Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC 01 00:03:41.1±326.0**, 61°.12N×157°.79W, h0km, Error ellipse: s-maj=194.6km s-min=113.9km az=18.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I53US	FAIRBANKS INFR	5.88	46	*i*		00 38 50.0	
	baz=230,slow=319,SNR=0.9						
I44RU	PETROPAVLOVSK	25.01	272	*i*		02 35 20.0	
	baz=51,slow=336,SNR=1.3						
I56US	NEWPORT INFRAS	26.30	101	*i*		02 47 10.0	
	baz=321,slow=320,SNR=1.3						

IDC 01 00:25:58.9±1.8**, 24°.05N×103°.08E, h0km, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.2**/39**, mbtmp3.5**/3**, Error ellipse: s-maj=367.4km s-min=29.4km az=57.0, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	28.16	329	P	P	00 31 52.8	0.0
	0.1nm,0.4s,baz=138,slow=10.0,SNR=2.0						
WRA	Warramunga Arr	53.29	142	P	P	00 35 19.8	0.0
	1.4nm,0.7s,baz=332,slow=7.8,SNR=16						
ASAR	Alice Springs	56.08	146	P	P	00 35 39.8	-0.3
	0.3nm,0.5s,baz=328,slow=7.1,SNR=5.5						

*ANF **01** 00:47:28.6±0.2, 35°.53N×119°.35W, h28km±2km, ML3.1/17, ML3.1/17, Error ellipse: s-maj=2.0km s-min=1.4km az=98.0*
*PAS **01** 00:47:29.4±2.5, 35°.54N±0°.03×119°.37W±0°.03, h23km±6km, ML3.0/174, ML2.8/67(NEIC), Error ellipse: s-maj=4.5km s-min=3.2km az=217.0*
*NEIC **01** 00:47:29.6±1.8, 35°.48N±0°.04×119°.44W±0°.04, h32km±8km, Error ellipse: s-maj=6.1km s-min=5.0km az=194.0*
ISC 01 00:47:29.0±1.1**, 35°.51N**±0°.02×**119°.41W**±0°.02**, h23km**±12km**, n57, σ1s.12**/75**, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VES	Vestal, Richgr	0.42	39	P	Pb	00 47 37.1	-0.7
	baz=218,SNR=189						
VES				S	Sb	00 47 43.0	-0.8
	baz=218						
SMMC	Simmler	0.52	248	P	Pb	00 47 40.1	+0.5
	baz=66,SNR=74						
SMMC				S	Sn	00 47 48.2	-1.1
	baz=66						
BCW	Bitter Crk WRg	0.57	180		Pb	00 47 40.8	+0.4
BCW				Sg	Sn	00 47 50.9	+0.2
ARVC	Arvin	0.61	129	Pb	Pb	00 47 40.6	-0.4
	baz=314,SNR=27						
ARVC				S	Sb	00 47 48.4	-0.8
	baz=314						
THIS	South End of C	0.70	288		Pn	00 47 42.5	-1.1
PAGB	Antelope Grade	0.72	288		Pn	00 47 42.4	-1.4
PAGB				IAML		00 47 58.9	
	comp=N,526nm,0.8s						
PAGB				IAML		00 48 00.5	
	comp=E,421nm,0.5s						
TRAM	Private Proper	0.72	283		Pn	00 47 42.9	-1.0
TSCN	Private Proper	0.77	273		Pb	00 47 44.0	+0.3
ISA	Isabella, Lake	0.78	79		Pn	00 47 43.0	-1.6
ISA				Sn	Sn	00 47 52.6	-3.0
ISA				IAML		00 47 53.6	
	comp=E,344nm,0.3s						
ISA				IAML		00 47 53.6	
	comp=N,430nm,0.4s						
ISA	Isabella, Lake	0.78	79	Pb	Pn	00 47 43.0	-1.6
	baz=261,SNR=250						
ISA				S	Sn	00 47 52.8	-2.9
	baz=261						
VOG	Valley Oaks Go	0.81	1	P	Pn	00 47 43.4	-1.6
	baz=179,SNR=9.4						
VOG				S	Sn	00 47 54.1	-2.2
	baz=179						
PKD	Bear Valley Ra	1.02	295		Pn	00 47 46.9	-1.1
OSI	Osito Audit: C	1.06	148	Pb	Pn	00 47 48.1	-0.4
	baz=330						
OSI				S	Sn	00 48 01.5	-1.1
	baz=330						
SBC	Santa Barbara	1.10	193	Pb	Pb	00 47 49.9	+0.6
	baz=14						
SBC				S	Sb	00 48 05.0	+1.8
	baz=14						
CCAC	Calif City Air	1.19	107	Pn	Pn	00 47 49.9	-0.5
CCAC				IAML		00 48 07.9	
	comp=E,330nm,0.4s						
CCAC				IAML		00 48 09.5	
	comp=N,273nm,0.6s						
HELL	Mitchell Peak,	1.21	15		Pn	00 47 49.5	-1.1
EDW2	Edwards Air Fo	1.32	118	Pb	Pn	00 47 52.4	+0.3
	baz=301,SNR=20						
EDW2				Sb	Sn	00 48 08.8	-0.2
	baz=301						
PMPB	Monarch Peak	1.33	302		Pn	00 47 52.2	-0.1
PMPB				IAML		00 48 24.1	
	comp=N,186nm,0.7s						
LRMC	Laurel Mtn Rad	1.41	91	Pb	Pn	00 47 53.9	+0.4
	baz=273,SNR=10						
CWC	Cottonwood Cre	1.42	49	Pb	Pn	00 47 54.1	+0.5
	baz=230						
CWC				Sb	Sn	00 48 11.8	+0.1
	baz=230						
DECC	Green Verdugo	1.54	145	Sb	Sb	00 48 15.7	-0.2
	baz=327						
PAPM	Alder Peak	1.64	285		Pn	00 47 55.6	-1.0
MPMC	Manual Prospec	1.65	70	Pb	Pn	00 47 57.3	+0.5
	baz=252,SNR=95						
MPMC				Sb	Sn	00 48 18.9	+1.4
	baz=252						
PASC	Pasadena Art C	1.67	143		Sb	00 48 18.9	-0.9
PASC				IAML		00 48 19.4	
	comp=E,164nm,1.0s						
PASC	Pasadena Art C	1.67	143		Pn	00 47 57.4	+0.4
PASC	Pasadena Art C	1.67	143	Pn	Pn	00 47 56.8	-0.1
BBGB	Big Mountain B	1.70	309		Pn	00 47 58.1	+0.7
TIN	Tinemaha, Big	1.81	31	Pb	Pn	00 48 00.5	+1.5
	baz=212						
TIN				Sb	Sb	00 48 24.0	+0.2
	baz=212						
MTUM	Tungsten Hills	1.96	20		Pn	00 48 02.9	+1.8
SAO	San Andreas Ge	2.07	308	Pn	Pn	00 48 03.0	+0.6
QSM	Queen of Sheba	2.11	77	Pn	Pn	00 48 03.4	+0.4
QSM				IAML		00 48 38.9	
	comp=E,52nm,0.7s						
QSM				IAML		00 48 38.9	
	comp=N,54nm,0.7s						
OMMB	Old Mammoth Mi	2.12	9	Pn	Pn	00 48 03.3	-0.1
OMMB				IAML		00 48 33.2	
	comp=E,84nm,0.6s						
GSC	Goldstone, Bar	2.14	95		Pn	00 48 03.0	-0.4
GSC				IAML		00 48 38.4	
	comp=E,68nm,0.6s						
GSC				IAML		00 48 40.3	
	comp=N,35nm,0.6s						
GSC	Goldstone, Bar	2.14	95	P	Pn	00 48 03.4	0.0
	baz=277,SNR=40						
MLAC	Mammoth, Mammo	2.16	12	Pb	Pn	00 48 06.2	+2.3
	baz=192						
MLAC				Sb	Sb	00 48 34.7	+0.6
	baz=192						
LCH	Last Change Ra	2.23	39		Pn	00 48 05.0	+0.3
LCH				IAML		00 48 36.7	
	comp=N,78nm,0.5s						
LCH				IAML		00 48 42.3	
	comp=E,89nm,0.3s						
GWY	Greenwater Val	2.32	72		Pn	00 48 06.4	+0.4
GWY				IAML		00 48 42.1	
	comp=E,43nm,0.4s						
GWY				IAML		00 48 46.1	
	comp=N,43nm,0.6s						
HEC	Hector,Ludlow	2.61	104	P	Pn	00 48 09.8	-0.1
	baz=287,SNR=8.0						
CMB	Columbia Colle	2.64	343		Pn	00 48 11.6	+1.4
CMB				IAML		00 48 49.6	
	comp=N,25nm,0.5s						
CMB				IAML		00 49 00.2	
	comp=E,22nm,0.7s						
LHV	Little Huntoon	2.83	15		Pn	00 48 12.1	-0.7
LHV				IAML		00 49 03.5	
	comp=E,34nm,0.8s						
LHV				IAML		00 49 06.1	
	comp=N,32nm,0.5s						
TPNV	Topopah Spring	2.93	60		Pn	00 48 14.0	-0.4
TPNV	Topopah Spring	2.93	60	P	Pn	00 48 15.5	+1.2
	baz=242						
NVAR	Mina Array Bea	3.04	17		Pb	00 48 23.3	+0.7
PFO	Pinyon Flats O	3.08	127	Pn	Pn	00 48 17.8	+1.3
TPH	Tonopah	3.10	34		Pn	00 48 16.1	-0.7
TPH					Pb	00 48 24.0	+0.4
RYN	Ryan	3.19	13		Pn	00 48 16.7	-1.3
RYN				IAML		00 49 11.4	
	comp=E,14nm,0.4s						
YERR	Yerington	3.47	2	Pg	Pb	00 48 31.6	+1.7
YERR				IAML		00 49 18.6	
	comp=N,15nm,0.7s						
YERR				IAML		00 49 24.8	
	comp=E,28nm,0.6s						
EMB	Emerald Bay	3.50	351		Pn	00 48 23.0	+0.8
EMB				IAML		00 49 19.6	
	comp=N,38nm,0.7s						
EMB				IAML		00 49 22.0	
	comp=E,24nm,0.6s						
PNTR	Pine Nut	3.57	358		Pn	00 48 23.3	0.0
PNTR				Pg	Pb	00 48 32.6	+1.0
PNTR				IAML		00 49 31.0	
	comp=N,22nm,0.8s						
PNTR				IAML		00 49 32.6	
	comp=E,29nm,1.1s						
RUBR	Rubicon Trail	3.58	351	Pn	Pn	00 48 23.4	-0.1
RUBR					Pb	00 48 32.2	+0.4
SHPR	Sheep Range	3.58	73	Pn	Pn	00 48 23.5	+0.1
SHPR					Pb	00 48 33.9	+2.1
KVN	Kaiserville	3.68	16		Pb	00 48 35.2	+1.7
TKX	Tecate	3.75	141	Pn	Pn	00 48 25.6	+0.1
Q09A	Carvers	3.76	28	Pn	Pn	00 48 24.3	-1.5
VCNR	Virginia City	3.78	357		Pn	00 48 26.0	-0.1
VCNR				IAML		00 49 28.7	
	comp=E,20nm,0.5s						
VCNR				IAML		00 49 32.0	
	comp=N,23nm,0.9s						
MPK	Martis Peak	3.81	353		Pn	00 48 25.9	-0.7
PAHR	Pah Rah Range	4.19	0		Pn	00 48 33.3	+1.7
PAHR				IAML		00 49 45.1	
	comp=E,11nm,5.0s						

*BJI **01** 01:01:40.6±0.0, 11°.94N×143°.96E, h18km, mb5.0/75, mB5.3/66, Ms5.2/76, Ms7 5.0/73*
*IDC **01** 01:01:40.5±0.4, 12°.01N×143°.85E, h0km, mb4.9/36, mb1 5.0/37, mb1mx4.9/43, mbtmp4.9/37, ML3.7/1, MS4.7/67, Ms1 4.7/67, ms1mx4.7/76, Error ellipse: s-maj=14.6km s-min=8.9km az=86.0*
*MOS **01** 01:01:41.5±0.9, 12°.01N×143°.77E, h16km, mb5.4/68, MS4.9/23, Error ellipse: s-maj=8.3km s-min=4.5km az=117.3*
*NEIC **01** 01:01:43.2±1.5, 12°.01N±0°.07×143°.82E±0°.09, h10km±1km, mb5.4/368, Ms_20 5.0/111, Mwc5.3(GCMT), Error ellipse: s-maj=14.3km s-min=11.3km az=276.0*
*DJA **01** 01:01:46.2±0.8, 12°N±3°×14°4E±°, h37km±7km, M5.1/68, mB5.6/39, mb5.1/68, MLv5.2/1, Mw(mB)5.1/39, MwMwp5.1/6, Mwp5.4/6*
*GCMT **01** 01:01:47.2±0.1, 11°.83N±0°.01×143°.72E±0°.01, h12km, MW5.3/136, Moment Tensor Solution. s111,c191; s136,c257; Duration: 1s.1 Moment tensor: Scale 10^{17} Nm; M_{rr}1.08±.01; $M_{\theta\theta}$-1.19±.01; $M_{\phi\phi}$0.11±.01; $M_{r\theta}$0.20±.04; $M_{\theta\phi}$-0.47±.01; $M_{\phi r}$-0.25±.04; Best double couple: $M_0$1.26700×10^{17} NP1:ϕ_s234.00000°, δ45.00000°, λ64.00000°. NP2:ϕ_s89.00000°, δ50.00000°, λ114.00000°. Principal axes: T 1.1850, Plg72.0000°, Azm64.0000°; N 0.1700, Plg18.0000°, Azm253.0000°; P -1.3490, Plg3.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 01:01:48, 11°.84N×143°.78E, h12km, Moment Tensor Solution. Duration: 2s.4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.08; $M_{\theta\theta}$-1.23; $M_{\phi\phi}$0.15; $M_{r\theta}$0.44; $M_{\theta\phi}$-0.50; $M_{\phi r}$0.06; Fault plane solution: $M_0$1.34000×10^{17} NP1: ϕ_s246.00000°, δ35.00000°, λ81.00000°. NP2:ϕ_s77.00000°, δ55.00000°, λ96.00000°. Principal axes: T 1.1630, Plg79.0000°, Azm10.0000°; N 0.3071, Plg5.0000°, Azm253.0000°; P -1.4702, Plg10.0000°, Azm162.0000°;*
ISC 01 01:01:44.2±0.4**, 12°.05N**±0°.03×**143°.86E**±0°.04**, h19km**±1km**, h18km:pP-P, n969, σ1s.57**/875**, mb5.3**/312**, MS4.9**/150**, 29C-8D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.82	33	Pn	Pn	01 02 14.9	+0.4
	1μm,0.3s,baz=193,slow=11,SNR=76						
GUMO				Sn	Sb	01 02 38.4	-1.0
	506nm,0.3s,baz=328,slow=23,SNR=8.9						
GUMO	Guam	1.82	33	P	Pn	01 02 15.1	+0.6
GUMO	Guam	1.82	33	Pn	Pn	01 02 15.1	+0.6
GUMO	Guam	1.82	33	P	Pb	01 02 17.4	+0.5
MANU	Manus Island	14.43	166		Pn	01 05 06.5	-1.1
JAY	Jayapura	14.80	192	Pn	Pn	01 05 12.5	-0.2
	0.3nm,0.3s,baz=6.9,slow=7.0,SNR=6.2						
JAY				LR	LR	01 10 15.3	
	comp=Z,6μm,18.9s,baz=10.0,slow=35						
JAY	Jayapura	14.80	192	P	Pn	01 05 13.3	+0.6
	787nm38nm,1.1s						
GENI	Genyem	15.00	194	P	Pn	01 05 16.0	+0.7
	7μm4μm284nm,1.2s						
GENI	Genyem	15.00	194	P	Pn	01 05 15.3	0.0
JCJ	Chichijima	15.05	354	Pn	P	01 05 22.0	+0.8
	4.2nm,0.3s,baz=262,slow=6.0,SNR=6.9						
JCJ				LR	LR	01 08 46.7	
	comp=Z,464nm,21.0s,baz=180,slow=28						
JCJ	Chichijima	15.05	354		Pn	01 05 16.4	+0.4
JCJ	Chichijima	15.05	354	P	P	01 05 21.6	+0.4
PATS	Pohnpei	15.17	109	Pn	Pn	01 05 15.7	-1.8
PATS				IAmb	IAmb	01 05 43.5	
	comp=Z,213nm,1.0s						
SIJI	Sorong	17.92	225	P	P	01 05 54.3	+1.2
	comp=Z,1.6nm,0.3s,baz=27,slow=18,SNR=3.9						
SIJI				LR	LR	01 12 08.6	
	comp=Z,3μm,18.3s,baz=61,slow=35						
SWI	Sorong	17.92	225	P	P	01 05 53.5	+0.5
	comp=Z,2μmcomp=Z,45nm,1.0s						
RABL	Rabaul	18.12	152		P	01 05 55.3	0.0
RABL				IAmb	IAmb	01 06 10.9	
	comp=Z,280nm,1.3s						
DAV	Davao City (W)	18.69	256	P	Pn	01 06 03.6	+1.7
	comp=Z,53nm,0.3s,baz=94,slow=2.7,SNR=1.4						
DAV				S	S	01 09 35.0	+1.2
	comp=Z,55nm,0.3s,baz=213,slow=23,SNR=1.6						
DAV	Davao City (W)	18.69	256	P	P	01 06 00.8	-0.7
DAV				IAmb	IAmb	01 06 27.9	
	comp=Z,224nm,1.1s						
TNTI	Ternate	19.83	237	P	Pn	01 06 15.4	-0.2
	comp=Z,48nm,0.9s						
LBMI	Labuha	20.56	233	P	Pn	01 06 23.7	-0.5
	comp=Z,2μmcomp=Z,48nm,1.0s						
JOW	Kunigami	20.76	317	P	P	01 06 24.6	+0.6
	comp=Z,49nm,0.6s,baz=143,slow=8.6,SNR=13						
JOW				LR	LR	01 14 01.0	
	comp=Z,2μm,19.2s,baz=112,slow=36						
JOW	Kunigami	20.76	317	P	P	01 06 24.8	+0.8
JOW				IAmb	IAmb	01 06 30.8	
	comp=Z,187nm,1.5s						
JOW	Kunigami	20.76	317	P	Pn	01 06 29.1	+2.7
JHJ	Hachijo jima 2	21.30	351	LR	LR	01 14 38.9	
	comp=Z,3μm,18.2s,baz=181,slow=36						
MSAI	Masohi	21.31	225	P	P	01 06 31.5	+1.4
	comp=Z,610nmcomp=Z,23nm,0.7s						
PMG	Port Moresby	21.57	171	P	P	01 06 30.8	-2.0
	comp=Z,22nm,0.8s,baz=18,slow=7.9,SNR=8.6						
PMG				LR	LR	01 14 19.2	
	comp=Z,3μm,18.0s,baz=346,slow=35						
PMG	Port Moresby	21.57	171	*ce*P	P	01 06 31.2	-1.6
PMG				pmax	pmax		
	comp=Z,23nm,0.8s						
PMG	Port Moresby	21.57	171	P	P	01 06 30.4	-2.3
PMG	Port Moresby	21.57	171	IAMs_20	IAMs_20	01 13 50.1	
	comp=Z,4μm,19.0s						
PMG	Port Moresby	21.57	171	P	P	01 06 31.8	-1.0
AAI	Ambon	22.07	226	P	P	01 06 38.5	+0.3
	comp=Z,4μmcomp=Z,351nm,0.9s						
TGY	Tagaytay City	22.42	278	P	P	01 06 42.2	+0.1
	comp=Z,118nm,0.3s,baz=146,slow=3.6,SNR=8.0						
SANI	Sanana	22.62	233	P	P	01 06 44.7	+0.6
	comp=Z,823nmcomp=Z,33nm,1.0s						
SANI	Sanana	22.62	233	P	P	01 06 45.8	+1.7
KMSI	Cibinong	22.78	241	P	P	01 06 45.1	-0.7
	comp=Z,339nm,0.9s						
H11S3	WAKE ISLAND Hy	22.92	71	T	T	01 30 48.2	
	baz=253						
H11S1	WAKE ISLAND Hy	22.94	71	T	T	01 30 47.6	
	baz=253,slow=21,SNR=21						
H11S2	WAKE ISLAND Hy	22.94	71	T	T	01 30 47.6	
	baz=253,slow=21,SNR=20						
JSU	Suzuyama	22.98	330	P	P	01 06 46.9	-0.8
WAKE	Wake Island	23.08	69	P	P	01 06 48.4	-0.5
WAKE	Wake Island	23.08	69	P	P	01 06 50.7	+1.8
H11N1	WAKE ISLAND Hy	23.41	68	T	T	01 31 26.0	
	baz=255,slow=75,SNR=33						
H11N2	WAKE ISLAND Hy	23.42	68	T	T	01 31 28.3	
	baz=255,slow=75,SNR=31						
H11N3	WAKE ISLAND Hy	23.43	68	T	T	01 31 27.4	
	baz=255,slow=75,SNR=26						
JMN	Monobe	23.43	339	P	P	01 06 52.5	+0.2
GTOI	Gorontalo	23.59	243	P	P	01 06 54.5	+0.5
	comp=Z,653nmcomp=Z,37nm,0.8s						
INU	Inuyama	24.01	346	P	P	01 06 58.7	+0.9
INU				IAMs_20	IAMs_20	01 15 13.5	
	comp=Z,3μm,19.0s						
INU	Inuyama	24.01	346	P	P	01 07 02.4	+4.6
JNU	Nakatsue	24.11	333	P	P	01 06 57.9	-1.0
	comp=Z,45nm,0.8s,baz=138,slow=7.9,SNR=19						
JNU				LR	LR	01 15 13.8	
	comp=Z,1μm,18.4s,baz=167,slow=34						
JNU	Nakatsue	24.11	333	P	P	01 06 58.8	-0.1
JNU	Nakatsue	24.11	333	P	P	01 07 01.4	+2.5
JGF	Kuroka	24.18	347	P	P	01 07 00.4	+1.0
TWG	Pinlang	24.20	299	IAMs_20	IAMs_20	01 15 41.0	
	comp=Z,3μm,19.0s						
YULB	Yu-li	24.23	301	P	P	01 06 59.5	-0.6
JYT	Yasato	24.30	353	P	P	01 06 59.8	-0.7
JYT				IAmb	IAmb	01 07 06.8	
	comp=Z,150nm,1.4s						
MRSI	Marisa	24.60	244	P	P	01 07 01.4	-2.1
	comp=Z,2μmcomp=Z,4μmcomp=Z,360nm,1.3s						
LUWI	Luwuk	24.65	240	P	P	01 07 02.4	-1.6
LUWI	Luwuk	24.65	240	P	P	01 07 03.1	-0.8
	comp=Z,9μmcomp=Z,252nm,0.9s						
LUWI	Luwuk	24.65	240	P	P	01 07 06.3	+2.4
SSLB	Suanglung	24.68	301	P	P	01 07 02.5	-1.7
SSLB				IAmb	IAmb	01 07 09.4	
	comp=Z,151nm,1.5s						
SSLB				IAMs_20	IAMs_20	01 15 50.0	
	comp=Z,3μm,20.0s						
SSLB	Suanglung	24.68	301	P	P	01 07 08.0	+3.8
YHNB	Yeheng	24.71	304	IAMs_20	IAMs_20	01 16 47.8	
	comp=Z,4μm,20.0s						
YHNB	Yeheng	24.71	304	P	P	01 07 07.4	+2.9
TATO	Taipei	24.75	304	IAMs_20	IAMs_20	01 16 49.9	
	comp=Z,5μm,19.0s						
TPUB	Ta-pu	24.76	300	P	P	01 07 03.9	-1.0
TPUB				IAMs_20	IAMs_20	01 16 20.1	
	comp=Z,3μm,20.0s						
TPUB	Ta-pu	24.76	300	P	P	01 07 08.9	+4.0
JHS	Saijyo	24.84	339	P	P	01 07 05.2	-0.3
MJAR	Matsushiro Arr	24.91	349	P	P	01 07 04.0	-2.1
	comp=Z,16nm,1.0s,baz=190,slow=9.3,SNR=21						
MJAR				LR	LR	01 15 58.6	
	comp=Z,5μm,18.4s,baz=166,slow=34						
MAJO	Matsushiro	24.91	349	P	P	01 07 04.2	-1.9
MAJO				pmax	pmax		
	comp=Z,36nm,0.9s						
MAJO				MLR	MLR		
	comp=Z,6μm,18.0s						
MAJO	Matsushiro	24.91	349	P	P	01 07 04.2	-1.9
MAJO	Matsushiro	24.91	349	IAMs_20	IAMs_20	01 16 05.0	
	comp=Z,6μm,18.0s						
TOLI2	Tolitoli	25.34	246	P	P	01 07 09.0	-1.2
TOLI2	Tolitoli	25.34	246	P	P	01 07 11.1	+1.0
APSI	Ampana	25.54	241	P	P	01 07 12.4	+0.4
	comp=Z,1μmcomp=Z,74nm,1.2s						
COEN	Coen	25.85	182	P	P	01 07 14.0	-0.7
COEN	Coen	25.85	182	P	P	01 07 13.6	-1.1
JMM	Marumori	25.86	354	P	P	01 07 15.8	+1.2
JMM				IAmb	IAmb	01 07 19.3	
	comp=Z,121nm,1.3s						
MYLDM	Lahad Datu	25.97	257	P	P	01 07 15.8	-0.1
MYLDM				IAmb	IAmb	01 07 33.8	
	comp=Z,136nm,1.3s						
JSD	Sado	26.36	350	P	P	01 07 18.1	-1.1
MPSI	Mapaga	26.47	246	P	P	01 07 20.6	+0.2
	comp=Z,43nm,1.5s						
HNR	Honiara	26.67	142	LR	LR	01 17 54.3	
	comp=Z,2μm,18.3s,baz=326,slow=36						
KDU	Kakadu	27.05	205	P	P	01 07 24.7	-0.8
	baz=27,SNR=3.2						
KDU	Kakadu	27.05	205	P	P	01 07 26.6	+1.1
QZH	Quanzhou	27.12	302	⇑*i*P	P	01 07 25.0	-1.1
QZH				PP	PnPn	01 08 10.4	+1.1
QZH				S	S	01 12 02.6	-1.0
QZH				pmax	pmax		
	comp=Z,260nm,6.0s						
QZH				LR	LR		
	comp=Z,1μm,17.8s						
QZH				LR	LR		
	comp=Z,1μm,15.3s						
QZH				LR	LR		
	comp=Z,2μm,16.9s						
MTN	Manton Dam	27.77	207	P	P	01 07 31.1	-0.9
	baz=28,SNR=5.9						
MTN	Manton Dam	27.77	207	P	P	01 07 29.9	-2.1
MTN	Manton Dam	27.77	207	P	P	01 07 31.6	-0.4
KKM	Kota Kinabalu	27.93	260	P	P	01 07 33.1	-0.5
KKM	Kota Kinabalu	27.93	260	P	P	01 07 36.1	+2.4
TTSI	Tana Toraja	28.21	239	P	P	01 07 35.3	-0.7
	comp=Z,25nm,0.8s						
SSE	Sheshan	28.25	316	P	P	01 07 35.4	-0.8
SSE				S	S	01 12 24.4	+3.1
SSE				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SSE				pmax	pmax		
	comp=Z,140nm,5.0s						
SSE				LR	LR		
	comp=Z,570nm,16.4s						
SSE				LR	LR		
	comp=Z,610nm,17.9s						
TJN	Taejon	28.42	331	*ce*P	P	01 07 37.1	-0.6
TJN	Taejon	28.42	331	P	P	01 07 36.1	-1.6
BNSI	Bone	28.72	237	P	P	01 07 37.8	-2.8
	comp=Z,28nm,1.3s						
SPSI	Sidrap Palu	28.75	238	P	P	01 07 40.4	-0.5
	comp=Z,26nm,1.1s						
KSRS	Korea Array	29.05	333	P	P	01 07 42.4	-0.9
	comp=Z,11nm,0.9s,baz=144,slow=9.7,SNR=26						
KSRS				PcP	PcP	01 10 52.6	+1.3
	comp=Z,1.9nm,0.8s,baz=174,slow=2.4,SNR=5.5						
KSRS				LR	LR	01 18 28.4	
	comp=Z,1μm,18.5s,baz=145,slow=35						
KSAR	Wonju Array Be	29.06	333	P	P	01 07 42.6	-0.8
KSAR						01 10 50.9	
KSAR	Wonju Array Be	29.06	333	P	P	01 07 42.5	-0.8
KSAR					PcP	01 10 50.9	-0.5
KS19	Wonju Array Si	29.12	333	P	P	01 07 42.4	-1.4
KAPI	Kappang	29.36	236	P	P	01 07 45.5	-0.8
KAPI				pmax	pmax		
	comp=Z,15nm,0.7s						
KAPI				MLR	MLR		
	comp=Z,800nm,18.0s						
KAPI	Kappang	29.36	236	P	P	01 07 45.5	-0.8
KAPI	Kappang	29.36	236	P	P	01 07 45.4	-0.9
INCN	Inchon	29.66	332	IAMs_20	IAMs_20	01 19 12.7	
	comp=Z,2μm,19.0s						
MMRI	Maumere	29.74	227	P	P	01 07 48.4	-1.2
BATI	Baumata	29.86	223	P	P	01 07 49.4	-1.3
	comp=Z,18nm,0.4s,baz=74,slow=3.2,SNR=4.6						
BATI	Baumata	29.86	223	P	P	01 07 49.6	-1.1
	comp=Z,559nmcomp=Z,21nm,0.8s						
MTSU	Mount Surprise	29.99	179	P	P	01 07 52.6	+0.8
NJ2	Nanjing	30.41	315	*e*P	P	01 07 56.7	+1.3
NJ2				PP	PnPn	01 08 51.7	-2.5
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,17.2s						
NJ2				LR	LR		
	comp=Z,2μm,17.7s						
NJ2				LR	LR		
	comp=Z,2μm,18.1s						
KNRA	Kununurra	31.34	209	P	P	01 08 03.8	+0.2
	baz=32,SNR=5.0						
KNRA	Kununurra	31.34	209	P	P	01 08 02.6	-1.0

KNRA IAmb IAmb 01 08 22.6
comp=Z,37nm,1.1s
KNRA Kununurra 31.34 209 P P 01 08 03.7 0.0
ASAJ Asahikawa 31.97 358 LR LR 01 24 07.6
comp=Z,750nm,18.1s,baz=162,slow=42
CTA Charters Tower 32.02 176 P P 01 08 06.7 -3.0
comp=Z,13nm,0.8s,baz=4.6,slow=9.0,SNR=9.9
CTA LR LR 01 21 28.6
comp=Z,1μm,18.8s,baz=354,slow=37
CTA Charters Tower 32.02 176 P P 01 08 09.1 -0.6
CTAO Charters Tower 32.02 176 P P 01 08 07.1 -2.6
CTAO pmax pmax
comp=Z,16nm,0.9s
CTAO MLR MLR
comp=Z,2μm,18.0s
CTAO Charters Tower 32.02 176 P P 01 08 07.1 -2.6
QIS Mount Isa 32.67 187 P P 01 08 14.7 -0.6
baz=33,SNR=7.4
QIS Mount Isa 32.67 187 P P 01 08 15.1 -0.3
SBUM Sibu 32.76 256 P P 01 08 15.3 -1.0
SBUM Sibu 32.76 256 P P 01 08 17.0 +0.7
WHN Wuhan 32.93 309 ⇓P **P 01 08 18.8 +1.3**
WHN S **S 01 13 36.2 +1.5**
WHN LR LR
comp=Z,2μm,12.7s
WHN LR LR
comp=Z,3μm,17.6s
WHN LR LR
comp=Z,4μm,19.0s
WB0 Warramunga Arr 32.96 197 P P 01 08 16.3 -1.6
WRAB Tennant Creek 33.13 197 *ce*P **P 01 08 19.0 -0.4**
WRAB pmax pmax
comp=Z,13nm,0.8s
WRAB Tennant Creek 33.13 197 P **P 01 08 18.2 -1.2**
WRAB Tennant Creek 33.13 197 IAMs_20 IAMs_20 01 21 25.5
comp=Z,3μm,19.0s
WRAB Tennant Creek 33.13 197 P **P 01 08 18.5 -0.9**
WRA Warramunga Arr 33.14 197 P **P 01 08 18.3 -1.2**
comp=Z,8.2nm,0.7s,baz=19,slow=9.8,SNR=50
WRA LR LR 01 23 08.3
comp=Z,3μm,18.0s,baz=356,slow=39
WRA Warramunga Arr 33.14 197 *ce*P **P 01 08 18.2 -1.3**
WRA pmax pmax
comp=Z,8.0nm,0.7s
QIZ Qiongzhong 33.46 286 IAMs_20 IAMs_20 01 21 10.3
comp=Z,2μm,20.0s
QIZ Qiongzhong 33.46 286 P **P 01 08 21.3 -1.0**
QIZ PP **PP 01 09 36.7 -1.5**
QIZ S **S 01 13 47.0 +3.8**
QIZ pmax pmax
comp=Z,200nm,3.8s
QIZ LR LR
comp=Z,1μm,15.7s
QIZ LR LR
comp=Z,1μm,15.4s
QIZ LR LR
comp=Z,2μm,19.0s
USRK Ussuriysk Ar. 33.63 345 P **P 01 08 22.3 -1.1**
comp=Z,3.8nm,0.8s,baz=145,slow=10,SNR=4.9
USRK LR LR 01 20 40.9
comp=Z,2μm,20.6s,baz=146,slow=34
USRK Ussuriysk Ar. 33.63 345 P **P 01 08 23.2 -0.3**
USRK Ussuriysk Ar. 33.63 345 P **P 01 08 23.2 -0.3**
TIA Tai'an 34.05 319 ⇓P **P 01 08 26.9 -0.4**
TIA PP **PnPn 01 09 37.3 -3.6**
TIA pmax pmax
comp=Z,7.0nm,0.8s
TIA pmax pmax
comp=Z,220nm,4.5s
TIA LR LR
comp=Z,1μm,16.4s
TIA LR LR
comp=Z,1μm,17.8s
TIA LR LR
comp=Z,2μm,18.5s
MDJ Mudanjiang 34.69 342 IAMs_20 IAMs_20 01 21 27.3
comp=Z,2μm,20.0s
MDJ Mudanjiang 34.69 342 P **P 01 08 33.3 +0.6**
MDJ S **S 01 14 07.0 +5.4**
MDJ sS sS 01 14 13.0 +6.2
MDJ PcS **PcS 01 14 52.5 -0.4**
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ pmax pmax
comp=Z,340nm,4.9s
MDJ LR LR
comp=Z,1μm,20.2s
MDJ LR LR
comp=Z,1μm,15.5s
MDJ LR LR
comp=Z,2μm,19.2s
YSS Yuzh-Sakhalins 34.80 359 *ce*P **P 01 08 33.2 -0.4**
YSS *e**SP **pP 01 08 37.8 0.0**
YSS *e* 01 09 47.5
YSS *e*S **S 01 14 03.4 +0.1**
YSS *e*SS **SnSn 01 16 09.9 -7.7**
YSS *e*SSS SSS 01 16 48.5
YSS pmax pmax
comp=Z,400nm,5.9s
YSS pmax pmax
comp=Z,400nm,8.7s
YSS smax smax
comp=N,600nm,11.7s
YSS MLR MLR
comp=N,1μm,13.0s
YSS MLR MLR
comp=Z,2μm,13.0s
YSS Yuzh-Sakhalins 34.80 359 P **P 01 08 33.0 -0.6**
YSS IAMs_20 IAMs_20 01 23 21.5
comp=Z,2μm,18.0s
KSM Kuching 34.88 255 P **P 01 08 33.7 -1.1**
KSM Kuching 34.88 255 P **P 01 08 38.0 +3.2**
KSM Kuching 34.88 255 P **P 01 08 36.9 +2.1**
FITZ Fitzroy Crossi 34.94 211 P **P 01 08 33.9 -1.2**
comp=Z,12nm,1.0s,baz=38,slow=8.3,SNR=11
FITZ Fitzroy Crossi 34.94 211 P **P 01 08 34.6 -0.5**
CN2 Changchun 35.40 337 *e*P P 01 08 43.6 +4.8
CN2 PP **PP 01 10 02.3 +2.9**
CN2 PcP **PcP 01 11 08.5 -0.1**
CN2 *e*S **S 01 14 14.5 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,2μm,16.0s
SANVU Saraoutou 35.78 139 IAMs_20 IAMs_20 01 23 26.9
comp=Z,2μm,21.0s
RK1H Rockhampton Ha 35.81 170 P **P 01 08 42.2 -0.3**
LYN LuoYang 36.26 313 ⇑*i*P **P 01 08 45.8 -0.5**
LYN pP pP 01 08 49.4 -1.3
LYN S **S 01 14 26.4 +0.4**
LYN SS **SnSn 01 16 52.1 -1.1**
LYN pmax pmax
comp=Z,20nm,0.5s
LYN pmax pmax
comp=Z,370nm,5.0s
LYN LR LR
comp=Z,2μm,17.7s
LYN LR LR
comp=Z,1μm,18.0s
LYN LR LR
comp=Z,2μm,17.6s
HNS HongShan 36.31 319 ⇑P **P 01 08 46.4 -0.3**
HNS pP **pwP 01 08 58.8 +0.7**
HNS PP **PP 01 10 11.8 +2.3**
HNS sS **sS 01 14 38.1 +6.0**
HNS pmax pmax
comp=Z,52nm,1.2s
HNS pmax pmax
comp=Z,400nm,5.8s
HNS LR LR
comp=Z,2μm,16.9s
HNS LR LR
comp=Z,1μm,17.3s
HNS LR LR
comp=Z,2μm,18.3s
BNX BinXian 36.38 340 ⇓P **P 01 08 47.0 -0.2**
BNX pP **pwP 01 08 56.6 -1.9**
BNX sP sP 01 09 01.5 +8.8
BNX PP **PP 01 10 13.0 +2.9**
BNX S **S 01 14 23.0 -4.6**
BNX pmax pmax
comp=Z,86nm,1.4s
BNX pmax pmax
comp=Z,800nm,3.7s
BNX LR LR
comp=Z,2μm,14.9s
BNX LR LR
comp=Z,920nm,12.3s
BNX LR LR
comp=Z,3μm,18.9s
ENH Enshi 36.62 305 P **P 01 08 48.9 -0.7**
ENH IAMs_20 IAMs_20 01 23 55.9
comp=Z,2μm,20.0s
AS31 Alice Springs 36.80 195 P **P 01 08 49.5 -1.6**
ASAR Alice Springs 36.81 195 P **P 01 08 50.2 -0.9**
comp=Z,5.6nm,0.9s,baz=19,slow=6.1,SNR=32
ASAR LR LR 01 24 01.2
comp=Z,2μm,20.2s,baz=18,slow=36
BJT Baijiatuau 37.05 324 P **P 01 08 52.4 -0.7**
BJT pmax pmax
comp=Z,23nm,0.7s
BJT MLR MLR
comp=Z,2μm,20.0s
BJT Baijiatuau 37.05 324 P **P 01 08 52.4 -0.7**
BJT Baijiatuau 37.05 324 IAMs_20 IAMs_20 01 24 37.1
comp=Z,3μm,20.0s
BJI Beijing 37.06 324 P **P 01 08 52.4 -0.7**
BJI pP **pP 01 08 57.0 -0.5**
BJI sP **sP 01 08 59.1 +0.5**
BJI PP **PnPn 01 10 19.7 +1.6**
BJI PcP **PcP 01 11 13.6 0.0**
BJI S **S 01 14 36.7 -1.4**
BJI pmax pmax
comp=Z,19nm,0.7s
BJI pmax pmax
comp=Z,230nm,4.1s
UBPT Khong Chiam 37.41 279 P **P 01 08 56.1 -0.2**
GYA Guiyang 37.77 298 ⇓P **P 01 09 00.4 +0.9**
GYA PP **PnPn 01 10 30.3 +3.3**
GYA PcP **PcP 01 11 17.2 +1.0**
GYA S **S 01 14 48.7 -0.8**
GYA SS **SnSn 01 17 24.0 -6.1**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,390nm,4.4s
GYA LR LR
comp=Z,930nm,18.2s
GYA LR LR
comp=Z,1μm,19.1s
GYA LR LR
comp=Z,2μm,20.3s
EIDS Eidsvold 37.85 169 P **P 01 08 59.0 -0.9**
baz=38,SNR=4.2
EIDS Eidsvold 37.85 169 P **P 01 08 59.0 -0.9**
EIDS Eidsvold 37.85 169 P **P 01 08 59.2 -0.7**
TIY Taiyuan 37.97 318 ⇓P **P 01 09 01.1 +0.2**
TIY S **S 01 14 50.5 -1.6**
TIY sS **ScP 01 15 09.0 +5.6**
TIY pmax pmax
comp=Z,22nm,0.6s
TIY pmax pmax
comp=Z,360nm,5.2s
TIY LR LR
comp=Z,590nm,15.1s
TIY LR LR
comp=Z,390nm,15.1s
TIY LR LR
comp=Z,720nm,19.2s
KOUNC Koumac, New Ca 38.12 148 P **P 01 09 01.2 -1.0**
KOUNC IAmb IAmb 01 09 07.5
comp=Z,80nm,1.4s
KOUNC Koumac, New Ca 38.12 148 P **P 01 09 03.1 +0.9**
QLP Quilpie 38.40 179 P **P 01 09 05.0 +0.5**
KLR Kul'dur 38.41 347 LR LR 01 25 04.3
comp=Z,2μm,19.4s,baz=167,slow=36
KLR Kul'dur 38.41 347 *ce*P **P 01 09 04.0 -0.3**
KLR pmax pmax
comp=Z,13nm,0.8s
KLR MLR MLR
comp=Z,2μm,19.0s
XAN Xi'an 38.60 310 P **P 01 09 05.2 -1.1**
XAN pP pP 01 09 08.8 -1.9
XAN sP sP 01 09 12.3 +0.8
XAN PP **PnPn 01 10 42.1 +5.3**
XAN S **S 01 15 00.9 -0.9**
XAN sS sS 01 15 10.2 +3.0
XAN SS **SnSn 01 17 40.7 -9.2**
XAN ScS **ScS 01 19 12.2 -4.1**
XAN pmax pmax
comp=Z,15nm,0.8s
XAN LR LR
comp=Z,810nm,15.6s
XAN LR LR
comp=Z,1μm,16.1s
XAN LR LR
comp=Z,3μm,18.9s
GRNR Gornyy 39.09 353 ⇑*i*P **P 01 09 09.4 -0.7**
GRNR pmax pmax
comp=Z,6.0nm,0.9s
GRNR MLR MLR
comp=E,630nm,17.0s
GRNR MLR MLR
comp=N,540nm,13.0s
GRNR MLR MLR
comp=Z,900nm,20.0s
INKA Innaminka 39.67 184 P **P 01 09 15.7 +0.6**
XLT XiLinHaoTe 39.74 328 *e*P **P 01 09 14.9 -0.8**
XLT pP pP 01 09 19.0 -1.1
XLT sP sP 01 09 21.9 +0.7
XLT S **S 01 15 20.1 +1.4**
XLT SS **SS 01 18 08.1 -6.5**
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,450nm,4.6s
XLT LR LR
comp=Z,2μm,17.9s
XLT LR LR
comp=Z,3μm,18.5s
SKR Severo-Kuril's 39.81 12 *e*P **P 01 09 20.5 +4.5**
SKR *e* 01 10 58.9
SKR *e*S S 01 15 29.7 +10
SKR pmax pmax
comp=Z,100nm,3.9s
SKR pmax pmax
comp=Z,200nm,3.4s
SKR MLR MLR
comp=Z,500nm,17.0s
SKR MLR MLR
comp=Z,500nm,15.0s
WRKA Warakurna 39.86 202 P **P 01 09 16.1 -0.7**
baz=40,SNR=55
WRKA Warakurna 39.86 202 P **P 01 09 16.4 -0.5**
HHC Hu-ho-hao-te 40.32 321 *e*P **P 01 09 22.2 +1.6**
HHC PP **PnPn 01 10 59.2 +1.9**
HHC S **S 01 15 29.8 +2.3**
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,360nm,8.8s
HHC LR LR
comp=Z,2μm,14.7s
HHC LR LR
comp=Z,1μm,15.8s
HHC LR LR
comp=Z,3μm,18.4s
NOUC Port Laguerre 40.45 147 P **P 01 09 22.3 +0.6**
DZM Mont Dzumac 40.51 147 P **P 01 09 21.8 -0.5**
comp=Z,51nm,1.0s,baz=3.9,slow=9.3,SNR=18
DZM LR LR 01 25 26.2
comp=Z,500nm,18.3s,baz=342,slow=35
DZM Mont Dzumac 40.51 147 *e*P **P 01 09 22.4 +0.2**
DZM *e*S **S 01 15 32.0 +1.5**
comp=Z,717nm,28.0s
DZM *e*LQ LQ 01 18 45.8
comp=Z,3μm,36.5s
DZM *e*LR LR 01 20 29.3
comp=Z,3μm,34.0s
DZM Mont Dzumac 40.51 147 P **P 01 09 21.3 -1.0**
DZM IAmb IAmb 01 09 27.2
comp=Z,73nm,1.1s
DZM Mont Dzumac 40.51 147 P **P 01 09 22.5 +0.2**
LEM Lembang 40.62 244 LR LR 01 27 59.6
comp=Z,360nm,19.9s,baz=62,slow=39
PSA00 Pilbara Seismi 40.89 215 P **P 01 09 24.3 -1.1**
PSA00 IAmb IAmb 01 09 45.2
comp=Z,92nm,1.4s
PSA00 Pilbara Seismi 40.89 215 P **P 01 09 24.1 -1.3**
PSA00 IAmb IAmb 01 09 42.0
comp=Z,23nm,0.9s
PSA00 Pilbara Seismi 40.89 215 P **P 01 09 27.1 +1.7**
KMI Kunming 40.92 294 ⇑P **P 01 09 29.0 +3.1**
KMI sP sP 01 09 31.6 +0.2
KMI S **S 01 15 40.4 +3.3**
KMI pmax pmax
comp=Z,14nm,0.8s
KMI pmax pmax
comp=Z,280nm,6.4s
KMI LR LR
comp=Z,460nm,17.9s
KMI LR LR
comp=Z,990nm,17.3s
KMI LR LR
comp=Z,1μm,17.0s
DSRI Dabo 40.93 255 P **P 01 09 25.6 -0.3**
comp=Z,12nm,0.6s
MYKOM Kota Tinggi 40.94 259 P **P 01 09 24.4 -1.6**
MYKOM IAmb IAmb 01 09 30.9
comp=Z,81nm,1.3s
OUENC Ouen Island, N 41.00 147 P **P 01 09 25.4 -0.9**
NKL Nikolayevsk 41.07 357 *e*P **P 01 09 22.4 -4.0**
NKL *e* 01 11 30.1
NKL *e*S **S 01 15 42.0 +3.9**
NKL pmax pmax
comp=E,2.0nm,0.7s
NKL pmax pmax
comp=N,1.0nm,0.8s
NKL pmax pmax
comp=Z,34nm,1.5s
NKL pmax pmax
comp=Z,33nm,1.6s
NKL smax smax
comp=N,1.0nm,1.1s
NKL smax smax
comp=E,2.0nm,1.1s
NKL MLR MLR
comp=E,113nm,17.0s
NKL MLR MLR
comp=N,1.0nm,16.0s
NKL MLR MLR
comp=Z,397nm,16.0s
BTO Baotou 41.14 320 *e*P **P 01 09 26.4 -1.0**
CD2 Chengdu 41.48 303 P **P 01 09 29.7 -0.6**
CD2 S **S 01 15 41.1 -3.9**
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,320nm,8.2s
CD2 LR LR
comp=Z,110nm,15.2s
CD2 LR LR
comp=Z,920nm,15.2s
CD2 LR LR
comp=Z,930nm,20.8s
JRMM Jerantut 41.73 262 P **P 01 09 33.0 +0.6**
PZH PanZhiHua 42.07 296 P **P 01 09 34.9 -0.3**
PZH pP **pP 01 09 38.5 -1.1**
PZH sP **sP 01 09 40.5 -0.2**
PZH S **S 01 15 55.5 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,210nm,3.7s
PZH LR LR
comp=Z,2μm,18.2s
PZH LR LR
comp=Z,2μm,18.0s
PZH LR LR
comp=Z,2μm,19.6s
HIA Hailar 42.13 336 *i*P **P 01 09 35.5 +0.2**
HIA pmax pmax
comp=Z,9.0nm,0.9s
HIA Hailar 42.13 336 P **P 01 09 35.2 -0.1**
HIA Hailar 42.13 336 IAMs_20 IAMs_20 01 25 48.3
comp=Z,2μm,19.0s
KLI Kotabumi 42.26 249 P **P 01 09 35.8 -1.0**
comp=Z,10μmcomp=Z,83nm,1.3s
KLSI 42.31 249 P **P 01 09 37.0 -0.2**
comp=Z,280nmcomp=Z,14nm,1.0s
PETK Petropavlovsk- 42.43 12 P **P 01 09 37.5 -0.1**
comp=Z,1.5nm,0.7s,baz=188,slow=8.7,SNR=2.4
PETK PcP **PcP 01 11 29.8 -0.7**
comp=Z,16nm,1.1s,baz=211,slow=5.0,SNR=6.2
PETK LR LR 01 30 04.4
comp=Z,1μm,18.1s,baz=191,slow=40
PETK Petropavlovsk- 42.43 12 P **P 01 09 38.7 +1.1**
PETK Petropavlovsk- 42.43 12 P **P 01 09 38.7 +1.1**
PET Petropavlovsk 42.56 13 *e*P **P 01 09 35.8 -2.8**
PET *e* 01 11 29.5
PET *e*S **S 01 15 58.3 -1.7**
PET pmax pmax
comp=Z,400nm,5.5s
PET pmax pmax
comp=Z,200nm,9.8s
LCRK Leigh Creek 42.60 187 P **P 01 09 38.8 -0.4**
MDSI Maura Dua 42.74 250 P **P 01 09 40.2 -0.4**
comp=Z,504nmcomp=Z,21nm,0.9s
KASI Kota Agung 42.86 248 P **P 01 09 42.6 +1.0**
comp=Z,718nmcomp=Z,28nm,1.0s
ARMA Armidale 42.88 170 P **P 01 09 40.8 -0.8**
baz=43,SNR=4.9
ARMA Armidale 42.88 170 P **P 01 09 40.8 -0.8**
ARMA Armidale 42.88 170 P **P 01 09 42.0 +0.4**
IPM Ipoh 43.00 264 P **P 01 09 43.1 +0.2**
IPM Ipoh 43.00 264 P **P 01 09 47.0 +4.2**
IPM Ipoh 43.00 264 P **P 01 09 43.4 +0.6**
MULG Mulgathing 43.13 192 P **P 01 09 43.5 0.0**
KULM Kulim 43.20 265 P **P 01 09 43.0 -1.4**
LZH Lanzhou 43.24 311 *e*P **P 01 09 45.0 +0.4**
LZH pP pP 01 09 47.8 -1.2
LZH sP sP 01 09 49.6 -0.9
LZH PP **PP 01 11 27.8 +2.6**
LZH *e*S **S 01 16 11.0 0.0**
LZH sS sS 01 16 19.2 +2.5
LZH SS **SS 01 19 16.8 -7.6**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,380nm,4.3s
LZH LR LR
comp=Z,450nm,14.9s
LZH LR LR
comp=Z,2μm,14.6s
LZH LR LR
comp=Z,2μm,17.0s
CMSA Cobar Meteorol 43.37 178 P **P 01 09 44.7 -0.7**
baz=44,SNR=18
CMSA Cobar Meteorol 43.37 178 P **P 01 09 44.6 -0.8**
ZEA Zeya 43.64 346 *e*P **P 01 09 46.7 -0.6**
ZEA *e* 01 11 35.9
ZEA *e*S **S 01 16 18.9 +3.0**
ZEA pmax pmax
comp=E,100nm,13.3s
ZEA pmax pmax
comp=N,100nm,13.8s
ZEA pmax pmax
comp=Z,200nm,10.0s
ZEA smax smax
comp=E,200nm,17.2s
ZEA smax smax
comp=N,400nm,15.6s
ZEA MLR MLR
comp=E,900nm,16.0s
ZEA MLR MLR
comp=N,800nm,20.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
SRIT Nakonsritamara 43.64 270 P **P 01 09 47.8 -0.1**
SRIT IAmb IAmb 01 09 52.1
comp=Z,132nm,1.4s
CM31 Chiang Mai Arr 43.71 284 P **P 01 09 48.1 -0.4**
CMAR Chiang Mai Arr 43.71 284 P **P 01 09 49.0 +0.5**
comp=Z,13nm,0.9s,baz=86,slow=6.4,SNR=34
CMAR LR LR 01 28 17.9
comp=Z,932nm,19.3s,baz=95,slow=36
CMAR Chiang Mai Arr 43.71 284 P **P 01 09 48.5 0.0**
CHTO Chiang Mai 43.72 285 P **P 01 09 47.8 -0.8**
CHTO pmax pmax
comp=Z,6.0nm,1.1s

CHTO MLR MLR
comp=Z,900nm,20.0s
CHTO Chiang Mai 43.72 285 P **P** **01 09 47.8 -0.8**
CHTO Chiang Mai 43.72 285 P **P** **01 09 50.2 +1.7**
CHTO P **P** **01 09 50.2 +1.7**
CHTO Chiang Mai 43.72 285 P **P** **01 09 52.8 +4.2**
STKA Stephens Creek 43.73 183 P **P** **01 09 46.7 -1.6**
comp=Z,11nm,0.9s,baz=348,slow=8.4,SNR=9.9
STKA LR LR 01 29 10.9
comp=Z,887nm,18.3s,baz=359,slow=38
STKA Stephens Creek 43.73 183 P **P** **01 09 46.9 -1.4**
baz=44,SNR=8.6
STKA Stephens Creek 43.73 183 P **P** **01 09 46.6 -1.6**
MNAI Manna 43.81 251 P **P** **01 09 47.9 -1.5**
MNAI Manna 43.81 251 P **P** **01 09 50.0 +0.7**
comp=Z,3μmcomp=Z,209nm,0.9s
MNAI Manna 43.81 251 P **P** **01 09 51.4 +2.1**
MASI Maura Aman, Be 44.03 253 P **P** **01 09 53.0 +1.8**
comp=Z,2μmcomp=Z,253nm,1.2s
BKNI Bangkinang 44.05 258 P **P** **01 09 49.6 -1.7**
BKNI IAmb IAmb 01 09 57.4
comp=Z,46nm,0.6s
KRJI Kerinci 44.40 254 P **P** **01 09 53.5 -0.7**
comp=Z,228nm,1.2s
MSVF Nonsavu 44.89 131 P **P** **01 09 57.5 -0.5**
comp=Z,62nm,1.1s,baz=302,slow=15,SNR=7.6
MSVF LR LR 01 26 49.4
comp=Z,1μm,18.0s,baz=348,slow=34
MSVF Nonsavu 44.89 131 *i* P **P** **01 09 57.5 -0.5**
MSVF pmax pmax
comp=Z,71nm,1.1s
MSVF Nonsavu 44.89 131 P **P** **01 09 57.4 -0.6**
MSVF Nonsavu 44.89 131 P **P** **01 09 59.1 +1.1**
PPI Padang Panjang 44.90 257 P **P** **01 09 58.9 +0.9**
comp=Z,737nmcomp=Z,10nm,0.4s
FORT Forrest 45.21 199 P **P** **01 09 59.7 -0.4**
FORT IAmb IAmb 01 10 16.8
comp=Z,40nm,0.9s
FORT Forrest 45.21 199 P **P** **01 10 01.0 +0.8**
BBOO Buckleboo 45.22 189 P **P** **01 09 59.4 -0.9**
baz=45,SNR=20
BBOO Buckleboo 45.22 189 P **P** **01 09 59.2 -1.1**
BBOO IAmb IAmb 01 10 03.4
comp=Z,74nm,1.4s
BBOO Buckleboo 45.22 189 P **P** **01 09 59.7 -0.6**
WHYH Whyalla 45.23 187 P **P** **01 09 59.1 -1.2**
NAPP Napperby 45.31 187 P **P** **01 10 02.1 +1.2**
comp=Z,25nm,1.0s
HTT Hallett 45.47 186 P **P** **01 10 01.5 -0.8**
baz=46,SNR=5.4
HTT Hallett 45.47 186 P **P** **01 10 01.9 -0.4**
PPSI Pulau Pagai 45.99 254 P **P** **01 10 05.4 -1.3**
comp=Z,2μmcomp=Z,142nm,1.0s
KCSI Kotacane, Aceh 46.38 263 P **P** **01 10 09.5 -0.3**
comp=Z,675nmcomp=Z,42nm,1.0s
SISI Saibi 46.41 256 P **P** **01 10 10.8 +0.8**
comp=Z,676nmcomp=Z,45nm,1.4s
LHMI Lhok Sumawe 46.82 266 P **P** **01 10 13.5 +0.3**
LHMI Lhok Sumawe 46.82 266 P P 01 10 18.7 +5.5
comp=Z,122nm,0.8s
LHMI Lhok Sumawe 46.82 266 P **P** **01 10 16.0 +2.8**
TWOA Tennyson Woods 47.09 186 P **P** **01 10 15.4 +0.5**
ULN Ulaanbaatar 47.10 327 *ce*P **P** **01 10 15.0 -0.1**
ULN pmax pmax
comp=Z,16nm,1.0s
ULN Ulaanbaatar 47.10 327 P **P** **01 10 15.2 +0.1**
ULN IAmb IAmb 01 10 23.6
comp=Z,37nm,1.4s
ULN PcP **PcP** **01 11 47.1 +0.3**
ULN Ulaanbaatar 47.10 327 P **P** **01 10 15.4 +0.3**
ULN P **P** **01 10 15.4 +0.3**
GSI Gunungsitoli 47.11 260 P **P** **01 10 14.2 -1.3**
GSI Gunungsitoli 47.11 260 P **P** **01 10 12.6 -2.9**
comp=Z,954nmcomp=Z,53nm,1.2s
GSI Gunungsitoli 47.11 260 P **P** **01 10 17.8 +2.3**
SHEM Shemya Is, Ala 47.27 25 LR LR 01 26 30.0
comp=Z,446nm,21.8s,baz=221,slow=32
CAN Canberra 47.36 174 P **P** **01 10 16.6 -0.5**
CAN pmax pmax
comp=Z,35nm,1.4s
CAN Canberra 47.36 174 P **P** **01 10 16.6 -0.5**
CAN IAmb IAmb 01 10 20.8
comp=Z,35nm,1.4s
SONM Songino Array 47.44 326 P **P** **01 10 17.7 -0.1**
comp=Z,9.6nm,0.6s,baz=146,slow=7.4,SNR=55
SONM LR LR 01 31 18.3
comp=Z,3μm,18.7s,baz=123,slow=38
SONM Songino Array 47.44 326 P **P** **01 10 17.6 -0.1**
SONM pmax pmax
comp=Z,12nm,0.6s
SONM Songino Array 47.44 326 P **P** **01 10 17.6 -0.1**
GTA Gaotai 47.48 313 ⇑P **P** **01 10 17.9 -0.3**
GTA pP pP 01 10 21.8 -0.8
GTA sP sP 01 10 24.8 +0.8
GTA S **S** **01 17 06.0 -6.1**
GTA sS sS 01 17 24.1 +6.0
GTA SS **SS** **01 20 31.8 -8.2**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,280nm,7.3s
GTA LR LR
comp=Z,580nm,20.0s
GTA LR LR
comp=Z,1μm,21.4s
GTA LR LR
comp=Z,2μm,20.4s
MA2 Magadan 47.72 5 P **P** **01 10 19.2 -0.3**
comp=Z,4.0nm,0.3s,baz=172,slow=6.6,SNR=12
MA2 Magadan 47.72 5 *ce*P **P** **01 10 19.3 -0.3**
MA2 pmax pmax
comp=Z,17nm,1.0s
MA2 MLR MLR
comp=Z,976nm,17.0s
MA2 Magadan 47.72 5 P **P** **01 10 19.5 0.0**
ARPS Mount Arapiles 48.59 182 P **P** **01 10 27.0 +0.4**
baz=49,SNR=4.6
ARPS Mount Arapiles 48.59 182 P **P** **01 10 28.2 +1.7**
MORW Morawa 48.92 213 P **P** **01 10 28.7 -0.5**
baz=49,SNR=14
MORW Morawa 48.92 213 P **P** **01 10 28.7 -0.5**
MORW IAmb IAmb 01 10 30.7
comp=Z,53nm,1.2s
MORW Morawa 48.92 213 P **P** **01 10 30.2 +1.0**
BRAT Ballarat 49.33 180 P **P** **01 10 32.4 +0.2**
TOO Toolangi 49.38 178 P **P** **01 10 32.9 +0.2**
baz=50,SNR=7.0
TOO Toolangi 49.38 178 P **P** **01 10 31.9 -0.7**
TOO pmax pmax
comp=Z,42nm,1.3s
TOO Toolangi 49.38 178 P **P** **01 10 31.9 -0.7**
TOO IAmb IAmb 01 10 37.2
comp=Z,42nm,1.2s
TOO Toolangi 49.38 178 P **P** **01 10 33.2 +0.6**
BLDU Ballidu 49.81 211 P **P** **01 10 35.3 -0.7**
baz=50,SNR=7.4
BLDU Ballidu 49.81 211 P **P** **01 10 36.3 +0.3**
GOMU GeErMu 50.16 307 P **P** **01 10 39.4 +0.3**
GOMU pP pP 01 10 43.1 -0.5
GOMU sP sP 01 10 46.5 +1.5
GOMU S **S** **01 17 55.5 +5.0**
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU pmax pmax
comp=Z,52nm,4.3s
GOMU LR LR
comp=Z,410nm,17.6s
GOMU LR LR
comp=Z,840nm,17.8s
GOMU LR LR
comp=Z,1μm,18.1s
ZAK Zakamensk 50.58 327 *e*P **P** **01 10 41.5 -0.2**
ZAK pmax pmax
comp=Z,38nm,1.1s
SHL Shillong 50.71 293 P **P** **01 10 42.3 -0.9**
SHL pmax pmax
comp=Z,26nm,1.0s
SHL Shillong 50.71 293 P **P** **01 10 42.3 -0.9**
SHL Shillong 50.71 293 P **P** **01 10 43.0 -0.2**
YAK Yakutsk 50.95 351 LR LR 01 31 53.8
comp=Z,2μm,18.4s,baz=115,slow=36
YAK Yakutsk 50.95 351 *e*P **P** **01 10 47.0 +2.9**
YAK *e* 01 12 02.9
YAK *e* 01 12 48.3
YAK *e*PPP PPP 01 13 38.4
YAK *e*S **S** **01 18 01.1 +1.4**
YAK *e*SS **SS** **01 21 34.2 -0.4**
YAK *e*SSS SSS 01 23 03.6
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=Z,25nm,0.6s
YAK smax smax
comp=N,531nm,17.6s
YAK smax smax
comp=E,126nm,19.1s
YAK MLR MLR
comp=E,504nm,14.0s
YAK Yakutsk 50.95 351 P **P** **01 10 43.3 -0.8**
YAK IAmb IAmb 01 10 48.9
comp=Z,69nm,1.0s
YAK IAMs_20 IAMs_20 01 31 41.9
comp=Z,2μm,18.0s
AFI Afiamalu 50.98 119 LR LR 01 30 56.2
comp=Z,540nm,18.0s,baz=291,slow=34
BOD Bodaibo 51.01 340 *e*P **P** **01 10 43.8 -0.9**
BOD pmax pmax
comp=Z,30nm,2.0s
SEY Seymchan 51.17 5 P **P** **01 10 46.1 +0.3**
comp=Z,16nm,0.9s,baz=171,slow=6.9,SNR=12
SEY LR LR 01 32 22.3
comp=Z,375nm,19.4s,baz=182,slow=36
SEY Seymchan 51.17 5 *ce*P **P** **01 10 46.2 +0.4**
SEY pmax pmax
comp=Z,19nm,1.0s
SEY MLR MLR
comp=Z,430nm,15.0s
LSA Lhasa 51.84 298 P **P** **01 10 52.2 +0.2**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA MLR MLR
comp=Z,600nm,19.0s
LSA Lhasa 51.84 298 P **P** **01 10 52.1 +0.2**
LSA Lhasa 51.84 298 P **P** **01 10 51.7 -0.3**
LSA P **P** **01 10 51.7 -0.3**
MOY Mondy 52.50 328 *e*P **P** **01 10 55.6 -0.5**
MOY pmax pmax
comp=Z,61nm,2.4s
GLAD Gladstone 52.90 176 P **P** **01 10 59.4 +0.4**
TAPN Taplejung 54.59 295 *e*P **P** **01 11 11.6 -0.5**
ODAN Odare 54.83 294 *e*P **P** **01 11 13.3 -0.5**
RAMN Ramite 55.54 294 *e*P **P** **01 11 18.4 -0.5**
comp=Z,6.4nm,0.3s
JIRN Jiri 55.95 295 *e*P **P** **01 11 21.8 -0.2**
GUN Gumba 56.25 296 *e*P **P** **01 11 23.8 -0.3**
comp=Z,84nm,0.8s
PKI Pulchoki 56.64 295 *e*P **P** **01 11 25.9 -1.0**
PKIN Phulchoki 56.65 295 *e*P **P** **01 11 26.0 -0.9**
KKN Kakani 56.77 295 *e*P **P** **01 11 26.5 -1.1**
DMN Daman 56.91 295 *e*P **P** **01 11 28.1 -0.6**
comp=Z,40nm,0.8s
UNV Unalaska Valle 57.15 33 P **P** **01 11 29.3 -0.2**
baz=242
GKN Gorkha 57.35 296 *e*P **P** **01 11 31.0 -0.7**
WMQ Urumqi 57.49 315 P **P** **01 11 32.7 +0.4**
WMQ pP sP 01 11 39.3 +1.1
WMQ sP pwP 01 11 44.7 +0.9
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ pmax pmax
comp=Z,600nm,5.7s
WMQ LR LR
comp=Z,1μm,16.5s
WMQ LR LR
comp=Z,2μm,19.1s
WMQ LR LR
comp=Z,1μm,16.5s
BILL Bilibino 57.84 10 *c i*P **P** **01 11 34.5 +0.3**
BILL *i* *PP **pP** **01 11 37.6 -1.0**
BILL *SP **sP** **01 11 38.0 -1.6**
BILL 01 12 28.0
BILL *e*PPP PPP 01 15 05.4
BILL *e*S **S** **01 19 36.9 +4.4**
BILL pmax pmax
comp=Z,74nm,2.5s
BILL MLR MLR
comp=Z,761nm,18.0s
BILL Bilibino 57.84 10 P **P** **01 11 33.7 -0.5**
BILL IAmb IAmb 01 11 36.5
comp=Z,32nm,1.1s
BILL IAMs_20 IAMs_20 01 39 31.6
comp=Z,751nm,18.0s
DANN Dangsing 58.14 296 *e*P **P** **01 11 36.9 -0.5**
comp=Z,76nm,0.7s
KOLN Koldanda 58.25 295 *e*P **P** **01 11 37.4 -0.7**
comp=Z,56nm,0.8s
PYUN Piuhan 58.81 296 *e*P **P** **01 11 41.3 -0.7**
comp=Z,120nm,0.8s
FALS False Pass 59.22 32 P **P** **01 11 43.8 -0.2**
baz=245
FOZ Fox Glacier 60.17 158 IAMs_20 IAMs_20 01 31 24.4
comp=Z,1μm,20.0s
SNZO South Karori 60.24 154 IAMs_20 IAMs_20 01 38 33.3
comp=Z,1μm,19.0s
GAMB Gambell 60.26 21 IAMs_20 IAMs_20 01 34 28.3
comp=Z,711nm,21.0s
TIXI Tiksi 60.26 355 P **P** **01 11 49.8 -1.1**
comp=Z,2.1nm,0.4s,baz=90,slow=23,SNR=7.6
TIXI LR LR 01 39 08.0
comp=Z,357nm,18.4s,baz=179,slow=37
TIXI Tiksi 60.26 355 *ce*P **P** **01 11 51.1 +0.2**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI MLR MLR
comp=Z,562nm,15.0s
TIXI Tiksi 60.26 355 P **P** **01 11 51.2 +0.3**
ZSN Zaisan 60.37 318 *e*P **P** **01 11 51.6 -0.6**
ZSN Zaisan 60.37 318 *e*P **P** **01 11 51.6 -0.6**
baz=318
ZSN *i* S **S** **01 20 07.2 +1.1**
RPZ Rata Peaks 60.78 158 LR LR 01 33 58.8
comp=Z,669nm,21.9s,baz=326,slow=32
RPZ Rata Peaks 60.78 158 P **P** **01 11 54.8 -0.1**
SDPT Sand Point 60.96 33 P **P** **01 11 55.3 -0.7**
baz=248
MQZ McQueen's Vall 61.39 157 IAMs_20 IAMs_20 01 33 04.0
comp=Z,1μm,20.0s
JBP Jabalpur 61.47 290 *e*P **P** **01 12 00.3 +0.3**
JBP *ex* x 01 12 00.3
JBP IAmb IAmb 01 12 07.4
comp=Z,168nm,1.8s
JBP *e*S **S** **01 20 21.2 +0.4**
WHZ Wether Hill Ro 61.62 161 P **P** **01 12 00.7 +0.1**
WHZ IAmb IAmb 01 12 02.9
comp=Z,35nm,1.2s
MK31 Makanchi Array 61.92 317 *i* P **P** **01 12 02.6 -0.1**
MK31 pmax pmax
comp=Z,11nm,0.7s
MK31 Makanchi Array 61.92 317 P **P** **01 12 02.0 -0.7**
MK31 IAmb IAmb 01 12 07.0
comp=Z,24nm,1.2s
MKAR Makanchi Array 61.92 317 P **P** **01 12 02.7 0.0**
comp=Z,9.3nm,0.7s,baz=94,slow=6.2,SNR=66
MKAR LR LR 01 40 44.5
comp=Z,1μm,18.9s,baz=101,slow=38
MKAR PKP2bc 01 41 17.9
comp=Z,1.3nm,1.1s,baz=318,slow=1.6,SNR=5.4
MAKZ Makanchi 62.13 317 P **P** **01 12 04.3 +0.2**
MAKZ pmax pmax
comp=Z,24nm,1.0s
MAKZ MLR MLR
comp=Z,1μm,19.0s
MAKZ Makanchi 62.13 317 P **P** **01 12 04.3 +0.2**
MAKZ IAmb IAmb 01 12 06.9
comp=Z,24nm,0.9s
MAKZ IAMs_20 IAMs_20 01 40 39.8
comp=Z,1μm,19.0s
ZAA0 Zalesovo Array 62.30 325 P **P** **01 12 04.4 -0.7**
ZAA0 IAmb IAmb 01 12 08.4
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 62.30 325 P **P** **01 12 04.3 -0.8**
comp=Z,13nm,0.7s,baz=108,slow=7.0,SNR=44
ZALV LR LR 01 40 01.1
comp=Z,1μm,19.7s,baz=119,slow=37
ZALV PKP2bc 01 41 13.2
comp=Z,0.4nm,0.6s,baz=276,slow=1.3,SNR=2.0
PALK Pallekele 62.33 272 LR LR 01 38 53.1
comp=Z,147nm,19.9s,baz=177,slow=36
PALK Pallekele 62.33 272 P **P** **01 12 06.1 +0.1**
PALK pmax pmax
comp=Z,22nm,1.1s
PALK Pallekele 62.33 272 P **P** **01 12 06.1 +0.1**
PALK IAmb IAmb 01 12 11.3
comp=Z,22nm,1.1s
PALK Pallekele 62.33 272 P **P** **01 12 06.7 +0.6**
PALK P **P** **01 12 06.7 +0.6**
TNA Tin City 62.63 20 P **P** **01 12 06.1 -0.9**
baz=235
HYBB Hyderabad (bro 63.14 284 *e*P **P** **01 12 11.2 -0.2**
HYBB IVmB_BB 01 12 14.9
comp=Z,337nm,2.9s
HYBB *e*PcP **PcP** **01 12 48.4 -0.5**
HYBB *e*PP **PP** **01 14 29.4 -0.9**
HYBB *e*S **S** **01 20 41.9 -0.1**
SHLS Shalkode 63.21 312 *e*P **P** **01 12 08.4 -3.1**
SHLS Shalkode 63.21 312 *e*P **P** **01 12 08.5 -3.1**
baz=312
PDGK Podgornoye 63.22 313 P **P** **01 12 10.1 -1.5**
UZB Uzynbulak 63.53 312 *e*P **P** **01 12 12.6 -1.0**
UZB Uzynbulak 63.53 312 *e*P **P** **01 12 12.6 -1.0**
baz=312
KPKS Kokpek 63.82 313 *e*P **P** **01 12 14.8 -0.7**
KPKS Kokpek 63.82 313 *e*P **P** **01 12 14.9 -0.7**
baz=313
ZHN Zhinishke 63.96 312 *e*P **P** **01 12 15.9 -0.5**
ZHN Zhinishke 63.96 312 *e*P **P** **01 12 15.1 -1.3**
baz=312
SATY Saty 63.96 312 *e*P **P** **01 12 15.2 -1.3**
SATY pmax pmax
comp=Z,24nm,2.4s
SATY Saty 63.96 312 *e*P **P** **01 12 15.2 -1.3**
comp=Z,24nm,2.4s,baz=312
SEM Semipalatinsk 64.05 320 *e*P **P** **01 12 15.5 -1.5**
SEM pmax pmax
comp=Z,13nm,0.9s
SEM Semipalatinsk 64.05 320 *e*P **P** **01 12 15.6 -1.5**
comp=Z,13nm,0.9s,baz=320
TDK Taldyqorghan 64.25 314 *e*P **P** **01 12 17.8 -0.4**
TDK Taldyqorghan 64.25 314 *e*P **P** **01 12 17.8 -0.4**
baz=314
RAR Rarotonga 64.47 121 LR LR 01 33 03.9
comp=Z,333nm,21.6s,baz=290,slow=29
ARXS Arharly 64.54 313 *e*P **P** **01 12 20.2 0.0**
KDJ Kajisay 64.74 311 P **P** **01 12 22.4 +0.7**
KDJ pmax pmax
comp=Z,23nm,1.1s
KDJ Kajisay 64.74 311 P **P** **01 12 22.4 +0.7**
KDJ IAmb IAmb 01 12 31.1
comp=Z,23nm,1.1s
MDOK Medeo 64.96 312 *e*P **P** **01 12 22.2 -0.9**
MDOK Medeo 64.96 312 *e*P **P** **01 12 22.2 -0.9**
baz=312
TNSS Tian-Shan 65.02 312 *e*P **P** **01 12 23.7 0.0**
TNSS Tian-Shan 65.02 312 *e*P **P** **01 12 23.7 0.0**
baz=312
AAA Alma-Ata 65.06 312 *e*P **P** **01 12 23.2 -0.4**
AAA Alma-Ata 65.06 312 *e*P **P** **01 12 23.2 -0.4**
baz=312
P18K Big Mountain, 65.07 30 P **P** **01 12 22.4 -0.9**
baz=250
CHKK Chushkaly 65.09 313 *e*P **P** **01 12 23.1 -0.6**
CHKK Chushkaly 65.09 313 *e*P **P** **01 12 23.2 -0.6**
baz=313
KURK Kurchatov 65.13 320 *ce*P **P** **01 12 23.2 -0.5**
KURK pmax pmax
comp=Z,74nm,1.0s
KURK Kurchatov 65.13 320 P **P** **01 12 23.3 -0.5**
KURK Kurchatov 65.13 320 P **P** **01 12 23.7 -0.1**
KURK P **P** **01 12 23.7 -0.1**
KURBB Kurchatov Arra 65.17 320 LR LR 01 42 20.6
comp=Z,2μm,18.8s,baz=82,slow=37
KURBB Kurchatov Arra 65.17 320 P **P** **01 12 23.0 -1.0**
OHAK Old Harbor 65.37 32 P **P** **01 12 25.3 +0.2**
baz=253
KSH Kashi 65.40 308 P **P** **01 12 28.0 +2.1**
KSH pP sP 01 12 33.0 +1.1
KSH sP pwP 01 12 35.9 -1.5
KSH PP **PP** **01 14 55.2 +5.4**
KSH ScP 01 17 01.3
KSH S **S** **01 21 13.5 +3.9**
KSH SS **SS** **01 25 31.0 +8.1**
KSH pmax pmax
comp=Z,15nm,0.8s
KSH pmax pmax
comp=Z,230nm,4.4s
KSH LR LR
comp=Z,550nm,18.1s
KSH LR LR
comp=Z,650nm,15.4s
KSH LR LR
comp=Z,850nm,18.7s
KUU Kurty 65.56 313 *e*P **P** **01 12 26.1 -0.7**
KUU pmax pmax
comp=Z,33nm,1.1s
KUU Kurty 65.56 313 *e*P **P** **01 12 26.1 -0.7**
comp=Z,33nm,1.1s,baz=313
RDOG Red Dog Mine 65.65 19 IAmb IAmb 01 12 28.9
comp=Z,25nm,0.8s
RDOG Red Dog Mine 65.65 19 P **P** **01 12 26.3 -0.5**
baz=239,SNR=7.0
BOOM Boomskoye usch 65.70 311 P **P** **01 12 28.2 +0.3**
BOOM pmax pmax
comp=Z,30nm,1.3s
BOOM Boomskoye usch 65.70 311 P **P** **01 12 28.2 +0.3**
BOOM IAmb IAmb 01 12 33.0
comp=Z,30nm,1.3s
O19K Port Alsworth 65.77 29 P **P** **01 12 27.5 -0.2**
baz=251
KDAK Kodiak Island 65.89 32 LR LR 01 36 54.2
comp=Z,317nm,22.0s,baz=267,slow=32
KDAK Kodiak Island 65.89 32 P **P** **01 12 28.6 +0.1**
baz=254
N19K Bonanza Creek 65.89 28 IAmb IAmb 01 12 31.0
comp=Z,22nm,0.8s
N19K Bonanza Creek 65.89 28 P **P** **01 12 28.9 +0.2**
baz=251
TTA Tatalina 65.96 26 P **P** **01 12 29.2 +0.2**
TTA pmax pmax
comp=Z,14nm,1.1s
TTA Tatalina 65.96 26 P **P** **01 12 29.2 +0.2**
TTA Tatalina 65.96 26 P **P** **01 12 28.9 -0.2**
baz=248
TKM2 Tokmak 2 65.99 312 P **P** **01 12 29.9 +0.1**
SNR=13
TKM2 Tokmak 2 65.99 312 *i* P **P** **01 12 29.5 -0.3**
TKM2 pmax pmax
comp=Z,23nm,1.2s
PCHI Peechi 66.07 276 ⇑*e*P **P** **01 12 30.8 +0.3**
PCHI *e*S S 01 20 18.1 -60
P19K Oil Pt 66.12 30 P **P** **01 12 29.0 -1.0**
baz=252
L19K White Mountain 66.19 27 P **P** **01 12 29.5 -1.0**
baz=250,SNR=8.0
M19K Big River Lodg 66.30 27 IAmb IAmb 01 12 37.3
comp=Z,30nm,1.1s
M19K Big River Lodg 66.30 27 P **P** **01 12 30.0 -1.2**
baz=250
GCSA Galena City Sc 66.31 24 P **P** **01 12 30.4 -0.7**
baz=247
KBK Karagaybulak 66.44 311 P **P** **01 12 32.8 +0.1**
SNR=17
CHMS Chumysh 66.62 312 P **P** **01 12 33.3 -0.3**
SNR=10
L20K Farewell, AK 66.72 27 P **P** **01 12 33.8 -0.1**
baz=250
UCH Uchtor 66.72 311 P **P** **01 12 35.4 +0.6**
SNR=13
SGDS Sogindy 66.75 312 *e*P **P** **01 12 33.4 -1.1**
SGDS Sogindy 66.75 312 *e*P **P** **01 12 33.4 -1.1**
baz=312
AAK Ala-Archa 66.77 311 LR LR 01 44 10.8
comp=Z,1μm,19.2s,baz=95,slow=38
AAK Ala-Archa 66.77 311 *ce*P **P** **01 12 34.9 +0.1**
AAK pmax pmax
comp=Z,25nm,2.5s
AAK Ala-Archa 66.77 311 P **P** **01 12 34.6 -0.2**
AAK Ala-Archa 66.77 311 IAMs_20 IAMs_20 01 44 08.1
comp=Z,2μm,20.0s
AAK Ala-Archa 66.77 311 P **P** **01 12 34.9 +0.1**
AAK P **P** **01 12 34.9 +0.1**
USP Ospenovka 66.83 312 P **P** **01 12 34.6 -0.3**
SNR=7.8
M20K Styx River 66.86 27 P **P** **01 12 34.5 -0.4**

	baz=251						
K20K	Telida	66.94	26	IAmb	IAmb	01 12 37.7	
	comp=Z,25nm,1.0s						
K20K	Telida	66.94	26	P	P	01 12 35.4	+0.2
	baz=250,SNR=12						
J20K	Nowinta River	67.19	25	IAMs_20	IAMs_20	01 37 10.8	
	comp=Z,632nm,20.0s						
J20K	Nowinta River	67.19	25	P	P	01 12 36.8	0.0
	baz=250,SNR=23						
NRIK	Noril'sk	67.26	341	P	P	01 12 36.5	-0.6
	comp=Z,26nm,1.0s,baz=110,slow=8.0,SNR=42						
NRIK				LR	LR	01 42 13.0	
	comp=Z,1µm,19.1s,baz=118,slow=36						
NRIK	Noril'sk	67.26	341	*ce*P	P	01 12 36.3	-0.8
NRIK				pmax	pmax		
	comp=Z,34nm,1.0s						
NRIK				MLR	MLR		
	comp=Z,1µm,19.0s						
NRIK	Noril'sk	67.26	341	P	P	01 12 36.5	-0.6
EKS2	Erkin-Say	67.30	311	P	P	01 12 38.1	0.0
	SNR=12						
BTLS	Baital	67.32	314	*e*P	P	01 12 36.7	-1.2
BTLS				pmax	pmax		
	comp=Z,20nm,1.7s						
BTLS	Baital	67.32	314	*e*P	P	01 12 36.8	-1.2
	comp=Z,20nm,1.7s,baz=314						
AML	Almayashu	67.32	311	P	P	01 12 39.0	+0.5
NIL	Nilore	67.33	301	P	P	01 12 37.4	-0.9
NIL				pmax	pmax		
	comp=Z,66nm,0.7s						
NIL	Nilore	67.33	301	P	P	01 12 37.4	-0.9
NIL	Nilore	67.33	301	IAMs_20	IAMs_20	01 47 46.0	
	comp=Z,518nm,18.0s						
NIL	Nilore	67.33	301	P	P	01 12 38.6	+0.3
NIL				P	P	01 12 38.6	+0.3
BRSE	Bradley Lake S	67.35	30	P	P	01 12 37.6	-0.3
	baz=254						
POO	Poona	67.49	285⇑	*i*P	P	01 12 34.0	-5.6
	comp=Z,80nm,0.2s						
PPLA	Purkeypile	67.60	26	IAmb	IAmb	01 12 45.2	
	comp=Z,29nm,1.0s						
PPLA	Purkeypile	67.60	26	P	P	01 12 39.0	-0.5
	baz=252,SNR=9.3						
CAST	Castle Rocks	67.81	26	P	P	01 12 40.2	-0.5
	baz=252,SNR=34						
CHUM	Lake Minchumin	67.85	25	P	P	01 12 40.9	-0.1
	baz=251,SNR=10						
IMAR	Indian Mountai	67.99	23	P	P	01 12 41.2	-0.6
O22K	Cooper Landing	68.04	29	P	P	01 12 41.4	-0.7
	baz=255						
SEW	Seward	68.07	30	P	P	01 12 41.9	-0.5
	baz=256						
M22K	Willow	68.19	28	P	P	01 12 41.8	-1.3
	baz=254,SNR=7.5						
RC01	Rabbit Creek A	68.19	29	P	P	01 12 41.9	-1.2
	baz=255,SNR=6.1						
H21K	Melozitna Rive	68.24	24	IAmb	IAmb	01 12 46.4	
	comp=Z,53nm,1.4s						
H21K				IAMs_20	IAMs_20	01 38 59.4	
	comp=Z,708nm,21.0s						
H21K	Melozitna Rive	68.24	24	P	P	01 12 43.2	-0.2
	baz=250,SNR=20						
I21K	Tanana	68.41	24	IAmb	IAmb	01 12 46.8	
	comp=Z,32nm,1.1s						
I21K				IAMs_20	IAMs_20	01 38 09.8	
	comp=Z,728nm,22.0s						
I21K	Tanana	68.41	24	P	P	01 12 44.2	-0.2
	baz=251,SNR=9.1						
BPAW	Bear Paw Mtn.	68.48	25	IAmb	IAmb	01 12 46.7	
	comp=Z,39nm,1.1s						
BPAW	Bear Paw Mtn.	68.48	25	P	P	01 12 44.3	-0.6
	baz=253,SNR=16						
TRF	Thorofare Moun	68.58	26	IAmb	IAmb	01 12 50.6	
	comp=Z,29nm,0.9s						
TRF				IAMs_20	IAMs_20	01 38 20.6	
	comp=Z,782nm,18.0s						
TRF	Thorofare Moun	68.58	26	P	P	01 12 44.7	-1.0
	baz=254,SNR=13						
PMR	Palmer	68.60	28	IAmb	IAmb	01 12 51.2	
	comp=Z,27nm,0.8s						
PMR	Palmer	68.60	28	P	P	01 12 44.4	-1.3
	baz=255,SNR=8.1						
BRZS	Berezniki	68.77	319	*e*P	P	01 12 45.7	-1.3
BRZS				pmax	pmax		
	comp=Z,14nm,1.2s						
BRZS	Berezniki	68.77	319	*e*P	P	01 12 45.8	-1.3
	comp=Z,14nm,1.2s,baz=319						
PWL	Port Wells	68.79	29	P	P	01 12 46.9	0.0
PWL	Port Wells	68.79	29	P	P	01 12 46.5	-0.5
	baz=256,SNR=23						
MLY	Manley	68.86	24	IAmb	IAmb	01 12 49.3	
	comp=Z,39nm,1.0s						
MLY				IAMs_20	IAMs_20	01 43 10.9	
	comp=Z,591nm,20.0s						
MLY	Manley	68.86	24	P	P	01 12 47.0	-0.3
	baz=252,SNR=30						
KNK	Knik Glacier	68.87	28	P	P	01 12 46.9	-0.5
	baz=256,SNR=11						
SML	Sawmill	69.02	28	P	P	01 12 47.6	-0.8
	baz=256,SNR=16						
DZA	Taraz	69.11	311	*e*P	P	01 12 48.5	-0.8
DZA	Taraz	69.11	311	*e*P	P	01 12 48.5	-0.8
	baz=311						
A21K	Barrow	69.13	17	P	P	01 12 48.0	-0.8
	baz=244						
RND	Reindeer	69.19	26	IAmb	IAmb	01 12 51.1	
	comp=Z,39nm,1.2s						
MCK	McKinley	69.25	26	P	P	01 12 48.6	-1.1
	baz=255,SNR=9.7						
GLI	Glacier Island	69.39	29	P	P	01 12 49.8	-0.8
	baz=257						
BTK	Batken	69.39	308	P	P	01 12 51.0	-0.2
BTK				pmax	pmax		
	comp=Z,46nm,1.4s						
BTK	Batken	69.39	308	P	P	01 12 51.0	-0.2
BTK				IAmb	IAmb	01 12 56.1	
	comp=Z,46nm,1.4s						
NEA2	Nenana	69.42	25	P	P	01 12 50.2	-0.5
	baz=254						
I23K	Minto, Yukon-K	69.45	25	IAMs_20	IAMs_20	01 38 30.5	
	comp=Z,641nm,20.0s						
I23K	Minto, Yukon-K	69.45	25	P	P	01 12 50.7	-0.2
	baz=254,SNR=21						
WAT6	Susitna Watana	69.48	27	P	P	01 12 50.3	-1.1
	baz=256,SNR=14						
SCM	Sheep Creek Mo	69.49	28	P	P	01 12 51.1	-0.2
	baz=257,SNR=21						
KKAR	Karatay Array	69.72	312	P	P	01 12 52.6	-0.5
KKAR	Karatay Array	69.72	312	P	P	01 12 52.6	-0.5
COLD	Coldfoot	69.74	22	P	P	01 12 52.9	+0.2
	baz=252,SNR=43						
DHY	Denali Highway	69.76	27	P	P	01 12 52.9	-0.2
	baz=256						
HMDM	Hanimaadhoo	69.77	273	P	P	01 12 59.2	+5.4
WRH	Wood River Hil	69.80	25	IAmb	IAmb	01 12 54.0	
	comp=Z,38nm,1.0s						
WRH				IAMs_20	IAMs_20	01 41 12.6	
	comp=Z,671nm,20.0s						
MDM	Murphy Dome	69.86	25	IAmb	IAmb	01 12 56.0	
	comp=Z,18nm,0.8s						
MDM				IAMs_20	IAMs_20	01 42 05.4	
	comp=Z,778nm,21.0s						
EYAK	Cordova Ski Ar	69.97	30	IAmb	IAmb	01 13 03.1	
	comp=Z,35nm,1.1s						
EYAK	Cordova Ski Ar	69.97	30	P	P	01 12 54.4	+0.2
	baz=259						
TCOL	CIGO, UAF Yank	69.99	25	IAmb	IAmb	01 12 55.9	
	comp=Z,32nm,1.3s						
TCOL				IAMs_20	IAMs_20	01 41 57.8	
	comp=Z,761nm,21.0s						
TCOL	CIGO, UAF Yank	69.99	25	P	P	01 12 54.2	0.0
	baz=255						
COLA	College	70.00	25	P	P	01 12 54.0	-0.2
COLA				pmax	pmax		
	comp=Z,30nm,1.3s						
COLA	College	70.00	25	P	P	01 12 54.0	-0.2
COLA				IAmb	IAmb	01 12 55.9	
	comp=Z,30nm,1.2s						
COLA	College	70.00	25	IAMs_20	IAMs_20	01 41 57.8	
	comp=Z,700nm,20.0s						
COLA	College	70.00	25	P	P	01 12 53.8	-0.5
	baz=255						
IUG	Iuzhnay	70.05	311	*e*P	P	01 12 54.3	-0.8
IUG	Iuzhnay	70.05	311	*e*P	P	01 12 54.4	-0.8
	baz=311						
KLU	Klutina	70.07	29	P	P	01 12 54.6	-0.3
	baz=258,SNR=16						

M24K	Tolsona, Glenn	70.08	28	P	P	01 12 55.2	+0.3
	baz=258,SNR=5.5						
BRLS	Borolday	70.22	311	*e*P	P	01 12 55.6	-0.5
BRLS	Borolday	70.22	311	*e*P	P	01 12 55.6	-0.5
	baz=311						
POKR	Poker Plat Res	70.23	25	IAmb	IAmb	01 12 58.1	
	comp=Z,44nm,1.4s						
POKR	Poker Plat Res	70.23	25	P	P	01 12 55.1	-0.6
	baz=256,SNR=5.2						
H24K	Noodor Dome	70.24	24	IAmb	IAmb	01 12 58.1	
	comp=Z,48nm,1.1s						
H24K	Noodor Dome	70.24	24	P	P	01 12 55.6	-0.2
	baz=255,SNR=30						
IL31		70.37	25	P	P	01 12 54.8	-1.7
IL31				IAmb	IAmb	01 12 57.0	
	comp=Z,31nm,1.1s						
ILAR	Eielson Array	70.37	25	P	P	01 12 54.9	-1.6
	comp=Z,18nm,1.0s,baz=255,slow=4.4,SNR=70						
ILAR				LR	LR	01 41 59.8	
	comp=Z,469nm,20.5s,baz=272,slow=34						
ILAR	Eielson Array	70.37	25	P	P	01 12 55.0	-1.6
TOLK	Toolik Lake Re	70.40	21	P	P	01 12 56.9	+0.2
TOLK	Toolik Lake Re	70.40	21	P	P	01 12 57.1	+0.4
	baz=252,SNR=38						
TAS	Tashkent	70.58	310	P	P	01 12 57.1	-1.2
TAS				pmax	pmax		
	comp=Z,77nm,1.1s						
TAS	Tashkent	70.58	310	P	P	01 12 57.1	-1.2
PAX	Paxson	70.58	27	IAmb	IAmb	01 13 00.5	
	comp=Z,47nm,1.2s						
PAX	Paxson	70.58	27	P	P	01 12 57.6	-0.5
	baz=258,SNR=13						
BRVK	Borovoye	70.59	322	*ce*P	P	01 12 58.2	+0.1
BRVK				pmax	pmax		
	comp=Z,21nm,0.6s						
BRVK	Borovoye	70.59	322	P	P	01 12 57.8	-0.3
BRVK	Borovoye	70.59	322	P	P	01 12 58.0	-0.2
BRVK				P	P	01 12 58.0	-0.2
HARP	HAARP	70.61	28	P	P	01 12 57.9	-0.3
	baz=259,SNR=13						
N25K	Chitina, Valde	70.72	29	IAmb	IAmb	01 13 06.6	
	comp=Z,62nm,1.4s						
N25K	Chitina, Valde	70.72	29	P	P	01 12 58.8	0.0
	baz=259,SNR=7.0						
KBL	Kabul	70.82	302	P	P	01 12 59.5	-0.7
KBL				pmax	pmax		
	comp=Z,44nm,1.0s						
KBL	Kabul	70.82	302	P	P	01 12 59.5	-0.7
KBL	Kabul	70.82	302	P	P	01 12 59.7	-0.4
	SNR=38						
KBL				P	P	01 12 59.7	-0.4
	SNR=38						
J25K	Salcha River,	70.97	26	IAmb	IAmb	01 13 02.6	
	comp=Z,34nm,1.4s						
J25K	Salcha River,	70.97	26	P	P	01 12 58.8	-1.5
	baz=258,SNR=14						
RIDG	Independent Ri	71.02	26	IAMs_20	IAMs_20	01 39 55.9	
	comp=Z,878nm,22.0s						
RIDG	Independent Ri	71.02	26	P	P	01 13 00.0	-0.6
	baz=258,SNR=17						
KAAM	Kaadhehdhoo	71.19	266	P	P	01 13 08.8	+6.3
VRDI	Verde Repeater	71.19	29	P	P	01 13 02.1	+0.2
VRDI				IAmb	IAmb	01 13 04.4	
	comp=Z,30nm,1.1s						
MENT	Mentasta	71.36	27	IAmb	IAmb	01 13 19.4	
	comp=Z,22nm,1.0s						
WAX	Waxell Ridge	71.36	30	IAmb	IAmb	01 13 05.2	
	comp=Z,36nm,1.0s						
SCRK	Sand Creek	71.44	26	IAmb	IAmb	01 13 07.5	
	comp=Z,44nm,1.3s						
SCRK	Sand Creek	71.44	26	P	P	01 13 02.6	-0.6
	baz=259,SNR=14						
L26K	Log Cabin Wild	71.55	27	IAmb	IAmb	01 13 06.0	
	comp=Z,35nm,1.2s						
L26K	Log Cabin Wild	71.55	27	P	P	01 13 03.6	-0.2
	baz=260,SNR=20						
J26L	Joseph Creek	71.72	26	P	P	01 13 04.4	-0.5
	baz=259,SNR=27						
YAH	Yahtse	71.90	30	IAmb	IAmb	01 13 08.8	
	comp=Z,47nm,1.2s						
PPT	Papeete	72.01	113	LR	LR	01 39 55.9	
	comp=Z,468nm,19.4s,baz=299,slow=32						
PPT2	Papeete2	72.01	113	*e*S	S	01 22 31.6	+3.0
	comp=Z,378nm,28.2s						
PPT2				*e*LQ	LQ	01 32 07.4	
	comp=Z,566nm,24.5s						
PPT2				*e*LR	LR	01 35 00.5	
	comp=Z,1µm,29.2s,baz=290						
BARN	Barnard Glacie	72.03	30	IAmb	IAmb	01 13 14.7	
	comp=Z,42nm,1.4s						
M27K	Edge Creek, AK	72.11	28	IAmb	IAmb	01 13 10.3	
	comp=Z,57nm,1.4s						
M27K	Edge Creek, AK	72.11	28	P	P	01 13 07.2	-0.1
	baz=262						
TABL	Table Mountain	72.20	30	P	P	01 13 08.6	+0.6
TABL				IAmb	IAmb	01 13 10.4	
	comp=Z,36nm,1.0s						
L27K	Beaver Creek,	72.24	27	IAmb	IAmb	01 13 10.1	
	comp=Z,28nm,1.2s						
L27K	Beaver Creek,	72.24	27	P	P	01 13 08.0	0.0
	baz=262,SNR=20						
BVCY	Beaver Creek	72.59	28	P	P	01 13 10.3	+0.3
	baz=263,SNR=9.1						
PCA	Pinnacle	72.60	31	IAmb	IAmb	01 13 20.4	
	comp=Z,34nm,1.2s						
YUK3	Moose Creek	72.69	29	P	P	01 13 11.0	+0.1
	baz=263,SNR=25						
PMOR	Pomariorio Ree	72.72	110	*e*P	P	01 13 14.7	+3.1
	comp=Z,75nm,1.3s						
EGAK	Eagle	72.78	26	IAmb	IAmb	01 13 13.9	
	comp=Z,50nm,1.3s						
EGAK	Eagle	72.78	26	P	P	01 13 11.8	+0.7
	baz=262						
PNL	Peninsula	72.99	31	P	P	01 13 12.6	+0.1
	baz=265						
VAH	Vaihoa	73.04	110	*e*P	P	01 13 16.4	+2.9
	comp=Z,54nm,1.3s						
DAWY	Dawson	73.45	27	P	P	01 13 15.6	+0.4
	baz=263,SNR=51						
YUK4	Talbot Arm	73.51	29	P	P	01 13 16.8	+1.0
	baz=265,SNR=15						
YUK6	Outpost Mounta	73.61	30	P	P	01 13 17.0	+0.6
	baz=265,SNR=6.8						
J29M	Klondike Camp	74.00	26	P	P	01 13 18.9	+0.5
	baz=264,SNR=13						
HYT	Haines Junctio	74.02	30	IAmb	IAmb	01 13 22.3	
	comp=Z,58nm,1.3s						
HYT	Haines Junctio	74.02	30	P	P	01 13 19.3	+0.6
	baz=266,SNR=28						
I29M	Ogilvie Camp,	74.06	25	IAmb	IAmb	01 13 22.4	
	comp=Z,59nm,1.2s						
I29M	Ogilvie Camp,	74.06	25	P	P	01 13 18.4	-0.2
	baz=264,SNR=23						
TBI	Tubuai	74.09	119	*e*S	S	01 22 55.0	+3.2
	comp=Z,308nm,31.0s						
TBI	Tubuai	74.09	119	*e*LR	LR	01 35 52.6	
	comp=Z,865nm,32.8s						
M30M	Minto, Yukon	74.48	28	IAmb	IAmb	01 13 24.7	
	comp=Z,42nm,1.3s						
M30M	Minto, Yukon	74.48	28	P	P	01 13 21.0	-0.2
	baz=266,SNR=27						
EPYK	Eagle Plains	74.80	24	IAMs_20	IAMs_20	01 43 46.8	
	comp=Z,752nm,22.0s						
EPYK	Eagle Plains	74.80	24	P	P	01 13 23.1	+0.1
	baz=265,SNR=37						
N31M	Braeburn, Yuko	74.90	29	IAmb	IAmb	01 13 27.3	
	comp=Z,64nm,1.3s						
N31M	Braeburn, Yuko	74.90	29	P	P	01 13 23.8	+0.1
	baz=267,SNR=16						
SKAG	Skagway	75.04	31	IAmb	IAmb	01 13 28.2	
	comp=Z,37nm,1.2s						
SKAG	Skagway	75.04	31	P	P	01 13 25.2	+0.8
	baz=268,SNR=10.0						
BESE	Bessie Mountai	75.27	32	P	P	01 13 26.7	+0.9
BESE				IAmb	IAmb	01 13 34.1	
	comp=Z,68nm,1.5s						
WHY	Whitehorse	75.30	30	P	P	01 13 26.0	-0.1
	baz=268,SNR=19						
JIS	Juneau Island	75.51	33	IAmb	IAmb	01 13 30.8	
	comp=Z,33nm,1.2s						
M31M	Drury Creek, Y	75.58	29	P	P	01 13 28.0	+0.5
	baz=268,SNR=6.7						
INK	Inuvik	76.16	22	LR	LR	01 45 00.2	
	comp=Z,402nm,21.6s,baz=251,slow=34						
INK	Inuvik	76.16	22	P	P	01 13 30.7	+0.1
	baz=268						
CRAG	Craig	76.22	36	P	P	01 13 31.3	+0.1
	baz=271						

SVE	Sverdlovsk	76.31	326	*di*P	P	01 13 31.8	+0.1
SVE				*e*S	S	01 23 18.7	+3.3
SVE				pmax	pmax		
	comp=Z,59nm,1.2s						
SVE				MLR	MLR		
	comp=Z,906nm,17.0s						
P33M	Teslin, Yukon	76.32	31	P	P	01 13 31.7	-0.2
	baz=270,SNR=11						
HRA	Herat	76.43	303	P	P	01 13 32.8	-0.4
HRA				IAmb	IAmb	01 13 35.9	
	comp=Z,37nm,1.1s						
WRAK	Wrangell Islan	76.63	35	P	P	01 13 34.2	+0.6
	baz=272,SNR=8.1						
DIB	Dawson Inlet,	76.67	38	IAmb	IAmb	01 13 37.5	
	comp=Z,17nm,0.8s						
AB31	Akbulak array	77.02	318	*i*P	P	01 13 35.0	-0.9
ABKAR	Akbulak array	77.02	318	P	P	01 13 35.2	-0.7
ARU	Arti	77.47	325	LR	LR	01 48 00.7	
	comp=Z,475nm,21.2s,baz=80,slow=36						
ARU	Arti	77.47	325	*ci*P	P	01 13 37.7	-0.6
ARU						01 13 48.8	
ARU						01 16 29.1	
ARU				S	S	01 23 29.9	+1.8
ARU				SS	SS	01 28 21.5	-5.3
ARU				pmax	pmax		
	comp=Z,63nm,1.2s						
ARU	Arti	77.47	325	P	P	01 13 37.6	-0.6
ARU				IAMs_20	IAMs_20	01 45 58.6	
	comp=Z,807nm,22.0s						
DLBC	Dease Lake	77.80	32	P	P	01 13 41.3	+1.1
AKTO	Aktyubinsk	78.18	319	LR	LR	01 51 03.1	
	comp=Z,436nm,19.4s,baz=86,slow=38						
AKTO	Aktyubinsk	78.18	319	P	P	01 13 41.5	-0.9
TAOE	Nuku Hiva Isla	78.33	102	*e*LR	LR	01 38 11.0	
	comp=Z,373nm,21.8s						
TGTN	Hyland Airport	78.49	29	P	P	01 13 44.3	+0.4
	baz=274,SNR=27						
A36M	Sachs Harbour	78.91	18	IAMs_20	IAMs_20	01 48 25.2	
	comp=Z,574nm,19.0s						
A36M	Sachs Harbour	78.91	18	P	P	01 13 45.8	-0.2
	baz=275						
GEYT	Alibeck	79.37	307	P	P	01 13 49.5	+0.2
	comp=Z,23nm,1.0s,baz=132,slow=2.1,SNR=23						
GEYT				LR	LR	01 52 54.0	
	comp=Z,800nm,19.6s,baz=89,slow=39						
GEYT	Alibeck	79.37	307	IAmb	IAmb	01 13 54.7	
	comp=Z,40nm,1.1s						
GYA0B	ALIBECK ARRAY	79.37	307	P	P	01 13 49.0	-0.2
GYA0B					P	01 13 50.0	+0.7
GYA0B				IAmb	IAmb	01 13 54.7	
	comp=Z,42nm,1.0s						
BBB	Bella Bella	79.39	39	LR	LR	01 42 11.1	
	comp=Z,496nm,21.6s,baz=266,slow=31						
C36M	Paulatuk	79.55	21	P	P	01 13 49.3	-0.2
	baz=276						
WBK	Wadi Bani Khal	80.80	291	P	P	01 13 57.2	0.0
WBK				P	P	01 13 57.2	0.0
WSAR	Wadi Sarin	81.01	292	LR	LR	01 53 36.5	
	comp=Z,214nm,19.0s,baz=102,slow=38						
BIDO	Bidbid	81.42	292	P	P	01 14 00.5	0.0
SMDO	Samad	81.57	292	P	P	01 14 01.2	-0.2
SMDO				P	P	01 14 01.2	-0.2
JMDO	Jabal Madar	81.63	291	P	P	01 14 01.4	-0.3
JMDO				P	P	01 14 01.4	-0.3
MHTO	MHTO	81.99	290	P	P	01 14 03.1	-0.5
	SNR=14						
KIRV	Kirov	82.13	328	LR	LR	01 53 07.0	
	comp=Z,797nm,19.3s,baz=81,slow=38						
HOQ	Hoqain	82.15	292	P	P	01 14 04.5	+0.1
	SNR=5.6						
HOQ				P	P	01 14 04.5	+0.1
	SNR=5.6						
CLRS	Cowichan Lake	82.36	42	P	P	01 14 06.0	+1.1
BSY	Bisya	82.39	292	P	P	01 14 05.6	-0.1
BSY				P	P	01 14 05.6	-0.1
DQM	DQM	82.57	289	P	P	01 14 07.0	+0.4
BANOM	Banah	82.66	295	P	P	01 14 09.5	+2.5
NLWA	Neilton Lookou	82.77	43	P	P	01 14 07.8	+0.7
NLWA				IAmb	IAmb	01 14 12.2	
	comp=Z,38nm,1.3s						
SHME	Shamm	82.78	295	P	P	01 14 09.9	+2.3
PGC	Sidney	82.83	42	IAmb	IAmb	01 14 11.7	
	comp=Z,29nm,1.1s						
MASF	Masafi	82.88	294	P	P	01 14 10.5	+2.3
ARQ	Araqi	82.91	292	P	P	01 14 08.2	-0.1
ARQ				P	P	01 14 08.2	-0.1
UOSS	Minazif	82.92	294	P	P	01 14 08.3	0.0
HATD	Hatta, Dubai	83.00	294	P	P	01 14 08.7	0.0
ASHO	Ashiyiah	83.09	294	P	P	01 14 11.5	+2.2
ASHO				P	P	01 14 11.5	+2.2
D03D	Eldon	83.27	43	P	P	01 14 09.8	+0.2
	baz=280,SNR=16						
UMQ	Umm Al-Quwin	83.30	295	P	P	01 14 14.0	+3.7
A04D	Lummi Island	83.31	42	P	P	01 14 10.2	+0.4
	baz=281,SNR=6.2						
I02E	Swisshome, OR	83.36	46	P	P	01 14 09.7	-0.5
	baz=280						
PRGR	Permogore	83.38	332	*e*P	P	01 14 09.0	-0.9
PRGR				pmax	pmax		
	comp=Z,51nm,0.8s						
NAZ	Nazwa, Dubai	83.39	294	P	P	01 14 13.1	+2.3
J01E	Myrtle Point	83.47	47	P	P	01 14 10.0	-0.8
	baz=280						
ALNE	Al Ain	83.48	293	P	P	01 14 14.2	+3.0
ALNE				P	P	01 14 14.2	+3.0
LLLB	Lillooet	83.48	40	IAmb	IAmb	01 14 14.4	
	comp=Z,17nm,1.0s						
FAQ	Al Faqa, Dubai	83.50	294	P	P	01 14 13.2	+1.9
G03D	McMinnville, O	83.57	45	P	P	01 14 11.3	0.0
	baz=281						
K02D	Willamette Mer	83.74	48	P	P	01 14 12.7	+0.4
	baz=281						
KRPM	Rodgers	83.76	49	P	P	01 14 13.0	+0.6
I03D	Drain, OR	83.79	47	P	P	01 14 12.6	+0.2
	baz=281,SNR=6.1						
B05A	Bryant	83.79	42	P	P	01 14 13.1	+0.7
	baz=281						
E04D	Cinebar	83.80	44	IAmb	IAmb	01 14 16.6	
	comp=Z,27nm,1.1s						
E04D	Cinebar	83.80	44	P	P	01 14 12.5	+0.1
	baz=281						
L02E	Cave Junction	83.89	48	IAmb	IAmb	01 14 16.3	
	comp=Z,24nm,1.1s						
L02E	Cave Junction	83.89	48	P	P	01 14 13.1	+0.1
	baz=281,SNR=9.1						
DBO	Dodson Butte	83.97	47	IAmb	IAmb	01 14 19.5	
	comp=Z,31nm,1.4s						
F04A	Amboy	84.02	44	P	P	01 14 14.1	+0.6
F04A				IAmb	IAmb	01 14 18.0	
	comp=Z,32nm,1.0s						
H04D	Lebanon	84.07	46	IAmb	IAmb	01 14 17.0	
	comp=Z,28nm,1.1s						
H04D	Lebanon	84.07	46	P	P	01 14 14.1	+0.3
	baz=281						
D05A	Enumclaw	84.07	43	IAmb	IAmb	01 14 18.0	
	comp=Z,34nm,1.0s						
AJN	Ajban	84.07	294	P	P	01 14 15.4	+1.2
AJN				P	P	01 14 15.4	+1.2
B06A	Marblemount	84.14	42	IAmb	IAmb	01 14 18.0	
	comp=Z,18nm,0.8s						
KMRM	Mail Ridge	84.17	50	IAmb	IAmb	01 14 21.9	
	comp=Z,19nm,0.9s						
UMZA	Um Al Zommool	84.25	292	P	P	01 14 18.5	+3.3
UMZA				P	P	01 14 18.5	+3.3
HUMO	Hull Mountain	84.27	48	IAmb	IAmb	01 14 18.2	
	comp=Z,21nm,1.1s						
H04A	Detroit Lake	84.42	46	P	P	01 14 16.0	+0.3
H04A				IAmb	IAmb	01 14 22.7	
	comp=Z,17nm,1.0s						
I04A	Tendick Farm,	84.44	47	P	P	01 14 16.2	+0.3
	baz=281,SNR=12						
EUNU	Eureka	84.52	8	P	P	01 14 16.2	+0.6
EUNU				IAmb	IAmb	01 14 17.9	
	comp=Z,33nm,1.1s						
M02C	Callahan	84.58	49	IAmb	IAmb	01 14 20.0	
	comp=Z,23nm,1.0s						
M02C	Callahan	84.58	49	P	P	01 14 16.9	+0.2
	baz=281,SNR=24						
YBH	Yreka Blue Hor	84.62	49	LR	LR	01 44 53.5	
	comp=Z,574nm,21.5s,baz=303,slow=31						
YBH	Yreka Blue Hor	84.62	49	IAmb	IAmb	01 14 20.0	
	comp=Z,21nm,0.9s						
HOOD	Mount Hood Mea	84.67	45	P	P	01 14 18.1	+1.1
HOOD				IAmb	IAmb	01 14 23.3	
	comp=Z,20nm,0.8s						

YKA Yellowknife Ar 84.67 27 P P 01 14 16.7 +0.1
comp=Z,6.8nm,0.5s,baz=289,slow=5.4,SNR=4.6
YKA LR LR 01 50 50.8
comp=Z,619nm,20.4s,baz=284,slow=35
F05D White Salmon 84.68 44 P P 01 14 17.4 +0.4
baz=282
SHAO Shalim 84.69 287 P P 01 14 21.4 +3.9
SHAO P P **01 14 21.4 +3.9**
J04D Umpqua Nationa 84.76 47 IAmb IAmb 01 14 20.4
comp=Z,30nm,0.9s
J04D Umpqua Nationa 84.76 47 P P 01 14 17.6 0.0
baz=282,SNR=6.3
N02D Trinity Center 84.77 49 IAmb IAmb 01 14 20.9
comp=Z,18nm,1.1s
N02D Trinity Center 84.77 49 P P 01 14 18.0 +0.3
baz=281,SNR=9.6
L04D Klamath Falls 84.82 48 IAmb IAmb 01 14 24.4
comp=Z,28nm,1.0s
L04D Klamath Falls 84.82 48 P P 01 14 17.6 -0.3
baz=282,SNR=10
O02D Mt. Diablo Mer 84.87 50 IAmb IAmb 01 14 21.6
comp=Z,22nm,1.1s
O02D Mt. Diablo Mer 84.87 50 P P 01 14 18.9 +0.8
baz=281,SNR=14
HOPS Hopland Field 84.89 51 IAmb IAmb 01 14 23.3
comp=Z,36nm,1.1s
G05D Wamic, OR 84.91 45 P P 01 14 18.2 0.0
baz=282
LTY Liberty 84.93 43 IAmb IAmb 01 14 21.6
comp=Z,24nm,1.1s
I05D Terrebonne, OR 85.08 46 P P 01 14 19.1 +0.1
baz=282
GDXM Geysers 85.13 52 IAmb IAmb 01 14 26.7
comp=Z,35nm,1.5s
K04D Chiloquin, OR 85.14 48 P P 01 14 18.5 -1.0
baz=282,SNR=5.0
MZWR Madinat Zayed 85.21 293 P P 01 14 22.3 +2.2
M04C Macdoel 85.25 48 IAmb IAmb 01 14 23.0
comp=Z,30nm,1.0s
M04C Macdoel 85.25 48 P P 01 14 20.5 +0.4
baz=282,SNR=15
J05D Fort Rock, OR 85.38 47 P P 01 14 20.3 -0.3
baz=282,SNR=20
DMTO DMTO 85.39 287 P P 01 14 24.2 +3.2
SPA0 Spitsbergen Ar 85.40 351 *eP* **P 01 14 20.6 +0.6**
SPITS Spitsbergen Ar 85.40 351 LR LR 01 53 57.3
comp=Z,676nm,19.1s,baz=250,slow=37
PINE Pine Mountain 85.48 46 P P 01 14 21.7 +0.5
O03E Paynes Creek 85.58 50 IAmb IAmb 01 14 27.8
comp=Z,30nm,1.1s
O03E Paynes Creek 85.58 50 P P 01 14 21.9 +0.2
baz=282,SNR=9.8
E07A Sunnyside 85.63 43 IAmb IAmb 01 14 26.2
comp=Z,20nm,0.9s
MZR Muzera 85.72 292 P P 01 14 24.9 +2.3
F07A Phinny Hill Vi 85.73 44 IAmb IAmb 01 14 26.8
comp=Z,33nm,1.4s
K05A Sumner Lake 85.74 47 IAmb IAmb 01 14 30.6
comp=Z,22nm,1.1s
HAWA Hanford 85.88 44 IAmb IAmb 01 14 27.4
comp=Z,36nm,1.3s
JRN Qarnain Island 85.91 294 P P 01 14 26.9 +3.5
DOK Doka 85.97 288 P P 01 14 27.1 +3.2
DOK P P **01 14 27.1 +3.2**
LVZ Lovozero 85.97 339 *ceP* **P 01 14 22.6 -0.4**
LVZ pmax pmax
comp=Z,68nm,1.3s
LVZ Lovozero 85.97 339 P P 01 14 22.1 -0.9
NOR Nord 86.01 357 *i* P **P 01 14 21.5 -1.4**
NOR IAmb IAmb 01 14 26.2
comp=Z,2.0nm,0.8s
RBK Rabkut 86.12 287 P P 01 14 25.4 +0.7
RBK P P **01 14 25.4 +0.7**
D08A Wollman Farm, 86.14 43 IAmb IAmb 01 14 28.6
comp=Z,41nm,1.2s
E08A Dider Farm, El 86.18 43 IAmb IAmb 01 14 28.9
comp=Z,53nm,1.4s
RES Resolute Bay 86.27 13 LR LR 01 52 02.7
comp=Z,310nm,21.9s,baz=294,slow=35
MOD Modoc Plateau 86.35 48 IAmb IAmb 01 14 30.1
comp=Z,38nm,1.4s
C09A Chrisman Ranch 86.39 42 IAmb IAmb 01 14 28.9
comp=Z,37nm,1.1s
KLMR Klimovskoe 86.43 332 *eP* **P 01 14 23.1 -2.2**
KLMR *e* 01 17 45.3
KLMR *eS* S 01 24 48.2 -12
KLMR pmax pmax
comp=Z,62nm,1.5s
KLMR Klimovskoe 86.43 332 *eP* **P 01 14 23.2 -2.1**
KLMR AMP 01 14 32.3
comp=Z,62nm,1.5s
KLMR *ePP* **PP 01 17 45.4 -1.0**
KLMR *eS* S 01 24 48.2 -12
KLMR *eS* S 01 24 48.2 -12
KLMR LQ LQ 01 47 31.8
KLMR LQ LQ 01 47 31.8
KLMR LR LR 01 51 50.8
WHFO Wadi Hawf 86.45 287 P P 01 14 27.5 +1.2
WHFO P P **01 14 27.5 +1.2**
MAK Makhachkala 86.48 313 *eP* P 01 14 19.9 -6.0
MAK *e* 01 24 42.3
MAK pmax pmax
comp=Z,66nm,1.3s
MAK MLR MLR
comp=Z,458nm,17.0s
G08A Pilot Rock 86.53 45 P P 01 14 26.6 +0.3
G08A IAmb IAmb 01 14 30.7
comp=Z,30nm,1.5s
APA Apatity 86.54 339 *iP* **P 01 14 22.8 -2.9**
APA pmax pmax
comp=Z,26nm,1.1s
APA MLR MLR
comp=Z,900nm,15.0s
BEKR Beckworth 86.76 50 IAmb IAmb 01 14 34.0
comp=Z,26nm,1.1s
E09A Wood Farm, Sta 86.79 43 IAmb IAmb 01 14 31.1
comp=Z,20nm,0.9s
KHOR Al-Khor Airpor 86.96 295 P P 01 14 30.7 +2.1
ABTO Aybut 87.00 287 P P 01 14 28.6 -0.5
SNR=9.6
ABTO P **P 01 14 28.6 -0.5**
SNR=9.6
NEW Newport 87.03 41 LR LR 01 49 12.4
comp=Z,350nm,19.8s,baz=282,slow=33
NEW Newport 87.03 41 P P 01 14 28.8 +0.2
NEW pmax pmax
comp=Z,56nm,1.0s
NEW Newport 87.03 41 P P 01 14 28.8 +0.2
NEW Newport 87.03 41 P P 01 14 28.9 +0.3
baz=285,SNR=44
SLWR Sila 87.12 294 P P 01 14 31.4 +2.0
SLWR P P **01 14 31.4 +2.0**
CMB Columbia Colle 87.15 52 IAmb IAmb 01 14 36.0
comp=Z,30nm,1.4s
EMB Emerald Bay 87.15 51 IAmb IAmb 01 14 36.5
comp=Z,22nm,1.1s
J08A Circle Bar Ran 87.32 46 IAmb IAmb 01 14 33.0
comp=Z,25nm,1.1s
SOCY Socotra 87.38 282 P P 01 14 29.9 -1.0
SOCY IAmb IAmb 01 14 34.6
comp=Z,36nm,1.4s
VCNR Virginia City 87.42 51 IAmb IAmb 01 14 35.9
comp=Z,22nm,1.2s
WVOR Wild Horse Val 87.43 47 IAmb IAmb 01 14 33.5
comp=Z,21nm,1.1s
PAHR Pah Rah Range 87.53 50 IAmb IAmb 01 14 34.1
comp=Z,23nm,1.1s
F10A Beach Ranch, E 87.54 44 IAmb IAmb 01 14 38.4
comp=Z,27nm,1.2s
GROC Groznyy 87.64 314 *eP* **P 01 14 30.9 -0.7**
GROC *eS* S 01 25 01.3 -11
GROC pmax pmax
comp=Z,13nm,1.0s
YERR Yerington 87.80 51 IAmb IAmb 01 14 35.7
comp=Z,23nm,1.1s
VRH Novokhopyorsk 88.18 322 *eP* **P 01 14 31.5 -2.4**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH MLR MLR
comp=Z,1μm,16.0s
ARA0 ARCESS Array S 88.24 342 *eP* **P 01 14 33.5 -0.4**
ARCES ARCESS Array B 88.24 342 P **P 01 14 33.5 -0.5**
comp=Z,9.7nm,0.7s,baz=78,slow=5.9,SNR=67
ARCES LR LR 01 58 05.4
comp=Z,520nm,19.2s,baz=65,slow=38
ARCES ARCESS Array B 88.24 342 P **P 01 14 33.4 -0.5**
ARCES pmax pmax
comp=Z,53nm,1.4s
ARCES ARCESS Array B 88.24 342 P **P 01 14 33.4 -0.5**
OMMB Old Mammoth Mi 88.31 52 IAmb IAmb 01 14 41.1
comp=Z,20nm,1.2s
RYN Ryan 88.43 51 IAmb IAmb 01 14 38.8
comp=Z,23nm,1.0s
PLID Pearl Lake 88.60 44 IAmb IAmb 01 14 38.3
comp=Z,18nm,1.1s
NVAR Mina Array Bea 88.65 51 P P 01 14 38.0 +1.3
comp=Z,20nm,0.9s,baz=264,slow=5.6,SNR=67
NVAR LR LR 01 46 56.9
comp=Z,124nm,20.9s,baz=273,slow=31
NVAR Mina Array Bea 88.65 51 P P 01 14 37.1 +0.3
KVN Kaiserville 88.65 50 IAmb IAmb 01 14 39.7
comp=Z,25nm,1.0s
VES Vestal, Richgr 88.67 54 P P 01 14 37.2 +0.6
baz=284
NV11 Mina Array Sit 88.76 51 IAmb IAmb 01 14 40.3
comp=Z,23nm,1.0s
WALA Waterton Lakes 88.86 40 IAmb IAmb 01 14 48.3
comp=Z,43nm,1.4s
BMN Battle Mountai 88.96 49 IAmb IAmb 01 14 41.1
comp=Z,20nm,1.0s
MOS Moscow 89.06 327 *eP* **P 01 14 34.3 -3.7**
MOS pmax pmax
comp=Z,52nm,1.2s
MOS pmax pmax
comp=Z,300nm,2.7s
ZEI Tsey 89.09 314 *eP* **P 01 14 36.5 -2.2**
ZEI pmax pmax
comp=Z,12nm,1.0s
GNI Garni 89.17 311 LR LR 02 00 15.1
comp=Z,291nm,18.1s,baz=75,slow=39
GNI Garni 89.17 311 P P 01 14 39.6 +0.5
GNI pmax pmax
comp=Z,11nm,1.0s
GNI Garni 89.17 311 P P 01 14 39.6 +0.5
ISA Isaella, Lake 89.19 54 P P 01 14 39.7 +0.5
baz=284
KTK1 Kautokeino 89.20 342 *eP* **P 01 14 38.6 +0.2**
CWC Cottonwood Cre 89.31 53 P P 01 14 40.1 +0.3
baz=284
LPSR Galich'ya Gora 89.39 324 *eP* **P 01 14 37.8 -1.8**
LPSR pmax pmax
comp=Z,30nm,1.1s
LPSR MLR MLR
comp=Z,770nm,16.0s
LCH Last Change Ra 89.45 52 IAmb IAmb 01 14 47.2
comp=Z,31nm,1.4s
ONI Oni 89.46 313 P P 01 14 40.7 +0.4
ONI pmax pmax
comp=Z,21nm,1.3s
ONI Oni 89.46 313 P P 01 14 40.7 +0.4
ONI IAmb IAmb 01 14 44.7
comp=Z,21nm,1.3s
MSO Missoula 89.49 42 P P 01 14 41.0 +0.6
baz=287
TULEG Thule 89.50 7 P P 01 14 39.3 -0.4
TULEG IAmb IAmb 01 14 41.9
comp=Z,26nm,1.2s
TULEG Thule 89.50 7 *i* P **P 01 14 37.2 -2.5**
TULEG IAmb IAmb 01 14 39.0
comp=Z,5.0nm,0.8s
VORR Voronezh 89.53 323 *eP* **P 01 14 39.0 -1.3**
VORR pmax pmax
comp=Z,70nm,0.4s
KBZ Khabaz 89.54 315 P P 01 14 39.2 -1.3
comp=Z,5.6nm,0.9s,baz=88,slow=1.7,SNR=8.3
KBZ LR LR 02 00 01.0
comp=Z,650nm,18.4s,baz=66,slow=39
KBZ Khabaz 89.54 315 *i* P **P 01 14 40.5 0.0**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 89.62 315 *eP* **P 01 14 41.1 0.0**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 89.62 315 P P 01 14 39.9 -1.2
KIV IAMs_20 IAMs_20 01 59 02.6
comp=Z,485nm,20.0s
CCAC Calif City Air 89.68 54 IAmb IAmb 01 14 47.7
comp=Z,24nm,0.9s
JETT Jettan, Norway 89.73 343 *eP* **P 01 14 41.1 +0.2**
EDW2 Edwards Air Fo 89.77 54 P P 01 14 42.0 +0.1
baz=284,SNR=8.6
PASC Pasadena Art C 89.79 55 IAmb IAmb 01 14 44.7
comp=Z,42nm,1.4s
CIS Catalina Islan 89.79 56 P P 01 14 42.6 +0.6
baz=284
OBN Obninsk 89.84 327 LR LR 01 59 00.4
comp=Z,116nm,18.5s,baz=19,slow=38
OBN Obninsk 89.84 327 *ceP* **P 01 14 40.4 -1.3**
OBN *i* *PP **PcP 01 14 43.9 +1.0**
OBN *e*SP **sP 01 14 46.3 -1.3**
OBN *eS* **SKSac 01 25 08.3 -3.1**
OBN *i* 01 25 28.4
OBN *eSS* **SS 01 31 25.3 -4.3**
OBN SSS SSS 01 35 09.0
OBN pmax pmax
comp=Z,49nm,1.0s
OBN MLR MLR
comp=Z,469nm,19.0s
OBN Obninsk 89.84 327 P P 01 14 40.3 -1.4
LRMC Laurel Mtn Rad 89.86 54 P P 01 14 42.8 +0.4
baz=285
MPMC Manual Prospec 89.87 53 P P 01 14 42.7 +0.2
baz=285,SNR=26
VNDA Vanda 90.00 176 P P 01 14 41.8 -0.1
comp=Z,2.6nm,1.0s,baz=341,slow=6.5,SNR=6.1
VNDA LR LR 01 53 24.5
comp=Z,153nm,18.2s,baz=344,slow=34
TRO Tromso 90.11 343 *eP* **P 01 14 41.4 -1.2**
HLID Hailey 90.12 45 IAmb IAmb 01 14 48.4
comp=Z,23nm,1.1s
HLID Hailey 90.12 45 P P 01 14 43.4 -0.1
baz=287,SNR=27
VALR Valaam 90.13 334 *i* P **P 01 14 42.7 -0.2**
VALR pmax pmax
comp=Z,69nm,1.1s
BFSC Mount Baldy Ra 90.19 55 P P 01 14 43.8 -0.2
baz=285
FURC Furnace Creek, 90.25 53 P P 01 14 43.8 -0.2
baz=285,SNR=6.3
KARS Kars 90.27 312 P P 01 14 44.2 0.0
KARS pmax pmax
comp=Z,81nm,1.2s
KARS Kars 90.27 312 P P 01 14 44.2 0.0
ELK Elko 90.33 48 LR LR 01 48 29.3
comp=Z,550nm,21.6s,baz=292,slow=31
ELK Elko 90.33 48 IAmb IAmb 01 14 48.2
comp=Z,23nm,1.1s
QSM Queen of Sheba 90.38 53 IAmb IAmb 01 14 51.6
comp=Z,41nm,1.4s
GWY Greenwater Val 90.48 53 IAmb IAmb 01 14 51.0
comp=Z,36nm,1.4s
ELS Elsinore Mount 90.53 56 IAmb IAmb 01 14 48.2
comp=Z,18nm,1.4s
GSC Goldstone, Bar 90.60 54 P P 01 14 45.4 -0.4
baz=285,SNR=12
TPNV Topopah Spring 90.60 52 P P 01 14 47.0 +1.1
TPNV pmax pmax
comp=Z,17nm,1.1s
TPNV Topopah Spring 90.60 52 P P 01 14 47.0 +1.1
TPNV IAmb IAmb 01 14 52.9
comp=Z,17nm,1.1s
TPNV Topopah Spring 90.60 52 P P 01 14 45.7 -0.2
baz=286,SNR=25
MURC Murrieta 90.73 56 P P 01 14 46.3 -0.1
baz=285
R11A Troy Canyon, C 90.73 51 IAmb IAmb 01 15 09.3
comp=Z,21nm,1.5s
R11A Troy Canyon, C 90.73 51 P P 01 14 46.1 -0.4
baz=286,SNR=22
DAG Danmarks Havn 90.75 356 *i* P **P 01 14 42.9 -2.6**
DAG IAmb IAmb 01 14 45.0
comp=Z,3.3nm,1.0s
DLMT Dillon 90.83 43 IAMs_20 IAMs_20 01 46 09.0
comp=Z,384nm,20.0s
SHOC Shoshone, Teco 90.86 53 P P 01 14 47.5 +0.6
baz=286,SNR=8.7
109C Camp Elliot, M 90.98 56 P P 01 14 48.2 +0.7
baz=285
PUL Pulkovo 91.08 332 *ceP* **P 01 14 48.2 +0.9**
PUL pmax pmax
comp=Z,47nm,0.8s
HEC Hector,Ludlow 91.10 54 P P 01 14 48.2 +0.1
baz=285,SNR=9.4
TUQ Turquoise Moun 91.26 53 P P 01 14 49.0 0.0
baz=286,SNR=9.0
PFO Pinyon Flats O 91.32 55 LR LR 01 52 58.5
comp=Z,324nm,18.7s,baz=272,slow=34
PFO Pinyon Flats O 91.32 55 P P 01 14 49.7 +0.5
PFO pmax pmax
comp=Z,29nm,1.3s
PFO Pinyon Flats O 91.32 55 P P 01 14 49.7 +0.5
PFO IAmb IAmb 01 14 55.9
comp=Z,28nm,1.2s
PFO Pinyon Flats O 91.32 55 IAMs_20 IAMs_20 01 52 35.1
comp=Z,510nm,19.0s
PFO Pinyon Flats O 91.32 55 P P 01 14 48.9 -0.3
baz=285,SNR=8.7
TPFO Pinon Flats 91.33 55 P P 01 14 49.0 -0.2
baz=285,SNR=7.8
PRN Pahroc Range 91.40 51 IAmb IAmb 01 14 53.0
comp=Z,15nm,1.1s
BOZ Bozeman (W) 91.40 43 P P 01 14 49.3 -0.1
baz=289,SNR=9.3
MONP2 Monument Peak 91.54 56 P P 01 14 50.7 +0.4
baz=285
SHPR Sheep Range 91.56 52 IAmb IAmb 01 14 53.9
comp=Z,18nm,1.1s
BELC Belle Mtn. Jos 91.59 55 P P 01 14 50.8 +0.4
baz=286,SNR=7.2
GURO Guroymak-BITLI 91.63 310 P P 01 14 49.2 -1.4
GMRC Granite Mounta 91.64 54 P P 01 14 51.1 +0.4
baz=286,SNR=13
SOC Sochi 91.79 315 *eP* **P 01 14 48.2 -2.8**
SOC *e* 01 18 26.3
SOC *e*PPP PPP 01 20 24.3
SOC *eS* **SKSac 01 25 20.7 -2.4**
SOC *eSS* **SS 01 31 55.7 -2.7**
SOC *e*SSS SSS 01 35 35.9
HVU Hansel Valley 91.80 47 IAmb IAmb 01 14 56.4
comp=Z,18nm,1.1s
EGMT Eagleton 91.81 40 P P 01 14 51.6 +0.5
baz=290
IKP In-Ko-Pah, Jac 91.86 56 P P 01 14 51.9 +0.2
baz=286
PSUT Pine Spring 91.98 50 IAmb IAmb 01 14 58.9
comp=Z,29nm,1.3s
YUH Yuha Desert 92.01 56 IAmb IAmb 01 14 58.2
comp=Z,22nm,1.2s
SWSC Sam W. Stewart 92.03 56 P P 01 14 52.8 +0.4
baz=286
BC3 Big Chuckawall 92.12 55 P P 01 14 53.4 +0.5
baz=286,SNR=6.1
FIA1 FINESS Array S 92.13 335 P P 01 14 50.8 -1.4
FINES FINESS Array B 92.13 335 P P 01 14 50.7 -1.5
comp=Z,11nm,0.6s,baz=60,slow=3.8,SNR=59
YHH Holmes Hill 92.18 43 IAmb IAmb 01 14 58.3
comp=Z,22nm,1.4s
STEI Steigen 92.22 343 *eP* **P 01 14 51.4 -1.1**
IRM Iron Mountain 92.22 55 P P 01 14 54.0 +0.7
baz=286,SNR=14
DUG Dugway, Tooele 92.26 48 IAmb IAmb 01 14 56.2
comp=Z,12nm,1.1s
DUG Dugway, Tooele 92.26 48 P P 01 14 54.0 +0.5
baz=288,SNR=11
YNR Norris Junctio 92.32 43 P P 01 14 55.3 +1.5
H17A Grant Village 92.50 44 P P 01 14 55.3 +0.7
baz=290,SNR=9.9
FAUS Fauske 92.56 342 *eP* **P 01 14 54.0 0.0**
LKWY Lake 92.56 44 IAmb IAmb 01 15 01.3
comp=Z,22nm,1.0s
MOOW Moose Ponds 92.60 44 IAmb IAmb 01 14 59.8
comp=Z,13nm,1.1s
CCUT Cedar City 92.64 51 IAmb IAmb 01 15 00.9
comp=Z,13nm,1.2s
REDW Red Top Meadow 92.65 45 IAmb IAmb 01 15 05.2
comp=Z,12nm,1.2s
AHID Auburn Hatcher 92.67 45 IAmb IAmb 01 14 58.0
comp=Z,14nm,1.1s
HWUT Hardware Ranch 92.72 47 IAmb IAmb 01 15 00.7
comp=Z,11nm,0.8s
RAYN Ar Rayn 92.76 295 P P 01 14 54.8 -1.2
RAYN pmax pmax
comp=Z,8.0nm,1.1s
RAYN Ar Rayn 92.76 295 P P 01 14 54.8 -1.2
GLA Glamis 92.79 56 IAmb IAmb 01 15 02.1
comp=Z,19nm,1.1s
GLA Glamis 92.79 56 P P 01 14 56.1 +0.2
baz=286,SNR=5.6
NLU North Lily Min 92.87 48 P P 01 14 56.3 -0.1
NLU IAmb IAmb 01 15 01.0
comp=Z,17nm,1.3s
CTU Camp Tracy 92.88 48 IAmb IAmb 01 15 00.8
comp=Z,12nm,1.2s
LCMT Little Creek M 92.89 51 IAmb IAmb 01 15 01.9
comp=Z,11nm,1.1s
W13A Hualapai Mount 92.95 53 IAmb IAmb 01 15 00.1
comp=Z,13nm,1.1s
PDMCI Parker Dam,Lak 92.98 54 P P 01 14 56.8 +0.1
baz=287,SNR=6.9
TCRU Three Creeks R 93.01 50 IAmb IAmb 01 15 07.1
comp=Z,14nm,1.2s
JLU Jordanelle 93.12 48 IAmb IAmb 01 15 00.1
comp=Z,12nm,1.1s
RLMT Red Lodge 93.13 43 IAmb IAmb 01 15 11.6
comp=Z,12nm,0.8s
RLMT Red Lodge 93.13 43 P P 01 14 57.9 +0.5
baz=290
VSU Vasula 93.32 332 *i* P **P 01 14 56.8 -0.9**
VSU pmax pmax
comp=Z,76nm,1.0s
VSU Vasula 93.32 332 *eP* **P 01 14 57.0 -0.8**
MEF Metsahovi 93.47 334 *eP* **P 01 14 57.8 -0.5**
MOR8 Moi Rana 93.60 342 *eP* **P 01 14 57.6 -1.3**
FFC Flin Flon 93.63 32 P P 01 14 59.6 +0.3
FFC pmax pmax
comp=Z,14nm,0.9s
FFC Flin Flon 93.63 32 P P 01 14 59.6 +0.3
FFC IAmb IAmb 01 15 02.4
comp=Z,14nm,0.9s
BW06 Boulder Array 93.74 45 P P 01 15 00.4 0.0
baz=290
PDAR Pinedale Array 93.74 45 P P 01 15 00.8 +0.4
comp=Z,1.4nm,0.6s,baz=290,slow=3.7,SNR=11
PDAR PP PP **01 18 45.2 -0.1**
comp=Z,0.4nm,0.8s,baz=312,slow=6.8,SNR=2.1
PDAR LR LR 01 55 58.1
comp=Z,125nm,18.4s,baz=310,slow=35
PDAR Pinedale Array 93.74 45 P P 01 15 00.4 0.0
Q16A Castle Valley 93.86 49 IAmb IAmb 01 15 04.0
comp=Z,19nm,1.4s
Y14A Wickenburg 93.99 54 IAmb IAmb 01 15 07.5
comp=Z,17nm,1.1s
RAF Rauna 94.13 336 *eP* **P 01 14 59.8 -1.6**
RDMU Red Mountain 94.48 47 IAmb IAmb 01 15 09.8
comp=Z,27nm,1.4s
MTSE Matsula 94.51 333 *eP* **P 01 15 02.0 -1.1**
LAO LASA Array 94.53 40 P P 01 15 03.5 -0.2
baz=293
MNK Minsk 94.67 328 *i* P **P 01 15 01.4 -2.6**
MNK *i* PPP PPP 01 20 50.9
MNK *i* S **SKSac 01 25 36.5 -1.9**
MNK *i* SS **SS 01 32 39.8 +1.0**
MNK *i* SSS SSS 01 36 21.9
MNK pmax pmax
comp=N,16nm,1.0s
MNK pmax pmax
comp=Z,28nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK MLR MLR
comp=N,399nm,20.0s
MNK MLR MLR
comp=Z,1μm,20.0s
MNK MLR MLR
comp=E,148nm,20.0s
MNK Minsk 94.67 328 *i* P **P 01 15 01.4 -2.6**
comp=E,2.0nm,1.0s
MNK *i* P **P 01 15 01.4 -2.6**
comp=N,16nm,1.0s
MNK *i* P **P 01 15 01.4 -2.6**
comp=Z,28nm,1.0s,baz=62
MNK *i* PP PP 01 18 37.1 -15
MNK *i* PPP PPP 01 20 51.0
MNK *i* S **SKSac 01 25 36.6 -1.9**
MNK *i* SS **SS 01 32 39.8 +1.0**
MNK *i* SSS SSS 01 36 22.0
MNK *i* LQ LQ 01 49 42.0
MNK *i* LR LR 01 53 04.9
MNK *i* LRM MLR 01 59 49.8

	comp=N,399nm,19.6s						
MNK				*i* LRM	MLR	02 00 32.7	
	comp=Z,1µm,19.6s						
MNK				*i* LRM	MLR	02 00 33.6	
	comp=E,148nm,19.6s						
214A	Organ Pipe Nat	94.73	56	P	P	01 15 05.5	+0.6
	baz=287						
WUAZ	Wupatki	94.79	52	P	P	01 15 06.1	+0.9
WUAZ				IAmb	IAmb	01 15 08.6	
	comp=Z,14nm,1.1s						
WUAZ	Wupatki	94.79	52	P	P	01 15 05.5	+0.3
	baz=288,SNR=8.8						
IDID	Didziasalis	94.86	329	*e*P	P	01 15 05.5	+0.6
NACGM	Naroch	95.04	329⇓	*e*P	P	01 15 04.1	-1.6
JMIC	Jan Mayen	95.05	351	LR	LR	01 59 52.8	
	comp=Z,95nm,18.7s,baz=40,slow=37						
DGMT	Dagmar	95.08	38	P	P	01 15 06.5	+0.4
	baz=294						
AAL	Aland	95.33	335	*e*P	P	01 15 06.6	-0.2
FCC	Fort Churchill	95.37	26	P	P	01 15 06.9	-0.2
FCC				pmax	pmax		
	comp=Z,17nm,1.1s						
FCC	Fort Churchill	95.37	26	P	P	01 15 06.9	-0.2
FCC				IAmb	IAmb	01 15 09.1	
	comp=Z,17nm,1.1s						
O20A	White River Ci	95.59	47	IAmb	IAmb	01 15 35.9	
	comp=Z,14nm,1.5s						
O20A	White River Ci	95.59	47	P	P	01 15 08.7	-0.1
	baz=291						
PV23	Carpenter Ridg	95.61	49	IAmb	IAmb	01 15 11.9	
	comp=Z,18nm,1.0s						
AKASG	Malin Array Be	95.69	324	P	P	01 15 07.0	-1.8
	comp=Z,0.2nm,0.3s,baz=44,slow=2.7,SNR=9.4						
AKASG				LR	LR	02 01 11.2	
	comp=Z,1µm,18.6s,baz=62,slow=37						
PV13	Radium Mtn., P	95.85	49	P	P	01 15 10.3	+0.1
K22A	Casper	95.87	44	P	P	01 15 10.4	+0.4
	baz=292						
PABE	Paberze	96.13	330	*e*P	P	01 15 10.2	-0.4
W18A	Petrified Fore	96.18	52	P	P	01 15 11.9	+0.3
	baz=289						
TUC	Tucson	96.26	55	P	P	01 15 11.3	-0.6
TUC				pmax	pmax		
	comp=Z,16nm,1.4s						
TUC	Tucson	96.26	55	P	P	01 15 11.3	-0.6
TUC				IAmb	IAmb	01 15 18.2	
	comp=Z,16nm,1.4s						
TUC	Tucson	96.26	55	P	P	01 15 12.3	+0.4
	baz=288						
MVCO	Mesa Verde	96.42	50	P	P	01 15 13.0	+0.2
	baz=290						
N23A	Red Feather La	96.94	46	IAmb	IAmb	01 15 19.8	
	comp=Z,10nm,1.2s						
N23A	Red Feather La	96.94	46	P	P	01 15 15.2	+0.2
	baz=292						
RSSD	Black Hills	96.96	42	P	P	01 15 15.3	+0.3
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.1s						
RSSD	Black Hills	96.96	42	P	P	01 15 15.3	+0.3
RSSD				IAmb	IAmb	01 15 18.6	
	comp=Z,7.6nm,1.1s						
RSSD	Black Hills	96.96	42	P	P	01 15 15.2	+0.2
	baz=294						
SUW	Suwalki	97.31	329	*e*P	P	01 15 15.3	-0.7
BR131	Keskin Array S	97.40	313	P	P	01 15 15.7	-1.3
BR131				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BR131	Keskin Array S	97.40	313	P	P	01 15 15.7	-1.3
BR131				IAmb	IAmb	01 15 19.6	
	comp=Z,8.6nm,1.2s						
BRTR	Keskin Array B	97.40	313	P	P	01 15 15.1	-1.9
	comp=Z,3.9nm,1.1s,baz=89,slow=3.4,SNR=8.6						
BRTR				PP	PP	01 19 12.5	-1.1
	comp=Z,2.2nm,1.1s,baz=72,slow=5.3,SNR=4.5						
BRTR				LR	LR	02 04 35.0	
	comp=Z,221nm,19.6s,baz=58,slow=39						
BRTR	Keskin Array B	97.40	313c	*e*P	P	01 15 15.6	-1.3
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
S22A	4UR Ranch, Cre	97.47	49	P	Pdif	01 15 18.0	+0.4
	baz=292						
ISCO	Idaho Springs	97.59	47	P	Pdif	01 15 18.5	+0.4
	baz=292						
MAW	Mawson	97.63	202	LR	LR	01 58 16.5	
	comp=Z,790nm,18.5s,baz=78,slow=35						
HFS	Hagfors	97.83	337	LR	LR	02 02 24.1	
	comp=Z,316nm,19.7s,baz=44,slow=37						
NB2	NORSAR Subarra	98.13	339	P	P	01 15 17.6	-2.0
	comp=Z,12nm,1.2s,baz=52,slow=4.8						
NB2	NORSAR Subarra	98.13	339	P	P	01 15 17.6	-2.0
	baz=52,slow=4.8						
NOA	NORSAR Array B	98.13	339	P	P	01 15 17.7	-2.0
	comp=Z,3.9nm,0.9s,baz=47,slow=4.6,SNR=5.4						
DOMB	Dombas	98.16	340	*e*P	P	01 15 18.4	-1.3
Q24A	Divide	98.24	47	P	P	01 15 20.9	-0.1
	baz=293						
121A	Cookes Peak, D	98.58	54	P	Pdif	01 15 23.0	+0.5
	baz=290						
ANMO	Albuquerque	98.77	52	LR	LR	02 00 15.3	
	comp=Z,379nm,18.1s,baz=306,slow=36						
ANMO	Albuquerque	98.77	52	P	P	01 15 22.1	-1.2
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	Albuquerque	98.77	52	P	P	01 15 22.1	-1.2
ANMO	Albuquerque	98.77	52	P	Pdif	01 15 23.7	+0.3
	baz=291						
ULM	Lac du Bonnet	99.06	34	P	Pdif	01 15 23.9	-0.1
	comp=Z,4.9nm,0.9s,baz=317,slow=7.8,SNR=5.2						
ULM	Lac du Bonnet	99.06	34	IAmb	IAmb	01 15 26.1	
	comp=Z,8.6nm,1.1s						
LPIG	La Paz	99.19	63	LR	LR	01 55 27.6	
	comp=Z,248nm,19.1s,baz=246,slow=32						
CSS	Mathiatis	99.41	309	IAMs_20	IAMs_20	02 06 09.9	
	comp=Z,354nm,20.0s						
BURAR	Bucovina Array	99.47	323	P	Pdif	01 15 24.7	-1.3
T25A	Trinidad	99.48	49	P	Pdif	01 15 26.6	+0.1
	baz=293						
UZH	Uzhgorod	100.63	325	*e*P	Pdif	01 15 30.1	-0.9
MNTX	Cornudas Mount	100.78	54	P	Pdif	01 15 32.6	+0.5
	baz=292						
BLS5	Blasjo	100.95	339	*e*Pdif	Pdif	01 15 32.6	+0.3
CRVS	Cervenica-Dubn	100.95	325	*i* P	Pdif	01 15 33.8	+1.3
CRVS	Cervenica-Dubn	100.95	325	*e*PDIFF	Pdif	01 15 33.8	+1.3
CBKS	Cedar Bluff	102.14	46	IAMs_20	IAMs_20	01 54 35.8	
	comp=Z,531nm,21.0s						
VYHS	Vyhne	102.63	326	*i* P	Pdif	01 15 41.2	+1.2
VYHS	Vyhne	102.63	326	*e*PDIFF	Pdif	01 15 41.2	+1.2
SMOL	Smolenice	103.38	327	*i* P	Pdif	01 15 44.8	+1.5
SMOL	Smolenice	103.38	327	*e*PDIFF	Pdif	01 15 44.8	+1.5
BRG	Berggiesshubel	103.72	330	*e*P	Pdif	01 15 45.5	+0.8
BRG				Amp		01 15 46.8	
	comp=Z,5.5nm,1.1s						
BRG	Berggiesshubel	103.72	330	*e*P	Pdif	01 15 45.5	+0.8
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CLL	Collm	103.90	331	*e*P	Pdif	01 15 48.0	+2.5
CLL				*e*		01 20 09.0	
CLL				MLR	MLR		
	comp=Z,1µm,19.0s						
CLL	Collm	103.90	331	*e*Pdif	Pdif	01 15 48.0	+2.5
CLL				*e*PP	PP	01 20 09.0	+7.0
CLL				*e*PS	PS	01 29 14.0	+0.5
CLL				*e*PPS	PPS	01 29 54.0	
CLL				*e*SS	SS	01 35 01.0	+13
CLL				*e*SSS	SSS	01 39 00.0	
CLL				*e*x	x	01 44 30.0	
CLL				Lm	MLR	02 07 00.0	
	comp=N,700nm,18.2s						
CLL				Lm	MLR	02 07 00.0	
	comp=E,500nm,19.1s						
CLL				Lm	MLR	02 07 00.0	
	comp=Z,1µm,19.0s						
SYO	Syowa Base	106.28	201⇑	*e*PP	PP	01 20 22.6	+2.8
NATX	Nacogdoches	109.06	50	IAMs_20	IAMs_20	02 13 19.2	
	comp=Z,398nm,18.0s						
CEL	Celeste	110.23	319	IAMs_20	IAMs_20	02 11 10.1	
	comp=Z,606nm,20.0s						
O56A	Blue Knob Stat	114.77	35	IAMs_20	IAMs_20	02 08 35.2	
	comp=Z,644nm,20.0s						
SSPA	Standing Stone	114.89	34	IAMs_20	IAMs_20	02 04 46.3	
	comp=Z,433nm,22.0s						
HRV	Adam Dziewonsk	116.74	29	P	PKPdf	01 20 27.4	-0.2
	baz=321						
ESDC	Sonseca Array	120.47	332	PKP	PKiKP	01 20 36.4	+1.3
	comp=Z,0.8nm,0.9s,baz=5.0,slow=3.8,SNR=2.5						
TORD	Torodi Ar. Bea	134.89	302	PKhKP	PKPpre	01 20 55.8	
	comp=Z,0.8nm,0.6s,baz=27,slow=2.8,SNR=3.7						
TORD				PKP	PKiKP	01 21 03.9	-0.5
	comp=Z,3.0nm,1.1s,baz=16,slow=2.7,SNR=5.9						
TORD				PP	PP	01 23 34.2	-2.6
	comp=Z,2.8nm,1.0s,baz=46,slow=6.1,SNR=5.8						
TORD	Torodi Ar. Bea	134.89	302		PKPdf	01 20 59.1	-3.8
PLMC	San Jos del P	136.68	69	*e*P	PKiKP	01 21 07.8	-0.4
ZARC	Zaragoza, Cauc	136.88	65	PKPdf	PKPdf	01 21 06.2	-0.5
ZARC	Zaragoza, Cauc	136.88	65	*e*P	PKPpre	01 21 00.3	
GUY2C	Guyana, Caldas	137.39	68	*e*P	PKPpre	01 21 00.1	
SOTA	Rioblanco	137.40	73	*e*P	PKiKP	01 21 13.0	+2.7
OCAC	Ocana	137.90	63	PKPdf	PKPdf	01 21 07.9	-0.9
ORTC	Ortega, Tolima	138.02	70	*e*P	PKPdf	01 21 06.1	-2.7
PLCA	Paso Flores	138.43	140	PKP	PKPdf	01 21 09.5	+0.6
	comp=Z,4.8nm,1.1s,baz=295,slow=1.8,SNR=5.2						
LC01	Cunco	138.53	137	PKPdf	PKPdf	01 21 09.4	+0.4
RUSC	La Rusia	139.17	66	*e*P	PKPpre	01 21 06.4	
SDV	Santo Domingo	139.90	60	*e*P	PKPpre	01 21 07.0	
SMRT	St. Maarten	139.99	42	IAMs_20	IAMs_20	02 13 11.8	
	comp=Z,372nm,19.0s						
SOCV	Socops	140.01	61	*e*P	PKPdf	01 21 09.2	-3.2
SEUS	St. Eustatius	140.45	43	IAMs_20	IAMs_20	02 05 18.1	
	comp=Z,486nm,22.0s						
DBIC	Dimbokro	143.75	299	PKP	PKPbc	01 21 16.3	-0.3
	comp=Z,13nm,0.8s,baz=82,slow=4.5,SNR=9.7						
DBIC	Dimbokro	143.75	299	PKIKP	PKPbc	01 21 16.5	-0.2
DBIC	Dimbokro	143.75	299	PKPdf	PKPbc	01 21 16.5	-0.2
KIC	Kosan Boka	143.81	299	*e*P	PKPab	01 21 16.2	0.0
	comp=Z,20nm,0.6s						
TIC	Toumodi	143.91	299	*e*P	PKPab	01 21 16.4	-0.2
LIC	Lamto	144.13	299	*e*P	PKPbc	01 21 17.7	-0.1
	comp=Z,42nm,0.7s						
SVB	Belmont	144.60	46	PKPdf	PKPab	01 21 17.9	-1.2
TBTG	Tabatinga, AM	145.70	80	*e*P	PKPdf	01 21 22.5	0.0
PB15	IPOC Station P	146.44	114	PKPbc	PKPdf	01 21 23.1	-0.6
TOSP	Speyside	146.46	47	PKPbc	PKPdf	01 21 24.1	+0.3
LVC	Limon Verde	147.08	113	PKP2	PKPdf	01 21 25.8	+0.7
LVC	Limon Verde	147.08	113	PKPbc	PKPdf	01 21 25.8	+0.7
LPAZ	La Paz	148.72	102	PKPbc	PKPdf	01 21 29.6	+1.4
	comp=Z,10nm,0.9s,baz=14,slow=3.6,SNR=15						
LPAZ	La Paz	148.72	102	PKP2	PKPdf	01 21 29.8	+1.6
LPAZ	La Paz	148.72	102		PKPdf	01 21 29.8	+1.6
LPAZ	La Paz	148.72	102	*e*P	PKPdf	01 21 28.3	+0.1
PLTB	Pedras Altas	154.63	143	PKPdf	PKPdf	01 21 34.7	-1.3
CPUP	Villa Florida	155.51	129	PKP	PKPdf	01 21 37.5	+0.1
	comp=Z,1.3nm,0.8s,baz=286,slow=3.1,SNR=2.6						
CPUP	Villa Florida	155.51	129	PKP2	PKPab	01 21 59.6	-3.5
CPUP						02 21 34.9	
CPUP	Villa Florida	155.51	129	PKPdf	PKPdf	01 21 34.9	-2.4
CPUP					PKPab	01 21 59.6	-3.5
BDFB	Brasilia	167.93	109	PKP	PKPdf	01 21 51.2	+0.7
	comp=Z,5.6nm,0.9s,baz=243,slow=2.3,SNR=6.2						
BDFB	Brasilia	167.93	109	PKIKP	PKPdf	01 21 49.9	-0.6
BDFB	Brasilia	167.93	109		PKPdf	01 21 49.9	-0.6

*IDC **01** 01:06:12.2±1.2, 12.°03N×143.°75E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/39, mbtmp4.1/9, Error ellipse: s-maj=35.0km s-min=23.2km az=129.0*
*NEIC **01** 01:06:14.3±0.9, 12.°05N±0.°07×143.°8E±0.°2, h10km±1km, mb4.5/10, Error ellipse: s-maj=32.2km s-min=8.5km az=105.0*
ISC 01 01:06:14.0±0.9**, 12.°1N**±0.°1×**143.°8E**±0.°2**, h10km, n22, σ0.78**/20**, mb4.3**/14**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.87	35	Pn	Pn	01 06 46.9	+0.8
	202nm,0.3s,baz=203,slow=22,SNR=9.0						
GUMO				Sn	Sb	01 07 11.2	-0.5
	225nm,0.3s,baz=139,slow=21,SNR=6.9						
GUMO	Guam	1.87	35	Pn	Pn	01 06 45.8	-0.3
H11N1	WAKE ISLAND Hy	23.50	68	T	T	01 35 57.5	
	baz=255,slow=75,SNR=6.9						
H11N2	WAKE ISLAND Hy	23.50	68	T	T	01 35 55.0	
	baz=255,slow=75,SNR=5.4						
H11N3	WAKE ISLAND Hy	23.51	68	T	T	01 35 59.1	
	baz=255,slow=75,SNR=5.2						
WRA	Warramunga Arr	33.12	196	P	P	01 12 50.1	-0.4
	0.9nm,0.7s,baz=21,slow=9.8,SNR=2.6						
SONM	Songino Array	47.38	326	P	P	01 14 49.0	+0.5
	0.9nm,0.6s,baz=149,slow=7.7,SNR=4.4						
MK31	Makanchi Array	61.85	317	P	P	01 16 34.8	+1.2
MK31				IAmb	IAmb	01 16 36.8	
	comp=Z,2.1nm,1.1s						
MKAR	Makanchi Array	61.85	317	P	P	01 16 33.9	+0.4
	comp=Z,0.9nm,0.7s,baz=96,slow=8.9,SNR=6.2						
MAKZ	Makanchi	62.07	317	P	P	01 16 35.1	+0.2
MAKZ				IAmb	IAmb	01 16 36.8	
	comp=Z,2.6nm,1.1s						
ZALV	Zalesovo Beam	62.25	325	P	P	01 16 35.8	-0.1
	comp=Z,0.9nm,0.4s,baz=116,slow=8.1,SNR=3.0						
KURK	Kurchatov	65.07	320	P	P	01 16 54.4	-0.3
ILAR	Eielson Array	70.41	25	P	P	01 17 26.7	-1.4
	comp=Z,1.3nm,0.8s,baz=255,slow=5.3,SNR=6.7						
INK	Inuvik	76.19	22	P	P	01 18 01.6	-0.6
ABKAR	Akbulak array	76.96	318	P	P	01 18 06.8	-0.1
A36M	Sachs Harbour	78.94	18	P	P	01 18 17.9	+0.4
A36M				IAmb	IAmb	01 18 18.4	
	comp=Z,5.6nm,0.8s						
YKA	Yellowknife Ar	84.71	27	P	P	01 18 48.0	0.0
	comp=Z,0.8nm,0.4s,baz=285,slow=5.1,SNR=11						
RES	Resolute Bay	86.29	13	P	P	01 18 55.8	+0.1
RES				IAmb	IAmb	01 18 57.1	
	comp=Z,2.8nm,0.8s						
NEW	Newport	87.09	41	P	P	01 19 00.4	+0.2
NEW				IAmb	IAmb	01 19 03.4	
	comp=Z,3.6nm,0.8s						
ARCES	ARCESS Array B	88.21	342	P	P	01 19 05.2	+0.1
	comp=Z,1.9nm,0.7s,baz=76,slow=7.5,SNR=5.7						
NVAR	Mina Array Bea	88.72	51	P	P	01 19 09.7	+1.3
	comp=Z,1.2nm,0.7s,baz=271,slow=5.6,SNR=4.5						
FINES	FINESS Array B	92.09	335	P	P	01 19 21.6	-1.7
	comp=Z,1.0nm,0.4s,baz=55,slow=4.0,SNR=8.7						

*IDC **01** 01:29:30.3±1.9, 35.°85N×22.°23E, h0km, mb3.7/3, mb1 3.5/4, mb1mx3.3/40, mbtmp3.5/4, ML2.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/91, Error ellipse: s-maj=204.4km s-min=27.1km az=141.0*
*ISK **01** 01:29:33.1, 34.°92N×22.°83E, h10km, ML3.1/8*
*THE **01** 01:29:34.5, 34.°95N×22.°85E, h0km±3km, ML2.9/5, Error ellipse: s-maj=4.5km s-min=1.0km az=236.0*
*ATH **01** 01:29:35.3, 34.°98N×22.°94E, h31km±4km, ML2.9/4, Error ellipse: s-maj=8.3km s-min=1.9km az=46.0*
ISC 01 01:29:33.8±1.7**, 34.°96N**±0.°06×**22.°84E**±0.°06**, h14**km±10km**, n34, σ0.95**/40**, mb3.7**/3**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.74	68	P	Pg	01 29 47.6	-0.7
KNDR				S	Sg	01 29 57.5	-0.6
KNDR				AML	AML	01 30 05.6	
	comp=N,2714µm,0.7s						
KNDR				AML	AML	01 30 08.6	
	comp=E,2466µm,0.8s						
KNDR	Palaiochora Ch	0.74	68	P	Pg	01 29 47.4	-0.9
KNDR				S	Sg	01 29 58.2	+0.1
	comp=E,520nm,0.7s						
KNDR	Palaiochora Ch	0.74	68	PG	Pg	01 29 47.5	-0.9
KNDR				SG	Sg	01 29 58.2	+0.1
RODP	Rodopos	0.96	51	P	Pg	01 29 52.8	+0.3
RODP	Rodopos	0.96	51	PG	Pg	01 29 52.7	+0.3
RODP				SG	Sn	01 30 06.8	+0.3
ANKY	Antikythira Is	0.98	22	P	Pg	01 29 53.0	+0.1
ANKY	Antikythira Is	0.98	22	P	Pg	01 29 52.9	+0.1
ANKY				S	Sn	01 30 07.7	+0.7
	comp=E,650nm,0.7s						
GVD	Gavdhos	1.03	96	P	Pg	01 29 54.0	+0.2
GVD				AML	AML	01 30 15.3	
	comp=E,1224µm,0.5s						
GVD				AML	AML	01 30 16.7	
	comp=N,1142µm,0.4s						
GVD	Gavdhos	1.03	96	P	Pg	01 29 53.8	+0.1
GVD				S	Sn	01 30 09.4	+1.2
	comp=N,618nm,0.5s						
GVD	Gavdhos	1.03	96	PG	Pg	01 29 53.6	-0.1
GVDS	Gavdos	1.03	96	P	Pg	01 29 53.3	-0.5
GVDS				S	Sb	01 30 08.5	+1.5
	comp=N,690nm,0.5s						
IMMV	Iera Moni Meta	1.06	62	P	Pg	01 29 54.2	-0.1
IMMV	Iera Moni Meta	1.06	62	P	Pg	01 29 54.2	-0.1
IMMV				S	Sn	01 30 10.3	+1.4
	comp=N,722nm,0.7s						
IMMV	Iera Moni Meta	1.06	62	PN	Pg	01 29 54.2	-0.1
CHAN	Chania	1.13	60	P	Pb	01 29 55.5	+0.3
KTHR	Kythira	1.30	6	P	Pg	01 29 59.0	+0.1
KTHR				AML	AML	01 30 27.5	
	comp=E,1936µm,0.5s						
KTHR				AML	AML	01 30 27.6	
	comp=N,1507µm,0.6s						
KTHR	Kythira	1.30	6	P	Pg	01 29 59.1	+0.1
KTHA	Kythira Island	1.31	8	P	Pb	01 29 58.8	+0.6
KTHA				AML	AML	01 30 29.6	
	comp=E,962µm,0.8s						
KTHA				AML	AML	01 30 34.2	
	comp=N,430µm,0.6s						
TMBK	Timbaki Herakl	1.58	85	P	Pn	01 30 02.0	+0.5
IDI	Anoyia	1.71	78	LR	LR	01 31 01.4	
	comp=N,88nm,19.5s,baz=206,slow=41						
IDI	Anoyia	1.71	78	P	Pn	01 30 03.8	+0.4
IDI	Anoyia	1.71	78	P	Pn	01 30 03.9	+0.5
IDI	Anoyia	1.71	78	PN	Pn	01 30 03.9	+0.5
VLI	Veliai	1.76	3	P	Pb	01 30 05.8	-0.1
VLI	Veliai	1.76	3	P	Pb	01 30 06.2	+0.3
HRKL	Herakleio	1.89	79	PN	Pn	01 30 06.7	+1.0
ITM	Ithomi	2.34	342	PN	Pn	01 30 13.3	+1.4
SNT5	Nea Kammeni, S	2.53	55	P	Pn	01 30 14.5	-0.1
ZKR	Zakros	2.77	86	PN	Pn	01 30 18.9	+1.0
BRTR	Keskin Array B	9.82	58	Pn	Pn	01 31 55.1	+0.3
	comp=N,0.0nm,0.3s,baz=231,slow=14,SNR=2.8						
TORD	Torodi Ar. Bea	28.94	227	P	P	01 35 33.8	+0.9
	comp=N,0.4nm,0.9s,baz=40,slow=7.6,SNR=2.3						
MKAR	Makanchi Array	45.47	56	P	P	01 37 50.0	-2.5
	comp=N,0.3nm,0.3s,baz=266,slow=7.4,SNR=8.2						
ZALV	Zalesovo Beam	46.51	46	P	P	01 37 57.4	-3.2
	comp=N,0.7nm,0.4s,baz=274,slow=8.5,SNR=3.6						
LBTB	Lobatse	59.70	177	LR	LR	02 06 39.8	
	comp=N,98nm,19.4s,baz=94,slow=37						

IDC 01 01:29:46.4±4.7**, 8.°09S**×**127.°59E, h224**km±49km**, mb2.9**/1**, mb1 3.6**/5**, mb1mx3.0**/32**, mbtmp4.1**/5**, Error ellipse: s-maj=56.1km s-min=19.8km az=53.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	4.41	241	P	Pn	01 30 53.6	-0.5
	19nm,0.3s,baz=109,slow=1.5,SNR=4.5						
BATI				S	S	01 31 48.7	+1.2
	22nm,0.3s,baz=65,slow=19,SNR=11						
FITZ	Fitzroy Crossi	10.13	191	P	Pn	01 32 06.5	-0.5
	1.3nm,0.3s,baz=20,slow=14,SNR=60						
FITZ				S	S	01 34 00.7	0.0
	1.4nm,0.3s,baz=95,slow=19,SNR=6.6						
WRA	Warramunga Arr	13.48	152	P	Pn	01 32 47.3	-1.8
	0.9nm,0.3s,baz=320,slow=14,SNR=30						
WRA				S	S	01 35 08.6	-10
	1.4nm,0.3s,baz=330,slow=22,SNR=9.9						
ASAR	Alice Springs	16.63	159	P	Pn	01 33 27.3	+0.1
	0.6nm,0.3s,baz=341,slow=11,SNR=42						
ASAR				S	S	01 36 29.9	+1.6
	0.2nm,0.3s,baz=320,slow=19,SNR=2.6						
MKAR	Makanchi Array	67.85	328	P	P	01 40 20.5	-0.1
	0.2nm,0.4s,baz=119,slow=7.8,SNR=4.3						

*CNRM **01** 01:33:18.6, 35.°70N×3.°57W, h24km, ml2.7*
*SFS **01** 01:33:19.0, 35.°66N×3.°54W, h22km, ML2.9, ALBORAN SUR*
*MDD **01** 01:33:19.3±0.5, 35.°67N×3.°55W, h22km±2km, mb_Lg2.9/4, Error ellipse: s-maj=6.2km s-min=4.2km az=23.0*
*INMG **01** 01:33:20.7±1.0, 35.°62N×3.°75W, h4km±6km, ML2.2, Error ellipse: s-maj=3.6km s-min=3.4km az=79.0*
ISC 01 01:33:19.4±0.9**, 35.°66N**±0.°03×**3.°56W**±0.°03**, h22**km±8km**, n39, σ1.35**/70**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.54	215	P	Pb	01 33 30.2	-0.1
PALE				S	Sb	01 33 37.8	+0.2
EMEL	Melilla	0.61	126	Pg	Pb	01 33 31.4	-0.1
EMEL				Sg	Sb	01 33 38.6	-1.0
EMEL				*i* Vmb_Lg		01 33 41.0	
GOG	Mont Gurugu	0.64	133	P	Pb	01 33 31.5	-0.4
GOG				S	Sb	01 33 40.1	-0.4
AKLM	AKL	1.18	192	P	Pn	01 33 40.9	+0.3
AKLM				S	Sn	01 33 57.2	+1.3
ELGU	Los Guajares,	1.21	358	Pn	Pn	01 33 40.1	-1.0
ELGU				Sn	Sn	01 33 55.1	-1.6
ELGU				*i* Vmb_Lg		01 33 59.8	
TAF	Taforalt	1.26	132	P	Pn	01 33 41.5	-0.3
TAF				S	Sb	01 33 58.4	0.0
EMAL	Malaga-Limoner	1.30	328	P	Pn	01 33 41.8	-0.5
EMAL				S	Sn	01 33 58.6	-0.5
EMIJ	Mijas	1.33	313	Pg	Pn	01 33 40.4	-2.3
EMIJ				Sg	Sn	01 33 58.3	-1.5
EMIJ				*i* Vmb_Lg		01 33 59.3	
EBER	Berja	1.35	24	Pg	Pn	01 33 42.8	-0.3
EBER				Sg	Sn	01 33 59.3	-1.1
SMIR	Smir Dam	1.48	271	P	Pn	01 33 42.1	-2.6
SMIR				S	Sn	01 34 01.9	-1.5
EGOR	Sierra Gorda,	1.51	343	Sg	Sb	01 34 05.6	-0.1
CHEFC	Chefchaouen	1.56	250	P	Pn	01 33 45.6	-0.2
CHEFC				S	Sn	01 34 03.2	-2.2
JBK	JBK	1.56	148	P	Pn	01 33 46.0	0.0
JBK				S	Sn	01 34 04.1	-1.4
EADA	Adamuz	2.63	342	Pn	Pn	01 34 01.4	+0.8
EADA				Sn	Sn	01 34 30.5	-1.4
ECAB	El Cabril	2.83	329	Pn	Pn	01 34 02.9	-0.5
ECAB				Sn	Sn	01 34 35.8	-1.0
ECAB				Sg	Sb	01 34 45.6	+2.1
MD31	MD31	2.96	200	P	Pn	01 34 05.7	+0.6
MD31				S	Sn	01 34 39.2	-0.8
MDT	Midelt	2.97	197	P	Pn	01 34 05.7	+0.4
MDT				S	Sn	01 34 43.0	+2.7
EGRO	El Granado	3.67	302	Pn	Pn	01 34 13.5	-1.3
EGRO				Sn	Sn	01 34 55.7	-1.7
PBAR	Barrancos	3.75	313	*e*Pn	Pn	01 34 16.9	+1.0
PBAR				*e*Sn	Sn	01 34 59.6	+0.2
PBAR				A	A	01 35 00.4	
	2.8nm,0.6s						
PVAQ	Vaqueiros	3.77	299	*e*Pn	Pn	01 34 16.7	+0.5
PVAQ				*e*Sn	Sn	01 34 58.7	-1.2
PVAQ				A	A	01 35 04.5	
	1.8nm,0.2s						
PVAQ	Vaqueiros	3.77	299	P	Pn	01 34 16.5	+0.3
PVAQ				S	Sn	01 34 59.6	-0.4
PBDV	Barranco-do-Ve	3.86	295	*e*Pn	Pn	01 34 17.9	+0.4
PBDV				*e*Sn	Sn	01 35 00.6	-1.6
PBDV				A	A	01 35 09.9	
	3.2nm,0.6s						
PCVE	Castro Verde	4.10	300	*e*Pn	Pn	01 34 20.9	+0.1
PCVE				*e*Sn	Sn	01 35 07.3	-0.8
PCVE				A	A	01 35 10.3	
	2.3nm,0.6s						
EBAD	Badajoz	4.14	319	Pn	Pn	01 34 20.3	-1.0
EBAD				Sn	Sn	01 35 07.3	-1.7
EBAD				*i* Vmb_Lg		01 35 10.6	
PESTR	Estremoz	4.54	316	*e*Pn	Pn	01 34 28.1	+1.4
PESTR				*e*Sn	Sn	01 35 18.4	-0.4
PESTR				A	A	01 35 20.5	
	1.5nm,0.8s						
PTEO	Sao Teotonio	4.56	296	*e*Pn	Pn	01 34 28.1	+1.1
PTEO				*e*Sn	Sn	01 35 19.8	+0.5
EVO	Evora	4.57	310	*e*Pn	Pn	01 34 28.5	+1.3
EVO				*e*Sn	Sn	01 35 18.9	-0.7
EVO				A	A	01 35 23.4	
	2.4nm,0.6s						
PNCL	Nicolau / Gran	4.67	303	*e*Pn	Pn	01 34 29.2	+0.6
PNCL				*e*Sn	Sn	01 35 21.1	-1.0
PNCL				A	A	01 35 33.6	
	2.1nm,0.6s						
PMRV	Marv??o	4.84	322	*e*Pn	Pn	01 34 32.5	+1.6
PMRV				*e*Sn	Sn	01 35 25.9	-0.3
PMRV				A	A	01 35 41.1	
	1.7nm,0.7s						
PMTG	Montargil	5.04	314	*e*Pn	Pn	01 34 35.0	+1.4
PMTG				*e*Sn	Sn	01 35 30.8	-0.3
PCBR	Castelo Branco	5.20	325	*e*Pn	Pn	01 34 38.8	+3.0
PACT	Alcochete	5.23	308	*e*Pn	Pn	01 34 37.6	+1.4
PACT				A	A	01 35 54.1	
	20nm,0.7s						
PSBE	So Bento	5.66	314	*e*Pn	Pn	01 34 43.8	+1.6
PSBE				*e*Sn	Sn	01 35 46.2	-0.4
PSBE				A	A	01 36 02.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	6.1nm,0.7s						
MTE	**Manteigas**	**5.68**	**328**	*e*Pn	**Pn**	**01 34 44.9**	**+2.4**
PVIS	**Viseu**	**6.09**	**327**	*e*Pn	**Pn**	**01 34 50.3**	**+2.2**
MVO	**Moncorvo**	**6.13**	**335**	*e*Pn	**Pn**	**01 34 50.4**	**+1.7**
PVRL	**Vila Real**	**6.48**	**331**	*e*Pn	**Pn**	**01 34 56.1**	**+2.6**
POLO	**Lamas de Olo**	**6.60**	**331**	*e*Pn	**Pn**	**01 34 57.7**	**+2.6**
PBRG	**Braganca**	**6.62**	**339**	*e*Pn	**Pn**	**01 34 57.6**	**+2.2**

MDD **01** *01:36:08.5±1.4, 35.°59N×3.°63W, h28km±71km, mb_Lg3.0/3, Error ellipse: s-maj=8.9km s-min=6.7km az=42.0*
SFS **01** *01:36:08.0, 35.°59N×3.°63W, h28km, ML3.0, ALBORAN SUR*
CNRM **01** *01:36:09.3, 35.°71N×3.°57W, h24km, ml2.4*
INMG **01** *01:36:11.8±1.2, 35.°64N×3.°74W, h5km±8km, ML2.2, Error ellipse: s-maj=4.8km s-min=3.2km az=83.0*
ISC 01 01:36:08.8±1.2**, 35.°67N**±0.°02×**3.°58W**±0.°03**, h12**km±10km**, n28, σ1.s30**/53**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.54**	**213**	P	**Pb**	**01 36 20.5**	**+0.4**
PALE				S	**Sb**	**01 36 28.2**	**+0.3**
EMEL	**Melilla**	**0.63**	**126**	Pg	**Pg**	**01 36 20.2**	**-0.7**
EMEL				Sg	**Sg**	**01 36 29.1**	**-0.1**
EMEL				*i* Vmb_Lg		01 36 31.4	
GOG	**Mont Gurugu**	**0.65**	**133**	P	**Pg**	**01 36 21.9**	**+0.5**
GOG				S	**Sb**	**01 36 31.3**	**+0.1**
AKLM	**AKL**	**1.18**	**192**	P	**Pn**	**01 36 32.4**	**+1.3**
AKLM				S	**Sg**	**01 36 46.2**	**-0.6**
ELGU	**Los Guajares,**	**1.20**	**358**	Pg	**Pb**	**01 36 30.9**	**-0.6**
ELGU				Sg	**Sn**	**01 36 48.2**	**+0.5**
ELGU				*i* Vmb_Lg		01 36 52.7	
TAF	**Taforalt**	**1.28**	**131**	P	**Pn**	**01 36 32.3**	**-0.2**
TAF				S	**Sb**	**01 36 49.5**	**+0.3**
EMAL	**Malaga-Limoner**	**1.29**	**328**	P	**Pn**	**01 36 32.5**	**-0.1**
EMAL				S	**Sb**	**01 36 49.2**	**-0.4**
EMIJ	**Mijas**	**1.32**	**313**	Pg	**Pn**	**01 36 31.8**	**-1.3**
EMIJ				Sg	**Sb**	**01 36 47.8**	**-2.6**
EMIJ				*i* Vmb_Lg		01 36 50.2	
EBER	**Berja**	**1.35**	**24**	Pg	**Pn**	**01 36 33.1**	**-0.5**
EBER				Sg	**Sb**	**01 36 51.3**	**0.0**
SMIR	**Smir Dam**	**1.47**	**271**	P	**Pn**	**01 36 32.9**	**-2.1**
SMIR				S	**Sn**	**01 36 52.4**	**-1.9**
EGOR	**Sierra Gorda,**	**1.50**	**344**	Pg	**Pn**	**01 36 36.1**	**+0.4**
EGOR				Sg	**Sg**	**01 36 57.0**	**-0.2**
CHEFC	**Chefchaouen**	**1.54**	**249**	P	**Pn**	**01 36 37.1**	**+0.8**
CHEFC				S	**Sb**	**01 36 57.5**	**+0.5**
JBK	**JBK**	**1.57**	**148**	P	**Pn**	**01 36 36.1**	**-0.5**
JBK				S	**Sn**	**01 36 54.9**	**-2.1**
EADA	**Adamuz**	**2.62**	**342**	Pg	**Pn**	**01 36 52.1**	**+1.1**
EADA				Sg	**Sn**	**01 37 24.1**	**+1.4**
ECAB	**El Cabril**	**2.82**	**329**	Pg	**Pn**	**01 36 54.8**	**+1.0**
ECAB				Sg	**Sb**	**01 37 34.8**	**+1.2**
MD31	**MD31**	**2.96**	**200**	P	**Pn**	**01 36 56.8**	**+1.1**
MD31				S	**Sn**	**01 37 30.9**	**-0.3**
MDT	**Midelt**	**2.97**	**197**	P	**Pn**	**01 36 57.8**	**+1.9**
MDT				S	**Sn**	**01 37 31.2**	**-0.3**
PBAR	**Barrancos**	**3.73**	**313**	*e*Pn	**Pn**	**01 37 07.4**	**+1.1**
PBAR				*e*Sn	**Sn**	**01 37 50.2**	**0.0**
PBAR				A	A	01 37 52.7	
	1.5nm,0.3s						
PVAQ	**Vaqueiros**	**3.76**	**299**	*e*Pn	**Pn**	**01 37 07.4**	**+0.8**
PVAQ				*e*Sn	**Sn**	**01 37 50.0**	**-0.7**
PVAQ				A	A	01 37 53.8	
	3.1nm,0.8s						
PVAQ	**Vaqueiros**	**3.76**	**299**	P	**Pn**	**01 37 07.3**	**+0.8**
PVAQ				S	**Sn**	**01 37 47.8**	**-2.9**
PBDV	**Barranco-do-Ve**	**3.84**	**295**	*e*Pn	**Pn**	**01 37 08.6**	**+0.8**
PBDV				*e*Sn	**Sn**	**01 37 51.6**	**-1.4**
PBDV				A	A	01 37 54.8	
	5.2nm,0.9s						
PCVE	**Castro Verde**	**4.09**	**300**	*e*Pn	**Pn**	**01 37 11.8**	**+0.7**
PCVE				*e*Sn	**Sn**	**01 37 58.4**	**-0.5**
PCVE				A	A	01 38 03.6	
	2.4nm,1.1s						
PESTR	**Estremoz**	**4.52**	**316**	*e*Pn	**Pn**	**01 37 18.9**	**+1.8**
PESTR				*e*Sn	**Sn**	**01 38 08.8**	**-0.8**
PESTR				A	A	01 38 17.1	
	1.9nm,0.7s						
PTEO	**Sao Teotonio**	**4.54**	**296**	*e*Pn	**Pn**	**01 37 19.2**	**+1.8**
PNCL	**Nicolau / Gran**	**4.66**	**303**	*e*Pn	**Pn**	**01 37 20.1**	**+1.2**
PNCL				*e*Sn	**Sn**	**01 38 12.0**	**-0.9**
PMRV	**Marv??o**	**4.82**	**322**	*e*Pn	**Pn**	**01 37 23.6**	**+2.4**
PMRV				*e*Sn	**Sn**	**01 38 17.1**	**0.0**
PCBR	**Castelo Branco**	**5.19**	**325**	*e*Pn	**Pn**	**01 37 29.2**	**+3.0**
PSBE	**So Bento**	**5.65**	**314**	*e*Pn	**Pn**	**01 37 35.1**	**+2.5**
PSBE				A	A	01 39 08.2	
	7.7nm,0.7s						

CNRM **01** *01:42:20.9, 35.°73N×3.°58W, h24km, ml2.3*
MDD **01** *01:42:22.3±0.6, 35.°58N×3.°56W, h35km, mb_Lg2.8/7, Error ellipse: s-maj=5.5km s-min=3.7km az=9.0*
INMG **01** *01:42:23.0±1.0, 35.°63N×3.°75W, h6km±6km, ML2.2, Error ellipse: s-maj=3.5km s-min=3.2km az=83.0*
ISC 01 01:42:21.8±1.2**, 35.°67N**±0.°03×**3.°57W**±0.°02**, h24**km±13km**, n51, σ1.s32**/84**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.51**	**58**	Pg	**Pn**	**01 42 33.0**	**-0.6**
EALB				Sg	**Sn**	**01 42 40.5**	**-1.1**
EALB				*i* Vmb_Lg		01 42 42.2	
PALE	**Palemas**	**0.54**	**214**	P	Pn	01 42 40.0	+6.0
PALE	**Palemas**	**0.54**	**214**	P	**Pb**	**01 42 32.3**	**-0.3**
PALE				S	**Sb**	**01 42 40.0**	**-0.1**
EMEL	**Melilla**	**0.62**	**126**	Pg	**Pb**	**01 42 33.9**	**-0.2**
EMEL				Sg	**Sb**	**01 42 41.4**	**-0.9**
GOG	**Mont Gurugu**	**0.65**	**133**	P	**Pb**	**01 42 33.8**	**-0.8**
GOG				S	**Sb**	**01 42 43.6**	**+0.4**
AKLM	**AKL**	**1.18**	**192**	P	**Pb**	**01 42 43.6**	**0.0**
AKLM				S	**Sb**	**01 42 59.6**	**+1.1**
ELGU	**Los Guajares,**	**1.20**	**358**	Pg	**Pn**	**01 42 41.9**	**-1.2**
ELGU				Sg	**Sn**	**01 42 57.9**	**-0.7**
ELGU				*i* Vmb_Lg		01 43 04.1	
TAF	**Taforalt**	**1.28**	**132**	P	**Pn**	**01 42 44.0**	**-0.2**
TAF	**Taforalt**	**1.28**	**132**	P	**Pn**	**01 42 44.0**	**-0.2**
TAF				S	**Sb**	**01 43 01.5**	**+0.3**
EMAL	**Malaga-Limoner**	**1.29**	**328**	P	**Pn**	**01 42 44.0**	**-0.3**
EMAL				S	**Sn**	**01 43 00.6**	**-0.2**
EMIJ	**Mijas**	**1.32**	**313**	Pg	**Pn**	**01 42 44.1**	**-0.6**
EMIJ				Sg	**Sn**	**01 42 58.8**	**-2.8**
EMIJ				*i* Vmb_Lg		01 43 01.6	
EBER	**Berja**	**1.34**	**24**	Pg	**Pn**	**01 42 44.1**	**-1.1**
EBER				Sg	**Sn**	**01 43 01.5**	**-0.9**
EBER				*i* Vmb_Lg		01 43 21.7	
SMIR	**Smir Dam**	**1.47**	**271**	P	**Pn**	**01 42 45.0**	**-1.8**
SMIR	**Smir Dam**	**1.47**	**271**	P	**Pn**	**01 42 44.5**	**-2.3**
SMIR				S	**Sn**	**01 43 03.9**	**-1.4**
ECEU	**Ceuta**	**1.48**	**279**	Sg	**Sn**	**01 43 01.5**	**-4.1**
EGOR	**Sierra Gorda,**	**1.50**	**343**	Pg	**Pn**	**01 42 46.8**	**-0.6**
EGOR				Sg	**Sb**	**01 43 07.7**	**0.0**
CHEFC	**Chefchaouen**	**1.55**	**249**	P	**Pb**	**01 42 49.0**	**-0.8**
CHEFC	**Chefchaouen**	**1.55**	**249**	P	**Pn**	**01 42 48.3**	**+0.4**
CHEFC				S	**Sn**	**01 43 07.6**	**+0.3**
JBK	**JBK**	**1.57**	**148**	P	**Pb**	**01 42 51.0**	**+0.8**
JBK	**JBK**	**1.57**	**148**	P	**Pn**	**01 42 47.9**	**-0.4**
JBK				S	**Sn**	**01 43 07.0**	**-0.9**
ENIJ	**Nijar**	**1.70**	**40**	Pg	**Pn**	**01 42 49.4**	**-0.6**
ENIJ				Sg	**Sn**	**01 43 09.0**	**-2.0**
ENIJ				*i* Vmb_Lg		01 43 32.2	
LCRM	**LCR**	**2.25**	**209**	P	**Pb**	**01 43 01.1**	**-0.6**
LCRM				S	**Sb**	**01 43 29.8**	**+0.7**
EADA	**Adamuz**	**2.62**	**342**	Pg	**Pn**	**01 43 03.3**	**+0.7**
EADA				Sg	**Sn**	**01 43 34.8**	**+1.1**
ECAB	**El Cabril**	**2.82**	**329**	Pg	**Pn**	**01 43 06.0**	**+0.6**
ECAB				Sg	**Sn**	**01 43 38.0**	**-0.6**
MD31	**MD31**	**2.96**	**200**	P	**Pn**	**01 43 08.6**	**+1.2**
MD31				S	**Sn**	**01 43 41.6**	**-0.6**
MDT	**Midelt**	**2.98**	**197**	P	**Pn**	**01 43 09.1**	**+1.6**
MDT				S	**Sn**	**01 43 43.3**	**+0.7**
EMIN	**Mina Concepcio**	**3.25**	**311**	Pg	**Pn**	**01 43 10.3**	**-0.9**
EMIN				Sg	**Sn**	**01 43 49.1**	**-0.2**
EGRO	**El Granado**	**3.66**	**302**	Pg	**Pn**	**01 43 16.1**	**-0.6**
EGRO				Sg	**Sn**	**01 43 58.0**	**-1.2**
PBAR	**Barrancos**	**3.74**	**313**	*e*Pn	**Pn**	**01 43 19.0**	**+1.1**
PBAR				*e*Sn	**Sn**	**01 44 00.9**	**-0.2**
PBAR				A	A	01 44 03.8	
	2.8nm,0.4s						
PVAQ	**Vaqueiros**	**3.76**	**299**	*e*Pn	**Pn**	**01 43 18.7**	**+0.5**
PVAQ				*e*Sn	**Sn**	**01 44 01.4**	**-0.3**
PVAQ				A	A	01 44 08.1	
	3.1nm,0.3s						
PVAQ	**Vaqueiros**	**3.76**	**299**	P	**Pn**	**01 43 18.4**	**+0.2**
PVAQ				S	**Sn**	**01 43 59.5**	**-2.2**
PBDV	**Barranco-do-Ve**	**3.85**	**295**	*e*Pn	**Pn**	**01 43 20.0**	**+0.5**
PBDV				*e*Sn	**Sn**	**01 44 03.1**	**-0.8**
PBDV				A	A	01 44 05.6	
	3.9nm,0.8s						
PAB	**San Pablo**	**3.92**	**351**	Pn	**Pn**	**01 43 21.5**	**+1.0**
PCVE	**Castro Verde**	**4.09**	**300**	*e*Pn	**Pn**	**01 43 23.2**	**+0.4**
PCVE				*e*Sn	**Sn**	**01 44 09.5**	**-0.4**
PCVE				A	A	01 44 12.9	
	3.0nm,0.8s						
EBAD	**Badajoz**	**4.13**	**319**	Pn	**Pn**	**01 43 23.3**	**0.0**
EBAD				Sn	**Sn**	**01 44 09.1**	**-1.7**
EBAD				*i* Vmb_Lg		01 44 13.3	
PBEJ	**Beja**	**4.17**	**306**	*e*Pn	**Pn**	**01 43 25.5**	**+1.6**
PESTR	**Estremoz**	**4.52**	**316**	*e*Pn	**Pn**	**01 43 30.0**	**+1.3**
PESTR				*e*Sn	**Sn**	**01 44 20.1**	**-0.4**
PESTR				A	A	01 44 20.6	
	2.2nm,0.6s						
PTEO	**Sao Teotonio**	**4.55**	**296**	*e*Pn	**Pn**	**01 43 30.5**	**+1.5**
PTEO				*e*Sn	**Sn**	**01 44 21.3**	**+0.2**
EVO	**Evora**	**4.55**	**310**	*e*Pn	**Pn**	**01 43 29.9**	**+0.7**
EVO				*e*Sn	**Sn**	**01 44 21.0**	**-0.3**
EVO				A	A	01 44 22.0	
	4.2nm,0.3s						
PNCL	**Nicolau / Gran**	**4.66**	**303**	*e*Pn	**Pn**	**01 43 31.1**	**+0.5**
PNCL				*e*Sn	**Sn**	**01 44 22.8**	**-1.1**
PNCL				A	A	01 44 26.7	
	2.3nm,0.6s						
PMRV	**Marv??o**	**4.82**	**322**	*e*Pn	**Pn**	**01 43 34.9**	**+2.0**
PMRV				*e*Sn	**Sn**	**01 44 28.3**	**+0.3**
PMRV				A	A	01 44 32.8	
	2.3nm,0.7s						
PMTG	**Montargil**	**5.02**	**314**	*e*Pn	**Pn**	**01 43 36.9**	**+1.3**
PMTG				*e*Sn	**Sn**	**01 44 33.1**	**+0.2**
PCBR	**Castelo Branco**	**5.19**	**325**	*e*Pn	**Pn**	**01 43 39.9**	**+2.1**
PACT	**Alcochete**	**5.21**	**308**	*e*Pn	**Pn**	**01 43 40.0**	**+1.8**
PSBE	**So Bento**	**5.65**	**314**	*e*Pn	**Pn**	**01 43 46.1**	**+1.9**
MTE	**Manteigas**	**5.67**	**328**	*e*Pn	**Pn**	**01 43 46.8**	**+2.3**
PCAS	**Casmilo, Conde**	**5.86**	**320**	*e*Pn	**Pn**	**01 43 49.2**	**+2.1**
MVO	**Moncorvo**	**6.12**	**335**	*e*Pn	**Pn**	**01 43 54.1**	**+3.4**
PVRL	**Vila Real**	**6.47**	**331**	*e*Pn	**Pn**	**01 43 57.5**	**+2.0**
POLO	**Lamas de Olo**	**6.58**	**331**	*e*Pn	**Pn**	**01 44 00.0**	**+2.9**
PBRG	**Braganca**	**6.61**	**339**	*e*Pn	**Pn**	**01 43 59.8**	**+2.4**

NOU **01** *02:00:04.6, 40.°68S×175.°00E, h12km, MLv3.6/8, Cook Strait, New Zealand*
WEL **01** *02:00:04.4±0.2, 41°S±2°×17°5E±°, h5km±3km, M3.4/59, ML3.7/59, MLv3.4/59, Error ellipse: s-maj=0.0km s-min=0.0km az=143.7*
ISC 01 02:00:04.7±1.0**, 40.°68S**±0.°02×**174.°98E**±0.°02**, h18**km±4km**, n117, σ0.s91**/130**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.18**	**196**	P	**Pg**	**02 00 09.7**	**+0.2**
KIW				S	**Sg**	**02 00 13.3**	**+0.6**
OGWZ	**Otaki Gorge**	**0.20**	**132**	P	**Pg**	**02 00 10.0**	**+0.3**
OGWZ				S	**Sg**	**02 00 14.0**	**+0.9**
CAW	**Cannon Point**	**0.43**	**171**	P	**Pb**	**02 00 13.9**	**+0.1**
CAW				S	**Sb**	**02 00 20.2**	**+0.2**
MRZ	**Mangatainoka R**	**0.46**	**87**	P	**Pb**	**02 00 13.8**	**-0.5**
MRZ				S	**Sg**	**02 00 19.5**	**-0.8**
HOWZ	**Holdsworth Sta**	**0.46**	**118**	P	**Pb**	**02 00 14.4**	**0.0**
HOWZ				S	**Sb**	**02 00 21.4**	**+0.5**
OHWZ	**Ohakea**	**0.54**	**28**	P	**Pg**	**02 00 14.6**	**-0.9**
MTW	**Mount Morrison**	**0.62**	**140**	P	**Pb**	**02 00 17.6**	**+0.6**
MTW				S	**Sb**	**02 00 27.1**	**+1.8**
WEL	**Wellington**	**0.62**	**195**	P	**Pb**	**02 00 17.0**	**0.0**
SNZO	**South Karori**	**0.66**	**198**	P	**Pb**	**02 00 17.6**	**-0.1**
POWZ	**Post Office Ro**	**0.67**	**64**	P	**Pg**	**02 00 17.1**	**-0.8**
TIWZ	**Tintock**	**0.70**	**98**	P	**Pb**	**02 00 18.5**	**+0.1**
TIWZ				S	**Sb**	**02 00 28.4**	**+0.8**
BHW	**Baring Head**	**0.73**	**186**	P	**Pb**	**02 00 18.9**	**+0.1**
BHW				S	**Sb**	**02 00 28.6**	**0.0**
TCW	**Tory Channel**	**0.75**	**225**	P	**Pg**	**02 00 18.4**	**-1.0**
MSWZ	**Moikau Station**	**0.76**	**164**	P	**Pn**	**02 00 20.2**	**-0.4**
PRWZ	**Pori Road**	**0.77**	**81**	P	**Pb**	**02 00 19.4**	**-0.1**
PRWZ				S	**Sb**	**02 00 30.2**	**+0.5**
PAWZ	**Paruwai Farm**	**0.78**	**154**	P	**Pn**	**02 00 20.4**	**-0.4**
PAWZ				S	**Sn**	**02 00 32.2**	**+0.2**
DUWZ	**D'Urville Isla**	**0.81**	**261**	P	**Pg**	**02 00 19.8**	**-0.8**
DUWZ				S	**Sb**	**02 00 31.7**	**+0.8**
TMWZ	**Te Maipa**	**0.81**	**122**	P	**Pn**	**02 00 21.1**	**-0.1**
TMWZ				S	**Sn**	**02 00 33.3**	**+0.4**
TRWZ	**Traveller**	**0.89**	**143**	P	**Pn**	**02 00 22.8**	**+0.4**
TRWZ				S	**Sn**	**02 00 36.7**	**+1.8**
PLWZ	**Palliser**	**0.91**	**167**	P	**Pn**	**02 00 22.8**	**+0.1**
WAZ	**Wanganui**	**0.93**	**0**	P	**Pg**	**02 00 21.7**	**-1.0**
CPWZ	**Castlepoint**	**0.96**	**104**	P	**Pn**	**02 00 23.6**	**+0.4**
BFZ	**Birch Farm**	**0.96**	**90**	P	**Pb**	**02 00 23.0**	**+0.1**
BFZ	**Birch Farm**	**0.96**	**90**	P	**Pb**	**02 00 23.3**	**+0.4**
TSZ	**Takapari Road**	**0.98**	**51**	P	**Pg**	**02 00 22.1**	**-1.6**
DVHZ	**Dannevirke**	**0.98**	**67**	P	**Pg**	**02 00 22.7**	**-1.1**
TUWZ	**Tuamarina**	**1.08**	**226**	P	**Pg**	**02 00 23.9**	**-1.7**
ANWZ	**Angora Road**	**1.16**	**79**	P	**Pb**	**02 00 25.7**	**-0.6**
PNHZ	**Pukenui**	**1.21**	**51**	P	**Pb**	**02 00 26.1**	**-1.0**
CMWZ	**Cape Campbell**	**1.21**	**208**	P	**Pn**	**02 00 28.2**	**+1.5**
WPHZ	**Waipukurau**	**1.28**	**62**	P	**Pn**	**02 00 28.0**	**+0.4**
LREZ	**Lake Rotokare**	**1.30**	**340**	P	**Pn**	**02 00 28.4**	**+0.5**
NNZ	**Nelson**	**1.32**	**246**	P	**Pn**	**02 00 28.5**	**+0.3**
BSWZ	**Blackbirch Sta**	**1.32**	**219**	P	**Pn**	**02 00 28.8**	**+0.5**
PRHZ	**Porangahau**	**1.33**	**72**	P	**Pn**	**02 00 27.9**	**-0.5**
MTVZ	**Mangateitei**	**1.35**	**16**	P	**Pn**	**02 00 28.3**	**-0.4**
MOVZ	**Moawhango**	**1.41**	**25**	P	**Pn**	**02 00 28.4**	**-1.1**
PKVZ	**Pokaka**	**1.42**	**12**	P	**Pn**	**02 00 29.7**	**0.0**
WNVZ	**Wahianoa**	**1.44**	**20**	P	**Pn**	**02 00 29.3**	**-0.7**
TRVZ	**Turoa**	**1.45**	**18**	P	**Pn**	**02 00 29.8**	**-0.4**
BHHZ	**Black Hill Sta**	**1.45**	**35**	P	**Pn**	**02 00 29.4**	**-0.8**
DRZ	**Dome Shelter**	**1.48**	**18**	P	**Pn**	**02 00 30.8**	**+0.1**
WHVZ	**Whangaehu Hut**	**1.48**	**19**	P	**Pn**	**02 00 30.2**	**-0.4**
PREZ	**Palmer Road**	**1.48**	**335**	P	**Pn**	**02 00 31.3**	**+0.8**
KRHZ	**Kereru**	**1.49**	**46**	P	**Pn**	**02 00 30.5**	**-0.1**
FWVZ	**Far West T-bar**	**1.49**	**17**	P	**Pn**	**02 00 30.4**	**-0.4**
TUVZ	**Tukino**	**1.51**	**20**	P	**Pn**	**02 00 30.7**	**-0.2**
NEZ	**North Egmont**	**1.56**	**334**	P	**Pn**	**02 00 32.3**	**+0.6**
VRZ	**Vera Road**	**1.57**	**354**	P	**Pn**	**02 00 31.7**	**0.0**
TKNZ	**Takaka Hill**	**1.57**	**256**	P	**Pb**	**02 00 32.9**	**-0.4**
KHEZ	**Kahui Hut**	**1.57**	**332**	P	**Pn**	**02 00 32.6**	**+0.9**
SNVZ	**South Ngauruho**	**1.58**	**19**	P	**Pn**	**02 00 31.9**	**0.0**
NGZ	**Ngauruhoe**	**1.58**	**18**	P	**Pn**	**02 00 32.0**	**+0.1**
PXZ	**Pawanui**	**1.58**	**66**	P	**Pn**	**02 00 31.3**	**-0.5**
DREZ	**Durham Road**	**1.61**	**338**	P	**Pn**	**02 00 32.9**	**+0.7**
OTVZ	**Oturere**	**1.61**	**19**	P	**Pn**	**02 00 32.4**	**0.0**
NNVZ	**North Ngauruho**	**1.62**	**18**	P	**Pn**	**02 00 32.9**	**+0.3**
WTVZ	**West Tongariro**	**1.64**	**17**	P	**Pn**	**02 00 32.9**	**+0.3**
ETVZ	**East Tongariro**	**1.65**	**20**	P	**Pn**	**02 00 32.9**	**+0.1**
TWVZ	**Taurewa**	**1.65**	**13**	P	**Pn**	**02 00 33.0**	**+0.1**
NBEZ	**Newall Road No**	**1.65**	**329**	P	**Pn**	**02 00 33.8**	**+1.1**
TMVZ	**Te Maari**	**1.66**	**20**	P	**Pn**	**02 00 33.2**	**+0.1**
KRVZ	**Karewarewa**	**1.67**	**18**	P	**Pn**	**02 00 33.6**	**+0.5**
NTVZ	**North Tongarir**	**1.67**	**19**	P	**Pn**	**02 00 33.4**	**+0.2**
PKE	**Pukeiti**	**1.67**	**333**	P	**Pn**	**02 00 34.5**	**+1.4**
KWHZ	**Kaweka Forest**	**1.68**	**42**	P	**Pn**	**02 00 33.5**	**+0.3**
MHEZ	**Mangahewa**	**1.68**	**342**	P	**Pn**	**02 00 34.1**	**+0.9**
KAHZ	**Kahuranaki**	**1.70**	**59**	P	**Pn**	**02 00 33.4**	**-0.1**
KATZ	**Kakaramea**	**1.79**	**18**	P	**Pn**	**02 00 35.9**	**+1.0**
MCHZ	**McNeill Hill**	**1.81**	**47**	P	**Pn**	**02 00 35.5**	**+0.5**
MRNZ	**Matariki Terra**	**1.82**	**246**	P	**Pb**	**02 00 37.2**	**-0.4**
RITZ	**Rihia Road**	**1.83**	**22**	P	**Pn**	**02 00 36.5**	**+1.1**
QRZ	**Quartz Range**	**1.86**	**265**	P	**Pn**	**02 00 35.9**	**+0.1**
QRZ	**Quartz Range**	**1.86**	**265**	P	**Pn**	**02 00 36.3**	**+0.6**
THZ	**Tophouse**	**1.90**	**235**	P	**Pn**	**02 00 37.7**	**+1.4**
CKHZ	**Cape Kidnapper**	**1.91**	**58**	P	**Pn**	**02 00 35.6**	**-0.7**
BKZ	**Black Stump Fm**	**1.91**	**38**	P	**Pn**	**02 00 36.2**	**-0.2**
BKZ	**Black Stump Fm**	**1.91**	**38**	P	**Pn**	**02 00 36.9**	**+0.5**
RATZ	**Rangitukua**	**1.92**	**19**	P	**Pn**	**02 00 38.3**	**+1.8**
HATZ	**Hinemaiaia**	**1.98**	**26**	P	**Pn**	**02 00 38.5**	**+1.1**
KHZ	**Kahutara**	**2.04**	**211**	P	**Pn**	**02 00 38.4**	**+0.3**
KHZ	**Kahutara**	**2.04**	**211**	P	**Pn**	**02 00 38.6**	**+0.5**
WATZ	**Wairara**	**2.06**	**17**	P	**Pn**	**02 00 40.3**	**+1.9**
ARHZ	**Aropaoanui**	**2.10**	**48**	P	**Pb**	**02 00 43.4**	**+1.1**
NMHZ	**Naumai**	**2.12**	**42**	P	**Pn**	**02 00 39.6**	**+0.3**
WHTZ	**Whakaora**	**2.15**	**21**	P	**Pb**	**02 00 43.4**	**+0.2**
MRHZ	**Matea Rd**	**2.15**	**31**	P	**Pn**	**02 00 39.5**	**-0.3**
HIZ	**Hauiti**	**2.17**	**357**	P	**Pn**	**02 00 40.8**	**+0.9**
HIZ	**Hauiti**	**2.17**	**357**	P	**Pn**	**02 00 41.3**	**+1.4**
KUTZ	**Kaahu Road**	**2.29**	**17**	P	**Pb**	**02 00 45.1**	**-0.3**
MTHZ	**Maungataniwha**	**2.33**	**39**	P	**Pn**	**02 00 42.1**	**0.0**
TLZ	**Tolley Road**	**2.39**	**11**	P	**Pn**	**02 00 44.2**	**+1.2**
HRRZ	**Handcock Road**	**2.50**	**24**	P	**Pb**	**02 00 50.1**	**+1.0**
RTZ	**Ruatahuna**	**2.58**	**37**	P	**Pn**	**02 00 44.7**	**-0.9**
MUGZ	**Murupara**	**2.60**	**33**	P	**Pb**	**02 00 50.4**	**-0.4**
DSZ	**Denniston Nort**	**2.62**	**245**	P	**Pn**	**02 00 47.4**	**+1.2**
SNGZ	**Shannon Statio**	**2.63**	**45**	P	**Pb**	**02 00 51.8**	**+0.5**
GVZ	**Greta Valley S**	**2.71**	**212**	P	**Pn**	**02 00 48.0**	**+0.7**
TARZ	**Mount Tarawera**	**2.71**	**26**	P	**Pn**	**02 00 48.0**	**+0.5**
RAGZ	**Rawiri**	**2.88**	**42**	P	**Pb**	**02 00 56.5**	**+0.9**
LTZ	**Lake Taylor**	**2.92**	**223**	P	**Pn**	**02 00 50.3**	**+0.1**
URZ	**Urewera**	**2.93**	**35**	P	**Pn**	**02 00 48.9**	**-1.4**
URZ	**Urewera**	**2.93**	**35**	P	**Pn**	**02 00 50.0**	**-0.4**
TOZ	**Tahuroa Road**	**2.98**	**8**	P	**Pn**	**02 00 52.4**	**+1.5**
MWZ	**Matawai**	**3.06**	**41**	P	**Pn**	**02 00 51.2**	**-1.1**
INZ	**Inchbonnie**	**3.34**	**231**	P	**Pn**	**02 00 56.0**	**0.0**
OKCZ	**Okains Bay**	**3.36**	**204**	P	**Pn**	**02 00 55.4**	**-0.9**
RUGZ	**Raukumara Rang**	**3.43**	**39**	P	**Pn**	**02 00 55.9**	**-1.5**
OXZ	**Oxford**	**3.43**	**219**	P	**Pb**	**02 01 02.7**	**-2.2**
MKAZ	**Moumakai**	**3.58**	**2**	P	**Pn**	**02 01 00.3**	**+1.1**
AWAZ	**Awhitu Peninsu**	**3.62**	**356**	P	**Pn**	**02 01 01.6**	**+1.7**
HAZ	**Te Kaha**	**3.65**	**38**	P	**Pn**	**02 00 59.1**	**-1.1**
WVZ	**Waitaha Valley**	**3.97**	**232**	P	**Pb**	**02 01 10.4**	**-3.6**
RPZ	**Rata Peaks**	**4.20**	**223**	P	**Pn**	**02 01 10.3**	**+2.4**
RPZ	**Rata Peaks**	**4.20**	**223**	P	**Pn**	**02 01 09.3**	**+1.4**
TMZ	**Timaru**	**4.72**	**217**	P	**Pn**	**02 01 14.8**	**-0.2**
CTZ	**Chatham Island**	**6.95**	**119**	P	**Pn**	**02 01 44.6**	**-0.9**

RSNC 01 02:09:22.8±0.8**, 6.°82N**×**73.°18W, h134**km±7km**, ML1.2, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**181**	*e*P	Pn	02 09 41.1	-0.4
BARC				*e*S	Sn	02 09 55.5	-0.1
BARC				*i*		02 09 57.1	
	comp=Z,7.2nm,0.4s						
BARC	**Barichara**	**0.23**	**181**	*e*P	Pn	02 09 40.4	-1.1
BARC				*e*S	Sn	02 09 54.4	-1.2
BARC				*i*		02 09 57.1	
	comp=Z,7.2nm,0.4s						
RUSC	**La Rusia**	**0.93**	**174**	*e*P	Pn	02 09 45.4	-0.6
RUSC				*e*S	Sn	02 10 03.2	-0.3
RUSC				*i*		02 10 04.5	
	comp=Z,1.3nm,0.3s						
RUSC	**La Rusia**	**0.93**	**174**	*e*P	Pn	02 09 45.4	-0.6
RUSC				*e*S	Sn	02 10 02.8	-0.7
RUSC				*i*		02 10 04.5	
	comp=Z,1.3nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.30**	**258**	*e*P	Pn	02 09 47.3	-1.7
PTBC				*e*S	Sn	02 10 08.3	-0.7
PTBC				*i*		02 10 14.2	
	comp=Z,2.0nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.30**	**258**	*e*P	Pn	02 09 48.1	-0.9
PTBC				*e*S	Sn	02 10 07.9	-1.1
PTBC				*i*		02 10 14.2	
	comp=Z,1.8nm,0.3s						
SPBC	**San Pablo de B**	**1.47**	**217**	*e*P	Pn	02 09 49.9	-1.0
SPBC				*e*S	Sn	02 10 11.8	-0.5
SPBC				*i*		02 10 16.7	
	comp=Z,2.4nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.80**	**292**	*e*P	Pn	02 09 54.6	+0.1
ZARC				*e*S	Sn	02 10 18.8	-0.1
ZARC	**Zaragoza, Cauc**	**1.80**	**292**	*e*P	Pn	02 09 55.8	+1.2
ZARC				*e*S	Sn	02 10 19.1	+0.3
CHIC	**Chingaza**	**2.25**	**194**	*e*S	Sn	02 10 29.9	+0.6

SNET **01** *02:10:56.4±0.9, 12.°86N×90.°50W, h24km±6km, ML3.2*
GCG **01** *02:10:57.4±0.6, 12.°85N×90.°66W, h90km±45km, MD3.7*
ISC 01 02:10:54.8±2.8**, 12.°9N**±0.°1×**90.°50W**±0.°07**, h10**km±14km**, n18, σ0.s60**/25**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.24**	**34**	*e*P	**Pn**	**02 11 18.3**	**0.0**
NUBE				*e*S	**Sn**	**02 11 35.5**	**+0.3**
CEVE	**Cerro Verde**	**1.27**	**42**	*e*P	**Pn**	**02 11 19.2**	**+0.3**
CEVE				IAML		02 11 41.7	
	comp=Z,1µm,0.3s						
JAYA	**Jayaque - finc**	**1.28**	**53**	*e*P	**Pn**	**02 11 19.4**	**+0.5**
JAYA				*e*S	**Sn**	**02 11 36.8**	**+0.5**
SBLS	**San Blas**	**1.28**	**41**	*e*P	**Pn**	**02 11 19.2**	**+0.2**
RTR	**El Retiro**	**1.31**	**39**	*e*P	**Pn**	**02 11 20.0**	**+0.6**
SNJE	**San Jose**	**1.31**	**41**	*e*P	**Pn**	**02 11 19.7**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.34**	**31**	*e*P	**Pb**	**02 11 19.3**	**-0.7**
BOQS	**Boqueron**	**1.46**	**54**	*e*P	**Pb**	**02 11 22.2**	**-0.1**
LFRS	**El Faro**	**1.58**	**62**	*e*P	**Pn**	**02 11 23.4**	**+0.3**
FUG	**Fuego 3**	**1.60**	**348**	*e*P	**Pb**	**02 11 23.9**	**-0.8**
FUG				*e*S	**Sg**	**02 11 46.7**	**+0.3**
SJTE	**Alcalda de S**	**1.62**	**63**	*e*P	**Pn**	**02 11 23.9**	**+0.2**
NBG	**Las Nubes**	**1.71**	**5**	*e*P	**Pg**	**02 11 27.8**	**+0.1**
NBG				*e*S	**Sg**	**02 11 50.8**	**+0.8**
PAVA	**Las Pavas**	**1.73**	**61**	*e*P	**Pb**	**02 11 26.1**	**-0.7**
COEG	**Centro de Oper**	**1.74**	**65**	*e*P	**Pn**	**02 11 25.4**	**+0.3**
COEG				*e*S	**Sb**	**02 11 48.1**	**-0.8**
MTO3	**Montecristo**	**1.87**	**36**	*e*P	**Pb**	**02 11 28.2**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.91**	**64**	*e*P	**Pn**	**02 11 28.2**	**+0.7**
STG3	**Santiaguito 3,**	**2.10**	**330**	*e*P	**Pb**	**02 11 32.5**	**-0.8**
STG3				*e*S	**Sn**	**02 11 57.3**	**+0.6**
LCND	**La Caada**	**2.57**	**80**	*e*P	**Pn**	**02 11 37.3**	**+0.7**
LCND				*e*S	**Sn**	**02 12 07.9**	**-0.1**

IDC 01 02:17:25.1±4.0**, 12.°49N**×**47.°28E, h0**km**, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.4**/34**, mbtmp3.7**/5**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.6**/81**, Error ellipse: s-maj=104.4km s-min=47.4km az=70.0, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EIL	**Elat**	**20.57**	**328**	LR	LR	02 30 28.3	
	comp=Z,82nm,18.6s,baz=114,slow=38						
KBZ	**Khabaz**	**31.35**	**354**	P	P	02 23 47.6	+0.3
	1.0nm,0.9s,baz=173,slow=8.1,SNR=3.1						
MKAR	**Makanchi Array**	**45.11**	**34**	P	P	02 25 43.7	+0.5
	0.9nm,0.8s,baz=224,slow=8.5,SNR=11						
ZALV	**Zalesovo Beam**	**50.87**	**28**	P	P	02 26 26.6	-1.1
	0.4nm,0.4s,baz=215,slow=12,SNR=2.3						
SONM	**Songino Array**	**60.23**	**42**	P	P	02 27 35.0	-0.2
	0.4nm,0.5s,baz=246,slow=7.3,SNR=4.0						
WRA	**Warramunga Arr**	**91.48**	**110**	P	P	02 30 34.1	0.0
	0.6nm,0.9s,baz=295,slow=2.9,SNR=3.5						

IDC 01 02:18:27.1±3.0**, 6.°20S**×**129.°87E, h98**km±40km**, mb3.5**/1**, mb1 3.6**/5**, mb1mx3.1**/33**, mbtmp3.9**/5**, Error ellipse: s-maj=72.5km s-min=21.5km az=89.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.48**	**15**	P	Pn	02 19 46.5	+0.1
	7.4nm,0.3s,baz=195,slow=16,SNR=22						
SIJI				S	Sn	02 20 42.8	-5.2
	4.0nm,0.3s,baz=256,slow=23,SNR=7.9						
FITZ	**Fitzroy Crossi**	**12.53**	**199**	P	Pn	02 21 22.2	+0.3
	0.7nm,0.3s,baz=25,slow=8.1,SNR=26						
FITZ				S	Sn	02 23 34.4	-5.2
	0.2nm,0.3s,baz=161,slow=6.8,SNR=1.7						
WRA	**Warramunga Arr**	**14.34**	**163**	P	Pn	02 21 43.6	-2.0
	0.4nm,0.3s,baz=345,slow=13,SNR=34						
WRA				S	Sn	02 24 12.4	-11
	1.0nm,0.3s,baz=351,slow=20,SNR=12						
ASAR	**Alice Springs**	**17.80**	**168**	P	Pn	02 22 29.0	+0.5
	0.3nm,0.3s,baz=351,slow=10,SNR=16						
ASAR				S	Sn	02 25 41.3	-5.7
	0.2nm,0.3s,baz=352,slow=27,SNR=6.8						
MKAR	**Makanchi Array**	**67.49**	**327**	P	P	02 29 12.5	-0.1
	0.7nm,0.6s,baz=122,slow=7.9,SNR=9.4						

IDC **01** *02:39:05.2±0.3, 33.°34N×136.°37E, h0km, mb5.4/39, mb1 5.4/48, mb1mx5.4/53, mbtmp5.3/48, ML4.4/8, MS5.7/71, Ms1 5.8/71, ms1mx5.7/95, Error ellipse: s-maj=11.2km s-min=8.8km az=86.0*
BJI **01** *02:39:05.0±0.0, 33.°22N×136.°50E, h10km, mb5.7/86, mB6.4/72, Ms6.6/97, Ms7 6.6/88*
MOS **01** *02:39:07.0±1.0, 33.°42N×136.°27E, h19km, mb6.1/107,*

MS6.0/50, Error ellipse: s-maj=6.1km s-min=3.5km az=114.2

NIED ***01*** *02:39:07.8, 33°.32N×136°.38E, h29km, MW5.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}4.28; $M_{\theta\theta}$-2.60; $M_{\phi\phi}$-1.68; $M_{r\theta}$1.83; $M_{\theta\phi}$-2.60; $M_{\phi r}$0.03; Fault plane solution: $M_0$4.90000×10^{17} NP1:ϕ_s64.00000°, δ55.00000°, λ107.00000°. NP2:ϕ_s215.00000°, δ38.00000°, λ66.00000°.*

NEIC ***01*** *02:39:07.3, 33°.38N×136°.39E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.44; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$-0.23; $M_{r\theta}$0.71; $M_{\theta\phi}$-0.32; $M_{\phi r}$0.88; Fault plane solution: $M_0$1.23000×10^{18} NP1:ϕ_s231.83000°, δ12.03000°, λ102.55000°. NP2:ϕ_s39.01000°, δ78.26000°, λ87.35000°. Principal axes: T 1.1840, Plg57.0000°, Azm306.0000°; N 0.0937, Plg3.0000°, Azm40.0000°; P -1.2777, Plg33.0000°, Azm131.0000°;*

JMA ***01*** *02:39:07.8±0.1, 33°.32N×136°.38E, h29km±1km, M6.5*

JMA Felt IV J1.

NEIC ***01*** *02:39:08.1±1.5, 33°.38N±0°.05×136°.39E±0°.05, h14km, mb6.0/615, Ms_20 5.9/385, Mwb6.0/78, Mww5.9, Error ellipse: s-maj=8.5km s-min=7.6km az=20.0*

GCMT ***01*** *02:39:11.1±0.1, 33°.22N±0°.01×136°.45E±0°.01, h19km, MW5.9/160, Moment Tensor Solution. s151,c337; s160,c455; Duration: 2s2 Moment tensor: Scale 10^{18} Nm; M_{rr}0.54±.01; $M_{\theta\theta}$-0.31±.01; $M_{\phi\phi}$-0.23±.01; $M_{r\theta}$0.56±.02; $M_{\theta\phi}$-0.27±.00; $M_{\phi r}$0.49±.01; Best double couple: $M_0$0.91800×10^{18} NP1:ϕ_s230.00000°, δ18.00000°, λ91.00000°. NP2:ϕ_s49.00000°, δ72.00000°, λ90.00000°. Principal axes: T 0.9200, Plg63.0000°, Azm318.0000°; N -0.0030, Plg0.0000°, Azm49.0000°; P -0.9170, Plg27.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BGR ***01*** *02:39:12.1±0.0, 34°.13N×137°.89E, h33km, mb6.4, mB_BB6.7, Ms6.0*

NEIC ***01*** *02:39:14, 33°.07N×136°.77E, h16km, Moment Tensor Solution. Duration: 14s0 Moment tensor: Scale 10^{17}Nm; M_{rr}5.26; $M_{\theta\theta}$-2.43; $M_{\phi\phi}$-2.83; $M_{r\theta}$4.48; $M_{\theta\phi}$-2.96; $M_{\phi r}$6.10; Fault plane solution: $M_0$9.32000×10^{17} NP1: ϕ_s229.00000°, δ18.00000°, λ101.00000°. NP2: ϕ_s37.00000°, δ72.00000°, λ86.00000°. Principal axes: T 9.1765, Plg63.0000°, Azm302.0000°; N 0.2807, Plg3.0000°, Azm39.0000°; P -9.4572, Plg27.0000°, Azm130.0000°;*

ISC 01 02:39:07.9±0.3**, 33°.32N**±0°.02×**136°.40E**±0°.02**, h17**km±1km**, h17**km**:pP-P, n2375,** σ1s75/2572**, mb6.0**/580**, MS5.9**/310**, 919C-111D, Fault plane solution: NP1:**ϕ_s13.82011°, δ54.41394°, λ71.31052°. **NP2:**ϕ_s223.98981°, δ39.61382°, λ114.12354°. **Principal axes:** T Plg72.9814°, Azm233.0908°; N Plg15.1053°, Azm24.9565°; P Plg7.6570°, Azm117.0361°; **Fault plane solution: NP1:**ϕ_s186.35353°, δ40.45844°, λ31.26309°. **NP2:** ϕ_s71.55898°, δ70.32060°, λ126.09171°. **Principal axes:** T Plg50.9089°, Azm22.9043°; N Plg33.6881°, Azm237.7661°; P Plg17.4515°, Azm135.6693°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	TONANKAI O.B.S	0.44	47	⇓P	Pb	02 39 17.2	+0.1
JWKM	Wakayamakushim	0.55	283	⇑P	Pg	02 39 18.8	0.0
JWKM				S	Sg	02 39 26.2	0.0
JMMH	Miemihama	0.58	328	⇑P	Pg	02 39 19.2	-0.3
JMMH				eS	Sg	02 39 26.4	-0.9
TTO2	TONANKAI O.B.S	0.67	52	P	Pb	02 39 20.7	-0.3
JTNC	Tanabenakahech	0.82	307	⇑P	Pb	02 39 22.6	-1.2
JKN2	Miekihoku	0.92	354	P	Pb	02 39 24.0	-1.4
JKN2				eS	Sb	02 39 34.5	-2.9
TTO3	TONANKAI O.B.S	0.99	57	⇓P	Pb	02 39 25.0	-1.6
JWM	Minabe	1.02	301	⇑P	Pb	02 39 25.6	-1.5
JIE	Ise	1.10	14	⇑P	Pb	02 39 26.8	-1.7
JWY	Kouya	1.12	323	⇑P	Pb	02 39 27.4	-1.4
JWY				S	Sb	02 39 42.8	-0.3
TTO4	TONANKAI O.B.S	1.17	54	P	Pn	02 39 27.1	-2.2
TTO4				S	Sb	02 39 42.2	-2.2
TK02	Tokai 2	1.29	61	⇓P	Pn	02 39 28.6	-2.4
TK02				S	Sn	02 39 45.0	-2.9
TSUJ	Tsu 2	1.38	1	⇑P	Pn	02 39 30.8	-1.7
JHE	Heguri	1.45	336	⇑P	Pn	02 39 32.1	-1.4
TK04	Tokai 4	1.62	49	P	Pn	02 39 33.8	-1.9
JAI	Aioi	1.69	287	⇑P	Pn	02 39 35.5	-1.2
JAWN	Awajishima-nag	1.70	313	⇑P	Pn	02 39 35.9	-0.9
INU	Inuyama	2.08	14	Pn	Pn	02 39 40.7	-1.5
INU	Inuyama	2.08	14	⇑P	Pn	02 39 40.6	-1.6
INU	Inuyama	2.08	14	P	Pn	02 39 41.2	-0.9
JWT	Wachi	2.12	337	⇑P	Pn	02 39 41.8	-0.8
JWT	Wachi	2.12	337	Pn	Pn	02 39 42.1	-0.5
JMN	Monobe	2.14	282	⇑P	Pn	02 39 41.6	-1.3
JMN	Monobe	2.14	282	Pn	Pn	02 39 41.7	-1.2
JMN	Monobe	2.14	282	⇑P	Pn	02 39 41.6	-1.3
JYTA	Yamagatataniai	2.28	7	⇑P	Pn	02 39 43.4	-1.4
JJS	Sakaide	2.30	298	⇑P	Pn	02 39 43.8	-1.4
JGF	Kuroka	2.41	19	Pn	Pn	02 39 45.0	-1.6
JGF	Kuroka	2.41	19	⇑P	Pn	02 39 44.9	-1.8
JAD	Aida	2.45	312	⇑P	Pn	02 39 45.9	-1.3
JKY	Yasaka	2.54	335	⇑P	Pn	02 39 47.5	-0.8
JKSM	Kasumi	2.67	328	⇑P	Pn	02 39 49.7	-0.5
JMKN	Mikurajimanish	2.73	77	P	Pn	02 39 49.2	-1.7
JKU	Kubokawa	2.79	271	⇑P	Pn	02 39 50.2	-1.7
JET	Tanbara	2.83	280	⇑P	Pn	02 39 50.9	-1.5
JHJ	Hachijo jima 2	2.85	93	Pn	Pn	02 39 51.4	-1.2
	73nm,0.3s,baz=247,slow=5.9,SNR=56						
JHJ				Sn	Sn	02 40 24.1	-2.4
	264nm,0.3s,baz=51,slow=18,SNR=9.6						
JHJ2	Mitsune	2.87	93	P	Pn	02 39 51.2	-1.7
JHJ2	Mitsune	2.87	93	Pn	Pn	02 39 51.3	-1.7
JHJ2	Mitsune	2.87	93	⇓P	Pn	02 39 51.4	-1.6
JHJ2	Mitsune	2.87	93	P	Pn	02 39 51.9	-1.1
JIM2	Oshima 3	2.88	60	P	Pn	02 39 51.3	-1.8
JKG	Kaga	2.95	359	⇑P	Pn	02 39 53.1	-0.9
JOD2	Odawara 2	2.95	48	P	Pn	02 39 53.3	-0.8
JAOM	Aogashimamukai	2.96	106	⇓P	Pn	02 39 52.8	-1.4
JTO	Tosashimizu	3.05	262	⇑P	Pn	02 39 53.5	-1.9
UWA2	Uwa jima 2	3.16	269	⇑P	Pn	02 39 55.4	-1.6
JHS	Saijyo	3.19	302	⇑P	Pn	02 39 56.3	-1.1
JHS	Saijyo	3.19	302	Pn	Pn	02 39 56.3	-1.1
JHS	Saijyo	3.19	302	⇑P	Pn	02 39 56.1	-1.2
JNA	Nagahama	3.28	275	⇑P	Pn	02 39 57.3	-1.3
JHM	Kurahashi	3.32	285	⇑P	Pn	02 39 58.0	-1.2
JTT	Ttatey	3.36	13	P	Pn	02 39 58.5	-1.2
JRY	Ryogami san	3.39	37	⇑P	Pn	02 39 59.1	-1.0
MAJO	Matsushiro	3.54	24	P	Pn	02 40 01.2	-1.0
MAJO	Matsushiro	3.54	24		Pn	02 40 01.1	-1.0
MAT	Matsushiro	3.54	24	P	Pn	02 40 01.5	-0.7
MJAR	Matsushiro Arr	3.54	24	Pn	Pn	02 40 01.6	-0.6
	8.4nm,0.3s,baz=218,slow=13,SNR=650						
MJAR				Lg	Lg	02 40 55.3	
	32nm,0.3s,baz=214,slow=16,SNR=5.8						
MJAR	Matsushiro Arr	3.54	24	Pn	Pn	02 40 01.4	-0.7
MJB9	Matsu-Tunnel	3.54	24		Pn	02 40 01.0	-1.2
JHT	Toyohira	3.56	293	⇑P	Pn	02 40 01.1	-1.4
JISK	Izumosakaura	3.65	308	⇑P	Pn	02 40 03.3	-0.3
JGT2	ShimaneMisato	3.66	299	P	Pn	02 40 02.6	-1.2
BSO3	Boso 3	3.72	66	P	Pn	02 40 04.1	-0.3
JOI	OKI	3.93	320	⇑P	Pn	02 40 06.1	-1.4
JAG	Ashikaga	3.99	38	P	Pn	02 40 08.1	-0.2
BSO1	Boso 1	4.03	70	P	Pn	02 40 07.4	-1.0
JYT	Yasato	4.26	46	Pn	Pn	02 40 11.1	-1.0
JYT	Yasato	4.26	46	⇓P	Pn	02 40 11.9	-0.1
JHGM	Hagimishima	4.60	290	⇑P	Pn	02 40 15.6	-1.1
JNU	Nakatsue	4.63	269	Pn	Pn	02 40 15.8	-1.4
	62nm,0.3s,baz=100,slow=4.0,SNR=189						
JNU				Lg	Lg	02 41 32.6	
	baz=249,slow=19,SNR=0.9						
JNU	Nakatsue	4.63	269	Pn	Pn	02 40 16.2	-0.9
JNU	Nakatsue	4.63	269	⇑P	Pn	02 40 16.1	-1.1
JNU	Nakatsue	4.63	269	P	Pn	02 40 16.5	-0.7
JTZ	Takazaki	4.70	254	P	Pn	02 40 17.3	-0.8
JIU3	Izumi3	4.76	262	P	Pn	02 40 18.4	-0.5
JSD	Sado	4.94	17	P	Pn	02 40 21.0	-0.4
JSD	Sado	4.94	17	Pn	Pn	02 40 20.6	-0.8
JSD	Sado	4.94	17	⇑P	Pn	02 40 19.8	-1.6
JSU	Suzuyama	5.34	252		Pn	02 40 26.7	-0.3
JSU	Suzuyama	5.34	252	⇑P	Pn	02 40 26.2	-0.7
JFK	Kawauchi	5.45	41	P	Pn	02 40 28.9	+0.5
JII	Iki	5.58	277	P	Pn	02 40 28.9	-1.3
JMM	Marumori	5.78	37	P	Pn	02 40 33.1	+0.2
JMM	Marumori	5.78	37		Pn	02 40 34.1	+1.2
JMM	Marumori	5.78	37	⇑P	Pn	02 40 33.4	+0.5
JYA	Atsumi	5.91	26	P	Pn	02 40 34.3	-0.3
JTSM	Tsushimamitsus	5.92	282	⇑P	Pn	02 40 32.8	-2.1
JTU	Tsushima	5.94	284	P	Pn	02 40 33.3	-1.8
JTU	Tsushima	5.94	284	Pn	Pn	02 40 33.4	-1.7
JTU	Tsushima	5.94	284	⇑P	Pn	02 40 33.3	-1.8
JOU	Okura	6.11	33	P	Pn	02 40 38.5	+1.1
JIO	Ouri	6.51	37	P	Pn	02 40 42.9	0.0
JMK	Ichinoseki	6.84	33	P	Pn	02 40 48.2	+0.8
JRG	Rokugo	6.96	28	P	Pn	02 40 49.6	+0.5
JOM	Ohasama	7.30	31	P	Pn	02 40 54.7	+1.0
JAM	Amami Oshima	7.62	232	P	Pn	02 40 58.7	+0.5
JAH	Hinai	7.65	25	P	Pn	02 40 59.5	+0.9
JIW	Iwasaki	7.81	21	P	Pn	02 41 01.1	+0.3
CBIJ	Chichi jima	7.97	140	P	Pn	02 41 02.1	-1.0
JCJ	Chichijima	7.97	140	Pn	Pn	02 41 02.2	-0.8
	40nm,0.3s,baz=317,slow=8.0,SNR=28						
JCJ				LR	LR	02 43 38.4	
	comp=Z,45μm,21.4s,baz=358,slow=34						
JCJ	Chichijima	7.97	140	Pn	Pn	02 41 02.5	-0.6
JCJ	Chichijima	7.97	140	P	Pn	02 41 02.9	-0.2
	1μm,1.3s						
JAMN	Amaminishikomi	8.01	233	P	Pn	02 41 03.6	0.0
TJN	Taejon	8.03	295	ceP	Pn	02 41 03.0	-0.7
TJN	Taejon	8.03	295	Pn	Pn	02 41 02.6	-1.1
TJN	Taejon	8.03	295	P	Pn	02 41 03.4	-0.3
	549nm,2.0s						
KSRS	Korea Array	8.05	303	Pn	Pn	02 41 03.5	-0.6
	4.2nm,0.3s,baz=121,slow=14,SNR=53						
KSRS				Sn	Sn	02 42 44.6	+10
	9.7nm,0.3s,baz=117,slow=24,SNR=7.3						
KSAR	Wonju Array Be	8.07	303	P	Pn	02 41 03.2	-1.2
KSAR	Wonju Array Be	8.07	303	Pn	Pn	02 41 03.2	-1.2
JANG	Nango	8.14	29	P	Pn	02 41 06.1	+0.7
JTM	Tenmabayashi	8.33	25	⇑P	Pn	02 41 09.4	+1.5
JTK	Tokunoshima	8.46	231	P	Pn	02 41 10.4	+0.6
JOMM	Oshimamatsumae	8.68	18	P	Pn	02 41 12.6	0.0
JSR	Shiriuchi	8.79	20	P	Pn	02 41 15.9	+1.7
JOT	Ohata	8.85	23	P	Pn	02 41 16.8	+1.7
INCN	Inchon	8.98	300	P	Pn	02 41 16.9	0.0
INCN	Inchon	8.98	300		Pn	02 41 16.9	0.0
INCN	Inchon	8.98	300	P	Pn	02 41 20.2	+3.3
INCN				P	Pn	02 41 20.2	+3.3
INCN				S	Sn	02 43 06.6	+8.9
INCN				S	Sn	02 43 06.6	+8.9
INCN	Inchon	8.98	300	P	Pn	02 41 19.9	+3.0
JYRO	Yoronjima	9.31	230	P	Pn	02 41 21.0	-0.4
JYM2	Yakumo 2	9.32	19	P	Pn	02 41 22.6	+1.1
JOW	Kunigami	9.55	230	Pn	Pn	02 41 24.3	-0.5
	2.4nm,0.3s,baz=31,slow=5.9,SNR=3.4						
JOW	Kunigami	9.55	230		Pn	02 41 25.8	+1.0
JOW	Kunigami	9.55	230	P	Pn	02 41 26.7	+1.9
	171nm,2.0s						
JSH	Shimam	9.74	16	P	Pn	02 41 28.5	+1.3
JNB	Noboribetsu	9.84	21	P	Pn	02 41 28.9	+0.4
MSHR	Mys Shultsa	10.12	337	iP	Pn	02 41 31.7	-0.7
MSHR				pmax	pmax		
	comp=Z,141nm,1.1s						
MSHR				MLR	MLR		
	comp=Z,87μm,12.0s						
ERM	Erimo	10.19	30	ceP	Pn	02 41 31.6	-1.8
ERM				pmax	pmax		
	comp=Z,186nm,1.0s						
ERM	Erimo	10.19	30	Pn	Pn	02 41 31.0	-2.4
ERM	Erimo	10.19	30	⇑P	Pn	02 41 31.4	-2.0
ERM	Erimo	10.19	30	P	Pn	02 41 32.0	-1.4
	comp=Z,568nm,1.4s						
JNBK	Urakawa-nobuka	10.25	27	P	Pn	02 41 33.5	-0.8
JEW	Eniwo	10.30	21	P	Pn	02 41 34.6	-0.3
JEW	Eniwo	10.30	21		Pn	02 41 32.9	-2.0
JEW	Eniwo	10.30	21	⇑P	Pn	02 41 34.8	-0.1
VLA	Vladivostok	10.40	341	iP	Pn	02 41 35.5	-0.8
VLA				pmax	pmax		
	comp=Z,316nm,1.1s						
VLA				MLR	MLR		
	comp=Z,117μm,12.0s						
JBT2	Biratori 2	10.54	25	P	Pn	02 41 36.4	-1.8
JCH	Churui	10.78	29	P	Pn	02 41 39.3	-2.1
USA0B	Ussuriysk Arra	11.39	344	P	Pn	02 41 48.2	-1.6
USA0B	Ussuriysk Arra	11.39	344		Pn	02 41 48.2	-1.6
USRK	Ussuriysk Ar.	11.39	344	Pn	Pn	02 41 48.1	-1.7
	baz=159,slow=12,SNR=27						
USRK				Sn	Sn	02 44 03.3	+6.6
	baz=160,slow=24,SNR=4.4						
USRK				LR	LR	02 45 59.9	
	comp=Z,27μm,18.2s,baz=124,slow=36						
USRK	Ussuriysk Ar.	11.39	344		Pn	02 41 47.9	-1.9
TEY	Ternei	11.70	1	⇑iP	Pn	02 41 56.3	+2.3
TEY				eS	Sn	02 44 13.7	+10
TEY				pmax	pmax		
	comp=N,130nm,1.4s						
TEY				pmax	pmax		
	comp=Z,110nm,1.4s						
TEY				MLR	MLR		
	comp=E,62μm,11.0s						
TEY				MLR	MLR		
	comp=N,54μm,14.0s						
TEY				MLR	MLR		
	comp=Z,80μm,14.0s						
ASAJ	Asahikawa	11.81	22	Pn	Pn	02 41 52.9	-2.6
	comp=Z,2.0nm,0.3s,baz=241,slow=23,SNR=22						
ASAJ				LR	LR	02 46 54.6	
	comp=Z,80μm,20.6s,baz=222,slow=40						
MDJ	Mudanjiang	12.45	337		Pn	02 42 05.2	+0.9
MDJ	Mudanjiang	12.45	337	P	Pn	02 42 06.3	+2.0
MDJ				pP	P	02 42 09.1	-7.0
MDJ				sP		02 42 11.4	
MDJ				S	Sn	02 44 25.1	+2.5
MDJ				pmax	pmax		
	comp=Z,190nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,11μm,5.8s						
MDJ				LR	LR		
	comp=Z,94μm,12.7s						
MDJ				LR	LR		
	comp=Z,96μm,13.4s						
MDJ				LR	LR		
	comp=Z,137μm,12.1s						
YUK	Yuzh-Kuril'sk	12.99	32	eP	Pn	02 42 15.5	+3.8
YUK				eS	Sn	02 44 41.9	+6.1
YUK				pmax	pmax		
	comp=Z,2μm,1.4s						
YUK				pmax	pmax		
	comp=Z,2μm,1.2s						
YUK				pmax	pmax		
	comp=E,686nm,1.1s						
YUK				pmax	pmax		
	comp=N,422nm,1.2s						
YUK				MLR	MLR		
	comp=N,78μm,16.0s						
YUK				MLR	MLR		
	comp=Z,79μm,16.0s						
YUK				MLR	MLR		
	comp=E,27μm,13.0s						
SSE	Sheshan	13.07	264	P	Pn	02 42 12.4	-0.4
SSE				PP	P	02 42 23.0	-0.1
SSE				S	Sn	02 44 38.8	+0.9
SSE				pmax	pmax		
	comp=E,1μm,4.6s						
DL2	Dalian	13.17	299	P	Pn	02 42 14.4	+0.2
DL2				S	Sn	02 44 45.4	+5.2
DL2				pmax	pmax		
	comp=E,410nm,1.5s						
DL2				pmax	pmax		
	comp=E,8μm,5.8s						
DL2				LR	LR		
	comp=E,245μm,11.5s						
DL2				LR	LR		
	comp=E,218μm,11.3s						
DL2				LR	LR		
	comp=E,300μm,11.5s						
CN2	Changchun	13.51	324	⇑iP	Pn	02 42 20.3	+1.6
CN2				esP	P	02 42 27.9	0.0
CN2				eS	Sn	02 44 50.2	+1.8
CN2				pmax	pmax		
	comp=E,740nm,1.4s						
CN2				pmax	pmax		
	comp=E,11μm,7.0s						
CN2				LR	LR		
	comp=E,172μm,12.0s						
CN2				LR	LR		
	comp=E,137μm,12.0s						
CN2				LR	LR		
	comp=E,207μm,12.0s						
BNX	BinXian	14.20	333	⇑P	Pn	02 42 28.6	+0.5
BNX				pP	P	02 42 31.2	-4.3
BNX				sP		02 42 33.9	
BNX				PP	PnPn	02 42 40.1	+4.0
BNX				S	Sn	02 45 06.5	+1.3
BNX				pmax	pmax		
	comp=E,270nm,1.3s						
BNX				pmax	pmax		
	comp=E,18μm,4.7s						
BNX				LR	LR		
	comp=E,163μm,13.5s						
BNX				LR	LR		
	comp=E,281μm,11.6s						
BNX				LR	LR		
	comp=E,315μm,13.0s						
YSS	Yuzh-Sakhalins	14.45	18	αeP	Pn	02 42 27.4	-4.2
YSS				eS	Sn	02 45 05.5	-5.8
YSS				pmax	pmax		
	comp=Z,4μm,11.1s						
YSS				pmax	pmax		
	comp=N,500nm,13.7s						
YSS				pmax	pmax		
	comp=E,3μm,11.1s						
YSS				pmax	pmax		
	comp=Z,250nm,1.2s						
YSS				MLR	MLR		
	comp=Z,69μm,13.0s						
YSS				MLR	MLR		
	comp=E,42μm,12.0s						
YSS	Yuzh-Sakhalins	14.45	18	Pn	Pn	02 42 27.9	-3.7
YSS	Yuzh-Sakhalins	14.45	18	⇑P	Pn	02 42 27.6	-4.0
YSS	Yuzh-Sakhalins	14.45	18	P	Pn	02 42 30.6	-1.0
	comp=E,273nm,1.0s						
KUR	Kuril'sk	14.82	33	eP	Pn	02 42 26.8	-10
KUR				eS	Sn	02 45 23.3	+2.8
KUR				pmax	pmax		
	comp=Z,5μm,3.9s						
KUR				pmax	pmax		
	comp=E,6μm,3.7s						
KUR				pmax	pmax		
	comp=N,5μm,3.8s						
KUR				pmax	pmax		
	comp=N,78nm,1.1s						
KUR				pmax	pmax		
	comp=E,84nm,1.1s						
KUR				pmax	pmax		
	comp=Z,210nm,1.1s						
KUR				MLR	MLR		
	comp=Z,76μm,16.0s						
KUR				MLR	MLR		
	comp=N,159μm,17.0s						
KUR				MLR	MLR		
	comp=E,102μm,17.0s						
NJ2	Nanjing	14.83	270	⇑iP	Pn	02 42 36.4	-0.5
NJ2				sP	P	02 42 43.4	+0.8
NJ2				PP	PnPn	02 42 49.5	+4.7
NJ2				S	Sn	02 45 16.9	-3.9
NJ2				SS	S	02 45 39.5	+0.5
NJ2				PcP	PcP	02 47 50.1	+2.8
NJ2				pmax	pmax		
	comp=E,97nm,1.2s						
NJ2				pmax	pmax		
	comp=E,5μm,4.3s						
NJ2				LR	LR		
	comp=E,64μm,12.8s						
NJ2				LR	LR		
	comp=E,56μm,15.7s						
NJ2				LR	LR		
	comp=E,64μm,12.7s						
TATO	Taipei	15.44	241	Pn	Pn	02 42 43.9	-1.1
TATO	Taipei	15.44	241	P	Pn	02 42 46.6	+1.6
TATO				P	Pn	02 42 46.6	+1.6
TATO				S	S	02 45 44.6	-7.0
TATO				S	S	02 45 44.6	-7.0
YHNB	Yeheng	15.71	241	Pn	Pn	02 42 45.3	-3.2
YHNB	Yeheng	15.71	241	P	P	02 42 52.2	-0.3
	comp=E,77nm,1.1s						
TIA	Tai'an	16.10	286	P	Pn	02 42 53.8	+0.3
TIA				pP	pwP	02 43 04.0	+0.5
TIA				pmax	pmax		
	comp=E,210nm,2.0s						
TIA				pmax	pmax		
	comp=E,8μm,4.4s						
TIA				LR	LR		
	comp=E,43μm,11.4s						
TIA				LR	LR		
	comp=E,68μm,10.7s						
TIA				LR	LR		
	comp=E,71μm,11.4s						
KLR	Kul'dur	16.27	349	Pn	Pn	02 42 55.2	-0.3
	comp=E,11nm,0.3s,baz=162,slow=11,SNR=150						
KLR				LR	LR	02 49 04.1	
	comp=E,42μm,18.1s,baz=164,slow=37						
KLR	Kul'dur	16.27	349	ceP	Pn	02 42 55.2	-0.3
KLR				pmax	pmax		
	comp=Z,975nm,2.5s						
KLR				MLR	MLR		
	comp=Z,84μm,14.0s						
UGL	Uglegorsk	16.30	13	ciP	Pn	02 42 51.8	-4.1
UGL				S	Sn	02 45 47.9	-8.4
UGL				pmax	pmax		
	comp=Z,5μm,3.0s						
UGL				pmax	pmax		
	comp=Z,648nm,1.7s						
UGL				smax	smax		
	comp=E,146nm,0.5s						
UGL				smax	smax		
	comp=N,274nm,1.1s						
UGL				MLR	MLR		
	comp=Z,53μm,12.0s						
UGL				MLR	MLR		
	comp=E,53μm,14.0s						
UGL				MLR	MLR		
	comp=N,12μm,21.0s						
SSLB	Suanglung	16.55	239	Pn	Pn	02 42 58.1	-1.2
SSLB	Suanglung	16.55	239	P	P	02 43 02.6	+0.8
	comp=N,103nm,1.1s						
YULB	Yu-li	16.55	237		Pn	02 42 58.5	-0.9
TPUB	Ta-pu	17.08	238	P	P	02 43 08.5	+0.8
	comp=N,99nm,1.2s						
GRNR	Gornyy	17.43	0	⇑iP	Pn	02 43 07.3	-2.9
GRNR				eS	Sn	02 46 22.8	-1.0
GRNR				pmax	pmax		
	comp=N,30nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,40nm,0.9s						
GRNR				smax	smax		
	comp=N,6.0nm,0.9s						
GRNR				MLR	MLR		
	comp=N,35μm,14.0s						
GRNR				MLR	MLR		
	comp=E,26μm,14.0s						
GRNR				MLR	MLR		
	comp=Z,52μm,13.0s						
BJT	Baijiatuau	17.53	298	P	Pn	02 43 10.3	-1.2
BJT				pmax	pmax		
	comp=Z,1μm,1.4s						
BJT	Baijiatuau	17.53	298	Pn	Pn	02 43 10.3	-1.2
BJT				IAmb	IAmb	02 43 25.7	
	comp=Z,1μm,1.4s						
BJI	Beijing	17.53	298	P	P	02 43 12.3	-0.3
BJI				sP	sP	02 43 19.0	+0.3
BJI				S	Sn	02 46 25.3	-1.0
BJI				pmax	pmax		
	comp=Z,560nm,1.8s						
BJI				pmax	pmax		
	comp=Z,21μm,7.5s						
BJI				LR	LR		
	comp=Z,58μm,12.9s						
QZH	Quanzhou	17.64	246	⇑iP	Pn	02 43 12.7	-0.2
QZH				S	Sn	02 46 31.3	+2.3
QZH				pmax	pmax		
	comp=Z,230nm,1.9s						
QZH				pmax	pmax		
	comp=Z,7μm,4.9s						
QZH				LR	LR		
	comp=Z,39μm,12.8s						
QZH				LR	LR		
	comp=Z,40μm,12.9s						
QZH				LR	LR		
	comp=Z,76μm,11.4s						
TYV	Tymovskoe	18.12	13	eP	P	02 43 20.0	+1.1
TYV				eS	S	02 46 45.4	-0.5

TYV pmax pmax
comp=Z,256nm,1.5s
TYV pmax pmax
comp=Z,6μm,3.8s
TYV smax smax
comp=N,12μm,4.6s
TYV smax smax
comp=E,8μm,4.6s
TYV smax smax
comp=N,173nm,2.6s
TYV smax smax
comp=E,164nm,2.6s
TYV MLR MLR
comp=E,65μm,15.0s
TYV MLR MLR
comp=Z,37μm,15.0s
HNS HongShan 18.14 289 ⇑P **P 02 43 19.5 +0.2**
HNS PP **PnPn 02 43 31.5 +1.3**
HNS pmax pmax
comp=Z,460nm,1.9s
HNS pmax pmax
comp=Z,18μm,8.3s
HNS LR LR
comp=Z,50μm,13.7s
HNS LR LR
comp=Z,133μm,15.4s
HNS LR LR
comp=Z,130μm,15.0s
WHN Wuhan 18.91 268 ⇑P **Pn 02 43 28.9 +0.4**
WHN S **S 02 47 03.9 +1.7**
WHN pmax pmax
comp=Z,7μm,2.3s
WHN LR LR
comp=Z,348μm,11.7s
WHN LR LR
comp=Z,190μm,12.4s
WHN LR LR
comp=Z,414μm,13.6s
XLT XiLinHaoTe 19.02 310 ⇑*i*P **P 02 43 29.2 +0.2**
XLT pP sP 02 43 34.7 -0.5
XLT sP pwP 02 43 38.0 +2.3
XLT PP **PnPn 02 43 45.8 +3.5**
XLT S **S 02 47 06.3 +1.9**
XLT sS sS 02 47 11.7 +0.6
XLT pmax pmax
comp=Z,650nm,1.8s
XLT pmax pmax
comp=Z,18μm,7.0s
XLT LR LR
comp=Z,64μm,12.0s
XLT LR LR
comp=Z,73μm,11.5s
LYN LuoYang 19.89 280 ⇑*i*P **Pn 02 43 39.8 -0.3**
LYN S **S 02 47 19.1 -2.6**
LYN pmax pmax
comp=Z,370nm,2.1s
LYN pmax pmax
comp=Z,18μm,12.2s
LYN LR LR
comp=Z,78μm,12.4s
LYN LR LR
comp=Z,110μm,12.7s
LYN LR LR
comp=Z,100μm,12.3s
TIY Taiyuan 19.97 289 ⇑P **Pn 02 43 41.1 -0.1**
TIY S **Sn 02 47 24.8 -0.7**
TIY pmax pmax
comp=Z,340nm,2.1s
TIY pmax pmax
comp=Z,16μm,9.3s
TIY LR LR
comp=Z,65μm,14.5s
TIY LR LR
comp=Z,97μm,13.2s
TIY LR LR
comp=Z,104μm,21.1s
NKL Nikolayevsk 20.05 8 *e*P **P 02 43 37.9 -2.2**
NKL *e*S **S 02 47 20.2 -4.5**
NKL pmax pmax
comp=E,14nm,0.8s
NKL pmax pmax
comp=N,1.0nm,0.5s
NKL pmax pmax
comp=Z,1μm,1.3s
NKL smax smax
comp=E,4.0nm,3.8s
NKL smax smax
comp=N,120nm,4.8s
NKL MLR MLR
comp=N,1.0nm,12.0s
NKL MLR MLR
comp=E,17nm,14.0s
NKL MLR MLR
comp=Z,19μm,14.0s
HIA Hailar 20.18 327 *i* P **P 02 43 41.2 -0.4**
HIA pmax pmax
comp=Z,1μm,1.9s
HIA MLR MLR
comp=Z,113μm,13.0s
HIA Hailar 20.18 327 P **P 02 43 40.5 -1.1**
HIA IAmb IAmb 02 43 59.4
comp=Z,1μm,1.2s
HIA Hailar 20.18 327 IAMs_20 IAMs_20 02 51 44.6
comp=Z,54μm,18.0s
GUMO Guam 21.11 157 P **P 02 43 50.9 -0.8**
comp=Z,740nm,1.1s,baz=294,slow=1.9,SNR=19
GUMO LR LR 02 50 19.2
comp=Z,13μm,18.3s,baz=342,slow=32
GUMO Guam 21.11 157 P **P 02 43 50.5 -1.3**
GUMO Guam 21.11 157 ⇓P **P 02 43 52.9 +1.1**
GUMO Guam 21.11 157 P **P 02 43 54.2 +2.4**
comp=Z,2μm,1.4s
HHC Hu-ho-hao-te 21.14 298 *e*P **P 02 43 52.4 +0.2**
HHC PP **PnPn 02 44 14.7 +3.3**
HHC S **S 02 47 45.0 -1.8**
HHC pmax pmax
comp=Z,350nm,1.6s
HHC pmax pmax
comp=Z,10μm,8.1s
HHC LR LR
comp=Z,103μm,12.9s
HHC LR LR
comp=Z,178μm,9.7s
HHC LR LR
comp=Z,218μm,10.4s
ZEA Zeya 21.42 345 *e*P **P 02 43 52.1 -2.8**
ZEA *e*S S 02 47 38.1 -14
ZEA pmax pmax
comp=E,1μm,7.5s
ZEA pmax pmax
comp=N,4μm,8.5s
ZEA pmax pmax
comp=Z,5μm,10.3s
ZEA pmax pmax
comp=E,100nm,1.0s
ZEA pmax pmax
comp=N,160nm,1.3s
ZEA pmax pmax
comp=Z,530nm,1.3s
ZEA smax smax
comp=E,7μm,17.3s
ZEA smax smax
comp=N,8μm,13.8s
ZEA MLR MLR
comp=N,43μm,12.0s
ZEA MLR MLR
comp=E,26μm,12.0s
ZEA MLR MLR
comp=Z,45μm,12.0s
BTO Baotou 22.24 297 P **P 02 44 04.4 +0.4**
BTO S Sn 02 48 14.3 -5.7
BTO LR LR
comp=Z,122μm,14.2s
BTO LR LR
comp=Z,459μm,13.7s
HKC Hong Kong Obse 22.47 246 ⇑P **P 02 44 08.0 +1.6**
HKPS Hong Kong Po S 22.51 246 P **P 02 44 07.5 +0.7**
SKR Severo-Kuril's 22.59 34 *e*P **P 02 44 07.5 +0.1**
SKR *e*PPP PPP 02 44 44.2
SKR *e*S **S 02 48 14.6 +0.4**
SKR *e*SS **SnSn 02 48 47.1 +3.4**
SKR pmax pmax
comp=Z,2μm,3.3s
SKR pmax pmax
comp=Z,374nm,1.2s
SKR pmax pmax
comp=Z,900nm,2.5s

SKR MLR MLR
comp=Z,26μm,16.0s
SKR MLR MLR
comp=Z,28μm,16.0s
XAN Xi'an 22.85 279 ⇑P **P 02 44 09.5 -1.0**
XAN sP pwP 02 44 19.1 +1.8
XAN PP **PnPn 02 44 44.0 +9.2**
XAN S **S 02 48 22.9 +3.5**
XAN sS Sn 02 48 31.8 -2.9
XAN pmax pmax
comp=Z,520nm,1.3s
XAN pmax pmax
comp=Z,13μm,3.8s
XAN LR LR
comp=Z,61μm,12.2s
XAN LR LR
comp=Z,63μm,11.8s
XAN LR LR
comp=Z,100μm,13.4s
MCO Taipa Grande 23.04 247 P **P 02 44 14.0 +1.6**
ENH Enshi 23.05 270 P **P 02 44 11.7 -0.8**
ENH IAmb IAmb 02 44 14.2
comp=Z,370nm,1.0s
TGY Tagaytay City 23.74 220 P **P 02 44 19.5 0.0**
comp=Z,194nm,0.4s,baz=278,slow=3.2,SNR=9.7
GULI GuiLin 24.02 257 ⇑P **P 02 44 24.1 +2.0**
GULI S **S 02 48 44.9 +6.3**
GULI pmax pmax
comp=Z,380nm,1.6s
GULI LR LR
comp=Z,55μm,10.3s
GULI LR LR
comp=Z,104μm,10.8s
GULI LR LR
comp=Z,142μm,10.3s
CIT Chita 24.95 325 *e*P **P 02 44 29.3 -1.0**
CIT *e* 02 44 37.4
CIT *e* 02 45 17.0
CIT pmax pmax
comp=Z,3μm,2.3s
PEA0B Petropavlovsk- 24.97 31 *ce*P **P 02 44 30.6 +0.2**
PETK Petropavlovsk- 24.97 31 P **P 02 44 30.2 -0.2**
comp=Z,126nm,0.9s,baz=216,slow=7.3,SNR=94
PETK LR LR 02 54 32.6
comp=Z,21μm,18.5s,baz=212,slow=37
PETK Petropavlovsk- 24.97 31 P **P 02 44 29.8 -0.6**
PET Petropavlovsk 25.33 32 *α i*P **P 02 44 33.8 +0.1**
PET *e*S **S 02 48 54.8 -4.2**
PET pmax pmax
comp=Z,361nm,1.3s
PET pmax pmax
comp=Z,6μm,4.0s
PET pmax pmax
comp=Z,5μm,8.4s
PET MLR MLR
comp=Z,50μm,16.0s
PET MLR MLR
comp=Z,51μm,15.0s
PET Petropavlovsk 25.33 32 P **P 02 44 33.6 -0.1**
PET Petropavlovsk 25.33 32 ⇑P **P 02 44 33.8 +0.1**
PET Petropavlovsk 25.33 32 P **P 02 44 34.4 +0.7**
comp=Z,2μm,1.8s
ULN Ulaanbaatar 26.40 312 *ce*P **P 02 44 42.9 -0.8**
ULN pmax pmax
comp=Z,392nm,1.7s
ULN Ulaanbaatar 26.40 312 P **P 02 44 41.7 -2.0**
ULN IAmb IAmb 02 44 58.1
comp=Z,326nm,1.1s
ULN Ulaanbaatar 26.40 312 P **P 02 44 43.1 -0.6**
ULN P **P 02 44 43.1 -0.6**
ULN S **S 02 49 21.6 +5.1**
ULN S **S 02 49 21.6 +5.1**
ULN Ulaanbaatar 26.40 312 ⇑P **P 02 44 42.4 -1.3**
GYA Guiyang 26.61 263 ⇓P **P 02 44 46.1 +0.4**
GYA sP pP 02 44 50.9 +0.7
GYA S **S 02 49 18.8 -1.2**
GYA pmax pmax
comp=Z,99nm,2.0s
GYA pmax pmax
comp=Z,1μm,3.5s
GYA LR LR
comp=Z,123μm,16.3s
GYA LR LR
comp=Z,54μm,16.0s
GYA LR LR
comp=Z,169μm,11.3s
SONM Songino Array 26.80 312 P **P 02 44 46.6 -0.6**
comp=Z,32nm,0.8s,baz=120,slow=9.5,SNR=208
SONM S **S 02 49 28.0 +5.3**
comp=Z,2.5nm,1.0s,baz=113,slow=2.7,SNR=1.1
SONM ScP **ScP 02 51 47.7 -1.5**
comp=Z,10nm,1.3s,baz=115,slow=1.8,SNR=4.2
SONM LR LR 02 56 07.7
comp=Z,12μm,20.8s,baz=180,slow=38
SONM P3KPbc 03 17 36.3
comp=Z,0.2nm,0.4s,baz=289,slow=4.5,SNR=4.5
SONM Songino Array 26.80 312 IAmb IAmb 02 45 01.8
comp=Z,328nm,1.3s
LZH Lanzhou 26.84 285 ⇑*i*P **P 02 44 47.7 0.0**
LZH pP pP 02 44 50.3 -1.9
LZH sP sP 02 44 53.6 -0.4
LZH S **S 02 49 26.2 +2.7**
LZH sS sS 02 49 35.1 +4.0
LZH pmax pmax
comp=Z,170nm,1.1s
LZH pmax pmax
comp=Z,6μm,5.2s
LZH LR LR
comp=Z,71μm,12.7s
LZH LR LR
comp=Z,80μm,12.7s
LZH LR LR
comp=Z,87μm,14.3s
QIZ Qiongzhong 27.66 246 P **P 02 44 56.8 +1.8**
QIZ S **S 02 49 40.2 +3.8**
QIZ pmax pmax
comp=Z,67nm,1.4s
QIZ pmax pmax
comp=Z,2μm,3.0s
QIZ LR LR
comp=Z,29μm,11.6s
QIZ LR LR
comp=Z,36μm,14.2s
QIZ LR LR
comp=Z,34μm,11.7s
CD2 Chengdu 27.69 274 P **P 02 44 54.8 -0.5**
CD2 S **S 02 49 30.6 -6.2**
CD2 pmax pmax
comp=Z,220nm,0.7s
CD2 pmax pmax
comp=Z,9μm,12.9s
CD2 LR LR
comp=Z,18μm,17.0s
CD2 LR LR
comp=Z,111μm,15.2s
CD2 LR LR
comp=Z,128μm,13.2s
MA2 Magadan 27.94 16 P **P 02 44 57.3 +0.2**
comp=Z,324nm,1.1s,baz=206,slow=8.5,SNR=340
MA2 S **S 02 49 36.8 -3.2**
comp=Z,2.0nm,0.3s,baz=22,slow=18,SNR=0.9
MA2 LR LR 02 57 33.2
comp=Z,20μm,18.2s,baz=199,slow=40
MA2 Magadan 27.94 16 *ce*P **P 02 44 57.1 0.0**
MA2 pmax pmax
comp=Z,1μm,1.7s
MA2 MLR MLR
comp=Z,23μm,15.0s
MA2 Magadan 27.94 16 P **P 02 44 56.4 -0.8**
MA2 Magadan 27.94 16 ⇑P **P 02 44 57.3 +0.2**
MA2 Magadan 27.94 16 P **P 02 44 57.6 +0.5**
comp=Z,530nm,1.6s
BOD Bodaibo 28.81 335 *e*P **P 02 45 01.9 -3.0**
BOD pmax pmax
comp=Z,147nm,1.7s
YAK Yakutsk 29.05 353 P **P 02 45 05.7 -1.2**
comp=Z,83nm,0.9s,baz=273,slow=1.7,SNR=42
YAK S **S 02 49 57.9 +0.5**
comp=Z,7.6nm,0.4s,baz=172,slow=3.3,SNR=1.5
YAK Yakutsk 29.05 353 *c i*P **P 02 45 06.0 -1.0**
YAK *e**PP **pwP 02 45 16.8 +2.7**
YAK *e* 02 45 58.4
YAK *e* 02 48 14.2
YAK *e*S **S 02 49 56.9 -0.5**
YAK *e*SS SnSn 02 51 37.7 +17
YAK pmax pmax
comp=Z,302nm,1.2s
YAK pmax pmax
comp=N,235nm,1.3s
YAK pmax pmax
comp=E,41nm,1.4s
YAK pmax pmax
comp=Z,331nm,1.5s
YAK pmax pmax
comp=E,186nm,1.5s
YAK pmax pmax
comp=N,506nm,1.9s
YAK smax smax
comp=E,670nm,3.0s
YAK smax smax
comp=N,3μm,6.7s
YAK MLR MLR
comp=Z,67μm,12.0s
YAK MLR MLR
comp=N,45μm,12.0s
YAK MLR MLR
comp=E,37μm,13.0s
YAK Yakutsk 29.05 353 P **P 02 45 05.5 -1.4**
YAK IAmb IAmb 02 45 23.1
comp=Z,463nm,1.1s
YAK Yakutsk 29.05 353 ⇑P **P 02 45 05.9 -1.0**
ZAK Zakamensk 29.66 315 *e*P **P 02 45 11.5 -1.2**
ZAK pmax pmax
comp=Z,239nm,1.3s
IRK Irkutsk 29.86 319 *e*P **P 02 45 12.5 -1.9**
IRK pmax pmax
comp=Z,535nm,3.0s
GTA Gaotai 29.93 292 ⇑P **P 02 45 14.9 -0.4**
GTA pP pP 02 45 20.4 +0.6
GTA sP pwP 02 45 23.1 +0.8
GTA PP **PnPn 02 46 15.5 +3.9**
GTA S **S 02 50 09.0 -3.2**
GTA sS sS 02 50 23.1 +3.5
GTA pmax pmax
comp=Z,110nm,1.8s
GTA pmax pmax
comp=Z,3μm,7.3s
GTA LR LR
comp=Z,102μm,13.5s
GTA LR LR
comp=Z,74μm,14.2s
GTA LR LR
comp=Z,83μm,15.6s
H11N2 WAKE ISLAND Hy 30.34 109 P **P 02 45 20.7 +2.1**
baz=276,slow=9.3,SNR=11
H11N2 T T 03 17 53.4
baz=303,slow=75,SNR=229
H11N1 WAKE ISLAND Hy 30.34 109 P **P 02 45 20.0 +1.4**
baz=276,slow=9.3,SNR=10.0
H11N1 T T 03 17 50.2
baz=303,slow=75,SNR=219
H11N3 WAKE ISLAND Hy 30.35 109 P **P 02 45 20.7 +2.0**
baz=276,slow=9.3,SNR=16
H11N3 T T 03 17 58.6
baz=303,slow=75,SNR=280
WAKE Wake Island 30.39 110 P **P 02 45 19.4 +0.1**
WAKE Wake Island 30.39 110 ⇑P **P 02 45 19.6 +0.3**
WAKE Wake Island 30.39 110 P **P 02 45 20.4 +1.2**
comp=Z,297nm,2.2s
KMI Kunming 30.39 263 ⇑P **P 02 45 19.4 -0.1**
KMI pP pP 02 45 23.6 -0.4
KMI sP pwP 02 45 28.5 +2.0
KMI PP **PnPn 02 46 17.0 -0.9**
KMI S **S 02 50 18.2 -1.5**
KMI sS sS 02 50 28.2 +0.9
KMI ScS **ScS 02 55 57.8 +0.5**
KMI pmax pmax
comp=Z,50nm,1.6s
KMI pmax pmax
comp=Z,3μm,13.7s
KMI LR LR
comp=Z,64μm,11.4s
KMI LR LR
comp=Z,125μm,12.9s
KMI LR LR
comp=Z,120μm,11.9s
PZH PanZhiHua 30.70 266 P **P 02 45 22.0 -0.1**
PZH sP **pwP 02 45 32.3 +3.1**
PZH S **S 02 50 23.2 -1.1**
PZH ScS **ScS 02 55 56.7 -1.8**
PZH pmax pmax
comp=Z,70nm,1.8s
PZH pmax pmax
comp=Z,2μm,5.6s
PZH LR LR
comp=Z,42μm,16.8s
PZH LR LR
comp=Z,37μm,17.4s
PZH LR LR
comp=Z,27μm,14.7s
H11S3 WAKE ISLAND Hy 30.85 111 P **P 02 45 24.4 +1.2**
baz=280,slow=5.1,SNR=5.6
H11S3 T T 03 18 30.8
baz=305,slow=75,SNR=609
H11S1 WAKE ISLAND Hy 30.86 111 P **P 02 45 22.6 -0.6**
baz=280,slow=5.1,SNR=5.6
H11S1 T T 03 18 31.6
baz=305,slow=75,SNR=632
H11S2 WAKE ISLAND Hy 30.87 111 P **P 02 45 26.7 +3.4**
baz=280,slow=5.1,SNR=3.6
H11S2 T T 03 18 39.5
baz=305,slow=75,SNR=523
SEY Seymchan 31.30 14 P **P 02 45 27.0 +0.2**
comp=Z,71nm,0.9s,baz=210,slow=6.9,SNR=133
SEY S **S 02 50 34.0 +1.2**
comp=Z,4.8nm,0.3s,baz=150,slow=24,SNR=5.2
SEY LR LR 02 59 13.9
comp=Z,34μm,18.6s,baz=202,slow=39
SEY Seymchan 31.30 14 *ce*P **P 02 45 27.1 +0.2**
SEY pmax pmax
comp=Z,390nm,2.5s
SEY MLR MLR
comp=Z,32μm,18.0s
MOY Mondy 31.48 316 *e*P **P 02 45 27.5 -1.2**
MOY pmax pmax
comp=Z,116nm,2.1s
MYLDM Lahad Datu 32.59 215 P **P 02 45 39.9 +1.3**
MYLDM IAmb IAmb 02 45 49.8
comp=Z,211nm,1.3s
MYLDM IAMs_20 IAMs_20 02 55 22.5
comp=Z,27μm,18.0s
MYLDM Lahad Datu 32.59 215 ⇑P **P 02 45 40.5 +1.9**
KKM Kota Kinabalu 32.99 219 P **P 02 45 43.7 +1.4**
SHEM Shemya Is, Ala 33.18 43 LR LR 02 59 44.1
comp=Z,9μm,19.3s,baz=242,slow=37
KNGR Kungurtug, Tuv 33.20 313 *i* P **P 02 45 43.6 -0.3**
DLV T Lat 33.23 237 IAmb IAmb 02 45 56.1
comp=Z,366nm,1.5s
DLV T Lat 33.23 237 P **P 02 45 46.0 +1.5**
comp=Z,140nm,1.1s
TNTI Ternate 33.47 197 P **P 02 45 45.8 -0.6**
TNTI Ternate 33.47 197 P **P 02 45 46.8 +0.4**
comp=Z,3μmcomp=Z,3μmcomp=Z,82nm,1.9s
TNTI Ternate 33.47 197 P **P 02 45 47.3 +0.9**
comp=Z,82nm,1.8s
GOMU GeErMu 34.10 287 P **P 02 45 52.3 +0.2**
GOMU pP pP 02 45 55.9 -0.8
GOMU sP pwP 02 45 59.7 +0.5
GOMU S **S 02 51 14.6 -3.0**
GOMU pmax pmax
comp=Z,160nm,1.4s
GOMU pmax pmax
comp=Z,2μm,7.2s
GOMU LR LR
comp=Z,30μm,13.0s
GOMU LR LR
comp=Z,20μm,13.8s
GOMU LR LR
comp=Z,27μm,13.9s
SWI Sorong 34.35 189 P **P 02 45 53.7 -0.2**
comp=Z,6μmcomp=Z,4μmcomp=Z,74nm,1.1s
SIJI Sorong 34.35 189 P **P 02 45 54.0 0.0**
comp=Z,26nm,0.9s,baz=2.0,slow=11,SNR=13
SIJI S **S 02 51 19.5 -1.5**
comp=Z,4.5nm,0.5s,baz=164,slow=23,SNR=1.3
LBMI Labuha 34.80 196 P **P 02 45 58.7 +0.8**
comp=Z,3μmcomp=Z,2μmcomp=Z,60nm,1.5s
GTOI Gorontalo 34.87 204 P **P 02 45 57.3 -1.1**
comp=Z,2μmcomp=Z,1μmcomp=Z,66nm,1.2s
TOLI2 Tolitoli 35.24 208 P **P 02 46 00.9 -0.8**
TOLI2 Tolitoli 35.24 208 P **P 02 46 01.1 -0.6**
comp=Z,48nm,1.7s

MRSI Marisa 35.39 206 P **P** **02 46 02.9 0.0**
comp=Z,3µmcomp=Z,113nm,1.3s
JAY Jayapura 35.88 173 P **P** **02 46 07.2 0.0**
comp=Z,32nm,1.1s,baz=309,slow=4.3,SNR=21
JAY S **S** **02 51 41.0 -3.6**
comp=Z,6.2nm,0.8s,baz=347,slow=16,SNR=1.8
JAY LR LR 02 57 53.9
comp=Z,9µm,20.8s,baz=356,slow=31
JAY Jayapura 35.88 173 P **P** **02 46 07.5 +0.3**
comp=Z,2µmcomp=Z,88nm,2.3s
GENI Genyem 35.90 174 P **P** **02 46 08.5 +1.2**
comp=Z,8µmcomp=Z,7µmcomp=Z,312nm,1.1s
GENI Genyem 35.90 174 P **P** **02 46 08.5 +1.2**
comp=Z,314nm,1.1s
FAKI Fak Fak 36.26 187 P **P** **02 46 09.9 -0.5**
FAKI IAmb IAmb 02 46 19.6
comp=Z,284nm,1.3s
FAKI Fak Fak 36.26 187 P **P** **02 46 11.4 +1.0**
comp=Z,218nm,2.6s
MPSI Mapaga 36.30 209 P **P** **02 46 10.7 0.0**
comp=Z,2µmcomp=Z,90nm,1.2s
CHTO Chiang Mai 36.40 256 P **P** **02 46 11.3 -0.4**
CHTO pmax pmax
comp=Z,206nm,1.4s
CHTO MLR MLR
comp=Z,31µm,19.0s
CHTO Chiang Mai 36.40 256 P **P** **02 46 11.3 -0.4**
CHTO Chiang Mai 36.40 256 P **P** **02 46 12.8 +1.1**
CHTO P **P** **02 46 12.8 +1.1**
CHTO S **S** **02 51 54.2 +1.6**
CHTO S **S** **02 51 54.2 +1.6**
CHTO Chiang Mai 36.40 256 ⇑P **P** **02 46 12.6 +0.9**
CHTO Chiang Mai 36.40 256 P **P** **02 46 12.3 +0.6**
comp=Z,85nm,2.5s
LUWI Luwuk 36.52 203 P **P** **02 46 13.1 +0.5**
LUWI Luwuk 36.52 203 P **P** **02 46 11.0 -1.6**
comp=Z,5µmcomp=Z,179nm,1.3s
LUWI Luwuk 36.52 203 P **P** **02 46 15.4 +2.8**
comp=Z,141nm,1.3s
SANI Sanana 36.53 198 P **P** **02 46 11.2 -1.5**
comp=Z,4µmcomp=Z,3µmcomp=Z,78nm,1.1s
SANI Sanana 36.53 198 P **P** **02 46 12.5 -0.2**
comp=Z,78nm,1.1s
CM31 Chiang Mai Arr 36.59 256 P **P** **02 46 13.4 +0.2**
CMAR Chiang Mai Arr 36.59 256 P **P** **02 46 14.4 +1.1**
comp=Z,16nm,0.8s,baz=48,slow=6.1,SNR=108
CMAR LR LR 03 02 52.9
comp=Z,16µm,19.7s,baz=65,slow=39
CMAR Chiang Mai Arr 36.59 256 *ce*P **P** **02 46 14.3 +1.0**
CMAR pmax pmax
comp=Z,16nm,0.8s
APSI Ampana 36.78 205 P **P** **02 46 15.0 +0.2**
comp=Z,2µmcomp=Z,153nm,1.2s
MOKO MOKOCHONG 36.81 270 *e*P **P** **02 46 15.4 +0.2**
MSAI Masohi 37.15 192 P **P** **02 46 19.3 +1.3**
comp=Z,24nm,1.2s
ITAN ITANAGAR 37.19 272 *e*P **P** **02 46 19.2 +0.9**
KOHI KOHIMA 37.37 270 *e*P **P** **02 46 18.2 -1.9**
AAI Ambon 37.62 193 P **P** **02 46 23.6 +1.6**
comp=Z,5µmcomp=Z,218nm,1.3s
BNDI Bandanaira 38.14 191 P **P** **02 46 29.4 +3.1**
SBUM Sibu 38.15 221 P **P** **02 46 26.4 -0.1**
LSA Lhasa 38.52 277 P **P** **02 46 29.9 -0.2**
LSA pmax pmax
comp=Z,179nm,1.1s
LSA MLR MLR
comp=Z,22µm,19.0s
LSA Lhasa 38.52 277 P **P** **02 46 29.9 -0.2**
LSA IAMs_20 IAMs_20 03 04 13.5
comp=Z,22µm,19.0s
LSA Lhasa 38.52 277 P **P** **02 46 31.6 +1.5**
LSA S **S** **02 52 34.2 +8.7**
LSA pmax pmax
comp=Z,170nm,1.4s
LSA LR LR
comp=Z,22µm,15.7s
LSA LR LR
comp=Z,35µm,13.5s
LSA LR LR
comp=Z,32µm,15.0s
LSA Lhasa 38.52 277 *i* P **P** **02 46 31.2 +1.1**
SNR=20
TIXI Tiksi 38.60 356 P **P** **02 46 29.0 -0.7**
comp=Z,142nm,0.9s,baz=89,slow=22,SNR=341
TIXI S **S** **02 52 22.6 -2.2**
comp=Z,0.8nm,0.3s,baz=87,slow=24,SNR=1.4
TIXI Tiksi 38.60 356 *ce*P **P** **02 46 28.6 -1.0**
TIXI pmax pmax
comp=Z,437nm,1.7s
TIXI MLR MLR
comp=Z,29µm,14.0s
TIXI Tiksi 38.60 356 P **P** **02 46 28.7 -1.0**
TIXI IAmb IAmb 02 46 29.8
comp=Z,194nm,0.9s
TIXI Tiksi 38.60 356 ⇑P **P** **02 46 28.8 -0.8**
BILL Bilibino 38.77 17 *d* iP **P** **02 46 31.1 0.0**
BILL *e**SP **pP** **02 46 36.3 +0.6**
BILL *e* 02 46 39.8
BILL *e* 02 48 08.7
BILL *i* S **S** **02 52 27.0 -0.4**
BILL *i* 02 52 34.3
BILL pmax pmax
comp=Z,667nm,2.5s
BILL MLR MLR
comp=Z,19µm,16.0s
BILL Bilibino 38.77 17 P **P** **02 46 31.3 +0.2**
BILL IAmb IAmb 02 46 49.8
comp=Z,621nm,1.5s
BILL IAMs_20 IAMs_20 03 02 03.6
comp=Z,16µm,20.0s
SILR SILCHAR 38.82 269 *e*P **P** **02 46 33.0 +0.9**
WMQ Urumqi 38.99 300 ⇑ *i* P **P** **02 46 33.8 +0.4**
WMQ pP pwP 02 46 41.1 +0.6
WMQ sP sP 02 46 48.4 +8.6
WMQ PP **PnPn** **02 48 05.6 +0.4**
WMQ S **S** **02 52 32.4 +0.8**
WMQ pmax pmax
comp=Z,500nm,2.1s
WMQ pmax pmax
comp=Z,7µm,3.7s
WMQ LR LR
comp=Z,46µm,15.5s
WMQ LR LR
comp=Z,37µm,13.7s
WMQ LR LR
comp=Z,18µm,17.3s
BKB Balikpapan 39.00 212 P **P** **02 46 35.5 +1.9**
GUWA GUWAHATI 39.22 272 *e*P **P** **02 46 34.3 -1.2**
SHL Shillong 39.29 271 P **P** **02 46 35.6 -0.7**
SHL pmax pmax
comp=Z,94nm,0.8s
SHL Shillong 39.29 271 P **P** **02 46 35.6 -0.7**
SHL Shillong 39.29 271 *e*P **P** **02 46 35.8 -0.5**
SHL Shillong 39.29 271 P **P** **02 46 36.2 -0.1**
SNR=46
TTSI Tana Toraja 39.42 207 P P 02 46 31.9 -5.2
MIDW Midway 39.80 85 P **P** **02 46 40.6 +0.3**
ATKA Atka Island 39.98 47 P **P** **02 46 42.2 +0.8**
KSM Kuching 40.03 223 P **P** **02 46 42.7 +0.4**
KSM Kuching 40.03 223 P **P** **02 46 44.4 +2.1**
RABL Rabaul 40.19 155 P **P** **02 46 42.4 -1.1**
SPSI Sidrap Palu 40.29 206 P **P** **02 46 43.9 -0.4**
comp=Z,1µmcomp=Z,46nm,1.3s
AGT Agartala 40.48 269 *e*P **P** **02 46 46.8 +0.9**
STKI Sintang 40.54 220 P **P** **02 46 47.7 +1.2**
BNSI Bone 40.57 205 P **P** **02 46 48.6 +2.0**
comp=Z,3µmcomp=Z,103nm,2.9s
ZSN Zaisan 40.97 306 *e*P **P** **02 46 47.6 -2.1**
ZSN *eS **S** **02 53 00.8 -0.2**
ZSN pmax pmax
comp=Z,970nm,2.5s
ZSN Zaisan 40.97 306 *e*P **P** **02 46 47.6 -2.1**
comp=Z,970nm,2.5s,baz=306
ZSN *eS **S** **02 53 00.8 -0.2**
baz=306
KAPI Kappang 41.26 206 P **P** **02 46 52.6 +0.2**
KAPI pmax pmax
comp=Z,209nm,1.3s
KAPI Kappang 41.26 206 P **P** **02 46 52.6 +0.2**
KAPI Kappang 41.26 206 P **P** **02 46 52.5 +0.2**
KAPI P **P** **02 46 52.5 +0.2**
KAPI S **S** **02 53 03.7 -2.1**
KAPI S **S** **02 53 03.7 -2.1**
KAPI Kappang 41.26 206 ⇑P **P** **02 46 52.6 +0.2**
KAPI Kappang 41.26 206 P **P** **02 46 53.5 +1.1**

GTK Tadong 41.41 275 *e*P **P** **02 46 54.2 +0.5**
BKSI Bulukumba 41.42 205 P **P** **02 46 54.2 +0.6**
comp=Z,2µmcomp=Z,104nm,1.2s
ZAA0 Zalesovo Array 41.53 316 P **P** **02 46 53.2 -1.0**
ZALV Zalesovo Beam 41.53 316 P **P** **02 46 53.3 -0.9**
comp=Z,21nm,0.9s,baz=100,slow=6.2,SNR=92
ZALV PcP **PcP** **02 48 51.0 -0.4**
comp=Z,11nm,0.7s,baz=134,slow=3.1,SNR=6.2
ZALV LR LR 03 02 55.1
comp=Z,8µm,18.5s,baz=91,slow=34
BBKI Banjar Baru 41.88 213 P **P** **02 46 57.7 +0.2**
comp=Z,3µmcomp=Z,92nm,1.0s
SRIT Nakonsritamara 41.91 242 P **P** **02 46 58.3 +0.5**
TAPN Taplejung 42.14 275 *e*P **P** **02 46 58.8 -1.1**
comp=Z,301nm,1.2s
ODAN Odare 42.58 275 *e*P **P** **02 47 01.4 -2.0**
MK31 Makanchi Array 42.73 305 *i* P **P** **02 47 04.5 +0.3**
MKAR Makanchi Array 42.73 305 P **P** **02 47 04.5 +0.3**
comp=Z,55nm,0.8s,baz=91,slow=10,SNR=490
MKAR S **S** **02 53 24.0 -3.1**
comp=Z,1.0nm,1.1s,baz=102,slow=30,SNR=1.1
MKAR LR LR 03 06 37.0
comp=Z,17µm,18.2s,baz=93,slow=39
MKAR PKPPKP P'P'df 03 19 00.4 -8.6
comp=Z,0.3nm,0.7s,baz=242,slow=2.6,SNR=3.5
MKAR Makanchi Array 42.73 305 P **P** **02 47 04.1 -0.1**
MAKZ Makanchi 42.95 305 P **P** **02 47 06.3 +0.4**
MAKZ pmax pmax
comp=Z,291nm,1.3s
MAKZ MLR MLR
comp=Z,25µm,20.0s
MAKZ Makanchi 42.95 305 P **P** **02 47 06.3 +0.4**
MAKZ IAmb IAmb 02 47 07.2
comp=Z,291nm,1.2s
MAKZ Makanchi 42.95 305 ⇑P **P** **02 47 04.8 -1.1**
JIRN Jiri 43.30 276 *e*P **P** **02 47 08.5 -0.9**
NIKH Nikolski High 43.30 46 P **P** **02 47 07.8 -0.8**
baz=266
KULM Kulim 43.38 238 P **P** **02 47 10.7 +1.0**
KULM IAMs_20 IAMs_20 03 06 26.1
comp=Z,12µm,20.0s
GUN Gumba 43.47 277 *e*P **P** **02 47 09.5 -1.3**
IPM Ipoh 43.69 237 IAMs_20 IAMs_20 03 06 54.2
comp=Z,17µm,20.0s
IPM Ipoh 43.69 237 P **P** **02 47 14.5 +2.3**
PMG Port Moresby 43.71 165 *ce*P **P** **02 47 12.6 +0.3**
PMG pmax pmax
comp=Z,84nm,1.7s
PMG Port Moresby 43.71 165 P **P** **02 47 11.7 -0.5**
PMG Port Moresby 43.71 165 P **P** **02 47 12.8 +0.5**
MYKOM Kota Tinggi 43.75 231 P **P** **02 47 13.3 +0.6**
MMRI Maumere 43.85 200 P **P** **02 47 13.1 -0.3**
MMRI Maumere 43.85 200 ⇓P **P** **02 47 14.6 +1.2**
MMRI Maumere 43.85 200 P **P** **02 47 14.8 +1.4**
comp=Z,4µmcomp=Z,4µmcomp=Z,97nm,1.3s
MMRI Maumere 43.85 200 P **P** **02 47 14.8 +1.4**
PKI Pulchoki 43.98 277 *e*P **P** **02 47 13.4 -1.4**
PKIN Phulchoki 43.99 277 *e*P **P** **02 47 13.1 -1.7**
GAMB Gambell 44.00 30 P **P** **02 47 15.1 +1.1**
GAMB IAmb IAmb 02 47 28.9
comp=Z,299nm,1.4s
GAMB Gambell 44.00 30 P **P** **02 47 15.4 +1.4**
baz=252,SNR=5.8
GAMB S **S** **02 53 48.4 +3.4**
baz=252
KKN Kakani 44.01 277 *e*P **P** **02 47 13.7 -1.3**
SEM Semipalatinsk 44.06 310 *e*P **P** **02 47 10.3 -4.7**
SEM pmax pmax
comp=Z,308nm,1.7s
SEM MLR MLR
comp=Z,21µm,13.0s
SEM Semipalatinsk 44.06 310 *e*P **P** **02 47 10.3 -4.7**
comp=Z,308nm,1.7s,baz=310
SEM LR LR 03 04 35.8
comp=Z,21µm,12.7s,baz=310
DMN Daman 44.22 277 *e*P **P** **02 47 15.7 -1.0**
DGPR DIGLIPUR 44.30 254 *e*P **P** **02 47 17.5 +0.5**
DGPR IAmb IAmb 02 47 27.5
comp=Z,208nm,1.1s
GKN Gorkha 44.47 278 *e*P **P** **02 47 17.0 -1.6**
BATI Baumata 44.95 198 P **P** **02 47 23.6 +1.3**
comp=Z,2µmcomp=Z,2µmcomp=Z,68nm,1.2s
PDGK Podgornoye 44.97 300 P **P** **02 47 22.0 -0.4**
BOK Bokaro 45.00 271 *e*P **P** **02 47 22.8 +0.1**
BOK IAmb IAmb 02 47 32.5
comp=Z,103nm,1.3s
SHLS Shalkode 45.01 300 *e*P P 02 47 16.6 -6.1
SHLS pmax pmax
comp=Z,442nm,2.6s
SHLS Shalkode 45.01 300 *e*P P 02 47 16.7 -6.0
comp=Z,442nm,2.6s,baz=300
NRIK Noril'sk 45.03 338 P **P** **02 47 21.9 -0.3**
comp=Z,133nm,1.0s,baz=116,slow=8.6,SNR=220
NRIK S **S** **02 53 55.5 -4.5**
comp=Z,1.0nm,0.3s,baz=301,slow=20,SNR=1.0
NRIK LR LR 03 07 14.1
comp=Z,14µm,19.8s,baz=115,slow=38
NRIK Noril'sk 45.03 338 *ce*P **P** **02 47 21.6 -0.7**
NRIK pmax pmax
comp=Z,628nm,2.0s
NRIK MLR MLR
comp=Z,51µm,15.0s
NRIK Noril'sk 45.03 338 P **P** **02 47 21.5 -0.7**
DANN Dangsing 45.08 278 *e*P **P** **02 47 22.3 -1.3**
comp=Z,3µm,1.8s
KURK Kurchatov 45.10 311 *ce*P **P** **02 47 22.3 -0.8**
KURK pmax pmax
comp=Z,419nm,1.7s
KURK Kurchatov 45.10 311 P **P** **02 47 22.2 -0.8**
KURK IAmb IAmb 02 47 23.4
comp=Z,362nm,1.4s
KURK Kurchatov 45.10 311 P **P** **02 47 22.5 -0.5**
KURK P **P** **02 47 22.5 -0.5**
KURK S **S** **02 54 01.3 -0.1**
KURK S **S** **02 54 01.3 -0.1**
KURK Kurchatov 45.10 311 ⇑P **P** **02 47 22.4 -0.6**
KURBB Kurchatov Arra 45.16 310 P **P** **02 47 23.0 -0.6**
comp=Z,92nm,1.2s,baz=90,slow=8.3,SNR=301
KURBB PP PP 02 49 21.2 +12
comp=Z,9.1nm,1.0s,baz=84,slow=10,SNR=4.0
KURBB S **S** **02 54 03.3 +1.0**
comp=Z,0.4nm,0.5s,baz=76,slow=31,SNR=2.0
KURBB Kurchatov Arra 45.16 310 P **P** **02 47 22.6 -0.9**
PBA Port Blair 45.31 252 P **P** **02 47 25.7 +0.5**
PBA IAmb IAmb 02 47 40.8
comp=Z,144nm,1.1s
PBA Port Blair 45.31 252 ⇓*e*P **P** **02 47 27.3 +2.1**
PBA IAmb IAmb 02 47 40.5
comp=Z,118nm,1.1s
PBA Port Blair 45.31 252 P **P** **02 47 25.2 0.0**
SNR=6.6
UZB Uzunbulak 45.33 300 *e*P **P** **02 47 22.5 -2.7**
UZB *eS **S** **02 54 04.5 -0.9**
UZB pmax pmax
comp=Z,802nm,3.2s
UZB Uzunbulak 45.33 300 *e*P **P** **02 47 22.6 -2.7**
comp=Z,802nm,3.2s,baz=300
UZB *eS **S** **02 54 04.5 -0.9**
baz=300
KOLN Koldanda 45.41 278 *e*P **P** **02 47 24.8 -1.3**
comp=Z,2µm,1.8s
KMMI Kalianget 45.45 212 P **P** **02 47 27.5 +1.3**
comp=Z,2µmcomp=Z,133nm,1.4s
PLAI Plampang 45.51 206 P **P** **02 47 26.4 -0.2**
comp=Z,3µmcomp=Z,2µmcomp=Z,96nm,1.2s
PLAI Plampang 45.51 206 P **P** **02 47 25.7 -0.9**
KPKS Kokpek 45.54 300 *e*P **P** **02 47 24.1 -2.7**
KPKS pmax pmax
comp=Z,798nm,3.2s
KPKS Kokpek 45.54 300 *e*P **P** **02 47 24.2 -2.7**
comp=Z,798nm,3.2s,baz=300
TDK Taldyqorghan 45.56 303 *e*P **P** **02 47 24.6 -2.2**
TDK Taldyqorghan 45.56 303 *e*P **P** **02 47 24.6 -2.2**
baz=302
ZHN Zhinishke 45.76 300 *e*P **P** **02 47 25.6 -2.9**
ZHN pmax pmax
comp=Z,432nm,3.2s
ZHN Zhinishke 45.76 300 *e*P **P** **02 47 25.7 -2.9**
comp=Z,432nm,3.2s,baz=300
SATY Saty 45.79 300 *e*P **P** **02 47 26.2 -2.6**
SATY pmax pmax
comp=Z,81nm,1.7s
SATY Saty 45.79 300 *e*P **P** **02 47 26.3 -2.6**
comp=Z,81nm,1.7s,baz=300
PYUN Piuthan 45.80 278 *e*P **P** **02 47 27.8 -1.4**
comp=Z,2µm,1.5s

SRBI Singaraja 45.84 210 P **P** **02 47 31.1 +1.8**
comp=Z,3µmcomp=Z,2µmcomp=Z,122nm,1.0s
KDU Kakadu 45.91 185 ⇓P **P** **02 47 29.4 -0.3**
KDU Kakadu 45.91 185 P **P** **02 47 30.6 +0.9**
ABJI Asem Bagus 46.00 211 P **P** **02 47 32.0 +1.5**
comp=Z,4µmcomp=Z,3µmcomp=Z,140nm,1.2s
ARXS Arharly 46.06 302 *e*P **P** **02 47 30.8 -0.1**
TNA Tin City 46.08 28 P **P** **02 47 32.3 +1.7**
baz=254
TNA S **S** **02 54 17.6 +2.4**
baz=254
LHMI Lhok Sumawe 46.10 241 P **P** **02 47 32.2 +0.8**
comp=Z,8µmcomp=Z,5µmcomp=Z,200nm,1.0s
LHMI Lhok Sumawe 46.10 241 P **P** **02 47 33.9 +2.5**
MTN Manton Dam 46.18 187 P **P** **02 47 31.2 -0.8**
MTN IAmb IAmb 02 47 48.1
comp=Z,270nm,1.4s
MTN Manton Dam 46.18 187 ⇑P **P** **02 47 31.1 -0.8**
MTN Manton Dam 46.18 187 P **P** **02 47 32.1 +0.2**
TBJI Tambak Boyo 46.23 215 P P 02 47 48.2 +16
PSI Prapat 46.35 237 LR LR 03 08 23.1
comp=Z,13µm,19.6s,baz=29,slow=38
TARG Taragay, Kyrgy 46.44 298 IAmb IAmb 02 47 54.7
comp=Z,207nm,1.1s
BWNR Bhubaneshwar 46.57 267 *e*P **P** **02 47 35.3 +0.3**
FALS False Pass 46.62 44 P **P** **02 47 34.0 -1.0**
baz=268
JAGI Jajag, Banyuwa 46.64 211 P **P** **02 47 36.0 +0.5**
JAGI Jajag, Banyuwa 46.64 211 ⇓P **P** **02 47 35.5 -0.1**
JAGI Jajag, Banyuwa 46.64 211 P **P** **02 47 36.1 +0.5**
comp=Z,2µmcomp=Z,50nm,1.1s
KCSI Kotacane, Aceh 46.66 239 P **P** **02 47 34.8 -1.1**
comp=Z,1µmcomp=Z,50nm,1.9s
BKNI Bangkinang 46.69 233 ⇑P **P** **02 47 36.7 +0.7**
BKNI Bangkinang 46.69 233 P P 02 47 46.0 +10
BKNI Bangkinang 46.69 233 P **P** **02 47 37.9 +1.9**
CHKK Chushkaly 46.70 301 *e*P **P** **02 47 33.1 -2.8**
CHKK Chushkaly 46.70 301 *e*P **P** **02 47 33.1 -2.8**
baz=301
MDOK Medeo 46.76 300 P **P** **02 47 37.2 +0.7**
MDOK Medeo 46.76 300 *e*P **P** **02 47 33.8 -2.8**
baz=300
MDOK *eS **S** **02 54 25.3 -0.6**
baz=300
MDOK LR LR 03 06 52.1
comp=Z,20µm,13.9s,baz=300
GMJI Gumukmas 46.77 212 P **P** **02 47 37.2 +0.6**
comp=Z,2µmcomp=Z,60nm,1.1s
KNDC Almaty 46.81 300 P **P** **02 47 37.8 +1.0**
KDJ Kajisay 46.83 299 P **P** **02 47 36.8 -0.3**
KDJ pmax pmax
comp=Z,61nm,1.0s
KDJ Kajisay 46.83 299 P **P** **02 47 36.8 -0.3**
AAA Alma-Ata 46.85 300 *e*P **P** **02 47 38.1 +1.0**
AAA Alma-Ata 46.85 300 *e*P **P** **02 47 35.6 -1.5**
comp=Z,279nm,1.3s,baz=300
AAA LR LR 03 07 23.1
comp=Z,23µm,13.2s,baz=300
ANM Nome 46.88 30 IAMs_20 IAMs_20 03 07 33.6
comp=Z,14µm,20.0s
ANM Nome 46.88 30 P **P** **02 47 38.8 +1.8**
baz=257,SNR=9.9
ANM S **S** **02 54 30.0 +3.3**
baz=257
SMRI Semarang 47.11 216 P **P** **02 47 39.5 +0.2**
SMRI IAmb IAmb 02 48 07.5
comp=Z,247nm,1.4s
SMRI Semarang 47.11 216 P P 02 47 51.5 +12
KUU Kurty 47.16 301 *e*P **P** **02 47 35.8 -3.7**
KUU *eS **S** **02 54 29.3 -2.0**
KUU pmax pmax
comp=Z,224nm,1.6s
KUU MLR MLR
comp=Z,12µm,13.0s
KUU Kurty 47.16 301 *e*P **P** **02 47 35.9 -3.7**
comp=Z,224nm,1.6s,baz=301
KUU *eS **S** **02 54 29.4 -2.0**
baz=301
KUU LR LR 03 07 04.7
comp=Z,12µm,12.5s,baz=301
MNSI Mandailing Nat 47.33 235 P **P** **02 47 41.1 +0.1**
comp=Z,53nm,1.2s
COEN Coen 47.46 171 P **P** **02 47 42.5 +0.5**
COEN IAmb IAmb 02 47 53.3
comp=Z,121nm,1.1s
COEN Coen 47.46 171 ⇓P **P** **02 47 42.6 +0.7**
COEN Coen 47.46 171 P **P** **02 47 43.3 +1.4**
comp=Z,122nm,2.1s
ULHL Ulahol 47.50 299 P **P** **02 47 43.0 +0.6**
SNR=7.4
BOOM Boomskoye usch 47.67 300 P **P** **02 47 43.8 +0.1**
BOOM pmax pmax
comp=Z,111nm,1.3s
BOOM Boomskoye usch 47.67 300 P **P** **02 47 43.8 +0.1**
PPI Padang Panjang 47.70 233 P **P** **02 47 44.0 +0.1**
comp=Z,18nm,0.9s
ALBI Allahabad 47.81 275 *e*P **P** **02 47 43.8 -0.9**
UGM Wanagama 47.82 216 P **P** **02 47 45.1 +0.3**
comp=Z,3µmcomp=Z,4µmcomp=Z,275nm,1.2s
UGM Wanagama 47.82 216 P **P** **02 47 44.9 +0.1**
YOGI Yogyakarta 47.85 216 P P 02 47 53.5 +8.5
TKM2 Tokmak 2 47.85 300 P **P** **02 47 46.0 +1.0**
SNR=157
TKM2 Tokmak 2 47.85 300 *i* P **P** **02 47 45.8 +0.7**
TKM2 pmax pmax
comp=Z,131nm,1.4s
HNR Honiara 48.07 148 LR LR 03 06 14.3
comp=Z,8µm,21.8s,baz=321,slow=34
KSH Kashi 48.23 296 P **P** **02 47 51.6 +3.7**
KSH pP pwP 02 47 57.2 +2.1
KSH sP sP 02 48 00.6 +6.2
KSH PP **PP** **02 49 43.5 +3.3**
KSH S **S** **02 54 46.9 +0.1**
KSH SS **SS** **02 58 14.8 -1.1**
KSH pmax pmax
comp=Z,150nm,1.8s
KSH pmax pmax
comp=Z,5µm,5.1s
KSH LR LR
comp=Z,34µm,18.6s
KSH LR LR
comp=Z,17µm,16.8s
KSH LR LR
comp=Z,24µm,21.9s
KLSI 48.25 225 P **P** **02 47 49.2 +1.0**
comp=Z,2µmcomp=Z,79nm,2.0s
KLI Kotabumi 48.32 224 P **P** **02 47 50.2 +1.6**
comp=Z,4µmcomp=Z,9µmcomp=Z,228nm,1.3s
SDPT Sand Point 48.32 43 P **P** **02 47 48.6 +0.4**
baz=270
GSI Gunungsitoli 48.35 237 P **P** **02 47 49.0 0.0**
GSI IAMs_20 IAMs_20 03 09 36.9
comp=Z,17µm,20.0s
GSI Gunungsitoli 48.35 237 P **P** **02 47 49.0 0.0**
comp=Z,6µmcomp=Z,9µmcomp=Z,575nm,1.2s
GSI Gunungsitoli 48.35 237 P **P** **02 47 48.7 -0.3**
KBK Karagaybulak 48.37 300 P **P** **02 47 49.8 +0.8**
SNR=52
LEM Lembang 48.38 220 LR LR 03 08 10.2
comp=Z,5µm,21.9s,baz=14,slow=36
MDSI Maura Dua 48.42 225 P **P** **02 47 49.5 +0.1**
comp=Z,2µmcomp=Z,92nm,1.5s
CHMS Chumysh 48.45 300 P **P** **02 47 50.0 +0.5**
SNR=40
SGDS Sogindy 48.46 301 *e*P **P** **02 47 46.3 -3.3**
SGDS Sogindy 48.46 301 *e*P **P** **02 47 46.4 -3.3**
baz=301
BLSI Bandar Lampung 48.50 223 P **P** **02 47 51.5 +1.4**
comp=Z,5µmcomp=Z,216nm,1.0s
MASI Maura Aman, Be 48.54 228 P **P** **02 47 51.5 +1.0**
comp=Z,6µmcomp=Z,320nm,1.1s
FRU1 Bishkek 48.57 300 IAmb IAmb 02 47 51.9
comp=Z,301nm,1.4s
USP Ospenovka 48.58 301 P **P** **02 47 50.9 +0.4**
SNR=89
BTLS Baital 48.62 303 *e*P **P** **02 47 47.3 -3.4**
BTLS *eS **S** **02 54 51.2 -0.7**
BTLS pmax pmax
comp=Z,77nm,1.0s
BTLS Baital 48.62 303 *e*P **P** **02 47 47.3 -3.4**
comp=Z,77nm,1.0s,baz=303
BTLS *eS **S** **02 54 51.3 -0.7**
baz=303
DBJI Dramaga 48.63 221 P **P** **02 47 51.9 +0.9**
comp=Z,24µmcomp=Z,201nm,1.9s
RDOG Red Dog Mine 48.64 26 P **P** **02 47 51.6 +1.0**

baz=257,SNR=30
RDOG S **S** **02 54 53.6 +1.9**
baz=257
AAK Ala-Archa 48.70 300 P **P** **02 47 52.0 +0.4**
comp=Z,24nm,0.7s,baz=108,slow=5.6,SNR=100
AAK LR LR 03 09 08.6
comp=Z,21µm,18.3s,baz=86,slow=37
AAK Ala-Archa 48.70 300 *ce*P **P** **02 47 51.7 +0.1**
AAK pmax pmax
comp=Z,171nm,1.7s
AAK Ala-Archa 48.70 300 P **P** **02 47 51.5 -0.1**
AAK IAmb IAmb 02 47 53.8
comp=Z,190nm,1.5s
AAK Ala-Archa 48.70 300 P **P** **02 47 52.2 +0.6**
AAK P **P** **02 47 52.2 +0.6**
AAK S **S** **02 54 57.1 +3.6**
AAK S **S** **02 54 57.1 +3.6**
AAK Ala-Archa 48.70 300 ⇑P **P** **02 47 52.0 +0.4**
AAK ⇑P **P** **02 47 52.0 +0.4**
AAK Ala-Archa 48.70 300 *i* P **P** **02 47 51.8 +0.2**
SNR=68
UCH Uchtor 48.76 299 P **P** **02 47 53.5 +1.1**
SNR=106
BLSP Bilaspur 48.84 271 *e*P **P** **02 47 51.6 -1.2**
LWLI Liwa 48.91 225 P **P** **02 47 52.6 -0.8**
comp=Z,152nm,0.8s
BRZS Berezniki 48.94 310 *e*P **P** **02 47 49.1 -4.0**
BRZS pmax pmax
comp=Z,56nm,1.4s
BRZS Berezniki 48.94 310 *e*P **P** **02 47 49.1 -4.0**
comp=Z,56nm,1.4s,baz=310
RAGD RAYAGADA 49.01 267 *e*P **P** **02 47 54.8 +0.8**
RAGD IAmb IAmb 02 48 06.9
comp=Z,65nm,0.9s
CNJI Cibinong 49.05 220 P P 02 48 05.1 +11
KASI Kota Agung 49.06 224 P **P** **02 47 53.5 -0.8**
comp=Z,1µmcomp=Z,63nm,1.1s
DDI Dehra Dun 49.11 283 *e*P **P** **02 47 54.3 -0.4**
EKS2 Erkin-Say 49.22 300 P **P** **02 47 55.8 +0.3**
SNR=36
SISI Saibi 49.22 233 P P 02 48 06.1 +11
KNRA Kununurra 49.27 190 P **P** **02 47 55.9 +0.1**
KNRA Kununurra 49.27 190 P **P** **02 47 56.1 +0.3**
OTUK Ortayu 49.34 308 P **P** **02 47 56.3 0.0**
SMLA Simla 49.56 285 *e*P **P** **02 47 57.3 -0.8**
SMLA IAmb IAmb 02 48 07.1
comp=Z,74nm,0.8s
PPSI Pulau Pagai 49.68 231 P **P** **02 48 00.3 +1.2**
comp=Z,3µmcomp=Z,198nm,1.1s
BHK Bhakra 50.08 285 *e*P **P** **02 48 02.4 +0.4**
BHK IAmb IAmb 02 48 16.6
comp=Z,838nm,1.7s
BRVK Borovoye 50.16 314 *ce*P **P** **02 48 01.7 -0.7**
BRVK pmax pmax
comp=Z,371nm,2.5s
BRVK Borovoye 50.16 314 P **P** **02 48 01.9 -0.5**
BRVK Borovoye 50.16 314 P **P** **02 48 02.3 -0.1**
BRVK S **S** **02 55 13.6 +0.3**
THN Thein Dam 50.31 287 *e*P **P** **02 48 02.7 -1.1**
THN IAmb IAmb 02 48 09.0
comp=Z,208nm,1.3s
NDI New Delhi 50.36 282 *e*P **P** **02 48 03.5 -0.7**
JHNI Jhansi 50.47 277 *e*P **P** **02 48 01.5 -3.6**
GCSA Galena City Sc 50.52 31 P **P** **02 48 05.4 +0.6**
baz=265
GCSA S **S** **02 55 19.1 +1.3**
baz=265
TTA Tatalina 50.78 33 IAmb IAmb 02 48 26.5
comp=Z,207nm,1.4s
TTA Tatalina 50.78 33 ⇑P **P** **02 48 08.0 +0.9**
TTA Tatalina 50.78 33 P **P** **02 48 07.9 +0.9**
baz=268,SNR=17
TTA S **S** **02 55 24.2 +2.3**
baz=268
DZA Taraz 50.93 301 *e*P **P** **02 48 05.4 -3.0**
DZA pmax pmax
comp=Z,124nm,2.3s
DZA Taraz 50.93 301 *e*P **P** **02 48 05.4 -3.0**
comp=Z,124nm,2.3s,baz=301
CHIR Chirikof Islan 51.06 42 IAMs_20 IAMs_20 03 12 52.5
comp=Z,10µm,18.0s
CHIR Chirikof Islan 51.06 42 P **P** **02 48 09.5 +0.4**
baz=274
P18K Big Mountain, 51.12 38 IAMs_20 IAMs_20 03 07 47.9
comp=Z,11µm,20.0s
P18K Big Mountain, 51.12 38 P **P** **02 48 10.5 +1.0**
baz=271
P18K S **S** **02 55 29.5 +2.9**
baz=271
KUDL Kundal 51.15 281 *e*P **P** **02 48 09.5 -0.6**
L19K White Mountain 51.30 34 IAmb IAmb 02 48 30.6
comp=Z,242nm,1.4s
L19K White Mountain 51.30 34 P **P** **02 48 12.3 +1.4**
baz=269,SNR=30
L19K S **S** **02 55 32.9 +3.9**
baz=269
DRK Karamyk 51.37 297 IAmb IAmb 02 48 14.6
comp=Z,245nm,1.5s
A21K Barrow 51.46 22 IAmb IAmb 02 48 13.7
comp=Z,160nm,0.9s
A21K Barrow 51.46 22 P **P** **02 48 12.8 +1.0**
baz=260,SNR=5.6
A21K S **S** **02 55 30.6 -0.1**
baz=260
N19K Bonanza Creek 51.47 36 P **P** **02 48 13.5 +1.2**
baz=271
N19K S **S** **02 55 35.2 +3.7**
baz=271
KKAR Karatay Array 51.48 301 P **P** **02 48 12.4 -0.1**
KKAR Karatay Array 51.48 301 P **P** **02 48 12.4 -0.1**
M19K Big River Lodg 51.52 34 IAmb IAmb 02 48 31.5
comp=Z,193nm,1.4s
M19K IAMs_20 IAMs_20 03 08 06.2
comp=Z,9µm,20.0s
M19K Big River Lodg 51.52 34 P **P** **02 48 13.8 +1.3**
baz=270,SNR=11
M19K S **S** **02 55 36.2 +4.3**
baz=270
O19K Port Alsworth 51.56 37 IAmb IAmb 02 48 30.1
comp=Z,197nm,1.1s
O19K Port Alsworth 51.56 37 P **P** **02 48 14.3 +1.5**
baz=271,SNR=9.7
O19K S **S** **02 55 36.9 +4.4**
baz=271
J20K Nowinta River 51.67 32 IAMs_20 IAMs_20 03 10 28.2
comp=Z,9µm,20.0s
J20K Nowinta River 51.67 32 P **P** **02 48 15.3 +1.7**
baz=268,SNR=68
J20K S **S** **02 55 37.3 +3.5**
baz=268
K20K Telida 51.68 33 IAmb IAmb 02 48 29.7
comp=Z,257nm,1.2s
K20K Telida 51.68 33 P **P** **02 48 15.2 +1.6**
baz=269,SNR=52
K20K S **S** **02 55 37.1 +3.0**
baz=269
MTSU Mount Surprise 51.72 170 P **P** **02 48 15.7 +1.3**
L20K Farewell, AK 51.76 34 P **P** **02 48 15.9 +1.7**
baz=270,SNR=14
L20K S **S** **02 55 39.7 +4.5**
baz=270
NIL Nilore 51.90 289 P **P** **02 48 16.3 +0.5**
NIL pmax pmax
comp=Z,53nm,1.0s
NIL Nilore 51.90 289 P **P** **02 48 16.3 +0.5**
Q19K Cape Douglas, 51.95 38 IAMs_20 IAMs_20 03 06 54.0
comp=Z,10µm,21.0s
Q19K Cape Douglas, 51.95 38 P **P** **02 48 14.8 -0.9**
baz=273
BTK Batken 51.96 297 P **P** **02 48 15.7 -0.5**
BTK pmax pmax
comp=Z,180nm,1.5s
BTK Batken 51.96 297 P **P** **02 48 15.7 -0.5**
BRLS Borolday 51.98 301 *e*P **P** **02 48 14.1 -2.1**
BRLS *e*S **S** **02 55 40.0 +1.3**
BRLS Borolday 51.98 301 *e*P **P** **02 48 14.1 -2.1**
baz=301
BRLS *e*S **S** **02 55 40.1 +1.3**
baz=301
IUG luzhnay 52.04 300 *e*P **P** **02 48 14.9 -1.8**
IUG luzhnay 52.04 300 *e*P **P** **02 48 14.9 -1.8**
baz=300
M20K Styx River 52.11 34 P **P** **02 48 18.5 +1.5**
baz=271,SNR=13
M20K S **S** **02 55 42.3 +2.1**
baz=271
P19K Oil Pt 52.13 37 IAmb IAmb 02 48 32.3
comp=Z,284nm,1.2s
P19K Oil Pt 52.13 37 P **P** **02 48 17.5 +0.4**
baz=273
OHAK Old Harbor 52.25 40 P **P** **02 48 17.4 -0.5**
baz=274
OHAK S **S** **02 55 42.3 +0.4**
baz=274
H21K Melozitna Rive 52.28 30 IAmb IAmb 02 48 37.7
comp=Z,425nm,1.5s
H21K IAMs_20 IAMs_20 03 12 11.5
comp=Z,11µm,18.0s
H21K Melozitna Rive 52.28 30 P **P** **02 48 19.7 +1.6**
baz=268,SNR=95
H21K S **S** **02 55 45.0 +2.6**
baz=268
BHPL Bhopal 52.30 275 *e*P **P** **02 48 18.0 -0.9**
BHPL IAmb IAmb 02 48 19.5
comp=Z,510nm,2.0s
O20K Slope Mountain 52.42 37 P **P** **02 48 19.0 -0.2**
baz=273
O20K S **S** **02 55 46.0 +1.6**
baz=273
CHUM Lake Minchumin 52.47 32 P **P** **02 48 21.3 +1.9**
baz=270,SNR=32
CHUM S **S** **02 55 47.7 +2.9**
baz=270
XMIS Christmas Isla 52.49 219 P **P** **02 48 21.1 +0.9**
PPLA Purkeypile 52.53 33 IAmb IAmb 02 48 35.5
comp=Z,285nm,1.3s
PPLA Purkeypile 52.53 33 P **P** **02 48 21.9 +1.7**
baz=271,SNR=24
PPLA S **S** **02 55 48.5 +2.5**
baz=271
CAST Castle Rocks 52.57 32 P **P** **02 48 21.7 +1.3**
baz=271,SNR=29
CAST S **S** **02 55 49.2 +2.8**
baz=271
KDAK Kodiak Island 52.58 40 P **P** **02 48 20.4 0.0**
KDAK pmax pmax
comp=Z,651nm,1.3s
KDAK Kodiak Island 52.58 40 P **P** **02 48 20.4 0.0**
KDAK Kodiak Island 52.58 40 IAMs_20 IAMs_20 03 07 59.8
comp=Z,10µm,22.0s
KDAK Kodiak Island 52.58 40 P **P** **02 48 20.9 +0.4**
baz=275
I21K Tanana 52.62 30 IAmb IAmb 02 48 39.9
comp=Z,250nm,1.2s
I21K IAMs_20 IAMs_20 03 11 33.3
comp=Z,9µm,20.0s
I21K Tanana 52.62 30 P **P** **02 48 22.3 +1.7**
baz=269,SNR=42
I21K S **S** **02 55 50.5 +3.7**
baz=269
HOM Homer 52.94 37 IAMs_20 IAMs_20 03 09 03.9
comp=Z,9µm,20.0s
WRAB Tennant Creek 52.99 182 *ce*P **P** **02 48 23.9 +0.1**
WRAB pmax pmax
comp=Z,187nm,1.3s
WRAB Tennant Creek 52.99 182 P **P** **02 48 23.9 +0.1**
WRAB IAmb IAmb 02 48 32.9
comp=Z,386nm,1.4s
WRAB Tennant Creek 52.99 182 P **P** **02 48 24.3 +0.5**
WB2 Warramunga Arr 53.00 182 IAmb IAmb 02 48 33.0
comp=Z,408nm,1.4s
WRA Warramunga Arr 53.00 182 P **P** **02 48 22.7 -1.2**
comp=Z,62nm,1.0s,baz=353,slow=7.5,SNR=87
WRA S **S** **02 55 44.7 -8.3**
comp=Z,0.7nm,1.0s,baz=7.1,slow=34,SNR=2.2
WR0 Warramunga Arr 53.01 182 P **P** **02 48 24.0 +0.1**
BPAW Bear Paw Mtn. 53.05 32 IAMs_20 IAMs_20 03 11 31.8
comp=Z,10µm,20.0s
BPAW Bear Paw Mtn. 53.05 32 P **P** **02 48 25.2 +1.3**
baz=271,SNR=22
BPAW S **S** **02 55 55.4 +2.5**
baz=271
KTH Kantishna Hill 53.09 32 IAmb IAmb 02 48 40.0
comp=Z,282nm,1.4s
MLY Manley 53.15 30 IAmb IAmb 02 48 45.1
comp=Z,324nm,1.4s
MLY IAMs_20 IAMs_20 03 12 53.1
comp=Z,9µm,18.0s
MLY Manley 53.15 30 P **P** **02 48 26.3 +1.7**
baz=271,SNR=59
MLY S **S** **02 55 56.8 +2.6**
baz=271
AJM Ajmer 53.30 280 *e*P **P** **02 48 25.9 -0.3**
BRLK Bradley Lake 53.31 37 IAMs_20 IAMs_20 03 09 15.6
comp=Z,10µm,20.0s
COLD Coldfoot 53.36 28 P **P** **02 48 27.7 +1.6**
baz=270,SNR=18
COLD S **S** **02 55 59.7 +2.8**
baz=270
TRF Thorofare Moun 53.38 32 IAMs_20 IAMs_20 03 11 37.5
comp=Z,10µm,19.0s
TRF Thorofare Moun 53.38 32 P **P** **02 48 27.1 +0.6**
baz=272
TRF S **S** **02 55 57.5 -0.2**
baz=272
BRSE Bradley Lake S 53.38 37 P **P** **02 48 25.8 -0.6**
baz=275
CUT Chulitna 53.44 34 P **P** **02 48 26.6 -0.1**
baz=273
M22K Willow 53.55 35 IAmb IAmb 02 48 44.1
comp=Z,123nm,1.0s
M22K Willow 53.55 35 P **P** **02 48 27.3 -0.1**
baz=274,SNR=6.2
M22K S **S** **02 56 00.8 +1.3**
baz=274
TOLK Toolik Lake Re 53.62 26 IAmb IAmb 02 48 48.3
comp=Z,363nm,1.5s
TOLK IAMs_20 IAMs_20 03 14 02.6
comp=Z,9µm,18.0s
TOLK Toolik Lake Re 53.62 26 P **P** **02 48 29.3 +1.3**
baz=269,SNR=72
TOLK S **S** **02 56 03.0 +2.5**
baz=269
QIS Mount Isa 53.67 176 P **P** **02 48 29.4 +0.6**
BWN Browne 53.72 32 IAMs_20 IAMs_20 03 13 39.3
comp=Z,8µm,19.0s
I23K Minto, Yukon-K 53.73 30 IAmb IAmb 02 48 47.7
comp=Z,178nm,1.4s
I23K IAMs_20 IAMs_20 03 11 58.6
comp=Z,10µm,20.0s
I23K Minto, Yukon-K 53.73 30 P **P** **02 48 30.1 +1.4**
baz=272,SNR=22
I23K S **S** **02 56 02.8 +0.9**
baz=272
AKL Akola 53.74 272 *e*P **P** **02 48 29.9 +0.4**
AKL IAmb IAmb 02 48 32.8
comp=Z,106nm,0.7s
RC01 Rabbit Creek A 53.78 35 IAmb IAmb 02 48 47.7
comp=Z,323nm,1.4s
RC01 IAMs_20 IAMs_20 03 11 12.1
comp=Z,10µm,19.0s
RC01 Rabbit Creek A 53.78 35 P **P** **02 48 29.2 +0.1**
baz=274,SNR=8.5
RC01 S **S** **02 56 02.1 -0.6**
baz=274
O22K Cooper Landing 53.83 36 P **P** **02 48 29.8 +0.3**
baz=275
NEA2 Nenana 53.87 31 IAMs_20 IAMs_20 03 11 54.4
comp=Z,8µm,19.0s
NEA2 Nenana 53.87 31 P **P** **02 48 31.1 +1.2**
baz=272,SNR=39
NEA2 S **S** **02 56 05.9 +1.9**
baz=272
CTA Charters Tower 53.94 169 LR LR 03 10 15.8
comp=Z,3µm,20.2s,baz=340,slow=35
CTA Charters Tower 53.94 169 P **P** **02 48 31.9 +1.1**
CTAO Charters Tower 53.94 169 P **P** **02 48 31.1 +0.4**
CTAO pmax pmax
comp=Z,375nm,1.5s
CTAO Charters Tower 53.94 169 P **P** **02 48 31.1 +0.4**
CTAO IAmb IAmb 02 48 40.2
comp=Z,376nm,1.5s
MCK McKinley 53.97 32 P **P** **02 48 31.1 +0.5**
MCK pmax pmax
comp=Z,353nm,1.4s
MCK McKinley 53.97 32 P **P** **02 48 31.1 +0.5**
MCK IAmb IAmb 02 48 49.5
comp=Z,353nm,1.4s
MCK McKinley 53.97 32 P **P** **02 48 31.2 +0.6**
baz=273,SNR=22
MCK S **S** **02 56 05.6 +0.2**
baz=273
HYB Hyderabad 53.98 268 *e*P **P** **02 48 31.7 +0.4**
HYB IAmb IAmb 02 48 36.0
comp=Z,157nm,1.2s
HYBB Hyderabad (bro 53.98 268 *e*P **P** **02 48 31.4 +0.1**
HYBB IVmB_BB 02 48 32.4
comp=Z,3µm,2.6s
HYBB *e* 02 48 33.1
baz=57,slow=8.6
HYBB *e*pP **pP** **02 48 35.6 -0.4**
HYBB *e*sP **sP** **02 48 37.6 -0.2**
HYBB *e*PcP **PcP** **02 49 36.8 +0.3**
HYBB *e*PP **PP** **02 50 32.5 -0.1**
HYBB *e*ScP **ScP** **02 53 33.8 -0.1**
HYBB *e*PcS **PcS** **02 53 35.8 -0.2**
HYBB *e*S **S** **02 56 07.2 +0.6**
HYBB *e*ScS **ScS** **02 58 20.1 -0.3**
HYBB IVMs_BB IVMs_BB 03 13 37.1
comp=Z,2µm,15.0s
SEW Seward 54.00 37 IAmb IAmb 02 48 56.4
comp=Z,339nm,1.3s
SEW Seward 54.00 37 P **P** **02 48 30.9 +0.1**
baz=275
SEW S **S** **02 56 04.1 -1.6**
baz=275
PMR Palmer 54.03 35 IAmb IAmb 02 48 53.0
comp=Z,196nm,1.4s
PMR Palmer 54.03 35 P **P** **02 48 31.3 +0.3**
baz=275,SNR=12
PMR S **S** **02 56 06.0 0.0**
baz=275
RND Reindeer 54.03 32 IAmb IAmb 02 48 58.7
comp=Z,143nm,1.1s
RND IAMs_20 IAMs_20 03 12 03.6
comp=Z,12µm,20.0s
GHO Glory Hole Cre 54.11 34 IAmb IAmb 02 48 50.6
comp=Z,299nm,1.2s
WRH Wood River Hil 54.30 31 IAmb IAmb 02 49 00.0
comp=Z,191nm,1.4s
H24K Noodor Dome 54.32 29 IAmb IAmb 02 48 52.4
comp=Z,321nm,1.4s
H24K IAMs_20 IAMs_20 03 11 05.2
comp=Z,11µm,22.0s
H24K Noodor Dome 54.32 29 P **P** **02 48 34.9 +1.7**
baz=273,SNR=66
H24K S **S** **02 56 13.6 +3.5**
baz=273
KNK Knik Glacier 54.36 35 IAMs_20 IAMs_20 03 10 18.6
comp=Z,9µm,20.0s
KNK Knik Glacier 54.36 35 P **P** **02 48 34.0 +0.5**
baz=275,SNR=21
KNK S **S** **02 56 10.2 -0.6**
baz=275
TCOL CIGO, UAF Yank 54.37 31 IAmb IAmb 02 48 52.2
comp=Z,178nm,1.2s
TCOL IAMs_20 IAMs_20 03 12 07.7
comp=Z,10µm,20.0s
TCOL CIGO, UAF Yank 54.37 31 P **P** **02 48 34.6 +1.2**
baz=273,SNR=7.8
TCOL S **S** **02 56 12.6 +2.0**
baz=273
COLA College 54.38 31 P **P** **02 48 34.3 +0.9**
COLA pmax pmax
comp=Z,194nm,1.3s
COLA MLR MLR
comp=Z,10µm,20.0s
COLA College 54.38 31 P **P** **02 48 34.3 +0.9**
COLA IAmb IAmb 02 48 52.2
comp=Z,194nm,1.2s
COLA College 54.38 31 IAMs_20 IAMs_20 03 12 07.7
comp=Z,10µm,20.0s
COLA College 54.38 31 ⇑P **P** **02 48 34.3 +0.9**
COLA ⇑P **P** **02 48 34.3 +0.9**
COLA College 54.38 31 P **P** **02 48 34.3 +0.9**
baz=273
COLA S **S** **02 56 12.3 +1.6**
baz=273
SML Sawmill 54.39 34 IAmb IAmb 02 48 57.6
comp=Z,159nm,1.1s
SML IAMs_20 IAMs_20 03 12 41.3
comp=Z,8µm,19.0s
SML Sawmill 54.39 34 P **P** **02 48 34.3 +0.6**
baz=275,SNR=15
SML S **S** **02 56 11.7 +0.6**
baz=275
PWL Port Wells 54.48 36 IAmb IAmb 02 48 53.7
comp=Z,204nm,1.2s
PWL Port Wells 54.48 36 P **P** **02 48 34.5 +0.2**
baz=276,SNR=15
PWL S **S** **02 56 12.0 -0.2**
baz=276
POKR Poker Plat Res 54.54 30 IAMs_20 IAMs_20 03 12 33.1
comp=Z,11µm,20.0s
POKR Poker Plat Res 54.54 30 P **P** **02 48 35.9 +1.2**
baz=274,SNR=28
POKR S **S** **02 56 15.5 +2.5**
baz=274
WAT6 Susitna Watana 54.60 33 P **P** **02 48 35.8 +0.4**
baz=275,SNR=17
WAT6 S **S** **02 56 14.9 +0.8**
baz=275
DHY Denali Highway 54.72 33 IAMs_20 IAMs_20 03 15 46.9
comp=Z,9µm,18.0s
DHY Denali Highway 54.72 33 P **P** **02 48 36.9 +0.7**
baz=275,SNR=10
DHY S **S** **02 56 16.1 +0.4**
baz=275
MDRS Chennai 54.74 262 *e*P **P** **02 48 38.1 +1.3**
MDRS IAmb IAmb 02 48 42.9
comp=Z,149nm,1.2s
IL31 54.80 31 P **P** **02 48 36.5 0.0**
IL31 IAmb IAmb 02 48 56.8
comp=Z,203nm,1.5s
ILAR Eielson Array 54.80 31 P **P** **02 48 36.5 -0.1**
comp=Z,26nm,1.1s,baz=276,slow=6.1,SNR=80
ILAR S **S** **02 56 11.6 -4.8**
comp=Z,0.2nm,0.7s,baz=351,slow=4.6,SNR=1.7
ILAR LR LR 03 13 56.7
comp=Z,7µm,18.8s,baz=284,slow=38
ILAR PKPPKP **P'P'df** **03 18 50.8 -2.8**
comp=Z,1.5nm,1.1s,baz=188,slow=4.6,SNR=5.2
SCM Sheep Creek Mo 54.86 34 P **P** **02 48 37.7 +0.5**
baz=276,SNR=18
SCM S **S** **02 56 19.2 +1.7**
baz=276
KBL Kabul 54.92 291 P **P** **02 48 37.5 -0.7**
KBL pmax pmax
comp=Z,51nm,1.1s
KBL Kabul 54.92 291 P **P** **02 48 37.5 -0.7**
KBL Kabul 54.92 291 P **P** **02 48 37.9 -0.2**
SNR=109
KBL P **P** **02 48 37.9 -0.2**
SNR=109
KBL S **S** **02 56 18.9 -0.4**
KBL S **S** **02 56 18.9 -0.4**
GLI Glacier Island 55.08 35 IAmb IAmb 02 48 53.6
comp=Z,212nm,1.3s
GLI Glacier Island 55.08 35 P **P** **02 48 38.9 +0.2**
baz=277
GLI S **S** **02 56 22.5 +2.2**
baz=277
SVE Sverdlovsk 55.25 320 *d* iP **P** **02 48 39.7 -0.2**
SVE *e* 02 50 39.1
SVE *e*PPP PPP 02 51 55.1
SVE *e*S **S** **02 56 22.9 +0.2**
SVE pmax pmax
comp=Z,256nm,1.5s
SVE pmax pmax
comp=Z,2µm,14.3s
SVE MLR MLR
comp=E,27µm,13.0s
SVE MLR MLR
comp=Z,30µm,12.0s
M24K Tolsona, Glenn 55.37 34 IAmb IAmb 02 48 58.6
comp=Z,147nm,1.1s
M24K Tolsona, Glenn 55.37 34 P **P** **02 48 42.3 +1.5**
baz=277,SNR=7.1
M24K S **S** **02 56 28.0 +3.7**
baz=277
FID Port Fidalgo 55.39 36 IAMs_20 IAMs_20 03 10 51.4
comp=Z,9µm,20.0s
J25K Salcha River, 55.46 31 IAMs_20 IAMs_20 03 13 02.5
comp=Z,9µm,20.0s
J25K Salcha River, 55.46 31 P **P** **02 48 40.9 -0.6**
baz=276,SNR=11
J25K S **S** **02 56 24.9 -0.5**
baz=276
BMAR Burnt Mountain 55.53 27 P **P** **02 48 42.7 +0.8**
KLU Klutina 55.57 35 IAMs_20 IAMs_20 03 13 38.4

comp=Z,9µm,19.0s
KLU Klutina 55.57 35 P **P** **02 48 43.1 +0.9**
baz=282,SNR=20
KLU S **S** **02 56 28.7 +1.8**
baz=277
PAX Paxson 55.59 33 P **P** **02 48 43.2 +0.7**
baz=277,SNR=12
PAX S **S** **02 56 28.6 +1.3**
baz=277
Q23K Middleton Isla 55.64 37 P **P** **02 48 44.1 +1.4**
baz=278
EYAK Cordova Ski Ar 55.78 36 P **P** **02 48 44.6 +1.0**
baz=278
EYAK S **S** **02 56 32.3 +2.8**
baz=278
RIDG Independent Ri 55.78 32 P **P** **02 48 43.8 0.0**
RIDG IAmb IAmb 02 49 01.0
comp=Z,152nm,1.4s
RIDG IAMs_20 IAMs_20 03 13 16.0
comp=Z,8µm,19.0s
RIDG Independent Ri 55.78 32 P **P** **02 48 44.0 +0.2**
baz=277,SNR=13
RIDG S **S** **02 56 29.6 -0.1**
baz=277
HARP HAARP 55.81 33 P **P** **02 48 45.3 +1.4**
baz=277,SNR=11
HARP S **S** **02 56 33.6 +3.5**
baz=277
SCRK Sand Creek 56.13 32 IAmb IAmb 02 49 01.1
comp=Z,285nm,1.4s
SCRK Sand Creek 56.13 32 P **P** **02 48 46.7 +0.3**
baz=277,SNR=50
SCRK S **S** **02 56 34.8 +0.3**
baz=277
N25K Chitina, Valde 56.18 34 IAMs_20 IAMs_20 03 13 55.6
comp=Z,10µm,19.0s
N25K Chitina, Valde 56.18 34 P **P** **02 48 48.1 +1.4**
baz=278,SNR=12
N25K S **S** **02 56 38.3 +3.1**
baz=278
J26L Joseph Creek 56.25 31 P **P** **02 48 46.9 -0.2**
baz=277,SNR=23
J26L S **S** **02 56 36.3 +0.4**
baz=277
RAGM Ragged Mountai 56.33 36 IAMs_20 IAMs_20 03 12 42.6
comp=Z,12µm,19.0s
MENT Mentasta 56.39 33 IAmb IAmb 02 49 07.8
comp=Z,334nm,1.4s
ARU Arti 56.45 319 LR LR 03 16 32.2
comp=Z,7µm,18.9s,baz=66,slow=40
ARU Arti 56.45 319 *c iP* **P** **02 48 47.9 -0.6**
ARU 02 49 43.7
ARU 02 50 55.0
ARU PPP PPP 02 52 09.5
ARU S **S** **02 56 41.0 +2.3**
ARU 02 58 32.3
ARU SS **SS** **03 00 26.7 +1.3**
ARU pmax pmax
comp=Z,469nm,2.0s
ARU MLR MLR
comp=Z,14µm,14.0s
ARU Arti 56.45 319 P **P** **02 48 47.6 -1.0**
ARU IAMs_20 IAMs_20 03 16 17.8
comp=Z,10µm,18.0s
KAIM Kayak Island 56.53 36 IAmb IAmb 02 49 19.1
comp=Z,127nm,1.0s
KAIM IAMs_20 IAMs_20 03 11 22.0
comp=Z,9µm,18.0s
KAIM Kayak Island 56.53 36 P **P** **02 48 48.3 -0.8**
baz=280
HMT Hamilton 56.54 36 IAMs_20 IAMs_20 03 15 50.2
comp=Z,7µm,18.0s
L26K Log Cabin Wild 56.55 33 IAmb IAmb 02 49 05.0
comp=Z,198nm,1.4s
L26K IAMs_20 IAMs_20 03 15 29.2
comp=Z,11µm,18.0s
L26K Log Cabin Wild 56.55 33 P **P** **02 48 50.7 +1.5**
baz=279,SNR=42
L26K S **S** **02 56 43.6 +3.8**
baz=279
GLB Gilahina Butte 56.58 35 IAMs_20 IAMs_20 03 13 41.1
comp=Z,9µm,20.0s
SANVU Saraoutou 56.72 144 P **P** **02 48 50.7 -0.2**
SANVU Saraoutou 56.72 144 P **P** **02 48 52.0 +1.2**
ASAR Alice Springs 56.72 183 P **P** **02 48 51.1 +0.4**
comp=Z,25nm,0.7s,baz=9.8,slow=12,SNR=123
ASAR S **S** **02 56 39.9 -3.0**
comp=Z,0.4nm,0.8s,baz=324,slow=33,SNR=1.8
ASAR LR LR 03 12 17.6
comp=Z,3µm,20.2s,baz=9.0,slow=35
ASAR PKP2bc 03 18 58.5
comp=Z,3.1nm,1.0s,baz=180,slow=2.3,SNR=11
ASAR Alice Springs 56.72 183 P **P** **02 48 50.7 -0.1**
VRDI Verde Repeater 56.78 35 IAmb IAmb 02 49 10.5
comp=Z,358nm,1.4s
VRDI IAMs_20 IAMs_20 03 13 56.5
comp=Z,8µm,20.0s
BERG Berg Lake 56.80 36 IAMs_20 IAMs_20 03 15 50.1
comp=Z,8µm,18.0s
PSA00 Pilbara Seismi 56.83 198 P **P** **02 48 51.3 -0.2**
PSA00 Pilbara Seismi 56.83 198 P **P** **02 48 52.3 +0.8**
BGLC Bering Glacier 57.06 36 P **P** **02 48 54.5 +1.8**
baz=280
SALM Salem 57.18 262 *eP* **P** **02 48 55.4 +1.1**
SALM IAmb IAmb 02 49 05.0
comp=Z,228nm,1.2s
WAX Waxell Ridge 57.21 36 IAMs_20 IAMs_20 03 14 27.9
comp=Z,7µm,18.0s
AB31 Akbulak array 57.21 311 *i* P **P** **02 48 53.3 -0.7**
ABKAR Akbulak array 57.21 311 P **P** **02 48 53.5 -0.6**
L27K Beaver Creek, 57.23 32 IAmb IAmb 02 49 22.6
comp=Z,290nm,1.5s
L27K IAMs_20 IAMs_20 03 15 49.2
comp=Z,8µm,19.0s
L27K Beaver Creek, 57.23 32 P **P** **02 48 55.4 +1.4**
baz=280,SNR=54
L27K S **S** **02 56 53.2 +4.4**
baz=280
SNH Sunshine Point 57.27 36 IAMs_20 IAMs_20 03 15 22.4
comp=Z,12µm,18.0s
M27K Edge Creek, AK 57.33 33 IAmb IAmb 02 49 20.1
comp=Z,216nm,1.2s
M27K Edge Creek, AK 57.33 33 P **P** **02 48 56.0 +1.2**
baz=280
M27K S **S** **02 56 54.6 +4.2**
baz=280
POO Poona 57.39 272 *eP* **P** **02 48 55.9 +0.1**
POO IAmb IAmb 02 48 56.9
comp=Z,223nm,1.0s
POO Poona 57.39 272 ⇑*iP* **P** **02 48 52.0 -3.8**
comp=Z,350nm,1.6s
POO *eS* **S** **02 56 50.0 -2.1**
ISLE Juniper Island 57.43 35 IAMs_20 IAMs_20 03 10 45.7
comp=Z,8µm,21.0s
PALK Pallekele 57.53 256 LR LR 03 15 57.5
comp=Z,10µm,19.9s,baz=148,slow=38
PALK Pallekele 57.53 256 *c iP* **P** **02 48 56.0 -0.8**
PALK pmax pmax
comp=Z,221nm,1.5s
PALK Pallekele 57.53 256 P **P** **02 48 57.1 +0.3**
PALK IAmb IAmb 02 49 07.5
comp=Z,136nm,1.1s
PALK Pallekele 57.53 256 IAMs_20 IAMs_20 03 15 37.3
comp=Z,10µm,19.0s
PALK Pallekele 57.53 256 P **P** **02 48 57.8 +0.9**
PALK P **P** **02 48 57.8 +0.9**
PALK P **P** **02 48 57.8 +0.9**
PALK S **S** **02 56 51.2 -2.8**
PALK S **S** **02 56 51.2 -2.8**
PALK S **S** **02 56 51.2 -2.8**
BARN Barnard Glacie 57.67 35 IAmb IAmb 02 49 19.3
comp=Z,121nm,1.1s
BARN IAMs_20 IAMs_20 03 14 07.9
comp=Z,10µm,19.0s
KAD Karad 57.69 270 *eP* **P** **02 48 57.8 -0.1**
KAD IAmb IAmb 02 49 02.2
comp=Z,153nm,1.2s
YAH Yahtse 57.76 36 IAMs_20 IAMs_20 03 14 54.5
comp=Z,9µm,20.0s
BVCY Beaver Creek 57.78 33 P **P** **02 48 59.0 +1.1**
baz=281,SNR=22
BVCY S **S** **02 56 59.5 +3.4**
baz=281
RK1H Rockhampton Ha 57.97 165 P **P** **02 49 01.0 +1.4**
TABL Table Mountain 58.04 35 IAmb IAmb 02 49 20.0
comp=Z,198nm,1.4s
TABL IAMs_20 IAMs_20 03 12 36.9
comp=Z,9µm,19.0s
YUK3 Moose Creek 58.09 34 P **P** **02 49 01.2 +0.9**
baz=282,SNR=55
YUK3 S **S** **02 57 02.0 +1.4**
baz=282
AKTO Aktyubinsk 58.12 312 LR LR 03 16 07.7
comp=Z,17µm,18.4s,baz=78,slow=38
DAWY Dawson 58.12 31 P **P** **02 49 01.1 +0.9**
baz=281,SNR=21
DAWY S **S** **02 57 03.5 +3.1**
baz=281
I29M Ogilvie Camp, 58.32 29 IAmb IAmb 02 49 21.2
comp=Z,332nm,1.5s
I29M IAMs_20 IAMs_20 03 13 38.9
comp=Z,9µm,22.0s
I29M Ogilvie Camp, 58.32 29 P **P** **02 49 03.0 +1.4**
baz=281,SNR=50
I29M S **S** **02 57 06.3 +3.3**
baz=281
J29M Klondike Camp 58.54 30 P **P** **02 49 04.9 +1.7**
baz=282,SNR=10
J29M S **S** **02 57 09.6 +3.5**
baz=282
KOD Kodaikanal 58.55 261 *eP* **P** **02 49 04.8 +0.6**
KOD IAmb IAmb 02 49 14.5
comp=Z,159nm,1.1s
WRKA Warakurna 58.55 189 P **P** **02 49 05.3 +1.7**
EPYK Eagle Plains 58.75 28 P **P** **02 49 06.1 +1.5**
baz=282,SNR=148
EPYK S **S** **02 57 12.4 +3.7**
baz=282
GOA Goa 58.87 269 *eP* **P** **02 49 06.3 +0.2**
GOA IAmb IAmb 02 49 07.7
comp=Z,319nm,1.0s
BCPM Bancas Point 58.88 36 IAMs_20 IAMs_20 03 16 58.1
comp=Z,9µm,19.0s
YUK4 Talbot Arm 59.03 34 P **P** **02 49 08.5 +1.6**
baz=284,SNR=30
YUK4 S **S** **02 57 14.9 +2.1**
baz=284
PNL Peninsula 59.07 36 P **P** **02 49 08.1 +1.2**
baz=284,SNR=10
PNL S **S** **02 57 17.4 +4.4**
baz=284
YUK5 Outpost Mounta 59.26 34 P **P** **02 49 10.5 +2.0**
baz=284,SNR=37
YUK6 S **S** **02 57 20.4 +4.6**
baz=284
INK Inuvik 59.52 26 P **P** **02 49 10.7 +0.8**
comp=Z,44nm,1.0s,baz=283,slow=6.9,SNR=85
INK LR LR 03 16 49.3
comp=Z,9µm,19.5s,baz=267,slow=38
INK PKPPKP **P'P'df** **03 18 41.8 -4.4**
comp=Z,0.7nm,0.3s,baz=107,slow=5.9,SNR=3.1
INK Inuvik 59.52 26 IAmb IAmb 02 49 28.8
comp=Z,254nm,1.4s
INK Inuvik 59.52 26 P **P** **02 49 10.7 +0.8**
baz=284,SNR=50
INK S **S** **02 57 20.5 +2.0**
baz=284
M30M Minto, Yukon 59.59 32 IAmb IAmb 02 49 26.0
comp=Z,170nm,1.4s
M30M Minto, Yukon 59.59 32 P **P** **02 49 12.4 +1.9**
baz=284,SNR=62
M30M S **S** **02 57 25.4 +5.8**
baz=284
HYT Haines Junctio 59.70 34 P **P** **02 49 13.4 +2.0**
baz=285,SNR=47
HYT S **S** **02 57 25.5 +4.2**
baz=285
KOUNC Koumac, New Ca 59.82 150 P **P** **02 49 13.2 +0.7**
KOUNC IAmb IAmb 02 49 22.1
comp=Z,205nm,1.5s
KOUNC Koumac, New Ca 59.82 150 P **P** **02 49 13.8 +1.3**
comp=Z,156nm,2.5s
TRD Trivandrum 59.90 260 *eP* **P** **02 49 13.8 +0.5**
EIDS Eidsvold 60.02 165 IAmb IAmb 02 49 27.0
comp=Z,173nm,1.4s
EIDS Eidsvold 60.02 165 P **P** **02 49 15.1 +1.4**
QLP Quilpie 60.04 172 P **P** **02 49 14.8 +0.9**
HRA Herat 60.23 294 P **P** **02 49 15.2 -0.4**
N31M Braeburn, Yuko 60.33 33 IAMs_20 IAMs_20 03 16 15.3
comp=Z,9µm,20.0s
N31M Braeburn, Yuko 60.33 33 P **P** **02 49 17.4 +1.8**
baz=286,SNR=56
N31M S **S** **02 57 34.3 +5.1**
baz=286
RMQ Roma 60.63 167 P **P** **02 49 20.0 +2.1**
KIRV Kirov 60.73 323 LR LR 03 17 22.5
comp=Z,10µm,21.7s,baz=66,slow=38
M31M Drury Creek, Y 60.77 32 IAmb IAmb 02 49 38.2
comp=Z,166nm,1.2s
M31M IAMs_20 IAMs_20 03 16 23.8
comp=Z,7µm,20.0s
M31M Drury Creek, Y 60.77 32 P **P** **02 49 20.0 +1.4**
baz=286,SNR=49
M31M S **S** **02 57 38.9 +4.2**
baz=286
OOD Oodnadatta 60.79 181 P **P** **02 49 20.0 +1.1**
INKA Innaminka 60.87 176 P **P** **02 49 20.8 +1.3**
WHY Whitehorse 60.98 34 P **P** **02 49 20.1 -0.1**
WHY Whitehorse 60.98 34 P **P** **02 49 21.8 +1.7**
baz=287,SNR=50
WHY S **S** **02 57 43.2 +5.4**
baz=287
SKAG Skagway 61.12 36 P **P** **02 49 21.5 +0.6**
SKAG Skagway 61.12 36 P **P** **02 49 22.7 +1.7**
baz=287,SNR=26
SKAG S **S** **02 57 43.4 +4.2**
baz=287
A36M Sachs Harbour 61.20 21 P **P** **02 49 22.3 +1.0**
baz=289,SNR=222
A36M S **S** **02 57 41.8 +2.0**
baz=289
KHLU Kahalu`u 61.21 85 P **P** **02 49 23.1 +0.8**
POHA Pohakuloa 61.43 84 IAMs_20 IAMs_20 03 18 06.3
comp=Z,10µm,18.0s
POHA Pohakuloa 61.43 84 P **P** **02 49 26.4 +2.5**
MLOA Mauna Loa Obse 61.50 84 P **P** **02 49 24.3 -0.4**
BESE Bessie Mountai 61.62 37 P **P** **02 49 24.9 +0.5**
BESE IAmb IAmb 02 49 46.3
comp=Z,235nm,1.4s
PRGR Permogore 61.64 327 *eP* **P** **02 49 23.8 -0.6**
PRGR pmax pmax
comp=Z,16nm,0.8s
MLH Mauna Loa 61.67 84 P **P** **02 49 26.5 +0.9**
SIT Sitka 61.86 38 P **P** **02 49 26.5 +0.6**
SIT pmax pmax
comp=Z,303nm,1.4s
SIT Sitka 61.86 38 P **P** **02 49 26.5 +0.6**
SIT Sitka 61.86 38 P **P** **02 49 27.8 +1.8**
baz=288,SNR=8.4
SIT S **S** **02 57 54.2 +5.7**
baz=288
JIS Juneau Island 61.95 37 P **P** **02 49 27.4 +0.9**
MEEK Meekatharra 61.98 198 P **P** **02 49 27.5 +0.4**
GEYT Alibeck 62.02 299 P **P** **02 49 27.6 +0.1**
comp=Z,15nm,1.0s,baz=65,slow=8.4,SNR=37
GEYT S **S** **02 57 56.9 +5.5**
comp=Z,0.7nm,0.4s,baz=127,slow=49,SNR=1.3
GEYT LR LR 03 18 06.8
comp=Z,9µm,18.6s,baz=103,slow=38
GEYT Alibeck 62.02 299 P **P** **02 49 27.1 -0.4**
NOUC Port Laguerre 62.06 148 P **P** **02 49 28.9 +1.2**
DZM Mont Dzumac 62.09 148 LR LR 03 14 24.4
comp=Z,3µm,20.8s,baz=350,slow=34
DZM Mont Dzumac 62.09 148 *eP* **P** **02 49 29.4 +1.4**
comp=Z,261nm,1.8s
DZM *eS* **S** **02 57 52.0 -0.5**
comp=Z,5µm,25.0s
DZM Mont Dzumac 62.09 148 *e*LR LR 03 08 01.3
comp=Z,11µm,23.0s
DZM Mont Dzumac 62.09 148 P **P** **02 49 28.6 +0.6**
DZM IAmb IAmb 02 49 37.7
comp=Z,148nm,1.3s
DZM Mont Dzumac 62.09 148 P **P** **02 49 29.7 +1.7**
P33M Teslin, Yukon 62.09 34 IAMs_20 IAMs_20 03 15 28.0
comp=Z,7µm,20.0s
P33M Teslin, Yukon 62.09 34 P **P** **02 49 29.0 +1.4**
baz=289,SNR=50
P33M S **S** **02 57 57.2 +5.4**
baz=289
ONTNC Ouen Toro 62.31 148 IAmb IAmb 02 49 38.7
comp=Z,121nm,1.2s
C36M Paulatuk 62.48 23 P **P** **02 49 30.6 +0.7**
baz=292,SNR=231
C36M S **S** **02 57 57.3 +1.2**
baz=292
OUENC Ouen Island, N 62.58 148 P **P** **02 49 31.9 +0.7**
OUENC IAmb IAmb 02 49 46.9
comp=Z,150nm,1.5s
OUENC Ouen Island, N 62.58 148 P **P** **02 49 33.6 +2.5**
HOPEN Hopen 62.62 346 *eP* **P** **02 49 31.4 +0.6**
HOPEN *eS* **S** **02 57 57.8 0.0**
HOPEN IVMs_BB IVMs_BB 03 20 22.9
comp=Z,9µm,16.4s
MULG Mulgathing 63.30 182 P **P** **02 49 36.6 +0.8**
SPA0 Spitsbergen Ar 63.34 348 ⇑*iP* **P** **02 49 35.7 +0.1**
SPA0 IVmB_BB 02 49 36.6
comp=Z,5µm,2.2s
SPA0 *eS* **S** **02 58 06.9 0.0**
SPA0 IVMs_BB IVMs_BB 03 20 05.1
comp=Z,7µm,15.1s
SPB2 Spitsbergen Ar 63.34 348 IAmb IAmb 02 49 36.7
comp=Z,189nm,1.1s
SPITS Spitsbergen Ar 63.34 348 LR LR 03 17 29.0
comp=Z,13µm,18.8s,baz=263,slow=36
LCRK Leigh Creek 63.45 178 P **P** **02 49 38.3 +1.5**
CRAG Craig 63.55 39 IAmb IAmb 02 49 57.3
comp=Z,217nm,1.4s
CRAG Craig 63.55 39 P **P** **02 49 38.7 +1.5**
baz=291
CRAG S **S** **02 58 14.1 +4.2**
baz=291
KBS Kingsbay 63.58 350 *ce*P **P** **02 49 36.4 -0.8**
KBS pmax pmax
comp=Z,587nm,2.5s
KBS Kingsbay 63.58 350 P **P** **02 49 37.0 -0.2**
KBS Kingsbay 63.58 350 *i* P **P** **02 49 36.4 -0.8**
WRAK Wrangell Islan 63.62 38 IAmb IAmb 02 50 05.6
comp=Z,184nm,1.4s
WRAK Wrangell Islan 63.62 38 P **P** **02 49 39.3 +1.6**
baz=291,SNR=8.3
WRAK S **S** **02 58 16.6 +5.9**
baz=291
TGTN Hyland Airport 63.73 32 P **P** **02 49 40.1 +1.6**
baz=292,SNR=103
TGTN S **S** **02 58 15.5 +3.4**
baz=292
LVZ Lovozero 63.79 336 *ce*P **P** **02 49 37.2 -1.5**
LVZ pmax pmax
comp=Z,112nm,1.3s
LVZ MLR MLR
comp=Z,9µm,20.0s
LVZ Lovozero 63.79 336 P **P** **02 49 38.5 -0.3**
LVZ IAmb IAmb 02 49 59.4
comp=Z,106nm,1.1s
LVZ IAMs_20 IAMs_20 03 21 29.2
comp=Z,9µm,20.0s
HMDM Hanimaadhoo 63.97 261 P **P** **02 49 40.5 -0.2**
HMDM IAMs_20 IAMs_20 03 22 01.0
comp=Z,6µm,18.0s
HMDM Hanimaadhoo 63.97 261 P **P** **02 49 41.4 +0.7**
SNR=9.3
DLBC Dease Lake 64.05 36 PKPPKP 03 18 38.8
comp=Z,6.8nm,1.3s,baz=269,slow=3.6,SNR=4.8
DLBC LR LR 03 20 26.9
comp=Z,5µm,18.0s,baz=309,slow=39
HSPB Hornsund (broa 64.19 348 *es*P **sP** **02 49 45.4 -2.3**
HSPB *e*PP **PP** **02 51 58.6 -3.2**
HSPB *e*L L 03 21 06.6
comp=Z,26µm,17.5s
HSPB Hornsund (broa 64.19 348 ⇑*iP* **P** **02 49 41.8 +0.7**
HSPB *e*S **S** **02 58 14.5 -2.8**
HSPB IVMs_BB IVMs_BB 03 20 54.7
comp=Z,10µm,16.3s
FORT Forrest 64.24 188 P **P** **02 49 42.5 +0.5**
FORT IAmb IAmb 02 49 50.6
comp=Z,172nm,0.9s
FORT Forrest 64.24 188 P **P** **02 49 43.4 +1.4**
APA Apatity 64.36 335 ⇓*iP* **P** **02 49 40.7 -1.7**
APA *i* PPP PPP 02 53 40.0
APA *i* S S 02 58 09.0 -11
APA *i* 02 59 31.0
APA *i* SS **SS** **03 02 34.0 +5.2**
APA pmax pmax
comp=Z,33nm,1.1s
APA MLR MLR
comp=Z,13µm,11.0s
NOR Nord 64.47 356 *i* P **P** **02 49 42.7 -0.2**
NOR IAmb IAmb 02 49 43.3
comp=Z,22nm,0.8s
MSVF Nonsavu 64.49 135 LR LR 03 12 53.3
comp=Z,2µm,20.6s,baz=323,slow=31
MSVF Nonsavu 64.49 135 P **P** **02 49 44.5 +0.5**
MSVF pmax pmax
comp=Z,270nm,1.4s
MSVF Nonsavu 64.49 135 P **P** **02 49 44.5 +0.5**
MSVF Nonsavu 64.49 135 P **P** **02 49 47.7 +3.7**
KLMR Klimovskoe 64.68 327 *c iP* **P** **02 49 43.6 -1.0**
KLMR *e* 02 50 15.4
KLMR *e* 02 52 06.9
KLMR *e*S **S** **02 58 24.6 +0.9**
KLMR *e*SS **SS** **03 02 36.9 +3.0**
KLMR pmax pmax
comp=Z,2µm,2.1s
KLMR pmax pmax
comp=Z,532nm,1.5s
KLMR MLR MLR
comp=Z,15µm,13.0s
KLMR Klimovskoe 64.68 327 ⇑*iP* **P** **02 49 44.0 -0.6**
KLMR ⇓*iP* **P** **02 49 44.0 -0.6**
KLMR ⇓*iP* **P** **02 49 44.0 -0.6**
KLMR AMP 02 49 45.8
comp=Z,532nm,1.5s
KLMR *e*PcP **PcP** **02 50 15.4 -2.8**
KLMR *e*PP **PP** **02 52 07.0 +0.5**
KLMR *e*S **S** **02 58 24.6 +0.9**
KLMR *e*S **S** **02 58 24.6 +0.9**
KLMR *e*SS **SS** **03 02 36.9 +3.0**
KLMR *e*SS **SS** **03 02 36.9 +3.0**
KLMR *e*SSS SSS 03 05 37.4
KLMR *e*SSS SSS 03 05 37.4
KLMR LQ LQ 03 12 36.8
KLMR LQ LQ 03 12 36.8
KLMR LR LR 03 17 41.9
KLMR AMP 03 21 03.8
comp=Z,15µm,12.5s
DIB Dawson Inlet, 64.73 42 P **P** **02 49 45.6 +0.5**
DIB IAmb IAmb 02 50 02.8
comp=Z,132nm,1.2s
H02S1 DAWSON INLET T 64.73 42 P **P** **02 49 44.7 -0.4**
SNR=14
BJO1 Bjornoya 64.97 345 *eP* **P** **02 49 44.9 -1.4**
BJO1 IVmB_BB 02 49 52.2
comp=Z,4µm,2.6s
BJO1 *eS* **S** **02 58 26.9 -0.1**
BJO1 IVMs_BB IVMs_BB 03 21 00.6
comp=Z,9µm,17.6s
MORW Morawa 64.98 200 P **P** **02 49 46.5 -0.4**
MORW IAmb IAmb 02 49 54.9
comp=Z,126nm,1.4s
MORW Morawa 64.98 200 P **P** **02 49 47.5 +0.6**
ARMA Armidale 65.01 165 P **P** **02 49 48.2 +1.1**
ARMA IAmb IAmb 02 49 56.3
comp=Z,104nm,1.1s
ARMA Armidale 65.01 165 P **P** **02 49 48.3 +1.1**
STKA Stephens Creek 65.04 175 P **P** **02 49 46.9 -0.3**
comp=Z,18nm,0.9s,baz=344,slow=7.2,SNR=15
STKA S **S** **02 58 26.5 -2.1**
comp=Z,2.4nm,0.8s,baz=35,slow=22,SNR=2.6
STKA LR LR 03 16 16.2
comp=Z,4µm,21.9s,baz=344,slow=34
STKA Stephens Creek 65.04 175 *d iP* **P** **02 49 47.0 -0.2**
STKA Stephens Creek 65.04 175 P **P** **02 49 47.9 +0.8**
STKA Stephens Creek 65.04 175 P **P** **02 49 47.4 +0.2**
CMSA Cobar Meteorol 65.11 171 P **P** **02 49 48.4 +0.8**
KEV Kevo 65.43 339 P **P** **02 49 49.3 0.0**
KEV pmax pmax
comp=Z,214nm,1.3s
KEV MLR MLR
comp=Z,7µm,19.0s
KEV Kevo 65.43 339 P **P** **02 49 49.3 0.0**
KEV IAmb IAmb 02 49 50.1
comp=Z,214nm,1.3s
KEV IAMs_20 IAMs_20 03 19 52.3
comp=Z,7µm,19.0s
RUBB Prince Rupert 65.51 40 IAmb IAmb 02 50 16.3
comp=Z,113nm,1.4s
BBOO Buckleboo 65.78 180 P **P** **02 49 52.7 +0.7**
BBOO IAmb IAmb 02 50 00.7
comp=Z,182nm,1.3s

BBOO Buckleboo 65.78 180 P **P** **02 49 52.8 +0.8**
GRNB Grenville Isla 65.86 40 P **P** **02 49 52.9 +0.5**
GRNB IAmb IAmb 02 50 19.9
comp=Z,157nm,1.3s
HAMF Hammerfest 65.94 340⇑ *i*P **P** **02 49 52.5 -0.1**
HAMF IVmB_BB 02 49 53.3
comp=Z,2µm,4.1s
HAMF *e*PP **PP** **02 52 14.2 -3.1**
HAMF *e*S S **02 58 38.4 -0.5**
HAMF IVMs_BB IVMs_BB 03 26 53.5
comp=Z,8µm,12.0s
ARA0 ARCESS Array S 65.99 339⇑ *i*P **P** **02 49 53.1 +0.1**
ARA0 *e*S **S** **02 58 36.3 -3.4**
ARA0 IVMs_BB IVMs_BB 03 24 23.8
comp=Z,10µm,14.4s
ARCES ARCESS Array B 65.99 339 P **P** **02 49 51.9 -1.1**
comp=Z,53nm,1.1s,baz=65,slow=6.9,SNR=26
ARCES LR LR 03 21 24.5
comp=Z,8µm,21.0s,baz=52,slow=38
ARCES ARCESS Array B 65.99 339 IAmb IAmb 02 49 53.8
comp=Z,183nm,1.4s
WHYH Whyalla 66.01 179 P **P** **02 49 54.9 +1.5**
NAPP Napperby 66.17 178 P **P** **02 49 57.2 +2.7**
BLDU Ballidu 66.26 198 P **P** **02 49 56.1 +1.0**
HTT Hallett 66.44 178 P **P** **02 49 58.1 +1.8**
KLBR Kellerberrin 66.92 197 P **P** **02 49 59.2 -0.1**
KTK1 Kautokeino 66.96 339⇑ *i*P **P** **02 49 59.2 0.0**
KTK1 IVmB_BB 02 49 59.8
comp=Z,3µm,2.2s
KTK1 *e*PP **PP** **02 52 24.2 -2.0**
KTK1 *e*S **S** **02 58 51.1 -0.3**
KTK1 IVMs_BB IVMs_BB 03 27 14.5
comp=Z,7µm,13.3s
RES Resolute Bay 67.17 13 LR LR 03 23 33.9
comp=Z,9µm,18.6s,baz=334,slow=40
MAK Makhachkala 67.47 307*d i*P P 02 49 56.0 -6.8
MAK *e*S S 02 58 48.3 -10
MAK pmax pmax
comp=Z,349nm,1.9s
MAK pmax pmax
comp=Z,2µm,2.4s
MAK smax smax
comp=N,2µm,6.5s
MAK smax smax
comp=E,3µm,6.3s
MAK MLR MLR
comp=N,53µm,14.0s
MAK MLR MLR
comp=Z,47µm,14.0s
MAK MLR MLR
comp=E,47µm,13.0s
JETT Jettan, Norway 67.48 340 *e*P **P** **02 50 02.7 +0.2**
JETT IVmB_BB 02 50 04.3
comp=Z,5µm,2.3s
VRH Novokhopyorsk 67.54 317 *e*P **P** **02 50 01.9 -1.2**
VRH *e*S **S** **02 58 53.1 -5.7**
VRH pmax pmax
comp=Z,170nm,0.8s
VRH smax smax
comp=N,1µm,13.2s
VRH MLR MLR
comp=Z,34µm,15.0s
BBB Bella Bella 67.57 42 P **P** **02 50 03.0 -0.3**
BBB IAmb IAmb 02 50 21.2
comp=Z,189nm,1.4s
MGCD Mangrove Creek 67.61 167 P **P** **02 50 07.1 +3.5**
comp=Z,62nm,1.2s
JLN Jalan Bani Buh 67.68 282 P **P** **02 50 04.7 +0.2**
SNR=20
JLN S **S** **02 59 02.2 +0.8**
KAAM Kaadhehdhoo 67.70 255 P **P** **02 50 05.8 +1.2**
KAAM IAmb IAmb 02 50 06.6
comp=Z,117nm,1.1s
KAAM IAMs_20 IAMs_20 03 22 36.9
comp=Z,8µm,18.0s
KAAM Kaadhehdhoo 67.70 255 P **P** **02 50 05.8 +1.2**
SNR=7.8
MOS Moscow 67.75 323 *e*P **P** **02 49 59.8 -4.5**
MOS *e* 02 50 26.1
MOS *e* 02 52 31.3
MOS *e* 02 59 55.1
MOS *e*SS SS 03 03 24.2 +2.5
MOS pmax pmax
comp=Z,684nm,2.1s
MOS pmax pmax
comp=Z,1µm,1.5s
MOS MLR MLR
comp=N,13µm,15.0s
MOS MLR MLR
comp=E,38µm,15.0s
MOS MLR MLR
comp=Z,40µm,15.0s
WBK Wadi Bani Khal 67.83 283 P **P** **02 50 06.2 +0.8**
SNR=19
WBK P **P** **02 50 06.2 +0.8**
SNR=19
WBK S **S** **02 59 04.6 +1.4**
WBK S **S** **02 59 04.6 +1.4**
TRO Tromso 67.85 340⇑ *i*P **P** **02 50 04.5 -0.3**
TRO IVmB_BB 02 50 05.2
comp=Z,3µm,1.9s
TRO *e*S **S** **02 59 04.3 +2.3**
TRO IVMsBB 03 24 44.7
comp=Z,9µm,14.6s
TWOA Tennyson Woods 68.03 178 P **P** **02 50 09.9 +3.7**
comp=Z,54nm,1.4s
BIDO Bidbid 68.08 284 P **P** **02 50 07.4 +0.4**
SNR=18
BIDO S **S** **02 59 08.3 +2.0**
AFI Afiamalu 68.17 125 LR LR 03 16 04.4
comp=Z,3µm,19.3s,baz=307,slow=32
AFI Afiamalu 68.17 125 P **P** **02 50 08.2 +0.6**
AFI pmax pmax
comp=Z,67nm,1.1s
AFI Afiamalu 68.17 125 P **P** **02 50 08.2 +0.6**
NWAO Narrogin (SRO) 68.33 197 P **P** **02 50 09.1 +1.0**
NWAO pmax pmax
comp=Z,165nm,1.4s
NWAO Narrogin (SRO) 68.33 197 P **P** **02 50 09.1 +1.0**
NWAO IAmb IAmb 02 50 16.3
comp=Z,165nm,1.4s
SMDO Samad 68.36 284 P **P** **02 50 09.1 +0.1**
SNR=31
SMDO S **S** **02 59 10.6 +0.7**
BANOM Banah 68.44 287 P **P** **02 50 09.9 +0.6**
SNR=7.2
BANOM S **S** **02 59 12.7 +2.1**
BANOM Banah 68.44 287 P **P** **02 50 08.3 -1.0**
BANOM *i*P **pP** **02 50 09.4 -4.7**
SNR=12
LPSR Galich'ya Gora 68.47 319 *e*P **P** **02 50 08.0 -1.0**
LPSR *e*S **S** **02 59 07.4 -2.6**
LPSR pmax pmax
comp=Z,170nm,1.0s
LPSR smax smax
comp=N,1µm,13.4s
LPSR MLR MLR
comp=Z,11µm,13.0s
GROC Groznyy 68.50 308 *e*P **P** **02 50 08.1 -1.2**
GROC *e* 02 50 32.4
GROC *e* 02 52 37.2
GROC *e*S **S** **02 59 09.0 -1.6**
GROC pmax pmax
comp=Z,93nm,0.9s
GROC MLR MLR
comp=Z,22µm,13.0s
SHME Shamm 68.51 288 P **P** **02 50 10.2 +0.5**
SNR=10
SHME P **P** **02 50 10.2 +0.5**
SNR=10
SHME S **S** **02 59 12.3 +1.0**
SHME S **S** **02 59 12.3 +1.0**
SHME Shamm 68.51 288 *i* P **P** **02 50 10.0 +0.3**
SNR=12
OBN Obninsk 68.57 323 LR LR 03 23 11.1
comp=Z,8µm,18.5s,baz=52,slow=39
OBN Obninsk 68.57 323*c i*P **P** **02 50 08.8 -0.7**
OBN *i* *PP **pP** **02 50 13.1 -1.2**
OBN *i* *SP **sP** **02 50 16.5 +0.5**
OBN *i* PPP PPP 02 54 24.3
OBN *i* S **S** **02 59 09.9 -1.0**
OBN *e*PS **PnS** **02 59 27.8 -7.5**
OBN *e*PPS PPS 02 59 41.0
OBN pmax pmax
comp=Z,592nm,2.5s
OBN MLR MLR
comp=Z,41µm,15.0s
OBN Obninsk 68.57 323 P **P** **02 50 09.0 -0.5**
JMDO Jabal Madar 68.64 283 P **P** **02 50 10.5 -0.1**
SNR=18
JMDO P **P** **02 50 10.5 -0.1**
SNR=18
JMDO S **S** **02 59 13.8 +0.8**
JMDO S **S** **02 59 13.8 +0.8**
HOQ Hoqain 68.72 285 P **P** **02 50 11.3 +0.2**
SNR=18
HOQ P **P** **02 50 11.3 +0.2**
SNR=18
HOQ S **S** **02 59 13.9 +0.1**
HOQ S **S** **02 59 13.9 +0.1**
VORR Voronezh 68.74 318⇑ *i*P **P** **02 50 10.3 -0.4**
VORR *i* 02 50 21.5
VORR *e*S **S** **02 59 12.5 -0.7**
VORR pmax pmax
comp=Z,712nm,2.3s
VORR MLR MLR
comp=Z,22µm,12.0s
MASF Masafi 68.81 287 P **P** **02 50 12.2 +0.6**
SNR=8.0
MASF S **S** **02 59 16.1 +1.1**
MSFE Esma-Masafi 68.82 287 *i* P **P** **02 50 11.7 +0.1**
SNR=8.4
UOSS Minazif 68.97 287 P **P** **02 50 12.1 -0.5**
UOSS IAmb IAmb 02 50 13.3
comp=Z,122nm,1.2s
UOSS Minazif 68.97 287 P **P** **02 50 11.8 -0.8**
UOSS P **P** **02 50 11.8 -0.8**
UOSS S **S** **02 59 17.1 +0.3**
UOSS S **S** **02 59 17.1 +0.3**
UOSS Minazif 68.97 287 *i* P **P** **02 50 12.2 -0.4**
SNR=6.8
VORD Divnogorie 69.02 318 *e*P **P** **02 50 11.4 -1.0**
VORD *e*S **S** **02 59 10.2 -6.2**
VORD pmax pmax
comp=Z,80nm,1.3s
VORD smax smax
comp=N,50nm,3.7s
VORD MLR MLR
comp=Z,5µm,13.0s
YKA Yellowknife Ar 69.04 28 P **P** **02 50 12.6 +0.2**
comp=Z,46nm,0.9s,baz=295,slow=6.1,SNR=354
YKA PKPPKP P'P'df 03 18 19.0 -11
comp=Z,1.6nm,1.1s,baz=146,slow=2.0,SNR=8.4
XMAS Kiritimati 69.05 102 P **P** **02 50 14.1 +1.0**
XMAS IAmb IAmb 02 50 22.6
comp=Z,242nm,1.4s
DAG Danmarks Havn 69.07 354 *i* P **P** **02 50 12.1 -0.2**
DAG IAmb IAmb 02 50 12.8
comp=Z,101nm,0.8s
HATD Hatta, Dubai 69.09 287 P **P** **02 50 13.5 +0.2**
SNR=19
HATD P **P** **02 50 13.5 +0.2**
SNR=19
HATD S **S** **02 59 19.0 +0.9**
HATD S **S** **02 59 19.0 +0.9**
HATD Hatta, Dubai 69.09 287 *i* P **P** **02 50 13.2 -0.1**
SNR=21
UMQ Umm Al-Quwin 69.14 287 P **P** **02 50 13.7 +0.1**
UMQ P **P** **02 50 13.7 +0.1**
UMQ S **S** **02 59 22.4 +3.7**
UMQ S **S** **02 59 22.4 +3.7**
BSY Bisya 69.20 284 P **P** **02 50 14.4 +0.3**
SNR=41
BSY P **P** **02 50 14.4 +0.3**
SNR=41
BSY S **S** **02 59 20.3 +0.6**
BSY S **S** **02 59 20.3 +0.6**
ASHO Ashiyiah 69.21 286 P **P** **02 50 14.5 +0.4**
SNR=20
ASHO P **P** **02 50 14.5 +0.4**
SNR=20
ASHO S **S** **02 59 20.7 +1.0**
ASHO S **S** **02 59 20.7 +1.0**
ASHO Ashiyiah 69.21 286 *i* P **P** **02 50 14.2 +0.1**
SNR=21
PUL Pulkovo 69.25 329*ce*P **P** **02 50 14.1 +0.5**
PUL pmax pmax
comp=Z,897nm,2.5s
TULEG Thule 69.26 6 IAmb IAmb 02 50 14.3
comp=Z,177nm,1.1s
TULEG Thule 69.26 6 *i* P **P** **02 50 11.8 -1.6**
TULEG IAmb IAmb 02 50 13.7
comp=Z,44nm,0.8s
CAN Canberra 69.30 169 P **P** **02 50 15.4 +1.2**
CAN pmax pmax
comp=Z,202nm,1.5s
CAN MLR MLR
comp=Z,5µm,19.0s
CAN Canberra 69.30 169 P **P** **02 50 15.4 +1.2**
CAN IAmb IAmb 02 50 23.6
comp=Z,202nm,1.5s
CAN Canberra 69.30 169 P **P** **02 50 16.2 +2.0**
comp=Z,158nm,2.1s
NAZ Nazwa, Dubai 69.39 287 P **P** **02 50 15.5 +0.3**
SNR=9.0
NAZ P **P** **02 50 15.5 +0.3**
SNR=9.0
NAZ S **S** **02 59 23.5 +1.8**
NAZ S **S** **02 59 23.5 +1.8**
NAZ Nazwa, Dubai 69.39 287 *i* P **P** **02 50 15.1 -0.1**
SNR=10
MHTO MHTO 69.41 282 P **P** **02 50 15.3 0.0**
SNR=38
MHTO P **P** **02 50 15.3 0.0**
SNR=38
MHTO S **S** **02 59 21.2 -0.9**
MHTO S **S** **02 59 21.2 -0.9**
GOF Gofitskoye 69.45 311⇑ *e*P **P** **02 50 15.0 -0.2**
GOF pmax pmax
comp=Z,331nm,1.5s
ARQ Araqi 69.47 285 P **P** **02 50 16.2 +0.5**
SNR=35
ARQ P **P** **02 50 16.2 +0.5**
SNR=35
ARQ S **S** **02 59 24.4 +1.6**
ARQ S **S** **02 59 24.4 +1.6**
FAQ Al Faqa, Dubai 69.56 287 P **P** **02 50 16.1 -0.1**
SNR=9.2
FAQ P **P** **02 50 16.1 -0.1**
SNR=9.2
FAQ S **S** **02 59 24.5 +0.8**
FAQ S **S** **02 59 24.5 +0.8**
FAQ Al Faqa, Dubai 69.56 287 *i* P **P** **02 50 15.6 -0.6**
SNR=9.0
ALNE Al Ain 69.75 286 P **P** **02 50 17.8 +0.3**
SNR=21
ALNE S **S** **02 59 26.5 +0.4**
ALNE Al Ain 69.75 286 *i* P **P** **02 50 17.1 -0.4**
SNR=15
ASUD Al Ashush, Dub 69.83 287 P **P** **02 50 18.3 +0.4**
ASUD S **S** **02 59 27.6 +0.8**
ASUD Al Ashush, Dub 69.83 287 *i* P **P** **02 50 17.8 0.0**
SNR=5.3
ARPS Mount Arapiles 69.92 175 P **P** **02 50 19.9 +2.0**
comp=Z,72nm,0.8s
ZEI Tsey 69.92 308 *e*P **P** **02 50 15.3 -3.2**
ZEI pmax pmax
comp=Z,64nm,1.4s
STEI Steigen 69.97 340⇑ *i*P **P** **02 50 17.8 -0.2**
STEI IVmB_BB 02 50 18.4
comp=Z,4µm,2.4s
STEI *e*S **S** **02 59 29.4 +2.2**
STEI IVMs_BB IVMs_BB 03 27 47.8
comp=Z,7µm,14.9s
CBB Campbell River 70.09 43 IAmb IAmb 02 50 34.0
comp=Z,125nm,1.4s
AJN Ajban 70.13 287 P **P** **02 50 19.4 -0.4**
SNR=6.0
AJN Ajban 70.13 287 *i* P **P** **02 50 19.3 -0.4**
SNR=6.0
FIA1 FINESS Array S 70.13 331 P **P** **02 50 18.6 -0.4**
FIA1 IAmb IAmb 02 50 40.0
comp=Z,241nm,1.4s
FINES FINESS Array B 70.13 331 P **P** **02 50 18.5 -0.6**
comp=Z,40nm,0.9s,baz=76,slow=8.0,SNR=64
FINES S **S** **02 59 25.8 -3.4**
comp=Z,0.3nm,0.4s,baz=169,slow=30,SNR=1.7
FINES LR LR 03 24 37.9
comp=Z,9µm,18.1s,baz=30,slow=39
KBZ Khabaz 70.15 310 P **P** **02 50 19.4 0.0**
comp=Z,48nm,1.0s,baz=68,slow=6.1,SNR=118
KBZ S **S** **02 59 24.6 -5.4**
comp=Z,1.9nm,1.1s,baz=360,slow=11,SNR=1.9
KBZ LR LR 03 22 41.2
comp=Z,10µm,18.3s,baz=61,slow=37
KBZ Khabaz 70.15 310*ce*P **P** **02 50 19.3 -0.2**
KIV Kislovodsk 70.18 310⇑ P **P** **02 50 19.9 0.0**
KIV Kislovodsk 70.18 310 *i* P **P** **02 50 20.2 +0.3**
KIV Kislovodsk 70.18 310 *e*P **P** **02 50 19.9 0.0**
KIV *e* 02 52 54.5
KIV *e*PPP PPP 02 54 37.8
KIV *e*S **S** **02 59 31.8 +1.2**
KIV *e*SS **SS** **03 04 03.3 +3.3**
KIV pmax pmax
comp=Z,165nm,1.1s
KIV pmax pmax
comp=Z,883nm,4.4s
KIV MLR MLR
comp=Z,10µm,18.0s
KIV Kislovodsk 70.18 310 P **P** **02 50 19.4 -0.4**
KIV IAMs_20 IAMs_20 03 25 58.4
comp=Z,8µm,18.0s
KIV Kislovodsk 70.18 310 P **P** **02 50 19.9 0.0**
KIV S **S** **02 59 31.6 +0.9**
KIV Kislovodsk 70.18 310 *i* P **P** **02 50 19.8 0.0**
SNR=53
DQM DQM 70.28 281 P **P** **02 50 20.3 -0.4**
SNR=15
DQM S **S** **02 59 31.5 -0.8**
ONI Oni 70.31 308 IAmb IAmb 02 50 42.2
comp=Z,110nm,1.2s
FAUS Fauske 70.31 339⇑ *i*P **P** **02 50 20.0 -0.1**
FAUS IVmB_BB 02 50 20.7
comp=Z,3µm,2.2s
FAUS *e*PP **PP** **02 52 51.9 -3.4**
FAUS *e*S **S** **02 59 28.3 -2.8**
FAUS *e*SS **SS** **03 03 59.0 -1.7**
FAUS IVMs_BB IVMs_BB 03 27 53.5
comp=Z,7µm,11.6s
LOF Lofoten 70.32 340⇑ *i*P **P** **02 50 20.2 +0.1**
LOF IVmB_BB 02 50 20.5
comp=Z,3µm,3.3s
LOF IVMs_BB IVMs_BB 03 27 01.1
comp=Z,8µm,18.2s
NEY Neytrino 70.48 309 *i* P **P** **02 50 21.6 -0.2**
NEY pmax pmax
comp=Z,66nm,2.0s
NEY MLR MLR
comp=Z,3µm,14.0s
OZB Mount Ozzard 70.53 44 IAmb IAmb 02 50 43.4
comp=Z,203nm,1.4s
GNI Garni 70.57 306 *i* P **P** **02 50 23.4 +1.0**
GNI Garni 70.57 306*ce*P **P** **02 50 23.1 +0.7**
GNI pmax pmax
comp=Z,316nm,1.7s
GNI Garni 70.57 306 P **P** **02 50 22.9 +0.5**
GNI Garni 70.57 306 IAMs_20 IAMs_20 03 25 35.1
comp=Z,8µm,20.0s
GNI Garni 70.57 306 P **P** **02 50 23.3 +1.0**
GNI S **S** **02 59 39.5 +4.0**
AKH Akhalkalaki 70.83 307⇓ P **P** **02 50 25.0 +1.0**
AKH Akhalkalaki 70.83 307 *i* P **P** **02 50 24.7 +0.7**
BRAT Ballarat 70.86 174 P **P** **02 50 26.4 +2.8**
comp=Z,38nm,1.1s
UMZA Um Al Zommool 70.87 285 P **P** **02 50 23.9 -0.4**
UMZA S **S** **02 59 38.3 -0.8**
TASB TASBURUN-IGDIR 70.99 306 *i* P **P** **02 50 25.5 +0.7**
TOO Toolangi 71.04 172 P **P** **02 50 26.2 +1.4**
TOO pmax pmax
comp=Z,109nm,1.3s
TOO Toolangi 71.04 172 P **P** **02 50 26.2 +1.4**
TOO Toolangi 71.04 172 P **P** **02 50 27.1 +2.3**
comp=Z,71nm,2.3s
CHVG Ch'k'valeri 71.14 309⇓ P **P** **02 50 25.8 +0.1**
MOR8 Moi Rana 71.36 339⇑ *i*P **P** **02 50 25.3 -1.2**
MOR8 IVmB_BB 02 50 25.7
comp=Z,3µm,2.3s
MOR8 ⇑*e*PP **PP** **02 53 02.7 -1.6**
MOR8 *e*S S **02 59 40.6 -2.9**
MOR8 IVMs_BB IVMs_BB 03 28 17.4
comp=Z,7µm,15.4s
CLRS Cowichan Lake 71.38 43 IAmb IAmb 02 50 48.7
comp=Z,185nm,1.4s
KARS Kars 71.47 307 *i* P **P** **02 50 28.6 +0.8**
MEF Metsahovi 71.51 331 *e*P **P** **02 50 26.4 -1.0**
VSU Vasula 71.51 329*c i*P **P** **02 50 26.4 -1.1**
VSU pmax pmax
comp=Z,1µm,1.8s
VSU Vasula 71.51 329 *e*P **P** **02 50 26.4 -1.1**
DBG Daneborg 71.52 353 *i* P **P** **02 50 27.2 -0.2**
DBG IAmb IAmb 02 51 08.0
comp=Z,18nm,1.0s
KONS Konsvik 71.54 339 *e*P **P** **02 50 27.5 0.0**
KONS *e*S **S** **02 59 45.9 +0.5**
CLDR Caldiran 71.60 305 *i* P **P** **02 50 29.5 +0.7**
LLLB Lillooet 71.76 41 P **P** **02 50 29.6 +0.4**
LLLB IAmb IAmb 02 50 50.0
comp=Z,184nm,1.2s
PGC Sidney 71.86 43 IAmb IAmb 02 50 48.9
comp=Z,159nm,1.2s
RAF Rauma 72.08 332 *e*P **P** **02 50 29.1 -1.8**
MZR Muzera 72.09 286 P **P** **02 50 31.4 -0.3**
SNR=16
MZR S **S** **02 59 51.2 -2.0**
MZR Muzera 72.09 286 *i* P **P** **02 50 31.2 -0.4**
SNR=19
B04A Port Angeles 72.12 44 IAmb IAmb 02 50 51.1
comp=Z,153nm,1.1s
VANB Van 72.23 305 *i* P **P** **02 50 32.8 +0.4**
NLWA Neilton Lookou 72.24 45 P **P** **02 50 33.2 +1.0**
A04D Lummi Island 72.25 43 P **P** **02 50 33.4 +1.3**
baz=300,SNR=16
A04D S **S** **02 59 56.1 +1.9**
baz=300
SOC Sochi 72.25 311 *e*P **P** **02 50 28.8 -3.5**
SOC *e* 02 53 10.0
SOC *e*PPP PPP 02 54 53.4
SOC *e*S **S** **02 59 51.4 -3.0**
SOC *e*SS **SS** **03 04 25.5 -6.1**
SOC *e*SSS SSS 03 07 45.0
SOC pmax pmax
comp=Z,215nm,1.6s
SOC MLR MLR
comp=Z,11µm,15.0s
KHOR Al-Khor Airpor 72.39 289 P **P** **02 50 32.7 -0.7**
MLAZ Malazgirt-MUS 72.54 306 *i* P **P** **02 50 34.9 +0.6**
KOPR Koprukoy-ERZUR 72.60 307 *i* P **P** **02 50 35.0 +0.4**
MTSE Matsula 72.62 330 *e*P **P** **02 50 33.8 -0.3**
D03D Eldon 72.63 44 P **P** **02 50 36.3 +1.9**
baz=300,SNR=51
D03D S **S** **03 00 00.8 +2.2**
baz=300
AKDM Akdamar-Van 72.64 305 *i* P **P** **02 50 35.3 +0.4**
SHMA Al-Shehemyia 72.71 290 P **P** **02 50 34.6 -0.7**
CUKT Cukurca 72.72 303 *i* P **P** **02 50 35.2 -0.2**
CHOM Cayeli-Rize 72.79 308 *i* P **P** **02 50 35.8 +0.3**
SHAO Shalim 72.79 280 P **P** **02 50 36.0 +0.1**
SNR=5.3
SHAO S **S** **03 00 01.4 +0.1**
SHAO Shalim 72.79 280 *i* P **P** **02 50 35.6 -0.2**
SNR=5.9
B05A Bryant 72.83 43 P **P** **02 50 36.8 +1.2**
baz=301,SNR=39
B05A S **S** **03 00 01.6 +0.8**
baz=301
DGAR Diego Garcia 72.86 249*ce*P **P** **02 50 37.8 +1.5**
DGAR pmax pmax
comp=Z,226nm,2.5s
DGAR Diego Garcia 72.86 249 P **P** **02 50 36.7 +0.4**
DGAR Diego Garcia 72.86 249 IAMs_20 IAMs_20 03 25 34.3
comp=Z,5µm,18.0s
DGAR Diego Garcia 72.86 249 P **P** **02 50 36.7 +0.4**
H08S3 Diego Garcia H 72.97 249 P **P** **02 50 35.6 -1.0**
baz=112,slow=76,SNR=4.6
H08S2 Diego Garcia H 72.97 249 P **P** **02 50 39.6 +3.0**
baz=112,slow=76,SNR=4.7
H08S1 Diego Carcia H 72.99 249 P **P** **02 50 38.0 +1.3**
baz=112,slow=76,SNR=4.2
D04E Lakebay 72.99 44 P **P** **02 50 38.8 +2.2**
baz=301,SNR=7.3
D04E S **SKiKP** **03 00 07.7 -0.9**
baz=301
SLWR Sila 73.00 288 P **P** **02 50 36.9 -0.1**
SLWR S **S** **03 00 00.9 -2.6**
JMIC Jan Mayen 73.02 349 LR LR 03 25 55.1
comp=Z,4µm,18.1s,baz=24,slow=38

TRNA Turayna 73.06 289 P **P** **02 50 36.6 -0.7**
ANN Anapa 73.08 313 *e*P **P** **02 50 36.0 -1.1**
ANN *e* 02 50 52.2
ANN *e* 02 53 15.3
ANN *e*S **S** **03 00 02.6 -1.1**
ANN pmax pmax
comp=Z,431nm,1.7s
ANN pmax pmax
comp=Z,2µm,2.4s
GURO Guroymak-BITLI 73.18 305 *i*P **P** **02 50 38.7 +0.6**
GURO Guroymak-BITLI 73.18 305 P **P** **02 50 38.0 -0.1**
MNK Minsk 73.20 325 *i*P **P** **02 50 34.5 -3.1**
MNK *i* 02 50 50.9
MNK *i* PPP PPP 02 55 01.6
MNK *i* S **S** **03 00 02.8 -2.0**
MNK *i* 03 00 42.6
MNK *i* SS **SS** **03 04 44.8 -0.6**
MNK pmax pmax
comp=N,19nm,1.0s
MNK pmax pmax
comp=Z,98nm,1.0s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK MLR MLR
comp=N,15µm,19.0s
MNK MLR MLR
comp=Z,20µm,19.0s
MNK MLR MLR
comp=E,3µm,19.0s
MNK Minsk 73.20 325 *i*P **P** **02 50 34.5 -3.1**
comp=E,6.0nm,1.0s
MNK *i*P **P** **02 50 34.5 -3.1**
comp=N,19nm,1.0s
MNK *i*P **P** **02 50 34.5 -3.1**
comp=Z,98nm,1.0s,baz=56
MNK *i* PcP **PcP** **02 50 51.0 -3.2**
MNK *i* PP PP 02 53 11.6 -8.6
MNK *i* PPP PPP 02 55 01.7
MNK *i* S **S** **03 00 02.8 -2.0**
MNK *i* SS **SS** **03 04 44.8 -0.6**
MNK *i* SSS SSS 03 08 43.4
MNK *i* LQ LQ 03 17 46.7
MNK *i* LR LR 03 22 11.0
MNK *i* LRM MLR 03 23 34.1
comp=N,15µm,18.6s
MNK *i* LRM MLR 03 26 26.6
comp=Z,20µm,18.7s
MNK *i* LRM MLR 03 26 28.7
comp=E,3µm,18.7s
NSS Namsos 73.24 338 *e*P **P** **02 50 37.4 -0.3**
NSS *e*S **S** **03 00 04.6 -0.3**
NSS IVMs_BB IVMs_BB 03 29 07.8
comp=Z,6µm,13.6s
VRTB Varto-Mus 73.27 306 *i*P **P** **02 50 39.4 +0.8**
IDID Didziasalis 73.28 326 *e*P **P** **02 50 38.2 +0.1**
AAL Aland 73.29 332 *e*P **P** **02 50 36.2 -1.9**
F04D Rainier, OR 73.41 46 P **P** **02 50 40.3 +1.2**
baz=301
F04D S **S** **03 00 08.2 +0.6**
baz=301
ISAL Salakas 73.42 326 *e*P **P** **02 50 38.9 -0.1**
E04D Cinebar 73.43 45 P **P** **02 50 40.5 +1.3**
baz=301,SNR=19
E04D S **SKiKP** **03 00 11.0 +1.7**
baz=301
KTUT Trabzon 73.50 308 ⇑P **P** **02 50 39.3 -0.4**
KTUT Trabzon 73.50 308 *i*P **P** **02 50 39.5 -0.2**
NACGM Naroch 73.50 325⇑*e*P **P** **02 50 39.5 0.0**
DMTO DMTO 73.50 281 P **P** **02 50 40.1 0.0**
SNR=6.2
IIGN Ignalina 73.51 326 *e*P **P** **02 50 38.9 -0.6**
C06D Leavenworth 73.70 43 P **P** **02 50 41.8 +1.0**
baz=302
C06D S **S** **03 00 13.2 +2.4**
baz=302
G03D McMinnville, O 73.71 46 IAmb IAmb 02 51 01.3
comp=Z,212nm,1.2s
G03D McMinnville, O 73.71 46 P **P** **02 50 42.1 +1.2**
baz=301
G03D S **S** **03 00 14.4 +3.5**
baz=301
DOK Doka 73.72 282 P **P** **02 50 40.9 -0.4**
SNR=20
UPNV Upernavik 73.83 4 *i*P **P** **02 50 40.0 -1.1**
UPNV IAmb IAmb 02 50 41.4
comp=Z,54nm,0.8s
BNGB Bingl 73.88 306 *i*P **P** **02 50 42.8 +0.6**
I02E Swisshome, OR 73.92 48 P **P** **02 50 43.7 +1.6**
baz=301
I02E S **S** **03 00 13.9 +0.6**
baz=301
SLIT Slitere, Latvi 73.92 329 *e*P **P** **02 50 41.2 -0.6**
SVAN Silvan-Diyarba 73.94 305 *i*P **P** **02 50 43.0 +0.5**
COR Corvallis 74.00 47 P **P** **02 50 43.1 +0.5**
COR pmax pmax
comp=Z,488nm,1.3s
COR MLR MLR
comp=Z,4µm,19.0s
COR Corvallis 74.00 47 P **P** **02 50 43.1 +0.5**
RBK Rabkut 74.22 281 P **P** **02 50 43.8 -0.6**
SNR=17
ERZN Erzincan 74.23 307 *i*P **P** **02 50 44.8 +0.6**
J01E Myrtle Point 74.35 49 IAmb IAmb 02 51 04.0
comp=Z,213nm,1.1s
J01E IAMs_20 IAMs_20 03 20 15.0
comp=Z,5µm,19.0s
J01E Myrtle Point 74.35 49 P **P** **02 50 45.7 +1.1**
baz=301
J01E S **S** **03 00 21.6 +3.4**
baz=301
B08A Colville Reser 74.35 42 IAmb IAmb 02 51 02.9
comp=Z,249nm,1.4s
WHFO Wadi Hawf 74.36 281 P **P** **02 50 44.4 -0.8**
SNR=14
H04D Lebanon 74.38 47 IAmb IAmb 02 51 12.9
comp=Z,227nm,1.4s
H04D Lebanon 74.38 47 P **P** **02 50 46.2 +1.4**
baz=302,SNR=8.8
H04D S **S** **03 00 20.1 +1.5**
baz=302
UPP Uppsala 74.41 333 *e*P **P** **02 50 42.9 -1.7**
I03D Drain, OR 74.44 48 P **P** **02 50 46.8 +1.7**
baz=301,SNR=20
I03D S **S** **03 00 22.4 +3.3**
baz=301
F05D White Salmon 74.44 45 IAmb IAmb 02 51 13.9
comp=Z,148nm,1.4s
F05D White Salmon 74.44 45 P **P** **02 50 45.4 +0.2**
baz=302
F05D S **S** **03 00 20.4 +1.2**
baz=302
PABE Paberze 74.46 327 P **P** **02 50 44.4 -0.6**
PABE Paberze 74.46 327 *e*P **P** **02 50 45.0 -0.1**
H04A Detroit Lake 74.64 46 IAmb IAmb 02 51 05.6
comp=Z,151nm,1.1s
AKASG Malin Array Be 74.65 321 P **P** **02 50 45.6 -0.6**
comp=Z,34nm,0.6s,baz=47,slow=6.0,SNR=357
AKASG S **S** **03 00 23.4 +2.1**
comp=Z,0.1nm,0.2s,baz=39,slow=6.2,SNR=4.6
AKASG LR LR 03 25 49.7
comp=Z,12µm,19.1s,baz=31,slow=38
AKASG Malin Array Be 74.65 321*c**e*P **P** **02 50 45.5 -0.7**
AKASG pmax pmax
comp=Z,37nm,0.6s
AKASG Malin Array Be 74.65 321 P **P** **02 50 44.9 -1.3**
AKBB Malin Array Si 74.65 321*c**e*P **P** **02 50 45.5 -0.7**
AKBB Malin Array Si 74.65 321 IAmb IAmb 02 50 51.0
comp=Z,128nm,1.2s
TBLU Trondheim 74.68 338⇑*i*P **P** **02 50 45.3 -0.9**
TBLU IVmB_BB 02 50 45.9
comp=Z,3µm,2.0s
TBLU *e*S **S** **03 00 17.1 -4.2**
TBLU IVMs_BB IVMs_BB 03 29 34.4
comp=Z,8µm,10.7s
K02D Willamette Mer 74.76 49 P **P** **02 50 48.3 +1.2**
baz=301,SNR=12
K02D S **S** **03 00 25.0 +2.0**
baz=301
DYBB Diyarbakir 74.77 305 *i*P **P** **02 50 48.0 +0.7**
DBO Dodson Butte 74.80 48 IAmb IAmb 02 51 07.7
comp=Z,161nm,1.3s
G05D Wamic, OR 74.86 46 P **P** **02 50 48.9 +1.2**
baz=302,SNR=9.2
G05D S **S** **03 00 28.0 +4.0**
baz=302
I04A Tendick Farm, 74.97 47 P **P** **02 50 49.4 +1.1**
baz=302,SNR=20
I04A S **S** **03 00 27.2 +2.0**
baz=302
SIM Simferopol' 75.02 314 P **P** **02 50 47.5 -1.0**
SIM pmax pmax
comp=Z,87nm,0.9s
E07A Sunnyside 75.02 44 IAmb IAmb 02 51 07.9
comp=Z,167nm,1.2s
ABTO Aybut 75.04 281 P **P** **02 50 48.6 -0.5**
SNR=47
PBUR Paburge 75.06 328 *e*P **P** **02 50 48.3 -0.2**
ILIC ilic-Erzincan 75.06 307 *i*P **P** **02 50 49.8 +0.8**
L02E Cave Junction 75.08 49 IAmb IAmb 02 51 09.4
comp=Z,138nm,1.2s
L02E Cave Junction 75.08 49 P **P** **02 50 50.3 +1.4**
baz=302,SNR=16
L02E S **S** **03 00 29.3 +2.8**
baz=302
SVRC Sivrice-ELAZID 75.12 306 *i*P **P** **02 50 50.5 +1.1**
C09A Chrisman Ranch 75.25 42 IAmb IAmb 02 51 09.5
comp=Z,239nm,1.4s
D08A Wollman Farm, 75.29 43 IAmb IAmb 02 51 08.5
comp=Z,206nm,1.4s
SCO Scoresbysund 75.32 353 P **P** **02 50 50.0 +0.3**
SCO pmax pmax
comp=Z,232nm,1.3s
SCO Scoresbysund 75.32 353 P **P** **02 50 50.0 +0.3**
SCO IAmb IAmb 02 50 51.6
comp=Z,232nm,1.3s
SCO Scoresbysund 75.32 353 *i*P **P** **02 50 50.6 +0.9**
SCO IAmb IAmb 02 51 08.6
comp=Z,30nm,0.8s
KRPM Rodgers 75.33 50 IAmb IAmb 02 51 10.0
comp=Z,214nm,1.4s
I05D Terrebonne, OR 75.33 46 P **P** **02 50 51.5 +1.1**
baz=302,SNR=23
I05D S **S** **03 00 31.7 +2.4**
baz=302
F07A Phinny Hill Vi 75.34 45 IAmb IAmb 02 51 12.2
comp=Z,234nm,1.3s
RSDY Resadiye-TOKAT 75.39 309 *i*P **P** **02 50 50.9 +0.1**
ARPR Arapgir-MALATY 75.40 307 *i*P **P** **02 50 52.1 +1.1**
J04D Umpqua Nationa 75.44 48 IAmb IAmb 02 51 07.9
comp=Z,237nm,1.0s
J04D Umpqua Nationa 75.44 48 P **P** **02 50 52.6 +1.4**
baz=302,SNR=29
J04D S **S** **03 00 33.1 +2.2**
baz=302
JCC Jacoby Creek, 75.50 51 IAmb IAmb 02 51 11.4
comp=Z,207nm,1.2s
NEW Newport 75.64 41 LR LR 03 22 22.9
comp=Z,2µm,20.8s,baz=320,slow=34
NEW Newport 75.64 41 P **P** **02 50 52.2 +0.1**
NEW pmax pmax
comp=Z,129nm,1.3s
NEW Newport 75.64 41 P **P** **02 50 52.1 +0.1**
NEW IAmb IAmb 02 51 11.1
comp=Z,128nm,1.2s
NEW Newport 75.64 41 P **P** **02 50 52.9 +0.9**
baz=304,SNR=38
NEW S **S** **03 00 33.0 +0.5**
baz=304
KMPM Mount Pierce 75.65 51 IAmb IAmb 02 51 13.0
comp=Z,173nm,1.2s
KHMM Horse Mountain 75.67 50 IAmb IAmb 02 51 13.1
comp=Z,189nm,1.4s
VIKU Vikbolandet 75.67 332 *e*P **P** **02 50 51.0 -0.9**
SUW Suwalki 75.72 326 *i*P **P** **02 50 52.1 -0.3**
SUW *e*PcP **pwP** **02 51 01.1 +1.2**
SUW Suwalki 75.72 326 *e*P **P** **02 50 52.0 -0.3**
NC303 NORSAR Array S 75.76 336 IAmb IAmb 02 50 53.0
comp=Z,207nm,1.4s
RAO Raoul Island 75.80 140 LR LR 03 22 40.6
comp=Z,1µm,18.2s,baz=346,slow=34
SVSK Karacayir 75.86 309 *i*P **P** **02 50 54.2 +0.8**
KVT Kavak 75.86 310 *i*P **P** **02 50 54.2 +0.7**
L04D Klamath Falls 75.86 49 IAmb IAmb 02 51 13.2
comp=Z,232nm,1.1s
L04D Klamath Falls 75.86 49 P **P** **02 50 54.7 +1.1**
baz=302,SNR=42
L04D S **S** **03 00 36.9 +1.4**
baz=302
DOMB Dombas 75.94 337⇑*i*P **P** **02 50 53.4 -0.1**
DOMB IVmB_BB 02 50 53.9
comp=Z,3µm,2.5s
DOMB *e*S **S** **03 00 32.7 -2.7**
DOMB IVMs_BB IVMs_BB 03 31 31.1
comp=Z,7µm,10.8s
TOKT Tokat 75.94 309 *i*P **P** **02 50 54.3 +0.3**
NB2 NORSAR Subarra 75.94 336 P **P** **02 50 53.2 -0.4**
comp=Z,1µm,2.5s,baz=43,slow=5.9
NB2 NORSAR Subarra 75.94 336 P **P** **02 50 53.2 -0.4**
baz=43,slow=5.9
NOA NORSAR Array B 75.94 336 P **P** **02 50 52.9 -0.7**
comp=Z,34nm,0.9s,baz=44,slow=5.7,SNR=58
NOA LR LR 03 26 09.3
comp=Z,4µm,18.9s,baz=45,slow=37
M02C Callahan 75.96 50 IAmb IAmb 02 51 13.5
comp=Z,130nm,1.3s
M02C Callahan 75.96 50 P **P** **02 50 55.8 +1.8**
baz=302,SNR=28
M02C S **S** **03 00 38.1 +1.7**
baz=302
J05D Fort Rock, OR 75.96 47 P **P** **02 50 55.7 +1.5**
baz=303,SNR=42
J05D S **S** **03 00 38.8 +2.3**
baz=303
K04D Chiloquin, OR 75.99 48 P **P** **02 50 55.7 +1.4**
baz=302,SNR=8.1
K04D S **S** **03 00 40.0 +3.2**
baz=302
KMRM Mail Ridge 76.02 51 IAmb IAmb 02 51 13.9
comp=Z,155nm,1.4s
MOL Molde 76.03 338⇑*i*P **P** **02 50 54.4 +0.5**
MOL IVmB_BB 02 50 54.8
comp=Z,4µm,2.5s
MOL *e*PP **PP** **02 53 41.6 -2.3**
MOL IVMs_BB IVMs_BB 03 31 44.6
comp=Z,7µm,12.5s
NC602 NORSAR Array S 76.05 335⇑*i*P **P** **02 50 53.0 -1.1**
NAO01 NORSAR Array S 76.20 336 P **P** **02 50 54.3 -0.6**
NAO01 IAmb IAmb 02 50 58.4
comp=Z,201nm,1.3s
DARE Darende-Malaty 76.24 307 *i*P **P** **02 50 56.8 +1.0**
N02D Trinity Center 76.27 50 P **P** **02 50 57.3 +1.4**
baz=302,SNR=24
N02D S **S** **03 00 42.6 +2.8**
baz=302
KCPM Cahto Peak 76.39 51 IAmb IAmb 02 51 15.7
comp=Z,226nm,1.3s
M04C Macdoel 76.39 49 IAmb IAmb 02 51 16.3
comp=Z,199nm,1.0s
M04C Macdoel 76.39 49 P **P** **02 50 57.8 +1.2**
baz=303,SNR=36
AKN Aaknes 76.50 338 *e*P **P** **02 50 57.0 +0.3**
AKN IVmB_BB 02 50 57.7
comp=Z,3µm,4.4s
AKN *e*S **S** **03 00 43.5 +2.1**
AKN IVMs_BB IVMs_BB 03 30 13.4
comp=Z,9µm,10.9s
TAU Tasmania Unive 76.52 172 P **P** **02 50 58.2 +1.4**
TAU pmax pmax
comp=Z,117nm,1.3s
TAU Tasmania Unive 76.52 172 P **P** **02 50 58.2 +1.4**
SORM Soroca 76.57 319 ⇑P **P** **02 50 56.9 -0.4**
O02D Mt. Diablo Mer 76.64 51 IAMs_20 IAMs_20 03 25 28.6
comp=Z,6µm,19.0s
O02D Mt. Diablo Mer 76.64 51 P **P** **02 50 59.3 +1.3**
baz=302,SNR=34
O02D S **S** **03 00 47.2 +3.2**
baz=302
BZK Bozkurt 76.69 312 ⇑P **P** **02 50 57.6 -0.5**
BZK Bozkurt 76.69 312 *i*P **P** **02 50 57.7 -0.4**
KLNR Kaliningrad 76.72 328*c**i*P **P** **02 50 57.1 -0.9**
KLNR pmax pmax
comp=Z,716nm,1.7s
OSL Oslo 76.90 335⇑*i*P **P** **02 50 58.6 -0.3**
OSL IVmB_BB 02 50 59.5
comp=Z,3µm,3.5s
OSL *e*S **S** **03 00 44.1 -1.7**
OSL IVMs_BB IVMs_BB 03 29 43.3
comp=Z,8µm,11.7s
KIS Kishinev 76.97 318 ⇓P **P** **02 50 59.4 -0.1**
MILM Milestii Mici 77.01 318 ⇑P **P** **02 50 59.2 -0.6**
SARI SarD1z-Kayseri 77.04 307 *i*P **P** **02 51 01.0 +0.6**
SOCY Socotra 77.12 276 P **P** **02 50 59.2 -1.9**
SOCY IAmb IAmb 02 51 01.0
comp=Z,208nm,1.2s
SOCY IAMs_20 IAMs_20 03 26 18.1
comp=Z,5µm,19.0s
SOCY Socotra 77.12 276 P **P** **02 50 59.5 -1.6**
SNR=42
BNN Bunyan 77.18 308 *i*P **P** **02 51 01.5 +0.4**
BNN Bunyan 77.18 308 P **P** **02 51 00.9 -0.2**
SKAR Skarslia 77.19 337⇑*i*P **P** **02 51 01.0 +0.3**
SKAR IVmB_BB 02 51 01.7
comp=Z,3µm,2.3s
SKAR ⇑*e*sP **pP** **02 51 01.9 -3.6**
SKAR *e*S **S** **03 00 50.1 +1.0**
SKAR IVMs_BB IVMs_BB 03 31 11.2
comp=Z,9µm,13.9s
O03E Paynes Creek 77.22 50 IAmb IAmb 02 51 20.7
comp=Z,229nm,1.4s
O03E Paynes Creek 77.22 50 P **P** **02 51 01.7 +0.5**
baz=303,SNR=18
O03E S **S** **03 00 51.4 +1.2**
baz=303
CORM Corum 77.26 310 *i*P **P** **02 51 02.2 +0.7**
MOD Modoc Plateau 77.29 48 IAMs_20 IAMs_20 03 22 20.8
comp=Z,4µm,19.0s
BMO Blue Mountains 77.45 44 IAmb IAmb 02 51 22.4
comp=Z,270nm,1.5s
KONO Kongsberg 77.50 335*c**e*P **P** **02 51 02.3 0.0**
KONO pmax pmax
comp=Z,127nm,1.7s
KONO Kongsberg 77.50 335 P **P** **02 51 01.9 -0.4**
KONO Kongsberg 77.50 335⇑*i*P **P** **02 51 01.9 -0.4**
HYA Hoyanger 77.51 338⇑*i*P **P** **02 51 02.3 0.0**
HYA *e*sP **pP** **02 51 03.7 -3.5**
FOO Floro 77.54 338⇑*i*P **P** **02 51 02.5 0.0**
FOO IVmB_BB 02 51 03.2
comp=Z,4µm,2.3s
FOO *e*S **S** **03 00 49.7 -3.0**
FOO IVMs_BB IVMs_BB 03 31 15.2
comp=Z,7µm,14.0s
KURC Kurucasile-Bar 77.54 312 *i*P **P** **02 50 59.9 -3.0**
J08A Circle Bar Ran 77.60 46 IAmb IAmb 02 51 23.6
comp=Z,255nm,1.3s
ILULI Ilulissat 77.62 3 IAmb IAmb 02 51 17.4
comp=Z,213nm,1.3s
ILULI Ilulissat 77.62 3 *i*P **P** **02 51 02.3 -0.5**
ILULI IAmb IAmb 02 51 07.2
comp=Z,23nm,0.9s
CANT Cankiri 77.67 311 *i*P **P** **02 51 04.3 +0.6**
MCCM Marconi Confer 77.67 52 IAMs_20 IAMs_20 03 24 13.3
comp=Z,6µm,19.0s
VASR Vaslui 77.75 318 ⇑P **P** **02 51 04.5 +0.5**
ORV Oroville 77.81 51 IAMs_20 IAMs_20 03 22 52.5
comp=Z,5µm,19.0s
ICESG Greenland Ices 77.85 359 *i*P **P** **02 51 04.3 -0.3**
ICESG IAmb IAmb 02 51 19.7
comp=Z,34nm,0.7s
LVV L'vov 77.86 322 *e*P **P** **02 51 03.1 -1.4**
LVV *e*S **S** **03 00 53.1 -3.6**
LVV *e*SS **SS** **03 05 51.8 -4.5**
LVV MLR MLR
comp=Z,26µm,17.0s
KOZT Kozan 77.93 307 *i*P **P** **02 51 05.6 +0.4**
TLCR 78.01 316 ⇑P **P** **02 51 05.4 0.0**
WVOR Wild Horse Val 78.02 47 IAmb IAmb 02 51 27.7
comp=Z,146nm,1.2s
SUE Sulen 78.05 338⇑*i*P **P** **02 51 05.8 +0.5**
SUE IVmB_BB 02 51 06.3
comp=Z,4µm,2.4s
SUE *e*S **S** **03 00 58.2 0.0**
SUE IVMs_BB IVMs_BB 03 30 39.4
comp=Z,8µm,13.9s
PLID Pearl Lake 78.08 44 IAMs_20 IAMs_20 03 28 31.0
comp=Z,4µm,19.0s
BR131 Keskin Array S 78.14 310 IAmb IAmb 02 51 23.4
comp=Z,133nm,1.2s
BRTR Keskin Array B 78.14 310 P **P** **02 51 06.3 -0.1**
comp=Z,117nm,1.4s,baz=100,slow=2.9,SNR=106
BRTR LR LR 03 28 22.3
comp=Z,5µm,18.0s,baz=96,slow=38
BRTR Keskin Array B 78.14 310 *i*P **P** **02 51 06.5 0.0**
VARL Varlezi 78.15 317 ⇓P **P** **02 51 07.1 +0.9**
DEL Delary 78.17 331 *e*P **P** **02 51 04.2 -1.9**
DEL Delary 78.17 331 *i*P **P** **02 51 05.0 -1.1**
RAYN Ar Rayn 78.17 290 P **P** **02 51 06.5 -0.3**
RAYN pmax pmax
comp=Z,279nm,1.2s
RAYN MLR MLR
comp=Z,7µm,19.0s
RAYN Ar Rayn 78.17 290 P **P** **02 51 06.5 -0.3**
RAYN Ar Rayn 78.17 290 IAMs_20 IAMs_20 03 30 04.4
comp=Z,7µm,19.0s
RAYN Ar Rayn 78.17 290 P **P** **02 51 07.3 +0.5**
RAYN Ar Rayn 78.17 290 *i*P **P** **02 51 07.0 +0.2**
SNR=162
SCTR Scanteiesti 78.20 317 ⇑P **P** **02 51 06.9 +0.5**
TATR Tatarca 78.21 317 ⇓P **P** **02 51 06.8 +0.3**
BEL Belsk 78.21 325 *i*P **P** **02 51 07.1 +0.7**
BEL *e*S **S** **03 01 02.4 +2.1**
BEL *e*L L 03 29 43.2
comp=Z,24µm,17.6s
JURR Jurilovca 78.22 316 ⇑P **P** **02 51 06.8 +0.2**
MSO Missoula 78.22 41 IAmb IAmb 02 51 26.1
comp=Z,302nm,1.5s
MSO IAMs_20 IAMs_20 03 29 15.0
comp=Z,7µm,18.0s
MSO Missoula 78.22 41 P **P** **02 51 07.1 +0.3**
baz=306,SNR=37
MSO S **S** **03 01 02.0 +1.1**
baz=306
CEYT Ceyhan 78.24 307 *i*P **P** **02 51 07.7 +0.9**
TAHT Tahtakopru-Hat 78.28 306 *i*P **P** **02 51 07.9 +0.8**
KAMT Kaman 78.29 309 *i*P **P** **02 51 06.9 -0.4**
GHRR 78.30 318 ⇑P **P** **02 51 08.0 +1.0**
ODD1 Odda 78.32 337 *i*P **P** **02 51 07.1 +0.2**
ODD1 IVmB_BB 02 51 07.8
comp=Z,3µm,3.7s
ODD1 ⇑*e*PP **PP** **02 54 03.0 -0.3**
ODD1 *e*S **S** **03 01 02.0 +0.7**
ODD1 IVMs_BB IVMs_BB 03 33 04.9
comp=Z,8µm,16.1s
ASK Askoy 78.35 338⇑*i*P **P** **02 51 07.3 +0.3**
ASK IVmB_BB 02 51 07.8
comp=Z,7µm,2.4s
ASK *e*S **S** **03 01 02.7 +1.2**
ASK IVMs_BB IVMs_BB 03 32 19.2
comp=Z,18µm,12.8s
SOEG Soedalen 78.37 355 *i*P **P** **02 51 06.3 -0.7**
SOEG IAmb IAmb 02 51 25.8
comp=Z,22nm,0.7s
SLCR Slobozia Conac 78.37 317 ⇑P **P** **02 51 08.0 +0.5**
BEKR Beckworth 78.38 50 IAmb IAmb 02 51 26.9
comp=Z,120nm,1.0s
BER Bergen 78.38 338⇑*i*P **P** **02 51 07.2 +0.1**
BER IVmBBB 02 51 08.2
comp=Z,2µm,1.9s
BER *e*S **S** **03 01 01.5 -0.3**
BER IVMs_BB IVMs_BB 03 32 27.3
comp=Z,6µm,14.8s
CMRD Camardi-Nigde 78.39 307 *i*P **P** **02 51 08.5 +0.7**
SCHL Schela 78.39 317 ⇑P **P** **02 51 08.1 +0.6**
IZVR Izvoarele 78.40 317 ⇓P **P** **02 51 08.1 +0.5**
CFR Carcaliu 78.41 317 ⇓P **P** **02 51 07.5 -0.1**
TPGR Topolog 78.43 316 ⇑P **P** **02 51 08.2 +0.4**
TESR Tescani 78.46 318 ⇓P **P** **02 51 07.9 -0.1**
PANC Panciu 78.56 318 ⇑P **P** **02 51 09.7 +1.2**
KARA Karaisali 78.56 307 *i*P **P** **02 51 09.3 +0.6**
BUR08 Bucovina Ar. S 78.57 320 P **P** **02 51 09.0 +0.3**
BUR08 IAmb IAmb 02 51 09.9
comp=Z,140nm,1.1s
BURAR Bucovina Array 78.58 320 ⇑P **P** **02 51 09.1 +0.4**
BURAR Bucovina Array 78.58 320 IAmb IAmb 02 51 10.3
comp=Z,110nm,0.9s
ANTO Ankara 78.61 310 *i*P **P** **02 51 09.5 +0.6**
ANTO Ankara 78.61 310 P **P** **02 51 09.3 +0.4**
ANTO pmax pmax
comp=Z,100nm,1.3s
ANTO MLR MLR
comp=Z,4µm,18.0s
ANTO Ankara 78.61 310 P **P** **02 51 09.3 +0.4**
LOD Lodumlu 78.61 310 *i*P **P** **02 51 09.3 +0.3**
SERE Sereflikochisa 78.62 309 *i*P **P** **02 51 09.5 +0.4**
BR231 Keskin MP Arra 78.63 310 IAmb IAmb 02 51 30.8
comp=Z,191nm,1.4s
KDZE Karadeniz Ereo 78.65 312 ⇑P **P** **02 51 09.4 +0.3**
KDZE Karadeniz Ereo 78.65 312 *i*P **P** **02 51 08.1 -1.0**

KWP Kalwaria Pacla 78.66 323 *i*P **P** **02 51 09.8 +0.8**
KWP *e*PcP **PcP** **02 51 18.3 +0.5**
KWP *e*PP **PP** **02 54 02.9 -3.5**
KWP *e*S **S** **03 01 04.8 -0.5**
KWP *e*L L 03 29 33.4
comp=Z,54µm,16.7s
TIRR Tirgusor 78.67 316 ⇓P **P** **02 51 09.0 0.0**
TIRR Tirgusor 78.67 316 P **P** **02 51 09.1 0.0**
TIRR pmax pmax
comp=Z,583nm,1.5s
TIRR Tirgusor 78.67 316 P **P** **02 51 09.1 0.0**
ODBI Odobesti 78.68 318 ⇑P **P** **02 51 10.5 +1.4**
BSD Bornholm Skovb 78.68 330 *e*P **P** **02 51 07.5 -1.4**
BSD Bornholm Skovb 78.68 330 *i*P **P** **02 51 08.3 -0.6**
BSD IAmb IAmb 02 51 08.6
comp=Z,32nm,0.7s
BLS5 Blasjo 78.75 336 ⇑*i*P **P** **02 51 09.5 +0.2**
BLS5 IVmB_BB 02 51 10.2
comp=Z,3µm,4.0s
BLS5 *e* 02 55 12.8
BLS5 *e*S **S** **03 01 05.1 -0.8**
BLS5 IVMs_BB IVMs_BB 03 32 17.7
comp=Z,8µm,14.9s
EFOR EFORIE 78.76 316 ⇓P **P** **02 51 10.5 +0.9**
VRI Vrincioaia 78.80 318 ⇑P **P** **02 51 10.4 +0.6**
VRI Vrincioaia 78.80 318 *i*P **P** **02 51 10.4 +0.6**
HARR Harsova 78.81 316 ⇑P **P** **02 51 09.9 0.0**
MFTR Murfatlar 78.82 316 ⇑P **P** **02 51 09.8 -0.1**
TLBR Topalu 78.83 316 ⇑P **P** **02 51 10.4 +0.5**
PLOR Plostina 78.85 318 ⇓P **P** **02 51 10.4 +0.2**
HOMB Homborsund 78.91 335 *i*P **P** **02 51 08.0 -2.1**
HOMB Homborsund 78.91 335 ⇑*i*P **P** **02 51 09.8 -0.3**
HOMB IVmB_BB 02 51 10.5
comp=Z,3µm,3.8s
HOMB *e*PP **PP** **02 54 07.7 -0.4**
HOMB *e*S **S** **03 01 05.3 -2.1**
HOMB IVMsBB 03 34 42.7
comp=Z,10µm,13.8s
MPK Martis Peak 78.91 50 IAmb IAmb 02 51 25.1
comp=Z,174nm,1.2s
GKP Gorka Klasztor 78.92 328 *i*P **P** **02 51 10.5 +0.2**
GKP *e*PcP **PcP** **02 51 19.1 +0.2**
GKP *e*PP **PP** **02 54 07.0 -1.4**
GKP *e*S **S** **03 01 09.0 +1.1**
GKP *e*L L 03 30 13.2
comp=Z,16µm,19.4s
GKP Gorka Klasztor 78.92 328 *e*P **P** **02 51 10.2 -0.1**
MANR Mangalia 78.94 315 ⇓P **P** **02 51 11.3 +0.7**
RUBR Rubicon Trail 78.96 50 IAmb IAmb 02 51 28.5
comp=Z,126nm,1.0s
BISRR Bisoca 79.00 318 ⇑P **P** **02 51 12.2 +1.2**
FFC Flin Flon 79.01 30 P **P** **02 51 10.9 +0.1**
FFC pmax pmax
comp=Z,310nm,1.5s
FFC MLR MLR
comp=Z,4µm,19.0s
FFC Flin Flon 79.01 30 P **P** **02 51 10.9 +0.1**
FFC IAmb IAmb 02 51 29.6
comp=Z,310nm,1.5s
EMB Emerald Bay 79.04 51 IAmb IAmb 02 51 30.9
comp=Z,142nm,1.2s
FCC Fort Churchill 79.10 24 P **P** **02 51 10.7 -0.5**
FCC pmax pmax
comp=Z,97nm,1.1s
FCC Fort Churchill 79.10 24 P **P** **02 51 10.7 -0.5**
MERS Mersin 79.14 307 *i*P **P** **02 51 11.4 -0.5**
MFID Camas Ranch 79.15 45 IAmb IAmb 02 51 31.4
comp=Z,162nm,1.2s
OZUR 79.19 318 ⇑P **P** **02 51 13.1 +1.1**
AMRR Amara 79.20 317 ⇑P **P** **02 51 12.5 +0.6**
ICOR Ion Corvin 79.22 316 ⇓P **P** **02 51 13.3 +1.2**
PGOR Pogoanele 79.22 317 ⇑P **P** **02 51 13.8 +1.7**
PSN Preselentsi 79.25 315 *e*P **P** **02 51 13.0 +0.7**
MDUB Mudurnu 79.28 311 *i*P **P** **02 51 12.9 +0.2**
MDUB Mudurnu 79.28 311 P **P** **02 51 12.0 -0.6**
KALB Balgarevo 79.28 315 ⇓P **P** **02 51 13.8 +1.3**
COP Copenhagen 79.30 331 *i*P **P** **02 51 11.9 -0.4**
COP IAmb IAmb 02 51 13.7
comp=Z,428nm,0.7s
PNTR Pine Nut 79.30 50 IAmb IAmb 02 51 33.1
comp=Z,145nm,1.3s
NEHR Nehoiu 79.31 318 ⇑P **P** **02 51 13.3 +0.7**
SNART Snartemo 79.31 335 *i*P **P** **02 51 10.0 -2.3**
SNART Snartemo 79.31 335 *e*P **P** **02 51 12.7 +0.4**
SNART *e*S **S** **03 01 13.9 +2.1**
KMY Karmoy 79.31 337 ⇑*i*P **P** **02 51 12.5 +0.2**
KMY IVmB_BB 02 51 13.1
comp=Z,2µm,3.5s
KMY IVMs_BB IVMs_BB 03 32 51.4
comp=Z,7µm,11.7s
ISR Istrita 79.35 317 ⇑P **P** **02 51 13.7 +0.8**
ARCR ARCALIA 79.37 320 ⇑P **P** **02 51 14.1 +1.2**
CMB Columbia Colle 79.38 51 IAmb IAmb 02 51 42.1
comp=Z,168nm,1.4s
CMB IAMs_20 IAMs_20 03 21 04.0
comp=Z,5µm,20.0s
SAO San Andreas Ge 79.38 53 IAMs_20 IAMs_20 03 22 12.2
comp=Z,5µm,21.0s
MLR Muntele Rosu 79.46 318 ⇑P **P** **02 51 13.8 +0.2**
MLR Muntele Rosu 79.46 318 LR LR 03 30 01.9
comp=Z,9µm,19.2s,baz=48,slow=38
MLR Muntele Rosu 79.46 318 P **P** **02 51 13.0 -0.6**
MLR pmax pmax
comp=Z,250nm,1.5s
MLR MLR MLR
comp=Z,10µm,19.0s
MLR Muntele Rosu 79.46 318 P **P** **02 51 13.0 -0.6**
MLR IAmb IAmb 02 51 14.8
comp=Z,250nm,1.5s
BMR Baia Mare 79.47 321 ⇑P **P** **02 51 14.4 +1.0**
DOPR Dopca 79.49 319 ⇑P **P** **02 51 14.8 +1.2**
UZH Uzhgorod 79.50 322 ⇓*e*P **P** **02 51 09.6 -3.9**
UZH *i* 02 51 12.8
UZH *i* PPP PPP 02 56 11.8
UZH *i* S **S** **03 01 05.9 -8.2**
UZH *i* PS PnS 03 01 31.0 -27
UZH *i* SP **SPn** **03 01 55.3 -0.2**
UZH MLR MLR
comp=N,5µm,13.0s
UZH MLR MLR
comp=E,5µm,13.0s
UZH MLR MLR
comp=Z,3µm,13.0s
RASA Rasa 79.54 316 ⇑P **P** **02 51 14.6 +0.8**
GOET G??ttrup 79.56 334 *i*P **P** **02 51 13.2 -0.5**
GOET IAmb IAmb 02 51 14.0
comp=Z,118nm,0.8s
LEHL Lehliu 79.58 317 ⇓P **P** **02 51 15.1 +1.1**
HWQ Hawqa 79.58 304 *e*P **P** **02 51 14.2 -0.3**
YERR Yerington 79.59 50 IAmb IAmb 02 51 34.5
comp=Z,125nm,1.1s
SVRH Sivrihisar-ESK 79.65 310 *i*P **P** **02 51 14.6 -0.1**
SAUV Serdivan-Sakar 79.67 312 *i*P **P** **02 51 14.3 -0.3**
SECR 79.67 317 ⇑P **P** **02 51 15.4 +0.8**
TRPA Tarpa 79.68 321 ⇓P **P** **02 51 15.3 +0.8**
TRPA Tarpa 79.68 321 P **P** **02 51 15.5 +0.9**
GULT Gulveren 79.73 312 *i*P **P** **02 51 15.1 0.0**
OJC Ojcow 79.73 324 *i*P **P** **02 51 15.4 +0.6**
OJC *e*PcP **PcP** **02 51 24.1 +1.6**
OJC *e*PP **PP** **02 54 16.3 +1.0**
OJC *e*S **S** **03 01 18.6 +1.9**
RGN Rugen 79.74 330 IAMs_20 IAMs_20 03 33 30.9
comp=Z,7µm,20.0s
RGN Rugen 79.74 330 *e*P **P** **02 51 15.0 +0.3**
comp=Z,1µm,2.2s,baz=42,slow=5.1
EGMT Eagleton 79.75 39 P **P** **02 51 15.8 +0.8**
baz=309,SNR=136
EGMT S **S** **03 01 17.1 +0.1**
baz=309
KIZT Kizilcal 79.75 310 *i*P **P** **02 51 14.8 -0.5**
CRVS Cervenica-Dubn 79.75 323 *e*P **P** **02 51 15.7 +0.7**
CRVS pmax pmax
comp=Z,1µm,2.1s
CRVS Cervenica-Dubn 79.75 323 *e*P **P** **02 51 15.7 +0.7**
BBGB Big Mountain B 79.76 53 IAmb IAmb 02 51 30.5
comp=Z,187nm,1.3s
PLAR PLOIESTI 79.77 317 ⇑P **P** **02 51 17.0 +2.0**
SULR 79.78 317 ⇑P **P** **02 51 16.1 +0.9**
LADK Ladik-KONYA 79.82 309 *i*P **P** **02 51 15.5 -0.2**
SFJD Kangerlussuaq 79.85 3 LR LR 03 28 53.0
comp=Z,3µm,18.9s,baz=334,slow=37
SFJD Kangerlussuaq 79.85 3 P **P** **02 51 14.6 -0.5**
SFJD pmax pmax
comp=Z,133nm,1.3s
SFJD Kangerlussuaq 79.85 3 P **P** **02 51 14.6 -0.5**
SFJD Kangerlussuaq 79.85 3 *i*P **P** **02 51 14.5 -0.5**
SFJD IAmb IAmb 02 51 36.6
comp=Z,9.0nm,0.9s
SILT Sile 79.85 313 *i*P **P** **02 51 15.8 +0.2**
HLID Hailey 79.90 44 IAMs_20 IAMs_20 03 26 45.4
comp=Z,5µm,20.0s
HLID Hailey 79.90 44 P **P** **02 51 17.2 +1.1**
baz=307,SNR=38
HLID S **S** **03 01 19.8 +0.8**
baz=307
KEBE Keben-Mersin 79.91 307 *i*P **P** **02 51 16.2 +0.1**
KONT Konya--Tatoy 79.96 309 *i*P **P** **02 51 16.3 0.0**
BHL Bhannes 79.99 304 *e*P **P** **02 51 16.3 -0.3**
CIFT Cifteler, Eski 80.00 311 *i*P **P** **02 51 16.1 -0.4**
VOIR 80.00 318 ⇑P **P** **02 51 16.5 0.0**
PRD Provadia 80.00 315 *e*P **P** **02 51 17.0 +0.6**
MUD Monsted U'grnd 80.00 333 *i*P **P** **02 51 15.7 -0.4**
MUD IAmb IAmb 02 51 16.1
comp=Z,44nm,0.8s
NIE Niedzica 80.00 323 *i*P **P** **02 51 18.0 +1.6**
NIE *e*S **S** **03 01 21.6 +1.9**
CJR Cluj-Napoca 80.01 320 ⇓P **P** **02 51 17.5 +1.1**
HRT Hereke 80.03 312 *i*P **P** **02 51 16.8 +0.1**
BCYI Bear Canyon 80.03 43 P **P** **02 51 17.2 +0.4**
BMN Battle Mountai 80.04 48 IAmb IAmb 02 51 37.1
comp=Z,162nm,1.2s
IKL Isikli 80.05 307 *i*P **P** **02 51 16.6 -0.1**
MESR Meseseni 80.08 321 ⇑P **P** **02 51 18.3 +1.5**
TEVE Tevekalti-Mers 80.10 307 *i*P **P** **02 51 17.4 +0.3**
EREN Erenkoy 80.11 306 *i*P **P** **02 51 16.9 -0.2**
PMPB Monarch Peak 80.12 53 IAmb IAmb 02 51 36.2
comp=Z,195nm,1.4s
KLYT Kilyos 80.16 313 *i*P **P** **02 51 17.5 +0.2**
AKKU Akkuyu-Mersin 80.18 307 *i*P **P** **02 51 17.4 -0.1**
SHBL Chebaa 80.23 303 *e*P **P** **02 51 17.8 -0.3**
BOZ Bozeman (W) 80.25 41 IAmb IAmb 02 51 37.7
comp=Z,257nm,1.5s
BOZ IAMs_20 IAMs_20 03 30 55.5
comp=Z,4µm,18.0s
BOZ Bozeman (W) 80.25 41 P **P** **02 51 18.8 +0.9**
baz=308,SNR=61
BOZ S **S** **03 01 23.0 +0.4**
baz=308
RYN Ryan 80.25 50 IAmb IAmb 02 51 38.0
comp=Z,139nm,1.2s
ISK Istanbul-Kandi 80.26 313 *i*P **P** **02 51 17.8 0.0**
ISK Istanbul-Kandi 80.26 313 P **P** **02 51 17.5 -0.3**
KAVV Kandilli-Istan 80.26 313 *i*P **P** **02 51 17.7 -0.1**
ARR Arges 80.27 318 ⇓P **P** **02 51 19.0 +1.1**
KVN Kaiserville 80.28 50 IAmb IAmb 02 51 38.2
comp=Z,180nm,1.2s
BERE Bereket-Mersin 80.29 307 *i*P **P** **02 51 18.3 0.0**
YLV Yalova 80.36 312 *i*P **P** **02 51 18.2 -0.3**
BGKT Bogazkoy 80.37 313 *i*P **P** **02 51 18.1 -0.3**
DRGR 80.44 320 ⇑P **P** **02 51 19.3 +0.6**
HDMB Hadim 80.44 308 *i*P **P** **02 51 18.4 -0.7**
TRML Termal-Yalova 80.46 312 *i*P **P** **02 51 18.7 -0.2**
LHV Little Huntoon 80.48 50 IAmb IAmb 02 51 44.6
comp=Z,313nm,1.5s
TEKE Tekeli-Mersin 80.48 307 *i*P **P** **02 51 18.8 -0.3**
LTVH Ltavrtes, Hu 80.49 321 ⇓P **P** **02 51 20.3 +1.4**
LTVH Ltavrtes, Hu 80.49 321 P **P** **02 51 19.8 +0.9**
CTKS Kestanelik-??a 80.50 313 *i*P **P** **02 51 18.9 -0.2**
DY2G Dye2 80.50 1 *i*P **P** **02 51 18.1 -0.8**
DY2G IAmb IAmb 02 51 38.6
comp=Z,25nm,1.0s
NVAR Mina Array Bea 80.51 50 P **P** **02 51 20.0 +0.5**
comp=Z,18nm,0.9s,baz=284,slow=5.8,SNR=89
NVAR LR LR 03 24 37.2
comp=Z,5µm,18.9s,baz=297,slow=34
NVAR Mina Array Bea 80.51 50 P **P** **02 51 20.2 +0.7**
KECS Kecovo 80.52 323 *e*P **P** **02 51 19.8 +0.7**
KECS pmax pmax
comp=Z,134nm,1.4s
KECS Kecovo 80.52 323 *e*P **P** **02 51 19.8 +0.7**
GEMT Gemlik 80.55 312 *i*P **P** **02 51 19.4 0.0**
LRW Lerwick 80.56 340 ⇑*e*P **P** **02 51 19.2 +0.2**
LRW IAmb IAmb 02 51 19.8
comp=Z,227nm,1.2s
HUMR Humele 80.59 318 ⇑P **P** **02 51 19.2 -0.4**
LANS Liptovska Anna 80.59 324 *e*P **P** **02 51 20.7 +1.2**
LANS pmax pmax
comp=Z,244nm,1.8s
LANS Liptovska Anna 80.59 324 *e*P **P** **02 51 20.7 +1.2**
SEYD Seydisehir-KON 80.61 309 *i*P **P** **02 51 19.9 0.0**
MLAC Mammoth, Mammo 80.62 51 P **P** **02 51 21.2 +1.1**
baz=305,SNR=10
MLAC S **S** **03 01 30.0 +3.0**
baz=305
MMAI Mount Meron Ar 80.66 303 LR LR 03 31 32.8
comp=Z,3µm,18.3s,baz=218,slow=39
SLVT Silivri 80.68 313 *i*P **P** **02 51 20.7 +0.6**
LFK Lefkose 80.68 306 *i*P **P** **02 51 20.2 -0.1**
COPA Copaceanca 80.70 317 ⇑P **P** **02 51 19.9 -0.2**
LOT Lotru 80.70 319 ⇑P **P** **02 51 20.8 +0.5**
LOT Lotru 80.70 319 *i*P **P** **02 51 20.7 +0.5**
BORG Borgarnes 80.70 351 LR LR 03 26 48.3
comp=Z,2µm,18.2s,baz=11,slow=36
BORR Bors 80.74 321 ⇓P **P** **02 51 22.0 +1.7**
PAGB Antelope Grade 80.76 53 IAmb IAmb 02 51 41.6
comp=Z,311nm,1.4s
SHUT Suhut-Afyon 80.79 310 *i*P **P** **02 51 21.1 +0.2**
OKC Ostrava-Krasne 80.79 325 ⇑*i*P **P** **02 51 20.9 +0.4**
OKC *e* 03 01 26.8
OKC MLR MLR
comp=Z,40µm,13.9s
OKC Ostrava-Krasne 80.79 325 ⇑*i*P **P** **02 51 20.9 +0.4**
OKC *e*PP PP 02 54 37.4 +13
OKC *e*S **S** **03 01 26.8 -0.9**
OKC AMS AMS 03 31 00.0
comp=Z,40µm,13.9s
SZH Strazhica 80.82 316 *e*P **P** **02 51 21.0 +0.2**
IZAB Izabela 80.85 323 *e*P **P** **02 51 21.7 +0.8**
IZAB pmax pmax
comp=Z,133nm,1.3s
DEV Deva 80.90 320 ⇓P **P** **02 51 22.4 +1.2**
JMB Yambol 80.92 315 *e*P **P** **02 51 22.0 +0.7**
TVSB Tavsanli 80.96 311 *i*P **P** **02 51 21.9 +0.2**
YHL Hebgen Lake 80.96 42 IAmb IAmb 02 51 42.1
comp=Z,226nm,1.4s
MMLI Mount Malkishu 80.96 303 *i*P **P** **02 51 22.1 +0.3**
KSP Ksiaz 80.99 326 *i*P **P** **02 51 22.2 +0.7**
KSP *e*PP **PP** **02 54 26.6 +0.9**
KSP *e*S **S** **03 01 29.6 -0.3**
Q09A Carvers 80.99 49 IAmb IAmb 02 51 42.9
comp=Z,212nm,1.4s
RUE Ruedersdorf 80.99 329 *e*P **P** **02 51 21.0 -0.5**
RUE Ruedersdorf 80.99 329 *e*P **P** **02 51 21.9 +0.4**
comp=Z,1µm,2.0s,baz=42,slow=5.1
RUE *e*PP **PP** **02 54 25.8 +0.3**
baz=42,slow=8.3
CSS Mathiatis 81.00 306 *i*P **P** **02 51 21.8 -0.1**
CSS Mathiatis 81.00 306 P **P** **02 51 20.7 -1.2**
CSS IAmb IAmb 02 51 22.5
comp=Z,160nm,1.4s
VOG Valley Oaks Go 81.00 52 P **P** **02 51 22.0 +0.1**
baz=305
VOG S **S** **03 01 30.7 +0.3**
baz=305
ELK Elko 81.08 47 LR LR 03 28 14.3
comp=Z,2µm,18.4s,baz=322,slow=36
SUTC Sutluce-Ispart 81.12 309 *i*P **P** **02 51 22.2 -0.5**
MORC Moravsky Berou 81.12 325 ⇑P **P** **02 51 23.1 +0.7**
MORC Moravsky Berou 81.12 325 IAmb IAmb 02 51 23.7
comp=Z,250nm,1.3s
MORC Moravsky Berou 81.12 325 ⇑*i*P **P** **02 51 22.8 +0.5**
MORC Moravsky Berou 81.12 325 *e*S **S** **03 01 32.7 +1.4**
BKZ Black Stump Fm 81.14 150 IAMs_20 IAMs_20 03 23 41.2
comp=Z,5µm,21.0s
SMMC Simmler 81.17 54 P **P** **02 51 24.1 +1.2**
baz=305
YHH Holmes Hill 81.18 42 IAmb IAmb 02 51 43.3
comp=Z,183nm,1.4s
PSZ Piszkesteto 81.18 322 ⇑P **P** **02 51 23.8 +1.0**
PSZ Piszkesteto 81.18 322 P **P** **02 51 23.4 +0.7**
YMR Madison River 81.19 42 IAmb IAmb 02 51 46.0
comp=Z,178nm,1.2s
PVL Pavlikeni 81.19 316 *e*P **P** **02 51 23.0 +0.2**
EDRB Edirne 81.20 315 *i*P **P** **02 51 23.3 +0.5**
EDRB Edirne 81.20 315 P **P** **02 51 23.1 +0.3**
UJAP Al Uja 81.20 302 *i*P **P** **02 51 23.4 +0.4**
OSTC Ostas 81.22 326 ⇑*i*P **P** **02 51 23.4 +0.6**
OSTC *e*S **S** **03 01 33.7 +1.4**
OSTC AMS AMS 03 31 20.0
comp=Z,39µm,14.4s
GEDZ Gediz 81.22 311 *i*P **P** **02 51 23.4 +0.3**
ISP Isparta 81.23 310 P **P** **02 51 22.5 -0.7**
ISP pmax pmax
comp=Z,125nm,1.4s
ISP Isparta 81.23 310 P **P** **02 51 22.5 -0.7**
VLAD Vladila 81.25 317 ⇓P **P** **02 51 22.7 -0.3**
FRB Frobisher Bay 81.25 11 LR LR 03 33 27.3
comp=Z,4µm,18.4s,baz=336,slow=40
CHVC Chvalec 81.28 326 ⇑*i*P **P** **02 51 23.7 +0.6**
CHVC AMS AMS 03 31 30.0
comp=Z,37µm,14.8s
GZR Gura Zlata 81.28 319 ⇑P **P** **02 51 23.7 +0.4**
KRLC Kraliky 81.28 325 ⇑*i*P **P** **02 51 23.6 +0.4**
KRLC *e* 03 01 31.4
KRLC MLR MLR
comp=Z,38µm,12.8s
KRLC Kraliky 81.28 325 ⇑*i*P **P** **02 51 23.6 +0.4**
KRLC *e*S **S** **03 01 31.4 -1.6**
KRLC AMS AMS 03 32 10.0
comp=Z,38µm,12.8s
DPC Dobruska-Polom 81.31 326 ⇑*i*P **P** **02 51 24.0 +0.6**
DPC *e* 03 01 35.1
DPC MLR MLR
comp=Z,41µm,13.8s
DPC Dobruska-Polom 81.31 326 ⇑*i*P **P** **02 51 24.0 +0.6**
DPC *e*S **S** **03 01 35.1 +1.8**
DPC AMS AMS 03 31 30.0
comp=Z,41µm,13.8s
VYHS Vyhne 81.34 323 *e*P **P** **02 51 24.3 +0.8**
VYHS pmax pmax
comp=Z,75nm,1.3s
VYHS Vyhne 81.34 323 *e*P **P** **02 51 24.3 +0.8**
TIN Tinemaha, Big 81.34 51 P **P** **02 51 24.8 +0.9**
baz=305
UPC Upice 81.35 326 ⇑*i*P **P** **02 51 23.9 +0.4**
UPC MLR MLR
comp=Z,43µm,14.4s
UPC Upice 81.35 326 ⇑*i*P **P** **02 51 23.9 +0.4**
UPC AMS AMS 03 31 20.0
comp=Z,43µm,14.4s
ISOG Isortoq, Green 81.39 358 *i*P **P** **02 51 21.9 -1.4**
ISOG IAmb IAmb 02 51 55.0
comp=Z,13nm,1.0s
BCK Bucak 81.39 309 *i*P **P** **02 51 23.5 -0.6**
BSEG Bad Segeberg 81.41 331 *e*P **P** **02 51 23.8 +0.2**
comp=Z,226nm,1.4s,baz=42,slow=5.1
BSEG *e*PP **PP** **02 54 29.2 +0.3**
baz=42,slow=8.3
EDC Edincik 81.42 313 *i*P **P** **02 51 24.5 +0.5**
SIMA Simav-Kutahya 81.47 311 *i*P **P** **02 51 24.5 0.0**
VES Vestal, Richgr 81.48 53 P **P** **02 51 24.4 0.0**
baz=305,SNR=13
GHAJ Ghor Haditha 81.49 302 IAmb IAmb 02 51 25.6
comp=Z,280nm,1.5s
RAR Rarotonga 81.50 122 P **P** **02 51 26.4 +1.8**
comp=Z,14nm,0.9s,baz=285,slow=10,SNR=3.1
RAR LR LR 03 25 15.2
comp=Z,2µm,18.2s,baz=312,slow=34
KOLL Kolacno 81.50 324 *e*P **P** **02 51 25.1 +0.8**
SRE Strehaia 81.50 318 ⇑P **P** **02 51 25.6 +1.2**
H17A Grant Village 81.58 42 P **P** **02 51 27.9 +2.7**
baz=309,SNR=70
H17A S **S** **03 01 44.1 +7.4**
baz=309
YMP Mirror Lake Pl 81.60 41 P **P** **02 51 26.1 +0.7**
YMP IAmb IAmb 02 51 45.9
comp=Z,284nm,1.3s
RKY Sarkoy-Tekirda 81.63 313 *i*P **P** **02 51 25.5 +0.3**
JAVC Velka Javorina 81.67 324 ⇑*i*P **P** **02 51 26.8 +1.5**
JAVC Velka Javorina 81.67 324 *e*S **S** **03 01 39.3 +2.2**
ANTB Antalya 81.67 309 *i*P **P** **02 51 23.7 -1.7**
UKOP Uzunkopru-Edir 81.70 314 *i*P **P** **02 51 26.3 +0.8**
KRBG Karabiga-Canak 81.74 313 *i*P **P** **02 51 25.9 +0.2**
BZS Buzias 81.77 320 ⇑P **P** **02 51 25.7 -0.1**
AMBH Ambrzfalva 81.77 321 ⇑P **P** **02 51 26.8 +1.1**
BCW Bitter Crk WRg 81.77 54 IAmb IAmb 02 51 41.6
comp=Z,308nm,1.5s
DIM Dimitrovgrad 81.79 315 *e*P **P** **02 51 26.0 0.0**
CWC Cottonwood Cre 81.80 52 P **P** **02 51 26.8 +0.5**
baz=306
CWC S **S** **03 01 41.0 +2.0**
baz=306
HERR Herculane 81.80 319 ⇑P **P** **02 51 26.1 +0.1**
BAIL Bailesti 81.83 318 ⇑P **P** **02 51 27.0 +0.9**
RLMT Red Lodge 81.84 41 IAMs_20 IAMs_20 03 31 06.3
comp=Z,5µm,19.0s
RLMT Red Lodge 81.84 41 P **P** **02 51 27.6 +1.1**
baz=310
RLMT S **S** **03 01 41.7 +2.4**
baz=310
SBC Santa Barbara 81.85 54 P **P** **02 51 27.3 +0.9**
baz=305
MOOW Moose Ponds 81.89 42 IAMs_20 IAMs_20 03 29 06.7
comp=Z,5µm,20.0s
VRAC Vranov 81.89 325 ⇓P **P** **02 51 27.2 +0.8**
VRAC Vranov 81.89 325 LR LR 03 31 49.5
comp=Z,19µm,18.2s,baz=44,slow=39
VRAC Vranov 81.89 325 ⇑P **P** **02 51 26.9 +0.5**
VRAC Vranov 81.89 325 *e*S **S** **03 01 40.7 +1.4**
BUD Budapest 81.91 323 P **P** **02 51 26.1 -0.4**
TPAW Teton Pass 81.94 43 IAmb IAmb 02 51 48.3
comp=Z,195nm,1.4s
HVU Hansel Valley 81.94 45 IAmb IAmb 02 51 46.7
comp=Z,119nm,1.2s
GRAC Grapevine Rang 81.94 51 IAmb IAmb 02 51 46.9
comp=Z,247nm,1.3s
GRAC Grapevine Rang 81.94 51 P **P** **02 51 27.9 +1.0**
baz=306,SNR=6.9
GRAC S **S** **03 01 40.8 +0.5**
baz=306
ISA Isabella, Lake 81.98 53 P **P** **02 51 27.1 -0.1**
ISA pmax pmax
comp=Z,91nm,1.5s
ISA Isabella, Lake 81.98 53 P **P** **02 51 27.1 -0.1**
ISA Isabella, Lake 81.98 53 P **P** **02 51 27.1 -0.1**
baz=306,SNR=6.3
ISA S **S** **03 01 40.7 -0.1**
baz=306
PVCC Panska Ves 82.00 327 ⇑*i*P **P** **02 51 27.6 +0.7**
PVCC MLR MLR
comp=Z,32µm,13.4s
PVCC Panska Ves 82.00 327 ⇑*i*P **P** **02 51 27.6 +0.7**
PVCC AMS AMS 03 31 30.0
comp=Z,32µm,13.4s
KULA Kula-Manisa 82.01 311 *i*P **P** **02 51 27.3 0.0**
KULA Kula-Manisa 82.01 311 P **P** **02 51 26.9 -0.4**
SMOL Smolenice 82.02 324 *e*P **P** **02 51 28.2 +1.1**
SMOL pmax pmax
comp=Z,556nm,2.1s
SMOL Smolenice 82.02 324 *e*P **P** **02 51 28.2 +1.1**
BRG Berggiesshubel 82.05 327 ⇑*i*P **P** **02 51 27.3 +0.2**
BRG Amp 02 51 30.2
comp=Z,594nm,1.8s
BRG *ex* x 02 51 37.8
BRG Amp 02 51 40.0
comp=Z,294nm,1.8s
BRG PP **PP** **02 54 34.6 +0.2**
BRG Amp 02 54 36.7
comp=Z,251nm,2.1s
BRG *ex* x 02 54 52.3
BRG Amp 02 54 54.7
comp=Z,84nm,1.7s
BRG Berggiesshubel 82.05 327 SS SS 03 07 13.0 +14
BRG Amp 03 33 11.0
comp=N,23nm,12.5s
BRG Amp 03 33 15.0
comp=Z,38nm,12.4s
BRG Amp 03 33 18.0
comp=E,19nm,11.8s
BRG Berggiesshubel 82.05 327 ⇑*i*P **P** **02 51 27.3 +0.2**
BRG *e* 02 51 37.8
BRG 02 54 34.5
BRG S **S** **03 01 43.0 +2.3**
BRG SP **SPn** **03 02 34.0 +6.8**
BRG pmax pmax
comp=Z,594nm,1.8s
BRG pmax pmax
comp=Z,294nm,1.8s
BRG pmax pmax
comp=Z,251nm,2.1s
BRG pmax pmax
comp=Z,84nm,1.7s
BRG pmax pmax

comp=N,23µm,12.5s
BRG Berggiesshubel 82.05 327 *e*P **P 02 51 27.4 +0.3**
comp=N,594nm,1.8s,baz=42,slow=5.1
BRG *e*PP **PP 02 54 34.9 +0.6**
baz=42,slow=8.3
ERIK Erikli-Kesan 82.05 314 *i* P **P 02 51 27.7 +0.4**
SRO Srobarova 82.05 323 *e*P **P 02 51 28.5 +1.3**
SRO pmax pmax
comp=Z,1µm,2.6s
SRO Srobarova 82.05 323 *e*P **P 02 51 28.5 +1.3**
ARVC Arvin 82.06 53 P **P 02 51 27.8 +0.3**
baz=305
ARVC S **S 03 01 42.8 +1.4**
baz=305
SNOW Snow King Moun 82.06 43 IAmb IAmb 02 51 48.1
comp=Z,143nm,1.1s
REDW Red Top Meadow 82.07 43 IAmb IAmb 02 51 48.0
comp=Z,154nm,1.2s
KDZ Kurdzhali 82.11 315 *e*P **P 02 51 28.0 +0.3**
KRUC Moravsky 82.16 325⇑ *i*P **P 02 51 28.2 +0.4**
KRUC Moravsky 82.16 325 *e*S **S 03 01 44.5 +2.6**
CLL Collm 82.16 328⇑ *i*P **P 02 51 27.6 -0.1**
CLL *i* 02 51 36.0
CLL *i* 02 54 35.5
CLL *e*S **S 03 01 44.0 +2.1**
CLL pmax pmax
comp=Z,385nm,1.4s
CLL pmax pmax
comp=Z,202nm,1.8s
CLL MLR MLR
comp=Z,30µm,14.0s
CLL Collm 82.16 328 IAmb IAmb 02 51 28.5
comp=Z,158nm,1.1s
CLL Collm 82.16 328⇑ *i*P **P 02 51 27.6 -0.1**
comp=Z,385nm,1.4s
CLL *e*Pmax 02 51 30.0
CLL *e*Plp 02 51 31.0
comp=Z,2µm,17.6s
CLL *i* sP **pwP 02 51 36.0 +0.7**
CLL *i* PP **PP 02 54 35.5 +0.3**
comp=Z,202nm,1.8s
CLL *e*(sPP) 02 54 46.0
CLL *e*PPP PPP 02 56 24.0
CLL *e*PPPP 02 57 54.0
CLL *e*S **S 03 01 44.0 +2.1**
comp=N,1µm,20.8s
CLL *e*S **S 03 01 44.0 +2.1**
comp=E,3µm,18.8s
CLL *e*PS **PnS 03 02 31.0 0.0**
CLL *e*PPS PPS 03 02 50.0
CLL *e*SS **SS 03 07 06.0 +5.6**
CLL *e*SSS SSS 03 10 36.0
CLL *ex* x 03 11 48.0
CLL *e*PKPPKPdf **P'P'df 03 18 05.0 -1.6**
CLL LV 03 31 00.0
comp=Z,9µm,19.5s
CLL Lmax 03 33 00.0
CLL Collm 82.16 328 *e*P **P 02 51 27.8 0.0**
comp=Z,385nm,1.4s,baz=42,slow=5.1
CLL *e*PP **PP 02 54 35.6 +0.3**
baz=42,slow=8.3
BANR Banloc 82.18 320⇑⇑ P **P 02 51 28.9 +1.0**
ALN Alexandroupoli 82.19 314 *i* P **P 02 51 28.2 +0.1**
ALN Alexandroupoli 82.19 314 P **P 02 51 28.0 -0.1**
FLTG Flechtingen 82.19 330 *e*P **P 02 51 27.6 -0.3**
comp=Z,313nm,1.5s,baz=42,slow=5.1
FLTG *e*PP **PP 02 54 34.9 -0.6**
baz=42,slow=8.3
ENEZ Enez 82.22 314 *i* P **P 02 51 28.6 +0.3**
ENEZ Enez 82.22 314 P **P 02 51 28.4 +0.1**
GELI Tayfur-Gelibol 82.24 314 *i* P **P 02 51 28.5 +0.2**
BSWZ Blackbirch Sta 82.24 153 P **P 02 51 29.3 +1.3**
PLD Plovdiv 82.24 316 *i* P **P 02 51 29.1 +0.7**
PLD Plovdiv 82.24 316 *e*P **P 02 51 29.0 +0.7**
ELL Elmali 82.25 309 *i* P **P 02 51 28.3 -0.4**
MDVR Moldovita 82.25 319⇑⇑ P **P 02 51 28.4 0.0**
DGMT Dagmar 82.27 36 IAmb IAmb 02 51 47.6
comp=Z,237nm,1.1s
DGMT Dagmar 82.27 36 IAMs_20 IAMs_20 03 29 14.2
comp=Z,5µm,20.0s
DGMT Dagmar 82.27 36 P **P 02 51 28.7 +0.3**
baz=313
DGMT Dagmar 82.27 36 P **P 02 51 28.9 +0.5**
baz=313,SNR=25
DGMT S **S 03 01 44.2 +1.0**
baz=313
FBE Freiberg 82.28 328 *e*P **P 02 51 29.0 +0.7**
comp=Z,913nm,1.6s,baz=42,slow=5.1
FBE *e*PP **PP 02 54 37.3 +1.0**
baz=42,slow=8.3
PGB Panagyurishte 82.28 316 *e*P **P 02 51 29.0 +0.4**
R11A Troy Canyon, C 82.29 49 P **P 02 51 29.8 +0.9**
baz=307,SNR=55
R11A S **S 03 01 46.3 +2.2**
baz=307
AHID Auburn Hatcher 82.30 43 IAmb IAmb 02 51 58.0
comp=Z,127nm,1.3s
AHID IAMs_20 IAMs_20 03 32 53.7
comp=Z,4µm,18.0s
RDO Rodhopi 82.34 315 *i* P **P 02 51 29.1 +0.2**
RDO Rodhopi 82.34 315 P **P 02 51 28.3 -0.6**
PRU Pruhonice 82.39 326⇑ *i*P **P 02 51 29.3 +0.3**
PRU *e* 03 01 44.4
PRU MLR MLR
comp=Z,38µm,14.5s
PRU Pruhonice 82.39 326⇑ *i*P **P 02 51 29.3 +0.3**
PRU *e*PP PP 02 54 24.9 -12
PRU *e*S **S 03 01 44.4 +0.1**
PRU AMS AMS 03 32 00.0
comp=Z,38µm,14.5s
ZST Bratislava 82.40 324 *e*P **P 02 51 29.8 +0.8**
ZST Bratislava 82.40 324 *e*P **P 02 51 29.8 +0.8**
MPMC Manual Prospec 82.41 52 P **P 02 51 30.2 +0.6**
baz=306,SNR=21
MPMC S **S 03 01 46.3 +0.9**
baz=306
OSI Osito Audit: C 82.42 54 P **P 02 51 29.9 +0.4**
baz=306
OSI S **S 03 01 48.5 +3.2**
baz=306
TREC Trest 82.43 325⇑ *i*P **P 02 51 29.7 +0.5**
TREC MLR MLR
comp=Z,26µm,18.1s
TREC Trest 82.43 325⇑ *i*P **P 02 51 29.7 +0.5**
TREC AMS AMS 03 31 40.0
comp=Z,26µm,18.1s
LAO LASA Array 82.44 38 IAmb IAmb 02 51 48.6
comp=Z,184nm,1.2s
LAO IAMs_20 IAMs_20 03 32 13.0
comp=Z,5µm,18.0s
LAO LASA Array 82.44 38 P **P 02 51 30.3 +0.9**
baz=312
LAO LASA Array 82.44 38 P **P 02 51 30.1 +0.7**
baz=312,SNR=45
LAO S **S 03 01 46.5 +1.4**
baz=312
RZN Rozhen 82.50 315 *e*P **P 02 51 30.0 +0.1**
NRDL Niedersach Rie 82.55 330 *e*P **P 02 51 29.8 +0.2**
comp=Z,700nm,2.3s,baz=42,slow=5.1
NRDL *e*PP **PP 02 54 38.7 +0.4**
baz=42,slow=8.3
LTZ Lake Taylor 82.56 154 IAMs_20 IAMs_20 03 24 19.7
comp=Z,4µm,21.0s
ASSE Asse, Remlinge 82.58 330 *e*P **P 02 51 29.9 +0.1**
comp=Z,683nm,2.2s,baz=42,slow=5.1
ASSE *e*PP **PP 02 54 38.8 +0.2**
baz=42,slow=8.3
FURC Furnace Creek, 82.58 51 P **P 02 51 31.2 +1.0**
baz=306,SNR=18
FURC S **S 03 01 48.2 +1.6**
baz=306
CCAC Calif City Air 82.58 53 IAmb IAmb 02 51 49.0
comp=Z,189nm,1.5s
S11A Rachel 82.60 50 IAmb IAmb 02 51 50.1
comp=Z,253nm,1.3s
LRMC Laurel Mtn Rad 82.62 52 P **P 02 51 31.2 +0.6**
baz=306,SNR=8.0
SNCC San Nicolas Is 82.66 55 P **P 02 51 31.2 +0.5**
baz=305
EZN Ezine 82.67 313 *i* P **P 02 51 30.6 -0.1**
EZN Ezine 82.67 313 P **P 02 51 30.5 -0.1**
RETH Rethem/Aller, 82.68 331 *e*P **P 02 51 30.4 0.0**
comp=Z,353nm,1.6s,baz=42,slow=5.1
RETH *e*PP **PP 02 54 39.5 +0.1**
baz=42,slow=8.3
TPNV Topopah Spring 82.69 50 P **P 02 51 31.7 +0.7**
baz=306,SNR=49
TPNV S **S 03 01 50.5 +2.3**
baz=306
HWUT Hardware Ranch 82.75 44 IAMs_20 IAMs_20 03 33 33.8
comp=Z,4µm,19.0s
EDW2 Edwards Air Fo 82.76 53 P **P 02 51 32.2 +0.9**
baz=306,SNR=17
EDW2 S **S 03 01 48.9 +0.1**
baz=306
SMTH Samothraki Isl 82.76 314 P **P 02 51 30.3 -0.8**
NEUB Neuenburg 82.77 329 *e*P **P 02 51 31.2 +0.3**
comp=Z,879nm,1.8s,baz=42,slow=5.1
NEUB *e*PP **PP 02 54 40.6 +0.3**
baz=42,slow=8.3
VTS Vitosha 82.77 317⇑⇑ P **P 02 51 32.4 +1.1**
VTS Vitosha 82.77 317 IAmb IAmb 02 51 51.5
comp=Z,130nm,1.2s
VTS Vitosha 82.77 317 *e*P **P 02 51 32.0 +0.7**
DKL Dikili 82.78 312 *i* P **P 02 51 30.9 -0.3**
EGYH Egyhazaskeszo 82.81 323 P **P 02 51 32.0 +0.8**
EIL Elat 82.84 301 LR LR 03 33 33.9
comp=Z,5µm,18.3s,baz=90,slow=40
EIL Elat 82.84 301 *i* P **P 02 51 31.8 +0.1**
FETY Fethiye 82.85 309 *i* P **P 02 51 31.1 -0.6**
FETY Fethiye 82.85 309 P **P 02 51 30.9 -0.8**
PBCC Pribram 82.86 326⇑ *i*P **P 02 51 31.6 +0.2**
GWY Greenwater Val 82.87 51 IAmb IAmb 02 51 49.1
comp=Z,182nm,1.3s
QSM Queen of Sheba 82.87 52 IAmb IAmb 02 51 51.6
comp=Z,209nm,1.2s
MPLH Magyarpolny 82.87 323 P **P 02 51 31.9 +0.4**
TIH Tihany 82.88 323 P **P 02 51 30.6 -0.9**
DUG Dugway, Tooele 82.88 46 IAmb IAmb 02 51 52.1
comp=Z,99nm,1.2s
DUG IAMs_20 IAMs_20 03 32 04.4
comp=Z,5µm,19.0s
DUG Dugway, Tooele 82.88 46 P **P 02 51 33.0 +1.1**
baz=308,SNR=52
DUG S **S 03 01 53.1 +3.1**
baz=308
DECC Green Verdugo 82.89 54 P **P 02 51 32.3 +0.4**
baz=306
DECC S **S 03 01 50.3 +0.2**
baz=306
CLZ Clausthal 82.92 330 *e*P **P 02 51 31.3 -0.4**
comp=Z,697nm,1.9s,baz=42,slow=5.1
CLZ *e*PP **PP 02 54 41.2 -0.3**
baz=42,slow=8.3
RPZ Rata Peaks 82.94 155 LR LR 03 23 48.1
comp=Z,2µm,20.7s,baz=334,slow=32
MORH Mrgy, Hungar 82.95 322⇑ *i*P **P 02 51 31.9 0.0**
MORH Mrgy, Hungar 82.95 322 P **P 02 51 31.5 -0.4**
OXZ Oxford 82.95 155 IAMs_20 IAMs_20 03 24 32.0
comp=Z,5µm,20.0s
BOVS Bovan 82.99 318⇑⇑ P **P 02 51 31.8 -0.4**
SOP Sopron 83.02 324 P **P 02 51 33.0 +0.8**
DALY Dalyan (Mula) 83.02 310 *i* P **P 02 51 32.5 0.0**
FRGS Fruska Gora 83.03 320⇑⇑ P **P 02 51 31.9 -0.6**
FRGS Fruska Gora 83.03 320⇑ *i*P **P 02 51 31.7 -0.8**
TANN Tannenbergstha 83.04 328 *e*P **P 02 51 32.6 +0.2**
comp=Z,857nm,2.2s,baz=42,slow=5.1
TANN *e*PP **PP 02 54 43.3 +0.7**
baz=42,slow=8.3
PASC Pasadena Art C 83.04 54 IAmb IAmb 02 51 53.0
comp=Z,212nm,1.5s
KAVA Kavala 83.04 315 P **P 02 51 32.6 +0.1**
PRK Paraskevi 83.06 313 P **P 02 51 33.6 +1.0**
YER Yerkesik 83.07 310 *i* P **P 02 51 33.4 +0.6**
YER Yerkesik 83.07 310 P **P 02 51 33.1 +0.3**
WERD Werda 83.08 328 *e*P **P 02 51 32.9 +0.3**
comp=Z,899nm,2.2s,baz=42,slow=5.1
WERD *e*PP **PP 02 54 44.1 +1.2**
baz=42,slow=8.3
PLN Plauen 83.12 328 *e*P **P 02 51 33.2 +0.4**
comp=Z,687nm,2.0s,baz=42,slow=5.1
PLN *e*PP **PP 02 54 44.3 +1.0**
baz=42,slow=8.3
GUNZ Gunzen 83.13 328 *e*P **P 02 51 33.4 +0.5**
comp=Z,882nm,2.0s,baz=42,slow=5.1
GUNZ *e*PP **PP 02 54 44.3 +1.0**
baz=42,slow=8.3
RONA Rosalia, Austr 83.13 324 *i* P **P 02 51 34.0 +1.0**
comp=Z,390nm,1.7s
RONA *i* PP **PP 02 54 45.9 +2.5**
comp=Z,63nm,1.7s
RONA *e*S **S 03 01 54.1 +2.0**
comp=Z,2µm,4.8s
MMB Musomiste 83.14 316 *e*P **P 02 51 33.0 -0.1**
THAS Thassos island 83.16 315 P **P 02 51 32.8 -0.3**
WERN Wernitzgruen 83.17 328 *e*P **P 02 51 33.6 +0.5**
comp=Z,604nm,1.8s,baz=42,slow=5.1
WERN *e*PP **PP 02 54 44.8 +1.2**
baz=42,slow=8.3
NKC Novy Kostel 83.17 328⇑ *i*P **P 02 51 33.2 +0.1**
NKC *e* 03 01 48.0
NKC MLR MLR
comp=Z,37µm,12.5s
NKC Novy Kostel 83.17 328⇑ *i*P **P 02 51 33.2 +0.1**
NKC *e*S **S 03 01 48.0 -4.3**
NKC AMS AMS 03 33 20.0
comp=Z,37µm,12.5s
BW06 Boulder Array 83.18 43 IAmb IAmb 02 51 52.8
comp=Z,94nm,1.1s
BW06 IAMs_20 IAMs_20 03 35 49.9
comp=Z,4µm,18.0s
BW06 Boulder Array 83.18 43 P **P 02 51 33.9 +0.3**
baz=310,SNR=57
BW06 S **S 03 01 54.2 +1.1**
baz=310
PDAR Pinedale Array 83.18 43 P **P 02 51 33.9 +0.3**
comp=Z,29nm,0.9s,baz=318,slow=2.0,SNR=148
PDAR PP **PP 02 54 51.5 +7.2**
comp=Z,3.1nm,0.9s,baz=302,slow=3.3,SNR=3.7
PDAR S **S 03 01 49.0 -4.1**
comp=Z,0.1nm,0.3s,baz=60,slow=14,SNR=1.3
PDAR PKPPKP **P'P'df 03 18 10.1 +5.3**
comp=Z,0.2nm,0.3s,baz=127,slow=3.9,SNR=3.8
PRN Pahroc Range 83.19 49 IAmb IAmb 02 51 48.9
comp=Z,141nm,1.4s
CONA Conrad Observa 83.19 324 *i* P **P 02 51 34.2 +0.9**
comp=Z,410nm,1.7s,SNR=129
CONA *e*PP **PP 02 54 44.1 +0.2**
comp=Z,47nm,1.8s
CONA *e*S **S 03 01 54.2 +1.4**
comp=Z,2µm,6.0s
NVR Nevrokopi 83.21 316 P **P 02 51 33.4 0.0**
CTU Camp Tracy 83.21 45 IAmb IAmb 02 51 53.1
comp=Z,104nm,1.3s
FMP Fort Macarthur 83.23 54 P **P 02 51 33.9 +0.2**
baz=306
FMP S **S 03 01 54.8 +1.3**
baz=306
MOX Moxa 83.25 328 *e*P **P 02 51 33.7 +0.2**
comp=Z,711nm,2.0s,baz=42,slow=5.1
MOX *e*PP **PP 02 54 45.2 +0.9**
baz=42,slow=8.3
MOX *e*L L 03 39 21.8
comp=Z,7µm,19.1s
PSUT Pine Spring 83.26 48 IAmb IAmb 02 51 55.8
comp=Z,90nm,1.1s
MCD Coleburn Disti 83.28 339⇑ *e*P **P 02 51 33.1 -0.3**
SHOC Shoshone, Teco 83.30 51 P **P 02 51 34.6 +0.6**
baz=307,SNR=14
SHOC S **S 03 01 55.4 +1.3**
baz=307
MLSB Milas 83.30 310 *i* P **P 02 51 34.6 +0.6**
GSC Goldstone, Bar 83.30 52 IAmb IAmb 02 51 54.7
comp=Z,198nm,1.4s
GSC Goldstone, Bar 83.30 52 P **P 02 51 34.7 +0.6**
baz=306,SNR=25
GSC S **S 03 01 54.7 +0.4**
baz=306
GTTG Gottingen 83.31 330 *e*P **P 02 51 34.0 +0.3**
comp=Z,290nm,1.4s,baz=42,slow=5.1
GTTG *e*PP **PP 02 54 45.6 +1.0**
baz=42,slow=8.3
KOVH Kovagotottos 83.31 322 P **P 02 51 33.9 +0.1**
CKRC Cesky Krumlov 83.32 326⇑ *i*P **P 02 51 34.2 +0.4**
CKRC *e*SKS **S 03 01 55.6 +1.8**
CKRC AMS AMS 03 32 40.0
comp=Z,27µm,15.1s
LIA Limnos Island 83.32 314 P **P 02 51 32.9 -1.1**
CIS Catalina Islan 83.33 54 P **P 02 51 34.5 +0.3**
baz=306
CIS S **S 03 01 56.0 +1.4**
baz=306
KKB Krupnik 83.33 316 *e*P **P 02 51 34.0 -0.1**
SIGR SIGRI 83.34 313 *i* P **P 02 51 34.0 -0.1**
SIGR SIGRI 83.34 313 P **P 02 51 33.7 -0.4**
BFSC Mount Baldy Ra 83.36 53 P **P 02 51 34.8 +0.3**
baz=306,SNR=11
BFSC S **S 03 01 55.7 +0.7**
baz=306
RRX Edison Barstow 83.42 52 P **P 02 51 35.4 +0.8**
baz=306
RRX S **S 03 01 57.8 +2.3**
baz=306
KHC Kasperske Hory 83.44 326⇑ *i*P **P 02 51 34.7 +0.2**
KHC *e* 02 51 43.5
KHC *e* 03 01 52.3
KHC MLR MLR
comp=Z,49µm,14.4s
KHC Kasperske Hory 83.44 326 IAmb IAmb 02 51 35.7
comp=Z,131nm,0.9s
KHC Kasperske Hory 83.44 326⇑ *i*P **P 02 51 34.7 +0.2**
KHC *ex* x 02 51 43.5
KHC *e*PP PP 02 54 33.7 -12
KHC *e*S **S 03 01 52.3 -2.8**
KHC AMS AMS 03 32 50.0
comp=Z,49µm,14.4s
JLU Jordanelle 83.45 45 IAmb IAmb 02 51 59.9
comp=Z,114nm,1.4s
KOKK Kokkinochori, 83.46 315 P **P 02 51 34.5 -0.2**
NLU North Lily Min 83.48 46 IAmb IAmb 02 52 05.5
comp=Z,102nm,1.1s
SCI2 San Clemente I 83.49 55 P **P 02 51 35.3 +0.3**
baz=306
MANZ Manzenberg 83.50 328 *e*P **P 02 51 35.2 +0.5**
comp=Z,186nm,2.2s,baz=42,slow=5.1
MANZ *e*PP **PP 02 54 47.6 +1.2**
baz=42,slow=8.3
SRS Serrai 83.51 315 P **P 02 51 34.6 -0.4**
BLJ Bijeljina 83.57 320 *e*P **P 02 51 35.2 0.0**
GEC2 GERESS Array S 83.58 326 P **P 02 51 35.3 0.0**
GEC2 IAmb IAmb 02 51 36.1
comp=Z,112nm,1.0s
GEC2 GERESS Array S 83.58 326 *e*P **P 02 51 35.4 +0.1**
comp=Z,490nm,1.9s,baz=42,slow=5.1
GEC2 *e*PP **PP 02 54 48.4 +1.2**
baz=42,slow=8.3
GERES GERESS Array B 83.58 326 P **P 02 51 35.2 -0.1**
comp=Z,34nm,0.8s,baz=10,slow=3.0,SNR=248
GERES S **S 03 01 51.5 -5.3**
comp=Z,0.2nm,0.3s,baz=69,slow=30,SNR=1.5
GERES PKKPbc PKKPbc 03 10 01.2 +8.5
comp=Z,0.4nm,0.7s,baz=186,slow=5.2,SNR=3.9
GERES LR LR 03 30 06.9
comp=Z,8µm,18.6s,baz=36,slow=37
TEKS Tekeris 83.59 320⇑ *i*P **P 02 51 34.8 -0.5**
ROTZ Rotzenmuhle 83.62 327 *e*P **P 02 51 36.0 +0.7**
comp=Z,329nm,2.0s,baz=42,slow=5.1
ROTZ *e*PP **PP 02 54 48.8 +1.5**
baz=42,slow=8.3
DIVS Divibare 83.63 320⇑ *i*P **P 02 51 35.8 +0.2**
SMG Samos 83.64 311 P **P 02 51 35.4 -0.3**
IBBN Ibbenburen 83.65 331 *e*P **P 02 51 35.4 -0.1**
comp=Z,332nm,1.4s,baz=42,slow=5.1
IBBN *e*PP **PP 02 54 47.6 +0.2**
baz=42,slow=8.3
SHPR Sheep Range 83.66 50 IAmb IAmb 02 51 51.3
comp=Z,168nm,1.4s
CHOS Chios island 83.72 312 *i* P **P 02 51 36.1 -0.1**
CHOS Chios island 83.72 312 P **P 02 51 36.0 -0.1**
BODT Bodrum 83.73 310 *i* P **P 02 51 36.1 -0.2**
BODT Bodrum 83.73 310 P **P 02 51 36.0 -0.2**
WET Wettzell 83.76 327 *e*P **P 02 51 36.5 +0.4**
comp=Z,561nm,1.8s,baz=42,slow=5.1
WET *e*PP **PP 02 54 50.2 +1.7**
baz=42,slow=8.3
DAT Datca 83.77 310 P **P 02 51 35.4 -1.1**
OUR Ouranopolis 83.77 315 *i* P **P 02 51 36.3 0.0**
OUR Ouranopolis 83.77 315 P **P 02 51 36.1 -0.2**
TUQ Turquoise Moun 83.80 52 P **P 02 51 37.5 +0.8**
baz=307,SNR=40
TUQ S **S 03 01 59.3 -0.1**
baz=307
ARSA Arzberg 83.82 324 *i* P **P 02 51 37.0 +0.5**
comp=Z,225nm,1.8s,SNR=59
ARSA *e*PP **PP 02 54 49.3 +0.2**
comp=Z,31nm,1.9s
UBBA Unterbreizbach 83.83 329 *e*P **P 02 51 36.4 +0.1**
comp=Z,509nm,1.9s,baz=42,slow=5.1
UBBA *e*PP **PP 02 54 50.1 +1.3**
baz=42,slow=8.3
BBRC Big Bear Solar 83.84 53 P **P 02 51 37.1 0.0**
baz=306
BBRC S **S 03 01 58.5 -1.5**
baz=306
SOH Sokhos 83.84 315 P **P 02 51 36.3 -0.4**
ELS Elsinore Mount 83.86 54 IAmb IAmb 02 51 45.9
comp=Z,93nm,1.3s
KNT Kendrikon 83.89 316 *i* P **P 02 51 37.0 0.0**
KNT Kendrikon 83.89 316 P **P 02 51 36.9 0.0**
HEC Hector,Ludlow 83.89 52 P **P 02 51 37.9 +0.7**
baz=307,SNR=21
HEC S **S 03 02 01.2 +0.9**
baz=307
KAC Achnashellach 83.94 340⇑⇑ *e*P **P 02 51 36.6 -0.2**
STIP Stip 83.96 317 *i* P **P 02 51 36.5 -0.7**
VAY Valandovo 83.98 316 *i* P **P 02 51 37.6 +0.3**
KOGS Kog 84.02 323 *i* P **P 02 51 37.1 -0.3**
KOGS *i* PP **PP 02 54 52.4 +1.8**
MOA Molln 84.02 325 *i* P **P 02 51 37.8 +0.4**
comp=Z,244nm,2.0s,SNR=80
MOA *e*PP **PP 02 54 52.7 +2.0**
comp=Z,46nm,1.6s
MURC Murrieta 84.04 54 P **P 02 51 38.1 +0.2**
baz=306,SNR=16
MURC S **S 03 02 01.0 -0.8**
baz=306
PLG Polygyros 84.07 315 P **P 02 51 37.1 -0.8**
TCRU Three Creeks R 84.08 47 IAmb IAmb 02 51 53.8
comp=Z,229nm,1.4s
BBLS Lazići 84.10 320⇑⇑ *i*P **P 02 51 38.6 +0.6**
GRA1 Grafenberg Arr 84.11 328 IAMs_20 IAMs_20 03 31 47.6
comp=Z,6µm,18.0s
GRF Grafenberg Arr 84.11 328 *e*P **P 02 51 38.5 +0.6**
comp=Z,2µm,2.1s,baz=42,slow=5.1
GRF *e*PP **PP 02 54 52.9 +1.5**
baz=42,slow=8.3
GRF *e*L L 03 31 04.1
comp=Z,5µm,18.6s
GRFO Grafenberg 84.11 328 P **P 02 51 38.1 +0.2**
GRFO pmax pmax
comp=Z,638nm,1.3s
GRFO MLR MLR
comp=Z,6µm,18.0s
GRFO Grafenberg 84.11 328 P **P 02 51 38.1 +0.2**
GRFO IAMs_20 IAMs_20 03 31 46.8
comp=Z,6µm,18.0s
NISR Nisiros 84.12 310 P **P 02 51 37.4 -0.7**
HORT Hortiatis 84.13 315 *i* P **P 02 51 37.9 -0.3**
HORT Hortiatis 84.13 315 P **P 02 51 37.7 -0.5**
KOSK Kos Island 84.14 310 *i* P **P 02 51 37.5 -0.7**
KOSK Kos Island 84.14 310 P **P 02 51 37.4 -0.7**
KPL Plockton 84.18 340⇑⇑ *e*P **P 02 51 38.0 0.0**
THE Thessaloniki 84.19 315 P **P 02 51 37.8 -0.6**
PAIG Paliouri 84.21 315 P **P 02 51 38.1 -0.4**
KASTN Kahler Asten 84.21 330 *e*P **P 02 51 38.4 +0.1**
comp=Z,202nm,1.3s,baz=42,slow=5.1
SKO Skopje 84.21 317 *i* P **P 02 51 39.4 +0.9**
DOB Doboj 84.22 321 *e*P **P 02 51 39.0 +0.5**
RUDO Rudo 84.29 319 *e*P **P 02 51 38.7 -0.2**
GRG Griva 84.31 316 *i* P **P 02 51 38.9 -0.2**
GRG Griva 84.31 316 P **P 02 51 38.6 -0.5**
SZCU Shurtz Canyon 84.31 48 IAmb IAmb 02 51 56.8
comp=Z,137nm,1.5s
SKY Skiros Island 84.34 313 P **P 02 51 39.2 0.0**
GMRC Granite Mounta 84.36 52 P **P 02 51 40.2 +0.5**
baz=307,SNR=17
GMRC S **S 03 02 05.6 +0.5**
baz=307
TMUT Trail Mountain 84.41 46 IAmb IAmb 02 52 00.1
comp=Z,129nm,1.5s
BIOA Bad Ischl, Aus 84.43 325 *i* P **P 02 51 39.9 +0.4**
comp=Z,242nm,1.5s
BIOA *e*PP **PP 02 54 53.5 -0.5**
comp=Z,556nm,3.4s
BIOA S **S 03 02 07.1 +2.0**
comp=Z,2µm,5.9s
SOKA Soboth 84.46 324 *i* P **P 02 51 40.0 +0.2**
comp=Z,248nm,1.4s,SNR=126

SOKA *i* PP **PP** **02 54 57.2 +2.8**
comp=Z,69nm,1.8s,SNR=6.1
PLE **Plјevlja** **84.47 319** *e*P **P** **02 51 39.8 -0.1**
ESY **Stoneypath** **84.48 338**⇑*e*P **P** **02 51 39.1 -0.6**
INVG **Invergeldie, C** **84.49 339**⇑*e*P **P** **02 51 39.4 -0.3**
IVA **Berane** **84.49 319** *e*P **P** **02 51 40.0 0.0**
BUG **Bochum--Univer** **84.50 331** *e*P **P** **02 51 39.6 -0.2**
comp=Z,253nm,1.3s,baz=42,slow=5.1
BUG *e*PP **PP** **02 54 55.4 +1.0**
baz=42,slow=8.3
109C **Camp Elliot, M** **84.52 54** IAmb IAmb 02 51 59.9
comp=Z,129nm,1.2s
109C IAMs_20 IAMs_20 03 26 25.4
comp=Z,5μm,19.0s
109C **Camp Elliot, M** **84.52 54** P **P** **02 51 40.8 +0.5**
baz=306,SNR=5.0
109C S **S** **03 02 06.2 -0.3**
baz=306
PFO **Pinyon Flats O** **84.53 53** LR LR 03 25 58.8
comp=Z,10μm,19.3s,baz=300,slow=33
PFO **Pinyon Flats O** **84.53 53** P **P** **02 51 40.6 +0.1**
PFO pmax pmax
comp=Z,231nm,1.4s
PFO **Pinyon Flats O** **84.53 53** P **P** **02 51 40.6 +0.1**
PFO **Pinyon Flats O** **84.53 53** P **P** **02 51 41.0 +0.6**
baz=307,SNR=35
PFO S **S** **03 02 05.5 -1.3**
baz=307
TPFO **Pinon Flats** **84.54 53** P **P** **02 51 41.0 +0.5**
baz=307,SNR=36
TPFO S **S** **03 02 05.9 -1.0**
baz=307
LCMT **Little Creek M** **84.57 49** IAmb IAmb 02 51 58.4
comp=Z,130nm,1.2s
ZAG **Zagreb** **84.57 323**⇑*i*P **P** **02 51 40.4 +0.1**
MTPU **Mount Pierson** **84.60 48** IAmb IAmb 02 51 55.9
comp=Z,148nm,1.3s
BELC **Belle Mtn. Jos** **84.61 53** P **P** **02 51 41.2 +0.3**
baz=307,SNR=17
BELC S **S** **03 02 08.6 +1.0**
baz=307
PVY **Plav** **84.64 318** *e*P **P** **02 51 41.2 +0.4**
BLY **Banja Luka** **84.69 321**⇑*i*P **P** **02 51 41.1 +0.2**
KOME **Kolasin** **84.72 319** *e*P **P** **02 51 41.5 +0.3**
BCI **Bajram Curri** **84.73 318** *i* P **P** **02 51 40.7 -0.4**
EBL **Broad Law** **84.74 338**⇑*e*P **P** **02 51 40.7 -0.2**
EBL IAmb IAmb 02 51 41.3
comp=Z,288nm,1.4s
KARP **Karpathos** **84.75 309** *i* P **P** **02 51 41.1 -0.3**
KARP **Karpathos** **84.75 309** P **P** **02 51 40.8 -0.6**
KARP **Karpathos** **84.75 309** P **P** **02 51 40.9 -0.6**
KYMI **Kymi, Euboea I** **84.77 313** P **P** **02 51 40.9 -0.5**
RJOB **Jochberg** **84.80 326** *e*P **P** **02 51 41.9 +0.5**
comp=Z,281nm,1.3s,baz=42,slow=5.1
LIT **Litokhoron** **84.80 315** P **P** **02 51 40.9 -0.7**
UPM **Unac-Piva** **84.81 319** *e*P **P** **02 51 41.5 -0.3**
UPM **Unac-Piva** **84.81 319** *e*P **P** **02 51 41.4 -0.3**
ULM **Lac du Bonnet** **84.82 31** P **P** **02 51 41.1 -0.3**
comp=Z,35nm,1.0s,baz=313,slow=5.8,SNR=31
ULM S **S** **03 02 01.9 -6.9**
comp=Z,1.8nm,0.7s,baz=180,slow=20,SNR=1.6
ULM LR LR 03 32 45.2
comp=Z,6μm,18.3s,baz=328,slow=38
ULM **Lac du Bonnet** **84.82 31** IAmb IAmb 02 52 07.7
comp=Z,141nm,1.2s
OBKA **Obir** **84.82 324** *e*P **P** **02 51 41.3 -0.4**
comp=Z,28nm,1.1s,SNR=16
OBKA PP **PP** **02 54 57.5 +0.3**
comp=Z,73nm,1.6s
KNB **Kanab** **84.84 49** IAmb IAmb 02 51 51.9
comp=Z,147nm,1.1s
CRES **Cresnjev** **84.84 323**⇑*i*P **P** **02 51 41.4 -0.3**
XOR **Xorichti** **84.86 314** P **P** **02 51 40.8 -1.1**
APE **Apeiranthos** **84.86 311** ⇑P **P** **02 51 40.4 -1.5**
APE **Apeiranthos** **84.86 311** *i* P **P** **02 51 40.4 -1.5**
APE **Apeiranthos** **84.86 311** P **P** **02 51 40.4 -1.5**
NEO **Neokhori** **84.87 314** P **P** **02 51 40.8 -1.2**
PKCU **Pink Cliffs** **84.89 48** P **P** **02 51 42.8 +0.3**
MDND **Maddock** **84.91 34** P **P** **02 51 42.6 +0.6**
baz=316
MDND S **S** **03 02 09.0 -0.8**
baz=316
MDND **Maddock** **84.91 34** P **P** **02 51 42.5 +0.6**
baz=316,SNR=7.9
MDND S **S** **03 02 09.0 -0.8**
baz=316
TNS **Taunus Mts** **84.93 329** *e*P **P** **02 51 42.2 +0.2**
comp=Z,221nm,1.4s,baz=42,slow=5.1
KARY **Karystos** **84.94 313** P **P** **02 51 41.5 -0.8**
BAR **Barrett** **84.94 54** IAmb IAmb 02 52 01.3
comp=Z,84nm,1.1s
SRU **San Rafael Swe** **84.94 46** IAmb IAmb 02 52 09.4
comp=Z,91nm,1.0s
K22A **Casper** **84.96 41** IAmb IAmb 02 52 05.6
comp=Z,80nm,1.0s
K22A **Casper** **84.96 41** P **P** **02 51 43.0 +0.5**
baz=312
K22A **Casper** **84.96 41** P **P** **02 51 42.7 +0.2**
baz=312,SNR=25
K22A S **S** **03 02 11.8 +1.0**
baz=312
PHP **Peshkopia** **84.96 317** P **P** **02 51 41.9 -0.5**
PHP **Peshkopia** **84.96 317** *i* P **P** **02 51 42.3 -0.1**
MGRS **Mrkonjic Grad** **84.97 321**⇑*i*P **P** **02 51 42.9 +0.5**
MSEY **Mahe Island** **84.98 261** P **P** **02 51 42.2 -0.7**
MSEY pmax pmax
comp=Z,63nm,1.2s
MSEY MLR MLR
comp=Z,5μm,19.0s
MSEY **Mahe Island** **84.98 261** P **P** **02 51 42.2 -0.7**
MSEY **Mahe Island** **84.98 261** IAMs_20 IAMs_20 03 30 31.8
comp=Z,5μm,19.0s
MSEY **Mahe Island** **84.98 261** P **P** **02 51 42.6 -0.3**
MONP2 **Monument Peak** **84.98 54** P **P** **02 51 43.2 +0.4**
baz=307,SNR=14
MONP2 S **S** **03 02 09.8 -1.7**
baz=307
KBA **Koelnbreinsper** **85.01 325** *i* P **P** **02 51 42.4 -0.3**
comp=Z,85nm,1.1s,SNR=36
KBA PP **PP** **02 54 58.7 -0.1**
comp=Z,83nm,1.7s
FNA **Florina** **85.02 316** *i* P **P** **02 51 42.1 -0.6**
FNA **Florina** **85.02 316** P **P** **02 51 41.9 -0.8**
FNA **Florina** **85.02 316** IAmb IAmb 02 51 43.0
comp=Z,153nm,1.3s
FNA **Florina** **85.02 316** *i* P **P** **02 51 42.1 -0.6**
LAWE **Loch Awe, Argy** **85.03 340** *e*P **P** **02 51 41.9 -0.5**
TKX **Tecate** **85.05 54** IAmb IAmb 02 52 02.3
comp=Z,114nm,1.3s
NEE2 **Needles Airpor** **85.06 51** P **P** **02 51 43.2 +0.3**
baz=308
NEE2 S **S** **03 02 11.9 +0.1**
baz=308
NKME **Niksic** **85.08 319** *e*P **P** **02 51 42.6 -0.4**
IRM **Iron Mountain** **85.08 52** P **P** **02 51 43.8 +0.7**
baz=307,SNR=30
IRM S **S** **03 02 12.3 +0.3**
baz=307
KZN **Kozani** **85.09 316** P **P** **02 51 42.2 -0.9**
OHR **Ohrid** **85.14 317** *i* P **P** **02 51 43.3 +0.1**
PDG **Podgorica** **85.14 319** ⇑P **P** **02 51 43.8 +0.7**
PDG **Podgorica** **85.14 319**⇑*i*P **P** **02 51 43.0 -0.1**
TTG **Podgorica** **85.14 319** *e*P **P** **02 51 42.7 -0.5**
EKA **Eskdalemuir Ar** **85.14 338** LR LR 03 34 44.2
comp=Z,4μm,18.6s,baz=38,slow=39
PGBU **Glenifferbraes** **85.14 339**⇑*e*P **P** **02 51 43.0 0.0**
PGBU IAmb IAmb 02 51 43.5
comp=Z,183nm,1.1s
GDLE **Glaisdale, N Y** **85.15 337**⇑*e*P **P** **02 51 42.5 -0.5**
GDLE IAmb IAmb 02 51 44.0
comp=Z,855nm,1.8s
LJU **Ljubljana** **85.16 324**⇑*i*P **P** **02 51 42.7 -0.5**
LJU **Ljubljana** **85.16 324** *i* P **P** **02 51 42.6 -0.5**
LJU *e*pP **pwP** **02 51 51.5 +0.7**
LJU *i* PP **PP** **02 55 02.1 +2.2**
LJU *e* 02 58 44.8
LJU *e*S **S** **03 02 12.9 +0.6**
SRKY **Kupres RS** **85.17 321** *e*P **P** **02 51 44.9 +1.5**
BOJS **Bojanci** **85.17 323** *i* P **P** **02 51 42.6 -0.6**
BOJS *e*S **S** **03 02 13.9 +1.5**
ESK **Eskdalemuir** **85.17 338**⇑*e*P **P** **02 51 42.8 -0.2**
ESK IAmb IAmb 02 51 43.4
comp=Z,211nm,1.5s
ESK **Eskdalemuir** **85.17 338** P **P** **02 51 43.0 -0.1**
ESK pmax pmax
comp=Z,173nm,1.5s
ESK MLR MLR
comp=Z,7μm,18.0s
ESK **Eskdalemuir** **85.17 338** P **P** **02 51 43.0 -0.1**
ESK IAmb IAmb 02 51 43.7
comp=Z,173nm,1.4s
BC3 **Big Chuckawall** **85.18 53** P **P** **02 51 43.9 +0.2**
baz=307,SNR=18
BC3 S **S** **03 02 12.5 -0.7**
baz=307
MYKA **Terra Mystica** **85.18 324** *i* P **P** **02 51 42.6 -0.8**
comp=Z,106nm,1.5s,SNR=36
MYKA *i* PP **PP** **02 55 02.6 +2.5**
comp=Z,107nm,1.8s,SNR=7.1
EDMD **Edmundbyers** **85.18 337**⇑*e*P **P** **02 51 42.6 -0.6**
FUR **Furstenfeldbru** **85.20 327** *e*P **P** **02 51 43.9 +0.5**
comp=Z,423nm,1.1s,baz=42,slow=5.1
BRY **Bratogost** **85.22 319** *e*P **P** **02 51 44.0 +0.2**
BRY **Bratogost** **85.22 319** *e*P **P** **02 51 43.6 -0.2**
DION **Dionisos Attik** **85.22 313** P **P** **02 51 42.1 -1.6**
CEME **Cevo** **85.25 319** *e*P **P** **02 51 43.6 -0.2**
AHRW **Bad Neuenahr-A** **85.27 330** *e*P **P** **02 51 43.7 0.0**
comp=Z,319nm,1.4s,baz=42,slow=5.1
AHRW *e*PP **PP** **02 55 01.4 +0.8**
baz=42,slow=8.3
PTL **Penteli** **85.28 313** P **P** **02 51 42.5 -1.5**
E28A **Huff** **85.29 36** IAmb IAmb 02 52 10.1
comp=Z,135nm,1.2s
E28A **Huff** **85.29 36** P **P** **02 51 44.4 +0.4**
baz=315
E28A S **S** **03 02 12.9 -0.8**
baz=315
CMBO **Columbo, Santo** **85.31 311** P **P** **02 51 42.0 -2.1**
RSSD **Black Hills** **85.31 39** P **P** **02 51 43.9 -0.4**
RSSD pmax pmax
comp=Z,166nm,1.5s
RSSD MLR MLR
comp=Z,4μm,20.0s
RSSD **Black Hills** **85.31 39** P **P** **02 51 43.9 -0.4**
RSSD IAmb IAmb 02 52 04.4
comp=Z,166nm,1.5s
RSSD **Black Hills** **85.31 39** P **P** **02 51 44.6 +0.3**
baz=313
RSSD S **S** **03 02 13.0 -1.3**
baz=313
RSSD **Black Hills** **85.31 39** P **P** **02 51 44.4 +0.1**
baz=313
RSSD S **S** **03 02 13.2 -1.2**
baz=313
THT2 **Imerovigli** **85.32 311** P **P** **02 51 42.4 -1.8**
DRME **Dracevica, Mon** **85.34 318**⇑*i*P **P** **02 51 44.0 -0.1**
DRME **Dracevica, Mon** **85.34 318** *e*P **P** **02 51 44.1 -0.1**
IKP **In-Ko-Pah, Jac** **85.34 54** P **P** **02 51 45.0 +0.5**
baz=307,SNR=9.0
IKP S **S** **03 02 14.0 -0.7**
baz=307
SAP3 **Santorini-Thir** **85.36 311** P **P** **02 51 42.1 -2.3**
SWSC **Sam W. Stewart** **85.37 53** P **P** **02 51 44.8 +0.3**
baz=307,SNR=9.5
SWSC S **S** **03 02 17.2 +2.4**
baz=307
ATHU **Athens Univers** **85.38 313** P **P** **02 51 42.0 -2.5**
THR6 **Thira Island,** **85.38 311** P **P** **02 51 42.8 -1.7**
ATAL **Atalanti** **85.39 314** P **P** **02 51 43.2 -1.3**
ATH **Athens Observa** **85.42 313** P **P** **02 51 43.1 -1.5**
CEY **Cerknica** **85.42 323**⇑*i*P **P** **02 51 43.8 -0.8**
BUM **Brajici-Budva** **85.42 319** *e*P **P** **02 51 44.5 -0.2**
LKR **Lokris** **85.42 314** P **P** **02 51 43.2 -1.5**
THL **Klokotos Trika** **85.43 315** P **P** **02 51 42.8 -1.9**
NEST **Nestorio** **85.44 316** P **P** **02 51 44.2 -0.7**
VLY **Voula,Athens** **85.45 313** P **P** **02 51 43.0 -1.8**
ULC **Ulcinj** **85.45 318** *e*P **P** **02 51 44.3 -0.5**
KBN **Korca** **85.46 316** P **P** **02 51 44.2 -0.7**
KBN **Korca** **85.46 316** *i* P **P** **02 51 44.6 -0.3**
YUH **Yuha Desert** **85.47 54** IAmb IAmb 02 52 02.1
comp=Z,167nm,1.4s
TIR **Tirane** **85.51 317** ⇑P **P** **02 51 44.7 -0.4**
TIR **Tirane** **85.51 317** P **P** **02 51 44.7 -0.4**
TIR **Tirane** **85.51 317** P **P** **02 51 44.3 -0.8**
TIR pmax pmax
comp=Z,112nm,1.0s
TIR MLR MLR
comp=Z,11μm,19.0s
TIR **Tirane** **85.51 317** P **P** **02 51 44.3 -0.8**
TIR IAmb IAmb 02 51 46.2
comp=Z,112nm,1.0s
TIR **Tirane** **85.51 317** *i* P **P** **02 51 44.2 -0.9**
U15A **North Rim** **85.53 49** IAmb IAmb 02 52 00.1
comp=Z,149nm,1.4s
PENT **Pentalofos** **85.53 316** P **P** **02 51 44.5 -0.8**
VILL **Villia** **85.54 313** P **P** **02 51 43.6 -1.8**
HCY **Herceg Novi** **85.55 319** *e*P **P** **02 51 45.2 0.0**
BMOL **Mol** **85.56 332** *b*P **P** **02 51 44.9 -0.2**
comp=Z,163nm,1.3s
KPRO **Kipourio** **85.56 316** P **P** **02 51 43.9 -1.5**
AGG **Agios Georgios** **85.59 314** *i* P **P** **02 51 44.1 -1.5**
AGG **Agios Georgios** **85.59 314** P **P** **02 51 43.8 -1.8**
BTNL **Ternell** **85.62 331** *d*P **P** **02 51 44.8 -0.7**
comp=Z,58nm,1.2s
ZKR **Zakros** **85.62 309** *i* P **P** **02 51 45.6 -0.2**
ZKR **Zakros** **85.62 309** P **P** **02 51 45.5 -0.2**
O20A **White River Ci** **85.63 44** IAmb IAmb 02 52 15.4
comp=Z,164nm,1.2s
O20A **White River Ci** **85.63 44** P **P** **02 51 46.6 +0.6**
baz=311,SNR=67
O20A S **S** **03 02 18.0 +0.3**
baz=311
ABTA **Abfaltersbach** **85.64 325** *i* P **P** **02 51 44.7 -1.1**
comp=Z,75nm,1.2s,SNR=32
ABTA *e*PP **PP** **02 55 06.4 +2.4**
comp=Z,28nm,1.6s
BEBN **Eben Emael** **85.64 331** *b*P **P** **02 51 45.0 -0.5**
comp=Z,114nm,1.1s
PDMCI **Parker Dam,Lak** **85.65 52** P **P** **02 51 46.3 +0.4**
baz=308,SNR=28
PDMCI S **S** **03 02 17.9 +0.3**
baz=308
MEM **Membach** **85.66 331** *b*P **P** **02 51 43.6 -2.0**
comp=Z,693nm,0.0s
NEWG **New Galloway** **85.66 339**⇑*e*P **P** **02 51 44.9 -0.6**
NEWG IAmb IAmb 02 51 45.6
comp=Z,173nm,1.5s
WATA **Walderalm** **85.66 326** *e*P **P** **02 51 45.5 -0.4**
comp=Z,78nm,1.4s,SNR=27
WATA *i* PP **PP** **02 55 06.3 +2.2**
comp=Z,505nm,2.6s,SNR=5.2
RIY **Rijeka** **85.68 323**⇑*i*P **P** **02 51 44.8 -1.0**
WTTA **Wattenberg** **85.69 326** *i* P **P** **02 51 45.4 -0.7**
comp=Z,98nm,1.5s,SNR=21
WTTA *e*PP **PP** **02 55 03.8 -0.6**
comp=Z,645nm,2.3s
STU **Stuttgart** **85.69 328** *e*P **P** **02 51 45.9 +0.1**
comp=Z,690nm,1.2s,baz=42,slow=5.1
STON **Ston** **85.69 320**⇑*i*P **P** **02 51 44.2 -1.7**
MAKR **Makrakomi, Fth** **85.71 315** P **P** **02 51 44.8 -1.4**
BLYC **Blythe** **85.74 52** IAmb IAmb 02 52 03.6
comp=Z,92nm,1.1s
KESW **Keswick, Cumbr** **85.75 338**⇑*e*P **P** **02 51 45.9 -0.1**
KESW IAmb IAmb 02 51 46.5
comp=Z,350nm,1.5s
SKDS **Skadanscina** **85.76 323**⇑*i*P **P** **02 51 45.3 -1.0**
TRI **Trieste** **85.77 324** IAmb IAmb 02 51 58.6
comp=Z,167nm,1.5s
LMK **Market Rasen** **85.77 336**⇑*e*P **P** **02 51 45.7 -0.4**
LMK IAmb IAmb 02 51 47.0
comp=Z,1μm,1.8s
BLCH **La Chartreuse** **85.80 331** *d*P **P** **02 51 45.9 -0.4**
comp=Z,74nm,1.3s
HPK **Haverah Park** **85.80 337**⇑*e*P **P** **02 51 46.1 -0.1**
HPK IAmb IAmb 02 51 46.7
comp=Z,334nm,1.2s
LTK **Loutraki** **85.84 313** P **P** **02 51 48.3 +1.5**
BHOU **Houvegnez** **85.85 331** *d*P **P** **02 51 46.2 -0.4**
comp=Z,48nm,1.1s
BSTI **Sart Tilman** **85.85 331** *b*P **P** **02 51 46.3 -0.3**
comp=Z,14nm,0.9s
MOTA **Moosalm** **85.88 326** *i* P **P** **02 51 46.5 -0.5**
comp=Z,136nm,2.0s,SNR=29
MOTA *e*PP **PP** **02 55 08.6 +2.7**
comp=Z,66nm,1.7s
SQTA **Sankt Quirin** **85.92 326** *i* P **P** **02 51 46.7 -0.4**
comp=Z,102nm,2.0s,SNR=23
SQTA *e*PP **PP** **02 55 09.2 +3.1**
comp=Z,71nm,1.6s
RETA **Reutte** **85.93 326** *i* P **P** **02 51 47.0 -0.1**
comp=Z,186nm,1.4s,SNR=61
GLA **Glamis** **85.96 53** P **P** **02 51 47.5 0.0**
GLA pmax pmax
comp=Z,166nm,1.3s
GLA **Glamis** **85.96 53** P **P** **02 51 47.5 0.0**
GLA IAmb IAmb 02 52 07.3
comp=Z,166nm,1.2s
GLA **Glamis** **85.96 53** P **P** **02 51 48.3 +0.8**
baz=308,SNR=14
GLA S **S** **03 02 22.2 +1.4**
baz=308
EVR **Evrytania** **85.97 315** P **P** **02 51 46.2 -1.3**
FRMA **Ierapetra Chan** **86.00 310** P **P** **02 51 46.8 -0.8**
LKLB **Kalborn** **86.01 330** *b*P **P** **02 51 47.0 -0.4**
comp=Z,26nm,1.4s
DID **Didima** **86.01 313** P **P** **02 51 44.2 -3.5**
GAL1 **Galloway** **86.02 339**⇑*e*P **P** **02 51 46.9 -0.4**
GAL1 IAmb IAmb 02 51 47.5
comp=Z,108nm,1.0s
THAL **Thalero** **86.02 314** P **P** **02 51 45.5 -2.1**
WACR **West Acre** **86.04 335**⇑*e*P **P** **02 51 46.9 -0.5**
WACR IAmb IAmb 02 51 47.5
comp=Z,239nm,0.9s
JAN **Janina** **86.05 316** P **P** **02 51 46.5 -1.3**
BCLA **Clavier** **86.09 331** *b*P **P** **02 51 47.1 -0.6**
comp=Z,47nm,1.2s
UBR **Ueberruh** **86.09 327** *e*P **P** **02 51 47.6 -0.3**
comp=Z,250nm,1.6s,baz=42,slow=5.1
LVIA **Vianden** **86.09 330** *b*P **P** **02 51 47.5 -0.2**
comp=Z,38nm,1.2s
ANX **Ano Chora** **86.11 314** P **P** **02 51 47.0 -1.2**
KRND **KRANIDI** **86.14 313** P **P** **02 51 45.7 -2.5**
UCC **Uccle** **86.17 332** *d*P **P** **02 51 47.4 -0.8**
UCC *b*P **P** **02 51 47.5 -0.6**
BGES **Gesves** **86.20 331** *d*P **P** **02 51 47.6 -0.7**
comp=Z,47nm,1.2s
EFP **Efpalio** **86.23 314** P **P** **02 51 47.5 -1.2**
KSTL **Kastelli Herak** **86.24 310** P **P** **02 51 47.5 -1.3**
CLGH **Cloghs, Cushen** **86.25 339**⇑*e*P **P** **02 51 48.2 -0.2**
CLGH IAmb IAmb 02 51 48.9
comp=Z,160nm,1.1s
AGMN **Agassiz Nation** **86.28 32** IAMs_20 IAMs_20 03 32 02.2
comp=Z,4μm,20.0s
AGMN **Agassiz Nation** **86.28 32** P **P** **02 51 48.5 -0.3**
baz=319,SNR=10
AGMN S **S** **03 02 20.3 -3.0**
baz=319
AGMN **Agassiz Nation** **86.28 32** P **P** **02 51 48.2 -0.5**
baz=319,SNR=10
AGMN S **S** **03 02 20.3 -3.0**
baz=319
FETA **Feichten** **86.29 326** *i* P **P** **02 51 48.7 -0.3**
comp=Z,80nm,1.1s,SNR=32
FETA *e*PP **PP** **02 55 08.7 -0.6**
comp=Z,1μm,6.3s
FETA S S 03 02 11.6 -12
comp=Z,2μm,5.4s
LBWR **Ladybower, Pea** **86.29 336**⇑*e*P **P** **02 51 48.4 -0.3**
LBWR IAmb IAmb 02 51 49.7
comp=Z,452nm,1.1s
MQOL **MQOL** **86.30 292** *i* P **P** **02 51 48.9 -0.4**
MQOL *i* S S 03 02 15.2 -9.2
VLO **Vlora** **86.30 317** P **P** **02 51 48.8 -0.2**
LAKA **Lakka** **86.30 314** P **P** **02 51 47.9 -1.2**
WLF **Walferdange** **86.32 330** IAmb IAmb 02 51 49.9
comp=Z,221nm,1.3s
WLF **Walferdange** **86.32 330** *e*P **P** **02 51 49.1 +0.2**
comp=Z,685nm,1.9s,baz=42,slow=5.1
WLF **Walferdange** **86.32 330** *d*P **P** **02 51 48.9 0.0**
comp=Z,60nm,1.6s
RCHB **Rochefort** **86.32 331** *d*P **P** **02 51 48.0 -0.9**
comp=Z,63nm,1.1s
KLV **Kalavryta, Ach** **86.33 314** P **P** **02 51 47.6 -1.7**
IDI **Anoyia** **86.37 310** ⇑P **P** **02 51 48.1 -1.4**
IDI **Anoyia** **86.37 310** *i* P **P** **02 51 48.2 -1.4**
IDI **Anoyia** **86.37 310** P **P** **02 51 48.1 -1.4**
IDI **Anoyia** **86.37 310** IAmb IAmb 02 51 53.4
comp=Z,121nm,1.2s
BRQR **Ronquire** **86.37 332** *b*P **P** **02 51 48.7 -0.4**
comp=Z,80nm,1.1s
BMRD **Maredsous** **86.39 331** *d*P **P** **02 51 48.7 -0.6**
comp=Z,81nm,1.1s
BSKQ **Steenkerk** **86.40 332** *b*P **P** **02 51 48.8 -0.4**
comp=Z,68nm,1.2s
SRN **Sarande** **86.40 316** P **P** **02 51 48.7 -0.8**
SRN **Sarande** **86.40 316** *i* P **P** **02 51 47.8 -1.7**
BFO **Black Forest** **86.40 328** P **P** **02 51 49.1 -0.3**
BFO pmax pmax
comp=Z,228nm,1.3s
BFO MLR MLR
comp=Z,6μm,19.0s
BFO **Black Forest** **86.40 328** P **P** **02 51 49.1 -0.3**
BFO IAMs_20 IAMs_20 03 31 15.2
comp=Z,6μm,19.0s
BFO **Black Forest** **86.40 328** *e*P **P** **02 51 49.1 -0.3**
comp=Z,267nm,1.3s,baz=42,slow=5.1
BFO *e*PP **PP** **02 55 09.6 -0.3**
baz=42,slow=8.3
ELMS **Elmsett, Ipswi** **86.42 334**⇑*e*P **P** **02 51 48.7 -0.6**
ELMS IAmb IAmb 02 51 49.8
comp=Z,224nm,0.8s
SNF **Seneffe** **86.43 332** *b*P **P** **02 51 48.7 -0.7**
comp=Z,84nm,1.1s
IGT **Igoumenitsa** **86.44 316** P **P** **02 51 48.7 -1.0**
IGT **Igoumenitsa** **86.44 316** *i* P **P** **02 51 48.7 -1.0**
PHWY **Pilot Hill** **86.45 42** IAmb IAmb 02 52 09.7
comp=Z,97nm,1.1s
PHWY IAMs_20 IAMs_20 03 34 05.3
comp=Z,4μm,18.0s
N23A **Red Feather La** **86.45 42** P **P** **02 51 51.3 +1.2**
baz=312,SNR=72
N23A S **S** **03 02 27.8 +2.0**
baz=312
BZEV **Zevekote** **86.47 333** *b*P **P** **02 51 49.0 -0.6**
comp=Z,280nm,0.9s
DAVA **Damuels** **86.48 327** *i* P **P** **02 51 49.8 -0.2**
comp=Z,200nm,1.2s,SNR=46
DAVA *e*PP **PP** **02 55 12.4 +1.6**
comp=Z,46nm,1.6s
IOMK **Kirk Michael** **86.49 338** *e*P **P** **02 51 49.4 -0.2**
PV07 **Paradox Valley** **86.50 46** P **P** **02 51 50.8 +0.5**
PV07 IAmb IAmb 02 52 14.4
comp=Z,168nm,1.4s
CTI **Castel Tesino** **86.56 325** IAmb IAmb 02 51 50.6
comp=Z,155nm,1.5s
TMBK **Timbaki Heraki** **86.58 310** P **P** **02 51 50.3 -0.2**
PMOR **Pomariorio Ree** **86.61 110** *e*P **P** **02 51 51.4 +0.6**
comp=Z,90nm,1.2s
PMOR **Pomariorio Ree** **86.61 110** *e*T T 04 27 22.6
comp=Z,9.4nm,0.2s
WIM **Isle of Man** **86.62 338**⇑*e*P **P** **02 51 50.1 -0.1**
DOU **Dourbes** **86.63 331** *b*P **P** **02 51 49.4 -1.0**
comp=Z,39nm,1.5s
D32B **Dogwood Acres,** **86.63 33** P **P** **02 51 50.0 -0.5**
baz=318
KEK **Kerkira** **86.63 316** P **P** **02 51 49.5 -1.1**
DRO **Drossia** **86.65 314** P **P** **02 51 50.1 -0.7**
BBOU **Bougnies** **86.66 332** *b*P **P** **02 51 50.1 -0.4**
comp=Z,114nm,1.1s
WUAZ **Wupatki** **86.68 49** IAMs_20 IAMs_20 03 26 34.2
comp=Z,5μm,21.0s
WUAZ **Wupatki** **86.68 49** P **P** **02 51 52.1 +0.9**
baz=309,SNR=23
WUAZ S **S** **03 02 29.5 +1.4**
baz=309
ATD **Arta Tunnel** **86.69 282** LR LR 03 34 46.3
comp=Z,2μm,18.7s,baz=57,slow=39
ATD **Arta Tunnel** **86.69 282** IAmb IAmb 02 51 58.2
comp=Z,155nm,1.3s
ATD **Arta Tunnel** **86.69 282** *e*P **P** **02 51 52.8 +1.4**
ATD *e*S **S** **03 02 23.0 -5.4**
ATD **Arta Tunnel** **86.69 282**⇓*e*P **P** **02 51 47.2 -4.1**
ATD ⇓*e*S **S** **03 02 25.1 -3.3**
ATD **Arta Tunnel** **86.69 282** *e*P P 02 52 00.4 +9.0
VLI **Veliai** **86.69 312** P P **02 51 48.6 -2.4**
CWF **Charnwood Fore** **86.70 336**⇑*e*P **P** **02 51 50.1 -0.6**
CWF IAmb IAmb 02 51 50.7
comp=Z,213nm,1.1s
TSLK **Tsoukalades, L** **86.71 315** P **P** **02 51 50.0 -1.0**
STNC **Stoke** **86.71 336**⇑*e*P **P** **02 51 50.5 -0.3**
STNC IAmb IAmb 02 51 51.8
comp=Z,1μm,2.3s
RLS **Riolos of Patr** **86.73 314** P **P** **02 51 50.5 -0.6**
LKD2 **Lefkada island** **86.73 315** P **P** **02 51 50.1 -1.1**
LKD2 **Lefkada island** **86.73 315** *i* P **P** **02 51 50.3 -0.9**
PV01 **Paradox Valley** **86.74 46** P **P** **02 51 51.2 -0.3**

PV01 IAmb IAmb 02 52 01.1
comp=Z,121nm,1.2s
NYDR Nydri-Lefkada 86.76 315 P **P** **02 51 50.0 -1.2**
PPT Papeete 86.80 113 LR LR 03 30 00.8
comp=Z,1µm,18.1s,baz=297,slow=35
PPT2 Papeete2 86.82 113 *e*S **S** **03 02 26.2 -3.1**
comp=Z,2µm,23.8s
PPT2 Papeete2 86.82 113 *e*LR LR 03 19 25.0
comp=Z,4µm,21.8s,baz=310
113A Mohawk Valley, 86.84 53 IAmb IAmb 02 52 21.2
comp=Z,104nm,1.4s
IMMV Iera Moni Meta 86.84 311 *i*P **P** **02 51 50.9 -0.8**
IMMV Iera Moni Meta 86.84 311 P **P** **02 51 50.5 -1.2**
EVGI Lefkada island 86.84 315 P **P** **02 51 50.7 -1.0**
DAVOX Davos/Dischmat 86.86 326 LR LR 03 35 56.1
comp=Z,15µm,21.5s,baz=40,slow=39
KTHA Kythira Island 86.91 312 P **P** **02 51 50.5 -1.6**
KTHR Kythira 86.94 312 P **P** **02 51 50.9 -1.3**
VAH Vaihoa 86.96 110 *e*P **P** **02 51 53.0 +0.6**
comp=Z,42nm,1.1s
SMCO Snowmass 87.00 44 IAmb IAmb 02 52 12.6
comp=Z,166nm,1.3s
SMCO IAMs_20 IAMs_20 03 33 34.1
comp=Z,5µm,20.0s
ECH Echery 87.00 329 P **P** **02 51 51.6 -0.7**
ECH pmax pmax
comp=Z,157nm,1.4s
ECH MLR MLR
comp=Z,8µm,20.0s
ECH Echery 87.00 329 P **P** **02 51 51.6 -0.7**
ECH IAmb IAmb 02 51 53.5
comp=Z,157nm,1.4s
FSK Fiskardo 87.01 315 P **P** **02 51 50.1 -2.4**
ANKY Antikythira Is 87.01 312 P **P** **02 51 51.3 -1.2**
ITM Ithomi 87.02 313 *i*P **P** **02 51 51.5 -1.2**
ITM Ithomi 87.02 313 P **P** **02 51 51.4 -1.2**
TEOL Teolo 87.05 325 IAmb IAmb 02 52 03.1
comp=Z,168nm,1.4s
ELSH Elham, Standar 87.13 334⇑ *e*P **P** **02 51 52.2 -0.6**
ELSH IAmb IAmb 02 51 52.8
comp=Z,250nm,0.8s
WME Myndd Eilian 87.14 338⇑ *e*P **P** **02 51 52.4 -0.5**
SCTE Santa Cesarea 87.15 317 P **P** **02 51 53.0 -0.2**
SCTE IAmb IAmb 02 51 53.9
comp=Z,109nm,1.1s
SCTE Santa Cesarea 87.15 317 *i*P **P** **02 51 52.8 -0.3**
GVDS Gavdos 87.16 310 P **P** **02 51 51.6 -1.7**
GVD Gavdhos 87.16 310 *i*P **P** **02 51 52.7 -0.6**
GVD Gavdhos 87.16 310 P **P** **02 51 52.3 -1.0**
B35A Bob, Littlefor 87.17 31 IAmb IAmb 02 52 19.8
comp=Z,166nm,1.5s
B35A Bob, Littlefor 87.17 31 P **P** **02 51 53.3 +0.2**
baz=320,SNR=8.8
B35A S **S** **03 02 29.2 -2.7**
baz=320
KNDR Palaiochora Ch 87.17 311 *i*P **P** **02 51 52.7 -0.6**
KNDR Palaiochora Ch 87.17 311 P **P** **02 51 52.6 -0.7**
VLS Valsamata 87.17 315 P **P** **02 51 52.2 -1.1**
WPS Cemaes, Angles 87.20 338⇑ *e*P **P** **02 51 52.3 -0.8**
WPS IAmb IAmb 02 51 54.0
comp=Z,460nm,1.9s
FOEL Foel Wylfa 87.21 337⇑ *e*P **P** **02 51 53.0 -0.3**
FOEL IAmb IAmb 02 51 53.7
comp=Z,194nm,1.0s
PSDA Pessada-Kefalo 87.22 315 P **P** **02 51 52.2 -1.3**
KEF4 Livadi, Kephal 87.22 315 P **P** **02 51 52.3 -1.2**
WLF1 Llynfaes 87.26 338⇑ *e*P **P** **02 51 53.1 -0.3**
WLF1 IAmb IAmb 02 51 53.7
comp=Z,367nm,1.2s
DMLN Damoulianata-K 87.26 315 P **P** **02 51 52.4 -1.4**
KEF3 Kipouria, Keph 87.30 315 P **P** **02 51 52.8 -1.1**
PYL PYLOS 87.31 313 P **P** **02 51 52.0 -2.0**
YLL Llanberis 87.31 337⇑ *e*P **P** **02 51 53.3 -0.4**
LTHK Lithakia 87.33 314 P **P** **02 51 52.6 -1.5**
TUE Stuetta 87.33 326 IAmb IAmb 02 52 17.3
comp=Z,194nm,1.3s
YRC Rhoscolyn 87.35 338⇑ *e*P **P** **02 51 53.4 -0.4**
ISCO Idaho Springs 87.37 43 IAmb IAmb 02 52 13.5
comp=Z,163nm,1.4s
ISCO IAMs_20 IAMs_20 03 33 27.8
comp=Z,4µm,18.0s
ISCO Idaho Springs 87.37 43 P **P** **02 51 55.8 +1.2**
baz=312
ISCO Idaho Springs 87.37 43 P **P** **02 51 55.6 +0.9**
baz=312,SNR=43
ISCO S **S** **03 02 35.4 +0.6**
baz=312
MVCO Mesa Verde 87.38 46 P **P** **02 51 54.5 -0.2**
MVCO IAmb IAmb 02 52 20.8
comp=Z,117nm,1.4s
MVCO Mesa Verde 87.38 46 P **P** **02 51 55.3 +0.6**
baz=311,SNR=15
MVCO S **S** **03 02 35.3 +0.4**
baz=311
HMNX Herstmonceux 87.65 334⇑ *e*P **P** **02 51 55.5 +0.1**
SUSD Miller 87.67 36 P **P** **02 51 55.7 0.0**
baz=317,SNR=6.4
SUSD S **S** **03 02 34.5 -2.4**
baz=317
SUSD Miller 87.67 36 P **P** **02 51 56.0 +0.3**
baz=317,SNR=6.4
SUSD S **S** **03 02 34.3 -2.6**
baz=317
MATE Matera 87.75 319⇑ P **P** **02 51 55.0 -1.0**
SWN1 Swindon 87.89 335⇑ *e*P **P** **02 51 56.3 -0.2**
MCH1 Michaelchurch 87.89 336⇑ *e*P **P** **02 51 56.1 -0.4**
MCH1 IAmb IAmb 02 51 57.2
comp=Z,1µm,2.3s
F33A 5 Mile Ranch, 87.92 34 IAmb IAmb 02 52 16.1
comp=Z,166nm,1.4s
F33A 5 Mile Ranch, 87.92 34 P **P** **02 51 57.2 +0.4**
baz=318,SNR=5.1
W18A Petrified Fore 87.97 49 P **P** **02 51 58.2 +0.7**
baz=310
W18A S **S** **03 02 41.2 +0.7**
baz=310
214A Organ Pipe Nat 87.97 53 P **P** **02 51 57.8 +0.4**
baz=309,SNR=8.3
214A S **S** **03 02 41.6 +1.3**
baz=309
S22A 4UR Ranch, Cre 88.03 45 P **P** **02 51 57.8 0.0**
S22A IAmb IAmb 02 52 20.1
comp=Z,164nm,1.5s
S22A 4UR Ranch, Cre 88.03 45 P **P** **02 51 59.4 +1.5**
baz=312,SNR=48
S22A S **S** **03 02 44.4 +3.2**
baz=312
NRCA Norcia 88.14 322 IAmb IAmb 02 52 17.2
comp=Z,123nm,1.1s
Q24A Divide 88.20 43 IAmb IAmb 02 52 13.2
comp=Z,121nm,1.4s
Q24A Divide 88.20 43 P **P** **02 51 59.3 +0.7**
baz=313,SNR=33
Q24A S **S** **03 02 42.1 -0.7**
baz=313
AQU L'Aquila 88.33 322 IAmb IAmb 02 52 18.1
comp=Z,122nm,1.0s
AQU L'Aquila 88.33 322 *i*P **P** **02 51 58.4 -0.5**
SENIN Lac Senin/Sane 88.35 327 P **P** **02 51 58.3 -0.8**
SENIN IAmb IAmb 02 52 16.6
comp=Z,86nm,1.2s
EYMN Ely 88.43 30 IAmb IAmb 02 52 21.2
comp=Z,73nm,1.2s
EYMN Ely 88.43 30 IAMs_20 IAMs_20 03 37 23.9
comp=Z,5µm,19.0s
EYMN Ely 88.43 30 P **P** **02 51 59.4 +0.2**
baz=322,SNR=7.1
EYMN S **S** **03 02 40.8 -3.2**
baz=322
EYMN Ely 88.43 30 P **P** **02 51 59.4 +0.2**
baz=322,SNR=7.1
EYMN S **S** **03 02 41.3 -2.7**
baz=322
RSBS Rosebush, Pemb 88.51 337⇑ *e*P **P** **02 51 57.8 -1.6**
OGNE Ogallala 88.57 40 IAMs_20 IAMs_20 03 32 19.4
comp=Z,4µm,20.0s
OGNE Ogallala 88.57 40 P **P** **02 52 00.7 +0.6**
baz=315,SNR=8.3
OGNE Ogallala 88.57 40 P **P** **02 52 00.3 +0.3**
baz=315,SNR=8.3
OGNE S **S** **03 02 44.2 -1.6**
baz=315
OSSC Osservatorio P 88.59 323 IAmb IAmb 02 52 11.2
comp=Z,105nm,1.4s
TIP Timpagrande 88.73 317 IAmb IAmb 02 52 15.0
comp=Z,99nm,1.5s
TIP IAMs_20 IAMs_20 03 37 14.6
comp=Z,5µm,21.0s
SDCO Great Sand Dun 88.81 44 IAmb IAmb 02 52 26.3
comp=Z,93nm,1.4s
SDCO IAMs_20 IAMs_20 03 36 07.2
comp=Z,6µm,19.0s
SDCO Great Sand Dun 88.81 44 P **P** **02 52 02.6 +1.0**
baz=313,SNR=54
SDCO S **S** **03 02 50.8 +2.2**
baz=313
SDCO Great Sand Dun 88.81 44 P **P** **02 52 02.7 +1.2**
baz=313,SNR=54
SDCO S **S** **03 02 49.8 +1.2**
baz=313
TUC Tucson 89.09 51 P **P** **02 52 02.8 +0.1**
TUC pmax pmax
comp=Z,46nm,1.5s
TUC Tucson 89.09 51 P **P** **02 52 02.8 +0.1**
TUC Tucson 89.09 51 P **P** **02 52 03.4 +0.8**
baz=310
TUC S **S** **03 02 49.9 -1.0**
baz=310
K31A O'Neill 89.09 37 P **P** **02 52 02.8 +0.4**
baz=317,SNR=6.6
K31A S **S** **03 02 50.2 -0.3**
baz=317
F36A Milaca 89.17 32 P **P** **02 52 02.5 -0.2**
baz=320,SNR=9.9
CLF Chambon-Foret 89.20 331 IAmb IAmb 02 52 04.6
comp=Z,183nm,1.4s
HTL Hartland 89.24 336 *e*P **P** **02 52 02.4 -0.5**
ECSD EROS Data Cent 89.34 35 IAmb IAmb 02 52 23.6
comp=Z,119nm,1.5s
ECSD EROS Data Cent 89.34 35 IAMs_20 IAMs_20 03 35 08.3
comp=Z,5µm,19.0s
ECSD EROS Data Cent 89.34 35 P **P** **02 52 03.8 +0.3**
baz=318,SNR=25
ECSD S **S** **03 02 51.5 -1.2**
baz=318
ECSD EROS Data Cent 89.34 35 P **P** **02 52 03.6 +0.1**
baz=318,SNR=25
ECSD S **S** **03 02 51.1 -1.6**
baz=318
TAOE Nuku Hiva Isla 89.39 101 *e*PP PP 02 55 36.8 +1.3
comp=Z,332nm,22.3s
TAOE *e*S **S** **03 02 49.8 -4.3**
comp=Z,3µm,26.3s
TAOE *e*SS **SS** **03 08 49.3 -0.2**
comp=Z,1µm,23.8s
TAOE Nuku Hiva Isla 89.39 101 *e*LR LR 03 20 30.2
comp=Z,4µm,23.1s,baz=310
E38A The Farm, Brul 89.46 31 IAmb IAmb 02 52 14.4
comp=Z,71nm,1.0s
E38A The Farm, Brul 89.46 31 P **P** **02 52 04.3 +0.4**
baz=322,SNR=9.9
E38A S **S** **03 02 51.8 -1.9**
baz=322
DYA Yadsworthy 89.53 336⇑ *e*P **P** **02 52 03.1 -1.2**
KSCO Kaye Shedlock' 89.59 42 P **P** **02 52 05.4 +0.4**
baz=314,SNR=8.9
KSCO Kaye Shedlock' 89.59 42 P **P** **02 52 05.4 +0.4**
baz=314,SNR=8.9
KSCO S **S** **03 02 56.5 +1.0**
baz=314
BNI Bardonecchia 89.63 327 P **P** **02 52 04.3 -0.7**
BNI pmax pmax
comp=Z,66nm,1.0s
BNI Bardonecchia 89.63 327 P **P** **02 52 04.3 -0.7**
BNI IAmb IAmb 02 52 26.2
comp=Z,66nm,1.0s
CEL Celeste 89.85 317 IAmb IAmb 02 52 10.6
comp=Z,54nm,0.8s
CEL IAMs_20 IAMs_20 03 35 44.2
comp=Z,4µm,19.0s
T25A Trinidad 89.86 44 IAmb IAmb 02 52 23.8
comp=Z,104nm,1.3s
T25A Trinidad 89.86 44 P **P** **02 52 07.3 +0.9**
baz=313,SNR=28
T25A S **S** **03 02 56.5 -1.8**
baz=313
SCHQ Schefferville 89.95 13 P **P** **02 52 05.7 -0.5**
comp=Z,6.2nm,0.9s,baz=346,slow=4.8,SNR=6.6
SCHQ LR LR 03 35 30.8
comp=Z,7µm,19.8s,baz=349,slow=38
JSA Saint Aubin 89.95 334⇑ *e*P **P** **02 52 05.5 -0.7**
SPMN Marine on St. 89.99 32 IAmb IAmb 02 52 33.4
comp=Z,101nm,1.4s
SPMN Marine on St. 89.99 32 P **P** **02 52 07.0 +0.5**
baz=321,SNR=9.4
SPMN Marine on St. 89.99 32 P **P** **02 52 06.7 +0.2**
baz=321,SNR=9.4
SPMN S **S** **03 02 56.5 -2.2**
baz=321
ANMO Albuquerque 90.12 47 LR LR 03 32 14.3
comp=Z,4µm,18.6s,baz=327,slow=35
ANMO Albuquerque 90.12 47 *ce*P **P** **02 52 04.8 -2.8**
ANMO pmax pmax
comp=Z,50nm,2.5s
ANMO Albuquerque 90.12 47 P **P** **02 52 07.8 +0.2**
ANMO Albuquerque 90.12 47 IAMs_20 IAMs_20 03 33 10.9
comp=Z,4µm,20.0s
ANMO Albuquerque 90.12 47 P **P** **02 52 08.7 +1.2**
baz=312,SNR=21
ANMO Albuquerque 90.12 47 P **P** **02 52 08.7 +1.2**
baz=312
ANMO S **S** **03 03 01.5 +0.8**
baz=312
BGNE Belgrade 90.29 38 P **P** **02 52 08.1 +0.2**
baz=317,SNR=7.4
BGNE S **S** **03 02 59.2 -2.5**
baz=317
BGNE Belgrade 90.29 38 P **P** **02 52 08.2 +0.2**
baz=317,SNR=7.4
BGNE S **S** **03 03 01.0 -0.6**
baz=317
TBI Tubuai 90.30 118 *e*S **S** **03 02 58.2 -3.7**
comp=Z,1µm,23.2s
TBI Tubuai 90.30 118 *e*LQ LQ 03 17 14.3
comp=Z,2µm,23.8s
TBI *e*LR LR 03 20 48.0
comp=Z,3µm,31.8s,baz=304
ANKE Ethiopia-Afar 90.30 282 *e*P **P** **02 52 05.2 -3.8**
ANKE *e*S S 03 02 45.0 -18
D41A Chassel 90.34 29 IAmb IAmb 02 52 36.2
comp=Z,128nm,1.3s
D41A Chassel 90.34 29 P **P** **02 52 08.4 +0.3**
baz=324
D41A S **S** **03 03 00.2 -1.6**
baz=324
Y22D IRIS PASSCAL I 90.41 48 IAMs_20 IAMs_20 03 34 29.9
comp=Z,5µm,18.0s
Y22D IRIS PASSCAL I 90.41 48 P **P** **02 52 09.7 +0.8**
baz=312
Y22D S **S** **03 03 01.1 -2.1**
baz=312
SSB Saint Sauveur 90.41 328 P **P** **02 52 07.9 -0.6**
SSB pmax pmax
comp=Z,57nm,1.1s
SSB Saint Sauveur 90.41 328 P **P** **02 52 07.9 -0.6**
Y22A Socorro 90.47 48 P **P** **02 52 10.2 +1.0**
baz=312,SNR=7.9
I37B Waseca 90.65 33 P **P** **02 52 10.6 +1.0**
baz=320,SNR=18
L34A Svendsen Farm, 90.77 36 P **P** **02 52 10.2 0.0**
baz=318,SNR=5.2
L34A S **S** **03 03 06.1 0.0**
baz=318
121A Cookes Peak, D 90.88 50 P **P** **02 52 12.4 +1.3**
121A Cookes Peak, D 90.88 50 P **P** **02 52 12.4 +1.3**
baz=311,SNR=9.7
121A Cookes Peak, D 90.88 50 P **P** **02 52 12.2 +1.1**
baz=311,SNR=9.7
121A S **S** **03 03 08.5 +0.8**
baz=311
COWI Conover 90.88 30 IAmb IAmb 02 52 37.6
comp=Z,75nm,1.1s
COWI IAMs_20 IAMs_20 03 36 33.6
comp=Z,5µm,20.0s
COWI Conover 90.88 30 S **S** **03 03 02.7 -4.2**
baz=323
ROSF Rostrenen 91.07 334⇑ *e*P **P** **02 52 11.1 -0.4**
G40A Rib Lake 91.09 31 IAmb IAmb 02 52 22.6
comp=Z,72nm,1.1s
G40A Rib Lake 91.09 31 P **P** **02 52 12.3 +0.6**
baz=323,SNR=11
N33A J Bar K, Exete 91.14 38 IAmb IAmb 02 52 31.3
comp=Z,124nm,1.4s
N33B J Bar K, Exete 91.14 38 P **P** **02 52 11.6 -0.4**
baz=318
N33B S **S** **03 03 09.1 -0.3**
baz=318
VAE Valguarnera 91.23 318 LR LR 03 35 07.8
comp=Z,4µm,18.9s,baz=42,slow=37
MRWI Hamdab 91.30 293 *i*P **P** **02 52 12.6 -0.5**
CBKS Cedar Bluff 91.33 40 P **P** **02 52 12.6 -0.3**
baz=316
CBKS Cedar Bluff 91.33 40 P **P** **02 52 12.6 -0.3**
baz=316
CBKS S **S** **03 03 08.7 -2.6**
baz=316
AAE Adis Abeba 91.41 282 *e*P **P** **02 52 15.2 +1.2**
AAE *e*S SKSac 03 02 29.6 -17
AAE Adis Abeba 91.41 282 *e*P **P** **02 52 11.2 -2.8**
AAE *e*S **SKSac** **03 02 45.0 -1.4**
AAE Adis Abeba 91.41 282 *e*P **P** **02 52 11.8 -2.2**
AAE *e*S SKSac 03 02 35.3 -11
AAE IAMs_20 IAMs_20 03 05 07.7
comp=E,2µm,17.9s
E43A Lone Tree Farm 91.53 28 P **P** **02 52 14.1 +0.4**
baz=325
E43A S **S** **03 03 11.2 -1.5**
baz=325
FURI Furi 91.55 282 P **P** **02 52 14.6 -0.1**
FURI Furi 91.55 282 *e*P **P** **02 52 16.3 +1.6**
FURI *e*S **SKSac** **03 02 42.9 -4.4**
FURI Furi 91.55 282‖ *e*P **P** **02 52 13.2 -1.5**
FURI *e*S **SKSac** **03 02 45.0 -2.3**
FURI Furi 91.55 282 *e*P **P** **02 52 15.1 +0.4**
FURI *e*S **SKSac** **03 02 38.6 -8.7**
FURI IAMs_20 IAMs_20 03 05 19.4
comp=E,2µm,19.5s
F42A Maple Grove Fa 91.57 29 IAmb IAmb 02 52 41.1
comp=Z,72nm,1.2s
F42A Maple Grove Fa 91.57 29 P **P** **02 52 14.3 +0.4**
baz=324
F42A S **S** **03 03 11.9 -1.2**
baz=324
N35A Tabor 91.96 37 P **P** **02 52 16.6 +0.8**
baz=319,SNR=10
K38A Parkersburg 92.00 34 IAmb IAmb 02 52 26.7
comp=Z,74nm,1.4s
K38A Parkersburg 92.00 34 P **P** **02 52 16.3 +0.5**
baz=321
I40A Norwalk 92.00 32 P **P** **02 52 16.3 +0.4**
baz=322
R32A Long Quarter, 92.17 40 P **P** **02 52 16.8 0.0**
baz=317,SNR=5.2
EPT El Paso 92.20 49 IAMs_20 IAMs_20 03 31 59.4
comp=Z,5µm,19.0s
SCIA State Center 92.36 35 P **P** **02 52 17.6 0.0**
SCIA IAmb IAmb 02 52 41.8
comp=Z,148nm,1.4s
SCIA IAMs_20 IAMs_20 03 34 57.1
comp=Z,6µm,21.0s
SCIA State Center 92.36 35 P **P** **02 52 18.4 +0.9**
baz=320,SNR=6.9
SCIA State Center 92.36 35 P **P** **02 52 18.4 +0.9**
baz=320,SNR=6.9
SCIA S **S** **03 03 17.4 -2.9**
baz=320
I42A Draeger Farm, 92.75 31 S **S** **03 03 22.5 -1.3**
baz=324
H43A Windswept, Lux 92.77 30 S **S** **03 03 21.9 -2.0**
baz=324
KSU1 Kansas State U 92.78 38 IAmb IAmb 02 52 30.9
comp=Z,123nm,1.4s
KSU1 Kansas State U 92.78 38 IAMs_20 IAMs_20 03 34 30.7
comp=Z,6µm,21.0s
KSU1 Kansas State U 92.78 38 P **P** **02 52 19.7 +0.1**
baz=318,SNR=8.3
KSU1 Kansas State U 92.78 38 P **P** **02 52 19.4 -0.2**
baz=318,SNR=8.3
KSU1 S **S** **03 03 21.8 -2.4**
baz=318
JFWS Jewell Farm 92.94 32 IAmb IAmb 02 52 45.8
comp=Z,62nm,1.4s
JFWS Jewell Farm 92.94 32 P **P** **02 52 17.9 -2.3**
baz=323
JFWS Jewell Farm 92.94 32 P **P** **02 52 20.0 -0.3**
baz=323
JFWS S **S** **03 03 23.1 -2.4**
baz=323
JAWL J.Aulia 92.94 290 *i*P **P** **02 52 20.1 -0.7**
JAWL *i*S **SKSac** **03 02 55.9 +1.4**
MNTX Cornudas Mount 92.96 49 IAmb IAmb 02 52 40.4
comp=Z,77nm,1.5s
MNTX Cornudas Mount 92.96 49 P **P** **02 52 21.4 +0.9**
baz=313,SNR=18
MNTX Cornudas Mount 92.96 49 P **P** **02 52 21.1 +0.6**
baz=313,SNR=18
MNTX S **S** **03 03 23.9 -2.2**
baz=313
MSTX Muleshoe 93.01 46 IAmb IAmb 02 52 41.0
comp=Z,104nm,1.4s
MSTX Muleshoe 93.01 46 P **P** **02 52 21.3 +0.4**
baz=314,SNR=12
MSTX Muleshoe 93.01 46 P **P** **02 52 21.1 +0.2**
baz=314,SNR=12
MSTX S **S** **03 03 25.1 -1.6**
baz=314
AMTX Amarillo 93.02 44 IAMs_20 IAMs_20 03 33 44.5
comp=Z,4µm,20.0s
AMTX Amarillo 93.02 44 P **P** **02 52 21.7 +0.9**
baz=315,SNR=28
AMTX Amarillo 93.02 44 P **P** **02 52 21.7 +0.9**
baz=315
AMTX S **S** **03 03 25.8 -0.9**
baz=315
L40A Anamosa 93.17 33 IAmb IAmb 02 52 44.6
comp=Z,77nm,1.4s
L40A Anamosa 93.17 33 P **P** **02 52 21.4 +0.1**
baz=322,SNR=5.3
N38A Joes South For 93.20 35 IAmb IAmb 02 52 35.6
comp=Z,136nm,1.4s
N38A Joes South For 93.20 35 P **P** **02 52 21.9 +0.4**
baz=320,SNR=7.1
DILA Dilla 93.24 280 *e*P P 02 52 17.1 -5.2
DILA *e*S **SKSac** **03 02 57.0 +0.6**
VLDQ Val d'Or 93.45 22 P **P** **02 52 21.8 -0.7**
U32A Winter Ranch, 93.48 42 IAmb IAmb 02 52 34.1
comp=Z,71nm,1.1s
GLMI Grayling 93.75 28 P **P** **02 52 24.8 +0.8**
baz=327
GLMI S **S** **03 03 30.6 -2.0**
baz=327
L42A Oliver, Polo 93.92 33 S **S** **03 03 30.0 -4.1**
baz=323
P38A Dawn 93.95 36 P **P** **02 52 25.3 +0.3**
baz=320,SNR=13
P38A S **S** **03 03 30.8 -3.7**
baz=320
RER Riviere de l'E 93.97 247 IAMs_20 IAMs_20 03 39 03.8
comp=Z,3µm,19.0s
SBV Sambava 94.38 257 P **P** **02 52 27.2 0.0**
N41A Harden Midland 94.41 34 P **P** **02 52 27.0 0.0**
N41A IAmb IAmb 02 52 40.9
comp=Z,87nm,1.4s
T35A Sooner Cattle 94.45 40 IAmb IAmb 02 52 41.5
comp=Z,149nm,1.4s
T35B Sooner Cattle 94.45 40 P **P** **02 52 27.9 +0.5**
baz=318,SNR=14
L44A Lake County Fo 94.56 31 P **P** **02 52 27.8 +0.1**
baz=324
L44A S **S** **03 03 40.1 +0.4**
baz=324
LPIG La Paz 94.62 57 LR LR 03 35 01.5
comp=Z,3µm,18.0s,baz=314,slow=36
MAHO Mahon 94.75 325 Pdif **P** **02 52 24.6 -4.0**
MAHO S **SKSac** **03 03 08.3 +4.9**
P40A Paris 94.76 36 P **P** **02 52 29.1 +0.5**
baz=321,SNR=7.7
WMOK Wichita Mounta 94.80 43 IAmb IAmb 02 52 43.1
comp=Z,75nm,1.4s
WMOK Wichita Mounta 94.80 43 IAMs_20 IAMs_20 03 34 53.3
comp=Z,4µm,20.0s
WMOK Wichita Mounta 94.80 43 P **P** **02 52 29.4 +0.5**
baz=317,SNR=20
WMOK Wichita Mounta 94.80 43 P **P** **02 52 29.3 +0.4**
baz=317,SNR=20
WMOK S **S** **03 03 43.5 +1.3**
baz=317
OKCFA Oklahoma City 95.05 41 IAmb IAmb 02 52 46.9
comp=Z,138nm,1.4s
SLBS Sierra La Lagu 95.14 57 P **P** **02 52 31.3 +0.5**
SLBS IAMs_20 IAMs_20 03 35 23.0

comp=Z,4µm,18.0s
I49A Point Hope 95.19 27 S S 03 03 42.7 -2.4
baz=328
I49A S S **03 03 42.7 -2.4**
baz=328
FNO Franklin 95.19 42 IAmb IAmb 02 52 41.8
comp=Z,100nm,1.3s
HDIL Hopedale 95.25 33 IAmb IAmb 02 52 56.8
comp=Z,71nm,1.4s
HDIL IAMs_20 IAMs_20 03 42 27.4
comp=Z,5µm,19.0s
HDIL Hopedale 95.25 33 P P 02 52 30.9 0.0
baz=323
HDIL S S **03 03 45.3 -0.4**
baz=323
KEST Kesra 95.31 319 P P 02 52 31.0 -0.4
comp=Z,10nm,0.9s,baz=347,slow=11,SNR=6.6
KEST PP PP **02 56 22.9 +2.1**
comp=Z,12nm,1.1s,baz=236,slow=4.0,SNR=4.5
KEST LR LR 03 41 01.3
comp=Z,6µm,21.2s,baz=326,slow=39
KEST Kesra 95.31 319 P P 02 52 30.5 -0.8
KEST IAmb IAmb 02 52 43.5
comp=Z,57nm,1.4s
X34A Smith Ranch, M 95.43 42 IAmb IAmb 02 52 43.6
comp=Z,66nm,1.4s
S39A Bolivar 95.54 37 IAmb IAmb 02 52 45.4
comp=Z,61nm,1.4s
S39A Bolivar 95.54 37 P P 02 52 31.6 -0.7
baz=320
W35A Tecumseh 95.56 41 IAmb IAmb 02 52 49.1
comp=Z,84nm,1.4s
TUL1 Leonard 95.59 40 IAmb IAmb 02 52 49.2
comp=Z,82nm,1.4s
TUL1 IAMs_20 IAMs_20 03 42 29.3
comp=Z,5µm,18.0s
TUL1 Leonard 95.59 40 P P 02 52 32.8 +0.2
baz=318,SNR=7.2
TUL1 Leonard 95.59 40 P P 02 52 32.5 0.0
baz=318,SNR=7.2
TUL1 S S **03 03 44.6 -4.3**
baz=318
R40A Maddies Statio 95.61 36 P P 02 52 32.2 -0.4
baz=321
TX31 Lajitas Ar. Si 95.64 49 P P 02 52 34.0 +1.0
baz=313
TX32 Lajitas Array 95.64 49 IAmb IAmb 02 52 51.0
comp=Z,58nm,1.1s
TXAR Lajitas Array 95.64 49 P P 02 52 33.9 +0.9
comp=Z,16nm,0.9s,baz=290,slow=3.6,SNR=80
TXAR Lajitas Array 95.64 49 P P 02 52 32.9 -0.1
TXAR Lajitas Array 95.64 49 P P 02 52 32.9 -0.1
ABTX Abilene, Hawle 95.81 45 IAmb IAmb 02 52 45.5
comp=Z,121nm,1.5s
ABTX Abilene, Hawle 95.81 45 P P 02 52 34.2 +0.6
baz=316,SNR=6.9
ABTX Abilene, Hawle 95.81 45 P P 02 52 34.1 +0.5
baz=316,SNR=6.9
ABTX S S **03 03 49.2 -1.9**
baz=316
SADO Sadowa 95.83 25 LR LR 03 38 49.0
comp=Z,5µm,19.9s,baz=358,slow=37
AAM Ann Arbor 96.25 29 IAMs_20 IAMs_20 03 40 54.5
comp=Z,4µm,19.0s
AAM Ann Arbor 96.25 29 S S 03 03 53.6 -0.8
baz=327
HHAR Hobbs 96.30 39 P P 02 52 35.4 -0.4
baz=320
CCM Cathedral Cave 96.30 36 P P 02 52 35.2 -0.5
CCM pmax pmax
comp=Z,32nm,1.1s
CCM MLR MLR
comp=Z,4µm,21.0s
CCM Cathedral Cave 96.30 36 P P 02 52 35.2 -0.5
CCM Cathedral Cave 96.30 36 IAMs_20 IAMs_20 03 37 21.6
comp=Z,4µm,21.0s
CCM Cathedral Cave 96.30 36 P P 02 52 35.4 -0.3
baz=322
CCM Cathedral Cave 96.30 36 P P 02 52 35.6 -0.1
baz=322
CCM S S **03 03 53.2 -1.7**
baz=322
SFIN Lafayette 96.38 32 P P 02 52 36.3 +0.3
baz=325
Z35A Perchaven, San 96.69 43 IAmb IAmb 02 52 54.4
comp=Z,83nm,1.1s
Z35A Perchaven, San 96.69 43 P P 02 52 37.7 +0.1
baz=317
Q44A Meyer Farm, Va 96.70 34 IAmb IAmb 02 52 53.8
comp=Z,69nm,1.5s
FVM French Village 96.75 35 P P 02 52 37.8 0.0
FVM pmax pmax
comp=Z,36nm,1.3s
FVM French Village 96.75 35 P P 02 52 37.8 0.0
FVM French Village 96.75 35 P P 02 52 37.8 0.0
baz=322
U40A Yellville 96.80 38 IAmb IAmb 02 52 39.2
comp=Z,44nm,1.1s
U40A IAMs_20 IAMs_20 03 37 33.2
comp=Z,4µm,20.0s
U40A Yellville 96.80 38 P P 02 52 37.9 -0.2
baz=320
U40A P P **02 52 37.9 -0.2**
baz=320
U40A Yellville 96.80 38 P P 02 52 37.6 -0.4
baz=320,SNR=18
U40A S S **03 03 55.9 -3.5**
baz=320
W39A Magazine 97.20 39 IAMs_20 IAMs_20 03 37 20.9
comp=Z,4µm,21.0s
W39A Magazine 97.20 39 P Pdif 02 52 39.9 0.0
baz=320
W39A S S **03 03 59.4 -3.4**
baz=320
JCT Junction City 97.25 46 IAMs_20 IAMs_20 03 34 44.8
comp=Z,4µm,19.0s
JCT Junction City 97.25 46 P Pdif 02 52 40.4 +0.1
baz=316
JCT Junction City 97.25 46 P Pdif 02 52 40.5 +0.2
baz=316
JCT S S **03 04 00.1 -3.4**
baz=316
OLIL Olney 97.26 34 IAmb IAmb 02 52 53.3
comp=Z,48nm,1.3s
O48B Farmland 97.33 31 P P 02 52 40.2 -0.1
baz=326
O48B S S **03 04 03.9 +0.2**
baz=326
LODK Lodwar 97.33 279 P P 02 52 40.3 -0.5
LODK Lodwar 97.33 279 P P 02 52 40.7 -0.2
SNR=6.0
LODK Lodwar 97.33 279 *eP* P 02 52 34.2 -6.7
LODK *eS* SKSac 03 03 06.1 -12
LODK Lodwar 97.33 279 *eP* **P 02 52 39.1 -1.8**
LODK *eS* **SKSac 03 03 09.0 -9.0**
LODK Lodwar 97.33 279 *eP* P 02 52 34.2 -6.7
LODK *eS* SKSac 03 03 06.1 -12
LODK IAMs_20 IAMs_20 03 03 33.6
comp=E,1µm,15.5s
LONY Lake Ozonia 97.46 22 P P 02 52 40.2 -0.7
baz=334
FCAR Ozark Folk Cen 97.54 38 IAmb IAmb 02 52 57.2
comp=Z,48nm,1.4s
S44A Carbondale 97.55 35 IAmb IAmb 02 52 57.7
comp=Z,53nm,1.4s
S44A Carbondale 97.55 35 P Pdif 02 52 41.6 +0.2
baz=323
SIUC Southern Illin 97.55 35 IAmb IAmb 02 52 57.7
comp=Z,77nm,1.5s
WHTX Lake Whitney, 97.55 44 IAmb IAmb 02 52 58.4
comp=Z,71nm,1.4s
WHTX Lake Whitney, 97.55 44 P Pdif 02 52 42.0 +0.5
baz=317
WHTX Lake Whitney, 97.55 44 P Pdif 02 52 41.9 +0.3
baz=317
WHTX S S **03 04 03.8 -2.1**
baz=317
PBMO Poplar Bluff 97.70 36 P P 02 52 42.0 -0.1
baz=322
UCM Universidad Co 97.79 330 Pdif P 02 52 40.8 -1.7
UCM S **SKSac 03 03 27.6 +8.0**
ERPA Erie 97.83 26 P Pdif 02 52 42.8 +0.2
baz=330
ERPA S S **03 04 05.1 -2.9**
baz=330
LCAR Lake Charles 97.89 37 P P 02 52 42.9 0.0
PBRG Braganca 97.92 333 *eP* Pdif 02 52 47.2 +4.2

WHAR Wooly Hollow 97.92 38 IAmb IAmb 02 53 01.7
comp=Z,35nm,1.2s
W41B Gary Mavity, V 98.03 38 P P 02 52 43.4 -0.2
baz=321
P49A Miami Univ. Ec 98.12 31 IAMs_20 IAMs_20 03 42 50.3
comp=Z,5µm,19.0s
P49A Miami Univ. Ec 98.12 31 P P 02 52 43.7 -0.1
baz=326
P49A S S **03 04 06.8 -3.7**
baz=326
M53A WI Miller and 98.15 27 IAMs_20 IAMs_20 03 45 27.9
comp=Z,5µm,19.0s
M53A WI Miller and 98.15 27 P Pdif 02 52 44.2 +0.2
baz=330
X40A Basin Creek Fa 98.25 39 IAMs_20 IAMs_20 03 39 33.6
comp=Z,5µm,20.0s
X40A Basin Creek Fa 98.25 39 P Pdif 02 52 44.8 +0.2
baz=320
X40A S S **03 04 09.9 -1.8**
baz=320
ACSO Alum Creek Sta 98.26 29 IAMs_20 IAMs_20 03 40 45.0
comp=Z,4µm,19.0s
ACSO Alum Creek Sta 98.26 29 P Pdif 02 52 44.8 +0.2
baz=328
KIBK Kibwezi 98.26 273 IAMs_20 IAMs_20 03 42 59.4
comp=Z,3µm,18.0s
KIBK Kibwezi 98.26 273 P P 02 52 44.8 -0.3
KMBO Kilima Mbogo 98.26 274 P P 02 52 44.8 -0.5
comp=Z,3.9nm,1.0s,baz=79,slow=6.5,SNR=6.9
KMBO PP PP **02 56 45.0 -0.1**
comp=Z,1.3nm,0.6s,baz=40,slow=8.2,SNR=11
KMBO S **SKSac 03 03 22.8 -0.3**
comp=Z,0.6nm,0.3s,baz=221,slow=23,SNR=2.2
KMBO LR LR 03 39 43.0
comp=Z,4µm,18.5s,baz=70,slow=37
KMBO Kilima Mbogo 98.26 274 *i* P **P 02 52 44.7 -0.5**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 98.26 274 P P 02 52 44.5 -0.8
KMBO Kilima Mbogo 98.26 274 IAMs_20 IAMs_20 03 39 22.0
comp=Z,4µm,19.0s
KMBO Kilima Mbogo 98.26 274 P P 02 52 45.2 0.0
KMBO Kilima Mbogo 98.26 274 *eP* **P 02 52 40.8 -4.5**
KMBO *eS* **SKSac 03 03 27.7 +4.6**
KMBO Kilima Mbogo 98.26 274 *eP* **P 02 52 43.1 -2.2**
KMBO *eS* **SKSac 03 03 22.9 -0.2**
KMBO Kilima Mbogo 98.26 274 *eP* Pdif 02 52 53.5 +8.2
KMBO *eS* **SKSac 03 03 27.7 +4.6**
KMBO IAMs_20 IAMs_20 03 06 23.9
comp=Z,2µm,21.7s
KMBO Kilima Mbogo 98.26 274 *i* P **P 02 52 45.0 -0.3**
SNR=5.8
PGAV Gavieira, Arco 98.34 334 *eP* Pdif 02 52 50.5 +5.5
PGAV Gavieira, Arco 98.34 334 *eP* **PP 02 56 45.1 +1.2**
PGAV *eLQ* LQ 03 03 25.5
PGAV *eSS* SS 03 10 57.6 +3.1
PGAV Gavieira, Arco 98.34 334 *eLR* LR 03 34 14.6
comp=Z,7µm,16.0s
435B Jarrell 98.35 45 P Pdif 02 52 45.2 0.0
baz=317
PKME Peaks-Kenny Pk 98.38 18 P Pdif 02 52 45.0 +0.1
baz=339
M54A Oil Creek Stat 98.47 27 P Pdif 02 52 45.8 +0.3
baz=330
M54A S S **03 04 11.4 -2.1**
baz=330
MVO Moncorvo 98.58 333 *eP* Pdif 02 52 49.8 +3.8
MVO Moncorvo 98.58 333 *eP* **PP 02 56 49.4 +3.7**
MVO *eLQ* LQ 03 03 30.9
MVO *eSS* SS 03 10 36.0 -22
MVO Moncorvo 98.58 333 *eLR* LR 03 30 06.8
comp=Z,9µm,16.0s
LBNH Lisbon 98.60 20 P Pdif 02 52 46.4 +0.4
baz=336
ESBB Sonseca Array 98.62 330 P P 02 52 45.6 -0.6
ESDC Sonseca Array 98.62 330 P P 02 52 45.3 -0.9
comp=Z,1.8nm,0.8s,baz=26,slow=3.5,SNR=7.6
ESDC PP PP **02 56 45.4 -0.7**
comp=Z,11nm,1.2s,baz=34,slow=6.6,SNR=8.0
ESDC LR LR 03 39 55.1
comp=Z,5µm,19.4s,baz=26,slow=37
POLO Lamas de Olo 98.68 334 *eP* Pdif 02 52 48.7 +2.2
N54A Moraine State 98.82 27 P Pdif 02 52 47.3 +0.3
baz=330
N54A S S **03 04 14.0 -2.5**
baz=330
WVL Waterville 98.93 19 IAMs_20 IAMs_20 03 38 14.5
comp=Z,6µm,21.0s
O53A New Philadelph 98.96 28 P P 02 52 47.6 -0.1
baz=329
O53A S S **03 04 14.9 -2.7**
baz=329
833A Chaparral WMA, 99.03 48 P Pdif 02 52 48.9 +0.7
baz=316
CART Cartagena 99.06 327 Pdif **Pdif 02 52 44.2 -3.9**
CART S **SKSac 03 03 29.2 +3.3**
P52A Corning 99.11 29 P Pdif 02 52 47.4 -0.9
baz=328
Q51A Peebles 99.12 30 P Pdif 02 52 45.2 -3.3
baz=327
Q51A P **Pdif 02 52 45.2 -3.3**
baz=327
T47A Sharon Grove 99.13 34 P Pdif 02 52 45.3 -3.2
baz=324
BINY Binghamton 99.18 24 P Pdif 02 52 48.8 +0.1
baz=333
NATX Nacogdoches 99.32 42 P Pdif 02 52 49.0 -0.3
NATX IAmb IAmb 02 53 13.3
comp=Z,62nm,1.5s
NATX IAMs_20 IAMs_20 03 37 12.2
comp=Z,5µm,19.0s
MTE Manteigas 99.43 333 *eP* **Pdif 02 52 55.0 +5.1**
MTE Manteigas 99.43 333 *eP* **PP 02 56 48.5 -3.7**
MTE *eLQ* LQ 03 03 33.8
MTE *eSS* SS 03 10 59.7 -10
MTE Manteigas 99.43 333 *eLR* LR 03 28 12.9
comp=Z,6µm,16.0s
WVT Waverly 99.48 35 P Pdif 02 52 49.2 -0.8
WVT pmax pmax
comp=Z,29nm,1.5s
WVT Waverly 99.48 35 P Pdif 02 52 49.2 -0.8
WVT Waverly 99.48 35 P Pdif 02 52 50.3 +0.3
baz=324
WVT Waverly 99.48 35 P Pdif 02 52 49.9 -0.2
baz=324
WVT S S **03 04 22.2 0.0**
baz=324
ABPO Ambohimpanom 99.53 254 P Pdif 02 52 50.5 -0.2
ABPO pmax pmax
comp=Z,33nm,1.4s
ABPO MLR MLR
comp=Z,4µm,18.0s
ABPO Ambohimpanom 99.53 254 P Pdif 02 52 50.5 -0.2
ABPO Ambohimpanom 99.53 254 IAMs_20 IAMs_20 03 40 04.5
comp=Z,4µm,18.0s
M57A Sunshine Farm, 99.55 25 P Pdif 02 52 50.1 -0.1
baz=332
M57A P **Pdif 02 52 50.1 -0.1**
baz=332
COI Coimbra 99.93 333 *eP* **Pdif 02 52 57.1 +5.2**
O56A Blue Knob Stat 99.96 26 IAMs_20 IAMs_20 03 40 44.8
comp=Z,5µm,20.0s
HKT Hockley 99.99 44 IAMs_20 IAMs_20 03 44 55.9
comp=Z,4µm,18.0s
OXF Oxford 100.00 37 IAMs_20 IAMs_20 03 39 29.7
comp=Z,3µm,20.0s
OXF Oxford 100.00 37 P Pdif 02 52 52.2 -0.2
baz=323
L61B Northampton 100.01 21 IAMs_20 IAMs_20 03 43 27.8
comp=Z,5µm,19.0s
PCAS Casmilo, Conde 100.10 333 *eP* **Pdif 02 52 58.9 +6.2**
PMRV Marv??o 100.22 332 *eP* **Pdif 02 52 56.4 +3.1**
PMRV Marv??o 100.22 332 *eP* PKiKP 02 56 59.4 -21
PMRV *eLQ* LQ 03 03 31.9
PMRV Marv??o 100.22 332 *eLR* LR 03 36 01.1
comp=Z,14µm,16.0s
QUA2 Belchertown 100.27 21 IAMs_20 IAMs_20 03 41 14.0
comp=Z,5µm,19.0s
PLAL Pickwick Lake 100.28 36 IAMs_20 IAMs_20 03 43 30.2
comp=Z,5µm,20.0s
PSBE So Bento 100.68 333 *eP* **Pdif 02 53 03.3 +7.9**
PESTR Estremoz 100.78 332 *eP* **Pdif 02 53 00.3 +4.5**
PMTG Montargil 100.85 333 *eP* **Pdif 02 53 01.6 +5.5**
PAL Palisades 100.94 23 P Pdif 02 52 56.0 -0.4
baz=335
TZTN Tazewell 101.11 32 IAMs_20 IAMs_20 03 43 42.8

comp=Z,4µm,19.0s
TZTN Tazewell 101.11 32 P Pdif 02 52 56.9 -0.5
baz=327
PBAR Barrancos 101.16 331 *eP* **Pdif 02 52 59.3 +1.8**
VBMS Vicksburg 101.22 39 IAMs_20 IAMs_20 03 41 37.4
comp=Z,5µm,20.0s
EVO Evora 101.23 332 Pdif **Pdif 02 52 54.5 -3.3**
EVO S **SKSac 03 03 39.8 +3.3**
EVO Evora 101.23 332 *eP* **Pdif 02 53 01.7 +3.9**
EMAL Malaga-Limoner 101.27 329 Pdif **Pdif 02 52 52.3 -5.7**
EMAL S **SKSac 03 03 31.2 -5.6**
PACT Alcochete 101.34 333 *eP* **Pdif 02 52 58.3 +0.1**
PMAFR Mafra 101.35 333 *eP* **Pdif 02 53 03.2 +4.9**
VOI Vohitsoka 101.39 251 IAMs_20 IAMs_20 03 38 31.4
comp=Z,5µm,18.0s
PMST Lisbon--Monsan 101.50 333 *eP* **Pdif 02 53 04.9 +5.9**
LIS Lisbon 101.51 333 *eP* Pdif **Pdif 02 52 59.7 +0.7**
LIS *eP* **PP 02 57 09.4 +1.5**
LIS IAMs_20 IAMs_20 03 45 38.5
comp=E,20µm,22.7s
LIS Lisbon 101.51 333 *eP* **Pdif 02 53 09.3 +10**
LIS Lisbon 101.51 333 *eP* **Pdif 02 52 59.6 +0.7**
LIS *e* 02 57 09.3
PNCL Nicolau / Gran 101.80 332 *eP* **Pdif 02 53 06.4 +6.1**
ARNO Arenosillo 101.95 331 Pdif **Pdif 02 52 60.0 -1.0**
ARNO S **SKSac 03 03 41.7 +1.7**
PCVE Castro Verde 102.02 332 *eP* **Pdif 02 53 07.6 +6.3**
PVAQ Vaqueiros 102.09 331 *eP* **Pdif 02 53 06.6 +5.0**
PVAQ Vaqueiros 102.09 331 *eP* PKiKP 02 57 15.2 -8.8
PVAQ *eLQ* LQ 03 03 43.6
PVAQ Vaqueiros 102.09 331 *eLR* LR 03 35 18.2
comp=E,12µm,16.0s
CBN Corbin Frederi 102.21 27 IAMs_20 IAMs_20 03 43 32.4
comp=Z,5µm,20.0s
SFS San Fernando 102.28 330 Pdif **Pdif 02 52 59.9 -2.5**
SFS S **SKSac 03 03 42.6 +1.0**
PBDV Barranco-do-Ve 102.31 332 *eP* **Pdif 02 53 09.8 +7.1**
LRAL Lakeview Retre 102.38 36 P Pdif 02 53 01.9 -1.1
baz=324
MORF Marmelete 102.55 332 *eP* Pdif **Pdif 02 53 04.3 +0.6**
MORF *eP* **PP 02 57 17.3 +1.5**
MORF *e* SKSac **SKSac 03 03 44.2 +1.2**
MORF IAMs_20 IAMs_20 03 48 25.4
comp=N,9µm,14.0s
MORF Marmelete 102.55 332 *eP* **Pdif 02 53 07.8 +4.1**
MORF Marmelete 102.55 332 *eP* **Pdif 02 53 04.3 +0.6**
MORF *e* 02 57 17.2
MORF *e* 03 03 44.1
PVLZ Peæn de 102.55 328 Pdif **Pdif 02 52 52.0 -12**
PVLZ S **SKSac 03 03 40.0 -2.9**
PFVI Vila Bisbo 102.77 332 *eP* **Pdif 02 53 08.3 +3.7**
MBAR Mbarara 103.40 278 IAMs_20 IAMs_20 03 45 28.6
comp=Z,3µm,18.0s
MBAR Mbarara 103.40 278 *i* *eP* **Pdif 02 53 12.2 +4.1**
BRAL Brewton 103.85 37 IAMs_20 IAMs_20 03 41 49.8
comp=Z,4µm,20.0s
BRAL Brewton 103.85 37 P Pdif 02 53 08.4 -1.2
baz=324
UNM Universidad Na 105.49 54 IAMs_20 IAMs_20 03 41 21.0
comp=Z,4µm,20.0s
AVE Averroes 105.50 329 Pdif **Pdif 02 53 15.4 -1.5**
PMOZ Porto Moniz, M 109.66 337 *eP* **PP 02 58 10.6 +2.4**
PMOZ Porto Moniz, M 109.66 337 *eSS* SS 03 13 38.2 +8.2
PMOZ Porto Moniz, M 109.66 337 *eLR* LR 03 35 46.7
comp=Z,4µm,16.0s
VNDA Vanda 111.67 174 PKiKP **PKiKP 02 57 40.7 +0.3**
comp=Z,1.0nm,0.8s,baz=339,slow=4.1,SNR=3.6
VNDA PP **PP 02 58 23.2 +0.1**
comp=Z,4.1nm,0.9s,baz=328,slow=6.1,SNR=5.2
BBSR BB Station 111.70 19 IAMs_20 IAMs_20 03 46 58.9
comp=Z,3µm,21.0s
MTO3 Montecristo 115.53 50 IAMs_20 IAMs_20 03 42 43.0
comp=Z,3µm,20.0s
SNET Serv Nac Est T 116.14 51 IAMs_20 IAMs_20 03 50 19.9
comp=Z,2µm,21.0s
TORD Torodi Ar. Bea 116.75 309 PKP **PKPdf 02 57 50.6 -1.5**
comp=Z,1.6nm,0.9s,baz=18,slow=1.8,SNR=5.8
TORD PP **PP 02 58 55.3 -4.2**
comp=Z,5.0nm,1.1s,baz=29,slow=5.5,SNR=5.5
TORD PKKPbc **PKKPab 03 08 24.8 +0.4**
comp=Z,1.4nm,1.1s,baz=205,slow=2.4,SNR=3.5
TORD Torodi Ar. Bea 116.75 309 PKPdf 02 57 50.8 -1.2
TGUH Tegucigalpa,Un 117.11 49 IAMs_20 IAMs_20 03 56 21.5
comp=Z,3µm,18.0s
CNGN Cerro Negro 118.65 49 IAMs_20 IAMs_20 03 56 24.7
comp=Z,3µm,22.0s
KOWA Kowa 119.27 315 PKPdf **PKPdf 02 57 55.4 -1.5**
GRTK Grand Turk 119.47 30 IAMs_20 IAMs_20 03 56 24.9
comp=Z,4µm,20.0s
LBTB Lobatse 119.98 258 PKiKP **PKPdf 02 57 57.4 -0.6**
LBTB Lobatse 119.98 258 PKPdf **PKPdf 02 57 57.4 -0.6**
ESPN Las Esperanzas 120.39 48 IAMs_20 IAMs_20 04 01 37.5
comp=Z,2µm,20.0s
BOSA Boshof 121.74 255 PKP **PKPdf 02 58 00.4 -1.0**
comp=Z,5.4nm,1.0s,baz=124,slow=2.9,SNR=6.9
HDC Heredia 122.19 49 IAMs_20 IAMs_20 03 58 07.0
comp=Z,2µm,20.0s
QSPA South Pole Qui 123.08 180 PKPdf 02 58 02.2 -0.4
TSUM Tsumeb 124.06 268 PKPdf **PKPdf 02 58 05.2 -0.8**
TSUM Tsumeb 124.06 268 IAMs_20 IAMs_20 03 53 06.9
comp=Z,4µm,20.0s
SJG San Juan 124.50 26 IAMs_20 IAMs_20 03 50 46.9
comp=Z,3µm,22.0s
DBIC Dimbokro 125.84 310 PKP **PKPdf 02 58 07.6 -2.0**
comp=Z,7.0nm,0.8s,baz=105,slow=5.3,SNR=6.5
DBIC PP **PP 03 00 00.1 -1.3**
comp=Z,7.0nm,1.0s,baz=75,slow=10,SNR=4.6
TIC Toumodi 125.97 310 *eP* **PKPdf 02 58 08.9 -0.9**
KIC Kosan Boka 126.00 310 *eP* **PKPdf 02 58 08.8 -1.1**
comp=Z,19nm,1.2s
SEUS St. Eustatius 126.19 23 IAMs_20 IAMs_20 03 55 21.1
comp=Z,3µm,20.0s
LIC Lamto 126.29 310 *eP* **PKPdf 02 58 10.1 -0.3**
comp=Z,57nm,1.7s
ANWB Willy Bob 126.40 22 IAMs_20 IAMs_20 04 01 54.7
comp=Z,2µm,20.0s
SJCC San Jacinto, C 127.55 41 *eP* **PKiKP 02 58 21.0 +7.5**
ABD La Joyeuse, An 127.62 22 IAMs_20 IAMs_20 03 53 00.9
comp=Z,3µm,21.0s
URIC Uribia, Colomb 127.68 36 *eP* **PKiKP 02 58 17.6 +4.1**
GDHS Morne Mazeau, 127.72 22 IAMs_20 IAMs_20 04 03 02.7
comp=Z,2µm,19.0s
GDSD La Dsirade Is 127.90 21 IAMs_20 IAMs_20 03 55 58.4
comp=Z,3µm,21.0s
CBE Ff, Capester 127.96 22 IAMs_20 IAMs_20 04 03 16.0
comp=Z,2µm,19.0s
TDBA Terre de Bas, 128.16 22 IAMs_20 IAMs_20 03 54 37.1
comp=Z,3µm,21.0s
MAGL Barre de l'ile 128.18 22 IAMs_20 IAMs_20 03 53 38.7
comp=Z,2µm,20.0s
MOTC Monteria, Cord 128.20 42 *eP* **PKPdf 02 58 11.4 -2.6**
SACV Santiago Islan 128.32 335 IAMs_20 IAMs_20 03 57 37.4
comp=Z,3µm,20.0s
HATO Hato, Curacao 128.69 32 IAMs_20 IAMs_20 03 57 45.5
comp=Z,3µm,20.0s
DBBC Dabeiba 129.33 44 *eP* **PKiKP 02 58 22.9 +5.9**
FDF Fort de France 129.36 22 IAMs_20 IAMs_20 03 57 31.1
comp=Z,2µm,21.0s
ILAM Ilet Lapin Mar 129.41 22 IAMs_20 IAMs_20 03 57 03.3
comp=Z,3µm,21.0s
BIM Bigot 129.59 22 IAMs_20 IAMs_20 03 52 19.2
comp=Z,3µm,21.0s
ZARC Zaragoza, Cauc 129.71 42 *eP* **PKPdf 02 58 14.9 -2.1**
MPOM Morne Pois Mar 129.72 22 IAMs_20 IAMs_20 03 57 39.7
comp=Z,3µm,21.0s
OCAC Ocana 129.94 40 PKPdf **PKiKP 02 58 18.5 +0.2**
OCAC Ocana 129.94 40 *eP* **PKPdf 02 58 16.8 -0.7**
CBOC Ciudad Bolivar 130.37 44 *eP* **PKPdf 02 58 15.8 -2.6**
PTBC PUERTO BERRIO 130.72 42 *eP* **PKPdf 02 58 18.6 -0.2**
SDV Santo Domingo 130.77 36 PKPdf **PKPdf 02 58 18.2 -1.0**
SDV Santo Domingo 130.77 36 *eP* **PKPdf 02 58 18.1 -1.1**
SDV Santo Domingo 130.77 36 *eP* **PKPdf 02 58 18.9 -0.3**
PLMC San Jos del P 130.98 45 *eP* **PKPdf 02 58 13.2 -6.2**
PAMC Pamplona, Colo 131.02 40 *eP* **PKPdf 02 58 20.0 0.0**
SOCV Socopo 131.18 37 *eP* **PKiKP 02 58 21.0 +0.3**
GUY2C Guyana, Caldas 131.26 44 *eP* **PKPdf 02 58 16.0 -4.5**
BARC Barichara 131.38 41 *eP* **PKiKP 02 58 21.3 -0.1**
GRGR Grenville 131.63 24 IAMs_20 IAMs_20 03 58 03.4
comp=Z,2µm,20.0s
SPBC San Pablo de B 131.66 42 *eP* **PKPdf 02 58 20.0 -0.7**
YOTC Yotoco, Valle 131.67 46 *eP* **PKiKP 02 58 22.0 +0.2**
ANIL Santa Ana 131.83 45 *eP* **PKPdf 02 58 20.9 -0.4**
RUSC La Rusia 132.01 41 *eP* **PKPdf 02 58 20.3 -1.6**
ROSC El Rosal 132.18 43 PKP **PKPdf 02 58 22.4 +0.2**
comp=Z,3.8nm,0.4s,baz=11,slow=6.1,SNR=5.0

ROSC	El Rosal	132.18	43	eP	PKPdf	02 58 21.6	-0.5
TAMC	Tame, Arauca	132.26	39	eP	PKPdf	02 58 20.6	-1.2
POPC	Popayan, Colom	132.60	48	eP	PKPdf	02 58 19.5	-3.2
CHIC	Chingaza	132.69	43	eP	PKPdf	02 58 17.7	-5.3
SOTA	Rioblanco	132.96	48	eP	PKPdf	02 58 21.6	-2.1
OTAV	Otavalo	133.22	52	PKIKP	PKPdf	02 58 21.8	-2.4
OTAV	Otavalo	133.22	52		PKPdf	02 58 21.8	-2.4
OTAV	Otavalo	133.22	52	eP	PKPpre	02 58 19.1	
PTGC	Puerto Gaitan,	133.94	41	eP	PKPpre	02 58 19.5	
FLOC	Florencia	133.98	47	eP	PKPdf	02 58 23.9	-1.1
TROLL	Troll, Antarti	134.43	198	P	PKPdf	02 58 24.8	+0.6
MACC	Macarena, Meta	134.63	45	eP	PKPdf	02 58 22.8	-3.4
BELA	Belgrano 2	135.18	183	PKPdf	PKiKP	02 58 26.1	-0.7
SNAA	Sanae	136.00	197	P	PKPpre	02 58 20.8	
SNAA	Sanae	136.00	197c	iPKIKP	PKPdf	02 58 25.2	-1.9
SNAA				pmax	pmax		
	comp=Z,62nm,2.5s						
SNAA	Sanae	136.00	197	PKPdf	PKPdf	02 58 27.4	+0.3
SNAA				IAMs_20	IAMs_20	04 09 41.2	
	comp=Z,2µm,18.0s						
VNA2	Neumayer--Watz	137.60	197	P	PKPpre	02 58 19.4	
	baz=103,slow=4.5						
VNA3	Neumayer Olymp	137.91	196	P	PKPpre	02 58 20.3	
BOAV	Boa Vista	141.04	28	eP	PKPdf	02 58 36.8	-1.2
NNA	Nana	142.94	63c	iPKIKP	PKPdf	02 58 41.6	+0.2
NNA				pmax	pmax		
	comp=Z,129nm,2.5s						
CZSB	Cruzeiro do Su	142.95	53	eP	PKPdf	02 58 37.0	-4.4
MACA	Manacapuru-AM	146.01	32	eP	PKPdf	02 58 46.3	-0.4
MCPB	Macapa, AP	146.26	15	eP	PKPbc	02 58 47.8	-0.4
MALB	Monte Alegre	147.13	20	eP	PKPdf	02 58 49.2	+0.6
ETMB	Extrema	148.69	47	eP	PKPdf	02 58 50.6	-0.5
TMAB	Tom-Au,PA,Br	148.92	9	eP	PKPdf	02 58 52.0	+0.4
ITTB	Itaituba	149.05	24	eP	PKPdf	02 58 51.3	-0.5
ROSB	Rosrio	149.73	1	eP	PKPdf	02 58 53.3	+0.5
SAML	Samuel	149.75	41	IAMs_20	IAMs_20	04 15 16.0	
	comp=Z,2µm,20.0s						
NBMO	Morrinhos-CE	149.96	353	eP	PKPdf	02 58 53.9	+0.7
H03N2	Juan Fernandez	150.58	100	T	T	05 48 18.7	
	baz=281						
H03N3	Juan Fernandez	150.59	100	T	T	05 48 13.9	
	baz=281,SNR=8.4						
H03N1	Juan Fernandez	150.60	100	T	T	05 48 19.9	
	baz=281						
NBCL	Cascavel-CE	150.63	349	eP	PKPdf	02 58 54.8	+0.5
NBPS	Pedro II - PI	151.15	356	eP	PKPdf	02 58 55.7	+0.5
NPGB	Novo Progresso	151.67	25	eP	PKPdf	02 58 55.8	0.0
RCBR	Riachuelo	151.72	344	IAMs_20	IAMs_20	04 11 24.9	
	comp=Z,2µm,20.0s						
RCBR	Riachuelo	151.72	344	eP	PKPdf	02 58 56.1	+0.1
NBPB	Pedra_Branca-C	152.11	351	eP	PKPdf	02 58 56.8	+0.3
LPAZ	La Paz	152.12	58	PKP	PKPdf	02 58 57.5	+0.4
	comp=Z,7.7nm,1.2s,baz=358,slow=4.0,SNR=13						
LPAZ				PKPbc	sPKPdf	02 59 04.0	0.0
	comp=Z,10nm,0.9s,baz=345,slow=3.5,SNR=17						
LPAZ	La Paz	152.12	58	eP	PKPdf	02 58 57.6	+0.4
NBPV	Pedro Velho	152.14	342	eP	PKPdf	02 58 56.8	+0.3
PRPB	Parauapebas	152.37	13	eP	PKPdf	02 58 57.1	+0.2
NBMA	Muriti-CE	153.78	349	eP	PKPdf	02 58 59.9	+0.9
VILB	Vilhena	154.69	41	eP	PKPdf	02 59 00.9	+0.7
COYC	Coyhaique	154.98	128		PKPbc	02 59 06.9	-1.4
COYC				PKPab	pPKPab	02 59 29.2	+0.3
CLDB	Colider	155.01	29	eP	PKPdf	02 59 01.2	+0.6
PDRB	Porto dos Gac	155.27	32	eP	PKPdf	02 59 01.4	+0.4
SMTB	Santa Maria do	155.38	9	eP	PKPdf	02 59 01.8	+0.6
NBLA	Lagarto - SE	157.14	345	eP	PKPdf	02 59 03.3	-0.2
PLCA	Paso Flores	157.31	117	PKP	PKPdf	02 59 04.0	+1.0
	comp=Z,1.3nm,1.0s,baz=240,slow=10,SNR=1.8						
PLCA	Paso Flores	157.31	117	eP	PKPdf	02 59 03.4	+0.4
PTLB	Pontes e Lacer	157.32	42	eP	PKPdf	02 59 04.1	+0.6
NBPN	Ponto Novo - B	157.41	351	eP	PKPdf	02 59 04.0	+0.2
PEXB	Peixe	158.45	13	eP	PKPdf	02 59 04.9	-0.2
SDBA	SAO DESIDERIO	159.15	4	eP	PKPdf	02 59 06.3	+0.4
SALV	Santo Antonio	159.50	35	eP	PKPdf	02 59 05.5	-0.7
CMC01	Camacan, BA	161.74	347	eP	PKPdf	02 59 09.4	+0.7
JANB	Januaria	161.80	2	eP	PKPdf	02 59 08.8	0.0
BDFB	Brasilia	161.95	14	PKP	PKPdf	02 59 08.5	-0.5
	comp=Z,8.0nm,1.0s,baz=0.6,slow=5.1,SNR=9.5						
BDFB				PP	PP	03 03 47.1	+10
	comp=Z,5.7nm,0.8s,baz=359,slow=10,SNR=4.3						
BDFB	Brasilia	161.95	14	eP	PKPdf	02 59 09.4	+0.4
GUA01	Guaratinga, BA	162.98	347	eP	PKPdf	02 59 10.3	+0.4
AQDB	Aquidauana	163.28	43	PKPdf	PKPdf	02 59 09.4	-0.7
AQDB				PKPab	PKPab	02 59 59.5	-1.0
AQDB	Aquidauana	163.28	43	eP	PKPdf	02 59 10.1	+0.1
MC01	Montes Claros	163.45	1	eP	PKPdf	02 59 10.6	+0.2
IPMB	Ipameri, GO	164.17	16	eP	PKPdf	02 59 11.2	+0.1
NAN01	Guarapari, ES	164.27	348	eP	PKPdf	02 59 11.3	+0.2
ITRB	Iturama	165.16	26	eP	PKPdf	02 59 11.9	+0.1
SJMB	Sao Joao De Ma	165.28	351	eP	PKPdf	02 59 12.0	+0.1
RIB01	Linhares ES	165.76	348	eP	PKPdf	02 59 12.9	+0.6
CPUP	Villa Florida	166.21	63	PKP	PKPdf	02 59 11.9	-0.5
	comp=Z,12nm,1.1s,baz=244,slow=2.2,SNR=11						
CPUP				PP	PP	03 04 06.0	+5.0
	comp=Z,8.8nm,1.2s,baz=338,slow=5.7,SNR=4.0						
CPUP	Villa Florida	166.21	63	PKIKP	PKPdf	02 59 12.0	-0.5
PCMB	Pacaembu	166.50	32	eP	PKPdf	02 59 13.5	+0.6
BSCB	Bom Sucesso	167.68	5	eP	PKPdf	02 59 13.3	-0.5
ITQB	Itaqui	168.31	75	eP	PKPdf	02 59 14.1	+0.2
CAM01	Campos-RJ	168.42	351	eP	PKPdf	02 59 14.5	+0.3
RCLB	Rio Claro- Sao	168.60	19	eP	PKPdf	02 59 15.1	+0.7
PTGB	Pitanga	168.68	43	eP	PKPdf	02 59 14.5	+0.1
DUB01	Friburgo-RJ	168.75	354	eP	PKPdf	02 59 14.7	+0.2
VAS01	Vassouras-RJ	169.00	359	eP	PKPdf	02 59 14.4	-0.2
VAO	Valinhos	169.30	17	eP	PKPdf	02 59 15.7	+0.8
PARB	Paraibuna	169.90	11	eP	PKPdf	02 59 14.8	-0.4
PET01	Itanhaem-SP	170.44	21	eP	PKPdf	02 59 15.8	+0.5
ITAB	Concordia	170.45	53	eP	PKPdf	02 59 16.0	+0.7
CPSB	Cacapava Do Su	171.14	73	eP	PKPdf	02 59 16.3	+0.7
PLTB	Pedras Altas	171.41	82	eP	PKPdf	02 59 16.6	+0.9

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*IDC **01** 02:40:12.8±1.5, 30.°57S×71.°76W, h0km, mb4.3/4, mb1 4.2/8, mb1mx4.0/26, mbtmp4.1/8, ML4.0/4 Error ellipse: s-maj=44.6km s-min=21.1km az=105.0*
*SJA **01** 02:40:13.5±0.8, 30.°60S×71.°88W, h7km±3km, ML4.2, MW3.9*
*NEIC **01** 02:40:18.7±1.9, 30.°61S±0.°05×71.°7W±0.°1, h35km±4km, Error ellipse: s-maj=12.7km s-min=6.6km az=86.0*
*GUC **01** 02:40:18.0±0.7, 30.°63S×71.°70W, h42km±1km, ML4.6*
*VAO **01** 02:40:19.0±0.6, 30.°65S×71.°63W, h42km, mb4.2*

ISC 01 02:40:13.8±1.3**, 30.°58S**±0.°02×**71.°77W**±0.°04**, h4**km±8km**, n139,** σ**1.°99**/178**, mb4.4**/6**, 1C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.15	130		Pg	02 40 24.6	+7.7
CO06				Sn	Sg	02 40 28.4	+10
CO06	Fray Jorge	0.15	130⇑	iP	Pg	02 40 24.5	+7.7
CO06				i S	Sg	02 40 28.2	+9.4
CO06				IAML		02 40 28.6	
	comp=N,212µm,0.3s						
CO05	La Serena	0.80	35		Pn	02 40 33.4	+1.6
CO05	La Serena	0.80	35	eP	Pn	02 40 33.5	+1.6
CO05				IAML		02 40 48.6	
	comp=N,16µm,0.4s						
GO04	Tololo Observa	0.93	65		Pn	02 40 35.1	+1.3
GO04	Tololo Observa	0.93	65⇓	iP	Pn	02 40 35.1	+1.3
GO04				i S	Sn	02 40 47.2	-0.5
GO04	Tololo Observa	0.93	65	eP	Pn	02 40 33.9	0.0
GO04				eS	Sn	02 40 48.4	+0.6
CO03	El Pedregal	0.97	106	Pn	Pn	02 40 34.2	0.0
CO03	El Pedregal	0.97	106⇓	iP	Pn	02 40 34.3	0.0
CO03				IAML		02 40 48.4	
	comp=E,24µm,0.2s						
LCO	Las Campanas	1.81	31	Pn	Pg	02 40 49.1	+0.4
LCO	Las Campanas	1.81	31	eP	Pb	02 40 48.8	+1.0
LCO	Las Campanas	1.81	31	eP	Pg	02 40 49.2	+0.6
VA06	Catapilco	2.02	169		Pn	02 40 50.0	+1.4
VA06	Catapilco	2.02	169	eP	Pn	02 40 50.1	+1.4
VA06				IAML		02 41 26.0	
	comp=N,6µm,0.7s						
AROD	Rodeo	2.02	79	eP	Pg	02 40 52.9	+0.3
AROD				eS	Sg	02 41 19.9	+1.0
ACDV	Cuesta del Vie	2.33	81	eP	Pg	02 40 57.9	-0.5
ACDV				eS	Sb	02 41 24.1	-1.5
ACDV				eS	Sg	02 41 28.0	-0.6
ACDV				IAML		02 41 30.0	
	comp=Z,1µm,0.6s						
ACCO	Cerro Coronel	2.33	91	eP	Pb	02 40 57.5	+0.9
ACCO				eS	Sg	02 41 28.9	+0.1
ACCO				IAML		02 41 34.3	
	comp=Z,1µm,1.6s						
VA03	San Esteban	2.42	155		Pn	02 40 55.2	+1.0
VA03	San Esteban	2.42	155	eP	Pn	02 40 56.5	+2.3
VA03	San Esteban	2.42	155	eP	Pn	02 40 56.5	+2.3
AC04	Llanos de Chal	2.44	15	Pn	Pn	02 40 56.3	+1.9
AC04	Llanos de Chal	2.44	15⇓	eP	Pn	02 40 57.1	+2.7
AC04				eS	Sn	02 41 25.9	+1.2
AC04				IAML		02 41 40.1	
	comp=N,1µm,0.5s						
AC04	Llanos de Chal	2.44	15	eP	Pn	02 40 57.0	+2.7
AC04				eS	Sn	02 41 24.1	-0.6
AC04				eS	Sb	02 41 29.2	+0.6
AC04				IAML		02 41 41.4	
	comp=Z,1µm,0.5s						
VA01	Torpederas	2.44	178	Pn	Pn	02 40 55.4	+1.0
VA01	Torpederas	2.44	178	eP	Pn	02 40 55.5	+1.0
VA01				eS	Sg	02 41 33.6	+1.3
VA01				IAML		02 41 42.7	
	comp=Z,681nm,0.5s						
RTLS	Leoncito	2.44	121	eP	Pb	02 40 58.7	+0.2
RTLS				eS	Sn	02 41 24.1	-1.2
RTLS				IAML		02 41 35.6	
	comp=Z,747nm,0.5s						
ROCH	El Roble	2.47	165	eP	Pn	02 40 56.8	+1.7
ROCH				eS	Sn	02 41 25.9	+0.1
ROCH				IAML		02 41 35.9	
	comp=E,4µm,0.4s						
ROC1	El Roble	2.48	165		Pn	02 40 54.4	-0.8
ROC1	El Roble	2.48	165	eP	Pn	02 40 54.6	-0.5
ROC1				eS	Sn	02 41 28.2	+2.2
AUSP	Uspallata	2.62	129	eP	Pb	02 41 01.1	-0.4
AUSP				eS	Sg	02 41 36.1	-1.8
PEL	Peldehue	2.72	160		Pn	02 41 00.2	+1.9
PEL	Peldehue	2.72	160	eP	Pn	02 40 60.0	+1.6
PEL				eS	Sn	02 41 32.0	+0.4
PEL				IAML		02 41 39.4	
	comp=E,2µm,0.3s						
PEL				IAML		02 41 41.9	
	comp=E,2µm,0.4s						
PEL	Peldehue	2.72	160	eP	Pn	02 41 00.4	+2.1
PEL				eS	Sb	02 41 38.0	+1.2
MT02	Curacav	2.73	169		Pn	02 40 59.9	+1.5
ZON	Zonda	2.82	111	eP	Pb	02 41 03.6	-1.2
ZON				eS	Sb	02 41 38.5	-1.2
ZON				IAML		02 41 49.1	
	comp=Z,821nm,0.7s						
RTLL	Cerro Villicun	2.93	106	eP	Pb	02 41 04.4	-2.2
RTLL				eS	Sb	02 41 43.5	+0.7
MT05	Renca	2.94	163		Pn	02 41 03.3	+1.9
MT05	Renca	2.94	163	eP	Pn	02 41 03.0	+1.6
MT05				eS	Sn	02 41 36.9	-0.2
MT05				IAML		02 41 46.1	
	comp=E,4µm,0.1s						
MT05	Renca	2.94	163	eP	Pn	02 41 03.2	+1.9
MT05				eS	Sn	02 41 41.0	+3.9
MT05				IAML		02 41 50.8	
	comp=Z,1µm,0.6s						
FCH	Farellones	3.02	156	eP	Pn	02 41 04.8	+2.2
FCH				eS	Sn	02 41 40.2	+0.8
FCH				IAML		02 41 53.3	
	comp=N,1µm,0.3s						
RTCV	Cerro Valdivia	3.05	116	eP	Pb	02 41 07.3	-1.4
RTCV				eS	Sg	02 41 51.5	-0.3
VA05	Santo Domingo	3.08	178		Pn	02 41 04.0	+0.9
VA05	Santo Domingo	3.08	178	eP	Pn	02 41 04.2	+1.1
VA05				IAML		02 41 58.4	
	comp=E,2µm,0.2s						
MT03	Universidad Ad	3.10	160	Pn	Pn	02 41 04.9	+1.3
MT03	Universidad Ad	3.10	160	eP	Pn	02 41 05.8	+2.2
MT03				IAML		02 41 58.5	
	comp=E,4µm,0.2s						
MT03	Universidad Ad	3.10	160	eP	Pn	02 41 05.9	+2.3
MT03				eS	Sb	02 41 46.0	-1.7
MT09	Talagante	3.26	168		Pn	02 41 07.7	+2.0
MT09	Talagante	3.26	168	eP	Pn	02 41 07.8	+2.0
MT09				eS	Sn	02 41 44.8	-0.3
MT09				IAML		02 42 01.0	
	comp=E,1µm,0.5s						
GO03	Copiap	3.26	25		Pn	02 41 08.4	+2.7
GO03	Copiap	3.26	25	eP	Pn	02 41 08.7	+2.9
GO03				eS	Sn	02 41 46.7	+1.7
GO03				IAML		02 42 04.0	
	comp=N,1µm,0.2s						
GO03	Copiap	3.26	25	eP	Pn	02 41 08.7	+2.9
GO03				eS	Sb	02 41 51.0	-1.3
MT01	Popeta	3.31	173		Pn	02 41 07.4	+1.0
MT01	Popeta	3.31	173	eP	Pn	02 41 07.3	+1.0
MT01				IAML		02 41 59.4	
	comp=E,1µm,0.6s						
MT01	Popeta	3.31	173	eP	Pn	02 41 08.0	+1.6
MT01				eS	Sb	02 41 52.5	-1.1
MT01				IAML		02 41 57.9	
	comp=Z,744nm,0.5s						
AC06	Mina Casimiro	3.44	21		Pn	02 41 10.4	+2.2
AC06	Mina Casimiro	3.44	21	eP	Pn	02 41 10.9	+2.8
AC06				eS	Sn	02 41 50.7	+1.3
AC06				IAML		02 42 12.0	
	comp=N,591nm,0.6s						
LMEL	Las Melosas	3.52	158		Pn	02 41 11.5	+2.0
LMEL	Las Melosas	3.52	158	eP	Pn	02 41 12.4	+3.0
LMEL				IAML		02 42 06.2	
	comp=N,1µm,0.4s						
BO04	La Punta	3.54	164		Pn	02 41 10.8	+1.2
BO04	La Punta	3.54	164	eP	Pn	02 41 11.6	+2.0
BO04				eS	Sn	02 41 51.2	-0.7
BO04				IAML		02 42 04.5	
	comp=E,1µm,0.3s						
VCA	Vinchina	3.60	60	eP	Pb	02 41 16.4	-1.8
VCA				eS	Sg	02 42 16.6	+7.1
BO01	Tunca	3.85	172	Pn	Pn	02 41 15.1	+1.3
BO01	Tunca	3.85	172⇓	eP	Pn	02 41 15.2	+1.3
BO01				IAML		02 42 15.7	
	comp=E,460nm,0.5s						
BO01	Tunca	3.85	172	eP	Pn	02 41 15.4	+1.6
BO01				eS	Sn	02 42 02.5	+3.1
BO01				IAML		02 42 17.2	
	comp=Z,420nm,0.6s						
ACLC	CERRO LA CRUZ	4.33	76	eP	Pn	02 41 24.4	+3.8
ACLC				eS	Sb	02 42 17.4	-5.9
AC02	Maricunga	4.39	33	Pn	Pn	02 41 24.5	+2.9
AC02	Maricunga	4.39	33	eP	Pn	02 41 25.1	+3.4
AC02				eS	Sb	02 42 28.6	+3.3
AC02				IAML		02 42 37.8	
	comp=Z,352nm,0.5s						
GO05	Huala	4.42	182		Pn	02 41 21.3	-0.4
GO05	Huala	4.42	182	eP	Pn	02 41 21.9	+0.2
GO05				eS	Sb	02 42 24.1	-1.7
APLL	PUNTA DE LOS L	4.53	89	eP	Pn	02 41 26.3	+3.1
APLL				eS	Sb	02 42 27.7	-1.1
AC01	Pan de Azucar	4.53	13	Pn	Pn	02 41 24.0	+0.8
AC01	Pan de Azucar	4.53	13	eP	Pn	02 41 24.1	+0.8
AC01				eP	Pb	02 41 24.3	-10
AC01				eS	Sb	02 42 28.6	-0.3
AC01				eS	Sg	02 42 32.5	-6.8
AC01				IAML		02 42 51.5	
	comp=Z,203nm,0.6s						
RFA	San Rafael	5.03	147	eP	Pn	02 41 33.1	+3.1
RFA				eS	Sb	02 42 49.0	+5.9
RFA				IAML		02 43 08.0	
	comp=Z,171nm,0.4s						
MRA	San Martin	5.49	111	eP	Pn	02 41 38.5	+2.1
MRA				eS	Sn	02 42 34.5	-5.4
GO02	Mina Guanaco	5.73	20	eP	Pn	02 41 42.2	+2.3
GO02				eS	Sn	02 42 50.9	+4.6
H03N1	Juan Fernandez	6.71	243	Pn	Pn	02 41 54.8	+2.0
	baz=118,slow=18,SNR=148						
H03N1				T	T	02 48 45.5	
	baz=72,slow=72,SNR=2344						
H03N2	Juan Fernandez	6.72	243	Pn	Pn	02 41 54.9	+2.0
	baz=118,slow=18,SNR=155						
H03N2				T	T	02 48 53.5	
	baz=72,slow=72,SNR=2656						
H03N3	Juan Fernandez	6.72	243	Pn	Pn	02 41 54.6	+1.6
	baz=118,slow=18,SNR=112						
H03N3				T	T	02 48 50.6	
	baz=72,slow=72,SNR=1847						
FSA	Cafayete	6.77	50	eP	Pn	02 41 58.0	+3.9
AHML	Horco Molle	6.80	58	eP	Pn	02 41 57.5	+3.2
AHML				eS	Sn	02 43 13.2	+0.9
AHML				IAML		02 43 58.5	
	comp=Z,64nm,0.7s						
H03S3	Juan Fernandez	6.86	240	Pn	Pn	02 41 55.6	+0.6
	SNR=25						
H03S3				T	T	02 48 58.2	
	baz=84,SNR=13						
H03S1	Juan Fernandez	6.87	240	Pn	Pn	02 41 55.3	+0.3
	SNR=21						
H03S1				T	T	02 49 00.2	
	baz=84,SNR=10.0						
H03S2	Juan Fernandez	6.88	240	Pn	Pn	02 41 55.7	+0.6
	SNR=23						
H03S2				T	T	02 48 53.4	
	baz=84,SNR=13						
PB06	IPOC Station P	8.08	15	Pn	Pn	02 42 14.2	+2.1
LVC	Limon Verde	8.34	19	Pn	Pn	02 42 15.0	-0.8
	comp=Z,0.2nm,0.3s,baz=149,slow=12,SNR=2.1						
LVC				Sn	Sn	02 43 51.2	+0.7
	comp=Z,2.1nm,0.3s,baz=177,slow=15,SNR=2.0						
LVC	Limon Verde	8.34	19	eP	Pn	02 42 18.2	+2.5
LVC	Limon Verde	8.34	19	eP	Pn	02 42 16.3	+0.5
PB04	IPOC Station P	8.34	10	Pn	Pn	02 42 17.0	+1.4
PB09	IPOC Station P	9.03	15	Pn	Pn	02 42 26.7	+1.6
PB02	IPOC Station P	9.37	11	Pn	Pn	02 42 31.2	+1.4
PLCA	Paso Flores	10.18	175	Pn	Pn	02 42 41.9	+1.1
	comp=Z,0.3nm,0.3s,baz=334,slow=11,SNR=12						
PLCA				Lg	Lg	02 45 37.4	
	comp=Z,0.0nm,0.3s,baz=109,slow=6.8,SNR=3.6						
PLCA	Paso Flores	10.18	175	eP	Pn	02 42 41.4	+0.6
LL04	Puerto Octay	10.32	183		Pn	02 42 42.7	+0.1
ITQB	Itaqui	13.14	90		Pn	02 43 19.5	-1.7
ITQB	Itaqui	13.14	90	eP	Pn	02 43 20.1	-1.1
CPUP	Villa Florida	13.39	75	Pn	Pn	02 43 24.2	-0.4
	comp=Z,0.6nm,0.3s,baz=235,slow=12,SNR=8.7						
CPUP				Sn	Sn	02 45 58.4	+4.5
	comp=Z,0.6nm,0.3s,baz=192,slow=12,SNR=1.7						
CPUP				Lg	Lg	02 47 15.1	
	comp=Z,0.3nm,0.3s,baz=167,slow=19,SNR=3.3						
CPUP	Villa Florida	13.39	75	eP	Pn	02 43 24.8	+0.2
LPAZ	La Paz	14.61	14	Pn	Pn	02 43 46.4	+4.5
	comp=Z,0.2nm,0.3s,baz=191,slow=7.0,SNR=6.1						
LPAZ	La Paz	14.61	14	Pn	Pn	02 43 40.4	-1.5
LPAZ	La Paz	14.61	14	eP	Pn	02 43 43.7	+1.8
PLTB	Pedras Altas	15.60	99	Pn	Pn	02 43 52.6	-1.9
PLTB	Pedras Altas	15.60	99	eP	Pn	02 43 53.5	-1.0
CPSB	Cacapava Do Su	15.80	94	eP	Pn	02 43 56.8	-0.5
SIV	San Ignacio	17.51	36	P	Pn	02 44 20.3	+1.3
	comp=Z,0.4nm,0.3s,baz=213,slow=11,SNR=7.9						
ITAB	Concordia	17.51	84	eP	Pn	02 44 18.4	-0.4
AQDB	Aquidauana	17.63	59	eP	P	02 44 22.0	+0.6
CNLB	Canela	18.17	91	eP	Pn	02 44 26.4	-0.6
PTGB	Pitanga	18.40	76	eP	Pn	02 44 29.5	-0.4
PTLB	Pontes e Lacer	19.00	40	eP	P	02 44 36.6	+0.1
TER01	Tubaro-SC	19.80	90	eP	P	02 44 45.4	+0.2
PCMB	Pacaembu	20.45	69	eP	P	02 44 52.4	0.0
VILB	Vilhena	20.54	34	eP	P	02 44 54.9	+1.5
SALV	Santo Antonio	20.73	49	eP	P	02 44 56.1	+0.7
ITRB	Iturama	22.16	66	eP	P	02 45 10.5	-0.3
VAO	Valinhos	23.36	77	eP	P	02 45 23.4	-0.1
PDRB	Porto dos Gac	23.46	40	eP	P	02 45 25.7	+1.2
CLDB	Colider	24.59	41	eP	P	02 45 33.6	-1.5
IPMB	Ipameri, GO	24.80	65	eP	P	02 45 36.4	-0.7
BDFB	Brasilia	26.35	61	P	P	02 45 50.1	-1.0
	comp=Z,3.0nm,0.6s,baz=223,slow=8.6,SNR=7.7						
BDFB	Brasilia	26.35	61	P	P	02 45 48.5	-2.7
BDFB				IAmb	IAmb	02 45 57.0	
	comp=Z,3.9nm,0.8s						
BDFB	Brasilia	26.35	61	eP	P	02 45 51.0	-0.1
SNDB	Serra Nova Dou	26.50	50	eP	P	02 45 52.3	-0.1
GUA01	Guaratinga, BA	32.31	72	eP	P	02 46 42.8	-1.2
CMC01	Camacan, BA	33.19	70	eP	P	02 46 50.6	-1.1
NBPN	Ponto Novo - B	35.27	63	eP	P	02 47 09.0	-0.8
TMAB	Tom-Au,PA,Br	35.90	43	eP	P	02 47 14.1	-1.1
NBMA	Muriti-CE	38.57	60	eP	P	02 47 37.0	-1.0
NBPS	Pedro II - PI	38.66	54	eP	P	02 47 38.7	-0.1
833A	Chaparral WMA,	64.23	333	P	P	02 50 48.2	-1.7
TX31	Lajitas Ar. Si	66.88	330	P	P	02 51 07.4	+0.2
TX31				IAmb	IAmb	02 51 07.8	
	comp=Z,4.9nm,1.4s						
TX32	Lajitas Array	66.88	330	P	P	02 51 06.6	-0.6
TX32				IAmb	IAmb	02 51 32.1	
	comp=Z,2.2nm,1.4s						
DBIC	Dimbokro	73.89	72	P	P	02 51 50.4	+0.1
	comp=Z,2.7nm,0.5s,baz=239,slow=5.7,SNR=7.9						
DBIC	Dimbokro	73.89	72	IAmb	IAmb	02 51 50.5	
	comp=Z,6.5nm,1.0s						
BOSA	Boshof	81.47	118	P	P	02 52 31.7	-1.0
	comp=Z,2.3nm,0.7s,baz=262,slow=4.5,SNR=7.0						
BOSA	Boshof	81.47	118	IAmb	IAmb	02 52 52.6	
	comp=Z,9.1nm,1.5s						
TORD	Torodi Ar. Bea	82.83	70	P	P	02 52 39.4	-0.3
	comp=Z,0.6nm,0.4s,baz=270,slow=6.0,SNR=15						
TORD	Torodi Ar. Bea	82.83	70	P	P	02 52 36.7	-3.1
TORD				IAmb	IAmb	02 52 53.7	
	comp=Z,3.5nm,1.1s						
WRA	Warramunga Arr	123.85	210	PKP	PKPdf	02 59 12.6	-1.1
	comp=Z,0.3nm,0.6s,baz=150,slow=1.8,SNR=5.9						
ZALV	Zalesovo Beam	151.17	29	PKPbc	PKPbc	03 00 07.8	0.0
	comp=Z,2.4nm,0.7s,baz=298,slow=3.3,SNR=8.8						

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*IDC **01** 02:42:40.8±2.1, 14.°54S×73.°27W, h73km±22km, mb3.4/3, mb1 3.8/5, mb1mx3.6/28, mbtmp3.9/5, Error ellipse: s-maj=56.4km s-min=15.6km az=36.0*

ISC 01 02:42:41.7±0.8**, 14.°8S**±0.°1×**73.°5W**±0.°1**, h100**km**, n12,** σ**1.°53**/11**, mb3.6**/3**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.33	311	P	Pn	02 43 44.9	-0.4
	12nm,0.3s,baz=147,slow=10,SNR=18						
NNA				S	Sn	02 44 33.1	-1.7
	15nm,0.3s,baz=225,slow=16,SNR=6.0						
LPAZ	La Paz	5.35	106	P	Pn	02 44 01.6	+1.8
	6.4nm,0.3s,baz=283,slow=9.7,SNR=47						
LVC	Limon Verde	8.86	151	P	Pn	02 44 48.5	+1.3
	11nm,0.3s,baz=339,slow=17,SNR=5.4						
LVC				S	Sn	02 46 24.5	-0.9
	0.2nm,0.3s,baz=132,slow=16,SNR=0.9						
SIV	San Ignacio	12.02	97	P	Pn	02 45 27.5	-2.3
	1.0nm,0.3s,baz=282,slow=15,SNR=5.9						
H03N1	Juan Fernandez	19.16	194	T	T	03 05 50.6	
	baz=21,slow=74,SNR=4.9						
H03N2	Juan Fernandez	19.17	194	T	T	03 05 50.2	
	baz=21						
H03N3	Juan Fernandez	19.18	194	T	T	03 05 49.4	
	baz=21,slow=74,SNR=5.7						
TXAR	Lajitas Array	52.71	327	P	P	02 51 47.9	+1.6
	0.3nm,0.5s,baz=156,slow=6.9,SNR=2.2						
TORD	Torodi Ar. Bea	79.42	73	P	P	02 54 37.3	-0.2
	0.9nm,0.7s,baz=245,slow=3.3,SNR=3.5						
YKA	Yellowknife Ar	83.52	342	P	P	02 54 58.4	+0.4
	0.7nm,0.8s,baz=138,slow=4.9,SNR=2.8						
WRA	Warramunga Arr	135.92	219	PKP	PKiKP	03 01 54.9	+1.4
	0.4nm,0.7s,baz=134,slow=1.9,SNR=2.9						
SONM	Songino Array	147.10	0	PKPbc	PKiKP	03 02 15.3	-0.3
	0.5nm,0.7s,baz=326,slow=3.4,SNR=2.1						

SJA 01 03:12:05.2±1.0**, 24.°14S**×**67.°17W, h185**km±12km**, ML4.1, MW3.9, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.62	111	i P	Pn	03 12 40.1	+1.1
SLA				IAML		03 13 25.2	
	comp=Z,4.2nm,2.0s						
HJA	Humahuaca	1.86	60	i P	Pn	03 12 42.5	+0.8
HJA				IAML		03 13 51.0	
	comp=Z,1.9nm,2.7s						
LVC	Limon Verde	2.21	313	i P	Pn	03 12 46.1	+0.7
LVC				IAML		03 14 33.2	
	comp=Z,542nm,0.4s						
FSA	Cafayete	2.24	151	i P	Pn	03 12 46.0	+0.6
PB15	IPOC Station P	2.30	293	i P	Pn	03 12 47.2	+1.0
PB15				i S	Sn	03 13 17.3	-0.8
PB15				IAML		03 14 22.7	
	comp=Z,2µm,0.2s						
GO02	Mina Guanaco	2.42	245	i P	Pn	03 12 48.5	+0.8
GO02				i S	Sn	03 13 20.5	-0.2
YJA	Yavi	2.48	38	i P	Pn	03 12 49.5	+1.1
YJA				IAML		03 14 35.1	
	comp=Z,69nm,0.6s						
PB06	IPOC Station P	2.63	302	i P	Pn	03 12 50.7	+0.9
PB06				eS	Sn	03 13 23.4	-1.2
PB14	IPOC Station P	2.99	260	eP	Pn	03 12 54.7	+0.4
PB14				i S	Sn	03 13 30.1	-2.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PB14				IAML		03 14 41.9	
	comp=Z,103nm,0.5s						
PB09	IPOC Station P	3.02	320	iP	Pn	03 12 56.0	+1.5
PB09				iS	Sn	03 13 32.8	-0.2
PB10	IPOC Station P	3.16	281	iP	Pn	03 12 56.9	+0.8
PB10				iS	Sn	03 13 33.8	-2.0
PB10				IAML		03 14 32.5	
	comp=Z,278nm,0.4s						
AC02	Maricunga	3.21	213	iP	Pn	03 12 58.4	+1.3
PB04	IPOC Station P	3.28	303	iP	Pn	03 12 58.0	+0.3
PB07	IPOC Station P	3.47	313	eP	Pn	03 13 00.5	+0.4
AC01	Pan de Azucar	3.69	237	iP	Pn	03 13 02.1	-0.5
AC01				IAML		03 14 55.4	
	comp=Z,43nm,0.3s						
PB01	IPOC Station P	3.75	325	eP	Pn	03 13 03.8	+0.3
PB01				IAML		03 13 53.1	
	comp=Z,9μm,0.3s						
PB02	IPOC Station P	3.77	318	iP	Pn	03 13 04.2	+0.4

*SJA **01** 03:13:18.4±2.5, 20°.33S×69°.99W, h55km±9km, ML4.5, MW4.3*
*IDC **01** 03:13:19.6±0.5, 20°.18S×69°.80W, h54km±4km, mb4.1/15, mb1 4.2/18, mb1mx4.1/30, mbtmp4.4/18, Error ellipse: s-maj=17.7km s-min=9.7km az=70.0*
*NEIC **01** 03:13:19.3±1.9, 20°.33S±0°.04×69°.94W±0°.07, h54km±4km, mb4.6/31, ML4.6(GUC), Error ellipse: s-maj=9.5km s-min=5.5km az=104.0*
*GUC **01** 03:13:20.2±0.7, 20°.32S×69°.93W, h52km±2km, ML4.6*
*VAO **01** 03:13:21.1±0.5, 20°.24S×69°.74W, h66km±4km, mb4.5*
ISC 01 03:13:18.7±0.4**, 20°.31S**±0°.03×**69°.97W**±0°.04**, h53**km±3km**, n218, σ1s.51**/231**, mb4.5**/21**, 10C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HMBC	Humberstone	0.08	67	⇑iP	Pn	03 13 27.9	+0.9
HMBC				iS	Sn	03 13 34.1	+1.2
TA02	Huaiquique	0.16	285		Pn	03 13 28.1	+1.1
TA02	Huaiquique	0.16	285	⇑iP	Pn	03 13 28.2	+1.1
TA02				iS	Sn	03 13 34.5	+1.4
TA02	Huaiquique	0.16	285	iP	Pn	03 13 28.1	+1.1
TA02				IAML		03 13 35.3	
	comp=Z,276μm,0.8s						
TA01	Diego Aracena	0.32	218		Pn	03 13 29.0	+0.7
TA01	Diego Aracena	0.32	218	⇑iP	Pn	03 13 29.0	+0.7
TA01				iS	Sn	03 13 35.7	+0.5
TA01				IAML		03 13 36.3	
	comp=N,102μm,0.4s						
TA01	Diego Aracena	0.32	218	iP	Pn	03 13 29.0	+0.7
TA01				IAML		03 13 36.6	
	comp=Z,22μm,0.2s						
PATCX	Punta Patache	0.54	199		Pn	03 13 31.0	+0.4
PATCX	Punta Patache	0.54	199	⇑iP	Pn	03 13 31.2	+0.5
PATCX				iS	Sn	03 13 40.2	+0.9
PATCX				IAML		03 13 43.5	
	comp=E,52μm,0.4s						
PATCX	Punta Patache	0.54	199	iP	Pn	03 13 31.2	+0.5
PATCX				IAML		03 13 40.5	
	comp=Z,38μm,0.4s						
PB11	IPOC Station P	0.62	28		Pn	03 13 32.6	+0.8
PB08	IPOC Station P	0.79	78		Pn	03 13 34.9	+0.9
PB08	IPOC Station P	0.79	78	⇓iP	Pn	03 13 34.9	+0.9
PB08				iS	Sn	03 13 46.2	+0.9
PB08	IPOC Station P	0.79	78	iP	Pn	03 13 35.0	+0.9
PB08				eS	Sn	03 13 46.1	+0.9
PB08				IAML		03 13 47.0	
	comp=Z,9μm,0.2s						
PB01	IPOC Station P	0.86	148		Pn	03 13 35.0	+0.2
PB01	IPOC Station P	0.86	148	⇓iP	Pn	03 13 35.1	+0.4
PB01				iS	Sn	03 13 46.4	0.0
PB01				IAML		03 13 48.1	
	comp=E,24μm,0.3s						
PB01	IPOC Station P	0.86	148	iP	Pn	03 13 35.1	+0.4
PB01				eS	Sn	03 13 46.9	+0.4
PB01				IAML		03 13 47.5	
	comp=Z,11μm,0.2s						
GO01	Chusmiza	0.97	49		Pn	03 13 37.5	+1.0
GO01	Chusmiza	0.97	49	⇓iP	Pn	03 13 37.6	+1.0
GO01				iS	Sn	03 13 50.9	+1.2
GO01				IAML		03 13 52.1	
	comp=N,51μm,0.2s						
GO01	Chusmiza	0.97	49	iP	Pn	03 13 37.7	+1.1
PB02	IPOC Station P	1.01	176		Pn	03 13 37.6	+0.9
PB02	IPOC Station P	1.01	176	⇑iP	Pn	03 13 37.7	+0.9
PB02				iS	Sn	03 13 50.3	+0.4
PB02				IAML		03 13 54.2	
	comp=E,54μm,0.4s						
PB02	IPOC Station P	1.01	176	iP	Pn	03 13 37.9	+1.1
PB02				eS	Sn	03 13 51.1	+1.2
PB02				IAML		03 13 52.4	
	comp=Z,25μm,0.5s						
PB07	IPOC Station P	1.41	177		Pn	03 13 43.8	+1.6
PB07	IPOC Station P	1.41	177	⇑eP	Pn	03 13 43.4	+1.2
PB07				iS	Sn	03 14 00.9	+1.1
PB07				IAML		03 14 05.0	
	comp=N,11μm,0.4s						
PB07	IPOC Station P	1.41	177	iP	Pn	03 13 43.8	+1.6
PB07				eS	Sn	03 14 02.0	+2.2
PB07				IAML		03 14 07.4	
	comp=Z,10μm,0.3s						
PB09	IPOC Station P	1.63	155	iP	Pn	03 13 47.0	+1.8
PB09				iS	Sn	03 14 07.0	+1.9
PB09				IAML		03 14 14.0	
	comp=E,19μm,0.7s						
PB09	IPOC Station P	1.63	155	iP	Pn	03 13 47.2	+2.0
PB09				eS	Sn	03 14 08.7	+3.6
PB09				IAML		03 14 14.4	
	comp=Z,20μm,0.6s						
PB12	IPOC Station P	1.72	349		Pn	03 13 47.0	+0.6
PB12	IPOC Station P	1.72	349	⇑iP	Pn	03 13 47.3	+0.9
PB12				iS	Sn	03 14 08.6	+1.3
PB12				IAML		03 14 14.4	
	comp=N,6μm,0.7s						
PB12	IPOC Station P	1.72	349	iP	Pn	03 13 47.4	+0.9
PB12				IAML		03 14 13.0	
	comp=Z,4μm,0.5s						
AP01	Chacalluta	1.96	350		Pn	03 13 51.0	+1.5
AP01	Chacalluta	1.96	350	eP	Pn	03 13 51.3	+1.7
AP01				iS	Sn	03 14 14.8	+1.8
AP01				IAML		03 14 20.7	
	comp=E,14μm,0.8s						
AP01	Chacalluta	1.96	350	iP	Pn	03 13 51.7	+2.1
AP01				IAML		03 14 29.8	
	comp=Z,6μm,0.2s						
PB16	IPOC Station P	2.01	13	Pn	Pn	03 13 52.0	+1.2
PB16	IPOC Station P	2.01	13	⇑iP	Pn	03 13 53.0	+2.2
PB16				iS	Sn	03 14 18.1	+2.9
PB16				IAML		03 14 38.0	
	comp=N,2μm,0.4s						
PB16	IPOC Station P	2.01	13	iP	Pn	03 13 53.0	+2.2
PB16				IAML		03 14 38.0	
	comp=Z,2μm,0.5s						
PB04	IPOC Station P	2.02	185	⇑eP	Pn	03 13 51.6	+1.0
PB04				iS	Sn	03 14 15.9	+1.2
PB04				IAML		03 14 30.2	
	comp=E,6μm,0.3s						
PB04	IPOC Station P	2.02	185	iP	Pn	03 13 52.0	+1.5
PB04				IAML		03 14 23.4	
	comp=Z,6μm,0.3s						
PB06	IPOC Station P	2.41	171		Pn	03 13 56.4	+0.5
PB06	IPOC Station P	2.41	171	⇑iP	Pn	03 13 56.8	+0.9
PB06				IAML		03 14 47.3	
	comp=N,3μm,0.5s						
PB06	IPOC Station P	2.41	171	iP	Pn	03 13 56.8	+0.9
PB06				IAML		03 14 33.2	
	comp=Z,3μm,0.9s						
LVC	Limon Verde	2.49	157	P	Pn	03 13 59.7	+2.6
	comp=Z,237nm,0.3s,baz=338,slow=9.5,SNR=250						
LVC				S	Sn	03 14 30.4	+3.9
	comp=Z,153nm,0.3s,baz=188,slow=14,SNR=3.2						
LVC	Limon Verde	2.49	157		Pn	03 13 59.1	+1.9
LVC	Limon Verde	2.49	157	iP	Pn	03 13 59.7	+2.6
LVC				IAML		03 14 39.3	
	comp=Z,1μm,0.5s						
LVC	Limon Verde	2.49	157	eP	Pn	03 13 59.8	+2.6
PB15	IPOC Station P	2.92	171	Pn	Pn	03 14 03.8	+0.9
PB15	IPOC Station P	2.92	171	eP	Pn	03 14 04.5	+1.6
PB15				iS	Sn	03 14 43.8	+6.9
PB15	IPOC Station P	2.92	171	iP	Pn	03 14 04.5	+1.6
PB15				IAML		03 14 51.4	
	comp=Z,5μm,0.4s						
PB10	IPOC Station P	3.23	190		Pn	03 14 06.4	-0.5
PB10	IPOC Station P	3.23	190	eP	Pn	03 14 06.7	-0.2
PB10				IAML		03 15 05.0	
	comp=N,874nm,0.4s						
PB10	IPOC Station P	3.23	190	iP	Pn	03 14 06.8	-0.2
PB10				IAML		03 15 10.5	
	comp=Z,498nm,0.6s						
PB14	IPOC Station P	4.31	185		Pn	03 14 20.9	-1.2
PB14	IPOC Station P	4.31	185	iP	Pn	03 14 22.0	-0.1
PB14				IAML		03 15 38.1	
	comp=Z,507nm,0.7s						
LPAZ	La Paz	4.37	24	P	Pn	03 14 27.7	+4.6
	comp=Z,14nm,0.3s,baz=200,slow=6.6,SNR=286						
LPAZ	La Paz	4.37	24	Pn	Pn	03 14 27.5	+4.4
LPAZ	La Paz	4.37	24	iP	Pn	03 14 27.0	+3.9
YJA	Yavi	4.55	115	iP	Pn	03 14 30.0	+4.5
YJA				IAML		03 15 34.4	
	comp=Z,25nm,0.6s						
GO02	Mina Guanaco	4.84	176	iP	Pn	03 14 29.1	-0.2
HJA	Humahuaca	5.13	125	iP	Pn	03 14 37.0	+3.7
HJA				IAML		03 15 55.4	
	comp=Z,30nm,1.6s						
AC01	Pan de Azucar	5.84	186	Pn	Pn	03 14 41.4	-1.3
AC02	Maricunga	6.54	173	Pn	Pn	03 14 52.4	-0.4
AC02	Maricunga	6.54	173	iP	Pn	03 14 52.9	+0.1
AC02				IAML		03 16 48.9	
	comp=Z,263nm,0.7s						
FSA	Cafayete	6.84	148	iP	Pn	03 15 01.0	+4.4
AC06	Mina Casimiro	7.02	183		Pn	03 14 57.9	-1.1
AHML	Horco Molle	7.72	147	iP	Pn	03 15 12.0	+3.4
AHML				IAML		03 16 42.1	
	comp=Z,8.9nm,1.2s						
AC04	Llanos de Chal	7.92	187	Pn	Pn	03 15 11.1	-0.2
SIV	San Ignacio	9.49	65	P	Pn	03 15 32.4	-0.4
	comp=Z,12nm,0.3s,baz=252,slow=11,SNR=233						
CO05	La Serena	9.63	187	Pn	Pn	03 15 34.5	-0.2
GO04	Tololo Observa	9.85	184	Pn	Pn	03 15 37.7	-0.2
CO03	El Pedregal	10.50	183	Pn	Pn	03 15 46.6	-0.1
ETMB	Extrema	11.04	20	eP	Pn	03 15 54.4	+0.3
PTLB	Pontes e Lacer	11.39	67	eP	Pn	03 15 58.2	-0.6
VILB	Vilhena	11.88	53	eP	Pn	03 16 05.6	+0.1
ROC1	El Roble	12.65	184	Pn	Pn	03 16 14.3	-1.8
CZSB	Cruzeiro do Su	12.78	348	eP	Pn	03 16 19.9	+2.0
CPUP	Villa Florida	13.06	120	P	Pn	03 16 22.1	+0.5
	comp=Z,0.5nm,0.3s,baz=315,slow=12,SNR=8.1						
CPUP	Villa Florida	13.06	120	Pn	Pn	03 16 20.7	-0.9
CPUP	Villa Florida	13.06	120	eP	Pn	03 16 22.1	+0.5
AQDB	Aquidauana	13.38	93	Pn	Pn	03 16 24.8	-1.2
AQDB	Aquidauana	13.38	93	eP	Pn	03 16 24.1	-1.9
SALV	Santo Antonio	14.26	74	eP	Pn	03 16 36.5	-1.4
PP1B	Ponte de Pedra	14.53	82	eP	Pn	03 16 40.6	-0.8
ITQB	Itaqui	15.26	130	eP	Pn	03 16 50.7	-0.1
H03N1	Juan Fernandez	15.31	209	T	T	03 32 06.4	
	baz=34,slow=72,SNR=172						
H03N2	Juan Fernandez	15.32	210	T	T	03 32 01.7	
	baz=34,slow=72,SNR=162						
H03N3	Juan Fernandez	15.32	209	T	T	03 32 05.3	
	baz=34,slow=72,SNR=611						
PDRB	Porto dos Gac	15.38	58	eP	Pn	03 16 50.5	-2.0
TBTG	Tabatinga, AM	16.03	0	eP	Pn	03 17 01.2	+0.4
CLDB	Colider	16.55	58	eP	Pn	03 17 07.3	-0.1
PTGB	Pitanga	17.11	108	eP	Pn	03 17 14.2	-0.2
DVLD	Doverlandia	17.28	81	eP	Pn	03 17 15.8	-0.6
PCMB	Pacaembu	17.52	98	eP	Pn	03 17 18.3	-1.1
ITAB	Concordia	17.71	116		Pn	03 17 20.8	-0.9
ITAB				IAmb	IAmb	03 17 24.3	
	comp=Z,63nm,1.4s						
ITAB	Concordia	17.71	116	eP	Pn	03 17 21.6	-0.1
CPSB	Cacapava Do Su	17.99	127	eP	P	03 17 23.5	-1.4
PLTB	Pedras Altas	18.58	131	P	P	03 17 30.0	-1.5
PLTB	Pedras Altas	18.58	131	eP	Pn	03 17 32.3	0.0
FRTB	Fartura	19.18	103	eP	P	03 17 38.8	+0.6
MACA	Manacapuru-AM	19.30	29	eP	P	03 17 39.8	+0.3
NPGB	Novo Progresso	19.35	49	eP	P	03 17 38.3	-1.8
CNLB	Canela	19.51	121	eP	P	03 17 41.6	-0.1
SNDB	Serra Nova Dou	19.75	68	eP	P	03 17 42.6	-1.8
TIJ01	Guaruva-PR	19.95	108	eP	P	03 17 46.2	-0.5
PLCA	Paso Flores	20.36	181	P	P	03 17 52.2	+1.3
	comp=Z,10.0nm,0.9s,baz=2.4,slow=12,SNR=26						
PLCA	Paso Flores	20.36	181	P	P	03 17 49.6	-1.3
PLCA	Paso Flores	20.36	181	eP	P	03 17 52.1	+1.2
TER01	Tubaro-SC	20.65	117	eP	P	03 17 51.8	-2.3
IPMB	Ipameri, GO	20.68	87	eP	P	03 17 52.2	-2.3
RCLB	Rio Claro- Sao	21.00	100	eP	P	03 17 56.6	-1.4
ITTB	Itaituba	21.05	43	eP	P	03 17 56.6	-1.9
PET01	Itanhaem-SP	21.36	105	eP	P	03 18 02.4	+0.6
BDFB	Brasilia	21.39	81	P	P	03 18 00.6	-1.6
	comp=Z,7.6nm,0.6s,baz=263,slow=9.9,SNR=10						
BDFB	Brasilia	21.39	81	P	P	03 18 01.6	-0.6
BDFB				IAmb	IAmb	03 18 08.3	
	comp=Z,12nm,0.7s						
BDFB	Brasilia	21.39	81	eP	P	03 18 00.4	-1.8
VAO	Valinhos	21.55	101	eP	P	03 18 02.5	-1.3
OTAV	Otavalo	22.05	337	P	P	03 18 09.9	+0.4
OTAV	Otavalo	22.05	337	eP	P	03 18 21.4	+12
OTAV	Otavalo	22.05	337	eP	P	03 18 10.2	+0.6
PEXB	Peixe	22.33	72	eP	P	03 18 09.8	-2.4
FLOC	Florencia	22.46	345	eP	P	03 18 16.8	+3.2
PARB	Paraibuna	22.80	102	eP	P	03 18 14.5	-2.7
GARC	Garzon, Huila	23.00	346	eP	P	03 18 19.6	+0.1
SOTA	Rioblanco	23.24	343	eP	P	03 18 24.1	+2.1
BSCB	Bom Sucesso	23.58	96	eP	P	03 18 23.1	-1.8
POPC	Popayan, Colom	23.64	343	eP	P	03 18 28.9	+3.3
MALB	Monte Alegre	23.91	42	eP	P	03 18 26.6	-1.2
BOAV	Boa Vista	24.39	23	eP	P	03 18 32.2	-0.1
SMTB	Santa Maria do	24.43	65	eP	P	03 18 33.3	+0.7
ORTC	Ortega, Tolima	24.62	347	eP	P	03 18 34.3	0.0
VAS01	Vassouras-RJ	24.79	99	eP	P	03 18 35.1	-0.8
MC01	Montes Claros	24.93	86	eP	P	03 18 37.4	+0.1
YOTC	Yotoco, Valle	24.94	345	eP	P	03 18 42.0	+4.7
JANB	Januaria	24.98	82	eP	P	03 18 36.4	-1.3
SDBA	SAO DESIDERIO	25.28	76	eP	P	03 18 39.4	-1.0
PLMC	San Jos del P	25.82	345	eP	P	03 18 44.6	-0.6
GUY2C	Guyana, Caldas	25.92	348	eP	P	03 18 48.5	+1.8
SPBC	San Pablo de B	26.11	351	eP	P	03 18 47.6	-0.3
RUSC	La Rusia	26.22	353	eP	P	03 18 50.0	+0.7
MCPB	Macapa, AP	26.46	44	eP	P	03 18 50.3	-0.8
CBOC	Ciudad Bolivar	26.68	347	eP	P	03 18 54.8	+1.6
HELC	Santa Helena	26.90	348	eP	P	03 18 56.2	+0.9
BARC	Barichara	26.92	353	eP	P	03 18 54.8	-0.6
SJMB	Sao Joao De Ma	27.17	92	eP	P	03 18 56.0	-1.3
ALF01	Guarapari-ES	27.39	96	eP	P	03 19 00.4	+1.1
RIB01	Linhares ES	27.83	93	eP	P	03 19 03.7	+0.4
DBBC	Dabeiba	27.84	347	eP	P	03 19 03.9	+0.5
ZARC	Zaragoza, Cauc	28.04	350	P	P	03 19 04.5	-0.7
NAN01	Guarapari, ES	28.30	90	eP	P	03 19 07.7	+0.2
GUA01	Guaratinga, BA	28.83	88	eP	P	03 19 11.5	-0.8
SDV	Santo Domingo	29.02	359	P	P	03 19 14.3	+0.2
	comp=Z,1.7nm,0.4s,baz=86,slow=2.9,SNR=5.9						
SDV	Santo Domingo	29.02	359	eP	P	03 19 15.5	+1.4
CMC01	Camacan, BA	29.38	85	eP	P	03 19 18.2	+1.1
GDU01	Guandu, BA	29.76	82	eP	P	03 19 19.5	-1.0
SJCC	San Jacinto, C	30.45	350	P	P	03 19 26.3	-0.3
SJCC				IAmb	IAmb	03 19 28.6	
	comp=Z,13nm,1.1s						
SJCC	San Jacinto, C	30.45	350	eP	P	03 19 26.9	+0.3
NBPS	Pedro II - PI	31.95	64	eP	P	03 19 38.4	-1.5
NBLA	Lagarto - SE	32.29	78	eP	P	03 19 40.2	-2.6
NBMA	Muriti-CE	32.84	71	eP	P	03 19 45.8	-1.9
NBPB	Pedra_Branca-C	32.96	68	eP	P	03 19 47.7	-1.1
RCBR	Riachuelo	36.07	71	P	P	03 20 15.1	-0.6
	comp=Z,11nm,0.8s,baz=26,slow=9.4,SNR=5.3						
RCBR	Riachuelo	36.07	71	IAmb	IAmb	03 20 18.9	
	comp=Z,27nm,1.3s						
RCBR	Riachuelo	36.07	71	eP	P	03 20 15.0	-0.6
W50A	Signal Mountai	57.09	345	P	P	03 22 58.3	-1.4
U40A	Yellville	60.37	339	P	P	03 23 22.4	0.0
U40A				IAmb	IAmb	03 23 22.9	
	comp=Z,4.0nm,0.8s						
S39A	Bolivar	61.74	339		P	03 23 30.5	-1.1
S39A				IAmb	IAmb	03 23 32.1	
	comp=Z,5.1nm,0.6s						
LONY	Lake Ozonia	64.75	356	P	P	03 23 51.4	0.0
ANMO	Albuquerque	64.97	327	P	P	03 23 54.3	+1.0
	comp=Z,1.3nm,0.9s,baz=186,slow=7.8,SNR=3.7						
L34A	Svendsen Farm,	66.61	339	P	P	03 24 02.9	-0.6
DBIC	Dimbokro	69.36	74	P	P	03 24 19.9	-1.4
	comp=Z,4.6nm,0.8s,baz=265,slow=4.2,SNR=6.3						
DBIC	Dimbokro	69.36	74	IAmb	IAmb	03 24 26.4	
	comp=Z,20nm,1.4s						
QSPA	South Pole Qui	69.87	180	P	P	03 24 24.2	+0.4
QSPA				IAmb	IAmb	03 24 40.9	
	comp=Z,8.4nm,1.1s						
P18A	Preston Nutter	70.50	328	P	P	03 24 28.0	-0.2
CCUT	Cedar City	70.57	325	P	P	03 24 27.4	-1.2
CCUT				IAmb	IAmb	03 24 45.9	
	comp=Z,8.0nm,1.4s						
MSU	Marysvale	70.64	326	P	P	03 24 30.0	+0.9
PDAR	Pinedale Array	72.59	331	P	P	03 24 41.6	+0.9
	comp=Z,0.3nm,0.4s,baz=130,slow=4.5,SNR=4.7						
ULM	Lac du Bonnet	73.89	343	P	P	03 24 47.6	-0.3
	comp=Z,2.4nm,0.6s,baz=147,slow=6.4,SNR=3.1						
ULM	Lac du Bonnet	73.89	343	IAmb	IAmb	03 25 02.7	
	comp=Z,3.1nm,0.7s						
NVAR	Mina Array Bea	73.95	322	P	P	03 24 50.1	+1.4
	comp=Z,0.4nm,0.6s,baz=156,slow=7.8,SNR=4.7						
FLWY	Flagg Ranch	74.14	331	P	P	03 24 48.9	-0.8
FLWY				IAmb	IAmb	03 24 53.7	
	comp=Z,3.4nm,0.8s						
YHH	Holmes Hill	74.75	331	IAmb	IAmb	03 25 00.3	
	comp=Z,11nm,1.0s						
SCHQ	Schefferville	74.89	2	P	P	03 24 53.7	+0.2
	comp=Z,2.5nm,0.7s,baz=205,slow=5.8,SNR=8.8						
VNDA	Vanda	77.84	190	P	P	03 25 11.0	+0.9
	comp=Z,1.5nm,1.1s,baz=98,slow=2.9,SNR=3.1						
TOA0	Torodi Ar. Sit	77.90	71	P	P	03 25 10.3	-1.2
TORD	Torodi Ar. Bea	77.90	71	P	P	03 25 10.3	-1.2
	comp=Z,8.5nm,0.7s,baz=249,slow=4.9,SNR=55						
TORD	Torodi Ar. Bea	77.90	71	P	P	03 25 09.8	-1.6
TORD				IAmb	IAmb	03 25 11.1	
	comp=Z,7.8nm,0.8s						
BOSA	Boshof	84.88	118	P	P	03 25 47.9	-0.6
	comp=Z,3.5nm,1.0s,baz=221,slow=7.1,SNR=4.4						
BOSA	Boshof	84.88	118	IAmb	IAmb	03 26 14.8	
	comp=Z,8.6nm,1.3s						
MAW	Mawson	85.75	164	P	P	03 25 52.8	+1.0
	comp=Z,2.7nm,0.7s,baz=180,slow=4.3,SNR=4.4						
MAW	Mawson	85.75	164	IAmb	IAmb	03 25 54.2	
	comp=Z,4.7nm,1.5s						
YKA	Yellowknife Ar	89.74	341	P	P	03 26 10.9	+0.1
	comp=Z,4.0nm,0.7s,baz=133,slow=4.8,SNR=54						
YKA				pP	pP	03 26 26.1	-0.3
	comp=Z,4.1nm,0.7s,baz=139,slow=4.6,SNR=18						
KBZ	Khabaz	120.14	51	PKP	PKPdf	03 32 04.1	+0.4
	comp=Z,1.4nm,1.0s,baz=110,slow=1.8,SNR=4.3						
KBZ				pPKP	pPKPdf	03 32 19.2	-0.7
	comp=Z,1.6nm,0.8s,baz=32,slow=7.9,SNR=4.3						
H11S2	WAKE ISLAND Hy	126.73	278	T	T	05 51 40.5	
	baz=102,slow=75,SNR=205						
H11S1	WAKE ISLAND Hy	126.74	278	T	T	05 51 44.2	
	baz=102,slow=75,SNR=116						
H11S3	WAKE ISLAND Hy	126.75	278	T	T	05 51 48.7	
	baz=102,slow=75,SNR=128						
H11N3	WAKE ISLAND Hy	126.79	280	T	T	05 51 49.7	
	baz=102,slow=75,SNR=106						
H11N2	WAKE ISLAND Hy	126.80	280	T	T	05 51 53.8	
	baz=102,slow=75,SNR=78						
H11N1	WAKE ISLAND Hy	126.80	280	T	T	05 51 50.9	
	baz=102,slow=75,SNR=101						
SEY	Seymchan	128.62	337	PKP	PKPdf	03 32 19.7	+0.3
	comp=Z,0.9nm,0.6s,baz=100,slow=4.1,SNR=4.8						
SEY				pPKP	pPKPdf	03 32 35.6	0.0
	comp=Z,1.0nm,0.5s,baz=111,slow=4.8,SNR=3.2						
WRA	Warramunga Arr	133.45	212	PKP	PKPdf	03 32 30.2	+0.3
	comp=Z,0.8nm,0.7s,baz=159,slow=2.1,SNR=2.8						
KURK	Kurchatov	140.86	32		PKPdf	03 32 41.9	-0.7
KURBB	Kurchatov Arra	140.87	32	PKP	PKPdf	03 32 44.0	+1.3
	comp=Z,0.4nm,0.6s,baz=286,slow=2.6,SNR=4.5						
ZALV	Zalesovo Beam	141.29	24	PKP	PKPdf	03 32 43.0	-0.2
	comp=Z,2.0nm,0.6s,baz=316,slow=3.1,SNR=8.5						
ZALV				pPKP	pPKPdf	03 32 59.4	-0.1
	comp=Z,2.4nm,0.7s,baz=327,slow=2.5,SNR=5.3						
NIL	Nilore	144.83	60	PKPdf	PKPab	03 32 49.8	+0.5
MAKZ	Makanchi	145.06	34	PKPbc	PKPbc	03 32 49.8	+0.1
KSH	Kashi	145.10	49	PKPbc	PKPbc	03 32 50.5	+0.3
MK31	Makanchi Array	145.23	34	PKPbc	PKPbc	03 32 50.6	+0.4
MKAR	Makanchi Array	145.23	34	PKPbc	PKPbc	03 32 50.4	+0.2
	comp=Z,5.9nm,0.7s,baz=325,slow=4.2,SNR=66						
MKAR				pPKPbc	pPKPab	03 33 06.1	-0.1
	comp=Z,2.4nm,0.6s,baz=327,slow=3.0,SNR=13						
MKAR	Makanchi Array	145.23	34	PKPbc	PKPbc	03 32 50.6	+0.4
TARG	Taragay, Kyrgy	145.40	45	PKPbc	PKPbc	03 32 51.9	+0.4
KLR	Kul'dur	146.32	334	PKPbc	PKPdf	03 32 53.1	+0.9
	comp=Z,1.4nm,0.6s,baz=350,slow=2.4,SNR=5.6						
USRK	Ussuriysk Ar.	149.98	327	PKPbc	PKPbc	03 33 04.2	+0.9
	comp=Z,4.6nm,0.8s,baz=329,slow=2.6,SNR=5.1						
USRK				pPKPbc	pPKPbc	03 33 20.1	+0.8
	comp=Z,3.5nm,0.7s,baz=342,slow=3.0,SNR=4.9						
USRK	Ussuriysk Ar.	149.98	327		PKPbc	03 33 03.5	+0.2
SIJI	Sorong	150.41	227	PKPbc	PKPbc	03 33 05.5	+0.2
	comp=Z,8.9nm,0.7s,baz=243,slow=5.5,SNR=3.9						
MJAR	Matsushiro Arr	150.56	309	PKPbc	PKPbc	03 33 05.5	+0.6
	comp=Z,1.1nm,0.3s,baz=267,slow=7.1,SNR=4.8						
MJAR				pPKPbc	pPKPbc	03 33 20.9	-0.2
	comp=Z,2.2nm,0.7s,baz=278,slow=4.8,SNR=3.7						
MJAR	Matsushiro Arr	150.56	309		PKPbc	03 33 04.8	-0.2
SONM	Songino Array	152.38	5	PKP	PKPdf	03 33 02.5	+0.3
	comp=Z,0.7nm,0.7s,baz=296,slow=2.8,SNR=5.1						
SONM				PKPbc	PKPbc	03 33 09.5	+0.5
	comp=Z,2.2nm,0.7s,baz=308,slow=1.4,SNR=13						
SONM				pPKPbc	sPKPdf	03 33 24.7	+0.5
	comp=Z,3.3nm,0.7s,baz=267,slow=1.1,SNR=4.4						
PZH	PanZhiHua	170.21	49	PKP	PKPdf	03 33 20.5	-0.9

*IDC **01** 03:22:00.7±0.6, 29°.28N×141°.37E, h82km±6km, mb3.5/13, mb1 3.7/16, mb1mx3.4/50, mbtmp3.9/16, Error ellipse: s-maj=24.2km s-min=7.5km az=76.0*
ISC 01 03:22:01.8±0.6**, 29°.38N**±0°.07×**141°.4E**±0°.2**, h100**km**, n20, σ2s.36**/23**, mb3.9**/13**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	2.39	163	P	Pn	03 22 37.4	-2.1
	42nm,0.3s,baz=7.2,slow=20,SNR=45						
JCJ				S	Sn	03 23 03.9	-4.4
	190nm,0.3s,baz=273,slow=22,SNR=15						
JHJ	Hachijo jima 2	3.97	340	P	Pn	03 22 57.3	-3.3
	15nm,0.3s,baz=88,slow=22,SNR=6.7						
JHJ				S	Sn	03 23 39.7	-6.4
	33nm,0.3s,baz=99,slow=18,SNR=5.5						
MJAR	Matsushiro Arr	7.62	340	P	Pn	03 23 49.0	-1.1
	0.3nm,0.3s,baz=140,slow=14,SNR=5.4						
KLR	Kul'dur	21.14	342	P	P	03 26 40.2	+1.6
	1.0nm,0.5s,baz=183,slow=4.3,SNR=5.2						
H11N2	WAKE ISLAND Hy	25.07	107	T	T	03 54 53.9	
	baz=297,slow=74,SNR=6.6						
H11N1	WAKE ISLAND Hy	25.07	107	T	T	03 55 00.2	
	baz=297,slow=74,SNR=19						
H11N3	WAKE ISLAND Hy	25.08	107	T	T	03 53 05.7	
	baz=297,SNR=7.0						
CMAR	Chiang Mai Arr	40.10	264	P	P	03 29 28.0	+0.1
	1.2nm,0.3s,baz=66,slow=6.0,SNR=4.2						
MKAR	Makanchi Array	48.50	308	PcP	PcP	03 32 01.2	+2.2
	0.4nm,0.7s,baz=69,slow=5.5,SNR=3.9						
WRA	Warramunga Arr	49.51	189	P	P	03 30 42.5	+0.1
	1.1nm,0.3s,baz=6.6,slow=8.4,SNR=28						
WRA				pP	pP	03 31 02.0	-3.0
	0.8nm,0.5s,baz=8.0,slow=7.9,SNR=2.9						
FITZ	Fitzroy Crossi	49.59	200	P	P	03 30 44.1	+1.1
	0.9nm,0.6s,baz=29,slow=6.5,SNR=5.9						
KURBB	Kurchatov Arra	50.95	313	P	P	03 30 52.7	-0.3
	0.2nm,0.3s,baz=89,slow=7.3,SNR=3.9						
ASAR	Alice Springs	53.23	189	P	P	03 31 10.7	+0.5
	0.6nm,0.5s,baz=9.9,slow=6.5,SNR=9.1						
STKA	Stephens Creek	60.92	180	P	P	03 32 05.0	+0.8
	2.4nm,0.8s,baz=315,slow=9.7,SNR=3.5						
ARU	Arti	62.20	321	P	P	03 32 13.4	+0.9
	1.0nm,0.2s,baz=73,slow=19,SNR=1.4						
YKA	Yellowknife Ar	70.47	29	P	P	03 33 07.7	+2.5
	0.2nm,0.7s,baz=297,slow=6.0,SNR=2.2						
YKA				pP	pP	03 33 29.4	+0.3
	0.2nm,0.6s,baz=293,slow=6.3,SNR=2.5						
FINES	FINESS Array B	75.59	333	P	P	03 33 37.2	+1.8
	0.4nm,0.3s,baz=80,slow=4.1,SNR=10						
NVAR	Mina Array Bea	79.66	52	P	P	03 33 58.9	+0.2
	0.1nm,0.4s,baz=289,slow=5.6,SNR=1.6						
NVAR				pP	pP	03 34 22.1	-1.2
	1.3nm,0.8s,baz=286,slow=5.9,SNR=7.7						
AKASG	Malin Array Be	80.36	323	P	P	03 34 02.9	+0.9
	0.3nm,0.3s,baz=52,slow=5.2,SNR=6.6						
BRTR	Keskin Array B	83.94	312	P	P	03 34 22.9	+1.8
	1.4nm,0.8s,baz=110,slow=4.4,SNR=7.9						
BRTR				pP	pP	03 34 44.9	-1.0
	0.9nm,0.8s,baz=103,slow=3.9,SNR=4.1						

IDC 01 03:49:00.3±13.0**, 30°.00S**×**61°.77E, h0**km**, mb3.6**/2**, mb1 3.9**/2**, mb1mx3.1**/44**, mbtmp3.6**/2**, Error ellipse:**

s-maj=816.4km s-min=55.7km az=33.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**63.73**	**103**	P	P	03 59 34.7	+0.5
	0.4nm,0.4s,baz=240,slow=6.4,SNR=4.3						
WRA	**Warramunga Arr**	**65.60**	**100**	P	P	03 59 45.9	-0.5
	0.2nm,0.5s,baz=247,slow=5.9,SNR=1.9						
YKA	**Yellowknife Ar**	**147.41**	**357**	PKPbc	PKPbc	04 08 44.6	-0.8
	0.2nm,0.5s,baz=350,slow=3.2,SNR=6.2						

*IDC **01** 03:52:30.6±1.1, 7°28S×154°56E, h0km, mb4.2/14, mb1 4.4/14, mb1mx4.1/39, mbtmp4.2/14, MS4.3/1, Ms1 4.2/1, ms1mx3.3/64, Error ellipse: s-maj=34.8km s-min=17.4km az=118.0*

*NEIC **01** 03:52:32.3±1.4, 7°27S±0°09×154°61E±0°07, h10km±1km, mb4.5/18, Error ellipse: s-maj=17.3km s-min=8.7km az=146.0*

ISC 01 03:52:32.0±0.7**, 7°24S**±0°09×**154°60E**±0°10**, h10**km**, n46, σ0s94**/39**, mb4.4**/23**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.88**	**321**		**Pn**	**03 53 32.5**	**+0.7**
PMG	**Port Moresby**	**7.67**	**253**	Pn	**Pn**	**03 54 27.2**	**+3.2**
	6.1nm,0.3s,baz=53,slow=9.3,SNR=19						
PMG				Sn	**Sn**	**03 55 50.6**	**-0.5**
	baz=79,slow=17,SNR=1.2						
PMG	**Port Moresby**	**7.67**	**253**		**Pn**	**03 54 24.0**	**0.0**
WR0	**Warramunga Arr**	**23.20**	**235**	P	**P**	**03 57 38.5**	**-0.8**
WR0				IAmb	IAmb	03 57 40.5	
	comp=Z,9.1nm,0.8s						
WB0	**Warramunga Arr**	**23.23**	**236**	P	**P**	**03 57 39.5**	**-0.1**
WB0				IAmb	IAmb	03 57 40.7	
	comp=Z,5.5nm,0.7s						
WB2	**Warramunga Arr**	**23.35**	**235**	P	**P**	**03 57 40.3**	**-0.5**
WRA	**Warramunga Arr**	**23.36**	**235**	P	**P**	**03 57 40.1**	**-0.8**
	comp=Z,6.1nm,0.7s,baz=59,slow=9.4,SNR=44						
WRA	**Warramunga Arr**	**23.36**	**235**	IAmb	IAmb	03 57 46.5	
	comp=Z,0.3nm,1.2s						
AS31	**Alice Springs**	**25.72**	**228**	P	**P**	**03 58 01.8**	**-1.0**
ASAR	**Alice Springs**	**25.72**	**228**	P	**P**	**03 58 02.1**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=59,slow=9.1,SNR=9.8						
STKA	**Stephens Creek**	**27.35**	**205**	P	**P**	**03 58 17.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=15,slow=16,SNR=1.7						
STKA				LR	LR	04 10 07.8	
	comp=Z,542nm,18.4s,baz=289,slow=39						
STKA	**Stephens Creek**	**27.35**	**205**	IAmb	IAmb	03 58 26.7	
	comp=Z,0.7nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**28.21**	**25**	T	T	04 27 02.9	
	baz=204,slow=74,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**28.22**	**25**	T	T	04 26 55.1	
	baz=204,slow=74,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**28.23**	**25**	T	T	04 27 07.8	
	baz=204						
FITZ	**Fitzroy Crossi**	**30.20**	**246**	P	**P**	**03 58 42.2**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=60,slow=6.3,SNR=9.8						
BFZ	**Birch Farm**	**38.50**	**153**	P	**P**	**03 59 54.1**	**-0.4**
JNU	**Nakatsue**	**46.04**	**332**	P	**P**	**04 00 55.5**	**-0.6**
	comp=Z,13nm,0.8s,baz=111,slow=5.5,SNR=6.5						
JNU	**Nakatsue**	**46.04**	**332**	IAmb	IAmb	04 00 56.9	
	comp=Z,14nm,0.9s						
KSRS	**Korea Array**	**50.98**	**333**	P	**P**	**04 01 34.8**	**+0.8**
	comp=Z,3.8nm,0.8s,baz=153,slow=8.2,SNR=12						
USRK	**Ussuriysk Ar.**	**55.13**	**340**	P	**P**	**04 02 05.2**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=156,slow=9.6,SNR=4.2						
MA2	**Magadan**	**66.67**	**358**	P	**P**	**04 03 22.4**	**-0.3**
ULN	**Ulaanbaatar**	**69.00**	**328**	P	**P**	**04 03 36.9**	**-1.0**
ULN				IAmb	IAmb	04 03 39.9	
	comp=Z,3.2nm,0.8s						
SHL	**Shillong**	**69.08**	**301**	P	**P**	**04 03 38.2**	**-0.7**
SHL				IAmb	IAmb	04 03 45.0	
	comp=Z,11nm,1.4s						
SONM	**Songino Array**	**69.33**	**328**	P	**P**	**04 03 41.3**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=131,slow=6.2,SNR=13						
SONM	**Songino Array**	**69.33**	**328**	IAmb	IAmb	04 03 42.3	
	comp=Z,3.7nm,1.1s						
BILL	**Bilibino**	**75.56**	**5**	P	**P**	**04 04 16.7**	**+0.3**
BILL				IAmb	IAmb	04 04 18.5	
	comp=Z,9.0nm,1.3s						
PWL	**Port Wells**	**81.09**	**25**	P	**P**	**04 04 46.9**	**-0.4**
IMAR	**Indian Mountai**	**82.08**	**19**	P	**P**	**04 04 52.4**	**0.0**
MK31	**Makanchi Array**	**83.33**	**319**	P	**P**	**04 04 58.7**	**-0.7**
MK31				IAmb	IAmb	04 05 00.9	
	comp=Z,2.6nm,0.9s						
MKAR	**Makanchi Array**	**83.33**	**319**	P	**P**	**04 05 00.1**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=104,slow=4.8,SNR=16						
MKAR	**Makanchi Array**	**83.33**	**319**	P	**P**	**04 04 59.5**	**+0.1**
IL31		**83.74**	**22**	P	**P**	**04 04 59.6**	**-1.3**
IL31				IAmb	IAmb	04 05 01.0	
	comp=Z,2.9nm,0.9s						
ILAR	**Eielson Array**	**83.74**	**22**	P	**P**	**04 05 00.1**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=251,slow=5.4,SNR=16						
ZAA0	**Zalesovo Array**	**84.17**	**326**	P	**P**	**04 05 02.4**	**-1.0**
ZAA0				IAmb	IAmb	04 05 03.6	
	comp=Z,2.7nm,0.7s						
ZALV	**Zalesovo Beam**	**84.17**	**326**	P	**P**	**04 05 02.9**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=118,slow=5.0,SNR=13						
BCAR	**Beaver Creek A**	**84.88**	**24**	P	**P**	**04 05 07.2**	**+0.3**
BMAR	**Burnt Mountain**	**85.91**	**20**	P	**P**	**04 05 13.5**	**+1.5**
KURK	**Kurchatov**	**86.78**	**322**	P	**P**	**04 05 16.1**	**-0.5**
KURK	**Kurchatov**	**86.78**	**322**	IAmb	IAmb	04 05 33.8	
	comp=Z,2.8nm,1.3s						
KURBB	**Kurchatov Arra**	**86.81**	**322**	P	**P**	**04 05 16.1**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=100,slow=5.8,SNR=4.3						
KKAR	**Karatay Array**	**90.60**	**313**	P	**P**	**04 05 34.0**	**-0.8**
NVAR	**Mina Array Bea**	**92.18**	**52**	P	**P**	**04 05 44.1**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=251,slow=8.9,SNR=6.4						
NVAR	**Mina Array Bea**	**92.18**	**52**	P	**P**	**04 05 42.9**	**+0.4**
YKA	**Yellowknife Ar**	**96.73**	**28**	P	**P**	**04 06 03.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=267,slow=4.7,SNR=8.4						
TORD	**Torodi Ar. Bea**	**152.71**	**285**	PKPbc	**PKPbc**	**04 12 29.6**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=60,slow=1.7,SNR=5.7						

*JMA **01** 03:56:09.0±0.1, 41°42N×141°75E, h70km±1km, M3.2*
JMA Felt I J1.

*IDC **01** 03:56:10.6±2.7, 41°46N×141°95E, h91km±22km, mb3.3/7, mb1 3.4/10, mb1mx3.2/45, mbtmp3.7/10, Error ellipse: s-maj=33.5km s-min=24.9km az=89.0*

ISC 01 03:56:09.0±0.8**, 41°39N**±0°04×**141°73E**±0°04**, h69**km±7km**, n34, σ0s92**/41**, mb3.7**/7**, 1C-11D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.32**	**247**	⇓P	**Pn**	**03 56 20.7**	**+0.5**
JAHD				S	**Sn**	**03 56 29.2**	**+0.8**
JARK	**Aomorirokkasho**	**0.47**	**216**	⇑P	**Pn**	**03 56 21.7**	**+0.3**
JARK				S	**Sn**	**03 56 30.7**	**+0.2**
JOT	**Ohata**	**0.51**	**269**	⇓P	**Pn**	**03 56 22.0**	**+0.2**
JOT				S	**Sn**	**03 56 31.8**	**+0.6**
JKB	**Kayabe**	**0.72**	**314**	⇓P	**Pn**	**03 56 23.8**	**-0.3**
JKB				S	**Sn**	**03 56 34.8**	**-0.4**
JTM	**Tenmabayashi**	**0.78**	**220**	⇓P	**Pn**	**03 56 25.4**	**+0.6**
JTM				S	**Sn**	**03 56 36.9**	**+0.5**
JSR	**Shiriuchi**	**1.00**	**279**	P	**Pn**	**03 56 27.8**	**+0.4**
JSR				S	**Sn**	**03 56 42.0**	**+1.0**
JANG	**Nango**	**1.03**	**189**	P	**Pn**	**03 56 27.8**	**0.0**
JANG				S	**Sn**	**03 56 41.2**	**-0.6**
JNBK	**Urakawa-nobuka**	**1.17**	**40**	P	**Pn**	**03 56 28.9**	**-0.8**
JNBK				*e*S	**Sn**	**03 56 44.7**	**-0.4**
JNB	**Noboribetsu**	**1.20**	**335**	⇓P	**Pn**	**03 56 29.4**	**-0.5**
JNB				S	**Sn**	**03 56 44.0**	**-1.6**
JEM	**Erimo**	**1.24**	**59**	P	**Pn**	**03 56 30.8**	**+0.3**
JEM				S	**Sn**	**03 56 46.8**	**+0.2**
JIAM	**Iburiatsuma**	**1.24**	**7**	S	**Sn**	**03 56 47.7**	**+1.1**
JYM2	**Yakumo 2**	**1.25**	**306**	⇓P	**Pn**	**03 56 31.0**	**+0.3**
JOMM	**Oshimamatsumae**	**1.30**	**277**	⇓P	**Pn**	**03 56 31.4**	**+0.1**
JOMM				*e*S	**Sn**	**03 56 48.2**	**+0.2**
JAH	**Hinai**	**1.46**	**215**	P	**Pn**	**03 56 34.6**	**+1.2**
JEW	**Eniwo**	**1.47**	**352**	⇓P	**Pn**	**03 56 33.6**	**+0.1**
JEW				S	**Sn**	**03 56 51.4**	**-0.5**
JBT2	**Biratori 2**	**1.47**	**19**	⇓P	**Pn**	**03 56 33.9**	**+0.4**
JIW	**Iwasaki**	**1.53**	**239**	⇓P	**Pn**	**03 56 35.0**	**+0.7**
JCH	**Churui**	**1.73**	**44**	⇓P	**Pn**	**03 56 37.7**	**+0.8**
JCH				S	**Sn**	**03 56 59.0**	**+0.9**
ASAJ	**Asahikawa**	**2.80**	**13**	P	**Pn**	**03 56 52.2**	**+0.8**
	2.1nm,0.3s,baz=240,slow=17,SNR=9.3						
ASAJ				S	**Sn**	**03 57 28.0**	**+3.9**
	3.5nm,0.3s,baz=294,slow=32,SNR=4.9						
USRK	**Ussuriysk Ar.**	**7.69**	**295**	P	**Pn**	**03 57 59.6**	**+1.3**
	baz=111,slow=14,SNR=1.3						
KSRS	**Korea Array**	**11.38**	**254**	P	Pn	03 58 54.6	+6.0
	0.3nm,0.3s,baz=64,slow=14,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**30.39**	**128**	T	T	04 34 45.2	
	baz=321,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**30.41**	**128**	T	T	04 34 44.8	
	baz=321,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**30.41**	**128**	T	T	04 34 45.4	
	baz=321,slow=75,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**31.23**	**129**	T	T	04 35 44.1	
	baz=322,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**31.23**	**129**	T	T	04 35 43.7	
	baz=322,slow=76,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**31.25**	**129**	T	T	04 35 45.7	
	baz=322,slow=76,SNR=4.4						
ZALV	**Zalesovo Beam**	**39.28**	**309**	P	**P**	**04 03 30.1**	**-0.7**
	0.5nm,0.4s,baz=113,slow=6.7,SNR=2.6						
MKAR	**Makanchi Array**	**42.15**	**298**	P	**P**	**04 03 54.7**	**+0.2**
	0.4nm,0.5s,baz=83,slow=11,SNR=9.5						
KURBB	**Kurchatov Arra**	**43.63**	**305**	P	**P**	**04 04 06.3**	**-0.1**
	0.6nm,0.4s,baz=78,slow=9.0,SNR=4.4						
BVAR	**Borovoye Array**	**47.91**	**310**	P	**P**	**04 04 39.9**	**-0.2**
	0.6nm,0.4s,baz=70,slow=5.1,SNR=6.9						
WRA	**Warramunga Arr**	**61.40**	**188**	P	**P**	**04 06 17.3**	**-0.6**
	0.1nm,0.4s,baz=5.0,slow=7.3,SNR=4.8						
FINES	**FINESS Array B**	**65.09**	**331**	P	**P**	**04 06 41.6**	**-0.3**
	0.3nm,0.3s,baz=67,slow=5.0,SNR=1.2						
AKASG	**Malin Array Be**	**71.02**	**322**	P	**P**	**04 07 18.6**	**-0.6**
	0.4nm,0.4s,baz=44,slow=6.8,SNR=5.2						

*SJA **01** 03:59:36.3±0.7, 31°72S×72°39W, h45km±9km, ML3.8, MW4.0*

*IDC **01** 03:59:36.4±2.0, 31°86S×71°93W, h0km, mb4.1/2, mb1 3.8/5, mb1mx3.6/26, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=74.1km s-min=31.2km az=100.0*

*GUC **01** 03:59:39.3±0.6, 31°78S×72°06W, h34km±3km, ML3.5*

ISC 01 03:59:36.3±1.5**, 31°75S**±0°02×**72°17W**±0°05**, h4**km±10km**, n57, σ2s22**/90**, 3C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.09**	**138**	⇓*i*P	**Pb**	**03 59 57.6**	**-0.2**
VA06				*i* S	**Sb**	**04 00 11.1**	**-1.3**
VA06				IAML		04 00 13.4	
	comp=E,4μm,0.5s						
CO06	**Fray Jorge**	**1.17**	**23**	*e*P	**Pg**	**04 00 00.1**	**+1.5**
CO06				IAML		04 00 20.3	
	comp=N,842nm,0.2s						
VA01	**Torpederas**	**1.34**	**161**	IAML		04 00 25.1	
	comp=N,485nm,0.5s						
CO03	**El Pedregal**	**1.56**	**55**	⇑*i*P	**Pn**	**04 00 05.0**	**+0.1**
CO03				*i* S	**Sn**	**04 00 24.7**	**-0.9**
CO03				IAML		04 00 27.5	
	comp=E,960nm,0.3s						
CO03	**El Pedregal**	**1.56**	**55**	*e*P	**Pn**	**04 00 05.0**	**+0.1**
CO03				*e*S	**Sn**	**04 00 24.7**	**-0.9**
CO03				IAML		04 00 25.3	
	comp=Z,771nm,0.5s						
ROC1	**El Roble**	**1.56**	**142**	*e*P	**Pn**	**04 00 03.0**	**-2.1**
ROC1				*e*S	**Sn**	**04 00 23.8**	**-2.2**
ROCH	**El Roble**	**1.56**	**142**	*e*P	**Pb**	**04 00 04.9**	**-1.0**
ROCH				⇑*i*P	**Pn**	**04 00 02.4**	**-2.7**
ROCH				*i* S	**Sn**	**04 00 23.2**	**-2.7**
ROCH				*i* S	**Sb**	**04 00 24.7**	**-1.5**
ROCH				IAML		04 00 26.8	
	comp=N,2μm,0.5s						
ROCH				IAML		04 00 27.2	
	comp=E,1μm,0.3s						
VA03	**San Esteban**	**1.70**	**127**	*e*P	**Pn**	**04 00 07.0**	**+0.1**
VA03				*i* S	**Sn**	**04 00 28.2**	**-0.9**
VA03				IAML		04 00 32.2	
	comp=N,1μm,0.4s						
VA03	**San Esteban**	**1.70**	**127**	*e*P	**Pn**	**04 00 07.0**	**+0.1**
VA03				IAML		04 00 44.8	
	comp=Z,523nm,0.8s						
MT02	**Curacav**	**1.74**	**150**	⇑*e*P	**Pn**	**04 00 07.5**	**+0.2**
MT02				*i* S	**Sn**	**04 00 29.6**	**-0.3**
MT02				IAML		04 00 35.6	
	comp=N,512nm,0.5s						
MT02	**Curacav**	**1.74**	**150**	*e*P	**Pn**	**04 00 07.0**	**-0.3**
MT02				*e*S	**Sn**	**04 00 24.5**	**-5.4**
MT02				IAML		04 00 34.6	
	comp=Z,710nm,0.6s						
PEL	**Peldehue**	**1.87**	**138**	*e*P	**Pn**	**04 00 10.0**	**+0.8**
PEL				*e*S	**Sg**	**04 00 37.4**	**+1.0**
VA05	**Santo Domingo**	**1.96**	**166**	*e*P	**Pg**	**04 00 15.1**	**+1.3**
GO04	**Tololo Observa**	**1.96**	**37**	*e*P	**Pb**	**04 00 12.5**	**-0.3**
GO04				*i* S	**Sb**	**04 00 36.9**	**-0.8**
GO04	**Tololo Observa**	**1.96**	**37**	*e*P	**Pn**	**04 00 11.0**	**+0.4**
CO05	**La Serena**	**1.99**	**24**	*e*P	**Pn**	**04 00 12.3**	**+1.5**
CO05				*i* S	**Sn**	**04 00 34.6**	**-1.5**
CO05				IAML		04 00 45.1	
	comp=E,589nm,0.7s						
MT05	**Renca**	**2.03**	**144**	*e*P	**Pn**	**04 00 12.1**	**+0.6**
MT05				IAML		04 00 47.6	
	comp=E,773nm,0.2s						
MT05	**Renca**	**2.03**	**144**	*e*P	**Pn**	**04 00 12.0**	**+0.6**
MT05				*e*S	**Sn**	**04 00 34.5**	**-2.8**
MT05				IAML		04 00 45.6	
	comp=Z,442nm,0.9s						
MT03	**Universidad Ad**	**2.23**	**142**	*e*P	**Pn**	**04 00 14.8**	**+0.6**
MT03				*e*S	**Sn**	**04 00 41.0**	**-1.3**
MT03				IAML		04 00 56.3	
	comp=Z,536nm,0.6s						
FCH	**Farellones**	**2.23**	**135**	*e*P	**Pn**	**04 00 15.2**	**+0.8**
FCH				*i* S	**Sn**	**04 00 43.1**	**+0.5**
FCH				IAML		04 00 45.0	
	comp=E,319nm,0.3s						
MT01	**Popeta**	**2.25**	**160**	*e*P	**Pn**	**04 00 14.6**	**+0.3**
MT01				IAML		04 00 57.2	
	comp=E,303nm,0.5s						
MT01	**Popeta**	**2.25**	**160**	*e*P	**Pn**	**04 00 14.0**	**-0.3**
MT01				*e*P	**Pn**	**04 00 14.6**	**+0.3**
MT01				*e*S	**Sn**	**04 00 43.5**	**+1.0**
MT01				IAML		04 00 57.2	
	comp=Z,255nm,0.5s						
MT09	**Talagante**	**2.25**	**154**	*e*P	**Pn**	**04 00 15.5**	**+1.0**
MT09				IAML		04 00 54.4	
	comp=N,962nm,0.8s						
AUSP	**Uspallata**	**2.41**	**102**	*e*P	**Pb**	**04 00 19.0**	**-1.4**
RTLS	**Leoncito**	**2.44**	**92**	*e*P	**Pn**	**04 00 19.0**	**+1.7**
RTLS				*e*S	**Sn**	**04 00 46.5**	**-1.3**
RTLS				IAML		04 00 54.4	
	comp=Z,320nm,1.2s						
BO03	**Pichilemu**	**2.74**	**176**	*e*P	**Pn**	**04 00 21.1**	**0.0**
BO03				IAML		04 01 13.7	
	comp=E,175nm,0.8s						
BO01	**Tunca**	**2.79**	**161**	*e*P	**Pn**	**04 00 22.0**	**+0.3**
BO01				IAML		04 01 08.9	
	comp=Z,161nm,0.5s						
AROD	**Rodeo**	**2.80**	**56**	*e*P	**Pb**	**04 00 25.0**	**-2.1**
AROD				*e*S	**Sg**	**04 01 04.1**	**-2.2**
ACCO	**Cerro Coronel**	**2.90**	**67**	*e*P	**Pn**	**04 00 26.0**	**+2.4**
ACCO				*e*S	**Sb**	**04 01 01.5**	**-3.3**
ZON	**Zonda**	**2.98**	**87**	*e*P	**Pb**	**04 00 27.8**	**-2.3**
ZON				*e*P	**Pn**	**04 00 29.0**	**+4.6**
ZON				IAML		04 01 21.1	
	comp=Z,155nm,1.0s						
LCO	**Las Campanas**	**3.01**	**25**	*e*P	**Pn**	**04 00 25.2**	**+0.2**
LCO				*i* S	**Sb**	**04 01 04.8**	**-3.0**
LCO	**Las Campanas**	**3.01**	**25**	*e*P	**Pn**	**04 00 25.0**	**0.0**
RTLL	**Cerro Villicun**	**3.18**	**83**	*e*P	**Pb**	**04 00 31.3**	**-2.1**
RTLL				*e*S	**Sb**	**04 01 08.0**	**-4.6**
BO02	**Sierra Bellavi**	**3.25**	**159**	*e*P	**Pn**	**04 00 28.9**	**+0.8**
BO02				IAML		04 01 22.8	
	comp=E,386nm,0.6s						
BO02	**Sierra Bellavi**	**3.25**	**159**	*e*P	**Pn**	**04 00 29.0**	**+0.9**
BO02				IAML		04 01 24.5	
	comp=Z,284nm,0.8s						
GO05	**Huala**	**3.26**	**177**	*e*P	**Pn**	**04 00 28.2**	**0.0**
GO05				*e*S	**Sn**	**04 01 04.6**	**-2.9**
AC04	**Llanos de Chal**	**3.66**	**15**	*e*P	**Pn**	**04 00 33.0**	**-0.7**
AC04				IAML		04 01 45.6	
	comp=Z,105nm,0.7s						
RFA	**San Rafael**	**4.32**	**135**	*e*P	**Pn**	**04 00 41.0**	**-1.9**
RFA				*e*P	Pb	04 00 44.8	-8.1
RFA				*e*S	**Sb**	**04 01 49.5**	**+4.0**
RFA				IAML		04 01 55.4	
	comp=Z,48nm,1.1s						
VCA	**Vinchina**	**4.56**	**50**	*e*P	**Pn**	**04 00 46.5**	**+0.3**
VCA				*e*S	**Sb**	**04 01 51.0**	**-1.3**
VCA				IAML		04 02 00.6	
	comp=Z,197nm,0.6s						
APLL	**PUNTA DE LOS L**	**5.02**	**76**	*e*P	**Pn**	**04 00 56.0**	**+3.5**
APLL				*e*S	**Sn**	**04 01 57.0**	**+5.9**
ACLC	**CERRO LA CRUZ**	**5.06**	**64**	*e*P	**Pn**	**04 00 55.0**	**+1.9**
ACLC				*e*S	**Sn**	**04 01 56.5**	**+4.4**
ACLC				IAML		04 02 06.0	
	comp=Z,176nm,0.6s						
MRA	**San Martin**	**5.51**	**99**	*e*P	**Pn**	**04 01 00.8**	**+1.5**
MRA				*e*S	**Sn**	**04 02 05.0**	**+1.7**
MRA				*e*S	**Sb**	**04 02 14.0**	**-5.8**
AC02	**Maricunga**	**5.57**	**29**	*e*P	**Pn**	**04 01 00.8**	**+0.3**
AC02				IAML		04 02 42.7	
	comp=Z,51nm,1.0s						
AC01	**Pan de Azucar**	**5.75**	**14**	*e*P	**Pn**	**04 01 01.2**	**-1.2**
AC01				*e*P	Pb	04 01 03.0	-14
AC01				IAML		04 02 48.7	
	comp=Z,32nm,1.8s						
H03N1	**Juan Fernandez**	**5.94**	**252**	Pn	**Pn**	**04 01 06.5**	**+1.8**
	baz=120,slow=19,SNR=8.3						
H03N1				T	T	04 07 46.4	
	baz=81,slow=73,SNR=433						
H03N3	**Juan Fernandez**	**5.95**	**252**	Pn	**Pn**	**04 01 06.6**	**+1.6**
	baz=120,slow=19,SNR=9.0						
H03N3				T	T	04 07 48.1	
	baz=81,slow=73,SNR=502						
H03N2	**Juan Fernandez**	**5.95**	**252**	Pn	**Pn**	**04 01 06.9**	**+1.9**
	baz=120,slow=19,SNR=8.6						
H03N2				T	T	04 07 39.2	
	baz=81,slow=73,SNR=388						
TCA	**Tanti**	**6.48**	**88**	*e*P	**Pn**	**04 01 14.0**	**+1.5**
TCA				*e*S	**Sn**	**04 02 25.0**	**-2.0**
TCA				*e*S	**Sn**	**04 02 27.0**	**0.0**
TCA				*e*S	**Sn**	**04 02 29.0**	**+2.0**
TCA				IAML		04 02 36.8	
	comp=Z,68nm,0.7s						
LC01	**Cunco**	**7.14**	**178**	*e*P	**Pn**	**04 01 22.0**	**+0.5**
AHML	**Horco Molle**	**7.75**	**52**	IAML		04 03 31.9	
	comp=Z,9.0nm,1.1s						
PLCA	**Paso Flores**	**9.06**	**172**	Pn	**Pn**	**04 01 48.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=333,slow=12,SNR=13						
LVC	**Limon Verde**	**9.55**	**18**	Pn	**Pn**	**04 01 57.9**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=156,slow=12,SNR=1.3						
LVC				Sn	**Sn**	**04 03 51.6**	**+8.6**
	comp=Z,0.2nm,0.3s,baz=206,slow=18,SNR=1.8						
LPAZ	**La Paz**	**15.83**	**14**	Pn	**P**	**04 03 23.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=225,slow=16,SNR=2.2						
BDFB	**Brasilia**	**27.22**	**60**	P	**P**	**04 05 20.9**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=186,slow=8.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.55**	**70**	P	**P**	**04 12 06.0**	**0.0**
	comp=Z,0.8nm,0.8s,baz=250,slow=4.7,SNR=4.1						
KURBB	**Kurchatov Arra**	**151.27**	**40**	PKPbc	**PKPbc**	**04 19 30.6**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=298,slow=3.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**152.36**	**30**	PKPbc	**PKPbc**	**04 19 33.3**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=306,slow=2.6,SNR=5.2						

*DJA **01** 04:27:15.8±0.6, 10°S±6°×10°8E±°, h10km, M4.3/12, mb4.2/5, mB4.8/2, MLv4.3/12, Mw(mB)4.0/2*

*IDC **01** 04:27:15.6±2.1, 10°06S×107°57E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.4/39, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=74.2km s-min=19.7km az=60.0*

ISC 01 04:27:18.8±0.9**, 10°02S**±0°07×**107°62E**±0°07**, h23**km**, n29, σ1s35**/32**, mb3.9**/5**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.95**	**257**	P	**Pn**	**04 27 49.1**	**-1.4**
XMIS	**Christmas Isla**	**1.99**	**257**	P	**Pn**	**04 27 49.2**	**-1.9**
CMJI	**Cimerak**	**2.37**	**20**	P	**Pn**	**04 27 54.9**	**-1.4**
CMJI				S	**Sn**	**04 28 22.2**	**-2.5**
CNJI	**Cibinong**	**2.74**	**350**	P	**Pn**	**04 28 00.4**	**-1.0**
CNJI				S	**Sn**	**04 28 31.2**	**-2.6**
KPJI	**Karang Pucung**	**2.97**	**26**	P	**Pn**	**04 28 04.7**	**+0.2**
LEM	**Lembang**	**3.17**	**360**	Pn	**Pn**	**04 28 08.1**	**+0.6**
	22nm,0.3s,baz=148,slow=17,SNR=21						
LEM				Sn	**Sn**	**04 28 47.5**	**+2.7**
	58nm,0.3s,baz=331,slow=20,SNR=24						
LEM	**Lembang**	**3.17**	**360**	P	**Pn**	**04 28 06.8**	**-0.7**
SKJI	**Sukabumi**	**3.18**	**341**	P	**Pn**	**04 28 06.6**	**-0.8**
YOGI	**Yogyakarta**	**3.43**	**51**	P	**Pn**	**04 28 10.3**	**-0.6**
UGM	**Wanagama**	**3.55**	**54**	P	**Pn**	**04 28 11.5**	**-1.1**
UGM	**Wanagama**	**3.55**	**54**	P	**Pn**	**04 28 11.9**	**-0.7**
CGJI	**Cibinong**	**3.89**	**330**	P	**Pn**	**04 28 16.2**	**-1.0**
PCJI	**Pacitan**	**3.96**	**63**	P	**Pn**	**04 28 16.7**	**-1.4**
SMRI	**Semarang**	**4.06**	**44**	P	**Pn**	**04 28 18.8**	**-0.8**
SMRI	**Semarang**	**4.06**	**44**	P	**Pn**	**04 28 21.9**	**+2.3**
GMJI	**Gumukmas**	**6.01**	**74**	P	**Pn**	**04 28 45.7**	**-0.6**
	0.2nm15nm,0.8s						
KLSI		**6.02**	**331**	P	**Pn**	**04 28 45.5**	**-1.1**
	0.0nm11nm,0.5s						
MDSI	**Maura Dua**	**6.47**	**328**	P	**Pn**	**04 28 51.7**	**-1.0**
	0.0nm335nm7.6nm,0.5s						
JAGI	**Jajag, Banyuwa**	**6.63**	**77**	P	**Pn**	**04 28 53.8**	**-1.1**
	0.4nm1μm30nm,1.1s						
JAGI	**Jajag, Banyuwa**	**6.63**	**77**	P	**Pn**	**04 28 54.8**	**-0.1**
IGBI	**Denpasar**	**7.52**	**81**	P	**Pn**	**04 29 06.3**	**-0.8**
PLAI	**Plampang**	**10.09**	**84**	P	**Pn**	**04 29 41.4**	**-1.0**
PLAI	**Plampang**	**10.09**	**84**	P	**Pn**	**04 29 41.8**	**-0.6**
WRA	**Warramunga Arr**	**27.59**	**114**	P	**P**	**04 33 03.5**	**-1.1**
	0.4nm,0.7s,baz=288,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**28.51**	**122**	P	**P**	**04 33 15.0**	**+2.2**
	0.2nm,0.5s,baz=296,slow=8.4,SNR=1.8						
STKA	**Stephens Creek**	**38.21**	**130**	P	**P**	**04 34 37.2**	**+0.2**
	0.8nm,0.3s,baz=329,slow=12,SNR=1.6						
SONM	**Songino Array**	**57.61**	**359**	P	**P**	**04 37 07.4**	**+0.4**
	0.6nm,0.5s,baz=181,slow=5.8,SNR=5.0						
MKAR	**Makanchi Array**	**60.92**	**340**	P	**P**	**04 37 30.1**	**+0.3**
	0.5nm,0.5s,baz=146,slow=8.3,SNR=8.5						
TXAR	**Lajitas Array**	**145.01**	**52**	PKPbc	**PKPdf**	**04 46 55.3**	**+0.2**
	0.4nm,0.7s,baz=222,slow=1.7,SNR=4.6						

IDC 01 04:27:57.1±1.4**, 12°04N**×**143°69E, h0**km**, mb3.9**/4**, mb1 4.2**/4**, mb1mx3.5**/42**, mbtmp3.9**/4**, Error ellipse: s-maj=79.6km s-min=24.2km az=120.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.92**	**37**	Pn	Pn	04 28 31.7	+0.6
	60nm,0.3s,baz=194,slow=4.2,SNR=9.0						
GUMO				Sn	Sn	04 28 55.4	-0.6
	47nm,0.3s,baz=334,slow=23,SNR=11						
H11S3	**WAKE ISLAND Hy**	**23.09**	**71**	T	T	04 57 03.7	
	baz=254						
H11S1	**WAKE ISLAND Hy**	**23.10**	**71**	T	T	04 57 00.5	
	baz=254						
H11S2	**WAKE ISLAND Hy**	**23.10**	**71**	T	T	04 57 05.6	
	baz=254						
H11N1	**WAKE ISLAND Hy**	**23.57**	**68**	T	T	04 57 40.5	
	baz=245						
H11N2	**WAKE ISLAND Hy**	**23.58**	**68**	T	T	04 57 33.4	
	baz=245						
H11N3	**WAKE ISLAND Hy**	**23.59**	**68**	T	T	04 57 38.8	
	baz=245						
WRA	**Warramunga Arr**	**33.09**	**196**	P	P	04 34 34.7	-0.2
	0.4nm,0.8s,baz=20,slow=9.9,SNR=2.1						
YKA	**Yellowknife Ar**	**84.76**	**27**	P	P	04 40 32.8	-0.2
	0.3nm,0.5s,baz=285,slow=5.1,SNR=11						
NVAR	**Mina Array Bea**	**88.78**	**51**	P	P	04 40 54.1	+0.6
	0.3nm,0.6s,baz=280,slow=7.2,SNR=3.9						
FINES	**FINESS Array B**	**92.07**	**335**	P	P	04 41 07.5	-0.5
	2.8nm,1.0s,baz=30,slow=11,SNR=3.0						

*IDC **01** 04:35:30.5±1.2, 6°47N×72°79W, h188km±12km, mb3.2/6, mb1 3.6/9, mb1mx3.4/30, mbtmp3.9/9, MS4.2/1, Ms1 4.2/1, ms1mx3.3/27, Error ellipse: s-maj=23.8km s-min=18.2km az=146.0*

*RSNC **01** 04:35:31.0±1.0, 6°84N×73°14W, h151km±3km, ML3.7, Mw3.9*

ISC 01 04:35:29.0±0.8**, 6°85N**±0°03×**73°12W**±0°03**, h162**km±6km**, n52, σ1s55**/85**, mb3.4**/7**, 5C-6D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**194**	⇓*i*P	**Pn**	**04 35 51.6**	**+0.4**
BARC				*e*S	**Sn**	**04 36 06.8**	**-1.3**
BARC				*i*		04 36 07.8	
	comp=Z,1μm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**40**	⇑*i*P	**Pn**	**04 35 54.4**	**+1.5**
PAMC				*e*S	**Sn**	**04 36 11.1**	**-0.2**
PAMC				*i*		04 36 13.8	
	comp=Z,739nm,0.5s						
RUSC	**La Rusia**	**0.95**	**178**	⇓*e*P	**Pn**	**04 35 55.5**	**+0.4**

RUSC eS Sn 04 36 14.2 -0.9
RUSC i 04 36 15.8
comp=Z,453nm,0.4s
PTBC PUERTO BERRIO, 1.36 257 eP Pn 04 35 58.1 -0.1
PTBC eS Sn 04 36 19.2 -1.3
PTBC i 04 36 25.6
comp=Z,445nm,0.3s
TAMC Tame, Arauca 1.38 107 ⇓ iP Pn 04 36 00.1 +1.8
TAMC i 04 36 20.9
comp=Z,403nm,0.4s
TAMC eS Sn 04 36 21.1 +0.3
OCAC Ocana 1.40 352 ⇑ iP Pn 04 35 59.7 +1.1
OCAC eS Sn 04 36 21.6 +0.2
OCAC i 04 36 30.1
comp=Z,1μm,0.2s
SPBC San Pablo de B 1.52 219 eP Pn 04 36 00.3 +0.6
SPBC eS Sn 04 36 22.6 -0.9
SPBC i 04 36 27.2
comp=Z,957nm,0.3s
ZARC Zaragoza, Cauc 1.84 290 eP Pn 04 36 04.0 +1.0
ZARC eS Sn 04 36 29.3 -0.1
ZARC i 04 36 34.7
comp=Z,612nm,0.4s
NORC Norcasia 2.16 234 eP Pn 04 36 07.6 +0.8
NORC eS Sn 04 36 35.5 -0.4
NORC i 04 36 44.9
comp=Z,308nm,0.4s
CHIC Chingaza 2.29 196 eP Pn 04 36 09.6 +1.0
CHIC eS Sn 04 36 38.9 -0.3
CHIC i 04 36 44.1
comp=Z,340nm,0.5s
ROSC El Rosal 2.33 211 P Pn 04 36 11.4 +2.4
comp=Z,72nm,0.3s,baz=100,slow=18,SNR=166
ROSC S Sn 04 36 38.8 -1.2
comp=Z,105nm,0.3s,baz=92,slow=18,SNR=8.3
ROSC El Rosal 2.33 211 ⇓ eP Pn 04 36 11.4 +2.4
ROSC eS Sn 04 36 41.6 +1.7
ROSC i 04 36 46.3
comp=Z,1μm,0.5s
HELC Santa Helena 2.48 255 eP Pn 04 36 11.7 +0.8
HELC eS Sn 04 36 44.0 +0.8
HELC i 04 36 49.6
comp=Z,306nm,0.3s
UREC San Jos de Ur 2.56 291 eP Pn 04 36 11.4 0.0
UREC eS Sn 04 36 42.2 -2.0
UREC i 04 36 55.3
comp=Z,280nm,0.3s
SOCV Socops 2.66 57 iP Pn 04 36 13.3 +0.7
SOCV eS Sn 04 36 45.5 -0.9
LL1C La Loma 1 Cana 2.71 351 eP Pn 04 36 15.9 +2.7
LL1C eS Sn 04 36 52.0 +4.4
GUY2C Guyana, Caldas 2.76 234 eP Pn 04 36 15.6 +1.3
GUY2C eS Sn 04 36 50.0 +0.6
GUY2C i 04 36 58.0
comp=Z,331nm,0.6s
PTGC Puerto Gaitan, 2.81 160 ⇓ iP Pn 04 36 14.8 +0.3
PTGC i 04 36 50.9
comp=Z,251nm,0.4s
LL6C La Loma 6 Bece 2.87 357 eP Pn 04 36 16.2 +0.9
LL6C eS Sn 04 36 51.3 +0.1
LL6C i 04 36 58.8
comp=Z,145nm,0.4s
CBOC Ciudad Bolivar 3.04 251 eP Pn 04 36 19.2 +1.7
CBOC eS Sn 04 36 55.5 +0.4
CBOC i 04 37 16.1
comp=Z,81nm,0.5s
MOTC Monteria, Cord 3.17 307 eP Pn 04 36 18.5 -0.4
MOTC eS Sn 04 36 57.3 -0.5
MOTC i 04 36 59.4
comp=Z,131nm,0.3s
SDV Santo Domingo 3.19 50 P Pn 04 36 21.0 +1.7
comp=Z,68nm,0.3s,baz=210,slow=6.8,SNR=813
SDV S Sn 04 36 58.9 +0.5
comp=Z,22nm,0.3s,baz=276,slow=19,SNR=9.3
SDV Santo Domingo 3.19 50 ⇑ iP Pn 04 36 21.0 +1.7
SDV eS Sn 04 36 59.6 +1.1
SDV i 04 37 01.9
comp=Z,65nm,0.4s
ANIL Santa Ana 3.27 224 eP Pn 04 36 21.8 +1.4
ANIL eS Sn 04 37 00.9 +0.5
ORTC Ortega, Tolima 3.61 216 eP Pn 04 36 25.4 +0.8
ORTC eS Sn 04 37 07.8 0.0
ORTC i 04 37 13.0
comp=Z,202nm,0.2s
CVALL Valledupar, Ce 3.64 358 eP Pn 04 36 25.6 +0.7
CVALL eS Sn 04 37 09.5 +0.9
CVALL i 04 37 14.3
comp=Z,155nm,0.3s
SJCC San Jacinto, C 3.65 326 ⇓ eP Pn 04 36 25.2 +0.1
SJCC eS Sn 04 37 06.5 -2.3
SJCC i 04 37 21.3
comp=Z,104nm,0.7s
PLMC San Jos del P 3.69 239 ⇑ iP Pn 04 36 27.0 +1.3
PLMC eS Sn 04 37 09.5 -0.3
PLMC i 04 37 15.2
comp=Z,77nm,0.7s
LCBC Los crdobas, 3.79 302 eS Sn 04 37 10.9 -0.9
CRJC Cerrejon, Guaj 4.15 3 ⇑ eP Pn 04 36 31.8 +0.2
CRJC eS Sn 04 37 18.9 -1.5
CRJC i 04 37 26.8
comp=Z,146nm,0.3s
YOTC Yotoco, Valle 4.29 229 eP Pn 04 36 34.0 +0.5
YOTC eS Sn 04 37 25.8 +2.0
GUVC San Jose del G 4.30 173 eP Pn 04 36 33.5 0.0
GUVC eS Sn 04 37 22.7 -1.2
GUVC i 04 37 29.1
comp=Z,162nm,0.4s
SMRC Santa Marta, M 4.42 346 eP Pn 04 36 36.0 +0.9
SMRC eS Sn 04 37 24.8 -1.9
SMRC i 04 37 28.6
comp=Z,61nm,0.3s
MACC Macarena, Meta 4.73 189 eP Pn 04 36 38.7 -0.4
MACC eS Sn 04 37 30.6 -3.4
MACC i 04 37 54.4
comp=Z,60nm,0.5s
BETC Betania 4.74 209 eP Pn 04 36 38.6 -0.7
BETC eS Sn 04 37 25.5 -8.9
BETC i 04 37 37.8
comp=Z,53nm,0.3s
MARP Paez Belalcaza 4.88 216 eP Pn 04 36 42.0 +0.7
MARP eS Sn 04 37 36.7 -1.1
URIC Uribia, Colomb 4.95 13 eP Pn 04 36 42.0 +0.1
URIC eS Sn 04 37 36.7 -2.3
URIC i 04 37 44.6
comp=Z,26nm,0.5s
PCON Cinco Dias 5.55 216 eP Pn 04 36 52.6 +2.2
PCON eS Sn 04 37 57.7 +3.5
PCON i 04 38 31.9
comp=Z,21nm,0.5s
POPC Popayan, Colom 5.56 220 eP Pn 04 36 50.6 +0.4
POPC eS Sn 04 37 55.0 +1.2
FLOC Florencia 5.81 206 eP Pn 04 36 53.7 +0.4
FLOC eS Sn 04 38 00.5 +0.9
FLOC i 04 38 04.6
comp=Z,22nm,0.6s
SOTA Rioblanco 5.83 217 eP Pn 04 36 56.0 +1.9
SOTA eS Sn 04 37 56.5 -4.3
PTLC Puerto Leguiza 6.84 194 eP Pn 04 37 12.6 +5.6
PTLC eS Sn 04 38 41.4 +17
PCRV Puerto La Cruz 9.02 68 P Pn 04 37 37.3 +1.4
comp=Z,1.2nm,0.3s,baz=292,slow=3.8,SNR=7.1
LPAZ La Paz 23.51 168 pP pP 04 40 58.2 +1.9
comp=Z,0.8nm,0.7s,baz=1.6,slow=12,SNR=4.3
TXAR Lajitas Array 36.45 312 P P 04 42 21.4 +2.9
comp=Z,0.4nm,0.5s,baz=127,slow=8.3,SNR=5.6
ULM Lac du Bonnet 47.26 340 P P 04 43 47.5 +1.8
comp=Z,2.1nm,0.4s,baz=152,slow=7.1,SNR=3.0
PDAR Pinedale Array 48.06 324 P P 04 43 55.0 +2.7
comp=Z,0.3nm,0.5s,baz=118,slow=9.6,SNR=4.9
NVAR Mina Array Bea 51.47 315 P P 04 44 21.4 +3.3
comp=Z,0.3nm,0.7s,baz=136,slow=8.2,SNR=2.3
NVAR LR LR 05 09 47.0
comp=Z,230nm,20.4s,baz=116,slow=40
YKA Yellowknife Ar 63.24 340 P P 04 45 42.0 +2.1
comp=Z,1.4nm,0.5s,baz=133,slow=6.6,SNR=58
TORD Torodi Ar. Bea 73.73 78 P P 04 46 43.5 -2.3
comp=Z,0.8nm,1.1s,baz=276,slow=4.9,SNR=1.7
ASAR Alice Springs 149.13 234 PKPbc **PKiKP** 04 54 57.9 -2.4
comp=Z,0.3nm,0.5s,baz=128,slow=4.3,SNR=2.5
WRA Warramunga Arr 150.35 241 PKPbc **PKPbc** 04 54 58.9 -3.2
comp=Z,0.3nm,0.6s,baz=106,slow=2.9,SNR=6.6

DJA 01 04:41:50.6±0.4, **2°N**±3°×**12°1E**±°, **h10**km, **M3.8**/7, **mb3.9**/1,
MLv3.7/7, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.70**	**160**	P	Pb	04 42 21.3	-0.7
MRSI				S	Sn	04 42 42.5	+0.2
MPSI	**Mapaga**	**2.27**	**220**	P	Pn	04 42 27.1	-1.1
APSI	**Ampana**	**3.00**	**174**	P	Pn	04 42 39.6	+1.4

IDC 01 04:41:56.1±3.3, **10.80S**×**162.72E**, **h0**km, **mb3.4**/3, **mb1 3.6**/4, **mb1mx3.5**/42, **mbtmp3.6**/4, **ML4.4**/1, **Error ellipse: s-maj=58.3km s-min=45.0km az=61.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.05**	**296**	Pn	Pn	04 42 46.5	+0.8
	46nm,0.3s,baz=202,slow=16,SNR=1.9						
HNR				Sn	Sn	04 43 22.2	-0.7
	38nm,0.3s,baz=176,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**28.79**	**248**	P	P	04 47 56.2	+0.1
	0.2nm,0.8s,baz=79,slow=8.8,SNR=1.2						
H11S2	**WAKE ISLAND Hy**	**29.37**	**8**	T	T	05 18 58.8	
	baz=188,slow=76,SNR=80						
H11S3	**WAKE ISLAND Hy**	**29.37**	**8**	T	T	05 19 02.1	
	baz=188,slow=76,SNR=69						
H11S1	**WAKE ISLAND Hy**	**29.39**	**8**	T	T	05 19 03.1	
	baz=188,slow=76,SNR=63						
ASAR	**Alice Springs**	**30.27**	**241**	P	P	04 48 09.2	-0.1
	0.2nm,0.5s,baz=64,slow=10,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**30.60**	**8**	T	T	05 20 35.5	
	baz=188,slow=76,SNR=49						
H11N3	**WAKE ISLAND Hy**	**30.61**	**8**	T	T	05 20 38.3	
	baz=188,slow=76,SNR=62						
H11N2	**WAKE ISLAND Hy**	**30.62**	**8**	T	T	05 20 33.6	
	baz=188,slow=76,SNR=46						
MKAR	**Makanchi Array**	**91.32**	**317**	P	P	04 55 03.7	-0.2
	0.3nm,0.8s,baz=113,slow=4.1,SNR=3.2						

*IDC **01** 04:49:40.0±1.1, 12°.04N×143°.77E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.7/57, mbtmp3.7/10, MS4.0/1, Ms1 4.0/1, ms1mx2.9/82, Error ellipse: s-maj=32.3km s-min=22.0km az=129.0*
*NEIC **01** 04:49:44±1.8, 12°.4N±0°.1×143°.6E±0°.1, h10km±1km, mb4.4/10, Error ellipse: s-maj=26.9km s-min=9.8km az=131.0*
ISC 01 04:49:43.5±0.7, **12°.3N**±0°.1×**143°.6E**±0°.1, **h10**km, **n24, σ0°98/22, mb4.1**/15, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.73**	**44**	Pn	Pn	04 50 14.0	+0.3
	27nm,0.3s,baz=194,slow=9.2,SNR=8.7						
GUMO				Sn	Sg	04 50 39.1	-0.2
	40nm,0.3s,baz=337,slow=23,SNR=12						
GUMO	**Guam**	**1.73**	**44**	Pn	Pn	04 50 14.5	+0.8
GUMO				Sn	Sb	04 50 37.7	+0.4
CTAO	**Charters Tower**	**32.33**	**175**	P	P	04 56 13.1	+0.1
WRAB	**Tennant Creek**	**33.34**	**196**	P	P	04 56 21.5	-0.5
WRAB				IAmb	IAmb	04 56 21.7	
	comp=Z,7.9nm,0.7s						
WRA	**Warramunga Arr**	**33.36**	**196**	P	P	04 56 17.8	-4.3
	comp=Z,0.2nm,0.6s,baz=24,slow=9.8,SNR=4.7						
EIDS	**Eidsvold**	**38.18**	**169**	P	P	04 57 04.7	+1.3
SONM	**Songino Array**	**47.07**	**326**	P	P	04 58 17.2	+1.6
	comp=Z,0.4nm,0.7s,baz=138,slow=8.9,SNR=2.6						
AFI	**Afiamalu**	**51.32**	**119**	LR	LR	05 17 00.2	
	comp=Z,142nm,20.2s,baz=102,slow=32						
MK31	**Makanchi Array**	**61.56**	**317**	P	P	05 00 00.9	-0.1
MKAR	**Makanchi Array**	**61.56**	**317**	P	P	05 00 02.0	+1.0
	comp=Z,0.5nm,0.8s,baz=94,slow=8.5,SNR=5.0						
MKAR	**Makanchi Array**	**61.56**	**317**	P	P	05 00 00.7	-0.4
MAKZ	**Makanchi**	**61.77**	**317**	P	P	05 00 01.6	-0.9
MAKZ				IAmb	IAmb	05 00 13.4	
	comp=Z,1.4nm,1.1s						
ZALV	**Zalesovo Beam**	**61.94**	**325**	P	P	05 00 04.2	+0.8
	comp=Z,0.3nm,0.3s,baz=97,slow=12,SNR=1.7						
KURK	**Kurchatov**	**64.76**	**320**	P	P	05 00 21.4	-0.7
KURK	**Kurchatov**	**64.76**	**320**	IAmb	IAmb	05 00 25.2	
	comp=Z,2.6nm,1.0s						
KURBB	**Kurchatov Arra**	**64.80**	**320**	P	P	05 00 21.4	-1.0
	comp=Z,0.9nm,0.7s,baz=105,slow=7.1,SNR=8.2						
IL31		**70.21**	**25**	P	P	05 00 56.4	+0.1
IL31				IAmb	IAmb	05 01 05.9	
	comp=Z,4.8nm,1.3s						
ILAR	**Eielson Array**	**70.21**	**25**	P	P	05 00 54.1	-2.3
	comp=Z,0.6nm,0.8s,baz=241,slow=6.0,SNR=5.7						
INK	**Inuvik**	**75.97**	**22**	P	P	05 01 29.8	-0.6
	comp=Z,1.7nm,0.7s,baz=265,slow=8.3,SNR=5.0						
INK	**Inuvik**	**75.97**	**22**	IAmb	IAmb	05 01 31.1	
	comp=Z,5.2nm,1.4s						
A36M	**Sachs Harbour**	**78.71**	**18**	P	P	05 01 44.1	-1.5
A36M				IAmb	IAmb	05 01 45.9	
	comp=Z,3.3nm,0.9s						
YKA	**Yellowknife Ar**	**84.52**	**27**	P	P	05 02 15.7	-0.9
	comp=Z,0.5nm,0.7s,baz=269,slow=5.1,SNR=4.8						
NVAR	**Mina Array Bea**	**88.64**	**51**	P	P	05 02 37.9	+0.3
	comp=Z,0.9nm,0.6s,baz=72,slow=8.9,SNR=1.9						
FINES	**FINESS Array B**	**91.78**	**335**	P	P	05 02 51.4	0.0

*IDC **01** 04:59:04.7±7.4, 37°.94N×72°.35E, h223km±44km, mb2.9/2, mb1 3.0/6, mb1mx2.7/43, mbtmp3.4/6, Error ellipse: s-maj=89.3km s-min=28.5km az=159.0*
*SOME **01** 04:59:09.1, 39°.23N×72°.58E, h0km*
ISC 01 04:59:03.2±2.0, **37°.9N**±0°.1×**72°.09E**±0°.10, **h200**km, **n13, σ2°35/21, 4C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**4.54**	**340**	eP	Pn	05 00 14.9	+3.2
	249nm,0.2s						
IUG				eS	Sn	05 01 06.3	+0.5
	52nm,0.3s						
MRKS	**Merke**	**4.93**	**10**	eP	Pn	05 00 20.3	+3.6
	2.2nm,0.1s						
MRKS				eS	Sn	05 01 15.7	+0.9
	23nm,0.4s						
AAK	**Ala-Archa**	**5.09**	**20**	P	Pn	05 00 18.6	-0.2
	0.6nm,0.3s,baz=183,slow=8.5,SNR=6.8						
AAK				S	Sn	05 01 18.7	+0.2
	1.6nm,0.3s,baz=321,slow=23,SNR=12						
KK09	**Karatay Array**	**5.37**	**347**	⇑ Pn	Pn	05 00 22.2	-0.1
	1.0nm,0.3s,baz=170,slow=15						
KK09				⇑ Sn	Sn	05 01 23.6	-1.2
	4.0nm,0.3s,baz=165,slow=23						
BRLS	**Borolday**	**5.42**	**342**	eP	Pn	05 00 22.5	-0.4
	3.3nm,0.1s						
BRLS				eS	Sn	05 01 19.9	-6.0
	20nm,0.3s						
TKM2	**Tokmak 2**	**5.70**	**27**	⇑ Pn	Pn	05 00 25.5	-1.1
	2.2nm,0.7s						
TKM2				⇑ Sn	Sn	05 01 30.8	-1.8
	2.5nm,0.9s						
SGDS	**Sogindy**	**5.88**	**18**	eP	Pn	05 00 32.8	+3.9
	0.9nm,0.4s						
SGDS				eS	Sn	05 01 38.3	+1.4
	1.4nm,1.0s						
KST	**Kastek**	**5.94**	**29**	eP	Pn	05 00 32.5	+2.8
	1.2nm,0.2s						
KST				eS	Sn	05 01 37.9	-0.2
	4.0nm,1.4s						
MKAR	**Makanchi Array**	**11.66**	**37**	P	Pn	05 01 43.0	-0.7
	0.0nm,0.3s,baz=242,slow=12,SNR=1.9						
KURBB	**Kurchatov Arra**	**13.54**	**18**	P	Pn	05 02 08.0	+0.9
	0.0nm,0.3s,baz=203,slow=11,SNR=7.8						
ZALV	**Zalesovo Beam**	**18.29**	**25**	P	P	05 03 01.2	-0.8
	0.4nm,0.3s,baz=223,slow=9.4,SNR=15						
KBZ	**Khabaz**	**22.79**	**294**	P	P	05 03 49.9	+1.4
	0.8nm,0.4s,baz=96,slow=10,SNR=6.4						
YKA	**Yellowknife Ar**	**79.82**	**3**	P	P	05 10 46.8	-2.0
	0.1nm,0.5s,baz=351,slow=5.5,SNR=6.4						

*IDC **01** 05:15:07.9±1.1, 4°.52N×129°.53E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/35, mbtmp3.8/7, MS3.8/1, Ms1 3.8/1, ms1mx2.8/76, Error ellipse: s-maj=48.2km s-min=18.8km az=68.0*
ISC 01 05:15:13.1±0.8, **4°.6N**±0°.1×**129°.5E**±0°.3, **h35**km, **n9, σ1$57/9, mb3.8/7, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.67**	**162**	Pn	Pn	05 16 37.1	+2.2
	0.6nm,0.3s,baz=225,slow=23,SNR=1.3						
SIJI				Sn	Sn	05 17 37.9	-1.1
	1.4nm,0.3s,baz=210,slow=22,SNR=1.4						
WRA	**Warramunga Arr**	**24.81**	**169**	P	P	05 20 31.7	-0.4
	0.7nm,0.7s,baz=345,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**28.39**	**172**	P	P	05 21 04.6	+0.3
	0.3nm,0.8s,baz=351,slow=9.7,SNR=2.1						
CTA	**Charters Tower**	**29.51**	**147**	P	P	05 21 12.6	-1.8
	0.7nm,0.3s,baz=310,slow=7.9,SNR=1.6						
MJAR	**Matsushiro Arr**	**32.81**	**13**	P	P	05 21 43.8	+0.5
	1.3nm,0.3s,baz=201,slow=6.5,SNR=1.6						
CMAR	**Chiang Mai Arr**	**32.90**	**297**	P	P	05 21 43.5	-0.8
	1.2nm,0.3s,baz=108,slow=8.6,SNR=6.2						
ASAJ	**Asahikawa**	**41.04**	**14**	LR	LR	05 39 01.5	
	comp=Z,124nm,19.3s,baz=85,slow=35						
SONM	**Songino Array**	**47.46**	**339**	P	P	05 23 43.3	-1.3
	0.1nm,0.3s,baz=140,slow=9.1,SNR=1.7						
MKAR	**Makanchi Array**	**58.49**	**324**	P	P	05 25 07.6	+1.7
	0.6nm,0.8s,baz=111,slow=8.9,SNR=7.9						

IDC 01 05:18:01.4±3.1, **5.53S**×**129.09E**, **h48**km±45km, **mb3.2**/1, **mb1 3.5**/5, **mb1mx3.3**/36, **mbtmp3.5**/5, **ML3.4**/4, **Error ellipse: s-maj=71.2km s-min=25.2km az=93.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.11**	**25**	P	Pn	05 19 15.6	+0.1
	4.2nm,0.3s,baz=150,slow=22,SNR=5.1						
SIJI				S	Sn	05 19 48.5	-25
	1.8nm,0.3s,baz=165,slow=23,SNR=1.7						
FITZ	**Fitzroy Crossi**	**12.94**	**195**	P	Pn	05 21 03.4	+0.7
	0.2nm,0.3s,baz=1.9,slow=12,SNR=14						
FITZ				S	Sn	05 23 13.6	-12
	0.1nm,0.3s,baz=179,slow=15,SNR=1.7						
WRA	**Warramunga Arr**	**15.21**	**161**	P	Pn	05 21 34.3	+1.1
	0.1nm,0.3s,baz=339,slow=13,SNR=1.2						
WRA				S	Sn	05 24 09.8	-11
	0.1nm,0.3s,baz=334,slow=22,SNR=2.6						
ASAR	**Alice Springs**	**18.62**	**166**	P	P	05 22 14.1	-0.9
	0.1nm,0.3s,baz=340,slow=9.9,SNR=2.2						
MKAR	**Makanchi Array**	**66.51**	**327**	P	P	05 28 46.2	0.0
	0.2nm,0.4s,baz=123,slow=7.1,SNR=4.2						

*DDA **01** 05:24:21.4±0.0, 39°.04N×40°.44E, h7km±3km, ML2.0*
*ISK **01** 05:24:21.3, 39°.04N×40°.48E, h13km, ML2.5/5*
ISC 01 05:24:21.7±1.0, **39°.04N**±0°.03×**40°.46E**±0°.02, **h7**km±10km, **n17, σ0°81/32, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bingl**	**0.18**	**107**	PG	Pg	05 24 25.5	+0.1
BNGB				SG	Sg	05 24 28.6	+0.6
YEDI	**Yedisu-Bingol**	**0.40**	**10**	PG	Pg	05 24 29.5	0.0
YEDI				SG	Sg	05 24 35.8	+1.0
SLHN	**Bingol, Solhan**	**0.45**	**101**	P	Pb	05 24 30.9	-1.2
SLHN				S	Sb	05 24 37.9	-1.1
SLHN				*i* AML	AML	05 24 39.0	
	comp=N,131nm,0.2s						
SLHN				*i* AML	AML	05 24 39.0	
	comp=E,187nm,0.2s						
SLHN				*i* AML	AML	05 24 41.0	
	comp=Z,95nm,0.2s						
KARO	**Karliova-Bingo**	**0.53**	**60**	PG	Pg	05 24 32.1	+0.1
KARO				SG	Sg	05 24 39.8	+0.8
KOVA	**Elazig, Kovanc**	**0.60**	**236**	P	Pb	05 24 33.9	-0.7
KOVA				S	Sb	05 24 42.3	-1.0
KOVA				*i* AML	AML	05 24 43.0	
	comp=E,78nm,0.5s						
HANI	**Diyarbakir_Han**	**0.63**	**184**	P	Pg	05 24 33.3	-0.5
HANI				S	Sb	05 24 43.0	-1.0
TNCL	**Tunceli-Merkez**	**0.71**	**276**	P	Pg	05 24 35.3	-0.1
TNCL				S	Sg	05 24 45.0	+0.3
TNCL				*i* AML	AML	05 24 47.0	
	comp=E,98nm,0.4s						
TNCL				*i* AML	AML	05 24 48.0	
	comp=N,83nm,0.2s						
TNCL				*i* AML	AML	05 24 51.0	
	comp=Z,66nm,0.2s						
ERZN	**Erzincan**	**0.79**	**314**	PG	Pb	05 24 37.2	-0.5
ERZN				SG	Sb	05 24 48.9	+0.2
MUSM	**Mu-Merkez**	**0.88**	**111**	P	Pg	05 24 38.1	-0.5
MUSM				S	Sg	05 24 49.1	-1.1
ERZM	**Erzurum**	**1.11**	**39**	P	Pn	05 24 44.1	+0.2
ERZM				S	Sb	05 24 58.2	0.0
DIYA	**Diyarbakir**	**1.15**	**193**	P	Pn	05 24 45.4	+1.2
DIYA				S	Sn	05 25 01.4	+1.2
DIYA				*i* AML	AML	05 25 05.0	
	comp=N,31nm,0.3s						
ELZG	**Elazig**	**1.27**	**245**	P	Pn	05 24 45.2	-0.8
ELZG				S	Sn	05 25 04.8	+1.4
BTMN	**Batman**	**1.32**	**151**	P	Pg	05 24 48.3	+1.4
BTMN				S	Sg	05 25 04.9	+0.9
BTMN				*i* AML	AML	05 25 08.0	
	comp=N,51nm,0.4s						
BTMN				*i* AML	AML	05 25 09.0	
	comp=E,57nm,0.5s						
BTMN				*i* AML	AML	05 25 13.0	
	comp=Z,37nm,0.6s						
KELT	**Kelkit**	**1.44**	**320**	P	Pg	05 24 49.1	-0.2
KELT				S	Sg	05 25 08.4	+0.4
ILIC	**ilic-Erzincan**	**1.52**	**286**	PN	Pn	05 24 48.8	-0.6
KEMA	**Kemaliye**	**1.54**	**279**	P	Pb	05 24 50.3	-0.3
KEMA				S	Sb	05 25 10.1	-0.3
ARPR	**Arapgir-MALATY**	**1.65**	**272**	PN	Pn	05 24 50.9	-0.3

IDC 01 05:31:47.6±2.5, **18°.12S**×**177°.00W**, **h425**km±27km, **mb3.4**/4, **mb1 3.6**/6, **mb1mx3.2**/28, **mbtmp4.2**/6, **Error ellipse: s-maj=102.2km s-min=17.1km az=155.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.73**	**274**	P	P	05 33 07.4	-0.8
	3.5nm,0.3s,baz=98,slow=15,SNR=11						
AFI	**Afiamalu**	**6.54**	**51**	P	P	05 33 28.0	+0.9
	3.0nm,0.3s,baz=333,slow=19,SNR=5.0						
AFI				S	S	05 34 48.3	+0.2
	2.6nm,0.3s,baz=140,slow=21,SNR=2.1						
STKA	**Stephens Creek**	**39.71**	**242**	P	P	05 38 41.5	0.0
	3.9nm,0.5s,baz=91,slow=11,SNR=13						
WRA	**Warramunga Arr**	**45.91**	**260**	P	P	05 39 30.4	-0.3
	1.0nm,0.5s,baz=98,slow=7.0,SNR=21						
ASAR	**Alice Springs**	**46.03**	**254**	P	P	05 39 31.7	+0.2
	9.8nm,0.5s,baz=90,slow=8.5,SNR=190						
TXAR	**Lajitas Array**	**84.98**	**57**	P	P	05 43 36.4	-0.8
	0.2nm,0.8s,baz=242,slow=5.7,SNR=2.4						

*GCG **01** 05:47:59.7±2.2, 13°.69N×92°.28W, h97km±52km, MD4.5*
*NEIC **01** 05:48:11.8±2.7, 14°.34N±0°.08×91°.57W±0°.09, h75km±5km, mb4.5/65, Md4.3(SNET), Error ellipse: s-maj=14.7km s-min=8.3km az=47.0*
*SNET **01** 05:48:12.6±1.5, 14°.23N×91°.48W, h30km, ML4.3*
*UCR **01** 05:48:12.8±1.5, 14°.25N×91°.47W, h30km, ML4.2, mb4.5(NEIC)*
*INET **01** 05:48:13.0±1.1, 14°.30N×91°.44W, h15km±9km, MW4.1*
*IDC **01** 05:48:16.0±2.5, 14°.53N×91°.16W, h121km±21km, mb3.8/16, mb1 4.0/19, mb1mx3.9/38, mbtmp4.2/19, MS3.6/14, Ms1 3.6/14, ms1mx3.3/66, Error ellipse: s-maj=25.2km s-min=9.2km az=54.0*
ISC 01 05:48:10.1±0.7, **14°.23N**±0°.05×**91°.65W**±0°.05, **h74**km±6km, **n401, σ1$21/401, mb4.5**/34, **2C-3D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.29**	**351**	Pn	Pn	05 48 20.6	-1.3
RTAL				Sn	Sn	05 48 28.9	-1.4
RTAL	**Retalhuleu**	**0.29**	**351**	⇑ iP	Pn	05 48 20.5	-1.3
RTAL				eS	Sn	05 48 29.0	-1.4
STG3	**Santiaguito 3,**	**0.48**	**9**	⇓ eP	Pn	05 48 22.8	-0.6
STG3				eS	Sn	05 48 50.9	+18
FUG	**Fuego 3**	**0.81**	**75**	⇑ eP	Pn	05 48 27.0	+0.2
FUG				eS	Sn	05 48 48.6	+9.4
PCG	**Pacaya**	**1.02**	**81**	⇓ iP	Pn	05 48 30.3	+0.9
PCG				eS	Sn	05 48 50.4	+6.7
HUEH	**Huehuetenango**	**1.09**	**7**		Pn	05 48 30.6	+0.4
HUEH	**Huehuetenango**	**1.09**	**7**	eP	Pn	05 48 30.6	+0.4
HUEH				eS	Sn	05 48 48.0	+2.9

HUEH Huehuetenango 1.09 7 eP Pn 05 48 30.6 +0.4
HUEH eS Sn 05 48 48.0 +2.9
HUEH Huehuetenango 1.09 7 eP Pn 05 48 30.6 +0.4
HUEH eS Sn 05 48 46.9 +1.7
NBG Las Nubes 1.31 74 eP Pn 05 48 34.8 +1.7
NBG eS Sn 05 48 53.0 +2.8
SLOZ Alcaldia de Sa 1.82 96 eP Pn 05 48 39.7 +0.1
SLOZ eS Sn 05 49 01.5 -0.3
SLOZ IAML 05 49 08.0
comp=Z,2µm,0.5s
NUBE Las Nubes 1.84 100 eP Pn 05 48 40.5 +0.5
NUBE IAML 05 49 07.4
comp=Z,3µm,0.5s
NUBE Las Nubes 1.84 100 eP Pn 05 48 40.5 +0.5
NUBE IAML 05 49 07.4
comp=Z,3µm,0.5s
RTR El Retiro 1.97 100 eP Pn 05 48 42.5 +0.8
RTR El Retiro 1.97 100 eP Pn 05 48 42.5 +0.8
SBLS San Blas 2.00 101 eP Pn 05 48 43.0 +0.9
SBLS San Blas 2.00 101 eP Pn 05 48 43.0 +0.9
CEVE Cerro Verde 2.00 101 eP Pn 05 48 43.5 +1.3
CEVE eS Sn 05 49 07.4 +0.8
CEVE eS 05 49 07.6
CEVE IAML 05 49 14.6
comp=Z,14µm,0.6s
CEVE Cerro Verde 2.00 101 eP Pn 05 48 43.5 +1.3
CEVE eS Sn 05 49 07.4 +0.8
CEVE eS 05 49 07.6
CEVE IAML 05 49 14.6
comp=Z,14µm,0.6s
SNJE San Jose 2.02 100 eP Pn 05 48 43.0 +0.7
SNJE San Jose 2.02 100 eP Pn 05 48 43.0 +0.7
MRL Marmol 2.08 66 eP Pn 05 48 44.2 +1.0
MRL eS Sn 05 49 20.9 +13
CCIG Comitan 2.09 347 Pn 05 48 44.6 +1.3
JAYA Jayaque - finc 2.21 105 eP Pn 05 48 45.4 +0.5
JAYA Jayaque - finc 2.21 105 eP Pn 05 48 45.4 +0.5
MTO3 Montecristo 2.22 85 Pn 05 48 45.1 +0.1
MTO3 Montecristo 2.22 85 eP Pn 05 48 45.2 +0.1
MTO3 Montecristo 2.22 85 eP Pn 05 48 45.2 +0.1
CEDA San Andres 2.23 101 eP Pn 05 48 45.4 +0.3
CEDA San Andres 2.23 101 eP Pn 05 48 45.4 +0.3
ESQI Esquipulas 2.26 81 Pn 05 48 45.9 +0.5
ESQI Esquipulas 2.26 81 eP Pn 05 48 45.6 +0.1
BOQS Boqueron 2.35 102 eP Pn 05 48 48.0 +1.1
BOQS Boqueron 2.35 102 eP Pn 05 48 48.0 +1.1
LALI Alcalda de L 2.38 108 eS Sn 05 49 15.3 +0.1
LALI Alcalda de L 2.38 108 eS Sn 05 49 15.3 +0.1
UEES Universidad Ev 2.39 102 IAML 05 49 27.5
comp=Z,2µm,0.3s
UEES Universidad Ev 2.39 102 IAML 05 49 27.5
comp=Z,2µm,0.3s
SNET Serv Nac Est T 2.41 103 Pn 05 48 48.4 +1.0
SNET Serv Nac Est T 2.41 103 eP Pn 05 48 48.5 +1.0
SNET eS Sn 05 49 15.8 -0.3
SNET Serv Nac Est T 2.41 103 eP Pn 05 48 48.5 +1.0
SNET eS Sn 05 49 15.8 -0.3
SNET Serv Nac Est T 2.41 103 eP Pn 05 48 48.6 +1.0
LFU La Fuente 2.51 101 eP Pn 05 48 48.8 0.0
LFU La Fuente 2.51 101 eP Pn 05 48 48.8 0.0
LFRS El Faro 2.58 103 eP Pn 05 48 51.0 +1.1
LFRS El Faro 2.58 103 eP Pn 05 48 51.0 +1.1
SJTE Alcalda de S 2.64 103 eP Pn 05 48 51.2 +0.6
SJTE Alcalda de S 2.64 103 eP Pn 05 48 51.2 +0.6
PAVA Las Pavas 2.68 101 eP Pn 05 48 51.9 +0.6
PAVA Las Pavas 2.68 101 eP Pn 05 48 51.9 +0.6
PAVA Las Pavas 2.68 101 eP Pn 05 48 51.8 +0.6
COEG Centro de Oper 2.75 102 eP Pn 05 48 53.0 +0.8
COEG Centro de Oper 2.75 102 eP Pn 05 48 53.0 +0.8
COEG Centro de Oper 2.75 102 eP Pn 05 48 53.0 +0.8
SCLA Alcaldia de Sa 2.88 100 eP Pn 05 48 54.6 +0.7
SCLA Alcaldia de Sa 2.88 100 eP Pn 05 48 54.6 +0.7
COEB Comit de Eme 3.12 103 eP Pn 05 48 57.5 +0.4
COEB eS Sn 05 49 34.4 +1.1
COEB Comit de Eme 3.12 103 eP Pn 05 48 57.5 +0.4
COEB eS Sn 05 49 34.4 +1.1
COEB Comit de Eme 3.12 103 eP Pn 05 48 58.1 +1.0
ALJI Alcalda de J 3.12 106 eP Pn 05 48 57.5 +0.4
ALJI eS Sn 05 49 34.0 +0.7
ALJI Alcalda de J 3.12 106 eP Pn 05 48 57.5 +0.4
ALJI eS Sn 05 49 34.0 +0.7
PETF Flores 3.17 33 Pn 05 48 58.1 +0.4
PETF Flores 3.17 33 eP Pn 05 48 58.2 +0.4
LCY Lacayo 3.35 103 eP Pn 05 49 01.6 +1.2
LCY Lacayo 3.35 103 eP Pn 05 49 01.6 +1.2
CSGN Cosiguina Volc 4.17 107 eP Pn 05 49 13.0 +1.6
CMIG Matias Romero 4.22 313 P Pn 05 49 12.1 +0.1
comp=Z,51nm,0.3s,baz=141,slow=7.8,SNR=133
CMIG S Sn 05 49 59.5 -0.5
comp=Z,64nm,0.3s,baz=110,slow=18,SNR=3.6
TGUH Tegucigalpa,Un 4.25 92 Pn Pn 05 49 12.7 +0.1
TGUH Tegucigalpa,Un 4.25 92 eP Pn 05 49 12.5 -0.1
CRIN San Cristobal 4.72 108 Pn 05 49 21.2 +2.1
CNGN Cerro Negro 5.12 109 Pn 05 49 24.7 +0.3
COPN Copaltepe 5.33 112 eP Pn 05 49 28.0 +0.7
MATN Matagalpa 5.71 102 Pn 05 49 34.1 +1.6
BOAB BOACO BROADBAN 6.09 106 Pn Pn 05 49 38.1 +0.5
ACON Acoyapa 6.70 109 Pn 05 49 47.0 +1.1
HZTE Horizontes, Gu 6.87 120 Pn Pn 05 49 51.4 +3.1
ORTG Ortega, Santa 7.17 122 Pn 05 49 55.0 +2.6
DUNO Dulce Nombre, 7.30 124 Pn 05 49 57.1 +2.9
TLIG Tlapa 7.43 297 Pn Pn 05 49 57.7 +1.6
ESPN Las Esperanzas 7.44 105 Pn 05 49 57.5 +1.5
JTS Las Juntas de 7.63 120 P Pn 05 50 01.1 +2.5
comp=Z,4.3nm,0.3s,baz=183,slow=20,SNR=26
JTS S Sn 05 51 23.7 0.0
baz=347,slow=21,SNR=1.1
JTS Las Juntas de 7.63 120 Pn 05 50 00.8 +2.2
CAO2 Cobano, Puntar 7.83 125 Pn 05 50 04.1 +2.6
COVE Coope Vega, Sa 7.89 115 Pn 05 50 04.0 +1.8
JACO JACO, Garabito 8.21 123 Pn Pn 05 50 09.8 +3.2
HDC Heredia 8.48 119 Pn 05 50 10.4 0.0
RIMA Rio Macho 8.81 119 Pn 05 50 17.6 +2.6
PEZE Perez Zeledon, 9.17 121 Pn 05 50 22.6 +2.7
SRBA San Rafael, Bu 9.52 121 Pn 05 50 27.2 +2.7
DRK0 Durika 9.60 120 Pn 05 50 23.7 -2.0
RIOS Rincon, Osa 9.68 124 Pn 05 50 27.4 +0.7
BRU2 Volcan 10.31 121 Pn 05 50 33.0 -2.4
BRU2 Volcan 10.31 121 eP Pn 05 50 40.2 +4.8
MOIG Morelia 10.61 302 Pn 05 50 39.1 -0.5
SOR Soroa 11.81 43 Pn Pn 05 50 54.7 -1.0
MTDJ Mount Denham 14.12 72 eP P 05 51 33.7 +1.5
061Z Ochoppi 15.34 39 Pn Pn 05 51 41.5 -0.9
833A Chaparral WMA, 15.76 334 Pn 05 51 49.0 +1.3
833A Chaparral WMA, 15.76 334 P Pn 05 51 48.6 +0.8
baz=151
SJCC San Jacinto, C 16.67 103 Pn 05 52 00.2 +1.0
SJCC San Jacinto, C 16.67 103 eP Pn 05 51 58.5 -0.7
DWPF Disney Wildern 16.76 33 P Pn 05 51 59.3 -0.9
baz=216
342A Flagon Creek P 17.07 358 P Pn 05 52 05.8 +1.8
342A IAmb IAmb 05 52 10.1
comp=Z,24nm,0.7s
UREC San Jos de Ur 17.07 110 eP Pn 05 52 05.6 +1.4
344A Westbrook Farm 17.16 3 P Pn 05 52 06.2 +1.1
344A IAmb IAmb 05 52 24.1
comp=Z,19nm,0.7s
553A Crawfordville 17.22 22 P Pn 05 52 07.7 +1.9
656A Willston 17.26 28 P Pn 05 52 06.5 +0.2
435B Jarrell 17.35 343 P Pn 05 52 09.2 +1.7
baz=160
BRAL Brewton 17.38 13 P Pn 05 52 08.1 +0.4
baz=195
NATX Nacogdoches 17.66 352 P Pn 05 52 11.6 +0.4
baz=170
PLMC San Jos del P 17.75 120 eP Pn 05 52 12.7 +0.1
ZARC Zaragoza, Cauc 17.79 110 P Pn 05 52 10.9 -2.1
ZARC Zaragoza, Cauc 17.79 110 eP Pn 05 52 09.8 -3.2
JCT Junction City 17.83 336 P Pn 05 52 14.2 +0.8
baz=153
VBMS Vicksburg 17.93 3 P P 05 52 14.7 +0.5
baz=183
YOTC Yotoco, Valle 18.20 123 eP P 05 52 18.6 +1.1
352A Blakely 18.24 19 P P 05 52 19.1 +1.6
GUY2C Guyana, Caldas 18.36 118 eP P 05 52 21.9 +2.4
WHTX Lake Whitney, 18.46 344 P P 05 52 22.1 +2.1
WHTX IAmb IAmb 05 52 44.5
comp=Z,25nm,0.9s
WHTX Lake Whitney, 18.46 344 P P 05 52 20.9 +0.9
baz=162
146A Union 18.47 7 P P 05 52 18.8 -1.3
NORC Norcasia 18.63 116 eP P 05 52 23.8 +1.8
TIGA Tifton 18.65 22 P P 05 52 22.6 +0.5
baz=205
TX31 Lajitas Ar. Si 18.70 325 P P 05 52 25.2 +2.5
TX32 Lajitas Array 18.70 325 Pn 05 52 25.3 +1.4
TXAR Lajitas Array 18.70 325 P Pn 05 52 25.3 +1.5
comp=Z,0.4nm,0.3s,baz=151,slow=11,SNR=28
TXAR PcP PcP 05 56 49.4 +1.2
comp=Z,0.1nm,0.3s,baz=160,slow=3.7,SNR=5.7
POPC Popayan, Colom 18.80 127 eP P 05 52 26.4 +2.2
Z41A Richland Creek 18.97 357 P P 05 52 26.4 +0.8
baz=176
OTAV Otavalo 19.08 136 eP Pn 05 52 33.1 +4.2
OTAV Otavalo 19.08 136 eP P 05 52 26.5 -0.8
SOTA Rioblanco 19.11 128 eP P 05 52 30.6 +2.8
ORTC Ortega, Tolima 19.15 121 eP P 05 52 30.1 +2.3
PCON Cinco Dias 19.15 127 eP P 05 52 30.1 +1.8
LRAL Lakeview Retre 19.19 12 P P 05 52 29.0 +1.0
baz=194
SPBC San Pablo de B 19.28 114 eP P 05 52 25.2 -4.0
ROSC El Rosal 19.45 117 P P 05 52 32.3 +0.8
comp=Z,0.5nm,0.3s,baz=111,slow=22,SNR=4.2
ROSC El Rosal 19.45 117 IAmb IAmb 05 52 35.3
comp=Z,11nm,0.9s
ROSC El Rosal 19.45 117 eP P 05 52 33.1 +1.6
ABTX Abilene, Hawle 19.71 340 P P 05 52 34.6 +1.0
baz=156
RUSC La Rusia 20.06 113 eP P 05 52 37.9 -0.2
Y49A Blount Mountai 20.11 13 P P 05 52 39.8 +1.8
Y49A IAmb IAmb 05 52 60.0
comp=Z,15nm,0.7s
X40A Basin Creek Fa 20.19 357 P P 05 52 39.8 +1.0
baz=176
OXF Oxford 20.29 5 P P 05 52 39.4 -0.6
baz=186,SNR=5.1
GOGA Godfrey 20.49 20 P P 05 52 42.7 +0.7
GOGA IAmb IAmb 05 52 44.2
comp=Z,17nm,0.9s
GOGA Godfrey 20.49 20 P P 05 52 41.2 -0.9
baz=203,SNR=5.3
X37A Clayton 20.55 351 P P 05 52 43.5 +0.8
X37A IAmb IAmb 05 53 06.8
comp=Z,38nm,1.2s
X48A Hartselle 20.56 11 P P 05 52 42.8 0.0
X48A IAmb IAmb 05 52 55.7
comp=Z,18nm,0.7s
W41B Gary Mavity, V 20.86 359 P P 05 52 44.8 -1.2
W41B IAmb IAmb 05 53 09.4
comp=Z,21nm,1.2s
W41B Gary Mavity, V 20.86 359 P P 05 52 45.5 -0.5
baz=178
PLAL Pickwick Lake 20.91 8 P P 05 52 45.5 -1.1
PLAL IAmb IAmb 05 53 10.4
comp=Z,18nm,0.8s
FPAL Fort Paine 20.94 14 P P 05 52 47.6 +0.6
FPAL IAmb IAmb 05 53 18.0
comp=Z,18nm,0.9s
W39A Magazine 20.96 355 P P 05 52 47.4 +0.3
baz=174
WHAR Wooly Hollow 20.97 359 P P 05 52 46.8 -0.5
WHAR IAmb IAmb 05 53 11.3
comp=Z,15nm,0.9s
X34A Smith Ranch, M 21.04 346 P 05 52 48.6 +0.6
X34A IAmb IAmb 05 53 16.5
comp=Z,26nm,0.9s
SOCV Socops 21.22 104 eP P 05 52 46.9 -3.3
SDV Santo Domingo 21.26 102 P P 05 52 48.3 -2.4
comp=Z,7.4nm,0.6s,baz=308,slow=5.6,SNR=11
SDV Santo Domingo 21.26 102 P P 05 52 49.0 -1.8
SDV IAmb IAmb 05 53 16.9
comp=Z,14nm,0.8s
SDV Santo Domingo 21.26 102 eP P 05 52 47.9 -2.8
SDV Santo Domingo 21.26 102 eP P 05 52 48.9 -1.8
MNTX Cornudas Mount 21.46 326 P P 05 52 53.4 +0.8
MNTX Cornudas Mount 21.46 326 P P 05 52 53.3 +0.8
baz=141,SNR=26
SWET Sewanee 21.52 13 P P 05 52 53.3 +0.1
SWET IAmb IAmb 05 53 21.0
comp=Z,14nm,0.7s
FCAR Ozark Folk Cen 21.57 359 P P 05 52 52.8 -0.8
LCAR Lake Charles 21.75 1 P P 05 52 54.3 -1.2
LCAR IAmb IAmb 05 52 56.6
comp=Z,16nm,0.6s
TUL1 Leonard 21.90 351 P P 05 52 57.8 +0.6
baz=169
U40A Yellville 22.06 357 P P 05 52 58.7 -0.1
U40A IAmb IAmb 05 53 17.4
comp=Z,14nm,0.9s
U40A Yellville 22.06 357 P P 05 52 58.6 -0.3
baz=176
WVT Waverly 22.07 8 P P 05 52 58.6 -0.4
WVT IAmb IAmb 05 53 17.9
comp=Z,22nm,1.4s
WVT Waverly 22.07 8 P P 05 52 58.2 -0.8
baz=190
CPCT Cooper Cave 22.08 16 P P 05 52 59.6 +0.5
CPCT IAmb IAmb 05 53 17.1
comp=Z,21nm,1.0s
MSTX Muleshoe 22.09 335 P P 05 52 58.3 -1.0
MSTX IAmb IAmb 05 52 60.0
comp=Z,10nm,0.7s
MSTX Muleshoe 22.09 335 P P 05 52 58.2 -1.1
baz=150,SNR=8.5
AMTX Amarillo 22.47 338 P P 05 53 03.1 -0.3
AMTX Amarillo 22.47 338 P P 05 53 02.4 -1.0
baz=153
TKL Tuckaleechee C 22.48 17 P P 05 53 02.5 -0.9
comp=Z,6.8nm,0.6s,baz=186,slow=10,SNR=11
TKL LR LR 06 02 21.2
comp=Z,158nm,21.4s,baz=192,slow=38
TKL Tuckaleechee C 22.48 17 P P 05 53 03.7 +0.3
TKL IAmb IAmb 05 53 32.7
comp=Z,13nm,0.9s
PBMO Poplar Bluff 22.48 3 P P 05 53 02.1 -1.3
V53A Saluda 22.77 19 P P 05 53 06.6 0.0
V53A IAmb IAmb 05 53 27.8
comp=Z,12nm,0.7s
KMSC Kings Mountain 22.80 22 P P 05 53 05.6 -1.1
baz=206
T47A Sharon Grove 23.02 9 P P 05 53 07.4 -1.6
TZTN Tazewell 23.37 17 P P 05 53 12.2 -0.1
TZTN IAmb IAmb 05 53 34.0
comp=Z,21nm,0.7s
TZTN Tazewell 23.37 17 P P 05 53 11.5 -0.8
baz=200
S39A Bolivar 23.41 357 P P 05 53 11.1 -1.6
S39A IAmb IAmb 05 53 13.3
comp=Z,13nm,0.7s
121A Cookes Peak, D 23.42 324 P P 05 53 13.4 +0.3
baz=137,SNR=11
SIUC Southern Illin 23.49 5 P P 05 53 12.0 -1.3
CCM Cathedral Cave 23.73 1 P P 05 53 13.7 -1.8
CCM IAmb IAmb 05 53 14.5
comp=Z,12nm,0.7s
CCM Cathedral Cave 23.73 1 P P 05 53 13.9 -1.6
baz=181
U54A Nelsons Funny 23.87 20 P P 05 53 16.4 -0.5
CNNC Cliffs of the 24.31 28 P P 05 53 18.9 -1.8
baz=214
ANMO Albuquerque 24.57 330 P P 05 53 25.0 +1.6
comp=Z,2.1nm,0.5s,baz=144,slow=11,SNR=13
ANMO Albuquerque 24.57 330 P P 05 53 25.0 +1.6
ANMO Albuquerque 24.57 330 P P 05 53 24.0 +0.6
baz=143
SJG San Juan 24.78 78 LR LR 06 03 32.6
comp=Z,57nm,20.5s,baz=258,slow=38
TUC Tucson 25.08 319 P P 05 53 29.1 +1.2
baz=131
T25A Trinidad 25.49 336 P P 05 53 32.8 +1.0
baz=150
X18A Snowflake 26.11 324 P P 05 53 39.7 +2.3
214A Organ Pipe Nat 26.18 316 P P 05 53 40.1 +2.2
214A Organ Pipe Nat 26.18 316 P P 05 53 39.1 +1.2
baz=127
SFIN Lafayette 26.35 8 P P 05 53 37.9 -1.4
baz=190
X16A Lo Mia Camp, P 26.91 322 P P 05 53 45.9 +1.4
S22A 4UR Ranch, Cre 27.02 333 P P 05 53 45.5 -0.2
baz=146
MVCO Mesa Verde 27.37 330 P P 05 53 49.9 +1.2
baz=142
WUAZ Wupatki 27.63 324 P P 05 53 52.6 +1.6
baz=135,SNR=5.6
L44A Lake County Fo 28.03 6 P P 05 53 54.6 +0.3
baz=187
GLA Glamis 28.20 316 P P 05 53 57.0 +1.0
baz=126
N54A Moraine State 28.50 19 P P 05 53 57.4 -1.2
baz=204
PDMCI Parker Dam,Lak 28.51 318 P P 05 54 00.4 +1.7
baz=129,SNR=5.5
JFWS Jewell Farm 28.61 2 P P 05 53 58.7 -0.7
baz=183
CZSB Cruzeiro do Su 28.80 138 eP P 05 54 01.2 -0.2
U15A North Rim 28.80 324 P P 05 54 04.1 +2.5
SWSC Sam W. Stewart 28.81 314 P P 05 54 02.8 +1.4
baz=124
SSPA Standing Stone 28.92 22 P P 05 54 01.4 -0.8
baz=208
BC3 Big Chuckawall 28.98 316 P P 05 54 04.1 +1.2
baz=126,SNR=5.8
IRM Iron Mountain 29.07 317 P P 05 54 05.8 +2.0
baz=127
MONP2 Monument Peak 29.21 314 P P 05 54 06.6 +1.4
baz=123
N23A Red Feather La 29.34 338 P P 05 54 06.9 +0.6
baz=150
PFO Pinyon Flats O 29.64 315 LR LR 06 07 37.6
comp=Z,94nm,20.2s,baz=194,slow=39
PFO Pinyon Flats O 29.64 315 P P 05 54 09.5 +0.7
baz=124
GMRC Granite Mounta 29.79 318 P P 05 54 11.5 +1.3
baz=127
MTPU Mount Pierson 29.90 326 P P 05 54 13.7 +2.4
HEC Hector,Ludlow 30.26 317 P P 05 54 16.1 +1.9
baz=126
TUQ Turquoise Moun 30.36 318 P P 05 54 16.5 +1.3
baz=128
SPMN Marine on St. 30.91 358 P P 05 54 18.6 -1.0
baz=178,SNR=5.4
TPNV Topopah Spring 31.51 320 P P 05 54 26.5 +1.1
baz=129
LRMC Laurel Mtn Rad 31.54 317 P P 05 54 27.4 +1.9
baz=125
FURC Furnace Creek, 31.59 319 P P 05 54 28.1 +2.3
baz=128
MPMC Manual Prospec 31.75 318 P P 05 54 29.4 +1.9
baz=126,SNR=7.3
DUG Dugway, Tooele 31.82 328 P P 05 54 29.9 +2.0
baz=138
R11A Troy Canyon, C 32.02 323 P P 05 54 31.8 +2.0
baz=132
ISA Isabella, Lake 32.17 316 P P 05 54 32.9 +1.8
baz=124
GRAC Grapevine Rang 32.24 319 P P 05 54 33.4 +1.8
baz=128
SADO Sadowa 32.24 17 LR LR 06 08 15.9
comp=Z,130nm,20.0s,baz=190,slow=38
PDAR Pinedale Array 32.35 335 P P 05 54 32.0 -0.7
comp=Z,0.4nm,0.5s,baz=127,slow=10.0,SNR=6.4
PDAR PcP PcP 05 57 18.8 -0.3
comp=Z,0.9nm,0.7s,baz=147,slow=5.2,SNR=8.1
CWC Cottonwood Cre 32.36 318 P P 05 54 35.5 +2.7
baz=126
L61B Northampton 32.54 27 P P 05 54 35.1 +1.1
baz=216
VES Vestal, Richgr 32.68 316 P P 05 54 38.0 +2.6
baz=124
REDW Red Top Meadow 33.38 334 P P 05 54 42.1 +0.4
REDW IAmb IAmb 05 55 04.6
comp=Z,10nm,1.2s
LONY Lake Ozonia 33.59 22 P P 05 54 41.9 -1.3
baz=211
NV11 Mina Array Sit 33.62 321 P P 05 54 46.4 +2.7
NVAR Mina Array Bea 33.71 321 P P 05 54 47.2 +2.6
comp=Z,9.8nm,0.8s,baz=134,slow=8.7,SNR=86
NVAR PcP PcP 05 57 24.3 +1.4
comp=Z,2.5nm,0.7s,baz=134,slow=3.1,SNR=12
NVAR LR LR 06 11 43.9
comp=Z,97nm,20.1s,baz=182,slow=42
RLMT Red Lodge 34.22 338 P P 05 54 49.6 +0.7
baz=148
ETMB Extrema 34.75 132 eP P 05 54 54.2 +0.6
HLID Hailey 35.14 331 P P 05 54 58.2 +1.3
baz=139,SNR=7.4
MACA Manacapuru-AM 35.23 117 eP P 05 54 57.2 -0.5
BOZ Bozeman (W) 35.53 336 P P 05 55 01.7 +1.5
baz=145
ULM Lac du Bonnet 36.08 355 LR LR 06 10 37.1
comp=Z,72nm,21.4s,baz=97,slow=37
O03E Paynes Creek 36.99 320 P P 05 55 14.1 +1.5
baz=126
J08A Circle Bar Ran 37.03 327 P P 05 55 13.8 +0.9
MSO Missoula 37.47 335 P P 05 55 17.6 +1.0
baz=143
O02D Mt. Diablo Mer 37.54 319 P P 05 55 18.3 +1.1
baz=124
M04C Macdoel 37.90 322 P P 05 55 20.9 +0.5
baz=127
I07A Izee 38.07 327 P P 05 55 23.1 +1.4
LPAZ La Paz 38.20 142 P P 05 55 24.4 +0.7
comp=Z,1.2nm,0.7s,baz=343,slow=12,SNR=6.0
LPAZ PcP PcP 05 57 37.6 +0.6
comp=Z,1.1nm,0.6s,baz=114,slow=0.8,SNR=4.6
LPAZ La Paz 38.20 142 eP P 05 55 23.6 0.0
L04D Klamath Falls 38.44 322 P P 05 55 26.2 +1.3
baz=127
J05D Fort Rock, OR 38.49 325 P P 05 55 27.8 +2.5
baz=130
J04D Umpqua Nationa 38.96 324 P P 05 55 30.6 +1.3
baz=128,SNR=5.4
I05D Terrebonne, OR 39.23 326 P P 05 55 33.1 +1.8
baz=130
MDP Montagnes des 39.45 99 PcP PcP 05 57 40.3 0.0
comp=Z,14nm,0.8s,baz=346,slow=4.2,SNR=1.8
I04A Tendick Farm, 39.48 324 P P 05 55 34.7 +1.4
baz=128
G05D Wamic, OR 39.81 327 P P 05 55 37.8 +1.7
baz=131
NEW Newport 39.94 333 P P 05 55 38.1 +0.9
baz=139
I03D Drain, OR 39.95 324 P P 05 55 38.1 +0.9
baz=127
J01E Myrtle Point 39.97 323 P P 05 55 38.1 +0.7
baz=126
H04D Lebanon 40.12 325 P P 05 55 39.1 +0.5
baz=129
ITTB Itaituba 40.13 115 eP P 05 55 37.5 -1.6
F05D White Salmon 40.31 328 P P 05 55 40.9 +0.7
baz=132
I02E Swisshome, OR 40.49 324 P P 05 55 42.8 +1.1
baz=127
G03D McMinnville, O 40.84 325 P P 05 55 45.7 +1.2
baz=129
LTY Liberty 40.85 330 P P 05 55 45.5 +0.7
LTY IAmb IAmb 05 55 45.9
comp=Z,4.0nm,0.6s
VILB Vilhena 41.23 129 eP P 05 55 48.3 +0.1
NPGB Novo Progresso 41.75 118 eP P 05 55 50.3 -2.1
B05A Bryant 42.24 330 P P 05 55 55.7 -0.2
baz=133
D03D Eldon 42.24 328 P P 05 55 55.4 -0.6
baz=131
SIV San Ignacio 42.60 134 P P 05 55 59.7 +0.3
comp=Z,7.9nm,0.7s,baz=301,slow=8.4,SNR=24
SIV PcP PcP 05 57 50.6 +0.1
comp=Z,2.2nm,0.5s,baz=12,slow=2.3,SNR=5.3
SIV LR LR 06 12 33.2
comp=Z,66nm,18.2s,baz=294,slow=34
A04D Lummi Island 42.85 330 P P 05 56 00.9 +0.1
baz=132
PDRB Porto dos Gac 43.10 125 eP P 05 56 03.0 -0.4
CLDB Colider 43.43 123 eP P 05 56 04.7 -1.3
PTLB Pontes e Lacer 43.62 131 eP P 05 56 07.5 0.0
FCC Fort Churchill 44.49 358 P P 05 56 12.3 -1.5
FCC IAmb IAmb 05 56 12.8
comp=Z,3.9nm,0.8s
SCHQ Schefferville 44.89 20 P P 05 56 15.0 -2.2
comp=Z,5.6nm,0.6s,baz=220,slow=7.6,SNR=24
SCHQ PcP PcP 05 57 55.9 -1.7
comp=Z,1.7nm,0.6s,baz=229,slow=14.4,SNR=2.0
SCHQ LR LR 06 15 28.3
comp=Z,124nm,19.4s,baz=236,slow=37
SALV Santo Antonio 46.47 129 eP P 05 56 29.6 -0.5
SNDB Serra Nova Dou 47.72 121 eP P 05 56 39.0 -0.9
AQDB Aquidauana 49.38 134 eP P 05 56 52.4 -0.1
ROSB Rosrio 50.08 106 eP P 05 56 56.6 -1.4
PEXB Peixe 50.30 119 eP P 05 56 57.9 -1.8
YKA Yellowknife Ar 50.88 347 P P 05 57 01.8 -1.5
comp=Z,2.6nm,0.6s,baz=148,slow=7.5,SNR=74
YKA PcP PcP 05 58 18.1 -0.7
comp=Z,1.9nm,0.6s,baz=153,slow=3.8,SNR=19
CPUP Villa Florida 52.34 140 P P 05 57 14.0 -0.7
comp=Z,2.1nm,0.7s,baz=313,slow=6.2,SNR=5.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CPUP				PcP	**PcP**	**05 58 24.1**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=358,slow=5.1,SNR=3.3						
CPUP	**Villa Florida**	**52.34**	**140**	*e*P	**P**	**05 57 14.5**	**-0.2**
BDFB	**Brasilia**	**52.36**	**123**	P	**P**	**05 57 14.5**	**-0.7**
	comp=Z,3.7nm,0.7s,baz=305,slow=13,SNR=9.4						
BDFB	**Brasilia**	**52.36**	**123**	P	**P**	**05 57 15.1**	**0.0**
BDFB				IAmb	IAmb	05 57 20.8	
	comp=Z,5.3nm,0.9s						
BDFB	**Brasilia**	**52.36**	**123**	*e*P	**P**	**05 57 14.5**	**-0.7**
DLBC	**Dease Lake**	**52.58**	**336**	P	**P**	**05 57 17.8**	**+1.6**
DLBC				IAmb	IAmb	05 57 18.9	
	comp=Z,4.1nm,0.7s						
ITRB	**Iturama**	**52.80**	**129**	*e*P	**P**	**05 57 18.2**	**0.0**
PCMB	**Pacaembu**	**53.28**	**131**	*e*P	**P**	**05 57 21.1**	**-0.6**
SDBA	**SAO DESIDERIO**	**53.34**	**118**	*e*P	**P**	**05 57 21.2**	**-1.2**
IPMB	**Ipameri, GO**	**53.47**	**125**	*e*P	**P**	**05 57 22.9**	**-0.4**
TGTN	**Hyland Airport**	**54.03**	**339**	P	**P**	**05 57 27.0**	**+0.3**
	baz=134						
PTGB	**Pitanga**	**54.68**	**135**	*e*P	**P**	**05 57 31.3**	**-0.7**
P33M	**Teslin, Yukon**	**54.82**	**336**	P	**P**	**05 57 32.7**	**+0.2**
	baz=128						
JANB	**Januaria**	**55.12**	**120**	*e*P	**P**	**05 57 34.5**	**-0.8**
ITQB	**Itaqui**	**55.20**	**143**	*e*P	**P**	**05 57 35.9**	**+0.4**
MC01	**Montes Claros**	**56.25**	**122**	*e*P	**P**	**05 57 43.3**	**-0.1**
ITAB	**Concordia**	**56.30**	**137**	*e*P	**P**	**05 57 43.0**	**-0.4**
RCLB	**Rio Claro- Sao**	**56.53**	**129**	*e*P	**P**	**05 57 45.2**	**0.0**
M31M	**Drury Creek, Y**	**56.66**	**338**	P	**P**	**05 57 45.3**	**-0.2**
	baz=128						
N31M	**Braeburn, Yuko**	**56.75**	**336**	P	**P**	**05 57 45.9**	**-0.3**
	baz=126						
NBPN	**Ponto Novo - B**	**56.77**	**113**	*e*P	**P**	**05 57 46.2**	**-0.9**
VAO	**Valinhos**	**57.29**	**130**	*e*P	**P**	**05 57 50.5**	**-0.2**
CPSB	**Cacapava Do Su**	**57.64**	**141**	*e*P	**P**	**05 57 52.2**	**-0.6**
M30M	**Minto, Yukon**	**57.78**	**337**	P	**P**	**05 57 53.2**	**-0.2**
	baz=126						
PET01	**Itanhaem-SP**	**57.82**	**131**	*e*P	**P**	**05 57 54.1**	**-0.2**
BSCB	**Bom Sucesso**	**57.84**	**126**	*e*P	**P**	**05 57 54.8**	**+0.3**
PLCA	**Paso Flores**	**58.08**	**161**	*e*P	**P**	**05 57 57.2**	**+1.3**
PARB	**Paraibuna**	**58.49**	**129**	*e*P	**P**	**05 57 59.6**	**+0.6**
PLTB	**Pedras Altas**	**58.50**	**142**	*e*P	**P**	**05 57 57.9**	**-1.0**
GDU01	**Guandu, BA**	**58.56**	**116**	*e*P	**P**	**05 57 59.1**	**-0.5**
RCBR	**Riachuelo**	**58.78**	**106**	LR	LR	06 24 03.8	
	comp=Z,43nm,18.4s,baz=91,slow=37						
TER01	**Tubaro-SC**	**59.15**	**136**	*e*P	**P**	**05 58 03.2**	**-0.2**
SFJD	**Kangerlussuaq**	**59.19**	**17**	LR	LR	06 23 35.7	
	comp=Z,75nm,21.5s,baz=256,slow=36						
CMC01	**Camacan, BA**	**59.34**	**118**	*e*P	**P**	**05 58 04.2**	**-0.8**
SJMB	**Sao Joao De Ma**	**59.52**	**122**	*e*P	**P**	**05 58 06.4**	**+0.2**
DAWY	**Dawson**	**59.59**	**338**	P	**P**	**05 58 06.5**	**+0.5**
DAWY				IAmb	IAmb	05 58 07.6	
	comp=Z,6.9nm,1.5s						
DAWY	**Dawson**	**59.59**	**338**	P	**P**	**05 58 05.8**	**-0.3**
	baz=124						
GUA01	**Guaratinga, BA**	**59.66**	**119**	*e*P	**P**	**05 58 07.0**	**-0.2**
NBAN	**Anadia - AL**	**59.83**	**110**	*e*P	**P**	**05 58 07.9**	**-0.5**
I29M	**Ogilvie Camp,**	**59.95**	**339**	P	**P**	**05 58 08.1**	**-0.2**
	baz=125						
BCAR	**Beaver Creek A**	**59.96**	**336**	P	**P**	**05 58 09.7**	**+1.1**
L27K	**Beaver Creek,**	**59.98**	**336**	P	**P**	**05 58 08.7**	**0.0**
	baz=120						
NAN01	**Guarapari, ES**	**59.98**	**121**	*e*P	**P**	**05 58 09.5**	**+0.2**
DUB01	**Friburgo-RJ**	**60.30**	**126**	*e*P	**P**	**05 58 11.5**	**0.0**
INK	**Inuvik**	**60.31**	**343**	P	**P**	**05 58 10.2**	**-0.5**
	baz=132						
N25K	**Chitina, Valde**	**60.40**	**334**	P	**P**	**05 58 12.7**	**+1.1**
	baz=117						
RIB01	**Linhares ES**	**60.47**	**122**	*e*P	**P**	**05 58 12.4**	**-0.2**
RES	**Resolute Bay**	**60.47**	**359**	LR	LR	06 27 16.3	
	comp=Z,72nm,18.7s,baz=136,slow=39						
CAM01	**Campos-RJ**	**60.73**	**125**	*e*P	**P**	**05 58 15.0**	**+0.6**
ALF01	**Guarapari-ES**	**60.85**	**124**	*e*P	**P**	**05 58 15.7**	**+0.5**
HARP	**HAARP**	**61.00**	**335**	P	**P**	**05 58 16.0**	**+0.3**
	baz=117						
GLI	**Glacier Island**	**61.18**	**333**	P	**P**	**05 58 16.9**	**0.0**
	baz=114						
SCRK	**Sand Creek**	**61.27**	**337**	P	**P**	**05 58 17.6**	**0.0**
	baz=119						
M24K	**Tolsona, Glenn**	**61.30**	**334**	P	**P**	**05 58 17.9**	**+0.2**
	baz=116						
J26L	**Joseph Creek**	**61.37**	**337**	P	**P**	**05 58 18.6**	**+0.5**
	baz=119						
PAX	**Paxson**	**61.39**	**335**	P	**P**	**05 58 18.7**	**+0.4**
	baz=117						
RIDG	**Independent Ri**	**61.49**	**336**	P	**P**	**05 58 19.0**	**0.0**
	baz=118						
SCM	**Sheep Creek Mo**	**61.67**	**334**	P	**P**	**05 58 20.5**	**+0.3**
	baz=114						
KNK	**Knik Glacier**	**62.00**	**333**	P	**P**	**05 58 23.0**	**+0.7**
	baz=113						
J25K	**Salcha River,**	**62.11**	**337**	P	**P**	**05 58 23.1**	**0.0**
	baz=118						
WAT6	**Susitna Watana**	**62.16**	**334**	P	**P**	**05 58 24.0**	**+0.4**
	baz=114						
PMR	**Palmer**	**62.36**	**333**	P	**P**	**05 58 24.8**	**+0.1**
	baz=112						
RC01	**Rabbit Creek A**	**62.44**	**332**	P	**P**	**05 58 25.7**	**+0.4**
	baz=112						
KDAK	**Kodiak Island**	**62.70**	**328**	P	**P**	**05 58 27.8**	**+0.8**
KDAK	**Kodiak Island**	**62.70**	**328**	P	**P**	**05 58 26.4**	**-0.6**
	baz=107						
IL31		**62.76**	**337**	P	**P**	**05 58 27.3**	**0.0**
IL31				IAmb	IAmb	05 58 29.0	
	comp=Z,8.5nm,1.2s						
ILAR	**Eielson Array**	**62.76**	**337**	P	**P**	**05 58 27.3**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=99,slow=6.3,SNR=25						
ILAR	**Eielson Array**	**62.76**	**337**	P	**P**	**05 58 27.1**	**-0.3**
M22K	**Willow**	**62.86**	**333**	P	**P**	**05 58 28.0**	**-0.1**
	baz=112						
MCK	**McKinley**	**63.13**	**335**	P	**P**	**05 58 30.2**	**+0.3**
	baz=114						
BMAR	**Burnt Mountain**	**63.19**	**340**	P	**P**	**05 58 30.3**	**0.0**
TRF	**Thorofare Moun**	**63.57**	**335**	P	**P**	**05 58 32.0**	**-1.0**
	baz=112						
H24K	**Noodor Dome**	**63.61**	**338**	P	**P**	**05 58 33.1**	**+0.1**
	baz=116						
CHIR	**Chirikof Islan**	**63.78**	**326**	P	**P**	**05 58 34.3**	**+0.1**
	baz=104						
I23K	**Minto, Yukon-K**	**63.87**	**337**	P	**P**	**05 58 34.5**	**-0.2**
	baz=114						
BPAW	**Bear Paw Mtn.**	**64.11**	**335**	P	**P**	**05 58 36.2**	**-0.1**
	baz=112						
PPLA	**Purkeypile**	**64.17**	**334**	P	**P**	**05 58 36.1**	**-0.8**
	baz=110						
M20K	**Styx River**	**64.25**	**332**	P	**P**	**05 58 37.4**	**+0.1**
	baz=109						
O19K	**Port Alsworth**	**64.28**	**330**	P	**P**	**05 58 37.1**	**-0.3**
	baz=107						
CAST	**Castle Rocks**	**64.31**	**334**	P	**P**	**05 58 37.3**	**-0.4**
	baz=110						
MLY	**Manley**	**64.36**	**336**	P	**P**	**05 58 37.9**	**-0.2**
MLY	**Manley**	**64.36**	**336**	P	**P**	**05 58 37.8**	**-0.2**
	baz=112						
P18K	**Big Mountain,**	**64.49**	**329**	P	**P**	**05 58 38.7**	**-0.2**
	baz=106						
N19K	**Bonanza Creek**	**64.53**	**331**	P	**P**	**05 58 39.0**	**-0.2**
	baz=107						
L20K	**Farewell, AK**	**64.77**	**333**	P	**P**	**05 58 40.0**	**-0.6**
	baz=108,SNR=6.7						
M19K	**Big River Lodg**	**64.82**	**332**	P	**P**	**05 58 40.7**	**-0.3**
	baz=108						
I21K	**Tanana**	**64.91**	**336**	P	**P**	**05 58 41.4**	**0.0**
	baz=111						
COLD	**Coldfoot**	**65.04**	**339**	P	**P**	**05 58 42.2**	**-0.1**
	baz=114						
L19K	**White Mountain**	**65.11**	**333**	P	**P**	**05 58 42.7**	**-0.2**
	baz=107						
K20K	**Telida**	**65.14**	**334**	P	**P**	**05 58 42.2**	**-0.7**
	baz=108,SNR=5.3						
H21K	**Melozitna Rive**	**65.40**	**336**	P	**P**	**05 58 43.9**	**-0.8**
	baz=111						
TOLK	**Toolik Lake Re**	**65.42**	**340**	P	**P**	**05 58 44.3**	**-0.5**
	baz=115						
J20K	**Nowinta River**	**65.43**	**335**	P	**P**	**05 58 44.7**	**-0.2**
	baz=109						
TTA	**Tatalina**	**65.84**	**333**	P	**P**	**05 58 46.4**	**-1.3**
	baz=106						
IMAR	**Indian Mountai**	**65.88**	**337**	P	**P**	**05 58 47.5**	**-0.3**
EUNU	**Eureka**	**65.89**	**1**	P	**P**	**05 58 46.8**	**-0.8**
EUNU				IAmb	IAmb	05 58 47.3	
	comp=Z,4.2nm,0.7s						
RDOG	**Red Dog Mine**	**69.91**	**338**	P	**P**	**05 59 12.0**	**-1.0**
	baz=102						
ESDC	**Sonseca Array**	**79.30**	**52**	P	P	06 00 04.9	-3.1
	comp=Z,0.5nm,0.7s,baz=279,slow=4.6,SNR=4.1						
NOA	**NORSAR Array B**	**83.78**	**29**	P	P	06 00 29.2	-2.0
	comp=Z,0.4nm,0.6s,baz=268,slow=4.3,SNR=2.1						
NOA				LR	LR	06 37 15.8	
	comp=Z,17nm,19.4s,baz=265,slow=35						
HFS	**Hagfors**	**85.23**	**29**	LR	LR	06 39 59.3	
	comp=Z,42nm,19.1s,baz=18,slow=37						
ARCES	**ARCESS Array B**	**85.81**	**18**	P	P	06 00 39.1	-2.1
	comp=Z,4.1nm,1.0s,baz=316,slow=2.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**89.99**	**77**	P	P	06 00 58.6	-3.6
	comp=Z,0.2nm,0.5s,baz=269,slow=5.8,SNR=1.7						
AKASG	**Malin Array Be**	**97.34**	**33**	LR	LR	06 46 47.8	
	comp=Z,34nm,19.2s,baz=3.5,slow=36						
SONM	**Songino Array**	**116.14**	**347**	PKP	**PKiKP**	**06 06 45.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=135,slow=0.8,SNR=5.5						
KSRS	**Korea Array**	**116.55**	**325**	PKP	**PKPdf**	**06 06 45.9**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=14,slow=2.7,SNR=2.6						
MKAR	**Makanchi Array**	**119.01**	**5**	PKP	**PKPdf**	**06 06 49.4**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=333,slow=2.0,SNR=17						
BOSA	**Boshof**	**120.14**	**115**	PKP	**PKPdf**	**06 06 52.4**	**-0.9**
	comp=Z,4.5nm,1.0s,baz=266,slow=3.5,SNR=4.5						
MAW	**Mawson**	**124.13**	**169**	PKP	**PKPdf**	**06 06 58.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=149,slow=5.9,SNR=2.1						
KSH	**Kashi**	**125.30**	**12**	PKP	**PKPdf**	**06 07 03.6**	**+0.6**
KSH				sPKP		06 07 40.9	
WRA	**Warramunga Arr**	**135.78**	**256**	PKP	**PKPdf**	**06 07 23.8**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=88,slow=2.8,SNR=9.4						
ASAR	**Alice Springs**	**136.06**	**251**	PKP	**PKPdf**	**06 07 23.6**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=80,slow=2.2,SNR=5.5						
PZH	**PanZhiHua**	**137.47**	**342**	PKP	**PKPdf**	**06 07 26.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**144.02**	**259**	PKP	**PKPab**	**06 07 36.7**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=3.5,slow=1.7						
CMAR	**Chiang Mai Arr**	**145.88**	**342**	PKPbc	**PKPdf**	**06 07 42.1**	**+0.7**
	comp=Z,19nm,0.6s,baz=329,slow=3.3,SNR=76						

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*UPA **01** 05:53:41.5±3.5, 6°.19N×77°.89W, h0km±93km, MW4.7*
*IDC **01** 05:53:41.7±2.4, 6°.65N×77°.65W, h0km, mb3.4/3, mb1 3.9/5, mb1mx3.6/28, mbtmp3.6/5, ML2.4/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/34, Error ellipse: s-maj=77.6km s-min=22.5km az=28.0*
*RSNC **01** 05:53:42.6±1.2, 6°.28N×77°.56W, h19km±3km, ML2.8*
ISC 01 05:53:40.7±1.3**, 6°.28N**±0°.03×**77°.61W**±0°.03**, h13**km±9km**, n42,** σ1°.**98**/64**, mb3.6**/3**, 4C-2D, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.21**	**106**⇓	*i*P	**Pg**	**05 53 46.5**	**+1.1**
SOLC				*e*S	**Sb**	**05 53 49.9**	**-0.4**
PTAC	**Punta Ardita,**	**0.88**	**347**	*e*P	**Pb**	**05 53 58.2**	**+0.4**
PTAC				*e*S	**Sn**	**05 54 11.0**	**-0.4**
PIZC	**Pizarro, Choco**	**1.33**	**169**	*e*P	**Pn**	**05 54 05.6**	**+0.5**
PIZC				*e*S	**Sn**	**05 54 22.3**	**-0.4**
PIZC				*i*		05 54 56.7	
	comp=Z,148nm,0.7s						
CBOC	**Ciudad Bolivar**	**1.65**	**105**⇑	*e*P	**Pn**	**05 54 08.0**	**-1.5**
CBOC				*e*S	**Sn**	**05 54 30.0**	**-0.7**
CBOC				*i*		05 54 42.5	
	comp=Z,117nm,0.6s						
PLMC	**San Jos del P**	**1.91**	**136**	*e*P	**Pn**	**05 54 11.2**	**-1.8**
PLMC				*e*S	**Sn**	**05 54 35.2**	**-1.7**
PLMC				*i*		05 54 41.3	
	comp=Z,92nm,0.4s						
HELC	**Santa Helena**	**2.08**	**92**⇑	*i*P	**Pn**	**05 54 15.4**	**-0.2**
HELC				*e*S	**Sn**	**05 54 40.9**	**-0.6**
HELC				*i*		05 54 45.5	
	comp=Z,85nm,0.6s						
UPD2	**Meteti**	**2.28**	**350**	*e*P	**Pn**	**05 54 19.7**	**+1.6**
UPD2				*e*S	**Sb**	**05 54 52.2**	**+2.2**
GUY2C	**Guyana, Caldas**	**2.47**	**115**	*e*P	**Pn**	**05 54 21.3**	**+0.1**
GUY2C				*e*S	**Sn**	**05 54 50.4**	**-1.1**
GUY2C				*i*		05 54 55.9	
	comp=Z,57nm,0.5s						
UREC	**San Jos de Ur**	**2.53**	**55**	*e*P	**Pn**	**05 54 21.7**	**+0.1**
UREC				*e*S	**Sn**	**05 54 54.0**	**+1.8**
UREC				*i*		05 55 03.5	
	comp=Z,37nm,0.5s						
YOTC	**Yotoco, Valle**	**2.61**	**151**	*e*P	**Pn**	**05 54 22.3**	**-0.5**
NORC	**Norcasia**	**2.82**	**105**	*e*P	**Pn**	**05 54 27.0**	**+1.4**
NORC				*e*S	**Sn**	**05 54 57.5**	**-2.0**
NORC				*i*		05 55 03.8	
	comp=Z,36nm,0.6s						
ANIL	**Santa Ana**	**2.83**	**129**	*e*P	**Pn**	**05 54 28.4**	**+2.5**
ANIL				*e*S	**Sb**	**05 55 04.2**	**-1.8**
ANIL				*i*		05 55 18.7	
	comp=Z,66nm,0.4s						
ZARC	**Zaragoza, Cauc**	**2.99**	**66**	*e*P	**Pn**	**05 54 28.4**	**+0.5**
ZARC				*i*		05 55 12.2	
	comp=Z,50nm,0.2s						
AZU	**Azuero**	**3.04**	**300**	*e*P	**Pn**	**05 54 28.4**	**-0.1**
AZU				*e*S	**Sn**	**05 55 01.6**	**-3.1**
AZU				*i*		05 55 10.8	
	comp=Z,71nm,0.3s						
AZU	**Azuero**	**3.04**	**300**⇓	*e*P	**Pn**	**05 54 28.3**	**-0.1**
AZU				*i* S	**Sn**	**05 55 00.8**	**-3.9**
MOTC	**Monteria, Cord**	**3.14**	**38**	*e*P	**Pn**	**05 54 30.3**	**+0.3**
MOTC				*e*S	**Sn**	**05 55 05.8**	**-1.6**
MOTC				*i*		05 55 10.1	
	comp=Z,13nm,0.6s						
PTBC	**PUERTO BERRIO,**	**3.15**	**85**	*e*P	**Pn**	**05 54 31.3**	**+1.2**
PTBC				*e*S	**Sn**	**05 55 00.0**	**-7.5**
PTBC				*i*		05 55 18.3	
	comp=Z,30nm,0.7s						
CHPO	**Chepo, Panama**	**3.23**	**333**⇑	*e*P	**Pb**	**05 54 35.5**	**-2.5**
CHIT3	**Chitre**	**3.24**	**301**	*e*P	**Pn**	**05 54 31.4**	**+0.1**
CHIT3				*e*S	**Sn**	**05 55 08.9**	**-0.9**
ORTC	**Ortega, Tolima**	**3.34**	**135**	*e*P	**Pn**	**05 54 35.5**	**+2.9**
ORTC				*e*S	**Sn**	**05 55 13.5**	**+1.3**
ORTC				*i*		05 55 14.5	
	comp=Z,22nm,0.7s						
VTON	**El Valle, Cocl**	**3.39**	**313**	*e*P	**Pn**	**05 54 34.2**	**+0.7**
CACAO	**El Cacao, Vera**	**3.39**	**288**	*e*P	**Pn**	**05 54 33.3**	**-0.1**
ZANG	**Zanguenga, Cho**	**3.47**	**320**	*e*P	**Pn**	**05 54 34.5**	**0.0**
ROSC	**El Rosal**	**3.58**	**113**	Pn	**Pn**	**05 54 40.7**	**+4.4**
	comp=Z,5.0nm,0.3s,baz=332,slow=12,SNR=10						
ROSC				Sn	**Sb**	**05 55 28.7**	**+1.0**
	baz=260,slow=21,SNR=1.3						
ROSC	**El Rosal**	**3.58**	**113**	*e*P	**Pn**	**05 54 40.4**	**+4.0**
ROSC				*e*S	**Sb**	**05 55 28.3**	**+0.6**
ROSC				*i*		05 55 45.7	
	comp=Z,15nm,0.6s						
SPBC	**San Pablo de B**	**3.58**	**100**	*e*P	**Pn**	**05 54 37.5**	**+1.4**
FRIJ	**El Hiral**	**3.59**	**324**	*e*P	**Pn**	**05 54 35.4**	**-0.7**
BCIP	**Isla Barro Col**	**3.61**	**323**	*e*P	**Pn**	**05 54 37.0**	**+0.6**
BCIP				*e*S	**Sb**	**05 55 29.9**	**+1.6**
BCIP	**Isla Barro Col**	**3.61**	**323**	*e*P	**Pn**	**05 54 36.1**	**-0.3**
GMAL	**Guarumal, Vera**	**3.88**	**292**	*e*P	**Pn**	**05 54 40.9**	**+0.7**
GMAL				*e*S	**Sn**	**05 55 24.8**	**-0.8**
GMAL	**Guarumal, Vera**	**3.88**	**292**⇑	*e*P	**Pn**	**05 54 41.1**	**+0.9**
GMAL				*i* S	**Sn**	**05 55 23.8**	**-1.9**
CHIC	**Chingaza**	**4.20**	**113**	*e*P	**Pn**	**05 54 47.5**	**+2.6**
CHIC				*i*		05 55 51.1	
	comp=Z,6.9nm,0.7s						
CHIC				*e*S	**Sg**	**05 55 52.0**	**-3.7**
SOTA	**Rioblanco**	**4.24**	**166**	*e*P	**Pn**	**05 54 47.9**	**+2.3**
BARC	**Barichara**	**4.42**	**86**	*e*P	**Pn**	**05 54 49.3**	**+1.6**
RUSC	**La Rusia**	**4.52**	**95**	*e*P	**Pn**	**05 54 50.4**	**+1.0**
PAMC	**Pamplona, Colo**	**4.99**	**78**	*e*P	**Pn**	**05 54 58.2**	**+2.4**
SOCV	**Socops**	**6.99**	**73**	*e*P	**Pn**	**05 55 22.9**	**-0.1**
SDV	**Santo Domingo**	**7.39**	**69**	Pn	**Pn**	**05 55 30.6**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=266,slow=13,SNR=8.7						
TXAR	**Lajitas Array**	**33.61**	**316**	P	**P**	**06 00 20.9**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=143,slow=9.1,SNR=6.8						
CPUP	**Villa Florida**	**37.92**	**150**	LR	LR	06 17 58.5	
	comp=Z,68nm,20.6s,baz=349,slow=38						
NVAR	**Mina Array Bea**	**48.75**	**317**	P	**P**	**06 02 27.9**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=112,slow=6.4,SNR=2.2						
YKA	**Yellowknife Ar**	**62.29**	**342**	P	**P**	**06 04 02.6**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=131,slow=7.1,SNR=9.7						

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*IDC **01** 05:56:13.2±2.8, 29°.96S×177°.92W, h65km±23km, mb3.7/3, mb1 3.9/3, mb1mx3.5/22, mbtmp4.0/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/54, Error ellipse: s-maj=50.6km s-min=31.1km az=157.0*
ISC 01 05:56:10.9±1.5**, 30°.2S**±0°.1×**177°.8W**±0°.3**, h50**km**, n16,** σ1°.**01**/9**, mb4.0**/3**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**352**	P	**Pn**	**05 56 28.9**	**+0.9**
	115nm,0.3s,baz=13,slow=21,SNR=11						
RAO				S	**Sn**	**05 56 40.0**	**-0.6**
	397nm,0.3s,baz=150,slow=21,SNR=10						
DZM	**Mont Dzumac**	**16.31**	**296**	LR	LR	06 04 01.0	
	comp=Z,160nm,18.4s,baz=20,slow=29						
STKA	**Stephens Creek**	**34.72**	**257**	P	**P**	**06 02 57.3**	**+1.1**
	3.1nm,0.7s,baz=96,slow=13,SNR=6.0						
ASAR	**Alice Springs**	**43.32**	**267**	P	**P**	**06 04 07.4**	**-0.9**
	0.7nm,0.7s,baz=101,slow=7.1,SNR=9.3						
WRA	**Warramunga Arr**	**44.29**	**272**	P	**P**	**06 04 15.3**	**-0.7**
	1.5nm,0.5s,baz=111,slow=7.8,SNR=36						
H03S2	**Juan Fernandez**	**80.41**	**123**	T	T	07 37 23.7	
	baz=238						
H03S1	**Juan Fernandez**	**80.42**	**123**	T	T	07 37 24.4	
	baz=238						
H03S3	**Juan Fernandez**	**80.43**	**123**	T	T	07 37 23.4	
	baz=238						
MA2	**Magadan**	**93.15**	**345**	LR	LR	06 47 01.1	
	comp=Z,36nm,20.7s,baz=176,slow=33						
MKAR	**Makanchi Array**	**117.80**	**310**	PKP	**PKPdf**	**06 14 50.0**	**-1.5**
	0.2nm,0.6s,baz=174,slow=2.8,SNR=1.5						
H10N3	**ASCENSION HYDR**	**138.91**	**154**	T	T	08 51 06.9	
	baz=203,slow=75,SNR=20						
H10N1	**ASCENSION HYDR**	**138.91**	**154**	T	T	08 51 04.4	
	baz=203,slow=75,SNR=21						
H10N2	**ASCENSION HYDR**	**138.92**	**154**	T	T	08 51 05.4	
	baz=203,slow=75,SNR=19						
FINES	**FINESS Array B**	**145.03**	**340**	PKP	**PKPdf**	**06 15 41.8**	**-0.2**
	3.5nm,0.7s,baz=49,slow=4.0,SNR=12						
AKASG	**Malin Array Be**	**151.26**	**323**	PKPbc	**PKPbc**	**06 15 58.8**	**+0.3**
	1.7nm,0.7s,baz=48,slow=3.1,SNR=11						
TORD	**Torodi Ar. Bea**	**163.02**	**178**	PKPab	**PKPab**	**06 16 58.4**	**+0.4**
	0.5nm,0.6s,baz=165,slow=3.3,SNR=3.2						

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*IDC **01** 06:11:27.1±0.6, 3°.39S×131°.52E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.2/34, mbtmp4.3/16, ML4.5/2, MS3.8/16, Ms1 3.8/16, ms1mx3.4/70, Error ellipse: s-maj=28.0km s-min=12.6km az=78.0*
*DJA **01** 06:11:27.3±0.2, 4°S±3°×13°1E±°, h10km, M4.7/23, mB5.4/10, mb4.7/23, MLv4.4/7, Mw(mB)4.8/10*
*NEIC **01** 06:11:32.5±1.9, 3°.52S±0°.06×131°.33E±0°.06, h34km±5km, mb4.6/40, Error ellipse: s-maj=9.1km s-min=7.7km az=145.0*
ISC 01 06:11:29.8±0.3**, 3°.63S**±0°.04×**131°.34E**±0°.04**, h24**km**, n123,** σ2°.**10**/108**, mb4.6**/39**, MS3.7**/14**, 4C-2D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.15**	**52**		**Pb**	**06 11 50.9**	**-0.1**
FAKI				Sn	**Sn**	**06 12 05.8**	**+0.4**
FAKI	**Fak Fak**	**1.15**	**52**	P	**Pb**	**06 11 50.8**	**-0.2**
MSAI	**Masohi**	**2.42**	**277**	P	**Pb**	**06 12 14.9**	**+2.3**
SIJI	**Sorong**	**2.74**	**359**	Pn	**Pn**	**06 12 10.4**	**-1.8**
	39nm,0.3s,baz=45,slow=14,SNR=206						
SIJI				Sn	**Sn**	**06 12 41.0**	**-3.6**
	50nm,0.3s,baz=248,slow=23,SNR=4.0						
SIJI				LR	LR	06 13 23.1	
	comp=Z,1μm,18.8s,baz=254,slow=46						
SWI	**Sorong**	**2.75**	**358**	P	**Pn**	**06 12 10.5**	**-1.8**
AAI	**Ambon**	**3.14**	**269**	P	**Pn**	**06 12 13.8**	**-3.9**
LBMI	**Labuha**	**4.85**	**308**	P	Pn	06 12 44.4	+3.1
BAKI	**Biak**	**5.34**	**63**	P	**Pn**	**06 12 48.8**	**+0.7**
	0.9nm3μm292nm,0.8s						
SANI	**Sanana**	**5.57**	**286**	P	Pn	06 12 45.9	-5.2
	0.3nm949nm84nm,0.9s						
BBSI	**Bau Bau**	**8.93**	**258**	P	Pn	06 13 54.6	+17
LUWI	**Luwuk**	**8.93**	**286**	Pn	**Pn**	**06 13 38.8**	**+1.4**
KDU	**Kakadu**	**9.07**	**173**	P	**Pn**	**06 13 34.8**	**-4.5**
	baz=9.1,SNR=9.1						
MTN	**Manton Dam**	**9.16**	**181**	P	**Pn**	**06 13 41.6**	**+1.1**
	baz=9.2,SNR=79						
MTN	**Manton Dam**	**9.16**	**181**	Pn	**Pn**	**06 13 41.4**	**+0.9**
GTOI	**Gorontalo**	**9.34**	**297**	P	**Pn**	**06 13 41.7**	**-1.2**
	18nm,0.8s						
BATI	**Baumata**	**10.04**	**229**	Pn	**Pn**	**06 13 56.6**	**+4.1**
	9.4nm,0.3s,baz=296,slow=2.4,SNR=9.4						
BATI				LR	LR	06 18 17.5	
	comp=Z,704nm,20.8s,baz=46,slow=40						
BATI	**Baumata**	**10.04**	**229**	P	**Pn**	**06 13 50.3**	**-2.3**
	1μm106nm,1.0s						
APSI	**Ampana**	**10.05**	**285**	P	**Pn**	**06 13 49.0**	**-3.7**
	534nm44nm,1.0s						
MMRI	**Maumere**	**10.32**	**241**	Pn	**Pn**	**06 13 57.2**	**+0.7**
BSSI	**Bau Bau, Buton**	**11.09**	**257**	P	Pn	06 14 28.2	+21
BNSI	**Bone**	**11.23**	**266**	P	**Pn**	**06 14 05.4**	**-3.5**
	28nm,1.1s						
SPSI	**Sidrap Palu**	**11.55**	**268**	P	**Pn**	**06 14 09.7**	**-3.5**
	16nm,1.3s						
TOLI2	**Tolitoli**	**11.55**	**294**	Pn	**Pn**	**06 14 14.9**	**+1.6**
MPSI	**Mapaga**	**12.09**	**289**	P	P	06 14 44.2	+11
WBSI	**Waikabubak, Su**	**13.28**	**243**	P	**P**	**06 14 48.7**	**+2.2**
PLAI	**Plampang**	**14.43**	**248**	P	**Pn**	**06 14 49.7**	**-3.0**
	36nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.43**	**201**	Pn	**Pn**	**06 15 01.9**	**-4.0**
	1.2nm,0.3s,baz=36,slow=10,SNR=30						
FITZ				Sn	**Sn**	**06 17 47.1**	**-9.2**
	0.8nm,0.3s,baz=208,slow=20,SNR=2.1						
COEN	**Coen**	**15.55**	**132**	Pn	**Pn**	**06 15 08.1**	**+0.4**
BBKI	**Banjar Baru**	**16.46**	**270**	P	**Pn**	**06 15 16.2**	**-3.2**
	4μm26nm,1.0s						
WRA	**Warramunga Arr**	**16.48**	**170**	Pn	**Pn**	**06 15 15.5**	**-4.1**
	0.9nm,0.3s,baz=347,slow=14,SNR=30						
WRA				Sn	**Sn**	**06 18 15.8**	**-6.1**
	1.6nm,0.3s,baz=348,slow=24,SNR=8.6						
WR0	**Warramunga Arr**	**16.53**	**169**	P	**P**	**06 15 24.1**	**+1.4**
WR0				IAmb	IAmb	06 15 52.2	
	comp=Z,85nm,1.6s						
PMG	**Port Moresby**	**16.73**	**111**	Pn	**P**	**06 15 25.5**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=322,slow=9.2,SNR=7.1						
PMG				LR	LR	06 22 31.3	
	comp=Z,226nm,21.4s,baz=296,slow=40						
PMG	**Port Moresby**	**16.73**	**111**	P	**P**	**06 15 25.1**	**+0.3**
JAGI	**Jajag, Banyuwa**	**17.75**	**253**		**P**	**06 15 36.1**	**0.0**
JAGI				IAmb	IAmb	06 15 45.0	
	comp=Z,50nm,1.3s						
KKM	**Kota Kinabalu**	**17.90**	**302**	P	**P**	**06 15 37.8**	**-0.1**
KKM				IAmb	IAmb	06 15 45.9	
	comp=Z,49nm,1.1s						
GMJI	**Gumukmas**	**18.38**	**255**	P	**P**	**06 15 40.4**	**-2.7**
	comp=Z,25nm,1.6s						
QIS	**Mount Isa**	**18.66**	**155**	P	**Pn**	**06 15 48.0**	**+1.4**
	baz=19,SNR=13						
MTSU	**Mount Surprise**	**19.22**	**140**	P	**Pn**	**06 15 55.7**	**+2.3**
	baz=19,SNR=14						
SBUM	**Sibu**	**20.04**	**287**	P	**Pn**	**06 16 02.5**	**-0.6**
AS31	**Alice Springs**	**20.08**	**173**		**P**	**06 16 01.9**	**+0.2**
ASAR	**Alice Springs**	**20.08**	**173**	P	Pn	06 16 03.7	+0.2
	comp=Z,16nm,0.6s,baz=3.6,slow=10,SNR=102						
ASAR				S	**S**	**06 19 43.1**	**-3.2**
	comp=Z,2.4nm,0.7s,baz=359,slow=24,SNR=4.9						
PSA00	**Pilbara Seismi**	**21.05**	**211**	P	**P**	**06 16 12.2**	**0.0**
PSA00				IAmb	IAmb	06 16 39.0	
	comp=Z,22nm,1.1s						
PSA00	**Pilbara Seismi**	**21.05**	**211**	P	**P**	**06 16 11.9**	**-0.2**
PSA00				IAmb	IAmb	06 16 40.4	
	comp=Z,32nm,1.8s						
WRKA	**Warakurna**	**21.49**	**188**	P	**P**	**06 16 18.2**	**+1.3**
	baz=22,SNR=90						
KSM	**Kuching**	**21.62**	**283**	P	**P**	**06 16 18.9**	**+0.5**
KSM				IAmb	IAmb	06 16 36.0	
	comp=Z,25nm,0.9s						
GUMO	**Guam**	**21.75**	**38**	LR	LR	06 25 01.8	
	comp=Z,189nm,19.2s,baz=146,slow=38						
CTA	**Charters Tower**	**21.89**	**140**	P	**P**	**06 16 23.4**	**+2.1**
	comp=Z,9.6nm,0.8s,baz=318,slow=12,SNR=13						
MEEK	**Meekatharra**	**25.92**	**207**	P	**P**	**06 17 00.7**	**+0.4**
	baz=26,SNR=4.2						
QLP	**Quilpie**	**25.95**	**153**	P	**P**	**06 17 02.4**	**+1.8**
	baz=26,SNR=3.5						
KLSI		**26.56**	**267**	P	P	06 17 14.8	+8.6
MDSI	**Maura Dua**	**27.10**	**267**	P	P	06 17 23.1	+12
STKA	**Stephens Creek**	**29.71**	**162**	P	**P**	**06 17 36.4**	**+2.2**
	comp=Z,3.5nm,0.7s,baz=324,slow=9.8,SNR=5.0						
STKA	**Stephens Creek**	**29.71**	**162**	P	**P**	**06 17 36.9**	**+2.8**
	baz=30,SNR=6.1						
STKA	**Stephens Creek**	**29.71**	**162**	P	**P**	**06 17 36.3**	**+2.2**
JOW	**Kunigami**	**30.42**	**355**	LR	LR	06 29 14.9	
	comp=Z,216nm,20.8s,baz=100,slow=35						
BKNI	**Bangkinang**	**30.53**	**277**	P	**P**	**06 17 41.5**	**-0.1**
PPI	**Padang Panjang**	**31.08**	**275**	P	**P**	**06 17 44.3**	**-2.1**
	comp=Z,340nmcomp=Z,13nm,0.9s						
JCJ	**Chichijima**	**32.29**	**18**	LR	LR	06 28 54.8	
	comp=Z,175nm,20.4s,baz=190,slow=33						
ARMA	**Armidale**	**32.83**	**146**	P	**P**	**06 18 01.0**	**-0.7**
PSI	**Prapat**	**33.02**	**281**	LR	LR	06 33 44.7	
	comp=Z,144nm,19.3s,baz=102,slow=40						
JHJ	**Hachijo jima 2**	**37.41**	**12**	LR	LR	06 32 52.4	
	comp=Z,204nm,18.6s,baz=178,slow=35						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NJ2	Nanjing	37.41	342	eP	P	06 18 44.0	+3.0
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GYA	Guiyang	38.27	323	⇑P	P	06 18 50.9	+2.4
GYA				pmax	pmax		
	comp=Z,18nm,1.1s						
CMAR	Chiang Mai Arr	38.73	306	P	P	06 18 53.8	+1.4
	comp=Z,2.2nm,0.3s,baz=133,slow=7.0,SNR=13						
CMAR	Chiang Mai Arr	38.73	306	P	P	06 18 53.2	+0.8
CHTO	Chiang Mai	38.91	306	P	P	06 18 54.4	+0.5
MJAR	Matsushiro Arr	40.47	9	P	P	06 19 04.0	-2.7
	comp=Z,1.2nm,0.3s,baz=201,slow=8.5,SNR=4.3						
MJAR				LR	LR	06 33 51.5	
	comp=Z,106nm,19.3s,baz=200,slow=33						
MJAR	Matsushiro Arr	40.47	9	IAmb	IAmb	06 19 07.8	
	comp=Z,3.6nm,0.9s						
KSRS	Korea Array	40.99	356	P	P	06 19 08.8	-2.1
	comp=Z,0.7nm,0.4s,baz=165,slow=9.6,SNR=1.9						
KSRS				LR	LR	06 36 00.7	
	comp=Z,128nm,19.9s,baz=190,slow=36						
PZH	PanZhiHua	41.43	318	P	P	06 19 18.4	+3.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,6.3s						
TIA	Tai'an	41.80	343	P	P	06 19 17.1	-0.5
TIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XAN	Xi'an	43.02	332	P	P	06 19 26.8	-0.8
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,120nm,5.2s						
BJT	Baijiatuau	45.61	344	P	P	06 19 47.9	-0.3
BJT				IAmb	IAmb	06 19 49.0	
	comp=Z,12nm,0.9s						
BJI	Beijing	45.63	344	P	P	06 19 48.4	+0.1
BJI				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH	Lanzhou	47.13	329	eP	P	06 20 02.1	+1.7
LZH				pP	sP	06 20 11.8	+1.4
LZH				sP	pP	06 20 15.0	+7.4
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
USRK	Ussuriysk Ar.	47.61	1	P	P	06 20 03.5	-0.3
	comp=Z,1.4nm,0.6s,baz=165,slow=12,SNR=2.1						
HHC	Hu-ho-hao-te	47.81	340	eP	P	06 20 08.9	+3.3
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,97nm,8.1s						
SHL	Shillong	48.01	309	P	P	06 20 07.5	+0.1
ASAJ	Asahikawa	48.59	11	LR	LR	06 39 54.2	
	comp=Z,86nm,19.9s,baz=317,slow=35						
GTA	Gaotai	51.73	329	eP	P	06 20 36.5	+1.1
GTA				pP	sP	06 20 45.6	+0.1
GTA				sP	pP	06 20 50.2	+7.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,54nm,4.7s						
GTA				LR	LR		
	comp=N,99nm,13.5s						
GTA				LR	LR		
	comp=E,120nm,14.9s						
GTA				LR	LR		
	comp=Z,110nm,13.5s						
TUWZ	Tuamarina	53.57	141	P	P	06 20 50.5	+1.7
BKZ	Black Stump Fm	54.08	137	P	P	06 20 54.2	+1.5
ULN	Ulaanbaatar	55.52	340	P	P	06 21 03.6	+0.5
ULN				IAmb	IAmb	06 21 04.9	
	comp=Z,5.9nm,1.1s						
SONM	Songino Array	55.72	340	P	P	06 21 05.2	+0.7
	comp=Z,3.9nm,1.1s,baz=163,slow=6.5,SNR=13						
SONM				LR	LR	06 47 30.5	
	comp=Z,54nm,19.8s,baz=121,slow=39						
SONM	Songino Array	55.72	340	P	P	06 21 05.2	+0.7
SONM				IAmb	IAmb	06 21 06.9	
	comp=Z,7.7nm,1.4s						
PETK	Petropavlovsk-	60.73	18	P	P	06 21 39.5	+0.2
	comp=Z,4.8nm,0.9s,baz=223,slow=8.1,SNR=5.2						
PETK				LR	LR	06 45 49.6	
	comp=Z,34nm,20.2s,baz=163,slow=34						
WMQ	Urumqi	61.35	325	eP	P	06 21 43.7	-0.1
WMQ				pP	sP	06 21 52.1	-1.8
WMQ				sP	pP	06 22 01.0	+10
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
MA2	Magadan	64.85	11	P	P	06 22 06.8	+0.1
MA2				IAmb	IAmb	06 22 16.7	
	comp=Z,3.7nm,1.0s						
YAK	Yakutsk	65.49	359	P	P	06 22 11.2	+0.5
MK31	Makanchi Array	66.18	325	P	P	06 22 16.1	+0.5
MK31				IAmb	IAmb	06 22 17.7	
	comp=Z,4.1nm,1.1s						
MK31	Makanchi Array	66.18	325	⇓Pn	P	06 22 10.9	-4.6
	comp=Z,3.6nm,0.8s,baz=53,slow=14,SNR=4.3						
MK31				⇑Sn		06 23 07.6	
	comp=Z,0.5nm,0.5s						
MK31				⇑Lg	Lg	06 23 25.9	
	comp=Z,0.6nm,0.4s,baz=48,slow=27,SNR=5.2						
MKAR	Makanchi Array	66.18	325	P	P	06 22 16.1	+0.5
	comp=Z,4.6nm,1.0s,baz=106,slow=7.9,SNR=22						
MKAR	Makanchi Array	66.18	325	P	P	06 22 15.3	-0.3
MAKZ	Makanchi	66.37	325	P	P	06 22 17.0	+0.3
MAKZ				IAmb	IAmb	06 22 18.3	
	comp=Z,7.3nm,1.1s						
MAKZ	Makanchi	66.37	325	⇓Pn	P	06 22 15.5	-1.2
	comp=Z,7.2nm,1.1s						
MAKZ				⇑Lg	Lg	06 23 32.4	
	comp=Z,2.9nm,0.9s						
KSH	Kashi	66.49	316	P	P	06 22 19.0	+1.2
KSH				pP	sP	06 22 27.4	-0.5
KSH				sP	pP	06 22 30.6	+5.5
KSH				PcP	PcP	06 22 48.7	+1.5
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SMY	Shemya	66.69	27	P	P	06 22 19.7	+1.2
AAK	Ala-Archa	68.88	319	LR	LR	06 55 58.9	
	comp=Z,46nm,20.9s,baz=81,slow=39						
AAK	Ala-Archa	68.88	319	P	P	06 22 32.8	0.0
AAK				IAmb	IAmb	06 22 45.8	
	comp=Z,8.2nm,1.6s						
ZAA0	Zalesovo Array	69.19	333	P	P	06 22 33.9	-0.4
ZAA0				IAmb	IAmb	06 22 34.9	
	comp=Z,6.2nm,1.1s						
ZALV	Zalesovo Beam	69.19	333	P	P	06 22 34.2	-0.1
	comp=Z,4.4nm,0.9s,baz=103,slow=6.4,SNR=14						
ZALV	Zalesovo Beam	69.19	333	P	P	06 22 33.4	-0.9
KBL	Kabul	69.66	309	P	P	06 22 35.7	-2.2
KBL				IAmb	IAmb	06 22 38.8	
	comp=Z,3.0nm,0.8s						
GAR	Garm	70.28	314	P	P	06 22 41.8	+0.3
KURK	Kurchatov	70.38	328	P	P	06 22 42.2	+0.5
KKAR	Karatay Array	71.73	318	P	P	06 22 49.2	-0.9
TIXI	Tiksi	75.15	359	P	P	06 23 09.1	-0.5
VNDA	Vanda	75.62	173	P	P	06 23 15.4	+3.1
	comp=Z,1.4nm,0.9s,baz=316,slow=4.1,SNR=3.8						
VNDA	Vanda	75.62	173	IAmb	IAmb	06 23 46.8	
	comp=Z,16nm,1.6s						
BRVK	Borovoye	76.03	327	P	P	06 23 15.8	+0.8
BRVK				IAmb	IAmb	06 23 16.5	
	comp=Z,6.8nm,0.9s						
MAW	Mawson	78.56	201	P	P	06 23 30.9	+2.0
	comp=Z,1.8nm,0.9s,baz=79,slow=8.6,SNR=1.6						
NRIK	Noril'sk	78.64	345	P	P	06 23 29.8	+0.5
	comp=Z,6.1nm,0.9s,baz=127,slow=6.6,SNR=6.8						
NRIK				LR	LR	07 00 52.0	
	comp=Z,107nm,19.0s,baz=160,slow=38						
NRIK	Noril'sk	78.64	345	P	P	06 23 29.8	+0.5
NRIK				IAmb	IAmb	06 23 30.7	
	comp=Z,9.0nm,1.1s						
ABKAR	Akbulak array	80.72	321	P	P	06 23 40.7	-0.4
TTA	Tatalina	85.39	26	P	P	06 24 05.1	+0.1
KDAK	Kodiak Island	85.67	31	LR	LR	06 57 11.8	
	comp=Z,85nm,19.7s,baz=235,slow=32						
RAYN	Ar Rayn	87.61	294	P	P	06 24 17.3	+0.6
MLY	Manley	88.18	25	P	P	06 24 19.3	+0.7
MLY				IAmb	IAmb	06 24 21.8	
	comp=Z,3.9nm,1.0s						
ILAR	Eielson Array	89.75	25	P	P	06 24 24.6	-1.2
	comp=Z,1.5nm,1.1s,baz=261,slow=5.0,SNR=7.0						
DAWY	Dawson	92.92	26	P	P	06 24 41.0	+0.4
DAWY				IAmb	IAmb	06 24 43.4	
	comp=Z,4.9nm,1.1s						
TORD	Torodi Ar. Bea	129.38	284	PKP	PKiKP	06 30 38.6	+0.4
	comp=Z,0.6nm,0.6s,baz=71,slow=1.8,SNR=3.5						
CPUP	Villa Florida	149.06	165	PKPbc	PKPab	06 31 18.4	-2.4
	comp=Z,2.1nm,0.9s,baz=253,slow=4.2,SNR=3.6						
LPAZ	La Paz	152.40	136	PKPbc	PKiKP	06 31 27.2	+1.2
	comp=Z,1.2nm,0.8s,baz=12,slow=8.2,SNR=5.2						

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*CNRM **01** 06:17:46.4, 35.55N×3.68W, h22km, ml2.0*
*MDD **01** 06:17:48.1±0.6, 35.45N×3.74W, h18km±9km, mb_Lg2.6/4, Error ellipse: s-maj=10.5km s-min=3.9km az=158.0*
*SFS **01** 06:17:48.0, 35.44N×3.74W, h18km, ML2.6, ALBORAN SUR*
*INMG **01** 06:17:49.8±1.4, 35.49N×3.92W, h10km, ML2.0, Error ellipse: s-maj=7.9km s-min=5.1km az=84.0*
ISC 01 06:17:45.9±1.3**, 35.52N**±0.02×**3.70W**±0.03**, h13**km±10km**, n28,** σ**1.46**/51**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.36	213	P	Pb	06 17 54.2	0.0
PALE				S	Sb	06 17 60.0	+0.2
PVLZ	Peæn de	0.60	235	P	Pg	06 17 57.5	-0.2
PVLZ				S	Sg	06 18 05.0	-0.7
EMEL	Melilla	0.65	110	Pg	Pn	06 18 00.2	-0.5
EMEL				S	Sn	06 18 10.2	-0.6
EALB	Alboran	0.68	52	Pg	Pn	06 18 01.1	-0.2
EALB				Sg	Sn	06 18 12.0	+0.2
EALB				i Vmb_Lg		06 18 13.9	
TAF	Taforalt	1.27	123	P	Pb	06 18 09.9	+0.2
TAF				S	Sb	06 18 23.7	-2.2
ELGU	Los Guajares,	1.34	2	Pn	Pn	06 18 10.4	0.0
ELGU				Sn	Sb	06 18 28.9	+0.7
ELGU				i Vmb_Lg		06 18 32.0	
EMIJ	Mijas	1.36	320	Pn	Pn	06 18 10.7	+0.1
EMIJ				Sn	Sn	06 18 28.0	-0.5
EMIJ				i Vmb_Lg		06 18 28.2	
EMAL	Malaga-Limoner	1.37	335	P	Pg	06 18 12.5	+0.2
EMAL				S	Sn	06 18 27.1	-1.7
SMIR	Smir Dam	1.38	277	P	Pn	06 18 08.6	-2.2
SMIR				S	Sn	06 18 28.2	-0.8
CHEFC	Chefchaouen	1.41	253	P	Pb	06 18 12.8	+0.8
CHEFC				S	Sb	06 18 30.4	+0.5
JBK	JBK	1.50	142	P	Pb	06 18 13.8	-0.1
JBK				S	Sn	06 18 32.0	-0.4
EBER	Berja	1.52	25	Pn	Pn	06 18 13.8	+0.8
EBER				Sn	Sb	06 18 33.6	+0.2
EGOR	Sierra Gorda,	1.62	348	Pn	Pb	06 18 16.4	+0.7
EGOR				Sn	Sb	06 18 37.6	+1.4
EADA	Adamuz	2.73	345	Pn	Pb	06 18 32.5	-2.2
EADA				Sn	Sn	06 19 03.6	+1.2
EADA				i Vmb_Lg		06 19 44.4	
MD31	MD31	2.79	199	P	Pn	06 18 32.3	+2.0
MD31				S	Sn	06 19 05.7	+1.7
MDT	Midelt	2.80	196	P	Pn	06 18 31.7	+1.1
MDT				S	Sn	06 19 03.4	-0.9
ECAB	El Cabril	2.90	332	Pn	Pn	06 18 33.6	+1.8
ECAB				Sn	Sn	06 19 07.8	+1.3
EMIN	Mina Concepcio	3.28	314	Pn	Pn	06 18 36.7	-0.3
EMIN				Sn	Sn	06 19 13.6	-2.2
EGRO	El Granado	3.65	304	Pn	Pn	06 18 42.7	+0.6
EGRO				Sn	Sn	06 19 22.5	-2.5
PVAQ	Vaqueiros	3.74	301	ePn	Pn	06 18 44.9	+1.5
PVAQ				eSn	Sn	06 19 23.2	-4.1
PVAQ				A	A	06 19 47.8	
	2.8nm,0.8s						
PVAQ	Vaqueiros	3.74	301	P	Pn	06 18 43.2	-0.2
PBAR	Barrancos	3.77	316	ePn	Pn	06 18 45.1	+1.4
PBAR				A	A	06 19 22.4	
	1.7nm,0.7s						
PBAR				eSn	Sn	06 19 27.8	-0.1
PBDV	Barranco-do-Ve	3.82	298	ePn	Pn	06 18 47.3	+2.8
PBDV				eSn	Sn	06 19 28.0	-1.3
PBDV				A	A	06 19 44.1	
	2.7nm,0.7s						
PCVE	Castro Verde	4.08	302	eSn	Sn	06 19 34.0	-1.6
EBAD	Badajoz	4.17	322	Pn	Pn	06 18 50.0	+0.7
EBAD				Sn	Sn	06 19 37.0	-1.0
PNCL	Nicolau / Gran	4.66	305	ePn	Pn	06 18 57.5	+1.6
PMRV	Marv??o	4.88	324	ePn	Pn	06 19 01.9	+2.9
PMTG	Montargil	5.05	316	ePn	Pn	06 19 03.2	+1.8

IDC 01 06:29:47.2±2.5**, 54.28N**×**85.88E, h0**km**, mb1 2.8**/2**, mb1mx2.8**/47**, mbtmp2.8**/2**, ML2.6**/2**, Error ellipse: s-maj=18.2km s-min=11.1km az=51.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.71	243	i		06 34 10.0	
	baz=61,slow=326,SNR=6.2						
ZALV	Zalesovo Beam	0.71	242	Pg	Pg	06 30 00.1	-0.6
	0.8nm,0.3s,baz=68,slow=17,SNR=7.6						
ZALV				Lg	Lg	06 30 11.0	
	3.3nm,0.3s,baz=63,slow=31,SNR=7.1						
KURBB	Kurchatov Arra	5.80	234	Pn	Pn	06 31 14.9	+0.5
	0.1nm,0.3s,baz=50,slow=14,SNR=6.2						
KURBB				Lg	Lg	06 32 51.6	
	0.0nm,0.3s,baz=45,slow=30,SNR=1.5						
MKAR	Makanchi Array	7.83	198	Pn	Pn	06 31 43.4	+1.0
	0.2nm,0.3s,baz=23,slow=12,SNR=10.0						
MKAR				Lg	Lg	06 33 55.6	
	0.0nm,0.3s,baz=16,slow=33,SNR=4.2						

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*TEH **01** 06:35:08.1, 35.23N×46.03E, h6km, ML3.6*
*IDC **01** 06:35:08.9±1.6, 35.02N×46.10E, h0km, mb3.6/6, mb1 3.8/11, mb1mx3.6/43, mbtmp3.6/11, ML3.8/5, Error ellipse: s-maj=29.4km s-min=18.8km az=4.0*
*ISN **01** 06:35:10.2±0.8, 35.30N×46.26E, h5km±11km, ML3.5*
*AZER **01** 06:35:36.7±0.5, 36.48N×47.89E, h10km, Error ellipse: s-maj=4.2km s-min=3.7km az=149.0*
ISC 01 06:35:09.6±0.5**, 35.24N**±0.02×**46.08E**±0.04**, h10**km**, n82,** σ**3.13**/82**, mb3.5**/6**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.60	155	ePg	Pg	06 35 20.7	-0.5
IDHR				eSg	Sg	06 35 28.8	-0.3
IDHR				e		06 35 34.6	
	comp=Z,31μm,0.6s						
IGHG	Ghaleghazi	1.00	156	ePg	Pn	06 35 28.5	-1.4
IGHG				eSg	Sn	06 35 44.5	+0.4
IGHG				e		06 35 52.4	
	comp=Z,19μm,0.8s						
KER	Kermanshah	1.22	134	ePg	Pg	06 35 32.5	-0.5
KER				e		06 36 03.8	
	comp=Z,10μm,0.8s						
KCHF	Cheshme Sefid,	1.25	140	ePg	Pg	06 35 33.2	-0.4
KCHF				e		06 36 00.1	
	comp=Z,18μm,0.9s						
IKRK	Kirkuk	1.43	277	ePn	Pg	06 35 40.7	+3.6
IKRK				eSn	Sg	06 36 02.5	+6.8
IKRK				AML	AML	06 36 09.8	
	comp=E,1μm,0.8s						
IKRK				AML	AML	06 36 10.4	
	comp=N,851nm,0.7s						
MAHB	Mahabad	1.55	349	ePg	Pg	06 35 38.1	-1.2
IBZA	Bozab	1.66	117	ePn	Pn	06 35 38.0	-0.9
IBZA				e		06 35 43.5	
	comp=Z,7μm,0.6s						
IBDR	Badra	2.13	183	ePn	Pg	06 35 49.0	-1.5
IBDR				eSn	Sg	06 36 17.0	-1.1
IBDR				AML	AML	06 36 27.7	
	comp=N,324nm,0.8s						
IBDR				AML	AML	06 36 32.4	
	comp=E,357nm,0.6s						
IKFM	Kafar-mosalman	2.25	139	ePn	Pb	06 35 49.4	-0.9
IKFM				e		06 36 34.6	
	comp=Z,10μm,0.7s						
IDOB	Doab	2.26	129	ePn	Pb	06 35 49.5	-1.1
HSAM	Samen	2.32	116	ePn	Pb	06 35 50.3	-1.3
HSAM				e		06 36 36.7	
	comp=Z,1μm,0.8s						
BHD	Baghdad	2.42	216	ePn	Pg	06 35 54.0	-2.0
BHD				eSn	Sg	06 36 26.0	-1.4
BHD				AML	AML	06 36 30.8	
	comp=E,436nm,0.7s						
IAZR	Azarshahr	2.43	358	ePn	Pb	06 35 52.7	-0.9
IAZR				e		06 36 46.9	
	comp=Z,10μm,0.8s						
IBST	Bostanabad	2.54	15	ePn	Pb	06 35 53.5	-1.8
IBST				e		06 36 47.6	
	comp=Z,1μm,0.8s						
HAGD	Aghdareh	2.54	99	ePn	Pb	06 35 54.1	-1.4
HAGD				e		06 36 37.7	
	comp=Z,3μm,0.7s						
ZNJK	Zanjan	2.55	55	ePn	Pb	06 35 54.3	-1.2
ISRB	Sarab	2.88	26	ePn	Pb	06 35 58.2	-2.9
ISRB				e		06 36 53.5	
	comp=Z,2μm,0.7s						
QABG	Abgarm-Qazvin	2.90	80	ePn	Pn	06 35 58.3	+2.3
QABG				e		06 37 02.5	
	comp=Z,986nm,1.0s						
ITBZ	Tabriz	2.98	1	ePn	Pb	06 35 59.4	-3.5
ITBZ				e		06 36 55.2	
	comp=Z,1μm,0.6s						
IRAZ	Razeghan	3.15	86	ePn	Pn	06 36 02.2	+2.7
IRAZ				e		06 37 18.1	
	comp=Z,2μm,1.0s						
IHRS	Heris	3.16	14	ePn	Pb	06 36 02.8	-3.2
IHRS				e		06 37 14.2	
	comp=Z,959nm,0.7s						
ASAO	Ashtian	3.31	101	ePn	Pb	06 36 06.1	-2.5
IMRD	Marand	3.48	355	e		06 37 27.1	
	comp=Z,2μm,0.7s						
RAFI	Al-Rafai	3.51	180	ePn	Pb	06 36 08.0	-3.8
RAFI				eSn	Sb	06 36 51.0	-3.5
KHMZ	Khomeyn	3.54	114	ePn	Pb	06 36 09.4	-3.0
ORD	Ordubad	3.68	359	P	Pg	06 36 22.1	+2.1
	SNR=12						
ORD				S	Sb	06 36 57.8	-1.6
GRMI	Germi	3.84	22	ePn	Pn	06 36 12.0	+3.1
LRK	Lerik	3.84	27	P	Pb	06 36 13.0	-4.6
	SNR=7.9						
LRK				S	Sn	06 36 42.3	-12
QALM	Alamut, Qazvin	3.89	71	e	Sg	06 37 17.8	+3.1
	comp=Z,539nm,1.0s						
NAX	Nakhchivan	3.95	353	P	Pg	06 36 28.2	+2.9
	SNR=4.1						
NAX				S	Sb	06 37 07.9	+0.7
ASTR	Astara	3.96	32	P	Pn	06 36 12.9	+2.6
	SNR=5.4						
ASTR				S	Sn	06 36 40.1	-17
YRD	Yardimli	4.05	25	P	Pb	06 36 16.6	-4.6
	SNR=7.8						
YRD				S	Sn	06 36 47.5	-12
LKRN	Lenkeran, Azer	4.08	31	P	Pn	06 36 14.7	+2.7
	SNR=3.1						
LKRN				S	Sn	06 36 43.7	-16
IQOM	Qom	4.11	94	ePn	Pn	06 36 15.3	+2.6
SBZ	Shahbuz	4.17	354	P	Pg	06 36 30.1	+0.7
	SNR=4.0						
SBZ				S	Sb	06 37 11.7	-1.8
QRD	Qoradiz	4.32	13	P	Pb	06 36 24.9	-0.8
	SNR=5.0						
QRD				S	Sn	06 37 01.2	-4.6
GHVR	GHOM	4.35	99	ePn	Pn	06 36 19.6	+3.7
GLBA	Clilabad	4.40	24	P	Pb	06 36 21.3	-5.6
	SNR=4.8						
GLBA				S	Sn	06 36 55.1	-13
AMIS	Naft Sefid	4.46	142	ePn	Pn	06 36 19.8	+2.5
HYR	Heyderabad	4.57	348	P	Pg	06 36 38.4	+1.2
HYR				S	Sb	06 37 26.7	+1.5
BLQ	Beylaqan	4.62	14	P	Pb	06 36 28.0	-2.7
	SNR=4.7						
BLQ				S	Sn	06 37 06.2	-6.9
IVRN	Varamin	4.63	91	ePn	Pn	06 36 22.5	+2.8
IVRN				e		06 36 43.0	
	comp=Z,340nm,1.2s						
QAMS	Qamsar	4.64	107	ePn	Pn	06 36 22.9	+2.9
IPIR	Pirpir	4.74	121	ePn	Pn	06 36 24.0	+2.6
IPIR				e		06 38 02.4	
	comp=Z,954nm,1.3s						
DAMV	Damavand	4.82	84	ePn	Pn	06 36 26.2	+3.7
IKLH	Kolahrood	4.94	111	ePn	Pn	06 36 26.8	+2.7
IKLH				e		06 38 09.1	
	comp=Z,597nm,1.0s						
SHK1	Shahrekord	4.95	125	ePn	Pn	06 36 25.7	+1.5
SAAT	Saatly	4.97	21	S	Sn	06 37 12.1	-10
GNI	Garni	5.01	348	Pg	Pg	06 36 43.8	-1.7
	comp=Z,2.1nm,0.3s,baz=157,slow=13,SNR=1.4						
GNI				Lg	Lg	06 37 54.2	
	comp=Z,1.8nm,0.3s,baz=159,slow=19,SNR=3.3						
BRDA	Brd	5.08	10	S	Sn	06 37 21.1	-3.5
ISFB	Sefidab	5.14	98	ePn	Pn	06 36 29.0	+2.2
ZRD	Zardab	5.18	14	P	Pb	06 36 35.3	-5.0
ZRD				S	Sn	06 37 20.3	-6.7
ALIB	Äli-Bayra	5.25	25	S	Sn	06 37 15.0	-14
KDMR	Kurdemir	5.39	17	S	Sn	06 37 24.2	-7.8
GANJ	Ganja	5.40	2	P	Pb	06 36 43.2	-0.7
	SNR=3.9						
GANJ				S	Sn	06 37 35.7	+3.3
GDB	GEDABAY	5.47	357	P	Pb	06 36 46.0	+0.6
	SNR=3.5						
GDB				S	Sn	06 37 41.4	+6.9
MNGR	Mingechevir, A	5.58	8	P	Pb	06 36 43.1	-3.9
MNGR				S	Sn	06 37 36.0	-0.7
IZEF	Zefreh	5.69	113	ePn	Pn	06 36 37.0	+2.6
GBS	Qobustan	5.75	22	S	Sn	06 37 30.9	-10
IML	Ismayilli	5.78	16	P	Pn	06 36 42.2	+6.7
IML				S	Sn	06 37 35.2	-6.7
QBL	Gabala	5.86	13	S	Sn	06 37 39.2	-4.5
PQL	Pirkuli	5.88	19	P	Pn	06 36 43.0	+6.1
	SNR=4.5						
GOBA	Gobu	5.90	28	S	Sn	06 37 31.2	-14
SEKA	Sheki	6.02	8	S	Sn	06 37 46.4	-1.3
ATGJ	Altiaghaj	6.04	21	P	Pn	06 36 44.5	+5.4
ATGJ				S	Sn	06 37 38.4	-10
XNQ	Khinaliq	6.14	15	P	Pn	06 36 48.0	+7.5
	SNR=3.5						
XNQ				S	Sn	06 37 45.4	-5.5
SIZA	Siyzn	6.23	20	P	Pn	06 36 47.3	+5.6
	SNR=3.9						
QUBA	Quba, Azerbaij	6.39	17	S	Sn	06 37 49.4	-7.4
QSAR	Qusar	6.49	15	P	Pn	06 36 52.5	+7.3
QSAR				S	Sn	06 37 52.9	-6.4
YZKH	Yazd	7.63	109	ePn	Pn	06 37 03.5	+2.6
BRTR	Keskin Array B	10.85	298	Pn	Pn	06 37 51.4	+6.3
	comp=Z,0.1nm,0.3s,baz=122,slow=12,SNR=4.2						
IDI	Anoyia	17.31	276	P	P	06 39 13.3	+0.5
	comp=Z,0.2nm,0.3s,baz=84,slow=9.2,SNR=2.0						
AKTO	Aktyubinsk	17.49	26	P	P	06 39 17.1	+2.5
	comp=Z,0.2nm,0.3s,baz=211,slow=8.7,SNR=5.3						
MLR	Muntele Rosu	18.40	310	P	P	06 39 27.4	+2.6
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=1.8						
AKASG	Malin Array Be	19.70	327	P	Pn	06 39 40.9	+0.7
	comp=Z,0.3nm,0.3s,baz=137,slow=11,SNR=8.7						
CRVS	Cervenica-Dubn	22.68	315	eP	P	06 40 17.9	+6.8
BVAR	Borovoye Array	24.71	36	P	P	06 40 35.1	+4.3
	comp=Z,1.0nm,0.7s,baz=232,slow=51,SNR=2.2						
KURBB	Kurchatov Arra	28.01	47	P	P	06 41 03.1	+2.5
	comp=Z,1.0nm,0.8s,baz=252,slow=9.0,SNR=5.7						
MKAR	Makanchi Array	29.40	56	P	P	06 41 15.5	+2.5
	comp=Z,1.3nm,0.8s,baz=254,slow=7.4,SNR=12						
ESDC	Sonseca Array	39.56	292	P	P	06 42 42.9	+2.0
	comp=Z,0.3nm,0.5s,baz=64,slow=7.5,SNR=4.9						
SONM	Songino Array	45.76	55	P	P	06 43 31.3	0.0
	comp=Z,0.2nm,0.5s,baz=243,slow=6.3,SNR=2.4						
YKA	Yellowknife Ar	81.36	351	P	P	06 47 26.6	+0.6
	comp=Z,0.2nm,0.7s,baz=18,slow=5.4,SNR=4.3						

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*IDC **01** 06:41:00.0±2.7, 53.74N×88.20E, h0km, mb1 3.4/3, mb1mx3.1/46, mbtmp3.4/3, ML2.9/3, Error ellipse: s-maj=23.5km s-min=16.5km az=56.0*
*NNC **01** 06:41:01.2±3.2, 53.70N×87.97E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=25.5km s-min=13.4km az=58.0, Suspected Mining explosion.*
ISC 01 06:41:01.7±3.9**, 53.8N**±0.1×**88.0E**±0.2**, h0**km**, n9,** σ**0.86**/13**, 7C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.86	277	i		06 53 04.5	
	baz=93,slow=324,SNR=8.7						
ZAA0	Zalesovo Array	1.86	277	⇑Pg	Pn	06 41 34.7	-0.2
	3.6nm,0.6s						
ZAA0				⇑Lg	Lg	06 42 03.1	
	4.8nm,0.5s						
ZALV	Zalesovo Beam	1.86	277	Pn	Pn	06 41 34.8	-0.1
	5.9nm,0.3s,baz=90,slow=14,SNR=89						
ZALV				Lg	Lg	06 42 04.0	
	11nm,0.3s,baz=97,slow=22,SNR=23						
KURK	Kurchatov	6.49	246	⇑Pn	Pn	06 42 38.8	+0.5
	1.3nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK				⇓Lg	Lg	06 44 27.2	
	16nm,1.4s						
KURBB	Kurchatov Arra	6.58	245	Pn	Pn	06 42 40.2	+0.5
	0.3nm,0.3s,baz=62,slow=14,SNR=20						
KURBB				Sn	Sn	06 43 57.2	+1.8
	0.1nm,0.3s,baz=61,slow=23,SNR=3.0						
KURBB				Lg	Lg	06 44 32.0	
	0.1nm,0.3s,baz=60,slow=31,SNR=8.5						
KURBB	Kurchatov Arra	6.58	245	⇑Pn	Pn	06 42 39.8	+0.1
	4.1nm,0.5s						
KURBB				⇓Sn	Sn	06 43 54.0	-1.5
	6.9nm,0.6s						
KURBB				⇑Lg	Lg	06 44 29.8	
	12nm,0.7s						
MK31	Makanchi Array	7.85	210	⇑Pn	Pn	06 42 57.6	+0.4
	0.6nm,0.6s,baz=32,slow=12,SNR=19						
MK31				Sn	Sn	06 44 26.1	-0.6
	0.5nm,0.5s,baz=37,slow=26,SNR=5.9						
MK31				⇑Lg	Lg	06 45 08.1	
	1.7nm,0.7s,baz=37,slow=32,SNR=5.6						
MKAR	Makanchi Array	7.85	210	Pn	Pn	06 42 57.6	+0.5
	0.3nm,0.3s,baz=31,slow=13,SNR=21						
MKAR				Sn	Sn	06 44 26.1	-0.6
	0.3nm,0.3s,baz=26,slow=21,SNR=5.6						
MKAR				Lg	Lg	06 45 09.2	
	0.1nm,0.3s,baz=29,slow=30,SNR=2.7						
MAKZ	Makanchi	7.93	211	⇓Pn	Pn	06 42 58.4	+0.1
	1.8nm,1.0s						
MAKZ				⇓Sn	Sn	06 44 28.1	-0.6
	1.3nm,0.6s						
MAKZ				⇓Lg	Lg	06 45 09.3	
	4.2nm,1.0s						

IDC 01 06:58:50.9±2.5, 53°.72N×86°.80E, h0km, mb1 3.1/2, mb1mx2.9/47, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=21.4km s-min=13.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.20	282	*i*		07 05 10.0	
	baz=100,slow=324,SNR=1.1						
ZALV	Zalesovo Beam	1.20	282	Pg	Pg	06 59 12.8	-0.9
	1.9nm,0.3s,baz=103,slow=12,SNR=40						
ZALV				Lg	Lg	06 59 29.8	
	1.0nm,0.3s,baz=102,slow=28,SNR=9.2						
KURBB	Kurchatov Arra	5.96	242	Pn	Pn	07 00 21.3	+1.1
	0.1nm,0.3s,baz=58,slow=14,SNR=8.9						
KURBB				Sn	Sn	07 01 29.0	-0.1
	0.0nm,0.3s,baz=10,slow=34,SNR=1.9						
KURBB				Lg	Lg	07 01 59.7	
	0.0nm,0.3s,baz=334,slow=31,SNR=2.1						
MKAR	Makanchi Array	7.51	204	Pn	Pn	07 00 42.6	+1.0
	0.3nm,0.3s,baz=25,slow=13,SNR=12						
MKAR				Lg	Lg	07 02 49.4	
	0.0nm,0.3s,baz=23,slow=33,SNR=5.0						

IDC 01 07:10:12.9±2.5, 53°.92N×86°.54E, h0km, mb1 2.9/2, mb1mx2.8/62, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=20.4km s-min=11.8km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.02	272	*i*		07 15 55.6	
	baz=91,slow=323,SNR=8.2						
ZALV	Zalesovo Beam	1.02	272	Pg	Pg	07 10 31.3	-1.1
	0.9nm,0.3s,baz=89,slow=16,SNR=12						
ZALV				Lg	Lg	07 10 46.7	
	2.8nm,0.3s,baz=90,slow=30,SNR=11						
KURBB	Kurchatov Arra	5.92	239	Pn	Pn	07 11 43.0	+1.2
	0.1nm,0.3s,baz=56,slow=14,SNR=8.8						
KURBB				Lg	Lg	07 13 21.3	
	0.0nm,0.3s,baz=54,slow=33,SNR=4.1						
MKAR	Makanchi Array	7.63	203	Pn	Pn	07 12 06.4	+1.1
	0.1nm,0.3s,baz=21,slow=12,SNR=7.5						
MKAR				Sn	Sn	07 13 31.4	-1.0
	0.1nm,0.3s,baz=22,slow=26,SNR=3.3						
MKAR				Lg	Lg	07 14 14.8	
	0.1nm,0.3s,baz=26,slow=30,SNR=2.6						

SOME 01 07:14:57.1, 39°.35N×73°.03E, h15km
IDC 01 07:14:59.1±18.0, 38°.15N×73°.48E, h114km±94km, mb3.4/2, mb1 3.6/5, mb1mx3.0/66, mbtmp3.9/5, ML3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.2/65, Error ellipse: s-maj=191.2km s-min=80.2km az=6.0
ISC 01 07:14:59.2±2.3, 38°.3N±0°.2×73°.1E±0°.1, h100km, n11, σ1s.59/12, 1C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.45	13	P	Pn	07 16 05.9	+1.3
	2.9nm,0.3s,baz=179,slow=7.0,SNR=33						
AAK				S	Sn	07 16 55.6	+0.2
	2.6nm,0.3s,baz=162,slow=20,SNR=13						
IUG	Iuzhnay	4.51	329	*e*P	Pn	07 16 05.4	+0.1
	8.4nm,0.1s						
IUG				*e*S	Sn	07 16 54.0	-2.7
	101nm,0.3s						
TKM2	Tokmak 2	4.98	21	⇓Pn	Pn	07 16 11.8	0.0
	1.6nm,0.5s						
TKM2				⇓Sn	Sn	07 17 06.4	-1.8
	2.7nm,0.5s						
KST	Kastek	5.20	24	*e*P	Pn	07 16 15.6	+0.8
	2.9nm,0.3s						
KST				*e*S	Sn	07 17 12.1	-1.4
	10.0nm,0.4s						
KK09	Karatay Array	5.21	338	⇓Pn	Pn	07 16 14.0	-0.8
	3.2nm,0.4s,baz=147,slow=14						
KK09				⇑Sn	Sn	07 17 09.3	-4.3
	9.3nm,0.6s,baz=150,slow=22						
BRLS	Borolday	5.34	333	*e*P	Pn	07 16 13.5	-3.1
	8.1nm,0.2s						
BRLS				*e*S	Sn	07 17 08.0	-8.7
	8.8nm,0.2s						
BVAR	Borovoye Array	14.85	354	P	Pn	07 18 27.2	+3.4
	0.6nm,0.3s,baz=200,slow=15,SNR=5.5						
ZALV	Zalesovo Beam	17.58	23	P	P	07 18 55.7	-1.5
	0.6nm,0.3s,baz=206,slow=12,SNR=11						
ARCES	ARCESS Array B	40.15	336	P	P	07 22 24.7	-0.2
	4.6nm,1.1s,baz=106,slow=8.9,SNR=1.8						
KEST	Kesra	50.08	288	LR	LR	07 49 07.0	
	comp=Z,24nm,18.2s,baz=298,slow=41						
YKA	Yellowknife Ar	79.36	4	P	P	07 26 52.9	-0.6
	0.1nm,0.5s,baz=350,slow=5.5,SNR=6.7						

MAN 01 07:23:41.6, 3°.64N×128°.46E, h9km, mb5.2, ML4.1, MS4.2, Hypocentre not reviewed by the ISC
NEIC 01 07:23:44.6±2.1, 3°.93N±0°.06×128°.24E±0°.07, h10km±1km, mb4.9/71, Error ellipse: s-maj=13.5km s-min=8.6km az=61.0
BJI 01 07:23:46.9±0.0, 3°.62N×128°.28E, h62km, mb4.7/47, mB4.8/24, Ms4.2/18, Ms7 4.0/21
DJA 01 07:23:47.4±0.6, 4°N±4°×12°8E±°, h47km±5km, M4.8/37, mb4.9/37, mB5.2/23, MLv5.1/12, Mw(mB)4.7/23, MwMwp4.5/1, Mwp4.9/1
IDC 01 07:23:48.5±1.5, 3°.86N×128°.18E, h44km±14km, mb4.2/37, mb1 4.2/39, mb1mx4.1/59, mbtmp4.5/39, ML5.2/3, MS3.8/23, Ms1 3.8/23, ms1mx3.6/60, Error ellipse: s-maj=18.7km s-min=8.6km az=69.0
ISC 01 07:23:48.6±0.3, 3°.91N±0°.04×128°.28E±0°.05, h46km, n204, σ1s.29/193, mb4.7/77, MS3.9/30, 5C-5D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.75	266	P	Pn	07 24 30.8	+0.5
SGSI				S	Sn	07 25 02.5	+0.2
TNTI	Ternate	3.24	196	Pn	Pn	07 24 35.8	-1.3
TNTI	Ternate	3.24	196	P	Pn	07 24 41.4	+4.3
GSPH	General Santos	3.96	303	⇓*e*P	Pn	07 24 46.8	-0.3
GSPH				*i* S	Sn	07 25 36.0	+3.8
DAV	Davao City (W)	4.13	320	P	Pn	07 24 50.6	+1.3
	117nm,0.3s,baz=173,slow=6.2,SNR=2.1						
DAV				S	Sn	07 25 43.9	+7.5
	64nm,0.3s,baz=261,slow=22,SNR=3.8						
DAV				LR	LR	07 27 03.7	
	comp=Z,4μm,18.7s,baz=38,slow=48						
DAV	Davao City (W)	4.13	320	Pn	Pn	07 24 47.8	-1.5
DAV				Sn	Sn	07 25 36.3	-0.1
KCP	Kidapawan	4.42	314	⇓*e*P	Pn	07 24 53.4	+0.1
KCP				*i* S	Sn	07 25 58.0	+14
LBMI	Labuha	4.58	190	P	Pn	07 24 59.6	+4.2
BIPH	Bislig	4.66	336	⇑*i*P	Pn	07 24 58.3	+1.8
BIPH				*i* S	Sn	07 25 46.3	-3.0
CTBH	Cotabato--PC H	5.19	310	⇓*i*P	Pn	07 25 04.2	+0.4
KMSI	Cibinong	5.42	232	P	Pn	07 25 09.7	+2.8
	3.7nm6μm757nm,0.7s						
SWI	Sorong	5.60	148	P	Pn	07 25 09.3	-0.1
	0.5nm67nm,0.4s						
SIJI	Sorong	5.61	148	P	Pn	07 25 09.9	+0.3
	12nm,0.3s,baz=326,slow=13,SNR=16						
SIJI				S	Sn	07 26 12.3	-0.5
	14nm,0.3s,baz=17,slow=19,SNR=13						
SIJI				LR	LR	07 27 28.1	
	comp=Z,1μm,19.7s,baz=270,slow=39						
GTOI	Gorontalo	6.18	238	P	Pn	07 25 19.7	+2.3
	0.5nm1μm124nm,0.6s						
SANI	Sanana	6.34	201	P	Pn	07 25 20.5	+0.9
MRSI	Marisa	7.19	242	P	Pn	07 25 33.1	+1.9
	1.9nm5μm515nm,0.5s						
LUWI	Luwuk	7.38	228	Pn	Pn	07 25 32.1	-1.8
LUWI	Luwuk	7.38	228	P	Pn	07 25 36.3	+2.5
	1.2nm186nm,0.9s						
FAKI	Fak Fak	7.86	150	Pn	Pn	07 25 41.1	+0.7
TOLI2	Tolitoli	7.98	250	Pn	Pn	07 25 42.1	0.0
APSI	Ampana	8.17	234	P	Pn	07 25 47.7	+3.0
	2μm149nm,0.5s						
MPSI	Mapaga	9.09	247	P	Pn	07 25 58.2	+0.9
	769nm34nm,0.6s						
RCP	Roxas	9.37	325	⇑*e*P	Pn	07 26 06.7	+5.5
MYLDM	Lahad Datu	9.83	278	Pn	Pn	07 26 06.0	-1.4
TTSI	Tana Toraja	10.91	231	P	Pn	07 26 25.0	+2.7
	52nm,0.6s						
SPSI	Sidrap Palu	11.55	227	P	Pn	07 26 33.7	+2.7
	43nm,0.8s						
BNSI	Bone	11.61	225	P	Pn	07 26 34.0	+2.2
	27nm,0.7s						
LQP	Lukban	12.12	327	⇑*e*P	P	07 26 45.1	-5.6
KKM	Kota Kinabalu	12.20	281	Pn	Pn	07 26 36.2	-3.9
BKSI	Bulukumba	12.26	222	P	Pn	07 26 43.1	+2.4
	13nm,0.6s						
KAPI	Kappang	12.29	224		Pn	07 26 42.4	+1.3
TGY	Tagaytay City	12.45	325	P	Pn	07 26 43.3	-0.1
	95nm,0.3s,baz=122,slow=19,SNR=2.2						
BSSI	Bau Bau, Buton	12.65	218	P	Pn	07 26 49.0	+2.9
	26nm,0.9s						
JAY	Jayapura	13.96	117	LR	LR	07 32 12.4	
	comp=Z,574nm,19.1s,baz=298,slow=36						
BATI	Baumata	14.75	198	LR	LR	07 34 11.3	
	comp=Z,193nm,18.2s,baz=32,slow=42						
BBKI	Banjar Baru	15.29	242	P	P	07 27 23.7	-2.0
	8μm27nm,1.1s						
SBUM	Sibu	16.09	265		P	07 27 32.5	-2.1
SBUM				IAmb	IAmb	07 27 38.4	
	comp=Z,119nm,1.3s						
WBSI	Waikabubak, Su	16.11	213	P	P	07 27 34.2	-0.6
	comp=Z,771nmcomp=Z,66nm,0.7s						
PLAI	Plampang	16.42	220	P	P	07 27 37.8	-0.4
	comp=Z,1μmcomp=Z,151nm,0.8s						
MTN	Manton Dam	16.88	170	P	P	07 27 42.2	-1.1
SRBI	Singaraja	17.65	228	P	P	07 27 53.7	+1.9
	comp=Z,1μmcomp=Z,123nm,1.2s						
PBKI	Pangkalan Bun	17.85	249	P	P	07 27 55.4	+1.4
	comp=Z,18μmcomp=Z,143nm,0.6s						
KMMI	Kalianget	17.95	233	P	P	07 27 57.1	+1.9
	comp=Z,47nm,0.8s						
KSM	Kuching	18.11	263	P	Pn	07 27 57.7	+0.8
KSM				IAmb	IAmb	07 28 00.1	
	comp=Z,84nm,1.1s						
IGBI	Denpasar	18.20	226	P	Pn	07 27 59.9	+1.9
	comp=Z,132nm,0.9s						
BLJI	Banyuglugur	18.67	232	P	Pn	07 28 04.4	+0.7
	comp=Z,1μmcomp=Z,45nm,0.5s						
JAGI	Jajag, Banyuwa	18.70	229	P	P	07 28 01.2	-2.2
JAGI				IAmb	IAmb	07 28 11.8	
	comp=Z,76nm,0.8s						
JAGI	Jajag, Banyuwa	18.70	229	P	Pn	07 28 04.7	+0.6
	comp=Z,887nmcomp=Z,113nm,0.9s						
GUMO	Guam	19.00	59	LR	LR	07 34 12.1	
	comp=Z,234nm,21.9s,baz=244,slow=33						
GMJI	Gumukmas	19.11	231	P	Pn	07 28 09.7	+0.7
	comp=Z,966nmcomp=Z,107nm,1.1s						
KNRA	Kununurra	19.46	179	P	P	07 28 09.2	-2.5
YULB	Yu-li	20.51	341	P	P	07 28 22.6	-0.5
TPUB	Ta-pu	20.65	340	P	Pn	07 28 25.2	-2.1
TPUB				IAmb	IAmb	07 28 30.0	
	comp=Z,61nm,0.8s						
SMRI	Semarang	20.86	239	P	Pn	07 28 27.4	-2.5
SMRI				IAmb	IAmb	07 28 42.5	
	comp=Z,40nm,0.6s						
PCJI	Pacitan	20.86	235	P	Pn	07 28 27.4	-2.5
	comp=Z,2μmcomp=Z,159nm,0.8s						
DLV	T Lat	21.15	293	P	P	07 28 30.4	+0.1
DLV				IAmb	IAmb	07 28 33.2	
	comp=Z,47nm,1.0s						
UGM	Wanagama	21.25	236	P	P	07 28 30.3	-0.8
UGM				IAmb	IAmb	07 28 38.3	
	comp=Z,58nm,1.0s						
UGM	Wanagama	21.25	236	P	P	07 28 32.4	+1.3
	comp=Z,46nm,0.9s						
YHNB	Yeheng	21.69	343	P	P	07 28 35.7	0.0
YHNB				IAmb	IAmb	07 28 42.1	
	comp=Z,38nm,0.9s						
FITZ	Fitzroy Crossi	22.02	187	P	P	07 28 37.9	-1.4
	comp=Z,1.9nm,0.5s,baz=9.1,slow=13,SNR=3.9						
FITZ				S	S	07 32 37.3	-2.5
	comp=Z,3.2nm,1.0s,baz=43,slow=15,SNR=2.0						
FITZ				LR	LR	07 38 48.2	
	comp=Z,180nm,18.3s,baz=10,slow=41						
JOW	Kunigami	22.80	360	P	P	07 28 48.7	+1.1
	comp=Z,15nm,0.8s,baz=172,slow=7.1,SNR=1.4						
JOW	Kunigami	22.80	360	P	P	07 28 46.7	-0.9
JOW				IAmb	IAmb	07 29 14.2	
	comp=Z,34nm,0.9s						
HKPS	Hong Kong Po S	22.83	324	P	P	07 28 47.6	-0.3
PMG	Port Moresby	23.00	125	P	P	07 28 50.9	+1.1
	comp=Z,3.3nm,0.3s,baz=307,slow=10,SNR=1.6						
PMG				LR	LR	07 38 20.7	
	comp=Z,142nm,18.8s,baz=310,slow=38						
PMG	Port Moresby	23.00	125	P	P	07 28 50.4	+0.7
COEN	Coen	23.10	140	P	P	07 28 49.7	-1.0
LEM	Lembang	23.21	243	LR	LR	07 40 19.5	
	comp=Z,189nm,18.3s,baz=70,slow=43						
QIZ	Qiongzhong	23.46	311	P	P	07 28 53.5	-0.7
QIZ	Qiongzhong	23.46	311	P	P	07 28 53.4	-0.8
QIZ				S	S	07 33 04.9	+0.3
QIZ				LR	LR		
	comp=Z,290nm,15.7s						
QIZ				LR	LR		
	comp=Z,210nm,16.3s						
QIZ				LR	LR		
	comp=Z,250nm,14.4s						
WB0	Warramunga Arr	24.28	166	P	P	07 29 02.0	+0.2
WB0				IAmb	IAmb	07 29 21.5	
	comp=Z,23nm,0.7s						
WRAB	Tennant Creek	24.43	166	P	P	07 29 04.0	+0.8
WRAB				IAmb	IAmb	07 29 20.7	
	comp=Z,20nm,0.9s						
WRA	Warramunga Arr	24.44	166	P	P	07 29 03.0	-0.3
	comp=Z,9.7nm,0.7s,baz=342,slow=10,SNR=49						
WRA				S	S	07 33 22.1	+1.8
	comp=Z,0.6nm,0.8s,baz=341,slow=21,SNR=2.3						
WRA				ScP	ScP	07 36 17.1	+0.4
	comp=Z,2.0nm,1.1s,baz=345,slow=2.8,SNR=5.1						
WRA				LR	LR	07 40 54.2	
	comp=Z,333nm,18.5s,baz=38,slow=42						
WRA	Warramunga Arr	24.44	166	P	P	07 29 03.3	0.0
WB2	Warramunga Arr	24.44	166	P	P	07 29 04.1	+0.9
WB2				IAmb	IAmb	07 29 29.7	
	comp=Z,32nm,1.1s						
WR0	Warramunga Arr	24.50	166	P	P	07 29 03.7	-0.1
CGJI	Cibinong	24.85	245	P	P	07 29 08.0	+0.9
	comp=Z,2μmcomp=Z,54nm,0.9s						
KLSI		25.02	250	P	P	07 29 09.0	+0.3
	comp=Z,19nm,0.8s						
MDSI	Maura Dua	25.48	251	P	P	07 29 13.5	+0.7
	comp=Z,386nmcomp=Z,14nm,1.0s						
KASI	Kota Agung	25.53	249	P	P	07 29 14.1	+0.9
	comp=Z,31nm,0.8s						
JCJ	Chichijima	26.62	29	LR	LR	07 39 39.0	
	comp=Z,132nm,19.9s,baz=122,slow=36						
PSA00	Pilbara Seismi	26.63	198	P	P	07 29 24.8	+1.7
PSA00	Pilbara Seismi	26.63	198	P	P	07 29 21.8	-1.4
PSA00				IAmb	IAmb	07 29 28.7	
	comp=Z,5.4nm,1.1s						
AS31	Alice Springs	27.95	169	P	P	07 29 34.5	-0.4
ASAR	Alice Springs	27.95	169	P	P	07 29 34.9	-0.1
	comp=Z,1.6nm,0.6s,baz=359,slow=7.3,SNR=16						
ASAR				PcP	PcP	07 32 52.2	+2.6
	comp=Z,1.4nm,0.8s,baz=344,slow=2.5,SNR=1.3						
ASAR				ScP	ScP	07 36 27.5	+0.6
	comp=Z,0.8nm,0.8s,baz=346,slow=3.3,SNR=5.1						
ASAR				LR	LR	07 43 10.6	
	comp=Z,266nm,18.0s,baz=0.0,slow=42						
ASAR	Alice Springs	27.95	169	P	P	07 29 35.1	+0.1
JNU	Nakatsue	29.17	4	P	P	07 29 46.9	+1.1
	comp=Z,8.5nm,0.9s,baz=217,slow=6.0,SNR=2.6						
JNU	Nakatsue	29.17	4	IAmb	IAmb	07 30 42.8	
	comp=Z,48nm,1.4s						
PSI	Prapat	29.32	269	LR	LR	07 44 35.4	
	comp=Z,137nm,18.2s,baz=48,slow=43						
NJ2	Nanjing	29.36	344	*e*P	P	07 29 49.1	+1.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CTA	Charters Tower	29.67	144	LR	LR	07 42 27.1	
	comp=Z,138nm,20.5s,baz=297,slow=38						
GYA	Guiyang	30.51	319	⇓P	P	07 30 02.4	+4.6
GYA				pP	sP	07 30 15.7	+1.4
GYA				S	S	07 34 57.9	+1.5
GYA				SS	SnSn	07 36 40.4	+4.4
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=Z,260nm,14.3s						
GSI	Gunungsitoli	30.77	266	P	P	07 29 59.5	-0.7
GSI				IAmb	IAmb	07 30 01.8	
	comp=Z,15nm,0.8s						
ENH	Enshi	31.67	328	P	P	07 30 07.8	0.0
ENH				IAmb	IAmb	07 30 26.6	
	comp=Z,19nm,1.0s						
CMAR	Chiang Mai Arr	32.12	299	P	P	07 30 12.5	+0.5
	comp=Z,18nm,0.8s,baz=119,slow=6.9,SNR=75						
CMAR	Chiang Mai Arr	32.12	299	P	P	07 30 12.7	+0.7
CHTO	Chiang Mai	32.26	300	P	P	07 30 13.4	+0.2
KMI	Kunming	32.37	313	⇓P	P	07 30 16.6	+2.3
KMI				pmax	pmax		
	comp=Z,130nm,4.6s						
KMI				LR	LR		
	comp=Z,170nm,16.8s						
KMI				LR	LR		
	comp=Z,190nm,17.2s						
KMI				LR	LR		
	comp=Z,290nm,21.9s						
KSAR	Wonju Array Be	33.38	359	P	P	07 30 22.6	-0.1
KSRS	Korea Array	33.39	359	P	P	07 30 23.1	+0.3
	comp=Z,3.4nm,0.7s,baz=179,slow=9.8,SNR=9.7						
PZH	PanZhiHua	33.91	314	P	P	07 30 27.5	-0.1
PZH				S	S	07 35 51.4	+2.0
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,70nm,4.3s						
PZH				LR	LR		
	comp=Z,130nm,15.0s						
PZH				LR	LR		
	comp=Z,420nm,16.0s						
PZH				LR	LR		
	comp=Z,210nm,19.0s						
XAN	Xi'an	34.98	331	P	P	07 30 36.0	-0.7
XAN				pP	pwP	07 30 50.7	-0.2
XAN				sP	sP	07 30 57.2	+3.6
XAN				S	S	07 36 03.8	-1.7
XAN				sS	sS	07 36 30.5	+5.5
XAN				pmax	pmax		
	comp=Z,29nm,1.0s						
XAN				pmax	pmax		
	comp=Z,170nm,3.6s						
XAN				LR	LR		
	comp=Z,160nm,14.4s						
XAN				LR	LR		
	comp=Z,130nm,14.6s						
XAN				LR	LR		
	comp=Z,250nm,14.9s						
HNS	HongShan	35.58	341	⇑P	P	07 30 41.3	-0.4
HNS				pmax	pmax		
	comp=Z,12nm,0.8s						
BBOO	Buckleboo	37.25	169	P	P	07 30 56.1	0.0
BBOO				IAmb	IAmb	07 31 44.9	
	comp=Z,63nm,1.9s						
BJI	Beijing	37.60	345	P	P	07 30 58.6	-0.3
BJI				pP	sP	07 31 13.4	-1.8
BJI				sP	pwP	07 31 18.8	+4.2
BJI				pmax	pmax		
	comp=Z,11nm,0.8s						
STKA	Stephens Creek	37.77	161	LR	LR	07 48 28.8	
	comp=Z,199nm,18.4s,baz=2.7,slow=39						
STKA	Stephens Creek	37.77	161	P	P	07 31 00.2	-0.3
LZH	Lanzhou	39.15	328	*e*P	P	07 31 13.7	+1.5
LZH				pP	sP	07 31 26.6	-2.6
LZH				sP	pwP	07 31 33.3	+6.6
LZH				sS	sS	07 37 39.0	+10
LZH				SS	SS	07 39 59.8	-3.7
LZH				pmax	pmax		
	comp=Z,42nm,1.0s						
LZH				pmax	pmax		
	comp=Z,150nm,4.3s						
LZH				LR	LR		
	comp=Z,220nm,12.2s						
LZH				LR	LR		
	comp=Z,180nm,12.5s						
LZH				LR	LR		
	comp=Z,300nm,13.8s						
HHC	Hu-ho-hao-te	39.74	340	*e*P	P	07 31 18.8	+1.8
HHC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,87nm,8.7s						
H11S3	WAKE ISLAND Hy	40.25	66	T	T	08 14 28.5	
	baz=253,slow=75,SNR=129						
USRK	Ussuriysk Ar.	40.26	4	P	P	07 31 21.7	+0.7
	comp=Z,3.8nm,0.8s,baz=190,slow=5.9,SNR=2.5						
USRK	Ussuriysk Ar.	40.26	4	P	P	07 31 19.2	-1.9
H11S1	WAKE ISLAND Hy	40.27	66	T	T	08 14 37.0	
	baz=253,slow=75,SNR=54						
H11S2	WAKE ISLAND Hy	40.27	66	T	T	08 14 28.8	
	baz=253,slow=75,SNR=126						
SHL	Shillong	41.02	305	P	P	07 31 27.6	-0.3
ASAJ	Asahikawa	41.99	15	P	P	07 31 36.6	+1.3
	comp=Z,1.4nm,0.3s,baz=203,slow=15,SNR=1.4						
ASAJ				LR	LR	07 47 26.8	
	comp=Z,113nm,20.8s,baz=166,slow=34						
JKA	Kamikawa-asahi	41.99	15	P	P	07 31 36.6	+1.3
JKA	Kamikawa-asahi	41.99	15	IAmb	IAmb	07 33 02.3	
	comp=Z,42nm,1.6s						
GTA	Gaotai	43.76	328	⇑P	P	07 31 50.3	+0.4
GTA				pmax	pmax		
	comp=Z,16nm,1.2s						
GTA				pmax	pmax		
	comp=Z,66nm,6.2s						
GTA				LR	LR		
	comp=Z,150nm,15.6s						
GTA				LR	LR		
	comp=Z,100nm,17.1s						
GTA				LR	LR		
	comp=Z,180nm,16.7s						
GOMU	GeErMu	44.52	320	P	P	07 31 56.8	+0.5
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,100nm,7.4s						
GOMU				LR	LR		
	comp=Z,84nm,14.8s						
GOMU				LR	LR		
	comp=Z,130nm,14.6s						
GOMU				LR	LR		
	comp=Z,140nm,15.2s						
KLR	Kul'dur	45.26	3	P	P	07 32 01.5	0.0
	comp=Z,3.4nm,0.8s,baz=246,slow=7.2,SNR=9.3						
DZM	Mont Dzumac	45.39	126	LR	LR	07 50 17.6	
	comp=Z,85nm,20.0s,baz=8.5,slow=35						
DZM	Mont Dzumac	45.39	126	*e*LR	LR	07 44 59.7	
	comp=Z,213nm,26.1s						
ULN	Ulaanbaatar	47.45	341	P	P	07 32 18.9	0.0
ULN				IAmb	IAmb	07 32 20.0	
	comp=Z,10nm,0.8s						
SONM	Songino Array	47.64	340	P	P	07 32 20.3	-0.1
	comp=Z,3.7nm,0.8s,baz=153,slow=9.3,SNR=22						
SONM				LR	LR	07 53 52.0	
	comp=Z,92nm,21.5s,baz=131,slow=38						
SONM	Songino Array	47.64	340	P	P	07 32 20.1	-0.3
WMQ	Urumqi	53.48	324	*e*P	P	07 33 05.2	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
WMQ				LR	LR		
	comp=Z,310nm,14.1s						
WMQ				LR	LR		
	comp=Z,500nm,18.5s						
WMQ				LR	LR		
	comp=Z,130nm,18.5s						
MSVF	Nonsavu	53.59	115	LR	LR	07 54 46.0	
	comp=Z,77nm,19.8s,baz=64,slow=35						
PEA0B	Petropavlovsk-	54.70	21	P	P	07 33 14.1	+1.0
PEA0B				IAmb	IAmb	07 33 57.0	
	comp=Z,18nm,1.2s						
PETK	Petropavlovsk-	54.70	21	P	P	07 33 13.9	+0.8
	comp=Z,3.6nm,0.9s,baz=197,slow=4.6,SNR=4.0						
PETK	Petropavlovsk-	54.70	21	P	P	07 33 13.6	+0.5
YAK	Yakutsk	58.00	1	P	P	07 33 36.8	+0.3
	comp=Z,11nm,0.4s,baz=339,slow=2.1,SNR=4.7						
YAK	Yakutsk	58.00	1	P	P	07 33 36.5	0.0
MA2	Magadan	58.17	13	P	P	07 33 38.2	+0.5
	comp=Z,1.9nm,0.4s,baz=216,slow=8.3,SNR=4.2						
MA2				LR	LR	07 56 52.6	
	comp=Z,52nm,21.7s,baz=190,slow=34						
MA2	Magadan	58.17	13	P	P	07 33 38.0	+0.3
MK31	Makanchi Array	58.30	324	P	P	07 33 38.7	-0.2
MK31				IAmb	IAmb	07 33 40.1	
	comp=Z,12nm,1.0s						
MKAR	Makanchi Array	58.30	324	P	P	07 33 39.0	+0.1
	comp=Z,4.7nm,0.3s,baz=112,slow=7.8,SNR=111						
MKAR				LR	LR	08 00 37.6	
	comp=Z,158nm,18.6s,baz=112,slow=38						
MKAR	Makanchi Array	58.30	324	P	P	07 33 38.8	-0.1
MAKZ	Makanchi	58.49	324	P	P	07 33 40.1	-0.1
TARG	Taragay, Kyrgy	58.66	317	P	P	07 33 42.6	+0.6
TARG				IAmb	IAmb	07 33 53.3	
	comp=Z,16nm,1.2s						
KSH	Kashi	59.02	314	P	P	07 33 45.6	+1.5
KSH				sP	sP	07 34 09.7	+8.1
KSH				pmax	pmax		
	comp=Z,15nm,1.1s						
NIL	Nilore	59.04	307	P	P	07 33 44.1	-0.2
KDJ	Kajisay	59.25	318	P	P	07 33 46.7	+0.9
BOOM	Boomskoye usch	60.23	318	P	P	07 33 52.8	+0.2
BOOM				IAmb	IAmb	07 33 53.9	
	comp=Z,8.3nm,0.8s						
TKM2	Tokmak 2	60.64	318	P	P	07 33 55.7	+0.4
	SNR=16						
RPZ	Rata Peaks	61.03	146	P	P	07 33 58.4	+0.7
	comp=Z,12nm,0.9s,baz=64,slow=16,SNR=2.5						
RPZ				LR	LR	08 00 47.8	
	comp=Z,201nm,18.3s,baz=272,slow=36						
UCH	Uchtor	61.09	317	P	P	07 33 59.8	+1.1
	SNR=24						
ZALV	Zalesovo Beam	61.14	332	P	P	07 33 57.5	-0.7
	comp=Z,1.8nm,0.6s,baz=120,slow=7.8,SNR=3.2						
AAK	Ala-Archa	61.27	317	P	P	07 34 00.1	+0.5
	comp=Z,2.1nm,0.4s,baz=172,slow=10,SNR=9.9						
AAK	Ala-Archa	61.27	317	P	P	07 33 59.4	-0.1
USP	Ospenovka	61.52	318	P	P	07 34 01.3	+0.2
	SNR=18						
SEY	Seymchan	61.53	12	P	P	07 34 01.8	+1.1
	comp=Z,1.8nm,0.5s,baz=225,slow=6.9,SNR=7.7						
AML	Almayashu	61.62	316	P	P	07 34 03.1	+0.9
	SNR=12						
EKS2	Erkin-Say	61.77	317	P	P	07 34 03.5	+0.7
	SNR=14						
AFI	Afiamalu	62.03	108	LR	LR	07 55 54.6	
	comp=Z,104nm,20.5s,baz=304,slow=31						
KURK	Kurchatov	62.43	327	P	P	07 34 07.0	0.0
KURBB	Kurchatov Arra	62.43	327	P	P	07 34 06.6	-0.4
	comp=Z,10nm,0.8s,baz=124,slow=6.1,SNR=69						
KBL	Kabul	62.64	307	P	P	07 34 08.4	-0.6
KBL				IAmb	IAmb	07 34 09.9	
	comp=Z,8.6nm,0.8s						
BTK	Batken	62.92	313	P	P	07 34 10.3	-0.2
GAR	Garm	62.94	312	P	P	07 34 10.8	0.0
CHGR	Chuyangaron	63.70	311	P	P	07 34 15.5	-0.3
KKAR	Karatay Array	64.16	317	P	P	07 34 18.4	-0.2
TIXI	Tiksi	67.66	0	P	P	07 34 40.5	0.0
	comp=Z,3.4nm,0.7s,baz=273,slow=20,SNR=9.5						
TIXI	Tiksi	67.66	0	P	P	07 34 39.7	-0.8
TIXI				IAmb	IAmb	07 34 41.1	
	comp=Z,7.6nm,1.1s						
BVAR	Borovoye Array	68.02	327	P	P	07 34 43.2	+0.1
	comp=Z,8.0nm,0.9s,baz=138,slow=20,SNR=30						
HRA	Herat	68.08	305	P	P	07 34 43.5	-0.7
BRVK	Borovoye	68.09	327	P	P	07 34 43.2	-0.4
BRVK				IAmb	IAmb	07 34 44.3	
	comp=Z,13nm,0.9s						
NRIK	Noril'sk	70.63	346	P	P	07 34 58.5	-0.4
	comp=Z,0.8nm,0.3s,baz=139,slow=6.2,SNR=3.8						
NRIK	Noril'sk	70.63	346	P	P	07 34 58.6	-0.4
CASY	Casey	71.18	187	P	P	07 35 02.4	0.0
GEYT	Alibeck	71.99	309	P	P	07 35 08.3	+0.4
	comp=Z,4.5nm,0.8s,baz=96,slow=15,SNR=5.7						
GEYT	Alibeck	71.99	309	P	P	07 35 06.8	-1.1
GEYT				IAmb	IAmb	07 35 29.6	
	comp=Z,14nm,1.4s						
GYA0B	ALIBECK ARRAY	71.99	309	P	P	07 35 06.9	-1.0
GYA0B				IAmb	IAmb	07 35 29.5	
	comp=Z,21nm,1.4s						
ABKAR	Akbulak array	72.99	320	P	P	07 35 12.7	-0.8
ABKAR				IAmb	IAmb	07 35 14.0	
	comp=Z,8.7nm,0.9s						
ABKAR	Akbulak array	72.99	320	P	P	07 35 12.9	-0.7
SOCY	Socotra	73.84	281	P	P	07 35 18.5	-0.8
AKTO	Aktyubinsk	74.48	321	P	P	07 35 21.8	-0.5
	comp=Z,4.6nm,0.6s,baz=98,slow=7.3,SNR=12						
ARU	Arti	75.61	327	P	P	07 35 27.8	-0.9
	comp=Z,1.8nm,0.2s,baz=65,slow=2.2,SNR=8.8						
ARU				LR	LR	08 11 21.5	
	comp=Z,72nm,19.3s,baz=83,slow=38						
ARU	Arti	75.61	327	P	P	07 35 28.0	-0.6
ARU				IAmb	IAmb	07 35 28.4	
	comp=Z,7.3nm,0.7s						
KIRV	Kirov	80.87	329	P	P	07 35 57.3	-0.4
	comp=Z,14nm,0.6s,baz=121,slow=12,SNR=5.0						
IMAR	Indian Mountai	81.56	24	P	P	07 36 01.6	+0.4
RAYN	Ar Rayn	81.83	293	P	P	07 36 02.4	-1.3
RAYN				IAmb	IAmb	07 36 09.2	
	comp=Z,9.0nm,0.8s						
COLD	Coldfoot	83.13	23	P	P	07 36 09.7	+0.3
COLD				IAmb	IAmb	07 36 12.1	
	comp=Z,12nm,1.0s						
I23K	Minto, Yukon-K	83.26	25	P	P	07 36 11.2	+1.1
MCK	McKinley	83.32	26	P	P	07 36 10.7	+0.2
MCK				IAmb	IAmb	07 36 11.8	
	comp=Z,12nm,0.9s						
RND	Reindeer	83.33	27	P	P	07 36 10.4	-0.2
RND				IAmb	IAmb	07 36 11.7	
	comp=Z,12nm,0.8s						
VNDA	Vanda	83.41	173	P	P	07 36 10.7	+0.1
	comp=Z,1.0nm,0.7s,baz=328,slow=5.6,SNR=3.3						
VNDA	Vanda	83.41	173	P	P	07 36 11.7	+1.0
VNDA				IAmb	IAmb	07 37 25.9	
	comp=Z,17nm,1.8s						
TOLK	Toolik Lake Re	83.52	21	P	P	07 36 11.6	+0.2
TOLK				IAmb	IAmb	07 36 14.0	
	comp=Z,9.6nm,0.9s						
PPT2	Papeete2	83.70	108	eLR	LR	08 02 45.4	
	comp=Z,66nm,24.2s						
KBZ	Khabaz	83.98	313	P	P	07 36 14.8	+0.5
	comp=Z,0.7nm,0.5s,baz=55,slow=4.7,SNR=2.0						
ILAR	Eielson Array	84.28	25	P	P	07 36 15.6	+0.2
	comp=Z,2.8nm,0.8s,baz=234,slow=6.7,SNR=6.0						
TBI	Tubuai	84.45	114	eLR	LR	08 03 04.9	
	comp=Z,79nm,28.2s						
MAW	Mawson	84.45	200	P	P	07 36 16.2	+0.1
	comp=Z,1.8nm,0.8s,baz=1.7,slow=9.5,SNR=2.3						
GURO	Guroymak-BITLI	84.65	308	P	P	07 36 18.5	+0.5
GURO				IAmb	IAmb	07 36 34.5	
	comp=Z,8.5nm,1.0s						
BMAR	Burnt Mountain	85.32	23	P	P	07 36 21.4	+0.8
GLB	Gilahina Butte	85.60	29	P	P	07 36 21.6	-0.5
ARCES	ARCESS Array B	90.81	340	P	P	07 36 45.5	-1.2
	comp=Z,1.3nm,0.4s,baz=88,slow=6.2,SNR=14						
BRTR	Keskin Array B	91.10	310	P	P	07 36 47.7	-1.2
	comp=Z,0.4nm,0.7s,baz=114,slow=5.4,SNR=1.9						
TAOE	Nuku Hiva Isla	92.15	99	eLR	LR	08 06 35.4	
	comp=Z,126nm,23.4s						
FINES	FINESS Array B	92.41	332	P	P	07 36 53.1	-1.1
	comp=Z,0.5nm,0.4s,baz=79,slow=3.0,SNR=5.9						
AKASG	Malin Array Be	92.73	321	P	P	07 36 54.5	-1.5
	comp=Z,1.0nm,0.6s,baz=71,slow=4.4,SNR=7.8						
YKA	Yellowknife Ar	98.70	25	P	Pdif	07 37 22.4	-0.5
	comp=Z,0.8nm,0.8s,baz=296,slow=4.7,SNR=10						
TORD	Torodi Ar. Bea	124.33	289	PKP	PKiKP	07 42 42.6	-1.4
	comp=Z,0.5nm,0.7s,baz=52,slow=3.4,SNR=2.6						
LPAZ	La Paz	159.72	129	PKPab	PKPab	07 44 23.4	+0.3
	comp=Z,0.5nm,0.3s,baz=237,slow=6.4,SNR=4.2						

IDC 01 07:27:06.2±1.4, 12°.28N×124°.59E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.5/56, mbtmp3.9/6, Error ellipse: s-maj=71.8km s-min=21.1km az=61.0

ISC 01 07:27:19.1±1.5, **12°.2N**±0°.3×**124°.4E**±0°.5, **h108**km, **n6, σ1s.58**/7, **mb3.8**/6, **Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	25.32	287	P	P	07 32 35.5	-0.6
	1.4nm,0.4s,baz=112,slow=7.0,SNR=5.4						
WRA	Warramunga Arr	33.40	163	P	P	07 33 48.1	+0.6
	1.1nm,0.9s,baz=348,slow=8.4,SNR=2.2						
ASAR	Alice Springs	36.83	165	P	P	07 34 15.6	-1.4
	0.4nm,0.7s,baz=354,slow=8.4,SNR=1.5						
ASAR				PcP	PcP	07 36 38.2	+1.3
	0.9nm,0.9s,baz=344,slow=3.1,SNR=3.8						
MKAR	Makanchi Array	49.40	323	P	P	07 35 59.9	+1.9
	0.9nm,0.3s,baz=112,slow=7.7,SNR=7.4						
ZALV	Zalesovo Beam	52.08	331	P	P	07 36 16.4	-1.4
	0.4nm,0.3s,baz=120,slow=8.5,SNR=2.2						
KURBB	Kurchatov Arra	53.46	325	P	P	07 36 27.7	-0.4
	1.9nm,0.8s,baz=126,slow=6.4,SNR=4.5						

IDC 01 07:31:19.1±3.1, **54°.14N**×**87°.22E, h0**km, **mb1 2.8**/2, **mb1mx2.8**/49, **mbtmp2.8**/2, **ML2.4**/2, **Error ellipse: s-maj=28.4km s-min=17.5km az=62.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.43	263	i		07 39 58.4	
	baz=82,slow=319,SNR=0.6						
ZALV	Zalesovo Beam	1.43	263	Pg	Pn	07 31 44.4	-1.9
	2.1nm,0.3s,baz=84,slow=17,SNR=22						
ZALV				Lg	Lg	07 32 04.8	
	1.9nm,0.3s,baz=81,slow=28,SNR=6.7						
KURBB	Kurchatov Arra	6.38	240	Pn	Pn	07 32 55.0	+0.7
	0.1nm,0.3s,baz=56,slow=14,SNR=12						
MKAR	Makanchi Array	8.00	205	Pn	Pn	07 33 18.0	+1.5
	0.1nm,0.3s,baz=27,slow=13,SNR=4.5						
MKAR				Lg	Lg	07 35 32.7	
	baz=26,slow=30,SNR=1.7						

NNC 01 07:38:04.0±2.8, 54°.30N×86°.96E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=29.5km s-min=14.1km az=179.0, Suspected Mining explosion.

IDC 01 07:38:05.2±2.8, 54°.30N×86°.93E, h0km, mb1 2.9/2, mb1mx2.8/50, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=22.8km s-min=15.3km az=61.0

ISC 01 07:38:08.8±2.9, **54°.6N**±0°.2×**83°.69E**±0°.07, **h0**km, **n9, σ1s.43**/12, **8C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.95	136	i		07 44 50.0	
	baz=74,slow=320,SNR=11						
ZAA0	Zalesovo Array	0.95	136	⇑P	Pb	07 38 28.0	-0.2
	0.3nm,0.2s						
ZAA0				⇓S	Sn	07 38 46.6	+2.9
	0.9nm,0.2s						
ZALV	Zalesovo Beam	0.95	136	Pg	Pb	07 38 28.0	-0.2
	4.1nm,0.3s,baz=71,slow=17,SNR=42						
ZALV				Lg	Lg	07 38 46.1	
	3.1nm,0.3s,baz=77,slow=30,SNR=8.7						
KURBB	Kurchatov Arra	5.10	220	Pn	Pb	07 39 40.6	+1.7
	0.1nm,0.3s,baz=53,slow=14,SNR=7.6						
KURBB				Sn	Sg	07 40 52.2	-0.4
	0.0nm,0.3s,baz=331,slow=24,SNR=1.0						
KURBB				Lg	Lg	07 41 27.4	
	0.0nm,0.3s,baz=58,slow=33,SNR=4.7						
KURBB	Kurchatov Arra	5.10	220	⇑Pn	Pb	07 39 40.4	+1.6
	2.1nm,0.8s						
KURBB				⇑Sn	Sg	07 40 51.5	-1.0
	2.7nm,0.7s						
KURBB				⇑Lg	Lg	07 41 26.0	
	5.4nm,0.9s						
MK31	Makanchi Array	7.90	187	Pn	Pn	07 40 05.3	+0.4
	0.5nm,0.7s,baz=28,slow=14,SNR=11						
MK31				⇑Sn	Sn	07 41 34.4	-0.6
	1.2nm,0.8s						
MK31				⇑Lg	Lg	07 42 20.3	
	4.6nm,1.2s,baz=34,slow=32,SNR=4.0						
MKAR	Makanchi Array	7.90	187	Pn	Pn	07 40 04.8	-0.2
	0.1nm,0.3s,baz=27,slow=14,SNR=6.9						
MKAR				Sn	Sn	07 41 35.4	+0.4
	0.0nm,0.3s,baz=17,slow=30,SNR=2.2						
MKAR				Lg	Lg	07 42 21.1	
	0.0nm,0.3s,baz=25,slow=35,SNR=3.7						
TKM2	Tokmak 2	12.87	208	⇓Pg	Pn	07 41 35.5	+22
	2.5nm,0.7s						
TKM2				⇑Lg	Lg	07 42 32.3	
	4.3nm,0.6s						
KK09	Karatay Array	14.39	222	⇑Pn	Pn	07 41 32.0	-1.7
	1.4nm,0.5s,baz=150,slow=13						

UPA 01 07:41:54.2±1.5, 8°.40N×77°.62W, h11km±8km, MW4.1

RSNC 01 07:41:54.1±1.0, 8°.31N×77°.59W, h6km±8km, ML1.6

ISC 01 07:41:53.7±1.1, **8°.42N**±0°.07×**77°.57W**±0°.04, **h17**km±9km, **n18, σ0s.91**/29, **2D, Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UPD2	Meteti	0.46	286	eP	Pg	07 42 02.1	-0.9
UPD2				eS	Sg	07 42 10.0	+0.8
UPD2	Meteti	0.46	286	⇓iP	Pg	07 42 02.5	-0.5
UPD2				i S	Sg	07 42 09.8	+0.6
LCBC	Los crdobas,	1.27	70	eP	Pb	07 42 18.3	+1.1
LCBC				eS	Sb	07 42 34.2	+1.0
CNTA3	Canitas, Panam	1.52	301	eP	Pn	07 42 19.3	-0.9
CHPO	Chepo, Panama	1.70	296	eP	Pn	07 42 21.9	-0.7
CHPO				eS	Sn	07 42 43.5	-0.4
MOTC	Monteria, Cord	1.92	79	eP	Pn	07 42 26.5	+0.8
MOTC				eS	Sb	07 42 51.6	-0.4
MOTC				i		07 42 55.1	
	comp=Z,2.3nm,0.5s						
UPA	Univ. de Panam	2.02	286	eP	Pn	07 42 26.0	-1.0
UREC	San Jos de Ur	2.13	108	eP	Pn	07 42 28.7	+0.1
UREC				eS	Sn	07 42 54.8	+0.2
UREC				i		07 43 01.4	
	comp=Z,2.8nm,0.1s						
CHOR3	La Chorrera	2.22	282	eP	Pn	07 42 29.7	-0.1
FRIJ	El Hiral	2.27	291	⇓iP	Pn	07 42 31.5	+1.0
ZANG	Zanguenga, Cho	2.33	283	eP	Pn	07 42 32.6	+1.3
BCIP	Isla Barro Col	2.36	288	eP	Pn	07 42 32.4	+0.7
BCIP				eS	Sn	07 43 01.8	+1.5
BCIP				i		07 43 06.6	
	comp=Z,4.0nm,0.4s						
BCIP	Isla Barro Col	2.36	288	eP	Pn	07 42 32.4	+0.7
SABA3	Sabanitas, Col	2.39	293	eP	Pn	07 42 31.7	-0.4
SJCC	San Jacinto, C	2.78	58	eP	Pb	07 42 42.9	-0.1
SJCC				eS	Sb	07 43 14.7	-2.1
SJCC				i		07 43 16.9	
	comp=Z,1.5nm,0.4s						
ZARC	Zaragoza, Cauc	2.84	109	eP	Pn	07 42 38.9	+0.5
ZARC				eS	Sn	07 43 11.1	-1.1
ZARC				i		07 43 15.4	
	comp=Z,4.0nm,0.4s						
CBOC	Ciudad Bolivar	2.98	149	eP	Pn	07 42 39.9	-0.5
CBOC				eS	Sn	07 43 15.7	-0.1
PTBC	PUERTO BERRIO,	3.61	121	eP	Pn	07 42 49.4	+0.4
PTBC				eS	Sn	07 43 30.9	-0.4
PTBC				i		07 43 34.1	
	comp=Z,1.6nm,0.6s						

IDC 01 07:44:21.6±1.1, 4°.09N×128°.63E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/44, mbtmp3.8/8, MS2.9/4, Ms1 2.9/4, ms1mx2.5/71, Error ellipse: s-maj=50.9km s-min=17.5km az=68.0

ISC 01 07:44:28.2±1.0, **4°.0N**±0°.2×**128°.6E**±0°.2, **h46**km, **n16, σ0s.69**/9, **mb3.7**/8, **1D, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.28	315	LR	LR	07 47 34.4	
	comp=Z,177nm,19.0s,baz=110,slow=45						
KCP	Kidapawan	4.59	311	⇓iP	Pn	07 45 35.7	+0.6
SIJI	Sorong	5.53	151	LR	LR	07 47 14.0	
	comp=Z,80nm,18.2s,baz=250,slow=31						
FITZ	Fitzroy Crossi	22.16	187	P	P	07 49 19.9	-0.5
	1.9nm,1.1s,baz=230,slow=20,SNR=1.5						
LEM	Lembang	23.55	243	LR	LR	07 58 32.5	
	comp=Z,32nm,20.9s,baz=144,slow=36						
WRA	Warramunga Arr	24.46	167	P	P	07 49 43.2	+0.2
	0.8nm,0.5s,baz=345,slow=10,SNR=17						
ASAR	Alice Springs	27.99	170	P	P	07 50 15.0	+0.2
	0.2nm,0.6s,baz=354,slow=8.5,SNR=5.7						
CMAR	Chiang Mai Arr	32.36	299	P	P	07 50 54.0	+0.5
	1.2nm,0.3s,baz=117,slow=7.4,SNR=9.8						
STKA	Stephens Creek	37.77	162	P	P	07 51 40.2	+0.2
	0.9nm,0.5s,baz=293,slow=23,SNR=2.0						
H11S3	WAKE ISLAND Hy	39.91	66	T	T	08 35 08.6	
	baz=253,slow=75,SNR=20						
H11S1	WAKE ISLAND Hy	39.93	66	T	T	08 35 12.7	
	baz=253,slow=75,SNR=9.6						
H11S2	WAKE ISLAND Hy	39.93	66	T	T	08 35 10.3	
	baz=253,slow=75,SNR=18						
SONM	Songino Array	47.66	340	LR	LR	08 14 41.3	
	comp=Z,13nm,20.5s,baz=266,slow=38						
MKAR	Makanchi Array	58.41	324	P	P	07 54 18.4	-0.8
	0.7nm,0.3s,baz=112,slow=7.6,SNR=25						
AKTO	Aktyubinsk	74.61	321	P	P	07 56 01.5	-1.0
	0.8nm,0.5s,baz=90,slow=7.1,SNR=2.8						
ILAR	Eielson Array	84.05	25	P	P	07 56 54.3	+0.6
	0.4nm,0.9s,baz=238,slow=6.2,SNR=2.7						

IDC 01 08:07:25.4±2.4, **54°.06N**×**86°.40E, h0**km, **mb1 3.1**/2, **mb1mx2.8**/48, **mbtmp3.1**/2, **ML2.9**/2, **Error ellipse: s-maj=20.1km s-min=12.8km az=51.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.94	264	i		08 11 10.0	
	baz=82,slow=321,SNR=1.6						
ZALV	Zalesovo Beam	0.94	264	Pg	Pg	08 07 42.2	-1.1
	1.2nm,0.3s,baz=84,slow=18,SNR=15						
ZALV				Lg	Lg	08 07 57.0	
	2.1nm,0.3s,baz=83,slow=26,SNR=13						
ZALV				Rg	Rg	08 08 03.1	
	22nm,1.0s,baz=79,slow=24,SNR=32						
KURBB	Kurchatov Arra	5.92	238	Pn	Pn	08 08 55.2	+0.9
	0.2nm,0.3s,baz=54,slow=13,SNR=12						
KURBB				Lg	Lg	08 10 33.6	
	0.0nm,0.3s,baz=52,slow=34,SNR=1.6						
MKAR	Makanchi Array	7.73	201	Pn	Pn	08 09 20.0	+0.9
	0.3nm,0.3s,baz=25,slow=14,SNR=14						
MKAR				Lg	Lg	08 11 31.3	
	0.1nm,0.3s,baz=23,slow=30,SNR=2.8						

IDC 01 08:11:05.6±2.1, 17°.60S×178°.74W, h609km±19km, mb3.3/9, mb1 3.5/11, mb1mx3.2/33, mbtmp4.2/11, Error ellipse: s-maj=86.5km s-min=14.8km az=152.0

ISC 01 08:11:05.1±1.6, **17°.5S**±0°.6×**178°.9W**±0°.3, **h600**km, **n13, σ1s.42**/16, **mb3.7**/9, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.95	265	P	P	08 12 26.3	+2.2
	3.3nm,0.3s,baz=94,slow=21,SNR=15						
DZM	Mont Dzumac	14.55	249	P	P	08 14 08.6	-0.7
	0.4nm,0.3s,baz=67,slow=22,SNR=2.0						
CTA	Charters Tower	33.09	260	P	P	08 16 54.5	+1.3
	5.4nm,0.7s,baz=95,slow=9.6,SNR=7.7						
WRA	Warramunga Arr	44.28	259	P	P	08 18 23.5	+0.3
	2.0nm,0.5s,baz=95,slow=7.2,SNR=94						
WRA				PcP	PcP	08 19 53.9	-0.3
	0.3nm,0.6s,baz=91,slow=3.6,SNR=2.3						
ASAR	Alice Springs	44.48	254	P	P	08 18 25.5	+0.7
	10nm,0.6s,baz=87,slow=8.7,SNR=212						
ASAR				PcP	PcP	08 19 54.6	-0.3
	0.3nm,0.6s,baz=113,slow=4.0,SNR=1.9						
ASAR				S	S	08 24 13.6	-4.1
	0.2nm,0.8s,baz=89,slow=15,SNR=1.2						
FITZ	Fitzroy Crossi	52.66	260	P	P	08 19 25.9	+0.7
	0.8nm,0.5s,baz=90,slow=5.1,SNR=1.7						
NVAR	Mina Array Bea	79.43	44	P	P	08 22 10.3	-0.2
	1.0nm,0.7s,baz=224,slow=8.7,SNR=9.6						
ILAR	Eielson Array	85.58	13	P	P	08 22 40.4	-0.2
	0.5nm,0.4s,baz=219,slow=5.2,SNR=9.9						
TXAR	Lajitas Array	86.14	58	P	P	08 22 43.9	-0.3
	1.5nm,0.8s,baz=217,slow=6.1,SNR=7.5						
PDAR	Pinedale Array	87.35	44	P	P	08 22 49.4	-0.4
	0.8nm,0.6s,baz=218,slow=3.6,SNR=11						
YKA	Yellowknife Ar	94.14	25	P	P	08 23 19.4	-0.8
	0.2nm,0.5s,baz=236,slow=4.5,SNR=9.7						
BRTR	Keskin Array B	144.18	315	PKP	PKPdf	08 29 33.5	-0.5
	0.8nm,0.6s,baz=54,slow=3.7,SNR=4.7						
GERES	GERESS Array B	147.10	345	PKPbc	PKPbc	08 29 42.1	+0.4
	0.9nm,0.6s,baz=7.1,slow=3.2,SNR=5.0						

NNC 01 08:12:39.6±2.7, 36°.94N×70°.27E, h0km, mb5.0, mpv5.0, Error ellipse: s-maj=26.6km s-min=12.9km az=158.0

MOS 01 08:12:40.9±0.9, 36°.54N×70°.79E, h189km, mb4.1/10, Error ellipse: s-maj=9.8km s-min=4.1km az=75.5

BJI 01 08:12:40.6±0.0, 36°.65N×70°.64E, h186km, mb4.4/21, mB4.6/7

IDC 01 08:12:41.0±0.9, 36°.37N×70°.72E, h181km±8km, mb3.6/14, mb1 3.7/20, mb1mx3.4/50, mbtmp4.2/20, Error ellipse: s-maj=15.2km s-min=12.1km az=53.0

NEIC 01 08:12:42.1±1.8, 36°.50N±0°.03×70°.68E±0°.08, h191km±6km, mb4.3/13, Error ellipse: s-maj=9.1km s-min=4.5km az=77.0

SOME 01 08:12:53.5, 38°.45N×71°.78E, h0km, MS3.9

ISC 01 08:12:41.1±0.4, **36°.47N**±0°.04×**70°.67E**±0°.04, **h181**km±4km, **h181**km**:pP-P, n174, σ2s.12**/221, **mb4.0**/28, **15C-12D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.34	215	PN	Pn	08 13 24.5	+2.3
KBL						08 13 56.6	
KBL	Kabul	2.34	215	Pn	Pn	08 13 24.5	+2.3
KBL				Sn	Sn	08 13 56.6	+2.5
CHGR	Chuyangaron	2.49	332	Pn	Pn	08 13 25.2	+1.5
GAR	Garm	2.54	354		Pn	08 13 25.9	+1.5
CEP	Cherat	2.83	159	P	Pn	08 13 29.9	+2.1
CEP				S	Sn	08 14 05.0	+0.8
CHCP	Chirah Chowk	3.52	142	P	Pn	08 13 38.2	+2.0
NIL	Nilore	3.52	142	PN	Pn	08 13 37.9	+1.7
NIL	Nilore	3.52	142		Pn	08 13 37.9	+1.7
BTK	Batken	3.59	2	PN	Pn	08 13 38.3	+1.3
BTK	Batken	3.59	2		Pn	08 13 38.3	+1.3
THW	Thamme Wali	3.77	166	P	Pn	08 13 41.0	+1.6
SARP	Sargodha	4.83	159	P	Pn	08 13 53.7	+0.9
TAS	Tashkent	4.97	348	PN	Pn	08 13 56.2	+1.6
TAS	Tashkent	4.97	348	Pn	Pn	08 13 56.2	+1.6
JMU	Jammu	5.12	136	eP	Pn	08 13 57.7	+1.1
JMU				eS	Sn	08 14 53.0	-2.8
KSH	Kashi	5.18	52	P	Pn	08 13 53.1	-4.3
KSH				S	Sn	08 14 46.2	-11
KSH				pmax	pmax		
	comp=Z,210nm,0.7s						
KSH				smax	smax		
	comp=N,450nm,0.6s						
KSH				smax	smax		
	comp=E,390nm,0.7s						
IUG	Iuzhnay	5.69	355	ePN	Pn	08 14 04.4	+0.3
IUG	Iuzhnay	5.69	355	eP	Pn	08 14 07.3	+3.2
	958nm,0.4s						
IUG				eS	Sn	08 15 06.6	-2.9
	3μm,0.7s						
IUG	Iuzhnay	5.69	355	eP	Pn	08 14 04.4	+0.3
	baz=354						
THN	Thein Dam	5.79	133	eP	Pn	08 14 05.0	-0.3
THN				eS	Sn	08 15 09.4	-2.2
THN				IAML		08 15 10.4	
	comp=E,694nm,0.6s						
THN				IAML		08 15 11.7	
	comp=N,882nm,0.5s						
DZA	Taraz	6.44	4	ePN	Pn	08 14 13.6	-0.1
DZA	Taraz	6.44	4	eP	Pn	08 14 16.4	+2.6
	comp=N,297nm,0.5s						
DZA				eS	Sn	08 15 22.9	-4.0
	comp=N,1μm,1.0s						
DZA	Taraz	6.44	4	eP	Pn	08 14 13.7	-0.1
	baz=3.8						

UCH Uchtor 6.47 26 P Pn 08 14 14.8 +0.1
SNR=301
MRKS Merke 6.57 17 eP Pn 08 14 19.8 +4.2
comp=N,129nm,0.6s
MRKS eS Sn 08 15 28.3 -1.8
comp=N,194nm,0.5s
BRLS Boroldaу 6.58 355 eP Pn 08 14 14.6 -1.1
comp=N,13nm,0.3s
BRLS eS Sn 08 15 19.6 -11
comp=N,370nm,0.6s
KKAR Karatay Array 6.63 359 PN Pn 08 14 16.8 +0.6
KKAR Karatay Array 6.63 359 Pn Pn 08 14 16.8 +0.6
KK08 Karatay Array 6.63 359 ⇓S Sn 08 15 24.2 -7.3
comp=N,159nm,0.7s
EKS2 Erkin-Say 6.63 20 P Pn 08 14 16.8 +0.4
SNR=102
KK09 Karatay Array 6.65 359 ⇓P Pn 08 14 13.9 -2.6
comp=N,24nm,0.3s
AAK Ala-Archa 6.83 24 P Pn 08 14 19.3 +0.3
comp=N,33nm,0.3s,baz=170,slow=4.4,SNR=247
AAK S Sn 08 15 32.3 -4.1
comp=N,4.7nm,0.3s,baz=350,slow=22,SNR=8.4
AAK Ala-Archa 6.83 24 d i PN Pn 08 14 19.2 +0.2
AAK pmax pmax
comp=Z,53nm,0.8s
AAK Ala-Archa 6.83 24 Pn Pn 08 14 19.0 0.0
BHK Bhakra 6.94 135 eP Pn 08 14 19.8 -0.6
BHK eS Sn 08 15 32.6 -6.3
BHK IAML 08 15 39.6
comp=E,223nm,0.5s
BHK IAML 08 15 40.3
comp=N,336nm,0.3s
KBK Karagaybulak 7.01 27 P Pn 08 14 22.0 +0.6
SNR=22
FRU1 Bishkek 7.03 25 PN Pn 08 14 22.4 +0.8
FRU1 Bishkek 7.03 25 Pn Pn 08 14 22.4 +0.8
HRA Herat 7.19 256 Pn Pn 08 14 24.9 +1.0
ULHL Ulahol 7.20 35 P Pn 08 14 23.6 -0.4
SNR=25
CHMS Chumysh 7.24 24 P Pn 08 14 24.1 -0.2
SNR=46
CHMS Chumysh 7.24 24 ⇓P Pn 08 14 23.9 -0.4
comp=N,66nm,0.8s
CHMS ⇓S Sn 08 15 42.3 -3.6
comp=N,56nm,0.8s
BOOM Boomskoye usch 7.26 32 PN Pn 08 14 24.8 +0.1
BOOM Boomskoye usch 7.26 32 Pn Pn 08 14 24.8 +0.1
USP Ospenovka 7.40 22 P Pn 08 14 25.8 -0.7
SNR=111
TKM2 Tokmak 2 7.48 29 P Pn 08 14 27.7 +0.1
SNR=253
TKM2 Tokmak 2 7.48 29 ⇑P Pn 08 14 27.3 -0.3
comp=N,96nm,0.5s
TKM2 ⇑S Sn 08 15 51.3 -0.5
comp=N,36nm,0.8s
KDJ Kajisay 7.58 40 PN Pn 08 14 28.5 -0.4
KDJ Kajisay 7.58 40 Pn 08 14 28.4 -0.4
SMLA Simla 7.59 133 eP Pn 08 14 28.2 -0.8
SMLA eS Sn 08 15 49.5 -4.7
SMLA IAML 08 15 52.3
comp=E,320nm,0.3s
SGDS Sogindy 7.61 22 ePN Pn 08 14 27.5 -1.6
SGDS Sogindy 7.61 22 eP Pn 08 14 31.0 +1.8
comp=E,20nm,0.8s
SGDS eS Sn 08 15 48.9 -5.9
comp=E,28nm,1.1s
SGDS Sogindy 7.61 22 eP Pn 08 14 27.6 -1.6
baz=22
TARG Taragay, Kyrgy 7.64 44 Pn Pn 08 14 29.3 -0.6
AAA Alma-Ata 8.27 34 ePN Pn 08 14 37.5 -0.3
AAA Alma-Ata 8.27 34 eP Pn 08 14 37.5 -0.3
baz=33
MDOK Medeo 8.29 34 ePN Pn 08 14 36.3 -1.9
MDOK Medeo 8.29 34 eP Pn 08 14 36.4 -1.9
baz=34
MDOK Medeo 8.29 34 ⇓P Pn 08 14 38.1 -0.1
comp=E,57nm,0.7s
MDOK ⇓S Sn 08 16 12.8 +1.7
comp=E,25nm,1.0s
KUU Kurty 8.59 29 ePN Pn 08 14 40.0 -2.0
KUU pmax pmax
comp=Z,11nm,0.8s
KUU Kurty 8.59 29 eP Pn 08 14 40.1 -2.0
comp=Z,11nm,0.8s,baz=28
DDI Dehra Dun 8.70 133 eP Pn 08 14 43.2 -0.3
DDI eS Sn 08 16 15.3 -5.5
DDI IAML 08 16 17.9
comp=E,229nm,0.3s
CHKK Chushkaly 8.82 31 ePN Pn 08 14 43.1 -1.9
CHKK Chushkaly 8.82 31 eP Pn 08 14 43.1 -1.9
baz=31
SATY Saty 8.87 40 ePN Pn 08 14 43.8 -2.0
SATY eS Sn 08 16 23.0 -2.0
SATY pmax pmax
comp=Z,5.0nm,0.8s
SATY Saty 8.87 40 eP Pn 08 14 43.8 -2.0
comp=Z,5.3nm,0.8s,baz=40
SATY eS Sn 08 16 23.0 -2.0
baz=40
BTLS Baital 8.94 16 ePN Pn 08 14 45.1 -1.4
BTLS pmax pmax
comp=Z,6.0nm,0.8s
BTLS Baital 8.94 16 eP Pn 08 14 45.2 -1.4
comp=Z,6.0nm,0.8s,baz=15
BTLS eS Sn 08 16 24.3 -2.0
baz=15
ZHN Zhinishke 8.96 39 ePN Pn 08 14 45.7 -1.4
ZHN Zhinishke 8.96 39 eP Pn 08 14 45.7 -1.4
baz=39
KPKS Kokpek 9.31 39 eP Pn 08 14 49.5 -2.0
KPKS eS Sn 08 16 33.3 -2.0
KPKS pmax pmax
comp=Z,8.0nm,0.7s
KPKS Kokpek 9.31 39 eP Pn 08 14 49.6 -2.0
comp=Z,8.0nm,0.7s,baz=39
KPKS eS Sn 08 16 33.3 -2.0
baz=39
KHET Khetri 9.43 151 eP Pn 08 14 51.4 -1.8
KHET eS Sn 08 16 29.2 -9.1
ARXS Arharly 9.47 33 eP Pn 08 14 52.1 -1.5
SHLS Shalkode 9.50 43 eP Pn 08 14 55.3 +1.2
SHLS eS Sn 08 16 43.8 +3.9
SHLS pmax pmax
comp=Z,3.0nm,0.8s
SHLS Shalkode 9.50 43 eP Pn 08 14 55.4 +1.3
comp=Z,3.0nm,0.8s,baz=44
SHLS eS Sn 08 16 43.9 +3.9
baz=44
NDI New Delhi 9.52 143 eP Pn 08 14 53.7 -0.7
NDI eS Sn 08 16 30.4 -10
NDI IAML 08 16 36.6
comp=N,63nm,0.5s
PDGK Podgornoye 9.63 42 ⇑P Pn 08 14 54.3 -1.5
comp=N,10nm,0.6s
PDGK ⇓S Sn 08 16 48.8 +5.7
comp=N,36nm,1.1s
AYAN Aya Nagar 9.65 144 eP Pn 08 14 54.8 -1.2
AYAN eS Sn 08 16 35.2 -8.3
AYAN IAML 08 16 38.9
comp=Z,12nm,0.4s
KUDL Kundal 9.65 148 eP Pn 08 14 54.7 -1.3
KUDL eS Sn 08 16 35.1 -8.4
SONA Sohna 9.82 145 eP Pn 08 14 57.7 -0.5
SONA eS Sn 08 16 38.5 -9.2
GEYT Alibeck 10.12 282 P Pn 08 15 01.9 -0.2
comp=Z,2.0nm,0.3s,baz=118,slow=12,SNR=24
GEYT S Sn 08 16 52.9 -1.9
comp=Z,1.5nm,0.3s,baz=66,slow=43,SNR=3.3
GEYT Alibeck 10.12 282 Pn 08 15 02.2 0.0
GYA0B ALIBECK ARRAY 10.12 282 Pn 08 15 01.7 -0.5
GYA0B ALIBECK ARRAY 10.12 282 ⇑P Pn 08 15 00.9 -1.3
GYA0B ⇓S Sn 08 16 53.3 -1.5
TDK Taldyqorghan 10.34 32 eP Pn 08 15 03.6 -1.4
TDK Taldyqorghan 10.34 32 eP Pn 08 15 03.6 -1.4
baz=32
AJM Ajmer 10.52 160 eP Pn 08 15 04.8 -2.6
AJM eS Sn 08 16 52.1 -12
AJM IAML 08 17 16.2
comp=E,39nm,0.6s
JHNI Jhansi 12.87 146 eP Pn 08 15 36.4 -1.2
JHNI eS Sn 08 17 48.1 -13
JHNI IAML 08 17 51.6
comp=N,20nm,0.7s
JHNI IAML 08 17 55.9
comp=E,34nm,0.9s

MAKZ Makanchi 13.33 36 P Pn 08 15 41.7 -1.6
MAKZ Makanchi 13.33 36 Pn 08 15 41.7 -1.6
PYUN Piuthan 13.34 125 eP Pn 08 15 41.5 -2.2
comp=E,28nm,0.3s
MK31 Makanchi Array 13.47 36 c i P Pn 08 15 44.3 -0.7
MK31 Makanchi Array 13.47 36 Pn 08 15 44.0 -1.0
MKAR Makanchi Array 13.47 36 P Pn 08 15 44.6 -0.4
comp=E,0.6nm,0.3s,baz=218,slow=12,SNR=67
MKAR Makanchi Array 13.47 36 Pn 08 15 43.9 -1.1
BRZS Berezniki 13.59 6 eP Pn 08 15 45.4 -0.9
BRZS eS Sn 08 18 16.3 -1.1
BRZS Berezniki 13.59 6 eP Pn 08 15 45.5 -0.9
baz=5.3
BRZS eS Sn 08 18 16.3 -1.1
baz=5.3
DANN Dangsing 13.69 123 eP Pn 08 15 47.0 -1.2
comp=E,121nm,0.5s
KOLN Koldanda 13.96 125 eP Pn 08 15 49.4 -2.1
comp=E,45nm,0.4s
BHPL Bhopal 14.42 154 eP P 08 15 59.8 +1.0
BHPL eS Sn 08 18 25.4 -12
VLK Valmikinagar 14.44 125 eP Pn 08 15 55.1 -2.1
VLK eS Sn 08 18 26.2 -12
GKN Gorkha 14.51 122 eP Pn 08 15 57.5 -0.8
comp=E,301nm,0.4s
ALBI Allahabad 14.65 136 eP Pn 08 15 58.3 -1.6
ALBI eS Sn 08 18 30.1 -13
ALBI IAML 08 18 32.0
comp=E,32nm,0.5s
WMQ Urumqi 14.93 55 eP Pn 08 16 03.5 +0.3
WMQ pmax pmax
comp=E,22nm,0.9s
AB31 Akbulak array 14.99 332 ⇑P Pn 08 16 03.7 -0.1
comp=E,2.3nm,0.3s,baz=148,slow=12,SNR=195
AB31 S Sn 08 18 44.8 -6.1
comp=E,8.5nm,0.7s,baz=149,slow=22,SNR=9.7
ABKAR Akbulak array 14.99 332 P Pn 08 16 03.5 -0.2
DMN Daman 15.08 122 eP Pn 08 16 04.9 -0.5
comp=E,145nm,0.5s
KKN Kakani 15.09 121 eP Pn 08 16 04.5 -0.9
comp=E,113nm,0.5s
ZSN Zaisan 15.20 39 eP Pn 08 16 05.1 -1.3
ZSN Zaisan 15.20 39 eP Pn 08 16 05.2 -1.3
baz=39
KURBB Kurchatov Arra 15.24 19 P Pn 08 16 05.0 -1.8
comp=E,0.3nm,0.3s,baz=210,slow=11,SNR=18
KURBB S S 08 18 57.7 +0.2
comp=E,0.1nm,0.3s,baz=198,slow=18,SNR=4.2
PKIN Phulchoki 15.30 121 eP Pn 08 16 07.7 -0.4
comp=E,372nm,0.5s
PKI Pulchoki 15.31 121 eP Pn 08 16 07.5 -0.8
KURK Kurchatov 15.35 19 ⇑ eP Pn 08 16 05.7 -2.4
KURK pmax pmax
comp=E,13nm,0.8s
KURK Kurchatov 15.35 19 Pn 08 16 06.7 -1.4
KURK IAmb IAmb 08 16 11.1
comp=E,12nm,0.8s
GUN Gumba 15.43 119 eP Pn 08 16 09.4 -0.4
comp=E,44nm,0.2s
SEM Semipalatinsk 15.55 23 eP Pn 08 16 09.4 -1.5
SEM pmax pmax
comp=E,6.0nm,1.1s
SEM Semipalatinsk 15.55 23 eP Pn 08 16 09.5 -1.5
comp=E,5.7nm,1.1s,baz=23
JIRN Jiri 15.80 119 eP Pn 08 16 14.0 -0.3
RAMN Ramite 16.53 121 eP P 08 16 22.4 +0.1
comp=Z,82nm,0.2s
BVAR Borovoye Array 16.56 359 P Pn 08 16 22.4 -0.3
comp=Z,2.0nm,0.3s,baz=200,slow=16,SNR=19
BRVK Borovoye 16.59 359 ce P Pn 08 16 23.3 +0.1
BRVK pmax pmax
comp=Z,17nm,1.3s
BRVK Borovoye 16.59 359 P P 08 16 21.9 -0.6
BRVK IAmb IAmb 08 16 25.0
comp=Z,13nm,1.0s
AKTO Aktyubinsk 16.68 331 P Pn 08 16 25.6 +1.3
comp=Z,0.6nm,0.3s,baz=142,slow=11,SNR=17
AKTO S S 08 19 21.4 -6.6
comp=Z,0.2nm,0.3s,baz=210,slow=10,SNR=4.7
AKTO Aktyubinsk 16.68 331 ⇓P Pn 08 16 24.8 +0.5
comp=Z,7.5nm,0.9s
AKTO ⇑S S 08 19 27.2 -0.8
comp=Z,12nm,0.8s
WSAR Wadi Sarin 16.80 222 P Pn 08 16 25.7 -0.2
comp=Z,0.2nm,0.3s,baz=67,slow=15,SNR=1.3
ODAN Odare 17.13 119 eP Pn 08 16 29.7 -0.5
comp=Z,226nm,0.7s
GOMU GeErMu 19.45 84 P Pn 08 16 56.4 -1.1
GOMU pmax pmax
comp=Z,5.0nm,0.4s
GOMU pmax pmax
comp=Z,65nm,5.3s
ZAA0 Zalesovo Array 20.05 25 P P 08 17 00.5 +0.4
ZALV Zalesovo Beam 20.05 25 P P 08 17 00.8 +0.8
comp=Z,23nm,0.6s,baz=222,slow=11,SNR=99
ZALV S S 08 20 30.6 -4.7
comp=Z,3.5nm,0.7s,baz=208,slow=21,SNR=6.0
ZALV Zalesovo Beam 20.05 25 P P 08 17 00.3 +0.2
HYBB Hyderabad (bro 20.22 158 eP P 08 17 02.7 +0.5
HYBB es P sP 08 17 59.2 +3.2
HYBB eS S 08 20 36.9 -2.3
HYBB IVMs_BB IVMs_BB 08 23 44.6
comp=Z,73nm,4.1s
SHL Shillong 21.13 115 P P 08 17 12.0 -0.1
SHL pmax pmax
comp=Z,41nm,0.9s
SHL Shillong 21.13 115 P P 08 17 12.0 -0.1
ARU Arti 21.58 342 P P 08 17 17.1 +0.9
comp=Z,0.8nm,0.3s,baz=152,slow=7.7,SNR=6.4
ARU Arti 21.58 342 c i P P 08 17 18.8 +2.6
ARU *PP pP 08 17 50.8 +2.9
ARU S S 08 21 08.2 +5.0
ARU pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 21.58 342 P P 08 17 15.2 -1.1
ARU IAmb IAmb 08 17 19.8
comp=Z,6.7nm,0.9s
ONI Oni 21.82 295 P P 08 17 17.7 -1.2
ONI pmax pmax
comp=Z,3.0nm,0.9s
ONI Oni 21.82 295 P P 08 17 17.7 -1.2
KBZ Khabaz 22.38 297 ⇑ eP P 08 17 23.1 -1.2
KBZ pmax pmax
comp=Z,5.0nm,2.2s
KIV Kislovodsk 22.57 298 eP P 08 17 24.7 -1.4
KIV eS S 08 21 18.9 -0.8
KIV pmax pmax
comp=Z,3.0nm,0.9s
GTA Gaotai 23.13 74 eP P 08 17 35.2 +3.9
GTA pmax pmax
comp=Z,5.0nm,0.9s
RAYN Ar Rayn 25.24 246 P P 08 17 52.1 +1.5
RAYN pmax pmax
comp=Z,4.0nm,1.0s
RAYN Ar Rayn 25.24 246 P P 08 17 52.1 +1.5
RAYN IAmb IAmb 08 17 57.6
comp=Z,4.4nm,1.0s
ANN Anapa 26.42 299 eP P 08 18 00.2 -0.6
ANN e*PP pP 08 18 38.7 +0.9
ANN eS S 08 22 18.8 -1.9
ANN pmax pmax
comp=Z,44nm,0.8s
PZH PanZhiHua 28.19 102 P P 08 18 18.8 +1.8
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.0s
PALK Pallekele 30.47 160 P P 08 18 37.8 +0.8
PALK pmax pmax
comp=Z,26nm,1.9s
PALK Pallekele 30.47 160 P P 08 18 37.8 +0.8
PALK IAmb IAmb 08 18 39.5
comp=Z,26nm,1.9s
CMAR Chiang Mai Arr 30.67 118 P P 08 18 38.9 +0.2
comp=Z,1.7nm,0.3s,baz=298,slow=8.1,SNR=18
CMAR Chiang Mai Arr 30.67 118 ce P P 08 18 40.5 +1.7
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 30.67 118 P P 08 18 37.8 -0.9
XAN Xi'an 31.20 83 P P 08 18 44.2 +0.9
XAN pmax pmax
comp=Z,7.0nm,0.7s
XAN pmax pmax
comp=Z,90nm,6.5s
HHC Hu-ho-hao-te 32.02 69 eP P 08 18 52.4 +1.9
HHC pmax pmax
comp=Z,6.0nm,1.0s
HHC pmax pmax
comp=Z,52nm,8.1s
AKASG Malin Array Be 32.76 309 P P 08 18 57.7 +1.1
comp=Z,0.8nm,0.5s,baz=78,slow=7.5,SNR=5.1
NRIK Noril'sk 34.21 11 P P 08 19 09.6 +0.7
comp=Z,2.3nm,0.5s,baz=197,slow=4.5,SNR=5.6
NRIK Noril'sk 34.21 11 ⇑ eP P 08 19 11.1 +2.2
NRIK i *PP pP 08 19 48.3 +0.4
NRIK pmax pmax
comp=Z,2.0nm,0.6s
NRIK Noril'sk 34.21 11 P P 08 19 08.6 -0.3
NRIK IAmb IAmb 08 19 11.7
comp=Z,4.9nm,1.1s
FINES FINESS Array B 37.36 326 P P 08 19 37.2 +1.4
comp=Z,1.4nm,0.7s,baz=118,slow=11,SNR=3.9
FINES pP pP 08 20 15.8 +1.5
comp=Z,1.1nm,0.7s,baz=104,slow=5.9,SNR=2.1
FINES FINESS Array B 37.36 326 i P P 08 19 38.2 +2.4
FINES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 41.07 338 P P 08 20 06.9 +0.4
comp=Z,1.7nm,0.7s,baz=106,slow=7.7,SNR=6.6
IPM Ipoh 42.32 132 P P 08 20 17.4 +0.1
IPM IAmb IAmb 08 20 18.4
comp=Z,18nm,0.9s
NOA NORSAR Array B 44.25 323 P P 08 20 32.8 +0.6
comp=Z,0.7nm,0.6s,baz=96,slow=7.7,SNR=2.8
TIXI Tiksi 45.90 22 P P 08 20 45.9 +1.0
comp=Z,1.5nm,0.3s,baz=270,slow=23,SNR=6.6
TIXI Tiksi 45.90 22 ⇓ eP P 08 20 46.1 +1.1
TIXI pmax pmax
comp=Z,2.0nm,0.7s
TIXI Tiksi 45.90 22 P P 08 20 45.4 +0.5
SEY Seymchan 54.59 34 ⇑ eP P 08 21 52.0 +1.7
SEY pmax pmax
comp=Z,4.0nm,2.0s
BILL Bilibino 58.75 26 ⇓ eP P 08 22 20.3 +0.8
BILL e*PP pP 08 23 00.0 -2.3
BILL e 08 23 06.2
BILL eS S 08 30 10.7 +0.9
BILL pmax pmax
comp=Z,2.0nm,0.8s
TORD Torodi Ar. Bea 65.45 268 P P 08 23 04.7 -0.2
comp=Z,0.6nm,0.6s,baz=53,slow=5.9,SNR=4.3
TORD pP pP 08 23 46.9 -1.1
comp=Z,0.3nm,0.6s,baz=48,slow=4.7,SNR=2.0
ILAR Eielson Array 74.88 16 P P 08 24 00.7 -0.7
comp=Z,0.4nm,0.7s,baz=307,slow=6.7,SNR=4.5
YKA Yellowknife Ar 81.29 2 P P 08 24 37.6 +0.9
comp=Z,0.7nm,0.6s,baz=347,slow=5.4,SNR=18
YKA pP pP 08 25 21.4 -0.1
comp=Z,0.5nm,0.8s,baz=350,slow=5.2,SNR=1.5
WRA Warramunga Arr 82.20 122 P P 08 24 41.1 -0.9
comp=Z,2.7nm,0.7s,baz=324,slow=5.0,SNR=42
WRAB Tennant Creek 82.20 122 ce P P 08 24 41.0 -1.1
WRAB pmax pmax
comp=Z,6.0nm,0.9s
ASAR Alice Springs 84.45 125 P P 08 24 52.7 -0.8
comp=Z,2.1nm,0.8s,baz=310,slow=4.9,SNR=30

IDC 01 08:37:45.8±3.4, 53.90N×89.63E, h0km, mb1 2.8/3, mb1mx2.8/51, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=29.7km s-min=21.9km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
I46RU	**ZALESOVO INFRA**	**2.85**	**273**	*i*			08 57 00.0	
	baz=89,slow=325,SNR=2.5							
ZALV	**Zalesovo Beam**	**2.85**	**273**	Pn		Pn	08 38 33.0	+0.6
	0.5nm,0.3s,baz=92,slow=16,SNR=6.9							
ZALV				Lg		Lg	08 39 16.3	
	0.1nm,0.3s,baz=90,slow=28,SNR=1.5							
KURBB	**Kurchatov Arra**	**7.56**	**249**	Pn		Pn	08 39 36.6	-0.5
	0.1nm,0.3s,baz=61,slow=14,SNR=3.8							
KURBB				Lg		Lg	08 41 45.1	
	0.0nm,0.3s,baz=64,slow=35,SNR=1.4							
MKAR	**Makanchi Array**	**8.52**	**216**	Pn		Pn	08 39 51.3	+1.0
	0.2nm,0.3s,baz=31,slow=13,SNR=10							
MKAR				Sn		Sn	08 41 27.1	0.0
	0.1nm,0.3s,baz=38,slow=17,SNR=6.0							
MKAR				Lg		Lg	08 42 14.6	
	0.0nm,0.3s,baz=38,slow=33,SNR=1.7							

*IDC **01** 08:44:39.0±2.9, 53.59N×87.73E, h0km, mb1 3.0/2, mb1mx2.8/65, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=24.3km s-min=15.1km az=61.0*
*NNC **01** 08:44:42.1±1.6, 53.47N×87.57E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=12.2km s-min=6.4km az=57.0, Suspected Mining explosion.*

ISC 01 08:44:41.2±3.2, 53.6N±0.1×87.6E±0.2, h0km, n8, σ0.92/12, 4C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
I46RU	**ZALESOVO INFRA**	**1.68**	**284**	*i*			08 56 00.0	
	baz=99,slow=325,SNR=8.5							
ZAA0	**Zalesovo Array**	**1.68**	**284**	⇓P		**Pb**	**08 45 12.5**	**-0.4**
	0.6nm,0.3s							
ZAA0				⇑S		**Sg**	**08 45 36.0**	**+0.9**
	4.7nm,0.8s							
ZALV	**Zalesovo Beam**	**1.68**	**284**	Pg		**Pn**	**08 45 11.9**	**+0.1**
	2.8nm,0.3s,baz=104,slow=15,SNR=36							
ZALV				Lg		Lg	08 45 34.7	
	0.7nm,0.3s,baz=100,slow=17,SNR=4.3							
KURK	**Kurchatov**	**6.21**	**246**	⇑Sn		**Sn**	**08 47 25.2**	**-0.6**
	1.0nm,0.6s							
KURK				⇑Lg		Lg	08 47 59.3	
	4.9nm,0.9s							
KURBB	**Kurchatov Arra**	**6.31**	**246**	Pn		**Pn**	**08 46 13.8**	**-1.6**
	0.1nm,0.3s,baz=62,slow=14,SNR=8.5							
KURBB				Sn		**Sn**	**08 47 27.6**	**-0.5**
	baz=63,slow=22,SNR=2.0							
KURBB				Lg		Lg	08 48 02.1	
	0.0nm,0.3s,baz=63,slow=31,SNR=3.1							
KURBB	**Kurchatov Arra**	**6.31**	**246**	⇑Pn		**Pn**	**08 46 16.4**	**+1.0**
	1.5nm,0.5s							
KURBB				⇓Sn		**Sn**	**08 47 28.9**	**+0.8**
	4.5nm,0.6s							
KURBB				⇓Lg		Lg	08 48 00.4	
	4.9nm,0.6s							
MK31	**Makanchi Array**	**7.59**	**209**	⇓Pn		**Pn**	**08 46 33.8**	**+0.7**
	0.4nm,0.6s,baz=27,slow=13,SNR=10							
MK31				⇓Sn		**Sn**	**08 47 59.9**	**+0.1**
	0.5nm,0.5s							
MK31				⇓Lg		Lg	08 48 40.8	
	0.9nm,0.6s,baz=26,slow=29							
MKAR	**Makanchi Array**	**7.59**	**209**	Pn		**Pn**	**08 46 33.6**	**+0.5**
	0.1nm,0.3s,baz=28,slow=13,SNR=6.8							
MKAR				Sn		**Sn**	**08 47 58.8**	**-1.0**
	0.1nm,0.3s,baz=32,slow=22,SNR=5.2							
MKAR				Lg		Lg	08 48 40.2	
	0.1nm,0.3s,baz=32,slow=26,SNR=3.9							

*NNC **01** 08:48:49.7±1.7, 53.55N×87.72E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=14.8km s-min=7.9km az=44.0, Suspected Mining explosion.*
*IDC **01** 08:48:49.7±2.9, 53.59N×87.77E, h0km, mb1 3.2/2, mb1mx2.9/64, mbtmp3.2/2, ML2.5/2, Error ellipse: s-maj=23.6km s-min=14.7km az=62.0*

ISC 01 08:48:49.7±3.7, 53.6N±0.1×87.7E±0.2, h0km, n9, σ0.79/11, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
I46RU	**ZALESOVO INFRA**	**1.75**	**282**	*i*			09 00 10.0	
	baz=99,slow=324,SNR=5.0							
ZAA0	**Zalesovo Array**	**1.75**	**282**	⇑P		**Pn**	**08 49 21.2**	**-0.1**
	2.0nm,0.8s							
ZAA0				⇑S		**Sb**	**08 49 45.2**	**0.0**
	8.3nm,1.0s							
ZALV	**Zalesovo Beam**	**1.75**	**282**	Pg		**Pn**	**08 49 21.4**	**0.0**
	1.2nm,0.3s,baz=103,slow=13,SNR=30							
ZALV				Lg		Lg	08 49 46.6	
	2.4nm,0.3s,baz=103,slow=24,SNR=27							
KURK	**Kurchatov**	**6.31**	**246**	⇑Pn		**Pn**	**08 50 24.2**	**+0.4**
	2.3nm,0.8s							
KURK				⇓Lg		Lg	08 52 10.5	
	20nm,1.1s							
KURBB	**Kurchatov Arra**	**6.40**	**246**	Pn		**Pn**	**08 50 26.1**	**+0.9**
	0.1nm,0.3s,baz=61,slow=14,SNR=5.1							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB				Sn	Sn	08 51 38.4	-0.5
	0.0nm,0.3s,baz=59,slow=22,SNR=2.4						
KURBB				Lg	Lg	08 52 14.3	
	0.1nm,0.3s,baz=62,slow=33,SNR=13						
KURBB	Kurchatov Arra	6.40	246	⇑Pn	Pn	08 50 25.9	+0.7
	2.4nm,0.6s						
KURBB				⇓Sn	Sn	08 51 38.4	-0.5
	6.3nm,0.7s						
KURBB				⇑Lg	Lg	08 52 14.5	
	9.0nm,0.8s						
MK31	Makanchi Array	7.66	209	⇑Pn	Pn	08 50 41.1	-1.4
	1.5nm,0.9s,baz=38,slow=14,SNR=7.2						
MK31				⇓Lg	Lg	08 52 51.3	
	2.6nm,0.8s,baz=35,slow=32,SNR=3.7						
MKAR	Makanchi Array	7.66	209	Pn	Pn	08 50 43.5	+1.0
	0.1nm,0.3s,baz=24,slow=15,SNR=5.8						
MKAR				Sn	Sn	08 52 10.3	+0.3
	0.1nm,0.3s,baz=29,slow=21,SNR=3.3						
MKAR				Lg	Lg	08 52 49.8	
	0.1nm,0.3s,baz=26,slow=37,SNR=6.0						
MAKZ	Makanchi	7.74	211	⇑Lg	Lg	08 52 55.3	
	4.1nm,1.1s						

*IDC **01** 09:08:25.7±1.2, 37°.43N×78°.34E, h0km, mb3.6/8, mb1 3.8/12, mb1mx3.6/58, mbtmp3.7/12, ML2.9/3, MS3.0/3, Ms1 3.1/3, ms1mx2.5/87, Error ellipse: s-maj=26.7km s-min=21.5km az=62.0*
*NNC **01** 09:08:33.4±1.7, 37°.78N×77°.95E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=12.6km s-min=11.2km az=147.0*
*SOME **01** 09:08:39.7, 38°.00N×78°.02E, h0km*
ISC 01 09:08:29.6±1.0, **37°.62N**±0°.06×**78°.11E**±0°.06, **h17**km, **n46**, σ2^s**72**/52, **mb3.7**/8, **7C-6D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SATY	Saty	5.44	2	Pg	Pg	09 10 11.2	-2.6
	17nm,0.9s						
SATY				Lg	Lg	09 11 22.9	
	62nm,0.4s						
IZV	Izvestkoviy	5.53	349	eP	Pg	09 10 14.9	-0.6
	16nm,0.7s						
IZV				eS	Sg	09 11 23.4	-3.7
	44nm,0.5s						
IZV	Izvestkoviy	5.53	349	Pg	Pg	09 10 12.2	-3.2
	16nm,0.7s						
IZV				Lg	Lg	09 11 23.4	
	44nm,0.5s						
UZB	Uzynbulak	5.57	7	Pg	Pg	09 10 13.0	-3.2
	13nm,0.5s						
UZB				Lg	Lg	09 11 25.3	
	29nm,0.5s						
MDOK	Medeo	5.60	352	Pg	Pb	09 10 11.5	+4.6
	12nm,0.5s						
MDOK				Lg	Lg	09 11 21.1	
	42nm,0.6s						
MDOK	Medeo	5.60	352	Pg	Pg	09 10 13.0	-3.7
	14nm,0.3s						
MDOK				Lg	Lg	09 11 24.9	
	40nm,0.7s						
TKM2	Tokmak 2	5.63	341	⇑Pn	Pn	09 09 55.3	+2.6
	2.9nm,0.5s						
TKM2				⇓Pg	Pb	09 10 09.7	+2.1
	5.3nm,0.4s						
TKM2				⇓Lg	Lg	09 11 22.2	
	32nm,0.8s						
MTBS	Maitube	5.65	347	Pg	Pg	09 10 14.3	-3.5
	10nm,0.3s						
MTBS				Lg	Lg	09 11 26.7	
	28nm,0.5s						
KOTS	Kotyrbulak	5.66	353	eP	Pg	09 10 17.8	-0.1
	15nm,0.5s						
KOTS				eS	Sg	09 11 28.7	-2.5
	56nm,0.5s						
KOTS	Kotyrbulak	5.66	353	Pg	Pg	09 10 15.3	-2.6
	13nm,0.4s						
KOTS				Lg	Lg	09 11 28.7	
	56nm,0.5s						
KST	Kastek	5.66	344	eP	Pg	09 10 18.0	0.0
	11nm,0.4s						
KST				eS	Sg	09 11 28.6	-2.7
	32nm,2.3s						
KST	Kastek	5.66	344	Pg	Pg	09 10 15.3	-2.7
	11nm,0.5s						
KST				Lg	Lg	09 11 28.6	
	46nm,0.8s						
AAK	Ala-Archa	5.73	332	Pn	Pn	09 09 58.2	+4.2
	2.1nm,0.3s,baz=154,slow=7.7,SNR=19						
AAK				Pg	Pb	09 10 14.0	+4.8
	4.0nm,0.3s,baz=158,slow=10,SNR=13						
AAK				Sn	Sn	09 10 58.2	-1.2
	1.9nm,0.3s,baz=99,slow=11,SNR=1.7						
AAK				Lg	Lg	09 11 28.9	
	6.1nm,0.3s,baz=313,slow=13,SNR=7.7						
PDGK	Podgornoye	5.80	10	Pg	Pg	09 10 18.0	-2.6
	4.9nm,0.5s						
PDGK				Lg	Lg	09 11 33.0	
	15nm,0.3s						
PDGK	Podgornoye	5.80	10	⇑Pn	Pn	09 09 58.4	+3.4
	8.2nm,0.3s						
PDGK				⇑Lg	Lg	09 11 31.9	
	74nm,1.0s						
DGS	Degeres	5.89	343	eP	Pg	09 10 24.4	+2.0
	16nm,1.5s						
DGS				eS	Sg	09 11 39.2	+0.5
	23nm,0.3s						
DGS	Degeres	5.89	343	Pg	Pg	09 10 19.2	-3.2
	16nm,0.8s						
DGS				Lg	Lg	09 11 35.7	
	23nm,0.3s						
KTMS	Ketmen	6.07	16	Pg	Pg	09 10 23.6	-2.1
	5.0nm,0.3s						
KTMS				Lg	Lg	09 11 42.9	
	25nm,0.6s						
KTBS	Karatobe	6.18	350	Pg	Pg	09 10 25.4	-2.5
	2.2nm,0.1s						
KTBS				Lg	Lg	09 11 46.0	
	52nm,0.3s						
CHKK	Chushkaly	6.29	353	Pg	Pg	09 10 26.2	-3.7
	7.1nm,0.4s						
CHKK				Lg	Lg	09 11 47.7	
	33nm,0.3s						
MRKS	Merke	6.34	325	eP	Pg	09 10 30.6	-0.3
	6.3nm,0.5s						
MRKS				eS	Sg	09 11 50.8	-2.2
	16nm,0.5s						
MRKS	Merke	6.34	325	Pg	Pg	09 10 27.9	-3.1
	6.1nm,0.3s						
MRKS				Lg	Lg	09 11 50.0	
	16nm,0.5s						
KRBS	Karabastau	6.35	344	Pg	Pg	09 10 26.6	-4.5
	4.2nm,0.3s						
KRBS				Lg	Lg	09 11 48.0	
	16nm,0.5s						
SGDS	Sogindy	6.40	337	eP	Pg	09 10 30.7	-1.4
	5.1nm,0.3s						
SGDS				eS	Sg	09 11 50.8	-4.2
	10nm,0.4s						
SGDS	Sogindy	6.40	337	Pg	Pg	09 10 27.5	-4.6
	5.1nm,0.3s						
SGDS				Lg	Lg	09 11 50.8	
	10nm,0.4s						
KUU	Kurty	6.41	348	Pg	Pg	09 10 28.1	-4.2
	8.4nm,0.8s						
KUU				Lg	Lg	09 11 50.6	
	23nm,0.6s						
BLB	Baldybastay	6.48	2	Pg	Pg	09 10 29.8	-3.8
	36nm,0.5s						
BLB				Lg	Lg	09 11 53.8	
	55nm,0.4s						
ARXS	Arharly	6.59	358	Pg	Pg	09 10 30.9	-4.8
	11nm,0.5s						
ARXS				Lg	Lg	09 11 56.3	
	22nm,0.4s						
DJR	Jarkent	6.83	10	Pg	Pg	09 10 35.6	-4.6
	5.5nm,0.2s						
DJR				Lg	Lg	09 12 03.8	
	13nm,0.3s						
KK09	Karatay Array	8.00	316	⇑Pn	Pn	09 10 25.4	+0.4
	1.0nm,0.5s,baz=125,slow=12						
KK09				⇑Pg	Pb	09 10 52.5	+4.8
	2.3nm,0.6s						
KK09				⇓Sn	Sn	09 11 56.3	+1.3
	2.8nm,0.6s						
KK09				⇓Lg	Lg	09 12 40.1	
	4.7nm,0.7s,baz=128,slow=30						
BTLS	Baital	8.02	339	Pg	Pb	09 10 57.2	+9.1
	1.7nm,0.7s						
BTLS				Lg	Lg	09 12 40.8	
	6.5nm,0.7s						
MAKZ	Makanchi	9.62	16	⇑Pn	Pn	09 10 49.7	+2.4
	3.1nm,0.5s						
MAKZ				⇑Sn	Sn	09 12 38.8	+3.9
	3.2nm,0.8s						
MK31	Makanchi Array	9.68	17	⇓Pn	Pn	09 10 50.3	+2.3
	1.0nm,0.2s,baz=199,slow=12,SNR=152						
MK31				⇓Sn	Sn	09 12 40.5	+4.1
	2.2nm,0.6s,baz=204,slow=27,SNR=3.8						
MKAR	Makanchi Array	9.68	17	Pn	Pn	09 10 50.6	+2.5
	2.7nm,0.3s,baz=200,slow=13,SNR=165						
MKAR				Sn	Sn	09 12 35.0	-1.3
	0.2nm,0.3s,baz=205,slow=26,SNR=1.8						
KURBB	Kurchatov Arra	13.01	1	Pn	Pn	09 11 33.2	-0.3
	0.0nm,0.3s,baz=195,slow=9.2,SNR=2.1						
KURBB				Lg	Lg	09 15 24.4	
	0.0nm,0.3s,baz=190,slow=33,SNR=4.7						
BVAR	Borovoye Array	16.32	343	Pn	P	09 12 23.6	+2.9
	0.7nm,0.3s,baz=191,slow=14,SNR=8.1						
ZALV	Zalesovo Beam	16.98	14	P	Pn	09 12 25.0	-1.1
	0.1nm,0.3s,baz=203,slow=11,SNR=2.2						
ZALV				LR	LR	09 20 06.1	
	comp=Z,17nm,18.6s,baz=274,slow=41						
SONM	Songino Array	23.03	55	P	P	09 13 30.6	-3.3
	0.2nm,0.3s,baz=251,slow=10,SNR=2.3						
FINES	FINESS Array B	39.84	324	P	P	09 16 03.3	+1.6
	1.0nm,0.4s,baz=112,slow=9.3,SNR=15						
ARCES	ARCESS Array B	42.39	336	P	P	09 16 23.4	+0.8
	1.2nm,0.8s,baz=99,slow=7.5,SNR=4.2						
NOA	NORSAR Array B	46.95	322	P	P	09 16 59.1	-0.1
	1.0nm,0.9s,baz=91,slow=7.6,SNR=2.9						
NOA				LR	LR	09 39 18.7	
	comp=Z,12nm,20.6s,baz=255,slow=39						
TORD	Torodi Ar. Bea	71.39	272	P	P	09 19 48.6	-0.4
	0.2nm,0.5s,baz=47,slow=6.1,SNR=2.4						
INK	Inuvik	71.77	12	P	P	09 19 50.8	+0.3
	1.0nm,0.5s,baz=215,slow=8.7,SNR=3.4						
ILAR	Eielson Array	72.03	19	P	P	09 19 52.4	+0.2
	0.7nm,0.9s,baz=312,slow=4.1,SNR=5.4						
WRA	Warramunga Arr	77.92	127	P	P	09 20 24.2	-2.5
	0.3nm,1.0s,baz=308,slow=8.7,SNR=1.5						
PMG	Port Moresby	79.54	110	LR	LR	10 00 08.1	
	comp=Z,43nm,18.1s,baz=144,slow=39						

*IDC **01** 09:14:40.7±0.9, 22°.95N×123°.25E, h0km, mb3.8/9, mb1 4.0/12, mb1mx3.7/57, mbtmp3.9/12, ML3.4/3, MS3.3/17, Ms1 3.3/17, ms1mx3.0/88, Error ellipse: s-maj=24.8km s-min=19.7km az=74.0*
*NEIC **01** 09:14:42.1±1.6, 22°.82N±0°.08×123°.12E±0°.08, h20km±5km, mb4.1/12, Error ellipse: s-maj=13.0km s-min=8.8km az=144.0*
*NIED **01** 09:14:44.4, 23°.01N×123°.04E, h62km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.76; $M_{\theta\theta}$1.66; $M_{\phi\phi}$-0.90; $M_{r\theta}$0.26; $M_{\theta\phi}$-0.32; $M_{\phi r}$1.00; Fault plane solution: $M_0$1.79000×10^{15} NP1: ϕ_s240.00000°, δ64.00000°, λ-144.00000°. NP2: ϕ_s133.00000°, δ58.00000°, λ-31.00000°.*
*JMA **01** 09:14:44.3±0.3, 23°.01N×123°.04E, h62km, M4.1*
*TAP **01** 09:14:45.1, 22°.96N×122°.75E, h102km±1km, ML4.5, D*
ISC 01 09:14:41.9±3.0, **22°.93N**±0°.04×**123°.02E**±0°.03, **h14**km±19km, **n124**, σ1^s**75**/155, **mb3.9**/14, **MS3.3**/15, **1D, Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.33	33	P	Pn	09 15 06.2	+0.1
HATJ				S	Sn	09 15 22.2	-1.4
LDUT	Ludao	1.45	260	P	Pn	09 15 07.6	-0.1
	baz=256						
LDUT				S	Sn	09 15 23.8	-2.8
	baz=256						
JYNG	Yonagunijimaku	1.51	357	P	Pn	09 15 08.9	+0.3
JYNG				eS	Sn	09 15 25.5	-2.6
YOJ	Yonaguni jima	1.52	360	P	Pn	09 15 09.0	+0.3
YOJ				S	Sn	09 15 27.0	-1.3
YOJ	Yonaguni jima	1.52	360		Pn	09 15 09.1	+0.3
CHKT	Chengkung	1.53	277	P	Pn	09 15 08.4	-0.4
	baz=278						
CHKT				S	Sn	09 15 25.1	-3.4
	baz=278						
IRIF	Iriomote-Funau	1.54	25	P	Pn	09 15 09.4	+0.4
IRIF				S	Sn	09 15 27.4	-1.4
HGSD	Ruisui	1.57	291	i P	Pn	09 15 08.8	-0.6
	baz=291						
HGSD				S	Sn	09 15 26.3	-3.2
	baz=291						
EDH	Donghe	1.58	272	P	Pn	09 15 09.7	+0.2
	baz=272						
EDH				S	Sn	09 15 27.2	-2.6
	baz=272						
JKRS	Kuro-shima	1.58	35	P	Pn	09 15 09.7	+0.1
JKRS				S	Sn	09 15 28.3	-1.5
FULB	Fuli	1.61	280	eP	Pn	09 15 09.7	-0.3
	baz=283						
FULB				S	Sn	09 15 27.4	-3.1
	baz=283						
EYUL	Yuli	1.62	285	eP	Pn	09 15 10.0	-0.1
	baz=284						
EYUL				eS	Sn	09 15 27.5	-3.3
	baz=284						
LYUB	Lan-yu	1.62	235	P	Pn	09 15 10.2	+0.2
	baz=234						
LYUB				S	Sn	09 15 28.6	-2.1
	baz=234						
LAY	Lan-yu	1.62	237	P	Pn	09 15 10.2	0.0
	baz=230						
LAY				S	Sn	09 15 29.1	-1.7
	baz=230						
EGFH	Guangfu	1.64	297	eP	Pn	09 15 10.2	-0.1
	baz=304						
EGFH				eS	Sn	09 15 29.0	-2.2
	baz=304						
YULB	Yu-li	1.65	286		Pn	09 15 10.5	0.0
YULB	Yu-li	1.65	286	eP	Pn	09 15 10.6	0.0
	baz=288						
YULB				eS	Sn	09 15 28.4	-3.1
	baz=288						
EHY	Hungye	1.66	290	eP	Pn	09 15 10.7	+0.1
	baz=290						
ESL	Shilin	1.70	301	eP	Pn	09 15 10.8	-0.4
	baz=305						
ESL				eS	Sn	09 15 28.9	-3.9
	baz=305						
TTN	Taitung	1.74	265	eP	Pn	09 15 12.6	+0.9
	baz=261						
TTN				eS	Sn	09 15 31.9	-1.7
	baz=261						
TWD	Chiawan	1.74	311	P	Pn	09 15 11.4	-0.3
	baz=317						
TWD				S	Sn	09 15 30.1	-3.5
	baz=317						
LONT	Longtian	1.74	270	eP	Pn	09 15 12.3	+0.6
	baz=266						
LONT				eS	Sn	09 15 31.9	-1.9
	baz=266						
JIJ	Ishigaki jima	1.76	36	P	Pn	09 15 11.9	-0.1
JIJ				S	Sn	09 15 31.8	-2.3
ETL	Fush Village	1.77	314	eS	Sn	09 15 32.1	-2.4
	baz=314						
TWGBT	Beinan	1.79	267	eP	Pn	09 15 13.2	+0.8
	baz=265						
TWGBT				eS	Sn	09 15 33.0	-2.0
	baz=265						
NACB	Ninganchiao	1.80	314		Pn	09 15 12.3	-0.3
NACB	Ninganchiao	1.80	314	eP	Pn	09 15 12.3	-0.3
	baz=316						
NACB				eS	Sn	09 15 31.3	-3.8
	baz=316						
TWG	Pinlang	1.80	267		Pn	09 15 12.7	+0.2
TWG	Pinlang	1.80	267	eP	Pn	09 15 13.4	+0.9
	baz=264						
TWG				eS	Sn	09 15 33.4	-1.8
	baz=264						
EWUT	Wuta	1.89	323	eP	Pn	09 15 14.5	+0.8
	baz=334						
EWUT				eS	Sn	09 15 36.1	-1.2
	baz=334						
ENA	Nanau	1.90	322	eP	Pn	09 15 14.6	+0.7
	baz=328						
ENA				eS	Sn	09 15 36.2	-1.4
	baz=328						
ETLH	Xiulin Townshi	1.90	312	eP	Pn	09 15 14.3	+0.3
	baz=317						
ETLH				eS	Sn	09 15 35.9	-1.9
	baz=317						
VWDT	VWDT	1.91	296	eP	Pn	09 15 14.8	+0.7
	baz=302						
VWDT				eS	Sn	09 15 34.2	-3.7
	baz=302						
ECL	Taimali	1.94	260	eP	Pn	09 15 14.9	+0.5
	baz=257						
ECL				eS	Sn	09 15 36.0	-2.5
	baz=257						
OWD	Renai	1.98	301	eP	Pn	09 15 15.5	+0.4
	baz=311						
OWD				eS	Sn	09 15 37.3	-2.5
	baz=311						
YUS	Yu-Shan	1.98	287	eP	Pn	09 15 16.1	+0.6
	baz=288						
TWC	Suao	1.98	327	eS	Sn	09 15 37.5	-2.2
	baz=338						
WHF	Hehuan Shan	2.01	307	eP	Pn	09 15 16.1	+0.3
	baz=311						
JISG	Ishigakijimahi	2.03	35	P	Pn	09 15 15.7	0.0
JISG				S	Sn	09 15 38.9	-1.9
CHGB	Renai	2.03	304	eP	Pn	09 15 16.5	+0.6
	baz=314						
CHGB				eS	Sn	09 15 39.0	-2.2
	baz=314						
WUSB	Renai	2.04	301	eP	Pn	09 15 16.6	+0.7
	baz=311						
WUSB				eS	Sn	09 15 39.5	-1.8
	baz=311						
TAWH	Dawu Township	2.06	254	eS	Sn	09 15 40.0	-1.5
	baz=250						
NDS	Dongshan	2.07	325	eP	Pn	09 15 17.4	+1.1
	baz=336						
NDS				eS	Sn	09 15 40.5	-1.4
	baz=336						
EAST	Anshuo	2.08	255	eS	Sn	09 15 39.8	-2.4
	baz=256						
SSLB	Suanglung	2.08	295		Pn	09 15 16.5	+0.1
SSLB	Suanglung	2.08	295	eP	Pn	09 15 17.1	+0.7
	baz=301						
SSLB				eS	Sn	09 15 39.9	-2.2
	baz=301						
STYH	Taoyuan	2.08	277	eS	Sn	09 15 40.3	-1.8
	baz=280						
FUSS	Fushou	2.09	309	eP	Pn	09 15 17.5	+0.7
	baz=313						
FUSS				eS	Sn	09 15 40.6	-2.2
	baz=313						
LATG	Datong	2.10	320	eP	Pn	09 15 17.5	+0.7
	baz=316						
LATG				eS	Sn	09 15 40.8	-2.1
	baz=316						
NNSB	Datong	2.12	315	eP	Pn	09 15 17.7	+0.7
	baz=313						
NNSB				eS	Sn	09 15 40.1	-3.0
	baz=313						
ALS	Alishan	2.12	286	eP	Pn	09 15 18.5	+1.3
	baz=287						
NNS	Nan Shan	2.13	315	eP	Pn	09 15 18.1	+0.9
	baz=313						
NNS				eS	Sn	09 15 40.6	-2.9
	baz=313						
TWT	Tachien	2.14	308	eS	Sn	09 15 42.2	-1.7
	baz=317						
ENTT	Nioudou	2.16	322	eS	Sn	09 15 42.8	-1.3
	baz=327						
NDT	Datong Townshi	2.16	321	eP	Pn	09 15 18.5	+1.0
	baz=318						
NDT				eS	Sn	09 15 42.3	-1.8
	baz=318						
TWE	Neicheng	2.17	325	eP	Pn	09 15 18.8	+1.2
	baz=337						
TWE				eS	Sn	09 15 42.4	-1.9
	baz=337						
TYC	Yuchr	2.21	296	eP	Pn	09 15 19.6	+1.5
	baz=302						
MASBT	Mashibuluo	2.23	262	eP	Pn	09 15 19.6	+1.2
	baz=260						
TPUB	Ta-pu	2.23	280		Pn	09 15 20.2	+1.7
FUSB	Fushanzhiwuyua	2.24	324	eP	Pn	09 15 20.0	+1.3
	baz=329						
SGST	Jiashian	2.25	274	eP	Pn	09 15 20.3	+1.5
	baz=273						
CHN5	Tsauling	2.25	288	eP	Pb	09 15 21.2	-1.3
	baz=288						
CHN4	Tsaushan	2.27	281	eP	Pb	09 15 21.3	-1.4
	baz=281						
TWK1	Hengchun	2.27	245	eP	Pn	09 15 20.5	+1.5
	baz=240						
YHNB	Yeheng	2.29	319		Pn	09 15 20.5	+1.1
YHNB	Yeheng	2.29	319	eP	Pn	09 15 20.6	+1.2
	baz=323						
JTJ	Tarama	2.29	42	P	Pn	09 15 19.6	+0.3
JTJ				S	Sn	09 15 45.9	-1.5
HEN	Hengchun	2.30	247	eS	Sn	09 15 44.0	-3.6
	baz=237						
CHN1	Nanshi	2.31	277	eP	Pb	09 15 22.4	-0.9
	baz=276						
NSK	Sanguang	2.31	319	eP	Pn	09 15 20.7	+1.1
	baz=323						
SXI1	Grass Mountain	2.39	334	eP	Pn	09 15 21.2	+0.4
	baz=346						
TWA	Mucha	2.43	327	eS	Sn	09 15 50.8	+0.1
	baz=332						
TATO	Taipei	2.47	326		Pn	09 15 23.7	+2.0
JIRB	Irabujima	2.73	46	P	Pn	09 15 25.3	0.0
JIRB				S	Sn	09 15 56.4	-1.7
JMJ2	Miyako jima3	2.78	49	P	Pn	09 15 26.1	+0.1
JMJ2				S	Sn	09 15 57.9	-1.4
JIKM	Ikemajima	2.84	45	P	Pn	09 15 27.1	+0.2
JIKM				S	Sn	09 15 59.7	-1.2
JOGS	Gusukube	2.84	50	P	Pn	09 15 27.1	+0.2
JOGS				S	Sn	09 15 59.8	-1.1
KNMB	Chin-men Tao	4.51	291	Pn	Pn	09 15 51.3	+1.5
JOW	Kunigami	6.15	50	Pn	Pn	09 16 10.6	-1.8
	1.7nm,0.3s,baz=189,slow=12,SNR=10.0						
JOW				Sn	Sn	09 17 17.6	-4.9
	2.0nm,0.3s,baz=122,slow=19,SNR=2.9						
JOW	Kunigami	6.15	50		Pn	09 16 11.2	-1.2
LQP	Lukban	8.88	189	⇓eP	Pn	09 16 54.7	+4.5
JMN	Monobe	14.38	39	Pn	Pn	09 18 02.8	-2.3
KSRS	Korea Array	15.08	15	Pn	Pn	09 18 14.2	-0.3
	0.4nm,0.3s,baz=191,slow=12,SNR=9.3						
KSRS				LR	LR	09 24 38.2	
	comp=Z,98nm,19.3s,baz=185,slow=40						
DAV	Davao City (W)	15.96	171	LR	LR	09 24 24.6	
	comp=Z,106nm,19.2s,baz=321,slow=37						
MAJO	Matsushiro	18.88	41	P	P	09 19 01.5	-0.4
MAJO				IAmb	IAmb	09 19 23.2	
	comp=Z,12nm,1.1s						
MJB9	Matsu-Tunnel	18.88	41	P	P	09 19 01.9	0.0
MJB9				IAmb	IAmb	09 19 23.1	
	comp=Z,13nm,1.1s						
MJAR	Matsushiro Arr	18.88	41	P	P	09 19 01.5	-0.5
	comp=Z,0.1nm,0.3s,baz=239,slow=10,SNR=12						
MJAR	Matsushiro Arr	18.88	41	P	P	09 18 59.8	-2.2
GUMO	Guam	22.71	110	LR	LR	09 27 19.4	
	comp=Z,28nm,21.0s,baz=310,slow=34						
CMAR	Chiang Mai Arr	22.95	263	P	P	09 19 50.2	+4.2
	comp=Z,1.3nm,0.3s,baz=68,slow=12,SNR=1.7						
CMAR				LR	LR	09 29 27.2	
	comp=Z,39nm,19.6s,baz=205,slow=38						
KLR	Kul'dur	27.14	13	LR	LR	09 32 15.3	
	comp=Z,60nm,19.1s,baz=258,slow=39						
SONM	Songino Array	28.18	336	P	P	09 20 34.4	+0.4
	comp=Z,655nm,0.6s,baz=157,slow=9.0,SNR=6.4						
YAK	Yakutsk	39.34	5	LR	LR	09 41 30.4	
	comp=Z,34nm,18.3s,baz=90,slow=41						
PETK	Petropavlovsk-	39.99	32	LR	LR	09 39 39.5	
	comp=Z,19nm,18.7s,baz=248,slow=38						
MK31	Makanchi Array	40.40	316	P	P	09 22 20.3	+0.7
MKAR	Makanchi Array	40.40	316	P	P	09 22 22.3	+2.7
	comp=Z,0.9nm,0.6s,baz=101,slow=10,SNR=8.4						
MKAR	Makanchi Array	40.40	316	P	P	09 22 20.0	+0.5
ZAA0	Zalesovo Array	42.21	327	P	P	09 22 35.2	+1.0
ZAA0				IAmb	IAmb	09 22 38.6	
	comp=Z,2.0nm,0.8s						
ZALV	Zalesovo Beam	42.21	327	P	P	09 22 35.5	+1.3
	comp=Z,1.1nm,0.5s,baz=142,slow=6.5,SNR=6.7						
ZALV				LR	LR	09 42 04.9	
	comp=Z,18nm,20.5s,baz=127,slow=39						
ZALV	Zalesovo Beam	42.21	327	P	P	09 22 34.7	+0.5
PALK	Pallekele	43.53	256	LR	LR	09 42 37.7	
	comp=Z,22nm,18.2s,baz=167,slow=38						
WB0	Warramunga Arr	43.87	164	P	P	09 22 45.4	-2.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRAB	**Tennant Creek**	**44.02**	**165**	P	**P**	**09 22 48.0**	**-1.2**
WRA	**Warramunga Arr**	**44.02**	**165**	P	**P**	**09 22 49.8**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=344,slow=9.0,SNR=3.8						
WRA	**Warramunga Arr**	**44.02**	**165**	P	**P**	**09 22 46.0**	**-3.3**
WB2	**Warramunga Arr**	**44.03**	**165**	P	**P**	**09 22 46.8**	**-2.5**
WB2				IAmb	IAmb	09 23 04.2	
	comp=Z,4.8nm,1.1s						
WR0	**Warramunga Arr**	**44.09**	**164**	P	**P**	**09 22 47.1**	**-2.6**
WR0				IAmb	IAmb	09 23 11.3	
	comp=Z,4.6nm,1.2s						
KURK	**Kurchatov**	**44.13**	**320**	P	**P**	**09 22 51.4**	**+1.5**
KURK	**Kurchatov**	**44.13**	**320**	IAmb	IAmb	09 23 02.6	
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**44.15**	**320**	P	**P**	**09 22 51.3**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=116,slow=7.1,SNR=5.0						
AAK	**Ala-Archa**	**44.60**	**308**	LR	LR	09 45 11.4	
	comp=Z,31nm,18.3s,baz=98,slow=41						
ASAR	**Alice Springs**	**47.51**	**166**	P	**P**	**09 23 16.8**	**0.0**
	comp=Z,0.4nm,0.8s,baz=347,slow=8.0,SNR=3.7						
TIXI	**Tiksi**	**48.85**	**2**	LR	LR	09 46 33.0	
	comp=Z,52nm,18.7s,baz=180,slow=39						
NRIK	**Noril'sk**	**51.05**	**345**	LR	LR	09 47 00.0	
	comp=Z,41nm,19.4s,baz=126,slow=38						
ABKAR	**Akbulak array**	**55.52**	**315**	P	**P**	**09 24 16.6**	**+0.1**
GEYT	**Alibeck**	**56.88**	**301**	LR	LR	09 54 28.4	
	comp=Z,28nm,19.0s,baz=358,slow=42						
SPITS	**Spitsbergen Ar**	**71.06**	**348**	LR	LR	10 01 06.1	
	comp=Z,35nm,19.5s,baz=244,slow=39						
ARCES	**ARCESS Array B**	**71.32**	**338**	P	**P**	**09 26 02.0**	**+1.2**
	comp=Z,6.0nm,1.1s,baz=76,slow=4.9,SNR=2.1						
FINES	**FINESS Array B**	**73.37**	**330**	P	**P**	**09 26 14.6**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=77,slow=8.7,SNR=1.8						
FINES	**FINESS Array B**	**73.37**	**330**	P	**P**	**09 26 13.3**	**+0.2**
HFS	**Hagfors**	**79.47**	**331**	LR	LR	10 05 29.7	
	comp=Z,49nm,19.6s,baz=50,slow=38						
NOA	**NORSAR Array B**	**80.11**	**333**	LR	LR	10 06 47.2	
	comp=Z,16nm,18.2s,baz=350,slow=39						
JMIC	**Jan Mayen**	**80.46**	**346**	LR	LR	10 07 48.4	
	comp=Z,16nm,18.8s,baz=76,slow=40						
YKA	**Yellowknife Ar**	**83.46**	**23**	P	**P**	**09 27 10.3**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=304,slow=5.2,SNR=15						

*IDC **01** 09:16:04.8±11.0, 20.°75N×155.°34W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/54, mbtmp3.7/5, Error ellipse: s-maj=232.3km s-min=53.7km az=35.0*

*NEIC **01** 09:16:08.9±1.0, 20.°69N±0.°04×155.°20W±0.°05, h25km±5km, mb4.3/26, ML4.6/57, Mwr4.2/30, ML4.7/47(HVO), Error ellipse: s-maj=9.3km s-min=2.1km az=50.0*

*NEIC **01** 09:16:09.7, 20.°66N×155.°23W, h28km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.09; $M_{\theta\theta}$0.71; $M_{\phi\phi}$-1.81; $M_{r\theta}$0.46; $M_{\theta\phi}$1.05; $M_{\phi r}$1.68; Fault plane solution: $M_0$2.58000×10^{15} NP1:ϕ_s11.25000°, δ73.98000°, λ124.16000°. NP2:ϕ_s123.37000°, δ37.32000°, λ27.07000°. Principal axes: T 2.3504, Plg49.0000°, Azm319.0000°; N 0.4045, Plg33.0000°, Azm181.0000°; P -2.7548, Plg22.0000°, Azm76.0000°;*

*HVO **01** 09:16:11.1±2.7, 20.°74N±0.°05×155.°09W±0.°06, h20km±5km Error ellipse: s-maj=9.8km s-min=5.4km az=53.0*

ISC 01 09:16:06.8±0.5**, 20.°74N**±0.°04×**155.°14W**±0.°05**, h10**km**, n76,** σ**0.s73**/68**, mb4.3**/21**, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.88**	**217**		**Pb**	**09 16 25.2**	**+1.0**
HPAH				Sn	**Sg**	**09 16 35.4**	**+0.2**
MHA	**Mahukona**	**0.90**	**233**		**Pn**	**09 16 25.9**	**+0.4**
HLK	**Haleakala**	**1.03**	**271**		**Pb**	**09 16 27.3**	**+0.3**
HLK				Sn	**Sg**	**09 16 40.0**	**-0.3**
POHA	**Pohakuloa**	**1.04**	**201**	IAML		09 16 39.7	
	15µm,0.2s						
POHA				IAML		09 16 39.8	
	13µm,0.2s						
POHA	**Pohakuloa**	**1.04**	**201**	Pn	**Pg**	**09 16 27.1**	**+0.2**
POHA				Sn	**Sg**	**09 16 39.5**	**-1.1**
HMH	**Humu‘ula Sheep**	**1.17**	**196**		**Pb**	**09 16 29.5**	**+0.1**
HMH				Sn	**Sg**	**09 16 43.0**	**-1.7**
HMH				IAML		09 16 49.3	
	comp=N,15µm,0.3s						
KHLH	**Kahului Airpor**	**1.21**	**278**		**Pb**	**09 16 29.9**	**0.0**
KHLH				IAML		09 16 45.9	
	comp=N,12µm,0.3s						
KHLH				IAML		09 16 46.2	
	comp=E,16µm,0.6s						
HUH	**Hualalai**	**1.23**	**212**		**Pb**	**09 16 30.8**	**+0.4**
HUH				IAML		09 16 48.6	
	comp=N,16µm,0.2s						
HUH				IAML		09 16 49.5	
	comp=E,13µm,0.2s						
MLH	**Mauna Loa**	**1.26**	**191**		**Pn**	**09 16 30.5**	**-0.2**
MLH				IAML		09 16 45.5	
	comp=N,20µm,0.2s						
MLOA	**Mauna Loa Obse**	**1.26**	**199**		**Pn**	**09 16 31.1**	**+0.2**
MLOA				IAML		09 16 46.2	
	comp=E,14µm,0.5s						
MLOA				IAML		09 16 46.8	
	comp=N,20µm,0.5s						
RSD	**Rainshed**	**1.27**	**186**		**Pn**	**09 16 30.6**	**-0.2**
SBLHI	**Steaming Bluff**	**1.31**	**185**		**Pn**	**09 16 30.6**	**-0.7**
SBLHI				IAML		09 16 47.0	
	comp=N,11µm,0.4s						
HATHI	**Halema‘uma‘u T**	**1.31**	**185**		**Pn**	**09 16 30.8**	**-0.6**
HATHI				IAML		09 16 50.9	
	comp=N,11µm,0.3s						
HATHI				IAML		09 17 01.7	
	comp=E,14µm,0.6s						
UWB	**Uwekahuna B**	**1.31**	**186**		**Pn**	**09 16 30.7**	**-0.7**
MWH	**Moku‘aweowe**	**1.32**	**199**		**Pn**	**09 16 31.6**	**-0.2**
MWH				IAML		09 16 49.5	
	comp=E,10µm,0.2s						
MWH				IAML		09 16 55.1	
	comp=N,13µm,0.4s						
UWE	**Uwekahuna**	**1.32**	**186**		**Pn**	**09 16 30.8**	**-0.7**
OBL	**Observatory Le**	**1.32**	**186**	Pn	**Pn**	**09 16 30.9**	**-0.5**
BYL	**Byron's Ledge**	**1.32**	**185**		**Pn**	**09 16 30.3**	**-1.2**
BYL				IAML		09 16 51.9	
	comp=N,10µm,0.5s						
BYL				IAML		09 16 57.0	
	comp=E,9µm,0.4s						
NPH	**North Pit**	**1.32**	**186**		**Pn**	**09 16 30.8**	**-0.8**
NPH				IAML		09 16 45.9	
	comp=N,9µm,0.3s						
WRMHI	**West Rim**	**1.33**	**186**		**Pn**	**09 16 31.0**	**-0.6**
KKO	**Keanakako`i**	**1.34**	**185**		**Pn**	**09 16 31.1**	**-0.6**
KKO				IAML		09 16 46.1	
	comp=E,9µm,0.3s						
KKO				IAML		09 16 47.0	
	comp=N,14µm,0.6s						
NPOC	**North of Pu‘u**	**1.34**	**179**	Pn	**Pn**	**09 16 31.0**	**-0.7**
NPOC				IAML		09 16 45.9	
	comp=E,8µm,0.4s						
KHLU	**Kahalu`u**	**1.34**	**212**		**Pn**	**09 16 31.6**	**-0.2**
KHLU				IAML		09 16 47.4	
	comp=N,11µm,0.2s						
RIM	**Rim**	**1.34**	**185**		**Pn**	**09 16 31.3**	**-0.5**
RIM				IAML		09 16 46.4	
	comp=E,10µm,0.5s						
RIM				IAML		09 16 48.1	
	comp=N,12µm,0.5s						
STCH	**Steam Cracks**	**1.35**	**179**		**Pn**	**09 16 31.1**	**-0.7**
JCUZ	**Jacuzzi**	**1.35**	**178**	Pn	**Pn**	**09 16 31.1**	**-0.7**
JCUZ				IAML		09 16 46.2	
	comp=E,9µm,0.2s						
SDHHI	**Sand Hill**	**1.35**	**186**		**Pn**	**09 16 31.1**	**-0.8**
PUH	**Pauahi**	**1.36**	**183**		**Pn**	**09 16 31.4**	**-0.6**
AIN	**Ainahou**	**1.39**	**192**		**Pn**	**09 16 32.3**	**-0.2**
AIN				IAML		09 16 48.7	
	comp=E,17µm,0.3s						
HLP	**Hilina Pali**	**1.44**	**186**		**Pn**	**09 16 32.4**	**-0.7**
HLP				IAML		09 17 02.4	
	comp=N,7µm,0.5s						
KHU	**Kahuku**	**1.55**	**197**		**Pn**	**09 16 34.0**	**-0.7**
KHU				IAML		09 16 52.3	
	comp=E,10µm,0.3s						
HON	**Honolulu**	**2.73**	**283**		**Pn**	**09 16 50.3**	**-0.5**
HON				IAML		09 17 22.2	
	comp=N,3µm,0.6s						
OPA	**Opana**	**2.84**	**290**		**Pn**	**09 16 50.7**	**-1.5**
YBH	**Yreka Blue Hor**	**34.44**	**45**	P	**P**	**09 22 56.3**	**+1.6**
	comp=N,0.8nm,0.7s,baz=195,slow=12,SNR=4.1						
YBH	**Yreka Blue Hor**	**34.44**	**45**	IAmb	IAmb	09 22 57.0	
	comp=Z,1.0nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**35.57**	**275**	T	T	10 00 25.9	
	baz=84,slow=74,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**35.58**	**275**	T	T	10 00 26.8	
	baz=84,slow=74,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**35.59**	**275**	T	T	10 00 27.4	
	baz=84,slow=74,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**35.95**	**273**	T	T	10 00 36.4	
	baz=82						
H11S1	**WAKE ISLAND Hy**	**35.96**	**273**	T	T	10 00 35.4	
	baz=82						
H11S3	**WAKE ISLAND Hy**	**35.97**	**273**	T	T	10 00 54.0	
	baz=82						
H02S1	**DAWSON INLET T**	**36.80**	**23**	T	T	10 03 00.8	
	SNR=64						
HLID	**Hailey**	**40.77**	**47**	P	**P**	**09 23 49.4**	**+1.0**
HVU	**Hansel Valley**	**41.33**	**50**	P	**P**	**09 23 53.9**	**+0.8**
HVU				IAmb	IAmb	09 23 54.7	
	comp=Z,4.1nm,0.8s						
SRU	**San Rafael Swe**	**42.31**	**54**	P	**P**	**09 24 01.9**	**+0.8**
SRU				IAmb	IAmb	09 24 02.8	
	comp=Z,4.6nm,0.7s						
P18A	**Preston Nutter**	**42.63**	**54**	P	**P**	**09 24 04.3**	**+0.3**
TPAW	**Teton Pass**	**43.13**	**48**	P	**P**	**09 24 09.1**	**+1.2**
REDW	**Red Top Meadow**	**43.16**	**48**	P	**P**	**09 24 09.0**	**+1.0**
REDW				IAmb	IAmb	09 24 09.9	
	comp=Z,4.6nm,1.0s						
RDMU	**Red Mountain**	**43.35**	**52**	P	**P**	**09 24 10.0**	**+0.4**
RDMU				IAmb	IAmb	09 24 11.1	
	comp=Z,4.0nm,0.8s						
PD31	**Pinedale Array**	**43.90**	**49**	P	**P**	**09 24 13.6**	**-0.5**
PDAR	**Pinedale Array**	**43.90**	**49**	P	**P**	**09 24 13.7**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=255,slow=5.5,SNR=7.4						
IL31		**44.35**	**5**	P	**P**	**09 24 17.3**	**+0.4**
IL31				IAmb	IAmb	09 24 17.5	
	comp=Z,4.5nm,1.4s						
ILAR	**Eielson Array**	**44.35**	**5**	P	**P**	**09 24 16.3**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=186,slow=6.6,SNR=5.9						
MDM	**Murphy Dome**	**44.44**	**4**	P	**P**	**09 24 18.3**	**+0.5**
MDM				IAmb	IAmb	09 24 24.8	
	comp=Z,5.6nm,1.4s						
RLMT	**Red Lodge**	**44.77**	**46**	P	**P**	**09 24 22.4**	**+1.5**
RWWY	**Rawlins**	**45.34**	**51**	P	**P**	**09 24 24.9**	**-0.6**
RWWY				IAmb	IAmb	09 24 51.0	
	comp=Z,4.9nm,1.2s						
EDM	**Edmonton**	**45.50**	**34**	P	**P**	**09 24 26.5**	**+0.1**
EDM				IAmb	IAmb	09 24 26.7	
	comp=Z,2.5nm,0.6s						
N23A	**Red Feather La**	**46.11**	**53**	P	**P**	**09 24 32.1**	**+0.4**
N23A				IAmb	IAmb	09 24 32.9	
	comp=Z,3.3nm,0.6s						
TX31	**Lajitas Ar. Si**	**47.11**	**69**	P	**P**	**09 24 40.4**	**+0.9**
TX32	**Lajitas Array**	**47.11**	**69**	P	**P**	**09 24 40.4**	**+1.0**
TX32				IAmb	IAmb	09 25 06.4	
	comp=Z,5.5nm,1.5s						
TXAR	**Lajitas Array**	**47.11**	**69**	P	**P**	**09 24 40.2**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=257,slow=8.2,SNR=5.2						
TXAR	**Lajitas Array**	**47.11**	**69**	P	**P**	**09 24 40.0**	**+0.5**
MSTX	**Muleshoe**	**47.88**	**63**	P	**P**	**09 24 45.6**	**+0.2**
YKA	**Yellowknife Ar**	**50.05**	**23**	P	**P**	**09 25 01.3**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=232,slow=7.8,SNR=13						
ECSD	**EROS Data Cent**	**53.37**	**50**	P	**P**	**09 25 26.0**	**-0.6**
ECSD				IAmb	IAmb	09 25 27.3	
	comp=Z,2.7nm,1.1s						
U40A	**Yellville**	**56.01**	**60**	P	**P**	**09 25 45.0**	**-0.9**
R40A	**Maddies Statio**	**56.42**	**57**	P	**P**	**09 25 48.4**	**-0.4**
R40A				IAmb	IAmb	09 25 48.5	
	comp=Z,2.8nm,0.6s						
FCAR	**Ozark Folk Cen**	**56.61**	**60**	P	**P**	**09 25 49.8**	**-0.4**
FCAR				IAmb	IAmb	09 26 17.6	
	comp=Z,5.2nm,1.3s						
PBMO	**Poplar Bluff**	**57.94**	**59**	P	**P**	**09 25 59.2**	**-0.3**
PBMO				IAmb	IAmb	09 25 59.6	
	comp=Z,3.9nm,0.8s						
G40A	**Rib Lake**	**58.05**	**49**	P	**P**	**09 25 59.5**	**-0.7**
HHC	**Hu-ho-hao-te**	**79.13**	**310**	*e*P	**P**	**09 28 11.4**	**-0.7**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,8.3s						
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,9.6s						
H03N2	**Juan Fernandez**	**90.37**	**126**	T	T	11 09 23.1	
	baz=298,slow=77,SNR=9.5						
H03N3	**Juan Fernandez**	**90.39**	**126**	T	T	11 09 22.0	
	baz=298,slow=77,SNR=6.7						
H03N1	**Juan Fernandez**	**90.39**	**126**	T	T	11 09 20.8	
	baz=298,slow=77,SNR=11						
PZH	**PanZhiHua**	**91.95**	**299**	P	**P**	**09 29 16.5**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
WMQ	**Urumqi**	**93.81**	**320**	*e*P	**P**	**09 29 25.4**	**+0.9**

IDC 01 09:16:32.6±3.1**, 53.°59N**×**87.°92E, h0**km**, mb1 2.9**/2**, mb1mx2.8**/57**, mbtmp2.9**/2**, ML2.4**/2**, Error ellipse: s-maj=24.8km s-min=15.8km az=62.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**282**	*i*		09 28 20.0	
	baz=97,slow=322,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.88**	**282**	Pg	Pn	09 17 05.8	-0.2
	1.8nm,0.3s,baz=104,slow=11,SNR=22						
ZALV				Lg	Lg	09 17 32.6	
	3.2nm,0.3s,baz=104,slow=25,SNR=16						
KURBB	**Kurchatov Arra**	**6.50**	**247**	Pn	Pn	09 18 10.4	+0.9
	0.1nm,0.3s,baz=62,slow=14,SNR=5.4						
KURBB				Sn	Sn	09 19 23.1	-1.2
	0.0nm,0.3s,baz=50,slow=49,SNR=4.2						
KURBB				Lg	Lg	09 20 00.3	
	0.2nm,0.3s,baz=63,slow=30,SNR=14						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	09 18 27.1	+1.1
	0.1nm,0.3s,baz=27,slow=13,SNR=2.6						
MKAR				Sn	Sn	09 19 54.2	+0.3
	0.1nm,0.3s,baz=26,slow=24,SNR=2.4						
MKAR				Lg	Lg	09 20 35.7	
	0.1nm,0.3s,baz=27,slow=32,SNR=2.6						

JMA 01 09:16:55.8, 32.°41N×**129.°76E, h11**km±1km**, M2.5, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGSJ	**Nagasakinomoza**	**0.22**	**8**	P	Pg	09 17 00.7	+0.2
NGSJ				S	Sg	09 17 04.0	+0.3
JHD	**Hondo**	**0.32**	**80**	P	Pg	09 17 02.3	0.0
JHD				S	Sg	09 17 06.8	+0.1
JUR	**Ureshino**	**0.70**	**13**	P	Pg	09 17 09.3	-0.1
JSJ	**Shimokoshiki**	**0.73**	**183**	P	Pg	09 17 09.2	-0.7
JSJ				S	Sg	09 17 18.6	-0.9
JZO	**Okuchi**	**0.76**	**111**	P	Pg	09 17 10.4	-0.1
JZO				S	Sg	09 17 20.2	-0.2
JTA	**Tamana**	**0.85**	**50**	P	Pg	09 17 12.1	-0.2
JFU	**Fukue jima 2**	**0.89**	**286**	P	Pb	09 17 13.1	-0.1
JSU	**Suzuyama**	**1.08**	**147**	P	Pb	09 17 15.9	-0.6
JSU				S	Sg	09 17 30.1	-0.5
JSU	**Suzuyama**	**1.08**	**147**		Pb	09 17 15.5	-1.0

*VIE **01** 09:21:00.9±0.5, 50.°12N×18.°53E, h0km, mb2.4/3, ml2.4/2, Error ellipse: s-maj=3.5km s-min=1.9km az=47.0 35 km WSW of Katowice Suspected Mining induced.*

*MCSM **01** 09:21:01.7±0.3, 50°N±4°×1°9E±°, h2km±3km, ML2.8*

*IPEC **01** 09:21:01.5±0.2, 50.°05N×18.°54E, h1km±2km, ML2.2/3, Error ellipse: s-maj=2.0km s-min=1.1km az=164.0*

*PRU **01** 09:21:03.2±0.0, 50.°01N×18.°45E, h0km*

ISC 01 09:21:01.6±0.8**, 50.°04N**±0.°03×**18.°52E**±0.°02**, h0**km**, n39,** σ**0.s97**/69**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.21**	**283**	*e*PG	**Pg**	**09 21 07.2**	**+1.5**
RAC				*e*SG	**Sg**	**09 21 11.3**	**+2.8**
OKC	**Ostrava-Krasne**	**0.31**	**231**	*e*PG	**Pg**	**09 21 08.2**	**+0.6**
OKC				*e*SG	**Sg**	**09 21 12.0**	**+0.4**
	comp=Z,170nm,0.6s						
OKC	**Ostrava-Krasne**	**0.31**	**231**	Pg	**Pg**	**09 21 08.2**	**+0.6**
MORC	**Moravsky Berou**	**0.68**	**248**	*e*Pg	**Pg**	**09 21 14.6**	**-0.1**
	baz=67						
MORC				*e*Sg	**Sg**	**09 21 23.3**	**-0.2**
	46nm,0.5s,baz=67						
MORC	**Moravsky Berou**	**0.68**	**248**	*e*PG	**Pg**	**09 21 14.7**	**0.0**
MORC				*e*SG	**Sg**	**09 21 23.4**	**-0.1**
MORC	**Moravsky Berou**	**0.68**	**248**	Pg	**Pg**	**09 21 14.6**	**-0.1**
MORC				Sg	**Sg**	**09 21 24.1**	**+0.6**
OJC	**Ojcow**	**0.84**	**77**	*e*Pg	**Pg**	**09 21 17.6**	**-0.1**
OJC				*e*Sg	**Sb**	**09 21 30.0**	**-0.9**
OJC	**Ojcow**	**0.84**	**77**	Pg	**Pg**	**09 21 17.5**	**-0.2**
LANS	**Liptovska Anna**	**1.08**	**145**	*e*PG	**Pg**	**09 21 22.4**	**+0.1**
LANS				*e*SG	**Sb**	**09 21 37.8**	**0.0**
LANS				*e*LG	Lg	09 21 41.3	
KRLC	**Kraliky**	**1.12**	**273**	*e*PG	**Pg**	**09 21 22.1**	**-1.0**
KRLC				*e*SG	**Sg**	**09 21 37.4**	**-0.1**
	comp=Z,89nm,0.8s						
KRLC	**Kraliky**	**1.12**	**273**	Pg	**Pg**	**09 21 22.1**	**-1.0**
KRLC				Sg	**Sg**	**09 21 37.5**	**-0.1**
JAVC	**Velka Javorina**	**1.30**	**206**	*e*Pg	**Pg**	**09 21 26.6**	**+0.1**
	baz=25						
JAVC	**Velka Javorina**	**1.30**	**206**	*e*PG	**Pg**	**09 21 26.7**	**+0.2**
NIE	**Niedzica**	**1.31**	**118**	*e*Pg	**Pn**	**09 21 27.5**	**+0.3**
NIE				*e*Sg	**Sn**	**09 21 47.0**	**+1.7**
NIE	**Niedzica**	**1.31**	**118**	Pg	**Pg**	**09 21 26.6**	**-0.1**
NIE				Sg	**Sn**	**09 21 45.4**	**0.0**
DPC	**Dobruska-Polom**	**1.45**	**283**	*e*PG	**Pn**	**09 21 28.4**	**-0.7**
DPC				*e*SG	**Sn**	**09 21 48.8**	**0.0**
	comp=Z,84nm,0.6s						
VRAC	**Vranov**	**1.45**	**241**	*e*Pg	**Pn**	**09 21 28.3**	**-0.8**
	baz=59						
VRAC				*e*Sg	**Sg**	**09 21 47.5**	**-0.6**
	24nm,0.4s,baz=59						
VYHS	**Vyhne**	**1.56**	**172**	*e*PG	**Pn**	**09 21 30.1**	**-0.5**
VYHS				*e*SG	**Sg**	**09 21 52.7**	**+1.1**
OSTC	**Ostas**	**1.57**	**290**	*e*PG	**Pn**	**09 21 30.3**	**-0.4**
OSTC				*e*SG	**Sg**	**09 21 52.2**	**+0.3**
OSTC	**Ostas**	**1.57**	**290**	Pn	**Pn**	**09 21 30.3**	**-0.4**
OSTC				Sn	**Sg**	**09 21 52.1**	**+0.2**
KSP	**Ksiaz**	**1.64**	**300**	*e*Pb	**Pn**	**09 21 30.9**	**-0.7**
KSP				*e*Pg	**Pg**	**09 21 32.8**	**-0.1**
KSP				*e*Sg	**Sg**	**09 21 54.8**	**+0.7**
KSP	**Ksiaz**	**1.64**	**300**	Pn	**Pn**	**09 21 30.9**	**-0.7**
KSP				Sn	**Sb**	**09 21 53.8**	**0.0**
CHVC	**Chvalec**	**1.67**	**290**	*e*PG	**Pn**	**09 21 31.7**	**-0.4**
CHVC	**Chvalec**	**1.67**	**290**	Pn	**Pn**	**09 21 31.8**	**-0.4**
UPC	**Upice**	**1.68**	**287**	*e*PG	**Pn**	**09 21 32.6**	**+0.4**
UPC				*e*SG	**Sg**	**09 21 56.0**	**+0.6**
UPC	**Upice**	**1.68**	**287**	Pn	**Pn**	**09 21 32.4**	**+0.2**
UPC				Sn	**Sb**	**09 21 54.8**	**-0.2**
KRUC	**Moravsky**	**1.69**	**236**	*e*Pn	**Pn**	**09 21 32.3**	**-0.1**
	baz=54						
KRUC				*e*Sg	**Sn**	**09 21 55.1**	**+0.3**
	20nm,0.5s,baz=54						
KRUC	**Moravsky**	**1.69**	**236**	*e*PN	**Pn**	**09 21 32.4**	**0.0**
KRUC				*e*SG	**Sn**	**09 21 55.2**	**+0.4**
KECS	**Kecovo**	**2.02**	**140**	*e*PN	**Pn**	**09 21 36.2**	**-0.7**
KECS				*e*SG	Sn	09 21 42.5	-20
CRVS	**Cervenica-Dubn**	**2.23**	**120**	*e*PN	**Pb**	**09 21 43.2**	**+0.5**
PSZ	**Piszkesteto**	**2.31**	**156**	P	**Pb**	**09 21 43.2**	**-0.9**
PSZ				S	**Sb**	**09 22 13.5**	**+0.4**
PSZ	**Piszkesteto**	**2.31**	**156**	Pn	**Pn**	**09 21 40.3**	**-0.6**
PRU	**Pruhonice**	**2.57**	**270**	*e*PG	**Pb**	**09 21 49.4**	**+0.9**
PRU				*e*SG	**Sb**	**09 22 21.7**	**+1.1**
	comp=Z,23nm,0.9s						
CONA	**Conrad Observa**	**2.74**	**221**	Pn	**Pn**	**09 21 47.0**	**+0.1**
	0.6nm,0.2s						
CONA				*e*Sn	**Sn**	**09 22 22.1**	**+1.3**
	4.1nm,0.5s						
CKRC	**Cesky Krumlov**	**3.01**	**248**	*e*SG	**Sg**	**09 22 36.1**	**-2.0**
	comp=Z,13nm,0.5s						
BRG	**Berggiesshubel**	**3.04**	**288**	Pg	**Pb**	**09 21 57.5**	**+0.9**
BRG				Sg	**Sg**	**09 22 37.9**	**-1.4**
BRG				Amp		09 22 42.7	
	comp=Z,24nm,0.9s						
KHC	**Kasperske Hory**	**3.34**	**256**	*e*PN	**Pn**	**09 21 54.0**	**-1.1**
KHC				*e*PG	**Pb**	**09 22 02.7**	**+1.0**
KHC				*e*SN	**Sn**	**09 22 31.0**	**-4.5**
KHC				*e*SG	**Sg**	**09 22 47.2**	**-1.7**
	comp=Z,58nm,1.7s						
BURAR	**Bucovina Array**	**5.04**	**116**	Pn	**Pn**	**09 22 18.6**	**+0.1**
AKBB	**Malin Array Si**	**6.88**	**80**	Pn	**Pn**	**09 22 43.0**	**-0.6**

DDA 01 09:22:01.2±0.0**, 39.°46N**×**28.°16E, h7**km±7km**, ML1.3, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.29**	**59**	P	Pg	09 22 06.2	-0.7
DURS				*i* AML	AML	09 22 18.0	
	comp=N,26nm,1.1s						
STEP	**BALIKESIR_Sava**	**0.35**	**257**	P	Pg	09 22 07.7	-0.3
STEP				S	Sb	09 22 14.3	-1.1
STEP				*i* AML	AML	09 22 15.0	
	comp=E,32nm,0.8s						
STEP				*i* AML	AML	09 22 18.0	
	comp=N,42nm,0.9s						
BALY	**Balya**	**0.50**	**305**	P	Pg	09 22 09.6	-1.3
BALY				S	Sb	09 22 19.3	-0.7
BALY				*i* AML	AML	09 22 22.0	
	comp=N,16nm,0.8s						
BALY				*i* AML	AML	09 22 27.0	
	comp=E,14nm,0.8s						
DEMI	**Demirci**	**0.60**	**133**	P	Pg	09 22 13.3	+0.5
DEMI				S	Sb	09 22 22.6	-0.2
DEMI				*i* AML	AML	09 22 30.0	
	comp=N,7.9nm,0.6s						
DEMI				*i* AML	AML	09 22 42.0	
	comp=E,9.8nm,1.2s						
BUHA	**Balikesir, Bur**	**0.84**	**273**	P	Pg	09 22 17.1	-0.2
BUHA				S	Sn	09 22 32.6	+0.6
BUHA				*i* AML	AML	09 22 34.0	
	comp=E,14nm,0.6s						
MANT	**Manisa**	**1.01**	**162**	P	Pg	09 22 20.9	+0.2
MANT				S	Sn	09 22 36.3	-0.3
MANT				*i* AML	AML	09 22 38.0	
	comp=E,7.1nm,0.6s						
MANT				*i* AML	AML	09 22 40.0	
	comp=N,4.5nm,0.7s						

*IDC **01** 09:39:11.9±4.3, 9.°34N×84.°41W, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.5/26, mbtmp3.3/4, MS3.0/3, Ms1 3.0/3, ms1mx2.6/31, Error ellipse: s-maj=139.5km s-min=80.2km az=64.0*

*UPA **01** 09:39:14.4±1.4, 9.°00N×85.°05W, h10km±29km, MW4.5*

*UCR **01** 09:39:14.3±1.4, 9.°01N×85.°08W, h20km±3km, MW4.0*

*INET **01** 09:39:15.3±0.3, 9.°07N×85.°08W, h23km±4km, MW3.5*

ISC 01 09:39:15.1±1.1**, 9.°02N**±0.°06×**85.°08W**±0.°06**, h22**km±8km**, n66,** σ**1.s23**/78**, mb3.1**/4**, MS3.1**/3**, 2C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO2	**Cobano, Puntar**	**0.67**	**358**	*e*P	**Pb**	**09 39 27.0**	**-1.1**
JACO	**JACO, Garabito**	**0.76**	**33**	*e*P	**Pb**	**09 39 28.6**	**-1.1**
LAFE	**Finca La Fe, P**	**0.80**	**12**	*e*P	**Pb**	**09 39 29.0**	**-1.4**
LAFE	**Finca La Fe, P**	**0.80**	**12**	*e*P	**Pb**	**09 39 29.0**	**-1.4**
SAJU	**San Juanillo,**	**1.21**	**329**	*e*P	**Pn**	**09 39 35.1**	**-1.7**
SRA1	**San Ramn**	**1.21**	**29**	*e*P	**Pn**	**09 39 35.5**	**-1.4**
JTS	**Las Juntas de**	**1.27**	**6**	*e*P	**Pn**	**09 39 36.0**	**-1.5**
JTS	**Las Juntas de**	**1.27**	**6**	*e*P	**Pn**	**09 39 36.1**	**-1.5**
JTS				*e*S	**Sb**	**09 39 58.6**	**+4.3**
LCR2	**La Lucha 2**	**1.28**	**56**	*e*P	**Pn**	**09 39 36.7**	**-1.2**
GUAI	**GUAI**	**1.31**	**341**	*i* P	**Pn**	**09 39 36.3**	**-1.8**
HDC	**Heredia**	**1.36**	**44**	*e*P	**Pn**	**09 39 38.4**	**-0.5**
HDC	**Heredia**	**1.36**	**44**	*e*P	**Pn**	**09 39 38.5**	**-0.5**
HDC				*e*S	**Sb**	**09 39 56.7**	**-0.4**
HDC3	**Heredia 3**	**1.37**	**44**	*e*P	**Pn**	**09 39 38.3**	**-0.7**
ORTG	**Ortega, Santa**	**1.39**	**344**	*e*P	**Pn**	**09 39 37.6**	**-1.7**
CDM	**Cerro de Muert**	**1.40**	**68**	*e*P	**Pn**	**09 39 38.6**	**-1.2**
CDM	**Cerro de Muert**	**1.40**	**68**	*e*P	**Pn**	**09 39 38.8**	**-1.0**
RIMA	**Rio Macho**	**1.41**	**58**	*e*P	**Pn**	**09 39 38.7**	**-0.9**
RIMA	**Rio Macho**	**1.41**	**58**	*e*P	**Pn**	**09 39 38.8**	**-0.9**
RIMA				*e*S	**Sn**	**09 39 56.9**	**-0.9**
PEZE	**Perez Zeledon,**	**1.43**	**75**	*e*P	**Pn**	**09 39 38.6**	**-1.2**
PEZE	**Perez Zeledon,**	**1.43**	**75**	*e*P	**Pn**	**09 39 38.7**	**-1.2**
CASO	**Castillo**	**1.45**	**14**	*i* P	**Pn**	**09 39 39.5**	**-0.6**
ARE1	**Arenal 1**	**1.48**	**14**	*e*P	**Pn**	**09 39 40.3**	**-0.2**
CEDE	**Laguna Cedeo**	**1.50**	**14**	*i* P	**Pn**	**09 39 40.8**	**-0.1**
RIOS	**Rincon, Osa**	**1.58**	**101**	*e*P	**Pn**	**09 39 40.8**	**-1.0**
ACAL	**Aguas Claras**	**1.60**	**2**	*i* P	**Pn**	**09 39 41.8**	**-0.5**
ACAL				*i* S	**Sn**	**09 40 02.6**	**+0.3**
EDPN	**Palmar Norte**	**1.60**	**92**	⇓*e*P	**Pn**	**09 39 41.5**	**-0.6**
EDPN				*e*S	**Sn**	**09 40 01.5**	**-0.7**

CUI	**Cuipilapa**	**1.63**	**357**	*i* P	**Pn**	**09 39 41.9**	**-0.7**
CUI				*i* S	**Sn**	**09 40 02.3**	**-0.6**
COLC	**Colonia**	**1.64**	**356**	*i* P	**Pn**	**09 39 42.1**	**-0.6**
COLC				*i* P	**Pn**	**09 39 42.1**	**-0.6**
LIM1	**Limonal**	**1.68**	**354**	⇑*i*P	**Pn**	**09 39 42.2**	**-1.0**
GUAB	**Guayabo de Bag**	**1.68**	**355**	*i* P	**Pn**	**09 39 42.7**	**-0.6**
HORNC	**Hornillas**	**1.69**	**357**	*i* P	**Pn**	**09 39 42.8**	**-0.6**
SRBA	**San Rafael, Bu**	**1.71**	**83**	*e*P	**Pn**	**09 39 43.1**	**-0.6**
GPS2	**Hotel Rincn d**	**1.74**	**351**	*i* P	**Pn**	**09 39 43.7**	**-0.4**
HZTE	**Horizontes, Gu**	**1.76**	**343**	*e*P	**Pn**	**09 39 43.4**	**-0.9**
LAPC	**Finca la Perla**	**1.77**	**349**	*i* P	**Pn**	**09 39 43.5**	**-1.0**
VMAR	**Armenia, Volca**	**1.78**	**359**	*e*P	**Pn**	**09 39 44.2**	**-0.5**
EDBA	**Buenos Aires**	**1.79**	**85**	*e*P	**Pn**	**09 39 44.0**	**-0.7**
EDBA				*e*S	**Sn**	**09 40 07.1**	**+0.3**
BUEV	**Buena Vista**	**1.80**	**350**	*i* P	**Pn**	**09 39 44.2**	**-0.7**
GB1A	**Borinquen Arri**	**1.81**	**350**	*i* P	**Pn**	**09 39 44.5**	**-0.6**
COVE	**Coope Vega, Sa**	**1.82**	**22**	*e*P	**Pn**	**09 39 44.9**	**-0.2**
DRK0	**Durika**	**1.83**	**82**	*e*P	**Pn**	**09 39 44.9**	**-0.5**
DRK0				*e*S	**Sn**	**09 40 07.5**	**-0.5**
DRK0	**Durika**	**1.83**	**82**	*e*P	**Pn**	**09 39 44.9**	**-0.5**
PIRO	**Carate, Puerto**	**1.83**	**109**	*e*P	**Pn**	**09 39 44.4**	**-0.8**
PIRO	**Carate, Puerto**	**1.83**	**109**	*e*P	**Pn**	**09 39 44.6**	**-0.6**
PIRO				*e*S	**Sn**	**09 40 07.4**	**-0.4**
BATAN	**Batan**	**1.99**	**57**	*e*P	**Pn**	**09 39 48.1**	**+0.6**
BATAN				*e*S	**Sn**	**09 40 12.1**	**+0.3**
EDSV	**San Vito**	**2.09**	**95**	⇓*e*P	**Pn**	**09 39 49.2**	**+0.2**
CDITO	**Canoas**	**2.23**	**101**	*e*P	**Pn**	**09 39 50.3**	**-0.4**
CDITO				*e*S	**Sn**	**09 40 16.4**	**-1.1**
BRU2	**Volcan**	**2.37**	**95**	*e*P	**Pn**	**09 39 52.7**	**-0.1**
BRU2				*e*S	**Sn**	**09 40 20.8**	**-0.6**
BC3P	**Paso Ancho**	**2.45**	**95**	*e*P	**Pn**	**09 39 54.4**	**+0.5**
BC3P				*e*S	**Sn**	**09 40 17.5**	**-5.8**
BCO2	**Palmira**	**2.54**	**97**	*e*P	**Pn**	**09 39 55.1**	**-0.1**
BCO2				*e*S	**Sn**	**09 40 25.6**	**0.0**
CNI2	**El Empalme, Bo**	**2.61**	**81**	*e*P	**Pn**	**09 39 56.2**	**+0.2**
CNI2				*e*S	**Sn**	**09 40 26.8**	**-0.2**
LNBQ3	**Los Naranjos,**	**2.62**	**95**	*e*P	**Pn**	**09 39 56.4**	**+0.2**
DVD	**David**	**2.66**	**102**	⇑*e*P	**Pn**	**09 39 58.3**	**+1.6**
DVD				*e*S	**Sn**	**09 40 29.4**	**+1.0**
CHGR2	**Aguacate**	**2.90**	**91**	*e*P	**Pn**	**09 39 59.5**	**-0.6**
CHGR2				*e*S	**Sn**	**09 40 34.2**	**-0.1**
NNA	**Nana**	**22.42**	**158**	LR	LR	09 53 18.1	
	comp=Z,19nm,19.0s,baz=294,slow=38						
TXAR	**Lajitas Array**	**26.69**	**322**	P	**P**	**09 44 53.6**	**+0.7**
	0.5nm,0.8s,baz=142,slow=10,SNR=2.0						
SADO	**Sadowa**	**35.99**	**7**	LR	LR	10 00 45.9	
	comp=Z,35nm,19.9s,baz=348,slow=36						
PDAR	**Pinedale Array**	**39.88**	**332**	P	**P**	**09 46 48.7**	**+1.1**
	0.1nm,0.5s,baz=126,slow=9.0,SNR=2.0						
NVAR	**Mina Array Bea**	**41.81**	**320**	P	**P**	**09 47 05.9**	**+2.3**
	0.5nm,0.6s,baz=133,slow=8.7,SNR=3.3						
H03N2	**Juan Fernandez**	**42.63**	**172**	T	T	10 32 39.2	
	baz=351,slow=76,SNR=5.4						
H03N1	**Juan Fernandez**	**42.63**	**172**	T	T	10 32 40.4	
	baz=351,slow=76,SNR=5.4						
H03N3	**Juan Fernandez**	**42.64**	**172**	T	T	10 32 38.0	
	baz=351,slow=76,SNR=4.5						
RPN	**Rapa Nui**	**42.94**	**213**	LR	LR	09 59 22.9	
	comp=Z,27nm,20.4s,baz=9.0,slow=28						
YKA	**Yellowknife Ar**	**57.52**	**344**	P	**P**	**09 49 01.6**	**-0.9**
	0.1nm,0.6s,baz=141,slow=7.0,SNR=2.9						
ASAR	**Alice Springs**	**140.01**	**244**	PKP	**PKPdf**	**09 58 43.7**	**+1.0**
	0.4nm,0.9s,baz=99,slow=2.9,SNR=2.4						
WRA	**Warramunga Arr**	**140.42**	**250**	PKP	**PKiKP**	**09 58 45.1**	**-0.9**
	0.2nm,0.7s,baz=95,slow=3.2,SNR=4.7						

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*NOU **01** 10:00:02.8, 38°.54S×175°.63E, h185km, MLv3.5/8, North Island, New Zealand*
*WEL **01** 10:00:08.0, 39°S±6°×17°6E±°, h144km±11km, M2.6/56, ML2.0/8, MLv2.6/56, Error ellipse: s-maj=0.0km s-min=0.0km az=83.5*
ISC 01 10:00:03.3±1.8**, 38°.63S**±0°.05×**175°.69E**±0°.05**, h188**km±11km**, n111, σ0s.57**/111**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.09**	**154**	P	**Pn**	**10 00 27.6**	**-0.4**
KUTZ	**Kaahu Road**	**0.18**	**37**	P	**Pn**	**10 00 27.7**	**-0.5**
RATZ	**Rangitukua**	**0.24**	**164**	P	**Pn**	**10 00 27.7**	**-0.6**
TLZ	**Tolley Road**	**0.32**	**339**	P	**Pn**	**10 00 28.0**	**-0.6**
KATZ	**Kakaramea**	**0.34**	**179**	P	**Pn**	**10 00 28.1**	**-0.5**
RITZ	**Rihia Road**	**0.37**	**159**	P	**Pn**	**10 00 28.4**	**-0.1**
WPRZ	**Whakapapatarin**	**0.39**	**73**	P	**Pn**	**10 00 28.0**	**-0.7**
NTVZ	**North Tongarir**	**0.47**	**181**	P	**Pn**	**10 00 28.8**	**-0.2**
TWVZ	**Taurewa**	**0.48**	**204**	P	**Pn**	**10 00 28.9**	**-0.2**
TMVZ	**Te Maari**	**0.48**	**178**	P	**Pn**	**10 00 28.8**	**-0.2**
WTVZ	**West Tongariro**	**0.49**	**189**	P	**Pn**	**10 00 28.9**	**-0.2**
NNVZ	**North Ngauruho**	**0.50**	**186**	P	**Pn**	**10 00 29.1**	**-0.1**
ETVZ	**East Tongariro**	**0.50**	**178**	P	**Pn**	**10 00 29.0**	**-0.2**
ALRZ	**Allen Road**	**0.52**	**82**	P	**Pn**	**10 00 28.4**	**-0.7**
OTVZ	**Oturere**	**0.53**	**182**	P	**Pn**	**10 00 29.3**	**-0.1**
HSRZ	**Hossack Road**	**0.54**	**54**	P	**Pn**	**10 00 28.8**	**-0.4**
NGZ	**Ngauruhoe**	**0.55**	**187**	P	**Pn**	**10 00 29.4**	**0.0**
SNVZ	**South Ngauruho**	**0.56**	**184**	P	**Pn**	**10 00 29.2**	**-0.2**
MRHZ	**Matea Rd**	**0.61**	**110**	P	**Pn**	**10 00 28.7**	**-0.8**
FWVZ	**Far West T-bar**	**0.63**	**189**	P	**Pn**	**10 00 29.7**	**-0.2**
TUVZ	**Tukino**	**0.64**	**182**	P	**Pn**	**10 00 29.8**	**0.0**
WHVZ	**Whangaehu Hut**	**0.65**	**187**	P	**Pn**	**10 00 29.8**	**-0.1**
HIZ	**Hauiti**	**0.66**	**280**	P	**Pn**	**10 00 29.7**	**-0.1**
HIZ	**Hauiti**	**0.66**	**280**	P	**Pn**	**10 00 29.8**	**+0.1**
WNVZ	**Wahianoa**	**0.70**	**186**	P	**Pn**	**10 00 30.1**	**0.0**
PKVZ	**Pokaka**	**0.71**	**202**	P	**Pn**	**10 00 30.1**	**+0.1**
MTVZ	**Mangateitei**	**0.77**	**192**	P	**Pn**	**10 00 30.6**	**+0.2**
MOVZ	**Moawhango**	**0.78**	**176**	P	**Pn**	**10 00 30.2**	**-0.2**
BKZ	**Black Stump Fm**	**0.82**	**130**	P	**Pn**	**10 00 30.4**	**-0.3**
BKZ	**Black Stump Fm**	**0.82**	**130**	P	**Pn**	**10 00 30.4**	**-0.3**
MUGZ	**Murupara**	**0.86**	**80**	P	**Pn**	**10 00 31.1**	**+0.2**
VRZ	**Vera Road**	**0.88**	**236**	P	**Pn**	**10 00 31.4**	**+0.4**
BHHZ	**Black Hill Sta**	**0.91**	**161**	P	**Pn**	**10 00 31.1**	**-0.1**
TOZ	**Tahuroa Road**	**0.91**	**351**	P	**Pn**	**10 00 31.2**	**-0.1**
MTHZ	**Maungataniwha**	**0.93**	**104**	P	**Pn**	**10 00 31.1**	**-0.3**
KWHZ	**Kaweka Forest**	**0.98**	**144**	P	**Pn**	**10 00 32.0**	**+0.3**
NMHZ	**Naumai**	**0.99**	**118**	P	**Pn**	**10 00 32.5**	**+0.7**
RTZ	**Ruatahuna**	**1.01**	**89**	P	**Pn**	**10 00 31.6**	**-0.4**
MCHZ	**McNeill Hill**	**1.13**	**136**	P	**Pn**	**10 00 33.8**	**+1.0**
RAHZ	**Arahi**	**1.13**	**105**	P	**Pn**	**10 00 33.2**	**+0.4**
KRHZ	**Kereru**	**1.14**	**152**	P	**Pn**	**10 00 33.3**	**+0.4**
URZ	**Urewera**	**1.18**	**72**	P	**Pn**	**10 00 32.4**	**-0.7**
URZ	**Urewera**	**1.18**	**72**	P	**Pn**	**10 00 32.5**	**-0.7**
ARHZ	**Aropaoanui**	**1.20**	**122**	P	**Pn**	**10 00 34.1**	**+0.8**
WAZ	**Wanganui**	**1.25**	**206**	P	**Pn**	**10 00 34.3**	**+0.7**
LREZ	**Lake Rotokare**	**1.30**	**230**	P	**Pn**	**10 00 35.4**	**+1.3**
PNHZ	**Pukenui**	**1.34**	**163**	P	**Pn**	**10 00 35.0**	**+0.5**
NEZ	**North Egmont**	**1.39**	**242**	P	**Pn**	**10 00 36.3**	**+1.3**
TSZ	**Takapari Road**	**1.44**	**172**	P	**Pn**	**10 00 36.0**	**+0.6**
MWZ	**Matawai**	**1.48**	**79**	P	**Pn**	**10 00 35.6**	**-0.1**
KAHZ	**Kahuranaki**	**1.48**	**142**	P	**Pn**	**10 00 36.7**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.49**	**134**	P	**Pn**	**10 00 36.8**	**+1.0**
WPHZ	**Waipukurau**	**1.55**	**158**	P	**Pn**	**10 00 37.0**	**+0.7**
MKAZ	**Moumakai**	**1.58**	**345**	P	**Pn**	**10 00 37.2**	**+0.5**
OHWZ	**Ohakea**	**1.60**	**190**	P	**Pn**	**10 00 38.0**	**+1.2**
KNZ	**Kokohu**	**1.60**	**105**	P	**Pn**	**10 00 37.3**	**+0.5**
RIGZ	**Rimuhau**	**1.63**	**93**	P	**Pn**	**10 00 37.6**	**+0.4**
PXZ	**Pawanui**	**1.67**	**147**	P	**Pn**	**10 00 38.2**	**+0.7**
RUGZ	**Raukumara Rang**	**1.70**	**68**	P	**Pn**	**10 00 37.1**	**-0.9**
DVHZ	**Dannevirke**	**1.71**	**168**	P	**Pn**	**10 00 38.3**	**+0.4**
TKGZ	**Te Karaka**	**1.71**	**84**	P	**Pn**	**10 00 38.5**	**+0.6**
PRGZ	**Paritu Road**	**1.74**	**100**	P	**Pn**	**10 00 38.9**	**+0.6**
POWZ	**Post Office Ro**	**1.76**	**178**	P	**Pn**	**10 00 38.8**	**+0.5**
AWAZ	**Awhitu Peninsu**	**1.77**	**332**	P	**Pn**	**10 00 39.4**	**+0.9**
ETAZ	**East Tamaki Re**	**1.78**	**340**	P	**Pn**	**10 00 39.3**	**+0.7**
PRHZ	**Porangahau**	**1.79**	**156**	P	**Pn**	**10 00 39.5**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.81**	**107**	P	**Pn**	**10 00 39.5**	**+0.6**
HAZ	**Te Kaha**	**1.87**	**63**	P	**Pn**	**10 00 38.9**	**-0.6**
KUZ	**Kuaotunu**	**1.88**	**1**	P	**Pn**	**10 00 40.2**	**+0.4**
WTAZ	**Waiatarua**	**1.91**	**332**	P	**Pn**	**10 00 41.3**	**+1.2**
ANWZ	**Angora Road**	**1.93**	**162**	P	**Pn**	**10 00 41.0**	**+0.9**
PRWZ	**Pori Road**	**1.93**	**174**	P	**Pn**	**10 00 40.8**	**+0.7**
MRZ	**Mangatainoka R**	**2.03**	**182**	P	**Pn**	**10 00 41.5**	**+0.3**
BFZ	**Birch Farm**	**2.09**	**168**	P	**Pn**	**10 00 42.4**	**+0.6**
BFZ	**Birch Farm**	**2.09**	**168**	P	**Pn**	**10 00 42.5**	**+0.6**
TIWZ	**Tintock**	**2.15**	**176**	P	**Pn**	**10 00 43.0**	**+0.5**
OGWZ	**Otaki Gorge**	**2.22**	**190**	P	**Pn**	**10 00 43.7**	**+0.5**
HOWZ	**Holdsworth Sta**	**2.27**	**183**	P	**Pn**	**10 00 44.0**	**+0.2**
WMGZ	**Waiomatatini S**	**2.30**	**70**	P	**Pn**	**10 00 44.0**	**-0.2**
KIW	**Kapiti Island**	**2.31**	**195**	P	**Pn**	**10 00 44.4**	**+0.3**
CPWZ	**Castlepoint**	**2.31**	**170**	P	**Pn**	**10 00 45.3**	**+1.0**
TMWZ	**Te Maipa**	**2.48**	**176**	P	**Pn**	**10 00 46.4**	**+0.3**
CAW	**Cannon Point**	**2.52**	**191**	P	**Pn**	**10 00 46.8**	**+0.3**
MTW	**Mount Morrison**	**2.53**	**183**	P	**Pn**	**10 00 46.7**	**0.0**
DUWZ	**D'Urville Isla**	**2.56**	**212**	P	**Pn**	**10 00 47.3**	**+0.3**
WEL	**Wellington**	**2.74**	**195**	P	**Pn**	**10 00 48.7**	**-0.4**
PAWZ	**Paruwai Farm**	**2.75**	**184**	P	**Pn**	**10 00 49.3**	**-0.1**
TRWZ	**Traveller**	**2.76**	**180**	P	**Pn**	**10 00 49.6**	**+0.1**
SNZO	**South Karori**	**2.78**	**195**	P	**Pn**	**10 00 49.7**	**+0.1**
TCW	**Tory Channel**	**2.79**	**202**	P	**Pn**	**10 00 50.0**	**+0.2**
MSWZ	**Moikau Station**	**2.80**	**187**	P	**Pn**	**10 00 49.8**	**-0.1**
BHW	**Baring Head**	**2.84**	**192**	P	**Pn**	**10 00 50.3**	**-0.1**
PLWZ	**Palliser**	**2.95**	**186**	P	**Pn**	**10 00 51.5**	**-0.2**
TUWZ	**Tuamarina**	**3.10**	**205**	P	**Pn**	**10 00 53.4**	**0.0**
NNZ	**Nelson**	**3.13**	**214**	P	**Pn**	**10 00 53.8**	**0.0**
QRZ	**Quartz Range**	**3.27**	**227**	P	**Pn**	**10 00 55.3**	**-0.3**
QRZ	**Quartz Range**	**3.27**	**227**	P	**Pn**	**10 00 55.1**	**-0.5**
BSWZ	**Blackbirch Sta**	**3.38**	**204**	P	**Pn**	**10 00 57.3**	**+0.5**
MRNZ	**Matariki Terra**	**3.56**	**218**	P	**Pn**	**10 00 58.9**	**-0.3**
THZ	**Tophouse**	**3.78**	**213**	P	**Pn**	**10 01 01.8**	**-0.1**
KHZ	**Kahutara**	**4.12**	**203**	P	**Pn**	**10 01 06.2**	**+0.2**
KHZ	**Kahutara**	**4.12**	**203**	P	**Pn**	**10 01 06.4**	**+0.4**
GVZ	**Greta Valley S**	**4.78**	**204**	P	**Pn**	**10 01 14.4**	**-0.1**
LTZ	**Lake Taylor**	**4.89**	**211**	P	**Pn**	**10 01 15.0**	**-1.0**
OXZ	**Oxford**	**5.44**	**209**	P	**Pn**	**10 01 21.6**	**-1.4**
OKCZ	**Okains Bay**	**5.46**	**200**	P	**Pn**	**10 01 22.8**	**-0.4**
MQZ	**McQueen's Vall**	**5.56**	**203**	P	**Pn**	**10 01 23.1**	**-1.4**
AKCZ	**Akaroa Harbour**	**5.64**	**201**	P	**Pn**	**10 01 24.7**	**-0.9**
TMZ	**Timaru**	**6.73**	**210**	P	**Pn**	**10 01 39.5**	**-0.3**
ODZ	**Otahua Downs**	**7.43**	**209**	P	**Pn**	**10 01 48.6**	**-0.3**
ODZ	**Otahua Downs**	**7.43**	**209**	P	**Pn**	**10 01 49.4**	**+0.5**

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*HEL **01** 10:04:30.0±0.4, 64°.65N×31°.04E, h0km, ML2.1, Explosion*
*KOLA **01** 10:04:33.8, 64°.68N×30°.69E, h0km, ML2.2*
*IDC **01** 10:04:36.6±1.6, 64°.80N×30°.40E, h0km, mb1 3.2/3, mb1mx2.9/41, mbtmp3.1/3, ML2.1/3, Error ellipse: s-maj=21.4km s-min=7.2km az=102.0*
ISC 01 10:04:34.5±1.1**, 64°.85N**±0°.03×**30°.72E**±0°.05**, h0**km**, n27, σ1s.61**/47**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.23**	**344**	PN	**Pg**	**10 04 57.4**	**-0.6**
KU6				MSG		10 05 14.1	
	comp=Z,11nm,0.2s						
KU6				SN	**Sn**	**10 05 16.4**	**+0.2**
MSF	**Maaselka**	**1.27**	**327**	PN	**Pg**	**10 04 57.9**	**-1.0**
	baz=150						
MSF				SN	**Sn**	**10 05 17.5**	**+0.1**
OLKF	**Oulanka, Finla**	**1.57**	**340**	PG	**Pn**	**10 05 03.5**	**-0.1**
OLKF				SG	**Sb**	**10 05 25.3**	**+0.5**
OUL	**Oulu**	**2.07**	**279**	PG	**Pn**	**10 05 10.7**	**+0.3**
OUL				SG	**Sn**	**10 05 37.0**	**+0.2**
RNF	**Rovaniemi**	**2.62**	**314**	PG	**Pn**	**10 05 20.0**	**+1.9**
	baz=136						
RNF				SB	**Sb**	**10 05 54.2**	**-0.8**
OUF	**Merijarvi**	**2.63**	**262**	PG	**Pn**	**10 05 18.7**	**+0.6**
OUF				MSG		10 05 50.9	
	comp=Z,15nm,0.2s						
OUF				SG	**Sn**	**10 05 53.4**	**+2.7**
OBF0	**Syolatti, Pyha**	**2.81**	**266**	PG	**Pn**	**10 05 22.6**	**+2.0**
OBF0				SG	**Sb**	**10 06 00.7**	**+0.3**
APA0	**Apatity Array**	**2.91**	**17**	P	**Pn**	**10 05 23.1**	**+1.0**
APA0				S	**Sn**	**10 05 60.0**	**+2.3**
TOF	**Tornio**	**2.94**	**298**	PN	**Pn**	**10 05 21.4**	**-1.0**
TOF				MSG		10 06 02.8	
	comp=Z,9.6nm,0.2s						
VRF	**Varrio**	**2.94**	**352**	PB	**Pn**	**10 05 24.7**	**+2.3**
VRF				MSG		10 06 03.0	
	comp=Z,2.9nm,0.2s						
SUF	**Sumiainen**	**2.95**	**226**	PG	**Pn**	**10 05 23.2**	**+0.7**
SUF				MSG		10 05 55.8	
	comp=Z,5.2nm,0.2s						
SUF				SG	**Sn**	**10 06 01.9**	**+3.3**
SGF	**Sodankyl**	**3.11**	**329**	PB	**Pn**	**10 05 27.6**	**+2.9**
SGF				SB	**Sb**	**10 06 08.9**	**0.0**
KAF	**Kangasniemi**	**3.39**	**218**	PG	**Pn**	**10 05 29.8**	**+1.2**
KAF				SG	**Sb**	**10 06 15.2**	**-1.9**
LVZ	**Lovozero**	**3.44**	**26**	P	**Pn**	**10 05 30.2**	**+0.9**
LVZ				S	**Sn**	**10 06 12.5**	**+1.7**
KLF	**Kolari**	**3.65**	**314**	PB	**Pn**	**10 05 33.5**	**+1.4**
KLF				SG	**Sg**	**10 06 30.1**	**-1.5**
KEF	**Keuruu**	**3.76**	**227**	PG	**Pn**	**10 05 34.4**	**+0.7**
PAJU	**Pajala**	**3.80**	**308**	PB	**Pn**	**10 05 36.4**	**+2.1**
PAJU				SG	**Sg**	**10 06 33.5**	**-3.0**
ERTU	**Ertsjaerv**	**3.92**	**300**	PB	**Pn**	**10 05 37.6**	**+1.8**
ERTU				SG	**Sg**	**10 06 39.4**	**-0.9**
VAF	**Ylistaro**	**3.99**	**247**	PB	**Pn**	**10 05 38.0**	**+1.3**
	baz=66						
FIA0	**FINESS Array S**	**4.02**	**214**	PB	**Pn**	**10 05 36.4**	**-0.8**
FINES	**FINESS Array B**	**4.02**	**214**	Pn	**Pn**	**10 05 36.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=7.7						
FINES				Pg	**Pb**	**10 05 45.9**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=31,slow=16,SNR=8.4						
FINES				Sn	**Sn**	**10 06 23.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=32,slow=21,SNR=6.6						
FINES				Lg	Lg	10 06 37.6	
	comp=Z,1.5nm,0.3s,baz=28,slow=24,SNR=13						
FINES				Rg	Rg	10 06 54.7	
	comp=Z,4.3nm,0.7s,baz=34,slow=33,SNR=1.9						
UMAU	**Umeaa**	**4.47**	**262**	PB	**Pn**	**10 05 44.4**	**+1.0**
UMAU				SG	**Sb**	**10 06 52.7**	**+4.6**
PRVG	**Vayda Guba**	**4.95**	**6**	P	**Pn**	**10 05 50.5**	**+0.5**
PRVG				S	**Sn**	**10 06 48.1**	**+0.3**
ARCES	**ARCESS Array B**	**5.12**	**339**	Pn	**Pn**	**10 05 52.1**	**-0.3**
	baz=156,slow=14,SNR=48						
ARCES				Sn	**Sn**	**10 06 50.4**	**-1.7**
	baz=155,slow=26,SNR=5.9						
ARCES				Lg	Lg	10 07 15.7	
	baz=152,slow=33,SNR=5.0						
ARCES	**ARCESS Array B**	**5.12**	**339**	P	**Pn**	**10 05 52.5**	**+0.2**
ARCES				S	**Sn**	**10 06 51.7**	**-0.3**
I37NO	**I37NO**	**6.36**	**317**	*i*		10 41 50.0	
	baz=128,slow=326,SNR=4.7						
NOA	**NORSAR Array B**	**9.66**	**256**	Pn	**Pn**	**10 06 52.7**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=52,slow=11,SNR=1.6						
NOA				Lg	Lg	10 09 34.1	
	comp=Z,0.0nm,0.3s,baz=240,slow=16,SNR=2.3						

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*NNC **01** 10:11:55.9±1.8, 53°.48N×87°.57E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=14.5km s-min=6.3km az=57.0, Suspected Mining explosion.*
*IDC **01** 10:11:56.5±2.6, 53°.50N×87°.56E, h0km, mb1 3.3/2, mb1mx2.9/44, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=22.2km s-min=13.3km az=63.0*
ISC 01 10:11:55.4±3.2**, 53°.6N**±0°.1×**87°.6E**±0°.2**, h0**km**, n9, σ0s.94**/13**, 7C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**284**	*i*		10 21 25.0	
	baz=103,slow=323,SNR=5.4						
ZAA0	**Zalesovo Array**	**1.67**	**284**	⇓P	**Pn**	**10 12 25.9**	**0.0**
	0.4nm,0.3s						
ZAA0				⇓S	**Sg**	**10 12 49.9**	**+0.9**
	5.8nm,0.7s						
ZALV	**Zalesovo Beam**	**1.67**	**284**	Pg	**Pb**	**10 12 26.4**	**-0.7**
	3.1nm,0.3s,baz=101,slow=17,SNR=36						
ZALV				Lg	Lg	10 12 50.5	
	3.0nm,0.3s,baz=105,slow=28,SNR=19						
KURK	**Kurchatov**	**6.21**	**246**	⇑Lg	Lg	10 15 09.2	
	7.1nm,0.7s						
KURBB	**Kurchatov Arra**	**6.30**	**246**	Pn	**Pn**	**10 13 30.8**	**+1.2**
	0.1nm,0.3s,baz=61,slow=13,SNR=9.2						
KURBB				Sn	**Sn**	**10 14 41.6**	**-0.6**
	0.0nm,0.3s,baz=60,slow=21,SNR=2.1						
KURBB				Lg	Lg	10 15 14.1	
	0.1nm,0.3s,baz=58,slow=29,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.30**	**246**	⇑Pn	**Pn**	**10 13 30.2**	**+0.6**
	1.5nm,0.4s						
KURBB				⇑Sn	**Sn**	**10 14 42.0**	**-0.3**
	4.2nm,0.7s						
KURBB				⇑Lg	Lg	10 15 13.9	
	13nm,0.8s						
MK31	**Makanchi Array**	**7.59**	**209**	⇓Pn	**Pn**	**10 13 48.3**	**+1.0**
	0.3nm,0.3s,baz=27,slow=13,SNR=22						
MK31				⇓Sn	**Sn**	**10 15 13.1**	**-0.9**
	1.0nm,0.6s,baz=31,slow=28,SNR=4.9						
MK31				⇑Lg	Lg	10 15 55.7	
	3.3nm,0.8s,baz=35,slow=31,SNR=5.4						
MKAR	**Makanchi Array**	**7.59**	**209**	Pn	**Pn**	**10 13 48.6**	**+1.3**
	0.5nm,0.3s,baz=30,slow=14,SNR=27						
MKAR				Sn	**Sn**	**10 15 12.8**	**-1.2**
	0.1nm,0.3s,baz=30,slow=27,SNR=6.8						
MKAR				Lg	Lg	10 15 53.9	
	0.1nm,0.3s,baz=29,slow=36,SNR=10						
MAKZ	**Makanchi**	**7.67**	**210**	⇓Pn	**Pn**	**10 13 48.4**	**+0.1**
	1.5nm,0.9s						
MAKZ				⇑Sn	**Sn**	**10 15 15.3**	**-0.6**
	1.3nm,0.7s						
MAKZ				⇑Lg	Lg	10 15 56.0	
	3.2nm,0.9s						

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*GUC **01** 10:30:47.9±0.6, 19°.99S×69°.36W, h113km±2km, ML3.4*
*IDC **01** 10:30:57.1±7.8, 19°.31S×68°.84W, h181km±51km, mb3.1/2, mb1 3.2/3, mb1mx3.0/28, mbtmp3.4/3, Error ellipse: s-maj=88.9km s-min=56.1km az=28.0*
ISC 01 10:30:47.0±1.0**, 19°.99S**±0°.04×**69°.41W**±0°.08**, h117**km±6km**, n18, σ0s.97**/31**, 7C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.29**	**121**	⇓*i*P	**Pn**	**10 31 04.1**	**+0.1**
PB08				*i* S	**Sn**	**10 31 16.8**	**0.0**
PB08				IAML		10 31 17.4	
	comp=E,4μm,0.4s						
PB11	**IPOC Station P**	**0.32**	**315**	⇑*i*P	**Pn**	**10 31 04.1**	**+0.2**
PB11				*i* S	**Sn**	**10 31 16.5**	**-0.1**
GO01	**Chusmiza**	**0.38**	**33**	⇓*i*P	**Pn**	**10 31 04.5**	**0.0**
GO01				*i* S	**Sn**	**10 31 17.4**	**-0.3**
HMBC	**Humberstone**	**0.53**	**237**	⇑*i*P	**Pn**	**10 31 05.2**	**+0.3**
HMBC				*i* S	**Sn**	**10 31 18.4**	**-0.1**
TA01	**Diego Aracena**	**0.92**	**231**	⇑*i*P	**Pn**	**10 31 08.1**	**+0.2**
TA01				*i* S	**Sn**	**10 31 23.2**	**-0.5**
TA01				IAML		10 31 24.9	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**1.05**	**184**	⇑*i*P	**Pn**	**10 31 09.6**	**+0.2**
PB01				*i* S	**Sn**	**10 31 26.1**	**-0.2**
PB01				IAML		10 31 26.7	
	comp=N,2μm,0.1s						
PATCX	**Punta Patache**	**1.08**	**220**	⇑*i*P	**Pn**	**10 31 09.9**	**+0.2**
PATCX				*e*S	**Sn**	**10 31 26.5**	**-0.3**
PATCX				IAML		10 31 27.4	
	comp=E,729nm,0.2s						
PB02	**IPOC Station P**	**1.40**	**199**	*e*P	**Pn**	**10 31 13.7**	**+0.5**
PB02				*e*S	**Sn**	**10 31 33.1**	**+0.1**
PB02				IAML		10 31 35.9	
	comp=E,760nm,0.5s						
PB12	**IPOC Station P**	**1.62**	**328**	⇑*i*P	**Pn**	**10 31 15.8**	**0.0**
PB12				*i* S	**Sn**	**10 31 36.9**	**-0.7**
PB12				IAML		10 31 39.5	
	comp=E,530nm,0.4s						
PB16	**IPOC Station P**	**1.65**	**357**	⇑*i*P	**Pn**	**10 31 17.9**	**+1.2**
PB16				*i* S	**Sn**	**10 31 40.6**	**+1.6**
PB07	**IPOC Station P**	**1.78**	**194**	*e*P	**Pn**	**10 31 18.1**	**+0.3**
PB07				*e*S	**Sn**	**10 31 41.3**	**0.0**
PB07				IAML		10 31 44.8	
	comp=E,333nm,0.5s						
PB09	**IPOC Station P**	**1.80**	**175**	⇓*e*P	**Pn**	**10 31 18.7**	**+0.7**
PB09				*e*S	**Sn**	**10 31 42.5**	**+0.8**
PB04	**IPOC Station P**	**2.43**	**196**	*e*P	**Pn**	**10 31 26.1**	**+0.2**
PB04				IAML		10 32 08.3	
	comp=E,164nm,0.1s						
PB06	**IPOC Station P**	**2.71**	**183**	*e*P	**Pn**	**10 31 29.6**	**+0.1**
PB06				IAML		10 32 05.8	
	comp=N,105nm,0.2s						
PB15	**IPOC Station P**	**3.20**	**181**	*e*P	**Pn**	**10 31 36.3**	**+0.3**
LPAZ	**La Paz**	**3.88**	**19**	P	**Pn**	**10 31 47.4**	**+1.9**
	comp=N,0.8nm,0.3s,baz=203,slow=7.1,SNR=29						
LPAZ				S	**Sn**	**10 32 27.0**	**-3.6**
	comp=N,0.5nm,0.3s,baz=188,slow=7.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**77.30**	**71**	P	**P**	**10 42 28.1**	**-1.1**
	comp=N,0.3nm,0.6s,baz=262,slow=6.0,SNR=2.0						
YKA	**Yellowknife Ar**	**89.61**	**341**	P	**P**	**10 43 31.6**	**+0.6**
	comp=N,0.3nm,0.6s,baz=133,slow=5.1,SNR=7.1						

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*IDC **01** 10:41:23.9±1.7, 63°.08N×28°.03E, h0km, mb1 3.0/1, mb1mx2.5/42, mbtmp2.9/1, ML1.8/1, Error ellipse: s-maj=28.5km s-min=7.2km az=107.0*
*HEL **01** 10:41:25.0±0.2, 63°.13N×27°.62E, h0km, ML1.9, Explosion*
ISC 01 10:41:24.4±0.9**, 63°.09N**±0°.03×**27°.67E**±0°.05**, h0**km**, n25, σ1s.44**/37**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.79**	**242**	PB	**Pg**	**10 41 39.4**	**-0.1**
	baz=54						
SUF				SB	**Sg**	**10 41 50.5**	**+0.8**
KAF	**Kangasniemi**	**1.17**	**213**	PG	**Pg**	**10 41 46.2**	**-0.6**
KAF				SN	**Sb**	**10 42 03.0**	**-0.1**
KEF	**Keuruu**	**1.59**	**235**	PN	**Pn**	**10 41 54.0**	**+0.3**
KEF				MSG		10 42 12.7	
	comp=Z,5.2nm,0.2s						
KEF				SN	**Sg**	**10 42 16.0**	**+0.5**
FIA0	**FINESS Array S**	**1.82**	**205**	PG	**Pb**	**10 41 57.7**	**-0.7**
	baz=22						
FIA0				SG	**Sg**	**10 42 22.4**	**-0.2**
FINES	**FINESS Array B**	**1.82**	**205**	Pg	**Pb**	**10 41 58.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=23,slow=18,SNR=11						
FINES				Lg	Lg	10 42 22.8	
	comp=Z,1.3nm,0.3s,baz=26,slow=29,SNR=24						
OUF	**Merijarvi**	**1.83**	**316**	PG	**Pn**	**10 41 57.1**	**+0.1**
OUF				MSG		10 42 18.4	
	comp=Z,5.7nm,0.2s						
OUF				SG	**Sn**	**10 42 22.2**	**+1.4**
OBF0	**Syolatti, Pyha**	**2.07**	**314**	PG	**Pn**	**10 42 01.7**	**+1.3**
	baz=132						
OUL	**Oulu**	**2.15**	**340**	PG	**Pn**	**10 42 02.1**	**+0.7**
	baz=159						
OUL				SG	**Sn**	**10 42 30.1**	**+1.5**
VAF	**Ylistaro**	**2.27**	**271**	PG	**Pn**	**10 42 05.0**	**+1.9**
VAF				MSG		10 42 31.9	
	comp=Z,14nm,0.2s						
VAF				SG	**Sb**	**10 42 35.6**	**+0.7**
VJF	**Virojoki**	**2.56**	**181**	PB	**Pb**	**10 42 10.3**	**-0.9**
VJF				MSG		10 42 41.4	
	comp=Z,4.0nm,0.2s						
VJF				SB	**Sb**	**10 42 43.0**	**-0.2**
PVF	**Pernaja**	**2.70**	**199**	PG	**Pb**	**10 42 12.7**	**-0.7**
PVF				MSG		10 42 45.1	
	comp=Z,2.6nm,0.2s						
PVF				SG	**Sb**	**10 42 47.9**	**+0.9**
MSF	**Maaselka**	**2.89**	**11**	PN	**Pn**	**10 42 12.1**	**+0.4**
MSF				SN	**Sn**	**10 42 47.5**	**+0.4**
KU6	**Riekki**	**3.10**	**17**	PN	**Pn**	**10 42 15.3**	**+0.9**
KU6				MSG		10 42 55.2	
	comp=Z,4.4nm,0.2s						
UMAU	**Umeaa**	**3.23**	**287**	PB	**Pn**	**10 42 17.6**	**+1.3**
OLKF	**Oulanka, Finla**	**3.32**	**12**	PN	**Pn**	**10 42 19.3**	**+1.7**
OLKF				SB	**Sn**	**10 43 01.8**	**+4.1**
KALU	**Kalix**	**3.34**	**328**	SG	**Sb**	**10 43 04.5**	**-1.2**
RAF	**Rauma**	**3.47**	**236**	PB	**Pb**	**10 42 24.0**	**-2.6**
RNF	**Rovaniemi**	**3.60**	**349**	PN	**Pn**	**10 42 22.7**	**+1.3**
ERTU	**Ertsjaerv**	**4.19**	**328**	PN	**Pn**	**10 42 30.7**	**+1.2**
PAJU	**Pajala**	**4.39**	**336**	PN	**Pn**	**10 42 33.2**	**+0.9**
SGF	**Sodankyl**	**4.39**	**354**	PN	**Pn**	**10 42 33.1**	**+0.8**
HEMU	**Hemsoen**	**4.43**	**269**	PN	**Pn**	**10 42 33.4**	**+0.7**
KLF	**Kolari**	**4.44**	**341**	PN	**Pn**	**10 42 33.4**	**+0.5**
	baz=158						
KLF				SN	**Sn**	**10 43 25.4**	**+0.2**
ARCES	**ARCESS Array B**	**6.53**	**353**	Pn	**Pn**	**10 43 00.4**	**-1.1**
	baz=169,slow=12,SNR=5.6						
ARCES				Sn	**Sn**	**10 44 12.3**	**-4.3**
	baz=175,slow=23,SNR=1.4						
ARCES				Lg	Lg	10 44 42.4	
	baz=175,slow=22,SNR=1.1						
I37NO	**I37NO**	**7.04**	**332**	*i*		11 27 20.0	
	baz=142,slow=323,SNR=1.1						

WEL 01 10:45:25.7±0.7**, 45°S**±4°×**16°7E**±°**, h62**km±7km**, M3.3**/7**, ML3.6**/19**, MLv3.3**/7**, Error ellipse: s-maj=0.0km s-min=0.0km az=115.7, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.34**	**201**	P	Pn	10 45 36.9	+0.6
DCZ				S	Sn	10 45 45.5	+1.6
MLZ	**Mavora Lakes**	**0.60**	**111**	P	Pn	10 45 40.2	+1.3
MLZ				S	Sn	10 45 51.1	+2.6
MSZ	**Milford Sound**	**0.64**	**42**	P	Pn	10 45 40.9	+1.6
MSZ				S	Sn	10 45 52.0	+2.7
WHZ	**Wether Hill Ro**	**0.86**	**150**	P	Pn	10 45 42.8	+0.8
WHZ				S	Sn	10 45 55.4	+1.4
PYZ	**Puysegur Point**	**1.11**	**204**	P	Pn	10 45 46.4	+1.2
WKZ	**Wanaka**	**1.24**	**75**	P	Pn	10 45 48.6	+1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WKZ				S	Sn	10 46 05.4	+2.5
EAZ	**Earnscleugh**	**1.40**	**94**	P	Pn	10 45 50.5	+1.4
EAZ				S	Sn	10 46 08.1	+1.4
JCZ	**Jackson Bay**	**1.50**	**45**	P	Pn	10 45 52.8	+2.3
APZ	**The Paps**	**1.74**	**165**	P	Pn	10 45 53.7	0.0
APZ				S	Sn	10 46 15.1	+0.2
TUZ	**Tuapeka**	**1.81**	**117**	P	Pn	10 45 55.2	+0.7
TUZ				S	Sn	10 46 16.6	+0.3
SYZ	**Scrubby Hill**	**1.88**	**138**	P	Pn	10 45 55.9	+0.5
SYZ				S	Sn	10 46 18.7	+0.7
LBZ	**Lake Benmore**	**2.17**	**70**	P	Pn	10 45 59.6	+0.1
LBZ				S	Sn	10 46 24.7	-0.6
ODZ	**Otahua Downs**	**2.35**	**89**	P	Pn	10 46 02.1	+0.2
ODZ				S	Sn	10 46 28.0	-1.6
FOZ	**Fox Glacier**	**2.41**	**49**	P	Pn	10 46 03.0	+0.4
HHSZ	**Highcliff Hill**	**2.41**	**109**	P	Pn	10 46 03.7	+0.9
TMZ	**Timaru**	**2.73**	**75**	P	Pn	10 46 06.6	-0.5
ARCZ	**Arundel**	**3.00**	**68**	P	Pn	10 46 10.0	-0.8
RPZ	**Rata Peaks**	**3.03**	**63**	P	Pn	10 46 10.5	-0.7
WACZ	**Wakanui South**	**3.44**	**71**	P	Pn	10 46 15.8	-1.0
INZ	**Inchbonnie**	**3.84**	**52**	P	Pn	10 46 22.0	-0.2
MQZ	**McQueen's Vall**	**4.08**	**71**	P	Pn	10 46 24.3	-1.2
AKCZ	**Akaroa Harbour**	**4.19**	**74**	P	Pn	10 46 25.8	-1.2
LTZ	**Lake Taylor**	**4.28**	**58**	P	Pn	10 46 26.8	-1.6
DSZ	**Denniston Nort**	**4.71**	**45**	P	Pn	10 46 36.1	+1.9
THZ	**Tophouse**	**5.29**	**52**	P	Pn	10 46 42.6	+0.5
VRZ	**Vera Road**	**8.17**	**45**	P	Pn	10 47 21.3	-0.2

*IDC **01** 10:46:01.8±1.8, 0°.59S×135°.67E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.5/39, mbtmp3.5/6, ML3.4/2, MS3.7/1, Ms1 3.7/1, ms1mx2.4/33, Error ellipse: s-maj=40.9km s-min=23.4km az=77.0*

ISC 01 10:46:05.5±1.7**, 0°.6S**±0°.2×**135°.7E**±0°.1**, h26km, n7, σ0s.24**/7**, mb3.6**/3**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.45**	**267**	Pn	**Pn**	**10 47 11.2**	**-0.1**
	1.7nm,0.3s,baz=244,slow=22,SNR=6.5						
SIJI				Sn	**Sn**	**10 48 02.4**	**0.0**
	1.8nm,0.3s,baz=95,slow=21,SNR=3.9						
WRA	**Warramunga Arr**	**19.26**	**184**	P	**P**	**10 50 28.2**	**-0.1**
	0.1nm,0.3s,baz=1.0,slow=11,SNR=12						
FITZ	**Fitzroy Crossi**	**20.00**	**209**	P	**P**	**10 50 36.6**	**+0.3**
	1.8nm,1.0s,baz=39,slow=12,SNR=1.9						
ASAR	**Alice Springs**	**22.99**	**184**	P	**P**	**10 51 08.3**	**-0.1**
	1.7nm,0.8s,baz=14,slow=11,SNR=21						
MSVF	**Nonsavu**	**44.96**	**115**	LR	LR	11 10 57.4	
	comp=Z,83nm,18.9s,baz=48,slow=33						
MKAR	**Makanchi Array**	**66.31**	**323**	P	**P**	**10 56 52.1**	**+0.2**
	0.2nm,0.5s,baz=121,slow=8.2,SNR=2.3						
KURBB	**Kurchatov Arra**	**70.30**	**325**	P	**P**	**10 57 16.6**	**-0.1**
	0.3nm,0.6s,baz=124,slow=5.7,SNR=2.7						

*IDC **01** 11:08:39.1±8.9, 37°.09N×71°.39E, h168km±59km, mb3.7/1, mb1 3.1/6, mb1mx2.7/69, mbtmp3.6/6, Error ellipse: s-maj=81.9km s-min=51.2km az=172.0*

ISC 01 11:08:36.3±2.6**, 36°.9N**±0°.2×**71°.1E**±0°.2**, h150km, n8, σ1s.87**/11**, 2C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**6.22**	**356**	⇑Pn	**Pn**	**11 10 05.4**	**-0.4**
	4.3nm,0.5s,baz=178,slow=12						
KK09				⇓Sn	**Sn**	**11 11 14.5**	**-1.4**
	5.3nm,0.5s,baz=183,slow=24						
AAK	**Ala-Archa**	**6.27**	**23**	P	**Pn**	**11 10 06.7**	**0.0**
	1.6nm,0.3s,baz=194,slow=7.3,SNR=11						
AAK				S	**Sn**	**11 11 15.4**	**-2.1**
	0.6nm,0.3s,baz=25,slow=22,SNR=12						
TKM2	**Tokmak 2**	**6.91**	**28**	⇓Pn	**Pn**	**11 10 15.6**	**+0.3**
	3.0nm,0.5s						
TKM2				⇑Sn	**Sn**	**11 11 36.7**	**+4.0**
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**12.89**	**37**	P	**Pn**	**11 11 32.1**	**-1.9**
	0.0nm,0.3s,baz=210,slow=9.6,SNR=2.0						
KURBB	**Kurchatov Arra**	**14.70**	**19**	P	**Pn**	**11 11 57.1**	**+0.4**
	0.0nm,0.3s,baz=203,slow=10,SNR=2.6						
AKTO	**Aktyubinsk**	**16.47**	**329**	P	**Pn**	**11 12 19.6**	**+1.0**
	0.3nm,0.3s,baz=139,slow=10.0,SNR=8.8						
ZALV	**Zalesovo Beam**	**19.49**	**25**	P	**P**	**11 12 50.6**	**-0.8**
	0.6nm,0.3s,baz=210,slow=9.8,SNR=9.1						
ARCES	**ARCESS Array B**	**40.80**	**337**	P	**P**	**11 16 02.6**	**+0.1**
	3.1nm,0.9s,baz=111,slow=9.8,SNR=1.5						

*IDC **01** 11:22:12.4±0.9, 2°.22N×125°.94E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.6/46, mbtmp3.9/7, MS2.7/2, Ms1 2.7/2, ms1mx2.2/74, Error ellipse: s-maj=80.8km s-min=16.9km az=75.0*

ISC 01 11:22:22.4±0.9**, 2°.2N**±0°.2×**126°.0E**±0°.5**, h83km, n9, σ1s.49**/9**, mb4.0**/6**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.89**	**355**	LR	LR	11 25 10.5	
	comp=Z,42nm,21.4s,baz=136,slow=37						
FITZ	**Fitzroy Crossi**	**20.14**	**181**	P	**P**	**11 26 48.0**	**-2.0**
	1.0nm,0.6s,baz=0.4,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**23.45**	**160**	P	**P**	**11 27 23.5**	**-1.1**
	2.6nm,0.4s,baz=338,slow=10,SNR=47						
ASAR	**Alice Springs**	**26.80**	**164**	P	**P**	**11 27 56.3**	**+1.3**
	0.7nm,0.3s,baz=344,slow=9.6,SNR=10						
ASAR				PcP	**PcP**	**11 31 17.7**	**+1.6**
	0.2nm,0.5s,baz=353,slow=2.5,SNR=4.1						
KSRS	**Korea Array**	**35.16**	**3**	P	**P**	**11 29 07.5**	**-0.7**
	0.8nm,0.5s,baz=178,slow=9.8,SNR=6.1						
SONM	**Songino Array**	**48.55**	**342**	P	**P**	**11 30 56.9**	**-0.5**
	0.2nm,0.5s,baz=155,slow=7.2,SNR=2.0						
MKAR	**Makanchi Array**	**58.43**	**326**	P	**P**	**11 32 09.5**	**-0.1**
	0.5nm,0.4s,baz=124,slow=7.6,SNR=9.5						
MKAR				PcP	**PcP**	**11 33 01.2**	**+1.7**
	0.6nm,0.7s,baz=122,slow=4.7,SNR=4.0						
YAK	**Yakutsk**	**59.78**	**2**	LR	LR	12 01 27.0	
	comp=Z,13nm,18.1s,baz=98,slow=39						
NRIK	**Noril'sk**	**71.77**	**347**	P	**P**	**11 33 35.3**	**-0.1**
	0.9nm,0.2s,baz=145,slow=7.6,SNR=4.5						

*HEL **01** 11:33:24.0±0.1, 64°.01N×28°.03E, h0km, ML1.7, Explosion*
*IDC **01** 11:33:25.9±1.3, 63°.93N×27°.45E, h0km, mb1 2.9/2, mb1mx2.8/29, mbtmp2.8/2, ML1.7/2, Error ellipse: s-maj=22.6km s-min=7.9km az=100.0*

ISC 01 11:33:23.0±0.9**, 63°.98N**±0°.03×**28°.10E**±0°.05**, h0km, n17, σ0s.92**/30**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**1.47**	**320**	PN	**Pb**	**11 33 51.2**	**+0.1**
OUL				SN	**Sn**	**11 34 10.6**	**+0.1**
OUF	**Merijarvi**	**1.53**	**286**	PN	**Pb**	**11 33 52.0**	**-0.2**
	baz=100						
OUF				MSG		11 34 08.6	
	comp=Z,4.7nm,0.2s						
OUF				SN	**Sn**	**11 34 11.8**	**-0.2**
SUF	**Sumiainen**	**1.54**	**216**	PG	**Pg**	**11 33 52.3**	**-0.2**
SUF				MSG		11 34 10.1	
	comp=Z,3.0nm,0.2s						
SUF				SG	**Sg**	**11 34 12.3**	**-0.1**
OBF0	**Syolatti, Pyha**	**1.77**	**289**	PN	**Pg**	**11 33 56.4**	**-0.4**
OBF0				SN	**Sg**	**11 34 19.5**	**-0.3**
MSF	**Maaselka**	**1.98**	**11**	PG	**Pb**	**11 33 59.5**	**-0.4**
	baz=194						
MSF				SG	**Sn**	**11 34 24.1**	**+0.8**
KAF	**Kangasniemi**	**2.04**	**204**	PG	**Pb**	**11 34 00.8**	**-0.2**
	baz=25						
KAF				SG	**Sg**	**11 34 27.6**	**-1.0**
KU6	**Riekki**	**2.19**	**19**	PG	**Pb**	**11 34 03.4**	**-0.1**
	baz=206						
KU6				MSG		11 34 28.5	
	comp=Z,3.7nm,0.2s						
KU6				SG	**Sb**	**11 34 30.7**	**-0.5**
KEF	**Keuruu**	**2.34**	**220**	PG	**Pb**	**11 34 05.5**	**-0.4**
KEF				MSG		11 34 33.2	
	comp=Z,5.9nm,0.2s						
KEF				SG	**Sb**	**11 34 35.9**	**+0.5**
OLKF	**Oulanka, Finla**	**2.42**	**13**	PG	**Pb**	**11 34 07.1**	**-0.2**
OLKF				SG	**Sb**	**11 34 37.1**	**-0.4**
VAF	**Ylistaro**	**2.61**	**251**	PG	**Pb**	**11 34 10.3**	**-0.3**
VAF				MSG		11 34 40.2	
	comp=Z,3.3nm,0.2s						
VAF				SG	**Sb**	**11 34 43.4**	**+0.2**
TOF	**Tornio**	**2.65**	**324**	PG	**Pb**	**11 34 10.2**	**-1.1**
TOF				MSG		11 34 40.7	
	comp=Z,2.1nm,0.2s						
TOF				SG	**Sb**	**11 34 43.9**	**-0.5**
FIA0	**FINESS Array S**	**2.71**	**201**	PB	**Pb**	**11 34 11.3**	**-1.0**
	baz=22						
FIA0				SB	**Sb**	**11 34 45.1**	**-0.9**
FINES	**FINESS Array B**	**2.71**	**201**	Pn	**Pb**	**11 34 11.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=16,slow=16,SNR=15						
FINES				Lg	Lg	11 34 45.9	
	comp=Z,0.9nm,0.3s,baz=18,slow=28,SNR=62						
RNF	**Rovaniemi**	**2.78**	**343**	PG	**Pg**	**11 34 15.4**	**-1.0**
RNF				SG	**Sb**	**11 34 47.2**	**-0.9**
UMAU	**Umeaa**	**3.28**	**272**	PN	**Pn**	**11 34 17.2**	**+1.7**
ARCES	**ARCESS Array B**	**5.68**	**351**	Pn	**Pn**	**11 34 51.1**	**+2.6**
	baz=175,slow=11,SNR=1.3						
ARCES				Sn	**Sn**	**11 35 52.1**	**-2.1**
	baz=170,slow=22,SNR=7.0						
ARCES				Lg	Lg	11 36 16.2	
	baz=165,slow=32,SNR=6.2						
I37NO	**I37NO**	**6.36**	**328**	*i*		12 10 50.0	
	baz=142,slow=325,SNR=5.4						

TAP 01 11:46:30.5, 24°.04N×121°.61E, h7km, ML2.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.04**	**343**	P	Pg	11 46 32.1	0.0
	baz=353						
TWD				*e*S	Sg	11 46 33.2	0.0
	baz=353						
HWA	**Hwalien**	**0.06**	**184**	P	Pg	11 46 32.3	+0.1
	baz=177						
ETL	**Fush Village**	**0.12**	**6**	P	Pg	11 46 33.1	-0.1
	baz=5.0						
ETL				S	Sg	11 46 35.1	0.0
	baz=5.0						
ETM	**Tongmen**	**0.13**	**236**	P	Pg	11 46 33.2	-0.1
	baz=236						
NACB	**Ninganchiao**	**0.14**	**354**	P	Pg	11 46 33.3	-0.1
	baz=354						
NACB				S	Sg	11 46 35.5	+0.1
	baz=354						
ETLH	**Xiulin Townshi**	**0.20**	**325**	P	Pg	11 46 34.8	+0.1
	baz=325						

TAP 01 11:55:46.5, 24°.06N×121°.56E, h2km, ML1.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.04**	**58**	P	Pg	11 55 47.9	+0.5
	baz=61						
TWD				S	Sg	11 55 48.7	+0.7
	baz=61						
HWA	**Hwalien**	**0.09**	**152**	P	Pg	11 55 48.3	0.0
	baz=146						
ETM	**Tongmen**	**0.11**	**213**	P	Pg	11 55 49.1	+0.5
	baz=211						
ETM				S	Sg	11 55 51.3	+1.2
	baz=211						
ETL	**Fush Village**	**0.12**	**31**	P	Pg	11 55 48.9	+0.1
	baz=31						
ETL				*e*S	Sg	11 55 51.0	+0.7
	baz=31						
NACB	**Ninganchiao**	**0.12**	**16**	P	Pg	11 55 49.1	+0.2
	baz=17						
NACB				S	Sg	11 55 51.4	+1.0
	baz=17						
ETLH	**Xiulin Townshi**	**0.16**	**335**	P	Pg	11 55 50.6	+0.9
	baz=344						
ETLH				S	Sg	11 55 53.9	+2.0
	baz=344						
WHF	**Hehuan Shan**	**0.28**	**288**	P	Pb	11 55 53.4	-1.2
	baz=291						
WHF				S	Sb	11 55 58.3	-1.5
	baz=291						
CHGB	**Renai**	**0.35**	**270**	P	Pb	11 55 54.7	-0.9
	baz=270						

*KRNET **01** 12:06:23.5±0.1, 41°.03N×70°.27E, h16km, mb2.6*
*SOME **01** 12:06:24.5, 40°.98N×70°.28E, h5km*
*NNC **01** 12:06:24.7±2.8, 40°.99N×70°.24E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=22.4km s-min=13.4km az=39.0*

ISC 01 12:06:25.9±2.8**, 40°.89N**±0°.07×**70°.0E**±0°.2**, h4km**±19km**, n17, σ1s.94**/9**, 13C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.03**	**143**	⇑*e*P	Pg	12 06 44.0	-1.6
	baz=57						
BTK				⇑*i*S	**Sg**	**12 06 58.6**	**-0.3**
	baz=57						
TRKS	**Terek-Say**	**1.06**	**52**	⇑*e*P	Pg	12 06 38.9	-7.3
	baz=57						
TRKS				⇑*i*S	Sg	12 06 50.6	-9.4
	baz=57						
IUG	**Iuzhnay**	**1.26**	**0**	*e*P	Pg	12 06 48.8	-1.2
	210nm,0.7s						
IUG				*e*S	**Sg**	**12 07 06.4**	**0.0**
	92nm,0.3s						
IUG	**Iuzhnay**	**1.26**	**0**	P	Pg	12 06 47.6	-2.4
	252nm,0.2s						
IUG				S	**Sg**	**12 07 04.1**	**-2.2**
	92nm,0.3s						
CHM	**Chimkent**	**1.46**	**348**	*e*P	Pn	12 06 53.1	0.0
	150nm,0.1s						
CHM				*e*S	**Sg**	**12 07 13.7**	**+0.7**
	228nm,0.3s						
ARK	**Arkit**	**1.72**	**57**	⇑*i*P	Pn	12 06 51.8	-5.0
	baz=58						
ARK				⇑*i*S	Sg	12 07 12.4	-8.8
	baz=58						
DRK	**Karamyk**	**1.96**	**135**	⇑*i*P	Pn	12 06 59.7	-0.5
	baz=42						
DRK				⇑*i*S	**Sn**	**12 07 25.6**	**+0.3**
	baz=42						
OHH	**Osh**	**2.13**	**99**	⇑*e*P	Pn	12 07 00.3	-2.1
	baz=4.0						
OHH				⇑*i*S	**Sn**	**12 07 27.3**	**-2.0**
	baz=4.0						
BRLS	**Borolday**	**2.15**	**356**	*e*P	Pn	12 06 57.6	-4.9
	4.0nm,0.2s						
BRLS				*e*S	Sn	12 07 22.0	-7.6
	8.0nm,0.2s						
BRLS	**Borolday**	**2.15**	**356**	P	Pn	12 06 57.6	-4.9
BRLS				S	Sn	12 07 21.4	-8.2
DZA	**Taraz**	**2.23**	**26**	*e*P	Pn	12 07 02.8	-0.8
	138nm,0.1s						
DZA				*e*S	**Sn**	**12 07 30.2**	**-1.4**
	135nm,0.2s						
KK09	**Karatay Array**	**2.26**	**9**	⇑Pn	Pn	12 07 01.6	-2.5
	5.3nm,0.5s,baz=189,slow=15						
KK09				⇑Lg	Lg	12 07 30.7	
	7.7nm,0.7s						
MRKS	**Merke**	**3.03**	**51**	*e*P	Pn	12 07 18.1	+3.4
	4.3nm,0.2s						
MRKS				*e*S	Sn	12 07 56.6	+5.1
	8.9nm,0.9s						
MRKS	**Merke**	**3.03**	**51**	Pg	Pn	12 07 17.7	+3.0
	6.8nm,0.6s						
MRKS				Lg	Lg	12 07 55.9	
	8.9nm,0.9s						
TKM2	**Tokmak 2**	**4.63**	**62**	⇓Pg	Pn	12 07 43.8	+7.0
	2.3nm,0.8s						
TKM2				⇑Lg	Lg	12 08 42.2	
	3.3nm,0.6s						
KRBS	**Karabastau**	**5.05**	**54**	*e*P	Pb	12 07 53.5	-1.2
	0.9nm,0.3s						
KRBS				*e*S	**Sb**	**12 08 57.3**	**+1.5**
	2.1nm,1.0s						
BTLS	**Baital**	**5.09**	**34**	*e*P	Pb	12 07 54.5	-1.0
	0.9nm,0.2s						
BTLS				*e*S	**Sb**	**12 08 59.3**	**+2.2**
	1.7nm,0.4s						

*GCG **01** 12:13:31.5±0.5, 14°.04N×91°.96W, h32km±5km, MD3.9*
*SNET **01** 12:13:32.1±1.8, 14°.16N×91°.98W, h57km±17km, ML3.9*
*UCR **01** 12:13:32.1±1.5, 14°.16N×91°.98W, h58km±14km, ML3.7*

ISC 01 12:13:29.4±3.2**, 13°.99N**±0°.09×**92°.2W**±0°.1**, h31km**±14km**, n34, σ1s.22**/48**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.70**	**41**	*e*P	**Pb**	**12 13 43.5**	**+0.2**
RTAL				*e*S	**Sb**	**12 13 52.1**	**-0.7**
STG3	**Santiaguito 3,**	**0.92**	**39**	*e*P	**Pn**	**12 13 46.5**	**+0.1**
FUG	**Fuego 3**	**1.37**	**71**	*e*P	**Pn**	**12 13 52.0**	**-0.5**
FUG				*e*S	**Sn**	**12 14 11.7**	**+2.0**
HUEH	**Huehuetenango**	**1.47**	**26**	*e*P	**Pn**	**12 13 54.5**	**+0.5**
HUEH				*e*S	**Sn**	**12 14 11.1**	**-1.1**
HUEH	**Huehuetenango**	**1.47**	**26**	*e*P	**Pn**	**12 13 54.5**	**+0.5**
HUEH				*e*S	**Sn**	**12 14 10.8**	**-1.5**
HUEH				*e*S		12 14 11.1	
PCG	**Pacaya**	**1.57**	**75**	*e*P	**Pn**	**12 13 55.0**	**-0.4**
PCG				*e*S	**Sn**	**12 14 13.5**	**-1.3**
NBG	**Las Nubes**	**1.87**	**71**	*e*P	**Pn**	**12 14 00.6**	**+1.1**
NBG				*e*S	**Sn**	**12 14 20.9**	**-1.2**
SLOZ	**Alcaldia de Sa**	**2.32**	**89**	*e*P	**Pn**	**12 14 05.6**	**+0.1**
SLOZ				*e*S	**Sn**	**12 14 32.7**	**-0.3**
NUBE	**Las Nubes**	**2.33**	**92**	*e*P	**Pn**	**12 14 05.6**	**-0.1**
NUBE				*e*S	**Sn**	**12 14 32.4**	**-1.0**
NUBE	**Las Nubes**	**2.33**	**92**	*e*P	**Pn**	**12 14 05.6**	**-0.1**
NUBE				*e*S	**Sn**	**12 14 32.4**	**-1.0**
RTR	**El Retiro**	**2.46**	**92**	*e*P	**Pn**	**12 14 08.4**	**+0.9**
RTR	**El Retiro**	**2.46**	**92**	*e*P	**Pn**	**12 14 08.4**	**+0.9**
CEVE	**Cerro Verde**	**2.48**	**93**	*e*P	**Pn**	**12 14 08.7**	**+0.8**
CEVE				*e*S	**Sn**	**12 14 37.4**	**+0.1**
CEVE				IAML		12 14 39.3	
	comp=Z,959nm,0.3s						
CEVE	**Cerro Verde**	**2.48**	**93**	*e*P	**Pn**	**12 14 08.7**	**+0.8**
CEVE				*e*S	**Sn**	**12 14 37.4**	**+0.1**
CEVE				IAML		12 14 39.3	
	comp=Z,959nm,0.3s						
SNJE	**San Jose**	**2.50**	**93**	*e*P	**Pn**	**12 14 08.1**	**0.0**
SNJE	**San Jose**	**2.50**	**93**	*e*P	**Pn**	**12 14 08.1**	**0.0**
MRL	**Marmol**	**2.65**	**66**	*e*P	**Pn**	**12 14 10.1**	**-0.1**
MRL				*e*S	**Sn**	**12 14 45.7**	**+4.5**
JAYA	**Jayaque - finc**	**2.67**	**97**	*e*P	**Pn**	**12 14 10.5**	**+0.1**
JAYA				*e*S	**Sn**	**12 14 39.6**	**-2.2**
JAYA				IAML		12 14 41.3	
	comp=Z,441nm,0.2s						
JAYA	**Jayaque - finc**	**2.67**	**97**	*e*P	**Pn**	**12 14 10.5**	**+0.1**
JAYA				*e*S	**Sn**	**12 14 39.6**	**-2.2**
JAYA				IAML		12 14 41.3	
	comp=Z,441nm,0.2s						
MTO3	**Montecristo**	**2.76**	**81**	*e*P	**Pn**	**12 14 10.8**	**-0.9**
MTO3	**Montecristo**	**2.76**	**81**	*e*P	**Pn**	**12 14 10.8**	**-0.9**
ESQI	**Esquipulas**	**2.81**	**78**	*e*P	**Pn**	**12 14 13.9**	**+1.7**
BOQS	**Boqueron**	**2.82**	**95**	*e*P	**Pn**	**12 14 13.1**	**+0.5**
BOQS	**Boqueron**	**2.82**	**95**	*e*P	**Pn**	**12 14 13.1**	**+0.5**
LFRS	**El Faro**	**3.05**	**97**	*e*P	**Pn**	**12 14 16.9**	**+1.4**
LFRS	**El Faro**	**3.05**	**97**	*e*P	**Pn**	**12 14 16.9**	**+1.4**
SJTE	**Alcalda de S**	**3.10**	**97**	*e*P	**Pn**	**12 14 17.4**	**+1.1**
SJTE	**Alcalda de S**	**3.10**	**97**	*e*P	**Pn**	**12 14 17.4**	**+1.1**
PAVA	**Las Pavas**	**3.16**	**95**	*e*P	**Pn**	**12 14 17.8**	**+0.7**
PAVA	**Las Pavas**	**3.16**	**95**	*e*P	**Pn**	**12 14 17.8**	**+0.7**
COEG	**Centro de Oper**	**3.22**	**96**	*e*P	**Pn**	**12 14 19.5**	**+1.6**
COEG	**Centro de Oper**	**3.22**	**96**	*e*P	**Pn**	**12 14 19.5**	**+1.6**
SCLA	**Alcaldia de Sa**	**3.36**	**95**	*e*P	**Pn**	**12 14 19.4**	**-0.4**
SCLA	**Alcaldia de Sa**	**3.36**	**95**	*e*P	**Pn**	**12 14 19.4**	**-0.4**

*NEIC **01** 12:16:12.3±1.8, 7°.74S±0°.06×128°.31E±0°.08, h134km±7km, mb4.0/16, Error ellipse: s-maj=12.3km s-min=8.7km az=76.0*
*IDC **01** 12:16:12.2±1.6, 7°.72S×128°.22E, h133km±16km, mb3.8/11, mb1 3.9/16, mb1mx3.6/48, mbtmp4.3/16, Error ellipse: s-maj=16.0km s-min=12.5km az=109.0*

ISC 01 12:16:12.7±0.5**, 7°.80S**±0°.05×**128°.26E**±0°.06**, h150km, n57, σ2s.10**/59**, mb4.0**/14**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.02**	**94**	Pn	**Pn**	**12 16 58.3**	**-2.0**
BATI	**Baumata**	**5.13**	**242**	P	**Pn**	**12 17 28.8**	**+0.9**
	44nm,0.3s,baz=64,slow=2.6,SNR=49						
BATI				S	**Sn**	**12 18 25.8**	**-0.7**
	93nm,0.3s,baz=25,slow=5.0,SNR=20						
MTN	**Manton Dam**	**5.76**	**151**	Pn	**Pn**	**12 17 38.0**	**+1.8**
MTN	**Manton Dam**	**5.76**	**151**	P	**Pn**	**12 17 40.1**	**+3.9**
MMRI	**Maumere**	**6.02**	**262**	Pn	**Pn**	**12 17 39.9**	**+0.2**
SIJI	**Sorong**	**7.51**	**24**	P	**Pn**	**12 17 58.7**	**-0.9**
	6.5nm,0.3s,baz=314,slow=9.7,SNR=13						
SIJI				S	**Sn**	**12 19 20.9**	**-2.6**
	1.5nm,0.3s,baz=172,slow=23,SNR=2.3						
KNRA	**Kununurra**	**7.85**	**176**		**Pn**	**12 18 05.3**	**+1.2**
KNRA	**Kununurra**	**7.85**	**176**	P	**Pn**	**12 18 06.2**	**+2.1**
FITZ	**Fitzroy Crossi**	**10.55**	**194**	P	**Pn**	**12 18 39.0**	**-1.0**
	2.1nm,0.3s,baz=28,slow=11,SNR=45						
FITZ				S	**Sn**	**12 20 32.2**	**-4.6**
	4.0nm,0.3s,baz=298,slow=21,SNR=9.0						
FITZ	**Fitzroy Crossi**	**10.55**	**194**		**Pn**	**12 18 39.2**	**-0.8**
TOLI2	**Tolitoli**	**11.57**	**320**	Pn	**Pn**	**12 18 51.1**	**-2.3**
WB0	**Warramunga Arr**	**13.30**	**154**		**Pn**	**12 19 15.9**	**+0.1**
WRAB	**Tennant Creek**	**13.43**	**155**	Pn	**Pn**	**12 19 17.7**	**+0.2**
WRAB	**Tennant Creek**	**13.43**	**155**	P	**Pn**	**12 19 18.9**	**+1.4**
WRA	**Warramunga Arr**	**13.44**	**155**	P	**Pn**	**12 19 17.7**	**+0.2**
	1.3nm,0.3s,baz=320,slow=14,SNR=36						
WRA				S	**Sn**	**12 21 41.0**	**-5.3**
	5.2nm,0.3s,baz=320,slow=26,SNR=8.9						
WRA	**Warramunga Arr**	**13.44**	**155**		**Pn**	**12 19 17.4**	**-0.1**
WB2	**Warramunga Arr**	**13.44**	**155**		**Pn**	**12 19 17.7**	**+0.1**
WR0	**Warramunga Arr**	**13.54**	**154**		**Pn**	**12 19 18.9**	**+0.1**
MBWA	**Marble Bar**	**15.63**	**211**		**P**	**12 19 46.3**	**+0.4**
MBWA				IAmb	IAmb	12 20 15.1	
	comp=Z,20nm,1.4s						
COEN	**Coen**	**15.87**	**114**		**Pn**	**12 19 48.3**	**+0.3**
COEN				IAmb	IAmb	12 20 12.8	
	comp=Z,9.5nm,1.0s						
PSA00	**Pilbara Seismi**	**15.92**	**210**		**P**	**12 19 50.0**	**+0.8**
PSA00				IAmb	IAmb	12 19 55.6	
	comp=Z,4.7nm,0.9s						
PSA00	**Pilbara Seismi**	**15.92**	**210**	P	**P**	**12 19 50.6**	**+1.5**
AS31	**Alice Springs**	**16.68**	**162**	P	**Pn**	**12 19 59.4**	**+1.6**
AS31				IAmb	IAmb	12 20 04.2	
	comp=Z,5.1nm,0.9s						
ASAR	**Alice Springs**	**16.68**	**162**	P	**Pn**	**12 19 59.7**	**+1.9**
	comp=Z,1.5nm,0.3s,baz=339,slow=10,SNR=37						
ASAR				S	**S**	**12 22 58.6**	**-4.7**
	comp=Z,1.3nm,0.3s,baz=328,slow=17,SNR=10						
ASAR	**Alice Springs**	**16.68**	**162**	P	**P**	**12 19 56.9**	**-0.7**
QIS	**Mount Isa**	**16.78**	**140**	P	**Pn**	**12 20 03.7**	**+4.7**
MTSU	**Mount Surprise**	**18.70**	**125**	P	Pn	12 20 31.3	+9.4
SBUM	**Sibu**	**18.96**	**302**	P	**Pn**	**12 20 24.4**	**-0.5**
MEEK	**Meekatharra**	**20.86**	**205**	P	Pn	12 20 47.3	0.0
OOD	**Oodnadatta**	**21.10**	**161**	P	**P**	**12 20 50.3**	**+4.9**
FORT	**Forrest**	**22.86**	**180**	P	**P**	**12 21 08.0**	**+4.8**
MULG	**Mulgathing**	**23.02**	**167**	P	**P**	**12 21 08.7**	**+4.1**
BBOO	**Buckleboo**	**25.92**	**165**	P	**P**	**12 21 33.6**	**+2.6**
STKA	**Stephens Creek**	**26.99**	**154**	P	**P**	**12 21 43.1**	**+2.5**
	comp=Z,3.8nm,0.6s,baz=329,slow=11,SNR=9.6						
RPSI	**Rantau Prapat**	**31.07**	**288**	P	**P**	**12 22 16.8**	**-0.1**
PSI	**Prapat**	**31.10**	**289**	P	**P**	**12 22 16.8**	**-0.6**
	comp=Z,6.4nm,0.7s,baz=104,slow=6.7,SNR=5.2						
TWG	**Pinlang**	**31.23**	**347**	P	**P**	**12 22 16.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**38.95**	**312**	P	**P**	**12 23 25.5**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=141,slow=6.8,SNR=11						
CHTO	**Chiang Mai**	**39.18**	**313**	P	**P**	**12 23 27.5**	**+1.3**
CHTO				IAmb	IAmb	12 23 28.7	
	comp=Z,2.7nm,0.8s						
KSAR	**Wonju Array Be**	**45.00**	**360**	P	**P**	**12 24 13.0**	**-0.1**
KSRS	**Korea Array**	**45.02**	**360**	P	**P**	**12 24 14.0**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=176,slow=9.4,SNR=8.2						
KS19	**Wonju Array Si**	**45.06**	**360**	P	**P**	**12 24 13.2**	**-0.4**
USRK	**Ussuriysk Ar.**	**51.86**	**3**	P	**P**	**12 25 06.1**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=194,slow=29,SNR=5.1						
ULN	**Ulaanbaatar**	**58.51**	**343**	P	**P**	**12 25 54.8**	**+1.5**
SONM	**Songino Array**	**58.67**	**343**	P	**P**	**12 25 56.1**	**+1.7**
	comp=Z,1.5nm,0.5s,baz=167,slow=6.9,SNR=14						
SONM	**Songino Array**	**58.67**	**343**	P	**P**	**12 25 55.8**	**+1.4**
SONM				IAmb	IAmb	12 25 56.9	
	comp=Z,1.8nm,0.8s						
MK31	**Makanchi Array**	**67.96**	**328**	P	**P**	**12 26 55.9**	**+0.5**
MKAR	**Makanchi Array**	**67.96**	**328**	P	**P**	**12 26 55.9**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=118,slow=8.6,SNR=11						
ZAA0	**Zalesovo Array**	**71.54**	**335**	P	**P**	**12 27 17.4**	**+0.2**
ZAA0				IAmb	IAmb	12 27 18.6	
	comp=Z,3.5nm,1.0s						
ZALV	**Zalesovo Beam**	**71.54**	**335**	P	**P**	**12 27 17.2**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=144,slow=5.2,SNR=8.4						
ZALV	**Zalesovo Beam**	**71.54**	**335**	P	**P**	**12 27 17.7**	**+0.6**
VNDA	**Vanda**	**71.88**	**173**	P	**P**	**12 27 19.4**	**+0.5**
KURBB	**Kurchatov Arra**	**72.30**	**329**	P	**P**	**12 27 22.2**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=135,slow=5.1,SNR=12						
KURK	**Kurchatov**	**72.31**	**329**	P	**P**	**12 27 22.1**	**+0.4**
KURK	**Kurchatov**	**72.31**	**329**	IAmb	IAmb	12 27 23.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.9nm,0.9s						
SEY	Seymchan	72.91	11	P	P	12 27 25.9	+0.9
	comp=Z,4.4nm,0.9s,baz=202,slow=5.5,SNR=8.0						
BVAR	Borovoye Array	77.82	328	P	P	12 27 55.2	+1.8
	comp=Z,0.4nm,0.4s,baz=188,slow=39,SNR=1.3						

*SOME **01** 12:16:11.0, 41°.73N×82°.68E, h15km*
*NNC **01** 12:16:13.3±2.7, 41°.69N×82°.45E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=21.3km s-min=11.1km az=152.0*
ISC 01 12:16:16.3±2.2**, 42°.01N**±0°.09×**82°.47E**±0°.08**, h13**km**, n29, σ2^{s}28**/48**, 6C-4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTMS	Ketmen	2.12	313	eP	Pg	12 16 55.8	-1.2
	7.0nm,0.5s						
KTMS				eS	Sg	12 17 27.9	+3.5
	46nm,0.5s						
SHLS	Shalkode	2.50	298	eP	Pn	12 16 57.1	+0.3
	19nm,0.6s						
SHLS				eS	Sn	12 17 30.1	+2.9
	82nm,0.5s						
KPKS	Kokpek	3.15	299	eP	Pb	12 17 13.2	+1.1
	9.4nm,0.3s						
KPKS				eS	Sg	12 17 57.3	0.0
	73nm,0.3s						
KURS	Kuram	3.49	297	eP	Pg	12 17 20.8	-2.4
	4.9nm,0.4s						
KURS				eS	Sg	12 18 10.5	+2.1
	12nm,0.6s						
BLB	Baldybastay	3.59	307	eP	Pb	12 17 22.0	+2.2
	11nm,0.5s						
BLB				eS	Sg	12 18 12.1	+0.4
	23nm,0.6s						
BLB	Baldybastay	3.59	307	Pg	Pb	12 17 20.1	+0.4
BLB				Lg	Lg	12 18 12.1	
	19nm,0.5s						
KAPS	Kapalarasan	3.98	326	eP	Pb	12 17 28.5	+2.2
	13nm,0.2s						
KAPS				eS	Sg	12 18 24.2	+0.2
	17nm,0.7s						
KAPS	Kapalarasan	3.98	326	Pg	Pb	12 17 23.2	-3.1
	7.3nm,0.4s						
KAPS				Lg	Lg	12 18 17.8	
	20nm,0.5s						
ARXS	Arharly	4.05	305	eP	Pg	12 17 31.1	-2.8
	2.7nm,0.3s						
ARXS				eS	Sg	12 18 28.6	+2.3
	17nm,0.6s						
ARXS	Arharly	4.05	305	Pg	Pb	12 17 29.3	+1.8
	3.1nm,0.3s						
ARXS				Lg	Lg	12 18 28.6	
	17nm,0.6s						
KOTS	Kotyrbulak	4.14	289	eP	Pg	12 17 32.8	-2.8
	8.0nm,0.4s						
KOTS				eS	Sg	12 18 30.8	+1.7
	34nm,1.0s						
MDOK	Medeo	4.17	288	eP	Pg	12 17 33.0	-3.1
	3.2nm,0.3s						
MDOK				eS	Sg	12 18 31.8	+1.8
	15nm,0.6s						
MDOK	Medeo	4.17	288	Pg	Pg	12 17 35.5	-0.6
	6.9nm,0.6s						
MDOK				Lg	Lg	12 18 30.6	
	36nm,1.4s						
MDOK	Medeo	4.17	288	Pg	Pb	12 17 30.4	+0.9
	4.3nm,0.5s						
MDOK				Lg	Lg	12 18 30.2	
	16nm,1.1s						
IZV	Izvestkoviy	4.45	285	eP	Pb	12 17 36.6	+2.3
	2.3nm,0.2s						
IZV				eS	Sg	12 18 37.9	-1.2
	26nm,0.7s						
IZV	Izvestkoviy	4.45	285	Pg	Pb	12 17 34.4	0.0
	1.2nm,0.4s						
IZV				Lg	Lg	12 18 36.8	
	18nm,1.1s						
KTBS	Karatobe	4.58	294	eP	Pb	12 17 38.4	+1.9
	2.5nm,0.4s						
KTBS				eS	Sg	12 18 40.7	-2.6
	20nm,0.5s						
KTBS	Karatobe	4.58	294	Pg	Pb	12 17 36.6	+0.1
	2.5nm,0.4s						
KTBS				Lg	Lg	12 18 40.7	
	27nm,0.8s						
MTBS	Maitube	4.60	286	eP	Pb	12 17 39.2	+2.4
	1.6nm,0.3s						
MTBS				eS	Sg	12 18 42.0	-1.9
	11nm,0.6s						
MTBS	Maitube	4.60	286	Pg	Pb	12 17 36.8	0.0
	1.7nm,0.3s						
MTBS				Lg	Lg	12 18 41.3	
	11nm,0.6s						
MK31	Makanchi Array	4.79	359	⇑Pn	Pn	12 17 30.1	+1.9
	0.1nm,0.2s,baz=188,slow=12,SNR=57						
MK31				⇓Pg	Pg	12 17 44.7	-3.3
	1.1nm,0.3s,baz=172,slow=16,SNR=8.9						
MK31				⇓Lg	Lg	12 18 55.5	
	5.2nm,0.5s,baz=166,slow=29,SNR=6.9						
MAKZ	Makanchi	4.81	356	⇓Pn	Pn	12 17 30.4	+1.9
	0.9nm,0.3s						
MAKZ				⇑Pg	Pg	12 17 47.2	-1.2
	1.7nm,0.5s						
MAKZ				⇓Sn	Sb	12 18 34.8	-3.4
	1.8nm,0.3s						
MAKZ				⇑Lg	Lg	12 18 56.0	
	7.5nm,0.7s						
KUU	Kurty	4.88	295	eP	Pg	12 17 45.4	-4.2
	1.4nm,0.1s						
KUU				eS	Sg	12 18 52.8	0.0
	11nm,0.6s						
KUU	Kurty	4.88	295	Pg	Pb	12 17 43.4	+1.8
	1.5nm,0.1s						
KUU				Lg	Lg	12 18 52.1	
	14nm,0.7s						
KST	Kastek	4.92	284	eP	Pg	12 17 46.2	-4.2
	1.2nm,0.4s						
KST				eS	Sg	12 18 54.2	+0.1
	14nm,0.7s						
KST	Kastek	4.92	284	Pg	Pb	12 17 44.3	+2.0
	3.3nm,0.4s						
KST				Lg	Lg	12 18 54.2	
	14nm,0.7s						
TKM2	Tokmak 2	5.16	282	⇑Pn	Pn	12 17 35.3	+1.9
	2.8nm,0.9s						
TKM2				⇑Pg	Pg	12 17 52.1	-3.0
	2.3nm,0.7s						
TKM2				⇑Lg	Lg	12 19 00.7	
	14nm,0.7s						
KRBS	Karabastau	5.27	291	eP	Pg	12 17 52.8	-4.3
	0.9nm,0.3s						
KRBS				eS	Sg	12 19 05.6	+0.1
	5.7nm,0.5s						
KRBS	Karabastau	5.27	291	Pg	Pb	12 17 51.0	+2.7
	1.1nm,0.3s						
KRBS				Lg	Lg	12 19 05.6	
	5.7nm,0.5s						

*MDD **01** 12:17:36.7±0.9, 35°.69N×3°.75W, h0km, mb_Lg2.5/3, Error ellipse: s-maj=7.0km s-min=3.7km az=41.0*
*SFS **01** 12:17:36.0, 35°.69N×3°.75W, ML2.5, ALBORAN SUR*
*CNRM **01** 12:17:38.3, 35°.59N×3°.58W, h21km, ml1.6*
ISC 01 12:17:37.3±1.1**, 35°.64N**±0°.03×**3°.66W**±0°.04**, h30**km±12km**, n11, σ0^{s}79**/22**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.48	208	P	Pb	12 17 47.9	+0.5
PALE				S	Sn	12 17 55.4	-0.3
EALB	Alboran	0.59	59	Pg	Pb	12 17 49.1	-0.1
EALB				Sg	Sb	12 17 57.7	+0.3
EMEL	Melilla	0.67	120	Pg	Pb	12 17 50.0	-0.5
EMEL				Sg	Sn	12 18 00.3	+0.1
EMEL				i Vmb_Lg		12 18 02.3	
GOG	Mont Gurugu	0.69	127	P	Pb	12 17 50.2	-0.6
GOG				S	Sb	12 17 58.8	-1.3
ELGU	Los Guajares,	1.23	1	Pg	Pn	12 17 58.8	+0.3
ELGU				Sg	Sn	12 18 13.7	-0.4
ELGU				i Vmb_Lg		12 18 18.9	
EMAL	Malaga-Limoner	1.28	331	P	Pn	12 17 58.5	-0.7
EMAL				S	Sn	12 18 14.6	-0.8
EMIJ	Mijas	1.29	316	Pg	Pn	12 17 58.9	-0.5
EMIJ				Sg	Sn	12 18 15.1	-0.6
TAF	Taforalt	1.31	129	P	Pn	12 18 00.1	+0.3
TAF				S	Sb	12 18 18.5	+0.6
EBER	Berja	1.40	26	Pg	Pn	12 18 02.2	+1.1
EBER				Sg	Sb	12 18 20.2	-0.3
JBK	JBK	1.58	145	P	Pn	12 18 04.1	+0.6
JBK				S	Sn	12 18 23.0	-0.1
EADA	Adamuz	2.63	344	Pg	Pb	12 18 23.4	-0.3
EADA				i Vmb_Lg		12 18 49.3	
EADA				Sg	Sb	12 18 57.7	+2.1

*TUL **01** 12:19:49.9±1.4, 36°.701N±0°.008×98°.24W±0°.01, h5km±5km, ML2.9, mb_Lg2.4/14(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=120.0*
NEIC 01 12:19:50.3±1.4**, 36°.692N**±0°.007×**98°.227W**±0°.009**, h5**km±2km**, Error ellipse: s-maj=3.0km s-min=1.5km az=323.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.70	244	Pg	Pg	12 20 03.3	-0.4
U32A				Sg	Sg	12 20 12.9	+0.1
T35A	Sooner Cattle	1.39	80		Pn	12 20 15.9	-0.5
OKCFA	Oklahoma City	1.42	154	Pn	Pn	12 20 16.2	-0.6
FNO	Franklin	1.58	155	Pn	Pn	12 20 18.8	-0.2
FNO				IAmb_Lg		12 20 43.8	
	comp=Z,22nm,0.8s						
R32A	Long Quarter,	1.77	348		Pn	12 20 20.4	-1.2
W35A	Tecumseh	1.89	144	Pn	Pn	12 20 22.7	-0.6
WMOK	Wichita Mounta	2.00	193	Pn	Pn	12 20 24.1	-0.8
X34A	Smith Ranch, M	2.11	171	Pn	Pn	12 20 24.9	-1.4
X34A				IAmb_Lg		12 21 00.4	
	comp=Z,11nm,0.8s						
TUL1	Leonard	2.12	111	Pn	Pn	12 20 26.5	+0.1
TUL1				IAmb_Lg		12 20 57.8	
	comp=Z,24nm,0.9s						
CBKS	Cedar Bluff	2.43	331	IAmb_Lg		12 21 06.7	
	comp=Z,13nm,0.9s						
KSU1	Kansas State U	2.72	28	IAmb_Lg		12 21 22.4	
	comp=Z,13nm,1.0s						
HHAR	Hobbs	3.48	95	Pn	Pn	12 20 44.8	-0.3
W39A	Magazine	3.90	111	IAmb_Lg		12 21 56.5	
	comp=Z,10nm,0.9s						
S39A	Bolivar	4.04	74	Pn	Pn	12 20 52.9	0.0
U40A	Yellville	4.34	93	IAmb_Lg		12 22 16.5	
	comp=Z,7.4nm,0.8s						
N35A	Tabor	4.63	25	IAmb_Lg		12 22 21.7	
	comp=Z,14nm,0.7s						

GUC 01 12:44:33.8±0.7**, 30°.36S**×**71°.64W, h23**km±2km**, ML3.7, 2C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.31	180	⇑iP	Pb	12 44 40.3	-0.5
CO06				i S	Sb	12 44 45.4	-0.3
CO06				IAML		12 44 46.2	
	comp=N,20µm,0.3s						
CO05	La Serena	0.56	38	⇓iP	Pb	12 44 44.7	-0.3
CO05				i S	Sb	12 44 52.4	-0.2
CO05				IAML		12 44 53.8	
	comp=E,6µm,0.4s						
GO04	Tololo Observa	0.75	76	⇓iP	Pb	12 44 48.1	-0.2
GO04				i S	Sb	12 44 58.7	+0.5
GO04				IAML		12 45 00.2	
	comp=N,7µm,0.1s						
CO03	El Pedregal	0.95	120	⇓iP	Pb	12 44 50.7	-0.9
CO03				i S	Sb	12 45 03.9	+0.1
CO03				IAML		12 45 04.3	
	comp=E,6µm,0.3s						
LCO	Las Campanas	1.57	31	⇑iP	Pn	12 44 59.8	-0.8
LCO				i S	Sb	12 45 21.3	-0.6
AC04	Llanos de Chal	2.20	13	eP	Pn	12 45 07.4	-1.6
VA06	Catapilco	2.21	173	eP	Pn	12 45 11.0	+1.9
VA06				i S	Sb	12 45 39.0	-1.0
VA06				IAML		12 45 48.0	
	comp=E,1µm,0.6s						
VA03	San Esteban	2.57	159	eP	Pn	12 45 15.1	+0.9
VA03				i S	Sb	12 45 47.6	-2.8
VA01	Torpederas	2.65	180	eP	Pn	12 45 17.6	+2.4
VA01				IAML		12 45 58.3	
	comp=N,194nm,0.7s						
ROCH	El Roble	2.66	169	eP	Pb	12 45 17.7	-3.2
ROCH				eP	Pn	12 45 16.4	+0.9
ROCH				IAML		12 46 01.0	
	comp=N,316nm,0.5s						
ROCH				IAML		12 46 06.5	
	comp=N,446nm,0.5s						
PEL	Peldehue	2.89	164	eP	Pn	12 45 18.6	+0.1
PEL				i S	Sn	12 45 53.6	+1.0
PEL				IAML		12 46 06.8	
	comp=E,200nm,0.6s						
MT02	Curacav	2.92	172	eP	Pn	12 45 18.4	-0.5
MT02				IAML		12 46 13.5	
	comp=E,109nm,0.5s						
GO03	Copiap	3.02	24	eP	Pn	12 45 19.8	-0.5
GO03				i S	Sn	12 45 59.2	+3.4
GO03				IAML		12 46 07.9	
	comp=N,184nm,0.6s						
MT05	Renca	3.12	166	eP	Pn	12 45 22.9	+1.3
MT05				i S	Sn	12 46 01.3	+3.1
FCH	Farellones	3.17	159	eP	Pn	12 45 23.9	+1.2
FCH				IAML		12 46 13.5	
	comp=E,104nm,0.3s						
AC06	Mina Casimiro	3.20	21	eP	Pn	12 45 21.7	-1.0
AC06				IAML		12 46 18.1	
	comp=E,103nm,0.6s						
MT03	Universidad Ad	3.27	163	eP	Pn	12 45 25.8	+2.1
MT03				IAML		12 46 19.4	
	comp=N,267nm,0.6s						
VA05	Santo Domingo	3.29	180	IAML		12 46 16.5	
	comp=N,218nm,0.8s						
MT09	Talagante	3.45	171	eP	Pn	12 45 25.9	-0.4
MT09				IAML		12 46 30.9	
	comp=N,159nm,0.3s						
MT01	Popeta	3.51	175	eP	Pn	12 45 26.0	-1.0
MT01				IAML		12 46 22.2	
	comp=E,96nm,0.2s						
LMEL	Las Melosas	3.68	161	eP	Pn	12 45 30.9	+1.4
LMEL				i S	Sn	12 46 14.7	+2.4
BO04	La Punta	3.72	167	eP	Pn	12 45 30.1	+0.2
BO03	Pichilemu	4.13	184	eP	Pn	12 45 32.7	-2.8
BO02	Sierra Bellavi	4.48	171	eP	Pn	12 45 39.9	-0.5

*IASPEI **01** 12:46:43.5±1.1, 38°.47N±0°.03×118°.38W±0°.03, h12km±8km, Error ellipse: s-maj=4.3km s-min=4.0km az=79.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*REN **01** 12:46:43.4±1.4, 38°.47N±0°.02×118°.38W±0°.02, h4km±7km, Mwr3.4, ML3.2/62(NEIC), Error ellipse: s-maj=3.4km s-min=2.2km az=207.0*
*NEIC **01** 12:46:43.7±1.4, 38°.46N±0°.02×118°.39W±0°.03, h8km±7km, Error ellipse: s-maj=3.0km s-min=2.7km az=61.0*
*ANF **01** 12:46:43.1±1.9, 38°.49N×118°.40W, h4km, ML3.4/8, Error ellipse: s-maj=22.5km s-min=7.1km az=138.0*
*NEIC **01** 12:46:44, 38°.47N×118°.37W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.05; $M_{\theta\theta}$-1.23; $M_{\phi\phi}$1.18; $M_{r\theta}$0.26; $M_{\theta\phi}$0.43; $M_{\phi r}$-0.43; Fault plane solution: $M_0$1.38000×10^{14} NP1:ϕ_s144.00000°, δ88.00000°, λ159.00000°. NP2:ϕ_s235.00000°, δ69.00000°, λ2.00000°. Principal axes: T 1.3672, Plg17.0000°, Azm98.0000°; N 0.0160, Plg68.0000°, Azm319.0000°; P -1.3832, Plg13.0000°, Azm192.0000°;*
ISC 01 12:46:43.7±0.9**, 38°.48N**±0°.02×**118°.38W**±0°.02**, h10**km±7km**, n66, σ0^{s}80**/78**, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	0.08	129		Pg	12 46 45.2	-1.0
NV11	Mina Array Sit	0.18	105		Pg	12 46 47.5	-0.2
NV11				Sg	Sg	12 46 51.1	+0.6
RYN	Ryan	0.18	323		Pg	12 46 47.9	+0.2
RYN				Sg	Sg	12 46 51.1	+0.6
LHV	Little Huntoon	0.25	203	Pg	Pg	12 46 48.8	0.0
LHV				Sg	Sg	12 46 52.5	+0.3
LHV				IAML		12 46 54.2	
	comp=E,6µm,0.6s						
LHV				IAML		12 46 56.2	
	comp=N,4µm,0.4s						
KVN	Kaiserville	0.61	21	Pg	Pg	12 46 55.3	-0.4
KVN				Sg	Sg	12 47 04.4	+0.7
YERR	Yerington	0.84	307		Pg	12 46 59.7	-0.2
YERR				Sg	Sg	12 47 11.3	+0.3
YERR				IAML		12 47 16.7	
	comp=E,2µm,0.2s						
MLAC	Mammoth, Mammo	0.92	203	P	Pg	12 47 01.1	-0.4
	baz=23						
MLAC				S	Sg	12 47 13.4	-0.1
	baz=23						
OMMB	Old Mammoth Mi	0.99	210	Pg	Pg	12 47 02.4	-0.5
OMMB				Sg	Sg	12 47 15.4	-0.4
TPH	Tonopah	1.00	114		Pg	12 47 02.5	-0.5
TPH	Tonopah	1.00	114		Sg	12 47 16.1	+0.1
Q09A	Carvers	1.00	69		Pg	12 47 02.8	-0.3
PNTR	Pine Nut	1.13	303		Pg	12 47 04.9	-0.6
PNTR				IAML		12 47 29.1	
	comp=N,764nm,0.9s						
VCNR	Virginia City	1.28	310	Pg	Pn	12 47 07.6	-0.4
KCC	Kaiser Creek	1.37	213		Pn	12 47 09.2	+0.1
KCC					Sb	12 47 26.6	-0.6
LCH	Last Change Ra	1.38	155		Pn	12 47 09.4	+0.2
LCH				IAML		12 47 33.3	
	comp=N,186nm,0.3s						
LCH				IAML		12 47 35.8	
	comp=E,268nm,0.8s						
TIN	Tinemaha, Big	1.43	175	P	Pn	12 47 09.9	0.0
	baz=355						
TIN				S	Sg	12 47 30.1	+0.4
	baz=355						
EMB	Emerald Bay	1.43	291		Pn	12 47 10.5	+0.4
EMB				IAML		12 47 33.7	
	comp=N,421nm,0.4s						
EMB				IAML		12 47 34.4	
	comp=E,395nm,0.5s						
PAHR	Pah Rah Range	1.45	328	Pn	Pn	12 47 10.3	+0.1
PAHR				IAML		12 47 32.9	
	comp=N,318nm,0.4s						
PAHR				IAML		12 47 34.4	
	comp=E,255nm,1.2s						
RUBR	Rubicon Trail	1.50	293		Pn	12 47 11.5	+0.5
RUBR				IAML		12 47 36.4	
	comp=E,333nm,0.6s						
RUBR				IAML		12 47 38.3	
	comp=N,232nm,1.0s						
MPK	Martis Peak	1.52	303		Pn	12 47 11.8	+0.4
MPK				IAML		12 47 35.8	
	comp=E,560nm,0.5s						
CMB	Columbia Colle	1.64	255		Pn	12 47 13.0	+0.3
CMB				IAML		12 47 40.3	
	comp=N,167nm,0.8s						
GRAC	Grapevine Rang	1.69	151		Pn	12 47 13.9	+0.5
GRAC				IAML		12 47 41.5	
	comp=E,484nm,0.6s						
GRAC				IAML		12 47 42.8	
	comp=N,289nm,0.5s						
GRAC	Grapevine Rang	1.69	151	P	Pn	12 47 14.1	+0.7
	baz=332						
GRAC				S	Sb	12 47 36.5	+0.3
	baz=332						
CWC	Cottonwood Cre	2.05	173	P	Pn	12 47 19.1	+0.6
	baz=353						
CWC				S	Sn	12 47 45.3	+1.1
	baz=353						
BEKR	Beckworth	2.07	313		Pn	12 47 19.9	+1.1
BMN	Battle Mountai	2.15	24		Pn	12 47 19.8	0.0
R11A	Troy Canyon, C	2.20	93		Pn	12 47 20.4	-0.2
R11A				IAML		12 47 53.9	
	comp=N,140nm,0.9s						
R11A				IAML		12 47 54.5	
	comp=E,96nm,0.4s						
R11A	Troy Canyon, C	2.20	93	P	Pn	12 47 20.5	-0.1
	baz=274						
R11A				S	Sn	12 47 48.4	+0.4
	baz=274						
S11A	Rachel	2.24	111		Pn	12 47 21.5	+0.4
TPNV	Topopah Spring	2.28	131		Pn	12 47 22.2	+0.6
TPNV				IAML		12 48 04.6	
	comp=E,103nm,0.8s						
TPNV	Topopah Spring	2.28	131	P	Pn	12 47 22.0	+0.3
	baz=313						
FURC	Furnace Creek,	2.34	149	P	Pn	12 47 23.3	+1.0
	baz=330						
MPMC	Manual Prospec	2.52	163	P	Pn	12 47 25.8	+0.8
	baz=344						
ORV	Oroville	2.66	295		Pn	12 47 26.1	-0.6
GWY	Greenwater Val	2.67	149	Pn	Pn	12 47 27.5	+0.6
QSM	Queen of Sheba	2.79	154	Pn	Pn	12 47 29.1	+0.6
PRN	Pahroc Range	2.84	111		Pn	12 47 29.7	+0.3
PMPB	Monarch Peak	2.97	221	Pn	Pn	12 47 29.1	-1.9
SAO	San Andreas Ge	2.98	236	Pn	Pn	12 47 29.4	-1.6
PAGB	Antelope Grade	3.12	209	Pn	Pn	12 47 31.3	-1.8
O03E	Paynes Creek	3.21	305		Pn	12 47 35.5	+1.2
O03E				IAML		12 48 35.8	
	comp=E,67nm,0.8s						
O03E				IAML		12 48 39.6	
	comp=N,37nm,0.7s						
SHPR	Sheep Range	3.23	127		Pn	12 47 35.7	+0.9
ELK	Elko	3.32	46	Pn	Pn	12 47 36.4	+0.4
ELK				IAML		12 48 31.5	
	comp=N,40nm,0.4s						
CCAC	Calif City Air	3.33	175	Pn	Pn	12 47 36.4	+0.4
CCAC				IAML		12 48 33.6	
	comp=E,37nm,0.7s						
CCAC				IAML		12 48 53.5	
	comp=N,32nm,1.0s						
GSC	Goldstone, Bar	3.41	158	Pn	Pn	12 47 37.1	-0.1
GSC				IAML		12 48 37.2	
	comp=E,31nm,1.5s						
GSC				IAML		12 48 47.9	
	comp=N,26nm,1.9s						
PSUT	Pine Spring	3.55	88	Pn	Pn	12 47 36.9	-2.3
WVOR	Wild Horse Val	3.95	357	Pn	Pn	12 47 43.8	-0.8
CCUT	Cedar City	4.07	102		Pn	12 47 46.1	-0.3
KCPM	Cahto Peak	4.22	288	Pn	Pn	12 47 47.1	-1.2
SZCU	Shurtz Canyon	4.27	100	Pn	Pn	12 47 48.5	-0.6
LCMT	Little Creek M	4.33	108		Pn	12 47 50.0	+0.3
KNB	Kanab	4.64	107	Pn	Pn	12 47 54.5	+0.4
YBH	Yreka Blue Hor	4.64	316	Pn	Pn	12 47 53.9	-0.2
DUG	Dugway, Tooele	4.64	67	Pn	Pn	12 47 54.5	+0.4
DUG				IAML		12 49 13.8	
	comp=N,36nm,0.8s						
K05A	Summer Lake	4.65	337	Pn	Pn	12 47 53.2	-1.1
BGU	Big Grassy Mou	4.80	58		Pn	12 47 57.4	+1.2
J08A	Circle Bar Ran	4.87	359	Pn	Pn	12 47 56.3	-1.0
PKCU	Pink Cliffs	4.91	100	Pn	Pn	12 47 56.3	-1.6
U15A	North Rim	5.26	111	Pn	Pn	12 48 03.2	+0.5
HVU	Hansel Valley	5.42	51	Pn	Pn	12 48 04.6	-0.1
J04D	Umpqua Nationa	5.53	330		Pn	12 48 05.7	-0.7
CTU	Camp Tracy	5.58	65	Pn	Pn	12 48 05.6	-1.4
PINE	Pine Mountain	5.65	341	Pn	Pn	12 48 08.1	+0.1
HWUT	Hardware Ranch	6.09	57	Pn	Pn	12 48 15.7	+1.7
P18A	Preston Nutter	6.43	77	Pn	Pn	12 48 17.5	-1.4
PV23	Carpenter Ridg	7.35	87	Pn	Pn	12 48 30.2	-1.2

*IDC **01** 12:46:43.0±1.9, 35°.60N×142°.11E, h0km, mb3.4/3, mb1 3.6/7, mb1mx3.4/46, mbtmp3.7/7, ML3.4/4, Error ellipse: s-maj=45.5km s-min=22.4km az=76.0*
*JMA **01** 12:46:45.1±0.2, 35°.64N×141°.97E, h30km±3km, M3.2*
ISC 01 12:46:45.5±1.2**, 35°.60N**±0°.06×**141°.97E**±0°.09**, h22**km**, n23, σ1^{s}17**/21**, mb3.5**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.91	277	P	Pb	12 47 01.6	-0.9
CHOJ				eS	Sb	12 47 13.6	-0.6
JIHU	Itakohorinouch	1.23	288	P	Pn	12 47 07.4	+0.1
BSO1	Boso 1	1.24	221	P	Pn	12 47 07.1	+0.1
JHYU	Hitachinakayam	1.34	304	P	Pn	12 47 08.4	-0.5
BSO3	Boso 3	1.43	237	P	Pn	12 47 10.4	+0.5
JAG	Ashikaga	2.20	293	P	Pn	12 47 20.1	-0.6
JFT	Otama	2.33	326	P	Pn	12 47 22.2	-0.2
JOD2	Odawara 2	2.37	263	P	Pn	12 47 23.0	-0.1
JKT	Katashina	2.49	299	P	Pn	12 47 24.7	-0.1
JKT				S	Sn	12 47 53.8	-0.7
JRY	Ryogami san	2.53	280	P	Pn	12 47 25.8	+0.6
JHJ	Hachijo jima 2	3.06	217	Pn	Pn	12 47 32.8	+0.3
	21nm,0.3s,baz=341,slow=22,SNR=8.1						
JHJ				Sn	Sn	12 48 08.6	+0.1
	67nm,0.3s,baz=262,slow=22,SNR=16						
MJAR	Matsushiro Arr	3.19	288	Pn	Pn	12 47 35.2	+0.9
	0.7nm,0.3s,baz=103,slow=5.2,SNR=16						

JCJ	Chichijima	8.47	179	Pn	Pn	12 48 45.6	-1.3
	1.7nm,0.3s,baz=300,slow=20,SNR=8.8						
JCJ				Sn	Sn	12 50 19.0	-2.9
	3.1nm,0.3s,baz=262,slow=22,SNR=2.1						
ASAJ	Asahikawa	8.53	3	Pn	Pn	12 48 46.1	-1.5
	0.5nm,0.3s,baz=214,slow=7.3,SNR=6.1						
H11N2	WAKE ISLAND Hy	27.04	119	T	T	13 20 42.1	
	baz=311,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	27.05	119	T	T	13 20 41.1	
	baz=311,slow=75,SNR=12						
H11N3	WAKE ISLAND Hy	27.06	119	T	T	13 20 42.0	
	baz=311,slow=75,SNR=11						
H11S1	WAKE ISLAND Hy	27.72	121	T	T	13 21 39.2	
	baz=314,slow=76,SNR=8.4						
H11S3	WAKE ISLAND Hy	27.72	121	T	T	13 21 38.5	
	baz=314,slow=76,SNR=9.2						
H11S2	WAKE ISLAND Hy	27.73	121	T	T	13 21 37.3	
	baz=314,slow=76,SNR=7.8						
MKAR	Makanchi Array	45.27	303	P	P	12 55 03.5	+2.2
	0.5nm,0.7s,baz=86,slow=8.6,SNR=7.4						
WRA	Warramunga Arr	55.70	189	P	P	12 56 21.5	+1.2
	0.4nm,0.8s,baz=5.0,slow=7.5,SNR=3.9						
ASAR	Alice Springs	59.43	189	P	P	12 56 48.1	+1.6
	0.2nm,0.7s,baz=7.0,slow=8.4,SNR=2.2						

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*IDC **01** 12:47:10.3±3.5, 12°.34S×167°.98E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/34, mbtmp3.8/4, Error ellipse: s-maj=162.1km s-min=38.5km az=146.0*

*NEIC **01** 12:47:43.1±2.0, 11°.91S±0°.03×167°.2E±0°.2, h264km±10km, mb4.2/6, Error ellipse: s-maj=28.1km s-min=4.2km az=94.0*

ISC 01 12:47:45.8±0.9**, 12°.30S**±0°.10×**167°.1E**±0°.2**, h300**km**, n16, σ1s.71**/17**, mb4.0**/8**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	3.14	178	Pn	Pn	12 48 41.9	-1.1
SANVU				Sn	S	12 49 28.6	0.0
KOUNC	Koumac, New Ca	8.64	198	Pn	P	12 49 49.9	-2.6
MARNC	Mare, Loyalty	9.18	175	Pn	Pn	12 49 55.1	+1.2
OUENC	Ouen Island, N	10.07	181	Pn	P	12 50 06.2	-2.2
BKZ	Black Stump Fm	28.03	164	P	P	12 53 13.1	+3.1
WB0	Warramunga Arr	32.25	252	P	P	12 53 49.1	+1.9
WB0				IAmb	IAmb	12 54 02.7	
	comp=Z,8.5nm,1.5s						
WRAB	Tennant Creek	32.31	252	P	P	12 53 49.8	+2.1
WRAB				IAmb	IAmb	12 54 07.0	
	comp=Z,10nm,1.5s						
WB2	Warramunga Arr	32.31	252	P	P	12 53 47.3	-0.5
WB2				IAmb	IAmb	12 53 51.6	
	comp=Z,8.4nm,1.4s						
WRA	Warramunga Arr	32.33	252	P	P	12 53 49.7	+1.8
	comp=Z,0.3nm,0.9s,baz=85,slow=8.5,SNR=2.1						
KNRA	Kununurra	37.31	260	P	P	12 54 29.7	-0.5
KNRA				IAmb	IAmb	12 54 39.9	
	comp=Z,14nm,1.5s						
ILAR	Eielson Array	84.28	18	P	P	12 59 43.4	-0.4
	comp=Z,1.3nm,0.6s,baz=228,slow=5.6,SNR=18						
MKAR	Makanchi Array	95.33	317	P	P	13 00 37.6	+1.4
	comp=Z,0.4nm,0.6s,baz=98,slow=6.8,SNR=5.2						
MKAR	Makanchi Array	95.33	317	P	P	13 00 35.2	-0.9
YKA	Yellowknife Ar	95.47	27	P	P	13 00 35.4	-1.0
	comp=Z,0.1nm,0.4s,baz=246,slow=5.0,SNR=3.6						
ARCES	ARCESS Array B	117.87	346	PKP	PKPdf	13 05 57.0	+0.8
	comp=Z,1.7nm,0.8s,baz=90,slow=1.8,SNR=1.2						
ARCES	ARCESS Array B	117.87	346		PKPdf	13 05 57.1	+0.9

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*DSN **01** 13:17:00.8±2.0, 27°.75N×58°.31E, h10km, ML3.0/6, Error ellipse: s-maj=39.1km s-min=12.4km az=151.0*

*TEH **01** 13:17:02.0, 28°.40N×57°.89E, h28km, ML3.3*

*OMAN **01** 13:17:06.1±0.1, 27°.31N×58°.35E, h1km±5km, mb4.8/1, ml3.5/14, Error ellipse: s-maj=11.3km s-min=1.6km az=20.0*

ISC 01 13:16:54.1±2.1**, 28°.05N**±0°.04×**58°.46E**±0°.08**, h7**km±14km**, n39, σ2s.55**/56**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.67	262	ePg	Pn	13 17 13.9	+3.8
KBAM	BAM	1.08	360	ePg	Pn	13 17 18.1	+2.3
KBAM				eSg	Sn	13 17 31.9	+0.7
KBAM				e		13 17 33.6	
	comp=Z,9μm,0.3s						
IBND	Bandar-abas	1.80	251	ePg	Pg	13 17 29.6	+1.0
IBND				eSg	Sg	13 17 50.2	-1.8
IBND				e		13 18 03.7	
	comp=Z,13μm,0.4s						
CHMN	Cheshme madani	1.98	336	ePg	Pb	13 17 29.2	-1.4
CHMN				e		13 17 55.5	
	comp=Z,2μm,0.4s						
GENO	Geno	2.13	253	ePn	Pb	13 17 32.4	-0.6
GENO				e		13 17 59.4	
	comp=Z,4μm,0.2s						
NGRK	Negar Kerman	2.20	317	ePg	Pb	13 17 32.0	-2.4
KRBR	Kerman	2.43	323	ePg	Pb	13 17 36.2	-2.2
TVBK	TV Kerman	2.44	323	e	Sg	13 18 10.8	-1.6
	comp=Z,2μm,0.2s						
BANOM	Banah	2.86	223	P	Pn	13 17 43.4	+3.3
	SNR=97						
BANOM				S	Sn	13 18 15.7	+0.8
BANOM	Banah	2.86	223	P	Pn	13 17 42.2	+2.0
BANOM				S	Sn	13 18 15.5	+0.6
SHME	Shamm	2.87	227	P	Pn	13 17 42.8	+2.5
	SNR=8.3						
SHME				S	Sn	13 18 13.8	-1.1
SHME	Shamm	2.87	227	P	Pn	13 17 42.4	+2.1
SHME				S	Sn	13 18 13.9	-1.1
MASF	Masafi	3.37	218	P	Pn	13 17 50.8	+3.7
	SNR=6.5						
MASF				S	Sn	13 18 26.8	-0.5
MSFE	Esma-Masafi	3.37	218	P	Pn	13 17 49.4	+2.2
NHDN	Nehbandan	3.61	22	ePn	Pn	13 17 53.0	+2.4
UOSS	Minazif	3.69	214	P	Pn	13 17 55.1	+3.6
UOSS				S	Sn	13 18 32.0	-3.3
UOSS	Minazif	3.69	214	P	Pn	13 17 53.9	+2.4
HATD	Hatta, Dubai	3.83	214	P	Pn	13 17 57.4	+4.0
HATD				S	Sn	13 18 33.9	-4.8
HATD	Hatta, Dubai	3.83	214	P	Pn	13 17 56.4	+3.0
BSRN	Basiran	3.95	8	ePn	Pn	13 17 56.3	+1.1
ASHO	Ashiyiah	3.98	213	P	Pn	13 17 59.4	+3.8
	SNR=13						
ASHO				S	Sn	13 18 41.2	-1.3
ASHO	Ashiyiah	3.98	213	P	Pn	13 17 58.6	+3.0
FAQ	Al Faqa, Dubai	4.17	219	P	Pn	13 18 00.9	+2.7
	SNR=6.0						
FAQ				S	Sn	13 18 46.1	-1.2
SOHO	SOHO	4.26	204	P	Pn	13 18 00.8	+1.3
SOHO				S	Sn	13 18 45.8	-3.6
SOHO	SOHO	4.26	204	P	Pn	13 17 59.9	+0.5
IKOO	Kooshah	4.39	6	ePn	Pn	13 18 02.7	+1.3
ASUD	Al Ashush, Dub	4.41	220	P	Pn	13 18 04.6	+3.1
	SNR=5.9						
ASUD				S	Sn	13 18 52.5	-0.7
BIDO	Bidbid	4.52	184	P	Pn	13 18 04.7	+1.8
BIDO				S	Sn	13 18 53.1	-2.6
	SNR=8.3						
HOQ	Hoqain	4.56	193	P	Pn	13 18 05.0	+1.4
HOQ				S	Sn	13 18 51.9	-5.0
ALNE	Al Ain	4.66	212	P	Pn	13 18 08.3	+3.4
ALNE				S	Sn	13 18 57.0	-2.2
SMDO	Samad	4.98	184	P	Pn	13 18 12.1	+2.7
SMDO				S	Sn	13 19 05.4	-1.9
	SNR=9.1						
ARQ	Araqi	5.00	201	P	Pn	13 18 13.2	+3.5
BSY	Bisya	5.40	192	P	Pn	13 18 19.0	+3.9
WBK	Wadi Bani Khal	5.43	175	P	Pn	13 18 18.5	+2.9
WBK				S	Sn	13 19 15.4	-3.0
YZKH	Yazd	5.47	323	ePn	Pn	13 18 16.5	+0.4
TABS	Tabas	5.70	349	ePn	Pn	13 18 20.0	+0.7
SHRT	Shahrakht	5.80	15	ePn	Pn	13 18 22.4	+1.8
UMZA	Um Al Zommool	6.09	210	P	Pn	13 18 29.0	+4.4
UMZA				S	Sn	13 19 32.3	-2.2
IRAM	Ramesheh	6.47	307	ePn	Pn	13 18 28.9	-1.1

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*MOS **01** 13:22:57.2±0.8, 41°.68N×140°.75E, h143km, mb4.1/13, Error ellipse: s-maj=9.2km s-min=6.8km az=70.6*

*JMA **01** 13:22:58.2±0.1, 41°.67N×140°.63E, h126km±1km, M3.4*

*NEIC **01** 13:22:58.3±1.6, 41°.68N±0°.06×140°.7E±0°.1, h129km±6km, mb4.2/35, Error ellipse: s-maj=12.2km s-min=7.7km az=111.0*

*IDC **01** 13:22:58.5±1.6, 41°.67N×140°.59E, h135km±14km, mb3.6/18, mb1 3.7/23, mb1mx3.5/45, mbtmp4.0/23, MS2.7/4, Ms1 2.7/4, ms1mx2.3/87, Error ellipse: s-maj=14.2km s-min=11.5km az=131.0*

ISC 01 13:22:58.0±0.5**, 41°.65N**±0°.04×**140°.71E**±0°.04**, h132**km±4km**, n142, σ1s.39**/169**, mb4.1**/41**, 9C-8D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSR	Shiriuchi	0.25	242	P	Pn	13 23 15.6	-0.6
JSR				eS	Sn	13 23 28.8	-1.2
JKB	Kayabe	0.34	45	P	Pn	13 23 16.3	-0.2
JKB				eS	Sn	13 23 30.2	-0.4
JOT	Ohata	0.37	136	P	Pn	13 23 16.4	-0.3
JYM2	Yakumo 2	0.53	332	P	Pn	13 23 17.0	-0.5
JYM2				eS	Sn	13 23 31.0	-1.3
JOMM	Oshimamatsumae	0.54	257	P	Pn	13 23 16.9	-0.6
JOMM				eS	Sn	13 23 31.1	-1.2
JNB	Noboribetsu	0.86	16	P	Pn	13 23 19.3	-0.5
JNB				eS	Sn	13 23 35.3	-1.1
JTM	Tenmabayashi	0.90	162	P	Pn	13 23 20.3	0.0
JTM				eS	Sn	13 23 36.9	-0.2
JTM	Tenmabayashi	0.90	162	Pn	Pn	13 23 20.2	0.0
JHST	Hiyamasetana	0.99	322	P	Pn	13 23 20.4	-0.6
JHST				eS	Sn	13 23 37.0	-1.5
JOSM	Okushiri--Mats	1.02	296	P	Pn	13 23 20.2	-1.0
JOSM				eS	Sn	13 23 36.6	-2.3
JSH	Shimam	1.11	334	P	Pn	13 23 21.7	-0.4
JSH				eS	Sn	13 23 39.0	-1.5
JIW	Iwasaki	1.18	207	P	Pn	13 23 22.9	0.0
JIW				eS	Sn	13 23 41.3	-0.5
JEW	Eniwo	1.31	24	P	Pn	13 23 24.6	+0.4
JEW				eS	Sn	13 23 45.0	+0.8
JEW	Eniwo	1.31	24		Pn	13 23 24.3	+0.1
JIAM	Iburiatsuma	1.33	42	P	Pn	13 23 25.1	+0.8
JIAM				eS	Sn	13 23 45.5	+1.1
JANG	Nango	1.41	154	P	Pn	13 23 24.8	-0.5
JANG				eS	Sn	13 23 45.5	-0.5
JAH	Hinai	1.46	182	P	Pn	13 23 26.2	+0.4
JAH				eS	Sn	13 23 47.7	+0.8
JNBK	Urakawa-nobuka	1.65	67	P	Pn	13 23 28.0	+0.1
JNBK				eS	Sn	13 23 51.1	+0.4
JBT2	Biratori 2	1.67	47	P	Pn	13 23 28.5	+0.4
JBT2				eS	Sn	13 23 51.7	+0.5
ERM	Erimo	1.86	78c	iP	Pn	13 23 30.9	+0.5
ERM				pmax	pmax		
	comp=Z,66nm,0.5s						
ERM	Erimo	1.86	78		Pn	13 23 31.0	+0.5
ASAJ	Asahikawa	2.83	29	P	Pn	13 23 42.8	+0.3
	comp=Z,37nm,0.3s,baz=214,slow=15,SNR=576						
ASAJ				LR	LR	13 25 17.5	
	comp=Z,39nm,20.9s,baz=18,slow=49						
JKA	Kamikawa-asahi	2.83	29	Pn	Pn	13 23 42.7	+0.2
JMM	Marumori	3.78	179	Pn	Pn	13 23 55.5	+0.6
JSD	Sado	4.07	208	Pn	Pn	13 23 59.9	+1.2
NMR	Nemuro--Hokkai	4.09	63⇑	iP	Pn	13 23 57.1	-1.8
NMR				eS	Sn	13 24 40.8	-5.3
GLVR	Golovnino	4.11	58	eP	Pn	13 23 58.8	-0.4
GLVR				eS	Sn	13 24 44.5	-2.3
GLVR				pmax	pmax		
	comp=Z,311nm,0.5s						
GLVR				pmax	pmax		
	comp=N,91nm,0.3s						
GLVR				pmax	pmax		
	comp=E,127nm,0.2s						
GLVR				smax	smax		
	comp=N,862nm,0.3s						
GLVR				smax	smax		
	comp=E,421nm,0.2s						
RUSJ	Misakicho	4.14	52⇑	eP	Pn	13 23 59.6	0.0
RUSJ				eS	Sn	13 24 50.7	+3.3
YUK	Yuzh-Kuril'sk	4.47	56c	iP	Pn	13 24 04.1	+0.1
YUK				eS	Sn	13 24 53.5	-1.9
YUK				pmax	pmax		
	comp=Z,516nm,0.2s						
YUK				pmax	pmax		
	comp=E,98nm,0.1s						
YUK				pmax	pmax		
	comp=N,128nm,0.2s						
YUK				smax	smax		
	comp=N,757nm,0.4s						
YUK				smax	smax		
	comp=E,403nm,0.4s						
SHO	Shikotan	5.02	62c	iP	Pn	13 24 09.7	-1.6
SHO				eS	Sn	13 25 02.2	-6.2
SHO				pmax	pmax		
	comp=N,23nm,0.1s						
SHO				pmax	pmax		
	comp=Z,75nm,0.1s						
SHO				smax	smax		
	comp=E,341nm,0.2s						
SHO				smax	smax		
	comp=N,202nm,0.3s						
JYT	Yasato	5.43	184	Pn	Pn	13 24 14.9	-1.9
MJB9	Matsu-Tunnel	5.46	202		Pn	13 24 18.5	+1.2
MAJO	Matsushiro	5.46	202	P	Pn	13 24 18.5	+1.2
MAJO	Matsushiro	5.46	202		Pn	13 24 18.5	+1.2
MJAR	Matsushiro Arr	5.46	202	P	Pn	13 24 18.2	+0.9
	comp=N,1.2nm,0.3s,baz=88,slow=25,SNR=24						
MJAR	Matsushiro Arr	5.46	202	P	Pn	13 24 18.7	+1.4
MJAR	Matsushiro Arr	5.46	202	Pn	Pn	13 24 18.7	+1.4
YSS	Yuzh-Sakhalins	5.50	15⇑	iP	Pn	13 24 18.1	+0.4
YSS				eS	Sn	13 25 21.0	+1.0
YSS				pmax	pmax		
	comp=Z,80nm,0.5s						
YSS				smax	smax		
	comp=N,20nm,0.8s						
YSS				smax	smax		
	comp=E,10.0nm,0.8s						
YSS	Yuzh-Sakhalins	5.50	15	Pn	Pn	13 24 17.8	+0.1
KUR	Kuril'sk	6.32	53	eP	Pn	13 24 24.4	-4.3
KUR				eS	Sn	13 25 34.8	-4.8
KUR				pmax	pmax		
	comp=Z,55nm,0.6s						
KUR				pmax	pmax		
	comp=N,20nm,0.4s						
KUR				pmax	pmax		
	comp=E,11nm,0.6s						
KUR				smax	smax		
	comp=E,64nm,0.2s						
KUR				smax	smax		
	comp=N,49nm,0.3s						
JGF	Kuroka	6.58	205		Pn	13 24 34.0	+1.6
USRK	Ussuriysk Ar.	6.89	295	P	Pn	13 24 36.9	+0.5
	baz=101,slow=15,SNR=7.2						
USRK				LR	LR	13 27 11.0	
	comp=N,50nm,22.0s,baz=136,slow=37						
USRK	Ussuriysk Ar.	6.89	295		Pn	13 24 35.9	-0.5
INU	Inuyama	6.92	206		Pn	13 24 38.6	+1.7
JHJ	Hachijo jima 2	8.54	185	P	Pn	13 24 55.3	-3.4
	comp=N,14nm,0.3s,baz=330,slow=22,SNR=6.5						
JHJ				S	Sn	13 26 23.7	-10
	comp=N,9.8nm,0.3s,baz=82,slow=15,SNR=2.0						
JHS	Saijyo	8.92	224	Pn	Pn	13 25 05.3	+1.5
KSRS	Korea Array	10.72	251	P	Pn	13 25 28.3	+0.4
	comp=N,0.1nm,0.3s,baz=63,slow=13,SNR=5.7						
JNU	Nakatsue	11.55	226	Pn	Pn	13 25 37.1	-1.8
JCJ	Chichijima	14.57	175	P	Pn	13 26 13.7	-4.1
	comp=N,2.3nm,0.3s,baz=289,slow=21,SNR=1.1						
PEA0B	Petropavlovsk-	16.19	39	P	P	13 26 38.2	-0.2
PEA0B				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PEA0B	Petropavlovsk-	16.19	39	P	P	13 26 38.2	-0.2
PEA0B				IAmb	IAmb	13 27 07.1	
	comp=Z,8.7nm,1.1s						
PETK	Petropavlovsk-	16.19	39	P	Pn	13 26 35.5	-2.2
	comp=Z,0.1nm,0.3s,baz=214,slow=10,SNR=1.6						
PETK				LR	LR	13 33 43.3	
	comp=Z,25nm,18.3s,baz=212,slow=40						
PETK	Petropavlovsk-	16.19	39	P	P	13 26 40.4	+2.0
PETK	Petropavlovsk-	16.19	39	P	P	13 26 40.4	+2.0
MA2	Magadan	19.01	16	P	P	13 27 07.7	-1.4
	comp=Z,0.2nm,0.3s,baz=209,slow=13,SNR=4.0						
MA2	Magadan	19.01	16⇓	eP	P	13 27 08.3	-0.9
MA2				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SEY	Seymchan	22.41	14	P	P	13 27 42.7	-2.6
	comp=Z,3.1nm,0.3s,baz=201,slow=0.3,SNR=32						
SEY	Seymchan	22.41	14⇓	eP	P	13 27 46.7	+1.4
SEY				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ULN	Ulaanbaatar	24.56	296⇑	eP	P	13 28 04.8	-0.7
ULN				i *PP	pP	13 28 32.2	-0.7
ULN				pmax	pmax		
	comp=Z,2.0nm,1.3s						
SONM	Songino Array	25.00	296	P	P	13 28 09.1	-0.3
	comp=Z,0.4nm,0.4s,baz=77,slow=8.3,SNR=2.5						
BILL	Bilibino	29.80	19⇓	eP	P	13 28 53.3	+1.4
BILL				*PP	pP	13 29 25.0	+4.5
BILL						13 29 55.0	
BILL				SS	SS	13 35 26.0	-24
BILL				pmax	pmax		
	comp=Z,7.0nm,3.4s						
ZAA0	Zalesovo Array	38.52	308	P	P	13 30 06.9	-0.2
ZALV	Zalesovo Beam	38.52	308	P	P	13 30 06.8	-0.4
	comp=Z,5.4nm,0.6s,baz=85,slow=8.2,SNR=22						
ZALV				PcP	PcP	13 32 17.1	0.0
	comp=Z,1.5nm,0.4s,baz=115,slow=2.6,SNR=8.3						
ZALV	Zalesovo Beam	38.52	308	P	P	13 30 07.0	-0.1
NRIK	Noril'sk	38.88	333⇑	eP	P	13 30 08.8	-1.2
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
MK31	Makanchi Array	41.35	298d	iP	P	13 30 29.9	-0.8
MK31	Makanchi Array	41.35	298	P	P	13 30 30.1	-0.5
MKAR	Makanchi Array	41.35	298	P	P	13 30 30.1	-0.6
	comp=Z,1.3nm,0.6s,baz=84,slow=10,SNR=29						
MKAR				PcP	PcP	13 32 26.2	-0.1
	comp=Z,0.2nm,0.4s,baz=47,slow=2.2,SNR=4.7						
MKAR	Makanchi Array	41.35	298	P	P	13 30 29.3	-1.3
MAKZ	Makanchi	41.55	298	P	P	13 30 32.7	+0.4
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAKZ	Makanchi	41.55	298	P	P	13 30 32.7	+0.4
MAKZ				IAmb	IAmb	13 30 33.4	
	comp=Z,2.7nm,0.7s						
CMAR	Chiang Mai Arr	42.36	250	P	P	13 30 39.5	+0.4
	comp=Z,0.3nm,0.5s,baz=38,slow=7.4,SNR=2.0						
KURK	Kurchatov	42.77	304d	iP	P	13 30 41.3	-0.8
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	Kurchatov	42.77	304	P	P	13 30 41.4	-0.6
KURK				IAmb	IAmb	13 30 42.2	
	comp=Z,5.6nm,0.8s						
J20K	Nowinta River	42.85	36	P	P	13 30 43.7	+1.2
IMAR	Indian Mountai	43.02	33	P	P	13 30 46.4	+2.5
CAST	Castle Rocks	43.79	37	P	P	13 30 52.2	+2.1
TOLK	Toolik Lake Re	44.67	29	P	P	13 30 59.3	+2.3
IL31		45.95	35	P	P	13 31 07.3	+0.2
IL31				IAmb	IAmb	13 31 09.3	
	comp=Z,5.4nm,1.4s						
ILAR	Eielson Array	45.95	35	P	P	13 31 08.2	+1.0
	comp=Z,1.0nm,0.8s,baz=265,slow=4.5,SNR=11						
ILAR	Eielson Array	45.95	35	P	P	13 31 07.6	+0.4
KDJ	Kajisay	46.29	293	P	P	13 31 10.4	0.0
KDJ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KDJ	Kajisay	46.29	293	P	P	13 31 10.4	0.0
KDJ				IAmb	IAmb	13 31 12.0	
	comp=Z,2.3nm,0.6s						
BOOM	Boomskoye usch	47.01	294	P	P	13 31 16.1	+0.1
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOOM	Boomskoye usch	47.01	294	P	P	13 31 16.1	+0.1
BOOM				IAmb	IAmb	13 31 16.9	
	comp=Z,3.7nm,0.7s						
SCRK	Sand Creek	47.31	35	P	P	13 31 18.7	+0.8
SCRK				IAmb	IAmb	13 31 19.4	
	comp=Z,3.0nm,0.8s						
AAK	Ala-Archa	47.95	295d	iP	P	13 31 22.7	-0.5
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
AAK	Ala-Archa	47.95	295	P	P	13 31 23.2	+0.1
AAK				IAmb	IAmb	13 31 23.3	
	comp=Z,2.3nm,0.4s						
EGAK	Eagle	48.38	34	P	P	13 31 27.0	+1.1
EGAK				IAmb	IAmb	13 31 39.4	
	comp=Z,3.5nm,1.2s						
BCAR	Beaver Creek A	48.45	36	P	P	13 31 28.2	+1.6
KKAR	Karatay Array	50.45	297	P	P	13 31 41.7	-0.4
KKAR	Karatay Array	50.45	297	P	P	13 31 41.7	-0.4
INK	Inuvik	50.57	29	P	P	13 31 43.2	+0.9
	comp=Z,1.0nm,0.3s,baz=284,slow=7.8,SNR=7.1						
INK	Inuvik	50.57	29	P	P	13 31 43.4	+1.0
INK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
INK	Inuvik	50.57	29	P	P	13 31 43.4	+0.9
INK				IAmb	IAmb	13 31 54.6	
	comp=Z,5.3nm,1.4s						
HYT	Haines Junctio	50.98	39	P	P	13 31 48.0	+2.2
HYT				IAmb	IAmb	13 31 58.6	
	comp=Z,3.7nm,1.0s						
A36M	Sachs Harbour	52.21	23	P	P	13 31 56.2	+1.6
A36M				IAmb	IAmb	13 32 00.2	
	comp=Z,5.3nm,1.2s						
ABKAR	Akbulak array	54.62	308	P	P	13 32 12.4	-0.2
ABKAR	Akbulak array	54.62	308	P	P	13 32 12.3	-0.3
ABKAR				IAmb	IAmb	13 32 13.0	
	comp=Z,2.7nm,0.6s						
SPITS	Spitsbergen Ar	55.90	348	P	P	13 32 21.9	+0.5
SPITS				pmax	pmax		
	comp=Z,25nm,1.2s						
KNRA	Kununurra	58.10	194	P	P	13 32 37.9	+0.4
ARCES	ARCESS Array B	59.50	338	P	P	13 32 46.3	-0.4
	comp=Z,0.9nm,0.6s,baz=55,slow=7.8,SNR=7.2						
ARCES	ARCESS Array B	59.50	338	P	P	13 32 46.6	0.0
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ARCES	ARCESS Array B	59.50	338	P	P	13 32 46.6	0.0
YKA	Yellowknife Ar	60.12	31	P	P	13 32 51.4	+0.5
	comp=Z,0.9nm,0.6s,baz=305,slow=6.3,SNR=18						
YKA				PcP	PcP	13 33 35.9	+0.7
	comp=Z,0.3nm,0.4s,baz=306,slow=3.7,SNR=6.8						
YKA	Yellowknife Ar	60.12	31	P	P	13 32 50.9	0.0
TULEG	Thule	60.60	8	P	P	13 32 53.6	-0.4
TULEG				IAmb	IAmb	13 33 02.3	
	comp=Z,6.0nm,1.4s						
GEYT	Alibeck	61.21	297	P	P	13 32 58.8	0.0
	comp=Z,2.2nm,0.5s,baz=219,slow=13,SNR=2.6						
GEYT	Alibeck	61.21	297	P	P	13 32 58.3	-0.4
WB0	Warramunga Arr	61.38	187	P	P	13 32 59.5	-0.4
WB2	Warramunga Arr	61.56	187	P	P	13 33 00.3	-0.8
WB2				IAmb	IAmb	13 33 14.8	
	comp=Z,7.7nm,1.4s						
WR0	Warramunga Arr	61.56	187	P	P	13 33 00.5	-0.6
WRA	Warramunga Arr	61.56	187	P	P	13 33 00.7	-0.4
	comp=Z,0.3nm,0.4s,baz=2.8,slow=7.0,SNR=20						
WRA	Warramunga Arr	61.56	187	P	P	13 33 01.0	-0.1
WRA	Warramunga Arr	61.56	187	P	P	13 33 01.0	-0.1
OBN	Obninsk	64.11	322	LR	LR	14 02 09.4	
	comp=Z,18nm,18.1s,baz=349,slow=37						
OBN	Obninsk	64.11	322⇓	eP	P	13 33 17.6	0.0
OBN						13 33 53.0	
OBN				e		13 43 01.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FIA1	FINESS Array S	64.50	331	P	P	13 33 19.3	-0.7
FINES	FINESS Array B	64.50	331	P	P	13 33 19.4	-0.7
	comp=Z,2.3nm,0.5s,baz=39,slow=8.2,SNR=19						
FINES	FINESS Array B	64.50	331	P	P	13 33 19.5	-0.5
ASAR	Alice Springs	65.29	187	P	P	13 33 25.8	+0.2
	comp=Z,0.1nm,0.3s,baz=9.6,slow=7.4,SNR=4.6						
PSA00	Pilbara Seismi	65.81	201	P	P	13 33 29.1	+0.2
PSA00				IAmb	IAmb	13 33 35.1	
	comp=Z,7.8nm,1.5s						
KIV	Kislovodsk	67.52	309	eP	P	13 33 40.7	+0.9
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KBZ	Khabaz	67.53	309	P	P	13 33 40.0	+0.3
	comp=Z,2.3nm,0.5s,baz=26,slow=3.3,SNR=8.9						
KBZ	Khabaz	67.53	309d	eP	P	13 33 39.5	-0.2
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PINE	Pine Mountain	67.81	51	P	P	13 33 43.8	+2.1
PINE				IAmb	IAmb	13 33 44.6	
	comp=Z,3.7nm,0.8s						
NC405	NORSAR Array S	69.53	336	P	P	13 33 51.4	-0.5
NB2	NORSAR Subarra	69.73	336	P	P	13 33 52.4	-0.8
	comp=Z,0.9nm,0.8s,baz=38,slow=6.2						
NOA	NORSAR Array B	69.73	336	P	P	13 33 52.4	-0.8
	comp=Z,1.6nm,0.8s,baz=38,slow=6.1,SNR=5.4						
FCC	Fort Churchill	70.13	27	P	P	13 33 55.7	+0.2
FCC				pmax	pmax		
	comp=Z,2.0nm,1.1s						
FCC	Fort Churchill	70.13	27	P	P	13 33 55.7	+0.2
AKASG	Malin Array Be	70.34	321	P	P	13 33 56.4	-0.6
	comp=Z,2.2nm,0.5s,baz=44,slow=6.0,SNR=15						
AKBB	Malin Array Si	70.34	321⇑	eP	P	13 33 55.8	-1.2
AKBB	Malin Array Si	70.34	321	P	P	13 33 56.5	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AKBB				IAmb	IAmb	13 33 57.1	
	comp=Z,4.6nm,0.8s						
NVAR	Mina Array Bea	72.68	54	P	P	13 34 13.0	+1.5
	comp=Z,0.7nm,0.7s,baz=299,slow=5.6,SNR=4.1						
BURAR	Bucovina Array	74.38	321	P	P	13 34 21.5	+0.4
BURAR				IAmb	IAmb	13 34 22.3	
	comp=Z,2.6nm,0.7s						
BW06	Boulder Array	74.83	46	P	P	13 34 23.9	-0.2
PD31	Pinedale Array	74.83	46	P	P	13 34 24.1	+0.1
PDAR	Pinedale Array	74.83	46	P	P	13 34 25.1	+1.1
	comp=Z,0.9nm,0.5s,baz=291,slow=3.3,SNR=7.3						
PDAR	Pinedale Array	74.83	46	P	P	13 34 24.3	+0.3
BRTR	Keskin Array B	75.42	310	P	P	13 34 27.4	+0.1
	comp=Z,0.5nm,0.5s,baz=257,slow=5.2,SNR=2.6						
CLL	Collm	76.84	329	i P	P	13 34 34.9	-0.1

*IDC **01** 13:51:19.9±4.5, 22.°31S×178.°18W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/30, mbtmp3.8/3, Error ellipse: s-maj=176.3km s-min=71.6km az=151.0*

*NEIC **01** 13:52:09.9±1.8, 22.°9S±0.°2×179.°2W±0.°2, h428km±14km, mb4.2/23, Error ellipse: s-maj=34.2km s-min=21.2km az=221.0*

ISC 01 13:52:05.1±1.9, **22.°5S**±0.°2×**178.°9W**±0.°2, **h400km, n33,** σ1.s50/32, **mb4.0**/14, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	13.04	275	P	P	13 54 57.0	+0.7
OUENC	Ouen Island, N	13.21	268	P	P	13 54 58.3	+0.1
OUZ	Omahuta	14.25	206	P	Pn	13 55 12.9	+3.6
BKZ	Black Stump Fm	17.04	192	P	P	13 55 38.8	-0.6
BKZ				IAmb	IAmb	13 55 51.1	
	comp=Z,25nm,1.4s						
BFZ	Birch Farm	18.55	192	P	P	13 55 53.2	-2.2
BFZ				IAmb	IAmb	13 56 10.8	
	comp=Z,24nm,1.1s						
MSWZ	Moikau Station	19.46	193	P	P	13 56 02.1	-2.3
QRZ	Quartz Range	19.63	200	P	P	13 56 05.3	-0.6
TUWZ	Tuamarina	19.78	196	P	P	13 56 04.8	-2.6
LTZ	Lake Taylor	21.50	198	P	P	13 56 22.4	-0.7
LTZ				IAmb	IAmb	13 56 29.3	
	comp=Z,36nm,1.4s						
OXZ	Oxford	22.06	198	P	P	13 56 26.2	-2.0
WHZ	Wether Hill Ro	25.65	202	P	P	13 56 59.6	-0.8
EIDS	Eidsvold	27.58	258	P	P	13 57 17.6	-0.1
EIDS				IAmb	IAmb	13 57 26.8	
	comp=Z,7.3nm,1.2s						
CTAO	Charters Tower	32.54	268	P	P	13 58 01.9	+0.8
CTAO				IAmb	IAmb	13 58 23.9	
	comp=Z,18nm,1.4s						
MCQ	Macquarie Isla	36.01	202	P	P	13 58 28.6	-1.3
STKA	Stephens Creek	36.21	246	P	P	13 58 30.4	-1.5
	comp=Z,1.8nm,1.0s,baz=66,slow=10.0,SNR=3.4						
STKA	Stephens Creek	36.21	246	P	P	13 58 30.8	-1.2
BBOO	Buckleboo	40.94	245	P	P	13 59 08.4	-2.5
BBOO				IAmb	IAmb	13 59 20.3	
	comp=Z,18nm,1.3s						
AS31	Alice Springs	43.30	259	P	P	13 59 28.9	-0.9
ASAR	Alice Springs	43.30	259	P	P	13 59 29.1	-0.6
	comp=Z,0.7nm,0.6s,baz=93,slow=7.5,SNR=10						
ASAR	Alice Springs	43.30	259	P	P	13 59 28.5	-1.3
WR0	Warramunga Arr	43.37	264	P	P	13 59 29.3	-1.0
WR0				IAmb	IAmb	13 59 35.6	
	comp=Z,4.9nm,1.3s						
WB0	Warramunga Arr	43.54	265	P	P	13 59 30.9	-0.8
WB2	Warramunga Arr	43.55	264	P	P	13 59 30.8	-0.9
WB2				IAmb	IAmb	13 59 32.9	
	comp=Z,6.0nm,1.4s						
WRA	Warramunga Arr	43.56	264	P	P	13 59 30.9	-0.9
	comp=Z,0.5nm,0.3s,baz=102,slow=8.1,SNR=59						
WRA	Warramunga Arr	43.56	264	P	P	13 59 31.1	-0.7
FORT	Forrest	47.77	248	P	P	14 00 02.6	-1.6
FORT				IAmb	IAmb	14 00 07.0	
	comp=Z,17nm,0.9s						
KNRA	Kununurra	49.75	268	P	P	14 00 18.2	-1.0
KNRA				IAmb	IAmb	14 00 21.7	
	comp=Z,8.2nm,1.2s						
FITZ	Fitzroy Crossi	51.99	264	P	P	14 00 37.4	+1.8
QSPA	South Pole Qui	67.54	180	P	P	14 02 20.5	+0.9
QSPA				IAmb	IAmb	14 02 41.4	
	comp=Z,5.1nm,1.2s						
MNAI	Manna	77.43	270	P	P	14 03 19.3	+1.3
BELA	Belgrano 2	77.65	173	P	P	14 03 18.8	+0.7
BELA				IAmb	IAmb	14 03 23.8	
	comp=Z,6.0nm,1.5s						
SNAA	Sanae	86.00	179	P	P	14 04 00.5	-0.8
SNAA				IAmb	IAmb	14 04 13.8	
	comp=Z,20nm,1.5s						
AKASG	Malin Array Be	144.37	329	PKP	PKPbc	14 10 57.6	+4.0
	comp=Z,1.0nm,0.5s,baz=44,slow=3.9,SNR=6.7						

*RSNC **01** 14:02:43.5±1.0, 6.°84N×73.°14W, h154km±4km, ML3.8, Mw4.0, Fault plane solution: NP1:φs83.00000°, δ90.00000°, λ-90.00000°.*

*IDC **01** 14:02:43.0±0.7, 6.°77N×72.°95W, h164km±7km, mb3.6/8, mb1 3.8/11, mb1mx3.5/34, mbtmp4.1/11, Error ellipse: s-maj=16.3km s-min=7.8km az=128.0*

*NEIC **01** 14:02:44.5±1.5, 6.°92N±0.°06×73.°09W±0.°08, h156km±6km, mb4.3/28, Error ellipse: s-maj=11.3km s-min=9.1km az=95.0*

ISC 01 14:02:43.0±0.6, **6.°83N**±0.°03×**73.°11W**±0.°03, **h159**km±5km, **n92,** σ1.s77/133, **mb4.2**/20, **3C-5D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.24	198	⇓eP	Pn	14 03 04.3	-0.5
BARC				eS	Sn	14 03 19.8	-1.5
BARC				i		14 03 21.8	
	comp=Z,1μm,0.3s						
PAMC	Pamplona, Colo	0.65	38	⇑iP	Pn	14 03 07.2	+0.5
PAMC				eS	Sn	14 03 24.6	-0.2
PAMC				i		14 03 26.7	
	comp=Z,2μm,0.6s						
RUSC	La Rusia	0.93	179	⇓iP	Pn	14 03 08.2	-0.5
RUSC				eS	Sn	14 03 28.0	-0.3
RUSC				i		14 03 29.8	
	comp=Z,333nm,0.2s						
TAMC	Tame, Arauca	1.36	107	⇓iP	Pn	14 03 12.5	+0.5
TAMC				i		14 03 33.4	
	comp=Z,330nm,0.3s						
TAMC				eS	Sn	14 03 34.2	+0.2
PTBC	PUERTO BERRIO,	1.37	258	eP	Pn	14 03 10.9	-1.1
PTBC				eS	Sn	14 03 32.4	-1.8
PTBC				i		14 03 39.8	
	comp=Z,2μm,0.5s						
OCAC	Ocana	1.42	351	Pn	Pn	14 03 12.5	-0.1
OCAC	Ocana	1.42	351	⇑eP	Pn	14 03 12.5	-0.1
OCAC				eS	Sn	14 03 33.9	-1.5
OCAC				i		14 03 39.5	
	comp=Z,2μm,0.3s						
SPBC	San Pablo de B	1.51	220	eP	Pn	14 03 13.2	-0.3
SPBC				eS	Sn	14 03 35.8	-1.1
SPBC				i		14 03 39.4	
	comp=Z,739nm,0.2s						
ZARC	Zaragoza, Cauc	1.86	291		Pn	14 03 17.1	-0.1
ZARC	Zaragoza, Cauc	1.86	291	eP	Pn	14 03 16.8	-0.3
ZARC				eS	Sn	14 03 42.7	-0.6
ZARC				i		14 03 53.2	
	comp=Z,908nm,0.4s						
NORC	Norcasia	2.16	234	eP	Pn	14 03 20.0	-0.6
NORC				eS	Sn	14 03 48.7	-0.8
NORC				i		14 03 56.0	
	comp=Z,520nm,0.2s						
CHIC	Chingaza	2.27	196	eP	Pn	14 03 22.1	-0.2
CHIC				eS	Sn	14 03 51.5	-1.0
CHIC				i		14 03 59.5	
	comp=Z,348nm,0.5s						
ROSC	El Rosal	2.31	212	P	Pn	14 03 23.9	+1.1
	comp=Z,107nm,0.3s,baz=85,slow=10.0,SNR=66						
ROSC				S	Sn	14 03 55.0	+1.6
	comp=Z,212nm,0.3s,baz=22,slow=22,SNR=8.2						
ROSC	El Rosal	2.31	212		Pn	14 03 23.7	+0.9
ROSC	El Rosal	2.31	212	⇓eP	Pn	14 03 23.8	+1.1
ROSC				eS	Sn	14 03 53.5	0.0
ROSC				i		14 04 01.3	
	comp=Z,639nm,0.5s						
HELC	Santa Helena	2.49	255	eP	Pn	14 03 25.7	+0.9
HELC				eS	Sn	14 03 56.5	-0.6
HELC				i		14 04 02.9	
	comp=Z,404nm,0.3s						
UREC	San Jos de Ur	2.58	291	eP	Pn	14 03 24.2	-1.3
UREC				eS	Sn	14 03 55.7	-2.7
UREC				i		14 04 05.3	
	comp=Z,506nm,0.3s						
SOCV	Socops	2.66	57	eP	Pn	14 03 25.8	-0.8
SOCV				eS	Sn	14 03 57.8	-2.4
LL1C	La Loma 1 Cana	2.73	351	eP	Pn	14 03 28.8	+1.3
LL1C				eS	Sn	14 04 03.5	+1.6
GUY2C	Guyana, Caldas	2.75	235	eP	Pn	14 03 29.2	+1.0
GUY2C				eS	Sn	14 04 04.7	+1.7
GUY2C				i		14 04 11.3	
	comp=Z,276nm,0.3s						
VILC	Villavicencio,	2.76	192	eP	Pn	14 03 27.9	0.0
VILC				eS	Sn	14 04 01.7	-1.0
PTGC	Puerto Gaitan,	2.78	160	⇓iP	Pn	14 03 27.1	-1.0
PTGC				eS	Sn	14 04 00.3	-2.7
PTGC				i		14 04 03.0	
	comp=Z,387nm,0.4s						
LL6C	La Loma 6 Bece	2.89	357	⇑iP	Pn	14 03 28.9	-0.6
LL6C				eS	Sn	14 04 04.1	-1.4
LL6C				i		14 04 14.7	
	comp=Z,143nm,0.3s						
CBOC	Ciudad Bolivar	3.04	252	eP	Pn	14 03 32.1	+0.7
CBOC				eS	Sn	14 04 07.0	-2.0
CBOC				i		14 04 24.6	
	comp=Z,117nm,0.6s						
MOTC	Monteria, Cord	3.19	308	eP	Pn	14 03 31.4	-1.7
MOTC				eS	Sn	14 04 10.6	-1.5
MOTC				i		14 04 13.3	
	comp=Z,173nm,0.4s						
SDV	Santo Domingo	3.19	50	P	Pn	14 03 33.7	+0.4
	comp=Z,12nm,0.3s,baz=223,slow=6.0,SNR=64						
SDV				S	Sn	14 04 11.2	-1.2
	comp=Z,18nm,0.3s,baz=223,slow=12,SNR=10						
SDV	Santo Domingo	3.19	50		Pn	14 03 33.1	-0.2
SDV	Santo Domingo	3.19	50	eP	Pn	14 03 33.6	+0.2
SDV				eS	Sn	14 04 10.6	-1.8
SDV				i		14 04 16.1	
	comp=Z,78nm,0.5s						
ANIL	Santa Ana	3.26	225	eP	Pn	14 03 35.4	+1.0
ANIL				eS	Sn	14 04 15.8	+1.8
ANIL				i		14 04 23.6	
	comp=Z,683nm,0.3s						
ORTC	Ortega, Tolima	3.60	216	eP	Pn	14 03 38.4	0.0
ORTC				eS	Sn	14 04 21.4	0.0
ORTC				i		14 04 27.6	
	comp=Z,226nm,0.6s						
ELOV	Elorza	3.60	87	eP	Pn	14 03 38.1	-0.3
ELOV				eS	Sn	14 04 19.5	-1.9
CVALL	Valledupar, Ce	3.66	358	eP	Pn	14 03 38.4	-0.8
CVALL				eS	Sn	14 04 20.1	-2.8
CVALL				i		14 04 28.1	
	comp=Z,215nm,0.4s						
SJCC	San Jacinto, C	3.68	326		Pn	14 03 38.5	-0.9
SJCC	San Jacinto, C	3.68	326	eP	Pn	14 03 38.6	-0.8
SJCC				eS	Sn	14 04 19.9	-3.3
SJCC				i		14 04 24.3	
	comp=Z,248nm,0.6s						
PLMC	San Jos del P	3.69	239	eP	Pn	14 03 40.0	+0.3
PLMC				eS	Sn	14 04 20.8	-2.9
PLMC				i		14 04 34.9	
	comp=Z,98nm,0.5s						
LCBC	Los crdobas,	3.81	302	eP	Pn	14 03 40.6	-0.4
LCBC				eS	Sn	14 04 26.8	+0.6
LCBC				i		14 04 34.2	
	comp=Z,122nm,0.2s						
CRJC	Cerrejon, Guaj	4.17	3	eP	Pn	14 03 44.5	-1.4
CRJC				eS	Sn	14 04 31.1	-3.7
CRJC				i		14 04 42.0	
	comp=Z,141nm,0.2s						
YOTC	Yotoco, Valle	4.29	229	eP	Pn	14 03 46.9	-0.5
YOTC				eS	Sn	14 04 29.8	-7.7
SMRC	Santa Marta, M	4.45	346	eP	Pn	14 03 48.8	-0.6
SMRC				eS	Sn	14 04 37.4	-3.8
SMRC				i		14 04 40.4	
	comp=Z,129nm,0.4s						
MACC	Macarena, Meta	4.71	189	eP	Pn	14 03 51.1	-1.7
MACC				eS	Sn	14 04 41.9	-5.5
MACC				i		14 04 46.7	
	comp=Z,60nm,0.6s						
DABV	Dabajuro	4.75	31	eP	Pn	14 03 53.2	-0.1
DABV				eS	Sn	14 04 43.0	-5.2
MARP	Paez Belalcaza	4.87	216	eP	Pn	14 03 54.6	-0.6
URIC	Uribia, Colomb	4.97	13	Pn	Pn	14 03 54.6	-1.5
URIC	Uribia, Colomb	4.97	13	eP	Pn	14 03 54.6	-1.5
URIC				eS	Sn	14 04 49.0	-4.4
URIC				i		14 04 50.6	
	comp=Z,30nm,0.5s						
POPC	Popayan, Colom	5.55	220	eP	Pn	14 04 03.9	-0.2
POPC				eS	Sn	14 05 01.1	-6.5
FLOC	Florencia	5.79	206	eP	Pn	14 04 06.6	-0.6
FLOC				eS	Sn	14 05 07.9	-5.2
FLOC				i		14 05 18.3	
	comp=Z,22nm,0.5s						
SOTA	Rioblanco	5.82	217	eP	Pn	14 04 09.1	+1.1
SOTA				i		14 05 25.1	
	comp=Z,17nm,0.7s						
BCIP	Isla Barro Col	7.06	290	Pn	Pn	14 04 22.1	-1.9
JTS	Las Juntas de	12.21	287	P	Pn	14 05 35.3	+3.4
	comp=Z,0.6nm,0.3s,baz=0.1,slow=23,SNR=1.9						
DSLB	Salisbury	14.30	52	eS	Sn	14 08 39.8	+2.4
LPAZ	La Paz	23.49	168	P	P	14 07 38.4	-0.9
	comp=Z,1.1nm,0.6s,baz=311,slow=3.7,SNR=4.5						
LPAZ	La Paz	23.49	168	P	P	14 07 38.4	-0.9
Y49A	Blount Mountai	29.58	337	P	P	14 08 33.9	+0.8
WVT	Waverly	32.13	337	P	P	14 08 56.5	+1.0
WVT				IAmb	IAmb	14 08 57.2	
	comp=Z,9.9nm,1.4s						
BDFB	Brasilia	33.41	132	P	P	14 09 05.0	-2.0
	comp=Z,1.3nm,0.4s,baz=93,slow=14,SNR=2.2						
FCAR	Ozark Folk Cen	33.77	332	P	P	14 09 10.2	+0.5
FCAR				IAmb	IAmb	14 09 10.9	
	comp=Z,4.7nm,0.9s						
U40A	Yellville	34.50	331	P	P	14 09 16.7	+0.7
CCM	Cathedral Cave	35.17	335	P	P	14 09 22.2	+0.4
SFIN	Lafayette	35.68	342	P	P	14 09 26.7	+0.6
R40A	Maddies Statio	35.81	334	P	P	14 09 27.7	+0.5
R40A				IAmb	IAmb	14 09 28.2	
	comp=Z,4.0nm,0.6s						
TXAR	Lajitas Array	36.47	312	P	P	14 09 33.9	+0.8
	comp=Z,1.0nm,0.6s,baz=124,slow=8.0,SNR=5.4						
TXAR	Lajitas Array	36.47	312	P	P	14 09 33.6	+0.5
TX31	Lajitas Ar. Si	36.47	312	P	P	14 09 33.6	+0.5
TX31				IAmb	IAmb	14 09 46.4	
	comp=Z,11nm,1.4s						
D62A	Allapoint, All	40.26	4	P	P	14 10 05.8	+1.5
BATG	Bathurst New B	40.75	7	P	P	14 10 09.5	+1.1
SDCO	Great Sand Dun	42.55	321	P	P	14 10 24.7	+1.2
EYMN	Ely	43.87	342	P	P	14 10 33.4	-0.2
EYMN				IAmb	IAmb	14 10 36.1	
	comp=Z,11nm,1.1s						
WUAZ	Wupatki	45.23	315	P	P	14 10 45.7	+0.9
WUAZ				IAmb	IAmb	14 10 47.6	
	comp=Z,4.7nm,0.9s						
ULM	Lac du Bonnet	47.28	340	P	P	14 10 60.0	-0.4
	comp=Z,3.8nm,0.5s,baz=149,slow=5.5,SNR=4.6						
MSU	Marysvale	47.31	318	P	P	14 11 02.1	+1.1
BW06	Boulder Array	48.08	324	P	P	14 11 07.4	+0.4
PDAR	Pinedale Array	48.08	324	P	P	14 11 07.2	+0.2
	comp=Z,0.6nm,0.5s,baz=128,slow=8.8,SNR=5.1						
SCHQ	Schefferville	48.13	5	P	P	14 11 06.6	-0.3
	comp=Z,3.1nm,0.5s,baz=184,slow=7.2,SNR=7.6						
SCHQ	Schefferville	48.13	5	P	P	14 11 07.8	+1.0
SCHQ				IAmb	IAmb	14 11 12.7	
	comp=Z,10nm,1.2s						
REDW	Red Top Meadow	49.20	324	P	P	14 11 15.9	+0.4
REDW				IAmb	IAmb	14 11 16.9	
	comp=Z,2.9nm,0.6s						
YHH	Holmes Hill	50.06	325	P	P	14 11 23.0	+1.0
MCMT	McKenzie Canyo	51.22	324	P	P	14 11 31.5	+0.9
NVAR	Mina Array Bea	51.49	315	P	P	14 11 33.1	+0.3
	comp=Z,0.4nm,0.5s,baz=114,slow=6.9,SNR=4.1						
FCC	Fort Churchill	54.27	347	P	P	14 11 51.8	-0.6
G08A	Pilot Rock	55.12	322	P	P	14 11 59.9	+0.9
G08A				IAmb	IAmb	14 12 00.3	
	comp=Z,2.1nm,0.7s						
PINE	Pine Mountain	55.66	319	P	P	14 12 03.5	+0.5
PINE				IAmb	IAmb	14 12 05.0	
	comp=Z,2.7nm,0.8s						
EDM	Edmonton	56.62	332	P	P	14 12 09.1	-0.3
EDM				IAmb	IAmb	14 12 29.5	
	comp=Z,4.9nm,0.9s						
YKA	Yellowknife Ar	63.26	340	P	P	14 12 54.4	-0.1
	comp=Z,2.3nm,0.6s,baz=132,slow=6.7,SNR=57						
DLBC	Dease Lake	67.33	331	P	P	14 13 21.6	+0.8
DLBC				IAmb	IAmb	14 13 23.4	
	comp=Z,5.8nm,1.4s						
M30M	Minto, Yukon	72.03	334	P	P	14 13 50.2	+0.7
BCAR	Beaver Creek A	74.36	334	P	P	14 14 04.5	+1.4
PPLA	Purkeypile	78.98	333	P	P	14 14 29.5	+0.3
PPLA				IAmb	IAmb	14 14 41.0	
	comp=Z,13nm,1.4s						
MKAR	Makanchi Array	122.31	20	PKP	PKPdf	14 21 18.5	-1.0
	comp=Z,0.1nm,0.4s,baz=263,slow=3.2,SNR=5.4						
MKAR	Makanchi Array	122.31	20		PKPdf	14 21 19.0	-0.5
ASAR	Alice Springs	149.13	234	PKPbc	PKPbc	14 22 12.6	-1.0
	comp=Z,0.4nm,0.7s,baz=118,slow=3.6,SNR=8.3						
ASAR	Alice Springs	149.13	234		PKPdf	14 22 08.5	-0.7
ASAR				PKPbc	PKPbc	14 22 14.7	+1.2
ASAR				PKPab	PKPab	14 22 18.8	+0.5
WRA	Warramunga Arr	150.35	241	PKPbc	PKPbc	14 22 15.8	-0.8
	comp=Z,0.3nm,0.4s,baz=107,slow=2.7,SNR=18						

GUC 01 14:13:01.7±0.7, **24.°13S×67.°63W, h228**km±8km, **ML3.6, 5C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.92	322	eP	Pn	14 13 41.5	-0.6
LVC				i S	S	14 14 12.2	-1.3
PB15	IPOC Station P	1.93	298	⇑iP	Pn	14 13 42.3	+0.3
PB15				i S	S	14 14 12.3	-1.0
GO02	Mina Guanaco	2.06	240	⇓iP	Pn	14 13 43.2	0.0
GO02				i S	S	14 14 15.2	-0.5
GO02				IAML		14 14 16.0	
	comp=N,206nm,0.3s						
PB06	IPOC Station P	2.28	308	⇑iP	Pn	14 13 45.9	+0.5
PB06				i S	S	14 14 18.5	-0.9
PB06				IAML		14 14 20.9	
	comp=N,176nm,0.2s						
PB10	IPOC Station P	2.75	282	⇓eP	Pn	14 13 51.5	+1.4
PB10				i S	S	14 14 27.3	-0.7
PB10				IAML		14 14 33.3	
	comp=E,85nm,0.8s						
PB09	IPOC Station P	2.76	327	⇑iP	Pn	14 13 51.0	+0.6
PB09				i S	S	14 14 27.7	-0.9
PB09				IAML		14 14 30.0	
	comp=N,34nm,0.4s						
PB04	IPOC Station P	2.93	307	eP	Pn	14 13 53.0	+0.7
PB04				i S	S	14 14 31.1	-0.8
PB04				IAML		14 14 32.9	
	comp=N,95nm,0.4s						
AC02	Maricunga	3.02	206	eP	Pn	14 13 53.0	-0.6
PB07	IPOC Station P	3.17	319	⇑iP	Pn	14 13 55.5	+0.5
PB07				i S	S	14 14 35.6	-1.3
AC01	Pan de Azucar	3.36	233	eP	Pn	14 13 56.8	-0.2
AC01				i S	S	14 14 39.3	-1.1
PB02	IPOC Station P	3.50	323	⇑iP	Pn	14 13 58.9	+0.1
PB02				i S	S	14 14 42.3	-1.3
PB01	IPOC Station P	3.52	330	eP	Pn	14 13 58.7	-0.3
PB01				i S	S	14 14 42.5	-1.6
PB08	IPOC Station P	4.22	340	eP	Pn	14 14 07.8	+0.2
PB08				i S	S	14 14 59.4	-0.2
GO01	Chusmiza	4.67	342	eP	Pn	14 14 12.6	-0.8
GO01				i S	S	14 15 09.8	0.0

ASRS 01 14:17:22.2±0.4, **50°N**±3°×**10°0E**±°, **h5**km, **MLh3.9**/6, **Error ellipse: s-maj=7.1km s-min=3.2km az=12.7, confirmed, Mongolia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNGR	Kungurtug, Tuv	1.57	290	Pg	Pg	14 17 56.1	+3.8
KNGR				Sg	Sg	14 18 16.7	+4.0
MOY	Mondy	1.74	25	Pg	Pg	14 17 57.2	+1.5
MOY				Sg	Sg	14 18 19.9	+1.7
ZAK	Zakamensk	2.23	81	Pg	Pg	14 18 07.5	+2.4
ZAK				Sg	Sg	14 18 37.7	+3.7
KZLR	Kyzyl	3.77	297	Pg	Pg	14 18 33.2	-1.2
KZLR				Sg	Sg	14 19 22.1	-1.1
TRG	Tyrgan	4.88	54	Pg	Pg	14 18 51.9	-3.7
TRG				Sg	Sg	14 19 55.5	-3.3
ULN	Ulaanbaatar	5.25	112	Pg	Pg	14 19 02.1	-0.6
ULN				Sg	Sg	14 20 14.0	+3.3
MINR	Mina	5.92	327	Pg	Pg	14 19 12.7	-2.8
MINR				Sg	Sg	14 20 29.6	-2.5
DJOS	Djoyskaya Sosn	5.93	300	Pg	Pg	14 19 16.5	+0.8
DJOS				Sg	Sg	14 20 30.4	-2.0
CERR	Cheremushki	5.94	301	Sg	Sg	14 20 30.8	-2.1
DJO	Djoy, Khakassi	6.02	300	Sg	Sg	14 20 31.3	-4.1
CUR	Chagan-Uzun	7.39	274	Sg	Sg	14 21 17.7	-1.5

*UCR **01** 14:19:39.2±1.7, 12.°20N×87.°00W, h18km±10km, ML3.7*

*SNET **01** 14:19:39.7±1.6, 12.°20N×87.°06W, h16km±10km, ML3.7*

*INET **01** 14:19:39.6±0.5, 12.°30N×86.°94W, h96km±4km, MW3.7*

ISC 01 14:19:40.2±1.4, **12.°26N**±0.°08×**86.°94W**±0.°07, **h89**km±11km, **n47,** σ0.s77/58, **5C-9D, Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNGN	Cerro Negro	0.34	44	eP	Pn	14 19 52.8	-1.0
COPN	Copaltepe	0.34	103	eP	Pn	14 19 54.1	+0.3
MOMN	Momotombo	0.42	68	eP	Pn	14 19 54.2	-0.1
CRIN	San Cristobal	0.46	346	eP	Pn	14 19 54.4	-0.2
CRIN				eS	Sn	14 20 06.2	+0.9
TISN	Laguna Tiscapa	0.66	100	eP	Pn	14 19 56.1	-0.2
MGAN	Managua	0.68	99	eP	Pn	14 19 56.3	-0.2
HUEN		0.75	84	eP	Pn	14 19 56.9	-0.2
CSGN	Cosiguina Volc	0.94	320	eP	Pn	14 19 58.7	-0.6
BOAB	BOACO BROADBAN	1.25	81	eP	Pn	14 20 02.8	-0.1
LCND	La Caada	1.40	318	⇓iP	Pn	14 20 04.0	-0.7
LCND				eS	Sn	14 20 22.7	-0.5
LCND				IAML		14 20 26.9	
	comp=Z,884nm,0.3s						
LCND	La Caada	1.40	318	⇓iP	Pn	14 20 04.0	-0.7
LCND				eS	Sn	14 20 22.7	-0.5
LCND				IAML		14 20 26.9	
	comp=Z,884nm,0.3s						
JUCU	Jucuar¡n	1.62	308	eP	Pn	14 20 06.9	-0.6
JUCU				eS	Sn	14 20 27.4	-0.8
JUCU				IAML		14 20 30.2	
	comp=Z,1μm,0.3s						
JUCU	Jucuar¡n	1.62	308	eP	Pn	14 20 06.9	-0.6
JUCU				eS	Sn	14 20 27.4	-0.8
JUCU				IAML		14 20 30.2	
	comp=Z,1μm,0.3s						
ACON	Acoyapa	1.75	99	eP	Pn	14 20 08.8	-0.3
VSM	San Miguel	1.75	312	eP	Pn	14 20 09.2	-0.2
VSM	San Miguel	1.75	312	eP	Pn	14 20 09.2	-0.2
LCY	Lacayo	1.76	311	eP	Pn	14 20 09.1	-0.3
LCY	Lacayo	1.76	311	eP	Pn	14 20 09.1	-0.3
RANC	El Ranchito	1.77	312	eP	Pn	14 20 09.1	-0.4
RANC				i Sg	Sn	14 20 32.6	+0.9
RANC	El Ranchito	1.77	312	eP	Pn	14 20 09.1	-0.4
RANC				i Sg	Sn	14 20 32.6	+0.9
PACA	Pacayal	1.81	312	⇓eP	Pn	14 20 10.0	-0.1
PACA	Pacayal	1.81	312	⇓eP	Pn	14 20 10.0	-0.1
TGUH	Tegucigalpa,Un	1.82	350	⇓iP	Pn	14 20 10.0	-0.2
TGUH	Tegucigalpa,Un	1.82	350	⇓iP	Pn	14 20 10.0	-0.2
COEB	Comit de Eme	1.99	309	eS	Sn	14 20 37.8	+1.0
COEB	Comit de Eme	1.99	309	eS	Sn	14 20 37.8	+1.0
GBS3	Finca Las Img	2.06	135	eP	Pn	14 20 12.8	-0.5
GB1A	Borinquen Arri	2.08	133	eP	Pn	14 20 13.2	-0.3
BUAI	Buenos Aires	2.08	131	⇑eP	Pn	14 20 13.4	-0.2
LAPC	Finca la Perla	2.09	135	⇑eP	Pn	14 20 12.9	-0.7
LAPC				eS	Sn	14 20 40.0	+0.9
LIM1	Limonal	2.26	133	⇑eP	Pn	14 20 15.9	0.0
SCLA	Alcaldia de Sa	2.26	310	eS	Sn	14 20 45.6	+2.4
SCLA	Alcaldia de Sa	2.26	310	eS	Sn	14 20 45.6	+2.4
HORNC	Hornillas	2.31	131	eP	Pn	14 20 16.2	-0.3
COLC	Colonia	2.32	133	eP	Pn	14 20 16.6	0.0
CUI	Cuipilapa	2.35	132	⇓eP	Pn	14 20 17.2	+0.1
GUAI	GUAI	2.42	145	i P	Pn	14 20 18.5	+0.5
GUAI				eS	Sn	14 20 46.4	-0.5
ACAL	Aguas Claras	2.46	131	eP	Pn	14 20 18.0	-0.6
LFRS	El Faro	2.48	303	eP	Pn	14 20 18.5	-0.3
LFRS	El Faro	2.48	303	eP	Pn	14 20 18.5	-0.3
CEDE	Laguna Cedeo	2.81	129	eP	Pn	14 20 22.1	-1.1
JAYA	Jayaque - finc	2.82	300	⇑eP	Pn	14 20 23.7	+0.3
JAYA				eS	Sn	14 20 55.1	-1.5
JAYA	Jayaque - finc	2.82	300	⇑eP	Pn	14 20 23.7	+0.3
JAYA				eS	Sn	14 20 55.1	-1.5
CEVE	Cerro Verde	3.05	301	eP	Pn	14 20 27.2	+0.6
CEVE	Cerro Verde	3.05	301	eP	Pn	14 20 27.2	+0.6

MTO3	**Montecristo**	**3.18**	**312**	⇓*i*P	**Pn**	**14 20 28.1**	**-0.3**
MTO3	**Montecristo**	**3.18**	**312**	⇓*i*P	**Pn**	**14 20 28.1**	**-0.3**

*IDC **01** 14:25:51.6±0.6, 0°.06S×17°.56W, h0km, mb4.4/17, mb1 4.6/19, mb1mx4.3/62, mbtmp4.4/19, ML4.6/2, MS4.0/72, Ms1 4.0/72, ms1mx4.0/81, Error ellipse: s-maj=19.4km s-min=14.5km az=165.0*

*NEIC **01** 14:25:54.8±2.1, 0°.10S±0°.09×17°.55W±0°.09, h12km±4km, mb4.9/41, Error ellipse: s-maj=14.2km s-min=13.1km az=133.0*

*GCMT **01** 14:25:55.8±0.2, 0°.23N±0°.01×17°.60W±0°.01, h19km±1km, MW5.0/119, Moment Tensor Solution. s28,c34; s119,c166; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.41±.11; $M_{\theta\theta}$1.99±.11; $M_{\phi\phi}$-1.58±.10; $M_{r\theta}$-0.72±.22; $M_{\theta\phi}$-2.91±.10; $M_{\phi r}$1.22±.23; Best double couple: $M_0$3.67900×10^{16} NP1:ϕ_s254.00000°, δ68.00000°, λ179.00000°. NP2:ϕ_s344.00000°, δ89.00000°, λ22.00000°. Principal axes: T 3.9660, Plg16.0000°, Azm211.0000°; N -0.5720, Plg68.0000°, Azm346.0000°; P -3.3930, Plg14.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 14:25:53.5±0.4**, 0°.07S**±0°.07×**17°.53W**±0°.06**, h12km, n157, σ1s.11**/101**, mb4.8**/34**, MS4.1**/70**, 1C, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.28**	**159**	Pn	**Pn**	**14 27 53.1**	**-0.1**
H10N2				T	T	14 36 59.7	
	baz=338						
H10N3	**ASCENSION HYDR**	**8.29**	**159**	Pn	**Pn**	**14 27 52.8**	**-0.5**
H10N3				T	T	14 37 00.1	
	baz=338,slow=74						
H10N1	**ASCENSION HYDR**	**8.30**	**159**	Pn	**Pn**	**14 27 53.7**	**+0.2**
H10N1				T	T	14 37 02.5	
	baz=338,slow=74						
ASCN	**Ascension**	**8.42**	**158**	Pn	**Pn**	**14 27 55.8**	**+0.3**
LIC	**Lamto**	**13.96**	**63**	*e*P	**Pn**	**14 29 09.7**	**-1.6**
	53nm,1.3s						
TIC	**Toumodi**	**14.16**	**62**	*e*P	**Pn**	**14 29 11.0**	**-3.0**
KIC	**Kosan Boka**	**14.28**	**63**	*e*P	**Pn**	**14 29 14.0**	**-1.7**
	25nm,0.5s						
DBIC	**Dimbokro**	**14.31**	**62**	Pn	**Pn**	**14 29 13.8**	**-2.4**
	3.6nm,0.3s,baz=261,slow=14,SNR=33						
DBIC				Sn	Sn	14 31 40.8	-14
	1.9nm,0.3s,baz=158,slow=13,SNR=2.2						
DBIC				LR	LR	14 33 36.4	
	comp=Z,760nm,19.5s,baz=243,slow=32						
DBIC	**Dimbokro**	**14.31**	**62**	Pn	**Pn**	**14 29 14.6**	**-1.5**
RCBR	**Riachuelo**	**19.21**	**252**	P	**P**	**14 30 17.2**	**-0.4**
	1.5nm,0.3s,baz=228,slow=13,SNR=6.4						
RCBR				LR	LR	14 35 53.7	
	comp=Z,162nm,19.2s,baz=219,slow=31						
RCBR	**Riachuelo**	**19.21**	**252**	P	**P**	**14 30 18.0**	**+0.4**
KOWA	**Kowa**	**19.71**	**42**	P	**P**	**14 30 23.1**	**+0.1**
NBAN	**Anadia - AL**	**20.95**	**242**	*e*P	**P**	**14 30 34.8**	**-1.8**
NBMO	**Morrinhos-CE**	**22.73**	**262**	*e*P	**P**	**14 30 55.3**	**-0.3**
NBLA	**Lagarto - SE**	**22.87**	**241**	*e*P	**P**	**14 30 56.5**	**-0.6**
TOA0	**Torodi Ar. Sit**	**23.15**	**55**	P	**P**	**14 30 58.8**	**-1.2**
TOA0				IAmb	IAmb	14 31 03.6	
	comp=Z,35nm,0.9s						
TORD	**Torodi Ar. Bea**	**23.15**	**55**	P	**P**	**14 30 58.6**	**-1.3**
	comp=Z,26nm,0.9s,baz=244,slow=7.9,SNR=53						
TORD				S	**S**	**14 35 09.9**	**-1.7**
	comp=Z,2.3nm,0.6s,baz=231,slow=22,SNR=4.2						
TORD				LR	LR	14 39 14.7	
	comp=Z,848nm,18.6s,baz=214,slow=35						
TORD	**Torodi Ar. Bea**	**23.15**	**55**	P	**P**	**14 30 58.7**	**-1.3**
TORD				IAmb	IAmb	14 31 03.0	
	comp=Z,58nm,1.4s						
NBPS	**Pedro II - PI**	**24.27**	**259**	*e*P	**P**	**14 31 10.7**	**-0.4**
NBPN	**Ponto Novo - B**	**24.94**	**244**	*e*P	**P**	**14 31 16.0**	**-1.1**
GDU01	**Guandu, BA**	**25.70**	**237**	*e*P	**P**	**14 31 24.0**	**+0.1**
CMC01	**Camacan, BA**	**26.50**	**234**	*e*P	**P**	**14 31 28.7**	**-2.5**
ROSB	**Rosrio**	**26.73**	**264**	*e*P	**P**	**14 31 33.7**	**+0.5**
PRPB	**Parauapebas**	**32.78**	**259**	*e*P	**P**	**14 32 28.6**	**+1.6**
BDFB	**Brasilia**	**33.84**	**241**	P	**P**	**14 32 35.2**	**-1.1**
	comp=Z,9.4nm,0.8s,baz=61,slow=8.9,SNR=3.2						
BDFB				LR	LR	14 45 10.5	
	comp=Z,130nm,20.7s,baz=340,slow=34						
BDFB	**Brasilia**	**33.84**	**241**	P	**P**	**14 32 34.9**	**-1.3**
BDFB				IAmb	IAmb	14 32 36.5	
	comp=Z,15nm,0.9s						
MDP	**Montagnes des**	**35.44**	**279**	LR	LR	14 44 12.9	
	comp=Z,140nm,20.6s,baz=68,slow=31						
DVLD	**Doverlandia**	**37.89**	**243**	*e*P	**P**	**14 33 11.1**	**+0.1**
NPGB	**Novo Progresso**	**38.36**	**259**	*e*P	**P**	**14 33 13.2**	**-1.7**
ITTB	**Itaituba**	**38.40**	**263**	*e*P	**P**	**14 33 14.1**	**-1.2**
PCMB	**Pacaembu**	**39.25**	**235**	*e*P	**P**	**14 33 22.6**	**+0.4**
TSUM	**Tsumeb**	**39.33**	**121**	P	**P**	**14 33 22.4**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=310,slow=2.9,SNR=4.0						
TSUM				LR	LR	14 46 27.2	
	comp=Z,316nm,20.5s,baz=330,slow=31						
PDRB	**Porto dos Gac**	**40.58**	**252**	*e*P	**P**	**14 33 32.7**	**-0.7**
SALV	**Santo Antonio**	**40.81**	**245**	*e*P	**P**	**14 33 35.0**	**-0.2**
PTGB	**Pitanga**	**41.43**	**231**	*e*P	**P**	**14 33 40.7**	**+0.3**
ESDC	**Sonseca Array**	**41.46**	**16**	P	**P**	**14 33 39.5**	**-0.9**
	comp=Z,1.2nm,1.0s,baz=206,slow=8.6,SNR=6.2						
ESDC				LR	LR	14 51 27.4	
	comp=Z,207nm,18.4s,baz=182,slow=37						
ESDC	**Sonseca Array**	**41.46**	**16**	P	**P**	**14 33 41.6**	**+1.3**
AQDB	**Aquidauana**	**42.48**	**239**	P	**P**	**14 33 48.5**	**-0.4**
AQDB	**Aquidauana**	**42.48**	**239**	*e*P	**P**	**14 33 48.0**	**-0.9**
ITAB	**Concordia**	**42.82**	**228**	*e*P	**P**	**14 33 51.0**	**-0.6**
BOAV	**Boa Vista**	**43.05**	**274**	*e*P	**P**	**14 33 53.1**	**-0.5**
KEST	**Kesra**	**43.53**	**32**	LR	LR	14 52 52.4	
	comp=Z,828nm,20.9s,baz=178,slow=37						
PTLB	**Pontes e Lacer**	**43.83**	**248**	*e*P	**P**	**14 34 00.0**	**+0.1**
CPSB	**Cacapava Do Su**	**45.54**	**225**	*e*P	**P**	**14 34 14.0**	**+0.6**
SIV	**San Ignacio**	**45.77**	**248**	LR	LR	14 51 49.3	
	comp=Z,257nm,20.8s,baz=101,slow=34						
CPUP	**Villa Florida**	**46.37**	**233**	P	**P**	**14 34 19.0**	**-0.9**
	comp=Z,8.0nm,1.0s,baz=75,slow=8.0,SNR=10						
CPUP				LR	LR	14 52 38.8	
	comp=Z,282nm,18.2s,baz=66,slow=35						
CPUP	**Villa Florida**	**46.37**	**233**	P	**P**	**14 34 18.8**	**-1.2**
CPUP				IAmb	IAmb	14 34 21.8	
	comp=Z,11nm,1.1s						
CPUP	**Villa Florida**	**46.37**	**233**	*e*P	**P**	**14 34 19.9**	**-0.1**
PLTB	**Pedras Altas**	**46.44**	**224**	P	**P**	**14 34 21.0**	**+0.5**
PLTB				IAmb	IAmb	14 34 22.4	
	comp=Z,18nm,1.2s						
PLTB	**Pedras Altas**	**46.44**	**224**	*e*P	**P**	**14 34 20.3**	**-0.2**
ITQB	**Itaqui**	**47.46**	**228**	P	**P**	**14 34 28.1**	**-0.3**
ITQB	**Itaqui**	**47.46**	**228**	*e*P	**P**	**14 34 28.7**	**+0.3**
VAE	**Valguarnera**	**47.60**	**35**	LR	LR	14 54 56.4	
	comp=Z,485nm,20.1s,baz=143,slow=37						
LSZ	**Lusaka**	**47.61**	**111**	P	**P**	**14 34 30.5**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=273,slow=1.7,SNR=3.9						
LSZ				LR	LR	14 50 58.9	
	comp=Z,299nm,21.9s,baz=301,slow=32						
MBAR	**Mbarara**	**48.27**	**91**	P	**P**	**14 34 36.5**	**+1.2**
	comp=Z,2.0nm,0.2s,baz=296,slow=21,SNR=2.2						
MBAR	**Mbarara**	**48.27**	**91**	P	**P**	**14 34 35.4**	**+0.1**
SUR	**Sutherland**	**48.37**	**135**	P	**P**	**14 34 36.3**	**+0.6**
	comp=Z,5.7nm,0.8s,baz=100,slow=16,SNR=1.8						
SUR				LR	LR	14 50 26.7	
	comp=Z,209nm,21.1s,baz=334,slow=30						
SUR	**Sutherland**	**48.37**	**135**	P	**P**	**14 34 35.6**	**-0.1**
LBTB	**Lobatse**	**48.49**	**124**	LR	LR	14 51 39.4	
	comp=Z,196nm,21.7s,baz=290,slow=32						
MATP	**Matopo**	**49.34**	**117**	P	**P**	**14 34 43.1**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=296,slow=7.1,SNR=7.1						
MATP				LR	LR	14 52 52.3	
	comp=Z,332nm,19.7s,baz=306,slow=33						
ETMB	**Extrema**	**49.39**	**257**	*e*P	**P**	**14 34 42.3**	**-1.3**
BIRV	**Birongo**	**49.58**	**284**	P	**P**	**14 34 44.8**	**-0.3**
BOSA	**Boshof**	**49.77**	**129**	LR	LR	14 51 43.6	
	comp=Z,142nm,21.8s,baz=284,slow=31						
SJG	**San Juan**	**51.07**	**293**	LR	LR	14 51 31.2	
	comp=Z,180nm,21.6s,baz=91,slow=30						
LPAZ	**La Paz**	**52.41**	**249**	P	**P**	**14 35 05.3**	**-1.8**
	comp=Z,2.4nm,0.8s,baz=90,slow=11,SNR=6.7						
LPAZ	**La Paz**	**52.41**	**249**	P	**P**	**14 35 06.0**	**-1.0**
LPAZ	**La Paz**	**52.41**	**249**	*e*P	**P**	**14 35 06.1**	**-1.0**
DAVOX	**Davos/Dischmat**	**52.47**	**24**	LR	LR	14 58 00.2	
	comp=Z,192nm,18.9s,baz=262,slow=37						
VLO	**Vlora**	**52.54**	**35**	P	**P**	**14 35 09.2**	**+2.4**
SDV	**Santo Domingo**	**53.62**	**281**	LR	LR	14 55 32.0	
	comp=Z,111nm,22.0s,baz=110,slow=33						
SDV	**Santo Domingo**	**53.62**	**281**	P	**P**	**14 35 15.9**	**+0.3**
SDV	**Santo Domingo**	**53.62**	**281**	*e*P	**P**	**14 35 14.9**	**-0.6**
LVC	**Limon Verde**	**54.74**	**242**	LR	LR	14 59 30.4	
	comp=Z,55nm,19.1s,baz=76,slow=37						
LVC	**Limon Verde**	**54.74**	**242**	*e*P	**P**	**14 35 22.8**	**-1.0**
KMBO	**Kilima Mbogo**	**54.79**	**91**	LR	LR	14 56 03.9	
	comp=Z,145nm,21.7s,baz=292,slow=33						
BANI	**BANI**	**55.02**	**293**	P	**P**	**14 35 26.2**	**+0.6**
GERES	**GERESS Array B**	**55.67**	**25**	LR	LR	14 59 11.3	
	comp=Z,127nm,19.4s,baz=276,slow=36						
GO02	**Mina Guanaco**	**56.10**	**239**	P	**P**	**14 35 33.5**	**0.0**
AC02	**Maricunga**	**56.25**	**237**	P	**P**	**14 35 35.1**	**+0.4**
AC02				IAmb	IAmb	14 35 36.8	
	comp=Z,16nm,1.1s						
EKA	**Eskdalemuir Ar**	**56.46**	**10**	LR	LR	14 59 56.8	
	comp=Z,94nm,18.1s,baz=185,slow=36						
ROSC	**El Rosal**	**56.93**	**276**	LR	LR	14 58 37.0	
	comp=Z,193nm,18.4s,baz=65,slow=34						
VRAC	**Vranov**	**57.26**	**26**	LR	LR	15 03 03.5	
	comp=Z,97nm,18.0s,baz=210,slow=39						
ZARC	**Zaragoza, Cauc**	**57.65**	**279**	P	**P**	**14 35 43.2**	**-1.1**
EIL	**Elat**	**58.03**	**54**	LR	LR	15 00 41.6	
	comp=Z,182nm,19.3s,baz=284,slow=36						
MLR	**Muntele Rosu**	**59.37**	**34**	LR	LR	15 02 17.0	
	comp=Z,251nm,21.8s,baz=220,slow=37						
MMAI	**Mount Meron Ar**	**59.62**	**51**	LR	LR	15 03 49.5	
	comp=Z,173nm,18.5s,baz=56,slow=38						
NNA	**Nana**	**60.02**	**256**	LR	LR	15 01 16.6	
	comp=Z,98nm,18.6s,baz=70,slow=35						
BOSC	**San Juan Bosco**	**61.01**	**266**	P	**P**	**14 36 06.3**	**-1.5**
BOSC				IAmb	IAmb	14 36 09.5	
	comp=Z,8.0nm,0.7s						
BRTR	**Keskin Array B**	**61.13**	**43**	LR	LR	15 05 51.1	
	comp=Z,128nm,19.3s,baz=229,slow=39						
BNN	**Bunyan**	**62.29**	**45**		**P**	**14 36 16.6**	**+0.7**
PLCA	**Paso Flores**	**62.74**	**223**	LR	LR	14 59 38.7	
	comp=Z,155nm,21.6s,baz=71,slow=32						
AKASG	**Malin Array Be**	**64.23**	**31**	P	**P**	**14 36 27.5**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=234,slow=7.2,SNR=4.4						
AKASG				LR	LR	15 06 47.6	
	comp=Z,143nm,18.0s,baz=247,slow=38						
HFS	**Hagfors**	**64.73**	**17**	LR	LR	15 06 49.7	
	comp=Z,161nm,18.0s,baz=198,slow=38						
NOA	**NORSAR Array B**	**64.81**	**15**	LR	LR	15 07 04.8	
	comp=Z,121nm,18.5s,baz=200,slow=38						
OPO	**Ambohidratompo**	**66.08**	**110**	LR	LR	15 02 59.2	
	comp=Z,50nm,19.8s,baz=215,slow=34						
GURO	**Guroymak-BITLI**	**66.65**	**47**	P	**P**	**14 36 45.9**	**+1.5**
GURO				IAmb	IAmb	14 36 48.4	
	comp=Z,7.3nm,0.8s						
JTS	**Las Juntas de**	**67.81**	**281**	LR	LR	15 08 07.6	
	comp=Z,40nm,18.0s,baz=153,slow=37						
SCHQ	**Schefferville**	**67.90**	**332**	LR	LR	15 01 49.2	
	comp=Z,101nm,19.1s,baz=106,slow=32						
USHA	**Ushuaia**	**68.54**	**209**	LR	LR	15 01 55.9	
	comp=Z,156nm,19.6s,baz=90,slow=32						
KBZ	**Khabaz**	**69.09**	**42**	P	**P**	**14 37 00.7**	**+1.2**
	comp=Z,5.7nm,0.9s,baz=253,slow=6.6,SNR=3.9						
KBZ				LR	LR	15 09 23.1	
	comp=Z,62nm,20.3s,baz=255,slow=38						
GNI	**Garni**	**69.16**	**47**	LR	LR	15 10 00.7	
	comp=Z,53nm,19.0s,baz=272,slow=38						
FINES	**FINESS Array B**	**69.71**	**21**	LR	LR	15 07 26.3	
	comp=Z,195nm,21.4s,baz=244,slow=36						
SADO	**Sadowa**	**70.26**	**318**	LR	LR	15 05 06.3	
	comp=Z,120nm,18.0s,baz=163,slow=34						
OBN	**Obninsk**	**70.38**	**30**	LR	LR	15 10 34.9	
	comp=Z,42nm,18.5s,baz=188,slow=38						
TKL	**Tuckaleechee C**	**70.89**	**308**	LR	LR	15 01 20.9	
	comp=Z,82nm,21.7s,baz=96,slow=30						
JMIC	**Jan Mayen**	**71.19**	**3**	LR	LR	15 03 41.2	
	comp=Z,46nm,21.4s,baz=238,slow=32						
SNAA	**Sanae**	**72.11**	**175**	P	**P**	**14 37 19.0**	**+1.5**
SNAA				IAmb	IAmb	14 37 35.6	
	comp=Z,19nm,1.4s						
PMSA	**Palmer Station**	**72.78**	**199**	LR	LR	15 05 25.4	
	comp=Z,183nm,19.6s,baz=36,slow=33						
FRB	**Frobisher Bay**	**73.82**	**339**	LR	LR	15 04 26.7	
	comp=Z,53nm,18.6s,baz=298,slow=31						
ARCES	**ARCESS Array B**	**75.17**	**14**	LR	LR	15 11 08.6	
	comp=Z,84nm,20.2s,baz=230,slow=36						
CCM	**Cathedral Cave**	**77.26**	**309**	P	**P**	**14 37 47.9**	**-0.1**
CCM				IAmb	IAmb	14 37 49.7	
	comp=Z,14nm,0.9s						
WSAR	**Wadi Sarin**	**77.32**	**66**	LR	LR	15 13 03.7	
	comp=Z,93nm,18.4s,baz=286,slow=37						
CMIG	**Matias Romero**	**77.94**	**287**	LR	LR	15 09 48.8	
	comp=Z,63nm,21.3s,baz=39,slow=34						
KIRV	**Kirov**	**78.23**	**29**	LR	LR	15 16 35.2	
	comp=Z,78nm,18.2s,baz=248,slow=39						
U40A	**Yellville**	**78.24**	**307**	P	**P**	**14 37 54.5**	**+0.9**
U40A				IAmb	IAmb	14 37 55.3	
	comp=Z,15nm,1.1s						
BELA	**Belgrano 2**	**78.27**	**184**	P	**P**	**14 37 52.6**	**-0.2**
SYO	**Syowa Base**	**78.65**	**162**	⇑*e*P	**P**	**14 37 56.0**	**+1.0**
GEYT	**Alibeck**	**78.74**	**51**	LR	LR	15 15 50.1	
	comp=Z,85nm,18.4s,baz=292,slow=38						
S39A	**Bolivar**	**78.82**	**308**	P	**P**	**14 37 56.4**	**-0.3**
S39A				IAmb	IAmb	14 37 58.5	
	comp=Z,12nm,0.9s						
P38A	**Dawn**	**79.28**	**310**	P	**P**	**14 37 59.8**	**+0.7**
P38A				IAmb	IAmb	14 38 01.0	
	comp=Z,16nm,0.9s						
SPITS	**Spitsbergen Ar**	**80.22**	**7**	LR	LR	15 11 40.8	
	comp=Z,58nm,18.5s,baz=81,slow=34						
AKTO	**Aktyubinsk**	**80.87**	**39**	LR	LR	15 16 53.0	
	comp=Z,87nm,21.6s,baz=279,slow=38						
ECSD	**EROS Data Cent**	**82.16**	**314**	P	**P**	**14 38 15.4**	**+0.9**
ECSD				IAmb	IAmb	14 38 16.5	
	comp=Z,8.9nm,1.1s						
ARU	**Arti**	**82.39**	**33**	LR	LR	15 17 19.4	
	comp=Z,142nm,19.3s,baz=266,slow=38						
ULM	**Lac du Bonnet**	**82.60**	**321**	P	**P**	**14 38 17.0**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=113,slow=6.2,SNR=4.3						
ULM				LR	LR	15 13 28.5	
	comp=Z,76nm,18.1s,baz=102,slow=35						
JCT	**Junction City**	**83.37**	**301**	P	**P**	**14 38 21.6**	**+0.4**
JCT				IAmb	IAmb	14 38 23.7	
	comp=Z,9.1nm,0.9s						
MSTX	**Muleshoe**	**86.09**	**304**	P	**P**	**14 38 36.2**	**+1.3**
MAW	**Mawson**	**86.27**	**158**	LR	LR	15 10 44.5	
	comp=Z,79nm,18.2s,baz=262,slow=31						
TXAR	**Lajitas Array**	**86.66**	**299**	P	**P**	**14 38 39.1**	**+1.3**
	comp=Z,4.3nm,0.9s,baz=134,slow=11,SNR=15						
TXAR				LR	LR	15 14 07.3	
	comp=Z,38nm,19.8s,baz=64,slow=33						
TXAR	**Lajitas Array**	**86.66**	**299**	P	**P**	**14 38 39.4**	**+1.6**
TX32	**Lajitas Array**	**86.66**	**299**	P	**P**	**14 38 38.8**	**+1.0**
TX32				IAmb	IAmb	14 38 41.4	
	comp=Z,7.4nm,1.1s						
SDCO	**Great Sand Dun**	**88.44**	**308**	P	**P**	**14 38 48.0**	**+1.6**
SDCO				IAmb	IAmb	14 38 50.4	
	comp=Z,6.4nm,1.1s						
ISCO	**Idaho Springs**	**88.57**	**310**	P	**P**	**14 38 49.2**	**+2.2**
ISCO				IAmb	IAmb	14 38 56.2	
	comp=Z,6.4nm,1.1s						
LAO	**LASA Array**	**89.15**	**317**	P	**P**	**14 38 51.8**	**+2.5**
ANMO	**Albuquerque**	**89.16**	**305**	LR	LR	15 13 48.2	
	comp=Z,173nm,21.1s,baz=98,slow=32						
S22A	**4UR Ranch, Cre**	**89.49**	**308**	P	**P**	**14 38 52.5**	**+1.1**
S22A				IAmb	IAmb	14 38 55.0	
	comp=Z,8.0nm,1.4s						
QSPA	**South Pole Qui**	**90.00**	**180**	P	**P**	**14 38 54.0**	**+1.1**
	comp=Z,5.1nm,0.9s,baz=208,slow=1.9,SNR=7.7						
QSPA				LR	LR	15 14 33.0	
	comp=Z,69nm,18.2s,baz=240,slow=32						
QSPA	**South Pole Qui**	**90.00**	**180**	P	**P**	**14 38 53.0**	**+0.1**
MVCO	**Mesa Verde**	**90.82**	**307**	P	**P**	**14 38 59.7**	**+2.2**
MVCO				IAmb	IAmb	14 39 01.6	
	comp=Z,12nm,1.4s						
PDAR	**Pinedale Array**	**91.54**	**313**	P	**P**	**14 39 01.0**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=101,slow=9.5,SNR=4.5						
PDAR				LR	LR	15 13 46.1	
	comp=Z,116nm,20.8s,baz=96,slow=31						
PDAR	**Pinedale Array**	**91.54**	**313**	P	**P**	**14 39 01.2**	**+0.5**
AAK	**Ala-Archa**	**91.54**	**48**	LR	LR	15 26 51.5	
	comp=Z,65nm,19.4s,baz=284,slow=40						
RPN	**Rapa Nui**	**91.57**	**243**	LR	LR	15 15 43.8	
	comp=Z,76nm,19.3s,baz=82,slow=33						
YKA	**Yellowknife Ar**	**93.34**	**333**	P	**P**	**14 39 08.7**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=85,slow=5.1,SNR=11						
YKA	**Yellowknife Ar**	**93.34**	**333**	P	**P**	**14 39 09.0**	**+0.7**
KURBB	**Kurchatov Arra**	**93.91**	**39**	LR	LR	15 27 36.1	
	comp=Z,63nm,18.1s,baz=267,slow=39						
NRIK	**Noril'sk**	**95.37**	**20**	LR	LR	15 24 50.3	
	comp=Z,78nm,20.3s,baz=320,slow=37						
ELK	**Elko**	**95.90**	**311**	LR	LR	15 17 11.1	
	comp=Z,125nm,21.7s,baz=88,slow=32						
NEW	**Newport**	**96.45**	**318**	LR	LR	15 20 25.2	
	comp=Z,105nm,20.2s,baz=77,slow=34						
MKAR	**Makanchi Array**	**96.78**	**43**	LR	LR	15 29 38.8	
	comp=Z,85nm,18.8s,baz=282,slow=40						
ZALV	**Zalesovo Beam**	**97.32**	**36**	LR	LR	15 27 26.4	
	comp=Z,84nm,18.9s,baz=290,slow=38						
PFO	**Pinyon Flats O**	**97.48**	**304**	LR	LR	15 19 54.6	
	comp=Z,94nm,21.5s,baz=107,slow=33						
PALK	**Pallekele**	**98.18**	**83**	LR	LR	15 19 51.5	
	comp=Z,75nm,19.4s,baz=10,slow=33						
NVAR	**Mina Array Bea**	**98.49**	**309**	LR	LR	15 19 24.0	
	comp=Z,56nm,21.8s,baz=24,slow=33						
ASAR	**Alice Springs**	**143.59**	**132**	PKhKP	PKPpre	14 45 25.9	
	comp=Z,1.8nm,0.8s,baz=229,slow=2.3,SNR=16						
ASAR	**Alice Springs**	**143.59**	**132**		**PKPdf**	**14 45 29.2**	**-0.1**
WRA	**Warramunga Arr**	**146.02**	**127**	PKPbc	**PKPbc**	**14 45 34.1**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=238,slow=2.7,SNR=24						

*PDG **01** 14:30:45.7±0.1, 36°.07N×24°.60E, h12km±6km, ML4.5/12, Error ellipse: s-maj=6.1km s-min=4.5km az=90.0*

*ISK **01** 14:30:47.9, 35°.98N×25°.22E, h83km, ML4.5/10*

*MOS **01** 14:30:47.9±1.0, 35°.97N×25°.01E, h95km, mb4.3/12, Error ellipse: s-maj=6.4km s-min=3.6km az=96.3*

*IDC **01** 14:30:47.3±0.3, 36°.00N×25°.09E, h78km±4km, mb4.0/25, mb1 4.2/33, mb1mx4.0/65, mbtmp4.3/33, MS3.8/2, Ms1 3.8/2, ms1mx2.6/90, Error ellipse: s-maj=11.1km s-min=6.8km az=119.0*

*ATH **01** 14:30:48.0, 35°.97N×25°.19E, h88km, Mw4.2, Moment Tensor Solution. s6 Moment tensor: M_{rr}0.73; $M_{\theta\theta}$0.67; $M_{\phi\phi}$-1.41; $M_{r\theta}$-1.37; $M_{\theta\phi}$-2.08; $M_{\phi r}$0.15; Fault plane solution: NP1:ϕ_s351.00000°, δ59.00000°, λ17.00000°. NP2:ϕ_s252.00000°, δ75.00000°, λ148.00000°.*

*MED_RC **01** 14:30:48.0±0.8, 35°.97N×25°.19E, h76km±9km, MW4.5/13, Moment Tensor Solution. Mantle waves: s13,c17; Duration: 1s.0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.45±.58; $M_{\theta\theta}$2.10±.59; $M_{\phi\phi}$-1.65±.63; $M_{r\theta}$-2.50±.30; $M_{\theta\phi}$-5.26±.84; $M_{\phi r}$-0.42±.34; Best double couple: $M_0$6.14000×10^{15} NP1:ϕ_s81.00000°, δ88.00000°, λ-155.00000°. NP2:ϕ_s350.00000°, δ65.00000°, λ-2.00000°. Principal axes: T 6.3100, Plg15.0000°, Azm213.0000°; N -0.3400, Plg65.0000°, Azm86.0000°; P -5.9700, Plg19.0000°, Azm308.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*THE **01** 14:30:49.8, 35°.96N×25°.18E, h79km±2km, ML4.5/17 Error ellipse: s-maj=2.2km s-min=0.6km az=123.0*

*DDA **01** 14:30:49.4±0.0, 36°.18N×25°.54E, h10km±2km, MW4.2*

*NEIC **01** 14:30:49.2±2.1, 36°.05N±0°.07×25°.16E±0°.08, h89km±6km, Error ellipse: s-maj=10.7km s-min=8.7km az=203.0*

ISC 01 14:30:47.7±0.4**, 36°.04N**±0°.03×**25°.17E**±0°.03**, h81km**±3km**, h81km:pP-P, n499, σ1s.94**/571**, mb4.5**/63**, 32C-21D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR9	**Santorini-Faro**	**0.35**	**26**	P	**Pn**	**14 31 02.5**	**+2.1**
THR9	**Santorini-Faro**	**0.35**	**26**	P	**Pn**	**14 31 02.5**	**+2.1**
THR6	**Thira Island,**	**0.36**	**31**	P	**Pn**	**14 31 02.5**	**+2.0**
THR6	**Thira Island,**	**0.36**	**31**	P	**Pn**	**14 31 02.5**	**+2.0**
THR5	**Thira Island,**	**0.40**	**21**	P	**Pn**	**14 31 02.9**	**+2.1**
THR5	**Thira Island,**	**0.40**	**21**	P	**Pn**	**14 31 02.9**	**+2.1**
SNT5	**Nea Kammeni, S**	**0.41**	**27**	P	**Pn**	**14 31 02.9**	**+2.1**
THR3	**Thira Island,**	**0.41**	**27**	P	**Pn**	**14 31 02.9**	**+2.1**
THR3	**Thira Island,**	**0.41**	**27**	P	**Pn**	**14 31 02.9**	**+2.1**
SAP3	**Santorini-Thir**	**0.42**	**20**	P	**Pn**	**14 31 03.2**	**+2.3**
SAP3	**Santorini-Thir**	**0.42**	**20**	P	**Pn**	**14 31 03.0**	**+2.1**
SFIR	**Foira Santorin**	**0.43**	**29**	P	**Pn**	**14 31 03.1**	**+2.1**
SFIR				S	**Sn**	**14 31 13.6**	**+2.7**
	59µm,0.9s						
THR8	**Santorini-Mono**	**0.44**	**35**	P	**Pn**	**14 31 03.0**	**+1.9**
THR8	**Santorini-Mono**	**0.44**	**35**	P	**Pn**	**14 31 02.9**	**+1.9**
THT2	**Imerovigli**	**0.44**	**28**	P	**Pn**	**14 31 03.3**	**+2.2**
THR2	**Thira island,**	**0.46**	**28**	P	**Pn**	**14 31 03.0**	**+1.7**
THR2	**Thira island,**	**0.46**	**28**	P	**Pn**	**14 31 02.9**	**+1.7**
SAP4	**Santorini-Oia**	**0.46**	**21**	P	**Pn**	**14 31 03.4**	**+2.1**
SAP4	**Santorini-Oia**	**0.46**	**21**	P	**Pn**	**14 31 03.3**	**+2.1**
CMBO	**Columbo, Santo**	**0.47**	**24**	P	**Pn**	**14 31 03.4**	**+2.1**
CMBO				S	**Sn**	**14 31 13.6**	**+2.3**
CMBO				AML	AML	14 31 15.4	
CMBO				AML	AML	14 31 17.1	
	comp=E,69661µm,0.6s						
CMBO	**Columbo, Santo**	**0.47**	**24**	P	**Pn**	**14 31 03.3**	**+2.1**
CMBO				S	**Sn**	**14 31 13.3**	**+2.0**
	comp=E,55µm,0.6s						
HRKL	**Herakleio**	**0.73**	**184**	P	**Pn**	**14 31 04.6**	**+0.8**
HRKL				S	**Sn**	**14 31 16.1**	**+0.5**
HRKL	**Herakleio**	**0.73**	**184**	P	**Pn**	**14 31 04.5**	**+0.7**
HRKL				S	**Sn**	**14 31 15.9**	**+0.2**
	comp=E,59µm,0.5s						
HRKL	**Herakleio**	**0.73**	**184**	PG	**Pn**	**14 31 04.6**	**+0.8**
HRKL				SG	**Sn**	**14 31 15.9**	**+0.2**
IACM	**Heraklion**	**0.74**	**186**	P	**Pn**	**14 31 04.5**	**+0.6**
IACM				S	**Sn**	**14 31 16.1**	**+0.3**
IACM	**Heraklion**	**0.74**	**186**	P	**Pn**	**14 31 04.5**	**+0.6**
IACM				S	**Sn**	**14 31 15.0**	**-0.8**
KSTL	**Kastelli Herak**	**0.74**	**186**	P	**Pn**	**14 31 05.8**	**+1.9**
KSTL	**Kastelli Herak**	**0.74**	**186**	P	**Pn**	**14 31 05.5**	**+1.6**
IDI	**Anoyia**	**0.79**	**197**	⇓P	**Pn**	**14 31 04.3**	**-0.1**
IDI				⇓S	**Sn**	**14 31 15.7**	**-1.1**
IDI	**Anoyia**	**0.79**	**197**	P	**Pn**	**14 31 04.8**	**+0.4**
	comp=E,260nm,0.3s,baz=43,slow=5.5,SNR=3758						
IDI				S	**Sn**	**14 31 16.0**	**-0.9**
	comp=E,2µm,0.3s,baz=296,slow=14,SNR=48						
IDI	**Anoyia**	**0.79**	**197**	P	**Pn**	**14 31 04.8**	**+0.4**
IDI				AML	AML	14 31 16.4	
	comp=N,39438µm,0.1s						
IDI				AML	AML	14 31 16.4	
	comp=E,32647µm,0.1s						
IDI	**Anoyia**	**0.79**	**197**	P	**Pn**	**14 31 04.8**	**+0.4**
IDI				S	**Sn**	**14 31 15.8**	**-1.1**
	comp=E,26µm,0.3s						
IDI	**Anoyia**	**0.79**	**197**	PG	**Pn**	**14 31 04.8**	**+0.4**
IDI				SG	**Sn**	**14 31 16.1**	**-0.8**
IDI	**Anoyia**	**0.79**	**197**		**Pn**	**14 31 04.2**	**-0.3**
PRNS	**Prines Rethymn**	**0.87**	**219**	P	**Pn**	**14 31 06.4**	**+1.2**
PRNS				S	**Sn**	**14 31 19.3**	**+1.0**
	comp=E,5µm,0.6s						
MHLO	**Agia Marina, M**	**0.89**	**317**	P	**Pn**	**14 31 08.4**	**+2.8**
MHLO				S	**Sn**	**14 31 22.5**	**+3.7**
MHLO				AML	AML	14 31 23.4	
MHLO				AML	AML	14 31 23.7	
	comp=E,95050µm,0.7s						
MHLO	**Agia Marina, M**	**0.89**	**317**	P	**Pn**	**14 31 08.1**	**+2.6**
MHLO				S	**Sn**	**14 31 22.0**	**+3.1**
	comp=E,56µm,0.7s						
TMBK	**Timbaki Herakl**	**1.02**	**199**	P	**Pn**	**14 31 08.1**	**+1.1**
TMBK	**Timbaki Herakl**	**1.02**	**199**	P	**Pn**	**14 31 08.0**	**+1.0**
TMBK				S	**Sn**	**14 31 21.3**	**-0.2**
	comp=E,13µm,0.5s						
CHAN	**Chania**	**1.05**	**241**	P	**Pn**	**14 31 08.6**	**+1.3**
CHAN				AML	AML	14 31 24.4	
	comp=E,30238µm,0.3s						
CHAN				AML	AML	14 31 25.7	
	comp=N,56315µm,0.6s						
SIVA	**Sivas**	**1.06**	**196**	P	**Pn**	**14 31 08.4**	**+0.8**
SIVA				AML	AML	14 31 26.9	
	comp=E,70320µm,0.6s						
SIVA				AML	AML	14 31 31.0	
	comp=N,46286µm,0.5s						
SIVA	**Sivas**	**1.06**	**196**	P	**Pn**	**14 31 08.3**	**+0.8**
SIVA				S	**Sn**	**14 31 21.7**	**-0.7**
	comp=N,29µm,0.6s						
APE	**Apeiranthos**	**1.06**	**16**	⇑P	**Pn**	**14 31 09.6**	**+1.9**
APE				⇑S	**Sn**	**14 31 24.5**	**+2.0**
APE	**Apeiranthos**	**1.06**	**16**	P	**Pn**	**14 31 09.9**	**+2.3**
APE	**Apeiranthos**	**1.06**	**16**	P	**Pn**	**14 31 09.8**	**+2.1**
APE	**Apeiranthos**	**1.06**	**16**	*c i*P	**Pn**	**14 31 09.7**	**+2.1**
APE	**Apeiranthos**	**1.06**	**16**	PN	**Pn**	**14 31 09.7**	**+2.1**
APE				SN	**Sn**	**14 31 24.8**	**+2.2**
IMMV	**Iera Moni Meta**	**1.12**	**239**	P	**Pn**	**14 31 09.6**	**+1.4**
IMMV				S	**Sn**	**14 31 24.4**	**+0.7**
IMMV				AML	AML	14 31 25.1	
	comp=N,25551µm,0.3s						
IMMV				AML	AML	14 31 29.0	
	comp=E,34823µm,0.5s						
IMMV	**Iera Moni Meta**	**1.12**	**239**	P	**Pn**	**14 31 09.7**	**+1.4**
IMMV				S	**Sn**	**14 31 24.1**	**+0.3**
	comp=E,16µm,0.6s						
IMMV	**Iera Moni Meta**	**1.12**	**239**	PN	**Pn**	**14 31 09.7**	**+1.4**

FRMA Ierapetra Chan 1.13 156 P **Pn** 14 31 10.1 +1.8
FRMA S **Sn** 14 31 25.1 +1.4
FRMA AML AML 14 31 25.8
comp=N,54067µm,0.4s
FRMA AML AML 14 31 26.1
FRMA Ierapetra Chan 1.13 156 P **Pn** 14 31 09.9 +1.6
FRMA S **Sn** 14 31 24.6 +0.9
comp=N,14µm,0.4s
RODP Rodopos 1.24 248 P **Pn** 14 31 11.2 +1.4
RODP S **Sn** 14 31 26.6 +0.3
comp=N,2µm,0.4s
RODP Rodopos 1.24 248 PN **Pn** 14 31 11.2 +1.4
RODP SN **Sn** 14 31 26.7 +0.4
ZKR Zakros 1.26 137 P **Pn** 14 31 10.8 +0.8
ZKR S **Sn** 14 31 26.8 0.0
ZKR AML AML 14 31 28.1
comp=N,13321µm,0.4s
ZKR AML AML 14 31 33.2
comp=E,20394µm,0.4s
ZKR Zakros 1.26 137 P **Pn** 14 31 10.8 +0.8
ZKR S **Sn** 14 31 26.7 -0.1
comp=E,8µm,0.5s
ZKR Zakros 1.26 137 PN **Pn** 14 31 10.9 +0.8
ZKR SN **Sn** 14 31 26.7 -0.1
KNDR Palaiochora Ch 1.45 237 P **Pn** 14 31 15.3 +2.9
KNDR Palaiochora Ch 1.45 237 P **Pn** 14 31 15.3 +2.9
KNDR S **Sn** 14 31 33.6 +2.6
comp=E,5µm,0.5s
KNDR Palaiochora Ch 1.45 237 PN **Pn** 14 31 15.2 +2.9
KNDR SN **Sn** 14 31 33.8 +2.8
GVDS Gavdos 1.48 217 P **Pn** 14 31 14.7 +1.9
GVD Gavdhos 1.49 217 P **Pn** 14 31 14.6 +1.7
GVD AML AML 14 31 41.8
comp=N,16732µm,0.5s
GVD AML AML 14 31 42.7
comp=E,15755µm,0.6s
GVD Gavdhos 1.49 217 P **Pn** 14 31 14.3 +1.4
GVD Gavdhos 1.49 217 PN **Pn** 14 31 13.9 +1.0
GVD SN **Sn** 14 31 33.1 +1.2
TNSA Tinos 1.49 360 P **Pn** 14 31 15.6 +2.7
ANKY Antikythira Is 1.52 264 P **Pn** 14 31 14.9 +1.5
ANKY S **Sn** 14 31 34.3 +1.6
ANKY AML AML 14 31 34.9
comp=N,11998µm,0.5s
ANKY AML AML 14 31 35.2
comp=E,13633µm,0.6s
ANKY Antikythira Is 1.52 264 P **Pn** 14 31 14.8 +1.5
ANKY S **Sn** 14 31 33.8 +1.1
comp=E,6µm,0.5s
KOSK Kos Island 1.62 64 P **Pn** 14 31 16.2 +1.6
KOSK Kos Island 1.62 64 PN **Pn** 14 31 15.9 +1.3
NISR Nisiros 1.68 70 P **Pn** 14 31 17.0 +1.6
NISR AML AML 14 31 46.8
comp=E,15196µm,0.3s
NISR AML AML 14 31 54.0
comp=N,9446µm,0.4s
NISR Nisiros 1.68 70 P **Pn** 14 31 17.0 +1.6
KARP Karpathos 1.70 106 P **Pn** 14 31 16.5 +0.9
KARP AML AML 14 31 38.1
comp=N,31257µm,0.4s
KARP AML AML 14 31 38.5
comp=E,28929µm,0.4s
KARP Karpathos 1.70 106 P **Pn** 14 31 16.3 +0.7
KARP S **Sn** 14 31 35.9 -0.9
comp=E,15µm,0.4s
KARP Karpathos 1.70 106 PN **Pn** 14 31 16.3 +0.7
KARP SN **Sn** 14 31 36.4 -0.4
KARP Karpathos 1.70 106 **Pn** 14 31 16.3 +0.7
KTHA Kythira Island 1.72 278 P **Pn** 14 31 17.7 +1.9
KTHA Kythira Island 1.72 278 P **Pn** 14 31 17.6 +1.7
KTHR Kythira 1.76 278 P **Pn** 14 31 15.5 +2.0
KTHR Kythira 1.76 278 P **Pn** 14 31 18.4 +2.0
KTHR S **Sn** 14 31 39.3 +1.0
comp=E,6µm,0.5s
MNVA Monemvasia 1.83 291 P **Pn** 14 31 19.7 +2.3
MNVA AML AML 14 31 44.2
comp=E,4962µm,0.5s
MNVA AML AML 14 31 46.2
comp=N,4859µm,0.5s
YDRA Hydra 1.89 314 P **Pn** 14 31 21.0 +2.9
VLI Veliai 1.92 291 P **Pn** 14 31 20.6 +2.0
VLI AML AML 14 31 43.6
comp=E,5642µm,0.6s
VLI AML AML 14 31 44.4
comp=N,9013µm,0.7s
VLI Veliai 1.92 291 P **Pn** 14 31 20.3 +1.8
VLI S **Sn** 14 31 43.6 +1.6
comp=N,4µm,0.6s
BODT Bodrum 2.00 59 P **Pn** 14 31 21.5 +1.8
BODT Bodrum 2.00 59 PN **Pn** 14 31 21.3 +1.6
YKAV Yalikavak-Bodr 2.02 57 PN **Pn** 14 31 21.4 +1.6
DAT Datca 2.06 70 P **Pn** 14 31 22.1 +1.5
DAT Datca 2.06 70 PN **Pn** 14 31 21.9 +1.4
DAT SN **Sn** 14 31 46.2 +0.6
DAT Datca 2.06 70 P **Pn** 14 31 22.0 +1.5
DAT S **Sn** 14 31 45.5 -0.1
KARY Karystos 2.07 344 P **Pn** 14 31 23.7 +3.2
KARY Karystos 2.07 344 P **Pn** 14 31 23.7 +3.2
BDRM Kayabasi 2.10 60 P **Pn** 14 31 22.7 +1.8
BDRM S **Sn** 14 31 47.3 +1.0
KRND KRANIDI 2.10 310 P **Pn** 14 31 24.0 +3.1
KRND KRANIDI 2.10 310 P **Pn** 14 31 23.9 +3.0
VLY Voula,Athens 2.11 329 P **Pn** 14 31 24.1 +3.0
VLY Voula,Athens 2.11 329 P **Pn** 14 31 23.7 +2.6
DIDI Didim-Aydin 2.13 51 PN **Pn** 14 31 23.1 +1.8
SMG Samos 2.13 38 P **Pn** 14 31 23.5 +2.1
SMG Samos 2.13 38 P **Pn** 14 31 23.5 +2.1
DDIM Aydin, Didim 2.18 49 P **Pn** 14 31 24.4 +2.4
DDIM S **Sn** 14 31 49.6 +1.3
ATHU Athens Univers 2.22 330 P **Pn** 14 31 25.3 +2.8
ATH Athens Observa 2.25 329 P **Pn** 14 31 26.3 +3.4
ATH Athens Observa 2.25 329 P **Pn** 14 31 26.1 +3.2
PTL Penteli 2.26 333 P **Pn** 14 31 26.4 +3.4
PTL AML AML 14 31 54.5
comp=N,3825µm,0.7s
PTL AML AML 14 31 55.2
comp=E,9821µm,0.6s
PTL Penteli 2.26 333 P **Pn** 14 31 26.3 +3.2
DION Dionisos Attik 2.26 334 P **Pn** 14 31 26.5 +3.4
DION Dionisos Attik 2.26 334 P **Pn** 14 31 26.4 +3.3
GCAM G?zelcaml? 2.34 44 P **Pn** 14 31 26.2 +2.1
GCAM S **Sn** 14 31 53.9 +1.8
MLSB Milas 2.44 58 PN **Pn** 14 31 27.5 +2.0
MLSB SN **Sn** 14 31 56.2 +1.6
CHOS Chios island 2.44 17 P **Pn** 14 31 28.3 +2.7
CHOS Chios island 2.44 17 P **Pn** 14 31 28.3 +2.7
PSRA Psara 2.51 7 P **Pn** 14 31 29.0 +3.4
VILL Villia 2.58 326 P **Pn** 14 31 30.7 +3.2
TURN Turunc 2.59 73 P **Pn** 14 31 29.1 +1.7
TURN S **Sn** 14 31 59.1 +1.1
TURN *i* AML AML 14 32 00.0
comp=E,997nm,0.8s
AYDN Tasoluk 2.71 53 P **Pn** 14 31 31.6 +2.5
YER Yerkesik 2.73 66 PN **Pn** 14 31 31.2 +1.7
MULA Mugla, Merkez- 2.81 64 P **Pn** 14 31 33.7 +3.1
MULA S **Sn** 14 32 07.0 +3.4
MULA *i* AML AML 14 32 08.0
comp=E,969nm,0.8s
ITM Ithomi 2.84 294 **Pn** 14 31 33.9 +2.9
DALY Dalyan (Mula) 2.92 74 PN **Pn** 14 31 33.8 +1.9
CAND Candarli 3.11 24 PN **Pn** 14 31 37.9 +2.4
SIGR SIGRI 3.21 10 PN **Pn** 14 31 38.4 +2.5
FETY Fethiye 3.22 78 P **Pn** 14 31 37.8 +1.8
FETY S **Sn** 14 32 05.2 -8.1
TAVA DENIZLI_Tavas 3.33 64 P **Pn** 14 31 40.6 +3.1
TAVA S **Sn** 14 32 14.0 -2.1
CAEL Denizli, Camel 3.51 71 P **Pn** 14 31 42.4 +2.3
CAEL S **Sn** 14 32 23.8 +3.1
AKAS Kas 3.60 86 P **Pn** 14 31 42.3 +1.1
AKAS S **Sn** 14 32 19.5 -3.2
GOLH Golhisar 3.73 70 P **Pn** 14 31 45.7 +2.6
GOLH S Sn 14 32 15.6 -10
AGG Agios Georgios 3.73 324 P **Pn** 14 31 46.2 +3.2
AGG Agios Georgios 3.73 324 Pn **Pn** 14 31 46.2 +3.2
ELL Elmali 3.89 78 P **Pn** 14 31 47.5 +2.2
ELL Elmali 3.89 78 **Pn** 14 31 47.5 +2.2
LIT Litokhoron 4.57 333 P **Pn** 14 31 57.7 +3.4
LIT Litokhoron 4.57 333 Pn **Pn** 14 31 57.7 +3.4
ISP Isparta 4.64 66 *de*P **Pn** 14 31 57.3 +1.8
ISP Isparta 4.64 66 PN **Pn** 14 31 57.2 +1.8
ISP Isparta 4.64 66 Pn **Pn** 14 31 57.2 +1.8
ALN Alexandroupoli 4.90 8 P **Pn** 14 32 01.7 +2.9

ALN Alexandroupoli 4.90 8 Pn **Pn** 14 32 01.7 +2.9
FNA Florina 5.59 329 P **Pn** 14 32 10.3 +2.0
FNA Florina 5.59 329 **Pn** 14 32 10.3 +2.0
KDZ Kurdzhali 5.60 2 *i* P **Pn** 14 32 11.1 +2.7
VAY Valandovo 5.65 340 *i* P **Pn** 14 32 12.8 +3.8
MMB Musomiste 5.65 349 *i* P **Pn** 14 32 12.2 +3.1
KBN Korca 5.72 324 P **Pn** 14 32 12.1 +2.0
KBN Korca 5.72 324 Pn **Pn** 14 32 12.1 +2.0
KKB Krupnik 6.04 345 *i* P **Pn** 14 32 17.6 +3.2
PLD Plovdiv 6.06 357 *i* P **Pn** 14 32 18.8 +4.1
STIP Stip 6.10 339 *i* P **Pn** 14 32 18.2 +2.9
OHR Ohrid 6.11 327 *i* P **Pn** 14 32 17.3 +2.0
VLO Vlora 6.28 316 P **Pn** 14 32 18.2 +0.6
VLO Vlora 6.28 316 Pn **Pn** 14 32 18.2 +0.6
MDUB Mudurnu 6.49 45 Pn **Pn** 14 32 24.1 +3.6
PGB Panagyurishte 6.54 354 *i* P **Pn** 14 32 23.8 +2.5
SKO Skopje 6.59 335 *i* P **Pn** 14 32 24.1 +2.1
SCTE Santa Cesarea 6.64 309 Pn **Pn** 14 32 22.6 0.0
TIR Tirane 6.72 324 P **Pn** 14 32 24.3 +0.6
TIR Tirane 6.72 324 **Pn** 14 32 24.3 +0.6
VTS Vitosha 6.73 348 ⇓P **Pn** 14 32 26.7 +2.7
VTS Vitosha 6.73 348 *i* P **Pn** 14 32 28.0 +4.0
BR231 Keskin MP Arra 7.11 55 Pn 14 32 34.7 +5.6
ANTO Ankara 7.13 55 P Pn 14 32 34.7 +5.3
ANTO Ankara 7.13 55 Pn Pn 14 32 34.7 +5.4
SZH Strazhica 7.24 4 *i* P **Pn** 14 32 34.0 +3.3
PRD Provadia 7.35 13 *i* P **Pn** 14 32 34.8 +2.5
TIP Timpagrande 7.37 298 ⇓P **Pn** 14 32 32.8 +0.2
TIP Timpagrande 7.37 298 Pn **Pn** 14 32 32.6 -0.1
ULC Ulcinj 7.50 324 ⇓*i*Pn **Pn** 14 32 33.0 -1.3
ULC *i* Sn **Sn** 14 33 53.4 -4.3
BR131 Keskin Array S 7.64 59 *c* iP **Pn** 14 32 39.6 +3.2
BR131 Keskin Array S 7.64 59 **Pn** 14 32 39.5 +3.0
BRTR Keskin Array B 7.64 59 P **Pn** 14 32 38.3 +2.0
comp=E,8.5nm,0.3s,baz=221,slow=12,SNR=149
BRTR Keskin Array B 7.64 59 P **Pn** 14 32 39.4 +3.0
BRTR Keskin Array B 7.64 59 Pn **Pn** 14 32 39.4 +3.0
PVY Plav 7.69 330 *e*Pn **Pn** 14 32 36.0 -0.9
PVY *i* Sn **Sn** 14 33 58.4 -4.1
DRME Dracevica, Mon 7.70 325 *e*Pn **Pn** 14 32 35.9 -1.1
DRME Dracevica, Mon 7.70 325 ⇓*i*Pn **Pn** 14 32 35.8 -1.2
DRME *i* Sn **Sn** 14 33 58.3 -4.2
CEL Celeste 7.73 289 **Pn** 14 32 37.8 +0.3
PDG Podgorica 7.85 326 Pn **Pn** 14 32 37.9 -1.2
PDG Podgorica 7.85 326 *e*Pn **Pn** 14 32 38.1 -1.0
BUM Brajici-Budva 7.92 324 ⇑*i*Pn **Pn** 14 32 38.7 -1.4
BUM *i* Sn **Sn** 14 34 03.6 -4.5
IVA Berane 7.94 331 *e*Pn **Pn** 14 32 39.6 -0.8
IVA *i* Sn **Sn** 14 34 04.8 -3.9
KOME Kolasin 8.08 329 *e*Pn **Pn** 14 32 41.3 -1.0
KOME *i* Sn **Sn** 14 34 07.9 -4.2
MATE Matera 8.08 307 ⇓P **Pn** 14 32 41.3 -0.9
CEME Cevo 8.10 325 ⇑*i*Pn **Pn** 14 32 41.0 -1.5
CEME *i* Sn **Sn** 14 34 07.9 -4.6
HCY Herceg Novi 8.22 323 *e*Pn **Pn** 14 32 43.1 -1.1
HCY Herceg Novi 8.22 323 ⇑*i*Pn **Pn** 14 32 42.9 -1.3
HCY *i* Sn **Sn** 14 34 10.5 -5.0
NKME Niksic 8.26 326 ⇑*i*Pn **Pn** 14 32 43.5 -1.2
NKME *i* Sn **Sn** 14 34 11.7 -4.6
NKY Niksic 8.28 327 ⇓*i*Pn **Pn** 14 32 43.8 -1.2
NKY *i* Sn **Sn** 14 34 12.2 -4.6
TREB Trebinje 8.50 324 *e*Pn **Pn** 14 32 45.3 -2.6
BRY Bratogost 8.55 325 *e*Pn **Pn** 14 32 47.2 -1.6
BRY Bratogost 8.55 325 ⇓*i*Pn **Pn** 14 32 47.5 -1.3
BRY *i* Sn **Sn** 14 34 18.6 -5.0
UPM Unac-Piva 8.63 328 *e*Pn **Pn** 14 32 49.1 -0.7
UPM Unac-Piva 8.63 328 ⇑*i*Pn **Pn** 14 32 48.7 -1.1
UPM *i* Sn **Sn** 14 34 20.6 -4.9
VAE Valguarnera 8.75 283 P **Pn** 14 32 52.2 +0.7
comp=E,7.3nm,0.3s,baz=108,slow=1.7,SNR=5.4
VAE S **Sn** 14 34 26.1 -2.3
comp=E,18nm,0.3s,baz=24,slow=15,SNR=4.7
TIRR Tirgusor 8.76 15 ⇓P **Pn** 14 32 54.4 +2.9
TIRR Tirgusor 8.76 15 P **Pn** 14 32 54.0 +2.5
TIRR Tirgusor 8.76 15 Pn **Pn** 14 32 54.0 +2.5
STON Ston 8.93 322 *e*Pn **Pn** 14 32 51.3 -2.5
DIVS Divibare 8.97 335 Pn **Pn** 14 32 53.7 -0.7
DIVS Divibare 8.97 335 *e*Pn **Pn** 14 32 54.2 -0.2
MMAI Mount Meron Ar 8.97 107 S **Sn** 14 34 26.2 -7.6
comp=E,76nm,0.3s,baz=187,slow=25,SNR=4.4
BBLS Lazići 8.98 332 *e*Pn **Pn** 14 32 43.6 -11
HERR Herculane 9.07 348 ⇑P **Pn** 14 32 57.5 +1.7
MDVR Moldovita 9.12 344 ⇑P **Pn** 14 32 57.7 +1.3
SGRT San Giovanni R 9.29 311 Pn **Pn** 14 32 57.1 -1.7
ARR Arges 9.32 358 ⇑P **Pn** 14 33 01.4 +2.1
VOIR 9.38 359 ⇑P **Pn** 14 33 02.3 +2.2
MLR Muntele Rosu 9.46 3 ⇑P **Pn** 14 33 03.8 +2.7
MLR Muntele Rosu 9.46 3 P **Pn** 14 33 02.3 +1.2
comp=E,0.9nm,0.3s,baz=259,slow=5.8,SNR=15
MLR Muntele Rosu 9.46 3 P **Pn** 14 33 04.0 +2.9
MLR Muntele Rosu 9.46 3 Pn **Pn** 14 33 04.0 +2.9
GZR Gura Zlata 9.51 350 ⇓P **Pn** 14 33 04.4 +2.6
PAOL Paolisi 9.68 304 **Pn** 14 33 06.6 -0.4
CLTB Caltabellotta 9.71 283 Pn **Pn** 14 33 06.1 +1.6
PLOR Plostina 9.86 6 ⇑P **Pn** 14 33 10.6 +4.1
VRI Vrincioaia 9.88 6 ⇑P **Pn** 14 33 11.5 +4.7
BZS Buzias 9.93 345 ⇑P **Pn** 14 33 09.5 +2.0
SRKY Kupres RS 10.09 325 *e*Pn **Pn** 14 33 07.8 -1.9
EIL Elat 10.39 125 P **Pn** 14 33 11.0 -2.9
comp=E,17nm,0.3s,baz=345,slow=4.3,SNR=21
EIL S Sn 14 34 58.6 -10
comp=E,17nm,0.3s,baz=240,slow=20,SNR=3.6
MGRS Mrkonjic Grad 10.39 326 *e*Pn **Pn** 14 33 12.3 -1.5
TESR Tescani 10.52 6 ⇑P **Pn** 14 33 19.9 +4.5
BLY Banja Luka 10.61 327 *e*Pn **Pn** 14 33 14.5 -2.2
DRGR 10.89 351 ⇑P **Pn** 14 33 23.8 +3.1
MORH Mrgy, Hungar 11.28 336 ⇓P **Pn** 14 33 25.7 -0.2
MORH Mrgy, Hungar 11.28 336 *e*Pn **Pn** 14 33 25.5 -0.3
MORH Mrgy, Hungar 11.28 336 P **Pn** 14 33 25.7 -0.2
KOVH Kovagotottos 11.36 334 P **Pn** 14 33 25.3 -1.6
BUR08 Bucovina Ar. S 11.59 0 Pn **Pn** 14 33 35.2 +5.1
CRES Cresnjev 12.21 326 *e*Pn **Pn** 14 33 35.8 -2.7
MPLH Magyarpolny 12.49 335 P **Pn** 14 33 46.3 +4.2
PSZ Piszkesteto 12.49 343 ⇓P **Pn** 14 33 44.7 +2.4
PSZ Piszkesteto 12.49 343 P **Pn** 14 33 44.8 +2.5
PSZ Piszkesteto 12.49 343 Pn **Pn** 14 33 44.8 +2.5
PSZ Piszkesteto 12.49 343 P **Pn** 14 33 43.4 +1.1
CEY Cerknica 12.63 323 *e*Pn **Pn** 14 33 41.0 -3.1
SKDS Skadanscina 12.70 322 *e*Pn **Pn** 14 33 42.5 -2.5
UZH Uzhgorod 12.76 351 *e*P **Pn** 14 33 47.7 +1.9
ANN Anapa 12.79 43 ⇓*e*P **Pn** 14 33 48.1 +1.9
LJU Ljubljana 12.80 325 *e*Pn **Pn** 14 33 42.7 -3.8
SRO Srobarova 12.81 339 *e*P **Pn** 14 33 47.5 +1.0
SRO Srobarova 12.81 339 *e*P **Pn** 14 33 47.5 +1.0
KEST Kesra 12.84 273 P **Pn** 14 33 49.0 +2.0
comp=E,0.8nm,0.3s,baz=92,slow=6.1,SNR=12
KEST S **Sn** 14 36 02.0 -6.0
comp=E,0.7nm,0.3s,baz=236,slow=22,SNR=2.1
KEST Kesra 12.84 273 Pn **Pn** 14 33 49.2 +2.2
TRI Trieste 12.94 322 P **Pn** 14 33 47.0 -1.2
TRI Trieste 12.94 322 Pn **Pn** 14 33 47.0 -1.2
VSL Villasalto 12.96 290 Pn **Pn** 14 33 47.8 -0.8
SOKA Soboth 13.06 328 *e*Pn **Pn** 14 33 47.0 -2.9
comp=E,4.4nm,0.3s
OBKA Obir 13.14 326 *e*Pn **Pn** 14 33 49.1 -2.0
comp=E,8.7nm,0.7s
IZAB Izabela 13.15 344 *e*P **Pn** 14 33 52.1 +1.1
SOP Sopron 13.27 334 P **Pn** 14 33 55.3 +2.7
VYHS Vyhne 13.29 341 *e*P **Pn** 14 33 54.9 +2.0
VYHS Vyhne 13.29 341 *e*P **Pn** 14 33 54.9 +2.0
ARSA Arzberg 13.30 330 *i* Pn **Pn** 14 33 51.5 -1.6
comp=E,4.0nm,0.5s
RONA Rosalia, Austr 13.38 333 *e*Pn **Pn** 14 33 53.2 -0.9
comp=E,7.5nm,0.5s
CONA Conrad Observa 13.73 333 *e*Pn **Pn** 14 34 00.9 +2.2
comp=E,3.7nm,0.5s
TEOL Teolo 13.82 316 **Pn** 14 33 57.9 -1.9
KBA Koblreinsper 14.12 325 *e*Pn **Pn** 14 34 01.6 -2.3
comp=E,2.1nm,0.4s,SNR=4.9
KBA *e*P **P** 14 34 10.6 +1.5
comp=E,16nm,0.5s,SNR=8.8
CTI Castel Tesino 14.26 319 P **Pn** 14 34 05.5 -0.2
CTI Castel Tesino 14.26 319 Pn **Pn** 14 34 05.5 -0.2
ABTA Abfaltersbach 14.28 322 *e*Pn **Pn** 14 34 04.1 -1.8
comp=E,2.7nm,0.3s
KRUC Moravsky 14.51 336 *e*PN **Pn** 14 34 10.2 +1.4
KRUC Moravsky 14.51 336 *e*P **P** 14 34 13.8 +0.6
MSSA Maissana 14.52 309 **P** 14 34 11.4 -2.0
DOMR Dombai 14.58 55 ⇑*e*P **P** 14 34 12.6 -1.6
VRAC Vranov 14.66 337 ⇓P **P** 14 34 12.9 -2.1
VRAC Vranov 14.66 337 P **Pn** 14 34 12.1 +1.2

comp=E,2.4nm,0.3s,baz=162,slow=11,SNR=9.5
VRAC Vranov 14.66 337 *e*PN **Pn** 14 34 12.0 +1.2
VRAC Vranov 14.66 337 *e*P **P** 14 34 15.6 +0.7
MORC Moravsky Berou 14.81 340 ⇑P **Pn** 14 34 14.1 +1.4
MORC Moravsky Berou 14.81 340 P **Pn** 14 34 14.0 +1.4
MORC Moravsky Berou 14.81 340 Pn **Pn** 14 34 14.0 +1.3
MORC Moravsky Berou 14.81 340 *e*Pn **Pn** 14 34 13.8 +1.1
AKASG Malin Array Be 14.94 10 P **P** 14 34 16.1 -1.8
comp=E,20nm,0.3s,baz=200,slow=11,SNR=73
AKASG S **S** 14 37 08.5 -3.1
baz=200,slow=22,SNR=4.6
AKASG Malin Array Be 14.94 10 *i* P **P** 14 34 17.7 -0.2
AKASG pmax pmax
comp=E,34nm,0.4s
AKASG Malin Array Be 14.94 10 P **P** 14 34 18.7 +0.7
AKBB Malin Array Si 14.94 10 *c* iP **P** 14 34 18.4 +0.5
AKBB Malin Array Si 14.94 10 P **P** 14 34 18.2 +0.3
CKRC Cesky Krumlov 15.05 331 *e*P **Pn** 14 34 17.0 +1.2
WTTA Wattenberg 15.07 322 *i* Pn **Pn** 14 34 16.5 +0.3
comp=E,3.9nm,0.3s
WATA Walderalm 15.15 322 *i* Pn **Pn** 14 34 18.0 +0.8
comp=E,5.3nm,0.3s
SQTA Sankt Quirin 15.26 321 *i* Pn **Pn** 14 34 17.5 -1.1
comp=E,7.9nm,0.6s
KRLC Kraliky 15.29 339 *e*P **Pn** 14 34 19.6 +0.8
KRLC Kraliky 15.29 339 *e*P **Pn** 14 34 19.6 +0.8
NEY Neytrino 15.30 57 ⇑*e*P **P** 14 34 23.7 +1.5
NEY pmax pmax
comp=E,1.0nm,0.9s
GEC2 GERESS Array S 15.31 330 **P** 14 34 21.4 -0.8
GERES GERESS Array B 15.31 330 P **Pn** 14 34 20.0 +0.8
comp=E,4.2nm,0.3s,baz=156,slow=10,SNR=32
FETA Feichten 15.37 320 *e*Pn **Pn** 14 34 20.9 +0.9
comp=E,13nm,0.5s,SNR=6.1
MOTA Moosalm 15.39 322 *i* Pn **Pn** 14 34 19.8 -0.4
comp=E,4.3nm,0.5s
SHA1 Shidzhatmaz 15.45 55 ⇑*e*P **P** 14 34 24.8 +0.9
KIV Kislovodsk 15.56 54 *e*P **P** 14 34 25.2 +0.2
KIV pmax pmax
comp=E,12nm,0.9s
KHC Kasperske Hory 15.59 331 *e*P **Pn** 14 34 23.3 +0.7
KHC Kasperske Hory 15.59 331 **P** 14 34 24.2 -1.0
KHC IAmb IAmb 14 34 28.1
comp=E,29nm,0.8s
KHC Kasperske Hory 15.59 331 *e*P **Pn** 14 34 23.3 +0.7
KHC *ex* x 14 34 26.0
KBZ Khabaz 15.61 55 P **Pn** 14 34 23.9 +1.1
comp=E,0.1nm,0.3s,baz=116,slow=6.0,SNR=8.2
KBZ Khabaz 15.61 55 *de*P **P** 14 34 27.8 +2.4
RETA Reutte 15.66 321 *e*Pn **Pn** 14 34 22.8 -0.8
comp=E,7.1nm,0.4s,SNR=5.0
DPC Dobruska-Polom 15.67 339 *e*P **P** 14 34 24.9 -1.2
DPC Dobruska-Polom 15.67 339 *e*P **P** 14 34 24.9 -1.2
DAVOX Davos/Dischmat 15.67 318 P **Pn** 14 34 24.8 +0.9
comp=E,2.3nm,0.3s,baz=126,slow=11,SNR=15
TUE Stuetta 15.78 316 **Pn** 14 34 26.1 +0.8
PBCC Pribram 15.88 333 *e*P **Pn** 14 34 26.7 +0.5
OSTC Ostas 15.88 339 *e*P **Pn** 14 34 27.2 +0.9
UPC Upice 15.90 338 *e*P **Pn** 14 34 27.1 +0.6
UPC Upice 15.90 338 *e*P **Pn** 14 34 27.1 +0.6
PRU Pruhonice 15.93 334 *e*P **Pn** 14 34 26.8 -0.1
PRU Pruhonice 15.93 334 *e*P **Pn** 14 34 26.8 -0.1
ZEI Tsey 15.95 59 *e*P **P** 14 34 29.6 +0.1
ZEI pmax pmax
comp=E,7.0nm,1.1s
DAVA Damuels 15.99 319 *e*Pn **Pn** 14 34 27.8 0.0
comp=E,7.2nm,0.2s,SNR=6.8
KSP Ksiaz 16.12 339 *e*P **P** 14 34 30.1 -0.9
BRG Berggiesshubel 16.88 335 *e*P **P** 14 34 39.7 +0.2
BRG Amp 14 34 42.0
comp=E,19nm,0.9s
BRG ⇑PP **PcP** 14 39 20.4 -0.8
BRG Amp 14 39 21.5
comp=E,20nm,1.8s
BRG Berggiesshubel 16.88 335 *e*P **P** 14 34 39.7 +0.2
BRG pmax pmax
comp=E,19nm,0.9s
BRG pmax pmax
comp=E,8.0nm,0.9s
BRG pmax pmax
comp=E,20nm,1.8s
SENIN Lac Senin/Sane 16.91 313 **P** 14 34 40.7 +0.7
SENIN IAmb IAmb 14 34 42.6
comp=E,36nm,0.7s
NKC Novy Kostel 16.91 331 *e*P **Pn** 14 34 39.1 0.0
NKC Novy Kostel 16.91 331 *e*P **Pn** 14 34 39.1 0.0
GRF Grafenberg Arr 17.00 328 *e*P **P** 14 34 41.3 +0.5
comp=E,50nm,1.2s,baz=131,slow=12
GRFO Grafenberg 17.00 328 P **P** 14 34 41.3 +0.5
GRFO pmax pmax
comp=E,59nm,1.2s
GRFO Grafenberg 17.00 328 P **P** 14 34 41.3 +0.5
GRFO IAmb IAmb 14 34 43.8
comp=E,59nm,1.2s
BFO Black Forest 17.46 320 P **P** 14 34 46.9 +1.0
BFO pmax pmax
comp=E,9.0nm,0.5s
BFO Black Forest 17.46 320 P **P** 14 34 46.9 +1.0
CLL Collm 17.57 334 ⇓*i*P **Pn** 14 34 47.3 +0.2
CLL pmax pmax
comp=E,43nm,0.8s
CLL Collm 17.57 334 P **Pn** 14 34 47.3 +0.2
CLL IAmb IAmb 14 34 48.3
comp=E,37nm,0.7s
CLL Collm 17.57 334 ⇓*i*P **Pn** 14 34 47.3 +0.2
comp=E,43nm,0.8s
ECH Echery 18.01 318 P **Pn** 14 34 53.4 +0.9
ECH pmax pmax
comp=E,10.0nm,0.9s
ECH Echery 18.01 318 **Pn** 14 34 53.4 +0.9
SUW Suwalki 18.02 356 *e*P **Pn** 14 34 52.6 +0.1
SUW Suwalki 18.02 356 *e*P **P** 14 34 52.2 +0.3
RUE Ruedersdorf 18.31 337 *e*P **Pn** 14 34 56.9 +0.9
MNK Minsk 18.56 5 *i* P **P** 14 34 55.7 -2.1
MNK *i* S **S** 14 38 22.9 -1.6
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=E,15nm,0.8s
MNK pmax pmax
comp=N,13nm,0.8s
MNK Minsk 18.56 5 *i* P **P** 14 34 55.7 -2.1
comp=E,2.0nm,0.8s
MNK *i* P **P** 14 34 55.7 -2.1
comp=N,13nm,0.8s
MNK *i* P **P** 14 34 55.7 -2.1
comp=E,15nm,0.8s,baz=187
MNK *i* pP **pP** 14 35 09.3 -4.5
MNK *i* sP **sP** 14 35 22.4 -1.7
MNK *i* S **S** 14 38 23.0 -1.6
MNK *i* sS sS 14 38 41.3 -9.0
NACGM Naroch 18.89 3 ⇓*e*P **Pn** 14 35 02.4 -0.6
LPSR Galich'ya Gora 19.20 26 *e*P **Pn** 14 35 13.5 +6.9
LPSR pmax pmax
comp=E,10.0nm,0.9s
VRH Novokhopyorsk 19.25 33 *e*P **P** 14 35 04.3 -1.1
VRH pmax pmax
comp=E,8.0nm,0.5s
IDID Didziasalis 19.30 3 *e*P **P** 14 35 05.9 -0.1
IDID IAmb IAmb 14 35 17.7
comp=E,9.5nm,0.5s
IIGN Ignalina 19.32 2 *e*P **P** 14 35 06.4 +0.2
IIGN Ignalina 19.32 2 *e*P **P** 14 35 06.3 +0.2
IIGN IAmb IAmb 14 35 11.2
comp=E,31nm,0.4s
WLF Walferdange 19.41 320 P **Pn** 14 35 08.2 -0.9
WLF pmax pmax
comp=E,13nm,0.6s
WLF Walferdange 19.41 320 P **Pn** 14 35 08.2 -0.9
WLF IAmb IAmb 14 35 13.6
comp=E,13nm,0.6s
PABE Paberze 19.48 358 P **P** 14 35 07.7 -0.2
PABE Paberze 19.48 358 *e*P **P** 14 35 07.6 -0.3
PABE Paberze 19.48 358 *e*P **P** 14 35 07.7 -0.2
ISAL Salakas 19.54 2 *e*P **P** 14 35 08.7 +0.2
ISAL Salakas 19.54 2 *e*P **P** 14 35 09.2 +0.6
PBUR Paburge 20.11 355 *e*P **P** 14 35 14.7 0.0
PBUR Paburge 20.11 355 *e*P **P** 14 35 14.6 0.0
BSD Bornholm Skovb 20.34 343 *e*P **P** 14 35 15.2 -1.9
BSD Bornholm Skovb 20.34 343 *i* P **P** 14 35 14.0 -3.1
BSD *i* P **P** 14 35 14.0 -3.1
BSD IAML 14 35 17.9
comp=E,1.3nm,0.2s
OBN Obninsk 20.62 19 ⇑*e*P **Pn** 14 35 23.3 +0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OBN				*SP	sP	14 35 46.0	-0.6
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLF	Chambon-Foret	20.72	312	P	P	14 35 22.6	+1.3
BLEU	Blekinge	21.24	346	i P	P	14 35 22.9	-3.9
BLEU				IAML		14 35 27.3	
	comp=Z,0.5nm,0.2s						
MOS	Moscow	21.46	19	eP	P	14 35 48.8	+20
MOS				e		14 36 11.2	
MOS				e		14 39 16.7	
SLIT	Slitere, Latvi	21.68	356	eP	P	14 35 31.6	+0.1
DEL	Delary	21.82	343	eP	P	14 35 30.9	-2.1
DEL	Delary	21.82	343	eP	P	14 35 30.4	-2.5
VSU	Vasula	22.45	2	⇑eP	P	14 35 39.3	-0.5
VSU				i *PP	pP	14 35 55.0	-1.2
VSU				pmax	pmax		
	comp=Z,26nm,0.3s						
VSU	Vasula	22.45	2	eP	P	14 35 40.5	+0.7
VSU	Vasula	22.45	2	eP	P	14 35 39.4	-0.4
MTSE	Matsula	22.70	358	eP	P	14 35 40.5	-1.9
MTSE	Matsula	22.70	358	eP	P	14 35 40.7	-1.6
VIKU	Vikbolandet	23.16	349	eP	P	14 35 44.9	-2.0
ESBB	Sonseca Array	23.23	288	P	P	14 35 47.5	-0.4
ESDC	Sonseca Array	23.24	288	P	P	14 35 48.0	+0.1
	comp=Z,12nm,0.8s,baz=80,slow=9.7,SNR=58						
ESDC	Sonseca Array	23.24	288	P	P	14 35 47.6	-0.4
PAB	San Pablo	23.53	287	P	P	14 35 51.2	+0.5
PAB				pmax	pmax		
	comp=Z,32nm,1.3s						
PAB	San Pablo	23.53	287	P	P	14 35 51.2	+0.5
PAB				IAmb	IAmb	14 35 52.4	
	comp=Z,32nm,1.3s						
TJOU	Tjoern	23.77	342	i P	P	14 35 50.1	-2.3
MEF	Metsahovi	24.20	359	eP	P	14 35 55.7	-0.5
MEF	Metsahovi	24.20	359	eP	P	14 35 55.8	-0.5
UPP	Uppsala	24.33	351	eP	P	14 35 54.7	-2.8
AAL	Aland	24.38	354	eP	P	14 35 56.7	-1.2
AAL	Aland	24.38	354	eP	P	14 35 56.8	-1.2
MDT	Midelt	24.72	271	P	P	14 36 02.3	+0.8
	comp=Z,3.4nm,0.6s,baz=97,slow=8.7,SNR=5.6						
RAF	Rauma	25.09	356	eP	P	14 36 03.1	-1.4
RAF	Rauma	25.09	356	eP	P	14 36 03.5	-1.0
HFS	Hagfors	25.22	346	P	P	14 36 04.7	-0.9
	comp=Z,1.6nm,0.4s,baz=44,slow=26,SNR=12						
PBRG	Braganca	25.39	293	eP	P	14 36 07.9	+0.5
	comp=Z,32nm,1.4s						
FINES	FINESS Array B	25.43	1	P	P	14 36 06.7	-0.8
	comp=Z,2.1nm,0.4s,baz=160,slow=11,SNR=20						
FINES				ScP	ScP	14 43 07.0	-2.4
	comp=Z,1.6nm,0.6s,baz=198,slow=3.8,SNR=5.3						
FINES	FINESS Array B	25.43	1	P	P	14 36 06.9	-0.6
FIA1	FINESS Array S	25.43	1	P	P	14 36 08.2	+0.7
MVO	Moncorvo	25.59	291	eP	P	14 36 09.9	+0.6
	comp=Z,38nm,0.9s						
KONO	Kongsberg	25.70	342	P	P	14 36 09.8	-0.1
KONO				pmax	pmax		
	comp=Z,23nm,1.3s						
KONO	Kongsberg	25.70	342	P	P	14 36 09.8	-0.1
KONO				IAmb	IAmb	14 36 34.5	
	comp=Z,23nm,1.3s						
KONO	Kongsberg	25.70	342	eP	P	14 36 09.8	-0.1
PBAR	Barrancos	25.70	284	eP	P	14 36 11.3	+1.0
	comp=Z,26nm,1.9s						
PMRV	Marv??o	25.89	287	eP	P	14 36 13.8	+1.8
PCBR	Castelo Branco	25.94	288	eP	P	14 36 14.7	+2.3
	comp=Z,22nm,2.0s						
MTE	Manteigas	25.98	290	eP	P	14 36 13.8	+1.0
	comp=Z,24nm,0.8s						
MTE	Manteigas	25.98	290	P	P	14 36 13.0	+0.2
MTE				IAmb	IAmb	14 36 15.4	
	comp=Z,13nm,0.7s						
PESTR	Estremoz	26.08	286	eP	P	14 36 15.4	+1.7
	comp=Z,23nm,1.3s						
PESTR	Estremoz	26.08	286	P	P	14 36 14.8	+1.1
PVRL	Vila Real	26.11	292	eP	P	14 36 14.5	+0.6
POLO	Lamas de Olo	26.17	292	eP	P	14 36 15.0	+0.5
	comp=Z,12nm,1.8s						
NC602	NORSAR Array S	26.20	345	eP	P	14 36 13.3	-1.2
PVIS	Viseu	26.24	290	eP	P	14 36 16.0	+0.8
	comp=Z,27nm,1.6s						
PVAQ	Vaqueiros	26.32	283	eP	P	14 36 15.9	+0.1
	comp=Z,27nm,1.4s						
PVAQ	Vaqueiros	26.32	283	P	P	14 36 16.1	+0.2
PVAQ				IAmb	IAmb	14 36 19.5	
	comp=Z,15nm,1.0s						
PBEJ	Beja	26.37	284	eP	P	14 36 18.7	+2.4
	comp=Z,30nm,1.0s						
BLS5	Blasjo	26.38	338	eP	P	14 36 17.7	+1.6
NAO01	NORSAR Array S	26.44	344	P	P	14 36 16.5	-0.2
NAO01				IAmb	IAmb	14 36 42.5	
	comp=Z,38nm,1.4s						
KLMR	Klimovskoe	26.47	16	eP	P	14 36 13.0	-3.8
KLMR				pmax	pmax		
	comp=Z,12nm,1.3s						
KLMR	Klimovskoe	26.47	16	eP	P	14 36 13.1	-3.8
KLMR				AMP		14 36 19.6	
	comp=Z,12nm,1.3s						
PBDV	Barranco-do-Ve	26.51	283	eP	P	14 36 20.6	+3.0
	comp=Z,71nm,1.4s						
PGAV	Gavieira, Arco	26.54	293	eP	P	14 36 17.8	-0.1
	comp=Z,29nm,1.9s						
NB2	NORSAR Subarra	26.55	345	P	P	14 36 16.9	-0.8
	comp=Z,1.0nm,0.4s,baz=156,slow=9.3						
NB2	NORSAR Subarra	26.55	345	P	P	14 36 16.9	-0.8
	baz=156,slow=9.3						
NOA	NORSAR Array B	26.55	345	P	P	14 36 16.8	-0.8
	comp=Z,0.4nm,0.3s,baz=145,slow=19,SNR=20						
PCVE	Castro Verde	26.55	283	eP	P	14 36 20.5	+2.6
	comp=Z,33nm,1.6s						
PMTG	Montargil	26.56	287	eP	P	14 36 19.8	+1.8
PCAS	Casmilo, Conde	26.72	289	eP	P	14 36 20.9	+1.5
	comp=Z,26nm,1.1s						
ODD1	Odda	26.73	339	eP	P	14 36 19.8	+0.5
PNCL	Nicolau / Gran	26.88	285	eP	P	14 36 24.2	+3.3
	comp=Z,34nm,1.4s						
SKAR	Skarslia	26.91	342	eP	P	14 36 22.8	+1.8
PTEO	Sao Teotonio	27.10	283	eP	P	14 36 26.2	+3.4
EKA	Eskdalemuir Ar	27.33	324	P	P	14 36 24.5	-0.1
	comp=Z,7.5nm,0.4s,baz=117,slow=9.0,SNR=28						
BER	Bergen	27.49	339	eP	P	14 36 26.0	0.0
DOMB	Dombas	27.92	344	eP	P	14 36 29.5	-0.4
ABKAR	Akbulak array	28.51	52	P	P	14 36 35.4	+0.1
ABKAR	Akbulak array	28.51	52		P	14 36 35.6	+0.3
FOO	Floro	28.55	340	eP	P	14 36 35.5	0.0
TOA0	Torodi Ar. Sit	31.07	229	P	P	14 36 58.8	+0.6
TORD	Torodi Ar. Bea	31.07	229	P	P	14 36 58.5	+0.3
	comp=Z,8.2nm,0.5s,baz=32,slow=8.6,SNR=36						
TORD	Torodi Ar. Bea	31.07	229	P	P	14 36 57.9	-0.3
TORD				IAmb	IAmb	14 37 04.2	
	comp=Z,16nm,1.4s						
STOK	Stokkvaagen	31.15	351	eP	P	14 36 58.5	+0.2
KONS	Konsvik	31.30	351	eP	P	14 36 58.8	-0.9
WSAR	Wadi Sarin	31.60	105	P	P	14 37 02.2	-0.7
	comp=Z,9.3nm,1.1s,baz=263,slow=13,SNR=1.6						
FAUS	Fauske	31.89	353	eP	P	14 37 03.6	-1.2
STEI	Steigen	32.43	353	eP	P	14 37 08.8	-0.8
KTK1	Kautokeino	33.04	359	eP	P	14 37 13.9	-1.0
ARA0	ARCESS Array S	33.55	0	eP	P	14 37 17.1	-2.2
ARCES	ARCESS Array B	33.55	0	P	P	14 37 18.0	-1.4
	comp=Z,1.4nm,0.5s,baz=172,slow=9.0,SNR=27						
ARCES				ScP	ScP	14 43 32.4	-2.9
	comp=Z,3.3nm,1.0s,baz=174,slow=2.2,SNR=4.9						
ARCES	ARCESS Array B	33.55	0	P	P	14 37 18.1	-1.3
ARCES				pmax	pmax		
	comp=Z,19nm,1.4s						
ARCES	ARCESS Array B	33.55	0	P	P	14 37 18.1	-1.3
ARCES				IAmb	IAmb	14 37 23.8	
	comp=Z,19nm,1.4s						
JETT	Jettan, Norway	33.67	357	eP	P	14 37 20.9	+0.4
SOCY	Socotra	35.20	125	P	P	14 37 32.3	-2.0
SOCY				IAmb	IAmb	14 38 01.2	
	comp=Z,10nm,0.9s						
KKAR	Karatay Array	35.31	64	P	P	14 37 35.8	+0.9
KKAR	Karatay Array	35.31	64	P	P	14 37 35.8	+0.9
MBAR	Mbarara	36.83	171	⇑eP	P	14 37 48.3	+0.1
AAK	Ala-Archa	38.27	65	P	P	14 38 02.2	+2.0
	comp=Z,0.8nm,0.4s,baz=242,slow=5.3,SNR=4.6						
AAK	Ala-Archa	38.27	65	⇑eP	P	14 38 03.2	+3.0
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	Ala-Archa	38.27	65	P	P	14 38 01.6	+1.4
AAK				IAmb	IAmb	14 38 26.5	
	comp=Z,4.2nm,0.6s						
DBIC	Dimbokro	40.13	230	P	P	14 38 15.7	-0.1
	comp=Z,11nm,0.6s,baz=50,slow=8.7,SNR=13						
DBIC	Dimbokro	40.13	230	P	P	14 38 15.7	-0.1
TIC	Toumodi	40.25	231	eP	P	14 38 17.1	+0.3
KIC	Kosan Boka	40.30	230	eP	P	14 38 17.1	0.0
	comp=Z,19nm,0.5s						
KURBB	Kurchatov Arra	40.57	52	P	P	14 38 19.8	+0.8
	comp=Z,2.1nm,0.5s,baz=278,slow=8.7,SNR=16						
KURBB				pP	pP	14 38 39.7	+1.5
	comp=Z,5.8nm,0.6s,baz=275,slow=8.8,SNR=6.4						
LIC	Lamto	40.58	230	eP	P	14 38 20.1	+0.6
	comp=Z,18nm,0.5s						
KURK	Kurchatov	40.62	52	deP	P	14 38 20.5	+1.1
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SPB2	Spitsbergen Ar	42.40	357	P	P	14 38 32.4	-1.2
SPA0	Spitsbergen Ar	42.41	357	eP	P	14 38 32.9	-0.8
SPITS	Spitsbergen Ar	42.41	357	P	P	14 38 32.9	-0.8
SPITS				pmax	pmax		
	comp=Z,62nm,1.5s						
MAKZ	Makanchi	43.07	57	P	P	14 38 39.8	+0.2
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAKZ	Makanchi	43.07	57		P	14 38 39.8	+0.2
MK31	Makanchi Array	43.29	57	ceP	P	14 38 41.7	+0.4
MK31	Makanchi Array	43.29	57	P	P	14 38 41.9	+0.6
MK31				IAmb	IAmb	14 39 10.5	
	comp=Z,9.3nm,0.8s						
MKAR	Makanchi Array	43.29	57	P	P	14 38 41.9	+0.6
	comp=Z,2.2nm,0.5s,baz=268,slow=8.4,SNR=36						
MKAR				pP	pP	14 39 01.2	+0.5
	comp=Z,3.3nm,0.5s,baz=267,slow=7.9,SNR=10.0						
MKAR				ScP	ScP	14 44 10.4	-2.4
	comp=Z,0.2nm,0.5s,baz=288,slow=4.1,SNR=2.2						
MKAR	Makanchi Array	43.29	57	P	P	14 38 42.0	+0.7
ZAA0	Zalesovo Array	44.39	47	P	P	14 38 50.2	+0.2
ZALV	Zalesovo Beam	44.39	47	P	P	14 38 49.7	-0.3
	comp=Z,2.5nm,0.4s,baz=268,slow=8.8,SNR=14						
ZALV				pP	pP	14 39 09.2	-0.3
	comp=Z,2.4nm,0.4s,baz=270,slow=10,SNR=4.6						
ZALV	Zalesovo Beam	44.39	47	P	P	14 38 49.9	-0.1
NOR	Nord	48.07	352	i P	P	14 39 12.2	-6.3
SFJD	Kangerlussuaq	51.91	331	LR	LR	15 03 41.2	
	comp=Z,58nm,21.7s,baz=156,slow=38						
SONM	Songino Array	58.93	51	P	P	14 40 39.9	+1.4
	comp=Z,0.5nm,0.5s,baz=291,slow=8.9,SNR=5.0						
SONM				pP	pP	14 40 58.8	0.0
	comp=Z,1.2nm,0.5s,baz=303,slow=6.5,SNR=7.1						
TIXI	Tiksi	60.34	21	⇑eP	P	14 40 46.9	-0.7
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
LBTB	Lobatse	60.73	180	P	P	14 40 52.1	+1.2
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LBTB	Lobatse	60.73	180	P	P	14 40 52.0	+1.2
SCHQ	Schefferville	62.52	319	P	P	14 41 02.8	+0.2
	comp=Z,18nm,0.4s,baz=67,slow=5.1,SNR=111						
SCHQ	Schefferville	62.52	319	P	P	14 41 02.8	+0.2
BOSA	Boshof	64.31	180	P	P	14 41 15.4	+0.7
	comp=Z,4.4nm,0.7s,baz=360,slow=7.2,SNR=4.5						
BOSA	Boshof	64.31	180	P	P	14 41 15.5	+0.8
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BOSA	Boshof	64.31	180	P	P	14 41 15.5	+0.8
BOSA				IAmb	IAmb	14 41 15.6	
	comp=Z,5.5nm,0.7s						
BATG	Bathurst New B	65.34	311	P	P	14 41 21.6	+0.4
CMAR	Chiang Mai Arr	66.47	84	P	P	14 41 29.9	+1.0
	comp=Z,0.9nm,0.6s,baz=301,slow=7.8,SNR=11						
CMAR	Chiang Mai Arr	66.47	84	i P	P	14 41 29.8	+0.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SUR	Sutherland	68.19	184	P	P	14 41 40.2	+0.7
A36M	Sachs Harbour	70.28	351	P	P	14 41 51.9	+0.2
A36M				IAmb	IAmb	14 41 52.6	
	comp=Z,5.3nm,0.8s						
SEY	Seymchan	72.74	22	P	P	14 42 06.6	-0.1
	comp=Z,0.7nm,0.6s,baz=1.7,slow=23,SNR=22						
FCC	Fort Churchill	72.93	332	P	P	14 42 07.8	0.0
FCC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FCC	Fort Churchill	72.93	332	P	P	14 42 07.8	0.0
MA2	Magadan	74.68	25	P	P	14 42 17.9	-0.2
	comp=Z,1.4nm,0.5s,baz=336,slow=11,SNR=5.6						
MA2	Magadan	74.68	25	⇑eP	P	14 42 18.1	0.0
MA2				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SSPA	Standing Stone	76.07	310	P	P	14 42 27.3	+0.9
SSPA				IAmb	IAmb	14 42 28.5	
	comp=Z,17nm,1.1s						
YKA	Yellowknife Ar	76.61	342	P	P	14 42 28.6	-0.4
	comp=Z,2.0nm,0.6s,baz=30,slow=5.2,SNR=28						
KSRS	Korea Array	77.74	53	P	P	14 42 36.7	+0.8
	comp=Z,0.6nm,0.5s,baz=315,slow=4.2,SNR=4.1						
KSRS				pP	pP	14 42 56.2	-0.7
	comp=Z,1.1nm,0.8s,baz=310,slow=5.0,SNR=3.3						
ILAR	Eielson Array	79.32	357	P	P	14 42 44.1	+0.1
	comp=Z,0.5nm,0.7s,baz=335,slow=3.4,SNR=5.9						
ILAR	Eielson Array	79.32	357	P	P	14 42 43.7	-0.4
DAWY	Dawson	79.48	353	P	P	14 42 45.4	+0.4
DAWY				IAmb	IAmb	14 42 45.7	
	comp=Z,4.9nm,0.6s						
ULM	Lac du Bonnet	79.58	326	P	P	14 42 45.4	-0.3
	comp=Z,2.2nm,0.4s,baz=75,slow=4.5,SNR=3.3						
ULM	Lac du Bonnet	79.58	326	P	P	14 42 45.4	-0.3
ULM				IAmb	IAmb	14 42 45.9	
	comp=Z,3.3nm,0.6s						
N49A	Columbus Grove	79.70	313	P	P	14 42 46.7	+0.1
BCAR	Beaver Creek A	80.68	354	P	P	14 42 52.5	+1.1
DLBC	Dease Lake	83.61	347	P	P	14 43 08.0	+1.1
	comp=Z,1.4nm,0.6s,baz=301,slow=4.3,SNR=4.8						
EDM	Edmonton	84.09	336	P	P	14 43 09.8	+0.4
EDM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
EDM	Edmonton	84.09	336	P	P	14 43 09.8	+0.4
EDM				IAmb	IAmb	14 43 10.2	
	comp=Z,6.5nm,0.8s						
ECSD	EROS Data Cent	84.60	322	P	P	14 43 12.0	-0.1
ECSD				IAmb	IAmb	14 43 12.8	
	comp=Z,3.4nm,0.7s						
CCM	Cathedral Cave	85.70	315	P	P	14 43 18.2	+0.5
CCM				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CCM	Cathedral Cave	85.70	315	P	P	14 43 18.2	+0.5
CCM				IAmb	IAmb	14 43 18.9	
	comp=Z,5.5nm,0.6s						
LCAR	Lake Charles	87.00	313	P	P	14 43 24.6	+0.5
LCAR				IAmb	IAmb	14 43 25.6	
	comp=Z,5.3nm,0.6s						
WALA	Waterton Lakes	87.80	334	P	P	14 43 27.5	-0.4
WALA				IAmb	IAmb	14 43 28.5	
	comp=Z,9.4nm,1.4s						
BBB	Bella Bella	89.09	344	LR	LR	15 27 50.5	
	comp=Z,68nm,18.5s,baz=64,slow=38						
PDAR	Pinedale Array	91.36	328	P	P	14 43 44.0	-0.8
	comp=Z,0.3nm,0.6s,baz=15,slow=3.7,SNR=2.8						
WRA	Warramunga Arr	116.68	96	PKP	PKPdf	14 49 22.4	-0.5
	comp=Z,0.6nm,1.0s,baz=311,slow=1.7,SNR=2.1						
ASAR	Alice Springs	118.20	100	PKP	PKPdf	14 49 25.4	-0.3
	comp=Z,0.2nm,0.3s,baz=313,slow=1.6,SNR=8.4						

IDC 01 14:31:06.6±0.7, 33°.24N×27°.55E, h0km, mb4.5/27, mb1 4.5/36, mb1mx4.4/64, mbtmp4.5/36, ML4.5/8, Error ellipse: s-maj=15.0km s-min=12.2km az=27.0
HLW 01 14:31:09.9, 33°.04N×27°.62E, h11km±8km, Md4.6
GII 01 14:31:14.2±0.3, 33°.12N×27°.99E, h89km, Mm4.2/3
ISC 01 14:31:11.6±0.4, 33°.19N±0°.05×27°.68E±0°.04, h35km, n101, σ1s.69/121, mb4.6/36, 1C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLUM	Salum	2.69	232	⇑P	Pn	14 31 51.6	-0.8
	baz=234						
SLUM				S	Sn	14 32 20.4	-3.2
	baz=234						
HMYD	Mayadein	4.30	141	⇓P	Pn	14 32 14.7	+0.2
	baz=139						
HNAT	Natroun	4.34	144	⇑P	Pn	14 32 15.3	+0.2
	baz=142						
SWA2		4.37	206	⇑P	Pn	14 32 15.0	-0.4
	baz=207						
SWA2				S	Sn	14 33 01.4	-3.8
	baz=207						
RYAN	Fayoum	4.66	151	P	Pn	14 32 19.6	+0.2
	baz=149						
KOT	Kottamia	4.80	131	⇑P	Pn	14 32 20.7	-0.8
	baz=129						
HSAF	As Saff	4.86	136	⇓P	Pn	14 32 21.8	-0.4
	baz=134						
HHAG	Hagoal	4.96	129	P	Pn	14 32 23.0	-0.6
	baz=127						
GLL	Jalalah	4.98	135	⇑P	Pn	14 32 23.4	-0.5
	baz=133						
NBNS	Bani Suef	5.51	145	⇑P	Pn	14 32 31.0	-0.1
	baz=143						
HFRF	Wahat Farafira	6.04	175	P	Pn	14 32 38.5	0.0
	baz=174						
KZIT	Kziot	6.14	110	Pn	Pn	14 32 38.3	-1.4
KZIT				Sn	Sn	14 33 44.7	-4.0
OFRI	`Ofer	6.17	93	Pn	Pn	14 32 38.8	-1.4
OFRI				Sn	Sn	14 33 44.6	-4.9
SLTI	Sal'it	6.27	97	Pn	Pn	14 32 41.0	-0.6
SLTI				Sn	Sn	14 33 48.5	-3.5
HNTI	Hanita	6.28	89	Pn	Pn	14 32 41.1	-0.7
BLGI	Bet Lehem HaGe	6.33	92	Pn	Pn	14 32 40.9	-1.4
BLGI				Sn	Sn	14 33 49.6	-3.8
AMAZ	Amatzia	6.34	103	Pn	Pn	14 32 41.4	-1.1
MMA0B	Mount Meron ar	6.48	89	Pn	Pn	14 32 43.9	-0.6
MMA0B				Sn	Sn	14 33 54.7	-2.6
MMAI	Mount Meron Ar	6.48	89	Pn	Pn	14 32 43.5	-1.0
	20nm,0.3s,baz=321,slow=9.8,SNR=59						
MMAI				Sn	Sn	14 33 54.7	-2.5
	114nm,0.3s,baz=17,slow=26,SNR=15						
YTIR	Yattir	6.55	104	Pn	Pn	14 32 44.8	-0.7
YTIR				Sn	Sn	14 33 55.9	-3.1
MMLI	Mount Malkishu	6.56	94	Pn	Pn	14 32 44.5	-1.0
MMLI				Sn	Sn	14 33 54.8	-4.3
HMDT	Nahal Hemdat	6.67	96	Pn	Pn	14 32 46.4	-0.7
HMDT				Sn	Sn	14 33 58.4	-3.5
GEM	Giv'at Ha'Em	6.69	88	Pn	Pn	14 32 46.6	-0.7
GEM				Sn	Sn	14 33 59.9	-2.4
DSI	Dead Sea	6.71	102	Pn	Pn	14 32 46.9	-0.7
DSI				Sn	Sn	14 33 59.2	-3.5
KRMI	Paran Flat	6.74	115	Pn	Pn	14 32 47.3	-0.7
NATI	Neve Ativ	6.75	87	Pn	Pn	14 32 47.4	-0.7
KSHT	Keshet	6.82	90	Pn	Pn	14 32 49.1	-0.1
PRNI	Paran	6.84	112	Pn	Pn	14 32 48.6	-0.9
PRNI				Sn	Sn	14 34 02.4	-3.8
GHAJ	Ghor Haditha	6.94	104	Pn	Pn	14 32 50.0	-0.7
HRFI	Mount Harif	7.01	115	Pn	Pn	14 32 51.2	-0.6
HRFI				Sn	Sn	14 34 07.2	-3.1
MBRI	Mt Berech	7.04	117	Pn	Pn	14 32 51.4	-0.8
EIL	Elat	7.13	118	Pn	Pn	14 32 52.2	-1.1
	2.7nm,0.3s,baz=320,slow=1.3,SNR=41						
EIL				Sn	Sn	14 34 09.6	-3.6
	44nm,0.3s,baz=137,slow=3.2,SNR=9.9						
EIL	Elat	7.13	118	Pn	Pn	14 32 52.4	-1.0
HDHB	Dhahab	7.43	125	P	Pn	14 32 56.0	-1.5
	baz=123						
ASF	Jabal al Asfar	7.83	95	Pn	Pn	14 33 03.5	+0.4
	3.0nm,0.3s,baz=243,slow=24,SNR=17						
ASF				Sn	Sn	14 34 27.9	-2.6
	9.1nm,0.3s,baz=78,slow=20,SNR=6.6						
BRTR	Keskin Array B	8.10	35	Pn	Pn	14 33 07.2	+0.5
	1.9nm,0.3s,baz=210,slow=15,SNR=6.3						
BRTR				Sn	Sn	14 34 32.6	-4.4
	8.1nm,0.3s,baz=204,slow=26,SNR=20						
VAE	Valguarnera	11.65	295	Pn	Pn	14 33 52.7	-2.6
	6.0nm,0.3s,baz=52,slow=12,SNR=2.4						
GNI	Garni	15.34	58	Pn	Pn	14 34 47.4	+1.9
	1.6nm,0.3s,baz=328,slow=3.3,SNR=4.4						
KEST	Kesra	15.34	285	Sn	Sn	14 37 23.5	-11
	0.1nm,0.3s,baz=306,slow=23,SNR=0.9						
SOKA	Soboth	16.57	328	ePn	Pn	14 35 02.8	+1.5
	30nm,0.7s						
OBKA	Obir	16.66	327	ePn	Pn	14 35 03.7	+1.3
	13nm,0.8s						
AKASG	Malin Array Be	17.54	3	P	Pn	14 35 10.3	-2.8
	6.4nm,0.3s,baz=192,slow=11,SNR=6.6						
AKASG				S	Sn	14 38 26.9	-0.3
	baz=191,slow=22,SNR=5.5						
KBA	Koelnbreinsper	17.64	326	ePn	Pn	14 35 15.2	+0.5
	17nm,0.7s						
ABTA	Abfaltersbach	17.81	324	ePn	Pn	14 35 16.1	-0.5
	22nm,0.6s						
MOA	Molln	17.81	329	ePn	Pn	14 35 17.8	+1.3
	12nm,1.1s						
WTTA	Wattenberg	18.60	324	ePn	P	14 35 25.7	-0.1
	31nm,0.9s						
WATA	Walderalm	18.68	324	ePn	P	14 35 26.3	-0.4
	20nm,0.7s						
SQTA	Sankt Quirin	18.78	323	ePn	P	14 35 27.9	0.0
	17nm,0.6s						
GERES	GERESS Array B	18.82	330	P	P	14 35 26.7	-1.5
	1.3nm,0.3s,baz=139,slow=12,SNR=5.4						
FETA	Feichten	18.89	322	ePn	P	14 35 30.8	+1.6
	9.8nm,0.6s						
MOTA	Moosalm	18.92	323	ePn	P	14 35 30.0	+0.6
	10.0nm,0.8s						
KHC	Kasperske Hory	19.09	331	eS	P	14 35 29.6	-1.5
RETA	Reutte	19.18	323	ePn	P	14 35 31.8	-0.4
	13nm,0.8s						
DAVOX	Davos/Dischmat	19.19	320	P	P	14 35 30.8	-1.6
	1.4nm,0.3s,baz=157,slow=11,SNR=4.1						
CHVC	Chvalec	19.38	337	eS	P	14 35 33.7	-0.6
DAVA	Damuels	19.51	321	i Pn	P	14 35 35.2	-0.7
	11nm,0.6s						
BRG	Berggiesshubel	20.35	334	ex	P	14 35 44.3	-0.4
BRG	Berggiesshubel	20.35	334	Amp		14 35 48.9	
	comp=Z,7.5nm,0.9s						
NKC	Novy Kostel	20.41	331	eS	P	14 35 44.0	-1.5
GRF	Grafenberg Arr	20.52	328	esP	P	14 35 45.6	-1.1
	baz=144,slow=11						
GEYT	Alibeck	25.14	70	P	P	14 36 34.0	+0.6
	comp=Z,7.6nm,0.4s,baz=264,slow=11,SNR=10						
ESDC	Sonseca Array	26.18	293	P	P	14 36 42.1	-0.8
	comp=Z,2.5nm,0.7s,baz=82,slow=9.7,SNR=2.2						
AKTO	Aktyubinsk	28.15	43	P	P	14 37 00.8	+0.5
	comp=Z,3.6nm,0.6s,baz=271,slow=6.4,SNR=6.2						
FINES	FINESS Array B	28.29	358	P	P	14 37 00.1	-1.3
	comp=Z,1.9nm,0.3s,baz=161,slow=11,SNR=5.9						
FINES				PcP	PcP	14 40 13.5	-0.2
	comp=Z,2.9nm,0.7s,baz=164,slow=2.2,SNR=3.5						
HFS	Hagfors	28.49	345	P	P	14 37 02.8	-0.4
	comp=Z,1.5nm,0.3s,baz=27,slow=29,SNR=2.0						
NOA	NORSAR Array B	29.85	344	P	P	14 37 13.8	-1.6
	comp=Z,1.1nm,0.6s,baz=143,slow=9.5,SNR=2.1						
EKA	Eskdalemuir Ar	30.85	325	P	P	14 37 23.2	-1.0
	comp=Z,2.7nm,0.4s,baz=129,slow=11,SNR=7.3						
ARU	Arti	31.48	33	P	P	14 37 30.0	+0.3
	comp=Z,1.0nm,0.3s,baz=283,slow=20,SNR=2.7						
MBAR	Mbarara	33.73	174	P	P	14 37 49.8	-0.1
	comp=Z,3.7nm,0.2s,baz=271,slow=5.1,SNR=5.3						
ARCES	ARCESS Array B	36.42	359	P	P	14 38 11.1	-1.3
	comp=Z,1.4nm,0.4s,baz=170,slow=8.2,SNR=12						
ARCES				PcP	PcP	14 40 36.1	+0.2
	comp=Z,3.3nm,1.1s,baz=188,slow=2.7,SNR=1.4						
AAK	Ala-Archa	37.70	62	P	P	14 38 23.8	-0.1
	comp=Z,2.7nm,0.5s,baz=146,slow=0.6,SNR=9.2						
KURBB	Kurchatov Arra	40.78	49	P	P	14 38 49.6	+0.4
	comp=Z,7.9nm,0.7s,baz=275,slow=8.8,SNR=15						
KURBB				PcP	PcP	14 40 50.7	+0.8
	comp=Z,1.4nm,0.6s,baz=260,slow=3.6,SNR=5.1						
MKAR	Makanchi Array	43.15	55	P	P	14 39 09.9	+1.2
	comp=Z,9.3nm,0.6s,baz=277,slow=6.8,SNR=14						
MKAR				PcP	PcP	14 40 58.3	+0.5
	comp=Z,1.3nm,0.6s,baz=256,slow=4.5,SNR=2.8						
ZALV	Zalesovo Beam	44.89	45	P	P	14 39 22.9	+0.4
	comp=Z,11nm,0.4s,baz=264,slow=9.1,SNR=14						
PYUN	Piuthan	47.40	81	eP	P	14 39 44.5	+1.7
	comp=Z,45nm,0.6s						
DANN	Dangsing	47.94	80	eP	P	14 39 49.2	+2.0
	comp=Z,46nm,0.4s						
KOLN	Koldanda	48.02	81	eP	P	14 39 48.7	+1.1
GKN	Gorkha	48.79	80	eP	P	14 39 54.8	+1.3
NRIK	Noril'sk	48.80	24	P	P	14 39 54.2	+1.5
	comp=Z,4.7nm,0.5s,baz=216,slow=6.1,SNR=6.4						
DMN	Daman	49.32	80	eP	P	14 39 59.0	+1.3
KKN	Kakani	49.40	80	eP	P	14 39 59.1	+0.8
	comp=Z,36nm,0.6s						
PKIN	Phulchoki	49.57	80	eP	P	14 40 00.5	+0.9
	comp=Z,24nm,0.5s						
PKI	Pulchoki	49.58	80	eP	P	14 40 00.8	+1.0
	comp=Z,20nm,0.6s						
GUN	Gumba	49.85	80	eP	P	14 40 03.1	+1.3
	comp=Z,49nm,0.5s						
JIRN	Jiri	50.20	80	eP	P	14 40 05.6	+1.1
	comp=Z,21nm,0.5s						
GOMU	GeErMu	54.27	67	P	P	14 40 36.8	+2.1
GOMU				pP	pP	14 40 40.3	-3.9
GOMU				sP	sP	14 40 44.4	-3.6

GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,78nm,6.9s						
GTA	**Gaotai**	**57.05**	**61**	⇑P	**P**	**14 40 55.7**	**+1.4**
GTA				pP	pP	14 41 03.4	-0.6
GTA				sP	sP	14 41 07.8	+0.1
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**59.12**	**50**	P	**P**	**14 41 09.7**	**+1.1**
	comp=Z,3.9nm,0.6s,baz=284,slow=7.7,SNR=19						
TIXI	**Tiksi**	**62.27**	**21**	P	**P**	**14 41 30.1**	**+0.6**
	comp=Z,6.8nm,0.6s,baz=267,slow=23,SNR=27						
CMAR	**Chiang Mai Arr**	**64.71**	**84**	P	**P**	**14 41 47.6**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=296,slow=8.7,SNR=16						
SCHQ	**Schefferville**	**66.04**	**321**	P	**P**	**14 41 53.9**	**-0.6**
	comp=Z,3.2nm,0.4s,baz=67,slow=6.7,SNR=2.3						
SEY	**Seymchan**	**74.57**	**23**	P	**P**	**14 42 48.2**	**+1.7**
	comp=Z,2.7nm,0.6s,baz=326,slow=4.3,SNR=11						
MA2	**Magadan**	**76.35**	**26**	P	**P**	**14 42 58.2**	**+1.4**
	comp=Z,9.6nm,0.7s,baz=330,slow=7.7,SNR=22						
KSRS	**Korea Array**	**77.80**	**53**	P	**P**	**14 43 06.1**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=305,slow=4.6,SNR=5.3						
YKA	**Yellowknife Ar**	**79.95**	**343**	P	**P**	**14 43 16.4**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=30,slow=5.6,SNR=9.1						
ILAR	**Eielson Array**	**82.27**	**358**	P	**P**	**14 43 29.3**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=342,slow=4.0,SNR=6.1						
DLBC	**Dease Lake**	**86.83**	**348**	P	**P**	**14 43 53.4**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=272,slow=0.8,SNR=6.0						
BDFB	**Brasilia**	**86.93**	**249**	P	**P**	**14 43 53.6**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=70,slow=7.2,SNR=5.8						
PDAR	**Pinedale Array**	**94.86**	**330**	P	**P**	**14 44 30.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=56,slow=2.3,SNR=1.9						
WRA	**Warramunga Arr**	**114.26**	**99**	PKP	PKPdf	14 49 48.2	+0.4
	comp=Z,0.5nm,0.7s,baz=319,slow=1.7,SNR=5.1						
ASAR	**Alice Springs**	**115.61**	**103**	PKP	**PKPdf**	**14 49 50.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=295,slow=1.4,SNR=5.0						

ROM 01 14:31:42.1±0.1**, 45°.93N**±0°.01×**11°.317E**±0°.009**, h10**km**, ML1.2**/3**, 1D, Error ellipse: s-maj=1.4km s-min=0.7km az=344.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOSS	**Dosso del Somm**	**0.10**	**241**	P	Pg	14 31 45.2	+0.3
DOSS				S	Sg	14 31 47.5	+0.6
DOSS				AML	AML		
	comp=E,190μm,0.3s						
DOSS				AML	AML		
	comp=N,182μm,0.1s						
CTI	**Castel Tesino**	**0.26**	**63**	⇓P	Pg	14 31 48.1	+0.7
CTI				S	Sb	14 31 52.4	-1.2
CTI				AML	AML		
	comp=E,103μm,1.0s						
CTI				AML	AML		
	comp=N,124μm,0.1s						
GAGG	**Gaggia**	**0.29**	**302**	P	Pb	14 31 48.9	-0.7
GAGG				S	Sb	14 31 53.8	-0.8

*IDC **01** 14:39:17.0±1.1, 52°.58N×169°.71W, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.7/39, mbtmp3.7/14, ML3.4/2, Error ellipse: s-maj=32.0km s-min=17.6km az=170.0*

*AEIC **01** 14:39:18±2.2, 52°.15N±0°.06×169°.39W±0°.06, h29km±6km, Error ellipse: s-maj=9.0km s-min=5.5km az=171.0*

*NEIC **01** 14:39:19.4±2.0, 52°.14N±0°.05×169°.38W±0°.06, h35km±2km, mb4.3/5, ML3.3(AEIC), Error ellipse: s-maj=8.5km s-min=6.1km az=186.0*

ISC 01 14:39:20.0±0.9**, 52°.2N**±0°.1×**169°.39W**±0°.06**, h35**km**, n49,** σ**1s.16**/44**, mb3.8**/12**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.84**	**22**		**Pn**	**14 39 34.5**	**-0.9**
NIKH					**Sn**	**14 39 48.3**	**+1.7**
MGOD	**Makushin Gods**	**2.21**	**42**		**Pn**	**14 39 54.8**	**+0.6**
MSW	**Makushin Switc**	**2.33**	**41**		**Pn**	**14 39 56.4**	**+0.5**
UNV	**Unalaska Valle**	**2.40**	**45**		**Pn**	**14 39 57.0**	**+0.2**
UNV					**Sn**	**14 40 26.9**	**+2.0**
MTBL	**Makushin Table**	**2.42**	**41**		**Pn**	**14 39 58.0**	**+1.0**
ZRO	**Akutan Zero**	**2.80**	**46**		**Pn**	**14 40 03.2**	**+1.0**
AKBBA	**Akutan Broad B**	**2.82**	**46**		**Pn**	**14 40 03.5**	**+0.9**
AKGG	**Akutan Green G**	**2.87**	**44**		**Pn**	**14 40 04.4**	**+1.3**
KOFP	**Korovin Flat P**	**2.90**	**273**		**Pn**	**14 40 03.4**	**-0.3**
AKSA	**Akutan Strait**	**2.95**	**47**		**Pn**	**14 40 05.2**	**+0.9**
ATKA	**Atka Island**	**2.96**	**272**		**Pn**	**14 40 04.2**	**-0.1**
ATKA					**Sn**	**14 40 40.9**	**+2.3**
GSTR	**Great Sitkin T**	**4.11**	**271**	Pn	**Pn**	**14 40 18.1**	**-2.2**
FALS	**False Pass**	**4.45**	**51**	Pn	**Pn**	**14 40 22.9**	**-1.9**
ADK	**Adak**	**4.52**	**269**	Pn	**Pn**	**14 40 25.1**	**-0.7**
KIWB	**Kanaga Island**	**4.81**	**269**	Pn	**Pn**	**14 40 29.3**	**-0.5**
SPIA	**Saint Paul Isl**	**5.02**	**355**	Pn	**Pn**	**14 40 32.0**	**-0.7**
SDPT	**Sand Point**	**6.16**	**56**	Pn	**Pn**	**14 40 48.1**	**-0.2**
CHGN	**Chignik**	**7.63**	**53**	Pn	**Pn**	**14 41 07.0**	**-1.5**
SII	**Sitkinak Islan**	**9.88**	**58**	Pn	**Pn**	**14 41 37.9**	**-1.6**
SHEM	**Shemya Is, Ala**	**10.10**	**280**	Pn	**Pn**	**14 41 44.8**	**+2.5**
	18nm,0.3s,baz=94,slow=20,SNR=1.6						
SEW	**Seward**	**13.60**	**47**	Pn	**Pn**	**14 42 29.2**	**-0.9**
M24K	**Tolsona, Glenn**	**15.94**	**42**	P	**Pn**	**14 43 01.0**	**-0.4**
M24K				IAmb	IAmb	14 43 11.1	
	comp=Z,30nm,1.3s						
ILAR	**Eielson Array**	**17.10**	**34**	Pn	**Pn**	**14 43 13.9**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=236,slow=11,SNR=1.9						
J25K	**Salcha River,**	**17.55**	**36**	P	**Pn**	**14 43 21.2**	**-0.3**
PEA0B	**Petropavlovsk-**	**19.90**	**286**	P	**P**	**14 43 48.0**	**-0.2**
PEA0B				IAmb	IAmb	14 43 50.8	
	comp=Z,14nm,1.2s						
PETK	**Petropavlovsk-**	**19.90**	**286**	P	**P**	**14 43 47.3**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=88,slow=13,SNR=23						
YKA	**Yellowknife Ar**	**30.37**	**49**	P	**P**	**14 45 29.1**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=274,slow=8.4,SNR=15						
YKA	**Yellowknife Ar**	**30.37**	**49**	P	**P**	**14 45 27.6**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**37.31**	**219**	T	T	15 26 19.1	
	baz=24,slow=76,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**37.31**	**219**	T	T	15 26 23.7	
	baz=24,slow=76,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**37.33**	**219**	T	T	15 26 19.4	
	baz=24,slow=76,SNR=3.4						
NVAR	**Mina Array Bea**	**37.67**	**91**	P	P	14 46 36.5	+4.5
	comp=Z,0.1nm,0.3s,baz=316,slow=8.8,SNR=1.7						
H11S1	**WAKE ISLAND Hy**	**38.50**	**218**	T	T	15 27 57.1	
	baz=23,slow=76,SNR=57						
H11S2	**WAKE ISLAND Hy**	**38.51**	**218**	T	T	15 27 53.8	
	baz=23,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**38.51**	**218**	T	T	15 27 50.7	
	baz=23,slow=76,SNR=24						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**14 46 56.3**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=305,slow=3.2,SNR=4.5						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**14 46 53.5**	**-1.6**
KSRS	**Korea Array**	**45.41**	**277**	P	**P**	**14 47 35.4**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=55,slow=7.2,SNR=4.2						
ARCES	**ARCESS Array B**	**58.09**	**354**	P	**P**	**14 49 08.6**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=16,slow=6.8,SNR=7.2						
ARCES	**ARCESS Array B**	**58.09**	**354**	P	**P**	**14 49 08.5**	**-0.6**
ARCES				IAmb	IAmb	14 49 25.6	
	comp=Z,7.9nm,1.2s						
MKAR	**Makanchi Array**	**63.92**	**313**	P	**P**	**14 49 48.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=47,slow=6.6,SNR=13						
FINES	**FINESS Array B**	**66.04**	**352**	P	**P**	**14 50 02.0**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=354,slow=9.8,SNR=6.2						
FINES	**FINESS Array B**	**66.04**	**352**	P	**P**	**14 50 02.3**	**-0.2**
NC303	**NORSAR Array S**	**66.93**	**360**	P	**P**	**14 50 08.0**	**-0.3**
NOA	**NORSAR Array B**	**67.12**	**360**	P	**P**	**14 50 09.1**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=0.0,slow=3.1,SNR=1.4						
AKASG	**Malin Array Be**	**76.28**	**348**	P	**P**	**14 51 04.1**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=16,slow=5.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**76.64**	**283**	P	**P**	**14 51 08.1**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=26,slow=6.6,SNR=7.0						
KBZ	**Khabaz**	**80.47**	**337**	P	**P**	**14 51 28.6**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=243,slow=9.0,SNR=2.8						
ASAR	**Alice Springs**	**90.27**	**230**	P	P	14 52 21.0	+4.1
	comp=Z,0.2nm,0.7s,baz=24,slow=4.4,SNR=2.0						

*RSPR **01** 14:43:18.6, 19°.59N×65°.97W, h39km±18km, MD3.4/4*

*NEIC **01** 14:43:19.6±1.5, 19°.48N±0°.10×65°.99W±0°.06, h35km±19km, Error ellipse: s-maj=15.9km s-min=2.7km az=209.0*

ISC 01 14:43:17.6±1.8**, 19°.43N**±0°.08×**66°.04W**±0°.05**, h14**km**, n49,** σ**0s.51**/47**, 9C-2D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.05**	**206**	⇑eP	**Pg**	**14 43 37.8**	**-0.1**
EMPR	**Esperanza - Ma**	**1.05**	**206**	eS	**Sn**	**14 43 53.2**	**+0.9**
EMPR	**Esperanza - Ma**	**1.05**	**206**		**Pg**	**14 43 37.8**	**-0.1**
EMPR					**Sn**	**14 43 53.2**	**+0.9**
EMPR	**Esperanza - Ma**	**1.05**	**206**	IAML		14 44 00.4	
	comp=N,184nm,1.0s						
EMPR				IAML		14 44 03.6	
	comp=E,232nm,0.8s						
GCPR	**Guaynabo City**	**1.11**	**182**	⇓eP	**Pn**	**14 43 38.5**	**-0.3**
GCPR	**Guaynabo City**	**1.11**	**182**	eS	**Sn**	**14 43 55.1**	**+1.3**
GCPR	**Guaynabo City**	**1.11**	**182**		**Sn**	**14 43 55.1**	**+1.3**
GCPR	**Guaynabo City**	**1.11**	**182**	Pn	**Pb**	**14 43 38.2**	**-0.4**
GCPR	**Guaynabo City**	**1.11**	**182**	IAML		14 43 55.7	
	comp=E,92nm,0.3s						
GCPR				IAML		14 44 00.8	
	comp=N,98nm,0.8s						
CBYP	**Canovanas**	**1.16**	**172**	Pn	**Pn**	**14 43 39.4**	**-0.1**
CBYP				IAML		14 44 02.7	
	comp=E,217nm,0.2s						
CBYP				IAML		14 44 03.2	
	comp=N,222nm,0.2s						
AOPR	**Arecibo Observ**	**1.27**	**213**	⇑eP	**Pb**	**14 43 41.0**	**-0.3**
AOPR	**Arecibo Observ**	**1.27**	**213**	eS	**Sg**	**14 43 58.6**	**-0.1**
AOPR	**Arecibo Observ**	**1.27**	**213**		**Sg**	**14 43 58.6**	**-0.1**
AOPR	**Arecibo Observ**	**1.27**	**213**	Pn	**Pb**	**14 43 41.1**	**-0.2**
AOPR	**Arecibo Observ**	**1.27**	**213**	IAML		14 44 00.6	
	comp=E,408nm,0.4s						
AOPR				IAML		14 44 03.8	
	comp=N,344nm,0.5s						
SJG	**San Juan**	**1.31**	**185**		**Pn**	**14 43 41.5**	**0.0**
SJG				IAML		14 44 04.7	
	comp=N,79nm,0.6s						
SJG				IAML		14 44 08.0	
	comp=N,95nm,0.3s						
CUPR	**Culebra, Puert**	**1.32**	**147**	Pn	**Pb**	**14 43 41.8**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.33**	**209**	⇑eP	**Pn**	**14 43 41.5**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.33**	**209**		**Pn**	**14 43 41.5**	**-0.3**
AGPR	**Aguadilla, PR**	**1.39**	**227**	Pn	**Pb**	**14 43 43.8**	**+0.3**
AGPR				IAML		14 44 19.5	
	comp=N,121nm,2.2s						
AGPR				IAML		14 44 20.4	
	comp=E,108nm,1.9s						
PDPR	**Patillas Dam,**	**1.40**	**179**		**Pb**	**14 43 43.5**	**0.0**
PDPR				IAML		14 44 34.7	
	comp=E,54nm,1.9s						
CELP	**Cerrillos**	**1.44**	**201**	⇑eP	**Pb**	**14 43 43.9**	**-0.3**
CELP	**Cerrillos**	**1.44**	**201**	eS	**Sg**	**14 44 03.2**	**-0.8**
CELP	**Cerrillos**	**1.44**	**201**		**Pb**	**14 43 43.9**	**-0.3**
CELP				IAML		14 44 25.2	
	comp=N,67nm,0.8s						
CELP	**Cerrillos**	**1.44**	**201**		**Sg**	**14 44 03.2**	**-0.8**
CELP	**Cerrillos**	**1.44**	**201**	IAML		14 43 58.8	
	comp=E,49nm,3.0s						
IGPR	**InterUniversit**	**1.45**	**183**	⇑eP	**Pn**	**14 43 43.5**	**+0.1**
IGPR	**InterUniversit**	**1.45**	**183**	eS	**Sb**	**14 44 02.6**	**-0.2**
IGPR	**InterUniversit**	**1.45**	**183**		**Sb**	**14 44 02.6**	**-0.2**
OBIP	**Obispado Ponce**	**1.48**	**202**	⇑eP	**Pn**	**14 43 43.9**	**+0.1**
OBIP	**Obispado Ponce**	**1.48**	**202**	eS	**Sb**	**14 44 03.7**	**+0.2**
OBIP	**Obispado Ponce**	**1.48**	**202**		**Pn**	**14 43 43.9**	**+0.1**
OBIP					**Sb**	**14 44 03.7**	**+0.2**
OBIP	**Obispado Ponce**	**1.48**	**202**	IAML		14 44 08.8	
	comp=N,48nm,0.8s						
STVI	**Saint Thomas**	**1.48**	**136**	Pn	**Pn**	**14 43 43.3**	**-0.5**
LSP	**Las Mesas**	**1.59**	**219**	⇑eP	**Pb**	**14 43 46.2**	**-0.6**
PRSN	**Puerto Rico Se**	**1.60**	**221**	Pn	**Pg**	**14 43 48.1**	**-0.2**
PRSN				IAML		14 44 13.1	
	comp=E,217nm,0.2s						
IDE	**Isla Desecheo**	**1.71**	**233**	⇑eP	**Pn**	**14 43 47.2**	**+0.2**
IDE	**Isla Desecheo**	**1.71**	**233**	eS	**Sn**	**14 44 08.9**	**+0.2**
MLPR	**Magueyes Islan**	**1.73**	**214**	⇓eP	**Pn**	**14 43 48.0**	**+0.7**
MLPR	**Magueyes Islan**	**1.73**	**214**	eS	**Sb**	**14 44 10.5**	**-0.4**
MLPR	**Magueyes Islan**	**1.73**	**214**		**Pn**	**14 43 48.0**	**+0.7**
MLPR					**Sb**	**14 44 10.5**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.74**	**216**	⇑eP	**Pn**	**14 43 47.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.74**	**216**	eS	**Sn**	**14 44 10.2**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.74**	**216**		**Pn**	**14 43 47.1**	**-0.3**
CRPR					**Sn**	**14 44 10.2**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.74**	**216**	IAML		14 44 18.3	
	comp=N,74nm,2.8s						
CDVI	**St. Croix**	**2.05**	**144**	Pn	**Pn**	**14 43 52.4**	**+0.7**
DR12	**Loma Pena Alta**	**3.23**	**259**	Pn	**Pn**	**14 44 08.3**	**+0.4**
BANI	**BANI**	**4.22**	**257**	Pn	**Pn**	**14 44 21.2**	**-0.5**
SDDR	**Presa de Saban**	**4.98**	**266**	Pn	**Pn**	**14 44 32.2**	**+0.1**

*IDC **01** 15:12:02.5±1.6, 3°.28S×130°.30E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.2/31, mbtmp3.4/5, ML2.9/3, Error ellipse: s-maj=54.2km s-min=21.4km az=95.0*

*DJA **01** 15:12:02.0±0.9, 3°S±7°×13°0E±°, h121km±13km, M3.1/6, MLv3.1/6*

ISC 01 15:12:06.6±1.0**, 3°.24S**±0°.08×**130°.25E**±0°.07**, h35**km**, n9,** σ**2s.33**/12**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.33**	**265**	P	**Pn**	**15 12 29.0**	**+0.4**
MSAI				S	**Sn**	**15 12 49.3**	**+4.2**
AAI	**Ambon**	**2.10**	**258**	P	**Pn**	**15 12 37.9**	**-1.4**
SIJI	**Sorong**	**2.56**	**23**	Pn	**Pn**	**15 12 46.5**	**+0.8**
	2.0nm,0.3s,baz=258,slow=23,SNR=8.8						
SIJI				Sn	**Sn**	**15 13 17.4**	**+1.7**
	1.7nm,0.3s,baz=235,slow=22,SNR=2.4						
SWI	**Sorong**	**2.57**	**23**	P	**Pn**	**15 12 42.9**	**-2.8**
SANI	**Sanana**	**4.42**	**285**	P	**Pn**	**15 13 08.7**	**-2.5**
SANI				S	**Sn**	**15 13 59.3**	**-2.3**
FITZ	**Fitzroy Crossi**	**15.44**	**197**	Pn	**Pn**	**15 15 42.0**	**0.0**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**17.07**	**167**	Pn	**Pn**	**15 16 00.7**	**-2.0**
	0.1nm,0.3s,baz=347,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**20.61**	**170**	P	**P**	**15 16 43.3**	**+0.4**
	1.5nm,0.5s,baz=349,slow=11,SNR=47						
MKAR	**Makanchi Array**	**65.26**	**326**	P	**P**	**15 22 46.3**	**+1.4**
	0.2nm,0.7s,baz=112,slow=6.5,SNR=2.8						

*IDC **01** 15:28:46.5±0.7, 16°.20S×71°.75W, h0km, mb4.1/10, mb1 4.2/13, mb1mx4.1/31, mbtmp4.2/13, ML4.1/3, MS3.4/11, Ms1 3.4/11, ms1mx3.1/65, Error ellipse: s-maj=27.3km s-min=16.8km az=57.0*

*VAO **01** 15:28:47.4±0.5, 16°.50S×72°.23W, h10km, mb4.3*

*ARE **01** 15:28:49±2.2, 16°.42S±0°.06×72°.1W±0°.1, h40km±7km, Error ellipse: s-maj=16.6km s-min=9.1km az=87.0*

*NEIC **01** 15:28:52.0±1.5, 16°.53S±0°.07×72°.3W±0°.1, h53km±8km, mb4.3/10, ML4.4(ARE), Error ellipse: s-maj=17.1km s-min=9.7km az=90.0*

ISC 01 15:28:52.1±0.5**, 16°.51S**±0°.06×**72°.16W**±0°.07**, h50**km**, n104,** σ**1s.23**/92**, mb4.2**/13**, MS3.5**/8**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.54**	**137**		**Pn**	**15 29 29.4**	**-1.4**
PB12	**IPOC Station P**	**2.73**	**140**	Pn	**Pn**	**15 29 34.3**	**+0.8**
PB16	**IPOC Station P**	**3.12**	**126**	Pn	**Pn**	**15 29 40.3**	**+1.0**
LPAZ	**La Paz**	**3.87**	**87**	Pn	**Pn**	**15 29 50.6**	**+0.9**
	8.6nm,0.3s,baz=271,slow=12,SNR=112						
LPAZ				LR	LR	15 31 08.5	
	comp=Z,218nm,18.2s,baz=157,slow=41						
LPAZ	**La Paz**	**3.87**	**87**	Pn	**Pn**	**15 29 53.2**	**+3.5**
PB11	**IPOC Station P**	**4.02**	**144**		**Pn**	**15 29 51.4**	**+0.2**
TA02	**Huaiquique**	**4.21**	**153**		**Pn**	**15 29 54.6**	**+0.9**
GO01	**Chusmiza**	**4.22**	**139**		**Pn**	**15 29 55.6**	**+1.2**
TA01	**Diego Aracena**	**4.45**	**155**	Pn	**Pn**	**15 29 57.5**	**+0.4**
PB08	**IPOC Station P**	**4.61**	**142**		**Pn**	**15 30 00.2**	**+0.6**
PATCX	**Punta Patache**	**4.69**	**156**		**Pn**	**15 30 00.8**	**+0.4**
PB01	**IPOC Station P**	**5.17**	**151**		**Pn**	**15 30 06.8**	**-0.3**
PB02	**IPOC Station P**	**5.24**	**156**		**Pn**	**15 30 08.4**	**+0.3**
PB07	**IPOC Station P**	**5.62**	**158**		**Pn**	**15 30 13.5**	**+0.2**
PB09	**IPOC Station P**	**5.94**	**153**		**Pn**	**15 30 19.2**	**+1.6**
PB04	**IPOC Station P**	**6.10**	**162**		**Pn**	**15 30 19.1**	**-0.8**
NNA	**Nana**	**6.39**	**314**	Pn	**Pn**	**15 30 23.8**	**+0.1**
	2.4nm,0.3s,baz=161,slow=12,SNR=2.0						
NNA				Sn	**Sn**	**15 31 38.2**	**+2.7**
	6.3nm,0.3s,baz=119,slow=14,SNR=1.7						
PB06	**IPOC Station P**	**6.63**	**159**		**Pn**	**15 30 26.7**	**-0.4**
LVC	**Limon Verde**	**6.80**	**154**	Pn	**Pn**	**15 30 30.3**	**+0.7**
	12nm,0.3s,baz=352,slow=8.3,SNR=127						
LVC				Sn	**Sn**	**15 31 45.8**	**-0.1**
	20nm,0.3s,baz=131,slow=22,SNR=11						
LVC				LR	LR	15 33 24.1	
	comp=Z,256nm,20.2s,baz=316,slow=40						
LVC	**Limon Verde**	**6.80**	**154**	eS	**Sn**	**15 31 47.1**	**+1.2**
PB15	**IPOC Station P**	**7.13**	**160**		**Pn**	**15 30 33.5**	**-0.5**
PB10	**IPOC Station P**	**7.13**	**168**	Pn	**Pn**	**15 30 33.0**	**-0.9**
PB14	**IPOC Station P**	**8.24**	**169**	Pn	**Pn**	**15 30 48.3**	**-1.1**
CZSB	**Cruzeiro do Su**	**8.74**	**356**	eP	**Pn**	**15 30 53.5**	**-2.5**
ETMB	**Extrema**	**8.81**	**42**	eP	**Pn**	**15 30 56.2**	**-0.8**
GO02	**Mina Guanaco**	**8.94**	**165**	Pn	**Pn**	**15 30 58.9**	**0.0**
AC01	**Pan de Azucar**	**9.70**	**172**		**Pn**	**15 31 07.8**	**-1.3**
AC02	**Maricunga**	**10.66**	**165**	Pn	**Pn**	**15 31 22.9**	**+0.3**
SIV	**San Ignacio**	**10.66**	**89**	Pn	Pn	15 31 18.1	-4.1
	baz=257,slow=18						
AC06	**Mina Casimiro**	**10.93**	**172**		**Pn**	**15 31 24.1**	**-1.8**
AC04	**Llanos de Chal**	**11.69**	**175**	Pn	**Pn**	**15 31 34.0**	**-2.2**
VILB	**Vilhena**	**12.09**	**75**	eP	**Pn**	**15 31 40.3**	**-1.5**
PDRB	**Porto dos Gac**	**15.73**	**74**	eP	**Pn**	**15 32 31.5**	**+0.9**
SALV	**Santo Antonio**	**15.82**	**90**	eP	**Pn**	**15 32 32.2**	**+0.5**
AQDB	**Aquidauana**	**16.10**	**107**	eP	**Pn**	**15 32 34.0**	**-1.2**
CLDB	**Colider**	**16.85**	**73**	eP	**Pn**	**15 32 45.6**	**+1.0**
CPUP	**Villa Florida**	**16.90**	**128**	Pn	**Pn**	**15 32 44.6**	**-0.6**
	0.2nm,0.3s,baz=298,slow=11,SNR=5.2						
CPUP				LR	LR	15 39 45.2	
	comp=Z,86nm,21.6s,baz=292,slow=39						
CPUP	**Villa Florida**	**16.90**	**128**	eP	**Pn**	**15 32 46.3**	**+1.1**
H03N1	**Juan Fernandez**	**17.93**	**199**	T	T	15 51 03.2	
	baz=22,slow=73,SNR=3652						
H03N2	**Juan Fernandez**	**17.93**	**199**	T	T	15 51 02.7	
	baz=22,slow=73,SNR=3423						
H03N3	**Juan Fernandez**	**17.95**	**199**	T	T	15 51 02.0	
	baz=22,slow=73,SNR=4491						
NPGB	**Novo Progresso**	**18.93**	**62**	eP	**P**	**15 33 07.8**	**-1.2**
DVLD	**Doverlandia**	**19.16**	**93**	eP	**P**	**15 33 11.8**	**+0.2**
ITQB	**Itaqui**	**19.36**	**135**	P	**P**	**15 33 12.9**	**-0.7**
ITQB				IAmb	IAmb	15 33 17.4	
	comp=Z,28nm,1.0s						
ITQB	**Itaqui**	**19.36**	**135**	eP	**P**	**15 33 14.0**	**+0.5**
ITTB	**Itaituba**	**20.13**	**55**	eP	**P**	**15 33 21.6**	**-0.6**
PCMB	**Pacaembu**	**20.39**	**108**	eP	**P**	**15 33 25.0**	**+0.2**
PTGB	**Pitanga**	**20.49**	**117**	eP	**P**	**15 33 26.2**	**+0.2**
SNDB	**Serra Nova Dou**	**20.71**	**80**	eP	**P**	**15 33 27.0**	**-1.5**
ITRB	**Iturama**	**20.96**	**102**	eP	**P**	**15 33 30.7**	**-0.4**
ROSC	**El Rosal**	**21.32**	**354**	P	**P**	**15 33 33.0**	**-2.4**
	comp=Z,8.3nm,0.5s,baz=107,slow=22,SNR=1.1						
ROSC				LR	LR	15 42 30.9	
	comp=Z,179nm,20.5s,baz=238,slow=39						
ITAB	**Concordia**	**21.40**	**123**	P	**P**	**15 33 35.1**	**-0.6**
ITAB				IAmb	IAmb	15 33 39.2	
	comp=Z,14nm,0.7s						
ITAB	**Concordia**	**21.40**	**123**	eP	**P**	**15 33 35.8**	**+0.1**
CPSB	**Cacapava Do Su**	**22.00**	**132**	eP	**P**	**15 33 41.7**	**-0.5**
BOAV	**Boa Vista**	**22.02**	**33**	eP	**P**	**15 33 43.0**	**+0.5**
PLTB	**Pedras Altas**	**22.69**	**135**	P	**P**	**15 33 48.3**	**-1.3**
PLTB				IAmb	IAmb	15 34 03.3	
	comp=Z,7.7nm,0.8s						
PLTB	**Pedras Altas**	**22.69**	**135**	eP	**P**	**15 33 48.9**	**-0.7**
BB19B	**Bebedouro**	**22.82**	**105**	eP	**P**	**15 33 52.2**	**+1.2**
MALB	**Monte Alegre**	**22.85**	**52**	eP	**P**	**15 33 52.1**	**+0.7**
IPMB	**Ipameri, GO**	**22.91**	**97**	eP	**P**	**15 33 50.1**	**-1.9**
BDFB	**Brasilia**	**23.21**	**91**	P	**P**	**15 33 50.8**	**-4.3**
	comp=Z,1.8nm,0.4s,baz=242,slow=13,SNR=3.4						
BDFB	**Brasilia**	**23.21**	**91**	P	**P**	**15 33 55.0**	**-0.1**
BDFB				IAmb	IAmb	15 34 08.7	
	comp=Z,11nm,1.2s						
BDFB	**Brasilia**	**23.21**	**91**	eP	**P**	**15 33 56.9**	**+1.8**
TIJ01	**Guaruva-PR**	**23.31**	**116**	eP	**P**	**15 33 57.4**	**+1.4**
CNLB	**Canela**	**23.35**	**127**	eP	**P**	**15 33 56.5**	**+0.2**
ZARC	**Zaragoza, Cauc**	**24.00**	**353**	P	**P**	**15 34 01.9**	**-0.4**
ZARC				IAmb	IAmb	15 34 10.5	
	comp=Z,12nm,1.5s						
PLCA	**Paso Flores**	**24.18**	**177**	P	**P**	**15 34 07.5**	**+3.7**
	comp=Z,1.0nm,0.5s,baz=348,slow=12,SNR=7.1						
PLCA				LR	LR	15 44 16.0	
	comp=Z,57nm,20.5s,baz=343,slow=38						
PLCA	**Paso Flores**	**24.18**	**177**	P	**P**	**15 34 04.5**	**+0.7**
PLCA	**Paso Flores**	**24.18**	**177**	eP	**P**	**15 34 04.5**	**+0.7**
SMTB	**Santa Maria do**	**25.12**	**75**	eP	**P**	**15 34 12.8**	**+0.2**
SDV	**Santo Domingo**	**25.27**	**4**	P	**P**	**15 34 12.9**	**-1.2**
	comp=Z,15nm,1.0s,baz=207,slow=9.1,SNR=9.4						
SDV				LR	LR	15 44 06.0	
	comp=Z,60nm,19.4s,baz=200,slow=37						
SDV	**Santo Domingo**	**25.27**	**4**	P	**P**	**15 34 12.7**	**-1.4**
SDV	**Santo Domingo**	**25.27**	**4**	eP	**P**	**15 34 13.9**	**-0.2**
MCPB	**Macapa, AP**	**25.50**	**53**	eP	**P**	**15 34 17.3**	**+1.4**
PARB	**Paraibuna**	**25.83**	**110**	eP	**P**	**15 34 19.9**	**+0.9**
JANB	**Januaria**	**26.83**	**91**	eP	**P**	**15 34 29.1**	**+1.0**
MDP	**Montagnes des**	**28.87**	**44**	LR	LR	15 46 45.9	
	comp=Z,118nm,19.0s,baz=128,slow=38						
SJG	**San Juan**	**34.91**	**10**	LR	LR	15 50 35.7	
	comp=Z,55nm,18.9s,baz=111,slow=38						
SADO	**Sadowa**	**61.31**	**354**	LR	LR	16 08 55.0	
	comp=Z,27nm,18.0s,baz=236,slow=40						
SNAA	**Sanae**	**67.97**	**161**	P	**P**	**15 39 45.3**	**-0.3**
PDAR	**Pinedale Array**	**68.28**	**331**	P	**P**	**15 39 49.9**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=110,slow=7.9,SNR=2.3						
PDAR				LR	LR	16 11 00.5	
	comp=Z,25nm,19.1s,baz=12,slow=37						
ULM	**Lac du Bonnet**	**69.68**	**344**	P	**P**	**15 39 56.0**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=171,slow=6.7,SNR=2.5						
DBIC	**Dimbokro**	**70.42**	**77**	P	**P**	**15 39 59.6**	**-2.0**
	comp=Z,4.5nm,0.9s,baz=335,slow=5.1,SNR=3.2						
QSPA	**South Pole Qui**	**73.66**	**180**	P	**P**	**15 40 20.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**78.69**	**73**	P	**P**	**15 40 49.0**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=262,slow=5.2,SNR=7.5						
TORD	**Torodi Ar. Bea**	**78.69**	**73**	P	**P**	**15 40 49.2**	**-0.4**
TORD				IAmb	IAmb	15 41 07.6	
	comp=Z,6.1nm,1.4s						
MDT	**Midelt**	**81.02**	**52**	LR	LR	16 15 57.2	
	comp=Z,23nm,18.4s,baz=150,slow=35						
ESDC	**Sonseca Array**	**84.52**	**46**	P	**P**	**15 41 19.7**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=260,slow=5.9,SNR=2.1						
YKA	**Yellowknife Ar**	**85.49**	**342**	P	**P**	**15 41 24.0**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=135,slow=5.3,SNR=51						
H11N3	**WAKE ISLAND Hy**	**124.00**	**283**	T	T	18 04 40.6	
	baz=99,slow=75,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**124.02**	**283**	T	T	18 04 40.4	
	baz=99,slow=75,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**124.02**	**283**	T	T	18 04 46.8	
	baz=99,slow=75,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**124.04**	**281**	T	T	18 04 40.3	
	baz=99,slow=74,SNR=17						
H11S1	**WAKE ISLAND Hy**	**124.05**	**281**	T	T	18 04 43.5	
	baz=99,slow=74,SNR=2.9						
H11S3	**WAKE ISLAND Hy**	**124.06**	**281**	T	T	18 04 48.0	
	baz=99,slow=74						
ASAR	**Alice Springs**	**132.64**	**213**	PKP	**PKiKP**	**15 48 04.0**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=116,slow=1.4,SNR=5.4						
WRA	**Warramunga Arr**	**135.39**	**217**	PKP	**PKiKP**	**15 48 10.1**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=140,slow=2.0,SNR=9.0						
ZALV	**Zalesovo Beam**	**138.56**	**20**	PKP	**PKiKP**	**15 48 14.1**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=270,slow=3.0,SNR=12						
MKAR	**Makanchi Array**	**143.11**	**30**	PKP	PKPbc	15 48 19.1	+1.5
	comp=Z,0.4nm,0.8s,baz=347,slow=2.5,SNR=4.2						
KSH	**Kashi**	**144.01**	**44**	PKP	**PKPdf**	**15 48 23.0**	**+0.4**
KSH				SKS	**SKSdf**	**15 55 28.4**	**+0.2**
MJAR	**Matsushiro Arr**	**146.51**	**312**	PKPbc	**PKPab**	**15 48 29.7**	**+0.4**
	comp=Z,5.7nm,0.8s,baz=89,slow=14,SNR=4.2						
SONM	**Songino Array**	**148.74**	**2**	PKPbc	**PKiKP**	**15 48 35.7**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=312,slow=1.3,SNR=19						
KSRS	**Korea Array**	**152.62**	**324**	PKPbc	**PKiKP**	**15 48 44.6**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=25,slow=2.5,SNR=7.3						
PZH	**PanZhiHua**	**168.55**	**29**	PKP	**PKPdf**	**15 48 54.1**	**-0.1**

IDC 01 15:50:28.0±2.0**, 0°.10N**×**125°.37E, h0**km**, mb3.0**/3**, mb1 3.3**/3**, mb1mx3.1**/29**, mbtmp3.1**/3**, Error ellipse: s-maj=182.4km s-min=28.0km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.77**	**157**	P	P	15 55 20.1	-1.4
	0.2nm,0.4s,baz=335,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**25.04**	**161**	P	P	15 55 55.0	+1.0
	0.2nm,0.5s,baz=343,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**59.79**	**327**	P	P	16 00 34.9	-0.1
	0.3nm,0.9s,baz=138,slow=6.0,SNR=3.5						

*IDC **01** 16:00:53.2±1.3, 4°.12S×129°.48E, h0km, mb3.6/2, mb1 3.9/6, mb1mx3.5/33, mbtmp3.8/6, ML3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/62, Error ellipse: s-maj=40.6km s-min=23.3km az=89.0*

*DJA **01** 16:00:55.9±0.5, 4°S±4°×12°9E±°, h10km, M3.7/8, MLv3.7/8*

ISC 01 16:00:57.7±0.8**, 4°.10S**±0°.06×**129°.43E**±0°.06**, h36**km**, n13,** σ**1s.81**/17**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.90**	**326**	P	**Pn**	**16 01 12.6**	**-1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI				S	Sn	16 01 24.9	-0.9
AAI	Ambon	1.30	288	P	Pn	16 01 18.6	-0.8
AAI				S	Sn	16 01 34.9	-0.6
SIJI	Sorong	3.70	30	Pn	Pn	16 01 53.1	+0.8
	19nm,0.3s,baz=243,slow=11,SNR=133						
SIJI				Sn	Sn	16 02 33.6	-1.1
	6.0nm,0.3s,baz=107,slow=22,SNR=7.0						
SWI	Sorong	3.70	30	P	Pn	16 01 53.2	+0.8
LBMI	Labuha	3.94	331	P	Pn	16 01 56.7	+0.9
SANI	Sanana	4.00	301	P	Pn	16 01 57.5	+1.0
SAUI	Saumlaki	4.28	154	P	Pn	16 02 01.5	+1.1
BATI	Baumata	8.34	223	Pn	Pn	16 02 56.8	+0.7
	1.6nm,0.3s,baz=139,slow=20,SNR=1.9						
BATI				LR	LR	16 06 21.2	
	comp=Z,98nm,18.4s,baz=176,slow=39						
FITZ	Fitzroy Crossi	14.40	195	Pn	Pn	16 04 18.7	-0.3
	0.2nm,0.3s,baz=29,slow=10,SNR=1.7						
WRA	Warramunga Arr	16.46	163	Pn	Pn	16 04 40.4	-5.7
	0.2nm,0.3s,baz=342,slow=13,SNR=14						
ASAR	Alice Springs	19.93	168	P	P	16 05 26.9	+0.3
	0.3nm,0.3s,baz=347,slow=10,SNR=56						
ASAR				PcP	PcP	16 09 42.7	-0.1
	0.0nm,0.3s,baz=15,slow=1.3,SNR=5.0						
CMAR	Chiang Mai Arr	37.48	308	P	P	16 08 10.2	+2.0
	0.4nm,0.4s,baz=141,slow=7.6,SNR=1.7						
MKAR	Makanchi Array	65.51	326	P	P	16 11 38.0	+0.6
	0.3nm,0.4s,baz=116,slow=7.2,SNR=8.8						

*IDC **01** 16:44:22.2±2.1, 15°.32S×168°.06E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/36, mbtmp3.7/5, ML4.2/1, Error ellipse: s-maj=56.5km s-min=33.3km az=122.0*
*NOU **01** 16:44:24.5, 15°.54S×168°.21E, h5km, MLv4.7/17, Vanuatu Islands*
ISC 01 16:44:26.9±1.2**, 15°.48S**±0°.09×**168°.1E**±0°.1**, h35km, n16, σ0.80**/17**, mb3.6**/4**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.89	272	P	Pn	16 44 42.2	-0.7
DVP	Devils Point	2.24	178	P	Pn	16 45 00.9	-0.6
RTV	Rentapao	2.32	173	P	Pn	16 45 02.0	-0.7
MARNC	Mare, Loyalty	5.97	181	P	Pn	16 45 53.3	+0.4
KOUNC	Koumac, New Ca	6.23	215	P	Pn	16 45 57.7	+1.3
YATNC	Mamie plateau,	6.65	190	P	Pn	16 46 02.2	0.0
DZM	Mont Dzumac	6.75	193	Pn	Pn	16 46 03.9	+0.2
	4.2nm,0.3s,baz=78,slow=10,SNR=63						
DZM				Sn	Sn	16 47 17.8	-1.6
	0.7nm,0.3s,baz=132,slow=22,SNR=1.4						
DZM	Mont Dzumac	6.75	193	P	Pn	16 46 04.5	+0.8
NOUC	Port Laguerre	6.81	194	P	Pn	16 46 05.1	+0.7
ONTNC	Ouen Toro	6.98	193	P	Pn	16 46 07.4	+0.7
OUENC	Ouen Island, N	7.01	190	P	Pn	16 46 07.9	+0.7
PINNC	Pines Island,	7.13	185	P	Pn	16 46 09.3	+0.6
WRA	Warramunga Arr	32.46	257	P	P	16 50 54.3	+0.1
	0.6nm,0.6s,baz=86,slow=8.9,SNR=8.1						
ASAR	Alice Springs	33.19	250	P	P	16 51 01.2	+0.5
	0.9nm,0.6s,baz=79,slow=8.8,SNR=23						
SONM	Songino Array	83.58	323	P	P	16 56 51.3	-0.4
	0.1nm,0.4s,baz=122,slow=7.3,SNR=1.5						
YKA	Yellowknife Ar	97.83	27	P	P	16 57 58.8	+0.5
	0.1nm,0.5s,baz=262,slow=4.4,SNR=2.6						

*BUL **01** 16:50:47.7±1.8, 21°.21S×33°.23E, h10km, MD4.1*
*EAF **01** 16:50:47.5±1.1, 21°.23S×33°.17E, h0km±6km, MD3.8*
ISC 01 16:50:49.2±1.3**, 21°.31S**±0°.05×**32°.91E**±0°.07**, h15km, n18, σ2.69**/32**, Mozambique**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOPA	Mopani	2.61	212	*i* P	Pb	16 51 34.1	-1.7
MOPA	Mopani	2.61	212	*i* P	Pb	16 51 34.1	-1.7
MSNA	Messina	2.88	248	*i* P	Pb	16 51 38.0	-2.4
MSNA				*i* Sg	Sg	16 52 24.6	+2.8
MSNA	Messina	2.88	248	*i* P	Pb	16 51 38.0	-2.4
MSNA				*i* Sg	Sg	16 52 24.6	+2.8
BLWY	Bulawayo	4.19	285	*i* P	Pn	16 51 55.3	+2.5
BLWY				*i* S	Sn	16 52 45.1	+3.4
BLWY	Bulawayo	4.19	285	*i* P	Pn	16 51 55.3	+2.5
BLWY				*i* S	Sn	16 52 45.1	+3.4
MATP	Matopo	4.22	281	*i* P	Pn	16 51 55.3	+2.1
MATP				*i* S	Sn	16 52 44.9	+2.6
MATP	Matopo	4.22	281	*i* P	Pn	16 51 55.3	+2.1
MATP				*i* S	Sn	16 52 44.9	+2.6
CNG	Changalane	5.01	187	*i* P	Pn	16 52 04.6	+0.7
CNG				*i* S	Sn	16 53 01.2	-0.4
CNG	Changalane	5.01	187	*i* P	Pn	16 52 04.6	+0.7
CNG				*i* S	Sn	16 53 01.2	-0.4
TETE	Tete	5.17	7	*i* Sg	Sb	16 53 21.1	-0.2
TETE	Tete	5.17	7	*i* Sg	Sb	16 53 21.1	-0.2
LSZ	Lusaka	7.49	322	*i* P	Pn	16 52 36.9	-1.3
LSZ				*i* S	Sn	16 53 58.8	-4.1
LSZ	Lusaka	7.49	322	*i* P	Pn	16 52 36.9	-1.3
LSZ				*i* S	Sn	16 53 58.8	-4.1
LBTB	Lobatse	7.68	240	*i* P	Pn	16 52 42.0	+1.3
LBTB				*i* S	Sn	16 54 06.0	-1.5
LBTB	Lobatse	7.68	240	*i* P	Pn	16 52 42.0	+1.3
LBTB				*i* S	Sn	16 54 06.0	-1.5
BOSA	Boshof	10.06	222	*i* P	Pn	16 53 13.0	-0.3
BOSA				*i* S	Sn	16 55 00.0	-6.0
BOSA	Boshof	10.06	222	*i* P	Pn	16 53 13.0	-0.3
BOSA				*i* S	Sn	16 55 00.0	-6.0

*TUL **01** 16:53:23.9±1.1, 35°.94N±0°.01×96°.75W±0°.02, h4km±2km, ML2.8, mb_Lg2.1/10(NEIC), Error ellipse: s-maj=2.3km s-min=1.4km az=126.0*
NEIC 01 16:53:24.2±1.4**, 35°.94N**±0°.01×**96°.75W**±0°.01**, h4km**±2km**, Error ellipse: s-maj=2.2km s-min=1.1km az=144.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUL1	Leonard	0.78	92	Pg	Pg	16 53 38.7	-0.4
W35A	Tecumseh	0.79	187	Pg	Pg	16 53 38.8	-0.5
W35A				IAmb_Lg		16 53 48.9	
	comp=Z,17nm,0.7s						
T35A	Sooner Cattle	1.00	11	Pg	Pg	16 53 42.6	-0.7
X37A	Clayton	1.76	140	Pn	Pn	16 53 55.5	+0.1
U40A	Yellville	3.18	81	Pn	Pn	16 54 15.4	+0.4
WHAR	Wooly Hollow	3.69	99	Pn	Pn	16 54 23.0	+0.9
W41B	Gary Mavity, V	3.75	100	Pn	Pn	16 54 23.2	+0.4
FCAR	Ozark Folk Cen	3.76	89	IAmb_Lg		16 55 33.0	
	comp=Z,4.4nm,1.1s						
MGMO	Mountain Grove	3.81	70	IAmb_Lg		16 55 30.4	
	comp=Z,3.4nm,0.8s						
AMTX	Amarillo	4.16	257	IAmb_Lg		16 55 43.1	
	comp=Z,5.3nm,0.8s						

*IDC **01** 16:54:11.7±0.8, 11°.52S×166°.16E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.0/40, mbtmp4.1/14, ML4.3/2, MS3.4/17, Ms1 3.4/17, ms1mx3.2/62, Error ellipse: s-maj=23.5km s-min=19.2km az=145.0*
*NEIC **01** 16:54:19.6±1.1, 11°.6S±0°.1×166°.3E±0°.2, h64km±13km, mb4.3/13, Error ellipse: s-maj=26.9km s-min=10.7km az=58.0*
ISC 01 16:54:17.2±0.6**, 11°.62S**±0°.07×**166°.18E**±0°.09**, h37km, n49, σ1.53**/41**, mb4.2**/18**, MS3.5**/17**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	3.93	165		Pn	16 55 17.6	+2.6
HNR	Honiara	6.51	289	Pn	Pn	16 55 49.8	-0.6
	26nm,0.3s,baz=121,slow=3.6,SNR=13						
HNR				Sn	Sn	16 57 03.4	-0.1
	baz=152,slow=13,SNR=0.9						
HNR	Honiara	6.51	289		Pn	16 55 52.7	+2.3
KOUNC	Koumac, New Ca	9.06	191		Pn	16 56 28.8	+3.3
DZM	Mont Dzumac	10.39	179	Pn	Pn	16 56 45.1	+1.2
	0.7nm,0.3s,baz=327,slow=21,SNR=12						
DZM				Sn	Sn	16 58 34.9	-4.3
	0.1nm,0.3s,baz=157,slow=18,SNR=1.1						
DZM				LR	LR	16 59 44.1	
	comp=Z,75nm,18.9s,baz=30,slow=32						
DZM	Mont Dzumac	10.39	179	*e*Pn	Pn	16 56 46.6	+2.7
	3.5nm,0.3s						
DZM				*e*Sn	Sn	16 58 36.2	-2.9
	1.7nm,0.3s						
DZM				*e*LR	LR	16 59 09.0	
	comp=Z,311nm,24.8s						
DZM	Mont Dzumac	10.39	179		Pn	16 56 47.1	+3.3
PMG	Port Moresby	18.83	275	LR	LR	17 05 10.8	
	comp=Z,227nm,19.8s,baz=90,slow=35						
PATS	Pohnpei	19.94	337	P	P	16 58 45.1	-1.0
CTA	Charters Tower	20.92	244	P	P	16 58 57.6	+0.9
	6.7nm,1.0s,baz=31,slow=9.3,SNR=3.0						
CTA				LR	LR	17 05 54.3	
	comp=Z,165nm,19.3s,baz=88,slow=34						
AFI	Afiamalu	21.61	98	LR	LR	17 05 44.4	
	comp=Z,86nm,19.0s,baz=272,slow=32						
ARMA	Armidale	23.07	214	P	P	16 59 19.8	0.0
ARMA				IAmb	IAmb	16 59 23.6	
	comp=Z,8.9nm,0.8s						
STKA	Stephens Creek	30.32	225	P	P	17 00 25.4	0.0
	comp=Z,3.3nm,0.7s,baz=31,slow=9.8,SNR=7.5						
STKA				LR	LR	17 12 30.4	
	comp=Z,129nm,18.1s,baz=38,slow=36						
STKA	Stephens Creek	30.32	225	P	P	17 00 25.2	-0.2
LTZ	Lake Taylor	31.49	171	P	P	17 00 36.0	+0.5
WR0	Warramunga Arr	31.51	251	P	P	17 00 36.1	+0.1
WR0				IAmb	IAmb	17 00 51.7	
	comp=Z,7.4nm,1.4s						
WB0	Warramunga Arr	31.61	251	P	P	17 00 36.9	-0.1
WB0				IAmb	IAmb	17 00 38.2	
	comp=Z,5.6nm,0.9s						
WRAB	Tennant Creek	31.68	251	P	P	17 00 37.2	-0.3
WB2	Warramunga Arr	31.68	251	P	P	17 00 37.4	-0.1
WB2				IAmb	IAmb	17 00 54.4	
	comp=Z,5.9nm,1.2s						
WRA	Warramunga Arr	31.69	251	P	P	17 00 37.5	-0.1
	comp=Z,2.2nm,0.7s,baz=84,slow=8.7,SNR=26						
WRA				PcP	PcP	17 03 28.2	-0.8
	comp=Z,0.6nm,0.8s,baz=80,slow=3.4,SNR=4.9						
GUMO	Guam	32.78	319	LR	LR	17 12 27.2	
	comp=Z,29nm,21.9s,baz=120,slow=34						
AS31	Alice Springs	32.92	244	P	P	17 00 47.9	-0.5
ASAR	Alice Springs	32.92	244	P	P	17 00 48.0	-0.4
	comp=Z,2.2nm,0.6s,baz=68,slow=9.8,SNR=54						
ASAR				PcP	PcP	17 03 31.2	-1.1
	comp=Z,0.8nm,0.8s,baz=76,slow=1.9,SNR=7.2						
ASAR				LR	LR	17 13 02.0	
	comp=Z,167nm,18.2s,baz=146,slow=34						
ASAR	Alice Springs	32.92	244	P	P	17 00 46.7	-1.7
RAR	Rarotonga	33.95	111	P	P	17 00 58.5	+1.2
	comp=Z,9.1nm,0.7s,baz=179,slow=19,SNR=1.8						
RAR				LR	LR	17 11 47.1	
	comp=Z,85nm,21.0s,baz=200,slow=31						
SIJI	Sorong	36.26	285	LR	LR	17 17 53.5	
	comp=Z,67nm,18.1s,baz=104,slow=39						
KNRA	Kununurra	36.55	259	P	P	17 01 19.9	+0.1
FITZ	Fitzroy Crossi	39.65	256	LR	LR	17 16 11.5	
	comp=Z,77nm,20.1s,baz=132,slow=33						
FITZ	Fitzroy Crossi	39.65	256	P	P	17 01 45.8	-0.1
FITZ				IAmb	IAmb	17 01 47.2	
	comp=Z,4.1nm,0.8s						
PPT2	Papeete2	43.15	103	*e*LR	LR	17 14 36.5	
	comp=Z,114nm,27.2s						
TBI	Tubuai	43.72	112	*e*LR	LR	17 14 49.2	
	comp=Z,116nm,28.2s						
JOW	Kunigami	53.07	317	LR	LR	17 26 30.8	
	comp=Z,15nm,18.4s,baz=95,slow=37						
ASAJ	Asahikawa	59.48	340	LR	LR	17 25 04.7	
	comp=Z,37nm,21.6s,baz=131,slow=31						
PETK	Petropavlovsk-	64.88	354	LR	LR	17 26 25.8	
	comp=Z,29nm,21.3s,baz=88,slow=30						
MA2	Magadan	72.04	352	LR	LR	17 31 13.4	
	comp=Z,40nm,21.9s,baz=121,slow=31						
CMAR	Chiang Mai Arr	72.73	294	P	P	17 05 43.2	+1.1
	comp=Z,2.2nm,0.8s,baz=120,slow=4.9,SNR=21						
SEY	Seymchan	75.09	354	P	P	17 05 55.9	+0.9
	comp=Z,0.2nm,0.2s,baz=165,slow=2.3,SNR=1.6						
QSPA	South Pole Qui	78.38	180	P	P	17 06 13.2	-0.7
QSPA				IAmb	IAmb	17 06 16.7	
	comp=Z,4.4nm,1.0s						
YAK	Yakutsk	78.77	343	LR	LR	17 35 30.8	
	comp=Z,25nm,21.9s,baz=88,slow=32						
SONM	Songino Array	79.38	324	P	P	17 06 19.0	-0.6
	comp=Z,0.5nm,0.6s,baz=128,slow=7.2,SNR=5.7						
ILAR	Eielson Array	83.92	18	P	P	17 06 43.0	0.0
	comp=Z,0.2nm,0.5s,baz=237,slow=5.0,SNR=4.1						
MK31	Makanchi Array	94.23	317	P	P	17 07 31.3	-1.3
MK31				IAmb	IAmb	17 07 32.6	
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	94.23	317	P	P	17 07 31.9	-0.7
	comp=Z,3.2nm,0.9s,baz=95,slow=6.0,SNR=28						
MKAR				LR	LR	17 47 51.7	
	comp=Z,9.2nm,21.9s,baz=21,slow=34						
MKAR	Makanchi Array	94.23	317	P	P	17 07 31.6	-1.0
ZALV	Zalesovo Beam	94.27	324	P	P	17 07 30.9	-1.7
	comp=Z,0.3nm,0.4s,baz=168,slow=7.4,SNR=2.0						
YKA	Yellowknife Ar	95.29	27	P	P	17 07 36.1	-0.8
	comp=Z,0.1nm,0.3s,baz=261,slow=4.5,SNR=1.9						
KURBB	Kurchatov Arra	97.40	320	LR	LR	17 50 57.2	
	comp=Z,18nm,21.8s,baz=148,slow=35						
ARCES	ARCESS Array B	117.00	346	PKP	PKPdf	17 12 57.9	+0.3
	comp=Z,4.3nm,1.0s,baz=341,slow=9.4,SNR=2.3						
TORD	Torodi Ar. Bea	164.77	277	PKPab	PKPab	17 15 13.1	-1.1
	comp=Z,0.4nm,0.8s,baz=74,slow=5.1,SNR=2.6						

IDC 01 17:00:53.5±35.0**, 25°.98S**×**71°.60E, h0km, mb3.3**/3**, mb1 3.6**/3**, mb1mx3.3**/36**, mbtmp3.3**/3**, Error ellipse: s-maj=834.0km s-min=57.9km az=70.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	18.25	3	T	T	17 23 50.1	
	baz=185						
H08S2	Diego Garcia H	18.25	3	T	T	17 23 55.4	
	baz=185						
H08S3	Diego Garcia H	18.27	3	T	T	17 23 58.2	
	baz=185						
CMAR	Chiang Mai Arr	51.55	34	P	P	17 10 01.3	-0.2
	0.4nm,0.9s,baz=225,slow=6.2,SNR=1.7						
ASAR	Alice Springs	56.12	102	P	P	17 10 34.9	-0.2
	0.3nm,0.7s,baz=252,slow=6.2,SNR=6.7						
WRA	Warramunga Arr	57.62	98	P	P	17 10 46.0	+0.2
	0.2nm,0.5s,baz=252,slow=7.7,SNR=2.1						

*SKHL **01** 17:08:07.8±0.8, 44°.00N×148°.20E, h51km±1km, mb4.7/4*
*MOS **01** 17:08:08.3±1.5, 44°.00N×148°.03E, h46km, mb4.5/1, Error ellipse: s-maj=12.0km s-min=10.3km az=80.6*
*NIED **01** 17:08:08.9, 43°.70N×147°.71E, h0km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.61; $M_{\theta\theta}$-1.05; $M_{\phi\phi}$-0.56; $M_{r\theta}$3.40; $M_{\theta\phi}$-1.42; $M_{\phi r}$0.17; Fault plane solution: $M_0$3.95000×10^{14} NP1:ϕ_s81.00000°, δ78.00000°, λ110.00000°. NP2:ϕ_s202.00000°, δ23.00000°, λ33.00000°.*
*JMA **01** 17:08:08.8±0.3, 43°.70N×147°.71E, h0km, M4.0*
*IDC **01** 17:08:14.3±3.8, 44°.25N×147°.80E, h70km±28km, mb3.3/11, mb1 3.6/15, mb1mx3.3/54, mbtmp3.6/15, MS2.6/2, Ms1 2.6/2, ms1mx2.2/41, Error ellipse: s-maj=45.4km s-min=19.3km az=169.0*
ISC 01 17:08:10.4±1.1**, 43°.93N**±0°.07×**147°.98E**±0°.06**, h51km**±11km**, n57, σ1.29**/40**, mb3.6**/11**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.83	266	*d i*PN	Pn	17 08 24.3	-1.7
SHO				*e*S	Sn	17 08 35.4	-1.8
SHO				pmax	pmax		
	comp=Z,223nm,0.3s						
SHO				pmax	pmax		
	comp=N,30nm,0.2s						
SHO				pmax	pmax		
	comp=E,177nm,0.3s						
SHO				smax	smax		
	comp=N,1µm,0.2s						
SHO				smax	smax		
	comp=E,3µm,0.4s						
SHO	Shikotan	0.83	266	*i* P	Pn	17 08 24.2	-1.7
SHO				AMB	AMB	17 08 26.3	
	comp=E,180nm,0.3s						
SHO				*e*S	Sn	17 08 35.9	-1.3
SHO				A	A	17 08 37.3	
	comp=E,2µm,0.4s						
SHO				A	A	17 08 37.3	
	comp=E,4µm,0.4s						
KUR	Kuril'sk	1.30	357	*d i*PN	Pn	17 08 27.5	-4.7
KUR				*e*S	Sn	17 08 44.1	-4.4
KUR				pmax	pmax		
	comp=Z,335nm,0.4s						
KUR				smax	smax		
	comp=E,893nm,0.5s						
KUR				smax	smax		
	comp=N,561nm,0.4s						
KUR	Kuril'sk	1.30	357	*i* P	Pn	17 08 27.7	-4.5
KUR				AMB	AMB	17 08 29.1	
	comp=N,300nm,0.4s						
KUR				*e*S	Sn	17 08 43.2	-5.3
KUR				A	A	17 08 45.6	
	comp=N,660nm,0.3s						
KUR				A	A	17 08 45.6	
	comp=N,420nm,0.3s						
YUK	Yuzh-Kuril'sk	1.53	275	*e*PN	Pn	17 08 33.8	-1.5
YUK				*e*S	Sn	17 08 52.5	-1.6
YUK				pmax	pmax		
	comp=Z,297nm,0.2s						
YUK				pmax	pmax		
	comp=N,70nm,0.1s						
YUK				smax	smax		
	comp=N,2µm,0.2s						
YUK				smax	smax		
	comp=E,1µm,0.1s						
YUK	Yuzh-Kuril'sk	1.53	275	*e*P	Pn	17 08 34.5	-0.8
YUK				AMB	AMB	17 08 35.3	
	comp=E,190nm,0.2s						
YUK				*e*S	Sn	17 08 53.1	-1.0
YUK				A	A	17 08 56.5	
	comp=E,1µm,0.4s						
YUK				A	A	17 08 56.5	
	comp=E,1µm,0.4s						
NEM2	Nemuro 2	1.72	251	P	Pn	17 08 36.5	-1.4
NEM2				*e*S	Sn	17 08 56.5	-2.1
NMR	Nemuro--Hokkai	1.73	252	*e*PN	Pn	17 08 36.4	-1.6
NMR				*e*S	Sn	17 08 59.1	+0.2
NMR	Nemuro--Hokkai	1.73	252	*e*P	Pn	17 08 36.4	-1.6
NMR				*e*S	Sn	17 08 59.1	+0.2
GLVR	Golovnino	1.79	265	*e*PN	Pn	17 08 38.5	-0.3
GLVR				*e*S	Sn	17 08 59.7	-0.7
GLVR				pmax	pmax		
	comp=N,40nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,247nm,0.2s						
GLVR				pmax	pmax		
	comp=E,70nm,0.1s						
GLVR				smax	smax		
	comp=E,2µm,0.4s						
GLVR				smax	smax		
	comp=N,2µm,0.3s						
GLVR	Golovnino	1.79	265	*e*P	Pn	17 08 38.2	-0.6
GLVR				AMB	AMB	17 08 40.3	
	comp=N,130nm,0.2s						
GLVR				*e*S	Sn	17 08 59.7	-0.7
GLVR				A	A	17 09 03.1	
	comp=N,1µm,0.4s						
GLVR				A	A	17 09 03.1	
	comp=N,2µm,0.4s						
RUSJ	Misakicho	1.98	276	*e*PN	Pn	17 08 41.6	+0.2
RUSJ				*e*S	Sn	17 09 06.2	+1.2
JRA	Rausu	2.06	271	P	Pn	17 08 42.6	0.0
JNSB	Nemuroshibetsu	2.15	267	P	Pn	17 08 43.9	0.0
JNSB				*e*S	Sn	17 09 09.2	-0.2
JKHN	Kushirohamanak	2.22	248	P	Pn	17 08 44.1	-0.6
JNK	Nakash	2.38	263	P	Pn	17 08 46.6	-0.4
JNK				*e*S	Sn	17 09 14.5	-0.6
AKK	Akkeshi	2.46	249	*e*P	Pn	17 08 47.4	-0.6
AKK				*e*S	Sn	17 09 15.8	-1.0
JAK	Akkeshi	2.56	250	P	Pn	17 08 48.7	-0.8
JAK				*e*S	Sn	17 09 18.2	-1.2
JTKR	Abashiri--Toko	2.94	272	P	Pn	17 08 55.4	+0.8
JAR	Ashorobuto	3.12	260	P	Pn	17 08 57.6	+0.5
JOB	Onbets	3.19	253	P	Pn	17 08 57.9	-0.1
JOB				*e*S	Sn	17 09 34.4	-0.4
JMP	Maruseppu	3.33	273	P	Pn	17 09 01.0	+0.9
JCH	Churui	3.62	250	P	Pn	17 09 03.7	-0.2
JCH				*e*S	Sn	17 09 44.1	-1.2
JKA	Kamikawa-asahi	3.88	275	*e*P	Pn	17 09 09.7	+2.2
ASAJ	Asahikawa	3.88	275	P	Pn	17 09 09.7	+2.1
	comp=N,0.7nm,0.3s,baz=111,slow=8.6,SNR=1.9						
ASAJ				LR	LR	17 10 58.0	
	comp=N,74nm,18.0s,baz=178,slow=44						
JNBK	Urakawa-nobuka	4.17	248	P	Pn	17 09 10.9	-0.5
YSS	Yuzh-Sakhalins	4.76	311	*e*PN	Pn	17 09 21.1	+1.6
YSS				*e*S	Sn	17 10 16.5	+3.2
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YSS	Yuzh-Sakhalins	4.76	311	*e*P	Pn	17 09 19.5	0.0
YSS				AMB	AMB	17 09 23.1	
	comp=Z,10.0nm,0.5s						
TYV	Tymovskoe	7.81	334	*e*P	Pn	17 10 01.0	-0.4
PAU	Pauzhetka	9.60	35	*e*P	Pn	17 10 23.7	-2.1
PETK	Petropavlovsk-	11.21	32	P	Pn	17 10 47.9	0.0
	comp=Z,0.3nm,0.3s,baz=203,slow=11,SNR=7.9						
PET	Petropavlovsk	11.52	34	*e*P	Pn	17 10 47.9	-4.1
MA2	Magadan	15.76	5	P	Pn	17 11 49.5	+0.8
	comp=Z,0.2nm,0.3s,baz=174,slow=9.1,SNR=5.6						
SEY	Seymchan	19.21	6	P	P	17 12 28.9	-0.8
	comp=Z,0.1nm,0.3s,baz=163,slow=19,SNR=6.5						
SEY	Seymchan	19.21	6	P	P	17 12 29.0	-0.8
SEY	Seymchan	19.21	6	*e*P	P	17 12 29.0	-0.8
H11N2	WAKE ISLAND Hy	28.86	141	T	T	17 44 43.5	
	baz=332,slow=76,SNR=62						
H11N1	WAKE ISLAND Hy	28.87	141	T	T	17 44 46.0	
	baz=332,slow=76,SNR=61						
H11N3	WAKE ISLAND Hy	28.87	141	T	T	17 44 48.1	
	baz=332,slow=76,SNR=62						
H11S1	WAKE ISLAND Hy	29.84	142	T	T	17 45 59.2	
	baz=332,slow=76,SNR=63						
H11S3	WAKE ISLAND Hy	29.84	142	T	T	17 45 59.0	
	baz=332,slow=76,SNR=45						
H11S2	WAKE ISLAND Hy	29.86	142	T	T	17 45 55.5	
	baz=332,slow=76,SNR=56						
GUMO	Guam	30.36	186	LR	LR	17 26 05.6	
	comp=Z,13nm,19.6s,baz=143,slow=35						
ILAR	Eielson Array	40.99	36	P	P	17 15 48.5	+0.7
	comp=Z,0.9nm,0.8s,baz=259,slow=7.6,SNR=8.4						
MKAR	Makanchi Array	45.03	298	P	P	17 16 20.9	+0.1
	comp=Z,0.2nm,0.5s,baz=80,slow=8.9,SNR=2.6						
RES	Resolute Bay	54.62	17	P	P	17 17 32.9	-0.3
	comp=Z,0.4nm,0.4s,baz=326,slow=8.6,SNR=6.5						
YKA	Yellowknife Ar	55.32	34	P	P	17 17 39.0	+0.7
	comp=Z,0.5nm,0.8s,baz=299,slow=7.0,SNR=6.5						
FINES	FINESS Array B	64.98	333	P	P	17 18 43.3	-1.2
	comp=Z,0.7nm,0.5s,baz=43,slow=8.6,SNR=6.5						
NVAR	Mina Array Bea	66.97	58	P	P	17 18 58.8	+0.8
	comp=Z,0.2nm,0.5s,baz=295,slow=6.9,SNR=4.6						
PDAR	Pinedale Array	69.33	50	P	P	17 19 15.4	+2.7
	comp=Z,0.3nm,0.6s,baz=297,slow=7.0,SNR=2.0						
NOA	NORSAR Array B	69.64	339	P	P	17 19 13.6	-0.5
	comp=Z,0.5nm,0.7s,baz=42,slow=5.4,SNR=2.0						
KBZ	Khabaz	70.12	312	P	P	17 19 18.2	+1.1
	comp=Z,0.8nm,0.6s,baz=49,slow=8.3,SNR=3.7						
AKASG	Malin Array Be	71.78	324	P	P	17 19 26.6	-0.5
	comp=Z,0.4nm,0.3s,baz=38,slow=6.0,SNR=4.8						
TXAR	Lajitas Array	82.05	57	P	P	17 20 26.2	+0.8
	comp=Z,0.3nm,0.6s,baz=301,slow=3.8,SNR=4.7						
H03N2	Juan Fernandez	142.37	90	T	T	20 06 42.4	
	baz=304,slow=77,SNR=12						
H03N3	Juan Fernandez	142.38	90	T	T	20 06 43.3	
	baz=304,slow=77,SNR=16						
H03N1	Juan Fernandez	142.38	90	T	T	20 06 43.4	
	baz=304,slow=77,SNR=14						

*IDC **01** 17:14:14.1±2.4, 7°.45S×128°.62E, h142km±24km, mb3.0/2, mb1 3.0/4, mb1mx2.4/31, mbtmp3.5/4, Error ellipse: s-maj=42.3km s-min=24.8km az=112.0*
ISC 01 17:14:12.7±0.8**, 7°.66S**±0°.06×**128°.70E**±0°.07**, h151km, n14, σ3.28**/19**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.60	97	P	Pn	17 14 58.7	+3.6
BATI	Baumata	5.58	243	P	Pn	17 15 35.7	+1.8
	24nm,0.3s,baz=100,slow=5.0,SNR=49						
BATI				S	Sn	17 16 37.3	-0.1
	7.6nm,0.3s,baz=90,slow=22,SNR=9.2						
MTN	Manton Dam	5.68	155	P	Pn	17 15 38.6	+3.4
KDU	Kakadu	6.23	144	P	Pn	17 15 45.5	+3.0
SIJI	Sorong	7.21	21	P	Pn	17 15 54.7	-0.9
	0.7nm,0.3s,baz=252,slow=20,SNR=18						
SIJI				S	Sn	17 17 10.7	-5.8
	0.2nm,0.3s,baz=170,slow=23,SNR=1.2						
KNRA	Kununurra	7.97	180	P	Pn	17 16 08.0	+2.3
FITZ	Fitzroy Crossi	10.80	196	P	Pn	17 16 43.2	0.0
	0.4nm,0.3s,baz=24,slow=13,SNR=32						
FITZ				S	Sn	17 18 38.0	-4.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.6nm,0.3s,baz=72,slow=19,SNR=6.9						
PLAI	Plampang	10.87	263	P	Pn	17 16 43.9	-0.4
WRAB	Tennant Creek	13.38	156	P	P	17 17 21.0	+0.1
WRA	Warramunga Arr	13.38	156	P	Pn	17 17 17.5	+0.7
	0.2nm,0.3s,baz=332,slow=13,SNR=12						
WRA				S	Sn	17 19 39.1	-5.9
	0.3nm,0.3s,baz=331,slow=23,SNR=6.1						
ASAR	Alice Springs	16.68	163	P	Pn	17 18 01.9	+4.1
	0.1nm,0.3s,baz=342,slow=11,SNR=20						
ASAR				S	S	17 21 00.5	-2.8
	0.1nm,0.3s,baz=348,slow=26,SNR=1.7						
WRKA	Warakurna	17.29	181	P	Pn	17 18 08.5	+3.4
SONM	Songino Array	58.66	343	P	P	17 23 55.4	+1.1
	0.1nm,0.5s,baz=165,slow=8.0,SNR=4.2						
MKAR	Makanchi Array	68.07	328	P	P	17 24 56.9	+0.8
	0.3nm,0.5s,baz=121,slow=7.9,SNR=7.3						

IDC 01 17:25:16.1±3.7, 14°.62N×93°.28W, h0^{km}, mb3.4/3, mb1 3.7/4, mb1mx3.4/50, mbtmp3.4/4, ML3.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/37, Error ellipse: s-maj=112.3km s-min=63.5km az=48.0
MEX 01 17:25:19.2±0.6, 14°.36N×93°.96W, h20^{km}, MD4.1
ISC 01 17:25:17.3±2.7, 14°.5N±0°.1×93°.79W±0°.06, h4^{km}±14^{km}, n14, σ1^{s}23/21, mb3.4/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.29	25	eP	Pg	17 25 42.4	+0.3
PCIG				i S	Sn	17 26 00.3	+0.3
THIG		1.52	75	i S	Sn	17 26 05.5	-0.2
PATR	El Naranjo	1.61	69	eP	Pn	17 25 46.7	-0.2
PATR				i S	Sn	17 26 08.4	+0.2
PAVE	Pavencul	1.69	67	eP	Pn	17 25 48.0	+0.1
PAVE				eS	Sn	17 26 10.6	+0.4
CHUJ	Union Juarez	1.72	71	eP	Pn	17 25 48.2	-0.1
CHUJ				i S	Sn	17 26 10.9	+0.1
TGIG		2.33	16	eP	Pn	17 25 57.2	+0.7
TGIG				eS	Sn	17 26 24.9	-0.8
CCIG	Comitan	2.36	42	eP	Pb	17 25 59.2	-1.3
CCIG				i S	Sn	17 26 26.7	0.0
CMIG	Matias Romero	2.76	338	Pn	Pn	17 26 02.1	-0.3
	2.7nm,0.3s,baz=148,slow=11,SNR=16						
CMIG				Sn	Sn	17 26 33.1	-3.1
	6.2nm,0.3s,baz=79,slow=15,SNR=3.9						
UXUV	UXUV	2.79	353	eP	Pn	17 26 04.8	+1.9
UXUV				eS	Sn	17 26 37.7	+0.5
LPIG	La Paz	18.25	304	LR	LR	17 36 00.1	
	comp=Z,32nm,21.9s,baz=191,slow=35						
NVAR	Mina Array Bea	32.18	322	P	P	17 31 49.4	+2.6
	0.2nm,0.5s,baz=142,slow=9.0,SNR=2.0						
YKA	Yellowknife Ar	50.13	348	P	P	17 34 13.1	-0.5
	0.7nm,0.7s,baz=154,slow=7.3,SNR=12						
ILAR	Eielson Array	61.68	337	P	P	17 35 36.0	-0.3
	0.2nm,0.7s,baz=111,slow=4.9,SNR=2.3						
CMAR	Chiang Mai Arr	144.90	339	PKPbc	PKPab	17 44 54.5	-1.3
	0.2nm,0.3s,baz=352,slow=3.9,SNR=1.4						

IDC 01 17:27:55.3±2.1, 17°.26S×69°.42W, h171^{km}±16^{km}, mb3.4/2, mb1 3.5/3, mb1mx3.1/35, mbtmp3.8/3, Error ellipse: s-maj=51.5km s-min=22.0km az=109.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	1.57	52	P	Pn	17 28 28.2	+0.4
	82nm,0.3s,baz=253,slow=5.2,SNR=1258						
LPAZ				S	Sn	17 28 52.9	0.0
	5.3nm,0.3s,baz=131,slow=22,SNR=7.4						
LPAZ				LR	LR	17 29 08.6	
	comp=Z,65nm,21.3s,baz=217,slow=47						
LVC	Limon Verde	5.35	175	P	Pn	17 29 13.5	-0.5
	1.5nm,0.3s,baz=353,slow=10,SNR=29						
LVC				S	Sn	17 30 12.1	-3.6
	4.0nm,0.3s,baz=197,slow=22,SNR=26						
TORD	Torodi Ar. Bea	76.43	71	P	P	17 39 26.6	0.0
	1.0nm,0.7s,baz=262,slow=6.2,SNR=4.6						
YKA	Yellowknife Ar	87.04	341	P	P	17 40 20.7	-0.3
	0.2nm,0.5s,baz=134,slow=4.9,SNR=6.5						
WRA	Warramunga Arr	136.28	213	PKP	PKPdf	17 46 58.3	+0.8
	0.2nm,0.7s,baz=144,slow=2.6,SNR=1.5						

NEIC 01 17:29:24.7±1.6, 30°.7S±0°.1×180°.0E±0°.1, h418^{km}±7^{km}, mb4.2/21, Error ellipse: s-maj=14.9km s-min=13.7km az=155.0
NOU 01 17:29:24.8, 30°.73S×179°.68W, h444^{km}, mb4.3/31, Kermadec Islands Region
IDC 01 17:29:25.2±0.8, 30°.45S×179°.98E, h420^{km}±10^{km}, mb3.4/4, mb1 3.6/7, mb1mx3.1/32, mbtmp4.3/7, Error ellipse: s-maj=24.8km s-min=17.6km az=170.0
ISC 01 17:29:24.4±0.6, 30°.58S±0°.04×179°.98W±0°.07, h420^{km}, n130, σ1^{s}79/145, mb4.0/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.22	54	P	P	17 30 24.5	+0.9
GLKZ				S	S	17 31 13.5	+2.1
RIZ	Raoul Island	2.22	54	P	P	17 30 24.6	+0.9
RIZ				S	S	17 31 13.9	+2.4
RAO	Raoul Island	2.23	54	P	P	17 30 24.8	+1.2
	83nm,0.3s,baz=336,slow=20,SNR=8.0						
RAO				S	S	17 31 11.7	+0.2
	72nm,0.3s,baz=90,slow=20,SNR=1.9						
RAO	Raoul Island	2.23	54	P	P	17 30 24.5	+0.8
RAO	Raoul Island	2.23	54	P	P	17 30 24.9	+1.2
MXZ	Matakaoa Point	7.11	191	P	P	17 31 10.2	+0.4
MXZ	Matakaoa Point	7.11	191	P	P	17 31 10.9	+1.1
MXZ				S	S	17 32 33.9	-1.7
OUZ	Omahuta	7.11	228	P	P	17 31 13.4	+3.5
OUZ	Omahuta	7.11	228	P	P	17 31 13.4	+3.5
KUZ	Kuaotunu	7.12	209	P	P	17 31 13.6	+3.7
WCZ	Waipu Caves	7.15	220	P	P	17 31 13.6	+3.3
WMGZ	Waiomatatini S	7.34	190	P	P	17 31 13.6	+1.2
WMGZ				S	S	17 32 39.1	-1.2
HAZ	Te Kaha	7.39	194	P	P	17 31 13.1	+0.1
HAZ				S	S	17 32 39.8	-1.5
WIAZ	Waiheke Island	7.41	212	P	P	17 31 17.1	+3.9
PKGZ	Pakihiroa	7.46	192	P	P	17 31 13.5	-0.3
PKGZ				S	S	17 32 39.9	-3.0
PUZ	Puketiti	7.61	191	P	P	17 31 14.2	-1.2
PUZ				S	S	17 32 42.7	-3.2
RUGZ	Raukumara Rang	7.62	194	P	P	17 31 14.9	-0.6
RUGZ				S	S	17 32 43.6	-2.5
TWGZ	Tauwhareparae	7.76	192	P	P	17 31 16.3	-0.7
TWGZ				S	S	17 32 47.4	-1.6
OPRZ	Ohinepanea	7.79	201	P	P	17 31 20.2	+2.9
MARZ	Manawahe	7.89	200	P	P	17 31 21.7	+3.3
EDRZ	Edgecumbe	7.98	199	P	P	17 31 22.4	+2.9
LIRZ	Lichensteins R	7.99	201	P	P	17 31 23.9	+4.4
KMRZ	Kaimai	7.99	204	P	P	17 31 23.7	+4.2
MWZ	Matawai	8.00	194	P	P	17 31 18.2	-1.4
MWZ				S	S	17 32 51.3	-2.6
CNGZ	Carnagh Statio	8.02	190	P	P	17 31 17.8	-1.9
CNGZ				S	S	17 32 55.2	+1.0
URZ	Urewera	8.03	197	P	P	17 31 17.8	-1.9
URZ					S	17 32 52.1	-2.2
URZ	Urewera	8.03	197	P	P	17 31 18.0	-1.7
URZ	Urewera	8.03	197	P	P	17 31 19.9	+0.2
TKGZ	Te Karaka	8.04	192	P	P	17 31 19.0	-0.9
TKGZ				S	S	17 32 51.3	-3.3
KARZ	Kaharoa	8.05	202	P	P	17 31 24.4	+4.3
TOZ	Tahuroa Road	8.05	206	P	P	17 31 25.1	+5.0
OMRZ	Omania	8.09	201	P	P	17 31 24.4	+3.9
TARZ	Mount Tarawera	8.17	200	P	P	17 31 25.0	+3.6
RAGZ	Rawiri	8.18	195	P	P	17 31 22.4	+0.9
UTU	Utuhina	8.21	202	P	P	17 31 26.5	+4.7
HLRZ	Highlands Stat	8.23	201	P	P	17 31 25.6	+3.5
RRRZ	Republican Roa	8.26	200	P	P	17 31 25.4	+3.1
RIGZ	Rimuhau	8.32	192	P	P	17 31 22.7	-0.3
RIGZ				S	S	17 32 57.1	-3.2
HSRZ	Hossack Road	8.32	201	P	P	17 31 26.1	+3.2
MUGZ	Murupara	8.32	198	P	P	17 31 23.5	+0.5
MUGZ				S	S	17 33 00.4	0.0
HRRZ	Handcock Road	8.38	201	P	P	17 31 26.5	+2.8
GRRZ	Galatos Road	8.39	202	P	P	17 31 27.0	+3.1
RTZ	Ruatahuna	8.40	197	P	P	17 31 23.8	-0.1
PRRZ	Plateau Road	8.45	200	P	P	17 31 26.6	+2.2
SNGZ	Shannon Statio	8.47	194	P	P	17 31 23.6	-1.1
SNGZ				S	S	17 33 01.8	-1.8
PRGZ	Paritu Road	8.51	191	P	P	17 31 26.0	+0.9
PRGZ				S	S	17 33 02.9	-1.3
ALRZ	Allen Road	8.52	200	P	P	17 31 27.1	+1.9
WPRZ	Whakapapatarin	8.53	201	P	P	17 31 27.8	+2.4
TLZ	Tolley Road	8.57	204	P	P	17 31 29.4	+3.7
KUTZ	Kaahu Road	8.61	203	P	P	17 31 29.8	+3.5
KNZ	Kokohu	8.64	192	P	P	17 31 26.2	-0.2
MTHZ	Maungataniwha	8.66	197	P	P	17 31 27.7	+1.0
RAHZ	Arahi	8.66	195	P	P	17 31 27.1	+0.3
MHGZ	Mahia Peninsul	8.73	191	P	P	17 31 28.9	+1.4
MRHZ	Matea Rd	8.75	199	P	P	17 31 28.3	+0.5
WHHZ	Waihua	8.78	194	P	P	17 31 27.6	-0.4
WATZ	Wairara	8.84	202	P	P	17 31 31.5	+2.7
HIZ	Hauiti	8.98	207	P	P	17 31 32.2	+1.9
HIZ	Hauiti	8.98	207	P	P	17 31 32.7	+2.4
ARHZ	Aropaoanui	9.01	195	P	P	17 31 30.7	+0.1
BKZ	Black Stump Fm	9.04	198	P	P	17 31 29.4	-1.6
BKZ					S	17 33 09.1	-6.2
BKZ	Black Stump Fm	9.04	198	P	P	17 31 30.7	-0.3
RITZ	Rihia Road	9.05	201	P	P	17 31 32.3	+1.2
MCHZ	McNeill Hill	9.25	196	P	P	17 31 32.6	-0.7
NNVZ	North Ngauruho	9.27	202	P	P	17 31 35.4	+1.8
OTVZ	Oturere	9.28	201	P	P	17 31 34.6	+0.9
KRHZ	Kereru	9.52	197	P	P	17 31 35.6	-0.7
BFZ	Birch Farm	10.54	196	P	P	17 31 46.5	-0.9
SNZO	South Karori	11.54	200	P	P	17 31 56.4	-1.9
SNZO	South Karori	11.54	200	P	P	17 31 57.9	-0.5
BHW	Baring Head	11.58	200	P	P	17 31 57.1	-1.8
TUWZ	Tuamarina	11.89	203	P	P	17 31 59.8	-2.4
QRZ	Quartz Range	11.89	209	P	P	17 32 03.4	+1.1
KHZ	Kahutara	12.90	202	P	P	17 32 11.2	-2.1
PINNC	Pines Island,	13.76	302	P	P	17 32 25.8	+2.9
OXZ	Oxford	14.22	204	P	P	17 32 25.5	-2.2
DZM	Mont Dzumac	14.82	302	P	P	17 32 36.1	+1.5
	0.5nm,0.3s,baz=165,slow=11,SNR=5.6						
DZM	Mont Dzumac	14.82	302	P	P	17 32 34.7	+0.1
DZM	Mont Dzumac	14.82	302	P	P	17 32 37.2	+2.6
NOUC	Port Laguerre	14.91	301	P	P	17 32 37.9	+2.5
RPZ	Rata Peaks	14.92	206	P	P	17 32 33.3	-1.9
	0.9nm,0.3s,baz=11,slow=5.2,SNR=1.7						
RPZ	Rata Peaks	14.92	206	P	P	17 32 35.1	-0.1
ODZ	Otahua Downs	16.21	204	P	P	17 32 47.3	-1.7
WKZ	Wanaka	16.65	208	P	P	17 32 50.7	-3.0
KOUNC	Koumac, New Ca	17.34	301	P	P	17 33 01.4	0.0
KOUNC				IAmb	IAmb	17 33 29.8	
	comp=Z,29nm,1.3s						
AFI	Afiamalu	18.23	26	P	P	17 33 11.3	+0.4
	comp=Z,3.3nm,0.3s,baz=139,slow=1.6,SNR=4.7						
AFI	Afiamalu	18.23	26	IAmb	IAmb	17 33 13.0	
	comp=Z,21nm,0.8s						
SANVU	Saraoutou	19.11	319	P	P	17 33 19.8	+0.3
SANVU	Saraoutou	19.11	319	P	P	17 33 19.9	+0.4
EIDS	Eidsvold	26.04	274		PcP	17 37 33.1	-3.8
RMQ	Roma	27.72	271	P	P	17 34 38.2	+1.3
TAU	Tasmania Unive	28.77	236	P	P	17 34 44.3	-1.5
CTA	Charters Tower	32.15	281	P	P	17 35 16.9	+1.3
	baz=108,slow=12						
CTA	Charters Tower	32.15	281	P	P	17 35 16.3	+0.7
CTAO	Charters Tower	32.15	281	P	P	17 35 13.7	-1.9
CTAO				IAmb	IAmb	17 35 16.0	
	comp=Z,22nm,1.5s						
STKA	Stephens Creek	32.77	258	P	P	17 35 22.1	+1.4
	comp=Z,3.3nm,0.7s,baz=92,slow=6.4,SNR=7.3						
STKA	Stephens Creek	32.77	258	P	P	17 35 21.6	+0.8
STKA	Stephens Creek	32.77	258	P	P	17 35 21.8	+1.0
HTT	Hallett	34.81	254	P	P	17 35 38.1	0.0
LCRK	Leigh Creek	35.87	259	P	P	17 35 46.2	-0.7
RABL	Rabaul	37.14	309	P	P	17 35 58.1	+0.4
RABL				IAmb	IAmb	17 36 03.8	
	comp=Z,17nm,0.6s						
RABL	Rabaul	37.14	309	P	P	17 36 00.5	+2.8
BBOO	Buckleboo	37.27	255	P	P	17 35 58.2	-0.4
BBOO				IAmb	IAmb	17 36 18.4	
	comp=Z,31nm,1.5s						
BBOO	Buckleboo	37.27	255	P	P	17 35 59.2	+0.5
OOD	Oodnadatta	38.62	263	P	P	17 36 10.2	+0.4
MULG	Mulgathing	39.42	258	P	P	17 36 16.5	+0.2
AS31	Alice Springs	41.39	268	P	P	17 36 31.9	-0.4
ASAR	Alice Springs	41.40	268	P	P	17 36 32.0	-0.3
	comp=Z,1.5nm,0.5s,baz=106,slow=7.1,SNR=68						
ASAR				PcP	PcP	17 38 20.9	-0.2
	comp=Z,0.4nm,0.8s,baz=118,slow=4.0,SNR=4.2						
ASAR				ScP	ScP	17 41 31.2	+0.8
	comp=Z,0.5nm,0.8s,baz=108,slow=3.8,SNR=6.5						
ASAR	Alice Springs	41.40	268	P	P	17 36 31.6	-0.8
WR0	Warramunga Arr	42.22	274	P	P	17 36 38.7	-0.3
WR0				IAmb	IAmb	17 37 06.0	
	comp=Z,7.6nm,1.5s						
WB2	Warramunga Arr	42.39	273	P	P	17 36 39.5	-0.7
WB2				IAmb	IAmb	17 36 40.6	
	comp=Z,5.2nm,0.7s						
WRAB	Tennant Creek	42.40	273	P	P	17 36 39.8	-0.5
WRAB				IAmb	IAmb	17 36 40.6	
	comp=Z,4.7nm,0.8s						
WRAB	Tennant Creek	42.40	273	P	P	17 36 40.5	+0.2
WRA	Warramunga Arr	42.40	273	P	P	17 36 40.0	-0.3
	comp=Z,4.1nm,0.5s,baz=112,slow=7.4,SNR=113						
WRA				PcP	PcP	17 38 24.0	-0.5
	comp=Z,0.3nm,0.7s,baz=112,slow=3.4,SNR=2.2						
WRA				ScP	ScP	17 41 35.5	+1.0
	comp=Z,0.4nm,0.9s,baz=110,slow=3.2,SNR=2.0						
WRA	Warramunga Arr	42.40	273	P	P	17 36 38.8	-1.6
WB0	Warramunga Arr	42.42	274	P	P	17 36 39.8	-0.8
WB0				IAmb	IAmb	17 36 40.9	
	comp=Z,4.2nm,0.6s						
FORT	Forrest	44.35	256	P	P	17 36 54.9	-0.6
FORT	Forrest	44.35	256	P	P	17 36 56.0	+0.5
WRKA	Warakurna	45.76	264	P	P	17 37 06.1	-0.5
KNRA	Kununurra	49.02	276	P	P	17 37 29.6	-1.7
KNRA				IAmb	IAmb	17 37 47.1	
	comp=Z,13nm,1.4s						
KNRA	Kununurra	49.02	276	P	P	17 37 32.5	+1.2
FITZ	Fitzroy Crossi	50.65	271	P	P	17 37 42.9	-0.5
KHU	Kahuku	54.80	28	P	P	17 38 13.3	-0.2
MORW	Morawa	54.84	254	P	P	17 38 12.5	-1.1
MORW				IAmb	IAmb	17 38 36.7	
	comp=Z,20nm,1.3s						
QSPA	South Pole Qui	59.53	180	P	P	17 38 47.5	+2.1
	comp=Z,1.5nm,0.9s,baz=328,slow=2.1,SNR=5.9						
QSPA	South Pole Qui	59.53	180	P	P	17 38 46.3	+0.9
KAPI	Kappang	61.97	281	P	P	17 39 02.6	+0.4
MKAR	Makanchi Array	116.59	310	PKP	PKPdf	17 47 18.7	-0.6
	comp=Z,0.1nm,0.4s,baz=29,slow=3.3,SNR=1.9						
FINES	FINESS Array B	144.71	339	PKP	PKPbc	17 48 11.0	-0.4
	comp=Z,3.1nm,0.8s,baz=63,slow=3.2,SNR=12						
BRTR	Keskin Array B	151.18	298	PKPbc	PKPbc	17 48 29.4	+0.2
	comp=Z,0.3nm,0.4s,baz=144,slow=3.2,SNR=3.6						
BRTR				PKPab	PKPab	17 48 39.1	+0.2
	comp=Z,0.4nm,0.4s,baz=121,slow=4.2,SNR=2.3						

IDC 01 17:37:28.3±2.3, 7°.29S×155°.07E, h0^{km}, mb3.4/5, mb1 3.6/5, mb1mx3.4/28, mbtmp3.4/5, Error ellipse: s-maj=71.1km s-min=31.5km az=125.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.71	236	P	P	17 42 41.4	-0.7
	0.3nm,0.5s,baz=61,slow=9.5,SNR=7.0						
ASAR	Alice Springs	26.03	229	P	P	17 43 03.4	-0.1
	0.3nm,0.8s,baz=58,slow=9.3,SNR=4.6						
CMAR	Chiang Mai Arr	60.98	296	P	P	17 47 44.5	+0.6
	0.2nm,0.3s,baz=99,slow=5.6,SNR=4.2						
MKAR	Makanchi Array	83.67	319	P	P	17 49 58.9	-0.1
	0.1nm,0.4s,baz=117,slow=5.0,SNR=2.1						
YKA	Yellowknife Ar	96.57	28	P	P	17 50 59.7	0.0
	0.1nm,0.6s,baz=269,slow=5.4,SNR=2.7						

NEIC 01 17:59:32.0±1.6, 35°.95N±0°.01×96°.73W±0°.01, h10^{km}±2^{km}, mb_Lg2.7/8, Error ellipse: s-maj=1.8km s-min=1.5km az=170.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUL1	Leonard	0.77	93	Pg	Pb	17 59 47.4	0.0
TUL1				Sg	Sb	17 59 57.3	-0.6
OKCFA	Oklahoma City	0.79	228	Pg	Pg	17 59 47.1	-0.1
W35A	Tecumseh	0.80	188		Pg	17 59 47.3	-0.1
W35A				Sg	Sg	17 59 57.9	+0.1
FNO	Franklin	0.88	218	Pg	Pb	17 59 49.3	0.0
FNO				Sg	Sb	18 00 00.7	-0.4
T35A	Sooner Cattle	0.98	10		Pb	17 59 51.4	+0.3
T35A				Sg	Sb	18 00 04.1	0.0
X37A	Clayton	1.75	140	Pn	Pn	18 00 02.1	-0.4
WMOK	Wichita Mounta	2.06	235	Pn	Pn	18 00 05.9	-0.8
HHAR	Hobbs	2.29	81	Pn	Pn	18 00 09.6	-0.2
W39A	Magazine	2.52	106	Pn	Pn	18 00 12.3	-0.6
Z35A	Perchaven, San	2.65	189	Pn	Pn	18 00 13.6	-1.2
U40A	Yellville	3.17	81	Pn	Pn	18 00 19.4	-2.5
S39A	Bolivar	3.24	57	Pn	Pn	18 00 20.5	-2.4
X40A	Basin Creek Fa	3.51	113	Pn	Pn	18 00 24.5	-2.1
FCAR	Ozark Folk Cen	3.74	90	Pn	Pn	18 00 27.7	-2.1
MGMO	Mountain Grove	3.79	70	Pn	Pn	18 00 28.9	-1.6
R40A	Maddies Statio	4.27	55	Pn	Pn	18 00 33.9	-3.1
CCM	Cathedral Cave	4.87	63	Pn	Pn	18 00 45.2	-0.1
KSCO	Kaye Shedlock'	5.59	305	IAmb_Lg		18 02 37.2	
	comp=Z,24nm,1.2s						
VBMS	Vicksburg	6.36	124	IAmb_Lg		18 03 04.9	
	comp=Z,15nm,0.8s						
N23A	Red Feather La	8.75	307	IAmb_Lg		18 04 14.1	
	comp=Z,14nm,0.8s						

TUL 01 18:10:37±1.9, 35°.81N±0°.01×97°.42W±0°.01, h6^{km}±4^{km}, ML2.6, mb_Lg2.6/15(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=79.0
NEIC 01 18:10:37.0±1.3, 35°.82N±0°.01×97°.43W±0°.02, h14^{km}±3^{km}, Error ellipse: s-maj=2.1km s-min=1.7km az=82.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKCFA	Oklahoma City	0.40	182	Pg	Pg	18 10 44.8	-0.2
OKCFA				Sg	Sg	18 10 50.6	+0.2
OKCSW	OKLAHOMA CITY	0.41	181	Pg	Pg	18 10 45.0	-0.2
OKCSW				Sg	Sg	18 10 51.1	+0.5
FNO	Franklin	0.56	177	Pg	Pg	18 10 47.8	-0.2
FNO				Sg	Sg	18 10 55.1	-0.3
W35A	Tecumseh	0.80	145		Pg	18 10 51.9	-0.6
W35A				Sg	Sg	18 11 02.4	-0.7
X34A	Smith Ranch, M	1.25	195	Pn	Pb	18 11 00.4	-0.1
X34A				Sn	Sg	18 11 17.5	+0.1
T35A	Sooner Cattle	1.33	34		Pn	18 11 00.9	-0.2
T35A				Sn	Sg	18 11 19.3	-0.5
TUL1	Leonard	1.34	85		Pn	18 11 00.1	-1.2
TUL1				Sn	Sn	18 11 19.3	+0.4
TUL1				IAmb_Lg		18 11 21.6	
	comp=Z,18nm,0.9s						
U32A	Winter Ranch,	1.39	294	Pn	Pn	18 11 00.7	-1.3
U32A				Sn	Sg	18 11 21.5	-0.3
WMOK	Wichita Mounta	1.54	226	Pn	Pb	18 11 05.0	-0.3
WMOK				Sn	Sb	18 11 24.8	+0.1
X37A	Clayton	2.08	125		Pb	18 11 13.2	-1.4
X37A				IAmb_Lg		18 11 47.8	
	comp=Z,33nm,1.3s						
HHAR	Hobbs	2.87	80	Pn	Pn	18 11 21.5	-0.8
W39A	Magazine	3.04	101	Pn	Pn	18 11 25.8	+1.0
Z38A	Mt. Pleasant	3.25	141	Pn	Pn	18 11 29.5	+1.9
CBKS	Cedar Bluff	3.51	329	IAmb_Lg		18 12 34.5	
	comp=Z,21nm,0.9s						
AMTX	Amarillo	3.59	256	Pn	Pn	18 11 32.2	-0.2
U40A	Yellville	3.75	80	Pn	Pn	18 11 33.6	-0.8
S39A	Bolivar	3.79	59	Pn	Pn	18 11 34.6	-0.5
S39A				IAmb_Lg		18 12 40.9	
	comp=Z,7.4nm,0.7s						
X40A	Basin Creek Fa	3.99	108	Pn	Pn	18 11 40.1	+2.3
WHAR	Wooly Hollow	4.23	96	Pn	Pn	18 11 39.3	-1.7
FCAR	Ozark Folk Cen	4.31	87	Pn	Pn	18 11 42.2	0.0
MGMO	Mountain Grove	4.37	71	Pn	Pn	18 11 41.9	-1.2
R40A	Maddies Statio	4.81	58	Pn	Pn	18 11 46.5	-2.5
P38A	Dawn	4.90	38	IAmb_Lg		18 13 15.3	
	comp=Z,5.4nm,0.8s						
N33A	J Bar K, Exete	4.92	360	IAmb_Lg		18 13 17.6	
	comp=Z,31nm,0.8s						
CCM	Cathedral Cave	5.44	64	Pn	Pn	18 11 56.4	-1.3
JCT	Junction City	5.68	201	IAmb_Lg		18 13 40.4	
	comp=Z,6.3nm,1.1s						
W45A	Hickory Valley	6.76	93	IAmb_Lg		18 14 17.8	
	comp=Z,19nm,0.8s						

CNRM 01 18:16:33.9, 35°.45N×3°.77W, h19^{km}, ml1.7
SFS 01 18:16:34.0, 35°.49N×3°.78W, ML2.7, ALBORAN SUR
MDD 01 18:16:34.7±0.6, 35°.50N×3°.78W, h0^{km}, mb_Lg2.7/2, Error ellipse: s-maj=3.8km s-min=4.5km az=147.0
ISC 01 18:16:33.1±0.8, 35°.49N±0°.03×3°.78W±0°.03, h11^{km}, n14, σ1^{s}40/25, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.30	206	P	Pg	18 16 39.8	+0.5
PALE				S	Sg	18 16 44.3	+0.9
PVLZ	Peæn de	0.53	234	P	Pg	18 16 44.6	+1.0
PVLZ				S	Sg	18 16 51.5	+0.9
GOG	Mont Gurugu	0.69	113	P	Pb	18 16 48.3	+1.0
GOG				S	Sg	18 16 55.2	-0.4
EMEL	Melilla	0.70	106	Pg	Pb	18 16 48.2	+0.9
EMEL				Sg	Sg	18 16 56.5	+0.8
EMEL				i Vmb_Lg		18 16 57.6	
EALB	Alboran	0.75	53	Pg	Pg	18 16 48.6	+0.9
EALB				Sg	Sg	18 16 58.8	+1.3
TAF	Taforalt	1.30	121	P	Pg	18 16 59.4	+1.2
SMIR	Smir Dam	1.32	279	P	Pn	18 16 56.4	-1.1
EMIJ	Mijas	1.34	323	Pg	Pb	18 16 59.1	+0.8
EMIJ				Sg	Sn	18 17 16.7	+1.0
EMAL	Malaga-Limoner	1.37	338	P	Pn	18 16 56.5	-1.7
EMAL				S	Sb	18 17 13.1	-3.3
ELGU	Los Guajares,	1.38	5	Pg	Pb	18 17 00.1	+1.1
ELGU				i Vmb_Lg		18 17 14.1	
ELGU				Sg	Sg	18 17 18.8	+1.2
JBK	JBK	1.52	139	P	Pn	18 16 60.0	-0.5
JBK				S	Sn	18 17 17.0	-3.4
EBER	Berja	1.58	27	Pg	Pb	18 17 03.2	+0.8
EBER				Sg	Sg	18 17 24.7	+0.8
MD31	MD31	2.74	198	P	Pn	18 17 16.4	-0.8
MD31				S	Sn	18 17 50.7	+0.4
MDT	Midelt	2.76	195	P	Pn	18 17 17.0	-0.4

IDC 01 18:25:00.8±0.6, 3°.08S×129°.73E, h0^{km}, mb4.0/12, mb1 4.1/14, mb1mx3.8/47, mbtmp4.0/14, ML4.5/2, MS3.1/6, Ms1 3.1/6, ms1mx2.8/69, Error ellipse: s-maj=30.1km s-min=14.0km az=71.0
DJA 01 18:25:05.9±0.3, 3°S±3°×13°0E±°, h59^{km}±9^{km}, M4.3/12, mb4.6/8, mB4.8/1, MLv4.2/12, Mw(mB)4.1/1
NEIC 01 18:25:05.3±2.7, 3°.06S±0°.06×129°.70E±0°.06, h39^{km}±6^{km}, mb4.3/34, Error ellipse: s-maj=9.7km s-min=8.2km az=53.0
ISC 01 18:25:04.1±0.4, 3°.04S±0°.04×129°.74E±0°.05, h28^{km}, n86, σ1^{s}71/84, mb4.2/24, MS3.0/3, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAI	Masohi	0.86	249	P	Pb	18 25 21.3	+0.8
MSAI				S	Sn	18 25 35.7	+3.7
BNDI	Bandanaira	1.48	173	P	Pb	18 25 34.0	+3.0
AAI	Ambon	1.67	247	P	Pb	18 25 33.8	-0.3
SIJI	Sorong	2.65	35	Pn	Pn	18 25 45.2	+0.2
	56nm,0.3s,baz=234,slow=18,SNR=110						
SIJI				Sn	Sn	18 26 16.6	+0.5
	35nm,0.3s,baz=238,slow=23,SNR=9.2						
SIJI				LR	LR	18 27 22.6	
	comp=Z,482nm,18.6s,baz=261,slow=53						
SWI	Sorong	2.65	35	P	Pn	18 25 45.6	+0.7
LBMI	Labuha	3.27	317	P	Pn	18 25 54.1	+0.6
SANI	Sanana	3.87	285	P	Pn	18 26 01.3	-0.5
SANI	Sanana	3.87	285	P	Pn	18 26 02.4	+0.6
TNTI	Ternate	4.47	328	Pn	Pn	18 26 09.0	-1.0
SAUI	Saumlaki	5.15	162	Pn	Pn	18 26 20.3	+0.9
SRPI	Serui, Papua	6.60	80	P	Pn	18 26 40.2	+0.8
BAKI	Biak	6.63	74	P	Pn	18 26 41.4	+1.7
	181nm,0.8s						
KMSI	Cibinong	6.78	302	P	Pn	18 26 41.9	+0.1
	0.3nm78nm,0.6s						
LUWI	Luwuk	7.24	286	Pn	Pn	18 26 48.5	+0.5
LUWI	Luwuk	7.24	286	P	Pn	18 26 49.2	+1.1
	0.3nm95nm,1.0s						
APSI	Ampana	8.36	285	P	Pn	18 27 05.1	+1.7
	640nm66nm,0.6s						
MRSI	Marisa	8.54	294	P	Pn	18 27 06.1	+0.1
	38nm,0.8s						
BATI	Baumata	9.33	220	Pn	Pn	18 27 22.3	+5.4
	1.9nm,0.3s,baz=129,slow=2.2,SNR=9.6						

BATI				LR	LR	18 30 49.8	
	comp=Z,280nm,21.6s,baz=46,slow=38						
MTN	Manton Dam	9.84	172	Pn	Pn	18 27 24.7	+0.9
TOLI2	Tolitoli	9.86	295		Pn	18 27 23.2	-0.8
TOLI2	Tolitoli	9.86	295	P	Pn	18 27 26.7	+2.7
KNRA	Kununurra	12.59	184	Pn	Pn	18 28 00.7	-0.8
KNRA	Kununurra	12.59	184	P	Pn	18 28 03.9	+2.4
MYLDM	Lahad Datu	13.88	306	Pn	Pn	18 28 19.2	+0.1
FITZ	Fitzroy Crossi	15.49	195	Pn	Pn	18 28 39.0	-1.8
	1.6nm,0.3s,baz=36,slow=11,SNR=35						
FITZ				LR	LR	18 35 21.0	
	comp=Z,57nm,18.1s,baz=42,slow=40						
FITZ	Fitzroy Crossi	15.49	195	P	Pn	18 28 39.3	-1.5
FITZ				IAmb	IAmb	18 28 45.4	
	comp=Z,9.0nm,0.7s						
JAGI	Jajag, Banyuwa	16.41	250	Pn	Pn	18 28 51.9	-0.8
JAGI				IAmb	IAmb	18 28 55.6	
	comp=Z,12nm,0.8s						
COEN	Coen	17.14	130		Pn	18 29 02.5	+0.7
COEN				IAmb	IAmb	18 29 19.6	
	comp=Z,16nm,1.1s						
WB0	Warramunga Arr	17.23	165		Pn	18 29 00.6	-2.4
WRAB	Tennant Creek	17.38	165		Pn	18 29 01.9	-3.0
WRAB	Tennant Creek	17.38	165	P	P	18 29 05.6	-0.3
WRA	Warramunga Arr	17.39	165	P	Pn	18 29 01.8	-3.1
	comp=Z,1.1nm,0.3s,baz=344,slow=12,SNR=30						
WRA				S	Sn	18 32 06.4	-11
	comp=Z,0.1nm,0.3s,baz=352,slow=23,SNR=2.5						
WRA	Warramunga Arr	17.39	165	P	Pn	18 29 02.5	-2.3
WB2	Warramunga Arr	17.39	165	P	Pn	18 29 02.0	-3.0
WR0	Warramunga Arr	17.46	165	P	Pn	18 29 03.0	-2.8
WR0				IAmb	IAmb	18 29 07.8	
	comp=Z,21nm,1.4s						
PMG	Port Moresby	18.43	111	LR	LR	18 37 58.9	
	comp=Z,74nm,21.0s,baz=294,slow=42						
QIS	Mount Isa	19.89	152	P	Pn	18 29 35.1	-0.2
KSM	Kuching	19.93	283	P	P	18 29 32.1	-1.9
KSM				IAmb	IAmb	18 29 37.4	
	comp=Z,11nm,0.7s						
PSA00	Pilbara Seismi	20.78	207	P	P	18 29 40.7	-2.4
PSA00				IAmb	IAmb	18 29 47.1	
	comp=Z,13nm,0.7s						
PSA00	Pilbara Seismi	20.78	207	P	P	18 29 41.2	-1.9
PSA00				IAmb	IAmb	18 29 47.2	
	comp=Z,3.8nm,0.8s						
AS31	Alice Springs	20.89	169	P	P	18 29 44.7	+0.3
AS31				IAmb	IAmb	18 29 46.1	
	comp=Z,8.1nm,0.8s						
ASAR	Alice Springs	20.90	169	P	P	18 29 44.9	+0.5
	comp=Z,26nm,0.8s,baz=347,slow=10.0,SNR=314						
ASAR				S	S	18 33 32.8	-3.3
	comp=Z,1.8nm,0.9s,baz=350,slow=24,SNR=6.1						
ASAR				PcP	PcP	18 33 53.4	+1.2
	comp=Z,0.5nm,0.5s,baz=345,slow=2.2,SNR=4.7						
ASAR	Alice Springs	20.90	169	P	P	18 29 44.5	+0.1
ASAR					S	18 33 31.7	-4.4
WRKA	Warakurna	21.91	184	P	P	18 29 55.9	+0.6
GUMO	Guam	22.33	42	LR	LR	18 39 53.6	
	comp=Z,20nm,19.0s,baz=58,slow=40						
RABL	Rabaul	22.41	94	P	P	18 30 00.1	-0.7
RABL				IAmb	IAmb	18 30 40.7	
	comp=Z,20nm,0.8s						
CTA	Charters Tower	23.39	138	P	P	18 30 12.3	+1.5
	comp=Z,3.3nm,0.8s,baz=333,slow=13,SNR=2.3						
FORT	Forrest	27.63	183	P	P	18 30 51.6	+2.2
MORW	Morawa	28.98	205	P	P	18 31 00.1	-1.3
MORW				IAmb	IAmb	18 31 39.5	
	comp=Z,26nm,1.5s						
IPM	Ipoh	29.64	284	P	P	18 31 10.4	+2.8
JOW	Kunigami	29.73	357	LR	LR	18 42 13.6	
	comp=Z,35nm,19.0s,baz=292,slow=35						
JOW	Kunigami	29.73	357	P	P	18 31 11.1	+3.0
BBOO	Buckleboo	30.20	169	P	P	18 31 07.3	-4.9
KULM	Kulim	30.21	286	P	P	18 31 08.7	-3.8
KULM				IAmb	IAmb	18 31 43.8	
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	30.78	160	P	P	18 31 17.9	+0.6
	comp=Z,1.1nm,0.5s,baz=338,slow=7.5,SNR=7.8						
STKA	Stephens Creek	30.78	160	P	P	18 31 17.4	0.0
GSI	Gunungsitoli	32.44	277	P	P	18 31 30.2	-2.0
GSI				IAmb	IAmb	18 31 33.1	
	comp=Z,11nm,1.0s						
CAN	Canberra	36.75	153	P	P	18 32 08.2	-1.1
CMAR	Chiang Mai Arr	37.09	306	P	P	18 32 14.8	+2.4
	comp=Z,0.9nm,0.9s,baz=132,slow=6.6,SNR=14						
LIFNC	LIFOU	40.55	119	P	P	18 32 40.3	-1.0
XAN	Xi'an	41.78	334	P	P	18 32 45.8	-5.5
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,78nm,3.8s						
HHC	Hu-ho-hao-te	46.73	341	eP	P	18 33 28.7	-2.2
HHC				pmax	pmax		
	comp=Z,20nm,1.2s						
HHC				pmax	pmax		
	comp=Z,97nm,8.1s						
GTA	Gaotai	50.42	330	⇓P	P	18 34 00.8	+1.4
GTA				pP	sP	18 34 12.6	+1.3
GTA				sP	pP	18 34 16.9	+9.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,56nm,4.7s						
GTA				LR	LR		
	comp=N,95nm,13.8s						
GTA				LR	LR		
	comp=E,71nm,17.4s						
GTA				LR	LR		
	comp=Z,44nm,16.4s						
SONM	Songino Array	54.63	341	P	P	18 34 31.8	+1.3
	comp=Z,1.1nm,0.7s,baz=146,slow=6.3,SNR=6.7						
SONM	Songino Array	54.63	341	P	P	18 34 29.4	-1.0
SONM				IAmb	IAmb	18 34 37.0	
	comp=Z,2.0nm,1.2s						
WMQ	Urumqi	59.97	326	eP	P	18 35 16.5	+8.4
MK31	Makanchi Array	64.80	326	P	P	18 35 39.6	-0.7
MKAR	Makanchi Array	64.80	326	P	P	18 35 41.3	+0.9
	comp=Z,0.7nm,0.6s,baz=127,slow=8.0,SNR=11						
MKAR	Makanchi Array	64.80	326	P	P	18 35 39.4	-1.0
YAK	Yakutsk	64.89	360	P	P	18 35 39.6	-1.0
ZAA0	Zalesovo Array	67.95	333	P	P	18 35 59.7	-0.6
ZAA0				IAmb	IAmb	18 36 04.6	
	comp=Z,4.1nm,1.3s						
ZALV	Zalesovo Beam	67.95	333	P	P	18 36 00.9	+0.6
	comp=Z,1.6nm,0.8s,baz=114,slow=7.5,SNR=7.2						
ZALV	Zalesovo Beam	67.95	333	P	P	18 35 59.9	-0.4
SEY	Seymchan	67.99	11	P	P	18 36 02.6	+2.2
	comp=Z,1.0nm,0.6s,baz=203,slow=7.7,SNR=9.4						
KURBB	Kurchatov Arra	69.03	328	P	P	18 36 08.2	+1.0
	comp=Z,2.8nm,0.5s,baz=126,slow=5.8,SNR=80						
KURK	Kurchatov	69.03	328	P	P	18 36 07.7	+0.5
KURK				IAmb	IAmb	18 36 09.0	
	comp=Z,4.9nm,0.7s						
KKAR	Karatay Array	70.22	318	P	P	18 36 11.1	-3.6
TIXI	Tiksi	74.56	360	P	P	18 36 40.0	+0.1
TIXI				IAmb	IAmb	18 36 50.2	
	comp=Z,1.9nm,1.1s						
BVAR	Borovoye Array	74.60	327	P	P	18 36 41.4	+0.8
	comp=Z,0.7nm,0.6s,baz=168,slow=10,SNR=4.7						
BRVK	Borovoye	74.67	327	P	P	18 36 39.6	-1.4
BRVK				IAmb	IAmb	18 36 44.4	
	comp=Z,1.9nm,0.7s						
VNDA	Vanda	76.38	173	P	P	18 36 50.7	+0.3
	comp=Z,0.9nm,0.6s,baz=312,slow=6.4,SNR=11						
MAW	Mawson	78.52	201	P	P	18 37 01.8	-0.6
MAW				IAmb	IAmb	18 37 04.3	
	comp=Z,2.5nm,1.4s						
ABKAR	Akbulak array	79.27	321	P	P	18 37 07.4	+0.5
ABKAR	Akbulak array	79.27	321	P	P	18 37 07.4	+0.5
ABKAR				IAmb	IAmb	18 37 08.5	
	comp=Z,2.4nm,1.1s						
ILAR	Eielson Array	89.90	25	P	P	18 38 00.6	+0.3
	comp=Z,0.1nm,0.4s,baz=275,slow=4.7,SNR=1.1						
CPUP	Villa Florida	150.01	167	PKPbc	PKiKP	18 44 54.3	+0.6
	comp=Z,0.7nm,0.4s,baz=270,slow=2.0,SNR=3.6						

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*IDC **01** 18:35:16.8±0.8, 52.°32N×169.°56W, h0km, mb4.0/25, mb1 4.2/27, mb1mx4.1/53, mbtmp4.0/27, ML3.8/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/100, Error ellipse: s-maj=24.4km s-min=12.6km az=0.0*
*AEIC **01** 18:35:18±2.8, 52.°08N±0.°06×169.°39W±0.°08, h18km±4km, Error ellipse: s-maj=9.4km s-min=6.9km az=176.0*
*NEIC **01** 18:35:19.7±2.9, 52.°14N±0.°07×169.°38W±0.°08, h21km±6km, mb4.0/45, ML3.8(AEIC), Error ellipse: s-maj=10.7km s-min=7.2km az=181.0*
*MOS **01** 18:35:19.5±1.1, 52.°32N×169.°38W, h31km, mb4.4/12, Error ellipse: s-maj=12.9km s-min=8.3km az=88.9*
ISC 01 18:35:21.3±0.6, **52.°20N**±0.°08×**169.°43W**±0.°05, **h35**km, **n160**, σ**1.°45**/148, **mb4.2**/38, **MS3.0**/4, **4C-9D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.85	24		Pn	18 35 35.8	-1.0
NIKH	Nikolski High	0.85	24		Sn	18 35 50.5	+2.5
OKFG	Magazine Ridge	1.52	37		Pn	18 35 45.9	-0.2
OKFG					Sn	18 36 07.0	+2.4
MSW	Makushin Switc	2.35	42		Pn	18 35 58.4	+1.0
UNV	Unalaska Valle	2.42	46		Pn	18 35 58.1	-0.2
UNV	Unalaska Valle	2.42	46		Sn	18 36 27.9	+1.3
MTBL	Makushin Table	2.43	42		Pn	18 35 59.8	+1.2
AKMO	Akutan Morgan	2.80	46		Pn	18 36 05.0	+1.4
AKRB	Akutan Reef Bi	2.80	45		Pn	18 36 04.5	+0.9
AKBBA	Akutan Broad B	2.84	47		Pn	18 36 05.1	+0.9
KOFP	Korovin Flat P	2.87	273		Pn	18 36 05.2	+0.6
AKGG	Akutan Green G	2.88	45		Pn	18 36 06.0	+1.3
ATKA	Atka Island	2.93	272		Pn	18 36 05.9	+0.5
WESE	West Dahl East	3.69	50		Pn	18 36 16.1	+0.2
GSMY	Great Sitkin M	4.09	270		Pn	18 36 21.8	+0.4
GSTD	Great Sitkin T	4.14	271		Pn	18 36 22.9	+0.8
GSCK	Great Sitkin C	4.16	270		Pn	18 36 22.9	+0.7
FALS	False Pass	4.47	51	Pn	Pn	18 36 23.2	-3.3
ADK	Adak	4.49	269	P	Pn	18 36 27.1	+0.3
ADK	Adak	4.49	269		Pn	18 36 27.1	+0.3
KIWB	Kanaga Island	4.78	269		Pn	18 36 31.7	+0.9
KIMD	Kanaga Island	4.85	268		Pn	18 36 32.5	+0.8
SPIA	Saint Paul Isl	5.01	355	Pn	Pn	18 36 36.2	+2.3
SDPT	Sand Point	6.17	56	Pn	Pn	18 36 51.5	+1.6
CHGN	Chignik	7.65	53	Pn	Pn	18 37 11.3	+1.3
KDAK	Kodiak Island	11.16	53	Pn	Pn	18 37 57.7	-0.5
	1.3nm,0.3s,baz=308,slow=8.3,SNR=12						
KDAK	Kodiak Island	11.16	53	Pn	Pn	18 37 57.2	-1.0
Q19K	Cape Douglas,	11.18	47	Pn	Pn	18 37 59.2	+0.8
GAMB	Gambell	11.67	355	Pn	Pn	18 38 06.3	+1.2
M19K	Big River Lodg	12.67	34	Pn	Pn	18 38 20.1	+1.2
L19K	White Mountain	12.71	32	Pn	Pn	18 38 20.3	+0.9
BRLK	Bradley Lake	12.82	47	Pn	Pn	18 38 19.3	-1.6
TTA	Tatalina	12.91	28	P	Pn	18 38 22.2	+0.1
TTA	Tatalina	12.91	28		Pn	18 38 22.2	+0.1
M20K	Styx River	13.10	36	Pn	Pn	18 38 26.3	+1.5
TNA	Tin City	13.43	3	Pn	Pn	18 38 30.0	+0.9
SEW	Seward	13.62	47	Pn	Pn	18 38 30.8	-0.8
O22K	Cooper Landing	13.67	45	Pn	Pn	18 38 31.6	-0.8
K20K	Telida	13.81	30	Pn	Pn	18 38 33.7	-0.7
RC01	Rabbit Creek A	13.97	43	Pn	Pn	18 38 36.1	-0.3
PPLA	Purkeypile	14.10	34	Pn	Pn	18 38 40.0	+1.5
J20K	Nowinta River	14.40	28	Pn	Pn	18 38 44.1	+1.7
PWL	Port Wells	14.45	45	Pn	Pn	18 38 40.4	-2.7
PMR	Palmer	14.48	42	P	Pn	18 38 40.5	-2.9
PMR	Palmer	14.48	42	Pn	Pn	18 38 40.5	-2.9
CAST	Castle Rocks	14.49	32		P	18 38 46.5	-3.3
GHO	Glory Hole Cre	14.66	41	Pn	Pn	18 38 44.0	-1.9
KNK	Knik Glacier	14.66	43	Pn	Pn	18 38 44.2	-1.8
SML	Sawmill	14.92	42	Pn	Pn	18 38 47.3	-2.1
KTH	Kantishna Hill	14.97	33	Pn	Pn	18 38 50.7	+0.6
KTH				IAmb	IAmb	18 39 06.9	
	comp=Z,5.0nm,0.8s						
FID	Port Fidalgo	15.22	47	Pn	Pn	18 38 50.1	-3.3
BPAW	Bear Paw Mtn.	15.31	32	Pn	Pn	18 38 53.8	-0.8
BPAW				IAmb	IAmb	18 39 11.4	
	comp=Z,6.6nm,0.7s						
SCM	Sheep Creek Mo	15.34	42	P	Pn	18 38 53.0	-2.0
SCM				pmax	pmax		
	comp=Z,46nm,1.5s						
SCM	Sheep Creek Mo	15.34	42		Pn	18 38 53.0	-2.0
MCK	McKinley	15.77	35	P	Pn	18 38 58.8	-1.7
MCK				pmax	pmax		
	comp=Z,18nm,1.6s						
MCK	McKinley	15.77	35	Pn	Pn	18 38 58.8	-1.7
MCK				IAmb	IAmb	18 39 13.4	
	comp=Z,18nm,1.6s						
KLU	Klutina	15.78	45	P	Pn	18 38 57.9	-2.9
KLU				IAmb	IAmb	18 39 05.7	
	comp=Z,8.0nm,0.6s						
H21K	Melozitna Rive	15.91	26	P	P	18 39 03.6	-2.0
M24K	Tolsona, Glenn	15.95	42	Pn	Pn	18 39 01.4	-1.5
DHY	Denali Highway	15.96	38	Pn	Pn	18 39 01.4	-1.7
DHY				IAmb	IAmb	18 39 24.6	
	comp=Z,12nm,1.4s						
MLY	Manley	16.03	30	P	P	18 39 07.6	+0.6
N25K	Chitina, Valde	16.41	45	Pn	Pn	18 39 07.1	-1.6
N25K				IAmb	IAmb	18 39 20.3	
	comp=Z,19nm,1.4s						
I23K	Minto, Yukon-K	16.54	31		P	18 39 11.9	-0.6
ISLE	Juniper Island	17.08	50	P	Pn	18 39 14.7	-2.5
ISLE				IAmb	IAmb	18 39 46.1	
	comp=Z,13nm,0.9s						
IL31		17.11	34	P	Pn	18 39 14.9	-2.5
ILAR	Eielson Array	17.11	34	P	Pn	18 39 15.8	-1.7
	comp=Z,0.1nm,0.3s,baz=234,slow=10,SNR=8.8						
ILAR	Eielson Array	17.11	34	P	Pn	18 39 15.9	-1.6
RIDG	Independent Ri	17.28	39	P	P	18 39 20.2	-0.7
YAH	Yahtse	17.29	51	P	P	18 39 19.6	-1.5
H24K	Noodor Dome	17.46	30	P	Pn	18 39 19.9	-1.9
BARN	Barnard Glacie	17.54	49	P	Pn	18 39 21.4	-1.5
BARN				IAmb	IAmb	18 39 24.4	
	comp=Z,5.9nm,0.8s						
DOT	Dot Lake	17.54	39	P	Pn	18 39 21.5	-1.3
J25K	Salcha River,	17.55	36	P	Pn	18 39 21.5	-1.5
TABL	Table Mountain	17.60	51	P	Pn	18 39 21.1	-2.7
TABL				IAmb	IAmb	18 39 45.4	
	comp=Z,16nm,0.9s						
SCRK	Sand Creek	17.73	38	P	Pn	18 39 22.6	-2.6
M27K	Edge Creek, AK	17.88	45	P	Pn	18 39 24.7	-2.4
M27K				IAmb	IAmb	18 39 33.1	
	comp=Z,13nm,1.2s						
L27K	Beaver Creek,	18.18	43	P	P	18 39 27.9	-2.8
BCAR	Beaver Creek A	18.20	43	P	Pn	18 39 30.0	-0.9
TOLK	Toolik Lake Re	19.02	22	P	P	18 39 37.8	-2.1
TOLK				IAmb	IAmb	18 40 02.4	
	comp=Z,10nm,1.6s						
HYT	Haines Junctio	19.44	51	P	Pn	18 39 44.6	-1.3
BMAR	Burnt Mountain	19.50	29	P	Pn	18 39 44.8	-1.7
DAWY	Dawson	19.58	41	P	Pn	18 39 45.8	-1.8
BILL	Bilibino	19.73	333	⇓eP	Pn	18 39 49.6	+0.3
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
PEA0B	Petropavlovsk-	19.87	286	ceP	Pn	18 39 49.2	-1.8
PEA0B	Petropavlovsk-	19.87	286	P	Pn	18 39 49.5	-1.5
PEA0B				IAmb	IAmb	18 39 51.1	
	comp=Z,16nm,1.1s						
PETK	Petropavlovsk-	19.87	286	P	P	18 39 48.7	-0.6
	comp=Z,2.6nm,0.3s,baz=89,slow=13,SNR=73						
SKAG	Skagway	20.30	56	P	Pn	18 39 56.2	+0.3
N31M	Braeburn, Yuko	20.39	50	P	Pn	18 39 55.2	-1.9
WHY	Whitehorse	20.67	52		Pn	18 39 59.6	-0.9
WHY				IAmb	IAmb	18 40 08.5	
	comp=Z,8.9nm,0.9s						
M31M	Drury Creek, Y	21.18	48	P	P	18 40 03.7	+0.3
M31M				IAmb	IAmb	18 40 16.4	
	comp=Z,5.3nm,1.0s						
P33M	Teslin, Yukon	21.64	54	P	P	18 40 08.5	+0.2
P33M				IAmb	IAmb	18 40 15.1	
	comp=Z,4.6nm,0.8s						
SEY	Seymchan	22.76	313	P	P	18 40 19.6	-0.6
	comp=Z,1.8nm,0.3s,baz=15,slow=19,SNR=5.3						
SEY	Seymchan	22.76	313	⇓eP	P	18 40 19.9	-0.3
SEY				pmax	pmax		
	comp=Z,7.0nm,1.7s						
DLBC	Dease Lake	23.00	59	P	P	18 40 24.1	+1.3
	comp=Z,2.3nm,0.9s,baz=293,slow=7.0,SNR=4.4						
DLBC				LR	LR	18 49 36.6	
	comp=Z,83nm,19.8s,baz=274,slow=37						
DLBC	Dease Lake	23.00	59	IAmb	IAmb	18 40 54.3	
	comp=Z,3.1nm,0.9s						
MA2	Magadan	23.21	304	P	P	18 40 25.2	+0.4
	comp=Z,3.7nm,0.6s,baz=83,slow=9.3,SNR=16						
MA2				LR	LR	18 49 16.9	
	comp=Z,26nm,20.5s,baz=114,slow=36						
MA2	Magadan	23.21	304	⇓eP	P	18 40 25.9	+1.1
MA2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MA2	Magadan	23.21	304	P	P	18 40 24.4	-0.4
MA2				IAmb	IAmb	18 40 26.6	
	comp=Z,3.8nm,0.7s						
INK	Inuvik	23.51	33	P	P	18 40 26.2	-1.4
	comp=Z,2.9nm,0.4s,baz=236,slow=6.7,SNR=4.6						
C36M	Paulatuk	27.09	34	P	P	18 40 59.3	-0.9
YKA	Yellowknife Ar	30.38	49	P	P	18 41 30.4	+0.8
	comp=Z,1.5nm,0.4s,baz=273,slow=8.2,SNR=61						
YKA				PcP	PcP	18 44 29.0	+0.5
	comp=Z,0.1nm,0.6s,baz=282,slow=2.7,SNR=3.6						
YKA	Yellowknife Ar	30.38	49	P	P	18 41 29.1	-0.5
YKA						18 44 29.0	
YKA	Yellowknife Ar	30.38	49	P	P	18 41 29.1	-0.5
G03D	McMinnville, O	30.82	84	P	P	18 41 33.5	-0.1
TIXI	Tiksi	32.86	329	⇑eP	P	18 41 50.7	-0.6
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YAK	Yakutsk	33.26	311	LR	LR	18 55 24.5	
	comp=Z,30nm,20.6s,baz=84,slow=36						
YAK	Yakutsk	33.26	311	⇑eP	P	18 41 54.4	-0.4
YAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
H11N2	WAKE ISLAND Hy	37.30	219	T	T	19 22 21.8	
	baz=24,slow=75						
H11N3	WAKE ISLAND Hy	37.30	219	T	T	19 22 27.8	
	baz=24						
H11N1	WAKE ISLAND Hy	37.31	219	T	T	19 22 19.5	
	baz=24,slow=75						
NVAR	Mina Array Bea	37.70	91	P	P	18 42 36.5	+3.0
	comp=Z,0.2nm,0.5s,baz=284,slow=8.8,SNR=2.0						
H11S1	WAKE ISLAND Hy	38.48	218	T	T	19 24 01.1	
	baz=22,slow=76,SNR=31						
H11S2	WAKE ISLAND Hy	38.50	218	T	T	19 23 51.9	
	baz=22,slow=76,SNR=26						
H11S3	WAKE ISLAND Hy	38.50	218	T	T	19 23 48.3	
	baz=22,slow=76,SNR=15						
YHH	Holmes Hill	38.57	77	P	P	18 42 40.9	+0.1
YHH				IAmb	IAmb	18 42 59.2	
	comp=Z,1.4nm,0.7s						
USRK	Ussuriysk Ar.	38.89	282	LR	LR	18 58 10.2	
	comp=Z,29nm,21.8s,baz=76,slow=35						
PD31	Pinedale Array	40.47	79	P	P	18 42 55.6	-1.0
PD31				IAmb	IAmb	18 43 03.2	
	comp=Z,2.5nm,1.2s						
PDAR	Pinedale Array	40.47	79	P	P	18 42 57.8	+1.2
	comp=Z,0.8nm,0.5s,baz=289,slow=3.5,SNR=9.4						
FCC	Fort Churchill	41.08	50	P	P	18 43 01.6	+0.5
FCC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FCC	Fort Churchill	41.08	50	P	P	18 43 01.6	+0.5
KSRS	Korea Array	45.39	277	P	P	18 43 36.9	+0.8
	comp=Z,2.6nm,1.0s,baz=58,slow=8.8,SNR=7.1						
NRIK	Noril'sk	46.56	332	P	P	18 43 44.9	0.0
	comp=Z,1.6nm,0.3s,baz=70,slow=9.6,SNR=4.3						
NRIK	Noril'sk	46.56	332	IAmb	IAmb	18 43 45.2	
	comp=Z,2.2nm,0.5s						
DAG	Danmarks Havn	49.97	8	iP	P	18 44 10.0	-1.1
ULN	Ulaanbaatar	50.99	301	⇑eP	P	18 44 19.7	+0.2
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	Songino Array	51.36	301	P	P	18 44 22.7	+0.5
	comp=Z,0.9nm,0.7s,baz=50,slow=7.7,SNR=8.1						
SONM				PcP	PcP	18 45 37.3	+0.8
	comp=Z,0.3nm,0.4s,baz=53,slow=3.4,SNR=2.3						
SONM	Songino Array	51.36	301	P	P	18 44 22.7	+0.5
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	Songino Array	51.36	301	IAmb	IAmb	18 44 24.2	
	comp=Z,1.9nm,1.0s						
TXAR	Lajitas Array	52.79	89	P	P	18 44 33.7	+0.7
	comp=Z,1.1nm,0.7s,baz=293,slow=5.5,SNR=10						
SCHQ	Schefferville	55.59	43	P	P	18 44 53.8	+0.8
	comp=Z,3.7nm,1.0s,baz=330,slow=14,SNR=2.7						
ZALV	Zalesovo Beam	57.52	318	P	P	18 45 06.3	-0.4
	comp=Z,1.0nm,0.5s,baz=38,slow=7.7,SNR=6.4						
ARCES	ARCESS Array B	58.09	354	P	P	18 45 09.8	-0.6
	comp=Z,0.9nm,0.4s,baz=18,slow=7.2,SNR=15						
KURK	Kurchatov	62.48	318	deP	P	18 45 40.4	-0.3
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WMQ	Urumqi	63.61	308	eP	P	18 45 50.8	+2.4
MK31	Makanchi Array	63.90	313	deP	P	18 45 49.7	-0.5
MKAR	Makanchi Array	63.90	313	P	P	18 45 48.7	-1.5
	comp=Z,0.5nm,0.3s,baz=53,slow=6.6,SNR=23						
MKAR	Makanchi Array	63.90	313	iP	P	18 45 49.5	-0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	Arti	64.75	333	diP	P	18 45 55.5	-0.1
ARU						18 48 14.0	
ARU				S	S	18 54 34.8	+1.5
ARU				SS	SS	18 58 39.4	-4.3
ARU				pmax	pmax		
	comp=Z,12nm,3.5s						
GOMU	GeErMu	65.58	298	P	P	18 45 59.8	-2.0
GOMU				pP	pP	18 46 03.0	-9.0
GOMU				sP	pwP	18 46 07.1	-7.0
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,65nm,5.0s						
FINES	FINESS Array B	66.03	352	P	P	18 46 03.2	-0.6
	comp=Z,1.9nm,0.6s,baz=7.1,slow=6.1,SNR=19						
NB2	NORSAR Subarra	67.11	360	P	P	18 46 10.8	0.0
	comp=Z,1.0nm,0.6s,baz=358,slow=6.2						
NOA	NORSAR Array B	67.11	360	P	P	18 46 10.8	0.0
	comp=Z,1.6nm,0.7s,baz=0.4,slow=6.4,SNR=6.0						
AAK	Ala-Archa	70.59	315	deP	P	18 46 33.5	+0.6
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH	Kashi	72.46	312	P	P	18 46 47.5	+3.3
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	Malin Array Be	76.27	348	P	P	18 47 05.4	-0.5
	comp=Z,1.8nm,0.5s,baz=16,slow=5.7,SNR=7.9						
AKASG	Malin Array Be	76.27	348	IAmb	IAmb	18 47 13.1	
	comp=Z,2.2nm,1.4s						
CMAR	Chiang Mai Arr	76.62	283	P	P	18 47 08.7	+0.2
	comp=Z,2.9nm,0.9s,baz=28,slow=6.7,SNR=26						
CMAR	Chiang Mai Arr	76.62	283	iP	P	18 47 09.1	+0.7
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR	Chiang Mai Arr	76.62	283	P	P	18 47 08.9	+0.5
CLL	Collm	76.85	358	eP	P	18 47 10.0	+0.8
CLL				LmV		19 33 00.0	
	comp=Z,100nm,18.3s						
GERES	GERESS Array B	79.30	358	P	P	18 47 23.6	+0.6
	comp=Z,0.6nm,0.7s,baz=359,slow=5.9,SNR=2.6						
KIV	Kislovodsk	80.29	337	eP	P	18 47 29.7	+1.3
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBZ	Khabaz	80.45	337	P	P	18 47 30.1	+1.0
	comp=Z,2.9nm,0.9s,baz=46,slow=1.2,SNR=8.2						
KBZ	Khabaz	80.45	337	⇓eP	P	18 47 30.3	+1.2
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NCK	Nalchik	80.50	336	⇓eP	P	18 47 30.7	+1.2
NCK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GEYT	Alibeck	81.15	324	P	P	18 47 33.6	+0.6
	comp=Z,1.7nm,0.7s,baz=65,slow=7.8,SNR=3.5						
GEYT	Alibeck	81.15	324	IAmb	IAmb	18 47 35.0	
	comp=Z,2.5nm,0.9s						
BRTR	Keskin Array B	86.28	342	P	P	18 48 00.2	+0.8
	comp=Z,0.4nm,0.8s,baz=357,slow=4.9,SNR=2.1						
ESDC	Sonseca Array	87.63	11	P	P	18 48 06.3	+0.4
	comp=Z,0.9nm,0.7s,baz=352,slow=5.2,SNR=5.9						
ASAR	Alice Springs	90.26	230	P	P	18 48 17.9	-0.3
	comp=Z,1.4nm,1.0s,baz=45,slow=4.8,SNR=7.1						

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*IDC **01** 18:41:57.8±1.9, 3.°97S×130.°04E, h0km, mb3.9/1, mb1 3.5/3, mb1mx3.3/30, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=150.4km s-min=27.5km az=69.0*
*DJA **01** 18:42:01.9±0.5, 4.°S±4.°×12.°9E±.°, h10km, M3.5/8, MLv3.5/8*
ISC 01 18:42:03.4±1.0, **4.°16S**±0.°07×**129.°53E**±0.°08, **h35**km, **n9**, σ**1.°29**/12, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAI	Masohi	1.00	324	P	Pn	18 42 21.2	+0.2
MSAI				S	Sn	18 42 33.4	-0.5
AAI	Ambon	1.41	289	P	Pn	18 42 26.4	-0.2
AAI				S	Sn	18 42 43.6	-0.3
SWI	Sorong	3.70	28	P	Pn	18 42 58.3	+0.1
LBMI	Labuha	4.04	330	P	Pn	18 43 04.4	+1.6
SANI	Sanana	4.11	301	P	Pn	18 43 05.0	+1.3
SAUI	Saumlaki	4.19	155	P	Pn	18 43 06.3	+1.4
WRA	Warramunga Arr	16.38	164	Pn	Pn	18 45 48.1	-2.7
	0.1nm,0.3s,baz=348,slow=13,SNR=5.7						
ASAR	Alice Springs	19.85	168	P	P	18 46 32.4	+0.8
	0.1nm,0.3s,baz=344,slow=9.9,SNR=13						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR				PcP	PcP	18 50 48.0	-0.5
	0.0nm,0.3s,baz=5.4,slow=1.7,SNR=1.6						
MKAR	Makanchi Array	65.61	326	P	P	18 52 44.5	+0.6
	0.6nm,0.5s,baz=123,slow=7.5,SNR=14						

IDC ***01*** *18:44:40.1±0.7, 11°.90N×86°.61W, h33km±4km, mb4.2/13, mb1 4.4/15, mb1mx4.1/33, mbtmp4.3/15, ML3.8/2, MS3.8/31, Ms1 3.8/31, ms1mx3.7/71, Error ellipse: s-maj=28.8km s-min=11.4km az=54.0*

SNET ***01*** *18:44:40.8±3.0, 11°.58N×87°.17W, h15km±10km, ML4.4*

NEIC ***01*** *18:44:40.3±2.4, 11°.59N±0°.05×86°.86W±0°.06, h40km±5km, mb4.8/248, Error ellipse: s-maj=9.9km s-min=6.8km az=60.0*

UCR ***01*** *18:44:41.0±1.8, 11°.54N×87°.05W, h37km±308km, ML4.2, MW5.0, mb4.8(NEIC)*

INET ***01*** *18:44:41.3±0.8, 11°.54N×87°.00W, h28km±8km, MW4.8, Fault plane solution: NP1:ϕ_s103.70000°, δ32.90000°, λ58.50000°.*

ISC 01 18:44:37.9±0.5**, 11°.57N**±0°.03×**87°.04W**±0°.03**, h23**km±3km**, h24**km**:pP-P, n520,** σ1**s**.36/495**, mb4.8**/114**, MS3.8**/27**, 8C-29D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.75	36	⇓eP	Pn	18 44 55.2	+2.1
APYN	Apoyeque	0.95	45	⇓eP	Pn	18 44 57.1	+1.3
TISN	Laguna Tiscapa	0.95	53	⇓eP	Pn	18 44 57.5	+1.7
MASN	Masaya	0.96	64	⇓eP	Pn	18 44 57.4	+1.3
MGAN	Managua	0.97	53	⇓eP	Pn	18 44 57.8	+1.7
MOMN	Momotombo	0.97	30	⇓eP	Pn	18 44 58.2	+2.1
CNGN	Cerro Negro	0.99	20		Pb	18 44 57.4	+1.0
CNGN	Cerro Negro	0.99	20	⇓eP	Pb	18 44 57.5	+1.2
CNGN				AMPN		18 44 57.9	
	comp=Z,72μm,0.5s						
CNGN				AMSN		18 45 13.5	
	comp=E,441μm,0.9s						
TEL3	Telica 3	1.02	11	⇓eP	Pb	18 44 59.1	+2.2
TELN	Telica	1.05	11	⇓eP	Pb	18 44 59.5	+2.0
CRIN	San Cristobal	1.13	359		Pb	18 45 00.5	+1.7
HUEN		1.14	48	⇓eP	Pb	18 45 00.4	+1.4
BRAN	Las Pilas	1.33	30	eP	Pn	18 44 57.1	-4.0
CSGN	Cosiguina Volc	1.49	340	⇓eP	Pb	18 45 05.7	+0.7
BOAB	BOACO BROADBAN	1.60	57	Pn	Pb	18 45 06.1	-0.8
BOAB	BOACO BROADBAN	1.60	57	⇓eP	Pb	18 45 06.3	-0.6
BOAB				AMPN		18 45 07.0	
	comp=Z,18μm,0.8s						
BOAB				AMSN		18 45 27.7	
	comp=E,57μm,1.6s						
HZTE	Horizontes, Gu	1.65	121	Pn	Pb	18 45 07.2	-0.4
HZTE	Horizontes, Gu	1.65	121	eP	Pb	18 45 07.4	-0.2
HZTE	Horizontes, Gu	1.65	121	⇑eP	Pb	18 45 07.5	-0.2
HZTE				AMPN		18 45 08.4	
	comp=Z,7μm,0.2s						
HZTE				AMSN		18 45 37.3	
	comp=N,39μm,0.4s						
GBS3	Finca Las Img	1.74	116	iP	Pb	18 45 08.2	-1.0
GBS3				iS	Sb	18 45 32.8	+2.1
LAPC	Finca la Perla	1.77	117	iP	Pb	18 45 08.5	-1.2
LAPC				iS	Sb	18 45 30.7	-0.7
GB1A	Borinquen Arri	1.77	115	iP	Pb	18 45 09.0	-0.8
BUEV	Buena Vista	1.77	115	iP	Pb	18 45 08.8	-1.1
BUAI	Buenos Aires	1.81	112	iP	Pb	18 45 09.8	-0.7
GPS2	Hotel Rincn d	1.84	116	eP	Pb	18 45 10.2	-0.8
ACON	Acoyapa	1.87	77		Pn	18 45 09.3	+0.8
ACON	Acoyapa	1.87	77	eP	Pn	18 45 09.6	+1.1
ACON	Acoyapa	1.87	77	⇓eP	Pn	18 45 09.5	+1.0
LCND	La Caada	1.92	334	eP	Pb	18 45 11.7	-0.6
LCND				eS	Sb	18 45 35.7	-0.2
LCND				IAML		18 45 39.7	
	comp=Z,4μm,0.4s						
LCND	La Caada	1.92	334	eP	Pb	18 45 11.7	-0.6
LCND				eP	Pn	18 45 12.3	+3.1
LCND				eS	Sb	18 45 35.7	-0.2
LCND				IAML		18 45 39.7	
	comp=Z,4μm,0.4s						
LIM1	Limonal	1.96	116	iP	Pb	18 45 11.7	-1.2
ORTG	Ortega, Santa	1.96	127		Pn	18 45 11.2	+1.4
ORTG	Ortega, Santa	1.96	127	⇓eP	Pn	18 45 11.3	+1.5
GUAB	Guayabo de Bag	1.97	115	iP	Pb	18 45 12.6	-0.6
GUAI	GUAI	1.98	130	eP	Pn	18 45 11.3	+1.3
SAJU	San Juanillo,	1.98	139	eP	Pn	18 45 10.4	+0.4
COLC	Colonia	2.01	116	iP	Pb	18 45 13.6	-0.3
HORNC	Hornillas	2.01	115	eP	Pb	18 45 13.0	-0.9
VMAR	Armenia, Volca	2.03	112	eP	Pn	18 45 12.1	+1.4
CUI	Cuipilapa	2.05	116	iP	Pb	18 45 13.4	-1.1
JUCU	Jucuar¡n	2.05	325	eP	Pb	18 45 13.1	-1.4
JUCU				eS	Sb	18 45 38.1	-1.6
JUCU				IAML		18 45 43.1	
	comp=Z,2μm,0.3s						
JUCU	Jucuar¡n	2.05	325	eP	Pb	18 45 13.1	-1.4
JUCU				eS	Sb	18 45 38.1	-1.6
JUCU				IAML		18 45 43.1	
	comp=Z,2μm,0.3s						
PLVR	Palo Verde	2.05	126	eP	Pn	18 45 12.8	+1.6
DUNO	Dulce Nombre,	2.12	134		Pn	18 45 12.7	+0.8
DUNO	Dulce Nombre,	2.12	134	⇑eP	Pn	18 45 13.0	+1.1
PTEN	Parque Tenorio	2.19	113	iP	Pb	18 45 15.0	-1.8
CNRM	Centro Naciona	2.19	330	⇓iP	Pb	18 45 16.3	-0.6
CNRM				⇓eS	Sb	18 45 44.9	+1.1
CNRM	Centro Naciona	2.19	330	⇓iP	Pb	18 45 16.3	-0.6
CNRM				⇓eS	Sb	18 45 44.9	+1.1
CNRM				eS	Sb	18 45 44.9	+1.1
VSM	San Miguel	2.21	327	⇓iP	Pb	18 45 17.3	-0.1
VSM	San Miguel	2.21	327	⇓iP	Pb	18 45 17.3	-0.1
RANC	El Ranchito	2.22	327	eP	Pb	18 45 15.9	-1.6
RANC				eS	Sb	18 45 43.4	-1.3
RANC	El Ranchito	2.22	327	eP	Pb	18 45 15.9	-1.6
RANC				eS	Sb	18 45 43.4	-1.3
PACA	Pacayal	2.27	327	eP	Pb	18 45 17.4	-0.9
PACA	Pacayal	2.27	327	eP	Pb	18 45 17.4	-0.9
ALJI	Alcalda de J	2.30	320	iP	Pb	18 45 17.5	-1.3
ALJI				eS	Sn	18 45 43.6	+1.5
ALJI	Alcalda de J	2.30	320	iPg	Pb	18 45 17.5	-1.3
ALJI				eS	Sn	18 45 43.6	+1.5
FAGO	Alcalda de S	2.36	334	⇑eP	Pn	18 45 03.1	-12
JTS	Las Juntas de	2.41	122	Pn	Pn	18 45 17.3	+1.4
	comp=Z,20nm,0.3s,baz=5.1,slow=8.2,SNR=33						
JTS				Sn	Sn	18 45 44.7	0.0
	comp=Z,152nm,0.3s,baz=343,slow=19,SNR=8.2						
JTS				LR	LR	18 46 00.9	
	comp=Z,613nm,18.1s,baz=5.5,slow=36						
JTS	Las Juntas de	2.41	122		Pn	18 45 17.6	+1.6
JTS	Las Juntas de	2.41	122	eP	Pn	18 45 17.7	+1.7
JTS	Las Juntas de	2.41	122	⇑eP	Pn	18 45 17.9	+1.9
TGUH	Tegucigalpa,Un	2.49	355	Pn	Pb	18 45 19.6	-2.4
TGUH	Tegucigalpa,Un	2.49	355	eP	Pn	18 45 19.1	+2.0
TGUH	Tegucigalpa,Un	2.49	355	iP	Pb	18 45 20.3	-1.7
TGUH	Tegucigalpa,Un	2.49	355	iPg	Pb	18 45 20.3	-1.7
TGUH	Tegucigalpa,Un	2.49	355	⇑eP	Pb	18 45 20.3	-1.7
PQSS	Presa 15 de Se	2.53	324	⇓iP	Pb	18 45 20.8	-1.8
PQSS	Presa 15 de Se	2.53	324	⇓iP	Pb	18 45 20.8	-1.8
ARE1	Arenal 1	2.53	116	eP	Pb	18 45 20.1	-2.5
CEDE	Laguna Cedeo	2.53	115	eP	Pn	18 45 20.1	+2.4
CAO2	Cobano, Puntar	2.66	134		Pn	18 45 21.6	+2.2
SCLA	Alcaldia de Sa	2.69	322	⇓iP	Pb	18 45 22.8	-2.6
SCLA				eS	Sb	18 45 55.7	-2.3
SCLA	Alcaldia de Sa	2.69	322	⇓iP	Pb	18 45 22.8	-2.6
SCLA				eS	Sb	18 45 55.7	-2.3
COVE	Coope Vega, Sa	2.72	108		Pn	18 45 19.7	-0.5
LAFE	Finca La Fe, P	2.73	130	eP	Pn	18 45 21.2	+0.9
LAFE	Finca La Fe, P	2.73	130	⇓eP	Pn	18 45 21.2	+0.9
ESPN	Las Esperanzas	2.75	77		Pn	18 45 22.1	+1.5
ESPN	Las Esperanzas	2.75	77	eP	Pn	18 45 22.3	+1.7
ESPN	Las Esperanzas	2.75	77	⇓eP	Pn	18 45 22.2	+1.5
SJTE	Alcalda de S	2.80	317	⇓eP	Pn	18 45 23.8	+2.4
SJTE				eS	Sn	18 45 55.4	+1.0
SJTE	Alcalda de S	2.80	317	⇓eP	Pn	18 45 23.8	+2.4
SJTE				eS	Sn	18 45 55.4	+1.0
PAVA	Las Pavas	2.83	319	⇑iP	Pb	18 45 25.0	-2.8
PAVA				eS	Sb	18 46 00.7	-1.3
PAVA	Las Pavas	2.83	319	⇑iP	Pb	18 45 25.0	-2.8
PAVA				eS	Sb	18 46 00.7	-1.3
PAVA	Las Pavas	2.83	319	⇑eP	Pn	18 45 24.4	+2.6
LFRS	El Faro	2.84	316	iP	Pn	18 45 24.6	+2.6
LFRS	El Faro	2.84	316	iP	Pn	18 45 24.6	+2.6
SNET	Serv Nac Est T	3.00	315		Pb	18 45 29.4	-1.4
JACO	JACO, Garabito	3.01	129	Pn	Pn	18 45 26.1	+2.0
PMON	Piamonte	3.08	314	eP	Pn	18 45 28.0	+2.8
PMON	Piamonte	3.08	314	eP	Pn	18 45 28.0	+2.8
JAYA	Jayaque - finc	3.14	312	eP	Pn	18 45 28.9	+2.8
JAYA				eS	Sn	18 46 04.0	+1.1
JAYA	Jayaque - finc	3.14	312	eP	Pn	18 45 28.9	+2.8
JAYA				eS	Sn	18 46 04.0	+1.1
HDC	Heredia	3.27	118		Pn	18 45 29.5	+1.6
LCR2	La Lucha 2	3.49	121	eP	Pn	18 45 33.9	+2.9
CVTR	Volcan Turrial	3.57	115		Pn	18 45 27.4	-4.9
RIMA	Rio Macho	3.60	120		Pn	18 45 33.7	+1.2
RIMA	Rio Macho	3.60	120	eP	Pn	18 45 35.2	+2.8
MTO3	Montecristo	3.61	321		Pn	18 45 35.4	+2.7
ESQI	Esquipulas	3.73	323		Pn	18 45 37.5	+3.4
CDM	Cerro de Muert	3.79	122	eP	Pn	18 45 39.0	+3.7
BATAN	Batan	3.88	112		Pn	18 45 37.9	+1.7
PEZE	Perez Zeledon,	3.96	123		Pn	18 45 40.0	+2.7
SRBA	San Rafael, Bu	4.30	122		Pn	18 45 44.0	+1.9
SRBA	San Rafael, Bu	4.30	122	eP	Pn	18 45 45.3	+3.3
DRK0	Durika	4.38	121		Pn	18 45 45.5	+2.3
RIOS	Rincon, Osa	4.49	129		Pn	18 45 48.3	+3.8
BRU2	Volcan	5.09	122		Pn	18 45 50.8	-2.1
PRVC	Isla de Provid	5.83	71		Pn	18 46 03.0	0.0
PETF	Flores	5.98	333		Pn	18 46 09.1	+4.0
CCIG	Comitan	6.82	314		Pn	18 46 20.5	+3.8
BCIP	Isla Barro Col	7.48	108	Pn	Pn	18 46 25.3	-0.3
CMIG	Matias Romero	9.38	307	Pn	Pn	18 46 55.7	+4.0
	comp=Z,1.3nm,0.3s,baz=132,slow=11,SNR=9.0						
CMIG				Sn	Sn	18 48 41.6	+5.1
	comp=Z,0.5nm,0.3s,baz=54,slow=20,SNR=1.2						
CMIG				LR	LR	18 51 02.4	
	comp=Z,855nm,21.5s,baz=160,slow=40						
DBBC	Dabeiba	11.60	112	eP	Pn	18 47 30.0	+7.8
SJCC	San Jacinto, C	11.77	97	Pn	Pn	18 47 22.0	-2.6
SJCC	San Jacinto, C	11.77	97	eP	Pn	18 47 28.1	+3.5
SOR	Soroa	11.81	18	Pn	Pn	18 47 25.4	+0.4
UREC	San Jos de Ur	11.96	107	eP	Pn	18 47 27.1	0.0
PAYG	Puerto Ayora	12.58	195		Pn	18 47 36.7	+1.1
TLIG	Tlapa	12.65	299	Pn	Pn	18 47 37.7	+1.1
ZARC	Zaragoza, Cauc	12.68	108		Pn	18 47 35.7	-1.2
ZARC	Zaragoza, Cauc	12.68	108	eP	Pn	18 47 38.7	+1.8
YOTC	Yotoco, Valle	13.00	125	eP	P	18 47 52.2	+0.5
GUY2C	Guyana, Caldas	13.15	118	eP	P	18 47 49.3	-4.5
PTBC	PUERTO BERRIO,	13.39	111	eP	P	18 47 56.0	+0.1
ANIL	Santa Ana	13.49	120	eP	P	18 48 00.8	+3.5
POPC	Popayan, Colom	13.64	130	eP	P	18 48 01.8	+2.9
ORTC	Ortega, Tolima	13.94	122	eP	P	18 48 05.7	+3.6
SPBC	San Pablo de B	14.10	114	eP	P	18 48 05.7	+1.7
CRUC	La Cruz	14.10	134	eP	P	18 48 08.6	+4.3
OTAV	Otavalo	14.12	142	eP	Pn	18 47 56.9	-0.2
GTBY	Guantanamo Bay	14.17	53	Pn	Pn	18 47 58.3	+1.0
ROSC	El Rosal	14.25	117	LR	LR	18 53 10.3	
	comp=Z,573nm,21.2s,baz=41,slow=36						
ROSC	El Rosal	14.25	117	P	Pn	18 48 00.2	+1.4
BARC	Barichara	14.55	109	eP	P	18 48 10.5	+1.4
PAMC	Pamplona, Colo	14.75	105	eP	P	18 48 11.4	-0.2
CHIC	Chingaza	14.86	117	eP	P	18 48 15.3	+2.6
RUSC	La Rusia	14.90	111	eP	P	18 48 13.4	+0.2
SOCV	Socops	16.27	100	eP	P	18 48 28.8	+0.8
SDV	Santo Domingo	16.36	98	Pn	P	18 48 28.3	-0.9
	comp=Z,0.5nm,0.3s,baz=258,slow=5.7,SNR=9.4						
SDV				LR	LR	18 55 13.7	
	comp=Z,144nm,20.9s,baz=50,slow=40						
SDV	Santo Domingo	16.36	98		Pn	18 48 25.6	-0.9
SDV	Santo Domingo	16.36	98	eP	P	18 48 28.8	-0.4
SDV	Santo Domingo	16.36	98	eP	Pn	18 48 26.0	-0.5
BOSC	San Juan Bosco	16.91	149	P	Pn	18 48 32.2	-1.2
BRAL	Brewton	19.51	360	P	Pn	18 49 05.1	+0.2
	baz=180						
352A	Blakely	19.91	5	P	Pn	18 49 09.6	-0.1
352A				IAmb	IAmb	18 49 12.6	
	comp=Z,64nm,0.9s						
TIGA	Tifton	20.03	9	P	Pn	18 49 10.8	-0.3
TIGA	Tifton	20.03	9	P	Pn	18 49 11.1	0.0
	baz=190,SNR=11						
HKT	Hockley	20.04	337	P	P	18 49 10.1	+0.8
HKT				IAmb	IAmb	18 49 13.2	
	comp=Z,45nm,1.0s						
344A	Westbrook Farm	20.08	351	P	Pn	18 49 11.3	-0.4
344A				IAmb	IAmb	18 49 17.8	
	comp=Z,55nm,0.7s						
833A	Chaparral WMA,	20.29	327		P	18 49 12.6	+0.5
833A	Chaparral WMA,	20.29	327	P	Pn	18 49 14.0	-0.2
	baz=143,SNR=13						
VBMS	Vicksburg	20.80	352	P	P	18 49 17.9	+0.3
VBMS				IAmb	IAmb	18 49 26.0	
	comp=Z,44nm,0.8s						
152A	Waverly Hall	21.11	5	P	P	18 49 21.1	+0.2
152A				IAmb	IAmb	18 49 28.1	
	comp=Z,20nm,0.7s						
SJG	San Juan	21.20	70	LR	LR	18 56 48.7	
	comp=Z,200nm,21.9s,baz=244,slow=35						
154A	Montrose	21.26	9	P	P	18 49 22.7	+0.1
154A				IAmb	IAmb	18 49 37.7	
	comp=Z,64nm,1.1s						
NATX	Nacogdoches	21.29	342	P	P	18 49 22.6	-0.3
NATX	Nacogdoches	21.29	342	P	P	18 49 24.6	+1.7
	baz=159						
GCPR	Guaynabo City	21.32	69	P	P	18 49 21.7	-1.6
GCPR				IAmb	IAmb	18 49 27.1	
	comp=Z,28nm,0.8s						
LRAL	Lakeview Retre	21.37	0	P	P	18 49 23.8	+0.1
LRAL	Lakeview Retre	21.37	0	P	P	18 49 25.3	+1.6
	baz=180,SNR=7.5						
435B	Jarrell	21.48	335	P	P	18 49 24.6	-0.4
435B				IAmb	IAmb	18 49 33.5	
	comp=Z,25nm,0.8s						
435B	Jarrell	21.48	335	P	P	18 49 27.8	+2.9
	baz=150						
Z47A	Carrollton	21.55	358	P	P	18 49 24.1	-1.6
Z47A				IAmb	IAmb	18 49 30.3	
	comp=Z,37nm,0.8s						
Z51A	Franklin	21.72	4	P	P	18 49 26.0	-1.5
GOGA	Godfrey	21.99	8	P	P	18 49 30.0	-0.4
GOGA				IAmb	IAmb	18 49 34.5	
	comp=Z,24nm,0.8s						
GOGA	Godfrey	21.99	8	P	P	18 49 32.0	+1.7
	baz=189,SNR=7.7						
Y49A	Blount Mountai	22.20	1	P	P	18 49 31.0	-1.6
Y49A				IAmb	IAmb	18 49 35.6	
	comp=Z,30nm,1.2s						
Z41A	Richland Creek	22.23	347	P	P	18 49 34.8	+1.8
	baz=165						
JCT	Junction City	22.24	330	P	P	18 49 32.5	-0.6
JCT	Junction City	22.24	330	P	P	18 49 34.4	+1.2
	baz=145						
NHSC	New Hope	22.34	15	P	P	18 49 35.2	+1.0
	baz=198						
Y52A	Lilburn	22.36	7	P	P	18 49 33.7	-0.7
Y52A				IAmb	IAmb	18 49 38.0	
	comp=Z,46nm,1.0s						
WHTX	Lake Whitney,	22.48	336	P	P	18 49 35.8	+0.1
WHTX				IAmb	IAmb	18 49 39.1	
	comp=Z,52nm,0.9s						
WHTX	Lake Whitney,	22.48	336	P	P	18 49 36.5	+0.9
	baz=152						
X48A	Hartselle	22.78	360	P	P	18 49 39.0	+0.1
Z38A	Mt. Pleasant	22.79	343	P	P	18 49 39.1	+0.2
FPAL	Fort Paine	22.91	3	P	P	18 49 40.2	0.0
OXF	Oxford	22.94	355	P	P	18 49 40.5	0.0
OXF				IAmb	IAmb	18 49 42.0	
	comp=Z,28nm,0.8s						
OXF	Oxford	22.94	355	P	P	18 49 41.1	+0.6
	baz=174						
HODGE	Hodges	22.98	10	P	P	18 49 40.0	-0.9
X51A	Calhoun	22.98	5	P	P	18 49 40.4	-0.5
JSC	Jenkinsville	23.22	12	P	P	18 49 42.6	-0.7
PLAL	Pickwick Lake	23.33	358	P	P	18 49 42.8	-1.6
X40A	Basin Creek Fa	23.42	348	P	P	18 49 45.8	+0.5
	baz=165						
TXAR	Lajitas Array	23.51	321	P	P	18 49 47.6	+1.2
	comp=Z,18nm,0.9s,baz=144,slow=8.3,SNR=61						
TXAR				PcP	PcP	18 53 33.6	+1.7
	comp=Z,1.3nm,0.6s,baz=153,slow=5.0,SNR=6.4						
TXAR				pPcP		18 53 45.0	
	comp=Z,0.8nm,0.6s,baz=140,slow=5.3,SNR=4.0						
TXAR				LR	LR	18 59 01.2	
	comp=Z,101nm,21.1s,baz=134,slow=37						
TXAR	Lajitas Array	23.51	321	P	P	18 49 46.3	-0.1
TX31	Lajitas Ar. Si	23.51	321	P	P	18 49 47.1	+0.7
TX31				IAmb	IAmb	18 49 58.7	
	comp=Z,52nm,0.9s						
TX32	Lajitas Array	23.51	321	P	P	18 49 47.4	+1.0
W50A	Signal Mountai	23.58	4	P	P	18 49 47.4	+0.4
W50A				IAmb	IAmb	18 49 49.6	
	comp=Z,26nm,0.7s						
Z35A	Perchaven, San	23.60	338	P	P	18 49 48.2	+1.1
UALR	University of	23.60	349	P	P	18 49 45.8	-1.4
UALR				IAmb	IAmb	18 49 48.6	
	comp=Z,20nm,0.8s						
BG3	Lake Jocassee	23.62	8	P	P	18 49 47.1	-0.2
BG3				IAmb	IAmb	18 49 50.4	
	comp=Z,16nm,0.6s						
BIRD	Birdtown, Kers	23.74	14	P	P	18 49 47.0	-1.4
BIRD				IAmb	IAmb	18 49 51.2	
	comp=Z,32nm,0.9s						
CPCT	Cooper Cave	23.89	5	P	P	18 49 50.6	+0.7
CPCT				IAmb	IAmb	18 49 53.2	
	comp=Z,30nm,0.8s						
ABTX	Abilene, Hawle	23.95	333	P	P	18 49 50.5	+0.1
ABTX				IAmb	IAmb	18 49 54.2	
	comp=Z,25nm,0.9s						
ABTX	Abilene, Hawle	23.95	333	P	P	18 49 51.3	+0.8
	baz=148						
W41B	Gary Mavity, V	23.97	349	P	P	18 49 49.5	-1.1
W41B	Gary Mavity, V	23.97	349	P	P	18 49 50.7	0.0
	baz=167,SNR=5.5						
KMSC	Kings Mountain	24.04	12	P	P	18 49 51.3	0.0
KMSC				IAmb	IAmb	18 49 54.1	
	comp=Z,14nm,0.7s						
KMSC	Kings Mountain	24.04	12	P	P	18 49 52.0	+0.7
	baz=193,SNR=5.8						
V48A	Smith Brothers	24.07	0	P	P	18 49 50.2	-1.3
WHAR	Wooly Hollow	24.09	349	P	P	18 49 50.8	-1.0
WHAR				IAmb	IAmb	18 49 52.9	
	comp=Z,18nm,0.8s						
X37A	Clayton	24.14	343		P	18 49 51.9	-0.4
TKL	Tuckaleechee C	24.17	7	P	P	18 49 52.6	+0.1
	comp=Z,23nm,0.9s,baz=181,slow=11,SNR=11						
TKL				LR	LR	18 59 06.0	
	comp=Z,162nm,21.8s,baz=186,slow=36						
TKL	Tuckaleechee C	24.17	7	P	P	18 49 51.7	-0.8
TKL				IAmb	IAmb	18 50 10.6	
	comp=Z,23nm,0.8s						
V51A	Loudon	24.25	5	P	P	18 49 52.8	-0.4
V51A				IAmb	IAmb	18 50 20.4	
	comp=Z,41nm,1.3s						
V53A	Saluda	24.30	8	P	P	18 49 54.3	+0.6
V53A				IAmb	IAmb	18 49 57.1	
	comp=Z,23nm,0.8s						
W39A	Magazine	24.31	346	P	P	18 49 53.6	-0.1
W39A				IAmb	IAmb	18 49 55.6	
	comp=Z,22nm,0.8s						
W39A	Magazine	24.31	346	P	P	18 49 54.6	+0.9
	baz=164,SNR=12						
W57A	Gilead	24.34	14	P	P	18 49 52.9	-1.1
W57A				IAmb	IAmb	18 49 56.6	
	comp=Z,72nm,1.6s						
V52A	Sevierville	24.37	7	P	P	18 49 54.2	-0.1
CLTN	Cedars of Leba	24.43	1	P	P	18 49 54.1	-0.7
CLTN				IAmb	IAmb	18 49 57.5	
	comp=Z,27nm,0.6s						
WVT	Waverly	24.47	358	P	P	18 49 54.6	-0.6
WVT	Waverly	24.47	358	P	P	18 49 54.6	-0.6
	baz=178						
FCAR	Ozark Folk Cen	24.65	350	P	P	18 49 56.0	-0.9
FCAR				IAmb	IAmb	18 49 58.7	
	comp=Z,18nm,1.0s						
LCAR	Lake Charles	24.68	352	P	P	18 49 56.0	-1.0
LCAR				IAmb	IAmb	18 49 57.7	
	comp=Z,16nm,0.7s						
U49A	Red Boiling Sp	24.86	2	P	P	18 49 58.4	-0.4
U49A				IAmb	IAmb	18 50 01.9	
	comp=Z,16nm,0.8s						
X34A	Smith Ranch, M	24.95	339		P	18 50 00.6	+1.0
TZTN	Tazewell	25.07	7	P	P	18 50 01.4	+0.8
TZTN				IAmb	IAmb	18 50 04.9	
	comp=Z,14nm,0.8s						
TZTN	Tazewell	25.07	7	P	P	18 50 02.4	+1.8
	baz=188						
W35A	Tecumseh	25.12	341		P	18 50 01.1	0.0
W35A				IAmb	IAmb	18 50 03.9	
	comp=Z,35nm,0.8s						
V58A	Windy Hill, Pi	25.17	15	P	P	18 50 02.2	+0.7
V58A				IAmb	IAmb	18 50 03.2	
	comp=Z,30nm,0.8s						
U40A	Yellville	25.23	349	P	P	18 50 02.1	-0.1
U40A				IAmb	IAmb	18 50 03.8	
	comp=Z,21nm,0.8s						
U40A	Yellville	25.23	349	P	P	18 50 02.0	-0.1
	baz=166,SNR=12						
PBMO	Poplar Bluff	25.29	354	IAmb	IAmb	18 50 04.0	
	comp=Z,35nm,1.3s						
U54A	Nelsons Funny	25.29	10	P	P	18 50 01.4	-1.3
U54A				IAmb	IAmb	18 50 07.2	
	comp=Z,27nm,0.8s						
T47A	Sharon Grove	25.31	360	P	P	18 50 01.8	-1.0
T47A				IAmb	IAmb	18 50 04.4	
	comp=Z,17nm,0.7s						
LPIG	La Paz	25.37	303	LR	LR	19 01 12.3	
	comp=Z,127nm,19.9s,baz=150,slow=39						
FNO	Franklin	25.39	340		P	18 50 03.7	+0.1
WMOK	Wichita Mounta	25.42	337	P	P	18 50 03.8	-0.1
	baz=152,SNR=86						
NNA	Nana	25.50	156	LR	LR	18 59 07.9	
	comp=Z,106nm,21.3s,baz=338,slow=34						
TUL1	Leonard	25.50	343		P	18 50 04.5	0.0
TUL1				IAmb	IAmb	18 50 18.6	
	comp=Z,48nm,0.9s						
TUL1	Leonard	25.50	343	P	P	18 50 04.5	0.0
	baz=160,SNR=8.1						
S44A	Carbondale	26.09	356	IAmb	IAmb	18 50 11.0	
	comp=Z,17nm,0.8s						
SIUC	Southern Illin	26.11	356	P	P	18 50 10.8	+0.7
SIUC				IAmb	IAmb	18 50 11.1	
	comp=Z,15nm,0.7s						
S51A	Beattyville	26.15	6	IAmb	IAmb	18 50 13.0	
	comp=Z,49nm,1.6s						
BLA	Blacksburg	26.22	12	P	P	18 50 12.3	+1.2
	baz=194						
MNTX	Cornudas Mount	26.23	323	P	P	18 50 11.3	0.0
MNTX	Cornudas Mount	26.23	323	P	P	18 50 13.5	+2.3
	baz=136,SNR=13						
MSTX	Muleshoe	26.53	330	P	P	18 50 14.1	0.0
	baz=143,SNR=22						
T35A	Sooner Cattle	26.64	343	IAmb	IAmb	18 50 15.8	
	comp=Z,14nm,0.8s						
CCM	Cathedral Cave	26.64	353	P	P	18 50 14.1	-0.8
CCM				IAmb	IAmb	18 50 15.6	
	comp=Z,22nm,1.0s						
CCM	Cathedral Cave	26.64	353	P	P	18 50 14.1	-0.8
	baz=170						
R50A	Paris	26.71	5	P	P	18 50 15.5	0.0
AMTX	Amarillo	26.76	333	IAmb	IAmb	18 50 20.4	
	comp=Z,36nm,0.9s						
AMTX				PcP	PcP	18 53 40.0	+1.0
AMTX	Amarillo	26.76	333	P	P	18 50 16.3	+0.2
	baz=146						
R40A	Maddies Statio	27.02	351	IAmb	IAmb	18 50 18.7	
	comp=Z,13nm,0.7s						
Q44A	Meyer Farm, Va	27.28	357	P	P	18 50 19.4	-1.2
Q44A				IAmb	IAmb	18 50 21.5	
	comp=Z,29nm,0.8s						
R55A	Marlinton	27.32	12	IAmb	IAmb	18 50 24.1	
	comp=Z,14nm,0.8s						
Q52A	Bidwell	27.61	8	IAmb	IAmb	18 50 26.2	
	comp=Z,16nm,0.9s						
BOAV	Boa Vista	27.82	107	eP	P	18 50 25.0	-0.8
P49A	Miami Univ. Ec	27.93	4	P	P	18 50 26.1	-0.4
	baz=185						
121A	Cookes Peak, D	28.27	321	P	P	18 50 30.0	+0.3
121A				IAmb	IAmb	18 50 42.6	
	comp=Z,14nm,1.0s						
121A	Cookes Peak, D	28.27	321	P	P	18 50 31.4	+1.6
	baz=133,SNR=8.7						
P52A	Corning	28.29	8	P	P	18 50 29.1	-0.6
	baz=190						
O48B	Farmland	28.62	3	P	P	18 50 32.0	-0.6
	baz=184						
SFIN	Lafayette	28.70	360	P	P	18 50 32.5	-0.7
	baz=180						
KSU1	Kansas State U	28.71	344	P	P	18 50 32.9	-0.5
	baz=160						
ACSO	Alum Creek Sta	28.78	6	P	P	18 50 32.0	-1.9
ACSO				IAmb	IAmb	18 50 35.7	
	comp=Z,15nm,0.6s						
ACSO	Alum Creek Sta	28.78	6	P	P	18 50 34.2	+0.3
	baz=188						
HDIL	Hopedale	28.94	356	P	P	18 50 35.2	-0.2
HDIL				IAmb	IAmb	18 50 37.0	
	comp=Z,25nm,0.7s						
HDIL	Hopedale	28.94	356	P	P	18 50 35.5	+0.1
	baz=175						

ANMO Albuquerque 29.21 326 P **P** **18 50 38.5 +0.4**
comp=Z,2.5nm,0.9s,baz=146,slow=6.3,SNR=5.6
ANMO PcP **PcP** **18 53 47.2 +2.0**
comp=Z,2.4nm,0.9s,baz=166,slow=4.2,SNR=4.9
ANMO LR LR 19 05 48.9
comp=Z,56nm,18.3s,baz=130,slow=44
ANMO Albuquerque 29.21 326 P **P** **18 50 38.2 +0.1**
ANMO Albuquerque 29.21 326 P **P** **18 50 39.9 +1.8**
baz=138
O56A Blue Knob Stat 29.55 13 P **P** **18 50 41.7 +0.8**
baz=197
N53A Lisbon 29.63 10 P **P** **18 50 40.9 -0.7**
ETMB Extrema 29.66 135 *eP* **P** **18 50 43.4 +1.3**
T25A Trinidad 29.87 331 P **P** **18 50 45.3 +1.4**
T25A IAmb IAmb 18 50 58.6
comp=Z,14nm,1.2s
T25A Trinidad 29.87 331 P **P** **18 50 45.8 +1.8**
baz=144
MACA Manacapuru-AM 30.02 118 *eP* **P** **18 50 45.2 -0.1**
SSPA Standing Stone 30.06 14 P **P** **18 50 45.5 +0.2**
baz=198
M53A WI Miller and 30.28 10 P **P** **18 50 47.0 -0.2**
baz=192
L42A Oliver, Polo 30.41 356 P **P** **18 50 47.6 -0.8**
L42A IAmb IAmb 18 50 49.2
comp=Z,23nm,0.8s
M54A Oil Creek Stat 30.52 11 P **P** **18 50 50.0 +0.6**
baz=194
L40A Anamosa 30.60 354 P **P** **18 50 49.0 -1.1**
L40A IAmb IAmb 18 50 50.9
comp=Z,22nm,0.8s
N59A State Game Lan 30.87 17 IAmb IAmb 18 50 54.5
comp=Z,16nm,0.8s
N59A State Game Lan 30.87 17 P **P** **18 50 52.0 -0.6**
baz=202
SDCO Great Sand Dun 30.88 331 P **P** **18 50 54.4 +1.5**
baz=143,SNR=14
W18A Petrified Fore 31.21 322 P **P** **18 50 59.8 +4.0**
baz=133
SAML Samuel 31.28 130 P **P** **18 50 56.3 0.0**
BGNE Belgrade 31.29 344 P **P** **18 50 56.2 +0.1**
BGNE Belgrade 31.29 344 P **P** **18 50 56.3 +0.1**
baz=158
JFWS Jewell Farm 31.36 355 P **P** **18 50 56.5 -0.3**
baz=174
L34A Svendsen Farm, 31.37 347 P **P** **18 50 55.9 -1.0**
S22A 4UR Ranch, Cre 31.53 329 P **P** **18 51 00.3 +1.6**
baz=140,SNR=9.3
Q24A Divide 31.69 333 P **P** **18 51 00.8 +0.7**
X16A Lo Mia Camp, P 31.80 320 P **P** **18 51 01.7 +0.7**
MVCO Mesa Verde 32.00 327 P **P** **18 51 03.4 +0.7**
baz=137
BINY Binghamton 32.01 16 P **P** **18 51 03.1 +0.5**
baz=200
I42A Draeger Farm, 32.25 357 P **P** **18 51 03.3 -1.2**
I40A Norwalk 32.36 355 IAmb IAmb 18 51 06.0
comp=Z,16nm,0.7s
WUAZ Wupatki 32.48 321 P **P** **18 51 07.0 +0.1**
WUAZ IAmb IAmb 18 51 16.5
comp=Z,13nm,1.3s
WUAZ Wupatki 32.48 321 P **P** **18 51 08.6 +1.7**
baz=131
ISCO Idaho Springs 32.58 333 P **P** **18 51 08.8 +0.9**
baz=144
K31A O'Neill 32.58 344 P **P** **18 51 07.4 -0.1**
SMCO Snowmass 32.71 331 P **P** **18 51 09.2 0.0**
SMCO IAmb IAmb 18 51 25.7
comp=Z,17nm,1.4s
PV13 Radium Mtn., P 32.87 327 IAmb IAmb 18 51 19.4
comp=Z,27nm,1.5s
PV11 David Mesa, Pa 33.00 328 P **P** **18 51 11.8 +0.3**
PV11 IAmb IAmb 18 51 20.4
comp=Z,12nm,0.7s
ECSD EROS Data Cent 33.10 347 P **P** **18 51 11.0 -1.1**
ECSD EROS Data Cent 33.10 347 P **P** **18 51 11.0 -1.1**
baz=162,SNR=20
PV23 Carpenter Ridg 33.19 328 IAmb IAmb 18 51 25.1
comp=Z,8.2nm,0.6s
LPAZ La Paz 33.40 146 LR LR 19 05 12.1
comp=Z,173nm,19.6s,baz=332,slow=37
LPAZ La Paz 33.40 146 *eP* **P** **18 51 14.2 -1.4**
U15A North Rim 33.63 322 IAmb IAmb 18 51 31.7
comp=Z,17nm,1.6s
G40A Rib Lake 33.69 356 IAmb IAmb 18 51 17.8
comp=Z,16nm,1.1s
SADO Sadowa 33.77 10 LR LR 19 05 05.6
comp=Z,106nm,20.0s,baz=186,slow=37
SPMN Marine on St. 33.90 353 P **P** **18 51 17.6 -1.4**
SPMN Marine on St. 33.90 353 P **P** **18 51 17.7 -1.3**
baz=170,SNR=8.0
BC3 Big Chuckawall 34.02 315 P **P** **18 51 22.4 +2.0**
baz=124
O20A White River Ci 34.07 330 P **P** **18 51 22.6 +1.8**
baz=141,SNR=8.4
PKCU Pink Cliffs 34.32 323 P **P** **18 51 22.1 -1.0**
SUSD Miller 34.33 345 P **P** **18 51 21.8 -0.9**
SUSD Miller 34.33 345 P **P** **18 51 21.4 -1.4**
baz=159,SNR=6.3
KNB Kanab 34.34 322 IAmb IAmb 18 51 41.2
comp=Z,13nm,1.1s
COWI Conover 34.46 357 P **P** **18 51 22.8 -1.1**
SRU San Rafael Swe 34.47 327 P **P** **18 51 23.9 -0.3**
SRU IAmb IAmb 18 51 32.9
comp=Z,21nm,1.3s
MDP Montagnes des 34.61 98 LR LR 19 06 49.5
comp=Z,267nm,18.9s,baz=262,slow=39
F36A Milaca 34.62 352 IAmb IAmb 18 51 25.3
comp=Z,16nm,0.8s
LONY Lake Ozonia 34.63 16 P **P** **18 51 25.4 0.0**
baz=202
P18A Preston Nutter 34.70 328 P **P** **18 51 24.8 -1.6**
P18A IAmb IAmb 18 51 39.4
comp=Z,20nm,1.2s
PFO Pinyon Flats O 34.70 314 LR LR 19 05 50.9
comp=Z,175nm,21.9s,baz=126,slow=36
RWWY Rawlins 34.82 333 IAmb IAmb 18 51 29.8
comp=Z,9.5nm,0.8s
P17A Butcher Ranch, 34.85 327 P **P** **18 51 25.8 -1.7**
P17A IAmb IAmb 18 51 41.1
comp=Z,15nm,1.0s
ITTB Itaituba 34.93 115 *eP* **P** **18 51 27.6 -0.7**
TMUT Trail Mountain 34.97 326 IAmb IAmb 18 51 37.6
comp=Z,17nm,1.4s
F33A 5 Mile Ranch, 35.06 349 P **P** **18 51 27.1 -1.9**
RSSD Black Hills 35.59 339 P **P** **18 51 33.4 -0.6**
RSSD IAmb IAmb 18 51 37.3
comp=Z,5.8nm,0.8s
RSSD Black Hills 35.59 339 P **P** **18 51 34.0 +0.1**
baz=150
JLU Jordanelle 36.04 328 IAmb IAmb 18 51 45.2
comp=Z,17nm,1.6s
VILB Vilhena 36.09 132 *eP* **P** **18 51 39.3 +1.0**
TPNV Topopah Spring 36.44 319 P **P** **18 51 42.1 +0.9**
TPNV IAmb IAmb 18 51 50.6
comp=Z,15nm,1.6s
TPNV Topopah Spring 36.44 319 P **P** **18 51 42.0 +0.7**
baz=126
EDW2 Edwards Air Fo 36.45 315 P **P** **18 51 43.2 +2.0**
baz=122
EYMN Ely 36.46 355 P **P** **18 51 39.3 -1.7**
baz=172
DUG Dugway, Tooele 36.48 326 P **P** **18 51 42.4 +0.8**
baz=134
NPGB Novo Progresso 36.54 119 *eP* **P** **18 51 41.0 -1.1**
BW06 Boulder Array 36.74 332 P **P** **18 51 43.6 -0.1**
baz=141,SNR=8.2
PDAR Pinedale Array 36.74 332 P **P** **18 51 43.8 +0.1**
comp=Z,4.4nm,0.6s,baz=128,slow=10,SNR=49
PDAR PcP **PcP** **18 54 06.3 +0.3**
comp=Z,1.0nm,0.7s,baz=131,slow=4.9,SNR=4.5
PDAR LR LR 19 08 44.7
comp=Z,116nm,21.8s,baz=130,slow=39
PDAR Pinedale Array 36.74 332 P **P** **18 51 43.1 -0.6**
MPMC Manual Prospec 36.75 317 P **P** **18 51 45.2 +1.4**
baz=124
HWUT Hardware Ranch 36.83 329 P **P** **18 51 43.6 -0.9**
HWUT IAmb IAmb 18 51 47.2
comp=Z,12nm,0.7s
HWUT PcP **PcP** **18 54 06.6 +0.4**
R11A Troy Canyon, C 36.88 321 P **P** **18 51 45.3 +0.4**
baz=129
AGMN Agassiz Nation 37.35 350 P **P** **18 51 46.7 -1.9**
AGMN Agassiz Nation 37.35 350 P **P** **18 51 47.2 -1.4**
baz=166,SNR=9.7
AHID Auburn Hatcher 37.47 330 P **P** **18 51 47.6 -2.2**
AHID IAmb IAmb 18 52 05.3
comp=Z,14nm,0.9s
SIV San Ignacio 37.55 136 LR LR 19 07 56.8
comp=Z,238nm,19.6s,baz=298,slow=37
MDND Maddock 37.67 346 P **P** **18 51 50.5 -0.8**
MDND Maddock 37.67 346 P **P** **18 51 50.7 -0.6**
baz=159,SNR=6.1
LOHW Long Hollow 37.88 332 P **P** **18 51 52.9 -0.5**
PDRB Porto dos Gac 37.90 126 *eP* **P** **18 51 52.6 -1.0**
TPAW Teton Pass 37.94 331 IAmb IAmb 18 52 10.6
comp=Z,11nm,0.8s
MOOW Moose Ponds 38.05 332 P **P** **18 51 54.5 -0.3**
ELK Elko 38.21 325 LR LR 19 12 01.6
comp=Z,145nm,19.1s,baz=151,slow=43
ELK Elko 38.21 325 P **P** **18 51 56.3 0.0**
ELK PcP **PcP** **18 54 12.2 +1.6**
FLWY Flagg Ranch 38.28 332 IAmb IAmb 18 51 59.1
comp=Z,7.7nm,0.8s
LVC Limon Verde 38.33 152 LR LR 19 07 31.8
comp=Z,92nm,19.8s,baz=342,slow=36
H17A Grant Village 38.47 333 P **P** **18 51 59.3 +0.9**
baz=141
RLMT Red Lodge 38.47 335 P **P** **18 51 58.8 +0.4**
baz=143
PTLB Pontes e Lacer 38.52 134 *eP* **P** **18 51 59.4 +0.6**
YMP Mirror Lake Pl 38.55 333 IAmb IAmb 18 52 15.4
comp=Z,21nm,1.6s
LAO LASA Array 38.59 339 P **P** **18 52 00.1 +1.0**
baz=149
NVAR Mina Array Bea 38.63 319 P **P** **18 52 01.6 +1.8**
comp=Z,1.1nm,0.6s,baz=140,slow=7.1,SNR=1.3
NVAR PcP **PcP** **18 54 13.7 +1.9**
comp=Z,3.2nm,0.7s,baz=123,slow=3.3,SNR=14
NVAR pPcP 18 54 24.4
comp=Z,2.0nm,0.7s,baz=132,slow=3.9,SNR=5.9
NVAR LR LR 19 08 56.5
comp=Z,108nm,21.1s,baz=146,slow=38
YMR Madison River 38.86 333 P **P** **18 51 59.6 -2.0**
YMR IAmb IAmb 18 52 09.7
comp=Z,12nm,1.1s
KVN Kaiserville 38.86 320 P **P** **18 52 00.7 -1.0**
KVN PcP **PcP** **18 54 13.9 +1.3**
BMN Battle Mountai 39.17 323 IAmb IAmb 18 52 13.5
comp=Z,17nm,1.3s
ULM Lac du Bonnet 39.25 351 P **P** **18 52 02.5 -2.1**
comp=Z,18nm,0.8s,baz=171,slow=8.8,SNR=24
ULM PcP **PcP** **18 54 13.3 0.0**
comp=Z,3.6nm,0.6s,baz=69,slow=3.5,SNR=3.6
ULM LR LR 19 09 43.9
comp=Z,82nm,21.7s,baz=136,slow=39
ULM Lac du Bonnet 39.25 351 P **P** **18 52 02.2 -2.3**
ULM IAmb IAmb 18 52 03.9
comp=Z,25nm,0.9s
DGMT Dagmar 39.48 342 IAmb IAmb 18 52 08.6
comp=Z,18nm,0.8s
DGMT Dagmar 39.48 342 P **P** **18 52 06.7 +0.2**
baz=153
HLID Hailey 39.70 328 P **P** **18 52 07.7 -0.9**
HLID Hailey 39.70 328 P **P** **18 52 10.9 +2.2**
baz=155,SNR=6.6
BOZ Bozeman (W) 39.87 333 P **P** **18 52 10.9 +0.9**
baz=140,SNR=13
MPK Martis Peak 40.23 319 P **P** **18 52 15.2 +2.0**
MFID Camas Ranch 40.34 327 P **P** **18 52 15.0 +1.1**
PRPB Parauapebas 41.01 114 *eP* **P** **18 52 18.9 -0.7**
EGMT Eagleton 41.02 337 P **P** **18 52 19.2 -0.2**
baz=145
SALV Santo Antonio 41.32 131 *eP* **P** **18 52 22.3 +0.2**
MSO Missoula 41.85 332 P **P** **18 52 25.6 -0.6**
MSO Missoula 41.85 332 P **P** **18 52 26.6 +0.4**
baz=138
BMO Blue Mountains 42.09 328 P **P** **18 52 27.4 -0.8**
O02D Mt. Diablo Mer 42.49 318 P **P** **18 52 31.8 +0.2**
baz=122
SNDB Serra Nova Dou 42.51 122 *eP* **P** **18 52 31.5 -0.4**
YBH Yreka Blue Hor 43.28 320 LR LR 19 11 52.6
comp=Z,124nm,19.1s,baz=142,slow=38
L04D Klamath Falls 43.30 321 P **P** **18 52 39.8 +1.7**
baz=124
J04D Umpqua Nationa 43.77 323 IAmb IAmb 18 52 50.8
comp=Z,11nm,0.8s
L02E Cave Junction 44.07 320 P **P** **18 52 45.4 +1.2**
baz=123
RPN Rapa Nui 44.13 209 LR LR 19 06 24.8
comp=Z,160nm,20.6s,baz=92,slow=29
SMTB Santa Maria do 44.17 116 *eP* **P** **18 52 45.7 +0.4**
I04A Tendick Farm, 44.27 323 P **P** **18 52 46.5 +0.7**
baz=126
AQDB Aquidauana 44.32 136 P **P** **18 52 45.8 -0.6**
AQDB IAmb IAmb 18 52 48.0
comp=Z,11nm,0.8s
AQDB Aquidauana 44.32 136 *eP* **P** **18 52 46.6 +0.3**
NEW Newport 44.37 331 P **P** **18 52 46.6 +0.1**
comp=Z,2.2nm,0.8s,baz=186,slow=11,SNR=3.8
NEW Newport 44.37 331 P **P** **18 52 46.0 -0.5**
baz=135
D08A Wollman Farm, 44.41 329 P **P** **18 52 46.7 -0.2**
D08A IAmb IAmb 18 52 58.8
comp=Z,7.9nm,0.8s
E07A Sunnyside 44.56 328 IAmb IAmb 18 53 00.7
comp=Z,11nm,0.9s
FFC Flin Flon 44.64 348 P **P** **18 52 47.3 -1.2**
FFC IAmb IAmb 18 52 49.2
comp=Z,11nm,0.8s
FFC Flin Flon 44.64 348 P **P** **18 52 48.2 -0.3**
FFC pP **sP** **18 52 58.0 -0.5**
FFC sP pP 18 53 08.4 +13
PEXB Peixe 45.08 120 *eP* **P** **18 52 51.6 -1.0**
H03N2 Juan Fernandez 45.42 170 T T 19 41 16.5
baz=349,slow=76,SNR=9.4
H03N1 Juan Fernandez 45.42 170 T T 19 41 19.7
baz=349,slow=76,SNR=8.2
H03N3 Juan Fernandez 45.43 170 T T 19 41 15.5
baz=349,slow=76,SNR=9.4
B08A Colville Reser 45.50 330 P **P** **18 52 55.4 -0.1**
SCHQ Schefferville 46.01 16 P **P** **18 52 57.4 -2.0**
comp=Z,2.4nm,0.6s,baz=212,slow=7.9,SNR=10.0
SCHQ LR LR 19 12 30.3
comp=Z,190nm,20.5s,baz=217,slow=37
SCHQ Schefferville 46.01 16 IAmb IAmb 18 53 27.8
comp=Z,15nm,1.4s
BDFB Brasilia 47.15 124 P **P** **18 53 08.3 -0.7**
comp=Z,9.9nm,0.6s,baz=301,slow=12,SNR=20
BDFB LR LR 19 14 04.5
comp=Z,228nm,18.6s,baz=329,slow=38
BDFB Brasilia 47.15 124 IAmb IAmb 18 53 09.8
comp=Z,10nm,0.6s
BDFB Brasilia 47.15 124 *eP* **P** **18 53 08.4 -0.5**
FCC Fort Churchill 47.40 355 IAmb IAmb 18 53 10.0
comp=Z,9.7nm,0.8s
CPUP Villa Florida 47.47 143 P **P** **18 53 11.2 0.0**
comp=Z,2.0nm,0.7s,baz=322,slow=7.3,SNR=6.5
CPUP LR LR 19 13 37.5
comp=Z,112nm,19.9s,baz=306,slow=37
CPUP Villa Florida 47.47 143 P **P** **18 53 10.3 -0.8**
CPUP IAmb IAmb 18 53 11.8
comp=Z,12nm,1.5s
CPUP Villa Florida 47.47 143 *eP* **P** **18 53 11.3 +0.1**
ITRB Iturama 47.65 130 *eP* **P** **18 53 12.7 0.0**
SDBA SAO DESIDERIO 48.13 118 *eP* **P** **18 53 15.3 -1.3**
PCMB Pacaembu 48.17 133 *eP* **P** **18 53 16.4 -0.3**
LLLB Lillooet 48.24 331 IAmb IAmb 18 53 28.5
comp=Z,12nm,1.1s
IPMB Ipameri, GO 48.28 127 *eP* **P** **18 53 16.7 -1.0**
PTGB Pitanga 49.65 137 *eP* **P** **18 53 27.8 -0.3**
JANB Jauuaria 49.91 121 *eP* **P** **18 53 29.0 -1.2**
ITQB Itaqui 50.40 145 P **P** **18 53 33.6 0.0**
ITQB IAmb IAmb 18 53 46.2
comp=Z,14nm,0.9s
ITQB Itaqui 50.40 145 *eP* **P** **18 53 34.8 +1.2**
ITAB Concordia 51.33 139 IAmb IAmb 18 53 42.5
comp=Z,12nm,0.7s
ITAB Concordia 51.33 139 *eP* **P** **18 53 40.8 +0.2**
VAO Valinhos 52.15 131 *eP* **P** **18 53 46.4 -0.6**
BBB Bella Bella 52.28 329 LR LR 19 18 30.7
comp=Z,128nm,19.3s,baz=122,slow=39
BSCB Bom Sucesso 52.65 128 *eP* **P** **18 53 50.2 -0.5**
PET01 Itanhaem-SP 52.71 133 *eP* **P** **18 53 50.2 -0.8**
CPSB Cacapava Do Su 52.78 143 *eP* **P** **18 53 51.5 +0.1**
PARB Paraibuna 53.35 131 *eP* **P** **18 53 55.6 -0.2**
PLTB Pedras Altas 53.69 144 P **P** **18 53 57.7 -0.4**
PLTB IAmb IAmb 18 54 00.5
comp=Z,7.5nm,0.7s
PLTB Pedras Altas 53.69 144 *eP* **P** **18 53 59.0 +0.9**
FRB Frobisher Bay 53.72 10 LR LR 19 17 00.7
comp=Z,189nm,20.2s,baz=191,slow=36
RCBR Riachuelo 53.73 106 LR LR 19 18 57.9
comp=Z,208nm,18.2s,baz=78,slow=38
TER01 Tubaro-SC 54.15 138 *eP* **P** **18 54 01.1 -0.5**
PLCA Paso Flores 54.23 165 P **P** **18 54 03.1 +1.2**
comp=Z,2.6nm,1.0s,baz=11,slow=11,SNR=5.0
PLCA LR LR 19 13 29.4
comp=Z,53nm,18.5s,baz=328,slow=32
PLCA Paso Flores 54.23 165 *eP* **P** **18 54 01.5 -0.5**
SJMB Sao Joao De Ma 54.31 123 *eP* **P** **18 54 03.0 +0.2**
GUA01 Guaratinga, BA 54.44 120 *eP* **P** **18 54 03.2 -0.6**
YKA Yellowknife Ar 54.56 345 P **P** **18 54 02.9 -1.1**
comp=Z,8.0nm,0.8s,baz=139,slow=7.5,SNR=142
YKA pP **sP** **18 54 13.1 -1.1**
comp=Z,6.9nm,0.8s,baz=138,slow=7.5,SNR=17
YKA PcP **PcP** **18 55 06.4 -0.6**
comp=Z,1.7nm,0.6s,baz=145,slow=4.1,SNR=15
YKA pPcP 18 55 17.3
comp=Z,1.0nm,0.6s,baz=145,slow=4.1,SNR=6.0
YKA LR LR 19 19 22.0
comp=Z,84nm,19.0s,baz=156,slow=38
YKA Yellowknife Ar 54.56 345 P **P** **18 54 02.6 -1.4**
CAM01 Campos-RJ 55.53 127 *eP* **P** **18 54 10.4 -1.2**
DLBC Dease Lake 56.87 335 IAmb IAmb 18 54 22.6
comp=Z,8.2nm,0.8s
TGTN Hyland Airport 58.13 338 P **P** **18 54 28.5 -1.1**
baz=130
P33M Teslin, Yukon 59.08 335 P **P** **18 54 35.3 -0.9**
baz=125
WHY Whitehorse 60.18 335 P **P** **18 54 43.8 0.0**
baz=123
SFJD Kangerlussuaq 60.45 16 LR LR 19 20 29.9
comp=Z,159nm,20.9s,baz=212,slow=36
M31M Drury Creek, Y 60.84 337 P **P** **18 54 48.2 0.0**
baz=124
N31M Braeburn, Yuko 60.99 336 P **P** **18 54 49.6 +0.3**
baz=122
HYT Haines Junctio 61.36 334 P **P** **18 54 52.1 +0.2**
baz=120
YUK6 Outpost Mounta 61.78 334 P **P** **18 54 55.1 +0.2**
baz=120
M30M Minto, Yukon 61.98 336 P **P** **18 54 55.7 -0.2**
baz=122
YUK4 Talbot Arm 62.10 335 P **P** **18 54 56.2 -0.8**
baz=120
YUK3 Moose Creek 63.07 335 P **P** **18 55 02.8 -0.6**
baz=118
BVCY Beaver Creek 63.54 335 P **P** **18 55 06.8 +0.5**
baz=118
DAWY Dawson 63.76 337 P **P** **18 55 07.0 -0.7**
baz=120
M27K Edge Creek, AK 63.93 335 P **P** **18 55 08.9 -0.1**
baz=117
EPYK Eagle Plains 64.03 340 P **P** **18 55 08.7 -0.8**
EPYK IAmb IAmb 18 55 10.1
comp=Z,7.1nm,0.8s
EPYK Eagle Plains 64.03 340 P **P** **18 55 09.2 -0.3**
baz=124
I29M Ogilvie Camp, 64.03 339 P **P** **18 55 08.3 -1.1**
baz=122
INK Inuvik 64.16 343 IAmb IAmb 18 55 10.8
comp=Z,6.8nm,0.9s
INK Inuvik 64.16 343 P **P** **18 55 09.6 -0.6**
baz=128,SNR=5.7
BCAR Beaver Creek A 64.22 336 P **P** **18 55 10.3 -0.5**
L27K Beaver Creek, 64.23 336 IAmb IAmb 18 55 11.9
comp=Z,6.7nm,0.8s
L27K Beaver Creek, 64.23 336 P **P** **18 55 10.8 0.0**
baz=117,SNR=7.0
A36M Sachs Harbour 64.60 348 IAmb IAmb 18 55 12.3
comp=Z,9.1nm,1.1s
A36M Sachs Harbour 64.60 348 P **P** **18 55 11.6 -1.5**
baz=138
N25K Chitina, Valde 64.77 334 P **P** **18 55 15.3 +0.9**
baz=114
DOT Dot Lake 65.40 336 IAmb IAmb 18 55 19.5
comp=Z,6.5nm,0.8s
SCRK Sand Creek 65.51 336 P **P** **18 55 19.2 0.0**
baz=115
J26L Joseph Creek 65.57 337 P **P** **18 55 20.1 +0.4**
baz=116
PAX Paxson 65.69 335 P **P** **18 55 20.4 0.0**
baz=114
RIDG Independent Ri 65.75 336 P **P** **18 55 21.0 +0.2**
baz=114
J25K Salcha River, 66.33 336 IAmb IAmb 18 55 25.4
comp=Z,5.6nm,0.9s
J25K Salcha River, 66.33 336 P **P** **18 55 24.4 0.0**
baz=114,SNR=5.8
KNK Knik Glacier 66.41 333 P **P** **18 55 25.5 +0.5**
baz=110
WAT6 Susitna Watana 66.51 334 P **P** **18 55 25.9 +0.1**
baz=111
RC01 Rabbit Creek A 66.89 332 P **P** **18 55 27.9 -0.1**
baz=109
BRSE Bradley Lake S 66.94 330 P **P** **18 55 27.8 -0.6**
baz=107
WAT1 Susitna Watana 66.95 334 P **P** **18 55 28.0 -0.4**
baz=110
IL31 66.99 336 IAmb IAmb 18 55 39.2
comp=Z,6.3nm,1.0s
ILAR Eielson Array 66.99 336 P **P** **18 55 27.9 -0.7**
comp=Z,2.4nm,0.7s,baz=149,slow=4.2,SNR=22
ILAR pP **sP** **18 55 38.8 0.0**
comp=Z,2.9nm,0.8s,baz=118,slow=5.1,SNR=9.6
ILAR PP **PP** **18 57 57.4 +1.3**
comp=Z,0.9nm,0.9s,baz=119,slow=8.4,SNR=4.2
RND Reindeer 67.28 335 P **P** **18 55 30.5 -0.1**
POKR Poker Plat Res 67.33 337 P **P** **18 55 30.6 -0.2**
baz=112
COLA College 67.41 336 P **P** **18 55 31.0 -0.2**
baz=112
TCOL CIGO, UAF Yank 67.41 336 P **P** **18 55 31.1 -0.1**
baz=112
MCK McKinley 67.43 335 IAmb IAmb 18 55 32.7
comp=Z,9.7nm,1.0s
MCK McKinley 67.43 335 P **P** **18 55 31.9 +0.4**
baz=110
H24K Noodor Dome 67.78 337 P **P** **18 55 33.1 -0.5**
baz=112
NEA2 Nenana 67.79 336 P **P** **18 55 33.4 -0.3**
baz=111
TRF Thorofare Moun 67.90 334 P **P** **18 55 33.7 -0.9**
baz=109
BPAW Bear Paw Mtn. 68.41 335 P **P** **18 55 37.0 -0.6**
baz=109
MLY Manley 68.61 336 IAmb IAmb 18 55 39.4
comp=Z,7.5nm,0.8s
MLY Manley 68.61 336 P **P** **18 55 38.4 -0.5**
baz=109
CAST Castle Rocks 68.66 334 P **P** **18 55 38.2 -1.0**
baz=107
CHUM Lake Minchumin 68.90 334 P **P** **18 55 40.0 -0.6**
baz=107
N19K Bonanza Creek 69.03 331 P **P** **18 55 41.2 -0.4**
baz=104
I21K Tanana 69.16 336 P **P** **18 55 42.1 -0.1**
baz=108
M19K Big River Lodg 69.26 332 P **P** **18 55 42.8 -0.1**
baz=105
TOLK Toolik Lake Re 69.45 340 P **P** **18 55 43.5 -0.5**
baz=112
K20K Telida 69.50 334 P **P** **18 55 43.5 -0.9**
baz=106
L19K White Mountain 69.54 332 P **P** **18 55 44.4 -0.3**
baz=104
H21K Melozitna Rive 69.63 336 P **P** **18 55 44.2 -1.0**
baz=108
J20K Nowinta River 69.75 335 P **P** **18 55 45.2 -0.7**
baz=106
TTA Tatalina 70.24 333 P **P** **18 55 48.3 -0.7**
baz=104
FALS False Pass 72.78 324 P **P** **18 56 04.7 +0.3**
baz=94
UNV Unalaska Valle 74.53 323 P **P** **18 56 15.4 +0.7**
baz=91
ANM Nome 74.62 334 P **P** **18 56 15.6 +0.6**
baz=95
ESDC Sonseca Array 77.42 52 P **P** **18 56 29.0 -2.6**
comp=Z,0.8nm,0.7s,baz=277,slow=5.3,SNR=5.7
BILL Bilibino 85.48 339 P **P** **18 57 12.8 -0.7**
BILL IAmb IAmb 18 57 14.2
comp=Z,5.7nm,0.9s
TIXI Tiksi 93.58 349 P **P** **18 57 50.0 -1.8**
TIXI IAmb IAmb 18 57 51.1
comp=Z,2.0nm,0.7s
SONM Songino Array 119.67 350 PKP **PKPdf** **19 03 26.0 -0.3**
comp=Z,1.2nm,0.6s,baz=348,slow=1.5,SNR=9.3
SONM pPKP **sPKPdf** **19 03 37.2 +0.3**
comp=Z,0.6nm,0.6s,baz=331,slow=1.9,SNR=3.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	121.12	9	PKP	PKPdf	19 03 27.5	-1.5
	comp=Z,0.1nm,0.4s,baz=344,slow=2.3,SNR=1.9						
KSRS	Korea Array	121.23	328	PKP	PKPdf	19 03 29.2	-0.2
	comp=Z,3.6nm,0.8s,baz=9.6,slow=1.4,SNR=20						
KSRS				pPKP	sPKPdf	19 03 40.8	+0.8
	comp=Z,2.6nm,0.8s,baz=7.6,slow=1.4,SNR=8.0						
KSH	Kashi	126.78	16	PKP	PKiKP	19 03 42.2	+1.5
GTA	Gaotai	128.89	353	⇓PKP	PKiKP	19 03 44.7	-0.2
ASAR	Alice Springs	139.31	247	PKhKP	PKPpre	19 03 55.8	
	comp=Z,0.4nm,0.7s,baz=117,slow=3.5,SNR=6.4						
ASAR				PKP	PKPdf	19 04 03.5	-0.5
	comp=Z,1.3nm,0.8s,baz=104,slow=1.9,SNR=7.7						
WRA	Warramunga Arr	139.40	253	PKhKP	PKPpre	19 03 56.3	
	comp=Z,0.1nm,0.6s,baz=94,slow=3.4,SNR=1.1						
WRA				PKP	PKPdf	19 04 05.3	+1.1
	comp=Z,1.6nm,0.7s,baz=91,slow=1.6,SNR=18						
WRA	Warramunga Arr	139.40	253		PKPdf	19 04 04.8	+0.5
FITZ	Fitzroy Crossi	147.78	254	PKPbc	PKiKP	19 04 22.9	-0.8
	comp=Z,4.1nm,0.7s,baz=141,slow=2.4,SNR=15						
CMAR	Chiang Mai Arr	149.59	349	PKP	PKPdf	19 04 22.3	+0.4
	comp=Z,1.9nm,0.7s,baz=312,slow=2.5,SNR=17						
CMAR				PKPbc	PKPbc	19 04 26.8	+0.3
	comp=Z,4.1nm,0.7s,baz=311,slow=2.6,SNR=20						
CMAR				pPKPbc	sPKPbc	19 04 36.8	-0.2
	comp=Z,2.7nm,0.6s,baz=338,slow=2.6,SNR=7.4						

*IDC **01** 18:45:43.4±1.7, 30°.35S×179°.35W, h318km±13km, mb3.1/3, mb1 3.3/4, mb1mx3.1/31, mbtmp4.0/4, Error ellipse: s-maj=39.7km s-min=23.3km az=162.0*

ISC 01 18:45:41.7±0.7, 30°.59S±0°.05×179°.1W±0°.1, h300km, n73, σ2s29/95, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.65	37	P	Pn	18 46 29.1	+3.2
GLKZ				S	S	18 46 50.5	-11
RAO	Raoul Island	1.66	37	P	Pn	18 46 29.1	+3.2
	24nm,0.3s,baz=152,slow=19,SNR=1.3						
RIZ	Raoul Island	1.66	36	P	Pn	18 46 28.3	+2.3
RIZ				S	S	18 46 55.6	-5.6
MXZ	Matakaoa Point	7.29	197	P	Pn	18 47 31.4	+4.9
MXZ				S	S	18 48 51.2	0.0
WMGZ	Waiomatatini S	7.51	196	P	Pn	18 47 28.4	-0.7
WMGZ				S	S	18 48 58.9	+2.8
HAZ	Te Kaha	7.61	199	P	Pn	18 47 31.6	+1.3
HAZ				S	S	18 48 60.0	+1.6
PKGZ	Pakihiroa	7.66	197	P	Pn	18 47 33.3	+2.3
PKGZ				S	S	18 48 59.5	0.0
WCZ	Waipu Caves	7.68	224	P	Pn	18 47 35.7	+4.5
PUZ	Puketiti	7.79	196	P	Pn	18 47 35.7	+3.2
PUZ				S	S	18 49 01.5	-0.8
RUGZ	Raukumara Rang	7.84	199	P	Pn	18 47 34.1	+0.8
RUGZ				S	S	18 49 01.2	-2.5
TWGZ	Tauwhareparae	7.95	197	P	Pn	18 47 40.2	+5.6
TWGZ				S	S	18 49 07.3	+1.1
MKAZ	Moumakai	8.08	215	P	Pn	18 47 41.3	+5.2
OPRZ	Ohinepanea	8.10	206	P	Pn	18 47 39.8	+3.5
CNGZ	Carnagh Statio	8.19	195	P	Pn	18 47 39.2	+1.8
CNGZ				S	S	18 49 10.2	-1.2
MWZ	Matawai	8.22	199	P	Pn	18 47 37.6	-0.2
MWZ				S	S	18 49 11.1	-1.1
TKGZ	Te Karaka	8.23	197	P	Pn	18 47 37.2	-0.8
TKGZ				S	S	18 49 10.2	-2.1
URZ	Urewera	8.28	201	P	Pn	18 47 38.9	+0.4
URZ				S	S	18 49 13.7	+0.3
KMRZ	Kaimai	8.34	208	P	Pn	18 47 46.1	+6.8
MUGZ	Murupara	8.59	203	P	Pn	18 47 45.3	+3.0
MUGZ				S	S	18 49 20.5	+0.2
RTZ	Ruatahuna	8.64	201	P	Pn	18 47 43.6	+0.5
RTZ				S	S	18 49 21.0	-0.8
PRGZ	Paritu Road	8.68	196	P	Pn	18 47 46.8	+3.3
PRGZ				S	S	18 49 20.3	-2.3
SNGZ	Shannon Statio	8.69	199	P	Pn	18 47 43.9	+0.2
SNGZ				S	S	18 49 22.5	-0.3
GRRZ	Galatos Road	8.71	206	P	Pn	18 47 48.5	+4.7
RAHZ	Arahi	8.89	200	P	Pn	18 47 48.8	+2.7
RAHZ				S	S	18 49 26.1	-1.1
MHGZ	Mahia Peninsul	8.90	195	P	Pn	18 47 49.8	+3.7
MHGZ				S	S	18 49 24.6	-2.8
MTHZ	Maungataniwha	8.90	201	P	Pn	18 47 48.9	+2.7
MTHZ				S	S	18 49 29.7	+2.1
KUTZ	Kaahu Road	8.94	207	P	Pn	18 47 50.9	+4.2
WHHZ	Waihua	9.00	199	P	Pn	18 47 49.7	+2.3
WHHZ				S	S	18 49 27.4	-2.2
MRHZ	Matea Rd	9.03	203	P	Pn	18 47 49.8	+2.1
MRHZ				S	S	18 49 26.8	-3.6
NMHZ	Naumai	9.14	201	P	Pn	18 47 49.8	+0.6
NMHZ				S	S	18 49 30.1	-2.9
ARHZ	Aropaoanui	9.24	199	P	Pn	18 47 52.7	+2.4
ARHZ				S	S	18 49 34.3	-0.8
BKZ	Black Stump Fm	9.30	202	P	Pn	18 47 50.3	-0.8
BKZ				S	S	18 49 33.6	-3.0
HIZ	Hauiti	9.36	211	P	P	18 47 57.1	+0.9
MCHZ	McNeill Hill	9.49	200	P	Pn	18 47 55.1	+1.7
MCHZ				S	S	18 49 38.9	-2.0
NTVZ	North Tongarir	9.53	206	P	Pn	18 47 56.5	+2.5
TMVZ	Te Maari	9.53	205	P	Pn	18 47 56.6	+2.6
ETVZ	East Tongariro	9.54	205	P	Pn	18 47 57.2	+2.9
KWHZ	Kaweka Forest	9.56	202	P	Pn	18 47 55.5	+1.2
KWHZ				S	S	18 49 38.8	-3.6
WTVZ	West Tongariro	9.57	206	P	Pn	18 47 57.1	+2.6
CKHZ	Cape Kidnapper	9.58	198	P	Pn	18 47 57.1	+2.6
CKHZ				S	S	18 49 39.5	-3.3
OTVZ	Oturere	9.59	205	P	Pn	18 47 57.2	+2.5
SNVZ	South Ngauruho	9.62	205	P	Pn	18 47 57.1	+2.0
FWVZ	Far West T-bar	9.71	206	P	Pn	18 47 58.3	+1.9
BHHZ	Black Hill Sta	9.74	203	P	Pn	18 47 57.6	+1.1
WNVZ	Wahianoa	9.76	205	P	Pn	18 47 58.7	+1.9
KAHZ	Kahuranaki	9.77	199	P	Pn	18 47 58.4	+1.6
MOVZ	Moawhango	9.77	204	P	Pn	18 47 57.6	+0.7
KRHZ	Kereru	9.78	201	P	Pn	18 47 57.3	+0.3
VRZ	Vera Road	9.91	209	P	Pn	18 48 02.6	+4.0
PXZ	Pawanui	9.99	198	P	Pn	18 47 59.7	+0.2
PNHZ	Pukenui	10.07	201	P	Pn	18 48 00.3	-0.3
WPHZ	Waipukurau	10.14	200	P	Pn	18 48 03.0	+1.6
DREZ	Durham Road	10.21	211	P	P	18 48 10.6	+5.1
TSZ	Takapari Road	10.28	202	P	Pn	18 48 03.5	+0.3
DVHZ	Dannevirke	10.44	201	P	Pn	18 48 05.4	+0.4
PRWZ	Pori Road	10.73	201	P	Pn	18 48 09.0	+0.4
BFZ	Birch Farm	10.77	199	P	Pn	18 48 09.2	+0.2
TIWZ	Tintock	10.96	201	P	Pn	18 48 11.3	-0.2
CPWZ	Castlepoint	10.99	199	P	Pn	18 48 13.2	+1.5
MSVF	Nonsavu	13.07	348	P	Pn	18 48 35.2	-2.1
	2.3nm,0.3s,baz=233,slow=20,SNR=2.1						
DZM	Mont Dzumac	15.52	300	P	Pn	18 49 06.1	-0.2
	0.5nm,0.3s,baz=152,slow=11,SNR=6.2						
ASAR	Alice Springs	42.19	268	P	P	18 53 04.5	-1.4
	0.2nm,0.3s,baz=105,slow=7.5,SNR=12						
ASAR				ScP	ScP	18 58 12.2	-3.2
	0.3nm,0.9s,baz=112,slow=3.6,SNR=4.9						
WRA	Warramunga Arr	43.20	273	P	P	18 53 11.3	-2.7
	0.4nm,0.3s,baz=111,slow=7.9,SNR=16						
WRA				ScP	ScP	18 58 15.0	-4.6
	0.7nm,1.1s,baz=111,slow=4.3,SNR=3.4						
PETK	Petropavlovsk-	85.78	346	P	P	18 57 46.0	-0.9
	1.9nm,0.7s,baz=123,slow=5.3,SNR=4.3						
MKAR	Makanchi Array	117.20	310	PKP	PKPdf	19 03 49.1	-1.9
	0.2nm,0.5s,baz=72,slow=1.5,SNR=4.2						
ARCES	ARCESS Array B	138.58	347	PKhKP	PKPpre	19 04 22.3	
	9.6nm,1.3s,baz=45,slow=1.4,SNR=5.1						
KBZ	Khabaz	144.46	304	PKP	PKPab	19 04 40.2	-1.2
	0.6nm,0.5s,baz=180,slow=3.0,SNR=4.3						
FINES	FINESS Array B	145.01	339	PKP	PKPbc	19 04 40.9	-1.7
	4.9nm,0.4s,baz=47,slow=4.4,SNR=75						
NB2	NORSAR Subarra	148.80	350	PKP	PKPdf	19 04 51.8	+2.9
	comp=Z,0.7nm,0.5s,baz=15,slow=4.1						
NOA	NORSAR Array B	148.80	350	PKPbc	PKPdf	19 04 51.8	+2.9
	comp=Z,0.8nm,0.6s,baz=15,slow=4.2,SNR=5.2						
AKASG	Malin Array Be	150.90	322	PKPbc	PKPbc	19 04 57.0	-1.5
	comp=Z,0.9nm,0.4s,baz=40,slow=3.1,SNR=7.6						
BRTR	Keskin Array B	151.89	298	PKPbc	PKPbc	19 04 59.8	-1.5
	comp=Z,0.6nm,0.5s,baz=144,slow=4.6,SNR=6.2						
TORD	Torodi Ar. Bea	162.62	182	PKPab	PKPab	19 05 59.2	+0.9
	comp=Z,0.2nm,0.4s,baz=208,slow=3.8,SNR=1.6						

JMA 01 18:45:59.0±0.1, 25°.27N×123°.68E, h144km±3km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	0.89	140	P	Pn	18 46 22.4	+0.1
JISG				S	Sn	18 46 40.1	+0.2
IRIF	Iriomote-Funau	0.93	177	P	Pn	18 46 22.6	0.0
IRIF				S	Sn	18 46 40.6	0.0
JIJ	Ishigaki jima	1.00	155	P	Pn	18 46 23.2	0.0
JIJ				S	Sn	18 46 41.5	-0.1
YOJ	Yonaguni jima	1.01	217	P	Pn	18 46 23.6	+0.3
YOJ				S	Sn	18 46 42.4	+0.7
JYNG	Yonagunijimaku	1.05	219	P	Pn	18 46 24.0	+0.3
JYNG				S	Sn	18 46 42.9	+0.5
JKRS	Kuro-shima	1.07	164	P	Pn	18 46 24.1	+0.3
JKRS				S	Sn	18 46 43.1	+0.4
JTJ	Tarama	1.12	124	P	Pn	18 46 24.7	+0.4
JTJ				S	Sn	18 46 44.0	+0.5
HATJ	Hateruma jima	1.21	175	P	Pn	18 46 25.3	+0.1
HATJ				S	Sn	18 46 45.1	0.0
JIRB	Irabujima	1.42	108	P	Pn	18 46 27.3	0.0
JIRB				S	Sn	18 46 48.6	-0.2
JIKM	Ikemajima	1.46	103	P	Pn	18 46 28.0	+0.3
JIKM				S	Sn	18 46 49.9	+0.3
JMJ2	Miyako jima3	1.58	109	P	Pn	18 46 29.6	+0.6
JMJ2				S	Sn	18 46 52.3	+0.4
JOGS	Gusukube	1.65	108	P	Pn	18 46 30.1	+0.4
JOGS				S	Sn	18 46 53.5	+0.3
JKE	Kume jima 2	2.99	69	P	Pn	18 46 45.2	-0.8
JKE				eS	Sn	18 47 22.4	+0.1

*DJA **01** 18:56:05.8±0.6, 8°S±3°×10°7E±°, h31km±9km, M4.0/15, mb4.1/4, mB4.8/1, MLv4.0/15, Mw(mB)4.1/1*
*NEIC **01** 18:56:05.3±2.0, 7°.85S±0°.05×107°.21E±0°.08, h71km±8km, mb4.0/13, Error ellipse: s-maj=11.9km s-min=7.0km az=82.0*
*IDC **01** 18:56:07.8±3.7, 7°.56S×107°.29E, h84km±25km, mb3.3/5, mb1 3.6/6, mb1mx3.2/36, mbtmp3.8/6, Error ellipse: s-maj=75.8km s-min=17.9km az=53.0*

ISC 01 18:56:05.3±0.9, 7°.84S±0°.06×107°.24E±0°.04, h66km±8km, n52, σ1s37/59, mb4.0/13, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.54	348	P	Pn	18 56 17.9	-0.2
CNJI				S	Sn	18 56 25.3	-2.2
LEM	Lembang	1.07	20	P	Pn	18 56 24.9	+0.3
	271nm,0.3s,baz=171,slow=16,SNR=145						
LEM				S	Sn	18 56 38.9	-0.2
	212nm,0.3s,baz=309,slow=22,SNR=9.3						
LEM				LR	LR	18 56 56.1	
	comp=Z,141nm,19.0s,baz=292,slow=61						
LEM	Lembang	1.07	20	P	Pn	18 56 24.8	+0.1
LEM				S	Sn	18 56 40.1	+1.1
SKJI	Sukabumi	1.07	321	P	Pn	18 56 25.5	+1.0
SKJI				S	Sn	18 56 39.3	+0.5
CMJI	Cimerak	1.20	87	P	Pn	18 56 25.9	-0.2
CMJI				S	Sn	18 56 39.8	-1.8
DBJI	Dramaga	1.37	339	P	Pn	18 56 29.4	+1.0
DBJI				S	Sn	18 56 46.2	+0.5
KPJI	Karang Pucung	1.75	73	P	Pn	18 56 33.6	+0.2
KPJI				S	Sn	18 56 56.2	+1.4
CGJI	Cibinong	1.96	308	P	Pn	18 56 37.0	+0.7
CGJI				S	Sn	18 56 58.8	-1.1
XMIS	Christmas Isla	3.06	211	Pn	Pn	18 56 51.7	+0.4
UGM	Wanagama	3.25	92		Pn	18 56 54.0	+0.1
UGM	Wanagama	3.25	92	P	Pn	18 56 54.1	+0.1
UGM				S	Sn	18 57 30.3	-1.2
SMRI	Semarang	3.27	76	Pn	Pn	18 56 54.6	+0.5
SMRI	Semarang	3.27	76	P	Pn	18 56 55.5	+1.4
KASI	Kota Agung	3.57	310	P	Pn	18 56 59.7	+1.5
PCJI	Pacitan	3.91	95	P	Pn	18 57 03.6	+0.7
UWJI	Ujung Watu	3.94	69	P	Pn	18 57 03.8	+0.5
MNAI	Manna	5.49	309	Pn	Pn	18 57 27.0	+2.5
GMJI	Gumukmas	6.16	94	P	Pn	18 57 35.3	+1.7
	0.1nm13nm,1.1s						
JAGI	Jajag, Banyuwa	6.87	96		Pn	18 57 44.2	+0.8
JAGI	Jajag, Banyuwa	6.87	96	P	Pn	18 57 45.3	+1.9
	0.1nm682nm14nm,1.5s						
PPSI	Pulau Pagai	8.79	305	P	Pn	18 58 10.1	+0.4
	49nm,1.1s						
PLAI	Plampang	10.47	96	P	Pn	18 58 34.2	+1.5
GSI	Gunungsitoli	13.24	313	Pn	Pn	18 59 02.9	-7.6
GIRL	Giralia	16.18	156		Pn	18 59 48.8	+0.2
BATI	Baumata	16.39	99	P	P	18 59 54.2	+1.1
	1.2nm,0.3s,baz=263,slow=16,SNR=2.3						
FITZ	Fitzroy Crossi	20.60	121	P	P	19 00 35.4	-3.9
KNRA	Kununurra	22.45	112	P	P	19 01 00.1	+1.1
KNRA				IAmb	IAmb	19 01 36.5	
	comp=Z,8.5nm,1.3s						
MTN	Manton Dam	24.01	104	P	P	19 01 12.9	-1.4
MTN				IAmb	IAmb	19 01 48.1	
	comp=Z,6.4nm,1.1s						
WB0	Warramunga Arr	28.86	117	P	P	19 01 56.5	-1.4
WB0				IAmb	IAmb	19 02 16.5	
	comp=Z,8.7nm,1.5s						
WRA	Warramunga Arr	28.87	117	P	P	19 01 58.5	+0.5
	comp=Z,0.3nm,0.7s,baz=294,slow=11,SNR=7.4						
WRA				PcP	PcP	19 05 07.0	+0.8
	comp=Z,0.1nm,0.3s,baz=310,slow=2.2,SNR=0.9						
WRA	Warramunga Arr	28.87	117	P	P	19 01 57.7	-0.2
WRAB	Tennant Creek	28.88	117	P	P	19 01 57.4	-0.6
WRAB				IAmb	IAmb	19 02 30.7	
	comp=Z,9.4nm,1.6s						
WB2	Warramunga Arr	28.88	117	P	P	19 01 57.2	-0.9
WB2				IAmb	IAmb	19 02 08.2	
	comp=Z,4.1nm,1.2s						
WR0	Warramunga Arr	29.05	117	P	P	19 02 00.2	+0.6
WR0				IAmb	IAmb	19 02 01.5	
	comp=Z,7.1nm,1.4s						
ASAR	Alice Springs	30.01	125	P	P	19 02 09.6	+1.4
	comp=Z,0.3nm,0.8s,baz=302,slow=8.8,SNR=5.8						
ASAR				PcP	PcP	19 05 10.1	+1.0
	comp=Z,0.4nm,1.0s,baz=307,slow=2.4,SNR=1.1						
H08S2	Diego Garcia H	34.43	268	T	T	19 39 53.7	
	baz=92,slow=75,SNR=5.5						
H08S3	Diego Garcia H	34.44	268	T	T	19 40 02.4	
	baz=92,slow=75,SNR=5.9						
H08S1	Diego Carcia H	34.45	268	T	T	19 40 03.4	
	baz=92,slow=75,SNR=5.8						
COEN	Coen	35.77	103	P	P	19 02 56.0	-2.4
STKA	Stephens Creek	39.91	132	P	P	19 03 35.4	+2.3
	comp=Z,3.7nm,0.5s,baz=307,slow=7.7,SNR=12						
STKA	Stephens Creek	39.91	132	P	P	19 03 35.4	+2.3
JMZ	Minamidaito 2	40.78	34	P	P	19 03 40.5	+0.2
NJ2	Nanjing	41.19	15	eP	P	19 03 46.2	+2.7
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SONM	Songino Array	55.44	359	PcP	PcP	19 06 32.2	-0.5
	comp=Z,0.7nm,0.4s,baz=164,slow=3.6,SNR=5.3						
MKAR	Makanchi Array	58.75	340	P	P	19 05 56.2	-0.2
	comp=Z,0.2nm,0.5s,baz=141,slow=7.7,SNR=3.0						
MKAR				PcP	PcP	19 06 44.8	-0.8
	comp=Z,0.1nm,0.4s,baz=151,slow=4.7,SNR=2.5						
MKAR	Makanchi Array	58.75	340	P	P	19 05 55.5	-0.9
ZALV	Zalesovo Beam	64.40	346	P	P	19 06 32.1	-2.2
	comp=Z,0.4nm,0.3s,baz=146,slow=6.4,SNR=4.1						
GEYT	Alibeck	64.55	319	P	P	19 06 34.3	-1.4
ABKAR	Akbulak array	70.25	329	P	P	19 07 09.8	-1.6
ABKAR	Akbulak array	70.25	329	P	P	19 07 10.4	-1.0
ABKAR				IAmb	IAmb	19 07 19.7	
	comp=Z,1.4nm,0.9s						
NRIK	Noril'sk	78.20	353	P	P	19 07 56.1	-1.1
TXAR	Lajitas Array	143.93	50	PKP	PKPbc	19 15 32.8	+0.8
	comp=Z,0.2nm,0.5s,baz=318,slow=1.2,SNR=2.6						

IDC 01 19:00:56.6±1.3, 49°.12N×114°.16W, h0km, mb2.8/1, mb1 3.3/5, mb1mx3.1/42, mbtmp2.9/5, ML3.1/3, Error ellipse: s-maj=16.1km s-min=8.8km az=165.0, British Columbia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEW	Newport	2.14	247	Pn	Pb	19 01 35.3	-1.0
	1.9nm,0.3s,baz=56,slow=8.1,SNR=12						
NEW				Lg	Lg	19 02 03.1	
	6.2nm,0.3s,baz=276,slow=20,SNR=16						
PDAR	Pinedale Array	7.12	152	Pn	Pn	19 02 43.3	+1.1
	baz=56,slow=27,SNR=1.6						
NVAR	Mina Array Bea	11.10	197	Pn	Pn	19 03 37.4	+0.7
	0.3nm,0.3s,baz=21,slow=20,SNR=7.2						
YKA	Yellowknife Ar	13.40	359	Pn	Pn	19 04 03.3	-4.6
	0.1nm,0.3s,baz=177,slow=12,SNR=5.8						
TXAR	Lajitas Array	21.33	154	P	P	19 05 47.0	+1.8
	0.2nm,0.4s,baz=338,slow=14,SNR=3.4						

*IDC **01** 19:09:23.9±3.3, 1°.57N×99°.21E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.5/42, mbtmp3.8/5, Error ellipse: s-maj=142.7km s-min=19.6km az=59.0*
*NEIC **01** 19:09:35.4±1.7, 1°.34N±0°.04×98°.87E±0°.05, h104km±9km, mb4.1/16, Error ellipse: s-maj=9.3km s-min=1.7km az=56.0*
*DJA **01** 19:09:36.1±0.7, 1°N±3°×9°9E±°, h86km±9km, M3.5/6, MLv3.5/6*

ISC 01 19:09:33.8±0.7, 1°.36N±0°.04×98°.94E±0°.05, h90km, n40, σ1s64/43, mb4.0/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	0.85	131	P	Pn	19 09 55.9	+4.1
GSI	Gunungsitoli	1.37	268		Pn	19 09 59.4	+1.5
GSI				Sn	Sn	19 10 20.1	+4.1
GSI	Gunungsitoli	1.37	268	P	Pn	19 10 00.0	+2.2
PSI	Prapat	1.43	359	Pn	Pn	19 09 45.4	-13
	2.3nm,0.3s,baz=129,slow=16,SNR=8.0						
PSI				Sn	Sn	19 10 00.0	-18
	6.6nm,0.3s,baz=162,slow=9.3,SNR=20						
TSI	Tuntungan	2.16	350	P	Pn	19 10 11.3	+3.2
BKNI	Bangkinang	2.34	116	Pn	Pn	19 10 13.3	+2.9
KCSI	Kotacane, Aceh	2.44	331	P	Pn	19 10 13.2	+1.3
KCSI				S	Sn	19 10 41.2	+0.1
SISI	Saibi	2.67	177	P	Pn	19 10 16.5	+1.5
SISI				S	Sn	19 10 47.8	+1.2
IPM	Ipoh	3.73	34	Pn	Pn	19 10 32.8	+3.6
KULM	Kulim	4.26	24	Pn	Pn	19 10 38.6	+2.2
LHMI	Lhok Sumawe	4.33	333	Pn	Pn	19 10 38.2	+0.9
LHMI				Sn	Sn	19 11 25.4	-1.2
MYKOM	Kota Tinggi	4.93	85	Pn	Pn	19 10 46.5	+1.1
MNAI	Manna	6.96	145	Pn	Pn	19 11 12.7	-0.4
MNAI				Sn	Sn	19 12 30.9	+0.1
CMAR	Chiang Mai Arr	16.99	0	Pn	Pn	19 13 25.6	-0.3
	0.3nm,0.3s,baz=197,slow=8.5,SNR=9.6						
MYLDM	Lahad Datu	19.89	79	P	Pn	19 14 00.5	-0.1
MYLDM				IAmb	IAmb	19 14 17.7	
	comp=Z,9.1nm,1.1s						
LUWI	Luwuk	23.95	96	P	P	19 14 38.0	-2.0
FITZ	Fitzroy Crossi	32.63	128	P	P	19 15 58.8	+1.5
KNRA	Kununurra	33.99	121	P	P	19 16 10.3	+1.1
KNRA				IAmb	IAmb	19 16 25.5	
	comp=Z,8.1nm,1.4s						
MTN	Manton Dam	34.92	115	P	P	19 16 15.2	-2.0
WB0	Warramunga Arr	40.62	123	P	P	19 17 04.7	-0.5
WB0				IAmb	IAmb	19 17 06.4	
	comp=Z,4.8nm,1.2s						
WRA	Warramunga Arr	40.66	123	P	P	19 17 05.0	-0.4
	comp=Z,1.0nm,0.6s,baz=302,slow=8.8,SNR=4.8						
WRA	Warramunga Arr	40.66	123	IAmb	IAmb	19 17 14.1	
	comp=Z,0.2nm,1.1s						
WRAB	Tennant Creek	40.66	123	P	P	19 17 04.7	-0.9
WRAB				IAmb	IAmb	19 17 23.9	
	comp=Z,7.8nm,1.4s						
WB2	Warramunga Arr	40.67	123	P	P	19 17 05.3	-0.3
WB2				IAmb	IAmb	19 17 20.7	
	comp=Z,9.5nm,1.5s						
WR0	Warramunga Arr	40.83	123	P	P	19 17 06.5	-0.5
WR0				IAmb	IAmb	19 17 11.7	
	comp=Z,3.0nm,0.9s						
ASAR	Alice Springs	42.12	128	P	P	19 17 16.7	-0.7
	comp=Z,0.1nm,0.5s,baz=303,slow=7.6,SNR=1.7						
ASAR	Alice Springs	42.12	128	P	P	19 17 17.9	+0.5
MSEY	Mahe Island	43.83	262	P	P	19 17 29.4	-2.1
SONM	Songino Array	46.74	7	P	P	19 17 54.2	+0.2
	comp=Z,0.6nm,0.4s,baz=188,slow=11,SNR=4.9						
SONM	Songino Array	46.74	7	P	P	19 17 53.4	-0.6
MK31	Makanchi Array	47.53	345	P	P	19 18 00.8	+0.8
MKAR	Makanchi Array	47.53	345	P	P	19 18 00.5	+0.5
	comp=Z,0.5nm,0.5s,baz=158,slow=8.6,SNR=16						
MKAR	Makanchi Array	47.53	345	P	P	19 17 59.9	-0.1
KURK	Kurchatov	52.10	344	P	P	19 18 33.6	-0.9
KURK				IAmb	IAmb	19 18 36.2	
	comp=Z,1.2nm,0.9s						
ZAA0	Zalesovo Array	53.69	350	P	P	19 18 45.7	-0.5
ZALV	Zalesovo Beam	53.69	350	P	P	19 18 46.4	+0.2
	comp=Z,2.0nm,0.3s,baz=166,slow=6.9,SNR=14						
ZALV	Zalesovo Beam	53.69	350	P	P	19 18 46.5	+0.3
BRVK	Borovoye	56.75	340	P	P	19 19 07.8	-0.4
BRVK				IAmb	IAmb	19 19 35.7	
	comp=Z,0.9nm,0.8s						
ABKAR	Akbulak array	58.20	331	P	P	19 19 18.4	-0.1
ABKAR				IAmb	IAmb	19 19 19.1	
	comp=Z,1.0nm,0.7s						
ABKAR	Akbulak array	58.20	331	P	P	19 19 18.2	-0.3

*JMA **01** 19:17:38.6±0.2, 24°.89N×123°.40E, h27km, M3.1*
*IDC **01** 19:17:39.3±1.5, 24°.14N×121°.83E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.2/42, mbtmp3.3/5, Error ellipse: s-maj=55.2km s-min=22.9km az=61.0*

ISC 01 19:17:36.9±1.9, 24°.79N±0°.08×123°.42E±0°.04, h5km±14km, n14, σ1s39/20, mb3.4/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.49	228	P	Pn	19 17 49.5	-1.1
YOJ				S	Sb	19 17 56.5	+0.9
IRIF	Iriomote-Funau	0.54	148	P	Pn	19 17 50.7	-0.5
IRIF				S	Sn	19 17 59.5	-1.1
JYNG	Yonagunijimaku	0.55	232	P	Pn	19 17 50.3	-1.0
JYNG				S	Sn	19 17 58.2	-2.7
JKRS	Kuro-shima	0.77	136	P	Pn	19 17 54.3	-0.2
JKRS				S	Sn	19 18 05.7	-0.7
JIJ	Ishigaki jima	0.79	123	P	Pn	19 17 54.0	-0.7
JIJ				S	Sn	19 18 04.6	-2.2
HATJ	Hateruma jima	0.81	154	P	Pn	19 17 55.3	+0.3
HATJ				S	Sn	19 18 06.8	-0.7
JISG	Ishigakijimahi	0.84	104	P	Pn	19 17 54.5	-0.9
JISG				S	Sn	19 18 05.8	-2.3
JTJ	Tarama	1.18	97	P	Pg	19 18 00.2	+0.7
JIRB	Irabujima	1.60	88	P	Pg	19 18 06.4	-1.1
CMAR	Chiang Mai Arr	23.59	259	P	P	19 22 34.6	-14
	0.1nm,0.3s,baz=66,slow=9.0,SNR=1.9						
SONM	Songino Array	26.66	334	P	P	19 23 18.3	+1.6
	0.3nm,0.4s,baz=140,slow=7.9,SNR=2.5						
MKAR	Makanchi Array	39.34	315	P	P	19 25 07.4	+0.3
	0.2nm,0.6s,baz=103,slow=9.6,SNR=3.9						
WRA	Warramunga Arr	45.72	166	P	P	19 26 00.2	+1.0
	1.1nm,0.8s,baz=348,slow=8.7,SNR=7.4						
ASAR	Alice Springs	49.23	167	P	P	19 26 27.8	+1.2
	0.2nm,0.5s,baz=345,slow=12,SNR=5.1						

*NEIC **01** 19:24:55.4±2.9, 3°.36S±0°.06×144°.89E±0°.06, h6km±1km, mb5.7/151, Ms_20 6.2/440, Mwb6.0/48, Mww6.2, Error ellipse: s-maj=10.6km s-min=9.2km az=351.0*
*NEIC **01** 19:24:55.4, 3°.36S×144°.89E, h7km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.11; Mθθ-0.04; Mφφ-0.07; Mrθ0.13; Mθφ1.09; Mφr-0.41; Fault plane solution: M0 1.17000×10^18 NP1:φs269.53000°, δ70.21000°, λ-3.02000°. NP2:φs0.55000°, δ87.16000°, λ-160.19000°. Principal axes: T 1.0760, Plg12.0000°, Azm133.0000°; N 0.1750, Plg70.0000°, Azm8.0000°; P -1.2510, Plg16.0000°, Azm227.0000°;*
*BJI **01** 19:24:56.0±0.0, 3°.39S×145°.08E, h10km, mb5.1/82, mB5.8/76, Ms6.1/94, Ms7 6.0/87*
*MOS **01** 19:24:56.4±1.6, 3°.50S×144°.99E, h21km, mb5.6/29, MS5.8/18, Error ellipse: s-maj=8.0km s-min=4.9km az=112.4*
*IDC **01** 19:24:57.1±0.4, 3°.52S×144°.71E, h0km, mb5.0/31, mb1 5.0/38, mb1mx5.0/48, mbtmp5.0/38, ML4.0/6, MS5.9/60, Ms1 5.9/60, ms1mx5.9/64, Error ellipse: s-maj=14.0km s-min=9.5km az=80.0*
*DJA **01** 19:25:02.9±0.6, 3°S±2°×14°5E±°, h31km±5km, M5.7/87, mB6.0/76, mb5.4/87, MLv6.0/7, Mw(mB)5.6/76, MwMwp5.7/53, Mwp5.8/53*
*GCMT **01** 19:25:04.4±0.0, 3°.35S×144°.92E, h12km, MW6.2/167, Moment Tensor Solution. s162,c365; s167,c633; Duration: 3s0 Moment tensor: Scale 10^18Nm; Mrr0.04±.01; Mθθ-0.20±.01; Mφφ0.16±.01; Mrθ0.01±.03; Mθφ2.21±.01; Mφr0.03±.03; Best double couple: M0 2.21800×10^18 NP1:φs88.00000°, δ89.00000°, λ0.00000°. NP2:φs358.00000°, δ90.00000°, λ179.00000°. Principal axes: T 2.2000, Plg1.0000°, Azm313.0000°; N 0.0370, Plg89.0000°, Azm146.0000°; P -2.2360,*

Plg0.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

*NEIC **01** 19:25:08, 3°.43S×145°.05E, h24km, Moment Tensor Solution. Duration: 22s0 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.24; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$0.25; $M_{r\theta}$0.57; $M_{\theta\phi}$2.39; $M_{\phi r}$0.45; Fault plane solution: $M_0$2.51000×10^{18} NP1: ϕ_s358.00000°, δ78.00000°, λ172.00000°. NP2: ϕ_s89.00000°, δ83.00000°, λ12.00000°. Principal axes: T 2.6901, Plg14.0000°, Azm314.0000°; N -0.4063, Plg76.0000°, Azm120.0000°; P -2.2838, Plg3.0000°, Azm223.0000°;*

ISC 01 19:24:58.6±0.4**, 3°.53S**±0°.03**×144°.94E**±0°.03**, h16**km±2km**, h16**km**:pP-P, n1190, σ2s42**/1046**, mb5.5**/227**, MS6.2**/324**, 67C-37D, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	Manus Island	2.84	59		Pn	19 25 41.4	-2.0
MANU	Manus Island	2.84	59	⇓P	Pn	19 25 42.7	-0.7
JAY	Jayapura	4.34	283	Pn	Pn	19 26 00.9	-3.1
	6.4nm,0.3s,baz=132,slow=7.2,SNR=22						
JAY				LR	LR	19 27 45.7	
	comp=Z,131µm,21.9s,baz=41,slow=41						
JAY	Jayapura	4.34	283	P	Pn	19 26 01.0	-3.1
JAY	Jayapura	4.34	283	P	Pn	19 26 01.7	-2.3
PMG	Port Moresby	6.24	159	Pn	Pn	19 26 33.0	+2.9
	24nm,0.3s,baz=51,slow=6.2,SNR=72						
PMG				Sn	Sn	19 27 45.8	+4.6
	55nm,0.3s,baz=138,slow=21,SNR=12						
PMG				LR	LR	19 29 26.7	
	comp=Z,569µm,18.4s,baz=354,slow=43						
PMG	Port Moresby	6.24	159	c iP	Pn	19 26 32.7	+2.6
PMG	Port Moresby	6.24	159	Pn	Pn	19 26 32.0	+1.9
PMG	Port Moresby	6.24	159	⇑P	Pn	19 26 32.7	+2.6
PMG	Port Moresby	6.24	159	P	Pn	19 26 33.8	+3.7
MMPI	Merauke	6.67	222	P	Pn	19 26 41.4	+5.3
	7.1nm172µm17µm610nm,1.1s						
RABL	Rabaul	7.24	95	Pn	Pn	19 26 43.4	-0.5
RABL	Rabaul	7.24	95	⇑P	Pn	19 26 45.4	+1.5
RABL	Rabaul	7.24	95	P	Pn	19 26 49.9	+6.0
SRPI	Serui, Papua	8.84	281	P	Pn	19 27 06.1	+0.3
	0.6nm36µm3µm107nm,0.7s						
BAKI	Biak	9.12	285	P	Pn	19 27 14.2	+4.5
	1.4nm8µm344nm,1.1s						
COEN	Coen	10.51	189	Pn	Pn	19 27 30.5	+1.8
COEN	Coen	10.51	189	⇓P	Pn	19 27 32.7	+4.0
COEN	Coen	10.51	189	P	Pn	19 27 33.6	+4.9
SIJI	Sorong	13.91	281	Pn	Pn	19 28 13.9	-1.3
	1.1nm,0.3s,baz=79,slow=9.9,SNR=13						
SIJI				LR	LR	19 34 28.9	
	comp=Z,25µm,20.1s,baz=100,slow=42						
SWI	Sorong	13.92	281	P	Pn	19 28 17.4	+2.1
	32µm5µm171nm,1.2s						
SAUI	Saumlaki	14.27	251	Pn	Pn	19 28 13.5	-6.7
SAUI	Saumlaki	14.27	251	P	P	19 28 33.2	+5.9
SAUI	Saumlaki	14.27	251	P	Pn	19 28 20.8	+0.7
MTSU	Mount Surprise	14.53	182	P	Pn	19 28 25.3	+1.6
	baz=14,SNR=26						
MTSU	Mount Surprise	14.53	182	P	P	19 28 29.1	-1.2
KDU	Kakadu	15.32	233	P	Pn	19 28 33.5	-0.9
	baz=15,SNR=12						
KDU	Kakadu	15.32	233	⇓P	Pn	19 28 31.3	-3.1
KDU	Kakadu	15.32	233	P	Pn	19 28 34.4	+0.1
MSAI	Masohi	15.98	270	P	P	19 28 53.7	+7.3
HNR	Honiara	16.02	112	Pn	P	19 28 46.0	-0.9
	12nm,0.3s,baz=248,slow=9.0,SNR=3.6						
HNR				Sn	S	19 31 48.4	-6.1
	4.0nm,0.3s,baz=280,slow=23,SNR=1.0						
HNR				LR	LR	19 34 05.0	
	comp=Z,49µm,20.2s,baz=276,slow=34						
HNR	Honiara	16.02	112	P	Pn	19 28 41.5	-2.0
HNR				pmax	pmax		
	comp=Z,2µm,1.1s						
HNR	Honiara	16.02	112	P	Pn	19 28 41.5	-2.0
HNR	Honiara	16.02	112	⇑P	P	19 28 46.0	-0.9
HNR	Honiara	16.02	112	P	P	19 28 51.8	+5.0
	comp=Z,2µm,1.0s						
MTN	Manton Dam	16.49	235	P	Pn	19 28 48.3	-1.1
	baz=16,SNR=21						
MTN	Manton Dam	16.49	235	P	Pn	19 28 48.5	-1.0
MTN	Manton Dam	16.49	235	⇓P	Pn	19 28 46.1	-3.4
MTN	Manton Dam	16.49	235	P	Pn	19 28 49.6	+0.2
CTA	Charters Tower	16.51	176	Pn	Pn	19 28 48.9	-0.8
	comp=Z,0.1nm,0.3s,baz=66,slow=8.5,SNR=3.8						
CTA				LR	LR	19 35 25.6	
	comp=Z,70µm,21.3s,baz=358,slow=38						
CTA	Charters Tower	16.51	176	P	P	19 28 56.0	+3.8
AAI	Ambon	16.71	269	P	P	19 28 53.7	-0.8
	comp=Z,14µmcomp=Z,4µmcomp=Z,174nm,1.0s						
PATS	Pohnpei	16.86	52	P	P	19 28 56.9	+0.7
	baz=17,SNR=22						
PATS	Pohnpei	16.86	52		Pn	19 28 53.7	-0.4
GUMO	Guam	17.01	360	Pn	Pn	19 28 55.5	-0.5
	comp=Z,2.6nm,0.3s,baz=192,slow=20,SNR=1.6						
GUMO				LR	LR	19 34 45.8	
	comp=Z,19µm,18.0s,baz=184,slow=35						
GUMO	Guam	17.01	360	P	Pn	19 28 54.3	-1.7
GUMO				pmax	pmax		
	comp=Z,757nm,1.4s						
GUMO	Guam	17.01	360		Pn	19 28 54.3	-1.7
GUMO				IAmb	IAmb	19 29 52.5	
	comp=Z,757nm,1.4s						
GUMO	Guam	17.01	360	P	P	19 29 04.6	+6.9
LBMI	Labuha	17.66	279	P	P	19 29 05.7	+0.7
	comp=Z,17µmcomp=Z,9µmcomp=Z,428nm,1.8s						
QIS	Mount Isa	17.70	197	P	P	19 29 05.6	+0.1
	baz=18,SNR=17						
QIS	Mount Isa	17.70	197	P	P	19 29 07.0	+1.5
TNTI	Ternate	18.07	283	P	Pn	19 29 06.8	-2.4
TNTI	Ternate	18.07	283	⇑P	Pn	19 29 06.8	-2.4
TNTI	Ternate	18.07	283	P	P	19 29 13.0	+3.4
	comp=Z,14µmcomp=Z,6µmcomp=Z,217nm,1.5s						
TNTI	Ternate	18.07	283	P	P	19 29 13.6	+4.0
SANI	Sanana	18.98	274	P	P	19 29 19.7	+0.1
	comp=Z,16µmcomp=Z,7µmcomp=Z,131nm,1.6s						
SANI	Sanana	18.98	274	P	Pn	19 29 21.7	+1.4
WB0	Warramunga Arr	19.14	212	P	P	19 29 21.2	-0.1
WR0	Warramunga Arr	19.22	211	P	P	19 29 20.3	-1.9
WR0				IAmb	IAmb	19 29 27.6	
	comp=Z,548nm,1.4s						
WRAB	Tennant Creek	19.30	212	deP	P	19 29 22.1	-0.9
WRAB	Tennant Creek	19.30	212	P	P	19 29 17.7	-5.3
WRAB				IAmb	IAmb	19 29 29.2	
	comp=Z,453nm,1.4s						
WRAB	Tennant Creek	19.30	212	⇓P	P	19 29 22.0	-1.1
WRAB	Tennant Creek	19.30	212	P	P	19 29 23.5	+0.5
WB2	Warramunga Arr	19.31	212	P	P	19 29 21.8	-1.3
WB2				IAmb	IAmb	19 29 29.3	
	comp=Z,512nm,1.4s						
WRA	Warramunga Arr	19.31	212	P	P	19 29 22.9	-0.4
	comp=Z,2.4nm,0.3s,baz=30,slow=10,SNR=122						
WRA				LR	LR	19 37 54.1	
	comp=Z,245µm,18.0s,baz=32,slow=40						
WRA	Warramunga Arr	19.31	212	i P	P	19 29 22.8	-0.4
WRA				pmax	pmax		
	comp=Z,78nm,0.9s						
WRA	Warramunga Arr	19.31	212	P	P	19 29 19.8	-3.4
KNRA	Kununurra	19.98	232	P	P	19 29 29.3	-1.1
	baz=20,SNR=196						
KNRA	Kununurra	19.98	232	P	P	19 29 26.9	-3.5
KNRA				IAmb	IAmb	19 29 42.5	
	comp=Z,308nm,1.2s						
KNRA	Kununurra	19.98	232	P	P	19 29 30.0	-0.4
RK1H	Rockhampton Ha	20.46	165	P	Pn	19 29 40.0	+2.2
	comp=Z,211nm,1.2s						
KMSI	Cibinong	21.34	281	P	P	19 29 44.4	-0.8
	comp=Z,574nmcomp=Z,8µmcomp=Z,881nm,1.2s						
BIPH	Bislig	21.88	302	⇑iP	P	19 29 48.0	-3.0
DAV	Davao City (W)	22.00	299	P	P	19 29 52.5	+0.1
	comp=Z,132nm,0.3s,baz=84,slow=9.2,SNR=1.7						
DAV				LR	LR	19 38 06.1	
	comp=Z,12µm,19.1s,baz=110,slow=36						
DAV	Davao City (W)	22.00	299	P	P	19 29 50.6	-1.8
DAV				IAmb	IAmb	19 30 32.0	
	comp=Z,427nm,1.1s						
DAV	Davao City (W)	22.00	299	P	P	19 29 49.6	-2.7
DAV				P	P	19 29 49.6	-2.7
DAV				S	S	19 33 59.1	+4.3
DAV				S	S	19 33 59.1	+4.3
BATI	Baumata	22.13	251	P	P	19 29 52.4	-1.4
	comp=Z,178nm,0.8s,baz=157,slow=1.6,SNR=48						
BATI	Baumata	22.13	251	P	P	19 29 53.9	+0.2
	comp=Z,17µmcomp=Z,5µmcomp=Z,242nm,0.8s						
LUWI	Luwuk	22.28	276	P	P	19 29 54.1	-1.2
LUWI	Luwuk	22.28	276	⇑P	P	19 29 54.7	-0.7
LUWI	Luwuk	22.28	276	P	P	19 29 58.4	+3.0
	comp=Z,14µmcomp=Z,11µmcomp=Z,419nm,1.3s						
LUWI	Luwuk	22.28	276	P	P	19 29 59.2	+3.8
GTOI	Gorontalo	22.30	280	P	P	19 29 56.5	+0.9
	comp=Z,6µmcomp=Z,3µmcomp=Z,261nm,1.4s						
BBSI	Bau Bau	22.38	264	P	P	19 30 00.6	+4.2
	comp=Z,490nmcomp=Z,46nm,1.2s						
KCP	Kidapawan	22.40	298	⇓iP	P	19 29 59.5	+2.7
EIDS	Eidsvold	22.51	165	P	P	19 30 00.5	+2.9
	baz=23,SNR=16						
EIDS	Eidsvold	22.51	165	P	P	19 29 57.4	-0.2
EIDS				IAmb	IAmb	19 30 11.4	
	comp=Z,212nm,1.1s						
EIDS	Eidsvold	22.51	165	⇓P	P	19 30 00.6	+2.9
EIDS	Eidsvold	22.51	165	P	P	19 30 01.7	+4.0
AS31	Alice Springs	22.68	207	P	P	19 29 59.3	-0.3
ASAR	Alice Springs	22.68	207	P	P	19 29 59.5	-0.1
	comp=Z,282nm,1.1s,baz=35,slow=9.6,SNR=227						
ASAR				LR	LR	19 39 51.2	
	comp=Z,163µm,18.4s,baz=40,slow=40						
ASAR	Alice Springs	22.68	207	P	P	19 29 57.9	-1.7
ASAR	Alice Springs	22.68	207	P	P	19 29 57.9	-1.7
QLP	Quilpie	22.93	182	P	P	19 30 04.3	+2.1
	baz=23,SNR=66						
QLP	Quilpie	22.93	182	⇑P	P	19 30 04.2	+2.1
QLP	Quilpie	22.93	182	P	P	19 30 05.1	+2.9
RMQ	Roma	23.12	171	P	P	19 30 07.1	+3.0
	baz=23,SNR=95						
RMQ	Roma	23.12	171	P	P	19 30 10.6	+6.5
MMRI	Maumere	23.13	256	P	P	19 30 00.5	-3.8
MMRI				IAmb	IAmb	19 30 54.7	
	comp=Z,157nm,1.0s						
MMRI	Maumere	23.13	256	⇓P	P	19 30 01.0	-3.3
MMRI	Maumere	23.13	256	P	P	19 30 02.5	-1.8
	comp=Z,16µmcomp=Z,4µmcomp=Z,132nm,0.9s						
MMRI	Maumere	23.13	256	P	P	19 30 04.1	-0.2
CTBH	Cotabato--PC H	23.25	297	⇑iP	P	19 30 06.3	+0.8
MRSI	Marisa	23.32	279	P	P	19 30 06.9	+0.6
	comp=Z,15µmcomp=Z,5µmcomp=Z,306nm,1.2s						
APSI	Ampana	23.41	276	P	P	19 30 07.7	+0.5
	comp=Z,11µmcomp=Z,9µmcomp=Z,357nm,1.6s						
FITZ	Fitzroy Crossi	23.81	231	P	P	19 30 08.9	-2.1
	comp=Z,154nm,0.7s,baz=52,slow=8.9,SNR=195						
FITZ				LR	LR	19 40 47.1	
	comp=Z,22µm,19.0s,baz=54,slow=40						
FITZ	Fitzroy Crossi	23.81	231	P	P	19 30 06.8	-4.1
INKA	Innaminka	24.41	189	P	P	19 30 19.0	+2.6
BSSI	Bau Bau, Buton	24.49	263	P	P	19 30 18.8	+1.4
	comp=Z,8µmcomp=Z,10µmcomp=Z,132nm,1.1s						
TOLI2	Tolitoli	24.58	280	P	P	19 30 15.3	-2.8
TOLI2				IAmb	IAmb	19 30 34.6	
	comp=Z,290nm,1.1s						
TOLI2	Tolitoli	24.58	280	P	P	19 30 18.6	+0.4
TBP	Tagbilaran	24.77	302	⇑iP	P	19 30 18.3	-1.5
BNSI	Bone	24.78	267	P	P	19 30 21.7	+1.7
	comp=Z,11µmcomp=Z,192nm,1.2s						
BKSI	Bulukumba	24.80	265	P	P	19 30 21.3	+1.1
	comp=Z,9µmcomp=Z,5µmcomp=Z,180nm,1.1s						
SANVU	Saraoutou	24.92	120	P	P	19 30 19.7	-1.5
SANVU				IAmb	IAmb	19 30 59.5	
	comp=Z,247nm,1.2s						
SANVU	Saraoutou	24.92	120	⇑P	P	19 30 22.5	+1.3
SANVU	Saraoutou	24.92	120	P	P	19 30 27.4	+6.2
BASI	Baing, Sumba	25.07	253	P	P	19 30 21.8	-0.8
	comp=Z,9µmcomp=Z,10µmcomp=Z,943nm,1.3s						
TTSI	Tana Toraja	25.08	270	P	P	19 30 27.7	+5.0
	comp=Z,8µmcomp=Z,7µmcomp=Z,212nm,2.4s						
SPSI	Sidrap Palu	25.12	268	P	P	19 30 24.2	+1.2
	comp=Z,9µmcomp=Z,5µmcomp=Z,122nm,1.9s						
SNPH	Sibulan	25.12	301	eP	P	19 30 24.2	+1.1
KAPI	Kappang	25.16	266	deP	P	19 30 23.6	+0.2
KAPI				pmax	pmax		
	comp=Z,158nm,1.9s						
KAPI	Kappang	25.16	266	P	P	19 30 22.0	-1.4
KAPI				IAmb	IAmb	19 30 54.9	
	comp=Z,112nm,1.1s						
KAPI	Kappang	25.16	266	P	P	19 30 24.0	+0.6
KAPI				P	P	19 30 24.0	+0.6
KAPI				S	S	19 34 52.9	+4.9
KAPI				S	S	19 34 52.9	+4.9
KAPI	Kappang	25.16	266	⇓P	P	19 30 24.3	+0.9
KAPI	Kappang	25.16	266	P	P	19 30 29.8	+6.4
MPSI	Mapaga	25.32	278	P	P	19 30 24.0	-0.8
	comp=Z,11µmcomp=Z,3µmcomp=Z,122nm,1.4s						
KOUNC	Koumac, New Ca	25.33	133	P	P	19 30 22.2	-2.6
KOUNC				IAmb	IAmb	19 31 12.8	
	comp=Z,331nm,1.7s						
KOUNC	Koumac, New Ca	25.33	133	⇑P	P	19 30 26.7	+1.9
KOUNC	Koumac, New Ca	25.33	133	P	P	19 30 30.0	+5.1
OOD	Oodnadatta	25.69	199	P	P	19 30 29.2	+1.1
KWAJ	Kwajalein Atol	25.71	61	P	P	19 30 24.4	-4.0
KWAJ				pmax	pmax		
	comp=Z,965nm,1.4s						
KWAJ				MLR	MLR		
	comp=Z,58µm,20.0s						
KWAJ	Kwajalein Atol	25.71	61	P	P	19 30 24.4	-4.0
KWAJ	Kwajalein Atol	25.71	61	IAMs_20	IAMs_20	19 38 25.0	
	comp=Z,58µm,20.0s						
WBSI	Waikabubak, Su	26.08	255	P	P	19 30 32.3	+0.5
	comp=Z,4µmcomp=Z,178nm,1.1s						
RCP	Roxas	26.68	304	⇑eP	P	19 30 37.6	+0.4
WRKA	Warakurna	26.72	215	P	P	19 30 37.1	-0.3
	baz=27,SNR=266						
WRKA	Warakurna	26.72	215	⇓P	P	19 30 36.0	-1.5
WRKA	Warakurna	26.72	215	P	P	19 30 38.0	+0.5
ARMA	Armidale	27.48	167	P	P	19 30 47.0	+2.6
	baz=28,SNR=9.3						
ARMA	Armidale	27.48	167	P	P	19 30 41.8	-2.6
ARMA				IAmb	IAmb	19 31 17.7	
	comp=Z,134nm,1.6s						
ARMA	Armidale	27.48	167	⇑P	P	19 30 50.7	+6.3
ARMA	Armidale	27.48	167	P	P	19 30 52.3	+7.9
PLAI	Plampang	27.50	258	P	P	19 30 42.9	-1.7
	comp=Z,7µmcomp=Z,1µmcomp=Z,84nm,1.5s						
PLAI	Plampang	27.50	258	P	P	19 30 44.4	-0.2
LCRK	Leigh Creek	27.52	193	P	P	19 30 46.7	+2.2
LIFNC	LIFOU	27.66	130	P	P	19 30 44.9	-1.1
LIFNC				IAMs_20	IAMs_20	19 40 20.2	
	comp=Z,48µm,20.0s						
LIFNC	LIFOU	27.66	130	P	P	19 30 54.7	+8.7
NOUC	Port Laguerre	27.76	133	P	P	19 30 55.2	+8.4
MYLDM	Lahad Datu	27.79	288	P	P	19 30 46.5	-0.6
MYLDM	Lahad Datu	27.79	288	⇑P	P	19 30 47.4	+0.2
DZM	Mont Dzumac	27.84	133	P	P	19 30 50.4	+2.7
	comp=Z,63nm,1.1s,baz=0.0,slow=9.9,SNR=10						
DZM				LR	LR	19 41 16.7	
	comp=Z,34µm,19.1s,baz=310,slow=35						
DZM	Mont Dzumac	27.84	133	eP	P	19 30 51.6	+3.9
	comp=Z,153nm,1.2s						
DZM				eS	S	19 35 34.0	+3.4
	comp=Z,19µm,27.9s						
DZM				eLR	LR	19 37 57.9	
	comp=Z,94µm,25.8s						
DZM	Mont Dzumac	27.84	133	P	P	19 30 46.0	-1.7
DZM				IAmb	IAmb	19 31 33.0	
	comp=Z,122nm,1.3s						
DZM	Mont Dzumac	27.84	133	⇑P	P	19 30 49.6	+1.9
DZM	Mont Dzumac	27.84	133	P	P	19 30 55.4	+7.7
CMSA	Cobar Meteorol	27.87	179	P	P	19 30 50.1	+2.4
	baz=28,SNR=5.3						
CMSA	Cobar Meteorol	27.87	179	P	P	19 30 53.7	+6.0
ONTNC	Ouen Toro	28.00	134	P	P	19 30 46.4	-2.5
ONTNC	Ouen Toro	28.00	134	P	P	19 30 56.7	+7.8
YATNC	Mamie plateau,	28.16	133	P	P	19 30 58.8	+8.4
OUENC	Ouen Island, N	28.35	133	P	P	19 30 49.2	-2.8
OUENC				IAmb	IAmb	19 31 44.2	
	comp=Z,138nm,1.7s						
STKA	Stephens Creek	28.37	186	P	P	19 30 53.3	+1.1
	comp=Z,25nm,0.9s,baz=346,slow=8.5,SNR=19						
STKA				LR	LR	19 44 16.3	
	comp=Z,45µm,18.7s,baz=6.2,slow=41						
STKA	Stephens Creek	28.37	186	P	P	19 30 53.5	+1.3
	baz=28,SNR=16						
STKA	Stephens Creek	28.37	186	deP	P	19 30 52.8	+0.6
STKA	Stephens Creek	28.37	186	P	P	19 30 51.4	-0.8
STKA	Stephens Creek	28.37	186	P	P	19 30 54.3	+2.1
MULG	Mulgathing	28.53	200	P	P	19 30 54.6	+1.0
MARNC	Mare, Loyalty	28.67	130	P	P	19 30 55.5	+0.6
PINNC	Pines Island,	28.91	133	P	P	19 30 58.8	+1.7
LQP	Lukban	29.08	308	⇓eP	P	19 30 56.9	-2.0
PGP	Puerto Galera	29.20	306	⇓eP	P	19 31 02.0	+2.2
TGY	Tagaytay City	29.55	307	P	P	19 31 03.2	+0.3
	comp=Z,222nm,0.6s,baz=102,slow=5.0,SNR=9.5						
TGY				LR	LR	19 41 06.4	
	comp=Z,14µm,21.6s,baz=114,slow=33						
SPMM	Sapulut	29.60	286	P	P	19 31 03.0	-0.3
SRBI	Singaraja	29.91	260	P	P	19 31 06.2	+0.2
	comp=Z,5µmcomp=Z,1µmcomp=Z,37nm,1.2s						
BBKI	Banjar Baru	30.04	269	P	P	19 31 11.0	+3.8
	comp=Z,5µmcomp=Z,43nm,1.4s						
MTKI	Muara Teweh, K	30.12	274	P	P	19 31 12.1	+4.1
	comp=Z,2µmcomp=Z,1µmcomp=Z,15nm,0.9s						
MBWA	Marble Bar	30.13	232	IAMs_20	IAMs_20	19 44 19.7	
	comp=Z,51µm,18.0s						
WHYH	Whyalla	30.15	192	P	P	19 31 11.6	+3.7
	comp=Z,85nm,0.9s						
NAPP	Napperby	30.18	191	P	P	19 31 11.4	+3.2
	comp=Z,109nm,0.9s						
KKM	Kota Kinabalu	30.22	288	P	P	19 31 04.3	-4.6
PSA00	Pilbara Seismi	30.26	232	P	P	19 31 07.5	-1.6
PSA00	Pilbara Seismi	30.26	232	P	P	19 31 07.1	-2.0
PSA00				IAmb	IAmb	19 31 13.6	
	comp=Z,129nm,1.9s						
PSA00	Pilbara Seismi	30.26	232	P	P	19 31 11.2	+2.1
HTT	Hallett	30.27	190	P	P	19 31 10.0	+0.9
	baz=30,SNR=17						
HTT	Hallett	30.27	190	⇓P	P	19 31 10.5	+1.4
HTT	Hallett	30.27	190	P	P	19 31 12.4	+3.3
BBOO	Buckleboo	30.29	195	P	P	19 31 09.9	+0.7
	baz=30,SNR=32						
BBOO	Buckleboo	30.29	195	P	P	19 31 08.4	-0.8
BBOO	Buckleboo	30.29	195	P	P	19 31 10.4	+1.2
JCJ	Chichijima	30.56	355	P	P	19 31 15.1	+3.5
	comp=Z,152nm,0.9s,baz=316,slow=19,SNR=4.5						
JCJ				LR	LR	19 43 15.1	
	comp=Z,15µm,18.6s,baz=170,slow=36						
JCJ	Chichijima	30.56	355	P	P	19 31 09.6	-2.0
H11S3	WAKE ISLAND Hy	30.63	44	T	T	20 02 07.7	
	baz=314,slow=74,SNR=4.3						
H11S2	WAKE ISLAND Hy	30.64	44	T	T	20 02 05.4	
H11S1	WAKE ISLAND Hy	30.65	44	T	T	20 02 07.7	
	baz=132,slow=74,SNR=3.1						
JAGI	Jajag, Banyuwa	30.99	259	P	P	19 31 12.7	-3.0
JAGI	Jajag, Banyuwa	30.99	259	P	P	19 31 14.2	-1.5
	comp=Z,5µmcomp=Z,1µmcomp=Z,34nm,1.1s						
JAGI	Jajag, Banyuwa	30.99	259	P	P	19 31 19.4	+3.7
KMMI	Kalianget	31.03	262	P	P	19 31 17.0	+1.1
	comp=Z,7µmcomp=Z,3µmcomp=Z,46nm,1.3s						
WAKE	Wake Island	31.15	43	P	P	19 31 23.2	+6.3
FORT	Forrest	31.44	209	P	P	19 31 20.3	+1.0
	baz=31,SNR=6.4						
FORT	Forrest	31.44	209	P	P	19 31 17.7	-1.7
FORT	Forrest	31.44	209	⇑P	P	19 31 18.9	-0.4
FORT	Forrest	31.44	209	P	P	19 31 21.4	+2.0
H11N1	WAKE ISLAND Hy	31.61	42	T	T	20 03 24.6	
	baz=225,slow=76,SNR=18						
H11N2	WAKE ISLAND Hy	31.62	42	T	T	20 03 24.6	
	baz=225,slow=76,SNR=30						
H11N3	WAKE ISLAND Hy	31.62	42	T	T	20 03 24.6	
	baz=225,slow=76,SNR=15						
GHSS	Government Hou	31.78	190	P	P	19 31 29.6	+7.3
	comp=Z,120nm,0.8s						
CAN	Canberra	31.86	174	P	P	19 31 23.1	0.0
CAN				pmax	pmax		
	comp=Z,59nm,1.1s						
CAN				MLR	MLR		
	comp=Z,46µm,18.0s						
CAN	Canberra	31.86	174	P	P	19 31 23.1	0.0
CAN				IAMs_20	IAMs_20	19 45 13.8	
	comp=Z,46µm,18.0s						
CAN	Canberra	31.86	174	⇑P	P	19 31 26.8	+3.8
CAN	Canberra	31.86	174	P	P	19 31 26.8	+3.8
CNB	Canberra Magne	31.89	173	P	P	19 31 25.8	+2.4
	baz=32,SNR=5.1						
CNB	Canberra Magne	31.89	173	P	P	19 31 29.9	+6.5
TWOA	Tennyson Woods	31.90	190	P	P	19 31 28.0	+4.7
	comp=Z,70nm,0.9s						
ARPS	Mount Arapiles	33.20	185	P	P	19 31 36.5	+1.8
	baz=33,SNR=6.0						
ARPS	Mount Arapiles	33.20	185	P	P	19 31 38.2	+3.5
PBKI	Pangkalan Bun	33.23	270	P	P	19 31 39.6	+4.3
	comp=Z,2µmcomp=Z,71nm,0.9s						
SBUM	Sibu	33.23	280	P	P	19 31 33.4	-1.9
SBUM	Sibu	33.23	280	⇑P	P	19 31 35.0	-0.4
SBUM	Sibu	33.23	280	P	P	19 31 37.0	+1.7
STKI	Sintang	33.63	275	P	P	19 31 40.5	+1.7
	comp=Z,2µmcomp=Z,34nm,2.5s						
BRAT	Ballarat	33.87	181	P	P	19 31 47.0	+6.5
TOO	Toolangi	33.88	179	P	P	19 31 43.0	+2.2
	baz=34,SNR=6.2						
TOO	Toolangi	33.88	179	P	P	19 31 40.6	-0.2
TOO				pmax	pmax		
	comp=Z,50nm,1.2s						
TOO	Toolangi	33.88	179	P	P	19 31 40.5	-0.2
TOO	Toolangi	33.88	179	P	P	19 31 44.2	+3.5
PCJI	Pacitan	33.89	261	P	P	19 31 40.0	-1.0
	comp=Z,5µmcomp=Z,1µmcomp=Z,54nm,1.1s						
UWJI	Ujung Watu	33.98	264	P	P	19 31 47.3	+5.5
MEEK	Meekatharra	34.10	225	P	P	19 31 42.7	-0.1
	baz=34,SNR=19						
MEEK	Meekatharra	34.10	225	P	P	19 31 43.2	+0.4
JOW	Kunigami	34.21	333	LR	LR	19 42 34.4	
	comp=Z,47µm,21.3s,baz=158,slow=31						
JOW	Kunigami	34.21	333	P	P	19 31 39.4	-4.3
JOW				IAmb	IAmb	19 31 58.6	
	comp=Z,60nm,1.0s						
JOW	Kunigami	34.21	333	⇓P	P	19 31 44.2	+0.6
JOW	Kunigami	34.21	333	P	P	19 31 47.3	+3.7
FUNA	Funafuti	34.42	100	IAMs_20	IAMs_20	19 45 13.5	
	comp=Z,50µm,20.0s						
UGM	Wanagama	34.51	261	P	P	19 31 42.9	-3.6
UGM	Wanagama	34.51	261	P	P	19 31 52.8	+6.4
UGM	Wanagama	34.51	261	P	P	19 31 51.0	+4.6
GEXS	Deakin Univers	34.51	181	P	P	19 31 50.2	+4.1
SMRI	Semarang	34.52	263	P	P	19 32 02.1	+16
KSM	Kuching	34.97	278	P	P	19 31 46.8	-3.6
KSM				IAmb	IAmb	19 32 28.5	
	comp=Z,99nm,1.4s						
KSM	Kuching	34.97	278	P	P	19 31 51.0	+0.6
KSM	Kuching	34.97	278	P	P	19 31 52.1	+1.7
	comp=Z,37nm,1.6s						
TWG	Pinlang	35.05	319	P	P	19 31 48.4	-2.6
YOJ	Yonaguni jima	35.05	324	P	P	19 31 47.2	-3.7
YOJ				pmax	pmax		
	comp=Z,154nm,1.2s						
YOJ	Yonaguni jima	35.05	324	P	P	19 31 47.2	-3.7
YOJ				IAmb	IAmb	19 32 06.1	
	comp=Z,154nm,1.2s						
GIRL	Giralia	35.29	235	P	P	19 31 51.9	-1.1
	baz=35,SNR=6.8						
GIRL	Giralia	35.29	235	P	P	19 31 51.4	-1.7
GIRL	Giralia	35.29	235	P	P	19 31 57.2	+4.2
YULB	Yu-li	35.32	320	P	P	19 31 49.5	-3.7
YULB				IAmb	IAmb	19 32 48.4	
	comp=Z,183nm,1.6s						
YULB				IAMs_20	IAMs_20	19 43 40.3	
	comp=Z,31µm,20.0s						
MSVF	Nonsavu	35.38	116	P	P	19 31 56.3	+2.2
	comp=Z,87nm,1.1s,baz=291,slow=8.4,SNR=9.5						
MSVF				LR	LR	19 45 19.8	
	comp=Z,12µm,19.5s,baz=310,slow=34						
MSVF	Nonsavu	35.38	116	⇑eP	P	19 31 55.3	+1.3
MSVF				pmax	pmax		
	comp=Z,67nm,1.2s						
MSVF	Nonsavu	35.38	116	P	P	19 31 51.1	-2.9
MSVF				IAmb	IAmb	19 32 01.4	
	comp=Z,140nm,1.2s						
MSVF	Nonsavu	35.38	116	⇑P	P	19 31 57.5	+3.5
MSVF	Nonsavu	35.38	116	P	P	19 31 59.1	+5.1
TPUB	Ta-pu	35.68	320	P	P	19 31 52.8	-3.6
TPUB	Ta-pu	35.68	320	P	P	19 31 59.8	+3.4
NACB	Ninganchiao	35.70	322	P	P	19 31 53.5	-3.0
NACB				IAmb	IAmb	19 32 13.5	
	comp=Z,204nm,1.4s						
SSLB	Suanglung	35.82	320	P	P	19 31 53.7	-3.9
SSLB				IAMs_20	IAMs_20	19 43 55.6	
	comp=Z,41µm,19.0s						
SSLB	Suanglung	35.82	320	P	P	19 32 00.5	+2.9
KPJI	Karang Pucung	36.03	262	P	P	19 32 00.0	+0.5
	comp=Z,2µmcomp=Z,62nm,1.1s						
YHNB	Yeheng	36.20	322	P	P	19 31 59.1	-1.8
YHNB				IAMs_20	IAMs_20	19 42 57.5	
	comp=Z,37µm,22.0s						
YHNB	Yeheng	36.20	322	P	P	19 32 04.9	+4.0
TATO	Taipei	36.35	322	P	P	19 32 00.2	-1.9
TATO				IAmb	IAmb	19 32 17.2	
	comp=Z,188nm,1.1s						

TATO Taipei 36.35 322 IAMs_20 IAMs_20 19 44 17.5
comp=Z,34µm,20.0s
TATO Taipei 36.35 322 P **P** **19 31 58.4 -3.6**
TATO P **P** **19 31 58.4 -3.6**
TATO S **S** **19 37 40.5 -2.3**
TATO S **S** **19 37 40.5 -2.3**
CMJI Cimerak 36.54 262 P **P** **19 32 03.7 -0.2**
comp=Z,2µmcomp=Z,776nmcomp=Z,52nm,1.3s
MORW Morawa 37.39 224 P **P** **19 32 10.9 0.0**
baz=37,SNR=25
MORW Morawa 37.39 224 P **P** **19 32 10.9 -0.9**
MORW IAmb IAmb 19 32 13.9
comp=Z,160nm,1.1s
MORW Morawa 37.39 224 ⇑P **P** **19 32 10.9 0.0**
MORW Morawa 37.39 224 P **P** **19 32 10.9 0.0**
JSU Suzuyama 37.47 339 P **P** **19 32 09.0 -2.6**
JSU IAmb IAmb 19 32 39.1
comp=Z,196nm,1.6s
CNJI Cibinong 37.81 263 P **P** **19 32 14.0 -0.7**
comp=Z,3µmcomp=Z,144nm,1.1s
KLBR Kellerberrin 37.85 219 P **P** **19 32 14.1 -0.7**
baz=38,SNR=17
KLBR Kellerberrin 37.85 219 P **P** **19 32 17.0 +2.2**
BLDU Ballidu 37.89 222 P **P** **19 32 14.7 -0.5**
baz=38,SNR=14
BLDU Ballidu 37.89 222 P **P** **19 32 14.5 -0.7**
CBJI Citeko 38.04 264 P **P** 19 32 31.6 +15
DBJI Dramaga 38.15 264 P **P** **19 32 19.6 +2.0**
comp=Z,15nm,0.4s
QZH Quanzhou 38.15 319 ⇑*i*P **P** **19 32 17.0 -0.4**
QZH pP **pP** **19 32 21.4 -0.6**
QZH S **S** **19 38 12.4 +2.2**
QZH pmax pmax
comp=Z,69nm,1.2s
QZH pmax pmax
comp=Z,1µm,4.5s
QZH LR LR
comp=Z,10µm,21.7s
QZH LR LR
comp=Z,10µm,20.0s
QZH LR LR
comp=Z,21µm,25.4s
JMN Monobe 38.50 345 P **P** **19 32 18.9 -1.3**
PPBI Pangkal Pinang 38.77 271 P **P** **19 32 26.7 +3.9**
comp=Z,56nm,1.9s
JNU Nakatsue 38.80 341 P **P** **19 32 21.7 -1.1**
comp=Z,16nm,1.2s,baz=162,slow=9.2,SNR=3.9
JNU LR LR 19 45 46.9
comp=Z,29µm,20.9s,baz=156,slow=32
JNU Nakatsue 38.80 341 P **P** **19 32 18.7 -4.1**
JNU Nakatsue 38.80 341 ⇑P P 19 32 29.3 +6.5
JNU Nakatsue 38.80 341 P P 19 32 27.8 +5.0
NWAO Narrogin (SRO) 39.08 218 IAMs_20 IAMs_20 19 49 12.4
comp=Z,40µm,20.0s
MUN Mundaring 39.10 220 P **P** **19 32 25.1 -0.2**
baz=39,SNR=12
MUN Mundaring 39.10 220 P **P** **19 32 26.8 +1.5**
CGJI Cibinong 39.20 264 P **P** **19 32 26.0 -0.4**
comp=Z,2µmcomp=Z,81nm,1.5s
TAU Tasmania Unive 39.27 177 P **P** **19 32 23.9 -2.6**
TAU pmax pmax
comp=Z,330nm,1.9s
TAU MLR MLR
comp=Z,52µm,19.0s
TAU Tasmania Unive 39.27 177 P **P** **19 32 23.9 -2.6**
TAU IAmb IAmb 19 33 47.1
comp=Z,330nm,1.9s
MTKN Mount Kenneth 39.35 221 P P 19 32 32.2 +4.8
comp=Z,135nm,0.8s
DLV T Lat 39.36 294 P **P** **19 32 24.1 -3.8**
DLV T Lat 39.36 294 P **P** **19 32 29.9 +2.0**
INU Inuyama 39.38 350 P **P** **19 32 24.2 -3.4**
INU Inuyama 39.38 350 P P 19 32 33.0 +5.5
HKPS Hong Kong Po S 39.55 312 P **P** **19 32 25.6 -3.6**
HKPS IAmb IAmb 19 32 35.6
comp=Z,178nm,1.2s
XMIS Christmas Isla 39.56 258 P **P** **19 32 26.0 -3.4**
JGF Kuroka 39.57 350 P **P** **19 32 27.8 -1.4**
JYT Yasato 39.80 354 P **P** **19 32 28.0 -3.0**
JYT IAmb IAmb 19 32 51.2
comp=Z,167nm,1.3s
JHS Saijyo 39.90 345 P **P** **19 32 28.6 -3.4**
JHS IAmb IAmb 19 33 20.5
comp=Z,190nm,1.7s
JHS Saijyo 39.90 345 ⇑P **P** **19 32 34.2 +2.3**
PMBI Palembang 40.10 270 P **P** **19 32 31.7 -2.2**
PMBI IAmb IAmb 19 32 42.9
comp=Z,211nm,1.3s
KLSI 40.12 267 P **P** **19 32 35.8 +1.8**
comp=Z,1µmcomp=Z,773nmcomp=Z,19nm,2.2s
KASI Kota Agung 40.35 266 P **P** **19 32 35.5 -0.5**
comp=Z,1µmcomp=Z,79nm,1.0s
MJAR Matsushiro Arr 40.35 352 P **P** **19 32 35.4 -0.3**
comp=Z,11nm,0.8s,baz=248,slow=12,SNR=14
MJAR LR LR 19 47 23.2
comp=Z,7µm,20.6s,baz=162,slow=33
MJAR Matsushiro Arr 40.35 352 P **P** **19 32 32.6 -3.1**
MJAR pmax pmax
comp=Z,171nm,1.7s
MJAR Matsushiro Arr 40.35 352 P **P** **19 32 32.6 -3.1**
MJB9 Matsu-Tunnel 40.36 352 P **P** **19 32 32.6 -3.1**
MJB9 IAmb IAmb 19 32 59.3
comp=Z,142nm,1.3s
RKGY Rocky Gully 40.38 217 P **P** **19 32 36.8 +0.9**
baz=40,SNR=4.0
RKGY Rocky Gully 40.38 217 P **P** **19 32 39.1 +3.2**
DSRI Dabo 40.44 273 P P 19 32 44.1 +7.4
JTU Tsushima 40.58 340 P **P** **19 32 33.2 -4.3**
JTU IAmb IAmb 19 32 55.7
comp=Z,240nm,1.8s
LWLI Liwa 40.78 266 P **P** **19 32 41.1 +1.4**
comp=Z,4µmcomp=Z,73nm,0.8s
QIZ Qiongzhong 41.17 304 P **P** **19 32 39.9 -2.7**
QIZ Qiongzhong 41.17 304 P **P** **19 32 42.2 -0.4**
QIZ S **S** **19 38 55.1 -0.5**
QIZ pmax pmax
comp=Z,14nm,1.2s
QIZ pmax pmax
comp=Z,880nm,7.1s
QIZ LR LR
comp=Z,7µm,25.7s
QIZ LR LR
comp=Z,9µm,19.2s
QIZ LR LR
comp=Z,18µm,21.5s
QIZ Qiongzhong 41.17 304 P P 19 32 48.0 +5.4
SSE Sheshan 41.21 328 P **P** **19 32 41.7 -1.1**
SSE S **S** **19 38 56.4 +0.5**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,150nm,3.6s
SSE LR LR
comp=Z,7µm,19.6s
OUZ Omahuta 41.22 143 P **P** **19 32 40.6 -2.2**
OUZ IAmb IAmb 19 32 51.8
comp=Z,151nm,1.1s
OUZ IAMs_20 IAMs_20 19 50 45.6
comp=Z,30µm,18.0s
OUZ Omahuta 41.22 143 ⇑P **P** **19 32 47.2 +4.4**
JMBI JAMBI 41.29 272 P P 19 32 49.6 +5.9
JMM Marumori 41.36 355 P **P** **19 32 40.8 -3.1**
JMM IAmb IAmb 19 32 51.6
comp=Z,174nm,1.3s
JMM Marumori 41.36 355 ⇑P **P** **19 32 46.6 +2.7**
MYKOM Kota Tinggi 41.40 277 P **P** **19 32 41.7 -3.0**
MYKOM Kota Tinggi 41.40 277 P **P** **19 32 46.0 +1.3**
JSD Sado 41.82 352 P **P** **19 32 43.1 -4.5**
JSD IAmb IAmb 19 33 09.1
comp=Z,148nm,1.1s
JSD Sado 41.82 352 ⇑P **P** **19 32 47.9 +0.2**
MNAI Manna 41.88 267 P **P** **19 32 45.3 -3.3**
MNAI IAmb IAmb 19 33 54.8
comp=Z,152nm,1.1s
MASI Maura Aman, Be 42.62 269 P **P** **19 32 56.1 +1.4**
comp=Z,4µmcomp=Z,194nm,1.0s
TJN Taejon 42.96 339 P **P** **19 32 53.7 -3.3**
TJN pmax pmax
comp=Z,231nm,1.3s
TJN Taejon 42.96 339 P **P** **19 32 53.7 -3.3**
TJN IAmb IAmb 19 33 35.6
comp=Z,231nm,1.3s
TJN Taejon 42.96 339 P P 19 33 03.9 +6.9
JRMM Jerantut 43.06 279 P **P** **19 32 58.0 -0.2**
NJ2 Nanjing 43.20 327 ⇑*i*P **P** **19 32 59.3 +0.3**
NJ2 pP **pP** **19 33 03.7 +0.1**
NJ2 sP **sP** **19 33 06.6 +1.2**
NJ2 PP **PP** **19 34 38.0 -1.5**
NJ2 S **S** **19 39 33.1 +7.9**
NJ2 sS **sS** **19 39 35.7 +3.0**
NJ2 pmax pmax
comp=Z,97nm,1.1s
NJ2 pmax pmax
comp=Z,2µm,5.2s
NJ2 LR LR
comp=Z,19µm,22.6s
NJ2 LR LR
comp=Z,19µm,18.6s
NJ2 LR LR
comp=Z,20µm,23.5s
KNTN Kanton 43.28 90 P **P** **19 32 57.2 -2.8**
KNTN Kanton 43.28 90 P P 19 33 06.5 +6.5
UBPT Khong Chiam 43.31 297 P **P** **19 32 57.9 -2.3**
KRJI Kerinci 43.44 271 P **P** **19 33 02.7 +1.3**
comp=Z,4µmcomp=Z,6µmcomp=Z,360nm,1.0s
RAO Raoul Island 43.53 130 LR LR 19 48 57.7
comp=Z,4µm,19.6s,baz=290,slow=33
KSRS Korea Array 43.73 340 P **P** **19 33 03.1 -0.1**
comp=Z,7.6nm,0.9s,baz=161,slow=9.0,SNR=33
KSRS PP PcP 19 34 58.1 +8.0
comp=Z,9.8nm,1.2s,baz=161,slow=6.0,SNR=4.5
KSRS LR LR 19 48 17.2
comp=Z,28µm,21.7s,baz=150,slow=32
KSAR Wonju Array Be 43.74 340 P P 19 32 58.3 -4.9
KSAR Wonju Array Be 43.74 340 P P 19 32 58.3 -5.0
KS19 Wonju Array Si 43.80 340 P **P** **19 32 59.3 -4.4**
KS19 IAmb IAmb 19 34 11.2
comp=Z,178nm,1.9s
AFI Afiamalu 43.94 106 LR LR 19 48 59.1
comp=Z,9µm,19.2s,baz=272,slow=33
AFI Afiamalu 43.94 106 P **P** **19 33 01.7 -3.6**
AFI pmax pmax
comp=Z,162nm,1.5s
AFI Afiamalu 43.94 106 P **P** **19 33 01.7 -3.6**
AFI IAmb IAmb 19 33 48.2
comp=Z,162nm,1.4s
BKNI Bangkinang 44.04 274 P **P** **19 33 02.2 -3.8**
BKNI IAmb IAmb 19 33 14.3
comp=Z,209nm,1.2s
BKNI Bangkinang 44.04 274 P **P** **19 33 07.8 +1.7**
comp=Z,3µmcomp=Z,3µmcomp=Z,140nm,0.9s
BKNI Bangkinang 44.04 274 P **P** **19 33 07.8 +1.7**
GULI GuiLin 44.11 312 ⇑P **P** **19 33 08.5 +2.1**
GULI S **S** **19 39 45.4 +6.6**
GULI pmax pmax
comp=Z,70nm,1.7s
GULI LR LR
comp=Z,10µm,18.4s
GULI LR LR
comp=Z,6µm,21.7s
GULI LR LR
comp=Z,11µm,22.7s
INCN Inchon 44.21 339 P **P** **19 33 03.2 -3.9**
INCN pmax pmax
comp=Z,58nm,1.2s
INCN MLR MLR
comp=Z,18µm,18.0s
INCN Inchon 44.21 339 P **P** **19 33 03.2 -3.9**
INCN Inchon 44.21 339 P **P** **19 33 06.7 -0.3**
INCN P **P** **19 33 06.7 -0.3**
INCN P **P** **19 33 06.7 -0.3**
INCN S **S** **19 39 39.2 -0.7**
INCN S **S** **19 39 39.2 -0.7**
INCN S **S** **19 39 39.2 -0.7**
INCN Inchon 44.21 339 P P 19 33 14.2 +7.1
HIZ Hauiti 44.23 146 P **P** **19 33 03.2 -4.0**
HIZ IAmb IAmb 19 33 16.6
comp=Z,147nm,1.1s
HIZ IAMs_20 IAMs_20 19 51 13.3
comp=Z,34µm,20.0s
JTM Tenmabayashi 44.24 356 P P 19 33 01.2 -6.0
JTM Tenmabayashi 44.24 356 ⇓P P 19 33 12.3 +5.1
IPM Ipoh 44.59 280 P P 19 33 05.0 -5.5
IPM Ipoh 44.59 280 P **P** **19 33 11.0 +0.5**
IPM Ipoh 44.59 280 P **P** **19 33 13.7 +3.2**
comp=Z,34nm,1.4s
PPI Padang Panjang 44.61 273 P **P** **19 33 09.6 -1.1**
comp=Z,672nmcomp=Z,76nm,1.1s
QRZ Quartz Range 44.67 150 P **P** **19 33 10.1 -0.7**
QRZ IAMs_20 IAMs_20 19 52 07.2
comp=Z,27µm,19.0s
WHN Wuhan 44.73 321 ⇓P **P** **19 33 12.6 +1.3**
WHN S **S** **19 39 53.6 +5.9**
WHN pmax pmax
comp=Z,170nm,1.3s
WHN LR LR
comp=Z,13µm,13.1s
WHN LR LR
comp=Z,8µm,12.1s
WHN LR LR
comp=Z,54µm,30.5s
KULM Kulim 45.09 281 P P 19 33 09.1 -5.5
KULM IAmb IAmb 19 33 30.9
comp=Z,82nm,1.4s
KULM Kulim 45.09 281 ⇑P **P** **19 33 13.4 -1.2**
KULM Kulim 45.09 281 P **P** **19 33 15.0 +0.5**
URZ Urewera 45.35 144 P **P** **19 33 12.9 -3.2**
URZ IAmb IAmb 19 33 25.3
comp=Z,78nm,1.2s
URZ IAMs_20 IAMs_20 19 50 13.0
comp=Z,20µm,20.0s
URZ Urewera 45.35 144 ⇑P **P** **19 33 17.8 +1.7**
ERM Erimo 45.36 358 ⇑*e*P **P** **19 33 15.4 -0.7**
ERM pmax pmax
comp=Z,138nm,1.3s
ERM Erimo 45.36 358 P P 19 33 10.4 -5.7
ERM IAmb IAmb 19 33 39.7
comp=Z,147nm,1.3s
ERM Erimo 45.36 358 P P 19 33 22.7 +6.6
NNZ Nelson 45.39 150 P **P** **19 33 12.1 -4.4**
NNZ IAMs_20 IAMs_20 19 52 46.2
comp=Z,22µm,18.0s
MNSI Mandailing Nat 45.53 275 P **P** **19 33 18.7 +0.7**
comp=Z,2µmcomp=Z,66nm,1.6s
THZ Tophouse 45.57 151 P **P** **19 33 15.3 -2.7**
THZ IAMs_20 IAMs_20 19 52 33.8
comp=Z,24µm,21.0s
BKZ Black Stump Fm 45.60 145 P **P** **19 33 15.8 -2.4**
BKZ IAmb IAmb 19 33 26.4
comp=Z,70nm,0.9s
BKZ IAMs_20 IAMs_20 19 52 30.6
comp=Z,27µm,20.0s
BKZ Black Stump Fm 45.60 145 P P 19 33 25.4 +7.2
MXZ Matakaoa Point 45.61 142 IAMs_20 IAMs_20 19 49 33.9
comp=Z,32µm,22.0s
TUWZ Tuamarina 45.84 149 P **P** **19 33 19.2 -0.7**
SISI Saibi 45.85 272 P **P** **19 33 21.6 +1.1**
comp=Z,2µmcomp=Z,66nm,1.4s
BSWZ Blackbirch Sta 46.01 150 P **P** **19 33 19.3 -2.0**
LTZ Lake Taylor 46.04 152 P P 19 33 16.4 -5.2
LTZ IAmb IAmb 19 33 30.8
comp=Z,93nm,1.1s
LTZ IAMs_20 IAMs_20 19 53 04.3
comp=Z,25µm,18.0s
DCZ Deep Cove 46.08 158 P **P** **19 33 18.0 -3.7**
DCZ IAmb IAmb 19 33 36.5
comp=Z,86nm,1.2s
SNZO South Karori 46.14 149 P **P** **19 33 18.9 -3.5**
SNZO IAmb IAmb 19 33 31.0
comp=Z,83nm,1.1s
SNZO South Karori 46.14 149 P **P** **19 33 26.8 +4.5**
CMWZ Cape Campbell 46.21 150 P **P** **19 33 19.9 -3.0**
RPZ Rata Peaks 46.22 154 LR LR 19 50 59.2
comp=Z,34µm,21.6s,baz=317,slow=34
RPZ Rata Peaks 46.22 154 P **P** **19 33 19.1 -3.8**
RPZ IAmb IAmb 19 33 31.5
comp=Z,142nm,1.2s
RPZ IAMs_20 IAMs_20 19 50 26.0
comp=Z,42µm,22.0s
WKZ Wanaka 46.26 156 P **P** **19 33 19.2 -4.1**
JEW Eniwo 46.26 356 P P 19 33 18.0 -5.3
JEW Eniwo 46.26 356 ⇑P P 19 33 29.1 +5.9
BHW Baring Head 46.30 149 P P 19 33 17.9 -5.7
OXZ Oxford 46.35 153 P **P** **19 33 21.0 -3.0**
OXZ IAmb IAmb 19 33 35.4
comp=Z,52nm,1.1s
OXZ IAMs_20 IAMs_20 19 50 30.6
comp=Z,23µm,22.0s
MLZ Mavora Lakes 46.36 157 P **P** **19 33 22.1 -2.0**
MLZ IAmb IAmb 19 33 41.9
comp=Z,117nm,1.3s
KHZ Kahutara 46.37 151 P **P** **19 33 22.7 -1.4**
KHZ IAMs_20 IAMs_20 19 53 22.0
comp=Z,29µm,20.0s
LBZ Lake Benmore 46.38 155 P **P** **19 33 22.2 -2.0**
LBZ IAmb IAmb 19 33 31.4
comp=Z,100nm,1.2s
LBZ IAMs_20 IAMs_20 19 49 53.3
comp=Z,27µm,21.0s
PSI Prapat 46.41 277 LR LR 19 55 52.5
comp=Z,4µm,21.6s,baz=122,slow=40
MSWZ Moikau Station 46.50 148 P **P** **19 33 23.4 -1.8**
PYZ Puysegur Point 46.51 159 P **P** **19 33 23.4 -1.8**
PYZ IAmb IAmb 19 33 46.8
comp=Z,89nm,1.2s
BFZ Birch Farm 46.51 147 P **P** **19 33 22.2 -3.1**
BFZ Birch Farm 46.51 147 P P 19 33 30.3 +5.0
PLWZ Palliser 46.61 149 P **P** **19 33 25.0 -1.2**
WHZ Wether Hill Ro 46.73 158 P **P** **19 33 25.2 -1.8**
WHZ IAmb IAmb 19 33 47.2
comp=Z,71nm,1.3s
SRIT Nakonsritamara 46.78 285 P **P** **19 33 24.9 -2.9**
SRIT IAmb IAmb 19 34 14.0
comp=Z,163nm,1.4s
TSI Tuntungan 46.87 278 P **P** **19 33 31.4 +2.9**
comp=Z,4µmcomp=Z,3µmcomp=Z,76nm,1.3s
MQZ McQueen's Vall 46.93 153 P **P** **19 33 26.5 -2.0**
MQZ IAmb IAmb 19 33 35.7
comp=Z,123nm,1.2s
ODZ Otahua Downs 47.10 155 P **P** **19 33 27.8 -2.1**
ODZ IAmb IAmb 19 34 45.6
comp=Z,83nm,1.6s
TIA Tai'an 47.31 329 P **P** **19 33 31.8 +0.2**
TIA PP **PP** **19 35 20.6 -2.3**
TIA S **S** **19 40 28.6 +3.9**
TIA pmax pmax
comp=Z,130nm,2.3s
TIA LR LR
comp=Z,14µm,19.9s
TIA LR LR
comp=Z,12µm,20.6s
TIA LR LR
comp=Z,26µm,19.2s
YUK Yuzh-Kuril'sk 47.35 1 *e*P **P** **19 33 32.9 +1.2**
YUK *e* 19 34 58.3
YUK *e* 19 35 19.5
YUK *e*PPP PPP 19 36 05.1
YUK *i* S **S** **19 40 27.9 +3.0**
YUK *e*SSS SSS 19 44 51.8
YUK pmax pmax
comp=Z,722nm,3.4s
YUK pmax pmax
comp=N,189nm,1.2s
YUK pmax pmax
comp=Z,378nm,1.2s
YUK pmax pmax
comp=E,196nm,0.9s
YUK MLR MLR
comp=Z,5µm,18.0s
DL2 Dalian 47.39 335 P **P** **19 33 32.1 0.0**
DL2 S **S** **19 40 23.2 -2.5**
DL2 pmax pmax
comp=Z,30nm,1.5s
DL2 pmax pmax
comp=Z,1µm,9.3s
DL2 LR LR
comp=Z,16µm,20.8s
DL2 LR LR
comp=Z,8µm,23.3s
DL2 LR LR
comp=Z,20µm,23.8s
JKA Kamikawa-asahi 47.48 358 P **P** **19 33 29.1 -3.7**
ASAJ Asahikawa 47.48 358 P **P** **19 33 34.1 +1.4**
comp=Z,20nm,0.9s,baz=250,slow=18,SNR=11
ASAJ LR LR 19 53 32.2
comp=Z,5µm,20.1s,baz=174,slow=36
ASAJ Asahikawa 47.48 358 P **P** **19 33 29.1 -3.6**
ASAJ pmax pmax
comp=Z,182nm,1.3s
GYA Guiyang 47.52 311 ⇓*i*P **P** **19 33 35.0 +1.5**
GYA pP pP 19 33 38.5 +0.3
GYA PP **PP** **19 35 25.2 +0.1**
GYA S **S** **19 40 31.5 +3.4**
GYA pmax pmax
comp=Z,39nm,2.0s
GYA pmax pmax
comp=Z,400nm,3.5s
GYA LR LR
comp=Z,3µm,12.3s
GYA LR LR
comp=Z,8µm,20.8s
GYA LR LR
comp=Z,9µm,21.6s
GSI Gunungsitoli 47.58 275 P **P** **19 33 31.2 -2.9**
GSI Gunungsitoli 47.58 275 ⇓P **P** **19 33 33.0 -1.1**
GSI Gunungsitoli 47.58 275 P **P** **19 33 33.4 -0.7**
comp=Z,3µmcomp=Z,2µmcomp=Z,105nm,1.3s
GSI Gunungsitoli 47.58 275 P **P** **19 33 36.2 +2.1**
KCSI Kotacane, Aceh 47.65 278 P **P** **19 33 32.9 -1.8**
comp=Z,2µmcomp=Z,62nm,0.8s
ENH Enshi 47.72 317 P **P** **19 33 32.9 -2.1**
ENH IAmb IAmb 19 33 53.0
comp=Z,144nm,1.5s
ENH IAMs_20 IAMs_20 19 50 07.9
comp=Z,27µm,22.0s
MIDW Midway 48.07 46 P **P** **19 33 33.4 -4.2**
COCO West Island 48.35 257 P **P** **19 33 37.2 -2.8**
COCO pmax pmax
comp=Z,373nm,1.5s
COCO MLR MLR
comp=Z,4µm,20.0s
COCO West Island 48.35 257 P **P** **19 33 37.2 -2.8**
KUR Kuril'sk 48.62 3 *e*P **P** **19 33 37.5 -4.0**
KUR *e* 19 35 03.8
KUR *e*S **S** **19 40 38.2 -4.6**
KUR *e* 19 43 28.4
KUR *e*SS **SS** **19 44 06.5 -6.7**
KUR pmax pmax
comp=Z,542nm,1.4s
KUR pmax pmax
comp=N,264nm,1.6s
KUR pmax pmax
comp=E,88nm,1.4s
KUR MLR MLR
comp=Z,3µm,12.0s
KUR MLR MLR
comp=N,4µm,14.0s
KUR MLR MLR
comp=E,3µm,13.0s
LYN LuoYang 48.66 324 ⇑P **P** **19 33 41.7 -0.3**
LYN S **S** **19 40 37.4 -6.4**
LYN pmax pmax
comp=E,20nm,1.7s
LYN pmax pmax
comp=E,1µm,11.2s
LYN LR LR
comp=E,21µm,19.4s
LYN LR LR
comp=E,8µm,21.2s
LYN LR LR
comp=E,22µm,20.0s
LHMI Lhok Sumawe 48.72 280 P **P** **19 33 38.8 -4.1**
USA0B Ussuriysk Arra 48.91 348 P **P** **19 33 41.2 -2.7**
USA0B pmax pmax
comp=Z,239nm,1.8s
USA0B Ussuriysk Arra 48.91 348 P **P** **19 33 41.1 -2.7**
USRK Ussuriysk Ar. 48.91 348 P **P** **19 33 44.2 +0.4**
comp=Z,11nm,0.7s,baz=169,slow=6.9,SNR=14
USRK LR LR 19 52 53.8
comp=Z,6µm,19.0s,baz=152,slow=34
USRK Ussuriysk Ar. 48.91 348 P **P** **19 33 40.5 -3.4**
USRK Ussuriysk Ar. 48.91 348 P **P** **19 33 40.5 -3.4**
JOHN Johnston Islan 49.27 64 P **P** **19 33 43.5 -3.6**
JOHN Johnston Islan 49.27 64 IAMs_20 IAMs_20 19 51 16.6
comp=Z,24µm,20.0s
JOHN Johnston Islan 49.27 64 P P 19 33 56.4 +9.4
comp=Z,390nm,1.6s
HNS HongShan 49.47 328 ⇑P **P** **19 33 48.1 -0.1**
HNS PcS **PcS** **19 39 10.8 +4.0**
HNS S **S** **19 40 54.6 -0.5**
HNS pmax pmax
comp=Z,39nm,0.8s
HNS LR LR
comp=Z,7µm,24.5s
HNS LR LR
comp=Z,18µm,22.9s

HNS			LR	LR		
	comp=Z,24µm,22.9s					
MDJ	Mudanjiang	49.86 346	P	P	19 33 51.4	+0.3
MDJ			pP	pP	19 33 55.8	+0.2
MDJ			sP	pwP	19 33 58.5	+0.5
MDJ			S	S	19 41 02.8	+2.5
MDJ			pmax	pmax		
	comp=Z,20nm,1.3s					
MDJ			pmax	pmax		
	comp=Z,1µm,8.3s					
MDJ			LR	LR		
	comp=Z,8µm,24.7s					
MDJ			LR	LR		
	comp=Z,11µm,20.4s					
MDJ			LR	LR		
	comp=Z,20µm,25.0s					
MDJ	Mudanjiang	49.86 346	P	P	19 33 57.1	+6.0
KMI	Kunming	49.87 307	⇑P	P	19 33 53.2	+1.4
KMI			sP	sP	19 34 00.9	+2.6
KMI			PcP	PcP	19 35 15.8	+3.5
KMI			S	S	19 41 02.4	+0.8
KMI			pmax	pmax		
	comp=Z,28nm,1.7s					
KMI			pmax	pmax		
	comp=Z,640nm,5.3s					
KMI			LR	LR		
	comp=Z,7µm,22.9s					
KMI			LR	LR		
	comp=Z,6µm,24.0s					
KMI			LR	LR		
	comp=Z,13µm,25.1s					
CN2	Changchun	50.27 342	eP	P	19 34 02.1	+7.9
CN2			PcP	PcP	19 35 19.4	+6.4
CN2			eS	S	19 41 11.8	+5.7
CN2			pmax	pmax		
	comp=Z,10.0nm,1.2s					
CN2			pmax	pmax		
	comp=Z,1µm,5.0s					
CN2			LR	LR		
	comp=N,11µm,18.0s					
CN2			LR	LR		
	comp=E,7µm,18.0s					
CN2			LR	LR		
	comp=Z,13µm,18.0s					
CM31	Chiang Mai Arr	50.28 297	P	P	19 33 53.4	-1.3
CM31			IAmb	IAmb	19 34 00.7	
	comp=Z,120nm,1.6s					
CMAR	Chiang Mai Arr	50.28 297	P	P	19 33 55.2	+0.5
	comp=Z,9.7nm,0.7s,baz=123,slow=6.0,SNR=66					
CMAR			LR	LR	19 52 54.5	
	comp=Z,5µm,21.7s,baz=115,slow=34					
CMAR	Chiang Mai Arr	50.28 297	iP	P	19 33 55.5	+0.7
CMAR			pmax	pmax		
	comp=Z,10.0nm,0.7s					
CMAR	Chiang Mai Arr	50.28 297	P	P	19 33 54.0	-0.8
YSS	Yuzh-Sakhalins	50.30 358	ceP	P	19 33 54.7	+0.3
YSS			e*SP	pwP	19 34 06.7	+5.5
YSS			e		19 35 47.5	
YSS			eS	S	19 41 04.4	-2.0
YSS			ePS	S	19 41 13.6	+7.2
YSS			eSS	SS	19 44 35.0	-5.3
YSS			pmax	pmax		
	comp=Z,30nm,1.4s					
YSS			pmax	pmax		
	comp=Z,600nm,3.0s					
YSS			pmax	pmax		
	comp=N,300nm,2.9s					
YSS	Yuzh-Sakhalins	50.30 358	P	P	19 33 51.8	-2.6
YSS			IAmb	IAmb	19 34 11.9	
	comp=Z,79nm,1.2s					
YSS	Yuzh-Sakhalins	50.30 358	P	P	19 33 58.1	+3.7
CHTO	Chiang Mai	50.41 298	P	P	19 33 54.0	-1.7
CHTO			pmax	pmax		
	comp=Z,150nm,1.8s					
CHTO			MLR	MLR		
	comp=Z,5µm,20.0s					
CHTO	Chiang Mai	50.41 298	P	P	19 33 54.0	-1.7
CHTO			IAmb	IAmb	19 34 34.1	
	comp=Z,150nm,1.8s					
CHTO	Chiang Mai	50.41 298	P	P	19 33 56.0	+0.3
CHTO			P	P	19 33 56.0	+0.3
CHTO			P	P	19 33 56.0	+0.3
CHTO			S	S	19 41 04.2	-4.7
CHTO			S	S	19 41 04.2	-4.7
CHTO			S	S	19 41 04.2	-4.7
CHTO	Chiang Mai	50.41 298	⇑P	P	19 33 56.0	+0.3
CHTO	Chiang Mai	50.41 298	P	P	19 33 58.0	+2.3
XAN	Xi'an	50.48 321	P	P	19 33 55.6	-0.4
XAN			pP	sP	19 34 07.8	+5.3
XAN			PP	PP	19 35 51.3	-0.6
XAN			S	S	19 41 12.1	+2.7
XAN			SS	SS	19 44 44.6	+0.9
XAN			pmax	pmax		
	comp=Z,76nm,1.4s					
XAN			pmax	pmax		
	comp=Z,840nm,6.7s					
XAN			LR	LR		
	comp=Z,8µm,15.6s					
XAN			LR	LR		
	comp=Z,6µm,16.7s					
XAN			LR	LR		
	comp=Z,12µm,17.9s					
BJT	Baijiatuau	50.75 331	IAMs_20	IAMs_20	19 52 36.5	
	comp=Z,19µm,21.0s					
BJI	Beijing	50.76 332	P	P	19 33 57.1	-0.8
BJI			pP	pP	19 34 01.8	-0.8
BJI			sP	sP	19 34 04.7	+0.3
BJI			S	S	19 41 11.3	-1.7
BJI			SS	SS	19 44 44.9	-2.9
BJI			pmax	pmax		
	comp=Z,12nm,1.4s					
BJI			pmax	pmax		
	comp=Z,500nm,6.7s					
TIY	Taiyuan	50.92 327	⇑P	P	19 33 58.6	-0.8
TIY			S	S	19 41 14.4	-1.1
TIY			pmax	pmax		
	comp=Z,1µm,11.0s					
TIY			LR	LR		
	comp=Z,9µm,22.7s					
TIY			LR	LR		
	comp=Z,9µm,24.7s					
TIY			LR	LR		
	comp=Z,20µm,23.4s					
PZH	PanZhiHua	51.32 308	P	P	19 34 02.8	+0.2
PZH			pP	pP	19 34 06.8	-0.5
PZH			PcP	PcP	19 35 22.7	+5.2
PZH			PP	PP	19 36 00.8	+1.0
PZH			S	S	19 41 23.0	+1.5
PZH			SS	SS	19 44 54.2	-3.3
PZH			pmax	pmax		
	comp=Z,40nm,1.6s					
PZH			pmax	pmax		
	comp=Z,900nm,6.7s					
PZH			LR	LR		
	comp=Z,18µm,22.7s					
PZH			LR	LR		
	comp=Z,25µm,22.1s					
PZH			LR	LR		
	comp=Z,10µm,23.0s					
BNX	BinXian	51.47 344	⇓P	P	19 34 03.4	+0.2
BNX			PP	PP	19 36 00.6	0.0
BNX			S	S	19 41 18.5	-4.2
BNX			pmax	pmax		
	comp=Z,250nm,2.1s					
BNX			pmax	pmax		
	comp=Z,3µm,3.5s					
BNX			LR	LR		
	comp=Z,12µm,15.5s					
BNX			LR	LR		
	comp=Z,12µm,13.9s					
BNX			LR	LR		
	comp=Z,28µm,18.6s					
CD2	Chengdu	52.09 314	P	P	19 34 08.6	+0.4
CD2			PP	PP	19 36 03.6	-3.0
CD2			S	S	19 41 33.8	+2.0
CD2			SS	SS	19 45 05.3	-4.0
CD2			pmax	pmax		
	comp=Z,120nm,0.9s					
CD2			pmax	pmax		
	comp=Z,1µm,5.9s					
CD2			LR	LR		
	comp=Z,10µm,18.0s					
CD2			LR	LR		
	comp=Z,11µm,20.8s					
UGL	Uglegorsk	52.45 358	eP	P	19 34 10.5	+0.1
UGL			eS	S	19 41 37.8	+1.8
UGL			pmax	pmax		
	comp=Z,2µm,5.6s					
UGL			smax	smax		
	comp=E,9µm,15.0s					
UGL			smax	smax		
	comp=N,3µm,10.0s					
UGL			MLR	MLR		
	comp=Z,4µm,16.0s					
UGL			MLR	MLR		
	comp=N,6µm,16.0s					
UGL			MLR	MLR		
	comp=E,8µm,16.0s					
HHC	Hu-ho-hao-te	53.66 329	eP	P	19 34 20.3	+0.6
HHC			PP	PP	19 36 22.9	+2.2
HHC			S	S	19 41 52.9	-0.2
HHC			pmax	pmax		
	comp=E,22nm,1.4s					
HHC			pmax	pmax		
	comp=E,610nm,8.3s					
HHC			LR	LR		
	comp=E,14µm,18.7s					
HHC			LR	LR		
	comp=E,13µm,19.6s					
HHC			LR	LR		
	comp=E,23µm,17.8s					
XLT	XiLinHaoTe	53.86 334	⇓iP	P	19 34 21.2	+0.1
XLT			pP	sP	19 34 27.0	-0.6
XLT			sP	pP	19 34 30.5	+4.7
XLT			S	S	19 41 56.6	+0.9
XLT			sS	pS	19 42 00.4	-0.8
XLT			SS	SKiKP	19 45 32.0	-2.6
XLT			pmax	pmax		
	comp=E,12nm,1.8s					
XLT			pmax	pmax		
	comp=E,750nm,6.3s					
XLT			LR	LR		
	comp=E,1µm,20.1s					
XLT			LR	LR		
	comp=E,10µm,21.3s					
XLT			LR	LR		
	comp=E,22µm,22.6s					
PBA	Port Blair	54.05 287	eP	P	19 34 25.6	+2.8
TYV	Tymovskoe	54.22 358	eP	P	19 34 28.9	+5.5
TYV			eS	S	19 42 12.5	+13
TYV			pmax	pmax		
	comp=Z,400nm,3.0s					
TYV			pmax	pmax		
	comp=Z,53nm,1.6s					
TYV			smax	smax		
	comp=N,4µm,9.3s					
TYV			smax	smax		
	comp=E,6µm,9.3s					
TYV			MLR	MLR		
	comp=N,6µm,18.0s					
TYV			MLR	MLR		
	comp=Z,4µm,18.0s					
DGPR	DIGLIPUR	54.22 289	eP	P	19 34 22.0	-2.1
DGPR			IAmb	IAmb	19 35 24.1	
	comp=Z,112nm,1.5s					
BTO	Baotou	54.30 328	eP	P	19 34 24.4	0.0
BTO			S	S	19 42 04.7	+3.0
BTO			LR	LR		
	comp=Z,67µm,22.9s					
BTO			LR	LR		
	comp=Z,43µm,24.1s					
GRNR	Gornyy	54.58 353	⇑iP	P	19 34 26.4	+0.3
GRNR			pmax	pmax		
	comp=Z,5.0nm,1.2s					
SKR	Severo-Kuril's	54.85 9	eP	P	19 34 31.7	+3.7
SKR			e		19 35 22.1	
SKR			eS	S	19 42 12.7	+4.3
SKR			eSSS	SSS	19 47 46.0	
SKR			pmax	pmax		
	comp=Z,800nm,5.4s					
SKR			pmax	pmax		
	comp=Z,400nm,5.8s					
SKR			pmax	pmax		
	comp=Z,57nm,1.0s					
SKR			MLR	MLR		
	comp=Z,3µm,17.0s					
SKR			MLR	MLR		
	comp=Z,3µm,19.0s					
LZH	Lanzhou	55.01 319	⇑iP	P	19 34 30.5	+0.8
LZH			pP	pP	19 34 33.2	-1.2
LZH			sP	sP	19 34 35.2	-1.0
LZH			S	S	19 42 13.9	+2.4
LZH			sS	sS	19 42 25.8	+6.6
LZH			pmax	pmax		
	comp=Z,41nm,1.2s					
LZH			pmax	pmax		
	comp=Z,790nm,5.2s					
LZH			LR	LR		
	comp=Z,8µm,19.0s					
LZH			LR	LR		
	comp=Z,9µm,18.2s					
LZH			LR	LR		
	comp=Z,19µm,20.3s					
LKP	Lekhapani	56.39 306	eP	P	19 34 39.1	-0.4
RAR	Rarotonga	56.48 113	LR	LR	19 59 15.1	
	comp=Z,2µm,18.1s,baz=286,slow=36					
RAR	Rarotonga	56.48 113	P	P	19 34 38.2	-2.0
RAR			pmax	pmax		
	comp=Z,74nm,1.3s					
RAR	Rarotonga	56.48 113	P	P	19 34 38.2	-2.0
RAR			IAmb	IAmb	19 36 28.8	
	comp=Z,74nm,1.3s					
NKL	Nikolayevsk	56.58 357	eP	P	19 34 45.3	+4.9
NKL			e		19 35 32.3	
NKL			eS	S	19 42 42.0	+11
NKL			pmax	pmax		
	comp=E,4.0nm,0.4s					
NKL			pmax	pmax		
	comp=N,1.0nm,1.0s					
NKL			pmax	pmax		
	comp=Z,76nm,1.1s					
NKL			pmax	pmax		
	comp=Z,272nm,3.7s					
MOKO	MOKOCHONG	57.06 304	eP	P	19 34 44.6	+0.1
MOKO			IAmb	IAmb	19 35 13.6	
	comp=Z,98nm,1.1s					
KOHI	KOHIMA	57.16 304	eP	P	19 34 44.2	-1.0
KOHI			IAmb	IAmb	19 35 17.4	
	comp=Z,197nm,1.5s					
PEA0B	Petropavlovsk-	57.45 9	⇓eP	P	19 34 45.9	-0.6
PEA0B	Petropavlovsk-	57.45 9	P	P	19 34 41.9	-4.6
PETK	Petropavlovsk-	57.45 9	P	P	19 34 49.0	+2.5
	comp=Z,34nm,0.9s,baz=197,slow=14,SNR=20					
PETK			LR	LR	19 55 45.6	
	comp=Z,10µm,21.8s,baz=187,slow=32					
PETK	Petropavlovsk-	57.45 9	P	P	19 34 43.3	-3.2
PETK	Petropavlovsk-	57.45 9	P	P	19 34 43.3	-3.2
PET	Petropavlovsk	57.52 10	d iP	P	19 34 48.7	+1.7
PET			e		19 37 02.4	
PET			eS	S	19 42 43.4	-0.4
PET			eSS	SS	19 46 34.7	+0.6
PET			pmax	pmax		
	comp=Z,600nm,7.8s					
PET			pmax	pmax		
	comp=Z,62nm,1.7s					
PET			pmax	pmax		
	comp=Z,600nm,9.7s					
PET			MLR	MLR		
	comp=Z,5µm,18.0s					
PET			MLR	MLR		
	comp=Z,5µm,17.0s					
PET	Petropavlovsk	57.52 10	P	P	19 34 43.8	-3.2
PET			IAmb	IAmb	19 35 30.2	
	comp=Z,93nm,1.4s					
PET	Petropavlovsk	57.52 10	P	P	19 34 51.7	+4.7
	comp=Z,170nm,1.4s					
SILR	SILCHAR	57.90 302	eP	P	19 34 52.1	+1.9
SILR			IAmb	IAmb	19 34 53.4	
	comp=Z,38nm,0.7s					
ITAN	ITANAGAR	58.03 305	eP	P	19 34 53.2	+2.0
ITAN			IAmb	IAmb	19 34 57.0	
	comp=Z,132nm,1.1s					
BELO	BELONIA	58.52 300	eP	P	19 34 56.3	+1.7
ZEA	Zeya	58.95 348	eP	P	19 34 58.1	+1.0
ZEA			eS	S	19 43 06.6	+4.0
ZEA			pmax	pmax		
	comp=Z,100nm,3.8s					
ZEA			pmax	pmax		
	comp=N,400nm,6.1s					
ZEA			pmax	pmax		
	comp=Z,700nm,5.6s					
ZEA			pmax	pmax		
	comp=E,30nm,1.0s					
ZEA			pmax	pmax		
	comp=N,60nm,1.1s					
ZEA			pmax	pmax		
	comp=Z,80nm,1.2s					
ZEA			smax	smax		
	comp=E,800nm,11.5s					
ZEA			smax	smax		
	comp=N,1µm,13.0s					
SHL	Shillong	58.96 303	eP	P	19 34 58.2	+0.3
SHL			IAmb	IAmb	19 35 23.0	
	comp=Z,29nm,0.9s					
GUWA	GUWAHATI	59.35 303	eP	P	19 35 00.0	-0.3
GUWA			IAmb	IAmb	19 35 06.1	
	comp=Z,27nm,0.7s					
GTA	Gaotai	59.54 320	⇑P	P	19 35 02.1	+0.5
GTA			pP	sP	19 35 07.3	-0.8
GTA			sP	pP	19 35 09.3	+3.0
GTA			S	S	19 43 12.2	+1.2
GTA			sS	sS	19 43 21.2	+2.4
GTA			SS	SS	19 47 10.2	+3.5
GTA			pmax	pmax		
	comp=Z,21nm,1.1s					
GTA			pmax	pmax		
	comp=Z,560nm,8.0s					
GTA			LR	LR		
	comp=Z,4µm,18.9s					
GTA			LR	LR		
	comp=Z,5µm,20.0s					
GTA			LR	LR		
	comp=Z,5µm,19.3s					
DHUB	DHUBRI	60.71 302	eP	P	19 35 09.9	+0.3
DHUB			IAmb	IAmb	19 35 21.7	
	comp=Z,36nm,0.9s					
ULN	Ulaanbaatar	60.97 332	ceP	P	19 35 11.6	+0.3
ULN			pmax	pmax		
	comp=Z,58nm,1.3s					
ULN	Ulaanbaatar	60.97 332	P	P	19 35 08.8	-2.5
ULN			IAmb	IAmb	19 35 30.4	
	comp=Z,48nm,1.2s					
ULN	Ulaanbaatar	60.97 332	P	P	19 35 11.7	+0.4
ULN			P	P	19 35 11.7	+0.4
ULN			P	P	19 35 11.7	+0.4
ULN			S	S	19 43 31.6	+2.5
ULN			S	S	19 43 31.6	+2.5
ULN			S	S	19 43 31.6	+2.5
ULN	Ulaanbaatar	60.97 332	⇑P	P	19 35 11.4	+0.1
HON	Honolulu	61.06 63	P	P	19 35 08.7	-3.5
HON			pmax	pmax		
	comp=Z,333nm,1.2s					
HON	Honolulu	61.06 63	P	P	19 35 08.7	-3.5
KIP	Kipapa	61.08 63	P	P	19 35 10.2	-2.1
KIP			pmax	pmax		
	comp=Z,403nm,1.3s					
KIP	Kipapa	61.08 63	P	P	19 35 10.2	-2.1
KIP	Kipapa	61.08 63	P	P	19 35 18.6	+6.3
LSA	Lhasa	61.12 307	P	P	19 35 14.2	+1.2
LSA			S	S	19 43 33.4	+1.1
LSA			LR	LR		
	comp=Z,5µm,25.6s					
LSA			LR	LR		
	comp=Z,6µm,29.9s					
LSA			LR	LR		
	comp=Z,4µm,31.3s					
LSA	Lhasa	61.12 307	P	P	19 35 13.7	+0.7
LSA			P	P	19 35 13.7	+0.7
OPA	Opana	61.16 63	P	P	19 35 10.2	-2.6
OPA			pmax	pmax		
	comp=Z,367nm,1.3s					
OPA	Opana	61.16 63	P	P	19 35 10.2	-2.6
GOMU	GeErMu	61.20 315	P	P	19 35 13.7	+0.4
GOMU			pP	pP	19 35 17.6	-0.5
GOMU			sP	sP	19 35 21.2	+1.3
GOMU			S	S	19 43 34.6	+1.6
GOMU			pmax	pmax		
	comp=Z,10.0nm,1.1s					
GOMU			pmax	pmax		
	comp=Z,880nm,5.5s					
GOMU			LR	LR		
	comp=Z,2µm,18.8s					
GOMU			LR	LR		
	comp=Z,11µm,18.7s					
GOMU			LR	LR		
	comp=Z,13µm,18.1s					
SHEM	Shemya Is, Ala	61.21 20	LR	LR	19 57 36.2	
	comp=Z,22µm,20.5s,baz=214,slow=32					
SONM	Songino Array	61.26 331	P	P	19 35 14.3	+1.1
	comp=Z,3.3nm,0.8s,baz=146,slow=6.0,SNR=22					
SONM			LR	LR	20 00 10.8	
	comp=Z,18µm,21.1s,baz=137,slow=35					
SONM			PKP2bc		20 04 42.2	
	comp=Z,1.8nm,1.0s,baz=318,slow=1.5,SNR=13					
SONM	Songino Array	61.26 331	P	P	19 35 10.5	-2.7
SONM			pmax	pmax		
	comp=Z,38nm,1.2s					
SONM	Songino Array	61.26 331	P	P	19 35 10.5	-2.7
CIT	Chita	61.41 339	eP	P	19 35 15.5	+1.5
CIT			e		19 35 55.9	
CIT			e		19 43 54.9	
CIT			e		19 45 02.7	
CIT			pmax	pmax		
	comp=Z,277nm,4.0s					
GTK	Tadong	62.33 303	eP	P	19 35 22.1	+1.3
GTK			IAmb	IAmb	19 35 28.0	
	comp=Z,22nm,0.9s					
POHA	Pohakuloa	62.86 66	IAMs_20	IAMs_20	19 58 29.7	
	comp=Z,23µm,19.0s					
POHA	Pohakuloa	62.86 66	⇓P	P	19 35 28.2	+3.6
POHA	Pohakuloa	62.86 66	P	P	19 35 34.7	+10
MA2	Magadan	63.08 3	P	P	19 35 25.9	+0.9
	comp=Z,29nm,0.8s,baz=169,slow=6.8,SNR=29					
MA2			LR	LR	20 00 43.7	
	comp=Z,3µm,20.9s,baz=189,slow=34					
MA2	Magadan	63.08 3	deP	P	19 35 26.2	+1.2
MA2			pmax	pmax		
	comp=Z,41nm,1.1s					
MA2	Magadan	63.08 3	P	P	19 35 24.7	-0.3
MA2			IAmb	IAmb	19 35 32.4	
	comp=Z,84nm,1.1s					
MA2	Magadan	63.08 3	⇓P	P	19 35 25.8	+0.8
MA2	Magadan	63.08 3	P	P	19 35 27.5	+2.5
TAPN	Taplejung	63.09 303	eP	P	19 35 26.4	+0.3
	comp=Z,69nm,1.0s					
ODAN	Odare	63.19 302	eP	P	19 35 27.0	+0.3
	comp=Z,114nm,1.1s					
BOK	Bokaro	63.53 299	eP	P	19 35 29.6	+0.9
BOK			IAmb	IAmb	19 35 56.2	
	comp=Z,91nm,1.7s					
RAMN	Ramite	63.89 302	eP	P	19 35 32.2	+0.9
	comp=Z,19nm,0.6s					
ADK	Adak	64.09 25	IAMs_20	IAMs_20	19 57 01.9	
	comp=Z,21µm,22.0s					
ADK	Adak	64.09 25	P	P	19 35 37.1	+5.3
JIRN	Jiri	64.46 303	eP	P	19 35 35.5	+0.3
GUN	Gumba	64.80 303	eP	P	19 35 37.7	+0.3
PALK	Pallekele	64.99 280	LR	LR	20 06 11.4	
	comp=Z,1µm,19.1s,baz=207,slow=38					
PALK	Pallekele	64.99 280	ceP	P	19 35 38.2	-0.3
PALK			pmax	pmax		
	comp=Z,27nm,1.1s					
PALK	Pallekele	64.99 280	P	P	19 35 35.2	-3.3
PALK	Pallekele	64.99 280	P	P	19 35 35.6	-2.9
PALK			S	S	19 44 21.7	+1.2
PALK	Pallekele	64.99 280	⇑P	P	19 35 39.4	+0.9
PKI	Pulchoki	65.09 302	eP	P	19 35 39.8	+0.5
PKIN	Phulchoki	65.10 302	eP	P	19 35 39.2	-0.1
KKN	Kakani	65.27 303	eP	P	19 35 40.3	0.0
IRK	Irkutsk	65.33 334	eP	P	19 35 40.0	0.0
IRK			pmax	pmax		
	comp=Z,148nm,3.8s					
DMN	Daman	65.36 302	eP	P	19 35 41.3	+0.4
PPT	Papeete	65.58 108	LR	LR	20 02 04.8	
	comp=Z,3µm,18.8s,baz=274,slow=34					
PPT2	Papeete2	65.58 108	eP	P	19 35 46.5	+4.2
	comp=Z,98nm,1.3s					
PPT2			eS	S	19 44 30.7	+3.0
	comp=Z,16µm,29.8s					
PPT2			eLQ	LQ	19 52 38.2	
	comp=Z,13µm,30.5s					
PPT2			eLR	LR	19 55 27.4	
	comp=Z,18µm,29.2s					
PAE	Paea	65.59 108	eP	P	19 35 46.0	+3.8
	comp=Z,32nm,1.4s					
GKN	Gorkha	65.87 303	eP	P	19 35 44.1	0.0

TVO Taravao 65.91 108 *e*P P 19 35 48.3 +3.9
comp=Z,1.7nm,1.6s
BOD Bodaibo 66.01 342 *e*P P 19 35 44.8 +0.6
BOD pmax pmax
comp=Z,70nm,1.6s
TBI Tubuai 66.23 114 *e*P P 19 35 50.3 +4.0
comp=Z,115nm,1.0s
TBI *e*S S 19 44 38.9 +3.6
comp=Z,11µm,31.5s
TBI *e*LQ LQ 19 52 56.0
comp=Z,24µm,34.0s
TBI *e*LR LR 19 55 39.8
comp=Z,17µm,40.8s
MDRS Chennai 66.29 286 *e*P P 19 35 45.9 -1.0
MDRS IAmb IAmb 19 36 06.3
comp=Z,21nm,0.7s
VLK Valmikinagar 66.31 302 *e*P P 19 35 46.6 -0.1
YAK Yakutsk 66.42 352 P P 19 35 47.5 +0.8
comp=Z,21nm,0.8s,baz=226,slow=2.1,SNR=11
YAK LR LR 20 03 53.5
comp=Z,6µm,19.6s,baz=156,slow=35
YAK Yakutsk 66.42 352 *e*P P 19 35 46.4 -0.3
YAK *e**PP **pwP** 19 35 53.4 -0.2
YAK *e* 19 36 19.6
YAK *e* 19 38 16.9
YAK *e*S S 19 44 36.1 +0.1
YAK *e**SS sS 19 44 54.4 +11
YAK *e*SSS SSS 19 51 52.9
YAK pmax pmax
comp=Z,55nm,0.9s
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=Z,608nm,4.7s
YAK pmax pmax
comp=E,103nm,2.3s
YAK pmax pmax
comp=N,202nm,2.8s
YAK smax smax
comp=N,3µm,8.6s
YAK smax smax
comp=E,4µm,10.8s
YAK MLR MLR
comp=Z,6µm,18.0s
YAK MLR MLR
comp=N,3µm,14.0s
YAK MLR MLR
comp=E,3µm,14.0s
YAK Yakutsk 66.42 352 P P 19 35 44.7 -2.0
YAK Yakutsk 66.42 352 ⇑P P 19 35 47.5 +0.8
MOY Mondy 66.44 332 *e*P P 19 35 48.0 +0.8
MOY pmax pmax
comp=Z,152nm,1.4s
SEY Seymchan 66.52 4 P P 19 35 48.5 +1.2
comp=Z,29nm,1.1s,baz=166,slow=6.3,SNR=30
SEY LR LR 20 03 22.5
comp=Z,4µm,20.4s,baz=184,slow=35
SEY Seymchan 66.52 4⇓ *e*P P 19 35 48.2 +0.9
SEY pmax pmax
comp=Z,38nm,1.4s
KOLN Koldanda 66.68 302 *e*P P 19 35 49.5 +0.2
comp=Z,31nm,0.6s
DANN Dangsing 66.72 303 *e*P P 19 35 49.7 0.0
PMOR Pomariorio Ree 67.05 105 *e*P P 19 35 55.5 +3.9
comp=Z,265nm,1.3s
CASY Casey 67.10 194 IAMs_20 IAMs_20 20 04 31.3
comp=Z,13µm,20.0s
PYUN Piuthan 67.29 302 *e*P P 19 35 53.1 -0.2
comp=Z,33nm,0.7s
VAH Vaihoa 67.32 105 *e*P P 19 35 56.8 +3.5
comp=Z,68nm,1.0s
KNGR Kungurtug, Tuv 67.47 329⇓ *e*P P 19 35 54.6 +0.8
ALBI Allahabad 67.52 299 *e*P P 19 35 54.0 -0.4
SALM Salem 68.04 284 *e*P P 19 35 58.4 +0.5
NIKH Nikolski High 68.34 28 P P 19 35 55.4 -3.7
baz=231
KOD Kodaikanal 68.55 282 *e*P P 19 35 59.4 -2.2
JBP Jabalpur 68.59 296 *e*P P 19 36 00.2 -1.1
JBP *ex* x 19 36 00.2
JBP ⇓*e*S S 19 45 01.7 -1.9
HYB Hyderabad 68.68 290 *e*P P 19 36 01.7 -0.2
HYB IAmb IAmb 19 36 12.1
comp=Z,81nm,1.6s
HYBB Hyderabad (bro 68.68 290 *e*P P 19 35 58.7 -3.2
HYBB *es*P **pP** 19 36 01.8 -5.2
HYBB *e*PcP **PcP** 19 36 23.3 -3.5
HYBB *e*PP **PP** 19 38 30.2 -3.5
HYBB *e*S S 19 45 02.8 -2.1
HYBB *e*SS **SS** 19 49 29.5 -0.4
HYBB IVMs_BB IVMs_BB 19 58 47.5
comp=Z,634nm,34.2s
TRD Trivandrum 68.82 280 *e*P P 19 36 02.6 -0.3
TRD IAmb IAmb 19 36 14.3
comp=Z,30nm,0.9s
WMQ Urumqi 69.59 319 P P 19 36 07.8 +0.7
WMQ sP sP 19 36 15.3 +1.1
WMQ PP PP 19 36 49.7 0.0
WMQ S S 19 45 12.8 -2.0
WMQ SKS SKSac 19 46 01.4 -5.9
WMQ pmax pmax
comp=Z,69nm,1.3s
WMQ pmax pmax
comp=Z,960nm,5.3s
WMQ LR LR
comp=Z,6µm,17.7s
WMQ LR LR
comp=Z,4µm,20.3s
WMQ LR LR
comp=Z,5µm,21.9s
PCHI Peechi 69.68 283⇑ *e*P P 19 36 08.2 0.0
PCHI *e*S S 19 45 17.2 +0.4
UNV Unalaska Valle 69.99 28 P P 19 36 08.2 -1.1
baz=233
AIS Amsterdam Isla 70.03 231 IAMs_20 IAMs_20 20 06 15.2
comp=Z,13µm,20.0s
PTH Pithoragarh 70.04 303 *e*P P 19 36 09.2 -1.2
JHNI Jhansi 70.42 298 *e*P P 19 36 10.4 -2.1
SPIA Saint Paul Isl 70.47 24 P P 19 36 12.9 +0.8
baz=228
BHPL Bhopal 70.90 296 *e*P P 19 36 15.3 -0.3
BHPL IAmb IAmb 19 36 29.5
comp=Z,17nm,1.0s
FALS False Pass 72.05 28 P P 19 36 20.9 -0.9
baz=235
FALS False Pass 72.05 28 P P 19 36 28.3 +6.6
DDI Dehra Dun 72.05 303 *e*P P 19 36 22.8 +0.4
DDI IAmb IAmb 19 36 59.9
comp=Z,623nm,2.2s
DGAR Diego Garcia 72.19 263⇑ *e*P P 19 36 25.8 +2.3
NDI New Delhi 72.34 301 *e*P P 19 36 22.9 -1.2
HMDM Hanimaadhoo 72.35 278 P P 19 36 25.3 +0.9
MNCY Minicoy 72.65 280 *e*P P 19 36 42.3 +16
MNCY IAmb IAmb 19 37 01.7
comp=Z,484nm,2.1s
KAD Karad 72.77 289 *e*P P 19 36 24.8 -2.1
GOA Goa 72.82 287 *e*P P 19 36 26.8 -0.4
GOA IAmb IAmb 19 36 53.7
comp=Z,58nm,1.2s
KUDL Kundal 72.83 301 *e*P P 19 36 25.8 -1.2
ZSN Zaisan 72.96 322 *e*P P 19 36 26.2 -1.2
ZSN pmax pmax
comp=Z,53nm,2.4s
ZSN Zaisan 72.96 322 *e*P P 19 36 26.2 -1.2
comp=Z,53nm,2.4s,baz=322
BILL Bilibino 72.96 8⇑ *e*P P 19 36 30.4 +3.5
BILL *e**SP **pwP** 19 36 34.2 +0.3
BILL *i* 19 36 40.0
BILL *i* S S 19 45 54.1 +1.3
BILL *e* 19 46 20.7
BILL *i* 19 46 44.0
BILL *i* SS SS 19 50 29.9 -3.7
BILL pmax pmax
comp=Z,65nm,1.2s
SMLA Simla 73.00 304 *e*P P 19 36 28.6 +0.7
SMLA IAmb IAmb 19 36 46.8
comp=Z,75nm,1.2s
POO Poona 73.28 290 *e*P P 19 36 30.0 0.0
POO Poona 73.28 290 *e*P P 19 36 26.0 -3.9
BHK Bhakra 73.69 304 *e*P P 19 36 33.1 +1.0
SDPT Sand Point 73.73 29 P P 19 36 32.3 +0.6
baz=238
MK31 Makanchi Array 74.29 321 *i* P P 19 36 35.2 -0.1
MK31 pmax pmax
comp=Z,60nm,1.2s
MK31 Makanchi Array 74.29 321 IAmb IAmb 19 36 53.4
comp=Z,77nm,1.4s
MKAR Makanchi Array 74.29 321 P P 19 36 35.6 +0.3
comp=Z,8.2nm,0.7s,baz=106,slow=7.9,SNR=65
MKAR LR LR 20 08 01.3
comp=Z,4µm,21.8s,baz=102,slow=35
GAMB Gambell 74.48 18 P P 19 36 37.8 +1.9
baz=225
VNDA Vanda 74.49 176 P P 19 36 37.4 +1.5
comp=Z,6.0nm,0.9s,baz=324,slow=6.7,SNR=22
VNDA LR LR 20 05 48.5
comp=Z,12µm,21.2s,baz=350,slow=33
VNDA Vanda 74.49 176 P P 19 36 35.6 -0.3
VNDA pmax pmax
comp=Z,45nm,1.3s
VNDA Vanda 74.49 176 P P 19 36 35.5 -0.3
MAKZ Makanchi 74.50 321 P P 19 36 34.6 -1.8
MAKZ pmax pmax
comp=Z,45nm,0.9s
MAKZ MLR MLR
comp=Z,6µm,21.0s
MAKZ Makanchi 74.50 321 P P 19 36 34.6 -1.8
MAKZ IAmb IAmb 19 36 44.5
comp=Z,45nm,0.9s
MAKZ Makanchi 74.50 321 ⇑P P 19 36 36.7 +0.2
MAKZ ⇑P PcP 19 36 49.2 -1.7
TAOE Nuku Hiva Isla 74.57 98 *e*S S 19 46 14.2 +1.0
comp=Z,8µm,27.0s
TAOE *e*SS SS 19 51 02.5 +2.1
comp=Z,2µm,26.1s
TAOE *e*LQ LQ 19 56 24.8
comp=Z,18µm,28.0s
TAOE *e*LR LR 19 59 32.9
comp=Z,13µm,26.0s
SHLS Shalkode 74.84 316 *e*P P 19 36 34.9 -3.7
SHLS Shalkode 74.84 316 *e*P P 19 36 34.9 -3.7
baz=316
PDGK Podgornoye 74.88 317 P P 19 36 39.1 +0.2
UZB Uzynbulak 75.14 316 *e*P P 19 36 39.1 -1.3
UZB Uzynbulak 75.14 316 *e*P P 19 36 39.2 -1.3
baz=316
SBA Scott Base 75.17 175 IAMs_20 IAMs_20 20 05 06.1
comp=Z,14µm,22.0s
CHGN Chignik 75.22 29 P P 19 36 39.3 -1.0
baz=240
JMU Jammu 75.26 305 *e*P P 19 36 42.4 +1.3
BHV Bhavnagar 75.40 293 *e*P P 19 36 41.7 -0.5
KPKS Kokpek 75.48 316 *e*P P 19 36 40.3 -2.0
KPKS Kokpek 75.48 316 *e*P P 19 36 40.4 -1.9
baz=316
SATY Saty 75.54 316 *e*P P 19 36 40.5 -2.1
SATY Saty 75.54 316 *e*P P 19 36 40.6 -2.1
baz=316
ZHN Zhinishke 75.55 316 *e*P P 19 36 41.2 -1.5
ZHN Zhinishke 75.55 316 *e*P P 19 36 41.3 -1.5
baz=316
TIXI Tiksi 75.77 355 P P 19 36 44.0 +0.8
comp=Z,7.0nm,0.6s,baz=267,slow=20,SNR=22
TIXI Tiksi 75.77 355⇑ *e*P P 19 36 43.7 +0.5
TIXI pmax pmax
comp=Z,30nm,1.2s
TIXI Tiksi 75.77 355 P P 19 36 41.0 -2.2
TIXI Tiksi 75.77 355 ⇑P P 19 36 43.6 +0.5
ZALV Zalesovo Beam 75.84 328 P P 19 36 43.2 -0.8
comp=Z,2.4nm,0.8s,baz=110,slow=5.8,SNR=14
ZALV PKPPKP P'P'df 20 04 11.2 +8.4
comp=Z,0.2nm,0.3s,baz=41,slow=4.7,SNR=3.6
ZALV LR LR 20 08 56.8
comp=Z,20µm,21.8s,baz=116,slow=35
ZALV Zalesovo Beam 75.84 328 *i* P P 19 36 44.0 0.0
ZALV pmax pmax
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 75.84 328 P P 19 36 42.3 -1.7
TDK Taldyqorghan 76.18 318 *e*P P 19 36 45.1 -1.0
TDK pmax pmax
comp=Z,126nm,2.3s
TDK Taldyqorghan 76.18 318 *e*P P 19 36 45.1 -1.0
comp=Z,126nm,2.3s,baz=318
KSH Kashi 76.21 312 P P 19 36 49.1 +2.5
KSH pP sP 19 36 53.2 -0.4
KSH PcP **PcP** 19 37 03.0 +4.4
KSH S S 19 46 34.9 +4.4
KSH pmax pmax
comp=Z,20nm,1.7s
KSH pmax pmax
comp=Z,1µm,5.9s
KSH LR LR
comp=Z,3µm,21.4s
KSH LR LR
comp=Z,6µm,23.7s
KSH LR LR
comp=Z,10µm,23.7s
ARXS Arharly 76.31 317 *e*P P 19 36 47.6 +0.6
CHIR Chirikof Islan 76.35 30 IAMs_20 IAMs_20 20 04 08.6
comp=Z,16µm,21.0s
CHIR Chirikof Islan 76.35 30 P P 19 36 47.4 +0.6
baz=242
MDOK Medeo 76.51 316 P P 19 36 48.7 +0.4
MDOK Medeo 76.51 316 *e*P P 19 36 47.3 -0.9
baz=316
AAA Alma-Ata 76.62 316 *e*P P 19 36 46.6 -2.1
AAA Alma-Ata 76.62 316 *e*P P 19 36 46.7 -2.1
baz=316
CHKK Chushkaly 76.77 316 *e*P P 19 36 47.9 -1.6
CHKK Chushkaly 76.77 316 *e*P P 19 36 48.0 -1.6
baz=316
NIL Nilore 76.82 306 P P 19 36 47.1 -3.0
NIL pmax pmax
comp=Z,83nm,0.9s
NIL Nilore 76.82 306 P P 19 36 47.0 -3.0
NIL IAmb IAmb 19 37 09.4
comp=Z,83nm,0.8s
NIL Nilore 76.82 306 P P 19 36 50.4 +0.3
TNA Tin City 76.89 18 ⇑P P 19 36 55.1 +5.4
TNA Tin City 76.89 18 P P 19 36 51.0 +1.3
baz=229
SEM Semipalatinsk 76.93 324 *e*P P 19 36 48.8 -1.7
SEM Semipalatinsk 76.93 324 *e*P P 19 36 48.9 -1.7
baz=324
ANM Nome 77.07 20 P P 19 36 51.3 +0.5
baz=231
KUU Kurty 77.23 316 *e*P P 19 36 50.1 -2.0
KUU pmax pmax
comp=Z,57nm,1.3s
KUU Kurty 77.23 316 *e*P P 19 36 50.2 -2.0
comp=Z,57nm,1.3s,baz=316
SII Sitkinak Islan 77.41 30 IAMs_20 IAMs_20 20 10 05.4
comp=Z,11µm,19.0s
TKM2 Tokmak 2 77.45 315 P P 19 36 54.4 +0.8
SNR=13
KBK Karagaybulak 77.84 315 P P 19 36 56.6 +0.9
SNR=11
KURK Kurchatov 78.01 323 *c i*P P 19 36 55.9 -0.4
KURK pmax pmax
comp=Z,48nm,1.7s
KURK Kurchatov 78.01 323 P P 19 36 52.9 -3.4
KURK IAmb IAmb 19 37 14.8
comp=Z,91nm,1.2s
KURK Kurchatov 78.01 323 P P 19 36 56.1 -0.2
KURK P P 19 36 56.1 -0.2
KURK S S 19 46 48.1 -1.3
KURK S S 19 46 48.1 -1.3
KURBB Kurchatov Arra 78.03 323 P P 19 36 56.3 -0.1
comp=Z,5.4nm,1.0s,baz=109,slow=5.1,SNR=32
KURBB PKPPKP **P'P'df** **20 04 06.0 +6.8**
comp=Z,0.6nm,1.1s,baz=263,slow=3.0,SNR=5.3
KURBB LR LR 20 12 05.4
comp=Z,7µm,19.2s,baz=92,slow=36
KURBB Kurchatov Arra 78.03 323 P P 19 36 56.0 -0.4
CHMS Chumysh 78.07 315 P P 19 36 57.2 +0.4
SNR=8.1
OHAK Old Harbor 78.14 29 P P 19 36 56.8 0.0
baz=244
AAK Ala-Archa 78.15 315 LR LR 20 11 40.3
comp=Z,7µm,20.8s,baz=102,slow=36
AAK Ala-Archa 78.15 315 *ce*P P 19 36 57.2 -0.3
AAK pmax pmax
comp=Z,52nm,1.2s
AAK Ala-Archa 78.15 315 P P 19 36 57.1 -0.3
AAK IAmb IAmb 19 37 16.7
comp=Z,47nm,1.1s
AAK Ala-Archa 78.15 315 P P 19 36 57.1 -0.3
AAK P P 19 36 57.1 -0.3
AAK S S 19 46 50.9 -0.7
AAK S S 19 46 50.9 -0.7
P18K Big Mountain, 78.22 27 IAMs_20 IAMs_20 20 05 11.8
comp=Z,14µm,22.0s
P18K Big Mountain, 78.22 27 P P 19 36 55.9 -1.5
baz=242
SGDS Sogindy 78.28 316 *e*P P 19 36 56.3 -1.8
SGDS Sogindy 78.28 316 *e*P P 19 36 56.4 -1.8
baz=316
USP Ospenovka 78.32 315 P P 19 36 58.4 +0.1
SNR=34
EKS2 Erkin-Say 78.67 315 P P 19 37 02.3 +2.0
SNR=24
KDAK Kodiak Island 78.73 29 P P 19 37 05.0 +5.0
comp=Z,86nm,1.1s,baz=297,slow=5.3,SNR=6.7
KDAK LR LR 20 06 48.6
comp=Z,10µm,20.7s,baz=264,slow=32
KDAK Kodiak Island 78.73 29 IAMs_20 IAMs_20 20 06 05.4
comp=Z,10µm,20.0s
KDAK Kodiak Island 78.73 29 P P 19 36 59.0 -1.1
baz=244
Q19K Cape Douglas, 78.73 28 P P 19 36 58.9 -1.3
baz=243
O19K Port Alsworth 79.00 26 IAMs_20 IAMs_20 20 05 25.5
comp=Z,17µm,22.0s
O19K Port Alsworth 79.00 26 P P 19 37 00.2 -1.4
baz=242
BTLS Baital 79.13 317 *e*P P 19 37 01.5 -1.1
BTLS Baital 79.13 317 *e*P P 19 37 01.6 -1.1
baz=317
N19K Bonanza Creek 79.22 26 IAMs_20 IAMs_20 20 06 40.1
comp=Z,15µm,21.0s
N19K Bonanza Creek 79.22 26 P P 19 37 03.3 +0.4
baz=242
P19K Oil Pt 79.25 27 P P 19 37 03.7 +0.8
baz=244
RKT Rikitea 79.51 113 *e*P P 19 37 08.3 +3.1
comp=Z,99nm,1.3s
TTA Tatalina 79.60 24 ⇓P P 19 37 09.3 +4.4
TTA ⇑P pP 19 37 10.4 +0.7
TTA ⇑P PcP 19 37 19.1 +6.3
TTA Tatalina 79.60 24 P P 19 37 06.6 +1.7
baz=240,SNR=20
L19K White Mountain 79.71 24 IAMs_20 IAMs_20 20 06 46.0
comp=Z,12µm,21.0s
L19K White Mountain 79.71 24 P P 19 37 04.7 -0.7
baz=242
O20K Slope Mountain 79.71 27 P P 19 37 04.7 -0.8
baz=244
M19K Big River Lodg 79.77 25 IAMs_20 IAMs_20 20 07 10.6
comp=Z,16µm,21.0s
HOM Homer 79.98 27 P P 19 37 05.0 -1.8
baz=245
RDOG Red Dog Mine 80.01 18 IAMs_20 IAMs_20 20 06 47.6
comp=Z,16µm,22.0s
RDOG Red Dog Mine 80.01 18 P P 19 37 09.2 +2.3
baz=233,SNR=11
CNPM China Poot 80.11 28 IAMs_20 IAMs_20 20 07 21.7
comp=Z,12µm,21.0s
GCSA Galena City Sc 80.18 22 P P 19 37 07.8 -0.1
baz=239
M20K Styx River 80.29 25 IAMs_20 IAMs_20 20 07 39.4
comp=Z,17µm,21.0s
M20K Styx River 80.29 25 P P 19 37 09.4 +0.7
baz=243,SNR=29
BRLK Bradley Lake 80.37 28 IAMs_20 IAMs_20 20 12 24.2
comp=Z,9µm,19.0s
KBL Kabul 80.42 306 P P 19 37 10.4 +0.3
KBL P P 19 37 10.4 +0.3
KBL S S 19 47 14.5 -1.8
KBL S S 19 47 14.5 -1.8
BRSE Bradley Lake S 80.43 28 P P 19 37 09.1 -0.3
baz=246
DZA Taraz 80.47 314 *e*P P 19 37 08.6 -1.3
DZA Taraz 80.47 314 *e*P P 19 37 08.7 -1.3
baz=314
K20K Telida 80.58 24 P P 19 37 11.0 +0.8
baz=242,SNR=20
CAPN Captain Cook N 80.67 27 IAMs_20 IAMs_20 20 07 02.4
comp=Z,14µm,22.0s
CAPN Captain Cook N 80.67 27 P P 19 37 10.1 -0.4
baz=245
J20K Nowinta River 80.94 23 P P 19 37 12.4 +0.5
baz=242,SNR=26
PPLA Purkeypile 81.14 24 P P 19 37 13.5 +0.3
baz=244,SNR=8.7
OTUK Ortayu 81.14 320 P P 19 37 13.7 +0.3
SEW Seward 81.17 27 P P 19 37 13.0 -0.2
baz=247
O22K Cooper Landing 81.19 27 IAMs_20 IAMs_20 20 06 46.3
comp=Z,17µm,22.0s
O22K Cooper Landing 81.19 27 P P 19 37 13.1 -0.2
baz=247
IUG luzhnay 81.23 313 *e*P P 19 37 12.8 -1.3
IUG luzhnay 81.23 313 *e*P P 19 37 12.9 -1.3
baz=313
FIS Fire Island 81.24 26 IAMs_20 IAMs_20 20 06 46.5
comp=Z,15µm,22.0s
BRZS Berezniki 81.39 322 *e*P P 19 37 13.3 -1.4
BRZS Berezniki 81.39 322 *e*P P 19 37 13.4 -1.4
baz=322
CAST Castle Rocks 81.41 24 IAMs_20 IAMs_20 20 10 55.9
comp=Z,9µm,20.0s
CAST Castle Rocks 81.41 24 P P 19 37 15.8 +1.2
baz=244,SNR=12
RC01 Rabbit Creek A 81.43 27 IAMs_20 IAMs_20 20 06 40.5
comp=Z,10µm,22.0s
RC01 Rabbit Creek A 81.43 27 P P 19 37 14.8 +0.1
baz=246,SNR=9.3
CHUM Lake Minchumin 81.52 23 P P 19 37 16.9 +1.8
baz=244,SNR=28
M22K Willow 81.53 26 IAMs_20 IAMs_20 20 07 10.1
comp=Z,14µm,22.0s
M22K Willow 81.53 26 P P 19 37 14.4 -0.7
baz=246
CUT Chulitna 81.73 25 P P 19 37 15.8 -0.4
baz=246
PMR Palmer 81.90 26 P P 19 37 15.9 -1.2
baz=247,SNR=10.0
KTH Kantishna Hill 81.94 24 IAMs_20 IAMs_20 20 07 34.8
comp=Z,11µm,22.0s
PWL Port Wells 81.97 27 P P 19 37 16.7 -0.8
baz=248
GHO Glory Hole Cre 82.06 26 IAMs_20 IAMs_20 20 07 24.3
comp=Z,13µm,22.0s
KNK Knik Glacier 82.12 26 IAMs_20 IAMs_20 20 07 51.0
comp=Z,10µm,22.0s
KNK Knik Glacier 82.12 26 P P 19 37 18.1 -0.2
baz=248,SNR=9.3
H21K Melozitna Rive 82.13 22 IAMs_20 IAMs_20 20 07 31.8
comp=Z,10µm,22.0s
H21K Melozitna Rive 82.13 22 P P 19 37 17.4 -0.9
baz=243,SNR=18
BPAW Bear Paw Mtn. 82.14 23 IAMs_20 IAMs_20 20 10 58.3
comp=Z,15µm,20.0s
BPAW Bear Paw Mtn. 82.14 23 P P 19 37 16.2 -2.1
baz=245,SNR=5.3
TRF Thorofare Moun 82.15 24 IAMs_20 IAMs_20 20 09 08.6
comp=Z,12µm,21.0s
TRF Thorofare Moun 82.15 24 P P 19 37 14.2 -4.4
baz=246,SNR=7.4
I21K Tanana 82.22 22 IAMs_20 IAMs_20 20 08 05.4
comp=Z,13µm,22.0s
I21K Tanana 82.22 22 P P 19 37 17.6 -1.1
baz=244,SNR=11
NRIK Noril'sk 82.31 342 P P 19 37 20.0 +0.9
comp=Z,6.8nm,0.8s,baz=129,slow=5.3,SNR=12
NRIK LR LR 20 14 36.0
comp=Z,11µm,18.6s,baz=116,slow=36
NRIK Noril'sk 82.31 342 *c i*P P 19 37 18.5 -0.6
NRIK pmax pmax
comp=Z,147nm,1.3s
SML Sawmill 82.33 26 P P 19 37 20.6 +1.1
baz=248,SNR=14
GLI Glacier Island 82.54 27 IAMs_20 IAMs_20 20 09 10.0
comp=Z,12µm,21.0s
GLI Glacier Island 82.54 27 P P 19 37 18.9 -1.6
baz=249
MLY Manley 82.63 23 P P 19 37 20.5 -0.5
baz=245
RND Reindeer 82.73 25 IAMs_20 IAMs_20 20 09 26.7
comp=Z,16µm,21.0s
FID Port Fidalgo 82.78 27 IAMs_20 IAMs_20 20 13 56.6
comp=Z,10µm,19.0s
BWN Browne 82.78 24 IAMs_20 IAMs_20 20 09 58.9
comp=Z,12µm,20.0s
SCM Sheep Creek Mo 82.78 26 IAMs_20 IAMs_20 20 07 50.3
comp=Z,12µm,22.0s
SCM Sheep Creek Mo 82.78 26 P P 19 37 22.6 +0.8
baz=249,SNR=6.4
MCK McKinley 82.82 24 IAMs_20 IAMs_20 20 08 26.2
comp=Z,12µm,21.0s

MCK	McKinley	82.82	24	P	P	19 37 21.5	-0.5
	baz=247,SNR=17						
WAT6	Susitna Watana	82.88	25	P	P	19 37 23.8	+1.4
	baz=248,SNR=10						
EYAK	Cordova Ski Ar	83.05	28	P	P	19 37 21.8	-1.3
	baz=250						
NEA2	Nenana	83.11	23	IAMs_20	IAMs_20	20 08 29.8	
	comp=Z,14µm,22.0s						
NEA2	Nenana	83.11	23	P	P	19 37 24.3	+0.9
	baz=247,SNR=8.6						
I23K	Minto, Yukon-K	83.22	23	P	P	19 37 25.4	+1.5
	baz=246,SNR=10						
DHY	Denali Highway	83.22	25	P	P	19 37 24.3	+0.2
	baz=248,SNR=14						
KLU	Klutina	83.29	27	IAMs_20	IAMs_20	20 07 48.8	
	comp=Z,16µm,22.0s						
KLU	Klutina	83.29	27	P	P	19 37 25.5	+1.0
	baz=250,SNR=8.4						
M24K	Tolsona, Glenn	83.39	26	IAMs_20	IAMs_20	20 08 09.4	
	comp=Z,15µm,22.0s						
M24K	Tolsona, Glenn	83.39	26	P	P	19 37 24.0	-0.9
	baz=250						
WRH	Wood River Hil	83.45	24	IAMs_20	IAMs_20	20 11 37.8	
	comp=Z,11µm,20.0s						
KAIM	Kayak Island	83.47	29	IAMs_20	IAMs_20	20 07 41.6	
	comp=Z,12µm,21.0s						
RAGM	Ragged Mountai	83.49	28	IAMs_20	IAMs_20	20 09 15.2	
	comp=Z,13µm,21.0s						
MDM	Murphy Dome	83.58	23	IAMs_20	IAMs_20	20 08 44.3	
	comp=Z,16µm,22.0s						
BRVK	Borovoye	83.64	324	*i* P	P	19 37 26.9	+0.5
BRVK				pmax	pmax		
	comp=Z,101nm,1.3s						
BRVK	Borovoye	83.64	324	P	P	19 37 23.1	-3.3
BRVK				IAmb	IAmb	19 37 34.9	
	comp=Z,93nm,1.2s						
BRVK	Borovoye	83.64	324	P	P	19 37 26.4	0.0
BRVK				P	P	19 37 26.4	0.0
BRVK				S	S	19 47 47.9	-0.2
BRVK				S	S	19 47 47.9	-0.2
A21K	Barrow	83.66	16	IAMs_20	IAMs_20	20 13 25.1	
	comp=Z,9µm,20.0s						
A21K	Barrow	83.66	16	P	P	19 37 27.0	+1.0
	baz=239,SNR=6.0						
HMT	Hamilton	83.67	28	IAMs_20	IAMs_20	20 09 07.9	
	comp=Z,12µm,22.0s						
TCOL	CIGO, UAF Yank	83.69	23	IAMs_20	IAMs_20	20 08 48.3	
	comp=Z,14µm,21.0s						
TCOL	CIGO, UAF Yank	83.69	23	P	P	19 37 25.3	-1.0
	baz=248						
COLA	College	83.70	23	⇑*e*P	P	19 37 27.6	+1.3
COLA				pmax	pmax		
	comp=Z,135nm,2.0s						
COLA	College	83.70	23	IAMs_20	IAMs_20	20 10 35.3	
	comp=Z,12µm,20.0s						
COLA	College	83.70	23	⇓P	P	19 37 30.2	+3.9
COLA	College	83.70	23	P	P	19 37 24.6	-1.8
	baz=248						
MAW	Mawson	83.73	202	P	P	19 37 27.0	+0.5
	comp=Z,15nm,0.9s,baz=84,slow=6.9,SNR=11						
MAW				LR	LR	20 11 07.8	
	comp=Z,8µm,22.0s,baz=80,slow=33						
MAW	Mawson	83.73	202	P	P	19 37 28.4	+1.9
	baz=84,SNR=7.2						
MAW	Mawson	83.73	202	P	P	19 37 24.9	-1.6
MAW	Mawson	83.73	202	P	P	19 37 24.9	-1.6
COLD	Coldfoot	83.76	21	P	P	19 37 25.0	-1.7
	baz=245,SNR=12						
SUCK	Suckling Hills	83.82	29	IAMs_20	IAMs_20	20 07 50.8	
	comp=Z,11µm,22.0s						
HDA	Harding Lake	83.89	24	IAMs_20	IAMs_20	20 08 22.4	
	comp=Z,16µm,22.0s						
HDA	Harding Lake	83.89	24	P	P	19 37 27.1	-0.3
	baz=249						
N25K	Chitina, Valde	83.92	27	P	P	19 37 27.1	-0.7
	baz=251,SNR=8.5						
HARP	HAARP	83.94	26	P	P	19 37 26.3	-1.4
	baz=250						
BERG	Berg Lake	83.95	28	IAMs_20	IAMs_20	20 09 16.5	
	comp=Z,11µm,22.0s						
POKR	Poker Plat Res	83.95	23	IAMs_20	IAMs_20	20 10 43.1	
	comp=Z,16µm,21.0s						
POKR	Poker Plat Res	83.95	23	P	P	19 37 27.9	+0.2
	baz=248						
PAX	Paxson	84.00	26	P	P	19 37 27.4	-0.6
	baz=250,SNR=7.9						
IL31		84.04	24	IAmb	IAmb	19 37 54.0	
	comp=Z,38nm,0.9s						
ILAR	Eielson Array	84.04	24	P	P	19 37 28.2	+0.1
	comp=Z,8.7nm,0.8s,baz=259,slow=4.5,SNR=33						
ILAR				LR	LR	20 13 05.8	
	comp=Z,9µm,19.5s,baz=270,slow=34						
H24K	Noodor Dome	84.05	22	P	P	19 37 26.1	-2.2
	baz=248,SNR=18						
SNH	Sunshine Point	84.30	29	IAMs_20	IAMs_20	20 12 16.6	
	comp=Z,9µm,19.0s						
VRDI	Verde Repeater	84.33	27	IAMs_20	IAMs_20	20 11 27.2	
	comp=Z,9µm,20.0s						
WAX	Waxell Ridge	84.37	28	IAMs_20	IAMs_20	20 13 00.5	
	comp=Z,9µm,19.0s						
RIDG	Independent Ri	84.52	25	P	P	19 37 28.4	-2.3
	baz=251,SNR=12						
TOLK	Toolik Lake Re	84.56	20	IAMs_20	IAMs_20	20 12 40.0	
	comp=Z,12µm,20.0s						
TOLK	Toolik Lake Re	84.56	20	P	P	19 37 28.6	-2.2
	baz=246,SNR=17						
J25K	Salcha River,	84.60	24	IAMs_20	IAMs_20	20 08 43.2	
	comp=Z,12µm,22.0s						
J25K	Salcha River,	84.60	24	P	P	19 37 31.7	+0.7
	baz=250,SNR=32						
ISLE	Juniper Island	84.66	28	IAMs_20	IAMs_20	20 12 59.1	
	comp=Z,8µm,20.0s						
YAH	Yahtse	84.87	29	IAMs_20	IAMs_20	20 12 42.7	
	comp=Z,9µm,19.0s						
SCRK	Sand Creek	84.96	25	P	P	19 37 32.3	-0.7
	baz=251,SNR=12						
BARN	Barnard Glacie	85.11	28	IAMs_20	IAMs_20	20 10 04.9	
	comp=Z,8µm,22.0s						
TABL	Table Mountain	85.18	29	IAMs_20	IAMs_20	20 12 51.9	
	comp=Z,7µm,19.0s						
J26L	Joseph Creek	85.30	24	P	P	19 37 34.0	-0.7
	baz=252,SNR=14						
M27K	Edge Creek, AK	85.38	27	IAMs_20	IAMs_20	20 12 19.0	
	comp=Z,10µm,20.0s						
M27K	Edge Creek, AK	85.38	27	P	P	19 37 34.9	-0.2
	baz=253,SNR=11						
L27K	Beaver Creek,	85.60	26	P	P	19 37 36.7	+0.6
	baz=253,SNR=17						
BCPM	Bancas Point	85.78	29	IAMs_20	IAMs_20	20 11 42.8	
	comp=Z,10µm,20.0s						
PNL	Peninsula	85.83	30	P	P	19 37 36.5	-0.8
	baz=256						
BVCY	Beaver Creek	85.85	27	P	P	19 37 36.9	-0.5
	baz=254						
YUK3	Moose Creek	85.86	27	P	P	19 37 36.7	-0.9
	baz=255,SNR=11						
HRA	Herat	85.95	305	P	P	19 37 35.8	-2.9
HRA				IAmb	IAmb	19 38 15.9	
	comp=Z,136nm,1.4s						
QSPA	South Pole Qui	86.42	180	LR	LR	20 16 51.6	
	comp=Z,13µm,18.4s,baz=12,slow=36						
QSPA	South Pole Qui	86.42	180	P	P	19 37 37.7	-2.5
QSPA				IAmb	IAmb	19 37 53.8	
	comp=Z,65nm,1.0s						
QSPA	South Pole Qui	86.42	180	IAMs_20	IAMs_20	20 16 40.4	
	comp=Z,12µm,19.0s						
YUK4	Talbot Arm	86.59	28	P	P	19 37 40.2	-1.0
	baz=256,SNR=13						
YUK6	Outpost Mounta	86.63	28	P	P	19 37 41.0	-0.5
	baz=257,SNR=9.0						
DAWY	Dawson	86.92	25	P	P	19 37 41.1	-1.5
	baz=256,SNR=25						
HYT	Haines Junctio	87.02	29	P	P	19 37 40.5	-2.7
	baz=257,SNR=9.6						
JLN	Jalan Bani Buh	87.17	292	P	P	19 37 42.2	-2.4
JLN				S	SKSac	19 48 10.9	-1.2
SIT	Sitka	87.37	33	P	P	19 37 42.7	-2.0
	baz=260						
J29M	Klondike Camp	87.51	25	P	P	19 37 43.7	-1.8
	baz=257						
WBK	Wadi Bani Khal	87.62	293	P	P	19 37 47.0	+0.2
WBK				S	SKSac	19 48 14.4	-0.5
I29M	Ogilvie Camp,	87.69	24	P	P	19 37 45.3	-1.0
	baz=256,SNR=12						
M30M	Minto, Yukon	87.72	27	IAMs_20	IAMs_20	20 15 24.9	
	comp=Z,7µm,19.0s						
M30M	Minto, Yukon	87.72	27	P	P	19 37 43.7	-2.8
	baz=258,SNR=8.9						

SKAG	Skagway	87.81	30	P	P	19 37 47.3	+0.4
	baz=259,SNR=7.7						
N31M	Braeburn, Yuko	87.97	28	IAMs_20	IAMs_20	20 11 02.6	
	comp=Z,7µm,22.0s						
N31M	Braeburn, Yuko	87.97	28	P	P	19 37 47.7	0.0
	baz=259						
WSAR	Wadi Sarin	87.98	293	LR	LR	20 21 26.4	
	comp=Z,814nm,18.8s,baz=122,slow=39						
JIS	Juneau Island	88.08	31	IAMs_20	IAMs_20	20 09 07.7	
	comp=Z,8µm,22.0s						
WHY	Whitehorse	88.25	29	P	P	19 37 49.2	+0.1
	baz=260						
CRAG	Craig	88.31	34	P	P	19 37 45.7	-3.7
	baz=261						
JMDO	Jabal Madar	88.40	292	P	P	19 37 48.6	-1.9
JMDO				S	SKSac	19 48 20.0	+0.5
MHTO	MHTO	88.42	291	P	P	19 37 58.1	+7.5
MHTO				S	SKSac	19 48 19.4	-0.2
BIDO	Bidbid	88.47	294	P	P	19 37 54.2	+3.4
BIDO				P	P	19 37 54.2	+3.4
BIDO				S	SKSac	19 48 20.2	+0.4
BIDO				S	SKSac	19 48 20.2	+0.4
SMDO	Samad	88.50	293	P	P	19 37 51.0	-0.2
SMDO				S	SKSac	19 48 23.5	+3.2
EPYK	Eagle Plains	88.55	23	P	P	19 37 47.3	-3.0
	baz=258						
DQM	DQM	88.74	290	P	P	19 37 52.2	0.0
DQM				S	SKSac	19 48 23.7	+2.2
M31M	Drury Creek, Y	88.75	28	IAMs_20	IAMs_20	20 15 02.1	
	comp=Z,8µm,20.0s						
M31M	Drury Creek, Y	88.75	28	P	P	19 37 50.3	-1.1
	baz=260						
WRAK	Wrangell Islan	88.88	33	IAMs_20	IAMs_20	20 09 39.1	
	comp=Z,11µm,21.0s						
WRAK	Wrangell Islan	88.88	33	P	P	19 37 50.4	-1.6
	baz=262						
P33M	Teslin, Yukon	89.18	30	IAMs_20	IAMs_20	20 12 24.8	
	comp=Z,9µm,21.0s						
P33M	Teslin, Yukon	89.18	30	P	P	19 37 53.8	+0.3
	baz=262						
HOQ	Hoqain	89.22	294	P	P	19 37 54.8	+0.5
HOQ				S	SKSac	19 48 26.6	+2.2
BSY	Bisya	89.26	293	P	P	19 38 00.3	+5.6
AB31	Akbulak array	89.38	319	*i* P	P	19 37 53.3	-1.2
ABKAR	Akbulak array	89.38	319	P	P	19 37 51.5	-3.0
CRZF	Crozet Islands	89.59	224	IAMs_20	IAMs_20	20 14 56.9	
	comp=Z,7µm,19.0s						
GEYT	Alibeck	89.63	308	P	P	19 37 56.1	0.0
	comp=Z,1.7nm,0.8s,baz=216,slow=30,SNR=6.1						
GEYT				LR	LR	20 19 47.0	
	comp=Z,6µm,21.4s,baz=100,slow=37						
GEYT	Alibeck	89.63	308	IAmb	IAmb	19 38 32.8	
	comp=Z,48nm,1.5s						
SVE	Sverdlovsk	89.80	327	*e*P	P	19 37 56.7	+0.4
SVE				*e*S	SKSac	19 48 28.7	+2.4
SVE				pmax	pmax		
	comp=Z,37nm,1.9s						
SVE				MLR	MLR		
	comp=E,8µm,22.0s						
SVE				MLR	MLR		
	comp=Z,9µm,21.0s						
ARQ	Araqi	89.92	293	P	P	19 38 01.4	+3.7
ARQ				S	SKSac	19 48 28.1	-0.4
INK	Inuvik	90.12	22	P	P	19 37 59.8	+2.2
	comp=Z,5.2nm,0.7s,baz=264,slow=6.0,SNR=1.5						
INK				LR	LR	20 17 03.1	
	comp=Z,13µm,19.6s,baz=248,slow=35						
INK	Inuvik	90.12	22	P	P	19 37 56.4	-1.1
	baz=261						
BANOM	Banah	90.30	296	P	P	19 37 59.2	-0.3
BANOM				S	SKSac	19 48 29.9	-0.7
UOSS	Minazif	90.32	295	P	P	19 38 03.8	+4.3
UOSS				S	SKSac	19 48 31.0	+0.3
DLBC	Dease Lake	90.38	32	LR	LR	20 11 53.1	
	comp=Z,10µm,20.5s,baz=278,slow=31						
HATD	Hatta, Dubai	90.38	295	P	P	19 37 59.1	-0.7
HATD				S	SKSac	19 48 31.2	+0.2
MASF	Masafi	90.39	295	P	P	19 37 59.7	-0.2
MASF				S	SKSac	19 48 32.1	+1.0
SHAO	Shalim	90.42	288	P	P	19 37 57.4	-2.7
SHAO				S	SKSac	19 48 30.2	-1.3
ASHO	Ashiyiah	90.44	295	P	P	19 38 01.4	+1.3
ASHO				S	SKSac	19 48 28.6	-2.8
SHME	Shamm	90.45	296	P	P	19 37 56.7	-3.3
SHME				S	SKSac	19 48 30.0	-1.4
ALNE	Al Ain	90.68	294	P	P	19 37 59.3	-1.9
ALNE				P	P	19 37 59.3	-1.9
ALNE				S	SKSac	19 48 32.4	-0.4
ALNE				S	SKSac	19 48 32.4	-0.4
AKTO	Aktyubinsk	90.73	320	LR	LR	20 20 27.3	
	comp=Z,6µm,19.2s,baz=89,slow=37						
NAZ	Nazwa, Dubai	90.81	295	P	P	19 38 01.5	-0.3
NAZ				S	SKSac	19 48 32.7	-0.8
FAQ	Al Faqa, Dubai	90.86	295	P	P	19 38 03.7	+1.7
FAQ				S	SKSac	19 48 33.6	-0.3
BBB	Bella Bella	90.89	38	LR	LR	20 13 29.5	
	comp=Z,9µm,19.3s,baz=271,slow=32						
ARU	Arti	90.90	326	LR	LR	20 20 34.0	
	comp=Z,7µm,19.0s,baz=84,slow=37						
ARU	Arti	90.90	326	P	P	19 38 06.0	+4.5
ARU				PPP	PPP	19 43 42.2	
ARU				SP	SP	19 50 04.1	-1.0
ARU				SS	SS	19 55 02.1	+1.3
ARU				MLR	MLR		
	comp=Z,10µm,22.0s						
ARU	Arti	90.90	326	IAMs_20	IAMs_20	20 18 51.0	
	comp=Z,9µm,20.0s						
DMTO	DMTO	91.05	288	P	P	19 38 01.9	-1.2
DMTO				S	SKSac	19 48 34.1	-1.0
ASUD	Al Ashush, Dub	91.09	294	P	P	19 38 07.3	+4.2
ASUD				S	SKSac	19 48 34.8	-0.3
UMZA	Um Al Zommool	91.14	293	P	P	19 38 07.2	+3.9
UMZA				S	SKSac	19 48 35.6	+0.1
AJN	Ajban	91.40	294	P	P	19 38 03.6	-0.9
AJN				S	SKSac	19 48 37.1	+0.2
TGTN	Hyland Airport	91.54	29	P	P	19 38 01.7	-2.7
	baz=266						
SOCY	Socotra	91.66	282	P	P	19 38 06.7	+0.7
RBK	Rabkut	91.74	287	P	P	19 38 05.5	-0.8
RBK				S	SKSac	19 48 39.2	0.0
DOK	Doka	91.88	288	P	P	19 38 17.8	+11
DOK				P	P	19 38 17.8	+11
DOK				S	SKSac	19 48 39.9	+0.1
DOK				S	SKSac	19 48 39.9	+0.1
WHFO	Wadi Hawf	92.18	288	P	P	19 38 09.0	+0.7
WHFO				S	SKSac	19 48 41.9	+0.3
SYO	Syowa Base	92.19	200	⇑*e*P	P	19 38 06.8	-0.4
SYO	Syowa Base	92.19	200	⇓*e*pP	pP	19 38 10.4	-1.6
MZWR	Madinat Zayed	92.37	294	P	P	19 38 09.3	+0.3
MZWR				S	SKSac	19 48 42.3	-0.1
ABTO	Aybut	92.60	287	P	P	19 38 10.3	0.0
ABTO				P	P	19 38 10.3	0.0
ABTO				S	SKSac	19 48 44.1	+0.1
ABTO				S	SKSac	19 48 44.1	+0.1
MZR	Muzera	92.70	293	P	P	19 38 10.5	-0.1
MZR				P	P	19 38 10.5	-0.1
MZR				S	SKSac	19 48 45.1	+0.8
MZR				S	SKSac	19 48 45.1	+0.8
JCC	Jacoby Creek,	93.07	49	IAMs_20	IAMs_20	20 13 03.2	
	comp=Z,11µm,19.0s						
J01E	Myrtle Point	93.22	47	IAMs_20	IAMs_20	20 12 13.9	
	comp=Z,10µm,21.0s						
J01E	Myrtle Point	93.22	47	P	P	19 38 12.8	+0.3
	baz=268						
A36M	Sachs Harbour	93.27	18	IAMs_20	IAMs_20	20 17 11.2	
	comp=Z,10µm,22.0s						
A36M	Sachs Harbour	93.27	18	P	P	19 38 12.4	+0.3
	baz=269						
I02E	Swisshome, OR	93.31	46	IAMs_20	IAMs_20	20 11 34.2	
	comp=Z,11µm,21.0s						
I02E	Swisshome, OR	93.31	46	P	P	19 38 12.9	0.0
	baz=268						
K02D	Willamette Mer	93.40	48	P	P	19 38 10.8	-2.7
	baz=268						
L02E	Cave Junction	93.43	48	IAMs_20	IAMs_20	20 16 33.6	
	comp=Z,9µm,19.0s						
L02E	Cave Junction	93.43	48	P	P	19 38 14.0	+0.4
	baz=268						
C36M	Paulatuk	93.63	21	IAMs_20	IAMs_20	20 15 00.7	
	comp=Z,11µm,22.0s						
C36M	Paulatuk	93.63	21	P	P	19 38 14.1	+0.3
	baz=270						
I03D	Drain, OR	93.66	47	P	P	19 38 13.1	-1.4
	baz=269						

HOPS	Hopland Field	93.75	51	IAMs_20	IAMs_20	20 13 20.4	
	comp=Z,11µm,20.0s						
G03D	McMinnville, O	93.75	45	P	P	19 38 13.7	-1.3
	baz=269						
D03D	Eldon	93.92	43	P	P	19 38 13.0	-2.6
	baz=269						
HUMO	Hull Mountain	93.92	48	IAMs_20	IAMs_20	20 14 42.5	
	comp=Z,9µm,20.0s						
M02C	Callahan	93.97	49	P	P	19 38 17.0	+0.8
	baz=269						
O02D	Mt. Diablo Mer	93.99	50	IAMs_20	IAMs_20	20 16 47.8	
	comp=Z,12µm,20.0s						
O02D	Mt. Diablo Mer	93.99	50	P	P	19 38 14.5	-1.8
	baz=269						
N02D	Trinity Center	94.07	49	P	P	19 38 14.4	-2.2
	baz=269						
YBH	Yreka Blue Hor	94.08	49	LR	LR	20 13 21.4	
	comp=Z,16µm,20.4s,baz=320,slow=31						
H04D	Lebanon	94.11	46	P	P	19 38 15.8	-0.8
	baz=269						
D04E	Lakebay	94.13	43	P	P	19 38 16.5	-0.1
	baz=269						
A04D	Lummi Island	94.19	42	P	P	19 38 15.9	-0.9
	baz=270						
E04D	Cinebar	94.26	44	IAMs_20	IAMs_20	20 13 49.1	
	comp=Z,10µm,20.0s						
E04D	Cinebar	94.26	44	P	P	19 38 16.7	-0.5
	baz=269						
I04A	Tendick Farm,	94.34	47	P	P	19 38 18.1	+0.4
	baz=269						
SLWR	Sila	94.38	294	P	P	19 38 17.3	-1.0
SLWR				S	SKSac	19 48 53.3	-0.1
L04D	Klamath Falls	94.39	48	IAMs_20	IAMs_20	20 17 23.2	
	comp=Z,9µm,19.0s						
L04D	Klamath Falls	94.39	48	P	P	19 38 18.4	+0.2
	baz=269						
J04D	Umpqua Nationa	94.55	47	IAMs_20	IAMs_20	20 13 18.2	
	comp=Z,11µm,21.0s						
J04D	Umpqua Nationa	94.55	47	P	P	19 38 17.8	-1.1
	baz=270						
B05A	Bryant	94.59	42	P	P	19 38 19.9	+1.2
	baz=270						
KHOR	Al-Khor Airpor	94.59	295	P	P	19 38 17.6	-1.6
KHOR				S	SKSac	19 48 54.3	-0.2
M04C	Macdoel	94.74	49	IAMs_20	IAMs_20	20 13 42.3	
	comp=Z,11µm,20.0s						
M04C	Macdoel	94.74	49	P	P	19 38 19.3	-0.4
	baz=270						
O03E	Paynes Creek	94.75	50	IAMs_20	IAMs_20	20 17 42.8	
	comp=Z,6µm,19.0s						
O03E	Paynes Creek	94.75	50	P	P	19 38 19.4	-0.4
	baz=270						
K04D	Chiloquin, OR	94.81	48	P	P	19 38 18.4	-1.7
	baz=270						
F05D	White Salmon	95.03	44	IAMs_20	IAMs_20	20 14 13.5	
	comp=Z,9µm,20.0s						
F05D	White Salmon	95.03	44	P	P	19 38 19.3	-1.5
	baz=270						
SHMA	Al-Shehemyia	95.09	296	S	SKSac	19 48 58.2	+1.1
I05D	Terrebonne, OR	95.11	46	P	P	19 38 24.1	+2.9
	baz=270						
G05D	Wamic, OR	95.13	45	P	P	19 38 21.1	-0.2
	baz=270						
J05D	Fort Rock, OR	95.19	47	P	P	19 38 23.2	+1.4
	baz=270						
KIRV	Kirov	95.88	328	LR	LR	20 21 17.1	
	comp=Z,15µm,21.5s,baz=85,slow=35						
KIRV	Kirov	95.88	328	⇑*e*P	P	19 38 24.4	+0.1
HAWA	Hanford	96.36	44	IAMs_20	IAMs_20	20 15 26.7	
	comp=Z,10µm,20.0s						
WVOR	Wild Horse Val	97.11	48	IAMs_20	IAMs_20	20 17 02.1	
	comp=Z,9µm,19.0s						
NVAR	Mina Array Bea	97.48	52	P	Pdif	19 38 36.0	+3.6
	comp=Z,1.1nm,1.0s,baz=224,slow=4.6,SNR=3.5						
NVAR				LR	LR	20 13 39.9	
	comp=Z,16µm,21.7s,baz=266,slow=30						
PRGR	Permogore	97.52	332	*e*P	Pdif	19 38 32.8	+1.1
PRGR				*e*		19 42 25.3	
PRGR				pmax	pmax		
	comp=Z,18nm,1.5s						
EDW2	Edwards Air Fo	97.81	55	P	Pdif	19 38 34.1	+0.3
	baz=271						
MAK	Makhachkala	97.83	313	*e*P	P	19 38 28.3	-5.2
MAK				*e*		19 49 02.9	
MAK				*e*SSS	SSS	20 00 19.4	
MAK				pmax	pmax		
	comp=Z,93nm,1.3s						
NEW	Newport	97.91	42	P	Pdif	19 38 35.8	+1.9
	comp=Z,0.7nm,0.4s,baz=270,slow=5.1,SNR=1.5						
NEW				LR	LR	20 15 53.2	
	comp=Z,9µm,20.5s,baz=286,slow=31						
NEW	Newport	97.91	42	IAMs_20	IAMs_20	20 15 10.6	
	comp=Z,9µm,21.0s						
NEW	Newport	97.91	42	P	P	19 38 33.8	0.0
	baz=274						
YKA	Yellowknife Ar	97.95	27	P	Pdif	19 38 35.4	+1.7
	comp=Z,2.2nm,1.0s,baz=277,slow=4.2,SNR=16						
YKA				PP	PP	19 42 35.2	+3.0
	comp=Z,7.8nm,1.2s,baz=272,slow=8.0,SNR=8.0						
YKA				PKKPbc	PKKPbc	19 55 09.5	-0.5
	comp=Z,0.7nm,0.8s,baz=98,slow=2.8,SNR=6.1						
YKA				LR	LR	20 18 30.2	
	comp=Z,7µm,22.0s,baz=296,slow=33						
YKA	Yellowknife Ar	97.95	27	*i* P	Pdif	19 38 37.7	+4.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BMO	Blue Mountains	97.98	45	IAMs_20	IAMs_20	20 17 19.8	
	comp=Z,10µm,20.0s						
MPMC	Manual Prospec	98.19	54	P	Pdif	19 38 35.8	+0.2
	baz=272						
109C	Camp Elliot, M	98.59	57	IAMs_20	IAMs_20	20 21 30.0	
	comp=Z,7µm,19.0s						
RRX	Edison Barstow	98.62	55	P	P	19 38 36.2	-1.2
	baz=272						
BELA	Belgrano 2	98.70	180	IAmb	IAmb	19 38 51.0	
	comp=Z,31nm,1.4s						
GSC	Goldstone, Bar	98.77	55	P	P	19 38 36.8	-1.3
	baz=272						
PLID	Pearl Lake	98.89	45	IAMs_20	IAMs_20	20 16 23.8	
	comp=Z,11µm,20.0s						
GROC	Groznyy	99.07	313	*e*P	Pdif	19 38 36.6	-2.5
GROC				*e*		19 42 38.8	
GROC				*e*S	SKSac	19 49 12.9	-4.1
GROC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GROC				MLR	MLR		
	comp=Z,356nm,11.0s						
PFO	Pinyon Flats O	99.11	57	LR	LR	20 18 26.6	
	comp=Z,5µm,18.5s,baz=282,slow=32						
PFO	Pinyon Flats O	99.11	57	IAMs_20	IAMs_20	20 18 03.7	
	comp=Z,7µm,20.0s						
MFID	Camas Ranch	99.13	47	IAMs_20	IAMs_20	20 18 02.3	
	comp=Z,12µm,20.0s						
TPNV	Topopah Spring	99.16	53	IAMs_20	IAMs_20	20 15 07.4	
	comp=Z,9µm,20.0s						
TPNV	Topopah Spring	99.16	53	P	Pdif	19 38 41.0	+1.1
	baz=273						
MONP2	Monument Peak	99.16	57	P	Pdif	19 38 43.0	+2.9
	baz=272						
IKP	In-Ko-Pah, Jac	99.43	58	P	Pdif	19 38 41.6	+0.5
	baz=272						
BELC	Belle Mtn. Jos	99.48	56	P	Pdif	19 38 40.6	-0.8
	baz=272						
TUQ	Turquoise Moun	99.48	55	P	Pdif	19 38 41.2	-0.1
	baz=272						
R11A	Troy Canyon, C	99.61	52	P	Pdif	19 38 41.8	-0.2
	baz=273						
GMRC	Granite Mounta	99.73	55	P	Pdif	19 38 41.7	-0.8
	baz=273						
ELK	Elko	99.74	49	LR	LR	20 21 31.9	
	comp=Z,6µm,18.1s,baz=273,slow=34						
ELK	Elko	99.74	49	IAMs_20	IAMs_20	20 21 37.8	
	comp=Z,9µm,19.0s						
RAYN	Ar Rayn	100.04	293	P	Pdif	19 38 42.2	-1.7
RAYN				S	SKSac	19 49 23.8	+1.0
GNI	Garni	100.06	310	LR	LR	20 29 29.0	
	comp=Z,1µm,18.2s,baz=84,slow=39						
MSO	Missoula	100.18	43	IAMs_20	IAMs_20	20 17 14.6	
	comp=Z,7µm,20.0s						
ZEI	Tsey	100.49	313	*e*P	Pdif	19 38 46.2	+0.5
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KLMR	Klimovskoe	100.56	331	*e*P	Pdif	19 38 46.3	+1.0
KLMR				*e*		19 42 55.4	
KLMR				*e*S	SKSac	19 49 25.0	+1.5
KLMR				*e*SS	SS	19 57 28.3	+11
KLMR				pmax	pmax		

comp=Z,26nm,1.2s
KLMR MLR MLR
comp=Z,5µm,20.0s
KLMR Klimovskoe 100.56 331 *e*P **Pdif 19 38 46.3 +1.0**
KLMR AMP 19 39 04.5
comp=Z,26nm,1.2s
KLMR *e*PP **PP 19 42 55.4 +3.3**
KLMR *e*S **SKSac 19 49 25.1 +1.5**
KLMR *e*S **SKSac 19 49 25.1 +1.5**
KLMR *e*PS **PS 19 52 00.1 +7.1**
KLMR *e*PS **PS 19 52 00.1 +7.1**
KLMR *e*SS SS 19 57 28.4 +11
KLMR *e*SS SS 19 57 28.4 +11
KLMR LQ LQ 20 15 46.8
KLMR LQ LQ 20 15 46.8
KLMR LR LR 20 20 11.5
KLMR AMP 20 24 40.0
comp=Z,5µm,19.6s
RES Resolute Bay 101.08 14 PKKP 19 55 05.2
comp=Z,2.2nm,1.1s,baz=33,slow=7.2,SNR=5.7
DLMT Dillon 101.26 45 IAMs_20 IAMs_20 20 17 50.5
comp=Z,11µm,20.0s
APA Apatity 101.36 339⇓*i*P **Pdif 19 38 52.5 +3.7**
APA *i* 19 49 28.0
APA *i* 19 50 13.0
APA pmax pmax
comp=Z,6.0nm,1.0s
APA MLR MLR
comp=Z,7µm,19.0s
DUG Dugway, Tooele 101.63 50 IAMs_20 IAMs_20 20 22 46.8
comp=Z,7µm,19.0s
BOZ Bozeman (W) 101.91 44 IAMs_20 IAMs_20 20 19 09.6
comp=Z,10µm,20.0s
HWUT Hardware Ranch 102.43 48 IAMs_20 IAMs_20 20 18 16.7
comp=Z,10µm,20.0s
AHID Auburn Hatcher 102.64 47 IAMs_20 IAMs_20 20 20 13.1
comp=Z,10µm,20.0s
KEV Kevo 102.71 342 IAMs_20 IAMs_20 20 25 29.9
comp=Z,6µm,22.0s
FLWY Flagg Ranch 102.76 46 IAMs_20 IAMs_20 20 17 00.3
comp=Z,9µm,21.0s
MOOW Moose Ponds 102.77 46 IAMs_20 IAMs_20 20 18 53.6
comp=Z,10µm,20.0s
WUAZ Wupatki 103.18 54 IAMs_20 IAMs_20 20 16 50.2
comp=Z,8µm,22.0s
RLMT Red Lodge 103.62 45 IAMs_20 IAMs_20 20 19 47.0
comp=Z,9µm,21.0s
PDAR Pinedale Array 103.76 47 Pdiff **Pdif 19 39 09.8 +9.5**
comp=Z,2.3nm,1.1s,baz=259,slow=1.5,SNR=8.3
TUC Tucson 103.94 58 IAMs_20 IAMs_20 20 19 26.9
comp=Z,9µm,20.0s
O20A White River Ci 105.11 49 P **PKiKP 19 43 20.2 -0.7**
baz=278
SLBS Sierra La Lagu 105.25 67 IAMs_20 IAMs_20 20 20 18.8
comp=Z,10µm,20.0s
MVCO Mesa Verde 105.31 53 P **PKiKP 19 43 19.9 -1.5**
baz=277
LAO LASA Array 105.44 43 IAMs_20 IAMs_20 20 20 23.9
comp=Z,7µm,22.0s
RWWY Rawlins 105.65 48 IAMs_20 IAMs_20 20 20 02.9
comp=Z,9µm,21.0s
SMCO Snowmass 106.22 50 IAMs_20 IAMs_20 20 23 49.5
comp=Z,7µm,20.0s
DAG Danmarks Havn 106.26 356 *i* P **Pdif 19 39 13.0 +2.6**
DGMT Dagmar 106.39 40 IAMs_20 IAMs_20 20 23 36.9
comp=Z,6µm,20.0s
121A Cookes Peak, D 106.45 57 P **PKiKP 19 43 22.1 -1.5**
baz=276
S22A 4UR Ranch, Cre 106.55 52 P **PKiKP 19 43 21.9 -1.9**
baz=279
Y22D IRIS PASSCAL I 106.98 56 IAMs_20 IAMs_20 20 24 48.0
comp=Z,7µm,20.0s
PHWY Pilot Hill 107.01 48 IAMs_20 IAMs_20 20 20 56.0
comp=Z,11µm,21.0s
ISCO Idaho Springs 107.16 49 IAMs_20 IAMs_20 20 23 45.2
comp=Z,7µm,20.0s
RSSD Black Hills 107.48 45 IAMs_20 IAMs_20 20 27 56.1
comp=Z,5µm,19.0s
EPT El Paso 107.61 58 IAMs_20 IAMs_20 20 21 43.0
comp=Z,7µm,21.0s
MNTX Cornudas Mount 108.57 58 IAMs_20 IAMs_20 20 22 23.4
comp=Z,6µm,20.0s
OGNE Ogallala 109.62 48 IAMs_20 IAMs_20 20 30 41.0
comp=Z,5µm,18.0s
TXAR Lajitas Array 110.35 60 PKKP 19 54 44.3
comp=Z,3.3nm,1.0s,baz=114,slow=5.8,SNR=15
SUW Suwalki 111.06 327 IAMs_20 IAMs_20 20 33 23.0
comp=Z,7µm,19.0s
AMTX Amarillo 111.13 54 IAMs_20 IAMs_20 20 20 54.5
comp=Z,6µm,22.0s
AGMN Agassiz Nation 111.76 39 IAMs_20 IAMs_20 20 26 02.6
comp=Z,8µm,21.0s
MLR Muntele Rosu 112.56 318 IAMs_20 IAMs_20 20 32 52.9
comp=Z,8µm,22.0s
JCT Junction City 113.49 58 IAMs_20 IAMs_20 20 22 20.7
comp=Z,9µm,22.0s
WMOK Wichita Mounta 113.50 54 IAMs_20 IAMs_20 20 26 17.1
comp=Z,5µm,21.0s
UZH Uzhgorod 113.76 322⇓*i*PKIKP **PKiKP 19 43 43.8 +7.2**
UZH *e* 19 43 49.2
UZH *i* 19 44 29.2
KONO Kongsberg 114.41 337 IAMs_20 IAMs_20 20 34 27.5
comp=Z,7µm,22.0s
LSZ Lusaka 114.68 252 IAMs_20 IAMs_20 20 29 01.2
comp=Z,5µm,22.0s
PSZ Piszkesteto 115.51 322 IAMs_20 IAMs_20 20 36 22.4
comp=Z,6µm,19.0s
UNM Universidad Na 115.57 70 IAMs_20 IAMs_20 20 27 08.7
comp=Z,7µm,18.0s
KVTX Kingsville 115.65 61 IAMs_20 IAMs_20 20 31 53.3
comp=Z,6µm,19.0s
OKC Ostrava-Krasne 115.70 325 AMS AMS 20 37 00.0
comp=Z,3µm,17.5s
SCIA State Center 115.71 45 IAMs_20 IAMs_20 20 31 18.9
comp=Z,6µm,20.0s
SUR Sutherland 116.18 231 IAMs_20 IAMs_20 20 30 50.0
comp=Z,6µm,19.0s
KRLC Kraliky 116.36 326 AMS AMS 20 35 00.0
comp=Z,5µm,18.6s
OSTC Ostas 116.44 326 AMS AMS 20 35 20.0
comp=Z,6µm,19.7s
DPC Dobruska-Polom 116.49 326 AMS AMS 20 35 10.0
comp=Z,6µm,20.9s
CHVC Chvalec 116.52 326 *e*PS PS 19 54 25.0 -6.5
CHVC AMS AMS 20 35 20.0
comp=Z,6µm,18.7s
UPC Upice 116.58 326 *e*PS PS 19 54 26.5 -5.6
UPC AMS AMS 20 35 20.0
comp=Z,6µm,20.0s
DIVS Divibare 117.02 318 IAMs_20 IAMs_20 20 37 04.7
comp=Z,5µm,20.0s
PVCC Panska Ves 117.36 327 AMS AMS 20 36 10.0
comp=Z,7µm,18.9s
JFWS Jewell Farm 117.40 43 IAMs_20 IAMs_20 20 30 23.2
comp=Z,9µm,21.0s
TREC Trest 117.48 325 AMS AMS 20 34 50.0
comp=Z,6µm,19.8s
BRG Berggiesshubel 117.53 327 *e*PKP **PKiKP 19 43 48.1 +4.3**
BRG Amp 19 43 52.7
comp=Z,7.8nm,1.2s
BRG Berggiesshubel 117.53 327 *e*PKIKP **PKiKP 19 43 48.1 +4.3**
BRG *e* 19 45 01.0
BRG *e* 19 54 33.0
BRG *e* 20 01 29.0
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG pmax pmax
comp=Z,10µm,21.6s
BRG MLR MLR
comp=E,6µm,22.3s
BRG MLR MLR
comp=N,5µm,21.4s
NATX Nacogdoches 117.54 56 IAMs_20 IAMs_20 20 28 02.5
comp=Z,5µm,21.0s
PRU Pruhonice 117.66 326 *e*PS PS 19 54 35.4 -6.4
PRU AMS AMS 20 35 50.0
comp=Z,6µm,21.0s
RONA Rosalia, Austr 117.78 323 *e*P **PKiKP 19 43 50.1 +5.6**
comp=Z,5.1nm,1.2s
CLL Collm 117.79 328 *e*PKIKP **PKiKP 19 43 46.0 +1.7**
CLL MLR MLR
comp=Z,17µm,21.5s
CLL Collm 117.79 328 *e*SS SS 20 01 18.0 +8.8
CLL *e*SSS SSS 20 05 18.0
CLL *e*x x 20 07 06.0
CLL Lm MLR 20 34 00.0
comp=Z,17µm,21.5s
CONA Conrad Observa 117.93 324 *e*P **PKiKP 19 43 50.9 +6.1**
comp=Z,2.7nm,0.9s
PBCC Pribram 118.12 326 AMS AMS 20 36 40.0
comp=Z,3µm,19.9s
TIR Tirane 118.17 316 IAMs_20 IAMs_20 20 36 05.5
comp=Z,6µm,22.0s
PDG Podgorica 118.17 317 IAMs_20 IAMs_20 20 37 51.3
comp=Z,7µm,20.0s
CKRC Cesky Krumlov 118.39 325 *e*PKP **PKiKP 19 43 47.2 +1.6**
CKRC *e*PS **PS 19 54 42.3 -6.2**
CKRC AMS AMS 20 35 50.0
comp=Z,6µm,20.5s
CCM Cathedral Cave 118.43 48 IAMs_20 IAMs_20 20 30 15.3
comp=Z,7µm,20.0s
KHC Kasperske Hory 118.64 326 *e*PKIKP **PKiKP 19 43 46.1 0.0**
KHC *e* 19 43 53.5
KHC *e*PS **PS 19 54 45.3 -5.5**
KHC MLR MLR
comp=Z,7µm,19.2s
KHC Kasperske Hory 118.64 326 *e*PKP **PKiKP 19 43 46.1 0.0**
KHC *e*x x 19 43 53.5
KHC *e*PS **PS 19 54 45.3 -5.5**
KHC AMS AMS 20 36 30.0
comp=Z,7µm,19.2s
NKC Novy Kostel 118.67 327 AMS AMS 20 35 40.0
comp=Z,11µm,20.1s
GERES GERESS Array B 118.72 325 PKP **PKiKP 19 43 48.1 +1.7**
comp=Z,1.1nm,0.7s,baz=46,slow=5.8,SNR=5.3
HDIL Hopedale 118.96 45 IAMs_20 IAMs_20 20 29 11.8
comp=Z,5µm,21.0s
KBA Koelnbreinsper 119.83 324 *e*P **PKiKP 19 43 52.7 +4.1**
comp=Z,3.6nm,0.8s
ABTA Abfaltersbach 120.49 324 *e*P **PKiKP 19 43 55.2 +5.3**
comp=Z,7.2nm,0.9s
WATA Walderalm 120.72 325 *e*P **PKiKP 19 43 54.6 +4.2**
comp=Z,7.0nm,1.0s
WTTA Wattenberg 120.73 325 *e*P **PKiKP 19 43 53.1 +2.7**
comp=Z,9.3nm,0.9s
VBMS Vicksburg 120.81 54 IAMs_20 IAMs_20 20 28 02.9
comp=Z,7µm,22.0s
MOTA Moosalm 120.99 325 *e*P **PKiKP 19 43 52.5 +1.6**
comp=Z,11nm,1.2s
SQTA Sankt Quirin 121.00 325 *e*P **PKiKP 19 43 55.3 +4.4**
comp=Z,5.2nm,1.1s
RETA Reutte 121.11 325 *e*P **PKiKP 19 43 55.1 +4.1**
comp=Z,5.1nm,1.3s
TIP Timpagrande 121.20 314 IAMs_20 IAMs_20 20 39 10.9
comp=Z,6µm,22.0s
FETA Feichten 121.38 325 *e*P **PKiKP 19 43 54.9 +3.2**
comp=Z,5.6nm,0.9s
EFI East Falkland 121.62 163 IAMs_20 IAMs_20 20 30 08.2
comp=Z,4µm,21.0s
DAVA Damuels 121.72 326 *e*P **PKiKP 19 43 55.6 +3.2**
comp=Z,7.4nm,0.8s
PLAL Pickwick Lake 121.87 51 IAMs_20 IAMs_20 20 30 31.8
comp=Z,5µm,20.0s
BFO Black Forest 121.97 327 IAMs_20 IAMs_20 20 37 42.6
comp=Z,7µm,21.0s
DAVOX Davos/Dischmat 122.00 325 PKP **PKiKP 19 43 54.8 +1.8**
comp=Z,2.3nm,0.6s,baz=242,slow=9.5,SNR=5.6
AAM Ann Arbor 122.06 41 IAMs_20 IAMs_20 20 34 56.3
comp=Z,7µm,20.0s
AQU L'Aquila 122.11 319 IAMs_20 IAMs_20 20 41 01.4
comp=Z,8µm,20.0s
CEL Celeste 122.18 314 IAMs_20 IAMs_20 20 40 02.1
comp=Z,5µm,22.0s
ESK Eskdalemuir 122.33 339 IAMs_20 IAMs_20 20 39 22.8
comp=Z,7µm,20.0s
P49A Miami Univ. Ec 122.58 44 IAMs_20 IAMs_20 20 34 38.7
comp=Z,6µm,20.0s
ECH Echery 122.67 328 IAMs_20 IAMs_20 20 38 03.0
comp=Z,8µm,21.0s
LRAL Lakeview Retre 123.38 52 IAMs_20 IAMs_20 20 32 41.4
comp=Z,8µm,20.0s
TSUM Tsumeb 123.53 244 IAMs_20 IAMs_20 20 42 48.4
comp=Z,4µm,19.0s
SENIN Lac Senin/Sane 123.70 326 IAMs_20 IAMs_20 20 42 29.5
comp=Z,6µm,18.0s
M53A WI Miller and 124.42 41 IAMs_20 IAMs_20 20 41 17.9
comp=Z,7µm,19.0s
M54A Oil Creek Stat 125.04 40 IAMs_20 IAMs_20 20 35 41.2
comp=Z,8µm,20.0s
M54A Oil Creek Stat 125.04 40 P **PKPdf 19 43 56.9 -1.7**
baz=301
N54A Moraine State 125.11 41 IAMs_20 IAMs_20 20 34 09.1
comp=Z,8µm,21.0s
PLCA Paso Flores 125.30 147 PKP **PKiKP 19 44 01.6 +2.0**
comp=Z,7.8nm,0.8s,baz=258,slow=2.1,SNR=11
PLCA Paso Flores 125.30 147 *e*P **PKiKP 19 44 04.1 +4.5**
SNET Serv Nac Est T 125.61 76 IAMs_20 IAMs_20 20 35 56.5
comp=Z,6µm,19.0s
SSB Saint Sauveur 125.89 326 IAMs_20 IAMs_20 20 41 18.4
comp=Z,5µm,20.0s
GOGA Godfrey 126.00 51 IAMs_20 IAMs_20 20 43 08.1
comp=Z,6µm,19.0s
VSL Villasalto 126.17 318 IAMs_20 IAMs_20 20 42 58.9
comp=Z,5µm,20.0s
LONY Lake Ozonia 126.35 34 IAMs_20 IAMs_20 20 34 18.1
comp=Z,6µm,21.0s
O56A Blue Knob Stat 126.39 41 P **PKPdf 19 43 58.4 -2.8**
baz=302
BLA Blacksburg 126.64 45 IAMs_20 IAMs_20 20 37 33.2
comp=Z,7µm,21.0s
TIGA Tifton 126.64 53 P **PKPdf 19 44 00.3 -1.5**
baz=291
SSPA Standing Stone 126.64 40 IAMs_20 IAMs_20 20 30 58.5
comp=Z,7µm,22.0s
TGUH Tegucigalpa,Un 127.47 75 IAMs_20 IAMs_20 20 32 06.6
comp=Z,5µm,21.0s
L61B Northampton 128.78 35 P **PKPdf 19 44 05.3 -0.4**
baz=309
HRV Adam Dziewonsk 129.38 35 IAMs_20 IAMs_20 20 37 40.5
comp=Z,6µm,22.0s
HRV Adam Dziewonsk 129.38 35 P **PKPdf 19 44 05.1 -1.7**
baz=310
DWPF Disney Wildern 129.57 56 IAMs_20 IAMs_20 20 34 42.2
comp=Z,6µm,22.0s
JTS Las Juntas de 130.07 80⇓*i*PKIKP **PKiKP 19 44 12.1 +2.4**
HDC Heredia 130.91 80 IAMs_20 IAMs_20 20 31 30.5
comp=Z,7µm,20.0s
TRIS Tristan da Cun 134.39 206 IAMs_20 IAMs_20 20 38 40.9
comp=Z,6µm,20.0s
PAB San Pablo 134.61 326 IAMs_20 IAMs_20 20 46 29.1
comp=Z,4µm,22.0s
PGAV Gavieira, Arco 134.84 332 *e*SS SS 20 05 07.1 +25
PGAV Gavieira, Arco 134.84 332 *e*LR LR 20 30 13.7
comp=Z,10µm,20.0s
MVO Moncorvo 134.85 330 *e*PKP PKiKP 19 44 27.3 +8.6
MVO Moncorvo 134.85 330 *e*SS SS 20 04 51.6 +9.0
MVO Moncorvo 134.85 330 *e*LR LR 20 30 38.1
comp=Z,8µm,20.0s
BCIP Isla Barro Col 135.18 81 IAMs_20 IAMs_20 20 33 10.6
comp=Z,6µm,22.0s
MTE Manteigas 135.68 330 *e*SS SS 20 05 05.2 +13
MTE Manteigas 135.68 330 *e*LR LR 20 30 59.9
comp=Z,8µm,22.0s
MTDJ Mount Denham 135.95 67 IAMs_20 IAMs_20 20 44 16.2
comp=Z,3µm,19.0s
PMRV Marv??o 136.33 329 *e*SS SS 20 05 17.2 +17
PMRV Marv??o 136.33 329 *e*LR LR 20 30 34.2
comp=Z,3µm,18.0s
OTAV Otavalo 136.52 93 *e*P **PKiKP 19 44 30.5 +7.1**
PBAR Barrancos 137.06 327 *e*PKP **PKiKP 19 44 27.4 +4.2**
GTBY Guantanamo Bay 137.70 64 *e*P **PKPdf 19 44 16.1 -7.0**
LVC Limon Verde 137.96 130 IAMs_20 IAMs_20 20 35 47.5
comp=Z,5µm,22.0s
PVAQ Vaqueiros 137.99 327 *e*SS SS 20 05 29.8 +10
PVAQ Vaqueiros 137.99 327 *e*LR LR 20 31 00.3
comp=Z,4µm,20.0s
PCON Cinco Dias 138.71 90 *e*P **PKiKP 19 44 35.3 +7.3**
YOTC Yotoco, Valle 138.81 88 *e*P **PKPdf 19 44 22.8 -2.6**
DBBC Dabeiba 138.90 83 *e*P **PKiKP 19 44 30.5 +2.8**
PB08 IPOC Station P 139.09 126 **PKPdf 19 44 20.0 -6.1**
MARP Paez Belalcaza 139.17 90 *e*P **PKiKP 19 44 30.5 +1.9**
FLOC Florencia 139.41 92⇑*e*P **PKPdf 19 44 23.8 -2.7**
UREC San Jos de Ur 139.53 82 *e*P **PKPdf 19 44 25.7 -0.9**
HELC Santa Helena 139.60 85 *e*P **PKiKP 19 44 29.5 0.0**
SJCC San Jacinto, C 139.69 79 *e*P **PKiKP 19 44 30.5 +1.2**
GUY2C Guyana, Caldas 139.79 86 *e*P **PKiKP 19 44 31.5 +1.4**
ORTC Ortega, Tolima 139.90 88 *e*P **PKiKP 19 44 28.6 -1.2**
PTLC Puerto Leguiza 140.16 94 *e*P **PKiKP 19 44 32.4 +2.2**
ZARC Zaragoza, Cauc 140.21 83 *e*P **PKPdf 19 44 27.6 -0.2**
SMRC Santa Marta, M 140.47 77 *e*P **PKiKP 19 44 32.4 +1.6**
GRTK Grand Turk 140.68 60 IAMs_20 IAMs_20 20 47 15.0
comp=Z,4µm,20.0s
PLTB Pedras Altas 140.72 155 *e*P **PKiKP 19 44 33.1 +2.2**
ROSC El Rosal 140.83 87 *e*P **PKiKP 19 44 31.5 -0.6**
SPBC San Pablo de B 141.07 85 *e*P **PKPdf 19 44 22.8 -6.7**
CHIC Chingaza 141.42 87 *e*P **PKPdf 19 44 31.5 +0.9**
SDDR Presa de Saban 141.42 64 IAMs_20 IAMs_20 20 40 53.4
comp=Z,6µm,22.0s
SDDR Presa de Saban 141.42 64⇑*e*P **PKPdf 19 44 29.5 -0.4**
LL6C La Loma 6 Bece 141.58 79 *e*P **PKiKP 19 44 32.4 -0.7**
CRJC Cerrejon, Guaj 141.79 77 *e*P **PKPdf 19 44 31.5 +0.7**
LPAZ La Paz 141.84 122 PKhKP PKPpre 19 44 29.1
comp=Z,3.3nm,1.0s,baz=265,slow=5.4,SNR=7.7
LPAZ La Paz 141.84 122 PKIKP **PKPdf 19 44 25.8 -5.7**
LPAZ La Paz 141.84 122 PKPdf **PKPdf 19 44 25.8 -5.7**
LPAZ La Paz 141.84 122 *e*P **PKiKP 19 44 33.4 -0.9**
LPAZ La Paz 141.84 122 *e*P **PKiKP 19 44 35.1 +0.8**
BARC Barichara 141.92 84 *e*P **PKPdf 19 44 29.5 -1.7**
RUSC La Rusia 142.04 85 *e*P **PKPdf 19 44 28.6 -3.2**
PAMC Pamplona, Colo 142.35 83 *e*P **PKPdf 19 44 28.6 -3.7**
TORD Torodi Ar. Bea 142.45 287 PKhKP PKPpre 19 44 28.1
comp=Z,2.1nm,0.8s,baz=70,slow=3.0,SNR=8.6
TORD Torodi Ar. Bea 142.45 287 **PKPdf 19 44 25.5 -6.3**
PTGC Puerto Gaitan, 143.01 88 *e*P **PKPdf 19 44 33.4 +0.5**
TAMC Tame, Arauca 143.31 84 *e*P **PKiKP 19 44 35.3 -1.4**
CPUP Villa Florida 143.32 145 PKP **PKPdf 19 44 32.7 -0.3**
comp=Z,3.5nm,0.9s,baz=246,slow=4.6,SNR=5.3
CPUP Villa Florida 143.32 145 *e*P **PKiKP 19 44 38.4 +2.0**
DABV Dabajuro 143.99 76 *e*P **PKiKP 19 44 38.2 +0.2**
CNLB Canela 144.00 156 *e*P **PKiKP 19 44 39.0 +1.2**
SOCV Socops 144.10 81 *e*P **PKPdf 19 44 35.3 +0.5**
SDV Santo Domingo 144.26 80 PKP **PKPdf 19 44 34.4 -0.8**
comp=Z,18nm,0.7s,baz=197,slow=1.1
SDV Santo Domingo 144.26 80 *e*P **PKPab 19 44 30.5 -2.6**
SHEL Horse Pasture 145.13 235 IAMs_20 IAMs_20 20 50 17.3
comp=Z,5µm,19.0s
TER01 Tubaro-SC 145.37 158 *e*P **PKiKP 19 44 41.2 +0.7**
ELOV Elorza 145.56 83 *e*P **PKiKP 19 44 41.1 -0.2**
PMPS Porto Santo 145.79 331 *e*PKP **PKiKP 19 44 45.5 +4.3**
ETMB Extrema 146.26 113 *e*P **PKiKP 19 44 42.7 0.0**
SJG San Juan 146.29 62 IAMs_20 IAMs_20 20 48 55.2
comp=Z,5µm,21.0s
SJG San Juan 146.29 62⇑*e*P **PKPab 19 44 41.1 +0.8**
PMAR Madeira 146.34 332 *e*PKP **PKiKP 19 44 44.3 +1.7**
PMOZ Porto Moniz, M 146.40 332 *e*PKP **PKiKP 19 44 45.0 +2.4**
PMOZ Porto Moniz, M 146.40 332 *e*LR LR 20 34 35.6
comp=Z,2µm,20.0s
PTGB Pitanga 147.42 150 *e*P **PKPab 19 44 43.7 -0.8**
KOWA Kowa 147.51 292 IAMs_20 IAMs_20 20 57 13.3
comp=Z,4µm,20.0s
SIV San Ignacio 147.78 128 PKPbc **PKPab 19 44 46.5 +0.3**
TIJ01 Guaruva-PR 148.29 155 *e*P **PKiKP 19 44 46.6 -0.2**
SMRT St. Maarten 149.00 60 IAMs_20 IAMs_20 20 45 52.7
comp=Z,6µm,22.0s
SEUS St. Eustatius 149.31 61 IAMs_20 IAMs_20 20 43 52.0
comp=Z,6µm,22.0s
KIC Kosan Boka 149.66 277 *e*PKP1 **PKiKP 19 44 49.4 -0.4**
comp=Z,84nm,1.4s
DBIC Dimbokro 149.75 277 PKPbc **PKPbc 19 44 48.0 -0.9**
comp=Z,13nm,0.7s,baz=105,slow=3.4,SNR=13
DBIC Dimbokro 149.75 277 PKIKP **PKPdf 19 44 39.2 -5.0**
DBIC Dimbokro 149.75 277 PKPdf **PKPdf 19 44 39.2 -5.0**
TIC Toumodi 149.92 277 *e*PKP1 **PKiKP 19 44 50.0 -0.3**
LIC Lamto 149.96 276 *e*PKP1 **PKiKP 19 44 50.1 -0.3**
comp=Z,153nm,1.7s
ANWB Willy Bob 150.28 60 IAMs_20 IAMs_20 20 49 26.4
comp=Z,4µm,20.0s
GDHS Morne Mazeau, 150.86 62 IAMs_20 IAMs_20 20 46 06.3
comp=Z,5µm,22.0s
ABD La Joyeuse, An 151.03 62 IAMs_20 IAMs_20 20 45 19.6
comp=Z,5µm,21.0s
TDBA Terre de Bas, 151.14 63 IAMs_20 IAMs_20 20 47 09.8
comp=Z,4µm,21.0s
VAO Valinhos 151.19 157 *e*P **PKPbc 19 44 50.8 -1.4**
MAGL Barre de l'ile 151.41 63 IAMs_20 IAMs_20 20 53 57.0
comp=Z,5µm,20.0s
SVN Savane Anatole 151.93 65 IAMs_20 IAMs_20 20 46 03.0
comp=Z,4µm,22.0s
FDF Fort de France 151.98 65 IAMs_20 IAMs_20 20 49 20.6
comp=Z,4µm,21.0s
BIM Bigot 152.13 65 IAMs_20 IAMs_20 20 48 37.6
comp=Z,5µm,22.0s
ILAM Ilet Lapin Mar 152.22 65 IAMs_20 IAMs_20 20 49 48.6
comp=Z,4µm,20.0s
GRGR Grenville 152.33 71 IAMs_20 IAMs_20 20 57 26.7
comp=Z,4µm,20.0s
MPOM Morne Pois Mar 152.35 65 IAMs_20 IAMs_20 20 48 53.2
comp=Z,5µm,21.0s
BDFB Brasilia 157.04 146 PKP **PKPdf 19 44 53.5 -1.3**
comp=Z,0.8nm,0.3s,baz=248,slow=22,SNR=1.6

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*ISK **01** 19:29:54.6, 42.39N×25.70E, h5km, ML2.5/10*
*THE **01** 19:29:55.9, 42.43N×25.78E, h6km±5km, ML2.1/5, Error ellipse: s-maj=8.1km s-min=0.8km az=32.0*
*DDA **01** 19:29:57.4±0.0, 42.30N×25.93E, h7km±2km, ML2.4*
*BEO **01** 19:29:59.0±1.2, 42.28N×25.56E, h9km±5km, ML2.4/7*
ISC 01 19:29:52.9±1.1**, 42.50N**±0.02×**25.81E**±0.02**, h2**km±10km**,**
n49,σ**1.03**/73**, 14C-10D, Bulgaria**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLD Plovdiv 0.92 245 *e*Pg **Pg 19 30 10.3 -0.1**
PLD *e*Sg **Sg 19 30 21.1 -1.1**
PLD Plovdiv 0.92 245 PG **Pg 19 30 10.3 -0.1**
PLD SG **Sg 19 30 21.3 -0.9**
EDRB Edirne 0.95 133 P **Pn 19 30 13.3 0.0**
EDRB S **Sn 19 30 26.6 -0.8**
122nm,0.3s
EDRB Edirne 0.95 133 PG **Pn 19 30 13.3 0.0**
EDRB SG **Sn 19 30 26.6 -0.8**
KIRK Kırklareli 1.20 127 P **Pg 19 30 17.0 +1.2**
KIRK S **Sg 19 30 31.5 +0.3**
ZIMR 1.20 344 ⇑P **Pn 19 30 16.7 0.0**
ZIMR ⇓S **Sn 19 30 33.1 -0.4**
ARMN Kirklareli, Me 1.36 118 P **Pg 19 30 20.1 +1.1**
ARMN S **Sg 19 30 36.9 +0.4**
RDO Rodhopi 1.37 189 P **Pb 19 30 19.6 +0.4**
RDO Rodhopi 1.37 189 PN **Pn 19 30 19.2 +0.2**
RDO SN **Sb 19 30 36.5 -0.7**
UKOP Uzunkopru-Edir 1.50 156 PN **Pb 19 30 21.8 +0.3**
ALN Alexandroupoli 1.61 174 P **Pb 19 30 23.2 -0.2**
ALN S **Sb 19 30 44.6 +0.4**
42nm,0.5s
ALN Alexandroupoli 1.61 174 PN **Pb 19 30 23.1 -0.3**
COPA Copaceanca 1.69 345 ⇑S **Sg 19 30 47.6 +0.6**
SGRR Singureni 1.72 4 ⇑P **Pg 19 30 26.2 +0.3**
SGRR ⇑S **Sg 19 30 49.4 +1.2**
VIZE Kirklareli, Vi 1.77 121 P **Pb 19 30 25.7 -0.4**
VIZE S **Sn 19 30 45.1 -2.5**
ENEZ Enez 1.78 172 PN **Pb 19 30 25.6 -0.7**
KAVA Kavala 1.79 213 P **Pb 19 30 26.0 -0.4**
KAVA S **Sb 19 30 49.0 -0.3**
60nm,0.4s
KESN Edirne-Kesan 1.80 159 P **Pg 19 30 27.7 +0.4**
KESN S **Sb 19 30 50.1 +0.2**
KESN *i* AML AML 19 30 53.0
comp=E,66nm,0.5s
KESN *i* AML AML 19 30 55.0
comp=N,81nm,0.4s
VLAD Vladila 1.81 326 ⇑P **Pb 19 30 27.8 +1.0**
VLAD ⇓S **Sb 19 30 50.3 +0.3**
CAVK Edirne/Enez-Ca 1.83 172 P **Pb 19 30 27.9 +0.8**
CAVK S **Sb 19 30 50.7 +0.3**
CAVK *i* AML AML 19 30 57.0
comp=N,47nm,1.0s
CAVK *i* AML AML 19 30 57.0
comp=E,45nm,0.3s
NVR Nevrokopi 1.86 232 P **Pn 19 30 26.1 +0.3**
NVR S **Sn 19 30 50.0 +0.2**
42nm,0.5s
ERIK Erikli-Kesan 1.91 164 PN **Pb 19 30 27.9 -0.4**
VTS Vitosha 1.91 274 ⇑P **Pb 19 30 29.6 +1.1**
VTS ⇓S **Sb 19 30 53.2 +0.4**
VTS Vitosha 1.91 274 *e*Pn **Pb 19 30 29.0 +0.5**
VTS *e*Sn **Sn 19 30 52.1 +0.8**
SMTH Samothraki Isl 2.04 186 P **Pn 19 30 29.4 +1.1**
THAS Thassos island 2.07 204 P **Pn 19 30 29.4 +0.8**
THAS S **Sn 19 30 55.1 +0.2**
32nm,0.3s
HUMR Humele 2.11 344 ⇑P **Pb 19 30 32.9 +1.0**
ICOR Ion Corvin 2.17 41 ⇓P **Pg 19 30 34.1 -0.4**
ICOR ⇑S **Sg 19 31 02.6 +0.1**
SULR 2.20 8 ⇓P **Pg 19 30 34.9 0.0**
CTKS Kestanelik-??a 2.38 121 PN **Pb 19 30 35.2 -1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMRR	**Amara**	**2.38**	**27**	⇑S	**Sg**	**19 31 09.0**	**-0.3**
BOSS	**Bosilegrad**	**2.46**	**271**	*e*Pn	**Pb**	**19 30 38.3**	**+0.4**
BOSS				*e*Sn	**Sn**	**19 31 05.1**	**+0.3**
BLKB	**Belogradchik**	**2.56**	**297**	⇓P	**Pb**	**19 30 38.7**	**-0.8**
KNT	**Kendrikon**	**2.56**	**239**	PN	**Pn**	**19 30 36.1**	**+0.7**
TLBR	**Topalu**	**2.61**	**38**	⇑S	**Sg**	**19 31 14.7**	**-1.9**
HARR	**Harsova**	**2.67**	**34**	⇓P	**Pb**	**19 30 41.8**	**+0.4**
VAY	**Valandovo**	**2.69**	**245**	*i* Pn	**Pg**	**19 30 44.9**	**+0.4**
TIRR	**Tirgusor**	**2.72**	**43**	⇑P	**Pb**	**19 30 42.4**	**+0.2**
TIRR				⇑S	**Sg**	**19 31 18.0**	**-2.2**
PRVS	**Prvonek**	**2.76**	**271**	*e*Sn	**Sn**	**19 31 13.0**	**+0.8**
STIP	**Stip**	**2.82**	**255**	*i* Pn	**Pn**	**19 30 36.9**	**-2.0**
ZAGS	**Zajecar**	**2.93**	**298**	*e*Sn	**Sb**	**19 31 19.4**	**-2.6**
NEHR	**Nehoiu**	**2.94**	**7**	⇓P	**Pb**	**19 30 44.7**	**-1.3**
BARS	**Barje**	**2.97**	**277**	*e*Pn	**Pb**	**19 30 45.0**	**-1.4**
BARS	**Barje**	**2.97**	**277**	*e*Pn	**Pb**	**19 30 48.4**	**+2.0**
BARS				*e*Sn	**Sn**	**19 31 18.5**	**+1.4**
BARS				*e*Sn	**Sg**	**19 31 26.9**	**-1.2**
VOIR		**2.98**	**350**	⇑P	**Pb**	**19 30 44.6**	**-2.2**
GRG	**Griva**	**2.98**	**240**	PN	**Pn**	**19 30 42.1**	**+0.8**
TPGR	**Topolog**	**3.02**	**38**	⇓P	**Pb**	**19 30 48.8**	**+1.5**
CFR	**Carcaliu**	**3.16**	**31**	⇓P	**Pb**	**19 30 50.0**	**+0.4**
VRI	**Vrincioaia**	**3.43**	**11**	⇑P	**Pn**	**19 30 49.7**	**+2.4**

*IDC **01** 19:37:57.7±0.6, 56°.23S×26°.56W, h0km, mb4.8/8, mb1 4.7/9, mb1mx4.4/30, mbtmp4.7/9, ML3.8/1, Error ellipse: s-maj=30.8km s-min=17.7km az=69.0*
*NEIC **01** 19:38:02.5±2.6, 56°.30S±0°.10×26°.6W±0°.2, h40km±2km, mb5.0/49, Error ellipse: s-maj=14.6km s-min=13.8km az=210.0*
ISC 01 19:38:02.0±0.4**, 56°.20S**±0°.07×**26°.58W**±0°.08**, h35km, n94, σ1s10**/90**, mb5.0**/25**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.98**	**285**		**Pn**	**19 39 29.4**	**+1.5**
ORCD	**Orcadas**	**10.52**	**237**	Pn	**Pn**	**19 40 31.2**	**+1.2**
SNAA	**Sanae**	**18.46**	**156**	P	**P**	**19 42 14.2**	**-0.2**
	0.3nm,0.3s,baz=314,slow=20,SNR=7.3						
SNAA	**Sanae**	**18.46**	**156**	P	**P**	**19 42 13.6**	**-0.8**
EFI	**East Falkland**	**18.98**	**271**	P	**Pn**	**19 42 21.0**	**+0.1**
EFI				IAmb	IAmb	19 42 26.1	
	comp=Z,196nm,1.6s						
H09N1	**TRISTAN DA CUN**	**21.42**	**33**	T	T	20 03 50.7	
	SNR=28						
SMAI	**San Martin Ant**	**21.87**	**221**	P	**P**	**19 42 51.8**	**+0.6**
BELA	**Belgrano 2**	**21.95**	**185**		**P**	**19 42 50.1**	**-1.9**
DSPA	**Despedida**	**23.71**	**258**	P	**P**	**19 43 09.5**	**-0.8**
MG02	**Cerro Sombrero**	**24.71**	**260**	P	**P**	**19 43 19.7**	**+0.2**
MG04	**Isla Riesco**	**25.96**	**258**	P	**P**	**19 43 28.3**	**-2.5**
GO08	**Villa O'Higgin**	**28.67**	**266**	P	**P**	**19 43 52.0**	**-3.2**
GO08				IAmb	IAmb	19 44 03.3	
	comp=Z,41nm,1.6s						
PLTB	**Pedras Altas**	**30.85**	**311**		**P**	**19 44 12.6**	**-2.0**
PLTB				IAmb	IAmb	19 44 37.6	
	comp=Z,47nm,1.5s						
AY01	**Puyuhuapi**	**31.10**	**272**	P	**P**	**19 44 16.2**	**-0.5**
QSPA	**South Pole Qui**	**34.05**	**180**	P	**P**	**19 44 43.0**	**+0.5**
	comp=Z,14nm,0.6s,baz=198,slow=2.5,SNR=33						
QSPA	**South Pole Qui**	**34.05**	**180**	P	**P**	**19 44 42.3**	**-0.2**
QSPA				IAmb	IAmb	19 44 46.3	
	comp=Z,17nm,0.7s						
QSPA	**South Pole Qui**	**34.05**	**180**	P	**P**	**19 44 43.0**	**+0.6**
MT09	**Talagante**	**37.68**	**288**	P	**P**	**19 45 12.6**	**-1.2**
MT09				IAmb	IAmb	19 46 20.5	
	comp=Z,42nm,1.4s						
MT01	**Popeta**	**37.75**	**287**	P	**P**	**19 45 13.1**	**-1.2**
MT01				IAmb	IAmb	19 46 34.9	
	comp=Z,59nm,1.7s						
MT02	**Curacav**	**38.16**	**288**	P	**P**	**19 45 16.9**	**-0.9**
ROC1	**El Roble**	**38.31**	**288**	P	**P**	**19 45 17.6**	**-1.7**
ROC1				IAmb	IAmb	19 45 52.7	
	comp=Z,35nm,1.4s						
CO03	**El Pedregal**	**39.81**	**291**	P	**P**	**19 45 30.2**	**-1.5**
CO03				IAmb	IAmb	19 46 26.5	
	comp=Z,38nm,1.5s						
CO01	**Juntas del Tor**	**40.19**	**292**	P	**P**	**19 45 34.8**	**-0.2**
GO04	**Tololo Observa**	**40.40**	**291**	P	**P**	**19 45 35.4**	**-1.3**
GO04				IAmb	IAmb	19 46 09.8	
	comp=Z,80nm,1.8s						
AC02	**Maricunga**	**42.25**	**296**	P	**P**	**19 45 51.8**	**-0.5**
AC02				IAmb	IAmb	19 47 09.2	
	comp=Z,38nm,1.6s						
SHEL	**Horse Pasture**	**43.20**	**30**	P	**P**	**19 45 58.9**	**-0.6**
AC01	**Pan de Azucar**	**43.56**	**295**	P	**P**	**19 46 02.1**	**-0.2**
GO02	**Mina Guanaco**	**43.87**	**297**		**P**	**19 46 05.2**	**+0.1**
GO02				IAmb	IAmb	19 46 08.8	
	comp=Z,12nm,0.6s						
LVC	**Limon Verde**	**45.67**	**300**	P	**P**	**19 46 20.7**	**+1.1**
	comp=Z,8.0nm,0.5s,baz=136,slow=4.5,SNR=10						
LVC	**Limon Verde**	**45.67**	**300**		**P**	**19 46 20.7**	**+1.1**
LVC				IAmb	IAmb	19 46 27.2	
	comp=Z,11nm,0.7s						
BOSA	**Boshof**	**45.68**	**75**	P	**P**	**19 46 18.4**	**-0.9**
VNDA	**Vanda**	**46.44**	**183**	P	**P**	**19 46 25.5**	**+1.0**
	comp=Z,5.2nm,0.6s,baz=183,slow=7.0,SNR=48						
VNDA	**Vanda**	**46.44**	**183**	P	**P**	**19 46 24.9**	**+0.4**
PB04	**IPOC Station P**	**46.51**	**298**	P	**P**	**19 46 25.9**	**0.0**
PB04				IAmb	IAmb	19 47 12.1	
	comp=Z,34nm,1.4s						
PB09	**IPOC Station P**	**46.52**	**300**	P	**P**	**19 46 25.7**	**-0.4**
PB09				IAmb	IAmb	19 46 51.9	
	comp=Z,26nm,1.2s						
PB07	**IPOC Station P**	**46.90**	**299**	P	**P**	**19 46 27.6**	**-1.4**
PB02	**IPOC Station P**	**47.24**	**299**	P	**P**	**19 46 31.3**	**-0.3**
PB02				IAmb	IAmb	19 46 38.1	
	comp=Z,11nm,0.7s						
PB01	**IPOC Station P**	**47.28**	**300**	P	**P**	**19 46 31.1**	**-0.8**
PB01				IAmb	IAmb	19 46 38.4	
	comp=Z,12nm,0.8s						
CCD	**Concordia, Ant**	**47.47**	**170**	P	**P**	**19 46 33.1**	**+0.1**
PATCX	**Punta Patache**	**47.79**	**299**	P	**P**	**19 46 37.5**	**+1.6**
PB08	**IPOC Station P**	**47.89**	**301**	P	**P**	**19 46 37.0**	**+0.1**
H10S2	**ASCENSION HYDR**	**48.05**	**16**	T	T	20 38 47.9	
	baz=31,slow=74,SNR=18						
H10S3	**ASCENSION HYDR**	**48.05**	**16**	T	T	20 38 47.8	
	baz=189,slow=74,SNR=47						
GO01	**Chusmiza**	**48.31**	**301**	P	**P**	**19 46 41.0**	**+0.7**
GO01				IAmb	IAmb	19 46 46.6	
	comp=Z,14nm,0.6s						
PB11	**IPOC Station P**	**48.46**	**301**	P	**P**	**19 46 41.7**	**+0.6**
PB11				IAmb	IAmb	19 46 47.0	
	comp=Z,33nm,1.4s						
LBTB	**Lobatse**	**48.73**	**72**	P	**P**	**19 46 42.3**	**-0.7**
LBTB				IAmb	IAmb	19 48 29.1	
	comp=Z,36nm,1.8s						
H10N1	**ASCENSION HYDR**	**49.17**	**16**	T	T	20 40 40.8	
	baz=189,slow=75,SNR=4.1						
H10N3	**ASCENSION HYDR**	**49.17**	**16**	T	T	20 41 00.5	
	baz=189,slow=75,SNR=60						
H10N2	**ASCENSION HYDR**	**49.18**	**16**	T	T	20 40 40.9	
	baz=189,slow=75,SNR=45						
LPAZ	**La Paz**	**50.74**	**305**	P	**P**	**19 47 00.5**	**+1.5**
	comp=Z,10nm,0.7s,baz=171,slow=7.1,SNR=15						
LPAZ	**La Paz**	**50.74**	**305**		**P**	**19 47 00.3**	**+1.3**
LPAZ				IAmb	IAmb	19 47 06.0	
	comp=Z,11nm,0.7s						
SAML	**Samuel**	**55.15**	**314**	P	P	19 44 49.3	-162
DRV	**Dumont d'Urvil**	**57.04**	**174**	P	**P**	**19 47 43.1**	**-0.5**
DBIC	**Dimbokro**	**65.17**	**24**	P	**P**	**19 48 37.6**	**-1.7**
KOWA	**Kowa**	**72.93**	**23**	P	**P**	**19 49 28.8**	**+1.4**
KOWA				IAmb	IAmb	19 50 26.6	
	comp=Z,47nm,1.9s						
TOA0	**Torodi Ar. Sit**	**73.02**	**29**	P	**P**	**19 49 29.7**	**+1.7**
TOA0				IAmb	IAmb	19 49 30.3	
	comp=Z,7.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.02**	**29**	P	**P**	**19 49 29.9**	**+1.9**
	comp=Z,5.1nm,0.5s,baz=200,slow=6.8,SNR=51						
TORD	**Torodi Ar. Bea**	**73.02**	**29**	P	**P**	**19 49 29.7**	**+1.7**
BIRV	**Birongo**	**74.15**	**319**	P	**P**	**19 49 35.3**	**+0.6**
SDV	**Santo Domingo**	**74.36**	**314**	P	**P**	**19 49 37.4**	**+1.3**
	comp=Z,5.1nm,0.6s,baz=216,slow=6.6,SNR=4.3						
SDV	**Santo Domingo**	**74.36**	**314**	P	**P**	**19 49 37.8**	**+1.6**
ZARC	**Zaragoza, Cauc**	**74.85**	**310**	P	**P**	**19 49 38.2**	**-0.5**
BIM	**Bigot**	**76.14**	**326**	P	**P**	**19 49 45.9**	**-0.2**
TAU	**Tasmania Unive**	**81.12**	**175**	P	**P**	**19 50 13.4**	**+0.1**
STKA	**Stephens Creek**	**91.69**	**170**	P	**P**	**19 51 07.5**	**+2.0**
	comp=Z,1.8nm,0.7s,baz=252,slow=0.3,SNR=4.1						
ASAR	**Alice Springs**	**98.74**	**162**	P	Pdif	19 51 38.4	+0.6
	comp=Z,0.9nm,0.7s,baz=181,slow=4.0,SNR=12						
ASAR	**Alice Springs**	**98.74**	**162**	P	**P**	**19 51 36.9**	**-0.9**
FINES	**FINESS Array B**	**124.36**	**28**	PKP	**PKiKP**	**19 56 56.6**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=186,slow=1.9,SNR=6.9						
CMAR	**Chiang Mai Arr**	**124.69**	**110**	PKP	**PKiKP**	**19 56 59.0**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=216,slow=4.4,SNR=5.0						
G08A	**Pilot Rock**	**127.14**	**298**		**PKiKP**	**19 57 02.6**	**+0.5**
ARCES	**ARCESS Array B**	**130.96**	**22**	PKP	**PKiKP**	**19 57 09.6**	**+0.7**
	comp=Z,2.9nm,1.0s,baz=321,slow=1.6,SNR=3.8						
YKA	**Yellowknife Ar**	**136.51**	**318**	PKP	**PKPdf**	**19 57 19.3**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=125,slow=2.4,SNR=13						
M31M	**Drury Creek, Y**	**144.35**	**310**		PKPbc	19 57 31.7	+0.4
A36M	**Sachs Harbour**	**144.52**	**328**		**PKPdf**	**19 57 32.8**	**0.0**
M30M	**Minto, Yukon**	**145.53**	**310**		**PKPab**	**19 57 35.5**	**+0.1**
INK	**Inuvik**	**146.14**	**320**	PKPbc	**PKPbc**	**19 57 36.6**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=53,slow=7.1,SNR=7.5						
DAWY	**Dawson**	**147.15**	**312**		**PKPdf**	**19 57 38.4**	**+0.8**
BCAR	**Beaver Creek A**	**147.85**	**309**		**PKPdf**	**19 57 40.1**	**+1.4**
L27K	**Beaver Creek,**	**147.87**	**309**		**PKPbc**	**19 57 41.2**	**-0.6**
DOT	**Dot Lake**	**149.00**	**310**		**PKPdf**	**19 57 39.8**	**-0.8**
DOT				PKPbc	**PKiKP**	**19 57 45.7**	**-0.3**
RIDG	**Independent Ri**	**149.37**	**310**		**PKPdf**	**19 57 41.7**	**+0.5**
RIDG				PKPbc	**PKiKP**	**19 57 47.0**	**+0.3**
PAX	**Paxson**	**149.43**	**308**		**PKPbc**	**19 57 44.3**	**-1.6**
SONM	**Songino Array**	**150.40**	**86**	PKPbc	**PKiKP**	**19 57 49.3**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=219,slow=3.0,SNR=14						
IL31		**150.47**	**311**		**PKPdf**	**19 57 43.7**	**+0.9**
IL31				PKPbc	**PKPbc**	**19 57 48.6**	**+0.4**
ILAR	**Eielson Array**	**150.47**	**311**	PKPbc	**PKiKP**	**19 57 48.8**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=142,slow=1.3,SNR=18						
ILAR	**Eielson Array**	**150.47**	**311**		**PKPdf**	**19 57 43.8**	**+1.0**
ILAR				PKPbc	**PKiKP**	**19 57 48.7**	**-0.2**
RND	**Reindeer**	**151.03**	**308**		**PKPbc**	**19 57 49.0**	**-0.6**
MDM	**Murphy Dome**	**151.07**	**311**		**PKPbc**	**19 57 49.0**	**-0.7**
MDM				PKPab	**PKPab**	**19 57 57.7**	**+0.1**
KDAK	**Kodiak Island**	**151.19**	**296**	PKPbc	**PKiKP**	**19 57 51.0**	**+0.4**
	comp=Z,13nm,0.7s,baz=22,slow=19,SNR=2.4						
KDAK	**Kodiak Island**	**151.19**	**296**		**PKPbc**	**19 57 48.4**	**-1.7**
KTH	**Kantishna Hill**	**151.96**	**308**		**PKPbc**	**19 57 49.7**	**-2.1**
TOLK	**Toolik Lake Re**	**152.02**	**319**		**PKPbc**	**19 57 50.0**	**-1.8**
BPAW	**Bear Paw Mtn.**	**152.09**	**309**		**PKPbc**	**19 57 51.5**	**-0.6**
CAST	**Castle Rocks**	**152.45**	**308**		**PKPbc**	**19 57 52.3**	**-0.6**

*IDC **01** 19:38:12.9±2.1, 31°.66S×178°.61W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/32, mbtmp4.2/3, Error ellipse: s-maj=59.9km s-min=39.8km az=39.0*
*NEIC **01** 19:38:14.8±1.6, 31°.9S±0°.1×178°.5W±0°.2, h10km±2km, mb4.5/14, Error ellipse: s-maj=28.4km s-min=19.4km az=97.0*
ISC 01 19:38:14.5±1.3**, 31°.9S**±0°.1×**178°.5W**±0°.2**, h10km, n24, σ1s29**/21**, mb4.5**/9**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.33**	**208**		Pn	19 39 49.1	-12
BKZ	**Black Stump Fm**	**8.35**	**208**		Pn	19 40 01.6	-14
BFZ	**Birch Farm**	**9.77**	**204**	Pn	**Pn**	**19 40 33.2**	**-1.9**
ARMA	**Armidale**	**25.57**	**265**	P	**P**	**19 43 45.6**	**+1.8**
ARMA				IAmb	IAmb	19 44 18.1	
	comp=Z,9.4nm,1.3s						
EIDS	**Eidsvold**	**27.41**	**276**	P	**P**	**19 44 01.0**	**+0.6**
CTAO	**Charters Tower**	**33.64**	**282**	P	**P**	**19 44 57.7**	**+2.3**
AS31	**Alice Springs**	**42.62**	**269**	P	**P**	**19 46 10.3**	**-0.9**
ASAR	**Alice Springs**	**42.62**	**269**	P	**P**	**19 46 10.2**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=110,slow=8.0,SNR=36						
ASAR	**Alice Springs**	**42.62**	**269**	P	**P**	**19 46 09.3**	**-1.9**
WR0	**Warramunga Arr**	**43.56**	**274**	P	**P**	**19 46 18.4**	**-0.4**
WB2	**Warramunga Arr**	**43.73**	**274**	P	**P**	**19 46 19.6**	**-0.6**
WB2				IAmb	IAmb	19 46 28.5	
	comp=Z,18nm,1.6s						
WRAB	**Tennant Creek**	**43.74**	**274**	P	**P**	**19 46 19.4**	**-0.8**
WRA	**Warramunga Arr**	**43.74**	**274**	P	**P**	**19 46 19.5**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=114,slow=7.5,SNR=22						
WRA	**Warramunga Arr**	**43.74**	**274**	P	**P**	**19 46 19.4**	**-0.9**
WB0	**Warramunga Arr**	**43.77**	**274**	P	**P**	**19 46 19.6**	**-0.9**
VNDA	**Vanda**	**46.61**	**186**	P	**P**	**19 46 42.4**	**+0.1**
VNDA				IAmb	IAmb	19 46 44.2	
	comp=Z,4.2nm,0.8s						
MTN	**Manton Dam**	**49.80**	**280**	P	**P**	**19 47 07.0**	**-0.8**
MTN				IAmb	IAmb	19 47 35.0	
	comp=Z,8.4nm,1.3s						
KNRA	**Kununurra**	**50.40**	**276**	P	**P**	**19 47 10.9**	**-1.4**
KNRA				IAmb	IAmb	19 47 15.0	
	comp=Z,18nm,1.6s						
FITZ	**Fitzroy Crossi**	**51.94**	**271**	P	**P**	**19 47 22.5**	**-1.3**
FITZ				IAmb	IAmb	19 47 35.9	
	comp=Z,5.2nm,1.6s						
WAKE	**Wake Island**	**52.80**	**342**	P	**P**	**19 47 28.3**	**-1.7**
QSPA	**South Pole Qui**	**58.26**	**180**	P	**P**	**19 48 10.4**	**+1.4**
	comp=Z,2.7nm,1.0s,baz=46,slow=3.5,SNR=3.2						
QSPA	**South Pole Qui**	**58.26**	**180**	IAmb	IAmb	19 48 14.9	
	comp=Z,11nm,1.4s						
SNAA	**Sanae**	**76.72**	**179**	P	**P**	**19 50 06.1**	**+0.6**
FINES	**FINESS Array B**	**146.35**	**339**	PKPbc	**PKPdf**	**19 57 53.5**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=48,slow=3.4,SNR=6.5						

*TUL **01** 19:40:21.6±1.4, 36°.28N±0°.01×96°.94W±0°.01, h6km±5km, ML2.8, mb_Lg2.5/17(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=201.0*
NEIC 01 19:40:21.6±1.4**, 36°.29N**±0°.01×**96°.958W**±0°.006**, h5km**±2km**, Error ellipse: s-maj=3.0km s-min=2.0km az=109.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.72**	**30**	Pg	Pg	19 40 35.6	+0.1
T35A				Sg	Sg	19 40 45.1	+0.3
OKCFA	**Oklahoma City**	**0.96**	**205**	Pg	Pg	19 40 39.5	-0.5
OKCFA				Sg	Sg	19 40 52.4	-0.1
TUL1	**Leonard**	**1.02**	**112**	Pg	Pg	19 40 40.4	-0.7
TUL1				Sg	Sg	19 40 53.4	-1.0
FNO	**Franklin**	**1.09**	**199**	Pg	Pg	19 40 41.2	-1.3
FNO				Sg	Sg	19 40 56.8	+0.1
W35A	**Tecumseh**	**1.14**	**177**	Pg	Pg	19 40 42.1	-1.3
W35A				Sg	Sg	19 40 58.0	-0.2
U32A	**Winter Ranch,**	**1.65**	**274**	Pn	Pn	19 40 50.8	-0.5
U32A				Sn	Sg	19 41 14.2	-0.5
X34A	**Smith Ranch, M**	**1.83**	**203**	Pn	Pn	19 40 54.3	+0.6
X37A	**Clayton**	**2.14**	**142**	Pn	Pn	19 40 57.3	-0.6
X37A				Sn	Sn	19 41 24.2	-0.6
WMOK	**Wichita Mounta**	**2.15**	**224**	Pn	Pn	19 40 57.2	-0.9
WMOK				Sn	Sb	19 41 26.9	-1.0
HHAR	**Hobbs**	**2.44**	**89**	Pn	Pn	19 41 01.2	-0.9
HHAR				Sn	Sn	19 41 33.5	+1.2
R32A	**Long Quarter,**	**2.54**	**327**	IAmb_Lg		19 41 43.0	
	comp=Z,8.0nm,0.8s						
W39A	**Magazine**	**2.80**	**112**	Pn	Pn	19 41 06.9	-0.2
W39A				Sn	Sn	19 41 41.3	0.0
X40A	**Basin Creek Fa**	**3.82**	**117**	Pn	Pn	19 41 20.9	-0.2
MGMO	**Mountain Grove**	**3.87**	**76**	Pn	Pn	19 41 20.8	-0.9
WHAR	**Wooly Hollow**	**3.92**	**103**	Pn	Pn	19 41 22.2	-0.3
FCAR	**Ozark Folk Cen**	**3.94**	**94**	Pn	Pn	19 41 23.4	+0.7
W41B	**Gary Mavity, V**	**3.99**	**105**	Pn	Pn	19 41 24.0	+0.6
P38A	**Dawn**	**4.29**	**38**	Pn	Pn	19 41 27.9	+0.4
T42A	**Van Buren**	**4.77**	**79**	Pn	Pn	19 41 32.3	-1.9
FVM	**French Village**	**5.49**	**70**	IAmb_Lg		19 43 15.2	
	comp=Z,4.6nm,0.9s						
ANMO	**Albuquerque**	**7.85**	**263**	IAmb_Lg		19 44 43.3	
	comp=Z,2.0nm,1.1s						
T47A	**Sharon Grove**	**7.95**	**82**	IAmb_Lg		19 44 45.8	
	comp=Z,6.7nm,1.0s						
I37A	**Lemond, Waseca**	**8.18**	**18**	IAmb_Lg		19 44 49.7	
	comp=Z,7.2nm,0.8s						
X48A	**Hartselle**	**8.30**	**100**	IAmb_Lg		19 44 41.0	
	comp=Z,18nm,0.7s						
JFWS	**Jewell Farm**	**8.40**	**36**	IAmb_Lg		19 45 08.1	
	comp=Z,9.3nm,1.1s						
SFIN	**Lafayette**	**8.76**	**59**	IAmb_Lg		19 45 06.9	
	comp=Z,2.1nm,0.8s						

*IDC **01** 19:40:17.8±1.3, 52°.31N×169°.58W, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.7/57, mbtmp3.8/16, ML3.5/2, Error ellipse: s-maj=33.5km s-min=18.9km az=167.0*
*NEIC **01** 19:40:19.3±2.8, 52°.11N±0°.08×169°.51W±0°.09, h24km±5km, mb3.9/34, ML3.5(AEIC), Error ellipse: s-maj=11.2km s-min=7.9km az=195.0*
*AEIC **01** 19:40:20±2.9, 52°.1N±0°.2×169°.4W±0°.2, h23km±6km, Error ellipse: s-maj=26.5km s-min=9.7km az=153.0*
ISC 01 19:40:21.4±0.8**, 52°.2N**±0°.1×**169°.47W**±0°.06**, h30km, n81, σ1s59**/78**, mb3.8**/15**, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.85**	**26**		**Pn**	**19 40 36.7**	**-0.6**
NIKH	**Nikolski High**	**0.85**	**26**		**Sn**	**19 40 51.7**	**+2.9**
OKFG	**Magazine Ridge**	**1.53**	**38**		**Pn**	**19 40 46.8**	**+0.2**
OKFG					**Sb**	**19 41 07.6**	**-0.5**
MSW	**Makushin Switc**	**2.35**	**42**		**Pn**	**19 40 58.6**	**+0.6**
UNV	**Unalaska Valle**	**2.43**	**46**		**Pn**	**19 40 59.3**	**+0.3**
UNV					**Sn**	**19 41 28.8**	**+1.3**
MTBL	**Makushin Table**	**2.44**	**43**		**Pn**	**19 41 00.3**	**+1.1**
AKRB	**Akutan Reef Bi**	**2.81**	**45**		**Pn**	**19 41 05.6**	**+1.4**
AKBBA	**Akutan Broad B**	**2.85**	**47**		**Pn**	**19 41 06.2**	**+1.4**
AKGG	**Akutan Green G**	**2.89**	**45**		**Pn**	**19 41 06.7**	**+1.4**
ATKA	**Atka Island**	**2.91**	**272**		**Pn**	**19 41 06.8**	**+1.2**
GSMY	**Great Sitkin M**	**4.06**	**270**		**Pn**	**19 41 23.6**	**+2.2**
GSCK	**Great Sitkin C**	**4.13**	**270**		**Pn**	**19 41 24.1**	**+1.7**
ADK	**Adak**	**4.46**	**269**		**Pn**	**19 41 28.1**	**+1.1**
ADK	**Adak**	**4.46**	**269**	Sn	**Sn**	**19 42 17.6**	**-0.3**
KIWB	**Kanaga Island**	**4.76**	**269**	Pn	**Pn**	**19 41 32.2**	**+1.2**
SPIA	**Saint Paul Isl**	**5.00**	**355**		**Pn**	**19 41 37.8**	**+3.6**
SDPT	**Sand Point**	**6.19**	**56**	Pn	**Pn**	**19 41 53.0**	**+2.5**
CHGN	**Chignik**	**7.66**	**53**	Pn	**Pn**	**19 42 14.0**	**+3.3**
P18K	**Big Mountain,**	**10.75**	**42**	Pn	**Pn**	**19 42 51.1**	**-2.1**
KDAK	**Kodiak Island**	**11.18**	**53**	Pn	**Pn**	**19 42 58.6**	**-0.3**
	0.3nm,0.3s,baz=344,slow=19,SNR=1.4						
Q19K	**Cape Douglas,**	**11.19**	**47**	Pn	**Pn**	**19 43 00.9**	**+1.8**
SEW	**Seward**	**13.63**	**47**	Pn	**Pn**	**19 43 32.0**	**-0.4**
RC01	**Rabbit Creek A**	**13.98**	**43**	Pn	**Pn**	**19 43 36.8**	**-0.4**
J20K	**Nowinta River**	**14.40**	**28**	Pn	**Pn**	**19 43 41.1**	**-1.9**
PWL	**Port Wells**	**14.46**	**45**		**Pn**	**19 43 41.5**	**-2.3**
CAST	**Castle Rocks**	**14.49**	**32**		**P**	**19 43 47.9**	**-2.7**
KNK	**Knik Glacier**	**14.67**	**43**	Pn	Pn	19 43 40.8	-5.8
SML	**Sawmill**	**14.92**	**42**	Pn	**Pn**	**19 43 49.1**	**-1.0**
KTH	**Kantishna Hill**	**14.97**	**33**	Pn	**Pn**	**19 43 50.9**	**+0.2**
KTH				IAmb	IAmb	19 44 21.0	
	comp=Z,11nm,1.4s						
FID	**Port Fidalgo**	**15.24**	**47**	Pn	**Pn**	**19 43 50.0**	**-4.2**
BPAW	**Bear Paw Mtn.**	**15.32**	**32**	P	**P**	**19 43 57.0**	**-2.6**
BPAW				IAmb	IAmb	19 44 34.7	
	comp=Z,5.9nm,1.1s						
SCM	**Sheep Creek Mo**	**15.35**	**43**	P	**Pn**	**19 43 52.0**	**-3.7**
RND	**Reindeer**	**15.61**	**36**	P	**Pn**	**19 44 00.2**	**+1.2**
RND				IAmb	IAmb	19 44 02.8	
	comp=Z,13nm,1.5s						
KLU	**Klutina**	**15.79**	**45**	P	**Pn**	**19 43 59.0**	**-2.4**
KLU				IAmb	IAmb	19 44 00.4	
	comp=Z,19nm,1.5s						
H21K	**Melozitna Rive**	**15.91**	**26**	P	**P**	**19 44 08.0**	**+1.8**
M24K	**Tolsona, Glenn**	**15.96**	**43**	Pn	**Pn**	**19 44 01.7**	**-1.9**
N25K	**Chitina, Valde**	**16.42**	**45**	Pn	**Pn**	**19 44 06.7**	**-2.7**
N25K				IAmb	IAmb	19 44 09.4	
	comp=Z,11nm,1.4s						
WRH	**Wood River Hil**	**16.52**	**34**	Pn	**Pn**	**19 44 07.9**	**-2.7**
WRH				IAmb	IAmb	19 44 25.9	
	comp=Z,8.9nm,1.6s						
GLB	**Gilahina Butte**	**16.70**	**46**	P	**Pn**	**19 44 10.4**	**-2.5**
GLB				IAmb	IAmb	19 44 13.4	
	comp=Z,19nm,1.5s						
MDM	**Murphy Dome**	**16.78**	**32**	P	**Pn**	**19 44 13.0**	**-0.9**
VRDI	**Verde Repeater**	**16.78**	**47**	Pn	**Pn**	**19 44 11.6**	**-2.5**
VRDI				IAmb	IAmb	19 44 50.3	
	comp=Z,15nm,1.3s						
WAX	**Waxell Ridge**	**16.80**	**50**	Pn	**Pn**	**19 44 13.4**	**-0.9**
ISLE	**Juniper Island**	**17.09**	**50**	P	**Pn**	**19 44 18.1**	**+0.1**
ISLE				IAmb	IAmb	19 44 42.5	
	comp=Z,24nm,1.4s						
IL31		**17.12**	**34**	P	**P**	**19 44 18.5**	**-1.0**
ILAR	**Eielson Array**	**17.12**	**34**	P	**Pn**	**19 44 17.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=154,slow=8.6,SNR=1.3						
RIDG	**Independent Ri**	**17.29**	**39**	P	**P**	**19 44 20.8**	**-0.8**
RIDG				IAmb	IAmb	19 44 44.3	
	comp=Z,12nm,1.5s						
BARN	**Barnard Glacie**	**17.55**	**49**	P	**Pn**	**19 44 23.0**	**-0.6**
BARN				IAmb	IAmb	19 44 49.0	
	comp=Z,16nm,1.4s						
DOT	**Dot Lake**	**17.55**	**39**	P	**Pn**	**19 44 21.9**	**-1.6**
J25K	**Salcha River,**	**17.56**	**36**	P	**Pn**	**19 44 22.8**	**-0.8**
TABL	**Table Mountain**	**17.61**	**51**	P	**P**	**19 44 25.0**	**-0.3**
TABL				IAmb	IAmb	19 45 07.8	
	comp=Z,20nm,1.2s						
SCRK	**Sand Creek**	**17.74**	**39**	P	**Pn**	**19 44 24.4**	**-1.5**
M27K	**Edge Creek, AK**	**17.89**	**45**	P	**Pn**	**19 44 27.4**	**-0.5**
M27K				IAmb	IAmb	19 45 04.3	
	comp=Z,7.5nm,1.2s						
L27K	**Beaver Creek,**	**18.19**	**43**	P	**Pn**	**19 44 30.2**	**-1.2**
L27K				IAmb	IAmb	19 44 42.7	
	comp=Z,7.5nm,1.6s						
HYT	**Haines Junctio**	**19.45**	**51**	P	**Pn**	**19 44 47.1**	**+0.5**
HYT				IAmb	IAmb	19 44 49.4	
	comp=Z,5.5nm,0.5s						
BMAR	**Burnt Mountain**	**19.50**	**29**	P	**Pn**	**19 44 47.3**	**+0.2**
DAWY	**Dawson**	**19.59**	**41**	P	**Pn**	**19 44 48.2**	**-0.1**
DAWY				IAmb	IAmb	19 44 49.4	
	comp=Z,6.9nm,1.6s						
PEA0B	**Petropavlovsk-**	**19.84**	**286**	P	**P**	**19 44 48.8**	**-0.8**
PETK	**Petropavlovsk-**	**19.84**	**286**	P	**P**	**19 44 48.7**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=16,slow=17,SNR=9.9						
P33M	**Teslin, Yukon**	**21.65**	**54**	P	**P**	**19 45 08.4**	**-0.7**
MA2	**Magadan**	**23.18**	**304**	P	**P**	**19 45 26.1**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=66,slow=4.9,SNR=5.7						
MA2	**Magadan**	**23.18**	**304**	IAmb	IAmb	19 45 27.9	
	comp=Z,3.1nm,1.0s						
INK	**Inuvik**	**23.51**	**33**	P	**P**	**19 45 28.2**	**-0.1**
	comp=Z,2.4nm,0.3s,baz=189,slow=7.2,SNR=3.6						
YKA	**Yellowknife Ar**	**30.39**	**49**	P	**P**	**19 46 31.4**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=272,slow=8.1,SNR=16						
YKA	**Yellowknife Ar**	**30.39**	**49**	P	**P**	**19 46 30.6**	**+0.3**
H11S1	**WAKE ISLAND Hy**	**38.48**	**218**	T	T	20 28 56.4	
	baz=23,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**38.49**	**218**	T	T	20 28 57.6	
	baz=23,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**38.50**	**218**	T	T	20 28 50.9	
	baz=23,slow=76,SNR=27						
SPITS	**Spitsbergen Ar**	**49.83**	**358**	P	**P**	**19 49 10.8**	**0.0**
	comp=Z,8.5nm,1.0s,baz=76,slow=4.4,SNR=8.2						
SONM	**Songino Array**	**51.33**	**301**	P	**P**	**19 49 22.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=64,slow=6.3,SNR=2.2						
TXAR	**Lajitas Array**	**52.81**	**89**	P	**P**	**19 49 35.9**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=303,slow=5.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**57.50**	**318**	P	**P**	**19 50 08.0**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=64,slow=13,SNR=2.0						
ARCES	**ARCESS Array B**	**58.07**	**354**	P	**P**	**19 50 11.0**	**-0.1**
	comp=Z,2.8nm,1.0s,baz=15,slow=6.6,SNR=7.0						
BRVK	**Borovoye**	**63.80**	**324**	P	**P**	**19 50 48.8**	**-1.5**
MK31	**Makanchi Array**	**63.87**	**313**	P	**P**	**19 50 48.8**	**-2.0**
MK31				IAmb	IAmb	19 51 12.0	
	comp=Z,2.0nm,1.6s						
MKAR	**Makanchi Array**	**63.87**	**313**	P	**P**	**19 50 50.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=52,slow=6.7,SNR=10						
MKAR	**Makanchi Array**	**63.87**	**313**	P	**P**	**19 50 49.8**	**-1.0**
FINES	**FINESS Array B**	**66.02**	**352**	P	**P**	**19 51 04.2**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=6.1,slow=6.6,SNR=6.9						
HFS	**Hagfors**	**67.98**	**358**	P	**P**	**19 51 17.3**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=22,slow=43,SNR=1.7						
AKASG	**Malin Array Be**	**76.25**	**348**	P	**P**	**19 52 06.6**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=15,slow=6.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**76.59**	**283**	P	**P**	**19 52 10.1**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=29,slow=7.3,SNR=7.8						
ASAR	**Alice Springs**	**90.25**	**230**	P	**P**	**19 53 19.3**	**+0.4**
	comp=Z,0.6nm,1.1s,baz=302,slow=38,SNR=1.7						

*DDA **01** 19:46:03.8±0.0, 42°.35N×25°.66E, h7km±6km, ML2.4*
*ISK **01** 19:46:04.8, 42°.47N×25°.71E, h5km, ML2.7/15*
*THE **01** 19:46:08.4, 42°.35N×25°.76E, h6km±5km, Error ellipse: s-maj=8.8km s-min=0.7km az=29.0*
*BEO **01** 19:46:11.3±1.0, 42°.26N×25°.53E, h7km±5km, ML2.4/8*
ISC 01 19:46:03.7±1.1**, 42°.56N**±0°.02×**25°.83E**±0°.02**, h6km**±10km**, n54, σ1s24**/75**, 11C-9D, Bulgaria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.95**	**242**	*e*Pg	**Pg**	**19 46 21.9**	**+0.1**
PLD				*e*Sg	**Sg**	**19 46 32.7**	**-1.4**
PLD	**Plovdiv**	**0.95**	**242**	PG	**Pg**	**19 46 21.4**	**-0.4**
PLD				SG	**Sg**	**19 46 33.0**	**-1.1**
EDRB	**Edirne**	**0.98**	**136**	P	**Pn**	**19 46 24.7**	**+0.7**
EDRB				S	**Sn**	**19 46 38.0**	**-0.1**
EDRB	**Edirne**	**0.98**	**136**	PG	**Pn**	**19 46 24.4**	**+0.4**
EDRB				SG	**Sn**	**19 46 38.1**	**-0.1**
ZIMR		**1.15**	**343**	⇑P	**Pn**	**19 46 28.0**	**+1.8**
ZIMR				⇓S	**Sn**	**19 46 44.5**	**+2.3**
KIRK	**Kırklareli**	**1.22**	**129**	P	**Pg**	**19 46 28.2**	**+1.1**

KIRK				S	Sn	19 46 44.7	+0.7
ARMN	Kirklareli, Me	1.38	120	P	Pg	19 46 30.9	+0.9
ARMN				S	Sg	19 46 49.2	+1.3
RDO	Rodhopi	1.43	189	P	Pb	19 46 31.0	+0.4
RDO				S	Sn	19 46 48.3	-0.8
RDO	Rodhopi	1.43	189	PN	Pb	19 46 30.7	+0.1
UKOP	Uzunkopru-Edir	1.55	157	PN	Pg	19 46 33.2	-0.2
ALN	Alexandroupoli	1.67	174	P	Pb	19 46 34.6	-0.2
ALN				S	Sn	19 46 55.1	+0.1
ALN	Alexandroupoli	1.67	174	PN	Pb	19 46 34.5	-0.2
VLAD	Vladila	1.77	325	⇑P	Pg	19 46 38.8	+1.2
VLAD				⇑S	Sg	19 47 01.7	+1.0
VIZE	Kirklareli, Vi	1.79	122	P	Pb	19 46 36.5	-0.3
VIZE				S	Sn	19 46 57.5	-0.6
VIZE				*i* AML	AML	19 47 03.0	
	comp=N,31nm,0.4s						
VIZE				*i* AML	AML	19 47 08.0	
	comp=E,26nm,0.5s						
ENEZ	Enez	1.84	172	PN	Pb	19 46 36.8	-0.8
KAVA	Kavala	1.84	213	P	Pb	19 46 37.3	-0.4
KESN	Edirne-Kesan	1.84	159	P	Pn	19 46 36.3	+0.1
KESN				S	Sn	19 47 00.1	+0.2
KESN				*i* AML	AML	19 47 07.0	
	comp=N,91nm,0.4s						
KESN				*i* AML	AML	19 47 09.0	
	comp=E,70nm,0.7s						
CAVK	Edirne/Enez-Ca	1.88	172	P	Pg	19 46 39.9	+0.2
VTS	Vitosha	1.92	273	⇓P	Pb	19 46 38.6	-0.5
VTS				⇓S	Sg	19 47 05.1	-0.1
VTS	Vitosha	1.92	273	*e*Pn	Pg	19 46 41.0	+0.6
VTS				*e*Sn	Sb	19 47 04.4	+1.2
ERIK	Erikli-Kesan	1.96	165	PN	Pb	19 46 38.7	-0.9
HUMR	Humele	2.06	343	⇑P	Pg	19 46 44.3	+1.1
THAS	Thassos island	2.12	203	P	Pn	19 46 40.8	+1.3
ICOR	Ion Corvin	2.12	42	⇑P	Pg	19 46 45.6	+1.3
SULR		2.14	8	⇓P	Pg	19 46 46.2	+1.5
GELI	Tayfur-Gelibol	2.21	167	PN	Pn	19 46 42.4	+1.6
KOKK	Kokkinochori,	2.21	219	P	Pn	19 46 41.9	+1.0
SLVT	Silivri	2.22	126	PN	Pb	19 46 43.4	-0.7
AMRR	Amara	2.33	28	⇑S	Sg	19 47 17.4	-1.0
CTKS	Kestanelik-??a	2.40	123	PN	Pb	19 46 46.3	-0.8
KRBG	Karabiga-Canak	2.43	152	PN	Pn	19 46 44.9	+1.1
BOSS	Bosilegrad	2.47	270	*e*Pn	Pb	19 46 49.2	+0.7
BOSS				*e*Sn	Sb	19 47 18.1	-1.1
BLKB	Belogradchik	2.54	296	⇑P	Pb	19 46 49.8	+0.1
TLBR	Topalu	2.56	38	⇓P	Pg	19 46 52.6	0.0
KNT	Kendrikon	2.59	238	PN	Pn	19 46 47.1	+1.0
OUR	Ouranopolis	2.62	213	PN	Pn	19 46 47.4	+1.0
HARR	Harsova	2.62	35	⇓P	Pg	19 46 53.3	-0.6
TIRR	Tirgusor	2.67	44	⇑P	Pg	19 46 54.2	-0.7
VAY	Valandovo	2.73	244	*i* Pn	Pb	19 46 52.6	-0.2
VAY				*i* Sn	Sg	19 47 32.1	+0.9
PRVS	Prvonek	2.77	270	*e*Pn	Pb	19 46 53.4	-0.2
PRVS				*e*Sn	Sb	19 47 25.9	-1.9
HORT	Hortiatis	2.83	227	PN	Pn	19 46 50.2	+0.8
STIP	Stip	2.84	254	*i* Pn	Pn	19 46 48.2	-1.3
STIP				*i* Sn	Sn	19 47 19.5	-4.5
ZAGS	Zajecar	2.91	297	*e*Pn	Pg	19 46 58.0	-1.4
ZAGS				*e*Sn	Sb	19 47 31.7	-0.1
VOIR		2.93	349	⇓P	Pb	19 46 56.8	+0.5
MLR	Muntele Rosu	2.93	2	⇓P	Pb	19 46 55.8	-0.5
ARR	Arges	2.94	343	⇓P	Pb	19 46 54.4	-2.0
BARS	Barje	2.97	276	*e*Pn	Pb	19 46 57.2	+0.3
BARS	Barje	2.97	276	*e*Pn	Pg	19 47 01.7	+1.2
BARS				*e*Sn	Sn	19 47 30.0	+2.8
BARS				*e*Sn	Sg	19 47 38.8	-0.2
TPGR	Topolog	2.97	38	⇑P	Pg	19 46 59.1	-1.4
GRG	Griva	3.02	239	PN	Pn	19 46 52.9	+0.9
BISRR	Bisoca	3.06	12	⇑P	Pb	19 46 57.3	-1.1
VRI	Vrincioaia	3.37	11	⇑P	Pb	19 47 00.8	-2.9
VRI	Vrincioaia	3.37	11	PN	Pb	19 47 00.7	-3.1
SELS	Selova	3.52	282	*e*Pn	Pb	19 47 05.4	-1.0

IDC ***01*** *19:51:08.2±1.4, 42°.30N×25°.40E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.1/55, mbtmp3.2/4, ML3.0/2, MS3.8/2, Ms1 3.8/2, ms1mx3.3/42, Error ellipse: s-maj=24.7km s-min=12.2km az=78.0*
ISK ***01*** *19:51:10.8, 42°.52N×25°.75E, h5km, ML3.4/21*
BEO ***01*** *19:51:10.7±0.8, 42°.37N×25°.89E, h4km±4km, ML3.3/12*
SOF ***01*** *19:51:11.6, 42°.55N×25°.75E, h17km, MD3.3*
DDA ***01*** *19:51:12.4±0.0, 42°.56N×25°.90E, h31km±1km, ML3.2*
THE ***01*** *19:51:13.8, 42°.37N×25°.72E, h1km±2km, ML3.1/4, Error ellipse: s-maj=2.9km s-min=0.9km az=3.0*
ISC 01 19:51:11.1±1.1**, 42°.52N**±0°.01×**25°.75E**±0°.01**, h1**km±9km**, n141, σ1s.03**/189**, 42C-40D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIM	Dimitrovgrad	0.49	199	P	Pb	19 51 22.5	-0.1
JMB	Yambol	0.62	94	PG	Pg	19 51 23.4	+0.5
JMB				SG	Sg	19 51 31.4	+0.5
JMB	Yambol	0.62	94	P	Pg	19 51 23.3	+0.4
SZH	Strazhica	0.76	10	P	Pg	19 51 26.4	+0.7
PVL	Pavlikeni	0.77	336	P	Pg	19 51 26.3	+0.5
PLD	Plovdiv	0.88	243	*e*Pg	Pg	19 51 28.2	+0.2
PLD				*e*Sg	Sg	19 51 39.3	-0.2
PLD	Plovdiv	0.88	243	PG	Pg	19 51 28.2	+0.2
PLD				SG	Sg	19 51 39.2	-0.2
PLD	Plovdiv	0.88	243	P	Pg	19 51 28.2	+0.2
KDZ	Kurdzhali	0.90	196	P	Pb	19 51 30.0	+0.5
EDRB	Edirne	0.99	132	P	Pb	19 51 31.1	0.0
EDRB				S	Sg	19 51 44.2	+1.1
	922nm,0.3s						
EDRB	Edirne	0.99	132	PG	Pg	19 51 30.6	+0.4
EDRB				SG	Sb	19 51 44.6	-0.1
RZN	Rozhen	1.13	223	P	Pg	19 51 33.5	+0.7
PGB	Panagyurishte	1.17	272	P	Pg	19 51 34.2	+0.6
ZIMR		1.18	346	⇓P	Pb	19 51 34.4	+0.2
ZIMR				⇑S	Sb	19 51 50.2	+0.3
RAZG	Razgrad	1.19	28	⇑P	Pg	19 51 33.7	-0.1
RAZG				⇑S	Sb	19 51 50.3	0.0
KIRK	Kırklareli	1.24	126	P	Pg	19 51 35.1	+0.2
KIRK				S	Sg	19 51 50.8	-0.1
ROIA	ROIAK	1.33	64	P	Pg	19 51 37.0	+0.4
RDO	Rodhopi	1.38	187	P	Pn	19 51 37.4	0.0
RDO				S	Sb	19 51 54.3	-1.4
	1µm,0.4s						
RDO	Rodhopi	1.38	187	PN	Pn	19 51 37.1	-0.3
PRD	Provadia	1.39	60	P	Pn	19 51 37.3	-0.3
ARMN	Kirklareli, Me	1.41	117	P	Pn	19 51 37.6	-0.2
ARMN				S	Sb	19 51 55.1	-1.4
ARMN				*i* AML	AML	19 52 00.0	
	comp=N,200nm,0.3s						
UKOP	Uzunkopru-Edir	1.53	154	PN	Pn	19 51 39.9	+0.3
PHSR	Pinarhisar	1.59	123	PN	Pn	19 51 40.4	+0.1
ALN	Alexandroupoli	1.63	172	P	Pn	19 51 41.0	+0.1
ALN				S	Sn	19 52 02.5	0.0
	322nm,0.4s						
ALN	Alexandroupoli	1.63	172	PN	Pn	19 51 41.1	+0.1
COPA	Copaceanca	1.66	347	⇓P	Pg	19 51 43.0	0.0
COPA				⇑S	Sg	19 52 06.0	+1.4
SGRR	Singureni	1.71	5	⇑P	Pb	19 51 43.5	+0.2
MMB	Musomiste	1.77	239	P	Pg	19 51 45.2	+0.2
KAVA	Kavala	1.78	212	P	Pn	19 51 43.0	+0.1
VLAD	Vladila	1.78	327	⇓P	Pb	19 51 44.5	0.0
VLAD				⇑S	Sg	19 52 08.6	+0.3
ENEZ	Enez	1.80	170	P	Pn	19 51 43.7	+0.4
ENEZ				S	Sn	19 52 05.8	-0.9
	722nm,0.5s						
ENEZ	Enez	1.80	170	PN	Pn	19 51 43.7	+0.4
VIZE	Kirklareli, Vi	1.81	120	P	Pn	19 51 43.6	+0.1
VIZE				S	Sn	19 52 07.1	+0.1
VIZE				*i* AML	AML	19 52 10.0	
	comp=N,168nm,0.3s						
KESN	Edirne-Kesan	1.83	157	P	Pn	19 51 44.1	+0.2
KESN				S	Sb	19 52 09.3	+0.3
KESN				*i* AML	AML	19 52 13.0	
	comp=N,492nm,0.4s						
KESN				*i* AML	AML	19 52 13.0	
	comp=E,363nm,0.3s						
NVR	Nevrokopi	1.83	231	P	Pn	19 51 44.1	+0.4
BUC1	Bucharest	1.84	6	⇑P	Pg	19 51 46.3	-0.1
BUC1				⇑S	Sg	19 52 11.1	+0.8
CAVK	Edirne/Enez-Ca	1.85	170	P	Pb	19 51 45.6	0.0
VTS	Vitosha	1.86	274	⇓P	Pn	19 51 44.8	+0.6
VTS				⇓S	Sb	19 52 10.3	+0.5
VTS	Vitosha	1.86	274	*e*Pn	Pn	19 51 44.6	+0.3
VTS				*e*Sn	Sb	19 52 10.3	+0.5
VTS	Vitosha	1.86	274	P	Pn	19 51 44.8	+0.6
ERIK	Erikli-Kesan	1.93	163	PN	Pn	19 51 45.4	+0.4
INCR	INCERC-Sediu C	1.95	9	⇑P	Pb	19 51 47.2	-0.2
INCR				⇓S	Sg	19 52 14.3	+0.7
TKR	Tekirdag	2.03	138	PN	Pn	19 51 46.5	+0.2
SMTH	Samothraki Isl	2.05	185	P	Pn	19 51 46.7	0.0
THAS	Thassos island	2.06	202	P	Pn	19 51 47.0	+0.2
HUMR	Humele	2.09	345	⇓P	Pb	19 51 50.6	+0.8
HUMR				⇓S	Sg	19 52 18.1	-0.1
LEHL	Lehliu	2.10	21	⇓P	Pb	19 51 50.7	+0.6
LEHL				⇓S	Sg	19 52 18.0	-0.7
RKY	Sarkoy-Tekirda	2.12	149	PN	Pn	19 51 47.8	+0.2
SRS	Serrai	2.14	230	P	Pn	19 51 48.2	+0.3
KOKK	Kokkinochori,	2.15	218	P	Pn	19 51 47.9	-0.1
KALB	Balgarevo	2.15	65	⇑S	Sg	19 52 19.2	-0.9
GELI	Tayfur-Gelibol	2.19	165	PN	Pn	19 51 48.7	+0.2
ICOR	Ion Corvin	2.19	42	⇓P	Pb	19 51 52.1	+0.7
ICOR				⇑S	Sb	19 52 19.7	+0.6
SULR		2.19	9	⇑P	Pg	19 51 52.8	-0.4
SULR				⇑S	Sg	19 52 21.6	0.0
SLVT	Silivri	2.24	124	PN	Pn	19 51 49.5	+0.2
BAIL	Bailesti	2.31	311	⇑S	Sg	19 52 26.6	+1.1
AMRR	Amara	2.39	28	⇓P	Pb	19 51 55.2	+0.3
AMRR				⇑S	Sg	19 52 26.7	-1.1
STFAR	Stefanesti-Arg	2.42	347	⇓P	Pb	19 51 55.2	-0.1
KRBG	Karabiga-Canak	2.42	151	PN	Pn	19 51 51.9	+0.2
BOSS	Bosilegrad	2.42	271	*e*Pn	Pn	19 51 52.4	+0.6
BOSS				*e*Sn	Sb	19 52 24.4	-1.4
CTKS	Kestanelik-??a	2.42	121	PN	Pn	19 51 51.9	+0.1
ELBA	Catalca	2.42	123	P	Pn	19 51 49.4	-2.4
TSMN	Mangalia Port-	2.44	57	⇑S	Sb	19 52 25.9	-0.5
MANR	Mangalia	2.45	57	⇓P	Pb	19 51 55.3	-0.6
MANR				⇓S	Sb	19 52 26.5	0.0
CVDA	Cernavoda	2.46	42	⇑P	Pb	19 51 56.2	+0.1
CVDA				⇓S	Sb	19 52 28.0	+1.1
SOH	Sokhos	2.47	228	P	Pn	19 51 53.3	+0.8
BLKB	Belogradchik	2.51	297	⇑P	Pb	19 51 55.3	-1.8
BLKB				⇑S	Sg	19 52 30.4	-1.4
KNT	Kendrikon	2.53	239	P	Pn	19 51 53.5	+0.3
KNT	Kendrikon	2.53	239	PN	Pn	19 51 53.5	+0.3
SECR		2.53	5	⇓P	Pb	19 51 55.8	-1.5
OUR	Ouranopolis	2.56	212	P	Pn	19 51 53.3	-0.3
OUR	Ouranopolis	2.56	212	PN	Pn	19 51 53.4	-0.2
MFTR	Murfatlar	2.56	49	⇑P	Pb	19 51 57.9	+0.2
MFTR				⇓S	Sb	19 52 28.9	-0.8
KNL	Balıkesir	2.61	149	P	Pn	19 51 55.1	+0.8
EFOR	EFORIE	2.62	52	⇑S	Sb	19 52 31.9	+0.4
TLBR	Topalu	2.62	39	⇑P	Pb	19 51 59.0	+0.1
TLBR				⇓S	Sb	19 52 32.7	+1.1
LIA	Limnos Island	2.65	190	P	Pn	19 51 54.7	-0.2
VAY	Valandovo	2.66	244	*e*Pn	Pn	19 51 55.8	+0.8
VAY				*e*Sn	Sn	19 52 26.5	-1.4
VAY	Valandovo	2.66	244	*i* Pn	Pb	19 51 59.1	-0.4
VAY				*i* Sn	Sg	19 52 38.5	+1.9
ISR	Istrita	2.66	12	⇑P	Pb	19 51 57.6	-2.0
ISR				⇑S	Sn	19 52 29.9	+1.8
TSCT	Constanta Port	2.68	51	⇓S	Sb	19 52 33.7	+0.5
EDC	Edincik	2.69	143	PN	Pn	19 51 55.9	+0.5
HARR	Harsova	2.69	35	⇓P	Pb	19 51 58.5	-1.4
PUNG	Punghina	2.71	312	⇑P	Pn	19 51 55.1	-0.6
PRVS	Prvonek	2.72	271	*e*Pn	Pn	19 51 57.5	+1.6
PRVS				*e*Sn	Sn	19 52 31.0	+1.6
TIRR	Tirgusor	2.74	44	⇑P	Pb	19 51 59.7	-1.2
TIRR				⇑S	Sb	19 52 35.8	+0.9
PLG	Polygyros	2.75	220	P	Pn	19 51 56.4	0.0
HORT	Hortiatis	2.76	227	PN	Pn	19 51 56.9	+0.3
STIP	Stip	2.78	254	*i* Pn	Pn	19 51 53.5	-3.2
STIP				*i* Sn	Sb	19 52 34.2	-1.8
BAYC	CANAKKALE_Bayr	2.84	168	P	Pn	19 51 58.1	+0.6
BAYC				S	Sn	19 52 32.1	-0.1
ZAGS	Zajecar	2.88	298	*e*Pn	Pn	19 51 59.8	+1.7
ZAGS				*e*Sn	Sb	19 52 36.2	-2.8
BARS	Barje	2.92	277	*e*Pn	Pn	19 52 00.6	+1.9
BARS	Barje	2.92	277	*e*Pn	Pb	19 52 02.9	-1.0
BARS				*e*Sn	Sn	19 52 36.6	+2.3
BARS				*e*Sn	Sb	19 52 42.6	+2.5
NEHR	Nehoiu	2.94	7	⇑P	Pn	19 52 00.3	+1.4
GRG	Griva	2.95	239	PN	Pn	19 51 59.9	+0.8
ARR	Arges	2.96	345	⇓P	Pn	19 51 58.8	-0.5
ARR				⇓S	Sg	19 52 45.1	-1.2
VOIR		2.96	350	⇓P	Pn	19 51 59.9	+0.6
VOIR				⇓S	Sn	19 52 34.1	-1.4
MLR	Muntele Rosu	2.98	3	⇑P	Pn	19 51 59.9	+0.4
MLR	Muntele Rosu	2.98	3	Pn	Pn	19 52 01.6	+2.0
	4.9nm,0.3s,baz=180,slow=13,SNR=11						
MLR				Pg	Pg	19 52 08.0	-0.2
	8.1nm,0.3s,baz=217,slow=2.2,SNR=19						
MLR				Lg	Lg	19 52 48.7	
	6.1nm,0.3s,baz=70,slow=19,SNR=2.7						
GRER		3.00	17	⇓P	Pb	19 52 02.5	-2.7
PAIG	Paliouri	3.02	212	P	Pn	19 51 59.6	-0.4
TPGR	Topolog	3.04	39	⇑P	Pb	19 52 04.5	-1.4
TPGR				⇓S	Sb	19 52 44.2	+0.7
ESNK	Esenk¶ly	3.07	127	P	Pg	19 52 08.6	-1.2
BISRR	Bisoca	3.11	12	⇓P	Pb	19 52 04.3	-2.9
BISRR				⇓S	Sn	19 52 41.0	+2.0
BOVS	Bovan	3.17	292	⇑P	Pn	19 52 04.8	+2.7
CFR	Carcaliu	3.17	32	⇑P	Pn	19 52 02.4	+0.3
CFR				⇓S	Sb	19 52 47.9	+0.7
BUHA	Balikesir, Bur	3.17	161	P	Pb	19 52 08.8	+0.6
LOT	Lotru	3.26	335	⇓P	Pn	19 52 04.1	+0.6
LOT	Lotru	3.26	335	PN	Pn	19 52 04.1	+0.6
PRK	Paraskevi	3.29	173	P	Pn	19 52 04.5	+0.8
COVR	Voineasa-Covas	3.34	5	⇑P	Pn	19 52 05.3	+0.8
ODBI	Odobesti	3.38	16	⇑P	Pn	19 52 07.9	+3.0
HERR	Herculane	3.38	315	⇑P	Pn	19 52 03.3	-1.7
PLOR	Plostina	3.40	11	⇓P	Pn	19 52 06.2	+1.0
VRI	Vrincioaia	3.42	11	⇓P	Pn	19 52 06.6	+1.1
VRI	Vrincioaia	3.42	11	PN	Pn	19 52 06.3	+0.7
DOPR	Dopca	3.46	356	⇑P	Pn	19 52 06.3	+0.2
TLCR		3.47	39	⇓P	Pn	19 52 06.6	+0.4
TLCR				⇑S	Sn	19 52 47.4	-0.4
SELS	Selova	3.48	283	*e*Pn	Pn	19 52 07.0	+0.7
SELS				*e*Sn	Sn	19 52 50.4	+2.3
PANC	Panciu	3.50	16	⇓P	Pn	19 52 06.7	+0.1
KUBS	Kucevo	3.52	304	*e*Pn	Pn	19 52 08.6	+1.7
OZUR		3.58	0	⇑P	Pn	19 52 07.5	-0.2
GZR	Gura Zlata	3.59	324	⇓P	Pn	19 52 07.1	-0.8
GZR				⇓S	Sn	19 52 48.6	-2.4
XOR	Xorichti	3.70	213	P	Pn	19 52 08.9	-0.4
MDVR	Moldovita	3.71	309	⇑P	Pn	19 52 11.2	+1.8
FNA	Florina	3.71	244	PN	Pn	19 52 10.1	+0.6
VLDR	Vladesti	3.73	26	⇑S	Sn	19 52 54.3	+0.1
MDB	Medias	3.76	345	⇓P	Pn	19 52 11.0	+0.9
GRUS	Gruza	3.93	292	*e*Pn	Pn	19 52 12.7	+0.2
DEV	Deva	3.94	330	⇑P	Pn	19 52 13.6	+1.0
IVAS	Ivanjica	4.24	286	*e*Pn	Pn	19 52 16.7	-0.1
TRUS	Trudelj	4.25	295	*e*Pn	Pn	19 52 17.1	+0.1
BZS	Buzias	4.30	318	⇓P	Pn	19 52 16.3	-1.3
BZS				⇑S	Sn	19 53 09.4	+1.1
DIVS	Divibare	4.49	293	*e*Pn	Pn	19 52 20.4	+0.1
BURAR	Bucovina Array	5.11	356	⇓P	Pn	19 52 30.1	+1.3
BRTR	Keskin Array B	6.57	112	Pn	Pn	19 52 49.5	+0.5
	0.3nm,0.3s,baz=291,slow=12,SNR=7.0						
IDI	Anoyia	7.25	186	LR	LR	19 55 59.4	
	comp=Z,819nm,19.1s,baz=360,slow=42						
LANS	Liptovska Anna	7.95	329	*e*PN	Pn	19 53 05.9	-1.9
LANS				*e*SN	Sn	19 54 22.1	-16
GERES	GERESS Array B	10.54	311	LR	LR	19 58 05.7	
	comp=Z,495nm,20.1s,baz=170,slow=40						
TORD	Torodi Ar. Bea	35.92	223	P	P	19 58 07.0	-6.0
	0.2nm,0.3s,baz=19,slow=10,SNR=4.2						
MKAR	Makanchi Array	39.71	64	P	P	19 58 45.0	+0.2
	0.3nm,0.8s,baz=274,slow=9.5,SNR=2.7						

IDC ***01*** *19:52:16.5±1.0, 52°.28N×169°.47W, h0km, mb4.0/22, mb1 4.1/24, mb1mx4.0/59, mbtmp4.0/24, ML3.7/2, Error ellipse: s-maj=26.3km s-min=14.8km az=176.0*
NEIC ***01*** *19:52:18.8±3.0, 52°.17N±0°.04×169°.38W±0°.07, h20km±4km, mb4.1/61, ML3.7(AEIC), Error ellipse: s-maj=7.6km s-min=4.3km az=130.0*
AEIC ***01*** *19:52:20±2.9, 52°.18N±0°.05×169°.35W±0°.07, h22km±5km, Error ellipse: s-maj=8.2km s-min=4.8km az=137.0*
ISC 01 19:52:20.4±0.6**, 52°.21N**±0°.08×**169°.36W**±0°.05**, h30**km**, n136, σ1s.32**/130**, mb4.1**/32**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.82	22		Pn	19 52 35.5	-0.5
NIKH					Sn	19 52 49.2	+2.1
OKFG	Magazine Ridge	1.49	36		Pn	19 52 45.6	+0.5
OKFG					Sb	19 53 06.6	+0.7
MSW	Makushin Switc	2.31	41		Pn	19 52 57.4	+1.0
UNV	Unalaska Valle	2.38	45		Pn	19 52 58.6	+1.3
MTBL	Makushin Table	2.39	41		Pn	19 52 58.8	+1.2
AKRB	Akutan Reef Bi	2.76	45		Pn	19 53 04.3	+1.7
ZRO	Akutan Zero	2.77	46		Pn	19 53 04.0	+1.2
AKBBA	Akutan Broad B	2.80	46		Pn	19 53 04.9	+1.8
AKGG	Akutan Green G	2.84	44		Pn	19 53 05.6	+1.9
KOFP	Korovin Flat P	2.91	273		Pn	19 53 06.7	+2.0
AKSA	Akutan Strait	2.93	47		Pn	19 53 06.8	+1.9
ATKA	Atka Island	2.98	272		Pn	19 53 05.8	+0.3
GSMY	Great Sitkin M	4.13	270		Pn	19 53 22.3	+0.9
GSTD	Great Sitkin T	4.18	271		Pn	19 53 22.9	+0.7
GSCK	Great Sitkin C	4.20	270		Pn	19 53 23.0	+0.7
FALS	False Pass	4.43	51	Pn	Pn	19 53 26.6	+1.2
ADK	Adak	4.53	269		Pn	19 53 27.5	+0.6
KIWB	Kanaga Island	4.82	269		Pn	19 53 32.0	+1.1
KIMD	Kanaga Island	4.89	268		Pn	19 53 32.5	+0.7
SPIA	Saint Paul Isl	5.00	354		Pn	19 53 35.9	+2.6
SDPT	Sand Point	6.13	56	Pn	Pn	19 53 50.5	+1.7
CHGN	Chignik	7.61	53	Pn	Pn	19 54 09.6	+0.6
SII	Sitkinak Islan	9.86	58	Pn	Pn	19 54 43.9	+3.9
P18K	Big Mountain,	10.71	42	Pn	Pn	19 54 51.2	-0.3
KDAK	Kodiak Island	11.12	53	Pn	Pn	19 54 57.0	-0.1
	1.0nm,0.3s,baz=284,slow=4.1,SNR=12						
Q19K	Cape Douglas,	11.14	47	Pn	Pn	19 54 56.2	-1.2
GAMB	Gambell	11.66	355	Pn	Pn	19 55 06.6	+2.0
M19K	Big River Lodg	12.64	34	Pn	Pn	19 55 18.1	+0.1
L19K	White Mountain	12.68	32	Pn	Pn	19 55 18.4	-0.1
TTA	Tatalina	12.88	28	Pn	Pn	19 55 20.9	-0.4
RC01	Rabbit Creek A	13.93	43	Pn	Pn	19 55 35.2	-0.3
PPLA	Purkeypile	14.07	34	Pn	Pn	19 55 36.6	-1.0
J20K	Nowinta River	14.37	28		Pn	19 55 43.4	+1.9
PWL	Port Wells	14.41	45	Pn	Pn	19 55 40.2	-2.0
CAST	Castle Rocks	14.46	32		Pn	19 55 44.2	+1.5
KNK	Knik Glacier	14.63	43	Pn	Pn	19 55 43.8	-1.3
SML	Sawmill	14.88	42	Pn	Pn	19 55 45.7	-2.8
KTH	Kantishna Hill	14.94	33	Pn	Pn	19 55 49.1	-0.1
GLI	Glacier Island	14.97	46	Pn	Pn	19 55 47.0	-2.5
FID	Port Fidalgo	15.19	47	Pn	Pn	19 55 49.6	-2.9
BPAW	Bear Paw Mtn.	15.28	32		Pn	19 55 53.5	-0.2
BPAW				IAmb	IAmb	19 56 11.4	
	comp=Z,5.2nm,0.8s						
SCM	Sheep Creek Mo	15.31	42	P	Pn	19 55 52.7	-1.4
SCM				IAmb	IAmb	19 55 53.6	
	comp=Z,11nm,0.8s						
EYAK	Cordova Ski Ar	15.44	48	Pn	Pn	19 55 53.8	-1.9
DIV	Divide	15.66	46	Pn	Pn	19 55 57.9	-0.8
DIV				IAmb	IAmb	19 56 16.7	
	comp=Z,24nm,1.5s						
MCK	McKinley	15.74	35	Pn	Pn	19 55 59.0	-0.7
MCK				IAmb	IAmb	19 56 23.2	
	comp=Z,11nm,1.3s						
KLU	Klutina	15.74	45	Pn	Pn	19 55 58.5	-1.3
KLU				IAmb	IAmb	19 56 36.0	
	comp=Z,23nm,1.5s						
RAGM	Ragged Mountai	15.88	49		S	19 59 12.2	+2.3
H21K	Melozitna Rive	15.88	26	Pn	Pn	19 55 59.2	-2.3
IMAR	Indian Mountai	15.89	24	Pn	Pn	19 55 58.9	-2.7
M24K	Tolsona, Glenn	15.92	42	Pn	Pn	19 56 01.2	-0.8
M24K				IAmb	IAmb	19 56 43.2	
	comp=Z,25nm,1.2s						
DHY	Denali Highway	15.93	38	Pn	Pn	19 56 02.3	0.0
MLY	Manley	16.00	29	P	P	19 56 04.8	-1.5
N25K	Chitina, Valde	16.37	45	Pn	Pn	19 56 07.1	-0.7
N25K				IAmb	IAmb	19 56 40.0	
	comp=Z,10nm,1.2s						
WRH	Wood River Hil	16.49	34	Pn	Pn	19 56 07.6	-1.6
PAX	Paxson	16.62	40	Pn	Pn	19 56 10.6	-0.3
GLB	Gilahina Butte	16.65	46	Pn	Pn	19 56 09.7	-1.6
GLB				IAmb	IAmb	19 56 36.0	
	comp=Z,16nm,1.5s						
SNH	Sunshine Point	16.68	51	Pn	Pn	19 56 11.9	+0.3
VRDI	Verde Repeater	16.73	47	Pn	Pn	19 56 09.8	-2.7
VRDI				IAmb	IAmb	19 56 31.4	
	comp=Z,13nm,1.3s						
MDM	Murphy Dome	16.75	32	Pn	Pn	19 56 09.4	-3.1
WAX	Waxell Ridge	16.75	50	Pn	Pn	19 56 10.6	-2.1
ISLE	Juniper Island	17.04	50	Pn	Pn	19 56 13.3	-3.0
ISLE				IAmb	IAmb	19 56 30.2	
	comp=Z,38nm,1.6s						
IL31		17.08	34	Pn	Pn	19 56 14.2	-2.3
ILAR	Eielson Array	17.08	34	P	Pn	19 56 15.6	-1.1
	comp=Z,0.1nm,0.3s,baz=232,slow=11,SNR=6.7						
RIDG	Independent Ri	17.25	38	Pn	Pn	19 56 18.6	-0.2
RIDG				IAmb	IAmb	19 56 59.8	
	comp=Z,15nm,1.5s						
H24K	Noodor Dome	17.43	30		Pn	19 56 21.2	+0.2
BARN	Barnard Glacie	17.50	49	Pn	Pn	19 56 20.4	-1.7
BARN				IAmb	IAmb	19 56 45.2	
	comp=Z,14nm,1.5s						
DOT	Dot Lake	17.51	39	P	Pn	19 56 21.6	-0.4
J25K	Salcha River,	17.52	36	P	Pn	19 56 21.6	-0.6
TABL	Table Mountain	17.56	51		P	19 56 23.9	+0.2
TABL				IAmb	IAmb	19 56 41.2	
	comp=Z,13nm,0.8s						
SCRK	Sand Creek	17.70	38	P	Pn	19 56 22.8	-1.6
M27K	Edge Creek, AK	17.85	45	P	Pn	19 56 26.1	-0.2
L27K	Beaver Creek,	18.14	43	P	Pn	19 56 28.9	-0.9
BCAR	Beaver Creek A	18.16	43	P	Pn	19 56 29.5	-0.6
TOLK	Toolik Lake Re	18.99	22	P	P	19 56 36.6	-2.6
HYT	Haines Junctio	19.40	51		Pn	19 56 45.5	+0.5
BMAR	Burnt Mountain	19.47	29	P	P	19 56 42.2	-2.2
DAWY	Dawson	19.55	41	P	P	19 56 45.6	+0.3
PEA0B	Petropavlovsk-	19.91	286	P	P	19 56 49.0	-0.3
PEA0B				IAmb	IAmb	19 56 49.9	
	comp=Z,11nm,0.5s						
PETK	Petropavlovsk-	19.91	286	P	P	19 56 48.5	-0.7
	comp=Z,2.7nm,0.3s,baz=89,slow=13,SNR=57						
PETK	Petropavlovsk-	19.91	286	P	P	19 56 48.2	-1.1
SKAG	Skagway	20.26	56	P	P	19 56 53.8	+0.8
SKAG				IAmb	IAmb	19 57 11.2	
	comp=Z,7.5nm,0.8s						
WHY	Whitehorse	20.63	52	P	P	19 56 58.2	+1.0
WHY				IAmb	IAmb	19 57 36.2	
	comp=Z,6.2nm,0.8s						
M31M	Drury Creek, Y	21.15	48	P	P	19 57 00.8	-1.9
M31M				IAmb	IAmb	19 57 37.7	
	comp=Z,7.2nm,0.8s						
P33M	Teslin, Yukon	21.59	54		P	19 57 07.2	-0.3
P33M				IAmb	IAmb	19 57 15.8	
	comp=Z,4.5nm,0.9s						
SEY	Seymchan	22.78	313	P	P	19 57 19.6	-0.5
	comp=Z,0.5nm,0.4s,baz=76,slow=14,SNR=6.2						
MA2	Magadan	23.23	304	P	P	19 57 25.7	+1.0
	comp=Z,1.3nm,0.3s,baz=79,slow=11,SNR=6.8						
INK	Inuvik	23.48	33	P	P	19 57 27.7	+0.7
	comp=Z,2.7nm,0.3s,baz=274,slow=6.6,SNR=4.2						
INK	Inuvik	23.48	33	P	P	19 57 26.8	-0.2
INK				IAmb	IAmb	19 57 42.7	
	comp=Z,7.7nm,0.8s						
YKA	Yellowknife Ar	30.34	49	P	P	19 58 30.4	+1.4
	comp=Z,1.3nm,0.4s,baz=274,slow=8.0,SNR=22						
YKA	Yellowknife Ar	30.34	49	P	P	19 58 29.6	+0.6
KHMM	Horse Mountain	32.84	92	P	P	19 58 50.5	-0.8
TIXI	Tiksi	32.88	329	P	P	19 58 51.4	+0.3
	comp=Z,0.9nm,0.4s,baz=269,slow=23,SNR=6.0						
TIXI	Tiksi	32.88	329	P	P	19 58 49.2	-1.9
TIXI				IAmb	IAmb	19 58 54.2	
	comp=Z,1.5nm,0.5s						
RES	Resolute Bay	36.51	25	P	P	19 59 20.9	-1.5
RES				IAmb	IAmb	19 59 49.7	
	comp=Z,3.3nm,1.5s						
H11N2	WAKE ISLAND Hy	37.33	219	T	T	20 39 27.0	
	baz=24,slow=76,SNR=9.6						
H11N3	WAKE ISLAND Hy	37.34	219	T	T	20 39 26.0	
	baz=24,slow=76,SNR=10						
H11N1	WAKE ISLAND Hy	37.35	219	T	T	20 39 28.2	
	baz=24,slow=76,SNR=9.4						
H11S1	WAKE ISLAND Hy	38.52	218	T	T	20 40 51.9	
	baz=23,slow=76,SNR=110						
YHH	Holmes Hill	38.53	77	P	P	19 59 41.0	+0.8
YHH				IAmb	IAmb	19 59 42.6	
	comp=Z,4.1nm,1.4s						
H11S2	WAKE ISLAND Hy	38.53	218	T	T	20 40 54.8	
	baz=23,slow=76,SNR=105						
H11S3	WAKE ISLAND Hy	38.54	218	T	T	20 40 53.4	
	baz=23,slow=76,SNR=61						
HWUT	Hardware Ranch	39.88	82	P	P	19 59 52.6	+1.2
HWUT				IAmb	IAmb	20 00 05.5	
	comp=Z,7.4nm,1.4s						
BW06	Boulder Array	40.43	79	P	P	19 59 55.9	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BW06				IAmb	IAmb	20 00 14.9	
	comp=Z,3.1nm,1.2s						
PDAR	**Pinedale Array**	**40.43**	**79**	P	**P**	**19 59 57.5**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=312,slow=3.8,SNR=5.8						
PDAR	**Pinedale Array**	**40.43**	**79**	P	**P**	**19 59 55.8**	**-0.2**
FCC	**Fort Churchill**	**41.04**	**50**	P	**P**	**20 00 01.3**	**+0.8**
FCC				IAmb	IAmb	20 00 02.8	
	comp=Z,3.8nm,0.8s						
KSRS	**Korea Array**	**45.43**	**277**	P	**P**	**20 00 36.9**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=54,slow=7.8,SNR=6.2						
NRIK	**Noril'sk**	**46.57**	**332**	P	**P**	**20 00 44.5**	**-0.3**
NRIK				IAmb	IAmb	20 01 23.7	
	comp=Z,3.4nm,1.2s						
SPITS	**Spitsbergen Ar**	**49.83**	**358**	P	**P**	**20 01 09.8**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=58,slow=5.0,SNR=20						
SPB2	**Spitsbergen Ar**	**49.83**	**358**	P	**P**	**20 01 09.5**	**-0.4**
DAG	**Danmarks Havn**	**49.95**	**8**	*i* P	**P**	**20 01 10.0**	**-0.7**
ULN	**Ulaanbaatar**	**51.02**	**301**	P	**P**	**20 01 19.1**	**-0.4**
ULN				IAmb	IAmb	20 01 19.5	
	comp=Z,2.7nm,1.2s						
SONM	**Songino Array**	**51.39**	**301**	P	**P**	**20 01 22.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=49,slow=6.8,SNR=8.1						
SONM	**Songino Array**	**51.39**	**301**	P	**P**	**20 01 22.3**	**+0.1**
SONM				IAmb	IAmb	20 01 23.2	
	comp=Z,2.6nm,1.4s						
TX31	**Lajitas Ar. Si**	**52.74**	**89**	P	**P**	**20 01 32.8**	**+0.4**
TX32	**Lajitas Array**	**52.74**	**89**	P	**P**	**20 01 32.2**	**-0.3**
TX32				IAmb	IAmb	20 01 58.7	
	comp=Z,3.2nm,1.2s						
TXAR	**Lajitas Array**	**52.74**	**89**	P	**P**	**20 01 33.3**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=311,slow=6.3,SNR=5.5						
TXAR	**Lajitas Array**	**52.74**	**89**	P	**P**	**20 01 32.1**	**-0.4**
SCO	**Scoresbysund**	**55.38**	**13**	P	**P**	**20 01 51.2**	**+0.3**
N47A	**Urbana**	**55.57**	**66**	P	**P**	**20 01 52.0**	**-0.8**
ZALV	**Zalesovo Beam**	**57.54**	**318**	P	**P**	**20 02 06.2**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=46,slow=5.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**57.54**	**318**	P	**P**	**20 02 05.7**	**-0.9**
ARCES	**ARCESS Array B**	**58.08**	**354**	P	**P**	**20 02 09.6**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=21,slow=7.5,SNR=14						
ARCES	**ARCESS Array B**	**58.08**	**354**	IAmb	IAmb	20 02 10.7	
	comp=Z,23nm,1.5s						
LVZ	**Lovozero**	**58.87**	**350**	P	**P**	**20 02 14.7**	**-1.1**
KURBB	**Kurchatov Arra**	**62.60**	**318**	P	**P**	**20 02 41.2**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=45,slow=7.2,SNR=13						
MKAR	**Makanchi Array**	**63.92**	**313**	P	**P**	**20 02 49.0**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=53,slow=6.7,SNR=30						
ARU	**Arti**	**64.76**	**333**	P	**P**	**20 02 55.1**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=51,slow=8.6,SNR=6.7						
FINES	**FINESS Array B**	**66.03**	**352**	P	**P**	**20 03 03.3**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=6.6,slow=8.0,SNR=21						
NOA	**NORSAR Array B**	**67.10**	**360**	P	**P**	**20 03 10.6**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=0.6,slow=6.4,SNR=4.8						
AAK	**Ala-Archa**	**70.61**	**315**	P	**P**	**20 03 33.6**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=115,slow=1.4,SNR=14						
AAK	**Ala-Archa**	**70.61**	**315**	IAmb	IAmb	20 03 33.9	
	comp=Z,2.6nm,0.6s						
AKASG	**Malin Array Be**	**76.26**	**348**	P	**P**	**20 04 05.2**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=17,slow=6.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**76.66**	**283**	P	**P**	**20 04 09.1**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=28,slow=6.6,SNR=12						
KBZ	**Khabaz**	**80.46**	**337**	P	**P**	**20 04 30.4**	**+1.5**
	comp=Z,2.2nm,0.9s,baz=209,slow=4.6,SNR=6.2						
ASAR	**Alice Springs**	**90.30**	**230**	P	**P**	**20 05 18.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=340,slow=11,SNR=4.5						

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*NEIC **01** 20:19:52.8±1.0, 5°03S±0°06×151°88E±0°08, h52km±11km, mb4.3/12, Error ellipse: s-maj=12.8km s-min=5.6km az=120.0*
*IDC **01** 20:19:59.7±7.7, 4°89S×151°60E, h123km±54km, mb3.4/4, mb1 3.6/5, mb1mx3.2/30, mbtmp3.8/5, Error ellipse: s-maj=54.8km s-min=51.8km az=4.0*
ISC 01 20:19:52.9±0.9**, 4°86S**±0°08×**152°01E**±0°09**, h100**km**, n23, σ2§16**/21**, mb4.0**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.68**	**13**		**Pn**	**20 20 09.3**	**-1.0**
RABL				Sn	**Sn**	**20 20 20.7**	**-2.5**
MANU	**Manus Island**	**5.41**	**301**	Pn	**Pn**	**20 21 09.8**	**-1.4**
PMG	**Port Moresby**	**6.60**	**227**	P	Pn	20 21 29.7	+2.3
	1.1nm,0.3s,baz=46,slow=17,SNR=2.5						
PMG				S	**Sn**	**20 22 41.7**	**+0.5**
	2.5nm,0.3s,baz=2.8,slow=21,SNR=3.5						
PMG	**Port Moresby**	**6.60**	**227**	Pn	**Pn**	**20 21 25.3**	**-2.1**
PMG				Sn	**Sn**	**20 22 36.0**	**-5.2**
HNR	**Honiara**	**9.09**	**120**	Pn	**Pn**	**20 21 59.1**	**-2.2**
EIDS	**Eidsvold**	**20.41**	**182**	P	Pn	20 24 26.0	+0.9
EIDS				IAmb	IAmb	20 24 30.4	
	comp=Z,13nm,0.6s						
MTN	**Manton Dam**	**22.08**	**248**	P	**P**	**20 24 43.5**	**+3.4**
MTN				IAmb	IAmb	20 24 48.0	
	comp=Z,22nm,1.8s						
DZM	**Mont Dzumac**	**22.10**	**142**	P	**P**	**20 24 42.7**	**+2.4**
WB0	**Warramunga Arr**	**22.67**	**228**	P	**P**	**20 24 47.0**	**+0.8**
WB0				IAmb	IAmb	20 25 43.9	
	comp=Z,14nm,1.7s						
WR0	**Warramunga Arr**	**22.68**	**227**	P	**P**	**20 24 46.6**	**+0.3**
WRAB	**Tennant Creek**	**22.80**	**227**		**P**	**20 24 47.6**	**+0.1**
WRAB				IAmb	IAmb	20 25 06.6	
	comp=Z,19nm,1.9s						
WB2	**Warramunga Arr**	**22.81**	**227**	P	**P**	**20 24 48.1**	**+0.6**
WRA	**Warramunga Arr**	**22.82**	**227**	P	**P**	**20 24 48.8**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=52,slow=9.7,SNR=24						
WRA	**Warramunga Arr**	**22.82**	**227**	P	**P**	**20 24 48.4**	**+0.7**
KNRA	**Kununurra**	**25.24**	**243**	P	**P**	**20 25 11.9**	**+2.1**
ASAR	**Alice Springs**	**25.58**	**221**	P	**P**	**20 25 15.1**	**+2.2**
	comp=Z,1.1nm,0.6s,baz=57,slow=9.1,SNR=20						
ASAR	**Alice Springs**	**25.58**	**221**	P	**P**	**20 25 14.5**	**+1.6**
FITZ	**Fitzroy Crossi**	**28.93**	**241**	P	**P**	**20 25 44.2**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=63,slow=8.0,SNR=14						
FITZ	**Fitzroy Crossi**	**28.93**	**241**	IAmb	IAmb	20 25 48.5	
	comp=Z,13nm,1.9s						
BBOO	**Buckleboo**	**31.54**	**206**	P	**P**	**20 26 07.5**	**+1.7**
VNDA	**Vanda**	**72.80**	**178**	P	P	20 31 14.6	+4.5
	comp=Z,0.3nm,0.3s,baz=36,slow=2.6,SNR=3.4						
VNDA	**Vanda**	**72.80**	**178**	IAmb	IAmb	20 32 10.5	
	comp=Z,8.3nm,1.8s						
TORD	**Torodi Ar. Bea**	**149.57**	**288**	PKPbc	**PKiKP**	**20 39 34.3**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=105,slow=2.1,SNR=4.2						

IDC 01 20:31:18.0±2.1**, 4°27N**×**128°43E, h0**km**, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.2**/45**, mbtmp3.4**/4**, Error ellipse: s-maj=98.7km s-min=23.5km az=62.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.75**	**167**	P	P	20 36 40.2	-1.3
	0.4nm,0.6s,baz=345,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**28.27**	**169**	P	P	20 37 14.7	+1.4
	0.3nm,0.8s,baz=354,slow=7.5,SNR=1.5						
CMAR	**Chiang Mai Arr**	**32.09**	**298**	P	P	20 37 48.1	+1.0
	0.6nm,0.5s,baz=118,slow=7.2,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**39.96**	**66**	T	T	21 22 02.7	
	baz=250,slow=74,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**39.98**	**66**	T	T	21 22 01.4	
	baz=250						
H11S2	**WAKE ISLAND Hy**	**39.98**	**66**	T	T	21 22 00.8	
	baz=250,slow=74,SNR=5.2						
MKAR	**Makanchi Array**	**58.10**	**324**	P	P	20 41 12.6	-0.7
	0.2nm,0.3s,baz=114,slow=7.9,SNR=12						

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*MDD **01** 20:31:45.3±1.1, 36°48N×9°93W, h39km±13km, mb_Lg2.6/4, Error ellipse: s-maj=10.3km s-min=6.5km az=44.0*
*SFS **01** 20:31:45.0, 36°47N×9°93W, h39km, ML2.6, SW. CABO DE SAN VICENTE*
*INMG **01** 20:31:46.9±1.1, 36°62N×9°80W, h14km±4km, ML2.1, Error ellipse: s-maj=4.8km s-min=4.0km az=35.0*
*IGIL **01** 20:31:47.1, 36°62N×9°80W, h17km, ML2.0*
*CNRM **01** 20:31:49.0, 36°15N×9°36W, h30km*
ISC 01 20:31:44.2±2.5**, 36°63N**±0°10×**9°82W**±0°09**, h10**km**, n43, σ1§61**/71**, 3C, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.94**	**58**	⇑*i*P	**Pg**	**20 32 03.8**	**+1.5**
PFVI				*e*S	**Sg**	**20 32 16.3**	**+1.8**
PFVI				A	A	20 32 17.0	
	13nm,0.1s						
MORF	**Marmelete**	**1.15**	**54**	*e*P	**Pb**	**20 32 06.8**	**+0.5**
MORF				*e*S	**Sb**	**20 32 21.1**	**-0.2**
MORF				IAML		20 32 23.0	
	comp=N,23nm,0.1s						
MORF	**Marmelete**	**1.15**	**54**	*e*P	**Pb**	**20 32 06.8**	**+0.5**
MORF				*e*S	**Sb**	**20 32 21.3**	**0.0**
MORF				A	A	20 32 22.8	
	comp=N,19nm,0.1s						
PTEO	**Sao Teotonio**	**1.27**	**43**	*e*P	**Pn**	**20 32 08.4**	**+0.5**
PTEO				*e*S	**Sb**	**20 32 24.7**	**+0.2**
PTEO				A	A	20 32 25.9	
	comp=N,19nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.63**	**67**	⇑*i*Pn	**Pn**	**20 32 13.3**	**+0.3**
PBDV				*e*Sn	**Sn**	**20 32 33.8**	**-0.3**
PBDV				A	A	20 32 46.8	
	comp=N,5.0nm,0.4s						
PCVE	**Castro Verde**	**1.74**	**54**	*e*Pn	**Pn**	**20 32 15.1**	**+0.7**
PCVE				*e*Sn	**Sn**	**20 32 36.3**	**-0.4**
PCVE				A	A	20 32 38.0	
	comp=N,6.0nm,0.6s						
PNCL	**Nicolau / Gran**	**1.80**	**34**	*e*Pn	**Pn**	**20 32 15.8**	**+0.5**
PNCL				*e*Sn	**Sn**	**20 32 37.2**	**-1.0**
PNCL				A	A	20 32 40.1	
	comp=N,16nm,0.1s						
PVAQ	**Vaqueiros**	**1.85**	**65**	⇑*i*Pn	**Pn**	**20 32 16.3**	**+0.3**
PVAQ				*e*Sn	**Sn**	**20 32 38.8**	**-0.6**
PVAQ				A	A	20 32 43.9	
	comp=N,6.5nm,0.3s						
PVAQ	**Vaqueiros**	**1.85**	**65**	P	**Pn**	**20 32 16.8**	**+0.8**
PVAQ				S	**Sn**	**20 32 41.0**	**+1.5**
EGRO	**El Granado**	**2.07**	**64**	Pg	**Pn**	**20 32 19.6**	**+0.5**
EGRO				Sg	**Sn**	**20 32 44.0**	**-1.0**
EGRO				*i* Vmb_Lg		20 32 46.4	
PBEJ	**Beja**	**2.09**	**48**	*e*Pn	**Pn**	**20 32 19.5**	**+0.2**
PBEJ				*e*Sn	**Sn**	**20 32 44.2**	**-1.1**
PBEJ				A	A	20 32 46.6	
	comp=N,6.6nm,0.4s						
PMST	**Lisbon--Monsan**	**2.16**	**13**	*e*Sn	**Sn**	**20 32 46.6**	**-0.5**
PMST				A	A	20 32 48.2	
	comp=N,26nm,0.7s						
PACT	**Alcochete**	**2.27**	**20**	*e*Pn	**Pn**	**20 32 22.8**	**+1.0**
PACT				*e*Sn	**Sn**	**20 32 50.0**	**+0.2**
PMAFR	**Mafra**	**2.36**	**10**	*e*Pn	**Pn**	**20 32 23.3**	**+0.3**
PMAFR				*e*Sn	**Sn**	**20 32 50.6**	**-1.4**
PMAFR				A	A	20 32 53.2	
	comp=N,20nm,0.4s						
EVO	**Evora**	**2.38**	**37**	*e*Pn	**Pn**	**20 32 23.5**	**+0.2**
EVO				*e*Sn	**Sn**	**20 32 51.0**	**-1.5**
EVO				A	A	20 32 52.5	
	comp=N,14nm,0.3s						
PBAR	**Barrancos**	**2.70**	**54**	*e*Pn	**Pn**	**20 32 27.9**	**+0.3**
PBAR				*e*Sn	**Sn**	**20 32 59.4**	**-0.9**
PBAR				A	A	20 33 00.8	
	comp=N,5.2nm,1.1s						
PMTG	**Montargil**	**2.74**	**27**	*e*Pn	**Pn**	**20 32 28.8**	**+0.6**
PMTG				*e*Sn	**Sn**	**20 32 59.5**	**-1.9**
PMTG				A	A	20 33 01.0	
	comp=N,8.2nm,0.4s						
EMIN	**Mina Concepcio**	**2.76**	**65**	Pn	**Pn**	**20 32 28.0**	**-0.4**
EMIN				Sn	**Sn**	**20 33 01.3**	**-0.5**
PESTR	**Estremoz**	**2.85**	**38**	*e*Pn	**Pn**	**20 32 30.1**	**+0.4**
PESTR				*e*Sn	**Sn**	**20 33 02.5**	**-1.6**
PESTR				A	A	20 33 04.6	
	comp=N,5.7nm,0.5s						
PSBE	**So Bento**	**2.99**	**15**	*e*Pn	**Pn**	**20 32 32.2**	**+0.5**
PSBE				*e*Sn	**Sn**	**20 33 06.8**	**-0.8**
PSBE				A	A	20 33 18.2	
	comp=N,11nm,0.7s						
EBAD	**Badajoz**	**3.07**	**46**	Pn	**Pn**	**20 32 32.5**	**-0.3**
EBAD				Sn	**Sn**	**20 33 07.8**	**-1.8**
EBAD				*i* Vmb_Lg		20 33 10.1	
ESPR	**Espera**	**3.19**	**85**	Pn	**Pn**	**20 32 34.2**	**-0.2**
ESPR				Sn	**Sn**	**20 33 08.5**	**-4.0**
ESPR				*i* Vmb_Lg		20 33 11.5	
PMRV	**Marv??o**	**3.39**	**34**	*e*Pn	**Pn**	**20 32 37.5**	**+0.4**
PMRV				*e*Sn	**Sn**	**20 33 14.9**	**-2.5**
PMRV				A	A	20 33 16.7	
	comp=N,4.7nm,0.3s						
PCAS	**Casmilo, Conde**	**3.57**	**17**	*e*Pn	**Pn**	**20 32 40.2**	**+0.5**
PCAS				*e*Sn	**Sn**	**20 33 19.7**	**-2.2**
PCAS				A	A	20 33 23.1	
	comp=N,2.5nm,0.3s						
PCBR	**Castelo Branco**	**3.70**	**29**	*e*Pn	**Pn**	**20 32 42.2**	**+0.8**
PCBR				*e*Sn	**Sn**	**20 33 23.1**	**-1.9**
PCBR				A	A	20 33 24.9	
	comp=N,2.1nm,0.2s						
ECAB	**El Cabril**	**3.79**	**66**	Pn	**Pn**	**20 32 42.6**	**-0.1**
ECAB				*i* Vmb_Lg		20 32 55.0	
ECAB				Sn	**Sn**	**20 33 24.7**	**-2.7**
MTE	**Manteigas**	**4.16**	**25**	*e*Pn	**Pn**	**20 32 48.4**	**+0.5**
MTE				*e*Sn	**Sn**	**20 33 34.9**	**-1.7**
MTE				A	A	20 33 37.3	
	comp=N,2.9nm,0.1s						
PVIS	**Viseu**	**4.35**	**20**	*e*Sn	**Sn**	**20 33 38.9**	**-2.2**
PVIS				A	A	20 33 41.6	
	comp=N,2.2nm,0.2s						
EADA	**Adamuz**	**4.45**	**68**	Pn	**Pn**	**20 32 51.8**	**+0.1**
EADA				Sn	**Sn**	**20 33 40.4**	**-3.2**
EPLA	**Plasencia**	**4.51**	**39**	Pn	**Pn**	**20 32 52.6**	**-0.1**
EPLA				Sn	**Sn**	**20 33 42.7**	**-2.5**
PVRL	**Vila Real**	**4.92**	**19**	*e*Sn	**Sn**	**20 33 52.0**	**-3.2**
POLO	**Lamas de Olo**	**4.99**	**18**	*e*Pn	**Pn**	**20 32 59.4**	**+0.1**
POLO				*e*Sn	**Sn**	**20 33 54.0**	**-3.1**
POLO				A	A	20 33 58.1	
	comp=N,0.9nm,0.5s						
PAB	**San Pablo**	**5.21**	**54**	Pn	**Pn**	**20 33 02.4**	**+0.3**
PAB				Sn	**Sn**	**20 33 59.2**	**-3.1**
CZD	**Col de Zad**	**5.32**	**131**	P	Pn	20 32 57.7	-6.3
CZD				S	Sn	20 33 52.5	-13
ELOB	**Lobios**	**5.40**	**14**	Pn	**Pn**	**20 33 04.8**	**-0.1**
ELOB				Sn	**Sn**	**20 34 03.7**	**-3.5**
PGAV	**Gavieira, Arco**	**5.46**	**12**	*e*Pn	**Pn**	**20 33 06.1**	**+0.4**
PGAV				*e*Sn	**Sn**	**20 34 05.7**	**-2.9**
MD31	**MD31**	**5.61**	**131**	P	Pn	20 33 05.0	-2.7
MD31				S	Sn	20 33 59.8	-12
OUK	**Oukaimeden**	**5.65**	**163**	P	Pn	20 33 05.0	-3.5
OUK				S	Sn	20 34 02.0	-12
MDT	**Midelt**	**5.74**	**130**	P	Pn	20 33 07.0	-2.5
MDT				S	Sn	20 34 02.2	-13
GUD	**Guadarrama**	**5.97**	**46**	Pn	**Pn**	**20 33 12.9**	**+0.1**
GUD				Sn	**Sn**	**20 34 18.8**	**-2.6**
TTIG	**Tnine Tigouga,**	**6.18**	**169**	P	Pn	20 33 08.5	-7.1
TZRR	**Tazzarine**	**6.82**	**148**	P	Pn	20 33 18.8	-5.6
ETOR	**Torete**	**7.37**	**53**	Pn	**Pn**	**20 33 32.4**	**+0.5**
ETOR				Sn	**Sn**	**20 34 50.8**	**-4.8**

TAP 01 20:35:25.8, 23°91N×121°75E, h49km**, ML1.6, 6C-10D, D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.15**	**252**	*e*P	Pn	20 35 34.0	+0.3
	baz=266						
TEYL				*e*S	Sn	20 35 40.1	+0.9
	baz=266						
TWD	**Chiawan**	**0.22**	**319**	⇓P	Pn	20 35 34.5	+0.3
	baz=321						
TWD				S	Sn	20 35 41.2	+1.1
	baz=321						
ETM	**Tongmen**	**0.24**	**282**	*e*P	Pn	20 35 34.9	+0.5
	baz=282						
ETM				*e*S	Sn	20 35 41.1	+0.7
	baz=282						
ETL	**Fush Village**	**0.27**	**334**	⇓*e*P	Pn	20 35 34.9	+0.3
	baz=334						
ETL				*e*S	Sn	20 35 41.6	+0.7
	baz=334						
NACB	**Ninganchiao**	**0.30**	**331**	⇑P	Pn	20 35 35.1	+0.3
	baz=331						
NACB				S	Sn	20 35 42.0	+0.8
	baz=331						
ESL	**Shilin**	**0.31**	**251**	*e*P	Pn	20 35 35.0	+0.1
	baz=250						
ESL				*e*S	Sn	20 35 41.6	+0.3
	baz=250						
ETLH	**Xiulin Townshi**	**0.38**	**320**	*e*P	Pn	20 35 36.3	+0.5
	baz=319						
ETLH				*e*S	Sn	20 35 43.0	+0.1
	baz=319						
EGFH	**Guangfu**	**0.38**	**231**	⇓*e*P	Pn	20 35 35.7	0.0
	baz=230						
EGFH				*e*S	Sn	20 35 43.3	+0.6
	baz=230						
WHF	**Hehuan Shan**	**0.50**	**298**	*e*P	Pn	20 35 37.9	+0.4
	baz=297						
WHF				*e*S	Sn	20 35 46.1	+0.4
	baz=297						
ENA	**Nanau**	**0.51**	**359**	⇓*e*P	Pn	20 35 37.4	+0.2
	baz=359						
ENA				*e*S	Sn	20 35 46.0	+0.7
	baz=359						
HGSD	**Ruisui**	**0.52**	**216**	⇓P	Pn	20 35 37.6	+0.4
	baz=215						
HGSD				*e*S	Sn	20 35 46.5	+1.2
	baz=215						
OWD	**Renai**	**0.53**	**275**	*e*P	Pn	20 35 37.8	+0.3
	baz=274						
OWD				*e*S	Sn	20 35 46.6	+0.8
	baz=274						
EWUT	**Wuta**	**0.53**	**3**	⇓*e*P	Pn	20 35 37.6	+0.2
	baz=2.0						
CHGB	**Renai**	**0.55**	**286**	⇑P	Pn	20 35 38.4	+0.6
	baz=285						
CHGB				S	Sn	20 35 47.0	+0.6
	baz=285						
EHY	**Hungye**	**0.56**	**224**	*e*P	Pn	20 35 38.2	+0.4
	baz=223						
EHY				*e*S	Sn	20 35 45.8	-0.7
	baz=223						
FUSS	**Fushou**	**0.57**	**306**	*e*P	Pn	20 35 38.2	+0.1
	baz=305						
FUSS				*e*S	Sn	20 35 47.5	+0.5
	baz=305						
VWDT	**VWDT**	**0.58**	**254**	⇑*e*P	Pn	20 35 38.7	+0.7
	baz=254						
VWDT				*e*S	Sn	20 35 47.7	+1.0
	baz=254						
WUSB	**Renai**	**0.59**	**278**	⇑P	Pn	20 35 38.8	+0.6
	baz=277						
WUSB				*e*S	Sn	20 35 48.6	+1.5
	baz=277						
NNSB	**Datong**	**0.61**	**327**	⇑P	Pn	20 35 39.3	+0.7
	baz=326						
NNSB				S	Sn	20 35 48.0	+0.3
	baz=326						
NNS	**Nan Shan**	**0.63**	**327**	*e*P	Pn	20 35 39.5	+0.7
	baz=327						
NNS				*e*S	Sn	20 35 49.0	+0.9
	baz=327						
LATG	**Datong**	**0.65**	**342**	⇓*e*P	Pn	20 35 39.3	+0.2
	baz=341						
LATG				*e*S	Sn	20 35 49.5	+0.9
	baz=341						
YULB	**Yu-li**	**0.67**	**219**	⇑*e*P	Pn	20 35 38.7	-0.3
	baz=218						
YULB				*e*S	Sn	20 35 48.1	-0.6
	baz=218						
TWC	**Suao**	**0.70**	**7**	⇓*e*P	Pn	20 35 40.2	+0.7
	baz=8.0						
TWC				*e*S	Sn	20 35 50.8	+1.3
	baz=8.0						
NDS	**Dongshan**	**0.72**	**357**	*e*P	Pn	20 35 40.4	+0.6
	baz=357						
NDS				*e*S	Sn	20 35 51.1	+1.2
	baz=357						
NDT	**Datong Townshi**	**0.72**	**342**	*e*P	Pn	20 35 40.4	+0.6
	baz=342						
NDT				*e*S	Sn	20 35 50.5	+0.6
	baz=342						
SSLB	**Suanglung**	**0.74**	**260**	*e*P	Pn	20 35 40.8	+0.7
	baz=260						
SSLB				*e*S	Sn	20 35 51.8	+1.3
	baz=260						
ENTT	**Nioudou**	**0.74**	**347**	⇓*e*P	Pn	20 35 40.6	+0.5
	baz=347						
ENTT				*e*S	Sn	20 35 51.4	+0.9
	baz=347						
FULB	**Fuli**	**0.83**	**211**	*e*P	Pn	20 35 42.0	+0.8
	baz=210						
FULB				*e*S	Sn	20 35 53.5	+1.1
	baz=210						
YHNB	**Yeheng**	**0.83**	**336**	⇓*e*P	Pn	20 35 42.2	+0.9
	baz=335						
YHNB				*e*S	Sn	20 35 53.7	+1.1
	baz=335						
NSK	**Sanguang**	**0.84**	**335**	*e*P	Pn	20 35 42.4	+1.0
	baz=335						
NSK				*e*S	Sn	20 35 53.7	+0.9
	baz=335						
YUS	**Yu-Shan**	**0.85**	**240**	*e*P	Pn	20 35 42.3	+0.4
	baz=239						
YUS				*e*S	Sn	20 35 54.3	+0.7
	baz=239						
FUSB	**Fushanzhiwuyua**	**0.86**	**350**	*e*P	Pn	20 35 42.6	+0.9
	baz=349						
FUSB				*e*S	Sn	20 35 54.1	+0.9
	baz=349						
NWLT	**Wulai**	**0.89**	**345**	*e*S	Sn	20 35 54.5	+0.5
	baz=345						

JMA 01 20:35:46.6±0.1**, 24°97N**×**123°28E, h131**km±2km**, M1.9, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.60**	**211**	P	Pn	20 36 06.5	+0.1
JYNG				*e*S	Sn	20 36 22.1	+0.8
IRIF	**Iriomote-Funau**	**0.75**	**147**	P	Pn	20 36 07.6	+0.1
IRIF				S	Sn	20 36 23.4	+0.1
JKRS	**Kuro-shima**	**0.99**	**138**	P	Pn	20 36 09.8	+0.3
JKRS				S	Sn	20 36 27.4	+0.6
JIJ	**Ishigaki jima**	**0.99**	**127**	P	Pn	20 36 09.6	+0.1
JIJ				S	Sn	20 36 26.6	-0.2
JISG	**Ishigakijimahi**	**1.01**	**112**	P	Pn	20 36 09.9	+0.2
JISG				*e*S	Sn	20 36 27.7	+0.5
HATJ	**Hateruma jima**	**1.03**	**152**	P	Pn	20 36 10.1	+0.2
HATJ				S	Sn	20 36 27.7	+0.2
JTJ	**Tarama**	**1.33**	**104**	P	Pn	20 36 13.5	+0.6
JTJ				S	Sn	20 36 33.7	+0.8

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*NEIC **01** 20:42:11.8±1.8, 52°90N±0°08×170°29W±0°08, h225km±8km, mb4.0/38, ML3.5(AEIC), Error ellipse: s-maj=12.4km s-min=6.1km az=200.0*
*IDC **01** 20:42:13.0±6.6, 52°44N×168°95W, h200km±64km, mb3.1/4, mb1 3.4/6, mb1mx2.9/75, mbtmp3.8/6, Error ellipse: s-maj=115.0km s-min=34.8km az=142.0*
*AEIC **01** 20:42:13±3.7, 53°0N±0°2×170°4W±0°1, h209km±6km, Error ellipse: s-maj=24.2km s-min=9.3km az=160.0*
ISC 01 20:42:11.2±0.9**, 52°9N**±0°1×**170°25W**±0°08**, h200**km**, n93, σ1§85**/92**, mb3.5**/4**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.85**	**87**		**Pn**	**20 42 43.2**	**+3.2**
OKSO	**Okmok South**	**1.33**	**71**		**Pn**	**20 42 46.5**	**+3.1**
OKFG	**Magazine Ridge**	**1.48**	**71**		**Pn**	**20 42 48.2**	**+3.4**
MGOD	**Makushin Gods**	**2.20**	**66**		**Pn**	**20 42 54.7**	**+2.9**
MSW	**Makushin Switc**	**2.29**	**63**		**Pn**	**20 42 55.9**	**+3.1**
MTBL	**Makushin Table**	**2.37**	**63**		**Pn**	**20 42 57.4**	**+3.6**
UNV	**Unalaska Valle**	**2.42**	**67**		**Pn**	**20 42 57.2**	**+3.1**
KOFP	**Korovin Flat P**	**2.44**	**256**		**Pn**	**20 42 56.5**	**+2.1**
ATKA	**Atka Island**	**2.52**	**254**		**Pn**	**20 42 57.1**	**+1.8**
AKMO	**Akutan Morgan**	**2.78**	**64**		**Pn**	**20 43 01.7**	**+3.5**
AKGG	**Akutan Green G**	**2.84**	**62**		**Pn**	**20 43 02.1**	**+3.3**
AHB	**Akutan Harbor**	**2.90**	**64**		**Pn**	**20 43 02.9**	**+3.3**
AKSA	**Akutan Strait**	**2.97**	**64**		**Pn**	**20 43 03.5**	**+3.1**
GSMY	**Great Sitkin M**	**3.66**	**258**		**Pn**	**20 43 10.3**	**+1.5**
WESE	**West Dahl East**	**3.70**	**63**		**Pn**	**20 43 12.3**	**+3.0**
GSTD	**Great Sitkin T**	**3.71**	**259**		**Pn**	**20 43 11.1**	**+1.7**
GSCK	**Great Sitkin C**	**3.73**	**258**		**Pn**	**20 43 11.3**	**+1.7**
ADK	**Adak**	**4.08**	**258**	Pn	**Pn**	**20 43 15.2**	**+1.3**
SSLN	**Shishaldin Nor**	**4.15**	**61**		**Pn**	**20 43 17.4**	**+2.6**
KINC	**Kanaga Island**	**4.33**	**259**		**Pn**	**20 43 18.3**	**+1.2**
KIWB	**Kanaga Island**	**4.36**	**258**		**Pn**	**20 43 19.2**	**+1.7**
KIKV	**Kanaga Island**	**4.37**	**259**		**Pn**	**20 43 19.3**	**+1.7**
KIMD	**Kanaga Island**	**4.44**	**257**		**Pn**	**20 43 19.9**	**+1.4**
FALS	**False Pass**	**4.47**	**62**		**Pn**	**20 43 20.7**	**+1.9**
PS4A	**Pavlof South-4**	**5.49**	**61**		**Pn**	**20 43 34.7**	**+2.9**
SDPT	**Sand Point**	**6.23**	**63**		**Pn**	**20 43 41.8**	**+0.5**
CHGN	**Chignik**	**7.65**	**59**	Pn	**Pn**	**20 44 00.1**	**+0.4**
CHIR	**Chirikof Islan**	**9.01**	**66**	Pn	**Pn**	**20 44 17.1**	**-0.4**
Q19K	**Cape Douglas,**	**11.06**	**51**	Pn	**Pn**	**20 44 43.1**	**-0.8**
KDAK	**Kodiak Island**	**11.15**	**57**	P	**Pn**	**20 44 43.5**	**-1.6**
	1.8nm,0.3s,baz=254,slow=1.2,SNR=42						
KDAK				S	Sn	20 46 37.1	-12
	0.2nm,0.3s,baz=308,slow=22,SNR=1.7						
M19K	**Big River Lodg**	**12.36**	**37**	Pn	**Pn**	**20 44 59.5**	**-0.9**
L19K	**White Mountain**	**12.38**	**36**	Pn	**Pn**	**20 45 00.7**	**+0.1**

CNPM	China Poot	12.44	50	Pn	Pn	20 45 01.1	-0.3
TTA	Tatalina	12.51	31		Pn	20 45 04.3	+1.9
BRLK	Bradley Lake	12.70	50	Pn	Pn	20 45 03.0	-1.6
M20K	Styx River	12.82	39	Pn	Pn	20 45 05.8	-0.4
CAPN	Captain Cook N	13.02	45	Pn	Pn	20 45 08.9	+0.2
K20K	Telida	13.44	33	Pn	Pn	20 45 13.8	-0.1
SEW	Seward	13.49	50	Pn	Pn	20 45 12.8	-1.8
RC01	Rabbit Creek A	13.78	46	Pn	Pn	20 45 17.0	-1.2
PPLA	Purkeypile	13.79	37	Pn	Pn	20 45 18.4	0.0
CAST	Castle Rocks	14.15	35		Pn	20 45 22.2	-0.5
PWL	Port Wells	14.30	48	Pn	Pn	20 45 22.5	-2.1
KNK	Knik Glacier	14.48	46	Pn	Pn	20 45 23.4	-3.4
KTH	Kantishna Hill	14.64	36		Pn	20 45 27.4	-1.4
SML	Sawmill	14.71	44		Pn	20 45 29.0	-0.7
GLI	Glacier Island	14.87	49		Pn	20 45 30.3	-1.3
BPAW	Bear Paw Mtn.	14.96	34		P	20 45 34.1	+0.8
BPAW				IAmb	IAmb	20 46 03.0	
	comp=Z,6.3nm,1.3s						
FID	Port Fidalgo	15.10	49	P	Pn	20 45 32.1	-2.3
SCM	Sheep Creek Mo	15.15	45		Pn	20 45 34.3	-0.8
RND	Reindeer	15.31	38		Pn	20 45 36.2	-0.8
RND				IAmb	IAmb	20 46 03.0	
	comp=Z,6.1nm,1.2s						
EYAK	Cordova Ski Ar	15.37	51	P	Pn	20 45 38.2	+0.6
MCK	McKinley	15.47	37		Pn	20 45 36.7	-2.1
MCK				IAmb	IAmb	20 45 46.7	
	comp=Z,8.0nm,1.4s						
H21K	Melozitna Rive	15.47	28	P	Pn	20 45 38.7	-0.1
BWN	Browne	15.53	35	P	Pn	20 45 39.3	-0.3
KLU	Klutina	15.63	47		P	20 45 39.0	-1.8
DHY	Denali Highway	15.71	41		P	20 45 39.5	-2.3
DHY				IAmb	IAmb	20 45 45.1	
	comp=Z,7.3nm,1.3s						
M24K	Tolsona, Glenn	15.76	45		P	20 45 40.1	-2.2
I23K	Minto, Yukon-K	16.17	33	P	P	20 45 46.4	-0.3
I23K				IAmb	IAmb	20 45 49.3	
	comp=Z,7.9nm,1.2s						
WRH	Wood River Hil	16.19	36	P	P	20 45 46.0	-1.0
N25K	Chitina, Valde	16.26	48	P	P	20 45 47.2	-0.6
N25K				IAmb	IAmb	20 45 49.3	
	comp=Z,4.6nm,0.8s						
PAX	Paxson	16.43	43	P	P	20 45 49.9	+0.3
PAX				IAmb	IAmb	20 46 22.9	
	comp=Z,6.5nm,1.3s						
GLB	Gilahina Butte	16.56	49	P	P	20 45 50.7	-0.3
GLB				IAmb	IAmb	20 46 16.9	
	comp=Z,6.6nm,1.2s						
HDA	Harding Lake	16.57	37	P	P	20 45 51.0	0.0
VRDI	Verde Repeater	16.65	50	P	P	20 45 51.5	-0.7
VRDI				IAmb	IAmb	20 46 15.2	
	comp=Z,13nm,1.3s						
IL31		16.79	36	P	P	20 45 52.6	-0.8
ILAR	Eielson Array	16.79	36	P	P	20 45 53.8	+0.3
	comp=Z,0.4nm,0.3s,baz=232,slow=9.0,SNR=22						
ILAR	Eielson Array	16.79	36	P	P	20 45 52.7	-0.8
ISLE	Juniper Island	17.00	52	P	P	20 45 56.2	+0.2
RIDG	Independent Ri	17.03	41	P	P	20 45 56.5	+0.4
RIDG				IAmb	IAmb	20 46 05.5	
	comp=Z,8.5nm,1.5s						
H24K	Noodor Dome	17.09	32	P	P	20 45 56.3	-0.5
H24K				IAmb	IAmb	20 45 59.5	
	comp=Z,5.4nm,1.2s						
MENT	Mentasta	17.14	44	P	P	20 45 56.4	-1.0
MENT				IAmb	IAmb	20 46 13.1	
	comp=Z,7.0nm,0.9s						
YAH	Yahtse	17.23	53	P	P	20 45 58.2	-0.4
J25K	Salcha River,	17.26	38	P	P	20 45 56.9	-1.7
J25K				IAmb	IAmb	20 46 02.2	
	comp=Z,9.4nm,1.6s						
DOT	Dot Lake	17.30	41	P	P	20 45 58.9	-0.2
DOT				IAmb	IAmb	20 46 11.7	
	comp=Z,6.5nm,1.1s						
SCRK	Sand Creek	17.48	41	P	P	20 46 00.1	-1.0
SCRK				IAmb	IAmb	20 46 26.9	
	comp=Z,8.5nm,1.5s						
M27K	Edge Creek, AK	17.72	47	P	P	20 46 03.6	-0.3
M27K				IAmb	IAmb	20 46 07.8	
	comp=Z,3.8nm,0.7s						
L27K	Beaver Creek,	17.99	45	P	P	20 46 05.0	-1.6
BCAR	Beaver Creek A	18.01	45	P	P	20 46 05.5	-1.3
TOLK	Toolik Lake Re	18.53	24	P	P	20 46 10.5	-2.0
BILL	Bilibino	18.84	332	P	P	20 46 14.8	-0.9
BILL				IAmb	IAmb	20 46 17.9	
	comp=Z,2.7nm,0.7s						
EGAK	Eagle	18.93	40	P	P	20 46 15.5	-1.3
EGAK				IAmb	IAmb	20 46 18.4	
	comp=Z,3.0nm,0.8s						
DAWY	Dawson	19.37	43	P	P	20 46 22.9	+1.4
I29M	Ogilvie Camp,	20.28	40	P	P	20 46 31.2	0.0
DLBC	Dease Lake	23.06	60	P	P	20 46 54.8	-4.0
	comp=Z,1.2nm,0.5s,baz=254,slow=14,SNR=5.7						
DLBC	Dease Lake	23.06	60	IAmb	IAmb	20 46 57.8	
	comp=Z,12nm,1.6s						
YKA	Yellowknife Ar	30.27	49	P	P	20 48 04.2	+1.1
	comp=Z,0.1nm,0.3s,baz=273,slow=8.7,SNR=1.8						
BCYI	Bear Canyon	37.65	80	P	P	20 49 04.6	-2.4
LAO	LASA Array	40.55	72	P	P	20 49 30.6	-0.2
WRA	Warramunga Arr	86.94	231	P	P	20 54 36.0	+2.6
	comp=Z,0.4nm,0.9s,baz=36,slow=5.8,SNR=1.7						
WRA	Warramunga Arr	86.94	231	P	P	20 54 30.9	-2.6
ASAR	Alice Springs	90.36	229	P	P	20 54 53.0	+3.5
	comp=Z,0.6nm,0.7s,baz=20,slow=4.9,SNR=7.4						
ASAR	Alice Springs	90.36	229	P	P	20 54 47.9	-1.6

*NEIC **01** 20:42:09.6±1.7, 4°.03N±0°.06×128°.27E±0°.07, h17km±4km, mb4.6/62, Error ellipse: s-maj=10.9km s-min=8.3km az=56.0*

*DJA **01** 20:42:11.0±1.1, 4°N±6°×12°8E±°, h31km±12km, M4.5/17, mb4.5/17, mB5.0/6, MLv4.5/12, Mw(mB)4.4/6*

*IDC **01** 20:42:18.9±2.4, 3°.92N×128°.35E, h104km±23km, mb3.8/15, mb1 3.9/16, mb1mx3.6/49, mbtmp4.1/16, Error ellipse: s-maj=25.0km s-min=10.3km az=70.0*

ISC 01 20:42:12.4±0.4**, 3°.97N**±0°.05×**128°.28E**±0°.06**, h46**km**, n119,** σ1§**41**/119**, mb4.5**/48**, 1C-2D, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.76	264	P	Pn	20 42 54.4	+0.3
TNTI	Ternate	3.30	196	Pn	Pn	20 43 02.8	+1.2
TNTI	Ternate	3.30	196	P	Pn	20 43 03.5	+1.9
GSPH	General Santos	3.93	303	eP	Pn	20 43 10.6	+0.3
DAV	Davao City (W)	4.09	319	P	Pn	20 43 19.2	+6.8
	27nm,0.3s,baz=334,slow=4.2,SNR=4.0						
DAV				S	Sn	20 44 09.7	+11
	48nm,0.3s,baz=267,slow=19,SNR=1.4						
DAV	Davao City (W)	4.09	319	Pn	Pn	20 43 09.3	-3.2
KCP	Kidapawan	4.38	314	⇓eP	Pn	20 43 16.9	+0.4
KCP				i S	Sn	20 44 21.8	+15
LBMI	Labuha	4.64	190	P	Pn	20 43 22.5	+2.6
CTBH	Cotabato--PC H	5.16	309	⇑eP	Pn	20 43 28.0	+1.0
KMSI	Cibinong	5.46	232	P	Pn	20 43 33.1	+1.9
	1.4nm4µm226nm,0.7s						
SWI	Sorong	5.64	148	P	Pn	20 43 32.9	-0.9
	0.2nm22nm,1.0s						
SIJI	Sorong	5.65	148	P	Pn	20 43 32.8	-1.1
	1.9nm,0.3s,baz=328,slow=13,SNR=7.1						
SIJI				S	Sn	20 44 31.7	-5.9
	4.7nm,0.3s,baz=279,slow=23,SNR=3.8						
GTOI	Gorontalo	6.22	238	P	Pn	20 43 43.3	+1.7
	0.1nm442nm44nm,0.6s						
SANI	Sanana	6.40	201	P	Pn	20 43 44.4	+0.3
	0.1nm669nm29nm,1.0s						
MRSI	Marisa	7.22	241	P	Pn	20 43 57.6	+2.2
	0.8nm2µm262nm,0.6s						
TOLI2	Tolitoli	8.01	249	Pn	Pn	20 44 05.1	-1.1
TOLI2				Sn	Sn	20 45 32.5	-3.1
APSI	Ampana	8.21	234	P	Pn	20 44 10.5	+1.5
	719nm70nm,0.6s						
MPSI	Mapaga	9.12	247	P	Pn	20 44 22.9	+1.5
	11nm,0.7s						
MYLDM	Lahad Datu	9.82	277	Pn	Pn	20 44 33.5	+2.5
MYLDM					Sn	20 46 17.6	-2.5
KKM	Kota Kinabalu	12.20	280	Pn	Pn	20 45 03.0	-0.6
KAPI	Kappang	12.33	224	Pn	Pn	20 45 06.0	+0.6
BSSI	Bau Bau, Buton	12.70	218	P	Pn	20 45 12.3	+1.8
	13nm,1.1s						
MTKI	Muara Teweh, K	14.24	250	P	Pn	20 45 33.6	+2.2
	14nm,0.6s						
SBUM	Sibu	16.11	265		Pn	20 45 57.3	+1.6
PLAI	Plampang	16.47	219	P	Pn	20 46 02.5	+2.2
MTN	Manton Dam	16.94	170	Pn	Pn	20 46 05.8	-0.3
STKI	Sintang	17.23	257	P	Pn	20 46 10.8	+0.9
	907nm16nm,0.5s						
SRBI	Singaraja	17.70	227	P	P	20 46 17.7	+1.7
	29nm,0.6s						
KMMI	Kalianget	18.00	233	P	Pn	20 46 21.7	+2.4
	21nm,0.7s						
KSM	Kuching	18.12	263		P	20 46 18.9	-1.8
KSM				IAmb	IAmb	20 46 23.5	
	comp=Z,50nm,1.2s						
IGBI	Denpasar	18.24	226	P	Pn	20 46 24.2	+1.9
	comp=Z,32nm,0.9s						
JAGI	Jajag, Banyuwa	18.74	229	P	P	20 46 25.7	-1.8
JAGI				IAmb	IAmb	20 46 35.8	
	comp=Z,26nm,0.9s						
JAGI	Jajag, Banyuwa	18.74	229	P	Pn	20 46 29.6	+1.3
	comp=Z,33nm,0.8s						
KNRA	Kununurra	19.52	179	P	P	20 46 35.7	-0.3
TPUB	Ta-pu	20.60	340	P	P	20 46 44.3	-3.5
TPUB				IAmb	IAmb	20 46 53.9	
	comp=Z,26nm,0.7s						
SSLB	Suanglung	20.94	341	P	P	20 46 48.4	-3.0
SSLB				IAmb	IAmb	20 46 58.8	
	comp=Z,26nm,0.8s						
YOJ	Yonaguni jima	21.00	346	P	P	20 46 50.5	-1.6
DLV	T Lat	21.13	293	P	P	20 46 53.5	-0.3
DLV				IAmb	IAmb	20 46 57.7	
	comp=Z,13nm,0.8s						
FITZ	Fitzroy Crossi	22.08	187	P	P	20 47 05.0	+1.4
	comp=Z,1.4nm,0.6s,baz=20,slow=2.7,SNR=7.2						
FITZ	Fitzroy Crossi	22.08	187	P	P	20 47 02.5	-1.2
WB0	Warramunga Arr	24.34	166	P	P	20 47 25.6	-0.4
WB0				IAmb	IAmb	20 47 36.4	
	comp=Z,8.1nm,0.8s						
WRAB	Tennant Creek	24.49	166	P	P	20 47 27.5	+0.1
WRAB				IAmb	IAmb	20 47 54.2	
	comp=Z,11nm,1.0s						
WRA	Warramunga Arr	24.49	166	P	P	20 47 28.0	+0.5
	comp=Z,3.7nm,0.6s,baz=346,slow=10,SNR=23						
WRA	Warramunga Arr	24.49	166	P	P	20 47 27.1	-0.4
WB2	Warramunga Arr	24.50	166	P	P	20 47 27.1	-0.4
WB2				IAmb	IAmb	20 47 51.0	
	comp=Z,8.7nm,0.9s						
WR0	Warramunga Arr	24.56	166	P	P	20 47 28.4	+0.3
UBPT	Khong Chiam	25.11	298	P	P	20 47 32.5	-0.7
UBPT				IAmb	IAmb	20 47 36.1	
	comp=Z,17nm,1.0s						
PSA00	Pilbara Seismi	26.69	198	P	P	20 47 48.2	+0.9
PSA00				IAmb	IAmb	20 48 00.9	
	comp=Z,11nm,1.1s						
PSA00	Pilbara Seismi	26.69	198	P	P	20 47 47.7	+0.3
PSA00				IAmb	IAmb	20 48 00.9	
	comp=Z,4.8nm,1.1s						
ASAR	Alice Springs	28.00	169	P	P	20 47 59.7	+0.5
	comp=Z,0.4nm,0.5s,baz=352,slow=7.5,SNR=9.9						
ASAR	Alice Springs	28.00	169	P	P	20 48 00.5	+1.4
JNU	Nakatsue	29.11	4	P	P	20 48 07.5	-1.4
JNU				IAmb	IAmb	20 48 21.5	
	comp=Z,20nm,1.2s						
NJ2	Nanjing	29.31	343	eP	P	20 48 12.2	+1.6
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GSI	Gunungsitoli	30.78	266	P	P	20 48 22.9	-1.0
ENH	Enshi	31.62	328	P	P	20 48 30.8	-0.4
ENH				IAmb	IAmb	20 48 34.0	
	comp=Z,4.6nm,0.8s						
CM31	Chiang Mai Arr	32.10	299	P	P	20 48 35.0	-0.5
CM31				IAmb	IAmb	20 48 39.4	
	comp=Z,8.1nm,0.8s						
CMAR	Chiang Mai Arr	32.10	299	P	P	20 48 37.7	+2.3
	comp=Z,5.9nm,0.7s,baz=117,slow=7.2,SNR=62						
CMAR	Chiang Mai Arr	32.10	299	P	P	20 48 34.5	-1.0
CHTO	Chiang Mai	32.24	300	P	P	20 48 36.8	+0.1
CHTO				IAmb	IAmb	20 48 40.3	
	comp=Z,8.5nm,0.7s						
KSAR	Wonju Array Be	33.32	359	P	P	20 48 45.3	-0.5
KSRS	Korea Array	33.33	359	P	P	20 48 46.1	+0.2
	comp=Z,1.7nm,0.8s,baz=178,slow=10,SNR=7.5						
PZH	PanZhiHua	33.87	314	P	P	20 48 53.8	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XAN	Xi'an	34.93	331	P	P	20 49 00.2	+0.2
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BBOO	Buckleboo	37.31	169	P	P	20 49 19.8	-0.4
STKA	Stephens Creek	37.83	161	P	P	20 49 24.7	+0.1
	comp=Z,2.5nm,0.8s,baz=340,slow=7.7,SNR=3.0						
STKA	Stephens Creek	37.83	161	P	P	20 49 22.4	-2.2
LZH	Lanzhou	39.11	328	eP	P	20 49 38.0	+2.5
LZH				pP	pP	20 49 42.6	-4.5
LZH				sP	pwP	20 49 45.5	-5.2
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
H11S3	WAKE ISLAND Hy	40.22	66	T	T	21 32 53.1	
	baz=253,slow=74,SNR=14						
H11S1	WAKE ISLAND Hy	40.24	66	T	T	21 32 48.5	
	baz=253,slow=74,SNR=17						
H11S2	WAKE ISLAND Hy	40.24	66	T	T	21 32 48.3	
	baz=253,slow=74,SNR=44						
SHL	Shillong	40.99	305	P	P	20 49 49.9	-1.5
LSA	Lhasa	43.46	310	P	P	20 50 11.9	+0.2
GTA	Gaotai	43.71	328	⇓P	P	20 50 14.7	+1.5
GTA				pP	pP	20 50 21.9	-3.3
GTA				sP	sP	20 50 25.9	-4.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	Ulaanbaatar	47.39	341	P	P	20 50 41.6	-0.6
ULN				IAmb	IAmb	20 50 43.8	
	comp=Z,4.4nm,0.7s						
SONM	Songino Array	47.59	340	P	P	20 50 44.4	+0.7
	comp=Z,1.6nm,0.7s,baz=153,slow=8.2,SNR=17						
SONM	Songino Array	47.59	340	P	P	20 50 43.6	-0.1
SONM				PcP	PcP	20 52 13.8	+0.8
WMQ	Urumqi	53.43	324	eP	P	20 51 29.2	+1.4
WMQ				pmax	pmax		
	comp=Z,12nm,1.1s						
MSVF	Nonsavu	53.61	115	P	P	20 51 29.9	+0.3
	comp=Z,4.8nm,0.3s,baz=285,slow=5.3,SNR=6.1						
PEA0B	Petropavlovsk-	54.64	21	P	P	20 51 37.2	+0.8
PETK	Petropavlovsk-	54.64	21	P	P	20 51 37.0	+0.6
YAK	Yakutsk	57.94	1	P	P	20 51 59.5	-0.2
MA2	Magadan	58.11	13	P	P	20 52 01.2	+0.2
	comp=Z,1.0nm,0.3s,baz=149,slow=4.4,SNR=5.8						
MA2	Magadan	58.11	13	P	P	20 52 01.5	+0.5
MK31	Makanchi Array	58.26	324	P	P	20 52 02.5	+0.2
MK31				IAmb	IAmb	20 52 03.9	
	comp=Z,3.4nm,0.8s						
MKAR	Makanchi Array	58.26	324	P	P	20 52 03.0	+0.7
	comp=Z,2.3nm,0.6s,baz=124,slow=7.8,SNR=51						
MKAR	Makanchi Array	58.26	324	P	P	20 52 02.4	+0.1
MAKZ	Makanchi	58.45	324	P	P	20 52 04.0	+0.4
MAKZ				IAmb	IAmb	20 52 05.3	
	comp=Z,5.9nm,0.9s						
TARG	Taragay, Kyrgy	58.62	317	P	P	20 52 05.2	-0.2
TARG				IAmb	IAmb	20 52 09.7	
	comp=Z,3.8nm,0.7s						
KSH	Kashi	58.98	314	P	P	20 52 09.5	+1.9
KSH				pP	pP	20 52 19.2	-0.7
KSH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NIL	Nilore	59.01	307	P	P	20 52 08.1	+0.3
NIL				IAmb	IAmb	20 52 09.4	
	comp=Z,7.3nm,1.2s						
KDJ	Kajisay	59.21	318	P	P	20 52 08.9	-0.3
BOOM	Boomskoye usch	60.20	318	P	P	20 52 16.7	+0.8
BOOM				IAmb	IAmb	20 52 29.5	
	comp=Z,10nm,1.4s						
ZAA0	Zalesovo Array	61.09	332	P	P	20 52 21.4	-0.2
ZALV	Zalesovo Beam	61.09	332	P	P	20 52 21.6	0.0
	comp=Z,1.0nm,0.6s,baz=104,slow=6.3,SNR=5.8						
ZALV	Zalesovo Beam	61.09	332	P	P	20 52 21.4	-0.2
RAO	Raoul Island	61.22	126	P	P	20 52 22.8	-0.1
AAK	Ala-Archa	61.23	317	P	P	20 52 23.4	+0.4
SEY	Seymchan	61.47	12	P	P	20 52 25.4	+1.4
	comp=Z,0.6nm,0.5s,baz=0.5,slow=22,SNR=11						
DRK	Karamyk	61.97	313	P	P	20 52 28.9	+0.7
DRK				IAmb	IAmb	20 52 30.3	
	comp=Z,6.0nm,0.8s						
KURK	Kurchatov	62.38	327	P	P	20 52 30.3	-0.1
KURK				IAmb	IAmb	20 52 31.6	
	comp=Z,6.1nm,0.9s						
BTK	Batken	62.88	313	P	P	20 52 33.7	-0.3
BTK				IAmb	IAmb	20 52 36.5	
	comp=Z,5.1nm,1.1s						
GAR	Garm	62.91	312	P	P	20 52 34.5	+0.2
CHGR	Chuyangaron	63.67	311	P	P	20 52 39.0	-0.3
CHGR				IAmb	IAmb	20 52 41.2	
	comp=Z,6.3nm,0.8s						
KKAR	Karatay Array	64.12	316	P	P	20 52 42.2	+0.1
TIXI	Tiksi	67.60	0	P	P	20 53 03.7	-0.2
	comp=Z,1.3nm,0.7s,baz=273,slow=22,SNR=7.7						
TIXI	Tiksi	67.60	0	P	P	20 53 03.2	-0.6
BRVK	Borovoye	68.05	327	P	P	20 53 06.4	-0.6
BRVK				IAmb	IAmb	20 53 09.3	
	comp=Z,3.7nm,0.8s						
HRA	Herat	68.06	305	P	P	20 53 06.5	-1.2
GEYT	Alibeck	71.96	309	P	P	20 53 32.5	+1.1
	comp=Z,2.4nm,0.6s,baz=196,slow=10,SNR=5.2						
GEYT	Alibeck	71.96	309	P	P	20 53 32.0	+0.6
GEYT				IAmb	IAmb	20 53 33.4	
	comp=Z,3.2nm,0.9s						
GYA0B	ALIBECK ARRAY	71.96	309	P	P	20 53 31.7	+0.3
GYA0B				IAmb	IAmb	20 53 35.0	
	comp=Z,3.3nm,0.8s						
ABKAR	Akbulak array	72.95	320	P	P	20 53 36.3	-0.7
ABKAR				IAmb	IAmb	20 53 37.9	
	comp=Z,2.7nm,0.8s						
PAF	Port-aux-Franc	72.95	215	P	P	20 53 38.4	+1.4
SOCY	Socotra	73.83	281	P	P	20 53 42.2	-0.8
MLOA	Mauna Loa Obse	75.63	71	P	P	20 53 55.0	+1.3
CAST	Castle Rocks	81.83	27	P	P	20 54 27.1	+0.6
CAST				IAmb	IAmb	20 54 29.1	
	comp=Z,3.7nm,0.8s						
TOLK	Toolik Lake Re	83.46	21	P	P	20 54 36.4	+1.5
TOLK				IAmb	IAmb	20 54 37.9	
	comp=Z,3.9nm,0.8s						
ILAR	Eielson Array	84.23	25	P	P	20 54 39.1	+0.4
	comp=Z,0.9nm,0.7s,baz=241,slow=6.7,SNR=7.6						
ARCES	ARCESS Array B	90.76	340	P	P	20 55 09.2	-1.1
	comp=Z,3.1nm,0.8s,baz=74,slow=6.4,SNR=4.2						

*VIE **01** 20:42:33.2±0.2, 46°.64N×10°.46E, h5km±2km, mb1.3/1, ml1.2/4, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0 8 km WSW of Glorenza*

ZUR 01 20:42:33.0, 46°.62N×10°.47E, h8km±1km**, MLh1.0**/4**, 2C-2D, Error ellipse: s-maj=2.1km s-min=0.8km az=56.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOSI	Grossmontoni	0.06	97	⇑Pg	Pg	20 42 35.4	+0.4
MOSI				Sg	Sg	20 42 36.7	+0.2
STSP	Tschierv	0.09	272	⇓Pg	Pg	20 42 35.7	+0.3
STSP				Sg	Sg	20 42 37.2	0.0
BRMO	Bormio	0.16	204	⇑Pg	Pg	20 42 36.9	+0.5
BERNI	Berninapass	0.37	236	⇓Pg	Pg	20 42 40.6	+0.3
BERNI				Sg	Sg	20 42 45.7	+0.4
DAVOX	Davos/Dischmat	0.44	291	Pg	Pg	20 42 41.8	+0.2
DAVOX				Sg	Sg	20 42 47.5	+0.3
FETA	Feichten	0.44	24	ePg	Pg	20 42 41.7	+0.2
	0.1nm,0.1s						
FETA				eSg	Sg	20 42 47.4	+0.1
	0.4nm,0.1s						

RHSSO 01 20:44:27.9±0.3**, 43°.37N×18°.86E, h4**km±3km**, ML1.5**/6**, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	Unac-Piva	0.17	168	ePg	Pg	20 44 31.5	+0.2
UPM				eSg	Sg	20 44 34.6	+1.0
RUDO	Rudo	0.45	56	ePg	Pg	20 44 35.9	-0.6
RUDO				eSg	Sg	20 44 42.7	+0.4
BRY	Bratogost	0.52	207	ePg	Pg	20 44 37.3	-0.7
BRY				eSg	Sg	20 44 45.1	+0.3
BBLS	Lazići	0.64	39	ePg	Pg	20 44 39.8	-0.3
BBLS				eSg	Sg	20 44 48.5	+0.1
TREB	Trebinje	0.75	210	ePg	Pg	20 44 41.8	-0.5
TREB				eSg	Sg	20 44 52.3	+0.2
DBRK	Dubrovnik	0.87	217	ePg	Pg	20 44 44.7	0.0
DBRK				Sg	Sb	20 44 57.5	-0.1
HCY	Herceg Novi	0.96	196	eSg	Sg	20 44 58.2	-0.6
STON	Ston	0.98	240	ePg	Pg	20 44 44.4	-2.4
STON				eSg	Sg	20 44 59.7	+0.2
STON	Ston	0.98	240	ePg	Pg	20 44 46.1	-0.6
STON				Sg	Sb	20 45 01.4	+0.7
PDG	Podgorica	0.98	163	ePg	Pg	20 44 45.3	-1.5
PDG				eSg	Sg	20 44 59.4	-0.1
DIVS	Divibare	1.10	48	ePg	Pg	20 44 47.9	-1.0
DIVS				eSg	Sg	20 45 02.5	-0.7
DRME	Dracevica, Mon	1.21	168	ePg	Pg	20 44 49.9	-1.1
DRME				eSg	Sg	20 45 06.5	-0.2
RICI	Ricice	1.26	276	ePn	Pg	20 44 51.3	-0.8
RICI				Sg	Sn	20 45 11.3	+1.6
MAKA	Makarska	1.34	267	ePn	Pn	20 44 52.1	-1.3
MAKA				Sg	Sn	20 45 12.8	+1.2
SRKY	Kupres RS	1.41	300	ePg	Pn	20 44 53.4	-1.0
SRKY				eSg	Sb	20 45 13.0	-0.2
LSTV	Lastovo	1.56	248	ePn	Pn	20 44 54.8	-1.6
LSTV				Sn	Sg	20 45 17.8	-0.2
ZIRJ	Zirje	2.35	278	ePn	Pn	20 45 07.0	-0.3
ZIRJ				Sn	Sb	20 45 38.6	-1.6

*DJA **01** 21:40:08.9±1.4, 7°N±12°×12°6E±°, h139km±11km, M4.4/10, mB4.8/8, mb4.7/10, MLv4.7/8, Mw(mB)4.1/8*

*NEIC **01** 21:40:13.8±1.9, 6°.47N±0°.09×126°.3E±0°.1, h80km±7km, mb4.2/28, Error ellipse: s-maj=18.7km s-min=9.7km az=58.0*

*IDC **01** 21:40:13.2±1.5, 6°.48N×126°.37E, h82km±11km, mb3.8/15, mb1 4.0/17, mb1mx3.7/51, mbtmp4.2/17, Error ellipse: s-maj=41.3km s-min=10.0km az=66.0*

ISC 01 21:40:12.1±0.5**, 6°.48N**±0°.05×**126°.36E**±0°.07**, h68**km**, n91,** σ1§**37**/101**, mb4.2**/26**, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.97	307	P	Pn	21 40 32.3	+2.1
	371nm,0.3s,baz=229,slow=11,SNR=31						
DAV				S	Sn	21 40 46.9	+3.4
	393nm,0.3s,baz=261,slow=23,SNR=17						
DAV	Davao City (W)	0.97	307	P	Pn	21 40 32.8	+2.7
KCP	Kidapawan	1.36	293	⇓iP	Pn	21 40 36.2	+1.0
KCP				i S	Sn	21 40 55.4	+2.8
GSPH	General Santos	1.45	255	eP	Pn	21 40 35.4	-1.0
BIPH	Bislig	1.69	0	⇑iP	Pn	21 40 42.0	+2.4
BIPH				i S	Sn	21 41 03.8	+3.3
CTBH	Cotabato--PC H	2.22	290	⇓eP	Pn	21 40 47.4	+0.7
SGSI	Sangihe	2.89	197	P	Pn	21 40 58.7	+2.8
TBP	Tagbilaran	4.04	322	⇑iP	Pn	21 41 13.8	+2.4
TBP				i S	Sn	21 41 58.8	+1.3
TNTI	Ternate	5.76	170		Pn	21 41 35.7	+0.7
TNTI	Ternate	5.76	170	P	Pn	21 41 36.4	+1.4
	0.3nm1µm56nm,0.8s						
TNTI	Ternate	5.76	170	P	Pn	21 41 36.2	+1.2
GTOI	Gorontalo	6.70	210	P	Pn	21 41 48.0	+0.2
	0.3nm996nm62nm,0.5s						
LBMI	Labuha	7.16	171	P	Pn	21 41 56.3	+2.1
	0.2nm562nm35nm,0.6s						
MRSI	Marisa	7.41	217	P	Pn	21 41 59.3	+1.7
	0.5nm1µm77nm,0.9s						
TOLI2	Tolitoli	7.70	226		Pn	21 41 59.9	-1.8
TOLI2	Tolitoli	7.70	226	P	Pn	21 42 00.1	-1.5
MYLDM	Lahad Datu	7.92	261	Pn	Pn	21 42 05.0	+0.4
LUWI	Luwuk	8.28	206	Pn	Pn	21 42 11.9	+2.4
LUWI	Luwuk	8.28	206	P	Pn	21 42 11.2	+1.6
	61nm,1.4s						
SANI	Sanana	8.48	182	P	Pn	21 42 11.5	-0.8
	1µm79nm,0.7s						
SANI	Sanana	8.48	182	P	Pn	21 42 10.8	-1.4
SANI	Sanana	8.48	182	P	Pn	21 42 11.4	-0.8
APSI	Ampana	8.71	213	P	Pn	21 42 17.6	+2.1
	520nm32nm,0.7s						
SIJI	Sorong	8.79	146	P	Pn	21 42 18.4	+1.8
	8.5nm,0.3s,baz=327,slow=16,SNR=23						
MPSI	Mapaga	8.87	227	P	Pn	21 42 18.4	+0.8
SBUM	Sibu	14.65	255	P	P	21 43 42.0	+1.6
BATI	Baumata	16.79	189	P	P	21 44 04.9	+0.8
	4.3nm,0.3s,baz=263,slow=2.9,SNR=5.8						
BATI				S	S	21 47 14.8	-1.3
	baz=346,slow=2.9,SNR=1.4						
PLAI	Plampang	17.45	209	P	Pn	21 44 09.4	-1.6
JAGI	Jajag, Banyuwa	19.20	219	P	Pn	21 44 37.0	+4.8
JAGI	Jajag, Banyuwa	19.20	219	P	P	21 44 30.2	-0.4
MTN	Manton Dam	19.77	166	P	P	21 44 37.4	+0.5
MTN				IAmb	IAmb	21 44 43.7	
	comp=Z,7.6nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KNRA	**Kununurra**	**22.14**	**174**	P	**P**	**21 45 02.3**	**0.0**
KNRA				IAmb	IAmb	21 45 05.4	
	comp=Z,14nm,0.7s						
KNRA	**Kununurra**	**22.14**	**174**	P	**P**	**21 45 02.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**24.43**	**182**	P	**P**	**21 45 24.0**	**-0.5**
	comp=Z,2.7nm,0.4s,baz=12,slow=9.9,SNR=45						
FITZ	**Fitzroy Crossi**	**24.43**	**182**	P	**P**	**21 45 24.3**	**-0.2**
FITZ				IAmb	IAmb	21 45 25.0	
	comp=Z,4.2nm,0.7s						
COEN	**Coen**	**26.28**	**141**	P	**P**	**21 45 42.9**	**+1.5**
COEN				IAmb	IAmb	21 45 55.4	
	comp=Z,19nm,1.4s						
COEN	**Coen**	**26.28**	**141**	P	**P**	**21 45 43.4**	**+2.0**
WB0	**Warramunga Arr**	**27.25**	**163**	P	**P**	**21 45 49.0**	**-1.1**
WB0				IAmb	IAmb	21 45 58.8	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**27.40**	**163**	P	**P**	**21 45 50.3**	**-1.1**
WRA	**Warramunga Arr**	**27.40**	**164**	P	**P**	**21 45 50.4**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=335,slow=11,SNR=19						
WRA				PcP	**PcP**	**21 49 08.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=328,slow=2.5,SNR=3.0						
WRA				ScP	**ScP**	**21 52 42.9**	**-0.9**
	comp=Z,0.6nm,1.0s,baz=347,slow=2.5,SNR=2.8						
WRA	**Warramunga Arr**	**27.40**	**164**	P	**P**	**21 45 51.4**	**-0.1**
WB2	**Warramunga Arr**	**27.41**	**163**	P	**P**	**21 45 51.0**	**-0.5**
WB2				IAmb	IAmb	21 45 57.3	
	comp=Z,6.3nm,1.2s						
WR0	**Warramunga Arr**	**27.48**	**163**	P	**P**	**21 45 51.5**	**-0.6**
WR0				IAmb	IAmb	21 46 07.0	
	comp=Z,7.5nm,1.2s						
PSA00	**Pilbara Seismi**	**28.60**	**193**	P	**P**	**21 46 01.2**	**-0.9**
PSA00				IAmb	IAmb	21 46 17.0	
	comp=Z,7.4nm,1.1s						
PSA00	**Pilbara Seismi**	**28.60**	**193**	P	**P**	**21 46 01.5**	**-0.6**
PSA00				IAmb	IAmb	21 46 02.1	
	comp=Z,2.8nm,0.9s						
PSA00	**Pilbara Seismi**	**28.60**	**193**	P	**P**	**21 46 01.4**	**-0.6**
QIS	**Mount Isa**	**29.86**	**154**	P	**P**	**21 46 13.5**	**+0.3**
AS31	**Alice Springs**	**30.85**	**166**	P	**P**	**21 46 22.5**	**+0.5**
ASAR	**Alice Springs**	**30.85**	**166**	P	**P**	**21 46 21.5**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=342,slow=6.8,SNR=33						
ASAR				PcP	**PcP**	**21 49 17.3**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=345,slow=2.2,SNR=7.4						
ASAR				ScP	**ScP**	**21 52 53.8**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=349,slow=3.8,SNR=2.0						
ASAR	**Alice Springs**	**30.85**	**166**	P	**P**	**21 46 21.2**	**-0.9**
ASAR					**PcP**	**21 49 17.5**	**-0.2**
MEEK	**Meekatharra**	**33.76**	**193**	P	**P**	**21 46 46.4**	**-1.1**
OOD	**Oodnadatta**	**35.24**	**166**	P	**P**	**21 47 00.0**	**-0.2**
MORW	**Morawa**	**36.71**	**195**	P	**P**	**21 47 11.8**	**-0.9**
MORW	**Morawa**	**36.71**	**195**	P	**P**	**21 47 11.9**	**-0.9**
FORT	**Forrest**	**37.08**	**178**	P	**P**	**21 47 15.9**	**0.0**
MULG	**Mulgathing**	**37.29**	**169**	P	**P**	**21 47 17.8**	**+0.2**
BLDU	**Ballidu**	**38.02**	**194**	P	**P**	**21 47 23.0**	**-0.8**
LCRK	**Leigh Creek**	**38.44**	**163**	P	**P**	**21 47 27.8**	**+0.5**
KLBR	**Kellerberrin**	**38.74**	**192**	P	**P**	**21 47 29.2**	**-0.6**
MUN	**Mundaring**	**39.45**	**194**	P	**P**	**21 47 35.3**	**-0.4**
BBOO	**Buckleboo**	**40.15**	**167**	P	**P**	**21 47 41.7**	**+0.2**
BBOO	**Buckleboo**	**40.15**	**167**	P	**P**	**21 47 41.9**	**+0.4**
STKA	**Stephens Creek**	**40.82**	**160**	P	**P**	**21 47 47.0**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=339,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**40.82**	**160**	P	**P**	**21 47 47.2**	**+0.1**
NAPP	**Napperby**	**41.00**	**165**	P	**P**	**21 47 50.1**	**+1.5**
SONM	**Songino Array**	**44.59**	**341**	P	**P**	**21 48 17.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=163,slow=8.3,SNR=6.2						
SONM				PcP	**PcP**	**21 49 59.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=169,slow=3.1,SNR=6.0						
TOO	**Toolangi**	**47.32**	**159**	P	**P**	**21 48 40.3**	**+1.2**
PETK	**Petropavlovsk-**	**53.05**	**23**	P	**P**	**21 49 22.2**	**0.0**
MK31	**Makanchi Array**	**55.11**	**324**	IAmb	IAmb	21 49 39.4	
	comp=Z,1.5nm,0.6s						
MKAR	**Makanchi Array**	**55.11**	**324**	P	**P**	**21 49 36.3**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=117,slow=7.3,SNR=32						
MAKZ	**Makanchi**	**55.30**	**324**	P	**P**	**21 49 37.4**	**-1.3**
MAKZ				IAmb	IAmb	21 49 41.2	
	comp=Z,1.7nm,1.0s						
ZALV	**Zalesovo Beam**	**57.99**	**332**	P	**P**	**21 49 56.0**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=124,slow=6.3,SNR=3.0						
KURK	**Kurchatov**	**59.24**	**327**		**P**	**21 50 05.4**	**-1.0**
KURK				IAmb	IAmb	21 50 08.3	
	comp=Z,2.1nm,0.7s						
GAR	**Garm**	**59.82**	**312**	P	**P**	**21 50 09.5**	**-1.2**
GAR				IAmb	IAmb	21 50 17.8	
	comp=Z,3.3nm,0.9s						
CHGR	**Chuyangaron**	**60.58**	**311**	P	**P**	**21 50 13.5**	**-2.4**
BVAR	**Borovoye Array**	**64.83**	**326**	P	**P**	**21 50 44.3**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=35,slow=11,SNR=5.4						
BRVK	**Borovoye**	**64.91**	**326**	P	**P**	**21 50 44.1**	**-0.2**
BRVK				IAmb	IAmb	21 50 46.4	
	comp=Z,3.7nm,1.1s						
NRIK	**Noril'sk**	**67.69**	**346**	P	**P**	**21 51 01.9**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=131,slow=7.8,SNR=6.8						
NRIK	**Noril'sk**	**67.69**	**346**	P	**P**	**21 51 02.1**	**+0.3**
ABKAR	**Akbulak array**	**69.81**	**320**	P	**P**	**21 51 16.2**	**+0.9**
ABKAR	**Akbulak array**	**69.81**	**320**	P	**P**	**21 51 15.6**	**+0.3**
ABKAR				IAmb	IAmb	21 51 16.9	
	comp=Z,1.1nm,0.7s						
AKTO	**Aktyubinsk**	**71.29**	**321**	P	**P**	**21 51 25.4**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=105,slow=9.5,SNR=4.0						
ARU	**Arti**	**72.43**	**327**	P	**P**	**21 51 29.5**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=124,slow=3.6,SNR=5.0						
ARU	**Arti**	**72.43**	**327**	P	**P**	**21 51 30.3**	**-0.8**
ARU				IAmb	IAmb	21 51 34.5	
	comp=Z,3.0nm,1.0s						
RAYN	**Ar Rayn**	**79.08**	**293**	P	**P**	**21 52 08.2**	**-1.5**
ARCES	**ARCESS Array B**	**87.76**	**340**	P	**P**	**21 52 52.1**	**-1.2**
	comp=Z,6.8nm,1.1s,baz=81,slow=5.7,SNR=9.5						
ARCES	**ARCESS Array B**	**87.76**	**340**	P	**P**	**21 52 52.2**	**-1.1**
FINES	**FINESS Array B**	**89.25**	**332**	P	**P**	**21 52 59.7**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=93,slow=4.7,SNR=4.0						
AKASG	**Malin Array Be**	**89.54**	**321**	P	**P**	**21 53 01.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=72,slow=3.0,SNR=1.5						
YKA	**Yellowknife Ar**	**97.16**	**24**	P	**P**	**21 53 36.4**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=298,slow=4.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**121.68**	**290**	PKP	**PKPdf**	**21 58 58.0**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=67,slow=2.5,SNR=5.2						

IDC ***01*** *22:06:47.0±4.6, 8°.31S×119°.78E, h187km±42km, mb3.1/3, mb1 3.2/6, mb1mx2.8/59, mbtmp3.6/6, Error ellipse: s-maj=103.1km s-min=25.6km az=60.0*

DJA ***01*** *22:06:49.4±0.4, 8°S±4°×12°0E±°, h174km±5km, M3.9/10, mb4.4/1, MLv3.6/10*

ISC 01 22:06:47.7±0.7**, 8°.39S**±0°.06×**120°.01E**±0°.05**, h172**km**, n28, σ1s.91**/36**, Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.38**	**206**	P	**Pn**	**22 07 19.6**	**+1.6**
WBSI				S	**Sn**	**22 07 42.8**	**+1.4**
BASI	**Baing, Sumba**	**1.90**	**163**	P	**Pn**	**22 07 25.4**	**+2.2**
BASI				S	**Sn**	**22 07 53.4**	**+2.6**
MMRI	**Maumere**	**2.22**	**96**	P	**Pn**	**22 07 29.3**	**+2.5**
MMRI				S	**Sn**	**22 07 59.8**	**+2.8**
MMRI	**Maumere**	**2.22**	**96**	P	**Pn**	**22 07 28.9**	**+2.1**
PLAI	**Plampang**	**2.25**	**259**	P	**Pn**	**22 07 28.8**	**+1.8**
PLAI				S	**Sn**	**22 07 59.3**	**+1.8**
PLAI	**Plampang**	**2.25**	**259**	P	**Pn**	**22 07 29.0**	**+2.0**
BSSI	**Bau Bau, Buton**	**2.28**	**12**	P	**Pn**	**22 07 29.3**	**+1.8**
BKSI	**Bulukumba**	**3.05**	**2**	P	**Pn**	**22 07 38.4**	**+1.7**
KAPI	**Kappang**	**3.36**	**356**	P	**Pn**	**22 07 43.0**	**+2.4**
BATI	**Baumata**	**4.04**	**117**	P	**Pn**	**22 07 52.3**	**+3.2**
	5.9nm,0.3s,baz=107,slow=2.7,SNR=6.8						
BATI				S	**Sn**	**22 08 36.1**	**-0.9**
	22nm,0.3s,baz=200,slow=23,SNR=4.7						
BATI	**Baumata**	**4.04**	**117**	P	**Pn**	**22 07 51.4**	**+2.3**
SPSI	**Sidrap Palu**	**4.40**	**357**	P	**Pn**	**22 07 55.8**	**+2.0**
JAGI	**Jajag, Banyuwa**	**5.79**	**269**	P	**Pn**	**22 08 12.8**	**+0.9**
PCJI	**Pacitan**	**8.74**	**271**	P	**Pn**	**22 08 51.3**	**+0.4**
UGM	**Wanagama**	**9.40**	**272**	P	**Pn**	**22 08 59.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.10**	**151**	P	**Pn**	**22 09 22.1**	**+0.4**
	baz=336,slow=11						
FITZ				S	**Sn**	**22 11 21.6**	**-3.4**
	0.2nm,0.3s,baz=174,slow=19,SNR=2.5						
KNRA	**Kununurra**	**11.21**	**131**	P	**Pn**	**22 09 23.5**	**+0.2**
KDU	**Kakadu**	**12.98**	**110**	P	**Pn**	**22 09 46.8**	**+0.8**
WRA	**Warramunga Arr**	**18.01**	**131**	P	**P**	**22 10 45.7**	**0.0**
	0.3nm,0.3s,baz=307,slow=12,SNR=16						
WRA				S	**S**	**22 14 00.9**	**-2.6**
	0.3nm,0.3s,baz=303,slow=25,SNR=6.0						
WRAB	**Tennant Creek**	**18.01**	**131**	P	**P**	**22 10 46.3**	**+0.6**
MEEK	**Meekatharra**	**18.20**	**184**	P	**Pn**	**22 10 49.8**	**+0.1**
WRKA	**Warakurna**	**18.35**	**155**	P	**P**	**22 10 50.8**	**+1.4**
ASAR	**Alice Springs**	**20.20**	**140**	P	**P**	**22 11 09.8**	**+0.4**
	0.5nm,0.4s,baz=321,slow=9.5,SNR=17						
ASAR				S	**S**	**22 14 44.3**	**-2.5**
	0.4nm,0.8s,baz=325,slow=24,SNR=4.9						
BLDU	**Ballidu**	**22.32**	**187**	P	**P**	**22 11 31.6**	**+0.2**
COEN	**Coen**	**23.39**	**106**	P	**P**	**22 11 41.2**	**0.0**
OOD	**Oodnadatta**	**24.33**	**144**	P	**P**	**22 11 50.5**	**+0.8**
STKA	**Stephens Creek**	**30.81**	**142**	P	**P**	**22 12 47.5**	**+0.1**
	2.2nm,0.6s,baz=319,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**64.38**	**332**	P	**P**	**22 17 01.7**	**-3.6**
	0.2nm,0.7s,baz=144,slow=5.4,SNR=2.5						

PRU ***01*** *22:38:14.0±0.0, 51°.44N×16°.17E, h0km*

VIE ***01*** *22:38:15.4±1.0, 51°.31N×16°.12E, h0km, mb2.4/3, ml2.5/2, Error ellipse: s-maj=6.4km s-min=6.2km az=128.0 67 km WNW of Wroclaw Suspected Mining induced.*

ISC 01 22:38:13.0±1.2**, 51°.48N**±0°.06×**16°.22E**±0°.03**, h0**km**, n22, σ0s.92**/45**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**176**	*e*Pg	**Pg**	**22 38 25.3**	**+0.1**
KSP				*e*Sg	**Sg**	**22 38 33.1**	**-0.3**
CHVC	**Chvalec**	**0.90**	**187**	*e*PG	**Pg**	**22 38 30.2**	**0.0**
CHVC				*e*SG	**Sg**	**22 38 41.6**	**-0.2**
OSTC	**Ostas**	**0.92**	**180**	*e*PG	**Pg**	**22 38 30.7**	**0.0**
OSTC				*e*SG	**Sg**	**22 38 42.4**	**-0.2**
	comp=Z,15nm,0.4s						
UPC	**Upice**	**0.98**	**188**	*e*PG	**Pg**	**22 38 31.5**	**-0.3**
UPC				*e*SG	**Sg**	**22 38 44.2**	**-0.3**
	comp=Z,52nm,0.4s						
DPC	**Dobruska-Polom**	**1.13**	**177**	*e*PG	**Pg**	**22 38 34.2**	**-0.5**
DPC				*e*SG	**Sg**	**22 38 49.0**	**-0.3**
	comp=Z,13nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**228**	*e*PG	**Pn**	**22 38 40.0**	**+0.1**
PVCC				*e*SG	**Sb**	**22 38 58.8**	**+0.1**
	comp=Z,79nm,0.3s						
KRLC	**Kraliky**	**1.45**	**165**	*e*PG	**Pn**	**22 38 40.0**	**-0.5**
KRLC				*e*SG	**Sg**	**22 38 58.6**	**-0.9**
	comp=Z,12nm,0.3s						
BRG	**Berggiesshubel**	**1.55**	**248**	Pg	**Pb**	**22 38 42.5**	**-0.2**
BRG				Sg	**Sg**	**22 39 03.0**	**+0.1**
BRG				Amp		22 39 03.7	
	comp=Z,18nm,0.6s						
PRU	**Pruhonice**	**1.83**	**216**	*e*PG	**Pb**	**22 38 46.8**	**-0.6**
PRU				*e*SG	**Sn**	**22 39 10.2**	**+0.6**
	comp=Z,14nm,0.5s						
MORC	**Moravsky Berou**	**1.90**	**153**	*e*PN	**Pn**	**22 38 45.9**	**-0.8**
MORC				*e*SG	**Sn**	**22 39 11.9**	**+0.5**
CLL	**Collm**	**2.02**	**266**	*e*Pg	**Pb**	**22 38 51.0**	**+0.4**
CLL				*e*Sg	**Sb**	**22 39 16.0**	**-0.2**
	comp=Z,9.0nm,0.5s						
OKC	**Ostrava-Krasne**	**2.05**	**142**	*e*SG	**Sb**	**22 39 16.6**	**-0.5**
VRAC	**Vranov**	**2.19**	**174**	*e*PN	**Pn**	**22 38 49.3**	**-1.3**
VRAC				*e*SG	**Sb**	**22 39 20.9**	**-0.1**
KRUC	**Moravsky**	**2.42**	**177**	*e*PN	**Pn**	**22 38 54.5**	**+0.7**
KRUC				*e*SG	**Sb**	**22 39 28.8**	**+1.0**
OJC	**Ojcow**	**2.60**	**118**	*e*Pg	**Pg**	**22 39 02.8**	**0.0**
OJC				Sn	**Sn**	**22 39 26.0**	**-2.5**
OJC				*e*Sg	**Sg**	**22 39 37.4**	**+1.0**
NKC	**Novy Kostel**	**2.69**	**244**	*e*PG	**Pb**	**22 39 03.1**	**+1.0**
NKC				*e*SG	**Sg**	**22 39 38.5**	**-1.0**
	comp=Z,13nm,0.3s						
JAVC	**Velka Javorina**	**2.78**	**160**	*e*PN	**Pn**	**22 39 00.5**	**+1.6**
KHC	**Kasperske Hory**	**2.90**	**217**	*e*PN	**Pn**	**22 39 00.3**	**-0.1**
KHC				*e*PG	**Pb**	**22 39 06.2**	**+0.7**
KHC				*e*SN	**Sn**	**22 39 34.1**	**-1.8**
KHC				*e*SG	**Sb**	**22 39 43.1**	**+1.6**
	comp=Z,5.8nm,0.5s						
CKRC	**Cesky Krumlov**	**2.93**	**205**	*e*PN	**Pn**	**22 39 01.0**	**+0.2**
CKRC				*e*PG	**Pb**	**22 39 06.7**	**+0.6**
CKRC				*e*SG	**Sb**	**22 39 44.6**	**+2.1**
	comp=Z,6.6nm,0.5s						
LANS	**Liptovska Anna**	**3.13**	**137**	*e*SG	**Sb**	**22 39 49.8**	**+1.7**
CONA	**Conrad Observa**	**3.56**	**184**	*i* Pn	**Pn**	**22 39 10.1**	**+0.5**
	comp=Z,0.3nm,0.2s						
CONA				*e*Sg	**Sg**	**22 40 06.3**	**-1.1**
	comp=Z,3.9nm,0.3s						
MOA	**Molln**	**3.85**	**200**	*i* Pn	**Pn**	**22 39 13.2**	**-0.2**
	comp=Z,0.5nm,0.2s						
MOA				*e*Sg	**Sg**	**22 40 15.8**	**-0.8**
	comp=Z,3.3nm,0.3s						

IDC 01 23:41:15.9±3.5**, 30°.37S**×**177°.86W, h0**km**, mb3.6**/2**, mb1 3.9**/2**, mb1mx3.2**/32**, mbtmp3.6**/2**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.6**/53**, Error ellipse: s-maj=76.8km s-min=23.9km az=112.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.12**	**357**	Pn	Pn	23 41 39.8	+1.0
	38nm,0.3s,baz=300,slow=20,SNR=1.4						
RAO				Sn	Sn	23 41 54.5	-0.4
	249nm,0.3s,baz=206,slow=23,SNR=9.6						
ASAR	**Alice Springs**	**43.23**	**267**	P	P	23 49 19.1	-0.1
	0.3nm,0.5s,baz=104,slow=7.5,SNR=6.1						
WRA	**Warramunga Arr**	**44.22**	**272**	P	P	23 49 26.9	-0.2
	0.5nm,0.3s,baz=110,slow=8.1,SNR=27						
GUMO	**Guam**	**56.54**	**315**	LR	LR	00 13 08.2	
	comp=Z,23nm,19.3s,baz=103,slow=34						
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc	PKPbc	00 00 52.9	-1.3
	0.8nm,0.7s,baz=72,slow=4.5,SNR=4.5						

IDC ***01*** *23:42:21.3±1.6, 30°.18S×72°.07W, h0km, mb4.1/1, mb1 3.8/4, mb1mx3.6/25, mbtmp3.7/4, ML3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/53, Error ellipse: s-maj=59.5km s-min=36.2km az=108.0*

GUC ***01*** *23:42:24.1±0.6, 30°.13S×72°.04W, h31km±4km, ML3.9*

ISC 01 23:42:21.8±1.8**, 30°.09S**±0°.04×**72°.14W**±0°.07**, h6**km±11km**, n28, σ0s.73**/34**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.73**	**143**	*e*P	**Pg**	**23 42 36.2**	**+0.5**
CO06				*i* S	**Sg**	**23 42 45.6**	**+0.3**
CO06				IAML		23 42 48.6	
	comp=E,6μm,0.2s						
CO05	**La Serena**	**0.80**	**78**	*e*P	**Pg**	**23 42 37.6**	**+0.4**
CO05				*i* S	**Sg**	**23 42 47.3**	**-0.3**
CO05				IAML		23 42 50.6	
	comp=E,6μm,0.6s						
GO04	**Tololo Observa**	**1.17**	**94**	*e*P	**Pg**	**23 42 43.4**	**-0.8**
GO04				*i* S	**Sg**	**23 42 58.1**	**-1.2**
LCO	**Las Campanas**	**1.65**	**50**	*e*P	**Pn**	**23 42 51.2**	**-0.4**
LCO				*i* S	**Sn**	**23 43 13.3**	**0.0**
CO01	**Juntas del Tor**	**1.78**	**87**	*e*P	**Pn**	**23 42 53.5**	**+0.2**
CO01				*i* S	**Sn**	**23 43 15.4**	**-0.9**
AC04	**Llanos de Chal**	**2.10**	**27**	*e*P	**Pn**	**23 42 56.6**	**-0.8**
VA03	**San Esteban**	**2.99**	**153**	*e*P	**Pn**	**23 43 10.6**	**+0.7**
VA03				*i* S	**Sn**	**23 43 46.0**	**-0.1**
VA03				IAML		23 44 01.2	
	comp=E,464nm,0.5s						
ROCH	**El Roble**	**3.03**	**162**	*e*P	**Pn**	**23 43 10.7**	**+0.2**
ROCH				IAML		23 44 06.1	
	comp=N,389nm,0.3s						
AC06	**Mina Casimiro**	**3.14**	**30**	*e*P	**Pn**	**23 43 11.7**	**-0.2**
MT02	**Curacav**	**3.27**	**165**	*e*P	**Pn**	**23 43 14.2**	**+0.6**
PEL	**Peldehue**	**3.29**	**158**	*e*P	**Pn**	**23 43 14.4**	**+0.5**
PEL				*i* S	**Sn**	**23 43 52.8**	**-0.5**
PEL				IAML		23 44 11.1	
	comp=E,225nm,0.3s						
MT05	**Renca**	**3.50**	**160**	*e*P	**Pn**	**23 43 17.6**	**+0.8**
MT05				IAML		23 44 15.4	
	comp=N,360nm,0.5s						
MT03	**Universidad Ad**	**3.67**	**158**	*e*P	**Pn**	**23 43 19.9**	**+0.8**
MT09	**Talagante**	**3.80**	**165**	*e*P	**Pn**	**23 43 21.6**	**+0.5**
MT09				*i* S	**Sn**	**23 44 04.8**	**-1.4**
H03N1	**Juan Fernandez**	**6.66**	**238**	Pn	**Pn**	**23 43 59.9**	**0.0**
	baz=113,slow=18,SNR=108						
H03N1				T	T	23 51 11.5	
	baz=69,slow=72,SNR=399						
H03N2	**Juan Fernandez**	**6.68**	**238**	Pn	**Pn**	**23 43 59.8**	**-0.3**
	baz=113,slow=18,SNR=41						
H03N2				T	T	23 51 11.4	
	baz=69,slow=72,SNR=455						
H03N3	**Juan Fernandez**	**6.68**	**238**	Pn	**Pn**	**23 43 59.9**	**-0.3**
	baz=113,slow=18,SNR=64						
H03N3				T	T	23 51 08.7	
	baz=69,slow=72,SNR=472						
H03S3	**Juan Fernandez**	**6.85**	**235**	Pn	**Pn**	**23 44 01.5**	**-1.0**
	SNR=14						
H03S1	**Juan Fernandez**	**6.86**	**235**	Pn	**Pn**	**23 44 01.1**	**-1.5**
	SNR=14						
H03S2	**Juan Fernandez**	**6.87**	**235**	Pn	**Pn**	**23 44 01.4**	**-1.3**
	SNR=11						
LVC	**Limon Verde**	**7.99**	**22**	Pn	Pn	23 44 23.6	+4.8
	comp=N,0.9nm,0.3s,baz=197,slow=8.6,SNR=2.5						
LVC				Sn	Sn	23 46 02.5	+13
	comp=N,0.9nm,0.3s,baz=21,slow=5.4,SNR=1.8						
PLCA	**Paso Flores**	**10.70**	**173**	Pn	**Pn**	**23 44 54.8**	**-0.8**
	comp=N,0.1nm,0.3s,baz=324,slow=11,SNR=5.9						
CPUP	**Villa Florida**	**13.59**	**78**	Pn	**Pn**	**23 45 35.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=236,slow=7.3,SNR=1.6						
LPAZ	**La Paz**	**14.22**	**16**	Pn	**Pn**	**23 45 45.2**	**+0.9**
	comp=N,0.1nm,0.3s,baz=194,slow=11,SNR=4.7						
PMSA	**Palmer Station**	**35.07**	**174**	LR	LR	00 03 14.6	
	comp=N,77nm,19.1s,baz=128,slow=36						
TORD	**Torodi Ar. Bea**	**82.98**	**71**	P	**P**	**23 54 48.5**	**+0.3**
	comp=N,1.2nm,0.7s,baz=254,slow=4.9,SNR=8.9						
WRA	**Warramunga Arr**	**124.10**	**210**	PKP	**PKPdf**	**00 01 21.6**	**-0.2**
	comp=N,0.5nm,0.9s,baz=158,slow=1.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**150.91**	**28**	PKPbc	**PKiKP**	**00 02 15.8**	**+0.3**
	comp=N,1.9nm,0.5s,baz=317,slow=2.8,SNR=10.0						

GUC ***02*** *00:16:58.9±0.8, 29°.60S×69°.45W, h105km±5km, ML3.8*

NEIC ***02*** *00:16:58.9±2.3, 29°.65S±0°.05×69°.5W±0°.1, h121km±2km, mb4.2/8, Error ellipse: s-maj=13.0km s-min=7.2km az=82.0*

IDC ***02*** *00:16:59.2±8.1, 29°.41S×69°.46W, h104km±65km, mb3.7/1, mb1 3.5/2, mb1mx3.2/22, mbtmp3.9/2, ML3.5/1, Error ellipse: s-maj=72.6km s-min=54.1km az=130.0*

ISC 02 00:16:58.7±0.7**, 29°.62S**±0°.04×**69°.42W**±0°.05**, h117**km±7km**, n67, σ1s.35**/79**, mb4.1**/5**, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CO01	**Juntas del Tor**	**0.69**	**239**		**Pn**	**00 17 19.1**	**+1.1**
CO01				Sn	**Sn**	**00 17 33.9**	**+1.4**
LCO	**Las Campanas**	**1.27**	**298**		**Pn**	**00 17 24.4**	**+0.7**
LCO					**Sn**	**00 17 44.2**	**+1.6**
LCO	**Las Campanas**	**1.27**	**298**	*e*S	**Sn**	**00 17 43.0**	**+0.5**
GO04	**Tololo Observa**	**1.32**	**245**		**Pn**	**00 17 25.0**	**+0.9**
GO04	**Tololo Observa**	**1.32**	**245**	⇓*i*P	**Pn**	**00 17 25.1**	**+0.9**
VCA	**Vinchina**	**1.38**	**51**	⇑*i*P	**Pn**	**00 17 25.5**	**+0.7**
VCA				*e*S	**Sn**	**00 17 45.3**	**+0.9**
VCA				IAML		00 17 47.3	
	comp=E,3μm,0.3s						
CO05	**La Serena**	**1.61**	**259**		**Pn**	**00 17 27.4**	**+0.2**
CO05	**La Serena**	**1.61**	**259**	*e*P	**Pn**	**00 17 27.5**	**+0.3**
CO05				*e*S	**Sn**	**00 17 49.1**	**+0.2**
CO05				IAML		00 17 52.1	
	comp=N,1μm,0.3s						
CO03	**El Pedregal**	**1.64**	**222**		**Pn**	**00 17 28.8**	**+1.1**
AC04	**Llanos de Chal**	**2.02**	**314**		**Pn**	**00 17 32.8**	**+0.5**
AC04	**Llanos de Chal**	**2.02**	**314**	*e*P	**Pn**	**00 17 33.0**	**+0.6**
AC04				*e*S	**Sn**	**00 17 57.9**	**-0.1**
AC04				IAML		00 18 04.0	
	comp=E,968nm,0.1s						
ZON	**Zonda**	**2.02**	**162**		**Pn**	**00 17 32.6**	**+0.2**
GO03	**Copiap**	**2.14**	**340**		**Pn**	**00 17 34.5**	**+0.6**
GO03	**Copiap**	**2.14**	**340**	*e*P	**Pn**	**00 17 34.5**	**+0.6**
GO03				*e*S	**Sn**	**00 18 01.4**	**+0.6**
GO03				IAML		00 18 04.1	
	comp=E,372nm,0.2s						
CO06	**Fray Jorge**	**2.19**	**241**		**Pn**	**00 17 34.3**	**0.0**
CO06	**Fray Jorge**	**2.19**	**241**	*e*P	**Pn**	**00 17 34.2**	**-0.2**
CO06				*e*S	**Sn**	**00 18 01.5**	**-0.2**
CO06				IAML		00 18 15.6	
	comp=N,772nm,0.3s						
AC06	**Mina Casimiro**	**2.40**	**340**		**Pn**	**00 17 37.9**	**+0.8**
AC06	**Mina Casimiro**	**2.40**	**340**	*e*P	**Pn**	**00 17 37.8**	**+0.6**
AC06				IAML		00 18 09.3	
	comp=N,246nm,0.4s						
AC02	**Maricunga**	**2.79**	**5**	Pn	**Pn**	**00 17 43.9**	**+1.3**
AC02	**Maricunga**	**2.79**	**5**	*e*P	**Pn**	**00 17 44.0**	**+1.4**
AC02				*e*S	**Sn**	**00 18 18.3**	**+2.0**
VA03	**San Esteban**	**3.28**	**197**		**Pn**	**00 17 49.6**	**+0.9**
VA03	**San Esteban**	**3.28**	**197**	*e*P	**Pn**	**00 17 49.6**	**+0.9**
VA03				*e*S	**Sn**	**00 18 29.3**	**+2.0**
VA03				IAML		00 18 36.1	
	comp=N,229nm,0.4s						
VA06	**Catapilco**	**3.34**	**208**		**Pn**	**00 17 49.0**	**-0.5**
VA06	**Catapilco**	**3.34**	**208**	*e*P	**Pn**	**00 17 48.9**	**-0.5**
ROCH	**El Roble**	**3.61**	**202**	*e*P		00 17 52.6	
ROCH				*e*P	**Pn**	**00 17 50.3**	**-2.8**
AC01	**Pan de Azucar**	**3.61**	**343**	Pn	**Pn**	**00 17 53.0**	**-0.1**
AC01	**Pan de Azucar**	**3.61**	**343**	*e*P	**Pn**	**00 17 53.4**	**+0.4**
ROC1	**El Roble**	**3.61**	**202**		**Pn**	**00 17 50.9**	**-2.3**
PEL	**Peldehue**	**3.68**	**197**		**Pn**	**00 17 54.2**	**+0.3**
VA01	**Torpederas**	**3.89**	**209**	Pn	**Pn**	**00 17 56.2**	**-0.5**
MT02	**Curacav**	**3.91**	**202**		**Pn**	**00 17 56.3**	**-0.7**
MT05	**Renca**	**3.93**	**196**		**Pn**	**00 17 57.5**	**+0.2**
MT03	**Universidad Ad**	**3.97**	**193**	Pn	**Pn**	**00 17 58.4**	**+0.5**
LMEL	**Las Melosas**	**4.27**	**189**		**Pn**	**00 18 02.6**	**+0.8**
MT09	**Talagante**	**4.35**	**197**		**Pn**	**00 18 02.0**	**-1.0**
GO02	**Mina Guanaco**	**4.44**	**358**	Pn	**Pn**	**00 18 04.6**	**+0.2**
GO02	**Mina Guanaco**	**4.44**	**358**	*e*P	**Pn**	**00 18 04.8**	**+0.4**
GO02				*e*S	**Sn**	**00 18 55.2**	**-0.2**
BO04	**La Punta**	**4.47**	**193**		**Pn**	**00 18 03.9**	**-0.6**
MT01	**Popeta**	**4.51**	**200**		**Pn**	**00 18 03.8**	**-1.2**
AHML	**Horco Molle**	**4.58**	**53**	*e*P	**Pn**	**00 18 04.3**	**-1.7**
BO01	**Tunca**	**4.96**	**196**	Pn	**Pn**	**00 18 10.1**	**-1.0**
BO02	**Sierra Bellavi**	**5.29**	**192**	Pn	**Pn**	**00 18 15.0**	**-0.5**
GO05	**Huala**	**5.78**	**201**		**Pn**	**00 18 19.7**	**-2.4**
ML02	**Panimavida**	**6.35**	**195**	Pn	**Pn**	**00 18 28.8**	**-1.0**
PB15	**IPOC Station P**	**6.39**	**360**		**Pn**	**00 18 29.6**	**-0.9**
PB06	**IPOC Station P**	**6.89**	**359**	Pn	**Pn**	**00 18 36.9**	**-0.4**
LVC	**Limon Verde**	**7.00**	**4**	P	**Pn**	**00 18 37.7**	**-1.3**
	comp=N,1.0nm,0.3s,baz=174,slow=6.8,SNR=16						
LVC				S	**Sn**	**00 19 51.6**	**-5.6**
	comp=N,0.5nm,0.3s,baz=32,slow=23,SNR=1.4						
LVC	**Limon Verde**	**7.00**	**4**	Pn	**Pn**	**00 18 38.0**	**-0.9**
PB04	**IPOC Station P**	**7.29**	**355**	Pn	**Pn**	**00 18 42.6**	**-0.1**
PB09	**IPOC Station P**	**7.79**	**1**	Pn	**Pn**	**00 18 49.6**	**+0.1**
PB07	**IPOC Station P**	**7.87**	**357**	Pn	**Pn**	**00 18 48.5**	**-2.1**
PB02	**IPOC Station P**	**8.28**	**357**	Pn	**Pn**	**00 18 54.4**	**-1.7**
PB01	**IPOC Station P**	**8.54**	**360**	Pn	**Pn**	**00 18 57.0**	**-2.6**
PB08	**IPOC Station P**	**9.44**	**2**	Pn	**Pn**	**00 19 11.9**	**-0.1**
LC01	**Cunco**	**9.47**	**192**	Pn	**Pn**	**00 19 09.7**	**-2.4**
MG04	**Isla Riesco**	**23.27**	**183**	P	**P**	**00 21 53.1**	**-2.5**
SOR	**Soroa**	**53.73**	**344**	P	**P**	**00 26 09.7**	**+1.0**
SNAA	**Sanae**	**54.83**	**159**	P	**P**	**00 26 15.0**	**-1.3**
SNAA				IAmb	IAmb	00 26 22.6	
	comp=Z,5.9nm,1.1s						
QSPA	**South Pole Qui**	**60.60**	**180**	P	**P**	**00 26 57.9**	**+1.1**
QSPA				IAmb	IAmb	00 27 02.6	
	comp=Z,1.4nm,1.1s						
WVT	**Waverly**	**67.66**	**344**	P	**P**	**00 27 44.2**	**+1.2**
WVT				IAmb	IAmb	00 27 58.7	
	comp=Z,2.7nm,1.1s						
W18A	**Petrified Fore**	**74.77**	**327**	P	**P**	**00 28 25.1**	**-1.0**
W18A				IAmb	IAmb	00 28 26.8	
	comp=Z,6.6nm,0.6s						
TOA0	**Torodi Ar. Sit**	**80.59**	**69**	P	**P**	**00 28 59.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**80.59**	**69**	P	**P**	**00 29 00.0**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=249,slow=5.3,SNR=22						
TORD	**Torodi Ar. Bea**	**80.59**	**69**	P	**P**	**00 28 59.9**	**+1.2**
WRA	**Warramunga Arr**	**125.66**	**208**	PKP	**PKiKP**	**00 35 48.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=158,slow=1.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**149.34**	**30**	PKPbc	**PKiKP**	**00 36 35.1**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=326,slow=4.3,SNR=4.9						
MKAR	**Makanchi Array**	**152.14**	**44**	PKPbc	**PKiKP**	**00 36 41.9**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=313,slow=3.0,SNR=2.7						
MKAR				PKPab	**PKPab**	**00 36 52.4**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=297,slow=3.6,SNR=5.8						

IDC ***02*** *01:01:07.2±2.0, 2°.12N×125°.47E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.4/3, Error ellipse: s-maj=177.4km s-min=25.9km az=65.0*

DJA ***02*** *01:01:14.3±1.5, 2°N±2°×12°6E±°, h18km±14km, M3.4/6, MLv3.4/6*

ISC 02 01:01:15.3±1.3**, 2°.55N**±0°.09×**126°.2E**±0°.1**, h105**km**, n6, σ1s.82**/6**, mb3.1**/3**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.29**	**331**	P	**Pn**	**01 01 38.8**	**-0.6**
SGSI				S	**Sn**	**01 01 56.8**	**-0.7**
LBMI	**Labuha**	**3.44**	**157**	P	**Pn**	**01 02 05.6**	**-1.5**
GTOI	**Gorontalo**	**3.68**	**239**	P	**Pn**	**01 02 09.5**	**-0.7**
WRA	**Warramunga Arr**	**23.75**	**161**	P	**P**	**01 06 19.8**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.5nm,0.3s,baz=337,slow=11,SNR=22						
ASAR	**Alice Springs**	**27.13**	**164**	P	**P**	**01 06 50.7**	**+2.0**
	0.3nm,0.5s,baz=344,slow=8.0,SNR=8.3						
MKAR	**Makanchi Array**	**58.20**	**326**	P	P	01 11 02.7	+4.2
	0.1nm,0.5s,baz=122,slow=6.7,SNR=4.7						

IDC 02 02:12:06.7±3.0**,3°.50S**×**134°.92E,h0**km**,mb3.1**/2**, mb1 3.3**/3**,mb1mx2.9**/24**,mbtmp3.1**/3**,ML2.9**/1**,Error ellipse: s-maj=169.1km s-min=32.2km az=83.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.35**	**182**	Pn	P	02 15 59.9	-0.9
	0.1nm,0.3s,baz=0.7,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**20.07**	**183**	P	P	02 16 40.8	-1.0
	0.4nm,0.6s,baz=13,slow=10,SNR=3.4						
SONM	**Songino Array**	**56.91**	**337**	P	P	02 21 53.6	0.0
	0.2nm,0.4s,baz=131,slow=5.6,SNR=2.1						

*TUL **02** 02:23:34.7±1.2,36°.52N±0°.01×97°.88W±0°.02,h7km±3km, ML2.5,ML2.2/55(NEIC),Error ellipse: s-maj=2.2km s-min=1.7km az=138.0*

NEIC 02 02:23:34.6±0.7**,36°.507N**±0°.007×**97°.87W**±0°.02**,h5**km±1km**, Error ellipse: s-maj=3.0km s-min=2.4km az=298.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.92**	**262**	Pg	Pg	02 23 51.5	-0.8
T35A	**Sooner Cattle**	**1.16**	**69**	Pg	Pg	02 23 56.2	-0.8
T35A				IAML		02 24 14.6	
	comp=N,39nm,0.2s						
T35A				IAML		02 24 16.5	
	comp=E,58nm,0.3s						
FNO	**Franklin**	**1.30**	**163**	Pn	Pn	02 23 58.9	-0.6
FNO				IAML		02 24 20.2	
	comp=N,32nm,0.6s						
FNO				IAML		02 24 20.5	
	comp=E,34nm,0.1s						
W35A	**Tecumseh**	**1.57**	**149**	Pn	Pn	02 24 02.9	-0.3
TUL1	**Leonard**	**1.78**	**109**	Pn	Pn	02 24 06.3	+0.2
X34A	**Smith Ranch, M**	**1.90**	**179**	Pn	Pn	02 24 07.9	+0.2
X37A	**Clayton**	**2.79**	**132**	Pn	Pn	02 24 19.7	-0.3
HHAR	**Hobbs**	**3.18**	**93**	Pn	Pn	02 24 24.9	-0.4
S39A	**Bolivar**	**3.82**	**71**	Pn	Pn	02 24 34.4	+0.3
U40A	**Yellville**	**4.05**	**91**	Pn	Pn	02 24 37.1	-0.2

*IDC **02** 02:30:06.0±1.3,37°.68N×78°.08E,h0km,mb3.5/5, mb1 3.5/10,mb1mx3.4/46,mbtmp3.5/10,ML3.0/3,MS3.2/2, Ms1 3.2/2,ms1mx2.4/71,Error ellipse: s-maj=22.1km s-min=18.6km az=79.0*

*SOME **02** 02:30:09.5,37°.83N×77°.85E,h0km*

*NNC **02** 02:30:10.2±3.1,37°.87N×77°.97E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=26.7km s-min=19.2km az=144.0*

ISC 02 02:30:08.8±0.8**,37°.80N**±0°.05×**77°.84E**±0°.06**,h10**km**,n39,** σ**2°.16**/59**,mb3.4**/5**,10C-6D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.27**	**5**	*e*P	**Pg**	**02 31 48.8**	**-1.0**
	12nm,0.4s						
SATY				*e*S	**Sg**	**02 33 00.4**	**+2.3**
	92nm,0.6s						
TNSS	**Tian-Shan**	**5.28**	**353**	*e*P	**Pg**	**02 31 47.5**	**-2.4**
	22nm,0.5s						
TNSS				*e*S	**Sg**	**02 32 58.1**	**-0.1**
	40nm,0.5s						
IZV	**Izvestkoviy**	**5.31**	**350**	*e*P	**Pg**	**02 31 47.8**	**-2.8**
	13nm,0.6s						
IZV				*e*S	**Sg**	**02 32 58.7**	**-0.7**
	65nm,0.7s						
MDOK	**Medeo**	**5.39**	**354**	*e*P	**Pg**	**02 31 49.5**	**-2.6**
	17nm,0.5s						
MDOK				*e*S	**Sg**	**02 33 01.7**	**-0.2**
	97nm,0.7s						
MDOK	**Medeo**	**5.39**	**354**	Pg	**Pb**	**02 31 45.9**	**+2.7**
	20nm,0.6s						
MDOK				Lg	Lg	02 33 02.1	
	79nm,0.8s						
TKM2	**Tokmak 2**	**5.39**	**342**	⇑Pn	Pn	02 31 34.2	+4.6
	2.4nm,0.6s						
TKM2				⇑Pg	**Pb**	**02 31 45.8**	**+2.5**
	5.8nm,0.4s						
TKM2				⇑Lg	Lg	02 33 03.7	
	26nm,0.8s						
UZB	**Uzynbulak**	**5.42**	**9**	*e*P	**Pg**	**02 31 50.3**	**-2.3**
	6.1nm,0.2s						
UZB				*e*S	**Sg**	**02 33 02.8**	**+0.1**
	33nm,0.7s						
KST	**Kastek**	**5.43**	**345**	*e*P	**Pg**	**02 31 50.7**	**-2.1**
	11nm,0.6s						
KST				*e*S	**Sg**	**02 33 03.6**	**+0.4**
	43nm,0.6s						
MTBS	**Maitube**	**5.43**	**349**	*e*P	**Pg**	**02 31 49.8**	**-3.0**
	9.7nm,0.3s						
MTBS				*e*S	**Sg**	**02 33 01.9**	**-1.3**
	17nm,0.4s						
AAA	**Alma-Ata**	**5.45**	**353**	*e*P	**Pg**	**02 31 51.3**	**-1.9**
	63nm,0.3s						
AAA				*e*S	**Sg**	**02 33 04.6**	**+0.8**
	77nm,0.3s						
KOTS	**Kotyrbulak**	**5.46**	**354**	*e*P	**Pg**	**02 31 50.3**	**-3.0**
	12nm,0.5s						
KOTS				*e*S	**Sg**	**02 33 03.0**	**-1.0**
	65nm,0.4s						
AAK	**Ala-Archa**	**5.47**	**333**	Pn	Pn	02 31 35.7	+5.2
	1.3nm,0.3s,baz=158,slow=8.0,SNR=18						
AAK				Lg	Lg	02 33 06.3	
	1.8nm,0.3s,baz=80,slow=18,SNR=1.7						
SHLS	**Shalkode**	**5.49**	**13**	*e*P	**Pg**	**02 31 53.4**	**-0.7**
	6.6nm,0.3s						
SHLS				*e*S	**Sg**	**02 33 08.2**	**+3.0**
	86nm,0.5s						
CHCP	**Chirah Chowk**	**5.56**	**223**	P	**Pn**	**02 31 32.8**	**+1.1**
DGS	**Degeres**	**5.66**	**345**	*e*P	**Pg**	**02 31 54.4**	**-2.8**
	23nm,0.5s						
DGS				*e*S	**Sg**	**02 33 10.0**	**-0.5**
	33nm,0.5s						
PDGK	**Podgornoye**	**5.67**	**12**	⇑Pn	**Pn**	**02 31 36.1**	**+2.9**
	1.6nm,0.4s						
PDGK				⇓Pg	**Pb**	**02 31 49.5**	**+1.6**
	7.7nm,0.6s						
PDGK				⇑Sn	**Sn**	**02 32 41.7**	**+3.4**
	14nm,0.7s						
PDGK				⇓Lg	Lg	02 33 07.0	
	75nm,0.8s						
KURS	**Kuram**	**5.69**	**2**	*e*P	**Pg**	**02 31 55.6**	**-2.2**
	7.7nm,0.6s						
KURS				*e*S	**Sg**	**02 33 12.0**	**+0.5**
	69nm,0.4s						
KPKS	**Kokpek**	**5.70**	**6**	*e*P	**Pg**	**02 31 55.3**	**-2.7**
	11nm,0.4s						
KPKS				*e*S	**Sg**	**02 33 11.4**	**-0.3**
	88nm,0.6s						
CHMS	**Chumysh**	**5.70**	**337**	⇓Pg	**Pb**	**02 31 52.2**	**+3.7**
	7.2nm,0.5s						
CHMS				⇑Lg	Lg	02 33 11.2	
	17nm,0.8s						
KTMS	**Ketmen**	**5.96**	**18**	*e*P	**Pg**	**02 32 00.2**	**-2.7**
	2.5nm,0.1s						
KTMS				*e*S	**Sg**	**02 33 19.7**	**-0.4**
	28nm,0.3s						
KTBS	**Karatobe**	**5.97**	**352**	*e*P	**Pg**	**02 31 59.0**	**-4.2**
	8.0nm,0.5s						
KTBS				*e*S	**Sg**	**02 33 17.9**	**-2.6**
	28nm,0.4s						
MRKS	**Merke**	**6.07**	**326**	*e*P	Pg	02 32 01.4	-3.7
	11nm,0.3s						
MRKS				*e*S	**Sg**	**02 33 21.9**	**-1.7**
	19nm,0.7s						
CHKK	**Chushkaly**	**6.08**	**354**	*e*P	**Pg**	**02 32 01.9**	**-3.4**
	7.1nm,0.3s						
CHKK				*e*S	**Sg**	**02 33 22.9**	**-1.1**
	31nm,0.4s						
KRBS	**Karabastau**	**6.12**	**345**	*e*P	**Pg**	**02 32 02.0**	**-3.9**
	13nm,0.3s						
KRBS				*e*S	**Sg**	**02 33 23.0**	**-2.1**
	22nm,0.8s						
CEP	**Cherat**	**6.24**	**232**	⇑P	**Pn**	**02 31 42.2**	**+1.1**
KK04	**Karatay Array**	**7.70**	**316**	⇓Pn	**Pn**	**02 32 03.0**	**+2.0**
	0.3nm,0.3s						
KK04				⇑Lg	Lg	02 34 16.5	
	4.3nm,0.7s						
MAKZ	**Makanchi**	**9.51**	**17**	⇓Pn	**Pn**	**02 32 28.6**	**+2.7**
	2.5nm,0.8s						
MAKZ				⇑Sn	**Sn**	**02 34 14.2**	**+1.4**
	3.1nm,1.1s						
MK31	**Makanchi Array**	**9.57**	**19**	Pn	**Pn**	**02 32 27.8**	**+1.1**
	0.1nm,0.2s,baz=200,slow=12,SNR=11						
MK31				⇓Sn	**Sn**	**02 34 12.8**	**-1.5**
	2.3nm,0.5s,baz=200,slow=26,SNR=9.8						
MKAR	**Makanchi Array**	**9.57**	**19**	Pn	**Pn**	**02 32 27.9**	**+1.2**
	0.3nm,0.3s,baz=201,slow=13,SNR=20						
MKAR				Sn	**Sn**	**02 34 12.3**	**-2.1**
	1.3nm,0.3s,baz=203,slow=25,SNR=7.7						
KURBB	**Kurchatov Arra**	**12.83**	**2**	Pn	**Pn**	**02 33 11.4**	**+0.2**
	baz=189,slow=11,SNR=1.3						
KURBB				Lg	Lg	02 36 56.4	
	0.0nm,0.3s,baz=108,slow=29,SNR=2.1						
GEYT	**Alibeck**	**15.58**	**277**	Pn	**Pn**	**02 33 49.8**	**+1.3**
	baz=75,slow=23,SNR=2.0						
ZALV	**Zalesovo Beam**	**16.85**	**14**	Pn	**Pn**	**02 34 01.9**	**-2.8**
	0.1nm,0.3s,baz=202,slow=11,SNR=1.7						
AB31	**Akbulak array**	**17.26**	**317**	⇑Pn	**P**	**02 34 10.7**	**-0.6**
	0.9nm,0.8s,baz=125,slow=13,SNR=8.6						
SONM	**Songino Array**	**23.11**	**55**	P	**P**	**02 35 12.4**	**-2.6**
	0.4nm,0.7s,baz=261,slow=8.6,SNR=2.1						
CMAR	**Chiang Mai Arr**	**26.68**	**130**	P	**P**	**02 35 45.1**	**-3.0**
	1.3nm,0.3s,baz=312,slow=9.6,SNR=2.5						
BRTR	**Keskin Array B**	**34.26**	**287**	P	**P**	**02 36 55.2**	**+0.1**
	0.2nm,0.6s,baz=70,slow=8.4,SNR=2.8						
BRTR				LR	LR	02 52 02.3	
	comp=Z,28nm,20.7s,baz=184,slow=38						
FINES	**FINESS Array B**	**39.57**	**324**	P	**P**	**02 37 40.5**	**+0.7**
	0.4nm,0.5s,baz=125,slow=12,SNR=5.1						
HFS	**Hagfors**	**45.47**	**321**	LR	LR	02 58 15.1	
	comp=Z,38nm,18.3s,baz=259,slow=37						
TORD	**Torodi Ar. Bea**	**71.17**	**272**	P	**P**	**02 41 27.8**	**-0.3**
	0.2nm,0.5s,baz=45,slow=5.6,SNR=4.7						

*ATH **02** 02:45:59.6,35°.29N×22°.75E,h36km±5km,ML2.4/7,Error ellipse: s-maj=7.0km s-min=1.9km az=47.0*

*ISK **02** 02:46:11.0,35°.30N×23°.81E,h12km,ML1.8/5*

THE 02 02:46:00.7,35°.31N×**22°.78E,h13**km±1km**,ML2.2**/7**,Error ellipse: s-maj=2.1km s-min=0.9km az=74.0,Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.70**	**37**	P	Pg	02 46 13.9	-0.4
ANKY				S	Sb	02 46 25.5	+1.2
ANKY				AML	AML	02 46 26.0	
	comp=E,562µm,0.6s						
ANKY				AML	AML	02 46 27.0	
	comp=N,495µm,0.5s						
ANKY	**Antikythira Is**	**0.70**	**37**	P	Pg	02 46 13.9	-0.4
ANKY				S	Sb	02 46 24.4	+0.1
	comp=N,262nm,0.4s						
KNDR	**Palaiochora Ch**	**0.74**	**96**	P	Pg	02 46 14.6	-0.5
KNDR				S	Sg	02 46 24.2	-0.8
KNDR				AML	AML	02 46 28.7	
	comp=E,654µm,0.4s						
KNDR				AML	AML	02 46 32.5	
	comp=N,805µm,1.0s						
KNDR	**Palaiochora Ch**	**0.74**	**96**	P	Pg	02 46 13.3	-1.9
KNDR				S	Sg	02 46 24.6	-0.4
	comp=N,122nm,0.7s						
KNDR	**Palaiochora Ch**	**0.74**	**96**	PG	Pg	02 46 15.3	+0.1
RODP	**Rodopos**	**0.84**	**72**	P	Pb	02 46 17.4	+0.3
RODP				S	Sb	02 46 28.6	+0.3
	comp=N,52nm,0.4s						
RODP	**Rodopos**	**0.84**	**72**	PG	Pg	02 46 16.8	-0.1
KTHR	**Kythira**	**0.97**	**11**	P	Pb	02 46 18.2	-1.2
KTHR				AML	AML	02 46 33.8	
	comp=N,1318µm,0.3s						
KTHR				AML	AML	02 46 35.0	
	comp=E,1130µm,0.3s						
KTHR	**Kythira**	**0.97**	**11**	P	Pb	02 46 18.4	-0.9
KTHR				S	Sb	02 46 31.8	-0.2
	comp=E,208nm,0.3s						
KTHA	**Kythira Island**	**0.97**	**14**	P	Pb	02 46 18.7	-0.8
KTHA				AML	AML	02 46 34.0	
	comp=N,210µm,0.7s						
KTHA				AML	AML	02 46 34.5	
	comp=E,501µm,0.5s						
KTHA	**Kythira Island**	**0.97**	**14**	P	Pb	02 46 18.7	-0.7
KTHA				S	Sg	02 46 32.3	+0.1
	comp=E,170nm,0.5s						
IMMV	**Iera Moni Meta**	**0.99**	**81**	P	Pb	02 46 19.1	-0.6
IMMV				S	Sg	02 46 33.3	+0.4
IMMV				AML	AML	02 46 36.3	
	comp=N,381µm,0.4s						
IMMV				AML	AML	02 46 38.4	
	comp=E,341µm,0.4s						
IMMV	**Iera Moni Meta**	**0.99**	**81**	P	Pb	02 46 19.1	-0.7
IMMV				S	Sg	02 46 33.5	+0.6
	comp=E,180nm,0.4s						
CHAN	**Chania**	**1.05**	**78**	P	Pb	02 46 20.0	-0.7
CHAN				AML	AML	02 46 39.1	
	comp=N,358µm,0.7s						
CHAN				AML	AML	02 46 43.0	
	comp=E,248µm,0.4s						
GVD	**Gavdhos**	**1.17**	**113**	P	Pn	02 46 21.3	-1.5
GVD	**Gavdhos**	**1.17**	**113**	P	Pn	02 46 21.3	-1.5
GVD	**Gavdhos**	**1.17**	**113**	PG	Pn	02 46 21.4	-1.4
VLI	**Veliai**	**1.41**	**5**	P	Pn	02 46 25.5	-0.6
VLI				AML	AML	02 46 50.5	
	comp=E,172µm,0.7s						
VLI				AML	AML	02 46 50.6	
	comp=N,135µm,0.5s						
VLI	**Veliai**	**1.41**	**5**	P	Pn	02 46 25.7	-0.4
VLI				S	Sb	02 46 44.9	+0.1
	comp=N,75nm,0.6s						
IDI	**Anoyia**	**1.73**	**90**	P	Pn	02 46 29.3	-1.1
IDI	**Anoyia**	**1.73**	**90**	P	Pn	02 46 29.4	-1.1
IDI	**Anoyia**	**1.73**	**90**	PG	Pn	02 46 28.9	-1.6
KRND	**KRANIDI**	**2.09**	**8**	P	Pn	02 46 34.6	-0.8
THR6	**Thira Island,**	**2.37**	**63**	P	Pn	02 46 37.5	-1.7
ZKR	**Zakros**	**2.82**	**93**	PN	Pn	02 46 45.2	-0.3

*IDC **02** 02:50:40.1±4.2,22°.17S×179°.21W,h589km±27km,mb3.6/4, mb1 3.8/6,mb1mx3.2/31,mbtmp4.5/6,Error ellipse: s-maj=90.9km s-min=25.6km az=138.0*

ISC 02 02:50:40.8±1.9**,22°.1S**±0°.3×**179°.2W**±0°.3**,h600**km**,n10,** σ**1°.33**/11**,mb4.2**/4**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.05**	**328**	P	**P**	**02 52 14.0**	**-0.2**
	22nm,0.3s,baz=189,slow=4.7,SNR=12						
DZM	**Mont Dzumac**	**13.35**	**267**	P	**P**	**02 53 33.8**	**+0.5**
	0.5nm,0.3s,baz=76,slow=14,SNR=3.0						
STKA	**Stephens Creek**	**36.15**	**246**	P	**P**	**02 56 54.1**	**0.0**
	1.8nm,0.3s,baz=79,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**43.13**	**258**	P	**P**	**02 57 49.1**	**-0.9**
	4.4nm,0.5s,baz=99,slow=8.2,SNR=75						
ASAR				PcP	**PcP**	**02 59 26.0**	**+0.2**
	0.4nm,0.5s,baz=113,slow=3.9,SNR=3.0						
WRA	**Warramunga Arr**	**43.34**	**264**	P	**P**	**02 57 49.9**	**-1.7**
	3.3nm,0.5s,baz=97,slow=8.1,SNR=68						
WRA				ScP	**ScP**	**03 02 23.9**	**+2.4**
	0.3nm,1.0s,baz=106,slow=4.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P	**P**	**03 02 37.7**	**+1.5**
	2.4nm,0.3s,baz=144,slow=3.5,SNR=8.2						
AKASG	**Malin Array Be**	**143.83**	**329**	PKP	PKPbc	03 09 07.1	-0.7
	0.7nm,0.3s,baz=46,slow=4.5,SNR=8.7						
BRTR	**Keskin Array B**	**147.05**	**310**	PKPbc	**PKPbc**	**03 09 17.3**	**-0.3**
	0.6nm,0.6s,baz=29,slow=3.3,SNR=4.7						
MMAI	**Mount Meron Ar**	**147.60**	**297**	PKPbc	**PKiKP**	**03 09 19.4**	**-1.2**
	0.2nm,0.3s,baz=5.2,slow=3.2,SNR=1.6						
GERES	**GERESS Array B**	**151.38**	**342**	PKPbc	**PKiKP**	**03 09 27.6**	**-0.4**
	0.3nm,0.5s,baz=19,slow=6.2,SNR=1.8						

*DDA **02** 02:54:10.5±0.0,35°.54N×32°.33E,h28km±1km,ML2.0*

*NIC **02** 02:54:10.8±0.0,35°.63N×32°.36E,h25km±1km,Ml2.5/5*

*ISK **02** 02:54:11.8,35°.51N×32°.53E,h22km,ML2.3/13*

*GII **02** 02:54:12.3±0.0,35°.47N×32°.47E,h30km,Mm1.9/1*

ISC 02 02:54:12.0±1.1**,35°.53N**±0°.02×**32°.44E**±0°.03**,h29**km±12km**, n42,**σ**1°.19**/64**,1C,Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.40**	**161**	P	**Pn**	**02 54 21.8**	**0.0**
ALFC				S	**Sn**	**02 54 29.3**	**+1.0**
ALFC				AML	AML	02 54 31.4	
	1.5nm,0.1s						
ALFC				AML	AML	02 54 31.4	
	1.5nm,0.1s						
ALFC				AML	AML	02 54 32.2	
	1.4nm,0.2s						
ALFC				AML	AML	02 54 32.2	
	1.4nm,0.2s						
AKMS	**Akamas**	**0.52**	**190**	⇑*i*P	**Pn**	**02 54 23.6**	**+0.1**
AKMS				S	**Sn**	**02 54 32.5**	**+1.2**
AKMS				AML	AML	02 54 33.8	
	1.3nm,0.2s						
AKMS				AML	AML	02 54 33.8	
	1.3nm,0.2s						
AKMS				AML	AML	02 54 33.9	
	1.1nm,0.2s						
AKMS				AML	AML	02 54 33.9	
	1.1nm,0.2s						
GAZI	**Gazipasa**	**0.71**	**352**	P	**Pb**	**02 54 25.1**	**-0.7**
GAZI				S	**Sb**	**02 54 34.7**	**-0.6**
GAZI				*i* AML	AML	02 54 36.0	
	comp=E,82nm,0.6s						
GAZI				*i* AML	AML	02 54 36.0	
	comp=N,107nm,0.5s						
NATA	**Nata**	**0.76**	**172**	P	**Pn**	**02 54 26.9**	**+0.2**
NATA				S	**Sn**	**02 54 39.5**	**+2.3**
NATA				AML	AML	02 54 47.1	
	1.6nm,0.5s						
NATA				AML	AML	02 54 47.1	
	1.6nm,0.5s						
NATA				AML	AML	02 54 47.4	
	0.8nm,0.7s						
NATA				AML	AML	02 54 47.4	
	0.8nm,0.7s						
TEKE	**Tekeli-Mersin**	**0.82**	**42**	PG	**Pn**	**02 54 27.7**	**+0.1**
TEKE				SG	**Sn**	**02 54 39.5**	**+0.8**
SZAC	**Souni**	**0.85**	**155**	P	**Pb**	**02 54 28.5**	**+0.2**
SZAC				S	**Sn**	**02 54 42.8**	**+3.1**
SZAC				AML	AML	02 54 45.7	
	0.8nm,0.2s						
SZAC				AML	AML	02 54 45.7	
	0.8nm,0.2s						
SZAC				AML	AML	02 54 46.0	
	0.6nm,0.2s						
SZAC				AML	AML	02 54 46.0	
	0.6nm,0.2s						
CSS	**Mathiatis**	**0.92**	**128**	PG	**Pn**	**02 54 28.7**	**-0.3**
CSS	**Mathiatis**	**0.92**	**128**	P	**Pn**	**02 54 28.8**	**-0.2**
LFK	**Lefkose**	**0.93**	**105**	PG	**Pb**	**02 54 29.1**	**-0.4**
ASGA	**Asgata**	**1.00**	**138**	P	**Pb**	**02 54 30.5**	**-0.1**
ASGA				S	**Sb**	**02 54 46.5**	**+3.1**
ASGA				AML	AML	02 54 49.1	
	0.3nm,0.6s						
ASGA				AML	AML	02 54 49.1	
	0.3nm,0.6s						
ASGA				AML	AML	02 54 51.9	
	0.3nm,0.5s						
ASGA				AML	AML	02 54 51.9	
	0.3nm,0.5s						
BERE	**Bereket-Mersin**	**1.03**	**38**	PG	**Pb**	**02 54 31.3**	**0.0**
BERE				SG	**Sb**	**02 54 45.1**	**+0.5**
AKKU	**Akkuyu-Mersin**	**1.10**	**55**	PG	**Pb**	**02 54 31.6**	**-0.7**
AKKU				SG	**Sb**	**02 54 46.2**	**-0.1**
MVOU	**Mavrovouni**	**1.10**	**117**	P	**Pn**	**02 54 30.8**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.11**	**54**	P	**Pb**	**02 54 32.2**	**-0.3**
GULN				S	**Sb**	**02 54 46.1**	**-0.5**
GULN				*i* AML	AML	02 54 49.0	
	comp=E,14nm,0.2s						
GULN				*i* AML	AML	02 54 50.0	
	comp=N,22nm,0.7s						
ERMK	**Ermenek**	**1.17**	**19**	P	**Pb**	**02 54 34.1**	**+0.4**
ERMK				S	**Sb**	**02 54 50.3**	**+1.7**
TISA	**Tisan-Mersin**	**1.19**	**58**	PN	**Pb**	**02 54 32.8**	**-1.0**
TEVE	**Tevekalti-Mers**	**1.22**	**42**	PN	**Pb**	**02 54 33.5**	**-0.9**
IKL	**Isikli**	**1.23**	**55**	PN	**Pb**	**02 54 33.6**	**-1.0**
IKL				SN	**Sb**	**02 54 49.5**	**-0.6**
EREN	**Erenkoy**	**1.41**	**90**	PN	**Pn**	**02 54 36.1**	**+0.4**
EREN	**Erenkoy**	**1.41**	**90**	P	**Pb**	**02 54 37.7**	**+0.1**
EREN				S	**Sn**	**02 54 52.5**	**-0.7**
EREN				*i* AML	AML	02 55 00.0	
	comp=E,31nm,0.5s						
HDMB	**Hadim**	**1.43**	**1**	PN	**Pb**	**02 54 37.9**	**-0.2**
KEPZ	**Antalya-Kepez**	**1.52**	**334**	P	**Pn**	**02 54 36.7**	**-0.6**
KEPZ				S	**Sn**	**02 54 56.2**	**0.0**
KKBE	**Karaman, Kazim**	**1.73**	**13**	P	**Pn**	**02 54 41.0**	**+0.8**
KKBE				S	**Sb**	**02 55 04.8**	**+0.2**
KKBE				*i* AML	AML	02 55 10.0	
	comp=E,8.4nm,0.4s						
KRMN	**Karaman**	**1.77**	**22**	PN	**Pn**	**02 54 41.8**	**+1.1**
AKUM	**Antalya-Kumluc**	**1.88**	**295**	P	**Pb**	**02 54 44.0**	**-1.5**
AKUM				S	**Sn**	**02 55 06.5**	**+1.8**
SEYD	**Seydisehir-KON**	**1.93**	**346**	PN	**Pn**	**02 54 44.3**	**+1.3**
SEDI	**Konya, Seydise**	**1.99**	**344**	P	**Pn**	**02 54 45.0**	**+1.2**
SEDI				S	**Sb**	**02 55 11.1**	**-1.0**
SEDI				*i* AML	AML	02 55 13.0	
	comp=N,8.7nm,0.5s						
SEDI				*i* AML	AML	02 55 13.0	
	comp=E,24nm,0.5s						
MERS	**Mersin**	**2.15**	**51**	PN	**Pn**	**02 54 46.8**	**+0.9**
KMER	**Konya-Meram**	**2.23**	**359**	P	**Pn**	**02 54 48.8**	**+1.6**
SUTC	**Sutluce-Ispart**	**2.26**	**330**	PN	**Pn**	**02 54 49.4**	**+1.9**
KERG	**Konya-Eregli**	**2.32**	**35**	P	**Pb**	**02 54 51.0**	**-2.1**
KERG				S	**Sb**	**02 55 19.4**	**-2.0**
KERG				*i* AML	AML	02 55 21.0	
	comp=E,8.7nm,0.3s						
KERG				*i* AML	AML	02 55 22.0	
	comp=N,10nm,0.3s						
ELL	**Elmali**	**2.38**	**301**	PN	**Pb**	**02 54 52.2**	**-2.0**
GULE	**Gulek**	**2.57**	**46**	P	**Pn**	**02 54 54.0**	**+2.2**
CMRD	**Camardi-Nigde**	**2.96**	**43**	PN	**Pn**	**02 54 58.3**	**+1.3**
TAHT	**Tahtakopru-Hat**	**3.15**	**73**	PN	**Pn**	**02 55 00.9**	**+1.3**
MMA0B	**Mount Meron ar**	**3.51**	**135**	Pn	**Pn**	**02 55 03.8**	**-0.8**
MMA0B				Sn	**Sn**	**02 55 44.4**	**-0.8**
GEM	**Giv'at Ha'Em**	**3.53**	**130**	Pn	**Pn**	**02 55 04.3**	**-0.5**
GEM				Sn	**Sn**	**02 55 44.1**	**-1.5**
OFRI	**`Ofer**	**3.59**	**143**	Pn	**Pn**	**02 55 04.8**	**-0.9**
MMLI	**Mount Malkishu**	**3.96**	**140**	Pn	**Pn**	**02 55 10.3**	**-0.4**
MMLI				Sn	**Sn**	**02 55 55.6**	**-0.6**
AMAZ	**Amatzia**	**4.49**	**152**	Pn	**Pn**	**02 55 17.9**	**-0.2**
DSI	**Dead Sea**	**4.65**	**147**	Pn	**Pn**	**02 55 19.9**	**-0.3**
YTIR	**Yattir**	**4.72**	**151**	Pn	**Pn**	**02 55 20.9**	**-0.4**
YTIR				Sn	**Sn**	**02 56 13.6**	**-1.5**

IDC 02 03:05:54.3±7.9**,31°.00S**×**179°.89W,h0**km**,mb3.4**/2**, mb1 3.7**/2**,mb1mx3.5**/17**,mbtmp3.4**/2**,Error ellipse: s-maj=323.2km s-min=64.7km az=157.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.46**	**268**	P	P	03 13 43.1	0.0
	0.4nm,0.7s,baz=100,slow=7.6,SNR=2.6						
WRA	**Warramunga Arr**	**42.50**	**274**	P	P	03 13 51.3	-0.3
	0.4nm,0.6s,baz=112,slow=8.1,SNR=5.1						
H03S2	**Juan Fernandez**	**81.49**	**124**	T	T	04 46 47.2	
	baz=238						
H03S1	**Juan Fernandez**	**81.50**	**124**	T	T	04 46 44.7	
	baz=238						
H03S3	**Juan Fernandez**	**81.50**	**124**	T	T	04 46 42.8	
	baz=238						
H03N3	**Juan Fernandez**	**81.69**	**124**	T	T	04 46 59.7	
	baz=241,slow=72,SNR=4.7						
H03N2	**Juan Fernandez**	**81.69**	**124**	T	T	04 46 57.0	
	baz=241,slow=72,SNR=4.7						
H03N1	**Juan Fernandez**	**81.70**	**124**	T	T	04 47 03.3	
	baz=241,slow=72,SNR=9.0						
FINES	**FINESS Array B**	**145.12**	**338**	PKPbc	PKPbc	03 25 31.7	-0.8
	1.8nm,0.7s,baz=51,slow=4.4,SNR=3.4						

*IDC **02** 03:07:10.0±4.9,5°.44S×152°.97E,h0km,mb3.3/5, mb1 3.4/5,mb1mx3.4/20,mbtmp3.4/5,Error ellipse: s-maj=166.8km s-min=31.8km az=109.0*

ISC 02 03:07:15.8±4.3**,5°.5S**±0°.4×**152°.9E**±0°.9**,h37**km**,n6,**σ**1°.85**/6**, mb3.1**/5**,New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.06**	**230**	P	**P**	**03 12 16.7**	**-1.5**
	0.1nm,0.4s,baz=54,slow=9.9,SNR=1.7						
ASAR	**Alice Springs**	**25.70**	**223**	P	**P**	**03 12 44.6**	**+1.9**
	0.3nm,0.7s,baz=62,slow=7.8,SNR=2.1						
SONM	**Songino Array**	**66.94**	**328**	P	**P**	**03 18 05.2**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.3nm,0.5s,baz=139,slow=4.8,SNR=2.5						
MKAR	Makanchi Array	80.89	319	P	P	03 19 27.3	+1.2
	0.1nm,0.5s,baz=102,slow=5.0,SNR=2.5						
ZALV	Zalesovo Beam	81.76	326	P	P	03 19 29.2	-1.3
	0.3nm,0.3s,baz=107,slow=5.0,SNR=1.9						
TORD	Torodi Ar. Bea	150.58	287	PKPbc	PKiKP	03 27 04.5	-1.0
	0.5nm,0.7s,baz=98,slow=2.1,SNR=5.4						

*IDC **02** 03:58:39.6±2.4, 3°.95N×128°.48E, h44km±26km, mb3.5/7, mb1 3.7/8, mb1mx3.3/38, mbtmp3.7/8, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/44, Error ellipse: s-maj=60.9km s-min=12.2km az=66.0*

ISC 02 03:58:40.1±1.0, **4°.0N**±0°.2×**128°.5E**±0°.3, **h46**km, **n13**, σ**1s04**/11, **mb3.6**/7, **1C, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	4.53	312⇑	eP	Pn	03 59 46.8	+0.6
KCP				iS	Sn	04 00 48.5	+11
SIJI	Sorong	5.54	150	P	Pn	04 00 00.9	+0.8
	2.1nm,0.3s,baz=352,slow=19,SNR=1.9						
SIJI				S	Sn	04 01 02.0	-0.6
	1.5nm,0.3s,baz=178,slow=23,SNR=1.5						
FITZ	Fitzroy Crossi	22.08	187	P	P	04 03 30.4	-1.0
	0.8nm,0.6s,baz=5.2,slow=11,SNR=2.1						
JOW	Kunigami	22.76	360	LR	LR	04 10 13.4	
	comp=Z,29nm,21.5s,baz=330,slow=30						
WRA	Warramunga Arr	24.43	167	P	P	04 03 53.9	-0.7
	1.0nm,0.5s,baz=345,slow=10,SNR=13						
WRA				S	S	04 08 12.5	+0.9
	0.6nm,0.8s,baz=319,slow=15,SNR=1.8						
ASAR	Alice Springs	27.95	169	P	P	04 04 26.5	0.0
	0.2nm,0.5s,baz=352,slow=7.8,SNR=6.1						
CMAR	Chiang Mai Arr	32.27	299	P	P	04 05 05.0	+0.3
	1.3nm,0.3s,baz=105,slow=6.7,SNR=5.1						
H11S3	WAKE ISLAND Hy	40.06	66	T	T	04 49 26.3	
	baz=253,slow=75,SNR=11						
H11S1	WAKE ISLAND Hy	40.08	66	T	T	04 49 15.1	
	baz=253,slow=75,SNR=6.8						
H11S2	WAKE ISLAND Hy	40.08	66	T	T	04 49 15.0	
	baz=253,slow=75,SNR=13						
SONM	Songino Array	47.66	340	P	P	04 07 11.1	-1.0
	0.3nm,0.5s,baz=150,slow=6.1,SNR=1.6						
MKAR	Makanchi Array	58.38	324	P	P	04 08 29.5	-1.4
	0.9nm,0.4s,baz=111,slow=7.9,SNR=19						
ZALV	Zalesovo Beam	61.19	332	P	P	04 08 51.5	+1.5
	0.3nm,0.3s,baz=102,slow=6.1,SNR=2.1						

*IDC **02** 04:06:58.1±1.7, 5°.28S×151°.91E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/32, mbtmp3.6/6, Error ellipse: s-maj=89.6km s-min=22.7km az=128.0*

ISC 02 04:07:04.2±1.7, **5°.4S**±0°.4×**151°.9E**±0°.4, **h45**km, **n7**, σ**0s58**/7, **mb3.6**/6, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.41	228	P	P	04 11 59.8	+0.5
	1.0nm,0.6s,baz=55,slow=10,SNR=11						
ASAR	Alice Springs	25.14	222	P	P	04 12 25.8	+0.4
	0.6nm,0.7s,baz=61,slow=9.3,SNR=8.8						
FITZ	Fitzroy Crossi	28.63	242	P	P	04 12 56.2	-0.5
	1.2nm,0.6s,baz=58,slow=6.0,SNR=7.6						
MKAR	Makanchi Array	80.22	319	P	P	04 19 10.5	+0.3
	0.3nm,0.7s,baz=103,slow=6.4,SNR=2.9						
ILAR	Eielson Array	83.03	22	P	P	04 19 24.9	+0.4
	0.5nm,0.6s,baz=261,slow=6.0,SNR=7.2						
YKA	Yellowknife Ar	96.35	28	P	P	04 20 27.6	-0.3
	0.2nm,0.7s,baz=273,slow=4.6,SNR=5.3						
TORD	Torodi Ar. Bea	149.67	287	PKPbc	PKPbc	04 26 49.6	-0.5
	0.8nm,0.8s,baz=52,slow=2.4,SNR=3.8						

*IDC **02** 04:28:18.7±0.8, 41°.69N×145°.78E, h0km, mb3.9/17, mb1 4.0/22, mb1mx3.9/52, mbtmp3.9/22, ML3.8/3, MS3.1/5, Ms1 3.1/5, ms1mx2.6/90, Error ellipse: s-maj=20.0km s-min=14.8km az=163.0*

*MOS **02** 04:28:21.8±1.7, 41°.71N×145°.66E, h36km, mb4.2/9, Error ellipse: s-maj=11.1km s-min=6.0km az=90.8*

*JMA **02** 04:28:24.6±0.2, 41°.88N×145°.41E, h59km±1km, M4.1*

*NEIC **02** 04:28:24.2±2.0, 41°.62N±0°.07×145°.6E±0°.1, h36km±6km, mb4.2/19, Error ellipse: s-maj=13.5km s-min=9.7km az=88.0*

*NIED **02** 04:28:24.6, 41°.88N×145°.41E, h59km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.55; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-0.58; $M_{r\theta}$0.63; $M_{\theta\phi}$-0.77; $M_{\phi r}$-0.06; Fault plane solution: $M_0$1.14000×10^{15} NP1:ϕ_s69.00000°, δ68.00000°, λ136.00000°. NP2:ϕ_s179.00000°, δ50.00000°, λ29.00000°.*

ISC 02 04:28:21.3±3.9, **41°.80N**±0°.05×**145°.55E**±0°.05, **h13**km±25km, **n101**, σ**1s77**/103, **mb4.1**/32, **6C-6D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKHN	Kushirohamanak	1.31	348	P	Pn	04 28 46.1	+0.8
JKHN				eS	Sb	04 29 01.7	-0.8
JAK	Akkeshi	1.35	332	P	Pn	04 28 46.1	+0.3
JAK				eS	Sn	04 29 01.7	-1.8
NEM2	Nemuro 2	1.57	5	P	Pn	04 28 49.7	+0.9
NEM2				eS	Sn	04 29 07.4	-1.6
NMR	Nemuro--Hokkai	1.57	5⇑	iP	Pn	04 28 49.7	+0.9
NMR				eS	Sn	04 29 07.5	-1.5
JOB	Onbets	1.68	311	P	Pn	04 28 50.4	+0.1
JOB				eS	Sn	04 29 09.7	-2.0
JTHR	Tokachihiroo	1.75	287	P	Pn	04 28 51.3	+0.1
JTHR				eS	Sn	04 29 10.0	-3.3
ERM	Erimo	1.80	278d	iP	Pn	04 28 52.5	+0.6
ERM	Erimo	1.80	278	Pn	Pn	04 28 53.0	+1.0
JEM	Erimo	1.80	278	P	Pn	04 28 52.5	+0.6
JCH	Churui	1.81	297	P	Pn	04 28 52.3	+0.1
JCH				eS	Sn	04 29 12.0	-3.0
JNK	Nakash	1.88	341	P	Pn	04 28 52.9	-0.2
JNK				eS	Sn	04 29 13.2	-3.6
GLVR	Golovnino	1.94	359⇓	iP	Pn	04 28 54.7	+0.9
GLVR				eS	Sn	04 29 16.5	-1.5
GLVR				pmax	pmax		
	comp=Z,341nm,0.2s						
GLVR				smax	smax		
	comp=E,3μm,0.3s						
GLVR				smax	smax		
	comp=N,6μm,0.2s						
JAR	Ashorobuto	1.99	319	P	Pn	04 28 54.2	-0.4
JAR				eS	Sn	04 29 15.8	-3.6
JNBK	Urakawa-nobuka	2.14	284	P	Pn	04 28 56.2	-0.4
JRA	Rausu	2.16	352	P	Pn	04 28 57.4	+0.5
YUK	Yuzh-Kuril'sk	2.24	6	eP	Pn	04 28 59.0	+0.9
YUK				eS	Sn	04 29 23.7	-1.9
YUK				pmax	pmax		
	comp=E,229nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,129nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				smax	smax		
	comp=E,7μm,0.4s						
SHO	Shikotan	2.27	24c	iP	Pn	04 28 59.7	+1.2
SHO				eS	Sn	04 29 24.4	-1.9
SHO				pmax	pmax		
	comp=N,52nm,0.2s						
SHO				pmax	pmax		
	comp=E,70nm,0.2s						
SHO				pmax	pmax		
	comp=Z,383nm,0.2s						
SHO				smax	smax		
	comp=E,1μm,0.3s						
SHO				smax	smax		
	comp=E,2μm,0.2s						
RUSJ	Misakicho	2.31	355⇓	iP	Pn	04 29 00.0	+1.0
RUSJ				eS	Sn	04 29 26.1	-1.2
JKA	Kamikawa-asahi	3.17	318	Pn	Pn	04 29 10.8	0.0
ASAJ	Asahikawa	3.17	318	Pn	Pn	04 29 11.7	+0.8
	comp=E,36nm,0.3s,baz=161,slow=8.5,SNR=114						
ASAJ				Sn	Sn	04 29 45.4	-3.1
	comp=E,17nm,0.3s,baz=10,slow=32,SNR=9.6						
ASAJ	Asahikawa	3.17	318	P	Pn	04 29 10.8	0.0
JEW	Eniwo	3.21	290	Pn	Pn	04 29 12.3	+0.9
JTM	Tenmabayashi	3.52	255	Pn	Pn	04 29 19.1	+3.4
KUR	Kuril'sk	3.82	25	eP	Pn	04 29 17.6	-2.1
KUR				eS	Sn	04 29 58.3	-6.2
KUR				pmax	pmax		
	comp=N,269nm,0.2s						
KUR				pmax	pmax		
	comp=E,284nm,0.2s						
KUR				pmax	pmax		
	comp=Z,521nm,0.2s						
KUR				smax	smax		
	comp=N,519nm,0.2s						
KUR				smax	smax		
	comp=E,227nm,0.2s						
JMM	Marumori	5.37	225	Pn	Pn	04 29 39.3	-1.7
YSS	Yuzh-Sakhalins	5.53	340	eP	Pn	04 29 43.5	+0.3
YSS				eS	Sn	04 30 46.6	+0.1
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS	Yuzh-Sakhalins	5.53	340	Pn	Pn	04 29 46.1	+3.0
JSD	Sado	6.75	239	Pn	Pn	04 29 59.4	-0.6
JYT	Yasato	6.95	219	Pn	Pn	04 30 00.6	-2.2
MJAR	Matsushiro Arr	7.75	230	Pn	Pn	04 30 12.4	-1.4
	comp=Z,0.2nm,0.3s,baz=54,slow=14,SNR=7.3						
MJAR				LR	LR	04 33 35.0	
	comp=Z,46nm,19.2s,baz=32,slow=40						
MJB9	Matsu-Tunnel	7.75	230	Pn	Pn	04 30 12.8	-1.0
JHJ	Hachijo jima 2	9.80	210	Sn	Sn	04 32 22.8	-8.9
	comp=Z,16nm,0.3s,baz=7.8,slow=17,SNR=1.8						
USRK	Ussuriysk Ar.	10.22	288	Pn	Pn	04 30 48.1	+0.6
	baz=90,slow=13,SNR=1.5						
KLR	Kul'dur	12.19	312	Pn	Pn	04 31 14.5	0.0
	baz=133,slow=12,SNR=4.1						
KLR				LR	LR	04 36 21.0	
	comp=Z,48nm,19.0s,baz=170,slow=39						
PEA0B	Petropavlovsk-	13.96	32⇓	eP	Pn	04 31 38.5	-0.1
PETK	Petropavlovsk-	13.96	32	Pn	Pn	04 31 36.4	-2.2
	comp=Z,0.3nm,0.3s,baz=205,slow=14,SNR=5.2						
MA2	Magadan	18.09	9	P	P	04 32 37.2	+4.8
	comp=Z,1.6nm,0.3s,baz=191,slow=12,SNR=8.4						
MA2				LR	LR	04 38 51.3	
	comp=Z,41nm,18.2s,baz=230,slow=35						
MA2	Magadan	18.09	9	P	P	04 32 34.8	+2.4
MA2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MA2	Magadan	18.09	9	P	P	04 32 34.8	+2.4
SEY	Seymchan	21.55	9	P	P	04 33 09.3	-0.7
	comp=Z,0.9nm,0.4s,baz=181,slow=23,SNR=5.2						
SEY	Seymchan	21.55	9⇑	eP	P	04 33 08.9	-1.1
SEY				pmax	pmax		
	comp=Z,4.0nm,1.3s						
HHC	Hu-ho-hao-te	25.45	279	eP	P	04 33 51.2	+2.4
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,38nm,5.1s						
ULN	Ulaanbaatar	27.75	296⇑	eP	P	04 34 10.6	+1.0
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	Songino Array	28.19	296	P	P	04 34 14.1	+0.6
	comp=Z,2.7nm,0.8s,baz=74,slow=9.3,SNR=14						
SONM	Songino Array	28.19	296	P	P	04 34 14.7	+1.1
H11N2	WAKE ISLAND Hy	28.50	134	T	T	05 05 44.7	
	baz=328,slow=75,SNR=19						
H11N1	WAKE ISLAND Hy	28.51	134	T	T	05 05 44.7	
	baz=328,slow=75,SNR=36						
H11N3	WAKE ISLAND Hy	28.51	134	T	T	05 05 46.0	
	baz=328,slow=75,SNR=21						
BILL	Bilibino	28.56	16⇑	eP	P	04 34 17.5	+1.1
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
H11S1	WAKE ISLAND Hy	29.40	136	T	T	05 06 51.2	
	baz=329,slow=76,SNR=9.2						
H11S3	WAKE ISLAND Hy	29.41	136	T	T	05 06 56.3	
	baz=329,slow=76,SNR=29						
H11S2	WAKE ISLAND Hy	29.42	136	T	T	05 06 55.4	
	baz=329,slow=76,SNR=23						
PZH	PanZhiHua	38.90	261	P	P	04 35 46.8	+0.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,60nm,5.1s						
GOMU	GeErMu	39.35	279	P	P	04 35 49.3	-1.4
GOMU				pP	pP	04 35 52.5	-0.6
GOMU				sP	sP	04 35 56.4	+2.5
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GOMU				pmax	pmax		
	comp=Z,57nm,8.4s						
J20K	Nowinta River	40.61	36	P	P	04 36 01.9	+1.6
J20K				IAmb	IAmb	04 36 03.4	
	comp=Z,3.6nm,0.9s						
IMAR	Indian Mountai	40.92	33	P	P	04 36 03.8	+0.9
ZALV	Zalesovo Beam	41.26	309	P	P	04 36 06.3	+0.5
	comp=Z,1.1nm,0.4s,baz=73,slow=8.5,SNR=6.4						
ZALV	Zalesovo Beam	41.26	309	iP	P	04 36 07.6	+1.8
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WMQ	Urumqi	41.74	293	eP	P	04 36 11.3	+1.3
COLA	College	43.34	35⇓	eP	P	04 36 23.4	+0.8
COLA				pmax	pmax		
	comp=Z,9.0nm,2.3s						
ILAR	Eielson Array	43.76	35	P	P	04 36 23.9	-2.1
	comp=Z,1.2nm,0.7s,baz=262,slow=6.5,SNR=15						
ILAR	Eielson Array	43.76	35	P	P	04 36 26.8	+0.8
MK31	Makanchi Array	44.47	299d	eP	P	04 36 35.0	+3.0
MK31	Makanchi Array	44.47	299	P	P	04 36 33.4	+1.5
MK31				IAmb	IAmb	04 36 35.8	
	comp=Z,1.8nm,0.7s						
MKAR	Makanchi Array	44.47	299	P	P	04 36 34.6	+2.6
	comp=Z,1.7nm,0.7s,baz=82,slow=9.1,SNR=19						
MKAR	Makanchi Array	44.47	299c	eP	P	04 36 35.0	+3.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	44.47	299	P	P	04 36 33.2	+1.2
MAKZ	Makanchi	44.67	299	P	P	04 36 34.8	+1.2
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAKZ	Makanchi	44.67	299	P	P	04 36 34.8	+1.2
MAKZ				IAmb	IAmb	04 36 37.5	
	comp=Z,1.8nm,0.6s						
SCRK	Sand Creek	45.07	36	P	P	04 36 36.7	0.0
SCRK				IAmb	IAmb	04 36 37.8	
	comp=Z,2.5nm,0.9s						
KURK	Kurchatov	45.66	305	P	P	04 36 42.6	+1.2
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	Kurchatov	45.66	305	P	P	04 36 42.6	+1.2
KURK				IAmb	IAmb	04 36 57.9	
	comp=Z,2.2nm,0.8s						
KURBB	Kurchatov Arra	45.74	305	P	P	04 36 44.6	+2.6
	comp=Z,1.3nm,0.5s,baz=71,slow=8.8,SNR=19						
L27K	Beaver Creek,	46.14	37	P	P	04 36 46.3	+1.3
L27K				IAmb	IAmb	04 36 47.4	
	comp=Z,4.5nm,0.9s						
BCAR	Beaver Creek A	46.16	37	P	P	04 36 46.0	+0.8
HYT	Haines Junctio	48.58	40	P	P	04 37 05.3	+1.2
INK	Inuvik	48.68	29	P	P	04 37 04.7	+0.1
	comp=Z,3.9nm,0.6s,baz=310,slow=8.9,SNR=12						
INK	Inuvik	48.68	29	P	P	04 37 05.3	+0.7
BVAR	Borovoye Array	49.84	310	P	P	04 37 16.0	+2.2
	comp=Z,0.6nm,0.3s,baz=95,slow=4.8,SNR=2.5						
BVAR	Borovoye Array	49.84	310	P	P	04 37 16.0	+2.2
BVAR	Borovoye Array	49.84	310	P	P	04 37 16.0	+2.2
A36M	Sachs Harbour	50.63	24	P	P	04 37 20.2	+0.7
A36M				IAmb	IAmb	04 37 20.9	
	comp=Z,4.2nm,1.1s						
DLBC	Dease Lake	52.92	41	P	P	04 37 37.5	+0.7
	comp=Z,0.7nm,0.5s,baz=260,slow=4.9,SNR=4.4						
DLBC	Dease Lake	52.92	41	IAmb	IAmb	04 38 07.0	
	comp=Z,5.9nm,1.4s						
ARU	Arti	54.97	317	LR	LR	05 05 48.4	
	comp=Z,26nm,18.0s,baz=63,slow=41						
RES	Resolute Bay	57.17	16	IAmb	IAmb	04 38 10.0	
	comp=Z,2.4nm,0.8s						
ABKAR	Akbulak array	57.37	309	P	P	04 38 09.7	+0.7
ABKAR				IAmb	IAmb	04 38 26.4	
	comp=Z,6.4nm,1.5s						
YKA	Yellowknife Ar	58.08	33	P	P	04 38 13.2	-0.5
	comp=Z,1.0nm,0.7s,baz=299,slow=6.6,SNR=19						
YKA	Yellowknife Ar	58.08	33	iP	P	04 38 13.1	-0.6
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	62.30	192	P	P	04 38 41.8	-1.4
	comp=Z,0.3nm,0.7s,baz=8.5,slow=6.9,SNR=2.7						
YBH	Yreka Blue Hor	64.95	56	P	P	04 39 00.9	+0.2
	comp=Z,1.3nm,0.7s,baz=258,slow=9.3,SNR=4.6						
YBH	Yreka Blue Hor	64.95	56	IAmb	IAmb	04 39 03.3	
	comp=Z,1.8nm,1.1s						
ASAR	Alice Springs	66.02	192	P	P	04 39 05.8	-1.7
	comp=Z,0.2nm,0.8s,baz=22,slow=7.5,SNR=1.8						
FINES	FINESS Array B	66.07	333	P	P	04 39 06.2	-1.2
	comp=Z,1.4nm,0.5s,baz=53,slow=7.1,SNR=14						
PDAR	Pinedale Array	72.08	48	P	P	04 39 44.8	-0.5
	comp=Z,0.4nm,0.5s,baz=272,slow=0.9,SNR=6.8						
AKASG	Malin Array Be	72.44	323	P	P	04 39 49.0	+1.9
	comp=Z,0.2nm,0.3s,baz=39,slow=5.8,SNR=2.4						
AKASG	Malin Array Be	72.44	323	P	P	04 39 49.0	+1.9
CLL	Collm	78.49	332	epP	pP	04 40 34.0	+10
CLL				esP	pwP	04 40 38.0	+6.1
CLL				epPcP		04 40 42.0	
VRAC	Vranov	78.79	329	LR	LR	05 18 50.2	
	comp=Z,37nm,20.3s,baz=2.0,slow=38						
SCHQ	Schefferville	79.84	18	P	P	04 40 27.4	-1.8
	comp=Z,5.0nm,1.2s,baz=14,slow=4.2,SNR=1.2						
SCHQ	Schefferville	79.84	18	IAmb	IAmb	04 40 36.5	
	comp=Z,26nm,1.5s						

*MAN **02** 04:40:10.6, 2°.66N×128°.58E, h93km, mb5.0, ML4.0, MS4.0, Hypocentre not reviewed by the ISC*

*NEIC **02** 04:40:23.5±2.4, 3°.98N±0°.07×128°.4E±0°.1, h10km±1km, mb4.7/62, Error ellipse: s-maj=17.1km s-min=11.0km az=75.0*

*DJA **02** 04:40:23.2±4.3, 4°N±29°×12°8E±2°7, h10km, M4.7/7, mB4.8/3, mb4.7/3, MLv4.7/7, Mw(mB)4.0/3*

*IDC **02** 04:40:29.6±1.6, 3°.90N×128°.46E, h74km±16km, mb4.0/24, mb1 4.0/26, mb1mx3.9/60, mbtmp4.3/26, MS3.5/24, Ms1 3.6/24, ms1mx3.3/76, Error ellipse: s-maj=23.7km s-min=8.6km az=60.0*

ISC 02 04:40:27.3±0.4, **3°.92N**±0°.05×**128°.38E**±0°.07, **h46**km, **n133**, σ**1s38**/100, **mb4.5**/61, **MS3.5**/23, **2C-3D, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.85	265	P	Pn	04 41 09.0	-1.3
TNTI	Ternate	3.29	198	Pn	Pn	04 41 15.3	-1.0
TNTI	Ternate	3.29	198	P	Pn	04 41 20.8	+4.5
DAV	Davao City (W)	4.19	318	P	Pn	04 41 31.1	+2.4
	102nm,0.3s,baz=175,slow=2.4,SNR=4.8						
DAV				S	Sn	04 42 22.4	+6.0
	39nm,0.3s,baz=76,slow=20,SNR=1.6						
DAV				LR	LR	04 43 42.3	
	comp=Z,2μm,18.4s,baz=20,slow=45						
DAV	Davao City (W)	4.19	318	Pn	Pn	04 41 27.5	-1.2
KCP	Kidapawan	4.49	313⇑	eP	Pn	04 41 32.2	-0.7
KCP				iS	Sn	04 42 36.3	+12
BIPH	Bislig	4.69	335⇑	eP	Pn	04 41 38.6	+3.1
BIPH				eS	Sn	04 42 46.6	+18
BUKP	Musuan	5.13	320⇓	eP	Pn	04 41 44.5	+2.8
BUKP				eS	Sn	04 42 52.4	+13
KMSI	Cibinong	5.51	233	P	Pn	04 41 51.3	+4.5
SIJI	Sorong	5.56	149	P	Pn	04 41 48.9	+1.3
	4.0nm,0.3s,baz=337,slow=17,SNR=12						
SIJI				S	Sn	04 42 51.0	+0.7
	5.8nm,0.3s,baz=2.3,slow=23,SNR=7.4						
SIJI				LR	LR	04 43 57.3	
	comp=Z,788nm,22.0s,baz=50,slow=38						
GTOI	Gorontalo	6.28	239	P	Pn	04 41 58.3	+0.9
	0.2nm492nm48nm,0.7s						
SANI	Sanana	6.39	202	P	Pn	04 42 00.0	+1.1
LUWI	Luwuk	7.46	229		Pn	04 42 13.8	+0.2
TOLI2	Tolitoli	8.09	250	Pn	Pn	04 42 20.9	-1.3
MYLDM	Lahad Datu	9.93	278	Pn	Pn	04 42 47.7	+0.3
LQP	Lukban	12.17	327⇓	eP	Pn	04 43 16.7	-1.5
JAY	Jayapura	13.88	117	LR	LR	04 48 05.1	
	comp=Z,381nm,21.7s,baz=4.5,slow=33						
BATI	Baumata	14.80	198	LR	LR	04 49 42.5	
	comp=Z,197nm,21.7s,baz=56,slow=37						
SBUM	Sibu	16.20	265	Pn	Pn	04 44 12.0	+0.1
SBUM				IAmb	IAmb	04 44 17.1	
	comp=Z,57nm,1.3s						
KSM	Kuching	18.21	263		P	04 44 35.7	-1.0
JAGI	Jajag, Banyuwa	18.78	229	P	P	04 44 41.9	-1.0
GUMO	Guam	18.90	58	LR	LR	04 51 38.1	
	comp=Z,121nm,19.7s,baz=222,slow=36						
KNRA	Kununurra	19.48	179	P	Pn	04 44 52.0	0.0
TPUB	Ta-pu	20.67	339	P	Pn	04 45 05.9	-0.3
TPUB				IAmb	IAmb	04 45 08.8	
	comp=Z,41nm,0.9s						
SSLB	Suanglung	21.01	341	P	P	04 45 08.8	+1.6
SSLB				IAmb	IAmb	04 45 15.3	
	comp=Z,27nm,0.8s						
DLV	T Lat	21.24	293	P	P	04 45 10.3	+0.5
DLV				IAmb	IAmb	04 45 13.1	
	comp=Z,32nm,1.3s						
FITZ	Fitzroy Crossi	22.05	187	P	P	04 45 16.5	-1.6
	comp=Z,1.4nm,0.7s,baz=19,slow=13,SNR=2.5						
FITZ				LR	LR	04 53 34.8	
	comp=Z,135nm,18.3s,baz=25,slow=36						
FITZ	Fitzroy Crossi	22.05	187	IAmb	IAmb	04 45 24.7	
	comp=Z,4.6nm,1.1s						
JOW	Kunigami	22.78	360	LR	LR	04 53 34.9	
	comp=Z,69nm,20.3s,baz=174,slow=34						
PMG	Port Moresby	22.93	125	P	P	04 45 26.7	-0.9
	comp=Z,4.6nm,0.3s,baz=270,slow=14,SNR=1.6						
PMG	Port Moresby	22.93	125	P	P	04 45 30.1	+2.5
PMG				IAmb	IAmb	04 45 37.2	
	comp=Z,25nm,1.1s						
LEM	Lembang	23.31	243	LR	LR	04 55 54.8	
	comp=Z,95nm,20.2s,baz=44,slow=40						
QIZ	Qiongzhong	23.52	311	P	P	04 45 32.2	-1.3
QIZ				S	S	04 49 44.0	-0.3
QIZ				LR	LR		
	comp=N,200nm,16.7s						
QIZ				LR	LR		
	comp=E,160nm,19.2s						
QIZ				LR	LR		
	comp=Z,170nm,20.0s						
WB0	Warramunga Arr	24.27	166	P	P	04 45 41.1	+0.8
WRA	Warramunga Arr	24.43	166	P	P	04 45 41.8	0.0
	comp=Z,4.5nm,0.7s,baz=345,slow=10,SNR=23						
WRA				LR	LR	04 57 33.4	
	comp=Z,179nm,18.8s,baz=338,slow=42						
WRA	Warramunga Arr	24.43	166	P	P	04 45 43.3	+1.6
WB2	Warramunga Arr	24.43	166	P	P	04 45 43.1	+1.3
WR0	Warramunga Arr	24.49	166	P	P	04 45 43.5	+1.1
UBPT	Khong Chiam	25.22	298	IAmb	IAmb	04 45 50.9	
	comp=Z,28nm,1.1s						
ASAR	Alice Springs	27.94	169	P	P	04 46 13.1	-0.4
	comp=Z,0.6nm,0.8s,baz=354,slow=9.2,SNR=3.7						
NJ2	Nanjing	29.38	343	eP	P	04 46 29.7	+3.6
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,190nm,11.8s						
NJ2				LR	LR		
	comp=N,180nm,17.5s						
NJ2				LR	LR		
	comp=E,160nm,18.9s						
NJ2				LR	LR		
	comp=Z,410nm,17.1s						
PSI	Prapat	29.43	269	LR	LR	04 58 45.3	
	comp=Z,84nm,21.9s,baz=55,slow=37						
CTA	Charters Tower	29.62	144	LR	LR	04 57 37.3	
	comp=Z,116nm,19.6s,baz=296,slow=35						
CM31	Chiang Mai Arr	32.21	299	P	P	04 46 52.2	+0.9
CM31				IAmb	IAmb	04 46 54.2	
	comp=Z,8.6nm,0.7s						
CMAR	Chiang Mai Arr	32.21	299	P	P	04 46 51.5	+0.2
	comp=Z,6.2nm,0.8s,baz=119,slow=7.3,SNR=38						
CMAR				LR	LR	05 00 19.0	
	comp=Z,96nm,18.8s,baz=110,slow=37						
CMAR	Chiang Mai Arr	32.21	299	P	P	04 46 51.9	+0.6
CHTO	Chiang Mai	32.35	300	P	P	04 46 53.2	+0.6
CHTO				IAmb	IAmb	04 46 55.2	
	comp=Z,9.2nm,0.7s						
KSRS	Korea Array	33.38	359	P	P	04 47 01.1	-0.1
	comp=Z,2.2nm,0.8s,baz=174,slow=10,SNR=7.1						
KSRS				LR	LR	05 00 06.9	
	comp=Z,43nm,21.8s,baz=205,slow=35						
MJAR	Matsushiro Arr	33.70	14	LR	LR	04 59 03.9	
	comp=Z,82nm,20.8s,baz=193,slow=33						
PZH	PanZhiHua	33.98	314	P	P	04 47 06.4	-0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,120nm,5.3s						
XAN	Xi'an	35.02	331	P	P	04 47 14.8	-0.8
XAN				pP	pP	04 47 28.7	+2.1
XAN				pmax	pmax		
	comp=Z,19nm,0.8s						
XAN				pmax	pmax		
	comp=Z,51nm,4.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNS	**HongShan**	**35.60**	**341**	⇓P	**P**	**04 47 20.7**	**+0.2**
STKA	**Stephens Creek**	**37.76**	**161**	P	**P**	**04 47 39.8**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=331,slow=9.7,SNR=3.2						
STKA	**Stephens Creek**	**37.76**	**161**	P	**P**	**04 47 42.0**	**+3.1**
LZH	**Lanzhou**	**39.20**	**328**	*e*P	**P**	**04 47 52.3**	**+1.1**
LZH				pP	pwP	04 48 05.3	-2.8
LZH				sP	sP	04 48 13.0	+5.9
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC	**Hu-ho-hao-te**	**39.76**	**340**	*e*P	**P**	**04 47 56.3**	**+0.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.0s						
CN2	**Changchun**	**39.80**	**357**	*e*P	**P**	**04 47 54.4**	**-1.5**
CN2				*e*pP	pP	04 48 09.7	+2.9
CN2				*e*S	**S**	**04 53 54.2**	**-2.7**
H11S3	**WAKE ISLAND Hy**	**40.15**	**66**	T	T	05 31 07.4	
	baz=253,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy**	**40.17**	**66**	T	T	05 31 05.5	
	baz=253,slow=75,SNR=39						
H11S2	**WAKE ISLAND Hy**	**40.17**	**66**	T	T	05 31 04.7	
	baz=253,slow=75,SNR=48						
H11N1	**WAKE ISLAND Hy**	**40.69**	**64**	T	T	05 31 54.8	
	baz=250						
H11N2	**WAKE ISLAND Hy**	**40.70**	**64**	T	T	05 32 00.6	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**40.71**	**64**	T	T	05 32 03.8	
	baz=250						
SHL	**Shillong**	**41.10**	**305**	P	**P**	**04 48 07.0**	**-0.1**
XLT	**XiLinHaoTe**	**41.27**	**347**	*e*P	P	04 48 13.6	+5.4
XLT				pP	pwP	04 48 26.0	+1.4
XLT				sP	sP	04 48 33.1	+8.7
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,90nm,4.3s						
ASAJ	**Asahikawa**	**41.95**	**15**	LR	LR	05 04 26.8	
	comp=Z,46nm,20.2s,baz=338,slow=34						
GTA	**Gaotai**	**43.80**	**328**	*e*P	**P**	**04 48 28.7**	**-0.1**
GTA				pP	pP	04 48 40.8	+0.8
GTA				sP	sP	04 48 45.8	+0.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,42nm,5.1s						
GTA				LR	LR		
	comp=N,110nm,17.8s						
GTA				LR	LR		
	comp=E,340nm,16.7s						
GTA				LR	LR		
	comp=Z,110nm,16.0s						
GOMU	**GeErMu**	**44.57**	**320**	P	**P**	**04 48 35.5**	**+0.1**
GOMU				pP	pP	04 48 39.2	-7.7
GOMU				sP	pwP	04 48 42.8	-8.4
GOMU				S	S	04 54 53.1	-15
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,70nm,4.3s						
GOMU				LR	LR		
	comp=N,76nm,10.5s						
GOMU				LR	LR		
	comp=E,61nm,10.3s						
GOMU				LR	LR		
	comp=Z,51nm,10.2s						
KLR	**Kul'dur**	**45.24**	**3**	P	**P**	**04 48 39.3**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=182,slow=7.3,SNR=5.1						
DZM	**Mont Dzumac**	**45.31**	**126**	LR	LR	05 06 29.9	
	comp=Z,44nm,18.2s,baz=24,slow=34						
ULN	**Ulaanbaatar**	**47.47**	**341**	P	**P**	**04 48 57.2**	**-0.5**
ULN				IAmb	IAmb	04 48 58.7	
	comp=Z,7.5nm,0.8s						
SONM	**Songino Array**	**47.66**	**340**	P	**P**	**04 48 59.2**	**0.0**
	comp=Z,2.6nm,0.8s,baz=155,slow=9.5,SNR=14						
SONM	**Songino Array**	**47.66**	**340**	P	**P**	**04 48 59.4**	**+0.2**
WMQ	**Urumqi**	**53.52**	**324**	*e*P	**P**	**04 49 44.2**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
PETK	**Petropavlovsk-**	**54.65**	**21**	P	**P**	**04 49 50.5**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=205,slow=6.4,SNR=3.0						
YAK	**Yakutsk**	**57.99**	**1**	LR	LR	05 14 09.7	
	comp=Z,32nm,21.3s,baz=95,slow=35						
MA2	**Magadan**	**58.13**	**13**	LR	LR	05 13 18.9	
	comp=Z,28nm,21.8s,baz=117,slow=34						
MK31	**Makanchi Array**	**58.35**	**324**	P	**P**	**04 50 17.9**	**+0.1**
MK31				IAmb	IAmb	04 50 18.8	
	comp=Z,6.5nm,1.0s						
MKAR	**Makanchi Array**	**58.35**	**324**	P	**P**	**04 50 18.1**	**+0.2**
	comp=Z,2.9nm,0.5s,baz=121,slow=8.0,SNR=59						
MKAR				LR	LR	05 16 56.8	
	comp=Z,85nm,19.2s,baz=116,slow=37						
MKAR	**Makanchi Array**	**58.35**	**324**	P	**P**	**04 50 17.6**	**-0.2**
MAKZ	**Makanchi**	**58.54**	**324**	P	**P**	**04 50 19.0**	**-0.2**
TARG	**Taragay, Kyrgy**	**58.72**	**317**	P	**P**	**04 50 20.7**	**-0.3**
TARG				IAmb	IAmb	04 50 32.0	
	comp=Z,7.0nm,1.0s						
KSH	**Kashi**	**59.08**	**314**	P	**P**	**04 50 24.9**	**+1.7**
KSH				pP	sP	04 50 42.6	+2.3
KSH				PcP	**PcP**	**04 51 14.7**	**+3.1**
KSH				PcS	**PcS**	**04 55 13.3**	**-0.3**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NIL	**Nilore**	**59.12**	**307**	P	**P**	**04 50 22.5**	**-1.0**
NIL				IAmb	IAmb	04 50 49.3	
	comp=Z,8.6nm,1.1s						
KDJ	**Kajisay**	**59.31**	**318**	P	**P**	**04 50 24.5**	**-0.3**
ZAA0	**Zalesovo Array**	**61.18**	**332**	P	**P**	**04 50 35.7**	**-1.4**
ZALV	**Zalesovo Beam**	**61.18**	**332**	P	**P**	**04 50 35.8**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=107,slow=7.9,SNR=8.4						
AAK	**Ala-Archa**	**61.33**	**317**	P	**P**	**04 50 38.9**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=166,slow=6.5,SNR=2.9						
AAK				LR	LR	05 19 02.1	
	comp=Z,60nm,21.9s,baz=96,slow=38						
AAK	**Ala-Archa**	**61.33**	**317**	P	**P**	**04 50 38.6**	**0.0**
SEY	**Seymchan**	**61.49**	**12**	LR	LR	05 17 20.6	
	comp=Z,16nm,20.2s,baz=8.0,slow=36						
DRK	**Karamyk**	**62.08**	**313**	P	**P**	**04 50 42.8**	**-1.0**
KURK	**Kurchatov**	**62.47**	**327**	P	**P**	**04 50 45.4**	**-0.5**
KURBB	**Kurchatov Arra**	**62.48**	**327**	P	**P**	**04 50 45.8**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=128,slow=6.2,SNR=3.7						
KBL	**Kabul**	**62.72**	**307**	P	**P**	**04 50 47.6**	**-0.5**
KBL				IAmb	IAmb	04 50 48.6	
	comp=Z,4.8nm,0.8s						
BTK	**Batken**	**62.98**	**313**	IAmb	IAmb	04 50 50.7	
	comp=Z,8.0nm,1.0s						
KKAR	**Karatay Array**	**64.22**	**316**	P	**P**	**04 50 57.2**	**-0.5**
TIXI	**Tiksi**	**67.64**	**0**	P	**P**	**04 51 18.7**	**-0.3**
BVAR	**Borovoye Array**	**68.06**	**326**	P	**P**	**04 51 21.2**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=64,slow=6.6,SNR=20						
BRVK	**Borovoye**	**68.14**	**326**	P	**P**	**04 51 22.4**	**-0.1**
GEYT	**Alibeck**	**72.06**	**309**	P	**P**	**04 51 47.3**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=144,slow=12,SNR=2.0						
GEYT	**Alibeck**	**72.06**	**309**	P	**P**	**04 51 47.5**	**+0.6**
ABKAR	**Akbulak array**	**73.05**	**320**	P	**P**	**04 51 52.0**	**-0.5**
SOCY	**Socotra**	**73.94**	**281**	P	**P**	**04 51 58.8**	**+0.3**
AKTO	**Aktyubinsk**	**74.54**	**321**	P	**P**	**04 52 00.6**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=112,slow=7.9,SNR=9.5						
AKTO				LR	LR	05 26 50.7	
	comp=Z,38nm,20.6s,baz=101,slow=37						
ARU	**Arti**	**75.66**	**327**	P	**P**	**04 52 06.5**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=95,slow=4.8,SNR=8.8						
ARU				LR	LR	05 28 09.4	
	comp=Z,31nm,18.4s,baz=84,slow=38						
ARU	**Arti**	**75.66**	**327**	P	**P**	**04 52 06.2**	**-1.4**
ARU				IAmb	IAmb	04 52 07.2	
	comp=Z,4.8nm,0.8s						
KIRV	**Kirov**	**80.92**	**329**	P	**P**	**04 52 36.2**	**-0.3**
	comp=Z,4.5nm,0.4s,baz=93,slow=0.9,SNR=3.6						
K20K	**Telida**	**80.93**	**26**	IAmb	IAmb	04 52 40.3	
	comp=Z,6.2nm,1.0s						
J20K	**Nowinta River**	**81.04**	**26**	IAmb	IAmb	04 52 40.7	
	comp=Z,5.3nm,0.9s						
M20K	**Styx River**	**81.13**	**28**	IAmb	IAmb	04 52 41.7	
	comp=Z,7.8nm,0.9s						
CAST	**Castle Rocks**	**81.83**	**27**	IAmb	IAmb	04 52 49.8	
	comp=Z,4.7nm,0.9s						
H21K	**Melozitna Rive**	**81.84**	**24**	IAmb	IAmb	04 52 44.2	
	comp=Z,3.7nm,0.8s						
RAYN	**Ar Rayn**	**81.92**	**293**	P	**P**	**04 52 42.2**	**-0.5**
RAYN				IAmb	IAmb	04 52 48.5	
	comp=Z,9.9nm,1.4s						
BPAW	**Bear Paw Mtn.**	**82.40**	**26**	IAmb	IAmb	04 52 47.7	
	comp=Z,5.6nm,0.8s						
MLY	**Manley**	**82.61**	**25**	IAmb	IAmb	04 52 48.0	
	comp=Z,7.4nm,0.9s						
COLD	**Coldfoot**	**83.08**	**23**	IAmb	IAmb	04 52 50.8	
	comp=Z,7.4nm,0.9s						
MCK	**McKinley**	**83.26**	**26**	P	**P**	**04 52 49.9**	**+1.1**
RND	**Reindeer**	**83.27**	**27**	P	**P**	**04 52 49.7**	**+0.8**
NEA2	**Nenana**	**83.28**	**26**	IAmb	IAmb	04 52 52.3	
	comp=Z,5.3nm,0.9s						
VNDA	**Vanda**	**83.41**	**173**	P	**P**	**04 52 49.2**	**0.0**
	comp=Z,0.8nm,0.9s,baz=311,slow=9.3,SNR=2.1						
VNDA				LR	LR	05 30 05.9	
	comp=Z,88nm,18.8s,baz=307,slow=36						
TOLK	**Toolik Lake Re**	**83.47**	**21**	P	**P**	**04 52 51.7**	**+1.9**
TOLK				IAmb	IAmb	04 52 52.8	
	comp=Z,6.6nm,0.9s						
MDM	**Murphy Dome**	**83.67**	**25**	IAmb	IAmb	04 53 06.8	
	comp=Z,4.0nm,0.9s						
WRH	**Wood River Hil**	**83.69**	**26**	IAmb	IAmb	04 53 04.4	
	comp=Z,6.8nm,1.0s						
H24K	**Noodor Dome**	**83.88**	**24**	IAmb	IAmb	04 52 54.8	
	comp=Z,3.5nm,0.9s						
HDA	**Harding Lake**	**84.18**	**26**	IAmb	IAmb	04 53 00.9	
	comp=Z,4.5nm,0.8s						
IL31		**84.23**	**25**	P	**P**	**04 52 53.5**	**-0.2**
ILAR	**Eielson Array**	**84.23**	**25**	P	**P**	**04 52 53.9**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=249,slow=5.9,SNR=12						
GURO	**Guroymak-BITLI**	**84.72**	**308**	P	**P**	**04 52 56.2**	**-0.7**
GURO				IAmb	IAmb	04 53 02.6	
	comp=Z,5.6nm,1.3s						
BMAR	**Burnt Mountain**	**85.27**	**23**	P	**P**	**04 53 00.8**	**+1.9**
KLMR	**Klimovskoe**	**86.05**	**331**	*e*P	**P**	**04 53 00.6**	**-2.2**
KLMR				AMP		04 53 17.4	
	comp=Z,12nm,1.1s						
ARCES	**ARCESS Array B**	**90.84**	**340**	P	**P**	**04 53 24.2**	**-1.3**
	comp=Z,6.0nm,1.1s,baz=81,slow=6.7,SNR=3.1						
FINES	**FINESS Array B**	**92.44**	**332**	P	**P**	**04 53 30.6**	**-2.4**
	comp=Z,0.9nm,0.7s,baz=149,slow=1.1,SNR=4.5						
YKA	**Yellowknife Ar**	**98.64**	**25**	P	**P**	**04 53 59.0**	**-2.2**
	comp=Z,0.7nm,0.9s,baz=303,slow=4.4,SNR=10.0						

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*IDC **02** 04:46:39.7±8.4, 20°.82S×178°.31W, h534^{km}±78^{km}, mb3.3/6, mb1 3.5/7, mb1mx3.0/44, mbtmp4.3/7, Error ellipse: s-maj=67.3km s-min=29.8km az=49.0*

ISC 02 04:46:43.2±1.7, **20°.8S**±0°.3×**178°.5W**±0°.2, **h579**^{km}**, n9, σ0s.97**/10**, mb4.1**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.12**	**262**	P	**P**	**04 49 42.2**	**-1.4**
	0.2nm,0.3s,baz=35,slow=12,SNR=2.2						
CTA	**Charters Tower**	**33.03**	**265**	P	**P**	**04 52 32.5**	**+0.5**
	4.7nm,0.4s,baz=93,slow=11,SNR=10						
STKA	**Stephens Creek**	**37.28**	**244**	P	**P**	**04 53 07.6**	**+0.5**
	2.2nm,0.4s,baz=79,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**44.04**	**257**	P	**P**	**04 54 01.0**	**+0.1**
	5.5nm,0.7s,baz=94,slow=7.9,SNR=74						
ASAR				PcP	**PcP**	**04 55 35.0**	**+1.6**
	0.7nm,0.7s,baz=103,slow=3.9,SNR=5.8						
WRA	**Warramunga Arr**	**44.14**	**262**	P	**P**	**04 54 01.4**	**-0.2**
	1.8nm,0.3s,baz=97,slow=7.3,SNR=111						
FITZ	**Fitzroy Crossi**	**52.56**	**263**	P	**P**	**04 55 04.7**	**+0.6**
	0.8nm,0.3s,baz=74,slow=4.7,SNR=14						
VNDA	**Vanda**	**57.60**	**185**	P	**P**	**04 55 37.7**	**-0.5**
	0.6nm,0.6s,baz=35,slow=7.0,SNR=5.6						
AKASG	**Malin Array Be**	**143.04**	**331**	PKP	**PKPdf**	**05 05 10.7**	**-0.8**
	0.4nm,0.4s,baz=42,slow=4.3,SNR=6.3						
BRTR	**Keskin Array B**	**146.70**	**312**	PKPbc	**PKiKP**	**05 05 22.8**	**-0.3**
	0.5nm,0.5s,baz=96,slow=1.4,SNR=2.5						

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*IDC **02** 04:53:23.1±0.9, 3°.32S×144°.99E, h0^{km}, mb4.1/13, mb1 4.2/16, mb1mx4.1/38, mbtmp4.1/16, ML3.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/57, Error ellipse: s-maj=29.1km s-min=15.7km az=101.0*

*NEIC **02** 04:53:24.8±1.6, 3°.33S±0°.08×145°.10E±0°.06, h10^{km}±5^{km}, mb4.4/15, Error ellipse: s-maj=13.2km s-min=6.1km az=151.0*

ISC 02 04:53:25.9±0.6, **3°.34S**±0°.06×**145°.10E**±0°.10, **h22**^{km}**, n38, σ1s.06**/35**, mb4.3**/17**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.60**	**60**	Pn	**Pn**	**04 54 05.7**	**-1.0**
JAY	**Jayapura**	**4.47**	**280**	Pn	**Pn**	**04 54 30.9**	**-1.4**
	1.7nm,0.3s,baz=148,slow=6.7,SNR=5.8						
PMG	**Port Moresby**	**6.36**	**161**	Pn	**Pn**	**04 55 00.3**	**+1.9**
	1.4nm,0.3s,baz=328,slow=9.5,SNR=1.9						
PMG				Sn	**Sn**	**04 56 08.7**	**-1.7**
	2.0nm,0.3s,baz=140,slow=12,SNR=1.7						
PMG	**Port Moresby**	**6.36**	**161**	Pn	**Pn**	**04 54 57.6**	**-0.8**
WB0	**Warramunga Arr**	**19.39**	**212**	P	**P**	**04 57 48.7**	**-1.7**
WR0	**Warramunga Arr**	**19.47**	**211**	P	**P**	**04 57 51.4**	**0.0**
WR0				IAmb	IAmb	04 57 53.2	
	comp=Z,19nm,1.6s						
WRA	**Warramunga Arr**	**19.56**	**212**	P	**P**	**04 57 52.3**	**0.0**
	comp=Z,0.6nm,0.3s,baz=39,slow=10,SNR=22						
KNRA	**Kununurra**	**20.22**	**232**	P	**P**	**04 57 58.7**	**-0.9**
KNRA				IAmb	IAmb	04 58 05.2	
	comp=Z,11nm,1.1s						
BATI	**Baumata**	**22.34**	**251**	P	**P**	**04 58 22.6**	**0.0**
	comp=Z,32nm,0.6s,baz=112,slow=5.1,SNR=1.9						
AS31	**Alice Springs**	**22.92**	**207**	P	**P**	**04 58 28.1**	**-0.5**
ASAR	**Alice Springs**	**22.92**	**207**	P	**P**	**04 58 28.5**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=36,slow=8.4,SNR=34						
ASAR				LR	LR	05 08 16.2	
	comp=Z,87nm,21.0s,baz=308,slow=39						
FITZ	**Fitzroy Crossi**	**24.05**	**231**	P	**P**	**04 58 38.8**	**-0.9**
	comp=Z,7.6nm,0.6s,baz=43,slow=8.4,SNR=51						
FITZ	**Fitzroy Crossi**	**24.05**	**231**	P	**P**	**04 58 39.3**	**-0.4**
FITZ				IAmb	IAmb	04 58 40.1	
	comp=Z,7.2nm,0.7s						
TOLI2	**Tolitoli**	**24.71**	**280**	P	**P**	**04 58 46.3**	**+0.6**
TOLI2				IAmb	IAmb	04 58 48.7	
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**28.58**	**186**	P	**P**	**04 59 20.7**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=41,slow=9.3,SNR=1.5						
FORT	**Forrest**	**31.68**	**209**	P	**P**	**04 59 48.3**	**+0.4**
KSRS	**Korea Array**	**43.62**	**340**	LR	LR	05 17 42.4	
	comp=Z,16nm,21.6s,baz=120,slow=34						
USA0B	**Ussuriysk Arra**	**48.77**	**347**	P	**P**	**05 02 09.9**	**+0.8**
USRK	**Ussuriysk Ar.**	**48.77**	**347**	P	**P**	**05 02 07.5**	**-1.6**
	comp=Z,3.5nm,0.7s,baz=169,slow=6.5,SNR=5.8						
CMAR	**Chiang Mai Arr**	**50.35**	**297**	P	**P**	**05 02 20.6**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=134,slow=7.8,SNR=2.5						
CMAR	**Chiang Mai Arr**	**50.35**	**297**	P	**P**	**05 02 20.9**	**-0.7**
SONM	**Songino Array**	**61.18**	**331**	P	**P**	**05 03 37.6**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=117,slow=8.9,SNR=2.3						
MK31	**Makanchi Array**	**74.26**	**321**	P	**P**	**05 05 01.9**	**+0.5**
MK31				IAmb	IAmb	05 05 04.5	
	comp=Z,1.6nm,1.2s						
MKAR	**Makanchi Array**	**74.26**	**321**	P	**P**	**05 05 03.4**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=99,slow=7.4,SNR=9.2						
TIXI	**Tiksi**	**75.60**	**355**	P	**P**	**05 05 09.5**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=269,slow=22,SNR=4.3						
TIXI	**Tiksi**	**75.60**	**355**	IAmb	IAmb	05 06 47.0	
	comp=Z,8.7nm,1.8s						
ZALV	**Zalesovo Beam**	**75.77**	**328**	P	**P**	**05 05 10.8**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=106,slow=5.2,SNR=2.3						
NIL	**Nilore**	**76.85**	**306**	P	**P**	**05 05 17.3**	**+0.7**
KURK	**Kurchatov**	**77.96**	**323**	P	**P**	**05 05 23.6**	**+1.3**
KURK	**Kurchatov**	**77.96**	**323**	IAmb	IAmb	05 05 24.9	
	comp=Z,3.7nm,1.1s						
KURBB	**Kurchatov Arra**	**77.98**	**323**	P	**P**	**05 05 23.6**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=110,slow=5.7,SNR=4.6						
KKAR	**Karatay Array**	**81.09**	**314**	P	**P**	**05 05 39.8**	**+0.2**
NRIK	**Noril'sk**	**82.18**	**342**	P	**P**	**05 05 46.5**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=184,slow=3.6,SNR=4.2						
NRIK	**Noril'sk**	**82.18**	**342**	IAmb	IAmb	05 05 47.4	
	comp=Z,5.1nm,1.0s						
BRVK	**Borovoye**	**83.59**	**324**	P	**P**	**05 05 53.2**	**+0.7**
BRVK				IAmb	IAmb	05 05 55.1	
	comp=Z,3.4nm,1.1s						
ILAR	**Eielson Array**	**83.81**	**24**	P	**P**	**05 05 53.7**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=253,slow=5.0,SNR=12						
ILAR	**Eielson Array**	**83.81**	**24**	P	**P**	**05 05 53.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**142.55**	**287**	PKP	**PKiKP**	**05 13 00.6**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=90,slow=1.4,SNR=2.0						

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*NIED **02** 05:27:16.4, 37°.39N×141°.71E, h42^{km}, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.03; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-1.87; $M_{r\theta}$-0.27; $M_{\theta\phi}$-0.67; $M_{\phi r}$1.32; Fault plane solution: $M_0$2.47000×10^{14} NP1:ϕ_s3.00000°, δ62.00000°, λ74.00000°. NP2:ϕ_s214.00000°, δ32.00000°, λ116.00000°.*

JMA 02 05:27:16.3±0.1, **37°.39N**×**141°.71E, h42**^{km}±2^{km}**, M3.8, 7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.67**	**268**	⇓P	Pn	05 27 29.3	-0.1
JFK				S	Sn	05 27 38.2	-0.5
JMST	**Minamisoumatoc**	**0.73**	**297**	⇓P	Pn	05 27 30.2	0.0
JMST				S	Sn	05 27 39.8	-0.5
ONAJ	**Iwakimizuishiy**	**0.78**	**249**	⇓P	Pn	05 27 30.8	-0.2
ONAJ				S	Sn	05 27 40.9	-0.7
JMM	**Marumori**	**0.87**	**303**	⇓P	Pn	05 27 32.2	+0.1
JMM				S	Sn	05 27 43.0	-0.6
JIKH	**Ishinomakikobu**	**0.94**	**348**	⇓P	Pn	05 27 33.1	+0.1
JIKH				S	Sn	05 27 44.7	-0.6
JFFD	**Fukushimafurud**	**0.96**	**252**	⇓P	Pn	05 27 33.4	0.0
JFFD				S	Sn	05 27 45.5	-0.4
JFT	**Otama**	**1.10**	**277**	P	Pn	05 27 36.3	+1.0
JFT				S	Sn	05 27 50.5	+1.2
JIO	**Ouri**	**1.10**	**345**	⇓P	Pn	05 27 35.5	+0.3
JIO				S	Sn	05 27 48.6	-0.6
JOU	**Okura**	**1.28**	**320**	P	Pn	05 27 38.7	+1.0
JOU				S	Sn	05 27 54.8	+1.1
JYS	**Shirataka**	**1.54**	**303**	P	Pn	05 27 42.6	+1.3
JYS				*e*S	Sn	05 28 02.3	+2.1
JFY	**Yanaizu**	**1.60**	**271**	P	Pn	05 27 43.2	+1.1
JMK	**Ichinoseki**	**1.61**	**346**	P	Pn	05 27 43.2	+1.0
JMK				S	Sn	05 28 02.4	+0.7

IDC 02 05:38:37.3±1.9, **9°.14S**×**122°.13E, h0**^{km}**, mb3.3**/1**, mb1 3.2**/4**, mb1mx2.7**/35**, mbtmp3.0**/4**, ML2.7**/3**, Error ellipse: s-maj=159.0km s-min=28.4km az=59.0, Savu Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.54**	**159**	Pn	Pn	05 40 57.2	+1.2
	0.1nm,0.3s,baz=333,slow=14,SNR=1.0						
FITZ				Sn	Sn	05 42 30.4	-14
	0.2nm,0.3s,baz=190,slow=19,SNR=6.0						
WRA	**Warramunga Arr**	**15.96**	**134**	Pn	Pn	05 42 23.4	0.0
	0.0nm,0.3s,baz=305,slow=14,SNR=1.8						
WRA				Sn	Sn	05 45 08.5	-13
	0.1nm,0.3s,baz=307,slow=25,SNR=4.1						
ASAR	**Alice Springs**	**18.32**	**143**	P	Pn	05 42 52.0	-1.1
	0.0nm,0.3s,baz=322,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**66.03**	**331**	P	P	05 49 25.9	0.0
	0.2nm,0.6s,baz=138,slow=5.8,SNR=3.6						

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*BJI **02** 05:49:56.0±0.0, 57°.15N×157°.85W, h10^{km}, mb5.4/84, mB5.9/81, Ms6.6/93, Ms7 6.4/88*

*IDC **02** 05:49:59.1±0.3, 57°.15N×157°.99W, h0^{km}, mb5.5/49, mb1 5.5/54, mb1mx5.5/59, mbtmp5.5/54, ML4.6/5, MS5.9/98, Ms1 5.9/98, ms1mx5.9/103, Error ellipse: s-maj=10.9km s-min=7.5km az=179.0*

*MOS **02** 05:49:59.1±0.8, 57°.17N×157°.98W, h12^{km}, mb5.8/103, MS6.2/60, Error ellipse: s-maj=7.1km s-min=3.7km az=94.2*

*NEIC **02** 05:50:00, 57°.03N×157°.90W, h13^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}6.64; $M_{\theta\theta}$-7.87; $M_{\phi\phi}$1.23; $M_{r\theta}$-1.97; $M_{\theta\phi}$-4.26; $M_{\phi r}$-1.00; Fault plane solution: $M_0$8.76000×10^{17} NP1:ϕ_s245.72000°, δ52.66000°, λ86.35000°. NP2:ϕ_s71.71000°, δ37.50000°, λ94.76000°. Principal axes: T 6.9449, Plg82.0000°, Azm137.0000°; N 2.8966, Plg3.0000°, Azm248.0000°; P -9.8415, Plg8.0000°, Azm338.0000°;*

*AEIC **02** 05:50:00±1.9, 57°.01N±0°.03×157°.93W±0°.04, h11^{km}±3^{km}, ML5.9, mb5.9/311(NEIC), ML6.1/36(NEIC), Ms_20 6.1/365(NEIC), Mwb5.9/89(NEIC), Mwc6.3/105(NEIC), Mww6.2(NEIC) Error ellipse: s-maj=5.3km s-min=0.5km az=146.0*

*NEIC **02** 05:50:01.3±1.6, 56°.98N±0°.03×157°.98W±0°.06, h19^{km}±1^{km}, Error ellipse: s-maj=6.4km s-min=3.9km az=309.0*

*NEIC **02** 05:50:08, 56°.94N×157°.59W, h12^{km}, Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10^{18}Nm; M_{rr}2.06; $M_{\theta\theta}$-2.08; $M_{\phi\phi}$0.02; $M_{r\theta}$-1.43; $M_{\theta\phi}$-0.39; $M_{\phi r}$-0.83; Fault plane solution: $M_0$2.68000×10^{18} NP1:ϕ_s92.00000°, δ28.00000°, λ112.00000°. NP2:ϕ_s248.00000°, δ64.00000°, λ79.00000°. Principal axes: T 2.6825, Plg69.0000°, Azm136.0000°; N -0.0105, Plg10.0000°, Azm253.0000°; P -2.6719, Plg19.0000°, Azm346.0000°;*

*GCMT **02** 05:50:08.0±0.0, 57°.22N×157°.66W, h12^{km}, MW6.2/170, Moment Tensor Solution. s159,c377; s170,c701; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}2.54±.01; $M_{\theta\theta}$-2.36±.01; $M_{\phi\phi}$-0.18±.01; $M_{r\theta}$-0.71±.03; $M_{\theta\phi}$-0.86±.01; $M_{\phi r}$-0.23±.03; Best double couple: $M_0$2.70500×10^{18} NP1:ϕ_s70.00000°, δ37.00000°, λ89.00000°. NP2:ϕ_s251.00000°, δ53.00000°, λ91.00000°. Principal axes: T 2.6440, Plg82.0000°, Azm164.0000°; N 0.1200, Plg0.0000°, Azm71.0000°; P -2.7650, Plg8.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*BGR **02** 05:50:09.9±0.0, 57°.93N×158°.53W, h33^{km}, mb5.7, Ms6.1*

*NEIC **02** 05:50:26.1, 57°.47N×158°.34W, h16^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.70; $M_{\theta\theta}$-2.32; $M_{\phi\phi}$-0.39; $M_{r\theta}$-1.34; $M_{\theta\phi}$-1.04; $M_{\phi r}$-2.67; Fault plane solution: $M_0$4.02000×10^{18} NP1:ϕ_s220.21000°, δ69.52000°, λ71.16000°. NP2:ϕ_s84.49000°, δ27.55000°, λ130.84000°. Principal axes: T 4.3090, Plg61.0000°, Azm102.0000°; N -0.5763, Plg18.0000°, Azm227.0000°; P -3.7327, Plg22.0000°, Azm324.0000°;*

ISC 02 05:50:00.5±0.3, **57°.07N**±0°.02×**158°.04W**±0°.02**, h10**^{km}±1^{km}**, h10**^{km}**:pP-P, n2373, σ1s.97**/2863**, mb5.8**/469**, MS6.1**/367**, 223C-63D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.14**	**224**		**Pb**	**05 50 05.3**	**0.0**
ANPB	**Aniakchak Plen**	**0.30**	**207**		**Pg**	**05 50 06.7**	**+0.2**
CHGN	**Chignik**	**0.80**	**195**		**Pg**	**05 50 14.5**	**-1.3**
CHGN					**Sg**	**05 50 25.9**	**-0.4**
CHGN	**Chignik**	**0.80**	**195**	P	**Pg**	**05 50 14.7**	**-1.1**
	baz=20,SNR=330						
PLBL	**Peulik Blue Cr**	**0.91**	**46**		**Pg**	**05 50 17.6**	**-0.5**
VNHG	**Veniaminof 1**	**1.05**	**217**		**Pg**	**05 50 20.3**	**-0.5**
PLK1	**Peulik 1**	**1.07**	**46**		**Pn**	**05 50 21.3**	**-0.1**
PLK5	**Peulik 5**	**1.12**	**33**		**Pn**	**05 50 22.5**	**+0.3**
PLK3	**Peulik 3**	**1.14**	**56**		**Pb**	**05 50 21.8**	**-0.6**
PLK3					**Sn**	**05 50 38.6**	**+0.4**
VNFG	**Fog Glacier, M**	**1.15**	**228**		**Pb**	**05 50 22.4**	**0.0**
PLK2	**Peulik 2**	**1.16**	**52**		**Pg**	**05 50 22.6**	**-0.1**
KJL	**Kejulik**	**1.66**	**52**		**Pb**	**05 50 30.3**	**-0.8**
CAHL	**Cahill**	**1.77**	**55**		**Pn**	**05 50 31.7**	**+0.4**
ANCK	**Angle Creek**	**1.78**	**49**		**Pn**	**05 50 32.0**	**+0.7**
CHIR	**Chirikof Islan**	**1.83**	**132**	Pn	**Pn**	**05 50 31.1**	**-0.9**
CHIR				Sn	**Sn**	**05 50 54.6**	**-0.6**
CHIR				IAML		05 51 00.5	
	comp=E,141μm,0.7s						
CHIR				IAML		05 51 01.2	
	comp=N,127μm,2.1s						
CHIR	**Chirikof Islan**	**1.83**	**132**	P	**Pn**	**05 50 31.2**	**-0.8**
	baz=314,SNR=639						
KELA	**Mount Kelaz**	**1.84**	**41**		**Pb**	**05 50 33.5**	**-0.9**
ACHA	**Angle Creek He**	**1.85**	**51**		**Pn**	**05 50 33.2**	**+0.8**
ACHA					**Sb**	**05 50 58.4**	**+0.7**
SII	**Sitkinak Islan**	**2.18**	**102**		**Pn**	**05 50 36.1**	**-0.6**
SII				IAML		05 51 15.5	
	comp=E,136μm,0.7s						
SII				IAML		05 51 15.8	
	comp=N,129μm,0.8s						
SII	**Sitkinak Islan**	**2.18**	**102**		**Sn**	**05 51 04.4**	**+0.6**
SII	**Sitkinak Islan**	**2.18**	**102**	P	**Pn**	**05 50 36.2**	**-0.6**
	baz=284,SNR=317						
SII	**Sitkinak Islan**	**2.18**	**102**	P	**Pn**	**05 50 35.4**	**-1.4**
SDPT	**Sand Point**	**2.20**	**219**	Pn	**Pn**	**05 50 37.1**	**+0.1**
SDPT	**Sand Point**	**2.20**	**219**		**Sn**	**05 51 05.5**	**+1.4**
SDPT	**Sand Point**	**2.20**	**219**	IAML		05 51 22.4	
	comp=N,92μm,1.5s						
SDPT				IAML		05 51 31.6	
	comp=E,98μm,1.4s						
SDPT	**Sand Point**	**2.20**	**219**	P	**Pn**	**05 50 37.6**	**+0.6**
	baz=39,SNR=102						
OHAK	**Old Harbor**	**2.59**	**85**	Pn	**Pn**	**05 50 41.8**	**-0.7**
OHAK	**Old Harbor**	**2.59**	**85**		**Sn**	**05 51 14.7**	**+0.8**

OHAK **Old Harbor** 2.59 85 IAML 05 51 21.3
comp=N,52µm,2.2s
OHAK IAML 05 51 28.6
comp=E,38µm,1.3s
OHAK Old Harbor 2.59 85 P Pn 05 50 41.7 -0.7
baz=267,SNR=668
BLHA Black Hill 2.63 240 Pn 05 50 43.8 +0.9
PS4A Pavlof South-4 2.75 233 Pn 05 50 45.8 +1.2
P18K Big Mountain, 2.76 31 Pn 05 50 45.7 +0.9
P18K Sb 05 51 21.0 -2.8
P18K Big Mountain, 2.76 31 IAML 05 51 32.5
comp=E,53µm,1.2s
P18K IAML 05 51 36.5
comp=N,50µm,1.6s
P18K Big Mountain, 2.76 31 P Pn 05 50 44.6 -0.2
baz=212
HAG Hague Volcano 2.79 233 P Pn 05 50 46.4 +1.3
HAG Hague Volcano 2.79 233 Pn 05 50 46.4 +1.3
Q19K Cape Douglas, 2.99 50 Pn 05 50 47.5 -0.5
Q19K Cape Douglas, 2.99 50 P Pn 05 50 47.5 -0.5
baz=232,SNR=66
KDAK Kodiak Island 3.03 74 Pn Pn 05 50 48.2 -0.2
comp=N,284nm,0.3s,baz=273,slow=7.0,SNR=930
KDAK Sn Sn 05 51 23.0 -1.8
comp=N,495nm,0.3s,baz=313,slow=14,SNR=6.7
KDAK LR LR 05 52 05.3
comp=N,107µm,18.8s,baz=267,slow=42
KDAK Kodiak Island 3.03 74*c i*P Pn 05 50 48.1 -0.4
KDAK Kodiak Island 3.03 74 Pn Pn 05 50 48.0 -0.5
KDAK Kodiak Island 3.03 74 ⇑P Pn 05 50 48.1 -0.4
KDAK Kodiak Island 3.03 74 P Pn 05 50 48.3 -0.2
baz=257
BALA Baldy Mountain 3.25 237 Pn 05 50 52.6 +1.1
AUH Augustine H 3.35 45 Pn 05 50 53.3 +0.4
AUQ Augustine Qik' 3.35 45 Pn 05 50 53.7 +0.8
AUL Augustine Lava 3.36 44 Pn 05 50 53.9 +0.9
AU22 Augustine Moun 3.38 45 Pn 05 50 53.9 +0.6
OPT Oil Point 3.62 42 Pn 05 50 57.1 +0.5
P19K Oil Pt 3.62 42 Pn 05 50 55.8 -0.8
P19K IAML 05 52 04.3
comp=N,56µm,1.0s
P19K IAML 05 52 12.0
comp=E,46µm,1.1s
P19K Oil Pt 3.62 42 P Pn 05 50 56.9 +0.3
baz=225
O19K Port Alsworth 3.69 30 Pn 05 50 57.4 -0.1
O19K Port Alsworth 3.69 30 P Pn 05 50 57.4 -0.1
baz=212,SNR=475
FALS False Pass 3.75 236 Pn Pn 05 50 59.6 +1.3
FALS False Pass 3.75 236 P Pn 05 51 00.1 +1.8
baz=53,SNR=46
FALS False Pass 3.75 236 P Pb 05 51 03.4 -3.3
IVE Iliamna Volcan 3.96 40 Pn 05 51 01.3 +0.1
BRPK Brown Peak 4.03 235 Pn 05 51 02.7 +0.5
SSLN Shishaldin Nor 4.04 238 Pn 05 51 03.5 +1.1
O20K Slope Mountain 4.14 41 Pn 05 51 05.0 +1.2
O20K Slope Mountain 4.14 41 P Pn 05 51 04.0 +0.2
baz=224,SNR=46
N19K Bonanza Creek 4.18 25 Pn 05 51 05.0 +0.6
N19K IAML 05 52 16.7
comp=E,30µm,1.4s
N19K IAML 05 52 35.7
comp=N,23µm,1.4s
N19K Bonanza Creek 4.18 25 P Pn 05 51 04.4 0.0
baz=207,SNR=283
SVW2 Sparrevohn 4.24 16 Pn 05 51 04.6 -0.4
SVW2 IAML 05 52 30.6
comp=N,13µm,1.5s
SVW2 IAML 05 52 32.7
comp=E,18µm,0.9s
HOM Homer 4.25 50 Pn Pn 05 51 06.5 +1.3
HOM Homer 4.25 50 P Pn 05 51 06.8 +1.5
baz=234,SNR=36
RED Redoubt Volcan 4.34 37 Pn 05 51 07.5 +1.0
CNPM China Poot 4.35 53 Pn 05 51 06.4 -0.2
CNPM IAML 05 52 24.1
comp=N,13µm,2.1s
RDWB Redoubt West 4.37 36 Pn 05 51 06.9 -0.1
RSO Redoubt South 4.38 37 Pn 05 51 07.4 +0.3
RDJH Redoubt Jeurge 4.46 35 Pn 05 51 09.0 +0.8
WESE West Dahl East 4.52 238 Pn 05 51 10.8 +1.8
BRLK Bradley Lake 4.63 51 Pn 05 51 10.5 0.0
BRSE Bradley Lake S 4.68 52 Pn 05 51 11.7 +0.6
BRSE Bradley Lake S 4.68 52 P Pn 05 51 11.8 +0.7
baz=237,SNR=53
CKN Chakachatna No 5.14 33 Pn 05 51 19.4 +1.9
SPCN Chakachatna No 5.14 33 Pn 05 51 18.9 +1.4
CAPN Captain Cook N 5.14 41 Pn 05 51 15.9 -1.5
CAPN Captain Cook N 5.14 41 P Pn 05 51 20.7 +3.3
baz=226,SNR=27
SPU Mount Spurr 5.15 34 Pn 05 51 17.0 -0.6
M19K Big River Lodg 5.19 19 Pn 05 51 18.3 +0.1
M19K IAML 05 53 07.1
comp=N,16µm,1.1s
M19K Big River Lodg 5.19 19 P Pn 05 51 18.3 +0.1
baz=202
AKSA Akutan Strait 5.24 239 Pn 05 51 21.1 +2.3
SPCG Spurr Capps Gl 5.24 34 Pn 05 51 20.2 +1.2
SLKM Skilak Lake 5.33 46 Pn 05 51 20.8 +0.7
AKBBA Akutan Broad B 5.38 240 Pn 05 51 23.0 +2.3
L19K White Mountain 5.38 16 Pn 05 51 20.8 +0.1
L19K White Mountain 5.38 16 P Pn 05 51 20.4 -0.3
baz=198,SNR=474
SEW Seward 5.42 52 Pn 05 51 22.4 +1.1
SEW Seward 5.42 52 P Pn 05 51 22.2 +1.0
baz=239,SNR=26
M20K Styx River 5.44 25 Pn Pn 05 51 21.4 -0.2
M20K Styx River 5.44 25 P Pn 05 51 22.0 +0.4
baz=209,SNR=460
STLK Strandline Lak 5.46 33 Pn 05 51 23.2 +1.3
O22K Cooper Landing 5.51 48 Pn 05 51 23.4 +0.9
O22K Cooper Landing 5.51 48 P Pn 05 51 23.9 +1.4
baz=234,SNR=44
UNV Unalaska Valle 5.80 240 Pn Pn 05 51 28.2 +1.7
UNV Unalaska Valle 5.80 240 P Pn 05 51 29.1 +2.7
baz=54,SNR=68
UNV Unalaska Valle 5.80 240 P Pn 05 51 29.4 +2.9
MTBL Makushin Table 5.81 241 Pn 05 51 28.6 +2.0
L20K Farewell, AK 5.82 19 Pn 05 51 27.9 +1.1
L20K Farewell, AK 5.82 19 P Pn 05 51 26.5 -0.3
baz=202,SNR=483
RC01 Rabbit Creek A 5.88 43 Pn Pn 05 51 27.8 +0.2
RC01 Rabbit Creek A 5.88 43 P Pn 05 51 28.1 +0.5
baz=230,SNR=101
MSW Makushin Switc 5.89 241 Pn 05 51 30.1 +2.3
TT01 Tatalina 5.94 9 Pn 05 51 28.3 -0.2
TTA Tatalina 5.97 9 P Pn 05 51 28.6 -0.3
TTA Tatalina 5.97 9 Pn Pn 05 51 28.6 -0.3
TTA Tatalina 5.97 9 P Pn 05 51 28.3 -0.5
baz=190,SNR=322
M22K Willow 6.19 37 Pn 05 51 32.6 +0.8
M22K Willow 6.19 37 P Pn 05 51 33.5 +1.6
baz=223,SNR=459
PWL Port Wells 6.29 49 Pn 05 51 32.8 -0.4
PWL Port Wells 6.29 49 P Pn 05 51 32.6 -0.7
baz=236,SNR=38
PMR Palmer 6.43 41 P Pn 05 51 34.9 -0.2
PMR Palmer 6.43 41 Pn Pn 05 51 34.9 -0.2
PMR Palmer 6.43 41 P Pn 05 51 35.1 +0.1
baz=228,SNR=213
PPLA Purkeypile 6.54 24 Pn 05 51 37.5 +0.8
PPLA Purkeypile 6.54 24 P Pn 05 51 37.6 +0.8
baz=209,SNR=102
KNK Knik Glacier 6.56 44 Pn 05 51 37.7 +0.8
KNK Knik Glacier 6.56 44 P Pn 05 51 37.7 +0.8
baz=232,SNR=123
Q23K Middleton Isla 6.61 64 Pn Pn 05 51 37.1 -0.4
Q23K Middleton Isla 6.61 64 P Pn 05 51 38.5 +1.0
baz=253
K20K Telida 6.61 16 Pn 05 51 37.3 -0.3
K20K Telida 6.61 16 P Pn 05 51 36.9 -0.7
baz=199,SNR=90
MID Middleton Isla 6.61 64 P Pn 05 51 37.6 0.0
MID Middleton Isla 6.61 64 Pn Pn 05 51 37.6 0.0
GHO Glory Hole Cre 6.62 41 Pn 05 51 38.7 +0.9
CUT Chulitna 6.63 33 Pn 05 51 40.1 +2.2
CUT Chulitna 6.63 33 P Pn 05 51 40.8 +2.9
baz=219,SNR=277
SPIA Saint Paul Isl 6.65 276 Pn Pn 05 51 40.2 +2.0
SPIA Saint Paul Isl 6.65 276 P Pn 05 51 40.4 +2.2
baz=86,SNR=40
GLI Glacier Island 6.82 51 Pn 05 51 41.7 +1.2
GLI Glacier Island 6.82 51 P Pn 05 51 40.7 +0.2
baz=240

SML Sawmill 6.86 42 Pn Pn 05 51 40.7 -0.3
SML Sawmill 6.86 42 P Pn 05 51 41.6 +0.5
baz=230,SNR=174
CAST Castle Rocks 7.02 22 Pn 05 51 43.9 +0.6
CAST Castle Rocks 7.02 22 P Pn 05 51 43.1 -0.2
baz=207,SNR=178
FID Port Fidalgo 7.03 54 Pn 05 51 43.1 -0.3
JPK Jack Peak 7.12 51 Pn 05 51 44.8 +0.1
SCM Sheep Creek Mo 7.25 44 P Pn 05 51 46.6 +0.2
SCM Sheep Creek Mo 7.25 44 Pn 05 51 46.6 +0.2
SCM Sheep Creek Mo 7.25 44 P Pn 05 51 46.9 +0.5
baz=233,SNR=52
EYAK Cordova Ski Ar 7.27 56 Pn Pn 05 51 45.9 -0.7
EYAK Cordova Ski Ar 7.27 56 P Pn 05 51 46.7 +0.1
baz=246,SNR=19
J20K Nowinta River 7.38 13 Pn 05 51 48.9 +0.8
J20K Nowinta River 7.38 13 P Pn 05 51 47.5 -0.7
baz=196,SNR=55
CHUM Lake Minchumin 7.39 20 Pn 05 51 48.9 +0.6
CHUM Lake Minchumin 7.39 20 P Pn 05 51 48.1 -0.2
baz=204,SNR=231
KTH Kantishna Hill 7.40 26 Pn 05 51 49.5 +1.0
NIKH Nikolski High 7.45 241 Pn 05 51 50.4 +1.3
NIKH Nikolski High 7.45 241 P Pn 05 51 54.2 +5.1
baz=53,SNR=7.3
TRF Thorofare Moun 7.47 28 Pn 05 51 51.7 +2.2
TRF Thorofare Moun 7.47 28 P Pn 05 51 51.2 +1.7
baz=214,SNR=354
WAT1 Susitna Watana 7.48 36 Pn 05 51 50.0 +0.5
WAT1 Susitna Watana 7.48 36 P Pn 05 51 50.4 +0.8
baz=223
DIV Divide 7.51 52 Pn 05 51 49.7 -0.3
WAT6 Susitna Watana 7.58 39 Pn 05 51 51.3 +0.3
WAT6 Susitna Watana 7.58 39 P Pn 05 51 50.5 -0.4
baz=227,SNR=299
KLU Klutina 7.62 49 Pn 05 51 51.0 -0.5
KLU Klutina 7.62 49 P Pn 05 51 50.5 -1.0
baz=239,SNR=166
KAIM Kayak Island 7.69 62 Pn 05 51 52.1 -0.2
KAIM Kayak Island 7.69 62 P Pn 05 51 52.4 0.0
baz=253
RAGM Ragged Mountai 7.71 59 Pn 05 51 52.4 -0.3
GCSA Galena City Sc 7.73 4 Pn 05 51 53.9 +1.0
GCSA Galena City Sc 7.73 4 P Pn 05 51 52.6 -0.2
baz=184,SNR=178
GOAT Goat Mountain 7.75 57 Pn 05 51 53.4 +0.1
RND Reindeer 7.82 32 P Pn 05 51 55.5 +1.2
RND Reindeer 7.82 32 Pn 05 51 55.5 +1.2
M24K Tolsona, Glenn 7.85 45 Pn 05 51 54.5 -0.2
M24K Tolsona, Glenn 7.85 45 P Pn 05 51 54.5 -0.2
baz=235,SNR=82
BPAW Bear Paw Mtn. 7.86 23 Pn 05 51 56.3 +1.6
BPAW Bear Paw Mtn. 7.86 23 P Pn 05 51 54.3 -0.4
baz=209,SNR=407
HMT Hamilton 7.88 60 Pn 05 51 55.4 +0.3
BMRM Bremner River 7.95 55 Pn 05 51 56.8 +0.7
BMRM Bremner River 7.95 55 P Pn 05 51 55.7 -0.3
baz=246
NICHA Nichawak Mount 7.99 61 Pn 05 51 56.5 -0.1
DHY Denali Highway 8.04 37 Pn 05 51 57.5 +0.2
DHY Denali Highway 8.04 37 P Pn 05 51 57.7 +0.4
baz=226,SNR=56
SUCK Suckling Hills 8.04 62 Pn 05 51 57.1 0.0
MCK McKinley 8.05 30 P Pn 05 51 59.2 +1.8
MCK McKinley 8.05 30 Pn 05 51 59.1 +1.8
MCK McKinley 8.05 30 P Pn 05 51 58.7 +1.3
baz=218,SNR=238
BERG Berg Lake 8.16 60 Pn 05 51 58.6 -0.3
N25K Chitina, Valde 8.23 51 Pn 05 51 59.9 0.0
N25K Chitina, Valde 8.23 51 P Pn 05 51 59.0 -0.9
baz=242,SNR=24
BWN Browne 8.27 27 Pn 05 52 02.5 +2.2
GRIN Grindle Hills 8.31 61 Pn 05 52 01.6 +0.6
ANM Nome 8.33 338 P Pn 05 52 01.9 +0.8
ANM Nome 8.33 338 Pn Pn 05 52 01.9 +0.8
ANM Nome 8.33 338 P Pn 05 52 02.3 +1.2
baz=151,SNR=227
KHIT Khitrov Hills 8.39 60 Pn 05 52 02.5 +0.4
HARP HAARP 8.41 45 Pn 05 52 03.5 +1.2
HARP HAARP 8.41 45 P Pn 05 52 03.6 +1.3
baz=236,SNR=43
GLB Gilahina Butte 8.50 53 Pn 05 52 03.5 0.0
SNH Sunshine Point 8.52 62 Pn 05 52 03.4 -0.4
VRDI Verde Repeater 8.57 55 Pn 05 52 04.5 -0.1
WAX Waxell Ridge 8.59 60 Pn 05 52 04.6 -0.1
PAX Paxson 8.63 42 P Pn 05 52 05.2 -0.1
PAX Paxson 8.63 42 Pn 05 52 05.2 -0.1
PAX Paxson 8.63 42 P Pn 05 52 05.4 +0.1
baz=232,SNR=200
I21K Tanana 8.65 17 Pn 05 52 06.5 +1.0
I21K Tanana 8.65 17 P Pn 05 52 06.0 +0.5
baz=202,SNR=97
NEA2 Nenana 8.72 26 Pn 05 52 06.9 +0.4
NEA2 Nenana 8.72 26 P Pn 05 52 06.9 +0.4
baz=214,SNR=303
MLY Manley 8.73 21 Pn 05 52 05.9 -0.8
MLY Manley 8.73 21 P Pn 05 52 06.3 -0.4
baz=207
PS10 TAPS Pump St10 8.81 39 Pn 05 52 09.3 +1.5
WRH Wood River Hil 8.87 29 Pn 05 52 09.5 +1.0
ISLE Juniper Island 8.87 60 Pn 05 52 08.5 -0.2
BAGL Bagley Icefiel 8.96 61 Pn 05 52 09.7 -0.1
KIAG Kiagna River 8.96 58 Pn 05 52 09.5 -0.5
H21K Melozitna Rive 8.97 14 Pn 05 52 09.5 -0.5
H21K Melozitna Rive 8.97 14 P Pn 05 52 09.3 -0.6
baz=198,SNR=601
BALM Baldy 9.00 57 Pn 05 52 10.5 0.0
YAH Yahtse 9.09 62 Pn 05 52 11.2 -0.6
I23K Minto, Yukon-K 9.12 24 Pn 05 52 12.4 +0.5
I23K Minto, Yukon-K 9.12 24 P Pn 05 52 12.6 +0.6
baz=211,SNR=270
HDA Harding Lake 9.13 32 Pn 05 52 12.7 +0.5
HDA Harding Lake 9.13 32 P Pn 05 52 12.7 +0.5
baz=221,SNR=220
IM03 9.18 11 Pn 05 52 12.5 -0.2
IMAR Indian Mountai 9.18 11 Pn Pn 05 52 12.3 -0.4
MDM Murphy Dome 9.22 27 Pn 05 52 13.8 +0.4
TCOL CIGO, UAF Yank 9.25 28 Pn 05 52 14.1 +0.4
TCOL CIGO, UAF Yank 9.25 28 P Pn 05 52 14.6 +0.9
baz=216,SNR=131
I53US FAIRBANKS INFR 9.25 28 *i* 06 43 20.0
baz=214,slow=322,SNR=0.8
COLA College 9.25 28*c i*P Pn 05 52 14.2 +0.5
COLA pmax pmax
comp=Z,591nm,1.2s
COLA College 9.25 28 Pn 05 52 14.4 +0.7
COLA College 9.25 28 ⇑P Pn 05 52 14.4 +0.7
COLA College 9.25 28 P Pn 05 52 14.5 +0.8
baz=216
MENT Mentasta 9.26 45 Pn 05 52 14.5 +0.6
PS08 TAPS Pump Stn8 9.27 31 Pn 05 52 14.9 +0.8
BARN Barnard Glacie 9.33 58 Pn 05 52 15.1 +0.1
RIDG Independent Ri 9.33 39 Pn 05 52 15.2 +0.3
RIDG Independent Ri 9.33 39 P Pn 05 52 16.0 +1.1
baz=230,SNR=109
TABL Table Mountain 9.40 62 Pn 05 52 15.2 -0.8
IL31 9.43 30 Pn 05 52 16.8 +0.7
ILAR Eielson Array 9.43 30 Pn Pn 05 52 16.0 -0.2
comp=Z,3.0nm,0.3s,baz=220,slow=13,SNR=209
ILAR Lg Lg 05 54 52.7
comp=Z,2.2nm,0.3s,baz=211,slow=28,SNR=1.9
ILAR LR LR 05 56 05.0
comp=Z,222µm,19.6s,baz=233,slow=39
ILAR Eielson Array 9.43 30 P Pn 05 52 15.7 -0.5
ILAR Eielson Array 9.43 30 Pn Pn 05 52 15.7 -0.5
IL01 9.43 30 Pn 05 52 16.0 -0.1
L26K Log Cabin Wild 9.45 45 Pn 05 52 17.1 +0.5
L26K Log Cabin Wild 9.45 45 P Pn 05 52 17.6 +1.1
baz=237,SNR=47
PS07 TAPS Pump Stn7 9.50 26 Pn 05 52 18.6 +1.4
GAMB Gambell 9.52 321 Pn Pn 05 52 18.1 +0.8
GAMB Gambell 9.52 321 P Pn 05 52 19.9 +2.5
baz=129,SNR=25
DOT Dot Lake 9.55 41 Pn 05 52 18.7 +0.9
POKR Poker Plat Res 9.55 28 Pn 05 52 19.1 +1.2
POKR Poker Plat Res 9.55 28 P Pn 05 52 18.5 +0.6
baz=217,SNR=203
PS06 TAPS Pump Stn6 9.66 21 Pn 05 52 20.9 +1.6
M27K Edge Creek, AK 9.72 50 Pn 05 52 19.9 -0.4
M27K Edge Creek, AK 9.72 50 P Pn 05 52 20.2 -0.1
baz=244,SNR=41
TNA Tin City 9.74 335 Pn Pn 05 52 21.5 +1.0
TNA Tin City 9.74 335 ⇓P Pn 05 52 21.4 +1.0
TNA Tin City 9.74 335 P Pn 05 52 21.5 +1.0

baz=146,SNR=136
J25K Salcha River, 9.75 34 Pn 05 52 20.6 -0.1
J25K Salcha River, 9.75 34 P Pn 05 52 21.4 +0.7
baz=224,SNR=172
PCA Pinnacle 9.76 64 Pn 05 52 20.0 -0.8
PINM Pinnacle 9.76 64 P Pn 05 52 20.5 -0.3
baz=259
SCRK Sand Creek 9.78 39 Pn 05 52 21.1 0.0
SCRK Sand Creek 9.78 39 P Pn 05 52 21.3 +0.2
baz=231,SNR=76
YUK2 White River 9.94 54 Pn 05 52 23.4 +0.1
H24K Noodor Dome 10.04 25 Pn Pn 05 52 24.7 +0.2
H24K Noodor Dome 10.04 25 P Pn 05 52 25.6 +1.0
baz=213,SNR=256
BCPM Bancas Point 10.04 66 Pn 05 52 22.9 -1.7
L27K Beaver Creek, 10.06 47 Pn 05 52 24.8 -0.2
L27K Beaver Creek, 10.06 47 P Pn 05 52 24.8 -0.2
baz=240,SNR=98
BCAR Beaver Creek A 10.08 47 Pn Pn 05 52 24.8 -0.4
YUK3 Moose Creek 10.11 55 P Pn 05 52 25.4 -0.3
baz=250,SNR=94
PNL Peninsula 10.12 67 P Pn 05 52 25.1 -0.6
baz=263,SNR=27
BVCY Beaver Creek 10.17 51 P Pn 05 52 27.3 +0.9
baz=246,SNR=23
J26L Joseph Creek 10.25 37 P Pn 05 52 27.8 +0.3
baz=230,SNR=136
ATKA Atka Island 10.55 249 ⇓P Pn 05 52 35.2 +3.7
ATKA Atka Island 10.55 249 P Pn 05 52 35.3 +3.7
YUK4 Talbot Arm 10.81 59 P Pn 05 52 37.0 +1.7
baz=254,SNR=48
COLD Coldfoot 10.82 16 Pn Pn 05 52 35.2 -0.1
COLD Coldfoot 10.82 16 P Pn 05 52 35.5 +0.2
baz=203,SNR=1000
YUK6 Outpost Mounta 10.85 61 P Pn 05 52 36.3 +0.4
baz=257
HYT Haines Junctio 11.23 62 Pn Pn 05 52 39.6 -1.5
HYT Haines Junctio 11.23 62 P Pn 05 52 41.3 +0.3
baz=259,SNR=13
EGAK Eagle 11.24 40 Pn 05 52 40.1 -0.9
EGAK Eagle 11.24 40 P Pn 05 52 41.1 +0.1
baz=234
RDOG Red Dog Mine 11.25 351 Pn Pn 05 52 42.7 +1.6
RDOG Red Dog Mine 11.25 351 P Pn 05 52 43.4 +2.3
baz=166,SNR=86
DAWY Dawson 11.51 45 Pn Pn 05 52 44.0 -0.6
DAWY Dawson 11.51 45 ⇑P Pn 05 52 44.5 -0.2
DAWY Dawson 11.51 45 P Pn 05 52 44.8 +0.1
baz=241,SNR=37
M30M Minto, Yukon 11.99 54 Pn Pn 05 52 50.0 -1.3
M30M Minto, Yukon 11.99 54 P Pn 05 52 51.4 +0.1
baz=252,SNR=58
ADK Adak 12.01 252 ⇑P Pn 05 52 55.0 +3.5
ADK Adak 12.01 252 P Pn 05 52 56.1 +4.6
BMAR Burnt Mountain 12.10 25 Pn Pn 05 52 50.9 -1.8
J29M Klondike Camp 12.14 44 P Pn 05 52 54.7 +1.3
baz=241
SKAG Skagway 12.18 69 ⇑P Pn 05 52 54.4 +0.6
SKAG Skagway 12.18 69 P Pn 05 52 54.9 +1.2
baz=268
N31M Braeburn, Yuko 12.18 59 Pn 05 52 52.4 -1.5
N31M Braeburn, Yuko 12.18 59 P Pn 05 52 53.9 0.0
baz=258,SNR=47
TOLK Toolik Lake Re 12.22 15 P Pn 05 52 55.3 +0.9
baz=202,SNR=182
TOLK S Sn 05 55 21.4 +11
baz=202
SIT Sitka 12.35 81 P Pn 05 52 54.0 -2.1
SIT Sitka 12.35 81 Pn Pn 05 52 54.0 -2.1
BESE Bessie Mountai 12.43 73 Pn Pn 05 52 56.8 -0.5
WHY Whitehorse 12.48 64 ⇑P Pn 05 52 56.8 -1.3
WHY Whitehorse 12.48 64 P Pn 05 52 57.2 -0.9
baz=263,SNR=44
I29M Ogilvie Camp, 12.57 41 P Pn 05 52 59.1 -0.1
baz=238,SNR=41
I29M S Sn 05 55 25.9 +6.8
baz=238
JIS Juneau Island 12.70 75 Pn 05 53 00.8 -0.1
M31M Drury Creek, Y 12.98 57 P Pn 05 53 05.1 +0.4
baz=257,SNR=37
M31M S Sn 05 55 37.0 +8.1
baz=257
P33M Teslin, Yukon 13.47 66 Pn Pn 05 53 09.8 -1.8
P33M Teslin, Yukon 13.47 66 P Pn 05 53 11.3 -0.2
baz=267,SNR=34
P33M S Sn 05 55 45.9 +4.8
baz=267
EPYK Eagle Plains 13.67 38 Pn Pn 05 53 13.4 -0.7
EPYK Eagle Plains 13.67 38 P Pn 05 53 13.8 -0.3
baz=237,SNR=170
EPYK S Sn 05 55 49.2 +3.4
baz=237
CRAG Craig 13.91 86 P Pn 05 53 16.3 -1.1
baz=287
CRAG S Sn 05 55 59.8 +8.1
baz=287
WRAK Wrangell Islan 14.09 82 P Pn 05 53 18.8 -1.0
baz=283
WRAK S Sn 05 56 02.8 +6.9
baz=283
A21K Barrow 14.32 2 P Pn 05 53 22.9 -0.2
baz=183,SNR=82
A21K S Sn 05 56 10.6 +9.0
baz=183
DLBC Dease Lake 14.97 73 Pn Pn 05 53 31.7 -0.2
comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=66
DLBC LR LR 05 59 43.2
comp=Z,46µm,18.4s,baz=276,slow=39
DLBC Dease Lake 14.97 73 Pn Pn 05 53 31.1 -0.9
DIB Dawson Inlet, 15.08 94 Pn Pn 05 53 29.8 -3.6
DIB IAmb IAmb 05 53 50.2
comp=Z,811nm,1.8s
TGTN Hyland Airport 15.76 61 P Pn 05 53 42.7 +0.4
baz=267,SNR=214
TGTN S Sn 05 56 41.4 +4.8
baz=267
INK Inuvik 15.77 35 Pn Pn 05 53 39.9 -2.3
comp=Z,0.7nm,0.3s,baz=227,slow=14,SNR=40
INK LR LR 05 59 39.5
comp=Z,117µm,20.3s,baz=229,slow=37
INK Inuvik 15.77 35 Pn Pn 05 53 39.5 -2.7
INK Inuvik 15.77 35 ⇑P Pn 05 53 38.5 -3.7
INK Inuvik 15.77 35 P Pn 05 53 39.4 -2.9
baz=236,SNR=128
INK S S 05 56 45.0 -6.5
baz=236
HG4B Hotspring 16.18 96 Pn 05 53 44.3 -3.4
GRNB Grenville Isla 16.19 90 Pn Pn 05 53 44.5 -3.4
SHEM Shemya Is, Ala 16.54 267 Pn P 05 53 53.9 -1.0
comp=Z,9.5nm,0.3s,baz=215,slow=8.6,SNR=4.0
SHEM LR LR 06 00 25.5
comp=Z,16µm,20.4s,baz=79,slow=38
SHEM Shemya Is, Ala 16.54 267 P P 05 53 53.9 -1.0
BBB Bella Bella 17.91 93 P P 05 54 09.9 -0.1
comp=Z,0.6nm,0.3s,baz=299,slow=12,SNR=18
BBB PcP PcP 05 58 45.2 +0.4
comp=Z,0.2nm,0.3s,baz=328,slow=1.6,SNR=3.5
BBB LR LR 06 00 02.5
comp=Z,31µm,20.5s,baz=301,slow=34
BBB ScP ScP 06 02 20.8 +1.0
comp=Z,0.1nm,0.3s,baz=50,slow=7.9,SNR=2.1
BBB Bella Bella 17.91 93 ⇑P Pn 05 54 07.8 -1.7
HOLB Holberg 18.67 97 P P 05 54 15.4 -3.0
C36M Paulatuk 19.29 37 P P 05 54 21.4 -3.6
baz=247,SNR=76
C36M S Sn 05 57 52.4 -9.5
baz=247
BILL Bilibino 19.44 319*c i*P Pn 05 54 28.9 +1.0
BILL *e*S Sn 05 58 05.7 +0.1
BILL pmax pmax
comp=Z,363nm,1.0s
BILL MLR MLR
comp=Z,137µm,17.0s
A36M Sachs Harbour 20.13 29 P P 05 54 31.0 -3.1
A36M IAmb IAmb 05 54 59.5
comp=Z,360nm,0.9s
A36M IAMs_20 IAMs_20 06 02 57.9
comp=Z,60µm,21.0s
A36M Sachs Harbour 20.13 29 P P 05 54 30.6 -3.6
baz=239,SNR=213
A36M S S 05 58 12.8 -6.9
baz=239
YKA Yellowknife Ar 22.17 58 P P 05 54 55.1 -1.1
comp=Z,196nm,0.8s,baz=272,slow=10.0,SNR=1183
YKA PcP PcP 05 58 52.6 +0.2
comp=Z,40nm,0.9s,baz=269,slow=1.9,SNR=12

YKA ScP **ScP** **06 02 30.6 +1.0**
comp=Z,12nm,0.8s,baz=287,slow=2.3,SNR=12
YKA LR LR 06 04 30.6
comp=Z,94µm,18.4s,baz=268,slow=39
YKA Yellowknife Ar 22.17 58 P **P** **05 54 54.9 -1.3**
A04D Lummi Island 22.67 96 P **P** **05 55 02.9 +1.2**
baz=305,SNR=26
A04D S Sn 05 59 17.2 -6.2
baz=305
NLWA Neilton Lookou 22.83 100 IAMs_20 IAMs_20 06 02 38.5
comp=Z,45µm,18.0s
NLWA Neilton Lookou 22.83 100 ⇑P **P** **05 55 04.7 +1.3**
D03D Eldon 23.16 99 P **P** **05 55 08.4 +1.6**
baz=307,SNR=44
D03D S Sn 05 59 27.1 -8.0
baz=307
B05A Bryant 23.26 97 P **P** **05 55 09.1 +1.3**
baz=306,SNR=80
B05A S **S** **05 59 26.4 +6.6**
baz=306
B06A Marblemount 23.45 96 P **P** **05 55 09.8 +0.1**
B06A IAmb IAmb 05 55 16.2
comp=Z,436nm,1.7s
E03A Lebam 23.52 102 P **P** **05 55 10.0 -0.3**
E03A IAmb IAmb 05 55 24.9
comp=Z,392nm,1.2s
D04E Lakebay 23.55 100 P **P** **05 55 12.9 +2.2**
baz=308,SNR=14
PNT Penticton 24.01 92 ⇑P **P** **05 55 15.8 +0.6**
E04D Cinebar 24.05 101 P **P** **05 55 17.4 +1.9**
baz=309,SNR=74
E04D S **S** **05 59 41.2 +8.8**
baz=309
F04D Rainier, OR 24.11 102 P **P** **05 55 17.6 +1.6**
baz=310,SNR=5.6
F04D S **S** **05 59 43.0 +10**
baz=310
C06D Leavenworth 24.12 96 P **P** **05 55 17.3 +1.1**
baz=306
C06D S **S** **05 59 40.6 +7.1**
baz=306
G03D McMinnville, O 24.54 104 IAMs_20 IAMs_20 06 02 46.5
comp=Z,44µm,21.0s
G03D McMinnville, O 24.54 104 P **P** **05 55 21.6 +1.6**
baz=311,SNR=9.8
G03D S **S** **05 59 49.9 +10**
baz=311
LTY Liberty 24.64 97 P **P** **05 55 20.6 -0.4**
LTY IAmb IAmb 05 55 47.4
comp=Z,208nm,1.2s
PET Petropavlovsk 24.82 279 *e*P **P** **05 55 20.6 -1.8**
PET *e*S **S** **05 59 38.4 -6.3**
PET pmax pmax
comp=Z,496nm,1.1s
PET pmax pmax
comp=Z,6µm,11.6s
PET smax smax
comp=N,19µm,15.3s
PET smax smax
comp=E,21µm,15.1s
PET smax smax
comp=N,18µm,13.3s
PET smax smax
comp=E,19µm,11.4s
PET Petropavlovsk 24.82 279 P **P** **05 55 22.7 +0.3**
PET IAmb IAmb 05 55 29.2
comp=Z,445nm,1.1s
PET Petropavlovsk 24.82 279 ⇑P **P** **05 55 22.7 +0.3**
PET Petropavlovsk 24.82 279 P **P** **05 55 24.4 +2.0**
SEY Seymchan 24.93 304 P **P** **05 55 24.4 +1.1**
comp=Z,157nm,1.1s,baz=95,slow=8.6,SNR=301
SEY LR LR 06 06 01.7
SEY PKPPKP P'P'df 06 30 08.0 -12
comp=Z,44µm,19.2s,baz=90,slow=39
comp=Z,0.2nm,0.3s,baz=111,slow=5.6,SNR=3.9
SEY Seymchan 24.93 304*c i*P **P** **05 55 24.2 +0.9**
SEY pmax pmax
comp=Z,191nm,1.1s
SEY MLR MLR
comp=Z,39µm,15.0s
COR Corvallis 24.94 105 IAMs_20 IAMs_20 06 03 08.8
comp=Z,48µm,20.0s
COR Corvallis 24.94 105 ⇑P **P** **05 55 25.6 +2.0**
I02E Swisshome, OR 24.98 107 IAMs_20 IAMs_20 06 02 48.4
comp=Z,58µm,20.0s
I02E Swisshome, OR 24.98 107 P **P** **05 55 26.1 +2.1**
baz=313
I02E S **S** **05 59 54.5 +7.1**
baz=313
F05D White Salmon 25.07 101 P **P** **05 55 26.2 +1.4**
baz=310,SNR=19
F05D S **S** **05 59 57.2 +8.3**
baz=310
H04D Lebanon 25.28 105 IAMs_20 IAMs_20 06 03 11.1
comp=Z,47µm,21.0s
H04D Lebanon 25.28 105 P **P** **05 55 28.5 +1.8**
baz=312,SNR=45
H04D S **S** **06 00 01.3 +9.1**
baz=312
PEA0B Petropavlovsk- 25.30 280*c i*P **P** **05 55 27.0 +0.2**
PEA0B Petropavlovsk- 25.30 280 P **P** **05 55 26.0 -0.7**
PETK Petropavlovsk- 25.30 280 P **P** **05 55 27.3 +0.5**
comp=Z,215nm,1.1s,baz=61,slow=21,SNR=68
PETK PcP **PcP** **05 59 00.5 +1.1**
comp=Z,22nm,1.1s,baz=111,slow=6.3,SNR=3.0
PETK ScP **ScP** **06 02 40.0 +1.8**
comp=Z,3.7nm,0.8s,baz=126,slow=6.4,SNR=4.1
PETK LR LR 06 05 41.4
comp=Z,8µm,18.8s,baz=68,slow=37
PETK Petropavlovsk- 25.30 280 P **P** **05 55 26.0 -0.7**
I03D Drain, OR 25.52 107 P **P** **05 55 30.5 +1.6**
baz=314,SNR=34
I03D S **S** **06 00 04.7 +8.7**
baz=314
G05D Wamic, OR 25.56 102 P **P** **05 55 30.6 +1.3**
baz=311,SNR=40
G05D S S 06 00 11.2 +14
baz=311
J01E Myrtle Point 25.59 108 IAMs_20 IAMs_20 06 03 04.7
comp=Z,74µm,18.0s
J01E Myrtle Point 25.59 108 P **P** **05 55 31.7 +2.2**
baz=315,SNR=35
J01E S **S** **06 00 04.5 +7.4**
baz=315
C09A Chrisman Ranch 25.61 94 P **P** **05 55 29.9 +0.1**
C09A IAmb IAmb 05 55 35.9
comp=Z,351nm,1.8s
D08A Wollman Farm, 25.71 96 P **P** **05 55 30.6 0.0**
D08A IAmb IAmb 05 55 36.8
comp=Z,211nm,1.0s
HAWA Hanford 25.78 98 IAMs_20 IAMs_20 06 03 46.7
comp=Z,38µm,20.0s
HAWA Hanford 25.78 98 ⇑P **P** **05 55 32.1 +0.9**
I04A Tendick Farm, 25.95 105 P **P** **05 55 34.4 +1.5**
baz=313,SNR=86
I04A S **S** **06 00 10.2 +7.3**
baz=313
NEW Newport 25.97 92 P **P** **05 55 33.6 +0.6**
comp=Z,28nm,0.9s,baz=303,slow=7.5,SNR=48
NEW LR LR 06 05 05.8
comp=Z,29µm,19.8s,baz=292,slow=35
NEW Newport 25.97 92 P **P** **05 55 33.6 +0.6**
baz=305,SNR=145
NEW S S 06 00 14.6 +11
baz=305
K02D Willamette Mer 26.06 109 P **P** **05 55 35.8 +1.9**
baz=315,SNR=50
K02D S S 06 00 19.7 +15
baz=315
I05D Terrebonne, OR 26.14 103 P **P** **05 55 36.1 +1.5**
baz=312,SNR=56
I05D S **S** **06 00 15.1 +9.0**
baz=312
MA2 Magadan 26.46 297 P **P** **05 55 38.9 +1.7**
comp=Z,197nm,1.2s,baz=80,slow=8.9,SNR=114
MA2 ScP **ScP** **06 02 43.0 +1.5**
comp=Z,9.4nm,0.9s,baz=39,slow=4.6,SNR=5.0
MA2 LR LR 06 07 29.2
comp=Z,30µm,19.3s,baz=76,slow=40
MA2 PKP2ab 06 32 13.3
comp=Z,1.1nm,0.4s,baz=188,slow=6.0,SNR=3.6
MA2 Magadan 26.46 297*c i*P **P** **05 55 38.7 +1.4**
MA2 pmax pmax
comp=Z,218nm,1.3s
MA2 MLR MLR
comp=Z,36µm,17.0s
MA2 Magadan 26.46 297 P **P** **05 55 38.5 +1.2**
MA2 IAmb IAmb 05 56 02.5
comp=Z,237nm,1.0s
MA2 IAMs_20 IAMs_20 06 07 27.2
comp=Z,40µm,18.0s
MA2 Magadan 26.46 297 ⇑P **P** **05 55 38.6 +1.4**
MA2 Magadan 26.46 297 P **P** **05 55 38.8 +1.4**
L02E Cave Junction 26.48 109 IAMs_20 IAMs_20 06 03 43.1
comp=Z,65µm,20.0s
L02E Cave Junction 26.48 109 P **P** **05 55 39.5 +1.9**
baz=316,SNR=22
L02E S **S** **06 00 21.7 +10**
baz=316
J04D Umpqua Nationa 26.49 106 IAMs_20 IAMs_20 06 03 58.4
comp=Z,42µm,19.0s
J04D Umpqua Nationa 26.49 106 P **P** **05 55 39.9 +2.0**
baz=314,SNR=54
J04D S **S** **06 00 21.5 +10**
baz=314
HUMO Hull Mountain 26.49 108 IAMs_20 IAMs_20 06 03 45.5
comp=Z,60µm,20.0s
HUMO Hull Mountain 26.49 108 ⇑P **P** **05 55 39.6 +1.8**
PINE Pine Mountain 26.73 104 P **P** **05 55 40.6 +0.5**
PINE IAmb IAmb 05 55 53.6
comp=Z,260nm,1.1s
G08A Pilot Rock 26.79 99 P **P** **05 55 38.6 -1.9**
J05D Fort Rock, OR 26.92 105 P **P** **05 55 43.7 +2.0**
baz=314,SNR=133
J05D S S 06 00 29.4 +11
baz=314
K04D Chiloquin, OR 27.11 107 P **P** **05 55 45.1 +1.8**
baz=315,SNR=19
K04D S **S** **06 00 30.8 +9.4**
baz=315
L04D Klamath Falls 27.11 108 IAMs_20 IAMs_20 06 04 04.8
comp=Z,52µm,20.0s
L04D Klamath Falls 27.11 108 P **P** **05 55 45.0 +1.5**
baz=316,SNR=50
L04D S **S** **06 00 30.8 +9.4**
baz=316
YBH Yreka Blue Hor 27.25 109 P **P** **05 55 46.7 +2.1**
comp=Z,24nm,0.9s,baz=334,slow=4.4,SNR=58
YBH PcP **PcP** **05 59 03.8 -0.4**
comp=Z,4.7nm,0.9s,baz=63,slow=2.3,SNR=1.5
YBH LR LR 06 04 30.4
comp=Z,47µm,19.0s,baz=317,slow=32
YBH Yreka Blue Hor 27.25 109 IAMs_20 IAMs_20 06 03 59.5
comp=Z,50µm,21.0s
WALA Waterton Lakes 27.27 88 P **P** **05 55 44.5 -0.3**
WALA IAmb IAmb 05 55 55.7
comp=Z,218nm,1.2s
WALA Waterton Lakes 27.27 88 ⇑P **P** **05 55 44.5 -0.3**
F10A Beach Ranch, E 27.30 96 ⇑P **P** **05 55 45.4 +0.4**
SKR Severo-Kuril's 27.34 276 *e*P **P** **05 55 45.4 +0.2**
SKR pmax pmax
comp=Z,1µm,6.5s
SKR MLR MLR
comp=Z,6µm,16.0s
M02C Callahan 27.42 110 IAMs_20 IAMs_20 06 04 25.0
comp=Z,66µm,19.0s
M02C Callahan 27.42 110 P **P** **05 55 48.5 +2.4**
baz=317,SNR=37
M02C S **S** **06 00 34.7 +8.5**
baz=317
M04C Macdoel 27.66 108 IAMs_20 IAMs_20 06 04 13.4
comp=Z,52µm,20.0s
M04C Macdoel 27.66 108 P **P** **05 55 50.4 +2.0**
baz=316,SNR=75
M04C S **S** **06 00 37.7 +7.6**
baz=316
N02D Trinity Center 27.80 110 P **P** **05 55 51.8 +2.2**
baz=317,SNR=55
N02D S **S** **06 00 36.5 +4.3**
baz=317
BMO Blue Mountains 27.97 98 P **P** **05 55 51.2 +0.1**
BMO pmax pmax
comp=Z,222nm,1.8s
BMO MLR MLR
comp=Z,38µm,21.0s
BMO Blue Mountains 27.97 98 P **P** **05 55 51.2 +0.1**
BMO IAMs_20 IAMs_20 06 05 05.9
comp=Z,38µm,21.0s
J08A Circle Bar Ran 28.34 102 P **P** **05 55 54.6 +0.2**
O02D Mt. Diablo Mer 28.35 111 P **P** **05 55 56.4 +1.9**
baz=318,SNR=34
O02D S S 06 00 51.0 +10
baz=318
MOD Modoc Plateau 28.38 106 IAMs_20 IAMs_20 06 05 01.4
comp=Z,61µm,20.0s
PLID Pearl Lake 28.52 97 P **P** **05 55 55.5 -0.7**
MSO Missoula 28.56 92 P **P** **05 55 55.9 -0.4**
MSO IAMs_20 IAMs_20 06 05 51.8
comp=Z,34µm,21.0s
MSO Missoula 28.56 92 P **P** **05 55 56.3 0.0**
baz=307,SNR=26
MSO S **S** **06 00 47.8 +3.7**
baz=307
O03E Paynes Creek 28.77 110 IAMs_20 IAMs_20 06 04 56.7
comp=Z,57µm,20.0s
O03E Paynes Creek 28.77 110 P **P** **05 55 59.2 +1.0**
baz=318,SNR=83
O03E S **S** **06 00 52.7 +5.2**
baz=318
WVOR Wild Horse Val 28.88 103 IAMs_20 IAMs_20 06 05 49.4
comp=Z,47µm,19.0s
WVOR Wild Horse Val 28.88 103 ⇑P **P** **05 56 00.0 +0.7**
HOPS Hopland Field 29.10 113 IAMs_20 IAMs_20 06 04 48.6
comp=Z,46µm,20.0s
RES Resolute Bay 29.18 29 P **P** **05 56 00.9 -0.4**
comp=Z,3.2nm,0.8s,baz=256,slow=10,SNR=12
RES PcP **PcP** **05 59 08.3 +0.1**
comp=Z,54nm,1.0s,baz=318,slow=3.3,SNR=6.8
RES LR LR 06 08 53.8
comp=Z,36µm,18.4s,baz=264,slow=39
RES P3KP 06 29 10.5
comp=Z,0.2nm,0.5s,baz=360,slow=8.1,SNR=4.0
RES Resolute Bay 29.18 29 P **P** **05 55 59.7 -1.6**
RES Resolute Bay 29.18 29 ⇑P **P** **05 56 00.7 -0.7**
ORV Oroville 29.47 111 IAMs_20 IAMs_20 06 05 28.4
comp=Z,58µm,19.0s
MFID Camas Ranch 29.72 99 IAMs_20 IAMs_20 06 06 32.4
comp=Z,33µm,20.0s
HRY Holter Researc 29.78 90 P **P** **05 56 07.1 -0.1**
MCCM Marconi Confer 29.85 114 IAMs_20 IAMs_20 06 04 55.4
comp=Z,37µm,21.0s
LRM Limekiln Ridge 29.99 92 P **P** **05 56 08.8 -0.4**
EGMT Eagleton 30.13 87 P **P** **05 56 09.1 -1.1**
EGMT IAmb IAmb 05 56 15.3
comp=Z,241nm,1.2s
EGMT IAMs_20 IAMs_20 06 07 45.1
comp=Z,29µm,19.0s
EGMT Eagleton 30.13 87 P **P** **05 56 10.0 -0.3**
baz=306,SNR=97
EGMT S **S** **06 01 09.7 +0.9**
baz=306
HLID Hailey 30.38 97 P **P** **05 56 13.4 +0.8**
baz=312,SNR=114
HLID S **S** **06 01 16.0 +3.0**
baz=312
MCMT McKenzie Canyo 30.41 94 P **P** **05 56 12.7 -0.2**
MPK Martis Peak 30.42 109 P **P** **05 56 13.6 +0.5**
MPK IAmb IAmb 05 56 23.1
comp=Z,199nm,1.1s
BOZ Bozeman (W) 30.58 92 P **P** **05 56 14.3 0.0**
baz=309,SNR=38
BOZ S **S** **06 01 17.2 +1.2**
baz=309
FFC Flin Flon 30.77 70 P **P** **05 56 15.1 -0.6**
FFC pmax pmax
comp=Z,161nm,1.6s
FFC MLR MLR
comp=Z,30µm,18.0s
FFC Flin Flon 30.77 70 P **P** **05 56 15.1 -0.6**
FFC Flin Flon 30.77 70 IAMs_20 IAMs_20 06 08 48.8
comp=Z,30µm,18.0s
FFC Flin Flon 30.77 70 ⇑P **P** **05 56 15.6 -0.1**
BMN Battle Mountai 31.05 105 P **P** **05 56 18.8 +0.3**
BMN pmax pmax
comp=Z,114nm,1.2s
BMN Battle Mountai 31.05 105 P **P** **05 56 18.8 +0.3**
YERR Yerington 31.06 109 P **P** **05 56 17.9 -0.7**
YERR IAmb IAmb 05 56 25.9
comp=Z,221nm,1.2s
YHH Holmes Hill 31.52 92 P **P** **05 56 22.7 -0.1**
YHH IAmb IAmb 05 56 30.3
comp=Z,153nm,1.4s
GCMT Greycliff 31.53 90 P **P** **05 56 23.0 +0.3**
YMR Madison River 31.54 93 P **P** **05 56 21.3 -1.5**
YMR IAmb IAmb 05 56 30.6
comp=Z,190nm,1.1s
KVN Kaiserville 31.60 107 P **P** **05 56 23.9 +0.5**
KVN pmax pmax
comp=Z,337nm,1.7s
KVN Kaiserville 31.60 107 P **P** **05 56 23.9 +0.5**
KVN IAmb IAmb 05 56 30.6
comp=Z,337nm,1.7s
SAO San Andreas Ge 31.64 114 IAMs_20 IAMs_20 06 06 03.7
comp=Z,43µm,20.0s
SAO San Andreas Ge 31.64 114 ⇓P **P** **05 56 27.2 +3.7**
YNR Norris Junctio 31.66 92 P **P** **05 56 24.2 +0.3**
YNR IAmb IAmb 05 56 55.4
comp=Z,223nm,1.5s
RYN Ryan 31.70 108 P **P** **05 56 24.7 +0.5**
RYN IAmb IAmb 05 56 33.0
comp=Z,100nm,0.9s
ELK Elko 31.88 102 LR LR 06 07 18.2
comp=Z,25µm,20.5s,baz=310,slow=33
ELK Elko 31.88 102 IAMs_20 IAMs_20 06 08 04.7
comp=Z,29µm,18.0s
LKWY Lake 31.91 92 IAMs_20 IAMs_20 06 11 23.3
comp=Z,30µm,18.0s
H17A Grant Village 31.92 93 P **P** **05 56 28.5 +2.2**
baz=310,SNR=74
H17A S S 06 01 46.8 +10
baz=310
YMP Mirror Lake Pl 31.93 92 P **P** **05 56 26.2 -0.2**
YMP IAmb IAmb 05 56 32.9
comp=Z,295nm,1.9s
NVAR Mina Array Bea 31.96 108 P **P** **05 56 28.1 +1.5**
comp=Z,55nm,0.8s,baz=299,slow=8.4,SNR=325
NVAR PcP **PcP** **05 59 17.0 +0.6**
comp=Z,2.2nm,0.5s,baz=286,slow=2.8,SNR=5.1
NVAR ScP **ScP** **06 03 00.4 +0.8**
comp=Z,1.7nm,0.8s,baz=267,slow=3.3,SNR=3.0
NVAR PKiKP **PKiKP** **06 06 44.6 +0.1**
comp=Z,1.6nm,0.9s,baz=183,slow=2.0,SNR=4.6
NVAR LR LR 06 07 28.1
comp=Z,65µm,19.9s,baz=315,slow=33
BBGB Big Mountain B 31.99 114 P **P** **05 56 24.7 -2.0**
BBGB IAmb IAmb 05 56 40.1
comp=Z,164nm,1.0s
RLMT Red Lodge 32.17 91 P **P** **05 56 27.6 -0.8**
RLMT IAmb IAmb 05 56 35.0
comp=Z,190nm,1.6s
RLMT IAMs_20 IAMs_20 06 08 09.2
comp=Z,28µm,21.0s
RLMT Red Lodge 32.17 91 P **P** **05 56 29.2 +0.9**
baz=310,SNR=55
RLMT S **S** **06 01 46.5 +5.5**
baz=310
Q09A Carvers 32.24 107 P **P** **05 56 28.2 -0.8**
Q09A IAmb IAmb 05 56 38.1
comp=Z,202nm,0.9s
MOOW Moose Ponds 32.25 94 P **P** **05 56 29.0 -0.1**
MLAC Mammoth, Mammo 32.29 110 P **P** **05 56 31.9 +2.4**
baz=320,SNR=45
TPAW Teton Pass 32.31 94 P **P** **05 56 29.5 -0.2**
TIXI Tiksi 32.35 326 P **P** **05 56 30.3 +0.9**
comp=Z,137nm,1.1s,baz=90,slow=23,SNR=163
TIXI PcP **PcP** **05 59 16.2 -0.4**
comp=Z,28nm,0.7s,baz=338,slow=5.4,SNR=5.1
TIXI ScP **ScP** **06 03 01.1 +1.1**
comp=Z,5.9nm,0.9s,baz=322,slow=7.1,SNR=3.2
TIXI LR LR 06 10 40.4
comp=Z,28µm,18.4s,baz=46,slow=38
TIXI Tiksi 32.35 326*c i*P **P** **05 56 30.0 +0.7**
TIXI pmax pmax
comp=Z,253nm,1.3s
TIXI MLR MLR
comp=Z,37µm,15.0s
TIXI Tiksi 32.35 326 P **P** **05 56 29.7 +0.4**
TIXI IAmb IAmb 05 56 32.8
comp=Z,247nm,1.2s
TIXI IAMs_20 IAMs_20 06 10 21.3
comp=Z,25µm,19.0s
TIXI Tiksi 32.35 326 ⇑P **P** **05 56 29.7 +0.4**
PMPB Monarch Peak 32.39 114 P **P** **05 56 30.8 +0.6**
PMPB IAmb IAmb 05 57 00.8
comp=Z,233nm,1.4s
AHID Auburn Hatcher 32.72 95 P **P** **05 56 33.0 -0.1**
LAO LASA Array 32.86 86 P **P** **05 56 33.8 -0.4**
LAO IAmb IAmb 05 56 40.3
comp=Z,211nm,1.4s
LAO LASA Array 32.86 86 P **P** **05 56 34.8 +0.6**
baz=308,SNR=49
LAO S **S** **06 01 53.2 +1.8**
baz=308
LAO LASA Array 32.86 86 P **P** **05 56 34.9 +0.7**
baz=308,SNR=49
LAO S **S** **06 01 54.7 +3.4**
baz=308
FCC Fort Churchill 32.87 60 P **P** **05 56 33.9 -0.1**
FCC pmax pmax
comp=Z,207nm,1.0s
FCC Fort Churchill 32.87 60 P **P** **05 56 33.9 -0.1**
FCC IAmb IAmb 05 56 38.6
comp=Z,207nm,1.0s
DGMT Dagmar 32.89 82 P **P** **05 56 33.9 -0.6**
DGMT IAmb IAmb 05 56 39.8
comp=Z,151nm,0.9s
DGMT Dagmar 32.89 82 IAMs_20 IAMs_20 06 09 58.1
comp=Z,38µm,18.0s
DGMT Dagmar 32.89 82 P **P** **05 56 34.4 0.0**
baz=306,SNR=49
DGMT S **S** **06 01 55.0 +3.2**
baz=306
DGMT Dagmar 32.89 82 P **P** **05 56 34.5 0.0**
baz=306,SNR=49
DGMT S **S** **06 01 55.0 +3.2**
baz=306
VOG Valley Oaks Go 33.02 112 P **P** **05 56 36.9 +1.3**
baz=321
VOG S **S** **06 02 02.8 +8.9**
baz=321
TIN Tinemaha, Big 33.04 110 P **P** **05 56 37.9 +2.0**
baz=320,SNR=22
TIN S S 06 02 05.4 +11
baz=320
HWUT Hardware Ranch 33.26 97 IAMs_20 IAMs_20 06 09 06.0
comp=Z,30µm,19.0s
R11A Troy Canyon, C 33.44 106 P **P** **05 56 40.6 +1.1**
baz=318,SNR=199
R11A S **S** **06 02 04.0 +3.2**
baz=318
SMMC Simmler 33.50 114 P **P** **05 56 41.7 +1.8**
baz=322,SNR=16
GRAC Grapevine Rang 33.53 109 P **P** **05 56 42.3 +2.2**
baz=320,SNR=31
GRAC S **S** **06 02 10.2 +8.3**
baz=320
VES Vestal, Richgr 33.55 112 P **P** **05 56 41.3 +1.1**
baz=322,SNR=27
BW06 Boulder Array 33.55 94 P **P** **05 56 40.0 -0.6**
BW06 Boulder Array 33.55 94 P **P** **05 56 40.6 +0.1**
baz=312,SNR=53
BW06 S **S** **06 02 06.2 +3.6**
baz=312
PD31 Pinedale Array 33.55 94 P **P** **05 56 38.7 -1.8**
PD31 Pinedale Array 33.55 94 ⇑P **P** **05 56 40.8 +0.3**
PDAR Pinedale Array 33.55 94 P **P** **05 56 40.5 0.0**
comp=Z,45nm,1.0s,baz=316,slow=6.2,SNR=74
PDAR ScP **ScP** **06 03 07.1 +2.0**
comp=Z,3.1nm,0.9s,baz=215,slow=3.0,SNR=3.7
PDAR LR LR 06 09 27.4
comp=Z,2µm,19.5s,baz=318,slow=35
PDAR Pinedale Array 33.55 94 P **P** **05 56 39.4 -1.1**
DUG Dugway, Tooele 33.57 101 IAMs_20 IAMs_20 06 08 33.4
comp=Z,30µm,20.0s
DUG Dugway, Tooele 33.57 101 P **P** **05 56 41.5 +0.9**
baz=316,SNR=67
DUG S **S** **06 02 11.0 +8.3**
baz=316
CWC Cottonwood Cre 33.59 111 P **P** **05 56 42.5 +1.7**
baz=321
CWC S S 06 02 12.3 +9.2
baz=321
ISA Isabella, Lake 33.99 112 P **P** **05 56 44.2 0.0**
ISA pmax pmax
comp=Z,100nm,1.1s
ISA Isabella, Lake 33.99 112 P **P** **05 56 44.2 0.0**
ISA IAmb IAmb 05 56 52.4
comp=Z,100nm,1.1s
ISA Isabella, Lake 33.99 112 P **P** **05 56 45.1 +0.9**
baz=322,SNR=48
ISA S **S** **06 02 16.5 +7.3**

baz=322
JLU Jordanelle 34.02 99 P **P** **05 56 44.7 +0.1**
JLU IAmb IAmb 05 56 50.8
comp=Z,101nm,1.1s
TPNV Topopah Spring 34.14 108 IAMs_20 IAMs_20 06 08 47.1
comp=Z,28µm,19.0s
TPNV Topopah Spring 34.14 108 ⇑P **P** **05 56 46.7 +1.1**
TPNV Topopah Spring 34.14 108 P **P** **05 56 47.0 +1.4**
baz=320,SNR=241
TPNV S **S** **06 02 17.8 +6.1**
baz=320
MPMC Manual Prospec 34.19 110 P **P** **05 56 47.4 +1.4**
baz=321,SNR=124
MPMC S S 06 02 21.7 +9.3
baz=321
FURC Furnace Creek, 34.19 109 P **P** **05 56 47.4 +1.7**
baz=320,SNR=82
ARVC Arvin 34.23 113 P **P** **05 56 46.7 +0.5**
baz=322,SNR=14
NKL Nikolayevsk 34.24 290 *e*P **P** **05 56 46.2 +0.2**
NKL *e* 05 59 19.7
NKL *e*S **S** **06 02 13.0 +0.7**
NKL pmax pmax
comp=E,6.0nm,0.9s
NKL pmax pmax
comp=N,1.0nm,1.0s
NKL pmax pmax
comp=Z,94nm,1.2s
NKL pmax pmax
comp=Z,223nm,3.2s
NKL MLR MLR
comp=E,142nm,13.0s
NKL MLR MLR
comp=N,1.0nm,12.0s
NKL MLR MLR
comp=Z,6µm,15.0s
PRN Pahroc Range 34.42 106 ⇑P **P** **05 56 48.8 +0.8**
TYV Tymovskoe 34.45 286 *e*P **P** **05 56 49.8 +1.9**
TYV *e*S **S** **06 02 20.4 +4.7**
TYV pmax pmax
comp=Z,300nm,2.9s
TYV pmax pmax
comp=Z,92nm,1.4s
TYV smax smax
comp=N,500nm,5.4s
TYV smax smax
comp=E,700nm,5.4s
TYV smax smax
comp=N,24nm,1.6s
TYV smax smax
comp=E,11nm,1.6s
TYV MLR MLR
comp=Z,13µm,22.0s
LRMC Laurel Mtn Rad 34.54 111 P **P** **05 56 50.0 +1.1**
baz=322,SNR=140
LRMC S **S** **06 02 25.5 +7.8**
baz=322
ALE Alert 34.59 13 IAMs_20 IAMs_20 06 12 10.3
comp=Z,40µm,18.0s
OSI Osito Audit: C 34.69 113 P **P** **05 56 51.4 +1.1**
baz=323
OSI S **S** **06 02 27.9 +8.0**
baz=323
EDW2 Edwards Air Fo 34.85 112 P **P** **05 56 52.2 +0.6**
baz=322,SNR=32
EDW2 S **S** **06 02 29.3 +6.9**
baz=322
SHOC Shoshone, Teco 34.93 109 P **P** **05 56 53.7 +1.5**
baz=321,SNR=68
SHOC S **S** **06 02 32.1 +8.6**
baz=321
KUR Kuril'sk 35.01 274 *e*P **P** **05 56 48.7 -4.1**
KUR *e* 05 58 06.7
KUR 05 59 22.6
KUR *e*S **S** **06 02 18.2 -6.2**
KUR *e*SS **SnSn** **06 04 37.4 -2.1**
KUR *e*SSS SSS 06 04 59.9
KUR *e* 06 07 09.4
KUR pmax pmax
comp=Z,213nm,1.4s
KUR pmax pmax
comp=Z,2µm,5.7s
KUR MLR MLR
comp=Z,9µm,21.0s
KUR MLR MLR
comp=E,9µm,16.0s
KUR MLR MLR
comp=N,5µm,15.0s
GSC Goldstone, Bar 35.12 110 P **P** **05 56 55.3 +1.3**
baz=321,SNR=80
GSC S **S** **06 02 34.1 +7.5**
baz=321
DECC Green Verdugo 35.17 113 P **P** **05 56 55.4 +1.1**
baz=323
DECC S **S** **06 02 36.0 +8.8**
baz=323
YAK Yakutsk 35.21 309 P **P** **05 56 55.5 +1.2**
comp=N,159nm,0.7s,baz=84,slow=1.6,SNR=54
YAK LR LR 06 13 17.1
comp=N,73µm,18.1s,baz=72,slow=40
YAK Yakutsk 35.21 309*c i*P **P** **05 56 54.9 +0.6**
YAK *e**PP **sP** **05 57 01.5 +2.7**
YAK *e* 05 58 11.3
YAK *e*PPP PPP 05 58 33.4
YAK *e* 05 59 24.3
YAK *e*S **S** **06 02 26.3 -0.8**
YAK *e*SS **SnSn** **06 04 39.6 -4.3**
YAK *e*SSS SSS 06 05 10.1
YAK *e* 06 07 09.5
YAK pmax pmax
comp=Z,486nm,1.0s
YAK pmax pmax
comp=N,128nm,1.1s
YAK pmax pmax
comp=E,244nm,1.0s
YAK pmax pmax
comp=Z,188nm,1.6s
YAK pmax pmax
comp=N,73nm,1.7s
YAK pmax pmax
comp=E,218nm,1.9s
YAK smax smax
comp=N,244nm,3.2s
YAK smax smax
comp=E,402nm,3.6s
YAK MLR MLR
comp=Z,85µm,18.0s
YAK MLR MLR
comp=N,41µm,17.0s
YAK MLR MLR
comp=E,55µm,17.0s
YAK Yakutsk 35.21 309 P **P** **05 56 54.3 0.0**
YAK Yakutsk 35.21 309 ⇑P **P** **05 56 54.5 +0.2**
K22A Casper 35.29 92 P **P** **05 56 54.7 -0.7**
K22A IAmb IAmb 05 57 01.0
comp=Z,200nm,1.6s
K22A Casper 35.29 92 P **P** **05 56 55.1 -0.3**
baz=312,SNR=35
K22A S **S** **06 02 29.5 +0.3**
baz=312
K22A Casper 35.29 92 P **P** **05 56 55.3 -0.1**
baz=312,SNR=35
K22A S **S** **06 02 30.4 +1.3**
baz=312
TULEG Thule 35.30 24 IAMs_20 IAMs_20 06 12 19.0
comp=Z,31µm,19.0s
PASC Pasadena Art C 35.31 113 P **P** **05 56 55.4 -0.2**
PASC Pasadena Art C 35.31 113 IAMs_20 IAMs_20 06 08 37.0
comp=Z,37µm,19.0s
SZCU Shurtz Canyon 35.32 104 P **P** **05 56 55.6 -0.2**
SNCC San Nicolas Is 35.39 116 P **P** **05 56 57.4 +1.2**
baz=324
TUQ Turquoise Moun 35.47 109 P **P** **05 56 58.4 +1.4**
baz=321,SNR=78
TUQ S **S** **06 02 40.8 +8.7**
baz=321
BFSC Mount Baldy Ra 35.52 113 P **P** **05 56 58.8 +1.3**
baz=323,SNR=65
BFSC S **S** **06 02 37.9 +5.0**
baz=323
RWWY Rawlins 35.57 93 P **P** **05 56 57.2 -0.7**
RWWY IAmb IAmb 05 57 03.4
comp=Z,194nm,0.9s
KIP Kipapa 35.60 180⇑ *e*P **P** **05 56 58.6 +0.6**
KIP pmax pmax
comp=Z,192nm,1.5s
KIP Kipapa 35.60 180 IAMs_20 IAMs_20 06 08 25.2
comp=Z,22µm,20.0s
KIP Kipapa 35.60 180 P **P** **05 57 00.4 +2.4**
FMP Fort Macarthur 35.62 114 P **P** **05 56 58.9 +0.7**
baz=323
RSSD Black Hills 35.67 88 P **P** **05 56 58.4 -0.4**
RSSD pmax pmax
comp=Z,143nm,0.9s
RSSD MLR MLR
comp=Z,28µm,21.0s
RSSD Black Hills 35.67 88 P **P** **05 56 58.4 -0.4**
RSSD IAmb IAmb 05 57 04.5
comp=Z,142nm,0.9s
RSSD Black Hills 35.67 88 IAMs_20 IAMs_20 06 10 46.8
comp=Z,28µm,21.0s
RSSD Black Hills 35.67 88 ⇑P **P** **05 56 58.8 0.0**
RSSD Black Hills 35.67 88 P **P** **05 56 59.2 +0.4**
baz=311,SNR=102
RSSD S **S** **06 02 32.9 -2.2**
baz=311
RSSD Black Hills 35.67 88 P **P** **05 56 59.1 +0.4**
baz=311
RSSD S **S** **06 02 39.7 +4.5**
baz=311
HEC Hector,Ludlow 35.73 110 P **P** **05 57 00.3 +1.1**
baz=322,SNR=36
HEC S **S** **06 02 38.8 +2.9**
baz=322
MDND Maddock 35.73 79 P **P** **05 56 59.6 +0.6**
baz=307,SNR=37
MDND S **S** **06 02 36.6 +1.0**
baz=307
MDND Maddock 35.73 79 P **P** **05 56 59.4 +0.4**
baz=307,SNR=37
MDND S **S** **06 02 37.5 +1.9**
baz=307
UGL Uglegorsk 35.78 283 *e*P **P** **05 57 00.4 +1.0**
UGL *e* 05 58 27.7
UGL *e*S **S** **06 02 29.8 -6.5**
UGL pmax pmax
comp=Z,230nm,1.2s
UGL smax smax
comp=N,3µm,9.0s
UGL smax smax
comp=E,2µm,9.0s
CIS Catalina Islan 35.81 114 P **P** **05 57 00.6 +0.8**
baz=324,SNR=13
CIS S **S** **06 02 42.4 +5.3**
baz=324
BBRC Big Bear Solar 35.88 112 P **P** **05 57 01.9 +1.3**
baz=322,SNR=21
BBRC S **S** **06 02 46.3 +7.8**
baz=322
E28A Huff 35.93 82 P **P** **05 56 59.9 -0.8**
E28A Huff 35.93 82 P **P** **05 57 01.4 +0.7**
baz=308,SNR=56
E28A S **S** **06 02 40.4 +1.8**
baz=308
O20A White River Ci 36.09 96 P **P** **05 57 01.9 -0.4**
O20A IAmb IAmb 05 57 08.1
comp=Z,155nm,0.9s
O20A White River Ci 36.09 96 P **P** **05 57 02.7 +0.3**
baz=315,SNR=103
O20A S **S** **06 02 44.6 +3.1**
baz=315
SCI2 Santa Clemente I 36.09 115 P **P** **05 57 03.3 +1.2**
baz=324,SNR=9.2
GMRC Granite Mounta 36.12 110 P **P** **05 57 03.7 +1.2**
baz=321,SNR=106
GMRC S **S** **06 02 48.0 +6.1**
baz=321
MURC Murrieta 36.27 113 P **P** **05 57 04.6 +0.9**
baz=323,SNR=16
MURC S **S** **06 02 47.1 +3.0**
baz=323
ULM Lac du Bonnet 36.29 74 P **P** **05 57 03.8 0.0**
comp=Z,181nm,0.9s,baz=304,slow=9.1,SNR=99
ULM LR LR 06 12 15.9
comp=Z,25µm,18.9s,baz=308,slow=37
ULM Lac du Bonnet 36.29 74*c i*P **P** **05 57 03.2 -0.6**
ULM Lac du Bonnet 36.29 74 P **P** **05 57 03.4 -0.4**
ULM IAmb IAmb 05 57 08.9
comp=Z,277nm,1.1s
ULM Lac du Bonnet 36.29 74 ⇑P **P** **05 57 03.3 -0.4**
BELC Belle Mtn. Jos 36.56 111 P **P** **05 57 07.2 +0.8**
baz=322,SNR=124
BELC S **S** **06 02 49.9 +1.2**
baz=322
PFO Pinyon Flats O 36.63 112 LR LR 06 10 21.3
comp=Z,43µm,18.4s,baz=309,slow=33
PFO Pinyon Flats O 36.63 112*c i*P **P** **05 57 07.3 +0.4**
PFO pmax pmax
comp=Z,241nm,1.4s
PFO Pinyon Flats O 36.63 112 IAMs_20 IAMs_20 06 09 58.9
comp=Z,42µm,19.0s
PFO Pinyon Flats O 36.63 112 P **P** **05 57 07.7 +0.8**
baz=323,SNR=44
PFO S **S** **06 02 51.8 +2.1**
baz=323
TPFO Pinon Flats 36.63 112 P **P** **05 57 07.8 +0.8**
baz=323,SNR=58
TPFO S **S** **06 02 52.8 +2.9**
baz=323
NEE2 Needles Airpor 36.66 109 P **P** **05 57 08.2 +1.1**
baz=321,SNR=13
YSS Yuzh-Sakhalins 36.70 280 *e*P **P** **05 57 07.4 +0.2**
YSS *e**SP **sP** **05 57 13.2 +1.3**
YSS *e* 05 58 28.3
YSS *e* 05 59 30.3
YSS *e*S **S** **06 02 49.8 -0.5**
YSS pmax pmax
comp=Z,1µm,6.2s
YSS pmax pmax
comp=N,500nm,4.4s
YSS pmax pmax
comp=E,500nm,6.2s
YSS pmax pmax
comp=Z,50nm,1.1s
YSS MLR MLR
comp=Z,12µm,17.0s
YSS MLR MLR
comp=N,6µm,18.0s
YSS MLR MLR
comp=E,9µm,18.0s
YSS Yuzh-Sakhalins 36.70 280 P **P** **05 57 07.1 -0.1**
YSS Yuzh-Sakhalins 36.70 280 P **P** **05 57 08.1 +0.9**
N23A Red Feather La 36.80 93 P **P** **05 57 08.8 +0.3**
baz=314,SNR=52
N23A S **S** **06 02 58.5 +5.9**
baz=314
IRM Iron Mountain 36.87 110 P **P** **05 57 10.2 +1.3**
baz=322,SNR=288
IRM S **S** **06 03 01.2 +7.9**
baz=322
PV23 Carpenter Ridg 36.87 99 P **P** **05 57 08.8 -0.4**
PV23 IAmb IAmb 05 57 15.1
comp=Z,143nm,1.2s
YUK Yuzh-Kuril'sk 36.88 274*c i*P **P** **05 57 08.2 -0.6**
YUK *e* 05 58 34.4
YUK *e*PPP PPP 05 58 48.4
YUK *e*S **S** **06 02 56.5 +3.4**
YUK *e*SS **SnSn** **06 05 25.2 +0.5**
YUK pmax pmax
comp=Z,515nm,1.1s
109C Camp Elliot, M 36.88 113 IAMs_20 IAMs_20 06 09 11.5
comp=Z,33µm,21.0s
109C Camp Elliot, M 36.88 113 P **P** **05 57 10.1 +1.2**
baz=324,SNR=23
109C S **S** **06 03 02.2 +8.9**
baz=324
HPAH Hawaii Prepara 37.03 176 P **P** **05 57 10.0 -0.4**
PV11 David Mesa, Pa 37.06 99 P **P** **05 57 10.2 -0.4**
PV11 IAmb IAmb 05 57 16.7
comp=Z,168nm,1.2s
BC3 Big Chuckawall 37.11 111 P **P** **05 57 11.6 +0.6**
baz=322,SNR=54
PV13 Radium Mtn., P 37.19 99 P **P** **05 57 11.3 -0.5**
PV13 IAmb IAmb 05 57 17.8
comp=Z,163nm,1.1s
MONP2 Monument Peak 37.22 113 P **P** **05 57 13.4 +1.3**
baz=323,SNR=43
MONP2 S S 06 03 08.0 +9.0
baz=323
PV15 Paradox Valley 37.24 99 P **P** **05 57 12.1 -0.2**
PV15 IAmb IAmb 05 57 18.0
comp=Z,199nm,1.1s
PDMCI Parker Dam,Lak 37.27 109 P **P** **05 57 13.2 +0.9**
baz=321,SNR=21
PDMCI S **S** **06 03 07.7 +8.4**
baz=321
POHA Pohakuloa 37.30 176 ⇑P **P** **05 57 13.8 +1.0**
POHA Pohakuloa 37.30 176 P **P** **05 57 14.8 +1.9**
SMCO Snowmass 37.45 96 P **P** **05 57 13.5 -0.8**
SMCO IAMs_20 IAMs_20 06 11 27.1
comp=Z,19µm,19.0s
SMCO Snowmass 37.45 96 ⇑P **P** **05 57 14.0 -0.3**
AGMN Agassiz Nation 37.46 76 P **P** **05 57 13.1 -0.6**
AGMN IAmb IAmb 05 57 18.6
comp=Z,338nm,1.1s
AGMN Agassiz Nation 37.46 76 P **P** **05 57 13.8 +0.1**
baz=307,SNR=21
AGMN S **S** **06 03 02.3 +0.4**
baz=307
AGMN Agassiz Nation 37.46 76 P **P** **05 57 13.6 -0.1**
baz=307,SNR=21
AGMN S **S** **06 03 02.6 +0.7**
baz=307
SWSC Sam W. Stewart 37.49 112 P **P** **05 57 15.1 +1.0**
baz=323,SNR=28
SWSC S **S** **06 03 11.4 +8.8**
baz=323
BLYC Blythe 37.51 110 P **P** **05 57 14.8 +0.6**
D32A Dogwood Acres, 37.56 78 P **P** **05 57 13.9 -0.6**
D32A IAmb IAmb 05 57 19.2
comp=Z,245nm,0.9s
D32B Dogwood Acres, 37.56 78 P **P** **05 57 14.4 -0.1**
baz=308
IKP In-Ko-Pah, Jac 37.57 112 P **P** **05 57 16.3 +1.4**
baz=323,SNR=26
IKP S **S** **06 03 12.1 +8.0**
baz=323
YUH Yuha Desert 37.67 112 P **P** **05 57 15.7 +0.1**
GRNR Gornyy 37.75 289⇓ *i*P **P** **05 57 17.0 +0.8**
GRNR *e*S **S** **06 03 11.1 +4.8**
GRNR pmax pmax
comp=E,10.0nm,1.1s
GRNR pmax pmax
comp=N,10.0nm,1.3s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR smax smax
comp=N,4.0nm,0.9s
GRNR MLR MLR
comp=E,8µm,14.0s
GRNR MLR MLR
comp=N,8µm,17.0s
GRNR MLR MLR
comp=Z,9µm,18.0s
ISCO Idaho Springs 37.75 94 P **P** **05 57 16.6 0.0**
baz=315,SNR=25
ISCO S **S** **06 03 09.5 +2.4**
baz=315
ISCO Idaho Springs 37.75 94 P **P** **05 57 16.9 +0.3**
baz=315,SNR=25
ISCO S **S** **06 03 10.6 +3.5**
baz=315
WUAZ Wupatki 37.79 104 P **P** **05 57 15.8 -1.0**
WUAZ IAmb IAmb 05 57 23.8
comp=Z,216nm,1.4s
WUAZ IAMs_20 IAMs_20 06 11 26.2
comp=Z,33µm,18.0s
WUAZ Wupatki 37.79 104 ⇑P **P** **05 57 17.9 +1.1**
WUAZ Wupatki 37.79 104 P **P** **05 57 18.0 +1.1**
baz=320,SNR=62
WUAZ S S 06 03 16.4 +9.0
baz=320
GLA Glamis 37.90 111 P **P** **05 57 17.5 -0.2**
GLA pmax pmax
comp=Z,117nm,1.1s
GLA Glamis 37.90 111 P **P** **05 57 17.5 -0.2**
GLA Glamis 37.90 111 P **P** **05 57 18.6 +0.9**
baz=323,SNR=58
GLA S **S** **06 03 17.0 +8.0**
baz=323
MVCO Mesa Verde 38.06 100 P **P** **05 57 18.8 -0.3**
MVCO Mesa Verde 38.06 100 P **P** **05 57 19.2 0.0**
baz=318,SNR=44
MVCO S **S** **06 03 15.6 +3.9**
baz=318
Y14A Wickenburg 38.15 108 P **P** **05 57 19.2 -0.5**
SUSD Miller 38.23 83 P **P** **05 57 19.6 -0.7**
SUSD Miller 38.23 83 P **P** **05 57 20.0 -0.2**
baz=311,SNR=18
SUSD S **S** **06 03 09.0 -4.7**
baz=311
SUSD Miller 38.23 83 P **P** **05 57 20.0 -0.2**
baz=311,SNR=18
SUSD S **S** **06 03 13.8 +0.1**
baz=311
B35A Bob, Littlefor 38.55 75 P **P** **05 57 21.8 -1.1**
B35A IAmb IAmb 05 57 27.7
comp=Z,283nm,1.1s
B35A Bob, Littlefor 38.55 75 P **P** **05 57 22.8 -0.1**
baz=308,SNR=54
B35A S **S** **06 03 15.9 -2.5**
baz=308
S22A 4UR Ranch, Cre 38.56 98 P **P** **05 57 22.1 -1.4**
S22A 4UR Ranch, Cre 38.56 98 P **P** **05 57 24.4 +0.9**
baz=317,SNR=36
S22A S **S** **06 03 23.1 +3.6**
baz=317
JKA Kamikawa-asahi 38.60 277 P **P** **05 57 22.7 -0.7**
Q24A Divide 38.60 95 P **P** **05 57 24.4 +0.6**
baz=316,SNR=14
Q24A S **S** **06 03 24.8 +4.9**
baz=316
ASAJ Asahikawa 38.60 277 P **P** **05 57 24.1 +0.8**
comp=Z,89nm,1.1s,baz=20,slow=6.3,SNR=17
ASAJ LR LR 06 14 51.3
comp=Z,13µm,19.2s,baz=58,slow=39
F33A 5 Mile Ranch, 38.76 80 P **P** **05 57 24.0 -0.8**
F33A IAmb IAmb 05 57 29.5
comp=Z,216nm,1.2s
F33A 5 Mile Ranch, 38.76 80 P **P** **05 57 24.3 -0.4**
baz=310,SNR=32
F33A S **S** **06 03 20.6 -1.1**
baz=310
OGNE Ogallala 38.90 90 P **P** **05 57 25.6 -0.5**
OGNE IAmb IAmb 05 57 32.6
comp=Z,159nm,1.0s
OGNE Ogallala 38.90 90 P **P** **05 57 26.5 +0.4**
baz=314,SNR=18
OGNE Ogallala 38.90 90 P **P** **05 57 26.2 +0.1**
baz=314,SNR=18
W18A Petrified Fore 38.96 103 P **P** **05 57 27.5 +0.8**
baz=320,SNR=13
W18A S **S** **06 03 31.8 +6.6**
baz=320
SDCO Great Sand Dun 39.28 96 IAMs_20 IAMs_20 06 13 23.6
comp=Z,21µm,18.0s
SDCO Great Sand Dun 39.28 96 P **P** **05 57 30.1 +0.6**
baz=317,SNR=67
SDCO Great Sand Dun 39.28 96 P **P** **05 57 30.2 +0.6**
baz=317,SNR=67
SDCO S **S** **06 03 34.0 +3.7**
baz=317
K31A O'Neill 39.55 85 P **P** **05 57 31.3 0.0**
baz=312,SNR=16
K31A S **S** **06 03 28.1 -5.5**
baz=312
ERM Erimo 39.70 274 P **P** **05 57 33.0 +0.4**
ERM pmax pmax
comp=Z,261nm,1.2s
ERM MLR MLR
comp=Z,13µm,19.0s
ERM Erimo 39.70 274 P **P** **05 57 33.0 +0.4**
ERM IAmb IAmb 05 57 36.6
comp=Z,261nm,1.1s
ERM Erimo 39.70 274 ⇓P **P** **05 57 33.2 +0.6**
ERM Erimo 39.70 274 P **P** **05 57 34.2 +1.6**
214A Organ Pipe Nat 39.80 110 P **P** **05 57 34.5 +0.9**
baz=323,SNR=70
214A S **S** **06 03 46.0 +8.3**
baz=323
KSCO Kaye Shedlock' 39.94 93 P **P** **05 57 34.9 +0.2**
KSCO IAmb IAmb 05 57 40.8
comp=Z,240nm,1.1s
KSCO Kaye Shedlock' 39.94 93 P **P** **05 57 35.6 +0.8**
baz=316,SNR=37
KSCO S **S** **06 03 41.5 +1.8**
baz=316
KSCO Kaye Shedlock' 39.94 93 P **P** **05 57 35.3 +0.5**
baz=316,SNR=37
KSCO S **S** **06 03 42.9 +3.2**
baz=316

ECSD **EROS Data Cent** **39.97** **82** P **P** **05 57 33.9 -0.9**
baz=312,SNR=60
ECSD S **S** **06 03 37.8 -2.0**
baz=312
ECSD **EROS Data Cent** **39.97** **82** P **P** **05 57 33.6 -1.2**
baz=312,SNR=60
ECSD S **S** **06 03 37.9 -2.0**
baz=312
EYMN **Ely** **39.98** **74** P **P** **05 57 34.6 -0.2**
EYMN **Ely** **39.98** **74** IAMs_20 IAMs_20 06 14 09.4
comp=Z,25µm,20.0s
EYMN **Ely** **39.98** **74** P **P** **05 57 34.8 -0.1**
baz=309,SNR=89
EYMN S **S** **06 03 39.5 -0.4**
baz=309
EYMN **Ely** **39.98** **74** P **P** **05 57 34.6 -0.2**
baz=309,SNR=89
EYMN S **S** **06 03 39.2 -0.7**
baz=309
UPNV **Upernavik** **39.99** **27** *i* P **P** **05 57 34.3 -0.3**
UPNV IAmb IAmb 05 59 41.0
comp=Z,31nm,0.6s
NOR **Nord** **40.02** **8** *i* P **P** **05 57 34.3 -0.5**
NOR IAmb IAmb 05 57 48.3
comp=Z,19nm,0.9s
NOR **Nord** **40.02** **8** ⇓P **P** **05 57 34.2 -0.5**
F36A **Milaca** **40.23** **78** P **P** **05 57 36.4 -0.6**
F36A IAmb IAmb 05 57 42.0
comp=Z,415nm,1.3s
F36A **Milaca** **40.23** **78** P **P** **05 57 36.5 -0.5**
baz=310,SNR=55
F36A S **S** **06 03 42.9 -0.8**
baz=310
T25A **Trinidad** **40.32** **96** P **P** **05 57 37.8 -0.3**
T25A **Trinidad** **40.32** **96** P **P** **05 57 38.8 +0.7**
baz=317,SNR=42
T25A S **S** **06 03 51.0 +5.4**
baz=317
TUC **Tucson** **40.58** **107** ⇑P **P** **05 57 41.0 +0.9**
TUC **Tucson** **40.58** **107** P **P** **05 57 41.3 +1.2**
baz=322
TUC S S 06 03 58.2 +9.0
baz=322
ZEA **Zeya** **40.59** **298** *e*P **P** **05 57 39.8 0.0**
ZEA *e* 05 59 49.3
ZEA *e*S **S** **06 03 44.6 -4.3**
ZEA *e* 06 07 13.9
ZEA pmax pmax
comp=E,400nm,6.9s
ZEA pmax pmax
comp=N,300nm,8.3s
ZEA pmax pmax
comp=Z,1µm,5.6s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,70nm,1.7s
ZEA smax smax
comp=N,2µm,12.6s
ZEA MLR MLR
comp=E,10µm,14.0s
ZEA MLR MLR
comp=N,10µm,13.0s
ZEA MLR MLR
comp=Z,17µm,13.0s
BGNE **Belgrade** **40.70** **86** P **P** **05 57 41.2 +0.3**
baz=314,SNR=22
BGNE S **S** **06 03 48.1 -2.8**
baz=314
BGNE **Belgrade** **40.70** **86** P **P** **05 57 40.9 -0.1**
baz=314,SNR=22
BGNE S **S** **06 03 50.3 -0.7**
baz=314
E38A **The Farm, Brul** **40.80** **75** P **P** **05 57 40.9 -0.7**
E38A **The Farm, Brul** **40.80** **75** P **P** **05 57 41.2 -0.5**
baz=310,SNR=47
E38A S **S** **06 03 49.7 -2.5**
baz=310
ANMO **Albuquerque** **40.84** **100** LR LR 06 13 54.5
comp=Z,15µm,18.9s,baz=313,slow=35
ANMO **Albuquerque** **40.84** **100** *c i*P **P** **05 57 42.8 +0.4**
ANMO pmax pmax
comp=Z,49nm,1.3s
ANMO **Albuquerque** **40.84** **100** ⇑P **P** **05 57 42.7 +0.4**
ANMO ⇑P **PcP** **05 59 44.2 +1.2**
ANMO **Albuquerque** **40.84** **100** P **P** **05 57 42.9 +0.6**
baz=319,SNR=39
ANMO **Albuquerque** **40.84** **100** P **P** **05 57 42.9 +0.4**
baz=319
ANMO S **S** **06 03 57.2 +3.8**
baz=319
SPMN **Marine on St.** **41.03** **78** P **P** **05 57 43.1 -0.5**
SPMN IAmb IAmb 05 57 48.7
comp=Z,332nm,0.9s
SPMN **Marine on St.** **41.03** **78** P **P** **05 57 43.6 0.0**
baz=311,SNR=104
SPMN S **S** **06 03 55.9 +0.3**
baz=311
SPMN **Marine on St.** **41.03** **78** P **P** **05 57 43.5 -0.1**
baz=311,SNR=104
SPMN S **S** **06 03 55.7 +0.1**
baz=311
KLR **Kul'dur** **41.08** **290** P **P** **05 57 44.4 +0.5**
comp=Z,108nm,1.2s,baz=54,slow=8.5,SNR=54
KLR LR LR 06 16 42.6
comp=Z,15µm,18.1s,baz=57,slow=39
KLR **Kul'dur** **41.08** **290** P **P** **05 57 44.4 +0.5**
JOHN **Johnston Islan** **41.19** **197** IAMs_20 IAMs_20 06 10 44.8
comp=Z,20µm,22.0s
JOHN **Johnston Islan** **41.19** **197** P **P** **05 57 46.8 +1.8**
TEY **Ternei** **41.22** **282** ⇑*e*P **P** **05 57 44.6 -0.5**
TEY pmax pmax
comp=Z,100nm,14.2s
L34A **Svendsen Farm,** **41.29** **84** P **P** **05 57 44.7 -1.0**
L34A IAmb IAmb 05 57 50.3
comp=Z,187nm,0.9s
L34A **Svendsen Farm,** **41.29** **84** P **P** **05 57 45.1 -0.6**
baz=313,SNR=8.3
Y22A **Socorro** **41.34** **102** P **P** **05 57 47.5 +1.1**
baz=320,SNR=31
I37A **Lemond, Waseca** **41.51** **80** P **P** **05 57 47.0 -0.5**
I37B **Waseca** **41.51** **80** P **P** **05 57 47.6 0.0**
baz=312,SNR=138
I37B S **S** **06 04 00.1 -2.6**
baz=312
N33B **J Bar K, Exete** **41.55** **86** P **P** **05 57 47.6 -0.3**
baz=314,SNR=13
N33B S **S** **06 04 01.3 -2.2**
baz=314
CBKS **Cedar Bluff** **41.66** **90** ⇑P **P** **05 57 49.0 +0.1**
CBKS **Cedar Bluff** **41.66** **90** P **P** **05 57 49.3 +0.5**
baz=316,SNR=48
CBKS **Cedar Bluff** **41.66** **90** P **P** **05 57 49.1 +0.3**
baz=316,SNR=48
CBKS S **S** **06 04 08.1 +3.0**
baz=316
121A **Cookes Peak, D** **41.98** **104** P **P** **05 57 52.7 +1.0**
baz=321,SNR=49
121A **Cookes Peak, D** **41.98** **104** P **P** **05 57 52.8 +1.0**
baz=321,SNR=49
121A S **S** **06 04 18.4 +8.1**
baz=321
D41A **Chassel** **42.08** **73** P **P** **05 57 52.2 +0.1**
baz=310,SNR=9.4
D41A S **S** **06 04 09.4 -1.6**
baz=310
G40A **Rib Lake** **42.39** **76** P **P** **05 57 53.8 -0.9**
G40A IAmb IAmb 05 57 59.5
comp=Z,429nm,1.1s
G40A **Rib Lake** **42.39** **76** P **P** **05 57 54.5 -0.2**
baz=311,SNR=82
G40A S **S** **06 04 14.7 -1.0**
baz=311
COWI **Conover** **42.40** **74** P **P** **05 57 53.8 -1.0**
COWI IAmb IAmb 05 57 59.6
comp=Z,163nm,1.1s
COWI IAMs_20 IAMs_20 06 15 41.5
comp=Z,24µm,18.0s
COWI **Conover** **42.40** **74** P **P** **05 57 54.1 -0.7**
baz=311
COWI S **S** **06 04 14.8 -1.1**
baz=311
N35A **Tabor** **42.45** **85** P **P** **05 57 54.9 -0.3**
N35A **Tabor** **42.45** **85** P **P** **05 57 55.3 +0.1**
baz=314,SNR=54
N35A S **S** **06 04 16.1 -0.6**
baz=314
R32A **Long Quarter,** **42.50** **90** P **P** **05 57 55.0 -0.7**
R32A **Long Quarter,** **42.50** **90** P **P** **05 57 55.7 0.0**
baz=316,SNR=26
R32A S **S** **06 04 19.9 +2.4**
baz=316
K38A **Parkersburg** **42.77** **81** P **P** **05 57 57.1 -0.7**
baz=313,SNR=18
K38A S **S** **06 04 20.2 -1.2**
baz=313
SCIA **State Center** **43.04** **82** P **P** **05 57 59.1 -0.9**
SCIA IAmb IAmb 05 58 04.9
comp=Z,309nm,1.3s
SCIA IAMs_20 IAMs_20 06 16 04.6
comp=Z,28µm,19.0s
SCIA **State Center** **43.04** **82** P **P** **05 57 59.4 -0.7**
baz=314,SNR=8.3
SCIA S **S** **06 04 23.8 -1.6**
baz=314
SCIA **State Center** **43.04** **82** P **P** **05 57 59.3 -0.7**
baz=314,SNR=8.3
SCIA S **S** **06 04 24.0 -1.4**
baz=314
I40A **Norwalk** **43.08** **78** P **P** **05 58 00.2 -0.2**
baz=312,SNR=87
I40A S **S** **06 04 23.6 -2.4**
baz=312
HSIG **43.11** **110** P **P** **05 58 00.7 0.0**
F42A **Maple Grove Fa** **43.15** **74** P **P** **05 58 00.8 -0.1**
F42A **Maple Grove Fa** **43.15** **74** P **P** **05 58 01.1 +0.2**
baz=311,SNR=36
F42A S **S** **06 04 26.4 -0.5**
baz=311
KSU1 **Kansas State U** **43.16** **87** P **P** **05 57 60.0 -1.0**
KSU1 IAmb IAmb 05 58 05.9
comp=Z,182nm,1.1s
KSU1 **Kansas State U** **43.16** **87** IAMs_20 IAMs_20 06 15 12.9
comp=Z,23µm,22.0s
KSU1 **Kansas State U** **43.16** **87** ⇑P **P** **05 58 00.3 -0.7**
KSU1 **Kansas State U** **43.16** **87** P **P** **05 58 00.5 -0.5**
baz=316,SNR=42
KSU1 **Kansas State U** **43.16** **87** P **P** **05 58 00.1 -0.9**
baz=316,SNR=42
KSU1 S **S** **06 04 26.6 -0.6**
baz=316
KIDD **KIDD Seismic O** **43.25** **103** P **P** **05 58 02.4 +0.5**
baz=321,SNR=16
EPT **El Paso** **43.25** **103** IAMs_20 IAMs_20 06 14 49.8
comp=Z,27µm,19.0s
E43A **Lone Tree Farm** **43.34** **73** P **P** **05 58 02.5 +0.1**
baz=311,SNR=33
E43A S **S** **06 04 29.8 +0.1**
baz=311
AMTX **Amarillo** **43.47** **96** IAMs_20 IAMs_20 06 14 57.4
comp=Z,23µm,22.0s
AMTX **Amarillo** **43.47** **96** P **P** **05 58 04.0 +0.3**
baz=319,SNR=36
AMTX S **S** **06 04 34.5 +2.4**
baz=319
AMTX **Amarillo** **43.47** **96** P **P** **05 58 03.8 +0.1**
baz=319
AMTX S **S** **06 04 35.3 +3.2**
baz=319
ILULI **Ilulissat** **43.48** **30** IAMs_20 IAMs_20 06 15 38.8
comp=Z,26µm,21.0s
MSTX **Muleshoe** **43.57** **98** P **P** **05 58 03.9 -0.6**
MSTX **Muleshoe** **43.57** **98** P **P** **05 58 04.6 +0.1**
baz=319,SNR=30
MSTX S **S** **06 04 34.1 +0.6**
baz=319
MSTX **Muleshoe** **43.57** **98** P **P** **05 58 04.3 -0.2**
baz=319,SNR=30
MSTX S **S** **06 04 35.2 +1.7**
baz=319
KAPO **Kapuskasing** **43.63** **66** ⇑P **P** **05 58 04.3 -0.4**
N38A **Joes South For** **43.80** **83** P **P** **05 58 05.1 -1.1**
baz=314,SNR=28
N38A S **S** **06 04 35.1 -1.4**
baz=314
U32A **Winter Ranch,** **43.82** **92** P **P** **05 58 06.5 +0.1**
baz=318,SNR=55
MNTX **Cornudas Mount** **43.91** **102** IAMs_20 IAMs_20 06 15 24.1
comp=Z,27µm,19.0s
MNTX **Cornudas Mount** **43.91** **102** P **P** **05 58 08.2 +1.0**
baz=321,SNR=147
MNTX **Cornudas Mount** **43.91** **102** P **P** **05 58 08.1 +0.9**
baz=321,SNR=147
MNTX S **S** **06 04 45.6 +7.3**
baz=321
JFWS **Jewell Farm** **43.95** **79** IAMs_20 IAMs_20 06 16 11.5
comp=Z,20µm,19.0s
JFWS **Jewell Farm** **43.95** **79** P **P** **05 58 06.3 -1.0**
baz=313,SNR=74
JFWS S **S** **06 04 35.8 -2.8**
baz=313
JFWS **Jewell Farm** **43.95** **79** P **P** **05 58 06.1 -1.2**
baz=313,SNR=74
JFWS S **S** **06 04 36.3 -2.3**
baz=313
DAG **Danmarks Havn** **43.98** **12** *i* P **P** **05 58 05.0 -2.1**
DAG IAmb IAmb 05 58 48.8
comp=Z,26nm,0.8s
DAG **Danmarks Havn** **43.98** **12** ⇓P **P** **05 58 05.5 -1.6**
I42A **Draeger Farm,** **43.99** **77** P **P** **05 58 07.3 -0.4**
baz=313,SNR=43
I42A S **S** **06 04 36.4 -2.8**
baz=313
L40A **Anamosa** **44.01** **80** P **P** **05 58 07.0 -0.8**
L40A **Anamosa** **44.01** **80** P **P** **05 58 06.6 -1.2**
baz=314,SNR=98
L40A S **S** **06 04 36.9 -2.6**
baz=314
BOD **Bodaibo** **44.11** **310** *e*P **P** **05 58 08.4 0.0**
BOD pmax pmax
comp=Z,193nm,1.7s
KBS **Kingsbay** **44.12** **3** *c i*P **P** **05 58 08.8 +0.5**
KBS pmax pmax
comp=Z,118nm,1.4s
KBS MLR MLR
comp=Z,38µm,16.0s
KBS **Kingsbay** **44.12** **3** P **P** **05 58 07.3 -1.0**
KBS **Kingsbay** **44.12** **3** *i* P **P** **05 58 08.2 -0.1**
KBS IAmb IAmb 05 58 45.4
comp=Z,66nm,0.9s
KBS **Kingsbay** **44.12** **3** ⇑P **P** **05 58 09.4 +1.1**
H43A **Windswept, Lux** **44.21** **75** P **P** **05 58 09.0 -0.4**
baz=312,SNR=24
H43A S **S** **06 04 40.0 -2.4**
baz=312
USRK **Ussuriysk Ar.** **44.24** **284** PcP **PcP** **05 59 54.2 +0.3**
comp=Z,22nm,1.0s,baz=50,slow=2.4,SNR=12
USRK LR LR 06 17 16.7
comp=Z,16µm,20.4s,baz=39,slow=37
P38A **Dawn** **44.47** **84** P **P** **05 58 10.2 -1.3**
P38A IAmb IAmb 05 58 16.0
comp=Z,208nm,0.9s
P38A **Dawn** **44.47** **84** P **P** **05 58 10.8 -0.7**
baz=315,SNR=17
P38A S **S** **06 04 40.9 -5.3**
baz=315
E46A **Sault Ste Mari** **44.74** **71** P **P** **05 58 13.6 0.0**
baz=312,SNR=52
E46A S **S** **06 04 50.2 +0.1**
baz=312
T35B **Sooner Cattle** **44.79** **89** P **P** **05 58 13.3 -0.8**
baz=317,SNR=25
T35B S **S** **06 04 45.1 -5.9**
baz=317
L42A **Oliver, Polo** **44.88** **79** P **P** **05 58 13.6 -1.2**
baz=314,SNR=36
L42A S **S** **06 04 50.8 -1.5**
baz=314
G45A **Suttons Bay** **44.93** **73** P **P** **05 58 14.2 -0.9**
baz=312,SNR=8.9
G45A P **P** **05 58 14.2 -0.9**
baz=312,SNR=8.9
G45A S **S** **06 04 52.1 -0.7**
baz=312
G45A S **S** **06 04 52.1 -0.7**
baz=312
SPA0 **Spitsbergen Ar** **44.96** **2** *e*S **S** **06 04 51.8 -0.9**
SPA0 *e*SS **SS** **06 08 17.0 +3.5**
SPITS **Spitsbergen Ar** **44.96** **2** LR LR 06 17 01.0
comp=Z,53µm,19.6s,baz=300,slow=36
SPB2 **Spitsbergen Ar** **44.97** **2** P **P** **05 58 13.7 -1.3**
SPB2 IAmb IAmb 05 58 35.7
comp=Z,169nm,1.5s
VLA **Vladivostok** **45.03** **283** ⇑*e*P **P** **05 58 17.0 +1.1**
VLA pmax pmax
comp=Z,42nm,0.8s
VLA MLR MLR
comp=Z,11µm,19.0s
SFJD **Kangerlussuaq** **45.09** **32** LR LR 06 20 27.9
comp=Z,11µm,18.5s,baz=316,slow=41
SFJD **Kangerlussuaq** **45.09** **32** IAMs_20 IAMs_20 06 20 42.4
comp=Z,17µm,19.0s
SFJD **Kangerlussuaq** **45.09** **32** *i* P **P** **05 58 14.9 -1.1**
SFJD IAmb IAmb 05 59 58.7
comp=Z,14nm,0.7s
SFJD **Kangerlussuaq** **45.09** **32** ⇓P **P** **05 58 16.0 -0.1**
K43A **Burlington** **45.11** **77** P **P** **05 58 15.6 -1.0**
K43A **Burlington** **45.11** **77** P **P** **05 58 15.8 -0.8**
baz=314,SNR=30
K43A S **S** **06 04 53.8 -1.8**
baz=314
N41A **Harden Midland** **45.15** **81** P **P** **05 58 15.7 -1.2**
N41A **Harden Midland** **45.15** **81** P **P** **05 58 15.9 -1.1**
baz=315,SNR=68
N41A S **S** **06 04 53.2 -2.9**
baz=315
WMOK **Wichita Mounta** **45.16** **93** ⇑P **P** **05 58 16.8 -0.3**
WMOK **Wichita Mounta** **45.16** **93** P **P** **05 58 17.1 0.0**
baz=319,SNR=132
WMOK **Wichita Mounta** **45.16** **93** P **P** **05 58 17.1 0.0**
baz=319,SNR=132
WMOK S **S** **06 04 59.0 +2.5**
baz=319
JSD **Sado** **45.17** **273** P **P** **05 58 16.3 -0.8**
JSD IAmb IAmb 05 58 28.6
comp=Z,122nm,1.1s
JSD **Sado** **45.17** **273** ⇑P **P** **05 58 16.9 -0.1**
MDJ **Mudanjiang** **45.22** **286** IAMs_20 IAMs_20 06 16 55.9
comp=Z,21µm,21.0s
MDJ **Mudanjiang** **45.22** **286** P P 05 58 11.0 -6.4
MDJ pP pP 05 58 16.6 -4.2
MDJ S **S** **06 04 57.3 +0.3**
MDJ pmax pmax
comp=Z,17nm,0.9s
MDJ pmax pmax
comp=Z,360nm,4.8s
MDJ LR LR
comp=N,21µm,18.5s
MDJ LR LR
comp=E,22µm,21.4s
MDJ LR LR
comp=Z,26µm,22.1s
I45A **Fountain** **45.31** **75** P **P** **05 58 17.9 -0.2**
baz=313,SNR=12
I45A P **P** **05 58 17.9 -0.2**
baz=313,SNR=12
I45A S **S** **06 04 57.1 -1.2**
baz=313
I45A S **S** **06 04 57.1 -1.2**
baz=313
NRIK **Noril'sk** **45.33** **333** P **P** **05 58 18.8 +0.7**
comp=Z,55nm,0.9s,baz=55,slow=7.1,SNR=34
NRIK LR LR 06 20 59.0
comp=Z,43µm,18.5s,baz=42,slow=41
NRIK **Noril'sk** **45.33** **333** *c i*P **P** **05 58 18.7 +0.7**
NRIK pmax pmax
comp=Z,188nm,1.0s
NRIK **Noril'sk** **45.33** **333** P **P** **05 58 18.1 +0.1**
NRIK IAmb IAmb 05 58 28.3
comp=Z,137nm,1.0s
P40A **Paris** **45.34** **83** P **P** **05 58 17.2 -1.2**
P40A IAmb IAmb 05 58 29.2
comp=Z,97nm,0.9s
P40A **Paris** **45.34** **83** P **P** **05 58 17.4 -1.1**
baz=316,SNR=29
P40A S **S** **06 04 56.9 -2.0**
baz=316
OKCFA **Oklahoma City** **45.38** **92** P **P** **05 58 18.5 -0.4**
baz=318
OKCSW **OKLAHOMA CITY** **45.40** **92** P **P** **05 58 18.4 -0.5**
BNX **BinXian** **45.59** **289** ⇓P **P** **05 58 20.8 +0.4**
BNX pP **pP** **05 58 23.9 +0.2**
BNX sP **sP** **05 58 25.4 +0.3**
BNX PP **PP** **06 00 07.5 +0.7**
BNX S **S** **06 05 01.2 -1.2**
BNX pmax pmax
comp=Z,120nm,1.3s
BNX pmax pmax
comp=Z,2µm,4.3s
BNX LR LR
comp=Z,29µm,13.3s
BNX LR LR
comp=Z,14µm,10.9s
BNX LR LR
comp=Z,35µm,16.0s
GLMI **Grayling** **45.62** **73** IAMs_20 IAMs_20 06 17 59.7
comp=Z,23µm,19.0s
GLMI **Grayling** **45.62** **73** P **P** **05 58 20.5 -0.2**
baz=313,SNR=25
GLMI S **S** **06 05 04.0 +1.2**
baz=313
GLMI **Grayling** **45.62** **73** P **P** **05 58 20.5 -0.2**
baz=313,SNR=25
GLMI S **S** **06 05 02.7 -0.1**
baz=313
L44A **Lake County Fo** **45.70** **78** IAMs_20 IAMs_20 06 17 26.0
comp=Z,23µm,20.0s
L44A **Lake County Fo** **45.70** **78** P **P** **05 58 20.1 -1.1**
baz=314,SNR=13
L44A S **S** **06 05 02.4 -1.6**
baz=314
L44A **Lake County Fo** **45.70** **78** P **P** **05 58 20.1 -1.1**
baz=314,SNR=13
L44A S **S** **06 05 01.7 -2.4**
baz=314
MSHR **Mys Shultsa** **45.79** **283** ⇑*e*P **P** **05 58 21.6 -0.3**
MSHR pmax pmax
comp=Z,66nm,1.0s
WAKE **Wake Island** **45.89** **229** P **P** **05 58 24.2 +1.2**
DBG **Daneborg** **45.90** **15** *i* P **P** **05 58 20.7 -1.7**
DBG IAmb IAmb 05 59 17.9
comp=Z,17nm,0.7s
DBG **Daneborg** **45.90** **15** ⇓P **P** **05 58 20.9 -1.6**
TUL1 **Leonard** **45.92** **90** IAMs_20 IAMs_20 06 16 24.1
comp=Z,17µm,22.0s
TUL1 **Leonard** **45.92** **90** P **P** **05 58 22.4 -0.7**
baz=318,SNR=26
TUL1 S **S** **06 05 06.3 -1.0**
baz=318
TUL1 **Leonard** **45.92** **90** P **P** **05 58 22.3 -0.8**
baz=318,SNR=26
TUL1 S **S** **06 05 07.8 +0.5**
baz=318
S39A **Bolivar** **45.97** **86** P **P** **05 58 20.8 -2.7**
S39A **Bolivar** **45.97** **86** P **P** **05 58 21.3 -2.2**
baz=317,SNR=31
S39A S **S** **06 05 05.1 -2.9**
baz=317
HDIL **Hopedale** **46.10** **80** P **P** **05 58 23.1 -1.3**
HDIL **Hopedale** **46.10** **80** P **P** **05 58 23.4 -1.1**
baz=315,SNR=107
HDIL S **S** **06 05 07.9 -1.9**
baz=315
HDIL **Hopedale** **46.10** **80** P **P** **05 58 23.4 -1.1**
baz=315,SNR=107
HDIL S **S** **06 05 08.4 -1.4**
baz=315
R40A **Maddies Statio** **46.11** **85** P **P** **05 58 23.1 -1.4**
baz=316,SNR=51
R40A S **S** **06 05 05.3 -4.7**
baz=316
HSPB **Hornsund (broa** **46.13** **2** *e*P **P** **05 58 22.1 -2.1**
HSPB *e*S **S** **06 05 14.6 +5.2**
HSPB *e*L L 06 17 45.9
comp=Z,64µm,18.9s
HSPB **Hornsund (broa** **46.13** **2** *e*P **P** **05 58 23.9 -0.2**
HSPB IVmB_BB 05 58 32.4
comp=Z,1µm,5.2s
HSPB *e*S **S** **06 05 10.6 +1.2**
HSPB IVMs_BB IVMs_BB 06 17 24.6
comp=Z,20µm,18.5s
M44A **Midewin, Midew** **46.18** **78** P **P** **05 58 24.1 -1.0**
M44A **Midewin, Midew** **46.18** **78** P **P** **05 58 24.2 -0.9**
baz=315,SNR=29
M44A S **S** **06 05 07.8 -3.2**
baz=315
MJAR **Matsushiro Arr** **46.28** **272** LR LR 06 17 10.7
comp=Z,8µm,22.0s,baz=52,slow=35
MJAR **Matsushiro Arr** **46.28** **272** P **P** **05 58 25.7 -0.3**

MJAR pmax pmax
comp=Z,35nm,1.1s
MJAR Matsushiro Arr 46.28 272 P **P** **05 58 25.6 -0.3**
MJB9 Matsu-Tunnel 46.28 272 P **P** **05 58 25.8 -0.2**
MJB9 IAmb IAmb 05 58 32.9
comp=Z,90nm,1.0s
MAJO Matsushiro 46.28 272 P **P** **05 58 25.9 0.0**
MAJO pmax pmax
comp=Z,88nm,1.0s
MAJO Matsushiro 46.28 272 P **P** **05 58 25.9 0.0**
MAJO IAmb IAmb 05 58 32.9
comp=Z,88nm,0.9s
ABTX Abilene, Hawle 46.29 96 P **P** **05 58 25.9 -0.2**
baz=320,SNR=74
ABTX Abilene, Hawle 46.29 96 P **P** **05 58 25.8 -0.2**
baz=320,SNR=74
ABTX S **S** **06 05 13.7 +1.0**
baz=320
ICESG Greenland Ices 46.48 26 *i* P **P** **05 58 26.5 -1.0**
ICESG IAmb IAmb 06 00 03.3
comp=Z,41nm,0.8s
J47A Sunmer 46.60 74 P **P** **05 58 27.7 -0.6**
baz=314,SNR=14
J47A P **P** **05 58 27.7 -0.6**
baz=314,SNR=14
J47A S **S** **06 05 15.3 -1.7**
baz=314
J47A S **S** **06 05 15.3 -1.7**
baz=314
P43A Skaggs, Pawnee 46.63 81 P **P** **05 58 27.7 -0.9**
baz=316,SNR=64
P43A S **S** **06 05 13.7 -3.6**
baz=316
HHAR Hobbs 46.66 88 P **P** **05 58 27.0 -1.9**
HHAR IAmb IAmb 05 58 32.9
comp=Z,362nm,2.0s
HHAR Hobbs 46.66 88 P **P** **05 58 27.4 -1.5**
baz=318
HHAR S **S** **06 05 14.8 -3.1**
baz=318
HOPEN Hopen 46.67 359 IVmBBB 05 58 27.8
comp=Z,1μm,3.5s
HOPEN *eP* **P** **05 58 28.3 -0.1**
HOPEN *eS* **S** **06 05 18.4 +1.2**
HOPEN IVMs_BB IVMs_BB 06 18 18.2
comp=Z,11μm,18.6s
TX31 Lajitas Ar. Si 46.67 103 P **P** **05 58 29.2 0.0**
TX31 Lajitas Ar. Si 46.67 103 ⇑P **P** **05 58 29.4 +0.2**
TX31 Lajitas Ar. Si 46.67 103 P **P** **05 58 29.8 +0.6**
baz=322,SNR=114
TXAR Lajitas Array 46.68 103 P **P** **05 58 29.7 +0.5**
comp=Z,60nm,1.0s,baz=318,slow=5.4,SNR=121
TXAR PKiKP **PKiKP** **06 06 55.8 -1.3**
comp=Z,0.7nm,0.7s,baz=49,slow=0.3,SNR=3.8
TXAR LR LR 06 17 20.0
comp=Z,29μm,18.6s,baz=310,slow=35
L46A Eue Claire 46.68 77 P **P** **05 58 28.2 -0.8**
baz=314,SNR=21
L46A P **P** **05 58 28.2 -0.8**
baz=314,SNR=21
L46A S **S** **06 05 16.8 -1.2**
baz=314
L46A S **S** **06 05 16.8 -1.2**
baz=314
DY2G Dye2 46.70 31 *i* P **P** **05 58 29.0 -0.1**
DY2G IAmb IAmb 06 00 04.7
comp=Z,52nm,0.7s
O44A Mansfield 46.83 80 P **P** **05 58 29.1 -1.1**
baz=315,SNR=18
O44A S **S** **06 05 19.0 -1.3**
baz=315
CCM Cathedral Cave 46.83 84 P **P** **05 58 27.6 -2.6**
CCM pmax pmax
comp=Z,114nm,1.1s
CCM MLR MLR
comp=Z,23μm,19.0s
CCM Cathedral Cave 46.83 84 P **P** **05 58 27.6 -2.6**
CCM IAmb IAmb 06 00 04.9
comp=Z,114nm,1.1s
CCM Cathedral Cave 46.83 84 IAMs_20 IAMs_20 06 17 53.0
comp=Z,23μm,19.0s
CCM Cathedral Cave 46.83 84 ⇑P **P** **05 58 28.5 -1.8**
CCM Cathedral Cave 46.83 84 P **P** **05 58 28.6 -1.6**
baz=316,SNR=27
CCM S **S** **06 05 16.8 -3.6**
baz=316
CCM Cathedral Cave 46.83 84 P **P** **05 58 28.8 -1.5**
baz=316
CCM S **S** **06 05 16.9 -3.5**
baz=316
MGMO Mountain Grove 46.93 86 P **P** **05 58 28.9 -2.2**
MGMO IAmb IAmb 05 58 34.6
comp=Z,164nm,1.4s
VLDQ Val d'Or 47.03 65 P **P** **05 58 29.0 -2.6**
VLDQ IAmb IAmb 05 58 30.7
comp=Z,154nm,1.1s
HIA Hailar 47.05 298 ⇑*i* P **P** **05 58 31.4 -0.5**
HIA pmax pmax
comp=Z,37nm,1.4s
HIA MLR MLR
comp=Z,20μm,16.0s
HIA Hailar 47.05 298 P **P** **05 58 31.3 -0.5**
Z35A Perchaven, San 47.05 93 P **P** **05 58 31.6 -0.4**
baz=319,SNR=17
Z35A S **S** **06 05 25.3 +1.7**
baz=319
X37A Clayton 47.13 91 P **P** **05 58 32.0 -0.6**
X37A IAmb IAmb 05 58 38.7
comp=Z,113nm,1.0s
X37A Clayton 47.13 91 P **P** **05 58 32.4 -0.2**
baz=319,SNR=32
X37A S **S** **06 05 20.6 -4.1**
baz=319
I49A Point Hope 47.16 72 P **P** **05 58 31.3 -1.4**
I49A Point Hope 47.16 72 P **P** **05 58 32.5 -0.2**
baz=314,SNR=9.6
I49A P **P** **05 58 32.5 -0.2**
baz=314,SNR=9.6
I49A S **S** **06 05 21.9 -3.0**
baz=314
I49A S **S** **06 05 21.9 -3.0**
baz=314
U40A Yellville 47.20 87 IAMs_20 IAMs_20 06 18 19.8
comp=Z,22μm,19.0s
U40A Yellville 47.20 87 P **P** **05 58 31.5 -1.6**
baz=318,SNR=29
U40A P **P** **05 58 31.5 -1.6**
baz=318,SNR=29
U40A Yellville 47.20 87 P **P** **05 58 31.1 -2.0**
baz=318,SNR=29
U40A S **S** **06 05 24.9 -0.7**
baz=318
FVM French Village 47.33 84 P **P** **05 58 33.0 -1.1**
baz=317,SNR=67
FVM S **S** **06 05 22.5 -5.0**
baz=317
SFIN Lafayette 47.41 79 P **P** **05 58 33.4 -1.2**
SFIN Lafayette 47.41 79 P **P** **05 58 34.0 -0.7**
baz=316,SNR=57
SFIN S **S** **06 05 25.7 -2.7**
baz=316
SFIN Lafayette 47.41 79 P **P** **05 58 33.9 -0.7**
baz=316,SNR=57
SFIN S **S** **06 05 26.4 -2.1**
baz=316
SCHQ Schefferville 47.42 52 P **P** **05 58 33.8 -0.8**
comp=Z,132nm,1.0s,baz=315,slow=8.0,SNR=56
SCHQ LR LR 06 19 02.1
comp=Z,27μm,18.5s,baz=318,slow=37
SCHQ Schefferville 47.42 52 P **P** **05 58 33.5 -1.2**
SCHQ Schefferville 47.42 52 ⇑P **P** **05 58 33.8 -0.8**
Q44A Meyer Farm, Va 47.43 82 P **P** **05 58 33.5 -1.3**
Q44A Meyer Farm, Va 47.43 82 P **P** **05 58 33.8 -1.1**
baz=316,SNR=33
Q44A S **S** **06 05 27.5 -1.3**
baz=316
JGF Kuroka 47.44 272 ⇑P **P** **05 58 35.9 +0.8**
LPIG La Paz 47.48 113 LR LR 06 15 41.1
comp=Z,17μm,21.4s,baz=328,slow=32
W39A Magazine 47.55 89 IAMs_20 IAMs_20 06 18 00.1
comp=Z,16μm,20.0s
W39A Magazine 47.55 89 P **P** **05 58 35.0 -0.9**
baz=318,SNR=45
W39A S **S** **06 05 28.5 -2.1**
baz=318
W39A Magazine 47.55 89 P **P** **05 58 34.7 -1.1**
baz=318,SNR=45

W39A S **S** **06 05 30.6 0.0**
baz=318
L48A N Adams 47.71 75 P **P** **05 58 36.2 -0.9**
L48A N Adams 47.71 75 P **P** **05 58 36.4 -0.6**
baz=315,SNR=22
L48A P **P** **05 58 36.4 -0.6**
baz=315,SNR=22
L48A S **S** **06 05 31.0 -1.9**
baz=315
L48A S **S** **06 05 31.0 -1.9**
baz=315
N47A Urbana 47.80 77 P **P** **05 58 36.5 -1.2**
baz=315,SNR=88
N47A P **P** **05 58 36.5 -1.2**
baz=315,SNR=88
N47A S **S** **06 05 30.3 -3.8**
baz=315
N47A S **S** **06 05 30.3 -3.8**
baz=315
INU Inuyama 47.81 272 ⇓P **P** **05 58 38.6 +0.7**
INU Inuyama 47.81 272 P **P** **05 58 37.6 -0.3**
JCT Junction City 47.85 98 P **P** **05 58 37.7 -0.6**
JCT pmax pmax
comp=Z,441nm,1.3s
JCT MLR MLR
comp=Z,29μm,19.0s
JCT Junction City 47.85 98 P **P** **05 58 37.7 -0.6**
JCT Junction City 47.85 98 ⇑P **P** **05 58 37.9 -0.3**
JCT Junction City 47.85 98 P **P** **05 58 38.2 -0.1**
baz=321,SNR=113
JCT S **S** **06 05 34.9 -0.3**
baz=321
JCT Junction City 47.85 98 P **P** **05 58 38.0 -0.3**
baz=321,SNR=113
JCT S **S** **06 05 36.5 +1.3**
baz=321
AAM Ann Arbor 47.87 74 IAMs_20 IAMs_20 06 19 01.3
comp=Z,23μm,20.0s
AAM Ann Arbor 47.87 74 P **P** **05 58 37.8 -0.5**
baz=315,SNR=19
AAM Ann Arbor 47.87 74 P **P** **05 58 37.7 -0.5**
baz=315,SNR=19
AAM S **S** **06 05 35.3 +0.3**
baz=315
P46A Rosedale 47.89 80 P **P** **05 58 37.9 -0.6**
baz=316,SNR=76
P46A S **S** **06 05 32.0 -3.4**
baz=316
CN2 Changchun 47.94 288 *eP* **P** **05 58 35.6 -3.1**
CN2 *ePP* **PP** **06 00 26.5 -3.9**
CN2 *eS* **S** **06 05 29.6 -6.3**
CN2 pmax pmax
comp=Z,50nm,1.3s
CN2 pmax pmax
comp=Z,2μm,10.0s
CN2 LR LR
comp=Z,17μm,17.0s
CN2 LR LR
comp=Z,19μm,16.0s
CN2 LR LR
comp=Z,15μm,17.0s
WHTX Lake Whitney, 47.96 95 P **P** **05 58 39.1 +0.1**
baz=320,SNR=15
WHTX S **S** **06 05 36.9 +0.3**
baz=320
WHTX Lake Whitney, 47.96 95 P **P** **05 58 38.9 -0.2**
baz=320,SNR=15
WHTX S **S** **06 05 37.2 +0.7**
baz=320
JHJ Hachijo jima 2 47.98 268 LR LR 06 18 13.4
comp=Z,3μm,20.8s,baz=62,slow=35
SLBS Sierra La Lagu 48.00 113 IAMs_20 IAMs_20 06 15 45.1
comp=Z,14μm,20.0s
SLBS Sierra La Lagu 48.00 113 ⇓P **P** **05 58 40.7 +1.1**
OLIL Olney 48.05 81 P **P** **05 58 38.9 -0.7**
baz=316,SNR=74
OLIL S **S** **06 05 35.8 -1.8**
baz=316
K50A Casco 48.08 73 P **P** **05 58 39.4 -0.5**
baz=315,SNR=11
K50A P **P** **05 58 39.4 -0.5**
baz=315,SNR=11
K50A S **S** **06 05 37.3 -0.7**
baz=315
K50A S **S** **06 05 37.3 -0.7**
baz=315
CIT Chita 48.09 304 *eP* **P** **05 58 41.1 +1.2**
CIT *e* 06 00 36.9
CIT pmax pmax
comp=Z,403nm,2.0s
S44A Carbondale 48.18 83 P **P** **05 58 39.6 -1.0**
baz=317,SNR=47
S44A S **S** **06 05 36.8 -2.6**
baz=317
PBMO Poplar Bluff 48.21 85 P **P** **05 58 39.4 -1.5**
baz=317,SNR=78
WHAR Wooly Hollow 48.29 87 P **P** **05 58 39.5 -2.1**
WHAR IAmb IAmb 05 58 45.6
comp=Z,178nm,1.5s
LCAR Lake Charles 48.34 86 P **P** **05 58 39.7 -2.2**
baz=318,SNR=34
LCAR S **S** **06 05 36.9 -4.9**
baz=318
Z38A Mt. Pleasant 48.34 92 P **P** **05 58 41.6 -0.4**
baz=319,SNR=10.0
Z38A S **S** **06 05 39.6 -2.3**
baz=319
W41B Gary Mavity, V 48.40 88 P **P** **05 58 40.2 -2.3**
W41B IAmb IAmb 05 58 46.4
comp=Z,165nm,1.6s
W41B Gary Mavity, V 48.40 88 P **P** **05 58 41.0 -1.5**
baz=318,SNR=17
W41B S **S** **06 05 40.9 -1.8**
baz=318
W41B Gary Mavity, V 48.40 88 P **P** **05 58 40.7 -1.7**
baz=318,SNR=17
W41B S **S** **06 05 41.0 -1.8**
baz=318
SADO Sadowa 48.48 69 LR LR 06 21 02.1
comp=Z,15μm,20.3s,baz=354,slow=38
SADO Sadowa 48.48 69 P **P** **05 58 41.2 -1.8**
SADO Sadowa 48.48 69 ⇑P **P** **05 58 41.6 -1.3**
O48B Farmland 48.53 77 P **P** **05 58 41.7 -1.8**
baz=316,SNR=61
O48B S **S** **06 05 42.4 -2.1**
baz=316
O48B Farmland 48.53 77 P **P** **05 58 41.6 -1.8**
baz=316,SNR=61
O48B S **S** **06 05 42.0 -2.4**
baz=316
N49A Columbus Grove 48.57 76 P **P** **05 58 41.8 -1.9**
N49A Columbus Grove 48.57 76 P **P** **05 58 42.7 -1.0**
baz=316,SNR=62
N49A P **P** **05 58 42.7 -1.0**
baz=316,SNR=62
N49A S **S** **06 05 41.0 -4.0**
baz=316
N49A S **S** **06 05 41.0 -4.0**
baz=316
X40A Basin Creek Fa 48.59 89 IAMs_20 IAMs_20 06 18 42.8
comp=Z,21μm,19.0s
X40A Basin Creek Fa 48.59 89 P **P** **05 58 43.0 -1.0**
baz=319,SNR=18
X40A P **P** **05 58 43.0 -1.0**
baz=319,SNR=18
X40A S **S** **06 05 42.1 -3.3**
baz=319
X40A S **S** **06 05 42.1 -3.3**
baz=319
X40A Basin Creek Fa 48.59 89 P **P** **05 58 42.4 -1.5**
baz=319,SNR=18
X40A S **S** **06 05 44.2 -1.2**
baz=319
PARMO Parma 48.66 84 P **P** **05 58 43.1 -1.2**
BJO1 Bjornoya 48.69 1 *eP* **P** **05 58 44.0 -0.1**
BJO1 IVmB_BB 05 58 52.9
comp=Z,2μm,4.9s
BJO1 IVMs_BB IVMs_BB 06 19 10.8
comp=Z,14μm,20.1s
435B Jarrell 48.82 96 P **P** **05 58 45.9 +0.2**
baz=321,SNR=26
435B S **S** **06 05 46.6 -2.1**
baz=321
435B Jarrell 48.82 96 P **P** **05 58 45.9 +0.2**
baz=321
435B S **S** **06 05 51.5 +2.8**
baz=321

M50A Fremont 48.83 75 P **P** **05 58 44.5 -1.2**
baz=316
M50A P **P** **05 58 44.5 -1.2**
baz=316
M50A S **S** **06 05 46.5 -2.1**
baz=316
M50A S **S** **06 05 46.5 -2.1**
baz=316
P48A Milroy 48.96 78 P **P** **05 58 45.2 -1.5**
baz=316,SNR=104
P48A P **P** **05 58 45.2 -1.5**
baz=316,SNR=104
P48A S **S** **06 05 45.8 -4.6**
baz=316
P48A S **S** **06 05 45.8 -4.6**
baz=316
HBAR Harrisburg 48.99 86 P **P** **05 58 44.9 -2.0**
HBAR Harrisburg 48.99 86 P **P** **05 58 45.5 -1.4**
baz=318
T45B Paducah 49.00 83 P **P** **05 58 46.0 -1.1**
baz=317,SNR=33
T45B S **S** **06 05 48.2 -2.9**
baz=317
O49A Covington 49.02 77 P **P** **05 58 45.5 -1.6**
baz=316,SNR=20
O49A P **P** **05 58 45.5 -1.6**
baz=316,SNR=20
O49A S **S** **06 05 49.0 -2.3**
baz=316
O49A S **S** **06 05 49.0 -2.3**
baz=316
SOEG Soedalen 49.06 23 *i* P **P** **05 58 45.9 -1.2**
SOEG IAmb IAmb 05 59 03.7
comp=Z,26nm,0.8s
SOEG Soedalen 49.06 23 ⇑P **P** **05 58 47.1 0.0**
P49A Miami Univ. Ec 49.28 78 P **P** **05 58 47.3 -1.9**
P49A IAMs_20 IAMs_20 06 19 00.8
comp=Z,17μm,22.0s
P49A Miami Univ. Ec 49.28 78 P **P** **05 58 47.4 -1.9**
baz=316,SNR=43
P49A S **S** **06 05 49.7 -5.3**
baz=316
P49A Miami Univ. Ec 49.28 78 P **P** **05 58 47.4 -1.8**
baz=316,SNR=43
P49A S **S** **06 05 51.6 -3.5**
baz=316
N51A Ashland 49.53 75 P **P** **05 58 49.8 -1.2**
baz=316,SNR=24
N51A P **P** **05 58 49.8 -1.2**
baz=316,SNR=24
N51A S **S** **06 05 56.9 -1.6**
baz=316
N51A S **S** **06 05 56.9 -1.6**
baz=316
Z41A Richland Creek 49.54 90 P **P** **05 58 50.7 -0.4**
baz=319,SNR=14
Z41A P **P** **05 58 50.7 -0.4**
baz=319,SNR=14
Z41A S **S** **06 05 59.0 +0.3**
baz=319
Z41A S **S** **06 05 59.0 +0.3**
baz=319
Z41A Richland Creek 49.54 90 P **P** **05 58 50.6 -0.6**
baz=319,SNR=14
Z41A S **S** **06 05 59.7 +1.0**
baz=319
HHU Hamhung 49.59 283 P **P** **05 58 50.9 -0.6**
HHU sP **pP** **05 58 55.3 +0.4**
HHU S **S** **06 06 01.6 +2.3**
HHU AmB
comp=Z,451nm,2.1s
HHU AMS AMS
comp=N,11μm,12.8s
HHU AMS AMS
comp=E,10μm,11.6s
HHU AMS AMS
comp=Z,13μm,14.9s
CCAR Cane Creek 49.60 88 P **P** **05 58 51.5 -0.1**
baz=319
CCAR S **S** **06 05 59.9 +0.3**
baz=319
M52A Chesterland 49.62 74 P **P** **05 58 50.0 -1.7**
M52A IAmb IAmb 05 58 55.5
comp=Z,182nm,0.9s
M52A Chesterland 49.62 74 P **P** **05 58 50.7 -1.0**
baz=316,SNR=19
M52A P **P** **05 58 50.7 -1.0**
baz=316,SNR=19
M52A S **S** **06 05 56.0 -3.7**
baz=316
M52A S **S** **06 05 56.0 -3.7**
baz=316
ANGG Ammassalik, Gr 49.66 28 IAMs_20 IAMs_20 06 23 39.3
comp=Z,25μm,19.0s
ANGG Ammassalik, Gr 49.66 28 *i* P **P** **05 58 49.6 -2.0**
ANGG IAmb IAmb 05 59 12.4
comp=Z,18nm,0.6s
NATX Nacogdoches 49.66 93 IAMs_20 IAMs_20 06 20 32.2
comp=Z,17μm,18.0s
NATX Nacogdoches 49.66 93 P **P** **05 58 52.1 0.0**
baz=320,SNR=19
NATX Nacogdoches 49.66 93 P **P** **05 58 52.1 0.0**
baz=320,SNR=19
NATX S **S** **06 06 03.6 +3.1**
baz=320
GAC Glen Almond 49.67 66 ⇑P **P** **05 58 50.6 -1.4**
ACSO Alum Creek Sta 49.70 76 P **P** **05 58 51.4 -1.0**
baz=316,SNR=22
ACSO S **S** **06 05 57.6 -3.3**
baz=316
ACSO Alum Creek Sta 49.70 76 P **P** **05 58 51.1 -1.3**
baz=316,SNR=22
ACSO S **S** **06 05 59.0 -1.9**
baz=316
833A Chaparral WMA, 49.76 100 P **P** **05 58 53.1 +0.2**
baz=322,SNR=21
833A S **S** **06 06 02.8 +0.8**
baz=322
833A Chaparral WMA, 49.76 100 P **P** **05 58 53.0 0.0**
baz=322,SNR=21
833A S **S** **06 06 04.4 +2.4**
baz=322
J54A Appleton 49.79 70 P **P** **05 58 52.5 -0.4**
J54A Appleton 49.79 70 P **P** **05 58 52.6 -0.4**
baz=315,SNR=43
J54A P **P** **05 58 52.6 -0.4**
baz=315,SNR=43
LATQ La Tuque 49.82 62 P **P** **05 58 51.2 -1.9**
LATQ IAmb IAmb 05 58 57.0
comp=Z,123nm,1.0s
T47A Sharon Grove 49.86 82 P **P** **05 58 52.2 -1.4**
T47A IAmb IAmb 05 58 58.1
comp=Z,225nm,1.2s
T47A Sharon Grove 49.86 82 P **P** **05 58 52.6 -0.9**
baz=318,SNR=43
T47A S **S** **06 05 58.6 -4.5**
baz=318
ERPA Erie 49.92 72 P **P** **05 58 52.6 -1.4**
ERPA Erie 49.92 72 P **P** **05 58 53.6 -0.4**
baz=316,SNR=50
ERPA S **S** **06 06 02.3 -1.6**
baz=316
ERPA Erie 49.92 72 P **P** **05 58 53.5 -0.4**
baz=316,SNR=50
ERPA S **S** **06 06 02.3 -1.6**
baz=316
R49A Shelbyville 49.94 79 P **P** **05 58 52.9 -1.3**
baz=317,SNR=35
R49A P **P** **05 58 52.9 -1.3**
baz=317,SNR=35
R49A S **S** **06 05 57.3 -6.9**
baz=317
R49A S **S** **06 05 57.3 -6.9**
baz=317
MEDO Medina 49.97 70 P **P** **05 58 53.7 -0.6**
M53A WI Miller and 50.05 73 P **P** **05 58 53.9 -1.1**
M53A IAMs_20 IAMs_20 06 20 39.9
comp=Z,25μm,20.0s
M53A WI Miller and 50.05 73 P **P** **05 58 54.3 -0.6**
baz=316,SNR=36
M53A S **S** **06 06 04.7 -1.0**
baz=316
W45A Hickory Valley 50.08 85 P **P** **05 58 54.0 -1.3**
W45A Hickory Valley 50.08 85 P **P** **05 58 54.8 -0.5**
baz=318,SNR=44
WVT Waverly 50.10 83 P **P** **05 58 54.4 -1.0**
WVT pmax pmax

WVT MLR MLR
comp=Z,167nm,1.1s
WVT **Waverly** **50.10** **83** P **P** **05 58 54.4** **-1.0**
WVT IAmb IAmb 05 59 00.1
comp=Z,23µm,18.0s
WVT **Waverly** **50.10** **83** P **P** **05 58 54.6** **-0.7**
WVT IAmb IAmb 05 59 00.1
comp=Z,167nm,1.1s
WVT **Waverly** **50.10** **83** IAMs_20 IAMs_20 06 20 14.5
comp=Z,23µm,18.0s
WVT **Waverly** **50.10** **83** ⇑P **P** **05 58 54.7** **-0.7**
WVT **Waverly** **50.10** **83** P **P** **05 58 54.6** **-0.7**
baz=318,SNR=79
WVT S **S** **06 06 02.7** **-3.8**
baz=318
WVT **Waverly** **50.10** **83** P **P** **05 58 54.7** **-0.7**
baz=318
WVT S **S** **06 06 06.1** **-0.4**
baz=318
PECO **Prince Edward** **50.16** **68** P **P** **05 58 54.5** **-1.3**
PECO IAmb IAmb 05 58 56.6
comp=Z,193nm,1.0s
ALLY **Alegheny Colle** **50.17** **73** P **P** **05 58 55.5** **-0.4**
baz=316,SNR=77
ALLY S **S** **06 06 06.5** **-1.0**
baz=316
735A **Kenedy** **50.20** **98** P **P** **05 58 57.2** **+1.0**
baz=322
JHS **Saijyo** **50.20** **275** P **P** **05 58 55.8** **-0.5**
JHS **Saijyo** **50.20** **275** ⇓P **P** **05 58 56.6** **+0.4**
P51A **Williamsport** **50.20** **77** P **P** **05 58 54.5** **-1.7**
P51A IAmb IAmb 05 58 60.0
comp=Z,125nm,1.0s
P51A **Williamsport** **50.20** **77** P **P** **05 58 54.7** **-1.5**
baz=317,SNR=25
P51A P **P** **05 58 54.7** **-1.5**
baz=317,SNR=25
P51A S **S** **06 06 06.5** **-1.4**
baz=317
P51A S **S** **06 06 06.5** **-1.4**
baz=317
J55A **Hilton** **50.22** **70** P **P** **05 58 55.1** **-1.1**
J55A **Hilton** **50.22** **70** P **P** **05 58 55.8** **-0.4**
baz=316,SNR=27
J55A P **P** **05 58 55.8** **-0.4**
baz=316,SNR=27
J55A S **S** **06 06 04.7** **-3.3**
baz=316
J55A S **S** **06 06 04.7** **-3.3**
baz=316
Q51A **Peebles** **50.38** **77** P **P** **05 58 55.8** **-1.7**
Q51A **Peebles** **50.38** **77** P **P** **05 58 56.7** **-0.9**
baz=317,SNR=61
Q51A P **P** **05 58 56.7** **-0.9**
baz=317,SNR=61
Q51A S **S** **06 06 05.7** **-4.7**
baz=317
Q51A S **S** **06 06 05.7** **-4.7**
baz=317
O52A **Adamsville** **50.39** **75** P **P** **05 58 56.2** **-1.4**
baz=316,SNR=44
O52A P **P** **05 58 56.2** **-1.4**
baz=316,SNR=44
O52A S **S** **06 06 07.7** **-2.8**
baz=316
O52A S **S** **06 06 07.7** **-2.8**
baz=316
R50A **Paris** **50.40** **79** P **P** **05 58 56.5** **-1.2**
R50A **Paris** **50.40** **79** P **P** **05 58 56.6** **-1.0**
baz=317,SNR=138
R50A P **P** **05 58 56.6** **-1.0**
baz=317,SNR=138
R50A S **S** **06 06 08.2** **-2.5**
baz=317
R50A S **S** **06 06 08.2** **-2.5**
baz=317
N53A **Lisbon** **50.42** **74** P **P** **05 58 56.7** **-1.1**
baz=316,SNR=29
N53A P **P** **05 58 56.7** **-1.1**
baz=316,SNR=29
N53A S **S** **06 06 08.1** **-2.8**
baz=316
N53A S **S** **06 06 08.1** **-2.8**
baz=316
HKT **Hockley** **50.42** **95***c i* P **P** **05 58 57.7** **-0.1**
HKT pmax pmax
comp=Z,246nm,1.4s
HKT MLR MLR
comp=Z,35µm,18.0s
HKT **Hockley** **50.42** **95** ⇑P **P** **05 58 58.3** **+0.5**
HKT **Hockley** **50.42** **95** P **P** **05 58 58.2** **+0.4**
baz=321
JMIC **Jan Mayen** **50.43** **12** LR LR 06 21 29.2
comp=Z,30µm,19.7s,baz=340,slow=38
WVNY **West Valley, N** **50.43** **71** P **P** **05 58 56.9** **-0.9**
WVNY **West Valley, N** **50.43** **71** P **P** **05 58 57.4** **-0.4**
baz=316,SNR=58
OXF **Oxford** **50.45** **86** P **P** **05 58 57.1** **-0.9**
OXF pmax pmax
comp=Z,2µm,1.5s
OXF MLR MLR
comp=Z,25µm,20.0s
OXF **Oxford** **50.45** **86** P **P** **05 58 57.0** **-0.9**
OXF IAMs_20 IAMs_20 06 22 16.7
comp=Z,25µm,20.0s
OXF **Oxford** **50.45** **86** P **P** **05 58 57.2** **-0.9**
baz=319,SNR=66
OXF S **S** **06 06 09.5** **-1.8**
baz=319
OXF **Oxford** **50.45** **86** P **P** **05 58 57.3** **-0.7**
baz=319,SNR=66
OXF S **S** **06 06 10.8** **-0.5**
baz=319
M54A **Oil Creek Stat** **50.53** **72** P **P** **05 58 57.8** **-0.8**
baz=316,SNR=69
M54A S **S** **06 06 10.1** **-2.3**
baz=316
M54A **Oil Creek Stat** **50.53** **72** P **P** **05 58 57.8** **-0.8**
baz=316,SNR=69
M54A S **S** **06 06 10.9** **-1.4**
baz=316
P52A **Corning** **50.59** **76** P **P** **05 58 57.4** **-1.7**
P52A IAmb IAmb 05 59 02.7
comp=Z,164nm,1.1s
P52A **Corning** **50.59** **76** P **P** **05 58 57.2** **-1.8**
baz=317,SNR=24
P52A S **S** **06 06 09.9** **-3.3**
baz=317
O53A **New Philadelph** **50.62** **75** IAMs_20 IAMs_20 06 20 53.2
comp=Z,18µm,19.0s
O53A **New Philadelph** **50.62** **75** P **P** **05 58 58.0** **-1.4**
baz=317,SNR=37
O53A S **S** **06 06 09.5** **-4.2**
baz=317
J56A **Wolcott** **50.70** **69** P **P** **05 58 59.5** **-0.4**
baz=316,SNR=31
J56A P **P** **05 58 59.5** **-0.4**
baz=316,SNR=31
J56A S **S** **06 06 13.5** **-1.2**
baz=316
J56A S **S** **06 06 13.5** **-1.2**
baz=316
143A **Socs Landing,** **50.72** **89** P **P** **05 59 00.1** **-0.1**
baz=320,SNR=22
MNTQ **Montreal, Queb** **50.74** **65** P **P** **05 58 58.2** **-1.9**
MNTQ IAmb IAmb 05 59 00.2
comp=Z,124nm,0.9s
MNTQ **Montreal, Queb** **50.74** **65** ⇑P **P** **05 58 58.6** **-1.5**
JMN **Monobe** **50.74** **273** ⇑P **P** **05 59 01.8** **+1.4**
N54A **Moraine State** **50.75** **73** P **P** **05 58 59.3** **-1.0**
baz=316,SNR=36
N54A S **S** **06 06 11.3** **-4.2**
baz=316
N54A **Moraine State** **50.75** **73** P **P** **05 58 59.3** **-1.0**
baz=316,SNR=36
N54A S **S** **06 06 12.4** **-3.1**
baz=316
BMNY **Brushton-Moira** **50.77** **66** P **P** **05 58 59.1** **-1.2**
baz=316,SNR=24
BMNY S **S** **06 06 12.8** **-2.8**
baz=316
WCNY **West Carthage** **50.81** **67** P **P** **05 59 00.0** **-0.6**
baz=316,SNR=52
WCNY S **S** **06 06 14.6** **-1.6**
baz=316
PLAL **Pickwick Lake** **50.82** **84** P **P** **05 58 59.3** **-1.5**
PLAL IAMs_20 IAMs_20 06 20 24.6
comp=Z,19µm,20.0s
Y45A **Yeager Farm, C** **50.86** **86** P **P** **05 59 00.3** **-0.9**
baz=319,SNR=14
LONY **Lake Ozonia** **50.89** **66** P **P** **05 58 60.0** **-1.3**
baz=316,SNR=21
LONY S **S** **06 06 15.8** **-1.5**
baz=316
ICQ **Pointe Anglais** **50.91** **57** ⇑P **P** **05 59 00.3** **-0.9**
U49A **Red Boiling Sp** **50.92** **81** P **P** **05 59 00.7** **-0.9**
baz=318,SNR=21
U49A S **S** **06 06 15.0** **-2.9**
baz=318
V48A **Smith Brothers** **50.93** **83** P **P** **05 59 00.8** **-0.9**
baz=318,SNR=32
V48A S **S** **06 06 15.8** **-2.4**
baz=318
Q52A **Bidwell** **51.00** **76** P **P** **05 59 00.6** **-1.6**
baz=317,SNR=14
Q52A P **P** **05 59 00.6** **-1.6**
baz=317,SNR=14
Q52A S **S** **06 06 15.7** **-3.3**
baz=317
Q52A S **S** **06 06 15.7** **-3.3**
baz=317
M55A **Ridgway** **51.02** **72** P **P** **05 59 01.9** **-0.4**
baz=316,SNR=74
M55A P **P** **05 59 01.9** **-0.4**
baz=316,SNR=74
M55A S **S** **06 06 13.5** **-5.8**
baz=316
M55A S **S** **06 06 13.5** **-5.8**
baz=316
T50A **Nancy** **51.06** **80** P **P** **05 59 01.9** **-0.8**
baz=318
T50A P **P** **05 59 01.9** **-0.8**
baz=318
T50A S **S** **06 06 16.0** **-3.8**
baz=318
T50A S **S** **06 06 16.0** **-3.8**
baz=318
SUJ **Sinuiju** **51.07** **286** P **P** **05 59 01.6** **-1.1**
SUJ sP **sP** **05 59 09.4** **+2.0**
SUJ S **S** **06 06 19.6** **-0.3**
SUJ AmB
comp=Z,890nm,3.4s
SUJ AMS AMS
comp=N,36µm,22.0s
SUJ AMS AMS
comp=E,3µm,2.1s
SUJ AMS AMS
comp=Z,29µm,18.0s
P53A **Whipple** **51.09** **75** P **P** **05 59 01.5** **-1.3**
baz=317,SNR=30
P53A P **P** **05 59 01.5** **-1.3**
baz=317,SNR=30
P53A S **S** **06 06 15.6** **-4.6**
baz=317
P53A S **S** **06 06 15.6** **-4.6**
baz=317
O54A **Avella** **51.11** **74** P **P** **05 59 01.9** **-1.1**
baz=317,SNR=45
O54A P **P** **05 59 01.9** **-1.1**
baz=317,SNR=45
O54A S **S** **06 06 17.4** **-3.1**
baz=317
O54A S **S** **06 06 17.4** **-3.1**
baz=317
L56A **Greenwood** **51.16** **70** P **P** **05 59 03.0** **-0.4**
baz=316,SNR=86
L56A P **P** **05 59 03.0** **-0.4**
baz=316,SNR=86
L56A S **S** **06 06 14.2** **-7.0**
baz=316
L56A S **S** **06 06 14.2** **-7.0**
baz=316
PYAG **Pyongyang** **51.17** **284** P **P** **05 59 04.7** **+1.3**
PYAG pP **pP** **05 59 06.1** **-0.8**
PYAG sP **sP** **05 59 13.0** **+4.8**
PYAG S **S** **06 06 25.0** **+3.7**
PYAG AmB
comp=Z,578nm,2.0s
PYAG AMS AMS
comp=N,226nm,1.6s
PYAG AMS AMS
comp=E,3µm,19.8s
PYAG AMS AMS
comp=Z,171nm,1.2s
KSRS **Korea Array** **51.19** **281** P **P** **05 59 04.3** **+0.8**
comp=Z,124nm,1.2s,baz=46,slow=6.7,SNR=113
KSRS PcP **PcP** **06 00 19.8** **+0.9**
comp=Z,19nm,0.9s,baz=45,slow=6.0,SNR=1.7
KSRS LR LR 06 21 26.5
comp=Z,6µm,19.9s,baz=50,slow=37
KSAR **Wonju Array Be** **51.22** **281** P **P** **05 59 04.5** **+0.7**
KSAR **Wonju Array Be** **51.22** **281** P **P** **05 59 04.5** **+0.7**
FRNY **Flat Rock** **51.23** **65** P **P** **05 59 02.3** **-1.6**
baz=316,SNR=32
FRNY S **S** **06 06 19.3** **-2.7**
baz=316
342B **Flagon Creek P** **51.23** **91** P **P** **05 59 04.4** **+0.4**
baz=320,SNR=16
441A **DeRidder** **51.24** **92** P **P** **05 59 04.9** **+0.8**
baz=321
K57A **Scipio Center** **51.27** **69** P **P** **05 59 03.4** **-0.7**
baz=316,SNR=23
K57A S **S** **06 06 19.4** **-3.2**
baz=316
S51A **Beattyville** **51.27** **79** P **P** **05 59 03.3** **-1.0**
baz=318,SNR=55
S51A P **P** **05 59 03.3** **-1.0**
baz=318,SNR=55
S51A S **S** **06 06 22.6** **-0.1**
baz=318
S51A S **S** **06 06 22.6** **-0.1**
baz=318
JCJ **Chichijima** **51.35** **261** P **P** **05 59 05.1** **+0.2**
comp=Z,222nm,0.8s,baz=341,slow=5.9,SNR=8.0
JCJ LR LR 06 19 05.9
comp=Z,3µm,21.9s,baz=31,slow=34
J58A **Remsen** **51.44** **68** P **P** **05 59 04.4** **-1.0**
J58A **Remsen** **51.44** **68** P **P** **05 59 05.0** **-0.4**
baz=316,SNR=54
J58A P **P** **05 59 05.0** **-0.4**
baz=316,SNR=54
J58A S **S** **06 06 23.0** **-2.0**
baz=316
J58A S **S** **06 06 23.0** **-2.0**
baz=316
NCB **Newcomb** **51.53** **66** P **P** **05 59 05.0** **-1.2**
NCB IAmb IAmb 05 59 10.6
comp=Z,402nm,1.7s
NCB **Newcomb** **51.53** **66** P **P** **05 59 05.5** **-0.7**
baz=316,SNR=22
NCB S **S** **06 06 21.9** **-4.4**
baz=316
VBMS **Vicksburg** **51.58** **89** P **P** **05 59 05.8** **-0.7**
VBMS IAMs_20 IAMs_20 06 22 52.7
comp=Z,22µm,18.0s
VBMS **Vicksburg** **51.58** **89** P **P** **05 59 06.5** **0.0**
baz=320,SNR=16
VBMS **Vicksburg** **51.58** **89** P **P** **05 59 06.5** **0.0**
baz=320,SNR=16
VBMS S **S** **06 06 28.0** **+1.0**
baz=320
R53A **Hurricane** **51.63** **77** P **P** **05 59 05.8** **-1.2**
R53A IAmb IAmb 05 59 11.1
comp=Z,226nm,1.1s
R53A **Hurricane** **51.63** **77** P **P** **05 59 06.1** **-0.9**
baz=318,SNR=28
R53A P **P** **05 59 06.1** **-0.9**
baz=318,SNR=28
R53A S **S** **06 06 26.3** **-1.5**
baz=318
R53A S **S** **06 06 26.3** **-1.5**
baz=318
Q54A **Coxs Mills** **51.75** **75** P **P** **05 59 06.6** **-1.2**
baz=317,SNR=31
Q54A P **P** **05 59 06.6** **-1.2**
baz=317,SNR=31
Q54A S **S** **06 06 28.8** **-0.5**
baz=317
Q54A S **S** **06 06 28.8** **-0.5**
baz=317
J59A **Piesco** **51.76** **67** P **P** **05 59 07.0** **-0.9**
baz=316,SNR=18
J59A P **P** **05 59 07.0** **-0.9**
baz=316,SNR=18
J59A S **S** **06 06 28.0** **-1.4**
baz=316
J59A S **S** **06 06 28.0** **-1.4**
baz=316
MCWV **Mont Chateau** **51.77** **74** IAMs_20 IAMs_20 06 21 22.6
comp=Z,24µm,21.0s
MCWV **Mont Chateau** **51.77** **74** P **P** **05 59 07.0** **-1.0**
baz=317,SNR=35
MCWV S **S** **06 06 26.5** **-3.1**
baz=317
MCWV **Mont Chateau** **51.77** **74** P **P** **05 59 07.0** **-1.0**
baz=317,SNR=35
MCWV S **S** **06 06 27.9** **-1.7**
baz=317
X48A **Hartselle** **51.78** **84** P **P** **05 59 06.6** **-1.5**
baz=319,SNR=27
X48A S **S** **06 06 27.3** **-2.5**
baz=319
D62A **Allapoint, All** **51.82** **60** P **P** **05 59 07.5** **-0.7**
baz=316,SNR=20
D62A P **P** **05 59 07.5** **-0.7**
baz=316,SNR=20
INCN **Inchon** **51.86** **282** P **P** **05 59 09.4** **+0.7**
BINY **Binghamton** **51.92** **69** P **P** **05 59 08.9** **-0.2**
BINY **Binghamton** **51.92** **69** P **P** **05 59 08.9** **-0.2**
baz=317,SNR=75
BINY S **S** **06 06 31.2** **-0.5**
baz=317
BINY **Binghamton** **51.92** **69** P **P** **05 59 08.7** **-0.4**
baz=317,SNR=75
BINY S **S** **06 06 32.3** **+0.6**
baz=317
HJU **Haeju** **51.93** **283** P **P** **05 59 09.4** **+0.3**
HJU sP **sP** **05 59 18.3** **+4.5**
HJU S **S** **06 06 33.1** **+1.4**
HJU AmB
comp=Z,242nm,1.0s
HJU AMS AMS
comp=N,2µm,17.1s
HJU AMS AMS
comp=E,2µm,19.2s
HJU AMS AMS
comp=Z,555nm,4.4s
M57A **Sunshine Farm,** **51.96** **71** P **P** **05 59 08.6** **-0.8**
M57A IAmb IAmb 05 59 10.2
comp=Z,181nm,1.1s
M57A **Sunshine Farm,** **51.96** **71** P **P** **05 59 08.9** **-0.5**
baz=317,SNR=38
M57A P **P** **05 59 08.9** **-0.5**
baz=317,SNR=38
M57A S **S** **06 06 30.2** **-2.0**
baz=317
M57A S **S** **06 06 30.2** **-2.0**
baz=317
O56A **Blue Knob Stat** **52.00** **73** P **P** **05 59 08.4** **-1.3**
baz=317,SNR=37
O56A S **S** **06 06 29.2** **-3.6**
baz=317
O56A **Blue Knob Stat** **52.00** **73** P **P** **05 59 08.6** **-1.1**
baz=317,SNR=37
O56A S **S** **06 06 31.6** **-1.2**
baz=317
IRK **Irkutsk** **52.00** **309** *e*P **P** **05 59 08.9** **-0.6**
IRK pmax pmax
comp=Z,255nm,2.3s
344A **Westbrook Farm** **52.04** **89** P **P** **05 59 10.1** **+0.1**
baz=320,SNR=19
146A **Union** **52.05** **87** P **P** **05 59 09.7** **-0.4**
baz=320,SNR=61
SSPA **Standing Stone** **52.08** **72** P **P** **05 59 09.3** **-0.9**
SSPA **Standing Stone** **52.08** **72** ⇑P **P** **05 59 09.4** **-0.9**
SSPA **Standing Stone** **52.08** **72** P **P** **05 59 09.8** **-0.5**
baz=317,SNR=52
SSPA S **S** **06 06 32.4** **-1.4**
baz=317
SSPA **Standing Stone** **52.08** **72** P **P** **05 59 09.4** **-0.9**
baz=317
SSPA S **S** **06 06 33.3** **-0.6**
baz=317
TZTN **Tazewell** **52.10** **80** P **P** **05 59 10.0** **-0.4**
baz=318,SNR=36
TZTN S **S** **06 06 33.3** **-0.9**
baz=318
TZTN **Tazewell** **52.10** **80** P **P** **05 59 09.7** **-0.8**
baz=318,SNR=36
TZTN S **S** **06 06 34.6** **+0.4**
baz=318
W50A **Signal Mountai** **52.15** **82** P **P** **05 59 09.9** **-1.0**
W50A IAmb IAmb 05 59 15.2
comp=Z,232nm,1.2s
W50A **Signal Mountai** **52.15** **82** P **P** **05 59 09.5** **-1.4**
baz=319,SNR=37
W50A S **S** **06 06 32.4** **-2.7**
baz=319
MCVT **Middlebury Col** **52.16** **66** P **P** **05 59 09.7** **-1.2**
baz=316,SNR=8.7
MCVT S **S** **06 06 34.0** **-0.9**
baz=316
Z47A **Carrollton** **52.16** **86** P **P** **05 59 09.9** **-1.0**
baz=320,SNR=30
Z47A S **S** **06 06 31.9** **-3.2**
baz=320
V51A **Loudon** **52.22** **81** P **P** **05 59 10.2** **-1.1**
baz=318,SNR=22
V51A S **S** **06 06 33.8** **-2.1**
baz=318
ACCN **Adirondack Com** **52.24** **67** P **P** **05 59 10.6** **-0.8**
baz=317,SNR=17
ACCN S **S** **06 06 34.7** **-1.2**
baz=317
TJN **Taejon** **52.29** **280***c i* P **P** **05 59 11.9** **+0.1**
TJN **Taejon** **52.29** **280** P **P** **05 59 12.7** **+0.9**
S54A **Dingess, Beckl** **52.37** **77** P **P** **05 59 11.2** **-1.2**
baz=318,SNR=19
S54A P **P** **05 59 11.2** **-1.2**
baz=318,SNR=19
S54A S **S** **06 06 35.9** **-2.1**
baz=318
S54A S **S** **06 06 35.9** **-2.1**
baz=318
HCNY **Howe Caverns** **52.37** **68** P **P** **05 59 12.0** **-0.3**
baz=317,SNR=96
L59A **Walton** **52.41** **69** P **P** **05 59 12.1** **-0.7**
L59A **Walton** **52.41** **69** P **P** **05 59 12.7** **-0.1**
baz=317,SNR=56
L59A P **P** **05 59 12.7** **-0.1**
baz=317,SNR=56
L59A S **S** **06 06 36.5** **-1.9**
baz=317
L59A S **S** **06 06 36.5** **-1.9**
baz=317
G62A **West of Eustis** **52.45** **63** P **P** **05 59 12.2** **-0.8**
baz=316,SNR=23
G62A P **P** **05 59 12.2** **-0.8**
baz=316,SNR=23
G62A S **S** **06 06 37.4** **-1.5**
baz=316
G62A S **S** **06 06 37.4** **-1.5**
baz=316
LBNH **Lisbon** **52.48** **65** P **P** **05 59 12.3** **-0.8**
baz=317,SNR=11
LBNH **Lisbon** **52.48** **65** P **P** **05 59 12.4** **-0.8**
baz=317,SNR=11
LBNH S **S** **06 06 39.3** **+0.1**
baz=317
FPAL **Fort Paine** **52.49** **83** P **P** **05 59 11.9** **-1.4**
FPAL IAmb IAmb 05 59 22.5
comp=Z,131nm,1.1s
KSPA **Keystone Colle** **52.50** **70** P **P** **05 59 12.5** **-0.9**
KSPA IAmb IAmb 05 59 14.3
comp=Z,216nm,1.1s
KSPA **Keystone Colle** **52.50** **70** P **P** **05 59 13.1** **-0.3**
baz=317,SNR=26
KSPA S **S** **06 06 38.3** **-1.3**
baz=317
N58A **Sunbury** **52.54** **71** P **P** **05 59 13.0** **-0.6**
baz=317,SNR=31
N58A P **P** **05 59 13.0** **-0.6**
baz=317,SNR=31
N58A S **S** **06 06 37.4** **-2.7**
baz=317
N58A S **S** **06 06 37.4** **-2.7**
baz=317
ZAIG **Zacatecas** **52.55** **107** P **P** **05 59 13.6** **-0.6**
Y49A **Blount Mountai** **52.57** **84** P **P** **05 59 12.5** **-1.5**
baz=319,SNR=22
Y49A S **S** **06 06 38.2** **-2.4**
baz=319
Q56A **Snyder Ridge,** **52.57** **74** P **P** **05 59 12.8** **-1.1**

Q56A IAmb IAmb 05 59 18.2
comp=Z,174nm,1.1s
Q56A Snyder Ridge, 52.57 74 P **P** **05 59 13.0 -0.9**
baz=318,SNR=34
Q56A P **P** **05 59 13.0 -0.9**
baz=318,SNR=34
Q56A S **S** **06 06 36.6 -4.1**
baz=318
Q56A S **S** **06 06 36.6 -4.1**
baz=318
JTU Tsushima 52.58 277 ⇓P **P** **05 59 14.6 +0.6**
HAMF Hammerfest 52.58 359 *e*P **P** **05 59 12.9 -0.6**
HAMF IVmB_BB 05 59 21.0
comp=Z,1μm,2.6s
HAMF *e*S **S** **06 06 40.1 +0.2**
HAMF IVMs_BB IVMs_BB 06 25 38.0
comp=Z,8μm,19.3s
E63A Oxbow 52.60 61 P **P** **05 59 12.6 -1.4**
baz=316,SNR=15
E63A P **P** **05 59 12.6 -1.4**
baz=316,SNR=15
E63A S **S** **06 06 36.0 -4.7**
baz=316
E63A S **S** **06 06 36.0 -4.7**
baz=316
V52A Sevierville 52.60 80 P **P** **05 59 13.1 -1.0**
baz=319,SNR=28
V52A S **S** **06 06 39.9 -1.1**
baz=319
H62A Milan 52.62 64 P **P** **05 59 13.4 -0.8**
baz=317,SNR=21
H62A P **P** **05 59 13.4 -0.8**
baz=317,SNR=21
XLT XiLinHaoTe 52.62 295 *e*P **P** **05 59 14.5 +0.2**
XLT pP sP 05 59 19.6 +0.6
XLT sP pP 05 59 21.8 +4.2
XLT PcP **PcP** **06 00 24.5 +0.3**
XLT PP **PP** **06 01 12.8 -0.2**
XLT S **S** **06 06 39.0 -2.3**
XLT sS sS 06 06 48.0 +1.3
XLT pmax pmax
comp=Z,48nm,1.0s
XLT pmax pmax
comp=Z,2μm,8.4s
XLT LR LR
comp=Z,37μm,13.1s
XLT LR LR
comp=Z,23μm,16.4s
R55A Marlinton 52.64 76 P **P** **05 59 13.5 -1.1**
baz=318,SNR=16
R55A P **P** **05 59 13.5 -1.1**
baz=318,SNR=16
R55A S **S** **06 06 35.4 -6.3**
baz=318
R55A S **S** **06 06 35.4 -6.3**
baz=318
TKL Tuckaleechee C 52.64 80 LR LR 06 22 06.5
comp=Z,31μm,18.1s,baz=326,slow=37
TKL Tuckaleechee C 52.64 80 P **P** **05 59 13.3 -1.2**
baz=319,SNR=46
TKL S **S** **06 06 38.6 -3.1**
baz=319
HNH Hanover 52.69 65 S **S** **06 06 41.6 -0.5**
baz=317
TRY Troy 52.71 67 S **S** **06 06 42.6 +0.2**
baz=317
346A Big Creek Wild 52.78 88 P **P** **05 59 13.7 -1.8**
baz=320,SNR=11
346A S **S** **06 06 44.7 +1.0**
baz=320
F63A Nahmakanta, Br 52.79 62 P **P** **05 59 14.5 -1.0**
baz=317,SNR=15
F63A P **P** **05 59 14.5 -1.0**
baz=317,SNR=15
F63A S **S** **06 06 41.4 -2.0**
baz=317
F63A S **S** **06 06 41.4 -2.0**
baz=317
J61A Chester 52.82 66 P **P** **05 59 15.3 -0.4**
baz=317,SNR=17
J61A P **P** **05 59 15.3 -0.4**
baz=317,SNR=17
JNU Nakatsue 52.83 275 P **P** **05 59 15.5 -0.4**
comp=Z,38nm,1.2s,baz=94,slow=5.0,SNR=6.8
JNU LR LR 06 21 50.4
comp=Z,5μm,22.0s,baz=56,slow=36
JNU Nakatsue 52.83 275 ⇓P **P** **05 59 16.2 +0.3**
JNU Nakatsue 52.83 275 P **P** **05 59 16.3 +0.3**
P57A Homestead Farm 52.86 73 P **P** **05 59 15.2 -0.9**
baz=318,SNR=44
P57A P **P** **05 59 15.2 -0.9**
baz=318,SNR=44
P57A S **S** **06 06 43.1 -1.4**
baz=318
P57A S **S** **06 06 43.1 -1.4**
baz=318
LRAL Lakeview Retre 52.87 85 IAMs_20 IAMs_20 06 21 36.9
comp=Z,19μm,19.0s
LRAL Lakeview Retre 52.87 85 P **P** **05 59 14.7 -1.5**
baz=320,SNR=18
LRAL S **S** **06 06 42.2 -2.6**
baz=320
LRAL Lakeview Retre 52.87 85 P **P** **05 59 14.4 -1.8**
baz=320,SNR=18
LRAL S **S** **06 06 42.3 -2.5**
baz=320
X51A Calhoun 52.88 82 P **P** **05 59 15.5 -0.7**
baz=319,SNR=24
X51A P **P** **05 59 15.5 -0.7**
baz=319,SNR=24
X51A S **S** **06 06 44.2 -0.7**
baz=319
X51A S **S** **06 06 44.2 -0.7**
baz=319
N59A State Game Lan 52.97 70 P **P** **05 59 16.4 -0.4**
baz=317,SNR=48
N59A S **S** **06 06 46.2 +0.1**
baz=317
N59A State Game Lan 52.97 70 P **P** **05 59 16.5 -0.4**
baz=317,SNR=48
N59A S **S** **06 06 46.5 +0.5**
baz=317
W52A Murphy 52.98 81 P **P** **05 59 16.1 -0.9**
baz=319,SNR=29
W52A S **S** **06 06 44.0 -2.4**
baz=319
PKME Peaks-Kenny Pk 53.02 62 P **P** **05 59 16.4 -0.7**
baz=317,SNR=8.2
PKME S **S** **06 06 44.8 -1.7**
baz=317
PKME Peaks-Kenny Pk 53.02 62 P **P** **05 59 16.1 -1.1**
baz=317,SNR=8.2
PKME S **S** **06 06 45.2 -1.4**
baz=317
F64A Sherman 53.04 61 P **P** **05 59 16.1 -1.1**
baz=317,SNR=19
F64A P **P** **05 59 16.1 -1.1**
baz=317,SNR=19
F64A S **S** **06 06 45.5 -1.2**
baz=317
F64A S **S** **06 06 45.5 -1.2**
baz=317
I62A Tamworth 53.04 65 P **P** **05 59 16.4 -0.9**
baz=317
I62A P **P** **05 59 16.4 -0.9**
baz=317
U54A Nelsons Funny 53.05 78 P **P** **05 59 16.9 -0.6**
baz=318,SNR=27
U54A P **P** **05 59 16.9 -0.6**
baz=318,SNR=27
U54A S **S** **06 06 46.9 -0.4**
baz=318
U54A S **S** **06 06 46.9 -0.4**
baz=318
V53A Saluda 53.15 80 P **P** **05 59 17.5 -0.8**
baz=319,SNR=53
V53A P **P** **05 59 17.5 -0.8**
baz=319,SNR=53
V53A S **S** **06 06 46.4 -2.2**
baz=319
V53A S **S** **06 06 46.4 -2.2**
baz=319
NPNY Mohonk Preserv 53.19 68 P **P** **05 59 18.1 -0.3**
baz=317
NPNY S **S** **06 06 50.2 +1.3**
baz=317
BLA Blacksburg 53.28 77 IAMs_20 IAMs_20 06 21 26.4
comp=Z,13μm,20.0s

BLA Blacksburg 53.28 77 P **P** **05 59 18.4 -0.8**
baz=318,SNR=33
BLA S **S** **06 06 49.3 -1.0**
baz=318
BLA Blacksburg 53.28 77 P **P** **05 59 18.3 -0.8**
baz=318,SNR=33
BLA S **S** **06 06 49.2 -1.2**
baz=318
I63A Otisfield 53.28 64 P **P** **05 59 18.6 -0.5**
baz=317,SNR=6.4
I63A P **P** **05 59 18.6 -0.5**
baz=317,SNR=6.4
I63A S **S** **06 06 47.5 -2.6**
baz=317
I63A S **S** **06 06 47.5 -2.6**
baz=317
WVL Waterville 53.36 63 P **P** **05 59 18.9 -0.7**
baz=317
LUPA Lehigh Univers 53.41 70 P **P** **05 59 19.1 -0.9**
L61B Northampton 53.41 67 P **P** **05 59 19.2 -0.9**
L61B IAMs_20 IAMs_20 06 22 50.8
comp=Z,24μm,21.0s
L61B Northampton 53.41 67 P **P** **05 59 19.8 -0.3**
baz=317,SNR=8.5
L61B S **S** **06 06 50.6 -1.3**
baz=317
L61B Northampton 53.41 67 P **P** **05 59 19.4 -0.7**
baz=317,SNR=8.5
L61B S **S** **06 06 53.2 +1.3**
baz=317
KEV Kevo 53.42 358 ⇓P **P** **05 59 19.3 -0.4**
ODNJ Ogdensburg 53.44 69 P **P** **05 59 19.4 -0.9**
ODNJ Ogdensburg 53.44 69 P **P** **05 59 19.8 -0.5**
baz=318,SNR=36
ODNJ S **S** **06 06 52.4 0.0**
baz=318
DL2 Dalian 53.45 287 ⇑*i*P **P** **05 59 20.1 -0.3**
DL2 S **S** **06 06 52.9 +0.3**
DL2 pmax pmax
comp=Z,48nm,1.2s
DL2 pmax pmax
comp=Z,1μm,10.6s
DL2 LR LR
comp=Z,11μm,23.7s
DL2 LR LR
comp=Z,14μm,20.8s
DL2 LR LR
comp=Z,11μm,21.1s
K62A Royalston 53.48 66 P **P** **05 59 19.6 -1.0**
K62A IAmb IAmb 05 59 21.3
comp=Z,215nm,1.0s
K62A Royalston 53.48 66 P **P** **05 59 20.2 -0.3**
baz=317,SNR=21
K62A P **P** **05 59 20.2 -0.3**
baz=317,SNR=21
K62A S **S** **06 06 52.6 -0.2**
baz=317
K62A S **S** **06 06 52.6 -0.2**
baz=317
BRNY Black Rk. Fore 53.50 69 P **P** **05 59 20.4 -0.3**
baz=318,SNR=50
BRNY S **S** **06 06 53.8 +0.5**
baz=318
SDMD Soldier's Deli 53.53 72 P **P** **05 59 19.7 -1.2**
SDMD IAmb IAmb 05 59 25.1
comp=Z,89nm,1.1s
SDMD Soldier's Deli 53.53 72 P **P** **05 59 20.2 -0.8**
baz=318,SNR=23
SDMD S **S** **06 06 51.9 -1.7**
baz=318
TRO Tromso 53.58 1 *e*P **P** **05 59 20.5 -0.4**
TRO IVmB_BB 05 59 24.4
comp=Z,2μm,4.1s
TRO *e*S **S** **06 06 55.1 +1.6**
TRO IVMs_BB IVMs_BB 06 22 03.6
comp=Z,11μm,23.3s
TRNY Table Rock, Ra 53.59 69 P **P** **05 59 20.4 -1.0**
CASEE Lake Jocassee 53.59 80 P **P** **05 59 20.8 -0.7**
baz=319,SNR=37
CASEE S **S** **06 06 52.8 -1.9**
baz=319
S57A Dark Hollow, R 53.65 75 P **P** **05 59 20.8 -1.0**
S57A IAmb IAmb 05 59 26.4
comp=Z,169nm,1.1s
S57A Dark Hollow, R 53.65 75 P **P** **05 59 21.2 -0.7**
baz=318,SNR=17
S57A P **P** **05 59 21.2 -0.7**
baz=318,SNR=17
Z51A Franklin 53.65 83 P **P** **05 59 20.2 -1.7**
baz=320,SNR=24
Z51A S **S** **06 06 53.7 -1.7**
baz=320
ARA0 ARCESS Array S 53.67 358 *e*P **P** **05 59 20.3 -1.4**
ARA0 IVmBBB 05 59 21.4
comp=Z,1μm,2.6s
ARA0 *e*S **S** **06 06 53.3 -1.5**
ARA0 IVMs_BB IVMs_BB 06 22 52.8
comp=Z,10μm,15.0s
ARCES ARCESS Array B 53.67 358 P **P** **05 59 20.9 -0.6**
comp=Z,28nm,0.9s,baz=14,slow=5.3,SNR=30
ARCES LR LR 06 23 04.7
comp=Z,26μm,18.9s,baz=352,slow=37
ARCES ARCESS Array B 53.67 358 P **P** **05 59 21.0 -0.6**
JETT Jettan, Norway 53.67 1 *e*P **P** **05 59 21.6 -0.1**
JETT IVmB_BB 05 59 22.8
comp=Z,2μm,4.0s
JETT IVMs_BB IVMs_BB 06 22 44.3
comp=Z,5μm,17.8s
BRNJ Basking Ridge 53.76 70 P **P** **05 59 22.3 -0.3**
baz=318,SNR=24
ZAK Zakamensk 53.80 308 *e*P **P** **05 59 22.9 0.0**
ZAK pmax pmax
comp=Z,50nm,1.5s
MOY Mondy 53.80 311 *e*P **P** **05 59 23.9 +1.0**
MOY pmax pmax
comp=Z,188nm,3.1s
TUPA Temple Univers 53.82 70 P **P** **05 59 22.7 -0.4**
baz=318
Y52A Lilburn 53.84 82 P **P** **05 59 21.9 -1.4**
Y52A IAmb IAmb 05 59 27.5
comp=Z,153nm,1.3s
Y52A Lilburn 53.84 82 P **P** **05 59 22.3 -1.0**
baz=320,SNR=20
Y52A P **P** **05 59 22.3 -1.0**
baz=320,SNR=20
UNH University of 53.85 65 P **P** **05 59 22.6 -0.6**
baz=318,SNR=7.2
GEDE Greenville 53.85 71 P **P** **05 59 22.4 -0.9**
baz=318,SNR=15
PAL Palisades 53.86 69 IAMs_20 IAMs_20 06 23 06.6
comp=Z,20μm,19.0s
PAL Palisades 53.86 69 P **P** **05 59 22.9 -0.4**
baz=318,SNR=19
PAL Palisades 53.86 69 P **P** **05 59 22.8 -0.5**
baz=318,SNR=19
PAL S **S** **06 06 57.6 -0.4**
baz=318
V55A Taylorsville 53.87 78 P **P** **05 59 22.7 -0.8**
baz=319,SNR=23
V55A P **P** **05 59 22.7 -0.8**
baz=319,SNR=23
G65A Princeton 53.90 61 P **P** **05 59 22.6 -0.9**
baz=318,SNR=5.2
G65A P **P** **05 59 22.6 -0.9**
baz=318,SNR=5.2
PANJ Princeton 53.92 70 P **P** **05 59 23.3 -0.5**
baz=318,SNR=15
HRV Adam Dziewonsk 53.93 66 ⇑P **P** **05 59 23.5 -0.3**
HRV Adam Dziewonsk 53.93 66 P **P** **05 59 23.2 -0.7**
baz=318,SNR=6.5
HRV Adam Dziewonsk 53.93 66 P **P** **05 59 23.3 -0.5**
baz=318
HRV S **S** **06 06 60.0 +1.0**
baz=318
U56A King 53.94 77 P **P** **05 59 23.2 -0.9**
baz=319,SNR=27
U56A P **P** **05 59 23.2 -0.9**
baz=319,SNR=27
FOR Fordham 53.97 69 P **P** **05 59 23.6 -0.5**
baz=318,SNR=36
ULN Ulaanbaatar 54.00 304 *c*P **P** **05 59 24.7 +0.2**
ULN pmax pmax
comp=Z,34nm,1.3s
ULN MLR MLR
comp=Z,59μm,17.0s
ULN Ulaanbaatar 54.00 304 P **P** **05 59 24.3 -0.2**
ULN Ulaanbaatar 54.00 304 ⇑P **P** **05 59 25.0 +0.5**

T57A Hurt 54.05 76 P **P** **05 59 23.8 -1.0**
T57A IAmb IAmb 05 59 28.9
comp=Z,126nm,1.2s
T57A Hurt 54.05 76 P **P** **05 59 23.7 -1.2**
baz=319,SNR=20
T57A P **P** **05 59 23.7 -1.2**
baz=319,SNR=20
R58B Mineral 54.06 74 P **P** **05 59 24.3 -0.5**
R58B IAmb IAmb 05 59 29.5
comp=Z,205nm,1.1s
R58B Mineral 54.06 74 P **P** **05 59 24.1 -0.7**
baz=318,SNR=25
R58B P **P** **05 59 24.1 -0.7**
baz=318,SNR=25
250A Grady 54.08 85 P **P** **05 59 23.5 -1.5**
baz=320,SNR=20
BORG Borgarnes 54.12 21 LR LR 06 23 40.1
comp=Z,16μm,20.8s,baz=335,slow=37
N62A Caumsett State 54.14 69 P **P** **05 59 25.1 -0.3**
baz=318,SNR=18
N62A P **P** **05 59 25.1 -0.3**
baz=318,SNR=18
CBN Corbin Frederi 54.15 74 P **P** **05 59 24.4 -1.0**
baz=318,SNR=15
CBN Corbin Frederi 54.15 74 P **P** **05 59 24.6 -0.8**
baz=318,SNR=15
CBN S **S** **06 07 01.4 -0.5**
baz=318
KTK1 Kautokeino 54.22 359 *e*P **P** **05 59 25.0 -0.6**
KTK1 IVmB_BB 05 59 42.7
comp=Z,2μm,3.8s
KTK1 *e*S **S** **06 07 05.3 +3.1**
KTK1 IVMs_BB IVMs_BB 06 26 46.3
comp=Z,4μm,14.0s
BRAL Brewton 54.27 87 IAMs_20 IAMs_20 06 22 11.0
comp=Z,16μm,19.0s
BRAL Brewton 54.27 87 P **P** **05 59 25.9 -0.6**
baz=321,SNR=9.0
BRAL Brewton 54.27 87 P **P** **05 59 25.6 -0.8**
baz=321,SNR=9.0
BRAL S **S** **06 07 04.0 +0.2**
baz=321
SONM Songino Array 54.32 304 P **P** **05 59 27.9 +1.1**
comp=Z,42nm,0.8s,baz=46,slow=7.5,SNR=176
SONM LR LR 06 24 32.0
comp=Z,50μm,19.4s,baz=40,slow=38
SONM Songino Array 54.32 304 P **P** **05 59 26.6 -0.2**
SONM IAmb IAmb 06 00 32.1
comp=Z,93nm,1.2s
PAULI Pauline 54.33 80 P **P** **05 59 25.5 -1.3**
baz=319
KMSC Kings Mountain 54.34 79 P **P** **05 59 25.8 -1.1**
baz=319,SNR=27
KMSC Kings Mountain 54.34 79 P **P** **05 59 25.7 -1.2**
baz=319,SNR=27
KMSC S **S** **06 07 04.0 -0.7**
baz=319
152A Waverly Hall 54.39 84 P **P** **05 59 24.9 -2.4**
152A IAmb IAmb 05 59 30.6
comp=Z,94nm,1.2s
152A Waverly Hall 54.39 84 P **P** **05 59 25.4 -2.0**
baz=320,SNR=12
P61A Hammonton 54.39 71 P **P** **05 59 26.3 -0.9**
P61A Hammonton 54.39 71 P **P** **05 59 27.4 +0.2**
baz=318,SNR=7.5
P61A P **P** **05 59 27.4 +0.2**
baz=318,SNR=7.5
GOGA Godfrey 54.50 82 IAMs_20 IAMs_20 06 22 43.1
comp=Z,16μm,22.0s
GOGA Godfrey 54.50 82 P **P** **05 59 26.3 -1.8**
baz=320,SNR=15
GOGA Godfrey 54.50 82 P **P** **05 59 26.3 -1.8**
baz=320,SNR=15
M63A Gales Ferry 54.51 67 P **P** **05 59 27.2 -0.8**
M63A Gales Ferry 54.51 67 P **P** **05 59 27.7 -0.4**
baz=318,SNR=17
M63A P **P** **05 59 27.7 -0.4**
baz=318,SNR=17
HODGE Hodges 54.53 80 P **P** **05 59 27.4 -1.0**
baz=320
MIDE Milford 54.71 72 P **P** **05 59 30.1 +0.6**
baz=318
L64A Middleborough 54.72 66 P **P** **05 59 29.0 -0.6**
baz=318
L64A P **P** **05 59 29.0 -0.6**
baz=318
XMAS Kiritimati 54.86 179 IAMs_20 IAMs_20 06 18 57.6
comp=Z,17μm,19.0s
LOF Lofoten 54.96 4 *e*P **P** **05 59 29.3 -1.6**
LOF IVmB_BB 05 59 34.6
comp=Z,2μm,4.2s
LOF *e*S **S** **06 07 12.5 +0.4**
LOF IVMs_BB IVMs_BB 06 24 58.4
comp=Z,8μm,14.3s
T59A Double "B" Far 54.97 75 P **P** **05 59 30.9 -0.6**
baz=319,SNR=29
T59A P **P** **05 59 30.9 -0.6**
baz=319,SNR=29
LVZ Lovozero 54.99 354 *de*P **P** **05 59 31.0 -0.3**
LVZ pmax pmax
comp=Z,163nm,1.5s
LVZ MLR MLR
comp=Z,45μm,18.0s
LVZ Lovozero 54.99 354 P **P** **05 59 30.7 -0.6**
LVZ IAmb IAmb 05 59 36.0
comp=Z,174nm,1.4s
LVZ Lovozero 54.99 354 ⇓P **P** **05 59 30.9 -0.4**
JSC Jenkinsville 55.03 80 P **P** **05 59 30.7 -1.3**
baz=320,SNR=22
V58A Windy Hill, Pi 55.03 77 P **P** **05 59 31.2 -0.7**
baz=319,SNR=32
V58A P **P** **05 59 31.2 -0.7**
baz=319,SNR=32
W57A Gilead 55.05 78 P **P** **05 59 31.0 -1.1**
baz=319,SNR=18
W57A P **P** **05 59 31.0 -1.1**
baz=319,SNR=18
R61A Willards 55.11 72 P **P** **05 59 32.5 +0.1**
baz=319
R61A P **P** **05 59 32.5 +0.1**
baz=319
352A Blakely 55.19 85 P **P** **05 59 31.5 -1.6**
baz=320
352A S **S** **06 07 12.9 -3.2**
baz=320
STEI Steigen 55.21 3 *e*P **P** **05 59 31.8 -1.0**
STEI IVmB_BB 05 59 40.0
comp=Z,2μm,6.0s
STEI *e*S **S** **06 07 17.9 +2.4**
STEI IVMs_BB IVMs_BB 06 25 31.9
comp=Z,8μm,21.8s
T60A Surry 55.28 74 P **P** **05 59 33.3 -0.4**
baz=319,SNR=14
T60A P **P** **05 59 33.3 -0.4**
baz=319,SNR=14
154A Montrose 55.31 82 P **P** **05 59 31.9 -2.0**
baz=320,SNR=19
U59A Littleton 55.31 75 P **P** **05 59 33.0 -1.0**
U59A IAmb IAmb 05 59 38.5
comp=Z,159nm,1.1s
U59A Littleton 55.31 75 P **P** **05 59 33.4 -0.6**
baz=319,SNR=23
U59A P **P** **05 59 33.4 -0.6**
baz=319,SNR=23
U59A S **S** **06 07 16.4 -1.3**
baz=319
U59A S **S** **06 07 16.4 -1.3**
baz=319
APA Apatity 55.39 355 ⇓*i*P **P** **05 59 33.1 -0.9**
APA *i*S **S** **06 07 12.0 -5.9**
APA pmax pmax
comp=Z,22nm,1.0s
451A Vernon 55.41 86 P **P** **05 59 34.2 -0.5**
baz=321
451A S **S** **06 07 18.8 -0.3**
baz=321
BJI Beijing 55.42 292 P **P** **05 59 34.6 -0.1**
BJI pP **pP** **05 59 37.4 -0.7**
BJI sP **sP** **05 59 41.9 +2.5**
BJI PcP **PcP** **06 00 30.7 -4.1**
BJI PP **PP** **06 01 40.6 +2.5**
BJI S **S** **06 07 15.3 -3.7**
BJI pmax pmax
comp=Z,19nm,1.1s
BJI pmax pmax
comp=Z,1μm,11.9s
DRLN Deer Lake 55.43 51 P **P** **05 59 33.3 -1.3**

DRLN Deer Lake 55.43 51 ⇑P **P** **05 59 33.5 -1.1**
BJT Baijiatuau 55.44 292 P **P** **05 59 34.3 -0.6**
BJT pmax pmax
comp=Z,30nm,1.1s
BJT MLR MLR
comp=Z,15µm,18.0s
BJT Baijiatuau 55.44 292 P **P** **05 59 34.3 -0.6**
BJT Baijiatuau 55.44 292 IAMs_20 IAMs_20 06 27 03.5
comp=Z,15µm,18.0s
HAW Hawthorne Fire 55.55 81 P **P** **05 59 34.4 -1.3**
baz=320
HAW S **S** **06 07 18.1 -2.7**
baz=320
Y57A Sumter 55.70 79 P **P** **05 59 35.1 -1.6**
Y57A IAmb IAmb 05 59 40.8
comp=Z,196nm,1.2s
Y57A Sumter 55.70 79 P **P** **05 59 35.3 -1.5**
baz=320,SNR=13
Y57A P **P** **05 59 35.3 -1.5**
baz=320,SNR=13
Y57A S **S** **06 07 23.6 +0.8**
baz=320
Y57A S **S** **06 07 23.6 +0.8**
baz=320
FAUS Fauske 55.76 3 *e*P **P** **05 59 36.1 -0.6**
FAUS IVmB_BB 06 00 02.2
comp=Z,4µm,3.9s
FAUS *e*S **S** **06 07 26.4 +3.5**
FAUS IVMs_BB IVMs_BB 06 19 18.8
comp=Z,6µm,27.6s
X58A Rowland 55.85 78 P **P** **05 59 37.1 -0.8**
baz=320,SNR=16
X58A P **P** **05 59 37.1 -0.8**
baz=320,SNR=16
X58A S **S** **06 07 24.6 -0.3**
baz=320
X58A S **S** **06 07 24.6 -0.3**
baz=320
TIGA Tifton 55.95 84 P **P** **05 59 36.8 -1.8**
baz=321
TIGA Tifton 55.95 84 P **P** **05 59 36.2 -2.4**
baz=321
CNNC Cliffs of the 56.10 76 P **P** **05 59 38.6 -1.0**
CNNC Cliffs of the 56.10 76 ⇑P **P** **05 59 38.5 -1.0**
CNNC Cliffs of the 56.10 76 P **P** **05 59 39.2 -0.5**
baz=320,SNR=17
CNNC Cliffs of the 56.10 76 P **P** **05 59 38.8 -0.9**
baz=320,SNR=17
Y58A Scranton 56.17 79 P **P** **05 59 39.3 -0.8**
baz=320,SNR=10
Y58A P **P** **05 59 39.3 -0.8**
baz=320,SNR=10
255A Hazlehurst 56.17 82 P **P** **05 59 39.0 -1.2**
baz=320
V61A Roper 56.38 75 P **P** **05 59 41.2 -0.4**
baz=320,SNR=8.2
V61A P **P** **05 59 41.2 -0.4**
baz=320,SNR=8.2
553A Crawfordville 56.45 85 P **P** **05 59 41.7 -0.5**
baz=321
NHSC New Hope 56.51 80 P **P** **05 59 41.8 -0.7**
baz=320,SNR=11
NHSC New Hope 56.51 80 P **P** **05 59 42.1 -0.4**
baz=320,SNR=11
Y59A Loris 56.53 78 P **P** **05 59 42.3 -0.4**
baz=320
Y59A P **P** **05 59 42.3 -0.4**
baz=320
KONS Konsvik 56.57 4 *e*P **P** **05 59 41.2 -1.3**
STOK Stokkvaagen 56.73 4 *e*P **P** **05 59 42.4 -1.2**
Y60A Bolivia 56.87 78 P **P** **05 59 44.1 -1.0**
baz=320
Y60A P **P** **05 59 44.1 -1.0**
baz=320
MOR8 Moi Rana 56.95 4 *e*P **P** **05 59 43.5 -1.7**
MOR8 *e*S **S** **06 07 36.3 -2.4**
HHC Hu-ho-hao-te 57.12 295 *e*P **P** **05 59 47.3 +0.3**
HHC PP **PP** **06 01 57.0 +3.6**
HHC S **S** **06 07 41.0 -0.8**
HHC ScS **ScS** **06 09 31.8 -4.4**
HHC SS **SS** **06 11 34.3 +4.3**
HHC pmax pmax
comp=Z,48nm,1.0s
HHC pmax pmax
comp=Z,1µm,9.1s
HHC LR LR
comp=Z,34µm,14.6s
HHC LR LR
comp=Z,20µm,14.6s
HHC LR LR
comp=Z,36µm,14.0s
UNM Universidad Na 57.16 106 IAMs_20 IAMs_20 06 23 19.5
comp=Z,20µm,21.0s
TIA Tai'an 57.83 288 *e*P P 05 59 47.1 -4.8
TIA S **S** **06 07 48.6 -2.5**
TIA SS **SS** **06 11 38.0 -3.1**
TIA pmax pmax
comp=Z,21nm,1.5s
TIA pmax pmax
comp=Z,1µm,13.2s
TIA LR LR
comp=Z,11µm,20.1s
TIA LR LR
comp=Z,12µm,19.1s
TIA LR LR
comp=Z,16µm,16.7s
BTO Baotou 58.06 296 *e*P **P** **05 59 52.8 -0.8**
BTO S **S** **06 07 55.4 +1.2**
BTO LR LR
comp=Z,121µm,15.4s
BTO LR LR
comp=Z,122µm,16.0s
ZAA0 Zalesovo Array 58.11 322 P **P** **05 59 53.2 -0.3**
ZAA0 IAmb IAmb 05 59 58.5
comp=Z,163nm,1.4s
ZALV Zalesovo Beam 58.11 322 P **P** **05 59 53.7 +0.2**
comp=Z,21nm,0.8s,baz=35,slow=5.4,SNR=87
ZALV LR LR 06 27 39.0
comp=Z,65µm,18.5s,baz=32,slow=39
ZALV Zalesovo Beam 58.11 322 P **P** **05 59 53.5 0.0**
HNS HongShan 58.17 291 ⇑P **P** **05 59 54.8 +0.6**
HNS pP **sP** **06 00 02.3 +3.3**
HNS PP **PP** **06 02 06.6 +3.9**
HNS S **S** **06 07 59.4 +4.0**
HNS pmax pmax
comp=Z,59nm,1.3s
HNS pmax pmax
comp=Z,1µm,6.1s
HNS LR LR
comp=Z,12µm,15.4s
HNS LR LR
comp=Z,16µm,14.1s
HNS LR LR
comp=Z,17µm,16.4s
NSS Namsos 58.49 5 *e*P **P** **05 59 55.0 -1.0**
NSS IVmB_BB 06 00 11.6
comp=Z,5µm,4.8s
NSS *e*S **S** **06 08 00.6 +1.7**
NSS IVMs_BB IVMs_BB 06 27 16.2
comp=Z,4µm,3.7s
TLIG Tlapa 58.94 106 P **P** **05 59 59.1 -0.8**
TIY Taiyuan 59.08 292 ⇑P **P** **06 00 00.8 +0.1**
TIY S **S** **06 08 09.6 +2.1**
TIY pmax pmax
comp=Z,1µm,9.6s
TIY LR LR
comp=Z,10µm,13.7s
TIY LR LR
comp=Z,17µm,13.7s
TIY LR LR
comp=Z,10µm,22.7s
JOW Kunigami 59.13 272 P **P** **06 00 01.6 +0.5**
comp=Z,106nm,1.0s,baz=24,slow=8.3,SNR=15
JOW LR LR 06 24 31.4
comp=Z,3µm,21.5s,baz=58,slow=35
JOW Kunigami 59.13 272 P **P** **06 00 00.9 -0.2**
JOW IAmb IAmb 06 00 07.0
comp=Z,137nm,1.1s
JOW Kunigami 59.13 272 ⇑P **P** **06 00 00.2 -0.8**
JOW Kunigami 59.13 272 P **P** **06 00 01.9 +0.9**
SSE Sheshan 59.63 281 P **P** **06 00 04.6 +0.2**
SSE PP **PP** **06 02 15.4 -0.3**
SSE S **S** **06 08 16.8 +2.3**
SSE pmax pmax
comp=Z,24nm,0.8s
SSE pmax pmax
comp=Z,390nm,4.3s
TBLU Trondheim 59.67 6 *e*P **P** **06 00 03.4 -0.9**
TBLU IVmB_BB 06 00 23.9
comp=Z,3µm,5.8s
TBLU *e*S **S** **06 08 13.1 -1.1**
TBLU IVMs_BB IVMs_BB 06 27 17.0
comp=Z,4µm,3.8s
DWPF Disney Wildern 59.71 84 IAMs_20 IAMs_20 06 29 27.9
comp=Z,12µm,20.0s
NJ2 Nanjing 60.13 284 ⇑*i*P **P** **06 00 07.3 -0.6**
NJ2 pP **sP** **06 00 12.6 0.0**
NJ2 sP **pP** **06 00 14.9 +3.6**
NJ2 PP **PP** **06 02 21.6 +1.4**
NJ2 S **S** **06 08 17.4 -3.5**
NJ2 sS **sS** **06 08 28.2 +1.8**
NJ2 SS **SS** **06 12 17.1 -0.2**
NJ2 pmax pmax
comp=Z,49nm,1.3s
NJ2 pmax pmax
comp=Z,1µm,9.0s
NJ2 LR LR
comp=Z,11µm,21.8s
NJ2 LR LR
comp=Z,17µm,19.9s
NJ2 LR LR
comp=Z,14µm,15.6s
MOL Molde 60.17 8 *e*P **P** **06 00 07.4 -0.3**
MOL IVmB_BB 06 00 31.3
comp=Z,4µm,4.3s
MOL *e*S **S** **06 08 22.2 +1.6**
PRGR Permogore 60.20 347 *e*P **P** **06 00 07.1 -0.8**
PRGR *e* 06 02 19.7
PRGR pmax pmax
comp=Z,155nm,1.5s
AKN Aaknes 60.52 8 *e*P **P** **06 00 09.6 -0.5**
AKN IVmB_BB 06 01 01.1
comp=Z,7µm,3.8s
AKN *e*S **S** **06 08 27.4 +2.3**
AKN IVMs_BB IVMs_BB 06 21 01.3
comp=Z,8µm,4.6s
PATS Pohnpei 60.56 232 P **P** **06 00 12.1 +1.1**
DOMB Dombas 60.80 7 *e*P **P** **06 00 10.6 -1.5**
DOMB IVmB_BB 06 00 45.8
comp=Z,3µm,4.3s
DOMB *e*S **S** **06 08 29.4 +0.6**
DOMB IVMs_BB IVMs_BB 06 30 10.7
comp=Z,6µm,16.1s
FOO Floro 60.93 9 *e*P **P** **06 00 12.8 -0.1**
FOO IVMs_BB IVMs_BB 06 28 27.1
comp=Z,9µm,6.9s
GUMO Guam 61.05 249 P **P** **06 00 15.0 +0.7**
comp=Z,76nm,0.6s,baz=135,slow=9.8,SNR=3.6
GUMO Guam 61.05 249 P **P** **06 00 15.0 +0.7**
060A Indiantown 61.14 84 P **P** **06 00 13.1 -1.7**
060A Indiantown 61.14 84 P **P** **06 00 14.7 0.0**
baz=322
CMIG Matias Romero 61.27 103 LR LR 06 25 25.6
comp=Z,8µm,19.6s,baz=319,slow=35
HYA Hoyanger 61.46 9 *e*P **P** **06 00 16.3 -0.1**
LYN LuoYang 61.52 290 ⇑P **P** **06 00 17.5 +0.2**
LYN PP **PP** **06 02 38.2 +5.8**
LYN S **S** **06 08 41.9 +3.3**
LYN pmax pmax
comp=Z,50nm,1.2s
LYN pmax pmax
comp=Z,1µm,8.6s
LYN LR LR
comp=Z,13µm,23.5s
LYN LR LR
comp=Z,14µm,22.1s
LYN LR LR
comp=Z,20µm,13.9s
KLMR Klimovskoe 61.61 350 *e*P **P** **06 00 15.5 -2.0**
KLMR *e*S **S** **06 08 37.0 -2.0**
KLMR pmax pmax
comp=Z,154nm,1.5s
KLMR MLR MLR
comp=Z,20µm,18.0s
KLMR Klimovskoe 61.61 350 *e*P **P** **06 00 15.5 -2.0**
KLMR AMP 06 00 22.1
comp=Z,154nm,1.5s
KLMR *e*S **S** **06 08 37.0 -2.0**
KLMR *e*S **S** **06 08 37.0 -2.0**
KLMR LQ LQ 06 21 58.0
KLMR LQ LQ 06 21 58.0
KLMR LR LR 06 25 25.2
KLMR AMP 06 28 23.9
comp=Z,20µm,17.6s
NC204 NORSAR Array S 61.67 6 P **P** **06 00 17.2 -0.8**
NC204 IAmb IAmb 06 00 18.7
comp=Z,154nm,1.1s
VALR Valaam 61.70 355 *d*/P **P** **06 00 17.6 -0.5**
VALR pmax pmax
comp=Z,89nm,1.0s
LRW Lerwick 61.72 13 *e*P **P** **06 00 17.6 -0.6**
061Z Ochoppi 61.77 86 P **P** **06 00 17.6 -1.4**
061Z Ochoppi 61.77 86 P **P** **06 00 17.5 -1.6**
baz=323,SNR=5.4
FIA1 FINESS Array S 61.78 358 P **P** **06 00 17.9 -0.7**
FIA1 IAmb IAmb 06 00 19.4
comp=Z,90nm,1.0s
FINES FINESS Array B 61.78 358 P **P** **06 00 17.9 -0.7**
comp=Z,80nm,1.1s,baz=18,slow=8.0,SNR=78
FINES LR LR 06 27 37.1
comp=Z,15µm,19.4s,baz=18,slow=37
FINES PKPPKP P'P'df 06 29 29.4 -7.9
comp=Z,5.3nm,0.9s,baz=351,slow=2.5,SNR=7.8
FINES FINESS Array B 61.78 358 P **P** **06 00 18.0 -0.7**
FINES FINESS Array B 61.78 358 P **P** **06 00 17.5 -1.2**
NC405 NORSAR Array S 61.88 6 P **P** **06 00 18.7 -0.7**
NB2 NORSAR Subarra 61.93 6 P **P** **06 00 18.9 -0.8**
comp=Z,69nm,1.1s,baz=354,slow=6.9
NB2 NORSAR Subarra 61.93 6 P **P** **06 00 18.9 -0.8**
baz=354,slow=6.9
NOA NORSAR Array B 61.93 6 P **P** **06 00 19.2 -0.6**
comp=Z,44nm,0.9s,baz=352,slow=6.7,SNR=83
NOA LR LR 06 28 58.0
comp=Z,14µm,18.7s,baz=355,slow=38
NOA PKPPKP **P'P'df** **06 29 30.6 -6.6**
comp=Z,3.1nm,0.9s,baz=159,slow=1.9,SNR=4.8
NOA NORSAR Array B 61.93 6 P **P** **06 00 19.2 -0.6**
ASK Askoy 62.05 9 *e*P **P** **06 00 20.1 -0.3**
SKAR Skarslia 62.10 8 *e*P **P** **06 00 20.2 -0.7**
SKAR IVmB_BB 06 00 59.4
comp=Z,5µm,4.8s
SKAR *e*S **S** **06 08 46.5 +1.1**
SKAR IVMs_BB IVMs_BB 06 28 24.0
comp=Z,4µm,13.2s
BER Bergen 62.16 9 *e*P **P** **06 00 20.4 -0.8**
BER IVmB_BB 06 00 22.2
comp=Z,8µm,5.2s
BER IVMs_BB IVMs_BB 06 24 44.6
comp=Z,5µm,4.6s
RAF Rauma 62.25 0 *e*P **P** **06 00 20.8 -1.0**
NC602 NORSAR Array S 62.25 6 *e*P **P** **06 00 20.7 -1.2**
SVE Sverdlovsk 62.27 337 *de*P **P** **06 00 21.8 -0.2**
SVE *e* 06 02 36.0
SVE *e*PPP PPP 06 04 15.4
SVE *e*S **S** **06 08 49.3 +1.8**
SVE pmax pmax
comp=Z,128nm,1.3s
SVE MLR MLR
comp=E,29µm,20.0s
SVE MLR MLR
comp=Z,33µm,21.0s
SVE MLR MLR
comp=N,23µm,20.0s
SEM Semipalatinsk 62.61 322 *e*P **P** **06 00 22.7 -2.0**
SEM pmax pmax
comp=Z,95nm,1.8s
SEM MLR MLR
comp=Z,20µm,17.0s
SEM Semipalatinsk 62.61 322 *e*P **P** **06 00 22.7 -2.0**
comp=Z,95nm,1.8s,baz=322
SEM LR LR 06 28 35.4
comp=Z,20µm,17.4s,baz=322
KIRV Kirov 62.63 344 LR LR 06 30 58.3
comp=Z,42µm,20.5s,baz=15,slow=39
KIRV Kirov 62.63 344 *d*/P **P** **06 00 23.7 -0.7**
ODD1 Odda 62.73 9 *e*P **P** **06 00 24.1 -1.0**
KURK Kurchatov 62.89 323 *c*/P **P** **06 00 25.9 -0.3**
KURK pmax pmax
comp=Z,96nm,1.2s
KURK MLR MLR
comp=Z,47µm,16.0s
KURK Kurchatov 62.89 323 ⇑P **P** **06 00 26.2 -0.1**
HFS Hagfors 62.96 5 LR LR 06 27 19.3
comp=Z,7µm,21.9s,baz=358,slow=36
KURBB Kurchatov Arra 63.00 323 P **P** **06 00 26.8 -0.2**
comp=Z,20nm,0.9s,baz=25,slow=6.3,SNR=77
KURBB LR LR 06 28 22.3
comp=Z,23µm,21.2s,baz=15,slow=37
OSL Oslo 63.00 6 *e*P **P** **06 00 26.3 -0.5**
OSL IVmB_BB 06 01 07.1
comp=Z,2µm,4.1s
OSL *e*S **S** **06 08 57.9 +1.4**
OSL IVMs_BB IVMs_BB 06 29 02.5
comp=Z,7µm,18.6s
MEF Metsahovi 63.04 359 *e*P **P** **06 00 26.1 -1.0**
ARU Arti 63.07 338 LR LR 06 30 57.2
comp=Z,37µm,19.5s,baz=10.0,slow=39
ARU Arti 63.07 338 *c*/P **P** **06 00 26.4 -1.0**
ARU 06 01 10.6
ARU S **S** **06 08 59.1 +1.5**
ARU pmax pmax
comp=Z,79nm,1.1s
ARU pmax pmax
comp=Z,1µm,13.3s
ARU smax smax
comp=N,1µm,8.4s
ARU MLR MLR
comp=Z,41µm,20.0s
ARU Arti 63.07 338 P **P** **06 00 26.6 -0.8**
ARU IAmb IAmb 06 00 36.9
comp=Z,75nm,0.9s
ARU Arti 63.07 338 ⇑P **P** **06 00 26.6 -0.8**
SOR Soroa 63.07 89 P **P** **06 00 26.5 -1.4**
SOR pmax pmax
comp=Z,125nm,1.2s
SOR Soroa 63.07 89 P **P** **06 00 26.5 -1.4**
SOR IAmb IAmb 06 00 31.9
comp=Z,125nm,1.2s
AAL Aland 63.09 1 *e*P **P** **06 00 26.4 -1.0**
BLS5 Blasjo 63.20 9 *e*P **P** **06 00 27.6 -0.6**
BLS5 *e*S **S** **06 08 59.2 0.0**
BLS5 IVMs_BB IVMs_BB 06 25 47.6
comp=Z,5µm,7.3s
KONO Kongsberg 63.22 7 ⇑*e*P **P** **06 00 27.7 -0.6**
KONO pmax pmax
comp=Z,120nm,1.3s
KONO MLR MLR
comp=Z,15µm,19.0s
KONO Kongsberg 63.22 7 IAMs_20 IAMs_20 06 29 43.0
comp=Z,15µm,20.0s
KONO Kongsberg 63.22 7 ⇓*e*P **P** **06 00 27.9 -0.3**
KONO Kongsberg 63.22 7 *e*P **P** **06 00 28.0 -0.2**
PUL Pulkovo 63.31 355 ⇓*e*P **P** **06 00 28.9 0.0**
PUL pmax pmax
comp=Z,122nm,1.2s
PUL MLR MLR
comp=Z,25µm,19.0s
BRVK Borovoye 63.34 330 *c*/P **P** **06 00 28.7 -0.5**
BRVK Borovoye 63.34 330 P **P** **06 00 28.9 -0.3**
BRVK IAmb IAmb 06 00 38.9
comp=Z,150nm,1.6s
BRVK Borovoye 63.34 330 ⇑P **P** **06 00 29.0 -0.3**
BVAR Borovoye Array 63.35 330 P **P** **06 00 29.4 +0.1**
comp=Z,9.8nm,0.6s
UPP Uppsala 63.37 2 *e*P **P** **06 00 28.3 -0.9**
ZSN Zaisan 63.49 318 *e*P **P** **06 00 29.4 -1.0**
ZSN pmax pmax
comp=Z,72nm,1.2s
ZSN Zaisan 63.49 318 *e*P **P** **06 00 29.4 -1.0**
comp=Z,72nm,1.2s,baz=318
WHN Wuhan 63.69 286 ⇑P **P** **06 00 31.4 -0.5**
WHN PP **PP** **06 02 53.2 +1.6**
WHN S **S** **06 09 00.6 -5.4**
WHN SS **SS** **06 13 18.3 +5.2**
WHN pmax pmax
comp=Z,100nm,1.0s
WHN LR LR
comp=Z,11µm,15.4s
WHN LR LR
comp=Z,31µm,14.9s
WHN LR LR
comp=Z,30µm,19.8s
KAC Achnashellach 63.71 16 *e*P **P** **06 00 32.0 +0.5**
XAN Xi'an 63.73 292 P **P** **06 00 31.7 -0.4**
XAN sP sP 06 00 39.0 +2.1
XAN PP **PP** **06 02 56.2 +4.3**
XAN S **S** **06 09 06.4 -0.1**
XAN sS sS 06 09 12.1 +0.1
XAN ScS **SKKSac** **06 10 21.0 -4.5**
XAN SS **SS** **06 13 18.7 +5.1**
XAN pmax pmax
comp=Z,33nm,1.3s
XAN pmax pmax
comp=Z,1µm,5.7s
XAN LR LR
comp=Z,19µm,13.9s
XAN LR LR
comp=Z,13µm,14.4s
XAN LR LR
comp=Z,17µm,15.8s
GTA Gaotai 63.86 302 ⇑P **P** **06 00 32.8 -0.2**
GTA pP sP 06 00 38.7 +1.1
GTA sP pP 06 00 41.4 +5.0
GTA PP **PP** **06 02 57.3 +4.3**
GTA S **S** **06 09 09.6 +1.4**
GTA pmax pmax
comp=Z,44nm,1.2s
GTA pmax pmax
comp=Z,990nm,5.1s
GTA LR LR
comp=Z,47µm,16.7s
GTA LR LR
comp=Z,35µm,17.1s
GTA LR LR
comp=Z,65µm,17.5s
MCD Coleburn Disti 63.92 15 *e*P **P** **06 00 32.6 -0.4**
PETF Flores 64.11 99 P **P** **06 00 34.0 -0.8**
SNART Snartemo 64.34 9 *e*P **P** **06 00 35.4 -0.3**
HOMB Homborsund 64.51 8 *e*P **P** **06 00 36.1 -0.7**
HOMB *e*S **S** **06 09 17.4 +2.1**
HOMB IVMs_BB IVMs_BB 06 29 37.9
comp=Z,7µm,23.4s
HUEH Huehuetenango 64.55 101 P **P** **06 00 36.2 -1.6**
HUEH IAmb IAmb 06 00 56.8
comp=Z,69nm,0.8s
MTSE Matsula 64.56 359 *e*P **P** **06 00 36.4 -0.7**
YHNB Yeheng 64.60 276 P **P** **06 00 37.4 -0.6**
LZH Lanzhou 64.61 297 ⇓*i*P **P** **06 00 38.8 +0.7**
LZH pP sP 06 00 43.8 +1.0
LZH sP pP 06 00 47.2 +5.6
LZH S **S** **06 09 15.5 -2.2**
LZH sS sS 06 09 27.4 +4.2
LZH pmax pmax
comp=Z,130nm,1.1s
LZH pmax pmax
comp=Z,1µm,4.3s
LZH LR LR
comp=Z,39µm,16.3s
LZH LR LR
comp=Z,66µm,16.0s
LZH LR LR
comp=Z,37µm,18.3s
DRUM Mains of Drumt 64.68 15 *e*P **P** **06 00 37.2 -0.8**
DRUM IAmb IAmb 06 00 38.9
comp=Z,244nm,1.1s
DRUM IAMs_20 IAMs_20 06 27 24.4
comp=Z,23µm,21.5s
VIKU Vikbolandet 64.70 3 *e*P **P** **06 00 37.5 -0.5**
VSU Vasula 64.75 357 *c*/P **P** **06 00 37.3 -1.1**
VSU pmax pmax
comp=Z,292nm,1.0s
VSU MLR MLR
comp=Z,61µm,20.0s
VSU Vasula 64.75 357 *e*P **P** **06 00 37.8 -0.6**
VSU Vasula 64.75 357 ⇑P **P** **06 00 37.5 -0.9**
LAWE Loch Awe, Argy 64.89 16 *e*P **P** **06 00 39.2 -0.1**
LAWE IAmb IAmb 06 00 40.2
comp=Z,53nm,0.9s
LAWE IAMs_20 IAMs_20 06 28 42.9
comp=Z,40µm,19.8s
INVG Invergeldie, C 64.93 16 *e*P **P** **06 00 38.4 -1.2**
INVG IAMs_20 IAMs_20 06 28 08.5
comp=Z,31µm,21.0s
MK31 Makanchi Array 64.99 319 *c*/P **P** **06 00 39.3 -0.9**
MK31 pmax pmax
comp=Z,37nm,1.2s

MK31	Makanchi Array	64.99	319	P	P	06 00 39.2	-0.9
MKAR	Makanchi Array	64.99	319	P	P	06 00 39.5	-0.6
	comp=Z,20nm,1.1s,baz=46,slow=6.9,SNR=71						
MKAR				PP	PP	06 03 02.2	-0.3
	comp=Z,9.8nm,0.7s,baz=39,slow=8.0,SNR=4.1						
MKAR				PKPPKP	P'P'df	06 29 25.3	-5.4
	comp=Z,4.2nm,1.1s,baz=225,slow=1.8,SNR=8.3						
MKAR				LR	LR	06 31 34.6	
	comp=Z,49µm,18.4s,baz=32,slow=38						
MKAR	Makanchi Array	64.99	319	P	P	06 00 39.5	-0.6
MAKZ	Makanchi	65.09	319	P	P	06 00 40.2	-0.6
MAKZ				pmax	pmax		
	comp=Z,76nm,1.5s						
MAKZ				MLR	MLR		
	comp=Z,56µm,18.0s						
MAKZ	Makanchi	65.09	319	P	P	06 00 40.2	-0.6
MAKZ				IAmb	IAmb	06 00 42.9	
	comp=Z,76nm,1.4s						
MAKZ	Makanchi	65.09	319	⇑P	P	06 00 40.4	-0.5
BBSR	BB Station	65.20	69	IAMs_20	IAMs_20	06 29 51.9	
	comp=Z,9µm,19.0s						
BBSR	BB Station	65.20	69	⇑P	P	06 00 40.5	-1.1
BBSR	BB Station	65.20	69	P	P	06 00 40.7	-1.0
	baz=323,SNR=14						
BRZS	Berezniki	65.39	327	eP	P	06 00 40.9	-1.8
BRZS	Berezniki	65.39	327	eP	P	06 00 40.9	-1.8
	baz=327						
WMQ	Urumqi	65.45	313	P	P	06 00 43.3	0.0
WMQ				pP	sP	06 00 50.6	+2.7
WMQ				PP	PP	06 03 08.1	+1.4
WMQ				PcS		06 05 19.4	
WMQ				S	S	06 09 29.3	+1.7
WMQ				SS	SS	06 13 44.3	+4.3
WMQ				pmax	pmax		
	comp=Z,55nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,1µm,4.3s						
WMQ				LR	LR		
	comp=Z,39µm,15.5s						
WMQ				LR	LR		
	comp=Z,28µm,17.5s						
WMQ				LR	LR		
	comp=Z,46µm,18.5s						
PGBU	Gleniferbraes	65.46	16	eP	P	06 00 42.3	-0.7
PGBU				IAMs_20	IAMs_20	06 28 35.8	
	comp=Z,25µm,19.8s						
SSLB	Suanglung	65.53	276	P	P	06 00 43.0	-1.1
SSLB				IAmb	IAmb	06 00 59.3	
	comp=Z,112nm,1.1s						
SSLB	Suanglung	65.53	276	P	P	06 00 43.7	-0.3
ESY	Stoneypath	65.63	15	eP	P	06 00 43.5	-0.6
SLIT	Slitere, Latvi	65.65	360	eP	P	06 00 43.3	-0.9
SLIT	Slitere, Latvi	65.65	360	⇑P	P	06 00 43.2	-1.0
YULB	Yu-li	65.67	276	P	P	06 00 44.6	-0.2
YULB				IAmb	IAmb	06 01 04.7	
	comp=Z,67nm,1.0s						
EBL	Broad Law	65.71	15	eP	P	06 00 44.3	-0.3
QZH	Quanzhou	65.89	279	⇑iP	P	06 00 45.9	-0.3
QZH				PP	PP	06 03 06.9	-4.0
QZH				S	S	06 09 32.7	-0.5
QZH				SS	SS	06 13 49.1	+1.6
QZH				pmax	pmax		
	comp=Z,32nm,1.3s						
QZH				pmax	pmax		
	comp=Z,690nm,4.3s						
QZH				LR	LR		
	comp=Z,7µm,13.3s						
QZH				LR	LR		
	comp=Z,7µm,15.6s						
QZH				LR	LR		
	comp=Z,8µm,13.3s						
TPUB	Ta-pu	66.10	276	P	P	06 00 47.8	+0.1
EKA	Eskdalemuir Ar	66.12	15	LR	LR	06 29 01.3	
	comp=Z,23µm,21.6s,baz=354,slow=36						
ESK	Eskdalemuir	66.13	15	eP	P	06 00 46.5	-0.9
ESK				IAmb	IAmb	06 00 48.1	
	comp=Z,73nm,1.0s						
ESK				IAMs_20	IAMs_20	06 28 33.2	
	comp=Z,25µm,19.4s						
ESK	Eskdalemuir	66.13	15	P	P	06 00 46.8	-0.5
ESK				pmax	pmax		
	comp=Z,68nm,1.0s						
ESK	Eskdalemuir	66.13	15	P	P	06 00 46.8	-0.5
ESK				IAmb	IAmb	06 00 47.8	
	comp=Z,68nm,0.9s						
NEWG	New Galloway	66.17	16	eP	P	06 00 46.5	-1.1
NEWG				IAmb	IAmb	06 00 48.5	
	comp=Z,39nm,1.0s						
NEWG				IAMs_20	IAMs_20	06 28 57.3	
	comp=Z,27µm,20.7s						
ESQI	Esquipulas	66.33	100	P	P	06 00 48.1	-1.2
GAL1	Galloway	66.34	16	eP	P	06 00 47.7	-1.0
GAL1				IAmb	IAmb	06 00 49.2	
	comp=Z,70nm,0.8s						
GAL1				IAMs_20	IAMs_20	06 31 54.8	
	comp=Z,28µm,17.5s						
MUD	Monsted U'grnd	66.36	8	iP	P	06 00 47.2	-1.5
MUD				IAmb	IAmb	06 00 49.0	
	comp=Z,32nm,1.0s						
ENH	Enshi	66.44	289	P	P	06 00 49.2	-0.6
ENH				IAmb	IAmb	06 01 27.5	
	comp=Z,101nm,1.2s						
ENH				IAMs_20	IAMs_20	06 33 49.6	
	comp=Z,10µm,20.0s						
MTO3	Montecristo	66.45	100	P	P	06 00 48.3	-1.9
MTO3				IAmb	IAmb	06 00 54.8	
	comp=Z,162nm,1.3s						
DEL	Delary	66.63	5	eP	P	06 00 49.4	-1.1
EDMD	Edmundbyers	66.78	15	eP	P	06 00 50.8	-0.7
EDMD				IAmb	IAmb	06 00 51.8	
	comp=Z,79nm,1.0s						
EDMD				IAMs_20	IAMs_20	06 28 38.7	
	comp=Z,18µm,20.8s						
MOS	Moscow	66.84	350	eP	P	06 00 50.1	-1.7
MOS				ePPP	PPP	06 04 58.6	
MOS				eS	S	06 09 41.4	-2.4
MOS				e		06 10 44.6	
MOS				eSS	SS	06 14 08.3	+7.7
MOS				pmax	pmax		
	comp=Z,123nm,1.4s						
MOS				MLR	MLR		
	comp=N,28µm,22.0s						
MOS				MLR	MLR		
	comp=Z,26µm,22.0s						
KESW	Keswick, Cumbr	66.85	16	eP	P	06 00 51.1	-0.9
KESW				IAmb	IAmb	06 00 52.1	
	comp=Z,89nm,1.0s						
KESW				IAMs_20	IAMs_20	06 29 06.0	
	comp=Z,29µm,20.3s						
OTUK	Ortayu	67.04	326	P	P	06 00 52.9	-0.4
SNET	Serv Nac Est T	67.11	100	IAMs_20	IAMs_20	06 30 01.8	
	comp=Z,9µm,18.0s						
TAOE	Nuku Hiva Isla	67.32	161	eS	S	06 09 49.5	-1.1
	comp=Z,32µm,29.8s						
TAOE				eSS	SS	06 14 09.9	-0.9
	comp=Z,6µm,28.7s						
TAOE				eLQ	LQ	06 18 20.0	
	comp=Z,5µm,29.6s						
TAOE				eLR	LR	06 21 10.1	
	comp=Z,47µm,27.0s,baz=359						
TAOE	Nuku Hiva Isla	67.32	161	eT	T	07 12 06.5	
	comp=Z,50nm,0.4s						
COP	Copenhagen	67.34	6	iP	P	06 00 52.5	-2.5
COP				IAmb	IAmb	06 00 56.7	
	comp=Z,254nm,0.6s						
OBN	Obninsk	67.55	351	⇑P	P	06 00 55.1	-1.2
OBN	Obninsk	67.55	351	LR	LR	06 34 50.2	
	comp=Z,4µm,21.1s,baz=8.5,slow=40						
OBN	Obninsk	67.55	351 c	iP	P	06 00 55.1	-1.2
OBN				e		06 03 23.4	
OBN				eS	S	06 09 58.1	+5.7
OBN				eSS	SS	06 14 13.8	+2.2
OBN				pmax	pmax		
	comp=Z,105nm,1.3s						
OBN				MLR	MLR		
	comp=Z,23µm,18.0s						
ISAL	Salakas	67.67	357	eP	P	06 00 57.8	+0.7
HPK	Haverah Park	67.67	15	eP	P	06 00 56.3	-0.9
HPK				IAMs_20	IAMs_20	06 30 45.9	
	comp=Z,17µm,19.4s						
PABE	Paberze	67.77	359	IAMs_20	IAMs_20	06 28 46.6	
	comp=Z,16µm,21.0s						
PABE	Paberze	67.77	359	eP	P	06 00 57.5	-0.3
WME	Myndd Eilian	67.82	17	eP	P	06 00 57.4	-0.7
TGUH	Tegucigalpa,Un	67.86	98	P	P	06 00 58.1	-0.9
TGUH				IAMs_20	IAMs_20	06 29 11.6	
	comp=Z,10µm,22.0s						
TGUH	Tegucigalpa,Un	67.86	98	eP	P	06 00 56.4	-2.6
TGUH	Tegucigalpa,Un	67.86	98	⇑P	P	06 00 58.9	-0.2
TDK	Taldyqorghan	67.91	320	eP	P	06 00 58.4	-0.4
TDK				pmax	pmax		
	comp=Z,124nm,1.4s						
TDK				MLR	MLR		
	comp=Z,49µm,17.0s						
TDK	Taldyqorghan	67.91	320	eP	P	06 00 58.5	-0.4
	comp=Z,124nm,1.4s,baz=320						
TDK				LR	LR	06 31 38.0	
	comp=Z,49µm,17.2s,baz=320						
WLF1	Llynfaes	67.91	17	eP	P	06 00 57.1	-1.6
WLF1				IAmb	IAmb	06 00 58.5	
	comp=Z,69nm,1.1s						
WLF1				IAMs_20	IAMs_20	06 28 38.9	
	comp=Z,44µm,22.1s						
BSD	Bornholm Skovb	68.03	4	eP	P	06 00 58.9	-0.5
BSD	Bornholm Skovb	68.03	4	iP	P	06 00 58.4	-1.0
BSD				IAmb	IAmb	06 01 00.5	
	comp=Z,23nm,0.8s						
BSD	Bornholm Skovb	68.03	4	⇑P	P	06 00 58.6	-0.8
LBWR	Ladybower, Pea	68.20	15	eP	P	06 00 59.7	-0.8
LBWR				IAmb	IAmb	06 01 05.5	
	comp=Z,91nm,1.0s						
LBWR				IAMs_20	IAMs_20	06 29 33.3	
	comp=Z,22µm,22.3s						
NACGM	Naroch	68.32	357	eP	P	06 01 00.6	-0.6
LMK	Market Rasen	68.34	14	eP	P	06 01 00.8	-0.5
LMK				IAmb	IAmb	06 01 02.9	
	comp=Z,223nm,1.0s						
LMK				IAMs_20	IAMs_20	06 35 04.9	
	comp=Z,18µm,16.9s						
FOEL	Foel Wylfa	68.48	16	eP	P	06 01 01.8	-0.5
FOEL				IAmb	IAmb	06 01 05.9	
	comp=Z,159nm,1.2s						
FOEL				IAMs_20	IAMs_20	06 33 18.4	
	comp=Z,26µm,17.0s						
HLG	Helgoland	68.51	9	eP	P	06 01 02.5	0.0
	comp=Z,250nm,1.2s,baz=354,slow=6.0						
RGN	Rugen	68.52	5	IAMs_20	IAMs_20	06 34 30.3	
	comp=Z,12µm,18.0s						
KLNR	Kaliningrad	68.68	1 d	iP	P	06 01 02.9	-0.5
KLNR				pmax	pmax		
	comp=Z,379nm,1.1s						
KLNR				MLR	MLR		
	comp=Z,16µm,20.0s						
MNK	Minsk	68.68	356	iP	P	06 01 03.0	-0.5
MNK				i		06 01 25.0	
MNK				i		06 03 35.4	
MNK				iPPP	PPP	06 05 14.8	
MNK				iS	S	06 10 06.6	+0.6
MNK				pmax	pmax		
	comp=N,69nm,0.9s						
MNK				pmax	pmax		
	comp=Z,111nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				MLR	MLR		
	comp=Z,17µm,18.0s						
MNK				MLR	MLR		
	comp=E,465nm,18.0s						
MNK				MLR	MLR		
	comp=N,14µm,18.0s						
MNK	Minsk	68.68	356	iP	P	06 01 03.1	-0.5
	comp=E,2.0nm,0.9s						
MNK				iP	P	06 01 03.1	-0.5
	comp=N,69nm,0.9s						
MNK				iP	P	06 01 03.1	-0.5
	comp=Z,111nm,0.9s,baz=3.4						
MNK				iPcP	PcP	06 01 25.1	-3.3
MNK				iPP	PP	06 03 35.5	+1.1
MNK				iPPP	PPP	06 05 14.8	
MNK				iS	S	06 10 06.6	+0.6
MNK				iSS	SS	06 14 15.0	-14
MNK				iSSS	SSS	06 17 53.5	
MNK				iLQ	LQ	06 23 05.8	
MNK				iLR	LR	06 26 55.9	
MNK				iLRM	MLR	06 31 33.0	
	comp=Z,17µm,18.4s						
MNK				iLRM	MLR	06 31 35.6	
	comp=E,465nm,18.4s						
MNK				iLRM	MLR	06 31 35.6	
	comp=N,14µm,18.4s						
GOMU	GeErMu	68.76	304	P	P	06 01 04.3	-0.5
GOMU				pP	pP	06 01 07.5	-0.7
GOMU				sP	sP	06 01 11.3	+1.8
GOMU				pmax	pmax		
	comp=N,15nm,1.3s						
GOMU				pmax	pmax		
	comp=N,880nm,7.6s						
GOMU				LR	LR		
	comp=N,45µm,17.6s						
GOMU				LR	LR		
	comp=N,23µm,17.6s						
GOMU				LR	LR		
	comp=N,56µm,17.4s						
ARXS	Arharly	68.80	320	eP	P	06 01 04.1	-0.4
AKTO	Aktyubinsk	68.80	336	LR	LR	06 34 29.0	
	comp=N,28µm,19.3s,baz=16,slow=39						
CD2	Chengdu	68.83	294	P	P	06 01 04.8	-0.1
CD2				PP	PP	06 03 34.5	-1.9
CD2				S	S	06 10 11.6	+3.0
CD2				SS	SS	06 14 35.1	+2.2
CD2				pmax	pmax		
	comp=N,110nm,1.3s						
CD2				pmax	pmax		
	comp=N,1µm,4.5s						
CD2				LR	LR		
	comp=N,25µm,14.7s						
CD2				LR	LR		
	comp=N,28µm,13.9s						
HLM1	Long Mynd	68.89	16	eP	P	06 01 04.1	-0.8
HLM1				IAmb	IAmb	06 01 06.2	
	comp=Z,37nm,1.0s						
HLM1				IAMs_20	IAMs_20	06 30 28.2	
	comp=Z,25µm,21.0s						
CWF	Charnwood Fore	68.91	15	eP	P	06 01 04.3	-0.6
CWF				IAMs_20	IAMs_20	06 29 55.7	
	comp=Z,19µm,20.7s						
BSEG	Bad Segeberg	68.95	7	eP	P	06 01 05.1	-0.1
	comp=Z,75nm,1.1s,baz=354,slow=6.0						
PDGK	Podgornoye	68.98	319	P	P	06 01 05.3	-0.4
SHLS	Shalkode	69.14	319	eP	P	06 01 04.7	-2.0
SHLS				pmax	pmax		
	comp=Z,47nm,1.4s						
SHLS	Shalkode	69.14	319	eP	P	06 01 04.8	-2.0
	comp=Z,47nm,1.4s,baz=318						
RSBS	Rosebush, Pemb	69.15	17	eP	P	06 01 05.9	-0.6
RSBS				IAmb	IAmb	06 01 06.7	
	comp=Z,58nm,0.9s						
RSBS				IAMs_20	IAMs_20	06 31 23.4	
	comp=Z,22µm,19.4s						
KPKS	Kokpek	69.15	319	eP	P	06 01 05.4	-1.3
KPKS				pmax	pmax		
	comp=Z,50nm,1.4s						
KPKS	Kokpek	69.15	319	eP	P	06 01 05.5	-1.3
	comp=Z,50nm,1.4s,baz=319						
WACR	West Acre	69.18	14	eP	P	06 01 05.6	-1.0
WACR				IAmb	IAmb	06 01 07.7	
	comp=Z,456nm,1.0s						
WACR				IAMs_20	IAMs_20	06 35 50.1	
	comp=Z,16µm,16.3s						
SUW	Suwalki	69.27	359	eP	P	06 01 05.8	-1.4
SUW				eL	L	06 35 34.8	
	comp=Z,16µm,22.1s						
SUW	Suwalki	69.27	359	P	P	06 01 05.6	-1.6
SUW				pmax	pmax		
	comp=Z,232nm,1.1s						
SUW				MLR	MLR		
	comp=Z,16µm,20.0s						
SUW	Suwalki	69.27	359	P	P	06 01 05.6	-1.6
SUW	Suwalki	69.27	359	eP	P	06 01 06.1	-1.1
UZB	Uzynbulak	69.31	319	eP	P	06 01 07.2	-0.6
UZB	Uzynbulak	69.31	319	eP	P	06 01 07.3	-0.6
	baz=319						
BTLS	Baital	69.34	323	eP	P	06 01 06.0	-1.8
BTLS	Baital	69.34	323	eP	P	06 01 06.1	-1.8
	baz=323						
MCH1	Michaelchurch	69.38	16	eP	P	06 01 07.2	-0.6
MCH1				IAmb	IAmb	06 01 08.7	
	comp=Z,62nm,0.9s						
MCH1				IAMs_20	IAMs_20	06 30 43.5	
	comp=Z,21µm,22.5s						
MCH1	Michaelchurch	69.38	16	⇓P	P	06 01 07.7	-0.2
CHKK	Chushkaly	69.40	321	eP	P	06 01 06.9	-1.3
CHKK	Chushkaly	69.40	321	eP	P	06 01 07.0	-1.3
	baz=321						
AB31	Akbulak array	69.47	334	iP	P	06 01 07.5	-1.0
ABKAR	Akbulak array	69.47	334	P	P	06 01 07.8	-0.7
ABKAR	Akbulak array	69.47	334	P	P	06 01 07.3	-1.1
ABKAR				IAmb	IAmb	06 01 17.2	
	comp=Z,38nm,0.8s						
ABKAR	Akbulak array	69.47	334	⇑P	P	06 01 06.5	-2.0
ABKAR				⇑P	P	06 01 07.8	-0.7
KUU	Kurty	69.59	321	eP	P	06 01 08.4	-1.0
KUU				pmax	pmax		
	comp=Z,44nm,1.1s						
KUU				MLR	MLR		
	comp=Z,25µm,14.0s						
KUU	Kurty	69.59	321	eP	P	06 01 08.4	-1.0
	comp=Z,44nm,1.1s,baz=321						
KUU				LR	LR	06 32 32.5	
	comp=Z,25µm,14.4s,baz=321						
SATY	Saty	69.60	319	eP	P	06 01 08.6	-1.0
SATY	Saty	69.60	319	eP	P	06 01 08.6	-1.0
	baz=319						
GTBY	Guantanamo Bay	69.69	85	IAMs_20	IAMs_20	06 31 42.4	
	comp=Z,8µm,20.0s						
GTBY	Guantanamo Bay	69.69	85	eP	P	06 01 09.0	-1.2
GTBY	Guantanamo Bay	69.69	85	⇑P	P	06 01 09.2	-1.0
STRD	Stroud	69.72	16	eP	P	06 01 09.6	-0.4
STRD				IAmb	IAmb	06 01 10.5	
	comp=Z,122nm,1.0s						
STRD				IAMs_20	IAMs_20	06 30 42.6	
	comp=Z,27µm,20.1s						
MTDJ	Mount Denham	69.75	88	P	P	06 01 09.6	-1.2
MTDJ	Mount Denham	69.75	88	eP	P	06 01 09.0	-1.7
MTDJ	Mount Denham	69.75	88	⇑P	P	06 01 10.1	-0.7
LPSR	Galich'ya Gora	69.81	349	eP	P	06 01 08.9	-1.6
LPSR				eS	S	06 10 21.6	+2.3
LPSR				pmax	pmax		
	comp=Z,80nm,1.2s						
LPSR				smax	smax		
	comp=N,960nm,12.4s						
LPSR				MLR	MLR		
	comp=Z,15µm,22.0s						
ELMS	Elmsett, Ipswi	69.84	14	eP	P	06 01 09.9	-0.8
ELMS				IAmb	IAmb	06 01 10.7	
	comp=Z,102nm,1.1s						
ELMS				IAMs_20	IAMs_20	06 36 12.9	
	comp=Z,16µm,16.2s						
GKP	Gorka Klasztor	69.95	3	eP	P	06 01 10.7	-0.7
GKP				eL	L	06 32 44.1	
	comp=Z,16µm,20.5s						
GKP	Gorka Klasztor	69.95	3	eP	P	06 01 11.1	-0.3
MDOK	Medeo	69.99	320	P	P	06 01 11.1	-0.9
MDOK	Medeo	69.99	320	eP	P	06 01 10.7	-1.4
	baz=320						
MDOK				LR	LR	06 32 43.4	
	comp=Z,30µm,16.6s,baz=320						
AAA	Alma-Ata	70.00	320	eP	P	06 01 11.5	-0.4
AAA				pmax	pmax		
	comp=Z,70nm,1.2s						
AAA				MLR	MLR		
	comp=Z,39µm,17.0s						
AAA	Alma-Ata	70.00	320	eP	P	06 01 11.6	-0.4
	comp=Z,70nm,1.2s,baz=320						
AAA				LR	LR	06 32 50.0	
	comp=Z,39µm,16.7s,baz=320						
GULI	GuiLin	70.00	286	⇑P	P	06 01 12.9	+0.8
GULI				pmax	pmax		
	comp=Z,70nm,1.2s						
GULI				LR	LR		
	comp=Z,9µm,15.2s						
GULI				LR	LR		
	comp=Z,7µm,16.3s						
GULI				LR	LR		
	comp=Z,10µm,20.6s						
BOAB	BOACO BROADBAN	70.06	98	⇑P	P	06 01 10.8	-1.8
RETH	Rethem/Aller,	70.07	8	eP	P	06 01 11.9	-0.2
	comp=Z,85nm,1.2s,baz=354,slow=6.0						
IBBN	Ibbenburen	70.36	9	eP	P	06 01 13.8	-0.1
	comp=Z,119nm,1.1s,baz=354,slow=6.0						
NRDL	Niedersach Rie	70.37	8	eP	P	06 01 13.6	-0.3
	comp=Z,91nm,1.1s,baz=354,slow=6.0						
HKPS	Hong Kong Po S	70.43	281	IAMs_20	IAMs_20	06 37 47.2	
	comp=Z,10µm,21.0s						
GRTK	Grand Turk	70.56	80	IAMs_20	IAMs_20	06 33 03.2	
	comp=Z,13µm,20.0s						
SGDS	Sogindy	70.56	322	eP	P	06 01 14.3	-1.1
SGDS	Sogindy	70.56	322	eP	P	06 01 14.3	-1.1
	baz=322						
RUE	Ruedersdorf	70.61	5	eP	P	06 01 15.3	-0.1
RUE	Ruedersdorf	70.61	5	eP	P	06 01 15.2	-0.1
	comp=Z,195nm,1.1s,baz=354,slow=6.0						
FLTG	Flechtingen	70.61	7	eP	P	06 01 14.6	-0.8
	comp=Z,79nm,1.3s,baz=354,slow=6.0						
FLTG	Flechtingen	70.61	7	P	P	06 01 14.4	-1.0
VORR	Voronezh	70.70	349	eP	P	06 01 17.3	+1.3
VORR				pmax	pmax		
	comp=Z,80nm,0.4s						
TKM2	Tokmak 2	70.70	321	P	P	06 01 16.9	+0.4
	SNR=26						
TKM2	Tokmak 2	70.70	321	iP	P	06 01 16.4	-0.1
TKM2				pmax	pmax		
	comp=Z,65nm,1.2s						
DYA	Yadsworthy	70.75	17	eP	P	06 01 15.6	-0.8
ASSE	Asse, Remlinge	70.77	7	eP	P	06 01 16.0	-0.3
	comp=Z,89nm,1.5s,baz=354,slow=6.0						
USP	Ospenovka	70.77	322	P	P	06 01 17.1	+0.4
	SNR=25						
VRH	Novokhopyorsk	70.87	347	eP	P	06 01 15.3	-1.7
VRH				eS	S	06 10 28.5	-3.3
VRH				pmax	pmax		
	comp=Z,30nm,0.8s						
VRH				smax	smax		
	comp=N,2µm,13.7s						
VRH				MLR	MLR		
	comp=Z,26µm,19.0s						
CHMS	Chumysh	70.92	322	P	P	06 01 18.1	+0.5
	SNR=24						
CHMS	Chumysh	70.92	322	iP	P	06 01 17.5	-0.1
CHMS				pmax	pmax		
	comp=Z,80nm,1.1s						
GYA	Guiyang	70.98	289	⇓P	P	06 01 18.7	+0.5
GYA				pP	sP	06 01 23.2	+0.2
GYA				PcP	PcP	06 01 39.3	+0.7
GYA				PP	PP	06 03 53.0	-2.1
GYA				S	S	06 10 33.2	-0.8
GYA				sS	pS	06 10 38.8	+0.6
GYA				SKS	SKSac	06 11 18.3	-2.5
GYA				SS	SS	06 15 08.7	+2.5
GYA				pmax	pmax		
	comp=Z,50nm,1.2s						
GYA				pmax	pmax		
	comp=Z,1µm,3.7s						
GYA				LR	LR		
	comp=Z,6µm,23.8s						
GYA				LR	LR		
	comp=Z,10µm,23.9s						
GYA				LR	LR		
	comp=Z,6µm,28.1s						
CLZ	Clausthal	71.03	8	eP	P	06 01 17.1	-1.0
	comp=Z,90nm,1.1s,baz=354,slow=6.0						
ULHL	Ulahol	71.08	320	P	P	06 01 19.7	+0.9
	SNR=9.4						
KBK	Karagaybulak	71.16	322	P	P	06 01 20.0	+0.8
	SNR=20						
BUG	Bochum--Univer	71.18	10	eP	P	06 01 18.3	-0.6
	comp=Z,117nm,1.1s,baz=354,slow=6.0						
GTTG	Gottingen	71.30	8	eP	P	06 01 19.5	-0.1
	comp=Z,120nm,1.1s,baz=354,slow=6.0						
AAK	Ala-Archa	71.33	322	P	P	06 01 20.6	+0.4
	comp=Z,32nm,1.0s,baz=92,slow=2.8,SNR=33						
AAK				PP	PP	06 03 58.4	+0.7
	comp=Z,38nm,1.1s,baz=52,slow=5.6,SNR=5.2						
AAK				LR	LR	06 35 43.5	
	comp=Z,61µm,18.2s,baz=22,slow=38						
AAK	Ala-Archa	71.33	322 c	iP	P	06 01 20.4	+0.2
AAK				pmax	pmax		
	comp=Z,53nm,1.3s						
AAK				MLR	MLR		
	comp=Z,54µm,17.0s						
AAK	Ala-Archa	71.33	322	P	P	06 01 20.1	-0.1
AAK				IAmb	IAmb	06 02 06.3	
	comp=Z,151nm,1.6s						
VORD	Divnogorie	71.39	349	eP	P	06 01 18.4	-1.7
VORD				pmax	pmax		
	comp=Z,40nm,0.8s						
BEL	Belsk	71.45	1	eP	P	06 01 20.0	-0.6

BEL eL L 06 30 18.7
comp=Z,21µm,23.7s
KASTN Kahler Asten 71.52 9 *e*P **P 06 01 20.6 -0.4**
comp=Z,53nm,1.0s,baz=354,slow=6.0
UCC Uccle 71.52 12 P **P 06 01 19.8 -1.1**
UCC pmax pmax
comp=Z,17nm,1.0s
UCC Uccle 71.52 12 P **P 06 01 19.8 -1.1**
EKS2 Erkin-Say 71.55 322 P **P 06 01 22.0 +0.5**
SNR=56
AFI Afiamalu 71.63 194 LR LR 06 26 15.8
comp=Z,9µm,21.2s,baz=5.5,slow=30
AFI Afiamalu 71.63 194 IAMs_20 IAMs_20 06 26 04.5
comp=Z,9µm,21.0s
AFI Afiamalu 71.63 194 P **P 06 01 23.9 +1.9**
PRVC Isla de Provid 71.63 94 *e*P **P 06 01 19.7 -2.4**
BEBN Eben Emael 71.66 11 *d*P **P 06 01 21.5 -0.3**
CLL Collm 71.74 6⇑ *i*P **P 06 01 21.4 -0.8**
CLL *e*S **S 06 10 35.0 -6.8**
CLL pmax pmax
comp=Z,52nm,1.1s
CLL MLR MLR
comp=Z,13µm,19.8s
CLL Collm 71.74 6 P **P 06 01 21.3 -1.0**
CLL IAMs_20 IAMs_20 06 37 42.7
comp=Z,13µm,19.0s
CLL Collm 71.74 6⇑ *i*P **P 06 01 21.4 -0.8**
comp=Z,52nm,1.1s
CLL *e*x x 06 03 24.0
CLL *e*PP **PP 06 04 00.0 -0.7**
CLL *e*S **S 06 10 35.0 -6.8**
CLL *e*PS **PnS 06 11 16.0 +5.8**
CLL *e*SS **SS 06 15 24.0 +7.8**
CLL *e*SSS SSS 06 18 42.0
CLL *e*SSSS 06 20 06.0
CLL Lm MLR 06 37 00.0
comp=N,10µm,20.2s
CLL Lm MLR 06 37 00.0
comp=E,4µm,20.7s
CLL Lm MLR 06 37 00.0
comp=Z,13µm,19.8s
CLL Collm 71.74 6 *e*P **P 06 01 21.5 -0.8**
comp=Z,52nm,1.1s,baz=354,slow=6.0
NEUB Neuenburg 71.76 7 *e*P **P 06 01 22.0 -0.4**
comp=Z,97nm,1.1s,baz=354,slow=6.0
SNF Seneffe 71.80 12 *d*P **P 06 01 22.1 -0.5**
comp=Z,51nm,1.0s
BSTI Sart Tilman 71.86 11 *b*P **P 06 01 22.8 -0.2**
comp=Z,15nm,1.0s
MEM Membach 71.88 11 *d*P **P 06 01 22.6 -0.6**
comp=Z,44nm,1.1s
ORTG Ortega, Santa 71.90 99 P **P 06 01 21.9 -2.0**
BTNL Ternell 71.92 11 *b*P **P 06 01 22.9 -0.5**
comp=Z,47nm,1.1s
BCLA Clavier 72.00 11 *d*P **P 06 01 23.2 -0.7**
comp=Z,26nm,1.1s
BGES Gesves 72.01 11 *d*P **P 06 01 23.2 -0.7**
comp=Z,26nm,1.0s
BGES *d*pP **pP 06 01 27.3 0.0**
UBBA Unterbreizbach 72.03 8 *e*P **P 06 01 23.2 -0.7**
comp=Z,75nm,1.7s,baz=354,slow=6.0
AHRW Bad Neuenahr-A 72.05 10 *e*P **P 06 01 24.0 -0.2**
comp=Z,66nm,1.1s,baz=354,slow=6.0
BMRD Maredsous 72.05 11 *d*P **P 06 01 23.9 -0.3**
comp=Z,65nm,1.0s
BHOU Houvegnez 72.13 11 *d*P **P 06 01 24.3 -0.4**
comp=Z,20nm,1.1s
FBE Freiberg 72.14 6 *e*P **P 06 01 24.4 -0.3**
comp=Z,89nm,1.1s,baz=354,slow=6.0
DZA Taraz 72.14 324 *e*P **P 06 01 24.1 -0.8**
DZA Taraz 72.14 324 *e*P **P 06 01 24.1 -0.8**
baz=324
COVE Coope Vega, Sa 72.18 98 P **P 06 01 24.1 -1.3**
COVE IAmb IAmb 06 01 30.0
comp=Z,180nm,1.2s
KKAR Karatay Array 72.21 325 P **P 06 01 25.0 -0.3**
KKAR Karatay Array 72.21 325 P **P 06 01 25.0 -0.3**
BRG Berggiesshubel 72.22 5 *i*P **P 06 01 24.7 -0.5**
BRG Amp 06 01 27.0
comp=Z,83nm,1.1s
BRG Berggiesshubel 72.22 5 S **S 06 10 50.0 +2.6**
BRG Berggiesshubel 72.22 5 *i*P **P 06 01 24.6 -0.5**
BRG S **S 06 10 50.0 +2.6**
BRG pmax pmax
comp=Z,83nm,1.1s
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 72.22 5 *e*P **P 06 01 24.6 -0.6**
comp=Z,82nm,1.1s,baz=354,slow=6.0
JSA Saint Aubin 72.23 16 *e*P **P 06 01 24.1 -1.2**
JSA IAmb IAmb 06 01 25.9
comp=Z,99nm,1.0s
JSA IAMs_20 IAMs_20 06 30 31.9
comp=Z,25µm,25.2s
JTS Las Juntas de 72.24 99 LR LR 06 36 09.2
comp=Z,4µm,20.4s,baz=22,slow=38
JTS Las Juntas de 72.24 99⇓ *e*P **P 06 01 25.9 +0.1**
JTS pmax pmax
comp=Z,18nm,1.1s
DOU Dourbes 72.24 12 *d*P **P 06 01 24.7 -0.6**
comp=Z,42nm,1.0s
RCHB Rochefort 72.25 11 *d*P **P 06 01 24.7 -0.7**
comp=Z,50nm,1.1s
PMOR Pomariorio Ree 72.30 170 *e*P **P 06 01 27.1 +1.2**
comp=Z,308nm,1.4s
PMOR Pomariorio Ree 72.30 170 *e*T T 07 18 19.6
comp=Z,221nm,0.4s
MOX Moxa 72.31 7 *e*P **P 06 01 25.4 -0.4**
comp=Z,92nm,1.1s,baz=354,slow=6.0
MOX *e*L L 06 34 23.3
comp=Z,10µm,20.6s
KSP Ksiaz 72.35 4 *e*P **P 06 01 25.3 -0.7**
KSP *e*S **S 06 10 49.9 +1.0**
KSP *e*SKSac **SKKSac 06 11 30.8 +0.4**
KSP *e*L L 06 34 19.3
comp=Z,11µm,19.8s
KSP Ksiaz 72.35 4⇑ P **P 06 01 25.1 -0.8**
KSP⇑ P **P 06 01 25.4 -0.7**
AKASG Malin Array Be 72.43 355 P **P 06 01 24.8 -1.6**
comp=Z,12nm,0.5s,baz=5.6,slow=5.9,SNR=76
AKASG LR LR 06 34 46.4
comp=Z,17µm,19.9s,baz=10.0,slow=37
AKBB Malin Array Si 72.43 355*c i*P **P 06 01 24.4 -2.0**
AKBB Malin Array Si 72.43 355 P **P 06 01 24.7 -1.8**
AKBB IAmb IAmb 06 01 30.2
comp=Z,274nm,1.8s
BRLS Boroldav 72.49 325 *e*P **P 06 01 28.3 +1.3**
BRLS Boroldav 72.49 325 *e*P **P 06 01 28.4 +1.3**
baz=325
TNS Taunus Mts 72.49 9 *e*P **P 06 01 26.5 -0.4**
comp=Z,66nm,1.1s,baz=354,slow=6.0
PLN Plauen 72.51 7 *e*P **P 06 01 26.4 -0.5**
comp=Z,50nm,1.1s,baz=354,slow=6.0
SDDR Presa de Saban 72.53 82 P **P 06 01 26.6 -1.0**
SDDR IAmb IAmb 06 01 28.3
comp=Z,120nm,1.0s
SDDR IAMs_20 IAMs_20 06 33 55.6
comp=Z,11µm,20.0s
SDDR Presa de Saban 72.53 82 *e*P **P 06 01 25.5 -2.0**
SDDR Presa de Saban 72.53 82⇑ P **P 06 01 26.7 -0.8**
WERD Werda 72.55 6 *e*P **P 06 01 26.7 -0.5**
comp=Z,76nm,1.4s,baz=354,slow=6.0
VAH Vaihoa 72.55 169 *e*P **P 06 01 28.5 +1.1**
comp=Z,236nm,1.3s
VAH Vaihoa 72.55 169 *e*T T 07 18 36.5
comp=Z,9.6nm,0.4s
TANN Tannenbergstha 72.59 6 *e*P **P 06 01 27.1 -0.5**
comp=Z,88nm,1.6s,baz=354,slow=6.0
PVCC Panska Ves 72.59 5 *e*P **P 06 01 27.1 -0.3**
PVCC MLR MLR
comp=Z,12µm,19.3s
PVCC Panska Ves 72.59 5 *e*P **P 06 01 27.1 -0.3**
PVCC AMS AMS 06 38 30.0
comp=Z,12µm,19.3s
CHVC Chvalec 72.60 4 *e*P **P 06 01 27.0 -0.5**
CHVC AMS AMS 06 38 20.0
comp=Z,11µm,18.6s
OSTC Ostas 72.64 4 *e*P **P 06 01 26.8 -0.9**
OSTC *e*S **S 06 10 53.2 +1.0**
OSTC AMS AMS 06 34 00.0
comp=Z,10µm,19.8s
GUNZ Gunzen 72.64 6 *e*P **P 06 01 27.3 -0.5**
comp=Z,36nm,1.1s,baz=354,slow=6.0
UPC Upice 72.68 4 *e*P **P 06 01 27.6 -0.3**
UPC *e*S **S 06 10 54.0 +1.3**
UPC MLR MLR
comp=Z,13µm,18.4s
UPC Upice 72.68 4 *e*P **P 06 01 27.6 -0.3**
UPC *e*S **S 06 10 54.0 +1.3**
UPC AMS AMS 06 38 30.0
comp=Z,13µm,18.4s
WERN Wernitzgruen 72.72 6 *e*P **P 06 01 28.0 -0.3**
comp=Z,54nm,1.1s,baz=354,slow=6.0
NKC Novy Kostel 72.78 6 *e*P **P 06 01 28.1 -0.5**
NKC *e*S **S 06 10 52.8 -1.0**
NKC MLR MLR
comp=Z,10µm,19.4s
NKC Novy Kostel 72.78 6 *e*P **P 06 01 28.1 -0.5**
NKC *e*S **S 06 10 52.8 -1.0**
NKC AMS AMS 06 39 20.0
comp=Z,10µm,19.4s
WLF Walferdange 72.83 11 P **P 06 01 28.4 -0.5**
WLF pmax pmax
comp=Z,76nm,1.0s
WLF MLR MLR
comp=Z,12µm,20.0s
WLF Walferdange 72.83 11 P **P 06 01 28.4 -0.5**
WLF IAmb IAmb 06 01 29.9
comp=Z,76nm,1.0s
WLF IAMs_20 IAMs_20 06 36 12.2
comp=Z,11µm,20.0s
WLF Walferdange 72.83 11 *e*P **P 06 01 28.8 0.0**
comp=Z,86nm,1.1s,baz=354,slow=6.0
WLF Walferdange 72.83 11⇑ P **P 06 01 28.6 -0.2**
WLF⇓ P **pP 06 01 29.1 -3.2**
WLF Walferdange 72.83 11 *d*P **P 06 01 28.9 0.0**
comp=Z,48nm,1.1s
DPC Dobruska-Polom 72.84 4 *e*P **P 06 01 28.7 -0.3**
DPC *e*S **S 06 10 56.3 +1.6**
DPC MLR MLR
comp=Z,9µm,21.2s
DPC Dobruska-Polom 72.84 4 *e*P **P 06 01 28.7 -0.3**
DPC *e*S **S 06 10 56.3 +1.6**
DPC AMS AMS 06 37 50.0
comp=Z,9µm,21.2s
HDC Heredia 72.93 98⇓ P **P 06 01 33.5 +3.4**
MANZ Manzenberg 73.00 7 *e*P **P 06 01 29.2 -0.7**
comp=Z,9.2nm,1.1s,baz=354,slow=6.0
OJC Ojcow 73.06 1 *e*P **P 06 01 29.5 -0.7**
OJC *e*SKSac **SKSac 06 11 37.6 +2.0**
OJC *e*L L 06 34 05.0
comp=Z,18µm,20.9s
OJC Ojcow 73.06 1 P **P 06 01 29.2 -1.0**
OJC pmax pmax
comp=Z,120nm,1.6s
OJC Ojcow 73.06 1 P **P 06 01 29.2 -1.0**
OJC IAmb IAmb 06 01 34.7
comp=Z,120nm,1.6s
PRU Pruhonice 73.13 5 *e*P **P 06 01 30.3 -0.3**
PRU *e*S **S 06 10 56.5 -1.3**
PRU MLR MLR
comp=Z,14µm,19.7s
PRU Pruhonice 73.13 5 *e*P **P 06 01 30.3 -0.3**
PRU *e*S **S 06 10 56.5 -1.3**
PRU AMS AMS 06 37 00.0
comp=Z,14µm,19.7s
KRLC Kraliky 73.14 3 *e*P **P 06 01 30.1 -0.6**
KRLC *e*S **SKiKP 06 11 00.9 -1.4**
KRLC MLR MLR
comp=Z,10µm,21.0s
KRLC Kraliky 73.14 3 *e*P **P 06 01 30.1 -0.6**
KRLC *e*S **SKiKP 06 11 00.9 -1.4**
KRLC AMS AMS 06 38 10.0
comp=Z,10µm,21.0s
ROTZ Rotzenmuhle 73.22 7 *e*P **P 06 01 30.8 -0.4**
comp=Z,17nm,1.2s,baz=354,slow=6.0
IUG luzhnay 73.23 325 *e*P **P 06 01 30.4 -1.0**
IUG luzhnay 73.23 325 *e*P **P 06 01 30.5 -1.0**
baz=325
GRA1 Grafenberg Arr 73.23 7 IAMs_20 IAMs_20 06 35 31.0
comp=Z,10µm,21.0s
GRF Grafenberg Arr 73.23 7 *e*P **P 06 01 31.1 -0.2**
comp=Z,66nm,1.1s,baz=354,slow=6.0
GRF *e*L L 06 35 11.0
comp=Z,10µm,21.3s
GRFO Grafenberg 73.23 7 P **P 06 01 30.8 -0.5**
GRFO pmax pmax
comp=Z,63nm,1.1s
GRFO MLR MLR
comp=Z,10µm,21.0s
GRFO Grafenberg 73.23 7 P **P 06 01 30.8 -0.5**
GRFO IAMs_20 IAMs_20 06 35 32.0
comp=Z,10µm,21.0s
PBCC Pribram 73.41 5 *e*P **P 06 01 31.7 -0.6**
OKC Ostrava-Krasne 73.41 3 *e*P **P 06 01 31.8 -0.5**
OKC MLR MLR
comp=Z,13µm,16.8s
OKC Ostrava-Krasne 73.41 3 *e*P **P 06 01 31.8 -0.5**
OKC AMS AMS 06 41 20.0
comp=Z,13µm,16.8s
TGY Tagaytay City 73.41 270 P **P 06 01 33.0 +0.2**
comp=Z,221nm,0.3s,baz=253,slow=5.3,SNR=9.8
TGY LR LR 06 35 38.2
comp=Z,2µm,20.0s,baz=22,slow=37
TGY Tagaytay City 73.41 270 P **P 06 01 33.0 +0.2**
PZH PanZhiHua 73.45 293 P **P 06 01 32.6 -0.4**
PZH pP **pP 06 01 37.0 +0.5**
PZH sP **sP 06 01 41.7 +3.9**
PZH PcP **PcP 06 01 49.5 +0.3**
PZH S **S 06 11 01.4 -0.9**
PZH ScS **SKSac 06 11 36.5 -2.9**
PZH SS **SS 06 15 42.8 -1.2**
PZH pmax pmax
comp=Z,100nm,1.1s
PZH pmax pmax
comp=Z,870nm,4.3s
PZH LR LR
comp=Z,7µm,18.0s
PZH LR LR
comp=Z,9µm,19.0s
PZH LR LR
comp=Z,8µm,26.5s
MORC Moravsky Berou 73.46 3⇓ P **P 06 01 31.9 -0.8**
MORC Moravsky Berou 73.46 3 P **P 06 01 31.7 -0.9**
MORC pmax pmax
comp=Z,36nm,1.0s
MORC Moravsky Berou 73.46 3 P **P 06 01 31.7 -0.9**
MORC Moravsky Berou 73.46 3 *e*P **P 06 01 31.8 -0.8**
MORC *e*S **SKiKP 06 11 03.9 +1.1**
MORC *e*SS **SS 06 15 50.5 +7.9**
MORC *e* 06 19 44.3
MORC Moravsky Berou 73.46 3⇑ P **P 06 01 31.8 -0.8**
MORC⇑ P **P 06 01 31.9 -0.8**
LVV L'vov 73.47 359 *e*P **P 06 01 32.0 -0.6**
LVV *e*S **S 06 10 57.5 -4.1**
LVV MLR MLR
comp=Z,14µm,19.0s
BANI BANI 73.52 82 P **P 06 01 33.4 -0.1**
KSH Kashi 73.59 319 P **P 06 01 36.5 +2.8**
KSH pP sP 06 01 41.2 +2.9
KSH PP **PP 06 04 21.9 +4.9**
KSH S **S 06 11 06.5 +2.9**
KSH sS sS 06 11 16.9 +7.7
KSH SS **SS 06 15 56.1 +11**
KSH pmax pmax
comp=Z,49nm,1.1s
KSH pmax pmax
comp=Z,1µm,5.2s
KSH LR LR
comp=Z,93µm,17.5s
KSH LR LR
comp=Z,55µm,17.5s
KSH LR LR
comp=Z,132µm,16.1s
KWP Kalwaria Pacla 73.67 359 *e*P **P 06 01 33.2 -0.5**
KWP *e*L L 06 35 03.7
comp=Z,17µm,21.0s
H07N1 FLORES T-PHASE 73.76 40 *e*P **P 06 01 35.7 +1.2**
TREC Trest 73.87 4 *e*P **P 06 01 34.4 -0.6**
TREC MLR MLR
comp=Z,11µm,18.0s
TREC Trest 73.87 4 *e*P **P 06 01 34.4 -0.6**
TREC AMS AMS 06 39 50.0
comp=Z,11µm,18.0s
NIE Niedzica 73.87 1 *e*P **P 06 01 35.4 +0.3**
NIE *e*L L 06 34 53.8
comp=Z,11µm,21.1s
STHS Stebnicka Huta 73.88 0 *e*P **P 06 01 34.3 -0.8**
STHS Stebnicka Huta 73.88 0 *e*P **P 06 01 34.3 -0.8**
WET Wettzell 73.89 6 *e*P **P 06 01 34.8 -0.3**
comp=Z,102nm,1.7s,baz=354,slow=6.0
VRAC Vranov 73.90 4⇑ P **P 06 01 34.4 -0.7**
VRAC Vranov 73.90 4 LR LR 06 35 38.3
comp=Z,8µm,18.6s,baz=8.0,slow=37
VRAC Vranov 73.90 4 *e*P **P 06 01 34.6 -0.6**
VRAC *e*S **S 06 11 08.6 +2.1**
VRAC *e*SS **SS 06 15 53.1 +3.8**
VRAC *e* 06 19 53.8
KHC Kasperske Hory 73.94 6*c i*P **P 06 01 34.8 -0.7**
KHC pmax pmax
comp=Z,169nm,1.1s
KHC MLR MLR
comp=Z,23µm,19.0s
KHC Kasperske Hory 73.94 6 P **P 06 01 34.6 -0.8**
KHC IAmb IAmb 06 01 37.6
comp=Z,78nm,1.1s
KHC Kasperske Hory 73.94 6 *e*P **P 06 01 35.3 -0.2**
KHC *e*PCP **PcP 06 01 53.5 +2.7**
KHC *e*S **S 06 11 09.6 +2.5**
KHC AMS AMS 06 37 10.0
comp=Z,13µm,19.0s
STU Stuttgart 74.00 9 P **P 06 01 34.8 -0.9**
STU pmax pmax
comp=Z,41nm,0.9s
STU Stuttgart 74.00 9 P **P 06 01 34.8 -0.9**
STU IAMs_20 IAMs_20 06 39 59.1
comp=Z,10µm,18.0s
STU Stuttgart 74.00 9 *e*P **P 06 01 35.2 -0.5**
comp=Z,137nm,1.1s,baz=354,slow=6.0
STU Stuttgart 74.00 9⇓ P **P 06 01 35.6 -0.1**
CLF Chambon-Foret 74.00 14 IAMs_20 IAMs_20 06 36 13.0
comp=Z,11µm,19.0s
CLF Chambon-Foret 74.00 14⇑ P **P 06 01 35.6 0.0**
CLF⇑ P **P 06 01 35.8 0.0**
H07S1 FLORES T-PHASE 74.01 40 *e*P **P 06 01 36.9 +0.9**
comp=Z,7µm,2.1s
DRK0 Durika 74.01 98 P **P 06 01 35.0 -1.5**
KMI Kunming 74.08 291⇑ P **P 06 01 36.2 -0.7**
KMI pP sP 06 01 41.9 +0.3
KMI PcP **PcP 06 01 51.6 -0.4**
KMI PP **PP 06 04 20.6 -1.2**
KMI S **S 06 11 07.4 -2.3**
KMI SKS **SKSac 06 11 41.6 -2.8**
KMI SS **SS 06 15 55.0 +1.1**
KMI pmax pmax
comp=Z,13nm,1.1s
KMI pmax pmax
comp=Z,810nm,4.2s
KMI LR LR
comp=Z,11µm,16.1s
KMI LR LR
comp=Z,11µm,14.3s
KMI LR LR
comp=Z,13µm,18.5s
LANS Liptovska Anna 74.13 2 *e*P **P 06 01 37.0 +0.4**
LANS pmax pmax
comp=Z,51nm,1.1s
LANS Liptovska Anna 74.13 2 *e*P **P 06 01 36.9 +0.4**
KRUC Moravsky 74.14 4 *e*P **P 06 01 35.7 -0.8**
KRUC *e*S **S 06 11 11.8 +2.6**
KRUC *e*SS **SS 06 16 00.6 +7.7**
KRUC *e* 06 19 57.0
GEC2 GERESS Array S 74.23 6 P **P 06 01 36.2 -1.0**
GEC2 GERESS Array S 74.23 6 *e*P **P 06 01 36.7 -0.6**
comp=Z,42nm,1.1s,baz=354,slow=6.0
GERES GERESS Array B 74.23 6 P **P 06 01 36.5 -0.7**
comp=Z,20nm,0.9s,baz=308,slow=4.9,SNR=86
GERES PKPPKP **P'P'df 06 29 09.4 -6.3**
comp=Z,0.7nm,0.7s,baz=184,slow=8.0,SNR=4.7
GERES LR LR 06 36 14.4
comp=Z,7µm,19.2s,baz=12,slow=37
GERES GERESS Array B 74.23 6 P **P 06 01 36.5 -0.7**
CKRC Cesky Krumlov 74.29 5 *e*P **P 06 01 36.6 -0.9**
CKRC *e*S **S 06 11 11.7 +0.7**
CKRC AMS AMS 06 39 50.0
comp=Z,17µm,18.8s
BFO Black Forest 74.36 9 IAMs_20 IAMs_20 06 38 24.7
comp=Z,11µm,19.0s
BFO Black Forest 74.36 9 *e*P **P 06 01 37.3 -0.6**
comp=Z,37nm,1.0s,baz=354,slow=6.0
ECH Echery 74.36 10 P **P 06 01 37.0 -0.9**
ECH pmax pmax
comp=Z,83nm,1.1s
ECH MLR MLR
comp=Z,10µm,20.0s
ECH Echery 74.36 10 P **P 06 01 37.0 -0.9**
ECH IAmb IAmb 06 01 39.4
comp=Z,83nm,1.1s
ECH IAMs_20 IAMs_20 06 36 03.8
comp=Z,10µm,20.0s
ECH Echery 74.36 10⇑ P **P 06 01 37.2 -0.7**
ECH⇑ P **P 06 01 37.3 -0.7**
JAVC Velka Javorina 74.38 3 *e*P **P 06 01 38.4 +0.3**
JAVC *e*S **S 06 11 18.7 +6.6**
JAVC *e*SS **SS 06 16 03.7 +7.0**
JAVC *e* 06 20 04.5
CRVS Cervenica-Dubn 74.40 0 *e*P **P 06 01 37.6 -0.5**
CRVS pmax pmax
comp=Z,81nm,1.2s
CRVS Cervenica-Dubn 74.40 0 *e*P **P 06 01 37.6 -0.5**
UZH Uzhgorod 74.67 360 *e*P **P 06 01 38.5 -1.1**
UZH *e* 06 01 51.1
UZH *e*PPP PPP 06 06 06.5
UZH *e*S **SKiKP 06 11 08.5 +3.9**
UZH *e*PS **PnS 06 11 52.9 +4.2**
KOLL Kolacno 74.68 2 *e*P **P 06 01 39.5 -0.2**
HNR Honiara 74.69 223 P **P 06 01 40.5 +0.4**
comp=Z,255nm,1.3s,baz=246,slow=4.1,SNR=1.9
HNR LR LR 06 28 50.1
comp=Z,5µm,21.9s,baz=23,slow=31
BRU2 Volcan 74.70 98 *e*P **P 06 01 39.1 -1.4**
PPT2 Papeete2 74.71 172 *e*P **P 06 01 41.5 +1.3**
comp=Z,224nm,1.5s
PPT2 *e*S **S 06 11 16.6 +0.4**
comp=Z,6µm,29.0s
PPT2 Papeete2 74.71 172 *e*LR LR 06 24 33.8
comp=Z,29µm,24.8s,baz=350
PPT2 Papeete2 74.71 172 *e*T T 07 21 39.9
comp=Z,7.4nm,0.4s
PPTF Pamatai, Papee 74.71 172 IAMs_20 IAMs_20 06 27 20.3
comp=Z,9µm,20.0s
PPTF Pamatai, Papee 74.71 172 P **P 06 01 41.2 +1.0**
IZAB Izabela 74.71 2 *e*P **P 06 01 40.1 +0.2**
IZAB pmax pmax
comp=Z,25nm,1.0s
SMOL Smolenice 74.72 3 *e*P **P 06 01 40.0 +0.1**
SMOL pmax pmax
comp=Z,32nm,1.1s
SMOL Smolenice 74.72 3 *e*P **P 06 01 40.0 +0.1**
VYHS Vyhne 74.77 2 *e*P **P 06 01 39.8 -0.5**
VYHS pmax pmax
comp=Z,26nm,1.0s
VYHS Vyhne 74.77 2 *e*P **P 06 01 39.8 -0.5**
PAE Paea 74.78 172 *e*P **P 06 01 41.6 +1.1**
comp=Z,52nm,1.5s
PAE Paea 74.78 172 *e*T T 07 21 37.7
comp=Z,2.9nm,0.4s
KECS Kecovo 74.81 1 *e*P **P 06 01 39.9 -0.6**
KECS Kecovo 74.81 1 *e*P **P 06 01 39.9 -0.6**
BTK Batken 74.86 323 P **P 06 01 40.6 -0.4**
BTK Batken 74.86 323 P **P 06 01 40.6 -0.4**
TVO Taravao 74.92 171 *e*P **P 06 01 42.6 +1.2**
comp=Z,0.5nm,1.0s
TVO Taravao 74.92 171 *e*T T 07 21 43.0
comp=Z,3.5nm,0.3s
ZST Bratislava 75.03 3 *e*P **P 06 01 41.8 +0.1**
ZST Bratislava 75.03 3 *e*P **P 06 01 41.8 +0.1**
SORM Soroca 75.03 356⇑ P **P 06 01 40.2 -1.5**
DRK Karamyk 75.06 322 P **P 06 01 42.3 -0.2**
UBR Ueberruh 75.15 8 *e*P **P 06 01 42.0 -0.5**
comp=Z,44nm,1.0s,baz=354,slow=6.0
TRPA Tarpa 75.17 360⇑ P **P 06 01 41.8 -0.7**
TRPA Tarpa 75.17 360 P **P 06 01 42.1 -0.4**
CONA Conrad Observa 75.25 4 *i*P **P 06 01 42.7 -0.4**
comp=Z,48nm,1.1s,SNR=30
MOA Molln 75.25 5 *i*P **P 06 01 42.3 -0.7**
comp=Z,60nm,1.2s,SNR=20
RJOB Jochberg 75.28 6 *e*P **P 06 01 42.8 -0.5**
comp=Z,89nm,0.9s,baz=354,slow=6.0
PSZ Piszkesteto 75.37 1⇑ P **P 06 01 42.1 -1.7**
PSZ Piszkesteto 75.37 1 IAMs_20 IAMs_20 06 35 41.5
comp=Z,13µm,20.0s
PSZ Piszkesteto 75.37 1 P **P 06 01 43.6 -0.2**
BIOA Bad Ischl, Aus 75.38 6 *i*P **P 06 01 43.1 -0.7**
comp=Z,34nm,0.9s,SNR=14

Sta	Name	Dist	Az	Phase	Phase	Time	Res
QIZ	Qiongzhong	75.38	282	P	P	06 01 43.0	-1.2
QIZ				PcP	PcP	06 01 56.1	-1.3
QIZ				S	S	06 11 23.2	-0.7
QIZ				pmax	pmax		
	comp=Z,27nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,700nm,5.1s						
QIZ				LR	LR		
	comp=Z,7µm,16.1s						
QIZ				LR	LR		
	comp=Z,10µm,15.3s						
QIZ				LR	LR		
	comp=Z,7µm,14.3s						
QIZ	Qiongzhong	75.38	282	P	P	06 01 44.6	+0.4
RETA	Reutte	75.39	8	iP	P	06 01 43.4	-0.6
	comp=Z,37nm,1.2s,SNR=11						
SRBC	Serra Branca	75.40	38	eP	P	06 01 44.2	+0.1
	comp=Z,1µm,1.0s						
PGRA	Graciosa	75.43	38	eP	P	06 01 45.6	+1.4
	comp=Z,327nm,0.9s						
SRO	Srobarova	75.44	3	eP	P	06 01 44.3	+0.2
SRO				pmax	pmax		
	comp=Z,46nm,1.2s						
SRO	Srobarova	75.44	3	eP	P	06 01 44.3	+0.2
RONA	Rosalia, Austr	75.49	4	iP	P	06 01 44.3	-0.2
	comp=Z,25nm,1.1s,SNR=16						
SRO2	Moca	75.49	2	eP	P	06 01 43.2	-1.2
SRO2				pmax	pmax		
	comp=Z,43nm,1.0s						
SRO2	Moca	75.49	2	eP	P	06 01 43.2	-1.2
AOPR	Arecibo Observ	75.50	79	e	P	06 01 43.4	-1.5
SOP	Sopron	75.52	4	P	P	06 01 44.2	-0.4
DAVA	Damuels	75.53	8	iP	P	06 01 44.1	-0.7
	comp=Z,31nm,1.0s,SNR=9.6						
MOTA	Moosalm	75.56	8	iP	P	06 01 44.3	-0.7
	comp=Z,98nm,1.1s,SNR=28						
CALA	Caldeira	75.59	39	eP	P	06 01 45.3	+0.1
	comp=Z,791nm,0.9s						
WATA	Walderalm	75.60	7	iP	P	06 01 44.7	-0.6
	comp=Z,116nm,1.1s,SNR=32						
BMR	Baia Mare	75.62	359	⇑P	P	06 01 44.2	-0.9
ROSA	Rosais	75.62	38	eP	P	06 01 44.6	-0.7
	comp=Z,437nm,1.1s						
MLPR	Magueyes Islan	75.65	79	P	P	06 01 43.8	-1.9
MLPR				IAmb	IAmb	06 01 50.7	
	comp=Z,112nm,1.1s						
BURAR	Bucovina Array	75.65	358	⇑P	P	06 01 44.3	-1.2
BURAR	Bucovina Array	75.65	358	P	P	06 01 44.3	-1.2
HOR	Horta	75.66	39	eP	P	06 01 46.4	+0.9
	comp=Z,487nm,1.1s						
WTTA	Wattenberg	75.68	7	iP	P	06 01 45.4	-0.3
	comp=Z,106nm,1.1s,SNR=26						
SQTA	Sankt Quirin	75.69	8	iP	P	06 01 45.4	-0.3
	comp=Z,122nm,1.1s,SNR=42						
PMAN	Manadas	75.75	38	eP	P	06 01 45.9	-0.1
	comp=Z,262nm,0.9s						
BUD	Budapest	75.79	2	P	P	06 01 46.5	+0.4
EGYH	Egyhazaskeszo	75.81	3	P	P	06 01 46.0	-0.3
PPNO	Prainha do Nor	75.84	38	eP	P	06 01 47.6	+1.0
	comp=Z,510nm,1.6s						
FETA	Feichten	75.86	8	iP	P	06 01 46.4	-0.3
	comp=Z,82nm,1.0s,SNR=37						
LSA	Lhasa	75.88	303	P	P	06 01 48.1	+0.6
LSA				LR	LR		
	comp=Z,19µm,29.9s						
LSA				LR	LR		
	comp=Z,28µm,27.0s						
GCPR	Guaynabo City	75.88	78	P	P	06 01 45.8	-1.3
GCPR				IAmb	IAmb	06 01 50.8	
	comp=Z,149nm,0.9s						
CSKK	Cskako	75.89	3	P	P	06 01 46.6	-0.1
ARSA	Arzberg	75.91	5	iP	P	06 01 46.6	-0.2
	comp=Z,32nm,1.1s,SNR=12						
LTVH	Ltavrtes, Hu	75.92	0	⇑P	P	06 01 45.7	-1.2
LTVH	Ltavrtes, Hu	75.92	0	P	P	06 01 46.0	-0.8
PAGU	Agualva, Azore	75.93	38	eP	P	06 01 46.4	-0.7
	comp=Z,267nm,1.6s						
BCIP	Isla Barro Col	75.94	95	P	P	06 01 45.7	-1.7
BCIP				pmax	pmax		
	comp=Z,138nm,1.4s						
BCIP				MLR	MLR		
	comp=Z,7µm,20.0s						
BCIP	Isla Barro Col	75.94	95	P	P	06 01 45.7	-1.7
BCIP				IAmb	IAmb	06 01 51.3	
	comp=Z,138nm,1.4s						
BCIP				IAMs_20	IAMs_20	06 36 25.5	
	comp=Z,7µm,20.0s						
BCIP	Isla Barro Col	75.94	95	eP	P	06 01 43.0	-4.4
BCIP	Isla Barro Col	75.94	95	⇑P	P	06 01 45.5	-1.9
BCIP				⇓P	pP	06 01 46.0	-4.8
KBA	Koelnbreinsper	75.97	6	iP	P	06 01 47.3	-0.1
	comp=Z,133nm,1.2s,SNR=44						
SJG	San Juan	76.01	78	LR	LR	06 35 57.9	
	comp=Z,5µm,20.9s,baz=328,slow=36						
SJG	San Juan	76.01	78	IAMs_20	IAMs_20	06 41 40.7	
	comp=Z,7µm,18.0s						
SJG	San Juan	76.01	78	eP	P	06 01 44.0	-3.8
SJG	San Juan	76.01	78	⇑P	P	06 01 46.9	-0.9
SJG				⇓P	pP	06 01 47.3	-3.9
SJG				⇑P	sP	06 01 50.7	-1.8
ADH	Angra Heroismo	76.02	38	eP	P	06 01 48.9	+1.4
DAVOX	Davos/Dischmat	76.03	9	LR	LR	06 37 30.1	
	comp=Z,5µm,20.3s,baz=9.5,slow=38						
MPLH	Magyarpolny	76.06	3	P	P	06 01 47.4	-0.3
MESR	Meseseni	76.15	359	⇑P	P	06 01 47.6	-0.6
ARCR	ARCALIA	76.19	358	⇑P	P	06 01 48.1	-0.3
SENIN	Lac Senin/Sane	76.21	10	IAMs_20	IAMs_20	06 39 39.6	
	comp=Z,11µm,18.0s						
MILM	Milestii Mici	76.22	355	⇑P	P	06 01 47.0	-1.6
ABTA	Abfaltersbach	76.25	7	iP	P	06 01 48.1	-0.8
	comp=Z,45nm,1.0s,SNR=28						
UPA	Univ. de Panam	76.26	95	eP	P	06 01 44.9	-4.3
TUE	Stuetta	76.29	9	⇑P	P	06 01 48.0	-1.3
TUE				⇑P	P	06 01 49.1	-0.1
TIH	Tihany	76.34	3	P	P	06 01 49.4	+0.1
MYKA	Terra Mystica	76.44	6	iP	P	06 01 48.9	-1.0
	comp=Z,24nm,1.0s,SNR=8.4						
SOKA	Soboth	76.46	5	iP	P	06 01 49.4	-0.6
	comp=Z,56nm,1.1s,SNR=31						
PERS	Pernice	76.51	5	iP	P	06 01 49.6	-0.7
PERS				eS	S	06 11 36.3	+0.6
PERS				e		06 17 00.8	
DRGR		76.51	359	⇑P	P	06 01 48.9	-1.4
CJR	Cluj-Napoca	76.58	359	⇑P	P	06 01 50.3	-0.4
OBKA	Obir	76.61	5	iP	P	06 01 50.4	-0.5
	comp=Z,102nm,1.1s,SNR=34						
CHGR	Chuyangaron	76.67	324	P	P	06 01 50.7	-0.8
DAV	Davao City (W)	76.70	262	P	P	06 01 52.3	+0.6
	comp=Z,235nm,0.4s,baz=78,slow=7.3,SNR=9.2						
DAV				LR	LR	06 32 43.4	
	comp=Z,5µm,21.2s,baz=51,slow=33						
DAV	Davao City (W)	76.70	262	P	P	06 01 52.7	+1.0
TESR	Tescani	76.71	357	⇓P	P	06 01 50.0	-1.4
GOF	Gofitskoye	76.72	345	⇑eP	P	06 01 51.1	-0.4
GOF				pmax	pmax		
	comp=Z,217nm,0.9s						
GORS	Gorjuse	76.77	6	iP	P	06 01 50.5	-1.3
GORS				eS	S	06 11 38.0	-0.7
CADS	Cadrg	76.84	6	iP	P	06 01 50.7	-1.5
AZU	Azuero	76.85	96	eP	P	06 01 47.9	-4.7
CACAO	El Cacao, Vera	76.90	97	eP	P	06 01 49.8	-3.0
JAY	Jayapura	76.94	244	P	P	06 01 53.8	+0.7
	comp=Z,84nm,1.0s,baz=12,slow=1.1,SNR=11						
JAY				LR	LR	06 31 04.1	
	comp=Z,2µm,22.0s,baz=4.5,slow=32						
SSB	Saint Sauveur	76.98	13	IAMs_20	IAMs_20	06 36 24.0	
	comp=Z,10µm,22.0s						
SSB	Saint Sauveur	76.98	13	⇓P	P	06 01 52.7	-0.3
CRNS	Crni Vrh	77.02	5	iP	P	06 01 51.6	-1.5
GHRR		77.14	356	⇑P	P	06 01 53.0	-0.8
MOKO	MOKOCHONG	77.15	299	eP	P	06 01 54.6	+0.2
MOKO				IAmb	IAmb	06 01 56.8	
	comp=Z,150nm,1.0s						
MSVF	Nonsavu	77.16	203	LR	LR	06 28 51.7	
	comp=Z,6µm,21.7s,baz=7.9,slow=30						
MSVF	Nonsavu	77.16	203	c iP	P	06 01 54.9	+0.8
MSVF				pmax	pmax		
	comp=Z,257nm,1.3s						
MSVF	Nonsavu	77.16	203	IAMs_20	IAMs_20	06 28 08.5	
	comp=Z,8µm,22.0s						
MSVF	Nonsavu	77.16	203	P	P	06 01 55.7	+1.6
OZUR		77.16	357	⇑P	P	06 01 52.3	-1.6
KOVH	Kovagotottos	77.16	3	P	P	06 01 53.3	-0.6
SALO	Salr	77.23	8	P	P	06 01 53.2	-1.2
SALO	Salr	77.23	8	⇓P	P	06 01 53.6	-0.8
GENI	Genyem	77.28	244	P	P	06 01 56.4	+1.5
DOPR	Dopca	77.29	358	⇑P	P	06 01 54.3	-0.4
CRES	Cresnjev	77.33	5	⇑iP	P	06 01 52.7	-2.2
SMRC	Santa Marta, M	77.35	89	eP	P	06 01 52.7	-2.7
VRI	Vrincioaia	77.36	357	⇓P	P	06 01 54.0	-1.0
PDA	Ponta Delgada	77.36	37	eP	P	06 01 56.6	+1.5
CEY	Cerknica	77.37	5	⇑iP	P	06 01 53.8	-1.3
PCALD	Caldeiras da R	77.37	37	eP	P	06 01 54.7	-0.5
	comp=Z,349nm,2.4s						
PLOR	Plostina	77.37	357	⇑P	P	06 01 54.0	-1.1
GRON	Grota Negra	77.38	37	eP	P	06 01 55.5	+0.1
CMLA	Cha da Macela	77.39	37	eP	P	06 01 55.7	+0.3
CMLA	Cha da Macela	77.39	37	IAMs_20	IAMs_20	06 36 12.7	
	comp=Z,10µm,19.0s						
COVR	Voineasa-Covas	77.39	357	⇑P	P	06 01 54.9	-0.4
DEV	Deva	77.41	359	⇑P	P	06 01 53.5	-1.8
BNI	Bardonecchia	77.44	11	P	P	06 01 55.4	-0.3
BNI				pmax	pmax		
	comp=Z,53nm,1.0s						
BNI				MLR	MLR		
	comp=Z,14µm,20.0s						
BNI	Bardonecchia	77.44	11	P	P	06 01 55.4	-0.3
UPD2	Meteti	77.45	94	eP	P	06 01 51.7	-4.2
BART	Pico Bartolome	77.49	37	eP	P	06 01 56.9	+0.9
	comp=Z,260nm,0.9s						
SCTR	Scanteiesti	77.50	356	⇑P	P	06 01 54.7	-1.1
SKDS	Skadanscina	77.54	6	⇑iP	P	06 01 54.4	-1.7
TATR	Tatarca	77.58	356	⇑P	P	06 01 56.0	-0.2
TEOL	Teolo	77.58	7	P	P	06 01 55.3	-1.0
TEOL				IAmb	IAmb	06 01 57.6	
	comp=Z,153nm,1.0s						
SLCR	Slobozia Conac	77.59	356	⇑P	P	06 01 55.9	-0.4
ANN	Anapa	77.68	349	eP	P	06 01 57.0	+0.2
ANN				eS	S	06 11 47.3	-1.0
ANN				pmax	pmax		
	comp=Z,147nm,1.6s						
ANN				MLR	MLR		
	comp=N,34µm,24.0s						
ANN				MLR	MLR		
	comp=Z,19µm,23.0s						
ANN				MLR	MLR		
	comp=E,6µm,20.0s						
SCHL	Schela	77.68	356	⇑P	P	06 01 56.8	0.0
BZS	Buzias	77.68	0	⇑P	P	06 01 56.1	-0.8
SMRT	St. Maarten	77.70	76	IAMs_20	IAMs_20	06 37 07.2	
	comp=Z,9µm,20.0s						
SMRT	St. Maarten	77.70	76	e	P	06 01 55.8	-1.6
MLR	Muntele Rosu	77.75	357	⇑P	P	06 01 57.3	-0.2
RIY	Rijeka	77.78	5	⇑iP	P	06 01 56.2	-1.2
SANVU	Saraoutou	77.82	214	IAMs_20	IAMs_20	06 29 12.2	
	comp=Z,8µm,21.0s						
VOIR		77.83	358	⇑P	P	06 01 56.4	-1.3
LOT	Lotru	77.84	359	⇑P	P	06 01 56.1	-1.8
KOHI	KOHIMA	77.85	299	eP	P	06 01 58.0	-0.3
KOHI				IAmb	IAmb	06 02 07.7	
	comp=Z,122nm,1.2s						
KIV	Kislovodsk	77.85	345	⇑P	P	06 01 57.2	-0.7
KIV	Kislovodsk	77.85	345	eP	P	06 01 57.0	-0.9
KIV				e		06 04 51.8	
KIV				ePPP	PPP	06 06 40.5	
KIV				eS	S	06 11 50.4	-0.1
KIV				eSS	SS	06 16 51.9	+2.4
KIV				pmax	pmax		
	comp=Z,59nm,1.1s						
KIV				pmax	pmax		
	comp=Z,172nm,3.5s						
KIV				MLR	MLR		
	comp=Z,18µm,19.0s						
SJCC	San Jacinto, C	77.88	91	eP	P	06 01 55.6	-2.8
GZR	Gura Zlata	77.91	359	⇑P	P	06 01 56.5	-1.7
ARR	Arges	77.91	358	⇑P	P	06 01 58.0	-0.2
TLCR		77.95	355	⇑P	P	06 01 56.8	-1.5
RAR	Rarotonga	77.99	182	LR	LR	06 28 24.7	
	comp=Z,6µm,21.9s,baz=345,slow=30						
RAR	Rarotonga	77.99	182	IAMs_20	IAMs_20	06 29 07.6	
	comp=Z,7µm,19.0s						
RAR	Rarotonga	77.99	182	P	P	06 01 59.8	+1.2
CFR	Carcaliu	77.99	356	⇑P	P	06 01 57.5	-1.0
MTUR	Matau	78.04	358	⇑P	P	06 01 58.8	-0.2
KBZ	Khabaz	78.05	345	P	P	06 01 58.7	-0.1
	comp=Z,32nm,0.9s,baz=293,slow=1.5,SNR=21						
KBZ				LR	LR	06 39 24.8	
	comp=Z,33µm,21.9s,baz=12,slow=38						
KBZ	Khabaz	78.05	345	c eP	P	06 01 58.5	-0.3
KBZ				pmax	pmax		
	comp=Z,48nm,1.0s						
KBZ				MLR	MLR		
	comp=Z,33µm,21.0s						
KBZ	Khabaz	78.05	345	P	P	06 01 58.7	-0.1
MAK	Makhachkala	78.05	341	eP	P	06 01 51.3	-7.6
MAK				e		06 04 51.1	
MAK				ePPP	PPP	06 06 39.1	
MAK				eSSS	SSS	06 20 12.7	
MAK				pmax	pmax		
	comp=Z,258nm,1.2s						
MAK				pmax	pmax		
	comp=Z,709nm,2.2s						
PGAV	Gavieira, Arco	78.11	23	eP	P	06 01 59.5	+0.1
	comp=Z,87nm,1.7s						
PGAV				eS	S	06 11 56.6	+3.3
PGAV	Gavieira, Arco	78.11	23	eLQ	LQ	06 22 13.7	
PGAV				eLR	LR	06 26 01.9	
	comp=Z,17µm,18.0s						
ISR	Istrita	78.11	357	⇑P	P	06 01 58.4	-0.9
GROC	Groznyy	78.11	342	eP	P	06 01 58.1	-1.1
GROC				e		06 02 08.6	
GROC				eS	S	06 11 50.3	-2.8
GROC				pmax	pmax		
	comp=Z,18nm,0.4s						
FRGS	Fruska Gora	78.13	2	⇑P	P	06 01 57.4	-1.9
FRGS	Fruska Gora	78.13	2	⇑iP	P	06 01 56.9	-2.5
URIC	Uribia, Colomb	78.13	87	eP	P	06 01 56.6	-3.1
CRJC	Cerrejon, Guaj	78.21	88	eP	P	06 01 56.6	-3.7
SECR		78.21	357	⇑P	P	06 01 57.4	-2.4
SEUS	St. Eustatius	78.21	76	IAMs_20	IAMs_20	06 40 09.8	
	comp=Z,8µm,20.0s						
PSMA	Santa Maria	78.22	37	eP	P	06 02 00.4	+0.4
	comp=Z,326nm,1.6s						
PSMN	Pico do Norte,	78.23	37	eP	P	06 02 00.6	+0.5
	comp=Z,252nm,1.7s						
TPGR	Topolog	78.30	355	⇑P	P	06 01 57.9	-2.4
PCAB	Cabril	78.40	22	eP	P	06 02 01.0	0.0
	comp=Z,90nm,2.0s						
STFAR	Stefanesti-Arg	78.41	358	⇓P	P	06 01 59.9	-1.0
HERR	Herculane	78.42	360	⇑P	P	06 01 59.4	-1.5
BLY	Banja Luka	78.47	3	⇑iP	P	06 02 00.0	-1.2
MDVR	Moldovita	78.52	0	⇑P	P	06 02 00.7	-0.9
MOTC	Monteria, Cord	78.54	92	eP	P	06 01 59.5	-2.5
PBRG	Braganca	78.57	21	eP	P	06 02 02.1	+0.2
	comp=Z,78nm,2.0s						
GUWA	GUWAHATI	78.60	301	eP	P	06 02 01.2	-1.0
GUWA				IAmb	IAmb	06 02 11.2	
	comp=Z,47nm,0.9s						
SOC	Sochi	78.61	347	eP	P	06 01 59.0	-3.0
SOC				e		06 04 56.9	
SOC				eS	S	06 11 55.3	-3.2
SOC				pmax	pmax		
	comp=Z,41nm,0.9s						
SOC				MLR	MLR		
	comp=Z,16µm,20.0s						
SRE	Strehaia	78.63	359	⇑P	P	06 02 02.1	-0.1
ANWB	Willy Bob	78.70	75	IAMs_20	IAMs_20	06 38 02.6	
	comp=Z,7µm,20.0s						
ANWB	Willy Bob	78.70	75	e	P	06 01 55.7	-7.1
TIRR	Tirgusor	78.70	355	⇑P	P	06 02 00.6	-1.8
PTAC	Punta Ardita,	78.72	94	eP	P	06 01 59.5	-3.5
TEKS	Tekeris	78.73	2	⇑iP	P	06 02 00.7	-2.0
LEHL	Lehliu	78.74	356	⇑P	P	06 02 01.0	-1.7
POLO	Lamas de Olo	78.77	22	eP	P	06 02 03.4	+0.3
	comp=Z,44nm,1.4s						
MGRS	Mrkonjic Grad	78.80	4	eP	P	06 02 01.9	-1.2
ZEI	Tsey	78.82	344	eP	P	06 02 01.1	-2.3
ZEI				pmax	pmax		
	comp=Z,33nm,1.6s						
PTO	Porto	78.83	23	eP	P	06 02 03.5	+0.3
	comp=Z,110nm,1.5s						
PVRL	Vila Real	78.88	22	eP	P	06 02 03.8	+0.2
	comp=Z,135nm,1.7s						
PUNG	Punghina	79.02	359	⇑P	P	06 02 02.4	-1.8
SHL	Shillong	79.04	300	P	P	06 02 03.0	-1.9
SHL				pmax	pmax		
	comp=Z,33nm,0.9s						
SHL	Shillong	79.04	300	P	P	06 02 03.0	-1.9
SHL	Shillong	79.04	300	eP	P	06 02 03.2	-1.7
SHL				IAmb	IAmb	06 02 13.3	
	comp=Z,25nm,1.0s						
LL6C	La Loma 6 Bece	79.06	89	eP	P	06 02 04.3	-0.5
LL1C	La Loma 1 Cana	79.06	89	eP	P	06 01 59.5	-5.4
ICOR	Ion Corvin	79.06	356	⇓P	P	06 02 03.6	-0.9
GTK	Tadong	79.07	304	eP	P	06 02 05.3	+0.4
MVO	Moncorvo	79.13	22	eP	P	06 02 05.0	0.0
	comp=Z,100nm,1.8s						
MVO	Moncorvo	79.13	22	eS	S	06 12 07.0	+2.7
MVO	Moncorvo	79.13	22	eLQ	LQ	06 22 59.5	
MVO				eLR	LR	06 28 32.5	
	comp=Z,21µm,22.0s						
CHVG	Ch'k'valeri	79.15	345	⇑P	P	06 02 04.5	-0.5
SRKY	Kupres RS	79.15	4	eP	P	06 02 04.1	-1.0
DIVS	Divibare	79.19	1	P	P	06 02 04.2	-1.1
DIVS	Divibare	79.19	1	⇑iP	P	06 02 04.2	-1.1
ANBD	Bethesda, Anti	79.22	75	e	P	06 02 04.7	-1.0
PVIS	Viseu	79.39	23	eP	P	06 02 06.5	+0.1
	comp=Z,126nm,1.7s						
BBLS	Lazići	79.41	2	⇑iP	P	06 02 04.6	-1.9
TAPN	Taplejung	79.44	304	eP	P	06 02 07.1	-0.1
UREC	San Jos de Ur	79.46	92	eP	P	06 02 00.5	-6.6
DABV	Dabajuro	79.51	86	eP	P	06 02 05.3	-2.0
RUDO	Rudo	79.66	2	⇑iP	P	06 02 06.7	-1.1
BOVS	Bovan	79.67	0	⇑P	P	06 02 06.7	-1.1
BLKB	Belogradchik	79.68	359	⇑P	P	06 02 06.2	-1.7
MURB	Monte Urbino	79.72	7	P	P	06 02 07.1	-1.1
MURB				IAmb	IAmb	06 02 10.6	
	comp=Z,116nm,1.0s						
COI	Coimbra	79.76	23	eP	P	06 02 08.7	+0.3
	comp=Z,230nm,1.4s						
MTE	Manteigas	79.76	22	eP	P	06 02 08.4	-0.1
	comp=Z,161nm,1.6s						
MTE	Manteigas	79.76	22	eS	S	06 12 14.1	+3.1
MTE	Manteigas	79.76	22	eLQ	LQ	06 22 59.3	
MTE				eLR	LR	06 29 02.4	
	comp=Z,15µm,18.0s						
MTE	Manteigas	79.76	22	P	P	06 02 07.9	-0.5
MTE				IAmb	IAmb	06 02 14.8	
	comp=Z,244nm,1.8s						
GUN	Gumba	79.78	306	eP	P	06 02 08.7	-0.4
NIL	Nilore	79.80	319	P	P	06 02 08.7	-0.1
NIL				pmax	pmax		
	comp=Z,53nm,0.8s						
NIL				MLR	MLR		
	comp=Z,41µm,18.0s						
NIL	Nilore	79.80	319	P	P	06 02 08.7	-0.1
ABD	La Joyeuse, An	79.84	76	IAMs_20	IAMs_20	06 39 37.1	
	comp=Z,10µm,21.0s						
ABD	La Joyeuse, An	79.84	76	e	P	06 02 06.7	-2.4
JIRN	Jiri	79.86	306	eP	P	06 02 09.3	-0.2
	comp=Z,53nm,0.5s						
GDHS	Morne Mazeau,	79.86	76	IAMs_20	IAMs_20	06 38 31.6	
	comp=Z,10µm,21.0s						
PCAS	Casmilo, Conde	79.89	23	eP	P	06 02 09.2	+0.1
	comp=Z,126nm,1.6s						
PMG	Port Moresby	79.94	235	P	P	06 02 09.8	+0.3
	comp=Z,164nm,1.1s,baz=12,slow=6.0,SNR=35						
PMG				LR	LR	06 33 40.1	
	comp=Z,4µm,20.8s,baz=49,slow=33						
PMG	Port Moresby	79.94	235	c iP	P	06 02 09.3	-0.2
PMG				pmax	pmax		
	comp=Z,221nm,1.3s						
PMG	Port Moresby	79.94	235	P	P	06 02 09.9	+0.4
PLE	Pljevlja	79.95	2	⇑iP	P	06 02 08.2	-1.3
SZH	Strazhica	79.98	357	eP	P	06 02 07.0	-2.5
PRD	Provadia	80.00	356	eP	P	06 02 08.0	-1.6
ODAN	Odare	80.01	304	eP	P	06 02 09.9	-0.3
	comp=Z,156nm,1.0s						
ZARC	Zaragoza, Cauc	80.05	92	eP	P	06 02 05.3	-4.9
UPM	Unac-Piva	80.06	2	eP	P	06 02 08.0	-2.2
UPM	Unac-Piva	80.06	2	⇑iP	P	06 02 08.7	-1.5
CBE	Ff, Capester	80.12	76	IAMs_20	IAMs_20	06 38 39.3	
	comp=Z,11µm,19.0s						
CBE	Ff, Capester	80.12	76	e	P	06 02 09.7	-0.9
KKN	Kakani	80.14	307	eP	P	06 02 10.6	-0.3
GDSD	La Dsirade Is	80.20	75	IAMs_20	IAMs_20	06 39 58.5	
	comp=Z,8µm,21.0s						
AKH	Akhalkalaki	80.23	344	⇑P	P	06 02 10.5	-0.7
GKN	Gorkha	80.24	307	eP	P	06 02 10.9	-0.5
OCAC	Ocana	80.27	90	P	P	06 02 10.0	-1.6
OCAC	Ocana	80.27	90	eP	P	06 02 08.2	-3.4
PKI	Pulchoki	80.28	306	eP	P	06 02 11.1	-0.7
TBG	Guadaloupe-3	80.28	76	e	P	06 02 09.8	-1.6
PKIN	Phulchoki	80.28	306	eP	P	06 02 11.0	-0.7
TDBA	Terre de Bas,	80.28	76	IAMs_20	IAMs_20	06 41 32.6	
	comp=Z,9µm,19.0s						
TDBA	Terre de Bas,	80.28	76	e	P	06 02 10.0	-1.5
PCBR	Castelo Branco	80.31	23	eP	P	06 02 11.3	0.0
	comp=Z,90nm,1.9s						
DANN	Dangsing	80.32	308	eP	P	06 02 11.7	-0.3
	comp=Z,380nm,0.9s						
SWI	Sorong	80.33	253	P	P	06 02 12.2	+0.5
	comp=Z,3µmcomp=Z,3µmcomp=Z,249nm,1.3s						
SIJI	Sorong	80.33	253	P	P	06 02 11.7	-0.1
	comp=Z,260nm,1.2s,baz=20,slow=6.1,SNR=56						
SIJI				SKKP		06 24 10.1	
	comp=Z,12nm,0.3s,baz=235,slow=1.7,SNR=4.8						
SIJI				LR	LR	06 33 59.8	
	comp=Z,3µm,20.8s,baz=53,slow=33						
PSBE	So Bento	80.34	24	eP	P	06 02 12.0	+0.4
	comp=Z,138nm,1.5s						
BRY	Bratogost	80.36	3	⇑iP	P	06 02 10.3	-1.4
BRY	Bratogost	80.36	3	⇑iP	P	06 02 10.5	-1.2
STON	Ston	80.36	3	⇑iP	P	06 02 09.8	-1.7
MAGL	Barre de l'ile	80.39	76	IAMs_20	IAMs_20	06 38 55.5	
	comp=Z,9µm,20.0s						
MAGL	Barre de l'ile	80.39	76	e	P	06 02 12.2	+0.2
IVA	Berane	80.41	2	⇑iP	P	06 02 10.9	-1.1
TBI	Tubuai	80.43	172	eP	P	06 02 13.4	+1.5
	comp=Z,303nm,1.3s						
TBI	Tubuai	80.43	172	eS	S	06 12 17.4	-0.3
	comp=Z,20µm,34.0s						
TBI	Tubuai	80.43	172	eLR	LR	06 27 16.1	
	comp=Z,31µm,31.2s,baz=352						
TBI	Tubuai	80.43	172	eT	T	07 28 35.5	
	comp=Z,12nm,0.4s						
KOME	Kolasin	80.43	2	⇓iP	P	06 02 10.8	-1.3
KBL	Kabul	80.46	322	P	P	06 02 11.0	-1.5
KBL				pmax	pmax		
	comp=Z,24nm,1.1s						
KBL	Kabul	80.46	322	P	P	06 02 11.0	-1.5
NKME	Niksic	80.50	2	⇑iP	P	06 02 10.9	-1.5
TREB	Trebinje	80.54	3	eP	P	06 02 09.3	-3.2
GEYT	Alibeck	80.56	332	P	P	06 02 12.6	-0.1
	comp=Z,6.7nm,0.6s,baz=21,slow=6.5,SNR=8.1						
GEYT				LR	LR	06 42 45.5	
	comp=Z,27µm,19.1s,baz=28,slow=39						
GEYT	Alibeck	80.56	332	P	P	06 02 12.3	-0.5
SMLA	Simla	80.58	314	eP	P	06 02 12.5	-0.5
SMLA				IAmb	IAmb	06 02 24.4	
	comp=Z,64nm,1.0s						
VTS	Vitosha	80.68	359	⇑P	P	06 02 11.8	-1.6
VTS	Vitosha	80.68	359	P	P	06 02 11.9	-1.6
VTS				pmax	pmax		
	comp=Z,21nm,0.9s						
VTS	Vitosha	80.68	359	P	P	06 02 11.9	-1.6
VTS	Vitosha	80.68	359	eP	P	06 02 11.0	-2.5
AQU	L'Aquila	80.68	6	⇑iP	P	06 02 12.7	-0.7
UCM	Universidad Co	80.69	19	P	P	06 02 13.9	+0.5
UCM				S	S	06 12 20.8	+0.2
CEME	Cevo	80.72	2	⇓iP	P	06 02 11.8	-1.8
PMRV	Marv??o	80.73	23	eP	P	06 02 13.4	-0.2
	comp=Z,59nm,1.7s						
PMRV	Marv??o	80.73	23	eS	S	06 12 27.6	+6.6
PMRV	Marv??o	80.73	23	eLQ	LQ	06 23 30.1	
PMRV				eLR	LR	06 29 14.4	
	comp=Z,15µm,18.0s						
DSLB	Salisbury	80.74	76	e	P	06 02 14.6	+0.6
HELC	Santa Helena	80.76	93	eP	P	06 02 11.1	-3.4
PTH	Pithoragarh	80.76	311	eP	P	06 02 11.9	-2.3
CBOC	Ciudad Bolivar	80.77	93	eP	P	06 02 13.1	-1.2
PMAFR	Mafra	80.77	24	eP	P	06 02 13.5	-0.3
	comp=Z,291nm,1.2s						
UBPT	Khong Chiam	80.81	284	P	P	06 02 14.0	-0.3
UBPT				IAmb	IAmb	06 02 20.2	
	comp=Z,185nm,1.5s						
HCY	Herceg Novi	80.81	3	⇑iP	P	06 02 11.9	-2.1
HCY	Herceg Novi	80.81	3	⇓iP	P	06 02 12.2	-1.8
LGTI	Lohaghat	80.83	311	eP	P	06 02 14.8	+0.5
PDG	Podgorica	80.84	2	⇑P	P	06 02 13.1	-1.1
PDG	Podgorica	80.84	2	IAMs_20	IAMs_20	06 39 18.8	
	comp=Z,13µm,22.0s						
PDG	Podgorica	80.84	2	⇑iP	P	06 02 12.8	-1.3

TTG Podgorica 80.84 2 ⇓*i*P P 06 02 13.0 -1.1
MDN Morne-Daniel 80.85 76 *e* P 06 02 13.8 -0.7
PYUN Piuthan 80.87 308 *e*P P 06 02 14.3 -0.5
comp=Z,300nm,1.2s
KOLN Koldanda 80.89 308 *e*P P 06 02 14.7 -0.2
PMTG Montargil 80.89 23 *e*P P 06 02 13.9 -0.6
comp=Z,53nm,1.3s
DLPL La Plaine 80.92 76 *e* P 06 02 14.2 -0.8
PMST Lisbon--Monsan 81.00 24 *e*P P 06 02 15.5 +0.4
comp=Z,160nm,1.2s
LIS Lisbon 81.03 24 *e*P P 06 02 15.3 +0.1
LIS *e*S S 06 12 24.7 +0.6
LIS IAMs_20 IAMs_20 06 39 29.3
comp=Z,19µm,16.2s
LIS Lisbon 81.03 24 *e*P P 06 02 15.2 +0.1
LIS *e*S S 06 12 24.7 +0.6
PACT Alcochete 81.05 24 *e*P P 06 02 15.7 +0.4
comp=Z,204nm,1.9s
PTBC PUERTO BERRIO, 81.06 92 *e*P P 06 02 13.1 -2.6
DRME Dracevica, Mon 81.08 2 ⇑*i*P P 06 02 14.1 -1.4
DRME Dracevica, Mon 81.08 2 ⇓*i*P P 06 02 13.7 -1.8
KTUT Trabzon 81.17 346 ⇑P P 06 02 15.3 -0.6
PLD Plovdiv 81.17 358 *e*P P 06 02 14.0 -1.9
ESBB Sonseca Array 81.17 20 P P 06 02 15.1 -0.9
ESDC Sonseca Array 81.17 20 P P 06 02 15.9 -0.1
comp=Z,39nm,0.9s,baz=343,slow=5.1,SNR=140
ESDC PKKPbc PKKPbc 06 20 50.9 +1.8
comp=Z,2.1nm,0.9s,baz=171,slow=0.7,SNR=9.0
ESDC PKPPKP P'P'df 06 28 49.7 -13
comp=Z,1.2nm,1.1s,baz=202,slow=1.6,SNR=4.0
ESDC LR LR 06 37 56.9
comp=Z,12µm,21.7s,baz=346,slow=36
ESDC Sonseca Array 81.17 20 P P 06 02 15.5 -0.5
SDV Santo Domingo 81.20 87 LR LR 06 40 37.4
comp=Z,4µm,19.6s,baz=330,slow=37
SDV Santo Domingo 81.20 87 P P 06 02 15.3 -1.4
SDV Santo Domingo 81.20 87 *e*P P 06 02 15.0 -1.6
SDV Santo Domingo 81.20 87 *e*P P 06 02 15.6 -1.1
BELO BELONIA 81.22 299 *e*P P 06 02 12.1 -4.3
PAB San Pablo 81.22 20 P P 06 02 16.4 0.0
PESTR Estremoz 81.22 23 *e*P P 06 02 15.8 -0.5
comp=Z,86nm,1.5s
PESTR Estremoz 81.22 23 P P 06 02 15.9 -0.3
PESTR Estremoz 81.22 23 P P 06 02 16.0 -0.3
GNI Garni 81.26 343 LR LR 06 43 46.1
comp=Z,35µm,19.9s,baz=14,slow=40
GNI Garni 81.26 343*c* *i*P P 06 02 16.6 0.0
GNI pmax pmax
comp=Z,56nm,1.1s
CHTO Chiang Mai 81.26 291 P P 06 02 15.6 -1.1
CHTO pmax pmax
comp=Z,102nm,1.4s
CHTO Chiang Mai 81.26 291 P P 06 02 15.6 -1.1
CHTO IAmb IAmb 06 02 21.9
comp=Z,102nm,1.4s
CHTO Chiang Mai 81.26 291 IAMs_20 IAMs_20 06 43 36.3
comp=Z,10µm,18.0s
CHTO Chiang Mai 81.26 291 P P 06 02 16.3 -0.4
ULC Ulcinj 81.31 2 ⇓*i*P P 06 02 15.3 -1.4
SKO Skopje 81.33 0 *i* P P 06 02 16.0 -0.8
PAMC Pamplona, Colo 81.35 90 *e*P P 06 02 16.0 -1.8
SVN Savane Anatole 81.37 76 IAMs_20 IAMs_20 06 38 30.5
comp=Z,8µm,20.0s
PLMC San Jos del P 81.42 94 *e*P P 06 02 12.1 -5.6
EVO Evora 81.45 23 P P 06 02 19.8 +2.3
EVO S S 06 12 33.5 +5.0
EVO Evora 81.45 23 *e*P P 06 02 17.1 -0.4
comp=Z,73nm,1.9s
FDF Fort de France 81.47 76 IAMs_20 IAMs_20 06 40 31.1
comp=Z,9µm,20.0s
FDF Fort de France 81.47 76 *e* P 06 02 18.2 +0.3
CM31 Chiang Mai Arr 81.56 291 P P 06 02 17.6 -0.7
CMAR Chiang Mai Arr 81.56 291 P P 06 02 18.1 -0.3
comp=Z,31nm,0.8s,baz=20,slow=5.4,SNR=149
CMAR PKKPbc PKKPbc 06 20 50.2 +2.2
comp=Z,1.0nm,0.3s,baz=205,slow=4.0,SNR=4.8
CMAR LR LR 06 41 45.7
comp=Z,4µm,19.4s,baz=15,slow=38
CMAR Chiang Mai Arr 81.56 291 P P 06 02 18.0 -0.3
FAKI Fak Fak 81.56 251 P P 06 02 18.6 +0.3
SOCV Socops 81.58 88 *e*P P 06 02 16.0 -2.5
ILAM Ilet Lapin Mar 81.58 76 IAMs_20 IAMs_20 06 40 52.1
comp=Z,6µm,20.0s
ILAM Ilet Lapin Mar 81.58 76 *e* P 06 02 17.1 -1.3
STIP Stip 81.61 360 *i* P P 06 02 16.7 -1.5
KDZ Kurdzhali 81.61 357 *e*P P 06 02 17.0 -1.2
PHP Peshkopia 81.61 1 P P 06 02 17.2 -1.1
NORC Norcasia 81.64 93 *e*P P 06 02 16.0 -2.8
GUY2C Guyana, Caldas 81.65 93 *e*P P 06 02 17.0 -2.4
KDZE Karadeniz Ereo 81.66 353 ⇑P P 06 02 17.1 -1.4
BIM Bigot 81.69 76 IAMs_20 IAMs_20 06 40 57.1
comp=Z,8µm,20.0s
BIM Bigot 81.69 76 *e* P 06 02 10.9 -8.2
MMB Musomiste 81.70 359 *e*P P 06 02 18.0 -0.8
PNCL Nicolau / Gran 81.75 24 *e*P P 06 02 19.0 0.0
comp=Z,119nm,1.1s
MPOM Morne Pois Mar 81.86 76 IAMs_20 IAMs_20 06 40 59.5
comp=Z,9µm,20.0s
MPOM Morne Pois Mar 81.86 76 *e* P 06 02 19.2 -0.7
TIR Tirane 81.94 2 ⇑P P 06 02 19.3 -0.6
NVR Nevrokopi 81.94 359 P P 06 02 19.5 -0.5
DLV T Lat 81.96 279 IAMs_20 IAMs_20 06 43 03.2
comp=Z,6µm,18.0s
DLV T Lat 81.96 279 P P 06 02 21.3 +0.6
PBEJ Beja 81.97 23 *e*P P 06 02 20.4 +0.2
comp=Z,95nm,1.6s
VAY Valandovo 81.98 360 *i* P P 06 02 19.5 -0.7
SPBC San Pablo de B 82.00 92 *e*P P 06 02 17.0 -3.8
PBAR Barrancos 82.01 23 *e*P P 06 02 20.4 0.0
comp=Z,286nm,1.5s
RDO Rodhopi 82.11 357 P P 06 02 20.3 -0.5
LBMI Labuha 82.12 257 P P 06 02 21.3 0.0
comp=Z,179nm,1.4s
KNT Kendrikon 82.13 359 P P 06 02 20.5 -0.5
YOTC Yotoco, Valle 82.15 95 *e*P P 06 02 17.9 -3.7
SLBI Saint Lucia, B 82.15 76 *e* P 06 02 17.6 -3.9
SRS Serrai 82.17 359 P P 06 02 20.1 -1.1
OHR Ohrid 82.18 1 *i* P P 06 02 20.8 -0.5
RKT Rikitea 82.20 159 *e*P P 06 02 22.7 +1.4
comp=Z,112nm,1.2s
RKT Rikitea 82.20 159 *e*T T 07 30 57.8
comp=Z,11nm,0.4s
ANIL Santa Ana 82.24 94 *e*P P 06 02 20.8 -1.4
PTEO Sao Teotonio 82.25 24 *e*P P 06 02 21.3 -0.3
comp=Z,125nm,1.7s
MAHO Mahon 82.25 14 P P 06 02 21.1 -0.5
MAHO S S 06 12 38.7 +2.0
KAVA Kavala 82.28 358 P P 06 02 21.1 -0.7
PCVE Castro Verde 82.31 24 *e*P P 06 02 22.3 +0.3
comp=Z,113nm,1.9s
ALN Alexandroupoli 82.34 357 P P 06 02 21.2 -0.9
ALN Alexandroupoli 82.34 357 P P 06 02 21.2 -0.9
ALN pmax pmax
comp=Z,48nm,1.0s
ALN Alexandroupoli 82.34 357 P P 06 02 21.2 -0.9
GRG Griva 82.34 360 P P 06 02 21.7 -0.5
RUSC La Rusia 82.34 91 *e*P P 06 02 20.8 -2.2
MCLT Moule a Chique 82.43 77 *e* P 06 02 21.7 -1.2
KOKK Kokkinochori, 82.47 358 P P 06 02 21.8 -1.0
SOH Sokhos 82.47 359 P P 06 02 21.9 -0.9
MORF Marmelete 82.49 24 *e*P P 06 02 23.0 0.0
MORF *e*S S 06 12 39.9 +0.4
MORF IAMs_20 IAMs_20 06 41 04.8
comp=N,21µm,15.2s
MORF Marmelete 82.49 24 *e*P P 06 02 23.0 0.0
comp=N,169nm,1.8s
MORF Marmelete 82.49 24 *e*P P 06 02 23.0 0.0
MORF *e*S S 06 12 39.8 +0.4
FNA Florina 82.51 0 P P 06 02 21.8 -1.3
FNA Florina 82.51 0 P P 06 02 21.9 -1.2
FNA pmax pmax
comp=Z,45nm,1.0s
FNA Florina 82.51 0 P P 06 02 21.9 -1.2
ROSC El Rosal 82.54 93 P P 06 02 23.4 -0.6
comp=Z,5.6nm,0.3s,baz=2.9,slow=2.9,SNR=13
ROSC LR LR 06 41 18.2
comp=Z,4µm,21.7s,baz=354,slow=37
ROSC El Rosal 82.54 93 *e*P P 06 02 21.8 -2.2
MATE Matera 82.55 4 ⇑P P 06 02 22.3 -0.9
TAMC Tame, Arauca 82.60 90 *e*P P 06 02 19.9 -4.0
PVAQ Vaqueiros 82.60 23 *e*P P 06 02 23.6 +0.1
comp=Z,206nm,1.8s
PVAQ Vaqueiros 82.60 23 *e*S S 06 12 46.7 +6.3
PVAQ Vaqueiros 82.60 23 *e*LQ LQ 06 24 10.3
PVAQ *e*LR LR 06 30 01.6
comp=Z,12µm,18.0s
PVAQ Vaqueiros 82.60 23 P P 06 02 23.7 +0.2
PFVI Vila Bisbo 82.62 24 *e*P P 06 02 23.3 -0.3
comp=Z,131nm,1.7s
SVB Belmont 82.63 77 *e* P 06 02 18.4 -5.6
KKM Kota Kinabalu 82.65 270 P P 06 02 24.4 +0.2
KKM Kota Kinabalu 82.65 270 P P 06 02 24.5 +0.3
THAS Thassos island 82.66 358 P P 06 02 22.5 -1.3
KBN Korca 82.67 1 P P 06 02 23.0 -0.9
HORT Hortiatis 82.69 359 P P 06 02 22.7 -1.4
PBDV Barranco-do-Ve 82.71 24 *e*P P 06 02 24.4 +0.3
comp=Z,259nm,1.8s
SMTH Samothraki Isl 82.78 357 P P 06 02 22.4 -2.0
ORTC Ortega, Tolima 82.81 94 *e*P P 06 02 19.9 -5.1
KZN Kozani 82.99 0 P P 06 02 24.3 -1.3
CHIC Chingaza 83.04 92 *e*P P 06 02 23.8 -2.8
BR131 Keskin Array S 83.07 351*c* *i*P P 06 02 25.0 -1.1
BR131 Keskin Array S 83.07 351 P P 06 02 25.5 -0.6
BR131 IAmb IAmb 06 02 34.6
comp=Z,59nm,1.1s
BRTR Keskin Array B 83.07 351 P P 06 02 25.9 -0.3
comp=Z,33nm,1.1s,baz=11,slow=2.5,SNR=46
BRTR PKKPbc PKKPbc 06 20 41.9 -3.0
comp=Z,0.3nm,0.4s,baz=150,slow=32,SNR=2.6
BRTR PKPPKP P'P'df 06 28 47.6 -12
comp=Z,1.6nm,0.9s,baz=146,slow=2.4,SNR=5.1
BRTR LR LR 06 45 45.1
comp=Z,10µm,19.4s,baz=34,slow=40
BRTR Keskin Array B 83.07 351 P P 06 02 25.5 -0.6
BRTR Keskin Array B 83.07 351 P P 06 02 25.5 -0.6
ARNO Arenosillo 83.11 23 P P 06 02 25.9 -0.2
ARNO S S 06 12 48.8 +3.3
POPC Popayan, Colom 83.17 96 ⇑*e*P P 06 02 24.7 -2.3
SCTE Santa Cesarea 83.18 3 P P 06 02 26.0 -0.5
SCTE IAmb IAmb 06 02 28.1
comp=Z,86nm,1.0s
GCMP Grenada, Carri 83.19 78 *e* P 06 02 25.5 -1.3
LIT Litokhoron 83.20 360 P P 06 02 25.2 -1.4
LIT Litokhoron 83.20 360 P P 06 02 25.1 -1.5
LIT Litokhoron 83.20 360 P P 06 02 25.1 -1.5
LIT IAmb IAmb 06 02 27.8
comp=Z,64nm,1.1s
MARP Paez Belalcaza 83.31 95 *e*P P 06 02 23.8 -4.1
BOK Bokaro 83.33 304 *e*P P 06 02 27.1 -0.4
BOK IAmb IAmb 06 02 28.1
comp=Z,76nm,1.4s
KPRO Kipourio 83.34 0 P P 06 02 26.3 -1.1
PAIG Paliouri 83.36 359 P P 06 02 25.8 -1.6
LIA Limnos Island 83.36 358 P P 06 02 26.4 -1.0
GRGR Grenville 83.36 78 IAMs_20 IAMs_20 06 40 30.4
comp=Z,8µm,20.0s
GRGR Grenville 83.36 78 *e* P 06 02 25.6 -2.2
SRN Sarande 83.40 2 P P 06 02 26.6 -1.0
GTOI Gorontalo 83.46 261 P P 06 02 28.6 +0.4
comp=Z,724nmcomp=Z,26nm,0.9s
PCON Cinco Dias 83.50 96 *e*P P 06 02 25.7 -3.5
KUDL Kundal 83.50 314 *e*P P 06 02 27.4 -0.9
KOUNC Koumac, New Ca 83.52 215 IAMs_20 IAMs_20 06 32 03.4
comp=Z,12µm,22.0s
KOUNC Koumac, New Ca 83.52 215 P P 06 02 29.8 +1.6
SOTA Rioblanco 83.55 96 *e*P P 06 02 26.7 -2.6
KEK Kerkira 83.57 2 P P 06 02 27.2 -1.3
JAN Janina 83.64 1 P P 06 02 27.6 -1.3
BBGH Gun Hill 83.64 76 IAMs_20 IAMs_20 06 46 58.6
comp=Z,10µm,19.0s
BBGH Gun Hill 83.64 76 *e* P 06 02 28.5 -0.6
MSAI Masohi 83.65 254 P P 06 02 29.5 +0.3
comp=Z,39nm,0.9s
BNN Bunyan 83.73 349 P P 06 02 29.1 -0.3
CART Cartagena 83.73 18 P P 06 02 31.4 +2.1
CART S S 06 12 52.5 +0.7
THL Klokotos Trika 83.73 360 P P 06 02 27.6 -1.7
IGT Igoumenitsa 83.75 1 P P 06 02 28.4 -1.1
ALBI Allahabad 83.81 308 *e*P P 06 02 27.8 -2.2
SFS San Fernando 83.83 23 P P 06 02 31.6 +1.7
SFS S S 06 12 59.5 +6.7
CMBC Cumbal 83.89 98 *e*P P 06 02 29.6 -1.4
EMAL Malaga-Limoner 83.90 21 P P 06 02 29.1 -1.1
EMAL S S 06 12 51.3 -2.3
XOR Xorichti 83.92 359 P P 06 02 28.8 -1.6
PRK Paraskevi 83.98 357 P P 06 02 29.5 -1.1
NEO Neokhori 83.98 359 P P 06 02 29.1 -1.6
TIP Timpagrande 84.02 4 ⇑P P 06 02 29.6 -1.3
TIP Timpagrande 84.02 4 P P 06 02 29.4 -1.5
TULM Tulcn-Chalpat 84.09 98 P P 06 02 31.6 -0.5
TULM Tulcn-Chalpat 84.09 98 *e*P P 06 02 30.5 -1.5
GARC Garzon, Huila 84.11 95 *e*P P 06 02 26.7 -5.2
SANI Sanana 84.12 257 P P 06 02 31.0 -0.6
comp=Z,3µmcomp=Z,176nm,1.3s
SANI Sanana 84.12 257 P P 06 02 30.9 -0.6
OTAV Otavalo 84.13 99 P P 06 02 32.0 -0.2
OTAV pmax pmax
comp=Z,103nm,1.3s
OTAV MLR MLR
comp=Z,4µm,18.0s
OTAV Otavalo 84.13 99 P P 06 02 32.0 -0.2
OTAV IAmb IAmb 06 02 37.0
comp=Z,103nm,1.2s
OTAV Otavalo 84.13 99 *e*P P 06 02 34.4 +2.2
OTAV Otavalo 84.13 99 *e*P P 06 02 32.0 -0.2
BNDI Bandanaira 84.14 252 P P 06 02 32.1 +0.5
YATNC Mamie plateau, 84.15 212 P P 06 02 32.8 +1.4
MRSI Marisa 84.17 262 P P 06 02 31.2 -0.6
comp=Z,3µmcomp=Z,162nm,1.6s
PTGC Puerto Gaitan, 84.27 91 *e*P P 06 02 28.6 -3.8
TOLI2 Tolitoli 84.27 263 P P 06 02 31.0 -1.4
TOLI2 IAmb IAmb 06 02 37.0
comp=Z,134nm,1.2s
TOLI2 Tolitoli 84.27 263 P P 06 02 31.7 -0.7
AGG Agios Georgios 84.27 360 P P 06 02 30.3 -1.8
AGG Agios Georgios 84.27 360 P P 06 02 30.3 -1.8
AGG pmax pmax
comp=Z,41nm,1.1s
AGG Agios Georgios 84.27 360 P P 06 02 30.3 -1.8
MAKR Makrakomi, Fth 84.28 360 P P 06 02 31.2 -1.0
DZM Mont Dzumac 84.29 213 P P 06 02 33.4 +1.2
comp=Z,80nm,1.1s,baz=87,slow=20,SNR=18
DZM LR LR 06 34 36.4
comp=Z,4µm,20.3s,baz=16,slow=32
DZM Mont Dzumac 84.29 213 *e*P P 06 02 33.2 +0.9
comp=Z,262nm,1.2s
DZM Mont Dzumac 84.29 213 *e*S S 06 12 56.9 -0.8
comp=Z,1µm,32.9s
DZM Mont Dzumac 84.29 213 *e*LQ LQ 06 25 27.8
comp=Z,7µm,28.9s
DZM *e*LR LR 06 29 01.6
comp=Z,14µm,25.8s,baz=41
DZM Mont Dzumac 84.29 213 P P 06 02 34.0 +1.7
AAI Ambon 84.33 254 P P 06 02 32.9 +0.3
comp=Z,3µmcomp=Z,340nm,0.8s
NOUC Port Laguerre 84.36 213 P P 06 02 34.2 +1.7
EVR Evrytania 84.38 0 P P 06 02 31.8 -1.0
OUENC Ouen Island, N 84.50 212 P P 06 02 34.7 +1.5
PINNC Pines Island, 84.51 212 P P 06 02 34.1 +0.9
FLOC Florencia 84.53 96 *e*P P 06 02 32.5 -1.2
PMOZ Porto Moniz, M 84.53 32 *e*S S 06 13 05.0 +4.7
PMOZ Porto Moniz, M 84.53 32 *e*LR LR 06 29 49.8
comp=Z,6µm,20.0s
PMPST Porto Santo, M 84.54 32 *e*P P 06 02 33.5 -0.1
comp=Z,194nm,1.2s
PMPS Porto Santo 84.56 32 *e*P P 06 02 32.7 -0.9
comp=Z,194nm,1.4s
ATAL Atalanti 84.60 359 P P 06 02 31.8 -2.0
KULA Kula-Manisa 84.61 355 P P 06 02 32.8 -1.1
LKR Lokris 84.64 359 P P 06 02 31.9 -2.1
TOSP Speyside 84.66 78 *e* P 06 02 31.8 -2.5
ANX Anno Chora 84.70 0 P P 06 02 33.1 -1.3
PMAR Madeira 84.71 32 *e*P P 06 02 35.0 +0.4
comp=Z,153nm,1.3s
TRN Trinidad (W) 84.73 79 *e* P 06 02 31.0 -3.8
SMIR Smir Dam 84.75 22 P P 06 02 36.0 +1.4
FSK Fiskardo 84.83 1 P P 06 02 33.8 -1.1
CHOS Chios island 84.84 357 P P 06 02 33.4 -1.7
EFP Efpalio 84.87 0 P P 06 02 34.4 -0.7
CEL Celeste 84.90 5 IAMs_20 IAMs_20 06 45 14.9
comp=Z,9µm,22.0s
LUWI Luwuk 84.99 260 P P 06 02 34.6 -1.4
comp=Z,6µmcomp=Z,545nm,1.1s
LUWI Luwuk 84.99 260 P P 06 02 35.0 -1.0
MACC Macarena, Meta 85.04 94 *e*P P 06 02 31.5 -4.8
JHNI Jhansi 85.06 311 *e*P P 06 02 35.8 -0.4
LAKA Lakka 85.06 360 P P 06 02 34.6 -1.5
KEF3 Kipouria, Keph 85.08 1 P P 06 02 34.9 -1.3
VLS Valsamata 85.11 1 P P 06 02 34.9 -1.5
VILL Villia 85.12 359 P P 06 02 34.4 -2.1
PSDA Pessada-Kefalo 85.17 1 P P 06 02 35.5 -1.1
ISP Isparta 85.19 353 ⇓*i*P P 06 02 36.0 -0.9
ISP pmax pmax
comp=Z,58nm,1.1s
ISP MLR MLR
comp=Z,20µm,22.0s
ISP Isparta 85.19 353 P P 06 02 36.1 -0.8
ISP IAmb IAmb 06 02 38.1
comp=Z,64nm,1.1s
RLS Riolos of Patr 85.24 0 P P 06 02 36.4 -0.5
KLV Kalavryta, Ach 85.25 360 P P 06 02 36.0 -1.1
LTK Loutraki 85.27 359 P P 06 02 33.5 -3.7
ATHU Athens Univers 85.31 359 P P 06 02 35.2 -2.2
CHEFC Chefchaouen 85.32 22 P P 06 02 39.0 +1.4
DRO Drossia 85.34 0 P P 06 02 36.8 -0.7
MPSI Mapaga 85.39 264 P P 06 02 37.3 -0.7
comp=Z,3µmcomp=Z,210nm,1.4s
PVLZ Peæn de 85.46 21 P P 06 02 33.5 -4.6
PVLZ S S 06 13 01.1 -8.1
APSI Ampana 85.49 261 P P 06 02 38.6 +0.1
comp=Z,2µmcomp=Z,194nm,1.2s
VAE Valguarnera 85.60 6 LR LR 06 43 33.9
comp=Z,7µm,18.6s,baz=21,slow=38
AJM Ajmer 85.72 314 *e*P P 06 02 38.3 -1.3
COEN Coen 85.75 236 P P 06 02 39.2 -0.5
COEN IAmb IAmb 06 02 40.9
comp=Z,159nm,1.2s
COEN Coen 85.75 236 P P 06 02 40.1 +0.4
KRND KRANIDI 85.91 359 P P 06 02 38.0 -2.3
YER Yerkesik 86.01 355 P P 06 02 39.9 -1.0
ITM Ithomi 86.11 0 P P 06 02 39.2 -2.2
BODT Bodrum 86.12 356 P P 06 02 39.4 -2.0
PTLC Puerto Leguiza 86.17 96 *e*P P 06 02 40.2 -1.6
APE Apeiranthos 86.17 357 ⇑P P 06 02 39.8 -2.8
APE Apeiranthos 86.17 357 ⇑*e*P P 06 02 40.8 -0.9
APE pmax pmax
comp=Z,17nm,1.8s
APE MLR MLR
comp=Z,9µm,22.0s
SAUI Saumlaki 86.36 249 P P 06 02 43.9 +1.2
PYL PYLOS 86.40 0 P P 06 02 40.0 -2.7
ARNL Arenillas 86.44 102 P P 06 02 42.7 -0.5
BLSP Bilaspur 86.46 306 *e*P P 06 02 40.7 -2.6
FETY Fethiye 86.46 354 P P 06 02 41.5 -1.6
VLI Veliai 86.57 359 P P 06 02 40.7 -2.9
JBK JBK 86.61 20 P P 06 02 46.0 +1.9
AVE Averroes 86.61 24 P P 06 02 39.7 -4.1
AVE S SKSac 06 13 06.7 -3.7
AVE Averroes 86.61 24 P P 06 02 44.1 +0.2
KEST Kesra 86.94 10 P P 06 02 45.6 +0.1
comp=Z,27nm,0.9s,baz=246,slow=4.1,SNR=10.0
KEST LR LR 06 42 03.1
comp=Z,10µm,21.9s,baz=309,slow=36
BOSC San Juan Bosco 86.95 100 P P 06 02 46.0 +0.1
MCRA Macar, Loja 87.19 102 P P 06 02 45.6 -1.3
SRHM Skhour des Reh 87.30 25 P P 06 02 48.0 +0.7
CZD Col de Zad 87.38 22 P P 06 02 49.0 +1.0
BHPL Bhopal 87.49 311 *e*P P 06 02 47.0 -1.3
BHPL IAmb IAmb 06 02 54.1
comp=Z,53nm,1.0s
RAO Raoul Island 87.61 197 LR LR 06 39 40.0
comp=Z,2µm,18.4s,baz=30,slow=34
KARP Karpathos 87.64 356 P P 06 02 45.4 -3.4
KARP Karpathos 87.64 356 IAMs_20 IAMs_20 06 49 39.8
comp=Z,9µm,21.0s
MDT Midelt 87.69 22 LR LR 06 42 17.3
comp=Z,7µm,21.9s,baz=354,slow=36
MDT Midelt 87.69 22 P P 06 02 49.5 +0.3
IMMV Iera Moni Meta 87.81 358 P P 06 02 47.5 -2.1
CSS Mathiatis 87.82 351 P P 06 02 49.3 -0.4
CSS IAmb IAmb 06 03 00.7
comp=Z,86nm,1.0s
CSS IAMs_20 IAMs_20 06 44 52.9
comp=Z,10µm,22.0s
IDI Anoyia 87.97 358 ⇑P P 06 02 49.1 -1.4
IDI Anoyia 87.97 358 LR LR 06 45 01.4
comp=Z,4µm,22.0s,baz=338,slow=38
IDI Anoyia 87.97 358 P P 06 02 47.5 -3.0
IDI Anoyia 87.97 358 P P 06 02 50.4 -0.1
IDI IAmb IAmb 06 03 47.2
comp=Z,57nm,1.3s
IDI IAMs_20 IAMs_20 06 47 32.5
comp=Z,6µm,22.0s
ZKR Zakros 88.10 357 P P 06 02 48.9 -2.1
TTSI Tana Toraja 88.26 262 P P 06 02 51.6 -0.4
comp=Z,4µmcomp=Z,174nm,1.2s
BKB Balikpapan 88.36 265 P P 06 02 52.1 -0.3
BKB Balikpapan 88.36 265 P P 06 02 52.4 0.0
RAGD RAYAGADA 88.39 304 *e*P P 06 02 52.2 -0.4
GVDS Gavdos 88.43 358 P P 06 02 50.9 -1.7
GVD Gavdhos 88.43 358 P P 06 02 51.1 -1.5
OUK Oukaimeden 88.52 25 P P 06 02 54.0 +0.5
GOLM Goulmima 88.69 23 P P 06 02 55.0 +1.0
MTSU Mount Surprise 88.92 233 P P 06 02 55.8 +0.9
FIGM Figuig 89.00 20 P P 06 02 56.0 +0.5
TTIG Tnine Tigouga, 89.02 26 P P 06 02 55.7 -0.6
MACI Morro de la Ar 89.02 33 P P 06 02 56.1 +0.4
OUZM OUZ 89.06 24 P P 06 02 57.0 +1.2
SPSI Sidrap Palu 89.06 261 P P 06 02 55.0 -0.7
comp=Z,2µmcomp=Z,147nm,1.2s
DGPR DIGLIPUR 89.07 293 *e*P P 06 02 55.6 -0.2
DGPR IAmb IAmb 06 02 58.6
comp=Z,159nm,1.0s
MTKI Muara Teweh, K 89.18 267 P P 06 02 56.7 +0.4
BNSI Bone 89.24 261 P P 06 02 56.2 -0.4
comp=Z,2µmcomp=Z,119nm,1.3s
TZRR Tazzarine 89.44 23 P P 06 02 58.0 +0.4
SRIT Nakonsritamara 89.50 285 P P 06 02 57.8 -0.1
SRIT IAmb IAmb 06 03 03.8
comp=Z,93nm,1.0s
MMAI Mount Meron Ar 89.55 349 LR LR 06 46 41.7
comp=Z,6µm,21.4s,baz=167,slow=38
KSM Kuching 89.68 272 P P 06 03 00.0 +1.3
KSM Kuching 89.68 272 P P 06 02 59.1 +0.4
KDU Kakadu 89.77 246 P P 06 02 59.2 +0.2
CTA Charters Tower 89.81 231 P P 06 02 59.9 +0.8
comp=Z,110nm,1.0s,baz=19,slow=5.8,SNR=34
CTA LR LR 06 38 23.2
comp=Z,2µm,21.7s,baz=26,slow=32
CTA Charters Tower 89.81 231 P P 06 02 59.9 +0.8
CTA Charters Tower 89.81 231 P P 06 03 00.4 +1.3
KAPI Kappang 89.94 261 LR LR 06 41 21.8
comp=Z,821nm,20.6s,baz=27,slow=34
KAPI Kappang 89.94 261*c* *i*P P 06 02 59.2 -0.7
KAPI pmax pmax
comp=Z,273nm,1.2s
KAPI MLR MLR
comp=Z,1µm,21.0s
KAPI Kappang 89.94 261 P P 06 03 00.0 +0.2
KAPI Kappang 89.94 261 P P 06 03 00.1 +0.2
BKSI Bulukumba 90.00 260 P P 06 02 59.2 -0.9
comp=Z,2µmcomp=Z,130nm,1.2s
ZGR Zagora 90.07 24 P P 06 03 01.0 +0.5
STKI Sintang 90.21 270 P P 06 03 01.1 -0.1
ASF Jabal al Asfar 90.21 347 LR LR 06 48 21.4
comp=Z,5µm,18.7s,baz=39,slow=39
BSSI Bau Bau, Buton 90.49 260 P P 06 03 01.7 -0.7
comp=Z,1µmcomp=Z,91nm,1.0s
MTN Manton Dam 90.58 247 P P 06 03 02.0 -0.7
MTN Manton Dam 90.58 247 P P 06 03 02.8 +0.1
RK1H Rockhampton Ha 91.03 226 P P 06 03 05.7 +1.1
BBKI Banjar Baru 91.31 266 P P 06 03 04.7 -1.6
comp=Z,28nm,1.4s
MMRI Maumere 91.64 257 P P 06 03 05.6 -2.1
comp=Z,2µmcomp=Z,5µmcomp=Z,62nm,1.1s
MMRI Maumere 91.64 257 P P 06 03 06.5 -1.2
KULM Kulim 91.72 282 IAMs_20 IAMs_20 06 50 05.8
comp=Z,8µm,21.0s
KULM Kulim 91.72 282 P P 06 03 09.0 +0.8
JRMM Jerantut 91.92 280 P P 06 03 10.0 +0.9
BOAV Boa Vista 92.10 82 *e*P P 06 03 09.3 -0.6
HYBB Hyderabad (bro 92.17 307 *e*P P 06 03 10.0 -0.3
HYBB *e*PcP PcP 06 03 10.6 -0.5
HYBB IAmb IAmb 06 03 13.2
comp=Z,20nm,1.1s
HYBB *e*sP sP 06 03 18.2 +3.1
HYBB *e*PP PP 06 06 50.4 +0.6
HYBB *e*SKSac SKSac 06 13 43.7 +0.1
HYB Hyderabad 92.18 307 *e*P P 06 03 09.1 -1.2
HYB IAmb IAmb 06 03 13.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,36nm,1.1s						
IPM	Ipoh	92.20	282	P	P	06 03 09.4	-1.0
IPM				IAmb	IAmb	06 03 15.6	
	comp=Z,58nm,0.8s						
IPM				IAMs_20	IAMs_20	06 50 49.5	
	comp=Z,7µm,19.0s						
IPM	Ipoh	92.20	282	P	P	06 03 11.0	+0.6
IPM	Ipoh	92.20	282	P	P	06 03 10.5	+0.1
BATI	Baumata	92.20	255	P	P	06 03 09.2	-1.1
	comp=Z,26nm,0.4s,baz=137,slow=4.8,SNR=4.6						
BATI				LR	LR	06 40 17.5	
	comp=Z,1µm,21.8s,baz=32,slow=33						
BATI	Baumata	92.20	255	P	P	06 03 09.2	-1.1
PBKI	Pangkalan Bun	92.41	269	P	P	06 03 11.4	+0.1
	comp=Z,4µmcomp=Z,182nm,1.2s						
EIDS	Eidsvold	92.59	225	P	P	06 03 13.0	+1.2
EIL	Elat	92.91	349	LR	LR	06 48 22.8	
	comp=Z,10µm,21.9s,baz=26,slow=38						
MYKOM	Kota Tinggi	92.93	278	P	P	06 03 13.7	-0.1
MYKOM				IAmb	IAmb	06 03 16.5	
	comp=Z,41nm,0.9s						
QIS	Mount Isa	93.15	236	P	P	06 03 14.5	0.0
RPN	Rapa Nui	93.36	138	LR	LR	06 35 01.2	
	comp=Z,8µm,21.4s,baz=344,slow=29						
RPN	Rapa Nui	93.36	138	IAMs_20	IAMs_20	06 34 49.5	
	comp=Z,8µm,22.0s						
LHMI	Lhok Sumawe	93.73	285	IAMs_20	IAMs_20	06 50 17.1	
	comp=Z,5µm,19.0s						
BASI	Baing, Sumba	93.85	257	P	P	06 03 16.7	-1.2
	comp=Z,1µmcomp=Z,84nm,1.8s						
CZSB	Cruzeiro do Su	93.89	98	eP	P	06 03 17.4	-0.7
WBSI	Waikabubak, Su	94.00	259	P	P	06 03 16.7	-2.0
	comp=Z,1µmcomp=Z,85nm,1.3s						
MDP	Montagnes des	94.04	74	LR	LR	06 44 18.5	
	comp=Z,5µm,21.6s,baz=331,slow=35						
KNRA	Kununurra	94.18	248	P	P	06 03 18.7	-0.6
KNRA				IAmb	IAmb	06 03 20.2	
	comp=Z,114nm,1.4s						
KNRA	Kununurra	94.18	248	P	P	06 03 19.0	-0.3
PLAI	Plampang	94.19	260	P	P	06 03 17.1	-2.4
	comp=Z,1µmcomp=Z,75nm,1.0s						
WSAR	Wadi Sarin	94.27	327	LR	LR	06 52 30.6	
	comp=Z,9µm,18.3s,baz=22,slow=40						
DSRI	Dabo	94.43	276	P	P	06 03 20.0	-0.6
	comp=Z,17nm,1.1s						
RMQ	Roma	94.49	226	P	P	06 03 22.1	+1.5
TPI	Tanjungpandan	94.65	272	P	P	06 03 22.1	+0.5
	comp=Z,447nmcomp=Z,22nm,1.4s						
PSI	Prapat	94.73	282	P	P	06 03 21.4	-0.8
	comp=Z,46nm,0.8s,baz=16,slow=2.8,SNR=25						
PSI				LR	LR	06 50 40.7	
	comp=Z,3µm,18.1s,baz=356,slow=38						
RPSI	Rantau Prapat	94.82	282	P	P	06 03 21.4	-1.0
WB0	Warramunga Arr	94.90	241	P	P	06 03 22.1	-0.5
SRBI	Singaraja	94.96	263	P	P	06 03 23.3	+0.3
	comp=Z,36nm,0.8s						
PPBI	Pangkal Pinang	94.98	274	P	P	06 03 23.8	+0.6
OUZ	Omahuta	95.01	203	IAMs_20	IAMs_20	06 46 22.3	
	comp=Z,4µm,19.0s						
WRAB	Tennant Creek	95.06	241	ceP	P	06 03 22.3	-1.0
WRAB				pmax	pmax		
	comp=Z,30nm,0.9s						
WRAB	Tennant Creek	95.06	241	P	P	06 03 23.0	-0.3
WB2	Warramunga Arr	95.07	241	P	P	06 03 22.3	-1.1
WB2				IAmb	IAmb	06 03 29.8	
	comp=Z,31nm,0.8s						
WRA	Warramunga Arr	95.07	241	P	P	06 03 22.6	-0.8
	comp=Z,14nm,0.8s,baz=40,slow=5.7,SNR=46						
WRA				PP	PP	06 07 09.9	-3.3
	comp=Z,5.1nm,1.0s,baz=35,slow=8.6,SNR=3.8						
WRA				PKiKP	PKiKP	06 08 07.5	+2.7
	comp=Z,1.5nm,0.7s,baz=13,slow=1.6,SNR=2.3						
WRA				PKKP	PKKPbc	06 20 15.9	-0.1
	comp=Z,0.9nm,0.8s,baz=216,slow=2.4,SNR=4.6						
WRA	Warramunga Arr	95.07	241	P	P	06 03 22.0	-1.4
NNA	Nana	95.22	104	LR	LR	06 44 15.6	
	comp=Z,2µm,19.7s,baz=338,slow=34						
ABJI	Asem Bagus	95.25	264	P	P	06 03 21.9	-2.4
	comp=Z,34nm,1.0s						
JAGI	Jajag, Banyuwa	95.85	264	P	P	06 03 24.7	-2.4
	comp=Z,777nmcomp=Z,24nm,1.1s						
GMJI	Gumukmas	96.07	264	P	P	06 03 25.0	-3.1
	comp=Z,24nm,1.8s						
MXZ	Matakaoa Point	96.37	199	IAMs_20	IAMs_20	06 40 23.9	
	comp=Z,5µm,22.0s						
QLP	Quilpie	96.41	230	P	P	06 03 30.3	+1.0
MACA	Manacapuru-AM	96.64	86	eP	P	06 03 29.0	-1.7
GSI	Gunungsitoli	96.71	283	IAMs_20	IAMs_20	06 55 19.0	
	comp=Z,7µm,19.0s						
GSI	Gunungsitoli	96.71	283	P	P	06 03 31.0	-0.1
ARMA	Armidale	96.94	222	P	P	06 03 33.8	+2.0
URZ	Urewera	97.26	199	LR	LR	06 38 59.7	
	comp=Z,4µm,21.8s,baz=38,slow=30						
RAYN	Ar Rayn	97.31	338	P	P	06 03 32.3	-1.5
RAYN				pmax	pmax		
	comp=Z,11nm,1.0s						
RAYN	Ar Rayn	97.31	338	P	P	06 03 32.3	-1.5
UGM	Wanagama	97.36	267	P	Pdif	06 03 34.2	+0.1
	comp=Z,68nm,2.0s						
UGM	Wanagama	97.36	267	P	Pdif	06 03 34.6	+0.5
FITZ	Fitzroy Crossi	97.81	249	PP	PP	06 07 36.3	+2.0
	comp=Z,8.4nm,1.1s,baz=49,slow=8.2,SNR=3.7						
FITZ				LR	LR	06 44 50.8	
	comp=Z,640nm,21.4s,baz=14,slow=34						
KLSI		97.85	274	P	P	06 03 34.8	-1.4
BKZ	Black Stump Fm	98.25	200	IAMs_20	IAMs_20	06 44 51.9	
	comp=Z,5µm,20.0s						
AS31	Alice Springs	98.47	239	P	P	06 03 38.1	-0.6
ASAR	Alice Springs	98.47	239	P	P	06 03 38.5	-0.3
	comp=Z,5.1nm,0.8s,baz=29,slow=4.0,SNR=23						
ASAR				PKiKP	PKiKP	06 08 11.7	+1.0
	comp=Z,3.2nm,1.0s,baz=55,slow=1.8,SNR=2.3						
ASAR				PKKPbc	PKKPbc	06 20 06.1	-0.7
	comp=Z,6.0nm,1.0s,baz=201,slow=2.8,SNR=18						
ASAR				LR	LR	06 44 10.9	
	comp=Z,3µm,21.3s,baz=32,slow=33						
ASAR	Alice Springs	98.47	239	P	P	06 03 38.3	-0.4
MNAI	Manna	98.54	275	IAMs_20	IAMs_20	06 54 57.9	
	comp=Z,4µm,19.0s						
SACV	Santiago Islan	98.89	44	IAMs_20	IAMs_20	06 49 10.2	
	comp=Z,7µm,18.0s						
INKA	Innaminka	98.90	232	P	Pdif	06 03 41.7	+1.2
MCPB	Macapa, AP	98.95	77	eP	P	06 03 40.1	-1.1
MALB	Monte Alegre	99.02	79	eP	Pdif	06 03 40.4	-1.1
ETMB	Extrema	99.15	94	eP	Pdif	06 03 39.7	-2.3
PCHI	Peechi	99.25	306	eP	Pdif	06 03 40.8	-1.7
PCHI				eS	SKSac	06 14 18.4	-2.5
BFZ	Birch Farm	99.77	200	IAMs_20	IAMs_20	06 39 56.9	
	comp=Z,6µm,22.0s						
PALK	Pallekele	100.13	301	deP	Pdif	06 03 47.9	+1.4
PALK				pmax	pmax		
	comp=Z,20nm,1.5s						
ITTB	Itaituba	100.33	82	eP	Pdif	06 03 46.4	-0.9
OOD	Oodnadatta	101.18	236	P	Pdif	06 03 51.5	+0.9
MBO	M'Bour	101.83	38	IAMs_20	IAMs_20	06 49 48.9	
	comp=Z,8µm,20.0s						
STKA	Stephens Creek	102.15	229	P	Pdif	06 03 55.6	+0.8
	comp=Z,3.1nm,0.9s,baz=317,slow=3.3,SNR=3.1						
STKA				PKiKP	PKiKP	06 08 16.3	-0.7
	comp=Z,3.3nm,0.8s,baz=36,slow=8.6,SNR=3.9						
STKA				PKKPbc	PKKPbc	06 19 57.8	+1.3
	comp=Z,4.6nm,0.9s,baz=181,slow=6.1,SNR=5.6						
STKA	Stephens Creek	102.15	229	P	Pdif	06 03 56.2	+1.3
CAN	Canberra	102.30	222	IAMs_20	IAMs_20	06 41 42.0	
	comp=Z,5µm,22.0s						
LCRK	Leigh Creek	102.34	232	P	Pdif	06 03 57.2	+1.5
NPGB	Novo Progresso	102.77	83	eP	Pdif	06 03 56.8	-1.3
LPAZ	La Paz	103.45	99	Pdiff	Pdif	06 03 59.6	-2.2
	comp=Z,1.6nm,0.9s,baz=345,slow=5.5,SNR=5.0						
LPAZ				PKiKP	PKiKP	06 08 20.2	-0.4
	comp=Z,2.9nm,1.0s,baz=217,slow=2.6,SNR=4.5						
LPAZ				PKKPbc	PKKPbc	06 19 54.5	+1.6
	comp=Z,0.9nm,0.8s,baz=170,slow=0.5,SNR=2.3						
RPZ	Rata Peaks	103.71	203	IAMs_20	IAMs_20	06 45 18.4	
	comp=Z,4µm,21.0s						
FOZ	Fox Glacier	103.80	203	IAMs_20	IAMs_20	06 48 49.9	
	comp=Z,4µm,19.0s						
LBZ	Lake Benmore	104.54	203	IAMs_20	IAMs_20	06 48 45.3	
	comp=Z,4µm,20.0s						
ODZ	Otahua Downs	105.07	202	IAMs_20	IAMs_20	06 43 00.3	
	comp=Z,4µm,22.0s						
WKZ	Wanaka	105.21	204	IAMs_20	IAMs_20	06 49 33.1	
	comp=Z,5µm,21.0s						
MLZ	Mavora Lakes	105.92	204	IAMs_20	IAMs_20	06 46 41.0	
	comp=Z,5µm,22.0s						
DCZ	Deep Cove	106.23	205	IAMs_20	IAMs_20	06 43 59.2	
	comp=Z,7µm,22.0s						
WHZ	Wether Hill Ro	106.46	204	IAMs_20	IAMs_20	06 45 58.2	
	comp=Z,4µm,21.0s						
PYZ	Puysegur Point	107.00	205	IAMs_20	IAMs_20	06 44 42.6	
	comp=Z,7µm,22.0s						
TORD	Torodi Ar. Bea	108.05	21	Pdiff	Pdif	06 04 23.1	+1.4
	comp=Z,1.3nm,1.0s,baz=330,slow=5.0,SNR=3.8						
TORD				PKiKP	PKiKP	06 08 28.2	-0.2
	comp=Z,1.1nm,0.6s,baz=332,slow=2.4,SNR=11						
TORD				PKKPbc	PKKPbc	06 19 36.9	-1.1
	comp=Z,1.9nm,0.5s,baz=177,slow=1.1,SNR=15						
RCBR	Riachuelo	111.93	65	IAMs_20	IAMs_20	06 54 38.3	
	comp=Z,7µm,20.0s						
LCO	Las Campanas	112.45	109	IAMs_20	IAMs_20	06 46 12.8	
	comp=Z,4µm,21.0s						
NBPV	Pedro Velho	112.75	65	eP	Pdif	06 04 41.7	-0.8
DBIC	Dimbokro	112.80	29	PKKPbc	PKKPbc	06 19 21.6	-1.0
	comp=Z,4.6nm,1.0s,baz=179,slow=8.9,SNR=2.1						
BDFB	Brasilia	113.87	82	PKiKP	PKiKP	06 08 38.9	-0.6
	comp=Z,5.1nm,1.0s,baz=202,slow=2.9,SNR=6.5						
PEL	Peldehue	115.76	111	IAMs_20	IAMs_20	06 45 47.6	
	comp=Z,7µm,22.0s						
DGAR	Diego Garcia	116.87	301	⇑iPKIKP	PKPdf	06 08 45.0	-0.2
DGAR				pmax	pmax		
	comp=Z,34nm,1.7s						
CPUP	Villa Florida	117.43	97	PKP	PKPdf	06 08 45.2	-0.6
	comp=Z,5.1nm,0.9s,baz=28,slow=2.8,SNR=5.3						
CPUP				PKKPbc	PKKPbc	06 19 06.8	0.0
	comp=Z,6.6nm,1.0s,baz=133,slow=5.5,SNR=6.1						
LODK	Lodwar	118.73	345	IAMs_20	IAMs_20	07 06 09.2	
	comp=Z,6µm,21.0s						
BSCB	Bom Sucesso	120.00	82	eP	PKPdf	06 08 50.4	-0.7
SJMB	Sao Joao De Ma	120.06	78	eP	PKPdf	06 08 49.9	-1.2
VAO	Valinhos	120.42	86	eP	PKPdf	06 08 51.2	-0.6
ITQB	Itaqui	120.44	98	eP	PKPdf	06 08 51.1	-0.5
ITAB	Concordia	120.97	93	eP	PKPdf	06 08 51.6	-1.1
RIB01	Linhares ES	120.98	77	eP	PKPdf	06 08 51.9	-1.0
TIJ01	Guaruva-PR	121.17	89	eP	PKiKP	06 08 53.5	+0.1
PET01	Itanhaem-SP	121.29	87	eP	PKPdf	06 08 53.3	-0.1
PARB	Paraibuna	121.42	85	eP	PKPdf	06 08 53.4	-0.3
PLCA	Paso Flores	121.75	117	PKP	PKPdf	06 08 53.2	-0.7
	comp=Z,8.5nm,1.0s,baz=301,slow=4.1,SNR=12						
PLCA				PKKPbc	PKKPab	06 18 51.4	0.0
	comp=Z,4.1nm,1.1s,baz=90,slow=4.7,SNR=5.5						
PLCA	Paso Flores	121.75	117	eP	PKPdf	06 08 53.4	-0.4
VAS01	Vassouras-RJ	121.76	82	eP	PKPdf	06 08 53.9	-0.4
ALF01	Guarapari-ES	121.87	79	eP	PKPdf	06 08 53.7	-0.9
DUB01	Friburgo-RJ	122.17	81	eP	PKPdf	06 08 54.6	-0.6
CAM01	Campos-RJ	122.35	80	eP	PKPdf	06 08 55.5	0.0
CPSB	Cacapava Do Su	122.73	96	eP	PKPdf	06 08 55.9	-0.1
KMBO	Kilima Mbogo	122.90	342	PKP	PKiKP	06 08 57.4	0.0
	comp=Z,21nm,1.0s,baz=4.6,slow=3.7,SNR=31						
MBAR	Mbarara	123.27	349	⇑iPKIKP	PKiKP	06 08 59.7	+1.7
MBAR	Mbarara	123.27	349	IAMs_20	IAMs_20	07 08 48.1	
	comp=Z,6µm,21.0s						
CNLB	Canela	123.29	93	eP	PKPdf	06 08 56.5	-0.7
TER01	Tubaro-SC	123.62	91	eP	PKPdf	06 08 56.7	-1.1
PLTB	Pedras Altas	123.69	97	eP	PKPdf	06 08 57.6	-0.2
COYC	Coyhaique	124.69	122	IAMs_20	IAMs_20	06 50 42.8	
	comp=Z,4µm,21.0s						
EFI	East Falkland	135.59	119	⇑iPKIKP	PKPdf	06 09 20.2	+0.6
EFI				pmax	pmax		
	comp=Z,150nm,1.7s						
SBA	Scott Base	136.39	190	IAMs_20	IAMs_20	06 59 53.9	
	comp=Z,3µm,20.0s						
VNDA	Vanda	136.61	192	PKhKP	PKPpre	06 09 11.4	
	comp=Z,1.3nm,0.9s,baz=292,slow=2.1,SNR=5.7						
VNDA				PKP	PKPdf	06 09 20.5	-0.4
	comp=Z,9.8nm,1.2s,baz=103,slow=3.1,SNR=11						
VNDA				SKPbc	SKPbc	06 12 54.1	+1.1
	comp=Z,2.8nm,1.1s,baz=359,slow=6.6,SNR=2.0						
ABPO	Ambohimpanom	137.62	323	IAMs_20	IAMs_20	07 13 58.9	
	comp=Z,5µm,20.0s						
VOI	Vohitsoka	140.45	322	PKP	PKiKP	06 09 32.0	-0.3
BLWY	Bulawayo	142.80	350	i P	PKPdf	06 09 30.6	-3.5
BLWY	Bulawayo	142.80	350	i P	PKPdf	06 09 30.6	-3.5
MATP	Matopo	143.09	350	i P	PKPbc	06 09 31.3	0.0
MATP	Matopo	143.09	350	i P	PKPbc	06 09 31.3	0.0
MOPA	Mopani	145.79	344	i P	PKPdf	06 09 38.1	-0.9
MOPA	Mopani	145.79	344	i P	PKPdf	06 09 38.1	-0.9
QSPA	South Pole Qui	146.85	180	IAMs_20	IAMs_20	07 05 40.8	
	comp=Z,4µm,20.0s						
LBTB	Lobatse	147.87	354	i P	PKPdf	06 09 41.1	-1.5
LBTB	Lobatse	147.87	354	i P	PKPdf	06 09 41.1	-1.5
CNG	Changalane	148.39	342	i P	PKPdf	06 09 42.5	-0.7
CNG	Changalane	148.39	342	i P	PKPdf	06 09 42.5	-0.7
BOSA	Boshof	151.47	354	PKP	PKPdf	06 09 47.4	-0.8
	comp=Z,41nm,1.1s,baz=56,slow=1.5,SNR=20						
BOSA				PKPbc	sPKPdf	06 09 53.5	+0.4
	comp=Z,106nm,1.1s,baz=26,slow=2.3,SNR=26						
BOSA	Boshof	151.47	354	i P	PKPdf	06 09 48.5	+0.3
BOSA	Boshof	151.47	354	i P	PKPdf	06 09 48.5	+0.3
MAW	Mawson	158.73	224	PKP	PKPdf	06 09 56.2	-0.4
	comp=Z,11nm,1.0s,baz=25,slow=2.0,SNR=9.4						
MAW				PKPab	PKPab	06 10 33.3	+0.8
	comp=Z,39nm,0.9s,baz=83,slow=6.1,SNR=9.7						
VNA3	Neumayer Olymp	160.57	149	PKPdf	PKPdf	06 09 55.2	-3.5
VNA2	Neumayer--Watz	161.37	150	PKPdf	PKPdf	06 09 55.0	-4.5
SNAA	Sanae	162.08	154	PKPdf	PKPdf	06 09 55.1	-5.3
TROLL	Troll, Antarti	162.99	159	PKPdf	PKPdf	06 09 57.6	-3.7
SYO	Syowa Base	165.69	206	⇓epPKPdf	pPKPdf	06 10 07.4	+0.2

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*IDC **02** 06:00:07.8±2.0, 1.°12N×126.°28E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/52, mbtmp3.8/3, Error ellipse: s-maj=183.0km s-min=25.3km az=65.0*
*DJA **02** 06:00:14.0±0.5, 1°N±4°×12°7E±°, h80km±8km, M3.7/6, MLv3.7/6*
ISC 02 06:00:11.6±1.1**, 0.°97N**±0.°09×**126.°32E**±0.°08**, h39km, n9, σ2.s48**/8**, mb3.8**/3**, 1C-1D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.06	101	P	Pn	06 00 29.7	-0.3
TNTI				S	Sn	06 00 41.4	-2.1
LBMI	Labuha	1.99	144	P	Pn	06 00 40.7	-2.0
SANI	Sanana	3.02	186	P	Pn	06 00 55.4	-1.5
GTOI	Gorontalo	3.33	264	P	Pn	06 01 12.9	+12
KCP	Kidapawan	6.12	348	⇑iP	Pn	06 01 53.9	+14
BUKP	Musuan	6.98	350	⇓eP	Pn	06 01 50.1	-1.2
WRA	Warramunga Arr	22.22	160	P	P	06 05 06.9	+1.9
	0.9nm,0.4s,baz=338,slow=11,SNR=11						
ASAR	Alice Springs	25.58	164	P	P	06 05 40.9	+3.7
	1.1nm,0.4s,baz=348,slow=13,SNR=6.8						
MKAR	Makanchi Array	59.59	326	P	P	06 10 12.5	+0.9
	0.6nm,0.5s,baz=120,slow=7.9,SNR=6.6						

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*IDC **02** 06:00:45.8±0.5, 57.°36N×157.°72W, h0km, mb4.2/29, mb1 4.3/33, mb1mx4.2/59, mbtmp4.2/33, ML3.7/4, Error ellipse: s-maj=18.7km s-min=9.6km az=11.0*
*AEIC **02** 06:00:47±2.4, 57.°16N±0.°03×157.°93W±0.°07, h23km±4km, ML4.4, mb4.4/48(NEIC), ML4.7/30(NEIC), Error ellipse: s-maj=6.0km s-min=4.9km az=110.0*
*NEIC **02** 06:00:47.4±2.3, 57.°11N±0.°03×157.°88W±0.°07, h20km±3km, Error ellipse: s-maj=5.6km s-min=3.4km az=105.0*
ISC 02 06:00:46.8±1.2**, 57.°13N**±0.°04×**157.°77W**±0.°03**, h13km**±8km**, n232, σ1.s11**/232**, mb4.4**/47**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.29	237		Pb	06 00 53.8	-0.1
ANPB	Aniakchak Plen	0.43	221		Pg	06 00 55.9	+0.5
PLBL	Peulik Blue Cr	0.77	41		Pn	06 01 03.2	-0.3
CHGN	Chignik	0.90	204		Pb	06 01 03.1	-1.2
CHGN	Chignik	0.90	204		Sb	06 01 16.0	-0.2
CHGN	Chignik	0.90	204	IAML		06 01 17.2	
	comp=N,22µm,0.6s						
CHGN				IAML		06 01 20.4	
	comp=E,17µm,0.5s						
CHGN	Chignik	0.90	204	P	Pb	06 01 03.3	-1.0
	baz=18						
CHGN				S	Sb	06 01 16.0	-0.2
	baz=18						
PLK2	Peulik 2	1.01	50		Pg	06 01 07.6	+1.4
VNHG	Veniaminof 1	1.19	221		Pn	06 01 08.7	-0.5
VNFG	Fog Glacier, M	1.30	230		Pb	06 01 11.0	-0.1
VNFG	Fog Glacier, M	1.30	230	P	Pb	06 01 11.0	-0.1
	baz=46						
CAHL	Cahill	1.62	54		Pb	06 01 16.8	+0.2
ANCK	Angle Creek	1.63	48		Pb	06 01 16.7	0.0
KELA	Mount Kelaz	1.71	39		Pb	06 01 17.9	-0.2
CHIR	Chirikof Islan	1.77	137		Pn	06 01 17.9	+0.7
CHIR					Sb	06 01 41.8	+0.7
CHIR	Chirikof Islan	1.77	137	IAML		06 01 44.6	
	comp=N,7µm,0.6s						
CHIR				IAML		06 01 44.9	
	comp=E,9µm,0.8s						
CHIR	Chirikof Islan	1.77	137	P	Pn	06 01 17.9	+0.7
	baz=317						
CHIR				S	Sb	06 01 41.8	+0.7
	baz=317						
SII	Sitkinak Islan	2.05	105		Pb	06 01 23.1	-0.8
SII					Sb	06 01 50.2	+0.9
SII	Sitkinak Islan	2.05	105	P	Pb	06 01 23.1	-0.8
	baz=287						
SII				S	Sb	06 01 50.2	+0.9
	baz=287						
SDPT	Sand Point	2.34	221		Pn	06 01 23.8	-1.1
SDPT	Sand Point	2.34	221		Sn	06 01 55.0	+1.6
SDPT	Sand Point	2.34	221	IAML		06 02 06.2	
	comp=N,5µm,1.5s						
SDPT				IAML		06 02 09.6	
	comp=E,4µm,1.2s						
SDPT	Sand Point	2.34	221	P	Pn	06 01 25.5	+0.6
	baz=38						
SDPT				S	Sn	06 01 55.0	+1.6
	baz=38						
OHAK	Old Harbor	2.44	86		Pn	06 01 25.3	-1.1
OHAK	Old Harbor	2.44	86	P	Pn	06 01 27.5	+1.1
	baz=270						
OHAK				S	Sb	06 01 59.0	-1.6
	baz=270						
P18K	Big Mountain,	2.64	30		Pn	06 01 29.5	+0.3
P18K	Big Mountain,	2.64	30	P	Pn	06 01 29.5	+0.3
	baz=213						
Q19K	Cape Douglas,	2.84	49		Pn	06 01 31.0	-0.9
Q19K				IAML		06 02 29.4	
	comp=N,3µm,1.1s						
Q19K	Cape Douglas,	2.84	49	P	Pn	06 01 32.8	+0.9
	baz=233						
KDAK	Kodiak Island	2.88	75	Pn	Pn	06 01 32.1	-0.3
	comp=N,39nm,0.3s,baz=282,slow=9.5,SNR=9.9						
KDAK				Sn	Sn	06 02 05.8	-1.0
	comp=N,32nm,0.3s,baz=120,slow=20,SNR=2.4						
KDAK	Kodiak Island	2.88	75		Pn	06 01 32.0	-0.3
KDAK	Kodiak Island	2.88	75	P	Pn	06 01 33.7	+1.4
	baz=260						
PS4A	Pavlof South-4	2.90	234		Pn	06 01 32.5	-0.1
IVE	Iliamna Volcan	3.82	39		Pn	06 01 45.9	+0.5
FALS	False Pass	3.90	237		Pn	06 01 45.0	-1.4
N19K	Bonanza Creek	4.07	23	Pn	Pn	06 01 48.9	+0.1
N19K				IAML		06 02 58.1	
	comp=N,817nm,1.5s						
N19K				IAML		06 02 58.5	
	comp=E,848nm,1.9s						
N19K	Bonanza Creek	4.07	23	P	Pn	06 01 49.4	+0.6
	baz=207						
HOM	Homer	4.10	49	Pn	Pn	06 01 48.6	-0.6
CNPM	China Poot	4.20	52		Pn	06 01 50.2	-0.4
CNPM				IAML		06 02 45.2	
	comp=E,524nm,4.8s						
CNPM				IAML		06 03 12.9	
	comp=N,529nm,3.5s						
RED	Redoubt Volcan	4.20	36		Pn	06 01 51.5	+0.9
RDWB	Redoubt West	4.23	35		Pn	06 01 51.8	+0.7
RSO	Redoubt South	4.24	36		Pn	06 01 51.5	+0.2
SPCN	Chakachatna No	5.01	33		Pn	06 02 03.9	+2.1
M19K	Big River Lodg	5.09	18	Pn	Pn	06 02 00.4	-2.3
M19K				IAML		06 03 39.4	
	comp=E,757nm,4.9s						
M19K				IAML		06 03 43.3	
	comp=N,601nm,2.6s						
SPCG	Spurr Capps Gl	5.12	33		Pn	06 02 05.0	+1.8
SLKM	Skilak Lake	5.18	46		Pn	06 02 05.2	+1.2
SEW	Seward	5.27	52	Pn	Pn	06 02 04.6	-0.6
L19K	White Mountain	5.28	15	Pn	Pn	06 02 04.7	-0.7
L19K				IAML		06 03 56.7	
	comp=E,605nm,3.1s						
L19K	White Mountain	5.28	15	P	Pn	06 02 06.3	+0.9
	baz=198						
M20K	Styx River	5.32	24		Pn	06 02 04.7	-1.3
M20K				IAML		06 04 39.6	
	comp=N,440nm,4.8s						
M20K	Styx River	5.32	24	P	Pn	06 02 07.5	+1.5
	baz=209						
STLK	Strandline Lak	5.33	32		Pn	06 02 07.8	+1.6
L20K	Farewell, AK	5.72	18		Pn	06 02 12.5	+1.2
L20K	Farewell, AK	5.72	18	P	Pn	06 02 12.5	+1.2
	baz=202						
RC01	Rabbit Creek A	5.74	43		Pn	06 02 12.6	+1.0
UNV	Unalaska Valle	5.96	240	P	Pn	06 02 15.2	+0.6
	baz=52						
M22K	Willow	6.06	37		Pn	06 02 14.8	-1.2
M22K	Willow	6.06	37	P	Pn	06 02 18.3	+2.3
	baz=224						
PWL	Port Wells	6.14	49		Pn	06 02 15.8	-1.4
PMR	Palmer	6.29	41		Pn	06 02 20.0	+0.9
KNK	Knik Glacier	6.42	44		Pn	06 02 20.4	-0.7
KNK	Knik Glacier	6.42	44	P	Pn	06 02 22.7	+1.7
	baz=233						
PPLA	Purkeypile	6.43	23		Pn	06 02 20.7	-0.5
PPLA	Purkeypile	6.43	23	P	Pn	06 02 22.4	+1.2
	baz=209						
GLI	Glacier Island	6.67	51	Pn	Pn	06 02 24.4	-0.1
GLI	Glacier Island	6.67	51	P	Pn	06 02 26.1	+1.7
	baz=241						
SML	Sawmill	6.72	42		Pn	06 02 25.6	+0.6
SPIA	Saint Paul Isl	6.79	276		Pn	06 02 23.1	-3.0
SPIA	Saint Paul Isl	6.79	276	P	Pn	06 02 27.1	+1.0
	baz=85						
FID	Port Fidalgo	6.88	53	Pn	Pn	06 02 27.4	+0.1
CAST	Castle Rocks	6.91	22		Pn	06 02 27.5	-0.2
SCM	Sheep Creek Mo	7.11	44	Pn	Pn	06 02 30.3	-0.1
EYAK	Cordova Ski Ar	7.12	56	Pn	Pn	06 02 31.7	+1.1
EYAK	Cordova Ski Ar	7.12	56	P	Pn	06 02 31.6	+1.1
	baz=247						
KTH	Kantishna Hill	7.28	25		Pn	06 02 32.4	-0.5
CHUM	Lake Minchumin	7.29	19		Pn	06 02 33.5	+0.6
CHUM	Lake Minchumin	7.29	19	P	Pn	06 02 33.4	+0.6
	baz=205						
J20K	Nowinta River	7.29	13	Pn	Pn	06 02 31.1	-1.8
TRF	Thorofare Moun	7.35	27	Pn	Pn	06 02 34.3	+0.4
DIV	Divide	7.36	52	Pn	Pn	06 02 35.8	+1.8
KLU	Klutina	7.47	49		Pn	06 02 36.2	+0.7
KLU	Klutina	7.47	49	P	Pn	06 02 36.3	+0.8
	baz=240						
KAIM	Kayak Island	7.53	63	Pn	Pn	06 02 36.5	+0.3
RAGM	Ragged Mountai	7.55	59	Pn	Pn	06 02 37.1	+0.6
GCSA	Galena City Sc	7.66	3		Pn	06 02 38.5	+0.6
GCSA	Galena City Sc	7.66	3	P	Pn	06 02 38.5	+0.6
	baz=184						
M24K	Tolsona, Glenn	7.71	45	Pn	Pn	06 02 39.2	+0.5
HMT	Hamilton	7.73	60	Pn	Pn	06 02 38.7	-0.2
BPAW	Bear Paw Mtn.	7.75	23	Pn	Pn	06 02 39.4	+0.2
BPAW	Bear Paw Mtn.	7.75	23	P	Pn	06 02 40.3	+1.1
	baz=209						
BMRM	Bremner River	7.80	55	Pn	Pn	06 02 40.0	+0.1
DHY	Denali Highway	7.90	37	Pn	Pn	06 02 41.4	-0.1
MCK	McKinley	7.93	30	Pn	Pn	06 02 42.3	+0.6
MCK	McKinley	7.93	30	P	Pn	06 02 42.5	+0.8
	baz=218						
BERG	Berg Lake	8.01	60	Pn	Pn	06 02 42.3	-0.5
BWN	Browne	8.15	26	Pn	Pn	06 02 47.0	+2.2
ANM	Nome	8.33	337		Pn	06 02 46.3	-0.8
ANM	Nome	8.33	337	P	Pn	06 02 47.9	+0.8
	baz=151						
GLB	Gilahina Butte	8.35	53	Pn	Pn	06 02 47.6	+0.2
VRDI	Verde Repeater	8.42	55	Pn	Pn	06 02 49.0	+0.4
WAX	Waxell Ridge	8.43	61	Pn	Pn	06 02 48.9	+0.3
PAX	Paxson	8.49	41		Pn	06 02 50.2	+0.8
PAX	Paxson	8.49	41	P	Pn	06 02 50.2	+0.8
	baz=232						
I21K	Tanana	8.55	17	Pn	Pn	06 02 50.1	0.0
I21K	Tanana	8.55	17	P	Pn	06 02 50.7	+0.6
	baz=202						
NEA2	Nenana	8.60	26	Pn	Pn	06 02 52.1	+1.2
MLY	Manley	8.62	20		Pn	06 02 52.0	+0.8
MLY	Manley	8.62	20	P	Pn	06 02 52.0	+0.8
	baz=207						
ISLE	Juniper Island	8.72	60	Pn	Pn	06 02 53.9	+1.3
H21K	Melozitna Rive	8.88	13		Pn	06 02 54.6	-0.2
YAH	Yahtse	8.94	62		Pn	06 02 56.7	+1.0
CCB	Clear Creek Bu	8.96	29	Pn	Pn	06 02 57.2	+1.5
I23K	Minto, Yukon-K	9.01	23	Pn	Pn	06 02 57.9	+1.5
HDA	Harding Lake	9.01	31	Pn	Pn	06 02 58.1	+1.7
HDA	Harding Lake	9.01	31	P	Pn	06 02 57.7	+1.3

	baz=221						
MDM	Murphy Dome	9.11	26		Pn	06 02 57.8	0.0
PS08	TAPS Pump Stn8	9.15	31		Pn	06 02 59.4	+1.1
RIDG	Independent Ri	9.19	39		Pn	06 03 00.5	+1.5
RIDG	Independent Ri	9.19	39	P	Pn	06 03 00.5	+1.5
	baz=230						
TABL	Table Mountain	9.24	62		Pn	06 03 00.1	+0.2
IL31		9.30	30		Pn	06 03 01.5	+1.0
ILAR	Eielson Array	9.30	30	Pn	Pn	06 02 59.0	-1.5
	comp=N,1.6nm,0.3s,baz=214,slow=13,SNR=27						
ILAR	Eielson Array	9.30	30	Pn	Pn	06 03 02.2	+1.7
POKR	Poker Plat Res	9.43	28	Pn	Pn	06 03 02.9	+0.6
POKR	Poker Plat Res	9.43	28	P	Pn	06 03 02.5	+0.3
	baz=217						
J25K	Salcha River,	9.62	34		Pn	06 03 04.4	-0.5
J25K	Salcha River,	9.62	34	P	Pn	06 03 05.9	+1.0
	baz=225						
SCRK	Sand Creek	9.64	39	Pn	Pn	06 03 05.2	0.0
TNA	Tin City	9.75	334		Pn	06 03 04.9	-1.6
BCPM	Bancas Point	9.89	66		Pn	06 03 10.7	+2.2
L27K	Beaver Creek,	9.92	47	Pn	Pn	06 03 10.9	+2.0
COLD	Coldfoot	10.72	16	Pn	Pn	06 03 19.4	-0.5
DAWY	Dawson	11.36	45	Pn	Pn	06 03 30.5	+1.8
M30M	Minto, Yukon	11.84	54	Pn	Pn	06 03 35.8	+0.6
N31M	Braeburn, Yuko	12.03	60	Pn	Pn	06 03 36.2	-1.5
M31M	Drury Creek, Y	12.82	57	Pn	Pn	06 03 47.9	-0.7
EPYK	Eagle Plains	13.53	38	Pn	Pn	06 03 59.9	+1.7
A21K	Barrow	14.26	2		Pn	06 04 05.7	-2.4
DLBC	Dease Lake	14.81	73	Pn	Pn	06 04 15.7	-0.2
	comp=N,0.1nm,0.3s,baz=210,slow=20,SNR=1.3						
DLBC	Dease Lake	14.81	73	Pn	Pn	06 04 18.1	+2.2
INK	Inuvik	15.64	35	Pn	Pn	06 04 25.3	-1.2
	comp=N,0.3nm,0.3s,baz=242,slow=8.8,SNR=5.7						
INK	Inuvik	15.64	35	Pn	Pn	06 04 27.1	+0.6
INK				IAmb	IAmb	06 04 34.0	
	comp=Z,16nm,0.8s						
HG4B	Hotspring	16.05	96	Pn	Pn	06 04 32.3	+0.3
HG4B				IAmb	IAmb	06 04 39.1	
	comp=Z,31nm,1.1s						
BBB	Bella Bella	17.77	94	P	Pn	06 04 53.3	-0.4
	comp=Z,0.2nm,0.3s,baz=286,slow=7.4,SNR=1.3						
HOLB	Holberg	18.53	98	P	Pn	06 05 04.2	+1.2
A36M	Sachs Harbour	20.00	29		P	06 05 17.6	-1.1
A36M				IAmb	IAmb	06 05 38.4	
	comp=Z,16nm,0.8s						
OZB	Mount Ozzard	20.89	99	P	P	06 05 27.5	-1.1
OZB				IAmb	IAmb	06 05 48.8	
	comp=Z,30nm,1.2s						
CLRS	Cowichan Lake	21.70	98	P	P	06 05 37.5	+0.2
CLRS				IAmb	IAmb	06 05 54.8	
	comp=Z,22nm,1.1s						
YKA	Yellowknife Ar	22.02	58	P	P	06 05 41.0	+0.5
	comp=Z,7.0nm,0.8s,baz=271,slow=9.3,SNR=13						
YKA				PcP	PcP	06 09 38.0	-0.1
	comp=Z,0.9nm,0.5s,baz=279,slow=2.0,SNR=7.2						
YKA				ScP	ScP	06 13 15.3	+0.6
	comp=Z,0.5nm,0.8s,baz=298,slow=1.3,SNR=3.5						
YKA	Yellowknife Ar	22.02	58	P	P	06 05 39.9	-0.7
D05A	Enumclaw	23.83	99	P	P	06 05 57.2	-2.1
D05A				IAmb	IAmb	06 06 07.0	
	comp=Z,14nm,0.9s						
B08A	Colville Reser	24.57	94	P	P	06 06 07.9	+1.6
SEY	Seymchan	25.01	304	P	P	06 06 10.8	+0.8
	comp=Z,6.7nm,1.0s,baz=142,slow=19,SNR=7.6						
EDM	Edmonton	25.32	80	P	P	06 06 14.4	+1.5
E07A	Sunnyside	25.37	98	P	P	06 06 12.8	-0.7
E07A				IAmb	IAmb	06 06 22.0	
	comp=Z,16nm,1.0s						
PEA0B	Petropavlovsk-	25.43	280	P	P	06 06 11.4	-2.5
PETK	Petropavlovsk-	25.43	280	P	P	06 06 15.7	+1.8
	comp=Z,6.9nm,0.7s,baz=108,slow=9.5,SNR=11						
D08A	Wollman Farm,	25.57	96	P	P	06 06 14.8	-0.4
D08A				IAmb	IAmb	06 06 19.6	
	comp=Z,8.0nm,0.8s						
F07A	Phinny Hill Vi	25.75	100	P	P	06 06 16.3	-0.6
NEW	Newport	25.83	93	P	P	06 06 18.6	+1.0
	comp=Z,3.7nm,0.8s,baz=320,slow=6.3,SNR=5.8						
DBO	Dodson Butte	25.86	108	P	P	06 06 17.1	-0.9
DBO				IAmb	IAmb	06 06 26.0	
	comp=Z,12nm,0.8s						
MA2	Magadan	26.56	297	P	P	06 06 24.8	+0.7
	comp=Z,6.7nm,0.9s,baz=77,slow=11,SNR=6.9						
PINE	Pine Mountain	26.60	104	P	P	06 06 22.9	-2.0
PINE				IAmb	IAmb	06 06 32.9	
	comp=Z,8.7nm,0.8s						
G08A	Pilot Rock	26.66	100	P	P	06 06 26.0	+0.7
YBH	Yreka Blue Hor	27.13	109	P	P	06 06 31.7	+2.2
	comp=Z,1.9nm,0.8s,baz=345,slow=5.1,SNR=6.1						
M02C	Callahan	27.30	110	P	P	06 06 29.4	-1.6
N02D	Trinity Center	27.69	111	P	P	06 06 32.7	-1.8
N02D				IAmb	IAmb	06 06 44.6	
	comp=Z,12nm,1.4s						
J08A	Circle Bar Ran	28.21	102	P	P	06 06 38.1	-1.1
J08A				IAmb	IAmb	06 06 43.0	
	comp=Z,5.6nm,0.9s						
MOD	Modoc Plateau	28.25	106	P	P	06 06 38.9	-0.7
PLID	Pearl Lake	28.39	97	P	P	06 06 40.3	-0.6
PLID				IAmb	IAmb	06 06 42.4	
	comp=Z,7.3nm,1.1s						
EGMT	Eagleton	29.98	87	P	P	06 06 53.6	-1.2
YHH	Holmes Hill	31.38	93	P	P	06 07 06.5	-0.9
ELK	Elko	31.75	103	P	P	06 07 09.4	-1.3
NVAR	Mina Array Bea	31.84	109	P	P	06 07 13.9	+2.5
	comp=Z,3.5nm,0.8s,baz=311,slow=8.3,SNR=12						
NVAR				PcP	PcP	06 10 02.6	+0.6
	comp=Z,0.6nm,0.7s,baz=316,slow=2.5,SNR=2.9						
NVAR				ScP	ScP	06 13 46.6	+1.8
	comp=Z,0.2nm,0.6s,baz=3.8,slow=2.7,SNR=2.5						
NVAR	Mina Array Bea	31.84	109	P	P	06 07 11.4	0.0
NV11	Mina Array Sit	31.92	109	P	P	06 07 12.6	+0.5
TIXI	Tiksi	32.38	325	P	P	06 07 16.4	+0.9
	comp=Z,4.1nm,0.8s,baz=91,slow=22,SNR=5.9						
TIXI	Tiksi	32.38	325	P	P	06 07 14.4	-1.2
TIXI				IAmb	IAmb	06 07 22.2	
	comp=Z,3.6nm,0.7s						
BW06	Boulder Array	33.41	94	P	P	06 07 25.6	+0.4
BW06				IAmb	IAmb	06 07 36.1	
	comp=Z,6.6nm,1.4s						
PDAR	Pinedale Array	33.41	94	P	P	06 07 26.4	+1.1
	comp=Z,1.0nm,0.6s,baz=322,slow=4.0,SNR=6.3						
PDAR	Pinedale Array	33.41	94	P	P	06 07 24.7	-0.5
TPNV	Topopah Spring	34.02	108	P	P	06 07 28.9	-1.6
TPNV				IAmb	IAmb	06 07 39.5	
	comp=Z,5.3nm,0.9s						
GWY	Greenwater Val	34.39	110	P	P	06 07 33.0	-0.7
GWY				IAmb	IAmb	06 07 43.7	
	comp=Z,8.8nm,1.1s						
QSM	Queen of Sheba	34.46	110	P	P	06 07 33.4	-0.7
QSM				IAmb	IAmb	06 07 40.5	
	comp=Z,5.7nm,0.7s						
SRU	San Rafael Swe	35.45	100	P	P	06 07 41.9	-0.9
RSSD	Black Hills	35.53	88	P	P	06 07 43.8	+0.4
ULM	Lac du Bonnet	36.14	74	P	P	06 07 48.2	-0.1
	comp=Z,5.1nm,0.9s,baz=307,slow=7.3,SNR=2.2						
PFO	Pinyon Flats O	36.52	112	P	P	06 07 52.2	+0.3
PFO				IAmb	IAmb	06 08 01.4	
	comp=Z,7.5nm,1.2s						
CBX	Cerro Bola	37.45	114	P	P	06 07 58.1	-1.7
X16A	Lo Mia Camp, P	38.47	106	P	P	06 08 08.4	-0.1
X16A				IAmb	IAmb	06 08 30.9	
	comp=Z,12nm,1.5s						
SDCO	Great Sand Dun	39.15	97	P	P	06 08 13.1	-1.2
ANMO	Albuquerque	40.71	101	P	P	06 08 28.9	+1.7
	comp=Z,1.0nm,0.6s,baz=345,slow=8.5,SNR=2.5						
KLR	Kul'dur	41.20	290	P	P	06 08 31.9	+1.1
	comp=Z,2.9nm,1.0s,baz=17,slow=15,SNR=3.8						
I40A	Norwalk	42.93	78	P	P	06 08 46.3	+1.3
NRIK	Noril'sk	45.34	333	P	P	06 09 03.8	-0.2
	comp=Z,2.2nm,0.5s,baz=41,slow=9.3,SNR=2.2						
NRIK	Noril'sk	45.34	333	IAmb	IAmb	06 09 17.7	
	comp=Z,5.3nm,0.9s						
HDIL	Hopedale	45.95	80	P	P	06 09 08.4	-0.8
R40A	Maddies Statio	45.96	85	P	P	06 09 10.0	+0.8
MJAR	Matsushiro Arr	46.43	272	P	P	06 09 14.3	+1.3
	comp=Z,2.8nm,0.8s,baz=160,slow=6.6,SNR=4.4						
MJAR	Matsushiro Arr	46.43	272	P	P	06 09 11.2	-1.8
MJAR				IAmb	IAmb	06 09 13.3	
	comp=Z,6.4nm,1.4s						
TXAR	Lajitas Array	46.55	103	P	P	06 09 15.5	+1.4
	comp=Z,1.1nm,0.7s,baz=308,slow=5.1,SNR=5.6						
SCHQ	Schefferville	47.27	52	P	P	06 09 18.6	-0.8
	comp=Z,3.7nm,0.5s,baz=313,slow=7.8,SNR=8.4						
P48A	Milroy	48.80	79	P	P	06 09 31.4	0.0
R50A	Paris	50.25	79	P	P	06 09 43.0	+0.6
WVNY	West Valley, N	50.27	71	P	P	06 09 43.7	+1.1
KSRS	Korea Array	51.32	281	P	P	06 09 51.3	+0.8
	comp=Z,3.2nm,0.8s,baz=47,slow=6.5,SNR=8.7						
ARCES	ARCESS Array B	53.62	359	P	P	06 10 05.8	-1.4
	comp=Z,2.3nm,0.8s,baz=14,slow=7.6,SNR=5.5						
SONM	Songino Array	54.41	304	P	P	06 10 13.5	+0.1
	comp=Z,2.8nm,1.0s,baz=53,slow=7.4,SNR=7.1						
SONM	Songino Array	54.41	304	IAmb	IAmb	06 10 19.0	
	comp=Z,4.2nm,1.2s						
HHC	Hu-ho-hao-te	57.23	296	eP	P	06 10 38.4	+4.8
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,600nm,5.7s						
ZALV	Zalesovo Beam	58.15	322	P	P	06 10 40.6	+0.8
	comp=Z,0.6nm,0.5s,baz=44,slow=8.5,SNR=2.3						
NJ2	Nanjing	60.26	284	eP	P	06 10 56.6	+1.9
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
FINES	FINESS Array B	61.73	358	P	P	06 11 03.0	-1.2
	comp=Z,1.7nm,0.6s,baz=15,slow=7.9,SNR=8.1						
NOA	NORSAR Array B	61.85	6	P	P	06 11 03.7	-1.4
	comp=Z,1.4nm,0.9s,baz=353,slow=6.8,SNR=4.1						
XAN	Xi'an	63.84	293	P	P	06 11 18.8	0.0
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MKAR	Makanchi Array	65.04	319	P	P	06 11 27.2	+0.8
	comp=Z,0.5nm,0.7s,baz=34,slow=4.1,SNR=4.0						
WMQ	Urumqi	65.52	314	eP	P	06 11 35.1	+5.5
ABKAR	Akbulak array	69.48	335	P	P	06 11 52.6	-1.8
AKASG	Malin Array Be	72.38	355	P	P	06 12 10.4	-1.6
	comp=Z,1.6nm,0.6s,baz=6.4,slow=5.6,SNR=7.1						
PZH	PanZhiHua	73.56	293	P	P	06 12 23.4	+3.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KHC	Kasperske Hory	73.86	6	eP	P	06 12 20.5	-0.4
GERES	GERESS Array B	74.16	6	P	P	06 12 21.4	-1.3
	comp=Z,0.5nm,0.5s,baz=20,slow=5.0,SNR=4.2						
ESDC	Sonseca Array	81.06	20	P	P	06 13 01.0	-0.3
	comp=Z,1.0nm,0.5s,baz=341,slow=5.0,SNR=10						
ESDC	Sonseca Array	81.06	20	IAmb	IAmb	06 13 04.3	
	comp=Z,6.3nm,1.4s						
CMAR	Chiang Mai Arr	81.67	291	P	P	06 13 06.2	+1.4
	comp=Z,1.9nm,0.4s,baz=21,slow=5.3,SNR=10						
WRA	Warramunga Arr	95.23	241	P	P	06 14 09.8	-0.2
	comp=Z,1.2nm,0.9s,baz=37,slow=5.5,SNR=6.3						
ASAR	Alice Springs	98.62	240	P	Pdif	06 14 25.7	+0.3
	comp=Z,1.3nm,1.1s,baz=42,slow=4.3,SNR=2.8						
TSUM	Tsumeb	141.97	7	PKhKP	PKPpre	06 20 09.2	
	comp=Z,0.7nm,0.3s,baz=112,slow=12,SNR=1.6						
MATP	Matopo	143.06	350	PKhKP	PKPpre	06 20 16.2	
	comp=Z,1.8nm,0.8s,baz=322,slow=1.9,SNR=2.2						
QSPA	South Pole Qui	146.91	180	PKPbc	PKPbc	06 20 27.2	-0.2
	comp=Z,10nm,0.8s,baz=26,slow=1.5,SNR=14						
QSPA	South Pole Qui	146.91	180		PKPbc	06 20 27.7	+0.2
BOSA	Boshof	151.42	354	PKPbc	PKPbc	06 20 39.5	-0.6
	comp=Z,2.8nm,0.6s,baz=1.9,slow=2.5,SNR=5.8						

ATH 02 06:00:48.8,38°.73N×20°.63E,h7^{km}±3^{km},ML0.7/1,Error ellipse: s-maj=3.9km s-min=1.1km az=53.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYDR	Nydri-Lefkada	0.06	108	P	Pg	06 00 50.4	-0.1
NYDR				S	Sg	06 00 51.7	0.0
LKD2	Lefkada island	0.06	21	P	Pg	06 00 50.5	-0.1
LKD2				S	Sg	06 00 51.9	0.0
LKD2				AML	AML	06 00 52.0	
	comp=E,158μm,0.1s						
LKD2				AML	AML	06 00 52.3	
	comp=N,188μm,0.1s						
DRAG	Dragano-Lefkad	0.06	223	P	Pg	06 00 50.4	-0.2
DRAG				S	Sg	06 00 51.8	0.0
TSLK	Tsoukalades, L	0.10	12	P	Pg	06 00 51.2	+0.1
TSLK				S	Sg	06 00 52.7	+0.1
EVGI	Lefkada island	0.11	170	P	Pg	06 00 51.4	+0.1
EVGI				S	Sg	06 00 53.3	+0.3

*NEIC **02** 06:06:18.5±1.4,57°.00N±0°.05×157°.9W±0°.1,h10^{km}±11^{km}, Error ellipse: s-maj=9.0km s-min=6.1km az=125.0*
*AEIC **02** 06:06:18±1.6,56°.95N±0°.02×157°.87W±0°.09,h8^{km}±7^{km}, ML3.3,ML3.7/26(NEIC),Error ellipse: s-maj=7.3km s-min=3.2km az=77.0*
ISC 02 06:06:18.0±0.9,**57°.00N**±0°.04×**157°.97W**±0°.05,**h10^{km},n44,** σ**0^{s}75**/42,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANPB	Aniakchak Plen	0.26	220		Pg	06 06 24.2	+0.8
CHGN	Chignik	0.74	199		Pg	06 06 31.8	-0.6
CHGN	Chignik	0.74	199	P	Pg	06 06 31.8	-0.6
	baz=25						
PLBL	Peulik Blue Cr	0.94	41		Pb	06 06 36.7	+0.4
VNHG	Veniaminof 1	1.02	221		Pg	06 06 37.5	-0.1
PLK1	Peulik 1	1.09	42		Pg	06 06 39.0	+0.1
PLK3	Peulik 3	1.15	53		Pn	06 06 40.6	+0.4
PLK5	Peulik 5	1.16	30		Pn	06 06 40.9	+0.6
PLK2	Peulik 2	1.17	49		Pn	06 06 41.0	+0.5
KJL	Kejulik	1.67	50		Pb	06 06 48.5	-0.4
CHIR	Chirikof Islan	1.76	131		Pn	06 06 48.4	-0.1
CHIR	Chirikof Islan	1.76	131	IAML		06 07 14.7	
	comp=E,546nm,0.8s						
CHIR				IAML		06 07 18.8	
	comp=N,829nm,1.6s						
CHIR	Chirikof Islan	1.76	131	P	Pn	06 06 48.4	-0.1
	baz=313						
CHIR				S	Sn	06 07 11.4	+0.4
	baz=313						
ANCK	Angle Creek	1.79	47		Pn	06 06 49.8	+0.7
SII	Sitkinak Islan	2.13	100		Pn	06 06 54.0	+0.4
SII	Sitkinak Islan	2.13	100	IAML		06 07 27.6	
	comp=N,435nm,0.8s						
SII				IAML		06 07 28.6	
	comp=E,455nm,0.7s						
SII	Sitkinak Islan	2.13	100	P	Pn	06 06 54.0	+0.4
	baz=282						
SDPT	Sand Point	2.17	221		Pn	06 06 54.8	+0.7
SDPT	Sand Point	2.17	221	IAML		06 07 35.2	
	comp=E,395nm,2.5s						
SDPT				IAML		06 07 59.7	
	comp=N,416nm,4.0s						
SDPT	Sand Point	2.17	221	P	Pn	06 06 54.8	+0.7
	baz=41						
SDPT				S	Sb	06 07 24.2	-0.1
	baz=41						
OHAK	Old Harbor	2.56	83		Pn	06 06 59.3	-0.2
OHAK	Old Harbor	2.56	83	P	Pn	06 06 59.3	-0.2
	baz=266						
P18K	Big Mountain,	2.80	30	S	Sb	06 07 40.5	-2.0
	baz=211						
Q19K	Cape Douglas,	3.01	48		Pn	06 07 06.6	+0.9
Q19K	Cape Douglas,	3.01	48	IAML		06 07 58.8	
	comp=N,237nm,2.7s						
Q19K				IAML		06 07 59.9	
	comp=E,373nm,2.0s						
Q19K	Cape Douglas,	3.01	48	P	Pn	06 07 06.6	+0.9
	baz=230						
KDAK	Kodiak Island	3.02	73		Pn	06 07 05.7	-0.1
P19K	Oil Pt	3.65	41		Pn	06 07 15.6	+1.2
P19K	Oil Pt	3.65	41	P	Pn	06 07 15.6	+1.2
	baz=224						
O19K	Port Alsworth	3.73	29	Pn	Pn	06 07 14.9	-0.6
N19K	Bonanza Creek	4.23	24	Pn	Pn	06 07 21.4	-1.1
N19K				IAML		06 08 14.7	
	comp=E,118nm,5.0s						
N19K				IAML		06 08 29.7	
	comp=N,110nm,4.4s						
SVW2	Sparrevohn	4.29	16	Pn	Pn	06 07 23.3	+0.1
SVW2				IAML		06 07 55.2	
	comp=E,159nm,4.5s						
SVW2				IAML		06 08 56.9	
	comp=N,85nm,2.8s						
RSO	Redoubt South	4.41	36	Pn	Pn	06 07 24.9	-0.1
M19K	Big River Lodg	5.24	19		Pn	06 07 36.2	-0.1
M19K	Big River Lodg	5.24	19	P	Pn	06 07 36.2	-0.1
	baz=201						
L19K	White Mountain	5.43	16		Pn	06 07 38.4	-0.6
L19K	White Mountain	5.43	16	P	Pn	06 07 38.4	-0.6
	baz=198						
M20K	Styx River	5.48	25	Pn	Pn	06 07 39.6	-0.1
TTA	Tatalina	6.03	9	Pn	Pn	06 07 46.3	-0.9
PPLA	Purkeypile	6.58	24	Pn	Pn	06 07 55.8	+0.9
SPIA	Saint Paul Isl	6.70	277	Pn	Pn	06 07 57.3	+1.1
CAST	Castle Rocks	7.07	22	Pn	Pn	06 08 03.0	+1.6
NIKH	Nikolski High	7.45	242	Pn	Pn	06 08 07.1	+0.5
KLU	Klutina	7.64	49	Pn	Pn	06 08 10.3	+1.1

*IDC **02** 06:12:02.5±1.1,33°.15N×139°.02E,h0^{km},mb3.7/5, mb1 3.9/7,mb1mx3.4/56,mbtmp3.8/7,ML4.0/2,Error ellipse: s-maj=22.6km s-min=15.4km az=175.0*
*JMA **02** 06:12:04.5±0.1,33°.74N×140°.41E,h51^{km}±3^{km},M4.1*
JMA Felt I J1.
ISC 02 06:12:04.3±1.0,**33°.69N**±0°.03×**140°.42E**±0°.05,**h56^{km}**±11^{km},**n30,**σ**0^{s}76**/36,**mb3.8**/5,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	Mikurajimanish	0.72	287	P	Pn	06 12 18.4	-0.2
JMKN				S	Sn	06 12 28.7	-0.3
JHJ2	Mitsune	0.77	221	P	Pn	06 12 19.8	+0.6
JHJ2				S	Sn	06 12 30.4	+0.4
JHJ	Hachijo jima 2	0.78	223	Pn	Pn	06 12 19.6	+0.3
	638nm,0.3s,baz=252,slow=20,SNR=322						
JHJ				Sn	Sn	06 12 30.2	-0.2
	2μm,0.3s,baz=253,slow=20,SNR=19						
JHCJ	Hachijojimakas	0.81	220	P	Pn	06 12 20.2	+0.5
JHCJ				S	Sn	06 12 30.7	-0.3
BSO1	Boso 1	1.07	26	P	Pn	06 12 22.6	0.0
BSO1				eS	Sn	06 12 36.1	-0.2
BSO3	Boso 3	1.11	4	P	Pn	06 12 23.8	+0.3
BSO3				S	Sn	06 12 38.1	+0.4
JNIO	Niijimaoohara	1.16	305	S	Sn	06 12 38.0	-1.2
JKO	Kozu shima	1.18	295	P	Pn	06 12 24.7	+0.1
JKO				S	Sn	06 12 39.0	-0.6
JTHY	Toshimahigashi	1.25	312	P	Pn	06 12 25.8	+0.2
JTHY				S	Sn	06 12 41.2	-0.3
BSO4	Boso 4	1.30	357	P	Pn	06 12 26.6	+0.5
BSO4				S	Sn	06 12 42.4	0.0
JIM2	Oshima 3	1.31	322	P	Pn	06 12 26.1	-0.3
JAOM	Aogashimamukai	1.34	204	P	Pn	06 12 27.6	+0.8
JIZS	Izushimoda	1.64	309	P	Pn	06 12 31.1	+0.3
JIZS				S	Sn	06 12 50.4	-0.4
KTJ3	Kamata3	1.67	318	P	Pn	06 12 31.1	-0.1
KTJ3				S	Sn	06 12 49.6	-1.9
JOD2	Odawara 2	1.92	325	P	Pn	06 12 34.6	0.0
JSMT	Sammumatsuo	1.95	1	P	Pn	06 12 34.9	-0.1
JFNN	Fujinakano	2.07	317	P	Pn	06 12 37.6	+0.8
MJAR	Matsushiro Arr	3.37	328	Pn	Pn	06 12 56.1	+1.6
	4.7nm,0.3s,baz=165,slow=10,SNR=44						
MJAR				Sn	Sn	06 13 33.6	+0.3
	2.8nm,0.3s,baz=55,slow=20,SNR=6.4						
JCJ	Chichijima	6.75	166	Pn	Pn	06 13 40.6	-0.2
	8.3nm,0.3s,baz=308,slow=19,SNR=1.1						
JCJ				Sn	Sn	06 14 53.8	-2.5
	3.2nm,0.3s,baz=307,slow=20,SNR=1.1						
H11N2	WAKE ISLAND Hy	27.34	114	T	T	06 46 31.6	
	baz=306,slow=75						
H11N1	WAKE ISLAND Hy	27.34	114	T	T	06 46 41.5	
	baz=306,slow=75						
H11N3	WAKE ISLAND Hy	27.36	114	T	T	06 46 42.4	
	baz=306,slow=75						
H11S3	WAKE ISLAND Hy	27.92	116	T	T	06 47 19.2	
	baz=308,slow=76						
H11S1	WAKE ISLAND Hy	27.92	116	T	T	06 47 19.3	
	baz=308,slow=76						
H11S2	WAKE ISLAND Hy	27.94	116	T	T	06 47 19.5	
	baz=308,slow=76						
MKAR	Makanchi Array	45.28	305	P	P	06 20 16.8	+0.5
	0.2nm,0.7s,baz=91,slow=7.6,SNR=2.1						
FITZ	Fitzroy Crossi	53.39	198	P	P	06 21 17.7	-0.6
	0.5nm,0.6s,baz=32,slow=9.5,SNR=1.2						
WRA	Warramunga Arr	53.65	187	P	P	06 21 20.5	+0.3
	0.8nm,0.4s,baz=2.2,slow=7.6,SNR=22						
ASAR	Alice Springs	57.37	187	P	P	06 21 47.4	+0.5
	0.6nm,0.7s,baz=17,slow=13,SNR=9.9						
STKA	Stephens Creek	65.23	179	P	P	06 22 43.4	+3.5
	0.7nm,0.4s,baz=353,slow=17,SNR=1.3						

*NEIC **02** 06:13:34.3±0.9,57°.14N±0°.05×157°.96W±0°.09,h6^{km}±12^{km}, Error ellipse: s-maj=9.5km s-min=2.9km az=133.0*
*AEIC **02** 06:13:34±1.3,57°.12N±0°.05×157°.87W±0°.09,h5^{km}±7^{km}, ML3.4,ML3.6/22(NEIC),Error ellipse: s-maj=9.7km s-min=4.5km az=138.0*
ISC 02 06:13:34.1±0.9,**57°.15N**±0°.04×**157°.98W**±0°.05,**h10^{km},n41,** σ**0^{s}74**/37,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.22	215		Pg	06 13 40.2	+1.5
ANPB	Aniakchak Plen	0.39	205		Pg	06 13 42.2	+0.5
PLBL	Peulik Blue Cr	0.84	48		Pg	06 13 50.0	-0.1
CHGN	Chignik	0.88	196		Pg	06 13 50.5	-0.6
CHGN	Chignik	0.88	196	IAML		06 14 06.5	
	comp=E,1μm,0.5s						
CHGN	Chignik	0.88	196	P	Pg	06 13 50.5	-0.6
	baz=20						
CHGN				S	Sg	06 14 02.5	-0.1
	baz=20						
PLK3	Peulik 3	1.07	59		Pb	06 13 54.9	+0.2
VNHG	Veniaminof 1	1.14	216		Pb	06 13 55.5	-0.3
VNFG	Fog Glacier, M	1.23	226		Pg	06 13 58.6	+1.0
VNFG	Fog Glacier, M	1.23	226	P	Pg	06 13 58.6	+1.0
	baz=47						
CAHL	Cahill	1.70	57		Pn	06 14 03.8	0.0
CHIR	Chirikof Islan	1.87	135		Pn	06 14 06.5	+0.4
CHIR	Chirikof Islan	1.87	135	IAML		06 14 37.2	
	comp=E,455nm,0.8s						
CHIR				IAML		06 14 39.8	
	comp=N,648nm,0.8s						
CHIR	Chirikof Islan	1.87	135	P	Pn	06 14 06.4	+0.4
	baz=317						
CHIR				S	Sb	06 14 31.8	+0.2
	baz=317						
SII	Sitkinak Islan	2.17	104		Pn	06 14 10.7	+0.4
SII	Sitkinak Islan	2.17	104	IAML		06 14 45.9	
	comp=N,688nm,0.7s						
SII				IAML		06 14 49.1	
	comp=E,548nm,0.7s						
SII	Sitkinak Islan	2.17	104	P	Pn	06 14 10.7	+0.4
	baz=287						
SII				S	Sb	06 14 40.5	+0.2
	baz=287						
SDPT	Sand Point	2.28	219		Pb	06 14 13.7	-1.6
SDPT	Sand Point	2.28	219	IAML		06 14 49.2	
	comp=N,180nm,1.1s						
SDPT				IAML		06 15 09.2	
	comp=E,272nm,1.8s						
SDPT	Sand Point	2.28	219	P	Pb	06 14 13.7	-1.6
	baz=38						
OHAK	Old Harbor	2.56	86		Pn	06 14 16.0	+0.5
OHAK	Old Harbor	2.56	86	IAML		06 15 06.8	
	comp=E,130nm,1.2s						
OHAK	Old Harbor	2.56	86	P	Pn	06 14 16.0	+0.5
	baz=270						
P18K	Big Mountain,	2.68	32		Pn	06 14 17.3	0.0
P18K	Big Mountain,	2.68	32	P	Pn	06 14 17.3	0.0
	baz=213						
P18K				S	Sb	06 14 53.7	-1.3
	baz=213						
Q19K	Cape Douglas,	2.92	50		Pn	06 14 21.4	+0.9
Q19K	Cape Douglas,	2.92	50	P	Pn	06 14 21.4	+0.9
	baz=233						
KDAK	Kodiak Island	2.98	75		Pn	06 14 21.9	+0.5
KDAK	Kodiak Island	2.98	75	IAML		06 15 16.9	
	comp=E,113nm,4.8s						
KDAK	Kodiak Island	2.98	75	P	Pn	06 14 21.9	+0.5
	baz=259						
N19K	Bonanza Creek	4.09	25		Pn	06 14 37.2	+0.4
N19K	Bonanza Creek	4.09	25	IAML		06 15 57.8	
	comp=E,101nm,1.1s						
N19K	Bonanza Creek	4.09	25	P	Pn	06 14 37.2	+0.4
	baz=207						
M19K	Big River Lodg	5.11	19		Pn	06 14 51.0	+0.5
M19K	Big River Lodg	5.11	19	IAML		06 16 24.6	
	comp=N,53nm,2.5s						
M19K	Big River Lodg	5.11	19	P	Pn	06 14 51.0	+0.5
	baz=202						
L19K	White Mountain	5.29	16	Pn	Pn	06 14 53.8	+0.7
L19K				IAML		06 16 29.9	
	comp=N,67nm,1.3s						
L19K				IAML		06 16 40.9	
	comp=E,81nm,1.2s						
RC01	Rabbit Creek A	5.80	44	Pn	Pn	06 14 59.9	-0.2
PWL	Port Wells	6.22	49	Pn	Pn	06 15 06.1	+0.3
GHO	Glory Hole Cre	6.54	41	Pn	Pn	06 15 11.5	+1.2
KLU	Klutina	7.54	50	Pn	Pn	06 15 24.4	+0.3

*IDC **02** 06:19:36.9±0.9, 56°.61N×158°.38W, h0^{km}, mb3.8/11, mb1 4.0/15, mb1mx3.8/42, mbtmp3.8/15, ML3.5/4, Error ellipse: s-maj=22.6km s-min=14.1km az=8.0*
*AEIC **02** 06:19:39±1.8, 56°.99N±0°.04×157°.92W±0°.08, h14^{km}±3^{km}, ML3.8, ML4.0/20(NEIC), Error ellipse: s-maj=7.2km s-min=4.5km az=121.0*
*NEIC **02** 06:19:40.2±1.8, 57°.00N±0°.04×157°.94W±0°.08, h15^{km}±5^{km}, Error ellipse: s-maj=7.0km s-min=4.1km az=122.0*
ISC 02 06:19:39.8±1.0**, 57°.01N**±0°.04×**157°.94W**±0°.03**, h13**^{km}±7^{km}**, n110, σ0^s.82**/113**, mb3.9**/12**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.16**	**256**		**Pg**	**06 19 44.0**	**+0.3**
ANPB	**Aniakchak Plen**	**0.28**	**223**		**Pg**	**06 19 45.3**	**-0.3**
CHGN	**Chignik**	**0.75**	**201**		**Sg**	**06 20 03.4**	**-0.9**
CHGN	**Chignik**	**0.75**	**201**	P	**Pg**	**06 19 53.0**	**-1.3**
	baz=21						
CHGN				S	**Sg**	**06 20 03.4**	**-0.9**
	baz=21						
PLBL	**Peulik Blue Cr**	**0.92**	**41**		**Pg**	**06 19 57.0**	**-0.6**
VNHG	**Veniaminof 1**	**1.04**	**221**		**Pg**	**06 19 58.7**	**-1.1**
PLK1	**Peulik 1**	**1.08**	**41**		**Pg**	**06 19 59.3**	**-1.2**
PLK3	**Peulik 3**	**1.14**	**52**		**Pb**	**06 20 00.3**	**-0.9**
PLK3					**Sn**	**06 20 17.3**	**+0.5**
PLK5	**Peulik 5**	**1.15**	**29**		**Pb**	**06 20 01.0**	**-0.5**
VNFG	**Fog Glacier, M**	**1.15**	**232**		**Pb**	**06 20 01.1**	**-0.4**
VNFG	**Fog Glacier, M**	**1.15**	**232**	P	**Pb**	**06 20 01.1**	**-0.4**
	baz=51						
CHIR	**Chirikof Islan**	**1.75**	**132**		**Pn**	**06 20 10.2**	**+0.4**
CHIR	**Chirikof Islan**	**1.75**	**132**		**Sb**	**06 20 33.9**	**+0.4**
CHIR	**Chirikof Islan**	**1.75**	**132**	IAML		06 20 35.7	
	comp=E,2μm,0.8s						
CHIR				IAML		06 20 43.1	
	comp=N,2μm,0.7s						
CHIR	**Chirikof Islan**	**1.75**	**132**	P	**Pn**	**06 20 09.9**	**+0.1**
	baz=314						
CHIR				S	**Sb**	**06 20 33.9**	**+0.4**
	baz=314						
ANCK	**Angle Creek**	**1.78**	**47**		**Pn**	**06 20 09.8**	**-0.5**
SII	**Sitkinak Islan**	**2.11**	**101**		**Sb**	**06 20 43.0**	**-1.0**
SII	**Sitkinak Islan**	**2.11**	**101**	P	**Pn**	**06 20 15.0**	**+0.1**
	baz=284						
SII				S	**Sb**	**06 20 43.0**	**-1.0**
	baz=284						
SDPT	**Sand Point**	**2.18**	**222**		**Pn**	**06 20 16.1**	**+0.4**
SDPT					**Sb**	**06 20 45.0**	**-1.0**
SDPT	**Sand Point**	**2.18**	**222**	IAML		06 20 51.3	
	comp=N,669nm,1.2s						
SDPT	**Sand Point**	**2.18**	**222**	P	**Pn**	**06 20 16.1**	**+0.4**
	baz=40						
SDPT				S	**Sb**	**06 20 45.0**	**-1.0**
	baz=40						
OHAK	**Old Harbor**	**2.55**	**83**		**Pn**	**06 20 20.6**	**-0.1**
OHAK	**Old Harbor**	**2.55**	**83**	P	**Pn**	**06 20 20.7**	**0.0**
	baz=267						
BLHA	**Black Hill**	**2.64**	**242**		**Pn**	**06 20 22.3**	**+0.2**
BLHA	**Black Hill**	**2.64**	**242**	P	**Pn**	**06 20 22.3**	**+0.2**
	baz=59						
HAG	**Hague Volcano**	**2.79**	**234**		**Pn**	**06 20 24.9**	**+0.8**
Q19K	**Cape Douglas,**	**2.99**	**48**		**Pn**	**06 20 26.5**	**-0.4**
Q19K				IAML		06 21 27.7	
	comp=N,592nm,1.1s						
Q19K	**Cape Douglas,**	**2.99**	**48**	P	**Pn**	**06 20 26.8**	**-0.1**
	baz=231						
KDAK	**Kodiak Island**	**3.00**	**73**	Pn	**Pn**	**06 20 27.3**	**+0.3**
	comp=N,17nm,0.3s,baz=258,slow=7.2,SNR=140						
KDAK				Sn	**Sn**	**06 21 02.4**	**-0.3**
	comp=N,5.3nm,0.3s,baz=125,slow=18,SNR=1.8						
KDAK	**Kodiak Island**	**3.00**	**73**		**Pn**	**06 20 27.4**	**+0.4**
O19K	**Port Alsworth**	**3.72**	**29**		**Pn**	**06 20 36.5**	**-0.3**
O19K	**Port Alsworth**	**3.72**	**29**	P	**Pn**	**06 20 36.5**	**-0.3**
	baz=212						
FALS	**False Pass**	**3.76**	**237**	Pn	**Pn**	**06 20 38.8**	**+1.4**
IVE	**Iliamna Volcan**	**3.97**	**38**		**Pn**	**06 20 40.0**	**-0.4**
O20K	**Slope Mountain**	**4.16**	**40**		**Pn**	**06 20 42.6**	**-0.4**
O20K	**Slope Mountain**	**4.16**	**40**	P	**Pn**	**06 20 42.6**	**-0.4**
	baz=224						
N19K	**Bonanza Creek**	**4.22**	**24**		**Pn**	**06 20 43.5**	**-0.3**
N19K	**Bonanza Creek**	**4.22**	**24**	IAML		06 21 54.3	
	comp=N,181nm,0.9s						
N19K				IAML		06 22 01.1	
	comp=E,191nm,0.7s						
N19K	**Bonanza Creek**	**4.22**	**24**	P	**Pn**	**06 20 43.5**	**-0.3**
	baz=206						
SVW2	**Sparrevohn**	**4.28**	**16**		**Pn**	**06 20 45.3**	**+0.7**
SVW2	**Sparrevohn**	**4.28**	**16**	IAML		06 21 35.5	
	comp=N,125nm,0.6s						
SVW2				IAML		06 22 03.0	
	comp=E,181nm,0.4s						
RED	**Redoubt Volcan**	**4.36**	**36**		**Pn**	**06 20 45.8**	**+0.2**
RDWB	**Redoubt West**	**4.39**	**35**		**Pn**	**06 20 46.2**	**+0.1**
RSO	**Redoubt South**	**4.39**	**36**		**Pn**	**06 20 46.9**	**+0.5**
M19K	**Big River Lodg**	**5.24**	**19**		**Pn**	**06 20 58.5**	**+0.8**
M19K				IAML		06 22 52.6	
	comp=N,86nm,1.1s						
M19K	**Big River Lodg**	**5.24**	**19**	P	**Pn**	**06 20 57.7**	**0.0**
	baz=202						
L19K	**White Mountain**	**5.42**	**15**		**Pn**	**06 20 59.8**	**-0.5**
L19K	**White Mountain**	**5.42**	**15**	P	**Pn**	**06 20 59.8**	**-0.5**
	baz=198						
M20K	**Styx River**	**5.47**	**25**		**Pn**	**06 21 02.0**	**+1.0**
M20K	**Styx River**	**5.47**	**25**	P	**Pn**	**06 21 02.0**	**+1.0**
	baz=209						
STLK	**Strandline Lak**	**5.49**	**32**		**Pn**	**06 21 02.3**	**+1.1**
UNV	**Unalaska Valle**	**5.81**	**241**	Pn	**Pn**	**06 21 06.6**	**+1.0**
L20K	**Farewell, AK**	**5.86**	**19**		**Pn**	**06 21 07.2**	**+0.9**
L20K	**Farewell, AK**	**5.86**	**19**	P	**Pn**	**06 21 07.2**	**+0.9**
	baz=202						
MSW	**Makushin Switc**	**5.91**	**242**		**Pn**	**06 21 07.8**	**+0.9**
TT01	**Tatalina**	**6.00**	**8**		**Pn**	**06 21 08.1**	**-0.1**
TTA	**Tatalina**	**6.02**	**8**		**Pn**	**06 21 07.9**	**-0.6**
PMR	**Palmer**	**6.44**	**41**	Pn	**Pn**	**06 21 15.8**	**+1.6**
PPLA	**Purkeypile**	**6.58**	**24**		**Pn**	**06 21 17.2**	**+1.0**
PPLA	**Purkeypile**	**6.58**	**24**	P	**Pn**	**06 21 17.2**	**+1.0**
	baz=208						
K20K	**Telida**	**6.66**	**15**		**Pn**	**06 21 17.2**	**0.0**
CUT	**Chulitna**	**6.66**	**32**	Pn	**Pn**	**06 21 18.6**	**+1.4**
SPIA	**Saint Paul Isl**	**6.71**	**277**		**Pn**	**06 21 18.8**	**+0.9**
SML	**Sawmill**	**6.87**	**42**		**Pn**	**06 21 20.0**	**-0.1**
FID	**Port Fidalgo**	**7.02**	**53**	Pn	**Pn**	**06 21 21.2**	**-1.0**
CAST	**Castle Rocks**	**7.06**	**22**		**Pn**	**06 21 22.6**	**-0.2**
SCM	**Sheep Creek Mo**	**7.26**	**44**	Pn	**Pn**	**06 21 24.9**	**-0.6**
J20K	**Nowinta River**	**7.43**	**13**		**Pn**	**06 21 29.0**	**+1.2**
J20K	**Nowinta River**	**7.43**	**13**	P	**Pn**	**06 21 29.0**	**+1.2**
	baz=196						
CHUM	**Lake Minchumin**	**7.44**	**20**		**Pn**	**06 21 27.6**	**-0.2**
CHUM	**Lake Minchumin**	**7.44**	**20**	P	**Pn**	**06 21 27.6**	**-0.2**
	baz=204						
KLU	**Klutina**	**7.62**	**49**	Pn	**Pn**	**06 21 29.5**	**-1.0**
RAGM	**Ragged Mountai**	**7.69**	**58**	Pn	**Pn**	**06 21 31.6**	**+0.1**
RND	**Reindeer**	**7.85**	**31**		**Pn**	**06 21 35.2**	**+1.7**
HMT	**Hamilton**	**7.87**	**59**	Pn	**Pn**	**06 21 35.0**	**+1.1**
BPAW	**Bear Paw Mtn.**	**7.89**	**23**		**Pn**	**06 21 34.6**	**+0.4**
DHY	**Denali Highway**	**8.05**	**37**	Pn	**Pn**	**06 21 38.2**	**+1.7**
ANM	**Nome**	**8.40**	**338**		**Pn**	**06 21 41.6**	**+0.5**
ANM	**Nome**	**8.40**	**338**	P	**Pn**	**06 21 41.6**	**+0.5**
	baz=151						
WAX	**Waxell Ridge**	**8.57**	**60**	Pn	**Pn**	**06 21 43.3**	**-0.2**
I21K	**Tanana**	**8.69**	**17**		**Pn**	**06 21 44.8**	**-0.2**
WRH	**Wood River Hil**	**8.90**	**29**		**Pn**	**06 21 48.2**	**+0.4**
KIAG	**Kiagna River**	**8.95**	**58**		**Pn**	**06 21 49.6**	**+0.8**
H21K	**Melozitna Rive**	**9.02**	**14**		**Pn**	**06 21 49.0**	**-0.6**
H21K	**Melozitna Rive**	**9.02**	**14**	P	**Pn**	**06 21 49.0**	**-0.6**
	baz=198						
I23K	**Minto, Yukon-K**	**9.15**	**23**		**Pn**	**06 21 52.9**	**+1.5**
HDA	**Harding Lake**	**9.16**	**31**		**Pn**	**06 21 52.5**	**+1.0**
IMAR	**Indian Mountai**	**9.23**	**11**		**Pn**	**06 21 53.3**	**+0.9**
MDM	**Murphy Dome**	**9.26**	**26**		**Pn**	**06 21 52.9**	**0.0**
TABL	**Table Mountain**	**9.38**	**61**		**Pn**	**06 21 55.7**	**+1.0**
IL31		**9.46**	**30**		**Pn**	**06 21 55.8**	**+0.4**
ILAR	**Eielson Array**	**9.46**	**30**	Pn	**Pn**	**06 21 55.9**	**+0.4**
	comp=N,0.3nm,0.3s,baz=219,slow=13,SNR=20						
ILAR				Lg	Lg	06 24 38.6	
	comp=N,0.1nm,0.3s,baz=226,slow=27,SNR=2.8						
ILAR	**Eielson Array**	**9.46**	**30**	Pn	**Pn**	**06 21 55.4**	**-0.1**
J25K	**Salcha River,**	**9.77**	**34**		**Pn**	**06 21 59.5**	**-0.5**
TNA	**Tin City**	**9.82**	**335**		**Pn**	**06 22 02.0**	**+1.5**
H24K	**Noodor Dome**	**10.07**	**24**	Pn	**Pn**	**06 22 05.4**	**+1.4**
DLBC	**Dease Lake**	**14.94**	**73**	Pn	**Pn**	**06 23 12.9**	**+2.4**
	comp=N,0.1nm,0.3s,baz=304,slow=14,SNR=3.1						
INK	**Inuvik**	**15.79**	**34**	Pn	**P**	**06 23 24.6**	**-0.7**
	comp=N,0.3nm,0.3s,baz=215,slow=12,SNR=3.7						
YKA	**Yellowknife Ar**	**22.16**	**58**	P	**P**	**06 24 34.7**	**-0.3**
	comp=N,2.5nm,0.8s,baz=274,slow=10,SNR=40						
SEY	**Seymchan**	**25.00**	**304**	P	**P**	**06 25 02.6**	**-0.3**
	comp=N,3.6nm,0.7s,baz=100,slow=9.6,SNR=13						
PETK	**Petropavlovsk-**	**25.36**	**280**	P	**P**	**06 25 05.0**	**-1.3**
	comp=N,2.4nm,0.8s,baz=73,slow=16,SNR=3.6						
NVAR	**Mina Array Bea**	**31.89**	**108**	P	**P**	**06 26 06.4**	**+1.6**
	comp=N,1.3nm,0.7s,baz=317,slow=9.3,SNR=11						
TIXI	**Tiksi**	**32.43**	**326**	P	**P**	**06 26 08.9**	**0.0**
	comp=N,2.2nm,0.7s,baz=89,slow=23,SNR=9.9						
PDAR	**Pinedale Array**	**33.50**	**94**	P	**P**	**06 26 18.6**	**-0.3**
	comp=N,0.2nm,0.5s,baz=326,slow=6.0,SNR=2.6						
ANMO	**Albuquerque**	**40.78**	**100**	P	**P**	**06 27 21.1**	**+0.4**
	comp=N,0.2nm,0.3s,baz=315,slow=7.1,SNR=1.4						
TXAR	**Lajitas Array**	**46.61**	**103**	P	**P**	**06 28 07.8**	**+0.2**
	comp=N,0.7nm,0.7s,baz=312,slow=6.4,SNR=5.0						
SONM	**Songino Array**	**54.40**	**304**	P	**P**	**06 29 05.6**	**-0.6**
	comp=N,1.0nm,0.7s,baz=47,slow=6.4,SNR=5.3						
MKAR	**Makanchi Array**	**65.07**	**319**	P	**P**	**06 30 18.0**	**-1.5**
	comp=N,0.8nm,0.9s,baz=45,slow=5.9,SNR=1.2						
ESDC	**Sonseca Array**	**81.21**	**20**	P	**P**	**06 31 55.5**	**+0.4**
	comp=N,0.3nm,0.5s,baz=341,slow=6.2,SNR=2.8						
CMAR	**Chiang Mai Arr**	**81.63**	**291**	P	**P**	**06 31 56.4**	**-1.1**
	comp=N,0.9nm,0.3s,baz=18,slow=6.0,SNR=4.6						

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*IDC **02** 06:41:40.1±0.6, 15°.19S×173°.70W, h0^{km}, mb4.1/15, mb1 4.4/17, mb1mx4.2/35, mbtmp4.2/17, ML3.9/2, Error ellipse: s-maj=25.3km s-min=14.5km az=140.0*
*NEIC **02** 06:41:43.1±0.6, 15°.11S±0°.08×173°.69W±0°.09, h17^{km}±4^{km}, mb4.5/16, Error ellipse: s-maj=12.9km s-min=10.5km az=119.0*
*NOU **02** 06:41:55.9, 13°.66S×172°.13W, h164^{km}, MLv3.4/4, Samoa Islands*
ISC 02 06:41:44.5±0.4**, 15°.14S**±0°.07×**173°.63W**±0°.07**, h30**^{km}**, n60, σ0^s.95**/58**, mb4.3**/21**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.17**	**56**	Pn	**Pn**	**06 42 19.1**	**+0.5**
	140nm,0.3s,baz=94,slow=0.8,SNR=91						
AFI				Sn	**Sn**	**06 42 40.9**	**-3.7**
	209nm,0.3s,baz=157,slow=22,SNR=21						
AFI	**Afiamalu**	**2.17**	**56**		**Pn**	**06 42 18.7**	**0.0**
AFI	**Afiamalu**	**2.17**	**56**	P	**Pn**	**06 42 19.5**	**+0.8**
NIUE	**Niue**	**5.28**	**138**		**Pn**	**06 43 01.9**	**+0.6**
RAR	**Rarotonga**	**14.48**	**117**	Pn	**Pn**	**06 45 06.6**	**-0.9**
	1.1nm,0.3s,baz=236,slow=7.3,SNR=2.9						
RAR	**Rarotonga**	**14.48**	**117**	Pn	**Pn**	**06 45 07.4**	**-0.1**
DZM	**Mont Dzumac**	**20.09**	**247**	P	**P**	**06 46 14.8**	**-1.1**
	5.1nm,0.8s,baz=102,slow=20,SNR=2.2						
URZ	**Urewera**	**24.44**	**198**	P	**P**	**06 47 00.1**	**-0.4**
BKZ	**Black Stump Fm**	**25.46**	**198**	P	**P**	**06 47 09.9**	**0.0**
BKZ				IAmb	IAmb	06 47 30.1	
	comp=Z,22nm,1.4s						
ARMA	**Armidale**	**35.29**	**238**	P	**P**	**06 48 36.2**	**-0.8**
CTAO	**Charters Tower**	**38.48**	**257**	P	**P**	**06 49 04.1**	**-0.1**
CTAO				IAmb	IAmb	06 49 10.0	
	comp=Z,10nm,1.3s						
CAN	**Canberra**	**39.01**	**232**	P	**P**	**06 49 07.8**	**-0.8**
CAN				IAmb	IAmb	06 49 08.5	
	comp=Z,13nm,1.2s						
H11N3	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	07 30 58.6	
	baz=151,slow=80						
H11N1	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	07 31 29.2	
	baz=151,slow=80						
H11N2	**WAKE ISLAND Hy**	**39.60**	**330**	T	T	07 31 28.0	
	baz=151,slow=80						
STKA	**Stephens Creek**	**43.97**	**240**	P	**P**	**06 49 48.4**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=48,slow=9.0,SNR=3.2						
BBOO	**Buckleboo**	**48.75**	**240**	P	**P**	**06 50 25.8**	**-1.0**
WB0	**Warramunga Arr**	**49.65**	**257**	P	**P**	**06 50 32.5**	**-1.3**
WRA	**Warramunga Arr**	**49.69**	**257**	P	**P**	**06 50 32.9**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=96,slow=7.9,SNR=104						
WRA				PcP	**PcP**	**06 51 54.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=80,slow=4.3,SNR=2.5						
WRA	**Warramunga Arr**	**49.69**	**257**	IAmb	IAmb	06 50 34.2	
	comp=Z,0.5nm,1.0s						
AS31	**Alice Springs**	**49.98**	**252**	P	**P**	**06 50 35.2**	**-1.1**
AS31				IAmb	IAmb	06 50 36.9	
	comp=Z,4.9nm,0.8s						
ASAR	**Alice Springs**	**49.98**	**252**	P	**P**	**06 50 35.5**	**-0.8**
	comp=Z,16nm,0.6s,baz=86,slow=8.2,SNR=190						
ASAR				PcP	**PcP**	**06 51 55.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=90,slow=7.4,SNR=0.7						
ASAR	**Alice Springs**	**49.98**	**252**	P	**P**	**06 50 35.2**	**-1.1**
FORT	**Forrest**	**55.34**	**243**	P	**P**	**06 51 14.0**	**-1.8**
SBA	**Scott Base**	**63.49**	**185**	P	**P**	**06 52 13.7**	**+2.4**
SBA				IAmb	IAmb	06 52 29.4	
	comp=Z,4.5nm,1.2s						
VNDA	**Vanda**	**63.61**	**186**	P	**P**	**06 52 12.8**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=9.0,slow=8.1,SNR=17						
VNDA	**Vanda**	**63.61**	**186**	P	**P**	**06 52 13.0**	**+0.9**
VNDA				IAmb	IAmb	06 52 14.3	
	comp=Z,1.6nm,0.6s						
PETK	**Petropavlovsk-**	**72.32**	**342**	P	**P**	**06 53 08.2**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=145,slow=10,SNR=3.8						
YBH	**Yreka Blue Hor**	**73.53**	**37**	P	**P**	**06 53 16.1**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=169,slow=5.2,SNR=2.0						
NVAR	**Mina Array Bea**	**74.29**	**42**	P	**P**	**06 53 20.3**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=230,slow=9.4,SNR=11						
QSPA	**South Pole Qui**	**74.90**	**180**	P	**P**	**06 53 23.2**	**+0.9**
QSPA				IAmb	IAmb	06 53 24.9	
	comp=Z,10nm,1.2s						
TXAR	**Lajitas Array**	**80.65**	**56**	P	**P**	**06 53 55.3**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=276,slow=3.6,SNR=4.0						
SEY	**Seymchan**	**82.21**	**345**	P	**P**	**06 54 03.1**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=149,slow=5.9,SNR=4.4						
PDAR	**Pinedale Array**	**82.22**	**42**	P	**P**	**06 54 03.2**	**0.0**
	comp=Z,0.7nm,0.5s,baz=202,slow=2.6,SNR=8.8						
ILAR	**Eielson Array**	**82.24**	**11**	P	**P**	**06 54 02.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=220,slow=6.2,SNR=14						
BELA	**Belgrano 2**	**84.28**	**172**	P	**P**	**06 54 12.9**	**-0.1**
BELA				IAmb	IAmb	06 54 13.7	
	comp=Z,2.6nm,0.7s						
MAW	**Mawson**	**87.97**	**199**	P	**P**	**06 54 31.7**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=127,slow=2.9,SNR=4.5						
YKA	**Yellowknife Ar**	**89.95**	**23**	P	**P**	**06 54 41.0**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=232,slow=4.7,SNR=9.4						
SONM	**Songino Array**	**94.51**	**318**	P	**P**	**06 55 02.2**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=123,slow=5.3,SNR=1.8						
SONM	**Songino Array**	**94.51**	**318**	IAmb	IAmb	06 55 04.5	
	comp=Z,0.3nm,0.8s						
ARCES	**ARCESS Array B**	**124.33**	**352**	PKP	**PKiKP**	**07 00 40.1**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=340,slow=2.4,SNR=5.5						
FINES	**FINESS Array B**	**131.65**	**347**	PKP	**PKPdf**	**07 00 54.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=46,slow=4.0,SNR=7.5						
CLL	**Collm**	**143.53**	**353**	*e*PKPdf	**PKPdf**	**07 01 16.1**	**-0.1**
	comp=Z,4.0nm,0.9s						
BRTR	**Keskin Array B**	**145.82**	**321**	PKPbc	**PKPab**	**07 01 21.7**	**0.0**
	comp=Z,2.6nm,0.6s,baz=98,slow=2.4,SNR=13						
GERES	**GERESS Array B**	**145.85**	**351**	PKPbc	**PKPbc**	**07 01 21.2**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=28,slow=3.5,SNR=10						
CONA	**Conrad Observa**	**146.38**	**348**	*e*P	**PKPab**	**07 01 24.3**	**+0.9**
	comp=Z,4.2nm,0.8s,SNR=4.7						
RONA	**Rosalia, Austr**	**146.51**	**348**	*i* P	**PKPab**	**07 01 24.6**	**+0.7**
	comp=Z,4.3nm,0.7s						
MOA	**Molln**	**146.74**	**350**	*i* P	**PKPab**	**07 01 24.3**	**-0.4**
	comp=Z,3.2nm,0.6s						
BIOA	**Bad Ischl, Aus**	**146.99**	**351**	*i* P	**PKPab**	**07 01 25.5**	**-0.3**
	comp=Z,2.2nm,0.6s						
ARSA	**Arzberg**	**147.09**	**348**	*e*P	**PKPab**	**07 01 25.8**	**-0.4**
	comp=Z,2.0nm,0.6s						
RETA	**Reutte**	**147.54**	**354**	*e*P	**PKPbc**	**07 01 26.6**	**+0.7**
	comp=Z,2.2nm,0.7s						
KBA	**Koelnbreinsper**	**147.63**	**351**	*i* P	**PKPbc**	**07 01 27.2**	**+0.9**
	comp=Z,5.0nm,0.6s						
WTTA	**Wattenberg**	**147.68**	**353**	*e*P	**PKPbc**	**07 01 26.9**	**+0.5**
	comp=Z,6.8nm,0.5s,SNR=7.1						
SOKA	**Soboth**	**147.74**	**349**	*i* P	**PKPbc**	**07 01 26.6**	**+0.1**
	comp=Z,2.5nm,0.6s						
DAVA	**Damuels**	**147.82**	**356**	*e*P	**PKiKP**	**07 01 28.2**	**-0.5**
	comp=Z,6.6nm,0.8s						
OBKA	**Obir**	**147.99**	**349**	*i* P	**PKiKP**	**07 01 28.8**	**-0.3**
	comp=Z,5.4nm,0.8s						
FETA	**Feichten**	**148.01**	**354**	*i* P	**PKPbc**	**07 01 28.0**	**+0.7**
	comp=Z,9.8nm,1.7s						
MYKA	**Terra Mystica**	**148.02**	**351**	*i* P	**PKPbc**	**07 01 27.6**	**+0.4**
	comp=Z,4.2nm,0.6s						
ABTA	**Abfaltersbach**	**148.07**	**352**	*e*P	**PKPbc**	**07 01 27.4**	**0.0**
	comp=Z,4.6nm,0.7s,SNR=6.0						
TORD	**Torodi Ar. Bea**	**175.05**	**113**	PKPab	**PKPab**	**07 03 26.6**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=259,slow=4.2,SNR=2.3						

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*IDC **02** 06:47:33.2±2.9, 56°.04N×159°.97W, h0^{km}, mb3.5/2, mb1 3.7/4, mb1mx3.3/41, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=65.7km s-min=25.2km az=159.0*
*NEIC **02** 06:47:49.5±0.7, 57°.05N±0°.04×157°.92W±0°.09, h9^{km}±11^{km}, Error ellipse: s-maj=8.5km s-min=1.8km az=126.0*
*AEIC **02** 06:47:49±0.8, 57°.03N±0°.04×157°.90W±0°.07, h8^{km}±7^{km}, ML3.0, ML3.3/24(NEIC), Error ellipse: s-maj=7.8km s-min=2.2km az=134.0*
ISC 02 06:47:49.5±1.2**, 57°.04N**±0°.04×**157°.90W**±0°.04**, h12**^{km}±11^{km}**, n35, σ0^s.75**/36**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.18**	**247**		**Pg**	**06 47 54.0**	**+0.5**
ANPB	**Aniakchak Plen**	**0.32**	**221**		**Pg**	**06 47 55.7**	**-0.1**
CHGN	**Chignik**	**0.79**	**201**		**Pg**	**06 48 04.2**	**-0.6**
CHGN	**Chignik**	**0.79**	**201**	IAML		06 48 19.1	
	comp=E,2μm,0.5s						
CHGN	**Chignik**	**0.79**	**201**	P	**Pg**	**06 48 04.2**	**-0.6**
	baz=21						
CHGN				S	**Sb**	**06 48 15.5**	**-0.3**
	baz=21						
PLBL	**Peulik Blue Cr**	**0.89**	**41**		**Pb**	**06 48 07.0**	**+0.2**
PLK1	**Peulik 1**	**1.04**	**42**		**Pg**	**06 48 09.2**	**-0.3**
PLK5	**Peulik 5**	**1.11**	**30**		**Pg**	**06 48 10.5**	**-0.3**
PLK2	**Peulik 2**	**1.12**	**49**		**Pg**	**06 48 10.7**	**-0.4**
VNFG	**Fog Glacier, M**	**1.18**	**231**		**Pn**	**06 48 12.1**	**+0.1**
VNFG	**Fog Glacier, M**	**1.18**	**231**	P	**Pn**	**06 48 12.1**	**+0.1**
	baz=50						
CHIR	**Chirikof Islan**	**1.76**	**133**		**Pn**	**06 48 20.4**	**+0.6**
CHIR	**Chirikof Islan**	**1.76**	**133**	IAML		06 48 47.7	
	comp=E,371nm,0.9s						
CHIR				IAML		06 48 49.0	
	comp=N,354nm,1.1s						
CHIR	**Chirikof Islan**	**1.76**	**133**	P	**Pn**	**06 48 20.4**	**+0.6**
	baz=315						
CHIR				S	**Sg**	**06 48 45.3**	**-0.7**
	baz=315						
SII	**Sitkinak Islan**	**2.10**	**102**		**Pn**	**06 48 24.8**	**+0.3**
SII	**Sitkinak Islan**	**2.10**	**102**	P	**Pn**	**06 48 24.8**	**+0.3**
	baz=285						
SII				S	**Sb**	**06 48 53.9**	**+0.3**
	baz=285						
SDPT	**Sand Point**	**2.22**	**221**		**Pn**	**06 48 26.6**	**+0.4**
SDPT	**Sand Point**	**2.22**	**221**	IAML		06 49 03.5	
	comp=E,232nm,0.9s						
SDPT				IAML		06 49 10.7	
	comp=N,148nm,1.4s						
SDPT	**Sand Point**	**2.22**	**221**	P	**Pn**	**06 48 26.5**	**+0.4**
	baz=39						
SDPT				S	**Sb**	**06 48 56.7**	**-0.2**
	baz=39						
OHAK	**Old Harbor**	**2.52**	**84**		**Pn**	**06 48 31.3**	**+1.1**
OHAK	**Old Harbor**	**2.52**	**84**	P	**Pn**	**06 48 31.3**	**+1.1**
	baz=268						
P18K	**Big Mountain,**	**2.75**	**30**		**Pn**	**06 48 33.7**	**+0.2**
P18K	**Big Mountain,**	**2.75**	**30**	P	**Pn**	**06 48 33.7**	**+0.2**
	baz=212						
Q19K	**Cape Douglas,**	**2.96**	**48**	Pn	**Pn**	**06 48 36.6**	**+0.3**
KDAK	**Kodiak Island**	**2.97**	**73**	Pn	**Pn**	**06 48 38.1**	**+1.7**
	comp=N,3.1nm,0.3s,baz=215,slow=2.7,SNR=20						
KDAK				Sn	**Sb**	**06 49 16.6**	**-2.0**
	comp=N,2.2nm,0.3s,baz=204,slow=20,SNR=1.2						
KDAK	**Kodiak Island**	**2.97**	**73**	P	**Pn**	**06 48 38.1**	**+1.7**
	baz=258						
N19K	**Bonanza Creek**	**4.18**	**24**	Pn	**Pn**	**06 48 53.5**	**+0.3**
N19K				IAML		06 50 06.8	
	comp=E,33nm,1.0s						
N19K				IAML		06 50 24.4	
	comp=N,40nm,0.7s						
RSO	**Redoubt South**	**4.36**	**36**	Pn	**Pn**	**06 48 56.7**	**+1.1**
M19K	**Big River Lodg**	**5.20**	**19**	Pn	**Pn**	**06 49 07.4**	**+0.4**
M19K				IAML		06 50 47.0	
	comp=E,24nm,1.0s						
M19K				IAML		06 50 58.2	
	comp=N,19nm,1.7s						
L19K	**White Mountain**	**5.38**	**15**	Pn	**Pn**	**06 49 09.9**	**+0.3**
L19K				IAML		06 50 57.2	
	comp=N,24nm,0.8s						
K20K	**Telida**	**6.62**	**15**	Pn	**Pn**	**06 49 27.3**	**+0.7**
SPIA	**Saint Paul Isl**	**6.73**	**276**	Pn	**Pn**	**06 49 27.9**	**0.0**
ILAR	**Eielson Array**	**9.42**	**30**	Pn	**Pn**	**06 50 05.5**	**+0.7**
	comp=N,0.1nm,0.3s,baz=225,slow=13,SNR=4.5						
YKA	**Yellowknife Ar**	**22.13**	**58**	P	**P**	**06 52 45.1**	**+0.6**
	comp=N,0.5nm,0.8s,baz=276,slow=9.6,SNR=8.4						
PETK	**Petropavlovsk-**	**25.37**	**280**	P	P	06 52 53.2	-23
	comp=N,2.8nm,0.9s,baz=48,slow=43,SNR=3.9						

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*TIR **02** 07:03:51.3, 41°.85N×19°.16E, h25^{km}, Md3.4, Ml3.2*
*RHSSO **02** 07:03:51.0±0.6, 41°.79N×19°.32E, h5^{km}±1^{km}, ML3.4/14*
*PDG **02** 07:03:52.4±0.1, 41°.91N×19°.20E, h15^{km}, MD3.2/10, ML3.2/14, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
*THE **02** 07:03:52.5, 41°.88N×19°.14E, h2^{km}±2^{km}, ML2.6/6, Error ellipse: s-maj=3.2km s-min=1.4km az=335.0*
*BEO **02** 07:03:53.8±0.3, 41°.92N×19°.19E, h13^{km}±2^{km}, ML3.1/22*
ISC 02 07:03:53.1±0.8**, 41°.92N**±0°.02×**19°.20E**±0°.02**, h13**^{km}±5^{km}**, n151, σ1^s.05**/262**, 30C-16D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.06**	**36**	*e*Pg	**Pg**	**07 03 55.3**	**-0.3**
ULC				*i* Sg	**Sg**	**07 03 57.6**	**+0.1**
DRME	**Dracevica, Mon**	**0.27**	**358**	⇑*i*Pg	**Pg**	**07 03 58.7**	**0.0**
DRME				*e*Sg	**Sb**	**07 04 04.0**	**-0.4**
DRME	**Dracevica, Mon**	**0.27**	**358**	*e*Pg	**Pg**	**07 03 58.2**	**-0.5**
DRME				*i* Sg	**Sb**	**07 04 03.2**	**-1.2**
BUM	**Brajici-Budva**	**0.45**	**329**	*e*Pg	**Pg**	**07 04 01.2**	**-0.7**
BUM				*i* Sg	**Sg**	**07 04 08.7**	**+0.8**
PDG	**Podgorica**	**0.52**	**5**	⇑P	**Pg**	**07 04 02.5**	**-0.7**
PDG				⇓S	**Sb**	**07 04 10.9**	**-0.5**
PDG	**Podgorica**	**0.52**	**5**	*e*Pg	**Pg**	**07 04 02.6**	**-0.6**
PDG				*e*Sg	**Sb**	**07 04 11.1**	**-0.3**
PDG	**Podgorica**	**0.52**	**5**	⇑*i*Pg	**Pg**	**07 04 02.5**	**-0.7**
PDG				*e*Sg	**Sb**	**07 04 11.3**	**-0.1**
TTG	**Podgorica**	**0.52**	**5**	⇓*i*Pg	**Pg**	**07 04 02.5**	**-0.7**
TTG				*i* Sg	**Sb**	**07 04 11.0**	**-0.5**
CEME	**Cevo**	**0.66**	**342**	⇑*i*Pg	**Pg**	**07 04 04.9**	**-1.1**
CEME				*i* Sg	**Sb**	**07 04 15.9**	**+0.1**
HCY	**Herceg Novi**	**0.75**	**316**	*e*Pg	**Pg**	**07 04 06.7**	**-0.8**
HCY				*e*Sg	**Sb**	**07 04 20.0**	**+1.9**
HCY	**Herceg Novi**	**0.75**	**316**	⇓*i*Pg	**Pg**	**07 04 06.6**	**-0.9**
HCY				*i* Sg	**Sb**	**07 04 18.6**	**+0.5**
TIR	**Tirane**	**0.76**	**138**	⇓P	**Pb**	**07 04 07.8**	**-0.4**
TIR				⇑S	**Sb**	**07 04 18.8**	**+0.4**
TIR	**Tirane**	**0.76**	**138**	*e*Pg	**Pg**	**07 04 07.3**	**-0.4**
TIR				*e*Sg	**Sb**	**07 04 19.2**	**+0.9**
TIR	**Tirane**	**0.76**	**138**	P	**Pg**	**07 04 06.9**	**-0.8**
TIR				S	**Sb**	**07 04 18.1**	**-0.2**
	442nm,0.4s						
TIR	**Tirane**	**0.76**	**138**	P	**Pg**	**07 04 05.8**	**-1.9**
	baz=133						
TIR				S	**Sb**	**07 04 18.8**	**+0.4**
	baz=133						
TIR				AMP			
	comp=N,1.7nm,0.4s,baz=133						
BCI	**Bajram Curri**	**0.79**	**55**	P	**Pg**	**07 04 07.3**	**-1.0**
	baz=52						
BCI				S	**Sn**	**07 04 20.5**	**-1.1**
	baz=52						
BCI				AMP			
	comp=N,6.0nm,0.7s,baz=52						
NKME	**Niksic**	**0.87**	**348**	⇓*i*Pg	**Pg**	**07 04 08.9**	**-1.0**
NKME				*i* Sg	**Sb**	**07 04 22.9**	**+1.2**
PVY	**Plav**	**0.88**	**40**	⇓*i*Pg	**Pg**	**07 04 09.1**	**-1.0**
PVY				*i* Sg	**Sn**	**07 04 23.3**	**-0.8**
NKY	**Niksic**	**0.91**	**350**	*e*Pg	**Pg**	**07 04 09.5**	**-1.2**
NKY				*i* Sg	**Sn**	**07 04 24.2**	**-0.6**
PHP	**Peshkopia**	**0.96**	**104**	P	**Pg**	**07 04 10.0**	**-1.5**
PHP				S	**Sn**	**07 04 25.4**	**-0.5**
PHP	**Peshkopia**	**0.96**	**104**	P	**Pg**	**07 04 09.9**	**-1.7**
	baz=99						
PHP				S	**Sb**	**07 04 24.6**	**+0.4**
	baz=99						
PHP				AMP			
	comp=N,2.6nm,0.5s,baz=99						
KOME	**Kolasin**	**0.96**	**14**	⇓*i*Pg	**Pg**	**07 04 10.6**	**-1.1**
KOME				*i* Sg	**Sn**	**07 04 26.0**	**-0.1**
TREB	**Trebinje**	**1.02**	**322**	*e*Pg	**Pg**	**07 04 11.4**	**-1.3**
TREB				*e*Sg	**Sg**	**07 04 26.1**	**+0.1**
TREB	**Trebinje**	**1.02**	**322**	*e*Pg	**Pg**	**07 04 11.4**	**-1.3**
TREB				*e*Sg	**Sn**	**07 04 28.2**	**+0.9**
DBRK	**Dubrovnik**	**1.08**	**314**	*e*Pg	**Pg**	**07 04 13.3**	**-0.7**

DBRK				Sg	Sn	07 04 30.0	+1.1
IVA	Berane	1.08	28	⇑iPg	Pg	07 04 12.8	-1.2
IVA				iSg	Sn	07 04 30.1	+1.0
BRY	Bratogost	1.10	334	ePg	Pg	07 04 13.5	-0.8
BRY				eSg	Sn	07 04 31.2	+1.7
BRY	Bratogost	1.10	334	ePg	Pg	07 04 13.1	-1.2
BRY				iSg	Sn	07 04 30.6	+1.1
UPM	Unac-Piva	1.30	351	ePg	Pn	07 04 16.9	-0.3
UPM				eSg	Sn	07 04 37.3	+2.7
UPM	Unac-Piva	1.30	351	⇓iPg	Pn	07 04 16.8	-0.4
UPM				iSg	Sn	07 04 37.1	+2.5
PLE	Pljevlja	1.42	6	⇓iPg	Pn	07 04 18.9	+0.1
PLE				iSg	Sg	07 04 39.9	+1.1
OHR	Ohrid	1.45	123	ePg	Pg	07 04 20.1	-0.7
OHR				eSg	Sg	07 04 41.0	+1.4
OHR	Ohrid	1.45	123	iPn	Pn	07 04 18.7	-0.3
SJES	Sjenica	1.46	23	ePg	Pb	07 04 19.7	-0.5
SJES				eSg	Sg	07 04 41.4	+1.3
STON	Ston	1.46	311	ePg	Pb	07 04 20.3	+0.1
STON				eSg	Sg	07 04 40.5	+0.3
STON	Ston	1.46	311	⇑iPn	Pn	07 04 19.8	+0.6
STON				eSn	Sg	07 04 41.0	+0.8
STON	Ston	1.46	311	ePn	Pn	07 04 19.8	+0.6
STON				Sg	Sg	07 04 40.6	+0.3
SKO	Skopje	1.67	87	iPn	Pb	07 04 23.2	-0.5
SKO				iSn	Sg	07 04 46.9	0.0
RUDO	Rudo	1.71	4	ePn	Pn	07 04 23.1	+0.5
RUDO				eSn	Sg	07 04 46.9	-1.0
KBN	Korca	1.76	137	P	Pn	07 04 23.8	+0.4
	baz=134						
KBN				S	Sn	07 04 46.4	+0.7
	baz=134						
IVAS	Ivanjica	1.80	23	ePn	Pn	07 04 24.8	+0.9
IVAS				eSn	Sb	07 04 48.7	+0.2
LSTV	Lastovo	1.91	297	ePn	Pn	07 04 24.7	-0.7
LSTV				Sn	Sn	07 04 49.4	+0.1
SCTE	Santa Cesarea	1.92	197	P	Pn	07 04 25.5	0.0
	baz=197						
SCTE				S	Sn	07 04 50.3	+0.7
	baz=197						
SELS	Selova	1.93	47	ePn	Pn	07 04 26.2	+0.6
SELS				eSn	Sb	07 04 50.7	-1.4
BBLS	Lazići	1.95	4	ePn	Pb	07 04 27.6	-1.0
BBLS				eSn	Sn	07 04 51.0	+0.5
BBLS	Lazići	1.95	4	ePn	Pn	07 04 27.1	+1.0
BBLS				eSn	Sb	07 04 52.4	-0.5
NOCI	Noci	1.96	236	P	Pn	07 04 25.8	-0.3
	baz=237						
NOCI				S	Sn	07 04 51.2	+0.6
	baz=237						
FNA	Florina	1.99	124	P	Pn	07 04 27.4	+0.9
FNA				S	Sb	07 04 54.5	+0.5
	comp=N,310nm,0.4s						
FNA	Florina	1.99	124	P	Pn	07 04 27.7	+1.2
	baz=121						
FNA				S	Sb	07 04 54.2	+0.2
	baz=121						
NEST	Nestorio	2.05	136	P	Pn	07 04 28.5	+1.1
LSK	Leskovik	2.06	149	P	Pn	07 04 28.7	+1.2
LSK	Leskovik	2.06	149	P	Pn	07 04 27.7	+0.2
	baz=146						
LSK				S	Sn	07 04 54.1	+1.0
	baz=146						
MAKA	Makarska	2.11	311	ePn	Pn	07 04 27.8	-0.4
MAKA				Sn	Sn	07 04 55.0	+0.7
SRN	Sarande	2.12	163	P	Pn	07 04 27.4	-0.9
SRN				S	Sn	07 04 54.1	-0.4
	comp=N,95nm,0.5s						
SRN	Sarande	2.12	163	P	Pn	07 04 27.6	-0.7
	baz=161						
SRN				S	Sn	07 04 55.9	+1.4
	baz=161						
BARS	Barje	2.14	64	ePn	Pn	07 04 29.3	+0.8
BARS	Barje	2.14	64	ePn	Pg	07 04 40.0	+5.9
BARS				eSn	Sn	07 04 56.0	+1.1
BARS				eSn	Sg	07 05 15.6	+14
RICI	Ricice	2.19	317	ePn	Pn	07 04 29.3	+0.1
RICI				Sn	Sn	07 04 57.2	+0.9
PRVS	Prvonek	2.22	74	ePn	Pn	07 04 30.3	+0.7
PRVS				eSn	Sn	07 04 56.3	-0.6
STIP	Stip	2.24	95	iPn	Pb	07 04 33.1	-0.3
KEK	Kerkira	2.25	168	P	Pn	07 04 29.7	-0.3
DIVS	Divibare	2.26	15	ePn	Pn	07 04 31.1	+0.8
DIVS				eSn	Sn	07 04 59.3	+1.2
DIVS	Divibare	2.26	15	⇓iPn	Pn	07 04 31.0	+0.8
DIVS				eSn	Sn	07 04 59.2	+1.2
GRUS	Gruza	2.26	29	ePn	Pn	07 04 31.6	+1.4
GRUS				eSn	Sn	07 04 59.3	+1.3
MATE	Matera	2.27	237	⇓P	Pn	07 04 31.5	+1.3
MATE				⇑S	Sn	07 04 59.7	+1.6
HVAR	Hvar	2.39	303	ePn	Pn	07 04 31.1	-0.8
HVAR				Sn	Sn	07 05 00.8	-0.3
TRUS	Trudelj	2.47	21	ePn	Pn	07 04 34.0	+0.9
TRUS				eSn	Sn	07 05 04.2	+1.1
BOSS	Bosilegrad	2.50	76	ePn	Pn	07 04 34.2	+0.6
BOSS				eSn	Sn	07 05 04.0	0.0
BOVS	Bovan	2.52	46	⇑P	Pn	07 04 34.5	+0.7
BOVS				⇑S	Sn	07 05 05.7	+1.3
BOVS	Bovan	2.52	46	ePn	Pn	07 04 35.4	+1.6
BOVS				eSn	Sn	07 05 04.7	+0.3
IGT	Igoumenitsa	2.53	160	P	Pn	07 04 33.4	-0.5
IGT	Igoumenitsa	2.53	160	P	Pn	07 04 34.4	+0.4
	baz=158						
IGT				S	Sn	07 05 06.0	+1.4
	baz=158						
KPRO	Kipourio	2.56	139	P	Pn	07 04 35.2	+0.9
GRG	Griva	2.59	111	P	Pn	07 04 35.5	+0.7
GRG				S	Sn	07 05 07.8	+1.6
	comp=N,70nm,0.4s						
VAY	Valandovo	2.60	102	ePn	Pn	07 04 35.4	+0.6
VAY				eSn	Sn	07 05 06.7	+0.5
VAY	Valandovo	2.60	102	iPn	Pn	07 04 35.9	+1.1
VAY				iSn	Sn	07 05 08.1	+1.9
SRKY	Kupres RS	2.62	326	ePn	Pn	07 04 36.6	+1.4
SRKY				eSn	Sn	07 05 09.9	+3.0
TEKS	Tekeris	2.64	5	ePn	Pn	07 04 36.4	+0.9
TEKS				eSn	Sn	07 05 08.3	+0.9
KNT	Kendrikon	2.88	104	P	Pn	07 04 39.7	+1.0
KNT				S	Sn	07 05 14.1	+0.9
	comp=N,38nm,0.7s						
KIJV	Kijevo	2.93	316	ePn	Pn	07 04 39.8	+0.4
KIJV				Sn	Sn	07 05 14.9	+0.5
ZAGS	Zajecar	2.93	49	ePn	Pn	07 04 40.1	+0.8
ZAGS				eSn	Sn	07 05 15.3	+0.9
MGRS	Mrkonjic Grad	2.94	329	ePn	Pn	07 04 40.9	+1.3
MGRS				eSn	Sn	07 05 17.8	+3.0
BLKB	Belogradchik	3.08	55	⇑P	Pn	07 04 40.6	-0.8
BLKB				⇑S	Sn	07 05 17.7	-0.5
VTS	Vitosha	3.08	75	⇑P	Pn	07 04 42.3	+0.8
VTS				⇑S	Sn	07 05 19.5	+1.2
KUBS	Kucevo	3.08	35	ePn	Pn	07 04 42.8	+1.3
KUBS				eSn	Sn	07 05 18.6	+0.3
ZIRJ	Zirje	3.14	305	ePn	Pn	07 04 42.0	-0.3
ZIRJ				Sn	Sn	07 05 18.9	-0.8
THL	Klokotos Trika	3.18	137	P	Pn	07 04 44.7	+1.9
THL				S	Sn	07 05 21.2	+0.7
	comp=N,38nm,0.5s						
BLY	Banja Luka	3.19	333	ePn	Pn	07 04 44.4	+1.4
BLY				eSn	Sn	07 05 23.6	+2.7
A050A	Klekovaca	3.22	324	ePn	Pn	07 04 44.4	+0.9
A050A				eSn	Sn	07 05 24.6	+2.8
HORT	Hortiatis	3.22	113	P	Pn	07 04 43.9	+0.4
MORI	Morici	3.22	308	ePn	Pn	07 04 43.3	0.0
MORI				Sn	Sn	07 05 21.6	-0.1
FRGS	Fruska Gora	3.27	8	⇑P	Pn	07 04 43.4	-0.6
FRGS				⇓S	Sn	07 05 23.4	+0.5
FRGS	Fruska Gora	3.27	8	ePn	Pn	07 04 43.5	-0.6
FRGS				eSn	Sn	07 05 22.3	-0.6
FRGS	Fruska Gora	3.27	8	ePn	Pn	07 04 43.7	-0.4
FRGS				eSn	Sn	07 05 23.8	+0.9
TSLK	Tsoukalades, L	3.28	160	P	Pn	07 04 43.4	-0.8
LKD2	Lefkada island	3.32	160	P	Pn	07 04 43.6	-1.1
NYDR	Nydri-Lefkada	3.40	160	P	Pn	07 04 44.3	-1.5
MDVR	Moldovita	3.40	32	⇓P	Pn	07 04 46.8	+0.9
MDVR				⇑S	Sn	07 05 26.3	+0.1
EVGI	Lefkada island	3.48	161	P	Pn	07 04 45.6	-1.3
A051A	Mrakovica	3.52	332	ePn	Pn	07 04 48.1	+0.6
A051A				eSn	Sn	07 05 31.6	+2.6
PLG	Polygyros	3.56	114	P	Pn	07 04 48.7	+0.6
EVR	Evrytania	3.60	146	P	Pn	07 04 48.6	-0.1
UDBI	Udbina	3.62	317	ePn	Pn	07 04 49.2	+0.3
UDBI				Sn	Sn	07 05 31.2	-0.4
MAKR	Makrakomi, Fth	3.66	141	P	Pn	07 04 50.0	+0.5
DUGI	Dugi Otok	3.68	306	ePn	Pn	07 04 49.8	+0.1
DUGI				Sn	Sn	07 05 32.6	-0.3
AGG	Agios Georgios	3.75	139	P	Pn	07 04 50.7	0.0
HERR	Herculane	3.78	37	⇑P	Pn	07 04 51.9	+0.8
HERR				⇑S	Sn	07 05 35.7	+0.4
VIRC	Vir	3.85	309	ePn	Pn	07 04 51.7	-0.3
VIRC				Sn	Sn	07 05 36.7	-0.5
VLS	Valsamata	3.88	164	P	Pn	07 04 50.6	-1.9
ANX	Ano Chora	3.92	147	P	Pn	07 04 53.8	+0.7
PLIT	Plitvice	3.94	320	ePn	Pn	07 04 53.7	+0.3
PLIT				Sn	Sn	07 05 39.6	+0.1
PSDA	Pessada-Kefalo	3.94	164	P	Pn	07 04 51.9	-1.4
BZS	Buzias	4.09	25	⇓P	Pn	07 04 56.0	+0.7
BZS				⇓S	Sn	07 05 42.7	-0.4
KAVA	Kavala	4.10	101	P	Pn	07 04 56.9	+1.5
MOSL	Moslavina	4.10	335	ePn	Pn	07 04 55.6	+0.1
MOSL				Sn	Sn	07 05 42.0	-1.3
NVLJ	Novalja	4.12	311	ePn	Pn	07 04 55.5	-0.2
NVLJ				Sn	Sn	07 05 43.5	-0.3
KOVH	Kovagotottos	4.25	350	P	Pn	07 05 01.5	+4.1
RABC	Rab	4.29	313	ePn	Pn	07 04 57.2	-0.8
RABC				Sn	Sn	07 05 48.1	+0.2
GZR	Gura Zlata	4.34	36	⇑P	Pn	07 04 58.4	-0.4
GZR				⇑S	Sn	07 05 49.2	-0.1
A250A	Rusevo Krmpots	4.45	317	ePn	Pn	07 04 59.9	-0.4
A250A				Sn	Sn	07 05 50.7	-1.1
OZLJ	Ozalj	4.58	325	ePn	Pn	07 05 01.2	-0.9
OZLJ				Sn	Sn	07 05 54.7	-0.3
PTJ	Puntijarka	4.62	331	ePn	Pn	07 05 01.9	-0.8
PTJ				Sn	Sn	07 05 55.3	-1.0
CRES	Cresnjev	4.75	327	ePn	Pn	07 05 04.2	-0.2
CRES				eSn	Sn	07 06 01.0	+1.6
SMRN	Sveta Marina	4.82	312	ePn	Pn	07 05 05.0	-0.2
SMRN				Sn	Sn	07 05 59.2	-1.7
LOT	Lotru	4.84	42	⇑S	Sn	07 06 01.4	-0.4
BRJN	Brijuni	4.97	309	ePn	Pn	07 05 07.0	-0.4
BRJN				Sn	Sn	07 06 03.0	-1.6
CEY	Cerknica	5.15	320	ePn	Pn	07 05 10.1	+0.2
CEY				eSn	Sn	07 06 09.4	+0.2
CEY	Cerknica	5.15	320	iPn	Pn	07 05 10.6	+0.7
SKDS	Skadanscina	5.22	316	ePn	Pn	07 05 10.4	-0.5
SKDS				eSn	Sn	07 06 10.7	-0.3
ARR	Arges	5.24	47	⇑P	Pn	07 05 11.0	-0.2
MPLH	Magyarpolny	5.38	348	P	Pn	07 05 15.8	+2.6
JAVS	Javornik	5.44	319	iPn	Pn	07 05 13.9	0.0
DRGR		5.49	26	⇑P	Pn	07 05 15.1	+0.5
DRGR				⇑S	Sn	07 06 17.4	-0.1
VOIR		5.51	48	⇑P	Pn	07 05 15.7	+0.7
VOIR				⇑S	Sn	07 06 19.0	+0.8
SOKA	Soboth	5.62	329	iPn	Pn	07 05 17.0	+0.5
	comp=N,2.0nm,0.5s						
VOJS	Vojsko	5.62	319	ePn	Pn	07 05 16.4	0.0
OBKA	Obir	5.68	326	iPn	Pn	07 05 18.9	+1.6
	comp=N,1.3nm,0.3s						
OBKA				eSn	Sn	07 06 25.5	+3.2
	comp=N,7.1nm,0.5s						
OBKA	Obir	5.68	326	ePn	Pn	07 05 18.1	+0.9
OBKA				eSn	Sn	07 06 22.3	0.0
ARSA	Arzberg	5.94	335	ePn	Pn	07 05 21.5	+0.7
	comp=N,2.5nm,0.3s						
ARSA				iSn	Sn	07 06 28.8	0.0
	comp=N,2.1nm,0.5s						
PSZ	Piszkesteto	6.02	4	⇑P	Pn	07 05 23.1	+1.2
PSZ				⇓S	Sn	07 06 31.5	+0.7
PSZ	Piszkesteto	6.02	4	P	Pn	07 05 22.4	+0.4
MLR	Muntele Rosu	6.05	52	⇑P	Pn	07 05 22.8	+0.3
KECS	Kecovo	6.63	7	ePN	Pn	07 05 33.9	+3.7
KECS				eSN	Sn	07 06 46.3	+0.7
PLOR	Plostina	6.67	51	⇑P	Pn	07 05 31.7	+0.9
KOLL	Kolacno	6.69	355	eSN	Sn	07 06 47.0	0.0
VRI	Vrincioaia	6.72	51	⇑P	Pn	07 05 31.6	+0.1
ABTA	Abfaltersbach	6.80	317	iPn	Pn	07 05 32.1	-0.6
	comp=N,1.7nm,0.5s						
CRVS	Cervenica-Dubn	7.17	12	ePN	Pn	07 05 39.3	+1.7
WTTA	Wattenberg	7.59	317	iPn	Pn	07 05 44.5	+0.9
	comp=N,1.9nm,0.3s						
SQTA	Sankt Quirin	7.79	316	ePn	Pn	07 05 46.4	+0.2
	comp=N,1.5nm,0.3s						
MOTA	Moosalm	7.92	316	eSn	Sn	07 07 17.2	-0.4
	comp=N,1.7nm,0.4s						

UCR 02 07:32:56.9±1.2, 9°.21N×84°.35W, h21km±3km, MW3.7, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	Dominical	0.48	85	eP	Pb	07 33 06.6	0.0
EDDO				eS	Sb	07 33 14.4	+1.2
JACO	JACO, Garabito	0.55	325	eP	Pb	07 33 07.7	-0.2
LCR2	La Lucha 2	0.62	32	eP	Pb	07 33 08.6	-0.8
PEZE	Perez Zeledon,	0.68	75	eP	Pb	07 33 09.6	-0.6
RIMA	Rio Macho	0.73	41	eP	Pb	07 33 10.2	-0.8
LAFE	Finca La Fe, P	0.81	317	eP	Pb	07 33 11.9	-0.4
HDC	Heredia	0.82	16	eP	Pb	07 33 12.2	-0.4
SRA1	San Ramn	0.88	351	eP	Pb	07 33 12.8	-0.7
CAO2	Cobano, Puntar	0.89	302	eP	Pb	07 33 12.4	-1.3
EDPN	Palmar Norte	0.91	106	⇑iP	Pb	07 33 13.6	-0.5
SRBA	San Rafael, Bu	0.97	89	eP	Pb	07 33 14.5	-0.7
EDBA	Buenos Aires	1.06	92	eP	Pn	07 33 15.3	-1.2
JTS	Las Juntas de	1.23	331	eP	Pn	07 33 17.9	-1.0
CASO	Castillo	1.27	343	iP	Pn	07 33 19.9	+0.4
ARE1	Arenal 1	1.30	344	eP	Pn	07 33 20.0	+0.2
EDSV	San Vito	1.41	106	eP	Pn	07 33 21.2	-0.2
CUI	Cuipilapa	1.65	331	iP	Pn	07 33 24.8	+0.2
COLC	Colonia	1.67	330	iP	Pn	07 33 25.0	0.0
COLC				iS	Sn	07 33 46.6	+0.7
GUAB	Guayabo de Bag	1.72	330	iP	Pn	07 33 25.9	+0.2
GUAB				iS	Sn	07 33 47.7	+0.6
LIM1	Limonal	1.73	329	iP	Pn	07 33 25.8	+0.1

IDC 02 07:49:10.2±1.0, 56°.82N×158°.06W, h0km, mb3.6/10, mb1 3.9/13, mb1mx3.7/38, mbtmp3.6/13, ML3.6/3, Error ellipse: s-maj=24.1km s-min=14.7km az=0.0
AEIC 02 07:49:12±1.3, 57°.01N±0°.04×157°.83W±0°.08, h11km±5km, ML3.6, ML3.8/28(NEIC), Error ellipse: s-maj=7.0km s-min=4.8km az=122.0
NEIC 02 07:49:12.0±1.1, 57°.03N±0°.03×157°.89W±0°.07, h8km±5km, Error ellipse: s-maj=6.7km s-min=0.8km az=129.0
ISC 02 07:49:12.4±1.2, 57°.03N±0°.04×157°.88W±0°.04, h13km±8km, n105, σ0s.69/107, mb3.6/10, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.19	252		Pg	07 49 17.3	+0.5
ANPB	Aniakchak Plen	0.31	225		Pg	07 49 18.6	-0.3
CHGN	Chignik	0.78	202		Pg	07 49 26.7	-0.9
CHGN					Sb	07 49 37.5	-0.9
CHGN	Chignik	0.78	202	IAML		07 49 42.0	
	comp=E,2µm,0.5s						
CHGN	Chignik	0.78	202	P	Pg	07 49 26.7	-0.9
	baz=24						
CHGN				S	Sb	07 49 37.5	-0.9
	baz=24						
PLBL	Peulik Blue Cr	0.89	40		Pg	07 49 28.9	-0.6
PLK1	Peulik 1	1.04	41		Pg	07 49 31.8	-0.7
VNHG	Veniaminof 1	1.07	222		Pg	07 49 31.9	-1.2
PLK3	Peulik 3	1.10	52		Pg	07 49 32.1	-1.5
PLK3					Sn	07 49 49.0	+0.3
PLK5	Peulik 5	1.12	29		Pg	07 49 33.4	-0.5
PLK2	Peulik 2	1.12	48		Pg	07 49 33.5	-0.6
VNFG	Fog Glacier, M	1.18	232		Pb	07 49 34.5	-0.3
VNFG	Fog Glacier, M	1.18	232	P	Pb	07 49 34.5	-0.3
	baz=52						
KJL	Kejulik	1.62	49		Pn	07 49 40.9	+0.1
CAHL	Cahill	1.73	52		Pn	07 49 42.1	-0.2
CHIR	Chirikof Islan	1.74	133		Pn	07 49 42.2	-0.2
CHIR					Sb	07 50 05.6	-0.4
CHIR	Chirikof Islan	1.74	133	IAML		07 50 12.4	
	comp=E,2µm,0.7s						
CHIR	Chirikof Islan	1.74	133	P	Pn	07 49 42.2	-0.2
	baz=315						
CHIR				S	Sb	07 50 05.6	-0.4
	baz=315						
SII	Sitkinak Islan	2.09	101		Pn	07 49 47.4	+0.3
SII	Sitkinak Islan	2.09	101	IAML		07 50 23.5	
	comp=N,1µm,0.7s						
SII				IAML		07 50 27.2	
	comp=E,1µm,0.9s						
SII	Sitkinak Islan	2.09	101	P	Pn	07 49 47.4	+0.3
	baz=284						
SDPT	Sand Point	2.22	222		Pn	07 49 49.6	+0.7
SDPT	Sand Point	2.22	222	IAML		07 50 25.0	
	comp=E,744nm,1.1s						
SDPT				IAML		07 50 25.3	
	comp=N,571nm,1.6s						
SDPT	Sand Point	2.22	222	P	Pn	07 49 49.7	+0.7
	baz=40						
OHAK	Old Harbor	2.51	84		Pn	07 49 52.8	-0.1
OHAK					Sn	07 50 23.5	0.0
OHAK	Old Harbor	2.51	84	P	Pn	07 49 52.8	-0.1
	baz=267						
OHAK				S	Sn	07 50 23.5	0.0
	baz=267						
BLHA	Black Hill	2.68	242		Pn	07 49 55.8	+0.5
BLHA	Black Hill	2.68	242	P	Pn	07 49 55.8	+0.5
	baz=59						
P18K	Big Mountain,	2.76	29		Pn	07 49 56.0	-0.4
P18K	Big Mountain,	2.76	29	IAML		07 50 37.7	
	comp=E,255nm,0.6s						
P18K	Big Mountain,	2.76	29	P	Pn	07 49 56.0	-0.4
	baz=211						
Q19K	Cape Douglas,	2.96	48		Pn	07 49 59.5	+0.3
Q19K	Cape Douglas,	2.96	48	P	Pn	07 49 59.5	+0.3
	baz=231						
KDAK	Kodiak Island	2.97	73	Pn	Pn	07 49 59.2	0.0
	comp=E,24nm,0.3s,baz=269,slow=7.0,SNR=102						
KDAK				Sn	Sn	07 50 35.5	+0.9
	comp=E,3.8nm,0.3s,baz=54,slow=19,SNR=1.6						
KDAK	Kodiak Island	2.97	73		Pn	07 49 59.4	+0.2
O19K	Port Alsworth	3.69	29		Pn	07 50 08.6	-0.4
O19K	Port Alsworth	3.69	29	P	Pn	07 50 08.6	-0.4
	baz=211						
IVE	Iliamna Volcan	3.94	38		Pn	07 50 12.2	-0.4
O20K	Slope Mountain	4.12	40		Pn	07 50 15.3	+0.2
O20K	Slope Mountain	4.12	40	P	Pn	07 50 15.3	+0.2
	baz=224						
N19K	Bonanza Creek	4.19	23		Pn	07 50 15.8	-0.2
N19K	Bonanza Creek	4.19	23	IAML		07 51 26.5	
	comp=E,158nm,0.7s						
N19K				IAML		07 51 35.7	
	comp=N,114nm,1.0s						
N19K	Bonanza Creek	4.19	23	P	Pn	07 50 15.8	-0.2
	baz=206						
SVW2	Sparrevohn	4.25	15		Pn	07 50 16.9	-0.1
SVW2	Sparrevohn	4.25	15	IAML		07 51 30.2	
	comp=E,117nm,0.8s						
CNPM	China Poot	4.31	52		Pn	07 50 18.0	+0.3
RED	Redoubt Volcan	4.32	36		Pn	07 50 17.6	-0.3
RDWB	Redoubt West	4.35	35		Pn	07 50 18.1	-0.3
RSO	Redoubt South	4.36	36		Pn	07 50 18.0	-0.6
DFR	Drift River	4.48	35		Pn	07 50 20.2	+0.1
M19K	Big River Lodg	5.21	19		Pn	07 50 29.5	-0.5
M19K				IAML		07 52 14.5	
	comp=N,66nm,1.0s						
SEW	Seward	5.38	52	Pn	Pn	07 50 33.9	+1.6
L19K	White Mountain	5.40	15		Pn	07 50 33.0	+0.4
L19K	White Mountain	5.40	15	P	Pn	07 50 33.0	+0.4
	baz=198						
M20K	Styx River	5.44	24		Pn	07 50 34.1	+0.8
M20K	Styx River	5.44	24	P	Pn	07 50 34.1	+0.8
	baz=208						
STLK	Strandline Lak	5.45	32		Pn	07 50 34.1	+0.7
L20K	Farewell, AK	5.83	19		Pn	07 50 39.2	+0.6
L20K	Farewell, AK	5.83	19	P	Pn	07 50 39.2	+0.6
	baz=202						
UNV	Unalaska Valle	5.85	241	Pn	Pn	07 50 40.1	+1.3
TT01	Tatalina	5.97	8		Pn	07 50 40.0	-0.5
TTA	Tatalina	6.00	8		Pn	07 50 40.1	-0.8
TTA	Tatalina	6.00	8	P	Pn	07 50 40.1	-0.8
	baz=190						
M22K	Willow	6.18	37	Pn	Pn	07 50 45.4	+2.1
PWL	Port Wells	6.26	48	Pn	Pn	07 50 46.1	+1.7
PMR	Palmer	6.40	41	Pn	Pn	07 50 46.3	0.0
PPLA	Purkeypile	6.54	23	Pn	Pn	07 50 48.9	+0.5
K20K	Telida	6.63	15	Pn	Pn	07 50 48.5	-1.0
SPIA	Saint Paul Isl	6.74	276	Pn	Pn	07 50 51.3	+0.3
CAST	Castle Rocks	7.03	22	Pn	Pn	07 50 54.5	-0.5
SCM	Sheep Creek Mo	7.22	44	Pn	Pn	07 50 57.8	+0.1
EYAK	Cordova Ski Ar	7.22	56	Pn	Pn	07 50 57.9	+0.3
KTH	Kantishna Hill	7.40	25	Pn	Pn	07 51 00.6	+0.4
J20K	Nowinta River	7.41	13	Pn	Pn	07 51 00.7	+0.6
CHUM	Lake Minchumin	7.41	19		Pn	07 51 00.5	+0.4
CHUM	Lake Minchumin	7.41	19	P	Pn	07 51 00.5	+0.4
	baz=204						
RAGM	Ragged Mountai	7.66	58	Pn	Pn	07 51 04.2	+0.6
ANM	Nome	8.40	337		Pn	07 51 13.9	+0.2
ANM	Nome	8.40	337	P	Pn	07 51 13.9	+0.2
	baz=151						
I21K	Tanana	8.66	17		Pn	07 51 17.0	-0.3
MLY	Manley	8.74	20	Pn	Pn	07 51 17.5	-0.9
WRH	Wood River Hil	8.86	29	Pn	Pn	07 51 19.6	-0.5
KIAG	Kiagna River	8.91	58		Pn	07 51 20.6	-0.3
H21K	Melozitna Rive	8.99	14		Pn	07 51 21.1	-0.8
H21K	Melozitna Rive	8.99	14	P	Pn	07 51 21.1	-0.8
	baz=198						
CCB	Clear Creek Bu	9.08	29		Pn	07 51 23.8	+0.8
IMAR	Indian Mountai	9.20	11	Pn	Pn	07 51 23.6	-1.1
MDM	Murphy Dome	9.22	26	Pn	Pn	07 51 25.1	+0.1
RIDG	Independent Ri	9.31	38	Pn	Pn	07 51 27.3	+1.1
TABL	Table Mountain	9.35	62	Pn	Pn	07 51 26.8	-0.1
ILAR	Eielson Array	9.42	30	Pn	Pn	07 51 25.9	-1.9
	comp=N,0.2nm,0.3s,baz=218,slow=14,SNR=16						
J25K	Salcha River,	9.74	34		Pn	07 51 31.9	-0.3
J25K	Salcha River,	9.74	34	P	Pn	07 51 31.9	-0.3
	baz=224						
H24K	Noodor Dome	10.04	24	Pn	Pn	07 51 36.1	-0.1
DLBC	Dease Lake	14.90	73	Pn	Pn	07 52 44.0	+1.3
	comp=N,0.1nm,0.3s,baz=290,slow=9.7,SNR=3.1						
YKA	Yellowknife Ar	22.12	58	P	P	07 54 07.0	-0.4
	comp=N,1.5nm,0.7s,baz=277,slow=10,SNR=21						
YKA				PcP	PcP	07 58 03.6	-0.3
	comp=N,0.5nm,0.5s,baz=274,slow=1.9,SNR=12						
SEY	Seymchan	25.02	304	P	P	07 54 35.5	-0.3
	comp=N,0.8nm,0.5s,baz=115,slow=9.3,SNR=7.0						
PETK	Petropavlovsk-	25.39	280	P	P	07 54 39.1	0.0
	comp=N,1.6nm,0.7s,baz=82,slow=10,SNR=6.1						
NVAR	Mina Array Bea	31.87	109	P	P	07 55 38.8	+1.5
	comp=N,0.9nm,0.7s,baz=295,slow=9.2,SNR=9.8						
PDAR	Pinedale Array	33.47	94	P	P	07 55 51.5	+0.2
	comp=N,0.3nm,0.5s,baz=328,slow=3.2,SNR=2.8						
TXAR	Lajitas Array	46.59	103	P	P	07 57 40.3	+0.2
	comp=N,0.5nm,0.8s,baz=277,slow=7.1,SNR=3.8						
SONM	Songino Array	54.41	304	P	P	07 58 39.5	+0.4
	comp=N,0.5nm,0.6s,baz=46,slow=6.0,SNR=3.7						
MKAR	Makanchi Array	65.07	319	P	P	07 59 52.9	+0.6
	comp=N,0.2nm,0.5s,baz=23,slow=7.8,SNR=2.0						
ESDC	Sonseca Array	81.18	20	P	P	08 01 27.0	-0.6
	comp=N,0.3nm,0.5s,baz=344,slow=5.3,SNR=2.0						
BRTR	Keskin Array B	83.12	351	P	P	08 01 36.9	-1.1
	comp=N,0.3nm,0.4s,baz=9.2,slow=5.7,SNR=1.8						

IDC 02 07:51:48.5±3.6, 56°.09N×157°.19W, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/42, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=73.6km s-min=27.3km az=162.0
AEIC 02 07:51:53±1.3, 57°.13N±0°.04×157°.67W±0°.08, h5km±7km, ML3.6, ML3.7/28(NEIC), Error ellipse: s-maj=8.5km s-min=1.0km az=128.0
NEIC 02 07:51:53.2±1.3, 57°.14N±0°.04×157°.70W±0°.09, h3km±11km, Error ellipse: s-maj=8.5km s-min=2.7km az=129.0
ISC 02 07:51:53.7±0.8, 57°.13N±0°.04×157°.69W±0°.04, h10km, n57, σ0s.78/54, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANPB	Aniakchak Plen	0.46	225		Pb	07 52 02.9	-1.0
PLBL	Peulik Blue Cr	0.74	39		Pg	07 52 07.4	-0.6
PLK1	Peulik 1	0.89	40		Pg	07 52 10.2	-0.7
CHGN	Chignik	0.92	206		Pg	07 52 10.5	-0.9
CHGN	Chignik	0.92	206	P	Pg	07 52 10.5	-0.9
	baz=26						
CHGN				S	Sb	07 52 24.3	+0.4
	baz=26						
PLK3	Peulik 3	0.95	53		Pg	07 52 11.1	-0.9
PLK2	Peulik 2	0.97	48		Pg	07 52 11.8	-0.7
PLK5	Peulik 5	0.98	26		Pg	07 52 11.9	-0.5
VNHG	Veniaminof 1	1.22	223		Pg	07 52 16.6	-0.5
VNFG	Fog Glacier, M	1.33	231		Pg	07 52 19.0	-0.2
VNFG	Fog Glacier, M	1.33	231	P	Pg	07 52 19.0	-0.2
	baz=50						
KJL	Kejulik	1.47	50		Pg	07 52 21.5	-0.4

CAHL	Cahill	1.58	53		Pb	07 52 22.5	-0.6
ANCK	Angle Creek	1.59	47		Pn	07 52 22.1	+0.1
CHIR	Chirikof Islan	1.74	138		Pn	07 52 24.4	+0.5
CHIR	Chirikof Islan	1.74	138	IAML		07 52 55.6	
	comp=N,834nm,0.6s						
CHIR	Chirikof Islan	1.74	138	P	Pn	07 52 24.4	+0.5
	baz=320						
CHIR				S	Sb	07 52 47.2	-0.4
	baz=320						
SII	Sitkinak Islan	2.01	105		Pn	07 52 28.5	+0.9
SII	Sitkinak Islan	2.01	105	P	Pn	07 52 28.5	+0.9
	baz=288						
SII				S	Sb	07 52 56.1	+0.8
	baz=288						
SDPT	Sand Point	2.37	222		Pn	07 52 33.0	+0.5
SDPT	Sand Point	2.37	222	IAML		07 53 10.2	
	comp=E,347nm,1.2s						
SDPT				IAML		07 53 15.0	
	comp=N,312nm,1.4s						
SDPT	Sand Point	2.37	222	P	Pn	07 52 33.0	+0.5
	baz=40						
OHAK	Old Harbor	2.40	86		Pn	07 52 32.7	-0.2
OHAK	Old Harbor	2.40	86	IAML		07 53 10.1	
	comp=N,396nm,0.8s						
OHAK				IAML		07 53 10.3	
	comp=E,425nm,0.7s						
OHAK	Old Harbor	2.40	86	P	Pn	07 52 32.7	-0.2
	baz=270						
P18K	Big Mountain,	2.62	29		Pn	07 52 35.2	-0.9
P18K	Big Mountain,	2.62	29	IAML		07 53 16.8	
	comp=E,386nm,0.7s						
P18K	Big Mountain,	2.62	29	P	Pn	07 52 35.2	-0.9
	baz=210						
Q19K	Cape Douglas,	2.81	48		Pn	07 52 37.6	-1.0
Q19K				IAML		07 53 36.1	
	comp=N,464nm,1.1s						
BLHA	Black Hill	2.82	241		Pn	07 52 39.5	+0.7
BLHA	Black Hill	2.82	241	P	Pn	07 52 39.5	+0.7
	baz=58						
KDAK	Kodiak Island	2.83	74	Pn	Pn	07 52 38.4	-0.6
	comp=N,2.7nm,0.3s,baz=249,slow=6.1,SNR=4.0						
KDAK				Sn	Sn	07 53 12.7	-0.4
	comp=N,6.3nm,0.3s,baz=314,slow=18,SNR=2.0						
KDAK	Kodiak Island	2.83	74		Pn	07 52 39.5	+0.5
KDAK	Kodiak Island	2.83	74	IAML		07 53 31.4	
	comp=N,191nm,0.9s						
KDAK				IAML		07 53 32.7	
	comp=N,213nm,1.1s						
KDAK	Kodiak Island	2.83	74	P	Pn	07 52 39.5	+0.5
	baz=259						
P19K	Oil Pt	3.45	41	Pn	Pn	07 52 46.9	-0.6
P19K				IAML		07 53 49.9	
	comp=E,286nm,0.6s						
O19K	Port Alsworth	3.54	28		Pn	07 52 47.9	-0.8
O19K	Port Alsworth	3.54	28	P	Pn	07 52 47.9	-0.8
	baz=211						
N19K	Bonanza Creek	4.05	23		Pn	07 52 55.8	0.0
N19K	Bonanza Creek	4.05	23	IAML		07 54 05.4	
	comp=E,123nm,0.7s						
N19K				IAML		07 54 20.6	
	comp=N,114nm,1.0s						
N19K	Bonanza Creek	4.05	23	P	Pn	07 52 55.8	0.0
	baz=205						
CNPM	China Poot	4.17	52	Pn	Pn	07 52 57.8	+0.5
RED	Redoubt Volcan	4.18	36		Pn	07 52 57.5	0.0
RDWB	Redoubt West	4.21	35		Pn	07 52 57.7	-0.3
BRLK	Bradley Lake	4.45	51	Pn	Pn	07 53 01.9	+0.7
L19K	White Mountain	5.27	15		Pn	07 53 11.9	-0.5
L19K	White Mountain	5.27	15	IAML		07 54 49.1	
	comp=E,80nm,1.1s						
L19K	White Mountain	5.27	15	P	Pn	07 53 11.9	-0.5
	baz=197						
GHO	Glory Hole Cre	6.45	40	Pn	Pn	07 53 28.7	0.0
KLU	Klutina	7.44	49	Pn	Pn	07 53 42.0	-0.2
ANM	Nome	8.35	337	Pn	Pn	07 53 53.8	-0.7
ISLE	Juniper Island	8.68	60	Pn	Pn	07 54 00.7	+1.4
IL31		9.28	30	Pn	Pn	07 54 08.3	+1.0
ILAR	Eielson Array	9.28	30	Pn	Pn	07 54 07.7	+0.3
	comp=E,0.2nm,0.3s,baz=211,slow=12,SNR=6.3						
J25K	Salcha River,	9.60	33	Pn	Pn	07 54 13.9	+2.1
YKA	Yellowknife Ar	21.98	58	P	P	07 56 46.6	-0.8
	comp=E,1.1nm,0.7s,baz=273,slow=10,SNR=10						
SONM	Songino Array	54.44	305	P	P	08 01 23.3	+2.3
	comp=E,0.8nm,0.7s,baz=42,slow=8.3,SNR=4.0						

*CNRM **02** 08:05:00.9, 36°.36N×4°.66W, h82km, ml2.1*
*MDD **02** 08:05:02.5±0.4, 36°.52N×4°.53W, h67km±4km, Mb3.4/43, M_mb2.6/46, Error ellipse: s-maj=3.4km s-min=1.9km az=169.0*
*INMG **02** 08:05:02.7±1.5, 36°.56N×4°.55W, h60km±5km, ML2.4, Error ellipse: s-maj=3.2km s-min=3.0km az=8.0*
*IGIL **02** 08:05:02.9, 36°.56N×4°.58W, h25km, ML2.5*
*SFS **02** 08:05:02.0, 36°.51N×4°.53W, h67km, ML2.6, FUENGIROLA (MALAGA)*
ISC 02 08:05:00.1±1.2, **36°.51N**±0°.03×**4°.51W**±0°.02, **h78**km±7km, **n70**, σ1s78/130, **27C**, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.22	284	P	Pn	08 05 11.9	0.0
EMIJ				S	Sn	08 05 19.0	-1.4
EMAL	Malaga-Limoner	0.26	14	P	Pn	08 05 12.3	+0.4
EMAL				S	Sn	08 05 18.0	-2.7
EGOR	Sierra Gorda,	0.68	28	P	Pn	08 05 16.8	+1.3
EGOR				⇑iVmb_V		08 05 20.3	
	329nm,SNR=2.6						
EGOR				S	Sn	08 05 28.7	+1.7
ELGU	Los Guajares,	0.79	63	P	Pn	08 05 17.0	+0.3
ELGU				⇑iVmb_V		08 05 20.6	
	1μm,SNR=11						
ELGU				S	Sn	08 05 28.5	-0.6
ECEU	Ceuta	0.93	229	P	Pn	08 05 20.8	+2.5
ECEU				⇑iVmb_V		08 05 23.2	
	498nm,SNR=2.0						
ECEU				S	Sn	08 05 32.6	+0.8
SMIR	Smir Dam	1.09	221	P	Pn	08 05 20.4	+0.2
SMIR				S	Sn	08 05 33.0	-2.2
EQUE	Quentar	1.10	51	P	Pn	08 05 22.0	+1.7
EQUE				S	Sn	08 05 37.5	+1.9
ESPR	Espera	1.14	289	P	Pn	08 05 22.6	+1.9
ESPR				S	Sn	08 05 38.2	+1.9
EALB	Alboran	1.32	115	P	Pn	08 05 23.7	+0.8
EALB				⇑iVmb_V		08 05 26.5	
	258nm,SNR=0.4						
EALB				S	Sn	08 05 40.0	-0.2
EBER	Berja	1.35	73	P	Pn	08 05 24.9	+1.3
EBER				⇑iVmb_V		08 05 28.0	
	168nm,SNR=1.2						
EBER				S	Sn	08 05 41.9	+0.6
PALE	Palemas	1.37	160	P	Pn	08 05 24.2	+0.5
PALE				S	Sn	08 05 40.8	-0.7
CHEFC	Chefchaouen	1.56	206	P	Pn	08 05 27.7	+1.5
EADA	Adamuz	1.65	358	P	Pn	08 05 28.5	+1.1
EADA				⇑iVmb_V		08 05 31.4	
	235nm,SNR=2.7						
EADA				S	Sn	08 05 48.3	+0.2
ECAB	El Cabril	1.72	335	P	Pn	08 05 29.0	+0.7
ECAB				⇑iVmb_V		08 05 29.6	
	134nm,SNR=2.4						
ECAB				S	Sn	08 05 48.5	-1.2
ENIJ	Nijar	1.90	75	P	Pn	08 05 32.3	+1.7
ENIJ				⇑iVmb_V		08 05 35.3	
	177nm,SNR=1.1						
EMIN	Mina Concepcio	2.14	307	P	Pn	08 05 34.6	+0.8
EMIN				⇑iVmb_V		08 05 35.3	
	367nm,SNR=4.8						
EMIN				S	Sn	08 05 58.7	-0.8
TAF	Taforalt	2.40	134	P	Pn	08 05 38.9	+1.4
TAF				S	Sn	08 06 04.2	-1.8
EGRO	El Granado	2.59	294	P	Pn	08 05 41.0	+1.2
EGRO				⇑iVmb_V		08 05 42.7	
	290nm,SNR=3.0						
EGRO				S	Sn	08 06 09.3	-1.1
PBAR	Barrancos	2.61	310	eP	Pn	08 05 41.3	+1.1
PBAR				eS	Sn	08 06 09.9	-1.0
PBAR				A	A	08 06 12.3	
	9.9nm,0.4s						
JBK	JBK	2.69	143	P	Pn	08 05 42.1	+0.7
JBK				S	Sn	08 06 12.8	-0.3
PVAQ	Vaqueiros	2.72	290	⇑eP	Pn	08 05 42.6	+1.0
PVAQ				eS	Sn	08 06 12.0	-1.6
PVAQ				A	A	08 06 13.6	
	8.2nm,0.3s						
PVAQ	Vaqueiros	2.72	290	P	Pn	08 05 42.4	+0.8
PVAQ				S	Sn	08 06 13.7	+0.1
PBDV	Barranco-do-Ve	2.84	286	eP	Pn	08 05 44.8	+1.5
PBDV				eS	Sn	08 06 16.4	-0.1
PBDV				A	A	08 06 19.2	
	4.4nm,0.2s						
EBAD	Badajoz	3.00	319	P	Pn	08 05 46.6	+1.3
EBAD				⇑iVmb_V		08 05 47.4	
	343nm,SNR=3.8						
EBAD				S	Sn	08 06 19.0	-1.2
PAB	San Pablo	3.03	2	P	Pn	08 05 47.5	+1.6
PAB				⇑iVmb_V		08 05 48.7	
	98nm,SNR=1.5						
PAB				S	Sn	08 06 19.3	-1.9
PAB	San Pablo	3.03	2	P	Pn	08 05 47.5	+1.6
PCVE	Castro Verde	3.04	293	eP	Pn	08 05 47.0	+1.1
PCVE				eS	Sn	08 06 19.8	-1.5
PCVE				A	A	08 06 25.2	
	3.6nm,0.6s						
PBEJ	Beja	3.08	300	eP	Pn	08 05 48.0	+1.5
PBEJ				eS	Sn	08 06 21.4	-0.8
PBEJ				A	A	08 06 23.5	
	3.8nm,0.3s						
ETOB	Tobarra	3.17	47	P	Pn	08 05 48.7	+0.9
ETOB				⇑iVmb_V		08 05 49.0	
	210nm,SNR=1.6						
ETOB				S	Sn	08 06 22.1	-2.5
ESDC	Sonseca Array	3.19	8	P	Pn	08 05 49.8	+1.8
ESDC				⇑iVmb_V		08 05 50.4	
	89nm,SNR=1.6						
ESDC				S	Sn	08 06 22.9	-2.0
PESTR	Estremoz	3.39	315	eP	Pn	08 05 52.4	+1.6
PESTR				eS	Sn	08 06 28.2	-1.7
PESTR				A	A	08 06 31.1	
	4.2nm,0.2s						
PESTR	Estremoz	3.39	315	P	Pn	08 05 52.6	+1.9
PESTR				S	Sn	08 06 29.1	-0.8
MORF	Marmelete	3.42	285	eP	Pn	08 05 52.3	+1.2
MORF				eS	Sn	08 06 28.4	-2.1
MORF				IAML		08 06 33.2	
	comp=N,14nm,0.3s						
MORF	Marmelete	3.42	285	eP	Pn	08 05 52.6	+1.5
MORF				eS	Sn	08 06 29.9	-0.6
MORF				A	A	08 06 33.2	
	comp=N,8.5nm,0.1s						
EVO	Evora	3.44	307	P	Pn	08 05 52.9	+1.5
EVO				S	Sn	08 06 27.4	-3.6
EVO	Evora	3.44	307	eP	Pn	08 05 52.8	+1.5
EVO				eS	Sn	08 06 29.6	-1.4
EVO				A	A	08 06 31.3	
	comp=N,10nm,0.2s						
CZD	Col de Zad	3.50	187	P	Pn	08 05 53.5	+1.0
CZD				S	Sn	08 06 26.1	-6.8
PFVI	Vila Bisbo	3.52	281	eP	Pn	08 05 54.0	+1.5
PFVI				eS	Sn	08 06 31.7	-1.3
PFVI				A	A	08 06 35.4	
	comp=N,6.0nm,0.1s						
PFVI	Vila Bisbo	3.52	281	P	Pn	08 05 53.8	+1.3
ZHG	ZHG	3.53	210	P	Pn	08 05 52.8	+0.1
ZHG				S	Sn	08 06 31.0	-2.2
PTEO	Sao Teotonio	3.53	288	eP	Pn	08 05 55.2	+2.6
PTEO				eS	Sn	08 06 33.2	0.0
PTEO				A	A	08 06 46.7	
	comp=N,6.0nm,0.5s						
PNCL	Nicolau / Gran	3.58	298	eP	Pn	08 05 54.7	+1.4
PNCL				eS	Sn	08 06 32.7	-1.8
PNCL				A	A	08 06 34.3	
	comp=N,3.8nm,0.3s						
MD31	MD31	3.64	183	P	Pn	08 05 56.2	+1.9
MD31				S	Sn	08 06 35.0	-1.1
PMRV	Marv??o	3.70	323	eP	Pn	08 05 56.4	+1.5
PMRV				eS	Sn	08 06 35.4	-1.9
PMRV				A	A	08 06 49.4	
	comp=N,5.8nm,0.3s						
EPLA	Plasencia	3.76	341	P	Pn	08 05 58.1	+2.4
EPLA				⇑iVmb_V		08 05 58.5	
	comp=N,235nm,SNR=2.2						
EPLA				S	Sn	08 06 37.4	-1.3
AFON	Font Roja	3.81	54	P	Pn	08 05 58.0	+1.5
AFON				⇑iVmb_V		08 05 58.6	
	comp=N,92nm,SNR=0.6						
AFON				S	Sn	08 06 41.3	+1.1
EVIV	Cofrentes, Val	3.84	43	P	Pn	08 05 57.8	+1.0
PMTG	Montargil	3.90	312	eP	Pn	08 05 59.2	+1.6
PMTG				eS	Sn	08 06 40.3	-1.9
PMTG				A	A	08 06 42.3	
	comp=N,4.0nm,0.2s						
PCBR	Castelo Branco	4.07	326	eP	Pn	08 06 01.5	+1.6
PCBR				eS	Sn	08 06 43.7	-2.5
PCBR				A	A	08 06 46.5	
	comp=N,4.0nm,0.6s						
PACT	Alcochete	4.11	305	eP	Pn	08 06 02.6	+2.2
PACT				eS	Sn	08 06 47.3	+0.1
GUD	Guadarrama	4.13	4	P	Pn	08 06 02.3	+1.3
GUD				⇑iVmb_V		08 06 03.2	
	comp=N,62nm,SNR=0.9						
GUD				S	Sn	08 06 45.2	-2.9
ECHE	Chera	4.15	41	P	Pn	08 06 02.7	+1.6
ECHE				⇑iVmb_V		08 06 03.7	
	comp=N,102nm,SNR=0.7						
PMAFR	Mafra	4.50	304	eS	Sn	08 06 55.9	-1.1
PSBE	So Bento	4.52	313	eP	Pn	08 06 08.3	+2.2
PSBE				eS	Sn	08 06 55.5	-2.0
PSBE				A	A	08 07 00.4	
	comp=N,12nm,0.5s						
MTE	Manteigas	4.56	329	eS	Sn	08 06 58.2	-0.1
ETOR	Torete	4.71	23	P	Pn	08 06 09.9	+1.2
ETOR				⇑iVmb_V		08 06 10.8	
	comp=N,72nm,SNR=0.7						
ETOR				S	Sn	08 06 59.4	-2.7
PCAS	Casmilo, Conde	4.73	320	eP	Pn	08 06 11.1	+2.2
PCAS				eS	Sn	08 07 01.5	-1.0
PCAS				A	A	08 07 04.6	
	comp=N,5.0nm,0.4s						
PVIS	Viseu	4.97	329	eP	Pn	08 06 14.3	+2.1
PVIS				eS	Sn	08 07 07.7	-0.6
PVIS				A	A	08 07 10.2	
	comp=N,6.4nm,0.1s						
EMOS	Mosqueruela	4.98	38	P	Pn	08 06 14.1	+1.5
EMOS				⇑iVmb_V		08 06 15.6	
	comp=N,47nm,SNR=0.4						
EMOS				S	Sn	08 07 06.3	-2.6
MVO	Moncorvo	5.05	338	eP	Pn	08 06 15.0	+1.7
MVO				eS	Sn	08 07 07.4	-2.9
MVO				A	A	08 07 11.1	
	comp=N,3.8nm,0.3s						
POLO	Lamas de Olo	5.49	333	eP	Pn	08 06 21.0	+1.6
POLO				eS	Sn	08 07 19.7	-1.5
POLO				A	A	08 07 22.4	
	comp=N,1.4nm,0.4s						
PBRG	Braganca	5.56	342	eP	Pn	08 06 22.3	+2.0
PBRG				eS	Sn	08 07 20.8	-2.1
ELOB	Lobios	6.02	334	P	Pn	08 06 28.2	+1.6
ELOB				⇑iVmb_V		08 06 30.4	
	comp=N,210nm,SNR=0.9						
ELOB				S	Sn	08 07 32.2	-1.9
PGAV	Gavieira, Arco	6.18	333	eP	Pn	08 06 30.6	+1.8
PGAV				eS	Sn	08 07 37.3	-0.7
ETOS	Mallorca	6.62	58	P	Pn	08 06 36.3	+1.5
ETOS				⇑iVmb_V		08 06 37.5	
	comp=N,420nm,SNR=0.7						
ELAN	Lanestosa	6.76	7	P	Pn	08 06 38.8	+2.1
ELAN				⇑iVmb_V		08 06 40.2	
	comp=N,70nm,SNR=0.5						
ELAN				S	Sn	08 07 48.6	-3.6
TTIG	Tnine Tigouga,	6.80	210	P	Pn	08 06 35.4	-1.9
EARI	Arriondas	6.80	356	P	Pn	08 06 39.8	+2.5
EARI				⇑iVmb_V		08 06 42.0	
	comp=N,183nm,SNR=0.7						
EARI				S	Sn	08 07 50.3	-2.9
EORO	Oroz-Betelu	6.83	20	P	Pn	08 06 39.8	+2.1
EORO				⇑iVmb_V		08 06 41.7	
	comp=N,51nm,SNR=0.5						
EORO				S	Sn	08 07 51.9	-2.0
EALK	Alkurruntz	7.08	18	P	Pn	08 06 43.9	+2.7
EALK				⇑iVmb_V		08 06 45.7	
	comp=N,170nm,SNR=0.6						
EALK				S	Sn	08 07 57.8	-2.3

*IDC **02** 08:42:15.0±4.4, 1°.24N×128°.02E, h127km±47km, mb3.5/5, mb1 3.5/7, mb1mx3.1/52, mbtmp3.8/7, Error ellipse: s-maj=54.1km s-min=16.7km az=79.0*
ISC 02 08:42:16.7±1.0, **1°.2N**±0°.1×**128°.1E**±0°.2, **h150**km, **n7**, σ1s25/8, **mb3.8**/5, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.75	123	P	Pn	08 43 12.9	-0.8
	7.8nm,0.3s,baz=323,slow=10,SNR=8.3						
SIJI				S	Sn	08 43 58.0	0.0
	0.6nm,0.3s,baz=15,slow=20,SNR=1.0						
FITZ	Fitzroy Crossi	19.30	187	P	Pn	08 46 31.0	-1.9
	0.1nm,0.3s,baz=15,slow=12,SNR=1.5						
WRA	Warramunga Arr	21.85	164	P	P	08 46 58.1	+0.5
	1.8nm,0.5s,baz=342,slow=10,SNR=25						
ASAR	Alice Springs	25.32	168	P	P	08 47 30.8	+1.0
	1.1nm,0.6s,baz=351,slow=7.4,SNR=23						
STKA	Stephens Creek	35.27	160	P	P	08 48 58.6	+1.5
	1.3nm,0.4s,baz=332,slow=8.1,SNR=6.1						
KSRS	Korea Array	36.10	360	P	P	08 49 04.1	-0.1
	0.5nm,0.4s,baz=176,slow=10,SNR=2.2						
MKAR	Makanchi Array	60.43	325	P	P	08 52 10.4	-0.1
	0.6nm,0.3s,baz=109,slow=7.6,SNR=13						

IDC 02 08:42:57.0±26.0, **20°.14S**×**68°.07E**, **h0**km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.1**/49, **mbtmp3.4**/3, **Error ellipse: s-maj=851.1km s-min=44.6km az=56.0**, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	13.13	20	T	T	08 59 28.3	
	baz=201						
H08S2	Diego Garcia H	13.14	20	T	T	08 59 33.6	
	baz=201						
H08S3	Diego Garcia H	13.15	20	T	T	08 59 33.0	
	baz=201						
ASAR	Alice Springs	60.70	106	P	P	08 53 10.5	-0.2
	0.3nm,0.7s,baz=266,slow=6.1,SNR=5.2						
WRA	Warramunga Arr	61.85	102	P	P	08 53 18.6	+0.2
	0.2nm,0.7s,baz=262,slow=6.3,SNR=2.0						
MKAR	Makanchi Array	67.85	10	P	P	08 53 57.0	0.0
	0.3nm,0.6s,baz=206,slow=4.0,SNR=3.6						

*NEIC **02** 08:48:00.2±1.8, 23°.57S±0°.10×179°.9W±0°.1, h537km±6km, mb4.3/18, Error ellipse: s-maj=19.9km s-min=12.5km az=65.0*
*IDC **02** 08:48:00.4±1.8, 23°.43S×179°.99E, h541km±17km, mb3.6/13, mb1 3.8/14, mb1mx3.4/46, mbtmp4.5/14, Error ellipse: s-maj=32.4km s-min=13.4km az=161.0*
ISC 02 08:48:00.7±0.7, **23°.5S**±0°.1×**180°.00E**±0°.10, **h550**km, **n38**, σ**0s83**/38, **mb4.4**/20, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.99	342	P	P	08 49 38.2	-1.3
	2.1nm,0.3s,baz=188,slow=19,SNR=5.0						
MARNC	Mare, Loyalty	11.24	278	P	P	08 50 30.9	-0.6
PINNC	Pines Island,	11.59	272	P	P	08 50 36.3	+1.3
URZ	Urewera	14.95	189	P	P	08 51 07.9	-1.5
ARMA	Armidale	26.17	249	P	P	08 52 53.1	+1.2
ARMA				IAmb	IAmb	08 52 54.4	
	comp=Z,5.5nm,1.0s						
EIDS	Eidsvold	26.38	260	P	P	08 52 54.1	+0.5
EIDS				IAmb	IAmb	08 52 55.1	
	comp=Z,11nm,1.1s						
CAN	Canberra	29.35	239	P	P	08 53 19.8	+0.2
CAN				IAmb	IAmb	08 53 42.0	
	comp=Z,30nm,1.4s						
CTA	Charters Tower	31.47	270	P	P	08 53 38.7	+0.7
	comp=Z,31nm,0.6s,baz=95,slow=10,SNR=55						
CTAO	Charters Tower	31.47	270	P	P	08 53 38.7	+0.7
TOO	Toolangi	32.68	236	P	P	08 53 48.5	+0.5
TOO				IAmb	IAmb	08 53 51.4	
	comp=Z,14nm,1.2s						
PMG	Port Moresby	34.35	289	P	P	08 54 02.4	+0.1
	comp=Z,19nm,0.7s,baz=118,slow=6.9,SNR=6.0						
PMG	Port Moresby	34.35	289	P	P	08 54 02.5	+0.1
STKA	Stephens Creek	34.88	248	P	P	08 54 06.9	+0.4
	comp=Z,5.2nm,0.6s,baz=99,slow=9.8,SNR=20						
STKA	Stephens Creek	34.88	248	IAmb	IAmb	08 54 07.9	
	comp=Z,1.1nm,0.7s						
BBOO	Buckleboo	39.61	246	P	P	08 54 44.3	-0.9
AS31	Alice Springs	42.10	260	P	P	08 55 04.6	-0.6
AS31				IAmb	IAmb	08 55 06.2	
	comp=Z,3.9nm,0.5s						
ASAR	Alice Springs	42.10	260	P	P	08 55 05.1	-0.1
	comp=Z,11nm,0.8s,baz=100,slow=6.9,SNR=122						
ASAR				ScP	ScP	08 59 47.2	+1.8
	comp=Z,1.3nm,0.9s,baz=114,slow=4.3,SNR=7.3						
ASAR				S	S	09 00 45.1	-0.3
	comp=Z,0.3nm,0.6s,baz=98,slow=14,SNR=4.5						
ASAR	Alice Springs	42.10	260	P	P	08 55 04.5	-0.7
WR0	Warramunga Arr	42.24	266	P	P	08 55 05.3	-1.0
WR0				IAmb	IAmb	08 55 06.0	
	comp=Z,6.3nm,0.6s						
WRA	Warramunga Arr	42.43	266	P	P	08 55 07.3	-0.5
	comp=Z,4.0nm,0.3s,baz=89,slow=5.9,SNR=337						
WRA				ScP	ScP	08 59 48.3	+1.6
	comp=Z,0.9nm,0.9s,baz=87,slow=4.4,SNR=5.2						
WRA	Warramunga Arr	42.43	266	P	P	08 55 07.1	-0.7
JAY	Jayapura	43.34	293	P	P	08 55 14.7	-0.3
	comp=Z,8.5nm,0.5s,baz=216,slow=6.0,SNR=5.0						
FORT	Forrest	46.46	249	P	P	08 55 38.2	-0.4
KNRA	Kununurra	48.69	269	P	P	08 55 54.8	-0.7
KNRA				IAmb	IAmb	08 55 56.2	
	comp=Z,18nm,1.1s						
FITZ	Fitzroy Crossi	50.86	265	P	P	08 56 11.6	+0.2
	comp=Z,5.3nm,0.6s,baz=85,slow=6.6,SNR=28						
FITZ	Fitzroy Crossi	50.86	265	IAmb	IAmb	08 56 12.5	
	comp=Z,5.7nm,0.7s						
PSA00	Pilbara Seismi	55.24	259	P	P	08 56 42.0	-0.5
PSA00				IAmb	IAmb	08 56 55.4	
	comp=Z,11nm,1.1s						
MORW	Morawa	57.02	250	P	P	08 56 54.3	-0.4
QSPA	South Pole Qui	66.61	180	P	P	08 57 57.1	+0.5
NVAR	Mina Array Bea	84.45	44	P	P	08 59 35.8	-0.2
	comp=Z,0.4nm,0.7s,baz=223,slow=8.3,SNR=4.2						
PLCA	Paso Flores	88.56	134	P	P	08 59 55.9	+0.5
	comp=Z,1.2nm,1.0s,baz=331,slow=6.7,SNR=3.0						
CMAR	Chiang Mai Arr	89.38	290	P	P	09 00 00.7	+1.3
	comp=Z,1.4nm,0.3s,baz=147,slow=3.7,SNR=4.9						
TXAR	Lajitas Array	90.21	58	P	P	09 00 03.6	+0.5
	comp=Z,0.7nm,0.7s,baz=206,slow=8.2,SNR=5.7						
PDAR	Pinedale Array	92.39	44	P	P	09 00 12.6	-0.5
	comp=Z,0.3nm,0.6s,baz=196,slow=3.8,SNR=3.7						
YKA	Yellowknife Ar	99.98	25	P	Pdif	09 00 47.6	+1.2
	comp=Z,0.0nm,0.3s,baz=175,slow=2.1,SNR=4.4						
FINES	FINESS Array B	138.04	342	SKPbc	SKPbc	09 09 05.1	-0.1
	comp=Z,1.7nm,0.9s,baz=104,slow=2.9,SNR=4.5						
AKASG	Malin Array Be	144.61	328	PKP	PKPbc	09 06 34.0	-0.9
	comp=Z,0.9nm,0.5s,baz=44,slow=4.2,SNR=4.8						
BRTR	Keskin Array B	147.32	308	PKPbc	PKPbc	09 06 42.3	-0.8
	comp=Z,0.5nm,0.6s,baz=115,slow=4.2,SNR=2.0						

*IDC **02** 08:51:42.0±3.6, 20°.25S×67°.17E, h0km, mb3.5/7, mb1 3.5/7, mb1mx3.4/44, mbtmp3.5/7, Error ellipse: s-maj=124.8km s-min=30.9km az=49.0*
ISC 02 08:51:44.5±3.3, **20°.2S**±0°.6×**67°.2E**±0°.6, **h15**km, **n10**, σ**0s25**/7, **mb3.6**/7, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	13.53	23	T	T	09 08 25.2	
	baz=202						
H08S2	Diego Garcia H	13.53	23	T	T	09 08 22.7	
	baz=202						
H08S3	Diego Garcia H	13.54	23	T	T	09 08 24.3	
	baz=202						
ASAR	Alice Springs	61.46	107	P	P	09 02 01.2	+0.3
	0.4nm,0.7s,baz=265,slow=5.5,SNR=5.5						
WRA	Warramunga Arr	62.63	103	P	P	09 02 08.5	-0.3
	0.2nm,0.7s,baz=263,slow=7.2,SNR=2.0						
MKAR	Makanchi Array	68.10	11	P	P	09 02 43.7	+0.1
	0.1nm,0.3s,baz=187,slow=5.8,SNR=1.9						
KURBB	Kurchatov Arra	71.26	8	P	P	09 03 02.9	0.0
	0.3nm,0.6s,baz=204,slow=6.3,SNR=1.9						
ZALV	Zalesovo Beam	75.43	11	P	P	09 03 27.7	+0.2
	0.3nm,0.4s,baz=207,slow=6.0,SNR=1.7						
SONM	Songino Array	76.34	26	P	P	09 03 33.0	0.0
	0.1nm,0.3s,baz=238,slow=4.9,SNR=1.3						
AKASG	Malin Array Be	78.16	336	P	P	09 03 42.8	-0.1
	0.2nm,0.3s,baz=140,slow=4.9,SNR=1.8						

*IDC **02** 08:58:41.5±1.0, 20°.13S×67°.57E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.7/50, mbtmp3.9/11, MS3.9/19, Ms1 3.9/19, ms1mx3.6/78, Error ellipse: s-maj=31.0km s-min=21.6km az=62.0*

*NEIC **02** 08:58:43.6±1.4, 20°.10S±0°.10×67°.50E±0°.10, h10km±1km, mb4.5/30, Error ellipse: s-maj=16.6km s-min=14.8km az=146.0*

ISC 02 08:58:43.9±0.5**, 20°.08S**±0°.08×**67°.51E**±0°.08**, h16km, n61,** σ**0s.75**/37**, mb4.3**/23**, MS3.9**/19**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**11.07**	**262**	Pn	**Pn**	**09 01 21.7**	**0.0**
H08S1	**Diego Carcia H**	**13.27**	**22**	T	T	09 15 20.2	
	baz=202,slow=76,SNR=14						
H08S2	**Diego Garcia H**	**13.28**	**22**	T	T	09 15 17.1	
	baz=202,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**13.29**	**22**	T	T	09 15 20.2	
	baz=202,slow=76,SNR=17						
DGAR	**Diego Garcia**	**13.48**	**22**	Pn	**Pn**	**09 01 53.7**	**-1.0**
ABPO	**Ambohimpanom**	**19.14**	**270**		**P**	**09 03 06.0**	**-0.9**
MSEY	**Mahe Island**	**19.28**	**321**	P	**P**	**09 03 07.2**	**-1.1**
MSEY				IAmb	IAmb	09 03 18.7	
	comp=Z,20nm,1.1s						
AIS	**Amsterdam Isla**	**19.70**	**156**	P	**P**	**09 03 12.3**	**-0.2**
HMDM	**Hanimaadhoo**	**27.27**	**12**	P	**P**	**09 04 27.4**	**-0.3**
PALK	**Pallekele**	**30.13**	**27**	LR	LR	09 13 55.7	
	comp=Z,211nm,21.9s,baz=314,slow=30						
KMBO	**Kilima Mbogo**	**35.07**	**299**	LR	LR	09 16 53.3	
	comp=Z,211nm,19.6s,baz=96,slow=31						
KMBO	**Kilima Mbogo**	**35.07**	**299**	P	**P**	**09 05 36.0**	**-0.8**
LSZ	**Lusaka**	**37.70**	**271**	LR	LR	09 20 07.7	
	comp=Z,74nm,18.3s,baz=134,slow=34						
LSZ	**Lusaka**	**37.70**	**271**	P	**P**	**09 05 59.6**	**+0.3**
LSZ				IAmb	IAmb	09 06 27.3	
	comp=Z,7.9nm,1.4s						
LBTB	**Lobatse**	**38.91**	**255**	LR	LR	09 18 43.7	
	comp=Z,112nm,20.1s,baz=230,slow=31						
LODK	**Lodwar**	**39.27**	**303**	P	**P**	**09 06 12.3**	**0.0**
LEM	**Lembang**	**41.05**	**77**	LR	LR	09 19 34.8	
	comp=Z,96nm,21.5s,baz=198,slow=31						
GIRL	**Giralia**	**43.46**	**102**	P	**P**	**09 06 45.6**	**-0.9**
WSAR	**Wadi Sarin**	**43.92**	**348**	LR	LR	09 21 10.6	
	comp=Z,88nm,20.1s,baz=182,slow=31						
TSUM	**Tsumeb**	**46.88**	**262**	LR	LR	09 25 14.7	
	comp=Z,155nm,18.1s,baz=148,slow=34						
MAW	**Mawson**	**47.60**	**182**	P	**P**	**09 07 18.4**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=333,slow=9.0,SNR=3.8						
MAW				LR	LR	09 22 16.4	
	comp=Z,133nm,21.4s,baz=349,slow=30						
MAW	**Mawson**	**47.60**	**182**	IAmb	IAmb	09 07 20.3	
	comp=Z,2.0nm,1.2s						
PSA00	**Pilbara Seismi**	**48.75**	**101**	P	**P**	**09 07 28.2**	**-0.1**
PSA00				IAmb	IAmb	09 07 32.3	
	comp=Z,12nm,1.3s						
CMAR	**Chiang Mai Arr**	**49.17**	**41**	P	**P**	**09 07 32.1**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=235,slow=7.8,SNR=9.6						
CMAR				LR	LR	09 24 53.7	
	comp=Z,89nm,21.3s,baz=220,slow=32						
CHTO	**Chiang Mai**	**49.44**	**41**	P	**P**	**09 07 33.0**	**-0.5**
CHTO				IAmb	IAmb	09 07 52.7	
	comp=Z,2.4nm,0.3s						
SHL	**Shillong**	**51.19**	**29**	P	**P**	**09 07 46.6**	**-0.2**
SHL				IAmb	IAmb	09 07 56.0	
	comp=Z,11nm,1.1s						
UBPT	**Khong Chiam**	**51.26**	**50**	P	**P**	**09 07 47.8**	**+0.4**
UBPT				IAmb	IAmb	09 07 54.8	
	comp=Z,9.5nm,1.0s						
MMRI	**Maumere**	**54.01**	**86**	P	**P**	**09 08 08.9**	**+1.0**
LSA	**Lhasa**	**54.49**	**25**	P	**P**	**09 08 13.2**	**+1.7**
LSA				IAmb	IAmb	09 08 34.8	
	comp=Z,4.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**54.73**	**98**	LR	LR	09 30 00.3	
	comp=Z,76nm,18.6s,baz=221,slow=34						
MYLDM	**Lahad Datu**	**56.04**	**69**	P	**P**	**09 08 21.3**	**-1.2**
ASAR	**Alice Springs**	**61.23**	**107**	P	**P**	**09 08 58.4**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=260,slow=6.2,SNR=16						
ASAR				LR	LR	09 31 44.3	
	comp=Z,315nm,20.5s,baz=320,slow=32						
AS31	**Alice Springs**	**61.23**	**107**	P	**P**	**09 08 58.2**	**-0.5**
AS31				IAmb	IAmb	09 09 05.4	
	comp=Z,1.4nm,0.7s						
TARG	**Taragay, Kyrgy**	**62.23**	**9**	P	**P**	**09 09 05.7**	**+0.4**
TARG				IAmb	IAmb	09 09 09.7	
	comp=Z,1.6nm,0.6s						
WRA	**Warramunga Arr**	**62.38**	**103**	P	**P**	**09 09 06.0**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=261,slow=6.3,SNR=12						
WRA				LR	LR	09 33 23.9	
	comp=Z,142nm,19.1s,baz=314,slow=33						
WRA	**Warramunga Arr**	**62.38**	**103**	P	**P**	**09 09 06.7**	**+0.2**
WB2	**Warramunga Arr**	**62.39**	**103**	P	**P**	**09 09 06.3**	**-0.1**
WB2				IAmb	IAmb	09 09 13.3	
	comp=Z,5.2nm,0.8s						
AAK	**Ala-Archa**	**62.74**	**6**	P	**P**	**09 09 08.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=167,slow=8.7,SNR=4.0						
AAK	**Ala-Archa**	**62.74**	**6**	IAmb	IAmb	09 09 22.1	
	comp=Z,5.5nm,1.4s						
KKAR	**Karatay Array**	**62.93**	**2**	P	**P**	**09 09 09.6**	**+0.1**
SNAA	**Sanae**	**64.92**	**199**	P	**P**	**09 09 21.9**	**-0.5**
STKA	**Stephens Creek**	**66.51**	**117**	LR	LR	09 34 46.2	
	comp=Z,200nm,19.2s,baz=237,slow=33						
MKAR	**Makanchi Array**	**67.89**	**11**	P	**P**	**09 09 41.2**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=188,slow=4.9,SNR=9.6						
QSPA	**South Pole Qui**	**70.03**	**180**	LR	LR	09 35 32.5	
	comp=Z,115nm,20.4s,baz=282,slow=32						
QSPA	**South Pole Qui**	**70.03**	**180**	P	**P**	**09 09 54.9**	**+0.1**
QSPA				IAmb	IAmb	09 10 10.3	
	comp=Z,5.9nm,1.2s						
KURBB	**Kurchatov Arra**	**71.06**	**7**	P	**P**	**09 10 01.1**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=203,slow=6.5,SNR=6.0						
KURK	**Kurchatov**	**71.17**	**7**	P	**P**	**09 10 01.1**	**-0.6**
KURK	**Kurchatov**	**71.17**	**7**	IAmb	IAmb	09 10 08.3	
	comp=Z,1.9nm,0.9s						
VNDA	**Vanda**	**71.48**	**167**	P	**P**	**09 10 04.2**	**+0.9**
VNDA				IAmb	IAmb	09 10 15.0	
	comp=Z,3.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**72.66**	**291**	P	**P**	**09 10 11.5**	**0.0**
	comp=Z,0.6nm,0.8s,baz=113,slow=4.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**72.66**	**291**	IAmb	IAmb	09 10 14.7	
	comp=Z,2.1nm,1.2s						
CTA	**Charters Tower**	**73.20**	**106**	LR	LR	09 40 28.9	
	comp=Z,89nm,19.5s,baz=291,slow=34						
ZALV	**Zalesovo Beam**	**75.22**	**10**	P	**P**	**09 10 25.4**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=228,slow=3.5,SNR=4.9						
DBIC	**Dimbokro**	**75.91**	**283**	LR	LR	09 42 38.2	
	comp=Z,88nm,18.5s,baz=4.0,slow=35						
SONM	**Songino Array**	**76.07**	**26**	P	**P**	**09 10 31.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=248,slow=6.1,SNR=2.5						
SONM	**Songino Array**	**76.07**	**26**	IAmb	IAmb	09 10 38.3	
	comp=Z,1.3nm,0.9s						
PMG	**Port Moresby**	**77.17**	**95**	LR	LR	09 41 17.5	
	comp=Z,92nm,20.9s,baz=304,slow=33						
AKASG	**Malin Array Be**	**78.13**	**336**	P	**P**	**09 10 44.4**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=135,slow=4.5,SNR=4.6						
AKASG	**Malin Array Be**	**78.13**	**336**	IAmb	IAmb	09 10 48.0	
	comp=Z,1.5nm,1.1s						
OBN	**Obninsk**	**79.41**	**343**	LR	LR	09 46 28.1	
	comp=Z,41nm,18.8s,baz=24,slow=36						
DZM	**Mont Dzumac**	**90.45**	**114**	LR	LR	09 48 19.2	
	comp=Z,164nm,21.2s,baz=28,slow=33						

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*MOS **02** 09:06:00.3±0.8, 57°.19N×157°.56W, h15km, mb4.4/11, Error ellipse: s-maj=14.9km s-min=7.2km az=81.5*

*AEIC **02** 09:06:01±1.7, 57°.14N±0°.03×157°.71W±0°.03, h11km±4km, ML4.1, mb4.3/24(NEIC), ML4.4/42(NEIC), Error ellipse: s-maj=4.8km s-min=2.4km az=168.0*

*NEIC **02** 09:06:01.2±1.8, 57°.14N±0°.03×157°.67W±0°.08, h10km±1km, Error ellipse: s-maj=7.6km s-min=4.6km az=300.0*

*IDC **02** 09:06:01.3±0.8, 57°.36N×157°.57W, h0km, mb3.9/21, mb1 4.1/24, mb1mx4.0/52, mbtmp4.0/24, ML3.4/3, Error ellipse: s-maj=25.7km s-min=11.1km az=14.0*

ISC 02 09:06:01.5±0.4**, 57°.12N**±0°.04×**157°.62W**±0°.04**, h10km, n302,** σ**1s.30**/307**, mb4.3**/39**, 10C-5D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.36**	**245**		**Pb**	**09 06 09.1**	**-0.9**
ANPB	**Aniakchak Plen**	**0.48**	**229**		**Pg**	**09 06 10.8**	**-0.1**
PLBL	**Peulik Blue Cr**	**0.73**	**36**		**Pg**	**09 06 15.6**	**0.0**
PLK3	**Peulik 3**	**0.93**	**52**		**Pn**	**09 06 20.3**	**-0.3**
PLK3					**Sn**	**09 06 34.0**	**0.0**
CHGN	**Chignik**	**0.93**	**208**		**Pg**	**09 06 18.6**	**-0.8**
CHGN					**Sb**	**09 06 32.7**	**+0.7**
CHGN	**Chignik**	**0.93**	**208**	P	**Pg**	**09 06 18.2**	**-1.2**
	baz=25,SNR=55						
PLK2	**Peulik 2**	**0.95**	**47**		**Pn**	**09 06 21.0**	**0.0**
PLK5	**Peulik 5**	**0.97**	**24**		**Pn**	**09 06 20.9**	**-0.2**
VNHG	**Veniaminof 1**	**1.24**	**224**		**Pn**	**09 06 23.8**	**-1.1**
VNFG	**Fog Glacier, M**	**1.35**	**233**		**Pb**	**09 06 26.6**	**-0.4**
CAHL	**Cahill**	**1.56**	**52**		**Pb**	**09 06 30.7**	**+0.2**
ANCK	**Angle Creek**	**1.57**	**46**		**Pb**	**09 06 30.7**	**0.0**
ACHA	**Angle Creek He**	**1.65**	**47**		**Sg**	**09 06 54.8**	**+0.3**
KELA	**Mount Kelaz**	**1.66**	**36**		**Pb**	**09 06 31.7**	**-0.5**
CHIR	**Chirikof Islan**	**1.71**	**139**	Pn	**Pn**	**09 06 31.8**	**+0.5**
CHIR				Sn	**Sn**	**09 06 53.7**	**+0.4**
CHIR				IAML		09 06 58.9	
	comp=N,2μm,1.2s						
CHIR				IAML		09 07 01.4	
	comp=E,3μm,0.8s						
CHIR	**Chirikof Islan**	**1.71**	**139**	P	**Pn**	**09 06 32.2**	**+0.8**
	baz=320,SNR=18						
SII	**Sitkinak Islan**	**1.97**	**105**	Pn	**Pn**	**09 06 35.1**	**+0.1**
SII				IAML		09 07 12.4	
	comp=N,3μm,0.8s						
SII	**Sitkinak Islan**	**1.97**	**105**	P	**Pn**	**09 06 36.3**	**+1.3**
	baz=288,SNR=28						
OHAK	**Old Harbor**	**2.36**	**86**	Pn	**Pn**	**09 06 40.4**	**+0.1**
OHAK				IAML		09 07 19.0	
	comp=N,1μm,0.8s						
OHAK	**Old Harbor**	**2.36**	**86**	P	**Pn**	**09 06 41.2**	**+0.9**
	baz=270,SNR=26						
SDPT	**Sand Point**	**2.39**	**223**	Pn	**Pn**	**09 06 39.7**	**-0.9**
SDPT				IAML		09 07 42.4	
	comp=E,1μm,1.0s						
SDPT	**Sand Point**	**2.39**	**223**	P	**Pn**	**09 06 41.2**	**+0.6**
	baz=40,SNR=21						
P18K	**Big Mountain,**	**2.61**	**28**		**Pn**	**09 06 42.9**	**-0.8**
P18K				IAML		09 07 24.7	
	comp=E,1μm,0.8s						
P18K				IAML		09 07 25.9	
	comp=N,916nm,0.7s						
P18K	**Big Mountain,**	**2.61**	**28**	P	**Pn**	**09 06 42.7**	**-1.0**
	baz=211						
Q19K	**Cape Douglas,**	**2.79**	**48**		**Pn**	**09 06 45.8**	**-0.4**
Q19K	**Cape Douglas,**	**2.79**	**48**	P	**Pn**	**09 06 46.2**	**+0.1**
	baz=232,SNR=15						
KDAK	**Kodiak Island**	**2.80**	**74**	Pn	**Pn**	**09 06 47.2**	**+1.0**
	comp=N,24nm,0.3s,baz=242,slow=2.7,SNR=122						
KDAK				Sn	**Sn**	**09 07 19.2**	**-1.0**
	comp=N,17nm,0.3s,baz=264,slow=12,SNR=5.1						
KDAK	**Kodiak Island**	**2.80**	**74**	*ce*P	**Pn**	**09 06 47.1**	**+0.8**
KDAK	**Kodiak Island**	**2.80**	**74**	Pn	**Pn**	**09 06 47.3**	**+1.0**
KDAK	**Kodiak Island**	**2.80**	**74**	P	**Pn**	**09 06 46.9**	**+0.6**
	baz=259						
BLHA	**Black Hill**	**2.85**	**242**		**Pn**	**09 06 47.1**	**+0.1**
PS4A	**Pavlof South-4**	**2.96**	**235**		**Pn**	**09 06 49.1**	**+0.6**
AUH	**Augustine H**	**3.15**	**43**		**Pn**	**09 06 52.9**	**+1.7**
AUQ	**Augustine Qik'**	**3.16**	**43**		**Pn**	**09 06 51.9**	**+0.6**
AUL	**Augustine Lava**	**3.17**	**43**		**Pn**	**09 06 52.6**	**+1.3**
OPT	**Oil Point**	**3.43**	**40**		**Pn**	**09 06 56.1**	**+1.1**
P19K	**Oil Pt**	**3.43**	**40**		**Pn**	**09 06 55.0**	**0.0**
P19K				IAML		09 07 53.1	
	comp=N,1μm,0.9s						
P19K				IAML		09 07 59.3	
	comp=E,995nm,0.8s						
P19K	**Oil Pt**	**3.43**	**40**	P	**Pn**	**09 06 55.1**	**+0.1**
	baz=225						
O19K	**Port Alsworth**	**3.53**	**28**		**Pn**	**09 06 55.8**	**-0.5**
O19K	**Port Alsworth**	**3.53**	**28**	P	**Pn**	**09 06 56.0**	**-0.4**
	baz=211,SNR=23						
IVE	**Iliamna Volcan**	**3.77**	**38**		**Pn**	**09 06 59.9**	**+0.1**
O20K	**Slope Mountain**	**3.96**	**39**		**Pn**	**09 07 02.7**	**+0.5**
O20K	**Slope Mountain**	**3.96**	**39**	P	**Pn**	**09 07 02.8**	**+0.5**
	baz=224						
FALS	**False Pass**	**3.97**	**238**		**Pn**	**09 07 02.5**	**+0.2**
N19K	**Bonanza Creek**	**4.04**	**22**	Pn	**Pn**	**09 07 03.7**	**+0.2**
N19K				IAML		09 08 13.9	
	comp=E,482nm,1.0s						
N19K				IAML		09 08 30.9	
	comp=N,456nm,0.8s						
N19K	**Bonanza Creek**	**4.04**	**22**	P	**Pn**	**09 07 03.4**	**-0.1**
	baz=206,SNR=13						
HOM	**Homer**	**4.05**	**49**	Pn	**Pn**	**09 07 02.6**	**-0.8**
HOM				IAML		09 08 18.4	
	comp=E,764nm,1.0s						
HOM				IAML		09 08 44.6	
	comp=N,663nm,1.4s						
SVW2	**Sparrevohn**	**4.13**	**14**		**Pn**	**09 07 04.6**	**0.0**
SVW2				IAML		09 08 17.7	
	comp=E,451nm,0.9s						
SVW2				IAML		09 08 17.8	
	comp=N,369nm,0.8s						
CNPM	**China Poot**	**4.14**	**52**		**Pn**	**09 07 05.2**	**+0.5**
RED	**Redoubt Volcan**	**4.16**	**35**		**Pn**	**09 07 05.5**	**+0.4**
RDWB	**Redoubt West**	**4.19**	**34**		**Pn**	**09 07 05.8**	**+0.2**
RSO	**Redoubt South**	**4.20**	**35**		**Pn**	**09 07 05.2**	**-0.6**
DFR	**Drift River**	**4.32**	**34**		**Pn**	**09 07 07.8**	**+0.5**
BRLK	**Bradley Lake**	**4.42**	**50**		**Pn**	**09 07 07.7**	**-0.9**
CAPN	**Captain Cook N**	**4.96**	**40**	Pn	**Pn**	**09 07 15.3**	**-0.6**
SPU	**Mount Spurr**	**4.98**	**33**		**Pn**	**09 07 17.4**	**+1.1**
M19K	**Big River Lodg**	**5.07**	**18**		**Pn**	**09 07 17.0**	**-0.5**
M19K				IAML		09 08 48.9	
	comp=N,204nm,0.9s						
M19K				IAML		09 09 04.2	
	comp=E,292nm,0.9s						
M19K	**Big River Lodg**	**5.07**	**18**	P	**Pn**	**09 07 17.2**	**-0.3**
	baz=201						
SPCG	**Spurr Capps Gl**	**5.08**	**32**		**Pn**	**09 07 19.4**	**+1.6**
SEW	**Seward**	**5.21**	**52**	Pn	**Pn**	**09 07 19.2**	**-0.2**
L19K	**White Mountain**	**5.27**	**14**		**Pn**	**09 07 19.9**	**-0.4**
L19K				IAML		09 08 56.5	
	comp=N,313nm,0.8s						
L19K	**White Mountain**	**5.27**	**14**	P	**Pn**	**09 07 19.3**	**-0.9**
	baz=197,SNR=40						
M20K	**Styx River**	**5.29**	**24**		**Pn**	**09 07 20.1**	**-0.6**
M20K				IAML		09 08 58.8	
	comp=N,188nm,0.9s						
M20K				IAML		09 09 02.9	
	comp=E,213nm,1.2s						
M20K	**Styx River**	**5.29**	**24**	P	**Pn**	**09 07 20.8**	**+0.1**
	baz=208						
STLK	**Strandline Lak**	**5.30**	**32**		**Pn**	**09 07 22.3**	**+1.7**
O22K	**Cooper Landing**	**5.31**	**47**		**Pn**	**09 07 21.7**	**+1.0**
RC01	**Rabbit Creek A**	**5.69**	**42**		**Pn**	**09 07 24.6**	**-1.3**
L20K	**Farewell, AK**	**5.70**	**18**		**Pn**	**09 07 26.1**	**0.0**
L20K	**Farewell, AK**	**5.70**	**18**	P	**Pn**	**09 07 26.0**	**-0.1**
	baz=202,SNR=21						
TT01	**Tatalina**	**5.86**	**7**		**Pn**	**09 07 27.2**	**-1.1**
TTA	**Tatalina**	**5.88**	**7**	P	**Pn**	**09 07 27.9**	**-0.8**
TTA	**Tatalina**	**5.88**	**7**	Pn	**Pn**	**09 07 27.9**	**-0.8**
TTA	**Tatalina**	**5.88**	**7**	P	**Pn**	**09 07 27.5**	**-1.2**
	baz=189,SNR=12						
M22K	**Willow**	**6.02**	**36**		**Pn**	**09 07 29.4**	**-1.1**
M22K	**Willow**	**6.02**	**36**	P	**Pn**	**09 07 33.2**	**+2.8**
	baz=223,SNR=8.9						
UNV	**Unalaska Valle**	**6.02**	**241**	Pn	**Pn**	**09 07 29.1**	**-1.4**
UNV	**Unalaska Valle**	**6.02**	**241**	P	**Pn**	**09 07 31.2**	**+0.7**
	baz=53						
PWL	**Port Wells**	**6.09**	**48**	Pn	**Pn**	**09 07 30.9**	**-0.6**
PWL	**Port Wells**	**6.09**	**48**	P	**Pn**	**09 07 33.3**	**+1.9**
	baz=236						
PMR	**Palmer**	**6.24**	**41**	P	**Pn**	**09 07 32.9**	**-0.6**
PMR	**Palmer**	**6.24**	**41**	Pn	**Pn**	**09 07 32.9**	**-0.6**
PMR	**Palmer**	**6.24**	**41**	P	**Pn**	**09 07 36.3**	**+2.8**
	baz=228,SNR=8.9						
PPLA	**Purkeypile**	**6.40**	**23**		**Pn**	**09 07 36.8**	**+0.9**
PPLA	**Purkeypile**	**6.40**	**23**	P	**Pn**	**09 07 36.6**	**+0.7**
	baz=208						
GHO	**Glory Hole Cre**	**6.43**	**40**		**Pn**	**09 07 36.8**	**+0.5**
CUT	**Chulitna**	**6.47**	**32**		**Pn**	**09 07 36.0**	**-0.7**
K20K	**Telida**	**6.50**	**14**		**Pn**	**09 07 36.3**	**-0.8**
K20K	**Telida**	**6.50**	**14**	P	**Pn**	**09 07 36.0**	**-1.1**
	baz=198,SNR=10						
GLI	**Glacier Island**	**6.61**	**51**	Pn	**Pn**	**09 07 37.6**	**-1.1**
SML	**Sawmill**	**6.67**	**41**		**Pn**	**09 07 39.0**	**-0.4**
SML	**Sawmill**	**6.67**	**41**	P	**Pn**	**09 07 41.3**	**+1.8**
	baz=230						
FID	**Port Fidalgo**	**6.82**	**53**	Pn	**Pn**	**09 07 40.2**	**-1.2**
SPIA	**Saint Paul Isl**	**6.87**	**276**	Pn	**Pn**	**09 07 42.4**	**+0.2**
SPIA	**Saint Paul Isl**	**6.87**	**276**	P	**Pn**	**09 07 42.4**	**+0.2**
	baz=85						
CAST	**Castle Rocks**	**6.89**	**21**	Pn	**Pn**	**09 07 42.3**	**-0.2**
CAST	**Castle Rocks**	**6.89**	**21**	P	**Pn**	**09 07 43.1**	**+0.7**
	baz=206,SNR=40						
EYAK	**Cordova Ski Ar**	**7.05**	**56**	Pn	**Pn**	**09 07 44.1**	**-0.6**
EYAK	**Cordova Ski Ar**	**7.05**	**56**	P	**Pn**	**09 07 45.4**	**+0.7**
	baz=246						
SCM	**Sheep Creek Mo**	**7.05**	**44**	P	**Pn**	**09 07 44.2**	**-0.6**
SCM	**Sheep Creek Mo**	**7.05**	**44**		**Pn**	**09 07 44.2**	**-0.6**
SCM	**Sheep Creek Mo**	**7.05**	**44**	P	**Pn**	**09 07 46.4**	**+1.6**
	baz=233						
KTH	**Kantishna Hill**	**7.25**	**24**		**Pn**	**09 07 47.4**	**-0.1**
CHUM	**Lake Minchumin**	**7.27**	**19**		**Pn**	**09 07 48.0**	**+0.4**
CHUM	**Lake Minchumin**	**7.27**	**19**	P	**Pn**	**09 07 47.2**	**-0.5**
	baz=204,SNR=12						
J20K	**Nowinta River**	**7.28**	**12**		**Pn**	**09 07 47.0**	**-0.8**
J20K	**Nowinta River**	**7.28**	**12**	P	**Pn**	**09 07 47.9**	**+0.1**
	baz=196						
DIV	**Divide**	**7.30**	**52**	Pn	**Pn**	**09 07 47.8**	**-0.3**
WAT1	**Susitna Watana**	**7.31**	**35**	P	**Pn**	**09 07 48.9**	**+0.7**
	baz=223						
TRF	**Thorofare Moun**	**7.32**	**27**		**Pn**	**09 07 48.1**	**-0.4**
TRF	**Thorofare Moun**	**7.32**	**27**	P	**Pn**	**09 07 52.2**	**+3.7**
	baz=214,SNR=12						
WAT6	**Susitna Watana**	**7.39**	**38**	P	**Pn**	**09 07 50.2**	**+0.7**
	baz=227						
KLU	**Klutina**	**7.42**	**49**		**Pn**	**09 07 48.2**	**-1.6**
KLU	**Klutina**	**7.42**	**49**	P	**Pn**	**09 07 50.4**	**+0.7**
	baz=239,SNR=8.9						
M24K	**Tolsona, Glenn**	**7.66**	**44**		**Pn**	**09 07 52.1**	**-0.9**
M24K	**Tolsona, Glenn**	**7.66**	**44**	P	**Pn**	**09 07 54.2**	**+1.2**
	baz=235						
RND	**Reindeer**	**7.66**	**31**	P	**Pn**	**09 07 51.7**	**-1.4**
RND	**Reindeer**	**7.66**	**31**		**Pn**	**09 07 51.7**	**-1.4**
GCSA	**Galena City Sc**	**7.66**	**2**	P	**Pn**	**09 07 52.4**	**-0.5**
	baz=183						
HMT	**Hamilton**	**7.66**	**60**	Pn	**Pn**	**09 07 53.4**	**+0.3**
BPAW	**Bear Paw Mtn.**	**7.72**	**22**		**Pn**	**09 07 52.0**	**-1.8**
BPAW	**Bear Paw Mtn.**	**7.72**	**22**	P	**Pn**	**09 07 57.0**	**+3.2**
	baz=208,SNR=20						
DHY	**Denali Highway**	**7.86**	**36**		**Pn**	**09 07 54.9**	**-0.9**
DHY	**Denali Highway**	**7.86**	**36**	P	**Pn**	**09 07 58.1**	**+2.3**
	baz=226						
MCK	**McKinley**	**7.90**	**29**	P	**Pn**	**09 07 55.8**	**-0.5**
MCK	**McKinley**	**7.90**	**29**		**Pn**	**09 07 55.8**	**-0.5**
MCK	**McKinley**	**7.90**	**29**	P	Pn	09 08 01.2	+4.9
	baz=217,SNR=9.3						
BERG	**Berg Lake**	**7.94**	**60**	Pn	**Pn**	**09 07 56.2**	**-0.7**
N25K	**Chitina, Valde**	**8.02**	**51**		**Pn**	**09 07 56.8**	**-1.3**
N25K	**Chitina, Valde**	**8.02**	**51**	P	**Pn**	**09 07 59.0**	**+0.9**
	baz=242						
HARP	**HAARP**	**8.21**	**45**	P	**Pn**	**09 08 03.0**	**+2.4**
	baz=236						
GLB	**Gilahina Butte**	**8.29**	**53**		**Pn**	**09 08 00.1**	**-1.5**
SNH	**Sunshine Point**	**8.29**	**62**	Pn	**Pn**	**09 08 01.1**	**-0.6**
VRDI	**Verde Repeater**	**8.36**	**55**	Pn	**Pn**	**09 08 02.2**	**-0.5**
WAX	**Waxell Ridge**	**8.36**	**60**	Pn	**Pn**	**09 08 02.4**	**-0.4**
ANM	**Nome**	**8.37**	**336**	P	**Pn**	**09 08 01.5**	**-1.2**
ANM	**Nome**	**8.37**	**336**		**Pn**	**09 08 01.5**	**-1.2**
ANM	**Nome**	**8.37**	**336**	P	**Pn**	**09 08 02.6**	**-0.1**
	baz=150,SNR=19						
PAX	**Paxson**	**8.44**	**41**	P	**Pn**	**09 08 02.9**	**-0.9**
PAX	**Paxson**	**8.44**	**41**	Pn	**Pn**	**09 08 02.9**	**-0.9**
PAX	**Paxson**	**8.44**	**41**	P	**Pn**	**09 08 05.5**	**+1.8**
	baz=232,SNR=6.4						
I21K	**Tanana**	**8.53**	**16**		**Pn**	**09 08 04.4**	**-0.5**
I21K	**Tanana**	**8.53**	**16**	P	**Pn**	**09 08 04.9**	**0.0**
	baz=202,SNR=35						
NEA2	**Nenana**	**8.57**	**25**		**Pn**	**09 08 06.6**	**+1.1**
NEA2	**Nenana**	**8.57**	**25**	P	**Pn**	**09 08 07.0**	**+1.5**
	baz=213,SNR=6.3						
MLY	**Manley**	**8.60**	**20**		**Pn**	**09 08 05.9**	**-0.1**
MLY	**Manley**	**8.60**	**20**	P	**Pn**	**09 08 05.9**	**-0.1**
	baz=206,SNR=19						
ISLE	**Juniper Island**	**8.65**	**60**	Pn	**Pn**	**09 08 04.9**	**-1.8**
WRH	**Wood River Hil**	**8.71**	**28**		**Pn**	**09 08 08.3**	**+0.9**
YAH	**Yahtse**	**8.87**	**62**		**Pn**	**09 08 09.7**	**-0.1**
H21K	**Melozitna Rive**	**8.87**	**13**		**Pn**	**09 08 08.7**	**-0.9**
H21K	**Melozitna Rive**	**8.87**	**13**	P	**Pn**	**09 08 08.7**	**-0.9**
	baz=198,SNR=52						
CCB	**Clear Creek Bu**	**8.93**	**28**		**Pn**	**09 08 11.5**	**+1.2**
HDA	**Harding Lake**	**8.97**	**31**		**Pn**	**09 08 10.8**	**-0.2**
HDA	**Harding Lake**	**8.97**	**31**	P	**Pn**	**09 08 11.6**	**+0.6**
	baz=221						
I23K	**Minto, Yukon-K**	**8.98**	**23**		**Pn**	**09 08 09.1**	**-1.9**
I23K	**Minto, Yukon-K**	**8.98**	**23**	P	**Pn**	**09 08 13.0**	**+1.9**
	baz=210,SNR=14						
MENT	**Mentasta**	**9.07**	**44**	Pn	**Pn**	**09 08 10.3**	**-2.0**
MDM	**Murphy Dome**	**9.08**	**26**		**Pn**	**09 08 12.0**	**-0.4**
IMAR	**Indian Mountai**	**9.08**	**10**		**Pn**	**09 08 11.6**	**-0.8**
COLA	**College**	**9.10**	**27**	*de*P	**Pn**	**09 08 14.2**	**+1.5**
BARN	**Barnard Glacie**	**9.11**	**58**	Pn	**Pn**	**09 08 11.8**	**-1.2**
RIDG	**Independent Ri**	**9.15**	**38**	P	**Pn**	**09 08 14.9**	**+1.5**
	baz=230						
L26K	**Log Cabin Wild**	**9.26**	**44**	P	**Pn**	**09 08 17.0**	**+2.1**
	baz=237						
IL31		**9.27**	**30**		**Pn**	**09 08 14.9**	**-0.1**
ILAR	**Eielson Array**	**9.27**	**30**	Pn	**Pn**	**09 08 15.2**	**+0.2**
	comp=E,0.4nm,0.3s,baz=222,slow=10.0,SNR=28						
ILAR	**Eielson Array**	**9.27**	**30**	P	**Pn**	**09 08 16.2**	**+1.2**
ILAR	**Eielson Array**	**9.27**	**30**	Pn	**Pn**	**09 08 16.2**	**+1.2**
POKR	**Poker Plat Res**	**9.40**	**27**	P	**Pn**	**09 08 18.4**	**+1.5**
	baz=216						
M27K	**Edge Creek, AK**	**9.51**	**50**	Pn	**Pn**	**09 08 19.4**	**+0.9**
J25K	**Salcha River,**	**9.58**	**33**		**Pn**	**09 08 19.2**	**-0.2**
J25K	**Salcha River,**	**9.58**	**33**	P	**Pn**	**09 08 20.8**	**+1.4**
	baz=224,SNR=12						
SCRK	**Sand Creek**	**9.59**	**39**	Pn	**Pn**	**09 08 19.9**	**+0.3**
SCRK	**Sand Creek**	**9.59**	**39**	P	**Pn**	**09 08 20.3**	**+0.7**
	baz=231						
TNA	**Tin City**	**9.79**	**334**		**Pn**	**09 08 20.8**	**-1.4**
TNA	**Tin City**	**9.79**	**334**	P	**Pn**	**09 08 22.6**	**+0.4**
	baz=145,SNR=7.8						
L27K	**Beaver Creek,**	**9.87**	**46**		**Pn**	**09 08 22.2**	**-1.0**
L27K	**Beaver Creek,**	**9.87**	**46**	P	**Pn**	**09 08 24.2**	**+0.9**
	baz=240						
BCAR	**Beaver Creek A**	**9.88**	**46**	Pn	**Pn**	**09 08 22.7**	**-0.9**
YUK3	**Moose Creek**	**9.89**	**55**	P	**Pn**	**09 08 26.3**	**+2.5**
	baz=250						
H24K	**Noodor Dome**	**9.89**	**24**		**Pn**	**09 08 24.0**	**+0.3**
H24K	**Noodor Dome**	**9.89**	**24**	P	**Pn**	**09 08 25.4**	**+1.7**
	baz=213,SNR=7.6						
PNL	**Peninsula**	**9.90**	**67**	P	**Pn**	**09 08 26.2**	**+2.5**
	baz=263						
J26L	**Joseph Creek**	**10.07**	**37**	P	**Pn**	**09 08 28.5**	**+2.4**
	baz=229,SNR=13						
YUK4	**Talbot Arm**	**10.59**	**59**	P	**Pn**	**09 08 37.7**	**+4.4**
	baz=255						
COLD	**Coldfoot**	**10.71**	**16**	P	**Pn**	**09 08 38.4**	**+3.7**
	baz=202,SNR=48						
HYT	**Haines Junctio**	**11.01**	**62**	Pn	**Pn**	**09 08 38.1**	**-0.9**
EGAK	**Eagle**	**11.06**	**39**	Pn	**Pn**	**09 08 40.1**	**+0.6**
EGAK	**Eagle**	**11.06**	**39**	P	**Pn**	**09 08 40.3**	**+0.8**
	baz=234						
DAWY	**Dawson**	**11.31**	**45**		**Pn**	**09 08 43.8**	**+0.7**
DAWY	**Dawson**	**11.31**	**45**	P	**Pn**	**09 08 43.9**	**+0.9**
	baz=241						
M30M	**Minto, Yukon**	**11.78**	**54**	Pn	**Pn**	**09 08 50.5**	**+1.1**
BMAR	**Burnt Mountain**	**11.96**	**25**	Pn	**Pn**	**09 08 51.1**	**-0.7**
N31M	**Braeburn, Yuko**	**11.96**	**59**	Pn	**Pn**	**09 08 52.2**	**+0.4**
TOLK	**Toolik Lake Re**	**12.12**	**14**	Pn	**Pn**	**09 08 52.5**	**-1.4**
TOLK	**Toolik Lake Re**	**12.12**	**14**	P	**Pn**	**09 08 57.0**	**+3.1**
	baz=202,SNR=6.8						
WHY	**Whitehorse**	**12.26**	**64**	Pn	**Pn**	**09 08 56.3**	**+0.2**
WHY	**Whitehorse**	**12.26**	**64**	P	**Pn**	**09 08 57.4**	**+1.4**
	baz=263						
M31M	**Drury Creek, Y**	**12.76**	**57**	Pn	**Pn**	**09 09 03.2**	**+0.4**
M31M	**Drury Creek, Y**	**12.76**	**57**	P	**Pn**	**09 09 06.0**	**+3.2**
	baz=257						
EPYK	**Eagle Plains**	**13.48**	**38**	Pn	**Pn**	**09 09 11.8**	**-0.9**
EPYK	**Eagle Plains**	**13.48**	**38**	P	**Pn**	**09 09 14.4**	**+1.7**
	baz=237,SNR=7.1						
A21K	**Barrow**	**14.27**	**1**		**Pn**	**09 09 20.0**	**-3.2**
A21K	**Barrow**	**14.27**	**1**	P	**Pn**	**09 09 23.5**	**+0.3**
	baz=182						
DLBC	**Dease Lake**	**14.74**	**73**	Pn	**Pn**	**09 09 31.4**	**+1.5**
	comp=E,0.0nm,0.3s,baz=280,slow=11,SNR=3.1						
INK	**Inuvik**	**15.60**	**34**	Pn	**Pn**	**09 09 40.2**	**-0.9**
	comp=E,0.3nm,0.3s,baz=229,slow=10,SNR=11						
INK	**Inuvik**	**15.60**	**34**	P	**Pn**	**09 09 40.4**	**-0.7**
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
INK	**Inuvik**	**15.60**	**34**		**Pn**	**09 09 40.4**	**-0.7**
INK	**Inuvik**	**15.60**	**34**	P	**Pn**	**09 09 40.3**	**-0.7**
	baz=236						
C36M	**Paulatuk**	**19.11**	**37**	P	**P**	**09 10 22.3**	**-1.8**
C36M	**Paulatuk**	**19.11**	**37**	P	**P**	**09 10 22.0**	**-2.0**
	baz=247						
BILL	**Bilibino**	**19.55**	**319**⇓	*e*P	**Pn**	**09 10 30.3**	**+0.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BILL				MLR	MLR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,334nm,17.0s						
A36M	Sachs Harbour	19.97	29	P	P	09 10 30.7	-2.8
A36M	Sachs Harbour	19.97	29	P	P	09 10 30.8	-2.7
	baz=239,SNR=13						
YKA	Yellowknife Ar	21.95	58	P	P	09 10 54.8	-0.2
	comp=Z,3.4nm,0.6s,baz=273,slow=9.7,SNR=41						
YKA				PcP	PcP	09 14 53.0	-0.1
	comp=Z,0.5nm,0.6s,baz=281,slow=1.9,SNR=8.3						
YKA				ScP	ScP	09 18 29.6	-0.4
	comp=Z,0.4nm,0.8s,baz=279,slow=2.0,SNR=5.8						
YKA	Yellowknife Ar	21.95	58	ceP	P	09 10 54.7	-0.2
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SEY	Seymchan	25.08	304	P	P	09 11 25.8	0.0
	comp=Z,1.5nm,0.8s,baz=61,slow=9.4,SNR=8.4						
SEY	Seymchan	25.08	304	⇓iP	P	09 11 25.7	0.0
SEY				pmax	pmax		
	comp=Z,10.0nm,3.0s						
HOOD	Mount Hood Mea	25.12	103	P	P	09 11 25.7	-0.8
EDM	Edmonton	25.24	80	P	P	09 11 26.5	-0.9
EDM				pmax	pmax		
	comp=Z,11nm,1.0s						
EDM	Edmonton	25.24	80	P	P	09 11 26.4	-0.9
PETK	Petropavlovsk-	25.51	280	P	P	09 11 30.8	+1.1
	comp=Z,2.2nm,0.9s,baz=81,slow=14,SNR=3.6						
PETK	Petropavlovsk-	25.51	280	P	P	09 11 28.3	-1.4
PETK	Petropavlovsk-	25.51	280	P	P	09 11 28.3	-1.4
NEW	Newport	25.75	93	P	P	09 11 32.8	+0.8
	comp=Z,2.0nm,1.0s,baz=284,slow=4.2,SNR=3.6						
NEW	Newport	25.75	93	P	P	09 11 30.6	-1.4
NEW				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NEW	Newport	25.75	93	P	P	09 11 30.6	-1.4
E09A	Wood Farm, Sta	26.24	97	P	P	09 11 36.4	0.0
E09A				IAmb	IAmb	09 11 41.2	
	comp=Z,4.8nm,0.8s						
PINE	Pine Mountain	26.52	104	P	P	09 11 38.5	-0.7
PINE				IAmb	IAmb	09 11 47.9	
	comp=Z,11nm,1.3s						
G08A	Pilot Rock	26.58	100	P	P	09 11 38.9	-0.8
MA2	Magadan	26.64	297	P	P	09 11 41.5	+1.6
	comp=Z,1.8nm,0.6s,baz=109,slow=9.6,SNR=4.3						
MA2	Magadan	26.64	297	⇑eP	P	09 11 40.2	+0.3
MA2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MA2	Magadan	26.64	297	P	P	09 11 37.5	-2.3
MA2				IAmb	IAmb	09 12 01.0	
	comp=Z,7.6nm,1.3s						
J05D	Fort Rock, OR	26.71	105	P	P	09 11 44.0	+3.1
	baz=314						
YBH	Yreka Blue Hor	27.05	110	P	P	09 11 46.8	+2.9
	comp=Z,0.8nm,0.7s,baz=295,slow=16,SNR=2.2						
M04C	Macdoel	27.46	109	P	P	09 11 47.0	-0.7
M04C				IAmb	IAmb	09 11 53.8	
	comp=Z,12nm,1.4s						
O03E	Paynes Creek	28.57	111	P	P	09 11 59.8	+2.3
	baz=318						
HLID	Hailey	30.17	98	P	P	09 12 13.7	+2.0
	baz=312						
BCYI	Bear Canyon	30.22	96	P	P	09 12 11.1	-1.2
MPK	Martis Peak	30.23	110	P	P	09 12 11.2	-1.1
PAHR	Pah Rah Range	30.25	109	P	P	09 12 11.1	-1.4
PAHR				IAmb	IAmb	09 12 17.3	
	comp=Z,5.3nm,1.1s						
VCNR	Virginia City	30.42	109	P	P	09 12 13.8	-0.2
VCNR				IAmb	IAmb	09 12 17.5	
	comp=Z,4.7nm,1.0s						
PNTR	Pine Nut	30.60	110	P	P	09 12 14.3	-1.3
PNTR				IAmb	IAmb	09 12 41.4	
	comp=Z,6.5nm,1.0s						
GCMT	Greycliff	31.30	90	P	P	09 12 19.7	-2.0
YMR	Madison River	31.31	93	P	P	09 12 19.5	-2.4
YMR				IAmb	IAmb	09 12 26.8	
	comp=Z,6.8nm,1.4s						
NVAR	Mina Array Bea	31.76	109	P	P	09 12 28.4	+2.5
	comp=Z,1.3nm,0.7s,baz=309,slow=8.5,SNR=14						
FLWY	Flagg Ranch	31.84	94	P	P	09 12 25.2	-1.3
TIXI	Tiksi	32.43	326	P	P	09 12 31.5	+0.4
	comp=Z,1.1nm,0.5s,baz=90,slow=20,SNR=5.6						
TIXI	Tiksi	32.43	326	⇑iP	P	09 12 31.5	+0.4
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.5s						
TIXI	Tiksi	32.43	326	P	P	09 12 31.1	0.0
R11A	Troy Canyon, C	33.24	106	P	P	09 12 40.8	+2.0
	baz=318						
PDAR	Pinedale Array	33.33	95	P	P	09 12 40.5	+0.9
	comp=Z,0.6nm,0.6s,baz=329,slow=2.2,SNR=7.0						
PDAR	Pinedale Array	33.33	95	P	P	09 12 38.0	-1.6
TPNV	Topopah Spring	33.95	109	P	P	09 12 47.4	+2.5
	baz=320						
MPMC	Manual Prospec	33.99	111	P	P	09 12 48.0	+2.6
	baz=321						
FURC	Furnace Creek,	34.00	110	P	P	09 12 48.0	+2.9
	baz=321						
LRMC	Laurel Mtn Rad	34.35	112	P	P	09 12 50.7	+2.4
	baz=322						
YAK	Yakutsk	35.35	309	⇑eP	P	09 12 56.6	+0.1
YAK				pmax	pmax		
	comp=Z,19nm,1.2s						
RSSD	Black Hills	35.45	88	P	P	09 12 59.7	+1.8
	baz=311						
O20A	White River Ci	35.87	97	P	P	09 13 04.0	+2.5
	baz=315						
BELC	Belle Mtn. Jos	36.36	111	P	P	09 13 07.6	+1.9
	baz=322						
IRM	Iron Mountain	36.68	110	P	P	09 13 10.5	+2.2
	baz=322						
F36A	Milaca	40.00	78	P	P	09 13 35.2	-0.9
F36A				IAmb	IAmb	09 13 37.7	
	comp=Z,11nm,1.5s						
P38A	Dawn	44.23	85	P	P	09 14 10.3	-0.4
P38A				IAmb	IAmb	09 14 12.1	
	comp=Z,5.8nm,1.1s						
WMOK	Wichita Mounta	44.94	94	P	P	09 14 15.8	-0.6
WMOK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
WMOK	Wichita Mounta	44.94	94	P	P	09 14 15.8	-0.6
WMOK	Wichita Mounta	44.94	94	P	P	09 14 17.2	+0.8
	baz=319						
NRIK	Noril'sk	45.39	333	P	P	09 14 19.9	+0.4
	comp=Z,2.6nm,0.6s,baz=54,slow=8.3,SNR=5.8						
NRIK	Noril'sk	45.39	333	⇑eP	P	09 14 20.5	+1.0
NRIK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
NRIK	Noril'sk	45.39	333	P	P	09 14 18.8	-0.7
NRIK				IAmb	IAmb	09 14 23.8	
	comp=Z,4.3nm,1.0s						
HDIL	Hopedale	45.87	81	P	P	09 14 23.9	+0.2
TXAR	Lajitas Array	46.47	103	P	P	09 14 29.7	+1.1
	comp=Z,0.9nm,0.8s,baz=318,slow=5.4,SNR=6.0						
TXAR	Lajitas Array	46.47	103	P	P	09 14 28.6	0.0
TXAR	Lajitas Array	46.47	103	P	P	09 14 28.6	0.0
SCHQ	Schefferville	47.21	52	P	P	09 14 34.1	+0.1
	comp=Z,3.5nm,0.8s,baz=316,slow=5.4,SNR=5.6						
KSRS	Korea Array	51.40	281	P	P	09 15 07.0	+0.8
	comp=Z,0.3nm,0.3s,baz=46,slow=7.2,SNR=5.2						
ARCES	ARCESS Array B	53.63	359	P	P	09 15 22.7	+0.4
	comp=Z,1.4nm,0.8s,baz=7.0,slow=8.2,SNR=1.5						
ULN	Ulaanbaatar	54.16	304	⇑eP	P	09 15 28.2	+1.5
ULN				pmax	pmax		
	comp=Z,5.0nm,1.5s						
SONM	Songino Array	54.48	305	P	P	09 15 30.1	+1.1
	comp=Z,2.0nm,0.8s,baz=47,slow=7.7,SNR=10						
HHC	Hu-ho-hao-te	57.30	296	eP	P	09 15 50.0	+0.7
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,60nm,5.6s						
ZALV	Zalesovo Beam	58.21	322	P	P	09 15 57.2	+2.0
	comp=Z,0.6nm,0.6s,baz=42,slow=6.7,SNR=2.3						
ZALV	Zalesovo Beam	58.21	322	P	P	09 15 54.4	-0.9
ZALV	Zalesovo Beam	58.21	322	P	P	09 15 54.4	-0.9
FINES	FINESS Array B	61.74	358	P	P	09 16 18.0	-1.4
	comp=Z,1.4nm,0.7s,baz=352,slow=8.4,SNR=4.6						
FINES	FINESS Array B	61.74	358	P	P	09 16 16.5	-2.9
FINES	FINESS Array B	61.74	358	P	P	09 16 16.5	-2.9
KURK	Kurchatov	62.98	324	⇓eP	P	09 16 28.7	+0.8
KURK				pmax	pmax		
	comp=Z,7.0nm,2.3s						
BRVK	Borovoye	63.41	330	⇑eP	P	09 16 31.6	+0.9
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	65.09	319	P	P	09 16 43.1	+1.2
	comp=Z,0.1nm,0.4s,baz=51,slow=7.6,SNR=2.2						
WMQ	Urumqi	65.58	314	eP	P	09 16 48.4	+3.3
AKASG	Malin Array Be	72.39	355	P	P	09 17 25.6	-1.7
	comp=Z,2.1nm,0.7s,baz=9.4,slow=5.9,SNR=6.2						
AKASG	Malin Array Be	72.39	355	ceP	P	09 17 26.0	-1.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PZH	PanZhiHua	73.63	293	P	P	09 17 36.8	+1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
GERES	GERESS Array B	74.16	6	P	P	09 17 37.1	-0.7
	comp=Z,0.6nm,0.7s,baz=339,slow=7.1,SNR=4.2						
CMAR	Chiang Mai Arr	81.75	291	P	P	09 18 22.4	+2.1
	comp=Z,1.4nm,0.3s,baz=21,slow=5.4,SNR=4.6						
CMAR	Chiang Mai Arr	81.75	291	P	P	09 18 19.3	-1.1
CMAR	Chiang Mai Arr	81.75	291	P	P	09 18 19.3	-1.1
BR131	Keskin Array S	83.05	351	⇓eP	P	09 18 28.5	+1.4
NNA	Nana	95.02	104	⇑eP	P	09 19 22.1	-2.2
NNA				pmax	pmax		
	comp=Z,76nm,1.5s						
WRA	Warramunga Arr	95.30	241	P	P	09 19 24.6	-0.8
	comp=Z,0.5nm,0.9s,baz=35,slow=5.6,SNR=2.7						
BOSA	Boshof	151.44	355	PKPbc	PKPbc	09 25 54.0	-1.3
	comp=Z,4.0nm,0.9s,baz=270,slow=1.0,SNR=3.8						
BOSA	Boshof	151.44	355	PKIKP	PKPbc	09 25 54.6	-0.7
BOSA	Boshof	151.44	355		PKPbc	09 25 54.6	-0.7

*SOME **02** 09:17:07.4, 42°.07N×83°.17E, h5km*
*NNC **02** 09:17:14.2±2.3, 42°.28N×83°.16E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=20.0km s-min=9.6km az=129.0*
ISC 02 09:17:12.9±2.3**, 42°.2N**±0°.1×**83°.13E**±0°.07**, h10**km**, n18, σ2.s49**/38**, 5C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTMS	Ketmen	2.42	303	eP	Pb	09 17 56.2	-0.3
	6.5nm,0.2s						
KTMS				eS	Sg	09 18 31.2	+0.7
	76nm,0.3s						
SHLS	Shalkode	2.88	291	eP	Pn	09 18 00.5	+1.5
	4.8nm,0.3s						
SHLS				eS	Sb	09 18 38.3	-1.6
	95nm,0.6s						
PDGK	Podgornoye	2.92	295	⇓Pn	Pn	09 18 02.5	+2.9
	0.7nm,0.7s						
PDGK				⇑Pg	Pb	09 18 05.7	+0.5
	3.6nm,0.5s						
PDGK				⇓Lg	Lg	09 18 47.1	
	115nm,0.6s						
DJR	Jarkent	3.27	313	eP	Pb	09 18 11.4	+0.4
	2.5nm,0.4s						
DJR				eS	Sg	09 18 57.0	-0.8
	18nm,0.4s						
KPKS	Kokpek	3.52	293	eP	Pb	09 18 14.4	-1.0
	2.7nm,0.4s						
KPKS				eS	Sb	09 19 01.8	+3.5
	71nm,0.4s						
SATY	Saty	3.60	286	eP	Pb	09 18 16.3	-0.4
	6.0nm,0.3s						
SATY				eS	Sg	09 19 05.5	-3.0
	23nm,0.2s						
KURS	Kuram	3.88	292	eP	Pb	09 18 22.6	+1.1
	3.5nm,0.5s						
KURS				eS	Sg	09 19 16.2	-1.4
	15nm,0.8s						
BLB	Baldybastay	3.92	301	eP	Pb	09 18 20.1	-2.0
	4.8nm,0.3s						
BLB				eS	Sb	09 19 11.6	+2.0
	26nm,0.4s						
KAPS	Kapalarasan	4.15	320	eP	Pb	09 18 27.7	+1.6
	3.2nm,0.5s						
KAPS				eS	Sg	09 19 24.4	-1.8
	19nm,0.4s						
KOTS	Kotyrbulak	4.56	286	eP	Pb	09 18 31.2	-2.0
	2.4nm,0.3s						
KOTS				eS	Sb	09 19 30.5	+2.2
	26nm,0.5s						
MDOK	Medeo	4.60	285	eP	Pb	09 18 32.6	-1.1
	1.9nm,0.4s						
MDOK				eS	Sb	09 19 33.4	+4.1
	8.2nm,0.6s						
MK31	Makanchi Array	4.67	353	Pn	Pn	09 18 23.9	+0.4
	0.1nm,0.2s,baz=150,slow=13,SNR=13						
MK31				Pg	Pb	09 18 36.9	+2.0
	7.3nm,0.8s,baz=166,slow=16,SNR=10						
MK31				⇑Sn	Sn	09 19 19.8	+2.1
	1.0nm,0.4s,baz=171,slow=17,SNR=8.6						
MK31				Lg	Lg	09 19 38.5	
	5.8nm,0.5s,baz=175,slow=30,SNR=4.7						
MAKZ	Makanchi	4.72	350	⇑Pn	Pn	09 18 24.6	+0.4
	0.8nm,0.5s						
MAKZ				⇑Pg	Pg	09 18 39.8	-3.5
	2.0nm,0.6s						
MAKZ				⇑Sn	Sn	09 19 19.9	+1.0
	1.4nm,0.5s						
MAKZ				⇓Lg	Lg	09 19 39.9	
	7.8nm,0.6s						
KTBS	Karatobe	4.98	290	eP	Pb	09 18 41.3	+1.1
	0.4nm,0.5s						
KTBS				eS	Sg	09 19 48.1	-4.8
	14nm,0.6s						
MTBS	Maitube	5.04	283	eP	Pb	09 18 39.4	-1.8
	2.2nm,0.3s						
MTBS				eS	Sb	09 19 45.2	+3.4
	8.2nm,0.4s						
KUU	Kurty	5.27	291	eP	Pb	09 18 48.9	+3.8
	1.2nm,0.7s						
KUU				eS	Sg	09 20 01.3	-0.8
	10nm,0.6s						
ZSN	Zaisan	5.43	13	eP	Pb	09 18 49.7	+1.8
	1.9nm,0.5s						
ZSN				eS	Sg	09 20 02.5	-4.7
	10nm,0.7s						
KRBS	Karabastau	5.69	288	eP	Pb	09 18 54.1	+1.8
	0.6nm,0.4s						
KRBS				eS	Sg	09 20 09.8	-5.6
	4.2nm,0.4s						

*NOU **02** 09:18:01.6, 40°.94S×176°.78E, h12km, MLv3.8/6, North Island, New Zealand*
*WEL **02** 09:18:06.7±0.4, 41°S±3°×17°6E±°, h27km±2km, M3.4/24, ML3.7/24, MLv3.4/24, Error ellipse: s-maj=0.0km s-min=0.0km az=124.3*
ISC 02 09:18:05.8±1.0**, 40°.77S**±0°.03×**176°.44E**±0°.04**, h28**km**, n116, σ0.s97**/129**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BFZ	Birch Farm	0.17	301	P	Pb	09 18 12.1	+0.6
BFZ				S	Sb	09 18 15.7	+0.3
BFZ	Birch Farm	0.17	301	P	Pb	09 18 11.9	+0.4
CPWZ	Castlepoint	0.23	233	P	Pn	09 18 14.8	+1.5
CPWZ				S	Sn	09 18 21.1	+4.7
ANWZ	Angora Road	0.31	5	P	Pn	09 18 14.4	-0.1
ANWZ				S	Sn	09 18 20.0	-0.1
PRWZ	Pori Road	0.42	301	P	Pb	09 18 14.7	-0.1
PRWZ				S	Sb	09 18 20.3	-0.7
TIWZ	Tintock	0.42	269	P	Pb	09 18 15.4	+0.5
DVHZ	Dannevirke	0.52	336	P	Pb	09 18 16.1	-0.3
DVHZ				S	Sb	09 18 22.7	-0.9
PRHZ	Porangahau	0.53	16	P	Pn	09 18 17.8	+0.4
PRHZ				S	Sn	09 18 26.5	+1.1
TMWZ	Te Maipa	0.54	231	P	Pn	09 18 18.3	+0.7
POWZ	Post Office Ro	0.64	306	P	Pb	09 18 17.9	-0.5
MRZ	Mangatainoka R	0.67	279	P	Pb	09 18 18.4	-0.4
MRZ				S	Sb	09 18 27.1	-0.7
WPHZ	Waipukurau	0.71	360	P	Pn	09 18 20.1	+0.2
WPHZ				S	Sn	09 18 30.5	+0.6
HOWZ	Holdsworth Sta	0.71	260	P	Pb	09 18 19.7	0.0
HOWZ				S	Sb	09 18 29.4	+0.3
TSZ	Takapari Road	0.80	333	P	Pn	09 18 20.5	-0.7
TSZ				S	Sb	09 18 30.5	-1.2
PXZ	Pawanui	0.81	24	P	Pn	09 18 22.0	+0.7
MTW	Mount Morrison	0.81	241	P	Pb	09 18 21.3	0.0
MTW				S	Sb	09 18 32.3	+0.5
TRWZ	Traveller	0.85	222	P	Pb	09 18 22.2	+0.3
PNHZ	Pukenui	0.88	348	P	Pn	09 18 22.1	-0.2
PNHZ				S	Sb	09 18 33.6	-0.2
OGWZ	Otaki Gorge	0.97	267	P	Pn	09 18 23.2	-0.3
OGWZ				S	Sn	09 18 35.3	-1.0
PAWZ	Paruwai Farm	0.98	231	P	Pb	09 18 23.9	-0.3
OHWZ	Ohakea	1.03	303	P	Pn	09 18 24.7	+0.3
KAHZ	Kahuranaki	1.03	19	P	Pb	09 18 24.8	-0.2
CAW	Cannon Point	1.09	252	P	Pn	09 18 25.0	-0.2
MSWZ	Moikau Station	1.11	234	P	Pn	09 18 25.2	-0.3
KRHZ	Kereru	1.13	357	P	Pn	09 18 25.8	0.0
KIW	Kapiti Island	1.17	265	P	Pn	09 18 26.1	-0.1
PLWZ	Palliser	1.20	228	P	Pn	09 18 26.4	-0.3
CKHZ	Cape Kidnapper	1.22	24	P	Pb	09 18 27.0	-1.1
BHHZ	Black Hill Sta	1.31	347	P	Pn	09 18 28.6	+0.2
MCHZ	McNeill Hill	1.34	8	P	Pn	09 18 29.2	+0.5
BHW	Baring Head	1.35	241	P	Pn	09 18 28.2	-0.5
KWHZ	Kaweka Forest	1.35	359	P	Pn	09 18 28.9	+0.1
WEL	Wellington	1.36	247	P	Pn	09 18 28.7	-0.3
SNZO	South Karori	1.42	247	P	Pn	09 18 29.8	+0.1
MOVZ	Moawhango	1.46	339	P	Pn	09 18 30.9	+0.5
WAZ	Wanganui	1.51	312	P	Pn	09 18 31.7	+0.8
ARHZ	Aropaoanui	1.57	16	P	Pn	09 18 32.5	+0.7
MTVZ	Mangateitei	1.57	331	P	Pn	09 18 33.2	+1.3
WNVZ	Wahianoa	1.58	336	P	Pn	09 18 33.1	+1.0
BKZ	Black Stump Fm	1.60	1	P	Pn	09 18 32.4	0.0
BKZ	Black Stump Fm	1.60	1	P	Pn	09 18 32.3	0.0
TUVZ	Tukino	1.62	338	P	Pb	09 18 34.8	-0.3
TRVZ	Turoa	1.62	335	P	Pn	09 18 33.9	+1.1
WHVZ	Whangaehu Hut	1.63	336	P	Pn	09 18 33.9	+1.1
FWVZ	Far West T-bar	1.66	335	P	Pn	09 18 34.3	+1.0
NMHZ	Naumai	1.70	10	P	Pn	09 18 34.1	+0.5
TCW	Tory Channel	1.70	254	P	Pn	09 18 33.0	-0.6
SNVZ	South Ngauruho	1.70	338	P	Pn	09 18 34.9	+1.2
OTVZ	Oturere	1.71	339	P	Pn	09 18 35.3	+1.4
NGZ	Ngauruhoe	1.72	338	P	Pn	09 18 35.4	+1.4
ETVZ	East Tongariro	1.73	341	P	Pn	09 18 34.9	+0.8
TMVZ	Te Maari	1.75	341	P	Pn	09 18 35.2	+0.8
NNVZ	North Ngauruho	1.76	339	P	Pn	09 18 35.5	+1.0
NTVZ	North Tongarir	1.77	340	P	Pn	09 18 35.5	+0.8
WTVZ	West Tongariro	1.78	338	P	Pn	09 18 35.8	+1.0
KRVZ	Karewarewa	1.79	340	P	Pn	09 18 36.1	+1.3
WHHZ	Waihua	1.80	20	P	Pn	09 18 34.1	-0.9
RITZ	Rihia Road	1.85	346	P	Pn	09 18 36.6	+1.0
TWVZ	Taurewa	1.87	335	P	Pn	09 18 37.0	+1.0
KATZ	Kakaramea	1.89	342	P	Pn	09 18 37.8	+1.5
HATZ	Hinemaiaia	1.90	352	P	Pb	09 18 42.8	+3.0
DUWZ	D'Urville Isla	1.91	268	P	Pn	09 18 36.5	0.0
MRHZ	Matea Rd	1.94	359	P	Pn	09 18 37.2	+0.3
CMWZ	Cape Campbell	1.94	239	P	Pn	09 18 38.3	+1.4
MTHZ	Maungataniwha	1.94	9	P	Pn	09 18 36.8	-0.1
MHGZ	Mahia Peninsul	1.97	35	P	Pn	09 18 38.1	+0.7
RATZ	Rangitukua	1.97	345	P	Pn	09 18 38.1	+0.7
KNZ	Kokohu	1.99	29	P	Pn	09 18 37.1	-0.4
TUWZ	Tuamarina	2.00	250	P	Pn	09 18 36.8	-0.9
LREZ	Lake Rotokare	2.04	309	P	Pb	09 18 41.4	-0.8
VRZ	Vera Road	2.09	321	P	Pn	09 18 39.7	+0.7
SNGZ	Shannon Statio	2.10	19	P	Pn	09 18 39.3	+0.1
WATZ	Wairara	2.13	345	P	Pn	09 18 39.6	0.0
BSWZ	Blackbirch Sta	2.15	243	P	Pn	09 18 38.9	-0.9
PRGZ	Paritu Road	2.15	31	P	Pn	09 18 39.5	-0.4
RTZ	Ruatahuna	2.19	11	P	Pn	09 18 40.5	0.0
ALRZ	Allen Road	2.21	358	P	Pn	09 18 40.3	-0.2
WPRZ	Whakapapatarin	2.26	354	P	Pn	09 18 41.4	+0.1
PRRZ	Plateau Road	2.27	359	P	Pn	09 18 41.3	-0.1
RIGZ	Rimuhau	2.30	27	P	Pn	09 18 42.0	+0.1
MUGZ	Murupara	2.31	6	P	Pn	09 18 41.6	-0.3
KUTZ	Kaahu Road	2.33	348	P	Pn	09 18 42.3	+0.1
NEZ	North Egmont	2.34	309	P	Pb	09 18 46.5	-0.9
NNZ	Nelson	2.36	258	P	Pn	09 18 42.6	-0.1
KHEZ	Kahui Hut	2.38	308	P	Pb	09 18 46.1	-1.8
NMEZ	Namu Road	2.39	304	P	Pb	09 18 46.9	-1.2
RAGZ	Rawiri	2.40	19	P	Pn	09 18 43.5	+0.3
PKE	Pukeiti	2.46	309	P	Pb	09 18 47.8	-1.5
HSRZ	Hossack Road	2.46	356	P	Pn	09 18 44.0	-0.1
NBEZ	Newall Road No	2.48	306	P	Pb	09 18 47.9	-1.8
TARZ	Mount Tarawera	2.53	1	P	Pn	09 18 45.0	-0.1
URZ	Urewera	2.56	12	P	Pn	09 18 44.7	-0.8
URZ	Urewera	2.56	12	P	Pn	09 18 44.6	-0.8
HIZ	Hauiti	2.57	331	P	Pn	09 18 46.2	+0.7
HIZ	Hauiti	2.57	331	P	Pn	09 18 46.6	+1.1
TKGZ	Te Karaka	2.57	25	P	Pn	09 18 45.0	-0.5
MWZ	Matawai	2.58	19	P	Pn	09 18 45.0	-0.7
TKNZ	Takaka Hill	2.65	263	P	Pn	09 18 47.0	+0.3
KHZ	Kahutara	2.73	232	P	Pn	09 18 46.5	-1.2
KHZ	Kahutara	2.73	232	P	Pn	09 18 46.6	-1.1
LIRZ	Lichensteins R	2.77	359	P	Pn	09 18 50.3	+2.1
THZ	Tophouse	2.84	248	P	Pn	09 18 48.0	-1.3
TWGZ	Tauwhareparae	2.85	25	P	Pn	09 18 49.4	0.0
MRNZ	Matariki Terra	2.85	256	P	Pn	09 18 49.4	-0.1
QRZ	Quartz Range	2.97	268	P	Pn	09 18 53.5	+2.4
PKGZ	Pakihiroa	3.15	24	P	Pn	09 18 53.8	+0.2
HAZ	Te Kaha	3.19	19	P	Pn	09 18 54.2	+0.2
WMGZ	Waiomatatini S	3.32	28	P	Pn	09 18 55.6	-0.3
GVZ	Greta Valley S	3.36	228	P	Pn	09 18 55.4	-1.0
AMCZ	Amberley	3.71	228	P	Pn	09 19 01.2	0.0
LTZ	Lake Taylor	3.71	236	P	Pn	09 18 59.7	-1.5
OKCZ	Okains Bay	3.87	219	P	Pn	09 19 02.1	-1.4
AKCZ	Akaroa Harbour	4.06	219	P	Pn	09 19 05.3	-0.7
MQZ	McQueen's Vall	4.06	223	P	Pn	09 19 04.1	-1.9
OXZ	Oxford	4.16	231	P	Pn	09 19 05.9	-1.4
WACZ	Wakanui South	4.65	226	P	Pn	09 19 12.6	-1.6

*FUNV **02** 09:26:16.0, 10°.30N×70°.39W, h13km, MW3.2*
ISC 02 09:26:14.8±1.7**, 10°.29N**±0°.03×**70°.37W**±0°.03**, h14**km±13km**, n15, σ1.s46**/28**, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CURV	Curarigua	0.49	125	eS	Sb	09 26 33.3	+1.1
SIQV	Siquisique	0.65	57	eP	Pb	09 26 27.8	-0.2
SIQV				eS	Sb	09 26 37.9	+0.9
DABV	Dabajuro	0.68	337	eP	Pb	09 26 28.5	+0.1
DABV				eS	Sb	09 26 37.6	-0.1
SANV	Sanarito	1.14	134	eP	Pn	09 26 36.8	+0.4
SANV				eS	Sn	09 26 52.8	+0.9
SDV	Santo Domingo	1.42	191	eP	Pg	09 26 42.2	0.0
SDV				eS	Sn	09 27 00.3	+1.2
SDV				i		09 27 03.9	
	comp=Z,20nm,0.3s						
MAPV	Macapo	1.93	104	eP	Pb	09 26 49.3	-0.6
MAPV				eS	Sn	09 27 12.1	+0.7
SOCV	Socops	2.06	194	eP	Pn	09 26 49.8	+0.8
SOCV				eS	Sb	09 27 17.6	+0.3
SOCV	Socops	2.06	194	eP	Pn	09 26 49.8	+0.8
SOCV				eS	Sn	09 27 14.3	-0.2
URIC	Uribia, Colomb	2.12	311	eP	Pn	09 26 50.0	+0.1
URIC				eS	Sn	09 27 14.7	-1.4
URIC				i		09 27 22.5	
	comp=Z,6.4nm,0.4s						
MCQV	Machiques	2.15	264	eP	Pn	09 26 50.9	+0.6
MCQV				eS	Sn	09 27 15.8	-1.0
CRJC	Cerrejon, Guaj	2.58	286	eP	Pn	09 26 56.9	+0.7
CRJC				eS	Sn	09 27 28.6	+1.1
CRJC				i		09 27 29.9	
	comp=Z,11nm,0.2s						
BENV	Beln	2.74	97	eP	Pn	09 26 59.5	+1.0
BENV				eS	Sn	09 27 31.6	+0.1
PAMC	Pamplona, Colo	3.73	218	eP	Pn	09 27 14.3	+1.8
PAMC				eS	Sn	09 27 56.9	+0.4
PAMC				i		09 28 16.2	
	comp=Z,4.8nm,0.3s						
CACV	CAICARA DEL OR	4.65	125	eP	Pb	09 27 31.2	-5.0
CACV				eS	Sb	09 28 26.7	-5.4
ZARC	Zaragoza, Cauc	5.24	238	eP	Pn	09 27 33.6	+0.8
ZARC				eS	Sn	09 28 30.9	-2.2
ZARC				i		09 29 02.8	
	comp=Z,1.6nm,0.5s						

*TAP **02** 09:27:47.5, 24°.95N×122°.34E, h124km, ML3.0, C*
*JMA **02** 09:27:47.2±0.2, 25°.00N×122°.30E, h121km±2km, M2.4*
ISC 02 09:27:47.8±1.9**, 24°.94N**±0°.08×**122°.33E**±0°.03**, h124**km±11km**, n46, σ0.s51**/79**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SXI1	Grass Mountain	0.44	291	eP	Pn	09 28 06.1	+0.2
	baz=288						
SXI1				eS	Sn	09 28 19.9	+0.4
	baz=288						
TIPB	Shuangxi	0.46	274	P	Pn	09 28 06.1	+0.1
	baz=272						
TIPB				eS	Sn	09 28 19.6	0.0
	baz=272						
NWF	Wu-fen Shan	0.51	285	eP	Pn	09 28 06.6	+0.3
	baz=278						
TWC	Suao	0.54	233	eP	Pn	09 28 07.1	+0.7
	baz=227						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWC				eS	Sn	09 28 19.8	-0.6
	baz=227						
NDS	**Dongshan**	**0.63**	**241**	eP	**Pn**	**09 28 07.1**	**+0.1**
	baz=241						
FUSB	**Fushanzhiwuyua**	**0.69**	**255**	i P	**Pn**	**09 28 07.3**	**-0.2**
	baz=260						
FUSB				eS	**Sn**	**09 28 22.4**	**0.0**
	baz=260						
EWUT	**Wuta**	**0.70**	**225**	eP	**Pn**	**09 28 07.8**	**+0.2**
	baz=220						
EWUT				eS	**Sn**	**09 28 22.4**	**+0.1**
	baz=220						
YM01	**YM01**	**0.71**	**287**	i P	**Pn**	**09 28 07.8**	**+0.1**
	baz=280						
YM01				eS	**Sn**	**09 28 22.4**	**-0.3**
	baz=280						
JYNG	**Yonagunijimaku**	**0.74**	**131**	P	**Pn**	**09 28 07.6**	**-0.3**
JYNG				S	**Sn**	**09 28 23.0**	**0.0**
ENTT	**Nioudou**	**0.75**	**247**	eP	**Pn**	**09 28 08.7**	**+0.7**
	baz=249						
NWLT	**Wulai**	**0.77**	**258**	P	**Pn**	**09 28 08.4**	**+0.3**
	baz=262						
YOJ	**Yonaguni jima**	**0.79**	**127**	P	**Pn**	**09 28 08.1**	**-0.1**
YOJ				eS	**Sn**	**09 28 23.9**	**+0.3**
YOJ	**Yonaguni jima**	**0.79**	**127**	P	**Pn**	**09 28 08.2**	**0.0**
	baz=134						
NDT	**Datong Townshi**	**0.81**	**246**	i P	**Pn**	**09 28 09.0**	**+0.6**
	baz=245						
NDT				eS	**Sn**	**09 28 24.5**	**+0.5**
	baz=245						
LATG	**Datong**	**0.83**	**241**	i P	**Pn**	**09 28 09.2**	**+0.5**
	baz=241						
LATG				S	**Sn**	**09 28 25.5**	**+1.0**
	baz=241						
YHNB	**Yeheng**	**0.90**	**253**	i P	**Pn**	**09 28 09.3**	**0.0**
	baz=253						
YHNB				i S	**Sn**	**09 28 25.1**	**-0.4**
	baz=253						
NSK	**Sanguang**	**0.92**	**254**	i P	**Pn**	**09 28 09.4**	**-0.1**
	baz=253						
NSK				eS	**Sn**	**09 28 24.9**	**-0.9**
	baz=253						
NNSB	**Datong**	**1.00**	**239**	i P	**Pn**	**09 28 10.7**	**+0.4**
	baz=231						
NNSB				eS	**Sn**	**09 28 27.5**	**+0.2**
	baz=231						
NNS	**Nan Shan**	**1.00**	**240**	eP	**Pn**	**09 28 10.5**	**+0.3**
	baz=247						
NNS				eS	**Sn**	**09 28 27.5**	**+0.2**
	baz=247						
NACB	**Ninganchiao**	**1.01**	**221**	P	**Pn**	**09 28 09.9**	**-0.4**
	baz=216						
NACB				eS	**Sn**	**09 28 26.7**	**-0.5**
	baz=216						
ETLH	**Xiulin Townshi**	**1.06**	**227**	eP	**Pn**	**09 28 10.7**	**-0.1**
	baz=227						
ETLH				eS	**Sn**	**09 28 27.9**	**-0.4**
	baz=227						
TWD	**Chiawan**	**1.08**	**218**	eS	**Sn**	**09 28 27.9**	**-0.6**
	baz=215						
NFF	**Wufeng Townshi**	**1.14**	**255**	eP	**Pn**	**09 28 11.4**	**-0.2**
	baz=254						
NFF				eS	**Sn**	**09 28 29.1**	**-0.6**
	baz=254						
FUSS	**Fushou**	**1.20**	**235**	P	**Pn**	**09 28 11.8**	**-0.6**
	baz=230						
FUSS				eS	**Sn**	**09 28 30.2**	**-0.9**
	baz=230						
LIOB	**Emei**	**1.23**	**256**	i P	**Pn**	**09 28 12.4**	**0.0**
	baz=249						
LIOB				eS	**Sn**	**09 28 29.9**	**-1.3**
	baz=249						
NSTT	**Nanjuang**	**1.24**	**256**	P	**Pn**	**09 28 12.6**	**0.0**
	baz=248						
NSTT				eS	**Sn**	**09 28 30.9**	**-0.6**
	baz=248						
WHF	**Hehuan Shan**	**1.25**	**231**	eP	**Pn**	**09 28 13.3**	**+0.1**
	baz=226						
CHGB	**Renai**	**1.37**	**230**	eP	**Pn**	**09 28 14.8**	**+0.6**
	baz=231						
CHGB				eS	**Sn**	**09 28 34.1**	**-0.1**
	baz=231						
IRIF	**Iriomote-Funau**	**1.41**	**115**	P	**Pn**	**09 28 14.2**	**-0.3**
IRIF				S	**Sn**	**09 28 34.4**	**-0.3**
WHP	**Taichung City**	**1.42**	**243**	eP	**Pn**	**09 28 15.1**	**+0.5**
	baz=250						
WHP				eS	**Sn**	**09 28 34.9**	**-0.1**
	baz=250						
OWD	**Renai**	**1.44**	**227**	eP	**Pn**	**09 28 15.1**	**+0.2**
	baz=223						
OWD				eS	**Sn**	**09 28 34.7**	**-0.8**
	baz=223						
WUSB	**Renai**	**1.45**	**230**	P	**Pn**	**09 28 15.6**	**+0.5**
	baz=230						
WUSB				eS	**Sn**	**09 28 36.0**	**+0.2**
	baz=230						
WCS	**Beigang Elemen**	**1.56**	**236**	eP	**Pn**	**09 28 16.7**	**+0.5**
	baz=243						
VWDT	**VWDT**	**1.60**	**223**	eP	**Pn**	**09 28 16.9**	**+0.3**
	baz=219						
VWDT				eS	**Sn**	**09 28 38.2**	**-0.4**
	baz=219						
HATJ	**Hateruma jima**	**1.61**	**123**	P	**Pn**	**09 28 17.3**	**+0.6**
HATJ				S	**Sn**	**09 28 39.6**	**+0.9**
HGSD	**Ruisui**	**1.66**	**210**	eP	**Pn**	**09 28 17.7**	**+0.4**
	baz=218						
JKRS	**Kuro-shima**	**1.69**	**114**	P	**Pn**	**09 28 18.0**	**+0.4**
JKRS				S	**Sn**	**09 28 40.4**	**+0.1**
TYC	**Yuchr**	**1.69**	**233**	eP	**Pn**	**09 28 18.2**	**+0.6**
	baz=240						
SSLB	**Suanglung**	**1.70**	**228**	eP	**Pn**	**09 28 18.6**	**+0.8**
	baz=232						
SSLB				eS	**Sn**	**09 28 41.2**	**+0.5**
	baz=232						
JIJ	**Ishigaki jima**	**1.75**	**109**	P	**Pn**	**09 28 18.2**	**-0.2**
JIJ				S	**Sn**	**09 28 40.7**	**-1.0**
YULB	**Yu-li**	**1.81**	**212**	eP	**Pn**	**09 28 17.7**	**-1.4**
	baz=217						
JISG	**Ishigakijimahi**	**1.84**	**101**	P	**Pn**	**09 28 18.8**	**-0.6**
JISG				S	**Sn**	**09 28 43.0**	**-0.6**
CHN5	**Tsauling**	**2.01**	**229**	eP	**Pn**	**09 28 22.2**	**+0.5**
	baz=230						
CHN5				eS	**Sn**	**09 28 47.9**	**+0.3**
	baz=230						
JTJ	**Tarama**	**2.18**	**97**	P	**Pn**	**09 28 24.2**	**+0.5**
JTJ				S	**Sn**	**09 28 51.5**	**+0.4**
CHN4	**Tsaushan**	**2.24**	**225**	eP	**Pn**	**09 28 24.7**	**+0.3**
	baz=227						
JIRB	**Irabujima**	**2.59**	**92**	eS	**Sn**	**09 29 00.4**	**0.0**

*DJA **02** 09:32:08.0±0.8, 12˚N±4˚×9˚6E±1˚6, h10^{km}, M5.3/7, mb5.8/7, mB6.3/6, MLv4.5/3, Mw(mB)6.0/6, MwMwp6.4/2, Mwp6.3/2*

*IDC **02** 09:33:47.9±4.1, 4˚85N×96˚56E, h80^{km}±28^{km}, mb3.5/5, mb1 3.8/7, mb1mx3.4/51, mbtmp3.9/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/91, Error ellipse: s-maj=62.6km s-min=16.7km az=65.0*

ISC 02 09:33:43.9±1.2**, 4˚95N**±0˚09×**96˚4E**±0˚2**, h50**^{km}**, n18, σ1^{s}94**/14**, mb4.1**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.57**	**61**	P	**Pn**	**09 33 56.6**	**+0.6**
	9.3nm4µm38µm2µm,0.5s						
KCSI	**Kotacane, Aceh**	**1.94**	**137**	P	**Pn**	**09 34 15.8**	**+1.3**
	12µm647nm,0.9s						
TSI	**Tuntungan**	**2.56**	**124**	P	**Pn**	**09 34 21.3**	**-1.6**
	22µm302nm,0.9s						
PSI	**Prapat**	**3.27**	**131**	P	**Pn**	**09 34 35.2**	**+2.4**
	5.5nm,0.3s,baz=309,slow=14,SNR=20						
PSI				S	**Sn**	**09 35 13.6**	**+3.0**
	3.5nm,0.3s,baz=319,slow=20,SNR=1.8						
PSI				LR	LR	09 36 11.7	
	comp=Z,258nm,19.1s,baz=232,slow=45						
GSI	**Gunungsitoli**	**3.80**	**163**	P	Pn	09 34 47.9	+8.0
	2µm50nm,0.8s						
MNSI	**Mandailing Nat**	**5.18**	**143**	P	Pn	09 35 14.5	+16
MDSI	**Maura Dua**	**12.15**	**140**	P	**P**	**09 36 42.1**	**-3.6**
LWLI	**Liwa**	**12.49**	**142**	P	Pn	09 36 31.6	-7.5
	98µm4µm,1.1s						
CMAR	**Chiang Mai Arr**	**13.64**	**10**	P	**P**	**09 37 00.4**	**-1.9**
	0.9nm,0.3s,baz=200,slow=10,SNR=1.7						
H08S2	**Diego Garcia H**	**26.97**	**243**	T	T	10 06 13.3	
	baz=61,slow=76,SNR=46						
H08S3	**Diego Garcia H**	**26.97**	**243**	T	T	10 06 19.9	
	baz=61,slow=76,SNR=63						
H08S1	**Diego Carcia H**	**26.99**	**243**	T	T	10 06 26.2	
	baz=61,slow=76,SNR=11						
MKAR	**Makanchi Array**	**43.44**	**346**	P	**P**	**09 41 43.6**	**+1.6**
	0.1nm,0.3s,baz=141,slow=9.3,SNR=2.6						
MKAR				PcP	**PcP**	**09 43 30.1**	**+0.6**
	0.2nm,0.7s,baz=143,slow=5.0,SNR=1.3						
SONM	**Songino Array**	**43.57**	**10**	P	**P**	**09 41 44.6**	**+1.5**
	0.5nm,0.5s,baz=185,slow=8.3,SNR=5.3						
WRA	**Warramunga Arr**	**44.72**	**125**	P	**P**	**09 41 52.2**	**-0.3**
	1.1nm,0.5s,baz=302,slow=9.2,SNR=23						
ASAR	**Alice Springs**	**46.30**	**130**	P	**P**	**09 42 04.8**	**-0.2**
	2.0nm,0.4s,baz=301,slow=7.8,SNR=41						
JHJ	**Hachijo jima 2**	**49.10**	**50**	P	**P**	**09 42 26.9**	**+0.3**
	84nm,0.6s,baz=64,slow=23,SNR=4.7						
STKA	**Stephens Creek**	**56.45**	**134**	P	**P**	**09 43 20.3**	**-0.6**
	2.2nm,0.7s,baz=317,slow=14,SNR=3.3						

*IDC **02** 09:33:51.7±5.2, 20˚98S×169˚21E, h0^{km}, mb3.9/3, mb1 4.1/3, mb1mx3.6/42, mbtmp3.8/3, ML2.2/1, Error ellipse: s-maj=216.1km s-min=28.9km az=148.0*

*NEIC **02** 09:34:02.5±1.2, 19˚96S±0˚07×168˚50E±0˚09, h39^{km}±11^{km}, mb4.2/8, Error ellipse: s-maj=13.0km s-min=9.7km az=102.0*

ISC 02 09:34:01.7±1.0**, 19˚97S**±0˚07×**168˚5E**±0˚1**, h35**^{km}**, n24, σ1^{s}26**/25**, mb4.2**/7**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**1.39**	**234**		**Pn**	**09 34 24.1**	**-0.5**
LIFNC				Sn	**Sn**	**09 34 43.2**	**+1.3**
MARNC	**Mare, Loyalty**	**1.56**	**195**	Pn	**Pn**	**09 34 27.1**	**+0.2**
PINNC	**Pines Island,**	**2.80**	**199**	Pn	**Pn**	**09 34 45.8**	**+1.8**
DZM	**Mont Dzumac**	**2.81**	**221**	Pn	Pn	09 34 37.1	-7.2
	0.4nm,0.3s,baz=90,slow=13,SNR=24						
DZM				Sn	**Sn**	**09 35 12.9**	**-4.1**
	11nm,0.3s,baz=87,slow=23,SNR=12						
DZM	**Mont Dzumac**	**2.81**	**221**		**Pn**	**09 34 44.9**	**+0.6**
OUENC	**Ouen Island, N**	**2.87**	**211**	Pn	**Pn**	**09 34 46.5**	**+1.6**
ONTNC	**Ouen Toro**	**2.98**	**218**		**Pn**	**09 34 48.1**	**+1.6**
KOUNC	**Koumac, New Ca**	**3.95**	**261**	Pn	**Pn**	**09 35 01.3**	**+1.4**
SANVU	**Saraoutou**	**4.65**	**345**	Pn	**Pn**	**09 35 10.0**	**+0.6**
TUWZ	**Tuamarina**	**21.90**	**169**	P	**P**	**09 38 51.6**	**-0.1**
WR0	**Warramunga Arr**	**31.84**	**264**	P	**P**	**09 40 23.7**	**+0.2**
WR0				IAmb	IAmb	09 40 51.6	
	comp=Z,7.8nm,1.4s						
WB0	**Warramunga Arr**	**32.00**	**264**	P	**P**	**09 40 25.0**	**0.0**
WB0				IAmb	IAmb	09 40 28.8	
	comp=Z,3.8nm,1.1s						
WB2	**Warramunga Arr**	**32.02**	**264**	P	**P**	**09 40 24.4**	**-0.8**
WB2				IAmb	IAmb	09 40 45.5	
	comp=Z,3.7nm,1.1s						
WRA	**Warramunga Arr**	**32.03**	**264**	P	**P**	**09 40 24.9**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=100,slow=7.8,SNR=7.3						
WRA	**Warramunga Arr**	**32.03**	**264**	P	**P**	**09 40 24.9**	**-0.4**
AS31	**Alice Springs**	**32.24**	**257**	P	**P**	**09 40 27.8**	**+0.8**
ASAR	**Alice Springs**	**32.24**	**257**	P	**P**	**09 40 27.3**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=85,slow=8.7,SNR=28						
ASAR	**Alice Springs**	**32.24**	**257**	P	**P**	**09 40 27.6**	**+0.5**
MTN	**Manton Dam**	**36.43**	**275**	P	**P**	**09 41 02.7**	**-0.7**
FORT	**Forrest**	**37.87**	**245**	P	**P**	**09 41 15.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.44**	**265**	P	**P**	**09 41 37.9**	**+0.9**
FITZ				IAmb	IAmb	09 41 44.8	
	comp=Z,4.0nm,1.2s						
QSPA	**South Pole Qui**	**70.09**	**180**	P	**P**	**09 45 10.2**	**+0.1**
ILAR	**Eielson Array**	**91.14**	**18**	P	**P**	**09 47 01.3**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=235,slow=4.7,SNR=5.4						
ILAR	**Eielson Array**	**91.14**	**18**	P	**P**	**09 47 02.1**	**-0.3**

*IDC **02** 09:45:31.3±3.8, 23˚08N×143˚09E, h86^{km}±29^{km}, mb3.4/7, mb1 3.6/8, mb1mx3.2/61, mbtmp3.8/8, MS3.2/2, Ms1 3.2/2, ms1mx2.6/46, Error ellipse: s-maj=43.8km s-min=24.7km az=84.0*

ISC 02 09:45:29.6±1.3**, 23˚0N**±0˚1×**143˚1E**±0˚3**, h71**^{km}**, n16, σ0^{s}93**/9**, mb3.7**/7**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.17**	**349**	P	**Pn**	**09 46 31.8**	**+1.1**
	28nm,0.3s,baz=88,slow=23,SNR=12						
JCJ				S	**Sn**	**09 47 18.0**	**-0.2**
	22nm,0.3s,baz=288,slow=20,SNR=15						
JOW	**Kunigami**	**13.95**	**289**	LR	LR	09 53 22.5	
	comp=Z,72nm,19.7s,baz=241,slow=34						
H11N1	**WAKE ISLAND Hy**	**22.43**	**94**	T	T	10 14 38.5	
	baz=282,slow=74,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**22.43**	**94**	T	T	10 14 16.3	
	baz=282,slow=74,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**22.44**	**94**	T	T	10 14 34.4	
	baz=282,slow=74,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**22.53**	**97**	T	T	10 14 16.8	
	baz=283						
H11S1	**WAKE ISLAND Hy**	**22.54**	**97**	T	T	10 13 57.2	
	baz=283						
H11S2	**WAKE ISLAND Hy**	**22.55**	**97**	T	T	10 14 13.3	
	baz=283						
KLR	**Kul'dur**	**27.68**	**344**	P	**P**	**09 51 11.4**	**+0.7**
	1.0nm,0.6s,baz=127,slow=6.2,SNR=5.0						
SONM	**Songino Array**	**38.28**	**320**	P	**P**	**09 52 43.3**	**+0.1**
	0.5nm,0.5s,baz=132,slow=8.2,SNR=5.0						
WRA	**Warramunga Arr**	**43.51**	**192**	P	**P**	**09 53 26.9**	**+0.7**
	0.7nm,0.9s,baz=7.3,slow=9.1,SNR=2.1						
LEM	**Lembang**	**45.60**	**234**	LR	LR	10 13 58.5	
	comp=Z,39nm,19.1s,baz=70,slow=37						
ZALV	**Zalesovo Beam**	**53.14**	**321**	P	**P**	**09 54 39.5**	**-0.5**
	0.4nm,0.3s,baz=117,slow=7.4,SNR=2.8						
MKAR	**Makanchi Array**	**53.75**	**312**	P	**P**	**09 54 44.5**	**-0.1**
	1.4nm,0.5s,baz=88,slow=8.9,SNR=21						
YKA	**Yellowknife Ar**	**75.37**	**28**	P	**P**	**09 57 05.0**	**-0.2**
	0.1nm,0.5s,baz=292,slow=6.0,SNR=4.4						
FINES	**FINESS Array B**	**81.97**	**334**	P	**P**	**09 57 39.8**	**-1.6**
	0.5nm,0.3s,baz=66,slow=6.0,SNR=11						

*NEIC **02** 09:45:53.1±1.3, 57˚09N±0˚04×157˚71W±0˚08, h12^{km}±7^{km}, Error ellipse: s-maj=7.1km s-min=4.8km az=129.0*

*AEIC **02** 09:45:53±1.2, 57˚12N±0˚04×157˚74W±0˚08, h16^{km}±6^{km}, ML3.3, ML3.5/34(NEIC), Error ellipse: s-maj=7.8km s-min=3.4km az=128.0*

ISC 02 09:45:52.8±1.3**, 57˚09N**±0˚04×**157˚70W**±0˚04**, h11**^{km}±12^{km}**, n70, σ0^{s}69**/77**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.31**	**246**		**Pb**	**09 46 00.2**	**-0.3**
ANPB	**Aniakchak Plen**	**0.43**	**228**		**Pg**	**09 46 01.7**	**+0.4**
PLBL	**Peulik Blue Cr**	**0.77**	**38**		**Pg**	**09 46 08.2**	**+0.5**
CHGN	**Chignik**	**0.89**	**207**		**Pb**	**09 46 09.0**	**-1.2**
CHGN					**Sg**	**09 46 20.9**	**-0.5**
CHGN	**Chignik**	**0.89**	**207**	P	**Pb**	**09 46 09.2**	**-1.0**
	baz=24						
CHGN				S	**Sb**	**09 46 22.4**	**+0.4**
	baz=24						
PLK1	**Peulik 1**	**0.92**	**39**		**Pb**	**09 46 10.6**	**-0.2**
PLK3	**Peulik 3**	**0.98**	**52**		**Pb**	**09 46 11.7**	**-0.1**
PLK3					**Sn**	**09 46 26.8**	**+0.4**
PLK2	**Peulik 2**	**1.00**	**47**		**Pg**	**09 46 12.4**	**+0.3**
VNHG	**Veniaminof 1**	**1.19**	**223**		**Pn**	**09 46 14.6**	**-0.9**
VNFG	**Fog Glacier, M**	**1.31**	**232**		**Pb**	**09 46 17.6**	**+0.2**
VNFG	**Fog Glacier, M**	**1.31**	**232**	P	**Pb**	**09 46 17.6**	**+0.2**
	baz=49						
CAHL	**Cahill**	**1.61**	**52**		**Pb**	**09 46 22.2**	**-0.4**
ANCK	**Angle Creek**	**1.62**	**46**		**Pb**	**09 46 22.4**	**-0.4**
CHIR	**Chirikof Islan**	**1.72**	**137**		**Pn**	**09 46 22.9**	**+0.3**
CHIR				IAML		09 46 49.6	
	comp=N,398nm,0.6s						
CHIR	**Chirikof Islan**	**1.72**	**137**	P	**Pn**	**09 46 23.2**	**+0.5**
	baz=319						
CHIR				S	**Sb**	**09 46 46.7**	**+0.8**
	baz=319						
SII	**Sitkinak Islan**	**2.00**	**104**		**Pn**	**09 46 27.1**	**+0.5**
SII					**Pb**	**09 46 28.7**	**-0.6**
SII				IAML		09 46 59.6	
	comp=N,428nm,1.3s						
SII	**Sitkinak Islan**	**2.00**	**104**	P	**Pn**	**09 46 27.9**	**+1.3**
	baz=288						
SII				S	**Sb**	**09 46 53.3**	**-0.9**
	baz=288						
SDPT	**Sand Point**	**2.34**	**223**		**Pn**	**09 46 31.7**	**+0.5**
SDPT				IAML		09 47 12.2	
	comp=N,200nm,1.0s						
SDPT				IAML		09 47 14.4	
	comp=E,214nm,1.1s						
SDPT	**Sand Point**	**2.34**	**223**	P	**Pn**	**09 46 32.4**	**+1.2**
	baz=40						
OHAK	**Old Harbor**	**2.41**	**85**	Pn	**Pn**	**09 46 32.8**	**+0.7**
OHAK	**Old Harbor**	**2.41**	**85**	P	**Pn**	**09 46 33.0**	**+0.9**
	baz=269						
OHAK				S	**Sb**	**09 47 04.6**	**-1.1**
	baz=269						
P18K	**Big Mountain,**	**2.65**	**28**		**Pn**	**09 46 35.1**	**-0.4**
P18K				IAML		09 47 18.7	
	comp=E,147nm,0.8s						
P18K	**Big Mountain,**	**2.65**	**28**	P	**Pn**	**09 46 35.2**	**-0.4**
	baz=211						
BLHA	**Black Hill**	**2.80**	**242**		**Pn**	**09 46 38.1**	**+0.5**
BLHA	**Black Hill**	**2.80**	**242**	P	**Pn**	**09 46 38.1**	**+0.5**
	baz=58						
Q19K	**Cape Douglas,**	**2.83**	**48**		**Pn**	**09 46 38.1**	**0.0**
Q19K	**Cape Douglas,**	**2.83**	**48**	P	**Pn**	**09 46 38.0**	**0.0**
	baz=232						
KDAK	**Kodiak Island**	**2.85**	**74**	Pn	**Pn**	**09 46 38.5**	**+0.3**
KDAK	**Kodiak Island**	**2.85**	**74**	P	**Pn**	**09 46 38.8**	**+0.6**
	baz=259						
O18K	**Koktuh Hills**	**3.06**	**24**		**Pn**	**09 46 41.8**	**+0.7**
O18K				IAML		09 47 31.1	
	comp=E,162nm,0.8s						
O18K				IAML		09 47 34.3	
	comp=N,196nm,0.6s						
P19K	**Oil Pt**	**3.48**	**41**	Pn	**Pn**	**09 46 46.2**	**-0.7**
O19K	**Port Alsworth**	**3.58**	**28**		**Pn**	**09 46 48.1**	**-0.1**
O19K	**Port Alsworth**	**3.58**	**28**	P	**Pn**	**09 46 48.1**	**-0.1**
	baz=212						
N19K	**Bonanza Creek**	**4.08**	**23**		**Pn**	**09 46 55.6**	**+0.3**
N19K				IAML		09 48 02.6	
	comp=E,85nm,0.9s						
N19K				IAML		09 48 03.0	
	comp=N,95nm,0.5s						
N19K	**Bonanza Creek**	**4.08**	**23**	P	**Pn**	**09 46 55.5**	**+0.3**
	baz=206						
SVW2	**Sparrevohn**	**4.16**	**14**		**Pn**	**09 46 56.1**	**-0.1**
SVW2				IAML		09 48 07.3	
	comp=E,67nm,0.8s						
SVW2				IAML		09 48 11.3	
	comp=N,64nm,0.6s						
RED	**Redoubt Volcan**	**4.21**	**35**		**Pn**	**09 46 57.5**	**+0.6**
RDWB	**Redoubt West**	**4.24**	**35**		**Pn**	**09 46 57.8**	**+0.4**
RSO	**Redoubt South**	**4.25**	**35**		**Pn**	**09 46 58.2**	**+0.6**
M19K	**Big River Lodg**	**5.11**	**18**		**Pn**	**09 47 09.4**	**+0.1**
M19K				IAML		09 48 46.6	
	comp=E,43nm,1.4s						
M19K				IAML		09 48 55.4	
	comp=N,29nm,0.8s						
L19K	**White Mountain**	**5.30**	**15**		**Pn**	**09 47 11.8**	**-0.2**
L19K				IAML		09 48 58.0	
	comp=N,37nm,0.9s						
L19K	**White Mountain**	**5.30**	**15**	P	**Pn**	**09 47 12.4**	**+0.5**
	baz=197						
M20K	**Styx River**	**5.34**	**24**		**Pn**	**09 47 13.4**	**+0.9**
M20K				IAML		09 48 43.6	
	comp=E,30nm,0.7s						
M20K				IAML		09 48 49.7	
	comp=N,25nm,1.0s						
L20K	**Farewell, AK**	**5.74**	**18**		**Pn**	**09 47 18.4**	**+0.6**
L20K	**Farewell, AK**	**5.74**	**18**	P	**Pn**	**09 47 18.4**	**+0.6**
	baz=202						
TT01	**Tatalina**	**5.89**	**7**		**Pn**	**09 47 19.6**	**-0.3**
TTA	**Tatalina**	**5.92**	**7**	Pn	**Pn**	**09 47 20.1**	**-0.3**
K20K	**Telida**	**6.54**	**15**	Pn	**Pn**	**09 47 28.0**	**-0.8**
SPIA	**Saint Paul Isl**	**6.83**	**276**	Pn	**Pn**	**09 47 34.0**	**+1.1**
CAST	**Castle Rocks**	**6.93**	**21**	Pn	**Pn**	**09 47 34.4**	**+0.2**
EYAK	**Cordova Ski Ar**	**7.10**	**56**	Pn	**Pn**	**09 47 36.1**	**-0.4**
J20K	**Nowinta River**	**7.32**	**12**	Pn	**Pn**	**09 47 39.4**	**-0.1**
TRF	**Thorofare Moun**	**7.36**	**27**	Pn	**Pn**	**09 47 42.1**	**+1.9**
KLU	**Klutina**	**7.46**	**49**	Pn	**Pn**	**09 47 41.9**	**+0.2**
BPAW	**Bear Paw Mtn.**	**7.76**	**22**		**Pn**	**09 47 44.6**	**-1.1**
BERG	**Berg Lake**	**7.99**	**60**	Pn	**Pn**	**09 47 49.0**	**+0.2**
GLB	**Gilahina Butte**	**8.34**	**53**	Pn	**Pn**	**09 47 53.4**	**-0.1**
ANM	**Nome**	**8.37**	**337**	Pn	**Pn**	**09 47 54.6**	**+0.6**
WAX	**Waxell Ridge**	**8.41**	**60**	Pn	**Pn**	**09 47 55.0**	**+0.4**
I21K	**Tanana**	**8.57**	**16**		**Pn**	**09 47 54.5**	**-2.1**
MLY	**Manley**	**8.64**	**20**	Pn	**Pn**	**09 47 56.5**	**-1.2**
WRH	**Wood River Hil**	**8.76**	**28**	Pn	**Pn**	**09 47 59.4**	**+0.1**
H21K	**Melozitna Rive**	**8.90**	**13**		**Pn**	**09 48 01.1**	**-0.2**
CCB	**Clear Creek Bu**	**8.97**	**28**	Pn	**Pn**	**09 48 02.4**	**+0.3**
IMAR	**Indian Mountai**	**9.12**	**10**	Pn	**Pn**	**09 48 04.2**	**0.0**
MDM	**Murphy Dome**	**9.12**	**26**	Pn	**Pn**	**09 48 04.9**	**+0.7**
IL31		**9.31**	**30**	Pn	**Pn**	**09 48 07.2**	**+0.3**
J25K	**Salcha River,**	**9.63**	**33**	Pn	**Pn**	**09 48 11.4**	**+0.1**
BCAR	**Beaver Creek A**	**9.93**	**46**	Pn	**Pn**	**09 48 14.4**	**-1.0**
H24K	**Noodor Dome**	**9.94**	**24**	Pn	**Pn**	**09 48 14.1**	**-1.3**

*IDC **02** 09:47:31.6±1.8, 7˚69S×119˚17E, h0^{km}, mb4.1/3, mb1 4.2/5, mb1mx3.5/45, mbtmp4.0/5, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/75, Error ellipse: s-maj=177.7km s-min=22.2km az=55.0*

*NEIC **02** 09:47:34±1.1, 7˚80S±0˚03×119˚12E±0˚07, h8^{km}±6^{km}, mb4.2/14, Error ellipse: s-maj=10.4km s-min=4.0km az=99.0*

*DJA **02** 09:47:34.6±1.7, 8˚S±2˚×11˚9E±˚, h19^{km}±16^{km}, M4.0/12, MLv4.0/12*

ISC 02 09:47:36.7±0.7**, 7˚82S**±0˚04×**119˚10E**±0˚05**, h34**^{km}**, n38, σ1^{s}35**/40**, mb4.2**/8**, Flores Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.64**	**233**	P	**Pn**	**09 48 01.5**	**-1.7**
WBSI	**Waikabubak, Su**	**1.83**	**171**	P	**Pn**	**09 48 05.3**	**-0.5**
WBSI				S	**Sn**	**09 48 28.7**	**+0.9**
BSSI	**Bau Bau, Buton**	**2.17**	**40**	P	**Pn**	**09 48 09.9**	**-0.5**
BKSI	**Bulukumba**	**2.69**	**22**	P	**Pn**	**09 48 16.6**	**-0.9**
BASI	**Baing, Sumba**	**2.79**	**149**	P	**Pn**	**09 48 18.9**	**-0.1**
KAPI	**Kappang**	**2.87**	**13**		**Pn**	**09 48 18.9**	**-1.1**
KAPI					**Sb**	**09 48 59.7**	**-2.2**
MMRI	**Maumere**	**3.21**	**105**		**Pn**	**09 48 24.1**	**-0.7**
MMRI	**Maumere**	**3.21**	**105**	P	**Pn**	**09 48 25.3**	**+0.5**
BNSI	**Bone**	**3.54**	**17**	P	**Pn**	**09 48 28.9**	**-0.5**
SPSI	**Sidrap Palu**	**3.89**	**10**	P	**Pn**	**09 48 33.6**	**-0.5**
IGBI	**Denpasar**	**4.03**	**256**	P	**Pn**	**09 48 34.3**	**-1.8**
TTSI	**Tana Toraja**	**4.80**	**9**	P	**Pn**	**09 48 47.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**4.94**	**262**	Pn	**Pn**	**09 48 48.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**12.04**	**149**	Pn	**Pn**	**09 50 25.5**	**-0.5**
	0.2nm,0.3s,baz=325,slow=12,SNR=7.8						
FITZ				Sn	**Sn**	**09 52 34.7**	**-4.4**
	0.4nm,0.3s,baz=186,slow=23,SNR=7.0						
FITZ	**Fitzroy Crossi**	**12.04**	**149**		**Pn**	**09 50 24.8**	**-1.1**
KNRA	**Kununurra**	**12.26**	**130**		**Pn**	**09 50 27.8**	**-1.2**
MTN	**Manton Dam**	**12.85**	**114**		**Pn**	**09 50 35.5**	**-1.6**
WB0	**Warramunga Arr**	**19.00**	**130**	P	**P**	**09 51 55.6**	**0.0**
WB0				IAmb	IAmb	09 51 57.8	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**19.06**	**131**	P	**P**	**09 51 55.9**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=308,slow=12,SNR=27						
WRA	**Warramunga Arr**	**19.06**	**131**	P	**P**	**09 51 56.2**	**-0.1**
WRAB	**Tennant Creek**	**19.06**	**131**	P	**P**	**09 51 56.3**	**0.0**
WRAB				IAmb	IAmb	09 52 16.3	
	comp=Z,13nm,0.6s						
WB2	**Warramunga Arr**	**19.07**	**131**	P	**P**	**09 51 56.2**	**-0.2**
WR0	**Warramunga Arr**	**19.22**	**130**	P	**P**	**09 51 58.0**	**-0.1**
AS31	**Alice Springs**	**21.21**	**140**	P	**P**	**09 52 20.2**	**+0.5**
AS31				IAmb	IAmb	09 52 23.4	
	comp=Z,4.2nm,0.3s						
ASAR	**Alice Springs**	**21.21**	**140**	P	**P**	**09 52 19.9**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=315,slow=8.9,SNR=58						
ASAR	**Alice Springs**	**21.21**	**140**	P	**P**	**09 52 20.2**	**+0.5**
MORW	**Morawa**	**21.33**	**187**	P	**P**	**09 52 24.0**	**+3.2**
MORW				IAmb	IAmb	09 52 35.4	
	comp=Z,15nm,1.2s						
GSI	**Gunungsitoli**	**23.30**	**292**		**S**	**09 56 54.0**	**+1.8**
COEN	**Coen**	**24.41**	**107**	P	**P**	**09 52 52.1**	**-0.2**
COEN				IAmb	IAmb	09 53 14.6	
	comp=Z,14nm,1.4s						
CTA	**Charters Tower**	**28.98**	**118**	LR	LR	10 04 53.9	
	comp=Z,93nm,19.3s,baz=327,slow=36						
BBOO	**Buckleboo**	**29.42**	**150**	P	**P**	**09 53 37.6**	**+0.4**
STKA	**Stephens Creek**	**31.80**	**142**	P	**P**	**09 53 58.7**	**+0.5**
	comp=Z,2.4nm,0.4s,baz=318,slow=10,SNR=16						
STKA	**Stephens Creek**	**31.80**	**142**	P	**P**	**09 53 58.8**	**+0.6**
STKA				IAmb	IAmb	09 54 09.7	
	comp=Z,1.7nm,1.2s						
ARMA	**Armidale**	**37.84**	**131**	P	**P**	**09 54 52.8**	**+2.3**
ARMA				IAmb	IAmb	09 55 10.6	
	comp=Z,11nm,1.5s						
CAN	**Canberra**	**38.72**	**139**	P	**P**	**09 55 00.2**	**+2.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	63.46	333	P	P	09 58 02.8	-0.4
	comp=Z,0.5nm,0.6s,baz=132,slow=7.3,SNR=7.2						
ABKAR	Akbulak array	76.66	325	P	P	09 59 25.1	+0.9
ABKAR				IAmb	IAmb	09 59 39.4	
	comp=Z,2.2nm,1.4s						
QSPA	South Pole Qui	82.16	180	P	P	09 59 54.5	+0.4

*NEIC **02** 09:52:18.9±1.4, 4°.22S±0°.04×135°.43E±0°.08, h35km±2km, mb4.4/24, Error ellipse: s-maj=14.4km s-min=6.8km az=97.0*
*DJA **02** 09:52:18.6±0.8, 4°S±3°×13°5E±°, h20km±7km, M4.7/7, mB5.5/3, mb4.8/7, MLv4.6/7, Mw(mB)4.9/3*
*IDC **02** 09:52:20.1±2.3, 3°.98S×135°.44E, h42km±22km, mb3.8/8, mb1 3.9/10, mb1mx3.6/33, mbtmp4.1/10, ML4.4/4, MS3.3/9, Ms1 3.3/9, ms1mx2.9/61, Error ellipse: s-maj=24.5km s-min=13.5km az=53.0*
ISC 02 09:52:16.2±0.5**, 4°.19S**±0°.05×**135°.37E**±0°.07**, h20**km**, n61, σ2ˢ00**/59**, mb4.3**/15**, MS3.3**/4**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRPI	Serui, Papua	2.46	21	P	Pn	09 52 55.0	-0.2
BAKI	Biak	3.07	14	P	Pn	09 53 03.0	-0.5
SIJI	Sorong	5.26	309	P	Pn	09 53 36.0	+2.2
	26nm,0.3s,baz=225,slow=21,SNR=90						
SIJI				S	Sn	09 54 33.1	-0.8
	7.3nm,0.3s,baz=321,slow=23,SNR=11						
SIJI				LR	LR	09 56 18.8	
	comp=Z,241nm,18.9s,baz=126,slow=46						
SWI	Sorong	5.27	309	P	Pn	09 53 36.4	+2.5
SAUI	Saumlaki	5.53	227	Pn	Pn	09 53 38.7	+1.3
JAY	Jayapura	5.58	73	P	Pn	09 53 39.4	+1.3
	2.7nm,0.3s,baz=225,slow=13,SNR=12						
JAY	Jayapura	5.58	73	P	Pn	09 53 39.1	+1.0
	0.1nm8.8nm,0.8s						
KDU	Kakadu	8.92	199	P	Pn	09 54 28.9	+5.0
MTN	Manton Dam	9.56	206	Pn	Pn	09 54 34.2	+1.4
MTN				Sn	Sn	09 56 22.1	+2.3
MTN	Manton Dam	9.56	206	P	Pn	09 54 38.8	+6.0
COEN	Coen	12.39	142	Pn	Pn	09 55 11.7	+0.2
COEN	Coen	12.39	142	P	Pn	09 55 12.6	+1.1
PMG	Port Moresby	12.80	114	LR	LR	10 01 35.7	
	comp=Z,78nm,20.7s,baz=294,slow=43						
KNRA	Kununurra	13.14	209	Pn	Pn	09 55 22.9	+1.2
KNRA	Kununurra	13.14	209	P	Pn	09 55 25.4	+3.7
WB0	Warramunga Arr	15.51	183	Pn	Pn	09 55 54.1	+0.2
WB0				IAmb	IAmb	09 56 04.3	
	comp=Z,20nm,0.6s						
WRAB	Tennant Creek	15.68	184	Pn	Pn	09 55 56.3	+0.2
WRAB				IAmb	IAmb	09 56 05.7	
	comp=Z,49nm,1.2s						
WB2	Warramunga Arr	15.69	184	Pn	Pn	09 55 56.5	+0.3
WRA	Warramunga Arr	15.69	184	P	Pn	09 55 56.8	+0.6
	comp=Z,1.2nm,0.3s,baz=5.0,slow=13,SNR=32						
WRA				S	Sn	09 58 43.2	-6.5
	comp=Z,0.6nm,0.3s,baz=8.1,slow=23,SNR=3.5						
WRA				LR	LR	10 02 33.9	
	comp=Z,190nm,21.5s,baz=21,slow=39						
WRA	Warramunga Arr	15.69	184		Pn	09 55 56.6	+0.4
WR0	Warramunga Arr	15.70	183	Pn	Pn	09 55 56.7	+0.4
QIS	Mount Isa	16.78	166	P	P	09 56 11.7	-0.6
FITZ	Fitzroy Crossi	16.79	214	P	P	09 56 11.8	-0.5
	comp=Z,1.1nm,0.3s,baz=32,slow=8.4,SNR=28						
FITZ				S	Sn	09 59 10.7	-5.7
	comp=Z,0.8nm,0.3s,baz=198,slow=15,SNR=3.2						
FITZ				LR	LR	10 03 18.5	
	comp=Z,74nm,21.7s,baz=72,slow=39						
FITZ	Fitzroy Crossi	16.79	214	P	P	09 56 12.0	-0.3
CTA	Charters Tower	19.03	147	P	Pn	09 56 40.9	+3.0
	comp=Z,0.3nm,0.3s,baz=350,slow=15,SNR=3.3						
MYLDM	Lahad Datu	19.25	299	P	Pn	09 56 39.9	-0.7
MYLDM				IAmb	IAmb	09 56 47.8	
	comp=Z,22nm,1.2s						
AS31	Alice Springs	19.41	184		Pn	09 56 46.8	+4.3
AS31				IAmb	IAmb	09 56 47.7	
	comp=Z,22nm,0.7s						
ASAR	Alice Springs	19.42	184	P	Pn	09 56 46.4	+3.8
	comp=Z,7.2nm,0.3s,baz=9.6,slow=11,SNR=388						
ASAR				S	Sn	10 00 13.7	-6.3
	comp=Z,0.2nm,0.3s,baz=12,slow=23,SNR=2.9						
ASAR				LR	LR	10 05 40.7	
	comp=Z,63nm,21.0s,baz=344,slow=41						
ASAR	Alice Springs	19.42	184		Pn	09 56 42.5	-0.1
GUMO	Guam	20.02	28	LR	LR	10 05 41.0	
	comp=Z,35nm,18.4s,baz=236,slow=40						
MTKI	Muara Teweh, K	20.71	278	P	Pn	09 56 59.5	+1.7
PSA00	Pilbara Seismi	22.93	220	P	P	09 57 20.7	+1.5
STKA	Stephens Creek	28.16	169	P	P	09 58 08.8	+1.6
	comp=Z,2.7nm,0.9s,baz=357,slow=8.7,SNR=3.9						
STKA				LR	LR	10 09 50.1	
	comp=Z,205nm,19.4s,baz=359,slow=37						
STKA	Stephens Creek	28.16	169	P	P	09 58 06.7	-0.6
JOW	Kunigami	31.59	348	LR	LR	10 12 03.4	
	comp=Z,31nm,19.1s,baz=40,slow=38						
CMAR	Chiang Mai Arr	42.37	303	P	P	10 00 10.3	+0.9
	comp=Z,0.8nm,0.3s,baz=128,slow=6.0,SNR=6.0						
CHTO	Chiang Mai	42.53	304	P	P	10 00 11.6	+0.8
BJT	Baijiatuau	47.40	340	P	P	10 00 47.1	-2.1
BJT				IAmb	IAmb	10 00 50.2	
	comp=Z,3.9nm,0.7s						
USRK	Ussuriysk Ar.	48.27	357	P	P	10 00 54.5	-1.3
ASAJ	Asahikawa	48.52	7	P	P	10 00 57.2	-0.6
	comp=Z,5.7nm,0.8s,baz=245,slow=8.9,SNR=5.9						
URZ	Urewera	50.90	138	LR	LR	10 23 03.6	
	comp=Z,49nm,18.6s,baz=19,slow=36						
SONM	Songino Array	57.71	337	P	P	10 02 06.1	+0.5
	comp=Z,0.4nm,0.6s,baz=156,slow=6.4,SNR=3.8						
SONM	Songino Array	57.71	337	P	P	10 02 04.3	-1.3
MK31	Makanchi Array	68.97	324	P	P	10 03 20.7	+0.6
MK31				IAmb	IAmb	10 03 22.0	
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	68.97	324	P	P	10 03 21.0	+0.9
	comp=Z,4.4nm,0.7s,baz=113,slow=8.2,SNR=55						
MKAR	Makanchi Array	68.97	324	P	P	10 03 20.8	+0.7
MAKZ	Makanchi	69.16	324	P	P	10 03 22.1	+0.8
KDJ	Kajisay	69.97	318	P	P	10 03 26.5	-0.1
KDJ				IAmb	IAmb	10 03 28.9	
	comp=Z,3.7nm,0.7s						
ZALV	Zalesovo Beam	71.58	331	P	P	10 03 35.9	+0.1
	comp=Z,0.7nm,0.5s,baz=112,slow=6.7,SNR=4.5						
ZALV	Zalesovo Beam	71.58	331	P	P	10 03 35.6	-0.3
AAK	Ala-Archa	71.99	317	P	P	10 03 39.2	+0.3
AAK				IAmb	IAmb	10 03 42.1	
	comp=Z,2.9nm,1.1s						
KURK	Kurchatov	73.05	326	P	P	10 03 45.0	+0.3
KURK				IAmb	IAmb	10 03 46.1	
	comp=Z,2.6nm,0.9s						
GAR	Garm	73.61	313	P	P	10 03 49.1	+0.7
VNDA	Vanda	74.63	174	P	P	10 03 55.4	+1.8
	comp=Z,0.5nm,0.7s,baz=310,slow=6.8,SNR=2.1						
VNDA	Vanda	74.63	174	P	P	10 03 52.9	-0.7
VNDA				IAmb	IAmb	10 04 13.7	
	comp=Z,3.5nm,1.4s						
KKAR	Karatay Array	74.88	317	P	P	10 03 56.7	+1.0
BRVK	Borovoye	78.72	326	P	P	10 04 17.7	+0.7
BRVK				IAmb	IAmb	10 04 18.5	
	comp=Z,4.4nm,1.0s						
ABKAR	Akbulak array	83.71	320	P	P	10 04 43.6	-0.1
ABKAR				IAmb	IAmb	10 04 45.4	
	comp=Z,4.0nm,1.5s						
ABKAR	Akbulak array	83.71	320	P	P	10 04 43.3	-0.4
IMAR	Indian Mountai	86.13	23	P	P	10 04 55.7	+0.2
ILAR	Eielson Array	88.56	25	P	P	10 05 05.5	-1.7
	comp=Z,0.8nm,0.7s,baz=278,slow=4.7,SNR=6.9						

*NEIC **02** 10:01:31.6±1.4, 57°.11N±0°.03×157°.91W±0°.07, h7km±8km, Error ellipse: s-maj=7.1km s-min=2.1km az=128.0*
*AEIC **02** 10:01:31±1.7, 57°.14N±0°.03×157°.92W±0°.08, h8km±6km, ML3.4, ML3.6/30(NEIC), Error ellipse: s-maj=6.9km s-min=4.8km az=108.0*
*IDC **02** 10:01:37.7±9.9, 56°.75N×156°.26W, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.3/36, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=153.7km s-min=37.3km az=74.0*
ISC 02 10:01:31.6±0.8**, 57°.13N**±0°.04×**157°.91W**±0°.04**, h10**km**, n82, σ1ˢ00**/83**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.23	227		Pg	10 01 37.4	+1.1
ANPB	Aniakchak Plen	0.38	212		Pg	10 01 39.3	+0.2
PLBL	Peulik Blue Cr	0.83	45		Pg	10 01 47.5	0.0
CHGN	Chignik	0.87	199		Pg	10 01 47.5	-0.8
CHGN					Sb	10 01 59.8	-0.6
CHGN	Chignik	0.87	199	IAML		10 02 04.2	
	comp=N,1μm,1.1s						
CHGN	Chignik	0.87	199	P	Pg	10 01 47.5	-0.8
	baz=18						
CHGN				S	Sb	10 01 59.8	-0.6
	baz=18						
PLK1	Peulik 1	0.98	45		Pg	10 01 50.2	-0.2
PLK5	Peulik 5	1.04	32		Pb	10 01 51.7	+0.1
PLK3	Peulik 3	1.05	57		Pg	10 01 51.8	0.0
PLK3					Sb	10 02 05.9	+0.1
PLK2	Peulik 2	1.07	53		Pg	10 01 52.0	-0.1
VNHG	Veniaminof 1	1.14	218		Pb	10 01 53.0	-0.4
VNFG	Fog Glacier, M	1.24	228		Pg	10 01 55.6	+0.3
VNFG	Fog Glacier, M	1.24	228	P	Pg	10 01 55.6	+0.3
	baz=46						
ANCK	Angle Creek	1.69	49		Pn	10 02 01.3	+0.2
CHIR	Chirikof Islan	1.82	135		Pn	10 02 03.6	+0.7
CHIR					Sb	10 02 27.9	+0.1
CHIR	Chirikof Islan	1.82	135	IAML		10 02 31.7	
	comp=E,851nm,0.9s						
CHIR	Chirikof Islan	1.82	135	P	Pn	10 02 03.6	+0.7
	baz=317						
CHIR				S	Sb	10 02 27.9	+0.1
	baz=317						
SII	Sitkinak Islan	2.12	104		Pn	10 02 08.3	+1.1
SII					Sb	10 02 36.6	0.0
SII	Sitkinak Islan	2.12	104	IAML		10 02 43.0	
	comp=N,625nm,0.7s						
SII	Sitkinak Islan	2.12	104	P	Pn	10 02 08.3	+1.1
	baz=288						
SII				S	Sb	10 02 36.6	0.0
	baz=288						
SDPT	Sand Point	2.29	220		Pn	10 02 10.3	+1.1
SDPT	Sand Point	2.29	220	IAML		10 02 50.6	
	comp=N,243nm,2.5s						
SDPT				IAML		10 02 53.8	
	comp=E,307nm,1.0s						
SDPT	Sand Point	2.29	220	P	Pn	10 02 10.3	+1.1
	baz=37						
OHAK	Old Harbor	2.52	86		Pn	10 02 13.0	+0.5
OHAK	Old Harbor	2.52	86	P	Pn	10 02 13.0	+0.5
	baz=270						
P18K	Big Mountain,	2.68	31		Pb	10 02 17.9	-1.7
BLHA	Black Hill	2.71	240		Pn	10 02 15.7	+0.5
BLHA	Black Hill	2.71	240	P	Pn	10 02 15.7	+0.5
	baz=56						
Q19K	Cape Douglas,	2.90	50		Pb	10 02 24.3	+0.9
Q19K	Cape Douglas,	2.90	50		Pn	10 02 17.7	-0.1
Q19K	Cape Douglas,	2.90	50	P	Pn	10 02 17.7	-0.1
	baz=234						
KDAK	Kodiak Island	2.95	75		Pn	10 02 18.3	-0.2
KDAK	Kodiak Island	2.95	75	P	Pn	10 02 18.3	-0.2
	baz=260						
O18K	Koktuh Hills	3.08	26		Pn	10 02 20.5	+0.2
O18K	Koktuh Hills	3.08	26	IAML		10 03 11.5	
	comp=E,156nm,0.7s						
O18K				IAML		10 03 12.0	
	comp=N,158nm,0.6s						
O18K	Koktuh Hills	3.08	26	P	Pn	10 02 20.5	+0.2
	baz=209						
O19K	Port Alsworth	3.60	30		Pn	10 02 28.0	+0.6
O19K	Port Alsworth	3.60	30	P	Pn	10 02 28.0	+0.6
	baz=213						
N19K	Bonanza Creek	4.10	24		Pn	10 02 34.6	+0.2
N19K	Bonanza Creek	4.10	24	IAML		10 03 55.3	
	comp=E,97nm,1.2s						
N19K				IAML		10 04 02.5	
	comp=N,83nm,1.0s						
N19K	Bonanza Creek	4.10	24	P	Pn	10 02 34.6	+0.2
	baz=207						
M19K	Big River Lodg	5.12	19		Pn	10 02 48.3	+0.1
M19K				IAML		10 04 33.1	
	comp=N,43nm,1.0s						
M19K	Big River Lodg	5.12	19	P	Pn	10 02 48.4	+0.1
	baz=202						
L19K	White Mountain	5.30	16		Pn	10 02 50.6	-0.2
L19K				IAML		10 04 41.6	
	comp=N,48nm,0.8s						
L19K	White Mountain	5.30	16	P	Pn	10 02 50.7	-0.2
	baz=198						
M20K	Styx River	5.36	25		Pn	10 02 52.3	+0.7
M20K				IAML		10 04 40.2	
	comp=E,47nm,1.6s						
M20K				IAML		10 04 54.0	
	comp=N,30nm,1.4s						
RC01	Rabbit Creek A	5.79	43	Pn	Pn	10 02 54.1	-3.4
TT01	Tatalina	5.88	8		Pn	10 02 58.2	-0.5
UNV	Unalaska Valle	5.89	240	Pn	Pn	10 03 00.4	+1.6
TTA	Tatalina	5.90	8	Pn	Pn	10 02 58.9	-0.1
M22K	Willow	6.11	37	Pn	Pn	10 03 04.9	+3.1
PWL	Port Wells	6.20	49	Pn	Pn	10 03 01.0	-2.1
PMR	Palmer	6.34	41	Pn	Pn	10 03 06.3	+1.3
PPLA	Purkeypile	6.46	24	Pn	Pn	10 03 05.0	-1.8
GHO	Glory Hole Cre	6.53	41	Pn	Pn	10 03 08.2	+0.5
K20K	Telida	6.54	15		Pn	10 03 06.7	-1.0
CUT	Chulitna	6.55	33	Pn	Pn	10 03 09.7	+1.9
SPIA	Saint Paul Isl	6.71	276	Pn	Pn	10 03 10.7	+0.5
SML	Sawmill	6.77	42	Pn	Pn	10 03 11.9	+1.0
CAST	Castle Rocks	6.94	22	Pn	Pn	10 03 14.0	+0.7
EYAK	Cordova Ski Ar	7.18	56	Pn	Pn	10 03 16.0	-0.5
J20K	Nowinta River	7.31	13	Pn	Pn	10 03 18.6	+0.3
KTH	Kantishna Hill	7.32	25		Pn	10 03 19.1	+0.6
TRF	Thorofare Moun	7.38	28	Pn	Pn	10 03 20.9	+1.4
KLU	Klutina	7.53	49	Pn	Pn	10 03 21.7	+0.3
RND	Reindeer	7.74	32	Pn	Pn	10 03 27.7	+3.5
M24K	Tolsona, Glenn	7.76	45	Pn	Pn	10 03 26.0	+1.4
BPAW	Bear Paw Mtn.	7.78	23		Pn	10 03 23.6	-1.1
DHY	Denali Highway	7.95	37	Pn	Pn	10 03 27.8	+0.6
ANM	Nome	8.30	337	Pn	Pn	10 03 32.4	+0.5
GLB	Gilahina Butte	8.41	53	Pn	Pn	10 03 33.5	+0.1
PAX	Paxson	8.54	42	Pn	Pn	10 03 34.3	-0.9
I21K	Tanana	8.57	17		Pn	10 03 35.7	+0.2
MLY	Manley	8.65	21	Pn	Pn	10 03 36.7	0.0
ISLE	Juniper Island	8.78	60	Pn	Pn	10 03 38.1	-0.5
WRH	Wood River Hil	8.78	29	Pn	Pn	10 03 38.3	-0.2
H21K	Melozitna Rive	8.90	14		Pn	10 03 39.8	-0.3
CCB	Clear Creek Bu	9.00	29		Pn	10 03 43.3	+1.9
ILAR	Eielson Array	9.34	30	Pn	Pn	10 03 46.7	+0.5
	comp=N,0.1nm,0.3s,baz=217,slow=14,SNR=14						
YKA	Yellowknife Ar	22.08	58	P	P	10 06 26.4	0.0
	comp=N,0.9nm,0.7s,baz=272,slow=10,SNR=21						
YKA	Yellowknife Ar	22.08	58	P	P	10 06 25.4	-1.0
PDAR	Pinedale Array	33.49	94	P	P	10 08 11.3	+0.3
	comp=N,0.2nm,0.6s,baz=311,slow=7.0,SNR=2.4						

*GCG **02** 10:07:53.6±0.6, 14°.34N×91°.46W, h33km±6km, MD3.6*
*SNET **02** 10:07:54.1±1.3, 13°.75N×91°.28W, h15km±14km, ML2.9*
ISC 02 10:07:48.7±3.5**, 14°.1N**±0°.1×**91°.7W**±0°.2**, h35**km**, n7, σ1ˢ84**/13**, 1C, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STG3	Santiaguito 3,	0.67	14	eP	Pn	10 08 02.0	+0.1
STG3				eS	Sn	10 08 10.4	-0.9
FUG	Fuego 3	0.96	66⇑	eP	Pn	10 08 06.4	+0.5
FUG				eS	Sn	10 08 15.8	-2.5
NBG	Las Nubes	1.45	69	eP	Pn	10 08 13.7	+0.9
NBG				eS	Sn	10 08 34.2	+3.5
SLOZ	Alcaldia de Sa	1.90	91	eP	Pn	10 08 19.2	+0.5
SLOZ				eS	Sn	10 08 40.7	-0.8
SLOZ				IAML		10 08 52.9	
	comp=Z,76nm,0.3s						
NUBE	Las Nubes	1.91	94	eP	Pn	10 08 19.7	+0.8
NUBE				eS	Sn	10 08 39.5	-2.4
NUBE				IAML		10 08 46.5	
	comp=Z,128nm,0.3s						
CEVE	Cerro Verde	2.07	96	eP	Pn	10 08 22.6	+1.4
CEVE				eS	Sn	10 08 43.9	-2.0
CEVE				IAML		10 08 51.6	
	comp=Z,533nm,0.3s						
JAYA	Jayaque - finc	2.27	100	eP	Pn	10 08 24.5	+0.7
JAYA				IAML		10 08 58.5	
	comp=Z,314nm,0.2s						

*KRSC **02** 10:09:47.5±1.8, 55°.44N×166°.24E, h46km±15km, ML4.7*
*MOS **02** 10:09:49.4±0.8, 55°.48N×166°.29E, h32km, mb4.4/13, Error ellipse: s-maj=6.8km s-min=5.2km az=56.4*
*NEIC **02** 10:09:50.8±1.5, 55°.45N±0°.10×166°.2E±0°.2, h28km±5km, mb4.3/46, Error ellipse: s-maj=15.7km s-min=11.5km az=145.0*
*IDC **02** 10:09:53.9±2.0, 55°.52N×166°.20E, h54km±20km, mb3.7/21, mb1 3.9/25, mb1mx3.7/43, mbtmp4.0/25, ML3.6/4, MS2.9/6, Ms1 2.9/6, ms1mx2.6/99, Error ellipse: s-maj=17.8km s-min=9.6km az=158.0*
ISC 02 10:09:49.7±0.4**, 55°.47N**±0°.04×**166°.28E**±0°.05**, h20**km**, n193, σ1ˢ29**/218**, mb4.2**/50**, 8C-10D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	Bering	0.32	214	PN	Pb	10 09 55.8	-0.9
BKI				S	Sb	10 10 00.9	-0.5
BKI	Bering	0.32	214	i P	Pb	10 09 55.8	-0.9
BKI				eS	Sb	10 10 00.9	-0.5
KBTR	Krutoberegovo	2.09	292	PN	Pn	10 10 22.1	-1.4
KBTR				S	Sn	10 10 47.2	-1.7
KBTR	Krutoberegovo	2.09	292	eP	Pn	10 10 22.1	-1.4
KBTR				eS	Sn	10 10 47.2	-1.7
KBG	Krutoberegovo	2.16	293	PN	Pn	10 10 23.3	-1.3
KBG				S	Sn	10 10 48.7	-2.1
KBG	Krutoberegovo	2.16	293	eP	Pn	10 10 23.3	-1.3
KBG				eS	Sn	10 10 48.7	-2.1
MKZ	Mys Kozlova	2.77	253	PN	Pn	10 10 32.5	-0.5
MKZ				S	Sn	10 11 04.0	-1.8
MKZ	Mys Kozlova	2.77	253	eP	Pn	10 10 32.5	-0.5
MKZ				eS	Sn	10 11 04.0	-1.8
BDR	Baidarnaya	3.05	293	PN	Pn	10 10 37.1	+0.2
BDR	Baidarnaya	3.05	293	eP	Pn	10 10 37.1	+0.2
KLY	Klyuchi	3.28	287	PN	Pn	10 10 38.6	-1.3
KLY				S	Sn	10 11 16.4	-1.9
KLY	Klyuchi	3.28	287	eP	Pn	10 10 38.6	-1.3
KLY				eS	Sn	10 11 16.4	-1.9
TUMD	Tumrok D	3.37	268	eP	Pn	10 10 41.9	+0.7
TUMD				eS	Sn	10 11 20.4	-0.2
KMNR	Kamenistaya	3.44	277	PN	Pn	10 10 43.7	+1.5
KMNR	Kamenistaya	3.44	277	eP	Pn	10 10 43.7	+1.5
KPT	Kopyto	3.46	281	PN	Pn	10 10 43.9	+1.4
KPT	Kopyto	3.46	281	eP	Pn	10 10 43.9	+1.4
TUMR	Tumrok	3.50	269	PN	Pn	10 10 41.9	-1.2
TUMR	Tumrok	3.50	269	eP	Pn	10 10 44.2	+1.1
TUMR				eS	Sn	10 11 24.4	+0.4
KOZ	Kozyrevsk	3.67	282	PN	Pn	10 10 46.7	+1.4
KOZ	Kozyrevsk	3.67	282	eP	Pn	10 10 46.7	+1.4
OSSR	Ossora	4.17	337	PN	Pn	10 10 50.8	-1.3
OSSR	Ossora	4.17	337	eP	Pn	10 10 50.8	-1.3
KII	Karymskiy	4.21	253	PN	Pn	10 10 54.1	+1.3
KII				S	Sn	10 11 42.3	+0.9
KII	Karymskiy	4.21	253	eP	Pn	10 10 54.1	+1.3
KII				eS	Sn	10 11 42.3	+0.9
ESO	Esso	4.31	279	PN	Pn	10 10 56.0	+1.9
ESO	Esso	4.31	279	eP	Pn	10 10 56.0	+1.9
SPN	Mys Shipunski	4.37	240	PN	Pn	10 10 54.5	-0.4
SPN	Mys Shipunski	4.37	240	eP	Pn	10 10 54.5	-0.4
SPN				eS	Sn	10 11 42.0	-3.1
NLC	Nalytchevo	4.67	243	PN	Pn	10 10 58.9	-0.1
NLC	Nalytchevo	4.67	243	eP	Pn	10 10 58.9	-0.1
NLC				eS	Sn	10 11 50.4	-2.1
SDLR	Sedlovina	4.85	246	PN	Pn	10 11 02.3	+0.7
SDLR	Sedlovina	4.85	246	eP	Pn	10 11 02.3	+0.7
SMAR	Somma	4.90	246	PN	Pn	10 11 03.4	+1.0
SMAR	Somma	4.90	246	eP	Pn	10 11 03.4	+1.0
SMAR				eS	Sn	10 11 56.7	-1.8
KRER	Koryakskii	4.91	247	PN	Pn	10 11 03.7	+1.2
KRER	Koryakskii	4.91	247	eP	Pn	10 11 03.7	+1.2
KRER				eS	Sn	10 11 58.3	-0.4
UGLR	Uglovaya	4.92	246	PN	Pn	10 11 03.6	+1.1
UGLR	Uglovaya	4.92	246	eP	Pn	10 11 03.6	+1.1
UGLR				eS	Sn	10 11 58.6	-0.2
AVH	Avacha	4.93	247	PN	Pn	10 11 03.8	+1.1
AVH	Avacha	4.93	247	eP	Pn	10 11 03.8	+1.1
AVH				eS	Sn	10 11 59.0	-0.1
KOK	Koryaka	4.97	247	PN	Pn	10 11 04.2	+0.9
KOK	Koryaka	4.97	247	eP	Pn	10 11 04.2	+0.9
KOK				eS	Sn	10 11 59.5	-0.7
PALN	Palana	4.99	319	PN	Pn	10 11 02.8	-0.6
PALN	Palana	4.99	319	eP	Pn	10 11 02.8	-0.6
TILK	Tilichiki	4.99	359	PN	Pn	10 11 02.9	-0.5
TILK	Tilichiki	4.99	359	eP	Pn	10 11 02.9	-0.5
DALK	Dalny	5.04	244	PN	Pn	10 11 04.5	+0.4
DALK	Dalny	5.04	244	eP	Pn	10 11 04.5	+0.4
DALK				eS	Sn	10 11 59.7	-2.0
PET	Petropavlovsk	5.10	244	ePN	Pn	10 11 05.4	+0.5
PET				pmax	pmax		
	comp=Z,50nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
PET	Petropavlovsk	5.10	244	Pn	Pn	10 11 05.0	+0.1
PET				Sn	Sn	10 12 00.6	-2.5
PET	Petropavlovsk	5.10	244	eP	Pn	10 11 05.6	+0.7
PET				eS	Sn	10 12 00.9	-2.2
GNL	Ganaly	5.17	253	PN	Pn	10 11 07.7	+1.8
GNL	Ganaly	5.17	253	eP	Pn	10 11 07.7	+1.8
SHEM	Shemya Is, Ala	5.36	118	P	Pn	10 11 12.4	+4.0
	comp=Z,11nm,0.3s,baz=300,slow=20,SNR=1.8						
SHEM				S	Sn	10 12 06.6	-2.9
	comp=Z,8.1nm,0.3s,baz=56,slow=22,SNR=1.5						
SHEM				LR	LR	10 12 49.9	
	comp=Z,99nm,19.4s,baz=355,slow=32						
KRMR	Karymshinskiy	5.47	244	PN	Pn	10 11 10.9	+0.9
KRMR	Karymshinskiy	5.47	244	eP	Pn	10 11 10.9	+0.9
KRMR				eS	Sn	10 12 10.5	-1.8
RUS	Russkaya	5.50	240	PN	Pn	10 11 10.0	-0.4
RUS	Russkaya	5.50	240	eP	Pn	10 11 10.0	-0.4
PEA0B	Petropavlovsk-	5.55	248d	iPN	Pn	10 11 12.6	+1.4
PEA0B	Petropavlovsk-	5.55	248		Pn	10 11 12.0	+0.8
PEA0B				Sn	Sn	10 12 14.0	-0.3
PETK	Petropavlovsk-	5.55	248	P	Pn	10 11 12.2	+1.0
	comp=Z,6.0nm,0.3s,baz=69,slow=17,SNR=53						
PETK				S	Sn	10 12 15.8	+1.4
	comp=Z,10.0nm,0.3s,baz=311,slow=29,SNR=13						
PETK				LR	LR	10 13 43.0	
	comp=Z,113nm,18.4s,baz=127,slow=41						
PETK	Petropavlovsk-	5.55	248		Pn	10 11 12.5	+1.3
MTVR	Mutnovka	5.64	241	PN	Pn	10 11 12.8	+0.4
MTVR	Mutnovka	5.64	241	eP	Pn	10 11 12.8	+0.4
MTVR				eS	Sn	10 12 13.7	-2.9
GRL	Gorelyy	5.65	242	PN	Pn	10 11 13.7	+1.1
GRL	Gorelyy	5.65	242	eP	Pn	10 11 13.7	+1.1
GRL				eS	Sn	10 12 15.8	-1.1
ASAK	Asacha	5.84	241	PN	Pn	10 11 16.5	+1.4
ASAK	Asacha	5.84	241	eP	Pn	10 11 16.5	+1.4
ASAK				eS	Sn	10 12 19.8	-1.6
APC	Apacha	5.93	248	PN	Pn	10 11 18.0	+1.7
APC	Apacha	5.93	248	eP	Pn	10 11 18.0	+1.7
APC				eS	Sn	10 12 22.8	-0.8
KDTR	Khodutka, Kamc	6.10	236	PN	Pn	10 11 18.7	0.0
KDTR	Khodutka, Kamc	6.10	236	eP	Pn	10 11 18.7	0.0
KDTR				eS	Sn	10 12 22.7	-5.1
KMSK	Kamenskaya	7.02	360	PN	Pn	10 11 31.0	-0.2
KMSK	Kamenskaya	7.02	360	eP	Pn	10 11 31.0	-0.2
SKR	Severo-Kuril's	7.77	236⇓	ePN	Pn	10 11 42.4	+0.8
MA2	Magadan	9.30	303	LR	LR	10 15 40.9	
	comp=Z,108nm,20.0s,baz=100,slow=38						
MA2	Magadan	9.30	303⇓	ePN	Pn	10 12 01.6	-0.9
MA2				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SEY	Seymchan	10.31	322	P	Pn	10 12 19.4	+3.1
	comp=Z,0.1nm,0.3s,baz=117,slow=13,SNR=1.9						
SEY				LR	LR	10 15 44.1	
	comp=Z,51nm,19.7s,baz=314,slow=34						
SEY	Seymchan	10.31	322⇓	ePN	Pn	10 12 20.2	+3.9
SEY				pmax	pmax		
	comp=Z,3.0nm,1.4s						
BILL	Bilibino	12.62	360⇑	ePN	Pn	10 12 49.7	+1.9
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,109nm,15.0s						
JKA	Kamikawa-asahi	18.94	243	P	P	10 14 08.9	-0.3
ASAJ	Asahikawa	18.94	243	P	Pn	10 14 10.4	+0.4
	comp=Z,0.5nm,0.3s,baz=68,slow=17,SNR=5.3						
ASAJ	Asahikawa	18.94	243	P	P	10 14 08.9	-0.4
ASAJ				pmax	pmax		
	comp=Z,11nm,1.0s						
YAK	Yakutsk	19.87	304	LR	LR	10 21 44.2	
	comp=Z,52nm,18.3s,baz=90,slow=36						
YAK	Yakutsk	19.87	304⇑	eP	P	10 14 19.2	0.0
YAK				pmax	pmax		
	comp=Z,45nm,1.7s						
YAK	Yakutsk	19.87	304	P	P	10 14 18.3	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YAK				IAmb	IAmb	10 14 31.1	
	comp=Z,24nm,0.9s						
ERM	**Erimo**	**20.21**	**238**	P	**P**	**10 14 22.8**	**-0.3**
ERM				pmax	pmax		
	comp=Z,40nm,1.4s						
ERM	**Erimo**	**20.21**	**238**	P	**P**	**10 14 22.8**	**-0.3**
TTA	**Tatalina**	**20.43**	**53**	P	**P**	**10 14 26.2**	**+0.7**
TTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TTA	**Tatalina**	**20.43**	**53**	P	**P**	**10 14 26.2**	**+0.7**
J20K	**Nowinta River**	**21.37**	**50**	P	**P**	**10 14 35.8**	**+0.3**
IMAR	**Indian Mountai**	**21.78**	**45**	P	**P**	**10 14 40.3**	**+0.5**
KLR	**Kul'dur**	**21.83**	**268**	P	**P**	**10 14 41.7**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=46,slow=9.3,SNR=5.8						
KLR	**Kul'dur**	**21.83**	**268**	⇑eP	**P**	**10 14 42.2**	**+1.7**
KLR				pmax	pmax		
	comp=Z,7.0nm,2.1s						
H21K	**Melozitna Rive**	**22.11**	**46**	P	**P**	**10 14 43.9**	**+0.5**
H21K				IAmb	IAmb	10 14 46.8	
	comp=Z,13nm,1.2s						
I21K	**Tanana**	**22.40**	**48**	P	**P**	**10 14 46.1**	**-0.3**
A21K	**Barrow**	**22.40**	**31**	P	**P**	**10 14 46.9**	**+0.5**
A21K				IAmb	IAmb	10 14 53.0	
	comp=Z,14nm,1.0s						
KDAK	**Kodiak Island**	**22.50**	**67**	P	**P**	**10 14 48.7**	**+1.1**
	comp=Z,6.9nm,0.9s,baz=275,slow=12,SNR=1.8						
KDAK	**Kodiak Island**	**22.50**	**67**	P	**P**	**10 14 48.1**	**+0.5**
KDAK				pmax	pmax		
	comp=Z,73nm,1.5s						
KDAK	**Kodiak Island**	**22.50**	**67**	P	**P**	**10 14 48.1**	**+0.5**
TIXI	**Tiksi**	**22.64**	**330**	P	**P**	**10 14 48.7**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=90,slow=20,SNR=11						
TIXI	**Tiksi**	**22.64**	**330**	⇓eP	**P**	**10 14 49.0**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	**Tiksi**	**22.64**	**330**	P	**P**	**10 14 47.7**	**-1.2**
BPAW	**Bear Paw Mtn.**	**22.75**	**50**	P	**P**	**10 14 50.8**	**+0.5**
BPAW				IAmb	IAmb	10 14 54.9	
	comp=Z,8.8nm,1.2s						
COLD	**Coldfoot**	**23.37**	**43**	P	**P**	**10 14 56.9**	**+0.3**
COLD				IAmb	IAmb	10 14 57.7	
	comp=Z,7.9nm,1.1s						
I23K	**Minto, Yukon-K**	**23.50**	**48**	P	**P**	**10 14 58.4**	**+0.6**
I23K				IAmb	IAmb	10 14 59.9	
	comp=Z,7.2nm,1.0s						
NEA2	**Nenana**	**23.60**	**49**	P	**P**	**10 14 58.9**	**+0.1**
TOLK	**Toolik Lake Re**	**23.86**	**39**	P	**P**	**10 15 01.2**	**-0.1**
TOLK				IAmb	IAmb	10 15 03.2	
	comp=Z,9.9nm,0.9s						
WRH	**Wood River Hil**	**24.02**	**50**	P	**P**	**10 15 03.7**	**+0.9**
WRH				IAmb	IAmb	10 15 13.7	
	comp=Z,12nm,1.1s						
COLA	**College**	**24.13**	**49**	⇑eP	**P**	**10 15 04.0**	**+0.2**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
COLA	**College**	**24.13**	**49**	P	**P**	**10 15 03.8**	**0.0**
COLA				IAmb	IAmb	10 15 05.7	
	comp=Z,6.2nm,0.8s						
CCB	**Clear Creek Bu**	**24.14**	**49**	P	**P**	**10 15 04.2**	**+0.2**
CCB				IAmb	IAmb	10 15 18.5	
	comp=Z,9.7nm,1.1s						
HDA	**Harding Lake**	**24.52**	**50**	P	**P**	**10 15 06.6**	**-0.8**
HDA				IAmb	IAmb	10 15 08.7	
	comp=Z,5.2nm,1.0s						
IL31		**24.54**	**49**	P	**P**	**10 15 08.2**	**+0.6**
IL31				IAmb	IAmb	10 15 09.0	
	comp=Z,8.4nm,0.8s						
ILAR	**Eielson Array**	**24.54**	**49**	P	**P**	**10 15 07.2**	**-0.4**
	comp=Z,6.9nm,0.9s,baz=254,slow=7.9,SNR=43						
RIDG	**Independent Ri**	**25.47**	**51**	P	**P**	**10 15 14.9**	**-1.2**
RIDG				IAmb	IAmb	10 15 16.9	
	comp=Z,10nm,1.2s						
BMAR	**Burnt Mountain**	**25.56**	**43**	P	**P**	**10 15 17.7**	**+0.9**
MJB9	**Matsu-Tunnel**	**26.88**	**237**	P	**P**	**10 15 25.7**	**-3.3**
MJB9				IAmb	IAmb	10 15 34.5	
	comp=Z,12nm,0.9s						
MAJO	**Matsushiro**	**26.88**	**237**	P	**P**	**10 15 25.6**	**-3.4**
MAJO				pmax	pmax		
	comp=Z,12nm,0.9s						
MAJO	**Matsushiro**	**26.88**	**237**	P	**P**	**10 15 25.6**	**-3.4**
MJAR	**Matsushiro Arr**	**26.88**	**237**	P	**P**	**10 15 29.5**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=37,slow=18,SNR=5.2						
MJAR	**Matsushiro Arr**	**26.88**	**237**	P	**P**	**10 15 25.9**	**-3.1**
MJAR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MJAR	**Matsushiro Arr**	**26.88**	**237**	P	**P**	**10 15 25.9**	**-3.1**
L27K	**Beaver Creek,**	**26.89**	**52**	P	**P**	**10 15 27.1**	**-1.8**
BCAR	**Beaver Creek A**	**26.91**	**52**	P	**P**	**10 15 29.3**	**+0.2**
EGAK	**Eagle**	**26.99**	**49**	P	**P**	**10 15 29.0**	**-0.7**
DAWY	**Dawson**	**27.83**	**50**	P	**P**	**10 15 37.7**	**+0.3**
DAWY				IAmb	IAmb	10 16 04.8	
	comp=Z,6.2nm,1.3s						
EPYK	**Eagle Plains**	**28.68**	**45**	P	**P**	**10 15 45.4**	**+0.5**
EPYK				IAmb	IAmb	10 15 45.7	
	comp=Z,16nm,1.5s						
INK	**Inuvik**	**29.73**	**41**	P	**P**	**10 15 54.5**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=282,slow=6.3,SNR=18						
INK	**Inuvik**	**29.73**	**41**	P	**P**	**10 15 54.6**	**+0.5**
INK				IAmb	IAmb	10 15 54.8	
	comp=Z,2.5nm,0.5s						
M31M	**Drury Creek, Y**	**30.43**	**53**	P	**P**	**10 16 02.1**	**+1.7**
M31M				IAmb	IAmb	10 16 14.9	
	comp=Z,4.1nm,1.3s						
KSRS	**Korea Array**	**31.45**	**251**	P	**P**	**10 16 10.9**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=39,slow=12,SNR=1.9						
A36M	**Sachs Harbour**	**32.19**	**33**	P	**P**	**10 16 16.6**	**+0.8**
A36M				IAmb	IAmb	10 16 22.5	
	comp=Z,3.0nm,0.9s						
C36M	**Paulatuk**	**32.98**	**38**	P	**P**	**10 16 23.0**	**+0.4**
JCJ	**Chichijima**	**33.30**	**222**	LR	LR	10 33 20.9	
	comp=Z,11nm,18.0s,baz=356,slow=42						
DLBC	**Dease Lake**	**33.71**	**58**	P	**P**	**10 16 30.1**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=276,slow=10,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**35.68**	**179**	T	T	10 54 07.0	
	baz=360,slow=76,SNR=627						
H11N3	**WAKE ISLAND Hy**	**35.70**	**179**	T	T	10 54 12.8	
	baz=360,slow=76,SNR=535						
H11N1	**WAKE ISLAND Hy**	**35.70**	**179**	T	T	10 54 02.9	
	baz=360,slow=76,SNR=508						
NRIK	**Noril'sk**	**36.09**	**324**	⇓eP	**P**	**10 16 49.3**	**-0.3**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	**Ulaanbaatar**	**36.49**	**283**	⇓eP	**P**	**10 16 53.6**	**+0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,2.3s						
SONM	**Songino Array**	**36.88**	**284**	P	**P**	**10 16 57.5**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=56,slow=8.2,SNR=15						
SONM	**Songino Array**	**36.88**	**284**	P	**P**	**10 16 57.6**	**+0.9**
SONM				IAmb	IAmb	10 17 02.1	
	comp=Z,2.3nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**36.90**	**179**	T	T	10 55 36.2	
	baz=359,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**36.91**	**179**	T	T	10 55 42.6	
	baz=359,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**36.92**	**179**	T	T	10 55 39.6	
	baz=359,slow=75,SNR=26						
HHC	**Hu-ho-hao-te**	**38.27**	**271**	eP	**P**	**10 17 08.1**	**-0.4**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,87nm,6.2s						
EUNU	**Eureka**	**38.73**	**15**	P	**P**	**10 17 12.7**	**+0.8**
EUNU				IAmb	IAmb	10 17 16.6	
	comp=Z,3.1nm,0.9s						
YKA	**Yellowknife Ar**	**38.92**	**47**	P	**P**	**10 17 13.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=297,slow=7.9,SNR=13						
SPB2	**Spitsbergen Ar**	**45.35**	**352**	P	**P**	**10 18 05.8**	**0.0**
FCC	**Fort Churchill**	**49.31**	**43**	P	**P**	**10 18 37.2**	**+0.4**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FCC	**Fort Churchill**	**49.31**	**43**	P	**P**	**10 18 37.2**	**+0.4**
FCC				IAmb	IAmb	10 18 37.8	
	comp=Z,3.4nm,0.8s						
KURK	**Kurchatov**	**49.51**	**303**	⇓eP	**P**	**10 18 37.0**	**-1.4**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
KURK	**Kurchatov**	**49.51**	**303**	P	**P**	**10 18 37.1**	**-1.3**
WMQ	**Urumqi**	**49.55**	**291**	eP	**P**	**10 18 40.2**	**+1.3**
MK31	**Makanchi Array**	**50.34**	**297**	⇑eP	**P**	**10 18 43.9**	**-0.9**
MK31	**Makanchi Array**	**50.34**	**297**	P	**P**	**10 18 44.1**	**-0.7**
MKAR	**Makanchi Array**	**50.34**	**297**	P	**P**	**10 18 43.9**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=48,slow=6.6,SNR=17						
MKAR	**Makanchi Array**	**50.34**	**297**	P	**P**	**10 18 44.2**	**-0.6**
NVAR	**Mina Array Bea**	**51.58**	**76**	P	**P**	**10 18 55.1**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=297,slow=7.0,SNR=4.0						
NVAR	**Mina Array Bea**	**51.58**	**76**	P	**P**	**10 18 54.7**	**+0.2**
BRVK	**Borovoye**	**51.72**	**310**	ceP	**P**	**10 18 54.8**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**51.72**	**310**	P	**P**	**10 18 55.1**	**0.0**
BRVK				IAmb	IAmb	10 18 55.4	
	comp=Z,3.1nm,0.6s						
PDAR	**Pinedale Array**	**53.22**	**66**	P	**P**	**10 19 07.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=316,slow=3.8,SNR=2.3						
PDAR	**Pinedale Array**	**53.22**	**66**	P	**P**	**10 19 06.4**	**-0.2**
ARU	**Arti**	**54.04**	**319**	diP	**P**	**10 19 11.9**	**-0.2**
ARU						10 21 13.1	
ARU				S	**S**	**10 26 44.5**	**-2.3**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.8s						
PZH	**PanZhiHua**	**54.25**	**265**	P	**P**	**10 19 15.6**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,6.0s						
AAK	**Ala-Archa**	**57.20**	**299**	⇓eP	**P**	**10 19 33.6**	**-1.7**
AAK				pmax	pmax		
	comp=Z,9.0nm,3.6s						
KKAR	**Karatay Array**	**58.82**	**302**	P	**P**	**10 19 46.0**	**-0.4**
KKAR	**Karatay Array**	**58.82**	**302**	P	**P**	**10 19 46.0**	**-0.4**
ABKAR	**Akbulak array**	**58.93**	**313**	P	**P**	**10 19 46.3**	**-0.8**
FINES	**FINESS Array B**	**59.29**	**339**	P	**P**	**10 19 48.3**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=23,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**59.29**	**339**	ceP	**P**	**10 19 49.2**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**59.29**	**339**	P	**P**	**10 19 48.8**	**-0.5**
SCHQ	**Schefferville**	**61.79**	**32**	P	**P**	**10 20 05.6**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=321,slow=6.9,SNR=4.2						
SCHQ	**Schefferville**	**61.79**	**32**	P	**P**	**10 20 06.1**	**-0.4**
GAR	**Garm**	**62.02**	**299**	P	**P**	**10 20 08.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**62.16**	**262**	P	**P**	**10 20 09.2**	**-0.3**
	comp=Z,1.1nm,0.2s,baz=15,slow=6.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**62.16**	**262**	ceP	**P**	**10 20 09.8**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**62.17**	**347**	P	**P**	**10 20 08.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=16,slow=6.0,SNR=4.5						
TX31	**Lajitas Ar. Si**	**66.41**	**72**	P	**P**	**10 20 38.1**	**+0.8**
TX32	**Lajitas Array**	**66.41**	**72**	P	**P**	**10 20 38.1**	**+0.8**
TXAR	**Lajitas Array**	**66.41**	**72**	P	**P**	**10 20 37.9**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=302,slow=5.1,SNR=25						
AKASG	**Malin Array Be**	**68.33**	**332**	P	**P**	**10 20 48.4**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=28,slow=6.5,SNR=3.1						
WLF	**Walferdange**	**73.93**	**347**	P	**P**	**10 21 21.9**	**-1.1**
WLF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WLF	**Walferdange**	**73.93**	**347**	P	**P**	**10 21 21.9**	**-1.1**
WRA	**Warramunga Arr**	**79.87**	**210**	P	**P**	**10 21 55.9**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=22,slow=5.8,SNR=4.9						
WRA	**Warramunga Arr**	**79.87**	**210**	P	**P**	**10 21 55.7**	**-1.0**
WRA	**Warramunga Arr**	**79.87**	**210**	P	**P**	**10 21 55.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**80.96**	**219**	P	**P**	**10 22 02.3**	**-0.2**
FITZ				IAmb	IAmb	10 22 08.3	
	comp=Z,2.0nm,1.0s						
ASAR	**Alice Springs**	**83.52**	**210**	P	**P**	**10 22 15.3**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=3.8,slow=4.6,SNR=6.9						
ASAR	**Alice Springs**	**83.52**	**210**	P	**P**	**10 22 15.8**	**-0.1**

IDC 02 10:13:28.3±2.1**, 8°.37S**×**124°.85E, h0**km**, mb3.4**/1**, mb1 3.4**/3**, mb1mx3.3**/28**, mbtmp3.3**/3**, ML2.9**/2**, Error ellipse: s-maj=174.7km s-min=33.5km az=58.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.72**	**142**	Pn	Pn	10 16 58.0	0.0
	0.1nm,0.3s,baz=317,slow=12,SNR=1.9						
WRA				Sn	Sn	10 19 30.2	-12
	0.4nm,0.3s,baz=311,slow=25,SNR=13						
ASAR	**Alice Springs**	**17.51**	**151**	P	Pn	10 17 33.9	-0.1
	0.1nm,0.3s,baz=321,slow=11,SNR=7.0						
ASAR				S	Sn	10 20 33.1	-17
	0.1nm,0.3s,baz=316,slow=21,SNR=4.9						
MKAR	**Makanchi Array**	**66.69**	**330**	P	P	10 24 21.1	+0.1
	0.2nm,0.5s,baz=144,slow=9.5,SNR=3.0						

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*IDC **02** 10:25:29.1±3.0, 56°.23N×157°.46W, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.3/34, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=56.9km s-min=34.0km az=97.0*

*AEIC **02** 10:25:32±1.3, 57°.05N±0°.04×157°.88W±0°.09, h11km±2km, ML3.3, ML3.5/32(NEIC), Error ellipse: s-maj=7.4km s-min=4.3km az=118.0*

*NEIC **02** 10:25:32.4±1.7, 57°.03N±0°.04×157°.90W±0°.08, h12km±4km, Error ellipse: s-maj=7.1km s-min=4.4km az=120.0*

ISC 02 10:25:31.8±1.2**, 57°.04N**±0°.04×**157°.88W**±0°.03**, h10**km±10km**, n48,** σ**0s.79**/54**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.20**	**249**		**Pb**	**10 25 37.3**	**-0.3**
ANPB	**Aniakchak Plen**	**0.33**	**223**		**Pg**	**10 25 38.8**	**+0.5**
CHGN	**Chignik**	**0.80**	**202**		**Pg**	**10 25 46.6**	**-0.5**
CHGN					**Sb**	**10 25 58.4**	**-0.1**
CHGN				IAML		10 26 02.1	
	comp=E,2μm,0.5s						
CHGN	**Chignik**	**0.80**	**202**	P	**Pb**	**10 25 47.4**	**-0.3**
	baz=21						
CHGN				S	**Sb**	**10 25 58.9**	**+0.4**
	baz=21						
VNHG	**Veniaminof 1**	**1.09**	**221**		**Pb**	**10 25 52.4**	**-0.2**
VNFG	**Fog Glacier, M**	**1.20**	**231**		**Pg**	**10 25 55.0**	**+0.2**
VNFG	**Fog Glacier, M**	**1.20**	**231**	P	**Pg**	**10 25 55.0**	**+0.2**
	baz=50						
CAHL	**Cahill**	**1.72**	**53**		**Sg**	**10 26 26.6**	**-0.5**
CHIR	**Chirikof Islan**	**1.75**	**133**		**Pb**	**10 26 03.1**	**-0.8**
CHIR					**Sn**	**10 26 23.8**	**-0.6**
CHIR				IAML		10 26 30.4	
	comp=E,593nm,0.8s						
CHIR				IAML		10 26 34.0	
	comp=N,495nm,0.6s						
CHIR	**Chirikof Islan**	**1.75**	**133**	P	**Pb**	**10 26 03.7**	**-0.2**
	baz=315						
CHIR				S	**Sg**	**10 26 27.8**	**-0.2**
	baz=315						
SII	**Sitkinak Islan**	**2.09**	**102**		**Pn**	**10 26 07.2**	**+0.4**
SII				IAML		10 26 42.5	
	comp=E,251nm,0.7s						
SII				IAML		10 26 54.3	
	comp=N,322nm,0.6s						
SII	**Sitkinak Islan**	**2.09**	**102**	P	**Pn**	**10 26 08.3**	**+1.5**
	baz=285						
SII				S	**Sb**	**10 26 35.7**	**+0.1**
	baz=285						
SDPT	**Sand Point**	**2.23**	**222**		**Pn**	**10 26 08.5**	**-0.2**
SDPT				IAML		10 26 45.8	
	comp=N,193nm,1.0s						
SDPT				IAML		10 26 47.8	
	comp=E,239nm,0.8s						
SDPT	**Sand Point**	**2.23**	**222**	P	**Pn**	**10 26 10.4**	**+1.6**
	baz=39						
SDPT				S	**Sb**	**10 26 38.8**	**-1.0**
	baz=39						
OHAK	**Old Harbor**	**2.51**	**84**		**Pn**	**10 26 13.3**	**+0.8**
OHAK	**Old Harbor**	**2.51**	**84**	P	**Pn**	**10 26 13.5**	**+1.0**
	baz=268						
BLHA	**Black Hill**	**2.69**	**242**		**Pn**	**10 26 16.3**	**+1.2**
BLHA	**Black Hill**	**2.69**	**242**	P	**Pn**	**10 26 16.3**	**+1.2**
	baz=58						
P18K	**Big Mountain,**	**2.74**	**30**		**Pn**	**10 26 15.8**	**-0.1**
P18K				IAML		10 26 58.9	
	comp=E,114nm,0.8s						
P18K	**Big Mountain,**	**2.74**	**30**	P	**Pn**	**10 26 16.1**	**+0.3**
	baz=212						
Q19K	**Cape Douglas,**	**2.94**	**48**		**Pn**	**10 26 18.6**	**0.0**
Q19K				IAML		10 27 39.0	
	comp=N,194nm,0.8s						
Q19K	**Cape Douglas,**	**2.94**	**48**	P	**Pn**	**10 26 19.7**	**+1.1**
	baz=232						
KDAK	**Kodiak Island**	**2.96**	**73**	Pn	**Pn**	**10 26 19.9**	**+1.2**
	comp=N,2.9nm,0.3s,baz=222,slow=4.0,SNR=29						
KDAK	**Kodiak Island**	**2.96**	**73**		**Pn**	**10 26 19.1**	**+0.4**
KDAK	**Kodiak Island**	**2.96**	**73**	P	**Pn**	**10 26 19.5**	**+0.8**
	baz=258						
O18K	**Koktuh Hills**	**3.15**	**25**		**Pn**	**10 26 22.9**	**+1.4**
O18K				IAML		10 27 13.9	
	comp=E,120nm,0.8s						
O18K	**Koktuh Hills**	**3.15**	**25**	P	**Pn**	**10 26 22.7**	**+1.3**
	baz=208						
P19K	**Oil Pt**	**3.58**	**41**	Pn	**Pn**	**10 26 28.5**	**+1.1**
O19K	**Port Alsworth**	**3.67**	**29**	Pn	**Pn**	**10 26 27.1**	**-1.4**
N19K	**Bonanza Creek**	**4.17**	**23**		**Pn**	**10 26 36.1**	**+0.6**
N19K				IAML		10 27 40.1	
	comp=N,62nm,0.5s						
N19K				IAML		10 27 54.8	
	comp=E,72nm,0.9s						
N19K	**Bonanza Creek**	**4.17**	**23**	P	**Pn**	**10 26 36.1**	**+0.6**
	baz=206						
SVW2	**Sparrevohn**	**4.24**	**15**		**Pn**	**10 26 36.8**	**+0.4**
SVW2				IAML		10 27 50.9	
	comp=N,53nm,0.6s						
SVW2				IAML		10 27 58.0	
	comp=E,52nm,0.8s						
RSO	**Redoubt South**	**4.35**	**36**	Pn	**Pn**	**10 26 38.8**	**+0.8**
M19K	**Big River Lodg**	**5.19**	**19**	Pn	**Pn**	**10 26 49.8**	**+0.4**
M19K				IAML		10 28 37.7	
	comp=N,34nm,0.8s						
M19K	**Big River Lodg**	**5.19**	**19**	P	**Pn**	**10 26 49.9**	**+0.4**
	baz=202						
L19K	**White Mountain**	**5.38**	**15**		**Pn**	**10 26 51.9**	**-0.2**
L19K	**White Mountain**	**5.38**	**15**	P	**Pn**	**10 26 51.9**	**-0.2**
	baz=198						
M20K	**Styx River**	**5.43**	**24**	Pn	**Pn**	**10 26 53.7**	**+1.0**
L20K	**Farewell, AK**	**5.82**	**19**		**Pn**	**10 26 58.7**	**+0.7**
L20K	**Farewell, AK**	**5.82**	**19**	P	**Pn**	**10 26 58.7**	**+0.7**
	baz=202						
TT01	**Tatalina**	**5.96**	**8**		**Pn**	**10 26 59.6**	**-0.3**
TTA	**Tatalina**	**5.98**	**8**	Pn	**Pn**	**10 26 59.7**	**-0.6**
K20K	**Telida**	**6.62**	**15**	Pn	**Pn**	**10 27 08.7**	**-0.3**
SPIA	**Saint Paul Isl**	**6.74**	**276**	Pn	**Pn**	**10 27 12.3**	**+1.6**
IM03		**9.19**	**11**		**Pn**	**10 27 44.0**	**-0.1**
ILAR	**Eielson Array**	**9.41**	**30**	Pn	**Pn**	**10 27 47.8**	**+0.5**
	comp=N,0.1nm,0.3s,baz=220,slow=12,SNR=5.2						
YKA	**Yellowknife Ar**	**22.11**	**58**	P	**P**	**10 30 27.4**	**+0.5**
	comp=N,0.6nm,0.7s,baz=273,slow=10,SNR=15						
YKA				PcP	**PcP**	**10 34 23.5**	**-0.1**
	comp=N,0.2nm,0.5s,baz=294,slow=1.9,SNR=5.2						
NVAR	**Mina Array Bea**	**31.87**	**109**	P	P	10 31 51.4	-5.7
	comp=N,0.1nm,0.3s,baz=297,slow=2.9,SNR=1.9						

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*NEIC **02** 11:06:57.5±1.6, 0°.08S±0°.07×123°.56E±0°.07, h105km±8km, mb4.1/20, Error ellipse: s-maj=10.9km s-min=10.3km az=123.0*

*DJA **02** 11:06:58.7±0.7, 0°S±4°×12°3E±°, h100km±7km, M4.1/6, MLv4.1/6*

*IDC **02** 11:07:00.7±8.3, 0°.03S×123°.65E, h140km±85km, mb3.6/11, mb1 3.7/12, mb1mx3.4/39, mbtmp4.0/12, MS3.0/2, Ms1 3.0/2, ms1mx2.4/74, Error ellipse: s-maj=29.5km s-min=16.1km az=63.0*

ISC 02 11:06:56.9±0.5**, 0°.11S**±0°.05×**123°.50E**±0°.05**, h100**km**, n56,** σ**1s.69**/58**, mb4.0**/20**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.84**	**35**	P	**Pn**	**11 07 18.1**	**+2.4**
KMSI				S	**Sn**	**11 07 34.6**	**+4.9**
GTOI	**Gorontalo**	**0.89**	**327**	P	**Pn**	**11 07 19.2**	**+3.0**
GTOI				S	**Sn**	**11 07 35.4**	**+4.8**
LUWI	**Luwuk**	**1.17**	**218**	Pn	**Pn**	**11 07 20.7**	**+1.5**
LUWI	**Luwuk**	**1.17**	**218**	P	**Pn**	**11 07 20.6**	**+1.4**
LUWI				S	**Sn**	**11 07 37.2**	**+1.1**
MRSI	**Marisa**	**1.66**	**291**	P	**Pn**	**11 07 25.1**	**0.0**
MRSI				S	**Sn**	**11 07 45.0**	**-1.6**
APSI	**Ampana**	**2.01**	**247**	P	**Pn**	**11 07 30.9**	**+1.3**
TOLI2	**Tolitoli**	**2.97**	**294**		**Pn**	**11 07 43.8**	**+1.5**
SANI	**Sanana**	**3.15**	**128**	P	**Pn**	**11 07 44.6**	**0.0**
MPSI	**Mapaga**	**3.62**	**277**	P	**Pn**	**11 07 52.9**	**+1.9**
TNTI	**Ternate**	**3.97**	**77**		**Pn**	**11 07 54.7**	**-1.0**
KAPI	**Kappang**	**6.14**	**217**	Pn	**Pn**	**11 08 28.2**	**+3.1**
MYLDM	**Lahad Datu**	**7.25**	**317**		**Pn**	**11 08 44.4**	**+4.2**
KKM	**Kota Kinabalu**	**9.50**	**310**	Pn	**Pn**	**11 09 11.5**	**+0.5**
MTN	**Manton Dam**	**14.74**	**149**	P	**Pn**	**11 10 22.9**	**+2.4**
KNRA	**Kununurra**	**16.32**	**162**	P	**P**	**11 10 43.1**	**+1.8**
KNRA				IAmb	IAmb	11 10 46.6	
	comp=Z,4.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.00**	**173**	P	**P**	**11 11 00.7**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=358,slow=7.2,SNR=25						
FITZ	**Fitzroy Crossi**	**18.00**	**173**	P	**P**	**11 11 00.8**	**+0.9**
PSA00	**Pilbara Seismi**	**21.62**	**189**	P	**P**	**11 11 39.1**	**0.0**
PSA00				IAmb	IAmb	11 11 44.9	
	comp=Z,17nm,1.5s						
WB0	**Warramunga Arr**	**22.26**	**152**	P	**P**	**11 11 45.2**	**-0.6**
WB0				IAmb	IAmb	11 11 47.6	
	comp=Z,6.7nm,1.1s						
WRAB	**Tennant Creek**	**22.38**	**152**	P	**P**	**11 11 46.6**	**-0.6**
WRAB				IAmb	IAmb	11 11 55.9	
	comp=Z,8.7nm,1.4s						
WRA	**Warramunga Arr**	**22.39**	**152**	P	**P**	**11 11 47.0**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=335,slow=9.9,SNR=44						
WRA	**Warramunga Arr**	**22.39**	**152**	P	**P**	**11 11 47.2**	**0.0**
WB2	**Warramunga Arr**	**22.39**	**152**	P	**P**	**11 11 47.5**	**+0.2**
WR0	**Warramunga Arr**	**22.50**	**152**	P	**P**	**11 11 48.3**	**0.0**
WR0				IAmb	IAmb	11 11 50.7	
	comp=Z,3.9nm,0.9s						
GUMO	**Guam**	**25.17**	**56**	LR	LR	11 21 20.1	
	comp=Z,25nm,19.0s,baz=92,slow=34						
AS31	**Alice Springs**	**25.50**	**157**	P	**P**	**11 12 16.9**	**+0.7**
ASAR	**Alice Springs**	**25.50**	**157**	P	**P**	**11 12 16.7**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=348,slow=13,SNR=18						
ASAR	**Alice Springs**	**25.50**	**157**	P	**P**	**11 12 17.5**	**+1.4**
MORW	**Morawa**	**29.66**	**193**	P	**P**	**11 12 52.7**	**-0.5**
MORW				IAmb	IAmb	11 13 11.1	
	comp=Z,14nm,1.4s						
CMAR	**Chiang Mai Arr**	**30.37**	**309**	P	**P**	**11 13 01.7**	**+2.1**
	comp=Z,1.2nm,0.3s,baz=144,slow=8.9,SNR=8.7						
CMAR	**Chiang Mai Arr**	**30.37**	**309**	P	**P**	**11 12 59.0**	**-0.7**
FORT	**Forrest**	**30.80**	**172**	P	**P**	**11 13 03.6**	**+0.4**
JCJ	**Chichijima**	**32.48**	**32**	P	**P**	**11 13 16.5**	**-1.5**
	comp=Z,31nm,0.3s,baz=152,slow=18,SNR=6.6						
JCJ	**Chichijima**	**32.48**	**32**	P	**P**	**11 13 16.0**	**-2.0**
STKA	**Stephens Creek**	**35.93**	**153**	P	**P**	**11 13 48.4**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=334,slow=4.8,SNR=5.1						
STKA	**Stephens Creek**	**35.93**	**153**	P	**P**	**11 13 47.9**	**0.0**
EIDS	**Eidsvold**	**36.62**	**135**	P	**P**	**11 13 54.5**	**+0.8**
ARMA	**Armidale**	**40.29**	**141**	P	**P**	**11 14 23.6**	**-1.0**
ARMA				IAmb	IAmb	11 14 27.5	
	comp=Z,10nm,1.2s						
JTM	**Tenmabayashi**	**43.73**	**19**	P	**P**	**11 14 49.5**	**-2.7**
USRK	**Ussuriysk Ar.**	**44.77**	**9**	P	**P**	**11 14 59.3**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=189,slow=5.7,SNR=2.1						
USRK	**Ussuriysk Ar.**	**44.77**	**9**	P	**P**	**11 15 00.8**	**+0.4**
KLR	**Kul'dur**	**49.67**	**7**	LR	LR	11 40 24.6	
	comp=Z,18nm,18.1s,baz=268,slow=40						
SONM	**Songino Array**	**50.02**	**345**	P	**P**	**11 15 40.1**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=160,slow=8.3,SNR=13						
SONM	**Songino Array**	**50.02**	**345**	P	**P**	**11 15 41.4**	**+0.1**
SONM				IAmb	IAmb	11 15 41.9	
	comp=Z,1.3nm,0.8s						
MK31	**Makanchi Array**	**58.97**	**328**	P	**P**	**11 16 45.5**	**-0.4**
MK31				IAmb	IAmb	11 16 56.6	
	comp=Z,1.4nm,1.4s						
MKAR	**Makanchi Array**	**58.97**	**328**	P	**P**	**11 16 44.8**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=121,slow=8.5,SNR=8.2						
MKAR	**Makanchi Array**	**58.97**	**328**	P	**P**	**11 16 45.1**	**-0.9**
ZALV	**Zalesovo Beam**	**62.62**	**335**	P	**P**	**11 17 08.9**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=102,slow=6.2,SNR=4.4						
MA2	**Magadan**	**63.22**	**15**	P	**P**	**11 17 13.9**	**-0.5**
	comp=Z,3.5nm,0.5s,baz=198,slow=6.7,SNR=12						
MA2	**Magadan**	**63.22**	**15**	P	**P**	**11 17 13.8**	**-0.5**
SEY	**Seymchan**	**66.50**	**14**	P	**P**	**11 17 34.9**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=190,slow=8.6,SNR=4.2						
ABKAR	**Akbulak array**	**73.12**	**322**	P	**P**	**11 18 15.6**	**-0.9**
VNDA	**Vanda**	**80.07**	**172**	P	**P**	**11 18 55.0**	**0.0**
QSPA	**South Pole Qui**	**89.82**	**180**	P	**P**	**11 19 43.8**	**-0.4**
QSPA				IAmb	IAmb	11 20 10.3	
	comp=Z,5.9nm,1.4s						
ILAR	**Eielson Array**	**89.94**	**25**	P	**P**	**11 19 42.2**	**-2.5**
	comp=Z,0.3nm,0.5s,baz=251,slow=4.3,SNR=1.7						
BMAR	**Burnt Mountain**	**90.85**	**23**	P	**P**	**11 19 48.6**	**-0.3**

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*NEIC **02** 11:12:06.1±1.5, 57°.01N±0°.05×157°.78W±0°.05, h20km±14km, Error ellipse: s-maj=7.1km s-min=3.2km az=155.0*

AEIC 02 11:12:05±1.4**, 56°.98N**±0°.04×**157°.76W**±0°.06**, h7**km±7km**, ML2.7, ML3.2**/32(NEIC)**, Error ellipse: s-maj=5.6km s-min=4.6km az=166.0, Alaska Peninsula**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ANNW	Aniakchak Nort	0.25	266		Pg	11 12 10.9	+1.0
ANPB	Aniakchak Plen	0.34	238		Pg	11 12 12.2	+0.6
CHGN	Chignik	0.77	208		Pg	11 12 20.1	+0.3
PLK1	Peulik 1	1.03	37		Pb	11 12 25.0	-0.1
PLK3	Peulik 3	1.08	48		Pn	11 12 26.4	0.0
VNHG	Veniaminof 1	1.09	226		Pg	11 12 25.6	-0.2
PLK5	Peulik 5	1.12	25		Pb	11 12 26.6	-0.1
VNFG	Fog Glacier, M	1.21	235		Pn	11 12 28.7	+0.3
CHIR	Chirikof Islan	1.67	134		Pb	11 12 35.6	-0.3
CHIR	Chirikof Islan	1.67	134	IAML		11 13 02.9	
	comp=E,186nm,1.8s						
CHIR				IAML		11 13 16.0	
	comp=N,165nm,3.0s						
SII	Sitkinak Islan	2.02	101	Pn	Pn	11 12 38.8	-0.6
SII				IAML		11 13 32.8	
	comp=N,126nm,2.5s						
SII				IAML		11 13 41.1	
	comp=E,142nm,2.6s						
SDPT	Sand Point	2.23	224	Pn	Pn	11 12 42.4	+0.1
SDPT				IAML		11 13 44.1	
	comp=E,107nm,2.8s						
OHAK	Old Harbor	2.45	83		Pn	11 12 45.2	-0.1
P18K	Big Mountain,	2.76	28		Pn	11 12 51.2	+1.5
P18K	Big Mountain,	2.76	28	IAML		11 14 37.1	
	comp=N,55nm,0.7s						
KDAK	Kodiak Island	2.92	72		Pn	11 12 51.4	-0.3
KDAK	Kodiak Island	2.92	72		Pn	11 12 51.6	-0.1
KDAK				IAML		11 13 17.4	
	comp=N,30nm,3.9s						
KDAK				IAML		11 14 29.1	
	comp=N,41nm,3.1s						
Q19K	Cape Douglas,	2.94	47	Pn	Pn	11 12 51.5	-0.6
Q19K				IAML		11 14 43.3	
	comp=N,125nm,1.1s						
O18K	Koktuh Hills	3.18	24	Pn	Pn	11 12 53.9	-1.4
O18K				IAML		11 14 47.7	
	comp=N,52nm,0.9s						
O18K				IAML		11 14 52.7	
	comp=E,57nm,0.7s						
P19K	Oil Pt	3.59	40	Pn	Pn	11 12 60.0	-1.0
P19K				IAML		11 15 02.3	
	comp=N,60nm,0.8s						
O19K	Port Alsworth	3.69	28	Pn	Pn	11 13 02.5	+0.1
SVW2	Sparrevohn	4.28	14	Pn	Pn	11 13 09.1	-1.3
CNPM	China Poot	4.29	51	Pn	Pn	11 13 09.8	-0.8
CNPM				IAML		11 14 44.9	
	comp=E,40nm,2.7s						
RSO	Redoubt South	4.36	35	Pn	Pn	11 13 11.6	-0.1
BRLK	Bradley Lake	4.57	50	Pn	Pn	11 13 13.9	-0.6
BRLK				IAML		11 15 30.0	
	comp=E,33nm,3.2s						
M19K	Big River Lodg	5.23	18	Pn	Pn	11 13 22.3	-1.2
L19K	White Mountain	5.42	15	Pn	Pn	11 13 25.4	-0.8
M20K	Styx River	5.45	24	Pn	Pn	11 13 28.0	+1.3
UNV	Unalaska Valle	5.89	241	Pn	Pn	11 13 31.8	-0.7
PWL	Port Wells	6.24	48	Pn	Pn	11 13 36.2	-1.1
K20K	Telida	6.65	15	Pn	Pn	11 13 41.7	-1.3

UCR 02 11:12:18.1±1.3, 9.°03N×85.°09W, h15^{km}±4^{km}, MW3.8, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	Las Juntas de	1.27	6	eP	Pn	11 12 40.1	-1.2
LCR2	La Lucha 2	1.28	56	eP	Pn	11 12 40.8	-1.0
GUAI	GUAI	1.31	341	i P	Pn	11 12 40.6	-1.3
RIMA	Rio Macho	1.42	59	eP	Pn	11 12 42.7	-0.9
CASO	Castillo	1.44	14	i P	Pn	11 12 43.6	-0.2
ARE1	Arenal 1	1.47	14	eP	Pn	11 12 44.3	+0.1
CEDE	Laguna Cedeo	1.50	15	i P	Pn	11 12 44.7	0.0
ACAL	Aguas Claras	1.60	2	i P	Pn	11 12 45.8	-0.3
EDPN	Palmar Norte	1.61	92	eP	Pn	11 12 45.5	-0.6
CUI	Cuipilapa	1.62	357	i P	Pn	11 12 46.1	-0.2
LIM1	Limonal	1.67	354	i P	Pn	11 12 46.5	-0.5
SRBA	San Rafael, Bu	1.72	83	eP	Pn	11 12 47.3	-0.3
LAPC	Finca la Perla	1.77	349	i P	Pn	11 12 47.2	-1.0
VMAR	Armenia, Volca	1.78	359	eP	Pn	11 12 48.5	+0.1
BUEV	Buena Vista	1.79	350	i P	Pn	11 12 48.3	-0.3
EDBA	Buenos Aires	1.80	85	eP	Pn	11 12 48.0	-0.7
EDSV	San Vito	2.10	95	eP	Pn	11 12 53.8	+0.8

AEIC 02 11:13:35±1.8, 57.°03N±0.°03×158.°05W±0.°05, h13^{km}±5^{km}, ML3.5, ML3.6/34(NEIC), Error ellipse: s-maj=5.0km s-min=3.0km az=128.0
IDC 02 11:13:36.6±1.5, 57.°04N×157.°82W, h0^{km}, mb3.4/5, mb1 3.8/6, mb1mx3.4/35, mbtmp3.4/6, ML3.4/1, MS3.1/2, Ms1 3.0/2, ms1mx2.4/53, Error ellipse: s-maj=47.9km s-min=24.6km az=7.0
NEIC 02 11:13:36.2±1.7, 57.°00N±0.°03×158.°09W±0.°06, h19^{km}±7^{km}, Error ellipse: s-maj=5.9km s-min=2.6km az=125.0
ISC 02 11:13:35.4±1.5, 57.°02N±0.°04×158.°00W±0.°04, h2^{km}±12^{km}, n87, σ1§11/89, mb3.5/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.13	245		Pg	11 13 39.2	+1.2
ANPB	Aniakchak Plen	0.27	215		Pg	11 13 41.3	+0.7
CHGN	Chignik	0.76	198		Pg	11 13 49.9	-0.1
CHGN					Sb	11 14 01.4	-0.7
CHGN	Chignik	0.76	198	P	Pg	11 13 49.9	-0.1
	baz=15						
CHGN				S	Sb	11 14 01.4	-0.7
	baz=15						
PLBL	Peulik Blue Cr	0.93	43		Pb	11 13 53.4	-0.9
VNHG	Veniaminof 1	1.03	219		Pb	11 13 54.9	-1.2
PLK1	Peulik 1	1.08	43		Pb	11 13 56.2	-0.7
VNFG	Fog Glacier, M	1.14	230		Pb	11 13 56.6	-1.2
VNFG	Fog Glacier, M	1.14	230	P	Pb	11 13 56.6	-1.2
	baz=48						
PLK5	Peulik 5	1.15	31		Pb	11 13 57.2	-0.7
PLK3	Peulik 3	1.15	54		Pb	11 13 57.5	-0.6
PLK3					Sb	11 14 13.6	+0.1
PLK2	Peulik 2	1.17	50		Pn	11 13 58.3	-0.5
CHIR	Chirikof Islan	1.79	131		Pn	11 14 07.4	+0.1
CHIR					Sb	11 14 31.9	+0.3
CHIR	Chirikof Islan	1.79	131	IAML		11 14 36.0	
	comp=E,784nm,1.1s						
CHIR				IAML		11 14 36.8	
	comp=N,761nm,0.8s						
CHIR	Chirikof Islan	1.79	131	P	Pn	11 14 07.4	+0.1
	baz=313						
CHIR				S	Sb	11 14 31.9	+0.3
	baz=313						
ANCK	Angle Creek	1.79	48		Pn	11 14 06.3	-1.1
SII	Sitkinak Islan	2.15	101		Pn	11 14 12.5	+0.2
SII					Sb	11 14 41.2	-0.9
SII	Sitkinak Islan	2.15	101	P	Pn	11 14 12.5	+0.2
	baz=284						
SII				S	Sb	11 14 41.2	-0.9
	baz=284						
SDPT	Sand Point	2.18	221		Pn	11 14 12.6	-0.1
SDPT	Sand Point	2.18	221	IAML		11 14 48.4	
	comp=E,470nm,1.1s						
SDPT				IAML		11 14 52.5	
	comp=N,263nm,0.9s						
SDPT	Sand Point	2.18	221	P	Pn	11 14 12.6	-0.1
	baz=38						
OHAK	Old Harbor	2.58	84		Pn	11 14 17.9	-0.2
OHAK	Old Harbor	2.58	84	P	Pn	11 14 17.9	-0.2
	baz=268						
BLHA	Black Hill	2.62	241		Pn	11 14 17.4	-1.4
BLHA	Black Hill	2.62	241	P	Pn	11 14 17.4	-1.4
	baz=58						
P18K	Big Mountain,	2.79	30		Pn	11 14 19.8	-1.3
P18K	Big Mountain,	2.79	30	P	Pn	11 14 19.8	-1.3
	baz=213						
Q19K	Cape Douglas,	3.00	49		Pn	11 14 24.5	+0.5
Q19K	Cape Douglas,	3.00	49	IAML		11 15 31.0	
	comp=N,292nm,1.0s						
Q19K	Cape Douglas,	3.00	49	P	Pn	11 14 24.5	+0.5
	baz=233						
KDAK	Kodiak Island	3.03	73	Pn	Pn	11 14 24.4	+0.1
	comp=N,5.3nm,0.3s,baz=255,slow=8.9,SNR=50						
KDAK				Sn	Sn	11 14 58.3	-2.8
	comp=N,6.3nm,0.3s,baz=260,slow=5.7,SNR=3.5						
O18K	Koktuh Hills	3.19	26		Pn	11 14 26.0	-0.7
O18K	Koktuh Hills	3.19	26	IAML		11 15 26.4	
	comp=E,138nm,0.7s						
O18K				IAML		11 15 31.0	
	comp=N,153nm,1.0s						
O18K	Koktuh Hills	3.19	26	P	Pn	11 14 26.0	-0.7
	baz=209						
P19K	Oil Pt	3.64	42	Pn	Pn	11 14 30.9	-1.9
O19K	Port Alsworth	3.72	30		Pn	11 14 32.8	-1.0
O19K	Port Alsworth	3.72	30	P	Pn	11 14 32.8	-1.0
	baz=213						
FALS	False Pass	3.74	237	Pn	Pn	11 14 33.1	-1.1
N19K	Bonanza Creek	4.21	24		Pn	11 14 40.0	-0.8
N19K	Bonanza Creek	4.21	24	IAML		11 16 05.6	
	comp=E,96nm,0.9s						
N19K				IAML		11 16 06.5	
	comp=N,66nm,0.9s						
N19K	Bonanza Creek	4.21	24	P	Pn	11 14 40.0	-0.8
	baz=207						
SVW2	Sparrevohn	4.27	16	Pn	Pn	11 14 40.6	-0.9
SVW2				IAML		11 16 02.5	
	comp=E,100nm,1.2s						
SVW2				IAML		11 16 12.1	
	comp=N,75nm,1.2s						
CNPM	China Poot	4.36	52	Pn	Pn	11 14 41.7	-1.0
CNPM				IAML		11 15 12.6	
	comp=N,45nm,3.2s						
CNPM				IAML		11 15 37.7	
	comp=E,38nm,2.9s						
RSO	Redoubt South	4.40	36		Pn	11 14 42.6	-0.8
BRLK	Bradley Lake	4.64	51	Pn	Pn	11 14 43.2	-3.3
BRLK				IAML		11 15 45.9	
	comp=N,37nm,2.6s						
BRLK				IAML		11 16 24.6	
	comp=E,37nm,2.7s						
M19K	Big River Lodg	5.23	19		Pn	11 14 52.0	-2.5
M19K				IAML		11 16 31.6	
	comp=N,46nm,0.9s						
L19K	White Mountain	5.41	16		Pn	11 14 56.5	-0.7
L19K	White Mountain	5.41	16	P	Pn	11 14 56.5	-0.7
	baz=199						
M20K	Styx River	5.47	25		Pn	11 14 54.6	-3.3
UNV	Unalaska Valle	5.80	240	Pn	Pn	11 15 01.7	-0.7
TT01	Tatalina	5.99	9		Pn	11 15 04.2	-0.7
TTA	Tatalina	6.01	9		Pn	11 15 04.1	-1.2
TTA	Tatalina	6.01	9	P	Pn	11 15 04.1	-1.2
	baz=191						
PPLA	Purkeypile	6.57	24	Pn	Pn	11 15 13.0	-0.1
GHO	Glory Hole Cre	6.64	40	Pn	Pn	11 15 13.8	-0.2
K20K	Telida	6.65	15	Pn	Pn	11 15 12.1	-2.0
SPIA	Saint Paul Isl	6.68	276	Pn	Pn	11 15 14.0	-0.5
CAST	Castle Rocks	7.06	22	Pn	Pn	11 15 18.6	-1.1
EYAK	Cordova Ski Ar	7.28	56	Pn	Pn	11 15 22.6	0.0
J20K	Nowinta River	7.42	13	Pn	Pn	11 15 22.7	-2.0
KTH	Kantishna Hill	7.43	25	Pn	Pn	11 15 23.5	-1.3
TRF	Thorofare Moun	7.50	28	Pn	Pn	11 15 26.1	+0.3
RND	Reindeer	7.85	32	Pn	Pn	11 15 29.9	-0.7
M24K	Tolsona, Glenn	7.87	45	Pn	Pn	11 15 30.7	-0.1
HMT	Hamilton	7.89	59	Pn	Pn	11 15 32.3	+1.2
MCK	McKinley	8.08	30	Pn	Pn	11 15 32.7	-1.0
ANM	Nome	8.38	338	Pn	Pn	11 15 36.9	-0.8
WAX	Waxell Ridge	8.59	60	Pn	Pn	11 15 40.4	-0.3
MLY	Manley	8.77	21	Pn	Pn	11 15 41.8	-1.3
ISLE	Juniper Island	8.88	60	Pn	Pn	11 15 44.1	-0.6
WRH	Wood River Hil	8.89	29	Pn	Pn	11 15 45.5	+0.7
H21K	Melozitna Rive	9.01	14	Pn	Pn	11 15 45.1	-1.3
YAH	Yahtse	9.09	62	Pn	Pn	11 15 42.4	-5.4
CCB	Clear Creek Bu	9.11	29	Pn	Pn	11 15 48.0	+0.3
HDA	Harding Lake	9.16	32	Pn	Pn	11 15 48.4	-0.1
IMAR	Indian Mountai	9.21	11	Pn	Pn	11 15 47.5	-1.7
MDM	Murphy Dome	9.25	27	Pn	Pn	11 15 49.2	-0.6
IL31		9.46	30	Pn	Pn	11 15 52.2	-0.3
ILAR	Eielson Array	9.46	30	Pn	Pn	11 15 52.6	+0.1
	comp=N,0.2nm,0.3s,baz=218,slow=13,SNR=11						
ILAR	Eielson Array	9.46	30		Pn	11 15 53.0	+0.5
BCAR	Beaver Creek A	10.10	46	Pn	Pn	11 16 01.5	+0.1
YKA	Yellowknife Ar	22.18	58	P	P	11 18 32.2	-0.3
	comp=N,1.5nm,0.8s,baz=275,slow=10,SNR=24						
YKA				PcP	PcP	11 22 29.1	+0.2
	comp=N,0.3nm,0.7s,baz=282,slow=2.1,SNR=5.3						
NVAR	Mina Array Bea	31.93	108	P	P	11 20 03.6	+1.1
	comp=N,0.6nm,0.8s,baz=302,slow=8.7,SNR=5.7						
PDAR	Pinedale Array	33.53	94	P	P	11 20 17.3	+0.8
	comp=N,0.1nm,0.4s,baz=316,slow=5.0,SNR=2.0						
PDAR				LR	LR	11 33 00.9	
	comp=N,19nm,18.1s,baz=163,slow=35						
YAK	Yakutsk	35.25	309	LR	LR	11 34 50.8	
	comp=N,37nm,21.0s,baz=92,slow=36						
TXAR	Lajitas Array	46.65	103	P	P	11 22 05.8	+0.6
	comp=N,0.3nm,0.6s,baz=316,slow=5.2,SNR=3.8						
SONM	Songino Array	54.36	304	P	P	11 23 05.7	+2.3
	comp=N,0.3nm,0.6s,baz=58,slow=5.4,SNR=2.6						

MDD 02 11:22:56.3±1.1, 32.°42N×13.°33W, h27^{km}±11^{km}, Mb4.2/7, M_mb3.5/7, Error ellipse: s-maj=19.4km s-min=3.4km az=122.0
INMG 02 11:23:01.1±1.2, 32.°47N×13.°31W, h0^{km}, ML2.5, Error ellipse: s-maj=6.4km s-min=2.8km az=158.0
CNRM 02 11:23:04.1, 32.°32N×12.°61W, h114^{km}, ml3.2
ISC 02 11:22:52.4±1.2, 32.°41N±0.°05×13.°16W±0.°06, h10^{km}, n31, σ3§46/54, 7C, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	Porto Santo	2.75	284	ePn	Pn	11 23 38.5	+1.9
PMPS				eSn	Sn	11 24 05.8	-4.2
PMPS				A	A	11 24 12.4	
	10nm,0.4s						
PMPST	Porto Santo, M	2.76	285	ePn	Pn	11 23 38.5	+1.8
PMPST				eSn	Sn	11 24 05.7	-4.4
PMPST				A	A	11 24 08.8	
	18nm,0.4s						
EAH	EAH	3.13	103	P	Pn	11 23 45.8	+4.0
EAH				S	Sn	11 24 18.0	-1.1
PMAR	Madeira	3.19	277	eSn	Sn	11 24 17.5	-3.5
PMAR				A	A	11 24 26.0	
	37nm,0.2s						
PMOZ	Porto Moniz, M	3.44	278	eSn	Sn	11 24 24.6	-2.3
CFUE	Fuerteventura	3.81	190	Pn	Pn	11 23 52.2	+1.0
CFUE				⇑iVmb_V		11 23 53.7	
	323nm,SNR=1.6						
CFUE				Sn	Sn	11 24 33.1	-2.9
TTIG	Tnine Tigouga,	4.43	114	P	Pn	11 24 01.2	+1.3
TTIG				S	Sn	11 24 47.4	-4.2
SRHM	Skhour des Reh	4.45	88	P	Pn	11 24 03.5	+3.5
SRHM				S	Sn	11 24 49.2	-2.6
OUK	Oukaimeden	4.66	104	P	Pn	11 24 07.5	+4.3
OUK				S	Sn	11 24 55.6	-1.9
ZHG	ZHG	5.57	78	P	Pn	11 24 19.5	+4.0
ZHG				S	Sn	11 25 13.2	-6.4
PFVI	Vila Bisbo	5.91	36	ePn	Pn	11 24 23.6	+3.7
PFVI				eSn	Sn	11 25 24.8	-2.9
PFVI				A	A	11 25 34.0	
	4.7nm,0.9s						
MORF	Marmelete	6.13	36	ePn	Pn	11 24 26.8	+3.7
MORF				eSn	Sn	11 25 32.3	-1.0
MORF				A	A	11 25 34.3	
	2.2nm,0.4s						
PTEO	Sao Teotonio	6.28	34	ePn	Pn	11 24 28.0	+2.9
PTEO				eSn	Sn	11 25 33.5	-3.5
PTEO				A	A	11 25 37.8	
	4.8nm,0.6s						
PBDV	Barranco-do-Ve	6.46	40	ePn	Pn	11 24 30.9	+3.4
PBDV				eSn	Sn	11 25 39.6	-1.7
PCVE	Castro Verde	6.69	37	ePn	Pn	11 24 34.5	+3.8
PCVE				eSn	Sn	11 25 44.5	-2.5
PCVE				A	A	11 26 02.8	
	1.8nm,0.8s						
PVAQ	Vaqueiros	6.69	40	ePn	Pn	11 24 33.1	+2.4
PVAQ				eSn	Sn	11 25 44.2	-2.8
PVAQ				A	A	11 25 46.2	
	2.3nm,0.3s						
PNCL	Nicolau / Gran	6.83	32	ePn	Pn	11 24 36.8	+4.2
PNCL				eSn	Sn	11 25 47.0	-3.5
PNCL				A	A	11 25 51.1	
	1.9nm,0.6s						
EGRO	El Granado	6.91	41	Pn	Pn	11 24 35.9	+2.1
EGRO				⇑iVmb_V		11 24 38.2	
	134nm,SNR=1.4						
EGRO				Sn	Sn	11 25 49.8	-2.7
MD31	MD31	7.10	84	P	Pn	11 24 40.3	+3.9
MD31				S	Sn	11 25 55.3	-1.9
MDT	Midelt	7.22	85	P	Pn	11 24 42.6	+4.5
MDT				S	Sn	11 25 55.6	-4.7
PMAFR	Mafra	7.25	25	eSn	Sn	11 26 11.3	+10
EVO	Evora	7.41	33	eSn	Sn	11 26 00.5	-4.2
ESPR	Espera	7.48	52	Pn	Pn	11 24 46.0	+4.4
ESPR				⇑iVmb_V		11 24 46.9	
	133nm,SNR=1.4						
ESPR				Sn	Sn	11 26 01.8	-4.6
EMIN	Mina Concepcio	7.54	43	Pn	Pn	11 24 44.8	+2.5
EMIN				⇑iVmb_V		11 24 45.7	
	130nm,SNR=1.8						
EMIN				Sn	Sn	11 26 04.3	-3.6
PBAR	Barrancos	7.62	39	ePn	Pn	11 24 46.8	+3.3
PBAR				eSn	Sn	11 26 07.2	-2.7
PBAR				A	A	11 26 08.8	
	1.2nm,0.6s						
PMTG	Montargil	7.76	30	ePn	Pn	11 24 48.7	+3.3
PMTG				eSn	Sn	11 26 10.7	-2.6
PESTR	Estremoz	7.88	34	eSn	Sn	11 26 12.1	-4.1
PESTR	Estremoz	7.88	34	P	Pn	11 24 50.9	+3.9
EBAD	Badajoz	8.07	37	Pn	Pn	11 24 53.7	+4.1
EBAD				⇑iVmb_V		11 24 54.8	
	39nm,SNR=0.4						
EBAD				Sn	Sn	11 26 17.4	-3.5
ECAB	El Cabril	8.48	46	Pn	Pn	11 24 57.7	+2.4
ECAB				⇑iVmb_V		11 24 58.9	
	35nm,SNR=0.4						
ECAB				Sn	Sn	11 26 26.3	-4.9
EADA	Adamuz	9.06	48	Pn	Pn	11 25 06.1	+2.8
EADA				⇑iVmb_V		11 25 07.6	
	38nm,SNR=0.4						
EADA				Sn	Sn	11 26 40.4	-5.1

IDC 02 11:57:04.7±0.9, 56.°12S×26.°49W, h0^{km}, mb4.0/4, mb1 4.0/5, mb1mx3.6/34, mbtmp3.9/5, ML3.2/1, Error ellipse: s-maj=44.8km s-min=22.4km az=81.0
NEIC 02 11:57:11.5±2.2, 56.°2S±0.°1×26.°4W±0.°2, h55^{km}±6^{km}, mb4.6/14, Error ellipse: s-maj=18.4km s-min=15.3km az=219.0
ISC 02 11:57:09.3±0.6, 56.°2S±0.°1×26.°2W±0.°1, h35^{km}, n26, σ1§11/25, mb4.3/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.17	283	Pn	Pn	11 58 39.4	+1.6
ESPZ	Base Esperanza	16.96	232		Pn	12 01 02.0	-1.5
ESPZ				IAmb	IAmb	12 01 10.7	
	comp=Z,197nm,1.5s						
SNAA	Sanae	18.42	157	P	Pn	12 01 22.6	+1.1
	comp=Z,0.1nm,0.3s,baz=309,slow=13,SNR=2.0						
SNAA	Sanae	18.42	157	P	P	12 01 20.1	-1.1
QSPA	South Pole Qui	34.09	180	P	P	12 03 50.6	+0.4
	comp=Z,2.2nm,0.6s,baz=196,slow=2.4,SNR=13						
QSPA	South Pole Qui	34.09	180	P	P	12 03 50.9	+0.7
QSPA				IAmb	IAmb	12 03 54.2	
	comp=Z,3.6nm,0.8s						
VNDA	Vanda	46.48	182	P	P	12 05 33.3	+1.1
	comp=Z,1.5nm,0.7s,baz=187,slow=6.6,SNR=8.7						
VNDA	Vanda	46.48	182	P	P	12 05 32.7	+0.5
VNDA				IAmb	IAmb	12 05 36.6	
	comp=Z,2.5nm,0.8s						
H10N1	ASCENSION HYDR	49.07	15	T	T	12 59 30.4	
	baz=195						
H10N3	ASCENSION HYDR	49.08	15	T	T	12 59 30.0	
	baz=195						
H10N2	ASCENSION HYDR	49.09	15	T	T	12 59 26.3	
	baz=195						
LPAZ	La Paz	50.89	304	P	P	12 06 07.0	-0.5
	comp=Z,1.2nm,0.7s,baz=168,slow=5.2,SNR=4.6						
LPAZ	La Paz	50.89	304	P	P	12 06 06.4	-1.0
LPAZ				IAmb	IAmb	12 06 14.6	
	comp=Z,1.2nm,0.8s						
MCQ	Macquarie Isla	69.62	183	P	P	12 08 14.1	-0.2
OTAV	Otavalo	70.17	303	P	P	12 08 18.3	-0.5
OTAV				IAmb	IAmb	12 08 41.6	
	comp=Z,5.3nm,1.4s						
TORD	Torodi Ar. Bea	72.89	28	P	P	12 08 35.8	+1.3
	comp=Z,0.8nm,0.8s,baz=199,slow=6.5,SNR=6.0						
TORD	Torodi Ar. Bea	72.89	28	P	P	12 08 34.5	0.0
CAN	Canberra	88.78	176	P	P	12 10 00.2	+1.0
CAN				IAmb	IAmb	12 10 10.5	
	comp=Z,11nm,1.1s						
MORW	Morawa	89.23	148	P	P	12 10 02.2	+0.8
MORW				IAmb	IAmb	12 10 27.2	
	comp=Z,22nm,1.4s						
BBOO	Buckleboo	90.10	165	P	P	12 10 04.9	-0.5
FORT	Forrest	90.67	158	P	P	12 10 07.0	-1.1
STKA	Stephens Creek	91.70	170	P	P	12 10 10.0	-2.8
INK	Inuvik	146.24	320	PKPbc	PKPab	12 16 44.9	-0.3
	comp=Z,0.7nm,0.7s,baz=81,slow=3.9,SNR=3.8						
SONM	Songino Array	150.19	86	PKPbc	PKiKP	12 16 56.4	0.0
	comp=Z,0.3nm,0.7s,baz=242,slow=3.1,SNR=4.5						
SONM	Songino Array	150.19	86	PKPdf	PKPdf	12 16 48.9	-1.5
SONM					PKPbc	12 16 55.6	0.0
SONM				PKPab	pPKPdf	12 17 01.1	+1.2
ILAR	Eielson Array	150.60	311	PKPbc	PKPbc	12 16 55.6	-0.2
	comp=Z,0.5nm,0.7s,baz=147,slow=1.8,SNR=8.1						

IDC 02 12:03:07.6±60.0, 50.°93S×124.°71E, h0^{km}, mb3.8/3, mb1 4.0/3, mb1mx3.7/25, mbtmp3.8/3, MS3.5/10, Ms1 3.6/10, ms1mx3.2/52, Error ellipse: s-maj=1010.0km s-min=122.7km az=7.0
NEIC 02 12:03:10.4±2.2, 50.°82S±0.°06×124.°7E±0.°2, h17^{km}±5^{km}, mb4.5/19, Error ellipse: s-maj=19.1km s-min=8.6km az=83.0
ISC 02 12:03:08.8±0.7, 50.°80S±0.°09×124.°7E±0.°1, h10^{km}, n36, σ1§17/24, mb4.5/11, MS3.5/10, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	17.66	330	T	T	12 24 51.5	
	baz=150,slow=74,SNR=6.8						
H01W2	Cape Leeuwin H	17.66	330	T	T	12 24 46.6	
	baz=150,slow=74,SNR=7.4						
H01W3	Cape Leeuwin H	17.67	330	T	T	12 24 51.4	
	baz=150,slow=74,SNR=6.0						
BBOO	Buckleboo	19.81	29	P	P	12 07 38.9	-0.5
BBOO				IAmb	IAmb	12 07 46.5	
	comp=Z,28nm,1.3s						
TOO	Toolangi	19.82	56	P	Pn	12 07 39.8	-1.2
TOO				IAmb	IAmb	12 07 47.5	
	comp=Z,25nm,1.3s						
FORT	Forrest	20.15	8	P	P	12 07 42.4	-0.6
FORT				IAmb	IAmb	12 07 52.9	
	comp=Z,19nm,0.9s						
MCQ	Macquarie Isla	20.96	114	P	P	12 07 49.8	-1.8
STKA	Stephens Creek	22.65	40	P	P	12 08 10.6	+0.6
	comp=Z,1.9nm,0.7s,baz=221,slow=12,SNR=2.2						
STKA	Stephens Creek	22.65	40	P	P	12 08 11.2	+1.3
MORW	Morawa	22.68	340	P	P	12 08 08.9	-1.3
MORW				IAmb	IAmb	12 08 27.3	
	comp=Z,36nm,1.4s						
ASAR	Alice Springs	28.00	18	P	P	12 09 01.3	+1.5
	comp=Z,2.9nm,0.8s,baz=192,slow=8.6,SNR=21						
ASAR	Alice Springs	28.00	18	P	P	12 09 01.5	+1.7
AS31	Alice Springs	28.01	18	P	P	12 09 00.0	+0.2
DCZ	Deep Cove	28.50	96	P	P	12 09 03.8	-0.3
DCZ				IAmb	IAmb	12 09 07.4	
	comp=Z,18nm,1.3s						
VNDA	Vanda	30.18	165	LR	LR	12 20 43.5	
	comp=Z,100nm,21.4s,baz=323,slow=35						
VNDA	Vanda	30.18	165	P	P	12 09 18.8	+0.2
WRA	Warramunga Arr	31.71	17	P	P	12 09 34.7	+2.0
	comp=Z,0.5nm,0.7s,baz=191,slow=10,SNR=2.5						
WRA				LR	LR	12 21 21.8	
	comp=Z,51nm,19.5s,baz=134,slow=34						
WRA	Warramunga Arr	31.71	17	P	P	12 09 33.9	+1.2
WB2	Warramunga Arr	31.72	17	P	P	12 09 33.0	+0.4
WB2				IAmb	IAmb	12 09 38.5	
	comp=Z,9.6nm,1.5s						
WR0	Warramunga Arr	31.74	18	P	P	12 09 33.6	+0.8
WR0				IAmb	IAmb	12 09 33.9	
	comp=Z,8.3nm,1.4s						
RPZ	Rata Peaks	31.79	95	LR	LR	12 19 04.7	
	comp=Z,193nm,20.3s,baz=253,slow=30						
WB0	Warramunga Arr	31.89	17	P	P	12 09 35.9	+1.7
WB0				IAmb	IAmb	12 09 51.6	
	comp=Z,6.3nm,1.5s						
FITZ	Fitzroy Crossi	32.63	2	LR	LR	12 20 28.4	
	comp=Z,84nm,21.1s,baz=178,slow=32						
MAW	Mawson	34.05	217	P	P	12 09 53.3	+0.7
URZ	Urewera	38.59	92	P	P	12 10 33.4	+1.7
QSPA	South Pole Qui	39.32	180	LR	LR	12 27 39.4	
	comp=Z,74nm,18.1s,baz=312,slow=38						
QSPA	South Pole Qui	39.32	180	P	P	12 10 38.6	+0.8
QSPA				IAmb	IAmb	12 10 47.7	
	comp=Z,4.3nm,1.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BATI	Baumata	40.48	358	LR	LR	12 27 07.8	
	comp=Z,120nm,18.3s,baz=190,slow=36						
DZM	Mont Dzumac	43.26	64	LR	LR	12 28 14.3	
	comp=Z,148nm,18.3s,baz=57,slow=35						
PINNC	Pines Island,	43.42	66	P	P	12 11 11.1	-0.5
KAPI	Kappang	45.82	353	LR	LR	12 30 44.9	
	comp=Z,25nm,18.1s,baz=163,slow=36						
LEM	Lembang	46.09	336	LR	LR	12 27 40.1	
	comp=Z,52nm,20.2s,baz=259,slow=32						
SNAA	Sanae	52.36	198	P	P	12 12 19.8	-0.6
SNAA				IAmb	IAmb	12 12 23.1	
	comp=Z,15nm,1.5s						
CMAR	Chiang Mai Arr	72.59	334	LR	LR	12 45 01.9	
	comp=Z,14nm,20.5s,baz=190,slow=35						
LBTB	Lobatse	76.50	247	P	P	12 14 58.6	-0.4
PLCA	Paso Flores	87.87	168	P	P	12 15 57.8	-0.6
PLCA				IAmb	IAmb	12 16 20.1	
	comp=Z,3.2nm,1.2s						

*SOME **02** 12:09:51.7, 38°.97N×73°.45E, h10^{km}*
*KRNET **02** 12:09:52.0±0.1, 39°.17N×73°.69E, mb3.8*
*IDC **02** 12:09:54.7±5.5, 38°.97N×73°.26E, h33^{km}±40^{km}, mb3.5/7, mb1 3.5/14, mb1mx3.3/54, mbtmp3.5/14, ML2.8/6, MS3.3/1, Ms1 3.3/1, ms1mx2.4/67, Error ellipse: s-maj=30.1km s-min=20.5km az=8.0*
*NNC **02** 12:09:55.0±3.4, 39°.08N×73°.49E, h0^{km}, mb4.2, mpv3.9, Error ellipse: s-maj=28.2km s-min=16.3km az=173.0*
ISC 02 12:09:52.0±1.0**, 39°.01N**±0°.04×**73°.61E**±0°.03**, h18**^{km}±2^{km}**, n56,** σ2^{s}36/65**, mb3.8**/7**, 26C-17D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRK	Karamyk	1.48	289	⇑iP	Pn	12 10 19.2	+1.2
	baz=83						
DRK				⇑iS	Sg	12 10 39.0	-0.9
	baz=83						
OHH	Osh	1.64	337	⇓iP	Pn	12 10 19.6	-0.3
	baz=33						
OHH				⇓iS	Sn	12 10 39.5	-1.1
	baz=33						
BTK	Batken	2.40	297	⇑iP	Pn	12 10 32.1	+1.7
	baz=93						
BTK				⇑iS	Sn	12 11 01.1	+1.7
	baz=93						
GAR	Garm	2.57	271	⇑iP	Pn	12 10 35.3	+2.5
	baz=67						
GAR				⇑iS	Sn	12 11 06.8	+3.2
	baz=67						
ARK	Arkit	3.05	336	⇓iP	Pn	12 10 39.2	-0.2
	baz=34						
ARK				⇓iS	Sn	12 11 14.2	-1.4
	baz=34						
AML	Almayashu	3.12	1	P	Pn	12 10 45.8	+5.3
	SNR=87						
TRKS	Terek-Say	3.15	324	⇑iP	Pn	12 10 40.4	-0.3
	baz=21						
TRKS				⇑iS	Sn	12 11 15.9	-2.0
	baz=21						
EKS2	Erkin-Say	3.65	2	P	Pn	12 10 54.3	+6.7
	SNR=13						
EKS2	Erkin-Say	3.65	2	⇑iP	Pn	12 10 47.1	-0.5
	baz=1.0						
EKS2				⇑eS	Sn	12 11 27.4	-2.8
	baz=1.0						
AAK	Ala-Archa	3.68	10	Pn	Pn	12 10 54.4	+6.2
	3.8nm,0.3s,baz=187,slow=7.1,SNR=67						
AAK				Sn	Sn	12 11 38.2	+7.1
	1.7nm,0.3s,baz=298,slow=24,SNR=1.7						
AAK				Lg	Lg	12 11 47.0	
	4.5nm,0.3s,baz=223,slow=19,SNR=8.8						
MRKS	Merke	3.74	356	eP	Pg	12 11 02.9	-0.7
	12nm,0.7s						
MRKS				eS	Sg	12 11 54.2	+2.2
	45nm,1.3s						
KBK	Karagaybulak	3.78	15	⇑eP	Pn	12 10 49.1	-0.4
	baz=15						
KBK				⇑iS	Sn	12 11 30.5	-3.0
	baz=15						
ULHL	Ulahol	3.80	31	⇑eP	Pn	12 10 49.3	-0.5
	baz=31						
ULHL				⇑iS	Sn	12 11 31.1	-3.0
	baz=31						
FRU1	Bishkek	3.87	11	⇓eP	Pn	12 10 50.5	-0.1
	baz=11						
FRU1				⇓iS	Sn	12 11 33.1	-2.6
	baz=11						
BOOM	Boomskoye usch	3.90	26	⇑eP	Pn	12 10 50.8	-0.3
	baz=27						
BOOM				⇑iS	Sn	12 11 33.5	-3.0
	baz=27						
CHMS	Chumysh	4.07	12	P	Pn	12 10 59.7	+6.3
	SNR=12						
CHMS	Chumysh	4.07	12	⇑Pn	Pn	12 10 59.5	+6.1
	9.4nm,0.5s						
CHMS				⇑Lg	Lg	12 12 01.3	
	38nm,0.8s						
KDJ	Kajisay	4.13	40	⇓iP	Pn	12 10 54.2	-0.1
	baz=41						
KDJ				⇓iS	Sn	12 11 38.9	-3.4
	baz=41						
IUG	Iuzhnay	4.15	320	eP	Pg	12 11 09.4	-2.1
	941nm,0.7s						
IUG				eS	Sg	12 12 05.5	+0.3
	58nm,1.0s						
TKM2	Tokmak 2	4.18	20	P	Pn	12 11 02.2	+7.2
	SNR=9.0						
TKM2	Tokmak 2	4.18	20	⇑iP	Pn	12 10 54.5	-0.5
	baz=20						
TKM2				⇑iS	Sn	12 11 40.3	-3.3
	baz=20						
TKM2	Tokmak 2	4.18	20	⇓Pn	Pn	12 11 01.4	+6.4
	11nm,0.6s						
TKM2				⇓Lg	Lg	12 12 06.1	
	19nm,0.7s						
USP	Ospenovka	4.30	9	P	Pn	12 11 02.9	+6.4
	SNR=8.9						
KST	Kastek	4.40	23	eP	Pb	12 11 15.0	+6.2
	7.5nm,0.5s						
KST				eS	Sg	12 12 14.6	+1.3
	26nm,1.3s						
SGDS	Sogindy	4.50	10	eP	Pb	12 11 14.4	+4.0
	8.0nm,0.8s						
SGDS				eS	Sg	12 12 13.9	-2.6
	23nm,0.8s						
DGS	Degeres	4.53	20	eP	Pg	12 11 17.7	-1.0
	8.8nm,0.5s						
DGS				eS	Sg	12 12 19.8	+2.5
	27nm,0.8s						
MTBS	Maitube	4.63	26	eP	Pb	12 11 19.1	+6.4
	12nm,0.7s						
MTBS				eS	Sg	12 12 21.8	+1.2
	19nm,0.8s						
KK09	Karatay Array	4.73	331	⇓Pn	Pn	12 11 05.7	+3.3
	10.0nm,0.6s,baz=143,slow=13						
KK09				⇓Sn	Sn	12 12 02.6	+5.8
	19nm,0.7s,baz=150,slow=24						
ANVS	Anan'yevo	4.86	38	⇑iP	Pn	12 11 04.0	-0.3
	baz=39						
ANVS				⇑iS	Sn	12 11 56.2	-4.0
	baz=39						
MDOK	Medeo	4.89	31	eP	Pb	12 11 23.9	+6.8
	13nm,0.6s						
MDOK				eS	Sg	12 12 30.8	+1.8
	30nm,0.8s						
MDOK	Medeo	4.89	31	⇑Pg	Pb	12 11 23.3	+6.1
	18nm,0.9s						
MDOK				⇓Lg	Lg	12 12 30.1	
	27nm,0.8s						
KNDC	Almaty	4.90	30	⇑Pg	Pb	12 11 24.0	+6.6
	30nm,0.5s						
KNDC				⇑Lg	Lg	12 12 29.9	
	99nm,0.9s						
BRLS	Borolday	4.92	326	eP	Pb	12 11 20.6	+2.9
	7.6nm,0.4s						
BRLS				eS	Sg	12 12 24.7	-5.3
	20nm,1.1s						
KRBS	Karabastau	4.93	18	eP	Pb	12 11 23.2	+5.4
	15nm,0.8s						
KRBS				eS	Sg	12 12 28.6	-1.6
	19nm,0.8s						
KOTS	Kotyrbulak	4.98	31	eP	Pb	12 11 25.3	+6.7
	13nm,0.8s						
KOTS				eS	Sg	12 12 32.7	+1.0
	43nm,0.7s						
KTBS	Karatobe	5.23	25	eP	Pb	12 11 29.4	+6.5
	5.4nm,0.5s						
KTBS				eS	Sg	12 12 40.2	+0.4
	24nm,0.9s						
KUU	Kurty	5.29	22	eP	Pb	12 11 30.8	+6.9
	3.7nm,0.2s						
KUU				eS	Sg	12 12 41.8	+0.1
	26nm,1.0s						
SATY	Saty	5.43	40	eP	Pg	12 11 34.4	-1.5
	14nm,1.1s						
SATY				eS	Sg	12 12 48.1	+2.0
	17nm,0.7s						
CHKK	Chushkaly	5.46	27	eP	Pb	12 11 32.9	+6.1
	4.2nm,0.7s						
CHKK				eS	Sg	12 12 45.9	-1.3
	9.1nm,0.7s						
PDGK	Podgornoye	6.18	44	⇓Pg	Pb	12 11 47.3	+8.1
	10nm,0.8s						
PDGK				⇑Lg	Lg	12 13 10.4	
	20nm,1.0s						
MKAR	Makanchi Array	10.04	36	Pn	Pn	12 12 22.1	+6.9
	baz=212,slow=13,SNR=4.4						
MKAR				Lg	Lg	12 15 22.9	
	0.0nm,0.3s,baz=246,slow=14,SNR=4.2						
KURBB	Kurchatov Arra	12.12	15	Pn	Pn	12 12 45.2	+1.6
	0.0nm,0.3s,baz=208,slow=12,SNR=4.2						
KURBB				Lg	Lg	12 16 18.0	
	0.0nm,0.3s,baz=206,slow=28,SNR=6.0						
AB31	Akbulak array	14.16	321	P	Pn	12 13 09.4	-2.0
	0.6nm,0.4s,baz=131,slow=14,SNR=18						
AB31				⇓S	Sn	12 15 40.3	-7.7
	2.1nm,0.8s,baz=151,slow=20,SNR=3.7						
BVAR	Borovoye Array	14.19	352	Pn	Pn	12 13 09.7	-2.2
	0.1nm,0.3s,baz=181,slow=10.0,SNR=1.9						
AKTO	Aktyubinsk	15.88	321	Pn	Pn	12 13 30.9	-3.5
	0.2nm,0.3s,baz=114,slow=17,SNR=4.8						
AKTO	Aktyubinsk	15.88	321	⇓P	Pn	12 13 33.7	-0.7
	4.9nm,1.1s						
AKTO				⇓S	Sn	12 16 28.3	-1.4
	2.2nm,1.1s						
ZALV	Zalesovo Beam	16.78	23	Pn	Pn	12 13 48.2	+2.4
	0.2nm,0.3s,baz=208,slow=11,SNR=7.6						
ARU	Arti	20.07	335	P	P	12 14 24.6	+0.5
	0.0nm,0.3s,baz=125,slow=12,SNR=1.6						
SONM	Songino Array	25.23	59	P	P	12 15 19.5	+2.6
	0.4nm,0.4s,baz=265,slow=11,SNR=4.1						
FINES	FINESS Array B	36.62	324	P	P	12 16 57.2	+0.3
	0.9nm,0.6s,baz=108,slow=8.9,SNR=4.0						
ARCES	ARCESS Array B	39.66	336	P	P	12 17 22.5	+0.1
	3.1nm,1.1s,baz=110,slow=8.0,SNR=3.7						
KLR	Kul'dur	42.01	56	LR	LR	12 35 43.3	
	comp=Z,38nm,18.2s,baz=234,slow=37						
NOA	NORSAR Array B	43.67	321	P	P	12 17 54.6	-0.7
	1.9nm,0.9s,baz=91,slow=7.9,SNR=4.3						
TORD	Torodi Ar. Bea	67.83	269	P	P	12 20 48.0	-1.3
	0.6nm,0.7s,baz=50,slow=5.9,SNR=6.1						
YKA	Yellowknife Ar	78.62	4	P	P	12 21 53.0	+0.9
	0.2nm,0.6s,baz=348,slow=5.4,SNR=4.0						
WRA	Warramunga Arr	81.62	124	P	P	12 22 09.9	+0.9
	0.2nm,0.6s,baz=328,slow=4.8,SNR=2.1						

*NEIC **02** 12:16:09.5±1.9, 56°.99N±0°.05×157°.94W±0°.10, h11^{km}±8^{km}, Error ellipse: s-maj=9.2km s-min=4.3km az=129.0*
AEIC 02 12:16:09±0.8**, 56°.95N**±0°.05×**157°.92W**±0°.09**, h8**^{km}±7^{km}**, ML2.8, ML3.4**/34(NEIC)**, Error ellipse: s-maj=9.0km s-min=3.3km az=134.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.16	276		Pg	12 16 12.2	-0.2
ANPB	Aniakchak Plen	0.25	234		Pg	12 16 14.2	+0.2
CHGN	Chignik	0.70	203		Pg	12 16 22.7	+0.2
VNHG	Veniaminof 1	1.00	224		Pg	12 16 28.4	+0.1
PLK1	Peulik 1	1.11	39		Pb	12 16 30.6	+0.1
VNFG	Fog Glacier, M	1.12	234		Pb	12 16 30.9	+0.2
PLK3	Peulik 3	1.16	50		Pg	12 16 31.2	-0.1
PLK5	Peulik 5	1.19	28		Pn	12 16 32.2	+0.2
CHIR	Chirikof Islan	1.70	131		Pn	12 16 39.0	0.0
CHIR	Chirikof Islan	1.70	131	IAML		12 17 07.0	
	comp=N,176nm,2.2s						
ANCK	Angle Creek	1.81	45		Pn	12 16 40.6	0.0
SII	Sitkinak Islan	2.09	99	Pn	Pn	12 16 45.3	+0.9
SII				IAML		12 17 18.1	
	comp=E,127nm,2.0s						
SII				IAML		12 17 40.4	
	comp=N,120nm,1.5s						
SDPT	Sand Point	2.15	223		Pn	12 16 45.3	+0.2
OHAK	Old Harbor	2.54	82		Pn	12 16 50.5	-0.1
OHAK	Old Harbor	2.54	82	IAML		12 18 26.0	
	comp=E,72nm,0.6s						
P18K	Big Mountain,	2.83	29	Pn	Pn	12 16 54.6	0.0
P18K				IAML		12 18 29.7	
	comp=E,54nm,1.1s						
P18K				IAML		12 18 35.0	
	comp=N,54nm,0.9s						
KDAK	Kodiak Island	3.01	72		Pn	12 16 56.9	0.0
KDAK	Kodiak Island	3.01	72		Pn	12 16 57.2	+0.3
KDAK				IAML		12 18 32.1	
	comp=N,36nm,1.1s						
KDAK				IAML		12 18 38.7	
	comp=N,44nm,2.3s						
Q19K	Cape Douglas,	3.02	47	Pn	Pn	12 16 57.2	0.0
Q19K				IAML		12 18 37.6	
	comp=N,176nm,1.0s						
O18K	Koktuh Hills	3.24	25		Pn	12 16 59.7	-0.5
O18K	Koktuh Hills	3.24	25	IAML		12 18 60.0	
	comp=E,74nm,0.6s						
O18K				IAML		12 19 08.4	
	comp=N,94nm,0.6s						
P19K	Oil Pt	3.67	40	Pn	Pn	12 17 05.0	-1.0
P19K				IAML		12 19 27.1	
	comp=E,140nm,0.9s						
O19K	Port Alsworth	3.76	29	Pn	Pn	12 17 05.8	-1.4
N19K	Bonanza Creek	4.26	23	Pn	Pn	12 17 14.5	+0.2
SVW2	Sparrevohn	4.33	15	Pn	Pn	12 17 15.7	+0.6
CNPM	China Poot	4.37	51	Pn	Pn	12 17 16.0	+0.3
BRLK	Bradley Lake	4.66	50	Pn	Pn	12 17 20.3	+0.7
M19K	Big River Lodg	5.29	18	Pn	Pn	12 17 27.7	-0.6
L19K	White Mountain	5.47	15	Pn	Pn	12 17 31.8	+0.9
M20K	Styx River	5.52	24	Pn	Pn	12 17 31.1	-0.4
UNV	Unalaska Valle	5.80	241	Pn	Pn	12 17 36.4	+1.2
TTA	Tatalina	6.08	8	Pn	Pn	12 17 38.7	-0.4
M22K	Willow	6.25	36	Pn	Pn	12 17 42.4	+1.0
PWL	Port Wells	6.32	48	Pn	Pn	12 17 43.9	+1.4
SCM	Sheep Creek Mo	7.29	43	Pn	Pn	12 17 55.8	0.0

*AEIC **02** 12:17:30±1.3, 57°.06N±0°.03×158°.06W±0°.08, h5^{km}±5^{km}, ML3.6, mb3.6/3(NEIC), ML3.7/38(NEIC), Error ellipse: s-maj=6.5km s-min=3.8km az=117.0*
*NEIC **02** 12:17:31.2±1.3, 57°.05N±0°.03×158°.06W±0°.07, h12^{km}±5^{km}, Error ellipse: s-maj=5.9km s-min=4.1km az=119.0*
*IDC **02** 12:17:39.7±6.4, 57°.19N×157°.27W, h48^{km}±35^{km}, mb3.1/3, mb1 3.7/6, mb1mx3.2/37, mbtmp3.4/6, ML3.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/31, Error ellipse: s-maj=74.2km s-min=38.0km az=66.0*
ISC 02 12:17:31.4±1.0**, 57°.05N**±0°.04×**158°.03W**±0°.04**, h13**^{km}±7^{km}**, n105,** σ0^{s}91/107**, mb3.5**/4**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.13	229		Pg	12 17 34.9	+0.1
ANPB	Aniakchak Plen	0.29	209		Pg	12 17 36.7	-0.6
CHGN	Chignik	0.78	196		Pg	12 17 45.1	-1.4
CHGN					Sg	12 17 56.7	0.0
CHGN	Chignik	0.78	196	IAML		12 17 57.0	
	comp=N,3μm,0.5s						
CHGN	Chignik	0.78	196	P	Pg	12 17 45.1	-1.4
	baz=15						
CHGN				S	Sg	12 17 56.7	0.0
	baz=15						
VNHG	Veniaminof 1	1.04	217		Pb	12 17 50.6	-0.7
PLK1	Peulik 1	1.08	45		Pn	12 17 52.1	-0.1
PLK5	Peulik 5	1.13	33		Pn	12 17 52.9	-0.1
VNFG	Fog Glacier, M	1.14	228		Pb	12 17 52.4	-0.6
VNFG	Fog Glacier, M	1.14	228	P	Pb	12 17 52.4	-0.6
	baz=47						
PLK3	Peulik 3	1.15	56		Pb	12 17 52.9	-0.2
PLK3					Sn	12 18 09.7	+0.8
PLK2	Peulik 2	1.17	52		Pb	12 17 53.3	-0.1
KJL	Kejulik	1.66	52		Pb	12 18 01.6	-0.3
CAHL	Cahill	1.78	55		Pb	12 18 03.2	-0.7
CHIR	Chirikof Islan	1.82	132		Pn	12 18 02.1	-0.3
CHIR					Sb	12 18 27.6	+0.4
CHIR	Chirikof Islan	1.82	132	IAML		12 18 32.9	
	comp=E,923nm,0.9s						
CHIR	Chirikof Islan	1.82	132	P	Pn	12 18 02.1	-0.3
	baz=313						
CHIR				S	Sb	12 18 27.6	+0.4
	baz=313						
SII	Sitkinak Islan	2.17	102		Pn	12 18 08.0	+0.7
SII					Sb	12 18 37.4	0.0
SII	Sitkinak Islan	2.17	102	P	Pn	12 18 08.0	+0.7
	baz=284						
SII				S	Sb	12 18 37.4	0.0
	baz=284						
SDPT	Sand Point	2.19	220		Pn	12 18 07.8	+0.4
SDPT	Sand Point	2.19	220	IAML		12 18 44.0	
	comp=N,512nm,1.0s						
SDPT				IAML		12 18 45.2	
	comp=E,570nm,1.1s						
SDPT	Sand Point	2.19	220	P	Pn	12 18 07.8	+0.4
	baz=38						
OHAK	Old Harbor	2.59	84		Pn	12 18 13.1	+0.1
OHAK	Old Harbor	2.59	84	IAML		12 18 55.5	
	comp=N,230nm,1.0s						
OHAK	Old Harbor	2.59	84	P	Pn	12 18 13.1	+0.1
	baz=268						
BLHA	Black Hill	2.62	241		Pn	12 18 13.4	0.0
BLHA	Black Hill	2.62	241	P	Pn	12 18 13.4	0.0
	baz=57						
P18K	Big Mountain,	2.78	31		Pn	12 18 14.6	-1.0
HAG	Hague Volcano	2.78	233		Pn	12 18 16.4	+0.8
Q19K	Cape Douglas,	3.00	49		Pn	12 18 18.3	-0.3
Q19K				IAML		12 19 33.0	
	comp=N,338nm,0.9s						
KDAK	Kodiak Island	3.04	74	P	Pn	12 18 19.4	+0.3
	comp=N,6.2nm,0.3s,baz=283,slow=14,SNR=43						
KDAK				S	Sn	12 18 52.8	-2.4
	comp=N,5.8nm,0.3s,baz=284,slow=17,SNR=4.4						
O18K	Koktuh Hills	3.18	27		Pn	12 18 20.1	-1.0
O18K				IAML		12 19 24.1	
	comp=N,198nm,0.6s						
O18K				IAML		12 19 29.1	
	comp=E,165nm,0.9s						
P19K	Oil Pt	3.63	42		Pn	12 18 25.5	-1.8
P19K				IAML		12 19 39.9	
	comp=E,185nm,1.1s						
O19K	Port Alsworth	3.70	30		Pn	12 18 28.6	+0.4
O19K	Port Alsworth	3.70	30	P	Pn	12 18 28.6	+0.4
	baz=213						
FALS	False Pass	3.74	236	Pn	Pn	12 18 27.5	-1.3
IVE	Iliamna Volcan	3.97	39		Pn	12 18 32.1	+0.1
N19K	Bonanza Creek	4.20	24		Pn	12 18 35.2	+0.1
N19K	Bonanza Creek	4.20	24	IAML		12 19 48.8	
	comp=N,116nm,0.8s						
N19K				IAML		12 19 56.1	
	comp=E,95nm,1.1s						
N19K	Bonanza Creek	4.20	24	P	Pn	12 18 35.2	+0.1
	baz=208						
SVW2	Sparrevohn	4.25	16		Pn	12 18 35.9	+0.1
SVW2	Sparrevohn	4.25	16	IAML		12 19 58.4	
	comp=N,80nm,1.0s						
SVW2				IAML		12 20 06.4	
	comp=E,80nm,1.0s						
HOM	Homer	4.26	50	Pn	Pn	12 18 35.6	-0.3
RED	Redoubt Volcan	4.35	37		Pn	12 18 37.2	0.0
CNPM	China Poot	4.36	53		Pn	12 18 36.4	-0.9
CNPM				IAML		12 19 59.9	
	comp=N,46nm,2.7s						
RDWB	Redoubt West	4.38	36		Pn	12 18 37.8	+0.1
RSO	Redoubt South	4.39	37		Pn	12 18 37.6	-0.3
BRLK	Bradley Lake	4.64	51	Pn	Pn	12 18 41.9	+0.8
BRLK				IAML		12 20 24.5	
	comp=E,46nm,3.1s						
M19K	Big River Lodg	5.21	19		Pn	12 18 48.9	0.0
M19K	Big River Lodg	5.21	19	IAML		12 20 35.3	
	comp=E,75nm,1.2s						
M19K				IAML		12 20 54.7	
	comp=N,49nm,1.3s						
M19K	Big River Lodg	5.21	19	P	Pn	12 18 48.9	0.0
	baz=202						
L19K	White Mountain	5.39	16		Pn	12 18 50.5	-1.0
L19K				IAML		12 20 39.0	
	comp=N,62nm,1.1s						
SEW	Seward	5.43	52	Pn	Pn	12 18 50.7	-1.3
M20K	Styx River	5.45	25		Pn	12 18 52.6	+0.3
UNV	Unalaska Valle	5.79	240	Pn	Pn	12 18 58.2	+1.3
L20K	Farewell, AK	5.83	19		Pn	12 18 57.5	0.0
L20K	Farewell, AK	5.83	19	P	Pn	12 18 57.5	0.0
	baz=203						
RC01	Rabbit Creek A	5.89	43	Pn	Pn	12 18 58.9	+0.6
TT01	Tatalina	5.96	9		Pn	12 18 59.2	0.0
TTA	Tatalina	5.98	9		Pn	12 18 59.3	-0.4
M22K	Willow	6.21	37	Pn	Pn	12 19 02.1	-0.4
PWL	Port Wells	6.30	49	Pn	Pn	12 19 03.3	-0.7
PPLA	Purkeypile	6.55	24		Pn	12 19 08.6	+1.1
K20K	Telida	6.62	16		Pn	12 19 07.4	-1.0
GHO	Glory Hole Cre	6.63	41	Pn	Pn	12 19 09.9	+1.4
SPIA	Saint Paul Isl	6.66	276	Pn	Pn	12 19 10.2	+1.5
SML	Sawmill	6.87	42	Pn	Pn	12 19 11.0	-0.7
CAST	Castle Rocks	7.04	22		Pn	12 19 14.3	+0.3
SCM	Sheep Creek Mo	7.26	44	Pn	Pn	12 19 17.9	+0.8
J20K	Nowinta River	7.40	13	Pn	Pn	12 19 16.9	-2.0
KTH	Kantishna Hill	7.41	25	Pn	Pn	12 19 19.1	-0.1
TRF	Thorofare Moun	7.48	28	Pn	Pn	12 19 20.7	+0.4
KLU	Klutina	7.63	49	Pn	Pn	12 19 21.7	-0.5
RND	Reindeer	7.83	32	Pn	Pn	12 19 24.9	-0.1
M24K	Tolsona, Glenn	7.86	45	Pn	Pn	12 19 25.1	-0.3
BPAW	Bear Paw Mtn.	7.87	23	Pn	Pn	12 19 25.6	+0.1
DHY	Denali Highway	8.05	37	Pn	Pn	12 19 29.1	+1.1
N25K	Chitina, Valde	8.24	51	Pn	Pn	12 19 30.3	-0.3
ANM	Nome	8.34	338		Pn	12 19 31.9	0.0
GLB	Gilahina Butte	8.51	53	Pn	Pn	12 19 33.8	-0.4
NEA2	Nenana	8.73	26	Pn	Pn	12 19 36.3	-0.9
MLY	Manley	8.74	21	Pn	Pn	12 19 37.5	+0.1
ISLE	Juniper Island	8.88	60	Pn	Pn	12 19 39.7	+0.4
WRH	Wood River Hil	8.88	29	Pn	Pn	12 19 38.6	-0.7
H21K	Melozitna Rive	8.99	14		Pn	12 19 40.1	-0.6
CCB	Clear Creek Bu	9.09	29	Pn	Pn	12 19 38.9	-3.2
I23K	Minto, Yukon-K	9.13	24	Pn	Pn	12 19 42.5	-0.2
HDA	Harding Lake	9.15	32		Pn	12 19 42.5	-0.4
IMAR	Indian Mountai	9.19	11	Pn	Pn	12 19 43.0	-0.5
MDM	Murphy Dome	9.24	27	Pn	Pn	12 19 42.0	-2.2
RIDG	Independent Ri	9.34	39	Pn	Pn	12 19 47.1	+1.5
ILAR	Eielson Array	9.44	30	P	Pn	12 19 48.9	+1.9
	comp=N,0.1nm,0.3s,baz=220,slow=12,SNR=12						
J25K	Salcha River,	9.76	34	Pn	Pn	12 19 49.9	-1.6
H24K	Noodor Dome	10.05	25	Pn	Pn	12 19 56.5	+1.2
BMAR	Burnt Mountain	12.11	25	Pn	Pn	12 20 23.5	0.0
TOLK	Toolik Lake Re	12.24	15	Pn	Pn	12 20 26.0	+0.8
INK	Inuvik	15.78	35	P	Pn	12 21 13.7	+0.8
	comp=N,0.1nm,0.3s,baz=226,slow=11,SNR=5.0						
INK	Inuvik	15.78	35	P	Pn	12 21 13.3	+0.4
INK				IAmb	IAmb	12 21 22.1	
	comp=Z,3.2nm,1.1s						
A36M	Sachs Harbour	20.14	29	P	P	12 22 02.4	-2.3
A36M				IAmb	IAmb	12 22 11.3	
	comp=Z,2.2nm,0.8s						
YKA	Yellowknife Ar	22.18	58	P	P	12 22 25.9	-0.9
	comp=Z,1.3nm,0.7s,baz=272,slow=10,SNR=16						
YKA				PcP	PcP	12 26 24.3	+1.3
	comp=Z,0.3nm,0.8s,baz=285,slow=2.2,SNR=5.6						
YKA				ScP	ScP	12 29 58.2	-1.5
	comp=Z,0.3nm,0.9s,baz=289,slow=1.9,SNR=3.5						
YKA	Yellowknife Ar	22.18	58	P	P	12 22 27.1	+0.3
EDM	Edmonton	25.47	79	P	P	12 22 59.2	+0.3
EDM				IAmb	IAmb	12 23 00.5	
	comp=Z,4.0nm,0.8s						
NVAR	Mina Array Bea	31.95	108	P	P	12 23 58.5	+1.5
	comp=Z,0.5nm,0.7s,baz=312,slow=8.1,SNR=4.0						
YAK	Yakutsk	35.22	309	LR	LR	12 40 31.5	
	comp=Z,28nm,19.2s,baz=90,slow=39						
TXAR	Lajitas Array	46.67	103	P	P	12 26 00.6	+1.0
	comp=Z,0.3nm,0.6s,baz=322,slow=6.9,SNR=2.8						

*NEIC **02** 12:41:10.3±1.1, 56°.98N±0°.05×157°.99W±0°.09, h7^{km}±2^{km}, Error ellipse: s-maj=9.4km s-min=3.0km az=131.0*
AEIC 02 12:41:10±1.3**, 56°.99N**±0°.04×**157°.97W**±0°.09**, h4**^{km}±7^{km}**, ML2.9, ML3.2**/32(NEIC)**, Error ellipse: s-maj=9.4km s-min=3.0km az=130.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.14	262		Pg	12 41 13.5	+0.8
ANPB	Aniakchak Plen	0.25	223		Pg	12 41 15.6	+0.8
CHGN	Chignik	0.73	200		Pg	12 41 24.2	+0.3

CHGN	**Chignik**	**0.73**	**200**	IAML		12 41 35.6	
	comp=N,990nm,0.8s						
CHGN				IAML		12 41 35.6	
	comp=E,1μm,0.4s						
PLBL	**Peulik Blue Cr**	**0.95**	**41**		Pg	12 41 28.6	+0.4
VNHG	**Veniaminof 1**	**1.01**	**221**		Pg	12 41 29.7	+0.3
PLK1	**Peulik 1**	**1.10**	**41**		Pb	12 41 31.5	-0.1
VNFG	**Fog Glacier, M**	**1.12**	**232**		Pb	12 41 31.9	-0.1
PLK3	**Peulik 3**	**1.16**	**52**		Pb	12 41 32.5	-0.1
PLK5	**Peulik 5**	**1.17**	**30**		Pb	12 41 32.9	+0.1
PLK2	**Peulik 2**	**1.19**	**48**		Pn	12 41 33.3	0.0
CHIR	**Chirikof Islan**	**1.75**	**131**		Pn	12 41 41.4	+0.3
CHIR	**Chirikof Islan**	**1.75**	**131**	IAML		12 42 08.7	
	comp=N,268nm,0.9s						
CHIR				IAML		12 42 08.7	
	comp=E,280nm,0.9s						
ANCK	**Angle Creek**	**1.81**	**47**		Pb	12 41 42.9	-0.7
SII	**Sitkinak Islan**	**2.13**	**100**		Pb	12 41 48.2	-0.9
SII	**Sitkinak Islan**	**2.13**	**100**	IAML		12 42 25.7	
	comp=N,224nm,1.2s						
SDPT	**Sand Point**	**2.16**	**222**		Pn	12 41 48.0	+1.3
OHAK	**Old Harbor**	**2.57**	**83**		Pn	12 41 52.3	0.0
P18K	**Big Mountain,**	**2.82**	**30**		Pn	12 41 56.8	+1.0
P18K	**Big Mountain,**	**2.82**	**30**	IAML		12 42 41.8	
	comp=E,36nm,1.2s						
P18K				IAML		12 42 46.3	
	comp=N,32nm,0.7s						
Q19K	**Cape Douglas,**	**3.02**	**48**	Pn	Pn	12 41 58.2	-0.4
KDAK	**Kodiak Island**	**3.02**	**72**		Pn	12 41 58.6	+0.1
KDAK	**Kodiak Island**	**3.02**	**72**	Pn	Pn	12 41 57.6	-0.9
KDAK				IAML		12 43 06.9	
	comp=N,33nm,4.8s						
KDAK				IAML		12 43 27.1	
	comp=N,44nm,3.6s						
O18K	**Koktuh Hills**	**3.22**	**26**		Pn	12 42 00.1	-1.2
P19K	**Oil Pt**	**3.66**	**41**	Pn	Pn	12 42 07.0	-0.4
P19K				IAML		12 43 10.9	
	comp=E,58nm,0.6s						
O19K	**Port Alsworth**	**3.74**	**29**	Pn	Pn	12 42 09.4	+1.0
N19K	**Bonanza Creek**	**4.24**	**24**		Pn	12 42 16.1	+0.7
N19K				IAML		12 43 42.6	
	comp=N,24nm,0.8s						
N19K				IAML		12 43 46.8	
	comp=E,29nm,0.6s						
SVW2	**Sparrevohn**	**4.30**	**16**	Pn	Pn	12 42 16.1	0.0
SVW2				IAML		12 43 44.5	
	comp=E,28nm,1.4s						
SVW2				IAML		12 43 47.5	
	comp=N,28nm,1.6s						
RSO	**Redoubt South**	**4.42**	**36**	Pn	Pn	12 42 18.3	+0.3
BRLK	**Bradley Lake**	**4.65**	**50**	Pn	Pn	12 42 20.7	-0.3
M19K	**Big River Lodg**	**5.26**	**19**	Pn	Pn	12 42 28.6	-0.7
M19K				IAML		12 44 08.2	
	comp=E,19nm,1.6s						
L19K	**White Mountain**	**5.45**	**16**	Pn	Pn	12 42 31.6	-0.3
M20K	**Styx River**	**5.50**	**25**	Pn	Pn	12 42 32.2	-0.4
TTA	**Tatalina**	**6.04**	**9**	Pn	Pn	12 42 39.1	-1.0
PPLA	**Purkeypile**	**6.60**	**24**	Pn	Pn	12 42 48.3	+0.5
K20K	**Telida**	**6.68**	**15**	Pn	Pn	12 42 49.1	+0.4

*IDC **02** 12:42:59.6±0.8, 42°.02S×84°.53E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.8/38, mbtmp4.1/8, MS3.9/22, Ms1 3.9/22, ms1mx3.7/61, Error ellipse: s-maj=25.3km s-min=21.3km az=133.0*

*NEIC **02** 12:43:02.2±1.8, 42°.1S±0°.1×84°.5E±0°.1, h15km±2km, mb4.7/31, Error ellipse: s-maj=15.6km s-min=10.8km az=182.0*

ISC 02 12:43:00.8±0.5**, 42°.07S**±0°.09×**84°.49E**±0°.08**, h10km, n68,** σ**0s.84**/45**, mb4.5**/23**, MS4.0**/22**, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**6.81**	**306**	Pn	**Pn**	**12 44 40.8**	**0.0**
H01W2	**Cape Leeuwin H**	**24.21**	**83**	T	T	13 13 30.5	
	baz=244,slow=74,SNR=26						
H01W3	**Cape Leeuwin H**	**24.21**	**83**	T	T	13 13 25.9	
	baz=244,slow=74,SNR=22						
H01W1	**Cape Leeuwin H**	**24.22**	**83**	T	T	13 13 26.8	
	baz=244,slow=74,SNR=20						
MAW	**Mawson**	**28.14**	**197**	LR	LR	12 57 29.2	
	comp=Z,229nm,19.4s,baz=30,slow=31						
MAW	**Mawson**	**28.14**	**197**	P	**P**	**12 48 50.5**	**-2.0**
CASY	**Casey**	**28.23**	**158**	P	**P**	**12 48 51.5**	**-2.0**
MORW	**Morawa**	**28.59**	**73**	P	**P**	**12 48 58.3**	**+1.2**
MORW				IAmb	IAmb	12 49 22.0	
	comp=Z,27nm,1.4s						
GIRL	**Giralia**	**31.49**	**61**	P	**P**	**12 49 23.7**	**+1.0**
H08S2	**Diego Garcia H**	**35.89**	**339**	T	T	13 27 46.0	
	baz=165,slow=76,SNR=177						
H08S1	**Diego Carcia H**	**35.89**	**339**	T	T	13 28 08.8	
	baz=165,slow=76,SNR=98						
H08S3	**Diego Garcia H**	**35.91**	**339**	T	T	13 27 47.5	
	baz=165,slow=76,SNR=229						
PSA00	**Pilbara Seismi**	**35.98**	**66**	P	**P**	**12 50 01.9**	**+0.1**
XMIS	**Christmas Isla**	**36.53**	**37**	P	**P**	**12 50 05.2**	**-1.4**
VOI	**Vohitsoka**	**37.37**	**291**	P	**P**	**12 50 13.9**	**+0.2**
VOI				IAmb	IAmb	12 50 22.0	
	comp=Z,9.0nm,1.0s						
LEM	**Lembang**	**40.65**	**37**	LR	LR	13 04 32.4	
	comp=Z,88nm,19.0s,baz=179,slow=32						
BBOO	**Buckleboo**	**41.44**	**95**	P	**P**	**12 50 47.6**	**+0.1**
BBOO				IAmb	IAmb	12 50 58.5	
	comp=Z,25nm,1.2s						
FITZ	**Fitzroy Crossi**	**42.33**	**68**	P	**P**	**12 50 54.3**	**-0.6**
ASAR	**Alice Springs**	**44.72**	**82**	P	**P**	**12 51 14.3**	**0.0**
	comp=Z,1.8nm,1.0s,baz=228,slow=8.3,SNR=12						
ASAR				PcP	**PcP**	**12 52 57.0**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=226,slow=2.9,SNR=4.8						
ASAR	**Alice Springs**	**44.72**	**82**	P	**P**	**12 51 14.8**	**+0.6**
AS31	**Alice Springs**	**44.72**	**82**	P	**P**	**12 51 14.9**	**+0.6**
STKA	**Stephens Creek**	**45.99**	**97**	P	**P**	**12 51 24.3**	**+0.1**
KNRA	**Kununurra**	**46.15**	**69**	P	**P**	**12 51 27.0**	**+1.5**
KNRA				IAmb	IAmb	12 51 36.2	
	comp=Z,15nm,1.4s						
TOO	**Toolangi**	**46.20**	**106**	P	**P**	**12 51 26.8**	**+0.9**
PSI	**Prapat**	**46.54**	**20**	LR	LR	13 06 26.2	
	comp=Z,208nm,21.2s,baz=199,slow=30						
VNDA	**Vanda**	**46.61**	**163**	P	**P**	**12 51 28.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=276,slow=8.1,SNR=8.5						
VNDA				LR	LR	13 08 58.0	
	comp=Z,183nm,19.5s,baz=274,slow=33						
VNDA	**Vanda**	**46.61**	**163**	P	**P**	**12 51 29.7**	**+1.3**
VNDA				IAmb	IAmb	12 51 53.7	
	comp=Z,7.4nm,1.5s						
WRA	**Warramunga Arr**	**47.32**	**78**	P	**P**	**12 51 35.3**	**+0.6**
	comp=Z,4.4nm,1.1s,baz=230,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**47.32**	**78**	P	**P**	**12 51 35.7**	**+0.9**
WB2	**Warramunga Arr**	**47.33**	**78**	P	**P**	**12 51 34.9**	**+0.1**
WB2				IAmb	IAmb	12 51 38.1	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**47.33**	**78**	P	**P**	**12 51 35.0**	**+0.1**
WR0	**Warramunga Arr**	**47.45**	**78**	P	**P**	**12 51 36.4**	**+0.6**
WR0				IAmb	IAmb	12 51 36.6	
	comp=Z,4.7nm,1.1s						
WB0	**Warramunga Arr**	**47.47**	**78**	P	**P**	**12 51 36.6**	**+0.7**
WB0				IAmb	IAmb	12 51 39.1	
	comp=Z,8.8nm,1.2s						
QSPA	**South Pole Qui**	**48.09**	**180**	P	**P**	**12 51 40.8**	**+0.5**
	comp=Z,4.5nm,0.7s,baz=301,slow=5.0,SNR=34						
QSPA				LR	LR	13 10 08.8	
	comp=Z,166nm,19.1s,baz=297,slow=34						
QSPA	**South Pole Qui**	**48.09**	**180**	P	**P**	**12 51 40.8**	**+0.5**
PALK	**Pallekele**	**49.22**	**355**	LR	LR	13 07 32.5	
	comp=Z,273nm,21.3s,baz=298,slow=30						
BOSA	**Boshof**	**49.23**	**266**	P	**P**	**12 51 50.0**	**+0.4**
	comp=Z,3.4nm,1.0s,baz=106,slow=5.8,SNR=2.0						
BOSA				LR	LR	13 08 07.6	
	comp=Z,162nm,20.6s,baz=181,slow=31						
BOSA	**Boshof**	**49.23**	**266**	P	**P**	**12 51 50.4**	**+0.8**
BOSA				IAmb	IAmb	12 52 16.1	
	comp=Z,14nm,1.5s						
MTN	**Manton Dam**	**49.76**	**68**	P	**P**	**12 51 53.3**	**-0.3**
MTN				IAmb	IAmb	12 52 18.5	
	comp=Z,19nm,1.5s						
SNAA	**Sanae**	**49.89**	**204**	P	**P**	**12 51 54.8**	**+0.8**
SNAA				IAmb	IAmb	12 52 19.0	
	comp=Z,7.1nm,1.2s						
SUR	**Sutherland**	**50.57**	**259**	P	**P**	**12 52 01.5**	**+1.8**
	comp=Z,5.9nm,0.9s,baz=129,slow=13,SNR=1.4						
SUR				LR	LR	13 08 43.9	
	comp=Z,60nm,21.0s,baz=148,slow=30						
SUR	**Sutherland**	**50.57**	**259**	P	**P**	**12 52 00.9**	**+1.2**
LBTB	**Lobatse**	**50.97**	**270**	LR	LR	13 09 51.3	
	comp=Z,101nm,18.8s,baz=145,slow=32						
ARMA	**Armidale**	**54.12**	**101**	P	**P**	**12 52 25.7**	**-0.3**
ARMA				IAmb	IAmb	12 52 50.1	
	comp=Z,15nm,1.5s						
BELA	**Belgrano 2**	**54.84**	**193**	P	**P**	**12 52 30.6**	**+0.1**
BELA				IAmb	IAmb	12 52 31.6	
	comp=Z,3.9nm,0.7s						
LSZ	**Lusaka**	**55.00**	**281**	LR	LR	13 12 13.6	
	comp=Z,61nm,19.4s,baz=148,slow=32						
LSZ	**Lusaka**	**55.00**	**281**	P	**P**	**12 52 32.6**	**0.0**
LSZ				IAmb	IAmb	12 52 40.8	
	comp=Z,6.9nm,0.8s						
EIDS	**Eidsvold**	**56.50**	**95**	P	**P**	**12 52 42.7**	**-0.4**
EIDS				IAmb	IAmb	12 52 52.1	
	comp=Z,7.9nm,1.3s						
KMBO	**Kilima Mbogo**	**58.77**	**301**	LR	LR	13 15 41.0	
	comp=Z,24nm,18.5s,baz=89,slow=33						
TSUM	**Tsumeb**	**60.38**	**270**	LR	LR	13 16 09.1	
	comp=Z,88nm,18.3s,baz=154,slow=33						
CM31	**Chiang Mai Arr**	**61.69**	**16**	P	**P**	**12 53 18.7**	**-0.3**
CM31				IAmb	IAmb	12 53 28.1	
	comp=Z,7.8nm,1.4s						
CMAR	**Chiang Mai Arr**	**61.69**	**16**	P	**P**	**12 53 18.9**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=213,slow=6.4,SNR=12						
MBAR	**Mbarara**	**63.43**	**296**	LR	LR	13 16 57.5	
	comp=Z,51nm,19.2s,baz=83,slow=32						
WSAR	**Wadi Sarin**	**69.24**	**335**	LR	LR	13 18 06.9	
	comp=Z,87nm,19.0s,baz=174,slow=30						
PMSA	**Palmer Station**	**70.67**	**194**	LR	LR	13 24 43.6	
	comp=Z,210nm,18.2s,baz=126,slow=35						
GEYT	**Alibeck**	**83.17**	**339**	LR	LR	13 30 11.4	
	comp=Z,28nm,18.1s,baz=149,slow=34						
AAK	**Ala-Archa**	**84.80**	**353**	LR	LR	13 30 19.2	
	comp=Z,84nm,18.6s,baz=143,slow=34						
KKAR	**Karatay Array**	**85.72**	**350**	P	**P**	**12 55 38.9**	**-0.6**
MK31	**Makanchi Array**	**88.50**	**358**	P	**P**	**12 55 52.2**	**-0.7**
MKAR	**Makanchi Array**	**88.50**	**358**	P	**P**	**12 55 52.2**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=177,slow=2.9,SNR=2.2						
MAKZ	**Makanchi**	**88.52**	**358**	P	**P**	**12 55 52.5**	**-0.5**
MAKZ				IAmb	IAmb	12 56 04.1	
	comp=Z,1.7nm,0.7s						
GNI	**Garni**	**89.42**	**331**	LR	LR	13 32 34.4	
	comp=Z,30nm,18.1s,baz=146,slow=33						
MJAR	**Matsushiro Arr**	**92.35**	**41**	LR	LR	13 36 50.3	
	comp=Z,102nm,19.1s,baz=153,slow=35						
TORD	**Torodi Ar. Bea**	**93.43**	**284**	LR	LR	13 35 41.7	
	comp=Z,66nm,19.5s,baz=222,slow=34						
BRTR	**Keskin Array B**	**93.57**	**323**	LR	LR	13 33 24.5	
	comp=Z,45nm,19.6s,baz=109,slow=32						
DBIC	**Dimbokro**	**93.93**	**275**	LR	LR	13 32 25.3	
	comp=Z,65nm,19.3s,baz=158,slow=32						
INK	**Inuvik**	**146.91**	**25**	PKPbc	**PKPbc**	**13 02 41.8**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=284,slow=1.5,SNR=9.3						
INK	**Inuvik**	**146.91**	**25**		**PKPab**	**13 02 43.2**	**-0.3**

*NEIC **02** 12:57:03.0±1.6, 57°.03N±0°.04×158°.1W±0°.1, h4km±6km, Error ellipse: s-maj=9.1km s-min=5.7km az=112.0*

*AEIC **02** 12:57:03±1.9, 57°.01N±0°.04×158°.0W±0°.1, h2km±7km, ML3.2, ML3.5/34(NEIC), Error ellipse: s-maj=9.1km s-min=5.8km az=114.0*

ISC 02 12:57:03.1±1.0**, 57°.01N**±0°.06×**157°.96W**±0°.04**, h10km, n59,** σ**1s.31**/62**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.75**	**200**	Pg	**Pb**	**12 57 18.1**	**-0.1**
CHGN	**Chignik**	**0.75**	**200**	P	**Pg**	**12 57 17.1**	**-0.4**
	baz=19						
CHGN				S	**Sb**	**12 57 28.8**	**+0.3**
	baz=19						
VNFG	**Fog Glacier, M**	**1.14**	**231**	P	**Pb**	**12 57 24.5**	**-0.4**
	baz=50						
CHIR	**Chirikof Islan**	**1.76**	**132**	Pn	**Pb**	**12 57 35.3**	**-0.1**
CHIR				IAML		12 58 05.7	
	comp=N,597nm,0.9s						
CHIR				IAML		12 58 06.8	
	comp=E,369nm,0.9s						
CHIR	**Chirikof Islan**	**1.76**	**132**	P	**Pb**	**12 57 34.7**	**-0.7**
	baz=313						
CHIR				S	**Sg**	**12 57 58.8**	**-0.9**
	baz=313						
SII	**Sitkinak Islan**	**2.13**	**101**		**Sg**	**12 58 10.6**	**-0.7**
SII	**Sitkinak Islan**	**2.13**	**101**	Pn	**Pb**	**12 57 40.8**	**-0.9**
SII	**Sitkinak Islan**	**2.13**	**101**	IAML		12 58 12.5	
	comp=E,755nm,1.0s						
SII				IAML		12 58 19.2	
	comp=N,477nm,1.1s						
SII	**Sitkinak Islan**	**2.13**	**101**	P	**Pb**	**12 57 40.9**	**-0.8**
	baz=284						
SII				S	**Sg**	**12 58 10.6**	**-0.7**
	baz=284						
SDPT	**Sand Point**	**2.18**	**221**	Pn	**Pn**	**12 57 40.4**	**+1.1**
SDPT				IAML		12 58 13.9	
	comp=E,392nm,1.4s						
SDPT	**Sand Point**	**2.18**	**221**	P	**Pn**	**12 57 40.5**	**+1.1**
	baz=39						
SDPT				S	**Sb**	**12 58 10.4**	**+0.8**
	baz=39						
OHAK	**Old Harbor**	**2.56**	**83**	Pn	**Pn**	**12 57 45.4**	**+0.9**
OHAK	**Old Harbor**	**2.56**	**83**	P	**Pn**	**12 57 45.9**	**+1.4**
	baz=267						
P18K	**Big Mountain,**	**2.79**	**30**	Pn	**Pn**	**12 57 48.6**	**+0.8**
P18K				IAML		12 58 38.8	
	comp=E,147nm,0.7s						
P18K	**Big Mountain,**	**2.79**	**30**	P	**Pn**	**12 57 48.6**	**+0.8**
	baz=212						
Q19K	**Cape Douglas,**	**3.00**	**48**	Pn	**Pn**	**12 57 51.9**	**+1.3**
Q19K				IAML		12 58 59.6	
	comp=N,215nm,0.9s						
Q19K	**Cape Douglas,**	**3.00**	**48**	P	**Pn**	**12 57 51.8**	**+1.1**
	baz=232						
KDAK	**Kodiak Island**	**3.01**	**73**	Pn	**Pn**	**12 57 51.9**	**+1.1**
KDAK	**Kodiak Island**	**3.01**	**73**	P	**Pn**	**12 57 51.7**	**+0.9**
	baz=257						
O18K	**Koktuh Hills**	**3.20**	**26**	Pn	**Pn**	**12 57 54.0**	**+0.6**
O18K				IAML		12 58 45.3	
	comp=E,112nm,0.6s						
O18K				IAML		12 58 48.2	
	comp=N,167nm,0.5s						
P19K	**Oil Pt**	**3.64**	**41**	Pn	**Pn**	**12 58 00.5**	**+1.1**
O19K	**Port Alsworth**	**3.72**	**29**	Pn	**Pn**	**12 58 00.5**	**0.0**
N19K	**Bonanza Creek**	**4.22**	**24**		**Pn**	**12 58 07.6**	**+0.1**
N19K				IAML		12 59 21.2	
	comp=N,82nm,0.7s						
SVW2	**Sparrevohn**	**4.28**	**16**		**Pn**	**12 58 08.7**	**+0.5**
SVW2				IAML		12 59 24.9	
	comp=E,73nm,0.6s						
SVW2				IAML		12 59 31.2	
	comp=N,54nm,0.6s						
CNPM	**China Poot**	**4.36**	**52**	Pn	**Pn**	**12 58 11.0**	**+1.7**
CNPM				IAML		12 59 46.2	
	comp=E,42nm,3.6s						
CNPM				IAML		12 59 48.9	
	comp=N,43nm,2.5s						
RSO	**Redoubt South**	**4.40**	**36**	Pn	**Pn**	**12 58 09.6**	**-0.4**
BRLK	**Bradley Lake**	**4.63**	**50**	Pn	**Pn**	**12 58 13.8**	**+0.7**
BRLK				IAML		13 00 09.2	
	comp=E,46nm,2.8s						
M19K	**Big River Lodg**	**5.24**	**19**		**Pn**	**12 58 21.8**	**+0.4**
M19K				IAML		13 00 11.2	
	comp=N,40nm,1.2s						
L19K	**White Mountain**	**5.42**	**16**	Pn	**Pn**	**12 58 24.3**	**+0.4**
M20K	**Styx River**	**5.47**	**25**		**Pn**	**12 58 25.2**	**+0.6**
RC01	**Rabbit Creek A**	**5.89**	**43**	Pn	**Pn**	**12 58 26.7**	**-3.6**
TTA	**Tatalina**	**6.02**	**9**	Pn	**Pn**	**12 58 31.6**	**-0.5**
PMR	**Palmer**	**6.44**	**41**	Pn	**Pn**	**12 58 39.5**	**+1.6**
PPLA	**Purkeypile**	**6.58**	**24**	Pn	**Pn**	**12 58 41.0**	**+1.2**
KNK	**Knik Glacier**	**6.58**	**44**	Pn	**Pn**	**12 58 41.1**	**+1.3**
K20K	**Telida**	**6.66**	**15**	Pn	**Pn**	**12 58 40.8**	**0.0**
CAST	**Castle Rocks**	**7.06**	**22**	Pn	**Pn**	**12 58 46.8**	**+0.5**
J20K	**Nowinta River**	**7.43**	**13**	Pn	**Pn**	**12 58 51.0**	**-0.4**
KTH	**Kantishna Hill**	**7.43**	**25**	Pn	**Pn**	**12 58 52.6**	**+1.1**
TRF	**Thorofare Moun**	**7.50**	**27**	Pn	**Pn**	**12 58 55.2**	**+2.7**
RND	**Reindeer**	**7.85**	**31**	Pn	**Pn**	**12 58 59.8**	**+2.5**
BPAW	**Bear Paw Mtn.**	**7.89**	**23**	Pn	**Pn**	**12 59 00.4**	**+2.6**
DHY	**Denali Highway**	**8.06**	**37**	Pn	**Pn**	**12 59 01.4**	**+1.2**
ANM	**Nome**	**8.40**	**338**	Pn	**Pn**	**12 59 04.4**	**-0.2**
VRDI	**Verde Repeater**	**8.57**	**54**	Pn	**Pn**	**12 59 07.3**	**+0.1**
NEA2	**Nenana**	**8.75**	**26**	Pn	**Pn**	**12 59 11.9**	**+2.4**
MLY	**Manley**	**8.77**	**20**	Pn	**Pn**	**12 59 10.5**	**+0.7**
WRH	**Wood River Hil**	**8.90**	**29**	Pn	**Pn**	**12 59 13.1**	**+1.6**
H21K	**Melozitna Rive**	**9.02**	**14**	Pn	**Pn**	**12 59 12.4**	**-0.8**
CCB	**Clear Creek Bu**	**9.11**	**29**	Pn	**Pn**	**12 59 16.0**	**+1.6**
IMAR	**Indian Mountai**	**9.22**	**11**	Pn	**Pn**	**12 59 16.1**	**+0.1**
MDM	**Murphy Dome**	**9.26**	**27**	Pn	**Pn**	**12 59 17.4**	**+0.9**
RIDG	**Independent Ri**	**9.35**	**38**	Pn	**Pn**	**12 59 21.0**	**+3.3**
IL31		**9.46**	**30**	Pn	**Pn**	**12 59 19.9**	**+0.8**
ILAR	**Eielson Array**	**9.46**	**30**	Pn	**Pn**	**12 59 21.0**	**+1.8**
J25K	**Salcha River,**	**9.78**	**34**	Pn	**Pn**	**12 59 26.0**	**+2.4**
H24K	**Noodor Dome**	**10.07**	**24**	Pn	**Pn**	**12 59 28.9**	**+1.3**
L27K	**Beaver Creek,**	**10.08**	**46**	Pn	**Pn**	**12 59 28.8**	**+1.1**
BCAR	**Beaver Creek A**	**10.10**	**46**	Pn	**Pn**	**12 59 28.4**	**+0.5**

*BJI **02** 13:01:34.3±0.0, 15°.68S×166°.65E, h12km, mb5.0/66, mB5.2/46, Ms4.7/29, Ms7 4.5/31*

*IDC **02** 13:01:34.1±0.5, 15°.83S×166°.33E, h0km, mb4.9/24, mb1 5.0/29, mb1mx4.8/38, mbtmp4.9/29, ML5.1/4, MS4.3/50, Ms1 4.3/50, ms1mx4.3/55, Error ellipse: s-maj=14.8km s-min=12.6km az=82.0*

*NEIC **02** 13:01:37.1±1.4, 15°.87S±0°.06×166°.43E±0°.08, h19km±4km, mb5.1/38, Error ellipse: s-maj=11.9km s-min=8.7km az=70.0*

*MOS **02** 13:01:38.2±1.1, 15°.86S×166°.17E, h33km, mb5.3/26, Error ellipse: s-maj=10.3km s-min=8.4km az=119.4*

*GCMT **02** 13:01:40.1±0.1, 15°.87S±0°.01×166°.13E±0°.01, h27km, MW5.2/110, Moment Tensor Solution. s68,c94; s110,c165; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.98±.20; $M_{\theta\theta}$-1.99±.14; $M_{\phi\phi}$-3.99±.13; $M_{r\theta}$2.23±.24; $M_{\theta\phi}$4.02±.08; $M_{\phi r}$1.07±.21; Best double couple: $M_0$7.07700×10^{16} NP1:ϕ_s343.00000°, δ47.00000°, λ121.00000°. NP2:ϕ_s121.00000°, δ51.00000°, λ61.00000°. Principal axes: T 6.9980, Plg67.0000°, Azm327.0000°; N 0.1570, Plg22.0000°, Azm140.0000°; P -7.1550, Plg2.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 13:01:37.0±0.7**, 15°.90S**±0°.04×**166°.40E**±0°.05**, h19km**±2km**, n314,** σ**1s.47**/306**, mb5.1**/88**, MS4.4**/64**, 52C-29D, Fault plane solution: NP1:**ϕ_s80.04407°, δ52.39215°, λ30.01578°. **NP2:**ϕ_s330.62375°, δ66.65343°, λ138.34267°. **Principal axes:** T Plg45.3763°**,** Azm289.3954°**;** N Plg43.3113°**,** Azm126.6129°**;** P Plg8.7019°**,** Azm28.3168°**;**
Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.90**	**60**		**Pb**	**13 01 53.4**	**-0.5**
LIFNC	**LIFOU**	**4.92**	**171**	Pn	**Pn**	**13 02 48.0**	**-1.9**
KOUNC	**Koumac, New Ca**	**5.04**	**203**	Pn	**Pn**	**13 02 52.3**	**+0.7**
MARNC	**Mare, Loyalty**	**5.76**	**165**		**Pn**	**13 03 01.6**	**0.0**
DZM	**Mont Dzumac**	**6.14**	**180**	Pn	**Pn**	**13 03 07.3**	**+0.5**
	61nm,0.3s,baz=338,slow=12,SNR=434						
DZM				Sn	**Sn**	**13 04 12.0**	**-4.6**
	14nm,0.3s,baz=53,slow=20,SNR=1.3						
DZM				LR	LR	13 05 21.2	
	comp=Z,5μm,18.8s,baz=1.5,slow=37						
DZM	**Mont Dzumac**	**6.14**	**180**	*e*Pn	**Pn**	**13 03 07.3**	**+0.5**
	337nm,0.4s						
DZM				*e*Sn	**Sn**	**13 04 12.0**	**-4.6**
	499nm,0.6s						
DZM				*e*LR	LR	13 04 29.0	
	comp=Z,4μm,23.2s						
DZM	**Mont Dzumac**	**6.14**	**180**	Pn	**Pn**	**13 03 07.1**	**+0.3**
ONTNC	**Ouen Toro**	**6.37**	**180**	Pn	**Pn**	**13 03 10.1**	**+0.2**
PINNC	**Pines Island,**	**6.75**	**172**		**Pn**	**13 03 15.8**	**+0.7**
HNR	**Honiara**	**9.00**	**315**	Pn	**Pn**	**13 03 46.0**	**+0.1**
	113nm,0.3s,baz=195,slow=18,SNR=51						
HNR				Sn	**Sn**	**13 05 21.3**	**-5.5**
	53nm,0.3s,baz=163,slow=17,SNR=1.7						
HNR				LR	LR	13 06 45.9	
	comp=Z,1μm,21.5s,baz=159,slow=35						
MSVF	**Nonsavu**	**11.30**	**101**	Pn	**Pn**	**13 04 18.0**	**+0.4**
	0.7nm,0.3s,baz=191,slow=21,SNR=1.2						
MSVF				LR	LR	13 07 52.7	
	comp=Z,4μm,19.6s,baz=273,slow=33						
LHI	**Lord Howe Isla**	**16.93**	**202**	P	**P**	**13 05 35.3**	**+0.6**
	baz=17,SNR=4.3						
LHI	**Lord Howe Isla**	**16.93**	**202**		**Pn**	**13 05 32.8**	**0.0**
EIDS	**Eidsvold**	**17.14**	**234**	P	**P**	**13 05 36.8**	**-0.3**
	baz=17,SNR=15						
EIDS	**Eidsvold**	**17.14**	**234**		**P**	**13 05 36.9**	**-0.3**
KRVT	**Keravat (AS076**	**18.23**	**308**	P	**Pn**	**13 05 46.5**	**-2.6**
	2.9nm,0.3s,baz=154,slow=7.4,SNR=8.1						
RMQ	**Roma**	**19.51**	**234**	P	**Pn**	**13 06 06.2**	**+1.6**
	baz=20,SNR=21						
CTA	**Charters Tower**	**19.60**	**255**	P	**P**	**13 06 05.0**	**+0.7**
	2.6nm,0.3s,baz=80,slow=12,SNR=54						
RAO	**Raoul Island**	**19.62**	**135**	LR	LR	13 12 11.1	
	comp=Z,1μm,21.6s,baz=305,slow=32						
ARMA	**Armidale**	**19.80**	**221**	P	**Pn**	**13 06 10.5**	**+2.5**
	baz=20,SNR=19						
PMG	**Port Moresby**	**19.84**	**287**	P	**P**	**13 06 06.6**	**-0.3**
	1.2nm,0.3s,baz=85,slow=6.1,SNR=20						
PMG				LR	LR	13 13 01.5	
	comp=Z,3μm,18.2s,baz=102,slow=35						
PMG	**Port Moresby**	**19.84**	**287**	*c i*P	**P**	**13 06 08.0**	**+1.1**
PMG				pmax	pmax		
	comp=Z,107nm,1.0s						
PMG	**Port Moresby**	**19.84**	**287**	P	**P**	**13 06 06.7**	**-0.2**
PMG				IAmb	IAmb	13 06 09.4	
	comp=Z,102nm,1.0s						
AFI	**Afiamalu**	**21.18**	**88**	LR	LR	13 12 47.0	
	comp=Z,660nm,18.8s,baz=260,slow=32						
MTSU	**Mount Surprise**	**21.23**	**261**	P	**P**	**13 06 23.1**	**+1.1**
	baz=21,SNR=22						
MGCD	**Mangrove Creek**	**22.10**	**216**	P	**P**	**13 06 34.4**	**+3.3**
	baz=22,SNR=6.5						
COEN	**Coen**	**22.52**	**272**	P	**P**	**13 06 35.7**	**-0.2**
COEN				IAmb	IAmb	13 06 38.2	
	comp=Z,59nm,1.2s						
RIV	**Riverview**	**22.53**	**215**	P	**P**	**13 06 38.8**	**+3.0**
	baz=23,SNR=7.8						
QLP	**Quilpie**	**23.20**	**239**	P	**P**	**13 06 42.4**	**-0.4**
	baz=23,SNR=9.7						
CMSA	**Cobar Meteorol**	**24.46**	**227**	P	**P**	**13 06 55.7**	**+0.9**
	baz=25,SNR=45						
CNB	**Canberra Magne**	**24.62**	**215**	P	**P**	**13 06 58.2**	**+1.8**
	baz=25,SNR=16						
BKZ	**Black Stump Fm**	**24.81**	**161**	P	**P**	**13 06 58.3**	**+0.3**
BKZ				IAmb	IAmb	13 07 07.8	
	comp=Z,25nm,0.8s						
CAN	**Canberra**	**24.83**	**216**	P	**P**	**13 06 58.5**	**+0.3**
CAN				pmax	pmax		
	comp=Z,38nm,1.1s						
CAN	**Canberra**	**24.83**	**216**	P	**P**	**13 06 58.5**	**+0.3**
CAN				IAmb	IAmb	13 07 01.8	
	comp=Z,38nm,1.1s						
QIS	**Mount Isa**	**25.85**	**256**	P	**P**	**13 07 07.5**	**-0.1**
	baz=26,SNR=24						
STKA	**Stephens Creek**	**27.60**	**230**	P	**P**	**13 07 24.0**	**+0.7**
	comp=Z,36nm,1.1s,baz=45,slow=10,SNR=22						
STKA				PcP	**PcP**	**13 10 41.2**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=22,slow=4.6,SNR=4.0						
STKA				LR	LR	13 17 44.9	
	comp=Z,868nm,19.2s,baz=81,slow=35						
STKA	**Stephens Creek**	**27.60**	**230**	P	**P**	**13 07 24.3**	**+1.1**
	baz=28,SNR=12						
STKA	**Stephens Creek**	**27.60**	**230**	P	**P**	**13 07 24.3**	**+1.1**
STKA					**PcP**	**13 10 41.0**	**+0.3**
RPZ	**Rata Peaks**	**28.01**	**173**	P	**P**	**13 07 28.3**	**+1.6**
	comp=Z,9.7nm,0.9s,baz=352,slow=7.1,SNR=3.5						
RPZ				LR	LR	13 18 08.7	
	comp=Z,1μm,18.1s,baz=359,slow=35						
TOO	**Toolangi**	**28.41**	**217**	P	**P**	**13 07 32.1**	**+1.6**
	baz=29,SNR=7.0						
TOO	**Toolangi**	**28.41**	**217**	P	**P**	**13 07 32.3**	**+1.8**
TOO				pmax	pmax		
	comp=Z,57nm,1.1s						
TOO	**Toolangi**	**28.41**	**217**	P	**P**	**13 07 32.2**	**+1.8**
TOO				IAmb	IAmb	13 07 33.0	
	comp=Z,57nm,1.1s						
ARPS	**Mount Arapiles**	**30.12**	**222**	P	**P**	**13 07 47.3**	**+1.8**
	baz=30,SNR=6.8						
HTT	**Hallett**	**30.32**	**230**	P	**P**	**13 07 48.3**	**+0.8**
	baz=30,SNR=3.6						
WR0	**Warramunga Arr**	**30.55**	**258**	P	**P**	**13 07 47.5**	**-2.2**
WB0	**Warramunga Arr**	**30.68**	**258**	P	**P**	**13 07 48.9**	**-1.9**
WB0				IAmb	IAmb	13 07 56.2	
	comp=Z,21nm,0.8s						
WB2	**Warramunga Arr**	**30.73**	**258**	P	**P**	**13 07 49.7**	**-1.5**
WB2				IAmb	IAmb	13 07 56.6	
	comp=Z,19nm,0.8s						
WRAB	**Tennant Creek**	**30.73**	**258**⇓	*e*P	**P**	**13 07 48.8**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,28nm,1.7s						

WRAB Tennant Creek 30.73 258 P **P** **13 07 47.7 -3.5**
WRA Warramunga Arr 30.74 258 P **P** **13 07 49.4 -1.9**
comp=Z,5.3nm,0.8s,baz=86,slow=9.2,SNR=58
WRA PcP **PcP** **13 10 49.6 +0.7**
comp=Z,1.0nm,0.7s,baz=83,slow=1.0,SNR=4.6
WRA LR LR 13 19 35.8
comp=Z,1μm,18.2s,baz=58,slow=35
WRA Warramunga Arr 30.74 258 P **P** **13 07 49.4 -1.9**
AS31 Alice Springs 31.48 251 P **P** **13 07 56.6 -1.2**
ASAR Alice Springs 31.48 251 P **P** **13 07 56.6 -1.2**
comp=Z,13nm,0.6s,baz=73,slow=10,SNR=250
ASAR PcP **PcP** **13 10 51.5 +0.6**
comp=Z,2.8nm,0.9s,baz=86,slow=2.2,SNR=4.7
ASAR LR LR 13 19 34.9
comp=Z,1μm,20.3s,baz=93,slow=34
ASAR Alice Springs 31.48 251 P **P** **13 07 55.9 -1.9**
ASAR Alice Springs 31.48 251 P **P** **13 07 55.9 -1.9**
BBOO Buckleboo 32.20 233 P **P** **13 08 05.6 +1.6**
baz=32,SNR=9.2
BBOO Buckleboo 32.20 233 P **P** **13 08 04.1 +0.1**
BBOO IAmb IAmb 13 08 06.1
comp=Z,20nm,0.8s
RAR Rarotonga 32.46 105 LR LR 13 20 38.5
comp=Z,172nm,19.3s,baz=268,slow=35
KDU Kakadu 33.01 271 P **P** **13 08 10.0 -1.3**
baz=33,SNR=4.4
H11S2 WAKE ISLAND Hy 34.17 1 T T 13 44 44.5
baz=182,slow=74
H11S3 WAKE ISLAND Hy 34.18 0 T T 13 44 54.4
baz=182
H11S1 WAKE ISLAND Hy 34.19 1 T T 13 44 49.6
baz=182,slow=74
MTN Manton Dam 34.27 270 P **P** **13 08 21.6 -0.6**
baz=34,SNR=5.9
MTN Manton Dam 34.27 270 P **P** **13 08 21.4 -0.9**
H11N1 WAKE ISLAND Hy 35.39 1 T T 13 46 17.5
baz=185
H11N3 WAKE ISLAND Hy 35.40 1 T T 13 46 18.4
baz=185
H11N2 WAKE ISLAND Hy 35.41 1 T T 13 46 29.8
baz=185
KNRA Kununurra 36.19 265 P **P** **13 08 37.2 -1.5**
baz=36,SNR=22
KNRA Kununurra 36.19 265 P **P** **13 08 37.2 -1.5**
GUMO Guam 36.22 323 LR LR 13 21 53.5
comp=Z,820nm,21.9s,baz=119,slow=34
WRKA Warakurna 36.73 249 P **P** **13 08 42.6 -0.8**
baz=37,SNR=82
SIJI Sorong 37.73 290 P **P** **13 08 51.1 -0.8**
comp=Z,17nm,0.3s,baz=94,slow=4.9,SNR=5.1
SIJI LR LR 13 24 25.7
comp=Z,891nm,20.9s,baz=84,slow=36
SWI Sorong 37.73 290 P **P** **13 08 53.8 +1.9**
comp=Z,44nm,1.2s
FORT Forrest 37.98 240 P **P** **13 08 54.5 +0.6**
baz=38,SNR=32
FORT Forrest 37.98 240 P **P** **13 08 54.2 +0.4**
FITZ Fitzroy Crossi 38.99 261 P **P** **13 09 00.9 -1.5**
comp=Z,7.3nm,0.8s,baz=89,slow=9.5,SNR=10
FITZ PcP **PcP** **13 11 11.7 -1.0**
comp=Z,7.7nm,1.1s,baz=8.4,slow=4.9,SNR=3.1
FITZ LR LR 13 24 58.9
comp=Z,2μm,18.1s,baz=88,slow=36
FITZ Fitzroy Crossi 38.99 261 P **P** **13 09 01.4 -1.1**
baz=39,SNR=31
FITZ Fitzroy Crossi 38.99 261 P **P** **13 09 01.7 -0.8**
FITZ IAmb IAmb 13 09 09.2
comp=Z,44nm,1.4s
LBMI Labuha 41.25 288 P **P** **13 09 22.8 +1.5**
comp=Z,843nmcomp=Z,63nm,1.2s
BATI Baumata 41.96 272 P **P** **13 09 27.0 -0.1**
comp=Z,47nm,0.8s,baz=116,slow=20,SNR=4.4
BATI LR LR 13 26 10.0
comp=Z,522nm,20.8s,baz=129,slow=35
TBI Tubuai 42.10 107 *e*LQ LQ 13 19 08.3
comp=Z,1μm,30.8s
TBI *e*LR LR 13 20 57.9
comp=Z,495nm,26.5s
SANI Sanana 42.11 285 P **P** **13 09 28.4 +0.1**
comp=Z,866nmcomp=Z,70nm,1.4s
KMSI Cibinong 44.96 287 P P 13 09 58.3 +7.0
MEEK Meekatharra 45.56 248 P **P** **13 09 56.1 +0.1**
baz=46,SNR=44
DAV Davao City (W) 46.41 296 LR LR 13 27 05.9
comp=Z,231nm,21.0s,baz=112,slow=33
APSI Ampana 46.56 284 P **P** **13 10 05.0 +1.0**
comp=Z,696nmcomp=Z,67nm,1.2s
KLBR Kelleberrin 46.80 241 P **P** **13 10 05.2 -0.5**
baz=47,SNR=12
BNSI Bone 46.87 279 P **P** **13 10 07.1 +0.7**
comp=Z,578nmcomp=Z,32nm,1.1s
KAPI Kappang 47.02 278 LR LR 13 29 57.6
comp=Z,265nm,20.0s,baz=96,slow=36
KAPI Kappang 47.02 278*c i*P **P** **13 10 07.4 -0.2**
KAPI pmax pmax
comp=Z,53nm,1.5s
SPSI Sidrap Palu 47.32 279 P **P** **13 10 09.7 -0.2**
comp=Z,16nm,1.2s
BLDU Ballidu 47.58 243 P **P** **13 10 11.5 -0.2**
baz=48,SNR=9.1
RKGY Rocky Gully 47.92 238 P **P** **13 10 15.2 +0.9**
baz=48,SNR=8.2
MORW Morawa 48.01 245 P **P** **13 10 15.2 +0.1**
baz=48,SNR=16
MORW Morawa 48.01 245 P **P** **13 10 15.0 -0.1**
TOLI2 Tolitoli 48.11 286 P **P** **13 10 14.4 -1.7**
TOLI2 IAmb IAmb 13 10 15.8
comp=Z,21nm,1.0s
MUN Mundaring 48.16 241 P **P** **13 10 16.6 +0.4**
baz=48,SNR=14
MPSI Mapaga 48.64 285 P **P** **13 10 19.8 -0.3**
comp=Z,838nmcomp=Z,77nm,1.1s
ABJI Asem Bagus 51.57 273 P **P** **13 10 43.5 +1.1**
comp=Z,1μmcomp=Z,85nm,1.3s
BBKI Banjar Baru 52.16 278 P **P** **13 10 47.8 +1.0**
TAOE Nuku Hiva Isla 52.56 89 *e*S **S** **13 18 15.3 -1.1**
comp=Z,145nm,25.8s
TAOE *e*LR LR 13 25 51.3
comp=Z,403nm,28.7s
PCJI Pacitan 54.42 271 P **P** **13 11 04.4 +1.0**
comp=Z,76nm,1.2s
UGM Wanagama 55.11 271 P **P** **13 11 07.5 -1.0**
UGM Wanagama 55.11 271 P **P** **13 11 10.2 +1.7**
comp=Z,78nm,1.2s
JOW Kunigami 56.35 318 LR LR 13 35 24.4
comp=Z,308nm,19.0s,baz=157,slow=36
STKI Sintang 56.45 281 P **P** **13 11 19.5 +1.5**
KPJI Karang Pucung 56.78 272 P **P** **13 11 20.6 +0.2**
comp=Z,22nm,1.1s
KSM Kuching 58.02 282 P **P** **13 11 26.6 -2.5**
KSM IAmb IAmb 13 11 30.3
comp=Z,48nm,1.4s
LEM Lembang 58.17 272 P **P** **13 11 28.6 -1.8**
comp=Z,26nm,0.8s,baz=133,slow=8.4,SNR=11
LEM LR LR 13 37 49.8
comp=Z,241nm,19.0s,baz=96,slow=37
MJAR Matsushiro Arr 58.56 334 P **P** **13 11 31.6 -0.9**
comp=Z,6.5nm,0.9s,baz=178,slow=5.5,SNR=11
MJAR Matsushiro Arr 58.56 334 P **P** **13 11 31.6 -0.9**
MJAR IAmb IAmb 13 11 33.4
comp=Z,19nm,1.2s
TPUB Ta-pu 59.34 310 P **P** **13 11 37.5 -0.7**
TPUB IAmb IAmb 13 11 38.3
comp=Z,23nm,0.8s
JNU Nakatsue 59.39 325 P **P** **13 11 38.1 -0.2**
comp=Z,15nm,1.1s,baz=157,slow=1.5,SNR=3.6
YHNB Yeheng 59.62 312 P **P** **13 11 39.6 -0.5**
CGJI Cibinong 60.08 271 P P 13 11 51.9 +8.5
JTM Tenmabayashi 61.10 338 P **P** **13 11 50.2 +0.4**
KASI Kota Agung 61.50 272 P P 13 12 00.3 +7.2
VNDA Vanda 61.68 181 P **P** **13 11 54.5 +1.2**
comp=Z,7.2nm,1.0s,baz=356,slow=7.3,SNR=16
VNDA LR LR 13 35 59.0
comp=Z,83nm,18.1s,baz=360,slow=33
VNDA Vanda 61.68 181 P **P** **13 11 53.8 +0.5**
VNDA pmax pmax
comp=Z,13nm,1.2s
VNDA Vanda 61.68 181 P **P** **13 11 53.8 +0.5**
VNDA IAmb IAmb 13 11 58.8
comp=Z,13nm,1.1s
ASAJ Asahikawa 63.56 341 LR LR 13 35 55.2
comp=Z,119nm,21.6s,baz=170,slow=32
TJN Taejon 63.74 325⇑*e*P **P** **13 12 08.8 +1.2**
KSRS Korea Array 64.24 327 P **P** **13 12 11.1 +0.3**
comp=Z,4.1nm,1.0s,baz=138,slow=6.7,SNR=12
QIZ Qiongzhong 65.58 300 P **P** **13 12 20.1 +0.1**
QIZ S **S** **13 21 05.5 +0.7**
QIZ pmax pmax
comp=Z,18nm,1.2s
QIZ LR LR
comp=Z,150nm,14.5s
QIZ LR LR
comp=Z,86nm,11.4s
QIZ LR LR
comp=Z,180nm,25.1s
NJ2 Nanjing 65.94 317 *e*P **P** **13 12 22.3 +0.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
YSS Yuzh-Sakhalins 66.08 343 *e*P **P** **13 12 24.3 +1.7**
YSS *e*S **S** **13 21 10.1 +0.3**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=N,200nm,17.0s
USRK Ussuriysk Ar. 67.55 334 P **P** **13 12 32.8 +0.8**
comp=N,28nm,1.1s,baz=134,slow=5.5,SNR=22
USRK LR LR 13 39 09.2
comp=N,55nm,20.9s,baz=135,slow=33
MNSI Mandailing Nat 67.98 277 P **P** **13 12 35.0 -0.4**
WHN Wuhan 68.11 313⇑P **P** **13 12 36.1 +0.3**
SHEM Shemya Is, Ala 68.67 5 LR LR 13 36 17.0
comp=N,273nm,21.7s,baz=176,slow=30
MDJ Mudanjiang 68.92 333 P **P** **13 12 41.9 +1.3**
MDJ pmax pmax
comp=N,31nm,1.1s
MDJ pmax pmax
comp=N,220nm,5.9s
PET Petropavlovsk 68.96 355*ce*P **P** **13 12 41.1 +0.4**
PET pmax pmax
comp=Z,24nm,1.3s
PEA0B Petropavlovsk- 69.13 354⇑*e*P **P** **13 12 43.4 +1.6**
PETK Petropavlovsk- 69.13 354 P **P** **13 12 41.1 -0.6**
comp=Z,7.0nm,1.0s,baz=148,slow=8.7,SNR=8.8
PETK LR LR 13 38 08.9
comp=Z,221nm,20.9s,baz=160,slow=32
PETK Petropavlovsk- 69.13 354 P **P** **13 12 40.8 -0.9**
PETK Petropavlovsk- 69.13 354 P **P** **13 12 40.8 -0.9**
PSI Prapat 69.21 279 P **P** **13 12 42.1 -1.1**
comp=Z,14nm,1.2s,baz=162,slow=5.2,SNR=7.1
PSI PcP **PcP** **13 13 08.6 +1.6**
comp=Z,2.3nm,0.3s,baz=145,slow=6.6,SNR=4.0
PSI LR LR 13 44 03.3
comp=Z,77nm,20.7s,baz=115,slow=37
GSI Gunungsitoli 70.04 277 P **P** **13 12 49.4 +1.1**
comp=Z,2μmcomp=Z,24nm,0.9s
CN2 Changchun 70.22 330 *e*P **P** **13 12 47.2 -1.5**
CN2 *es*P pwP 13 13 01.5 +3.4
CN2 *e*PP **PP** **13 15 25.2 +0.7**
CN2 *e*S **S** **13 21 56.2 -3.2**
CN2 *es*S sS 13 22 13.3 +4.9
CN2 *e*SS **SS** **13 26 29.0 -1.2**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,180nm,3.5s
CN2 LR LR
comp=Z,140nm,16.0s
CN2 LR LR
comp=Z,130nm,16.0s
CN2 LR LR
comp=Z,120nm,18.0s
BNX BinXian 70.77 332⇓P **P** **13 12 52.6 +0.6**
BNX pmax pmax
comp=Z,29nm,0.9s
BNX pmax pmax
comp=Z,360nm,6.0s
GRNR Gornyy 71.40 340⇑*i*P **P** **13 12 57.5 +1.8**
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR MLR MLR
comp=E,160nm,11.0s
GRNR MLR MLR
comp=N,190nm,19.0s
GRNR MLR MLR
comp=Z,160nm,17.0s
GYA Guiyang 71.69 305⇓*i*P **P** **13 12 59.2 +1.0**
GYA pmax pmax
comp=Z,20nm,1.3s
GYA pmax pmax
comp=Z,150nm,6.9s
LYN LuoYang 71.71 315⇑P **P** **13 12 58.8 +0.9**
LYN S **S** **13 22 25.3 +8.3**
LYN pmax pmax
comp=Z,20nm,0.9s
LYN pmax pmax
comp=Z,220nm,5.4s
LYN LR LR
comp=Z,160nm,19.2s
LYN LR LR
comp=Z,150nm,17.3s
LYN LR LR
comp=Z,280nm,18.8s
KLR Kul'dur 71.74 337*ce*P **P** **13 12 59.0 +1.2**
KLR pmax pmax
comp=Z,50nm,1.5s
HNS HongShan 71.92 319⇓P **P** **13 13 01.0 +1.9**
HNS *e*S **S** **13 22 24.4 +5.1**
HNS pmax pmax
comp=Z,22nm,1.3s
HNS LR LR
comp=Z,230nm,21.8s
HNS LR LR
comp=Z,310nm,22.0s
HNS LR LR
comp=Z,280nm,22.4s
BJI Beijing 72.65 322 P **P** **13 13 04.1 +0.7**
BJI pP **sP** **13 13 10.4 -0.1**
BJI sP **pwP** **13 13 13.3 +0.4**
BJI S **S** **13 22 30.4 +2.8**
BJI pmax pmax
comp=Z,17nm,1.5s
BJI pmax pmax
comp=Z,240nm,4.3s
BJI LR LR
comp=Z,160nm,21.4s
TIY Taiyuan 73.56 318 *e*P **P** **13 13 10.8 +1.8**
TIY S **S** **13 22 33.2 -5.0**
TIY pmax pmax
comp=Z,20nm,0.6s
TIY pmax pmax
comp=Z,150nm,5.9s
TIY LR LR
comp=Z,110nm,15.1s
TIY LR LR
comp=Z,170nm,13.7s
TIY LR LR
comp=Z,150nm,17.9s
XAN Xi'an 73.87 313 P **P** **13 13 11.5 +0.7**
XAN pP pP 13 13 16.0 -0.1
XAN sP pwP 13 13 19.0 -1.4
XAN pmax pmax
comp=Z,23nm,1.3s
XAN pmax pmax
comp=Z,280nm,5.0s
XAN LR LR
comp=Z,130nm,16.3s
XAN LR LR
comp=Z,130nm,17.4s
XAN LR LR
comp=Z,230nm,18.0s
QSPA South Pole Qui 74.13 180 P **P** **13 13 13.4 +1.4**
comp=Z,22nm,1.0s,baz=26,slow=2.4,SNR=28
QSPA LR LR 13 43 00.2
comp=Z,144nm,19.2s,baz=28,slow=34
QSPA South Pole Qui 74.13 180 P **P** **13 13 12.2 +0.2**
KMI Kunming 74.21 302⇑P **P** **13 13 14.8 +1.5**
KMI pP pwP 13 13 21.8 -1.1
KMI sP PcP 13 13 25.3 -2.9
KMI pmax pmax
comp=Z,30nm,1.1s
KMI pmax pmax
comp=Z,230nm,4.0s
KMI LR LR
comp=Z,200nm,26.4s
CMAR Chiang Mai Arr 74.66 295 P **P** **13 13 16.8 +1.0**
comp=Z,7.5nm,0.9s,baz=121,slow=4.2,SNR=54
CMAR LR LR 13 42 37.2
comp=Z,37nm,21.7s,baz=115,slow=33
CMAR Chiang Mai Arr 74.66 295 *i* P **P** **13 13 17.0 +1.3**
CMAR pmax pmax
comp=Z,7.0nm,0.9s
XLT XiLinHaoTe 75.17 325 *e*P **P** **13 13 19.6 +1.4**
XLT pP pwP 13 13 25.7 -2.0
XLT sP PcP 13 13 28.4 -3.3
XLT PcP sP 13 13 33.2 +7.9
XLT S **S** **13 22 55.4 -0.7**
XLT sS sS 13 23 08.8 +3.8
XLT pmax pmax
comp=Z,29nm,1.3s
XLT pmax pmax
comp=Z,88nm,4.8s
XLT LR LR
comp=Z,21nm,18.5s
XLT LR LR
comp=Z,170nm,14.3s
XLT LR LR
comp=Z,230nm,19.0s
PZH PanZhiHua 75.63 303 P **P** **13 13 21.6 +0.3**
PZH S **S** **13 23 06.8 +4.9**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,130nm,5.7s
PZH LR LR
comp=Z,510nm,26.5s
PZH LR LR
comp=Z,700nm,26.3s
PZH LR LR
comp=Z,660nm,26.5s
HHC Hu-ho-hao-te 75.94 320 *e*P **P** **13 13 23.8 +1.1**
HHC S **S** **13 23 05.7 +0.9**
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,200nm,6.3s
HHC LR LR
comp=Z,160nm,14.0s
HHC LR LR
comp=Z,160nm,15.3s
HHC LR LR
comp=Z,280nm,14.6s
CD2 Chengdu 76.06 308 P **P** **13 13 24.7 +1.1**
CD2 pmax pmax
comp=Z,50nm,1.2s
MA2 Magadan 76.28 352 LR LR 13 41 38.4
comp=Z,164nm,21.3s,baz=170,slow=32
MA2 Magadan 76.28 352*c i*P **P** **13 13 23.4 -0.7**
MA2 pmax pmax
comp=Z,16nm,1.7s
BTO Baotou 76.75 319 *e*P **P** **13 13 28.4 +1.0**
BTO S **S** **13 23 17.5 +3.8**
BTO LR LR
comp=Z,400nm,4.7s
BTO LR LR
comp=Z,460nm,9.0s
ZEA Zeya 77.04 337 *e*P **P** **13 13 29.8 +1.3**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
RPN Rapa Nui 77.93 115 LR LR 13 44 14.8
comp=Z,73nm,19.1s,baz=347,slow=33
LZH Lanzhou 78.49 313 *e*P **P** **13 13 39.1 +1.9**
LZH pP sP 13 13 44.5 +0.2
LZH sP PcP 13 13 47.3 +1.0
LZH SS SS 13 28 40.2 +3.5
LZH pmax pmax
comp=Z,41nm,1.3s
LZH pmax pmax
comp=Z,190nm,4.6s
LZH LR LR
comp=Z,150nm,14.6s
LZH LR LR
comp=Z,120nm,13.0s
LZH LR LR
comp=Z,210nm,16.8s
SEY Seymchan 79.34 354 LR LR 13 44 12.9
comp=Z,262nm,21.4s,baz=154,slow=32
SEY Seymchan 79.34 354*c i*P **P** **13 13 41.3 +0.2**
SEY pmax pmax
comp=Z,27nm,1.7s
MAW Mawson 80.49 202 P **P** **13 13 46.8 -0.6**
comp=Z,8.0nm,1.0s,baz=112,slow=9.7,SNR=6.5
MAW LR LR 13 46 02.9
comp=Z,196nm,18.4s,baz=100,slow=33
MAW Mawson 80.49 202 P **P** **13 13 46.9 -0.6**
KDAK Kodiak Island 80.85 21 LR LR 13 43 49.9
comp=Z,345nm,18.9s,baz=235,slow=31
GAMB Gambell 81.22 10 P **P** **13 13 52.1 +1.0**
baz=201
O19K Port Alsworth 82.17 19 P **P** **13 13 57.4 +1.1**
baz=218
ULN Ulaanbaatar 82.58 324*c i*P **P** **13 14 00.0 +1.0**
ULN pmax pmax
comp=Z,51nm,1.7s
ULN Ulaanbaatar 82.58 324 P **P** **13 13 59.0 0.0**
ULN IAmb IAmb 13 14 01.4
comp=Z,40nm,1.2s
GTA Gaotai 82.87 314⇑P **P** **13 14 01.9 +1.3**
GTA sP pwP 13 14 15.8 +5.6
GTA pmax pmax
comp=Z,30nm,1.5s
GTA pmax pmax
comp=Z,220nm,5.5s
GTA LR LR
comp=Z,82nm,17.8s
GTA LR LR
comp=Z,210nm,20.0s
GTA LR LR
comp=Z,160nm,18.5s
YAK Yakutsk 82.90 343 LR LR 13 52 32.2
comp=Z,148nm,18.0s,baz=93,slow=37
YAK Yakutsk 82.90 343 *e*P **P** **13 14 00.2 +0.2**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.4s
SONM Songino Array 82.94 324 P **P** **13 14 00.3 -0.5**
comp=E,11nm,1.0s,baz=140,slow=5.5,SNR=58
SONM Songino Array 82.94 324 P **P** **13 14 01.4 +0.6**
SONM IAmb IAmb 13 14 03.0
comp=Z,38nm,1.4s
ANM Nome 83.08 12 P **P** **13 14 02.2 +1.3**
ANM pmax pmax
comp=Z,12nm,1.1s
ANM Nome 83.08 12 P **P** **13 14 02.2 +1.3**
ANM IAmb IAmb 13 14 03.9
comp=Z,12nm,1.1s
ANM Nome 83.08 12 P **P** **13 14 02.4 +1.5**
baz=207
TNA Tan City 83.50 10 P **P** **13 14 04.4 +1.4**
baz=205
M19K Big River Lodg 83.50 18 P **P** **13 14 03.9 +0.8**
baz=218
L19K White Mountain 83.59 17 P **P** **13 14 05.1 +1.4**
baz=217
BILL Bilibino 83.70 360*d i*P **P** **13 14 04.6 +0.5**
BILL *e* 13 17 19.1
BILL *e*S **S** **13 24 24.0 -1.4**
BILL *e*SS **SS** **13 29 54.0 +1.1**
BILL pmax pmax
comp=Z,54nm,1.3s
M20K Styx River 83.86 18 P **P** **13 14 06.4 +1.3**
baz=219
O22K Cooper Landing 83.86 20 P **P** **13 14 06.2 +1.2**
baz=222
L20K Farewell, AK 84.11 17 P **P** **13 14 07.4 +1.1**
baz=218
RC01 Rabbit Creek A 84.31 20 P **P** **13 14 07.9 +0.6**
baz=222
PWL Port Wells 84.60 20 P **P** **13 14 09.6 +0.8**
baz=223
M22K Willow 84.68 19 P **P** **13 14 10.0 +0.9**
baz=222
K20K Telida 84.75 17 P **P** **13 14 10.7 +1.2**
baz=218
PMR Palmer 84.88 20 P **P** **13 14 11.3 +1.2**
baz=222
PPLA Purkeypile 84.92 18 P **P** **13 14 12.3 +1.8**
baz=220
KNK Knik Glacier 84.97 20 P **P** **13 14 10.3 -0.3**
baz=223
GOMU GeErMu 85.08 310 P **P** **13 14 12.8 +0.5**
GOMU sP pwP 13 14 20.3 -1.6
GOMU S **S** **13 24 39.5 -1.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,110nm,7.8s						
GOMU				LR	LR		
	comp=Z,72nm,13.2s						
GOMU				LR	LR		
	comp=Z,87nm,13.4s						
GOMU				LR	LR		
	comp=Z,110nm,14.0s						
CUT	Chulitna	85.12	19	P	P	13 14 12.1	+0.8
	baz=221						
GCSA	Galena City Sc	85.13	15	P	P	13 14 12.7	+1.4
	baz=215						
BOD	Bodaibo	85.17	335	eP	P	13 14 10.6	-1.1
BOD				pmax	pmax		
	comp=Z,22nm,1.3s						
CAST	Castle Rocks	85.36	17	P	P	13 14 13.2	+0.7
CAST	Castle Rocks	85.36	17	P	P	13 14 12.6	0.0
	baz=220						
J20K	Nowinta River	85.38	16	P	P	13 14 14.3	+1.7
J20K				IAmb	IAmb	13 14 26.8	
	comp=Z,15nm,1.1s						
J20K	Nowinta River	85.38	16	P	P	13 14 13.5	+0.9
	baz=218						
BELA	Belgrano 2	85.63	176	P	P	13 14 14.1	+0.2
BELA				IAmb	IAmb	13 14 21.2	
	comp=Z,20nm,0.8s						
CHUM	Lake Minchumin	85.65	17	P	P	13 14 14.1	+0.2
	baz=220						
TRF	Thorofare Moun	85.91	18	P	P	13 14 15.9	+0.5
	baz=221						
ZAK	Zakamensk	86.02	325	eP	P	13 14 16.2	-0.1
ZAK				pmax	pmax		
	comp=Z,31nm,1.4s						
WAT6	Susitna Watana	86.05	19	P	P	13 14 17.9	+1.7
	baz=224						
O02D	Mt. Diablo Mer	86.14	46	P	P	13 14 17.5	+0.4
	baz=246						
BPAW	Bear Paw Mtn.	86.19	17	P	P	13 14 17.2	+0.5
	baz=221						
L02E	Cave Junction	86.41	44	P	P	13 14 19.5	+1.2
	baz=245						
IRK	Irkutsk	86.45	327	eP	P	13 14 12.2	-6.0
IRK				pmax	pmax		
	comp=Z,47nm,1.8s						
MCK	McKinley	86.52	18	P	P	13 14 19.6	+1.3
	baz=223						
DHY	Denali Highway	86.52	19	P	P	13 14 19.8	+1.3
	baz=224						
RDOG	Red Dog Mine	86.63	11	P	P	13 14 20.1	+1.3
	baz=209						
I21K	Tanana	86.74	16	P	P	13 14 21.0	+1.7
	baz=220						
YBH	Yreka Blue Hor	86.83	45	LR	LR	13 44 20.1	
	comp=Z,253nm,21.8s,baz=261,slow=30						
H21K	Melozitna Rive	86.89	16	P	P	13 14 21.6	+1.5
	baz=219						
IMAR	Indian Mountai	86.91	15	P	P	13 14 21.8	+1.6
MLY	Manley	86.97	17	P	P	13 14 21.4	+0.9
	baz=221						
NEA2	Nenana	87.12	18	P	P	13 14 21.6	+0.4
	baz=222						
WRH	Wood River Hil	87.32	18	P	P	13 14 22.6	+0.4
WRH				IAmb	IAmb	13 14 41.6	
	comp=Z,9.7nm,1.1s						
SYO	Syowa Base	87.35	197⇑	ePcP	PcP	13 14 24.3	-0.1
EDW2	Edwards Air Fo	87.61	53	P	P	13 14 24.9	+0.6
	baz=249						
HDA	Harding Lake	87.61	18	P	P	13 14 23.7	+0.1
	baz=224						
TCOL	CIGO, UAF Yank	87.68	18	P	P	13 14 26.2	+2.3
	baz=224						
COLA	College	87.68	18⇑	eP	P	13 14 24.2	+0.4
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RIDG	Independent Ri	87.80	20	P	P	13 14 24.7	+0.1
	baz=226						
PALK	Pallekele	87.86	278	P	P	13 14 25.9	0.0
	comp=Z,9.0nm,0.9s,baz=172,slow=7.1,SNR=7.0						
PALK				LR	LR	13 53 17.2	
	comp=Z,136nm,20.7s,baz=222,slow=35						
M27K	Edge Creek, AK	87.87	21	P	P	13 14 25.2	+0.2
	baz=229						
I04A	Tendick Farm,	87.89	43	P	P	13 14 26.9	+1.5
	baz=246						
ILAR	Eielson Array	87.89	18	P	P	13 14 24.6	-0.3
	comp=Z,1.1nm,0.6s,baz=237,slow=5.0,SNR=20						
ILAR				PP	PP	13 17 48.4	-3.0
	comp=Z,0.1nm,0.5s,baz=243,slow=3.1,SNR=0.7						
ILAR				LR	LR	13 48 41.2	
	comp=Z,291nm,20.6s,baz=245,slow=32						
ILAR	Eielson Array	87.89	18	P	P	13 14 25.0	+0.1
MOY	Mondy	87.91	325	eP	P	13 14 25.9	+0.4
LRMC	Laurel Mtn Rad	88.07	52	P	P	13 14 27.8	+1.2
	baz=249						
CWC	Cottonwood Cre	88.11	51	P	P	13 14 28.8	+2.0
	baz=249						
MONP2	Monument Peak	88.14	55	P	P	13 14 27.6	+0.5
	baz=250						
BBB	Bella Bella	88.21	34	LR	LR	13 45 10.7	
	comp=Z,324nm,21.6s,baz=266,slow=30						
SCRK	Sand Creek	88.24	20	P	P	13 14 25.8	-1.0
	baz=227						
J25K	Salcha River,	88.24	19	P	P	13 14 26.6	-0.1
	baz=226						
L27K	Beaver Creek,	88.35	21	P	P	13 14 29.2	+2.0
	baz=229						
H24K	Noodor Dome	88.37	17	P	P	13 14 29.3	+2.1
	baz=224						
MPMC	Manual Prospec	88.42	52	P	P	13 14 31.1	+2.7
	baz=249						
J05D	Fort Rock, OR	88.46	44	P	P	13 14 28.9	+0.6
	baz=246						
NVAR	Mina Array Bea	88.67	49	P	P	13 14 29.4	0.0
	comp=Z,0.5nm,0.8s,baz=230,slow=6.5,SNR=4.8						
NVAR				LR	LR	13 46 15.9	
	comp=Z,367nm,20.9s,baz=239,slow=30						
J26L	Joseph Creek	88.73	19	P	P	13 14 30.0	+1.0
	baz=228						
COLD	Coldfoot	88.78	16	P	P	13 14 30.9	+1.9
	baz=221						
E04D	Cinebar	88.92	41	P	P	13 14 32.2	+2.0
	baz=245						
D03D	Eldon	89.01	40	P	P	13 14 31.7	+1.1
	baz=245						
G05D	Wamic, OR	89.19	42	P	P	13 14 31.5	0.0
	baz=246						
TUQ	Turquoise Moun	89.40	53	P	P	13 14 33.2	+0.3
	baz=250						
DAWY	Dawson	89.83	21	P	P	13 14 33.9	-0.3
	baz=231						
M30M	Minto, Yukon	89.85	23	P	P	13 14 34.2	0.0
	baz=234						
B05A	Bryant	89.92	39	P	P	13 14 34.9	+0.1
	baz=246						
TOLK	Toolik Lake Re	89.99	15	P	P	13 14 36.2	+1.4
	baz=222						
DLBC	Dease Lake	90.36	28	LR	LR	13 50 46.2	
	comp=Z,175nm,18.3s,baz=264,slow=33						
LPIG	La Paz	90.45	65	LR	LR	13 49 06.1	
	comp=Z,111nm,18.0s,baz=252,slow=32						
A21K	Barrow	90.58	11	P	P	13 14 38.9	+1.6
	baz=215						
R11A	Troy Canyon, C	90.64	50	P	P	13 14 39.4	+0.7
	baz=250						
TIXI	Tiksi	90.95	349	LR	LR	13 49 46.3	
	comp=Z,73nm,21.9s,baz=179,slow=32						
TIXI	Tiksi	90.95	349⇑	eP	P	13 14 38.4	-0.7
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PMSA	Palmer Station	90.95	161	LR	LR	13 49 21.0	
	comp=Z,155nm,19.9s,baz=272,slow=32						
TROLL	Troll, Antarti	91.63	185	P	P	13 14 43.3	+0.6
TROLL	Troll, Antarti	91.63	185	pP	pP	13 14 49.9	+2.0
SNAA	Sanae	92.34	183	P	P	13 14 46.8	+1.0
SNAA	Sanae	92.34	183	pP	pP	13 14 52.4	+1.3
SNAA	Sanae	92.34	183	LR	LR	13 53 46.1	
	comp=Z,122nm,19.1s,baz=185,slow=34						
SNAA	Sanae	92.34	183⇓	eP	P	13 14 46.8	+1.0
SNAA				pmax	pmax		
	comp=Z,26nm,1.2s						
SNAA	Sanae	92.34	183	P	P	13 14 45.5	-0.4
HYBB	Hyderabad (bro	92.67	287	eP	P	13 14 45.9	-2.4
HYBB				IVmB_BB		13 14 46.8	
	comp=Z,90nm,2.8s						
HYBB				epP	sP	13 14 54.4	-1.2
HYBB				ePP	PP	13 18 29.2	-1.2
WMQ	Urumqi	92.95	315	eP	P	13 14 49.5	+0.4
WMQ				sP	pwP	13 15 04.6	+5.9
WMQ				pmax	pmax		
	comp=Z,23nm,1.3s						
WMQ				LR	LR		
	comp=Z,130nm,21.1s						
NEW	Newport	92.99	41	LR	LR	13 52 06.6	
	comp=Z,198nm,18.6s,baz=220,slow=33						
VNA3	Neumayer Olymp	93.03	181	P	P	13 14 49.6	+0.6
VNA3	Neumayer Olymp	93.03	181	pP	pP	13 14 55.5	+1.3
VNA2	Neumayer--Watz	93.29	182	P	P	13 14 49.4	-0.7
	baz=185,slow=4.0						
VNA2	Neumayer--Watz	93.29	182	pP	pP	13 14 56.8	+1.4
INK	Inuvik	94.26	19	LR	LR	13 51 27.3	
	comp=Z,212nm,21.1s,baz=209,slow=32						
ANMO	Albuquerque	96.65	56	LR	LR	13 50 30.3	
	comp=Z,257nm,21.0s,baz=272,slow=30						
MK31	Makanchi Array	97.47	316c	iP	P	13 15 09.7	+0.1
MKAR	Makanchi Array	97.47	316	P	P	13 15 09.8	+0.2
	comp=Z,3.2nm,0.9s,baz=98,slow=6.6,SNR=28						
MKAR				PP	PP	13 19 05.1	-2.0
	comp=Z,1.1nm,1.1s,baz=130,slow=7.1,SNR=4.1						
MKAR				PKKP	PKKPbc	13 31 47.8	-0.8
	comp=Z,0.3nm,0.6s,baz=180,slow=0.6,SNR=4.6						
MKAR				LR	LR	13 57 51.2	
	comp=Z,63nm,21.9s,baz=94,slow=35						
MKAR	Makanchi Array	97.47	316	P	P	13 15 08.6	-1.0
MKAR	Makanchi Array	97.47	316	P	P	13 15 08.6	-1.0
TXAR	Lajitas Array	97.57	62	LR	LR	13 53 41.5	
	comp=Z,214nm,18.4s,baz=252,slow=32						
C36M	Paulatuk	97.77	20	P	P	13 15 10.3	0.0
	baz=245						
ZALV	Zalesovo Beam	97.83	324	P	P	13 15 10.3	-0.7
	comp=Z,4.3nm,0.9s,baz=108,slow=4.8,SNR=18						
ZALV				LR	LR	14 00 10.1	
	comp=Z,90nm,19.8s,baz=108,slow=36						
A36M	Sachs Harbour	98.53	17	P	Pdif	13 15 14.5	+0.8
	baz=245						
YKA	Yellowknife Ar	98.97	27	P	P	13 15 15.9	0.0
	comp=Z,0.8nm,0.6s,baz=256,slow=4.4,SNR=17						
YKA				LR	LR	13 58 20.7	
	comp=Z,98nm,18.1s,baz=286,slow=34						
YKA	Yellowknife Ar	98.97	27		P	13 15 16.2	+0.3
KURK	Kurchatov	100.75	320⇓	eP	Pdif	13 15 23.9	-0.2
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NRIK	Noril'sk	100.86	339	P	Pdif	13 15 24.0	-0.2
	comp=Z,0.9nm,0.3s,baz=116,slow=3.9,SNR=4.3						
NRIK	Noril'sk	100.86	339⇓	eP	Pdif	13 15 24.3	+0.1
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARU	Arti	112.96	325	i PKIKP	PKiKP	13 20 11.2	-1.4
ARU						13 20 59.0	
ARU						13 27 22.2	
ARU				SP	SP	13 30 24.5	-9.0
ARU				SS	SS	13 36 37.3	-6.6
ARCES	ARCESS Array B	121.16	345	PKP	PKPdf	13 20 27.4	-0.6
	comp=Z,1.7nm,0.6s,baz=75,slow=1.4,SNR=11						
KLMR	Klimovskoe	121.34	333	ePKIKP	PKPdf	13 20 26.3	-2.2
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KLMR	Klimovskoe	121.34	333	ePKPdf	PKPdf	13 20 26.4	-2.1
KLMR				AMP		13 20 29.8	
	comp=Z,9.0nm,1.0s						
SIV	San Ignacio	123.44	122	PKP	PKPdf	13 20 34.4	+0.4
	comp=Z,0.4nm,0.3s,baz=255,slow=5.0,SNR=4.9						
SDV	Santo Domingo	124.00	90	PKP	PKPdf	13 20 34.5	-0.8
	comp=Z,3.2nm,0.7s,baz=195,slow=1.7,SNR=3.5						
VALR	Valaam	124.70	336⇑	iPKIKP	PKPdf	13 20 34.9	0.0
KBZ	Khabaz	124.93	312⇑	iPKIKP	PKPdf	13 20 35.4	-0.5
OBN	Obninsk	125.23	327⇑	iPKIKP	PKPdf	13 20 36.5	+0.4
OBN				e		13 22 29.2	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
FINES	FINESS Array B	126.48	338	PKP	PKPdf	13 20 36.3	-2.1
	comp=Z,3.7nm,1.0s,baz=132,slow=2.8,SNR=5.9						
KMBO	Kilima Mbogo	127.02	256	PKP	PKPdf	13 20 41.5	+0.3
	comp=Z,0.8nm,0.3s,baz=87,slow=2.3,SNR=3.1						
VSU	Vasula	128.11	334⇓	ePKIKP	PKPdf	13 20 38.3	-3.2
AKASG	Malin Array Be	131.22	325	PKP	PKPdf	13 20 46.0	-1.7
	comp=Z,0.3nm,0.4s,baz=57,slow=2.3,SNR=4.6						
AKBB	Malin Array Si	131.22	325⇓	iPKIKP	PKPdf	13 20 47.5	-0.2
CLL	Collm	138.76	335	ePKIKP	PKPdf	13 21 02.0	+0.2
CLL	Collm	138.76	335	ePKPdf	PKPdf	13 21 02.0	+0.2
CLL				LmV		14 24 00.0	
	comp=Z,200nm,19.2s						
KHC	Kasperske Hory	140.13	332	ePKIKP	PKPdf	13 21 05.5	+1.1
KHC	Kasperske Hory	140.13	332	ePKPDF	PKPdf	13 21 05.5	+1.1
GERES	GERESS Array B	140.28	332	PKP	PKiKP	13 21 07.6	+0.3
	comp=Z,0.4nm,0.6s,baz=107,slow=6.3,SNR=2.1						
TIP	Timpagrande	144.75	317	PKPdf	PKPbc	13 21 12.9	+1.0
KEST	Kesra	151.55	318	PKPbc	PKPbc	13 21 31.1	+0.7
	comp=Z,18nm,1.0s,baz=117,slow=2.3,SNR=5.9						
ESDC	Sonseca Array	154.86	342	PKPab	PKPab	13 21 51.6	-1.0
	comp=Z,1.1nm,0.9s,baz=16,slow=4.7,SNR=4.4						
TORD	Torodi Ar. Bea	164.94	262	PKP	PKPdf	13 21 39.4	-1.4
	comp=Z,1.4nm,1.1s,baz=121,slow=1.8,SNR=3.9						
TORD				PKPab	PKPab	13 22 37.1	-0.1
	comp=Z,6.7nm,0.9s,baz=102,slow=4.9,SNR=17						
TORD				PP	PP	13 26 21.1	-2.9
	comp=Z,0.5nm,0.8s,baz=127,slow=3.6,SNR=3.8						
DBIC	Dimbokro	167.45	224	PKPab	PKPab	13 22 47.9	-0.3
	comp=Z,3.3nm,0.9s,baz=226,slow=2.8,SNR=3.1						

NEIC ***02*** *13:10:08.7±1.8, 7°.70S±0°.08×119°.03E±0°.06, h10km±1km, mb4.2/13 Error ellipse: s-maj=14.3km s-min=9.3km az=180.0*

DJA ***02*** *13:10:09.6±0.2, 8°S±2°×11°9E±°, h10km, M4.3/12, MLv4.3/12*

IDC ***02*** *13:10:22.6±4.2, 8°.48S×119°.30E, h85km±39km, mb3.9/5, mb1 4.0/8, mb1mx3.5/47, mbtmp4.2/8, MS4.1/4, Ms1 4.1/4, ms1mx3.0/78, Error ellipse: s-maj=69.6km s-min=20.3km az=60.0*

ISC 02 13:10:11.5±0.7, **7°.81S**±0°.05×**119°.00E**±0°.04, **h34**km, **n45**, σ**1s69**/44, **mb4.2**/9, **MS4.1**/4, **Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	Plampang	1.58	230	P	Pn	13 10 38.2	+1.0
PLAI				S	Sn	13 10 56.8	+0.4
WBSI	Waikabubak, Su	1.86	168	P	Pn	13 10 41.9	+0.8
WBSI				S	Sn	13 11 04.6	+1.2
BSSI	Bau Bau, Buton	2.22	42	P	Pn	13 10 45.7	-0.3
BKSI	Bulukumba	2.71	24	P	Pn	13 10 52.8	+0.1
BASI	Baing, Sumba	2.85	147	P	Pn	13 10 54.9	+0.2
KAPI	Kappang	2.88	15	Pn	Pn	13 10 52.3	-2.7
MMRI	Maumere	3.31	105	Pn	Pn	13 11 01.3	+0.4
MMRI	Maumere	3.31	105	P	Pn	13 11 01.1	+0.2
BNSI	Bone	3.56	18	P	Pn	13 11 06.2	+1.8
SRBI	Singaraja	3.76	266	P	Pn	13 11 07.1	-0.1
SPSI	Sidrap Palu	3.90	11	P	Pn	13 11 10.2	+1.2
IGBI	Denpasar	3.95	255	P	Pn	13 11 11.8	+2.1
JAGI	Jajag, Banyuwa	4.85	262	Pn	Pn	13 11 22.6	+0.5
BATI	Baumata	5.18	118	P	Pn	13 11 30.0	+3.2
	5.4nm,0.3s,baz=269,slow=1.4,SNR=6.6						
BATI				S	Sn	13 12 30.1	+4.7
	baz=151,slow=16,SNR=1.2						
FITZ	Fitzroy Crossi	12.10	148	P	Pn	13 13 00.4	-1.2
	0.5nm,0.3s,baz=315,slow=10,SNR=8.2						
FITZ				S	Sn	13 15 09.7	-5.7
	0.4nm,0.3s,baz=195,slow=16,SNR=6.2						
FITZ	Fitzroy Crossi	12.10	148		Pn	13 12 58.5	-3.1
KNRA	Kununurra	12.34	130	Pn	Pn	13 13 02.6	-2.4
MTN	Manton Dam	12.94	114	Pn	Pn	13 13 11.4	-1.7
PSA00	Pilbara Seismi	13.71	177	Pn	Pn	13 13 22.3	-1.3
WB0	Warramunga Arr	19.07	130	P	P	13 14 30.6	-0.7
WB0				IAmb	IAmb	13 14 32.3	
	comp=Z,13nm,1.2s						
WRA	Warramunga Arr	19.14	131	P	P	13 14 31.4	-0.6
	comp=Z,0.8nm,0.3s,baz=307,slow=12,SNR=26						
WRA				S	Sn	13 17 52.3	-14
	comp=Z,0.0nm,0.3s,baz=37,slow=41,SNR=4.1						
WRA	Warramunga Arr	19.14	131	P	P	13 14 31.8	-0.2
WRAB	Tennant Creek	19.14	131	P	P	13 14 32.3	+0.2
WRAB				IAmb	IAmb	13 14 34.7	
	comp=Z,9.6nm,0.9s						
WB2	Warramunga Arr	19.15	131	P	P	13 14 32.2	+0.1
WB2				IAmb	IAmb	13 14 34.6	
	comp=Z,8.0nm,0.9s						
WR0	Warramunga Arr	19.30	130	P	P	13 14 34.1	+0.4
AS31	Alice Springs	21.28	139	P	P	13 14 56.0	+0.7
AS31				IAmb	IAmb	13 14 59.6	
	comp=Z,7.2nm,0.4s						
ASAR	Alice Springs	21.28	139	P	P	13 14 55.5	+0.2
	comp=Z,8.0nm,0.7s,baz=326,slow=14,SNR=66						
ASAR				PcP	PcP	13 18 59.6	+0.2
	comp=Z,0.5nm,0.6s,baz=306,slow=1.4,SNR=4.4						
MORW	Morawa	21.33	187	P	P	13 14 57.0	+1.2
MORW				IAmb	IAmb	13 15 16.5	
	comp=Z,16nm,1.1s						
FORT	Forrest	24.37	161	P	P	13 15 26.6	-0.1
COEN	Coen	24.50	107	P	P	13 15 28.1	+0.2
BBOO	Buckleboo	29.48	150	P	P	13 16 11.4	-1.2
STKA	Stephens Creek	31.87	142	P	P	13 16 34.8	+1.1
	comp=Z,6.3nm,0.6s,baz=319,slow=8.7,SNR=23						
STKA	Stephens Creek	31.87	142	P	P	13 16 34.7	+1.1
CMAR	Chiang Mai Arr	32.76	323	P	P	13 16 53.9	+12
	comp=Z,0.4nm,0.3s,baz=153,slow=6.1,SNR=1.8						
ARMA	Armidale	37.92	131	P	P	13 17 27.1	+1.1
ARMA				IAmb	IAmb	13 17 29.7	
	comp=Z,5.1nm,0.8s						
HNR	Honiara	40.50	95	LR	LR	13 35 34.6	
	comp=Z,163nm,18.8s,baz=199,slow=38						
KSRS	Korea Array	45.79	10	LR	LR	13 40 19.9	
	comp=Z,107nm,20.1s,baz=135,slow=39						
MK31	Makanchi Array	63.41	333	P	P	13 20 37.6	-0.2
MK31				IAmb	IAmb	13 20 40.2	
	comp=Z,1.4nm,0.8s						
MK31	Makanchi Array	63.41	333	Sn	P	13 20 37.7	0.0
	comp=Z,1.3nm,0.6s,baz=218,slow=20,SNR=13						
MKAR	Makanchi Array	63.41	333	P	P	13 20 37.4	-0.4
ZALV	Zalesovo Beam	67.94	339	P	P	13 21 17.6	+11
	comp=Z,1.6nm,0.7s,baz=134,slow=4.2,SNR=2.5						
VNDA	Vanda	73.15	171	P	P	13 21 39.9	+1.6
	comp=Z,0.8nm,0.5s,baz=317,slow=8.2,SNR=8.6						
NRIK	Noril'sk	79.99	349	LR	LR	14 03 00.8	
	comp=Z,121nm,18.2s,baz=111,slow=39						
FINES	FINESS Array B	98.20	331	LR	LR	14 13 29.5	
	comp=Z,144nm,19.8s,baz=38,slow=38						
CPUP	Villa Florida	145.88	186	PKPbc	PKPab	13 29 49.5	+0.9
	comp=Z,0.9nm,0.4s,baz=135,slow=2.9,SNR=3.3						

NEIC ***02*** *13:17:47.4±1.6, 6°.58S±0°.08×85°.07W±0°.08, h35km±2km, mb4.7/42, Error ellipse: s-maj=15.1km s-min=12.3km az=224.0*

VAO ***02*** *13:17:52.5±1.0, 6°.56S×84°.64W, h35km, mb4.6*

IDC ***02*** *13:17:53.1±4.1, 6°.57S×85°.32W, h88km±36km, mb4.0/21, mb1 4.2/24, mb1mx4.1/40, mbtmp4.3/24, MS3.6/12, Ms1 3.6/12, ms1mx3.3/58, Error ellipse: s-maj=27.8km s-min=10.8km az=56.0*

ISC 02 13:17:47.1±0.4, **6°.62S**±0°.06×**85°.16W**±0°.06, **h35**km, **n230**, σ**1s34**/219, **mb4.6**/38, **MS3.7**/9, **1C**, **Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCRA	Macar, Loja	5.64	67	Pn	Pn	13 19 05.3	-3.3
MCRA				Sn	Sn	13 20 10.5	-1.8
ARNL	Arenillas	5.92	59	Pn	Pn	13 19 09.6	-2.8
ARNL				Sn	Sn	13 20 18.1	-0.9
BOSC	San Juan Bosco	7.48	63	Pn	Pn	13 19 32.5	-1.5
PAYG	Puerto Ayora	7.81	319	Pn	Pn	13 19 38.7	+0.4
OTAV	Otavalo	9.55	45		Pn	13 20 01.2	-1.5
OTAV	Otavalo	9.55	45	eP	Pn	13 20 03.2	+0.5
OTAV	Otavalo	9.55	45	eP	Pn	13 20 01.1	-1.5
NNA	Nana	9.79	124	P	Pn	13 20 06.1	+0.5
	1.2nm,0.3s,baz=282,slow=14,SNR=1.9						
NNA				S	Sn	13 21 46.9	-7.5
	2.5nm,0.3s,baz=254,slow=16,SNR=2.1						
NNA				LR	LR	13 23 24.1	
	comp=Z,236nm,19.8s,baz=298,slow=33						
NNA	Nana	9.79	124		Pn	13 20 03.5	-2.1
CZSB	Cruzeiro do Su	12.41	96	eP	Pn	13 20 40.4	-1.0
POPC	Popayan, Colom	12.43	43	eP	Pn	13 20 41.9	0.0
PCON	Cinco Dias	12.47	45	eP	Pn	13 20 43.8	+1.1
GUY2C	Guyana, Caldas	15.29	40	eP	P	13 21 23.4	-2.1
TBTG	Tabatinga, AM	15.38	82	eP	Pn	13 21 20.7	-0.9
CBOC	Ciudad Bolivar	15.40	37	eP	Pn	13 21 21.9	-0.2
VILC	Villavicencio,	15.64	47	eP	P	13 21 32.9	+3.9
ROSC	El Rosal	15.70	44	P	P	13 21 31.6	+1.7
	2.4nm,0.3s,baz=308,slow=3.1,SNR=12						
ROSC				LR	LR	13 26 25.9	
	comp=Z,101nm,19.5s,baz=206,slow=32						
CHIC	Chingaza	15.97	46	eP	P	13 21 36.4	+3.5
JTS	Las Juntas de	16.80	1	P	P	13 21 41.7	+0.1
	0.6nm,0.3s,baz=198,slow=20,SNR=4.0						
JTS				LR	LR	13 26 23.3	
	comp=Z,268nm,20.6s,baz=248,slow=30						
UREC	San Jos de Ur	17.20	34	eP	P	13 21 47.6	+1.4
ZARC	Zaragoza, Cauc	17.38	36	Pn	Pn	13 21 43.5	-3.6
ZARC	Zaragoza, Cauc	17.38	36	eP	Pn	13 21 46.6	-0.4
PAMC	Pamplona, Colo	18.62	42	eP	Pn	13 22 04.9	+2.1
ETMB	Extrema	19.02	101	eP	P	13 22 05.5	-0.7
SJCC	San Jacinto, C	19.18	31		P	13 22 04.8	-3.3
LPAZ	La Paz	19.25	121	P	Pn	13 22 12.4	+1.9
	0.1nm,0.3s,baz=318,slow=12,SNR=7.4						
LPAZ				LR	LR	13 29 32.7	
	comp=Z,223nm,21.6s,baz=312,slow=36						
LPAZ	La Paz	19.25	121		P	13 22 09.1	-0.2
LPAZ	La Paz	19.25	121	eP	P	13 22 09.3	0.0
PB11	IPOC Station P	19.94	132	P	P	13 22 17.0	+0.6
PB11				IAmb	IAmb	13 22 28.5	
	comp=Z,33nm,0.7s						
GO01	Chusmiza	20.23	131	P	P	13 22 19.2	-0.6
PB01	IPOC Station P	20.88	135	P	Pn	13 22 29.3	+0.1
PB07	IPOC Station P	21.07	137	P	P	13 22 28.1	-0.5
SDV	Santo Domingo	21.14	43	P	P	13 22 31.6	+2.1
	comp=Z,40nm,0.8s,baz=229,slow=10,SNR=20						
SDV				LR	LR	13 30 52.9	
	comp=Z,103nm,19.8s,baz=240,slow=37						
SDV	Santo Domingo	21.14	43		P	13 22 29.6	+0.2
SDV	Santo Domingo	21.14	43	eP	P	13 22 31.8	+2.3
MTO3	Montecristo	21.29	349	P	P	13 22 30.7	-0.4
MTO3				IAmb	IAmb	13 22 33.7	
	comp=Z,25nm,0.8s						
LVC	Limon Verde	22.33	137	P	P	13 22 46.8	+4.4
	comp=Z,4.9nm,0.7s,baz=308,slow=7.1,SNR=5.3						
LVC				LR	LR	13 29 37.6	
	comp=Z,67nm,20.3s,baz=272,slow=31						
LVC	Limon Verde	22.33	137	eP	P	13 22 44.3	+2.0
GO02	Mina Guanaco	23.71	143	P	P	13 22 59.5	+3.1
GO02				IAmb	IAmb	13 23 07.9	
	comp=Z,18nm,0.8s						
MACA	Manacapuru-AM	24.63	83	eP	P	13 23 04.5	-0.1
SIV	San Ignacio	25.37	114	P	P	13 23 13.2	+1.9
	comp=Z,6.0nm,0.9s,baz=295,slow=10,SNR=14						
VILB	Vilhena	25.38	106	eP	P	13 23 12.4	+1.0
CMIG	Matias Romero	25.44	338	P	P	13 23 12.4	+0.6
	comp=Z,2.1nm,0.6s,baz=221,slow=4.6,SNR=2.5						
CMIG				LR	LR	13 30 54.5	
	comp=Z,75nm,19.6s,baz=158,slow=31						
BOAV	Boa Vista	26.18	71	eP	P	13 23 19.8	+1.2
PTLB	Pontes e Lacer	26.98	111	eP	P	13 23 28.1	+2.2
H03N2	Juan Fernandez	27.31	169	T	T	13 52 00.3	
	baz=347,slow=76,SNR=12						
H03N1	Juan Fernandez	27.32	169	T	T	13 52 01.4	
	baz=347,slow=76,SNR=10						
H03N3	Juan Fernandez	27.33	169	T	T	13 52 00.3	
	baz=347,slow=76,SNR=12						
NPGB	Novo Progresso	29.59	93	eP	P	13 23 49.2	0.0
SALV	Santo Antonio	30.30	110	eP	P	13 23 55.9	+0.4
SJG	San Juan	30.92	37	LR	LR	13 36 49.7	
	comp=Z,46nm,19.2s,baz=173,slow=37						
CPUP	Villa Florida	32.98	130	P	P	13 24 20.2	+1.3
	comp=Z,2.3nm,1.0s,baz=309,slow=10.0,SNR=3.3						
SNDB	Serra Nova Dou	33.83	102	eP	P	13 24 28.1	+1.6
PRPB	Parauapebas	35.13	91	eP	P	13 24 38.4	+0.7
PLCA	Paso Flores	36.40	161	P	P	13 24 50.4	+2.0
	comp=Z,8.3nm,1.0s,baz=327,slow=10,SNR=13						
PLCA	Paso Flores	36.40	161	P	P	13 24 50.9	+2.5
PLCA				IAmb	IAmb	13 24 53.5	
	comp=Z,13nm,1.1s						
PLCA	Paso Flores	36.40	161	eP	P	13 24 52.4	+4.1
PEXB	Peixe	36.75	101	eP	P	13 24 53.7	+2.0
833A	Chaparral WMA,	37.35	339	P	P	13 24 57.3	+0.9
	baz=156						
BDFB	Brasilia	37.48	107	LR	LR	13 41 12.4	
	comp=Z,127nm,19.8s,baz=320,slow=37						
IPMB	Ipameri, GO	37.75	111	eP	P	13 25 01.1	+0.9
BB19B	Bebedouro	38.24	116	eP	P	13 25 05.7	+1.5
435B	Jarrell	39.04	343	P	P	13 25 12.0	+1.3
	baz=160						
NATX	Nacogdoches	39.22	347	P	P	13 25 13.7	+1.6
	baz=165						
JCT	Junction City	39.46	340	P	P	13 25 14.9	+0.7

baz=157
LRAL Lakeview Retre 39.47 358 P P 13 25 15.3 +1.1
baz=177
TXAR Lajitas Array 39.93 334 P P
comp=Z,0.6nm,0.6s,baz=152,slow=8.5,SNR=5.7
TXAR PcP **PcP 13 27 21.2 -2.2**
comp=Z,0.9nm,0.9s,baz=145,slow=4.6,SNR=5.0
ABTX Abilene, Hawle 41.38 341 P P **13 25 28.3 -1.8**
ABTX IAmb IAmb 13 25 31.4
comp=Z,16nm,0.8s
ABTX Abilene, Hawle 41.38 341 P P **13 25 30.7 +0.6**
baz=158
KMSC Kings Mountain 41.69 5 P P **13 25 33.1 +0.5**
baz=186
W41B Gary Mavity, V 42.10 351 P P **13 25 36.7 +0.9**
baz=169
X37A Clayton 42.10 347 P P **13 25 35.5 -0.4**
X37A IAmb IAmb 13 25 37.4
comp=Z,9.7nm,0.6s
W39A Magazine 42.37 350 P P **13 25 39.1 +1.0**
baz=167
WVT Waverly 42.59 357 P P **13 25 40.1 +0.3**
baz=176
MNTX Cornudas Mount 42.71 334 P P **13 25 38.3 -2.6**
MNTX Cornudas Mount 42.71 334 P P **13 25 40.8 -0.2**
baz=150
LCAR Lake Charles 42.83 353 P P **13 25 39.9 -1.8**
LCAR IAmb IAmb 13 25 43.2
comp=Z,13nm,1.0s
W35A Tecumseh 42.99 346 P P **13 25 43.0 -0.1**
W35A IAmb IAmb 13 25 43.7
comp=Z,13nm,0.6s
WMOK Wichita Mounta 43.09 344 P P **13 25 43.9 -0.1**
baz=160
U40A Yellville 43.35 351 P P **13 25 46.7 +0.7**
baz=169
MSTX Muleshoe 43.67 339 P P **13 25 49.0 +0.2**
baz=154
121A Cookes Peak, D 44.49 332 P P **13 25 56.6 +1.1**
baz=147
CCM Cathedral Cave 44.80 353 P P **13 25 58.3 +0.7**
baz=171
TUC Tucson 45.76 329 P P **13 26 06.0 +0.6**
baz=143
ANMO Albuquerque 45.96 335 P P **13 26 05.8 -1.4**
ANMO Albuquerque 45.96 335 P P **13 26 07.6 +0.5**
baz=150
214A Organ Pipe Nat 46.55 327 P P **13 26 11.9 +0.3**
baz=140
O48B Farmland 46.64 0 P P **13 26 12.1 0.0**
baz=180
HDIL Hopedale 47.09 356 P P **13 26 16.1 +0.5**
baz=174
T25A Trinidad 47.10 339 P P **13 26 16.9 +0.8**
baz=153
SDCO Great Sand Dun 48.04 338 P P **13 26 23.3 -0.1**
baz=152
S22A 4UR Ranch, Cre 48.54 337 P P **13 26 27.7 +0.4**
baz=151
WUAZ Wupatki 48.63 331 P P **13 26 28.6 +0.7**
baz=144
RCBR Riachuelo 48.96 92 LR LR 13 48 51.0
comp=Z,68nm,18.6s,baz=88,slow=38
BC3 Big Chuckawall 49.28 326 P P **13 26 33.4 +0.6**
baz=138
IRM Iron Mountain 49.49 327 P P **13 26 34.6 +0.3**
baz=139
PV13 Radium Mtn., P 49.69 335 P P **13 26 34.8 -1.3**
PV13 IAmb IAmb 13 26 37.0
comp=Z,6.0nm,0.9s
PFO Pinyon Flats O 49.81 325 P P **13 26 35.8 -1.0**
comp=Z,4.4nm,0.9s,baz=144,slow=4.2,SNR=4.2
PFO Pinyon Flats O 49.81 325 P P **13 26 36.4 -0.5**
baz=137
BELC Belle Mtn. Jos 49.84 326 P P **13 26 37.6 +0.5**
baz=138
ISCO Idaho Springs 49.90 339 P P **13 26 37.7 0.0**
baz=153
HEC Hector,Ludlow 50.64 327 P P **13 26 43.7 +0.6**
baz=138
ECSD EROS Data Cent 51.17 349 P P **13 26 45.9 -0.9**
baz=165
GSC Goldstone, Bar 51.25 327 P P **13 26 48.1 +0.4**
baz=138
LRMC Laurel Mtn Rad 51.86 326 P P **13 26 52.4 +0.1**
baz=137
MPMC Manual Prospec 52.18 327 P P **13 26 54.9 +0.2**
baz=138
K22A Casper 52.75 340 P P **13 26 59.4 +0.6**
baz=153
VES Vestal, Richgr 52.91 325 P P **13 27 00.4 +0.5**
baz=136
R11A Troy Canyon, C 52.92 330 P P **13 27 01.1 +0.9**
baz=141
DUG Dugway, Tooele 53.09 334 P P **13 27 02.1 +0.7**
baz=145
RSSD Black Hills 53.30 343 P P **13 27 03.3 +0.4**
baz=156
HWUT Hardware Ranch 53.73 336 P P **13 27 05.5 -0.6**
BW06 Boulder Array 53.93 338 P P **13 27 07.1 -0.5**
baz=149
PDAR Pinedale Array 53.93 338 P P **13 27 07.0 -0.5**
comp=Z,1.6nm,0.7s,baz=134,slow=7.5,SNR=14
NVAR Mina Array Bea 54.37 328 P P **13 27 10.6 -0.3**
comp=Z,2.0nm,0.9s,baz=156,slow=7.2,SNR=16
ELK Elko 54.64 332 P P **13 27 12.1 -0.7**
comp=Z,4.8nm,0.8s,baz=148,slow=4.0,SNR=21
ELK Elko 54.64 332 P P **13 27 12.4 -0.4**
ELK IAmb IAmb 13 27 14.0
comp=Z,6.0nm,0.9s
REDW Red Top Meadow 54.93 337 P P **13 27 14.0 -0.8**
REDW IAmb IAmb 13 27 15.8
comp=Z,12nm,1.1s
TPAW Teton Pass 55.07 337 P P **13 27 16.1 +0.1**
AGMN Agassiz Nation 55.48 351 P P **13 27 18.6 +0.2**
baz=167
H17A Grant Village 55.70 338 P P **13 27 20.9 +0.5**
baz=149
RLMT Red Lodge 55.86 340 P P **13 27 21.4 -0.1**
baz=151
LAO LASA Array 56.27 343 P P **13 27 24.4 +0.1**
baz=154
HLID Hailey 56.53 335 P P **13 27 26.1 -0.2**
HLID IAmb IAmb 13 27 27.5
comp=Z,6.3nm,0.8s
HLID Hailey 56.53 335 P P **13 27 26.5 +0.2**
baz=144,SNR=15
BOZ Bozeman (W) 57.12 338 P P **13 27 30.4 0.0**
baz=148
DGMT Dagmar 57.34 345 P P **13 27 32.2 +0.5**
baz=157
ULM Lac du Bonnet 57.39 352 P P **13 27 30.8 -1.2**
comp=Z,5.7nm,0.8s,baz=172,slow=8.7,SNR=6.6
PLID Pearl Lake 58.43 335 P P **13 27 38.6 -1.1**
PLID IAmb IAmb 13 27 40.0
comp=Z,5.2nm,0.9s
EGMT Eagleton 58.56 341 P P **13 27 40.7 +0.3**
baz=151
MSO Missoula 59.02 337 P P **13 27 42.8 -0.8**
MSO IAmb IAmb 13 27 44.9
comp=Z,13nm,1.4s
MSO Missoula 59.02 337 P P **13 27 44.1 +0.5**
baz=146,SNR=6.9
YBH Yreka Blue Hor 59.09 328 P P **13 27 42.8 -1.4**
comp=Z,1.7nm,0.7s,baz=146,slow=1.8,SNR=8.0
F10A Beach Ranch, E 59.66 335 P P **13 27 48.2 +0.2**
PINE Pine Mountain 59.69 331 P P **13 27 48.2 -0.2**
PINE IAmb IAmb 13 27 50.9
comp=Z,5.5nm,0.8s
G08A Pilot Rock 59.89 333 P P **13 27 49.4 -0.2**
K02D Willamette Mer 60.27 328 P P **13 27 52.0 -0.3**
baz=134
I05D Terrebonne, OR 60.28 331 P P **13 27 52.8 +0.5**
baz=137
I04A Tendick Farm, 60.41 330 P P **13 27 52.5 -0.7**
baz=136
NEW Newport 61.44 336 P P **13 27 59.7 -0.3**
comp=Z,1.4nm,0.6s,baz=148,slow=9.8,SNR=2.8
FCC Fort Churchill 65.56 355 P P **13 28 26.7 -0.3**
FCC IAmb IAmb 13 28 27.9
comp=Z,9.6nm,1.1s
YKA Yellowknife Ar 72.52 346 P P **13 29 09.8 -0.4**
comp=Z,4.6nm,0.8s,baz=142,slow=5.8,SNR=67
YKA Yellowknife Ar 72.52 346 P P **13 29 09.4 -0.7**
DLBC Dease Lake 74.16 337 P P **13 29 20.6 +0.7**
comp=Z,6.6nm,0.9s,baz=135,slow=5.7,SNR=15
TGTN Hyland Airport 75.69 340 P P **13 29 30.4 +1.7**

baz=135
P33M Teslin, Yukon 76.41 338 P P **13 29 34.2 +1.3**
baz=131
SKAG Skagway 76.90 336 P P 13 29 40.6 +5.1
baz=128
WHY Whitehorse 77.48 337 P P **13 29 39.7 +0.8**
baz=129
M31M Drury Creek, Y 78.28 339 P P **13 29 44.5 +1.2**
baz=130
N31M Braeburn, Yuko 78.34 338 P P **13 29 44.7 +1.1**
baz=128
VNA3 Neumayer Olymp 79.12 161 P P **13 29 48.3 +0.5**
YUK4 Talbot Arm 79.36 337 P P **13 29 50.7 +1.3**
baz=126
M30M Minto, Yukon 79.39 338 P P **13 29 50.0 +0.6**
baz=128
YUK3 Moose Creek 80.32 337 P P **13 29 55.7 +1.0**
baz=124
C36M Paulatuk 80.37 347 P P **13 29 54.0 -0.5**
baz=141
M27K Edge Creek, AK 81.20 337 P P **13 30 00.2 +0.9**
baz=123
DBIC Dimbokro 81.20 82 P P **13 30 02.5 +2.4**
comp=Z,4.7nm,1.0s,baz=292,slow=5.4,SNR=2.2
DAWY Dawson 81.22 339 P P **13 29 59.1 -0.1**
DAWY IAmb IAmb 13 30 00.4
comp=Z,6.1nm,0.9s
DAWY Dawson 81.22 339 P P **13 29 59.4 +0.2**
baz=125,SNR=5.6
SNAA Sanae 81.34 162 P P **13 30 00.1 +0.2**
BCAR Beaver Creek A 81.55 337 P P **13 30 01.4 +0.5**
L27K Beaver Creek, 81.56 337 P P **13 30 01.6 +0.6**
L27K IAmb IAmb 13 30 02.8
comp=Z,7.1nm,0.9s
L27K Beaver Creek, 81.56 337 P P **13 30 01.9 +0.9**
baz=123
I29M Ogilvie Camp, 81.61 340 P P **13 30 01.9 +0.7**
baz=126,SNR=5.8
INK Inuvik 82.00 344 P P **13 30 03.4 +0.3**
comp=Z,6.7nm,1.0s,baz=130,slow=5.4,SNR=18
INK Inuvik 82.00 344 P P **13 30 03.5 +0.4**
baz=131
EGAK Eagle 82.26 339 P P **13 30 05.0 +0.4**
baz=124
KLU Klutina 82.39 335 P P **13 30 05.7 +0.2**
baz=119
A36M Sachs Harbour 82.66 348 P P **13 30 06.3 -0.3**
A36M Sachs Harbour 82.66 348 P P **13 30 06.5 -0.1**
baz=140
M24K Tolsona, Glenn 82.79 336 P P **13 30 08.3 +0.8**
baz=119
SCRK Sand Creek 82.87 338 P P **13 30 08.2 +0.2**
baz=121,SNR=6.2
PAX Paxson 82.93 336 P P **13 30 08.3 0.0**
baz=120,SNR=6.0
J26L Joseph Creek 82.98 338 P P **13 30 09.0 +0.5**
baz=121,SNR=17
TROLL Troll, Antarti 83.04 162 P P **13 30 09.4 +0.6**
RIDG Independent Ri 83.07 337 P P **13 30 09.3 +0.4**
baz=120
QSPA South Pole Qui 83.48 180 P P **13 30 11.7 +0.6**
SML Sawmill 83.56 335 P P **13 30 11.3 -0.2**
baz=117
WAT6 Susitna Watana 83.66 336 P P **13 30 12.4 +0.2**
baz=117
J25K Sasha River, 83.71 338 P P **13 30 12.7 +0.5**
baz=120,SNR=7.1
DHY Denali Highway 83.75 336 P P **13 30 12.9 +0.4**
baz=118
WAT1 Susitna Watana 84.11 336 P P **13 30 14.4 +0.2**
baz=117
HDA Harding Lake 84.21 337 P P **13 30 15.0 +0.3**
baz=118
ILAR Eielson Array 84.36 338 P P **13 30 15.1 -0.4**
comp=Z,2.7nm,0.9s,baz=143,slow=3.5,SNR=24
ILAR Eielson Array 84.36 338 P P **13 30 14.9 -0.5**
MCK McKinley 84.67 336 P P **13 30 17.2 +0.1**
baz=116
WRH Wood River Hil 84.68 337 P P **13 30 16.6 -0.4**
WRH IAmb IAmb 13 30 20.1
comp=Z,8.7nm,1.4s
BMAR Burnt Mountain 84.86 341 P P **13 30 18.6 +0.6**
NEA2 Nenana 85.11 337 P P **13 30 19.1 -0.1**
NEA2 Nenana 85.11 337 P P **13 30 19.5 +0.2**
baz=116,SNR=13
H24K Noodor Dome 85.23 338 P P **13 30 19.5 -0.3**
H24K Noodor Dome 85.23 338 P P **13 30 20.1 +0.3**
baz=118,SNR=9.2
I23K Minto, Yukon-K 85.47 338 P P **13 30 20.9 0.0**
baz=116,SNR=8.2
BPAW Bear Paw Mtn. 85.65 336 P P **13 30 20.8 -1.2**
BPAW Bear Paw Mtn. 85.65 336 P P **13 30 21.0 -0.9**
baz=114
CAST Castle Rocks 85.81 335 P P **13 30 22.6 -0.2**
baz=114,SNR=10
MLY Manley 85.94 337 P P **13 30 23.1 -0.3**
MLY IAmb IAmb 13 30 24.2
comp=Z,7.2nm,0.9s
MLY Manley 85.94 337 P P **13 30 23.5 +0.1**
baz=115,SNR=8.5
CHUM Lake Minchumin 86.09 336 P P **13 30 23.9 -0.2**
baz=113
I21K Tanana 86.48 337 P P **13 30 26.2 +0.2**
baz=114
K20K Telida 86.61 335 P P **13 30 26.4 -0.3**
baz=112
COLD Coldfoot 86.69 339 P P **13 30 28.2 +1.2**
baz=115
J20K Nowinta River 86.95 336 P P **13 30 27.7 -0.6**
baz=112
H21K Melozitna Rive 86.99 337 P P **13 30 28.0 -0.5**
baz=113
TOLK Toolik Lake Re 87.09 341 P P **13 30 29.2 +0.2**
baz=116
ESDC Sonseca Array 87.45 50 P P **13 30 32.2 +0.9**
comp=Z,0.9nm,0.8s,baz=293,slow=3.7,SNR=4.7
IMAR Indian Mountai 87.48 338 P P **13 30 30.2 -0.6**
GCSA Galena City Sc 88.26 336 P P **13 30 35.0 +0.5**
baz=109
TORD Torodi Ar. Bea 88.44 77 P P **13 30 35.9 -0.6**
comp=Z,1.8nm,1.0s,baz=229,slow=3.8,SNR=5.1
TORD Torodi Ar. Bea 88.44 77 P P **13 30 35.2 -1.3**
TORD IAmb IAmb 13 30 46.7
comp=Z,5.8nm,1.5s
JMIC Jan Mayen 91.89 19 LR LR 14 11 43.9
comp=Z,27nm,18.7s,baz=62,slow=35
SYO Syowa Base 95.58 163⇑ *e*P **P 13 31 05.0 -3.5**
TSUM Tsumeb 99.77 111 LR LR 14 14 43.1
comp=Z,154nm,20.2s,baz=156,slow=34
ASAR Alice Springs 131.42 230 PKP **PKPdf 13 36 53.5 -3.4**
comp=Z,1.1nm,1.1s,baz=104,slow=3.9,SNR=3.7
ZALV Zalesovo Beam 132.11 8 PKP **PKPdf 13 36 54.0 -3.2**
comp=Z,0.7nm,0.7s,baz=130,slow=2.3,SNR=4.6
WRA Warramunga Arr 133.03 235 PKP **PKPdf 13 36 58.6 -1.4**
comp=Z,0.9nm,0.7s,baz=117,slow=1.9,SNR=5.0
KSRS Korea Array 137.03 320 PKP **PKPdf 13 37 05.5 -1.3**
comp=Z,1.5nm,0.9s,baz=126,slow=2.1,SNR=7.2
SONM Songino Array 137.76 348 PKP **PKPdf 13 37 07.2 -0.9**
comp=Z,1.7nm,0.9s,baz=62,slow=0.2,SNR=8.2
MKAR Makanchi Array 138.54 13 PKhKP PKPpre 13 37 05.6
comp=Z,0.1nm,0.5s,baz=273,slow=2.6,SNR=3.3
GTA Gaotai 147.04 353 sPKP 13 37 41.0
GTA Gaotai 147.04 353 LR LR
comp=Z,68nm,17.1s
GTA Gaotai 147.04 353 LR LR
comp=E,90nm,17.8s
GTA Gaotai 147.04 353 LR LR
comp=N,61nm,17.5s
GTA Gaotai 147.04 353 *e*PKPbc **PKPdf 13 37 25.1 +0.3**
GTA Gaotai 147.04 353 PKPab **PKiKP 13 37 30.2 +0.8**
GTA Gaotai 147.04 353 pPKP pPKPdf 13 37 35.3 +0.4
LYN LuoYang 147.78 332 *e*PKPbc **PKPbc 13 37 28.1 -0.8**
LZH Lanzhou 149.53 346 *e*PKPbc **PKPbc 13 37 34.0 +0.5**
LZH pPKP sPKPbc 13 37 46.3 -0.7
LZH sPKP 13 37 50.2
PZH PanZhiHua 159.16 342 PKP **PKPdf 13 37 41.0 -1.7**
CMAR Chiang Mai Arr 167.57 342 PKP **PKPdf 13 37 48.8 -1.9**
comp=N,0.3nm,0.3s,baz=320,slow=2.7,SNR=1.8
CMAR PKPab **PKPab 13 38 55.9 -0.4**
comp=N,0.9nm,0.8s,baz=357,slow=4.8,SNR=7.1

*SOME **02** 13:18:37.0,44.°00N×77.°22E*
NNC 02 13:18:36.1±0.8, 44.°17N×77.°13E, h0^{km}, mb2.9, mpv3.0, 8C-2D, Error ellipse: s-maj=6.2km s-min=3.5km az=156.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKK	**Chushkaly**	**0.33**	**199**	P	Pg	13 18 42.3	-0.1
	50nm,0.1s						
CHKK				S	Sg	13 18 46.3	-0.3
	130nm,0.2s						
ARXS	**Arharly**	**0.50**	**84**	P	Pg	13 18 45.8	+0.2
	7.3nm,0.2s						
ARXS				S	Sg	13 18 52.1	-0.1
	29nm,0.2s						
KTBS	**Karatobe**	**0.56**	**216**	P	Pg	13 18 46.9	+0.1
	6.8nm,0.1s						
KTBS				S	Sg	13 18 53.9	-0.1
	71nm,0.3s						
KUU	**Kurty**	**0.64**	**245**	P	Pg	13 18 48.7	+0.4
	6.3nm,0.1s						
KUU				S	Sg	13 18 57.0	+0.5
	48nm,0.2s						
KOTS	**Kotyrbulak**	**0.93**	**181**	P	Pg	13 18 53.4	-0.5
	5.7nm,0.1s						
KOTS				S	Sg	13 19 05.4	-0.6
	8.5nm,0.2s						
BLB	**Baldybastay**	**0.97**	**94**	P	Pg	13 18 54.2	-0.5
	19nm,0.1s						
BLB				S	Sg	13 19 06.7	-0.6
	7.0nm,0.1s						
MDOK	**Medeo**	**1.00**	**184**	⇑P	Pg	13 18 54.6	-0.7
	2.3nm,0.4s						
MDOK				⇑S	Sn	13 19 12.1	-0.5
	2.1nm,0.4s						
MDOK	**Medeo**	**1.00**	**184**	Pg	Pg	13 18 54.6	-0.7
	6.9nm,0.1s						
MDOK				Lg	Lg	13 19 07.4	
	4.8nm,0.1s						
KURS	**Kuram**	**1.01**	**132**	P	Pg	13 18 54.8	-0.7
	3.8nm,0.3s						
KURS				S	Sg	13 19 07.5	-1.1
	15nm,0.2s						
KRBS	**Karabastau**	**1.15**	**246**	P	Pg	13 18 58.0	-0.2
	2.1nm,0.1s						
KRBS				S	Sg	13 19 13.2	+0.1
	21nm,0.4s						
MTBS	**Maitube**	**1.16**	**206**	P	Pg	13 18 57.5	-0.7
	4.5nm,0.2s						
MTBS				S	Sg	13 19 12.4	-0.8
	10nm,0.4s						
DGS	**Degeres**	**1.35**	**227**	P	Pg	13 19 01.2	-0.8
	3.3nm,0.1s						
DGS				S	Sg	13 19 18.6	-0.9
	16nm,0.3s						
KST	**Kastek**	**1.41**	**218**	P	Pg	13 19 02.2	-0.9
	8.8nm,0.2s						
KST				S	Sg	13 19 20.5	-0.9
	12nm,0.3s						
TKM2	**Tokmak 2**	**1.67**	**222**	⇑P	Pn	13 19 06.7	-0.1
	0.7nm,0.4s						
TKM2				⇑S	Sn	13 19 28.8	-0.3
	3.1nm,0.2s						
PDGK	**Podgornoye**	**1.90**	**115**	P	Pb	13 19 11.1	-0.6
	0.9nm,0.2s						
PDGK				S	Sb	13 19 35.9	-0.2
	2.7nm,0.2s						
PDGK	**Podgornoye**	**1.90**	**115**	⇑P	Pn	13 19 10.0	+0.1
	1.0nm,0.4s						
PDGK				⇑S	Sn	13 19 34.7	0.0
	4.0nm,0.5s						
DJR	**Jarkent**	**1.92**	**84**	P	Pb	13 19 11.9	0.0
	5.2nm,0.2s						
DJR				S	Sb	13 19 36.8	+0.3
	4.1nm,0.3s						
KAPS	**Kapalarasan**	**1.94**	**54**	P	Pb	13 19 12.5	+0.1
	5.0nm,0.3s						
KAPS				S	Sb	13 19 37.7	+0.6
	12nm,0.1s						
SGDS	**Sogindy**	**1.95**	**249**	P	Pb	13 19 12.0	-0.5
	3.0nm,0.3s						
SGDS				S	Sb	13 19 37.1	-0.2
	8.5nm,0.3s						
SHLS	**Shalkode**	**1.97**	**120**	Pg	Pg	13 19 16.9	+3.1
	2.8nm,0.2s						
SHLS				Lg	Lg	13 19 45.1	
	12nm,0.3s						
CHMS	**Chumysh**	**2.09**	**237**	⇑Pg	Pn	13 19 13.6	+1.2
	1.1nm,0.3s						
CHMS				⇓Lg	Lg	13 19 41.2	
	11nm,0.6s						
BTLS	**Baital**	**2.37**	**293**	Pg	Pg	13 19 21.2	-0.3
	1.6nm,0.3s						
BTLS				Lg	Lg	13 19 52.4	
	2.7nm,0.3s						
KTMS	**Ketmen**	**2.44**	**106**	Pg	Pb	13 19 20.4	-0.5
	0.8nm,0.1s						
KTMS				Lg	Lg	13 19 51.0	
	1.7nm,0.1s						
MAKZ	**Makanchi**	**4.31**	**51**	⇓Lg	Lg	13 20 50.3	
	2.1nm,0.9s						
MK31	**Makanchi Array**	**4.48**	**52**	Pn	Pn	13 19 42.4	-2.9
	0.2nm,0.1s,baz=231,slow=15,SNR=4.2						
MK31				⇑Lg	Lg	13 20 54.4	
	1.2nm,0.6s,baz=232,slow=26,SNR=4.7						

*DJA **02** 13:24:15.2±0.6, 3.°N±5.°×12.°8E±.°, h10^{km}, M4.3/12, mb4.4/7, mB5.1/5, MLv4.3/12, Mw(mB)4.4/5*
*IDC **02** 13:24:18.9±3.0, 2.°91N×127.°52E, h74^{km}±28^{km}, mb3.6/13, mb1 3.8/14, mb1mx3.6/51, mbtmp4.0/14, Error ellipse: s-maj=29.1km s-min=13.3km az=71.0*
*NEIC **02** 13:24:19.8±1.6, 3.°0N±0.°1×127.°5E±0.°2, h80^{km}±7^{km}, mb4.2/17, Error ellipse: s-maj=25.7km s-min=12.1km az=66.0*
ISC 02 13:24:16.5±0.5, 3.°04N±0.°06×127.°66E±0.°09, h49^{km}, n47, σ1^{s}96/50, mb4.2/21, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.22**	**287**	P	**Pn**	**13 24 49.8**	**-1.1**
TNTI	**Ternate**	**2.27**	**187**	Pn	**Pn**	**13 24 54.0**	**+2.4**
TNTI	**Ternate**	**2.27**	**187**	P	**Pn**	**13 24 54.7**	**+3.1**
LBMI	**Labuha**	**3.66**	**182**	P	**Pn**	**13 25 13.6**	**+3.0**
KMSI	**Cibinong**	**4.42**	**236**	P	**Pn**	**13 25 23.6**	**+2.6**
KCP	**Kidapawan**	**4.70**	**327**	⇑*i*P	**Pn**	**13 25 26.4**	**+1.5**
KCP				*i* S	**Sn**	**13 26 24.7**	**+6.4**
GTOI	**Gorontalo**	**5.22**	**243**	P	**Pn**	**13 25 34.1**	**+2.0**
	0.1nm15nm,0.7s						
SWI	**Sorong**	**5.29**	**137**	P	Pn	13 25 36.9	+3.9
	0.3nm1µm41nm,0.4s						
SIJI	**Sorong**	**5.30**	**137**	P	**Pn**	**13 25 35.2**	**+2.1**
	12nm,0.3s,baz=329,slow=17,SNR=13						
SIJI				S	**Sn**	**13 26 36.4**	**+3.4**
	baz=218,slow=17,SNR=0.9						
SANI	**Sanana**	**5.32**	**198**	P	**Pn**	**13 25 34.2**	**+0.7**
MRSI	**Marisa**	**6.25**	**246**	P	**Pn**	**13 25 49.2**	**+2.9**
	0.3nm874nm58nm,0.4s						
TOLI2	**Tolitoli**	**7.13**	**255**	Pn	**Pn**	**13 25 58.5**	**+0.2**
APSI	**Ampana**	**7.17**	**237**	P	**Pn**	**13 26 02.7**	**+3.8**
	0.1nm34nm,1.4s						
MPSI	**Mapaga**	**8.21**	**251**	P	**Pn**	**13 26 14.4**	**+1.4**
MYLDM	**Lahad Datu**	**9.38**	**283**	Pn	**Pn**	**13 26 31.0**	**+1.9**
MTN	**Manton Dam**	**16.15**	**168**	Pn	**Pn**	**13 28 00.5**	**+0.2**
MTN				IAmb	IAmb	13 28 12.0	
	comp=Z,6.8nm,0.6s						
KNRA	**Kununurra**	**18.63**	**177**	P	**P**	**13 28 30.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.10**	**185**	P	**P**	**13 28 55.4**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=3,slow=7.2,SNR=16						
YULB	**Yu-li**	**21.15**	**344**	P	**P**	**13 28 55.5**	**-2.1**
YULB				IAmb	IAmb	13 28 57.1	
	comp=Z,6.7nm,0.8s						
TPUB	**Ta-pu**	**21.26**	**342**	P	**P**	**13 28 57.7**	**-1.1**
SSLB	**Suanglung**	**21.62**	**343**	P	**P**	**13 29 00.6**	**-2.0**
SSLB				IAmb	IAmb	13 29 04.7	
	comp=Z,8.9nm,0.8s						
WB0	**Warramunga Arr**	**23.61**	**164**	P	**P**	**13 29 22.7**	**-0.5**
WB0				IAmb	IAmb	13 29 27.5	
	comp=Z,5.9nm,0.6s						
WRA	**Warramunga Arr**	**23.76**	**164**	P	**P**	**13 29 23.6**	**-1.0**
	comp=Z,2.4nm,0.5s,baz=339,slow=10,SNR=47						
WRA				PcP	**PcP**	**13 33 07.9**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=352,slow=2.1,SNR=1.7						
WRA	**Warramunga Arr**	**23.76**	**164**	P	**P**	**13 29 23.0**	**-1.6**
WB2	**Warramunga Arr**	**23.77**	**164**	P	**P**	**13 29 24.0**	**-0.6**
WB2				IAmb	IAmb	13 29 37.6	
	comp=Z,9.0nm,0.8s						
WR0	**Warramunga Arr**	**23.83**	**164**	P	**P**	**13 29 24.8**	**-0.4**
MBWA	**Marble Bar**	**25.27**	**198**	P	**P**	**13 29 37.0**	**-1.3**
MBWA				IAmb	IAmb	13 29 58.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,12nm,1.2s						
PSA00	**Pilbara Seismi**	**25.63**	**197**	P	**P**	**13 29 39.9**	**-1.6**
PSA00				IAmb	IAmb	13 29 42.3	
	comp=Z,14nm,1.0s						
ASAR	**Alice Springs**	**27.23**	**167**	P	**P**	**13 29 55.3**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=348,slow=8.1,SNR=12						
ASAR				PcP	**PcP**	**13 33 15.7**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=358,slow=2.3,SNR=7.1						
CMAR	**Chiang Mai Arr**	**32.02**	**301**	P	**P**	**13 30 38.1**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=95,slow=5.8,SNR=1.8						
FORT	**Forrest**	**33.63**	**179**	P	**P**	**13 30 49.9**	**-2.6**
MORW	**Morawa**	**33.81**	**198**	P	**P**	**13 30 52.0**	**-2.1**
KSRS	**Korea Array**	**34.25**	**0**	P	**P**	**13 30 59.4**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=258,slow=13,SNR=1.5						
NWAO	**Narrogin (SRO)**	**37.11**	**195**	P	**P**	**13 31 21.1**	**-1.2**
STKA	**Stephens Creek**	**37.16**	**160**	P	**P**	**13 31 22.3**	**-0.6**
	comp=Z,5.4nm,0.4s,baz=324,slow=9.0,SNR=7.2						
STKA	**Stephens Creek**	**37.16**	**160**	P	**P**	**13 31 22.7**	**-0.2**
ARMA	**Armidale**	**40.38**	**147**	P	**P**	**13 31 51.1**	**+1.1**
ARMA				IAmb	IAmb	13 31 56.1	
	comp=Z,5.8nm,1.1s						
SONM	**Songino Array**	**48.25**	**341**	P	**P**	**13 32 53.7**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=146,slow=11,SNR=3.2						
PETK	**Petropavlovsk-**	**55.72**	**21**	P	**P**	**13 33 49.4**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=213,slow=5.8,SNR=5.6						
MK31	**Makanchi Array**	**58.65**	**325**	P	**P**	**13 34 09.0**	**+0.2**
MK31				IAmb	IAmb	13 34 10.2	
	comp=Z,1.9nm,1.1s						
MKAR	**Makanchi Array**	**58.65**	**325**	P	**P**	**13 34 09.8**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=120,slow=8.1,SNR=22						
RPZ	**Rata Peaks**	**60.67**	**145**	P	**P**	**13 34 22.6**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=293,slow=7.7,SNR=1.3						
ZALV	**Zalesovo Beam**	**61.62**	**333**	P	**P**	**13 34 27.4**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=144,slow=10,SNR=2.2						
ILAR	**Eielson Array**	**85.33**	**25**	P	**P**	**13 36 46.9**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=228,slow=11,SNR=4.0						
ARCES	**ARCESS Array B**	**91.41**	**340**	P	**P**	**13 37 15.8**	**-1.3**
	comp=Z,2.4nm,1.1s,baz=90,slow=7.2,SNR=3.9						
TXAR	**Lajitas Array**	**121.28**	**53**	PKP	**PKPdf**	**13 43 03.3**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=343,slow=2.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**124.01**	**288**	PKP	**PKPdf**	**13 43 08.4**	**-2.1**
	comp=Z,0.2nm,0.6s,baz=75,slow=2.1,SNR=1.5						

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*IDC **02** 13:24:20.4±1.6, 20°.32S×169°.37E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/42, mbtmp4.0/9, ML3.5/1, Error ellipse: s-maj=52.1km s-min=22.4km az=145.0*

*NEIC **02** 13:24:25.5±1.9, 20°.41S±0°.07×168°.94E±0°.05, h10km±2km, mb4.3/3, Error ellipse: s-maj=12.4km s-min=8.7km az=170.0*

ISC 02 13:24:25.2±0.9**, 20°.43S**±0°.08×**169°.2E**±0°.1**, h31**km**, n24,** σ1.s**06**/26**, mb4.1**/11**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.52**	**226**		**Pn**	**13 24 50.0**	**-0.2**
LIFNC	**LIFOU**	**1.87**	**259**		**Pn**	**13 24 53.2**	**-1.9**
PINNC	**Pines Island,**	**2.72**	**217**		**Pn**	**13 25 07.5**	**+0.8**
OUENC	**Ouen Island, N**	**2.96**	**228**		**Pn**	**13 25 11.1**	**+1.0**
DZM	**Mont Dzumac**	**3.05**	**237**	Pn	**Pn**	**13 25 11.4**	**+0.1**
	5.7nm,0.3s,baz=85,slow=9.7,SNR=95						
DZM				Sn	**Sn**	**13 25 45.9**	**-1.0**
	27nm,0.3s,baz=127,slow=20,SNR=12						
DZM	**Mont Dzumac**	**3.05**	**237**		**Pn**	**13 25 11.6**	**+0.3**
ONTNC	**Ouen Toro**	**3.17**	**233**		**Pn**	**13 25 12.4**	**-0.6**
KOUNC	**Koumac, New Ca**	**4.61**	**268**		**Pn**	**13 25 33.9**	**+1.1**
SANVU	**Saraoutou**	**5.31**	**339**	Pn	**Pn**	**13 25 43.2**	**+0.8**
CTA	**Charters Tower**	**21.53**	**267**	P	**P**	**13 29 14.4**	**+2.4**
	2.2nm,0.4s,baz=89,slow=10,SNR=6.0						
AS31	**Alice Springs**	**32.83**	**258**	P	**P**	**13 30 56.1**	**-0.1**
AS31				IAmb	IAmb	13 30 57.7	
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**32.83**	**258**	P	**P**	**13 30 56.9**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=84,slow=9.3,SNR=31						
ASAR				PcP	**PcP**	**13 33 40.8**	**0.0**
	comp=Z,0.4nm,0.8s,baz=38,slow=4.7,SNR=2.3						
ASAR	**Alice Springs**	**32.83**	**258**	P	**P**	**13 30 55.0**	**-1.2**
MTN	**Manton Dam**	**37.18**	**276**	P	**P**	**13 31 33.3**	**-0.5**
MTN				IAmb	IAmb	13 31 35.3	
	comp=Z,15nm,1.4s						
FITZ	**Fitzroy Crossi**	**41.10**	**266**	P	**P**	**13 32 07.8**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=103,slow=7.3,SNR=5.9						
FITZ	**Fitzroy Crossi**	**41.10**	**266**	P	**P**	**13 32 07.2**	**+0.7**
FITZ				IAmb	IAmb	13 32 08.6	
	comp=Z,8.6nm,1.5s						
JHJ	**Hachijo jima 2**	**60.21**	**332**	P	**P**	**13 34 28.9**	**-1.4**
	comp=Z,152nm,0.7s,baz=103,slow=4.5,SNR=4.1						
ASAJ	**Asahikawa**	**68.70**	**340**	P	**P**	**13 35 25.2**	**-0.4**
	comp=Z,8.4nm,1.0s,baz=252,slow=9.6,SNR=2.5						
KSRS	**Korea Array**	**69.47**	**326**	P	**P**	**13 35 30.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=90,slow=6.4,SNR=1.8						
CMAR	**Chiang Mai Arr**	**78.96**	**294**	P	**P**	**13 36 27.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=112,slow=3.3,SNR=5.4						
NVAR	**Mina Array Bea**	**89.61**	**49**	P	**P**	**13 37 20.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=220,slow=8.9,SNR=4.4						
ILAR	**Eielson Array**	**91.37**	**17**	P	**P**	**13 37 26.0**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=219,slow=6.9,SNR=2.2						
ARCES	**ARCESS Array B**	**126.20**	**345**	PKP	**PKPdf**	**13 43 23.2**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=48,slow=1.3,SNR=1.8						
GERES	**GERESS Array B**	**145.52**	**331**	PKPbc	**PKPbc**	**13 44 00.5**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=343,slow=3.1,SNR=13						

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*IDC **02** 13:50:14.1±1.2, 5°.75S×151°.63E, h69km±12km, mb3.6/8, mb1 3.9/10, mb1mx3.5/42, mbtmp4.0/10, Error ellipse: s-maj=21.4km s-min=9.4km az=124.0*

ISC 02 13:50:12.5±0.7**, 5°.69S**±0°.08×**151°.58E**±0°.10**, h50**km**, n12,** σ1.s**67**/14**, mb3.6**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.44**	**18**	P	**Pn**	**13 50 36.7**	**+0.4**
	162nm,0.3s,baz=250,slow=1.1,SNR=101						
KRVT				S	**Sn**	**13 50 57.8**	**+3.8**
	177nm,0.3s,baz=170,slow=18,SNR=11						
KRVT				LR	LR	13 51 19.0	
	comp=Z,196nm,21.6s,baz=336,slow=44						
PMG	**Port Moresby**	**5.73**	**230**	P	**Pn**	**13 51 36.6**	**+1.5**
	2.8nm,0.3s,baz=71,slow=6.1,SNR=13						
PMG				S	**Sn**	**13 52 41.2**	**+1.6**
	1.8nm,0.3s,baz=29,slow=19,SNR=4.2						
HNR	**Honiara**	**9.09**	**115**	P	**Pn**	**13 52 23.1**	**+1.9**
	6.3nm,0.3s,baz=326,slow=18,SNR=1.7						
WRA	**Warramunga Arr**	**21.95**	**228**	P	**P**	**13 55 02.2**	**+0.1**
	1.2nm,0.5s,baz=54,slow=10,SNR=21						
ASAR	**Alice Springs**	**24.68**	**222**	P	**P**	**13 55 29.6**	**+0.6**
	2.2nm,0.7s,baz=54,slow=9.8,SNR=13						
FITZ	**Fitzroy Crossi**	**28.17**	**242**	P	**P**	**13 56 00.2**	**-0.2**
	1.3nm,0.6s,baz=58,slow=7.8,SNR=14						
MSVF	**Nonsavu**	**28.50**	**117**	P	**P**	**13 56 02.1**	**-1.5**
	5.2nm,0.4s,baz=320,slow=17,SNR=7.6						
MKAR	**Makanchi Array**	**80.19**	**319**	P	**P**	**14 02 16.5**	**-1.2**
	0.2nm,0.7s,baz=13,slow=3.3,SNR=2.1						
ILAR	**Eielson Array**	**83.43**	**22**	P	**P**	**14 02 33.0**	**-1.3**
	0.7nm,0.7s,baz=249,slow=5.1,SNR=11						
NVAR	**Mina Array Bea**	**93.59**	**52**	P	**P**	**14 03 22.9**	**-1.0**
	0.1nm,0.5s,baz=243,slow=4.0,SNR=1.9						
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**14 03 37.6**	**+0.1**
	0.1nm,0.5s,baz=260,slow=5.5,SNR=0.7						
TORD	**Torodi Ar. Bea**	**149.40**	**286**	PKPbc	**PKiKP**	**14 09 57.2**	**-1.0**
	0.5nm,0.3s,baz=78,slow=2.5,SNR=10						

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*BGR **02** 13:52:46.7±0.0, 16°.94S×173°.72W, h33km*

*NEIC **02** 13:52:52.8±1.5, 16°.40S±0°.08×174°.03W±0°.05, h81km±9km, mb4.5/16, Error ellipse: s-maj=12.4km s-min=5.9km az=155.0*

*IDC **02** 13:52:56.5±4.2, 16°.46S×174°.05W, h109km±36km, mb3.8/19, mb1 4.0/21, mb1mx3.9/46, mbtmp4.2/21, Error ellipse: s-maj=35.9km s-min=14.1km az=151.0*

*NOU **02** 13:53:23.3, 14°.06S×172°.17W, h124km, MLv3.3/4, Samoa Islands*

ISC 02 13:52:54.7±0.5**, 16°.42S**±0°.07×**173°.84W**±0°.07**, h100**km**, n84,** σ1.s**21**/88**, mb4.3**/30**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.19**	**39**	P	**Pn**	**13 53 41.7**	**-1.5**
	42nm,0.3s,baz=203,slow=3.9,SNR=109						
AFI				S	**Sn**	**13 54 15.8**	**-4.7**
	242nm,0.3s,baz=232,slow=23,SNR=14						
AFI	**Afiamalu**	**3.19**	**39**	P	**Pn**	**13 53 42.4**	**-0.7**
NIUE	**Niue**	**4.56**	**126**	Pn	**Pn**	**13 54 01.9**	**+0.4**
NIUE				Sn	**Sn**	**13 54 49.8**	**-3.6**
MSVF	**Nonsavu**	**7.87**	**259**	P	**Pn**	**13 54 47.0**	**+0.4**
	0.8nm,0.3s,baz=98,slow=7.1,SNR=2.3						
DZM	**Mont Dzumac**	**19.44**	**250**	P	**P**	**13 57 12.7**	**-0.8**
	0.2nm,0.3s,baz=107,slow=17,SNR=1.5						
PMG	**Port Moresby**	**38.60**	**275**	P	**P**	**14 00 07.4**	**-1.0**
	13nm,1.0s,baz=41,slow=0.9,SNR=3.8						
STKA	**Stephens Creek**	**43.17**	**241**	P	**P**	**14 00 44.8**	**-0.9**
	3.4nm,0.7s,baz=78,slow=8.2,SNR=7.0						
STKA	**Stephens Creek**	**43.17**	**241**	P	**P**	**14 00 42.7**	**-3.0**
WB0	**Warramunga Arr**	**49.17**	**258**	P	**P**	**14 01 31.3**	**-1.7**
WB0				IAmb	IAmb	14 01 36.4	
	comp=Z,7.2nm,1.4s						
WB2	**Warramunga Arr**	**49.20**	**258**	P	**P**	**14 01 31.9**	**-1.3**
WRAB	**Tennant Creek**	**49.20**	**258**	P	**P**	**14 01 31.1**	**-2.1**
WRAB				IAmb	IAmb	14 01 45.4	
	comp=Z,7.7nm,1.4s						
WRA	**Warramunga Arr**	**49.21**	**258**	P	**P**	**14 01 30.9**	**-2.3**
	comp=Z,1.0nm,0.6s,baz=94,slow=6.6,SNR=15						
WRA				PcP	**PcP**	**14 02 55.9**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=102,slow=3.2,SNR=1.8						
WRA	**Warramunga Arr**	**49.21**	**258**	P	**P**	**14 01 31.2**	**-2.0**
AS31	**Alice Springs**	**49.40**	**253**	P	**P**	**14 01 33.1**	**-1.6**
AS31				IAmb	IAmb	14 01 34.3	
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**49.40**	**253**	P	**P**	**14 01 33.1**	**-1.6**
	comp=Z,6.5nm,0.7s,baz=87,slow=8.4,SNR=110						
ASAR				PcP	**PcP**	**14 02 55.3**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=92,slow=3.6,SNR=1.0						
ASAR	**Alice Springs**	**49.40**	**253**	P	**P**	**14 01 32.0**	**-2.7**
SIJI	**Sorong**	**56.22**	**280**	P	**P**	**14 02 24.2**	**-0.7**
	comp=Z,15nm,0.7s,baz=204,slow=10.0,SNR=5.0						
FITZ	**Fitzroy Crossi**	**57.59**	**259**	P	**P**	**14 02 34.5**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=161,slow=14,SNR=7.6						
JNU	**Nakatsue**	**72.19**	**314**	P	**P**	**14 04 08.8**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=168,slow=7.6,SNR=6.5						
JNU	**Nakatsue**	**72.19**	**314**	P	**P**	**14 04 08.2**	**-0.8**
PETK	**Petropavlovsk-**	**73.47**	**343**	P	**P**	**14 04 16.1**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=98,slow=9.3,SNR=5.6						
YBH	**Yreka Blue Hor**	**74.66**	**37**	P	**P**	**14 04 25.6**	**+2.2**
	comp=Z,2.1nm,0.7s,baz=248,slow=2.9,SNR=9.3						
YBH	**Yreka Blue Hor**	**74.66**	**37**	P	**P**	**14 04 24.3**	**+0.9**
NVAR	**Mina Array Bea**	**75.36**	**42**	P	**P**	**14 04 29.9**	**+2.2**
	comp=Z,1.5nm,0.9s,baz=231,slow=9.8,SNR=8.9						
KSRS	**Korea Array**	**76.59**	**316**	P	**P**	**14 04 35.8**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=121,slow=4.9,SNR=2.3						
ELK	**Elko**	**78.62**	**41**	P	**P**	**14 04 47.1**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=250,slow=4.6,SNR=7.0						
K20K	**Telida**	**81.00**	**9**	P	**P**	**14 04 57.8**	**-0.2**
K20K				IAmb	IAmb	14 05 00.6	
	comp=Z,12nm,1.4s						
TXAR	**Lajitas Array**	**81.53**	**56**	P	**P**	**14 05 03.7**	**+2.1**
	comp=Z,1.1nm,1.0s,baz=251,slow=3.8,SNR=5.9						
J20K	**Nowinta River**	**81.77**	**9**	P	**P**	**14 05 03.2**	**+1.3**
J20K				IAmb	IAmb	14 05 04.2	
	comp=Z,6.3nm,1.1s						
RND	**Reindeer**	**81.92**	**11**	P	**P**	**14 05 02.2**	**-0.7**
HDA	**Harding Lake**	**83.18**	**11**	P	**P**	**14 05 09.6**	**+0.3**
HDA				IAmb	IAmb	14 05 10.9	
	comp=Z,12nm,1.3s						
CCB	**Clear Creek Bu**	**83.24**	**11**	P	**P**	**14 05 09.8**	**+0.2**
BW06	**Boulder Array**	**83.30**	**42**	P	**P**	**14 05 11.6**	**+0.8**
BW06				IAmb	IAmb	14 05 12.8	
	comp=Z,3.4nm,0.8s						
PDAR	**Pinedale Array**	**83.30**	**42**	P	**P**	**14 05 11.8**	**+1.1**
	comp=Z,3.9nm,1.0s,baz=208,slow=2.9,SNR=18						
PDAR	**Pinedale Array**	**83.30**	**42**	P	**P**	**14 05 11.4**	**+0.7**
SEY	**Seymchan**	**83.39**	**345**	P	**P**	**14 05 10.8**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=131,slow=2.4,SNR=4.9						
IL31		**83.52**	**11**	P	**P**	**14 05 11.3**	**+0.3**
ILAR	**Eielson Array**	**83.52**	**11**	P	**P**	**14 05 11.4**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=224,slow=5.4,SNR=16						
ILAR	**Eielson Array**	**83.52**	**11**	P	**P**	**14 05 11.5**	**+0.5**
J25K	**Salcha River,**	**83.67**	**12**	P	**P**	**14 05 11.9**	**0.0**
J25K				IAmb	IAmb	14 05 14.0	
	comp=Z,7.5nm,1.2s						
XLT	**XiLinHaoTe**	**87.58**	**317**	*e*P	**P**	**14 05 32.0**	**+0.2**
XLT				pP	pP	14 05 58.0	+0.4
XLT				sP	sP	14 06 07.5	-0.6
XLT				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,130nm,5.3s						
HHC	**Hu-ho-hao-te**	**89.41**	**313**	*e*P	**P**	**14 05 40.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,74nm,5.3s						
YKA	**Yellowknife Ar**	**91.20**	**24**	P	**P**	**14 05 48.7**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=245,slow=4.8,SNR=6.2						
PZH	**PanZhiHua**	**92.36**	**297**	P	**P**	**14 05 55.0**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
CMAR	**Chiang Mai Arr**	**92.54**	**288**	P	**P**	**14 05 56.6**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=91,slow=2.4,SNR=6.9						
SONM	**Songino Array**	**95.32**	**318**	P	**P**	**14 06 08.3**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=45,slow=0.4,SNR=1.5						
ARCES	**ARCESS Array B**	**125.56**	**352**	PKP	**PKiKP**	**14 11 44.3**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=16,slow=1.8,SNR=18						
FINES	**FINESS Array B**	**132.84**	**347**	PKP	**PKPdf**	**14 11 58.1**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=20,slow=6.1,SNR=9.1						
CLL	**Collm**	**144.77**	**353**	*e*PKPdf	**PKPab**	**14 12 19.0**	**+0.2**
CLL				*e*x	x	14 12 21.0	
	comp=Z,5.0nm,1.0s						
OSTC	**Ostas**	**145.00**	**349**	*e*PKP	**PKPdf**	**14 12 21.1**	**+0.9**
FBE	**Freiberg**	**145.10**	**352**	*e*PKPbc	**PKPab**	**14 12 21.3**	**+1.2**
	baz=8.7,slow=2.9						
DPC	**Dobruska-Polom**	**145.18**	**349**	*e*PKP	**PKPab**	**14 12 21.4**	**+0.9**
MORC	**Moravsky Berou**	**145.47**	**347**	*e*PKP	**PKPab**	**14 12 22.3**	**+0.7**
MOX	**Moxa**	**145.58**	**354**	*e*PKPbc	**PKPab**	**14 12 22.6**	**+0.7**
	baz=8.7,slow=2.9						
PLN	**Plauen**	**145.68**	**353**	*e*PKPbc	**PKPab**	**14 12 23.0**	**+0.7**
	baz=8.7,slow=2.9						
WERD	**Werda**	**145.70**	**353**	*e*PKPbc	**PKPab**	**14 12 23.0**	**+0.6**
	baz=8.7,slow=2.9						
TANN	**Tannenbergstha**	**145.71**	**353**	*e*PKPbc	**PKPab**	**14 12 23.2**	**+0.7**
	baz=8.7,slow=2.9						
GUNZ	**Gunzen**	**145.78**	**353**	*e*PKPbc	**PKPab**	**14 12 23.6**	**+0.9**
	baz=8.7,slow=2.9						
PRU	**Pruhonice**	**145.84**	**350**	*e*PKP	**PKPab**	**14 12 23.2**	**+0.3**
WERN	**Wernitzgruen**	**145.85**	**353**	*e*PKPbc	**PKPab**	**14 12 23.9**	**+0.9**
	baz=8.7,slow=2.9						
VRAC	**Vranov**	**146.12**	**348**	*e*PKP	**PKPab**	**14 12 24.6**	**+0.6**
TNS	**Taunus Mts**	**146.23**	**357**	*e*PKPbc	**PKPab**	**14 12 24.9**	**+0.4**
	baz=8.7,slow=2.9						
ROTZ	**Rotzenmuhle**	**146.38**	**353**	*e*PKPbc	**PKPab**	**14 12 25.4**	**+0.5**
	baz=8.7,slow=2.9						
KRUC	**Moravsky**	**146.39**	**348**	*e*PKP	**PKPbc**	**14 12 24.9**	**+0.9**
GRF	**Grafenberg Arr**	**146.56**	**354**	*e*PKPbc	**PKPbc**	**14 12 25.5**	**+1.0**
	baz=8.7,slow=2.9						
BRTR	**Keskin Array B**	**146.67**	**320**	PKPbc	**PKPbc**	**14 12 26.1**	**+0.7**
	comp=Z,6.2nm,1.1s,baz=126,slow=2.5,SNR=9.8						
KHC	**Kasperske Hory**	**146.82**	**351**	*e*PKP	**PKPbc**	**14 12 25.9**	**+0.6**
CKRC	**Cesky Krumlov**	**147.01**	**350**	*e*PKP	**PKPbc**	**14 12 26.3**	**+0.5**
GERES	**GERESS Array B**	**147.08**	**351**	PKPbc	**PKPbc**	**14 12 25.7**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=305,slow=4.7,SNR=9.7						
CONA	**Conrad Observa**	**147.58**	**348**	*e*P	**PKiKP**	**14 12 29.1**	**-0.5**
	comp=Z,8.3nm,1.3s						
RONA	**Rosalia, Austr**	**147.71**	**347**	*e*P	**PKiKP**	**14 12 29.4**	**-0.4**
	comp=Z,7.1nm,1.2s						
MOA	**Molln**	**147.96**	**350**	*e*P	**PKiKP**	**14 12 29.7**	**-0.6**
	comp=Z,1.7nm,0.6s						
BFO	**Black Forest**	**148.13**	**357**	*e*PKPbc	**PKiKP**	**14 12 30.2**	**-0.4**
	baz=8.7,slow=2.9						
BIOA	**Bad Ischl, Aus**	**148.21**	**350**	*e*P	**PKPbc**	**14 12 30.0**	**+0.8**
	comp=Z,2.2nm,0.9s						
RJOB	**Jochberg**	**148.30**	**351**	*e*PKPbc	**PKiKP**	**14 12 30.7**	**-0.3**
	baz=8.7,slow=2.9						
WATA	**Walderalm**	**148.85**	**353**	*e*P	**PKPbc**	**14 12 31.8**	**+0.9**
	comp=Z,3.0nm,0.5s						
KBA	**Koelnbreinsper**	**148.86**	**350**	*i* P	**PKPbc**	**14 12 31.5**	**+0.5**
	comp=Z,1.9nm,0.7s						
WTTA	**Wattenberg**	**148.91**	**353**	*i* P	**PKiKP**	**14 12 32.3**	**-0.1**
	comp=Z,4.7nm,0.5s						
SOKA	**Soboth**	**148.94**	**348**	*e*P	**PKPbc**	**14 12 31.8**	**+0.7**
	comp=Z,7.5nm,1.5s						
SQTA	**Sankt Quirin**	**149.01**	**353**	*e*P	**PKiKP**	**14 12 32.5**	**-0.1**
	comp=Z,5.1nm,1.1s						
DAVA	**Damuels**	**149.07**	**355**	*e*P	**PKiKP**	**14 12 32.9**	**+0.1**
	comp=Z,9.4nm,1.1s						
MYKA	**Terra Mystica**	**149.24**	**350**	*e*P	**PKPbc**	**14 12 32.2**	**+0.3**
	comp=Z,2.7nm,0.6s						
FETA	**Feichten**	**149.25**	**354**	*e*P	**PKPbc**	**14 12 31.5**	**-0.5**
	comp=Z,7.8nm,1.2s						
ABTA	**Abfaltersbach**	**149.31**	**351**	*i* P	**PKPbc**	**14 12 32.6**	**+0.6**
	comp=Z,4.7nm,0.7s						

UCR 02 13:59:06.0±1.2**, 9°.02N**×**85°.07W, h10**km**, MW3.6, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.76**	**32**	*e*P	Pg	13 59 20.6	-0.2
LAFE	**Finca La Fe, P**	**0.80**	**12**	*e*P	Pg	13 59 21.0	-0.5
JTS	**Las Juntas de**	**1.27**	**5**	*e*P	Pn	13 59 28.1	-1.8
LCR2	**La Lucha 2**	**1.28**	**56**	*e*P	Pn	13 59 28.8	-1.3
GUAI	**GUAI**	**1.32**	**341**	*i* P	Pn	13 59 28.7	-1.8
OCM	**Ochomogo**	**1.40**	**51**	*e*P	Pn	13 59 31.0	-0.9
RIMA	**Rio Macho**	**1.41**	**58**	*e*P	Pn	13 59 30.9	-1.0
PLAN	**Los Planes de**	**1.42**	**104**	*e*P	Pn	13 59 30.7	-1.2
PEZE	**Perez Zeledon,**	**1.43**	**75**	*e*P	Pn	13 59 30.8	-1.3
ARE1	**Arenal 1**	**1.48**	**14**	*e*P	Pn	13 59 32.3	-0.4
CEDE	**Laguna Cedeo**	**1.51**	**14**	*i* P	Pn	13 59 32.4	-0.8
RIOS	**Rincon, Osa**	**1.57**	**101**	*e*P	Pn	13 59 32.9	-1.1
EDPN	**Palmar Norte**	**1.60**	**92**	*e*P	Pn	13 59 33.7	-0.6
ACAL	**Aguas Claras**	**1.61**	**1**	*i* P	Pn	13 59 34.2	-0.4
CUI	**Cuipilapa**	**1.63**	**357**	*i* P	Pn	13 59 34.0	-0.9
CUI				*i* S	Sn	13 59 52.6	-3.4
VTUN	**Crater Central**	**1.63**	**52**	*e*P	Pn	13 59 35.4	+0.2
CVTR	**Volcan Turrial**	**1.64**	**52**	*e*P	Pn	13 59 35.4	+0.2
HORNC	**Hornillas**	**1.69**	**356**	*i* P	Pn	13 59 34.7	-1.0
HORNC				*i* S	Sn	13 59 54.4	-3.1
SRBA	**San Rafael, Bu**	**1.71**	**83**	*e*P	Pn	13 59 35.4	-0.5
LAPC	**Finca la Perla**	**1.78**	**349**	*i* P	Pn	13 59 36.0	-0.8
MRVA	**Moravia de Chi**	**1.80**	**63**	*e*P	Pn	13 59 37.0	-0.2
PIRO	**Carate, Puerto**	**1.82**	**109**	*e*P	Pn	13 59 36.8	-0.6
DRK0	**Durika**	**1.82**	**82**	*e*P	Pn	13 59 36.9	-0.7

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*NEIC **02** 14:03:32.6±2.0, 19°.24N±0°.08×145°.6E±0°.2, h154km±10km, mb3.9/15, Error ellipse: s-maj=25.8km s-min=12.0km az=83.0*

*IDC **02** 14:03:33.4±2.4, 19°.26N×145°.58E, h163km±24km, mb3.5/14, mb1 3.8/16, mb1mx3.6/44, mbtmp4.1/16, Error ellipse: s-maj=18.1km s-min=12.7km az=86.0*

ISC 02 14:03:31.8±0.5**, 19°.31N**±0°.06×**145°.6E**±0°.1**, h147**km**, n39,** σ1.s**31**/40**, mb3.9**/18**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.73**	**187**	P	**Pn**	**14 04 55.0**	**+0.1**
	2.9nm,0.3s,baz=61,slow=14,SNR=1.8						
GUMO				S	**Sn**	**14 06 01.7**	**+1.9**
	1.1nm,0.3s,baz=360,slow=23,SNR=1.2						
GUMO	**Guam**	**5.73**	**187**		**Pn**	**14 04 54.7**	**-0.2**
JCJ	**Chichijima**	**8.37**	**339**	S	**Sn**	**14 06 58.5**	**-4.6**
	6.5nm,0.3s,baz=283,slow=21,SNR=1.8						
JCJ	**Chichijima**	**8.37**	**339**	Pn	**Pn**	**14 05 30.7**	**+0.7**
JHJ2	**Mitsune**	**14.69**	**340**	P	**P**	**14 06 57.0**	**+2.3**
JHJ	**Hachijo jima 2**	**14.71**	**340**	P	**Pn**	**14 06 54.1**	**+1.5**
	17nm,0.3s,baz=76,slow=18,SNR=1.5						
PATS	**Pohnpei**	**17.50**	**133**	P	**P**	**14 07 23.6**	**-2.3**
MJAR	**Matsushiro Arr**	**18.36**	**341**	P	**P**	**14 07 35.0**	**-0.1**
MAJO	**Matsushiro**	**18.36**	**341**	P	**P**	**14 07 36.0**	**+0.8**
MAJO				IAmb	IAmb	14 07 43.3	
	comp=Z,5.1nm,1.0s						
MJB9	**Matsu-Tunnel**	**18.36**	**341**	P	**P**	**14 07 36.1**	**+0.9**
MJB9				IAmb	IAmb	14 07 43.3	
	comp=Z,5.5nm,1.1s						
JNU	**Nakatsue**	**19.05**	**319**	P	**P**	**14 07 42.9**	**+0.3**
JNU				IAmb	IAmb	14 07 47.1	
	comp=Z,11nm,1.1s						
JSD	**Sado**	**19.73**	**343**	P	**P**	**14 07 50.7**	**+0.8**
JSD				IAmb	IAmb	14 07 58.7	
	comp=Z,7.4nm,1.0s						
KSRS	**Korea Array**	**23.78**	**323**	P	**P**	**14 08 30.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=134,slow=11,SNR=7.6						
PETK	**Petropavlovsk-**	**35.02**	**13**	P	**P**	**14 10 10.1**	**+0.1**
KNRA	**Kununurra**	**38.52**	**207**	P	**P**	**14 10 40.5**	**+0.5**
KNRA				IAmb	IAmb	14 10 41.5	
	comp=Z,3.7nm,0.9s						
CTAO	**Charters Tower**	**39.16**	**179**	P	**P**	**14 10 44.1**	**-1.2**
WB0	**Warramunga Arr**	**40.36**	**196**	P	**P**	**14 10 54.8**	**-0.5**
WB0				IAmb	IAmb	14 10 56.2	
	comp=Z,7.8nm,1.1s						
WR0	**Warramunga Arr**	**40.51**	**196**	P	**P**	**14 10 55.1**	**-1.4**
WR0				IAmb	IAmb	14 11 08.3	
	comp=Z,4.7nm,1.1s						
WB2	**Warramunga Arr**	**40.54**	**196**	P	**P**	**14 10 56.6**	**-0.2**
WRA	**Warramunga Arr**	**40.54**	**196**	P	**P**	**14 10 56.3**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=23,slow=9.1,SNR=41						
WRA	**Warramunga Arr**	**40.54**	**196**	P	**P**	**14 10 56.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**42.03**	**209**	P	**P**	**14 11 08.8**	**-0.1**
FITZ				IAmb	IAmb	14 11 11.5	
	comp=Z,1.5nm,0.8s						
SONM	**Songino Array**	**42.62**	**321**	P	**P**	**14 11 14.3**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=139,slow=8.7,SNR=8.0						
SONM	**Songino Array**	**42.62**	**321**	P	**P**	**14 11 14.1**	**+0.5**
SONM				IAmb	IAmb	14 11 14.9	
	comp=Z,1.0nm,0.8s						
SEY	**Seymchan**	**43.84**	**4**	P	**P**	**14 11 23.6**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=238,slow=16,SNR=4.7						
CMAR	**Chiang Mai Arr**	**44.06**	**277**	P	**P**	**14 11 26.3**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=64,slow=7.0,SNR=12						
AS31	**Alice Springs**	**44.21**	**195**	P	**P**	**14 11 24.7**	**-1.7**
ASAR	**Alice Springs**	**44.21**	**195**	P	**P**	**14 11 25.9**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=7.6,slow=6.8,SNR=20						
ASAR	**Alice Springs**	**44.21**	**195**	P	**P**	**14 11 24.4**	**-2.1**
ZALV	**Zalesovo Beam**	**57.48**	**322**	P	**P**	**14 13 05.0**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=114,slow=7.4,SNR=6.5						
MKAR	**Makanchi Array**	**57.98**	**314**	P	**P**	**14 13 09.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=88,slow=9.4,SNR=6.0						
MKAR	**Makanchi Array**	**57.98**	**314**	P	**P**	**14 13 07.3**	**-1.6**
ILAR	**Eielson Array**	**63.14**	**26**	P	**P**	**14 13 43.5**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=253,slow=5.1,SNR=18						
YKA	**Yellowknife Ar**	**77.49**	**28**	P	**P**	**14 15 11.7**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=290,slow=5.4,SNR=22						
ARCES	**ARCESS Array B**	**81.89**	**342**	P	**P**	**14 15 34.4**	**0.0**
	comp=Z,2.0nm,0.7s,baz=76,slow=8.8,SNR=9.7						
NVAR	**Mina Array Bea**	**82.83**	**52**	P	**P**	**14 15 41.5**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=262,slow=6.6,SNR=17						
FINES	**FINESS Array B**	**86.30**	**335**	P	**P**	**14 15 55.0**	**-1.8**
	comp=Z,2.0nm,0.4s,baz=73,slow=4.7,SNR=41						
PDAR	**Pinedale Array**	**87.46**	**45**	P	**P**	**14 16 02.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=115,slow=2.4,SNR=2.2						
LPAZ	**La Paz**	**147.76**	**90**	PKPbc	**PKPdf**	**14 22 58.8**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=222,slow=4.7,SNR=2.7						

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*IDC **02** 14:12:39.6±8.3, 30°.29S×175°.12W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/25, mbtmp3.8/3, Error ellipse: s-maj=251.3km s-min=116.3km az=148.0*

*WEL **02** 14:14:03.3±1.1, 32°S±6°×18°0E±1°6, h341km±19km, M4.1/7, mB4.3/5, MLv4.4/7, Mw(mB)3.4/5, Error ellipse: s-maj=0.0km s-min=0.0km az=106.9*

ISC 02 14:13:56.5±2.4**, 31°.6S**±0°.1×**179°.8E**±0°.2**, h400**km**, n37,** σ2.s**46**/51**, mb3.3**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.10**	**41**	P	Pn	14 15 03.1	+2.5
GLKZ				S	S	14 15 54.9	+2.6
KUZ	**Kuaotunu**	**6.10**	**212**	P	**Pn**	**14 15 30.0**	**0.0**
WCZ	**Waipu Caves**	**6.22**	**225**	P	**P**	**14 15 36.1**	**+4.6**
WMGZ	**Waiomatatini S**	**6.27**	**190**	P	**P**	**14 15 36.0**	**+4.1**
WMGZ				S	**S**	**14 16 50.9**	**+1.1**
OUZ	**Omahuta**	**6.27**	**234**	P	**P**	**14 15 36.3**	**+4.3**
HAZ	**Te Kaha**	**6.32**	**194**	P	**P**	**14 15 36.0**	**+3.6**
HAZ				S	**S**	**14 16 51.1**	**+0.4**
PKGZ	**Pakihiroa**	**6.39**	**192**	P	**P**	**14 15 37.5**	**+4.2**
PKGZ				S	**S**	**14 16 51.0**	**-1.3**
PUZ	**Puketiti**	**6.54**	**190**	P	**P**	**14 15 37.7**	**+2.2**
PUZ				S	**S**	**14 16 53.5**	**-1.8**
RUGZ	**Raukumara Rang**	**6.54**	**195**	P	**P**	**14 15 38.4**	**+2.8**
TWGZ	**Tauwhareparae**	**6.69**	**192**	P	**P**	**14 15 41.0**	**+3.8**
TWGZ				S	**S**	**14 17 00.8**	**+2.4**
MWZ	**Matawai**	**6.93**	**195**	P	**P**	**14 15 41.7**	**+1.8**
MWZ				S	**S**	**14 17 02.9**	**-0.4**
KMRZ	**Kaimai**	**6.95**	**206**	P	**P**	**14 15 42.9**	**+2.8**
CNGZ	**Carnagh Statio**	**6.95**	**190**	P	**P**	**14 15 42.0**	**+1.9**
URZ	**Urewera**	**6.96**	**197**	P	**P**	**14 15 40.5**	**+0.4**
URZ				S	**S**	**14 17 01.1**	**-2.6**
KARZ	**Kaharoa**	**7.00**	**203**	P	**P**	**14 15 43.1**	**+2.5**
OMRZ	**Omania**	**7.03**	**202**	P	**P**	**14 15 44.5**	**+3.5**
TARZ	**Mount Tarawera**	**7.11**	**201**	P	**P**	**14 15 45.3**	**+3.4**
RIGZ	**Rimuhau**	**7.24**	**192**	P	**P**	**14 15 45.1**	**+1.7**
RIGZ				S	**S**	**14 17 10.1**	**+0.4**
MUGZ	**Murupara**	**7.25**	**199**	P	**Pn**	**14 15 41.5**	**-1.4**
PRRZ	**Plateau Road**	**7.38**	**201**	P	**P**	**14 15 45.9**	**+1.1**

SNGZ	**Shannon Statio**	**7.40**	**195**	P	**P**	**14 15 46.3**	**+1.2**
SNGZ				S	**S**	**14 17 14.2**	**+1.2**
PRGZ	**Paritu Road**	**7.43**	**191**	P	**P**	**14 15 48.8**	**+3.4**
WPRZ	**Whakapapatarin**	**7.47**	**202**	P	**P**	**14 15 48.5**	**+2.6**
KNZ	**Kokohu**	**7.57**	**192**	P	**P**	**14 15 48.9**	**+2.1**
KNZ				S	**S**	**14 17 14.3**	**-2.0**
RAHZ	**Arahi**	**7.59**	**196**	P	**P**	**14 15 48.9**	**+1.8**
RAHZ				S	**S**	**14 17 15.6**	**-1.2**
MRHZ	**Matea Rd**	**7.69**	**200**	P	**P**	**14 15 49.2**	**+0.9**
NMHZ	**Naumai**	**7.83**	**197**	P	**P**	**14 15 50.7**	**+0.8**
HIZ	**Hauiti**	**7.95**	**209**	P	**P**	**14 15 55.4**	**+4.2**
BKZ	**Black Stump Fm**	**7.97**	**199**	P	**Pn**	**14 15 50.5**	**-0.5**
BKZ				S	**S**	**14 17 20.8**	**-4.2**
MCHZ	**McNeill Hill**	**8.18**	**197**	P	**P**	**14 15 54.8**	**+1.1**
KWHZ	**Kaweka Forest**	**8.23**	**198**	P	**Pn**	**14 15 54.7**	**+0.7**
KWHZ				S	**S**	**14 17 27.7**	**-2.7**
BHHZ	**Black Hill Sta**	**8.40**	**200**	P	**Pn**	**14 15 56.1**	**+0.2**
BHHZ				S	**S**	**14 17 31.8**	**-2.1**
KRHZ	**Kereru**	**8.45**	**198**	P	**Pn**	**14 15 57.0**	**+0.5**
KRHZ				S	**S**	**14 17 32.7**	**-2.3**
KAHZ	**Kahuranaki**	**8.47**	**195**	P	**Pn**	**14 15 57.3**	**+0.5**
KAHZ				S	**S**	**14 17 34.2**	**-1.2**
ASAR	**Alice Springs**	**41.15**	**269**	P	**P**	**14 21 01.4**	**-2.6**
	0.4nm,0.6s,baz=101,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**42.25**	**275**	P	**P**	**14 21 10.0**	**-2.8**
	0.7nm,0.3s,baz=113,slow=8.0,SNR=24						
CMAR	**Chiang Mai Arr**	**92.01**	**290**	P	P	14 26 07.3	-14
	0.2nm,0.5s,baz=151,slow=2.1,SNR=1.1						

AZER ***02*** *14:23:08.9±0.3, 42.°21N×42.°62E, h48km±433km, Error ellipse: s-maj=22.3km s-min=10.6km az=27.0*
TIF ***02*** *14:23:09.8, 42.°55N×43.°46E, h12km*
NORS ***02*** *14:23:10.0±0.0, 42.°54N×43.°43E, h9km*
IASPEI ***02*** *14:23:10.1±0.8, 42.°53N±0.°02×43.°42E±0.°02, h10km±5km, Error ellipse: s-maj=3.6km s-min=2.6km az=94.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
MOS ***02*** *14:23:10.7±0.0, 42.°56N×43.°40E, h9km, MPVA4.0*
DDA ***02*** *14:23:11.4±0.0, 42.°44N×43.°41E, h17km±2km, ML2.9*
ISC 02 14:23:10.0±0.8**, 42.°53N**±0.°01×**43.°41E**±0.°02**, h10**km±5km**, n54,** σ**1.°01**/106**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONI	**Oni**	**0.07**	**25**	P	**Pg**	**14 23 12.3**	**+0.1**
ONI				S	**Sg**	**14 23 13.8**	**0.0**
ONI	**Oni**	**0.07**	**25**	*i* Pg	**Pg**	**14 23 12.5**	**+0.2**
ONI				*e*Sg	**Sg**	**14 23 13.8**	**0.0**
TKB	**Tkibuli**	**0.36**	**240**	P	**Pb**	**14 23 18.4**	**-0.1**
TKB				S	**Sb**	**14 23 24.6**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.39**	**18**	*i* Pg	**Pg**	**14 23 17.5**	**-0.3**
DIGR				*e*Sg	**Sg**	**14 23 22.8**	**-0.1**
ZEI	**Tsey**	**0.44**	**54**	*i* Pg	**Pg**	**14 23 18.6**	**-0.2**
ZEI				*e*Sg	**Sg**	**14 23 24.5**	**-0.1**
LACR	**Lac**	**0.72**	**65**	*i* Pg	**Pg**	**14 23 23.4**	**-0.5**
LACR				*e*Sg	**Sg**	**14 23 32.8**	**-0.5**
KORR	**Kora**	**0.73**	**41**	*e*Pg	**Pg**	**14 23 24.3**	**+0.1**
KORR				*e*Sg	**Sb**	**14 23 35.5**	**+0.4**
BKRG	**Bakuriani**	**0.77**	**174**	P	**Pg**	**14 23 25.1**	**+0.2**
BKRG				S	**Sb**	**14 23 37.4**	**+1.1**
GUDG	**Gudauri**	**0.79**	**94**	P	**Pg**	**14 23 24.8**	**-0.4**
GUDG				S	**Sg**	**14 23 35.5**	**-0.1**
LSNR	**Lesken**	**0.81**	**22**	*e*Pg	**Pb**	**14 23 25.7**	**-0.5**
LSNR				*e*Sg	**Sb**	**14 23 37.4**	**+0.2**
MTEO	**Meteo**	**0.84**	**79**	P	**Pg**	**14 23 25.9**	**-0.4**
MTEO				S	**Sg**	**14 23 36.5**	**-0.8**
NEY	**Neytrino**	**0.88**	**325**	*e*Pg	**Pg**	**14 23 26.9**	**-0.1**
NEY				*e*Sg	**Sg**	**14 23 38.2**	**-0.3**
ABS	**Abastumani**	**0.89**	**210**	P	**Pb**	**14 23 27.9**	**+0.2**
ABS				S	**Sn**	**14 23 41.2**	**-0.7**
PNSH	**Pansheti**	**0.89**	**83**	P	**Pg**	**14 23 26.7**	**-0.6**
PNSH				S	**Sg**	**14 23 37.8**	**-1.1**
BRNG	**Burnasheti**	**0.96**	**161**	P	**Pn**	**14 23 29.7**	**0.0**
BRNG				S	**Sn**	**14 23 44.1**	**+0.6**
STDR	**Stavd-Durt**	**0.96**	**29**	*e*Pg	**Pn**	**14 23 29.8**	**+0.1**
STDR				*e*Sg	**Sn**	**14 23 42.6**	**-0.8**
NCK	**Nalchik**	**0.97**	**8**	*e*Pg	**Pn**	**14 23 29.3**	**-0.5**
NCK				*e*Sg	**Sn**	**14 23 43.4**	**-0.3**
CHVG	**Ch'k'valeri**	**1.00**	**281**	P	**Pn**	**14 23 30.2**	**0.0**
CHVG				S	**Sn**	**14 23 44.5**	**+0.2**
VLKR	**Vladikavkaz**	**1.06**	**61**	*e*Pg	**Pn**	**14 23 31.3**	**+0.3**
VLKR				*e*Sg	**Sg**	**14 23 44.5**	**+0.2**
TRLG	**Trialeti**	**1.11**	**152**	P	**Pn**	**14 23 32.2**	**+0.3**
TRLG				S	**Sn**	**14 23 47.3**	**-0.1**
AKH	**Akhalkalaki**	**1.12**	**177**	P	**Pn**	**14 23 32.0**	**+0.1**
AKH				S	**Sn**	**14 23 48.2**	**+0.7**
EPOS	**Posof**	**1.15**	**207**	P	**Pg**	**14 23 32.5**	**+0.5**
EPOS				S	**Sg**	**14 23 47.6**	**+0.7**
BTKR	**Batakoyurt**	**1.18**	**44**	*e*Pg	**Pg**	**14 23 33.9**	**+1.2**
BTKR				*e*Sg	**Sb**	**14 23 47.1**	**-0.9**
KMGR	**Komgaron**	**1.19**	**63**	*e*Pg	**Pg**	**14 23 33.8**	**+0.9**
KMGR				*e*Sg	**Sn**	**14 23 51.0**	**+1.9**
KBZ	**Khabaz**	**1.26**	**343**	*e*Pg	**Pb**	**14 23 33.5**	**-0.3**
KBZ				*e*Sg	**Sn**	**14 23 49.9**	**-0.7**
BGD	**Bogdanovka**	**1.27**	**174**	P	**Pg**	**14 23 34.5**	**+0.1**
BGD				S	**Sg**	**14 23 52.5**	**+1.5**
KBTC	**Kuba-Taba**	**1.29**	**360**	*e*Pg	**Pn**	**14 23 33.9**	**-0.3**
KBTC				*e*Sg	**Sg**	**14 23 53.1**	**+1.7**
SHA1	**Shidzhatmaz**	**1.33**	**336**	*e*Pg	**Pg**	**14 23 35.3**	**-0.2**
SHA1				*e*Sg	**Sg**	**14 23 52.4**	**-0.4**
BTNK	**Botanikuri**	**1.33**	**129**	P	**Pn**	**14 23 30.0**	**-4.8**
BTNK				S	**Sb**	**14 23 48.5**	**-3.8**
DMNI	**Dmanisi**	**1.33**	**154**	P	**Pb**	**14 23 35.4**	**+0.3**
DMNI				S	**Sg**	**14 23 53.4**	**+0.5**
KZRT	**Kazreti**	**1.36**	**147**	P	**Pb**	**14 23 35.9**	**+0.3**
KZRT				S	**Sg**	**14 23 53.8**	**+0.1**
KZRT	**Kazreti**	**1.36**	**147**	P	**Pn**	**14 23 34.7**	**-0.4**
KZRT				S	**Sn**	**14 23 53.2**	**0.0**
PRTR	**Priterechnaya**	**1.38**	**27**	*e*Pg	**Pg**	**14 23 38.2**	**+1.8**
PRTR				*e*Sg	**Sg**	**14 23 56.9**	**+2.6**
KIV	**Kislovodsk**	**1.52**	**340**	*e*Pg	**Pb**	**14 23 38.0**	**-0.4**
KIV				*e*Sg	**Sg**	**14 23 58.2**	**-0.7**
BEYR	**Belyy Ugol+**	**1.54**	**344**	*e*Pg	**Pg**	**14 23 39.1**	**-0.5**
BEYR				*i* Sg	**Sg**	**14 23 59.2**	**-0.5**
PYA1	**Pyatigorsk**	**1.55**	**351**	*e*Pg	**Pg**	**14 23 39.2**	**-0.6**
PYA1				*e*Sg	**Sg**	**14 23 59.0**	**-0.9**
BATM	**Batumi**	**1.58**	**235**	P	**Pb**	**14 23 39.4**	**+0.1**
BATM				S	**Sg**	**14 24 01.1**	**+0.3**
DBOC	**Borcka**	**1.76**	**228**	P	**Pb**	**14 23 41.7**	**-0.7**
DBOC				S	**Sg**	**14 24 05.7**	**-0.9**
DBOC				*i* AML	AML	14 24 08.0	
	comp=E,130nm,0.2s						
DGRG	**David-gareji**	**1.82**	**126**	P	**Pb**	**14 23 44.2**	**+0.8**
DGRG				S	**Sg**	**14 24 10.8**	**+2.5**
DAGI	**Agillar**	**1.83**	**218**	P	**Pb**	**14 23 44.2**	**+0.4**
DAGI				S	**Sg**	**14 24 08.5**	**-0.4**
ARXR	**Arkhyz**	**1.88**	**304**	*e*Pg	**Pg**	**14 23 45.8**	**-0.2**
ARXR				*e*Sg	**Sg**	**14 24 10.1**	**-0.3**
DBAD	**Bademkaya**	**1.98**	**221**	P	**Pb**	**14 23 46.2**	**-0.1**
DBAD				S	**Sg**	**14 24 12.5**	**-1.2**
DBAD				*i* AML	AML	14 24 15.0	
	comp=N,160nm,0.7s						
DBAD				*i* AML	AML	14 24 18.0	
	comp=E,151nm,0.5s						
DVE	**Vedeno**	**2.04**	**77**	*e*Pg	**Pb**	**14 23 47.8**	**+0.5**
DVE				*e*Sg	**Sb**	**14 24 13.7**	**+0.9**
DDEM	**Demirkent**	**2.06**	**218**	P	**Pb**	**14 23 47.8**	**+0.3**
DDEM				S	**Sb**	**14 24 14.6**	**+1.5**
DDEM				*i* AML	AML	14 24 21.0	
	comp=E,161nm,0.4s						
QZX	**Qazax, Azerbai**	**2.08**	**134**	P	**Pb**	**14 23 47.1**	**-0.7**
QZX				S	**Sg**	**14 24 15.4**	**-1.3**
LGD	**Lagodekhi**	**2.21**	**107**	P	**Pb**	**14 23 49.7**	**-0.4**
LGD				S	**Sb**	**14 24 18.6**	**+0.9**
DDFL	**Dedoflistskaro**	**2.29**	**117**	P	**Pg**	**14 23 53.2**	**-0.7**
DDFL				*i* AML	AML	14 24 30.0	
	comp=N,88nm,0.5s						
DDFL				*i* AML	AML	14 24 31.0	
	comp=E,82nm,0.7s						
UNCR	**Uncukul**	**2.50**	**85**	*e*Pn	**Pb**	**14 23 55.5**	**+0.4**
UNCR				*e*Sn	**Sn**	**14 24 22.5**	**+1.1**
GDB	**GEDABAY**	**2.52**	**135**	P	**Pb**	**14 23 54.0**	**-1.5**
GDB				S	**Sb**	**14 24 26.7**	**+0.1**
ZKTA	**Zakatala**	**2.55**	**109**	P	**Pb**	**14 23 56.5**	**+0.7**
ZKTA				S	**Sg**	**14 24 30.4**	**-1.4**
GNI	**Garni**	**2.58**	**157**	*e*Pn	**Pg**	**14 23 58.6**	**-0.8**
GNI				*e*Sn	**Sb**	**14 24 27.6**	**-0.7**
GUZR	**Guzeripl'**	**2.82**	**302**	*e*Pn	**Pb**	**14 23 59.8**	**-0.6**
GUZR				*e*Sn	**Sn**	**14 24 30.7**	**+1.4**
KRIK	**Erzurum-spir**	**2.88**	**221**	P	**Pb**	**14 24 01.8**	**+0.2**
GANJ	**Ganja**	**2.88**	**130**	P	**Pn**	**14 23 58.7**	**+2.7**
GANJ				S	**Sb**	**14 24 36.6**	**-0.2**

NEIC ***02*** *14:35:09.9±1.5, 55.°9S±0.°1×27.°6W±0.°2, h72km±8km, mb4.8/32, Error ellipse: s-maj=20.0km s-min=13.2km az=209.0*
IDC ***02*** *14:35:12.5±2.9, 55.°97S×27.°62W, h88km±24km, mb4.3/10, mb1 4.4/11, mb1mx4.1/24, mbtmp4.6/11, MS3.4/15, Ms1 3.4/15, ms1mx3.3/43, Error ellipse: s-maj=25.3km s-min=13.3km az=62.0*
ISC 02 14:35:12.7±0.5**, 56.°05S**±0.°08×**28.°0W**±0.°1**, h100**km**, n78,** σ**1.°52**/76**, mb4.8**/21**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.20**	**286**	Pn	**Pn**	**14 36 26.2**	**-1.7**
VNA1	**Neumayer--Stat**	**16.96**	**157**	P	**Pn**	**14 39 02.6**	**-0.8**
VNA3	**Neumayer Olymp**	**17.14**	**160**	P	**Pn**	**14 39 04.4**	**-1.2**
VNA2	**Neumayer--Watz**	**17.36**	**157**	P	**P**	**14 39 06.8**	**-1.4**
	baz=312,slow=14						
SNAA	**Sanae**	**18.92**	**156**	P	**P**	**14 39 24.4**	**-0.8**
SNAA	**Sanae**	**18.92**	**156**	P	**P**	**14 39 24.9**	**-0.4**
	2.6nm,0.3s,baz=304,slow=9.8,SNR=74						
SNAA				LR	LR	14 45 25.4	
	comp=Z,140nm,20.7s,baz=5.5,slow=32						
SNAA	**Sanae**	**18.92**	**156**	P	**P**	**14 39 24.6**	**-0.7**
TROLL	**Troll, Antarti**	**20.44**	**153**	P	**P**	**14 39 41.2**	**-0.6**
BELA	**Belgrano 2**	**22.05**	**184**	P	**P**	**14 39 59.4**	**+0.7**
BELA				IAmb	IAmb	14 40 01.7	
	comp=Z,50nm,0.9s						
USHA	**Ushuaia**	**22.76**	**256**	P	**P**	**14 40 08.8**	**+2.5**
	comp=Z,15nm,1.0s,baz=135,slow=7.1,SNR=2.8						
USHA				LR	LR	14 47 24.2	
	comp=Z,75nm,19.4s,baz=47,slow=32						
DSPA	**Despedida**	**22.98**	**258**	P	**P**	**14 40 09.2**	**+0.7**
PLTB	**Pedras Altas**	**30.18**	**313**	P	**P**	**14 41 14.5**	**+1.3**
PLTB				IAmb	IAmb	14 41 15.5	
	comp=Z,13nm,0.7s						
PLCA	**Paso Flores**	**31.57**	**281**	LR	LR	14 53 47.0	
	comp=Z,60nm,18.2s,baz=152,slow=35						
QSPA	**South Pole Qui**	**34.20**	**180**	P	**P**	**14 41 49.6**	**+1.4**
	comp=Z,16nm,0.6s,baz=200,slow=3.4,SNR=128						
QSPA				LR	LR	14 54 50.1	
	comp=Z,108nm,19.5s,baz=214,slow=34						
QSPA	**South Pole Qui**	**34.20**	**180**	P	**P**	**14 41 50.1**	**+1.8**
QSPA	**South Pole Qui**	**34.20**	**180**	P	**P**	**14 41 50.4**	**+2.1**
QSPA				pP	**pwP**	**14 42 12.8**	**-0.7**
QSPA				sP	**sP**	**14 42 19.7**	**-1.6**
CPUP	**Villa Florida**	**36.49**	**312**	P	**P**	**14 42 08.9**	**+0.9**
	comp=Z,6.9nm,1.0s,baz=150,slow=8.7,SNR=9.3						
CPUP				LR	LR	14 57 24.7	
	comp=Z,31nm,19.2s,baz=194,slow=36						
CPUP	**Villa Florida**	**36.49**	**312**	P	**P**	**14 42 07.6**	**-0.4**
CPUP				IAmb	IAmb	14 42 09.7	
	comp=Z,8.5nm,1.0s						
MT09	**Talagante**	**36.90**	**289**	P	**P**	**14 42 09.7**	**-1.9**
MT09				IAmb	IAmb	14 42 28.9	
	comp=Z,22nm,1.4s						
MT01	**Popeta**	**36.97**	**288**	P	**P**	**14 42 10.8**	**-1.3**
MT01				IAmb	IAmb	14 42 20.4	
	comp=Z,24nm,1.4s						
MT02	**Curacav**	**37.37**	**289**	P	**P**	**14 42 15.1**	**-0.5**
CO01	**Juntas del Tor**	**39.41**	**294**	P	**P**	**14 42 33.1**	**+0.2**
MAW	**Mawson**	**40.41**	**144**	P	**P**	**14 42 40.6**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=219,slow=6.0,SNR=9.4						
MAW				LR	LR	14 57 14.0	
	comp=Z,61nm,18.4s,baz=203,slow=33						
MAW	**Mawson**	**40.41**	**144**	P	**P**	**14 42 40.3**	**0.0**
SUR	**Sutherland**	**41.06**	**76**	LR	LR	14 57 11.5	
	comp=Z,78nm,18.9s,baz=220,slow=32						
AQDB	**Aquidauana**	**41.11**	**318**	P	**P**	**14 42 46.9**	**+0.2**
AC04	**Llanos de Chal**	**41.35**	**294**	P	**P**	**14 42 49.1**	**+0.5**
AC04				IAmb	IAmb	14 42 54.7	
	comp=Z,27nm,1.4s						
AC02	**Maricunga**	**41.49**	**297**	P	**P**	**14 42 51.6**	**+1.3**
AC02				IAmb	IAmb	14 42 53.0	
	comp=Z,11nm,0.8s						
AC01	**Pan de Azucar**	**42.79**	**296**	P	**P**	**14 43 01.3**	**+0.9**
GO02	**Mina Guanaco**	**43.11**	**298**	P	**P**	**14 43 04.6**	**+1.4**
GO02				IAmb	IAmb	14 43 05.2	
	comp=Z,18nm,0.7s						
BDFB	**Brasilia**	**43.15**	**331**	P	**P**	**14 43 04.9**	**+1.5**
	comp=Z,1.9nm,0.6s,baz=162,slow=6.4,SNR=4.2						
PB14	**IPOC Station P**	**43.96**	**298**	P	**P**	**14 43 10.1**	**0.0**
PB14				IAmb	IAmb	14 43 21.4	
	comp=Z,17nm,1.2s						
LVC	**Limon Verde**	**44.92**	**301**	LR	LR	15 01 30.4	
	comp=Z,15nm,21.7s,baz=164,slow=35						
LVC	**Limon Verde**	**44.92**	**301**	P	**P**	**14 43 17.8**	**-0.1**
LVC				IAmb	IAmb	14 43 20.3	
	comp=Z,8.0nm,0.7s						
LVC	**Limon Verde**	**44.92**	**301**	P	**P**	**14 43 19.3**	**+1.4**
LVC				X		14 43 32.8	
LVC				pP	**pP**	**14 43 37.9**	**-2.5**
LVC				sP	**sP**	**14 43 48.6**	**-2.6**
PB09	**IPOC Station P**	**45.78**	**301**	P	**P**	**14 43 24.3**	**0.0**
SBA	**Scott Base**	**46.05**	**184**	P	**P**	**14 43 27.3**	**+1.7**
SBA				IAmb	IAmb	14 43 29.4	
	comp=Z,18nm,1.1s						
SBA	**Scott Base**	**46.05**	**184**	P	**P**	**14 43 28.5**	**+2.9**
PB07	**IPOC Station P**	**46.15**	**301**	P	**P**	**14 43 27.9**	**+0.6**
BOSA	**Boshof**	**46.39**	**77**	LR	LR	15 00 29.2	
	comp=Z,54nm,18.7s,baz=337,slow=33						
PB01	**IPOC Station P**	**46.54**	**301**	P	**P**	**14 43 31.5**	**+1.3**
VNDA	**Vanda**	**46.55**	**183**	P	**P**	**14 43 32.1**	**+2.6**
	comp=Z,11nm,0.8s,baz=188,slow=6.3,SNR=60						
VNDA	**Vanda**	**46.55**	**183**	P	**P**	**14 43 30.4**	**+0.9**
VNDA				IAmb	IAmb	14 43 32.7	
	comp=Z,12nm,0.8s						
PB08	**IPOC Station P**	**47.15**	**302**	P	**P**	**14 43 37.0**	**+1.7**
PB08				IAmb	IAmb	14 43 37.8	
	comp=Z,8.1nm,0.6s						
SIV	**San Ignacio**	**47.26**	**314**	LR	LR	15 03 28.4	
	comp=Z,46nm,19.9s,baz=118,slow=36						
GO01	**Chusmiza**	**47.58**	**303**	P	**P**	**14 43 39.8**	**+1.0**
GO01				IAmb	IAmb	14 43 41.3	
	comp=Z,14nm,0.8s						
PB11	**IPOC Station P**	**47.72**	**302**	P	**P**	**14 43 40.5**	**+1.0**
CCD	**Concordia, Ant**	**47.75**	**170**	P	**P**	**14 43 40.3**	**+1.0**
CCD				pP	**pP**	**14 43 57.6**	**-4.6**
CCD				sP	**pwP**	**14 44 03.9**	**-1.7**
H10S2	**ASCENSION HYDR**	**48.13**	**18**	T	T	15 35 51.5	
	baz=189,slow=74						
H10S3	**ASCENSION HYDR**	**48.13**	**18**	T	T	15 35 58.1	
	baz=31,slow=74						
H10N1	**ASCENSION HYDR**	**49.25**	**18**	T	T	15 37 03.1	
	baz=188,slow=74						
H10N3	**ASCENSION HYDR**	**49.25**	**18**	T	T	15 37 09.1	
	baz=188,slow=74						
H10N2	**ASCENSION HYDR**	**49.27**	**18**	T	T	15 37 00.0	
	baz=188,slow=74						
LPAZ	**La Paz**	**50.02**	**306**	P	**P**	**14 43 59.3**	**+1.7**
	comp=Z,7.8nm,0.6s,baz=150,slow=6.6,SNR=32						
LPAZ				LR	LR	15 07 15.3	
	comp=Z,35nm,19.8s,baz=126,slow=38						
LPAZ	**La Paz**	**50.02**	**306**	P	**P**	**14 43 58.5**	**+0.9**
LPAZ				IAmb	IAmb	14 44 00.1	
	comp=Z,7.5nm,0.7s						
SAML	**Samuel**	**54.49**	**316**	P	**P**	**14 44 30.8**	**+0.8**
SAML				pP	**pP**	**14 44 48.6**	**-5.0**
SAML				sP	**pwP**	**14 44 55.2**	**-0.8**
NNA	**Nana**	**57.87**	**299**	LR	LR	15 10 48.0	
	comp=Z,15nm,21.0s,baz=154,slow=37						
MDP	**Montagnes des**	**64.23**	**333**	LR	LR	15 14 01.2	
	comp=Z,22nm,18.1s,baz=40,slow=36						
MCRA	**Macar, Loja**	**65.97**	**301**	P	**P**	**14 45 48.7**	**+0.4**
OTAV	**Otavalo**	**69.29**	**304**	P	**P**	**14 46 10.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**73.27**	**30**	P	**P**	**14 46 33.3**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=204,slow=6.8,SNR=15						
TORD	**Torodi Ar. Bea**	**73.27**	**30**	P	**P**	**14 46 31.4**	**-1.6**
SDV	**Santo Domingo**	**73.70**	**316**	LR	LR	15 20 11.2	
	comp=Z,44nm,20.4s,baz=204,slow=37						
URZ	**Urewera**	**83.66**	**200**	LR	LR	15 21 34.5	
	comp=Z,99nm,18.0s,baz=205,slow=33						
STKA	**Stephens Creek**	**91.97**	**171**	P	**P**	**14 48 12.2**	**+2.3**
	comp=Z,1.0nm,0.7s,baz=207,slow=9.0,SNR=1.6						
ASAR	**Alice Springs**	**99.12**	**163**	P	**Pdif**	**14 48 42.9**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=186,slow=3.8,SNR=17						
ASAR				PP	**PP**	**14 52 42.4**	**-2.7**
	comp=Z,0.8nm,0.9s,baz=186,slow=5.4,SNR=5.2						
WRA	**Warramunga Arr**	**102.84**	**163**	P	**Pdif**	**14 48 59.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=194,slow=4.1,SNR=6.4						
FINES	**FINESS Array B**	**124.59**	**28**	PKP	**PKiKP**	**14 54 00.7**	**+1.6**
	comp=Z,3.4nm,1.0s,baz=204,slow=4.2,SNR=5.9						
CMAR	**Chiang Mai Arr**	**125.47**	**111**	PKP	**PKPdf**	**14 54 02.3**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=236,slow=4.0,SNR=8.4						
ARCES	**ARCESS Array B**	**131.11**	**22**	PKP	**PKPdf**	**14 54 10.4**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=222,slow=1.2,SNR=4.6						
PZH	**PanZhiHua**	**133.52**	**108**	PKP	**PKiKP**	**14 54 18.1**	**-0.3**
YKA	**Yellowknife Ar**	**135.88**	**318**	SKPbc	**SKPbc**	**14 57 43.1**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=123,slow=2.7,SNR=5.7						
MKAR	**Makanchi Array**	**137.30**	**72**	PKP	**PKiKP**	**14 54 24.9**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=260,slow=0.7,SNR=5.1						
MKAR				SKPbc	**SKPbc**	**14 57 47.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=232,slow=2.9,SNR=4.1						
DLBC	**Dease Lake**	**139.97**	**307**	SKPbc	**SKPbc**	**14 57 55.7**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=130,slow=7.9,SNR=3.0						
INK	**Inuvik**	**145.53**	**321**	PKPbc	**PKPab**	**14 54 38.8**	**+0.6**
	comp=Z,3.2nm,0.4s,baz=103,slow=2.2,SNR=4.1						
ILAR	**Eielson Array**	**149.79**	**312**	PKP	**PKPdf**	**14 54 44.5**	**0.0**
	comp=Z,3.9nm,0.9s,baz=28,slow=12,SNR=5.2						
ILAR				PKPbc	**PKiKP**	**14 54 50.3**	**0.0**
	comp=Z,2.5nm,0.6s,baz=125,slow=1.6,SNR=11						
ILAR				PKPab	**PKPab**	**14 54 57.5**	**+2.2**
	comp=Z,1.9nm,0.8s,baz=58,slow=0.8,SNR=4.7						
KDAK	**Kodiak Island**	**150.43**	**297**	PKPbc	**PKPbc**	**14 54 51.8**	**+0.7**
	comp=Z,4.9nm,0.4s,baz=189,slow=6.5,SNR=1.5						
SONM	**Songino Array**	**151.16**	**87**	PKPbc	**PKPbc**	**14 54 53.5**	**+0.2**
	comp=Z,4.0nm,0.6s,baz=224,slow=3.5,SNR=33						

EAF 02 14:38:46.7±2.2**, 16.°32S**×**33.°99E, h12**km±21km**, MD4.1, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLK	**Chileka**	**1.14**	**56**	*i* P	Pb	14 39 06.3	-2.1
CLK				S	Sb	14 39 22.1	-1.1
CLK	**Chileka**	**1.14**	**56**	*i* P	Pb	14 39 06.3	-2.1
CLK				S	Sb	14 39 22.1	-1.1
BLWY	**Bulawayo**	**6.37**	**233**	*i* P	Pn	14 40 18.6	-2.0
BLWY				*i* S	Sn	14 41 28.9	-4.5
BLWY	**Bulawayo**	**6.37**	**233**	*i* P	Pn	14 40 18.6	-2.0
BLWY				*i* S	Sn	14 41 28.9	-4.5
MATP	**Matopo**	**6.62**	**231**	*i* P	Pn	14 40 22.5	-1.6
MATP				*i* S	Sn	14 41 34.8	-4.8
MATP	**Matopo**	**6.62**	**231**	*i* P	Pn	14 40 22.5	-1.6
MATP				*i* S	Sn	14 41 34.8	-4.8
MSNA	**Messina**	**7.07**	**211**	*i* P	Pn	14 40 26.1	-4.0
MSNA				*i* S	Sn	14 41 42.0	-8.5
MSNA	**Messina**	**7.07**	**211**	*i* P	Pn	14 40 26.1	-4.0
MSNA				*i* S	Sn	14 41 42.0	-8.5
MOPA	**Mopani**	**7.56**	**198**	*i* Sg	Sg	14 42 42.5	-7.1
MOPA	**Mopani**	**7.56**	**198**	*i* Sg	Sg	14 42 42.5	-7.1
CNG	**Changalane**	**10.06**	**189**	*i* P	Pn	14 41 02.8	-8.4
CNG	**Changalane**	**10.06**	**189**	*i* P	Pn	14 41 02.8	-8.4

IDC 02 14:41:02.7±8.9**, 18.°43S**×**169.°69E, h132**km±61km**, mb3.4**/3**, mb1 3.5**/4**, mb1mx3.2**/38**, mbtmp3.8**/4**, Error ellipse: s-maj=137.7km s-min=69.7km az=121.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.74**	**220**	P	Pn	14 42 12.5	+0.1
	0.8nm,0.3s,baz=3.5,slow=19,SNR=30						
DZM				S	Sn	14 43 06.9	+0.3
	1.1nm,0.3s,baz=112,slow=20,SNR=1.5						
STKA	**Stephens Creek**	**28.64**	**237**	P	P	14 46 47.5	+0.5
	1.3nm,0.5s,baz=19,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**33.39**	**262**	P	P	14 47 28.4	-0.5
	0.2nm,0.4s,baz=94,slow=8.1,SNR=7.9						
ASAR	**Alice Springs**	**33.75**	**255**	P	P	14 47 32.0	0.0
	1.4nm,0.4s,baz=82,slow=8.4,SNR=72						

IDC ***02*** *14:48:02.4±0.7, 35.°47N×3.°99W, h0km, mb3.8/12, mb1 4.0/18, mb1mx3.8/55, mbtmp3.8/18, ML3.7/6, MS3.3/13, Ms1 3.3/13, ms1mx3.0/93, Error ellipse: s-maj=20.3km s-min=12.1km az=98.0*
CNRM ***02*** *14:48:03.1, 35.°61N×3.°75W, h19km, ml4.2*
IGIL ***02*** *14:48:04.0, 35.°48N×3.°80W, h0km, ML3.6*
INMG ***02*** *14:48:04.5±2.3, 35.°54N×3.°86W, h0km, ML3.6, Error ellipse: s-maj=4.7km s-min=4.2km az=174.0*
SFS ***02*** *14:48:04.0, 35.°40N×3.°70W, ML3.9, ALBORAN SUR*
MDD ***02*** *14:48:04.1±0.3, 35.°48N×3.°80W, h0km, mb_Lg3.9/27, Error ellipse: s-maj=3.0km s-min=2.1km az=163.0*
NEIC ***02*** *14:48:04.9±1.3, 35.°49N±0.°05×3.°83W±0.°08, h10km±1km, mb4.2/4, Error ellipse: s-maj=12.9km s-min=6.5km az=239.0*
LDG ***02*** *14:48:05.7±0.3, 35.°43N×3.°74W, h10km, Ml3.8/13, Error ellipse: s-maj=5.0km s-min=3.5km az=11.0*
ISC 02 14:48:04.4±0.7**, 35.°54N**±0.°02×**3.°76W**±0.°02**, h14**km±4km**, n157,** σ**1.°99**/238**, mb3.9**/13**, MS3.2**/10**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**204**	P	**Pg**	**14 48 11.1**	**-0.6**
PALE				S	**Sg**	**14 48 16.1**	**-0.5**
PVLZ	**Peæn de**	**0.57**	**231**	P	**Pg**	**14 48 14.8**	**-0.9**
PVLZ				S	**Sg**	**14 48 23.0**	**-0.3**
EMEL	**Melilla**	**0.70**	**110**	Pg	**Pg**	**14 48 17.8**	**-0.2**
EMEL				Sg	**Sg**	**14 48 26.8**	**-0.4**
GOG	**Mont Gurugu**	**0.70**	**117**	P	**Pg**	**14 48 17.4**	**-0.7**
GOG				S	**Sg**	**14 48 27.1**	**-0.2**
EALB	**Alboran**	**0.71**	**56**	Pg	**Pg**	**14 48 17.7**	**-0.6**
EALB				Sg	**Sb**	**14 48 28.0**	**-0.2**
EALB				*i* Vmb_Lg		14 48 31.0	
AKLM	**AKL**	**1.03**	**185**	P	**Pb**	**14 48 23.6**	**-0.4**
AKLM				S	**Sn**	**14 48 38.7**	**0.0**
EMIJ	**Mijas**	**1.31**	**322**	Pg	**Pn**	**14 48 27.3**	**-1.0**
EMIJ				Sg	**Sb**	**14 48 44.3**	**-1.2**
EMIJ				*i* Vmb_Lg		14 48 47.3	
TAF	**Taforalt**	**1.32**	**123**	P	**Pn**	**14 48 27.3**	**-1.1**
TAF				S	**Sb**	**14 48 44.0**	**-1.7**
SMIR	**Smir Dam**	**1.33**	**277**	P	**Pn**	**14 48 26.0**	**-2.5**
SMIR				S	**Sb**	**14 48 37.0**	**-8.9**
SMIR	**Smir Dam**	**1.33**	**277**	P	**Pn**	**14 48 25.6**	**-2.9**
SMIR				S	**Sb**	**14 48 42.3**	**-3.6**
ELGU	**Los Guajares,**	**1.33**	**5**	Pg	**Pn**	**14 48 27.6**	**-1.0**
ELGU				Sg	**Sg**	**14 48 47.1**	**-0.2**
ELGU				*i* Vmb_Lg		14 48 50.4	
EMAL	**Malaga-Limoner**	**1.33**	**336**	P	**Pn**	**14 48 27.7**	**-0.9**
EMAL				S	**Sn**	**14 48 43.8**	**-2.3**
CHEFC	**Chefchaouen**	**1.36**	**252**	P	**Pn**	**14 48 28.7**	**-0.3**
CHEFC				S	**Sn**	**14 48 46.7**	**-0.2**
ECEU	**Ceuta**	**1.36**	**286**	Pg	**Pn**	**14 48 26.6**	**-2.4**
ECEU				Sg	**Sn**	**14 48 44.6**	**-2.2**
ECEU				*i* Vmb_Lg		14 48 47.2	
EBER	**Berja**	**1.53**	**27**	Pn	**Pn**	**14 48 30.5**	**-0.8**
EBER				Sn	**Sg**	**14 48 53.1**	**-0.6**
EBER				*i* Vmb_Lg		14 49 06.1	
JBK	**JBK**	**1.55**	**140**	P	**Pn**	**14 48 30.3**	**-1.5**
JBK				S	**Sn**	**14 48 49.6**	**-2.1**
EGOR	**Sierra Gorda,**	**1.59**	**350**	Pn	**Pn**	**14 48 31.8**	**-0.4**
EGOR				Sn	**Sb**	**14 48 54.1**	**+0.5**
EGOR				*i* Vmb_Lg		14 49 00.2	
EJIF	**Jimena Fronter**	**1.66**	**304**	Pn	**Pb**	**14 48 34.8**	**+0.1**
EQUE	**Quentar**	**1.68**	**9**	Pn	**Pn**	**14 48 33.6**	**+0.1**
EQUE				Sn	**Sb**	**14 48 55.6**	**-0.6**
EQUE				*i* Vmb_Lg		14 49 12.4	
ENIJ	**Nijar**	**1.90**	**41**	Pn	**Pn**	**14 48 34.4**	**-2.0**
ENIJ				Sn	**Sn**	**14 48 58.7**	**-1.4**
ENIJ				*i* Vmb_Lg		14 49 05.8	
LIJA	**Lijar**	**1.90**	**316**	P	**Pb**	**14 48 38.0**	**-0.9**
LIJA				S	**Sg**	**14 49 10.0**	**+4.3**
SICH	**Sidi Chahed**	**1.92**	**222**	S	Sn	14 48 39.0	-22
SICH	**Sidi Chahed**	**1.92**	**222**	P	**Pn**	**14 48 37.7**	**+1.1**
SICH				S	Sn	14 48 51.2	-9.4
CNIL	**Conil**	**2.04**	**295**	P	**Pb**	**14 48 40.0**	**-1.1**
CNIL				S	**Sg**	**14 49 12.0**	**+2.1**
LCRM	**LCR**	**2.06**	**206**	P	**Pn**	**14 48 38.2**	**-0.5**
LCRM				S	**Sb**	**14 49 06.6**	**-0.5**
ESPR	**Espera**	**2.15**	**309**	Pn	**Pn**	**14 48 40.9**	**+1.1**
ESPR				Sn	**Sn**	**14 49 05.4**	**-0.8**
ESPR				*i* Vmb_Lg		14 49 21.0	
SFS	**San Fernando**	**2.19**	**296**	S	Sn	14 48 50.1	-17
EADA	**Adamuz**	**2.70**	**346**	Pn	**Pn**	**14 48 48.9**	**+1.5**

EADA				Sn	Sn	14 49 21.8	+1.8
EADA				i Vmb_Lg		14 49 33.7	
CZD	Col de Zad	2.72	203	P	Pb	14 48 51.1	-1.9
CZD	Col de Zad	2.72	203	P	Pn	14 48 48.2	+0.3
CZD				S	Sn	14 49 22.2	+1.6
MD31	MD31	2.79	198	P	Pn	14 48 48.8	+0.1
MD31				S	Sn	14 49 21.8	-0.4
MDT	Midelt	2.81	195	Pn	Pn	14 48 47.6	-1.3
	5.7nm,0.3s,baz=88,slow=3.5,SNR=54						
MDT				LR	LR	14 49 27.1	
	comp=Z,89nm,20.9s,baz=152,slow=31						
MDT				Lg	Lg	14 49 27.8	
	33nm,0.3s,baz=288,slow=24,SNR=5.9						
MDT	Midelt	2.81	195	P	Pb	14 48 53.6	-0.7
MDT	Midelt	2.81	195	P	Pn	14 48 48.9	-0.1
ECAB	El Cabril	2.86	333	Pn	Pn	14 48 51.3	+1.8
ECAB				Sn	Sn	14 49 25.2	+1.4
EZAR	Zarzadilla de	2.86	35	Pn	Pn	14 48 49.0	-0.6
EZAR				Sn	Sn	14 49 23.3	-0.6
TDRA	Tendrara	2.88	150	P	Pg	14 48 60.0	+0.4
TDRA	Tendrara	2.88	150	P	Pn	14 48 50.1	+0.2
TDRA				S	Sn	14 49 24.2	-0.3
CART	Cartagena	3.02	47	P	Pn	14 48 51.8	+0.1
CART				S	Sn	14 49 23.3	-4.3
CART	Cartagena	3.02	47	Pn	Pn	14 48 53.0	+1.3
CART	Cartagena	3.02	47	P	Pn	14 48 50.8	-0.9
CART				S	Sn	14 49 23.7	-3.9
ZHG	ZHG	3.17	230	P	Pn	14 48 52.1	-1.7
EMIN	Mina Concepcio	3.23	314	Pn	Pn	14 48 54.9	+0.3
EMIN				Sn	Sn	14 49 30.3	-2.6
EMIN				i Vmb_Lg		14 49 33.0	
ETOB	Tobarra	3.57	29	Pn	Pn	14 49 01.1	+1.8
ETOB				i Vmb_Lg		14 50 21.2	
EGRO	El Granado	3.60	305	Pn	Pn	14 48 58.9	-0.8
EGRO				Sn	Sn	14 49 40.0	-1.9
EGRO				i Vmb_Lg		14 49 42.5	
PVAQ	Vaqueiros	3.69	301	ePn	Pn	14 49 00.6	-0.3
PVAQ				eSn	Sn	14 49 41.5	-2.8
PVAQ				A	A	14 49 53.1	
	138nm,0.7s						
PVAQ	Vaqueiros	3.69	301	Pn	Pn	14 49 00.8	-0.1
PVAQ	Vaqueiros	3.69	301	P	Pn	14 49 00.6	-0.3
PVAQ	Vaqueiros	3.69	301	P	Pn	14 49 00.6	-0.3
PVAQ				S	Sn	14 49 42.1	-2.1
PBAR	Barrancos	3.72	316	ePn	Pn	14 49 01.6	+0.3
PBAR				eSn	Sn	14 49 43.5	-1.4
PBAR				A	A	14 49 48.0	
	95nm,0.4s						
AVE	Averroes	3.76	235	P	Pn	14 49 04.0	+2.1
AVE				S	Sn	14 49 35.8	-10
PBDV	Barranco-do-Ve	3.77	298	ePn	Pn	14 49 01.8	-0.3
PBDV				eSn	Sn	14 49 43.7	-2.5
PBDV				A	A	14 50 01.0	
	89nm,0.6s						
FIGM	Figuig	3.98	148	P	Pn	14 49 05.6	+0.5
PAB	San Pablo	4.03	354	Pn	Pn	14 49 06.7	+1.0
PAB	San Pablo	4.03	354	Pn	Pn	14 49 07.0	+1.3
PAB				Sn	Sn	14 49 53.8	+1.2
PAB				i Vmb_Lg		14 50 16.5	
PCVE	Castro Verde	4.03	302	ePn	Pn	14 49 05.3	-0.3
PCVE				eSn	Sn	14 49 50.5	-2.0
PCVE				A	A	14 49 54.8	
	76nm,0.6s						
PBEJ	Beja	4.12	308	ePn	Pn	14 49 07.0	+0.1
PBEJ				eSn	Sn	14 49 53.0	-2.0
PBEJ				A	A	14 49 57.6	
	52nm,0.5s						
ESDC	Sonseca Array	4.13	358	Pn	Pn	14 49 08.7	+1.7
	5.6nm,0.3s,baz=181,slow=12,SNR=227						
ESDC				Sn	Sn	14 49 56.1	+0.9
	4.1nm,0.3s,baz=189,slow=23,SNR=5.6						
ESDC				Lg	Lg	14 50 11.7	
	6.9nm,0.3s,baz=179,slow=17,SNR=5.9						
ESDC				LR	LR	14 50 20.8	
	comp=Z,103nm,19.6s,baz=206,slow=33						
ESDC	Sonseca Array	4.13	358	Pn	Pn	14 49 08.4	+1.4
ESDC	Sonseca Array	4.13	358	Pn	Pn	14 49 08.1	+1.0
ESDC				Sn	Sn	14 49 55.7	+0.5
ESDC				i Vmb_Lg		14 50 21.2	
ESBB	Sonseca Array	4.13	358	Pn	Pn	14 49 08.6	+1.5
MORF	Marmelete	4.32	296	eP	Pn	14 49 09.0	-0.7
MORF				eS	Sn	14 49 56.5	-3.3
MORF				IAML		14 50 00.9	
	comp=N,120nm,0.3s						
MORF	Marmelete	4.32	296	ePn	Pn	14 49 09.2	-0.5
MORF				eSn	Sn	14 49 57.6	-2.2
MORF				A	A	14 50 00.6	
	comp=N,53nm,0.4s						
PFVI	Vila Bisbo	4.39	293	ePn	Pn	14 49 09.9	-0.7
PFVI				eSn	Sn	14 49 59.1	-2.3
PFVI				A	A	14 50 26.7	
	comp=N,62nm,0.5s						
PFVI	Vila Bisbo	4.39	293	Pn	Pn	14 49 09.4	-1.1
PFVI	Vila Bisbo	4.39	293	P	Pn	14 49 09.8	-0.7
PFVI	Vila Bisbo	4.39	293	P	Pn	14 49 09.8	-0.7
PTEO	Sao Teotonio	4.47	298	ePn	Pn	14 49 11.8	+0.1
PTEO				eSn	Sn	14 50 02.5	-0.9
PTEO				A	A	14 50 15.9	
	comp=N,73nm,0.7s						
PESTR	Estremoz	4.51	319	ePn	Pn	14 49 13.3	+1.0
PESTR				eSn	Sn	14 50 02.4	-2.1
PESTR				A	A	14 50 31.2	
	comp=N,57nm,0.4s						
PESTR	Estremoz	4.51	319	Pn	Pn	14 49 13.6	+1.3
EVO	Evora	4.53	313	P	Pn	14 49 13.0	+0.6
EVO				S	Sn	14 50 02.2	-2.6
EVO	Evora	4.53	313	ePn	Pn	14 49 12.9	+0.5
EVO				eSn	Sn	14 50 03.0	-1.8
EVO				A	A	14 50 04.6	
	comp=N,95nm,0.5s						
PNCL	Nicolau / Gran	4.61	305	ePn	Pn	14 49 13.4	-0.1
PNCL				eSn	Sn	14 50 04.9	-1.9
PNCL				A	A	14 50 06.9	
	comp=N,50nm,0.3s						
ECHE	Chera	4.61	28	Pn	Pn	14 49 15.0	+1.4
UCM	Universidad Co	4.78	5	P	Pn	14 49 16.4	+0.5
UCM				S	Sn	14 50 12.0	+0.9
PMRV	Marv??o	4.84	324	ePn	Pn	14 49 17.5	+0.8
PMRV				eSn	Sn	14 50 10.5	-2.0
PMRV				A	A	14 50 33.6	
	comp=N,61nm,0.6s						
EPLA	Plasencia	4.88	339	Pn	Pn	14 49 18.5	+1.3
EPLA				Sn	Sn	14 50 14.7	+1.2
EPLA				i Vmb_Lg		14 50 45.8	
PMTG	Montargil	5.01	316	ePn	Pn	14 49 19.9	+0.9
PMTG				eSn	Sn	14 50 15.0	-1.7
PMTG				A	A	14 50 18.8	
	comp=N,54nm,0.7s						
GUD	Guadarrama	5.10	357	Pn	Pn	14 49 21.4	+0.9
GUD				Sn	Sn	14 50 19.3	0.0
GUD				i Vmb_Lg		14 50 49.7	
PACT	Alcochete	5.18	310	ePn	Pn	14 49 22.4	+1.1
PACT				eSn	Sn	14 50 19.7	-1.1
PACT				A	A	14 50 33.6	
	comp=N,73nm,0.4s						
PCBR	Castelo Branco	5.21	327	ePn	Pn	14 49 22.8	+1.0
PCBR				eSn	Sn	14 50 19.6	-2.0
PCBR				A	A	14 50 59.8	
	comp=N,53nm,0.7s						
OUZM	OUZ	5.26	209	P	Pn	14 49 23.2	+0.6
LIS	Lisbon	5.35	308	ePn	Pn	14 49 24.6	+0.9
LIS				eSn	Sn	14 50 24.9	-0.1
PMST	Lisbon--Monsan	5.38	308	ePn	Pn	14 49 25.0	+0.8
PMST				eSn	Sn	14 50 23.6	-2.3
ETOR	Torete	5.44	14	Pn	Pn	14 49 26.3	+1.2
ETOR				Sn	Sn	14 50 29.4	+2.0
ETOR				i Vmb_Lg		14 51 12.3	
EMOS	Mosqueruela	5.47	27	Pn	Pn	14 49 26.9	+1.3
EMOS				Sn	Sn	14 50 29.3	+0.9
EMOS				i Vmb_Lg		14 51 29.1	
OUK	Oukaimeden	5.52	220	P	Pn	14 49 26.4	0.0
PMAFR	Mafra	5.57	309	ePn	Pn	14 49 27.5	+0.7
PMAFR				eSn	Sn	14 50 28.4	-2.2
PMAFR				A	A	14 50 42.1	
	comp=N,65nm,0.5s						
PSBE	So Bento	5.63	316	ePn	Pn	14 49 28.7	+1.0
PSBE				eSn	Sn	14 50 31.9	-0.3
PSBE				A	A	14 50 44.4	
	comp=N,55nm,0.4s						
MTE	Manteigas	5.70	329	ePn	Pn	14 49 30.4	+1.8
MTE				eSn	Sn	14 50 30.9	-2.9
MTE				A	A	14 51 18.2	
	comp=N,85nm,0.6s						
MTE	Manteigas	5.70	329	Pn	Pn	14 49 29.8	+1.2
PCAS	Casmilo, Conde	5.86	322	ePn	Pn	14 49 32.1	+1.3
PCAS				eSn	Sn	14 50 34.8	-3.0
PCAS				A	A	14 51 20.8	
	comp=N,58nm,0.7s						
COI	Coimbra	5.94	323	ePn	Pn	14 49 33.9	+2.1
COI				eSn	Sn	14 50 36.2	-3.4
COI	Coimbra	5.94	323	Pn	Pn	14 49 33.6	+1.8
PVIS	Viseu	6.11	329	ePn	Pn	14 49 35.6	+1.4
PVIS				eSn	Sn	14 50 41.3	-2.6
PVIS				A	A	14 50 54.5	
	comp=N,52nm,0.6s						
MVO	Moncorvo	6.17	336	ePn	Pn	14 49 36.6	+1.5
MVO				eSn	Sn	14 50 43.1	-2.4
MVO				A	A	14 50 52.1	
	comp=N,70nm,0.7s						
EAH	EAH	6.22	233	P	Pn	14 49 34.7	-1.1
ERTA	Horta de San J	6.29	30	Pn	Pn	14 49 37.5	+0.8
ERTA				i Vmb_Lg		14 51 44.4	
TTIG	Tnine Tigouga,	6.34	220	P	Pn	14 49 34.6	-3.0
PVRL	Vila Real	6.51	333	ePn	Pn	14 49 41.1	+1.3
PVRL				eSn	Sn	14 50 51.2	-2.7
PVRL				A	A	14 50 56.0	
	comp=N,76nm,0.5s						
POLO	Lamas de Olo	6.63	333	ePn	Pn	14 49 42.8	+1.4
POLO				eSn	Sn	14 50 53.0	-3.8
POLO				A	A	14 51 33.2	
	comp=N,26nm,0.6s						
PBRG	Braganca	6.67	340	ePn	Pn	14 49 43.2	+1.2
PBRG				eSn	Sn	14 50 56.1	-1.7
ETOS	Mallorca	6.71	49	Pn	Pn	14 49 42.0	-0.4
ETOS				Sn	Sn	14 50 55.2	-3.5
PTO	Porto	6.76	327	ePn	Pn	14 49 44.5	+1.4
PTO				eSn	Sn	14 50 57.0	-2.8
PCAB	Cabril	7.01	333	ePn	Pn	14 49 47.8	+1.3
PCAB				eSn	Sn	14 51 02.5	-3.5
ELOB	Lobios	7.16	333	Pn	Pn	14 49 49.8	+1.2
ELOB				Sn	Sn	14 51 06.8	-3.0
ELOB				i Vmb_Lg		14 52 22.6	
PGAV	Gavieira, Arco	7.32	333	ePn	Pn	14 49 52.4	+1.5
PGAV				eSn	Sn	14 51 09.9	-3.8
ELAN	Lanestosa	7.69	2	Pn	Pn	14 49 57.5	+1.6
ELAN				i Vmb_Lg		14 54 26.4	
ETSF	Etsaut	7.76	18	ePn	Pn	14 49 57.7	+0.8
ETSF				eSn	Sn	14 51 21.6	-2.9
ETSF				eSg	Sg	14 52 10.2	-3.0
	comp=N,19nm,0.9s						
SJPF	Ste Jean	7.81	14	ePn	Pn	14 49 59.9	+2.3
SJPF	Ste Jean	7.81	14	ePg	Pg	14 50 31.4	-2.5
SJPF				eSn	Sn	14 51 23.0	-2.8
SJPF				eSg	Sg	14 52 12.0	-3.0
	comp=N,30nm,0.9s						
EARI	Arriondas	7.83	352	Pn	Pn	14 49 59.4	+1.5
EARI				i Vmb_Lg		14 52 25.5	
EPF	Esparros	8.13	22	ePn	Pn	14 50 03.4	+1.5
EPF				eSn	Sn	14 51 30.5	-3.1
EPF				eSg	Sg	14 52 21.5	-3.5
	comp=N,18nm,0.7s						
TANT	Tantan	9.53	224	P	Pn	14 50 20.5	-0.7
LFF	La Frestale	10.00	19	ePn	Pn	14 50 29.4	+1.9
KEST	Kesra	10.67	85	Pn	Pn	14 50 38.9	+2.1
	comp=N,0.3nm,0.3s,baz=338,slow=12,SNR=2.2						
KEST				LR	LR	14 54 32.7	
	comp=N,169nm,20.5s,baz=246,slow=36						
PMPST	Porto Santo, M	10.69	260	ePn	Pn	14 50 39.2	+2.2
LMR	La Mourre	11.11	42	ePn	Pn	14 50 42.8	+0.1
LMR				eSn	Sn	14 52 41.2	-5.5
	comp=N,0.4nm,0.3s						
MFF	Saint Martin d	11.38	13	ePn	Pn	14 50 46.8	+0.4
MFF	Saint Martin d	11.38	13	ePg	Pn	14 51 36.9	+50
MFF				eSn	Sn	14 52 48.2	-5.1
	comp=N,0.7nm,0.3s						
SBF	Sospel	11.97	43	ePn	Pn	14 50 54.6	+0.1
SBF				eSn	Sn	14 53 01.6	-6.2
	comp=N,2.9nm,0.3s						
PGF	Pioggiola	12.13	51	ePn	Pn	14 50 56.7	-0.1
PGF				eSn	Sn	14 53 05.5	-6.4
	comp=N,4.3nm,0.6s						
MBDF	Montbardon	12.20	38	ePn	Pn	14 50 57.9	+0.1
QUIF	Quistinic	12.38	2	ePn	Pn	14 51 00.3	+0.3
QUIF				eSn	Sn	14 53 12.0	-5.6
	comp=N,1.5nm,0.3s						
SMF	Signal de Mont	12.48	25	ePn	Pn	14 51 02.8	+1.3
SGMF	Saint Gilles	12.74	4	ePn	Pn	14 51 06.3	+1.4
SGMF				eSn	Sn	14 53 20.9	-5.5
	comp=N,1.1nm,0.2s						
ROSF	Rostrenen	12.79	1	ePn	Pn	14 51 06.4	+0.7
ROSF				eSn	Sn	14 53 22.0	-5.8
	comp=N,1.1nm,0.3s						
LDF	La Druitiere	13.32	11	ePn	Pn	14 51 14.7	+1.8
DAVOX	Davos/Dischmat	15.19	38	Pn	P	14 51 41.6	-2.0
	comp=N,0.2nm,0.3s,baz=184,slow=19,SNR=3.1						
GERES	GERESS Array B	18.49	39	P	Pn	14 52 22.1	+2.0
	comp=N,0.1nm,0.3s,baz=185,slow=39,SNR=2.8						
EKA	Eskdalemuir Ar	19.80	1	P	Pn	14 52 35.5	-0.2
	baz=188,slow=12,SNR=2.0						
CLL	Collm	19.84	32	eP	Pn	14 52 37.0	+0.8
CLL				esP	sP	14 52 41.0	+0.8
TOA0	Torodi Ar. Sit	22.83	166	P	P	14 53 08.4	+1.3
TOA0				IAmb	IAmb	14 53 13.3	
	comp=Z,6.0nm,0.8s						
TORD	Torodi Ar. Bea	22.83	166	P	P	14 53 06.8	-0.3
	comp=Z,4.8nm,0.7s,baz=349,slow=9.1,SNR=15						
TORD				LR	LR	15 02 43.2	
	comp=Z,60nm,18.0s,baz=236,slow=39						
TORD	Torodi Ar. Bea	22.83	166	P	P	14 53 05.7	-1.3
IDI	Anoyia	23.32	82	P	P	14 53 14.1	+2.0
	comp=Z,4.9nm,0.9s,baz=277,slow=17,SNR=4.1						
IDI				LR	LR	15 04 04.5	
	comp=Z,34nm,20.4s,baz=266,slow=41						
IDI	Anoyia	23.32	82	P	P	14 53 13.8	+1.7
IDI				IAmb	IAmb	14 53 25.5	
	comp=Z,11nm,1.2s						
MLR	Muntele Rosu	24.55	57	P	P	14 53 26.2	+2.5
	comp=Z,3.1nm,1.0s,baz=248,slow=3.6,SNR=2.4						
MLR				LR	LR	15 03 43.3	
	comp=Z,76nm,18.3s,baz=192,slow=38						
HFS	Hagfors	27.08	19	P	P	14 53 47.1	+0.9
	comp=Z,1.7nm,0.8s,baz=235,slow=6.5,SNR=2.0						
NOA	NORSAR Array B	27.26	16	LR	LR	15 06 58.3	
	comp=Z,73nm,18.2s,baz=210,slow=42						
DBIC	Dimbokro	28.75	182	LR	LR	15 06 24.4	
	comp=Z,60nm,19.1s,baz=306,slow=38						
BRTR	Keskin Array B	29.77	71	LR	LR	15 06 32.8	
	comp=Z,19nm,21.8s,baz=331,slow=37						
ARCES	ARCESS Array B	37.63	16	P	P	14 55 21.4	+3.0
	comp=Z,2.0nm,0.9s,baz=215,slow=7.7,SNR=2.0						
ARCES				LR	LR	15 12 50.8	
	comp=Z,63nm,19.9s,baz=184,slow=39						
ABKAR	Akbulak array	47.63	53	P	P	14 56 41.0	+1.2
ZALV	Zalesovo Beam	61.40	42	P	P	14 58 20.8	+1.1
	comp=Z,1.3nm,0.6s,baz=282,slow=5.7,SNR=5.9						
MAKZ	Makanchi	62.47	51	P	P	14 58 28.5	+1.4
MKAR	Makanchi Array	62.67	50	P	P	14 58 29.3	+0.8
	comp=Z,1.4nm,0.7s,baz=287,slow=5.3,SNR=14						
MKAR	Makanchi Array	62.67	50	P	P	14 58 30.3	+1.8
YKA	Yellowknife Ar	67.80	332	P	P	14 59 01.7	+0.3
	comp=Z,1.3nm,0.8s,baz=59,slow=6.4,SNR=12						
ILAR	Eielson Array	75.92	345	P	P	14 59 51.6	+1.4
	comp=Z,0.5nm,1.1s,baz=320,slow=34,SNR=2.2						
SONM	Songino Array	76.21	41	P	P	14 59 53.3	+1.0
	comp=Z,0.5nm,0.7s,baz=308,slow=4.7,SNR=2.9						
PDAR	Pinedale Array	76.82	313	P	P	14 59 56.0	0.0
	comp=Z,0.8nm,0.7s,baz=66,slow=5.9,SNR=8.5						
SEY	Seymchan	80.02	11	LR	LR	15 40 22.7	
	comp=Z,35nm,18.6s,baz=348,slow=39						
TXAR	Lajitas Array	80.82	299	P	P	15 00 16.8	-1.2
	comp=Z,0.1nm,0.4s,baz=113,slow=6.9,SNR=1.6						
NVAR	Mina Array Bea	84.71	314	LR	LR	15 36 12.7	
	comp=Z,70nm,18.0s,baz=320,slow=34						
USRK	Ussuriysk Ar.	91.04	30	LR	LR	15 44 32.8	
	comp=Z,49nm,18.3s,baz=263,slow=37						
WRA	Warramunga Arr	140.11	78	PKP	PKPdf	15 07 33.9	+1.0
	comp=Z,0.5nm,1.1s,baz=297,slow=2.4,SNR=2.3						

*IDC **02** 14:49:10.7±1.3, 57°.02N×157°.94W, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.6/58, mbtmp3.7/8, ML3.3/1, MS3.2/6, Ms1 3.2/6, ms1mx2.7/96, Error ellipse: s-maj=44.1km s-min=18.2km az=12.0*

*AEIC **02** 14:49:11±1.0, 57°.10N±0°.04×157°.92W±0°.03, h9km±6km, ML3.8, ML3.9/36(NEIC), Error ellipse: s-maj=5.7km s-min=2.0km az=166.0*

*NEIC **02** 14:49:11.3±1.2, 57°.11N±0°.03×157°.97W±0°.07, h8km±8km, Error ellipse: s-maj=6.5km s-min=2.7km az=125.0*

ISC 02 14:49:11.9±0.6, **57°.09N**±0°.04×**157°.91W**±0°.04, **h10km, n109, σ0s.89**/99, **mb3.6**/7, **MS3.3**/4, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNE	Aniakchak Nort	0.20	205		Pg	14 49 15.2	-0.9
ANNW	Aniakchak Nort	0.21	233		Pg	14 49 16.8	+0.5
AZAC	Aniakchak	0.27	222		Pg	14 49 17.3	0.0
ANPB	Aniakchak Plen	0.36	215		Pg	14 49 18.4	-0.6
CHGN	Chignik	0.84	200		Pg	14 49 26.6	-1.5
CHGN					Sb	14 49 39.1	-0.8
CHGN	Chignik	0.84	200	IAML		14 49 39.8	
	comp=N,4μm,0.6s						
CHGN	Chignik	0.84	200	P	Pg	14 49 26.6	-1.5
	baz=19						
CHGN				S	Sb	14 49 39.1	-0.8
	baz=19						
PLBL	Peulik Blue Cr	0.85	44		Pg	14 49 27.3	-0.9
PLK1	Peulik 1	1.00	44		Pg	14 49 30.2	-0.9
PLK5	Peulik 5	1.06	31		Pg	14 49 31.7	-0.6
PLK3	Peulik 3	1.07	55		Pb	14 49 32.4	-0.1
PLK3					Sn	14 49 47.9	0.0
VNHG	Veniaminof 1	1.12	219		Pg	14 49 32.4	-0.9
VNFG	Fog Glacier, M	1.22	229		Pg	14 49 34.6	-0.6
VNFG	Fog Glacier, M	1.22	229	P	Pg	14 49 34.6	-0.6
	baz=47						
KJL	Kejulik	1.58	52		Pn	14 49 39.9	-0.1
ANCK	Angle Creek	1.71	48		Pn	14 49 41.5	-0.2
CHIR	Chirikof Islan	1.80	134		Pn	14 49 42.4	-0.5
CHIR					Sb	14 50 08.5	+1.1
CHIR	Chirikof Islan	1.80	134	IAML		14 50 10.3	
	comp=E,1μm,0.8s						
CHIR				IAML		14 50 14.0	
	comp=N,1μm,0.9s						
CHIR	Chirikof Islan	1.80	134	P	Pn	14 49 42.4	-0.5
	baz=316						
CHIR				S	Sb	14 50 08.5	+1.1
	baz=316						
SII	Sitkinak Islan	2.12	103		Pn	14 49 48.1	+0.8
SII	Sitkinak Islan	2.12	103	IAML		14 50 20.4	
	comp=N,794nm,0.8s						
SII				IAML		14 50 20.5	
	comp=E,911nm,0.7s						
SII	Sitkinak Islan	2.12	103	P	Pn	14 49 48.1	+0.8
	baz=286						
SDPT	Sand Point	2.26	220		Pn	14 49 50.0	+0.7
SDPT	Sand Point	2.26	220	IAML		14 50 28.7	
	comp=E,775nm,0.9s						
SDPT				IAML		14 50 30.9	
	comp=N,482nm,0.9s						
SDPT	Sand Point	2.26	220	P	Pn	14 49 50.0	+0.7
	baz=38						
OHAK	Old Harbor	2.52	85		Pn	14 49 52.7	-0.1
OHAK	Old Harbor	2.52	85	P	Pn	14 49 52.7	-0.1
	baz=269						
BLHA	Black Hill	2.70	241		Pn	14 49 55.8	+0.5
BLHA	Black Hill	2.70	241	P	Pn	14 49 55.8	+0.5
	baz=57						
P18K	Big Mountain,	2.71	30		Pn	14 49 54.8	-0.7
P18K	Big Mountain,	2.71	30	IAML		14 50 34.8	
	comp=E,391nm,0.7s						
P18K	Big Mountain,	2.71	30	P	Pn	14 49 54.8	-0.7
	baz=213						
PS4A	Pavlof South-4	2.82	233		Pn	14 49 57.5	+0.6
Q19K	Cape Douglas,	2.92	49		Pn	14 49 58.1	-0.3
Q19K	Cape Douglas,	2.92	49	P	Pn	14 49 58.1	-0.3
	baz=233						
KDAK	Kodiak Island	2.96	74	Pn	Pn	14 49 58.8	-0.1
	comp=E,3.9nm,0.3s,baz=239,slow=5.5,SNR=68						
KDAK				Sn	Sn	14 50 35.8	+1.4
	comp=E,3.4nm,0.3s,baz=270,slow=18,SNR=2.6						
KDAK	Kodiak Island	2.96	74		Pn	14 49 58.7	-0.1
O18K	Koktuh Hills	3.11	26		Pn	14 50 00.4	-0.6
O18K	Koktuh Hills	3.11	26	IAML		14 50 52.9	
	comp=E,288nm,0.7s						
O18K				IAML		14 50 55.3	
	comp=N,354nm,0.5s						
O18K	Koktuh Hills	3.11	26	P	Pn	14 50 00.4	-0.6
	baz=208						
P19K	Oil Pt	3.56	42		Pn	14 50 07.9	+0.8
O19K	Port Alsworth	3.63	30		Pn	14 50 07.2	-0.9
O19K	Port Alsworth	3.63	30	P	Pn	14 50 07.2	-0.9
	baz=213						
FALS	False Pass	3.82	236		Pn	14 50 10.4	-0.3
FALS	False Pass	3.82	236	P	Pn	14 50 10.4	-0.3
	baz=52						
IVE	Iliamna Volcan	3.89	39		Pn	14 50 11.4	-0.4
SSLN	Shishaldin Nor	4.12	239		Pn	14 50 15.5	+0.7
N19K	Bonanza Creek	4.13	24		Pn	14 50 14.5	-0.5
N19K	Bonanza Creek	4.13	24	IAML		14 51 31.0	
	comp=E,210nm,1.1s						
N19K				IAML		14 51 36.8	
	comp=N,191nm,0.6s						
N19K	Bonanza Creek	4.13	24	P	Pn	14 50 14.5	-0.5
	baz=207						
SVW2	Sparrevohn	4.19	16		Pn	14 50 15.6	-0.2
SVW2	Sparrevohn	4.19	16	IAML		14 51 37.8	
	comp=N,228nm,0.7s						
SVW2				IAML		14 51 38.1	
	comp=E,224nm,0.6s						
RED	Redoubt Volcan	4.27	37		Pn	14 50 16.5	-0.6
CNPM	China Poot	4.28	52		Pn	14 50 16.4	-0.7
RDWB	Redoubt West	4.30	36		Pn	14 50 17.1	-0.4
RSO	Redoubt South	4.31	36		Pn	14 50 13.6	-4.0
DFR	Drift River	4.43	36		Pn	14 50 18.9	-0.4
SPWE	Spurr West	5.01	31		Pn	14 50 27.3	+0.1
M19K	Big River Lodg	5.15	19		Pn	14 50 28.5	-0.4
M19K	Big River Lodg	5.15	19	IAML		14 52 15.3	
	comp=N,113nm,0.8s						
M19K	Big River Lodg	5.15	19	P	Pn	14 50 28.5	-0.4
	baz=202						
L19K	White Mountain	5.33	16		Pn	14 50 31.1	-0.4
L19K	White Mountain	5.33	16	P	Pn	14 50 31.1	-0.4
	baz=198						
M20K	Styx River	5.38	25		Pn	14 50 32.1	-0.1
M20K	Styx River	5.38	25	IAML		14 52 10.5	
	comp=E,103nm,0.9s						
M20K				IAML		14 52 20.5	
	comp=N,76nm,0.9s						
M20K	Styx River	5.38	25	P	Pn	14 50 32.1	-0.1
	baz=209						
L20K	Farewell, AK	5.77	19		Pn	14 50 37.5	0.0
L20K	Farewell, AK	5.77	19	P	Pn	14 50 37.5	0.0
	baz=202						
TT01	Tatalina	5.91	8		Pn	14 50 38.3	-1.1
TTA	Tatalina	5.93	8	Pn	Pn	14 50 38.3	-1.5
PPLA	Purkeypile	6.49	24		Pn	14 50 47.4	-0.1
PPLA	Purkeypile	6.49	24	P	Pn	14 50 47.4	-0.1
	baz=209						
K20K	Telida	6.57	15		Pn	14 50 47.6	-0.8
K20K	Telida	6.57	15	P	Pn	14 50 47.6	-0.8
	baz=199						
CAST	Castle Rocks	6.97	22		Pn	14 50 53.8	-0.2
CAST	Castle Rocks	6.97	22	P	Pn	14 50 53.8	-0.2
	baz=207						
CHUM	Lake Minchumin	7.35	20		Pn	14 50 58.8	-0.3
CHUM	Lake Minchumin	7.35	20	P	Pn	14 50 58.8	-0.3
	baz=205						
ANM	Nome	8.33	337		Pn	14 51 12.0	-0.5
ANM	Nome	8.33	337	P	Pn	14 51 12.0	-0.5
	baz=151						
MLY	Manley	8.68	21	Pn	Pn	14 51 16.6	-0.9
ISLE	Juniper Island	8.80	60	Pn	Pn	14 51 18.1	-1.1
WRH	Wood River Hil	8.81	29	Pn	Pn	14 51 18.0	-1.1
H21K	Melozitna Rive	8.93	14	Pn	Pn	14 51 19.4	-1.4
H21K	Melozitna Rive	8.93	14	P	Pn	14 51 19.6	-1.2
	baz=198						
CCB	Clear Creek Bu	9.03	29	Pn	Pn	14 51 22.4	+0.3
I23K	Minto, Yukon-K	9.07	23	Pn	Pn	14 51 22.3	-0.3
IMAR	Indian Mountai	9.14	11	Pn	Pn	14 51 22.5	-1.1
MDM	Murphy Dome	9.17	27	Pn	Pn	14 51 23.6	-0.5
IL31		9.37	30	Pn	Pn	14 51 27.3	+0.5
ILAR	Eielson Array	9.37	30	Pn	Pn	14 51 25.5	-1.3
	comp=N,0.2nm,0.3s,baz=216,slow=13,SNR=17						
ILAR				LR	LR	14 54 35.1	
	comp=N,53nm,20.7s,baz=254,slow=34						
ILAR	Eielson Array	9.37	30	Pn	Pn	14 51 26.1	-0.7
J25K	Salcha River,	9.69	34	Pn	Pn	14 51 31.3	+0.1
H24K	Noodor Dome	9.98	24	Pn	Pn	14 51 34.1	-1.2
BMAR	Burnt Mountain	12.05	25	Pn	Pn	14 52 02.3	-1.1
M31M	Drury Creek, Y	12.90	57	Pn	Pn	14 52 11.8	-3.4
P33M	Teslin, Yukon	13.40	66	Pn	Pn	14 52 14.2	-7.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
INK	Inuvik	15.71	35	LR	LR	14 58 58.2	
	comp=N,96nm,18.6s,baz=230,slow=37						
YKA	Yellowknife Ar	22.10	58	P	P	14 54 06.5	-0.3
	comp=N,3.3nm,1.0s,baz=272,slow=9.8,SNR=9.3						
NVAR	Mina Array Bea	31.90	109	P	P	14 55 38.8	+1.3
	comp=N,0.7nm,0.8s,baz=294,slow=8.7,SNR=7.2						
TIXI	Tiksi	32.37	325	LR	LR	15 11 30.6	
	comp=N,28nm,18.1s,baz=201,slow=41						
PDAR	Pinedale Array	33.49	94	P	P	14 55 51.7	+0.3
	comp=N,0.2nm,0.5s,baz=269,slow=7.4,SNR=2.2						
NRIK	Noril'sk	45.34	333	P	P	14 57 30.6	+1.1
	comp=N,1.4nm,0.4s,baz=78,slow=4.3,SNR=1.3						
TXAR	Lajitas Array	46.61	103	P	P	14 57 39.3	-0.9
	comp=N,0.2nm,0.5s,baz=322,slow=6.9,SNR=3.9						
BORG	Borgarnes	54.07	21	LR	LR	15 22 36.5	
	comp=N,18nm,21.5s,baz=334,slow=37						
SONM	Songino Array	54.36	304	P	P	14 58 39.5	+1.0
	comp=N,0.8nm,0.8s,baz=46,slow=7.1,SNR=6.0						
CMIG	Matias Romero	61.21	103	LR	LR	15 25 33.1	
	comp=N,36nm,18.5s,baz=46,slow=36						
AAK	Ala-Archa	71.35	322	LR	LR	15 34 09.9	
	comp=N,34nm,18.6s,baz=318,slow=38						
CMAR	Chiang Mai Arr	81.62	291	P	P	15 01 29.9	-0.1
	comp=N,0.5nm,0.8s,baz=357,slow=7.3,SNR=5.0						

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*IDC **02** 14:54:15.9±1.6, 3°.46S×145°.23E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/26, mbtmp3.6/8, ML3.5/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/51, Error ellipse: s-maj=54.9km s-min=20.6km az=110.0*

ISC 02 14:54:19.2±1.5**, 3°.5S**±0°.2×**145°.2E**±0°.3**, h22km, n10, σ1s00**/8**, mb3.5**/7**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	4.63	282	LR	LR	14 56 57.1	
	comp=Z,112nm,21.3s,baz=358,slow=35						
WRA	Warramunga Arr	19.51	212	P	P	14 58 45.4	+0.2
	0.1nm,0.3s,baz=36,slow=11,SNR=15						
ASAR	Alice Springs	22.86	208	P	P	14 59 22.1	+0.8
	1.5nm,0.9s,baz=25,slow=13,SNR=16						
FITZ	Fitzroy Crossi	24.07	231	P	P	14 59 32.4	-0.8
	2.9nm,0.6s,baz=46,slow=8.0,SNR=22						
JOW	Kunigami	34.32	332	LR	LR	15 12 23.2	
	comp=Z,22nm,20.3s,baz=58,slow=32						
CMAR	Chiang Mai Arr	50.54	297	P	P	15 03 15.6	-0.8
	0.3nm,0.7s,baz=131,slow=5.4,SNR=4.4						
PETK	Petropavlovsk-	57.36	9	P	P	15 04 05.6	0.0
	1.3nm,0.8s,baz=223,slow=9.8,SNR=1.6						
SONM	Songino Array	61.37	331	P	P	15 04 35.2	+1.6
	0.1nm,0.4s,baz=66,slow=7.0,SNR=1.5						
MKAR	Makanchi Array	74.46	321	P	P	15 05 55.9	0.0
	0.2nm,0.8s,baz=86,slow=6.1,SNR=2.6						
ILAR	Eielson Array	83.88	24	P	P	15 06 46.3	-0.7
	0.7nm,1.2s,baz=226,slow=7.3,SNR=1.9						

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*INMG **02** 14:55:56.7±1.7, 35°.54N×3°.82W, h0km, ML2.8, Error ellipse: s-maj=3.5km s-min=3.2km az=57.0*
*SFS **02** 14:55:56.0, 35°.30N×3°.70W, h24km, ML3.3, ALHUCEMAS (MARRUECOS)*
*IDC **02** 14:55:56.6±1.1, 35°.48N×3°.85W, h0km, mb3.3/5, mb1 3.6/7, mb1mx3.4/39, mbtmp3.3/7, ML3.2/2, Error ellipse: s-maj=40.3km s-min=14.5km az=96.0*
*MDD **02** 14:55:56.9±0.5, 35°.34N×3°.74W, h24km, mb_Lg3.3/25, Error ellipse: s-maj=4.4km s-min=2.2km az=171.0*
*CNRM **02** 14:55:56.1, 35°.57N×3°.75W, h22km, ml3.5*
*LDG **02** 14:55:57.6±0.3, 35°.44N×3°.69W, h10km, Ml2.8/3, Error ellipse: s-maj=5.8km s-min=3.0km az=177.0*
*IGIL **02** 14:55:57.1, 35°.34N×3°.74W, h24km, ML2.7*

ISC 02 14:55:56.8±1.0**, 35°.51N**±0°.02×**3°.78W**±0°.02**, h12km**±7km**, n93, σ1s92**/163**, mb3.4**/5**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.32	203	P	Pn	14 56 06.0	-1.3
PALE	Palemas	0.32	203	P	Pg	14 56 03.6	+0.4
PALE				S	Sg	14 56 08.4	+0.8
PVLZ	Peæn de	0.54	232	P	Pg	14 56 07.5	+0.1
PVLZ				S	Sb	14 56 15.5	-0.4
GOG	Mont Gurugu	0.71	114	P	Pn	14 56 12.0	-0.6
GOG	Mont Gurugu	0.71	114	P	Pg	14 56 10.0	-0.5
GOG				S	Sg	14 56 19.5	-0.3
EMEL	Melilla	0.71	107	Pg	Pg	14 56 09.1	-1.4
EMEL				Sg	Sg	14 56 19.3	-0.5
EALB	Alboran	0.74	55	Pg	Pg	14 56 11.0	-0.2
EALB				Sg	Sg	14 56 20.9	-0.1
EALB				i Vmb_Lg		14 56 23.5	
AKLM	AKL	1.00	184	P	Pg	14 56 16.2	+0.1
SMIR	Smir Dam	1.31	278	P	Pn	14 56 19.0	-1.9
SMIR	Smir Dam	1.31	278	P	Pn	14 56 18.2	-2.7
SMIR				S	Sb	14 56 35.5	-2.7
TAF	Taforalt	1.32	121	S	Sg	14 56 44.0	+4.7
TAF	Taforalt	1.32	121	P	Pn	14 56 19.6	-1.4
TAF				S	Sb	14 56 36.4	-2.0
EMIJ	Mijas	1.32	323	Pg	Pn	14 56 19.6	-1.5
EMIJ				Sg	Sb	14 56 36.1	-2.3
EMIJ				i Vmb_Lg		14 56 43.9	
CHEFC	Chefchaouen	1.33	253	P	Pb	14 56 22.0	+0.2
CHEFC	Chefchaouen	1.33	253	P	Pn	14 56 20.9	-0.4
CHEFC				S	Sg	14 56 40.2	+0.4
ECEU	Ceuta	1.35	287	Pg	Pn	14 56 18.5	-2.9
ECEU				Sg	Sb	14 56 35.3	-4.0
ECEU				i Vmb_Lg		14 56 37.6	
EMAL	Malaga-Limoner	1.35	337	P	Pn	14 56 20.1	-1.3
EMAL				S	Sb	14 56 36.2	-3.1
ELGU	Los Guajares,	1.36	5	Pg	Pn	14 56 20.0	-1.6
ELGU				Sg	Sb	14 56 39.1	-0.4
ELGU				i Vmb_Lg		14 56 42.3	
JBK	JBK	1.54	139	P	Pg	14 56 27.0	+0.6
JBK	JBK	1.54	139	P	Pn	14 56 22.7	-1.6
JBK				S	Sn	14 56 41.6	-2.7
EBER	Berja	1.56	27	Pg	Pn	14 56 23.0	-1.5
EBER				Sg	Sn	14 56 44.6	-0.1
EBER				i Vmb_Lg		14 56 50.9	
EGOR	Sierra Gorda,	1.62	351	Pg	Pn	14 56 24.3	-0.9
EGOR				Sg	Sn	14 56 45.7	-0.4
EGOR				i Vmb_Lg		14 56 54.9	
EJIF	Jimena Fronter	1.66	305	Pg	Pn	14 56 26.3	+0.7
EJIF				Sn	Sn	14 56 45.3	-1.5
EQUE	Quentar	1.71	9	Pn	Pn	14 56 26.1	-0.4
EQUE				Sn	Sn	14 56 48.2	-0.2
EQUE				i Vmb_Lg		14 56 58.2	
SICH	Sidi Chahed	1.89	222	S	Sn	14 56 52.8	+0.2
LIJA	Lijar	1.91	317	P	Pg	14 56 33.0	-0.4
LIJA				S	Sg	14 56 58.0	-0.2
ENIJ	Nijar	1.94	41	Pn	Pn	14 56 27.4	-2.2
ENIJ				Sn	Sn	14 56 50.6	-3.2
ENIJ				i Vmb_Lg		14 56 54.2	
LCRM	LCR	2.02	206	P	Pg	14 56 35.3	-0.3
ESPR	Espera	2.15	310	Pn	Pn	14 56 33.5	+1.0
ESPR				Sn	Sn	14 56 58.8	-0.4
ESPR				i Vmb_Lg		14 57 17.0	
CZD	Col de Zad	2.68	203	P	Pn	14 56 42.0	+1.9
CZD	Col de Zad	2.68	203	P	Pn	14 56 40.4	+0.4
CZD				S	Sn	14 57 12.5	-0.1
EADA	Adamuz	2.73	347	Pn	Pn	14 56 41.0	+0.6
EADA				Pg	Pb	14 56 44.6	-0.9
EADA				Sn	Sn	14 57 11.9	-1.4
EADA				Sg	Sb	14 57 18.1	-0.7
EADA				i Vmb_Lg		14 57 23.4	
MD31	MD31	2.76	197	P	Pn	14 56 41.4	+0.5
MD31				S	Sn	14 57 14.5	+0.4
MDT	Midelt	2.78	194	Pn	Pn	14 56 41.4	+0.3
	1.0nm,0.3s,baz=108,slow=5.8,SNR=29						
MDT				Sn	Sn	14 57 15.1	+0.5
	5.3nm,0.3s,baz=161,slow=21,SNR=6.3						
MDT				Lg	Lg	14 57 25.2	
	10nm,0.3s,baz=104,slow=22,SNR=8.0						
MDT	Midelt	2.78	194	P	Pb	14 56 43.9	-2.5
MDT	Midelt	2.78	194	P	Pn	14 56 41.5	+0.3
MDT				S	Sn	14 57 14.3	-0.4
TDRA	Tendrara	2.86	149	P	Pn	14 56 42.0	-0.4
ECAB	El Cabril	2.88	333	Pn	Pn	14 56 43.0	+0.6
ECAB				Sn	Sn	14 57 16.1	-0.9
ECAB				Sg	Sb	14 57 22.3	-0.9
ECAB				i Vmb_Lg		14 57 29.0	
EZAR	Zarzadilla de	2.90	35	Pn	Pn	14 56 42.0	-0.8
EZAR				Sn	Sn	14 57 15.4	-2.2
CART	Cartagena	3.05	46	S	Sn	14 57 15.9	-5.3
CART	Cartagena	3.05	46	P	Pn	14 56 43.0	-1.8
CART				S	Sn	14 57 17.0	-4.2
ZHG	ZHG	3.13	230	P	Pn	14 56 49.0	+3.0
ZHG	ZHG	3.13	230	P	Pn	14 56 46.2	+0.2
EMIN	Mina Concepcio	3.23	315	Pn	Pn	14 56 46.0	-1.3
EMIN				Sn	Sn	14 57 23.6	-2.2
EMIN				i Vmb_Lg		14 57 33.9	
EGRO	El Granado	3.60	305	Pn	Pn	14 56 51.9	-0.4
EGRO				i Vmb_Lg		14 57 30.5	
EGRO				Sn	Sn	14 57 31.7	-3.0
ETOB	Tobarra	3.60	29	Pn	Pn	14 56 53.0	+0.5
ETOB				Sn	Sn	14 57 35.0	0.0
ETOB				i Vmb_Lg		14 57 53.3	
PVAQ	Vaqueiros	3.69	302	ePn	Pn	14 56 53.3	-0.3
PVAQ				eSn	Sn	14 57 34.3	-2.7
PVAQ				A	A	14 57 45.8	
	16nm,0.7s						
PVAQ	Vaqueiros	3.69	302	P	Pn	14 56 52.9	-0.7
PVAQ				S	Sn	14 57 34.1	-2.9
PBAR	Barrancos	3.73	316	ePn	Pn	14 56 53.8	-0.3
PBAR				eSn	Sn	14 57 35.9	-2.0
PBAR				A	A	14 57 49.2	
	14nm,0.6s						
PBDV	Barranco-do-Ve	3.77	299	ePn	Pn	14 56 54.3	-0.4
PBDV				eSn	Sn	14 57 36.3	-2.6
PBDV				A	A	14 57 46.9	
	13nm,0.4s						
PCVE	Castro Verde	4.03	303	ePn	Pn	14 56 57.9	-0.3
PCVE				eSn	Sn	14 57 43.0	-2.3
PCVE				A	A	14 57 45.3	
	13nm,0.5s						
PAB	San Pablo	4.05	354	Pn	Pn	14 56 59.2	+0.5
PAB				Sn	Sn	14 57 44.1	-2.0
PAB				i Vmb_Lg		14 58 08.2	
PBEJ	Beja	4.13	309	ePn	Pn	14 57 00.5	+0.9
PBEJ				eSn	Sn	14 57 45.7	-2.1
PBEJ				A	A	14 57 50.0	
	9.3nm,0.4s						
ESDC	Sonseca Array	4.16	358	Pn	Pn	14 57 01.1	+1.1
	1.1nm,0.3s,baz=182,slow=12,SNR=31						
ESDC				Sn	Sn	14 57 48.4	-0.3
	0.7nm,0.3s,baz=185,slow=23,SNR=5.5						
ESDC				Lg	Lg	14 58 04.9	
	1.4nm,0.3s,baz=176,slow=29,SNR=8.0						
ESDC	Sonseca Array	4.16	358	Pn	Pn	14 57 00.3	+0.2
ESDC				Sn	Sn	14 57 45.4	-3.3
ESDC				Sg	Sb	14 58 01.4	+1.3
ESDC				i Vmb_Lg		14 58 13.2	
MORF	Marmelete	4.32	296	eP	Pn	14 57 01.1	-1.1
MORF				eS	Sn	14 57 47.9	-4.6
MORF				IAML		14 57 56.5	
	comp=N,14nm,0.3s						
MORF	Marmelete	4.32	296	ePn	Pn	14 57 01.9	-0.3
MORF				eSn	Sn	14 57 50.5	-2.0
MORF				A	A	14 57 53.6	
	comp=N,9.1nm,0.2s						
PFVI	Vila Bisbo	4.38	293	ePn	Pn	14 57 03.5	+0.4
PFVI				eSn	Sn	14 57 51.5	-2.6
PFVI				A	A	14 57 58.6	
	comp=N,9.7nm,0.5s						
PFVI	Vila Bisbo	4.38	293	P	Pn	14 57 03.6	+0.4
PTEO	Sao Teotonio	4.47	298	ePn	Pn	14 57 04.9	+0.6
PTEO				eSn	Sn	14 57 54.5	-1.6
PTEO				A	A	14 58 03.5	
	comp=N,11nm,0.4s						
PESTR	Estremoz	4.52	319	ePn	Pn	14 57 05.5	+0.4
PESTR				eSn	Sn	14 57 56.1	-1.5
PESTR				A	A	14 58 33.1	
	comp=N,11nm,0.5s						
EVO	Evora	4.53	313	P	Pn	14 57 05.2	0.0
EVO				S	Sn	14 57 54.6	-3.1
EVO	Evora	4.53	313	ePn	Pn	14 57 05.6	+0.4
EVO				eSn	Sn	14 57 55.0	-2.8
EVO				A	A	14 57 57.0	
	comp=N,19nm,0.5s						
PNCL	Nicolau / Gran	4.61	306	ePn	Pn	14 57 06.1	-0.1
PNCL				eSn	Sn	14 57 57.3	-2.3
PNCL				A	A	14 57 59.1	
	comp=N,10nm,0.5s						
ECHE	Chera	4.65	28	Pn	Pn	14 57 06.2	-0.6
ECHE				i Vmb_Lg		14 58 07.1	
UCM	Universidad Co	4.81	5	P	Pn	14 57 12.8	+3.8
UCM				S	Sn	14 58 03.6	-1.0
PMRV	Marv??o	4.85	325	ePn	Pn	14 57 09.8	+0.2
PMRV				eSn	Sn	14 58 04.0	-1.6
PMRV				A	A	14 58 21.8	
	comp=N,9.3nm,0.5s						
EPLA	Plasencia	4.89	339	Pn	Pn	14 57 09.2	-1.0
EPLA				Sn	Sn	14 58 04.2	-2.6
EPLA				i Vmb_Lg		14 58 31.7	
PMTG	Montargil	5.01	316	ePn	Pn	14 57 12.7	+0.9
PMTG				eSn	Sn	14 58 07.4	-2.3
PMTG				A	A	14 58 09.8	
	comp=N,7.2nm,0.4s						
GUD	Guadarrama	5.13	357	Pn	Pn	14 57 13.3	-0.2
GUD				Sn	Sn	14 58 11.0	-1.7
GUD				Sg	Sb	14 58 30.9	+2.7
GUD				i Vmb_Lg		14 58 45.2	
PACT	Alcochete	5.18	310	eSn	Sn	14 58 13.2	-0.5
PCBR	Castelo Branco	5.22	327	ePn	Pn	14 57 15.2	+0.6
PCBR				eSn	Sn	14 58 12.1	-2.6
PCBR				A	A	14 58 22.7	
	comp=N,6.0nm,0.6s						
OUZM	OUZ	5.22	209	P	Pn	14 57 15.9	+1.1
ETOR	Torete	5.47	14	Pn	Pn	14 57 18.1	-0.1
ETOR				Sn	Sn	14 58 20.0	-1.1
ETOR				Sg	Sb	14 58 41.9	+4.0
ETOR				i Vmb_Lg		14 58 50.2	
PSBE	So Bento	5.64	317	ePn	Pn	14 57 21.7	+1.3
PCAS	Casmilo, Conde	5.87	322	ePn	Pn	14 57 28.0	+4.4
PCAS				eSn	Sn	14 58 27.5	-3.3
PVIS	Viseu	6.12	329	ePn	Pn	14 57 27.7	+0.6
PVIS				eSn	Sn	14 58 35.0	-2.1
MVO	Moncorvo	6.19	337	ePn	Pn	14 57 29.2	+1.1
MVO				eSn	Sn	14 58 37.2	-1.6
PVRL	Vila Real	6.53	333	ePn	Pn	14 57 33.7	+1.0
PVRL				eSn	Sn	14 58 44.0	-3.1
POLO	Lamas de Olo	6.64	333	ePn	Pn	14 57 35.3	+1.0
PBRG	Braganca	6.70	341	ePn	Pn	14 57 35.9	+1.0
ETOS	Mallorca	6.74	49	Pn	Pn	14 57 33.8	-1.7
ETOS				Sn	Sn	14 58 48.7	-3.6
ETOS				i Vmb_Lg		14 59 08.2	
ELOB	Lobios	7.17	334	Pn	Pn	14 57 40.8	-0.7
ELOB				Sn	Sn	14 59 00.1	-2.8
ELOB				i Vmb_Lg		14 59 13.2	
ETSF	Etsaut	7.79	18	ePn	Pn	14 57 49.5	-0.5
ETSF				eSn	Sn	14 59 13.5	-4.6
	comp=N,0.5nm,0.2s						
SJPF	Ste Jean	7.85	14	ePn	Pn	14 57 50.1	-0.6
SJPF				eSn	Sn	14 59 14.9	-4.5
	comp=N,0.9nm,0.3s						
EPF	Esparros	8.16	22	ePn	Pn	14 57 54.1	-0.9
EPF				eSn	Sn	14 59 22.3	-4.9
	comp=N,0.8nm,0.3s						
CAF	Calviac	10.41	24	ePn	Pn	14 58 24.7	-1.1
SGMF	Saint Gilles	12.77	4	ePn	Pn	14 58 57.1	-0.9
TORD	Torodi Ar. Bea	22.81	166	P	P	15 00 59.5	0.0
	comp=N,1.0nm,0.8s,baz=345,slow=9.5,SNR=4.7						
MKAR	Makanchi Array	62.71	50	P	P	15 06 24.5	+3.0
	comp=N,0.3nm,0.7s,baz=284,slow=8.5,SNR=4.1						
YKA	Yellowknife Ar	67.82	332	P	P	15 06 55.1	+0.8
	comp=N,0.2nm,0.8s,baz=60,slow=6.8,SNR=4.8						
PDAR	Pinedale Array	76.83	313	P	P	15 07 50.0	+1.3
	comp=N,0.2nm,0.6s,baz=40,slow=7.1,SNR=2.1						
NVAR	Mina Array Bea	84.72	314	P	P	15 08 34.7	+3.7
	comp=N,0.1nm,0.3s,baz=79,slow=4.7,SNR=2.5						

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*NEIC **02** 14:57:49.6±0.6, 56°.96N±0°.03×157°.93W±0°.06, h6km±9km, Error ellipse: s-maj=5.8km s-min=2.7km az=129.0*

AEIC 02 14:57:49±0.5**, 56°.97N**±0°.03×**157°.94W**±0°.05**, h5km**±6km**, ML2.6, ML2.8**/14(NEIC)**, Error ellipse: s-maj=5.3km s-min=2.5km az=135.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNE	Aniakchak Nort	0.09	231		Pg	14 57 51.4	+0.5
ANNW	Aniakchak Nort	0.15	270		Pg	14 57 53.0	+0.9
AZAC	Aniakchak	0.18	246		Pg	14 57 53.4	+0.8
ANPB	Aniakchak Plen	0.25	229		Pg	14 57 54.6	+0.7
CHGN	Chignik	0.72	202		Pg	14 58 03.2	+0.4
CHGN	Chignik	0.72	202	IAML		14 58 14.6	
	comp=N,358nm,0.6s						
VNHG	Veniaminof 1	1.01	223		Pb	14 58 09.2	+0.2
PLK1	Peulik 1	1.10	40		Pb	14 58 10.7	+0.2
VNFG	Fog Glacier, M	1.13	233		Pb	14 58 11.1	+0.1
PLK3	Peulik 3	1.16	51		Pn	14 58 11.8	-0.1
PLK5	Peulik 5	1.18	29		Pn	14 58 12.0	0.0
PLK2	Peulik 2	1.18	47		Pn	14 58 12.2	+0.1
CHIR	Chirikof Islan	1.72	131		Pb	14 58 20.5	-0.6
SII	Sitkinak Islan	2.11	100		Pn	14 58 25.3	+0.5
SDPT	Sand Point	2.16	222		Pn	14 58 26.7	+1.2
SDPT	Sand Point	2.16	222	IAML		14 59 46.2	
	comp=E,73nm,1.9s						
SDPT				IAML		14 59 48.2	
	comp=N,95nm,2.1s						
OHAK	Old Harbor	2.55	82		Pn	14 58 31.8	+0.9
OHAK	Old Harbor	2.55	82	IAML		14 58 54.2	
	comp=E,41nm,3.5s						
OHAK				IAML		14 59 06.8	
	comp=N,40nm,3.0s						
P18K	Big Mountain,	2.82	29		Pn	14 58 34.5	-0.2
KDAK	Kodiak Island	3.01	72		Pn	14 58 38.4	+1.2

IDC 02 15:09:00.8±75.0**, 14°.45S**×**170°.81E, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.5**/40**, mbtmp3.8**/3**, Error ellipse: s-maj=1280.0km s-min=130.9km az=67.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	31.82	232	P	P	15 15 27.3	-0.1
	1.0nm,0.4s,baz=63,slow=9.0,SNR=4.9						
WRA	Warramunga Arr	35.21	256	P	P	15 15 57.1	-0.1
	0.3nm,0.6s,baz=88,slow=8.5,SNR=7.0						
ASAR	Alice Springs	35.97	250	P	P	15 16 03.6	-0.1
	1.1nm,0.5s,baz=77,slow=9.4,SNR=43						
H03S2	Juan Fernandez	98.16	128	T	T	17 13 15.2	
	baz=244						
H03S1	Juan Fernandez	98.17	128	T	T	17 13 10.6	
	baz=244						
H03S3	Juan Fernandez	98.17	128	T	T	17 13 14.7	
	baz=244						

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*ISK **02** 15:10:47.6, 34°.33N×32°.74E, h2km, ML2.8/15*
*NIC **02** 15:10:49.8±0.0, 34°.38N×32°.73E, h7km±2km, Ml2.6/6*
*GII **02** 15:10:51.3±0.0, 34°.48N×32°.76E, h20km, MD2.4/2, Mm2.6/2*

ISC 02 15:10:49.7±1.4**, 34°.40N**±0°.03×**32°.75E**±0°.04**, h2km**±12km**, n47, σ0s65**/68**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SZAC	Souni	0.37	17	P	Pb	15 10 58.5	-0.6
SZAC				S	Sb	15 11 05.7	+0.4
SZAC				AML	AML	15 11 06.6	
	6.7nm,0.4s						
SZAC				AML	AML	15 11 06.6	
	6.7nm,0.4s						
SZAC				AML	AML	15 11 09.3	
	5.9nm,0.3s						
SZAC				AML	AML	15 11 09.3	
	5.9nm,0.3s						
NATA	Nata	0.41	339	P	Pb	15 10 59.0	-0.6
NATA				S	Sb	15 11 05.5	-0.8
NATA				AML	AML	15 11 11.2	
	5.4nm,0.7s						
NATA				AML	AML	15 11 11.2	
	5.4nm,0.7s						
NATA				AML	AML	15 11 14.1	
	3.5nm,0.6s						
NATA				AML	AML	15 11 14.1	
	3.5nm,0.6s						
ASGA	Asgata	0.56	47	P	Pg	15 11 01.3	+0.8
ASGA				S	Sb	15 11 10.9	0.0
ASGA				AML	AML	15 11 12.5	
	1.5nm,0.3s						
ASGA				AML	AML	15 11 12.5	
	1.5nm,0.3s						
ASGA				AML	AML	15 11 12.6	
	1.7nm,0.4s						
ASGA				AML	AML	15 11 12.6	
	1.7nm,0.4s						
AKMS	Akamas	0.70	331	P	Pg	15 11 04.2	+1.0
CSS	Mathiatis	0.74	40	PG	Pg	15 11 03.6	-0.3
CSS				SG	Sb	15 11 15.8	-0.1
CSS	Mathiatis	0.74	40	P	Pg	15 11 04.1	+0.2
CSS				S	Sb	15 11 16.3	+0.4
CSS				AML	AML	15 11 20.3	
	0.3nm,0.5s						
CSS				AML	AML	15 11 20.3	
	0.3nm,0.5s						
CSS				AML	AML	15 11 22.4	
	0.3nm,0.3s						
CSS				AML	AML	15 11 22.4	
	0.3nm,0.3s						
ALFC	Alefka	0.77	351	P	Pg	15 11 05.0	+0.7
AKIN	Akıncılar- Kıb	0.85	44	PG	Pg	15 11 06.2	+0.2
AKDN	Akdeniz- Kıbrı	0.92	11	PG	Pg	15 11 07.8	+0.6
MVOU	Mavrovouni	0.95	50	P	Pg	15 11 08.3	+0.3
MVOU				S	Sn	15 11 23.8	-0.5
MVOU				AML	AML	15 11 27.6	
	0.5nm,0.5s						
MVOU				AML	AML	15 11 27.6	
	0.5nm,0.5s						
MVOU				AML	AML	15 11 30.0	
	0.6nm,0.4s						
MVOU				AML	AML	15 11 30.0	
	0.6nm,0.4s						
LFK	Lefkose	1.09	36	PN	Pg	15 11 10.5	-0.1
LFK				SN	Sn	15 11 27.5	-0.2
PARAL	Paralimni	1.22	60	P	Pn	15 11 13.7	-0.1
PARAL				S	Sn	15 11 32.0	+1.2
PARAL				AML	AML	15 11 34.5	
	0.5nm,0.5s						
PARAL				AML	AML	15 11 34.5	
	0.5nm,0.5s						
OSC2	CSNet OBS 4	1.38	197	P	Pb	15 11 15.5	-0.6
OSC2				S	Sn	15 11 36.0	+1.3
OSC1	CSNet OBS 1	1.52	234	P	Pn	15 11 16.4	-1.4
OSC1				S	Sg	15 11 37.7	-0.7
EREN	Erenkoy	1.62	46	PN	Pn	15 11 19.1	-0.2
TEKE	Tekeli-Mersin	1.77	10	PN	Pn	15 11 20.9	-0.4
AKK1	Akkuyu-Mersin	1.86	20	PN	Pn	15 11 22.4	-0.1
AKKU	Akkuyu-Mersin	1.88	20	PN	Pn	15 11 21.9	-0.9
TISA	Tisan-Mersin	1.92	23	PN	Pn	15 11 23.4	+0.1
BERE	Bereket-Mersin	1.98	11	PN	Pn	15 11 23.8	-0.6
IKL	Isikli	1.99	22	PN	Pn	15 11 23.9	-0.4
TEVE	Tevekalti-Mers	2.11	15	PN	Pn	15 11 26.2	+0.1
SILI	Silifke-Mersin	2.19	26	PN	Pn	15 11 27.2	+0.2
KEBE	Keben-Mersin	2.19	21	PN	Pn	15 11 27.5	+0.3
HDMB	Hadim	2.57	355	PN	Pn	15 11 32.6	+0.1
OFRI	`Ofer	2.58	133	Pn	Pn	15 11 32.0	-0.5
MMC7	Mount Meron ar	2.60	121	Pn	Pn	15 11 32.5	-0.3
MMA0B	Mount Meron ar	2.61	121	Pn	Pn	15 11 32.8	-0.1
MMA0B				Sn	Sn	15 12 04.9	-0.3
GEM	Giv'at Ha'Em	2.70	115	Pn	Pn	15 11 34.1	0.0
NATI	Neve Ativ	2.73	114	Pn	Pn	15 11 35.2	+0.6
NATI				Sn	Sn	15 12 07.0	-1.2
MERS	Mersin	2.86	30	PN	Pn	15 11 36.9	+0.6
MMLI	Mount Malkishu	2.97	130	PN	Pn	15 11 37.3	-0.6
MMLI	Mount Malkishu	2.97	130	Pn	Pn	15 11 37.9	0.0
MMLI				Sn	Sn	15 12 13.4	-0.7
SEYD	Seydisehir-KON	3.09	346	PN	Pn	15 11 40.6	+1.0
HMDT	Nahal Hemdat	3.16	132	Pn	Pn	15 11 40.7	+0.3
HMDT				Sn	Sn	15 12 18.1	-0.6
AMAZ	Amatzia	3.39	147	Pn	Pn	15 11 44.3	+0.7
AMAZ				Sn	Sn	15 12 24.7	+0.3
KARA	Karaisali	3.42	33	PN	Pn	15 11 44.8	+0.8
TAHT	Tahtakopru-Hat	3.43	54	PN	Pn	15 11 43.9	-0.3
DSI	Dead Sea	3.58	141	Pn	Pn	15 11 46.6	+0.3
DSI				Sn	Sn	15 12 28.8	-0.4
YTIR	Yattir	3.62	146	Pn	Pn	15 11 47.5	+0.6
YTIR				Sn	Sn	15 12 30.6	+0.3
CMRD	Camardi-Nigde	3.73	29	PN	Pn	15 11 49.4	+1.0
KZIT	Kziot	3.75	158	Pn	Pn	15 11 49.2	+0.6
PRNI	Paran	4.46	154	Pn	Pn	15 11 59.1	+0.7
PRNI				Sn	Sn	15 12 51.6	+0.6
KRMI	Paran Flat	4.59	158	Pn	Pn	15 12 00.4	+0.3
HRFI	Mount Harif	4.76	155	Pn	Pn	15 12 03.1	+0.6
HRFI				Sn	Sn	15 13 00.1	+1.8
MBRI	Mt Berech	4.95	158	Pn	Pn	15 12 06.0	+0.9
MBRI				Sn	Sn	15 13 03.6	+0.7
EIL	Elat	5.07	158	Pn	Pn	15 12 07.0	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EIL				Sn	**Sn**	**15 13 05.4**	**-0.5**

IDC ***02*** *15:12:05.3±2.6, 14°.70S×167°.29E, h131km±19km, mb3.6/8, mb1 3.8/10, mb1mx3.5/41, mbtmp4.2/10, Error ellipse: s-maj=26.4km s-min=17.4km az=78.0*
NOU ***02*** *15:12:07.3, 14°.72S×167°.37E, h123km, mb4.6/22, Vanuatu Islands*
ISC 02 15:12:07.2±0.8**, 14°.68S**±0°.08×**167°.3E**±0°.1**, h150km, n31,** σ**1.72**/35**, mb3.7**/7**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.78**	**189**	P	**Pn**	**15 12 27.2**	**-3.0**
DVP	**Devils Point**	**3.14**	**165**	P	**Pn**	**15 12 54.9**	**-1.5**
LIFNC	**LIFOU**	**6.07**	**181**	P	**Pn**	**15 13 33.2**	**-1.6**
	145nm,0.8s						
KOUNC	**Koumac, New Ca**	**6.52**	**206**	P	**Pn**	**15 13 40.8**	**-0.1**
MARNC	**Mare, Loyalty**	**6.80**	**174**	P	**Pn**	**15 13 43.0**	**-1.6**
YATNC	**Mamie plateau,**	**7.36**	**183**	P	**Pn**	**15 13 52.8**	**+0.8**
DZM	**Mont Dzumac**	**7.40**	**186**	P	**Pn**	**15 13 51.8**	**-1.0**
	9.4nm,0.3s,baz=72,slow=14,SNR=28						
DZM				S	**Sn**	**15 15 12.3**	**-3.3**
	1.4nm,0.3s,baz=134,slow=21,SNR=2.1						
DZM	**Mont Dzumac**	**7.40**	**186**	P	**Pn**	**15 13 52.0**	**-0.7**
NOUC	**Port Laguerre**	**7.45**	**187**	P	**Pn**	**15 13 53.6**	**+0.3**
ONTNC	**Ouen Toro**	**7.64**	**186**	P	**Pn**	**15 13 56.4**	**+0.7**
PINNC	**Pines Island,**	**7.90**	**179**	P	**Pn**	**15 13 58.8**	**-0.4**
HNR	**Honiara**	**8.90**	**305**	P	**Pn**	**15 14 12.5**	**-0.2**
	1.5nm,0.3s,baz=305,slow=12,SNR=1.7						
HNR				S	**Sn**	**15 15 49.1**	**-2.6**
	11nm,0.3s,baz=166,slow=9.7,SNR=2.2						
HNR	**Honiara**	**8.90**	**305**	P	**Pn**	**15 14 15.1**	**+2.4**
EIDS	**Eidsvold**	**18.59**	**233**	P	**Pn**	**15 16 15.3**	**+0.3**
CTA	**Charters Tower**	**20.81**	**252**	P	**P**	**15 16 37.0**	**0.0**
	6.8nm,0.9s,baz=68,slow=10,SNR=3.2						
CTA	**Charters Tower**	**20.81**	**252**	P	**P**	**15 16 38.3**	**+1.3**
RMQ	**Roma**	**20.95**	**233**	P	**P**	**15 16 40.2**	**+1.8**
OUZ	**Omahuta**	**21.22**	**166**	P	**P**	**15 16 44.0**	**+2.8**
BKZ	**Black Stump Fm**	**25.70**	**163**	P	**P**	**15 17 24.8**	**+1.4**
CMSA	**Cobar Meteorol**	**25.95**	**226**	P	**P**	**15 17 29.3**	**+3.5**
INKA	**Innaminka**	**27.91**	**238**	P	**P**	**15 17 44.8**	**+1.5**
STKA	**Stephens Creek**	**29.07**	**229**	P	**P**	**15 17 54.3**	**+0.7**
	2.2nm,0.5s,baz=45,slow=8.6,SNR=7.1						
WRA	**Warramunga Arr**	**31.89**	**256**	P	**P**	**15 18 17.0**	**-1.7**
	0.7nm,0.6s,baz=83,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**32.74**	**249**	P	**P**	**15 18 24.7**	**-1.3**
	2.0nm,0.6s,baz=78,slow=9.4,SNR=47						
ASAR				PcP	**PcP**	**15 21 08.8**	**+0.8**
	0.2nm,0.8s,baz=85,slow=2.8,SNR=0.9						
ASAR				ScP	**ScP**	**15 24 41.6**	**+3.4**
	0.2nm,0.9s,baz=95,slow=3.0,SNR=2.4						
MAW	**Mawson**	**81.95**	**202**	P	**P**	**15 24 08.1**	**-1.8**
	2.2nm,0.7s,baz=65,slow=21,SNR=2.4						
SONM	**Songino Array**	**82.49**	**324**	P	**P**	**15 24 12.2**	**-0.9**
	0.3nm,0.4s,baz=188,slow=2.9,SNR=1.7						
ILAR	**Eielson Array**	**86.46**	**18**	P	**P**	**15 24 32.3**	**-0.2**
	0.8nm,0.9s,baz=227,slow=5.2,SNR=2.7						
MKAR	**Makanchi Array**	**97.20**	**316**	P	**P**	**15 25 23.1**	**+0.3**
	0.2nm,0.7s,baz=91,slow=5.0,SNR=3.1						
ARCES	**ARCESS Array B**	**120.22**	**345**	PKP	**PKiKP**	**15 30 40.5**	**+0.6**
	1.1nm,0.8s,baz=90,slow=1.3,SNR=6.6						
FINES	**FINESS Array B**	**125.69**	**338**	PKP	**PKiKP**	**15 30 51.2**	**+0.3**
	1.1nm,0.9s,baz=348,slow=12,SNR=1.4						
TORD	**Torodi Ar. Bea**	**165.97**	**266**	PKPab	**PKPab**	**15 32 57.1**	**+1.0**
	0.6nm,1.0s,baz=136,slow=5.8,SNR=1.6						

SJA ***02*** *15:13:28.1±0.8, 29°.68S×71°.42W, h25km±2km, ML3.8, MW4.0*
GUC ***02*** *15:13:31.0±0.6, 29°.85S×71°.27W, h45km±2km, ML4.1*
NEIC ***02*** *15:13:31.2±3.0, 29°.68S±0°.04×71°.3W±0°.1, h35km±2km, mb4.0/3, ML4.1(GUC), Error ellipse: s-maj=17.3km s-min=6.4km az=276.0*
ISC 02 15:13:29.7±1.0**, 29°.69S**±0°.03×**71°.43W**±0°.04**, h40km**±9km**, n74,** σ**2.64**/110**, 1C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.28**	**144**		**Pn**	**15 13 37.6**	**-0.2**
CO05	**La Serena**	**0.28**	**144**	⇓iP	**Pn**	**15 13 38.4**	**+0.7**
CO05				eS	**Sn**	**15 13 44.3**	**+0.9**
GO04	**Tololo Observa**	**0.73**	**131**		**Pn**	**15 13 43.5**	**-0.2**
GO04	**Tololo Observa**	**0.73**	**131**	⇓iP	**Pn**	**15 13 43.6**	**-0.1**
GO04				eS	**Sn**	**15 13 53.4**	**-0.4**
GO04				IAML		15 13 54.7	
	comp=N,32μm,0.4s						
GO04	**Tololo Observa**	**0.73**	**131**	eP	**Pn**	**15 13 43.0**	**-0.7**
GO04				eS	**Sn**	**15 13 53.8**	**0.0**
LCO	**Las Campanas**	**0.93**	**43**		**Pn**	**15 13 46.4**	**-0.2**
LCO	**Las Campanas**	**0.93**	**43**	⇓iP	**Pn**	**15 13 46.3**	**-0.2**
LCO				eS	**Sn**	**15 13 57.0**	**-1.7**
LCO	**Las Campanas**	**0.93**	**43**	eP	**Pn**	**15 13 46.0**	**-0.5**
CO06	**Fray Jorge**	**0.99**	**190**		**Pn**	**15 13 48.3**	**+1.1**
CO06	**Fray Jorge**	**0.99**	**190**	⇓iP	**Pn**	**15 13 48.2**	**+1.1**
CO06				eS	**Sn**	**15 14 00.6**	**+0.5**
CO01	**Juntas del Tor**	**1.19**	**104**		**Pn**	**15 13 50.3**	**+0.2**
CO01	**Juntas del Tor**	**1.19**	**104**	⇓iP	**Pn**	**15 13 50.5**	**+0.3**
CO01				eS	**Sn**	**15 14 04.8**	**-0.4**
CO01	**Juntas del Tor**	**1.19**	**104**	eP	**Pn**	**15 13 50.4**	**+0.3**
CO01				IAML		15 14 08.4	
	comp=Z,982nm,0.6s						
CO03	**El Pedregal**	**1.31**	**151**		**Pn**	**15 13 51.8**	**+0.2**
AC04	**Llanos de Chal**	**1.51**	**12**	Pn	**Pn**	**15 13 55.5**	**+1.3**
AC04	**Llanos de Chal**	**1.51**	**12**	⇓eP	**Pn**	**15 13 55.2**	**+1.0**
AC04				eS	**Sn**	**15 14 14.2**	**+1.4**
AC04				IAML		15 14 18.1	
	comp=N,2μm,0.1s						
AC04	**Llanos de Chal**	**1.51**	**12**	eP	**Pn**	**15 13 55.4**	**+1.1**
AC04				eS	**Sn**	**15 14 16.2**	**+3.5**
AC04				IAML		15 14 17.9	
	comp=Z,753nm,0.3s						
AROD	**Rodeo**	**1.76**	**106**	eP	**Pn**	**15 14 00.0**	**+2.0**
AROD				eS	**Sn**	**15 14 22.2**	**+2.8**
ACDV	**Cuesta del Vie**	**2.06**	**104**	eP	**Pn**	**15 14 05.8**	**+3.9**
ACDV				eS	Sn	15 14 12.0	-15
ACDV				IAML		15 14 31.9	
	comp=Z,1μm,0.7s						
ACCO	**Cerro Coronel**	**2.23**	**114**	eP	**Pn**	**15 14 07.0**	**+2.5**
ACCO				eS	**Sn**	**15 14 37.2**	**+6.2**
GO03	**Copiap**	**2.34**	**27**		**Pn**	**15 14 07.3**	**+1.7**
GO03	**Copiap**	**2.34**	**27**	eP	**Pn**	**15 14 07.1**	**+1.5**
GO03	**Copiap**	**2.34**	**27**	eP	**Pn**	**15 14 07.2**	**+1.5**
GO03				eS	**Sn**	**15 14 38.8**	**+5.5**
AC06	**Mina Casimiro**	**2.51**	**22**		**Pn**	**15 14 09.9**	**+1.9**
AC06	**Mina Casimiro**	**2.51**	**22**	eP	**Pn**	**15 14 09.6**	**+1.6**
AC06				eS	**Sn**	**15 14 39.0**	**+1.7**
AC06				IAML		15 14 48.7	
	comp=E,539nm,0.2s						
RTLS	**Leoncito**	**2.79**	**139**	eP	**Pn**	**15 14 16.0**	**+3.9**
RTLS				eS	**Sn**	**15 14 49.0**	**+4.3**
RTLS				IAML		15 14 59.0	
	comp=Z,347nm,0.7s						
VA06	**Catapilco**	**2.86**	**178**		**Pn**	**15 14 14.6**	**+1.8**
VA06	**Catapilco**	**2.86**	**178**	eP	**Pn**	**15 14 14.4**	**+1.6**
VA06				eS	**Sn**	**15 14 47.4**	**+1.4**
VA06				IAML		15 15 01.5	
	comp=N,663nm,0.3s						
VCA	**Vinchina**	**2.97**	**72**	eP	**Pn**	**15 14 18.8**	**+4.3**
VCA				eP		15 14 19.0	
VCA				eS	**Sn**	**15 14 49.0**	**0.0**
VCA				eS		15 14 52.5	
VCA				IAML		15 15 05.0	
	comp=Z,629nm,0.8s						
RTLL	**Cerro Villicun**	**3.03**	**123**	eP	**Pn**	**15 14 18.8**	**+3.6**
RTLL				eP		15 14 19.0	
RTLL				eS	**Sn**	**15 14 52.0**	**+1.8**
AUSP	**Uspallata**	**3.07**	**146**	eP	Pn	15 14 12.0	-4.0
AUSP				eP		15 14 19.0	
AUSP				eS	**Sn**	**15 14 57.0**	**+5.3**
VA03	**San Esteban**	**3.15**	**166**		**Pn**	**15 14 19.2**	**+2.3**
VA03	**San Esteban**	**3.15**	**166**	eP	**Pn**	**15 14 19.2**	**+2.3**
VA03				eS	**Sn**	**15 14 55.3**	**+1.9**
VA03				IAML		15 15 10.0	
	comp=N,622nm,0.6s						
VA03	**San Esteban**	**3.15**	**166**	eP	**Pn**	**15 14 19.0**	**+2.1**
VA03				eS	**Sn**	**15 14 56.0**	**+2.6**
VA03				IAML		15 15 11.9	
	comp=Z,264nm,0.7s						
ROCH	**El Roble**	**3.29**	**174**	eP	**Pn**	**15 14 20.9**	**+2.0**
ROCH				eS	**Sn**	**15 14 58.0**	**+1.0**
ROCH				IAML		15 15 14.2	
	comp=N,395nm,0.6s						
ROC1	**El Roble**	**3.29**	**174**		**Pn**	**15 14 18.7**	**-0.3**
ROC1	**El Roble**	**3.29**	**174**	eP	**Pn**	**15 14 19.0**	**0.0**
ROC1				eS	**Sn**	**15 15 00.8**	**+3.7**
VA01	**Torpederas**	**3.33**	**183**	eP	**Pn**	**15 14 19.9**	**+0.8**
VA01				eS	**Sn**	**15 14 58.9**	**+1.4**
AC02	**Maricunga**	**3.49**	**36**	Pn	**Pn**	**15 14 23.9**	**+2.0**
AC02	**Maricunga**	**3.49**	**36**	eP	**Pn**	**15 14 24.0**	**+2.0**
AC02				eP		15 14 24.3	
AC02				eS	**Sn**	**15 15 04.0**	**+1.7**
AC02				IAML		15 15 25.6	
	comp=Z,184nm,0.8s						
PEL	**Peldehue**	**3.50**	**170**		**Pn**	**15 14 24.2**	**+2.6**
PEL	**Peldehue**	**3.50**	**170**	eP	**Pn**	**15 14 24.2**	**+2.6**
PEL				eS	**Sn**	**15 15 02.3**	**+0.5**
PEL				IAML		15 15 19.7	
	comp=E,252nm,0.8s						
PEL	**Peldehue**	**3.50**	**170**	eP	**Pn**	**15 14 24.4**	**+2.8**
PEL				eS	**Sn**	**15 15 04.0**	**+2.2**
MT02	**Curacav**	**3.57**	**176**		**Pn**	**15 14 24.0**	**+1.5**
MT02	**Curacav**	**3.57**	**176**	eP	**Pn**	**15 14 23.9**	**+1.5**
MT02				eS	**Sn**	**15 15 03.4**	**0.0**
MT02				IAML		15 15 18.9	
	comp=N,135nm,0.7s						
MT02	**Curacav**	**3.57**	**176**	eP	**Pn**	**15 14 24.0**	**+1.5**
MT02				eP		15 14 24.1	
MT02				eS	**Sn**	**15 15 05.0**	**+1.6**
MT02				IAML		15 15 20.1	
	comp=Z,157nm,0.8s						
AVFE	**Valle Fertil**	**3.57**	**107**	eP	**Pn**	**15 14 24.0**	**+1.3**
AVFE				eP		15 14 24.6	
AVFE				eS	**Sn**	**15 15 08.5**	**+4.8**
AVFE				IAML		15 15 16.9	
	comp=Z,170nm,0.6s						
AC01	**Pan de Azucar**	**3.60**	**12**	Pn	**Pn**	**15 14 22.9**	**-0.1**
MT05	**Renca**	**3.74**	**171**	Pn	**Pn**	**15 14 27.7**	**+2.8**
MT05	**Renca**	**3.74**	**171**	eP	**Pn**	**15 14 27.9**	**+3.1**
MT05				eS	**Sn**	**15 15 10.0**	**+2.3**
MT05				IAML		15 15 26.4	
	comp=E,348nm,0.4s						
MT05	**Renca**	**3.74**	**171**	eP	**Pn**	**15 14 27.5**	**+2.6**
MT05				eS	**Sn**	**15 15 12.5**	**+4.8**
MT05				eS		15 15 16.0	
MT05				IAML		15 15 26.2	
	comp=Z,168nm,0.8s						
MT03	**Universidad Ad**	**3.87**	**169**		**Pn**	**15 14 30.0**	**+3.3**
MT03	**Universidad Ad**	**3.87**	**169**	eP	**Pn**	**15 14 30.1**	**+3.3**
MT03				eS	**Sn**	**15 15 12.3**	**+1.3**
MT03	**Universidad Ad**	**3.87**	**169**	eP	**Pn**	**15 14 30.8**	**+4.0**
MT03				eS	**Sn**	**15 15 15.0**	**+3.9**
MT03				IAML		15 15 31.7	
	comp=Z,193nm,0.5s						
ACLC	**CERRO LA CRUZ**	**3.91**	**87**	eP	**Pn**	**15 14 30.0**	**+2.6**
ACLC				eS	**Sn**	**15 15 15.5**	**+3.4**
ACLC				IAML		15 15 22.4	
	comp=Z,252nm,0.7s						
MT09	**Talagante**	**4.09**	**175**		**Pn**	**15 14 31.5**	**+1.8**
MT09	**Talagante**	**4.09**	**175**	⇑eP	**Pn**	**15 14 31.6**	**+1.8**
MT09				eS	**Sn**	**15 15 17.4**	**+0.9**
MT09				IAML		15 15 31.1	
	comp=E,192nm,0.4s						
MT01	**Popeta**	**4.16**	**178**		**Pn**	**15 14 32.7**	**+2.0**
MT01	**Popeta**	**4.16**	**178**	eP	**Pn**	**15 14 32.7**	**+2.0**
MT01				IAML		15 16 07.0	
	comp=Z,127nm,0.5s						
LMEL	**Las Melosas**	**4.27**	**166**		**Pn**	**15 14 33.6**	**+1.2**
APLL	**PUNTA DE LOS L**	**4.31**	**101**	eP	**Pn**	**15 14 34.2**	**+1.5**
APLL				eS	**Sn**	**15 15 19.0**	**-2.7**
BO04	**La Punta**	**4.34**	**171**		**Pn**	**15 14 31.3**	**-1.9**
ACHE	**Chepes**	**4.37**	**111**	eP	**Pn**	**15 14 35.4**	**+1.7**
ACHE				eS	**Sn**	**15 15 24.0**	**+0.6**
BO01	**Tunca**	**4.70**	**177**		Pn	15 14 34.6	-3.4
GO02	**Mina Guanaco**	**4.80**	**20**	Pn	**Pn**	**15 14 40.4**	**+0.7**
GO02	**Mina Guanaco**	**4.80**	**20**	eP	**Pn**	**15 14 41.0**	**+1.3**
GO02				eS	**Sn**	**15 15 42.0**	**+7.8**
BO02	**Sierra Bellavi**	**5.12**	**174**	Pn	**Pn**	**15 14 46.7**	**+2.8**
MRA	**San Martin**	**5.60**	**120**	eP	Pn	15 14 46.0	-4.6
MRA				eP		15 14 51.7	
MRA				eS	**Sn**	**15 15 46.0**	**-7.8**
RFA	**San Rafael**	**5.65**	**154**	eP	**Pn**	**15 14 54.0**	**+2.8**
RFA				eS	**Sn**	**15 16 00.5**	**+5.6**
RFA				eS		15 16 15.0	
AHML	**Horco Molle**	**6.11**	**63**	eP	**Pn**	**15 15 00.5**	**+3.1**
TA02	**Huaiquique**	**9.45**	**7**		**Pn**	**15 15 42.8**	**-0.5**
PLTB	**Pedras Altas**	**15.47**	**102**	Pn	**Pn**	**15 16 59.8**	**-5.2**
PLTB				IAmb	IAmb	15 17 16.9	
	comp=Z,6.7nm,1.2s						
QSPA	**South Pole Qui**	**60.53**	**180**	P	**P**	**15 23 33.6**	**-2.0**
QSPA				IAmb	IAmb	15 23 46.9	
	comp=Z,9.0nm,1.4s						
TORD	**Torodi Ar. Bea**	**82.26**	**70**	P	**P**	**15 25 46.4**	**-0.9**
TORD				IAmb	IAmb	15 26 00.7	
	comp=Z,1.1nm,0.9s						

MOS ***02*** *15:16:59.9±1.0, 57°.31N×157°.69W, h15km, mb4.5/14, Error ellipse: s-maj=16.3km s-min=7.4km az=85.7*
AEIC ***02*** *15:17:00±1.5, 57°.17N±0°.03×157°.69W±0°.05, h12km±4km, ML4.2, mb4.3/5(NEIC), ML4.2/38(NEIC), Error ellipse: s-maj=4.7km s-min=3.7km az=139.0*
NEIC ***02*** *15:17:00.6±1.6, 57°.17N±0°.03×157°.78W±0°.06, h16km±4km, Error ellipse: s-maj=5.9km s-min=3.1km az=127.0*
IDC ***02*** *15:17:06.9±2.2, 57°.46N×157°.54W, h56km±19km, mb3.7/31, mb1 3.8/34, mb1mx3.8/57, mbtmp4.0/34, ML3.8/3, MS3.4/22, Ms1 3.4/22, ms1mx3.1/94, Error ellipse: s-maj=19.4km s-min=9.4km az=19.0*
ISC 02 15:17:00.1±1.2**, 57°.16N**±0°.03×**157°.73W**±0°.03**, h9km**±7km**, n249,** σ**1.06**/258**, mb4.2**/42**, MS3.5**/19**, 8C-5D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNE	**Aniakchak Nort**	**0.31**	**216**		**Pg**	**15 17 06.8**	**+0.6**
ANNW	**Aniakchak Nort**	**0.33**	**234**		**Pb**	**15 17 07.8**	**-0.3**
AZAC	**Aniakchak**	**0.38**	**226**		**Pb**	**15 17 08.7**	**-0.4**
PLBL	**Peulik Blue Cr**	**0.73**	**42**		**Pg**	**15 17 14.5**	**+0.2**
PLK1	**Peulik 1**	**0.89**	**43**		**Pb**	**15 17 17.2**	**-0.4**
CHGN	**Chignik**	**0.94**	**204**		**Pb**	**15 17 17.2**	**-1.3**
CHGN				Sn	**Sg**	**15 17 31.3**	**+0.9**
CHGN	**Chignik**	**0.94**	**204**	P	**Pb**	**15 17 17.7**	**-0.8**
	baz=23						
CHGN				S	**Sn**	**15 17 32.0**	**-0.9**
	baz=23						
PLK3	**Peulik 3**	**0.95**	**56**		**Pb**	**15 17 19.0**	**+0.3**
PLK3					**Sb**	**15 17 31.4**	**-0.1**
PLK5	**Peulik 5**	**0.96**	**28**		**Pb**	**15 17 19.0**	**+0.1**
VNHG	**Veniaminof 1**	**1.23**	**221**		**Pb**	**15 17 23.6**	**+0.1**
VNFG	**Fog Glacier, M**	**1.33**	**230**		**Pb**	**15 17 25.6**	**+0.3**
VNFG	**Fog Glacier, M**	**1.33**	**230**	P	**Pb**	**15 17 25.6**	**+0.3**
	baz=47						
CAHL	**Cahill**	**1.58**	**55**		**Pn**	**15 17 27.9**	**-0.4**
ACHA	**Angle Creek He**	**1.67**	**50**		**Pn**	**15 17 29.8**	**+0.2**
CHIR	**Chirikof Islan**	**1.78**	**138**		**Pn**	**15 17 31.2**	**+0.2**
CHIR				IAML		15 17 59.2	
	comp=E,2μm,0.8s						
CHIR	**Chirikof Islan**	**1.78**	**138**		**Sb**	**15 17 55.2**	**0.0**
CHIR	**Chirikof Islan**	**1.78**	**138**	P	**Pn**	**15 17 31.5**	**+0.5**
	baz=321						
CHIR				S	**Sb**	**15 17 55.2**	**0.0**
	baz=321						
SII	**Sitkinak Islan**	**2.04**	**106**	Pn	**Pn**	**15 17 35.4**	**+0.8**
SII	**Sitkinak Islan**	**2.04**	**106**		**Sb**	**15 18 03.0**	**+0.2**
SII	**Sitkinak Islan**	**2.04**	**106**	P	**Pn**	**15 17 35.5**	**+0.9**
	baz=290						
SII				S	**Sb**	**15 18 02.9**	**+0.2**
	baz=290						
SDPT	**Sand Point**	**2.38**	**221**	Pn	**Pn**	**15 17 40.1**	**+1.0**
SDPT				IAML		15 18 20.4	
	comp=E,2μm,1.1s						
SDPT				IAML		15 18 20.5	
	comp=N,1μm,0.9s						
SDPT	**Sand Point**	**2.38**	**221**	P	**Pn**	**15 17 40.3**	**+1.1**
	baz=39						
OHAK	**Old Harbor**	**2.42**	**87**		**Sn**	**15 18 10.0**	**+0.6**
OHAK	**Old Harbor**	**2.42**	**87**	Pn	**Pn**	**15 17 39.8**	**0.0**
OHAK	**Old Harbor**	**2.42**	**87**	IAML		15 18 15.9	
	comp=N,977nm,1.2s						
OHAK				IAML		15 18 20.3	
	comp=E,1μm,0.9s						
OHAK	**Old Harbor**	**2.42**	**87**	P	**Pn**	**15 17 39.6**	**-0.1**
	baz=271						
OHAK				S	**Sn**	**15 18 10.0**	**+0.6**
	baz=271						
P18K	**Big Mountain,**	**2.60**	**30**	Pn	**Pn**	**15 17 41.0**	**-1.2**
P18K	**Big Mountain,**	**2.60**	**30**		**Sn**	**15 18 15.4**	**+1.4**
P18K	**Big Mountain,**	**2.60**	**30**	P	**Pn**	**15 17 41.2**	**-1.1**
	baz=212						
P18K				S	**Sn**	**15 18 15.4**	**+1.4**
	baz=212						
Q19K	**Cape Douglas,**	**2.81**	**49**	Pn	**Pn**	**15 17 44.4**	**-0.7**
Q19K	**Cape Douglas,**	**2.81**	**49**	P	**Pn**	**15 17 44.6**	**-0.5**
	baz=233						
BLHA	**Black Hill**	**2.82**	**241**		**Pn**	**15 17 46.2**	**+0.9**
BLHA	**Black Hill**	**2.82**	**241**	P	**Pn**	**15 17 46.2**	**+0.9**
	baz=56						
KDAK	**Kodiak Island**	**2.85**	**75**	P	**Pn**	**15 17 46.0**	**+0.3**
	comp=E,18nm,0.3s,baz=222,slow=3.6,SNR=95						
KDAK				S	**Sn**	**15 18 19.7**	**-0.3**
	comp=E,24nm,0.3s,baz=294,slow=15,SNR=4.1						
KDAK				LR	LR	15 19 08.8	
	comp=E,152nm,19.1s,baz=11,slow=45						
KDAK	**Kodiak Island**	**2.85**	**75**	diP	**Pn**	**15 17 46.8**	**+1.1**
KDAK	**Kodiak Island**	**2.85**	**75**	Pn	**Pn**	**15 17 45.8**	**+0.1**
KDAK				IAML		15 18 39.3	
	comp=E,635nm,1.2s						
KDAK	**Kodiak Island**	**2.85**	**75**		**Sn**	**15 18 22.6**	**+2.5**
KDAK	**Kodiak Island**	**2.85**	**75**	S	**Sn**	**15 18 22.6**	**+2.5**
	baz=260						
O18K	**Koktuh Hills**	**3.01**	**25**		**Pn**	**15 17 47.1**	**-0.8**
O18K				IAML		15 18 44.3	
	comp=N,642nm,0.7s						
O18K				IAML		15 18 46.1	
	comp=E,836nm,0.8s						
O18K	**Koktuh Hills**	**3.01**	**25**	P	**Pn**	**15 17 47.1**	**-0.8**
	baz=207						
AUL	**Augustine Lava**	**3.18**	**44**		**Pn**	**15 17 50.1**	**-0.2**
P19K	**Oil Pt**	**3.44**	**42**		**Pn**	**15 17 53.5**	**-0.4**
P19K	**Oil Pt**	**3.44**	**42**	IAML		15 18 53.1	
	comp=N,889nm,0.9s						
P19K	**Oil Pt**	**3.44**	**42**	P	**Pn**	**15 17 53.5**	**-0.4**
	baz=226						
O19K	**Port Alsworth**	**3.53**	**29**	Pn	**Pn**	**15 17 54.1**	**-0.9**
O19K	**Port Alsworth**	**3.53**	**29**	P	**Pn**	**15 17 54.5**	**-0.4**
	baz=212						
IVE	**Iliamna Volcan**	**3.78**	**39**		**Pn**	**15 17 58.0**	**-0.5**
FALS	**False Pass**	**3.94**	**237**	Pn	**Pn**	**15 18 01.2**	**+0.5**
FALS	**False Pass**	**3.94**	**237**	P	**Pn**	**15 18 01.1**	**+0.5**
	baz=51						
O20K	**Slope Mountain**	**3.96**	**40**		**Pn**	**15 18 01.1**	**0.0**
O20K	**Slope Mountain**	**3.96**	**40**	P	**Pn**	**15 18 01.1**	**0.0**
	baz=225						
N19K	**Bonanza Creek**	**4.03**	**23**	Pn	**Pn**	**15 18 01.5**	**-0.5**
N19K				IAML		15 19 08.6	
	comp=N,466nm,0.8s						
N19K				IAML		15 19 15.0	
	comp=E,422nm,0.8s						
N19K	**Bonanza Creek**	**4.03**	**23**	P	**Pn**	**15 18 01.6**	**-0.4**
	baz=206						
SVW2	**Sparrevohn**	**4.10**	**15**	Pn	**Pn**	**15 18 02.7**	**-0.2**
SVW2				IAML		15 19 15.4	
	comp=E,431nm,1.0s						
SVW2				IAML		15 19 19.6	
	comp=N,310nm,1.0s						
CNPM	**China Poot**	**4.16**	**53**		**Pn**	**15 18 04.5**	**+0.8**
RED	**Redoubt Volcan**	**4.16**	**36**		**Pn**	**15 18 03.4**	**-0.4**
RDWB	**Redoubt West**	**4.20**	**35**		**Pn**	**15 18 04.0**	**-0.3**
RSO	**Redoubt South**	**4.20**	**36**		**Pn**	**15 18 04.4**	**-0.1**
SSLN	**Shishaldin Nor**	**4.23**	**239**		**Pn**	**15 18 05.3**	**+0.6**
RDJH	**Redoubt Jeurge**	**4.29**	**35**		**Pn**	**15 18 05.6**	**0.0**
BRLK	**Bradley Lake**	**4.44**	**51**	Pn	**Pn**	**15 18 07.9**	**+0.3**
BRSE	**Bradley Lake S**	**4.49**	**52**		**Pn**	**15 18 08.3**	**0.0**
BRSE	**Bradley Lake S**	**4.49**	**52**	P	**Pn**	**15 18 08.3**	**0.0**
	baz=238						
SPCN	**Chakachatna No**	**4.97**	**33**		**Pn**	**15 18 15.1**	**+0.2**
M19K	**Big River Lodg**	**5.05**	**18**		**Pn**	**15 18 15.6**	**-0.4**
M19K	**Big River Lodg**	**5.05**	**18**	IAML		15 19 52.1	
	comp=N,168nm,0.8s						
M19K				IAML		15 20 01.6	
	comp=E,269nm,1.1s						
M19K	**Big River Lodg**	**5.05**	**18**	P	**Pn**	**15 18 15.6**	**-0.4**
	baz=201						
SPCG	**Spurr Capps Gl**	**5.08**	**33**		**Pn**	**15 18 15.9**	**-0.4**
L19K	**White Mountain**	**5.24**	**15**		**Pn**	**15 18 17.9**	**-0.6**
L19K	**White Mountain**	**5.24**	**15**	P	**Pn**	**15 18 18.6**	**0.0**
	baz=197						
M20K	**Styx River**	**5.28**	**24**		**Pn**	**15 18 19.3**	**+0.1**
M20K	**Styx River**	**5.28**	**24**	IAML		15 19 56.4	
	comp=E,186nm,1.6s						
M20K				IAML		15 19 57.5	
	comp=N,211nm,1.1s						
M20K	**Styx River**	**5.28**	**24**	P	**Pn**	**15 18 19.3**	**+0.1**
	baz=208						
STLK	**Strandline Lak**	**5.29**	**32**		**Pn**	**15 18 19.7**	**+0.4**
L20K	**Farewell, AK**	**5.68**	**18**		**Pn**	**15 18 24.2**	**-0.3**
L20K	**Farewell, AK**	**5.68**	**18**	P	**Pn**	**15 18 24.2**	**-0.3**
	baz=202						
RC01	**Rabbit Creek A**	**5.70**	**43**		**Pn**	**15 18 25.4**	**+0.7**
TT01	**Tatalina**	**5.83**	**8**		**Pn**	**15 18 25.6**	**-1.0**
TTA	**Tatalina**	**5.85**	**8**	P	**Pn**	**15 18 25.8**	**-1.2**
TTA	**Tatalina**	**5.85**	**8**	Pn	**Pn**	**15 18 25.8**	**-1.2**
TTA	**Tatalina**	**5.85**	**8**	P	**Pn**	**15 18 25.8**	**-1.2**
	baz=189						
UNV	**Unalaska Valle**	**5.99**	**240**	P	**Pn**	**15 18 29.4**	**+0.7**
	baz=52						
M22K	**Willow**	**6.02**	**37**	Pn	**Pn**	**15 18 30.0**	**+0.8**
M22K	**Willow**	**6.02**	**37**	P	**Pn**	**15 18 29.7**	**+0.5**
	baz=224						
MSW	**Makushin Switc**	**6.08**	**241**		**Pn**	**15 18 31.1**	**+1.0**
PWL	**Port Wells**	**6.11**	**49**		**Pn**	**15 18 30.4**	**-0.1**
PMR	**Palmer**	**6.25**	**41**	P	**Pn**	**15 18 32.2**	**-0.1**
PMR	**Palmer**	**6.25**	**41**		**Pn**	**15 18 32.1**	**-0.1**
KNK	**Knik Glacier**	**6.38**	**44**	Pn	**Pn**	**15 18 34.5**	**+0.3**
KNK	**Knik Glacier**	**6.38**	**44**	P	**Pn**	**15 18 34.3**	**+0.1**
	baz=232						
PPLA	**Purkeypile**	**6.39**	**23**	Pn	**Pn**	**15 18 34.8**	**+0.3**
PPLA	**Purkeypile**	**6.39**	**23**	P	**Pn**	**15 18 34.7**	**+0.3**
	baz=208						
GHO	**Glory Hole Cre**	**6.44**	**40**		**Pn**	**15 18 34.1**	**-1.0**
K20K	**Telida**	**6.48**	**15**		**Pn**	**15 18 34.5**	**-1.0**
K20K	**Telida**	**6.48**	**15**	P	**Pn**	**15 18 34.5**	**-1.0**
	baz=198						
SML	**Sawmill**	**6.68**	**42**		**Pn**	**15 18 37.6**	**-0.7**
SML	**Sawmill**	**6.68**	**42**	P	**Pn**	**15 18 37.6**	**-0.7**
	baz=230						
SPIA	**Saint Paul Isl**	**6.81**	**275**		**Pn**	**15 18 41.4**	**+1.4**
SPIA	**Saint Paul Isl**	**6.81**	**275**	P	**Pn**	**15 18 39.6**	**-0.4**
	baz=85						
CAST	**Castle Rocks**	**6.88**	**22**		**Pn**	**15 18 40.0**	**-1.0**
CAST	**Castle Rocks**	**6.88**	**22**	P	**Pn**	**15 18 40.0**	**-1.0**
	baz=207						
EYAK	**Cordova Ski Ar**	**7.08**	**56**		**Pn**	**15 18 42.3**	**-1.5**
EYAK	**Cordova Ski Ar**	**7.08**	**56**	P	**Pn**	**15 18 42.3**	**-1.5**
	baz=247						
KTH	**Kantishna Hill**	**7.24**	**25**		**Pn**	**15 18 45.8**	**-0.3**
CHUM	**Lake Minchumin**	**7.25**	**19**		**Pn**	**15 18 45.5**	**-0.6**
CHUM	**Lake Minchumin**	**7.25**	**19**	P	**Pn**	**15 18 45.5**	**-0.6**
	baz=204						
J20K	**Nowinta River**	**7.26**	**13**		**Pn**	**15 18 45.4**	**-0.7**
J20K	**Nowinta River**	**7.26**	**13**	P	**Pn**	**15 18 45.4**	**-0.7**
	baz=196						
TRF	**Thorofare Moun**	**7.31**	**27**		**Pn**	**15 18 49.3**	**+2.3**
WAT6	**Susitna Watana**	**7.40**	**39**		**Pn**	**15 18 48.1**	**-0.2**
WAT6	**Susitna Watana**	**7.40**	**39**	P	**Pn**	**15 18 48.1**	**-0.2**
	baz=227						
KLU	**Klutina**	**7.43**	**49**		**Pn**	**15 18 48.2**	**-0.5**
KLU	**Klutina**	**7.43**	**49**	P	**Pn**	**15 18 48.2**	**-0.5**
	baz=240						
GCSA	**Galena City Sc**	**7.62**	**3**		**Pn**	**15 18 51.0**	**-0.1**
GCSA	**Galena City Sc**	**7.62**	**3**	P	**Pn**	**15 18 51.0**	**-0.1**
	baz=184						
RND	**Reindeer**	**7.66**	**31**	P	**Pn**	**15 18 53.2**	**+1.5**
RND	**Reindeer**	**7.66**	**31**		**Pn**	**15 18 53.2**	**+1.5**
M24K	**Tolsona, Glenn**	**7.67**	**45**		**Pn**	**15 18 52.8**	**+0.9**
M24K	**Tolsona, Glenn**	**7.67**	**45**	P	**Pn**	**15 18 52.6**	**+0.8**
	baz=235						
BPAW	**Bear Paw Mtn.**	**7.71**	**23**		**Pn**	**15 18 53.2**	**+0.8**
BPAW	**Bear Paw Mtn.**	**7.71**	**23**	P	**Pn**	**15 18 53.2**	**+0.8**
	baz=208						
DHY	**Denali Highway**	**7.86**	**37**		**Pn**	**15 18 54.9**	**+0.2**
MCK	**McKinley**	**7.89**	**30**	P	**Pn**	**15 18 55.1**	**+0.2**
MCK	**McKinley**	**7.89**	**30**		**Pn**	**15 18 55.1**	**+0.2**
MCK	**McKinley**	**7.89**	**30**	P	**Pn**	**15 18 55.1**	**+0.2**
	baz=217						
BERG	**Berg Lake**	**7.97**	**60**		**Pn**	**15 18 55.4**	**-0.6**
N25K	**Chitina, Valde**	**8.04**	**51**		**Pn**	**15 18 56.6**	**-0.5**
N25K	**Chitina, Valde**	**8.04**	**51**	P	**Pn**	**15 18 56.6**	**-0.5**
	baz=242						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BWN	**Browne**	**8.11**	**27**		**Pn**	**15 18 59.1**	**+1.2**
ANM	**Nome**	**8.30**	**337**	P	**Pn**	**15 19 00.3**	**-0.2**
ANM	**Nome**	**8.30**	**337**		**Pn**	**15 19 00.3**	**-0.2**
ANM	**Nome**	**8.30**	**337**	P	**Pn**	**15 19 00.8**	**+0.3**
	baz=150						
GLB	**Gilahina Butte**	**8.31**	**53**		**Pn**	**15 19 00.3**	**-0.4**
WAX	**Waxell Ridge**	**8.39**	**61**		**Pn**	**15 19 01.2**	**-0.6**
PAX	**Paxson**	**8.45**	**41**	P	**Pn**	**15 19 02.4**	**-0.2**
PAX	**Paxson**	**8.45**	**41**	Pn	**Pn**	**15 19 02.4**	**-0.2**
I21K	**Tanana**	**8.51**	**17**		**Pn**	**15 19 03.2**	**-0.1**
I21K	**Tanana**	**8.51**	**17**	P	**Pn**	**15 19 03.2**	**-0.1**
	baz=202						
NEA2	**Nenana**	**8.56**	**26**		**Pn**	**15 19 04.5**	**+0.4**
NEA2	**Nenana**	**8.56**	**26**	P	**Pn**	**15 19 04.4**	**+0.4**
	baz=214						
MLY	**Manley**	**8.59**	**20**		**Pn**	**15 19 04.4**	**0.0**
MLY	**Manley**	**8.59**	**20**	P	**Pn**	**15 19 04.4**	**0.0**
	baz=206						
ISLE	**Juniper Island**	**8.68**	**60**		**Pn**	**15 19 05.5**	**-0.4**
WRH	**Wood River Hil**	**8.71**	**29**		**Pn**	**15 19 06.2**	**+0.2**
KIAG	**Kiagna River**	**8.77**	**58**		**Pn**	**15 19 05.7**	**-1.4**
H21K	**Melozitna Rive**	**8.84**	**13**		**Pn**	**15 19 07.0**	**-0.9**
H21K	**Melozitna Rive**	**8.84**	**13**	P	**Pn**	**15 19 07.0**	**-0.9**
	baz=198						
CCB	**Clear Creek Bu**	**8.92**	**29**		**Pn**	**15 19 09.4**	**+0.5**
I23K	**Minto, Yukon-K**	**8.97**	**23**		**Pn**	**15 19 10.1**	**+0.5**
HDA	**Harding Lake**	**8.97**	**31**		**Pn**	**15 19 10.1**	**+0.4**
IM03		**9.05**	**10**		**Pn**	**15 19 11.0**	**+0.3**
IMAR	**Indian Mountai**	**9.05**	**10**		**Pn**	**15 19 12.2**	**+1.4**
MDM	**Murphy Dome**	**9.07**	**26**		**Pn**	**15 19 11.7**	**+0.7**
COLA	**College**	**9.09**	**28**	*de*P	**Pn**	**15 19 12.4**	**+1.1**
BARN	**Barnard Glacie**	**9.14**	**58**		**Pn**	**15 19 10.9**	**-1.2**
RIDG	**Independent Ri**	**9.15**	**39**		**Pn**	**15 19 12.2**	**0.0**
RIDG	**Independent Ri**	**9.15**	**39**	P	**Pn**	**15 19 12.2**	**0.0**
	baz=230						
TABL	**Table Mountain**	**9.21**	**62**		**Pn**	**15 19 09.9**	**-3.2**
IL31		**9.26**	**30**		**Pn**	**15 19 14.1**	**+0.4**
ILAR	**Eielson Array**	**9.26**	**30**	P	**Pn**	**15 19 13.2**	**-0.4**
	comp=N,0.8nm,0.3s,baz=216,slow=14,SNR=38						
ILAR				S	**Sn**	**15 20 53.2**	**-4.6**
	baz=207,slow=26,SNR=1.3						
ILAR				LR	LR	15 23 04.0	
	comp=N,167nm,18.7s,baz=212,slow=40						
ILAR	**Eielson Array**	**9.26**	**30**	P	**Pn**	**15 19 13.0**	**-0.7**
ILAR	**Eielson Array**	**9.26**	**30**	Pn	**Pn**	**15 19 13.0**	**-0.7**
POKR	**Poker Plat Res**	**9.39**	**28**		**Pn**	**15 19 14.2**	**-1.2**
M27K	**Edge Creek, AK**	**9.53**	**50**		**Pn**	**15 19 16.6**	**-0.9**
J25K	**Salcha River,**	**9.58**	**34**		**Pn**	**15 19 17.7**	**-0.4**
J25K	**Salcha River,**	**9.58**	**34**	P	**Pn**	**15 19 17.7**	**-0.4**
	baz=224						
SCRK	**Sand Creek**	**9.60**	**39**	Pn	**Pn**	**15 19 17.5**	**-0.8**
TNA	**Tin City**	**9.73**	**334**		**Pn**	**15 19 20.6**	**+0.6**
TNA	**Tin City**	**9.73**	**334**	P	**Pn**	**15 19 19.9**	**-0.1**
	baz=145						
L27K	**Beaver Creek,**	**9.88**	**47**		**Pn**	**15 19 20.1**	**-2.0**
L27K	**Beaver Creek,**	**9.88**	**47**	P	**Pn**	**15 19 22.0**	**-0.2**
	baz=240						
H24K	**Noodor Dome**	**9.88**	**24**		**Pn**	**15 19 21.7**	**-0.5**
H24K	**Noodor Dome**	**9.88**	**24**	P	**Pn**	**15 19 21.8**	**-0.3**
	baz=213						
BC03		**9.90**	**47**		**Pn**	**15 19 21.9**	**-0.4**
J26L	**Joseph Creek**	**10.08**	**37**	P	**Pn**	**15 19 24.7**	**-0.1**
	baz=230						
COLD	**Coldfoot**	**10.69**	**16**		**Pn**	**15 19 35.7**	**+2.6**
DAWY	**Dawson**	**11.33**	**45**		**Pn**	**15 19 42.0**	**+0.1**
M30M	**Minto, Yukon**	**11.81**	**54**		**Pn**	**15 19 48.0**	**-0.5**
BMAR	**Burnt Mountain**	**11.95**	**25**	Pn	**Pn**	**15 19 49.6**	**-0.7**
TOLK	**Toolik Lake Re**	**12.09**	**14**		**Pn**	**15 19 54.2**	**+1.9**
INK	**Inuvik**	**15.60**	**35**	P	**Pn**	**15 20 39.5**	**-0.2**
	comp=N,0.3nm,0.3s,baz=104,slow=16,SNR=1.2						
INK				S	**Sn**	**15 23 34.4**	**+2.0**
	comp=N,1.1nm,0.3s,baz=152,slow=4.8,SNR=3.5						
INK				LR	LR	15 26 30.7	
	comp=N,99nm,20.9s,baz=270,slow=37						
C36M	**Paulatuk**	**19.11**	**37**	P	**P**	**15 21 19.6**	**-3.2**
BILL	**Bilibino**	**19.48**	**318**	⇓*e*P	**Pn**	**15 21 27.1**	**-1.0**
BILL				pmax	pmax		
	comp=Z,12nm,1.3s						
BILL				MLR	MLR		
	comp=Z,154nm,14.0s						
A36M	**Sachs Harbour**	**19.96**	**29**	P	**P**	**15 21 27.6**	**-4.5**
A36M				IAmb	IAmb	15 21 41.9	
	comp=Z,9.6nm,0.8s						
YKA	**Yellowknife Ar**	**21.98**	**58**	P	**P**	**15 21 52.5**	**-1.5**
	comp=Z,6.7nm,0.8s,baz=270,slow=9.8,SNR=60						
YKA				PcP	**PcP**	**15 25 51.0**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=280,slow=2.1,SNR=11						
YKA	**Yellowknife Ar**	**21.98**	**58**	*e*P	**P**	**15 21 53.1**	**-0.8**
YKA				pmax	pmax		
	comp=Z,13nm,0.8s						
YKA	**Yellowknife Ar**	**21.98**	**58**	P	**P**	**15 21 53.4**	**-0.6**
SEY	**Seymchan**	**25.01**	**304**	P	**P**	**15 22 23.6**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=95,slow=8.6,SNR=12						
SEY	**Seymchan**	**25.01**	**304**	⇓*e*P	**P**	**15 22 23.6**	**-0.2**
SEY				pmax	pmax		
	comp=Z,8.0nm,1.3s						
PETK	**Petropavlovsk-**	**25.44**	**280**	P	**P**	**15 22 29.6**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=69,slow=11,SNR=4.1						
NEW	**Newport**	**25.81**	**93**	P	**P**	**15 22 31.9**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=290,slow=14,SNR=2.8						
NEW				LR	LR	15 31 43.8	
	comp=Z,60nm,18.4s,baz=92,slow=34						
MA2	**Magadan**	**26.57**	**297**	P	**P**	**15 22 38.8**	**+0.9**
	comp=Z,4.2nm,0.8s,baz=85,slow=12,SNR=7.0						
MA2				LR	LR	15 34 24.4	
	comp=Z,48nm,18.1s,baz=116,slow=39						
MA2	**Magadan**	**26.57**	**297**	⇑*e*P	**P**	**15 22 39.6**	**+1.6**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.3s						
YBH	**Yreka Blue Hor**	**27.12**	**110**	P	**P**	**15 22 46.3**	**+3.1**
	comp=Z,1.5nm,0.7s,baz=43,slow=3.3,SNR=4.4						
YBH				LR	LR	15 30 26.5	
	comp=Z,64nm,19.2s,baz=12,slow=30						
NVAR	**Mina Array Bea**	**31.83**	**109**	P	**P**	**15 23 26.4**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=304,slow=8.2,SNR=12						
NVAR				PcP	**PcP**	**15 26 15.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=300,slow=1.8,SNR=3.4						
TIXI	**Tiksi**	**32.37**	**325**	P	**P**	**15 23 29.4**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=89,slow=24,SNR=18						
TIXI				PcP	**PcP**	**15 26 14.7**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=326,slow=6.0,SNR=7.9						
TIXI				LR	LR	15 39 20.7	
	comp=Z,40nm,18.2s,baz=0.0,slow=41						
TIXI	**Tiksi**	**32.37**	**325**	⇑*i*P	**P**	**15 23 29.8**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TIXI	**Tiksi**	**32.37**	**325**	P	**P**	**15 23 30.0**	**+0.7**
R11A	**Troy Canyon, C**	**33.31**	**106**	P	**P**	**15 23 37.0**	**-1.0**
R11A				IAmb	IAmb	15 23 47.3	
	comp=Z,3.1nm,0.9s						
PDAR	**Pinedale Array**	**33.40**	**94**	P	**P**	**15 23 39.1**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=299,slow=4.0,SNR=8.7						
YAK	**Yakutsk**	**35.28**	**309**	P	**P**	**15 23 54.6**	**-0.1**
	comp=Z,6.5nm,0.5s,baz=165,slow=2.2						
YAK				LR	LR	15 39 45.9	
	comp=Z,92nm,19.7s,baz=90,slow=39						
YAK	**Yakutsk**	**35.28**	**309**	*d i*P	**P**	**15 23 54.7**	**+0.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.6s						
RSSD	**Black Hills**	**35.50**	**88**	P	**P**	**15 23 56.2**	**-0.9**
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RSSD	**Black Hills**	**35.50**	**88**	P	**P**	**15 23 56.2**	**-0.9**
RSSD				IAmb	IAmb	15 24 01.2	
	comp=Z,5.2nm,0.8s						
ULM	**Lac du Bonnet**	**36.11**	**74**	P	**P**	**15 24 01.7**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=319,slow=10,SNR=2.5						
ANMO	**Albuquerque**	**40.70**	**101**	LR	LR	15 39 41.5	
	comp=Z,50nm,18.1s,baz=26,slow=33						
ANMO	**Albuquerque**	**40.70**	**101**	⇑*e*P	**P**	**15 24 42.7**	**+1.8**
ANMO				pmax	pmax		
	comp=Z,9.0nm,3.4s						
KLR	**Kul'dur**	**41.21**	**290**	P	**P**	**15 24 46.2**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=133,slow=18						
BOD	**Bodaibo**	**44.18**	**310**	*e*P	**P**	**15 25 08.7**	**0.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SPITS	**Spitsbergen Ar**	**44.87**	**2**	P	**P**	**15 25 15.6**	**+1.6**
	comp=Z,6.7nm,1.1s,baz=25,slow=10,SNR=4.9						
NRIK	**Noril'sk**	**45.33**	**333**	P	**P**	**15 25 18.0**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=44,slow=6.5,SNR=7.1						
NRIK				LR	LR	15 50 25.5	
	comp=Z,42nm,18.1s,baz=22,slow=44						
NRIK	**Noril'sk**	**45.33**	**333**	*e*P	**P**	**15 25 17.7**	**0.0**
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TXAR	**Lajitas Array**	**46.53**	**103**	P	**P**	**15 25 28.5**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=324,slow=6.2,SNR=7.1						
TXAR				PcP	**PcP**	**15 27 02.2**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=297,slow=4.0,SNR=2.0						
TXAR				LR	LR	15 45 06.4	
	comp=Z,43nm,18.2s,baz=327,slow=36						
TXAR	**Lajitas Array**	**46.53**	**103**	P	**P**	**15 25 26.9**	**-0.9**
TXAR	**Lajitas Array**	**46.53**	**103**	P	**P**	**15 25 26.9**	**-0.9**
SCHQ	**Schefferville**	**47.23**	**52**	P	**P**	**15 25 32.2**	**-0.7**
	comp=Z,2.9nm,0.6s,baz=318,slow=6.9,SNR=6.7						
KSRS	**Korea Array**	**51.34**	**281**	P	**P**	**15 26 06.7**	**+2.2**
	comp=Z,1.3nm,1.1s,baz=31,slow=5.7,SNR=2.8						
XLT	**XiLinHaoTe**	**52.73**	**295**	*e*P	**P**	**15 26 15.6**	**+0.7**
XLT				pP	pP	15 26 20.0	+2.2
XLT				sP	sP	15 26 22.2	+3.2
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,87nm,3.7s						
BORG	**Borgarnes**	**53.97**	**21**	LR	LR	15 55 32.8	
	comp=Z,62nm,18.4s,baz=324,slow=43						
SONM	**Songino Array**	**54.40**	**304**	P	**P**	**15 26 26.8**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=43,slow=6.8,SNR=17						
SONM				LR	LR	15 52 53.4	
	comp=Z,52nm,18.4s,baz=60,slow=40						
HHC	**Hu-ho-hao-te**	**57.23**	**296**	*e*P	**P**	**15 26 48.0**	**+0.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,61nm,5.0s						
ZALV	**Zalesovo Beam**	**58.14**	**322**	P	**P**	**15 26 54.3**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=35,slow=13,SNR=5.4						
FINES	**FINESS Array B**	**61.70**	**358**	P	**P**	**15 27 15.9**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=20,slow=6.1,SNR=7.2						
FINES	**FINESS Array B**	**61.70**	**358**	*e*P	**P**	**15 27 16.8**	**-1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**61.70**	**358**	P	**P**	**15 27 15.8**	**-2.1**
NOA	**NORSAR Array B**	**61.82**	**6**	P	**P**	**15 27 17.7**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=354,slow=6.8,SNR=3.5						
HFS	**Hagfors**	**62.85**	**5**	P	**P**	**15 27 23.5**	**-2.2**
	comp=Z,1.4nm,0.7s,baz=300,slow=9.2,SNR=1.7						
HFS				LR	LR	15 53 49.4	
	comp=Z,25nm,19.9s,baz=333,slow=35						
KURK	**Kurchatov**	**62.91**	**324**	⇑*i*P	**P**	**15 27 27.0**	**+0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**63.02**	**324**	P	**P**	**15 27 26.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=26,slow=6.4,SNR=5.5						
ARU	**Arti**	**63.05**	**338**	P	**P**	**15 27 25.8**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=48,slow=6.4,SNR=5.0						
ARU				LR	LR	15 57 28.5	
	comp=Z,33nm,19.2s,baz=16,slow=39						
ARU	**Arti**	**63.05**	**338**	*c i*P	**P**	**15 27 27.0**	**0.0**
ARU				S	**S**	**15 35 59.4**	**+2.3**
ARU				SS	**SS**	**15 40 03.4**	**+1.8**
ARU				pmax	pmax		
	comp=Z,12nm,2.0s						
BRVK	**Borovoye**	**63.35**	**330**	⇑*e*P	**P**	**15 27 31.3**	**+2.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
GTA	**Gaotai**	**63.95**	**303**	*e*P	**P**	**15 27 34.5**	**+1.1**
GTA				pP	sP	15 27 41.5	+4.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**65.03**	**319**	P	**P**	**15 27 40.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=336,slow=2.7,SNR=2.9						
MKAR				LR	LR	15 58 20.3	
	comp=Z,35nm,19.5s,baz=26,slow=38						
WMQ	**Urumqi**	**65.51**	**314**	*e*P	**P**	**15 27 46.0**	**+2.6**
AKTO	**Aktyubinsk**	**68.79**	**336**	P	**P**	**15 28 03.1**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=19,slow=8.5,SNR=3.1						
AKTO				LR	LR	16 04 37.5	
	comp=Z,35nm,18.4s,baz=359,slow=42						
AAK	**Ala-Archa**	**71.36**	**322**	P	**P**	**15 28 20.9**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=17,slow=7.2,SNR=3.6						
AAK				LR	LR	16 02 27.4	
	comp=Z,66nm,19.1s,baz=54,slow=38						
AKASG	**Malin Array Be**	**72.35**	**355**	P	**P**	**15 28 23.8**	**-1.9**
	comp=Z,2.6nm,0.6s,baz=8.2,slow=6.1,SNR=11						
AKASG				LR	LR	16 02 00.3	
	comp=Z,25nm,19.5s,baz=48,slow=37						
AKBB	**Malin Array Si**	**72.35**	**355**	⇑*e*P	**P**	**15 28 24.0**	**-1.7**
PZH	**PanZhiHua**	**73.56**	**293**	P	**P**	**15 28 31.0**	**-2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
KHC	**Kasperske Hory**	**73.83**	**6**	⇑*e*P	**P**	**15 28 34.7**	**+0.1**
KHC				pmax	pmax		
	comp=Z,14nm,2.0s						
GERES	**GERESS Array B**	**74.12**	**6**	P	**P**	**15 28 34.9**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=357,slow=5.3,SNR=6.5						
GERES	**GERESS Array B**	**74.12**	**6**	*e*P	**P**	**15 28 37.3**	**+0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ESDC	**Sonseca Array**	**81.03**	**20**	P	**P**	**15 29 14.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=344,slow=5.2,SNR=5.7						
ESDC				LR	LR	16 05 08.2	
	comp=Z,20nm,21.7s,baz=344,slow=36						
GNI	**Garni**	**81.22**	**343**	LR	LR	16 10 58.7	
	comp=Z,34nm,18.7s,baz=21,slow=40						
CMAR	**Chiang Mai Arr**	**81.68**	**291**	P	**P**	**15 29 18.0**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=12,slow=5.6,SNR=8.3						
CMAR				LR	LR	16 08 27.5	
	comp=Z,6.8nm,18.2s,baz=160,slow=38						
CMAR	**Chiang Mai Arr**	**81.68**	**291**	*e*P	**P**	**15 29 19.7**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**83.00**	**351**	P	**P**	**15 29 25.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=36,slow=15,SNR=1.5						
BOSA	**Boshof**	**151.39**	**355**	PKPbc	**PKPbc**	**15 36 51.8**	**-2.1**
	comp=Z,4.6nm,1.0s,baz=4.6,slow=6.7,SNR=2.7						

IDC ***02*** *15:21:12.5±2.0, 20°.21S×177°.86W, h571km±19km, mb3.3/13, mb1 3.5/15, mb1mx3.3/39, mbtmp4.2/15, Error ellipse: s-maj=39.6km s-min=12.2km az=151.0*

ISC 02 15:21:12.1±1.2**, 20°.2S**±0°.3×**177°.9W**±0°.2**, h569**km**, n18,** σ0s.99/19**, mb3.8**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.57**	**302**	P	**P**	**15 22 39.9**	**0.0**
	1.3nm,0.3s,baz=196,slow=5.8,SNR=3.9						
DZM	**Mont Dzumac**	**14.75**	**260**	P	**P**	**15 24 18.2**	**-0.7**
	0.5nm,0.3s,baz=77,slow=20,SNR=4.0						
CTA	**Charters Tower**	**33.64**	**264**	P	**P**	**15 27 07.1**	**+0.5**
	12nm,0.5s,baz=88,slow=10.0,SNR=34						
STKA	**Stephens Creek**	**38.02**	**244**	P	**P**	**15 27 42.8**	**+0.1**
	2.5nm,0.5s,baz=77,slow=11,SNR=7.8						
JAY	**Jayapura**	**44.06**	**288**	P	**P**	**15 28 31.9**	**+1.1**
	11nm,0.6s,baz=141,slow=5.7,SNR=7.5						
ASAR	**Alice Springs**	**44.70**	**256**	P	**P**	**15 28 35.9**	**+0.3**
	7.0nm,0.7s,baz=96,slow=7.6,SNR=121						
ASAR				S	**S**	**15 34 32.2**	**+0.7**
	0.8nm,0.9s,baz=94,slow=15,SNR=7.2						
WRA	**Warramunga Arr**	**44.76**	**262**	P	**P**	**15 28 35.7**	**-0.3**
	4.4nm,0.8s,baz=98,slow=7.9,SNR=52						
PETK	**Petropavlovsk-**	**76.02**	**345**	P	**P**	**15 32 01.6**	**+0.4**
	2.2nm,0.7s,baz=160,slow=4.7,SNR=4.2						
YBH	**Yreka Blue Hor**	**79.98**	**39**	P	**P**	**15 32 23.3**	**+0.4**
	0.5nm,0.7s,baz=166,slow=3.8,SNR=4.0						
NVAR	**Mina Array Bea**	**80.73**	**43**	P	**P**	**15 32 27.8**	**+0.8**
	0.9nm,0.8s,baz=226,slow=9.9,SNR=6.3						
SEY	**Seymchan**	**86.11**	**347**	P	**P**	**15 32 52.8**	**-0.1**
	1.4nm,0.7s,baz=149,slow=5.8,SNR=7.5						
TXAR	**Lajitas Array**	**86.80**	**57**	P	**P**	**15 32 58.1**	**+1.1**
	0.5nm,0.8s,baz=252,slow=4.6,SNR=3.2						
ILAR	**Eielson Array**	**88.00**	**13**	P	**P**	**15 33 00.8**	**-0.9**
	0.5nm,0.8s,baz=224,slow=5.4,SNR=7.0						
PDAR	**Pinedale Array**	**88.67**	**43**	P	**P**	**15 33 05.8**	**+0.2**
	0.5nm,0.7s,baz=190,slow=6.0,SNR=1.7						
YAK	**Yakutsk**	**91.88**	**338**	P	**P**	**15 33 20.3**	**+0.6**
	6.8nm,0.3s,baz=207,slow=2.0,SNR=3.0						
SONM	**Songino Array**	**95.61**	**319**	P	**P**	**15 33 35.7**	**-1.5**
	0.2nm,0.5s,baz=122,slow=1.9,SNR=2.1						
AKASG	**Malin Array Be**	**142.81**	**331**	PKP	**PKPdf**	**15 39 38.4**	**-2.7**
	0.3nm,0.4s,baz=39,slow=4.3,SNR=4.5						
BRTR	**Keskin Array B**	**146.73**	**313**	PKPbc	**PKPbc**	**15 39 51.0**	**-0.1**
	1.4nm,1.0s,baz=30,slow=8.9,SNR=2.7						

STR ***02*** *15:31:30.8±0.4, 43°N±3°×°±°, h0km, MLv1.4/7, preliminary*
LDG ***02*** *15:31:31.0±0.1, 43°.35N×0°.69W, h21km, Md2.0/2, Ml1.9/4, Error ellipse: s-maj=2.0km s-min=1.1km az=150.0*
MDD ***02*** *15:31:31.2±0.7, 43°.44N×0°.72W, h0km, mb_Lg2.6/2, Error ellipse: s-maj=5.9km s-min=3.2km az=162.0*

ISC 02 15:31:30.8±1.0**, 43°.35N**±0°.04×**0°.74W**±0°.03**, h30**km±9km**, n16,** σ1s.48/30**, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.27**	**174**	Pg	**Pb**	**15 31 37.1**	**-0.7**
ATE				Sg	**Sb**	**15 31 43.3**	**+0.7**
OSSF	**Osses**	**0.39**	**256**	Pg	**Pb**	**15 31 39.4**	**-0.2**
OSSF				Sg	**Sb**	**15 31 46.7**	**+1.2**
SJPF	**Ste Jean**	**0.43**	**236**	*e*Pg	**Pb**	**15 31 40.4**	**+0.3**
SJPF				*e*Sg	**Sb**	**15 31 46.8**	**+0.3**
	3.1nm,0.2s						
ETSF	**Etsaut**	**0.47**	**164**	*e*Pg	**Pb**	**15 31 40.8**	**0.0**
ETSF				*e*Sg	**Sb**	**15 31 47.4**	**-0.3**
	5.4nm,0.3s						
EALK	**Alkurruntz**	**0.58**	**257**	Pg	**Pb**	**15 31 42.8**	**+0.3**
EALK	**Alkurruntz**	**0.58**	**257**	Pg	**Pb**	**15 31 43.0**	**+0.5**
EALK				Sg	**Sb**	**15 31 51.9**	**+1.3**
EALK				*i* Vmb_Lg		15 31 58.0	
CANF	**Canfranc**	**0.61**	**165**	Pg	**Pb**	**15 31 43.7**	**+0.6**
EORO	**Oroz-Betelu**	**0.62**	**223**	Pg	**Pb**	**15 31 43.9**	**+0.6**
EORO				Sg	**Sb**	**15 31 51.9**	**+0.1**
EORO				*i* Vmb_Lg		15 31 55.7	
VIEF	**Viey**	**0.73**	**130**	Pg	**Pn**	**15 31 44.9**	**-0.2**
VIEF				Sg	**Sn**	**15 31 55.1**	**-0.1**
EPF	**Esparros**	**0.85**	**112**	*e*Pg	**Pn**	**15 31 47.0**	**+0.3**
EPF				*e*Sg	**Sn**	**15 31 57.9**	**-0.3**
	8.9nm,0.3s						
ECHI	**Chisagues Biel**	**0.97**	**135**	Pg	**Pn**	**15 31 49.7**	**+1.3**
MONQ	**Montcuq**	**1.73**	**53**	Pn	**Pb**	**15 32 00.3**	**-1.5**
MONQ				Sn	**Sb**	**15 32 23.1**	**-0.1**
LFF	**La Frestale**	**1.91**	**33**	*e*Pg	**Pb**	**15 32 06.5**	**+1.6**
LFF				*e*Sg	**Sb**	**15 32 30.7**	**+2.3**
	2.5nm,0.3s						
MTLF	**Montolieu**	**2.16**	**89**	*e*Pg	**Pb**	**15 32 10.6**	**+1.5**
MTLF				*e*Sg	**Sb**	**15 32 37.4**	**+2.0**
	0.9nm,0.2s						
CAF	**Calviac**	**2.56**	**51**	*e*Pn	**Pn**	**15 32 09.7**	**-0.5**
CAF				*e*Sn	**Sn**	**15 32 37.7**	**-2.6**
CAF				*e*Sg	**Sb**	**15 32 50.2**	**+3.2**
	1.5nm,0.2s						
LASF	**Ste Croix**	**3.41**	**76**	*e*Pn	**Pn**	**15 32 20.5**	**-1.4**
LASF				*e*Sn	**Sn**	**15 32 57.5**	**-3.8**
	0.3nm,0.3s						

IDC ***02*** *15:31:35.9±1.7, 56°.29N×157°.92W, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.3/60, mbtmp3.3/6, ML3.2/2, Error ellipse: s-maj=35.8km s-min=20.3km az=169.0*
AEIC ***02*** *15:31:40±2.5, 56°.95N±0°.04×157°.87W±0°.07, h6km±6km, ML2.9/26, ML3.3/24(NEIC), Error ellipse: s-maj=6.6km s-min=4.1km az=126.0*
NEIC ***02*** *15:31:40.3±1.4, 57°.02N±0°.03×157°.95W±0°.03, h5km±8km, Error ellipse: s-maj=4.5km s-min=1.9km az=151.0*

ISC 02 15:31:40.1±1.0**, 56°.98N**±0°.04×**157°.94W**±0°.04**, h15**km±7km**, n43,** σ1s.20/46**, mb3.2**/4**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNE	**Aniakchak Nort**	**0.09**	**227**		**Pg**	**15 31 43.0**	**-0.4**
ANNW	**Aniakchak Nort**	**0.15**	**267**		**Pg**	**15 31 44.7**	**+0.5**
AZAC	**Aniakchak**	**0.18**	**244**		**Pg**	**15 31 45.1**	**+0.5**
ANPB	**Aniakchak Plen**	**0.26**	**228**		**Pb**	**15 31 46.2**	**-0.3**
CHGN	**Chignik**	**0.73**	**202**		**Pg**	**15 31 53.7**	**-0.6**
CHGN					**Sb**	**15 32 05.2**	**+1.2**
PLBL	**Peulik Blue Cr**	**0.95**	**39**		**Pg**	**15 31 57.9**	**-0.5**
VNHG	**Veniaminof 1**	**1.02**	**222**		**Pg**	**15 31 59.5**	**-0.2**
PLK1	**Peulik 1**	**1.10**	**40**		**Pg**	**15 32 00.8**	**-0.5**
VNFG	**Fog Glacier, M**	**1.13**	**233**		**Pn**	**15 32 02.3**	**+0.9**
PLK3	**Peulik 3**	**1.15**	**51**		**Pg**	**15 32 01.8**	**-0.5**
PLK3					**Sb**	**15 32 17.9**	**+1.5**
PLK5	**Peulik 5**	**1.17**	**29**		**Pg**	**15 32 01.9**	**-0.8**
PLK2	**Peulik 2**	**1.18**	**47**		**Pg**	**15 32 02.5**	**-0.4**
CHIR	**Chirikof Islan**	**1.73**	**131**		**Pn**	**15 32 11.0**	**+1.5**
CHIR					**Sg**	**15 32 34.7**	**-1.0**
CHIR	**Chirikof Islan**	**1.73**	**131**	IAML		15 32 36.8	
	comp=E,369nm,1.0s						
CHIR				IAML		15 32 40.1	
	comp=N,414nm,1.1s						
CAHL	**Cahill**	**1.79**	**52**		**Pn**	**15 32 12.3**	**+1.9**
ANCK	**Angle Creek**	**1.80**	**46**		**Pn**	**15 32 12.6**	**+2.0**
SII	**Sitkinak Islan**	**2.11**	**100**		**Pn**	**15 32 16.6**	**+1.8**
SII					**Sb**	**15 32 44.0**	**+0.1**
SDPT	**Sand Point**	**2.16**	**222**		**Pn**	**15 32 17.6**	**+2.1**
SDPT					**Sb**	**15 32 45.2**	**-0.2**
SDPT	**Sand Point**	**2.16**	**222**	IAML		15 32 53.8	
	comp=E,208nm,1.2s						
OHAK	**Old Harbor**	**2.55**	**82**		**Sn**	**15 32 53.5**	**+2.0**
P18K	**Big Mountain,**	**2.82**	**29**		**Pn**	**15 32 24.3**	**-0.2**
P18K	**Big Mountain,**	**2.82**	**29**	IAML		15 33 08.4	
	comp=E,87nm,0.9s						
P18K				IAML		15 33 08.7	
	comp=N,76nm,0.6s						
KDAK	**Kodiak Island**	**3.01**	**72**	Pn	**Pn**	**15 32 27.6**	**+0.5**
	comp=N,5.8nm,0.3s,baz=259,slow=5.8,SNR=78						
KDAK				Sn	**Sn**	**15 33 04.8**	**+1.9**
	comp=N,2.4nm,0.3s,baz=297,slow=22,SNR=6.3						
KDAK	**Kodiak Island**	**3.01**	**72**		**Pn**	**15 32 28.0**	**+0.9**
Q19K	**Cape Douglas,**	**3.01**	**48**		**Pn**	**15 32 28.0**	**+0.8**
Q19K				IAML		15 33 37.3	
	comp=N,122nm,1.0s						
O18K	**Koktuh Hills**	**3.22**	**25**		**Pn**	**15 32 31.2**	**+1.1**
O18K				IAML		15 33 18.7	
	comp=N,86nm,0.5s						
O18K				IAML		15 33 21.6	
	comp=E,84nm,0.8s						
O19K	**Port Alsworth**	**3.74**	**29**	Pn	**Pn**	**15 32 37.3**	**+0.1**
N19K	**Bonanza Creek**	**4.25**	**23**	Pn	**Pn**	**15 32 45.2**	**+1.0**
N19K				IAML		15 33 54.7	
	comp=N,43nm,0.9s						
N19K				IAML		15 34 03.5	
	comp=E,36nm,0.8s						
M19K	**Big River Lodg**	**5.26**	**19**		**Pn**	**15 32 58.3**	**+0.2**
M19K				IAML		15 34 50.6	
	comp=N,16nm,1.7s						
L19K	**White Mountain**	**5.45**	**15**	Pn	**Pn**	**15 33 00.5**	**-0.2**
M20K	**Styx River**	**5.50**	**24**	Pn	**Pn**	**15 33 02.8**	**+1.3**
TTA	**Tatalina**	**6.05**	**8**	Pn	**Pn**	**15 33 10.1**	**+1.1**
PPLA	**Purkeypile**	**6.60**	**24**	Pn	**Pn**	**15 33 18.6**	**+2.0**
K20K	**Telida**	**6.69**	**15**	Pn	**Pn**	**15 33 16.9**	**-0.7**
SPIA	**Saint Paul Isl**	**6.72**	**277**	Pn	**Pn**	**15 33 16.7**	**-1.3**
CAST	**Castle Rocks**	**7.09**	**22**	Pn	**Pn**	**15 33 24.0**	**+0.9**
J20K	**Nowinta River**	**7.46**	**13**	Pn	**Pn**	**15 33 29.5**	**+1.2**
KLU	**Klutina**	**7.64**	**49**	Pn	**Pn**	**15 33 31.4**	**+0.6**
ILAR	**Eielson Array**	**9.48**	**30**	Pn	**Pn**	**15 33 56.8**	**+0.9**
	comp=N,0.1nm,0.3s,baz=211,slow=12,SNR=5.6						
YKA	**Yellowknife Ar**	**22.18**	**58**	P	**P**	**15 36 35.2**	**0.0**
	comp=N,0.7nm,0.8s,baz=276,slow=10,SNR=8.9						
SEY	**Seymchan**	**25.02**	**304**	P	**P**	**15 37 03.6**	**+0.6**
	comp=N,0.5nm,0.8s,baz=82,slow=15,SNR=1.9						
PETK	**Petropavlovsk-**	**25.37**	**280**	P	**P**	**15 37 06.3**	**+0.1**
	comp=N,1.4nm,0.9s,baz=79,slow=12,SNR=1.9						
NVAR	**Mina Array Bea**	**31.88**	**108**	P	**P**	**15 38 01.5**	**-3.2**
	comp=N,0.1nm,0.3s,baz=297,slow=6.7,SNR=1.4						

IDC ***02*** *15:31:58.4±1.5, 3°.89S×144°.39E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.7/45, mbtmp3.8/6, ML3.2/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/58, Error ellipse: s-maj=35.8km s-min=23.3km az=95.0*

ISC 02 15:32:03.6±1.2**, 4°.0S**±0°.1×**144°.4E**±0°.2**, h35**km**, n7,** σ1s.33/7**, mb3.5**/4**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.07**	**153**	Pn	**Pn**	**15 33 29.1**	**-1.7**
	4.8nm,0.3s,baz=309,slow=10,SNR=17						
PMG				Sn	**Sn**	**15 34 40.7**	**+1.6**
	1.3nm,0.3s,baz=100,slow=21,SNR=6.6						
PMG				LR	LR	15 35 54.0	
	comp=Z,89nm,21.2s,baz=353,slow=38						
WRA	**Warramunga Arr**	**18.66**	**211**	P	**Pn**	**15 36 19.5**	**+0.3**
	0.3nm,0.3s,baz=31,slow=11,SNR=25						
WRA				LR	LR	15 43 20.5	
	comp=Z,64nm,19.1s,baz=20,slow=36						
ASAR	**Alice Springs**	**22.05**	**206**	P	**P**	**15 36 55.7**	**+0.2**
	1.6nm,0.6s,baz=34,slow=9.2,SNR=48						
FITZ	**Fitzroy Crossi**	**23.11**	**231**	P	**P**	**15 37 06.9**	**+0.2**
	5.4nm,0.5s,baz=42,slow=8.7,SNR=49						
MKAR	**Makanchi Array**	**74.28**	**321**	P	**P**	**15 43 36.7**	**-0.6**

	0.4nm,0.8s,baz=95,slow=7.2,SNR=2.8						
ZALV	Zalesovo Beam	75.92	328	LR	LR	16 15 27.3	
	comp=Z,13nm,21.1s,baz=68,slow=34						
ILAR	Eielson Array	84.66	24	P	P	15 44 34.4	+1.0
	0.2nm,0.6s,baz=264,slow=3.3,SNR=2.1						

KEA 02 15:35:43.4, 34.52°N×122.47°E, h16km, ML3.7/3, Yellow Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HJU	Haeju	4.39	36	Pg	Pg	15 37 05.3	-2.2
HJU				Sg	Sg	15 38 02.9	-1.5
HJU				AML	AML		
	comp=N,170nm,0.5s						
HJU				AML	AML		
	comp=E,167nm,0.9s						
HJU				AML	AML		
	comp=Z,230nm,0.7s						
PYAG	Pyongyang	5.24	29	Sg	Sg	15 38 29.9	-1.5
PYS	Pyongsong	5.45	29	Pg	Pg	15 37 25.4	-2.3
PYS				Sg	Sg	15 38 37.1	-1.0
PYS				AML	AML		
	comp=N,246nm,1.1s						
PYS				AML	AML		
	comp=E,176nm,0.8s						
PYS				AML	AML		
	comp=Z,159nm,0.4s						
SUJ	Sinuiju	5.80	16	Pg	Pg	15 37 32.0	-2.4
SUJ				Sg	Sg	15 38 48.2	-1.3
SUJ				AML	AML		
	comp=N,54nm,0.8s						
SUJ				AML	AML		
	comp=E,82nm,0.4s						
SUJ				AML	AML		
	comp=Z,99nm,0.5s						
HHU	Hamhung	6.74	35	Sg	Sg	15 39 16.9	-2.7

IDC 02 16:04:44.0±1.6, 23.61°S×179.72°E, h542km±18km, mb2.9/5, mb1 3.2/6, mb1mx3.0/21, mbtmp3.8/6, Error ellipse: s-maj=33.6km s-min=22.8km az=157.0

ISC 02 16:04:44.4±0.9, 23.6°S±0.2°×179.7°E±0.2°, h548km, n11, σ1.01s/11, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	6.00	160	P	P	16 06 22.3	-0.5
	32nm,0.3s,baz=107,slow=23,SNR=1.6						
MSVF	Nonsavu	6.06	345	P	P	16 06 22.8	-0.9
	3.7nm,0.3s,baz=246,slow=22,SNR=9.1						
STKA	Stephens Creek	34.60	248	P	P	16 10 47.7	-0.3
	1.1nm,0.7s,baz=130,slow=16,SNR=2.2						
ASAR	Alice Springs	41.84	260	P	P	16 11 46.8	-0.2
	0.8nm,0.4s,baz=96,slow=7.3,SNR=36						
WRA	Warramunga Arr	42.18	266	P	P	16 11 49.3	-0.4
	1.4nm,0.4s,baz=103,slow=8.3,SNR=8.4						
CMAR	Chiang Mai Arr	89.19	290	P	P	16 16 44.0	+1.5
	0.1nm,0.3s,baz=104,slow=3.8,SNR=1.8						
TXAR	Lajitas Array	90.49	58	P	P	16 16 48.8	+0.4
	0.1nm,0.5s,baz=208,slow=7.0,SNR=2.9						
ARCES	ARCESS Array B	131.56	348	PKP	PKPdf	16 22 53.8	-0.5
	2.0nm,0.9s,baz=29,slow=2.1,SNR=1.9						
FINES	FINESS Array B	138.10	341	PKP	PKPdf	16 23 05.9	-0.7
	0.9nm,0.9s,baz=339,slow=15,SNR=3.9						
AKASG	Malin Array Be	144.60	327	PKP	PKPdf	16 23 17.8	-0.7
	0.8nm,0.5s,baz=48,slow=3.9,SNR=6.7						
BRTR	Keskin Array B	147.21	307	PKPbc	PKPdf	16 23 25.3	+1.8
	0.9nm,0.9s,baz=65,slow=6.0,SNR=1.9						

IDC 02 16:28:04.2±2.1, 56.42°N×158.04°W, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.4/47, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=33.7km s-min=24.3km az=177.0
NEIC 02 16:28:10.7±1.7, 57.15°N±0.04°×157.89°W±0.08°, h13km±7km, Error ellipse: s-maj=6.8km s-min=4.7km az=117.0
AEIC 02 16:28:10±1.6, 57.12°N±0.04°×157.85°W±0.08°, h10km±5km, ML3.4, ML3.5/34(NEIC), Error ellipse: s-maj=7.0km s-min=4.0km az=120.0

ISC 02 16:28:10.5±1.3, 57.11°N±0.04°×157.84°W±0.04°, h16km±10km, n89, σ0.94s/90, mb3.5/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.25	235		Pg	16 28 16.6	+0.5
ANPB	Aniakchak Plen	0.40	218		Pb	16 28 18.5	-0.6
PLBL	Peulik Blue Cr	0.81	43		Pg	16 28 26.1	-0.2
CHGN	Chignik	0.87	202		Pg	16 28 26.2	-1.2
CHGN					Sb	16 28 39.9	+1.2
CHGN	Chignik	0.87	202	IAML		16 28 44.5	
	comp=N,1µm,0.6s						
CHGN				IAML		16 28 44.8	
	comp=E,1µm,0.4s						
CHGN	Chignik	0.87	202	P	Pg	16 28 26.3	-1.2
	baz=20						
CHGN				S	Sb	16 28 39.9	+1.2
	baz=20						
PLK1	Peulik 1	0.96	43		Pg	16 28 28.7	-0.3
PLK5	Peulik 5	1.03	30		Pb	16 28 30.2	+0.3
PLK3	Peulik 3	1.03	55		Pn	16 28 31.1	+0.7
PLK3					Sn	16 28 45.6	+1.2
PLK2	Peulik 2	1.05	51		Pn	16 28 31.1	+0.6
VNHG	Veniaminof 1	1.16	220		Pb	16 28 31.8	-0.4
VNFG	Fog Glacier, M	1.26	229		Pg	16 28 34.7	-0.1
VNFG	Fog Glacier, M	1.26	229	P	Pg	16 28 34.7	-0.1
	baz=48						
CAHL	Cahill	1.66	54		Pn	16 28 40.0	+1.0
ANCK	Angle Creek	1.67	48		Pn	16 28 40.0	+0.9
KELA	Mount Kelaz	1.74	39		Pn	16 28 41.3	+1.1
CHIR	Chirikof Islan	1.79	136		Pb	16 28 42.5	-0.3
CHIR					Sb	16 29 06.5	+1.5
CHIR	Chirikof Islan	1.79	136	P	Pb	16 28 42.5	-0.3
	baz=317						
CHIR				S	Sb	16 29 06.5	+1.5
	baz=317						
SII	Sitkinak Islan	2.08	104		Pn	16 28 46.6	+1.8
SII					Sb	16 29 14.1	+0.5
SII	Sitkinak Islan	2.08	104	IAML		16 29 18.5	
	comp=N,564nm,0.7s						
SII				IAML		16 29 21.2	
	comp=E,582nm,0.6s						
SII	Sitkinak Islan	2.08	104	P	Pn	16 28 46.6	+1.8
	baz=287						
SII				S	Sb	16 29 14.1	+0.5
	baz=287						
SDPT	Sand Point	2.30	221		Pn	16 28 48.5	+0.8
SDPT	Sand Point	2.30	221	IAML		16 29 31.6	
	comp=N,274nm,1.1s						
SDPT				IAML		16 29 32.6	
	comp=E,345nm,1.0s						
SDPT	Sand Point	2.30	221	P	Pn	16 28 48.5	+0.8
	baz=38						
OHAK	Old Harbor	2.48	86		Pn	16 28 50.8	+0.6
OHAK	Old Harbor	2.48	86	IAML		16 29 32.8	
	comp=N,189nm,0.8s						
OHAK	Old Harbor	2.48	86	P	Pn	16 28 50.8	+0.6
	baz=270						
P18K	Big Mountain,	2.67	30		Pn	16 28 53.1	+0.3
P18K	Big Mountain,	2.67	30	P	Pn	16 28 53.1	+0.3
	baz=212						
BLHA	Black Hill	2.74	241		Pn	16 28 55.4	+1.6
BLHA	Black Hill	2.74	241	P	Pn	16 28 55.4	+1.6
	baz=57						
Q19K	Cape Douglas,	2.88	49		Pn	16 28 57.0	+1.3
Q19K	Cape Douglas,	2.88	49	P	Pn	16 28 57.0	+1.3
	baz=233						
HAG	Hague Volcano	2.90	233		Pn	16 28 58.1	+2.1
KDAK	Kodiak Island	2.92	75	Pn	Pn	16 28 56.7	+0.5
	comp=N,4.6nm,0.3s,baz=247,slow=4.6,SNR=53						
KDAK				Sn	Sb	16 29 36.1	-1.4
	comp=N,2.5nm,0.3s,baz=288,slow=19,SNR=4.3						
KDAK	Kodiak Island	2.92	75		Pn	16 28 57.4	+1.1
KDAK	Kodiak Island	2.92	75	P	Pn	16 28 57.4	+1.1
	baz=259						
O18K	Koktuh Hills	3.08	26		Pn	16 28 59.0	+0.6
O18K	Koktuh Hills	3.08	26	IAML		16 29 51.5	
	comp=N,139nm,0.6s						
O18K				IAML		16 29 53.1	
	comp=E,117nm,0.8s						
O18K	Koktuh Hills	3.08	26	P	Pn	16 28 59.0	+0.6
	baz=208						
IVE	Iliamna Volcan	3.85	39		Pn	16 29 09.0	-0.2
N19K	Bonanza Creek	4.10	24		Pn	16 29 12.7	+0.2
N19K	Bonanza Creek	4.10	24	IAML		16 30 22.1	
	comp=E,89nm,0.8s						
N19K				IAML		16 30 36.1	
	comp=N,70nm,0.7s						
N19K	Bonanza Creek	4.10	24	P	Pn	16 29 12.7	+0.2
	baz=207						
SVW2	Sparrevohn	4.16	15		Pn	16 29 13.4	0.0
SVW2				IAML		16 30 23.9	
	comp=E,72nm,0.6s						
SVW2				IAML		16 30 38.5	
	comp=N,52nm,0.9s						
RED	Redoubt Volcan	4.24	36		Pn	16 29 14.6	+0.2
CNPM	China Poot	4.24	52		Pn	16 29 15.5	+1.1
RDWB	Redoubt West	4.27	35		Pn	16 29 15.0	+0.1
RSO	Redoubt South	4.28	36		Pn	16 29 16.1	+1.0
BRLK	Bradley Lake	4.52	51		Pn	16 29 16.9	-1.4
BRLK				IAML		16 29 56.3	
	comp=N,36nm,3.5s						
M19K	Big River Lodg	5.12	19		Pn	16 29 26.6	+0.1
L19K	White Mountain	5.30	15		Pn	16 29 28.3	-0.7
L19K	White Mountain	5.30	15	P	Pn	16 29 29.3	+0.3
	baz=198						
M20K	Styx River	5.35	25	Pn	Pn	16 29 30.7	+1.0
M20K				IAML		16 31 13.9	
	comp=E,35nm,1.3s						
M20K				IAML		16 31 17.7	
	comp=N,27nm,1.4s						
L20K	Farewell, AK	5.74	19		Pn	16 29 36.0	+1.0
L20K	Farewell, AK	5.74	19	P	Pn	16 29 36.0	+1.0
	baz=202						
TT01	Tatalina	5.88	8		Pn	16 29 36.4	-0.5
TTA	Tatalina	5.91	8	Pn	Pn	16 29 36.4	-1.0
PPLA	Purkeypile	6.45	24	Pn	Pn	16 29 45.5	+0.5
CAST	Castle Rocks	6.94	22	Pn	Pn	16 29 52.1	+0.7
KLU	Klutina	7.51	49		Pn	16 29 59.1	-0.3
BPAW	Bear Paw Mtn.	7.77	23		Pn	16 30 04.3	+1.5
BPAW	Bear Paw Mtn.	7.77	23	P	Pn	16 30 04.3	+1.5
	baz=209						
DHY	Denali Highway	7.94	37	Pn	Pn	16 30 05.5	+0.3
MCK	McKinley	7.96	30	Pn	Pn	16 30 07.1	+1.7
BERG	Berg Lake	8.05	60	Pn	Pn	16 30 06.8	+0.1
ANM	Nome	8.32	337		Pn	16 30 10.2	-0.2
ANM	Nome	8.32	337	P	Pn	16 30 10.8	+0.4
	baz=150						
PAX	Paxson	8.52	41	Pn	Pn	16 30 12.8	-0.4
NEA2	Nenana	8.63	26	Pn	Pn	16 30 14.2	-0.4
MLY	Manley	8.65	20	Pn	Pn	16 30 15.8	+0.8
WRH	Wood River Hil	8.78	29		Pn	16 30 16.9	+0.3
H21K	Melozitna Rive	8.90	14	Pn	Pn	16 30 18.8	+0.5
I23K	Minto, Yukon-K	9.03	23	Pn	Pn	16 30 18.7	-1.4
IMAR	Indian Mountai	9.11	11	Pn	Pn	16 30 21.4	+0.3
MDM	Murphy Dome	9.13	27	Pn	Pn	16 30 22.3	+0.7
RIDG	Independent Ri	9.23	39	Pn	Pn	16 30 24.4	+1.6
TABL	Table Mountain	9.28	62	Pn	Pn	16 30 22.4	-1.4
IL31		9.33	30	Pn	Pn	16 30 24.2	0.0
ILAR	Eielson Array	9.33	30	Pn	Pn	16 30 22.9	-1.3
	comp=N,0.2nm,0.3s,baz=217,slow=14,SNR=15						
J25K	Salcha River,	9.65	34	Pn	Pn	16 30 29.3	+0.6
SCRK	Sand Creek	9.67	39	Pn	Pn	16 30 27.8	-1.2
H24K	Noodor Dome	9.95	24	Pn	Pn	16 30 31.9	-0.8
L27K	Beaver Creek,	9.96	47	Pn	Pn	16 30 32.4	-0.4
BCAR	Beaver Creek A	9.97	47	Pn	Pn	16 30 32.8	-0.3
I29M	Ogilvie Camp,	12.47	40	Pn	Pn	16 31 08.4	+1.3
YKA	Yellowknife Ar	22.06	58	P	P	16 33 03.5	-0.7
	comp=N,1.8nm,0.8s,baz=272,slow=9.8,SNR=25						
SEY	Seymchan	24.99	304	P	P	16 33 32.0	-1.0
	comp=N,0.9nm,0.7s,baz=84,slow=10,SNR=6.2						
NVAR	Mina Array Bea	31.87	109	P	P	16 34 30.7	-4.3
	comp=N,0.1nm,0.3s,baz=321,slow=8.5,SNR=1.8						

IDC 02 16:33:28.5±2.4, 50.60°N×96.24°E, h0km, mb1 2.9/2, mb1mx2.8/46, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=53.0km s-min=17.7km az=16.0
ASRS 02 16:33:32.1±0.3, 51°N±3°×9°7E±°, h5km, MLh4.0/10, Error ellipse: s-maj=5.8km s-min=2.2km az=21.9, confirmed
MOS 02 16:33:33.1±2.4, 50.43°N×96.32E, h13km, mb3.5/1, Error ellipse: s-maj=14.2km s-min=9.3km az=21.4

ISC 02 16:33:34.7±0.6, 50.93°N±0.04°×96.53°E±0.02°, h10km, n50, σ2.67s/70, 2C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNGR	Kungurtug, Tuv	0.70	117	PG	Pg	16 33 47.0	-1.3
KNGR	Kungurtug, Tuv	0.70	117	⇓Pg	Pg	16 33 47.0	-1.3
KNGR				Sg	Sb	16 33 56.7	-2.2
KZLR	Kyzyl	1.52	302	PN	Pg	16 34 03.0	-0.8
KZLR	Kyzyl	1.52	302	Pg	Pg	16 34 03.0	-0.8
KZLR				Sg	Sg	16 34 24.8	+1.3
HVS	Khovu-Aksy	1.80	278	*i* PN	Pn	16 34 05.4	-0.4
HVS				*i* S	Sn	16 34 28.4	-0.3
ARDR	Aradan	2.54	312	Pg	Pb	16 34 20.3	0.0
ARDR				Sg	Sg	16 34 57.6	+1.3
ORL	Orlik	2.60	50	*e*PN	Pg	16 34 24.1	-0.4
ORL				*e*		16 35 01.5	
ORL				pmax	pmax		
	comp=Z,46nm,0.3s						
ORL				smax	smax		
	comp=N,194nm,0.7s						
MOY	Mondy	2.90	73	PN	Pb	16 34 27.7	+1.2
MOY						16 35 08.6	
MOY	Mondy	2.90	73	Pg	Pb	16 34 27.7	+1.2
MOY				Sg	Sg	16 35 08.7	+0.9
DJOS	Djoyskaya Sosn	3.69	302	Pg	Pg	16 34 43.1	-2.2
DJOS				Sg	Sg	16 35 31.5	-1.6
CERR	Cheremushki	3.71	303	PN	Pg	16 34 43.5	-2.1
CERR						16 35 31.6	
CERR	Cheremushki	3.71	303	Pg	Pg	16 34 43.6	-2.1
CERR				Sg	Sg	16 35 31.7	-2.0
DJO	Djoy, Khakassi	3.78	302	PN	Pb	16 34 42.7	+1.2
DJO						16 35 32.4	
DJO	Djoy, Khakassi	3.78	302	Pg	Pb	16 34 42.7	+1.2
DJO				Sg	Sg	16 35 36.2	+0.2
TBTR	Tabat	4.12	301	*i* PN	Pn	16 34 40.1	+2.5
ABNR	Abakan	4.20	314	⇓*e*PN	Pn	16 34 38.8	+0.1
MINR	Mina	4.22	341	PN	Pg	16 34 55.4	-0.1
MINR						16 35 52.7	
MINR	Mina	4.22	341	Pg	Pg	16 34 55.5	-0.1
MINR				Sg	Sg	16 35 52.7	+2.5
ZAK	Zakamensk	4.33	95	*e*PN	Pn	16 34 43.4	+2.8
ZAK				*e*		16 35 48.9	
ZAK				pmax	pmax		
	comp=Z,38nm,0.6s						
ZAK				smax	smax		
	comp=N,183nm,0.8s						
ZAK	Zakamensk	4.33	95	Pg	Pb	16 34 50.8	0.0
ZAK				Sg	Sg	16 35 50.1	-3.6
IRK	Irkutsk	5.00	72	*e*PN	Pb	16 35 04.8	+2.5
IRK				*e*		16 36 11.7	
IRK				pmax	pmax		
	comp=Z,36nm,0.1s						
IRK				smax	smax		
	comp=N,139nm,0.7s						
IRK	Irkutsk	5.00	72	Sg	Sg	16 36 13.5	-1.7
SHRR	Shira	5.27	315	*i* PN	Pg	16 35 11.0	-4.5
SHRR				*i* S	Sg	16 36 22.6	-1.0
SHRR	Shira	5.27	315	Sg	Sg	16 36 20.6	-3.0
CUR	Chagan-Uzun	5.28	264	PN	Pn	16 34 52.4	-1.3
CUR	Chagan-Uzun	5.28	264	Pn	Pn	16 34 52.4	-1.3
CUR				Pg	Pb	16 35 06.6	-0.6
CUR				Sg	Sb	16 36 13.6	+2.9
LUZB	Luzhba, Kemero	5.42	303	PN	Pn	16 34 58.0	+2.5
LUZB	Luzhba, Kemero	5.42	303	Pn	Pn	16 34 58.0	+2.5
LUZB				Pg	Pb	16 35 12.5	+3.1
LUZB				Sg	Sg	16 36 23.5	-5.2
ULGR	Ulagan, Altay	5.45	270	PN	Pn	16 34 57.1	+1.2
ULGR						16 36 19.4	
ULGR	Ulagan, Altay	5.45	270	Pn	Pn	16 34 57.2	+1.2
ULGR				Pg	Pb	16 35 09.2	-0.6
ULGR				Sg	Sb	16 36 19.5	+4.3
KRAR	Krasnoyarsk	5.54	338	⇑*e*PN	Pn	16 34 57.2	+0.1
GZL	Zheleznogorsk	5.64	343	Sg	Sg	16 36 34.0	-1.4
TASR	Tashtagol	5.67	292	PN	Pg	16 35 20.7	-2.4
TASR						16 36 30.5	
TASR	Tashtagol	5.67	292	Pg	Pg	16 35 20.7	-2.4
TASR				Sg	Sg	16 36 30.6	-5.9
AKAR	Aktash	5.70	267	PN	Pn	16 35 00.6	+1.1
AKAR						16 35 17.8	
AKAR						16 36 25.4	
AKAR	Aktash	5.70	267	Pn	Pn	16 35 00.6	+1.1
AKAR				Pg	Pg	16 35 17.8	-6.0
AKAR				Sg	Sb	16 36 25.4	+2.8
CHBI	Chibit, Altay	5.78	267	PN	Pn	16 35 00.4	-0.1
CHBI						16 35 18.0	
CHBI	Chibit, Altay	5.78	267	Pn	Pn	16 35 00.4	-0.1
CHBI				Pg	Pb	16 35 18.0	+2.5
CHBI				Sg	Sg	16 36 31.6	-8.4
ARTR	Artybash	5.86	282	PN	Pb	16 35 20.5	+3.7
ARTR						16 36 32.6	
ARTR	Artybash	5.86	282	Pg	Pb	16 35 20.5	+3.7
ARTR				Sg	Sb	16 36 32.6	+5.6
TRG	Tyrgan	6.36	69	PN	Pb	16 35 28.2	+2.9
TRG						16 36 53.4	
TRG	Tyrgan	6.36	69	Pg	Pb	16 35 28.3	+2.9
TRG				Sg	Sg	16 36 53.5	-5.1
ELT	Eltsovka	6.76	294	Sg	Sg	16 37 02.1	-9.3
BRCR	Berchikul'	6.82	317	Sg	Sg	16 37 09.1	-4.3
SONM	Songino Array	7.14	112	Pn	Pn	16 35 16.1	-3.2
	comp=N,0.2nm,0.3s,baz=297,slow=15,SNR=6.4						
SONM				Pg	Pb	16 35 41.5	+2.7
	comp=N,0.4nm,0.3s,baz=292,slow=17,SNR=8.5						
SONM				Lg	Lg	16 37 13.9	
	comp=N,1.3nm,0.3s,baz=290,slow=29,SNR=9.0						
ULN	Ulaanbaatar	7.52	110	⇑*e*P	Pn	16 35 25.0	+0.6
ZALV	Zalesovo Beam	7.77	297	Pn	Pn	16 35 22.3	-5.4
	comp=N,0.1nm,0.3s,baz=109,slow=13,SNR=1.6						
ZALV				Lg	Lg	16 37 33.1	
	comp=N,0.3nm,0.3s,baz=115,slow=24,SNR=2.5						
MK31	Makanchi Array	10.25	252	⇓*e*P	Pn	16 35 58.4	-3.3
MKAR	Makanchi Array	10.25	252	Pg	Pg	16 36 31.1	
	comp=N,0.1nm,0.3s,baz=69,slow=18,SNR=2.5						
MKAR				Lg	Lg	16 38 47.2	
	comp=N,0.1nm,0.3s,baz=62,slow=26,SNR=1.2						
KURK	Kurchatov	11.33	276	⇓*e*P	Pn	16 36 12.2	-4.3

NOU 02 16:34:40.0, 13.82°S×172.12°W, h140km, MLv2.7/4, Samoa Islands

IDC 02 16:34:25.9±9.2, 15.49°S×173.05°W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/31, mbtmp3.4/3, Error ellipse: s-maj=427.1km s-min=25.1km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.99	38	Pn	Pn	16 35 00.5	-0.5
	34nm,0.3s,baz=192,slow=4.4,SNR=65						
AFI				LR	LR	16 35 09.4	
	comp=Z,112nm,19.7s,baz=154,slow=22						
AFI				Sn	Sn	16 35 19.3	-7.4
	94nm,0.3s,baz=260,slow=20,SNR=14						
AFI	Afiamalu	1.99	38	P	Pn	16 35 00.6	-0.4
H11S2	WAKE ISLAND Hy	39.21	329	T	T	17 23 16.3	
	baz=149,slow=76,SNR=8.2						
H11S3	WAKE ISLAND Hy	39.23	329	T	T	17 23 16.8	
	baz=149,slow=76,SNR=7.3						
H11S1	WAKE ISLAND Hy	39.23	329	T	T	17 23 18.0	
	baz=149,slow=76,SNR=8.6						
H11N3	WAKE ISLAND Hy	40.16	330	T	T	17 24 23.1	
	baz=149,slow=76,SNR=4.3						
H11N1	WAKE ISLAND Hy	40.16	330	T	T	17 24 24.6	
	baz=149,slow=76,SNR=6.2						
H11N2	WAKE ISLAND Hy	40.17	330	T	T	17 24 21.5	
	baz=149,slow=76,SNR=3.6						
WRA	Warramunga Arr	50.15	257	P	P	16 43 23.4	-0.3
	0.4nm,0.9s,baz=92,slow=7.2,SNR=2.1						
ASAR	Alice Springs	50.41	252	P	P	16 43 25.4	-0.2
	0.4nm,0.6s,baz=90,slow=7.5,SNR=12						
ILAR	Eielson Array	82.47	11	P	P	16 46 50.4	+0.5
	0.2nm,0.6s,baz=219,slow=5.6,SNR=1.6						

SNET 02 16:59:41.1±2.4, 12.69°N×88.67°W, h32km, ML3.8, MW3.8
INET 02 16:59:43.8±0.8, 12.90°N×88.55°W, h61km±10km, MW3.7

ISC 02 16:59:43.2±5.8, 12.78°N±0.07°×88.64°W±0.05°, h37km±6km, n31, σ0.37s/42, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.55	7	*e*P	Pn	16 59 54.6	-0.1
ALJI				*e*S	Sn	17 00 02.7	0.0
JUCU	Jucuar¡n	0.61	39	*e*P	Pn	16 59 55.2	-0.3
JUCU				*e*S	Sn	17 00 04.0	-0.2
JUCU				IAML		17 00 08.1	
	comp=Z,5µm,0.2s						
JUCU	Jucuar¡n	0.61	39	*e*P	Pn	16 59 55.4	-0.2
COEB	Comit de Eme	0.72	8	*i* P	Pn	16 59 57.1	0.0
COEB				IAML		17 00 10.1	
	comp=Z,3µm,0.2s						
COEB	Comit de Eme	0.72	8	*e*P	Pn	16 59 57.0	0.0
LCY	Lacayo	0.72	27	*e*P	Pn	16 59 57.2	+0.1
VSM	San Miguel	0.74	29	*e*P	Pn	16 59 57.6	+0.2
PACA	Pacayal	0.75	24	*e*P	Pn	16 59 57.7	+0.2
PQSS	Presa 15 de Se	0.85	5	*e*P	Pn	16 59 58.6	0.0
PQSS				*e*		16 59 58.6	
PQSS				*e*S	Sn	17 00 09.6	-0.3
PQSS				IAML		17 00 11.0	
	comp=Z,3µm,0.2s						
SNVI	San Vicente	0.85	347	*e*P	Pn	16 59 58.9	+0.1
SNVI				*e*S	Sn	17 00 10.2	-0.1
COEG	Centro de Oper	0.87	344	*e*P	Pn	16 59 58.8	-0.3
COEG				IAML		17 00 15.3	
	comp=Z,3µm,0.2s						
LCND	La Caada	0.90	54	*e*P	Pn	16 59 58.8	-0.5
LCND				*e*S	Sn	17 00 10.9	-0.3
LCND				IAML		17 00 15.6	
	comp=Z,3µm,0.3s						
SJTE	Alcalda de S	0.91	337	*e*P	Pn	16 59 59.1	-0.4
SJTE				*e*S	Sn	17 00 10.8	-0.7
SCLA	Alcaldia de Sa	0.92	355	*e*P	Pn	16 59 59.4	-0.4
LFRS	El Faro	0.94	334	*e*P	Pn	16 59 59.6	-0.4
LFRS				*e*S	Sn	17 00 11.9	-0.3
PAVA	Las Pavas	0.98	343	*e*P	Pn	17 00 00.6	+0.1
PAVA				*e*S	Sn	17 00 13.4	+0.2
PAVA	Las Pavas	0.98	343	*e*P	Pn	17 00 00.9	+0.4
CSGN	Cosiguina Volc	1.07	79	*e*P	Pn	17 00 01.4	-0.4
LFU	La Fuente	1.07	334	*e*P	Pn	17 00 01.8	0.0
BOQS	Boqueron	1.14	327	*e*P	Pn	17 00 02.9	+0.1
BOQS				*e*S	Sn	17 00 17.6	+0.3
JAYA	Jayaque - finc	1.18	318	⇓*e*P	Pn	17 00 02.8	-0.5
JAYA				*e*S	Sn	17 00 17.6	-0.6
JAYA				IAML		17 00 20.4	
	comp=Z,2µm,0.2s						
CEVE	Cerro Verde	1.42	318	*e*P	Pn	17 00 07.1	+0.4
CEVE				IAML		17 00 37.6	
	comp=Z,1µm,0.3s						
SBLS	San Blas	1.43	318	*e*P	Pn	17 00 07.2	+0.4
CRIN	San Cristobal	1.55	93	*e*P	Pn	17 00 08.7	+0.4
CRIN				*e*S	Sn	17 00 28.1	+0.9
NUBE	Las Nubes	1.58	315	*e*P	Pn	17 00 08.6	-0.2
MTO3	Montecristo	1.76	337	*e*P	Pn	17 00 11.2	-0.1
MTO3	Montecristo	1.76	337	*e*P	Pn	17 00 11.5	+0.1
TEL3	Telica 3	1.76	96	*e*P	Pn	17 00 11.1	-0.1
CNGN	Cerro Negro	1.91	98	*e*P	Pn	17 00 12.7	-0.6
COPN	Copaltepe	2.08	106	*e*P	Pn	17 00 15.9	+0.2
APYN	Apoyeque	2.30	103	*e*P	Pn	17 00 17.9	-0.7

NEIC 02 17:38:55.1±2.0, 14.50°S±0.07°×167.75°E±0.09°, h180km±6km, mb4.5/27, Error ellipse: s-maj=14.9km s-min=4.5km az=52.0
IDC 02 17:39:02.7±2.9, 14.67°S×167.23°E, h235km±22km, mb3.5/6, mb1 3.7/8, mb1mx3.4/34, mbtmp4.2/8, Error ellipse: s-maj=31.3km s-min=17.9km az=72.0

ISC 02 17:38:53.9±0.7, 14.46°S±0.07°×167.73°E±0.09°, h170km, n47, σ1.88s/49, mb4.4/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.10	207		Pn	17 39 23.7	+2.3
SANVU				Sn	Sn	17 39 45.4	+2.7
LIFNC	LIFOU	6.30	184	Pn	Pn	17 40 24.2	-0.5
KOUNC	Koumac, New Ca	6.89	208	Pn	Pn	17 40 33.6	+1.1
MARNC	Mare, Loyalty	6.99	178	Pn	Pn	17 40 34.5	+0.7
DZM	Mont Dzumac	7.67	189	P	Pn	17 40 47.9	+5.0
	3.2nm,0.3s,baz=136,slow=22,SNR=16						
DZM				S	Sn	17 42 13.4	+4.5
	0.7nm,0.3s,baz=81,slow=23,SNR=1.6						
DZM	Mont Dzumac	7.67	189		Pn	17 40 44.4	+1.5
ONTNC	Ouen Toro	7.90	189	Pn	Pn	17 40 46.7	+0.9
OUENC	Ouen Island, N	7.96	186	Pn	Pn	17 40 46.5	-0.1
PINNC	Pines Island,	8.11	182	Pn	Pn	17 40 50.1	+1.5
HNR	Honiara	9.11	302	P	Pn	17 41 06.7	+4.7
	7.4nm,0.3s,baz=157,slow=7.7,SNR=2.5						
HNR				S	Sn	17 42 47.6	+4.1
	3.8nm,0.3s,baz=214,slow=16,SNR=1.2						

HNR	Honiara	9.11	302	Pn	Pn	17 41 03.2	+1.3
EIDS	Eidsvold	19.02	233	P	Pn	17 43 03.2	-2.4
EIDS				IAmb	IAmb	17 43 10.5	
	comp=Z,21nm,1.4s						
AFI	Afiamalu	19.88	91	P	P	17 43 11.2	-1.1
CTAO	Charters Tower	21.25	252	P	P	17 43 24.0	-2.9
CTAO				IAmb	IAmb	17 44 00.5	
	comp=Z,25nm,1.4s						
ARMA	Armidale	21.72	220	P	P	17 43 32.2	+0.3
ARMA				IAmb	IAmb	17 43 35.3	
	comp=Z,25nm,1.6s						
BKZ	Black Stump Fm	25.79	164	P	P	17 44 10.8	+1.7
BKZ				IAmb	IAmb	17 44 45.3	
	comp=Z,43nm,1.6s						
LTZ	Lake Taylor	28.49	173	P	P	17 44 34.6	+1.5
OXZ	Oxford	29.00	174	P	P	17 44 37.0	-0.6
STKA	Stephens Creek	29.50	230	P	P	17 44 42.3	0.0
	comp=Z,6.1nm,0.6s,baz=48,slow=8.7,SNR=20						
STKA	Stephens Creek	29.50	230	P	P	17 44 42.1	-0.2
TOO	Toolangi	30.33	217	P	P	17 44 49.6	+0.1
TOO				IAmb	IAmb	17 45 08.4	
	comp=Z,27nm,1.6s						
WR0	Warramunga Arr	32.14	255	P	P	17 45 02.6	-2.9
WB0	Warramunga Arr	32.26	256	P	P	17 45 03.8	-2.8
WB0				IAmb	IAmb	17 45 04.5	
	comp=Z,3.9nm,0.5s						
WB2	Warramunga Arr	32.31	256	P	P	17 45 04.0	-3.1
WB2				IAmb	IAmb	17 45 04.9	
	comp=Z,11nm,1.6s						
WRA	Warramunga Arr	32.32	256	P	P	17 45 04.6	-2.6
	comp=Z,1.0nm,0.4s,baz=86,slow=9.5,SNR=41						
WRA	Warramunga Arr	32.32	256	P	P	17 45 04.3	-2.9
AS31	Alice Springs	33.18	249	P	P	17 45 12.0	-2.7
ASAR	Alice Springs	33.19	249	P	P	17 45 12.1	-2.6
	comp=Z,2.2nm,0.5s,baz=78,slow=9.2,SNR=130						
ASAR				PcP	PcP	17 47 53.2	-0.4
	comp=Z,0.2nm,0.6s,baz=98,slow=2.8,SNR=1.7						
ASAR	Alice Springs	33.19	249	P	P	17 45 11.8	-2.9
BBOO	Buckleboo	34.09	232	P	P	17 45 21.6	-0.7
MTN	Manton Dam	35.58	268	P	P	17 45 33.8	-1.5
MTN				IAmb	IAmb	17 45 39.1	
	comp=Z,12nm,1.5s						
KNRA	Kununurra	37.61	263	P	P	17 45 50.2	-2.3
KNRA				IAmb	IAmb	17 45 51.1	
	comp=Z,6.7nm,1.1s						
FORT	Forrest	39.82	239	P	P	17 46 09.2	-1.5
FORT				IAmb	IAmb	17 46 22.0	
	comp=Z,27nm,1.2s						
FITZ	Fitzroy Crossi	40.50	259	P	P	17 46 15.0	-1.5
MBWA	Marble Bar	46.05	254	P	P	17 46 59.6	-1.3
NWAO	Narrogin (SRO)	49.27	239	P	P	17 47 25.1	-0.4
MORW	Morawa	49.78	244	P	P	17 47 27.7	-1.8
MORW				IAmb	IAmb	17 47 36.6	
	comp=Z,27nm,1.6s						
MJAR	Matsushiro Arr	57.88	332	P	P	17 48 27.8	-0.2
MJAR				IAmb	IAmb	17 48 32.5	
	comp=Z,7.6nm,1.6s						
MAJO	Matsushiro	57.88	332	P	P	17 48 28.0	0.0
MAJO				IAmb	IAmb	17 48 40.6	
	comp=Z,16nm,1.4s						
MJB9	Matsu-Tunnel	57.88	332	P	P	17 48 27.9	-0.1
MJB9				IAmb	IAmb	17 48 40.5	
	comp=Z,17nm,1.4s						
CMAR	Chiang Mai Arr	75.25	294	P	P	17 50 19.1	+0.5
	comp=Z,0.1nm,0.3s,baz=136,slow=5.5,SNR=4.2						
QSPA	South Pole Qui	75.56	180	P	P	17 50 20.3	+0.7
OHAK	Old Harbor	78.38	20	P	P	17 50 35.7	+0.5
P18K	Big Mountain,	79.49	18	P	P	17 50 41.2	0.0
P18K				IAmb	IAmb	17 50 43.9	
	comp=Z,12nm,1.2s						
SONM	Songino Array	82.55	323	P	P	17 50 59.1	+1.2
	comp=Z,0.2nm,0.4s,baz=136,slow=6.7,SNR=3.0						
MKAR	Makanchi Array	97.32	316	P	P	17 52 07.8	+0.1
	comp=Z,0.5nm,0.7s,baz=99,slow=6.3,SNR=5.8						
ARCES	ARCESS Array B	120.11	346	PKP	PKPdf	17 57 24.3	+0.5
	comp=Z,1.3nm,0.7s,baz=56,slow=2.0,SNR=10						

*NEIC **02** 17:41:36.1±2.6,23°.5S±0°.1×176°.07W±0°.09,h34km±2km, mb4.6/33,Error ellipse: s-maj=16.7km s-min=11.6km az=159.0*

*IDC **02** 17:41:41.9±7.5,23°.40S×176°.21W,h88km±56km,mb4.0/7, mb1 4.2/8,mb1mx3.8/32,mbtmp4.3/8,ML5.8/1,MS3.4/3, Ms1 3.4/3,ms1mx2.8/60,Error ellipse: s-maj=70.8km s-min=25.4km az=146.0*

ISC 02 17:41:35.6±0.6**,23°.47S**±0°.10×**176°.14W**±0°.09**,h33**km**,n60,** σ**1s.23**/52**,mb4.6**/17**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	7.26	54	Pn	Pn	17 43 19.4	0.0
NIUE				Sn	Sn	17 44 26.4	-14
MSVF	Nonsavu	7.88	315	P	Pn	17 43 33.3	+5.3
	4.3nm,0.3s,baz=221,slow=23,SNR=9.9						
MSVF				LR	LR	17 46 25.0	
	comp=Z,146nm,18.6s,baz=104,slow=36						
MSVF	Nonsavu	7.88	315		Pn	17 43 29.9	+1.9
PINNC	Pines Island,	15.13	270	Pn	Pn	17 45 06.8	-0.2
LIFNC	LIFOU	15.63	277	Pn	P	17 45 15.1	-2.2
OUENC	Ouen Island, N	15.71	270	Pn	P	17 45 15.8	-2.4
DZM	Mont Dzumac	16.12	272	LR	LR	17 50 38.5	
	comp=Z,109nm,18.8s,baz=37,slow=33						
DZM	Mont Dzumac	16.12	272		P	17 45 23.5	+0.6
SANVU	Saraoutou	17.60	294		P	17 45 40.3	+1.1
SANVU				IAmb	IAmb	17 46 08.2	
	comp=Z,127nm,1.4s						
BFZ	Birch Farm	18.32	199	P	Pn	17 45 49.9	+2.8
BFZ				IAmb	IAmb	17 46 09.1	
	comp=Z,53nm,1.2s						
KOUNC	Koumac, New Ca	18.38	275	P	Pn	17 45 50.2	+2.2
KOUNC				IAmb	IAmb	17 45 59.0	
	comp=Z,40nm,1.4s						
TUWZ	Tuamarina	19.74	203	P	Pn	17 46 03.9	-0.3
QRZ	Quartz Range	19.75	206	P	Pn	17 46 04.0	-0.3
QRZ				IAmb	IAmb	17 46 35.2	
	comp=Z,82nm,1.4s						
NNZ	Nelson	19.76	204	P	P	17 46 03.1	+0.4
NNZ				IAmb	IAmb	17 46 32.6	
	comp=Z,74nm,1.3s						
THZ	Tophouse	20.41	204	P	P	17 46 10.8	+0.9
THZ				IAmb	IAmb	17 46 28.9	
	comp=Z,50nm,1.6s						
KHZ	Kahutara	20.75	202	P	P	17 46 11.9	-1.6
KHZ				IAmb	IAmb	17 46 17.3	
	comp=Z,61nm,1.6s						
LTZ	Lake Taylor	21.53	204	P	P	17 46 21.3	-0.6
RPZ	Rata Peaks	22.78	205	LR	LR	17 54 43.3	
	comp=Z,147nm,18.4s,baz=11,slow=34						
MLZ	Mavora Lakes	25.32	207	P	P	17 46 59.3	+0.1
MLZ				IAmb	IAmb	17 47 03.5	
	comp=Z,31nm,1.5s						
EIDS	Eidsvold	29.86	260	P	P	17 47 38.7	-1.4
CTA	Charters Tower	35.02	268	P	P	17 48 26.1	+0.7
	comp=Z,9.8nm,0.4s,baz=90,slow=10,SNR=38						
CTAO	Charters Tower	35.02	268	P	P	17 48 25.9	+0.5
PMG	Port Moresby	37.74	286	P	P	17 48 48.1	-0.5
	comp=Z,15nm,0.9s,baz=110,slow=9.5,SNR=3.7						
PMG	Port Moresby	37.74	286	P	P	17 48 47.5	-1.1
STKA	Stephens Creek	38.16	248	P	P	17 48 52.9	+0.9
	comp=Z,1.0nm,0.3s,baz=80,slow=6.5,SNR=7.7						
STKA	Stephens Creek	38.16	248	P	P	17 48 51.2	-0.8
BBOO	Buckleboo	42.86	247	P	P	17 49 30.7	-0.2
AS31	Alice Springs	45.59	259	P	P	17 49 52.3	-0.6
ASAR	Alice Springs	45.59	259	P	P	17 49 52.6	-0.3
	comp=Z,1.2nm,0.4s,baz=92,slow=7.4,SNR=49						
ASAR				PcP	PcP	17 51 31.4	+0.4
	comp=Z,0.4nm,0.5s,baz=113,slow=4.1,SNR=4.2						
ASAR	Alice Springs	45.59	259	P	P	17 49 52.0	-0.9
WR0	Warramunga Arr	45.78	264	P	P	17 49 53.3	-1.1
WR0				IAmb	IAmb	17 49 56.5	
	comp=Z,3.9nm,0.6s						
WB2	Warramunga Arr	45.95	264	P	P	17 49 54.5	-1.3
WB2				IAmb	IAmb	17 49 57.7	
	comp=Z,5.7nm,0.8s						
WB0	Warramunga Arr	45.96	265	P	P	17 49 54.8	-1.0
WB0				IAmb	IAmb	17 49 55.6	
	comp=Z,6.3nm,0.6s						
WRAB	Tennant Creek	45.96	264	P	P	17 49 54.8	-1.0
WRAB				IAmb	IAmb	17 49 57.6	
	comp=Z,5.7nm,0.6s						
WRA	Warramunga Arr	45.97	264	P	P	17 49 55.0	-0.9
	comp=Z,4.6nm,0.5s,baz=102,slow=8.4,SNR=67						
WRA				PcP	PcP	17 51 32.7	+0.3
	comp=Z,0.4nm,0.6s,baz=101,slow=3.6,SNR=2.6						
WRA	Warramunga Arr	45.97	264	P	P	17 49 53.9	-2.0
FORT	Forrest	49.77	249	P	P	17 50 24.6	-0.5
MTN	Manton Dam	50.96	272	P	P	17 50 33.0	-1.4
MTN				IAmb	IAmb	17 50 37.2	
	comp=Z,6.7nm,1.0s						
KNRA	Kununurra	52.23	268	P	P	17 50 43.1	-0.7
KNRA				IAmb	IAmb	17 50 45.8	
	comp=Z,7.7nm,0.9s						
FITZ	Fitzroy Crossi	54.39	264	P	P	17 50 59.3	-0.4
FITZ				IAmb	IAmb	17 51 02.4	
	comp=Z,4.9nm,0.9s						
PSA00	Pilbara Seismi	58.72	258	P	P	17 51 29.0	-1.5
MBWA	Marble Bar	58.93	259	P	P	17 51 31.2	-0.8
MORW	Morawa	60.34	249	P	P	17 51 41.0	-0.6
TOLI2	Tolitoli	65.92	282	P	P	17 52 20.6	+1.8
TOLI2				IAmb	IAmb	17 52 25.0	
	comp=Z,7.4nm,1.1s						
QSPA	South Pole Qui	66.62	180	P	P	17 52 25.3	+2.7
QSPA				IAmb	IAmb	17 52 44.3	
	comp=Z,4.8nm,1.2s						
H03S2	Juan Fernandez	82.91	124	T	T	19 25 50.7	
	baz=245,SNR=51						
H03S1	Juan Fernandez	82.92	124	T	T	19 25 51.8	
	baz=245,SNR=53						
H03S3	Juan Fernandez	82.92	124	T	T	19 25 50.6	
	baz=245,SNR=43						
H03N2	Juan Fernandez	83.06	123	T	T	19 25 55.5	
	baz=251,slow=73,SNR=23						
H03N3	Juan Fernandez	83.06	123	T	T	19 25 56.7	
	baz=251,slow=73,SNR=33						
H03N1	Juan Fernandez	83.08	123	T	T	19 26 00.6	
	baz=251,slow=73,SNR=22						
TXAR	Lajitas Array	87.22	56	P	P	17 54 18.5	-0.6
	comp=Z,0.3nm,0.8s,baz=212,slow=4.4,SNR=4.2						
CMAR	Chiang Mai Arr	92.71	289	P	P	17 54 45.5	+0.7
	comp=Z,1.0nm,1.0s,baz=108,slow=3.6,SNR=4.1						
MKAR	Makanchi Array	114.47	312	PKP	PKPdf	18 00 09.9	-2.2
	comp=Z,0.1nm,0.5s,baz=45,slow=1.6,SNR=3.5						
ARCES	ARCESS Array B	132.13	350	PKP	PKPdf	18 00 43.6	-1.5
	comp=Z,2.0nm,0.9s,baz=11,slow=1.8,SNR=5.2						
FINES	FINESS Array B	139.09	344	PKP	PKPdf	18 00 58.5	+0.2
	comp=Z,2.1nm,0.9s,baz=2.9,slow=2.8,SNR=3.6						
AKASG	Malin Array Be	146.43	330	PKPbc	PKPbc	18 01 11.6	-1.4
	comp=Z,1.4nm,0.4s,baz=44,slow=4.3,SNR=16						
AKASG	Malin Array Be	146.43	330		PKPdf	18 01 10.8	-0.8
BRTR	Keskin Array B	150.08	310	PKPbc	PKPbc	18 01 22.2	-1.0
	comp=Z,0.6nm,0.7s,baz=153,slow=3.9,SNR=4.1						
CLL	Collm	151.32	348	*i* PKPbc	PKiKP	18 01 25.5	-0.5

*IDC **02** 17:53:11.7±1.3,55°.36S×28°.09W,h0km,mb3.9/2, mb1 3.9/3,mb1mx3.4/39,mbtmp3.9/3,ML4.1/1,Error ellipse: s-maj=70.9km s-min=27.7km az=90.0*

*NEIC **02** 17:53:16.6±2.6,55°.4S±0°.1×28°.5W±0°.2,h33km±4km, mb4.7/12,Error ellipse: s-maj=16.6km s-min=14.2km az=183.0*

ISC 02 17:53:17.6±0.8**,55°.4S**±0°.1×**28°.63W**±0°.10**,h45**km**,n20,** σ**1s.48**/19**,mb4.5**/5**,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	4.68	280	Pn	Pn	17 54 26.6	+1.0
HOPE				Sn	Sn	17 55 14.6	-3.9
ORCD	Orcadas	10.07	231	Pn	Pn	17 55 40.2	+0.8
SNAA	Sanae	19.69	156	P	P	17 57 41.0	-1.6
	0.6nm,0.3s,baz=278,slow=12,SNR=14						
SNAA	Sanae	19.69	156	IAmb	IAmb	17 58 18.5	
	comp=Z,54nm,2.0s						
PMSA	Palmer Station	19.74	227	P	P	17 57 44.3	+1.2
PMSA				IAmb	IAmb	17 58 10.3	
	comp=Z,59nm,1.1s						
SMAI	San Martin Ant	21.76	219	P	P	17 58 07.3	+2.4
SMAI				IAmb	IAmb	17 58 47.3	
	comp=Z,101nm,1.5s						
BELA	Belgrano 2	22.69	183	P	P	17 58 13.1	-1.8
QSPA	South Pole Qui	34.87	180	P	P	18 00 04.5	+0.2
	comp=Z,1.1nm,0.7s,baz=170,slow=1.9,SNR=7.2						
QSPA	South Pole Qui	34.87	180	P	P	18 00 04.4	+0.1
QSPA				IAmb	IAmb	18 00 15.6	
	comp=Z,24nm,1.9s						
VA01	Torpederas	37.26	289	P	P	18 00 25.3	+0.5
PB02	IPOC Station P	45.83	301	P	P	18 01 36.7	+1.6
VNDA	Vanda	47.20	183	P	P	18 01 45.3	+0.1
VNDA				IAmb	IAmb	18 02 56.1	
	comp=Z,12nm,1.9s						
CRZF	Crozet Islands	48.83	115	P	P	18 02 03.3	+5.2
OTAV	Otavalo	68.61	305	P	P	18 04 16.4	0.0
TOA0	Torodi Ar. Sit	72.88	31	P	P	18 04 41.4	-0.3
TOA0				IAmb	IAmb	18 06 32.6	
	comp=Z,11nm,1.6s						
TORD	Torodi Ar. Bea	72.88	31	P	P	18 04 41.3	-0.4
	comp=Z,0.5nm,0.4s,baz=197,slow=6.0,SNR=6.8						
TORD	Torodi Ar. Bea	72.88	31	P	P	18 04 40.5	-1.2
ILAR	Eielson Array	149.06	313	PKPbc	PKiKP	18 13 00.2	-0.3
	comp=Z,1.2nm,0.8s,baz=104,slow=1.3,SNR=10						
ILAR	Eielson Array	149.06	313		PKPbc	18 12 59.6	+0.3
SONM	Songino Array	151.50	86	PKPbc	PKiKP	18 13 05.8	-0.4
	comp=Z,0.6nm,0.6s,baz=226,slow=2.7,SNR=5.3						

*IDC **02** 17:53:17.9±1.1,18°.50S×65°.29E,h0km,mb3.9/9, mb1 4.0/9,mb1mx3.7/42,mbtmp3.9/9,MS3.9/35, Ms1 3.9/35,ms1mx3.7/77,Error ellipse: s-maj=38.7km s-min=23.9km az=76.0*

*NEIC **02** 17:53:18.8±2.1,18°.54S±0°.08×65°.09E±0°.06,h10km±1km, mb4.5/27,Error ellipse: s-maj=16.9km s-min=5.1km az=213.0*

*GCMT **02** 17:53:25.8±0.2,18°.52S±0°.02×65°.38E±0°.02,h12km, MW4.9/99,Moment Tensor Solution. s29,c32; s99,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.94±.07; $M_{\theta\theta}$0.55±.08; $M_{\phi\phi}$2.39±.07; $M_{r\theta}$-0.11±.29; $M_{\theta\phi}$-0.79±.06; $M_{\phi r}$1.17±.27; Best double couple: $M_0$3.04500×10^{16} NP1:ϕ_s335.00000°,δ34.00000°,λ-98.00000°. NP2: ϕ_s165.00000°,δ56.00000°,λ-84.00000°. Principal axes: T 2.9030, Plg11.0000°, Azm251.0000°; N 0.2790, Plg5.0000°, Azm342.0000°; P -3.1860, Plg78.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 17:53:18.9±0.6**,18°.6S**±0°.1×**65°.21E**±0°.08**,h10**km**,n76,** σ**1s.68**/43**,mb4.3**/20**,MS4.0**/35**,Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RER	Riviere de l'E	9.26	253	Pn	Pn	17 55 30.7	-1.9
H08S1	Diego Carcia H	12.99	34	T	T	18 09 39.0	
	baz=211,slow=76,SNR=87						
H08S2	Diego Garcia H	13.00	34	T	T	18 09 34.8	
	baz=211,slow=76,SNR=8.0						
H08S3	Diego Garcia H	13.01	34	T	T	18 09 35.8	
	baz=211,slow=76,SNR=6.7						
MSEY	Mahe Island	16.80	324		Pn	17 57 12.5	-1.9
MSEY				IAmb	IAmb	17 57 33.3	
	comp=Z,56nm,1.6s						
ABPO	Ambohimpanom	17.03	266	P	Pn	17 57 17.2	-0.2
OPO	Ambohidratompo	17.08	267	P	P	17 57 23.0	+3.1
	comp=Z,0.3nm,0.3s,baz=105,slow=12,SNR=1.3						
KMBO	Kilima Mbogo	32.46	299	LR	LR	18 10 41.1	
	comp=Z,195nm,19.5s,baz=94,slow=32						
MATP	Matopo	34.60	261	LR	LR	18 12 59.0	
	comp=Z,278nm,18.1s,baz=82,slow=34						
LSZ	Lusaka	35.53	270	LR	LR	18 13 00.1	
	comp=Z,227nm,20.5s,baz=108,slow=33						
LODK	Lodwar	36.65	304	P	P	18 00 25.5	-0.6
ATD	Arta Tunnel	37.19	322	LR	LR	18 13 04.0	
	comp=Z,39nm,20.6s,baz=71,slow=32						
LBTB	Lobatse	37.23	253	LR	LR	18 13 50.7	
	comp=Z,443nm,18.6s,baz=82,slow=33						
BOSA	Boshof	37.79	247	LR	LR	18 12 52.2	
	comp=Z,177nm,22.0s,baz=69,slow=31						
TSUM	Tsumeb	44.95	261	LR	LR	18 19 39.5	
	comp=Z,197nm,18.3s,baz=92,slow=35						
CMAR	Chiang Mai Arr	49.55	44	P	P	18 02 10.2	-0.1
	comp=Z,1.2nm,0.9s,baz=228,slow=8.0,SNR=12						
CMAR				LR	LR	18 19 29.8	
	comp=Z,149nm,21.8s,baz=230,slow=32						
CMAR	Chiang Mai Arr	49.55	44	P	P	18 02 08.0	-2.3
CHTO	Chiang Mai	49.81	44	P	P	18 02 12.5	+0.2
CHTO				IAmb	IAmb	18 02 32.0	
	comp=Z,6.8nm,1.6s						
SBUM	Sibu	50.76	71	P	P	18 02 20.2	+0.7
SBUM				IAmb	IAmb	18 02 26.1	
	comp=Z,8.7nm,1.8s						
MMRI	Maumere	56.11	88	P	P	18 02 59.6	+0.6
GEYT	Alibeck	56.63	353	LR	LR	18 25 25.9	
	comp=Z,40nm,18.3s,baz=198,slow=34						
BATI	Baumata	57.03	90	LR	LR	18 23 21.7	
	comp=Z,129nm,21.1s,baz=217,slow=32						
FITZ	Fitzroy Crossi	57.11	100	LR	LR	18 27 32.8	
	comp=Z,110nm,18.1s,baz=276,slow=36						
FITZ	Fitzroy Crossi	57.11	100	P	P	18 03 05.5	-0.5
FITZ				IAmb	IAmb	18 03 09.5	
	comp=Z,18nm,1.8s						
AAK	Ala-Archa	61.54	8	LR	LR	18 28 52.5	
	comp=Z,136nm,18.7s,baz=196,slow=35						
AAK	Ala-Archa	61.54	8	P	P	18 03 35.1	-1.2
AAK				IAmb	IAmb	18 03 56.0	
	comp=Z,2.7nm,1.2s						
KKAR	Karatay Array	61.60	4	P	P	18 03 35.8	-0.7
ASAR	Alice Springs	63.74	108	P	P	18 03 51.5	+0.1
	comp=Z,0.9nm,0.8s,baz=266,slow=6.0,SNR=7.3						
ASAR				LR	LR	18 27 24.7	
	comp=Z,362nm,21.3s,baz=287,slow=32						
ASAR	Alice Springs	63.74	108	P	P	18 03 51.2	-0.1
AS31	Alice Springs	63.74	108	P	P	18 03 51.1	-0.3
DAV	Davao City (W)	64.75	73	LR	LR	18 29 48.1	
	comp=Z,92nm,21.4s,baz=292,slow=34						
WRA	Warramunga Arr	64.83	104	P	P	18 03 58.5	-0.1
	comp=Z,1.0nm,0.9s,baz=258,slow=6.7,SNR=5.6						
WRA				LR	LR	18 29 47.1	
	comp=Z,228nm,18.9s,baz=180,slow=34						
WRA	Warramunga Arr	64.83	104	P	P	18 03 57.5	-1.0
WB0	Warramunga Arr	64.91	104	P	P	18 03 58.4	-0.7
WB0				IAmb	IAmb	18 04 11.5	
	comp=Z,13nm,1.6s						
BRTR	Keskin Array B	65.08	334	LR	LR	18 31 40.7	
	comp=Z,38nm,18.2s,baz=142,slow=35						
MAKZ	Makanchi	66.84	12	P	P	18 04 09.4	-1.5
MAKZ				IAmb	IAmb	18 04 24.7	
	comp=Z,2.1nm,1.1s						
MK31	Makanchi Array	66.90	13	P	P	18 04 09.2	-2.0
MK31				IAmb	IAmb	18 04 25.8	
	comp=Z,8.0nm,1.7s						
MKAR	Makanchi Array	66.90	13	P	P	18 04 10.7	-0.5
	comp=Z,1.1nm,0.9s,baz=210,slow=7.0,SNR=9.7						
MKAR				LR	LR	18 31 36.4	
	comp=Z,82nm,18.2s,baz=182,slow=34						
MKAR	Makanchi Array	66.90	13	P	P	18 04 08.9	-2.3
SHEL	Horse Pasture	67.39	260	P	P	18 04 14.6	-0.5
ABKAR	Akbulak array	67.72	356	P	P	18 04 15.3	-1.0
ABKAR				IAmb	IAmb	18 04 44.6	
	comp=Z,6.5nm,1.6s						
STKA	Stephens Creek	69.11	118	LR	LR	18 29 25.5	
	comp=Z,175nm,20.7s,baz=213,slow=31						
KURK	Kurchatov	70.02	9	P	P	18 04 29.3	-1.3
KURK				IAmb	IAmb	18 04 54.6	
	comp=Z,3.3nm,1.0s						
TORD	Torodi Ar. Bea	70.10	292	LR	LR	18 34 17.8	
	comp=Z,73nm,18.2s,baz=232,slow=35						
YOJ	Yonaguni jima	70.74	55	P	P	18 04 35.9	+0.3
TIRR	Tirgusor	71.19	333	P	P	18 04 37.7	-0.2
QSPA	South Pole Qui	71.50	180	P	P	18 04 41.2	+1.4
	comp=Z,2.4nm,0.9s,baz=296,slow=2.5,SNR=6.1						
QSPA	South Pole Qui	71.50	180	P	P	18 04 40.5	+0.7
QSPA				IAmb	IAmb	18 04 47.1	
	comp=Z,11nm,1.3s						
DBIC	Dimbokro	73.46	283	LR	LR	18 37 37.0	
	comp=Z,77nm,18.0s,baz=132,slow=36						
DBIC	Dimbokro	73.46	283	P	P	18 04 51.2	-0.9
ZAA0	Zalesovo Array	74.20	12	P	P	18 04 54.3	-1.3
ZAA0				IAmb	IAmb	18 05 14.2	
	comp=Z,5.9nm,1.2s						
ZALV	Zalesovo Beam	74.20	12	P	P	18 04 54.6	-1.0
	comp=Z,2.6nm,0.8s,baz=200,slow=6.4,SNR=10						
ZALV				LR	LR	18 35 16.0	
	comp=Z,66nm,20.6s,baz=198,slow=34						
CLTB	Caltabellotta	74.25	319	P	P	18 04 54.9	-1.6
ARU	Arti	74.95	356	P	P	18 05 01.0	+1.1
ARU				IAmb	IAmb	18 05 25.6	
	comp=Z,8.7nm,1.4s						
BURAR	Bucovina Array	75.05	333	P	P	18 05 02.1	+1.3
KEST	Kesra	75.60	316	LR	LR	18 38 30.9	
	comp=Z,85nm,18.0s,baz=289,slow=36						
CTA	Charters Tower	75.70	107	LR	LR	18 36 09.5	
	comp=Z,174nm,18.3s,baz=242,slow=34						
SONM	Songino Array	75.73	27	P	P	18 05 05.0	+0.2
	comp=Z,0.4nm,0.4s,baz=217,slow=6.7,SNR=4.5						
SONM	Songino Array	75.73	27	P	P	18 05 04.2	-0.5
AKASG	Malin Array Be	75.92	337	P	P	18 05 06.3	+0.7
	comp=Z,0.2nm,0.3s,baz=149,slow=5.1,SNR=5.1						
JOW	Kunigami	76.03	55	LR	LR	18 34 43.0	
	comp=Z,78nm,21.9s,baz=268,slow=33						
PMG	Port Moresby	79.48	96	LR	LR	18 38 45.7	
	comp=Z,120nm,19.3s,baz=237,slow=34						
KSRS	Korea Array	81.15	46	P	P	18 05 35.7	+1.0
	comp=Z,1.0nm,0.9s,baz=251,slow=3.7,SNR=3.0						
KSRS				LR	LR	18 41 54.6	
	comp=Z,26nm,18.8s,baz=250,slow=36						
WTTA	Wattenberg	81.30	326	*i* Sg	S	18 15 52.5	+6.1
	comp=Z,0.2nm,0.1s						
WATA	Walderalm	81.37	326	*i* Sg	S	18 15 51.5	+4.4
	comp=Z,0.5nm,0.1s						
CLL	Collm	83.23	330	*e*Px	Px	18 05 49.0	
MDT	Midelt	84.00	307	LR	LR	18 44 51.7	
	comp=Z,63nm,18.4s,baz=157,slow=37						
ESDC	Sonseca Array	86.64	314	LR	LR	18 46 36.9	
	comp=Z,73nm,18.0s,baz=121,slow=37						
USRK	Ussuriysk Ar.	87.22	41	LR	LR	18 47 00.8	
	comp=Z,44nm,18.0s,baz=215,slow=37						
JCJ	Chichijima	87.32	60	LR	LR	18 40 48.1	
	comp=Z,53nm,21.3s,baz=126,slow=33						
MJAR	Matsushiro Arr	87.98	50	LR	LR	18 44 40.6	
	comp=Z,40nm,20.4s,baz=216,slow=35						
NRIK	Noril'sk	89.15	8	LR	LR	18 44 47.9	
	comp=Z,46nm,19.6s,baz=148,slow=35						
KLR	Kul'dur	89.54	37	LR	LR	18 46 42.1	
	comp=Z,75nm,20.7s,baz=222,slow=36						
ASAJ	Asahikawa	94.06	45	LR	LR	18 49 14.4	
	comp=Z,29nm,19.3s,baz=174,slow=36						
RCBR	Riachuelo	98.62	261	LR	LR	18 46 17.2	
	comp=Z,85nm,18.9s,baz=300,slow=32						
YKA	Yellowknife Ar	136.16	360	PKP	PKPdf	18 12 40.0	0.0
	comp=Z,0.5nm,0.9s,baz=360,slow=1.9,SNR=4.3						

*ISK **02** 17:55:08.2,38°.54N×26°.78E,h12km,ML2.3/14*

*ATH **02** 17:55:09.0,38°.50N×26°.70E,h34km±9km,ML2.5/4,Error ellipse: s-maj=9.4km s-min=1.6km az=240.0*

*DDA **02** 17:55:08.9±0.0,38°.53N×26°.78E,h8km±1km,ML2.2*

*THE **02** 17:55:10.9,38°.49N×26°.65E,h29km±3km,ML2.3/5,Error ellipse: s-maj=3.5km s-min=0.8km az=238.0*

ISC 02 17:55:08.6±0.9**,38°.53N**±0°.02×**26°.77E**±0°.02**,h14**km±6km**, n41,**σ**0s.54**/63**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FOCM	Foa	0.19	351	PG	Pg	17 55 12.1	-0.9
FOCM				SG	Sg	17 55 15.8	-0.1
URLA	Izmir	0.21	219	P	Pg	17 55 13.7	+0.3
URLA				S	Sg	17 55 16.3	-0.4
URLA				*i* AML	AML	17 55 19.0	
	comp=N,224nm,0.2s						
URLA				*i* AML	AML	17 55 20.0	
	comp=E,365nm,0.5s						
ZEYE	Izmir, Urla-Ze	0.35	216	P	Pg	17 55 16.2	+0.4
ZEYE				*i* AML	AML	17 55 22.0	
	comp=E,679nm,0.3s						
ZEYE				S	Sb	17 55 22.2	+0.1
ZEYE				*i* AML	AML	17 55 24.0	
	comp=N,344nm,0.3s						
DGB	zmir	0.48	169	P	Pg	17 55 18.4	+0.2
DGB				*i* AML	AML	17 55 30.0	
	comp=N,88nm,0.1s						
DGB				*i* AML	AML	17 55 30.0	
	comp=E,95nm,0.1s						
ZEDA	zmir-Bergama	0.50	29	P	Pg	17 55 18.8	+0.3
ZEDA				S	Sg	17 55 25.9	+0.7
ZEDA				*i* AML	AML	17 55 26.0	
	comp=N,122nm,0.6s						
ZEDA				*i* AML	AML	17 55 26.0	
	comp=E,98nm,0.3s						
DKL	Dikili	0.55	11	PG	Pg	17 55 19.5	0.0
DKL				SG	Sg	17 55 27.2	+0.3
CHOS	Chios island	0.58	256	P	Pg	17 55 20.4	+0.4
CHOS				S	Sg	17 55 27.9	+0.3
CHOS				AML	AML	17 55 32.2	
	comp=N,760µm,0.2s						

CHOS				AML	AML	17 55 33.3	
	comp=E,1266µm,0.3s						
CHOS	Chios island	0.58	256	P	Pg	17 55 20.3	+0.4
CHOS				S	Sg	17 55 28.2	+0.6
	comp=E,505nm,0.2s						
CHOS	Chios island	0.58	256	PG	Pg	17 55 20.3	+0.4
CHOS				SG	Sb	17 55 28.7	+0.1
PRK	Paraskevi	0.82	332	P	Pn	17 55 25.6	-0.1
PRK				S	Sb	17 55 36.3	+0.9
PRK				AML	AML	17 55 38.6	
	comp=N,1977µm,0.5s						
PRK				AML	AML	17 55 38.9	
	comp=E,2094µm,0.4s						
PRK	Paraskevi	0.82	332	P	Pn	17 55 25.7	0.0
PRK				S	Sb	17 55 36.6	+1.2
	comp=E,1µm,0.5s						
SMG	Samos	0.82	176	P	Pg	17 55 24.4	-0.1
SMG				S	Sn	17 55 36.6	-1.1
SMG				AML	AML	17 55 39.9	
	comp=N,466µm,0.7s						
SMG				AML	AML	17 55 41.3	
	comp=E,389µm,0.3s						
SMG	Samos	0.82	176	P	Pg	17 55 24.5	0.0
SMG				S	Sn	17 55 36.5	-1.1
	comp=E,215nm,0.5s						
AKS	Akhisar	0.89	66	PG	Pb	17 55 25.5	-0.3
GCAM	G?zelcaml?	0.90	156	P	Pn	17 55 26.5	-0.3
GCAM				S	Sb	17 55 38.6	+0.7
GCAM				*i* AML	AML	17 55 40.0	
	comp=E,64nm,0.2s						
GCAM				*i* AML	AML	17 55 40.0	
	comp=E,65nm,0.2s						
PSRA	Psara	0.94	271	P	Pg	17 55 27.2	+0.3
PSRA				S	Sb	17 55 39.2	+0.2
SIGR	SIGRI	0.99	314	P	Pb	17 55 27.5	+0.1
SIGR				AML	AML	17 55 42.2	
	comp=E,321µm,0.5s						
SIGR				AML	AML	17 55 43.5	
	comp=N,336µm,0.6s						
SIGR	SIGRI	0.99	314	P	Pb	17 55 27.3	-0.2
SIGR				S	Sb	17 55 40.3	0.0
	comp=N,165nm,0.5s						
SIGR	SIGRI	0.99	314	PG	Pb	17 55 27.6	+0.1
BUHA	Balikesir, Bur	1.00	14	P	Pb	17 55 27.8	+0.1
BUHA				S	Sb	17 55 41.1	+0.3
BUHA				*i* AML	AML	17 55 43.0	
	comp=N,69nm,0.3s						
BUHA				*i* AML	AML	17 55 45.0	
	comp=N,134nm,0.6s						
GPNR	Gulpinar-Canak	1.05	332	PG	Pb	17 55 28.7	+0.1
KOCA	Canakkale, Ayv	1.09	333	P	Pb	17 55 29.2	-0.1
KOCA				S	Sb	17 55 43.8	+0.5
KOCA				*i* AML	AML	17 55 45.0	
	comp=N,108nm,0.5s						
KOCA				*i* AML	AML	17 55 48.0	
	comp=N,105nm,0.5s						
STEP	BALIKESIR_Sava	1.13	41	P	Pb	17 55 29.9	0.0
STEP				S	Sg	17 55 45.4	+0.3
STEP				*i* AML	AML	17 55 49.0	
	comp=N,81nm,0.7s						
STEP				*i* AML	AML	17 55 49.0	
	comp=N,96nm,0.3s						
BAYC	CANAKKALE_Bayr	1.23	352	P	Pn	17 55 31.0	-0.3
BAYC				S	Sb	17 55 47.1	-0.1
EZN	Ezine	1.34	345	P	Pn	17 55 33.0	+0.1
EZN				S	Sn	17 55 49.4	-1.1
	comp=N,62nm,0.2s						
EZN	Ezine	1.34	345	PN	Pn	17 55 32.9	+0.1
MLSB	Milas	1.47	147	PN	Pn	17 55 35.1	+0.5
KULA	Kula-Manisa	1.48	90	P	Pg	17 55 36.7	-0.4
KULA				S	Sb	17 55 55.5	+0.7
KULA	Kula-Manisa	1.48	90	PN	Pn	17 55 35.5	+0.6
BODT	Bodrum	1.52	163	P	Pb	17 55 36.1	-0.5
BODT	Bodrum	1.52	163	PN	Pb	17 55 36.2	-0.4
GONE	Gonen-Balikesi	1.68	25	PN	Pn	17 55 37.9	+0.4
SIMA	Simav-Kutahya	1.82	72	PN	Pn	17 55 39.9	+0.4
YER	Yerkesik	1.84	139	PN	Pn	17 55 40.7	+0.9
LIA	Limnos Island	1.84	319	P	Pn	17 55 39.6	-0.2
LIA	Limnos Island	1.84	319	P	Pn	17 55 40.0	+0.2
LIA				S	Sn	17 56 01.3	-1.5
GELI	Tayfur-Gelibol	1.88	353	PN	Pn	17 55 40.7	+0.4
SMTH	Samothraki Isl	2.17	334	P	Pn	17 55 44.1	-0.1
RKY	Sarkoy-Tekirda	2.18	8	PN	Pn	17 55 45.4	+0.9
TVSB	Tavsanli	2.29	65	PN	Pn	17 55 46.6	+0.5
ALN	Alexandroupoli	2.43	347	PN	Pn	17 55 48.8	+0.9

*IDC **02** 18:01:43.9±0.5, 18°.59S×65°.44E, $h0^{km}$, mb4.1/17, mb1 4.3/18, mb1mx4.0/47, mbtmp4.1/18, ML4.1/1, MS3.9/6, Ms1 3.9/6, ms1mx3.2/77, Error ellipse: s-maj=18.2km s-min=16.8km az=80.0*

*NEIC **02** 18:01:45.7±1.0, 18°.6S±0°.1×65°.4E±0°.1, $h10^{km}\pm1^{km}$, mb4.8/29, Error ellipse: s-maj=20.3km s-min=15.8km az=162.0*

ISC 02 18:01:46.1±0.5**, 18°.70S**±0°.09×**65°.36E**±0°.08**, $h15^{km}$, n83,** $\sigma 1^{s}.42$/76**, mb4.5**/40**, MS4.0**/8**, 1C-2D, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	9.37	253	Pn	Pn	18 03 58.1	-2.7
H08S1	Diego Carcia H	12.98	33	T	T	18 18 04.8	
	baz=211,slow=76,SNR=110						
H08S2	Diego Garcia H	12.99	33	T	T	18 18 05.7	
	baz=211,slow=76,SNR=66						
H08S3	Diego Garcia H	13.00	33	T	T	18 18 06.3	
	baz=211,slow=76,SNR=135						
MSEY	Mahe Island	16.96	324		Pn	18 05 43.1	+0.1
ABPO	Ambohimpanom	17.17	266		Pn	18 05 46.5	+0.7
OPO	Ambohidratompo	17.23	268	P	P	18 05 49.1	+1.1
	0.7nm,0.3s,baz=73,slow=14,SNR=3.2						
KMBO	Kilima Mbogo	32.64	299	LR	LR	18 20 02.3	
	comp=Z,137nm,18.3s,baz=91,slow=34						
LSZ	Lusaka	35.67	270	LR	LR	18 21 36.1	
	comp=Z,223nm,19.4s,baz=112,slow=33						
LSZ	Lusaka	35.67	270	P	P	18 08 43.3	-1.0
LSZ				IAmb	IAmb	18 09 03.5	
	comp=Z,20nm,1.9s						
LBTB	Lobatse	37.34	253	P	P	18 08 59.4	+1.0
	comp=Z,4.4nm,0.8s,baz=97,slow=11,SNR=5.6						
LBTB				LR	LR	18 22 17.2	
	comp=Z,368nm,18.4s,baz=82,slow=33						
LBTB	Lobatse	37.34	253	IAmb	IAmb	18 09 16.2	
	comp=Z,22nm,1.4s						
BOSA	Boshof	37.89	247	LR	LR	18 21 51.8	
	comp=Z,137nm,21.6s,baz=57,slow=32						
WSAR	Wadi Sarin	42.20	351	LR	LR	18 24 44.6	
	comp=Z,54nm,18.1s,baz=145,slow=33						
TSUM	Tsumeb	45.08	261	LR	LR	18 28 05.7	
	comp=Z,194nm,18.2s,baz=104,slow=35						
MAW	Mawson	48.91	181	P	P	18 10 32.6	+1.5
	comp=Z,5.0nm,1.0s,baz=344,slow=5.9,SNR=2.9						
CMAR	Chiang Mai Arr	49.51	44	P	P	18 10 36.8	+0.3
	comp=Z,2.4nm,0.9s,baz=233,slow=8.7,SNR=24						
CMAR	Chiang Mai Arr	49.51	44	P	P	18 10 35.2	-1.2
SBUM	Sibu	50.65	71	P	P	18 10 44.2	-1.0
SYO	Syowa Base	52.78	191	⇓*e*P	P	18 11 02.0	+1.7
SYO	Syowa Base	52.78	191	⇓*e*sP	sP	18 11 05.8	+0.1
GHAJ	Ghor Haditha	57.36	330	P	P	18 11 36.4	+2.5
GHAJ				IAmb	IAmb	18 11 42.8	
	comp=Z,14nm,1.0s						
KSH	Kashi	58.76	10	P	P	18 11 40.8	-2.9
KSH				sP	pwP	18 11 50.9	-0.5
KSH				pmax	pmax		
	comp=Z,8.0nm,1.6s						
GURO	Guroymak-BITLI	61.01	339	P	P	18 12 02.0	+2.8
GURO				IAmb	IAmb	18 12 09.8	
	comp=Z,16nm,1.7s						
GOMU	GeErMu	61.30	27	P	P	18 12 06.1	+4.6
GOMU				pP	pwP	18 12 09.7	+0.5
GOMU				sP	sP	18 12 13.7	+6.7
GOMU				S	S	18 20 24.3	+2.6
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,110nm,4.9s						
GOMU				LR	LR		
	comp=N,88nm,10.6s						
GOMU				LR	LR		
	comp=E,38nm,10.8s						
GOMU				LR	LR		
	comp=Z,57nm,10.5s						
AAK	Ala-Archa	61.61	8	P	P	18 12 02.6	-0.6
GNI	Garni	61.62	342	P	P	18 12 02.1	-1.2
KKAR	Karatay Array	61.68	4	P	P	18 12 03.3	-0.2
ASAR	Alice Springs	63.57	108	P	P	18 12 16.2	-0.4
	comp=Z,2.0nm,0.9s,baz=255,slow=6.1,SNR=12						
ASAR	Alice Springs	63.57	108	P	P	18 12 15.5	-1.2
WRA	Warramunga Arr	64.66	104	P	P	18 12 23.7	-0.2
	comp=Z,3.9nm,1.1s,baz=263,slow=5.8,SNR=14						
WRA	Warramunga Arr	64.66	104	P	P	18 12 23.3	-0.6
WB2	Warramunga Arr	64.67	104	P	P	18 12 23.3	-0.6
BRTR	Keskin Array B	65.23	333	P	P	18 12 27.5	+0.2
	comp=Z,0.4nm,0.7s,baz=133,slow=8.5,SNR=1.7						
IDI	Anoyia	66.01	324	P	P	18 12 33.2	+0.9
IDI				IAmb	IAmb	18 12 40.1	
	comp=Z,10nm,1.1s						
GTA	Gaotai	66.17	29	⇑P	P	18 12 34.0	+0.7
GTA				sP	pwP	18 12 44.6	+3.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,59nm,5.8s						
GTA				LR	LR		
	comp=N,65nm,16.7s						
GTA				LR	LR		
	comp=E,81nm,16.0s						
GTA				LR	LR		
	comp=Z,120nm,17.8s						
XAN	Xi'an	66.87	38	P	P	18 12 37.1	-0.7
XAN				pP	pwP	18 12 47.2	+1.7
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,87nm,6.4s						
MAKZ	Makanchi	66.91	12	P	P	18 12 37.3	-0.4
MAKZ				IAmb	IAmb	18 12 38.7	
	comp=Z,7.0nm,1.5s						
MK31	Makanchi Array	66.95	13	P	P	18 12 37.5	-0.6
MK31				IAmb	IAmb	18 12 38.9	
	comp=Z,8.0nm,1.4s						
MKAR	Makanchi Array	66.95	13	P	P	18 12 37.1	-0.9
	comp=Z,2.1nm,1.0s,baz=198,slow=6.4,SNR=15						
MKAR	Makanchi Array	66.95	13	P	P	18 12 37.4	-0.6
ABKAR	Akbulak array	67.82	356	P	P	18 12 42.7	-0.7
ABKAR				IAmb	IAmb	18 12 45.6	
	comp=Z,12nm,1.6s						
ABKAR	Akbulak array	67.82	356	P	P	18 12 42.8	-0.6
KURK	Kurchatov	70.09	9	P	P	18 12 57.3	-0.2
KURK				IAmb	IAmb	18 12 58.6	
	comp=Z,14nm,1.6s						
TORD	Torodi Ar. Bea	70.27	292	P	P	18 12 57.9	-1.5
	comp=Z,0.2nm,0.4s,baz=117,slow=3.8,SNR=2.3						
QSPA	South Pole Qui	71.40	180	P	P	18 13 06.6	+1.0
	comp=Z,3.5nm,0.7s,baz=293,slow=0.4,SNR=11						
QSPA	South Pole Qui	71.40	180	P	P	18 13 06.3	+0.7
BRVK	Borovoye	71.58	3	P	P	18 13 05.8	-0.7
MLR	Muntele Rosu	73.23	332	P	P	18 13 16.4	-0.3
VNDA	Vanda	73.28	167	P	P	18 13 17.6	+1.1
	comp=Z,1.3nm,0.9s,baz=292,slow=8.2,SNR=3.6						
VNDA	Vanda	73.28	167	P	P	18 13 17.2	+0.8
VNDA				IAmb	IAmb	18 13 18.1	
	comp=Z,11nm,1.6s						
ZAA0	Zalesovo Array	74.26	12	P	P	18 13 21.6	-0.8
ZALV	Zalesovo Beam	74.26	12	P	P	18 13 21.9	-0.5
	comp=Z,3.6nm,0.7s,baz=207,slow=6.8,SNR=18						
ZALV	Zalesovo Beam	74.26	12	P	P	18 13 21.3	-1.0
SONM	Songino Array	75.75	27	P	P	18 13 31.1	-0.2
	comp=Z,1.0nm,0.9s,baz=213,slow=5.4,SNR=7.9						
AKASG	Malin Array Be	76.07	337	P	P	18 13 32.1	-0.7
	comp=Z,1.5nm,0.7s,baz=143,slow=4.8,SNR=8.8						
AKASG	Malin Array Be	76.07	337	P	P	18 13 31.5	-1.4
AKBB	Malin Array Si	76.07	337	P	P	18 13 32.9	+0.1
AKBB				IAmb	IAmb	18 13 39.6	
	comp=Z,6.1nm,1.0s						
SOKA	Soboth	79.31	327	*e*P	P	18 13 52.2	+1.1
	comp=Z,5.9nm,1.4s						
RONA	Rosalia, Austr	79.37	329	*e*P	P	18 13 54.0	+2.6
	comp=Z,5.6nm,0.9s						
OBKA	Obir	79.45	327	*e*P	P	18 13 54.5	+2.6
	comp=Z,4.6nm,1.2s						
ARSA	Arzberg	79.45	328	*e*P	P	18 13 53.1	+1.2
	comp=Z,6.6nm,1.6s						
CONA	Conrad Observa	79.74	329	*e*P	P	18 13 54.4	+0.9
	comp=Z,9.9nm,1.4s						
MOA	Molln	80.48	328	*e*P	P	18 13 59.5	+2.1
	comp=Z,5.1nm,1.2s						
ABTA	Abfaltersbach	80.66	326	*e*P	P	18 13 59.5	+1.0
	comp=Z,7.1nm,1.5s						
KSAR	Wonju Array Be	81.07	46	P	P	18 13 59.7	-1.1
KSRS	Korea Array	81.11	46	P	P	18 14 00.2	-0.7
	comp=Z,1.3nm,1.0s,baz=151,slow=2.9,SNR=6.2						
WATA	Walderalm	81.53	326	*e*P	P	18 14 04.8	+1.6
	comp=Z,3.0nm,0.9s						
KLMR	Klimovskoe	81.97	348	*e*P	P	18 14 04.1	-0.9
KLMR				AMP		18 14 07.8	
	comp=Z,25nm,1.5s						
RETA	Reutte	82.06	326	*e*P	P	18 14 07.7	+1.8
	comp=Z,6.1nm,1.7s						
DAVA	Damuels	82.40	326	*e*P	P	18 14 09.7	+1.9
	comp=Z,6.9nm,1.2s						
CLL	Collm	83.38	330	*e*P	P	18 14 15.0	+2.4
CLL				*i* x	x	18 14 19.4	
	comp=Z,19nm,2.1s						
FINES	FINESS Array B	85.81	342	P	P	18 14 24.4	-0.1
	comp=Z,2.4nm,0.9s,baz=108,slow=7.6,SNR=3.9						
ESDC	Sonseca Array	86.81	314	P	P	18 14 30.4	+0.2
	comp=Z,1.0nm,0.9s,baz=103,slow=4.1,SNR=4.3						
ESDC	Sonseca Array	86.81	314	P	P	18 14 30.1	-0.1
ESDC				IAmb	IAmb	18 14 37.6	
	comp=Z,6.9nm,1.3s						
MJAR	Matsushiro Arr	87.92	50	P	P	18 14 34.9	-0.7
	comp=Z,3.2nm,1.1s,baz=269,slow=7.2,SNR=5.1						
YKA	Yellowknife Ar	136.25	360	PKP	PKPdf	18 21 05.1	-1.5
	comp=Z,0.4nm,0.7s,baz=354,slow=2.1,SNR=6.9						
ULM	Lac du Bonnet	145.14	339	PKPbc	PKPbc	18 21 20.9	-1.6
	comp=Z,5.3nm,0.8s,baz=30,slow=5.7,SNR=4.1						
ULM	Lac du Bonnet	145.14	339		PKPbc	18 21 21.3	-1.2
NVAR	Mina Array Bea	160.08	8	PKPab	PKPab	18 22 25.1	0.0
	comp=Z,0.2nm,0.6s,baz=346,slow=3.3,SNR=3.7						
NVAR	Mina Array Bea	160.08	8	PKPdf	PKPdf	18 21 45.0	-0.5
NVAR					PKPab	18 22 24.4	-0.8
TXAR	Lajitas Array	165.43	319	PKPab	PKPab	18 22 50.5	+1.7
	comp=Z,0.7nm,0.8s,baz=57,slow=4.6,SNR=5.8						
TXAR	Lajitas Array	165.43	319	PKPdf	PKPdf	18 21 48.8	-2.0
TXAR					PKPab	18 22 46.8	-2.0

*CNRM **02** 18:11:53.4, 35°.69N×3°.56W, $h24^{km}$, ml1.9*

*INMG **02** 18:11:53.8±1.5, 35°.71N×3°.65W, $h6^{km}\pm8^{km}$, ML2.0, Error ellipse: s-maj=5.8km s-min=4.4km az=102.0*

*MDD **02** 18:11:54.3±0.5, 35°.68N×3°.58W, $h20^{km}\pm9^{km}$, mb_Lg2.6/9, Error ellipse: s-maj=8.7km s-min=3.9km az=152.0*

*SFS **02** 18:11:54.0, 35°.67N×3°.58W, $h20^{km}$, ML2.6, ALBORAN SUR*

ISC 02 18:11:53.3±1.1**, 35°.70N**±0°.02×**3°.57W**±0°.03**, $h24^{km}\pm13^{km}$, n29,** $\sigma 1^{s}.13$/52**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.50	62	Pg	Pb	18 12 03.8	+0.3
EALB				Sg	Sn	18 12 12.4	-0.3
EALB				*i* Vmb_Lg		18 12 13.1	
PALE	Palemas	0.57	212	P	Pb	18 12 04.3	-0.4
PALE				S	Sb	18 12 12.2	-0.2
EMEL	Melilla	0.64	128	Pg	Pb	18 12 06.2	+0.2
EMEL				Sg	Sb	18 12 14.4	-0.1
GOG	Mont Gurugu	0.67	135	P	Pb	18 12 06.0	-0.5
GOG				S	Sb	18 12 15.1	-0.4
PVLZ	Peæn de	0.80	229	P	Pn	18 12 09.3	+0.4
PVLZ				S	Sb	18 12 18.6	-0.2
ELGU	Los Guajares,	1.16	358	Pn	Pn	18 12 14.0	-0.2
ELGU				Sn	Sn	18 12 29.3	0.0
ELGU				*i* Vmb_Lg		18 12 31.8	
AKLM	AKL	1.21	191	P	Pb	18 12 15.4	-0.3
AKLM				S	Sn	18 12 29.2	-1.4
EMAL	Malaga-Limoner	1.26	327	P	Pn	18 12 14.8	-0.7
EMAL				S	Sn	18 12 30.1	-1.5
EMIJ	Mijas	1.30	312	Pn	Pn	18 12 14.9	-1.1
EMIJ				Sn	Sn	18 12 30.7	-1.9
EMIJ				*i* Vmb_Lg		18 12 32.3	
TAF	Taforalt	1.30	133	P	Pn	18 12 15.6	-0.5
TAF				S	Sb	18 12 32.9	-0.5
EBER	Berja	1.31	25	Pn	Pn	18 12 16.2	-0.1
EBER				Sn	Sb	18 12 33.8	-0.2
EBER				*i* Vmb_Lg		18 12 37.1	
EGOR	Sierra Gorda,	1.47	343	Pn	Pn	18 12 18.9	+0.4
EGOR				Sn	Sb	18 12 38.9	+0.5
EGOR				*i* Vmb_Lg		18 12 45.5	
SMIR	Smir Dam	1.47	270	P	Pn	18 12 18.6	+0.3
SMIR				S	Sn	18 12 37.2	+0.4
JBK	JBK	1.60	149	P	Pn	18 12 19.6	-0.6
JBK				S	Sn	18 12 39.6	-0.5
ECAB	El Cabril	2.79	329	Sn	Sn	18 13 10.0	+0.5
ECAB				*i* Vmb_Lg		18 13 28.5	
MD31	MD31	2.99	199	P	Pn	18 12 40.8	+1.4
MD31				S	Sn	18 13 16.7	+2.2
EMIN	Mina Concepcio	3.23	311	Pn	Pn	18 12 42.1	-0.4
EMIN				Sn	Sn	18 13 19.7	-0.5
EMIN				*i* Vmb_Lg		18 13 29.6	
ETOB	Tobarra	3.35	28	Pn	Pn	18 12 46.4	+2.1
EGRO	El Granado	3.64	301	Pn	Pn	18 12 49.2	+1.1
EGRO				Sn	Sn	18 13 30.1	-0.1
EGRO				*i* Vmb_Lg		18 15 01.0	
PBAR	Barrancos	3.71	313	*e*Pn	Pn	18 12 49.8	+0.7
PBAR				*e*Sn	Sn	18 13 31.3	-0.8
PBAR				A	A	18 13 32.5	
	1.9nm,0.6s						
PVAQ	Vaqueiros	3.74	298	*e*Pn	Pn	18 12 50.4	+0.9
PVAQ				*e*Sn	Sn	18 13 31.8	-1.1
PVAQ				A	A	18 13 35.3	
	2.2nm,0.7s						
PVAQ	Vaqueiros	3.74	298	P	Pn	18 12 53.6	+4.0
PVAQ				S	Sn	18 13 31.7	-1.1
PBDV	Barranco-do-Ve	3.83	295	*e*Sn	Sn	18 13 33.3	-1.8
PBDV				A	A	18 13 40.0	
	3.2nm,0.7s						
PCVE	Castro Verde	4.07	300	*e*Pn	Pn	18 12 55.6	+1.5
EBAD	Badajoz	4.10	319	Pn	Pn	18 12 54.8	+0.4
EBAD				Sn	Sn	18 13 40.9	-0.8
EBAD				*i* Vmb_Lg		18 13 44.9	
PESTR	Estremoz	4.50	316	*e*Pn	Pn	18 13 01.2	+1.3
PESTR				*e*Sn	Sn	18 13 51.0	-0.5
EVO	Evora	4.53	310	*e*Sn	Sn	18 13 50.6	-1.7
PNCL	Nicolau / Gran	4.64	303	*e*Pn	Pn	18 13 03.0	+1.1
PMRV	Marv??o	4.80	322	*e*Pn	Pn	18 13 05.5	+1.4
PMRV				*e*Sn	Sn	18 13 58.1	-0.8
PMRV				A	A	18 14 10.6	
	2.1nm,0.7s						

*JMA **02** 18:12:16.2±0.1, 23°.92N×121°.53E, $h4^{km}$, M3.2*

*TAP **02** 18:12:18.5, 24°.00N×121°.59E, $h8^{km}$, ML3.7, B*

*IDC **02** 18:12:22.7±5.2, 24°.07N×121°.85E, $h44^{km}\pm52^{km}$, mb3.1/6, mb1 3.3/7, mb1mx3.0/40, mbtmp3.4/7, ML3.2/1, Error ellipse: s-maj=36.8km s-min=21.5km az=63.0*

ISC 02 18:12:17.9±0.7**, 23°.97N**±0°.01×**121°.66E**±0°.02**, $h9^{km}\pm4^{km}$, n143,** $\sigma 0^{s}.81$/219**, mb3.4**/6**, 6C-31D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.05	284	⇓*i*P	Pg	18 12 20.2	+0.3
	baz=140						
HWA				S	Sg	18 12 21.9	+0.6
	baz=140						
TEYL	Yanliau Villag	0.11	211	⇑*i*P	Pg	18 12 21.1	+0.5
	baz=174						
TEYL				*e*S	Sg	18 12 23.6	+1.0
	baz=174						
TWD	Chiawan	0.13	333	⇓*i*P	Pg	18 12 21.0	+0.1
	baz=8.0						
TWD				*i* S	Sg	18 12 22.9	-0.1
	baz=8.0						
ETM	Tongmen	0.15	270	P	Pg	18 12 21.1	-0.2
	baz=250						
ETM				S	Sg	18 12 23.1	-0.5
	baz=250						
ETL	Fush Village	0.20	350	⇓*i*P	Pg	18 12 22.4	+0.3
	baz=10.0						
ETL				*i* S	Sg	18 12 25.1	+0.1
	baz=10.0						
NACB	Ninganchiao	0.22	344	⇓*i*P	Pg	18 12 22.6	+0.2
	baz=1.0						
NACB				*i* S	Sg	18 12 25.3	-0.2
	baz=1.0						
ESL	Shilin	0.26	234	⇓*i*P	Pg	18 12 23.2	+0.1
	baz=216						
ESL				*i* S	Sg	18 12 26.8	+0.2
	baz=216						
TEGC	Jichi Village	0.28	203	P	Pb	18 12 25.2	+0.2
	baz=188						
TEGC				*e*S	Sb	18 12 31.6	+1.7
	baz=188						
ETLH	Xiulin Townshi	0.29	326	⇓*i*P	Pg	18 12 23.9	0.0
	baz=334						
ETLH				*i* S	Sg	18 12 27.4	-0.4
	baz=334						
EGFH	Guangfu	0.36	216	⇓*i*P	Pg	18 12 25.6	+0.5
	baz=205						
EGFH				*e*S	Sg	18 12 30.7	+0.8
	baz=205						
WHF	Hehuan Shan	0.40	296	⇓*i*P	Pg	18 12 25.9	-0.1
	baz=296						
WHF				*i* S	Sg	18 12 31.1	-0.3
	baz=296						
OWD	Renai	0.44	269	⇓*i*P	Pg	18 12 26.7	0.0
	baz=263						
OWD				*i* S	Sg	18 12 32.2	-0.3
	baz=263						
CHGB	Renai	0.46	282	⇓*i*P	Pg	18 12 27.1	+0.2
	baz=279						
CHGB				*e*S	Sg	18 12 32.9	0.0
	baz=279						
ENA	Nanau	0.47	9	⇓*i*P	Pg	18 12 27.6	+0.5
	baz=19						
ENA				*i* S	Sg	18 12 34.0	+0.8
	baz=19						
FUSS	Fushou	0.47	307	⇓*i*P	Pg	18 12 26.4	-0.8
	baz=308						
FUSS				*e*S	Sg	18 12 32.9	-0.7
	baz=308						
EWUT	Wuta	0.49	13	⇓*i*P	Pg	18 12 28.0	+0.5
	baz=21						
EWUT				*e*S	Sg	18 12 34.7	+0.7
	baz=21						
WUSB	Renai	0.50	273	⇓*i*P	Pg	18 12 28.0	+0.3
	baz=269						
WUSB				*e*S	Sg	18 12 34.5	+0.2
	baz=269						
HGSD	Ruisui	0.52	205	⇓*e*P	Pb	18 12 29.5	+0.4
	baz=197						
VWDT	VWDT	0.52	246	⇓P	Pg	18 12 28.5	+0.4
	baz=239						
VWDT				*e*S	Sg	18 12 35.4	+0.5
	baz=239						
NNSB	Datong	0.53	331	⇓*i*P	Pg	18 12 28.5	+0.3
	baz=336						
NNSB				*e*S	Sg	18 12 35.1	-0.1
	baz=336						
TWT	Tachien	0.53	303	P	Pg	18 12 28.8	+0.6
	baz=302						
TWT				*e*S	Sg	18 12 35.8	+0.5
	baz=302						
NNS	Nan Shan	0.54	331	⇓*e*P	Pg	18 12 28.8	+0.3
	baz=336						
NNS				*e*S	Sg	18 12 35.6	-0.1
	baz=336						
TDCB	Techi	0.54	302	⇓*e*P	Pg	18 12 28.9	+0.4
	baz=302						
TDCB				*e*S	Sg	18 12 35.9	+0.2
	baz=302						
EHY	Hungye	0.55	214	P	Pg	18 12 29.0	+0.3
	baz=206						
EHY				*e*S	Sg	18 12 37.1	+1.2
	baz=206						
LATG	Datong	0.58	348	⇓*i*P	Pg	18 12 29.5	+0.3
	baz=354						
LATG				S	Sb	18 12 38.3	-0.5
	baz=354						
WPL	Puli Township	0.65	274	⇑*e*P	Pb	18 12 31.0	-0.4
	baz=271						
WPL				*e*S	Sb	18 12 39.6	-0.8
	baz=271						
NDT	Datong Townshi	0.65	348	⇓P	Pg	18 12 31.0	+0.5
	baz=353						
NDT				*e*S	Sg	18 12 39.6	+0.5
	baz=353						
YULB	Yu-li	0.66	210	*e*P	Pg	18 12 30.8	+0.1
	baz=204						
YULB				*e*S	Sb	18 12 40.6	-0.3
	baz=204						
TWC	Suao	0.66	15	⇓*i*P	Pg	18 12 31.4	+0.6
	baz=22						
TWC				*e*S	Sb	18 12 41.3	+0.3

baz=22
NDS **Dongshan** 0.67 4 ⇓ *i*P Pg 18 12 31.4 +0.5
baz=10.0
NDS *e*S Sg 18 12 39.9 +0.2
baz=10.0
SSLB **Suanglung** 0.67 255 ⇓P Pg 18 12 31.2 +0.3
baz=250
SSLB *e*S Sg 18 12 39.3 -0.4
baz=250
ECBN **Changbin** 0.67 197 *e*P Pb 18 12 32.4 +0.5
baz=191
ECBN *e*S Sn 18 12 44.4 +0.2
baz=191
ENTT **Nioudou** 0.68 353 ⇓P Pg 18 12 31.6 +0.5
baz=359
ENTT *e*S Sg 18 12 40.6 +0.6
baz=359
EYUL **Yuli** 0.69 207 *e*P Pg 18 12 31.8 +0.5
baz=201
WCS **Beigang Elemen** 0.69 278 ⇓ *e*P Pg 18 12 31.8 +0.5
baz=275
WCS *e*S Sg 18 12 40.7 +0.3
baz=275
TWF1 **Yuli** 0.69 209 *e*P Pg 18 12 31.4 0.0
baz=202
TWF1 *e*S Sg 18 12 40.6 +0.1
baz=202
WHP **Taichung City** 0.72 296 *e*P Pb 18 12 32.5 -0.2
baz=295
WHP *e*S Sb 18 12 42.7 -0.1
baz=295
TYC **Yuchr** 0.74 265 *e*P Pg 18 12 32.4 +0.2
baz=262
TYC *e*S Sg 18 12 41.5 -0.3
baz=262
YHNB **Yeheng** 0.75 340 ⇓ *e*P Pb 18 12 33.0 -0.2
baz=344
YHNB *e*S Sg 18 12 42.6 +0.4
baz=344
TWE **Neicheng** 0.75 0 ⇓ *e*P Pg 18 12 33.1 +0.6
baz=7.0
TWE *e*S Sb 18 12 43.6 0.0
baz=7.0
NSK **Sanguang** 0.76 339 ⇓ *e*P Pg 18 12 33.2 +0.5
baz=343
NSK *e*S Sg 18 12 43.0 +0.4
baz=343
FUSB **Fushanzhiwuyua** 0.79 355 *e*P Pg 18 12 33.9 +0.6
baz=360
FUSB *e*S Sg 18 12 44.4 +0.7
baz=360
ILA **Ilan** 0.80 6 *e*P Pg 18 12 33.6 +0.2
baz=11
YUS **Yu-Shan** 0.80 234 *e*P Pg 18 12 33.8 +0.3
baz=229
NWLT **Wulai** 0.82 350 ⇓ *e*P Pb 18 12 34.4 -0.1
baz=354
NWLT *e*S Sg 18 12 44.8 +0.2
baz=354
NFF **Wufeng Townshi** 0.83 323 ⇓ *e*P Pb 18 12 34.6 +0.1
baz=326
NFF *e*S Sg 18 12 44.8 0.0
baz=326
FULB **Fuli** 0.83 204 *e*P Pb 18 12 34.8 +0.2
baz=199
FULB *e*S Sn 18 12 48.3 +0.1
baz=199
WJS **Zhushan** 0.86 261 *e*P Pb 18 12 35.7 +0.6
baz=257
WWF **Wufeng** 0.88 275 *e*P Pn 18 12 37.1 +0.6
baz=273
NSTT **Nanjuang** 0.90 318 *e*P Pb 18 12 35.9 +0.3
baz=320
NSTT *e*S Sb 18 12 47.4 -0.3
baz=320
TWQ1 **Liyutan** 0.90 295 *e*P Pn 18 12 36.3 -0.4
baz=295
TWQ1 *e*S Sb 18 12 48.3 +0.6
baz=295
LIOB **Emei** 0.90 319 *e*P Pb 18 12 36.3 +0.6
baz=321
LIOB *e*S Sb 18 12 47.8 0.0
baz=321
WNT **Mingjian** 0.90 265 *e*P Pn 18 12 36.7 0.0
baz=262
NTC **Toucheng** 0.90 10 *e*P Pb 18 12 35.9 +0.2
baz=14
WNT1 **Nantou City** 0.90 267 *e*P Pn 18 12 37.4 +0.7
baz=264
CHKT **Chengkung** 0.90 197 *e*P Pg 18 12 35.7 +0.4
baz=193
CHKT *e*S Sn 18 12 50.8 +0.9
baz=193
ALS **Alishan** 0.91 240 *e*P Pb 18 12 35.9 0.0
baz=236
ALS *e*S Sb 18 12 48.4 +0.2
baz=236
TCU **Taichung** 0.92 282 *e*P Pn 18 12 37.0 0.0
baz=280
TCU *e*S Sn 18 12 50.8 +0.5
baz=280
NJD **Zhudong** 0.93 326 *e*P Pn 18 12 37.5 +0.4
baz=328
NSY **Sanyi** 0.94 299 *e*P Pn 18 12 37.5 +0.3
baz=299
NSY *e*S Sn 18 12 50.9 +0.1
baz=299
ECS **Chishang** 0.96 205 *e*P Pg 18 12 36.8 +0.4
baz=201
CHN5 **Tsauling** 0.97 248 ⇑ *e*P Pn 18 12 37.7 -0.1
baz=244
CHN5 *e*S Sn 18 12 52.8 +1.1
baz=244
ELDTW **Lidau** 0.97 218 *e*P Pg 18 12 35.8 -0.8
baz=213
ELDTW *e*S Sb 18 12 50.7 +0.8
baz=213
NMLH **Miaoli** 0.98 306 *e*P Pn 18 12 38.4 +0.6
baz=306
NMLH *e*S Sn 18 12 50.9 -0.8
baz=306
WYL **Yuanlin Townsh** 0.99 270 *e*P Pn 18 12 38.8 +0.8
baz=268
HSN1 **Hsinchu** 1.00 324 *e*P Pn 18 12 39.1 +1.0
baz=326
NHDH **Xindian Distri** 1.00 353 *e*P Pn 18 12 38.3 +0.2
baz=356
NHDH *e*S Sb 18 12 51.0 +0.3
baz=356
WDJ **Dajia District** 1.01 292 *e*P Pn 18 12 38.9 +0.7
baz=292
TWA **Mucha** 1.01 356 *e*P Pn 18 12 38.4 +0.1
TWA *e*S Sg 18 12 51.0 +0.3
TIPB **Shuangxi** 1.01 9 *e*P Pb 18 12 37.9 +0.3
baz=12
TIPB *e*S Sb 18 12 51.3 +0.2
baz=12
WCHH **Zhanghua** 1.01 277 *e*P Pn 18 12 38.8 +0.5
baz=275
WCHH *e*S Sn 18 12 53.2 +0.6
baz=275
TATO **Taipei** 1.02 351 *e*P Pb 18 12 38.3 +0.6
baz=355
SBCB **Hsinchu** 1.03 323 *e*P Pn 18 12 39.8 +1.3
baz=325
SBCB *e*S Sn 18 12 53.4 +0.3
baz=325
EDH **Donghe** 1.04 198 *e*P Pg 18 12 37.8 -0.2
baz=194
EDH *e*S Sn 18 12 54.2 +0.9
baz=194
WGK **Gukeng** 1.04 255 *e*P Pn 18 12 39.5 +0.8
baz=251
HSN **Hsinchu** 1.04 323 *e*P Pn 18 12 40.0 +1.3
baz=327
WDLH **Douliu** 1.06 255 *e*P Pn 18 12 39.5 +0.5
baz=252
TAP1 **Taipei** 1.08 353 *e*P Pn 18 12 40.2 +1.0
baz=356
TWB1 **Santiao Chiao** 1.08 16 *e*P Pn 18 12 39.6 +0.4
baz=20
NCUH **Zhongli** 1.09 337 *e*P Pn 18 12 40.6 +1.3
baz=339
NCU **National Centr** 1.09 337 *e*P Pn 18 12 40.8 +1.4
baz=339
NWF **Wu-fen Shan** 1.11 6 *e*P Pn 18 12 40.1 +0.4
baz=9.0
WFSB **Wu-fen Shan** 1.11 6 *e*P Pn 18 12 39.9 +0.3
baz=9.0
WFSB *e*S Sb 18 12 54.2 +0.5
baz=9.0
STYH **Taoyuan** 1.13 226 *e*P Pb 18 12 40.0 +0.3
baz=222
STYH *e*S Sb 18 12 55.2 +0.7
baz=222
SXI1 **Grass Mountain** 1.14 10 ⇑ *e*P Pn 18 12 40.7 +0.6
baz=13
SXI1 *e*S Sn 18 12 58.9 +2.9
baz=13
STYT **Tauyuan** 1.15 226 *e*P Pb 18 12 40.3 +0.3
baz=222
TWS1 **Kuangyinshan** 1.15 349 *e*P Pn 18 12 41.8 +1.6
baz=352
CHN4 **Tsaushan** 1.15 238 ⇑ *e*P Pn 18 12 41.1 +0.9
baz=235
CHN4 *e*S Sn 18 12 58.3 +2.2
baz=235
TPUB **Ta-pu** 1.15 235 ⇑ *e*P Pn 18 12 41.0 +0.7
baz=232
TPUB *e*S Sn 18 12 56.9 +0.7
baz=232
TPUB **Ta-pu** 1.15 235 P Pn 18 12 41.0 +0.7
LONT **Longtian** 1.16 205 *e*P Pb 18 12 39.5 -0.6
baz=201
WRL **Guolierlin Hig** 1.18 267 *e*P Pn 18 12 41.0 +0.5
baz=265
NHW **Xinwu Township** 1.18 332 *e*P Pn 18 12 42.1 +1.5
baz=334
YM01 **YM01** 1.18 356 *e*P Pn 18 12 41.5 +0.8
baz=359
YM01 *e*S Sn 18 12 57.7 +0.9
baz=359
TNOU **National Taiwa** 1.18 5 *e*P Pg 18 12 42.3 +1.6
baz=8.0
WTK **Tuku** 1.20 257 *e*P Pg 18 12 41.6 +0.7
baz=254
WTK *e*S Sn 18 12 57.9 +0.7
baz=254
WTP **Ta-pu** 1.20 233 *e*P Pg 18 12 41.6 +0.7
baz=230
NTST **Danshui** 1.21 351 *e*P Pg 18 12 42.5 +1.3
baz=354
YM08 **YM08** 1.22 357 *e*P Pg 18 12 41.7 +0.3
baz=360
CHY **Chiayi** 1.23 248 *e*P Pg 18 12 42.5 +1.1
baz=245
TWGBT **Beinan** 1.26 205 *e*P Pn 18 12 40.9 -0.8
baz=202
TWG **Pinlang** 1.26 206 *e*P Pn 18 12 40.3 -1.4
baz=202
WTCT **Ta-ch'eng** 1.27 266 *e*P Pn 18 12 41.6 -0.1
baz=263
JYNG **Yonagunijimaku** 1.27 67 P Pg 18 12 43.0 +0.7
JYNG S Sn 18 13 01.1 +2.2
TWK **Hsinying** 1.28 237 *e*P Pg 18 12 43.1 +0.6
baz=234
CHN1 **Nanshi** 1.30 233 *e*P Pg 18 12 43.4 +0.5
baz=230
LDUT **Ludao** 1.30 188 *e*P Pn 18 12 40.3 -1.9
baz=185
LDUT *e*S Sb 18 12 57.8 -1.5
baz=185
SNST **Tainan City** 1.30 235 *e*P Pg 18 12 43.5 +0.6
baz=232
SNST *e*S Sn 18 13 01.0 +1.3
baz=232
SGST **Jiashian** 1.32 229 *e*P Pb 18 12 43.1 +0.2
baz=225
YOJ **Yonaguni jima** 1.33 68 P Pn 18 12 43.3 +0.6
YOJ *e*S Sg 18 13 01.9 +1.2
YOJ **Yonaguni jima** 1.33 68 P Pn 18 12 43.2 +0.6
baz=70
YOJ *e*S Sb 18 12 59.0 -1.1
baz=70
WSF **Szhu** 1.36 256 *e*P Pg 18 12 44.1 +0.1
baz=254
WSF *e*S Sg 18 13 02.7 +1.1
baz=254
WSL **Shuilin Townsh** 1.38 252 *e*P Pg 18 12 44.9 +0.3
baz=249
ICHU **Yijhu** 1.40 245 *e*P Pg 18 12 45.4 +0.5
baz=242
ICHU *e*S Sg 18 13 03.8 +0.7
baz=242
CHN8 **Yiju** 1.47 245 *e*P Pg 18 12 46.6 +0.5
baz=243
ECL **Taimali** 1.51 206 *e*P Pn 18 12 44.4 -0.7
baz=203
SCST **Cishan** 1.52 225 *e*P Pg 18 12 47.7 +0.6
baz=222
SCST *e*S Sg 18 13 09.0 +2.2
baz=222
SHHT **Tainan City** 1.53 232 *e*P Pg 18 12 48.1 +0.8
baz=230
SSD **Sandimen** 1.54 218 *e*P Pb 18 12 46.8 +0.2
baz=215
SSD *e*S Sg 18 13 09.0 +1.6
baz=215
TSMG **Majia** 1.56 217 *e*P Pb 18 12 47.2 +0.2
baz=214
TSMG *e*S Sg 18 13 09.9 +1.7
baz=214
TWM1 **Shoushan** 1.61 225 *e*P Pg 18 12 49.4 +0.6
baz=222
MASBT **Mashibuluo** 1.65 215 *e*P Pn 18 12 47.8 +0.8
baz=213
MASBT *e*S Sg 18 13 11.2 +0.3
baz=213
EAST **Anshuo** 1.74 206 *e*P Pn 18 12 47.4 -1.0
baz=203
IRIF **Iriomote-Funau** 1.93 79 P Pn 18 12 51.6 +0.8
IRIF *e*S Sb 18 13 17.5 +0.2
HATJ **Hateruma jima** 1.96 87 P Pn 18 12 51.6 +0.2
JKRS **Kuro-shima** 2.16 82 P Pn 18 12 55.2 +1.1
JKRS *e*S Sb 18 13 23.7 -0.5
JIJ **Ishigaki jima** 2.30 80 P Pn 18 12 56.3 +0.3
JIJ S Sn 18 13 24.8 +0.3
JISG **Ishigakijimahi** 2.50 75 P Pn 18 12 58.8 +0.1
JISG *e*S Sn 18 13 29.6 +0.3
JTJ **Tarama** 2.86 76 *e*S Sn 18 13 40.3 +2.2
JOW **Kunigami** 6.63 63 P Pn 18 13 54.7 -0.8
1.2nm,0.3s,baz=121,slow=19,SNR=10
JOW S Sn 18 15 07.6 -3.6
0.5nm,0.3s,baz=142,slow=12,SNR=1.7
KSRS **Korea Array** 14.48 20 P P 18 15 46.9 -2.9
baz=202,slow=12,SNR=1.8
SONM **Songino Array** 26.74 337 P P 18 17 57.1 -0.7
0.3nm,0.6s,baz=159,slow=9.6,SNR=3.4
MKAR **Makanchi Array** 38.80 316 P P 18 19 44.2 +1.2
0.3nm,0.7s,baz=99,slow=8.9,SNR=4.6
ZALV **Zalesovo Beam** 40.66 327 P P 18 19 58.1 -0.2
0.3nm,0.3s,baz=126,slow=7.3,SNR=2.1
H11N1 **WAKE ISLAND Hy** 42.06 87 T T 19 05 28.4
baz=276
H11N2 **WAKE ISLAND Hy** 42.07 87 T T 19 05 35.2
baz=276
H11N3 **WAKE ISLAND Hy** 42.08 87 T T 19 05 24.8
baz=276
H11S3 **WAKE ISLAND Hy** 42.19 89 T T 19 05 14.0
baz=284,slow=74,SNR=17
H11S1 **WAKE ISLAND Hy** 42.20 88 T T 19 05 14.7
baz=284,slow=74,SNR=5.9
H11S2 **WAKE ISLAND Hy** 42.21 89 T T 19 05 15.4
baz=284,slow=74,SNR=6.5
WRA **Warramunga Arr** 45.36 163 P P 18 20 36.7 +0.1
0.4nm,0.8s,baz=344,slow=8.8,SNR=2.4
ASAR **Alice Springs** 48.82 165 P P 18 21 04.3 +0.7
0.3nm,0.9s,baz=342,slow=6.7,SNR=2.9
YKA **Yellowknife Ar** 83.00 23 P P 18 24 42.2 -1.0
0.3nm,0.6s,baz=310,slow=4.7,SNR=6.4

BJI ***02*** *18:16:37.8±0.0, 1°.61N×99°.03E, h120km, mb4.6/42, mB4.7/19*
IDC ***02*** *18:16:40.8±0.5, 1°.79N×99°.08E, h118km±3km, mb4.2/24, mb1 4.2/27, mb1mx4.0/44, mbtmp4.6/27, MS3.6/5, Ms1 3.6/5, ms1mx2.9/85, Error ellipse: s-maj=14.0km s-min=7.3km az=54.0*
NEIC ***02*** *18:16:42.0±2.0, 1°.86N±0°.05×99°.00E±0°.05, h124km±5km, mb4.8/66, Error ellipse: s-maj=7.4km s-min=6.6km az=218.0*
DJA ***02*** *18:16:42.1±0.3, 2°N±2°×9°9E±°, h126km±5km, M4.6/20, mb4.7/12, mB5.0/8, MLv4.8/20, Mw(mB)4.4/8*

ISC 02 18:16:41.2±0.3, 1°.90N±0°.03×98°.95E±0°.04, h123km±2km, h123km: pP-P, n257, σ1°64/318, mb4.7/79, 8C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**0.79**	**358**			**Pn**	**18 17 03.2**	**+1.7**
RPSI						**Sn**	**18 17 18.3**	**+1.4**
PSI	**Prapat**	**0.89**	**358**	P		**Pn**	**18 17 03.2**	**+0.6**
	143nm,0.3s,baz=166,slow=9.3,SNR=211							
PSI				S		**Sn**	**18 17 18.3**	**-0.5**
	209nm,0.3s,baz=54,slow=19,SNR=25							
MNSI	**Mandailing Nat**	**1.27**	**150**	P		**Pn**	**18 17 07.6**	**+1.4**
GSI	**Gunungsitoli**	**1.50**	**247**	Pn		**Pn**	**18 17 10.6**	**+1.9**
GSI				Sn		**Sn**	**18 17 29.8**	**+0.1**
GSI	**Gunungsitoli**	**1.50**	**247**	P		**Pn**	**18 17 11.1**	**+2.4**
GSI	**Gunungsitoli**	**1.50**	**247**	P		**Pn**	**18 17 11.2**	**+2.5**
TSI	**Tuntungan**	**1.63**	**346**	P		**Pn**	**18 17 12.7**	**+2.3**
KCSI	**Kotacane, Aceh**	**1.99**	**324**	P		**Pn**	**18 17 16.2**	**+1.5**
BKNI	**Bangkinang**	**2.61**	**127**			**Pn**	**18 17 23.7**	**+1.2**
BKNI				Sn		**Sn**	**18 17 54.1**	**-0.2**
BKNI	**Bangkinang**	**2.61**	**127**	P		**Pn**	**18 17 23.8**	**+1.2**
BKNI	**Bangkinang**	**2.61**	**127**	P		**Pn**	**18 17 24.1**	**+1.6**
PPI	**Padang Panjang**	**2.75**	**148**	P		**Pn**	**18 17 26.1**	**+1.7**
SISI	**Saibi**	**3.21**	**177**	P		**Pn**	**18 17 29.7**	**-0.6**
KULM	**Kulim**	**3.77**	**27**	Pn		**Pn**	**18 17 39.2**	**+1.4**
KULM				Sn		**Sn**	**18 18 20.4**	**-1.1**
LHMI	**Lhok Sumawe**	**3.86**	**329**	Pn		**Pn**	**18 17 40.7**	**+1.7**
LHMI				Sn		**Sn**	**18 18 23.8**	**+0.1**
LHMI	**Lhok Sumawe**	**3.86**	**329**	P		**Pn**	**18 17 40.7**	**+1.7**
LHMI	**Lhok Sumawe**	**3.86**	**329**	P		**Pn**	**18 17 40.9**	**+2.0**
RGRI	**Rengat**	**4.06**	**123**	P		**Pn**	**18 17 42.6**	**+1.0**
KRJI	**Kerinci**	**4.70**	**148**	P		**Pn**	**18 17 51.2**	**+1.0**
PPSI	**Pulau Pagai**	**4.75**	**167**	P		**Pn**	**18 17 50.4**	**-0.5**
MYKOM	**Kota Tinggi**	**4.90**	**91**			**Pn**	**18 17 53.2**	**+0.4**
MYKOM				Sn		**Sn**	**18 18 47.3**	**-1.3**
TPRI	**Tanjung Pinang**	**5.66**	**100**	P		**Pn**	**18 18 03.7**	**+0.6**
	0.3nm29nm,0.8s							
JMBI	**JAMBI**	**5.86**	**127**	P		**Pn**	**18 18 06.9**	**+1.1**
	0.4nm2μm71nm,0.9s							
MASI	**Maura Aman, Be**	**5.99**	**147**	P		**Pn**	**18 18 09.4**	**+1.8**
	1.6nm3μm282nm,0.9s							
DSRI	**Dabo**	**6.11**	**113**	P		**Pn**	**18 18 10.4**	**+1.3**
	0.2nm339nm21nm,0.9s							
SRIT	**Nakonsritamara**	**6.68**	**6**			**Pn**	**18 18 17.7**	**+0.8**
MNAI	**Manna**	**7.40**	**147**	Pn		**Pn**	**18 18 25.4**	**-1.2**
MNAI				Sn		**Sn**	**18 19 44.9**	**-4.1**
MNAI	**Manna**	**7.40**	**147**	P		**Pn**	**18 18 25.4**	**-1.2**
	1.6nm6μm227nm,0.9s							
PMBI	**Palembang**	**7.54**	**129**	P		**Pn**	**18 18 28.6**	**+0.1**
	0.7nm9μm144nm,0.4s							
PMBI	**Palembang**	**7.54**	**129**	P		**Pn**	**18 18 28.9**	**+0.4**
LWLI	**Liwa**	**8.56**	**143**	P		**Pn**	**18 18 43.0**	**+0.6**
	2μm94nm,0.6s							
KLSI		**8.73**	**139**	P		**Pn**	**18 18 44.5**	**-0.1**
	277nm32nm,0.9s							
KLI	**Kotabumi**	**8.95**	**139**	P		**Pn**	**18 18 46.9**	**-0.6**
	60nm,0.5s							
BLSI	**Bandar Lampung**	**9.58**	**139**	P		**Pn**	**18 18 54.9**	**-1.1**
	41nm,0.4s							
KSM	**Kuching**	**11.36**	**92**	Pn		**Pn**	**18 19 21.6**	**+1.6**
KSM	**Kuching**	**11.36**	**92**	P		**Pn**	**18 19 22.7**	**+2.7**
	30nm,1.4s							
DBJI	**Dramaga**	**11.46**	**137**	P		**Pn**	**18 19 20.1**	**-1.1**
PBA	**Port Blair**	**11.48**	**328**	Pn		**Pn**	**18 19 18.4**	**-3.1**
LEM	**Lembang**	**12.25**	**135**	P		**Pn**	**18 19 30.2**	**-1.6**
	1.6nm,0.3s,baz=340,slow=22,SNR=1.8							
STKI	**Sintang**	**12.66**	**98**	P		**Pn**	**18 19 37.5**	**+0.5**
	25nm,1.2s							
DGPR	**DIGLIPUR**	**12.69**	**332**	*e*P		**Pn**	**18 19 34.7**	**-2.6**
DGPR				IAmb		IAmb	18 19 39.1	
	comp=Z,27nm,0.5s							
DGPR				*e*S		**Sn**	**18 21 49.0**	**-8.2**
SBUM	**Sibu**	**13.27**	**87**	Pn		**Pn**	**18 19 46.4**	**+1.5**
PBKI	**Pangkalan Bun**	**13.52**	**110**	P		**Pn**	**18 19 49.6**	**+1.5**
DLV	**T Lat**	**13.75**	**43**	P		**P**	**18 19 56.2**	**+0.6**
DLV	**T Lat**	**13.75**	**43**	P		**Pn**	**18 19 53.3**	**+2.0**
UBPT	**Khong Chiam**	**14.77**	**25**	P		**P**	**18 20 06.0**	**-0.8**
UGM	**Wanagama**	**15.11**	**130**			**Pn**	**18 20 06.7**	**-1.7**
CM31	**Chiang Mai Arr**	**16.45**	**360**	P		**P**	**18 20 26.9**	**+1.4**
CM31				IAmb		IAmb	18 20 27.9	
	comp=Z,72nm,1.2s							
CMAR	**Chiang Mai Arr**	**16.45**	**360**	P		**P**	**18 20 26.9**	**+1.5**
	comp=Z,8.2nm,0.3s,baz=190,slow=11,SNR=316							
CMAR				ScP		**ScP**	**18 28 34.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=207,slow=3.8,SNR=6.6							
CMAR	**Chiang Mai Arr**	**16.45**	**360**			**P**	**18 20 26.6**	**+1.1**
CHTO	**Chiang Mai**	**16.81**	**360**			**P**	**18 20 30.5**	**+1.1**
CHTO				IAmb		IAmb	18 20 32.5	
	comp=Z,14nm,0.5s							
CHTO	**Chiang Mai**	**16.81**	**360**	P		**P**	**18 20 31.4**	**+2.0**
KKM	**Kota Kinabalu**	**17.71**	**76**	P		**Pn**	**18 20 41.5**	**+1.2**
KKM				IAmb		IAmb	18 20 45.5	
	comp=Z,26nm,0.7s							
JAGI	**Jajag, Banyuwa**	**18.33**	**124**	P		**Pn**	**18 20 48.5**	**+0.8**
PALK	**Pallekele**	**18.95**	**287**	P		**Pn**	**18 20 56.4**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=220,slow=11,SNR=6.9							
PALK				S		**S**	**18 24 16.2**	**-5.8**
	comp=Z,1.7nm,0.3s,baz=294,slow=19,SNR=9.2							
PALK				LR		LR	18 28 04.7	
	comp=Z,85nm,18.5s,baz=204,slow=36							
PALK	**Pallekele**	**18.95**	**287**	P		**Pn**	**18 20 54.0**	**-1.0**
PALK						**S**	**18 24 17.1**	**-4.9**
QIZ	**Qiongzhong**	**20.09**	**31**	P		**P**	**18 21 05.5**	**+0.2**
QIZ				S		**S**	**18 24 46.0**	**+1.6**
QIZ				LR		LR		
	comp=Z,200nm,15.5s							
QIZ				LR		LR		
	comp=Z,190nm,19.4s							
QIZ				LR		LR		
	comp=Z,220nm,16.7s							
PLAI	**Plampang**	**21.58**	**120**	P		**P**	**18 21 23.4**	**+2.1**
TOLI2	**Tolitoli**	**21.84**	**92**	P		**P**	**18 21 23.8**	**-0.3**
TOLI2				IAmb		IAmb	18 21 25.6	
	comp=Z,30nm,0.6s							
TOLI2	**Tolitoli**	**21.84**	**92**	P		**P**	**18 21 25.2**	**+1.1**
KAPI	**Kappang**	**21.89**	**108**	P		**P**	**18 21 24.9**	**+0.3**
KAPI				IAmb		IAmb	18 21 27.5	
	comp=Z,47nm,1.1s							
KAPI	**Kappang**	**21.89**	**108**	P		**P**	**18 21 27.1**	**+2.5**
KMI	**Kunming**	**23.38**	**9**	⇑P		**P**	**18 21 41.4**	**+2.2**
KMI				pmax		pmax		
	comp=Z,10.0nm,1.0s							
LUWI	**Luwuk**	**24.00**	**97**	P		**P**	**18 21 45.0**	**+0.3**
LUWI	**Luwuk**	**24.00**	**97**	P		**P**	**18 21 46.2**	**+1.4**
KOHI	**KOHIMA**	**24.14**	**349**	*e*P		**P**	**18 21 46.4**	**+0.4**
KOHI				*e*S		**S**	**18 25 53.2**	**-2.0**
SHL	**Shillong**	**24.49**	**344**	P		**P**	**18 21 49.5**	**+0.2**
SHL	**Shillong**	**24.49**	**344**	*e*P		**P**	**18 21 49.8**	**+0.5**
SHL				IAmb		IAmb	18 21 52.2	
	comp=Z,41nm,0.9s							
PZH	**PanZhiHua**	**24.61**	**6**	P		**P**	**18 21 52.1**	**+1.8**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,80nm,5.7s							
MOKO	**MOKOCHONG**	**24.65**	**350**	*e*P		**P**	**18 21 51.8**	**+1.1**
MOKO				*e*S		**S**	**18 26 02.4**	**-1.1**
BOK	**Bokaro**	**25.17**	**331**	*e*P		**P**	**18 21 57.8**	**+2.5**
BOK				IAmb		IAmb	18 21 59.6	
	comp=Z,31nm,0.6s							
LKP	**Lekhapani**	**25.46**	**354**	*e*P		**P**	**18 21 58.3**	**+0.4**
MMRI	**Maumere**	**25.47**	**115**	P		**P**	**18 21 56.9**	**-1.2**
MMRI				IAmb		IAmb	18 22 26.2	
	comp=Z,47nm,1.4s							
DHUB	**DHUBRI**	**25.48**	**341**	*e*P		**P**	**18 21 59.4**	**+1.3**
BLSP	**Bilaspur**	**25.92**	**322**	*e*P		**P**	**18 22 03.7**	**+1.6**
GTK	**Tadong**	**27.15**	**340**	*e*P		**P**	**18 22 15.0**	**+1.7**
ODAN	**Odare**	**27.18**	**337**	*e*P		**P**	**18 22 14.8**	**+1.2**
	comp=Z,14nm,0.4s							
BATI	**Baumata**	**27.39**	**117**	P		**P**	**18 22 14.3**	**-1.1**
	comp=Z,22nm,0.4s,baz=312,slow=12,SNR=11							
TAPN	**Taplejung**	**27.50**	**338**	*e*P		**P**	**18 22 18.3**	**+1.8**
	comp=Z,114nm,1.1s							
RAMN	**Ramite**	**27.58**	**336**	*e*P		**P**	**18 22 19.0**	**+1.8**
	comp=Z,15nm,0.4s							
JIRN	**Jiri**	**28.38**	**336**	*e*P		**P**	**18 22 25.7**	**+1.3**
	comp=Z,7.3nm,0.4s							
LSA	**Lhasa**	**28.62**	**346**	P		**P**	**18 22 28.7**	**+2.0**
LSA	**Lhasa**	**28.62**	**346**	P		**P**	**18 22 28.6**	**+1.9**
LSA				pP		**pP**	**18 22 54.3**	**+0.7**
LSA				pwP		sP	18 22 59.5	-8.4
PKI	**Pulchoki**	**28.63**	**334**	*e*P		**P**	**18 22 27.5**	**+0.9**
PKIN	**Phulchoki**	**28.64**	**334**	*e*P		**P**	**18 22 27.5**	**+0.9**

comp=Z,8.0nm,0.5s
GUN Gumba 28.73 335 *e*P **P** **18 22 28.8 +1.3**
comp=Z,20nm,0.3s
KKN Kakani 28.87 334 *e*P **P** **18 22 29.7 +1.0**
comp=Z,7.4nm,0.4s
GKN Gorkha 29.34 334 *e*P **P** **18 22 33.9 +1.2**
comp=Z,7.4nm,0.3s
KOLN Koldanda 29.62 332 *e*P **P** **18 22 36.7 +1.4**
comp=Z,11nm,0.3s
DANN Dangsing 30.04 333 *e*P **P** **18 22 40.2 +1.2**
comp=Z,20nm,0.3s
PYUN Piuthan 30.19 331 *e*P **P** **18 22 41.7 +1.4**
YOJ Yonaguni jima 32.31 44 P **P** **18 22 59.0 +0.4**
SIJI Sorong 32.43 95 P **P** **18 22 58.6 -1.4**
comp=Z,9.9nm,0.7s,baz=304,slow=11,SNR=5.3
SIJI LR LR 18 38 07.8
comp=Z,83nm,20.4s,baz=258,slow=40
LGTI Lohaghat 32.67 329 *e*P **P** **18 23 03.8 +2.0**
FITZ Fitzroy Crossi 32.95 128 P **P** **18 23 02.5 -1.9**
comp=Z,7.0nm,0.7s,baz=328,slow=7.6,SNR=23
FITZ Fitzroy Crossi 32.95 128 P **P** **18 23 02.5 -1.9**
XAN Xi'an 33.30 15 P **P** **18 23 07.9 +0.6**
XAN pmax pmax
comp=Z,9.0nm,0.9s
XAN pmax pmax
comp=Z,70nm,4.1s
KNRA Kununurra 34.26 122 P **P** **18 23 14.8 -1.0**
baz=34,SNR=15
KNRA Kununurra 34.26 122 P **P** **18 23 14.7 -1.0**
KNRA IAmb IAmb 18 23 16.6
comp=Z,14nm,0.9s
KNRA Kununurra 34.26 122 P **P** **18 23 15.2 -0.6**
GOMU GeErMu 34.34 354 P **P** **18 23 17.9 +1.3**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,54nm,4.1s
MORW Morawa 34.88 153 P **P** **18 23 22.8 +1.9**
baz=35,SNR=5.0
MORW Morawa 34.88 153 P **P** **18 23 22.4 +1.5**
MORW IAmb IAmb 18 23 45.5
comp=Z,36nm,1.7s
MTN Manton Dam 35.15 116 P **P** **18 23 22.5 -0.9**
baz=35,SNR=7.9
MTN Manton Dam 35.15 116 P **P** **18 23 21.6 -1.8**
SMLA Simla 35.62 327 *e*P **P** **18 23 28.4 +1.2**
SMLA IAmb IAmb 18 23 33.8
comp=Z,14nm,0.4s
KDU Kakadu 36.30 114 P **P** **18 23 32.4 -0.8**
baz=36,SNR=4.0
GTA Gaotai 37.34 1 ⇓P **P** **18 23 43.6 +1.7**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,49nm,4.7s
GTA LR LR
comp=Z,95nm,16.4s
GTA LR LR
comp=Z,100nm,17.4s
GTA LR LR
comp=Z,150nm,17.8s
MUN Mundaring 37.46 156 P **P** **18 23 44.2 +1.3**
baz=38,SNR=21
JOW Kunigami 37.49 46 P **P** **18 23 43.0 -0.3**
comp=Z,3.0nm,0.4s,baz=234,slow=8.7,SNR=2.4
JOW Kunigami 37.49 46 P **P** **18 23 42.2 -1.0**
JOW IAmb IAmb 18 23 58.7
comp=Z,9.6nm,1.1s
WRKA Warakurna 39.07 135 P **P** **18 23 55.2 -1.3**
baz=39,SNR=27
NIL Nilore 39.70 326 P **P** **18 24 02.9 +1.3**
NIL IAmb IAmb 18 24 04.9
comp=Z,34nm,1.1s
HHC Hu-ho-hao-te 40.42 15 *e*P **P** **18 24 08.6 +1.1**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC LR LR
comp=Z,97nm,14.0s
HHC LR LR
comp=Z,130nm,14.0s
HHC LR LR
comp=Z,150nm,14.6s
WB0 Warramunga Arr 40.91 123 P **P** **18 24 10.5 -1.3**
WRA Warramunga Arr 40.95 124 P **P** **18 24 11.0 -1.0**
comp=Z,27nm,0.4s,baz=302,slow=8.9,SNR=166
WRA PcP **PcP** **18 26 10.5 +0.2**
comp=Z,0.9nm,0.4s,baz=317,slow=2.4,SNR=3.4
WRA Warramunga Arr 40.95 124 P **P** **18 24 10.6 -1.5**
WRAB Tennant Creek 40.95 124 P **P** **18 24 11.4 -0.7**
WRAB Tennant Creek 40.95 124 P **P** **18 24 12.0 -0.1**
comp=Z,42nm,0.9s
WRAB Tennant Creek 40.95 124 P **P** **18 24 11.3 -0.8**
WRAB pP pP 18 24 26.1 -14
WRAB pwP sP 18 24 30.5 -23
WRAB sP sP 18 24 42.1 -12
WB2 Warramunga Arr 40.96 124 P **P** **18 24 11.1 -1.0**
BJT Baijiatuau 41.04 20 P **P** **18 24 13.3 +0.9**
BJT IAmb IAmb 18 24 15.5
comp=Z,6.5nm,0.5s
WR0 Warramunga Arr 41.12 124 P **P** **18 24 12.6 -0.9**
JAY Jayapura 41.98 96 P **P** **18 24 18.4 -2.2**
comp=Z,8.8nm,0.4s,baz=165,slow=6.6,SNR=15
AS31 Alice Springs 42.45 129 P **P** **18 24 22.9 -1.4**
ASAR Alice Springs 42.45 129 P **P** **18 24 23.1 -1.2**
comp=Z,7.0nm,0.6s,baz=295,slow=7.6,SNR=104
ASAR PcP **PcP** **18 26 15.5 +0.3**
comp=Z,1.1nm,0.5s,baz=301,slow=3.0,SNR=4.8
ASAR ScP **ScP** **18 29 53.2 -1.6**
comp=Z,0.4nm,0.7s,baz=304,slow=3.9,SNR=5.4
ASAR S **S** **18 30 31.4 -5.9**
comp=Z,0.8nm,1.1s,baz=308,slow=15,SNR=4.9
FORT Forrest 42.72 142 P **P** **18 24 26.0 -0.3**
FORT IAmb IAmb 18 24 28.2
comp=Z,35nm,1.2s
KSH Kashi 42.89 334 P **P** **18 24 27.5 -0.2**
KSH pP pP 18 24 55.8 -0.3
KSH S **S** **18 30 38.1 -5.3**
KSH pmax pmax
comp=Z,11nm,0.6s
WMQ Urumqi 42.92 348 *e*P **P** **18 24 30.0 +2.2**
WMQ pmax pmax
comp=Z,28nm,0.9s
WMQ LR LR
comp=Z,110nm,21.3s
JNU Nakatsue 43.13 40 P **P** **18 24 30.3 +0.6**
comp=Z,2.5nm,0.7s,baz=153,slow=9.0,SNR=1.7
JNU Nakatsue 43.13 40 IAmb IAmb 18 25 15.0
comp=Z,18nm,1.2s
TARG Taragay, Kyrgy 43.98 337 P **P** **18 24 38.4 +1.6**
TARG IAmb IAmb 18 24 40.0
comp=Z,16nm,0.6s
KSRS Korea Array 44.29 34 P **P** **18 24 38.6 -0.2**
comp=Z,2.2nm,0.6s,baz=222,slow=8.0,SNR=16
WSAR Wadi Sarin 44.45 302 P **P** **18 24 43.0 +2.7**
comp=Z,6.6nm,0.9s,baz=136,slow=10,SNR=2.0
XLT XiLinHaoTe 44.50 18 *e*P **P** **18 24 42.2 +1.7**
XLT pP pP 18 25 09.3 +0.6
XLT sP sP 18 25 25.6 +3.0
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,82nm,4.0s
KDJ Kajisay 44.56 337 P **P** **18 24 41.9 +0.8**
KDJ IAmb IAmb 18 24 44.5
comp=Z,36nm,1.2s
SATY Saty 44.90 339 *e*P **P** **18 24 44.6 +0.9**
baz=339
ZHN Zhinishke 44.98 339 *e*P **P** **18 24 44.8 +0.5**
baz=339
KPKS Kokpek 45.15 339 *e*P **P** **18 24 45.7 0.0**
baz=339
GAR Garm 45.23 328 P **P** **18 24 46.3 -0.2**
GAR IAmb IAmb 18 24 50.0
comp=Z,24nm,1.1s
BOOM Boomskoye usch 45.36 336 P **P** **18 24 48.8 +1.3**
BOOM IAmb IAmb 18 24 50.3
comp=Z,8.0nm,0.8s
MDOK Medeo 45.49 338 *e*P **P** **18 24 48.3 -0.2**
baz=338
AAA Alma-Ata 45.58 337 *e*P **P** **18 24 50.2 +1.1**
comp=Z,23nm,0.5s,baz=337
CHGR Chuyangaron 45.60 327 P **P** **18 24 49.6 +0.3**
CHGR IAmb IAmb 18 24 51.6
comp=Z,14nm,0.7s
QIS Mount Isa 45.65 121 P **P** **18 24 49.4 -0.4**
baz=46,SNR=14
QIS Mount Isa 45.65 121 P **P** **18 24 49.5 -0.4**
BTK Batken 45.76 330 P **P** **18 24 52.2 +1.7**
BTK IAmb IAmb 18 24 53.8
comp=Z,21nm,1.2s
TKM2 Tokmak 2 45.86 336 P **P** **18 24 53.9 +2.5**
SNR=18
KBK Karagaybulak 45.91 335 P **P** **18 24 54.4 +2.6**
SNR=28
OOD Onhnadatta 46.03 133 P **P** **18 24 52.0 -0.7**
AAK Ala-Archa 46.08 335 P **P** **18 24 54.3 +1.2**
AAK Ala-Archa 46.08 335 P **P** **18 24 55.6 +2.5**
CHKK Chushkaly 46.10 338 *e*P **P** **18 24 53.2 +0.2**
baz=338
SONM Songino Array 46.21 7 P **P** **18 24 55.1 +1.2**
comp=Z,4.3nm,0.4s,baz=189,slow=8.9,SNR=70
SONM ScP **ScP** **18 30 09.8 0.0**
comp=Z,1.1nm,0.8s,baz=187,slow=3.7,SNR=7.8
SONM Songino Array 46.21 7 P **P** **18 24 54.4 +0.5**
SONM IAmb IAmb 18 24 58.0
comp=Z,5.3nm,0.5s
CHMS Chumysh 46.27 335 P **P** **18 24 56.6 +2.2**
SNR=7.5
ULN Ulaanbaatar 46.32 8 P **P** **18 24 55.8 +1.0**
ULN IAmb IAmb 18 24 58.9
comp=Z,4.8nm,0.5s
ULN Ulaanbaatar 46.32 8 P **P** **18 24 57.9 +3.1**
KUU Kurty 46.38 337 *e*P **P** **18 24 54.9 -0.4**
comp=Z,13nm,0.8s,baz=338
EKS2 Erkin-Say 46.41 334 P **P** **18 24 58.0 +2.3**
SNR=18
TDK Taldyorghan 46.59 340 *e*P **P** **18 24 57.5 +0.6**
comp=Z,6.7nm,0.4s,baz=340
USP Ospenovka 46.60 335 P **P** **18 24 58.9 +1.9**
SNR=30
SGDS Sogindy 46.70 336 *e*P **P** **18 24 58.5 +0.7**
baz=336
ZSN Zaisan 46.99 347 *e*P **P** **18 25 00.7 +0.8**
baz=347
MK31 Makanchi Array 47.01 344 P **P** **18 25 00.8 +0.7**
MK31 IAmb IAmb 18 25 02.5
comp=Z,25nm,1.2s
MKAR Makanchi Array 47.01 344 P **P** **18 25 01.5 +1.4**
comp=Z,11nm,0.4s,baz=156,slow=8.8,SNR=388
MKAR pP **pP** **18 25 29.1 +0.3**
comp=Z,4.1nm,0.7s,baz=161,slow=7.7,SNR=3.2
MKAR ScP **ScP** **18 30 13.1 +0.1**
comp=Z,0.3nm,0.6s,baz=126,slow=6.9,SNR=3.7
MKAR S **S** **18 31 43.9 +1.4**
comp=Z,1.0nm,1.1s,baz=152,slow=13,SNR=4.2
MKAR Makanchi Array 47.01 344 P **P** **18 25 00.6 +0.5**
MAKZ Makanchi 47.11 344 P **P** **18 25 01.5 +0.6**
MAKZ IAmb IAmb 18 25 03.0
comp=Z,24nm,1.1s
MAKZ Makanchi 47.11 344 ⇓P **P** **18 25 01.9 +1.0**
MAKZ pP **pP** **18 25 29.4 -0.1**
MAKZ sP **sP** **18 25 44.5 +1.0**
DZA Taraz 47.69 333 *e*P **P** **18 25 05.8 +0.4**
baz=333
IUG Iuzhnay 47.73 331 *e*P **P** **18 25 06.4 +0.5**
baz=331
CN2 Changchun 47.90 26 *e*P **P** **18 25 05.8 -1.2**
CN2 *e*PP **PP** **18 26 59.0 -1.1**
CN2 *e*S **S** **18 31 52.9 -2.2**
CN2 *es*S sS 18 32 43.7 -0.9
CN2 *e*SS **SS** **18 35 19.0 -6.5**
CN2 LR LR
comp=Z,160nm,15.0s
CN2 LR LR
comp=Z,130nm,15.0s
CN2 LR LR
comp=Z,140nm,16.0s
KKAR Karatay Array 48.23 332 P **P** **18 25 10.5 +1.0**
BTLS Baital 48.24 336 *e*P **P** **18 25 10.2 +0.6**
baz=336
BRLS Borolday 48.49 332 *e*P **P** **18 25 11.3 -0.3**
baz=331
MTSU Mount Surprise 48.89 116 P **P** **18 25 15.7 +0.7**
baz=49,SNR=9.0
INKA Innaminka 49.82 129 P **P** **18 25 22.0 +0.1**
USRK Ussuriysk Ar. 51.28 30 P **P** **18 25 33.7 +1.1**
comp=Z,2.1nm,0.5s,baz=228,slow=7.4,SNR=7.4
HTT Hallett 51.51 137 P **P** **18 25 34.4 -0.1**
baz=52,SNR=5.1
KURK Kurchatov 51.59 344 P **P** **18 25 35.3 +0.5**
KURK Kurchatov 51.59 344 ⇓P **P** **18 25 36.2 +1.4**
KURK pP **pP** **18 26 08.1 +4.1**
KURK sP **sP** **18 26 20.4 +2.7**
GEYT Alibeck 51.82 319 P **P** **18 25 38.5 +1.7**
comp=Z,2.6nm,0.5s,baz=115,slow=13,SNR=5.2
GEYT pP **pP** **18 26 05.0 -0.9**
comp=Z,3.4nm,0.7s,baz=122,slow=11,SNR=3.1
GEYT LR LR 18 51 01.9
comp=Z,31nm,18.1s,baz=282,slow=40
GEYT Alibeck 51.82 319 P **P** **18 25 37.7 +0.9**
GEYT pP **pP** **18 26 05.4 -0.5**
QLP Quilpie 52.05 126 P **P** **18 25 38.7 +0.1**
baz=52,SNR=34
QLP Quilpie 52.05 126 P **P** **18 25 39.4 +0.8**
STKA Stephens Creek 52.55 133 P **P** **18 25 41.5 -0.7**
comp=Z,2.7nm,0.4s,baz=314,slow=8.1,SNR=12
STKA Stephens Creek 52.55 133 P **P** **18 25 41.9 -0.4**
baz=53,SNR=8.6
BRZS Bereznik 52.86 339 *e*P **P** **18 25 44.4 +0.2**
baz=339
ZAA0 Zalesovo Array 53.17 350 P **P** **18 25 47.3 +1.0**
ZALV Zalesovo Beam 53.17 350 P **P** **18 25 47.6 +1.2**
comp=Z,9.7nm,0.4s,baz=165,slow=6.2,SNR=61
ZALV pP **pP** **18 26 15.7 +0.1**
comp=Z,3.0nm,0.5s,baz=172,slow=7.2,SNR=2.1
ZALV S **S** **18 33 07.5 0.0**
comp=Z,1.0nm,0.7s,baz=164,slow=15,SNR=5.7
ZALV Zalesovo Beam 53.17 350 P **P** **18 25 47.1 +0.8**
KLR Kul'dur 54.86 26 P **P** **18 25 59.6 +0.9**
comp=Z,2.4nm,0.4s,baz=210,slow=9.3,SNR=16
CMSA Cobar Meteorol 55.41 131 P **P** **18 26 03.3 +0.2**
baz=55,SNR=45
CMSA Cobar Meteorol 55.41 131 P **P** **18 26 03.2 +0.2**
RMQ Roma 55.71 124 P **P** **18 26 08.8 +3.5**
baz=56,SNR=10
RMQ Roma 55.71 124 P **P** **18 26 07.0 +1.7**
RAYN Ar Rayn 55.98 297 P **P** **18 26 09.1 +1.7**
RAYN pP **pP** **18 26 36.5 -0.1**
RAYN Ar Rayn 55.98 297 P **P** **18 26 09.2 +1.9**
RAYN pP **pP** **18 26 37.2 +0.5**
BRVK Borovoye 56.25 340 P **P** **18 26 09.1 +0.5**
BRVK IAmb IAmb 18 26 10.4
comp=Z,4.9nm,0.6s
BRVK pP **pP** **18 26 37.0 -1.3**
BRVK Borovoye 56.25 340 ⇓P **P** **18 26 09.3 +0.7**
BRVK pP **pP** **18 26 37.9 -0.4**
BRVK sP **sP** **18 26 51.3 -0.8**
ASAJ Asahikawa 57.06 36 P **P** **18 26 15.7 +1.2**
comp=Z,5.5nm,0.8s,baz=258,slow=11,SNR=6.7
EIDS Eidsvold 57.25 122 P **P** **18 26 16.5 +0.3**
baz=57,SNR=6.9
ABKAR Akbulak array 57.74 331 P **P** **18 26 20.0 +0.8**
ABKAR pP **pP** **18 26 48.0 -1.1**
ABKAR IAmb IAmb 18 26 49.2
comp=Z,16nm,0.8s
ABKAR Akbulak array 57.74 331 P **P** **18 26 19.4 +0.2**
ABKAR pP **pP** **18 26 48.4 -0.7**
YSS Yuzh-Sakhalins 58.79 34 P **P** **18 26 26.4 -0.1**
YSS Yuzh-Sakhalins 58.79 34 P **P** **18 26 28.8 +2.2**
comp=Z,21nm,1.1s
ARMA Armidale 59.55 127 P **P** **18 26 33.5 +1.3**
baz=60,SNR=5.6
MGCD Mangrove Creek 60.26 130 P **P** **18 26 38.4 +1.4**
baz=60,SNR=5.1
ARU Arti 63.23 336 P **P** **18 26 56.1 -0.2**
ARU pP **pP** **18 27 25.4 -1.3**
ARU IAmb IAmb 18 27 26.6
comp=Z,11nm,1.1s
ARU Arti 63.23 336 P **P** **18 26 56.6 +0.2**
ARU pP **pP** **18 27 25.8 -0.9**
GURO Guroymak-BITLI 63.37 313 P **P** **18 26 59.5 +1.7**
GURO pP **pP** **18 27 28.1 +0.1**
GURO IAmb IAmb 18 27 29.2
comp=Z,6.8nm,0.9s
LODK Lodwar 63.53 273 P **P** **18 26 59.5 +0.3**
LODK pP **pP** **18 27 30.6 +1.6**
KBZ Khabaz 64.70 318 P **P** **18 27 06.6 +0.4**
comp=Z,3.1nm,0.9s,baz=142,slow=5.3,SNR=3.9
KBZ pP **pP** **18 27 36.0 -0.4**
comp=Z,7.0nm,0.8s,baz=157,slow=6.3,SNR=6.9
NRIK Noril'sk 67.76 356 P **P** **18 27 26.3 +1.0**
comp=Z,2.5nm,0.4s,baz=136,slow=7.1,SNR=4.4
NRIK Noril'sk 67.76 356 P **P** **18 27 26.1 +0.9**
NRIK IAmb IAmb 18 27 28.1
comp=Z,3.1nm,0.5s
BR131 Keskin Array S 69.94 312 P **P** **18 27 39.8 +0.2**
BR131 **pP** **18 28 09.2 -1.1**
BRTR Keskin Array B 69.94 312 P **P** **18 27 39.4 -0.2**
comp=Z,1.1nm,0.6s,baz=142,slow=6.5,SNR=8.7
BRTR pP **pP** **18 28 09.5 -0.8**
comp=Z,1.8nm,0.7s,baz=131,slow=7.2,SNR=5.3
MA2 Magadan 69.95 25 P **P** **18 27 39.7 +0.7**
MA2 Magadan 69.95 25 P **P** **18 27 40.2 +1.2**
MA2 pP **pP** **18 28 11.7 +1.9**
PETK Petropavlovsk- 70.19 33 P **P** **18 27 40.3 -0.3**
comp=Z,3.2nm,0.7s,baz=178,slow=5.8,SNR=6.0
PET Petropavlovsk 70.68 34 P **P** **18 27 43.0 -0.6**
PET Petropavlovsk 70.68 34 P **P** **18 27 44.4 +0.9**
ELL Elmali 72.13 308 P **P** **18 27 53.1 +0.3**
ELL **pP** **18 28 23.1 -0.5**
ELL IAmb IAmb 18 28 24.2
comp=Z,19nm,0.8s
TIXI Tiksi 72.20 10 P **P** **18 27 51.9 -0.4**
KARP Karpathos 74.11 306 P **P** **18 28 05.6 +1.2**
KARP pP **pP** **18 28 33.9 -1.4**
KARP IAmb IAmb 18 28 37.6
comp=Z,19nm,0.9s
SORM Soroca 75.71 319 ⇑P **P** **18 28 13.4 +0.1**
AKASG Malin Array Be 75.78 322 P **P** **18 28 13.8 +0.3**
comp=Z,0.3nm,0.3s,baz=86,slow=5.1,SNR=6.5
AKASG pP **pP** **18 28 43.2 -1.5**
comp=Z,4.9nm,0.8s,baz=86,slow=4.7,SNR=6.5
AKBB Malin Array Si 75.78 322 P **P** **18 28 14.8 +1.2**
AKBB **pP** **18 28 43.4 -1.4**
IDI Anoyia 75.91 306 ⇓P **P** **18 28 18.1 +3.3**
VRI Vrincioaia 76.30 317 ⇑P **P** **18 28 17.7 +1.0**
PLOR Plostina 76.35 317 ⇓P **P** **18 28 18.6 +1.6**
TESR Tescani 76.48 317 ⇑P **P** **18 28 19.1 +1.4**
MNK Minsk 77.53 326 *i* P **P** **18 28 20.5 -2.8**
comp=E,1.0nm,0.7s
MNK *i* P **P** **18 28 20.5 -2.8**
comp=N,4.0nm,0.7s
MNK *i* P **P** **18 28 20.5 -2.8**
comp=Z,4.0nm,0.7s,baz=105
MNK *i* pP **pP** **18 28 50.8 -3.9**
MNK *i* sP **sP** **18 29 03.9 -4.1**
MNK *i* PP **PP** **18 31 17.1 -2.6**
MNK *i* PPP PPP 18 33 03.6
MNK *i* S **S** **18 38 01.4 -3.1**
MNK *i* SS **SS** **18 43 06.5 +0.3**
MNK *i* SSS SSS 18 46 31.4
MNK *i* LR LR 18 57 08.2
MNK *i* LRM MLR 19 04 25.9
comp=Z,90nm,15.5s
MNK *i* LRM MLR 19 04 36.2
comp=E,17nm,18.7s
MNK *i* LRM MLR 19 04 42.0
comp=N,101nm,15.2s
BURAR Bucovina Array 77.66 318 ⇑P **P** **18 28 26.3 +1.9**
BUR08 Bucovina Ar. S 77.68 318 P **P** **18 28 25.8 +1.3**
BUR08 **pP** **18 28 55.9 +0.2**
RPZ Rata Peaks 78.47 135 LR LR 19 04 57.7
comp=N,100nm,18.4s,baz=272,slow=37
BLKB Belogradchik 78.76 314 ⇑P pP 18 28 59.3 -2.5
VSU Vasula 79.13 329 *e*P **P** **18 28 33.6 +1.6**
DRGR 79.20 317 ⇑P **P** **18 28 36.0 +3.1**
BZS Buzias 79.79 316 ⇑P pP 18 29 06.4 -0.9
PABE Paberze 79.95 326 *e*P **P** **18 28 38.5 +2.0**
SUW Suwalki 80.12 325 P **P** **18 28 38.1 +0.6**
SUW **pP** **18 29 07.3 -1.7**
SUW IAmb IAmb 18 29 09.6
comp=Z,31nm,1.0s
FINES FINESS Array B 80.19 332 P **P** **18 28 38.9 +1.1**
comp=Z,2.6nm,0.4s,baz=107,slow=5.8,SNR=38
FINES pP **pP** **18 29 08.6 -0.6**
comp=Z,4.7nm,0.6s,baz=104,slow=8.0,SNR=6.4
FINES FINESS Array B 80.19 332 P **P** **18 28 38.6 +0.8**
FINES pP **pP** **18 29 08.4 -0.9**
SUR Sutherland 81.01 237 LR LR 19 01 08.1
comp=Z,49nm,18.6s,baz=151,slow=33
PDG Podgorica 81.11 313 P **P** **18 28 42.0 -1.1**
PDG pP **pP** **18 29 12.9 -1.6**
PDG IAmb IAmb 18 29 16.8
comp=Z,6.2nm,0.7s
PBUR Paburge 81.18 326 *e*P **P** **18 28 44.9 +1.8**
SYO Syowa Base 81.21 198 ⇓*e*PcP **PcP** **18 28 49.0 +0.1**
RAF Rauma 82.14 331 *e*P **P** **18 28 50.3 +2.3**
ARCES ARCESS Array B 82.47 340 P **P** **18 28 50.2 +0.6**
comp=Z,0.9nm,0.5s,baz=101,slow=5.0,SNR=21
ARCES pP **pP** **18 29 20.7 -0.6**
comp=Z,3.8nm,0.9s,baz=97,slow=5.8,SNR=3.1
UPP Uppsala 84.00 330 *e*P **P** **18 28 59.4 +1.8**
NB2 NORSAR Subarra 87.25 331 P pP 18 29 45.5 -0.3
comp=Z,1.9nm,0.7s,baz=96,slow=4.6
NOA NORSAR Array B 87.25 331 pP pP 18 29 45.4 -0.3
comp=Z,3.1nm,0.8s,baz=94,slow=5.0,SNR=9.8
KTH Kantishna Hill 97.15 25 P **P** **18 29 59.4 -0.2**
NVAR Mina Array Bea 127.19 37 PKP **PKiKP** **18 35 32.3 -0.1**
comp=Z,0.5nm,0.6s,baz=291,slow=1.9,SNR=5.6
PDAR Pinedale Array 128.64 27 PKP **PKPdf** **18 35 34.2 -0.4**
comp=Z,0.5nm,0.8s,baz=124,slow=2.7,SNR=2.5
TXAR Lajitas Array 142.14 33 PKP **PKPdf** **18 35 57.3 -2.5**
comp=Z,0.3nm,0.4s,baz=215,slow=1.1,SNR=12
TXAR SKP 18 39 25.7
comp=Z,0.6nm,0.6s,baz=258,slow=0.8,SNR=6.6

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*NEIC **02** 18:25:10.7±2.6,24.00S±0.06◦66.72W±0.09,h190km±8km, mb4.2/9,Md3.7(SJA),ML4.5(GUC),Error ellipse: s-maj=11.8km s-min=8.9km az=88.0*
*IDC **02** 18:25:11.3±1.1,23.93S×66.66W,h192km±9km,mb3.5/6, mb1 3.8/12,mb1mx3.7/28,mbtmp4.0/12,Error ellipse: s-maj=18.9km s-min=13.1km az=16.0*
*VAO **02** 18:25:11.9±0.3,23.94S×67.01W,h233km±4km,mb4.1*
*GUC **02** 18:25:11.6±0.7,24.02S×66.89W,h201km±7km,ML4.0*
ISC 02 18:25:11.1±0.6,**23.98S**±0.04×**66.83W**±0.04,**h206**km±6km, **n118,**σ1§**50**/146,**mb3.9**/**7,2C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.42**	**122**	⇓*i*P	**Pn**	**18 25 46.4**	**+1.5**
SLA				*e*S	**Sn**	**18 26 12.1**	**+1.0**
SLA				IAML		18 26 13.3	
	comp=N,329nm,0.5s						
LVC	**Limon Verde**	**2.34**	**305**	P	**Pn**	**18 25 55.8**	**+1.7**
	comp=N,83nm,0.3s,baz=134,slow=5.4,SNR=467						
LVC				S	**Sn**	**18 26 27.9**	**+0.3**
	comp=N,86nm,0.3s,baz=312,slow=17,SNR=26						
LVC	**Limon Verde**	**2.34**	**305**		**Pn**	**18 25 55.7**	**+1.6**
LVC				Sn	**Sn**	**18 26 27.7**	**+0.2**
LVC	**Limon Verde**	**2.34**	**305**	*i*P	**Pn**	**18 25 55.7**	**+1.7**
LVC				*e*S	**Sn**	**18 26 28.6**	**+1.1**
LVC	**Limon Verde**	**2.34**	**305**	*e*P	**Pn**	**18 25 55.8**	**+1.7**
LVC				*e*S	**Sn**	**18 26 28.7**	**+1.1**
PB15	**IPOC Station P**	**2.54**	**287**		**Pn**	**18 25 57.0**	**+1.0**
PB15				Sn	**Sn**	**18 26 30.8**	**-0.2**
PB15	**IPOC Station P**	**2.54**	**287**	*e*P	**Pn**	**18 25 57.7**	**+1.7**
PB15				*i* S	**Sn**	**18 26 31.3**	**+0.3**
GO02	**Mina Guanaco**	**2.77**	**244**		**Pn**	**18 26 00.3**	**+1.6**
GO02				Sn	**Sn**	**18 26 36.3**	**+0.3**
GO02	**Mina Guanaco**	**2.77**	**244**	*e*P	**Pn**	**18 26 00.4**	**+1.6**
GO02				*i* S	**Sn**	**18 26 37.0**	**+1.0**
PB06	**IPOC Station P**	**2.82**	**296**		**Pn**	**18 25 60.0**	**+0.9**
PB06				Sn	**Sn**	**18 26 35.5**	**-1.2**
PB06	**IPOC Station P**	**2.82**	**296**	*e*P	**Pn**	**18 26 00.7**	**+1.5**
PB06				*e*S	**Sn**	**18 26 36.5**	**-0.2**
PB06				IAML		18 26 39.0	
	comp=E,2μm,0.1s						
AHML	**Horco Molle**	**3.11**	**154**	*e*P	**Pn**	**18 26 03.7**	**+1.4**
AHML				*e*S	**Sn**	**18 26 41.5**	**-1.1**
AHML				IAML		18 26 44.0	
	comp=N,29nm,0.8s						
PB09	**IPOC Station P**	**3.11**	**314**		**Pn**	**18 26 01.8**	**-0.7**
PB09				Sn	**Sn**	**18 26 42.5**	**-0.2**
PB09	**IPOC Station P**	**3.11**	**314**	*e*P	**Pn**	**18 26 04.2**	**+1.7**
PB09				*i* S	**Sn**	**18 26 43.1**	**+0.4**
PB09				IAML		18 26 45.6	
	comp=N,419nm,0.4s						
PB14	**IPOC Station P**	**3.32**	**258**		**Pn**	**18 26 05.9**	**+0.8**
PB14				Sn	**Sn**	**18 26 45.2**	**-2.3**
PB14	**IPOC Station P**	**3.32**	**258**	*e*P	**Pn**	**18 26 06.2**	**+1.1**
PB14				*i* S	**Sn**	**18 26 45.6**	**-1.9**
PB04	**IPOC Station P**	**3.46**	**298**		**Pn**	**18 26 07.7**	**+0.9**
PB04				Sn	**Sn**	**18 26 48.3**	**-2.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB04	IPOC Station P	3.46	298	eP	Pn	18 26 07.3	+0.6
PB04				i S	Sn	18 26 48.2	-2.1
AC02	Maricunga	3.52	216		Pn	18 26 09.0	+1.3
AC02	Maricunga	3.52	216	⇑iP	Pn	18 26 09.5	+1.8
PB07	IPOC Station P	3.60	308	Pn	Pn	18 26 08.7	+0.3
PB07				Sn	Sn	18 26 50.5	-2.9
PB07	IPOC Station P	3.60	308	eP	Pn	18 26 09.2	+0.8
PB07				i S	Sn	18 26 51.5	-1.8
PB01	IPOC Station P	3.81	319	Pn	Pn	18 26 11.7	+0.7
PB01				Sn	Sn	18 26 56.2	-1.7
PB01	IPOC Station P	3.81	319	eP	Pn	18 26 11.8	+0.9
PB01				i S	Sn	18 26 56.9	-1.1
PB02	IPOC Station P	3.87	312	Pn	Pn	18 26 12.1	+0.4
PB02				Sn	Sn	18 26 55.2	-4.1
PB02	IPOC Station P	3.87	312	eP	Pn	18 26 12.5	+0.8
PB02				i S	Sn	18 26 57.1	-2.1
AC01	Pan de Azucar	4.04	237		Pn	18 26 13.7	+0.2
AC01				Sn	Sn	18 27 00.6	-2.2
AC01	Pan de Azucar	4.04	237	eP	Pn	18 26 13.8	+0.2
AC01				i S	Sn	18 27 00.9	-1.9
PB08	IPOC Station P	4.38	330	Pn	Pn	18 26 19.2	+0.9
PB08				Sn	Sn	18 27 10.2	-1.0
PATCX	Punta Patache	4.39	315		Pn	18 26 17.5	-0.6
PATCX				Sn	Sn	18 27 07.2	-3.7
AC06	Mina Casimiro	4.63	223		Pn	18 26 20.9	-0.1
GO03	Copiap	4.73	220		Pn	18 26 22.2	0.0
TA02	Huaiquique	4.79	320		Pn	18 26 21.8	-1.2
GO01	Chusmiza	4.82	332	Pn	Pn	18 26 23.5	-0.4
PB11	IPOC Station P	4.95	327		Pn	18 26 24.6	-0.6
PB11					Sn	18 27 18.7	-4.9
AC04	Llanos de Chal	5.68	221	Pn	Pn	18 26 34.9	+0.6
LCO	Las Campanas	6.09	214	Pn	Pn	18 26 39.7	-0.1
CO01	Juntas del Tor	6.64	205		Pn	18 26 47.2	+0.3
CO05	La Serena	7.10	213	Pn	Pn	18 26 50.3	-2.3
GO04	Tololo Observa	7.11	209		Pn	18 26 51.4	-1.5
ZON	Zonda	7.71	192	Pn	Pn	18 26 59.2	-1.4
LPAZ	La Paz	7.75	351	P	Pn	18 27 02.6	+0.9
	comp=N,0.7nm,0.3s,baz=164,slow=7.1,SNR=14						
LPAZ				S	Sn	18 28 28.2	-1.5
	comp=N,0.2nm,0.3s,baz=234,slow=23,SNR=2.3						
LPAZ	La Paz	7.75	351		Pn	18 27 02.8	+1.1
LPAZ	La Paz	7.75	351	eP	Pn	18 27 01.6	-0.1
CO06	Fray Jorge	7.92	212	Pn	Pn	18 27 01.1	-2.1
CPUP	Villa Florida	8.92	107	P	Pn	18 27 15.4	-0.9
	comp=N,0.5nm,0.3s,baz=286,slow=11,SNR=15						
CPUP	Villa Florida	8.92	107	Pn	Pn	18 27 15.6	-0.7
CPUP	Villa Florida	8.92	107	eP	Pn	18 27 15.6	-0.7
VA03	San Esteban	9.34	200	Pn	Pn	18 27 21.6	-0.2
SIV	San Ignacio	9.62	35	P	Pn	18 27 24.0	-1.4
	comp=N,0.9nm,0.3s,baz=217,slow=12,SNR=13						
ROC1	El Roble	9.69	201	Pn	Pn	18 27 23.6	-2.8
MT05	Renca	9.98	199	Pn	Pn	18 27 28.1	-1.9
MT02	Curacav	9.99	201	Pn	Pn	18 27 27.0	-3.0
LMEL	Las Melosas	10.27	196	Pn	Pn	18 27 32.7	-1.0
MT09	Talagante	10.42	199	Pn	Pn	18 27 34.1	-1.6
MT01	Popeta	10.58	200	Pn	Pn	18 27 36.5	-1.1
AQDB	Aquidauana	10.88	73	eP	Pn	18 27 43.3	+1.7
BO01	Tunca	11.02	199	Pn	Pn	18 27 43.2	-0.1
PTGB	Pitanga	13.48	96	eP	P	18 28 18.2	+1.3
CPSB	Cacapava Do Su	13.53	121	eP	P	18 28 18.0	+0.8
ITAB	Concordia	13.66	107	Pn	Pn	18 28 14.6	-2.0
ITAB	Concordia	13.66	107	eP	P	18 28 16.0	-2.7
PLTB	Pedras Altas	14.03	126	Pn	Pn	18 28 18.4	-2.8
PCMB	Pacaembu	14.55	84	eP	P	18 28 30.2	+1.5
CNLB	Canela	15.24	114	eP	P	18 28 37.3	+1.0
LC01	Cunco	15.48	195	Pn	Pn	18 28 36.9	-1.9
LC01				IAmb	IAmb	18 28 45.1	
	comp=Z,12nm,1.5s						
DVLD	Doverlandia	15.57	65	eP	P	18 28 40.4	+0.3
PDRB	Porto dos Gac	15.60	40	eP	Pn	18 28 40.3	-0.2
FRTB	Fartura	15.84	91	eP	Pn	18 28 44.2	+0.9
ITRB	Iturama	15.88	78	eP	Pn	18 28 44.8	+1.1
TER01	Tubaro-SC	16.51	110	eP	Pn	18 28 51.2	-0.1
CLDB	Colider	16.74	41	eP	P	18 28 52.9	0.0
PLCA	Paso Flores	17.00	190	P	Pn	18 28 57.3	+0.4
	comp=Z,0.2nm,0.3s,baz=19,slow=12,SNR=8.5						
PLCA	Paso Flores	17.00	190	P	Pn	18 28 55.1	-1.9
PLCA	Paso Flores	17.00	190	eP	P	18 28 54.6	-0.9
BB19B	Bebedouro	17.16	84	eP	Pn	18 28 59.3	+0.3
LL04	Puerto Octay	17.52	194		Pn	18 29 01.6	-1.4
LL04				IAmb	IAmb	18 29 35.5	
	comp=Z,10nm,1.1s						
PET01	Itanhaem-SP	17.86	95	eP	Pn	18 29 05.5	-1.7
VAO	Valinhos	18.25	91	eP	Pn	18 29 09.6	-2.3
IPMB	Ipameri, GO	18.38	75	eP	Pn	18 29 11.4	-2.0
SNDB	Serra Nova Dou	18.98	54	eP	P	18 29 17.1	-0.1
PARB	Paraibuna	19.44	92	eP	Pn	18 29 22.9	-3.1
BDFB	Brasilia	19.54	68	P	P	18 29 23.4	0.0
	comp=Z,1.3nm,0.3s,baz=241,slow=11,SNR=32						
BDFB	Brasilia	19.54	68	P	P	18 29 23.4	0.0
BDFB	Brasilia	19.54	68	eP	P	18 29 23.3	-0.1
AY01	Puyuhuapi	20.94	192	P	P	18 29 37.6	-0.2
PEXB	Peixe	21.18	59	eP	P	18 29 40.1	-0.7
ITTB	Itaituba	22.24	30	eP	P	18 29 49.9	-1.3
DUB01	Friburgo-RJ	22.59	90	eP	P	18 29 54.5	+0.2
MC01	Montes Claros	22.63	76	eP	P	18 29 54.1	-0.7
JANB	Januaria	22.98	71	eP	P	18 29 57.4	-0.6
MCRA	Macar, Loja	23.24	325	P	P	18 30 02.1	+1.9
MCRA				IAmb	IAmb	18 30 05.3	
	comp=Z,6.8nm,1.0s						
CAM01	Campos-RJ	23.28	90	eP	P	18 30 00.8	+0.2
SMTB	Santa Maria do	23.76	54	eP	P	18 30 04.6	-0.3
SDBA	SAO DESIDERIO	23.76	65	eP	P	18 30 04.4	-0.6
PRPB	Parauapebas	24.10	45	eP	P	18 30 06.9	-1.2
ALF01	Guarapari-ES	24.38	87	eP	P	18 30 08.8	-1.6
SJMB	Sao Joao De Ma	24.44	83	eP	P	18 30 11.2	0.0
MALB	Monte Alegre	25.14	31	eP	P	18 30 15.8	-1.6
NAN01	Guarapari, ES	25.66	81	eP	P	18 30 21.8	-0.4
GUA01	Guaratinga, BA	26.37	79	eP	P	18 30 28.3	-0.2
CMC01	Camacan, BA	27.07	77	eP	P	18 30 34.3	-0.5
GDU01	Guandu, BA	27.69	73	eP	P	18 30 39.5	-0.8
NBPS	Pedro II - PI	31.27	55	eP	P	18 31 11.1	-0.8
TXAR	Lajitas Array	63.75	324	P	P	18 35 23.5	+2.4
	comp=Z,0.3nm,0.4s,baz=142,slow=6.6,SNR=9.2						
TORD	Torodi Ar. Bea	76.42	69	P	P	18 36 38.4	+0.1
	comp=Z,1.2nm,0.5s,baz=257,slow=5.6,SNR=15						
TORD	Torodi Ar. Bea	76.42	69	IAmb	IAmb	18 36 42.8	
	comp=Z,1.0nm,0.9s						
PDAR	Pinedale Array	77.21	329	P	P	18 36 44.7	+2.3
	comp=Z,0.4nm,0.5s,baz=130,slow=6.7,SNR=4.6						
ULM	Lac du Bonnet	78.26	341	P	P	18 36 49.1	+1.4
	comp=Z,2.0nm,0.5s,baz=173,slow=7.7,SNR=3.4						
ULM	Lac du Bonnet	78.26	341	IAmb	IAmb	18 36 50.2	
	comp=Z,9.8nm,1.5s						
NVAR	Mina Array Bea	78.62	321	P	P	18 36 53.3	+3.0
	comp=Z,0.2nm,0.4s,baz=147,slow=5.4,SNR=2.3						
YKA	Yellowknife Ar	94.16	340	P	P	18 38 07.3	+1.6
	comp=Z,0.8nm,0.5s,baz=137,slow=4.7,SNR=18						
ASAR	Alice Springs	128.54	205	PKP	PKiKP	18 43 55.8	+1.0
	comp=Z,1.0nm,0.7s,baz=130,slow=1.8,SNR=19						
WRA	Warramunga Arr	131.71	207	PKP	PKiKP	18 44 02.1	+0.8
	comp=Z,0.6nm,0.3s,baz=155,slow=1.8,SNR=22						
ZALV	Zalesovo Beam	143.30	28	PKP	PKPdf	18 44 19.8	-0.5
	comp=Z,0.9nm,0.5s,baz=315,slow=4.7,SNR=7.6						
MKAR	Makanchi Array	146.41	40	PKPbc	PKPbc	18 44 28.2	+0.5
	comp=Z,2.3nm,0.6s,baz=315,slow=2.5,SNR=31						
SONM	Songino Array	155.59	11	PKPab	PKPab	18 45 09.3	+2.2
	comp=Z,0.1nm,0.4s,baz=331,slow=3.7,SNR=4.1						
PZH	PanZhiHua	169.36	74	PKP	PKPdf	18 44 51.3	-3.0

*IDC **02** 18:41:04.8±1.1, 6.76S×126.72E, h435km±14km, mb2.9/2, mb1 2.9/6, mb1mx2.6/35, mbtmp3.7/6, Error ellipse: s-maj=20.2km s-min=12.5km az=87.0*

ISC 02 18:41:05.0±0.9**, 6.79S**±0.08×**126.8E**±0.1**, h450**km**, n7,** σ**1.54**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	4.57	222	P	P	18 42 25.1	-0.2
	28nm,0.3s,baz=97,slow=3.0,SNR=50						
BATI				S	S	18 43 28.9	-1.9
	5.5nm,0.3s,baz=32,slow=22,SNR=7.1						
SIJI	Sorong	7.41	38	P	P	18 42 54.4	+0.2
	1.4nm,0.3s,baz=330,slow=19,SNR=7.3						
SIJI				S	S	18 44 22.0	-1.6
	0.4nm,0.3s,baz=138,slow=24,SNR=1.2						
FITZ	Fitzroy Crossi	11.29	185	P	P	18 43 36.5	+0.3
	0.1nm,0.3s,baz=357,slow=10,SNR=14						
WRA	Warramunga Arr	15.01	151	P	P	18 44 16.6	+0.3
	0.4nm,0.3s,baz=326,slow=11,SNR=20						
WRA				S	S	18 46 52.4	-2.1
	0.1nm,0.3s,baz=328,slow=21,SNR=2.7						
ASAR	Alice Springs	18.14	158	P	P	18 44 50.0	+0.8
	0.7nm,0.3s,baz=342,slow=12,SNR=60						
ASAR				S	S	18 47 55.6	+2.5
	0.0nm,0.3s,baz=336,slow=21,SNR=2.1						
MKAR	Makanchi Array	66.31	328	P	P	18 51 08.8	+1.1
	0.2nm,0.4s,baz=125,slow=8.0,SNR=6.2						
ZALV	Zalesovo Beam	70.00	335	P	P	18 51 30.4	+0.4
	0.6nm,0.5s,baz=129,slow=6.1,SNR=3.2						

*IDC **02** 18:59:06.2±1.1, 21.63S×66.58W, h208km±14km, mb3.3/2, mb1 3.5/5, mb1mx3.2/44, mbtmp3.8/5, Error ellipse: s-maj=37.8km s-min=14.9km az=137.0*

*SCB **02** 18:59:10.2±2.0, 21.50S×66.88W, h186km±41km, ML3.3/11, MW3.4, Error ellipse: s-maj=11.9km s-min=10.1km az=0.0*

ISC 02 18:59:07.8±1.1**, 21.46S**±0.07×**66.79W**±0.06**, h200**km**, n18,** σ**1.99**/19**, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOCB	Mochara	1.10	79	P	Pn	18 59 41.0	+2.2
MOCB				IAML		19 00 05.9	
	189nm,0.7s						
YJA	Yavi	1.39	121	P	Pn	18 59 42.8	+1.8
LVC	Limon Verde	2.27	239	P	Pn	18 59 51.3	+1.7
	6.7nm,0.3s,baz=57,slow=8.7,SNR=38						
LVC				S	Sn	19 00 23.2	+1.1
	4.6nm,0.3s,baz=235,slow=21,SNR=24						
LVC	Limon Verde	2.27	239	P	Pn	18 59 51.9	+2.3
PB09	IPOC Station P	2.30	261	P	Pn	18 59 51.3	+1.6
PB09				IAML		19 00 27.8	
	35nm,1.2s						
PB01	IPOC Station P	2.55	279	P	Pn	18 59 54.7	+2.4
PB01				IAML		19 00 30.5	
	87nm,0.2s						
PB08	IPOC Station P	2.57	300	P	Pn	18 59 55.6	+2.7
PB08				IAML		19 00 32.3	
	39nm,0.3s						
PB06	IPOC Station P	2.86	244	P	Pn	18 59 56.6	+0.7
PB06				IAML		19 00 42.1	
	43nm,0.3s						
PB07	IPOC Station P	2.89	264	P	Pn	18 59 57.9	+1.6
PB07				IAML		19 00 36.6	
	52nm,0.3s						
PB02	IPOC Station P	2.90	272	P	Pn	18 59 57.8	+1.5
PB02				IAML		19 00 36.2	
	186nm,0.2s						
PB15	IPOC Station P	3.03	234	P	Pn	18 59 59.2	+1.2
PB15				IAML		19 00 40.3	
	113nm,0.2s						
PB11	IPOC Station P	3.17	302	P	Pn	19 00 01.0	+1.4
PB11				IAML		19 00 43.5	
	104nm,0.2s						
PB04	IPOC Station P	3.23	254	P	Pn	19 00 01.7	+1.3
PB04				S	Sn	19 00 38.9	-2.6
PB04				IAML		19 00 42.5	
	82nm,0.3s						
PB04				IAML		19 00 47.5	
	60nm,0.4s						
LPAZ	La Paz	5.30	346	P	Pn	19 00 28.4	+1.8
	3.0nm,0.3s,baz=139,slow=9.3,SNR=48						
LPAZ	La Paz	5.30	346	P	Pn	19 00 28.5	+1.8
SIV	San Ignacio	7.68	46	P	Pn	19 00 55.3	-1.7
	1.4nm,0.3s,baz=252,slow=12,SNR=13						
SIV				S	Sn	19 02 21.7	-2.1
	0.4nm,0.3s,baz=136,slow=24,SNR=2.1						
TORD	Torodi Ar. Bea	75.49	69	P	P	19 10 27.3	-3.2
	0.8nm,0.5s,baz=256,slow=5.0,SNR=19						
YKA	Yellowknife Ar	91.82	340	P	P	19 11 51.0	-1.5
	0.2nm,0.6s,baz=124,slow=4.1,SNR=5.9						

*IDC **02** 19:04:48.0±1.2, 2.48N×79.36W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/48, mbtmp3.6/7, ML2.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/54, Error ellipse: s-maj=39.6km s-min=24.8km az=70.0*

ISC 02 19:04:51.4±0.9**, 2.50N**±0.06×**79.35W**±0.09**, h21**km**, n25,** σ**2.11**/20**, mb3.6**/6**, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GR1C	Gorgona, Isla	1.28	67	eP	Pn	19 05 09.6	-4.5
PAC1	Pacto, Paraso	2.29	166	eP	Pb	19 05 34.6	+2.5
TULM	Tulcn-Chalpat	2.36	139	eP	Pn	19 05 29.1	-0.3
OTAV	Otavalo	2.42	158	eP	Pn	19 05 27.5	-2.7
POPC	Popayan, Colom	2.67	89	eP	Pb	19 05 41.8	+3.1
SOTA	Rioblanco	2.76	97	eP	Pn	19 05 34.6	-0.3
PCON	Cinco Dias	2.96	93	eP	Pn	19 05 34.6	-3.0
MARP	Paez Belalcaza	3.41	84	eP	Pn	19 05 38.2	-5.4
FLOC	Florencia	3.81	104	eP	Pb	19 05 59.7	+1.8
ORTC	Ortega, Tolima	4.33	71	eP	Pn	19 05 56.1	0.0
CBOC	Ciudad Bolivar	4.72	45	eP	Pn	19 05 58.6	-2.9
PTLC	Puerto Leguiza	5.11	117	eP	Pb	19 06 17.6	-2.5
ROSC	El Rosal	5.53	65	Pn	Pn	19 06 13.8	+0.9
	2.5nm,0.3s,baz=221,slow=20,SNR=2.1						
VILC	Villavicencio,	5.87	74	eP	Pn	19 06 18.2	+0.9
RUSC	La Rusia	7.10	61	eP	Pn	19 06 35.5	+0.9
SDV	Santo Domingo	10.74	53	LR	LR	19 12 26.9	
	comp=Z,142nm,18.1s,baz=154,slow=43						
SIV	San Ignacio	25.77	136	P	P	19 10 21.3	+0.2
	1.4nm,0.6s,baz=315,slow=11,SNR=7.3						
MDP	Montagnes des	26.77	84	LR	LR	19 21 39.8	
	comp=Z,52nm,18.9s,baz=208,slow=38						
PLCA	Paso Flores	43.77	170	P	P	19 12 55.1	-0.5
	1.2nm,0.8s,baz=335,slow=11,SNR=5.3						
YKA	Yellowknife Ar	65.34	343	P	P	19 15 31.6	-0.3
	0.5nm,0.9s,baz=134,slow=6.1,SNR=3.8						
ESDC	Sonseca Array	77.17	50	P	P	19 16 44.1	+0.2
	0.4nm,0.7s,baz=281,slow=5.9,SNR=4.5						
ILAR	Eielson Array	78.30	336	P	P	19 16 51.0	+1.3
	0.3nm,0.8s,baz=90,slow=3.6,SNR=2.3						
TORD	Torodi Ar. Bea	80.72	77	P	P	19 17 03.0	-0.8
	0.2nm,0.5s,baz=264,slow=4.3,SNR=4.4						
ASAR	Alice Springs	141.57	234	PKhKP	PKPpre	19 24 17.1	
	0.4nm,1.0s,baz=110,slow=3.9,SNR=1.7						
WRA	Warramunga Arr	142.82	240	PKhKP	PKPpre	19 24 21.0	
	0.3nm,0.6s,baz=116,slow=2.1,SNR=2.0						

*IDC **02** 19:06:17.4±0.6, 1.70S×138.66E, h0km, mb4.2/15, mb1 4.4/19, mb1mx4.2/43, mbtmp4.3/19, ML4.5/3, MS3.7/37, Ms1 3.7/37, ms1mx3.6/65, Error ellipse: s-maj=23.0km s-min=12.6km az=69.0*

*NEIC **02** 19:06:19.1±1.1, 1.70S±0.08×138.60E±0.07, h10km±1km, mb4.7/66, Error ellipse: s-maj=14.4km s-min=11.2km az=187.0*

*DJA **02** 19:06:23.1±0.5, 2°S±4°×13°9E±°, h41km±4km, M4.7/41, mB5.2/7, mb4.7/41, MLv4.9/6, Mw(mB)4.6/7*

ISC 02 19:06:18.8±0.3**, 1.78S**±0.05×**138.61E**±0.05**, h10**km**, n210,** σ**1.76**/185**, mb4.7**/60**, MS3.8**/31**, 1C-1D, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	2.22	109	Pn	Pn	19 06 53.8	-2.0
	15nm,0.3s,baz=252,slow=10,SNR=48						
JAY				Sn	Sn	19 07 19.9	-3.4
	38nm,0.3s,baz=160,slow=18,SNR=5.1						
JAY				LR	LR	19 07 42.5	
	comp=Z,566nm,20.2s,baz=330,slow=39						
JAY	Jayapura	2.22	109	P	Pn	19 06 54.3	-1.5
SRPI	Serui, Papua	2.37	268	P	Pn	19 06 59.7	+1.9
BAKI	Biak	2.57	283	P	Pn	19 07 00.1	-0.4
MMPI	Merauke	6.87	165	P	Pn	19 08 05.0	+5.3
	2.0nm381nm,0.9s						
SIJI	Sorong	7.39	277	Pn	Pn	19 08 10.3	+3.3
	1.7nm,0.3s,baz=57,slow=9.5,SNR=5.4						
SIJI				LR	LR	19 10 50.8	
	comp=Z,213nm,20.5s,baz=78,slow=37						
SWI	Sorong	7.40	277	P	Pn	19 08 09.3	+2.3
	0.1nm35nm,0.7s						
MANU	Manus Island	8.76	92	Pn	Pn	19 08 25.4	-0.3
SAUI	Saumlaki	9.53	230	Pn	Pn	19 08 35.5	-0.7
AAI	Ambon	10.57	259	P	Pn	19 08 53.9	+3.4
	28nm,0.8s						
LBMI	Labuha	11.16	276	P	Pn	19 09 01.9	+3.3
	14nm,1.1s						
PMG	Port Moresby	11.39	132	Pn	Pn	19 09 02.9	+1.2
	0.3nm,0.3s,baz=236,slow=22,SNR=1.7						
PMG				LR	LR	19 14 30.9	
	comp=Z,596nm,21.6s,baz=356,slow=43						
PMG	Port Moresby	11.39	132		Pn	19 09 02.4	+0.7
PMG	Port Moresby	11.39	132	P	Pn	19 09 07.3	+5.6
KDU	Kakadu	12.42	209	P	Pn	19 09 15.6	-0.2
	baz=12,SNR=67						
KDU	Kakadu	12.42	209	P	Pn	19 09 16.1	+0.3
SANI	Sanana	12.61	269	P	Pn	19 09 21.5	+3.0
	23nm,0.7s						
SANI	Sanana	12.61	269	P	Pn	19 09 19.5	+1.0
COEN	Coen	12.91	160	Pn	Pn	19 09 22.5	-0.1
MTN	Manton Dam	13.25	214	P	Pn	19 09 27.6	+0.5
	baz=13,SNR=42						
MTN	Manton Dam	13.25	214	Pn	Pn	19 09 27.4	+0.3
MTN	Manton Dam	13.25	214	P	Pn	19 09 27.9	+0.7
KRVT	Keravat (AS076	13.63	101	LR	LR	19 14 21.7	
	comp=Z,375nm,19.0s,baz=53,slow=36						
KMSI	Cibinong	14.81	279	P	P	19 10 06.7	+12
GTOI	Gorontalo	15.78	279	P	P	19 10 06.1	+0.9
	15nm,0.9s						
LUWI	Luwuk	15.85	272	Pn	Pn	19 10 02.2	-0.1
LUWI	Luwuk	15.85	272	P	Pn	19 10 02.8	+0.6
	1μm34nm,0.8s						
BBSI	Bau Bau	16.42	257	P	P	19 10 13.6	+1.2
	128nm12nm,1.0s						
GUMO	Guam	16.49	22	LR	LR	19 16 25.9	
	comp=Z,195nm,18.4s,baz=220,slow=37						
MRSI	Marisa	16.82	278	P	P	19 10 16.3	-0.4
	28nm,1.1s						
KNRA	Kununurra	16.88	215	P	Pn	19 10 15.3	0.0
	baz=16,SNR=56						
KNRA	Kununurra	16.88	215	Pn	Pn	19 10 15.3	0.0
KNRA	Kununurra	16.88	215	P	Pn	19 10 16.0	+0.7
BATI	Baumata	17.04	240	P	Pn	19 10 17.9	+0.4
	12nm,0.3s,baz=145,slow=1.1,SNR=46						
BATI				LR	LR	19 18 19.6	
	comp=Z,178nm,20.4s,baz=86,slow=42						
BATI	Baumata	17.04	240	P	P	19 10 20.6	+1.3
	966nm110nm,0.7s						
MTSU	Mount Surprise	17.19	161	P	P	19 10 22.4	+1.5
	baz=17,SNR=4.8						
MTSU	Mount Surprise	17.19	161	P	P	19 10 22.4	+1.5
MMRI	Maumere	17.66	247		Pn	19 10 25.9	+0.8
TOLI2	Tolitoli	18.05	279	P	Pn	19 10 28.6	-1.5
WB0	Warramunga Arr	18.34	193	P	P	19 10 33.3	-0.3
WB0				IAmb	IAmb	19 10 37.0	
	comp=Z,57nm,0.8s						
WRAB	Tennant Creek	18.51	193	P	P	19 10 36.6	+1.1
WRA	Warramunga Arr	18.52	193	P	P	19 10 36.2	+0.6
	comp=Z,3.7nm,0.3s,baz=14,slow=12,SNR=135						
WRA				S	Sn	19 13 54.6	-8.4
	comp=Z,0.4nm,0.3s,baz=12,slow=22,SNR=6.6						
WRA				LR	LR	19 18 29.5	
	comp=Z,368nm,20.8s,baz=174,slow=39						
WRA	Warramunga Arr	18.52	193	P	P	19 10 34.7	-0.9
BSSI	Bau Bau, Buton	18.58	256	P	Pn	19 10 39.3	+2.8
	comp=Z,27nm,1.1s						
BNSI	Bone	18.65	262	P	Pn	19 10 41.0	+3.6
	comp=Z,36nm,0.8s						
QIS	Mount Isa	18.68	177	P	P	19 10 38.0	+0.7
	baz=18,SNR=16						
BKSI	Bulukumba	18.78	259	P	Pn	19 10 41.0	+2.1
	comp=Z,25nm,1.1s						
TTSI	Tana Toraja	18.81	266	P	Pn	19 10 41.6	+2.3
	comp=Z,33nm,1.0s						
MPSI	Mapaga	18.82	276	P	Pn	19 10 40.8	+1.3
	comp=Z,10nm,1.1s						
SPSI	Sidrap Palu	18.94	263	P	Pn	19 10 42.9	+2.1
	comp=Z,479nmcomp=Z,26nm,0.8s						
CTA	Charters Tower	19.67	158	P	P	19 10 49.5	+1.3
	comp=Z,1.1nm,0.3s,baz=334,slow=9.7,SNR=14						
CTA				LR	LR	19 19 07.8	
	comp=Z,517nm,21.5s,baz=339,slow=39						
FITZ	Fitzroy Crossi	20.61	217	P	P	19 10 60.0	+1.6
	comp=Z,14nm,0.8s,baz=40,slow=11,SNR=32						
FITZ				S	S	19 14 41.5	-7.5
	comp=Z,20nm,0.8s,baz=203,slow=12,SNR=10						
FITZ				LR	LR	19 20 35.9	
	comp=Z,167nm,21.5s,baz=39,slow=42						
FITZ	Fitzroy Crossi	20.61	217	P	P	19 10 58.8	+0.4
WBSI	Waikabubak, Su	20.64	247	P	P	19 10 59.7	+0.9
	comp=Z,58nm,0.9s						
AS31	Alice Springs	22.22	191	P	P	19 11 16.3	+0.5
AS31				IAmb	IAmb	19 11 18.3	
	comp=Z,18nm,0.8s						
ASAR	Alice Springs	22.23	191	P	P	19 11 16.8	+1.0
	comp=Z,53nm,0.8s,baz=24,slow=10,SNR=396						
ASAR				S	S	19 15 19.9	-0.8
	comp=Z,12nm,0.9s,baz=12,slow=25,SNR=13						
ASAR				LR	LR	19 20 52.4	
	comp=Z,255nm,18.5s,baz=33,slow=39						
ASAR	Alice Springs	22.23	191	P	P	19 11 16.6	+0.8
KKM	Kota Kinabalu	23.67	289	P	P	19 11 29.2	-1.8
KKM				IAmb	IAmb	19 11 42.7	
	comp=Z,41nm,1.1s						
MTKI	Muara Teweh, K	23.72	272	P	P	19 11 32.5	+1.2
	comp=Z,2μmcomp=Z,23nm,0.5s						
BBKI	Banjar Baru	23.80	265	P	P	19 11 35.1	+3.0
	comp=Z,13μmcomp=Z,51nm,1.2s						
RK1H	Rockhampton Ha	24.37	153	P	P	19 11 41.7	+4.4
KMMI	Kalianget	25.11	257	P	P	19 11 45.3	+1.2
	comp=Z,86nm,1.1s						
WRKA	Warakurna	25.17	202	P	P	19 11 44.0	-0.6
	baz=25,SNR=40						
WRKA	Warakurna	25.17	202	P	P	19 11 46.7	+2.1
JAGI	Jajag, Banyuwa	25.23	254	P	P	19 11 42.1	-3.2
JAGI				IAmb	IAmb	19 11 44.0	
	comp=Z,20nm,0.8s						
JAGI	Jajag, Banyuwa	25.23	254	P	P	19 11 43.3	-2.0
	comp=Z,594nmcomp=Z,27nm,0.7s						
QLP	Quilpie	25.24	168	P	P	19 11 46.4	+1.2
	baz=25,SNR=17						
QLP	Quilpie	25.24	168	P	P	19 11 47.9	+2.7
INKA	Innaminka	25.89	176	P	P	19 11 52.4	+1.4
OOD	Oodnadatta	26.02	186	P	P	19 11 53.5	+1.3
EIDS	Eidsvold	26.35	154	P	P	19 11 58.8	+3.5
	baz=26,SNR=20						
EIDS	Eidsvold	26.35	154	P	P	19 11 56.3	+1.0
EIDS	Eidsvold	26.35	154	P	P	19 11 59.4	+4.1
RMQ	Roma	26.43	159	P	P	19 11 58.5	+2.5
	baz=26,SNR=16						
RMQ	Roma	26.43	159	P	P	19 11 59.4	+3.4
SBUM	Sibu	26.71	279	P	P	19 11 57.4	-1.3
PSA00	Pilbara Seismi	26.85	222	P	P	19 11 59.8	+0.1
PSA00				IAmb	IAmb	19 12 01.8	
	comp=Z,19nm,0.8s						
PSA00	Pilbara Seismi	26.85	222	P	P	19 12 00.0	+0.3
PSA00				IAmb	IAmb	19 12 02.2	
	comp=Z,6.6nm,0.8s						
PSA00	Pilbara Seismi	26.85	222	P	P	19 12 00.9	+1.1
KSM	Kuching	28.48	276	P	P	19 12 13.6	-0.9
KSM				IAmb	IAmb	19 12 24.7	
	comp=Z,9.1nm,1.1s						
KSM	Kuching	28.48	276	P	P	19 12 15.4	+0.9
LCRK	Leigh Creek	28.51	181	P	P	19 12 16.0	+1.4
MULG	Mulgathing	28.67	188	P	P	19 12 17.9	+1.9
JCJ	Chichijima	28.92	7	LR	LR	19 21 46.5	
	comp=Z,87nm,18.8s,baz=176,slow=32						
STKA	Stephens Creek	30.07	175	P	P	19 12 28.7	+0.3
	comp=Z,8.7nm,0.8s,baz=340,slow=8.1,SNR=11						
STKA				LR	LR	19 26 00.4	
	comp=Z,350nm,20.8s,baz=346,slow=39						
STKA	Stephens Creek	30.07	175	P	P	19 12 28.7	+0.3
	baz=30,SNR=10						
STKA	Stephens Creek	30.07	175	P	P	19 12 28.4	+0.1
STKA	Stephens Creek	30.07	175	P	P	19 12 30.4	+2.0
JOW	Kunigami	30.14	341	LR	LR	19 22 25.2	
	comp=Z,162nm,20.4s,baz=146,slow=32						
CMSA	Cobar Meteorol	30.34	168	P	P	19 12 32.2	+1.4
	baz=30,SNR=12						
CMSA	Cobar Meteorol	30.34	168	P	P	19 12 32.7	+1.9
FORT	Forrest	30.52	198	P	P	19 12 32.8	+0.4
SSLB	Suanglung	30.67	327	P	P	19 12 32.3	-1.6
SSLB				IAmb	IAmb	19 12 36.9	
	comp=Z,8.2nm,1.0s						
TPI	Tanjungpandan	30.94	268	P	P	19 12 37.1	+0.7
	comp=Z,13nm,1.0s						
BBOO	Buckleboo	30.96	184	P	P	19 12 36.6	+0.4
ARMA	Armidale	31.04	158	P	P	19 12 39.8	+2.6
	baz=31,SNR=6.0						
ARMA	Armidale	31.04	158	P	P	19 12 38.8	+1.6
LEM	Lembang	31.29	260	LR	LR	19 27 50.3	
	comp=Z,87nm,18.7s,baz=72,slow=41						
HTT	Hallett	31.48	179	P	P	19 12 42.1	+1.1
	baz=31,SNR=9.0						
HTT	Hallett	31.48	179	P	P	19 12 43.7	+2.8
PPBI	Pangkal Pinang	32.45	269	P	P	19 12 50.5	+0.8
TWOA	Tennyson Woods	33.08	180	P	P	19 12 58.3	+3.5
PMBI	Palembang	33.82	267	P	P	19 13 01.6	-0.1
H11S3	WAKE ISLAND Hy	34.20	53	T	T	19 48 52.3	
	baz=236,slow=75,SNR=79						

H11S2 WAKE ISLAND Hy 34.21 53 T T 19 48 53.0
baz=236,slow=75,SNR=91
H11S1 WAKE ISLAND Hy 34.21 53 T T 19 48 53.4
baz=236,slow=75,SNR=37
MORW Morawa 34.62 216 P **P** **19 13 07.6 -0.8**
baz=34,SNR=5.0
MORW Morawa 34.62 216 P **P** **19 13 08.9 +0.6**
JHJ Hachijo jima 2 34.73 2 LR LR 19 24 33.1
comp=Z,164nm,18.2s,baz=264,slow=32
CAN Canberra 34.74 165 P **P** **19 13 10.9 +1.5**
MYKOM **Kota Tinggi 34.93 276** P **P** **19 13 10.8 -0.4**
MYKOM IAmb IAmb 19 13 13.0
comp=Z,15nm,0.9s
ARPS Mount Arapiles 34.94 175 P **P** **19 13 12.8 +1.8**
baz=35,SNR=6.7
ARPS Mount Arapiles 34.94 175 P **P** **19 13 15.0 +4.0**
BRAT Ballarat 35.93 173 P **P** **19 13 23.4 +3.9**
TOO Toolangi 36.17 171 P **P** **19 13 23.1 +1.4**
TOO IAmb IAmb 19 13 27.8
comp=Z,14nm,0.9s
UBPT Khong Chiam 36.90 299 P **P** **19 13 27.6 -0.5**
UBPT IAmb IAmb 19 13 29.1
comp=Z,9.2nm,1.1s
KRJI Kerinci 37.12 269 P **P** **19 13 30.7 +0.5**
comp=Z,81nm,0.9s
BKNI Bangkinang 37.62 273 P **P** **19 13 33.6 -0.6**
MJAR Matsushiro Arr 38.13 359 LR LR 19 27 17.6
comp=Z,99nm,19.3s,baz=160,slow=33
NJ2 Nanjing 38.51 333 *eP* **P** **19 13 42.6 +1.1**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
KULM Kulim 38.56 281 P **P** **19 13 41.8 -0.4**
KULM IAmb IAmb 19 13 43.2
comp=Z,16nm,1.0s
SISI Saibi 39.51 270 P **P** **19 13 49.5 -0.6**
comp=Z,53nm,0.8s
SRIT Nakonsritamara 40.22 285 P **P** **19 13 55.6 -0.5**
SRIT IAmb IAmb 19 13 57.1
comp=Z,18nm,0.8s
KSRS Korea Array 40.28 347 LR LR 19 28 43.3
comp=Z,71nm,20.1s,baz=150,slow=34
KS19 Wonju Array Si 40.34 347 P **P** **19 13 55.8 -0.9**
INCN Inchon 40.62 345 P **P** **19 13 58.2 -0.8**
INCN IAmb IAmb 19 14 18.2
comp=Z,11nm,1.0s
GSI Gunungsitoli 41.14 274 P **P** **19 14 02.7 -1.0**
LHMI Lhok Sumawe 42.19 280 P **P** **19 14 12.2 -0.1**
CM31 Chiang Mai Arr 43.90 299 P **P** **19 14 24.8 -1.3**
CM31 IAmb IAmb 19 14 33.0
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 43.90 299 P **P** **19 14 26.0 0.0**
comp=Z,2.6nm,0.9s,baz=120,slow=6.5,SNR=25
CMAR PcP **PcP** **19 16 13.4 +1.2**
comp=Z,1.4nm,0.9s,baz=147,slow=1.4,SNR=6.0
CMAR Chiang Mai Arr 43.90 299 P **P** **19 14 25.3 -0.7**
CHTO Chiang Mai 44.03 300 P **P** **19 14 25.7 -1.5**
CHTO IAmb IAmb 19 14 33.2
comp=Z,13nm,1.4s
XAN Xi'an 45.26 325 P **P** **19 14 36.4 -0.4**
XAN pmax pmax
comp=Z,11nm,1.3s
XAN pmax pmax
comp=Z,49nm,4.0s
PZH PanZhiHua 45.34 311 P **P** **19 14 38.0 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.7s
ASAJ Asahikawa 45.84 4 LR LR 19 32 07.9
comp=Z,80nm,20.5s,baz=136,slow=34
USRK Ussuriysk Ar. 46.16 353 LR LR 19 30 33.3
comp=Z,140nm,21.0s,baz=164,slow=32
HHC Hu-ho-hao-te 49.07 333 *eP* **P** **19 15 08.4 +2.0**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,100nm,4.7s
LZH Lanzhou 49.69 323 *eP* **P** **19 15 12.0 +0.7**
LZH pP sP 19 15 16.4 +0.7
LZH sP pP 19 15 19.4 +4.9
LZH *e*S **S** **19 22 21.9 +1.5**
LZH sS sS 19 22 29.0 +3.4
LZH Lanzhou 49.69 323 SS **SS** **19 25 49.2 -3.8**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.6s
LZH LR LR
comp=N,81nm,10.0s
LZH LR LR
comp=E,120nm,11.4s
LZH LR LR
comp=Z,1μm,13.0s
XLT XiLinHaoTe 49.76 339 *eP* **P** **19 15 12.8 +1.2**
XLT sP sP 19 15 19.1 +3.1
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,45nm,3.8s
TUWZ Tuamarina 50.69 146 P **P** **19 15 20.0 +1.4**
BKZ Black Stump Fm 50.75 142 P **P** **19 15 21.3 +2.1**
KLR Kul'dur 51.16 354 LR LR 19 33 58.8
comp=Z,117nm,20.6s,baz=182,slow=32
SHL Shillong 52.73 304 P **P** **19 15 33.2 -1.2**
SHL IAmb IAmb 19 15 42.9
comp=Z,9.3nm,0.8s
GTA Gaotai 54.27 323 *eP* **P** **19 15 46.2 +0.8**
GTA pP sP 19 15 51.2 +1.4
GTA sP pP 19 15 55.0 +6.4
GTA pmax pmax
comp=Z,1.0nm,0.7s
GTA pmax pmax
comp=Z,97nm,5.8s
GTA LR LR
comp=N,56nm,16.0s
GTA LR LR
comp=E,75nm,14.5s
GTA LR LR
comp=Z,64nm,15.6s
LSA Lhasa 55.06 309 P **P** **19 15 50.9 -0.8**
LSA IAmb IAmb 19 15 59.3
comp=Z,18nm,1.6s
GOMU GeErMu 55.57 317 P **P** **19 15 53.3 -1.9**
GOMU pP pP 19 15 56.6 -1.8
GOMU sP sP 19 16 00.9 +1.3
GOMU pmax pmax
comp=Z,1.0nm,0.6s
GOMU pmax pmax
comp=Z,100nm,5.3s
ULN Ulaanbaatar 56.59 335 P **P** **19 16 01.1 -0.9**
SONM Songino Array 56.84 335 P **P** **19 16 03.2 -0.6**
comp=Z,0.3nm,0.6s,baz=164,slow=6.8,SNR=3.0
SONM LR LR 19 40 33.7
comp=Z,107nm,19.1s,baz=126,slow=36
SONM Songino Array 56.84 335 P **P** **19 16 02.7 -1.1**
MA2 Magadan 61.92 7 LR LR 19 40 24.5
comp=Z,33nm,21.9s,baz=136,slow=33
SHEM Shemya Is, Ala 61.94 24 LR LR 19 37 02.2
comp=Z,81nm,22.0s,baz=26,slow=30
YAK Yakutsk 64.01 355 LR LR 19 41 43.7
comp=Z,109nm,21.4s,baz=234,slow=33
YAK Yakutsk 64.01 355 P **P** **19 16 51.5 -0.8**
XMAS Kiritimati 64.05 87 P **P** **19 16 52.5 -1.0**
WMQ Urumqi 64.22 321 *eP* **P** **19 16 54.5 +0.3**
WMQ pP sP 19 16 59.9 +1.2
WMQ pmax pmax
comp=Z,11nm,1.1s
SEY Seymchan 65.38 7 LR LR 19 42 34.2
comp=Z,28nm,20.9s,baz=336,slow=33
MK31 Makanchi Array 69.00 322 P **P** **19 17 24.0 -0.7**
MK31 IAmb IAmb 19 17 31.4
comp=Z,7.1nm,1.3s
MKAR Makanchi Array 69.00 322 P **P** **19 17 24.4 -0.2**
comp=Z,3.2nm,0.9s,baz=112,slow=7.8,SNR=26
MKAR LR LR 19 49 57.6
comp=Z,21nm,18.1s,baz=93,slow=38
MKAR Makanchi Array 69.00 322 P **P** **19 17 23.9 -0.7**
MAKZ Makanchi 69.20 322 P **P** **19 17 25.3 -0.6**
MAKZ IAmb IAmb 19 17 31.8
comp=Z,8.8nm,1.1s
KSH Kashi 70.38 313 P **P** **19 17 34.9 +1.5**
KSH pP sP 19 17 40.2 +2.3
KSH PcP **PcP** **19 17 58.5 +3.6**
KSH pmax pmax
comp=Z,3.0nm,0.8s

NIL Nilore 70.69 307 P **P** **19 17 33.9 -1.4**
NIL IAmb IAmb 19 17 58.6
comp=Z,7.6nm,1.1s
ZAA0 Zalesovo Array 71.09 330 P **P** **19 17 35.8 -1.4**
ZALV Zalesovo Beam 71.09 330 P **P** **19 17 35.9 -1.4**
comp=Z,1.3nm,0.5s,baz=112,slow=6.1,SNR=7.7
ZALV LR LR 19 48 58.3
comp=Z,36nm,20.0s,baz=92,slow=36
BOOM Boomskoye usch 71.42 316 P **P** **19 17 39.0 -0.7**
BOOM IAmb IAmb 19 17 46.0
comp=Z,5.1nm,1.0s
AAK Ala-Archa 72.47 316 P **P** **19 17 47.9 +1.8**
comp=Z,2.1nm,1.0s,baz=187,slow=5.6,SNR=4.1
AAK Ala-Archa 72.47 316 P **P** **19 17 46.0 0.0**
KURK Kurchatov 72.90 325 P **P** **19 17 47.5 -0.7**
KURK IAmb IAmb 19 17 53.9
comp=Z,11nm,1.2s
KURBB Kurchatov Arra 72.92 325 P **P** **19 17 48.2 -0.1**
comp=Z,2.6nm,0.2s,baz=116,slow=5.3,SNR=8.6
TIXI Tiksi 73.58 357 P **P** **19 17 51.6 -0.2**
KBL Kabul 74.30 307 P **P** **19 17 55.8 -1.3**
BTK Batken 74.33 312 P **P** **19 17 56.6 -0.4**
BTK IAmb IAmb 19 18 10.4
comp=Z,6.9nm,1.2s
GAR Garm 74.41 311 P **P** **19 17 56.9 -0.6**
GAR IAmb IAmb 19 18 08.0
comp=Z,12nm,1.1s
CHGR Chuyangaron 75.20 311 P **P** **19 18 01.2 -0.8**
CHGR IAmb IAmb 19 18 12.5
comp=Z,12nm,1.0s
KKAR Karatay Array 75.40 315 P **P** **19 18 02.1 -0.9**
VNDA Vanda 76.70 175 P **P** **19 18 09.7 0.0**
comp=Z,0.8nm,0.7s,baz=324,slow=6.9,SNR=5.9
VNDA LR LR 19 51 01.1
comp=Z,169nm,18.9s,baz=335,slow=35
VNDA Vanda 76.70 175 P **P** **19 18 10.0 +0.2**
VNDA IAmb IAmb 19 18 24.5
comp=Z,18nm,1.8s
BVAR Borovoye Array 78.50 325 P **P** **19 18 20.3 0.0**
comp=Z,1.8nm,0.5s,baz=52,slow=27,SNR=26
BRVK Borovoye 78.57 325 P **P** **19 18 20.0 -0.6**
BRVK IAmb IAmb 19 18 26.5
comp=Z,10nm,0.8s
NRIK Noril'sk 78.81 344 P **P** **19 18 22.9 +1.3**
comp=Z,1.2nm,0.4s,baz=125,slow=8.3,SNR=5.6
NRIK LR LR 19 55 23.6
comp=Z,58nm,18.8s,baz=174,slow=37
NRIK Noril'sk 78.81 344 P **P** **19 18 21.8 +0.2**
NRIK IAmb IAmb 19 18 27.8
comp=Z,11nm,1.3s
WSAR Wadi Sarin 81.50 294 LR LR 19 57 10.2
comp=Z,14nm,20.2s,baz=132,slow=38
K20K Telida 81.60 25 P **P** **19 18 38.0 +1.2**
K20K IAmb IAmb 19 18 42.8
comp=Z,7.8nm,1.3s
J20K Nowinta River 81.86 24 P **P** **19 18 38.3 +0.2**
J20K IAmb IAmb 19 18 44.8
comp=Z,8.1nm,1.4s
IMAR Indian Mountai 82.68 22 P **P** **19 18 43.2 +0.9**
MAW Mawson 82.94 202 LR LR 19 54 46.6
comp=Z,99nm,18.1s,baz=94,slow=35
MLY Manley 83.54 24 P **P** **19 18 46.3 -0.6**
MLY IAmb IAmb 19 19 08.3
comp=Z,5.2nm,1.4s
ABKAR Akbulak array 83.95 320 P **P** **19 18 48.8 -0.5**
ABKAR Akbulak array 83.95 320 P **P** **19 18 48.7 -0.6**
ABKAR IAmb IAmb 19 18 55.0
comp=Z,5.0nm,1.1s
ILAR Eielson Array 85.04 24 P **P** **19 18 54.4 -0.1**
comp=Z,0.7nm,0.7s,baz=261,slow=5.0,SNR=5.4
AKTO Aktyubinsk 85.37 321 P **P** **19 18 55.9 -0.5**
comp=Z,0.6nm,0.7s,baz=155,slow=12,SNR=2.2
ARU Arti 85.97 327 P **P** **19 18 58.4 -0.9**
comp=Z,0.5nm,0.3s,baz=28,slow=2.6,SNR=5.3
ARU Arti 85.97 327 P **P** **19 18 58.2 -1.0**
ARU IAmb IAmb 19 19 07.5
comp=Z,5.9nm,1.2s
BMAR Burnt Mountain 86.59 22 P **P** **19 19 02.3 +0.1**
DAWY Dawson 88.09 26 P **P** **19 19 08.7 -0.8**
DAWY IAmb IAmb 19 19 17.6
comp=Z,8.5nm,1.4s
QSPA South Pole Qui 88.16 180 LR LR 20 00 00.9
comp=Z,153nm,18.8s,baz=357,slow=36
QSPA South Pole Qui 88.16 180 P **P** **19 19 09.9 0.0**
KIRV Kirov 91.09 328 LR LR 20 02 20.4
comp=Z,62nm,19.9s,baz=63,slow=37
SYO Syowa Base 91.58 201⇑*eP* **P** **19 19 27.4 +1.8**
SYO Syowa Base 91.58 201⇓*es*P sP 19 19 33.6 +3.4
BBB Bella Bella 93.42 38 LR LR 19 58 11.9
comp=Z,59nm,18.5s,baz=270,slow=33
YBH Yreka Blue Hor 97.67 48 LR LR 19 57 30.8
comp=Z,55nm,19.7s,baz=295,slow=32
SPITS Spitsbergen Ar 98.06 350 LR LR 20 03 06.9
comp=Z,53nm,21.2s,baz=260,slow=35
YKA Yellowknife Ar 99.29 27 LR LR 20 02 18.4
comp=Z,27nm,19.8s,baz=284,slow=34
TORD Torodi Ar. Bea 135.89 287 PKP **PKPdf** **19 25 40.6 -0.5**
comp=Z,1.0nm,0.8s,baz=53,slow=2.3,SNR=5.3
DBIC Dimbokro 143.25 279 PKhKP PKPpre 19 25 51.0
comp=Z,2.7nm,0.7s,baz=74,slow=1.5,SNR=4.7
DBIC Dimbokro 143.25 279 PKPbc 19 25 51.6 +0.1
LPAZ La Paz 148.07 125 PKPbc **PKPbc** **19 26 06.9 +0.3**
comp=Z,3.1nm,0.7s,baz=340,slow=0.6,SNR=9.5
CPUP Villa Florida 148.09 152 PKPbc **PKPbc** **19 26 06.2 +0.5**
comp=Z,8.7nm,0.9s,baz=229,slow=2.5,SNR=13

*IDC **02** 19:07:22.6±1.3, 40.45N×47.93E, h0km, mb3.6/3, mb1 3.7/8, mb1mx3.4/54, mbtmp3.7/8, ML2.5/4, Error ellipse: s-maj=23.3km s-min=10.1km az=161.0*
*AZER **02** 19:07:24.4±0.0, 40.43N×47.87E, h18km, Error ellipse: s-maj=0.3km s-min=0.3km az=296.0*
*TEH **02** 19:07:25.4, 40.41N×47.80E, h15km, ML3.5*
*NSSP **02** 19:07:26.2, 40.55N×47.68E, Ms3.4*
*NNC **02** 19:07:36.2±12.0, 40.90N×49.39E, h0km, mb3.4, Error ellipse: s-maj=124.7km s-min=44.9km az=68.0*

ISC 02 19:07:24.7±1.1, **40.43N**±0.02×**47.85E**±0.02, **h15**km±8km, **n116**, σ1**$**22**/154, **mb3.7/3, 4C-10D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRD	**Zardab**	**0.20**	**221**	*e*Pg	**Pb**	**19 07 31.9**	**+2.0**
ZRD	**Zardab**	**0.20**	**221**	P	**Pb**	**19 07 32.0**	**+2.0**
	SNR=475						
ZRD				S	**Sb**	**19 07 37.9**	**+4.5**
KDMR	**Kurdemir**	**0.26**	**101**	*e*Pg	**Pb**	**19 07 32.0**	**+1.0**
KDMR	**Kurdemir**	**0.26**	**101**	P	**Pb**	**19 07 32.1**	**+1.0**
	SNR=81						
KDMR				S	**Sn**	**19 07 38.1**	**-1.5**
IML	**Ismayilli**	**0.44**	**34**	*e*Pg	**Pb**	**19 07 34.8**	**+0.6**
IML	**Ismayilli**	**0.44**	**34**	P	**Pb**	**19 07 34.9**	**+0.6**
	SNR=378						
IML				S	**Sn**	**19 07 42.8**	**-1.6**
QBL	**Gabala**	**0.52**	**359**	*e*Pg	**Pb**	**19 07 36.2**	**+0.7**
QBL	**Gabala**	**0.52**	**359**	P	**Pb**	**19 07 36.3**	**+0.8**
	SNR=459						
QBL				S	**Sn**	**19 07 44.8**	**-1.4**
BRDA	**Brd**	**0.54**	**253**	*e*Pg	**Pn**	**19 07 37.9**	**+0.1**
BRDA	**Brd**	**0.54**	**253**	P	**Pn**	**19 07 37.9**	**+0.1**
	SNR=28						
BRDA				S	**Sn**	**19 07 48.6**	**+2.0**
AGDM	**Agdam**	**0.65**	**241**	P	**Pn**	**19 07 39.0**	**-0.4**
	SNR=190						
AGDM				S	**Sn**	**19 07 50.1**	**+0.7**
PQL	**Pirkuli**	**0.67**	**57**	*e*Pg	**Pb**	**19 07 38.9**	**+0.7**
PQL	**Pirkuli**	**0.67**	**57**	P	**Pb**	**19 07 39.0**	**+0.7**
	SNR=95						
PQL				S	**Sn**	**19 07 49.5**	**-0.6**
MNGR	**Mingechevir, A**	**0.68**	**301**	*e*Pn	**Pn**	**19 07 39.7**	**0.0**
MNGR	**Mingechevir, A**	**0.68**	**301**	P	**Pn**	**19 07 39.8**	**0.0**
	SNR=72						
MNGR				S	**Sn**	**19 07 51.1**	**+1.1**
SAAT	**Saatly**	**0.71**	**142**	*e*Pg	**Pg**	**19 07 38.1**	**-0.5**
SAAT	**Saatly**	**0.71**	**142**	P	**Pg**	**19 07 38.2**	**-0.5**
	SNR=34						
SAAT				S	**Sb**	**19 07 48.8**	**+0.4**
BLQ	**Beylaqan**	**0.74**	**198**	*e*Pn	**Pb**	**19 07 39.7**	**+0.5**
BLQ	**Beylaqan**	**0.74**	**198**	P	**Pb**	**19 07 39.7**	**+0.5**
	SNR=74						
BLQ				S	**Sn**	**19 07 51.1**	**-0.5**
XNQ	**Khinaliq**	**0.78**	**16**	*e*Pn	**Pg**	**19 07 40.0**	**+0.1**
XNQ	**Khinaliq**	**0.78**	**16**	P	**Pg**	**19 07 40.0**	**+0.1**
	SNR=2107						
XNQ				S	**Sb**	**19 07 51.2**	**+0.8**

GBS Qobustan 0.84 82 *e*Pn **Pb** **19 07 41.6 +0.6**
GBS Qobustan 0.84 82 P **Pn** **19 07 42.1 +0.1**
GBS S **Sn** **19 07 54.3 +0.2**
SEKA Sheki 0.93 328 *e*Pn **Pg** **19 07 42.9 +0.3**
SEKA Sheki 0.93 328 P **Pg** **19 07 43.0 +0.3**
SNR=1012
SEKA S **Sn** **19 07 56.6 +0.3**
ATGJ Altiaghaj 0.93 62 *e*Pn **Pn** **19 07 44.1 +0.8**
ATGJ Altiaghaj 0.93 62 P **Pn** **19 07 44.2 +0.8**
SNR=22
ATGJ S **Sn** **19 07 58.0 +1.4**
ALIB Äli-Bayra 1.00 118 *e*Pn **Pn** **19 07 45.7 +1.5**
ALIB Äli-Bayra 1.00 118 P **Pn** **19 07 45.4 +1.3**
SNR=100
ALIB S **Sn** **19 08 01.4 +3.4**
QUB Quba 1.03 22 *e*Pn **Pn** **19 07 45.6 +1.0**
SIZA Siyzn 1.03 50 *e*Pn **Pn** **19 07 45.6 +1.0**
SIZA Siyzn 1.03 50 P **Pn** **19 07 45.7 +1.0**
SNR=44
SIZA S **Sn** **19 08 00.7 +1.9**
QRD Qoradiz 1.05 203 *e*Pn **Pb** **19 07 44.4 -0.1**
QRD Qoradiz 1.05 203 P **Pb** **19 07 44.5 0.0**
SNR=20
QRD S **Sn** **19 07 59.3 +0.2**
QUBA Quba, Azerbaij 1.05 27 P **Pn** **19 07 45.6 +0.7**
SNR=92
QUBA S **Sn** **19 07 59.6 +0.3**
QSAR Qusar 1.13 16 *e*Pn **Pg** **19 07 46.7 +0.2**
QSAR Qusar 1.13 16 P **Pg** **19 07 46.8 +0.2**
SNR=104
QSAR S **Sg** **19 08 01.3 -0.1**
GANJ Ganja 1.19 281 *e*Pn **Pn** **19 07 46.9 +0.1**
GANJ Ganja 1.19 281 P **Pn** **19 07 46.4 -0.4**
SNR=16
GANJ S **Sb** **19 08 02.5 +0.5**
GLBA Clilabad 1.25 160 *e*Pn **Pn** **19 07 47.8 +0.1**
GLBA Clilabad 1.25 160 P **Pn** **19 07 47.7 +0.1**
SNR=35
GLBA S **Sb** **19 08 04.2 +0.2**
GOBA Gobu 1.44 90 *e*Pn **Pg** **19 07 53.1 +0.8**
GOBA Gobu 1.44 90 P **Pg** **19 07 52.7 +0.4**
GRS Goris 1.49 232⇓*i*P **Pn** **19 07 51.3 +0.3**
GRS ⇓*i*S **Sb** **19 08 11.0 +0.1**
ZKT Zaqatala 1.52 324 *e*Pn **Pb** **19 07 52.4 -0.2**
ZKTA Zakatala 1.53 323 Pn **Pb** **19 07 52.5 -0.2**
SNR=356
ZKTA Sn **Sb** **19 08 13.0 +1.2**
YRD Yardimli 1.54 169 *e*Pn **Pn** **19 07 51.7 0.0**
YRD Yardimli 1.54 169 Pn **Pn** **19 07 51.8 0.0**
SNR=93
YRD Sn **Sn** **19 08 11.6 0.0**
GRMI Germi 1.62 179 *e*Pg **Pn** **19 07 52.9 +0.1**
GDB GEDABAY 1.62 281 *e*Pn **Pn** **19 07 53.4 +0.5**
GDB GEDABAY 1.62 281 Pn **Pn** **19 07 53.1 +0.2**
SNR=282
GDB Sn **Sb** **19 08 15.1 +0.2**
LRK Lerik 1.82 168 *e*Pn **Pn** **19 07 55.9 +0.3**
LRK Lerik 1.82 168 Pn **Pn** **19 07 55.9 +0.3**
SNR=39
LRK Sn **Sn** **19 08 18.8 +0.4**
LKRN Lenkeran, Azer 1.86 157 *e*Pn **Pn** **19 07 56.2 +0.3**
LKRN Lenkeran, Azer 1.86 157 Pn **Pn** **19 07 56.3 +0.3**
SNR=7.0
LKRN Sn **Sn** **19 08 19.3 +0.1**
QZX Qazax, Azerbai 1.99 289 *e*Pn **Pb** **19 07 59.8 -0.7**
QZX Qazax, Azerbai 1.99 289 Pn **Pn** **19 07 58.5 +0.7**
SNR=186
QZX Sn **Sb** **19 08 25.6 +0.5**
ASTR Astara 2.00 158 *e*Pn **Pn** **19 07 58.1 +0.2**
ASTR Astara 2.00 158 Pn **Pn** **19 07 58.2 +0.2**
SNR=25
ASTR Sn **Sn** **19 08 22.6 -0.1**
SBZ Shahbuz 2.04 241 *e*Pn **Pb** **19 08 00.9 -0.7**
SBZ Shahbuz 2.04 241 Pn **Pb** **19 08 01.1 -0.5**
SNR=22
SBZ Sn **Sb** **19 08 27.7 +0.8**
ORD Ordubad 2.07 224 *e*Pn **Pn** **19 08 00.7 +1.7**
ORD Ordubad 2.07 224 Pn **Pn** **19 08 00.3 +1.3**
SNR=52
ORD Sn **Sb** **19 08 27.2 -0.4**
TVRZ Varzaqan 2.13 206 *e*Pn **Pn** **19 08 01.0 +1.2**
TVRZ *e* 19 09 21.0
comp=Z,10μm,0.1s
IHRS Heris 2.20 197 *e* 19 08 09.9
comp=Z,4μm,0.2s
IHRS *e*Pn **Pn** **19 08 02.0 +1.2**
NAX Nakhchivan 2.20 236 *e*Pn **Pb** **19 08 04.2 -0.1**
NAX Nakhchivan 2.20 236 Pg **Pb** **19 08 04.2 -0.1**
SNR=21
NAX Sg **Sg** **19 08 34.8 -0.8**
IMRD Marand 2.38 225 *e* 19 08 07.5
comp=Z,5μm,0.2s
IMRD *e*Pn **Pn** **19 08 05.1 +1.7**
GNI Garni 2.40 264 Pn **Pb** **19 08 07.2 -0.4**
comp=Z,6.5nm,0.3s,baz=38,slow=2.1,SNR=14
GNI Pg **Pg** **19 08 10.9 +0.3**
comp=Z,8.2nm,0.3s,baz=315,slow=5.5,SNR=18
GNI Lg Lg 19 08 41.1
comp=Z,25nm,0.3s,baz=123,slow=22,SNR=9.4
GNI Garni 2.40 264⇓*i*P **Pb** **19 08 08.5 +0.9**
GNI ⇓*i*S **Sg** **19 08 40.4 -1.3**
HYR Heyderabad 2.41 254 Pg **Pb** **19 08 08.9 +1.1**
SNR=15
HYR Sg **Sg** **19 08 40.7 -1.4**
KAPZ Kaputan 2.41 269⇓*i*P **Pb** **19 08 07.7 -0.1**
KAPZ ⇓*i*S **Sb** **19 08 39.7 +2.3**
NRKZ NAREK 2.48 261⇓*i*P **Pg** **19 08 10.9 -1.4**
NRKZ ⇑*i*S **Sg** **19 08 44.2 -0.2**
ITBZ Tabriz 2.56 212 *e*Pn **Pn** **19 08 06.8 +1.0**
ISRB Sarab 2.60 183 *e*Pn **Pn** **19 08 07.0 +0.6**
MAKU Maku 2.66 247 *e*Pn **Pn** **19 08 08.5 +1.3**
STE Stepanavan 2.71 283 *i*P **Pn** **19 08 10.4 +2.6**
STE *i*S **Sb** **19 08 48.2 +2.2**
ISHB Shabestar 2.75 220 *e*Pn **Pn** **19 08 10.3 +1.8**
ISHB *e* 19 09 06.8
comp=Z,1μm,0.6s
IBST Bostanabad 2.82 196 *e*Pn **Pn** **19 08 10.7 +1.2**
IAZR Azarshahr 3.11 209 *e* Pg 19 08 35.0 +11
comp=Z,2μm,0.3s
LHJ2 Lahijan - Gila 3.69 151 *e*Pn **Pn** **19 08 19.6 -1.5**
ZNJK Zanjan 3.81 170 *e*Pn **Pn** **19 08 24.8 +1.8**
JIR1 Jiramaneh 4.02 157 *e*Pn **Pn** **19 08 25.6 -0.2**
IGZV Ghazvin 4.44 155 *e*Pn **Pn** **19 08 31.0 -0.7**
QALM Alamut, Qazvin 4.55 150 *e*Pn **Pn** **19 08 31.6 -1.6**
QALM *e* 19 09 29.4
comp=Z,300nm,0.3s
QABG Abgarm-Qazvin 4.90 163 *e*Pn **Pn** **19 08 36.6 -1.5**
KBZ Khabaz 4.95 313 Pn **Pn** **19 08 41.2 +2.8**
comp=Z,0.1nm,0.3s,baz=229,slow=22,SNR=2.4
KBZ Lg Lg 19 10 01.2
comp=Z,0.2nm,0.3s,baz=112,slow=22,SNR=1.7
THKV Tehran--Karaj 5.10 151 *e*Pn **Pn** **19 08 40.2 -0.5**
CHTH Charan 5.20 149 *e*Pn **Pn** **19 08 43.4 +1.3**
IMHD Mahdasht 5.23 154 *e*Pn **Pn** **19 08 42.6 +0.2**
SNGE Sanandaj 5.34 184 *e*Pn **Pn** **19 08 46.9 +2.9**
IPRN Peran 5.47 138 *e*Pn **Pn** **19 08 44.8 -0.9**
DAMV Damavand 5.79 145 *e*Pn **Pn** **19 08 51.8 +1.6**
IGLO Ghaloghah 6.11 128 *e*Pn **Pn** **19 08 54.5 -0.1**
IFIR Firoozkooh 6.15 139 *e*Pn **Pn** **19 08 55.6 +0.4**
IFIR *e* 19 10 07.7
comp=Z,259nm,0.3s
ISHM Shahmirzad 6.30 135 *e*Pn **Pn** **19 08 57.4 +0.1**
IANJ Anjilo 6.89 134 *e*Pn **Pn** **19 09 05.9 +0.6**
MRVT Maraveh tapeh 6.98 111 *e*Pn **Pn** **19 09 06.0 -0.5**
SHRO Shahrood 7.80 122 *e*Pn **Pn** **19 09 16.9 -0.8**
BJRD Bojnurd 7.92 107 *e*Pn **Pn** **19 09 18.9 -0.5**
GEYT Alibeck 8.35 104 Pn **Pn** **19 09 23.5 -1.7**
comp=Z,2.5nm,0.3s,baz=267,slow=12,SNR=37
GYA0B ALIBECK ARRAY 8.35 104 ⇓Pn **Pn** **19 09 23.6 -1.6**
baz=272,slow=17
GYA0B ⇑Sn **Sn** **19 10 52.5 -6.8**
SBZV Sabzevar 8.66 115 *e*Pn **Pn** **19 09 29.2 -0.4**
IAKL Akhelmad 9.36 111 *e*Pn **Pn** **19 09 39.5 +0.2**
IKRD Kardeh 9.83 108 *e*Pn **Pn** **19 09 44.9 -0.8**
IMYA Miami 10.44 109 *e*Pn **Pn** **19 09 53.9 -0.1**
TBJM Torbat-e-JAM 11.12 114 *e*Pn **Pn** **19 10 03.1 -0.3**
AKTO Aktyubinsk 12.28 32 Pn **Pn** **19 10 17.9 -1.1**
comp=Z,0.2nm,0.3s,baz=228,slow=15,SNR=2.3
AKTO Aktyubinsk 12.28 32 ⇓Pn **Pn** **19 10 17.8 -1.1**
comp=Z,2.3nm,1.4s
AKTO ⇑Sn Sn 19 12 24.3 -11
comp=Z,1.5nm,0.7s
AB31 Akbulak array 12.30 40 ⇓Pn **Pn** **19 10 18.7 -0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.1nm,0.3s,baz=217,slow=11,SNR=9.9						
AB31				⇑Sn	Sn	19 12 25.7	-10
	comp=Z,0.2nm,0.3s,baz=218,slow=22,SNR=6.3						
AKASG	Malin Array Be	16.56	315	Pn	Pn	19 11 17.4	+1.2
	comp=Z,0.7nm,0.3s,baz=120,slow=11,SNR=5.8						
ARU	Arti	17.48	20	P	Pn	19 11 28.2	+0.5
	comp=Z,0.0nm,0.3s,baz=204,slow=7.0,SNR=4.9						
STIP	Stip	19.38	282	i Pn	Sn	19 15 25.5	-2.4
FINES	FINESS Array B	24.89	335	P	P	19 12 45.6	-0.9
	comp=Z,0.6nm,0.3s,baz=140,slow=8.9,SNR=12						
MKAR	Makanchi Array	25.59	64	P	P	19 12 53.1	0.0
	comp=Z,0.2nm,0.5s,baz=269,slow=8.5,SNR=5.0						
ARCES	ARCESS Array B	31.46	345	P	P	19 13 44.5	-0.7
	comp=Z,1.8nm,0.9s,baz=141,slow=10,SNR=5.0						

*IDC **02** 19:08:30.1±1.1, 43°.80N×105°.68W, h0km, mb1 3.3/6, mb1mx3.1/65, mbtmp2.9/6, ML3.1/6, Error ellipse: s-maj=22.3km s-min=9.8km az=146.0*

*NEIC **02** 19:08:30.7±1.5, 43°.62N±0°.06×105°.19W±0°.03, h0km±2km, ML3.5/48, Error ellipse: s-maj=10.7km s-min=3.4km az=344.0*

ISC 02 19:08:28.7±0.9**, 43°.59N**±0°.05×**105°.23W**±0°.05**, h0km, n45, σ2.04**/45**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	1.01	58	Pg	Pg	19 08 49.3	+1.2
K22A	Casper	1.33	226		Pg	19 08 54.1	-0.2
K22A				IAML		19 09 20.5	
	comp=N,582nm,0.3s						
K22A				IAML		19 09 26.2	
	comp=E,531nm,1.0s						
PHWY	Pilot Hill	2.29	184		Pn	19 09 09.7	+1.6
RWWY	Rawlins	2.40	218		Pn	19 09 12.2	+2.7
RWWY				IAML		19 09 47.3	
	comp=E,334nm,1.4s						
RWWY				IAML		19 09 56.2	
	comp=E,342nm,0.8s						
N23A	Red Feather La	2.75	191		Pn	19 09 16.8	+2.5
N23A				IAML		19 10 09.6	
	comp=N,268nm,0.9s						
N23A				IAML		19 10 16.0	
	comp=E,229nm,1.2s						
BW06	Boulder Array	3.27	257		Pn	19 09 22.7	+1.2
BW06				IAML		19 10 18.5	
	comp=E,77nm,0.8s						
PD31	Pinedale Array	3.27	257		Pn	19 09 23.0	+1.5
PDAR	Pinedale Array	3.27	257	Pn	Pn	19 09 22.7	+1.2
	comp=E,2.6nm,0.3s,baz=69,slow=18,SNR=42						
PDAR				Pg	Pb	19 09 27.1	-0.7
	comp=E,3.6nm,0.3s,baz=75,slow=16,SNR=30						
PDAR				Lg	Lg	19 10 06.7	
	comp=E,8.3nm,0.3s,baz=80,slow=30,SNR=2.4						
PDAR	Pinedale Array	3.27	257		Pn	19 09 23.4	+1.9
RLMT	Red Lodge	3.28	299		Pn	19 09 22.7	+1.2
RLMT				IAML		19 10 19.8	
	comp=E,79nm,1.2s						
RLMT				IAML		19 10 24.7	
	comp=E,106nm,1.1s						
OGNE	Ogallala	3.55	137	Pn	Pn	19 09 27.1	+1.9
YMP	Mirror Lake Pl	3.73	290		Pn	19 09 29.5	+1.7
ISCO	Idaho Springs	3.80	184		Pn	19 09 31.3	+2.5
ISCO				IAML		19 10 38.4	
	comp=E,63nm,0.9s						
ISCO				IAML		19 10 45.0	
	comp=E,49nm,0.8s						
GCMT	Greycliff	3.85	306	Pn	Pn	19 09 31.4	+2.0
LOHW	Long Hollow	3.90	272		Pn	19 09 32.9	+2.8
LOHW				IAML		19 11 01.0	
	comp=E,52nm,1.4s						
H17A	Grant Village	3.94	284	Pn	Pn	19 09 34.0	+3.2
H17A				IAML		19 10 37.8	
	comp=E,68nm,2.0s						
H17A				IAML		19 10 38.3	
	comp=N,72nm,2.0s						
FLWY	Flagg Ranch	3.99	279	Pn	Pn	19 09 34.3	+2.9
FLWY				IAML		19 10 44.9	
	comp=N,94nm,2.1s						
MOOW	Moose Ponds	4.00	274		Pn	19 09 34.1	+2.5
SNOW	Snow King Moun	4.02	270		Pn	19 09 33.9	+2.1
SNOW				IAML		19 10 56.5	
	comp=N,86nm,1.1s						
REDW	Red Top Meadow	4.10	269		Pn	19 09 35.4	+2.5
O20A	White River Ci	4.12	214		Pn	19 09 36.0	+2.9
O20A				IAML		19 11 11.1	
	comp=E,94nm,1.7s						
TPAW	Teton Pass	4.16	271		Pn	19 09 36.3	+2.5
TPAW				IAML		19 11 02.5	
	comp=E,103nm,0.9s						
TPAW				IAML		19 11 18.9	
	comp=E,57nm,1.1s						
YHH	Holmes Hill	4.22	288	Pn	Pn	19 09 37.0	+2.5
AHID	Auburn Hatcher	4.37	261		Pn	19 09 38.7	+2.1
AHID				IAML		19 10 58.0	
	comp=E,60nm,0.9s						
AHID				IAML		19 11 17.3	
	comp=E,68nm,1.1s						
E28A	Huff	4.38	46	Pn	Pn	19 09 36.9	+0.3
YHL	Hebgen Lake	4.46	288		Pn	19 09 38.6	+0.7
SMCO	Snowmass	4.60	197	Pn	Pn	19 09 40.7	+0.8
SMCO				IAML		19 11 35.7	
	comp=E,57nm,1.3s						
Q24A	Divide	4.62	179	Pn	Pn	19 09 41.4	+1.3
HWUT	Hardware Ranch	5.08	249		Pn	19 09 46.8	+0.5
P18A	Preston Nutter	5.46	225		Pn	19 09 53.6	+2.0
JLU	Jordanelle	5.51	239	Pn	Pn	19 09 53.6	+1.4
LRM	Limekiln Ridge	5.61	296		Pn	19 09 55.0	+1.4
P17A	Butcher Ranch,	5.83	227	Pn	Pn	19 09 58.9	+2.3
SDCO	Great Sand Dun	5.84	182	Pn	Pn	19 09 58.9	+2.0
PV23	Carpenter Ridg	5.88	210		Pn	19 09 59.0	+1.7
S22A	4UR Ranch, Cre	5.96	192	Pn	Pn	19 10 01.1	+2.5
DUG	Dugway, Tooele	6.60	242	Pn	Pn	19 10 08.3	+1.2
HLID	Hailey	6.67	273	Pn	Pn	19 10 11.5	+3.3
MVCO	Mesa Verde	6.84	202	Pn	Pn	19 10 13.7	+3.1
ELK	Elko	7.96	252	Pn	Pn	19 10 27.0	+1.1
	comp=E,0.1nm,0.3s,baz=235,slow=7.5,SNR=2.7						
ELK				Lg	Lg	19 12 34.6	
	comp=E,0.1nm,0.3s,baz=143,slow=15,SNR=1.6						
I10CA	LAC DU BONNET	9.13	40	i		20 03 40.0	
	baz=222,slow=329,SNR=5.0						
ULM	Lac du Bonnet	9.23	41	Pn	Pn	19 10 42.1	-0.9
	comp=E,0.7nm,0.3s,baz=240,slow=13,SNR=4.8						
ULM				Pg		19 11 17.4	
	comp=E,0.4nm,0.3s,baz=216,slow=9.0,SNR=3.4						
ULM				Lg	Lg	19 13 21.2	
	comp=E,0.3nm,0.3s,baz=330,slow=20,SNR=6.4						
NVAR	Mina Array Bea	11.14	247	Pn	Pn	19 11 10.9	+1.5
	comp=E,0.1nm,0.3s,baz=70,slow=11,SNR=2.6						
TXAR	Lajitas Array	14.28	174	Pn	P	19 11 58.3	-1.5
	comp=E,0.0nm,0.3s,baz=334,slow=12,SNR=1.9						
TXAR				Lg	Lg	19 16 02.8	
	comp=E,0.0nm,0.3s,baz=9.2,slow=16,SNR=2.8						
YKA	Yellowknife Ar	19.72	347	P	P	19 12 57.8	-1.7
	comp=E,0.0nm,0.3s,baz=156,slow=13,SNR=6.6						
YKA				Lg	Lg	19 18 40.0	
	comp=E,0.0nm,0.3s,baz=156,slow=26,SNR=2.1						

*MOS **02** 19:11:45.9±0.0, 42°.57N×43°.37E, h5km, MPVA4.1*

*IASPEI **02** 19:11:45.9±0.8, 42°.55N±0°.01×43°.41E±0°.02, h9km±5km, Error ellipse: s-maj=2.7km s-min=2.1km az=96.0, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

*DDA **02** 19:11:45.8±0.0, 42°.53N×43°.35E, h13km±1km, ML2.8*

*NORS **02** 19:11:45.4±0.0, 42°.66N×43°.51E, h1km*

*TIF **02** 19:11:45.2, 42°.56N×43°.47E, h12km*

*AZER **02** 19:11:45.2±0.5, 42°.34N×43°.26E, h11km±47km, Error ellipse: s-maj=101.9km s-min=14.1km az=302.0*

*ISK **02** 19:11:45.9, 42°.52N×43°.35E, h6km, ML3.2/7*

ISC 02 19:11:45.9±0.8**, 42°.54N**±0°.01×**43°.39E**±0°.01**, h8km**±5km**, n123, σ1.11**/232**, 4C-3D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONI	Oni	0.07	43	P	Pg	19 11 47.9	+0.1
ONI				S	Sg	19 11 49.2	0.0
ONI	Oni	0.07	43	⇑iPG	Pg	19 11 47.9	+0.1
ONI	Oni	0.07	43	i Pg	Pg	19 11 47.9	+0.1
ONI				eSg	Sg	19 11 49.4	+0.1
TKB	Tkibuli	0.35	237	P	Pb	19 11 53.9	-0.6
TKB				S	Sb	19 12 00.1	-0.1
TKB	Tkibuli	0.35	237	PG	Pb	19 11 53.8	-0.6
TKB				S	Sb	19 12 00.0	-0.1
DIGR	Digorskoe uzhe	0.38	21	⇓iPG	Pg	19 11 52.6	-0.9
DIGR	Digorskoe uzhe	0.38	21	i Pg	Pg	19 11 52.9	-0.5
DIGR				eSg	Sg	19 11 58.4	-0.1
LACR	Lac	0.73	67	⇑iPG	Pg	19 11 58.8	-1.1
LACR				eS	Sg	19 12 08.3	-1.0
LACR	Lac	0.73	67	i Pg	Pg	19 11 58.8	-1.1
LACR				eSg	Sg	19 12 08.3	-1.0
KORR	Kora	0.74	42	ePG	Pg	19 11 59.8	-0.3
KORR				eS	Sb	19 12 10.7	-0.6
KORR	Kora	0.74	42	i Pg	Pg	19 11 59.8	-0.3
KORR				eSg	Sb	19 12 10.7	-0.6
BKRG	Bakuriani	0.79	173	P	Pg	19 12 01.3	+0.3
BKRG				S	Sb	19 12 12.8	0.0
BKRG	Bakuriani	0.79	173	PG	Pg	19 12 01.3	+0.3
BKRG				S	Sb	19 12 12.8	0.0
LSNR	Lesken	0.80	23	ePG	Pg	19 12 01.1	-0.2
LSNR				eS	Sb	19 12 12.9	-0.3
LSNR	Lesken	0.80	23	i Pg	Pg	19 12 01.1	-0.2
LSNR				eSg	Sb	19 12 12.8	-0.3
GUDG	Gudauri	0.81	95	P	Pg	19 12 00.2	-1.2
GUDG				S	Sg	19 12 10.9	-1.0
GUDG	Gudauri	0.81	95	PG	Pg	19 12 00.2	-1.2
GUDG				S	Sg	19 12 10.9	-1.0
MTEO	Meteo	0.85	80	P	Pg	19 12 01.3	-1.1
MTEO				S	Sg	19 12 12.3	-1.2
NEY	Neytrino	0.86	325	ePG	Pg	19 12 02.3	-0.1
NEY				eS	Sg	19 12 13.7	0.0
NEY	Neytrino	0.86	325	ePg	Pg	19 12 02.3	-0.1
NEY				eSg	Sg	19 12 13.7	0.0
ABS	Abastumani	0.90	209	P	Pb	19 12 03.4	-0.4
ABS				S	Sb	19 12 16.8	+0.8
ABS	Abastumani	0.90	209	PG	Pb	19 12 03.4	-0.4
ABS				S	Sb	19 12 16.7	+0.8
PNSH	Pansheti	0.91	84	P	Pg	19 12 02.1	-1.3
PNSH				S	Sg	19 12 15.4	+0.2
PNSH	Pansheti	0.91	84	PG	Pg	19 12 02.1	-1.3
PNSH				S	Sg	19 12 15.4	+0.2
STDR	Stavd-Durt	0.96	31	ePG	Pb	19 12 05.1	+0.3
STDR				eS	Sn	19 12 19.9	+0.3
STDR	Stavd-Durt	0.96	31	ePg	Pn	19 12 05.3	-0.4
STDR				eSg	Sn	19 12 19.8	+0.2
NCK	Nalchik	0.96	9	i PG	Pb	19 12 04.8	-0.1
NCK				eS	Sn	19 12 18.8	-0.9
NCK	Nalchik	0.96	9	i Pg	Pb	19 12 04.8	-0.1
NCK				eSg	Sn	19 12 18.8	-0.9
BRNG	Burnasheti	0.97	160	P	Pb	19 12 04.8	-0.3
BRNG				S	Sb	19 12 18.2	0.0
CHVG	Ch'k'valeri	0.98	281	P	Pb	19 12 05.3	+0.2
CHVG				S	Sn	19 12 20.2	+0.1
CHVG	Ch'k'valeri	0.98	281	PG	Pb	19 12 05.3	+0.2
CHVG				S	Sn	19 12 20.2	+0.1
VLKR	Vladikavkaz	1.07	62	ePG	Pb	19 12 06.7	0.0
VLKR				eS	Sn	19 12 22.1	-0.3
VLKR	Vladikavkaz	1.07	62	ePg	Pb	19 12 06.7	0.0
VLKR				eSg	Sn	19 12 22.1	-0.3
TRLG	Trialeti	1.13	152	P	Pg	19 12 07.3	-0.4
TRLG				S	Sb	19 12 23.1	+0.4
TRLG	Trialeti	1.13	152	PG	Pg	19 12 07.2	-0.4
TRLG				S	Sb	19 12 23.1	+0.4
AKH	Akhalkalaki	1.13	176	P	Pb	19 12 07.7	-0.1
AKH				S	Sb	19 12 23.0	+0.1
AKH	Akhalkalaki	1.13	176	PG	Pb	19 12 07.7	-0.1
AKH				S	Sb	19 12 22.9	+0.1
AKH	Akhalkalaki	1.13	176	PN	Pb	19 12 07.8	-0.1
AKH				SN	Sb	19 12 23.2	+0.4
EPOS	Posof	1.15	206	P	Pb	19 12 07.9	-0.1
EPOS				S	Sb	19 12 23.5	+0.2
EPOS				i AML	AML	19 12 25.0	
	comp=E,107nm,0.4s						
EPOS				i AML	AML	19 12 26.0	
	comp=N,201nm,0.4s						
BTKR	Batakoyurt	1.18	45	ePG	Pn	19 12 09.7	+0.9
BTKR				eS	Sn	19 12 26.1	+1.0
BTKR	Batakoyurt	1.18	45	ePg	Pn	19 12 09.7	+0.9
BTKR				eSg	Sn	19 12 26.1	+1.0
KBZ	Khabaz	1.24	343	i PG	Pn	19 12 08.8	-0.7
KBZ				eS	Sb	19 12 25.1	-0.5
KBZ	Khabaz	1.24	343	i Pg	Pn	19 12 08.8	-0.7
KBZ				eSg	Sb	19 12 25.1	-0.5
KBTC	Kuba-Taba	1.27	1	⇑ePG	Pn	19 12 10.0	-0.1
KBTC				eS	Sb	19 12 26.6	-0.1
KBTC	Kuba-Taba	1.27	1	ePg	Pn	19 12 09.9	-0.1
KBTC				eSg	Sb	19 12 26.0	-0.7
BGD	Bogdanovka	1.29	173	P	Pn	19 12 10.3	-0.1
BGD				S	Sg	19 12 27.4	+0.2
BGD	Bogdanovka	1.29	173	PG	Pn	19 12 10.3	-0.1
BGD				S	Sg	19 12 27.4	+0.2
SHA1	Shidzhatmaz	1.31	336	⇓ePG	Pb	19 12 10.8	-0.1
SHA1				eS	Sn	19 12 28.5	0.0
SHA1	Shidzhatmaz	1.31	336	ePg	Pg	19 12 11.0	0.0
SHA1				eSg	Sg	19 12 28.1	0.0
DMNI	Dmanisi	1.35	154	P	Pn	19 12 10.5	-0.6
DMNI				S	Sb	19 12 28.5	-0.5
DMNI	Dmanisi	1.35	154	PG	Pn	19 12 10.5	-0.6
DMNI				S	Sb	19 12 28.5	-0.5
BTNK	Botanikuri	1.35	129	P	Pn	19 12 05.4	-5.7
BTNK				S	Sb	19 12 24.2	-4.8
BTNK	Botanikuri	1.35	129	P	Pn	19 12 05.4	-5.7
BTNK				S	Sb	19 12 24.1	-4.9
PRTR	Priterechnaya	1.37	28	ePG	Pb	19 12 11.9	+0.1
PRTR				eS	Sg	19 12 31.5	+1.5
PRTR	Priterechnaya	1.37	28	ePg	Pb	19 12 11.9	+0.1
PRTR				eSg	Sg	19 12 31.5	+1.5
KZRT	Kazreti	1.38	147	P	Pn	19 12 11.1	-0.3
KZRT				S	Sb	19 12 29.1	-0.6
KZRT	Kazreti	1.38	147	PG	Pn	19 12 11.1	-0.3
KZRT				S	Sb	19 12 29.1	-0.6
KZRT	Kazreti	1.38	147	P	Pn	19 12 11.1	-0.3
KZRT				S	Sb	19 12 28.9	-0.8
KIV	Kislovodsk	1.50	340	ePG	Pb	19 12 14.1	0.0
KIV				eS	Sn	19 12 33.0	-0.1
KIV	Kislovodsk	1.50	340	PN	Pb	19 12 14.1	0.0
KIV	Kislovodsk	1.50	340	ePg	Pb	19 12 14.1	0.0
KIV				eSg	Sn	19 12 33.0	-0.1
BEYR	Belyy Ugol+	1.53	344	ePG	Pb	19 12 14.7	+0.2
BEYR				eS	Sn	19 12 33.2	-0.4
BEYR	Belyy Ugol+	1.53	344	ePg	Pb	19 12 14.7	+0.2
BEYR				eSg	Sn	19 12 33.2	-0.4
PYA1	Pyatigorsk	1.54	352	ePG	Pb	19 12 14.7	+0.1
PYA1				eS	Sb	19 12 34.5	+0.3
PYA1	Pyatigorsk	1.54	352	ePg	Pb	19 12 14.7	+0.1
PYA1				eSg	Sb	19 12 34.5	+0.3
TRKR	Terskaya	1.54	39	⇑ePG	Pb	19 12 14.8	+0.2
TRKR	Terskaya	1.54	39	ePg	Pb	19 12 14.7	+0.1
TRKR				eSg	Sg	19 12 36.0	+0.7
DBOC	Borcka	1.76	228	P	Pb	19 12 17.8	-0.6
DBOC				S	Sg	19 12 42.2	-0.1
DBOC				i AML	AML	19 12 43.0	
	comp=E,202nm,0.2s						
DAGI	Agillar	1.83	218	P	Pb	19 12 19.8	0.0
DAGI				i AML	AML	19 12 44.0	
	comp=E,74nm,0.5s						
DAGI				S	Sg	19 12 44.7	-0.1
DAGI				i AML	AML	19 12 46.0	
	comp=N,120nm,0.6s						
DGRG	David-gareji	1.84	126	P	Pb	19 12 19.1	-0.7
DGRG				S	Sb	19 12 43.3	+0.4
DGRG	David-gareji	1.84	126	PN	Pb	19 12 19.0	-0.7
DGRG				S	Sb	19 12 43.3	+0.4
ARXR	Arkhyz	1.86	304	ePN	Pg	19 12 21.8	+0.3
ARXR				eS	Sg	19 12 45.9	+0.4
ARXR	Arkhyz	1.86	304	ePg	Pg	19 12 21.8	+0.3
ARXR				eSg	Sg	19 12 45.9	+0.4
EAK	Akyaka	1.86	175	P	Pb	19 12 19.5	-0.7
EAK				S	Sb	19 12 44.5	+0.8
EAK				i AML	AML	19 12 45.0	
	comp=N,77nm,0.6s						
EAK				i AML	AML	19 12 45.0	
	comp=E,65nm,0.8s						
GROC	Groznyy	1.89	69	ePN	Pb	19 12 20.3	-0.3
GROC				eS	Sg	19 12 47.2	+0.7
GROC	Groznyy	1.89	69	ePg	Pb	19 12 20.3	-0.3
GROC				eSg	Sg	19 12 47.2	+0.7
KARS	Kars	1.93	187	PN	Pb	19 12 20.6	-0.7
KARS	Kars	1.93	187	PN	Pn	19 12 20.1	+1.0
DBAD	Bademkaya	1.98	220	P	Pb	19 12 22.0	-0.2
DBAD				S	Sg	19 12 48.5	-1.1
DBAD				i AML	AML	19 12 49.0	
	comp=N,148nm,0.3s						
DBAD				i AML	AML	19 12 54.0	
	comp=E,209nm,0.5s						
DDEM	Demirkent	2.06	217	P	Pb	19 12 23.5	0.0
DDEM				S	Sg	19 12 50.6	-1.4
DDEM				i AML	AML	19 12 53.0	
	comp=E,256nm,0.4s						
DVE	Vedeno	2.06	77	ePN	Pb	19 12 23.4	-0.1
DVE				eS	Sg	19 12 51.3	-0.7
DVE	Vedeno	2.06	77	ePg	Pb	19 12 23.4	-0.1
DVE				eSg	Sg	19 12 51.3	-0.7
BTLR	Botlikh	2.09	86	ePN	Pb	19 12 24.1	0.0
BTLR				eS	Sg	19 12 52.8	-0.3
BTLR	Botlikh	2.09	86	ePg	Pb	19 12 24.1	0.0
BTLR				eSg	Sg	19 12 52.8	-0.3
QZX	Qazax, Azerbai	2.10	134	P	Pn	19 12 22.3	+1.0
	SNR=3.0						
QZX				S	Sb	19 12 50.5	+0.2
LGD	Lagodekhi	2.23	107	P	Pn	19 12 24.8	+1.5
LGD				S	Sb	19 12 55.7	+1.4
LGD	Lagodekhi	2.23	107	PN	Pn	19 12 24.7	+1.5
LGD				S	Sb	19 12 55.7	+1.4
ALER	Alexandrovskoy	2.25	351	ePN	Pb	19 12 26.7	0.0
ALER				eS	Sg	19 12 56.3	-1.7
ALER	Alexandrovskoy	2.25	351	ePg	Pb	19 12 26.7	0.0
ALER				eSg	Sg	19 12 56.4	-1.7
DDFL	Dedoflistskaro	2.31	117	P	Pb	19 12 28.3	+0.5
DDFL				S	Sg	19 12 58.5	-1.6
DDFL	Dedoflistskaro	2.31	117	PN	Pb	19 12 28.3	+0.5
DDFL				S	Sg	19 12 58.4	-1.6
DDFL	Dedoflistskaro	2.31	117	P	Pb	19 12 28.6	+0.8
DDFL				S	Sg	19 13 01.9	+1.9
DDFL				i AML	AML	19 13 06.0	
	comp=N,135nm,0.5s						
DDFL				i AML	AML	19 13 06.0	
	comp=E,112nm,0.5s						
AHMR	Akhmetovskaya	2.35	314	ePN	Pn	19 12 24.8	-0.1
CHOM	Cayeli-Rize	2.44	235	PN	Pn	19 12 26.7	+0.7
CHOM				SN	Sn	19 12 56.6	+0.6
UNCR	Uncukul	2.52	85	ePN	Pb	19 12 31.6	+0.2
UNCR				eS	Sb	19 13 04.3	+1.8
UNCR	Uncukul	2.52	85	ePn	Pb	19 12 31.6	+0.2
UNCR				eSn	Sb	19 13 04.3	+1.8
GDB	GEDABAY	2.54	135	P	Pn	19 12 29.1	+1.5
	SNR=7.0						
GDB				S	Sb	19 13 02.1	-1.2
RPOR	Krasnaya Polya	2.56	298	ePN	Pb	19 12 31.6	-0.6
RPOR				eS	Sn	19 13 00.3	+1.1
RPOR	Krasnaya Polya	2.56	298	ePn	Pb	19 12 31.6	-0.6
RPOR				eSn	Sn	19 13 00.3	+1.1
ZKTA	Zakatala	2.57	110	P	Pb	19 12 30.0	-2.2
	SNR=3.5						
ZKTA				S	Sb	19 13 05.6	+1.6
GNI	Garni	2.60	157	dePN	Pb	19 12 34.0	+1.2
GNI				eS	Sg	19 13 08.3	-1.0
GNI				pmax	pmax		
	comp=Z,13nm,0.9s						
GNI	Garni	2.60	157	PN	Pn	19 12 29.5	+1.2
GNI	Garni	2.60	157	ePn	Pb	19 12 32.3	-0.5
GNI				eSn	Sb	19 13 06.5	+1.5
KRNR	Karanay	2.61	83	ePN	Pb	19 12 32.7	-0.2
KRNR				eS	Sb	19 13 07.3	+2.2
KRNR	Karanay	2.61	83	ePn	Pb	19 12 32.7	-0.2
KRNR				eSn	Sb	19 13 07.3	+2.2
TASB	TASBURUN-IGDIR	2.63	166	PN	Pn	19 12 30.2	+1.4
GNBR	Gunib	2.65	92	eSn	Sb	19 13 05.9	-0.4
ARKR	Arakani	2.66	87	ePN	Pb	19 12 33.0	-0.8
ARKR				eS	Sn	19 13 03.5	+1.9
ARKR	Arakani	2.66	87	ePn	Pb	19 12 33.0	-0.8
ARKR				eSn	Sn	19 13 03.5	+1.9
KMKR	Kumukh	2.78	97	ePN	Pb	19 12 34.6	-1.3
KMKR				eS	Sb	19 13 09.7	-0.5
KMKR	Kumukh	2.78	97	ePn	Pb	19 12 34.6	-1.3
KMKR				eSn	Sb	19 13 09.7	-0.5
GUZR	Guzeripl'	2.80	302	ePN	Pb	19 12 33.9	-2.2
GUZR				eS	Sn	19 13 05.3	+0.3
GUZR	Guzeripl'	2.80	302	ePn	Pb	19 12 33.9	-2.2
GUZR				eSn	Sn	19 13 05.3	+0.3
KOPR	Koprukoy-ERZUR	2.80	205	PN	Pn	19 12 32.1	+1.0
GANJ	Ganja	2.90	130	P	Pn	19 12 34.2	+1.8
GANJ				S	Sb	19 13 12.4	-1.1
SEKA	Sheki	3.14	114	P	Pb	19 12 39.6	-2.3
SEKA				S	Sb	19 13 17.8	-2.6
MNGR	Mingechevir, A	3.28	121	S	Sn	19 13 19.7	+2.9
AKT	Akhty	3.40	107	ePN	Pn	19 12 41.8	+2.5
AKT				eS	Sb	19 13 25.1	-2.9
AKT	Akhty	3.40	107	ePn	Pn	19 12 41.9	+2.5
AKT				eSn	Sb	19 13 25.1	-2.9
SBZ	Shahbuz	3.54	152	P	Pb	19 12 48.1	-0.8
	SNR=4.7						
SBZ				S	Sb	19 13 28.5	-3.5
QBL	Gabala	3.69	114	P	Pn	19 12 44.8	+1.6
QBL				S	Sn	19 13 30.5	+3.6
NAX	Nakhchivan	3.72	154	P	Pn	19 12 44.9	+1.2
NAX				S	Sn	19 13 28.4	+0.6
ORD	Ordubad	4.12	150	P	Pb	19 12 55.3	-3.4
ORD				S	Sn	19 13 38.9	+1.3

IDC 02 19:43:24.8±21.0**, 27°.70S**×**75°.32E, h0km, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.2**/57**, mbtmp3.6**/3**, Error ellipse: s-maj=504.7km s-min=51.3km az=65.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	51.27	29	P	P	19 52 30.6	-0.1
	0.2nm,0.4s,baz=221,slow=9.5,SNR=4.1						
ASAR	Alice Springs	52.53	100	P	P	19 52 40.5	+0.2
	0.7nm,0.6s,baz=246,slow=6.9,SNR=14						
WRA	Warramunga Arr	54.12	95	P	P	19 52 51.4	-0.5
	1.1nm,0.7s,baz=253,slow=7.5,SNR=7.2						

*IDC **02** 19:50:01.9±1.4, 17°.21S×173°.83W, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/29, mbtmp4.0/7, ML3.8/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/66, Error ellipse: s-maj=88.8km s-min=20.1km az=147.0*

*NEIC **02** 19:50:03.5±1.9, 17°.41S±0°.08×173°.6W±0°.1, h10km±1km, mb4.5/8, Error ellipse: s-maj=18.7km s-min=13.0km az=245.0*

ISC 02 19:50:02.6±0.6**, 17°.46S**±0°.09×**173°.48W**±0°.08**, h10km, n52, σ1.50**/32**, mb4.2**/10**, MS3.4**/8**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	3.74	116	Pn	Pn	19 51 00.8	+0.4
NIUE				Sn	Sn	19 51 39.9	-4.7
AFI	Afiamalu	3.89	25	Pn	Pn	19 51 01.0	-1.5
	6.5nm,0.3s,baz=228,slow=2.8,SNR=13						
AFI				Sn	Sn	19 51 37.8	-10
	40nm,0.3s,baz=42,slow=20,SNR=11						
AFI				LR	LR	19 51 59.8	
	comp=Z,119nm,20.8s,baz=231,slow=31						
AFI	Afiamalu	3.89	25		Pn	19 51 01.1	-1.4
DZM	Mont Dzumac	19.44	253	LR	LR	20 00 39.1	
	comp=Z,160nm,20.0s,baz=212,slow=33						
DZM	Mont Dzumac	19.44	253	eLR	LR	19 59 33.4	
	comp=Z,194nm,25.2s						
PAE	Paea	22.79	94	eT	T	20 18 12.5	
	2.9nm,0.3s						
PPT2	Papeete2	22.79	94	eLR	LR	20 00 28.4	
	comp=Z,143nm,25.5s						
PPT2	Papeete2	22.79	94	eT	T	20 18 13.9	
	3.4nm,0.3s						
PPT	Papeete	22.79	94	LR	LR	20 01 34.1	
	comp=Z,88nm,19.0s,baz=232,slow=30						
TVO	Taravao	23.09	94	eT	T	20 18 35.5	
	1.0nm,0.2s						
TBI	Tubuai	23.25	109	eLR	LR	20 00 28.7	
	comp=Z,152nm,34.8s						
TBI	Tubuai	23.25	109	eT	T	20 18 40.9	
	13nm,0.3s						
BKZ	Black Stump Fm	23.33	200	P	P	19 55 10.7	-0.3
BKZ				IAmb	IAmb	19 55 14.6	
	comp=Z,14nm,1.2s						
VAH	Vaihoa	24.90	89	eT	T	20 20 53.4	
	comp=Z,4.3nm,0.2s						
TAOE	Nuku Hiva Isla	33.52	80	eT	T	20 31 44.4	
	comp=Z,31nm,0.2s						

H11S2	WAKE ISLAND Hy	40.69	330	T	T	20 41 06.6	
	baz=149,slow=76,SNR=5.6						
H11S3	WAKE ISLAND Hy	40.70	330	T	T	20 41 14.1	
	baz=149,slow=76,SNR=5.9						
H11S1	WAKE ISLAND Hy	40.71	330	T	T	20 41 09.2	
	baz=149,slow=76,SNR=3.8						
H11N3	WAKE ISLAND Hy	41.66	332	T	T	20 42 47.1	
	baz=151,slow=76,SNR=2.5						
H11N1	WAKE ISLAND Hy	41.67	332	T	T	20 42 46.3	
	baz=151,slow=76,SNR=3.6						
H11N2	WAKE ISLAND Hy	41.68	332	T	T	20 42 48.8	
	baz=151,slow=76,SNR=2.7						
COEN	Coen	41.81	268	P	P	19 57 50.7	-2.1
COEN				IAmb	IAmb	19 58 03.2	
	comp=Z,20nm,1.2s						
BBOO	Buckleboo	47.74	241	P	P	19 58 39.5	-0.5
WR0	Warramunga Arr	49.14	258	P	P	19 58 50.0	-0.9
WR0				IAmb	IAmb	19 59 03.7	
	comp=Z,6.8nm,1.4s						
WRA	Warramunga Arr	49.33	258	P	P	19 58 50.4	-2.1
	comp=Z,0.8nm,0.4s,baz=98,slow=6.7,SNR=18						
WRA	Warramunga Arr	49.33	258	P	P	19 58 50.6	-1.8
AS31	Alice Springs	49.43	254	P	P	19 58 51.9	-1.3
AS31				IAmb	IAmb	19 58 52.9	
	comp=Z,4.2nm,0.7s						
ASAR	Alice Springs	49.43	254	P	P	19 58 51.9	-1.3
	comp=Z,13nm,0.7s,baz=89,slow=8.5,SNR=179						
ASAR				PcP	PcP	20 00 15.5	0.0
	comp=Z,1.0nm,0.8s,baz=119,slow=3.1,SNR=4.2						
GUMO	Guam	51.40	304	LR	LR	20 15 29.6	
	comp=Z,21nm,21.2s,baz=96,slow=30						
SIJI	Sorong	56.74	281	LR	LR	20 23 03.4	
	comp=Z,38nm,20.1s,baz=234,slow=35						
JOW	Kunigami	71.64	307	LR	LR	20 26 41.4	
	comp=Z,23nm,21.7s,baz=117,slow=31						
QSPA	South Pole Qui	72.60	180	P	P	20 01 32.2	+2.1
ASAJ	Asahikawa	73.24	329	LR	LR	20 31 28.2	
	comp=Z,20nm,18.8s,baz=188,slow=34						
UGM	Wanagama	74.36	266	P	P	20 01 40.9	-0.3
YBH	Yreka Blue Hor	75.28	37	LR	LR	20 27 42.6	
	comp=Z,42nm,20.7s,baz=259,slow=30						
NVAR	Mina Array Bea	75.90	42	P	P	20 01 51.2	+1.4
	comp=Z,1.0nm,0.7s,baz=224,slow=8.9,SNR=9.9						
NVAR	Mina Array Bea	75.90	42	P	P	20 01 50.4	+0.6
TXAR	Lajitas Array	81.82	56	P	P	20 02 24.0	+1.6
	comp=Z,0.6nm,0.9s,baz=216,slow=5.7,SNR=4.8						
TXAR	Lajitas Array	81.82	56	P	P	20 02 23.4	+1.0
PDAR	Pinedale Array	83.84	42	P	P	20 02 33.3	+0.6
	comp=Z,0.7nm,0.8s,baz=222,slow=2.0,SNR=4.8						
ILAR	Eielson Array	84.47	11	P	P	20 02 35.5	+0.4
	comp=Z,0.3nm,0.6s,baz=224,slow=6.3,SNR=2.0						
IMAR	Indian Mountai	84.51	8	P	P	20 02 36.1	+0.9
BMAR	Burnt Mountain	87.27	11	P	P	20 02 49.8	+0.8
KMBO	Kilima Mbogo	144.54	242	PKP	PKPdf	20 09 40.8	0.0
	comp=Z,2.0nm,0.7s,baz=53,slow=2.0,SNR=7.8						
BRTR	Keskin Array B	147.67	319	PKPbc	PKPbc	20 09 48.6	+0.7
	comp=Z,0.9nm,0.8s,baz=45,slow=2.3,SNR=5.2						
BRTR	Keskin Array B	147.67	319		PKPdf	20 09 47.1	+2.0
WATA	Walderalm	149.91	353	*i* P	PKPbc	20 09 54.6	+1.2
	comp=Z,3.4nm,1.2s						
KBA	Koelnbreinsper	149.93	351	*i* P	PKPbc	20 09 54.4	+0.9
	comp=Z,2.1nm,0.9s						
WTTA	Wattenberg	149.97	353	*i* P	PKPbc	20 09 54.3	+0.8
	comp=Z,2.4nm,0.6s						
SQTA	Sankt Quirin	150.07	354	*i* P	PKPbc	20 09 54.9	+1.2
	comp=Z,4.4nm,1.2s						
ABTA	Abfaltersbach	150.37	352	*i* P	PKPbc	20 09 54.6	+0.2
	comp=Z,3.3nm,0.8s						
DAVOX	Davos/Dischmat	150.62	355	PKPbc	PKPbc	20 09 56.1	+0.9
	comp=Z,2.0nm,0.7s,baz=306,slow=4.3,SNR=3.3						

*SOME **02** 19:51:25.7, 51°.85N×64°.55E, h0km*

*IDC **02** 19:51:29.8±0.6, 53°.14N×63°.11E, h0km, mb3.3/5, mb1 3.5/11, mb1mx3.4/40, mbtmp3.4/11, ML2.9/6, Error ellipse: s-maj=12.0km s-min=7.4km az=3.0*

*NNC **02** 19:51:32.0±1.5, 52°.61N×63°.47E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=24.1km s-min=6.3km az=158.0*

ISC 02 19:51:30.2±0.7**, 53°.00N**±0°.08×**63°.21E**±0°.05**, h10km, n22, σ1§82**/31**, mb3.5**/5**, 15C-8D, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	4.12	234	Pn	Pn	19 52 34.9	+1.7
	0.5nm,0.3s,baz=54,slow=10,SNR=10						
AKTO				Sn	Sn	19 53 24.1	+2.6
	1.9nm,0.3s,baz=144,slow=12,SNR=4.6						
AKTO				Lg	Lg	19 53 35.8	
	4.0nm,0.3s,baz=169,slow=21,SNR=13						
AKTO	Aktyubinsk	4.12	234	⇑Pn	Pn	19 52 34.9	+1.7
	0.8nm,0.5s						
AKTO				⇓Pg	Pb	19 52 44.1	+1.3
	2.2nm,0.5s						
AKTO				⇑Sn	Sn	19 53 22.3	+0.8
	4.8nm,0.7s						
AKTO				⇑Lg	Lg	19 53 37.5	
	20nm,0.5s						
AB31	Akbulak array	4.27	210	Pn	Pn	19 52 35.8	+0.6
	0.4nm,0.3s,baz=39,slow=14,SNR=49						
AB31				⇑Pg	Pb	19 52 45.9	+0.5
	2.4nm,0.5s,baz=27,slow=15,SNR=17						
AB31				⇑Sn	Sn	19 53 24.7	-0.4
	2.9nm,0.3s,baz=40,slow=25,SNR=7.9						
AB31				⇑Lg	Lg	19 53 42.6	
	23nm,0.7s,baz=32,slow=26,SNR=5.3						
BRVK	Borovoye	4.27	86	⇓Pn	Pn	19 52 37.4	+2.2
	1.7nm,0.5s						
BRVK				⇑Sn	Sn	19 53 25.8	+0.7
	5.0nm,0.7s						
BRVK				⇑Lg	Lg	19 53 43.7	
	9.6nm,0.5s						
BVA1	Borovoye Array	4.34	87	⇓Sn	Sn	19 53 27.8	+1.1
	12nm,0.7s						
BVA1				⇓Lg	Lg	19 53 45.3	
	21nm,0.5s						
BVAR	Borovoye Array	4.34	87	Pn	Pn	19 52 38.9	+2.8
	3.6nm,0.3s,baz=268,slow=22,SNR=75						
BVAR				Sn	Sn	19 53 28.1	+1.3
	2.7nm,0.3s,baz=301,slow=27,SNR=8.2						
BVAR				Lg	Lg	19 53 45.5	
	3.6nm,0.3s,baz=275,slow=34,SNR=3.2						
BVA4	Borovoye Array	4.34	87	⇓Pn	Pn	19 52 38.8	+2.6
	4.7nm,0.3s						
ARU	Arti	4.37	324	Pn	Pn	19 52 37.0	+0.5
	0.0nm,0.3s,baz=313,slow=3.2,SNR=12						
ARU				Sn	Sn	19 53 24.9	-2.4
	0.0nm,0.3s,baz=97,slow=23,SNR=3.8						
ARU				Lg	Lg	19 53 39.4	
	0.0nm,0.3s,baz=70,slow=20,SNR=3.7						
BRZS	Berezniki	6.64	113	*e*P	Pn	19 53 11.8	+4.1
	1.8nm,0.2s						
BRZS				*e*S	Sn	19 54 25.2	+1.8
	1.3nm,0.4s						
OTUK	Ortayu	7.51	126	⇑Pn	Pn	19 53 20.9	+1.2
OTUK				⇓Sn	Sn	19 54 43.7	-1.1
OTUK				⇓Lg	Lg	19 55 25.0	
KURBB	Kurchatov Arra	9.79	98	Pn	Pn	19 53 51.2	+0.4
	0.1nm,0.3s,baz=289,slow=14,SNR=6.0						
KURBB				Lg	Lg	19 56 36.6	
	0.0nm,0.3s,baz=302,slow=31,SNR=1.6						
KURBB	Kurchatov Arra	9.79	98	⇑Pn	Pn	19 53 52.7	+1.8
	1.7nm,0.8s						
KURBB				⇑Sn	Sn	19 55 37.1	-3.6
	3.3nm,0.8s						
KURBB				⇓Lg	Lg	19 56 36.7	
	9.0nm,0.9s						
KURK	Kurchatov	9.81	97	⇑Pn	Pn	19 53 52.9	+1.7
	1.4nm,0.9s						
KURK				⇑Sn	Sn	19 55 37.5	-3.7
	1.6nm,0.6s						
KURK				⇑Lg	Lg	19 56 36.7	
	4.6nm,1.2s						
ZALV	Zalesovo Beam	12.90	77	Pn	Pn	19 54 31.8	-1.6
	0.1nm,0.3s,baz=279,slow=12,SNR=2.2						
MK31	Makanchi Array	13.76	109	⇑Pn	Pn	19 54 44.8	-0.4
	0.2nm,0.5s,baz=288,slow=11,SNR=7.3						
MKAR	Makanchi Array	13.76	109	Pn	Pn	19 54 45.0	-0.2
	0.1nm,0.3s,baz=289,slow=12,SNR=6.9						
KBZ	Khabaz	16.32	244	Pn	Pn	19 55 16.1	-3.1
	0.4nm,0.3s,baz=266,slow=3.2,SNR=7.4						
AKASG	Malin Array Be	21.00	277	P	P	19 56 12.7	-0.8
	0.3nm,0.4s,baz=62,slow=11,SNR=3.1						
FINES	FINESS Array B	21.53	308	P	P	19 56 18.0	-1.1
	1.4nm,0.3s,baz=96,slow=11,SNR=24						
ARCES	ARCESS Array B	23.94	328	P	P	19 56 43.3	-0.7
	1.3nm,0.8s,baz=115,slow=13,SNR=1.8						
TORD	Torodi Ar. Bea	62.55	255	P	P	20 01 54.9	+0.7
	0.3nm,0.9s,baz=12,slow=7.5,SNR=1.7						
YKA	Yellowknife Ar	64.84	359	P	P	20 02 09.1	+0.5
	0.2nm,0.6s,baz=356,slow=7.0,SNR=5.4						

IDC 02 20:11:09.7±1.7**, 6°.58S**×**129°.18E, h0km, mb3.6**/2**, mb1 3.7**/4**, mb1mx3.2**/39**, mbtmp3.6**/4**, ML3.4**/2**, Error ellipse: s-maj=118.8km s-min=29.1km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.20	160	Pn	Pn	20 14 33.8	+1.6
	0.1nm,0.3s,baz=339,slow=13,SNR=11						
WRA				Sn	Sn	20 16 54.9	-16
	0.9nm,0.3s,baz=334,slow=22,SNR=15						
ASAR	Alice Springs	17.59	166	P	Pn	20 15 15.2	-1.2
	0.2nm,0.3s,baz=338,slow=10,SNR=32						
MKAR	Makanchi Array	67.43	327	P	P	20 22 07.2	-0.1
	0.1nm,0.3s,baz=116,slow=8.1,SNR=6.7						
KURBB	Kurchatov Arra	71.73	329	P	P	20 22 33.9	+0.2
	0.6nm,0.6s,baz=132,slow=5.0,SNR=9.7						

*IDC **02** 20:13:35.8±1.9, 49°.60S×164°.35E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/39, mbtmp3.8/4, ML3.5/1, MS3.7/10, Ms1 3.7/10, ms1mx3.3/47, Error ellipse: s-maj=59.6km s-min=42.3km az=177.0*

*NEIC **02** 20:13:38.4±1.7, 49°.52S±0°.05×164°.5E±0°.2, h10km±1km, mb4.1/6, Error ellipse: s-maj=19.2km s-min=9.1km az=276.0*

ISC 02 20:13:38.0±0.7**, 49°.48S**±0°.08×**164°.42E**±0°.09**, h10km, n57, σ1§61**/60**, mb4.0**/6**, MS3.8**/8**, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APZ	The Paps	3.56	43	P	Pn	20 14 34.4	+1.0
APZ				S	Sn	20 15 14.4	-1.1
PYZ	Puysegur Point	3.65	25	Pn	Pn	20 14 34.2	-0.3
PYZ				Sn	Sn	20 15 15.4	-2.1
PYZ	Puysegur Point	3.65	25	P	Pn	20 14 33.2	-1.3
PYZ				S	Sn	20 15 17.1	-0.4
WHZ	Wether Hill Ro	4.30	35		Pn	20 14 44.3	+0.8
WHZ				Sn	Sn	20 15 32.8	-1.0
WHZ	Wether Hill Ro	4.30	35	P	Pn	20 14 44.4	+0.8
WHZ				S	Sn	20 15 32.1	-1.7
SYZ	Scrubby Hill	4.32	49	P	Pn	20 14 45.3	+1.6
SYZ				S	Sn	20 15 31.9	-2.2
DCZ	Deep Cove	4.42	26		Pn	20 14 46.2	+1.1
DCZ	Deep Cove	4.42	26	P	Pn	20 14 47.2	+2.0
MLZ	Mavora Lakes	4.82	33		Pn	20 14 51.9	+1.3
MLZ	Mavora Lakes	4.82	33	P	Pn	20 14 52.7	+2.0
MLZ				S	Sn	20 15 46.8	+0.4
TUZ	Tuapeka	4.98	47	P	Pn	20 14 54.5	+1.8
TUZ				S	Sn	20 15 49.8	-0.5
MSZ	Milford Sound	5.37	28	P	Pn	20 15 02.0	+3.8
EAZ	Earnscleugh	5.39	40	P	Pn	20 14 59.4	+1.0
EAZ				S	Sn	20 15 59.9	-0.7
HHSZ	Highcliff Hill	5.50	52	P	Pn	20 15 02.9	+2.9
WKZ	Wanaka	5.61	36		Pn	20 15 03.3	+1.8
WKZ	Wanaka	5.61	36	P	Pn	20 15 00.7	-0.8
WKZ				S	Sn	20 16 06.5	+0.5
MCQ	Macquarie Isla	6.05	212		Pn	20 15 07.0	-0.5
ODZ	Otahua Downs	6.13	46	Pn	Pn	20 15 09.0	+0.3
ODZ	Otahua Downs	6.13	46	P	Pn	20 15 09.3	+0.6
ODZ				S	Sn	20 16 17.6	-1.1
JCZ	Jackson Bay	6.18	31	P	Pn	20 15 12.9	+3.5
LBZ	Lake Benmore	6.44	40	Pn	Pn	20 15 12.5	-0.4
LBZ	Lake Benmore	6.44	40	P	Pn	20 15 12.7	-0.2
FOZ	Fox Glacier	7.01	34	Pn	Pn	20 15 22.2	+1.5
FOZ	Fox Glacier	7.01	34	P	Pn	20 15 23.1	+2.4
RPZ	Rata Peaks	7.35	41	Pn	Pn	20 15 25.2	-0.2
	0.8nm,0.3s,baz=50,slow=22,SNR=1.6						
RPZ				Sn	Sn	20 16 45.9	-2.9
	2.3nm,0.3s,baz=209,slow=22,SNR=6.2						
RPZ				LR	LR	20 18 34.9	
	comp=Z,411nm,21.4s,baz=220,slow=40						
RPZ	Rata Peaks	7.35	41	Pn	Pn	20 15 25.4	0.0
GCSZ	Gaunt Creek Bo	7.39	36	P	Pn	20 15 29.9	+4.0
AKCZ	Akaroa Harbour	8.09	49	P	Pn	20 15 38.0	+2.5
OKCZ	Okains Bay	8.27	49	P	Pn	20 15 40.8	+2.8
LTZ	Lake Taylor	8.63	42	P	Pn	20 15 45.5	+2.5
THZ	Tophouse	9.73	41	Pn	Pn	20 15 59.5	+1.4
QRZ	Quartz Range	10.37	36	Pn	Pn	20 16 07.0	+0.3
CTZ	Chatham Island	14.23	73	P	Pn	20 17 01.5	+2.0
URZ	Urewera	14.45	44	LR	LR	20 23 15.9	
	comp=Z,255nm,20.5s,baz=216,slow=40						
TOO	Toolangi	18.11	304	P	P	20 17 51.6	+1.6
TOO				IAmb	IAmb	20 17 55.0	
	comp=Z,12nm,1.1s						
DZM	Mont Dzumac	27.40	4	LR	LR	20 28 21.6	
	comp=Z,127nm,18.5s,baz=218,slow=32						
VNDA	Vanda	28.16	181	LR	LR	20 28 05.2	
	comp=Z,83nm,19.1s,baz=314,slow=31						
ASAR	Alice Springs	35.14	306	P	P	20 20 31.4	-0.4
	comp=Z,0.9nm,1.0s,baz=136,slow=8.7,SNR=3.4						
ASAR	Alice Springs	35.14	306	P	P	20 20 31.5	-0.3
WR0	Warramunga Arr	37.89	310	P	P	20 20 54.9	-0.4
WR0				IAmb	IAmb	20 20 55.3	
	comp=Z,6.3nm,1.2s						
WRA	Warramunga Arr	38.01	310	P	P	20 20 55.9	-0.4
	comp=Z,2.1nm,0.9s,baz=141,slow=7.8,SNR=8.5						
WRA	Warramunga Arr	38.01	310	P	P	20 20 56.2	-0.1
HNR	Honiara	40.09	353	LR	LR	20 36 27.7	
	comp=Z,156nm,19.5s,baz=336,slow=34						
AFI	Afiamalu	40.48	37	LR	LR	20 38 16.2	
	comp=Z,48nm,19.1s,baz=125,slow=36						
QSPA	South Pole Qui	40.64	180	P	P	20 21 18.0	0.0
QSPA				IAmb	IAmb	20 21 20.0	
	comp=Z,5.7nm,1.4s						
PMG	Port Moresby	42.47	334	LR	LR	20 39 34.2	
	comp=Z,142nm,18.1s,baz=218,slow=37						
FITZ	Fitzroy Crossi	44.14	301	P	P	20 21 47.2	+0.4
FITZ				IAmb	IAmb	20 21 57.5	
	comp=Z,3.0nm,1.2s						
BATI	Baumata	51.70	305	LR	LR	20 43 59.6	
	comp=Z,97nm,19.3s,baz=183,slow=35						
KAPI	Kappang	58.14	304	LR	LR	20 48 48.1	
	comp=Z,72nm,18.9s,baz=176,slow=36						
CM31	Chiang Mai Arr	88.95	300	P	P	20 26 33.6	+0.8
CMAR	Chiang Mai Arr	88.95	300	P	P	20 26 31.0	-1.7
	comp=Z,0.6nm,0.8s,baz=169,slow=4.1,SNR=6.7						
CMAR	Chiang Mai Arr	88.95	300	P	P	20 26 33.2	+0.4
CPUP	Villa Florida	95.87	143	LR	LR	21 02 38.9	
	comp=Z,37nm,20.8s,baz=180,slow=31						
BRTR	Keskin Array B	144.21	273	PKP	PKPab	20 33 10.3	-1.2
	comp=Z,0.3nm,0.6s,baz=200,slow=36,SNR=2.9						
AKASG	Malin Array Be	151.56	290	PKPbc	PKPbc	20 33 30.6	-0.8
	comp=Z,0.6nm,0.5s,baz=80,slow=2.2,SNR=4.8						
ARCES	ARCESS Array B	151.94	331	PKPbc	PKiKP	20 33 32.6	+0.5
	comp=Z,2.5nm,0.9s,baz=64,slow=5.5,SNR=4.5						
FINES	FINESS Array B	154.02	313	PKPbc	PKPbc	20 33 36.6	+0.1
	comp=Z,1.7nm,0.9s,baz=154,slow=20,SNR=2.1						

*IDC **02** 20:20:27.3±2.1, 7°.35S×128°.52E, h151km±19km, mb3.6/8, mb1 3.7/10, mb1mx3.3/41, mbtmp4.1/10, Error ellipse: s-maj=21.6km s-min=17.1km az=97.0*

*NEIC **02** 20:20:27.8±1.7, 7°.39S±0°.09×128°.62E±0°.08, h159km±8km, mb4.0/21, Error ellipse: s-maj=13.1km s-min=11.5km az=196.0*

ISC 02 20:20:26.7±0.5**, 7°.41S**±0°.05×**128°.61E**±0°.05**, h151km, n65, σ1§43**/70**, mb3.9**/14**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.73	102	Pn	Pn	20 21 12.0	+1.2
SAUI				Sn	Sn	20 21 43.2	-1.5
SAUI	Saumlaki	2.73	102	P	Pn	20 21 12.7	+2.0
BATI	Baumata	5.62	240	P	Pn	20 21 49.3	+0.8
	54nm,0.3s,baz=131,slow=4.0,SNR=106						
BATI				S	Sn	20 22 51.8	-0.6
	38nm,0.3s,baz=23,slow=18,SNR=7.7						
MTN	Manton Dam	5.95	155	Pn	Pn	20 21 52.9	+0.2
MTN	Manton Dam	5.95	155	P	Pn	20 21 53.4	+0.6
MMRI	Maumere	6.43	259	Pn	Pn	20 21 59.5	+0.4
MMRI	Maumere	6.43	259	P	Pn	20 22 00.3	+1.1
KDU	Kakadu	6.48	144	P	Pn	20 22 00.3	+0.4
SIJI	Sorong	7.02	22	P	Pn	20 22 06.9	-0.2
	5.9nm,0.3s,baz=226,slow=23,SNR=64						
SIJI				S	Sn	20 23 22.9	-2.9
	1.4nm,0.3s,baz=82,slow=22,SNR=6.3						
KNRA	Kununurra	8.22	179	Pn	Pn	20 22 22.6	-0.5
KNRA	Kununurra	8.22	179	P	Pn	20 22 22.7	-0.4
PLAI	Plampang	10.82	262	P	Pn	20 22 57.3	-0.3
FITZ	Fitzroy Crossi	11.01	195	P	Pn	20 22 57.7	-2.4
	1.1nm,0.3s,baz=16,slow=10,SNR=29						
FITZ				S	Sn	20 24 53.0	-8.9
	1.7nm,0.3s,baz=280,slow=23,SNR=7.1						
FITZ	Fitzroy Crossi	11.01	195	Pn	Pn	20 22 57.5	-2.6
WB0	Warramunga Arr	13.51	156	Pn	Pn	20 23 30.6	-1.9
WRAB	Tennant Creek	13.64	156	P	Pn	20 23 35.0	+0.9
WRA	Warramunga Arr	13.64	157	P	Pn	20 23 32.5	-1.7
	0.4nm,0.3s,baz=336,slow=12,SNR=12						
WRA				S	Sn	20 25 58.4	-7.0
	1.1nm,0.3s,baz=325,slow=27,SNR=5.9						
WRA	Warramunga Arr	13.64	157		Pn	20 23 31.8	-2.4
JAGI	Jajag, Banyuwa	14.36	265	Pn	Pn	20 23 43.2	0.0
COEN	Coen	15.72	116		Pn	20 24 00.6	+0.5
COEN	Coen	15.72	116	P	P	20 24 02.2	+1.2
PSA00	Pilbara Seismi	16.43	210		Pn	20 24 09.2	+0.5
PSA00				IAmb	IAmb	20 24 11.0	
	comp=Z,17nm,1.4s						
PSA00	Pilbara Seismi	16.43	210		Pn	20 24 09.2	+0.5
PSA00				IAmb	IAmb	20 24 22.3	
	comp=Z,8.8nm,1.5s						
QIS	Mount Isa	16.86	142	P	Pn	20 24 15.3	+1.3
AS31	Alice Springs	16.95	163		Pn	20 24 16.0	+1.0
AS31				IAmb	IAmb	20 24 25.6	
	comp=Z,1.9nm,0.3s						
ASAR	Alice Springs	16.95	163	P	Pn	20 24 16.6	+1.5
	comp=Z,0.5nm,0.3s,baz=340,slow=10,SNR=62						
ASAR				S	S	20 27 21.8	-1.7
	comp=Z,0.3nm,0.3s,baz=350,slow=22,SNR=4.0						
ASAR	Alice Springs	16.95	163	P	Pn	20 24 16.0	+0.9
WRKA	Warakurna	17.53	181	P	Pn	20 24 23.4	+1.4
MTSU	Mount Surprise	18.64	126	P	Pn	20 24 35.3	+0.1
SBUM	Sibu	19.06	300	P	P	20 24 38.8	+1.1
KSM	Kuching	20.28	295	P	P	20 24 50.8	+0.1
KSM				IAmb	IAmb	20 24 57.2	
	comp=Z,6.7nm,0.7s						
OOD	Oodnadatta	21.36	163	P	P	20 25 03.2	+1.0
FORT	Forrest	23.26	181	P	P	20 25 22.5	+1.7
MULG	Mulgathing	23.32	168	P	P	20 25 23.1	+1.7
MORW	Morawa	24.59	207	P	P	20 25 34.5	+1.6
MORW	Morawa	24.59	207	P	P	20 25 35.4	+2.5
LCRK	Leigh Creek	24.63	160	P	P	20 25 34.9	+1.7
BBOO	Buckleboo	26.20	166	P	P	20 25 48.1	+0.6
BBOO	Buckleboo	26.20	166	P	P	20 25 49.0	+1.5
STKA	Stephens Creek	27.19	155	P	P	20 25 57.8	+1.5
	comp=Z,1.0nm,0.5s,baz=328,slow=17,SNR=3.6						
STKA	Stephens Creek	27.19	155	P	P	20 25 57.0	+0.7
CMAR	Chiang Mai Arr	38.95	312	P	P	20 27 38.3	0.0
	comp=Z,0.6nm,0.6s,baz=136,slow=6.8,SNR=7.6						
SONM	Songino Array	58.40	343	P	P	20 30 07.1	+0.6
	comp=Z,0.8nm,0.6s,baz=165,slow=6.8,SNR=11						
SONM	Songino Array	58.40	343	P	P	20 30 07.6	+1.1
SONM				IAmb	IAmb	20 30 08.5	
	comp=Z,2.0nm,1.0s						
PEA0B	Petropavlovsk-	65.15	19	P	P	20 30 51.2	-0.2
PETK	Petropavlovsk-	65.15	19	P	P	20 30 51.1	-0.2
MK31	Makanchi Array	67.82	328	P	P	20 31 08.2	-0.3
MK31				IAmb	IAmb	20 31 09.5	
	comp=Z,1.8nm,1.0s						
MKAR	Makanchi Array	67.82	328	P	P	20 31 08.7	+0.1
	comp=Z,1.1nm,0.4s,baz=116,slow=8.2,SNR=35						
MAKZ	Makanchi	68.00	327	P	P	20 31 09.7	+0.1
MAKZ				IAmb	IAmb	20 31 10.5	
	comp=Z,1.8nm,1.0s						
BOOM	Boomskoye usch	68.98	321	P	P	20 31 16.4	+0.3
AAK	Ala-Archa	69.97	320	P	P	20 31 22.8	+0.7
	comp=Z,0.5nm,0.4s,baz=95,slow=7.4,SNR=4.2						
AAK	Ala-Archa	69.97	320	P	P	20 31 22.5	+0.5
ZAA0	Zalesovo Array	71.34	334	P	P	20 31 29.0	-0.9
ZAA0				IAmb	IAmb	20 31 29.5	
	comp=Z,1.8nm,0.6s						
ZALV	Zalesovo Beam	71.34	334	P	P	20 31 29.2	-0.7
	comp=Z,1.6nm,0.5s,baz=132,slow=6.0,SNR=10						
ZALV	Zalesovo Beam	71.34	334	P	P	20 31 29.1	-0.9
KURBB	Kurchatov Arra	72.14	329	P	P	20 31 34.7	-0.1
	comp=Z,2.4nm,0.6s,baz=128,slow=5.0,SNR=52						
KURK	Kurchatov	72.15	329	P	P	20 31 34.7	-0.1
KURK				IAmb	IAmb	20 31 36.3	
	comp=Z,2.0nm,0.8s						
KKAR	Karatay Array	72.74	319	P	P	20 31 38.3	-0.3
BVAR	Borovoye Array	77.68	328	P	P	20 32 06.3	-0.2
	comp=Z,0.7nm,0.4s,baz=127,slow=40,SNR=6.1						
BRVK	Borovoye	77.75	328	P	P	20 32 06.3	-0.6
BRVK				IAmb	IAmb	20 32 07.5	
	comp=Z,2.6nm,1.1s						
TIXI	Tiksi	78.89	0	P	P	20 32 12.3	-0.4
TIXI				IAmb	IAmb	20 32 12.6	
	comp=Z,4.2nm,1.4s						
ABKAR	Akbulak array	81.97	322	P	P	20 32 29.3	-0.4
ABKAR	Akbulak array	81.97	322	P	P	20 32 29.1	-0.7
QSPA	South Pole Qui	82.57	180	P	P	20 32 32.7	0.0
TORD	Torodi Ar. Bea	127.53	281	PKP	PKPdf	20 39 14.7	-0.2
	comp=Z,0.4nm,0.5s,baz=54,slow=2.6,SNR=7.3						

*NEIC **02** 20:29:21.4±2.9, 34°.53N±0°.07×58°.3W±0°.1, h10km±2km, mb4.2/13, Error ellipse: s-maj=18.0km s-min=10.7km az=107.0*

*OTT **02** 20:29:40.6±0.5, 35°.52N×58°.84W, h18km, ML4.3/10, Atlantic Ocean 1071km southeast from Liverpool, Ns*

ISC 02 20:29:20.0±1.1**, 34°.3N**±0°.1×**58°.37W**±0°.09**, h10km, n59, σ1§49**/57**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBSR	BB Station	5.63	252	Pn	Pn	20 30 47.9	+4.1
BBSR				Sn	Sn	20 31 44.5	-4.0
HAL	Halifax	11.09	340	Pn	Pn	20 31 57.8	-0.7
HAL	Halifax	11.09	340	PN	Pn	20 31 59.9	+1.3
HAL				SN	Sn	20 33 42.6	-20
HAL				Trac		20 33 53.1	
	comp=Z,3.1nm,0.1s						
GBN	Guysborough	11.36	349	Pn	Pn	20 32 00.7	-1.6
GBN	Guysborough	11.36	349	PN	Pn	20 32 03.4	+1.1
GBN				SN	Sn	20 33 48.8	-20
GBN				Trac		20 34 05.8	
	comp=Z,8.7nm,0.3s						
M65A	Busby, Falmout	12.10	310	Pn	Pn	20 32 11.2	-1.2
L64A	Middleborough	12.43	312	Pn	Pn	20 32 16.5	-0.3
LMN	Caledonia Moun	12.55	339		Pn	20 32 18.5	0.0
LMN	Caledonia Moun	12.55	339	PN	Pn	20 32 19.3	+0.7
LMN				Trac		20 34 24.4	
	comp=Z,6.3nm,0.2s						
WCNB	Wards Creek	12.59	336	Pn	Pn	20 32 19.6	+0.5
WCNB	Wards Creek	12.59	336	PN	Pn	20 32 19.6	+0.5
WCNB				SN	Sn	20 34 18.7	-21
WCNB				Trac		20 34 26.6	
	comp=Z,5.2nm,0.2s						
GGN	Saint George	12.62	331	Pn	Pn	20 32 19.0	-0.4
GGN	Saint George	12.62	331	PN	Pn	20 32 21.6	+2.1
GGN				SN	Sn	20 34 18.2	-22
GGN				Trac		20 34 21.3	
	comp=Z,62nm,0.9s						
CHEG	Cheticamp, Nov	12.62	353	Pn	Pn	20 32 20.9	+1.4
CHEG	Cheticamp, Nov	12.62	353	PN	Pn	20 32 20.9	+1.4
CHEG				SN	Sn	20 34 18.9	-21
CHEG				Trac		20 34 24.4	
	comp=Z,69nm,0.9s						
ELNB	Elgin, New Bru	12.65	338	Pn	Pn	20 32 21.2	+1.3
ELNB	Elgin, New Bru	12.65	338	PN	Pn	20 32 21.2	+1.3
ELNB				SN	Sn	20 34 20.0	-21
ELNB				Trac		20 34 23.7	
	comp=Z,2.9nm,0.2s						
SRNB	Snider Mountai	12.79	336	Pn	Pn	20 32 22.9	+1.1
SRNB	Snider Mountai	12.79	336	PN	Pn	20 32 22.9	+1.1
SRNB				Trac		20 34 26.0	
	comp=Z,0.8nm,0.0s						
HKNB	Havelock Quarr	12.84	337	SN	Sn	20 34 24.4	-21
HKNB				Trac		20 34 31.8	
	comp=Z,6.0nm,0.1s						
M63A	Gales Ferry	12.92	307		Pn	20 32 22.0	-1.7
G65A	Princeton	12.98	330		Pn	20 32 22.8	-1.6
HRV	Adam Dziewonsk	13.19	312		Pn	20 32 26.3	-1.0
UCCT	U. Connecticut	13.23	309	Pn	Pn	20 32 26.4	-1.5
I63A	Otisfield	13.58	319		Pn	20 32 30.8	-1.8
K62A	Royalston	13.69	312		Pn	20 32 34.0	-0.2
PKME	Peaks-Kenny Pk	13.79	326		Pn	20 32 35.4	-0.1
PKME	Peaks-Kenny Pk	13.79	326	PN	Pn	20 32 36.3	+0.8
PKME				SN	Sn	20 34 44.9	-24
PKME				Trac		20 34 54.8	
	comp=Z,26nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
F64A	Sherman	13.84	330	Pn	Pn	20 32 35.1	-1.0
L61B	Northampton	13.86	310		Pn	20 32 36.0	-0.5
I62A	Tamworth	13.88	317	Pn	Pn	20 32 36.8	+0.1
SJNN	Saint John's	13.96	16	Sn	Sn	20 34 56.0	-17
SJNN	Saint John's	13.96	16	SN	Sn	20 34 56.0	-17
PAL	Palisades	14.01	303		Pn	20 32 36.8	-1.7
KSCT	Kent School, K	14.03	306	Pn	Pn	20 32 36.3	-2.5
BATG	Bathurst New B	14.21	338	Pn	Pn	20 32 40.0	-1.2
BATG	Bathurst New B	14.21	338	PN	Pn	20 32 41.2	0.0
BATG				SN	Sn	20 34 56.5	-22
BATG				Trac		20 35 02.9	
	comp=Z,2.9nm,0.1s						
H62A	Milan	14.23	320	Pn	Pn	20 32 41.3	-0.2
J61A	Chester	14.27	313	Pn	Pn	20 32 42.2	+0.2
TRNY	Table Rock, Ra	14.28	303		Pn	20 32 40.2	-2.1
G62A	West of Eustis	14.36	323		Pn	20 32 43.5	+0.2
LBNH	Lisbon	14.44	317	Pn	Pn	20 32 44.3	-0.1
LBNH	Lisbon	14.44	317	PN	Pn	20 32 46.3	+2.0
LBNH				SN	Sn	20 35 04.7	-20
LUPA	Lehigh Univers	14.89	300	Pn	Pn	20 32 49.8	-0.7
DRLN	Deer Lake	14.96	2		Pn	20 32 50.9	-0.5
DRLN	Deer Lake	14.96	2	PN	Pn	20 32 52.6	+1.1
DRLN				SN	Sn	20 35 16.1	-21
DRLN				Trac		20 35 28.2	
	comp=Z,252nm,2.1s						
L59A	Walton	15.28	306		Pn	20 32 54.2	-1.5
N59A	State Game Lan	15.29	301		Pn	20 32 54.4	-1.4
N59A				IAmb	IAmb	20 33 11.4	
	comp=Z,16nm,1.5s						
KSPA	Keystone Colle	15.52	303	Pn	Pn	20 32 55.5	-3.3
KSPA				IAmb	IAmb	20 32 57.3	
	comp=Z,16nm,1.3s						
N58A	Sunbury	15.94	300		Pn	20 33 02.3	-1.9
N58A				IAmb	IAmb	20 33 15.1	
	comp=Z,24nm,1.4s						
J58A	Remsen	15.97	310	Pn	Pn	20 33 04.3	-0.4
K57A	Scipio Center	16.49	306	Pn	Pn	20 33 11.2	-0.2
S57A	Dark Hollow, R	17.01	288	Pn	Pn	20 33 18.6	+0.7
S57A				IAmb	IAmb	20 33 19.0	
	comp=Z,40nm,1.5s						
V58A	Windy Hill, Pi	17.06	281	Pn	Pn	20 33 19.3	+0.7
V58A				IAmb	IAmb	20 33 28.1	
	comp=Z,19nm,1.2s						
Q56A	Snyder Ridge,	17.35	292	P	P	20 33 24.0	+0.3
Q56A				IAmb	IAmb	20 33 26.0	
	comp=Z,27nm,1.4s						
M54A	Oil Creek Stat	18.26	299		Pn	20 33 32.3	-1.1
M54A				IAmb	IAmb	20 33 37.4	
	comp=Z,19nm,1.2s						
SENIN	Lac Senin/Sane	50.15	55	P	P	20 38 12.9	-2.8
TOA0	Torodi Ar. Sit	58.04	96	P	P	20 39 14.1	+0.6
TORD	Torodi Ar. Bea	58.04	96	P	P	20 39 13.6	+0.1

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*NAO **02** 20:38:57.2±1.8, 67°.34N×33°.30E, ML2.8*
*KOLA **02** 20:38:58.9, 67°.64N×33°.77E, h0km, ML2.2*
*HEL **02** 20:38:58.7±0.1, 67°.64N×33°.68E, h0km, ML1.9, Explosion*
ISC 02 20:38:58.1±0.8**, 67°.65N**±0°.03×**33°.75E**±0°.03**, h0km, n28, σ1s.46**/50**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APA	Apatity	0.15	239	P	Pg	20 39 01.7	+0.7
APA				S	Sg	20 39 04.2	+1.2
APZ9	Apatity	0.15	239	Pg	Pg	20 39 01.9	+0.9
APZ9				Lg	Lg	20 39 04.2	
APZ9				Lg	Lg	20 39 05.0	
APZ9	Apatity	0.15	239	Pg	Pg	20 39 01.9	+0.9
APZ9				Sg	Sg	20 39 04.2	+1.2
APZ9				Sg	Sg	20 39 05.0	+2.1
APA0	Apatity Array	0.29	262	Pg	Pg	20 39 04.0	+0.4
APA0				Lg	Lg	20 39 08.4	
APA0	Apatity Array	0.29	262	Pg	Pg	20 39 04.0	+0.4
APA0	Apatity Array	0.29	262	P	Pg	20 39 04.0	+0.4
APA0				S	Sg	20 39 08.2	+0.8
LVZ	Lovozero	0.42	53	P	Pg	20 39 06.4	+0.2
LVZ				S	Sg	20 39 12.5	+0.8
LVZ	Lovozero	0.42	53	eP	Pg	20 39 06.7	+0.4
LVZ				eS	Sg	20 39 12.4	+0.8
VRF	Varrio	1.58	276	eP	Pn	20 39 26.9	-0.5
VRF				eS	Sn	20 39 46.8	-1.8
VRF				MSG		20 39 50.5	
	comp=Z,14nm,0.2s						
TERR	Teriberka	1.64	17	P	Pn	20 39 27.9	-0.3
TERR				S	Sn	20 39 49.2	-0.7
OLKF	Oulanka, Finla	2.17	234	ePG	Pn	20 39 37.0	+1.6
PRVG	Vayda Guba	2.19	346	P	Pn	20 39 36.5	+0.9
PRVG				S	Sn	20 40 04.0	+0.7
KU6	Riekki	2.23	225	ePB	Pn	20 39 37.4	+1.2
KU6				eSG	Sb	20 40 07.0	-0.3
KU6				MSG		20 40 12.5	
	comp=Z,3.8nm,0.2s						
MSF	Maaselka	2.55	229	ePB	Pn	20 39 43.2	+2.5
MSF				eSG	Sb	20 40 15.7	-0.9
SGF	Sodankyl	2.78	269	eP	Pn	20 39 44.1	+0.3
SGF				eSG	Sb	20 40 22.7	-0.4
RNF	Rovaniemi	3.20	255	eP	Pn	20 39 50.2	+0.7
KEV	Kevo	3.25	314	Pn	Pn	20 39 51.2	+1.0
KEV				Sn	Sn	20 40 29.5	+0.1
KEV				Lg	Lg	20 40 39.7	
KEV	Kevo	3.25	314	Pn	Pn	20 39 51.2	+1.0
KEV				Sg	Sg	20 40 39.7	-2.5
KEV	Kevo	3.25	314	eP	Pn	20 39 51.2	+1.0
ARA0	ARCESS Array S	3.57	306	Pn	Pn	20 39 54.9	+0.3
	baz=122,slow=16						
ARA0				Sn	Sn	20 40 34.9	-2.5
	baz=124,slow=22						
ARA0				Lg	Lg	20 40 47.3	
	baz=109,slow=37						
ARA0	ARCESS Array S	3.57	306	Pn	Pn	20 39 54.9	+0.3
	baz=122,slow=16						
ARA0				Sn	Sn	20 40 34.9	-2.5
	baz=124,slow=22						
ARA0				Sg	Sb	20 40 47.3	+1.5
	baz=109,slow=37						
ARA0				IAML		20 40 52.9	
	comp=Z,12nm,0.5s						
ARA0	ARCESS Array S	3.57	306	eP	Pn	20 39 55.0	+0.3
ARA0				eS	Sn	20 40 35.9	-1.5
ARCES	ARCESS Array B	3.57	306	P	Pn	20 39 54.7	+0.1
ARCES				S	Sn	20 40 36.2	-1.2
RMF	Romuvaara	3.78	206	eP	Pn	20 39 57.7	+0.1
RMF				eS	Sn	20 40 41.5	-1.2
RMF				eSG	Sb	20 40 54.0	+2.1
OUL	Oulu	4.08	235	ePB	Pb	20 40 07.0	-3.6
KTK1	Kautokeino	4.13	294	eP	Pn	20 40 02.7	+0.3
KTK1				ePg	Pb	20 40 13.1	+1.5
KTK1				eSg	Sb	20 41 04.5	+2.6
KTK1				IAML		20 41 12.8	
	comp=Z,11nm,0.5s						
LANU	Lannavaara	4.47	281	eSG	Sb	20 41 14.7	+2.9
SPA0	Spitsbergen Ar	11.66	342	Pn	Pn	20 41 42.1	-3.3
	baz=143,slow=14						

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*IDC **02** 20:44:40.2±1.0, 27°.63N×66°.35E, h0km, mb3.6/12, mb1 3.7/14, mb1mx3.6/52, mbtmp3.6/14, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/88, Error ellipse: s-maj=22.6km s-min=19.8km az=129.0*
ISC 02 20:44:45.1±1.0**, 27°.6N**±0°.1×**66°.3E**±0°.1**, h35km, n14, σ1s.30**/14**, mb3.6**/12**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	8.18	239	Pn	Pn	20 46 39.7	-1.7
	0.7nm,0.3s,baz=4.3,slow=2.8,SNR=9.3						
WSAR				Sn	Sn	20 48 03.3	-9.4
	0.6nm,0.3s,baz=301,slow=22,SNR=1.4						
WSAR				LR	LR	20 50 50.0	
	comp=Z,77nm,18.0s,baz=92,slow=45						
AAK	Ala-Archa	16.39	22	Pn	Pn	20 48 30.5	-2.0
	0.2nm,0.3s,baz=207,slow=7.8,SNR=5.9						
MKAR	Makanchi Array	22.90	29	P	P	20 49 43.8	-2.0
	0.4nm,0.5s,baz=212,slow=10,SNR=10.0						
AKTO	Aktyubinsk	23.62	347	P	P	20 49 52.0	-0.8
	1.1nm,0.5s,baz=173,slow=11,SNR=3.5						
KURBB	Kurchatov Arra	24.78	19	P	P	20 50 03.0	-0.4
	0.9nm,0.5s,baz=212,slow=8.8,SNR=12						
BVAR	Borovoye Array	25.54	6	P	P	20 50 10.7	+0.4
	0.3nm,0.5s,baz=58,slow=20,SNR=4.7						
ZALV	Zalesovo Beam	29.61	22	P	P	20 50 48.3	+1.6
	0.4nm,0.4s,baz=238,slow=8.2,SNR=2.3						
SONM	Songino Array	37.05	46	P	P	20 51 52.1	+0.3
	0.1nm,0.4s,baz=155,slow=40,SNR=3.3						
FINES	FINESS Array B	43.09	333	P	P	20 52 42.8	+1.3
	1.1nm,0.8s,baz=141,slow=7.3,SNR=6.0						
ARCES	ARCESS Array B	48.07	342	P	P	20 53 21.4	+0.6
	1.8nm,0.9s,baz=145,slow=8.9,SNR=7.7						
ESDC	Sonseca Array	58.34	301	P	P	20 54 37.9	+1.1
	0.4nm,1.0s,baz=111,slow=17,SNR=3.6						
TORD	Torodi Ar. Bea	61.63	270	P	P	20 55 00.5	+0.8
	0.7nm,0.8s,baz=62,slow=4.8,SNR=6.0						
WRA	Warramunga Arr	81.06	118	P	P	20 56 56.9	0.0
	0.7nm,0.9s,baz=320,slow=4.4,SNR=3.8						
ASAR	Alice Springs	82.79	121	P	P	20 57 06.7	+0.8
	0.5nm,0.6s,baz=311,slow=5.4,SNR=10						

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*SEA **02** 20:47:57.0±1.5, 47°.454N±0°.009×121°.60W±0°.02, h15km±2km, ML2.2/71, ML2.1/28(NEIC), Error ellipse: s-maj=2.0km s-min=1.0km az=121.0*
NEIC 02 20:47:56.5±1.9**, 47°.46N**±0°.01×**121°.62W**±0°.03**, h23km**±3km**, Error ellipse: s-maj=3.0km s-min=1.0km az=114.0, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CDMR	Cedar Moraine	0.10	248		Pb	20 48 00.2	-0.6
CDMR					Sb	20 48 02.9	-1.0
RATT	Rattlesnake La	0.13	254		Pb	20 48 00.5	-0.6
RATT					Sb	20 48 03.3	-1.0
ELW	Echo Lake	0.18	281		Pb	20 48 01.1	-0.4
C05A	Tolt Reservoir	0.24	348		Pb	20 48 02.0	-0.4
C05A					Sb	20 48 05.8	-0.7
TTW	Tolt Reservoir	0.24	348		Pb	20 48 02.0	-0.5
TTW					Sb	20 48 05.8	-0.7
RAW	Raver	0.25	240		Pb	20 48 02.3	-0.2
RAW					Sb	20 48 06.7	+0.1
GSM	Grass Mountain	0.29	205		Pb	20 48 02.6	-0.6
GSM					Sb	20 48 07.1	-0.7
HTW	Haystack Looko	0.36	343		Pb	20 48 03.8	-0.5
D05A	Enumclaw	0.37	223		Pb	20 48 04.3	-0.2
D05A					Sb	20 48 10.2	+0.3
D05A	Enumclaw	0.37	223	IAML		20 48 11.6	
	comp=E,137nm,0.2s						
D05A				IAML		20 48 11.8	
	comp=N,96nm,0.4s						
EARN	East Ridge Ele	0.40	314		Pb	20 48 05.2	+0.3
EARN					Sb	20 48 12.0	+1.3
SP2	Seward Park 2	0.44	283		Pb	20 48 06.0	+0.4
MBPA	Monroe Substat	0.47	337		Pb	20 48 06.2	+0.1
FMW	Mount Fremont	0.53	184		Pb	20 48 06.3	-0.9
FMW					Sb	20 48 13.7	-0.9
RVC	Mount Rainier-	0.57	205		Pb	20 48 07.2	-0.7
RVC					Sb	20 48 15.0	-0.6
OBSR	Observation Ro	0.58	194		Pb	20 48 07.4	-0.7
OBSR					Sb	20 48 15.7	-0.3
RCS	Mount Rainier-	0.60	188		Pb	20 48 07.7	-0.8
B941	Kapowsin	0.63	221		Pb	20 48 07.7	-1.0
B941					Sb	20 48 16.3	-0.8
RCM	Mount Rainier-	0.63	187		Pb	20 48 08.2	-0.8
WRW	Wenatchee Ridg	0.63	51		Pb	20 48 09.0	0.0
REMR	Mount Rainier-	0.66	194		Pb	20 48 08.6	-0.9
REMR					Sb	20 48 17.5	-0.8
C06D	Leavenworth	0.67	46		Pb	20 48 09.7	+0.2
LTY	Liberty	0.67	107		Pb	20 48 09.4	-0.1
LTY					Sb	20 48 18.7	+0.2
LON	Longmire	0.72	191		Pb	20 48 09.6	-0.9
GPW	Glacier Peak	0.73	26		Pb	20 48 10.4	-0.2
TBM	Table Mountain	0.75	113		Pn	20 48 11.6	-0.1
GMW	Gold Mountain	0.80	277		Pb	20 48 11.3	-0.4
GNW	Green Mountain	0.83	278		Pb	20 48 11.6	-0.6
B05A	Bryant	0.86	338		Pb	20 48 12.4	-0.4
EBG	Ellensburg	0.90	127		Pn	20 48 14.4	+0.5
NAC	Naches	0.91	143		Pb	20 48 13.7	+0.2
C04A	Brinnon	0.95	286		Pb	20 48 13.7	-0.5
RPW	Rockport	0.99	4		Pb	20 48 14.3	-0.7
D03D	Eldon	1.00	275		Pb	20 48 14.2	-0.9
CMW	Cultus Mountai	1.02	341		Pn	20 48 15.4	-0.1
NLW	Nelson Butte	1.06	54		Pb	20 48 16.5	+0.3
B06A	Marblemount	1.06	5		Pn	20 48 15.4	-0.5
B06A	Marblemount	1.06	5	Sg	Sb	20 48 29.3	-0.3
E04D	Cinebar	1.12	216		Pn	20 48 16.3	-0.4
E04D	Cinebar	1.12	216	Sg	Sn	20 48 31.3	0.0
E04D				IAML		20 48 32.5	
	comp=E,46nm,0.2s						
E04D				IAML		20 48 33.0	
	comp=N,40nm,0.1s						
CBSW	Chelan Butte S	1.12	72		Pb	20 48 18.0	+0.8
WTV	Waterville	1.15	78		Pb	20 48 18.7	+1.0
TDL	Tradedollar La	1.19	201		Pn	20 48 17.6	-0.2
JRO	Jston Ridge Ob	1.26	199		Pn	20 48 18.7	-0.1
ERK	Elk Rock	1.26	204		Pn	20 48 18.4	-0.3
MXC	Moxie City	1.27	134		Pb	20 48 20.6	+1.0
SOSW	Source of Smit	1.27	197		Pn	20 48 19.1	+0.2
STD	Studebaker Rid	1.29	199		Pb	20 48 19.9	-0.3
SEPW	September Lobe	1.32	198		Pn	20 48 20.1	+0.4
MBW	Mount Baker	1.34	352		Pb	20 48 20.6	-0.3
BVW	Beverly	1.35	118		Pb	20 48 21.7	+0.6
FL2	Flat Top 2	1.36	202		Pn	20 48 20.2	0.0
EPH	Ephrata	1.38	94		Pb	20 48 21.1	-0.4
SHUK	Shuksan-Mt. Ba	1.39	358		Pb	20 48 21.3	-0.6
B04A	Port Angeles	1.41	296		Pn	20 48 20.6	-0.1
B04A	Port Angeles	1.41	296	IAML		20 48 29.1	
	comp=N,20nm,3.9s						
B04A				IAML		20 48 44.7	
	comp=E,18nm,2.4s						
BMW	Boistfort Moun	1.48	229		Pn	20 48 22.2	+0.4
E07A	Sunnyside	1.51	126		Pb	20 48 23.3	-0.4
RVW	Rose Valley	1.52	211		Pn	20 48 23.0	+0.7
NLWA	Neilton Lookou	1.53	268		Pn	20 48 23.3	+0.8
WAH2	Wahluke Slope	1.57	116		Pn	20 48 21.8	-1.1
VDB	Vedder Mountai	1.60	348		Pb	20 48 24.7	-0.6
BENWA	Benson Ranch	1.61	125		Pb	20 48 25.7	+0.3
SNIWA	Snively Ranch	1.67	126		Pb	20 48 26.8	+0.3
B011	North Saanich	1.71	315		Pn	20 48 25.4	+0.6
PGC	Sidney	1.71	315		Pn	20 48 25.3	+0.4
PGC				IAML		20 48 47.5	
	comp=N,20nm,1.7s						
PGC				IAML		20 48 49.1	
	comp=E,19nm,0.4s						
RSW	Rattlesnake Hi	1.75	127		Pb	20 48 27.8	-0.1
B08A	Colville Reser	1.78	59	Pn	Pn	20 48 26.6	+0.7
B08A				IAML		20 48 52.9	
	comp=N,14nm,0.5s						
HAWA	Hanford	1.78	126	Pn	Pn	20 48 26.9	+1.0
HAWA				IAML		20 48 52.6	
	comp=N,23nm,0.4s						
H2OWA	Water	1.84	125		Pb	20 48 29.4	-0.1
C09A	Chrisman Ranch	2.29	80	Pn	Pn	20 48 34.2	+1.4
G08A	Pilot Rock	2.85	139	Pn	Pn	20 48 40.6	0.0
G08A				IAML		20 49 24.0	
	comp=N,7.0nm,2.1s						
G08A				IAML		20 49 24.5	
	comp=E,7.6nm,0.2s						
NEW	Newport	3.13	73	Pn	Pn	20 48 44.9	+0.5
NEW				IAML		20 49 37.7	
	comp=E,9.0nm,4.8s						
NEW				IAML		20 50 04.1	
	comp=E,9.0nm,4.8s						
GDR	Gold River	3.74	310		Pn	20 48 53.7	+1.0

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*NEIC **02** 20:53:28.8±1.9, 3°.63S±0°.08×144°.88E±0°.08, h10km±1km, mb4.0/8, Error ellipse: s-maj=13.8km s-min=11.9km az=132.0*
*IDC **02** 20:53:30.0±2.0, 3°.83S×144°.64E, h0km, mb3.8/4, mb1 4.1/7, mb1mx3.7/30, mbtmp3.9/7, ML3.3/3, MS3.3/5, Ms1 3.3/5, ms1mx2.8/61, Error ellipse: s-maj=41.3km s-min=21.5km az=71.0*
ISC 02 20:53:29.2±0.8**, 3°.64S**±0°.08×**144°.85E**±0°.08**, h10km, n24, σ1s.52**/22**, mb3.9**/5**, MS3.2**/3**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	Manus Island	2.97	58	Pn	Pn	20 54 15.5	-0.9
JAY	Jayapura	4.29	285	Pn	Pn	20 54 34.7	+0.1
	1.6nm,0.3s,baz=246,slow=21,SNR=7.0						
JAY				LR	LR	20 55 59.5	
	comp=Z,301nm,19.4s,baz=352,slow=36						
PMG	Port Moresby	6.17	158	Pn	Pn	20 55 01.3	+0.8
	7.3nm,0.3s,baz=312,slow=10,SNR=13						
PMG				Sn	Sn	20 56 13.8	+2.6
	1.4nm,0.3s,baz=62,slow=22,SNR=8.0						
PMG				LR	LR	20 57 54.8	
	comp=Z,338nm,19.6s,baz=350,slow=44						
PMG	Port Moresby	6.17	158		Pn	20 55 01.1	+0.5
COEN	Coen	10.39	189	Pn	Pn	20 55 57.7	-0.8
WB0	Warramunga Arr	19.01	212	P	P	20 57 50.1	-1.2
WB0				IAmb	IAmb	20 57 57.3	
	comp=Z,8.6nm,1.3s						
WR0	Warramunga Arr	19.09	211		P	20 57 52.0	-0.2
WR0				IAmb	IAmb	20 57 54.4	
	comp=Z,5.9nm,1.1s						
WRA	Warramunga Arr	19.18	212	P	P	20 57 51.8	-1.5
	comp=Z,0.4nm,0.3s,baz=33,slow=11,SNR=21						
WRA	Warramunga Arr	19.18	212	P	P	20 57 51.8	-1.5
KNRA	Kununurra	19.85	232	P	P	20 57 58.6	-1.9
KNRA				IAmb	IAmb	20 58 14.4	
	comp=Z,6.4nm,0.7s						
AS31	Alice Springs	22.55	207	P	P	20 58 28.1	-1.6
ASAR	Alice Springs	22.55	207	P	P	20 58 29.6	-0.1
	comp=Z,1.7nm,0.8s,baz=28,slow=12,SNR=24						
ASAR	Alice Springs	22.55	207	P	P	20 58 28.6	-1.1
FITZ	Fitzroy Crossi	23.68	231	P	P	20 58 40.0	-1.3
	comp=Z,3.8nm,0.4s,baz=44,slow=9.6,SNR=59						
FITZ	Fitzroy Crossi	23.68	231	P	P	20 58 38.8	-2.4
TOLI2	Tolitoli	24.52	281	P	P	20 58 48.6	-0.6
TOLI2				IAmb	IAmb	20 58 54.9	
	comp=Z,6.3nm,0.8s						
JOW	Kunigami	34.27	333	LR	LR	21 11 00.5	
	comp=Z,46nm,20.2s,baz=107,slow=31						
JMN	Monobe	38.58	345	P	P	21 00 52.4	-0.1
KSRS	Korea Array	43.81	340	LR	LR	21 16 43.0	
	comp=Z,29nm,21.8s,baz=155,slow=32						
CMAR	Chiang Mai Arr	50.26	298	P	P	21 02 29.1	+2.9
	comp=Z,0.5nm,0.3s,baz=118,slow=7.1,SNR=4.4						
SONM	Songino Array	61.31	331	LR	LR	21 28 14.8	
	comp=Z,26nm,21.8s,baz=145,slow=34						
MKAR	Makanchi Array	74.33	321	P	P	21 05 08.7	+1.5
	comp=Z,0.4nm,0.7s,baz=120,slow=5.8,SNR=4.9						
MKAR	Makanchi Array	74.33	321	P	P	21 05 06.8	-0.3
QSPA	South Pole Qui	86.32	180	P	P	21 06 09.6	-1.8

IDC 02 21:03:13.8±23.0**, 28°.91S**×**73°.07E, h0km, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.2**/57**, mbtmp3.6**/3**, MS3.5**/15**, Ms1 3.5**/15**, ms1mx3.3**/65**, Error ellipse: s-maj=771.3km s-min=45.0km az=46.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	21.16	358	T	T	21 29 12.7	
	baz=176,slow=76,SNR=2.6						
H08S2	Diego Garcia H	21.16	358	T	T	21 29 03.6	
	baz=176,slow=76,SNR=3.9						
H08S3	Diego Garcia H	21.18	358	T	T	21 29 13.4	
	baz=176,slow=76,SNR=3.1						
PALK	Pallekele	36.72	13	LR	LR	21 20 59.4	
	comp=Z,77nm,21.1s,baz=274,slow=29						
MAW	Mawson	39.21	186	LR	LR	21 24 45.1	
	comp=Z,140nm,19.0s,baz=101,slow=33						
LEM	Lembang	39.30	63	LR	LR	21 23 31.2	
	comp=Z,93nm,19.3s,baz=186,slow=31						
PSI	Prapat	40.12	43	LR	LR	21 24 10.0	
	comp=Z,93nm,18.7s,baz=206,slow=31						
BOSA	Boshof	41.68	258	LR	LR	21 25 12.0	
	comp=Z,82nm,18.9s,baz=137,slow=32						
LBTB	Lobatse	42.27	264	LR	LR	21 25 18.4	
	comp=Z,41nm,19.2s,baz=120,slow=31						
LSZ	Lusaka	43.49	278	LR	LR	21 26 29.8	
	comp=Z,81nm,18.1s,baz=152,slow=32						
SUR	Sutherland	44.73	252	LR	LR	21 28 13.8	
	comp=Z,110nm,18.4s,baz=115,slow=34						
KAPI	Kappang	50.14	71	LR	LR	21 33 20.1	
	comp=Z,20nm,18.3s,baz=174,slow=36						
TSUM	Tsumeb	51.19	268	LR	LR	21 31 09.1	
	comp=Z,62nm,21.9s,baz=122,slow=33						
CMAR	Chiang Mai Arr	53.31	31	LR	LR	21 32 11.6	
	comp=Z,35nm,18.9s,baz=160,slow=33						
ASAR	Alice Springs	54.29	100	P	P	21 12 42.8	+0.7
	0.3nm,0.6s,baz=245,slow=6.5,SNR=6.2						
WRA	Warramunga Arr	55.98	96	P	P	21 12 53.7	-0.7
	0.3nm,0.3s,baz=253,slow=8.2,SNR=22						
DAV	Davao City (W)	61.91	63	LR	LR	21 37 01.7	
	comp=Z,27nm,21.2s,baz=120,slow=33						
MKAR	Makanchi Array	75.81	7	P	P	21 15 01.5	+0.1
	0.2nm,0.3s,baz=190,slow=5.6,SNR=3.4						
JOW	Kunigami	76.64	49	LR	LR	21 44 43.1	
	comp=Z,28nm,18.4s,baz=297,slow=32						
SONM	Songino Array	82.06	22	LR	LR	21 51 48.1	
	comp=Z,16nm,18.3s,baz=123,slow=36						
KSRS	Korea Array	83.66	41	LR	LR	21 50 35.3	
	comp=Z,21nm,20.2s,baz=215,slow=34						

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*IDC **02** 21:19:11.2±1.1, 2°.87S×129°.65E, h0km, mb3.8/4, mb1 4.2/7, mb1mx3.8/40, mbtmp4.0/7, ML4.0/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/75, Error ellipse: s-maj=30.8km s-min=18.9km az=84.0*
*DJA **02** 21:19:14.7±0.4, 3°S±3°×13°0E±°, h10km, M3.8/7, MLv3.8/7*
ISC 02 21:19:13.6±2.3**, 2°.81S**±0°.05×**129°.66E**±0°.05**, h15km**±15km**, n22, σ2s.46**/27**, mb3.9**/4**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAI	Masohi	0.90	234	P	Pn	21 19 32.8	+1.1
MSAI				S	Sn	21 19 52.2	+7.8
AAI	Ambon	1.70	239	P	Pb	21 19 44.6	0.0
AAI				S	Sg	21 20 08.5	+0.1
BNDI	Bandanaira	1.71	172	P	Pb	21 19 46.0	+1.2
SIJI	Sorong	2.51	40	Pn	Pn	21 19 54.8	+0.9
	25nm,0.3s,baz=262,slow=22,SNR=141						
SIJI				Sn	Sn	21 20 25.7	+1.5
	26nm,0.3s,baz=195,slow=23,SNR=9.0						
SIJI				LR	LR	21 21 26.1	
	comp=Z,141nm,19.6s,baz=96,slow=53						
SWI	Sorong	2.51	40	P	Pn	21 19 54.8	+0.9
SWI				S	Sn	21 20 27.0	+2.8
LBMI	Labuha	3.06	315	P	Pn	21 20 00.8	-0.5
LBMI				S	Sn	21 20 37.5	-0.1
SANI	Sanana	3.75	282	P	Pn	21 20 10.4	-0.5
SANI	Sanana	3.75	282	P	Pn	21 20 10.1	-0.8
LUWI	Luwuk	7.11	284	P	Pn	21 20 56.0	-1.1
TOLI2	Tolitoli	9.69	294	P	Pn	21 21 32.8	+0.2
KNRA	Kununurra	12.81	184	P	Pn	21 22 14.2	-1.1
FITZ	Fitzroy Crossi	15.69	194	Pn	Pn	21 22 52.1	-2.1
	0.3nm,0.3s,baz=31,slow=9.7,SNR=14						
FITZ				Sn	Sn	21 25 41.4	-6.6
	0.1nm,0.3s,baz=343,slow=18,SNR=1.2						
FITZ				LR	LR	21 28 54.8	
	comp=Z,71nm,18.7s,baz=62,slow=37						
COEN	Coen	17.34	130	P	P	21 23 18.3	+1.7
WRA	Warramunga Arr	17.63	165	P	Pn	21 23 16.2	-2.6
	0.6nm,0.3s,baz=350,slow=12,SNR=26						
WRA				Sn	Sn	21 26 25.8	-9.2
	0.2nm,0.3s,baz=322,slow=12,SNR=4.6						
QIS	Mount Isa	20.13	152	P	P	21 23 48.1	+0.9
ASAR	Alice Springs	21.13	169	P	P	21 23 57.6	-0.4
	8.2nm,0.5s,baz=345,slow=10.0,SNR=215						
ASAR				LR	LR	21 32 17.9	
	comp=Z,118nm,18.5s,baz=160,slow=37						
WRKA	Warakurna	22.13	183	P	P	21 24 07.5	-1.3
OOD	Oodnadatta	25.50	168	P	P	21 24 41.1	-0.3
STKA	Stephens Creek	31.02	160	P	P	21 25 30.7	0.0
	2.2nm,1.1s,baz=355,slow=11,SNR=2.9						
BSI	Banda Aceh	35.30	284	P	P	21 26 14.5	+6.1
CMAR	Chiang Mai Arr	36.90	306	P	P	21 26 22.9	+0.9
	0.3nm,0.4s,baz=137,slow=7.9,SNR=4.6						
MKAR	Makanchi Array	64.57	326	P	P	21 29 50.0	-0.3
	0.3nm,0.4s,baz=112,slow=8.2,SNR=8.0						

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*TUL **02** 21:19:26.3±1.0, 36°.04N±0°.02×97°.01W±0°.02, h6km, ML3.0, mb_Lg2.7/35(NEIC), Error ellipse: s-maj=2.4km s-min=2.1km az=147.0*
NEIC 02 21:19:26.5±0.6**, 36°.05N**±0°.02×**97°.03W**±0°.02**, h5km**±1km**, Error ellipse: s-maj=2.7km s-min=2.2km az=144.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.42	198	Pg	Pg	21 19 34.8	+0.2
OK009	Oakdale Elemen	0.57	214	Pg	Pg	21 19 37.5	+0.1
OKCFA	Oklahoma City	0.72	209	Pg	Pg	21 19 40.1	-0.3
OKCSW	OKLAHOMA CITY	0.73	207	Pg	Pg	21 19 40.0	-0.4
FNO	Franklin	0.85	201	Pg	Pg	21 19 42.0	-0.7
W35A	Tecumseh	0.91	172	Pg	Pg	21 19 42.9	-0.9
T35A	Sooner Cattle	0.96	26		Pg	21 19 44.6	-0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUL1	Leonard	1.01	98	Pg	Pg	21 19 44.9	-1.0
X34A	Smith Ranch, M	1.59	205		Pn	21 19 55.4	+0.1
U32A	Winter Ranch,	1.63	282		Pn	21 19 56.1	+0.2
WMOK	Wichita Mounta	1.94	228		Pn	21 20 00.7	+0.5
WMOK				IAmb_Lg		21 20 30.9	
	comp=Z,25nm,0.8s						
X37A	Clayton	1.99	137		Pn	21 20 00.9	+0.1
X37A				IAmb_Lg		21 20 31.8	
	comp=Z,26nm,0.7s						
R32A	Long Quarter,	2.72	331	IAmb_Lg		21 20 56.3	
	comp=Z,24nm,0.8s						
Z35A	Perchaven, San	2.72	184	Pn	Pn	21 20 11.1	+0.3
W39A	Magazine	2.78	107	Pn	Pn	21 20 12.0	+0.4
KSU1	Kansas State U	3.06	6	IAmb_Lg		21 21 10.6	
	comp=Z,29nm,0.7s						
U40A	Yellville	3.39	84		Pn	21 20 19.2	-0.8
U40A				IAmb_Lg		21 21 15.7	
	comp=Z,15nm,0.8s						
S39A	Bolivar	3.39	60		Pn	21 20 20.6	+0.5
S39A				IAmb_Lg		21 21 17.7	
	comp=Z,20nm,0.8s						
CBKS	Cedar Bluff	3.50	323	IAmb_Lg		21 21 21.6	
	comp=Z,24nm,0.9s						
X40A	Basin Creek Fa	3.77	113		Pn	21 20 26.1	+0.9
WHAR	Wooly Hollow	3.93	100	Pn	Pn	21 20 26.9	-0.6
AMTX	Amarillo	3.97	254	IAmb_Lg		21 21 32.4	
	comp=Z,19nm,1.0s						
FCAR	Ozark Folk Cen	3.98	91	IAmb_Lg		21 21 38.5	
	comp=Z,20nm,0.9s						
MGMO	Mountain Grove	3.98	73	IAmb_Lg		21 21 32.0	
	comp=Z,18nm,0.7s						
W41B	Gary Mavity, V	3.99	101	Pn	Pn	21 20 28.3	0.0
R40A	Maddies Statio	4.41	58	IAmb_Lg		21 21 46.9	
	comp=Z,18nm,0.9s						
P38A	Dawn	4.51	37	IAmb_Lg		21 21 59.1	
	comp=Z,13nm,0.9s						
CCM	Cathedral Cave	5.04	65	IAmb_Lg		21 22 04.7	
	comp=Z,17nm,0.9s						
P40A	Paris	5.25	47	IAmb_Lg		21 22 17.8	
	comp=Z,13nm,0.8s						
N38A	Joes South For	5.59	31	IAmb_Lg		21 22 27.2	
	comp=Z,14nm,0.7s						
JCT	Junction City	6.02	203	IAmb_Lg		21 22 43.7	
	comp=Z,12nm,0.9s						
T25A	Trinidad	6.04	283	IAmb_Lg		21 22 48.0	
	comp=Z,10.0nm,0.8s						
N23A	Red Feather La	8.50	307	IAmb_Lg		21 24 06.4	
	comp=Z,5.2nm,0.9s						

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*TUL **02** 21:20:01.8±0.5, 35°.674N±0°.005×97°.39W±0°.01, h6km±2km, ML3.1, mb_Lg2.6/19(NEIC), Error ellipse: s-maj=1.6km s-min=0.7km az=107.0*

NEIC 02 21:20:02.4±0.5, 35°.673N±0°.008×97°.39W±0°.01, h6km±3km, Error ellipse: s-maj=1.6km s-min=1.3km az=79.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.10	197	Pg	Pg	21 20 04.3	-0.3
OK009				Sg	Sg	21 20 06.0	0.0
OK001	Jones High Sch	0.14	144	Pg	Pg	21 20 05.1	-0.2
OK001				Sg	Sg	21 20 07.6	+0.4
OK005	Luther M Schoo	0.16	96	Pg	Pg	21 20 05.6	-0.2
OK005				Sg	Sg	21 20 08.4	+0.4
OKCFA	Oklahoma City	0.26	191	Pg	Pg	21 20 07.3	-0.3
OKCFA				Sg	Sg	21 20 11.4	+0.3
OKCSW	OKLAHOMA CITY	0.27	188	Pg	Pg	21 20 07.4	-0.3
FNO	Franklin	0.41	181	Pg	Pg	21 20 10.1	-0.4
W35A	Tecumseh	0.67	141	Pg	Pg	21 20 14.5	-0.7
TUL1	Leonard	1.32	79		Pn	21 20 25.8	-1.6
T35A	Sooner Cattle	1.43	29		Pn	21 20 27.8	-1.1
WMOK	Wichita Mounta	1.47	231		Pn	21 20 27.8	-1.7
Z35A	Perchaven, San	2.34	177	Pn	Pn	21 20 41.7	+0.3
Z35A				IAmb_Lg		21 21 21.4	
	comp=Z,19nm,1.1s						
Z38A	Mt. Pleasant	3.12	140	IAmb_Lg		21 21 48.2	
	comp=Z,14nm,0.7s						
KSU1	Kansas State U	3.48	10		Pn	21 20 55.9	-1.2
AMTX	Amarillo	3.60	259		Pn	21 20 58.6	-0.2
CBKS	Cedar Bluff	3.65	330	IAmb_Lg		21 22 00.3	
	comp=Z,22nm,0.9s						
WHTX	Lake Whitney,	3.67	181	Pn	Pn	21 20 59.3	-0.5
U40A	Yellville	3.74	78	IAmb_Lg		21 22 06.3	
	comp=Z,12nm,0.7s						
S39A	Bolivar	3.84	57	Pn	Pn	21 21 01.7	-0.4
X40A	Basin Creek Fa	3.92	106	IAmb_Lg		21 22 12.2	
	comp=Z,23nm,0.9s						
WHAR	Wooly Hollow	4.18	94		Pn	21 21 07.4	+0.7
UALR	University of	4.23	101	IAmb_Lg		21 22 28.2	
	comp=Z,9.3nm,0.8s						
W41B	Gary Mavity, V	4.23	95		Pn	21 21 07.3	-0.1
MGMO	Mountain Grove	4.39	69	IAmb_Lg		21 22 18.4	
	comp=Z,19nm,1.1s						
MSTX	Muleshoe	4.74	251		Pn	21 21 14.4	-0.2
R40A	Maddies Statio	4.86	56	IAmb_Lg		21 22 35.4	
	comp=Z,10nm,0.7s						
435B	Jarrell	4.88	182	IAmb_Lg		21 22 48.3	
	comp=Z,12nm,0.8s						
KSCO	Kaye Shedlock'	5.34	310	IAmb_Lg		21 22 51.8	
	comp=Z,16nm,0.8s						
CCM	Cathedral Cave	5.47	62	IAmb_Lg		21 22 54.8	
	comp=Z,9.7nm,0.8s						

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*IDC **02** 22:03:29.9±1.2, 38°.26S×94°.02W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/24, mbtmp3.8/6, MS3.6/15, Ms1 3.6/15, ms1mx3.4/49, Error ellipse: s-maj=37.3km s-min=30.9km az=120.0*

*NEIC **02** 22:03:32.9±1.3, 38°.45S±0°.04×93°.6W±0°.3, h10km±1km, mb4.4/14, Error ellipse: s-maj=36.4km s-min=7.5km az=273.0*

ISC 02 22:03:31.7±1.0, 38°.3S±0°.1×93°.8W±0°.1, h10km, n37, σ1s06/19, mb4.1/9, MS3.7/13, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	12.83	74	T	T	22 19 29.4	
	baz=244						
H03S1	Juan Fernandez	12.84	74	T	T	22 19 32.5	
	baz=244						
H03S3	Juan Fernandez	12.85	74	T	T	22 19 32.4	
	baz=244						
LR03	Panguipulli	16.72	101		Pn	22 07 26.3	+0.3
LR03				IAmb	IAmb	22 07 29.6	
	comp=Z,46nm,1.5s						
RPN	Rapa Nui	17.18	306	LR	LR	22 11 59.5	
	comp=Z,102nm,18.2s,baz=166,slow=30						
GO05	Huala	17.84	86		P	22 07 40.4	-0.3
PLCA	Paso Flores	18.07	105	LR	LR	22 13 10.4	
	comp=Z,168nm,18.0s,baz=274,slow=32						
MT05	Renca	19.31	82	P	P	22 07 55.4	-1.5
MT05				IAmb	IAmb	22 08 03.0	
	comp=Z,40nm,1.4s						
LMEL	Las Melosas	19.56	84	P	P	22 07 59.5	-0.3
AC02	Maricunga	23.66	68	P	P	22 08 44.0	+0.2
AC02				IAmb	IAmb	22 09 03.0	
	comp=Z,9.9nm,1.1s						
LVC	Limon Verde	26.45	61	P	P	22 09 10.3	+1.1
	comp=Z,5.3nm,0.9s,baz=249,slow=8.6,SNR=4.3						
LVC				LR	LR	22 16 47.1	
	comp=Z,122nm,20.3s,baz=232,slow=30						
LVC	Limon Verde	26.45	61	P	P	22 09 09.0	-0.2
LVC				IAmb	IAmb	22 09 13.6	
	comp=Z,8.1nm,1.0s						
NNA	Nana	30.29	34	LR	LR	22 18 37.4	
	comp=Z,166nm,20.8s,baz=206,slow=30						
LPAZ	La Paz	31.47	53	P	P	22 09 54.8	+0.6
	comp=Z,2.2nm,1.0s,baz=208,slow=6.8,SNR=6.0						
LPAZ				LR	LR	22 20 17.5	
	comp=Z,18nm,20.6s,baz=251,slow=32						
LPAZ	La Paz	31.47	53	P	P	22 09 53.7	-0.5
LPAZ				IAmb	IAmb	22 09 56.6	
	comp=Z,3.3nm,1.1s						
SIV	San Ignacio	36.34	61	LR	LR	22 23 34.2	
	comp=Z,83nm,19.0s,baz=282,slow=33						
BOSC	San Juan Bosco	37.71	26	P	P	22 10 47.9	+0.2
BOSC				IAmb	IAmb	22 10 49.4	
	comp=Z,10nm,0.7s						
OTAV	Otavalo	40.91	24	P	P	22 11 15.1	+0.4
JTS	Las Juntas de	49.08	12	LR	LR	22 27 46.7	
	comp=Z,107nm,20.2s,baz=240,slow=30						
SDV	Santo Domingo	51.71	30	LR	LR	22 33 04.3	
	comp=Z,169nm,18.6s,baz=192,slow=34						
QSPA	South Pole Qui	51.88	180	P	P	22 12 39.9	-0.2
	comp=Z,2.0nm,1.0s,baz=23,slow=1.8,SNR=3.5						
QSPA				LR	LR	22 30 38.2	
	comp=Z,92nm,20.2s,baz=72,slow=31						
QSPA	South Pole Qui	51.88	180	P	P	22 12 40.8	+0.7
MTO3	Montecristo	52.63	5	P	P	22 12 47.7	+1.6
CMIG	Matias Romero	55.15	359	LR	LR	22 30 43.1	
	comp=Z,66nm,20.6s,baz=195,slow=30						
VNDA	Vanda	55.90	195	LR	LR	22 32 29.1	
	comp=Z,45nm,19.9s,baz=330,slow=31						
MDP	Montagnes des	57.64	51	LR	LR	22 35 13.3	
	comp=Z,53nm,20.2s,baz=212,slow=33						
TXAR	Lajitas Array	67.96	351	P	P	22 14 28.3	-2.4
	comp=Z,0.3nm,0.8s,baz=164,slow=10,SNR=1.4						
PFO	Pinyon Flats O	74.63	341	P	P	22 15 13.1	+2.0
PFO				IAmb	IAmb	22 15 18.5	
	comp=Z,6.9nm,1.3s						
NVAR	Mina Array Bea	79.66	341	P	P	22 15 39.0	-0.4
	comp=Z,0.5nm,0.8s,baz=136,slow=5.6,SNR=4.3						
PDAR	Pinedale Array	81.99	348	P	P	22 15 51.3	-0.4
	comp=Z,0.5nm,0.9s,baz=152,slow=5.8,SNR=2.2						
SADO	Sadowa	83.78	10	LR	LR	22 48 20.4	
	comp=Z,69nm,19.4s,baz=269,slow=32						
TSUM	Tsumeb	93.95	118	LR	LR	22 57 41.0	
	comp=Z,26nm,18.1s,baz=166,slow=34						
BBB	Bella Bella	94.99	340	LR	LR	22 53 16.2	
	comp=Z,58nm,18.5s,baz=359,slow=32						
H11S2	WAKE ISLAND Hy	108.54	279	T	T	00 19 25.2	
	baz=126,slow=75,SNR=20						
H11S1	WAKE ISLAND Hy	108.56	279	T	T	00 19 26.0	
	baz=126,slow=75,SNR=21						
H11S3	WAKE ISLAND Hy	108.56	279	T	T	00 19 28.4	
	baz=126,slow=75,SNR=18						
USRK	Ussuriysk Ar.	145.46	295	PKPbc	PKPdf	22 23 09.2	-0.3
	comp=Z,1.2nm,0.8s,baz=114,slow=3.5,SNR=4.1						

KRSC 02 22:20:21.6±1.5, 48°.58N×156°.28E, h30km±24km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.11	357	P	Pn	22 20 56.0	+1.3
SKR				S	Sn	22 21 22.0	+2.1
PAU	Pauzhetka	2.91	7	S	Sb	22 21 44.3	-3.6
MIPR	Malaya Ipel'ka	3.71	5	eP	Pn	22 21 19.5	+2.7
ASAK	Asacha	3.94	15	eP	Pn	22 21 24.9	+4.8
MTVR	Mutnovka	4.09	17	eP	Pn	22 21 26.6	+4.4
MTVR				eS	Sn	22 22 14.6	+5.6
GRL	Gorelyy	4.14	15	eP	Pn	22 21 27.5	+4.7
UGLR	Uglovaya	4.91	18	eP	Pn	22 21 38.0	+4.7
AVH	Avacha	4.94	17	eP	Pn	22 21 39.2	+5.4
KOK	Koryaka	4.95	17	eP	Pn	22 21 39.3	+5.4
SDLR	Sedlovina	4.98	18	eP	Pn	22 21 38.7	+4.3
MKZ	Mys Kozlova	6.88	28	eP	Pn	22 22 05.0	+4.8

IDC 02 22:28:44.8±9.7, 2°.83N×96°.57E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.2/44, mbtmp3.6/3, Error ellipse: s-maj=453.9km s-min=31.7km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	26.18	246	T	T	23 00 53.5	
	baz=68,slow=76,SNR=11						
H08S3	Diego Garcia H	26.18	246	T	T	23 00 47.3	
	baz=68,slow=76,SNR=9.2						
H08S1	Diego Carcia H	26.20	246	T	T	23 00 44.7	
	baz=68,slow=76,SNR=8.7						
WRA	Warramunga Arr	43.44	123	P	P	22 36 49.8	-0.1
	0.3nm,0.9s,baz=300,slow=9.4,SNR=1.3						
MKAR	Makanchi Array	45.52	346	P	P	22 37 06.1	0.0
	0.4nm,0.4s,baz=159,slow=9.0,SNR=15						
ZALV	Zalesovo Beam	51.86	351	P	P	22 37 54.5	-0.3
	0.9nm,0.4s,baz=168,slow=6.5,SNR=7.1						

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*NEIC **02** 22:46:58.5±1.3, 5°.32S±0°.07×145°.62E±0°.10, h81km±6km, mb4.4/37, Error ellipse: s-maj=14.3km s-min=9.7km az=91.0*

*IDC **02** 22:46:58.6±2.0, 5°.40S×145°.47E, h88km±19km, mb3.9/15, mb1 4.0/21, mb1mx3.9/30, mbtmp4.2/21, MS3.2/8, ms1mx2.9/59, Error ellipse: s-maj=15.7km s-min=11.3km az=101.0*

*DJA **02** 22:47:01.1±0.5, 5°S±3°×14°6E±°, h90km±7km, M4.3/15, mB5.2/4, mb4.4/15, MLv4.2/2, Mw(mB)4.6/4*

ISC 02 22:46:58.6±0.4, 5°.40S±0°.05×145°.65E±0°.06, h86km, n111, σ1s46/105, mb4.4/31, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	Manus Island	3.74	27		Pn	22 47 52.9	-1.3
PMG	Port Moresby	4.26	160	P	Pn	22 48 01.8	+0.6
	69nm,0.3s,baz=16,slow=5.3,SNR=88						
PMG				S	Sn	22 48 47.5	-2.2
	15nm,0.3s,baz=196,slow=5.7,SNR=4.7						
PMG				LR	LR	22 49 35.5	
	comp=Z,247nm,18.1s,baz=354,slow=36						
PMG	Port Moresby	4.26	160	Pn	Pn	22 48 01.4	+0.2
PMG	Port Moresby	4.26	160	P	Pn	22 48 02.4	+1.2
PMG	Port Moresby	4.26	160	P	Pn	22 48 02.2	+1.0
JAY	Jayapura	5.71	300	P	Pn	22 48 20.3	-0.6
	0.6nm,0.3s,baz=133,slow=19,SNR=1.8						
JAY				S	Sn	22 49 31.7	+6.6
	1.7nm,0.3s,baz=177,slow=12,SNR=2.0						
KRVT	Keravat (AS076	6.44	81	P	Pn	22 48 33.4	+2.5
	3.9nm,0.3s,baz=319,slow=22,SNR=1.5						
RABL	Rabaul	6.60	80	Pn	Pn	22 48 31.6	-1.5
COEN	Coen	8.85	196	Pn	Pn	22 49 04.8	+0.9
COEN	Coen	8.85	196	P	Pn	22 49 05.0	+1.1
CTA	Charters Tower	14.62	178	P	Pn	22 50 21.9	+0.6
	0.1nm,0.3s,baz=24,slow=18,SNR=1.9						
CTA				LR	LR	22 55 42.6	
	comp=Z,144nm,20.3s,baz=66,slow=36						
CTA	Charters Tower	14.62	178	P	Pn	22 50 22.0	+0.8
SIJI	Sorong	15.05	287	P	Pn	22 50 25.8	-1.0
	0.7nm,0.3s,baz=137,slow=19,SNR=1.7						
SWI	Sorong	15.06	287	P	P	22 50 30.7	+0.5
	45nm,0.8s						
MTN	Manton Dam	16.13	242		Pn	22 50 40.2	-0.2
MTN				IAmb	IAmb	22 51 05.3	
	comp=Z,9.7nm,0.9s						
QIS	Mount Isa	16.18	201	P	P	22 50 41.9	-0.7
WB0	Warramunga Arr	18.01	217	P	P	22 51 01.9	-0.8
WB0				IAmb	IAmb	22 51 04.8	
	comp=Z,12nm,1.2s						
WR0	Warramunga Arr	18.07	216	P	P	22 51 03.0	-0.5
WRAB	Tennant Creek	18.16	216	P	Pn	22 51 05.3	+0.1
WRA	Warramunga Arr	18.17	216	P	Pn	22 51 04.5	-0.9
	comp=Z,0.9nm,0.3s,baz=27,slow=11,SNR=30						
WRA				S	S	22 54 22.8	-5.0
	comp=Z,0.1nm,0.3s,baz=47,slow=21,SNR=1.7						
WRA	Warramunga Arr	18.17	216	P	P	22 51 03.1	-1.5
LBMI	Labuha	18.73	284	P	Pn	22 51 11.8	-0.3
	comp=Z,2µmcomp=Z,27nm,1.5s						
GUMO	Guam	18.88	358	LR	LR	22 57 23.4	
	comp=Z,60nm,20.6s,baz=120,slow=33						
KNRA	Kununurra	19.48	237	P	P	22 51 18.1	-0.8
KNRA				IAmb	IAmb	22 51 22.4	
	comp=Z,13nm,0.6s						
KNRA	Kununurra	19.48	237	P	P	22 51 18.2	-0.7
SANI	Sanana	19.90	279	P	Pn	22 51 27.4	+1.5
	comp=Z,14nm,0.7s						
EIDS	Eidsvold	20.53	166	P	P	22 51 31.2	+1.0
EIDS				IAmb	IAmb	22 51 49.3	
	comp=Z,10nm,0.8s						
RMQ	Roma	21.18	172	P	P	22 51 39.8	+2.6
AS31	Alice Springs	21.40	211	P	P	22 51 39.9	+0.2
ASAR	Alice Springs	21.40	211	P	P	22 51 39.5	-0.1
	comp=Z,1.8nm,0.5s,baz=38,slow=7.7,SNR=51						
ASAR				S	S	22 55 28.6	-4.0
	comp=Z,0.2nm,0.7s,baz=35,slow=22,SNR=1.7						
ASAR	Alice Springs	21.40	211	P	P	22 51 39.6	0.0
BATI	Baumata	22.30	256	P	P	22 51 47.5	-1.8
	comp=Z,4.9nm,0.3s,baz=298,slow=3.0,SNR=2.1						
LUWI	Luwuk	23.25	280	P	P	22 51 57.9	-1.0
LUWI				IAmb	IAmb	22 52 03.3	
	comp=Z,38nm,1.1s						
FITZ	Fitzroy Crossi	23.27	235	P	P	22 51 57.4	-1.7
	comp=Z,5.2nm,0.5s,baz=48,slow=9.6,SNR=40						
FITZ				LR	LR	23 02 26.6	
	comp=Z,78nm,20.6s,baz=117,slow=40						
FITZ	Fitzroy Crossi	23.27	235	P	P	22 51 57.1	-2.0
FITZ				IAmb	IAmb	22 52 00.4	
	comp=Z,6.9nm,0.6s						
OOD	Oodnadatta	24.21	202	P	P	22 52 08.0	+0.7
ARMA	Armidale	25.52	168	P	P	22 52 19.0	-0.3
ARMA				IAmb	IAmb	22 52 22.6	
	comp=Z,23nm,1.1s						
ARMA	Armidale	25.52	168	P	P	22 52 21.5	+2.1
WRKA	Warakurna	25.67	219	P	P	22 52 20.4	-0.3
TOLI2	Tolitoli	25.67	284	P	P	22 52 20.4	-0.4
TOLI2				IAmb	IAmb	22 52 23.4	
	comp=Z,6.4nm,0.7s						
TOLI2	Tolitoli	25.67	284	P	P	22 52 21.6	+0.8
LCRK	Leigh Creek	25.89	195	P	P	22 52 23.7	+1.1
CMSA	Cobar Meteorol	26.01	180	P	P	22 52 25.1	+1.5
DZM	Mont Dzumac	26.07	131	P	P	22 52 25.9	+1.5
	comp=Z,2.9nm,0.5s,baz=336,slow=20,SNR=1.4						
STKA	Stephens Creek	26.62	188	P	P	22 52 28.9	-0.3
	comp=Z,4.4nm,0.4s,baz=3.7,slow=10,SNR=22						
STKA	Stephens Creek	26.62	188	P	P	22 52 29.3	+0.2
STKA	Stephens Creek	26.62	188	P	P	22 52 30.5	+1.3
MULG	Mulgathing	27.06	202	P	P	22 52 34.4	+1.3
NAPP	Napperby	28.52	193	P	P	22 52 47.7	+1.6
HTT	Hallett	28.59	192	P	P	22 52 48.1	+1.3
PSA00	Pilbara Seismi	29.72	235	P	P	22 52 56.5	-0.5
PSA00				IAmb	IAmb	22 53 08.4	
	comp=Z,20nm,1.4s						
CAN	Canberra	29.94	175	P	P	22 52 58.3	-0.4
JAGI	Jajag, Banyuwa	31.41	263	P	P	22 53 12.4	+0.4
	comp=Z,11nm,1.0s						
H11S3	WAKE ISLAND Hy	31.52	41	T	T	23 26 39.2	
	baz=222,slow=75						
H11S2	WAKE ISLAND Hy	31.53	41	T	T	23 26 35.5	
	baz=222						
H11S1	WAKE ISLAND Hy	31.54	41	T	T	23 26 39.4	
	baz=222,slow=75						
TOO	Toolangi	32.03	180	P	P	22 53 17.6	+0.5
H11N1	WAKE ISLAND Hy	32.55	39	T	T	23 27 53.5	
	baz=221						
H11N3	WAKE ISLAND Hy	32.56	39	T	T	23 27 56.2	
	baz=221						
H11N2	WAKE ISLAND Hy	32.56	39	T	T	23 27 53.4	
	baz=221						
MEEK	Meekatharra	33.34	228	P	P	22 53 29.8	+1.1
KSM	Kuching	35.96	280	P	P	22 53 50.5	-0.9
KSM				IAmb	IAmb	22 53 52.2	
	comp=Z,8.6nm,1.0s						
JOW	Kunigami	36.19	333	LR	LR	23 05 16.4	
	comp=Z,32nm,20.4s,baz=46,slow=30						
JMN	Monobe	40.48	345	P	P	22 54 28.4	-0.7
JHS	Saijyo	41.88	345	P	P	22 54 39.7	-0.9
JHS				IAmb	IAmb	22 54 45.1	
	comp=Z,17nm,1.3s						
QRZ	Quartz Range	42.71	150	P	P	22 54 48.3	+1.0
URZ	Urewera	43.43	143	LR	LR	23 14 29.8	
	comp=Z,61nm,18.0s,baz=33,slow=38						
URZ	Urewera	43.43	143	P	P	22 54 53.9	+0.9
URZ	Urewera	43.43	143	P	P	22 54 55.6	+2.5
BKZ	Black Stump Fm	43.67	145	P	P	22 54 56.8	+1.8
BKZ				IAmb	IAmb	22 55 17.9	
	comp=Z,11nm,1.0s						
JSD	Sado	43.75	352	P	P	22 54 54.3	-1.3
KHZ	Kahutara	44.40	150	P	P	22 55 02.8	+2.0
BFZ	Birch Farm	44.57	147	P	P	22 55 04.1	+2.0
KSRS	Korea Array	45.72	340	P	P	22 55 10.7	-0.5
	comp=Z,2.5nm,0.8s,baz=158,slow=8.9,SNR=9.1						
KSRS				LR	LR	23 11 22.1	
	comp=Z,26nm,20.9s,baz=160,slow=32						
JTM	Tenmabayashi	46.15	355	P	P	22 55 14.3	-0.2
USRK	Ussuriysk Ar.	50.88	347	P	P	22 55 50.3	-0.5
	comp=Z,7.2nm,0.7s,baz=182,slow=6.2,SNR=16						
USA0B	Ussuriysk Arra	50.88	347	P	P	22 55 50.1	-0.7
CMAR	Chiang Mai Arr	51.78	298	P	P	22 55 56.9	-1.1
	comp=Z,0.5nm,0.3s,baz=118,slow=6.0,SNR=2.0						
CMAR	Chiang Mai Arr	51.78	298	P	P	22 55 56.4	-1.7
XAN	Xi'an	52.37	321	P	P	22 56 01.3	-0.9
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,80nm,4.0s						
PZH	PanZhiHua	53.04	309	P	P	22 56 09.8	+2.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.9s						
KLR	Kul'dur	55.73	349	LR	LR	23 17 25.1	
	comp=Z,17nm,21.4s,baz=210,slow=33						
PEA0B	Petropavlovsk-	59.17	8	P	P	22 56 50.4	0.0
PETK	Petropavlovsk-	59.17	8	P	P	22 56 48.5	-1.8
	comp=Z,1.5nm,0.6s,baz=157,slow=6.1,SNR=7.5						
PETK	Petropavlovsk-	59.17	8	P	P	22 56 49.9	-0.5
SONM	Songino Array	63.23	331	P	P	22 57 18.2	+0.1
	comp=Z,0.5nm,0.5s,baz=160,slow=6.2,SNR=5.3						
SONM	Songino Array	63.23	331	P	P	22 57 18.0	-0.1
WMQ	Urumqi	71.46	320	eP	P	22 58 12.3	+2.2
VNDA	Vanda	72.59	176	P	P	22 58 17.0	+0.8
	comp=Z,1.1nm,0.8s,baz=324,slow=5.6,SNR=4.9						
VNDA	Vanda	72.59	176	P	P	22 58 17.0	+0.8
MK31	Makanchi Array	76.18	321	P	P	22 58 36.3	-1.3
MKAR	Makanchi Array	76.18	321	P	P	22 58 37.6	0.0
	comp=Z,0.9nm,0.9s,baz=100,slow=6.3,SNR=5.6						
MKAR	Makanchi Array	76.18	321	P	P	22 58 36.2	-1.4
MAKZ	Makanchi	76.39	321	P	P	22 58 38.0	-0.7
ZALV	Zalesovo Beam	77.79	328	P	P	22 58 45.1	-1.3
	comp=Z,0.6nm,0.5s,baz=110,slow=6.5,SNR=4.3						
ZALV	Zalesovo Beam	77.79	328	P	P	22 58 45.4	-1.0
BOOM	Boomskoye usch	78.90	315	P	P	22 58 53.1	+0.1
BOOM				IAmb	IAmb	22 59 03.9	
	comp=Z,11nm,1.5s						
K20K	Telida	82.00	23	P	P	22 59 09.2	+0.3
K20K				IAmb	IAmb	22 59 33.4	
	comp=Z,5.2nm,1.4s						
IMAR	Indian Mountai	83.41	21	P	P	22 59 16.0	-0.2
MLY	Manley	84.07	22	P	P	22 59 19.2	-0.4
MLY				IAmb	IAmb	22 59 20.3	
	comp=Z,2.5nm,0.8s						
RND	Reindeer	84.12	24	P	P	22 59 19.2	-0.7
RND				IAmb	IAmb	22 59 19.7	
	comp=Z,4.3nm,0.7s						
NRIK	Noril'sk	84.29	342	P	P	22 59 19.6	-1.0
	comp=Z,1.6nm,0.5s,baz=17,slow=2.4,SNR=4.3						
NRIK	Noril'sk	84.29	342	P	P	22 59 20.2	-0.4
NRIK				IAmb	IAmb	22 59 21.4	
	comp=Z,8.6nm,1.4s						
QSPA	South Pole Qui	84.57	180	P	P	22 59 22.8	+0.5
IL31		85.46	23	P	P	22 59 24.9	-1.6
IL31				IAmb	IAmb	22 59 26.1	
	comp=Z,3.5nm,0.8s						
ILAR	Eielson Array	85.46	23	P	P	22 59 24.9	-1.6
	comp=Z,2.9nm,0.8s,baz=252,slow=5.3,SNR=30						
ILAR	Eielson Array	85.46	23	P	P	22 59 25.3	-1.2
J25K	Salcha River,	86.00	24	P	P	22 59 28.7	-0.7
J25K				IAmb	IAmb	22 59 29.4	
	comp=Z,3.1nm,0.8s						
BMAR	Burnt Mountain	87.32	21	P	P	22 59 36.2	+0.5
TORD	Torodi Ar. Bea	143.64	285	PKP	PKPdf	23 06 23.2	-1.5
	comp=Z,0.2nm,0.6s,baz=61,slow=2.8,SNR=5.2						
SIV	San Ignacio	146.07	129	PKPbc	PKPab	23 06 30.1	-0.4
	comp=Z,2.1nm,1.0s,baz=304,slow=3.4,SNR=5.4						

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*IDC **02** 23:21:27.5±1.4, 15°.73S×175°.57W, h383km±49km, mb4.4/2, mb1 4.3/4, mb1mx3.4/37, mbtmp4.9/4, Error ellipse: s-maj=241.3km s-min=28.6km az=147.0*

*NEIC **02** 23:21:27.4±0.7, 16°.1S±0°.1×175°.8W±0°.2, h350km±20km, mb4.2/19, Error ellipse: s-maj=29.0km s-min=12.4km az=60.0*

ISC 02 23:21:26.5±0.7, 15°.9S±0°.2×175°.8W±0°.1, h350km, n26, σ0s99/27, mb4.2/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.37	64	P	Pn	23 22 40.6	+1.1
	24nm,0.3s,baz=21,slow=2.9,SNR=28						
AFI				S	S	23 23 37.7	-0.7
	baz=346,slow=18,SNR=0.5						
AFI	Afiamalu	4.37	64		Pn	23 22 40.4	+0.8
MARNC	Mare, Loyalty	16.28	248	P	P	23 24 55.3	+0.2
PINNC	Pines Island,	17.16	245	P	P	23 25 04.8	+0.2
DZM	Mont Dzumac	17.87	247	P	P	23 25 13.7	+1.5
	0.6nm,0.3s,baz=79,slow=18,SNR=3.1						
DZM	Mont Dzumac	17.87	247	P	P	23 25 12.3	+0.1
DZM				IAmb	IAmb	23 25 40.2	
	comp=Z,17nm,1.1s						
MLZ	Mavora Lakes	32.33	201	P	P	23 27 23.8	-0.4
ARMA	Armidale	33.10	238	P	P	23 27 30.6	-0.6

ARMA				IAmb	IAmb	23 27 59.5	
	comp=Z,22nm,1.5s						
CAN	Canberra	36.89	232	P	P	23 28 02.3	-0.9
CAN				IAmb	IAmb	23 28 08.0	
	comp=Z,29nm,1.5s						
COEN	Coen	39.64	267	P	P	23 28 27.7	+1.7
COEN				IAmb	IAmb	23 28 28.6	
	comp=Z,13nm,0.9s						
TOO	Toolangi	40.36	230	P	P	23 28 31.8	+0.2
TOO				IAmb	IAmb	23 28 32.5	
	comp=Z,14nm,0.9s						
BBOO	Buckleboo	46.56	240	P	P	23 29 20.4	-0.3
WR0	Warramunga Arr	47.28	257	P	P	23 29 26.2	-0.2
WR0				IAmb	IAmb	23 29 27.0	
	comp=Z,16nm,1.3s						
WB2	Warramunga Arr	47.46	257	P	P	23 29 27.3	-0.4
WB2				IAmb	IAmb	23 29 28.5	
	comp=Z,14nm,0.7s						
WRA	Warramunga Arr	47.47	257	P	P	23 29 27.6	-0.2
	comp=Z,9.7nm,0.5s,baz=91,slow=7.0,SNR=160						
WRA	Warramunga Arr	47.47	257	P	P	23 29 27.0	-0.8
AS31	Alice Springs	47.75	252	P	P	23 29 30.1	+0.2
AS31				IAmb	IAmb	23 29 31.2	
	comp=Z,8.2nm,0.6s						
ASAR	Alice Springs	47.75	252	P	P	23 29 30.1	+0.2
	comp=Z,34nm,0.5s,baz=89,slow=7.8,SNR=701						
MTN	Manton Dam	51.38	266	P	P	23 29 57.5	+0.4
MTN				IAmb	IAmb	23 30 03.6	
	comp=Z,5.1nm,0.7s						
FORT	Forrest	53.12	243	P	P	23 30 08.7	-0.9
KNRA	Kununurra	53.20	262	P	P	23 30 10.5	+0.2
KNRA				IAmb	IAmb	23 30 16.9	
	comp=Z,5.9nm,0.7s						
FITZ	Fitzroy Crossi	55.84	259	P	P	23 30 29.2	+0.1
PSA00	Pilbara Seismi	60.84	254	P	P	23 31 02.9	-0.5
PSA00	Pilbara Seismi	60.84	254	P	P	23 31 03.2	-0.1
PSA00				IAmb	IAmb	23 31 04.2	
	comp=Z,8.0nm,0.7s						
QSPA	South Pole Qui	74.14	180	P	P	23 32 26.3	+1.1
BRTR	Keskin Array B	145.05	319	PKPbc	PKPdf	23 40 19.7	-3.4
	comp=Z,0.4nm,0.7s,baz=29,slow=3.3,SNR=1.7						

BJI **02** *23:23:36.6±0.0, 52.°54N×169.°77W, h2^{km}, mb5.1/63, mB4.9/30, Ms4.6/22, Ms7 4.3/21*

IDC **02** *23:23:37.3±0.5, 52.°23N×169.°56W, h0^{km}, mb4.7/29, mb1 4.8/31, mb1mx4.8/41, mbtmp4.7/31, ML4.5/2, MS3.8/59, Ms1 3.8/59, ms1mx3.7/101, Error ellipse: s-maj=15.7km s-min=10.2km az=169.0*

MOS **02** *23:23:40.5±0.9, 52.°21N×169.°53W, h31^{km}, mb5.2/37, Error ellipse: s-maj=7.8km s-min=4.3km az=97.9*

AEIC **02** *23:23:41±1.7, 52.°14N±0.°05×169.°40W±0.°07, h26^{km}±4^{km}, Error ellipse: s-maj=7.1km s-min=6.3km az=139.0*

NEIC **02** *23:23:42.0±1.5, 52.°21N±0.°05×169.°46W±0.°07, h29^{km}±5^{km}, mb4.9/215, ML4.4/46(AEIC), Error ellipse: s-maj=7.8km s-min=6.0km az=168.0*

GCMT **02** *23:23:43.0±0.4, 51.°91N±0.°03×169.°45W±0.°05, h35^{km}±1^{km}, MW5.0/68, Moment Tensor Solution. s29,c34; s68,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.66±.30; $M_{\theta\theta}$-2.03±.20; $M_{\phi\phi}$-0.62±.20; $M_{r\theta}$2.44±.18; $M_{\theta\phi}$-1.74±.13; $M_{\phi r}$0.00±.20; Best double couple: $M_0$3.84400×10^{16} NP1: ϕ_s214.00000°, δ32.00000°, λ51.00000°. NP2: ϕ_s77.00000°, δ66.00000°, λ111.00000°. Principal axes: T 3.8130, Plg63.0000°, Azm21.0000°; N 0.0630, Plg19.0000°, Azm248.0000°; P -3.8750, Plg18.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR **02** *23:23:54.9±0.0, 54.°04N×169.°61W, h33^{km}, mb4.9*

ISC 02 23:23:41.7±0.4**, 52.°16N**±0.°06×**169.°44W**±0.°03**, h30**^{km}±2^{km}**, h30**^{km}**:pP-P, n893, σ1§21**/888**, mb4.9**/250**, MS3.9**/69**, 77C-30D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.89	23		Pb	23 23 56.9	-1.7
NIKH	Nikolski High	0.89	23		Sn	23 24 11.6	+1.6
NIKH	Nikolski High	0.89	23	P	Pb	23 23 57.0	-1.5
	baz=202,SNR=86						
OKFG	Magazine Ridge	1.56	36		Pn	23 24 07.0	-0.4
OKFG					Sn	23 24 27.2	+0.7
MGOD	Makushin Gods	2.26	42		Pn	23 24 17.0	0.0
MSW	Makushin Switc	2.38	41		Pn	23 24 18.8	+0.2
MNAT	Makushin Natee	2.40	43		Pn	23 24 19.8	+0.9
UNV	Unalaska Valle	2.45	45	Pn	Pn	23 24 19.5	0.0
UNV	Unalaska Valle	2.45	45		Sn	23 24 49.6	+1.1
UNV	Unalaska Valle	2.45	45	P	Pn	23 24 19.1	-0.5
	baz=227,SNR=172						
MTBL	Makushin Table	2.46	41		Pn	23 24 20.6	+0.8
AKRB	Akutan Reef Bi	2.83	44		Pn	23 24 26.2	+1.4
ZRO	Akutan Zero	2.84	46		Pn	23 24 25.7	+0.6
AKBBA	Akutan Broad B	2.87	46		Pn	23 24 26.6	+1.2
KOFP	Korovin Flat P	2.87	274		Pn	23 24 26.9	+1.4
AKGG	Akutan Green G	2.91	44		Pn	23 24 27.0	+1.1
ATKA	Atka Island	2.93	273		Pn	23 24 26.8	+0.6
ATKA					Sn	23 25 02.2	+1.9
AHB	Akutan Harbor	2.93	47		Pn	23 24 27.8	+1.6
KOKL	Mount Kliuchef	2.94	275		Pn	23 24 28.2	+1.9
HSB	Akutan Spr's B	2.94	45		Pn	23 24 27.9	+1.6
AKSA	Akutan Strait	3.00	47		Pn	23 24 28.1	+0.9
WESE	West Dahl East	3.72	49		Pn	23 24 38.6	+1.5
GSTR	Great Sitkin T	4.08	272	Pn	Pn	23 24 42.8	+0.7
GSMY	Great Sitkin M	4.08	271		Pn	23 24 43.3	+1.2
GSTD	Great Sitkin T	4.14	271		Pn	23 24 44.2	+1.4
GSCK	Great Sitkin C	4.15	271		Pn	23 24 44.4	+1.4
SSLN	Shishaldin Nor	4.20	49		Pn	23 24 45.5	+1.9
BRPK	Brown Peak	4.22	52		Pn	23 24 45.6	+1.7
ADAG	Mount Adagdak	4.43	271		Pn	23 24 48.4	+1.6
ADK	Adak	4.49	269	P	Pn	23 24 48.5	+0.9
ADK						23 25 38.7	
ADK	Adak	4.49	269	Pn	Pn	23 24 48.5	+0.9
ADK				Sn	Sn	23 25 38.7	0.0
FALS	False Pass	4.50	51	Pn	Pn	23 24 49.3	+1.7
FALS	False Pass	4.50	51	P	Pn	23 24 50.6	+2.9
	baz=235						
KIWB	Kanaga Island	4.78	269	Pn	Pn	23 24 53.1	+1.5
KIKV	Kanaga Island	4.79	270		Pn	23 24 53.5	+1.8
KIMD	Kanaga Island	4.84	268		Pn	23 24 54.3	+1.9
SPIA	Saint Paul Isl	5.05	355	Pn	Pn	23 24 57.4	+2.1
SPIA	Saint Paul Isl	5.05	355	P	Pn	23 24 57.7	+2.3
	baz=174,SNR=13						
TAPA	Tanaga Point A	5.19	270		Pn	23 24 58.9	+1.6
TAFP	Tanaga Falls P	5.29	271		Pn	23 25 00.7	+2.2
TASE	Tanaga Southea	5.33	270		Pn	23 25 01.2	+2.1
GAEA	Gareloi East	5.77	270		Pn	23 25 07.2	+2.1
GALAA	Gareloi Lava P	5.79	270		Pn	23 25 08.0	+2.6
SDPT	Sand Point	6.20	55	Pn	Pn	23 25 12.1	+1.0
SDPT	Sand Point	6.20	55	P	Pn	23 25 11.6	+0.6
	baz=242						
CHGN	Chignik	7.67	53	Pn	Pn	23 25 33.0	+1.7
SHEM	Shemya Is, Ala	10.07	280	Pn	Pn	23 26 05.7	+1.6
	8.6nm,0.3s,baz=128,slow=2.6,SNR=5.3						
SHEM				LR	LR	23 29 43.3	
	comp=Z,632nm,20.9s,baz=98,slow=37						
SMY	Shemya	10.07	280	P	Pn	23 26 05.5	+1.4
SMY	Shemya	10.07	280	Pn	Pn	23 26 05.5	+1.4
OHAK	Old Harbor	10.62	55	Pn	Pn	23 26 10.2	-1.4
OHAK	Old Harbor	10.62	55	P	Pn	23 26 10.3	-1.4
	baz=248						
P18K	Big Mountain,	10.78	42	P	Pn	23 26 16.8	+2.9
	baz=234						
KDAK	Kodiak Island	11.19	53	Pn	Pn	23 26 17.5	-1.9
	1.6nm,0.3s,baz=284,slow=7.4,SNR=13						
KDAK				Sn	Sn	23 28 17.6	-5.7
	baz=142,slow=23,SNR=2.3						
KDAK	Kodiak Island	11.19	53	⇑eP	Pn	23 26 18.2	-1.2
KDAK	Kodiak Island	11.19	53		Pn	23 26 18.9	-0.5
KDAK	Kodiak Island	11.19	53	P	Pn	23 26 18.2	-1.2
	baz=247						
Q19K	Cape Douglas,	11.21	47	Pn	Pn	23 26 19.6	-0.1
Q19K	Cape Douglas,	11.21	47	P	Pn	23 26 19.9	+0.3
	baz=239						
O19K	Port Alsworth	11.63	40	Pn	Pn	23 26 26.4	+1.1
O19K	Port Alsworth	11.63	40	P	Pn	23 26 27.1	+1.7
	baz=233						
GAMB	Gambell	11.71	355	Pn	Pn	23 26 28.6	+2.1
GAMB	Gambell	11.71	355	P	Pn	23 26 29.1	+2.6
	baz=173,SNR=14						
P19K	Oil Pt	11.77	44	Pn	Pn	23 26 28.4	+1.1
P19K	Oil Pt	11.77	44	P	Pn	23 26 30.1	+2.8
	baz=237						
N19K	Bonanza Creek	11.95	38		Pn	23 26 30.1	+0.2
N19K	Bonanza Creek	11.95	38	P	Pn	23 26 33.6	+3.7
	baz=230						
O20K	Slope Mountain	12.26	43	P	Pn	23 26 35.9	+1.9
	baz=237						
RSO	Redoubt South	12.42	41		Pn	23 26 37.7	+1.3
ANM	Nome	12.62	8	P	Pn	23 26 41.3	+2.3
ANM	Nome	12.62	8		Pn	23 26 41.3	+2.3
ANM	Nome	12.62	8	P	Pn	23 26 42.5	+3.6
	baz=191,SNR=16						
M19K	Big River Lodg	12.71	34		Pn	23 26 42.5	+2.3
M19K	Big River Lodg	12.71	34	P	Pn	23 26 43.5	+3.3
	baz=226						
L19K	White Mountain	12.75	32	Pn	Pn	23 26 42.9	+2.1
L19K	White Mountain	12.75	32	P	Pn	23 26 43.8	+3.1
	baz=224,SNR=8.1						
BRLK	Bradley Lake	12.85	46	Pn	Pn	23 26 41.2	-0.9
TTA	Tatalina	12.95	28	P	Pn	23 26 45.6	+2.1
TTA	Tatalina	12.95	28		Pn	23 26 45.6	+2.1
TTA	Tatalina	12.95	28	P	Pn	23 26 47.0	+3.5
	baz=220,SNR=24						
M20K	Styx River	13.14	36	P	Pn	23 26 49.3	+3.2
	baz=229						
L20K	Farewell, AK	13.28	33	P	Pn	23 26 52.4	+4.3
	baz=226,SNR=9.6						
TNA	Tin City	13.47	3		Pn	23 26 52.3	+1.8
TNA	Tin City	13.47	3	P	Pn	23 26 52.8	+2.4
	baz=184,SNR=11						
SEW	Seward	13.65	47	P	Pn	23 26 52.3	-0.6
	baz=243						
O22K	Cooper Landing	13.70	45		Pn	23 26 53.5	-0.2
O22K	Cooper Landing	13.70	45	P	Pn	23 26 53.8	+0.1
	baz=241						
K20K	Telida	13.85	30	Pn	Pn	23 26 57.5	+1.7
K20K	Telida	13.85	30	P	Pn	23 26 59.1	+3.3
	baz=223						
PPLA	Purkeypile	14.14	34	Pn	Pn	23 27 01.6	+1.8
GCSA	Galena City Sc	14.19	22	P	Pn	23 27 02.4	+2.1
	baz=213						
J20K	Nowinta River	14.44	28	Pn	Pn	23 27 06.3	+2.5
J20K	Nowinta River	14.44	28	P	P	23 27 07.2	-3.1
	baz=220,SNR=26						
PWL	Port Wells	14.49	45	P	Pn	23 27 02.5	-1.9
	baz=242						
CAST	Castle Rocks	14.53	32	P	P	23 27 09.8	-1.4
	baz=227,SNR=11						
KNK	Knik Glacier	14.70	43		Pn	23 27 06.2	-1.1
KNK	Knik Glacier	14.70	43	P	Pn	23 27 05.2	-2.1
	baz=240						
SML	Sawmill	14.95	42	P	Pn	23 27 09.6	-1.1
	baz=239						
GLI	Glacier Island	15.04	46	P	Pn	23 27 08.4	-3.4
	baz=244						
TRF	Thorofare Moun	15.16	34	P	P	23 27 16.2	-2.2
TRF	Thorofare Moun	15.16	34	P	P	23 27 17.3	-1.1
	baz=230						
BPAW	Bear Paw Mtn.	15.35	32	Pn	Pn	23 27 17.6	+1.7
BPAW				IAmb	IAmb	23 27 25.8	
	comp=Z,38nm,0.8s						
BPAW	Bear Paw Mtn.	15.35	32	P	P	23 27 18.7	-1.6
	baz=227,SNR=26						
SCM	Sheep Creek Mo	15.38	42	P	Pn	23 27 14.4	-1.9
SCM				pmax	pmax		
	comp=Z,49nm,1.0s						
SCM	Sheep Creek Mo	15.38	42		Pn	23 27 14.4	-1.9
SCM				IAmb	IAmb	23 27 20.3	
	comp=Z,50nm,1.0s						
SCM	Sheep Creek Mo	15.38	42	P	Pn	23 27 14.2	-2.1
	baz=241,SNR=12						
WAT6	Susitna Watana	15.59	40	P	Pn	23 27 18.2	-1.0
	baz=238						
RND	Reindeer	15.64	36	P	Pn	23 27 20.7	+1.0
RND				pmax	pmax		
	comp=Z,11nm,0.8s						
RND	Reindeer	15.64	36	Pn	Pn	23 27 20.7	+1.0
DIV	Divide	15.73	46		Pn	23 27 18.7	-2.2
MCK	McKinley	15.81	35	P	P	23 27 23.7	-1.7
	baz=232,SNR=5.8						
I21K	Tanana	15.81	28		Pn	23 27 22.6	+0.7
I21K	Tanana	15.81	28	P	P	23 27 24.0	-1.4
	baz=223,SNR=13						
KLU	Klutina	15.81	45	P	Pn	23 27 19.9	-2.1
	baz=244,SNR=20						
H21K	Melozitna Rive	15.95	26	P	P	23 27 25.5	-1.4
H21K	Melozitna Rive	15.95	26	P	P	23 27 25.8	-1.1
	baz=220,SNR=14						
IMAR	Indian Mountai	15.96	24	Pn	Pn	23 27 24.0	+0.3
M24K	Tolsona, Glenn	15.99	42	P	Pn	23 27 22.8	-1.4
	baz=242,SNR=7.9						
DHY	Denali Highway	16.00	38		Pn	23 27 23.8	-0.6
DHY	Denali Highway	16.00	38	P	Pn	23 27 24.1	-0.4
	baz=237						
MLY	Manley	16.07	29	P	P	23 27 27.2	-1.2
MLY	Manley	16.07	29	P	P	23 27 28.5	+0.1
	baz=225,SNR=42						
BMRM	Bremner River	16.19	47	P	Pn	23 27 24.8	-1.9
	baz=248						
RDOG	Red Dog Mine	16.26	9	P	P	23 27 29.2	-1.2
NEA2	Nenana	16.30	32		Pn	23 27 28.6	+0.5
NEA2	Nenana	16.30	32	P	Pn	23 27 28.8	+0.6
	baz=230,SNR=13						
N25K	Chitina, Valde	16.44	45	P	Pn	23 27 28.2	-1.8
	baz=246,SNR=11						
HARP	HAARP	16.54	42	P	Pn	23 27 30.4	-0.8
	baz=243						
I23K	Minto, Yukon-K	16.58	31		Pn	23 27 31.7	+0.1
I23K	Minto, Yukon-K	16.58	31	P	P	23 27 33.3	-0.6
	baz=228,SNR=14						
PAX	Paxson	16.69	40	P	Pn	23 27 32.7	-0.4
	baz=240						
GLB	Gilahina Butte	16.72	46	Pn	Pn	23 27 32.0	-1.5
MDM	Murphy Dome	16.82	32		Pn	23 27 33.9	-0.7
COLA	College	16.89	33	*ce*P	Pn	23 27 35.3	-0.2
COLA	College	16.89	33		Pn	23 27 34.8	-0.6
HDA	Harding Lake	16.91	35	Pn	Pn	23 27 34.3	-1.5
HDA	Harding Lake	16.91	35	P	Pn	23 27 35.0	-0.8
	baz=234						
IL31		17.15	34		Pn	23 27 37.0	-1.8
ILAR	Eielson Array	17.15	34	P	Pn	23 27 37.4	-1.4
	comp=Z,0.6nm,0.3s,baz=232,slow=11,SNR=19						
ILAR				PcP	PcP	23 32 22.2	+0.7
	comp=Z,0.1nm,0.3s,baz=271,slow=3.2,SNR=6.9						
ILAR	Eielson Array	17.15	34	P	Pn	23 27 37.3	-1.5
ILAR	Eielson Array	17.15	34	Pn	Pn	23 27 37.3	-1.5
POKR	Poker Plat Res	17.18	32		Pn	23 27 38.4	-0.8
POKR	Poker Plat Res	17.18	32	P	Pn	23 27 38.9	-0.3
	baz=231						
RIDG	Independent Ri	17.32	38	P	Pn	23 27 41.2	+0.3
	baz=239						
YAH	Yahtse	17.32	51		Pn	23 27 40.2	-1.0
MENT	Mentasta	17.38	42		Pn	23 27 40.5	-1.2
H24K	Noodor Dome	17.50	30	P	Pn	23 27 42.8	-0.4
H24K	Noodor Dome	17.50	30	P	P	23 27 43.9	-0.3
	baz=229,SNR=17						
L26K	Log Cabin Wild	17.57	42		Pn	23 27 43.1	-0.9
L26K	Log Cabin Wild	17.57	42	P	Pn	23 27 44.2	+0.1
	baz=244						
DOT	Dot Lake	17.58	39	Pn	Pn	23 27 43.2	-1.0
J25K	Salcha River,	17.59	36		Pn	23 27 42.5	-1.9
J25K	Salcha River,	17.59	36	P	Pn	23 27 43.1	-1.3
	baz=236,SNR=16						
TABL	Table Mountain	17.63	51	P	Pn	23 27 44.6	-0.5
TABL				IAmb	IAmb	23 27 57.2	
	comp=Z,44nm,0.7s						
SCRK	Sand Creek	17.77	38		Pn	23 27 45.1	-1.5
SCRK	Sand Creek	17.77	38	P	Pn	23 27 46.0	-0.5
	baz=240,SNR=12						
COLD	Coldfoot	17.82	25	P	P	23 27 47.6	-0.1
COLD	Coldfoot	17.82	25	P	P	23 27 47.9	+0.2
	baz=221,SNR=13						
M27K	Edge Creek, AK	17.92	45	P	Pn	23 27 47.9	-0.6
	baz=248						
PCA	Pinnacle	17.97	52	P	Pn	23 27 48.8	-0.3
PINM	Pinnacle	17.98	52	P	P	23 27 50.2	+0.8
	baz=257						
J26L	Joseph Creek	18.19	37	P	Pn	23 27 50.9	-0.9
	baz=239,SNR=43						
L27K	Beaver Creek,	18.21	42	P	Pn	23 27 51.1	-0.9
	baz=246						
BCAR	Beaver Creek A	18.23	42	P	Pn	23 27 51.1	-1.1
PNL	Peninsula	18.31	54	P	Pn	23 27 53.9	+0.8
	baz=259						
YUK3	Moose Creek	18.34	47	P	P	23 27 53.1	-0.5
	baz=251,SNR=24						
YUK4	Talbot Arm	19.05	49	P	Pn	23 28 03.6	+1.4
	baz=255,SNR=20						
TOLK	Toolik Lake Re	19.06	22	P	Pn	23 28 01.9	-0.3
TOLK	Toolik Lake Re	19.06	22	P	Pn	23 28 02.1	-0.1
	baz=220,SNR=11						
YUK6	Outpost Mounta	19.08	50	P	Pn	23 28 03.0	+0.3
	baz=256,SNR=18						
EGAK	Eagle	19.23	38	P	P	23 28 02.5	-0.6
EGAK	Eagle	19.23	38	P	P	23 28 02.6	-0.6
	baz=242,SNR=12						
PET	Petropavlovsk	19.33	285	⇓*i*P	P	23 28 04.4	+0.2
PET				*e*S	Sn	23 31 32.2	-8.9
PET				pmax	pmax		
	comp=Z,72nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,20.0s						
PET				MLR	MLR		
	comp=Z,500nm,20.0s						
PET	Petropavlovsk	19.33	285	P	P	23 28 04.1	-0.1
PET				IAmb	IAmb	23 28 05.7	
	comp=Z,36nm,0.6s						
HYT	Haines Junctio	19.47	51		Pn	23 28 07.7	+0.6
HYT	Haines Junctio	19.47	51	P	Pn	23 28 08.2	+1.0
	baz=258,SNR=87						
BMAR	Burnt Mountain	19.54	29	P	P	23 28 05.9	-0.6
DAWY	Dawson	19.62	41	P	P	23 28 06.8	-0.6
DAWY	Dawson	19.62	41	P	P	23 28 07.3	-0.1
	baz=247,SNR=10						
BILL	Bilibino	19.77	333	*c i*P	Pn	23 28 10.2	-0.4
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,258nm,14.0s						
BILL	Bilibino	19.77	333	P	P	23 28 09.3	+0.3
PEA0B	Petropavlovsk-	19.88	286	*d i*P	P	23 28 10.5	+0.2
PEA0B	Petropavlovsk-	19.88	286	P	P	23 28 10.4	+0.2
PEA0B				IAmb	IAmb	23 28 11.2	
	comp=Z,78nm,0.6s						
PETK	Petropavlovsk-	19.88	286	P	P	23 28 09.7	-0.6
	comp=Z,16nm,0.3s,baz=82,slow=14,SNR=201						
PETK				LR	LR	23 36 15.2	
	comp=Z,170nm,19.5s,baz=92,slow=38						
SIT	Sitka	20.21	62	P	P	23 28 13.7	-0.1
SIT				pmax	pmax		
	comp=Z,20nm,0.9s						
SIT	Sitka	20.21	62	P	P	23 28 13.7	-0.1
M30M	Minto, Yukon	20.22	46	P	P	23 28 13.7	-0.3
M30M	Minto, Yukon	20.22	46	P	P	23 28 14.5	+0.5
	baz=254,SNR=10.0						
SKAG	Skagway	20.32	56	P	P	23 28 15.8	+0.8
SKAG				IAmb	IAmb	23 28 32.4	
	comp=Z,43nm,0.8s						
SKAG	Skagway	20.32	56	P	Pn	23 28 17.9	+0.8
	baz=264,SNR=9.7						
N31M	Braeburn, Yuko	20.42	50	P	Pn	23 28 17.7	-0.7
N31M				IAmb	IAmb	23 28 45.8	
	comp=Z,29nm,0.8s						
N31M	Braeburn, Yuko	20.42	50	P	Pn	23 28 18.4	+0.1
	baz=258,SNR=22						
BESE	Bessie Mountai	20.50	58	P	P	23 28 17.2	+0.2
I29M	Ogilvie Camp,	20.57	38	P	P	23 28 16.5	-1.3
	baz=245,SNR=17						
WHY	Whitehorse	20.70	52	P	P	23 28 19.9	+0.6
WHY				IAmb	IAmb	23 28 29.0	
	comp=Z,39nm,0.9s						
WHY	Whitehorse	20.70	52	P	Pn	23 28 21.3	-0.4
	baz=261,SNR=30						
JIS	Juneau Island	20.73	59	P	P	23 28 19.3	-0.1
M31M	Drury Creek, Y	21.22	48	P	P	23 28 24.4	-0.3
M31M				IAmb	IAmb	23 28 30.4	
	comp=Z,53nm,1.5s						
M31M	Drury Creek, Y	21.22	48	P	P	23 28 25.3	+0.6
	baz=258,SNR=26						
P33M	Teslin, Yukon	21.66	54	P	P	23 28 29.4	-0.1
P33M				IAmb	IAmb	23 28 54.1	
	comp=Z,40nm,0.9s						
P33M	Teslin, Yukon	21.66	54	P	P	23 28 30.8	+1.2
	baz=264,SNR=37						
H02S1	DAWSON INLET T	22.28	73	T	T	23 51 41.0	
	SNR=7.2						
SEY	Seymchan	22.79	313	P	P	23 28 40.7	-0.7
	comp=Z,11nm,0.8s,baz=107,slow=9.1,SNR=47						
SEY				PcP	PcP	23 32 32.9	+1.1
	comp=Z,4.9nm,0.5s,baz=118,slow=3.6,SNR=15						
SEY				LR	LR	23 37 39.2	
	comp=Z,397nm,20.8s,baz=68,slow=37						
SEY	Seymchan	22.79	313	⇑*e*P	P	23 28 40.9	-0.5
SEY				pmax	pmax		
	comp=Z,21nm,1.3s						
DLBC	Dease Lake	23.03	59	P	P	23 28 44.0	-0.1
	comp=Z,8.4nm,0.9s,baz=262,slow=10,SNR=17						
DLBC				LR	LR	23 36 17.2	
	comp=Z,146nm,21.3s,baz=281,slow=33						
DLBC	Dease Lake	23.03	59	P	P	23 28 44.8	+0.7
MA2	Magadan	23.23	304	P	P	23 28 45.1	-0.9
	comp=Z,18nm,0.6s,baz=87,slow=9.2,SNR=43						
MA2				LR	LR	23 39 05.4	
	comp=Z,195nm,18.5s,baz=100,slow=40						
MA2	Magadan	23.23	304	*c i*P	P	23 28 45.2	-0.8
MA2				pmax	pmax		
	comp=Z,35nm,1.0s						
MA2	Magadan	23.23	304	P	P	23 28 46.5	+0.5
MA2				IAmb	IAmb	23 28 47.7	
	comp=Z,24nm,0.7s						
HG4B	Hotspring	23.25	74	P	P	23 28 47.1	+0.8
HG4B				IAmb	IAmb	23 29 12.2	
	comp=Z,50nm,1.6s						
INK	Inuvik	23.55	33	P	P	23 28 47.3	-1.7
	comp=Z,14nm,0.5s,baz=247,slow=9.9,SNR=39						
INK				PcP	PcP	23 32 34.1	+0.8
	comp=Z,5.5nm,0.7s,baz=324,slow=2.0,SNR=6.9						
INK	Inuvik	23.55	33	P	P	23 28 47.4	-1.5
INK				IAmb	IAmb	23 28 49.5	
	comp=Z,14nm,0.6s						
INK	Inuvik	23.55	33	P	P	23 28 47.3	-1.7
	baz=245,SNR=22						
TGTN	Hyland Airport	23.99	51	P	P	23 28 55.0	+1.6
	baz=266,SNR=6.3						
C36M	Paulatuk	27.12	34	P	P	23 29 21.0	-0.5
	baz=254,SNR=17						
A36M	Sachs Harbour	27.62	28	P	P	23 29 25.9	-0.1
A36M	Sachs Harbour	27.62	28	P	P	23 29 25.8	-0.1
	baz=248,SNR=5.8						
OZB	Mount Ozzard	27.78	79	P	P	23 29 28.1	+0.4
OZB				IAmb	IAmb	23 29 46.4	
	comp=Z,17nm,1.0s						
B05A	Bryant	30.12	78	P	P	23 29 51.2	+2.8
	baz=296						
YKA	Yellowknife Ar	30.41	49	P	P	23 29 51.6	+0.8
	comp=Z,6.4nm,0.5s,baz=273,slow=7.9,SNR=240						
YKA				PcP	PcP	23 32 50.1	+0.4
	comp=Z,1.8nm,0.8s,baz=285,slow=2.2,SNR=5.9						
YKA				ScP	ScP	23 36 31.0	+1.3
	comp=Z,1.0nm,0.9s,baz=282,slow=3.0,SNR=6.7						
YKA				LR	LR	23 44 33.5	
	comp=Z,227nm,18.7s,baz=261,slow=41						
YKA	Yellowknife Ar	30.41	49	P	P	23 29 51.3	+0.5
YKA						23 32 50.6	
YKA	Yellowknife Ar	30.41	49	P	P	23 29 51.3	+0.5
YKA					PcP	23 32 50.5	+0.9
D05A	Enumclaw	30.66	80	P	P	23 29 53.6	+0.4
D05A				IAmb	IAmb	23 30 08.9	
	comp=Z,13nm,0.9s						
YSS	Yuzh-Sakhalins	30.99	280	*e*P	P	23 29 59.3	+3.2
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
B08A	Colville Reser	31.74	77	P	P	23 30 02.9	+0.1
B08A				IAmb	IAmb	23 30 17.2	
	comp=Z,8.5nm,0.9s						
ASAJ	Asahikawa	32.49	275	LR	LR	23 42 35.6	
	comp=Z,196nm,21.3s,baz=136,slow=35						
HAWA	Hanford	32.52	80	P	P	23 30 09.6	0.0
HAWA				IAmb	IAmb	23 30 26.8	
	comp=Z,7.4nm,0.8s						
C09A	Chrisman Ranch	32.62	77	P	P	23 30 09.9	-0.6
C09A				IAmb	IAmb	23 30 24.6	
	comp=Z,8.3nm,0.9s						
TIXI	Tiksi	32.90	329	LR	LR	23 44 36.2	
	comp=Z,106nm,19.4s,baz=172,slow=38						
TIXI	Tiksi	32.90	329	*c i*P	P	23 30 11.7	-0.9
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TIXI	Tiksi	32.90	329	P	P	23 30 11.1	-1.5
TIXI	Tiksi	32.90	329	P	P	23 30 12.0	-0.6
TIXI				pP	pP	23 30 18.3	-2.4

TIXI sP **pwP** **23 30 28.8 +5.6**
YBH **Yreka Blue Hor** **33.02 90** LR LR 23 40 33.2
comp=Z,206nm,21.7s,baz=307,slow=31
NEW **Newport** **33.10 76** LR LR 23 42 57.1
comp=Z,129nm,18.9s,baz=328,slow=35
NEW **Newport** **33.10 76** P **P** **23 30 15.0 +0.3**
NEW pmax pmax
comp=Z,11nm,1.0s
NEW **Newport** **33.10 76** P **P** **23 30 15.0 +0.3**
NEW IAmb IAmb 23 30 28.7
comp=Z,11nm,0.9s
NEW **Newport** **33.10 76** P **P** **23 30 16.3 +1.5**
baz=297
GRNR **Gornyy** **33.11 290**⇑ *i*P **P** **23 30 13.6 -1.1**
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,140nm,12.0s
GRNR MLR MLR
comp=N,90nm,18.0s
GRNR MLR MLR
comp=Z,170nm,20.0s
EDM **Edmonton** **33.27 65** P **P** **23 30 17.2 +1.1**
EDM pmax pmax
comp=Z,43nm,1.5s
EDM **Edmonton** **33.27 65** P **P** **23 30 17.2 +1.1**
EDM IAmb IAmb 23 30 18.2
comp=Z,43nm,1.5s
YAK **Yakutsk** **33.28 311** LR LR 23 43 54.6
comp=Z,240nm,19.2s,baz=88,slow=37
YAK **Yakutsk** **33.28 311** *e*P **P** **23 30 14.9 -1.1**
YAK pmax pmax
comp=Z,23nm,0.8s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK MLR MLR
comp=Z,155nm,17.0s
YAK MLR MLR
comp=N,81nm,17.0s
YAK MLR MLR
comp=E,184nm,19.0s
YAK **Yakutsk** **33.28 311** P **P** **23 30 15.0 -1.1**
O02D **Mt. Diablo Mer** **33.88 92** P **P** **23 30 21.4 -0.2**
WALA **Waterton Lakes** **34.65 73** P **P** **23 30 30.1 +1.9**
WALA IAmb IAmb 23 30 42.0
comp=Z,9.1nm,1.1s
BMO **Blue Mountains** **34.65 81** P **P** **23 30 28.6 +0.4**
BMO pmax pmax
comp=Z,9.0nm,1.6s
BMO **Blue Mountains** **34.65 81** P **P** **23 30 28.6 +0.4**
JTMT **Jette** **35.03 75** P **P** **23 30 31.9 +0.3**
JTMT IAmb IAmb 23 30 45.5
comp=Z,21nm,1.6s
PLID **Pearl Lake** **35.32 80** P **P** **23 30 34.9 +0.7**
PLID IAmb IAmb 23 30 48.1
comp=Z,18nm,1.8s
MSO **Missoula** **35.68 76** P **P** **23 30 37.6 +0.5**
MSO IAmb IAmb 23 30 53.9
comp=Z,11nm,1.2s
KLR **Kul'dur** **36.49 289** LR LR 23 46 38.3
comp=Z,239nm,19.1s,baz=70,slow=38
KLR **Kul'dur** **36.49 289***c i*P **P** **23 30 42.3 -1.6**
KLR pmax pmax
comp=Z,8.0nm,0.6s
RES **Resolute Bay** **36.58 25** LR LR 23 47 58.7
comp=Z,189nm,18.5s,baz=258,slow=40
RES **Resolute Bay** **36.58 25** P **P** **23 30 43.6 -0.7**
RES pmax pmax
comp=Z,6.0nm,1.4s
RES **Resolute Bay** **36.58 25** P **P** **23 30 43.6 -0.7**
ZEA **Zeya** **37.06 298** *e*P **P** **23 30 47.2 -1.5**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=E,100nm,15.0s
ZEA MLR MLR
comp=N,100nm,16.0s
ZEA MLR MLR
comp=Z,200nm,16.0s
HLID **Hailey** **37.09 81** P **P** **23 30 50.4 +1.1**
HLID **Hailey** **37.09 81** P **P** **23 30 51.0 +1.7**
baz=303
H11N2 **WAKE ISLAND Hy** **37.26 219** T T 00 10 42.7
baz=24,slow=76,SNR=31
H11N3 **WAKE ISLAND Hy** **37.27 219** T T 00 10 42.3
baz=24,slow=76,SNR=34
H11N1 **WAKE ISLAND Hy** **37.28 219** T T 00 11 13.8
baz=24,slow=76,SNR=22
BCYI **Bear Canyon** **37.30 79** P **P** **23 30 51.9 +0.7**
MCMT **McKenzie Canyo** **37.36 78** P **P** **23 30 52.1 +0.5**
BOZ **Bozeman (W)** **37.69 76** P **P** **23 30 55.2 +0.9**
BOZ pmax pmax
comp=Z,6.0nm,1.1s
BOZ **Bozeman (W)** **37.69 76** P **P** **23 30 55.2 +0.9**
BOZ **Bozeman (W)** **37.69 76** P **P** **23 30 55.5 +1.2**
baz=302,SNR=6.2
NVAR **Mina Array Bea** **37.70 91** P **P** **23 30 55.4 +0.8**
NVAR PcP **PcP** **23 33 11.9 +0.7**
comp=Z,0.4nm,0.6s,baz=276,slow=3.4,SNR=2.5
NVAR LR LR 23 43 05.8
comp=Z,97nm,21.8s,baz=299,slow=31
NVAR **Mina Array Bea** **37.70 91** P **P** **23 30 54.8 +0.3**
ELK **Elko** **38.19 85** LR LR 23 43 45.4
comp=Z,167nm,20.9s,baz=296,slow=32
H11S1 **WAKE ISLAND Hy** **38.45 218** T T 00 12 15.3
baz=23,slow=76,SNR=721
H11S2 **WAKE ISLAND Hy** **38.46 218** T T 00 12 07.0
baz=23,slow=76,SNR=213
H11S3 **WAKE ISLAND Hy** **38.47 218** T T 00 12 05.6
baz=23,slow=76,SNR=268
YMR **Madison River** **38.58 77** P **P** **23 31 01.9 0.0**
YHH **Holmes Hill** **38.58 77** P **P** **23 31 02.7 +0.7**
YHH IAmb IAmb 23 31 29.0
comp=Z,13nm,1.1s
JSD **Sado** **38.67 270** P **P** **23 31 02.6 +0.2**
JSD IAmb IAmb 23 31 09.4
comp=Z,21nm,0.9s
FFC **Flin Flon** **38.87 59** P **P** **23 31 04.0 +0.1**
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC **Flin Flon** **38.87 59** P **P** **23 31 04.0 +0.1**
FFC **Flin Flon** **38.87 59** P **P** **23 31 04.7 +0.8**
FFC pP **pwP** **23 31 15.8 0.0**
USRK **Ussuriysk Ar.** **38.90 282** P **P** **23 31 02.7 -1.5**
comp=Z,2.7nm,0.7s,baz=54,slow=11,SNR=6.4
USRK LR LR 23 45 57.1
comp=Z,150nm,21.9s,baz=44,slow=34
USRK **Ussuriysk Ar.** **38.90 282** P **P** **23 31 03.0 -1.3**
H17A **Grant Village** **38.96 77** P **P** **23 31 07.8 +2.6**
baz=303
RLMT **Red Lodge** **39.35 76** P **P** **23 31 09.9 +1.6**
baz=303
R11A **Troy Canyon, C** **39.42 89** P **P** **23 31 12.2 +3.2**
baz=308
VLA **Vladivostok** **39.56 281**⇓ *i*P **P** **23 31 09.8 0.0**
VLA pmax pmax
comp=Z,33nm,1.3s
MJAR **Matsushiro Arr** **39.65 268** P **P** **23 31 10.1 -0.6**
comp=Z,3.5nm,0.6s,baz=155,slow=8.2,SNR=9.7
MJAR LR LR 23 47 04.6
comp=Z,122nm,19.8s,baz=63,slow=36
MJAR **Matsushiro Arr** **39.65 268** P **P** **23 31 11.0 +0.4**
MJB9 **Matsu-Tunnel** **39.65 268** P **P** **23 31 11.2 +0.5**
MJB9 IAmb IAmb 23 31 34.7
comp=Z,18nm,1.1s
MAJO **Matsushiro** **39.65 268** P **P** **23 31 11.1 +0.4**
MAJO pmax pmax
comp=Z,18nm,1.1s
MAJO **Matsushiro** **39.65 268** P **P** **23 31 11.1 +0.4**
MAJO IAmb IAmb 23 31 34.7
comp=Z,18nm,1.1s
MAJO **Matsushiro** **39.65 268** P **P** **23 31 10.9 +0.2**
MAJO pP **pwP** **23 31 24.2 +1.5**
TPNV **Topopah Spring** **39.90 91** P **P** **23 31 13.5 +0.6**
TPNV pmax pmax
comp=Z,3.0nm,0.9s
TPNV **Topopah Spring** **39.90 91** P **P** **23 31 13.5 +0.6**
TPNV **Topopah Spring** **39.90 91** P **P** **23 31 15.3 +2.4**
baz=310
DUG **Dugway, Tooele** **40.00 84** P **P** **23 31 16.4 +2.7**
baz=307
MSHR **Mys Shultsa** **40.31 281**⇓ *e*P **P** **23 31 15.5 -0.5**
MSHR pmax pmax
comp=Z,17nm,1.2s
BW06 **Boulder Array** **40.48 79** P **P** **23 31 19.0 +1.2**
baz=305
PD31 **Pinedale Array** **40.48 79** P **P** **23 31 17.9 +0.1**
PDAR **Pinedale Array** **40.48 79** P **P** **23 31 19.0 +1.2**
comp=Z,4.8nm,0.6s,baz=300,slow=3.6,SNR=52
PDAR LR LR 23 46 55.4
comp=Z,94nm,19.4s,baz=322,slow=34
PDAR **Pinedale Array** **40.48 79** P **P** **23 31 18.6 +0.8**
JGF **Kuroka** **40.78 268** P **P** **23 31 20.4 +0.3**
JGF IAmb IAmb 23 31 56.2
comp=Z,32nm,1.6s
ALE **Alert** **40.79 11** P **P** **23 31 19.6 0.0**
ALE sP pwP 23 31 39.5 +8.7
BNX **BinXian** **40.79 287**⇓ P **P** **23 31 18.4 -1.6**
BNX pmax pmax
comp=Z,36nm,0.6s
BNX pmax pmax
comp=Z,180nm,4.3s
JHJ **Hachijo jima 2** **40.95 263** LR LR 23 47 01.6
comp=Z,66nm,21.2s,baz=204,slow=34
FCC **Fort Churchill** **41.11 50** P **P** **23 31 23.2 +0.8**
FCC pmax pmax
comp=Z,30nm,0.8s
FCC **Fort Churchill** **41.11 50** P **P** **23 31 23.2 +0.8**
FCC IAmb IAmb 23 31 24.3
comp=Z,30nm,0.8s
P18A **Preston Nutter** **41.92 83** P **P** **23 31 30.3 +0.6**
PFO **Pinyon Flats O** **41.96 95** LR LR 23 45 43.8
comp=Z,139nm,19.1s,baz=272,slow=32
BOD **Bodaibo** **42.10 309** *e*P **P** **23 31 29.1 -1.4**
BOD pmax pmax
comp=Z,28nm,0.7s
U15A **North Rim** **42.67 88** P **P** **23 31 36.6 +0.8**
O20A **White River Ci** **42.83 81** P **P** **23 31 38.0 +1.0**
O20A IAmb IAmb 23 32 06.2
comp=Z,17nm,1.0s
O20A **White River Ci** **42.83 81** P **P** **23 31 38.2 +1.2**
baz=308,SNR=7.4
RSSD **Black Hills** **43.01 74** P **P** **23 31 39.2 +0.7**
baz=305
RSSD **Black Hills** **43.01 74** P **P** **23 31 39.1 +0.7**
RSSD pP **pwP** **23 31 55.4 +5.1**
RSSD sP 23 32 02.4 +13
HIA **Hailar** **43.30 296** P **P** **23 31 39.7 -0.8**
HIA pmax pmax
comp=Z,17nm,0.5s
HIA **Hailar** **43.30 296** P **P** **23 31 39.7 -0.8**
HIA IAmb IAmb 23 31 40.3
comp=Z,17nm,0.5s
HIA **Hailar** **43.30 296** P **P** **23 31 39.6 -0.9**
HIA pP **pP** **23 31 46.2 -2.2**
PV13 **Radium Mtn., P** **43.70 84** P **P** **23 31 44.1 0.0**
PV13 IAmb IAmb 23 32 03.7
comp=Z,12nm,0.9s
JHS **Saijyo** **43.79 270** P **P** **23 31 44.9 +0.3**
JHS IAmb IAmb 23 31 49.2
comp=Z,24nm,1.2s
JCJ **Chichijima** **43.81 254** P **P** **23 31 43.8 -1.0**
comp=Z,88nm,0.7s,baz=265,slow=17,SNR=2.2
JCJ **Chichijima** **43.81 254** P **P** **23 31 44.5 -0.2**
ULM **Lac du Bonnet** **44.28 62** P **P** **23 31 48.1 -0.2**
comp=Z,2.3nm,0.5s,baz=285,slow=5.2,SNR=3.5
ULM LR LR 23 51 57.5
comp=Z,146nm,19.0s,baz=316,slow=38
ULM **Lac du Bonnet** **44.28 62** P **P** **23 31 48.5 +0.2**
ULM IAmb IAmb 23 31 50.9
comp=Z,39nm,1.8s
AGMN **Agassiz Nation** **45.36 64** P **P** **23 31 56.3 -0.6**
AGMN IAmb IAmb 23 31 57.7
comp=Z,9.3nm,0.8s
AGMN **Agassiz Nation** **45.36 64** P **P** **23 31 57.1 +0.3**
baz=304,SNR=5.9
KSRS **Korea Array** **45.39 277** P **P** **23 31 57.5 +0.3**
comp=Z,9.6nm,0.8s,baz=56,slow=7.6,SNR=31
KSRS LR LR 23 48 50.4
comp=Z,66nm,21.2s,baz=50,slow=33
KS19 **Wonju Array Si** **45.39 277** P **P** **23 31 57.4 +0.1**
KS19 IAmb IAmb 23 32 13.9
comp=Z,23nm,1.4s
KSAR **Wonju Array Be** **45.42 277** P **P** **23 31 56.9 -0.6**
KSAR **Wonju Array Be** **45.42 277** P **P** **23 31 56.9 -0.6**
NOR **Nord** **45.69 5** *i*P **P** **23 31 57.9 -1.2**
NOR IAmb IAmb 23 31 58.7
comp=Z,2.3nm,1.5s
SUSD **Miller** **45.80 70** P **P** **23 32 00.1 -0.4**
SDCO **Great Sand Dun** **45.99 82** P **P** **23 32 03.8 +1.5**
baz=310
INCN **Inchon** **46.16 278** P **P** **23 32 03.6 +0.3**
INCN pmax pmax
comp=Z,41nm,1.1s
INCN **Inchon** **46.16 278** P **P** **23 32 03.6 +0.3**
TUC **Tucson** **46.34 92** P **P** **23 32 04.6 -0.3**
TUC pmax pmax
comp=Z,6.0nm,1.1s
TUC **Tucson** **46.34 92** P **P** **23 32 04.6 -0.3**
TUC **Tucson** **46.34 92** P **P** **23 32 05.9 +1.0**
baz=314
TUC **Tucson** **46.34 92** P **P** **23 32 06.1 +1.2**
TUC X 23 32 14.7
TUC pP **pwP** **23 32 18.5 +1.1**
JNU **Nakatsue** **46.42 270** P **P** **23 32 05.6 +0.1**
JNU IAmb IAmb 23 32 27.6
comp=Z,28nm,1.3s
TJN **Taejon** **46.42 276***c i*P **P** **23 32 05.7 +0.3**
TJN **Taejon** **46.42 276** P **P** **23 32 05.5 +0.1**
B35A **Bob, Littlefor** **46.50 63** P **P** **23 32 05.9 0.0**
B35A IAmb IAmb 23 32 18.9
comp=Z,19nm,1.1s
NRIK **Noril'sk** **46.59 332** P **P** **23 32 05.9 -0.4**
comp=Z,9.0nm,0.5s,baz=75,slow=8.7,SNR=14
NRIK LR LR 23 55 07.5
comp=Z,98nm,18.3s,baz=56,slow=41
NRIK **Noril'sk** **46.59 332***c i*P **P** **23 32 05.7 -0.6**
NRIK pmax pmax
comp=Z,7.0nm,0.6s
NRIK **Noril'sk** **46.59 332** P **P** **23 32 06.0 -0.4**
NRIK IAmb IAmb 23 32 06.3
comp=Z,9.0nm,0.6s
T25A **Trinidad** **47.05 82** P **P** **23 32 11.6 +1.0**
T25A IAmb IAmb 23 32 33.7
comp=Z,39nm,1.7s
T25A **Trinidad** **47.05 82** P **P** **23 32 12.5 +1.9**
baz=310,SNR=5.2
ANMO **Albuquerque** **47.23 86** LR LR 23 49 58.4
comp=Z,107nm,19.8s,baz=320,slow=33
ECSD **EROS Data Cent** **47.58 70** P **P** **23 32 14.1 -0.3**
ECSD IAmb IAmb 23 32 14.7
comp=Z,14nm,1.2s
ECSD **EROS Data Cent** **47.58 70** P **P** **23 32 13.9 -0.5**
baz=307,SNR=6.1
EYMN **Ely** **47.96 62** P **P** **23 32 17.2 -0.1**
EYMN IAmb IAmb 23 32 18.1
comp=Z,20nm,1.1s
121A **Cookes Peak, D** **48.03 89** P **P** **23 32 20.1 +1.9**
baz=313
XLT **XiLinHaoTe** **48.44 291** *e*P **P** **23 32 21.4 +0.3**
XLT sP pP 23 32 28.5 -0.7
XLT pmax pmax
comp=Z,13nm,1.0s
XLT pmax pmax
comp=Z,75nm,4.3s
KBS **Kingsbay** **49.17 360** *e*P **P** **23 32 26.7 +0.5**
I37A **Lemond, Waseca** **49.26 68** P **P** **23 32 27.3 0.0**
I37A IAmb IAmb 23 32 29.9
comp=Z,18nm,0.7s
SPA0 **Spitsbergen Ar** **49.88 358** *e*P **P** **23 32 31.2 -0.4**
SPITS **Spitsbergen Ar** **49.88 358** LR LR 23 54 17.4
comp=Z,99nm,18.7s,baz=294,slow=37
SPITS **Spitsbergen Ar** **49.88 358** P **P** **23 32 31.1 -0.5**
SPITS pmax pmax
comp=Z,41nm,1.5s
SPB2 **Spitsbergen Ar** **49.88 358** P **P** **23 32 31.2 -0.4**
SPB2 IAmb IAmb 23 32 56.1
comp=Z,30nm,1.2s
DAG **Danmarks Havn** **50.01 8** *i*P **P** **23 32 30.2 -2.3**
DAG IAmb IAmb 23 32 31.9
comp=Z,12nm,0.6s
MNTX **Cornudas Mount** **50.09 88** P **P** **23 32 34.2 +0.5**
MNTX **Cornudas Mount** **50.09 88** P **P** **23 32 35.2 +1.5**
baz=314
COWI **Conover** **50.36 63** P **P** **23 32 35.5 -0.2**
COWI IAmb IAmb 23 32 40.7
comp=Z,32nm,1.4s
BJI **Beijing** **50.80 287** P **P** **23 32 39.5 +0.5**
BJI pP **pP** **23 32 44.3 -2.9**
BJI PcP **PcP** **23 33 53.6 -1.9**
BJI pmax pmax
comp=Z,12nm,0.6s
BJI LR LR
comp=Z,170nm,18.8s
BJI LR LR
comp=Z,130nm,18.4s
BJT **Baijiatuau** **50.82 287** P **P** **23 32 39.2 +0.1**
BJT pmax pmax
comp=Z,9.0nm,0.5s
BJT **Baijiatuau** **50.82 287** P **P** **23 32 39.2 +0.1**
BJT IAmb IAmb 23 32 40.0
comp=Z,8.9nm,0.5s
ULN **Ulaanbaatar** **51.01 301** P **P** **23 32 40.5 -0.2**
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN **Ulaanbaatar** **51.01 301** P **P** **23 32 40.5 -0.2**
ULN IAmb IAmb 23 32 41.7
comp=Z,8.7nm,0.8s
ULN **Ulaanbaatar** **51.01 301** P **P** **23 32 40.5 -0.2**
HSPB **Hornsund (broa** **51.07 359** *e*P **P** **23 32 40.7 +0.2**
HOPEN **Hopen** **51.27 356** *e*P **P** **23 32 42.1 0.0**
SONM **Songino Array** **51.37 301** P **P** **23 32 43.3 -0.1**
comp=Z,4.4nm,0.8s,baz=54,slow=7.4,SNR=45
SONM PcP **PcP** **23 33 58.5 +0.8**
comp=Z,2.0nm,0.5s,baz=70,slow=2.0,SNR=6.5
SONM ScP **ScP** **23 37 54.6 +2.7**
comp=Z,0.7nm,0.6s,baz=76,slow=3.1,SNR=4.2
SONM LR LR 23 56 29.2
comp=Z,290nm,18.6s,baz=58,slow=38
SONM **Songino Array** **51.37 301** P **P** **23 32 43.4 -0.1**
SONM IAmb IAmb 23 32 44.9
comp=Z,15nm,1.2s
ZAK **Zakamensk** **51.41 305** *e*P **P** **23 32 43.2 -0.4**
ZAK *e* 23 33 58.3
ZAK pmax pmax
comp=Z,18nm,1.5s
ZAK pmax pmax
comp=Z,11nm,1.2s
MOY **Mondy** **51.75 308** *e*P **P** **23 32 46.0 -0.1**
MOY pmax pmax
comp=Z,13nm,1.3s
WMOK **Wichita Mounta** **52.06 80** P **P** **23 32 49.2 +0.7**
baz=313
DBG **Daneborg** **52.13 10** *i*P **P** **23 32 46.8 -1.6**
DBG IAmb IAmb 23 32 47.8
comp=Z,18nm,0.5s
JOW **Kunigami** **52.44 266** LR LR 23 54 36.2
comp=Z,42nm,20.2s,baz=174,slow=36
LPIG **La Paz** **52.50 99** LR LR 23 49 58.2
comp=Z,46nm,21.4s,baz=224,slow=30
SFJD **Kangerlussuaq** **52.58 26** LR LR 23 58 32.8
comp=Z,106nm,18.4s,baz=322,slow=40
SFJD **Kangerlussuaq** **52.58 26** P **P** **23 32 52.2 +0.3**
SFJD pmax pmax
comp=Z,15nm,1.0s
SFJD **Kangerlussuaq** **52.58 26** P **P** **23 32 52.2 +0.3**
SFJD IAmb IAmb 23 32 52.5
comp=Z,16nm,0.9s
TX31 **Lajitas Ar. Si** **52.79 89** P **P** **23 32 54.8 +0.7**
TXAR **Lajitas Array** **52.79 89** P **P** **23 32 55.1 +1.0**
comp=Z,1.8nm,0.6s,baz=299,slow=5.3,SNR=20
TXAR LR LR 23 54 55.8
comp=Z,72nm,18.2s,baz=314,slow=36
TXAR **Lajitas Array** **52.79 89** P **P** **23 32 54.9 +0.8**
TXAR **Lajitas Array** **52.79 89** P **P** **23 32 54.9 +0.8**
P40A **Paris** **52.89 71** P **P** **23 32 54.1 -0.5**
HHC **Hu-ho-hao-te** **52.96 291** *e*P **P** **23 32 56.0 +0.8**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,91nm,5.1s
HHC LR LR
comp=Z,150nm,15.9s
HHC LR LR
comp=Z,180nm,15.2s
HHC LR LR
comp=Z,290nm,14.6s
HNS **HongShan** **53.40 286**⇓ P **P** **23 32 59.4 +1.1**
HNS pmax pmax
comp=Z,30nm,0.6s
BJO1 **Bjornoya** **53.50 357** *e*P **P** **23 32 59.0 +0.5**
ICESG **Greenland Ices** **53.58 20** *i*P **P** **23 32 58.1 -1.6**
ICESG IAmb IAmb 23 32 59.3
comp=Z,17nm,0.6s
DY2G **Dye2** **54.12 25** *i*P **P** **23 33 02.4 -1.1**
DY2G IAmb IAmb 23 33 05.0
comp=Z,9.6nm,0.6s
JCT **Junction City** **54.36 85** P **P** **23 33 07.7 +2.2**
baz=315
U40A **Yellville** **54.53 75** P **P** **23 33 05.9 -0.8**
baz=313
NJ2 **Nanjing** **54.54 278** *e*P **P** **23 33 06.7 0.0**
NJ2 pmax pmax
comp=Z,21nm,0.8s
WHTX **Lake Whitney,** **54.74 82** P **P** **23 33 08.7 +0.4**
baz=314
SFIN **Lafayette** **55.18 67** P **P** **23 33 11.1 -0.1**
SFIN IAmb IAmb 23 33 40.9
comp=Z,36nm,1.4s
VLDQ **Val d'Or** **55.22 55** P **P** **23 33 10.7 -0.8**
VLDQ IAmb IAmb 23 33 25.4
comp=Z,14nm,1.1s
SCO **Scoresbysund** **55.44 13** P **P** **23 33 12.7 0.0**
SCO pmax pmax
comp=Z,14nm,0.6s
SCO **Scoresbysund** **55.44 13** P **P** **23 33 12.7 0.0**
SCO IAmb IAmb 23 33 13.5
comp=Z,14nm,0.6s
SCO **Scoresbysund** **55.44 13** *i*P **P** **23 33 12.2 -0.5**
SCO IAmb IAmb 23 33 12.9
comp=Z,9.0nm,0.5s
SCHQ **Schefferville** **55.62 43** P **P** **23 33 14.5 +0.3**
comp=Z,16nm,0.9s,baz=317,slow=7.9,SNR=20
SCHQ LR LR 23 56 43.6
comp=Z,125nm,18.8s,baz=9.0,slow=36
SCHQ **Schefferville** **55.62 43** P **P** **23 33 14.6 +0.3**
SCHQ IAmb IAmb 23 33 15.6
comp=Z,17nm,0.9s
O48B **Farmland** **56.36 66** P **P** **23 33 18.6 -1.1**
baz=313
JMIC **Jan Mayen** **56.40 7** LR LR 23 57 44.9
comp=Z,63nm,19.9s,baz=20,slow=36
SADO **Sadowa** **56.59 59** LR LR 23 58 29.4
comp=Z,98nm,18.6s,baz=348,slow=37
P49A **Miami Univ. Ec** **57.09 67** P **P** **23 33 23.9 -1.1**
baz=313
HAMF **Hammerfest** **57.14 355** *e*P **P** **23 33 24.9 0.0**
ZAA0 **Zalesovo Array** **57.55 318** P **P** **23 33 27.4 -0.6**
ZALV **Zalesovo Beam** **57.55 318** P **P** **23 33 27.4 -0.6**
comp=Z,4.7nm,0.5s,baz=42,slow=6.6,SNR=25
ZALV PcP **PcP** **23 34 21.4 +0.3**
comp=Z,2.7nm,0.6s,baz=75,slow=1.7,SNR=5.3
ZALV LR LR 00 00 34.2
comp=Z,89nm,18.1s,baz=60,slow=39
ZALV **Zalesovo Beam** **57.55 318** *i*P **P** **23 33 27.3 -0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
IVI **Ivigtut** **57.70 29** P **P** **23 33 29.3 +0.5**
KEV **Kevo** **57.81 353** P **P** **23 33 29.2 -0.4**
KEV pmax pmax
comp=Z,20nm,1.2s
KEV **Kevo** **57.81 353** P **P** **23 33 29.1 -0.4**
KEV IAmb IAmb 23 33 41.1
comp=Z,20nm,1.2s
ARA0 **ARCESS Array S** **58.13 354** *e*P **P** **23 33 30.8 -1.1**
ARCES **ARCESS Array B** **58.13 354** P **P** **23 33 31.2 -0.7**
comp=Z,4.8nm,0.5s,baz=21,slow=6.9,SNR=63
ARCES PcP **PcP** **23 34 23.4 +0.3**
comp=Z,3.5nm,0.7s,baz=32,slow=5.3,SNR=2.3
ARCES LR LR 00 00 25.6
comp=Z,100nm,18.7s,baz=355,slow=38
ARCES **ARCESS Array B** **58.13 354** P **P** **23 33 31.1 -0.7**
ARCES pmax pmax
comp=Z,45nm,1.6s
ARCES **ARCESS Array B** **58.13 354** P **P** **23 33 31.1 -0.7**
WHN **Wuhan** **58.34 280**⇑ P **P** **23 33 33.8 0.0**
WHN pmax pmax
comp=Z,80nm,0.9s
TRO **Tromso** **58.37 357** *e*P **P** **23 33 33.4 -0.1**
JETT **Jettan, Norway** **58.39 356** *e*P **P** **23 33 35.0 +1.4**
KTK1 **Kautokeino** **58.79 355** *e*P **P** **23 33 36.4 0.0**
LVZ **Lovozero** **58.92 350***d i*P **P** **23 33 36.8 -0.6**
LVZ pmax pmax
comp=Z,22nm,0.6s
LVZ **Lovozero** **58.92 350** P **P** **23 33 36.7 -0.6**
LVZ **Lovozero** **58.92 350** ⇓P **P** **23 33 36.8 -0.6**

LVZ pP **pwP** **23 33 51.5 +3.0**
LVZ sP sP 23 34 02.8 +14
XAN Xi'an 59.12 287 P **P** **23 33 39.4 +0.1**
XAN pP pP 23 33 43.5 -4.1
XAN sP sP 23 33 47.4 -3.4
XAN pmax pmax
comp=Z,18nm,1.0s
XAN pmax pmax
comp=Z,58nm,4.3s
XAN LR LR
comp=Z,150nm,18.0s
XAN LR LR
comp=Z,190nm,17.2s
XAN LR LR
comp=Z,240nm,19.4s
XAN Xi'an 59.12 287 P **P** **23 33 39.6 +0.3**
SSLB Suanglung 59.17 270 P **P** **23 33 39.5 -0.2**
SSLB IAmb IAmb 23 33 51.3
comp=Z,18nm,0.9s
YULB Yu-li 59.25 269 P **P** **23 33 41.6 +1.3**
YULB IAmb IAmb 23 34 03.1
comp=Z,12nm,1.0s
LOF Lofoten 60.01 359 *eP* **P** **23 33 43.1 -1.7**
BINY Binghamton 60.03 59 P **P** **23 33 45.8 +0.4**
baz=315
SSPA Standing Stone 60.11 61 P **P** **23 33 46.1 +0.1**
baz=315
SSPA Standing Stone 60.11 61 P **P** **23 33 46.0 +0.1**
SSPA pP **pwP** **23 33 57.3 -0.7**
STEI Steigen 60.18 358 *eP* **P** **23 33 45.3 -0.7**
TKL Tuckaleechee C 60.32 69 LR LR 00 00 11.8
comp=Z,122nm,18.4s,baz=297,slow=36
GTA Gaotai 60.54 297 *eP* **P** **23 33 48.5 -0.6**
GTA pP sP 23 33 58.4 -2.1
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA pmax pmax
comp=Z,51nm,5.8s
GTA LR LR
comp=Z,130nm,18.9s
GTA LR LR
comp=Z,170nm,17.1s
GTA LR LR
comp=Z,210nm,17.1s
LZH Lanzhou 60.63 292 P **P** **23 33 50.0 +0.2**
LZH pP pP 23 33 54.4 -3.7
LZH sP sP 23 33 57.8 -3.5
LZH pmax pmax
comp=Z,24nm,1.1s
FAUS Fauske 60.73 358 *eP* **P** **23 33 49.4 -0.4**
BLA Blacksburg 61.13 66 P **P** **23 33 53.3 +0.3**
baz=315
BATG Bathurst New B 61.33 49 P **P** **23 33 53.7 -0.4**
MVL Millersville 61.39 61 P **P** **23 33 54.6 0.0**
MVL IAmb IAmb 23 34 26.1
comp=Z,24nm,1.4s
ENH Enshi 61.46 283 P **P** **23 33 55.1 -0.3**
MOR8 Moi Rana 61.96 358 *eP* **P** **23 33 56.8 -1.4**
KURK Kurchatov 62.51 318 *c iP* **P** **23 34 01.1 -0.9**
KURK pmax pmax
comp=Z,21nm,0.7s
KURK Kurchatov 62.51 318 P **P** **23 34 01.4 -0.6**
KURK Kurchatov 62.51 318 P **P** **23 34 01.5 -0.5**
KURBB Kurchatov Arra 62.61 318 LR LR 00 03 39.0
comp=Z,154nm,18.1s,baz=6.6,slow=38
LMN Caledonia Moun 62.96 49 P **P** **23 34 05.3 +0.2**
PRGR Permogore 63.18 342 *eP* **P** **23 34 04.6 -1.6**
PRGR pmax pmax
comp=Z,9.0nm,0.5s
WMQ Urumqi 63.63 308 *eP* **P** **23 34 09.7 0.0**
WMQ pP pP 23 34 15.0 -3.0
WMQ sP sP 23 34 19.1 -2.0
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ LR LR
comp=Z,190nm,7.3s
WMQ LR LR
comp=Z,230nm,4.7s
WMQ Urumqi 63.63 308 P **P** **23 34 10.5 +0.8**
WMQ pP **pwP** **23 34 23.4 +1.7**
NSS Namsos 63.65 359 *eP* **P** **23 34 08.8 -0.5**
SVE Sverdlovsk 63.86 332 *eP* **P** **23 34 10.9 +0.1**
SVE pmax pmax
comp=Z,21nm,1.2s
BRVK Borovoye 63.86 325 *c iP* **P** **23 34 10.5 -0.4**
BRVK pmax pmax
comp=Z,10.0nm,0.5s
BRVK Borovoye 63.86 325 P **P** **23 34 10.6 -0.4**
BRVK Borovoye 63.86 325 P **P** **23 34 11.0 0.0**
BRVK pP **pwP** **23 34 28.2 +5.0**
MK31 Makanchi Array 63.92 313 *c iP* **P** **23 34 09.9 -1.6**
MK31 Makanchi Array 63.92 313 P **P** **23 34 10.4 -1.1**
MK31 IAmb IAmb 23 34 11.4
comp=Z,4.9nm,0.9s
MKAR Makanchi Array 63.92 313 P **P** **23 34 10.3 -1.2**
comp=Z,2.3nm,0.3s,baz=50,slow=6.3,SNR=83
MKAR LR LR 00 05 20.9
comp=Z,116nm,18.6s,baz=32,slow=39
MKAR Makanchi Array 63.92 313 *ce*P **P** **23 34 10.3 -1.2**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MAKZ Makanchi 64.05 314 ⇑P **P** **23 34 10.9 -1.4**
MAKZ Makanchi 64.05 314 P **P** **23 34 11.2 -1.1**
MAKZ IAmb IAmb 23 34 12.3
comp=Z,10nm,1.1s
MAKZ Makanchi 64.05 314 P **P** **23 34 11.2 -1.1**
MAKZ pP **pwP** **23 34 25.1 +0.7**
ARU Arti 64.79 333 LR LR 00 07 01.9
comp=Z,92nm,18.2s,baz=36,slow=40
ARU Arti 64.79 333 *c iP* **P** **23 34 16.4 -0.5**
ARU 23 34 48.5
ARU 23 36 39.1
ARU S **S** **23 43 00.9 +5.6**
ARU SS **SS** **23 47 02.5 -3.2**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 64.79 333 P **P** **23 34 16.6 -0.5**
ARU Arti 64.79 333 P **P** **23 34 16.5 -0.5**
ARU sP pwP 23 34 34.7 +5.5
KLMR Klimovskoe 64.98 345 *eP* **P** **23 34 16.0 -2.0**
KLMR pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 64.98 345 *eP* **P** **23 34 16.1 -2.0**
KLMR AMP 23 34 18.2
comp=Z,9.0nm,0.8s
KRVT Keravat (AS076 65.05 223 P **P** **23 34 18.6 -0.5**
comp=Z,40nm,0.5s,baz=154,slow=7.6,SNR=4.3
KIRV Kirov 65.19 339 ⇓*eP* **P** **23 34 19.1 -0.3**
GOMU GeErMu 65.59 298 P **P** **23 34 22.0 -1.0**
GOMU pP pP 23 34 25.9 -5.4
GOMU sP sP 23 34 29.2 -5.3
GOMU S **S** **23 43 11.9 +5.3**
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU pmax pmax
comp=Z,52nm,3.8s
GOMU LR LR
comp=Z,84nm,15.4s
GOMU LR LR
comp=Z,74nm,15.1s
GOMU LR LR
comp=Z,140nm,15.6s
VALR Valaam 65.68 349 *d iP* **P** **23 34 22.3 -0.3**
VALR pmax pmax
comp=Z,28nm,1.0s
TAOE Nuku Hiva Isla 65.76 148 *e*LR LR 23 54 01.3
comp=Z,160nm,24.2s
GYA Guiyang 65.94 283 ⇓P **P** **23 34 25.6 +0.6**
GYA pmax pmax
comp=Z,41nm,1.2s
AKN Aaknes 65.98 2 *eP* **P** **23 34 24.7 +0.1**
FIA1 FINESS Array S 66.07 352 P **P** **23 34 24.6 -0.5**
FIA1 IAmb IAmb 23 34 25.4
comp=Z,24nm,1.2s
FINES FINESS Array B 66.07 352 P **P** **23 34 24.4 -0.7**
comp=Z,6.9nm,0.5s,baz=14,slow=7.9,SNR=90
FINES LR LR 00 06 05.4
comp=Z,61nm,18.1s,baz=31,slow=39
DOMB Dombas 66.14 1 *eP* **P** **23 34 25.2 -0.5**
RAF Rauma 66.81 354 *eP* **P** **23 34 29.9 0.0**
NC204 NORSAR Array S 66.92 360 P **P** **23 34 30.2 -0.4**
HYA Hoyanger 66.97 2 *eP* **P** **23 34 30.5 -0.4**
OTUK Ortayu 66.98 320 *i* P **P** **23 34 31.6 +0.4**
OTUK pmax pmax
comp=Z,19nm,0.7s
NB2 NORSAR Subarra 67.15 360 P **P** **23 34 31.8 -0.3**
comp=Z,4.8nm,0.6s,baz=1.2,slow=6.5
NB2 NORSAR Subarra 67.15 360 P **P** **23 34 31.8 -0.3**
baz=1.2,slow=6.5
NOA NORSAR Array B 67.15 360 P **P** **23 34 31.6 -0.5**
comp=Z,8.8nm,0.7s,baz=0.4,slow=6.3,SNR=40
CMIG Matias Romero 67.23 91 LR LR 23 59 35.7
comp=Z,76nm,21.8s,baz=306,slow=32
PUL Pulkovo 67.29 349 ‖*eP* **P** **23 34 33.9 +1.0**
MEF Metsahovi 67.43 353 *eP* **P** **23 34 33.1 -0.7**
NC602 NORSAR Array S 67.46 359 *eP* **P** **23 34 33.4 -0.6**
SKAR Skarslia 67.50 1 *eP* **P** **23 34 34.2 -0.1**
PDGK Podgornoye 67.86 313 *i* P **P** **23 34 36.5 -0.5**
PDGK pmax pmax
comp=Z,18nm,0.7s
HFS Hagfors 68.03 358 LR LR 00 06 32.4
comp=Z,48nm,18.6s,baz=358,slow=38
UPP Uppsala 68.19 356 *eP* **P** **23 34 38.9 +0.2**
ODD1 Odda 68.24 2 *eP* **P** **23 34 38.9 -0.1**
KONO Kongsberg 68.55 1 *deP* **P** **23 34 41.2 +0.4**
KONO pmax pmax
comp=Z,53nm,2.5s
KONO Kongsberg 68.55 1 P **P** **23 34 40.9 +0.1**
KONO IAmb IAmb 23 34 41.9
comp=Z,19nm,0.8s
KONO Kongsberg 68.55 1 *eP* **P** **23 34 41.3 +0.4**
KONO Kongsberg 68.55 1 P **P** **23 34 40.8 -0.1**
KONO sP **PcP** **23 35 00.5 -5.3**
BLS5 Blasjo 68.73 2 *eP* **P** **23 34 42.0 0.0**
PZH PanZhiHua 68.84 286 P **P** **23 34 43.9 +0.5**
PZH pmax pmax
comp=Z,50nm,1.0s
PZH pmax pmax
comp=Z,120nm,4.3s
VSU Vasula 68.96 351 *c iP* **P** **23 34 43.1 -0.3**
VSU pmax pmax
comp=Z,72nm,0.7s
VSU Vasula 68.96 351 *eP* **P** **23 34 43.1 -0.3**
MTSE Matsula 68.96 353 *eP* **P** **23 34 43.3 -0.1**
KMI Kunming 69.28 284 ⇑P **P** **23 34 46.8 +0.5**
KMI pP pP 23 34 51.7 -3.0
KMI sP sP 23 34 54.1 -3.7
KMI pmax pmax
comp=Z,28nm,1.0s
KMI Kunming 69.28 284 P **P** **23 34 46.8 +0.5**
VIKU Vikbolandet 69.59 357 *eP* **P** **23 34 47.3 0.0**
KDJ Kajisay 69.85 313 P **P** **23 34 49.5 0.0**
KDJ pmax pmax
comp=Z,76nm,1.8s
KDJ Kajisay 69.85 313 P **P** **23 34 49.5 0.0**
TARG Taragay, Kyrgy 69.88 313 P **P** **23 34 50.5 +0.5**
TARG pmax pmax
comp=Z,9.0nm,0.6s
TARG Taragay, Kyrgy 69.88 313 P **P** **23 34 50.5 +0.5**
TARG IAmb IAmb 23 34 51.8
comp=Z,8.6nm,0.6s
TKM2 Tokmak 2 69.91 315 P **P** **23 34 49.6 -0.3**
SNR=17
TKM2 Tokmak 2 69.91 315 *i* P **P** **23 34 49.4 -0.5**
TKM2 pmax pmax
comp=Z,14nm,1.0s
HOMB Homborsund 69.92 1 *eP* **P** **23 34 49.0 -0.4**
BOOM Boomskoye usch 70.11 314 P **P** **23 34 51.2 +0.1**
BOOM pmax pmax
comp=Z,22nm,0.6s
BOOM Boomskoye usch 70.11 314 P **P** **23 34 51.2 +0.1**
USP Ospenovka 70.11 316 P **P** **23 34 51.1 +0.2**
SNR=28
SLIT Slitere, Latvi 70.16 353 *eP* **P** **23 34 50.3 -0.5**
AKTO Aktyubinsk 70.17 330 LR LR 00 08 39.4
comp=Z,58nm,18.9s,baz=33,slow=39
CHMS Chumysh 70.22 315 P **P** **23 34 51.9 +0.3**
SNR=14
CHMS Chumysh 70.22 315 *i* P **P** **23 34 51.4 -0.1**
CHMS pmax pmax
comp=Z,18nm,0.8s
KBK Karagaybulak 70.41 315 P **P** **23 34 53.1 +0.2**
SNR=24
FRU1 Bishkek 70.42 315 P **P** **23 34 53.5 +0.6**
FRU1 pmax pmax
comp=Z,41nm,0.6s
FRU1 Bishkek 70.42 315 P **P** **23 34 53.5 +0.6**
ABKAR Akbulak array 70.59 328 P **P** **23 34 53.6 -0.1**
ABKAR IAmb IAmb 23 34 54.5
comp=Z,29nm,1.4s
ABKAR Akbulak array 70.59 328 P **P** **23 34 53.3 -0.4**
AAK Ala-Archa 70.62 315 LR LR 00 08 58.1
comp=Z,86nm,18.0s,baz=41,slow=39
AAK Ala-Archa 70.62 315 *c iP* **P** **23 34 53.9 -0.3**
AAK pmax pmax
comp=Z,42nm,1.3s
AAK Ala-Archa 70.62 315 P **P** **23 34 54.4 +0.2**
AAK Ala-Archa 70.62 315 P **P** **23 34 54.4 +0.2**
EKS2 Erkin-Say 70.91 316 P **P** **23 34 56.9 +1.0**
SNR=6.9
OBN Obninsk 70.94 345 LR LR 00 10 52.4
comp=Z,22nm,18.4s,baz=6.0,slow=40
OBN Obninsk 70.94 345 *ce*P **P** **23 34 54.6 -1.0**
OBN *e* 23 37 33.3
OBN pmax pmax
comp=Z,27nm,2.5s
PPT Papeete 71.55 160 LR LR 23 58 03.6
comp=Z,100nm,20.4s,baz=341,slow=29
PPT2 Papeete2 71.57 160 *e*LR LR 23 56 42.6
comp=Z,105nm,23.2s
DEL Delary 71.70 358 *eP* **P** **23 35 00.3 +0.1**
PBUR Paburge 71.78 353 *eP* **P** **23 35 00.5 -0.2**
KKAR Karatay Array 71.92 318 P **P** **23 35 01.5 -0.4**
KKAR Karatay Array 71.92 318 P **P** **23 35 01.5 -0.4**
PABE Paberze 72.13 352 P **P** **23 35 02.7 -0.1**
PABE Paberze 72.13 352 *eP* **P** **23 35 03.2 +0.4**
ESK Eskdalemuir 72.29 8 P **P** **23 35 03.8 +0.1**
ESK pmax pmax
comp=Z,78nm,1.8s
ESK Eskdalemuir 72.29 8 P **P** **23 35 03.8 +0.1**
NACGM Naroch 72.46 350 ⇑*eP* **P** **23 35 04.7 -0.1**
KSH Kashi 72.49 312 P **P** **23 35 08.6 +3.2**
KSH pP sP 23 35 13.8 -3.2
KSH sP pwP 23 35 16.5 -1.1
KSH PcP **PcP** **23 35 26.4 +3.3**
KSH pmax pmax
comp=Z,33nm,1.0s
LSA Lhasa 72.51 296 P **P** **23 35 06.5 +0.4**
LSA pmax pmax
comp=Z,28nm,0.7s
LSA Lhasa 72.51 296 P **P** **23 35 06.5 +0.4**
LSA Lhasa 72.51 296 P **P** **23 35 07.0 +0.9**
LSA pmax pmax
comp=Z,47nm,0.8s
MNK Minsk 72.74 350 *i* P **P** **23 35 06.1 -0.3**
MNK *i* 23 35 24.2
MNK *i* 23 37 48.0
MNK *i* PPP PPP 23 39 35.6
MNK *i* S **S** **23 44 32.6 +3.1**
MNK *i* SS **SS** **23 49 13.2 +5.1**
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,37nm,0.9s
MNK MLR MLR
comp=E,18nm,15.0s
MNK MLR MLR
comp=N,104nm,16.0s
MNK MLR MLR
comp=Z,78nm,15.0s
MNK Minsk 72.74 350 *i* P **P** **23 35 06.1 -0.3**
comp=E,1.0nm,0.9s
MNK *i* P **P** **23 35 06.1 -0.3**
comp=N,12nm,0.9s
MNK *i* P **P** **23 35 06.1 -0.3**
comp=Z,37nm,0.9s,baz=11
MNK *i* PcP **PcP** **23 35 24.2 +0.5**
MNK *i* PP **PP** **23 37 48.1 +0.4**
MNK *i* PPP PPP 23 39 35.7
MNK *i* S **S** **23 44 32.6 +3.1**
MNK *i* SS **SS** **23 49 13.2 +5.1**
MNK *i* SSS SSS 23 52 33.7
RAR Rarotonga 73.54 171 LR LR 00 01 45.9
comp=Z,115nm,19.5s,baz=198,slow=31
SUW Suwalki 73.68 352 *eP* **P** **23 35 11.6 -0.4**
SUW Suwalki 73.68 352 P **P** **23 35 11.3 -0.7**
SUW pmax pmax
comp=Z,57nm,1.0s
SUW Suwalki 73.68 352 P **P** **23 35 11.2 -0.7**
SUW Suwalki 73.68 352 *eP* **P** **23 35 11.8 -0.2**
TAS Tashkent 73.90 318 P **P** **23 35 13.5 -0.1**
TAS pmax pmax
comp=Z,44nm,1.1s
TAS Tashkent 73.90 318 P **P** **23 35 13.5 -0.1**
BSEG Bad Segeberg 74.28 0 *eP* **P** **23 35 16.1 +0.6**
comp=Z,18nm,1.0s,baz=0.5,slow=5.7
BTK Batken 74.32 316 P **P** **23 35 16.0 -0.1**
BTK pmax pmax
comp=Z,31nm,0.9s
BTK Batken 74.32 316 P **P** **23 35 16.0 -0.1**
DRK Karamyk 74.37 315 P **P** **23 35 16.7 -0.1**
UBPT Khong Chiam 75.10 276 P **P** **23 35 20.9 +0.1**
UBPT IAmb IAmb 23 35 37.7
comp=Z,15nm,1.1s
SHL Shillong 75.28 293 P **P** **23 35 21.2 -0.8**
SHL pmax pmax
comp=Z,20nm,1.0s
SHL Shillong 75.28 293 P **P** **23 35 21.2 -0.8**
SHL IAmb IAmb 23 35 24.1
comp=Z,20nm,1.0s
GAR Garm 75.41 316 P **P** **23 35 22.1 -0.4**
RETH Rethem/Aller, 75.47 1 *eP* **P** **23 35 22.9 +0.5**
comp=Z,21nm,1.4s,baz=0.5,slow=5.7
RUE Ruedersdorf 75.70 358 *eP* **P** **23 35 24.5 +0.8**
RUE Ruedersdorf 75.70 358 *eP* **P** **23 35 24.2 +0.5**
comp=Z,17nm,0.7s,baz=0.5,slow=5.7
NRDL Niedersach Rie 75.72 0 *eP* **P** **23 35 24.3 +0.5**
comp=Z,11nm,1.0s,baz=0.5,slow=5.7
IBBN Ibbenburen 75.88 2 *eP* **P** **23 35 25.4 +0.6**
comp=Z,26nm,1.2s,baz=0.5,slow=5.7
FLTG Flechtingen 75.88 360 *eP* **P** **23 35 24.8 0.0**
comp=Z,8.5nm,0.8s,baz=0.5,slow=5.7
BEL Belsk 76.02 353 *eP* **P** **23 35 26.6 +1.0**
ASSE Asse, Remlinge 76.09 360 *eP* **P** **23 35 26.4 +0.5**
comp=Z,7.8nm,1.0s,baz=0.5,slow=5.7
CHGR Chuyangaron 76.19 317 P **P** **23 35 26.8 -0.2**
CHGR pmax pmax
comp=Z,111nm,0.8s
CHGR Chuyangaron 76.19 317 P **P** **23 35 26.8 -0.2**
TAPN Taplejung 76.23 297 *eP* **P** **23 35 27.7 +0.1**
comp=Z,39nm,0.6s
AKASG Malin Array Be 76.31 348 P **P** **23 35 26.2 -1.0**
comp=Z,12nm,0.6s,baz=16,slow=5.8,SNR=30
AKASG LR LR 00 14 16.1
comp=Z,68nm,19.3s,baz=5.5,slow=40
AKASG Malin Array Be 76.31 348 P **P** **23 35 26.3 -0.9**
AKBB Malin Array Si 76.31 348 *d iP* **P** **23 35 26.5 -0.7**
AKBB pmax pmax
comp=Z,14nm,0.6s
AKBB Malin Array Si 76.31 348 P **P** **23 35 26.6 -0.7**
AKBB IAmb IAmb 23 35 27.1
comp=Z,16nm,0.6s
CHTO Chiang Mai 76.35 283 P **P** **23 35 27.9 -0.1**
CHTO pmax pmax
comp=Z,9.0nm,0.7s
CHTO Chiang Mai 76.35 283 P **P** **23 35 27.9 -0.1**
CHTO IAmb IAmb 23 35 28.8
comp=Z,8.6nm,0.7s
CLZ Clausthal 76.38 0 *eP* **P** **23 35 27.6 0.0**
comp=Z,13nm,0.9s,baz=0.5,slow=5.7
CM31 Chiang Mai Arr 76.62 283 P **P** **23 35 30.5 +0.9**
CM31 IAmb IAmb 23 35 31.3
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 76.62 283 P **P** **23 35 29.4 -0.2**
comp=Z,17nm,0.8s,baz=26,slow=6.7,SNR=98
CMAR LR LR 00 13 16.1
comp=Z,61nm,18.6s,baz=260,slow=39
CMAR Chiang Mai Arr 76.62 283 P **P** **23 35 30.3 +0.7**
GTTG Gottingen 76.67 0 *eP* **P** **23 35 29.9 +0.6**
comp=Z,16nm,1.0s,baz=0.5,slow=5.7
BUG Bochum--Univer 76.74 2 *eP* **P** **23 35 29.9 +0.3**
comp=Z,25nm,1.4s,baz=0.5,slow=5.7
GUN Gumba 76.79 298 *eP* **P** **23 35 31.0 +0.2**
comp=Z,78nm,0.6s
ODAN Odare 76.79 297 *eP* **P** **23 35 30.5 -0.2**
comp=Z,13nm,0.5s
JIRN Jiri 76.82 298 *eP* **P** **23 35 31.3 +0.3**
comp=Z,52nm,0.4s
CLL Collm 76.89 358 *i* P **P** **23 35 30.1 -0.4**
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 76.89 358 P **P** **23 35 30.2 -0.3**
CLL IAmb IAmb 23 35 31.5
comp=Z,13nm,1.1s
CLL Collm 76.89 358 *i* P **P** **23 35 30.1 -0.4**
comp=Z,9.0nm,0.7s
CLL Collm 76.89 358 *eP* **P** **23 35 30.6 +0.1**
comp=Z,8.9nm,0.7s,baz=0.5,slow=5.7
KASTN Kahler Asten 77.00 1 *eP* **P** **23 35 31.4 +0.3**
comp=Z,6.0nm,0.9s,baz=0.5,slow=5.7
NEUB Neuenburg 77.00 359 *eP* **P** **23 35 31.8 +0.6**
comp=Z,19nm,1.1s,baz=0.5,slow=5.7
RAMN Ramite 77.15 297 *eP* **P** **23 35 33.1 +0.4**
comp=Z,40nm,0.4s
TBI Tubuai 77.19 161 *e*LR LR 23 58 57.7
comp=Z,120nm,34.8s
KKN Kakani 77.21 299 *eP* **P** **23 35 33.2 +0.2**
comp=Z,31nm,0.6s
FBE Freiberg 77.27 358 *eP* **P** **23 35 33.2 +0.6**
comp=Z,11nm,0.8s,baz=0.5,slow=5.7
BRG Berggiesshubel 77.31 358 *eP* **P** **23 35 33.1 +0.3**
BRG Amp 23 35 35.0
comp=Z,9.4nm,0.8s
BRG Berggiesshubel 77.31 358 *eP* **P** **23 35 33.1 +0.3**
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG Berggiesshubel 77.31 358 *eP* **P** **23 35 33.2 +0.3**
comp=Z,9.4nm,0.8s,baz=0.5,slow=5.7
PKI Phulchoki 77.31 299 *eP* **P** **23 35 33.5 -0.2**
PKIN Phulchoki 77.31 299 *eP* **P** **23 35 33.4 -0.2**
GKN Gorkha 77.39 299 *eP* **P** **23 35 33.7 -0.2**
comp=Z,61nm,0.8s
CHVC Chvalec 77.53 356 *eP* **P** **23 35 34.6 +0.4**
MEM Membach 77.54 3 *bP* **P** **23 35 34.3 +0.1**
comp=Z,8.8nm,0.0s
BSTI Sart Tilman 77.55 3 *dP* **P** **23 35 34.9 +0.7**
OSTC Ostas 77.55 356 *eP* **P** **23 35 34.6 +0.3**
BTNL Ternell 77.56 3 *dP* **P** **23 35 32.9 -1.5**
MOX Moxa 77.57 359 *eP* **P** **23 35 34.9 +0.5**
comp=Z,12nm,1.1s,baz=0.5,slow=5.7
DANN Dangsing 77.58 300 *eP* **P** **23 35 35.3 +0.1**
UPC Upice 77.61 356 *eP* **P** **23 35 35.1 +0.5**
UPC Upice 77.61 356 *eP* **P** **23 35 35.1 +0.5**
AHRW Bad Neuenahr-A 77.64 2 *eP* **P** **23 35 35.3 +0.6**
comp=Z,9.8nm,0.9s,baz=0.5,slow=5.7
OJC Ojcow 77.70 354 *eP* **P** **23 35 35.3 +0.2**
OJC Ojcow 77.70 354 P **P** **23 35 35.5 +0.4**
OJC pmax pmax
comp=Z,8.0nm,0.6s
OJC Ojcow 77.70 354 P **P** **23 35 35.5 +0.4**
OJC IAmb IAmb 23 35 35.9
comp=Z,7.8nm,0.6s
BCLA Clavier 77.70 3 *dP* **P** **23 35 35.3 +0.2**
comp=Z,7.3nm,1.0s
PLN Plauen 77.72 359 *eP* **P** **23 35 35.8 +0.6**
comp=Z,7.2nm,1.3s,baz=0.5,slow=5.7
BGES Gesves 77.73 4 *dP* **P** **23 35 35.3 0.0**
DPC Dobruska-Polom 77.75 356 *eP* **P** **23 35 36.1 +0.7**
DPC Dobruska-Polom 77.75 356 *eP* **P** **23 35 36.1 +0.7**
LVV L'vov 77.76 351 *eP* **P** **23 35 35.3 -0.1**
TANN Tannenbergstha 77.79 359 *eP* **P** **23 35 36.2 +0.5**
comp=Z,3.6nm,0.8s,baz=0.5,slow=5.7
BMRD Maredsous 77.80 4 *dP* **P** **23 35 36.0 +0.4**
comp=Z,11nm,0.9s
GUNZ Gunzen 77.84 359 *eP* **P** **23 35 36.6 +0.7**
comp=Z,5.0nm,0.8s,baz=0.5,slow=5.7
WERN Wernitzgraun 77.92 359 *eP* **P** **23 35 37.2 +0.8**
comp=Z,12nm,1.2s,baz=0.5,slow=5.7
RCHB Rochefort 77.96 4 *dP* **P** **23 35 36.8 +0.3**
comp=Z,6.7nm,1.0s
NKC Novy Kostel 77.97 359 *eP* **P** **23 35 37.5 +0.8**
NKC Novy Kostel 77.97 359 *eP* **P** **23 35 37.5 +0.8**
TNS Taunus Mts 77.98 1 *eP* **P** **23 35 37.2 +0.4**
comp=Z,13nm,1.3s,baz=0.5,slow=5.7
DOU Dourbes 78.00 4 *dP* **P** **23 35 36.8 +0.1**
comp=Z,6.3nm,0.7s
KRLC Kraliky 78.01 356 *eP* **P** **23 35 37.5 +0.6**
KRLC Kraliky 78.01 356 *eP* **P** **23 35 37.5 +0.6**
KWP Kalwaria Pacla 78.06 352 *eP* **P** **23 35 37.5 +0.3**
KWP Kalwaria Pacla 78.06 352 P **P** **23 35 37.5 +0.3**
KWP pmax pmax
comp=Z,223nm,0.7s

KWP	**Kalwaria Pacla**	**78.06**	**352**	P	**P**	**23 35 37.5**	**+0.3**
KOLN	**Koldanda**	**78.12**	**300**	*e*P	**P**	**23 35 38.0**	**-0.1**
PRU	**Pruhonice**	**78.18**	**357**	*e*P	**P**	**23 35 38.3**	**+0.6**
PRU	**Pruhonice**	**78.18**	**357**	*e*P	**P**	**23 35 38.3**	**+0.6**
PYUN	**Piuthan**	**78.19**	**301**	*e*P	**P**	**23 35 38.3**	**-0.1**
MANZ	**Manzenberg**	**78.22**	**359**	*e*P	**P**	**23 35 38.4**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=0.5,slow=5.7						
MORC	**Moravsky Berou**	**78.27**	**355**	⇑P	**P**	**23 35 39.0**	**+0.6**
MORC	**Moravsky Berou**	**78.27**	**355**	⇑P	**P**	**23 35 39.0**	**+0.6**
MORC	**Moravsky Berou**	**78.27**	**355**	P	**P**	**23 35 38.2**	**-0.1**
MORC				IAmb	IAmb	23 35 39.7	
	comp=Z,8.1nm,0.9s						
MORC	**Moravsky Berou**	**78.27**	**355**	*e*P	**P**	**23 35 38.6**	**+0.3**
ROTZ	**Rotzenmuhle**	**78.44**	**359**	*e*P	**P**	**23 35 39.9**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=0.5,slow=5.7						
NIE	**Niedzica**	**78.46**	**354**	*e*P	**P**	**23 35 40.9**	**+1.5**
WLF	**Walferdange**	**78.49**	**3**	*e*P	**P**	**23 35 40.3**	**+0.9**
	comp=Z,38nm,1.6s,baz=0.5,slow=5.7						
WLF	**Walferdange**	**78.49**	**3**	*d*P	**P**	**23 35 40.4**	**+0.9**
	comp=Z,5.6nm,1.0s						
PBCC	**Pribram**	**78.49**	**358**	*e*P	**P**	**23 35 39.9**	**+0.4**
GRA1	**Grafenberg Arr**	**78.53**	**360**	P	**P**	**23 35 40.6**	**+0.9**
GRA1				IAmb	IAmb	23 35 41.6	
	comp=Z,37nm,1.5s						
GRF	**Grafenberg Arr**	**78.53**	**360**	P	**P**	**23 35 40.6**	**+0.9**
GRF				pmax	pmax		
	comp=Z,37nm,1.5s						
GRF	**Grafenberg Arr**	**78.53**	**360**	*e*P	**P**	**23 35 40.7**	**+1.0**
	comp=Z,14nm,0.9s,baz=0.5,slow=5.7						
NIL	**Nilore**	**78.54**	**311**	P	**P**	**23 35 40.3**	**+0.2**
NIL				pmax	pmax		
	comp=Z,46nm,0.8s						
NIL	**Nilore**	**78.54**	**311**	P	**P**	**23 35 40.3**	**+0.2**
VRAC	**Vranov**	**78.78**	**356**	⇑P	**P**	**23 35 42.0**	**+0.9**
VRAC	**Vranov**	**78.78**	**356**	⇑P	**P**	**23 35 42.0**	**+0.9**
VRAC	**Vranov**	**78.78**	**356**	*e*P	**P**	**23 35 41.8**	**+0.7**
LANS	**Liptovska Anna**	**78.79**	**354**	*e*P	**P**	**23 35 42.4**	**+1.2**
LANS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LANS	**Liptovska Anna**	**78.79**	**354**	*e*P	**P**	**23 35 42.4**	**+1.2**
CRVS	**Cervenica-Dubn**	**78.89**	**353**	*e*P	**P**	**23 35 42.2**	**+0.5**
CRVS	**Cervenica-Dubn**	**78.89**	**353**	*e*P	**P**	**23 35 42.2**	**+0.5**
SORM	**Soroca**	**78.94**	**348**	⇓P	**P**	**23 35 41.3**	**-0.6**
SORM	**Soroca**	**78.94**	**348**	⇓P	**P**	**23 35 41.3**	**-0.6**
KRUC	**Moravsky**	**79.04**	**356**	*e*P	**P**	**23 35 42.9**	**+0.4**
KHC	**Kasperske Hory**	**79.06**	**358**	P	**P**	**23 35 42.8**	**+0.1**
KHC				pmax	pmax		
	comp=Z,28nm,1.4s						
KHC	**Kasperske Hory**	**79.06**	**358**	P	**P**	**23 35 42.8**	**+0.1**
KHC				IAmb	IAmb	23 35 44.7	
	comp=Z,28nm,1.4s						
KHC	**Kasperske Hory**	**79.06**	**358**	*e*P	**P**	**23 35 43.4**	**+0.7**
KHC				*e*pP	**sP**	**23 35 51.5**	**-2.7**
WET	**Wettzell**	**79.06**	**358**	*e*P	**P**	**23 35 43.3**	**+0.7**
	comp=Z,9.7nm,1.3s,baz=0.5,slow=5.7						
UZH	**Uzhgorod**	**79.09**	**352**	*e*P	**P**	**23 35 42.6**	**-0.2**
UZH				*e*		23 35 53.8	
JAVC	**Velka Javorina**	**79.18**	**355**	*e*P	**P**	**23 35 45.1**	**+1.7**
IZAB	**Izabela**	**79.35**	**354**	*e*P	**P**	**23 35 45.3**	**+1.1**
CKRC	**Cesky Krumlov**	**79.35**	**357**	*e*P	**P**	**23 35 44.3**	**0.0**
KOLL	**Kolacno**	**79.42**	**355**	*e*P	**P**	**23 35 45.5**	**+0.9**
VYHS	**Vyhne**	**79.48**	**354**	*e*P	**P**	**23 35 45.4**	**+0.5**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VYHS	**Vyhne**	**79.48**	**354**	*e*P	**P**	**23 35 45.4**	**+0.5**
SMOL	**Smolenice**	**79.54**	**355**	*e*P	**P**	**23 35 46.2**	**+1.0**
SMOL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SMOL	**Smolenice**	**79.54**	**355**	*e*P	**P**	**23 35 46.2**	**+1.0**
TRPA	**Tarpa**	**79.57**	**352**	⇑P	**P**	**23 35 45.9**	**+0.5**
TRPA	**Tarpa**	**79.57**	**352**	P	**P**	**23 35 45.7**	**+0.3**
KBL	**Kabul**	**79.71**	**314**	P	**P**	**23 35 45.4**	**-1.3**
KBL				pmax	pmax		
	comp=Z,24nm,0.9s						
KBL	**Kabul**	**79.71**	**314**	P	**P**	**23 35 45.4**	**-1.3**
BUR08	**Bucovina Ar. S**	**79.79**	**350**	P	**P**	**23 35 46.9**	**+0.1**
BUR08				IAmb	IAmb	23 35 47.6	
	comp=Z,4.8nm,0.7s						
BURAR	**Bucovina Array**	**79.82**	**350**	⇑P	**P**	**23 35 46.7**	**-0.2**
BURAR	**Bucovina Array**	**79.82**	**350**	⇑P	**P**	**23 35 46.7**	**-0.2**
BURAR	**Bucovina Array**	**79.82**	**350**	P	**P**	**23 35 47.1**	**+0.1**
BURAR				IAmb	IAmb	23 35 47.7	
	comp=Z,8.1nm,0.6s						
ZST	**Bratislava**	**79.87**	**356**	*e*P	**P**	**23 35 48.3**	**+1.3**
ZST				pmax	pmax		
	comp=Z,79nm,1.4s						
ZST	**Bratislava**	**79.87**	**356**	*e*P	**P**	**23 35 48.3**	**+1.3**
BFO	**Black Forest**	**79.87**	**2**	P	**P**	**23 35 47.0**	**-0.1**
BFO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BFO	**Black Forest**	**79.87**	**2**	P	**P**	**23 35 47.0**	**-0.1**
BFO				IAmb	IAmb	23 35 48.6	
	comp=Z,7.7nm,1.1s						
BFO	**Black Forest**	**79.87**	**2**	*e*P	**P**	**23 35 47.6**	**+0.5**
	comp=Z,39nm,2.2s,baz=0.5,slow=5.7						
CLF	**Chambon-Foret**	**79.94**	**6**	P	**P**	**23 35 48.0**	**+0.6**
ECH	**Echery**	**79.96**	**2**	P	**P**	**23 35 47.3**	**-0.3**
ECH				pmax	pmax		
	comp=Z,20nm,1.2s						
ECH	**Echery**	**79.96**	**2**	P	**P**	**23 35 47.3**	**-0.3**
ECH				IAmb	IAmb	23 35 49.0	
	comp=Z,20nm,1.2s						
PSZ	**Piszkesteto**	**79.98**	**354**	⇑P	**P**	**23 35 48.7**	**+0.9**
PSZ	**Piszkesteto**	**79.98**	**354**	P	**P**	**23 35 47.9**	**+0.1**
PSZ				pmax	pmax		
	comp=Z,13nm,1.1s						
PSZ	**Piszkesteto**	**79.98**	**354**	P	**P**	**23 35 47.9**	**+0.1**
PSZ				IAmb	IAmb	23 35 49.7	
	comp=Z,13nm,1.1s						
PSZ	**Piszkesteto**	**79.98**	**354**	P	**P**	**23 35 48.6**	**+0.9**
FUR	**Furstenfeldbru**	**80.05**	**360**	*e*P	**P**	**23 35 48.8**	**+0.7**
	comp=Z,10nm,0.9s,baz=0.5,slow=5.7						
MILM	**Milestii Mici**	**80.07**	**347**	⇑P	**P**	**23 35 47.7**	**-0.4**
MILM	**Milestii Mici**	**80.07**	**347**	⇑P	**P**	**23 35 47.7**	**-0.4**
SRO	**Srobarova**	**80.19**	**355**	*e*P	**P**	**23 35 49.0**	**+0.3**
SRO	**Srobarova**	**80.19**	**355**	*e*P	**P**	**23 35 49.0**	**+0.3**
CONA	**Conrad Observa**	**80.19**	**356**	*i* P	**P**	**23 35 49.9**	**+1.0**
	comp=Z,11nm,0.7s,SNR=9.5						
MOA	**Molln**	**80.32**	**357**	*i* P	**P**	**23 35 50.1**	**+0.6**
	comp=Z,3.2nm,0.7s						
KIV	**Kislovodsk**	**80.33**	**337**	⇑P	**P**	**23 35 50.3**	**+0.6**
KIV	**Kislovodsk**	**80.33**	**337**	⇑P	**P**	**23 35 50.3**	**+0.6**
KIV	**Kislovodsk**	**80.33**	**337**	P	**P**	**23 35 50.3**	**+0.6**
RONA	**Rosalia, Austr**	**80.40**	**356**	*e*P	**P**	**23 35 51.1**	**+1.1**
	comp=Z,7.3nm,0.9s						
ARCR	**ARCALIA**	**80.43**	**350**	⇑P	**P**	**23 35 50.8**	**+0.7**
RJOB	**Jochberg**	**80.47**	**358**	*e*P	**P**	**23 35 51.1**	**+0.7**
	comp=Z,6.5nm,0.8s,baz=0.5,slow=5.7						
VASR	**Vaslui**	**80.48**	**348**	⇑P	**P**	**23 35 50.1**	**-0.3**
KBZ	**Khabaz**	**80.49**	**337**	P	**P**	**23 35 50.7**	**+0.2**
	comp=Z,13nm,0.9s,baz=110,slow=2.5,SNR=18						
KBZ	**Khabaz**	**80.49**	**337**	*d i*P	**P**	**23 35 51.6**	**+1.2**
KBZ				pmax	pmax		
	comp=Z,14nm,0.8s						
BIOA	**Bad Ischl, Aus**	**80.50**	**358**	*i* P	**P**	**23 35 51.2**	**+0.7**
	comp=Z,8.5nm,0.9s,SNR=5.2						
UBR	**Ueberruh**	**80.54**	**0**	*e*P	**P**	**23 35 51.4**	**+0.6**
	comp=Z,14nm,1.3s,baz=0.5,slow=5.7						
CSKK	**Cskako**	**80.64**	**355**	P	**P**	**23 35 51.2**	**0.0**
RETA	**Reutte**	**80.73**	**360**	*e*P	**P**	**23 35 52.5**	**+0.7**
	comp=Z,5.6nm,0.7s						
TESR	**Tescani**	**80.75**	**349**	⇑P	**P**	**23 35 51.5**	**-0.3**
MPLH	**Magyarpolny**	**80.87**	**355**	P	**P**	**23 35 53.7**	**+1.3**
MOTA	**Moosalm**	**80.88**	**360**	*i* P	**P**	**23 35 53.3**	**+0.6**
	comp=Z,11nm,0.8s,SNR=7.7						
ARSA	**Arzberg**	**80.88**	**357**	*i* P	**P**	**23 35 53.6**	**+1.1**
	comp=Z,9.1nm,0.8s,SNR=9.3						
DRGR		**80.88**	**352**	⇑P	**P**	**23 35 52.3**	**-0.3**
DRGR		**80.88**	**352**	⇑P	**P**	**23 35 52.3**	**-0.3**
WATA	**Walderalm**	**80.88**	**359**	*i* P	**P**	**23 35 53.5**	**+0.8**
	comp=Z,22nm,1.3s,SNR=6.2						
DAVA	**Damuels**	**80.93**	**0**	*i* P	**P**	**23 35 53.4**	**+0.4**
	comp=Z,8.9nm,0.9s						
WTTA	**Wattenberg**	**80.95**	**359**	*i* P	**P**	**23 35 54.1**	**+1.0**
	comp=Z,12nm,0.7s,SNR=8.7						
SQTA	**Sankt Quirin**	**81.00**	**360**	*i* P	**P**	**23 35 54.2**	**+0.9**
	comp=Z,26nm,1.5s,SNR=6.2						
GHRR		**81.10**	**348**	⇑P	**P**	**23 35 54.4**	**+0.8**
KBA	**Koelnbreinsper**	**81.11**	**358**	*i* P	**P**	**23 35 55.3**	**+1.3**
	comp=Z,21nm,0.6s,SNR=22						
GEYT	**Alibeck**	**81.18**	**324**	P	**P**	**23 35 54.2**	**-0.2**
	comp=Z,9.5nm,0.9s,baz=261,slow=19,SNR=13						
GEYT				LR	LR	00 15 37.0	
	comp=Z,59nm,18.3s,baz=50,slow=38						
GEYT	**Alibeck**	**81.18**	**324**	P	**P**	**23 35 54.6**	**+0.3**
GEYT				IAmb	IAmb	23 35 55.7	
	comp=Z,14nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**81.18**	**324**	P	**P**	**23 35 54.6**	**+0.3**
GYA0B				IAmb	IAmb	23 35 56.2	
	comp=Z,20nm,1.1s						
VARL	**Varlezi**	**81.20**	**348**	⇑P	**P**	**23 35 54.6**	**+0.4**
FETA	**Feichten**	**81.20**	**360**	*i* P	**P**	**23 35 55.4**	**+1.0**
	comp=Z,22nm,1.3s,SNR=9.5						
VLDR	**Vladesti**	**81.22**	**348**	⇑P	**P**	**23 35 54.1**	**-0.2**
VRI	**Vrincioaia**	**81.37**	**349**	⇑P	**P**	**23 35 55.1**	**-0.1**
VRI	**Vrincioaia**	**81.37**	**349**	⇑P	**P**	**23 35 55.1**	**-0.1**
PLOR	**Plostina**	**81.40**	**349**	⇑P	**P**	**23 35 55.2**	**-0.1**
PLOR	**Plostina**	**81.40**	**349**	⇑P	**P**	**23 35 55.2**	**-0.1**
DOPR	**Dopca**	**81.43**	**350**	⇑P	**P**	**23 35 56.2**	**+0.7**
DAVOX	**Davos/Dischmat**	**81.44**	**0**	LR	LR	00 14 17.6	
	comp=Z,41nm,18.1s,baz=81,slow=37						
COVR	**Voineasa-Covas**	**81.45**	**349**	⇑P	**P**	**23 35 56.2**	**+0.5**
ABTA	**Abfaltersbach**	**81.46**	**359**	*i* P	**P**	**23 35 56.3**	**+0.6**
	comp=Z,10nm,0.8s,SNR=9.8						
SOKA	**Soboth**	**81.47**	**357**	*i* P	**P**	**23 35 56.5**	**+0.8**
	comp=Z,25nm,1.1s,SNR=25						
SIRR	**Siria**	**81.49**	**352**	⇑P	**P**	**23 35 55.6**	**-0.2**
PERS	**Pernice**	**81.51**	**357**	*i* P	**P**	**23 35 56.6**	**+0.6**
SLCR	**Slobozia Conac**	**81.51**	**348**	⇑P	**P**	**23 35 56.0**	**+0.1**
MYKA	**Terra Mystica**	**81.56**	**358**	*i* P	**P**	**23 35 56.6**	**+0.4**
	comp=Z,4.7nm,0.7s						
IZVR	**Izvoarele**	**81.56**	**348**	⇑P	**P**	**23 35 56.6**	**+0.5**
CTA	**Charters Tower**	**81.64**	**222**	P	**P**	**23 35 56.8**	**+0.1**
	comp=Z,8.6nm,0.9s,baz=97,slow=3.5,SNR=4.7						
OBKA	**Obir**	**81.65**	**357**	*i* P	**P**	**23 35 57.4**	**+0.7**
	comp=Z,13nm,0.9s,SNR=9.9						
BISRR	**Bisoca**	**81.69**	**349**	⇑P	**P**	**23 35 56.7**	**-0.2**
TUE	**Stuetta**	**81.75**	**1**	P	**P**	**23 35 58.3**	**+0.9**
MORH	**Mrgy, Hungar**	**81.76**	**354**	*e*P	**P**	**23 35 56.2**	**-1.0**
MORH	**Mrgy, Hungar**	**81.76**	**354**	P	**P**	**23 35 57.1**	**0.0**
TLCR		**81.77**	**347**	⇑P	**P**	**23 35 57.2**	**0.0**
TLCR		**81.77**	**347**	⇑P	**P**	**23 35 57.2**	**0.0**
MLR	**Muntele Rosu**	**81.83**	**349**	⇑P	**P**	**23 35 58.1**	**+0.4**
MLR	**Muntele Rosu**	**81.83**	**349**	LR	LR	00 18 55.4	
	comp=Z,76nm,18.1s,baz=30,slow=41						
MLR	**Muntele Rosu**	**81.83**	**349**	⇑P	**P**	**23 35 58.1**	**+0.4**
CFR	**Carcaliu**	**81.87**	**348**	⇑P	**P**	**23 35 57.6**	**-0.1**
CFR	**Carcaliu**	**81.87**	**348**	⇑P	**P**	**23 35 57.6**	**-0.1**
KOVH	**Kovagotottos**	**81.92**	**355**	P	**P**	**23 35 58.0**	**0.0**
ROBS	**Robic**	**81.94**	**358**	*i* P	**P**	**23 35 57.9**	**-0.2**
ARR	**Arges**	**82.10**	**350**	⇑P	**P**	**23 35 59.7**	**+0.6**
BZS	**Buzias**	**82.14**	**352**	⇑P	**P**	**23 35 59.1**	**-0.1**
BZS	**Buzias**	**82.14**	**352**	⇑P	**P**	**23 35 59.1**	**-0.1**
TPGR	**Topolog**	**82.15**	**347**	⇑P	**P**	**23 35 59.2**	**0.0**
CTI	**Castel Tesino**	**82.17**	**359**	P	**P**	**23 35 59.5**	**0.0**
CTI				pmax	pmax		
	comp=Z,21nm,1.5s						
CTI	**Castel Tesino**	**82.17**	**359**	P	**P**	**23 35 59.5**	**0.0**
CTI				IAmb	IAmb	23 36 01.9	
	comp=Z,21nm,1.5s						
GZR	**Gura Zlata**	**82.26**	**351**	⇑P	**P**	**23 35 59.3**	**-0.6**
GZR	**Gura Zlata**	**82.26**	**351**	⇑P	**P**	**23 35 59.3**	**-0.6**
CRES	**Cresnjev**	**82.31**	**357**	*e*P	**P**	**23 35 58.6**	**-1.5**
HARR	**Harsova**	**82.38**	**348**	⇑P	**P**	**23 36 00.6**	**+0.2**
HARR	**Harsova**	**82.38**	**348**	⇑P	**P**	**23 36 00.6**	**+0.2**
CEY	**Cerknica**	**82.43**	**357**	*e*P	**P**	**23 36 00.6**	**-0.1**
MTN	**Manton Dam**	**82.44**	**238**	P	**P**	**23 36 01.2**	**+0.2**
MTN				IAmb	IAmb	23 36 13.5	
	comp=Z,7.6nm,0.8s						
TLBR	**Topalu**	**82.50**	**347**	⇓P	**P**	**23 36 01.4**	**+0.4**
AKH	**Akhalkalaki**	**82.53**	**336**	⇑P	**P**	**23 36 01.4**	**-0.2**
TIRR	**Tirgusor**	**82.54**	**347**	⇓P	**P**	**23 36 01.3**	**0.0**
TIRR	**Tirgusor**	**82.54**	**347**	⇓P	**P**	**23 36 01.3**	**0.0**
TIRR	**Tirgusor**	**82.54**	**347**	P	**P**	**23 36 01.6**	**+0.4**
SALO	**Salr**	**82.60**	**0**	P	**P**	**23 36 01.8**	**+0.1**
SKDS	**Skadanscina**	**82.63**	**358**	*e*P	**P**	**23 36 01.2**	**-0.6**
BOJS	**Bojanci**	**82.64**	**357**	*i* P	**P**	**23 36 02.1**	**+0.3**
KNDS	**Knezji Dol**	**82.64**	**357**	*i* P	**P**	**23 36 02.0**	**0.0**
HRA	**Herat**	**82.71**	**319**	P	**P**	**23 36 02.2**	**-0.5**
HRA				IAmb	IAmb	23 36 03.6	
	comp=Z,20nm,1.5s						
FRGS	**Fruska Gora**	**82.74**	**353**	⇑P	**P**	**23 36 01.4**	**-0.9**
FRGS	**Fruska Gora**	**82.74**	**353**	*e*P	**P**	**23 36 00.9**	**-1.4**
HERR	**Herculane**	**82.80**	**352**	⇑P	**P**	**23 36 02.4**	**-0.3**
SSB	**Saint Sauveur**	**82.81**	**4**	P	**P**	**23 36 02.7**	**0.0**
SSB				pmax	pmax		
	comp=Z,14nm,1.0s						
SSB	**Saint Sauveur**	**82.81**	**4**	P	**P**	**23 36 02.7**	**0.0**
SSB				IAmb	IAmb	23 36 04.6	
	comp=Z,14nm,1.0s						
KSM	**Kuching**	**82.86**	**263**	P	**P**	**23 36 03.2**	**-0.1**
KSM				IAmb	IAmb	23 36 04.8	
	comp=Z,9.6nm,1.1s						
TEOL	**Teolo**	**82.86**	**359**	P	**P**	**23 36 03.5**	**+0.5**
HUMR	**Humele**	**82.89**	**350**	⇑P	**P**	**23 36 00.6**	**-2.5**
BNI	**Bardonecchia**	**83.11**	**3**	P	**P**	**23 36 05.5**	**+1.1**
BNI				pmax	pmax		
	comp=Z,14nm,0.8s						
BNI	**Bardonecchia**	**83.11**	**3**	P	**P**	**23 36 05.5**	**+1.1**
BNI				IAmb	IAmb	23 36 07.5	
	comp=Z,14nm,0.8s						
COPA	**Copaceanca**	**83.26**	**349**	⇑P	**P**	**23 36 02.3**	**-2.7**
GNI	**Garni**	**83.38**	**334**	LR	LR	00 19 27.9	
	comp=Z,30nm,18.4s,baz=13,slow=40						
GNI	**Garni**	**83.38**	**334**	⇓*e*P	**P**	**23 36 07.5**	**+1.5**
GNI				pmax	pmax		
	comp=Z,38nm,2.5s						
GNI	**Garni**	**83.38**	**334**	P	**P**	**23 36 07.7**	**+1.7**
GNI				IAmb	IAmb	23 36 08.3	
	comp=Z,16nm,1.0s						
DIVS	**Divibare**	**83.78**	**353**	P	**P**	**23 36 07.6**	**-0.2**
DIVS				IAmb	IAmb	23 36 08.8	
	comp=Z,9.5nm,1.2s						
DIVS	**Divibare**	**83.78**	**353**	*e*P	**P**	**23 36 07.4**	**-0.4**
ZCCA	**Zocca**	**83.87**	**360**	P	**P**	**23 36 09.8**	**+1.6**
MSSA	**Maissana**	**83.90**	**1**	P	**P**	**23 36 08.6**	**+0.2**
MSSA				IAmb	IAmb	23 36 10.2	
	comp=Z,16nm,1.0s						
SRKY	**Kupres RS**	**83.98**	**355**	*e*P	**P**	**23 36 08.9**	**0.0**
BBLS	**Lazići**	**84.05**	**354**	*e*P	**P**	**23 36 08.9**	**-0.3**
RUDO	**Rudo**	**84.30**	**354**	*e*P	**P**	**23 36 09.8**	**-0.6**
BATI	**Baumata**	**84.30**	**246**	LR	LR	00 14 45.6	
	comp=Z,74nm,18.0s,baz=156,slow=36						
OSSC	**Osservatorio P**	**84.70**	**360**	P	**P**	**23 36 12.8**	**+0.4**
UPM	**Unac-Piva**	**84.75**	**354**	*e*P	**P**	**23 36 12.0**	**-0.9**
VTS	**Vitosha**	**84.97**	**351**	⇑P	**P**	**23 36 14.0**	**0.0**
VTS	**Vitosha**	**84.97**	**351**	⇑P	**P**	**23 36 14.0**	**0.0**
VTS	**Vitosha**	**84.97**	**351**	P	**P**	**23 36 13.8**	**-0.2**
VTS				IAmb	IAmb	23 36 15.5	
	comp=Z,4.2nm,0.7s						
BRY	**Bratogost**	**85.07**	**354**	*e*P	**P**	**23 36 13.6**	**-0.8**
STON	**Ston**	**85.15**	**355**	*e*P	**P**	**23 36 13.5**	**-1.1**
NRCA	**Norcia**	**85.36**	**358**	P	**P**	**23 36 16.8**	**+0.9**
PDG	**Podgorica**	**85.49**	**354**	⇑P	**P**	**23 36 16.2**	**-0.2**
PDG	**Podgorica**	**85.49**	**354**	P	**P**	**23 36 16.2**	**-0.2**
PDG				IAmb	IAmb	23 36 17.1	
	comp=Z,14nm,1.0s						
PDG	**Podgorica**	**85.49**	**354**	*e*P	**P**	**23 36 15.7**	**-0.6**
HCY	**Herceg Novi**	**85.52**	**354**	*e*P	**P**	**23 36 15.4**	**-1.1**
GURO	**Guroymak-BITLI**	**85.59**	**336**	P	**P**	**23 36 17.8**	**+0.6**
GURO				IAmb	IAmb	23 36 19.3	
	comp=Z,10nm,1.3s						
DRME	**Dracevica, Mon**	**85.74**	**354**	*e*P	**P**	**23 36 16.9**	**-0.7**
MVO	**Moncorvo**	**85.81**	**13**	*e*P	**P**	**23 36 19.5**	**+1.4**
AQU	**L'Aquila**	**85.84**	**358**	P	**P**	**23 36 19.0**	**+0.8**
AQU				pmax	pmax		
	comp=Z,18nm,0.7s						
AQU	**L'Aquila**	**85.84**	**358**	P	**P**	**23 36 18.9**	**+0.8**
AQU	**L'Aquila**	**85.84**	**358**	*e*P	**P**	**23 36 18.5**	**+0.3**
KNRA	**Kununurra**	**86.05**	**238**	P	**P**	**23 36 19.6**	**+0.3**
KNRA				IAmb	IAmb	23 36 31.9	
	comp=Z,8.6nm,1.1s						
BR131	**Keskin Array S**	**86.31**	**342**	P	**P**	**23 36 21.1**	**+0.4**
BR131				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BR131	**Keskin Array S**	**86.31**	**342**	P	**P**	**23 36 21.1**	**+0.4**
BR131				IAmb	IAmb	23 36 24.1	
	comp=Z,5.3nm,0.9s						
BRTR	**Keskin Array B**	**86.31**	**342**	P	**P**	**23 36 21.1**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=34,slow=2.4,SNR=12						
BRTR	**Keskin Array B**	**86.31**	**342**	P	**P**	**23 36 20.9**	**+0.2**
BRTR	**Keskin Array B**	**86.31**	**342**	P	**P**	**23 36 20.9**	**+0.2**
SGRT	**San Giovanni R**	**86.36**	**356**	P	**P**	**23 36 20.8**	**0.0**
MTE	**Manteigas**	**86.48**	**14**	*e*P	**P**	**23 36 21.9**	**+0.5**
WB0	**Warramunga Arr**	**86.66**	**232**	P	**P**	**23 36 21.7**	**-0.6**
WB0				IAmb	IAmb	23 36 41.7	
	comp=Z,22nm,1.8s						
BNN	**Bunyan**	**86.72**	**340**	P	**P**	**23 36 23.2**	**+0.5**
WRA	**Warramunga Arr**	**86.84**	**232**	P	**P**	**23 36 22.4**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=41,slow=5.9,SNR=11						
FNA	**Florina**	**86.96**	**352**	P	**P**	**23 36 23.7**	**0.0**
FNA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FNA	**Florina**	**86.96**	**352**	P	**P**	**23 36 23.7**	**0.0**
FNA				IAmb	IAmb	23 36 24.3	
	comp=Z,9.9nm,0.7s						
PCBR	**Castelo Branco**	**87.04**	**14**	*e*P	**P**	**23 36 24.0**	**0.0**
MATE	**Matera**	**87.42**	**355**	⇑P	**P**	**23 36 25.8**	**0.0**
LIT	**Litokhoron**	**87.53**	**351**	P	**P**	**23 36 26.5**	**0.0**
LIT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LIT	**Litokhoron**	**87.53**	**351**	P	**P**	**23 36 26.5**	**0.0**
LIT				IAmb	IAmb	23 36 27.1	
	comp=Z,9.8nm,0.8s						
ESBB	**Sonseca Array**	**87.67**	**11**	P	**P**	**23 36 27.2**	**0.0**
ESBB				IAmb	IAmb	23 36 47.7	
	comp=Z,20nm,1.5s						
ESDC	**Sonseca Array**	**87.67**	**11**	P	**P**	**23 36 26.9**	**-0.3**
	comp=Z,5.9nm,0.9s,baz=345,slow=4.4,SNR=34						
ESDC				LR	LR	00 21 03.5	
	comp=Z,49nm,18.0s,baz=342,slow=39						
ESDC	**Sonseca Array**	**87.67**	**11**	P	**P**	**23 36 27.5**	**+0.3**
ESDC				IAmb	IAmb	23 36 28.3	
	comp=Z,6.1nm,1.0s						
PAB	**San Pablo**	**87.75**	**11**	P	**P**	**23 36 27.8**	**+0.2**
PAB				pmax	pmax		
	comp=Z,19nm,1.6s						
PAB	**San Pablo**	**87.75**	**11**	P	**P**	**23 36 27.8**	**+0.2**
PAB				IAmb	IAmb	23 36 31.4	
	comp=Z,19nm,1.6s						
SDV	**Santo Domingo**	**88.41**	**78**	LR	LR	00 18 55.3	
	comp=Z,32nm,18.2s,baz=332,slow=38						
AGG	**Agios Georgios**	**88.62**	**351**	P	**P**	**23 36 31.1**	**-0.5**
AGG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AGG	**Agios Georgios**	**88.62**	**351**	P	**P**	**23 36 31.1**	**-0.5**
AGG				IAmb	IAmb	23 36 31.6	
	comp=Z,8.6nm,0.7s						
PTEO	**Sao Teotonio**	**89.09**	**15**	*e*P	**P**	**23 36 34.0**	**+0.2**
HYBB	**Hyderabad (bro**	**89.20**	**298**	*e*P	**P**	**23 36 34.6**	**-0.1**
HYBB				*e*PcP	**PcP**	**23 36 35.8**	**-0.3**
HYBB				*e*pP	**sP**	**23 36 43.4**	**-3.1**
HYBB				*e*PP	**PP**	**23 40 05.0**	**+0.2**
PVAQ	**Vaqueiros**	**89.39**	**14**	*e*P	**P**	**23 36 34.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**89.71**	**239**	P	**P**	**23 36 36.6**	**-0.1**
FITZ				IAmb	IAmb	23 36 45.7	
	comp=Z,7.9nm,1.4s						
ELL	**Elmali**	**89.87**	**345**	P	**P**	**23 36 37.7**	**0.0**
ELL				pmax	pmax		
	comp=Z,11nm,0.8s						
ELL	**Elmali**	**89.87**	**345**	P	**P**	**23 36 37.7**	**0.0**
ELL				IAmb	IAmb	23 36 38.0	
	comp=Z,11nm,0.8s						
ASAR	**Alice Springs**	**90.23**	**230**	P	**P**	**23 36 39.5**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=34,slow=4.3,SNR=24						
ASAR	**Alice Springs**	**90.23**	**230**	P	**P**	**23 36 39.2**	**0.0**
ASAR	**Alice Springs**	**90.23**	**230**	P	**P**	**23 36 39.1**	**0.0**
CSS	**Mathiatis**	**90.99**	**341**	P	**P**	**23 36 42.4**	**-0.3**
CSS				IAmb	IAmb	23 36 44.4	
	comp=Z,12nm,1.0s						
KARP	**Karpathos**	**91.47**	**347**	P	**P**	**23 36 43.3**	**-1.7**
IDI	**Anoyia**	**92.03**	**348**	⇑P	**P**	**23 36 44.4**	**-3.2**
KEST	**Kesra**	**92.47**	**1**	P	**P**	**23 36 48.7**	**-1.0**
	comp=Z,3.8nm,0.7s,baz=325,slow=4.2,SNR=5.7						
WSAR	**Wadi Sarin**	**94.00**	**317**	LR	LR	00 22 39.9	
	comp=Z,49nm,19.2s,baz=85,slow=38						
MDT	**Midelt**	**94.35**	**13**	LR	LR	00 25 21.0	
	comp=Z,22nm,18.1s,baz=350,slow=39						
PALK	**Pallekele**	**96.23**	**290**	LR	LR	00 23 01.8	
	comp=Z,31nm,21.8s,baz=142,slow=37						
PALK	**Pallekele**	**96.23**	**290**	P	**P**	**23 37 06.4**	**-0.8**
PALK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PALK	**Pallekele**	**96.23**	**290**	P	**P**	**23 37 06.4**	**-0.8**
PALK				IAmb	IAmb	23 37 08.2	
	comp=Z,6.2nm,0.8s						
RAYN	**Ar Rayn**	**98.68**	**328**	P	**P**	**23 37 17.1**	**-1.0**
RAYN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
RAYN	**Ar Rayn**	**98.68**	**328**	P	**P**	**23 37 17.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**114.52**	**10**	PKP	**PKiKP**	**23 42 18.5**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=320,slow=2.2,SNR=6.5						
H03N2	**Juan Fernandez**	**115.88**	**112**	T	T	01 49 24.5	
	baz=324,slow=78,SNR=3.1						
H03N1	**Juan Fernandez**	**115.90**	**112**	T	T	01 49 18.6	
	baz=324,slow=78,SNR=3.4						
H03N3	**Juan Fernandez**	**115.90**	**112**	T	T	01 49 13.4	
	baz=324,slow=78,SNR=4.3						
KMBO	**Kilima Mbogo**	**124.45**	**327**	PKP	**PKiKP**	**23 42 39.0**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=353,slow=4.6,SNR=11						
KMBO	**Kilima Mbogo**	**124.45**	**327**	PKIKP	**PKiKP**	**23 42 39.0**	**+0.3**
BLWY	**Bulawayo**	**145.09**	**329**	*i* P	**PKPdf**	**23 43 16.3**	**+0.1**
BLWY	**Bulawayo**	**145.09**	**329**	*i* P	**PKPdf**	**23 43 16.3**	**+0.1**
MATP	**Matopo**	**145.39**	**329**	*i* P	**PKPab**	**23 43 17.6**	**+0.8**
MATP	**Matopo**	**145.39**	**329**	*i* P	**PKPab**	**23 43 17.6**	**+0.8**
MSNA	**Messina**	**146.67**	**326**	*i* P	**PKPab**	**23 43 21.3**	**-0.2**
MSNA	**Messina**	**146.67**	**326**	*i* P	**PKPab**	**23 43 21.3**	**-0.2**
MOPA	**Mopani**	**147.25**	**323**	*i* P	**PKPab**	**23 43 23.2**	**-0.5**
MOPA	**Mopani**	**147.25**	**323**	*i* P	**PKPab**	**23 43 23.2**	**-0.5**
LBTB	**Lobatse**	**150.58**	**331**	*i* P	**PKPbc**	**23 43 28.3**	**-2.2**
LBTB	**Lobatse**	**150.58**	**331**	*i* P	**PKPbc**	**23 43 28.3**	**-2.2**
MAW	**Mawson**	**150.68**	**218**	PKPbc	**PKPbc**	**23 43 29.5**	**+0.3**
	comp=Z,4.9nm,1.0s,baz=318,slow=9.4,SNR=2.3						
BOSA	**Boshof**	**154.06**	**329**	PKPbc	**PKiKP**	**23 43 38.8**	**+0.5**
	comp=Z,4.3nm,0.6s,baz=354,slow=1.5,SNR=15						

NEIC 02 23:26:10.4±0.3**, 37°.051N**±0°.010×**97°.73W**±0°.01**, h1**km±4km**,**
Error ellipse: s-maj=1.6km s-min=1.2km az=143.0,
Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.98**	**97**		Pg	23 26 28.4	-0.9
U32A	**Winter Ranch,**	**1.22**	**237**	Pg	Pg	23 26 32.8	-1.0
R32A	**Long Quarter,**	**1.57**	**331**		Pn	23 26 38.9	-0.6
OKCSW	**OKLAHOMA CITY**	**1.66**	**172**		Pn	23 26 40.3	-0.3
FNO	**Franklin**	**1.81**	**171**	IAmb_Lg		23 27 07.0	
	comp=Z,25nm,0.7s						
TUL1	**Leonard**	**1.93**	**125**		Pn	23 26 44.1	-0.3
W35A	**Tecumseh**	**2.02**	**160**		Pn	23 26 44.8	-0.7
KSU1	**Kansas State U**	**2.23**	**23**	Pn	Pn	23 26 47.9	-0.6
KSU1				IAmb_Lg		23 27 22.7	
	comp=Z,20nm,0.8s						
CBKS	**Cedar Bluff**	**2.37**	**319**		Pn	23 26 50.2	-0.2
WMOK	**Wichita Mounta**	**2.46**	**201**	Pn	Pn	23 26 51.8	+0.1
X37A	**Clayton**	**3.12**	**141**		Pn	23 27 00.1	-0.5
S39A	**Bolivar**	**3.57**	**78**	Pn	Pn	23 27 06.6	-0.3
W39A	**Magazine**	**3.69**	**119**	Pn	Pn	23 27 08.4	-0.2
W39A				IAmb_Lg		23 28 08.6	
	comp=Z,19nm,1.0s						
U40A	**Yellville**	**3.98**	**99**	Pn	Pn	23 27 11.6	-1.0
U40A				IAmb_Lg		23 28 25.8	
	comp=Z,14nm,1.1s						
P38A	**Dawn**	**4.18**	**51**		Pn	23 27 14.5	-0.9
BGNE	**Belgrade**	**4.36**	**356**	Pn	Pn	23 27 16.6	-1.2
X40A	**Basin Creek Fa**	**4.73**	**121**	IAmb_Lg		23 28 45.1	
	comp=Z,16nm,1.3s						
LCAR	**Lake Charles**	**5.38**	**99**	IAmb_Lg		23 29 01.1	
	comp=Z,9.1nm,1.1s						

*CNRM **02** 23:56:10.4, 35°.31N×3°.62W, h14km, ml2.3*
*INMG **02** 23:56:14.8±1.3, 35°.21N×3°.83W, h26km±20km, ML1.8,*
Error ellipse: s-maj=6.5km s-min=6.2km az=77.0
ISC 02 23:56:09.8±1.6**, 35°.31N**±0°.04×**3°.65W**±0°.03**, h13**km±12km**,**
n24, σ1§58/37**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.25**	**248**	P	**Pb**	**23 56 16.2**	**0.0**
PALE	**Palemas**	**0.25**	**248**	P	**Pb**	**23 56 16.2**	**0.0**
PALE				S	**Sb**	**23 56 20.9**	**+0.4**
GOG	**Mont Gurugu**	**0.54**	**99**	P	**Pb**	**23 56 21.0**	**-0.2**
GOG	**Mont Gurugu**	**0.54**	**99**	P	**Pb**	**23 56 21.2**	**0.0**
GOG				S	**Sb**	**23 56 29.1**	**+0.2**
PVLZ	**Peæn de**	**0.55**	**256**	P	**Pb**	**23 56 21.4**	**+0.2**
PVLZ				S	**Sb**	**23 56 30.2**	**+1.2**
AKLM	**AKL**	**0.82**	**192**	P	**Pg**	**23 56 25.1**	**-0.5**
AKLM	**AKL**	**0.82**	**192**	P	**Pg**	**23 56 25.3**	**-0.3**
AKLM				S	**Sn**	**23 56 39.6**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TAF	Taforalt	1.13	116	P	Pb	23 56 31.0	-0.2
TAF	Taforalt	1.13	116	P	Pb	23 56 30.9	-0.2
TAF				S	Sn	23 56 48.7	+1.9
JBK	JBK	1.32	137	P	Pn	23 56 34.0	-0.1
JBK	JBK	1.32	137	P	Pn	23 56 33.2	-0.9
JBK				S	Sb	23 56 50.7	-0.8
CHEFC	Chefchaouen	1.40	262	S	Sb	23 56 54.0	+0.4
SMIR	Smir Dam	1.46	285	P	Pn	23 56 34.4	-1.4
SMIR				S	Sn	23 56 52.0	-2.8
LCRM	LCR	1.90	212	P	Pb	23 56 45.0	+0.5
LCRM	LCR	1.90	212	P	Pb	23 56 44.5	+0.1
MD31	MD31	2.60	201	P	Pn	23 56 52.6	+1.0
MD31				S	Sn	23 57 24.1	+0.9
MDT	Midelt	2.61	198	P	Pn	23 56 52.1	+0.3
MDT	Midelt	2.61	198	P	Pn	23 56 52.1	+0.3
MDT				S	Sb	23 57 27.8	-0.8
PVAQ	Vaqueiros	3.89	304	ePn	Pn	23 57 11.6	+2.4
PVAQ				eSn	Sn	23 57 53.3	-1.5
PVAQ				A	A	23 58 09.9	
	2.1nm,0.6s						
PVAQ	Vaqueiros	3.89	304	P	Pn	23 57 08.2	-1.0
PVAQ				S	Sn	23 57 49.3	-5.5
PBAR	Barrancos	3.94	317	ePn	Pn	23 57 12.7	+2.7
PBAR				eSn	Sn	23 57 55.5	-0.6
PBAR				A	A	23 58 00.0	
	1.3nm,0.6s						
PBDV	Barranco-do-Ve	3.96	300	ePn	Pn	23 57 12.5	+2.3
PBDV				eSn	Sn	23 57 55.8	-0.7
PBDV				A	A	23 58 14.2	
	3.2nm,0.7s						
PESTR	Estremoz	4.74	320	ePn	Pn	23 57 26.7	+5.7
EVO	Evora	4.75	314	ePn	Pn	23 57 24.2	+3.2
EVO				eSn	Sn	23 58 15.7	-0.2

*ISU **03** 00:21:27, 39°.59N×73°.02E, h14km, Hypocentre not reviewed by the ISC*
*KRNET **03** 00:21:53.3±0.1, 39°.32N×73°.21E, mb3.2*
*NNC **03** 00:22:05.6±3.0, 39°.94N×73°.02E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=23.9km s-min=10.9km az=176.0*
*SOME **03** 00:22:08.5, 40°.05N×73°.02E, h20km*
ISC 03 00:21:57.2±1.4**, 39°.61N**±0°.06×**73°.14E**±0°.03**, h10km, n31, σ2s.23**/52**, 12C-4D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHH	Osh	0.95	344	⇑iP	Pn	00 22 17.0	+0.3
	baz=45						
OHH				⇑iS	Sn	00 22 34.4	+4.0
	baz=45						
DRK	Karamyk	1.04	263	⇑eP	Pg	00 22 14.3	-2.9
	baz=79						
DRK				⇑iS	Sg	00 22 29.8	-1.0
	baz=79						
TSTA	Tashata	1.09	333	P		00 22 17.7	
TSTA				S		00 22 33.0	
SHAK	Shakhimardan	1.13	288	P		00 22 17.1	
SHAK				S		00 22 32.5	
CHMI	Chimion	1.40	298	P		00 22 22.9	
CHMI				S		00 22 41.1	
NAM	Namangan	1.78	321	P		00 22 29.9	
NAM				S		00 22 52.6	
BTK	Batken	1.84	285	⇑iP	Pn	00 22 30.1	+1.2
	baz=93						
BTK				⇑iS	Sg	00 22 57.1	+0.8
	baz=93						
MINT	Mingtut	1.87	298	P		00 22 30.9	
MINT				S		00 22 54.0	
ARK	Arkit	2.36	338	⇑iP	Pb	00 22 39.5	-0.4
	baz=39						
ARK				⇑iS	Sg	00 23 13.1	+0.1
	baz=39						
TRKS	Terek-Say	2.45	322	⇑iP	Pn	00 22 39.4	+2.1
	baz=25						
TRKS				⇑iS	Sg	00 23 13.0	-2.8
	baz=25						
EKS2	Erkin-Say	3.09	9	⇑eP	Pb	00 22 49.4	-2.9
	baz=7.0						
EKS2				⇑iS	Sb	00 23 30.2	+0.2
	baz=7.0						
MRKS	Merke	3.13	1	eP	Pg	00 22 58.7	+1.5
	3.6nm,0.3s						
MRKS				eS	Sg	00 23 35.0	-2.7
	8.6nm,0.4s						
MRKS	Merke	3.13	1	Pg	Pg	00 22 58.1	+0.9
	3.8nm,0.4s						
MRKS				Lg	Lg	00 23 34.9	
	8.6nm,0.4s						
IUG	Iuzhnay	3.46	318	eP	Pg	00 23 03.1	-0.3
	58nm,0.3s						
IUG				eS	Sb	00 23 42.8	+2.1
	11nm,0.4s						
IUG	Iuzhnay	3.46	318	Pg	Pg	00 23 03.1	-0.3
	58nm,0.3s						
IUG				Lg	Lg	00 23 42.8	
	11nm,0.4s						
TKM2	Tokmak 2	3.79	28	⇓Pn	Pb	00 23 02.7	-1.6
	1.6nm,0.5s,baz=150,slow=16						
TKM2				⇓Lg	Lg	00 23 57.1	
	4.3nm,0.5s,baz=150,slow=16						
CHM	Chimkent	3.80	316	eP	Pg	00 23 10.0	0.0
	5.2nm,0.5s						
CHM				eS	Sg	00 23 54.6	-4.7
	50nm,0.2s						
KK08	Karatay Array	4.02	331	⇓Pn	Pn	00 23 01.3	+2.5
	1.1nm,0.5s,baz=150,slow=16						
KK08				⇓Sn	Sb	00 23 52.7	-4.0
	4.2nm,0.6s,baz=150,slow=24						
KST	Kastek	4.04	31	eP	Pg	00 23 16.6	+2.1
	4.5nm,0.8s						
KST				eS	Sg	00 24 05.5	-1.3
	11nm,0.6s						
KST	Kastek	4.04	31	Pg	Pg	00 23 16.6	+2.1
	4.5nm,0.8s						
KST				Lg	Lg	00 24 06.4	
	11nm,0.6s						
DGS	Degeres	4.13	28	eP	Pg	00 23 18.4	+2.0
	2.1nm,0.4s						
DGS				eS	Sg	00 24 08.6	-1.3
	7.0nm,0.8s						
BRLS	Borolday	4.22	325	eP	Pb	00 23 13.9	+2.4
	1.5nm,0.5s						
BRLS				eS	Sb	00 24 00.8	-1.8
	3.3nm,0.9s						
BRLS	Borolday	4.22	325	Pg	Pb	00 23 13.9	+2.4
	1.5nm,0.5s						
BRLS				Lg	Lg	00 24 00.8	
	3.3nm,0.9s						
MTBS	Maitube	4.30	34	eP	Pg	00 23 21.2	+1.7
	0.8nm,0.1s						
MTBS				eS	Sg	00 24 13.6	-1.7
	5.0nm,0.4s						
TNSS	Tian-Shan	4.47	39	eP	Pg	00 23 25.0	+2.2
	1.3nm,0.2s						
TNSS				eS	Sg	00 24 20.0	-0.6
	2.2nm,0.5s						
KRBS	Karabastau	4.50	24	eP	Pg	00 23 22.4	-1.0
	2.5nm,0.4s						
KRBS				eS	Sg	00 24 15.8	-6.0
	3.5nm,0.6s						
KRBS	Karabastau	4.50	24	Pg	Pg	00 23 22.4	-1.0
	2.5nm,0.4s						
KRBS				Lg	Lg	00 24 16.2	
	3.5nm,0.6s						
MDOK	Medeo	4.61	38	eP	Pg	00 23 26.9	+1.4
	4.7nm,1.4s						
MDOK				eS	Sg	00 24 23.1	-2.1
	6.3nm,1.1s						
MDOK	Medeo	4.61	38	Pg	Pg	00 23 26.9	+1.4
	4.7nm,1.4s						
MDOK				Lg	Lg	00 24 24.1	
	6.3nm,1.1s						
KOTS	Kotyrbulak	4.70	38	eP	Pg	00 23 28.4	+1.3
	3.8nm,0.6s						
KOTS				eS	Sg	00 24 26.2	-1.7
	15nm,0.8s						
KOTS	Kotyrbulak	4.70	38	Pg	Pg	00 23 28.4	+1.3
	3.8nm,0.6s						
KOTS				Lg	Lg	00 24 26.2	
	15nm,0.8s						
KTBS	Karatobe	4.88	32	eP	Pg	00 23 30.4	-0.3
	1.5nm,0.4s						
KTBS				eS	Sg	00 24 29.3	-4.6
	9.5nm,0.6s						
KTBS	Karatobe	4.88	32	Pg	Pg	00 23 30.4	-0.3
	1.5nm,0.4s						
KTBS				Lg	Lg	00 24 30.1	
	9.5nm,0.6s						
CHKK	Chushkaly	5.13	33	eP	Pg	00 23 35.4	0.0
	0.7nm,0.1s						
CHKK				eS	Sg	00 24 38.2	-3.5
	4.9nm,0.5s						
CHKK	Chushkaly	5.13	33	Pg	Pg	00 23 35.4	0.0
	0.7nm,0.1s						
CHKK				Lg	Lg	00 24 38.2	
	4.9nm,0.5s						
BTLS	Baital	5.47	7	eP	Pg	00 23 42.9	+1.1
	1.1nm,0.3s						
BTLS				eS	Sg	00 24 50.7	-2.0
	2.3nm,0.4s						

*NEIC **03** 00:22:19.4±2.1, 25°.98S±0°.10×179°.9W±0°.1, h459km±6km, mb4.5/50, Error ellipse: s-maj=15.9km s-min=14.1km az=102.0*
*IDC **03** 00:22:19.8±0.8, 25°.97S×179°.98E, h462km±8km, mb3.8/20, mb1 4.0/24, mb1mx3.9/28, mbtmp4.6/24, Error ellipse: s-maj=11.9km s-min=10.6km az=64.0*
*NOU **03** 00:22:20.9, 26°.05S×179°.73W, h502km, mb4.6/43, South of Fiji Islands*
ISC 03 00:22:19.1±0.3**, 25°.92S**±0°.05×**179°.95W**±0°.06**, h458km, n308, σ1s.38**/335**, mb4.5**/57**, 26C-16D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RIZ	Raoul Island	3.76	152	P	P	00 23 35.1	+2.4
RIZ				S	S	00 24 38.0	+5.4
RAO	Raoul Island	3.77	152	P	P	00 23 34.9	+2.1
	154nm,0.3s,baz=287,slow=19,SNR=9.9						
RAO				S	S	00 24 33.8	+1.0
	169nm,0.3s,baz=72,slow=20,SNR=2.6						
RAO	Raoul Island	3.77	152	P	P	00 23 33.1	+0.3
GLKZ	Green Lake	3.78	152	P	P	00 23 33.5	+0.7
GLKZ				S	S	00 24 37.4	+4.6
MSVF	Nonsavu	8.36	347	P	P	00 24 20.9	+2.2
	3.9nm,0.3s,baz=178,slow=16,SNR=4.4						
MSVF	Nonsavu	8.36	347	P	P	00 24 19.8	+1.0
OUZ	Omahuta	10.80	209	P	P	00 24 47.6	+2.8
OUZ	Omahuta	10.80	209	P	P	00 24 47.2	+2.4
WCZ	Waipu Caves	11.12	205	P	P	00 24 51.9	+3.7
KUZ	Kuaotunu	11.40	198	P	P	00 24 52.7	+1.4
NIUE	Niue	11.49	56	P	P	00 24 53.0	+0.4
NIUE	Niue	11.49	56	P	P	00 24 53.7	+1.1
WIAZ	Waiheke Island	11.62	200	P	P	00 24 56.1	+2.5
MXZ	Matakaoa Point	11.70	187	P	P	00 24 55.0	+0.5
MXZ	Matakaoa Point	11.70	187	P	P	00 24 55.9	+1.5
MXZ				S	S	00 27 01.5	-1.1
ETAZ	East Tamaki Re	11.83	200	P	P	00 24 58.8	+2.8
MARNC	Mare, Loyalty	11.87	289	P	P	00 24 59.1	+2.6
MARNC	Mare, Loyalty	11.87	289	P	P	00 25 00.6	+4.1
MKAZ	Moumakai	11.90	199	P	P	00 24 57.7	+1.1
WTAZ	Waiatarua	11.93	202	P	P	00 24 58.1	+1.1
WMGZ	Waiomatatini S	11.94	186	P	P	00 24 59.6	+2.5
WMGZ				S	S	00 27 08.9	+1.4
HAZ	Te Kaha	11.95	189	P	P	00 24 57.6	+0.3
HAZ				S	S	00 27 04.7	-3.0
PINNC	Pines Island,	11.96	283	P	P	00 25 00.2	+2.7
AWAZ	Awhitu Peninsu	12.02	201	P	P	00 25 00.3	+2.3
PKGZ	Pakihiroa	12.05	188	P	P	00 24 59.6	+1.2
PKGZ				S	S	00 27 08.8	-0.8
RUGZ	Raukumara Rang	12.17	189	P	P	00 25 00.3	+0.6
RUGZ				S	S	00 27 10.6	-1.7
PUZ	Puketiti	12.21	187	P	P	00 25 00.8	+0.8
PUZ				S	S	00 27 08.0	-4.8
TWGZ	Tauwhareparae	12.34	188	P	P	00 25 02.1	+0.6
TWGZ				S	S	00 27 14.0	-1.5
URZ	Urewera	12.55	191	P	P	00 25 02.1	-1.6
	6.2nm,0.3s,baz=21,slow=8.6,SNR=21						
URZ				S	S	00 27 17.1	-2.3
	2.3nm,0.3s,baz=70,slow=19,SNR=3.1						
URZ	Urewera	12.55	191	P	P	00 25 02.3	-1.4
URZ	Urewera	12.55	191	P	P	00 25 02.6	-1.0
URZ				S	S	00 27 16.7	-2.8
URZ	Urewera	12.55	191	P	P	00 25 03.9	+0.2
OUENC	Ouen Island, N	12.55	283	P	P	00 25 06.5	+2.6
YATNC	Mamie plateau,	12.63	285	P	P	00 25 08.4	+3.6
LIFNC	LIFOU	12.83	291	P	P	00 25 07.3	+0.3
DZM	Mont Dzumac	13.02	284	P	P	00 25 12.1	+3.0
	2.7nm,0.3s,baz=98,slow=14,SNR=22						
DZM	Mont Dzumac	13.02	284	eP	P	00 25 12.0	+3.0
	146nm,1.0s						
DZM	Mont Dzumac	13.02	284	P	P	00 25 11.3	+2.3
DZM	Mont Dzumac	13.02	284	P	P	00 25 12.4	+3.4
NOUC	Port Laguerre	13.13	284	P	P	00 25 13.4	+3.3
HIZ	Hauiti	13.30	198	P	P	00 25 13.1	+1.4
BKZ	Black Stump Fm	13.54	192	P	P	00 25 14.4	0.0
SNVZ	South Ngauruho	13.73	195	P	P	00 25 04.0	-13
AFI	Afiamalu	14.20	34	P	P	00 25 19.6	-2.2
	7.4nm,0.3s,baz=169,slow=9.2,SNR=7.7						
AFI				S	S	00 27 45.5	-7.1
	2.1nm,0.3s,baz=36,slow=19,SNR=1.3						
AFI	Afiamalu	14.20	34	P	P	00 25 22.4	+0.6
BFZ	Birch Farm	15.06	191	P	P	00 25 30.5	0.0
SNZO	South Karori	15.97	195	P	P	00 25 39.9	-0.3
QRZ	Quartz Range	16.12	201	P	P	00 25 40.9	-1.0
QRZ	Quartz Range	16.12	201	P	P	00 25 41.4	-0.4
KHZ	Kahutara	17.30	196	P	P	00 25 53.1	-1.1
RPZ	Rata Peaks	19.20	200	P	P	00 26 12.1	-0.5
	5.7nm,0.3s,baz=354,slow=1.4,SNR=16						
RPZ	Rata Peaks	19.20	200	P	P	00 26 11.9	-0.8
RPZ	Rata Peaks	19.20	200	P	P	00 26 12.0	-0.6
LHI	Lord Howe Isla	19.22	248	P	P	00 26 14.9	+2.0
ODZ	Otahua Downs	20.53	199	P	P	00 26 23.4	-1.3
ARMA	Armidale	25.42	253	P	P	00 27 09.1	+0.1
ARMA				IAmb	IAmb	00 27 36.5	
	comp=Z,22nm,1.3s						
EIDS	Eidsvold	26.10	265	P	P	00 27 15.7	+0.8
EIDS	Eidsvold	26.10	265	P	P	00 27 15.7	+0.8
RK1H	Rockhampton Ha	26.96	269	P	P	00 27 23.8	+1.3
CAN	Canberra	28.22	243	P	P	00 27 33.7	+0.1
CAN				IAmb	IAmb	00 27 39.5	
	comp=Z,38nm,1.5s						
TOO	Toolangi	31.43	240	P	P	00 28 01.1	-0.3
TOO				IAmb	IAmb	00 28 16.4	
	comp=Z,18nm,1.2s						
CTA	Charters Tower	31.59	274	P	P	00 28 03.6	+0.6
	comp=Z,23nm,0.5s,baz=96,slow=12,SNR=63						
CTA	Charters Tower	31.59	274	P	P	00 28 03.9	+0.9
QLP	Quilpie	32.07	261	P	P	00 28 07.8	+0.8
STKA	Stephens Creek	34.06	251	P	P	00 28 24.0	+0.1
	comp=Z,3.0nm,0.3s,baz=91,slow=12,SNR=14						
STKA				PcP	PcP	00 30 49.6	+0.7
	comp=Z,2.2nm,0.5s,baz=18,slow=3.2,SNR=5.8						
STKA				ScP	ScP	00 33 50.2	+0.3
	comp=Z,1.4nm,0.6s,baz=18,slow=3.2,SNR=3.6						
STKA	Stephens Creek	34.06	251	P	P	00 28 24.0	+0.1
STKA	Stephens Creek	34.06	251	P	P	00 28 24.2	+0.3
HTT	Hallett	36.33	248	P	P	00 28 42.5	-0.4
COEN	Coen	36.53	282	P	P	00 28 45.8	+1.0
COEN				IAmb	IAmb	00 28 47.4	
	comp=Z,31nm,1.4s						
COEN	Coen	36.53	282	P	P	00 28 45.9	+1.2
LCRK	Leigh Creek	37.00	253	P	P	00 28 49.0	+0.5
QIS	Mount Isa	37.44	270	P	P	00 28 52.7	+0.4
BBOO	Buckleboo	38.73	249	P	P	00 29 01.5	-1.2
BBOO				IAmb	IAmb	00 29 02.6	
	comp=Z,21nm,1.2s						
BBOO	Buckleboo	38.73	249	P	P	00 29 02.6	-0.1
	comp=Z,14nm,2.3s						
OOD	Oodnadatta	39.46	257	P	P	00 29 09.2	+0.5
MULG	Mulgathing	40.59	253	P	P	00 29 16.9	-0.9
AS31	Alice Springs	41.79	263	P	P	00 29 27.2	-0.3
ASAR	Alice Springs	41.79	263	P	P	00 29 26.9	-0.5
	comp=Z,15nm,0.8s,baz=90,slow=7.1,SNR=107						
ASAR				PcP	PcP	00 31 12.7	-0.7
	comp=Z,1.9nm,0.9s,baz=100,slow=3.9,SNR=4.8						
ASAR				ScP	ScP	00 34 19.1	-0.5
	comp=Z,1.3nm,0.8s,baz=96,slow=4.6,SNR=5.9						
ASAR				S	S	00 35 03.1	-7.9
	comp=Z,0.6nm,0.7s,baz=108,slow=13,SNR=4.1						
ASAR	Alice Springs	41.79	263	P	P	00 29 27.2	-0.3
WR0	Warramunga Arr	42.17	268	P	P	00 29 29.3	-1.2
WR0				IAmb	IAmb	00 29 30.7	
	comp=Z,21nm,1.1s						
WRAB	Tennant Creek	42.35	268	P	P	00 29 31.7	-0.2
WRA	Warramunga Arr	42.36	268	P	P	00 29 31.1	-0.9
	comp=Z,6.0nm,0.4s,baz=101,slow=7.6,SNR=98						
WRA				PcP	PcP	00 31 14.9	-0.4
	comp=Z,2.4nm,0.9s,baz=109,slow=3.1,SNR=4.8						
WRA				ScP	ScP	00 34 22.2	+0.3
	comp=Z,1.1nm,0.9s,baz=103,slow=3.6,SNR=4.5						
WRA				S	S	00 35 15.8	-3.5
	comp=Z,3.8nm,0.9s,baz=95,slow=15,SNR=13						
WRA	Warramunga Arr	42.36	268	P	P	00 29 30.6	-1.3
JAY	Jayapura	44.38	295	P	P	00 29 47.7	-0.2
	comp=Z,7.4nm,0.5s,baz=204,slow=16,SNR=5.0						
FORT	Forrest	45.68	251	P	P	00 29 56.0	-1.7
FORT	Forrest	45.68	251	P	P	00 29 56.5	-1.2
WRKA	Warakurna	46.48	259	P	P	00 30 03.0	-0.9
MTN	Manton Dam	47.69	276	P	P	00 30 12.4	-0.8
MTN				IAmb	IAmb	00 30 15.7	
	comp=Z,9.0nm,0.5s						
KNRA	Kununurra	48.76	272	P	P	00 30 20.9	-0.3
KNRA	Kununurra	48.76	272	P	P	00 30 21.3	+0.1
FITZ	Fitzroy Crossi	50.75	267	P	P	00 30 35.5	-0.5
	comp=Z,14nm,0.8s,baz=99,slow=6.4						
FITZ	Fitzroy Crossi	50.75	267	P	P	00 30 35.4	-0.5
FITZ				IAmb	IAmb	00 30 38.0	
	comp=Z,9.9nm,0.7s						
FAKI	Fak Fak	51.24	288	P	P	00 30 38.5	-1.0
FAKI				IAmb	IAmb	00 30 49.6	
	comp=Z,14nm,1.0s						
FAKI	Fak Fak	51.24	288	P	P	00 30 39.7	+0.2
	comp=Z,16nm,0.5s						
SBA	Scott Base	52.37	184	P	P	00 30 46.9	+0.1
SBA				IAmb	IAmb	00 30 52.5	
	comp=Z,21nm,1.5s						
VNDA	Vanda	52.38	185	P	P	00 30 47.0	+0.2
	comp=Z,0.9nm,0.8s,baz=2.3,slow=7.6,SNR=4.8						
VNDA				PcP	PcP	00 31 50.7	+0.4
	comp=Z,1.2nm,0.8s,baz=315,slow=2.9,SNR=4.3						
VNDA	Vanda	52.38	185	P	P	00 30 47.1	+0.2
SWI	Sorong	53.15	290	P	P	00 30 52.3	-1.0
	comp=Z,836nmcomp=Z,46nm,0.7s						
KLBR	Kellerberrin	54.27	249	P	P	00 30 59.9	-1.3
	comp=Z,50nm,0.8s						
MEEK	Meekatharra	54.60	255	P	P	00 31 02.9	-0.7
PSA00	Pilbara Seismi	54.87	261	P	P	00 31 04.3	-1.2
BLDU	Ballidu	55.34	249	P	P	00 31 07.3	-1.4
BATI	Baumata	55.44	275	P	P	00 31 09.3	-0.3
	comp=Z,10nm,0.9s						
MUN	Mundaring	55.49	248	P	P	00 31 08.9	-0.8
MORW	Morawa	56.25	251	P	P	00 31 13.8	-1.2
MORW				IAmb	IAmb	00 31 14.6	
	comp=Z,9.4nm,0.6s						
MORW	Morawa	56.25	251	P	P	00 31 14.0	-1.0
SANI	Sanana	57.07	285	P	P	00 31 18.9	-2.0
	comp=Z,18nm,0.8s						
SANI				pP	pwP	00 33 04.8	+6.7
	comp=Z,18nm,0.8s						
GIRL	Giralia	59.52	258	P	P	00 31 38.1	+0.6
GIRL	Giralia	59.52	258	P	P	00 31 36.7	-0.7
BKSI	Bulukumba	60.70	279	P	P	00 31 44.1	-1.3
	comp=Z,21nm,0.8s						
PLAI	Plampang	61.29	274	P	P	00 31 48.1	-1.3
	comp=Z,36nm,0.8s						
PLAI	Plampang	61.29	274	P	P	00 31 48.9	-0.5
MPSI	Mapaga	63.54	284	P	P	00 32 02.0	-2.0
	comp=Z,9.4nm,0.9s						
QSPA	South Pole Qui	64.17	180	P	P	00 32 07.4	+0.1
	comp=Z,18nm,1.0s,baz=25,slow=1.3,SNR=41						
QSPA	South Pole Qui	64.17	180	P	P	00 32 07.5	+0.1
QSPA				IAmb	IAmb	00 32 08.9	
	comp=Z,16nm,0.9s						
GMJI	Gumukmas	65.42	273	P	P	00 32 14.5	-1.4
SBUM	Sibu	71.28	282	P	P	00 32 50.5	-1.2
KSM	Kuching	72.51	280	P	P	00 32 58.1	-0.8
KSM				IAmb	IAmb	00 32 59.4	
	comp=Z,14nm,0.8s						
MJAR	Matsushiro Arr	73.59	326	P	P	00 33 04.4	-0.2
	comp=Z,6.5nm,0.8s,baz=179,slow=4.4,SNR=9.4						
MJAR	Matsushiro Arr	73.59	326	P	P	00 33 04.4	-0.2
MJAR				IAmb	IAmb	00 33 05.7	
	comp=Z,7.5nm,0.9s						
JSU	Suzuyama	74.19	317	P	P	00 33 07.8	-0.4
BELA	Belgrano 2	74.43	173	P	P	00 33 08.0	-0.8
BELA				IAmb	IAmb	00 33 09.2	
	comp=Z,6.1nm,0.7s						
JNU	Nakatsue	75.07	319	P	P	00 33 13.1	0.0
JNU				IAmb	IAmb	00 33 16.4	
	comp=Z,35nm,1.5s						
JHS	Saijyo	75.13	322	P	P	00 33 13.8	+0.4
JHS				IAmb	IAmb	00 33 14.9	
	comp=Z,18nm,1.1s						
SSLB	Suanglung	75.57	306	P	P	00 33 15.2	-0.9
	comp=Z,7.3nm,0.8s						
MAW	Mawson	75.88	201	P	P	00 33 17.3	+0.2
	comp=Z,5.6nm,0.8s,baz=151,slow=10,SNR=4.0						
MAW	Mawson	75.88	201	P	P	00 33 16.8	-0.2
KIWB	Kanaga Island	77.48	2	P	P	00 33 25.7	-0.2
ADK	Adak	77.52	2	P	P	00 33 26.3	+0.1
ADK	Adak	77.52	2	P	P	00 33 24.9	-1.2
NIKH	Nikolski High	79.15	7	P	P	00 33 35.2	+0.3
KSRS	Korea Array	79.83	320	P	P	00 33 39.9	+1.0
	comp=Z,6.7nm,0.8s,baz=136,slow=5.8,SNR=25						
KSAR	Wonju Array Be	79.84	320	P	P	00 33 39.1	+0.2
UNV	Unalaska Valle	80.28	8	P	P	00 33 40.4	-0.5
PETK	Petropavlovsk-	81.07	347	P	P	00 33 45.1	+0.1
	comp=Z,3.7nm,0.4s,baz=155,slow=4.9,SNR=6.4						
PETK	Petropavlovsk-	81.07	347	P	P	00 33 44.8	-0.2
NJ2	Nanjing	82.02	311	eP	P	00 33 52.5	+2.1
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TROLL	Troll, Antarti	82.32	181	P	P	00 33 50.6	-0.9
USRK	Ussuriysk Ar.	82.48	327	P	P	00 33 53.6	+1.1
	comp=Z,2.7nm,0.6s,baz=148,slow=4.2,SNR=5.0						
USRK	Ussuriysk Ar.	82.48	327	P	P	00 33 53.4	+0.9
SNAA	Sanae	82.65	179	P	P	00 33 52.0	-1.1
SNAA	Sanae	82.65	179	P	P	00 33 51.8	-1.3
SNAA				IAmb	IAmb	00 34 03.4	
	comp=Z,25nm,1.5s						
VNA3	Neumayer Olymp	82.86	177	P	P	00 33 53.5	-0.6
VNA2	Neumayer--Watz	83.28	178	P	P	00 33 55.9	-0.3
	baz=178,slow=4.0						
WHN	Wuhan	84.27	308	⇑P	P	00 34 02.6	+0.8
O02D	Mt. Diablo Mer	84.56	40	P	P	00 34 04.4	+1.3
TIA	Tai'an	85.66	314	eP	P	00 34 08.9	+0.4
TIA				pmax	pmax		
	comp=Z,16nm,1.4s						
BEKR	Beckworth	85.80	42	P	P	00 34 10.2	+0.9
NVAR	Mina Array Bea	86.17	44	P	P	00 34 12.3	+1.2
	comp=Z,1.6nm,0.7s,baz=223,slow=8.4,SNR=17						
NVAR	Mina Array Bea	86.17	44	P	P	00 34 11.7	+0.5
TPNV	Topopah Spring	86.59	46	P	P	00 34 13.9	+0.8
PLCA	Paso Flores	86.83	134	P	P	00 34 15.5	+1.3
	comp=Z,0.6nm,0.7s,baz=264,slow=6.6,SNR=4.7						
PLCA	Paso Flores	86.83	134	P	P	00 34 14.7	+0.5
Q19K	Cape Douglas,	87.31	13	P	P	00 34 16.1	+0.4
TUC	Tucson	87.71	52	P	P	00 34 19.8	+1.4
HNS	HongShan	87.92	314	⇑P	P	00 34 20.6	+1.5
HNS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PINE	Pine Mountain	87.94	38	P	P	00 34 20.8	+1.4
PINE				IAmb	IAmb	00 34 22.2	
	comp=Z,6.8nm,0.8s						
BJT	Baijiatuau	88.51	316	P	P	00 34 21.9	+0.1
BJT				IAmb	IAmb	00 34 23.0	
	comp=Z,6.2nm,0.6s						
BJI	Beijing	88.52	316	P	P	00 34 22.9	+1.1
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HG4B	Hotspring	88.77	28	P	P	00 34 24.3	+1.6
HG4B				IAmb	IAmb	00 34 51.2	
	comp=Z,19nm,1.3s						
I07A	Izee	88.93	39	P	P	00 34 24.5	+0.7
I07A				IAmb	IAmb	00 34 26.5	
	comp=Z,3.8nm,0.8s						
XAN	Xi'an	90.02	308	P	P	00 34 29.8	+0.7
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,78nm,5.0s						
L19K	White Mountain	90.08	11	P	P	00 34 29.5	+0.9
L19K				IAmb	IAmb	00 34 30.6	
	comp=Z,6.9nm,0.8s						
CMAR	Chiang Mai Arr	90.27	290	P	P	00 34 31.6	+1.1
	comp=Z,1.1nm,0.3s,baz=133,slow=3.2,SNR=11						
CMAR	Chiang Mai Arr	90.27	290	P	P	00 34 31.1	+0.6
CHTO	Chiang Mai	90.43	291	P	P	00 34 31.6	+0.4
CHTO				IAmb	IAmb	00 34 33.8	
	comp=Z,6.2nm,1.1s						
TXAR	Lajitas Array	91.46	58	P	P	00 34 37.2	+1.4
	comp=Z,0.8nm,0.7s,baz=208,slow=6.5,SNR=9.8						

PZH	**PanZhiHua**	**91.69**	**299**	P	**P**	**00 34 38.2**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,5.0s						
HHC	**Hu-ho-hao-te**	**91.88**	**315**	*e*P	**P**	**00 34 38.9**	**+1.3**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,6.2s						
RND	**Reindeer**	**92.36**	**13**	P	**P**	**00 34 39.5**	**+0.3**
RND				IAmb	IAmb	00 34 40.0	
	comp=Z,3.9nm,0.8s						
ILAR	**Eielson Array**	**93.98**	**14**	P	**P**	**00 34 46.0**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=218,slow=5.2,SNR=9.3						
PDAR	**Pinedale Array**	**94.11**	**44**	P	**P**	**00 34 48.4**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=263,slow=6.2,SNR=2.7						
LZH	**Lanzhou**	**94.65**	**308**	*e*P	**P**	**00 34 53.0**	**+2.6**
LZH				pP	sP	00 37 32.4	+13
SONM	**Songino Array**	**98.66**	**319**	P	**P**	**00 35 08.3**	**+0.2**
	comp=Z,0.6nm,1.0s,baz=128,slow=5.6,SNR=3.0						
YKA	**Yellowknife Ar**	**102.16**	**26**	PKiKP	**PKiKP**	**00 39 41.2**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=247,slow=1.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**113.53**	**320**	PKiKP	**PKiKP**	**00 40 02.6**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=104,slow=3.7,SNR=3.5						
MKAR	**Makanchi Array**	**113.55**	**312**	PKiKP	**PKiKP**	**00 40 03.0**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=107,slow=0.9,SNR=7.7						
MKAR				SKP		00 42 54.9	
	comp=Z,0.4nm,0.7s,baz=76,slow=1.3,SNR=4.5						
KURK	**Kurchatov**	**116.69**	**316**	PKPdf	**PKPdf**	**00 40 09.0**	**-1.1**
ARU	**Arti**	**128.53**	**323**		**PKPdf**	**00 40 32.6**	**-0.1**
ARCES	**ARCESS Array B**	**133.87**	**348**	PKhKP	PKPpre	00 40 36.0	
	comp=Z,1.7nm,0.7s,baz=60,slow=1.1,SNR=9.4						
ARCES				PKP	**PKPdf**	**00 40 42.1**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=69,slow=1.2,SNR=10						
ARCES				SKPbc	**SKPbc**	**00 43 27.6**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=28,slow=4.1,SNR=11						
ARCES	**ARCESS Array B**	**133.87**	**348**	PKPdf	**PKPdf**	**00 40 41.4**	**-1.0**
KTK1	**Kautokeino**	**134.74**	**348**	*e*PKPdf	**PKPdf**	**00 40 44.4**	**+0.3**
FINES	**FINESS Array B**	**140.37**	**341**	PKhKP	PKPpre	00 40 47.2	
	comp=Z,2.0nm,0.5s,baz=49,slow=3.9,SNR=30						
FINES				SKPbc	**SKPbc**	**00 43 46.6**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=66,slow=3.5,SNR=5.4						
GURO	**Guroymak-BITLI**	**142.63**	**300**	PKPdf	**PKPdf**	**00 40 57.8**	**-1.8**
DOMB	**Dombas**	**143.38**	**353**	*e*PKPab	PKPab	00 40 57.6	-0.3
AKN	**Aaknes**	**143.45**	**355**	*e*PKPab	PKPab	00 40 58.1	-0.1
NC303	**NORSAR Array S**	**143.88**	**351**		PKPab	00 40 59.1	-0.6
UPP	**Uppsala**	**143.96**	**345**	*e*P	PKPbc	00 40 59.3	-0.6
NB2	**NORSAR Subarra**	**144.08**	**351**	PKP	PKPbc	00 40 59.8	-0.6
	comp=Z,4.1nm,0.5s,baz=13,slow=3.1						
NOA	**NORSAR Array B**	**144.08**	**351**	PKP	PKPbc	00 40 59.6	-0.9
	comp=Z,2.0nm,0.6s,baz=28,slow=4.5,SNR=47						
FOO	**Floro**	**144.18**	**356**	*e*PKPbc	PKPbc	00 41 00.2	-0.4
NC602	**NORSAR Array S**	**144.32**	**350**	*e*PKPbc	PKPbc	00 41 00.6	-0.5
HYA	**Hoyanger**	**144.52**	**355**	*e*PKPbc	PKPbc	00 41 01.3	-0.4
SUE	**Sulen**	**144.73**	**356**	*e*PKPbc	**PKPdf**	**00 41 02.2**	**-0.1**
SKAR	**Skarslia**	**144.80**	**353**	*e*PKPbc	**PKPdf**	**00 41 02.4**	**-0.1**
NACGM	**Naroch**	**145.03**	**333**	*e*PKP	**PKPdf**	**00 41 03.0**	**0.0**
OSL	**Oslo**	**145.21**	**351**	*e*PKPbc	**PKPdf**	**00 41 03.5**	**+0.4**
ASK	**Askoy**	**145.27**	**356**	*e*PKPbc	**PKPdf**	**00 41 03.4**	**+0.2**
BER	**Bergen**	**145.36**	**355**	*e*PKPab	**PKPab**	**00 41 05.0**	**-0.3**
VIKU	**Vikbolandet**	**145.39**	**345**	*e*P	**PKPdf**	**00 41 03.6**	**+0.1**
KONO	**Kongsberg**	**145.64**	**351**	*e*PKPbc	**PKPdf**	**00 41 04.3**	**+0.4**
PABE	**Paberze**	**145.68**	**336**		**PKPdf**	**00 41 04.5**	**+0.4**
PABE	**Paberze**	**145.68**	**336**	*e*P	**PKPbc**	**00 41 05.3**	**-0.1**
ODD1	**Odda**	**145.72**	**354**	*e*PKPbc	**PKPbc**	**00 41 05.2**	**-0.3**
PBUR	**Paburge**	**145.99**	**338**	*e*P	**PKPbc**	**00 41 06.2**	**-0.1**
BLS5	**Blasjo**	**146.22**	**354**	*e*PKPbc	**PKPbc**	**00 41 06.0**	**-0.9**
AKASG	**Malin Array Be**	**146.68**	**326**	PKPbc	**PKPbc**	**00 41 07.3**	**-1.1**
	comp=Z,3.1nm,0.4s,baz=44,slow=4.3,SNR=15						
AKBB	**Malin Array Si**	**146.68**	**326**		**PKPbc**	**00 41 07.3**	**-1.0**
SUW	**Suwalki**	**147.12**	**335**		**PKPbc**	**00 41 09.1**	**-0.4**
SUW	**Suwalki**	**147.12**	**335**	*e*P	**PKPbc**	**00 41 08.9**	**-0.6**
HOMB	**Homborsund**	**147.12**	**352**	*i* P	**PKPbc**	**00 41 09.3**	**0.0**
HOMB	**Homborsund**	**147.12**	**352**	*e*PKPbc	**PKPbc**	**00 41 09.1**	**-0.2**
SNART	**Snartemo**	**147.21**	**353**	*i* P	**PKPbc**	**00 41 09.7**	**+0.1**
SNART	**Snartemo**	**147.21**	**353**	*e*PKPbc	**PKPbc**	**00 41 09.2**	**-0.4**
BLEU	**Blekinge**	**147.57**	**344**	*i* P	**PKPbc**	**00 41 09.7**	**-0.9**
FABU	**Falkenberg**	**147.64**	**347**	*i* P	**PKPbc**	**00 41 09.9**	**-0.8**
DEL	**Delary**	**147.88**	**346**	*i* P	**PKPbc**	**00 41 11.0**	**-0.4**
KAC	**Achnashellach**	**148.22**	**5**	*e*P	**PKPbc**	**00 41 12.1**	**-0.1**
MCD	**Coleburn Disti**	**148.28**	**3**	*e*P	**PKPbc**	**00 41 11.8**	**-0.6**
KPL	**Plockton**	**148.34**	**6**	*e*P	**PKPbc**	**00 41 12.2**	**-0.2**
SORM	**Soroca**	**148.65**	**322**	⇑P	**PKPbc**	**00 41 13.3**	**-0.3**
BR131	**Keskin Array S**	**148.80**	**305**		**PKPbc**	**00 41 13.8**	**-0.6**
BR131				PKPab	**PKPab**	**00 41 19.5**	**-0.5**
BRTR	**Keskin Array B**	**148.80**	**305**	PKPbc	**PKPbc**	**00 41 14.1**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=122,slow=1.9,SNR=18						
BRTR	**Keskin Array B**	**148.80**	**305**		**PKPbc**	**00 41 13.8**	**-0.6**
BRTR				PKPab	**PKPab**	**00 41 19.6**	**-0.5**
DRUM	**Mains of Drumt**	**148.98**	**3**	*e*P	**PKPbc**	**00 41 12.4**	**-1.7**
INVG	**Invergeldie, C**	**149.38**	**4**	*e*P	**PKPbc**	**00 41 14.9**	**-0.2**
LAWE	**Loch Awe, Argy**	**149.43**	**6**	*e*P	**PKPbc**	**00 41 14.5**	**-0.7**
DRBR	**Darabani**	**149.54**	**324**	⇑P	**PKPbc**	**00 41 15.4**	**-0.4**
VASR	**Vaslui**	**149.80**	**320**	⇓P	**PKPbc**	**00 41 14.5**	**-1.9**
TLCR		**149.96**	**317**	⇓P	**PKPbc**	**00 41 17.1**	**+0.3**
ESY	**Stoneypath**	**149.97**	**3**	*e*P	**PKPbc**	**00 41 16.0**	**-0.5**
CSS	**Mathiatis**	**150.04**	**296**		**PKPbc**	**00 41 17.1**	**-0.3**
VLDR	**Vladesti**	**150.06**	**319**	⇑P	**PKiKP**	**00 41 17.5**	**-0.2**
EBL	**Broad Law**	**150.09**	**4**	*e*P	**PKPbc**	**00 41 16.5**	**-0.3**
VARL	**Varlezi**	**150.17**	**319**	⇑P	**PKiKP**	**00 41 17.9**	**0.0**
SCTR	**Scanteiesti**	**150.20**	**319**	⇓P	**PKiKP**	**00 41 18.5**	**+0.5**
GHRR		**150.34**	**320**	⇑P	**PKiKP**	**00 41 18.8**	**+0.6**
TPGR	**Topolog**	**150.37**	**317**	⇓P	**PKPbc**	**00 41 17.7**	**-0.1**
CFR	**Carcaliu**	**150.38**	**318**	⇓P	**PKPbc**	**00 41 17.6**	**-0.2**
SLCR	**Slobozia Conac**	**150.38**	**319**	⇑P	**PKiKP**	**00 41 18.4**	**0.0**
IZVR	**Izvoarele**	**150.41**	**319**	⇓P	**PKiKP**	**00 41 18.3**	**-0.1**
TESR	**Tescani**	**150.53**	**321**	⇓P	**PKPbc**	**00 41 17.9**	**-0.2**
ESK	**Eskdalemuir**	**150.54**	**4**	*e*P	**PKPbc**	**00 41 16.8**	**-1.1**
TIRR	**Tirgusor**	**150.57**	**316**	⇑P	**PKPbc**	**00 41 18.4**	**+0.1**
BUR08	**Bucovina Ar. S**	**150.64**	**324**		**PKPbc**	**00 41 18.1**	**-0.4**
BURAR	**Bucovina Array**	**150.65**	**324**	⇓P	**PKiKP**	**00 41 19.4**	**+0.4**
MFTR	**Murfatlar**	**150.70**	**316**	⇑P	**PKiKP**	**00 41 18.8**	**-0.2**
HARR	**Harsova**	**150.75**	**317**	⇑P	**PKPbc**	**00 41 18.8**	**+0.1**
TLBR	**Topalu**	**150.75**	**317**	⇓P	**PKiKP**	**00 41 19.3**	**+0.2**
MANR	**Mangalia**	**150.77**	**315**	⇓P	**PKiKP**	**00 41 19.4**	**+0.2**
VRI	**Vrincioaia**	**150.84**	**320**	⇑P	**PKPbc**	**00 41 19.0**	**0.0**
PLOR	**Plostina**	**150.90**	**320**	⇑P	**PKPbc**	**00 41 18.5**	**-0.5**
BSEG	**Bad Segeberg**	**151.00**	**347**	*e*PKPbc	**PKPbc**	**00 41 19.0**	**+0.1**
	baz=21,slow=2.1						
BISRR	**Bisoca**	**151.03**	**319**	⇓P	**PKiKP**	**00 41 19.8**	**0.0**
EDMD	**Edmundbyers**	**151.08**	**2**	*e*P	**PKPbc**	**00 41 17.4**	**-1.8**
ICOR	**Ion Corvin**	**151.12**	**316**	⇓P	**PKiKP**	**00 41 19.9**	**-0.1**
COVR	**Voineasa-Covas**	**151.16**	**320**	⇑P	**PKPbc**	**00 41 18.9**	**-0.7**
NEHR	**Nehoiu**	**151.34**	**320**	⇓P	**PKPbc**	**00 41 20.2**	**+0.1**
OJC	**Ojcow**	**151.37**	**333**		**PKPbc**	**00 41 19.1**	**-0.8**
MLR	**Muntele Rosu**	**151.51**	**320**	⇓P	**PKPbc**	**00 41 20.1**	**-0.5**
RUE	**Ruedersdorf**	**151.53**	**342**	*e*PKPbc	**PKPbc**	**00 41 20.2**	**+0.1**
	baz=21,slow=2.1						
DOPR	**Dopca**	**151.55**	**321**	⇑P	**PKiKP**	**00 41 21.0**	**+0.2**
CRVS	**Cervenica-Dubn**	**151.63**	**330**	*e*PKP	**PKiKP**	**00 41 21.0**	**+0.1**
CRVS				*e*		00 41 31.6	
TRPA	**Tarpa**	**151.67**	**327**	⇑P	**PKPbc**	**00 41 20.6**	**-0.1**
CBBR	**Cluj-Babes-Bol**	**152.06**	**324**	⇑P	**PKPbc**	**00 41 20.9**	**-0.7**
CJR	**Cluj-Napoca**	**152.07**	**324**	⇑P	**PKiKP**	**00 41 21.9**	**-0.1**
FLTG	**Flechtingen**	**152.31**	**345**	*e*PKPbc	**PKPbc**	**00 41 21.7**	**-0.2**
	baz=21,slow=2.1						
RETH	**Rethem/Aller,**	**152.32**	**348**	*e*PKPbc	**PKPbc**	**00 41 22.0**	**+0.1**
	baz=21,slow=2.1						
LANS	**Liptovska Anna**	**152.32**	**332**	*e*PKP	**PKiKP**	**00 41 23.0**	**+0.7**
NRDL	**Niedersach Rie**	**152.40**	**347**	*e*PKPbc	**PKiKP**	**00 41 22.1**	**-0.1**
	baz=21,slow=2.1						
ELL	**Elmali**	**152.41**	**300**		**PKPbc**	**00 41 22.2**	**-0.7**
ELL				PKPab	**PKPab**	**00 41 35.4**	**+0.2**
OSTC	**Ostas**	**152.44**	**337**	⇑*e*PKP	**PKiKP**	**00 41 22.5**	**0.0**
CHVC	**Chvalec**	**152.47**	**338**	⇑*e*PKP	**PKPbc**	**00 41 22.3**	**-0.1**
DRGR		**152.49**	**325**	⇑P	**PKPbc**	**00 41 22.6**	**0.0**
UPC	**Upice**	**152.56**	**338**	⇑*e*PKP	**PKiKP**	**00 41 22.8**	**+0.1**
DPC	**Dobruska-Polom**	**152.58**	**337**	⇑*e*PKP	**PKiKP**	**00 41 23.1**	**+0.3**
DPC				*e*PKPAB	**PKPab**	**00 41 36.0**	**+0.6**
HUMR	**Humele**	**152.62**	**319**	⇓P	**PKPbc**	**00 41 22.5**	**-0.4**
ASSE	**Asse, Remlinge**	**152.62**	**346**	*e*PKPbc	**PKPbc**	**00 41 22.5**	**-0.1**
	baz=21,slow=2.1						
CLL	**Collm**	**152.79**	**342**		**PKPbc**	**00 41 22.4**	**-0.7**
CLL					**PKPab**	**00 41 35.9**	**-0.2**
CLL	**Collm**	**152.79**	**342**	⇓*i*PKPbc	**PKPbc**	**00 41 22.7**	**-0.3**
	comp=Z,8.0nm,0.8s						
CLL				⇑*i*PKPab	**PKPab**	**00 41 36.2**	**+0.1**
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**152.79**	**342**	*e*PKPbc	**PKPbc**	**00 41 23.0**	**-0.1**
	baz=21,slow=2.1						
CLL				*e*PKPab	**PKPab**	**00 41 36.3**	**+0.1**
	baz=19,slow=4.4						
BRG	**Berggiesshubel**	**152.91**	**340**	*e*PKP	**PKiKP**	**00 41 23.6**	**+0.1**
BRG				Amp		00 41 24.9	
	comp=Z,3.9nm,0.7s						
BRG				*e*x	x	00 41 37.3	
BRG				Amp		00 41 38.9	
	comp=Z,2.0nm,0.7s						
BRG	**Berggiesshubel**	**152.91**	**340**	*e*PKPbc	**PKPbc**	**00 41 23.2**	**-0.1**
	baz=21,slow=2.1						
BRG				*e*PKPab	**PKPab**	**00 41 37.1**	**+0.4**
	baz=19,slow=4.4						
CLZ	**Clausthal**	**152.96**	**346**	*e*PKPbc	**PKPbc**	**00 41 22.9**	**-0.6**
	baz=21,slow=2.1						
CLZ				*e*PKPab	**PKPab**	**00 41 36.3**	**-0.6**
	baz=19,slow=4.4						
FBE	**Freiberg**	**153.04**	**341**	*e*PKPbc	**PKiKP**	**00 41 23.9**	**+0.3**
	baz=21,slow=2.1						
FBE				*e*PKPab	**PKPab**	**00 41 37.9**	**+0.7**
	baz=19,slow=4.4						
VYHS	**Vyhne**	**153.10**	**332**	*e*PKP	**PKPbc**	**00 41 23.5**	**-0.3**
VYHS				*e*		00 41 38.4	
PRU	**Pruhonice**	**153.49**	**339**	⇑*e*PKP	**PKPbc**	**00 41 24.5**	**-0.1**
GUNZ	**Gunzen**	**153.83**	**342**	*e*PKPab	**PKPab**	**00 41 41.3**	**+0.6**
	baz=19,slow=4.4						
WERN	**Wernitzgruen**	**153.88**	**342**	*e*PKPab	**PKPab**	**00 41 41.5**	**+0.6**
	baz=19,slow=4.4						
KHC	**Kasperske Hory**	**154.55**	**339**	*e*PKPDF	**PKPdf**	**00 41 16.8**	**-1.3**
KHC				*e*PKPAB	**PKPab**	**00 41 44.0**	**+0.2**
CKRC	**Cesky Krumlov**	**154.57**	**338**	*e*PKPDF	**PKPdf**	**00 41 15.4**	**-2.7**
CKRC				⇑*e*PKP	**PKiKP**	**00 41 26.9**	**-0.1**
CONA	**Conrad Observa**	**154.76**	**335**	*e*P	**PKPab**	**00 41 45.5**	**+0.7**
	comp=Z,1.0nm,0.6s						
WET	**Wettzell**	**154.76**	**340**	*e*PKPab	**PKPab**	**00 41 45.4**	**+0.7**
	baz=19,slow=4.4						
ARSA	**Arzberg**	**155.44**	**334**	*e*P	**PKPab**	**00 41 48.0**	**+0.3**
	comp=Z,2.2nm,1.1s						
BIOA	**Bad Ischl, Aus**	**155.77**	**337**	*e*P	**PKPab**	**00 41 50.3**	**+1.2**
	comp=Z,2.2nm,0.7s						
RJOB	**Jochberg**	**156.02**	**339**	*e*PKPab	**PKPab**	**00 41 50.9**	**+0.8**
	baz=19,slow=4.4						
FUR	**Furstenfeldbru**	**156.11**	**341**	*e*PKPab	**PKPab**	**00 41 51.3**	**+0.8**
	baz=19,slow=4.4						
IDI	**Anoyia**	**156.72**	**300**	PKPab	**PKPab**	**00 41 54.5**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=104,slow=4.2,SNR=6.6						
IDI	**Anoyia**	**156.72**	**300**		**PKPab**	**00 41 53.9**	**+0.1**
WATA	**Walderalm**	**156.76**	**340**	*e*P	**PKPab**	**00 41 53.8**	**+0.2**
	comp=Z,1.9nm,0.6s						
WTTA	**Wattenberg**	**156.81**	**340**	*e*P	**PKPab**	**00 41 54.3**	**+0.5**
	comp=Z,2.0nm,0.6s						
RETA	**Reutte**	**156.87**	**341**	*e*P	**PKPab**	**00 41 54.3**	**+0.4**
	comp=Z,2.1nm,0.5s						
MOTA	**Moosalm**	**156.90**	**341**	*e*P	**PKPab**	**00 41 54.4**	**+0.3**
	comp=Z,2.7nm,0.8s						
ABTA	**Abfaltersbach**	**156.98**	**338**	*e*P	**PKPab**	**00 41 53.8**	**-0.6**
	comp=Z,4.0nm,1.2s						
SQTA	**Sankt Quirin**	**156.98**	**340**	*e*P	**PKPab**	**00 41 55.2**	**+0.8**
	comp=Z,6.2nm,1.4s						
DAVA	**Damuels**	**157.30**	**342**	*e*P	**PKPab**	**00 41 56.4**	**+0.5**
	comp=Z,1.7nm,0.4s						
ESDC	**Sonseca Array**	**165.88**	**13**	PKPab	**PKPab**	**00 42 33.5**	**0.0**
	comp=Z,1.2nm,0.9s,baz=338,slow=3.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**167.20**	**187**	PKP	**PKPdf**	**00 41 31.4**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=241,slow=2.6,SNR=8.7						
TORD				PKPab	**PKPab**	**00 42 38.9**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=164,slow=4.6,SNR=12						

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*BGR **03** 00:46:13.3±0.0, 34.̊16N×26.̊54E, h33km, mb4.8, Ms3.8*
*BJI **03** 00:46:14.0±0.0, 33.̊99N×25.̊62E, h15km, mb5.0/66, mB5.0/29, Ms4.7/18, Ms7 4.3/9*
*GCMT **03** 00:46:14.8±0.2, 34.̊10N±0.̊01×25.̊58E±0.̊03, h18km, MW4.9/97, Moment Tensor Solution. s35,c39; s97,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr2.70±.15; Mθθ-2.62±.09; Mφφ-0.08±.09; Mrθ0.86±.19; Mθφ-0.24±.07; Mφr-0.23±.28; Best double couple: Mo2.81500×10^{16} NP1:φs259.00000°, δ37.00000°, λ80.00000°. NP2: φs91.00000°, δ54.00000°, λ97.00000°. Principal axes: T 2.8590, Plg80.0000°, Azm29.0000°; N -0.0910, Plg6.0000°, Azm267.0000°; P -2.7710, Plg9.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **03** 00:46:15.6±1.0, 34.̊30N×25.̊66E, h15km, mb5.2/76, MS4.1/12 Error ellipse: s-maj=4.7km s-min=2.6km az=86.4*
*ATH **03** 00:46:15.9, 34.̊19N×25.̊73E, h9km±3km, ML4.5/9, Error ellipse: s-maj=8.1km s-min=1.8km az=344.0*
*THE **03** 00:46:15.5, 34.̊12N×25.̊82E, h0km±3km, ML4.6/3, Error ellipse: s-maj=8.0km s-min=1.6km az=158.0*
*IDC **03** 00:46:15.4±0.4, 34.̊34N×25.̊68E, h0km, mb4.9/39, mb1 4.9/48, mb1mx4.9/58, mbtmp4.9/48, ML4.0/8, MS4.0/52, Ms1 4.0/52, ms1mx3.9/79, Error ellipse: s-maj=10.2km s-min=9.0km az=164.0*
*PDG **03** 00:46:15.6±0.7, 34.̊14N×25.̊69E, h14km±2km, ML4.6/9, Error ellipse: s-maj=1.2km s-min=1.3km az=0.0*
*MED_RC **03** 00:46:16.0±0.6, 33.̊98N×25.̊65E, h22km, MW4.9/29, Moment Tensor Solution. Body waves: s3,c3;Mantle waves: s29,c51; Duration: 1s3 Moment tensor: Scale 10^{16}Nm; Mrr2.82±.22; Mθθ-2.96±.12; Mφφ0.14±.14; Mrθ1.37±.15; Mθφ-0.56±.11; Mφr0.48±.22; Best double couple: Mo3.28000×10^{16} NP1:φs76.00000°, δ58.00000°, λ85.00000°. NP2:φs265.00000°, δ32.00000°, λ98.00000°. Principal axes: T 3.1700, Plg76.0000°, Azm331.0000°; N 0.2200, Plg4.0000°, Azm78.0000°; P -3.3900, Plg13.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
*NEIC **03** 00:46:17.1±1.4, 34.̊30N±0.̊04×25.̊71E±0.̊07, h10km±1km Error ellipse: s-maj=10.1km s-min=6.7km az=244.0*
*NIC **03** 00:46:17.2±0.0, 34.̊19N×25.̊92E, h10km±7km, Ml5.0/6*
*GII **03** 00:46:19.8±0.0, 34.̊04N×26.̊24E, h1km, mb4.7/4, MD4.6/4, Mm4.9/3*
*ISK **03** 00:46:20.5, 34.̊40N×25.̊69E, h61km, ML4.4/21*
*DDA **03** 00:46:22.0±0.0, 34.̊38N×25.̊83E, h37km, MW4.7*
*HLW **03** 00:46:23.5, 33.̊82N×25.̊97E, h30km±13km, Md4.4, Ml4.4*
ISC 03 00:46:17.5±0.6**, 34.̊27N**±0.̊03×**25.̊75E**±0.̊02**, h16**km±3km**, n1173,** σ1s**62**/1254**, mb5.1**/236**, MS4.1**/56**, 57C-55D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.74**	**359**	P	**Pb**	**00 46 32.0**	**-0.1**
FRMA				AML	AML	00 47 01.9	
	comp=E,54248µm,0.8s						
FRMA				AML	AML	00 47 07.3	
	comp=N,43402µm,0.8s						
FRMA	**Ierapetra Chan**	**0.74**	**359**	P	**Pg**	**00 46 31.8**	**-0.2**
ZKR	**Zakros**	**0.93**	**25**	P	**Pb**	**00 46 34.9**	**-0.4**
ZKR				S	**Sn**	**00 46 48.5**	**-0.4**
ZKR				AML	AML	00 47 08.3	
	comp=E,55425µm,1.1s						
ZKR				AML	AML	00 47 08.6	
	comp=N,14328µm,0.7s						
ZKR	**Zakros**	**0.93**	**25**	P	**Pb**	**00 46 34.9**	**-0.4**
ZKR				S	**Sn**	**00 46 50.9**	**+1.9**
	comp=N,18µm,0.8s						
ZKR	**Zakros**	**0.93**	**25**	PG	**Pb**	**00 46 35.1**	**-0.2**
ZKR	**Zakros**	**0.93**	**25**		**Pb**	**00 46 34.9**	**-0.4**
ZKR					**Sb**	**00 46 46.9**	**-0.5**
ZKR	**Zakros**	**0.93**	**25**	P	**Pb**	**00 46 34.8**	**-0.5**
ZKR				S	**Sn**	**00 46 48.6**	**-0.4**
ZKR				AML	AML	00 46 57.0	
	comp=N,16nm,1.4s						
ZKR				AML	AML	00 46 57.0	
	comp=N,16nm,1.4s						
ZKR				AML	AML	00 47 06.5	
	comp=N,55nm,1.1s						
ZKR				AML	AML	00 47 06.5	
	comp=N,55nm,1.1s						
SIVA	**Sivas**	**1.07**	**314**	P	**Pb**	**00 46 37.6**	**-0.1**
SIVA				AML	AML	00 46 57.0	
	comp=N,50334µm,0.5s						
SIVA				AML	AML	00 47 00.5	
	comp=E,66483µm,0.5s						
SIVA	**Sivas**	**1.07**	**314**	P	**Pb**	**00 46 37.6**	**-0.1**
SIVA				S	**Sn**	**00 46 56.5**	**+4.0**
	comp=E,35µm,0.7s						
SIVA	**Sivas**	**1.07**	**314**		**Pb**	**00 46 37.1**	**-0.6**
SIVA					**Sb**	**00 46 49.1**	**-2.4**
TMBK	**Timbaki Herakl**	**1.14**	**315**	P	**Pn**	**00 46 38.6**	**-0.2**
TMBK				AML	AML	00 47 16.7	
	comp=N,58162µm,0.9s						
TMBK				AML	AML	00 47 17.4	
	comp=E,54518µm,0.8s						
TMBK	**Timbaki Herakl**	**1.14**	**315**	P	**Pn**	**00 46 38.4**	**-0.4**
TMBK	**Timbaki Herakl**	**1.14**	**315**		**Pn**	**00 46 38.4**	**-0.4**
HRKL	**Herakleio**	**1.17**	**333**	P	**Pn**	**00 46 39.1**	**-0.1**
HRKL				AML	AML	00 47 08.5	
HRKL				AML	AML	00 47 26.0	
HRKL	**Herakleio**	**1.17**	**333**	PG	**Pn**	**00 46 39.2**	**0.0**
HRKL				SG	**Sb**	**00 46 53.5**	**-0.7**
KSTL	**Kastelli Herak**	**1.17**	**332**	P	**Pn**	**00 46 36.2**	**-3.1**
IACM	**Heraklion**	**1.17**	**332**	P	**Pb**	**00 46 39.5**	**+0.1**
IACM	**Heraklion**	**1.17**	**332**	P	**Pb**	**00 46 39.5**	**+0.1**
IACM	**Heraklion**	**1.17**	**332**		**Pb**	**00 46 39.5**	**+0.1**
IDI	**Anoyia**	**1.24**	**325**	⇓P	**Pb**	**00 46 40.6**	**+0.1**
IDI	**Anoyia**	**1.24**	**325**	Pn	**Pn**	**00 46 39.3**	**-0.9**
	comp=E,26nm,0.3s,baz=168,slow=9.1,SNR=264						
IDI				Sn	**Sg**	**00 46 58.1**	**+0.5**
	comp=E,175nm,0.3s,baz=18,slow=19,SNR=8.2						
IDI				LR	LR	00 47 20.8	
	comp=E,8µm,20.3s,baz=217,slow=57						
IDI	**Anoyia**	**1.24**	**325**	P	**Pn**	**00 46 39.8**	**-0.5**
IDI				AML	AML	00 47 07.0	
	comp=E,12781µm,0.7s						
IDI				AML	AML	00 47 07.1	
	comp=N,9863µm,1.1s						
IDI	**Anoyia**	**1.24**	**325**	P	**Pn**	**00 46 39.6**	**-0.7**
IDI				S	**Sg**	**00 47 00.8**	**+3.3**
IDI	**Anoyia**	**1.24**	**325**	PN	**Pn**	**00 46 40.2**	**0.0**
IDI	**Anoyia**	**1.24**	**325**	Pn	**Pn**	**00 46 39.5**	**-0.7**
GVD	**Gavdhos**	**1.48**	**293**	P	**Pn**	**00 46 43.6**	**+0.1**
GVD				AML	AML	00 47 24.5	
	comp=E,17895µm,0.6s						
GVD				AML	AML	00 47 26.5	
	comp=N,18728µm,1.3s						
GVD	**Gavdhos**	**1.48**	**293**	P	**Pn**	**00 46 43.3**	**-0.2**
GVD				S	**Sg**	**00 47 06.6**	**+1.3**
	comp=N,10µm,0.5s						
GVD	**Gavdhos**	**1.48**	**293**	PN	**Pb**	**00 46 44.6**	**-0.1**
GVDS	**Gavdos**	**1.48**	**293**	P	**Pn**	**00 46 43.4**	**-0.1**
PRNS	**Prines Rethymn**	**1.50**	**317**	P	**Pb**	**00 46 44.3**	**-0.7**
KARP	**Karpathos**	**1.73**	**42**	P	**Pb**	**00 46 49.0**	**+0.1**
KARP	**Karpathos**	**1.73**	**42**	P	**Pb**	**00 46 48.1**	**-0.8**
KARP	**Karpathos**	**1.73**	**42**	PN	**Pb**	**00 46 48.3**	**-0.6**
KARP	**Karpathos**	**1.73**	**42**	Pn	**Pb**	**00 46 48.5**	**-0.3**
KARP	**Karpathos**	**1.73**	**42**	P	**Pb**	**00 46 48.0**	**-0.9**
KARP				AML	AML	00 47 41.6	
	comp=N,16nm,1.0s						
KARP				AML	AML	00 47 54.1	
	comp=N,14nm,1.1s						
CHAN	**Chania**	**1.88**	**312**	P	**Pb**	**00 46 51.6**	**+0.2**
CHAN				AML	AML	00 47 44.1	
	comp=N,13380µm,1.0s						
CHAN				AML	AML	00 47 53.1	
	comp=E,14461µm,1.0s						
IMMV	**Iera Moni Meta**	**1.88**	**310**	P	**Pb**	**00 46 50.4**	**-1.0**
IMMV				AML	AML	00 47 39.4	
	comp=E,18304µm,1.0s						
IMMV				AML	AML	00 47 50.9	
	comp=N,12974µm,0.8s						
IMMV	**Iera Moni Meta**	**1.88**	**310**	P	**Pb**	**00 46 50.4**	**-1.0**
IMMV	**Iera Moni Meta**	**1.88**	**310**	PN	**Pn**	**00 46 50.0**	**+1.0**
KNDR	**Palaiochora Ch**	**1.95**	**300**	P	**Pb**	**00 46 52.6**	**-0.1**
KNDR	**Palaiochora Ch**	**1.95**	**300**	PN	**Pb**	**00 46 51.9**	**-0.8**
RODP	**Rodopos**	**2.08**	**309**	PN	**Pn**	**00 46 52.9**	**+1.1**
THR6	**Thira Island,**	**2.10**	**352**	P	**Pb**	**00 46 53.7**	**-1.6**
SAP3	**Santorini-Thir**	**2.19**	**351**	P	**Pn**	**00 46 54.5**	**+1.3**
CMBO	**Columbo, Santo**	**2.21**	**353**	P	**Pb**	**00 46 55.5**	**-1.7**
ANKY	**Antikythira Is**	**2.56**	**309**	P	**Pb**	**00 47 01.1**	**-2.0**
ANKY	**Antikythira Is**	**2.56**	**309**	P	**Pn**	**00 47 00.4**	**+2.0**
MHLO	**Agia Marina, M**	**2.65**	**336**	P	**Pn**	**00 46 59.7**	**+0.1**
KOSK	**Kos Island**	**2.67**	**22**	PN	**Pn**	**00 47 01.3**	**+1.4**
APE	**Apeiranthos**	**2.80**	**356**	⇑P	**Pn**	**00 47 03.4**	**+1.7**
APE	**Apeiranthos**	**2.80**	**356**	P	**Pn**	**00 47 02.6**	**+0.9**
APE	**Apeiranthos**	**2.80**	**356**	*d i*P	**Pn**	**00 47 02.8**	**+1.1**
APE	**Apeiranthos**	**2.80**	**356**	PN	**Pn**	**00 47 03.4**	**+1.7**
SLUM	**Salum**	**2.81**	**189**	P	**Pn**	**00 47 00.5**	**-1.3**
	baz=196						
DAT	**Datca**	**2.87**	**31**	P	**Pn**	**00 47 04.3**	**+1.5**
KTHA	**Kythira Island**	**2.96**	**313**	P	**Pn**	**00 47 05.6**	**+1.7**
KTHA	**Kythira Island**	**2.96**	**313**	P	**Pn**	**00 47 05.5**	**+1.6**
KTHR	**Kythira**	**3.00**	**312**	P	**Pn**	**00 47 06.5**	**+2.1**
BODT	**Bodrum**	**3.06**	**24**	PN	**Pn**	**00 47 06.9**	**+1.6**
BDRM	**Kayabasi**	**3.11**	**26**	P	**Pn**	**00 47 07.6**	**+1.6**
MATC	**Matruh**	**3.17**	**156**	P	**Pn**	**00 47 05.6**	**-1.2**
	baz=156						
TURN	**Turunc**	**3.23**	**38**	P	**Pn**	**00 47 09.4**	**+1.9**
VLI	**Veliai**	**3.35**	**318**	P	**Pn**	**00 47 09.8**	**+0.6**
DDIM	**Aydin, Didim**	**3.41**	**20**	P	**Pn**	**00 47 09.4**	**-0.6**
MLSB	**Milas**	**3.44**	**28**	PN	**Pn**	**00 47 12.3**	**+1.8**
DALY	**Dalyan (Mula)**	**3.48**	**42**	PN	**Pn**	**00 47 12.9**	**+2.0**
YER	**Yerkesik**	**3.53**	**35**	PN	**Pn**	**00 47 13.6**	**+1.9**
SMG	**Samos**	**3.54**	**14**	P	**Pn**	**00 47 13.3**	**+1.4**
FETY	**Fethiye**	**3.60**	**48**	PN	**Pn**	**00 47 14.9**	**+2.1**
FETY	**Fethiye**	**3.60**	**48**	P	**Pn**	**00 47 13.9**	**+1.1**
FETY				S	**Sn**	**00 47 54.0**	**-1.1**
MULA	**Mugla, Merkez-**	**3.64**	**34**	P	**Pn**	**00 47 14.7**	**+1.4**
AKAS	**Kas**	**3.72**	**57**	P	**Pn**	**00 47 15.8**	**+1.5**
AKAS				S	**Sn**	**00 47 58.3**	**+0.4**
KRND	**KRANIDI**	**3.75**	**327**	P	**Pn**	**00 47 15.5**	**+0.7**
AYDN	**Tasoluk**	**3.80**	**26**	P	**Pn**	**00 47 17.1**	**+1.7**
VLY	**Voula,Athens**	**3.91**	**337**	P	**Pn**	**00 47 18.3**	**+1.4**
DEMR	**Demre-Antalya**	**3.93**	**59**	PN	**Pn**	**00 47 19.9**	**+2.7**
CAME	**Cameli-Denizli**	**3.94**	**46**	PN	**Pn**	**00 47 19.4**	**+1.9**
ATHU	**Athens Univers**	**4.02**	**337**	P	**Pn**	**00 47 19.5**	**+1.1**
ATH	**Athens Observa**	**4.04**	**337**	P	**Pn**	**00 47 19.1**	**+0.3**
PTL	**Penteli**	**4.07**	**339**	P	**Pn**	**00 47 20.6**	**+1.5**
CAEL	**Denizli, Camel**	**4.07**	**45**	P	**Pn**	**00 47 21.0**	**+1.8**
DION	**Dionisos Attik**	**4.07**	**339**	P	**Pn**	**00 47 20.8**	**+1.6**
TAVA	**DENIZLI_Tavas**	**4.10**	**38**	P	**Pn**	**00 47 21.0**	**+1.5**
CHOS	**Chios island**	**4.12**	**3**	P	**Pn**	**00 47 20.4**	**+0.6**
ELL	**Elmali**	**4.20**	**53**	P	**Pn**	**00 47 22.9**	**+1.8**
ELL	**Elmali**	**4.20**	**53**	PN	**Pn**	**00 47 23.7**	**+2.7**
ELL	**Elmali**	**4.20**	**53**		**Pn**	**00 47 22.9**	**+1.8**
ELL	**Elmali**	**4.20**	**53**	P	**Pn**	**00 47 22.2**	**+1.2**
ELL				S	**Sn**	**00 48 10.6**	**+0.7**
AKUM	**Antalya-Kumluc**	**4.28**	**60**	P	**Pn**	**00 47 21.9**	**-0.1**
GOLH	**Golhisar**	**4.29**	**45**	P	**Pn**	**00 47 24.6**	**+2.4**
KYMI	**Kymi, Euboea I**	**4.55**	**344**	P	**Pn**	**00 47 26.8**	**+1.0**
KEMT	**Kemer-ANTALYA**	**4.56**	**58**	PN	**Pn**	**00 47 29.1**	**+3.2**
KORT	**Korkueli**	**4.63**	**53**	P	**Pn**	**00 47 29.8**	**+2.7**
OSC1	**CSNet OBS 1**	**4.66**	**98**	P	**Pn**	**00 47 25.7**	**-1.6**
OSC1				S	**Sn**	**00 48 19.5**	**-1.6**
ANTB	**Antalya**	**4.78**	**55**	PN	**Pn**	**00 47 31.7**	**+2.8**
MANT	**Manisa**	**4.78**	**27**	P	**Pn**	**00 47 30.2**	**+1.0**
KULA	**Kula-Manisa**	**4.84**	**28**	PN	**Pn**	**00 47 32.0**	**+2.1**
DKL	**Dikili**	**4.88**	**11**	PN	**Pn**	**00 47 32.1**	**+1.8**
BRDR	**BURDUR-Merkez**	**4.89**	**44**	P	**Pn**	**00 47 32.3**	**+1.8**
LKR	**Lokris**	**4.90**	**334**	P	**Pn**	**00 47 30.8**	**+0.3**
SIGR	**SIGRI**	**4.93**	**1**	P	**Pn**	**00 47 32.2**	**+1.2**
BUCA	**Burdur, Bucak-**	**4.96**	**51**	P	**Pn**	**00 47 34.1**	**+2.7**
SWA2		**5.02**	**183**	P	**Pn**	**00 47 30.7**	**-1.4**
	baz=186						
BASM	**Basmaki-Afyon**	**5.04**	**42**	PN	**Pn**	**00 47 35.2**	**+2.7**
BCK	**Bucak**	**5.06**	**50**	PN	**Pn**	**00 47 35.4**	**+2.6**
PASA	**Karahalli, USA**	**5.07**	**36**	P	**Pn**	**00 47 34.0**	**+1.1**
ISP	**Isparta**	**5.25**	**46**	⇑*e*P	**Pn**	**00 47 36.3**	**+0.9**
ISP	**Isparta**	**5.25**	**46**	PN	**Pn**	**00 47 37.9**	**+2.5**
ISP	**Isparta**	**5.25**	**46**	Pn	**Pn**	**00 47 35.8**	**+0.4**
KZIL	**AFYON_Kizioren**	**5.33**	**40**	P	**Pn**	**00 47 37.8**	**+1.2**
KEPZ	**Antalya-Kepez**	**5.45**	**60**	P	**Pn**	**00 47 39.7**	**+1.6**
AKMS	**Akamas**	**5.48**	**80**	P	**Pn**	**00 47 37.6**	**-1.0**
AKMS				S	**Sn**	**00 48 40.7**	**-0.6**
AKMS				AML	AML	00 48 44.0	
	comp=N,1.8nm,0.8s						
AKMS				AML	AML	00 48 44.0	
	comp=N,1.8nm,0.8s						
AKMS				AML	AML	00 48 47.0	
	comp=N,2.8nm,0.5s						
AKMS				AML	AML	00 48 47.0	
	comp=N,2.8nm,0.5s						
BAGO	**Egridir - ISPA**	**5.52**	**46**	P	**Pn**	**00 47 40.5**	**+1.4**
OSC2	**CSNet OBS 4**	**5.57**	**101**	P	**Pn**	**00 47 38.5**	**-1.2**
OSC2				S	**Sn**	**00 48 41.9**	**-1.4**
NATA	**Nata**	**5.66**	**83**	P	**Pn**	**00 47 40.8**	**-0.1**
ALFC	**Alefka**	**5.71**	**79**	P	**Pn**	**00 47 40.9**	**-0.8**
ALFC				AML	AML	00 48 46.8	
	comp=N,2.6nm,0.8s						
ALFC				AML	AML	00 48 49.8	
	comp=N,2.2nm,0.6s						
GAZI	**Gazipasa**	**5.72**	**68**	P	**Pn**	**00 47 41.3**	**-0.6**
SEDI	**Konya, Seydise**	**5.82**	**55**	P	**Pn**	**00 47 45.3**	**+2.0**
SZAC	**Souni**	**5.91**	**83**	P	**Pn**	**00 47 43.9**	**-0.6**

SZAC AML AML 00 48 53.2
comp=N,3.6nm,1.1s
SZAC AML AML 00 48 53.8
comp=N,2.3nm,0.9s
DOGA KONYA_Doganhis 6.13 50 P Pn 00 47 50.0 +2.4
HMYD Mayadein 6.19 135 P Pn 00 47 47.8 -0.4
baz=133
ASGA Asgata 6.21 83 P Pn 00 47 48.1 -0.5
ASGA AML AML 00 49 01.3
comp=N,2.5nm,0.8s
ASGA AML AML 00 49 01.5
comp=N,2.5nm,1.4s
CSS Mathiatis 6.29 82 Pn **Pn 00 47 48.2 -1.5**
CSS Mathiatis 6.29 82 P **Pn 00 47 48.4 -1.3**
ATHAL Athalassa 6.36 80 P **Pn 00 47 50.9 +0.3**
MVOU Mavrovouni 6.54 81 P **Pn 00 47 52.4 -0.7**
HSAF As Saff 6.77 132 P **Pn 00 47 55.0 -1.3**
baz=129
PARAL Paralimni 6.88 82 P **Pn 00 47 58.2 +0.5**
GLL Jalalah 6.90 131 P **Pn 00 47 56.3 -1.7**
baz=129
NVR Nevrokopi 7.22 349 P **Pn 00 48 04.2 +1.7**
NBNS Bani Suef 7.36 138 P **Pn 00 48 03.4 -0.9**
baz=137
HFRF Wahat Farafira 7.43 162 P **Pn 00 48 03.4 -2.0**
baz=162
RZN Rozhen 7.45 354 P **Pn 00 48 08.5 +2.8**
VAY Valandovo 7.47 341 *i* Pn **Pn 00 48 07.9 +2.0**
MMB Musomiste 7.48 348 P **Pn 00 48 08.0 +2.0**
MDUB Mudurnu 7.56 33 Pn **Pn 00 48 06.9 -0.2**
PLD Plovdiv 7.87 354 P **Pn 00 48 14.4 +3.2**
KKB Krupnik 7.87 345 P Pn 00 48 16.4 +5.1
OFRI `Ofer 7.89 99 Pn **Pn 00 48 10.5 -1.2**
OFRI Sn **Sn 00 49 36.1 -4.7**
BR231 Keskin MP Arra 7.90 43 Pn **Pn 00 48 10.4 -1.5**
TAMRE El Minia 7.92 145 P **Pn 00 48 10.5 -1.6**
baz=143
ANTO Ankara 7.93 43 P **Pn 00 48 12.5 +0.2**
ANTO Ankara 7.93 43 Pn **Pn 00 48 12.5 +0.2**
HNTI Hanita 7.95 96 Pn **Pn 00 48 11.2 -1.2**
HNTI Sn **Sn 00 49 38.1 -3.9**
KZIT Kziot 8.03 112 Pn **Pn 00 48 11.9 -1.7**
KZIT Sn **Sn 00 49 39.4 -4.7**
BLGI Bet Lehem HaGe 8.04 98 Pn **Pn 00 48 12.9 -0.7**
SLTI Sal'it 8.04 102 Pn **Pn 00 48 11.3 -2.4**
SLTI Sn **Sn 00 49 38.6 -5.8**
MMA0B Mount Meron ar 8.15 96 Pn **Pn 00 48 13.7 -1.5**
MMA0B Sn **Sn 00 49 42.9 -4.2**
MMAI Mount Meron Ar 8.15 96 Pn **Pn 00 48 12.2 -3.0**
comp=N,13nm,0.3s,baz=0.7,slow=22,SNR=37
MMAI Sn **Sn 00 49 42.8 -4.3**
comp=N,11nm,0.3s,baz=280,slow=26,SNR=3.1
AMAZ Amatzia 8.18 107 Pn **Pn 00 48 13.7 -1.9**
AMAZ Sn **Sn 00 49 42.4 -5.3**
DQRL Deir Qamar 8.18 91 *eP* **Pn 00 48 11.1 -4.6**
BHL Bhannes 8.23 90 *eP* **Pn 00 48 15.2 -1.1**
QRWL Qaraoun 8.29 92 *eP* **Pn 00 48 15.0 -2.2**
MMLI Mount Malkishu 8.30 100 Pn **Pn 00 48 15.5 -1.8**
MMLI Sn **Sn 00 49 45.8 -4.9**
GEM Giv'at Ha'Em 8.33 95 Pn **Pn 00 48 16.1 -1.5**
GEM Sn **Sn 00 49 46.6 -4.8**
BR131 Keskin Array S 8.34 47⇓ *eP* **Pn 00 48 17.7 -0.1**
BR131 Keskin Array S 8.34 47 Pn **Pn 00 48 18.1 +0.3**
BRTR Keskin Array B 8.34 47 Pn **Pn 00 48 19.1 +1.3**
comp=N,0.4nm,0.3s,baz=221,slow=12,SNR=46
BRTR Sn **Sn 00 49 53.5 +1.8**
comp=N,0.1nm,0.3s,baz=222,slow=21,SNR=2.4
BRTR LR LR 00 52 26.4
comp=N,2µm,19.1s,baz=236,slow=45
BRTR Keskin Array B 8.34 47 Pn **Pn 00 48 18.0 +0.2**
SHBL Chebaa 8.37 94 *eP* **Pn 00 48 16.8 -1.6**
YTIR Yattir 8.40 108 Pn **Pn 00 48 16.6 -2.1**
RCY Rachaya 8.43 92 *eP* **Pn 00 48 16.6 -2.5**
HMDT Nahal Hemdat 8.43 101 Pn **Pn 00 48 17.0 -2.1**
HMDT Sn **Sn 00 49 50.1 -3.9**
HWQ Hawqa 8.44 87 *eP* **Pn 00 48 17.6 -1.7**
GRB Gharib 8.49 133 P **Pn 00 48 18.3 -1.6**
baz=131
DSI Dead Sea 8.53 106 Pn **Pn 00 48 19.6 -0.9**
DSI Sn **Sn 00 49 51.3 -5.1**
VTS Vitosha 8.56 347⇑ P **Pn 00 48 22.2 +1.2**
VTS Vitosha 8.56 347⇑ P **Pn 00 48 22.2 +1.2**
VTS Vitosha 8.56 347 Pn **Pn 00 48 20.0 -1.0**
VTS Vitosha 8.56 347 P **Pn 00 48 23.8 +2.8**
KRMI Paran Flat 8.66 116 Pn **Pn 00 48 20.5 -1.7**
KRMI Sn **Sn 00 49 53.6 -6.0**
TIP Timpagrande 8.72 307 Pn **Pn 00 48 21.0 -2.0**
PRNI Paran 8.75 114 Pn **Pn 00 48 21.9 -1.6**
PRNI Sn **Sn 00 49 56.3 -5.6**
GHAJ Ghor Haditha 8.78 107 Pn **Pn 00 48 21.8 -2.0**
GHAJ Ghor Haditha 8.78 107 Pn **Pn 00 48 22.3 -1.5**
CEL Celeste 8.90 299 Pn **Pn 00 48 24.2 -1.3**
HRFI Mount Harif 8.93 116 Pn **Pn 00 48 24.5 -1.5**
HRFI Sn **Sn 00 50 01.5 -4.8**
MBRI Mt Berech 8.97 117 Pn **Pn 00 48 24.6 -1.9**
EIL Elat 9.06 118 Pn **Pn 00 48 25.5 -2.1**
comp=N,19nm,0.3s,baz=250,slow=4.2,SNR=122
EIL Sn **Sn** 00 49 59.8 -10
comp=N,2.1nm,0.3s,baz=45,slow=20,SNR=1.6
EIL LR LR 00 53 28.7
comp=N,982nm,18.4s,baz=314,slow=47
EIL Elat 9.06 118 Pn **Pn 00 48 25.6 -2.1**
ULC Ulcinj 9.23 328 *eP*n **Pn 00 48 30.0 0.0**
ULC *i* Sn **Sn 00 50 08.1 -5.4**
BNN Bunyan 9.32 58 Pn **Pn 00 48 32.9 +1.5**
KALB Balgarevo 9.36 12⇑ P **Pn 00 48 34.9 +3.2**
DRME Dracevica, Mon 9.44 329 *eP*n **Pn 00 48 33.0 +0.2**
DRME *i* Sn **Sn 00 50 13.1 -5.5**
DRME Dracevica, Mon 9.44 329 *eP*n **Pn 00 48 28.7 -4.1**
DRME *e*Sn **Sn 00 50 16.8 -1.8**
PVY Plav 9.47 333 *eP*n **Pn 00 48 33.5 +0.2**
PVY *i* Sn **Sn 00 50 14.1 -5.4**
PVY Plav 9.47 333⇓ *i* Pn Pn 00 48 28.0 -5.3
PVY *e*Sn **Sn 00 50 14.8 -4.7**
ASF Jabal al Asfar 9.57 100 Pn **Pn 00 48 33.4 -1.4**
comp=N,3.1nm,0.3s,baz=322,slow=6.2,SNR=9.0
ASF Sn **Sn 00 50 16.9 -5.2**
comp=N,0.7nm,0.3s,baz=15,slow=20,SNR=1.2
MATE Matera 9.60 314⇓ P **Pn 00 48 36.8 +1.8**
MATE ⇑S **Sn 00 50 14.8 -7.7**
PDG Podgorica 9.61 330 Pn **Pn 00 48 34.2 -0.9**
TTG Podgorica 9.61 330 *eP*n **Pn 00 48 35.3 +0.2**
TTG *i* Sn **Sn 00 50 17.2 -5.5**
TTG Podgorica 9.61 330 *eP*n **Pn 00 48 31.3 -3.8**
TTG *e*Sn **Sn 00 50 21.0 -1.7**
BLKB Belogradchik 9.64 347⇑ P **Pn 00 48 36.3 +0.7**
BUM Brajici-Budva 9.65 328⇓ *i* Pn **Pn 00 48 35.9 0.0**
BUM *i* Sn **Sn 00 50 18.3 -5.7**
BUM Brajici-Budva 9.65 328 *eP*n **Pn 00 48 32.2 -3.7**
BUM *e*Sn **Sn 00 50 21.7 -2.3**
IVA Berane 9.73 334 *eP*n **Pn 00 48 37.2 +0.3**
IVA *i* Sn **Sn 00 50 20.5 -5.4**
IVA Berane 9.73 334 *eP*n Pn 00 48 31.7 -5.2
IVA *e*Sn **Sn 00 50 20.6 -5.4**
VAE Valguarnera 9.74 292 Pn **Pn 00 48 38.1 +1.1**
comp=N,4.5nm,0.3s,baz=172,slow=15,SNR=23
VAE Sn **Sn 00 50 23.9 -2.2**
comp=N,1.3nm,0.3s,baz=4.1,slow=14,SNR=1.8
VLAD Vladila 9.77 354⇑ P **Pn 00 48 38.4 +1.0**
CEME Cevo 9.85 329⇓ *i* Pn **Pn 00 48 38.6 +0.2**
CEME *i* Sn **Sn 00 50 22.9 -5.8**
CEME Cevo 9.85 329 *eP*n **Pn 00 48 34.5 -3.9**
CEME *e*Sn **Sn 00 50 26.2 -2.5**
KOME Kolasin 9.86 332 *eP*n **Pn 00 48 38.6 0.0**
KOME *i* Sn **Sn 00 50 23.3 -5.7**
KOME Kolasin 9.86 332 *eP*n Pn 00 48 33.5 -5.1
KOME *i* Sn **Sn 00 50 25.1 -3.9**
BOVS Bovan 9.87 343⇓ P **Pn 00 48 39.7 +1.1**
BAIL Bailesti 9.91 350⇓ P **Pn 00 48 40.1 +0.8**
HCY Herceg Novi 9.95 327 *eP*n **Pn 00 48 39.9 +0.1**
HCY *i* Sn **Sn 00 50 25.2 -5.9**
ICOR Ion Corvin 9.96 9⇑ P **Pn 00 48 42.4 +2.4**
NKY Niksic 10.03 330 *eP*n **Pn 00 48 37.6 -3.5**
BRY Bratogost 10.30 329 *eP*n **Pn 00 48 44.7 0.0**
BRY *i* Sn **Sn 00 50 33.7 -6.1**
BRY Bratogost 10.30 329 *eP*n **Pn 00 48 40.6 -4.1**
BRY *e*Sn **Sn 00 50 36.8 -3.0**
TIRR Tirgusor 10.38 11⇑ P **Pn 00 48 48.2 +2.5**
TIRR Tirgusor 10.38 11⇑ P **Pn 00 48 48.2 +2.5**
TIRR Tirgusor 10.38 11 Pn **Pn 00 48 45.7 0.0**
UPM Unac-Piva 10.39 331 *eP*n **Pn 00 48 46.1 0.0**
UPM *i* Sn **Sn 00 50 36.1 -6.2**
UPM Unac-Piva 10.39 331 *eP*n **Pn 00 48 41.3 -4.8**
UPM *e*Sn **Sn 00 50 39.0 -3.3**
UPM Unac-Piva 10.39 331 *i* Sn Sn 00 48 40.6 -122
UPM Unac-Piva 10.39 331 *e*Sn Sn 00 48 40.8 -121
TLBR Topalu 10.41 9⇓ P **Pn 00 48 49.8 +3.7**
HARR Harsova 10.54 9⇓ P **Pn 00 48 51.6 +3.7**
HARR Harsova 10.54 9⇓ P **Pn 00 48 51.6 +3.7**
CLTB Caltabellotta 10.68 292 Pn **Pn 00 48 49.8 -0.2**
TPGR Topolog 10.77 10⇑ P **Pn 00 48 54.0 +2.9**
DIVS Divibare 10.78 337 Pn **Pn 00 48 51.0 -0.3**
SGRT San Giovanni R 10.86 316 Pn **Pn 00 48 51.1 -1.2**
HERR Herculane 10.90 347⇓ P **Pn 00 48 53.3 +0.5**
CFR Carcaliu 11.05 9⇑ P **Pn 00 48 57.3 +2.5**
CFR Carcaliu 11.05 9⇑ P **Pn 00 48 57.3 +2.5**
PAOL Paolisi 11.13 311 **Pn 00 48 54.7 -1.4**
VOIR 11.17 357⇑ P **Pn 00 48 58.1 +1.6**
VOIR 11.17 357⇑ P **Pn 00 48 58.1 +1.6**
MLR Muntele Rosu 11.21 1⇑ P **Pn 00 48 58.6 +1.5**
MLR Muntele Rosu 11.21 1 Pn **Pn 00 48 57.2 0.0**
comp=N,0.1nm,0.3s,baz=175,slow=14,SNR=3.9
MLR LR LR 00 54 11.1
comp=N,1µm,18.7s,baz=182,slow=43
MLR Muntele Rosu 11.21 1⇑ P **Pn 00 48 58.6 +1.5**
MLR Muntele Rosu 11.21 1 Pn **Pn 00 48 56.6 -0.5**
LOT Lotru 11.27 353⇑ P **Pn 00 48 59.4 +1.4**
GZR Gura Zlata 11.34 349⇑ P **Pn 00 48 59.6 +0.7**
GZR Gura Zlata 11.34 349⇑ P **Pn 00 48 59.6 +0.7**
PLOR Plostina 11.59 3⇑ P **Pn 00 49 04.5 +2.2**
PLOR Plostina 11.59 3⇑ P **Pn 00 49 04.5 +2.2**
VRI Vrincioaia 11.61 3⇑ P **Pn 00 49 03.8 +1.3**
VRI Vrincioaia 11.61 3⇑ P **Pn 00 49 03.8 +1.3**
DOPR Dopca 11.69 359⇑ P **Pn 00 49 05.8 +2.2**
VARL Varlezi 11.73 7⇑ P **Pn 00 49 06.9 +2.8**
BZS Buzias 11.77 346⇓ P **Pn 00 49 05.2 +0.6**
BZS Buzias 11.77 346⇓ P **Pn 00 49 05.2 +0.6**
DEV Deva 11.80 350⇓ P **Pn 00 49 06.1 +1.0**
DEV Deva 11.80 350⇓ P **Pn 00 49 06.1 +1.0**
TESR Tescani 12.25 3⇓ P **Pn 00 49 14.3 +3.0**
SIM Simferopol' 12.46 29 P **P 00 49 23.3 -2.6**
SIM pmax pmax
comp=Z,87nm,1.8s
CJR Cluj-Napoca 12.54 353⇑ P **Pn 00 49 17.3 +2.0**
CJR Cluj-Napoca 12.54 353⇑ P **Pn 00 49 17.3 +2.0**
AQU L'Aquila 12.60 313 P **Pn 00 49 15.6 -0.6**
AQU L'Aquila 12.60 313 Pn **Pn 00 49 15.6 -0.6**
DRGR 12.72 350⇑ P **Pn 00 49 18.3 +0.5**
DRGR 12.72 350⇑ P **Pn 00 49 18.3 +0.5**
MILM Milestii Mici 12.85 9⇑ P **Pn 00 49 22.6 +3.2**
MILM Milestii Mici 12.85 9⇑ P **Pn 00 49 22.6 +3.2**
NRCA Norcia 13.06 315 Pn **Pn 00 49 21.2 -1.2**
MORH Mrgy, Hungar 13.10 338 P **Pn 00 49 20.7 -2.1**
KOVH Kovagotottos 13.16 336 P **Pn 00 49 21.3 -2.4**
BURAR Bucovina Array 13.34 358⇑ P **Pn 00 49 28.2 +2.0**
BURAR Bucovina Array 13.34 358⇑ P **Pn 00 49 28.2 +2.0**
BURAR Bucovina Array 13.34 358 **Pn 00 49 25.4 -0.9**
BUR08 Bucovina Ar. S 13.37 358 **Pn 00 49 25.3 -1.3**
BMR Baia Mare 13.50 353⇓ P **Pn 00 49 29.5 +1.2**
BMR Baia Mare 13.50 353⇓ P **Pn 00 49 29.5 +1.2**
KEST Kesra 13.53 281 Pn **Pn 00 49 30.5 +1.7**
comp=Z,0.2nm,0.3s,baz=232,slow=8.2,SNR=5.4
KEST Kesra 13.53 281 **Pn 00 49 28.2 -0.7**
MURB Monte Urbino 13.66 315 **Pn 00 49 29.3 -1.3**
LATE Laterza 13.73 311 Pn **Pn 00 49 31.0 -0.5**
GURO Guroymak-BITLI 13.79 67 **Pn 00 49 32.9 +0.4**
ANN Anapa 13.84 37 *eP* **Pn 00 49 31.7 -1.2**
ANN *e*S **Sn 00 52 07.3 +1.1**
ANN pmax pmax
comp=Z,73nm,1.2s
DRBR Darabani 13.94 2⇑ P **Pn 00 49 36.7 +2.4**
SORM Soroca 13.99 7⇑ P **Pn 00 49 38.2 +3.2**
SORM Soroca 13.99 7⇑ P **Pn 00 49 38.2 +3.2**
TRPA Tarpa 14.05 351 P **Pn 00 49 35.3 -0.6**
VSL Villasalto 14.10 296 **Pn 00 49 35.3 -1.2**
BUD Budapest 14.14 341 P **Pn 00 49 36.8 -0.2**
CSKK Cskako 14.24 339 P **Pn 00 49 37.5 -1.0**
SOC Sochi 14.29 45 *eP* **Pn 00 49 37.3 -1.9**
SOC *e* 00 52 17.7
SOC pmax pmax
comp=Z,25nm,0.8s
SOC MLR MLR
comp=Z,379nm,16.0s
MPLH Magyarpolny 14.30 337 P **Pn 00 49 38.3 -1.0**
PSZ Piszkesteto 14.32 344⇓ P **Pn 00 49 40.7 +1.0**
PSZ Piszkesteto 14.32 344 P **Pn 00 49 37.9 -1.8**
PSZ Piszkesteto 14.32 344 **Pn 00 49 37.9 -1.8**
PSZ Piszkesteto 14.32 344 P **Pn 00 49 38.8 -0.8**
CASP Castiglione de 14.41 311 **Pn 00 49 40.6 -0.2**
OSSC Osservatorio P 14.57 314 **Pn 00 49 42.1 -0.9**
UZH Uzhgorod 14.58 351 *eP* **Pn 00 49 43.6 +0.5**
UZH *e*S **Sn 00 52 25.6 +1.4**
UZH MLR MLR
comp=N,150nm,14.0s
UZH MLR MLR
comp=E,140nm,14.0s
UZH MLR MLR
comp=Z,110nm,14.0s
EGYH Egyhazaskeszo 14.58 337 P **Pn 00 49 42.4 -0.7**
TRI Trieste 14.64 325 P **Pn 00 49 40.6 -3.3**
TRI Trieste 14.64 325 **Pn 00 49 40.6 -3.3**
SOKA Soboth 14.82 330 *eP* **Pn 00 49 42.3 -4.1**
comp=Z,4.3nm,0.6s,SNR=7.7
SOKA *eP* **P 00 49 53.5 +1.3**
comp=Z,23nm,0.7s
OBKA Obir 14.89 329 *eP* **Pn 00 49 45.5 -1.8**
comp=Z,1.7nm,0.5s
CRVS Cervenica-Dubn 14.96 349 *eP* **Pn 00 49 49.1 +0.8**
CRVS Cervenica-Dubn 14.96 349 *eP*N **Pn 00 49 49.1 +0.8**
SOP Sopron 15.07 335 P **Pn 00 49 49.9 +0.1**
ARSA Arzberg 15.09 332 *eP* **Pn 00 49 47.3 -2.7**
comp=Z,7.1nm,0.8s,SNR=13
ARSA P **P 00 49 55.5 +0.4**
comp=Z,20nm,0.7s
VYHS Vyhne 15.12 342 *eP* **Pn 00 49 49.9 -0.5**
VYHS Vyhne 15.12 342 *eP*N **Pn 00 49 49.9 -0.5**
VYHS Vyhne 15.12 342 *eP* **P 00 49 55.6 +0.1**
KARS Kars 15.15 60 P **Pn 00 49 50.4 -0.6**
KARS pmax pmax
comp=Z,302nm,1.1s
KARS Kars 15.15 60 **Pn 00 49 50.4 -0.6**
RONA Rosalia, Austr 15.18 335 *eP* **Pn 00 49 51.3 +0.1**
comp=Z,16nm,0.8s,SNR=24
RONA *eP* **P 00 49 56.5 +0.3**
comp=Z,40nm,0.9s
KOLL Kolacno 15.31 341 *eP*N **Pn 00 49 51.8 -1.1**
TEOL Teolo 15.46 320 **Pn 00 49 52.2 -2.6**
TEOL IAmb IAmb 00 50 01.0
comp=Z,59nm,0.9s
KWP Kalwaria Pacla 15.51 353 *eP* **Pn 00 49 55.6 +0.1**
KWP Kalwaria Pacla 15.51 353 P **Pn 00 49 55.4 -0.2**
KWP pmax pmax
comp=Z,357nm,1.1s
KWP Kalwaria Pacla 15.51 353 **Pn 00 49 55.4 -0.2**
SMOL Smolenice 15.53 339 *eP* **Pn 00 49 57.6 +1.9**
SMOL Smolenice 15.53 339 *eP*N **Pn 00 49 57.6 +1.9**
CONA Conrad Observa 15.53 334 *eP* **Pn 00 49 55.4 -0.4**
comp=Z,4.9nm,1.0s,SNR=12
LANS Liptovska Anna 15.58 344 *eP* **Pn 00 49 57.3 +0.8**
LANS Liptovska Anna 15.58 344 *eP*N **Pn 00 49 57.3 +0.8**
LVV L'vov 15.59 356 *eP* **Pn 00 49 58.0 +1.5**
LVV *e*S **Sn 00 52 50.0 +1.1**
LVV MLR MLR
comp=Z,700nm,11.0s
NIE Niedzica 15.66 347 *eP* **P 00 49 59.7 -1.9**
JAVC Velka Javorina 15.77 340 *eP*N **Pn 00 49 59.0 +0.1**
KBA Koelnbreinsper 15.85 328 *eP* **Pn 00 49 57.1 -3.0**
comp=Z,22nm,0.7s,SNR=7.5
CTI Castel Tesino 15.93 322 P **Pn 00 49 59.6 -1.4**
CTI pmax pmax
comp=Z,71nm,0.8s
CTI Castel Tesino 15.93 322 Pn **Pn 00 49 59.5 -1.4**
CTI IAmb IAmb 00 50 05.9
comp=Z,71nm,0.8s
ABTA Abfaltersbach 15.99 325 *eP* **Pn 00 49 59.1 -2.7**
comp=Z,9.0nm,0.6s,SNR=23
ABTA *eP* **P 00 50 06.4 +1.1**
comp=Z,44nm,0.8s
MSSA Maissana 16.05 313 Pn **Pn 00 50 02.1 -0.4**
MOA Molln 16.07 331 *eP* **Pn 00 50 00.2 -2.6**
comp=Z,28nm,1.0s,SNR=10
ONI Oni 16.15 54 P **Pn 00 50 04.7 +0.8**
ONI pmax pmax
comp=Z,202nm,1.5s
ONI Oni 16.15 54 Pn **Pn 00 50 04.7 +0.8**
ONI IAmb IAmb 00 50 19.3
comp=Z,202nm,1.5s
BIOA Bad Ischl, Aus 16.20 329 *eP* **Pn 00 50 02.5 -1.9**
comp=Z,7.3nm,0.8s,SNR=9.8
GNI Garni 16.22 63 Pn **P 00 50 06.5 -1.5**
comp=Z,0.3nm,0.3s,baz=301,slow=3.3,SNR=8.8
GNI LR LR 00 57 45.8
comp=Z,836nm,18.4s,baz=278,slow=42
GNI Garni 16.22 63*ce*P **P 00 50 06.9 -1.1**
GNI Garni 16.22 63 **Pn 00 50 05.5 +0.6**
GNI Garni 16.22 63 P **P 00 50 07.1 -0.9**
GNI P **P 00 50 07.1 -0.9**
GNI Garni 16.22 63 P **P 00 50 07.1 -0.9**
SALO Salr 16.24 319 **Pn 00 50 04.7 -0.3**
KIV Kislovodsk 16.29 49 *eP* **P 00 50 09.9 +1.2**
KIV *eS* **S 00 53 13.4 -5.4**
KIV pmax pmax
comp=Z,129nm,1.0s
KIV MLR MLR
comp=Z,115nm,13.0s
KIV Kislovodsk 16.29 49 P **P 00 50 08.7 0.0**
KIV IAmb IAmb 00 50 13.8
comp=Z,139nm,1.1s
KIV Kislovodsk 16.29 49 P **P 00 50 11.4 +2.7**
KIV S **S 00 53 13.1 -5.7**
KIV Kislovodsk 16.29 49 *i* P **P 00 50 10.6 +1.9**
SNR=26
KBZ Khabaz 16.31 50⇓ *eP* **P 00 50 08.1 -0.6**
comp=Z,0.3nm,0.3s,baz=247,slow=8.1,SNR=32
KBZ Khabaz 16.31 50⇓ *eP* **P 00 50 09.4 +0.7**
KRUC Moravsky 16.33 338 *eP*N **Pn 00 50 04.0 -2.0**
VRAC Vranov 16.48 338⇑ P **Pn 00 50 09.1 +1.1**
VRAC Vranov 16.48 338 Pn **Pn 00 50 06.3 -1.7**
comp=Z,0.4nm,0.3s,baz=156,slow=9.7,SNR=27
VRAC LR LR 00 57 49.1
comp=Z,415nm,19.1s,baz=172,slow=42
VRAC Vranov 16.48 338⇑ P **Pn 00 50 09.1 +1.1**
VRAC Vranov 16.48 338 *eP*N **Pn 00 50 06.4 -1.6**
OJC Ojcow 16.53 346 *eP* **Pn 00 50 06.9 -1.7**
OJC Ojcow 16.53 346 P **Pn 00 50 07.4 -1.2**
OJC pmax pmax
comp=Z,21nm,0.9s
OJC Ojcow 16.53 346 **Pn 00 50 07.4 -1.2**
OKC Ostrava-Krasne 16.53 342 AMS AMS 00 57 50.0
comp=Z,700nm,19.1s
MRWI Hamdab 16.56 158 *i* P **Pn 00 50 08.4 -0.7**
MRWI *i* S **S 00 53 34.1 +10**
AKASG Malin Array Be 16.62 8 Pn **Pn 00 50 06.9 -2.8**
comp=Z,0.4nm,0.3s,baz=196,slow=11,SNR=33
AKASG LR LR 00 56 45.2
comp=Z,353nm,20.8s,baz=180,slow=38
AKASG Malin Array Be 16.62 8 Pn **Pn 00 50 07.8 -1.8**
AKASG IAmb IAmb 00 50 13.5
comp=Z,91nm,0.8s
AKBB Malin Array Si 16.62 8⇑ *eP* **Pn 00 50 09.3 -0.4**
AKBB pmax pmax
comp=Z,115nm,1.1s
AKBB Malin Array Si 16.62 8 Pn **Pn 00 50 08.1 -1.6**
AKBB IAmb IAmb 00 50 13.8
comp=Z,83nm,0.9s
MORC Moravsky Berou 16.63 341 P **Pn 00 50 08.7 -1.3**
MORC pmax pmax
comp=Z,26nm,0.9s
MORC Moravsky Berou 16.63 341 Pn **Pn 00 50 08.7 -1.3**
MORC Moravsky Berou 16.63 341 *eP*N **Pn 00 50 08.9 -1.1**
WTTA Wattenberg 16.78 325 *eP* **Pn 00 50 11.1 -0.9**
comp=Z,1.8nm,0.7s,SNR=50
WTTA *eP* **P 00 50 14.4 +0.3**
comp=Z,7.9nm,0.6s
TREC Trest 16.82 336 *eP* **Pn 00 50 11.3 -1.0**
TREC MLR MLR
comp=Z,600nm,9.1s
TREC Trest 16.82 336 *eP* **Pn 00 50 11.3 -1.0**
TREC AMS AMS 00 57 10.0
comp=Z,600nm,9.1s
CKRC Cesky Krumlov 16.84 333 *eP* **Pn 00 50 11.3 -1.3**
MQOL MQOL 16.84 141 *i* P **Pn 00 50 09.6 -3.1**
MQOL *i* S **S 00 53 28.6 -1.5**
WATA Walderalm 16.86 325 *eP* **Pn 00 50 13.1 +0.2**
comp=Z,37nm,1.1s,SNR=34
SQTA Sankt Quirin 16.95 324 *eP* **Pn 00 50 14.0 -0.1**
comp=Z,24nm,0.6s,SNR=39
FETA Feichten 17.05 323 *eP* **Pn 00 50 15.4 +0.1**
comp=Z,21nm,1.0s,SNR=76
MOTA Moosalm 17.09 324 *eP* **Pn 00 50 14.8 -1.0**
comp=Z,13nm,0.7s,SNR=16
KRLC Kraliky 17.11 340 *eP* **Pn 00 50 14.4 -1.6**
KRLC MLR MLR
comp=Z,600nm,10.7s
KRLC Kraliky 17.11 340 *eP* **Pn 00 50 14.4 -1.6**
KRLC AMS AMS 00 59 10.0
comp=Z,600nm,10.7s
DAVOX Davos/Dischmat 17.33 321 P **P 00 50 19.5 -0.7**
comp=Z,1.0nm,0.3s,baz=148,slow=12,SNR=60
DAVOX LR LR 00 57 51.5
comp=Z,566nm,20.7s,baz=90,slow=40
RETA Reutte 17.36 324 *eP* **Pn 00 50 18.9 -0.2**
comp=Z,20nm,0.8s,SNR=23
KHC Kasperske Hory 17.37 332*ce*P **Pn 00 50 18.2 -1.0**
KHC pmax pmax
comp=Z,57nm,0.9s
KHC Kasperske Hory 17.37 332 Pn **Pn 00 50 17.8 -1.4**
KHC Kasperske Hory 17.37 332 *eP* **Pn 00 50 17.9 -1.4**
KHC *ex* x 00 50 30.0
KHC AMS AMS 00 58 20.0
comp=Z,1µm,15.9s
TUE Stuetta 17.41 319 Pn **Pn 00 50 18.9 -1.0**
DPC Dobruska-Polom 17.49 340 *eP* **Pn 00 50 19.4 -1.3**
DPC MLR MLR
comp=Z,500nm,9.0s
DPC Dobruska-Polom 17.49 340 *eP* **Pn 00 50 19.4 -1.3**
DPC AMS AMS 01 00 20.0
comp=Z,500nm,9.0s
FUR Furstenfeldbru 17.60 326 *eP* **Pn 00 50 22.0 0.0**
comp=Z,201nm,1.1s,baz=138,slow=11
WET Wettzell 17.66 331 *eP* **Pn 00 50 21.0 -1.8**
comp=Z,39nm,1.0s,baz=138,slow=11
DAVA Damuels 17.66 322 *eP* **Pn 00 50 22.9 0.0**
comp=Z,46nm,0.9s,SNR=33
PBCC Pribram 17.67 334 *eP* **Pn 00 50 20.5 -2.4**
PBCC *ex* x 00 50 32.0
OSTC Ostas 17.71 340 *eP* **Pn 00 50 22.8 -0.5**
OSTC AMS AMS 00 59 40.0
comp=Z,400nm,14.7s
UPC Upice 17.72 339 *eP* **Pn 00 50 22.3 -1.2**
UPC MLR MLR
comp=Z,600nm,9.4s
UPC Upice 17.72 339 *eP* **Pn 00 50 22.3 -1.2**
UPC *ex* x 00 50 31.3
UPC AMS AMS 00 58 40.0
comp=Z,600nm,9.4s
PRU Pruhonice 17.74 336 *eP* **Pn 00 50 21.7 -2.0**
PRU MLR MLR
comp=Z,600nm,14.6s
PRU Pruhonice 17.74 336 *eP* **Pn 00 50 21.7 -2.0**
PRU AMS AMS 00 58 50.0
comp=Z,600nm,14.6s
CHVC Chvalec 17.78 339 *eP* Pn 00 50 14.3 -10
CHVC *ex* x 00 50 24.1
CHVC AMS AMS 00 58 40.0
comp=Z,600nm,7.5s
UBR Ueberruh 17.81 323 *eP* **Pn 00 50 24.5 -0.2**
comp=Z,111nm,0.9s,baz=138,slow=11
BEL Belsk 17.92 350 *eP* **Pn 00 50 24.8 -1.1**
KSP Ksiaz 17.94 340 *eP* **Pn 00 50 25.0 -1.2**
GROC Groznyy 17.97 54 *eP* **P 00 50 27.7 +0.6**
GROC pmax pmax
comp=Z,22nm,0.9s
BNI Bardonecchia 18.16 312 P **Pn 00 50 27.9 -1.2**
BNI pmax pmax
comp=Z,22nm,0.9s
BNI Bardonecchia 18.16 312 P **Pn 00 50 27.9 -1.2**
PVCC Panska Ves 18.19 337 *eP* **Pn 00 50 27.2 -2.0**
PVCC MLR MLR
comp=Z,700nm,8.4s
PVCC Panska Ves 18.19 337 *eP* **Pn 00 50 27.2 -2.0**
PVCC AMS AMS 00 59 10.0
comp=Z,700nm,8.4s
ROTZ Rotzenmuhle 18.42 331 *eP* **P 00 50 30.3 -1.7**
comp=Z,3.0nm,0.8s,baz=138,slow=11
SENIN Lac Senin/Sane 18.49 316 P **P 00 50 31.2 -1.9**
MANZ Manzenberg 18.63 332 *eP* **P 00 50 32.9 -1.5**
comp=Z,6.2nm,0.9s,baz=138,slow=11
BRG Berggiesshubel 18.69 336 *eP* **P 00 50 34.0 -1.0**

BRG Amp 00 50 40.0
comp=Z,13nm,0.9s
BRG Berggiesshubel 18.69 336 *e*P **P 00 50 34.0 -1.0**
BRG pmax pmax
comp=Z,13nm,0.9s
BRG Berggiesshubel 18.69 336 *e*P **P 00 50 32.9 -2.1**
comp=Z,19nm,1.1s,baz=138,slow=11
NKC Novy Kostel 18.70 333 *e*P **P 00 50 34.1 -1.0**
NKC MLR MLR
comp=Z,1µm,15.5s
NKC Novy Kostel 18.70 333 *e*P **P 00 50 34.1 -1.0**
NKC AMS AMS 00 59 10.0
comp=Z,1µm,15.5s
GRA1 Grafenberg Arr 18.76 330 P **P 00 50 34.9 -0.9**
GRA1 IAmb IAmb 00 50 38.7
comp=Z,74nm,0.9s
GRF Grafenberg Arr 18.76 330 P **P 00 50 34.9 -0.9**
GRF pmax pmax
comp=Z,73nm,0.9s
GRF Grafenberg Arr 18.76 330 *e*P **P 00 50 34.7 -1.1**
comp=Z,124nm,1.2s,baz=138,slow=11
GRF *e*L L 00 58 22.3
comp=Z,300nm,20.9s
GRFO Grafenberg 18.76 330 P **P 00 50 34.5 -1.3**
GRFO pmax pmax
comp=Z,76nm,1.0s
GRFO Grafenberg 18.76 330 P **P 00 50 34.5 -1.3**
GRFO IAmb IAmb 00 50 38.7
comp=Z,76nm,1.0s
WERN Wernitzgruen 18.77 333 *e*P **P 00 50 34.5 -1.4**
comp=Z,29nm,1.0s,baz=138,slow=11
TANN Tannenbergstha 18.84 333 *e*P **P 00 50 35.2 -1.5**
comp=Z,88nm,1.0s,baz=138,slow=11
GUNZ Gunzen 18.85 333 *e*P **P 00 50 35.5 -1.3**
comp=Z,60nm,1.1s,baz=138,slow=11
WERD Werda 18.92 333 *e*P **P 00 50 37.4 -0.1**
comp=Z,66nm,1.0s,baz=138,slow=11
FBE Freiberg 18.93 335 *e*P **P 00 50 37.3 -0.3**
comp=Z,48nm,0.9s,baz=138,slow=11
STU Stuttgart 19.00 325 P **P 00 50 37.0 -1.4**
STU pmax pmax
comp=Z,61nm,0.8s
STU Stuttgart 19.00 325 P **P 00 50 37.0 -1.4**
STU IAmb IAmb 00 50 40.7
comp=Z,61nm,0.8s
STU Stuttgart 19.00 325 *e*P **P 00 50 38.3 -0.2**
comp=Z,161nm,0.8s,baz=138,slow=11
PLN Plauen 19.01 333 *e*P **P 00 50 38.3 -0.2**
comp=Z,26nm,0.9s,baz=138,slow=11
BFO Black Forest 19.13 322 P **P 00 50 38.9 -1.0**
BFO pmax pmax
comp=Z,33nm,0.9s
BFO Black Forest 19.13 322 P **P 00 50 38.9 -1.0**
BFO Black Forest 19.13 322 *e*P **P 00 50 39.5 -0.4**
comp=Z,40nm,1.0s,baz=138,slow=11
MOX Moxa 19.35 332 *e*P **P 00 50 41.9 -0.3**
comp=Z,30nm,0.9s,baz=138,slow=11
MOX *e*L L 00 59 41.1
comp=Z,633nm,21.0s
CLL Collm 19.38 335 *i* P **P 00 50 41.5 -1.0**
CLL *e*S **Sn 00 54 17.0 -3.5**
CLL pmax pmax
comp=Z,37nm,1.1s
CLL Collm 19.38 335 P **P 00 50 41.0 -1.5**
CLL Collm 19.38 335 *i* P **P 00 50 41.5 -1.0**
comp=Z,37nm,1.1s
CLL *i* (sP) **sP 00 50 48.3 +0.1**
comp=Z,47nm,1.0s
CLL *i* PPP PPP 00 51 05.2
CLL *e*S **Sn 00 54 17.0 -3.5**
CLL *e*(sS) 00 54 30.0
CLL *e*PcP **PcP 00 55 05.0 +1.2**
CLL Lmax 01 00 00.0
CLL Collm 19.38 335 *e*P **P 00 50 41.6 -0.8**
comp=Z,47nm,1.0s,baz=138,slow=11
VORD Divnogorie 19.38 27 *e*P **P 00 50 42.2 -0.3**
VORD pmax pmax
comp=Z,90nm,0.8s
SSB Saint Sauveur 19.60 310 P **P 00 50 44.1 -0.9**
SSB pmax pmax
comp=Z,32nm,1.4s
SSB Saint Sauveur 19.60 310 P **P 00 50 44.1 -0.9**
ECH Echery 19.66 321 P **P 00 50 44.8 -0.9**
ECH pmax pmax
comp=Z,41nm,0.8s
ECH Echery 19.66 321 P **P 00 50 44.8 -0.9**
NEUB Neuenburg 19.74 333 *e*P **P 00 50 46.2 -0.2**
comp=Z,69nm,0.9s,baz=138,slow=11
SUW Suwalki 19.82 356 *e*P **P 00 50 45.6 -1.7**
SUW Suwalki 19.82 356 P **P 00 50 46.3 -1.0**
SUW pmax pmax
comp=Z,390nm,0.8s
SUW Suwalki 19.82 356 P **P 00 50 46.3 -1.0**
SUW Suwalki 19.82 356 *e*P **Pn 00 50 48.1 -0.8**
JAWL J.Aulia 19.90 161 *i* P **P 00 50 47.5 -1.0**
JAWL AMP 00 50 52.3
comp=Z,478nm,1.4s
VORR Voronezh 19.93 25 *e*P **P 00 50 47.4 -1.1**
VORR pmax pmax
comp=Z,70nm,1.5s
RUE Ruedersdorf 20.12 338 *e*P **P 00 50 49.8 -0.8**
RUE Ruedersdorf 20.12 338 *e*P **P 00 50 49.0 -1.6**
comp=Z,105nm,1.5s,baz=138,slow=11
UBBA Unterbreizbach 20.13 330 *e*P **P 00 50 49.7 -0.9**
comp=Z,45nm,1.5s,baz=138,slow=11
MNK Minsk 20.29 4 *i* P **P 00 50 49.6 -2.7**
MNK *i* PPP PPP 00 51 13.8
MNK *i* S **S 00 54 38.0 -1.1**
MNK *i* SS **SnSn 00 54 57.0 0.0**
MNK *i* SSS SSS 00 55 09.9
MNK pmax pmax
comp=Z,102nm,0.8s
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=N,106nm,1.1s
MNK MLR MLR
comp=Z,341nm,13.0s
MNK MLR MLR
comp=N,216nm,13.0s
MNK MLR MLR
comp=E,21nm,9.0s
MNK Minsk 20.29 4 *i* P **P 00 50 49.7 -2.7**
comp=E,5.0nm,0.8s
MNK *i* P **P 00 50 49.7 -2.7**
comp=N,106nm,1.1s
MNK *i* P **P 00 50 49.7 -2.7**
comp=Z,102nm,0.8s,baz=185
MNK *i* PP **PnPn 00 51 06.3 -2.9**
MNK *i* PPP PPP 00 51 13.9
MNK *i* S **S 00 54 38.0 -1.1**
MNK *i* SS **SnSn 00 54 57.0 0.0**
MNK *i* SSS SSS 00 55 09.9
MNK *i* LQ LQ 00 56 57.1
MNK *i* LR LR 00 58 31.0
MNK *i* LRM MLR 00 59 27.2
comp=Z,341nm,13.2s
MNK *i* LRM MLR 00 59 30.1
comp=N,216nm,12.9s
MNK *i* LRM MLR 00 59 35.9
comp=E,21nm,9.0s
RAYN Ar Rayn 20.31 117 P **P 00 50 52.1 -0.8**
RAYN pmax pmax
comp=Z,44nm,1.1s
RAYN Ar Rayn 20.31 117 P **P 00 50 52.1 -0.8**
RAYN Ar Rayn 20.31 117 P Pn 00 50 54.4 -0.6
RAYN Ar Rayn 20.31 117 *i* P Pn 00 50 54.2 -0.8
SNR=42
TNS Taunus Mts 20.37 327 *e*P **P 00 50 53.4 0.0**
comp=Z,171nm,1.6s,baz=138,slow=11
VRH Novokhopyorsk 20.52 30 *e*P **P 00 50 55.1 +0.2**
VRH pmax pmax
comp=Z,180nm,0.8s
LPSR Galich'ya Gora 20.61 23 *e*P **P 00 50 54.9 -1.0**
LPSR pmax pmax
comp=Z,60nm,0.9s
NACGM Naroch 20.64 2⇑ *e*P **P 00 50 53.3 -2.9**
GTTG Gottingen 20.70 331 *e*P **P 00 50 57.0 +0.1**
comp=Z,259nm,1.0s,baz=138,slow=11
CLZ Clausthal 20.77 332 *e*P **P 00 50 56.2 -1.5**
comp=Z,36nm,1.0s,baz=138,slow=11
FLTG Flechtingen 20.84 334 *e*P **P 00 50 57.1 -1.3**
comp=Z,47nm,0.9s,baz=138,slow=11
KASTN Kahler Asten 21.09 329 *e*P **P 00 51 00.8 -0.3**
comp=Z,94nm,1.0s,baz=138,slow=11
WLF Walferdange 21.09 323 P **P 00 50 59.9 -1.2**
WLF pmax pmax
comp=Z,86nm,0.8s
WLF Walferdange 21.09 323 P **P 00 50 59.9 -1.2**
WLF IAmb IAmb 00 51 08.2
comp=Z,86nm,0.8s
WLF Walferdange 21.09 323 *e*P **P 00 51 01.3 +0.2**
comp=Z,117nm,1.0s,baz=138,slow=11
WLF Walferdange 21.09 323 *d*P **P 00 51 01.4 +0.3**
comp=Z,75nm,0.9s
AHRW Bad Neuenahr-A 21.22 326 *e*P **P 00 51 02.7 +0.2**
comp=Z,67nm,1.0s,baz=138,slow=11
PABE Paberze 21.27 357 P **P 00 51 00.9 -2.1**
PABE Paberze 21.27 357 *e*P **P 00 51 03.3 +0.3**
ISAL Salakas 21.30 1 *e*P **P 00 51 02.6 -0.7**
NRDL Niedersach Rie 21.39 333 *e*P **P 00 51 03.6 -0.6**
comp=Z,38nm,0.9s,baz=138,slow=11
BHOU Houvegnez 21.61 324 *d*P **P 00 51 06.8 +0.1**
comp=Z,39nm,0.9s
BTNL Ternell 21.70 325 *d*P **P 00 51 08.2 +0.5**
comp=Z,48nm,1.0s
BUG Bochum-Univer 21.76 328 *e*P **P 00 51 08.3 +0.1**
comp=Z,122nm,1.0s,baz=138,slow=11
MEM Membach 21.77 325 κP **P 00 51 08.7 +0.2**
comp=Z,71nm,0.8s
RETH Rethem/Aller, 21.86 333 *e*P **P 00 51 09.0 -0.3**
comp=Z,193nm,1.1s,baz=138,slow=11
RCHB Rochefort 21.86 323 *d*P **P 00 51 08.3 -1.1**
comp=Z,23nm,1.1s
CART Cartagena 21.89 286 P **P 00 51 08.1 -1.7**
CART IAmb IAmb 00 51 18.1
comp=Z,69nm,1.1s
PBUR Paburge 21.91 354 *e*P **P 00 51 08.0 -1.9**
BSTI Sart Tilman 21.97 324 *d*P **P 00 51 11.6 +1.0**
comp=Z,13nm,1.0s
BCLA Clavier 21.99 323 *d*P **P 00 51 11.7 +0.9**
comp=Z,18nm,1.1s
BEBN Eben Emael 22.05 325 *d*P **P 00 51 12.9 +1.5**
BGES Gesves 22.08 323 *b*P **P 00 51 11.7 -0.1**
comp=Z,23nm,1.0s
DOU Dourbes 22.15 322 *b*P **P 00 51 12.2 -0.3**
comp=Z,59nm,0.9s
OBN Obninsk 22.16 17 P **P 00 51 10.8 -1.8**
comp=Z,9.3nm,0.4s,baz=176,slow=3.9,SNR=15
OBN S **S 00 55 13.8 -2.2**
comp=Z,1.8nm,0.4s,baz=104,slow=22,SNR=1.6
OBN LR LR 01 00 13.0
comp=Z,102nm,21.0s,baz=210,slow=38
OBN Obninsk 22.16 17 *d*P **P 00 51 10.7 -1.8**
OBN *e*PPP PPP 00 51 41.7
OBN *e* 00 55 14.0
OBN *i* S **S 00 55 17.9 +1.9**
OBN pmax pmax
comp=Z,82nm,1.0s
OBN MLR MLR
comp=Z,444nm,14.0s
OBN Obninsk 22.16 17 P **P 00 51 10.7 -1.9**
OBN IAmb IAmb 00 51 16.2
comp=Z,98nm,1.1s
IBBN Ibbenburen 22.18 330 *e*P **P 00 51 12.3 -0.4**
comp=Z,71nm,1.0s,baz=138,slow=11
BMRD Maredsous 22.19 323 *b*P **P 00 51 12.7 -0.1**
comp=Z,19nm,0.9s
CLF Chambon-Foret 22.28 315 P **P 00 51 12.5 -1.4**
BSEG Bad Segeberg 22.47 336 *e*P **P 00 51 13.7 -2.2**
comp=Z,58nm,1.3s,baz=138,slow=11
SNF Seneffe 22.56 322 *d*P **P 00 51 16.9 0.0**
comp=Z,48nm,1.0s
FIGM Figuig 22.68 272 P **P 00 51 21.0 +2.5**
UCC Uccle 22.70 323 P **P 00 51 17.3 -1.0**
UCC pmax pmax
comp=Z,18nm,0.9s
UCC Uccle 22.70 323 P **P 00 51 17.3 -1.0**
UCC Uccle 22.70 323 *d*P **P 00 51 19.2 +0.9**
comp=Z,13nm,0.9s
SAKB Bahrain 22.94 104 P **P 00 51 22.1 +1.0**
SAKB *S* **S 00 55 33.9 +3.3**
MOS Moscow 22.99 17 *e*P **P 00 51 17.7 -3.6**
MOS *e* 00 51 43.3
MOS *e*S **S 00 55 28.1 -2.8**
MOS *e*SS **SnSn 00 56 06.0 +2.9**
MOS pmax pmax
comp=Z,102nm,1.3s
TDRA Tendrara 23.13 275 P **P 00 51 26.0 +2.8**
TAF Taforalt 23.18 279 P **P 00 51 26.0 +2.4**
SHMA Al-Shehemyia 23.34 104 P **P 00 51 26.1 +1.0**
SHMA S **S 00 55 38.7 +1.5**
JBK JBK 23.36 278 P **P 00 51 28.0 +2.4**
SLIT Slitere, Latvi 23.48 355 *e*P **P 00 51 24.3 -1.9**
HLG Helgoland 23.54 333 *e*P **P 00 51 24.8 -2.1**
comp=Z,181nm,0.9s,baz=138,slow=11
DEL Delary 23.65 343 *e*P **P 00 51 25.0 -2.9**
DEL Delary 23.65 343 *i* P **P 00 51 25.0 -2.9**
KHOR Al-Khor Airpor 23.88 104 P **P 00 51 31.5 +1.0**
KHOR S S 00 55 57.4 +11
TRNA Turayna 24.06 106 P **P 00 51 32.7 +0.5**
TRNA S **S 00 55 54.6 +5.7**
VSU Vasula 24.21 1 *d*P **P 00 51 31.9 -1.3**
VSU pmax pmax
comp=Z,211nm,1.1s
VSU Vasula 24.21 1 *e*P **P 00 51 32.2 -1.0**
ESBB Sonseca Array 24.28 292 P **P 00 51 33.1 -1.0**
ESBB IAmb IAmb 00 51 46.2
comp=Z,59nm,1.3s
ESDC Sonseca Array 24.28 292 P **P 00 51 33.9 -0.2**
comp=Z,18nm,1.0s,baz=82,slow=9.2,SNR=67
ESDC LR LR 01 02 25.7
comp=Z,166nm,18.6s,baz=72,slow=40
ESDC Sonseca Array 24.28 292 P **P 00 51 33.1 -1.0**
AKLM AKL 24.40 279 P **P 00 51 38.0 +2.7**
MTSE Matsula 24.49 358 *e*P **P 00 51 34.8 -0.9**
PAB San Pablo 24.57 291 P **P 00 51 35.7 -1.1**
PAB pmax pmax
comp=Z,35nm,1.2s
PAB San Pablo 24.57 291 P **P 00 51 35.7 -1.1**
PAB IAmb IAmb 00 51 48.5
comp=Z,34nm,1.1s
PAB San Pablo 24.57 291 P **P 00 51 37.7 +0.9**
SLWR Sila 24.77 107 P **P 00 51 39.3 +0.7**
SLWR P **P 00 51 39.3 +0.7**
MUD Monsted U'grnd 24.93 338 *i* P **P 00 51 38.0 -1.7**
VIKU Vikbolandet 24.98 349 *e*P **P 00 51 38.7 -1.5**
ELMS Elmsett, Ipswi 25.16 323 *e*P **P 00 51 42.1 +0.2**
ELMS IAmb IAmb 00 51 43.8
comp=Z,52nm,0.9s
JRN Qarnain Island 25.27 104 P **P 00 51 44.3 +1.2**
JRN P **P 00 51 44.3 +1.2**
MDT Midelt 25.30 275 P **P 00 51 44.1 +0.7**
comp=Z,9.1nm,0.9s,baz=82,slow=11,SNR=11
MDT Midelt 25.30 275 P **P 00 51 44.3 +0.9**
LCRM LCR 25.34 277 P **P 00 51 46.0 +2.0**
OVD Ostervraa, Den 25.35 340 *e*P **P 00 51 43.2 -0.3**
JSA Saint Aubin 25.43 314 *e*P **P 00 51 43.8 -0.5**
JSA IAmb IAmb 00 51 44.3
comp=Z,62nm,0.9s
PUL Pulkovo 25.69 5⇓ *e*P **P 00 51 46.4 -0.2**
PUL pmax pmax
comp=Z,366nm,0.8s
MEF Metsahovi 25.98 358 *e*P **P 00 51 48.3 -0.9**
UPP Uppsala 26.15 351 *e*P **P 00 51 50.1 -0.6**
AAL Aland 26.19 353 *e*P **P 00 51 49.7 -1.4**
SWN1 Swindon 26.31 319 *e*P **P 00 51 52.0 -0.3**
SWN1 IAmb IAmb 00 51 53.1
comp=Z,44nm,0.7s
GEYT Alibeck 26.34 73 P **P 00 51 53.1 +0.4**
comp=Z,13nm,0.5s,baz=269,slow=12,SNR=20
GEYT Alibeck 26.34 73 P **P 00 51 52.0 -0.7**
GEYT IAmb IAmb 00 52 06.1
comp=Z,33nm,0.8s
GYA0 ALIBECK ARRAY 26.34 73 P **P 00 51 52.8 0.0**
GYA0B ALIBECK ARRAY 26.34 73 P **P 00 51 52.2 -0.6**
GYA0B IAmb IAmb 00 52 06.1
comp=Z,37nm,0.8s
PBRG Braganca 26.56 296 *e*P **P 00 51 54.5 -0.2**
comp=Z,61nm,1.6s
STRD Stroud 26.64 320 *e*P **P 00 51 54.7 -0.6**
STRD IAmb IAmb 00 51 58.5
comp=Z,67nm,0.8s
HOMB Homborsund 26.64 340 *e*P **P 00 51 54.7 -0.5**
PBAR Barrancos 26.66 288 *e*P **P 00 51 55.6 0.0**
comp=Z,50nm,1.5s
MZWR Madinat Zayed 26.66 106 P **P 00 51 56.5 +0.8**
CWF Charnwood Fore 26.69 322 *e*P **P 00 51 54.6 -1.1**
MVO Moncorvo 26.71 295 *e*P **P 00 51 56.6 +0.4**
comp=Z,48nm,0.9s
MZR Muzera 26.72 108 P **P 00 51 57.5 +1.2**
RAF Rauma 26.89 356 *e*P **P 00 51 56.0 -1.4**
PMRV Marv??o 26.92 291 *e*P **P 00 51 57.6 -0.4**
comp=Z,31nm,1.5s
PCBR Castelo Branco 26.99 292 *e*P **P 00 51 58.8 +0.2**
comp=Z,46nm,1.6s
HFS Hagfors 27.05 347 P **P 00 51 57.1 -1.8**
comp=Z,16nm,0.9s,baz=171,slow=13,SNR=25
HFS LR LR 01 04 58.3
comp=Z,408nm,19.1s,baz=160,slow=42
MTE Manteigas 27.06 293 *e*P **P 00 51 59.1 -0.2**
comp=Z,66nm,1.6s
PESTR Estremoz 27.07 290 *e*P **P 00 51 59.0 -0.4**
comp=Z,37nm,1.5s
PESTR Estremoz 27.07 290 P **P 00 51 58.3 -1.1**
SNART Snartemo 27.08 338 *i* P **P 00 51 57.0 -2.2**
SNART Snartemo 27.08 338 *e*P **P 00 51 58.9 -0.3**
FINES FINESS Array B 27.19 0 P **P 00 51 58.6 -1.5**
comp=Z,36nm,0.8s,baz=157,slow=10,SNR=69
FINES PcP **PcP 00 55 20.8 +0.8**
comp=Z,4.5nm,0.8s,baz=277,slow=1.2,SNR=3.6
FINES FINESS Array B 27.19 0 P **P 00 51 58.4 -1.7**
FIA1 FINESS Array S 27.19 0 P **P 00 51 58.0 -2.2**
FIA1 IAmb IAmb 00 52 00.2
comp=Z,59nm,1.0s
MCH1 Michaelchurch 27.19 319 *e*P **P 00 51 59.3 -1.0**
MCH1 IAmb IAmb 00 52 01.9
comp=Z,33nm,1.1s
PVAQ Vaqueiros 27.23 286 *e*P **P 00 51 59.6 -1.1**
comp=Z,57nm,1.7s
PVAQ Vaqueiros 27.23 286 P **P 00 52 00.0 -0.8**
PVAQ IAmb IAmb 00 52 10.7
comp=Z,29nm,1.1s
LBWR Ladybower, Pea 27.27 323 *e*P **P 00 52 00.1 -0.8**
POLO Lamas de Olo 27.31 295 *e*P **P 00 52 00.9 -0.6**
comp=Z,38nm,2.0s
VALR Valaam 27.31 5 *d*P **P 00 51 59.8 -1.3**
VALR pmax pmax
comp=Z,79nm,0.9s
PBEJ Beja 27.31 288 *e*P **P 00 52 03.4 +1.9**
comp=Z,15nm,1.3s
STNC Stoke 27.34 322 *e*P **P 00 52 01.4 -0.1**
PVIS Viseu 27.34 294 *e*P **P 00 52 01.4 -0.4**
comp=Z,76nm,1.6s
HLM1 Long Mynd 27.39 320 *e*P **P 00 52 01.1 -0.9**
HLM1 IAmb IAmb 00 52 02.9
comp=Z,34nm,1.2s
PBDV Barranco-do-Ve 27.41 286 *e*P **P 00 52 01.6 -0.8**
comp=Z,60nm,1.2s
EVO Evora 27.41 289 *e*P **P 00 52 02.0 -0.4**
comp=Z,46nm,1.6s
ASUD Al Ashush, Dub 27.41 103 P **P 00 52 04.0 +1.5**
ASUD Al Ashush, Dub 27.41 103 P **P 00 52 03.3 +0.8**
PCVE Castro Verde 27.47 287 *e*P **P 00 52 03.1 +0.2**
comp=Z,51nm,1.6s
ATD Arta Tunnel 27.49 141 LR LR 01 02 21.7
comp=Z,203nm,20.1s,baz=3.5,slow=35
OSL Oslo 27.50 344 *e*P **P 00 52 02.8 -0.1**
PCAB Cabril 27.50 296 *e*P **P 00 52 03.4 +0.2**
comp=Z,74nm,1.7s
NAZ Nazwa, Dubai 27.52 102 P **P 00 52 04.5 +1.0**
NAZ Nazwa, Dubai 27.52 102 P **P 00 52 04.4 +1.0**
KONO Kongsberg 27.52 342‖ *e*P **P 00 52 01.8 -1.3**
KONO pmax pmax
comp=Z,34nm,1.7s
KONO Kongsberg 27.52 342 P **P 00 52 02.3 -0.8**
KONO IAmb IAmb 00 52 03.3
comp=Z,89nm,1.8s
KONO Kongsberg 27.52 342 *e*P **P 00 52 02.0 -1.1**
FAQ Al Faqa, Dubai 27.57 102 P **P 00 52 04.3 +0.3**
FAQ Al Faqa, Dubai 27.57 102 P **P 00 52 04.4 +0.5**
BANOM Banah 27.63 99 P **P 00 52 05.2 +0.6**
BANOM Banah 27.63 99 P **P 00 52 05.0 +0.4**
FOEL Foel Wylfa 27.75 321 *e*P **P 00 52 04.8 -0.5**
FOEL IAmb IAmb 00 52 10.3
comp=Z,384nm,2.4s
MSFE Esma-Masafi 27.76 100 P **P 00 52 06.3 +0.6**
PCAS Casmilo, Conde 27.78 292 *e*P **P 00 52 02.8 -2.9**
FURI Furi 27.91 152 P **P 00 52 06.9 -0.5**
HATD Hatta, Dubai 27.97 102 P **P 00 52 08.0 +0.4**
HATD Hatta, Dubai 27.97 102 P **P 00 52 07.9 +0.4**
ASHO Ashiyiah 27.98 102 P **P 00 52 08.0 +0.3**
ASHO Ashiyiah 27.98 102 P **P 00 52 07.6 0.0**
MORF Marmelete 27.98 286 *e*P **P 00 52 02.3 -5.2**
UOSS Minazif 27.98 101 P **P 00 52 07.0 -0.5**
UOSS IAmb IAmb 00 52 09.2
comp=Z,51nm,1.1s
UOSS Minazif 27.98 101 P **P 00 52 07.9 +0.3**
UOSS Minazif 27.98 101 *i* P **P 00 52 07.8 +0.3**
SNR=6.8
ALNE Al Ain 28.02 103 P **P 00 52 08.9 +0.9**
ALNE Al Ain 28.02 103 *i* P **P 00 52 08.6 +0.7**
SNR=7.3
NC602 NORSAR Array S 28.04 345 P **P 00 52 06.3 -1.4**
NC602 IAmb IAmb 00 52 17.1
comp=Z,46nm,1.2s
NC602 NORSAR Array S 28.04 345 *e*P **P 00 52 06.3 -1.4**
PACT Alcochete 28.05 289 *e*P **P 00 52 05.0 -3.0**
KLMR Klimovskoe 28.05 14 *e*P **P 00 52 04.9 -3.0**
KLMR pmax pmax
comp=Z,87nm,0.9s
KLMR Klimovskoe 28.05 14 LR LR 01 02 49.8
KLMR Klimovskoe 28.05 14 *e*P **P 00 52 04.9 -3.0**
KLMR Klimovskoe 28.05 14 AMP 00 52 09.3
comp=Z,87nm,0.9s
KLMR Klimovskoe 28.05 14 LQ LQ 01 00 43.2
KLMR Klimovskoe 28.05 14 LQ LQ 01 00 43.2
BLS5 Blasjo 28.20 339 *e*P **P 00 52 08.4 -0.8**
UMZA Um Al Zommool 28.20 106 P **P 00 52 10.0 +0.4**
UMZA P **P 00 52 10.0 +0.4**
NAO01 NORSAR Array S 28.28 345 P **P 00 52 08.9 -1.0**
NAO01 IAmb IAmb 00 52 11.7
comp=Z,37nm,1.1s
NB2 NORSAR Subarra 28.38 345 P **P 00 52 08.9 -2.0**
comp=Z,4.9nm,0.9s,baz=144,slow=11
NB2 NORSAR Subarra 28.38 345 P **P 00 52 08.9 -2.0**
baz=144,slow=11
NOA NORSAR Array B 28.38 345 P **P 00 52 08.9 -2.0**
comp=Z,0.4nm,0.4s,baz=151,slow=8.6,SNR=15
NOA PcP **PcP 00 55 23.6 +0.7**
comp=Z,0.8nm,0.8s,baz=137,slow=2.5,SNR=3.8
AKTO Aktyubinsk 28.51 46 P **P 00 52 12.2 +0.1**
comp=Z,10nm,0.5s,baz=255,slow=10,SNR=26
ODD1 Odda 28.55 340 *e*P **P 00 52 12.2 -0.2**
SKAR Skarslia 28.74 342 *e*P **P 00 52 14.8 +0.7**
ARQ Araqi 28.98 104 P **P 00 52 17.4 +0.9**
SNR=9.6
ARQ P **P 00 52 17.4 +0.9**
SNR=9.6
KIRV Kirov 28.98 26 P **P 00 52 15.6 -0.5**
comp=Z,20nm,0.6s,baz=220,slow=3.8,SNR=13
EKA Eskdalemuir Ar 29.05 325 P **P 00 52 16.2 -0.6**
comp=Z,18nm,0.9s,baz=122,slow=9.0,SNR=38
ESK Eskdalemuir 29.06 325 *e*P **P 00 52 16.3 -0.6**
ESK IAmb IAmb 00 52 17.5
comp=Z,31nm,1.1s
ESK Eskdalemuir 29.06 325 P **P 00 52 16.3 -0.6**
ESK pmax pmax
comp=Z,30nm,1.1s
ESK Eskdalemuir 29.06 325 P **P 00 52 16.3 -0.6**
ESK IAmb IAmb 00 52 17.8
comp=Z,30nm,1.1s
ESY Stoneypath 29.13 327 *e*P **P 00 52 16.5 -1.0**
EBL Broad Law 29.24 326 *e*P **P 00 52 18.5 0.0**
AB31 Akbulak array 29.28 49 *i* P **P 00 52 19.5 +0.3**
ABKAR Akbulak array 29.28 49 P **P 00 52 19.5 +0.6**
ABKAR Akbulak array 29.28 49 P **P 00 52 19.2 +0.3**
ABKAR PcP **PcP 00 55 26.2 +0.9**
BER Bergen 29.31 339 *e*P **P 00 52 18.8 -0.2**
EDI Edinburgh 29.40 326 *e*P **P 00 52 18.9 -1.0**
EDI IAmb IAmb 00 52 22.6
comp=Z,85nm,1.6s
ASK Askoy 29.43 339 *e*P **P 00 52 19.7 -0.4**
HOQ Hoqain 29.50 103 P **P 00 52 21.9 +0.8**
HOQ P **P 00 52 21.9 +0.8**
DRUM Mains of Drumt 29.67 328 *e*P **P 00 52 20.9 -1.4**
DOK Doka 29.68 114 P **P 00 52 23.1 +0.4**
HYA Hoyanger 29.71 341 *e*P **P 00 52 22.6 +0.1**
DOMB Dombas 29.75 344 *e*P **P 00 52 22.7 -0.2**
BSY Bisya 29.81 104 P **P 00 52 24.6 +0.6**
SNR=9.9
BSY P **P 00 52 24.6 +0.6**
SNR=9.9
WHFO Wadi Hawf 29.84 116 P **P 00 52 24.3 +0.1**
ABTO Aybut 29.84 117 P **P 00 52 25.0 +0.7**

SNR=12
SUE Sulen 30.02 340 *e*P **P** **00 52 24.9 -0.4**
HRA Herat 30.04 79 P **P** **00 52 26.9 +0.8**
HRA IAmb IAmb 00 52 27.8
comp=Z,15nm,0.8s
INVG Invergeldie, C 30.08 327 *e*P **P** **00 52 25.1 -0.8**
PRGR Permogore 30.19 19 *e*P **P** **00 52 23.8 -3.0**
PRGR *e*S **S** **00 57 21.2 -4.0**
PRGR pmax pmax
comp=Z,171nm,0.9s
TOA0 Torodi Ar. Sit 30.30 232 P **P** **00 52 27.7 -0.5**
TORD Torodi Ar. Bea 30.30 232 P **P** **00 52 27.8 -0.5**
comp=Z,49nm,0.7s,baz=33,slow=9.5,SNR=327
TORD PcP **PcP** **00 55 28.8 +0.2**
comp=Z,5.3nm,1.0s,baz=47,slow=2.0,SNR=5.1
TORD Torodi Ar. Bea 30.30 232 P **P** **00 52 27.7 -0.6**
TORD **PcP** **00 55 28.3 -0.2**
SMDO Samad 30.34 103 P **P** **00 52 28.7 0.0**
SMDO P **P** **00 52 28.7 0.0**
AKN Aaknes 30.35 343 *e*P **P** **00 52 29.0 +0.7**
FOO Floro 30.38 340 *e*P **P** **00 52 28.0 -0.5**
TBLU Trondheim 30.57 346 *e*P **P** **00 52 31.1 +0.9**
JMDO Jabal Madar 30.72 104 P **P** **00 52 32.0 0.0**
SNR=6.4
JMDO P **P** **00 52 32.0 0.0**
SNR=6.4
WSAR Wadi Sarin 30.73 102 P **P** **00 52 33.9 +1.9**
comp=Z,9.7nm,0.9s,baz=315,slow=2.9,SNR=1.9
DMTO DMTO 30.84 115 P **P** **00 52 34.0 +1.0**
SNR=5.5
DMTO P **P** **00 52 34.0 +1.0**
SNR=5.5
WBK Wadi Bani Khal 31.30 103 P **P** **00 52 39.4 +2.2**
WBK P **P** **00 52 39.4 +2.2**
MHTO MHTO 31.32 107 P **P** **00 52 38.8 +1.6**
SNR=14
NSS Namsos 31.44 349 *e*P **P** **00 52 36.5 -1.3**
ARU Arti 31.49 35 P **P** **00 52 38.4 +0.1**
comp=Z,2.4nm,0.3s,baz=260,slow=9.5,SNR=15
ARU Arti 31.49 35*d i*P **P** **00 52 38.9 +0.5**
ARU 00 53 40.0
ARU S **S** **00 57 49.6 +3.9**
ARU SS **SnSn** **00 59 37.0 +6.5**
ARU pmax pmax
comp=Z,15nm,1.3s
ARU Arti 31.49 35 P **P** **00 52 38.0 -0.4**
DQM DQM 31.55 109 P **P** **00 52 39.6 +0.4**
JLN Jalan Bani Buh 31.88 103 P **P** **00 52 42.9 +0.7**
JLN P **P** **00 52 42.9 +0.7**
LODK Lodwar 31.97 162 P **P** **00 52 43.1 +0.1**
LODK PcP **PcP** **00 55 33.8 +0.7**
LODK Lodwar 31.97 162 P **P** **00 52 43.8 +0.8**
SNR=23
MOR8 Moi Rana 32.64 352 *e*P **P** **00 52 47.1 -1.2**
SVE Sverdlovsk 32.69 36‖*e*P **P** **00 52 49.4 +0.6**
SVE pmax pmax
comp=Z,16nm,1.0s
KONS Konsvik 33.12 351 *e*P **P** **00 52 52.8 +0.3**
KOWA Kowa 33.31 241 P **P** **00 52 53.7 -1.0**
KOWA PcP **PcP** **00 55 37.0 +0.3**
KOWA Kowa 33.31 241 P **P** **00 52 54.4 -0.3**
APA Apatity 33.64 5‖*i*P **P** **00 52 53.3 -3.7**
APA pmax pmax
comp=Z,29nm,0.7s
APA MLR MLR
comp=Z,600nm,14.0s
FAUS Fauske 33.71 353 *e*P **P** **00 52 57.1 -0.5**
SOCY Socotra 33.81 124 P **P** **00 52 56.8 -2.4**
SOCY IAmb IAmb 00 53 59.5
comp=Z,39nm,1.4s
LVZ Lovozero 34.06 6*c i*P **P** **00 52 59.7 -1.1**
LVZ pmax pmax
comp=Z,23nm,0.8s
LVZ Lovozero 34.06 6 P **P** **00 52 59.6 -1.1**
LVZ IAmb IAmb 00 53 00.5
comp=Z,24nm,0.9s
STEI Steigen 34.24 353 *e*P **P** **00 53 01.7 -0.6**
KTK1 Kautokeino 34.82 358 *e*P **P** **00 53 05.8 -1.5**
TAS Tashkent 34.84 65 P **P** **00 53 08.3 +0.5**
TAS pmax pmax
comp=Z,32nm,0.7s
TAS Tashkent 34.84 65 P **P** **00 53 08.3 +0.5**
CHGR Chuyangaron 34.95 70 P **P** **00 53 09.4 +0.6**
CHGR IAmb IAmb 00 53 12.2
comp=Z,33nm,1.0s
MBAR Mbarara 35.00 171 LR LR 01 08 11.9
comp=Z,462nm,19.2s,baz=352,slow=38
MBAR Mbarara 35.00 171 P **P** **00 53 09.2 -0.3**
MBAR pmax pmax
comp=Z,20nm,1.0s
MBAR Mbarara 35.00 171 P **P** **00 53 09.2 -0.3**
MBAR IAmb IAmb 00 53 11.0
comp=Z,20nm,0.9s
BRLS Borolday 35.19 62 *e*P **P** **00 53 10.5 -0.3**
BRLS Borolday 35.19 62 *e*P **P** **00 53 10.6 -0.3**
baz=63
ARA0 ARCESS Array S 35.32 360 *e*P **P** **00 53 10.0 -1.6**
ARCES ARCESS Array B 35.32 360 P **P** **00 53 09.8 -1.7**
comp=Z,28nm,0.9s,baz=176,slow=8.3,SNR=67
ARCES PcP **PcP** **00 55 41.9 +0.3**
comp=Z,1.1nm,0.4s,baz=184,slow=2.9,SNR=6.8
ARCES ARCESS Array B 35.32 360 P **P** **00 53 09.9 -1.7**
ARCES IAmb IAmb 00 53 12.7
comp=Z,23nm,0.9s
IUG Iuzhnay 35.35 64 *e*P **P** **00 53 12.6 +0.3**
IUG Iuzhnay 35.35 64 *e*P **P** **00 53 12.6 +0.3**
baz=64
JETT Jettan, Norway 35.46 357 *e*P **P** **00 53 12.7 -0.1**
KBL Kabul 35.52 77 P **P** **00 53 14.2 +0.2**
KBL pmax pmax
comp=Z,17nm,1.4s
KBL Kabul 35.52 77 P **P** **00 53 14.2 +0.2**
TRO Tromso 35.62 356 *e*P **P** **00 53 13.6 -0.5**
KKAR Karatay Array 35.68 62 P **P** **00 53 15.7 +0.6**
KKAR Karatay Array 35.68 62 P **P** **00 53 15.7 +0.6**
GAR Garm 35.80 69 P **P** **00 53 16.7 +0.4**
GAR IAmb IAmb 00 53 45.2
comp=Z,18nm,0.9s
BTK Batken 36.08 67 P **P** **00 53 18.4 -0.2**
BTK pmax pmax
comp=Z,9.0nm,1.1s
BTK Batken 36.08 67 P **P** **00 53 18.4 -0.2**
DZA Taraz 36.29 62 *e*P **P** **00 53 20.5 +0.3**
DZA Taraz 36.29 62 *e*P **P** **00 53 20.6 +0.3**
baz=62
MACI Morro de la Ar 36.42 272 P **P** **00 53 21.5 -0.2**
BRVK Borovoye 36.56 45*c i*P **P** **00 53 23.7 +1.3**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 36.56 45 P **P** **00 53 22.7 +0.3**
BVAR Borovoye Array 36.62 45 P **P** **00 53 24.2 +1.3**
comp=Z,13nm,1.0s,baz=238,slow=14,SNR=26
KMBO Kilima Mbogo 36.83 161 P **P** **00 53 26.1 +0.8**
comp=Z,1.7nm,0.7s,baz=356,slow=13,SNR=2.8
KMBO PcP **PcP** **00 55 48.6 +1.4**
comp=Z,3.5nm,0.8s,baz=240,slow=2.4,SNR=6.3
KMBO LR LR 01 08 49.0
comp=Z,373nm,20.3s,baz=280,slow=37
DRK Karamyk 36.89 68 P **P** **00 53 25.2 -0.6**
OTUK Ortayu 37.13 54 P **P** **00 53 27.3 0.0**
BRZS Berezniki 37.52 51 *e*P **P** **00 53 31.1 +0.5**
BRZS pmax pmax
comp=Z,9.0nm,0.9s
BRZS Berezniki 37.52 51 *e*P **P** **00 53 31.1 +0.5**
comp=Z,8.5nm,0.9s,baz=51
BTLS Baital 38.20 59 *e*P **P** **00 53 36.7 +0.3**
BTLS Baital 38.20 59 *e*P **P** **00 53 36.8 +0.3**
baz=59
KIBK Kibwezi 38.21 160 P **P** **00 53 37.2 +0.4**
KIBK Kibwezi 38.21 160 P **P** **00 53 38.0 +1.2**
SNR=11
AAK Ala-Archa 38.63 63 P **P** **00 53 41.8 +1.5**
comp=Z,9.2nm,0.8s,baz=237,slow=4.3,SNR=31
AAK Ala-Archa 38.63 63*c i*P **P** **00 53 41.7 +1.5**
AAK pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 38.63 63 P **P** **00 53 40.8 +0.6**
AAK Ala-Archa 38.63 63 *i*P **P** **00 53 41.7 +1.5**
SNR=12
SGDS Sogindy 38.67 61 *e*P **P** **00 53 39.9 -0.6**
SGDS Sogindy 38.67 61 *e*P **P** **00 53 40.0 -0.6**
baz=61
FRU1 Bishkek 38.71 62 P **P** **00 53 40.8 -0.1**
FRU1 pmax pmax
comp=Z,12nm,0.8s
FRU1 Bishkek 38.71 62 P **P** **00 53 40.8 -0.1**
CHMS Chumysh 38.79 62 *i*P **P** **00 53 42.2 +0.7**
CHMS pmax pmax
comp=Z,14nm,0.9s
NIL Nilore 39.12 77 P **P** **00 53 44.7 +0.3**
NIL pmax pmax
comp=Z,45nm,1.0s
NIL Nilore 39.12 77 P **P** **00 53 44.7 +0.3**
NIL IAmb IAmb 00 53 46.7
comp=Z,45nm,1.0s
DBIC Dimbokro 39.40 233 P **P** **00 53 45.8 -1.0**
comp=Z,24nm,0.7s,baz=52,slow=9.2,SNR=40
DBIC Dimbokro 39.40 233 P **P** **00 53 45.7 -1.0**
DBIC pmax pmax
comp=Z,27nm,0.8s
DBIC Dimbokro 39.40 233 P **P** **00 53 45.7 -1.0**
DBIC IAmb IAmb 00 53 47.1
comp=Z,27nm,0.8s
TKM2 Tokmak 2 39.41 62 *i*P **P** **00 53 47.3 +0.4**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
TIC Toumodi 39.53 233 *e*P **P** **00 53 46.8 -1.0**
KIC Kosan Boka 39.56 232 *e*P **P** **00 53 47.1 -1.0**
comp=Z,53nm,0.6s
BOOM Boomskoye usch 39.70 63 P **P** **00 53 49.7 +0.4**
BOOM pmax pmax
comp=Z,12nm,1.0s
BOOM Boomskoye usch 39.70 63 P **P** **00 53 49.7 +0.4**
LIC Lamto 39.85 233 *e*P **P** **00 53 50.0 -0.5**
comp=Z,67nm,0.8s
KUU Kurty 39.88 61 *e*P **P** **00 53 50.4 -0.1**
KUU pmax pmax
comp=Z,17nm,1.0s
KUU Kurty 39.88 61 *e*P **P** **00 53 50.5 -0.1**
comp=Z,17nm,1.0s,baz=61
KSH Kashi 40.09 67 P **P** **00 53 51.7 -0.7**
KSH sP pwP 00 53 59.1 -1.3
KSH PcP **PcP** **00 55 57.8 +0.9**
KSH PcS **PcS** **00 59 49.7 +2.3**
KSH pmax pmax
comp=Z,9.0nm,1.1s
CHKK Chushkaly 40.36 61 *e*P **P** **00 53 54.6 +0.1**
CHKK Chushkaly 40.36 61 *e*P **P** **00 53 54.7 +0.2**
baz=61
TNSS Tian-Shan 40.39 62 *e*P **P** **00 53 56.2 +1.0**
TNSS Tian-Shan 40.39 62 *e*P **P** **00 53 56.3 +1.0**
baz=62
BJO1 Bjornoya 40.45 357 *e*P **P** **00 53 54.0 -0.8**
KDJ Kajisay 40.66 63 P **P** **00 53 57.4 +0.2**
KDJ pmax pmax
comp=Z,77nm,1.8s
KDJ Kajisay 40.66 63 P **P** **00 53 57.4 +0.2**
KDJ IAmb IAmb 00 54 18.4
comp=Z,78nm,1.8s
JMIC Jan Mayen 41.07 344 LR LR 01 10 53.6
comp=Z,125nm,20.5s,baz=98,slow=36
TARG Taragay, Kyrgy 41.16 64 P **P** **00 54 02.5 +0.8**
TDK Taldyqorghan 41.29 59 *e*P **P** **00 54 02.3 +0.2**
TDK pmax pmax
comp=Z,13nm,0.6s
TDK Taldyqorghan 41.29 59 *e*P **P** **00 54 02.3 +0.2**
comp=Z,13nm,0.6s,baz=59
KURBB Kurchatov Arra 41.31 50 P **P** **00 54 03.0 +0.8**
comp=Z,39nm,0.9s,baz=277,slow=8.8,SNR=317
KURBB PcP **PcP** **00 56 01.6 +1.1**
comp=Z,2.5nm,0.8s,baz=271,slow=4.0,SNR=4.4
KURBB S **S** **01 00 17.2 +1.5**
comp=Z,0.8nm,1.1s,baz=281,slow=16,SNR=4.9
KURBB Kurchatov Arra 41.31 50 P **P** **00 54 02.7 +0.5**
KURK Kurchatov 41.37 50 P **P** **00 54 03.0 +0.3**
KURK 00 56 01.6
KURK Kurchatov 41.37 50 P **P** **00 54 03.3 +0.6**
KURK IAmb IAmb 00 54 06.1
comp=Z,57nm,1.1s
SATY Saty 41.45 62 *e*P **P** **00 54 03.3 -0.4**
SATY pmax pmax
comp=Z,9.0nm,0.8s
SATY Saty 41.45 62 *e*P **P** **00 54 03.3 -0.4**
comp=Z,9.0nm,0.8s,baz=62
BORG Borgarnes 41.56 332 LR LR 01 12 40.8
comp=Z,150nm,19.3s,baz=130,slow=38
KPKS Kokpek 41.62 61 *e*P **P** **00 54 04.9 0.0**
KPKS Kokpek 41.62 61 *e*P **P** **00 54 05.0 0.0**
baz=61
SHLS Shalkode 42.21 61 *e*P **P** **00 54 12.4 +2.6**
SHLS Shalkode 42.21 61 *e*P **P** **00 54 12.4 +2.6**
baz=61
PDGK Podgornoye 42.21 61 P **P** **00 54 10.0 +0.1**
SEM Semipalatinsk 42.40 51 *e*P **P** **00 54 11.7 +0.3**
SEM pmax pmax
comp=Z,11nm,1.2s
SEM Semipalatinsk 42.40 51 *e*P **P** **00 54 11.7 +0.3**
comp=Z,11nm,1.2s,baz=51
HSPB Hornsund (broa 43.08 357 *e*P **P** **00 54 16.4 +0.1**
MAKZ Makanchi 43.65 56 P **P** **00 54 21.7 +0.4**
MAKZ Makanchi 43.65 56 P **P** **00 54 22.0 +0.7**
MAKZ IAmb IAmb 00 54 24.8
comp=Z,14nm,0.7s
MK31 Makanchi Array 43.87 56*de*P **P** **00 54 24.0 +0.9**
MK31 Makanchi Array 43.87 56 P **P** **00 54 23.5 +0.4**
MK31 IAmb IAmb 00 54 26.9
comp=Z,26nm,0.8s
MKAR Makanchi Array 43.87 56 P **P** **00 54 23.9 +0.8**
comp=Z,32nm,0.7s,baz=277,slow=6.3,SNR=202
MKAR PcP **PcP** **00 56 10.3 +1.2**
comp=Z,3.1nm,0.6s,baz=283,slow=4.9,SNR=2.3
MKAR Makanchi Array 43.87 56 *i*P **P** **00 54 23.8 +0.7**
MKAR pmax pmax
comp=Z,32nm,0.7s
SPB2 Spitsbergen Ar 44.19 357 P **P** **00 54 24.9 -0.3**
SPB2 IAmb IAmb 00 54 26.1
comp=Z,24nm,0.9s
SPA0 Spitsbergen Ar 44.20 357 *e*P **P** **00 54 24.7 -0.6**
SPITS Spitsbergen Ar 44.20 357 P **P** **00 54 24.9 -0.4**
comp=Z,16nm,0.8s,baz=140,slow=11,SNR=19
SPITS Spitsbergen Ar 44.20 357 P **P** **00 54 24.6 -0.7**
SPITS pmax pmax
comp=Z,39nm,1.1s
SCO Scoresbysund 44.34 339 P **P** **00 54 27.4 +0.9**
SCO pmax pmax
comp=Z,32nm,0.8s
SCO Scoresbysund 44.34 339 P **P** **00 54 27.4 +0.9**
SCO IAmb IAmb 00 54 28.7
comp=Z,32nm,0.8s
SCO Scoresbysund 44.34 339 *e*P **P** **00 54 26.9 +0.5**
SCO Scoresbysund 44.34 339 *i*P **P** **00 54 27.0 +0.5**
KBS Kingsbay 45.14 356 P **P** **00 54 32.6 -0.2**
KBS pmax pmax
comp=Z,27nm,0.8s
KBS Kingsbay 45.14 356 P **P** **00 54 32.6 -0.2**
KBS IAmb IAmb 00 54 34.7
comp=Z,27nm,0.8s
ZAA0 Zalesovo Array 45.28 46 P **P** **00 54 34.1 0.0**
ZAA0 IAmb IAmb 00 54 35.4
comp=Z,18nm,0.6s
ZALV Zalesovo Beam 45.28 46 P **P** **00 54 34.2 +0.1**
comp=Z,20nm,0.5s,baz=268,slow=8.4,SNR=158
ZALV Zalesovo Beam 45.28 46 P **P** **00 54 34.1 0.0**
ZSN Zaisan 45.56 55 *e*P **P** **00 54 37.0 +0.4**
ZSN pmax pmax
comp=Z,8.0nm,1.1s
ZSN Zaisan 45.56 55 *e*P **P** **00 54 37.0 +0.4**
comp=Z,8.4nm,1.1s,baz=55
DBG Daneborg 45.89 344 *i*P **P** **00 54 39.7 +0.9**
DAG Danmarks Havn 47.02 347 *i*P **P** **00 54 47.7 +0.1**
MSEY Mahe Island 47.83 138 P **P** **00 54 54.7 0.0**
WMQ Urumqi 48.04 59 *e*P **P** **00 54 57.4 +1.3**
WMQ pP pwP 00 55 03.7 -0.4
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ LR LR
comp=Z,460nm,19.1s
WMQ LR LR
comp=Z,440nm,22.1s
NRIK Noril'sk 48.48 25 P **P** **00 54 59.9 +0.9**
comp=Z,12nm,0.9s,baz=224,slow=2.4,SNR=11
NRIK Noril'sk 48.48 25‖*e*P **P** **00 54 59.5 +0.5**
NRIK pmax pmax
comp=Z,10.0nm,0.8s
NRIK Noril'sk 48.48 25 P **P** **00 54 59.2 +0.2**
NRIK IAmb IAmb 00 55 04.2
comp=Z,9.7nm,0.7s
PYUN Piuthan 48.82 81 *e*P **P** **00 55 03.1 +0.7**
comp=Z,99nm,0.8s
LSZ Lusaka 49.33 177 LR LR 01 16 23.6
comp=Z,439nm,20.5s,baz=5.5,slow=37
LSZ Lusaka 49.33 177 P **P** **00 55 06.1 -0.1**
LSZ pmax pmax
comp=Z,31nm,1.6s
LSZ Lusaka 49.33 177 P **P** **00 55 06.1 -0.1**
LSZ IAmb IAmb 00 55 08.1
comp=Z,31nm,1.6s
DANN Dangsing 49.35 80 *e*P **P** **00 55 07.4 +0.8**
comp=Z,294nm,0.8s
KOLN Koldanda 49.44 81 *e*P **P** **00 55 07.5 +0.3**
comp=Z,70nm,0.9s
HYBB Hyderabad (bro 49.85 96 *e*P **P** **00 55 10.5 +0.3**
HYBB *es*P **sP** **00 55 15.0 -0.9**
HYBB *e*S **S** **01 02 21.0 +1.2**
NOR Nord 49.89 353 *i*P **P** **00 55 09.5 -0.2**
GKN Gorkha 50.20 80 *e*P **P** **00 55 13.0 +0.1**
comp=Z,91nm,0.8s
DMN Daman 50.73 80 *e*P **P** **00 55 17.4 +0.3**
comp=Z,121nm,0.9s
KKN Kakani 50.80 80 *e*P **P** **00 55 17.7 +0.1**
comp=Z,55nm,0.7s
PKIN Phulchoki 50.98 80 *e*P **P** **00 55 18.8 -0.2**
comp=Z,109nm,1.0s
PKI Pulchoki 51.00 80 *e*P **P** **00 55 19.2 0.0**
comp=Z,119nm,1.0s
GUN Gumba 51.25 80 *e*P **P** **00 55 21.3 +0.2**
comp=Z,139nm,0.9s
HMDM Hanimaadhoo 51.54 111 P **P** **00 55 23.1 +0.2**
HMDM Hanimaadhoo 51.54 111 P **P** **00 55 23.4 +0.5**
SNR=7.8
JIRN Jiri 51.60 80 *e*P **P** **00 55 23.9 +0.2**
comp=Z,103nm,0.9s
PCHI Peechi 51.78 105 *e*P **P** **00 55 20.6 -4.2**
PCHI *e*S S 01 02 11.5 -35
DY2G Dye2 51.97 331 *e*P **P** **00 55 25.9 +0.2**
ODAN Odare 52.90 80 *e*P **P** **00 55 32.7 -0.5**
TAPN Taplejung 52.96 80 *e*P **P** **00 55 33.5 -0.3**
comp=Z,55nm,1.0s
SFJD Kangerlussuaq 53.69 332 LR LR 01 20 33.5
comp=Z,190nm,18.5s,baz=85,slow=38
SFJD Kangerlussuaq 53.69 332 P **P** **00 55 38.1 -0.1**
SFJD pmax pmax
comp=Z,56nm,1.7s
SFJD Kangerlussuaq 53.69 332 P **P** **00 55 38.0 -0.1**
TSUM Tsumeb 53.74 190 LR LR 01 20 23.7
comp=Z,1μm,19.1s,baz=2.5,slow=38
TSUM Tsumeb 53.74 190 P **P** **00 55 39.1 -0.1**
TSUM IAmb IAmb 00 55 40.0
comp=Z,14nm,0.8s
BLWY Bulawayo 54.17 177 *i*P **P** **00 55 42.6 +0.2**
BLWY Bulawayo 54.17 177 *i*P **P** **00 55 42.6 +0.2**
MATP Matopo 54.45 177 *i*P **P** **00 55 44.0 -0.4**
MATP Matopo 54.45 177 *i*P **P** **00 55 44.0 -0.4**
LSA Lhasa 54.82 75 P **P** **00 55 47.5 0.0**
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 54.82 75 P **P** **00 55 47.5 0.0**
LSA IAmb IAmb 00 55 49.4
comp=Z,15nm,0.7s
MOY Mondy 55.26 47 *e*P **P** **00 55 52.0 +2.0**
MOY pmax pmax
comp=Z,18nm,1.8s
GOMU GeErMu 55.33 67 P **P** **00 55 50.8 -0.2**
GOMU sP pwP 00 55 58.6 -0.5
GOMU S **S** **01 03 35.7 +0.8**
GOMU pmax pmax
comp=Z,11nm,1.1s
GOMU pmax pmax
comp=Z,62nm,3.7s
GOMU LR LR
comp=Z,66nm,17.9s
GOMU LR LR
comp=Z,67nm,18.0s
OPO Ambohidratompo 56.37 155 LR LR 01 19 36.9
comp=Z,162nm,21.4s,baz=162,slow=36
MSNA Messina 56.45 175 *i*P **P** **00 55 58.0 -0.6**
MSNA Messina 56.45 175 *i*P **P** **00 55 58.0 -0.6**
ABPO Ambohimpanom 56.80 156 P **P** **00 56 02.0 +0.7**
ABPO pmax pmax
comp=Z,44nm,1.9s
ABPO Ambohimpanom 56.80 156 P **P** **00 56 02.0 +0.7**
ABPO IAmb IAmb 00 56 04.0
comp=Z,44nm,1.9s
ZAK Zakamensk 56.97 48 *e*P **P** **00 56 03.5 +1.3**
ZAK pmax pmax
comp=Z,25nm,1.0s
SHL Shillong 57.10 80 P **P** **00 56 02.6 -1.0**
SHL pmax pmax
comp=Z,20nm,0.8s
SHL Shillong 57.10 80 P **P** **00 56 02.6 -1.0**
SHL IAmb IAmb 00 56 03.8
comp=Z,20nm,0.8s
PALK Pallekele 57.16 105 P **P** **00 56 04.4 +0.4**
PALK pmax pmax
comp=Z,42nm,1.3s
PALK Pallekele 57.16 105 P **P** **00 56 04.4 +0.4**
PALK Pallekele 57.16 105 P **P** **00 56 04.7 +0.7**
PALK P **P** **00 56 04.7 +0.7**
MOPA Mopani 57.72 174 *i*P **P** **00 56 09.1 +1.6**
MOPA Mopani 57.72 174 *i*P **P** **00 56 09.1 +1.6**
GTA Gaotai 57.96 62 ⇑P **P** **00 56 10.2 +0.8**
GTA pP sP 00 56 14.3 -0.7
GTA sP pwP 00 56 17.2 -0.3
GTA pmax pmax
comp=Z,15nm,1.0s
TULEG Thule 58.03 344 P **P** **00 56 08.6 -0.5**
LBTB Lobatse 58.96 180 LR LR 01 22 54.8
comp=Z,520nm,18.9s,baz=5.0,slow=37
LBTB Lobatse 58.96 180 P **P** **00 56 17.1 +0.8**
LBTB pmax pmax
comp=Z,11nm,0.8s
LBTB Lobatse 58.96 180 P **P** **00 56 17.1 +0.8**
LBTB IAmb IAmb 00 56 17.9
comp=Z,11nm,0.8s
LBTB Lobatse 58.96 180 *i*P P 00 56 10.5 -5.8
LBTB Lobatse 58.96 180 *i*P P 00 56 10.5 -5.8
VOI Vohitsoka 59.35 157 P **P** **00 56 20.0 +0.9**
VOI IAmb IAmb 00 57 24.3
comp=Z,15nm,1.2s
SONM Songino Array 59.68 50 P **P** **00 56 22.3 +1.1**
comp=Z,9.0nm,0.7s,baz=284,slow=7.4,SNR=68
SONM Songino Array 59.68 50 P **P** **00 56 22.4 +1.2**
SONM IAmb IAmb 00 56 24.7
comp=Z,12nm,0.9s
ULN Ulaanbaatar 60.09 50*c i*P **P** **00 56 25.1 +1.0**
ULN pmax pmax
comp=Z,19nm,1.0s
ULN Ulaanbaatar 60.09 50 P **P** **00 56 24.5 +0.4**
ULN IAmb IAmb 00 56 27.5
comp=Z,16nm,0.9s
EUNU Eureka 60.16 349 P **P** **00 56 24.1 +0.1**
EUNU IAmb IAmb 00 56 26.3
comp=Z,16nm,1.1s
DRLN Deer Lake 60.84 312 P **P** **00 56 28.7 -0.3**
BOD Bodaibo 60.86 38 *e*P **P** **00 56 28.6 -0.3**
BOD pmax pmax
comp=Z,14nm,1.0s
FRB Frobisher Bay 61.68 330 LR LR 01 25 17.7
comp=Z,136nm,18.2s,baz=63,slow=38
TIXI Tiksi 61.83 20‖*e*P **P** **00 56 34.7 -0.6**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI Tiksi 61.83 20 P **P** **00 56 35.1 -0.2**
LZH Lanzhou 62.16 64 P **P** **00 56 39.3 +1.0**
LZH pP sP 00 56 43.8 -0.1
LZH sP pwP 00 56 46.4 -0.1
LZH pmax pmax
comp=Z,19nm,1.2s
BOSA Boshof 62.55 180 P **P** **00 56 41.0 +0.4**
comp=Z,20nm,0.8s,baz=359,slow=7.5,SNR=41
BOSA LR LR 01 25 03.5
comp=Z,390nm,18.7s,baz=7.0,slow=37
BOSA Boshof 62.55 180 P **P** **00 56 40.8 +0.1**
BOSA pmax pmax
comp=Z,44nm,1.2s
BOSA Boshof 62.55 180 P **P** **00 56 40.8 +0.1**
SCHQ Schefferville 64.18 320 P **P** **00 56 51.2 0.0**
comp=Z,9.4nm,0.6s,baz=62,slow=5.5,SNR=40
SCHQ LR LR 01 25 28.5
comp=Z,73nm,18.1s,baz=51,slow=37
SCHQ Schefferville 64.18 320 P **P** **00 56 51.1 0.0**
CD2 Chengdu 64.26 69‖*i*P **P** **00 56 53.1 +0.9**
CD2 pmax pmax
comp=Z,50nm,0.8s

CD2 pmax pmax
comp=Z,50nm,4.5s
PZH PanZhiHua 64.64 74 ⇑P **P 00 56 54.8 0.0**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,50nm,5.4s
RES Resolute Bay 64.65 345 LR LR 01 28 47.6
comp=Z,63nm,18.2s,baz=76,slow=40
RES Resolute Bay 64.65 345 P **P 00 56 54.5 +0.6**
RES pmax pmax
comp=Z,6.0nm,0.9s
RES Resolute Bay 64.65 345 P **P 00 56 54.5 +0.6**
GBN Guysborough 64.80 309 P **P 00 56 56.0 +0.6**
HHC Hu-ho-hao-te 65.73 56 *eP* **P 00 57 03.1 +1.4**
HHC pmax pmax
comp=Z,31nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.6s
HHC LR LR
comp=Z,180nm,14.6s
HHC LR LR
comp=Z,170nm,14.0s
HHC LR LR
comp=Z,140nm,13.9s
CHTO Chiang Mai 66.02 83 P **P 00 57 04.5 +0.8**
CHTO pmax pmax
comp=Z,16nm,0.9s
CHTO Chiang Mai 66.02 83 P **P 00 57 04.5 +0.8**
CHTO IAmb IAmb 00 57 06.0
comp=Z,16nm,0.8s
CHTO Chiang Mai 66.02 83 P **P 00 57 04.3 +0.6**
KMI Kunming 66.07 75 ⇓P **P 00 57 04.6 +0.4**
KMI sP sP 00 57 11.0 +1.1
KMI pmax pmax
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 66.19 83 P **P 00 57 04.9 +0.1**
comp=Z,15nm,0.9s,baz=298,slow=8.1,SNR=72
CMAR Chiang Mai Arr 66.19 83 P **P 00 57 04.4 -0.4**
CMAR Chiang Mai Arr 66.19 83 P **P 00 57 04.4 -0.4**
YAK Yakutsk 66.40 30 *eP* **P 00 57 04.6 -0.8**
YAK pmax pmax
comp=Z,15nm,0.9s
SUR Sutherland 66.46 185 LR LR 01 27 32.7
comp=Z,744nm,19.0s,baz=360,slow=37
SUR Sutherland 66.46 185 P **P 00 57 06.8 +0.5**
HAL Halifax 66.47 309 P **P 00 57 06.6 +0.4**
HAL pmax pmax
comp=Z,144nm,1.7s
HAL Halifax 66.47 309 P **P 00 57 06.5 +0.4**
LMN Caledonia Moun 66.72 310 P **P 00 57 08.2 +0.4**
XAN Xi'an 66.80 64 P **P 00 57 09.0 +0.5**
XAN sP pwP 00 57 16.3 -0.4
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,75nm,3.6s
XAN LR LR
comp=Z,170nm,16.5s
XAN LR LR
comp=Z,180nm,17.2s
XAN LR LR
comp=Z,180nm,19.1s
BATG Bathurst New B 66.88 312 P **P 00 57 09.0 +0.3**
BATG IAmb IAmb 00 57 12.8
comp=Z,15nm,0.8s
HIA Hailar 67.31 45 ⇓*iP* **P 00 57 13.5 +2.0**
HIA pmax pmax
comp=Z,24nm,1.0s
HIA Hailar 67.31 45 P **P 00 57 12.5 +0.9**
XLT XiLinHaoTe 67.43 52 *eP* **P 00 57 13.2 +0.7**
XLT sP pwP 00 57 20.4 -0.3
XLT ScS **SKiKP 01 07 04.6 -6.0**
XLT SS **SS 01 10 28.0 +0.6**
XLT pmax pmax
comp=Z,14nm,1.2s
XLT pmax pmax
comp=Z,160nm,5.6s
XLT LR LR
comp=Z,290nm,24.8s
XLT LR LR
comp=Z,79nm,9.1s
TIY Taiyuan 67.70 59 P **P 00 57 16.9 +2.6**
GYA Guiyang 68.56 72 ⇓P **P 00 57 20.2 +0.3**
GYA pmax pmax
comp=Z,23nm,1.1s
D62A Allapoint, All 68.78 313 P **P 00 57 21.4 +0.7**
ENH Enshi 68.95 67 P **P 00 57 21.9 -0.2**
ENH IAmb IAmb 00 57 23.4
comp=Z,16nm,0.8s
LYN LuoYang 69.17 62 *eP* **P 00 57 24.8 +1.4**
LYN pmax pmax
comp=Z,10.0nm,0.9s
BJT Baijiatuau 69.25 55 P **P 00 57 23.8 0.0**
BJT pmax pmax
comp=Z,18nm,0.6s
BJT Baijiatuau 69.25 55 P **P 00 57 23.8 0.0**
ZEA Zeya 69.34 38 *eP* **P 00 57 26.1 +2.0**
ZEA *e* 00 57 32.9
ZEA pmax pmax
comp=Z,10.0nm,1.0s
HNS HongShan 69.45 58 ⇓P **P 00 57 26.6 +1.5**
HNS pmax pmax
comp=Z,12nm,1.2s
RCBR Riachuelo 70.44 248 P **P 00 57 32.0 +0.5**
RCBR pmax pmax
comp=Z,24nm,1.0s
RCBR Riachuelo 70.44 248 P **P 00 57 32.0 +0.5**
RCBR Riachuelo 70.44 248 *eP* **P 00 57 32.9 +1.4**
NBCL Cascavel-CE 71.30 251 *eP* **P 00 57 37.2 +0.5**
NBRF Rio Formoso - 71.67 245 *eP* **P 00 57 41.0 +2.2**
TIA Tai'an 71.72 58 *eP* **P 00 57 38.0 -1.0**
TIA pmax pmax
comp=Z,15nm,1.2s
SRIT Nakonsritamara 71.88 92 P **P 00 57 39.3 -1.0**
A36M Sachs Harbour 72.10 351 P **P 00 57 40.3 -0.2**
A36M IAmb IAmb 00 57 43.6
comp=Z,18nm,0.9s
A36M Sachs Harbour 72.10 351 P **P 00 57 41.1 +0.5**
baz=25
WHN Wuhan 72.49 65 P P 00 57 53.8 +10
FRNY Flat Rock 72.64 313 P **P 00 57 44.8 +0.5**
FRNY IAmb IAmb 00 57 49.0
comp=Z,26nm,1.3s
NBPB Pedra_Branca-C 73.12 251 *eP* **P 00 57 48.2 +0.6**
UBPT Khong Chiam 73.18 83 P **P 00 57 47.2 -0.7**
UBPT IAmb IAmb 00 57 48.6
comp=Z,14nm,1.1s
KCSI Kotacane, Aceh 73.18 97 P **P 00 57 46.0 -2.0**
comp=Z,802nmcomp=Z,31nm,1.0s
VLDQ Val d'Or 73.19 317 P **P 00 57 48.5 +1.1**
VLDQ IAmb IAmb 00 57 53.0
comp=Z,19nm,1.1s
LONY Lake Ozonia 73.36 313 P **P 00 57 50.2 +1.6**
baz=58
CN2 Changchun 73.41 48 *eP* **P 00 57 49.6 +0.7**
CN2 *eS* **S 01 07 15.9 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,16.5s
CN2 LR LR
comp=Z,100nm,16.5s
BNX BinXian 73.57 46 ⇓P **P 00 57 50.7 +0.9**
BNX pmax pmax
comp=Z,50nm,1.0s
BNX pmax pmax
comp=Z,160nm,6.7s
NBMA Muriti-CE 73.61 249 *eP* **P 00 57 50.9 +0.4**
BILL Bilibino 73.81 14 *eP* **P 00 57 49.6 -1.2**
BILL *e* 00 58 05.1
BILL *e* 01 00 32.6
BILL *e*PPP PPP 01 02 18.4
BILL pmax pmax
comp=Z,10.0nm,1.3s
BILL MLR MLR
comp=Z,48nm,19.0s
BILL Bilibino 73.81 14 P **P 00 57 50.8 0.0**
TSI Tuntungan 73.85 97 P **P 00 57 50.6 -1.3**
comp=Z,10μmcomp=Z,74nm,1.1s
NBPS Pedro II - PI 73.89 253 *eP* **P 00 57 53.2 +1.0**
KLR Kul'dur 74.12 41 LR LR 01 35 21.9
comp=Z,122nm,18.4s,baz=330,slow=40
KLR Kul'dur 74.12 41 ⇓*eP* **P 00 57 54.0 +1.1**
KLR pmax pmax
comp=Z,9.0nm,0.9s
SEY Seymchan 74.20 22 LR LR 01 33 30.3
comp=Z,123nm,20.3s,baz=328,slow=38
SEY Seymchan 74.20 22 ⇑*eP* **P 00 57 54.2 +1.1**
SEY pmax pmax
comp=Z,17nm,1.3s
GSI Gunungsitoli 74.28 99 P **P 00 57 54.3 -0.1**
GSI Gunungsitoli 74.28 99 P **P 00 57 54.6 +0.2**
comp=Z,42nm,1.1s
GSI Gunungsitoli 74.28 99 P **P 00 57 56.2 +1.8**
C36M Paulatuk 74.33 349 P **P 00 57 54.1 +0.3**
baz=26
KULM Kulim 74.57 94 P **P 00 57 55.5 -0.6**
FCC Fort Churchill 74.71 332 P **P 00 57 56.6 +0.4**
FCC pmax pmax
comp=Z,7.0nm,0.9s
FCC Fort Churchill 74.71 332 P **P 00 57 56.6 +0.4**
QIZ Qiongzhong 74.80 77 P **P 00 57 57.4 0.0**
QIZ IAmb IAmb 00 57 59.2
comp=Z,23nm,1.0s
QIZ Qiongzhong 74.80 77 P **P 00 57 58.3 +0.9**
QIZ S **S 01 07 32.8 -1.0**
QIZ pmax pmax
comp=Z,20nm,1.1s
QIZ LR LR
comp=Z,120nm,28.0s
QIZ LR LR
comp=Z,95nm,13.7s
QIZ Qiongzhong 74.80 77 P **P 00 57 59.0 +1.6**
NJ2 Nanjing 75.06 61 *eP* **P 00 57 58.1 -0.6**
NJ2 pmax pmax
comp=Z,11nm,0.5s
ROSB Rosrio 75.14 256 *eP* **P 00 57 59.3 0.0**
NBLA Lagarto - SE 75.16 245 *eP* **P 00 57 60.0 +0.6**
BINY Binghamton 75.52 311 P **P 00 58 02.7 +1.5**
baz=57
SADO Sadowa 76.00 315 P **P 00 58 05.0 +1.1**
comp=Z,12nm,0.5s,baz=81,slow=4.0,SNR=13
SADO LR LR 01 31 35.3
comp=Z,86nm,18.8s,baz=10.0,slow=36
MA2 Magadan 76.08 25 LR LR 01 34 50.7
comp=Z,100nm,20.8s,baz=306,slow=38
MA2 Magadan 76.08 25 *diP* **P 00 58 04.7 +0.7**
MA2 pmax pmax
comp=Z,25nm,0.9s
MA2 Magadan 76.08 25 P **P 00 58 04.9 +0.9**
MA2 IAmb IAmb 00 58 07.3
comp=Z,21nm,0.9s
MA2 Magadan 76.08 25 P **P 00 58 05.3 +1.3**
N59A State Game Lan 76.09 310 P **P 00 58 05.9 +1.4**
baz=57
MNSI Mandailing Nat 76.21 99 P **P 00 58 05.3 -0.2**
comp=Z,935nmcomp=Z,29nm,1.0s
INK Inuvik 76.56 352 LR LR 01 35 17.2
comp=Z,54nm,18.6s,baz=0.5,slow=38
INK Inuvik 76.56 352 P **P 00 58 06.2 -0.4**
baz=18
USA0B Ussuriysk Arra 77.13 45 P **P 00 58 10.8 +0.6**
USA0B pmax pmax
comp=Z,18nm,0.8s
USA0B Ussuriysk Arra 77.13 45 P **P 00 58 10.8 +0.6**
USA0B IAmb IAmb 00 58 12.8
comp=Z,18nm,0.8s
USRK Ussuriysk Ar. 77.13 45 P **P 00 58 10.6 +0.4**
comp=Z,15nm,0.7s,baz=291,slow=5.3,SNR=23
USRK Ussuriysk Ar. 77.13 45 P **P 00 58 10.7 +0.5**
TOLK Toolik Lake Re 77.34 358 P **P 00 58 11.9 +0.8**
baz=4.0
DLV T Lat 77.43 84 P **P 00 58 13.5 +0.9**
MDP Montagnes des 77.55 268 LR LR 01 33 02.0
comp=Z,78nm,18.9s,baz=38,slow=36
SSPA Standing Stone 77.58 311 P **P 00 58 13.9 +1.1**
baz=56
BKNI Bangkinang 77.68 98 P **P 00 58 13.0 -0.8**
VLA Vladivostok 77.69 46 ⇑*eP* **P 00 58 14.9 +1.5**
VLA pmax pmax
comp=Z,23nm,0.9s
RDOG Red Dog Mine 77.78 3 P **P 00 58 12.4 -1.1**
RDOG IAmb IAmb 00 58 16.0
comp=Z,14nm,1.3s
TMAB Tom-Au,PA,Br 78.04 259 *eP* **P 00 58 16.8 +1.1**
GDU01 Guandu, BA 78.23 244 *eP* **P 00 58 17.8 +1.0**
BMAR Burnt Mountain 78.35 356 P **P 00 58 17.4 +0.7**
KSAR Wonju Array Be 78.42 53 P **P 00 58 17.6 0.0**
KSAR Wonju Array Be 78.42 53 P **P 00 58 17.6 0.0**
KSRS Korea Array 78.44 53 P **P 00 58 18.4 +0.8**
comp=Z,4.9nm,0.8s,baz=305,slow=4.7,SNR=20
YKA Yellowknife Ar 78.44 342 P **P 00 58 17.0 -0.2**
comp=Z,6.0nm,0.7s,baz=30,slow=5.1,SNR=88
YKA PKPPKP **P'P'df 01 25 18.8 -4.7**
comp=Z,0.7nm,1.1s,baz=189,slow=3.2,SNR=5.3
YKA LR LR 01 35 00.9
comp=Z,36nm,19.2s,baz=296,slow=37
YKA Yellowknife Ar 78.44 342 P **P 00 58 17.0 -0.2**
YKA Yellowknife Ar 78.44 342 P **P 00 58 17.0 -0.2**
N54A Moraine State 78.70 312 P **P 00 58 20.3 +1.2**
baz=54
COLD Coldfoot 78.77 358 P **P 00 58 19.8 +0.8**
baz=3.4
CMC01 Camacan, BA 79.24 243 *eP* **P 00 58 23.5 +1.3**
MCWV Mont Chateau 79.37 311 P **P 00 58 24.1 +1.3**
baz=54
TNA Tin City 79.93 6 P **P 00 58 25.0 -0.2**
TNA Tin City 79.93 6 P **P 00 58 25.6 +0.4**
baz=349
IMAR Indian Mountai 80.07 360 P **P 00 58 26.6 +0.5**
H24K Noodor Dome 80.09 357 P **P 00 58 27.3 +1.0**
baz=5.4
MCPB Macapa, AP 80.13 263 *eP* **P 00 58 27.8 +0.5**
GUA01 Guaratinga, BA 80.23 242 *eP* **P 00 58 28.7 +1.1**
H21K Melozitna Rive 80.39 359 P **P 00 58 29.3 +1.5**
baz=1.2,SNR=19
EGAK Eagle 80.75 354 P **P 00 58 30.2 +0.5**
EGAK Eagle 80.75 354 P **P 00 58 30.7 +1.0**
baz=11
POKR Poker Plat Res 80.80 357 P **P 00 58 30.7 +0.7**
POKR IAmb IAmb 00 58 33.4
comp=Z,15nm,0.9s
POKR Poker Plat Res 80.80 357 P **P 00 58 31.4 +1.4**
baz=5.7
I23K Minto, Yukon-K 80.83 358 P **P 00 58 31.2 +1.0**
baz=4.1,SNR=7.4
I21K Tanana 80.86 359 P **P 00 58 31.7 +1.3**
baz=1.9,SNR=11
MDM Murphy Dome 80.99 357 P **P 00 58 31.2 +0.1**
MDM IAmb IAmb 00 58 34.3
comp=Z,17nm,1.0s
MLY Manley 80.99 358 P **P 00 58 31.6 +0.6**
MLY Manley 80.99 358 P **P 00 58 32.0 +0.9**
baz=3.0,SNR=6.1
DSRI Dabo 81.04 97 P **P 00 58 32.1 0.0**
comp=Z,16nm,1.1s
TPUB Ta-pu 81.05 68 P **P 00 58 33.3 +1.2**
COLA College 81.06 357 *diP* **P 00 58 33.0 +1.7**
COLA pmax pmax
comp=Z,14nm,1.2s
ANM Nome 81.11 5 P **P 00 58 32.0 +0.4**
ANM pmax pmax
comp=Z,10.0nm,1.0s
ANM Nome 81.11 5 P **P 00 58 32.0 +0.4**
ANM Nome 81.11 5 P **P 00 58 32.0 +0.4**
baz=351
IL31 81.12 357 P **P 00 58 32.0 +0.3**
ILAR Eielson Array 81.12 357 P **P 00 58 32.4 +0.6**
comp=Z,4.2nm,0.8s,baz=357,slow=3.3,SNR=34
ILAR PKKPbc **PKKPbc 01 17 06.8 -1.5**
comp=Z,0.8nm,0.6s,baz=214,slow=2.1,SNR=10
ILAR PKPPKP **P'P'df 01 25 15.8 -2.8**
comp=Z,0.6nm,0.9s,baz=208,slow=3.1,SNR=4.4
ILAR LR LR 01 36 49.1
comp=Z,32nm,21.4s,baz=16,slow=37
ILAR Eielson Array 81.12 357 P **P 00 58 31.9 +0.2**
ILAR Eielson Array 81.12 357 P **P 00 58 31.9 +0.2**
J25K Salcha River, 81.20 356 P **P 00 58 34.2 +2.0**
baz=7.5
J26L Joseph Creek 81.20 355 P **P 00 58 32.9 +0.6**
baz=8.9,SNR=9.3
NAN01 Guarapari, ES 81.27 242 *eP* **P 00 58 34.1 +0.9**
DAWY Dawson 81.29 353 P **P 00 58 33.0 +0.3**
DAWY IAmb IAmb 00 58 37.3
comp=Z,12nm,0.8s
DAWY Dawson 81.29 353 P **P 00 58 33.7 +0.9**
baz=12,SNR=22
ULM Lac du Bonnet 81.31 326 P **P 00 58 32.4 -0.6**
comp=Z,2.9nm,0.5s,baz=52,slow=7.0,SNR=5.6
ULM LR LR 01 36 05.5
comp=Z,82nm,18.5s,baz=356,slow=37
ULM Lac du Bonnet 81.31 326 P **P 00 58 32.8 -0.3**
ULM IAmb IAmb 00 58 42.2
comp=Z,26nm,1.4s
YSS Yuzh-Sakhalins 81.33 38 *eP* P 00 58 39.6 +6.4
YSS pmax pmax
comp=Z,40nm,1.2s
GCPR Guaynabo City 81.38 286 P **P 00 58 34.1 +0.2**
NEA2 Nenana 81.38 358 P **P 00 58 33.6 +0.5**
NEA2 Nenana 81.38 358 P **P 00 58 34.4 +1.2**
baz=4.3,SNR=6.8
SMTB Santa Maria do 81.44 253 *eP* **P 00 58 35.0 +0.8**
SDBA SAO DESIDERIO 81.47 249 *eP* **P 00 58 35.3 +0.9**
WRH Wood River Hil 81.47 357 P **P 00 58 34.1 +0.6**
WRH IAmb IAmb 00 58 37.6
comp=Z,19nm,0.8s
HDA Harding Lake 81.48 357 P **P 00 58 33.9 +0.3**
baz=6.1,SNR=15
SJG San Juan 81.54 286 LR LR 01 30 25.7
comp=Z,33nm,20.2s,baz=74,slow=32
SCRK Sand Creek 81.75 355 P **P 00 58 35.9 +0.6**
SCRK IAmb IAmb 00 58 38.8
comp=Z,16nm,1.1s
SCRK Sand Creek 81.75 355 P **P 00 58 36.3 +1.1**
baz=8.6,SNR=15
J20K Nowinta River 81.88 360 P **P 00 58 36.5 +0.7**
J20K IAmb IAmb 00 58 39.2
comp=Z,12nm,0.9s
J20K Nowinta River 81.88 360 P **P 00 58 36.9 +1.2**
baz=0.1,SNR=12
CELP Cerrillos 81.90 286 P **P 00 58 37.4 +0.7**
BPAW Bear Paw Mtn. 81.93 359 P **P 00 58 36.2 +0.1**
baz=2.7,SNR=10
RIDG Independent Ri 82.04 356 P **P 00 58 37.5 +0.8**
baz=7.9,SNR=7.3
I42A Draeger Farm, 82.10 318 P **P 00 58 38.0 +0.7**
CHUM Lake Minchumin 82.17 359 P **P 00 58 39.1 +1.9**
baz=1.6,SNR=13
TGTN Hyland Airport 82.23 348 P **P 00 58 40.1 +2.4**
baz=22,SNR=5.6
MCK McKinley 82.24 358 P **P 00 58 37.8 +0.1**
baz=4.5,SNR=8.5
RIB01 Linhares ES 82.41 241 *eP* **P 00 58 40.2 +1.1**
M30M Minto, Yukon 82.47 352 P **P 00 58 39.1 +0.2**
M30M IAmb IAmb 00 58 42.5
comp=Z,30nm,1.9s
M30M Minto, Yukon 82.47 352 P **P 00 58 41.4 +2.4**
baz=14
BCAR Beaver Creek A 82.49 354 P **P 00 58 40.0 +1.0**
L27K Beaver Creek, 82.49 354 P **P 00 58 40.4 +1.4**
baz=10,SNR=17
M31M Drury Creek, Y 82.53 351 P **P 00 58 40.8 +1.6**
baz=16,SNR=21
RND Reindeer 82.56 358 P **P 00 58 38.9 -0.5**
RND pmax pmax
comp=Z,6.0nm,0.9s
RND Reindeer 82.56 358 P **P 00 58 38.9 -0.5**
TRF Thorofare Moun 82.56 358 P **P 00 58 39.5 0.0**
TRF IAmb IAmb 00 58 52.9
comp=Z,12nm,0.9s
TRF Thorofare Moun 82.56 358 P **P 00 58 39.7 +0.1**
baz=3.3
SJMB Sao Joao De Ma 82.59 242 *eP* **P 00 58 41.0 +0.9**
CAST Castle Rocks 82.63 359 P **P 00 58 39.8 0.0**
CAST IAmb IAmb 00 58 44.7
comp=Z,8.2nm,0.9s
CAST Castle Rocks 82.63 359 P **P 00 58 39.9 +0.1**
baz=1.8,SNR=8.2
JANB Januaria 82.64 246 *eP* **P 00 58 41.3 +0.8**
L26K Log Cabin Wild 82.65 355 P **P 00 58 41.8 +1.9**
baz=9.1
AGMN Agassiz Nation 82.68 325 P **P 00 58 40.4 +0.2**
baz=45
K20K Telida 82.71 360 P **P 00 58 40.5 +0.4**
K20K IAmb IAmb 00 58 43.4
comp=Z,7.7nm,0.9s
K20K Telida 82.71 360 P **P 00 58 41.0 +0.9**
baz=0.2,SNR=6.7
MALB Monte Alegre 82.79 263 *eP* **P 00 58 42.4 +1.0**
DHY Denali Highway 82.83 357 P **P 00 58 41.6 +0.6**
baz=5.8,SNR=15
MDSI Maura Dua 82.99 100 P **P 00 58 40.9 -1.5**
comp=Z,20nm,1.1s
BVCY Beaver Creek 83.05 354 P **P 00 58 43.5 +1.6**
baz=11,SNR=6.8
TTA Tatalina 83.12 1 P **P 00 58 44.5 +2.1**
baz=359
ASAJ Asahikawa 83.14 40 LR LR 01 40 15.0
comp=Z,73nm,19.5s,baz=82,slow=39
PPLA Purkeypile 83.16 359 P **P 00 58 43.1 +0.5**
PPLA Purkeypile 83.16 359 P **P 00 58 43.5 +0.9**
baz=1.7,SNR=7.5
M27K Edge Creek, AK 83.19 354 P **P 00 58 44.6 +1.8**
baz=10
PPBI Pangkal Pinang 83.27 97 P **P 00 58 43.5 -0.3**
WAT6 Susitna Watana 83.34 357 P **P 00 58 45.6 +2.0**
baz=5.4,SNR=8.1
MC01 Montes Claros 83.38 245 *eP* **P 00 58 45.6 +1.2**
N31M Braeburn, Yuko 83.41 351 P **P 00 58 44.3 +0.5**
baz=15,SNR=7.0
ALF01 Guarapari-ES 83.48 240 *eP* **P 00 58 45.6 +0.9**
PETK Petropavlovsk- 83.49 27 P **P 00 58 44.4 +0.1**
comp=Z,2.3nm,0.9s,baz=302,slow=8.3,SNR=2.4
PETK LR LR 01 38 09.3
comp=Z,83nm,21.9s,baz=310,slow=37
KLSI 83.56 100 P **P 00 58 44.1 -1.2**
comp=Z,9.0nm,1.1s
L20K Farewell, AK 83.59 360 P **P 00 58 46.2 +1.5**
baz=0.3
YUK3 Moose Creek 83.64 353 P **P 00 58 46.5 +1.3**
baz=12,SNR=19
KASI Kota Agung 83.84 101 P **P 00 58 46.8 +0.1**
comp=Z,30nm,1.0s
YUK4 Talbot Arm 83.88 353 P **P 00 58 47.2 +0.7**
baz=13,SNR=13
L19K White Mountain 83.89 0 P **P 00 58 47.3 +1.1**
L19K IAmb IAmb 00 58 49.5
comp=Z,9.3nm,0.9s
L19K White Mountain 83.89 0 P **P 00 58 48.3 +2.0**
baz=360,SNR=6.3
PET Petropavlovsk 83.91 26 *eP* **P 00 58 43.3 -3.1**
PET MLR MLR
comp=Z,200nm,20.0s
PEXB Peixe 83.92 251 *eP* **P 00 58 48.0 +0.8**
SCM Sheep Creek Mo 84.07 357 P **P 00 58 47.9 +0.7**
SCM pmax pmax
comp=Z,16nm,0.9s
SCM Sheep Creek Mo 84.07 357 P **P 00 58 47.9 +0.7**
SCM IAmb IAmb 00 59 02.0
comp=Z,16nm,0.9s
SCM Sheep Creek Mo 84.07 357 P **P 00 58 50.2 +2.9**
baz=5.8
WHY Whitehorse 84.08 351 P **P 00 58 47.9 +0.5**
baz=16
T50A Nancy 84.09 311 P **P 00 58 47.8 0.0**
T50A IAmb IAmb 01 00 25.3
comp=Z,20nm,1.2s
N25K Chitina, Valde 84.14 355 P **P 00 58 48.3 +0.7**
baz=8.0
SML Sawmill 84.14 357 P **P 00 58 48.3 +0.7**
baz=4.9
M19K Big River Lodg 84.17 0 P **P 00 58 49.1 +1.4**
baz=360
M20K Styx River 84.18 359 P **P 00 58 48.4 +0.5**
baz=0.9
P33M Teslin, Yukon 84.22 349 P **P 00 58 48.9 +0.9**
baz=18,SNR=9.5
YUK6 Outpost Mounta 84.24 352 P **P 00 58 50.4 +2.1**
baz=13,SNR=6.0
HYT Haines Junctio 84.26 352 P **P 00 58 49.2 +0.9**
HYT IAmb IAmb 00 58 52.0
comp=Z,17nm,1.0s
HYT Haines Junctio 84.26 352 P **P 00 58 49.6 +1.3**
baz=14,SNR=14
M22K Willow 84.26 358 P **P 00 58 48.3 +0.3**
M22K Willow 84.26 358 P **P 00 58 49.8 +1.8**
baz=3.5
KLU Klutina 84.34 356 P **P 00 58 49.7 +1.1**
baz=6.9
PMR Palmer 84.39 358 P **P 00 58 50.4 +1.7**
baz=4.3
KNK Knik Glacier 84.54 357 P **P 00 58 50.9 +1.3**
baz=4.8,SNR=6.8
KSM Kuching 84.68 92 P **P 00 58 51.9 +0.8**

KSM	Kuching	84.68	92	P	P	00 58 52.5	+1.5
JOW	Kunigami	84.77	61	P	P	00 58 51.3	-0.1
JOW	Kunigami	84.77	61	P	P	00 58 52.5	+1.1
BMRM	Bremner River	84.78	355	P	P	00 58 52.2	+1.4
BMRM				IAmb	IAmb	00 59 04.1	
	comp=Z,17nm,1.1s						
TPI	Tanjungpandan	84.86	97	P	P	00 58 52.0	+0.1
	comp=Z,13nm,1.1s						
RC01	Rabbit Creek A	84.91	358	P	P	00 58 52.0	+0.6
RC01				IAmb	IAmb	00 58 54.4	
	comp=Z,16nm,1.0s						
RC01	Rabbit Creek A	84.91	358	P	P	00 58 52.5	+1.0
	baz=3.8						
CAM01	Campos-RJ	84.92	239	eP	P	00 58 52.4	+0.4
GLI	Glacier Island	85.01	356	P	P	00 58 53.9	+2.0
	baz=6.0						
PINM	Pinnacle	85.27	353	P	P	00 58 54.7	+1.4
	baz=12						
ITTB	Itaituba	85.42	262	eP	P	00 58 55.7	+1.0
CGJI	Cibinong	85.44	101	P	P	00 58 54.3	-0.5
	comp=Z,2µmcomp=Z,28nm,1.0s						
DLBC	Dease Lake	85.44	347	LR	LR	01 37 36.2	
	comp=Z,109nm,21.4s,baz=82,slow=36						
MJAR	Matsushiro Arr	85.56	48	P	P	00 58 55.7	+0.5
	comp=Z,13nm,1.1s,baz=311,slow=7.8,SNR=12						
MJAR				LR	LR	01 40 37.9	
	comp=Z,66nm,20.2s,baz=324,slow=38						
MJAR	Matsushiro Arr	85.56	48	P	P	00 58 55.4	+0.3
MJAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MJAR	Matsushiro Arr	85.56	48	P	P	00 58 55.4	+0.3
DUB01	Friburgo-RJ	85.60	240	eP	P	00 58 56.4	+0.9
SBUM	Sibu	85.72	90	P	P	00 58 57.0	+0.8
BDFB	Brasilia	85.82	248	P	P	00 58 58.1	+1.4
	comp=Z,13nm,0.8s,baz=64,slow=5.3,SNR=26						
BDFB				LR	LR	01 38 03.4	
	comp=Z,63nm,19.2s,baz=312,slow=36						
BDFB	Brasilia	85.82	248	P	P	00 58 57.4	+0.7
BDFB				pmax	pmax		
	comp=Z,16nm,0.9s						
BDFB	Brasilia	85.82	248	P	P	00 58 57.4	+0.7
BDFB				IAmb	IAmb	00 58 59.2	
	comp=Z,16nm,0.9s						
BDFB	Brasilia	85.82	248	eP	P	00 58 58.1	+1.4
EDM	Edmonton	85.90	337	P	P	00 58 56.6	0.0
EDM				pmax	pmax		
	comp=Z,14nm,0.8s						
EDM	Edmonton	85.90	337	P	P	00 58 56.6	0.0
EDM				IAmb	IAmb	00 58 57.7	
	comp=Z,14nm,0.8s						
SNDB	Serra Nova Dou	86.20	253	eP	P	00 58 59.9	+1.3
ECSD	EROS Data Cent	86.28	322	P	P	00 58 58.9	+0.3
ECSD				IAmb	IAmb	00 59 02.9	
	comp=Z,14nm,0.9s						
ECSD	EROS Data Cent	86.28	322	P	P	00 58 59.5	+0.9
	baz=44						
JIS	Juneau Island	86.31	350	P	P	00 58 59.4	+1.0
STKI	Sintang	86.43	92	P	P	00 59 01.1	+1.3
	comp=Z,7µmcomp=Z,12nm,0.5s						
VAS01	Vassouras-RJ	86.49	240	eP	P	00 59 00.1	+0.3
WVT	Waverly	86.51	312	P	P	00 58 59.5	-0.4
WVT				pmax	pmax		
	comp=Z,14nm,1.0s						
WVT	Waverly	86.51	312	P	P	00 58 59.5	-0.4
WVT				IAmb	IAmb	00 59 00.8	
	comp=Z,14nm,1.0s						
WVT	Waverly	86.51	312	P	P	00 58 59.6	-0.2
	baz=50						
NPGB	Novo Progresso	86.63	259	eP	P	00 59 01.2	+0.5
BSCB	Bom Sucesso	86.65	242	eP	P	00 59 01.5	+0.7
P40A	Paris	86.75	317	P	P	00 59 01.2	+0.2
X48A	Hartselle	87.10	310	P	P	00 59 02.8	0.0
X48A				IAmb	IAmb	00 59 26.5	
	comp=Z,14nm,1.1s						
CCM	Cathedral Cave	87.28	315	P	P	00 59 03.5	-0.1
CCM				pmax	pmax		
	comp=Z,43nm,0.7s						
CCM	Cathedral Cave	87.28	315	P	P	00 59 03.5	-0.1
CCM	Cathedral Cave	87.28	315	P	P	00 59 04.3	+0.8
	baz=48						
IPMB	Ipameri, GO	87.37	246	eP	P	00 59 04.8	+0.5
WRAK	Wrangell Islan	87.76	348	P	P	00 59 07.0	+1.6
	baz=18						
LRAL	Lakeview Retre	87.98	309	P	P	00 59 06.9	-0.1
LRAL	Lakeview Retre	87.98	309	P	P	00 59 07.6	+0.5
	baz=50						
LAO	LASA Array	88.55	329	P	P	00 59 09.8	+0.2
LAO	LASA Array	88.55	329	P	P	00 59 10.9	+1.3
	baz=38						
PARB	Paraibuna	88.72	241	eP	P	00 59 12.3	+1.7
MACA	Manacapuru-AM	88.81	265	eP	P	00 59 12.2	+1.0
OHAK	Old Harbor	88.86	359	P	P	00 59 12.0	+1.3
	baz=0.8						
SHEM	Shemya Is, Ala	89.07	19	LR	LR	01 41 46.0	
	comp=Z,35nm,21.9s,baz=358,slow=37						
BB19B	Bebedouro	89.46	244	eP	P	00 59 16.4	+2.3
VAO	Valinhos	89.48	242	eP	P	00 59 15.8	+1.6
RSSD	Black Hills	89.59	326	P	P	00 59 14.4	-0.3
RSSD				pmax	pmax		
	comp=Z,20nm,1.4s						
RSSD	Black Hills	89.59	326	P	P	00 59 14.4	-0.3
RSSD				IAmb	IAmb	00 59 19.4	
	comp=Z,20nm,1.4s						
RSSD	Black Hills	89.59	326	P	P	00 59 15.5	+0.8
	baz=40						
SDV	Santo Domingo	90.28	281	P	P	00 59 18.4	+0.1
	comp=Z,11nm,1.0s,baz=33,slow=1.2,SNR=11						
SDV				LR	LR	01 37 56.8	
	comp=Z,31nm,19.9s,baz=64,slow=34						
SDV	Santo Domingo	90.28	281	P	P	00 59 18.3	0.0
SDV				IAmb	IAmb	00 59 19.8	
	comp=Z,15nm,1.1s						
SDV	Santo Domingo	90.28	281	eP	P	00 59 19.2	+0.9
PDRB	Porto dos Gac	90.33	256	eP	P	00 59 19.9	+1.6
PET01	Itanhaem-SP	90.49	241	eP	P	00 59 21.0	+2.2
JTMT	Jette	90.84	334	P	P	00 59 21.3	+0.9
BBB	Bella Bella	90.92	344	LR	LR	01 43 38.3	
	comp=Z,60nm,18.1s,baz=5.0,slow=38						
NEW	Newport	91.38	336	P	P	00 59 23.0	+0.3
	comp=Z,5.7nm,0.8s,baz=48,slow=8.8,SNR=6.8						
NEW				LR	LR	01 42 18.4	
	comp=Z,84nm,20.1s,baz=72,slow=37						
NEW	Newport	91.38	336	P	P	00 59 23.0	+0.3
NEW	Newport	91.38	336	P	P	00 59 23.6	+0.9
	baz=30						
FRTB	Fartura	91.59	243	eP	P	00 59 24.7	+0.7
PCMB	Pacaembu	91.83	245	eP	P	00 59 26.7	+1.6
K22A	Casper	91.87	327	P	P	00 59 25.3	+0.1
	baz=38						
SALV	Santo Antonio	91.95	252	eP	P	00 59 27.4	+1.7
PDAR	Pinedale Array	93.11	329	P	P	00 59 30.2	-0.8
	comp=Z,0.9nm,0.8s,baz=51,slow=4.6,SNR=8.5						
PDAR				LR	LR	01 44 34.1	
	comp=Z,122nm,18.5s,baz=33,slow=38						
MPSI	Mapaga	93.25	87	P	P	00 59 32.1	+0.3
BMO	Blue Mountains	94.40	335	P	P	00 59 36.1	-0.7
BMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BMO	Blue Mountains	94.40	335	P	P	00 59 36.1	-0.7
HWUT	Hardware Ranch	94.92	329	P	P	00 59 38.8	-0.5
HWUT				IAmb	IAmb	00 59 47.0	
	comp=Z,4.7nm,0.9s						
MFID	Camas Ranch	95.10	333	P	P	00 59 40.0	0.0
SDCO	Great Sand Dun	95.23	323	P	P	00 59 41.0	0.0
	baz=39						
ROSC	El Rosal	95.58	280	LR	LR	01 40 39.8	
	comp=Z,58nm,20.8s,baz=55,slow=34						
S22A	4UR Ranch, Cre	95.88	324	P	P	00 59 43.8	-0.2
S22A				IAmb	IAmb	01 02 10.2	
	comp=Z,15nm,1.8s						
S22A	4UR Ranch, Cre	95.88	324	P	P	00 59 44.1	+0.2
	baz=38						
KAPI	Kappang	96.10	92	LR	LR	01 51 22.9	
	comp=Z,38nm,18.1s,baz=292,slow=41						
SIV	San Ignacio	96.27	255	LR	LR	01 42 49.6	
	comp=Z,80nm,21.9s,baz=100,slow=35						
I04A	Tendick Farm,	97.06	337	P	Pdif	00 59 49.3	+0.4
	baz=26						
ELK	Elko	97.15	331	LR	LR	01 45 38.1	
	comp=Z,89nm,20.0s,baz=27,slow=37						
ANMO	Albuquerque	97.90	322	LR	LR	01 46 36.3	
	comp=Z,64nm,18.8s,baz=42,slow=37						
YBH	Yreka Blue Hor	99.01	337	LR	LR	01 49 09.1	
	comp=Z,53nm,18.2s,baz=21,slow=38						
CPUP	Villa Florida	99.07	244	LR	LR	01 46 47.2	
	comp=Z,79nm,19.5s,baz=48,slow=37						
NVAR	Mina Array Bea	100.35	332	P	Pdif	01 00 03.7	-0.2
	comp=Z,0.1nm,0.4s,baz=64,slow=6.1,SNR=3.7						
NVAR				PP	PP	01 04 10.4	+1.3
	comp=Z,0.5nm,0.8s,baz=46,slow=6.4,SNR=4.5						
NVAR				PKKPbc	PKKPbc	01 16 20.0	+0.2
	comp=Z,0.8nm,0.6s,baz=193,slow=3.7,SNR=11						
TXAR	Lajitas Array	100.72	317	P	Pdif	01 00 06.4	+0.9
	comp=Z,0.6nm,0.9s,baz=64,slow=2.1,SNR=5.3						
SYO	Syowa Base	103.48	175	⇓ePdiff	Pdif	01 00 16.0	-0.5
WRA	Warramunga Arr	116.00	97	PKP	PKPdf	01 04 59.3	-0.9
	comp=Z,1.0nm,0.6s,baz=323,slow=1.7,SNR=10						
WRA				PP	PP	01 06 08.3	+3.5
	comp=Z,3.9nm,1.1s,baz=305,slow=8.3,SNR=7.6						
ASAR	Alice Springs	117.41	101	PKP	PKPdf	01 05 02.0	-0.8
	comp=Z,2.7nm,0.9s,baz=310,slow=1.4,SNR=21						
ASAR				PP	PP	01 06 18.0	+3.3
	comp=Z,1.8nm,1.0s,baz=306,slow=6.0,SNR=6.8						
ASAR				PKKPbc	PKKPbc	01 15 26.6	+1.6
	comp=Z,0.4nm,0.5s,baz=118,slow=3.7,SNR=7.5						
ASAR	Alice Springs	117.41	101	PKIKP	PKPdf	01 05 01.7	-1.1
ASAR	Alice Springs	117.41	101	PKPdf	PKPdf	01 05 01.7	-1.1
BELA	Belgrano 2	117.47	192	PKPdf	PKPdf	01 05 00.6	-0.7
QIS	Mount Isa	120.64	95	P	PKiKP	01 05 10.4	+1.3
QIS	Mount Isa	120.64	95	P	PKiKP	01 05 09.1	0.0
QSPA	South Pole Qui	124.13	180		PKPdf	01 05 14.2	-0.2
STKA	Stephens Creek	127.00	107	PKP	PKPdf	01 05 21.1	+0.1
	comp=Z,6.9nm,1.0s,baz=287,slow=4.6,SNR=6.7						
STKA	Stephens Creek	127.00	107	P	PKiKP	01 05 22.7	+1.3
STKA	Stephens Creek	127.00	107	P	PKiKP	01 05 21.8	+0.4
QLP	Quilpie	127.10	99	P	PKiKP	01 05 23.4	+1.6
QLP	Quilpie	127.10	99	P	PKiKP	01 05 23.1	+1.3
CMSA	Cobar Meteorol	130.15	105	P	PKiKP	01 05 29.0	+1.3
CMSA	Cobar Meteorol	130.15	105	P	PKiKP	01 05 28.7	+1.0

VIE 03 00:46:38.9±0.5, 46°.90N×10°.56E, h4km±14km, ml0.7/3, Error ellipse: s-maj=2.7km s-min=1.4km az=166.0 8 km NNE of Reschenpass, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETA	Feichten	0.17	43	i Pg	Pg	00 46 42.5	+0.2
	0.4nm,0.1s						
FETA				eSg	Sg	00 46 44.8	+0.3
	2.2nm,0.1s						

IASPEI 03 00:46:38.7±0.8, 38°.78N±0°.02×20°.64E±0°.03, h9km±4km, Error ellipse: s-maj=3.7km s-min=2.6km az=88.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009

ATH 03 00:46:38.5, 38°.80N×20°.67E, h10km±1km, ML3.1/9, Error ellipse: s-maj=1.8km s-min=1.1km az=289.0

THE 03 00:46:39.1, 38°.78N×20°.62E, h4km±1km, ML3.1/16, Error ellipse: s-maj=1.6km s-min=0.6km az=182.0

ISC 03 00:46:38.7±0.8, 38°.78N±0°.02×20°.62E±0°.03, h9km±4km, n114, σ1^{s}08/156, 11C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	Lefkada island	0.03	76	P	Pg	00 46 40.0	-0.5
LKD2				S	Sg	00 46 41.1	-0.8
LKD2				AML	AML	00 46 41.1	
LKD2				AML	AML	00 46 41.4	
LKD2	Lefkada island	0.03	76	P	Pg	00 46 40.0	-0.5
LKD2				S	Sg	00 46 41.0	-0.8
	95µm,0.2s						
TSLK	Tsoukalades, L	0.05	35	P	Pg	00 46 40.3	-0.3
TSLK				S	Sg	00 46 41.6	-0.5
TSLK				AML	AML	00 46 41.8	
TSLK				AML	AML	00 46 43.0	
	comp=N,97350µm,0.2s						
TSLK	Tsoukalades, L	0.05	35	P	Pg	00 46 40.4	-0.3
TSLK				S	Sg	00 46 41.6	-0.5
	comp=N,68µm,0.2s						
NYDR	Nydri-Lefkada	0.09	136	P	Pg	00 46 41.1	0.0
NYDR				S	Sg	00 46 43.0	+0.2
NYDR	Nydri-Lefkada	0.09	136	P	Pg	00 46 41.1	0.0
NYDR				S	Sg	00 46 43.0	+0.2
	comp=N,26µm,0.3s						
DRAG	Dragano-Lefkad	0.10	199	P	Pg	00 46 41.6	+0.3
DRAG				S	Sg	00 46 43.9	+0.8
DRAG	Dragano-Lefkad	0.10	199	P	Pg	00 46 41.6	+0.3
DRAG				S	Sg	00 46 43.9	+0.8
	comp=N,48µm,0.2s						
EVGI	Lefkada island	0.16	169	P	Pg	00 46 42.6	+0.3
EVGI				S	Sg	00 46 45.8	+1.1
EVGI	Lefkada island	0.16	169	P	Pg	00 46 42.5	+0.3
EVGI				S	Sg	00 46 45.9	+1.3
	comp=N,21µm,0.1s						
FSK	Fiskardo	0.32	188	P	Pg	00 46 45.8	+0.7
FSK				AML	AML	00 46 52.2	
	comp=E,16729µm,0.2s						
FSK				AML	AML	00 46 52.4	
	comp=N,13255µm,0.2s						
FSK	Fiskardo	0.32	188	P	Pg	00 46 45.8	+0.7
FSK				S	Sb	00 46 51.2	-0.8
	comp=N,8µm,0.2s						
KEF4	Livadi, Kephal	0.54	196	P	Pg	00 46 49.2	-0.1
KEF4	Livadi, Kephal	0.54	196	P	Pg	00 46 49.0	-0.3
KEF4				S	Sb	00 46 58.0	-0.3
	comp=N,12µm,0.2s						
DMLN	Damoulianata-K	0.57	199	P	Pg	00 46 49.6	-0.3
VLS	Valsamata	0.60	182	P	Pg	00 46 49.9	-0.5
VLS				S	Sb	00 46 59.8	-0.2
VLS				AML	AML	00 47 06.7	
	comp=E,3499µm,0.5s						
VLS				AML	AML	00 47 07.4	
	comp=N,3282µm,0.3s						
VLS	Valsamata	0.60	182	P	Pg	00 46 49.8	-0.6
VLS				S	Sb	00 46 59.5	-0.5
	comp=N,2µm,0.4s						
ARGA	Argostoli. Kep	0.61	190	P	Pb	00 46 51.2	-0.4
KEF3	Kipouria, Keph	0.61	200	P	Pg	00 46 49.9	-0.7
KEF3	Kipouria, Keph	0.61	200	P	Pg	00 46 49.8	-0.8
KEF3				S	Sb	00 46 59.8	-0.5
	comp=N,4µm,0.2s						
PSDA	Pessada-Kefalo	0.67	182	P	Pg	00 46 51.2	-0.4
PSDA	Pessada-Kefalo	0.67	182	P	Pg	00 46 50.9	-0.7
PSDA				S	Sb	00 47 01.2	-0.6
	comp=N,310nm,0.2s						
IGT	Igoumenitsa	0.78	344	P	Pg	00 46 53.0	-0.8
IGT				AML	AML	00 47 11.4	
	comp=N,2812µm,0.3s						
IGT				AML	AML	00 47 11.5	
	comp=E,2264µm,0.3s						
IGT	Igoumenitsa	0.78	344	P	Pg	00 46 53.0	-0.8
IGT				S	Sb	00 47 06.2	+1.0
	comp=E,1µm,0.3s						
JAN	Janina	0.89	12	P	Pg	00 46 55.5	-0.4
JAN				S	Sb	00 47 08.6	+0.1
	comp=E,760nm,0.3s						
EVR	Evrytania	0.94	81	P	Pg	00 46 56.3	-0.6
EVR	Evrytania	0.94	81	P	Pg	00 46 56.2	-0.6
EVR				S	Sb	00 47 10.5	+0.6
	comp=E,560nm,0.5s						
RLS	Riolos of Patr	0.98	137	P	Pg	00 46 56.6	-1.0
RLS	Riolos of Patr	0.98	137	P	Pg	00 46 56.8	-0.8
UPR	University Cam	1.04	118	P	Pb	00 46 59.1	+0.2
EFP	Efpalio	1.07	109	P	Pg	00 46 58.0	-1.3
EFP				AML	AML	00 47 21.9	
	comp=N,1442µm,0.7s						
EFP				AML	AML	00 47 22.2	
	comp=E,1489µm,0.5s						
EFP	Efpalio	1.07	109	P	Pg	00 46 58.0	-1.3
EFP				S	Sn	00 47 15.7	+0.9
	comp=E,760nm,0.6s						
KASA	Kassiopi	1.10	331	P	Pn	00 47 00.4	+0.1
KEK	Kerkira	1.13	326	P	Pg	00 47 00.2	-0.1
KEK	Kerkira	1.13	326	P	Pg	00 47 00.3	-0.1
KEK				S	Sn	00 47 16.2	-0.1
	comp=E,585nm,0.6s						
DRO	Drossia	1.19	134	P	Pb	00 47 00.2	-1.3
DRO				AML	AML	00 47 24.6	
	comp=N,2366µm,0.7s						
DRO				AML	AML	00 47 26.1	
	comp=E,2232µm,0.5s						
DRO	Drossia	1.19	134	P	Pb	00 47 00.0	-1.5
LAKA	Lakka	1.20	116	P	Pb	00 47 00.1	-1.5
LAKA	Lakka	1.20	116	P	Pb	00 47 00.1	-1.5
LAKA				S	Sn	00 47 18.9	+0.9
	comp=E,1µm,0.6s						
SRN	Sarande	1.20	337	P	Pg	00 47 02.5	+0.8
MAKR	Makrakomi, Fth	1.21	78	P	Pb	00 47 01.3	-0.5
MAKR				AML	AML	00 47 25.9	
	comp=E,980µm,0.3s						
MAKR				AML	AML	00 47 30.7	
	comp=N,625µm,0.6s						
MAKR	Makrakomi, Fth	1.21	78	P	Pb	00 47 01.2	-0.5
ALIK	Aliki, Aigiali	1.28	113	P	Pn	00 47 01.9	-0.9
ALIK				S	Sn	00 47 22.9	+2.8
KPRO	Kipourio	1.31	26	P	Pb	00 47 03.4	-0.1
THL	Klokotos Trika	1.34	54	P	Pn	00 47 03.2	-0.4
AGG	Agios Georgios	1.36	79	P	Pn	00 47 04.0	+0.1
AGG				AML	AML	00 47 30.2	
	comp=E,850µm,0.4s						
AGG				AML	AML	00 47 34.6	
	comp=N,688µm,0.5s						
AGG	Agios Georgios	1.36	79	P	Pn	00 47 04.1	+0.2
KLV	Kalavryta, Ach	1.41	121	P	Pn	00 47 03.7	-1.0
PENT	Pentalofos	1.47	16	P	Pg	00 47 07.2	+0.2
OHR	Ohrid	2.33	3	i Pn	Pb	00 47 20.2	-0.8
STIP	Stip	3.15	22	i Pn	Pn	00 47 31.3	+2.8
ULC	Ulcinj	3.35	342	ePn	Pn	00 47 30.5	-0.7
ULC				eSn	Sn	00 48 10.1	-1.0
ULC	Ulcinj	3.35	342	⇑iPn	Pn	00 47 31.3	+0.1
ULC				i Sn	Sn	00 48 10.6	-0.5
DRME	Dracevica, Mon	3.57	343	ePn	Pn	00 47 34.5	+0.1
DRME	Dracevica, Mon	3.57	343	ePn	Pn	00 47 33.8	-0.5
DRME				eSn	Sn	00 48 16.1	-0.6
DRME	Dracevica, Mon	3.57	343	⇓iPn	Pn	00 47 34.4	+0.1
DRME				i Sn	Sn	00 48 16.0	-0.6
BUM	Brajici-Budva	3.75	340	ePn	Pn	00 47 36.7	-0.1
BUM				eSn	Sn	00 48 19.8	-1.4
BUM	Brajici-Budva	3.75	340	⇓iPn	Pn	00 47 37.0	+0.2
BUM				i Sn	Sn	00 48 20.2	-1.0
PDG	Podgorica	3.79	345	ePn	Pn	00 47 37.5	+0.2
TTG	Podgorica	3.79	345	ePn	Pn	00 47 37.3	0.0
TTG				eSn	Sn	00 48 21.6	-0.3
TTG	Podgorica	3.79	345	⇑iPn	Pn	00 47 37.5	+0.2
TTG				i Sn	Sn	00 48 21.2	-0.7
PVY	Plav	3.84	353	ePn	Pn	00 47 38.7	+0.6
PVY				eSn	Sn	00 48 23.0	-0.5
PVY	Plav	3.84	353	ePn	Pn	00 47 38.3	+0.2
PVY				i Sn	Sn	00 48 22.5	-1.0
CEME	Cevo	3.98	342	ePn	Pn	00 47 39.5	-0.4
CEME				eSn	Sn	00 48 26.0	-0.7
CEME	Cevo	3.98	342	⇑iPn	Pn	00 47 40.0	+0.1
CEME				i Sn	Sn	00 48 25.7	-1.0
HCY	Herceg Novi	4.00	337	ePn	Pn	00 47 39.3	-0.9
HCY	Herceg Novi	4.00	337	ePn	Pn	00 47 39.4	-0.8
HCY				eSn	Sn	00 48 25.1	-2.1
HCY	Herceg Novi	4.00	337	⇓iPn	Pn	00 47 39.7	-0.5
HCY				i Sn	Sn	00 48 25.6	-1.6
IVA	Berane	4.12	353	ePn	Pn	00 47 42.4	+0.4
IVA				eSn	Sn	00 48 29.5	-0.8
IVA	Berane	4.12	353	ePn	Pn	00 47 42.2	+0.2
IVA				i Sn	Sn	00 48 29.2	-1.1
KOME	Kolasin	4.15	349	ePn	Pn	00 47 42.1	-0.2
KOME				eSn	Sn	00 48 29.8	-1.2
KOME	Kolasin	4.15	349	⇓iPn	Pn	00 47 42.4	+0.1
KOME				i Sn	Sn	00 48 29.9	-1.1
NKME	Niksic	4.18	343	ePn	Pn	00 47 42.3	-0.4
NKME				eSn	Sn	00 48 30.4	-1.2
TREB	Trebinje	4.29	337	ePn	Pn	00 47 43.2	-1.0
BRY	Bratogost	4.41	340	ePn	Pn	00 47 44.1	-1.8
BRY	Bratogost	4.41	340	ePn	Pn	00 47 45.2	-0.7
BRY				eSn	Sn	00 48 35.5	-1.9
BRY	Bratogost	4.41	340	ePn	Pn	00 47 46.0	+0.1
BRY				i Sn	Sn	00 48 35.9	-1.5
UPM	Unac-Piva	4.60	344	ePn	Pn	00 47 49.2	+0.6
UPM	Unac-Piva	4.60	344	ePn	Pn	00 47 48.6	0.0
UPM	Unac-Piva	4.60	344	ePn	Pn	00 47 48.8	+0.2
STON	Ston	4.65	333	ePn	Pn	00 47 47.9	-1.1
KDZ	Kurdzhali	4.66	51	P	Pg	00 48 06.9	-1.1
RUDO	Rudo	4.92	349	ePn	Pn	00 47 52.2	-0.7
DIM	Dimitrovgrad	4.97	47	P	Pg	00 48 12.6	-1.4
BBLS	Lazići	5.16	350	ePn	Pn	00 48 00.0	+3.8
DIVS	Divibare	5.33	355	ePn	Pn	00 47 58.0	-0.6
SRKY	Kupres RS	5.88	335	ePn	Pn	00 48 04.8	-1.4
MGRS	Mrkonjic Grad	6.22	336	ePn	Pn	00 48 10.5	-0.2
COPA	Copaceanca	6.37	31	⇑P	Pg	00 48 39.8	-0.8
BLY	Banja Luka	6.49	338	ePn	Pn	00 48 12.3	-2.1
RAZG	Razgrad	6.53	41	⇓P	Pb	00 48 32.6	+0.2
HUMR	Humele	6.61	28	⇓P	Pg	00 48 45.2	0.0
ARR	Arges	7.23	23	⇑P	Pg	00 48 57.4	+0.3
SULR		7.24	34	⇓P	Pb	00 48 48.4	+3.8
SECR		7.45	31	⇑P	Pb	00 48 51.8	+3.7
MORH	Mrgy, Hungar	7.57	350	ePn	Pn	00 48 31.6	+2.4
BOJS	Bojanci	7.81	331	i Pn	Pn	00 48 32.5	0.0
NEHR	Nehoiu	7.87	31	⇑P	Pb	00 48 58.5	+3.2
RIY	Rijeka	7.97	327	ePn	Pn	00 48 23.9	-11
CRES	Cresnjev	8.01	333	ePn	Pn	00 48 34.2	-1.0
CRES	Cresnjev	8.01	333	i Pn	Pn	00 48 34.2	-1.0
BISRR	Bisoca	8.13	32	⇑P	Pb	00 49 00.4	+0.7
KNDS	Knezji Dol	8.18	328	i Pn	Pn	00 48 37.0	-0.6
CBBR	Cluj-Babes-Bol	8.27	14	⇑P	Pg	00 49 16.9	-0.1
CEY	Cerknica	8.33	329	ePn	Pn	00 48 39.0	-0.6
SKDS	Skadanscina	8.35	326	ePn	Pn	00 48 38.5	-1.4
MESR	Meseseni	8.54	11	⇑P	Pg	00 49 23.7	+1.6
LTVH	Ltavrtes, Hu	8.65	6	P	Pg	00 49 27.7	+3.4
ARCR	ARCALIA	8.74	17	⇑P	Pg	00 49 20.7	-5.3
SOKA	Soboth	8.89	334	ePn	Pn	00 48 46.6	-0.8
	comp=N,0.6nm,0.3s						
OBKA	Obir	8.92	332	ePn	Pn	00 48 48.1	+0.3
	comp=N,0.5nm,0.2s						
ABTA	Abfaltersbach	9.94	326	ePn	Pn	00 49 01.7	-0.1
	comp=N,1.1nm,0.5s						
MOA	Molln	10.17	335	ePn	Pn	00 49 05.4	+0.5
	comp=N,1.1nm,0.3s						
MOTA	Moosalm	11.02	324	ePn	Pn	00 49 17.1	+0.4
	comp=N,1.0nm,0.5s						

DSN 03 00:57:19.8±1.1, 27°.87N×54°.62E, h10km, ML3.7/8, Error ellipse: s-maj=12.3km s-min=8.2km az=176.0

NEIC 03 00:57:19.9±1.5, 27°.87N±0°.04×54°.75E±0°.03, h10km±1km, mb4.2/37, mb_Lg3.9(TEH), Error ellipse: s-maj=7.5km s-min=3.9km az=189.0

TEH 03 00:57:20.6, 27°.78N×54°.78E, h16km, ML3.9

IDC 03 00:57:24.5±2.9, 27°.79N×54°.71E, h52km±28km, mb3.7/24, mb1 3.8/26, mb1mx3.7/40, mbtmp3.9/26, ML3.4/2, Error ellipse: s-maj=15.5km s-min=12.7km az=164.0

ISC 03 00:57:21.6±0.4, 27°.78N±0°.04×54°.76E±0°.03, h26km, n154, σ1^{s}44/161, mb4.0/43, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.36	252	Pg	Pb	00 57 27.9	-1.8
LAR1	LAR	0.36	252	ePg	Pb	00 57 27.9	-1.8
JHRM	Jahrom	1.27	305		Pb	00 57 45.3	+0.3
JHRM	Jahrom	1.27	305	ePg	Pb	00 57 45.3	+0.3
JHRM				e		00 58 09.1	
	comp=Z,29µm,0.5s						
GENO	Geno	1.31	107		Pn	00 57 44.6	+0.2
GENO				Sg	Sb	00 58 04.3	+2.3
GENO	Geno	1.31	107	ePg	Pn	00 57 44.6	+0.2
GENO				eSg	Sb	00 58 04.3	+2.3
GENO				e		00 58 11.3	
	comp=Z,18µm,0.4s						
LMD1	Lamerd	1.49	253		Pb	00 57 49.2	+0.6
LMD1				Sg	Sb	00 58 09.8	+2.7
LMD1	Lamerd	1.49	253	ePg	Pb	00 57 49.2	+0.6
LMD1				eSg	Sb	00 58 09.9	+2.8
LMD1				e		00 58 26.6	
	comp=Z,19µm,0.6s						
IBND	Bandar-abas	1.61	101	ePg	Pn	00 57 49.5	+1.1
IBND				e		00 58 36.6	
	comp=Z,24µm,0.5s						
QIR1	Qir	1.67	295	ePn	Pb	00 57 50.6	-1.1
QIR1				e		00 58 38.7	
	comp=Z,11µm,0.6s						
SHME	Shamm	2.12	144	Pn	Pn	00 57 56.5	+1.2
SHME	Shamm	2.12	144	ePn	Pn	00 57 56.6	+1.2
SHME	Shamm	2.12	144	P	Pn	00 57 57.0	+1.7
BANOM	Banah	2.30	143	ePn	Pn	00 57 59.0	+1.1
BANOM	Banah	2.30	143	P	Pn	00 57 59.4	+1.4
NGRK	Negar Kerman	2.54	42	Pn	Pn	00 58 02.9	+1.4
NGRK	Negar Kerman	2.54	42	ePn	Pn	00 58 02.9	+1.4

NGRK				e		00 58 44.1	
	comp=Z,4µm,0.8s						
KHNJ	**Kahnooj**	**2.61**	**86**	Pn	**Pn**	**00 58 03.3**	**+1.1**
KHNJ	**Kahnooj**	**2.61**	**86**	*e*Pn	**Pn**	**00 58 03.3**	**+1.1**
SHI	**Shiraz**	**2.71**	**314**	*e*Pn	**Pn**	**00 58 05.0**	**+1.3**
SHI				e		00 59 05.9	
	comp=Z,2µm,1.0s						
MSFE	**Esma-Masafi**	**2.71**	**152**	*e*Pn	**Pn**	**00 58 04.1**	**+0.5**
KRBR	**Kerman**	**2.81**	**38**	*e*Pn	**Pn**	**00 58 07.3**	**+2.2**
TVBK	**TV Kerman**	**2.81**	**38**	e		00 58 51.2	
	comp=Z,7µm,0.5s						
TVBK				*e*Pn	**Pn**	**00 58 07.1**	**+1.9**
NAZ	**Nazwa, Dubai**	**2.89**	**164**	*e*Pn	**Pn**	**00 58 08.4**	**+2.3**
KHGB	**Koh Gabri**	**2.99**	**30**	e		00 58 50.2	
	comp=Z,5µm,0.4s						
KHGB				*e*Pn	**Pn**	**00 58 09.3**	**+1.7**
UOSS	**Minazif**	**3.10**	**155**	Pn	**Pn**	**00 58 10.8**	**+1.9**
UOSS	**Minazif**	**3.10**	**155**	*e*Pn	**Pn**	**00 58 11.1**	**+2.1**
UOSS	**Minazif**	**3.10**	**155**	P	**Pn**	**00 58 10.9**	**+1.9**
FAQ	**Al Faqa, Dubai**	**3.11**	**166**	*e*Pn	**Pn**	**00 58 11.7**	**+2.6**
FAQ	**Al Faqa, Dubai**	**3.11**	**166**	P	**Pn**	**00 58 11.6**	**+2.6**
ASUD	**Al Ashush, Dub**	**3.18**	**171**	*e*Pn	**Pn**	**00 58 12.9**	**+2.9**
ASUD	**Al Ashush, Dub**	**3.18**	**171**	P	**Pn**	**00 58 13.5**	**+3.5**
HATD	**Hatta, Dubai**	**3.19**	**157**	*e*Pn	**Pn**	**00 58 12.3**	**+2.2**
HATD	**Hatta, Dubai**	**3.19**	**157**	P	**Pn**	**00 58 11.5**	**+1.3**
CHMN	**Cheshme madani**	**3.20**	**49**	*e*Pn	**Pn**	**00 58 12.2**	**+1.6**
CHMN				e		00 58 55.6	
	comp=Z,4µm,0.5s						
AHBU	**AHRAM**	**3.24**	**290**	*e*Pn	**Pb**	**00 58 17.3**	**-1.2**
ASHO	**Ashiyiah**	**3.29**	**159**	*e*Pn	**Pn**	**00 58 13.7**	**+2.1**
ASHO	**Ashiyiah**	**3.29**	**159**	P	**Pn**	**00 58 13.0**	**+1.4**
KAZ1	**Kazerun**	**3.30**	**305**	*e*Pn	**Pn**	**00 58 13.6**	**+1.8**
KBAM	**BAM**	**3.52**	**67**	*e*Pn	**Pn**	**00 58 16.5**	**+1.8**
KBAM				e		00 59 02.7	
	comp=Z,2µm,0.6s						
IMEH	**Mehriz**	**3.60**	**358**	*e*Pn	**Pn**	**00 58 17.8**	**+1.8**
ALNE	**Al Ain**	**3.81**	**166**	*e*Pn	**Pn**	**00 58 20.2**	**+1.5**
MZWR	**Madinat Zayed**	**4.08**	**191**	*e*Pn	**Pn**	**00 58 25.1**	**+2.7**
ISAD	**Sadrabad**	**4.22**	**347**	*e*Pn	**Pn**	**00 58 26.8**	**+2.2**
KLNJ	**Kolanjah**	**4.24**	**320**	*e*Pn	**Pn**	**00 58 25.2**	**+0.3**
ICHK	**Chekchek**	**4.46**	**356**	*e*Pn	**Pn**	**00 58 29.4**	**+1.6**
IRAM	**Ramesheh**	**4.52**	**333**	*e*Pn	**Pn**	**00 58 30.3**	**+1.7**
YZKH	**Yazd**	**4.60**	**358**	*e*Pn	**Pn**	**00 58 32.0**	**+2.4**
MZR	**Muzera**	**4.90**	**194**	*e*Pn	**Pn**	**00 58 35.5**	**+1.9**
MZR	**Muzera**	**4.90**	**194**	P	**Pn**	**00 58 35.0**	**+1.4**
MZR				S	**Sn**	**00 59 32.5**	**+3.0**
UMZA	**Um Al Zommool**	**5.06**	**176**	*e*Pn	**Pn**	**00 58 36.1**	**+0.3**
IBRJ	**Brojen**	**5.12**	**324**	*e*Pn	**Pn**	**00 58 38.2**	**+1.3**
IGAR	**Gharneh**	**5.18**	**334**	*e*Pn	**Pn**	**00 58 39.8**	**+2.2**
IZEF	**Zefreh**	**5.52**	**338**	*e*Pn	**Pn**	**00 58 43.6**	**+1.3**
ZHDN	**Zahedan**	**5.56**	**72**	*e*Pn	**Pn**	**00 58 44.4**	**+1.6**
SHK1	**Shahrekord**	**5.64**	**324**	*e*Pn	**Pn**	**00 58 44.6**	**+0.5**
WSAR	**Wadi Sarin**	**5.71**	**141**	P	**Pn**	**00 58 47.1**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=323,slow=8.7,SNR=22						
WSAR				S	**Sn**	**00 59 48.3**	**-1.3**
	comp=Z,3.6nm,0.3s,baz=114,slow=18,SNR=9.6						
NHDN	**Nehbandan**	**5.84**	**51**	*e*Pn	**Pn**	**00 58 48.7**	**+2.0**
IKOO	**Kooshah**	**5.91**	**37**	*e*Pn	**Pn**	**00 58 49.3**	**+1.6**
IPIR	**Pirpir**	**5.92**	**327**	*e*Pn	**Pn**	**00 58 49.2**	**+1.2**
ITEG	**Tejag**	**6.15**	**33**	*e*Pn	**Pn**	**00 58 52.8**	**+1.8**
TKDS	**Koohdasht(Taba**	**6.16**	**19**	*e*Pn	**Pn**	**00 58 52.2**	**+1.2**
IKLH	**Kolahrood**	**6.17**	**334**	*e*Pn	**Pn**	**00 58 52.2**	**+0.9**
TABS	**Tabas**	**6.19**	**19**	*e*Pn	**Pn**	**00 58 53.4**	**+1.9**
NGCH	**Negor - Chabah**	**6.19**	**111**	*e*Pn	**Pn**	**00 58 52.1**	**+0.7**
KRSH	**Karshahi**	**6.57**	**341**	*e*Pn	**Pn**	**00 58 57.8**	**+1.1**
QAMS	**Qamsar**	**6.61**	**335**	*e*Pn	**Pn**	**00 58 58.5**	**+1.2**
SRVN	**Saravan**	**6.79**	**91**	*e*Pn	**Pn**	**00 59 01.1**	**+1.4**
ISFB	**Sefidab**	**6.90**	**342**	*e*Pn	**Pn**	**00 59 02.5**	**+1.3**
KHMZ	**Khomeyn**	**7.24**	**326**	*e*Pn	**Pn**	**00 59 10.5**	**+4.6**
SHRT	**Shahrakht**	**7.54**	**38**	*e*Pn	**Pn**	**00 59 12.1**	**+2.2**
IVRN	**Varamin**	**7.65**	**341**	*e*Pn	**Pn**	**00 59 12.2**	**+0.8**
IDOB	**Doab**	**8.24**	**318**	*e*Pn	**Pn**	**00 59 20.7**	**+1.0**
HRA	**Herat**	**9.19**	**42**	Pn	**Pn**	**00 59 32.9**	**+0.2**
RAYN	**Ar Rayn**	**9.37**	**245**	Pn	**Pn**	**00 59 33.8**	**-1.2**
RAYN	**Ar Rayn**	**9.37**	**245**	P	**Pn**	**00 59 33.4**	**-1.6**
SOCY	**Socotra**	**15.53**	**183**	Pn	**Pn**	**01 00 56.8**	**-2.2**
SOCY				IAmb	IAmb	01 01 01.6	
	comp=Z,22nm,1.3s						
NIL	**Nilore**	**16.93**	**65**		**Pn**	**01 01 18.0**	**+1.2**
GAR	**Garm**	**17.12**	**45**	P	**Pn**	**01 01 19.0**	**-0.2**
EIL	**Elat**	**17.48**	**281**	P	**P**	**01 01 25.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=78,slow=9.3,SNR=1.7						
BTK	**Batken**	**18.06**	**43**		**Pn**	**01 01 29.8**	**-1.0**
CSS	**Mathiatis**	**19.63**	**297**	P	**P**	**01 01 47.9**	**-0.3**
KKAR	**Karatay Array**	**19.91**	**36**	P	**P**	**01 01 50.3**	**-0.9**
BRTR	**Keskin Array B**	**21.17**	**310**	P	**P**	**01 02 05.5**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=132,slow=12,SNR=10						
BRTR	**Keskin Array B**	**21.17**	**310**	P	**P**	**01 02 03.6**	**-1.4**
BR131	**Keskin Array S**	**21.17**	**310**	P	**P**	**01 02 03.9**	**-1.2**
BR131				IAmb	IAmb	01 02 12.9	
	comp=Z,6.5nm,0.8s						
ABKAR	**Akbulak array**	**21.81**	**9**	P	**P**	**01 02 09.7**	**-2.0**
ABKAR	**Akbulak array**	**21.81**	**9**	P	**P**	**01 02 11.2**	**-0.5**
AAK	**Ala-Archa**	**21.82**	**42**	P	**P**	**01 02 13.3**	**+1.3**
	comp=Z,2.3nm,0.6s,baz=226,slow=5.1,SNR=8.3						
AAK	**Ala-Archa**	**21.82**	**42**	P	**P**	**01 02 12.6**	**+0.5**
AKTO	**Aktyubinsk**	**22.76**	**5**	P	**P**	**01 02 21.5**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=182,slow=17,SNR=4.1						
ELL	**Elmali**	**22.79**	**299**	P	**P**	**01 02 22.1**	**-0.3**
ELL				IAmb	IAmb	01 02 37.8	
	comp=Z,14nm,0.9s						
KARP	**Karpathos**	**24.68**	**295**	P	**P**	**01 02 38.7**	**-1.9**
IDI	**Anoyia**	**26.47**	**294**	P	**P**	**01 02 56.8**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=79,slow=11,SNR=5.0						
IDI	**Anoyia**	**26.47**	**294**	P	**P**	**01 02 56.6**	**-0.1**
IDI				IAmb	IAmb	01 03 18.9	
	comp=Z,5.1nm,1.1s						
BRVK	**Borovoye**	**27.75**	**20**	P	**P**	**01 03 06.8**	**-1.2**
BRVK				IAmb	IAmb	01 03 26.3	
	comp=Z,2.7nm,0.8s						
BVAR	**Borovoye Array**	**27.76**	**20**	P	**P**	**01 03 08.2**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=228,slow=17,SNR=5.1						
MAKZ	**Makanchi**	**28.58**	**41**	P	**P**	**01 03 15.4**	**0.0**
MAKZ				IAmb	IAmb	01 03 16.7	
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**28.75**	**41**	P	**P**	**01 03 16.9**	**-0.1**
MKAR	**Makanchi Array**	**28.75**	**41**	P	**P**	**01 03 17.2**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=224,slow=8.5,SNR=8.0						
MKAR				PcP	**PcP**	**01 06 26.1**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=263,slow=2.3,SNR=1.5						
MKAR	**Makanchi Array**	**28.75**	**41**	P	**P**	**01 03 16.8**	**-0.2**
MLR	**Muntele Rosu**	**28.89**	**315**	P	**P**	**01 03 20.5**	**+2.1**
	comp=Z,0.7nm,0.5s,baz=52,slow=19						
KURBB	**Kurchatov Arra**	**29.08**	**32**	P	**P**	**01 03 19.9**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=233,slow=8.6,SNR=12						
KURBB				PcP	**PcP**	**01 06 26.5**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=242,slow=2.0,SNR=1.9						
KURK	**Kurchatov**	**29.19**	**32**	P	**P**	**01 03 20.6**	**-0.2**
KURK				IAmb	IAmb	01 03 38.9	
	comp=Z,3.1nm,1.3s						
FNA	**Florina**	**30.29**	**304**	P	**P**	**01 03 31.2**	**+0.4**
BURAR	**Bucovina Array**	**30.36**	**319**	P	**P**	**01 03 30.3**	**-1.0**
LODK	**Lodwar**	**30.49**	**221**	P	**P**	**01 03 34.6**	**+1.9**
LODK				IAmb	IAmb	01 03 39.3	
	comp=Z,2.4nm,1.2s						
KBN	**Korca**	**30.69**	**304**	P	**P**	**01 03 33.3**	**-1.0**
KBN				IAmb	IAmb	01 03 36.3	
	comp=Z,4.3nm,0.8s						
ZAA0	**Zalesovo Array**	**34.18**	**32**	P	**P**	**01 04 04.1**	**-0.5**
ZAA0				IAmb	IAmb	01 04 05.0	
	comp=Z,3.4nm,0.6s						
ZALV	**Zalesovo Beam**	**34.18**	**32**	P	**P**	**01 04 04.2**	**-0.4**
	comp=Z,3.3nm,0.5s,baz=243,slow=9.2,SNR=22						
NRCA	**Norcia**	**36.77**	**305**	P	**P**	**01 04 27.0**	**-0.1**
NRCA				IAmb	IAmb	01 04 28.1	
	comp=Z,3.1nm,0.9s						
CKRC	**Cesky Krumlov**	**37.48**	**315**	*e*P	P	01 04 45.2	+12
ABTA	**Abfaltersbach**	**38.04**	**311**	*e*P	**P**	**01 04 39.0**	**+1.1**
	comp=Z,0.4nm,0.4s						
KHC	**Kasperske Hory**	**38.04**	**315**	*e*P	**P**	**01 04 40.6**	**+2.8**
FIA1	**FINESS Array S**	**38.73**	**338**	P	**P**	**01 04 42.7**	**-0.7**
FINES	**FINESS Array B**	**38.73**	**338**	P	**P**	**01 04 43.0**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=140,slow=9.8,SNR=7.4						
FINES	**FINESS Array B**	**38.73**	**338**	P	**P**	**01 04 42.8**	**-0.5**
SQTA	**Sankt Quirin**	**39.02**	**312**	*i* P	**P**	**01 04 44.7**	**-1.4**
	comp=Z,1.1nm,0.4s						
CLL	**Collm**	**39.12**	**319**	*e*P	**P**	**01 04 46.0**	**-0.8**
FETA	**Feichten**	**39.29**	**311**	*e*P	**P**	**01 04 47.3**	**-1.1**
	comp=Z,4.5nm,1.5s						
DAVA	**Damuels**	**39.92**	**312**	*e*P	**P**	**01 04 52.3**	**-1.3**
	comp=Z,2.4nm,0.4s						
SENIN	**Lac Senin/Sane**	**41.47**	**310**	P	**P**	**01 05 05.1**	**-1.4**
SENIN				IAmb	IAmb	01 05 07.5	
	comp=Z,5.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.49**	**93**	P	**P**	**01 05 08.0**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=291,slow=7.7,SNR=4.6						
NB2	**NORSAR Subarra**	**44.15**	**331**	P	**P**	**01 05 27.2**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=118,slow=8.6						
NOA	**NORSAR Array B**	**44.15**	**331**	P	**P**	**01 05 26.5**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=120,slow=8.1,SNR=3.9						
SONM	**Songino Array**	**44.51**	**49**	P	**P**	**01 05 31.6**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=264,slow=5.1,SNR=3.2						
ARCES	**ARCESS Array B**	**45.10**	**346**	P	**P**	**01 05 35.3**	**0.0**
	comp=Z,4.2nm,0.9s,baz=144,slow=7.8,SNR=3.6						
NRIK	**Noril'sk**	**45.75**	**16**	P	**P**	**01 05 41.2**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=192,slow=18,SNR=2.1						
ESDC	**Sonseca Array**	**49.47**	**300**	P	**P**	**01 06 09.0**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=72,slow=7.7,SNR=6.0						
PAB	**San Pablo**	**49.78**	**300**	P	**P**	**01 06 11.6**	**-0.6**
TOA0	**Torodi Ar. Sit**	**51.44**	**265**	P	**P**	**01 06 24.1**	**-0.9**
TOA0				IAmb	IAmb	01 06 24.9	
	comp=Z,3.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**51.44**	**265**	P	**P**	**01 06 24.1**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=56,slow=6.9,SNR=25						
TORD	**Torodi Ar. Bea**	**51.44**	**265**	P	**P**	**01 06 24.1**	**-0.8**
TORD				IAmb	IAmb	01 06 24.9	
	comp=Z,2.5nm,0.8s						
KOWA	**Kowa**	**55.94**	**269**	P	**P**	**01 06 57.3**	**-0.5**
KOWA				IAmb	IAmb	01 06 57.7	
	comp=Z,1.6nm,0.9s						
DBIC	**Dimbokro**	**60.09**	**261**	P	**P**	**01 07 26.1**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=66,slow=11,SNR=1.5						
DBIC	**Dimbokro**	**60.09**	**261**	P	**P**	**01 07 26.2**	**-0.8**
KSRS	**Korea Array**	**60.98**	**61**	P	**P**	**01 07 32.1**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=275,slow=6.6,SNR=5.6						
BOSA	**Boshof**	**62.80**	**209**	P	**P**	**01 07 45.0**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=27,slow=8.3,SNR=7.2						
BOSA	**Boshof**	**62.80**	**209**	P	**P**	**01 07 44.8**	**-0.3**
FRB	**Frobisher Bay**	**78.53**	**338**	P	**P**	**01 09 20.4**	**+0.1**
	comp=Z,2.7nm,1.1s,baz=62,slow=8.0,SNR=2.5						
FITZ	**Fitzroy Crossi**	**82.36**	**115**	P	**P**	**01 09 41.2**	**-0.4**
FITZ				IAmb	IAmb	01 09 51.2	
	comp=Z,4.4nm,1.2s						
C36M	**Paulatuk**	**83.15**	**360**	P	**P**	**01 09 44.0**	**-0.8**
C36M				IAmb	IAmb	01 09 45.0	
	comp=Z,1.8nm,0.7s						
SCHQ	**Schefferville**	**83.71**	**330**	P	**P**	**01 09 47.5**	**-0.6**
BMAR	**Burnt Mountain**	**83.97**	**7**	P	**P**	**01 09 50.1**	**+0.9**
IMAR	**Indian Mountai**	**84.01**	**11**	P	**P**	**01 09 49.1**	**-0.3**
H21K	**Melozitna Rive**	**84.47**	**11**	P	**P**	**01 09 51.8**	**0.0**
H21K				IAmb	IAmb	01 09 53.4	
	comp=Z,4.8nm,1.5s						
BPAW	**Bear Paw Mtn.**	**86.21**	**11**	P	**P**	**01 10 01.0**	**+0.5**
ILAR	**Eielson Array**	**86.22**	**9**	P	**P**	**01 09 59.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=321,slow=4.6,SNR=8.0						
ILAR	**Eielson Array**	**86.22**	**9**	P	**P**	**01 09 59.4**	**-1.1**
EGAK	**Eagle**	**86.91**	**7**	P	**P**	**01 10 04.1**	**+0.2**
BCAR	**Beaver Creek A**	**88.51**	**7**	P	**P**	**01 10 12.1**	**+0.5**
YKA	**Yellowknife Ar**	**89.64**	**355**	P	**P**	**01 10 17.1**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=5.8,slow=5.1,SNR=18						
WRA	**Warramunga Arr**	**90.36**	**112**	P	**P**	**01 10 20.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=316,slow=3.7,SNR=4.7						
ASAR	**Alice Springs**	**91.83**	**116**	P	**P**	**01 10 27.1**	**-0.6**
	comp=Z,0.6nm,1.0s,baz=299,slow=4.5,SNR=4.4						

IDC 03 01:01:18.1±3.3**, 32°.04S**×**57°.54E, h0**km**, mb3.6**/3**, mb1 3.7**/3**, mb1mx3.3**/40**, mbtmp3.6**/3**, Error ellipse: s-maj=133.4km s-min=51.5km az=48.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**27.97**	**33**	T	T	01 36 07.1	
	baz=207						
H08S2	**Diego Garcia H**	**27.98**	**33**	T	T	01 36 09.3	
	baz=207						
H08S3	**Diego Garcia H**	**27.99**	**33**	T	T	01 36 07.1	
	baz=207						
H01W2	**Cape Leeuwin H**	**46.77**	**110**	T	T	01 59 35.5	
	baz=256						
H01W3	**Cape Leeuwin H**	**46.77**	**110**	T	T	01 59 35.7	
	baz=256						
H01W1	**Cape Leeuwin H**	**46.78**	**110**	T	T	01 59 35.8	
	baz=256						
ASAR	**Alice Springs**	**66.78**	**104**	P	P	01 12 11.8	+0.1
	0.3nm,0.8s,baz=224,slow=6.5,SNR=2.7						
MKAR	**Makanchi Array**	**81.59**	**17**	P	P	01 13 37.8	+0.3
	0.4nm,0.6s,baz=211,slow=5.0,SNR=5.8						
KURBB	**Kurchatov Arra**	**84.37**	**13**	P	P	01 13 51.4	-0.4
	0.9nm,0.9s,baz=209,slow=5.9,SNR=9.6						
YKA	**Yellowknife Ar**	**149.11**	**353**	PKPbc	PKPbc	01 21 07.2	-0.4
	1.1nm,0.7s,baz=6.3,slow=2.2,SNR=21						

*JMA **03** 01:03:55.7±0.1, 42°.80N×145°.40E, h47km±1km, M2.5*
*SKHL **03** 01:03:56.9±0.4, 42°.80N×145°.40E, h38km±5km, mb4.1/2*
ISC 03 01:03:54.8±2.4**, 42°.8N**±0°.1×**145°.48E**±0°.06**, h30**km±14km**, n13,** σ**0s.79**/22**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.40**	**324**	P	**Pn**	**01 04 04.8**	**+0.4**
JKHN				*e*S	**Sn**	**01 04 11.5**	**+0.6**
AKK	**Akkeshi**	**0.54**	**299**	*e*P	**Pn**	**01 04 06.2**	**-0.1**
AKK				*e*S	**Sb**	**01 04 13.5**	**+0.2**
JAK	**Akkeshi**	**0.62**	**293**	P	**Pn**	**01 04 07.5**	**0.0**
JAK				*e*S	**Sb**	**01 04 16.2**	**+0.5**
NEM2	**Nemuro 2**	**0.63**	**18**	P	**Pn**	**01 04 08.1**	**+0.4**
NEM2				*e*S	**Sn**	**01 04 17.1**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.64**	**17**	*e*P	**Pn**	**01 04 08.0**	**+0.3**
NMR				*e*S	**Sb**	**01 04 16.0**	**0.0**
JNK	**Nakash**	**0.99**	**326**	P	**Pn**	**01 04 12.4**	**-0.2**
JNK				*e*S	**Sb**	**01 04 24.2**	**-2.0**
JRA	**Rausu**	**1.21**	**348**	P	**Pn**	**01 04 16.0**	**+0.5**
JOB	**Onbets**	**1.22**	**277**	P	**Pn**	**01 04 15.7**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.30**	**12**	*e*P	**Pn**	**01 04 17.7**	**+0.8**
YUK				AMB	AMB	01 04 18.5	
	80nm,0.2s						
YUK				*e*S	**Sn**	**01 04 32.2**	**-1.1**
YUK				A	A	01 04 36.2	
	260nm,0.2s						
YUK				A	A	01 04 36.2	
	190nm,0.2s						
JAR	**Ashorobuto**	**1.36**	**294**	P	**Pn**	**01 04 17.7**	**0.0**
SHO	**Shikotan**	**1.48**	**41**	*e*P	**Pn**	**01 04 20.0**	**+0.7**
SHO				AMB	AMB	01 04 22.4	
	60nm,0.6s						
SHO				*e*S	**Sn**	**01 04 36.3**	**-1.4**
SHO				A	A	01 04 41.2	
	60nm,0.3s						
SHO				A	A	01 04 41.2	
	80nm,0.3s						
JCH	**Churui**	**1.57**	**265**	P	**Pn**	**01 04 20.6**	**+0.1**
JTKR	**Abashiri--Toko**	**1.67**	**317**	P	**Pn**	**01 04 23.0**	**+1.1**
JTKR				*e*S	**Sn**	**01 04 42.8**	**+0.6**

*IDC **03** 01:06:46.0±1.1, 29°.66S×72°.85W, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.0/33, mbtmp4.1/7, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/53, Error ellipse: s-maj=39.5km s-min=30.5km az=6.0*
*NEIC **03** 01:06:46.6±2.0, 29°.64S±0°.04×72°.8W±0°.1, h10km±1km, mb4.3/5, ML3.6(GUC), Error ellipse: s-maj=16.0km s-min=6.0km az=274.0*
*GUC **03** 01:06:48.6±0.5, 29°.70S×72°.64W, h37km±3km, ML3.6*
ISC 03 01:06:46.3±1.4**, 29°.66S**±0°.03×**72°.71W**±0°.06**, h7**km±8km**, n65,** σ**1s.46**/83**, mb4.2**/7**, 10C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO05	**La Serena**	**1.31**	**102**		**Pg**	**01 07 12.2**	**+0.8**
CO05	**La Serena**	**1.31**	**102**	⇑*i*P	**Pg**	**01 07 12.2**	**+0.8**
CO05				*i* S	**Sg**	**01 07 27.6**	**-0.7**
CO05				IAML		01 07 31.1	
	comp=N,1µm,0.5s						
CO06	**Fray Jorge**	**1.38**	**138**	Pn	**Pb**	**01 07 12.0**	**-0.4**
CO06	**Fray Jorge**	**1.38**	**138**	⇑*i*P	**Pb**	**01 07 11.9**	**-0.5**
CO06				*i* S	**Sb**	**01 07 29.5**	**-0.7**
CO06				IAML		01 07 30.8	
	comp=N,719nm,0.3s						
GO04	**Tololo Observa**	**1.74**	**108**		**Pb**	**01 07 18.8**	**+0.1**
GO04	**Tololo Observa**	**1.74**	**108**	⇑*i*P	**Pb**	**01 07 18.8**	**+0.1**
GO04				*i* S	**Sg**	**01 07 40.9**	**-1.4**
LCO	**Las Campanas**	**1.87**	**70**	Pn	**Pb**	**01 07 20.8**	**-0.2**
LCO	**Las Campanas**	**1.87**	**70**	⇑*i*P	**Pb**	**01 07 20.7**	**-0.3**
LCO				*i* S	**Sg**	**01 07 44.9**	**-1.6**
AC04	**Llanos de Chal**	**2.04**	**45**	Pn	**Pn**	**01 07 21.2**	**+0.1**
AC04	**Llanos de Chal**	**2.04**	**45**	⇓*i*P	**Pn**	**01 07 21.1**	**+0.1**
AC04				*i* S	**Sn**	**01 07 46.6**	**-0.2**
AC04				IAML		01 07 47.1	
	comp=E,1µm,0.1s						
CO03	**El Pedregal**	**2.11**	**124**		**Pn**	**01 07 22.9**	**+0.8**
CO01	**Juntas del Tor**	**2.30**	**99**		**Pb**	**01 07 27.1**	**-1.1**
CO01	**Juntas del Tor**	**2.30**	**99**	⇑*i*P	**Pb**	**01 07 27.7**	**-0.5**
CO01				*e*S	**Sb**	**01 07 56.4**	**-0.6**
GO03	**Copiap**	**3.00**	**47**		**Pn**	**01 07 35.9**	**+1.6**
GO03	**Copiap**	**3.00**	**47**	⇑*e*P	**Pn**	**01 07 35.8**	**+1.6**
GO03				*i* S	**Sn**	**01 08 11.7**	**+1.2**
AC06	**Mina Casimiro**	**3.09**	**43**		**Pn**	**01 07 36.4**	**+0.8**
AC06	**Mina Casimiro**	**3.09**	**43**	⇑*e*P	**Pn**	**01 07 36.8**	**+1.2**
AC06				*i* S	**Sn**	**01 08 14.2**	**+1.3**
AC06				IAML		01 08 16.4	
	comp=N,221nm,0.2s						
VA06	**Catapilco**	**3.14**	**158**		**Pn**	**01 07 36.0**	**-0.1**
VA06	**Catapilco**	**3.14**	**158**	⇑*e*P	**Pn**	**01 07 35.9**	**-0.3**
VA06				*i* S	**Sn**	**01 08 10.6**	**-3.3**
VA03	**San Esteban**	**3.61**	**150**		**Pn**	**01 07 43.3**	**+0.5**
VA03	**San Esteban**	**3.61**	**150**	*e*P	**Pn**	**01 07 44.0**	**+1.3**
VA03				*i* S	**Sn**	**01 08 23.7**	**-2.0**
ROCH	**El Roble**	**3.61**	**157**	*e*P	Pb	01 07 43.2	-7.4
ROCH				*e*P	**Pn**	**01 07 41.0**	**-1.9**
ROCH				*i* S	**Sn**	**01 08 20.9**	**-5.0**
ROCH				*i* S	Sb	01 08 23.2	-12
ROCH				IAML		01 08 25.9	
	comp=N,227nm,0.4s						
ROC1	**El Roble**	**3.61**	**157**		**Pn**	**01 07 42.3**	**-0.7**
MT02	**Curacav**	**3.83**	**160**		**Pn**	**01 07 46.0**	**+0.2**
MT02	**Curacav**	**3.83**	**160**	*e*P	**Pn**	**01 07 45.7**	**0.0**
MT02				*e*S	**Sn**	**01 08 28.4**	**-2.6**
PEL	**Peldehue**	**3.88**	**154**		**Pn**	**01 07 46.0**	**-0.4**
PEL	**Peldehue**	**3.88**	**154**	⇑*i*P	**Pn**	**01 07 47.0**	**+0.6**
PEL				*e*S	**Sn**	**01 08 30.1**	**-2.3**
PEL				IAML		01 08 35.9	
	comp=N,138nm,0.1s						
ZON	**Zonda**	**3.96**	**119**	Pn	**Pn**	**01 07 50.4**	**+3.0**
AC01	**Pan de Azucar**	**3.97**	**29**	Pn	**Pn**	**01 07 46.8**	**-0.8**
AC01	**Pan de Azucar**	**3.97**	**29**	⇓*i*P	**Pn**	**01 07 46.5**	**-1.1**
AC01				*i* S	**Sn**	**01 08 31.7**	**-2.6**
VCA	**Vinchina**	**4.05**	**78**	*e*P	**Pb**	**01 07 55.6**	**-2.4**
VCA				*e*S	**Sb**	**01 08 45.1**	**-2.2**
MT05	**Renca**	**4.09**	**156**	*e*P	**Pn**	**01 07 49.7**	**+0.4**
FCH	**Farellones**	**4.20**	**151**	*e*P	**Pn**	**01 07 52.3**	**+1.2**
FCH				*e*S	**Sn**	**01 08 42.7**	**+2.0**
AC02	**Maricunga**	**4.23**	**49**	Pn	**Pn**	**01 07 53.0**	**+1.3**
AC02	**Maricunga**	**4.23**	**49**	⇑*i*P	**Pn**	**01 07 54.3**	**+2.6**
AC02				*i* S	**Sn**	**01 08 44.0**	**+2.5**
MT03	**Universidad Ad**	**4.26**	**154**	*e*P	**Pn**	**01 07 52.6**	**+0.9**
MT03				*e*S	**Sn**	**01 08 39.3**	**-2.4**
MT09	**Talagante**	**4.36**	**161**	*e*P	**Pn**	**01 07 53.8**	**+0.7**
MT09				*i* S	**Sn**	**01 08 41.7**	**-2.6**
MT01	**Popeta**	**4.37**	**164**		**Pn**	**01 07 53.2**	**0.0**
MT01	**Popeta**	**4.37**	**164**	*e*P	**Pn**	**01 07 52.8**	**-0.4**
LMEL	**Las Melosas**	**4.69**	**154**	*e*P	**Pn**	**01 07 59.0**	**+1.3**
LMEL				*e*S	**Sn**	**01 08 51.7**	**-0.7**
BO01	**Tunca**	**4.92**	**164**		**Pn**	**01 08 01.3**	**+0.7**
GO02	**Mina Guanaco**	**5.27**	**33**	Pn	**Pn**	**01 08 06.2**	**+0.4**
GO02	**Mina Guanaco**	**5.27**	**33**	*e*P	**Pn**	**01 08 06.0**	**+0.3**
GO02				*e*S	**Sn**	**01 09 06.6**	**-0.3**
BO02	**Sierra Bellavi**	**5.37**	**163**		**Pn**	**01 08 07.7**	**+0.8**
PB14	**IPOC Station P**	**5.42**	**23**		**Pn**	**01 08 06.5**	**-1.4**
H03N1	**Juan Fernandez**	**6.50**	**233**	T	T	01 14 53.0	
	baz=50						
H03N2	**Juan Fernandez**	**6.51**	**233**	T	T	01 14 48.0	
	baz=50						
H03N3	**Juan Fernandez**	**6.51**	**233**	T	T	01 14 52.9	
	baz=50						
LVC	**Limon Verde**	**7.81**	**27**	Pn	**Pn**	**01 08 40.3**	**-0.3**
	comp=N,0.8nm,0.3s,baz=188,slow=6.0,SNR=17						
LVC				Sn	**Sn**	**01 10 06.4**	**-3.1**
	comp=N,1.4nm,0.3s,baz=355,slow=23,SNR=3.0						
PB07	**IPOC Station P**	**8.30**	**19**	Pn	**Pn**	**01 08 46.6**	**-0.7**
CPUP	**Villa Florida**	**13.99**	**80**	LR	LR	01 15 41.9	
	comp=N,72nm,18.9s,baz=230,slow=38						
SIV	**San Ignacio**	**17.31**	**41**	P	**Pn**	**01 10 48.2**	**-0.4**
	comp=N,0.3nm,0.3s,baz=209,slow=7.6,SNR=26						
ZARC	**Zaragoza, Cauc**	**36.99**	**356**	P	**P**	**01 13 55.6**	**-1.0**
ZARC				IAmb	IAmb	01 13 58.7	
	comp=Z,4.3nm,0.9s						
TXAR	**Lajitas Array**	**65.68**	**330**	P	**P**	**01 17 32.2**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=144,slow=8.8,SNR=5.3						
TXAR	**Lajitas Array**	**65.68**	**330**	P	**P**	**01 17 31.0**	**-0.5**
DBIC	**Dimbokro**	**74.39**	**73**	P	**P**	**01 18 27.2**	**+1.9**
	comp=Z,3.8nm,0.7s,baz=240,slow=5.5,SNR=7.2						
HWUT	**Hardware Ranch**	**79.47**	**331**	IAmb	IAmb	01 18 55.0	
	comp=Z,2.0nm,0.8s						
PDAR	**Pinedale Array**	**79.64**	**333**	P	**P**	**01 18 54.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=134,slow=6.4,SNR=2.4						
NVAR	**Mina Array Bea**	**80.00**	**325**	P	**P**	**01 18 57.5**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=155,slow=6.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**83.30**	**71**	P	**P**	**01 19 15.9**	**+1.7**
	comp=Z,5.8nm,0.7s,baz=275,slow=5.0,SNR=67						
WRA	**Warramunga Arr**	**124.22**	**211**	PKP	**PKPdf**	**01 25 45.4**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=155,slow=1.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**150.76**	**28**	PKPbc	**PKiKP**	**01 26 39.8**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=299,slow=3.4,SNR=17						
ZALV	**Zalesovo Beam**	**150.76**	**28**		**PKPbc**	**01 26 38.6**	**-0.2**
MKAR	**Makanchi Array**	**154.12**	**42**	PKPbc	**PKiKP**	**01 26 47.6**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=304,slow=3.3,SNR=2.1						
MKAR				PKPab	**pPKPab**	**01 27 02.1**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=316,slow=3.7,SNR=7.1						
MKAR	**Makanchi Array**	**154.12**	**42**		**PKPab**	**01 27 00.7**	**+0.3**

*ANF **03** 01:07:36.9±0.3, 35°.75N×97°.13W, h6km, ML3.2/8, Error ellipse: s-maj=2.9km s-min=2.3km az=144.0*
*TUL **03** 01:07:36.8±1.5, 35°.72N±0°.02×97°.15W±0°.05, h6km±7km, ML3.2, mb_Lg2.8/53(NEIC), Error ellipse: s-maj=5.4km s-min=2.7km az=92.0*
*NEIC **03** 01:07:37.2±1.0, 35°.74N±0°.04×97°.18W±0°.02, h9km±6km, Error ellipse: s-maj=5.2km s-min=1.5km az=193.0*
ISC 03 01:07:36.9±1.0**, 35°.75N**±0°.03×**97°.15W**±0°.03**, h5**km±9km**, n53,** σ**0s.67**/52**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.10**	**203**	Pg	**Pg**	**01 07 38.8**	**-0.2**
OK005				Sg	**Sg**	**01 07 40.4**	**0.0**
OK001	**Jones High Sch**	**0.22**	**213**		**Pg**	**01 07 42.2**	**+1.1**
OK009	**Oakdale Elemen**	**0.28**	**234**		**Pg**	**01 07 42.0**	**-0.3**
OK009				Sg	**Sg**	**01 07 46.5**	**+0.5**
OKCFA	**Oklahoma City**	**0.41**	**217**		**Pg**	**01 07 44.8**	**-0.1**
OKCFA				Sg	**Sg**	**01 07 50.5**	**+0.2**
OKCFA	**Oklahoma City**	**0.41**	**217**	P	**Pg**	**01 07 44.7**	**-0.1**
	baz=39,SNR=40						
OKCFA				S	**Sg**	**01 07 50.4**	**+0.2**
	baz=39						
OKCSW	**OKLAHOMA CITY**	**0.41**	**215**		**Pg**	**01 07 44.8**	**-0.1**
OKCSW				Sg	**Sg**	**01 07 50.7**	**+0.4**
FNO	**Franklin**	**0.53**	**203**	Pg	**Pg**	**01 07 46.6**	**-0.4**
W35A	**Tecumseh**	**0.63**	**159**	Pg	**Pg**	**01 07 48.7**	**-0.3**
TUL1	**Leonard**	**1.11**	**81**	Pg	**Pg**	**01 07 57.3**	**-0.9**
TUL1	**Leonard**	**1.11**	**81**	P	**Pg**	**01 07 57.3**	**-0.9**
	baz=261,SNR=89						
TUL1				S	**Sg**	**01 08 12.9**	**+0.3**
	baz=261						
X34A	**Smith Ranch, M**	**1.27**	**206**		**Pn**	**01 08 00.2**	**-1.1**
T35A	**Sooner Cattle**	**1.27**	**23**		**Pn**	**01 08 00.7**	**-0.6**
T35B	**Sooner Cattle**	**1.27**	**23**	P	**Pn**	**01 08 00.6**	**-0.7**
	baz=204,SNR=80						
T35B				S	**Sb**	**01 08 18.5**	**+0.5**
	baz=204						
U32A	**Winter Ranch,**	**1.63**	**293**	Pn	**Pb**	**01 08 06.6**	**-0.9**
U32A	**Winter Ranch,**	**1.63**	**293**	P	**Pn**	**01 08 06.5**	**+0.2**
	baz=113						
U32A				S	**Sg**	**01 08 29.3**	**-0.1**
	baz=113						
WMOK	**Wichita Mounta**	**1.67**	**234**	Pn	**Pn**	**01 08 06.0**	**-0.8**
X37A	**Clayton**	**1.85**	**128**		**Pn**	**01 08 09.3**	**+0.1**
X37A	**Clayton**	**1.85**	**128**	P	**Pn**	**01 08 09.7**	**+0.5**
	baz=308,SNR=32						
X37A				Sb	**Sb**	**01 08 35.9**	**+1.2**
	baz=308						
Z35A	**Perchaven, San**	**2.41**	**182**		**Pn**	**01 08 17.4**	**+0.5**
Z35A	**Perchaven, San**	**2.41**	**182**	P	**Pn**	**01 08 17.4**	**+0.5**
	baz=2.0						
HHAR	**Hobbs**	**2.65**	**77**		**Pn**	**01 08 20.9**	**+0.6**
W39A	**Magazine**	**2.80**	**100**		**Pn**	**01 08 21.8**	**-0.4**
W39A				IAmb_Lg		01 09 07.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,24nm,0.8s						
W39A	**Magazine**	**2.80**	**100**	P	**Pn**	**01 08 22.6**	**+0.4**
	baz=282,SNR=21						
Z38A	**Mt. Pleasant**	**3.05**	**144**	IAmb_Lg		01 09 18.6	
	comp=Z,25nm,0.8s						
KSU1	**Kansas State U**	**3.38**	**7**	Pn	**Pn**	**01 08 31.7**	**+1.5**
KSU1				IAmb_Lg		01 09 28.9	
	comp=Z,17nm,0.8s						
U40A	**Yellville**	**3.53**	**79**		**Pn**	**01 08 32.3**	**0.0**
U40A				IAmb_Lg		01 09 31.2	
	comp=Z,24nm,0.8s						
S39A	**Bolivar**	**3.63**	**57**		**Pn**	**01 08 34.1**	**+0.4**
S39A				IAmb_Lg		01 09 40.4	
	comp=Z,18nm,0.8s						
CBKS	**Cedar Bluff**	**3.70**	**327**	IAmb_Lg		01 09 39.7	
	comp=Z,24nm,0.7s						
ABTX	**Abilene, Hawle**	**3.74**	**214**		**Pn**	**01 08 34.3**	**-0.9**
X40A	**Basin Creek Fa**	**3.75**	**108**		**Pn**	**01 08 35.8**	**+0.4**
X40A				IAmb_Lg		01 09 38.2	
	comp=Z,19nm,0.7s						
X40A	**Basin Creek Fa**	**3.75**	**108**	P	**Pn**	**01 08 36.0**	**+0.7**
	baz=290,SNR=7.1						
X40A				P	**Pn**	**01 08 36.0**	**+0.7**
	baz=290,SNR=7.1						
WHTX	**Lake Whitney,**	**3.75**	**184**		**Pn**	**01 08 35.0**	**-0.3**
WHTX	**Lake Whitney,**	**3.75**	**184**	S	**Sn**	**01 09 19.6**	**-0.3**
	baz=3.8						
AMTX	**Amarillo**	**3.81**	**258**		**Pn**	**01 08 37.2**	**+1.0**
WLAR	**White Oak Lake**	**3.90**	**121**	IAmb_Lg		01 09 44.4	
	comp=Z,17nm,0.9s						
WHAR	**Wooly Hollow**	**3.99**	**95**	Pn	**Pn**	**01 08 38.9**	**+0.3**
WHAR				IAmb_Lg		01 09 48.0	
	comp=Z,35nm,1.2s						
W41B	**Gary Mavity, V**	**4.04**	**97**		**Pn**	**01 08 38.9**	**-0.4**
W41B				IAmb_Lg		01 09 44.8	
	comp=Z,19nm,0.9s						
W41B	**Gary Mavity, V**	**4.04**	**97**	P	**Pn**	**01 08 39.9**	**+0.7**
	baz=279,SNR=26						
FCAR	**Ozark Folk Cen**	**4.08**	**87**	Pn	**Pn**	**01 08 39.8**	**-0.1**
FCAR				IAmb_Lg		01 09 51.3	
	comp=Z,26nm,0.9s						
MGMO	**Mountain Grove**	**4.17**	**69**	Pn	**Pn**	**01 08 42.3**	**+1.1**
MGMO				IAmb_Lg		01 09 50.3	
	comp=Z,29nm,0.7s						
Z41A	**Richland Creek**	**4.36**	**123**	IAmb_Lg		01 10 05.2	
	comp=Z,19nm,0.9s						
R40A	**Maddies Statio**	**4.66**	**55**	Pn	**Pn**	**01 08 48.7**	**+0.9**
R40A				IAmb_Lg		01 10 02.0	
	comp=Z,29nm,0.9s						
P38A	**Dawn**	**4.82**	**35**	Pn	**Pn**	**01 08 50.4**	**+0.4**
P38A				IAmb_Lg		01 10 17.3	
	comp=Z,16nm,0.7s						
LCAR	**Lake Charles**	**4.87**	**84**	Pn	**Pn**	**01 08 50.5**	**-0.3**
LCAR				IAmb_Lg		01 10 14.5	
	comp=Z,11nm,1.0s						
435B	**Jarrell**	**4.96**	**184**	IAmb_Lg		01 10 23.8	
	comp=Z,12nm,0.7s						
CCM	**Cathedral Cave**	**5.26**	**62**	Pn	**Pn**	**01 08 57.0**	**+0.9**
CCM				IAmb_Lg		01 10 23.9	
	comp=Z,26nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.45**	**308**	IAmb_Lg		01 10 33.0	
	comp=Z,18nm,0.9s						
PBMO	**Poplar Bluff**	**5.52**	**77**	IAmb_Lg		01 10 32.7	
	comp=Z,28nm,0.7s						
P40A	**Paris**	**5.53**	**45**	Pn	**Pn**	**01 09 01.3**	**+1.5**
P40A				IAmb_Lg		01 10 35.0	
	comp=Z,24nm,0.8s						
JCT	**Junction City**	**5.71**	**204**	IAmb_Lg		01 10 46.7	
	comp=Z,22nm,1.0s						
FVM	**French Village**	**5.83**	**65**	IAmb_Lg		01 10 44.7	
	comp=Z,18nm,0.7s						
T25A	**Trinidad**	**6.02**	**285**	IAmb_Lg		01 10 54.0	
	comp=Z,12nm,0.9s						
L34A	**Svendsen Farm,**	**6.24**	**5**	IAmb_Lg		01 11 03.8	
	comp=Z,23nm,0.7s						

*VAO **03** 01:54:13.0±1.2, 22°.94S×69°.64W, h126km±6km, mb4.1*
*GUC **03** 01:54:19.5±0.7, 22°.74S×68°.85W, h99km±4km, ML4.0*
*IDC **03** 01:54:19.4±1.0, 22°.63S×68°.83W, h94km±5km, mb3.4/4, mb1 3.6/5, mb1mx3.4/27, mbtmp3.7/5, Error ellipse: s-maj=46.7km s-min=19.0km az=174.0*
ISC 03 01:54:18.6±0.6**, 22°.74S**±0°.04×**68°.89W**±0°.06**, h101**km±4km**, n52, σ1^s.49**/66**, mb3.6**/3**, 9C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.13**	**350**	P	**Pn**	**01 54 33.5**	**+0.3**
	1µm,0.3s,baz=160,slow=3.4,SNR=6996						
LVC				S	**Sn**	**01 54 43.7**	**-0.3**
	747nm,0.3s,baz=337,slow=22,SNR=14						
LVC	**Limon Verde**	**0.13**	**350**	*e*P	**Pn**	**01 54 32.8**	**-0.4**
LVC				*e*S	**Sn**	**01 54 43.2**	**-0.8**
LVC	**Limon Verde**	**0.13**	**350**	*e*P	**Pn**	**01 54 33.6**	**+0.3**
PB06	**IPOC Station P**	**0.63**	**273**⇑	*i*P	**Pn**	**01 54 36.3**	**+0.7**
PB06				IAML		01 54 50.3	
	comp=E,9µm,0.1s						
PB15	**IPOC Station P**	**0.71**	**229**⇑	*i*P	**Pn**	**01 54 37.3**	**+0.9**
PB15				*i* S	**Sn**	**01 54 50.9**	**+1.0**
PB09	**IPOC Station P**	**0.99**	**341**⇑	*i*P	**Pn**	**01 54 40.7**	**+1.5**
PB09				*e*S	**Sn**	**01 54 56.3**	**+1.7**
PB09				IAML		01 54 57.7	
	comp=N,3µm,0.2s						
PB04	**IPOC Station P**	**1.23**	**289**⇑	*i*P	**Pn**	**01 54 42.8**	**+0.9**
PB04				*i* S	**Sn**	**01 55 00.5**	**+1.1**
PB04				IAML		01 55 07.4	
	comp=E,3µm,0.3s						
PB07	**IPOC Station P**	**1.37**	**317**⇑	*i*P	**Pn**	**01 54 44.6**	**+1.2**
PB07				*i* S	**Sn**	**01 55 03.4**	**+1.1**
PB07				IAML		01 55 04.1	
	comp=E,5µm,0.3s						
PB02	**IPOC Station P**	**1.69**	**326**⇑	*i*P	**Pn**	**01 54 48.5**	**+1.1**
PB02				*e*S	**Sn**	**01 55 10.2**	**+1.0**
PB02				IAML		01 55 15.0	
	comp=E,2µm,0.4s						
PB02				IAML		01 55 16.1	
	comp=E,2µm,0.2s						
PB01	**IPOC Station P**	**1.77**	**342**⇑	*i*P	**Pn**	**01 54 49.4**	**+1.0**
PB01				*i* S	**Sn**	**01 55 12.5**	**+1.4**
PB01				IAML		01 55 13.4	
	comp=E,3µm,0.3s						
PATCX	**Punta Patache**	**2.24**	**328**⇑	*i*P	**Pn**	**01 54 54.6**	**+0.2**
PATCX				IAML		01 55 26.3	
	comp=E,658nm,0.5s						
PB14	**IPOC Station P**	**2.34**	**216**	*e*P	**Pn**	**01 54 56.9**	**+1.0**
PB14				*e*S	**Sn**	**01 55 24.0**	**-0.4**
GO02	**Mina Guanaco**	**2.50**	**195**	*e*P	**Pn**	**01 54 58.6**	**+0.6**
PB08	**IPOC Station P**	**2.59**	**354**⇑	*i*P	**Pn**	**01 55 00.5**	**+1.1**
HMBC	**Humberstone**	**2.62**	**339**	*e*P	**Pn**	**01 54 59.2**	**-0.3**
HMBC				*e*S	**Sn**	**01 55 25.4**	**-5.4**
PB11	**IPOC Station P**	**3.05**	**346**	*e*P	**Pn**	**01 55 05.2**	**0.0**
GO01	**Chusmiza**	**3.07**	**355**	*e*P	**Pn**	**01 55 06.3**	**+0.6**
SLA	**San Lorenzo**	**3.67**	**123**	*e*P	**Pn**	**01 55 17.3**	**+3.8**
AC01	**Pan de Azucar**	**3.74**	**204**	*e*P	**Pn**	**01 55 12.8**	**-1.4**
AC01				*e*S	**Sn**	**01 55 55.0**	**-2.3**
AC02	**Maricunga**	**4.09**	**183**	*e*P	**Pn**	**01 55 20.1**	**+0.7**
LPAZ	**La Paz**	**6.45**	**6**	P	**Pn**	**01 55 56.3**	**+4.6**
	comp=E,0.2nm,0.3s,baz=190,slow=5.5,SNR=3.6						
LPAZ	**La Paz**	**6.45**	**6**	*e*P	**Pn**	**01 55 50.0**	**-1.7**
SIV	**San Ignacio**	**9.97**	**49**	P	**Pn**	**01 56 39.0**	**+0.1**
	comp=E,1.0nm,0.3s,baz=238,slow=8.8,SNR=16						
SIV				S	Sn	01 58 19.4	-10
	comp=E,0.2nm,0.3s,baz=223,slow=18,SNR=1.4						
CPUP	**Villa Florida**	**11.11**	**111**	*e*P	**Pn**	**01 56 56.1**	**+1.7**
AQDB	**Aquidauana**	**12.47**	**82**	*e*P	**Pn**	**01 57 14.7**	**+2.2**
ETMB	**Extrema**	**13.10**	**12**	*e*P	**Pn**	**01 57 19.7**	**-1.1**
SALV	**Santo Antonio**	**14.18**	**64**	*e*P	**P**	**01 57 39.2**	**0.0**
PTGB	**Pitanga**	**15.53**	**101**	*e*P	**P**	**01 57 54.9**	**+0.6**
CPSB	**Cacapava Do Su**	**15.78**	**122**	*e*P	**Pn**	**01 57 55.8**	**+0.8**
ITAB	**Concordia**	**15.84**	**110**	*e*P	**Pn**	**01 57 56.0**	**+0.3**
PDRB	**Porto dos Gac**	**16.03**	**48**	*e*P	**Pn**	**01 57 59.2**	**+1.0**
PLTB	**Pedras Altas**	**16.28**	**127**	*e*P	**Pn**	**01 57 58.8**	**-2.5**
PCMB	**Pacaembu**	**16.37**	**89**	*e*P	**Pn**	**01 58 01.9**	**-0.5**
ITRB	**Iturama**	**17.54**	**84**	*e*P	**P**	**01 58 16.7**	**+0.3**
FRTB	**Fartura**	**17.80**	**96**	*e*P	**P**	**01 58 19.0**	**-0.3**
BB19B	**Bebedouro**	**18.96**	**89**	*e*P	**P**	**01 58 32.0**	**-0.1**
RCLB	**Rio Claro- Sao**	**19.72**	**93**	*e*P	**P**	**01 58 39.6**	**-0.7**
PET01	**Itanhaem-SP**	**19.88**	**99**	*e*P	**P**	**01 58 41.2**	**-0.7**
SNDB	**Serra Nova Dou**	**19.89**	**60**	*e*P	**P**	**01 58 40.3**	**-1.8**
IPMB	**Ipameri, GO**	**19.95**	**80**	*e*P	**P**	**01 58 42.4**	**-0.4**
VAO	**Valinhos**	**20.20**	**95**	*e*P	**P**	**01 58 44.6**	**-0.9**
NPGB	**Novo Progresso**	**20.32**	**42**	*e*P	**P**	**01 58 46.6**	**-0.3**
BDFB	**Brasilia**	**20.92**	**74**	P	**P**	**01 58 52.6**	**-0.8**
	comp=E,1.8nm,0.5s,baz=243,slow=13,SNR=6.2						
BDFB	**Brasilia**	**20.92**	**74**	*e*P	**P**	**01 58 52.9**	**-0.4**
MACA	**Manacapuru-AM**	**21.02**	**23**	*e*P	**P**	**01 58 51.5**	**-2.8**
PARB	**Paraibuna**	**21.42**	**96**	*e*P	**P**	**01 58 58.9**	**+0.3**
ITTB	**Itaituba**	**22.26**	**37**	*e*P	**P**	**01 59 05.8**	**-1.6**
PDAR	**Pinedale Array**	**75.19**	**330**	P	**P**	**02 05 51.9**	**+1.7**
	comp=E,0.1nm,0.5s,baz=145,slow=8.5,SNR=1.6						
TORD	**Torodi Ar. Bea**	**77.75**	**70**	P	**P**	**02 06 05.0**	**0.0**
	comp=E,0.4nm,0.5s,baz=260,slow=5.4,SNR=9.7						
TORD				pP	**pP**	**02 06 31.0**	**-0.9**
	comp=E,0.6nm,0.6s,baz=251,slow=5.5,SNR=2.6						
YKA	**Yellowknife Ar**	**92.36**	**341**	P	**P**	**02 07 17.9**	**+0.8**
	comp=E,0.4nm,0.7s,baz=138,slow=4.7,SNR=8.7						
YKA				pP	**pP**	**02 07 44.9**	**+0.4**
	comp=E,0.2nm,0.7s,baz=129,slow=4.7,SNR=3.0						
YKA				sP	**sP**	**02 07 54.6**	**-0.8**
	comp=E,0.2nm,0.7s,baz=138,slow=4.5,SNR=2.7						
ASAR	**Alice Springs**	**128.83**	**207**	PKP	**PKPdf**	**02 13 16.0**	**+0.9**
	comp=E,0.5nm,0.8s,baz=173,slow=1.5,SNR=3.2						
MKAR	**Makanchi Array**	**146.61**	**37**	PKPbc	**PKPbc**	**02 13 49.4**	**+1.0**
	comp=E,0.3nm,0.6s,baz=318,slow=3.1,SNR=4.1						

*IDC **03** 02:03:29.6±0.9, 57°.41N×157°.55W, h0km, mb3.9/18, mb1 4.1/20, mb1mx3.9/38, mbtmp3.9/20, ML3.8/2, MS3.4/8, Ms1 3.4/8, ms1mx2.8/99, Error ellipse: s-maj=29.5km s-min=13.5km az=18.0*
*MOS **03** 02:03:29.5±0.8, 57°.29N×157°.57W, h13km, mb4.5/11, Error ellipse: s-maj=16.9km s-min=7.1km az=80.5*
*AEIC **03** 02:03:30±1.2, 57°.22N±0°.04×157°.74W±0°.08, h15km±4km, ML3.9, mb4.1/15(NEIC), ML4.1/34(NEIC), Error ellipse: s-maj=7.7km s-min=3.7km az=132.0*
*NEIC **03** 02:03:30.1±1.4, 57°.20N±0°.03×157°.74W±0°.07, h10km±5km, Error ellipse: s-maj=6.7km s-min=2.8km az=131.0*
ISC 03 02:03:30.0±1.1**, 57°.19N**±0°.03×**157°.68W**±0°.04**, h11**km±7km**, n189, σ0^s.88**/185**, mb4.0**/28**, MS3.5**/6**, 4C-5D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.37**	**233**		**Pg**	**02 03 38.2**	**+0.8**
ANPB	**Aniakchak Plen**	**0.51**	**220**		**Pg**	**02 03 40.1**	**+0.1**
PLBL	**Peulik Blue Cr**	**0.69**	**42**		**Pb**	**02 03 43.4**	**-0.7**
PLK1	**Peulik 1**	**0.84**	**43**		**Pb**	**02 03 46.2**	**-0.4**
PLK3	**Peulik 3**	**0.91**	**56**		**Pb**	**02 03 47.7**	**-0.2**
PLK3					**Sb**	**02 04 00.1**	**+0.2**
PLK2	**Peulik 2**	**0.93**	**51**		**Pb**	**02 03 48.6**	**+0.4**
CHGN	**Chignik**	**0.98**	**205**		**Pb**	**02 03 48.3**	**-0.7**
CHGN					**Sb**	**02 04 01.7**	**-0.2**
CHGN	**Chignik**	**0.98**	**205**	IAML		02 04 06.4	
	comp=E,3µm,0.7s						
CHGN	**Chignik**	**0.98**	**205**	P	**Pb**	**02 03 48.3**	**-0.7**
	baz=21						
CHGN				S	**Sb**	**02 04 01.7**	**-0.2**
	baz=21						
VNHG	**Veniaminof 1**	**1.27**	**221**		**Pn**	**02 03 53.2**	**-0.5**
VNFG	**Fog Glacier, M**	**1.38**	**229**		**Pn**	**02 03 55.5**	**+0.3**
VNFG	**Fog Glacier, M**	**1.38**	**229**	P	**Pn**	**02 03 55.5**	**+0.3**
	baz=46						
KJL	**Kejulik**	**1.43**	**52**		**Pn**	**02 03 56.0**	**+0.2**
KJL					**Sg**	**02 04 16.4**	**+0.6**
CAHL	**Cahill**	**1.54**	**55**		**Pn**	**02 03 57.7**	**+0.2**
ANCK	**Angle Creek**	**1.55**	**48**		**Pn**	**02 03 57.9**	**+0.3**
ACHA	**Angle Creek He**	**1.63**	**50**		**Pn**	**02 03 59.2**	**+0.6**
ACHA					**Sg**	**02 04 22.1**	**-0.1**
KELA	**Mount Kelaz**	**1.63**	**39**		**Pn**	**02 03 59.3**	**+0.7**
KABU	**Katmai Buttres**	**1.68**	**49**		**Pn**	**02 03 58.8**	**-0.6**
KABU					**Sn**	**02 04 21.4**	**+0.5**
CHIR	**Chirikof Islan**	**1.79**	**139**		**Pn**	**02 04 01.3**	**+0.5**
CHIR	**Chirikof Islan**	**1.79**	**139**		**Sg**	**02 04 27.6**	**+0.2**
CHIR	**Chirikof Islan**	**1.79**	**139**	IAML		02 04 28.8	
	comp=E,2µm,0.8s						
CHIR				IAML		02 04 32.0	
	comp=N,2µm,0.8s						
CHIR	**Chirikof Islan**	**1.79**	**139**	P	**Pn**	**02 04 01.7**	**+1.0**
	baz=321						
CHIR				S	**Sg**	**02 04 27.5**	**+0.2**
	baz=321						
SII	**Sitkinak Islan**	**2.02**	**107**		**Pn**	**02 04 05.1**	**+1.1**
SII	**Sitkinak Islan**	**2.02**	**107**	P	**Pn**	**02 04 05.1**	**+1.1**
	baz=290						
OHAK	**Old Harbor**	**2.39**	**87**		**Pn**	**02 04 09.4**	**+0.4**
OHAK	**Old Harbor**	**2.39**	**87**	IAML		02 04 48.7	
	comp=E,580nm,1.3s						
OHAK	**Old Harbor**	**2.39**	**87**	P	**Pn**	**02 04 09.4**	**+0.4**
	baz=272						
SDPT	**Sand Point**	**2.42**	**221**	Pn	**Pn**	**02 04 09.7**	**+0.3**
SDPT				IAML		02 04 51.0	
	comp=E,1µm,1.1s						
SDPT				IAML		02 04 55.8	
	comp=N,851nm,0.9s						
SDPT	**Sand Point**	**2.42**	**221**	P	**Pn**	**02 04 09.2**	**-0.1**
	baz=38						
Q19K	**Cape Douglas,**	**2.76**	**49**	Pn	**Pn**	**02 04 14.1**	**-0.2**
Q19K	**Cape Douglas,**	**2.76**	**49**	P	**Pn**	**02 04 14.3**	**+0.1**
	baz=234						
KDAK	**Kodiak Island**	**2.81**	**76**	Pn	**Pn**	**02 04 15.1**	**+0.2**
	comp=N,16nm,0.3s,baz=275,slow=7.2,SNR=192						
KDAK				Lg	Lg	02 04 51.5	
	comp=N,14nm,0.3s,baz=252,slow=21,SNR=5.7						
KDAK	**Kodiak Island**	**2.81**	**76**	P	**Pn**	**02 04 15.4**	**+0.5**
KDAK	**Kodiak Island**	**2.81**	**76**		**Pn**	**02 04 15.4**	**+0.5**
BLHA	**Black Hill**	**2.86**	**240**		**Pn**	**02 04 16.2**	**+0.8**
BLHA	**Black Hill**	**2.86**	**240**	P	**Pn**	**02 04 16.2**	**+0.8**
	baz=56						
PS4A	**Pavlof South-4**	**2.97**	**233**		**Pn**	**02 04 18.1**	**+1.0**
AUQ	**Augustine Qik'**	**3.13**	**44**		**Pn**	**02 04 19.8**	**+0.6**
P19K	**Oil Pt**	**3.40**	**42**		**Pn**	**02 04 23.3**	**+0.3**
P19K				IAML		02 05 33.0	
	comp=E,597nm,0.8s						
O19K	**Port Alsworth**	**3.49**	**29**		**Pn**	**02 04 24.6**	**+0.5**
O19K	**Port Alsworth**	**3.49**	**29**	P	**Pn**	**02 04 24.6**	**+0.5**
	baz=212						
O20K	**Slope Mountain**	**3.92**	**40**		**Pn**	**02 04 30.9**	**+0.8**
O20K	**Slope Mountain**	**3.92**	**40**	P	**Pn**	**02 04 30.9**	**+0.8**
	baz=225						
N19K	**Bonanza Creek**	**3.99**	**23**		**Pn**	**02 04 31.3**	**+0.2**
N19K	**Bonanza Creek**	**3.99**	**23**	IAML		02 05 50.8	
	comp=E,274nm,0.8s						
N19K				IAML		02 05 50.8	
	comp=N,246nm,0.8s						
N19K	**Bonanza Creek**	**3.99**	**23**	P	**Pn**	**02 04 31.3**	**+0.2**
	baz=206						
SVW2	**Sparrevohn**	**4.06**	**15**		**Pn**	**02 04 32.2**	**+0.2**
SVW2	**Sparrevohn**	**4.06**	**15**	IAML		02 05 47.4	
	comp=E,217nm,0.5s						
SVW2				IAML		02 05 48.0	
	comp=N,184nm,0.7s						
RED	**Redoubt Volcan**	**4.12**	**36**		**Pn**	**02 04 33.4**	**+0.5**
CNPM	**China Poot**	**4.12**	**53**		**Pn**	**02 04 33.4**	**+0.5**
RDWB	**Redoubt West**	**4.15**	**35**		**Pn**	**02 04 33.7**	**+0.3**
RSO	**Redoubt South**	**4.16**	**36**		**Pn**	**02 04 34.4**	**+0.8**
BRLK	**Bradley Lake**	**4.40**	**51**		**Pn**	**02 04 38.1**	**+1.4**
BRSE	**Bradley Lake S**	**4.45**	**52**		**Pn**	**02 04 38.2**	**+0.8**
BRSE	**Bradley Lake S**	**4.45**	**52**	P	**Pn**	**02 04 38.2**	**+0.8**
	baz=238						
M19K	**Big River Lodg**	**5.01**	**18**		**Pn**	**02 04 45.5**	**+0.4**
M19K	**Big River Lodg**	**5.01**	**18**	IAML		02 06 22.1	
	comp=N,96nm,0.9s						
M19K	**Big River Lodg**	**5.01**	**18**	P	**Pn**	**02 04 45.5**	**+0.4**
	baz=201						
SPCG	**Spurr Capps Gl**	**5.03**	**33**		**Pn**	**02 04 46.6**	**+1.2**
L19K	**White Mountain**	**5.21**	**15**		**Pn**	**02 04 47.7**	**0.0**
L19K	**White Mountain**	**5.21**	**15**	IAML		02 06 20.8	
	comp=N,140nm,0.8s						
L19K				IAML		02 06 49.0	
	comp=E,153nm,1.1s						
L19K	**White Mountain**	**5.21**	**15**	P	**Pn**	**02 04 47.7**	**0.0**
	baz=198						
M20K	**Styx River**	**5.24**	**24**	Pn	**Pn**	**02 04 48.0**	**-0.3**
M20K				IAML		02 06 27.3	
	comp=N,128nm,0.8s						
M20K				IAML		02 06 27.5	
	comp=E,117nm,0.9s						
STLK	**Strandline Lak**	**5.25**	**32**		**Pn**	**02 04 50.0**	**+1.6**
L20K	**Farewell, AK**	**5.64**	**18**		**Pn**	**02 04 54.2**	**+0.5**
L20K	**Farewell, AK**	**5.64**	**18**	P	**Pn**	**02 04 54.2**	**+0.5**
	baz=202						
RC01	**Rabbit Creek A**	**5.66**	**43**		**Pn**	**02 04 53.8**	**0.0**
TTA	**Tatalina**	**5.82**	**8**	P	**Pn**	**02 04 55.9**	**-0.3**
TTA	**Tatalina**	**5.82**	**8**		**Pn**	**02 04 55.9**	**-0.3**
TTA	**Tatalina**	**5.82**	**8**	P	**Pn**	**02 04 55.9**	**-0.3**
	baz=189						
UNV	**Unalaska Valle**	**6.03**	**240**	Pn	**Pn**	**02 04 59.6**	**+0.6**
PWL	**Port Wells**	**6.07**	**49**		**Pn**	**02 04 57.4**	**-2.1**
PMR	**Palmer**	**6.21**	**41**	P	**Pn**	**02 05 01.3**	**-0.1**
PMR	**Palmer**	**6.21**	**41**	Pn	**Pn**	**02 05 01.3**	**-0.1**
PPLA	**Purkeypile**	**6.35**	**23**		**Pn**	**02 05 04.6**	**+1.1**
PPLA	**Purkeypile**	**6.35**	**23**	P	**Pn**	**02 05 04.6**	**+1.1**
	baz=208						
GHO	**Glory Hole Cre**	**6.40**	**40**	Pn	**Pn**	**02 05 04.0**	**-0.1**
K20K	**Telida**	**6.44**	**15**		**Pn**	**02 05 04.9**	**+0.3**
K20K	**Telida**	**6.44**	**15**	P	**Pn**	**02 05 04.9**	**+0.3**
	baz=198						
SML	**Sawmill**	**6.63**	**42**	Pn	**Pn**	**02 05 06.9**	**-0.4**
SPIA	**Saint Paul Isl**	**6.83**	**275**		**Pn**	**02 05 10.2**	**+0.2**
CAST	**Castle Rocks**	**6.84**	**22**	Pn	**Pn**	**02 05 09.0**	**-1.0**
SCM	**Sheep Creek Mo**	**7.03**	**44**	P	**Pn**	**02 05 12.4**	**-0.3**
SCM	**Sheep Creek Mo**	**7.03**	**44**		**Pn**	**02 05 12.4**	**-0.3**
EYAK	**Cordova Ski Ar**	**7.04**	**56**	Pn	**Pn**	**02 05 12.7**	**-0.1**
KTH	**Kantishna Hill**	**7.20**	**25**		**Pn**	**02 05 15.4**	**+0.3**
J20K	**Nowinta River**	**7.22**	**12**	Pn	**Pn**	**02 05 14.8**	**-0.6**
TRF	**Thorofare Moun**	**7.27**	**27**		**Pn**	**02 05 16.9**	**+0.7**
KLU	**Klutina**	**7.39**	**49**		**Pn**	**02 05 17.0**	**-0.8**
RAGM	**Ragged Mountai**	**7.48**	**59**	Pn	**Pn**	**02 05 19.5**	**+0.6**
RND	**Reindeer**	**7.62**	**31**	P	**Pn**	**02 05 21.4**	**+0.6**
RND	**Reindeer**	**7.62**	**31**	Pn	**Pn**	**02 05 21.4**	**+0.6**
M24K	**Tolsona, Glenn**	**7.63**	**45**		**Pn**	**02 05 20.7**	**-0.3**
HMT	**Hamilton**	**7.65**	**60**	Pn	**Pn**	**02 05 20.9**	**-0.4**
BPAW	**Bear Paw Mtn.**	**7.67**	**23**	Pn	**Pn**	**02 05 21.3**	**-0.2**
DHY	**Denali Highway**	**7.82**	**37**		**Pn**	**02 05 23.2**	**-0.5**
MCK	**McKinley**	**7.85**	**30**	P	**Pn**	**02 05 24.1**	**+0.1**
MCK	**McKinley**	**7.85**	**30**	Pn	**Pn**	**02 05 24.1**	**+0.1**
N25K	**Chitina, Valde**	**8.00**	**51**	Pn	**Pn**	**02 05 25.9**	**-0.2**
BWN	**Browne**	**8.07**	**26**		**Pn**	**02 05 27.2**	**+0.2**
GLB	**Gilahina Butte**	**8.27**	**53**	Pn	**Pn**	**02 05 29.6**	**-0.2**
ANM	**Nome**	**8.29**	**336**	P	**Pn**	**02 05 30.5**	**+0.5**
ANM	**Nome**	**8.29**	**336**	Pn	**Pn**	**02 05 30.5**	**+0.5**
VRDI	**Verde Repeater**	**8.34**	**55**	Pn	**Pn**	**02 05 30.8**	**-0.1**
PAX	**Paxson**	**8.41**	**41**	P	**Pn**	**02 05 31.9**	**+0.2**
PAX	**Paxson**	**8.41**	**41**	Pn	**Pn**	**02 05 31.9**	**+0.2**
I21K	**Tanana**	**8.47**	**17**		**Pn**	**02 05 32.0**	**-0.5**
NEA2	**Nenana**	**8.52**	**26**		**Pn**	**02 05 32.7**	**-0.4**
MLY	**Manley**	**8.55**	**20**	Pn	**Pn**	**02 05 33.3**	**-0.3**
ISLE	**Juniper Island**	**8.64**	**60**		**Pn**	**02 05 34.7**	**-0.2**
WRH	**Wood River Hil**	**8.66**	**29**		**Pn**	**02 05 35.3**	**+0.2**
H21K	**Melozitna Rive**	**8.81**	**13**		**Pn**	**02 05 36.0**	**-1.1**
HDA	**Harding Lake**	**8.93**	**31**		**Pn**	**02 05 38.9**	**+0.2**
I23K	**Minto, Yukon-K**	**8.93**	**23**		**Pn**	**02 05 38.8**	**+0.1**
MDM	**Murphy Dome**	**9.03**	**26**		**Pn**	**02 05 39.7**	**-0.4**
COLA	**College**	**9.05**	**28**	*de*P	**Pn**	**02 05 41.8**	**+1.4**
RIDG	**Independent Ri**	**9.11**	**39**		**Pn**	**02 05 41.5**	**+0.2**
TABL	**Table Mountain**	**9.17**	**62**		**Pn**	**02 05 42.8**	**+0.5**
IL31		**9.22**	**30**	Pn	**Pn**	**02 05 42.4**	**-0.3**
ILAR	**Eielson Array**	**9.22**	**30**	Pn	**Pn**	**02 05 43.2**	**+0.5**
	comp=E,0.7nm,0.3s,baz=216,slow=14,SNR=37						
ILAR				Lg	Lg	02 08 11.3	
	comp=E,0.1nm,0.3s,baz=222,slow=26,SNR=2.1						
ILAR				LR	LR	02 09 33.5	
	comp=E,62nm,20.1s,baz=215,slow=40						
DOT	**Dot Lake**	**9.33**	**40**	Pn	**Pn**	**02 05 44.4**	**+0.2**
J25K	**Salcha River,**	**9.54**	**34**		**Pn**	**02 05 47.1**	**-0.1**
SCRK	**Sand Creek**	**9.56**	**39**		**Pn**	**02 05 47.8**	**+0.4**
TNA	**Tin City**	**9.71**	**334**	Pn	**Pn**	**02 05 48.7**	**-0.7**
L27K	**Beaver Creek,**	**9.84**	**47**	Pn	**Pn**	**02 05 50.2**	**-1.0**
H24K	**Noodor Dome**	**9.84**	**24**	Pn	**Pn**	**02 05 50.8**	**-0.5**
BCAR	**Beaver Creek A**	**9.86**	**47**	Pn	**Pn**	**02 05 52.1**	**+0.6**
COLD	**Coldfoot**	**10.65**	**16**	Pn	**Pn**	**02 06 02.3**	**+0.1**
DAWY	**Dawson**	**11.28**	**45**	Pn	**Pn**	**02 06 10.8**	**-0.2**
TOLK	**Toolik Lake Re**	**12.05**	**14**	Pn	**Pn**	**02 06 22.5**	**+1.0**
INK	**Inuvik**	**15.55**	**35**	Pn	**Pn**	**02 07 07.1**	**-1.8**
	comp=E,0.3nm,0.3s,baz=222,slow=14,SNR=6.2						
INK				LR	LR	02 12 50.0	
	comp=E,80nm,18.3s,baz=112,slow=37						
INK	**Inuvik**	**15.55**	**35**	P	**Pn**	**02 07 07.1**	**-1.8**
INK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
C36M	**Paulatuk**	**19.07**	**37**	P	**P**	**02 07 50.8**	**-1.1**
BILL	**Bilibino**	**19.48**	**318**	*e*P	**Pn**	**02 08 00.2**	**+2.5**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s						
BILL	**Bilibino**	**19.48**	**318**	P	**P**	**02 07 52.7**	**-3.7**
BILL				IAmb	IAmb	02 08 07.3	
	comp=Z,6.4nm,1.0s						
A36M	**Sachs Harbour**	**19.92**	**29**	P	**P**	**02 07 57.7**	**-3.6**
A36M				IAmb	IAmb	02 08 06.8	
	comp=Z,7.6nm,0.8s						
YKA	**Yellowknife Ar**	**21.94**	**58**	P	**P**	**02 08 22.8**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=272,slow=9.9,SNR=77						
YKA				PcP	**PcP**	**02 12 21.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=281,slow=2.1,SNR=11						
YKA				ScP	**ScP**	**02 15 60.0**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=278,slow=2.4,SNR=3.7						
YKA	**Yellowknife Ar**	**21.94**	**58**	*ce*P	**P**	**02 08 23.1**	**0.0**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YKA	**Yellowknife Ar**	**21.94**	**58**	P	**P**	**02 08 23.2**	**+0.1**
YKA					**PcP**	**02 12 19.0**	**-2.3**
SEY	**Seymchan**	**25.02**	**304**	P	**P**	**02 08 54.5**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=76,slow=8.8,SNR=6.4						
EDM	**Edmonton**	**25.26**	**80**	P	**P**	**02 08 55.3**	**-0.5**
EDM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
EDM	**Edmonton**	**25.26**	**80**	P	**P**	**02 08 55.3**	**-0.5**
H04A	**Detroit Lake**	**25.31**	**104**	P	**P**	**02 08 56.7**	**+0.4**
H04A				IAmb	IAmb	02 09 02.8	
	comp=Z,11nm,1.4s						
MA2	**Magadan**	**26.58**	**297**	P	**P**	**02 09 09.4**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=133,slow=6.9,SNR=3.8						
MA2	**Magadan**	**26.58**	**297**⇓	*e*P	**P**	**02 09 09.2**	**+1.6**
MA2				pmax	pmax		
	comp=Z,15nm,2.5s						
MA2	**Magadan**	**26.58**	**297**	P	**P**	**02 09 07.2**	**-0.5**
MA2				IAmb	IAmb	02 09 11.5	
	comp=Z,2.9nm,0.8s						
RES	**Resolute Bay**	**28.98**	**29**	PcP	**PcP**	**02 12 37.4**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=180,slow=2.0,SNR=4.2						
NVAR	**Mina Array Bea**	**31.82**	**109**	P	**P**	**02 09 57.0**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=309,slow=8.1,SNR=9.0						
NVAR				LR	LR	02 21 54.4	
	comp=Z,47nm,19.1s,baz=291,slow=35						
NVAR	**Mina Array Bea**	**31.82**	**109**	P	**P**	**02 09 55.1**	**+0.4**
OMMB	**Old Mammoth Mi**	**32.08**	**111**	P	**P**	**02 09 56.8**	**-0.3**
OMMB				IAmb	IAmb	02 10 07.4	
	comp=Z,5.5nm,1.2s						
TIXI	**Tiksi**	**32.36**	**325**	P	**P**	**02 09 59.9**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=3.8						
TIXI	**Tiksi**	**32.36**	**325**⇓	*i*P	**P**	**02 09 59.5**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s						
TIXI	**Tiksi**	**32.36**	**325**	IAmb	IAmb	02 10 00.5	
	comp=Z,2.0nm,0.8s						
R11A	**Troy Canyon, C**	**33.29**	**106**	P	**P**	**02 10 05.9**	**-1.6**
R11A				IAmb	IAmb	02 10 23.7	
	comp=Z,1.4nm,0.8s						
PD31	**Pinedale Array**	**33.37**	**95**	P	**P**	**02 10 07.2**	**-1.0**
PDAR	**Pinedale Array**	**33.37**	**95**	P	**P**	**02 10 09.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=308,slow=5.4,SNR=6.9						
YAK	**Yakutsk**	**35.28**	**309**	LR	LR	02 26 08.4	
	comp=Z,39nm,19.2s,baz=72,slow=39						
YAK	**Yakutsk**	**35.28**	**309**⇓	*e*P	**P**	**02 10 25.0**	**+0.8**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
113A	**Mohawk Valley,**	**38.53**	**110**	P	**P**	**02 10 52.4**	**+0.2**
113A				IAmb	IAmb	02 11 21.8	
	comp=Z,4.5nm,1.4s						
ZEA	**Zeya**	**40.70**	**298**	*e*P	P	02 11 03.2	-6.9
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KLR	**Kul'dur**	**41.22**	**290**⇑	*e*P	**P**	**02 11 13.6**	**-0.8**
KLR				pmax	pmax		
	comp=Z,7.0nm,2.5s						
NRIK	**Noril'sk**	**45.31**	**333**	P	**P**	**02 11 48.2**	**+1.1**
	comp=Z,1.8nm,0.4s,baz=26,slow=8.5,SNR=4.1						
NRIK	**Noril'sk**	**45.31**	**333**	IAmb	IAmb	02 11 51.3	
	comp=Z,2.3nm,0.6s						
TXAR	**Lajitas Array**	**46.52**	**103**	P	**P**	**02 11 58.1**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=310,slow=5.4,SNR=4.8						
SCHQ	**Schefferville**	**47.19**	**52**	P	**P**	**02 12 02.0**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=309,slow=7.3,SNR=14						
SCHQ				PcP	**PcP**	**02 13 33.7**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=270,slow=1.0,SNR=1.4						
ARCES	**ARCESS Array B**	**53.55**	**359**	P	**P**	**02 12 50.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=354,slow=7.3,SNR=5.0						
ARCES	**ARCESS Array B**	**53.55**	**359**	P	**P**	**02 12 50.0**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ARCES	**ARCESS Array B**	**53.55**	**359**	IAmb	IAmb	02 12 60.0	

	comp=Z,9.9nm,1.4s						
SONM	Songino Array	54.41	305	P	P	02 12 57.5	+0.7
	comp=Z,1.4nm,0.7s,baz=42,slow=6.4,SNR=9.8						
ZALV	Zalesovo Beam	58.13	322	P	P	02 13 24.9	+1.9
	comp=Z,0.3nm,0.3s,baz=46,slow=8.3,SNR=2.0						
FINES	FINESS Array B	61.67	358	P	P	02 13 46.5	-0.7
	comp=Z,1.1nm,0.7s,baz=355,slow=6.5,SNR=9.2						
NOA	NORSAR Array B	61.79	6	P	P	02 13 47.4	-0.7
	comp=Z,0.7nm,0.8s,baz=353,slow=6.8,SNR=3.4						
VSU	Vasula	64.64	357	⇑eP	P	02 14 06.9	-0.1
VSU				pmax	pmax		
	comp=Z,29nm,1.6s						
MKAR	Makanchi Array	65.02	319	P	P	02 14 11.3	+1.6
	comp=Z,0.2nm,0.6s,baz=25,slow=6.4,SNR=2.2						
AKTO	Aktyubinsk	68.77	336	LR	LR	02 47 00.8	
	comp=Z,31nm,18.1s,baz=18,slow=38						
AKASG	Malin Array Be	72.32	355	P	P	02 14 53.5	-1.6
	comp=Z,1.4nm,0.4s,baz=8.7,slow=6.1,SNR=6.1						
AKASG	Malin Array Be	72.32	355	iP	P	02 14 53.5	-1.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKBB	Malin Array Si	72.32	355	⇓iP	P	02 14 53.8	-1.3
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KHC	Kasperske Hory	73.80	6	⇑eP	P	02 15 03.9	0.0
KHC				pmax	pmax		
	comp=Z,19nm,3.1s						
MSVF	Nonsavu	77.35	204	LR	LR	02 43 44.3	
	comp=Z,66nm,20.5s,baz=7.4,slow=31						
ESDC	Sonseca Array	80.99	20	P	P	02 15 44.1	-0.3
	comp=Z,0.5nm,0.5s,baz=339,slow=4.8,SNR=9.3						
ESDC				LR	LR	02 54 22.5	
	comp=Z,18nm,18.0s,baz=18,slow=38						
CMAR	Chiang Mai Arr	81.70	291	P	P	02 15 49.0	+0.6
	comp=Z,0.7nm,0.3s,baz=5.3,slow=3.9,SNR=4.4						
WRA	Warramunga Arr	95.30	241	LR	LR	02 59 58.2	
	comp=Z,29nm,19.4s,baz=106,slow=36						
BOSA	Boshof	151.36	355	PKPbc	PKPbc	02 23 22.4	-1.0
	comp=Z,3.5nm,0.8s,baz=18,slow=1.3,SNR=7.4						
VNA2	Neumayer--Watz	161.38	149	PKPab	PKPab	02 24 12.5	-0.7
VNA2	Neumayer--Watz	161.38	149	PKPdf	PKPdf	02 23 30.3	+1.4
SNAA	Sanae	162.11	154	PKPdf	PKPdf	02 23 28.5	-1.2
TROLL	Troll, Antarti	163.03	159	PKPab	PKPab	02 24 18.9	-1.8
TROLL	Troll, Antarti	163.03	159	PKPdf	PKPdf	02 23 31.6	+0.9

*IDC **03** 02:19:01.6±1.0, 21°.19S×68°.71W, h116^{km}±11^{km}, mb3.6/8, mb1 3.8/11, mb1mx3.7/23, mbtmp4.1/11, Error ellipse: s-maj=20.2km s-min=14.9km az=110.0*
*NEIC **03** 02:19:01.3±1.2, 21°.20S±0°.05×68°.91W±0°.09, h117^{km}±3^{km}, mb4.3/8, ML4.3(GUC), Error ellipse: s-maj=12.4km s-min=6.9km az=87.0*
*GUC **03** 02:19:01.9±0.7, 21°.21S×68°.83W, h114^{km}±4^{km}, ML4.3*
*VAO **03** 02:19:01.9±0.4, 21°.16S×68°.65W, h111^{km}±5^{km}, mb4.4*
ISC 03 02:19:00.7±0.6**, 21°.22S**±0°.03×**68°.87W**±0°.05**, h118**^{km}±5^{km}**, n90, σ1^{s}04**/106**, mb4.0**/7**, 8C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.60	287	Pn	Pn	02 19 19.4	+0.1
PB01	IPOC Station P	0.60	287	⇑iP	Pn	02 19 19.7	+0.4
PB01				iS	Sn	02 19 33.1	-0.2
PB01				IAML		02 19 34.3	
	comp=E,13μm,0.2s						
PB09	IPOC Station P	0.67	211		Pn	02 19 20.7	+0.8
PB09	IPOC Station P	0.67	211	eP	Pn	02 19 20.4	+0.5
PB09				eS	Sn	02 19 35.0	+0.6
PB09				IAML		02 19 37.6	
	comp=E,5μm,0.3s						
PB02	IPOC Station P	0.96	264		Pn	02 19 22.9	+0.5
PB02	IPOC Station P	0.96	264	⇑iP	Pn	02 19 23.0	+0.7
PB02				eS	Sn	02 19 39.4	+0.7
PB02				IAML		02 19 40.2	
	comp=N,10μm,0.3s						
PB07	IPOC Station P	1.08	242		Pn	02 19 24.0	+0.4
PB07	IPOC Station P	1.08	242	⇑iP	Pn	02 19 24.2	+0.7
PB07				iS	Sn	02 19 41.8	+1.0
PB07				IAML		02 19 43.0	
	comp=E,7μm,0.1s						
PB08	IPOC Station P	1.10	346	Pn	Pn	02 19 24.9	+0.8
PB08	IPOC Station P	1.10	346	⇑iP	Pn	02 19 24.9	+0.8
PB08				iS	Sn	02 19 42.5	+0.8
PATCX	Punta Patache	1.26	288	Pn	Pn	02 19 25.2	-0.3
PATCX	Punta Patache	1.26	288	⇑iP	Pn	02 19 26.1	+0.6
PATCX				iS	Sn	02 19 44.4	+0.2
PATCX				IAML		02 19 46.5	
	comp=E,8μm,0.4s						
HMBC	Humberstone	1.33	314	⇑iP	Pn	02 19 26.4	+0.1
HMBC				iS	Sn	02 19 45.3	-0.4
HMBC				IAML		02 19 46.7	
	comp=N,4μm,0.3s						
LVC	Limon Verde	1.39	182	P	Pn	02 19 28.3	+1.2
	comp=N,69nm,0.3s,baz=28,slow=11,SNR=718						
LVC				LR	LR	02 19 46.0	
	comp=N,59nm,20.4s,baz=324,slow=31						
LVC				S	Sn	02 19 48.4	+1.3
	comp=N,362nm,0.3s,baz=224,slow=18,SNR=131						
LVC	Limon Verde	1.39	182		Pn	02 19 28.5	+1.3
LVC	Limon Verde	1.39	182	eP	Pn	02 19 28.2	+1.0
LVC				iS	Sn	02 19 48.5	+1.3
LVC	Limon Verde	1.39	182	eP	Pn	02 19 28.5	+1.3
LVC				eS	Sn	02 19 48.9	+1.8
TA02	Huaiquique	1.51	308	Pn	Pn	02 19 27.8	-0.4
TA02	Huaiquique	1.51	308	eP	Pn	02 19 28.1	-0.1
TA02				eS	Sn	02 19 48.2	-0.8
TA02				IAML		02 19 52.5	
	comp=N,4μm,0.1s						
GO01	Chusmiza	1.57	349		Pn	02 19 29.9	+0.5
GO01	Chusmiza	1.57	349	⇓eP	Pn	02 19 29.9	+0.5
GO01				eS	Sn	02 19 51.8	+0.7
PB06	IPOC Station P	1.62	204		Pn	02 19 30.2	+0.6
PB06	IPOC Station P	1.62	204	⇑iP	Pn	02 19 30.6	+1.0
PB06				iS	Sn	02 19 52.4	+0.8
PB06				IAML		02 19 53.8	
	comp=E,5μm,0.3s						
PB11	IPOC Station P	1.63	333	Pn	Pn	02 19 29.8	+0.1
PB11	IPOC Station P	1.63	333	⇓eP	Pn	02 19 29.9	+0.2
PB11				iS	Sn	02 19 51.9	+0.2
PB11				IAML		02 19 53.0	
	comp=E,4μm,0.3s						
PB04	IPOC Station P	1.63	227		Pn	02 19 29.7	0.0
PB04	IPOC Station P	1.63	227	⇑iP	Pn	02 19 30.4	+0.6
PB04				eS	Sn	02 19 52.4	+0.5
PB04				IAML		02 19 54.1	
	comp=E,4μm,0.6s						
PB15	IPOC Station P	2.06	196		Pn	02 19 35.6	+0.6
PB15	IPOC Station P	2.06	196	eP	Pn	02 19 36.1	+1.1
PB15				eS	Sn	02 20 02.2	+1.0
PB14	IPOC Station P	3.68	202	Pn	Pn	02 19 54.7	-1.5
PB14	IPOC Station P	3.68	202	eP	Pn	02 19 55.8	-0.4
GO02	Mina Guanaco	3.98	189	Pn	Pn	02 20 00.5	+0.2
LPAZ	La Paz	4.95	8	P	Pn	02 20 15.2	+1.6
	comp=E,4.6nm,0.3s,baz=144,slow=6.7,SNR=55						
LPAZ				S	Sn	02 21 12.6	+2.4
	comp=E,1.1nm,0.3s,baz=246,slow=20,SNR=1.7						
LPAZ	La Paz	4.95	8	Pn	Pn	02 20 14.2	+0.6
LPAZ	La Paz	4.95	8	eP	Pn	02 20 14.6	+1.0
AC01	Pan de Azucar	5.16	198	Pn	Pn	02 20 14.0	-1.8
AC02	Maricunga	5.60	182	Pn	Pn	02 20 22.3	+0.1
GO03	Copiap	6.47	191		Pn	02 20 31.7	-1.8
CO01	Juntas del Tor	8.79	187		Pn	02 21 03.0	-2.1
SIV	San Ignacio	9.03	56	P	Pn	02 21 05.5	-2.8
	comp=E,25nm,0.3s,baz=247,slow=10,SNR=427						
GO04	Tololo Observa	9.09	191		Pn	02 21 06.0	-3.0
PTLB	Pontes e Lacer	10.87	60	eP	Pn	02 21 30.2	-2.9
ETMB	Extrema	11.62	13	eP	Pn	02 21 42.3	-0.7
VILB	Vilhena	11.67	47	eP	Pn	02 21 41.9	-1.8
AQDB	Aquidauana	12.34	89		Pn	02 21 52.4	+0.1
AQDB	Aquidauana	12.34	89	eP	Pn	02 21 51.5	-0.9
SALV	Santo Antonio	13.56	69	eP	Pn	02 22 06.8	-1.6
PDRB	Porto dos Gac	15.05	53	eP	P	02 22 28.6	-1.2
FRTB	Fartura	17.99	100	eP	Pn	02 23 02.4	-1.0
BB19B	Bebedouro	18.98	93	eP	P	02 23 12.2	-0.8
SNDB	Serra Nova Dou	19.17	64	eP	P	02 23 14.1	-1.0
NPGB	Novo Progresso	19.21	45	eP	P	02 23 13.9	-1.7
PLCA	Paso Flores	19.51	184	P	Pn	02 23 20.5	-0.6
	comp=E,0.2nm,0.3s,baz=358,slow=11,SNR=6.4						
PLCA	Paso Flores	19.51	184	IAmb	IAmb	02 23 25.7	
	comp=Z,4.2nm,0.9s						
MACA	Manacapuru-AM	19.64	25	eP	P	02 23 20.3	+0.1
IPMB	Ipameri, GO	19.72	84	eP	P	02 23 21.2	0.0
MCRA	Macar, Loja	19.91	326	P	P	02 23 23.5	+0.3
MCRA				IAmb	IAmb	02 23 28.9	
	comp=Z,9.8nm,1.0s						
BOSC	San Juan Bosco	20.25	331	P	P	02 23 26.5	-0.6
BDFB	Brasilia	20.54	78	P	P	02 23 30.3	+0.2
	comp=Z,6.7nm,0.4s,baz=253,slow=9.9,SNR=20						
BDFB	Brasilia	20.54	78	P	P	02 23 29.5	-0.6
BDFB				IAmb	IAmb	02 23 33.4	
	comp=Z,7.8nm,0.5s						
BDFB	Brasilia	20.54	78	eP	P	02 23 30.0	0.0
ITTB	Itaituba	21.05	39	eP	P	02 23 34.1	-1.4
PEXB	Peixe	21.66	69	eP	P	02 23 41.5	-0.6
SMTB	Santa Maria do	23.90	62	eP	P	02 24 04.0	+0.2
MALB	Monte Alegre	23.94	38	eP	P	02 24 03.7	-0.3
JANB	Januaria	24.11	79	eP	P	02 24 05.5	-0.1
SDBA	SAO DESIDERIO	24.53	73	eP	P	02 24 09.6	+0.1
MCPB	Macapa, AP	26.44	41	eP	P	02 24 28.2	+1.5
NAN01	Guarapari, ES	27.28	88	eP	P	02 24 34.2	0.0
GUA01	Guaratinga, BA	27.86	85	eP	P	02 24 39.4	0.0
GDU01	Guandu, BA	28.88	80	eP	P	02 24 48.0	-0.6
NBPS	Pedro II - PI	31.44	62	eP	P	02 25 11.7	+0.5
NBLA	Lagarto - SE	31.48	76	eP	P	02 25 10.9	-0.6
NBPB	Pedra_Branca-C	32.38	65	eP	P	02 25 20.0	+0.7
TXAR	Lajitas Array	60.42	325	P	P	02 28 59.0	+1.1
	comp=Z,0.4nm,0.7s,baz=147,slow=8.5,SNR=5.7						
DBIC	Dimbokro	68.62	74	P	P	02 29 52.1	+0.6
	comp=Z,0.6nm,0.3s,baz=225,slow=5.7,SNR=1.2						
DBIC	Dimbokro	68.62	74	P	P	02 29 51.4	-0.1
DBIC				IAmb	IAmb	02 30 08.3	
	comp=Z,6.1nm,1.1s						
PDAR	Pinedale Array	73.89	330	P	P	02 30 24.1	+1.1
	comp=Z,0.3nm,0.6s,baz=134,slow=8.5,SNR=3.4						
NVAR	Mina Array Bea	75.30	322	P	P	02 30 33.4	+2.3
	comp=Z,0.4nm,0.7s,baz=152,slow=6.5,SNR=4.5						
SCHQ	Schefferville	75.76	1	P	P	02 30 33.5	+0.4
	comp=Z,2.1nm,0.8s,baz=210,slow=5.1,SNR=5.5						
TORD	Torodi Ar. Bea	77.22	70	P	P	02 30 42.2	-0.1
	comp=Z,0.7nm,0.3s,baz=246,slow=4.9,SNR=26						
TORD				pP	pP	02 31 13.7	+0.1
	comp=Z,0.6nm,0.5s,baz=255,slow=5.7,SNR=2.4						
TORD	Torodi Ar. Bea	77.22	70	IAmb	IAmb	02 30 49.3	
	comp=Z,1.6nm,0.6s						
YKA	Yellowknife Ar	90.93	341	P	P	02 31 51.7	+1.1
	comp=Z,1.2nm,0.6s,baz=136,slow=4.5,SNR=22						
ASAR	Alice Springs	130.18	208	PKP	PKiKP	02 37 58.2	-0.3
	comp=Z,0.2nm,0.5s,baz=134,slow=2.7,SNR=1.7						
WRA	Warramunga Arr	133.22	211	PKP	PKiKP	02 38 04.3	-0.3
	comp=Z,0.3nm,0.6s,baz=144,slow=1.8,SNR=2.0						
ZALV	Zalesovo Beam	141.68	25	PKP	PKPdf	02 38 18.3	+0.5
	comp=Z,0.4nm,0.3s,baz=302,slow=3.2,SNR=4.0						
KSH	Kashi	144.89	51	PKP	PKPdf	02 38 25.2	+1.0
MKAR	Makanchi Array	145.38	36	PKPbc	PKPab	02 38 26.2	+1.2
	comp=Z,2.8nm,0.8s,baz=320,slow=3.1,SNR=26						
MKAR	Makanchi Array	145.38	36		PKPab	02 38 25.2	+0.1
PZH	PanZhiHua	169.93	57	PKP	PKPdf	02 38 53.7	-1.4

*IDC **03** 03:00:58.7±0.8, 15°.03N×122°.88E, h0^{km}, mb3.8/11, mb1 3.9/11, mb1mx3.7/44, mbtmp3.8/11, ML5.1/1, MS3.2/5, Ms1 3.2/5, ms1mx2.7/86, Error ellipse: s-maj=17.0km s-min=14.5km az=108.0*
*MAN **03** 03:00:59.5, 15°.23N×122°.70E, h1^{km}, mb5.0, ML3.9, MS3.9, Hypocentre not reviewed by the ISC*
*NEIC **03** 03:01:00.7±1.3, 15°.05N±0°.08×122°.8E±0°.2, h10^{km}±1^{km}, mb4.2/14, Error ellipse: s-maj=24.7km s-min=13.3km az=92.0*
ISC 03 03:01:03.2±1.7**, 15°.12N**±0°.04×**122°.78E**±0°.07**, h32**^{km}±13^{km}**, n45, σ1^{s}31**/44**, mb4.0**/18**, MS3.2**/5**, 4C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCNP	Jose Panganiba	0.83	185	⇑iP	Pn	03 01 17.9	-0.7
JCNP				iS	Sn	03 01 29.2	-0.5
GQP	Guinayangan	1.25	195	⇑eP	Pb	03 01 24.6	-1.6
GQP				eS	Sn	03 01 41.5	+1.4
LQP	Lukban	1.56	230	⇓eP	Pn	03 01 28.2	-0.7
LQP				iS	Sb	03 01 53.8	+2.7
PCPH	Palayan	1.68	285	⇑eP	Pn	03 01 28.4	-2.0
PCPH				eS	Sn	03 01 49.3	-1.5
TGY	Tagaytay City	2.05	241	Pn	Pb	03 01 36.9	-2.8
	637nm,0.3s,baz=64,slow=3.0,SNR=55						
TGY				Lg	Lg	03 02 05.5	
	285nm,0.3s,baz=151,slow=19,SNR=4.7						
TGY	Tagaytay City	2.05	241	⇓eP	Pb	03 01 39.6	-0.2
TGY				iS	Sb	03 02 07.8	+2.9
PGP	Puerto Galera	2.39	228	⇓eP	Pn	03 01 40.8	+0.6
PGP				iS	Sb	03 02 16.1	+1.5
CVP	Callao Caves	2.73	341	eP	Pn	03 01 44.0	-0.9
CVP				eS	Sn	03 02 17.1	+0.3
APYP	Conner	3.10	332	⇑iP	Pn	03 01 48.9	-1.0
APYP				iS	Sn	03 02 24.9	-0.9
YOJ	Yonaguni jima	9.30	1	Pn	Pn	03 03 15.9	+0.9
TOLI2	Tolitoli	14.05	188		Pn	03 04 20.1	-0.1
SBUM	Sibu	16.34	221	Pn	Pn	03 04 50.4	+0.2
KSM	Kuching	18.31	223	P	P	03 05 15.0	+0.2
KSRS	Korea Array	22.71	11	P	P	03 06 03.0	+0.7
	0.5nm,0.4s,baz=197,slow=11,SNR=2.8						
KSRS				LR	LR	03 15 13.4	
	comp=Z,22nm,21.1s,baz=195,slow=38						
CMAR	Chiang Mai Arr	23.05	282	P	P	03 06 06.8	+0.7
	4.3nm,0.8s,baz=92,slow=7.5,SNR=25						
CHTO	Chiang Mai	23.09	283	P	P	03 06 06.1	-0.2
CHTO				IAmb	IAmb	03 06 07.0	
	comp=Z,2.9nm,0.8s						
JYT	Yasato	26.15	33	P	P	03 06 33.3	-1.3
SHL	Shillong	30.70	295	P	P	03 07 14.5	-1.0
FITZ	Fitzroy Crossi	33.12	175	P	P	03 07 36.0	-0.5
FITZ				IAmb	IAmb	03 07 48.8	
	comp=Z,6.1nm,1.4s						
KLR	Kul'dur	34.80	10	P	P	03 07 53.4	+2.5
	comp=Z,1.0nm,0.4s,baz=180,slow=8.1,SNR=5.0						
KLR				LR	LR	03 21 38.6	
	comp=Z,39nm,20.0s,baz=258,slow=36						
ULN	Ulaanbaatar	35.15	342	P	P	03 07 54.2	+0.1
ULN				IAmb	IAmb	03 08 11.3	
	comp=Z,1.7nm,0.7s						
SONM	Songino Array	35.33	341	P	P	03 07 56.1	+0.5
	comp=Z,0.5nm,0.6s,baz=157,slow=7.0,SNR=5.7						
SONM	Songino Array	35.33	341	IAmb	IAmb	03 07 56.9	
	comp=Z,1.0nm,1.1s						
WB0	Warramunga Arr	36.50	161	P	P	03 08 04.7	-1.0
WB0				IAmb	IAmb	03 08 15.6	
	comp=Z,6.8nm,1.4s						
WRA	Warramunga Arr	36.65	162	P	P	03 08 05.8	-1.1
	comp=Z,1.1nm,0.8s,baz=344,slow=9.2,SNR=8.0						
WR0	Warramunga Arr	36.73	161	P	P	03 08 06.4	-1.2
WR0				IAmb	IAmb	03 08 12.2	
	comp=Z,5.9nm,1.2s						
ASAR	Alice Springs	40.05	164	P	P	03 08 34.7	-0.9
	comp=Z,0.6nm,0.7s,baz=342,slow=7.5,SNR=9.8						
H11S3	WAKE ISLAND Hy	42.09	79	T	T	03 54 00.5	
	baz=272						
H11S1	WAKE ISLAND Hy	42.11	79	T	T	03 54 05.4	
	baz=272						
H11S2	WAKE ISLAND Hy	42.11	79	T	T	03 54 07.0	
	baz=272						
MORW	Morawa	44.41	188	P	P	03 09 09.4	-1.5
MK31	Makanchi Array	46.13	322	P	P	03 09 24.9	+0.3
MK31				IAmb	IAmb	03 09 32.5	
	comp=Z,1.8nm,0.9s						
MKAR	Makanchi Array	46.13	322	P	P	03 09 25.5	+0.9
	comp=Z,1.7nm,0.9s,baz=121,slow=8.3,SNR=12						
MKAR	Makanchi Array	46.13	322	P	P	03 09 25.8	+1.2
ZALV	Zalesovo Beam	48.76	331	P	P	03 09 45.5	+0.7
	comp=Z,0.5nm,0.3s,baz=111,slow=7.9,SNR=4.9						
ZALV	Zalesovo Beam	48.76	331	P	P	03 09 46.1	+1.2
AAK	Ala-Archa	49.52	314	LR	LR	03 33 32.6	
	comp=Z,34nm,18.2s,baz=102,slow=39						
STKA	Stephens Creek	50.09	159	P	P	03 09 54.4	-0.8
	comp=Z,0.6nm,0.2s,baz=348,slow=7.4,SNR=1.9						
STKA	Stephens Creek	50.09	159	IAmb	IAmb	03 10 13.7	
	comp=Z,2.8nm,1.5s						
KURK	Kurchatov	50.17	325	P	P	03 09 56.5	+0.9
KURK	Kurchatov	50.17	325	IAmb	IAmb	03 10 03.1	
	comp=Z,4.4nm,0.8s						
KURBB	Kurchatov Arra	50.17	325	P	P	03 09 56.5	+0.9
	comp=Z,0.6nm,0.3s,baz=120,slow=7.8,SNR=7.9						
DLBC	Dease Lake	85.97	30	LR	LR	03 52 45.5	
	comp=Z,33nm,19.2s,baz=266,slow=36						
NOA	NORSAR Array B	86.93	333	LR	LR	03 59 34.1	
	comp=Z,10nm,19.5s,baz=300,slow=40						
YKA	Yellowknife Ar	90.70	23	P	P	03 14 04.0	+1.5
	comp=Z,0.1nm,0.5s,baz=304,slow=4.5,SNR=2.4						

*IDC **03** 03:02:07.7±1.4, 36°.17N×73°.99E, h0^{km}, mb3.6/6, mb1 3.6/11, mb1mx3.4/49, mbtmp3.5/11, ML2.9/5, MS2.8/3, Ms1 2.8/3, ms1mx2.4/82, Error ellipse: s-maj=28.2km s-min=25.7km az=107.0*
ISC 03 03:02:13.2±1.1**, 36°.2N**±0°.1×**74°.0E**±0°.1**, h35^{km}, n15, σ1^{s}16**/15**, mb3.5**/6**, 3C-1D, Northwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.44	3	Pn	Pn	03 03 47.2	+1.6
	0.4nm,0.3s,baz=194,slow=14,SNR=9.4						
AAK				Lg	Lg	03 05 27.0	
	0.2nm,0.3s,baz=331,slow=19,SNR=1.3						
AAK				LR	LR	03 06 38.4	
	comp=Z,39nm,18.2s,baz=215,slow=42						
TKM2	Tokmak 2	6.82	10	⇓Pn	Pn	03 03 53.0	+2.1
	2.3nm,0.6s						
TKM2				⇑Sn	Sn	03 05 05.8	-1.6
	4.9nm,0.8s						
KK08	Karatay Array	7.41	339	⇑Pn	Pn	03 04 00.5	+1.6
	2.4nm,0.7s,baz=154,slow=13						
KK08				⇑Sn	Sn	03 05 21.6	-0.2
	3.2nm,0.8s,baz=152,slow=23						
MKAR	Makanchi Array	12.25	28	Pn	Pn	03 05 06.1	+1.0
	0.0nm,0.3s,baz=214,slow=16,SNR=1.9						
KURBB	Kurchatov Arra	14.78	11	Pn	Pn	03 05 38.9	-0.5
	0.1nm,0.3s,baz=201,slow=10,SNR=1.9						
AKTO	Aktyubinsk	18.33	326	P	Pn	03 06 24.1	-0.3
	0.1nm,0.3s,baz=42,slow=13,SNR=1.9						
WSAR	Wadi Sarin	18.56	230	LR	LR	03 14 45.6	
	comp=Z,40nm,18.5s,baz=92,slow=41						
ZALV	Zalesovo Beam	19.27	20	P	P	03 06 33.1	-1.5
	0.2nm,0.3s,baz=205,slow=9.5,SNR=6.3						
SONM	Songino Array	26.51	54	P	P	03 07 48.0	+0.6
	0.2nm,0.5s,baz=242,slow=10,SNR=3.5						
FINES	FINESS Array B	39.10	326	P	P	03 09 36.4	-0.3
	0.9nm,0.8s,baz=121,slow=10,SNR=3.5						
ARCES	ARCESS Array B	42.36	337	P	P	03 10 03.6	+0.1
	1.2nm,0.7s,baz=110,slow=9.7,SNR=5.2						
KSRS	Korea Array	42.66	72	LR	LR	03 31 39.4	
	comp=Z,12nm,20.2s,baz=145,slow=42						
TORD	Torodi Ar. Bea	68.16	271	P	P	03 13 09.8	-0.3
	0.7nm,1.1s,baz=55,slow=5.3,SNR=2.1						
WRA	Warramunga Arr	79.78	124	P	P	03 14 17.8	-0.1
	0.3nm,0.8s,baz=322,slow=4.8,SNR=2.4						
YKA	Yellowknife Ar	81.40	4	P	P	03 14 25.8	-0.2
	0.3nm,0.7s,baz=345,slow=5.6,SNR=5.0						

*IDC **03** 03:17:26.2±9.0, 49°.49N×154°.25E, h89^{km}±60^{km}, mb2.9/3, mb1 3.3/4, mb1mx2.9/27, mbtmp3.2/4, ML2.0/1, Error ellipse: s-maj=137.8km s-min=66.9km az=116.0*
*KRSC **03** 03:17:33.6±1.8, 49°.48N×156°.93E, h88^{km}±35^{km}, ML3.7*
ISC 03 03:17:35.5±2.5**, 49°.6N**±0°.2×**156°.4E**±0°.2**, h105**^{km}±21^{km}**, n22, σ1^{s}12**/37**, mb3.1**/3**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.12	349	P	Pn	03 17 56.8	-0.6
SKR				S	Sn	03 18 14.6	+0.5
PAU	Pauzhetka	1.90	7	P	Pn	03 18 06.0	-0.8
PAU				S	Sn	03 18 30.4	-0.4
KDTR	Khodutka, Kamc	2.46	24	P	Pn	03 18 14.7	+0.7
KDTR				S	Sn	03 18 44.8	+1.1
ASAK	Asacha	2.95	18	P	Pn	03 18 21.3	+0.7
ASAK				S	Sn	03 18 57.3	+1.9
MTVR	Mutnovka	3.10	20	P	Pn	03 18 23.5	+0.8
MTVR				S	Sn	03 18 59.6	+0.4
RUS	Russkaya	3.13	24	P	Pn	03 18 22.8	-0.2
RUS				S	Sn	03 18 59.2	-0.5
GRL	Gorelyy	3.14	19	P	Pn	03 18 23.8	+0.5
GRL				S	Sn	03 19 00.6	+0.5
KRMR	Karymshinskiy	3.42	17	P	Pn	03 18 26.6	-0.2
KRMR				S	Sn	03 19 06.5	+0.1
PETK	Petropavlovsk-	3.61	12	P	Pn	03 18 27.7	-1.7
	0.4nm,0.3s,baz=174,slow=12,SNR=10						
PETK				S	Sn	03 19 17.0	+5.8
	0.2nm,0.3s,baz=213,slow=21,SNR=1.5						
PET	Petropavlovsk	3.71	21	S	Sn	03 19 14.4	+0.9
UGLR	Uglovaya	3.92	21	P	Pn	03 18 34.2	+0.5
UGLR				S	Sn	03 19 18.8	0.0
AVH	Avacha	3.95	20	P	Pn	03 18 35.2	+1.1
AVH				S	Sn	03 19 20.2	+0.7
KOK	Koryaka	3.96	19	P	Pn	03 18 34.9	+0.8
KOK				S	Sn	03 19 21.2	+1.6
SMAR	Somma	3.97	21	P	Pn	03 18 35.2	+0.8
KRER	Koryakskii	3.99	20	P	Pn	03 18 35.9	+1.2
KRER				S	Sn	03 19 21.1	+0.5
SDLR	Sedlovina	4.00	22	P	Pn	03 18 35.1	+0.4
SDLR				S	Sn	03 19 20.6	-0.1
NLC	Nalytchevo	4.02	26	S	Sn	03 19 19.4	-1.6
SPN	Mys Shipunski	4.17	31	P	Pn	03 18 36.7	-0.2
SPN				S	Sn	03 19 22.9	-1.7
MKZ	Mys Kozlova	5.95	31	P	Pn	03 19 01.4	+0.5
MKZ				S	Sn	03 20 04.2	-3.4
YKA	Yellowknife Ar	47.32	39	P	P	03 25 56.3	-1.6
	0.2nm,0.6s,baz=298,slow=7.1,SNR=2.9						
PDAR	Pinedale Array	61.30	57	P	P	03 27 40.6	+0.8
	0.3nm,0.7s,baz=316,slow=5.0,SNR=2.6						
TXAR	Lajitas Array	74.19	63	P	P	03 29 01.6	+0.8
	0.1nm,0.4s,baz=296,slow=4.8,SNR=4.8						

IDC 03 04:02:27.5±4.9**, 28°.99N**×**138°.10E, h366**^{km}±106^{km}**, mb2.8**/2**, mb1 3.0**/5**, mb1mx2.6**/45**, mbtmp3.7**/5**, Error ellipse: s-maj=194.2km s-min=18.5km az=69.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.07	117	P	Pn	04 03 39.7	+1.5
	8.0nm,0.3s,baz=275,slow=22,SNR=8.3						
JCJ				S	S	04 04 35.2	-0.1
	43nm,0.3s,baz=298,slow=22,SNR=16						
MJAR	Matsushiro Arr	7.53	1	P	Pn	04 04 15.8	-0.5
	0.1nm,0.3s,baz=180,slow=11,SNR=4.7						
USRK	Ussuriysk Ar.	15.95	344	P	P	04 05 51.4	0.0
	baz=142,slow=9.5,SNR=8.5						
WRA	Warramunga Arr	48.78	185	P	P	04 10 37.0	0.0
	0.3nm,0.3s,baz=1.3,slow=7.7,SNR=15						
ASAR	Alice Springs	52.51	185	P	P	04 11 04.1	-0.4
	0.3nm,0.5s,baz=19,slow=9.0,SNR=6.9						

*IDC **03** 04:05:05.9±1.1, 4°.08S×104°.45W, h0^{km}, mb4.1/11, mb1 4.3/11, mb1mx4.2/31, mbtmp4.1/11, MS4.1/46, Ms1 4.1/46, ms1mx4.1/58, Error ellipse: s-maj=47.0km s-min=15.5km az=56.0*
*GCMT **03** 04:05:09.0±0.4, 3°.93S±0°.02×104°.50W±0°.02, h20^{km}±1^{km}, MW5.0/92, Moment Tensor Solution. s33,c35; s92,c132; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.14±.14; $M_{\theta\theta}$-0.85±.11; $M_{\phi\phi}$0.99±.12; $M_{r\theta}$1.02±.23; $M_{\theta\phi}$3.07±.10; $M_{\phi r}$-1.05±.24; Best double couple: $M_0$3.50700×10^{16} NP1:ϕ_s259.00000°, δ71.00000°, λ-13.00000°. NP2: ϕ_s354.00000°, δ78.00000°, λ-161.00000°. Principal axes: T 3.2920, Plg4.0000°, Azm126.0000°; N 0.4300, Plg68.0000°, Azm25.0000°; P -3.7210, Plg22.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 04:05:10.0±1.4, 4°.1S±0°.1×104°.4W±0°.1, h10^{km}±1^{km}, mb4.4/93 Error ellipse: s-maj=24.9km s-min=19.1km az=232.0*
ISC 03 04:05:07.8±0.7**, 4°.2S**±0°.1×**104°.5W**±0°.1**, h10^{km}, n137, σ1^{s}07**/60**, mb4.4**/51**, MS4.2**/48**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	Puerto Ayora	14.61	77	Pn	Pn	04 08 34.6	-0.1
CMIG	Matias Romero	23.15	24	LR	LR	04 17 08.7	
	comp=Z,853nm,20.7s,baz=191,slow=31						
HUEH	Huehuetenango	23.24	33	P	P	04 10 15.9	+0.2
RPN	Rapa Nui	23.30	191	LR	LR	04 17 00.9	
	comp=Z,237nm,20.8s,baz=11,slow=31						
JTS	Las Juntas de	24.18	53	LR	LR	04 17 16.1	
	comp=Z,882nm,20.8s,baz=312,slow=30						
JTS	Las Juntas de	24.18	53	P	P	04 10 25.4	+0.7
JTS				IAmb	IAmb	04 10 45.2	
	comp=Z,11nm,1.1s						
HDC	Heredia	24.70	55	P	P	04 10 29.3	-0.2
TGUH	Tegucigalpa,Un	24.89	43	P	P	04 10 30.3	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTAV	Otavalo	26.38	81	P	P	04 10 46.1	+0.9
NNA	Nana	28.43	108	LR	LR	04 20 11.5	
	comp=Z,731nm,18.6s,baz=272,slow=32						
LPIG	La Paz	28.66	349	LR	LR	04 19 28.4	
	comp=Z,260nm,21.8s,baz=172,slow=30						
ROSC	El Rosal	31.44	74	LR	LR	04 20 30.3	
	comp=Z,337nm,19.4s,baz=244,slow=30						
TXAR	Lajitas Array	33.32	1	P	P	04 11 45.2	-0.8
	comp=Z,1.1nm,1.1s,baz=186,slow=9.7,SNR=4.6						
TXAR				LR	LR	04 23 08.3	
	comp=Z,194nm,21.4s,baz=178,slow=33						
MNTX	Cornudas Mount	35.67	359	P	P	04 12 06.3	0.0
SDV	Santo Domingo	36.16	69	LR	LR	04 25 57.0	
	comp=Z,201nm,19.1s,baz=250,slow=35						
SDV	Santo Domingo	36.16	69	P	P	04 12 11.3	+0.3
SDV				IAmb	IAmb	04 12 16.6	
	comp=Z,5.9nm,0.8s						
LPAZ	La Paz	37.68	111	P	P	04 12 24.8	+0.4
	comp=Z,1.0nm,0.7s,baz=304,slow=7.3						
Y14A	Wickenburg	38.74	349	P	P	04 12 33.6	+1.2
X16A	Lo Mia Camp, P	38.93	351	P	P	04 12 36.0	+1.8
ANMO	Albuquerque	38.95	357	LR	LR	04 25 52.0	
	comp=Z,90nm,18.5s,baz=182,slow=32						
LVC	Limon Verde	39.00	121	P	P	04 12 32.9	-2.3
	comp=Z,4.2nm,0.8s,baz=274,slow=13,SNR=2.9						
LVC				LR	LR	04 24 28.9	
	comp=Z,430nm,20.3s,baz=292,slow=30						
LVC	Limon Verde	39.00	121	IAmb	IAmb	04 12 47.2	
	comp=Z,19nm,1.5s						
PFO	Pinyon Flats O	39.24	344	LR	LR	04 24 59.1	
	comp=Z,321nm,18.3s,baz=158,slow=30						
WUAZ	Wupatki	40.00	351	P	P	04 12 43.5	+0.5
WUAZ				IAmb	IAmb	04 12 58.4	
	comp=Z,11nm,1.4s						
GSC	Goldstone, Bar	40.93	345	P	P	04 12 51.1	+0.4
U15A	North Rim	41.03	350	P	P	04 12 52.4	+0.6
CCAC	Calif City Air	41.12	343	P	P	04 12 53.7	+1.5
CCAC				IAmb	IAmb	04 12 54.5	
	comp=Z,6.7nm,0.7s						
MVCO	Mesa Verde	41.33	355	P	P	04 12 55.4	+1.3
MVCO				IAmb	IAmb	04 12 55.6	
	comp=Z,9.5nm,1.1s						
QSM	Queen of Sheba	41.57	345	P	P	04 12 56.8	+1.0
QSM				IAmb	IAmb	04 12 58.4	
	comp=Z,11nm,1.4s						
SHPR	Sheep Range	41.67	347	P	P	04 12 58.2	+1.4
KNB	Kanab	41.70	350	P	P	04 12 58.2	+1.2
SDCO	Great Sand Dun	41.71	359	P	P	04 12 58.3	+1.0
GWY	Greenwater Val	41.73	345	P	P	04 12 58.1	+0.8
PKCU	Pink Cliffs	42.03	351	P	P	04 13 01.8	+1.8
PKCU				IAmb	IAmb	04 13 02.6	
	comp=Z,6.5nm,1.0s						
PV13	Radium Mtn., P	42.30	355	P	P	04 13 02.9	+0.9
PV13				IAmb	IAmb	04 13 04.0	
	comp=Z,9.6nm,1.4s						
CCUT	Cedar City	42.31	350	P	P	04 13 03.3	+1.1
TPNV	Topopah Spring	42.35	346	P	P	04 13 03.9	+1.6
PRN	Pahroc Range	42.51	348	IAmb	IAmb	04 13 06.6	
	comp=Z,8.2nm,1.2s						
GO05	Huala	43.01	140	P	P	04 13 08.9	+1.2
ZON	Zonda	43.27	133	P	P	04 13 10.7	+0.9
ZON				IAmb	IAmb	04 13 14.6	
	comp=Z,11nm,1.3s						
PSUT	Pine Spring	43.36	349	P	P	04 13 11.5	+0.9
PSUT				IAmb	IAmb	04 13 24.7	
	comp=Z,4.1nm,0.4s						
BO02	Sierra Bellavi	43.63	139	P	P	04 13 13.9	+1.2
OMMB	Old Mammoth Mi	43.70	343	P	P	04 13 14.4	+0.9
P17A	Butcher Ranch,	43.80	353	IAmb	IAmb	04 13 15.9	
	comp=Z,7.9nm,1.1s						
SJG	San Juan	43.80	58	LR	LR	04 28 44.2	
	comp=Z,130nm,20.4s,baz=242,slow=32						
P18A	Preston Nutter	43.90	354	IAmb	IAmb	04 13 16.8	
	comp=Z,9.4nm,1.3s						
TKL	Tuckaleechee C	44.12	24	LR	LR	04 32 19.5	
	comp=Z,186nm,18.0s,baz=240,slow=37						
LHV	Little Huntoon	44.16	344	IAmb	IAmb	04 13 19.3	
	comp=Z,5.1nm,1.0s						
O20A	White River Ci	44.22	356	IAmb	IAmb	04 13 20.0	
	comp=Z,7.1nm,1.1s						
SIV	San Ignacio	44.23	109	LR	LR	04 30 17.8	
	comp=Z,646nm,18.7s,baz=299,slow=34						
NVAR	Mina Array Bea	44.27	344	P	P	04 13 18.6	+0.7
	comp=Z,2.6nm,1.1s,baz=166,slow=8.3,SNR=12						
NVAR				LR	LR	04 27 38.5	
	comp=Z,276nm,21.5s,baz=184,slow=31						
NVAR	Mina Array Bea	44.27	344	P	P	04 13 19.2	+1.3
MPU	Maple Canyon	44.45	352	IAmb	IAmb	04 13 21.4	
	comp=Z,7.4nm,1.0s						
RYN	Ryan	44.52	344	IAmb	IAmb	04 13 21.9	
	comp=Z,5.3nm,1.1s						
DUG	Dugway, Tooele	44.80	351	P	P	04 13 23.5	+1.5
DUG				IAmb	IAmb	04 13 24.1	
	comp=Z,3.9nm,0.9s						
KVN	Kaiserville	44.80	345	P	P	04 13 23.4	+1.3
YERR	Yerington	45.05	344	IAmb	IAmb	04 13 26.5	
	comp=Z,4.9nm,1.0s						
VCNR	Virginia City	45.45	343	IAmb	IAmb	04 13 29.7	
	comp=Z,6.0nm,1.0s						
PAHR	Pah Rah Range	45.76	344	IAmb	IAmb	04 13 32.0	
	comp=Z,5.3nm,1.0s						
ELK	Elko	45.76	349	LR	LR	04 30 15.8	
	comp=Z,337nm,18.2s,baz=166,slow=33						
HWUT	Hardware Ranch	46.01	353	P	P	04 13 32.4	+0.7
HWUT				IAmb	IAmb	04 13 33.8	
	comp=Z,7.1nm,1.1s						
PPT	Papeete	46.10	250	LR	LR	04 28 18.4	
	comp=Z,168nm,19.8s,baz=73,slow=30						
PPT2	Papeete2	46.10	250	eS	S	04 19 58.8	-20
	comp=Z,43nm,24.0s						
PPT2				eLR	LR	04 26 08.4	
	comp=Z,309nm,26.5s,baz=70						
BEKR	Beckworth	46.19	343	IAmb	IAmb	04 13 36.1	
	comp=Z,4.1nm,1.2s						
ORV	Oroville	46.24	342	IAmb	IAmb	04 13 36.2	
	comp=Z,6.4nm,1.1s						
HVU	Hansel Valley	46.34	351	IAmb	IAmb	04 13 36.5	
	comp=Z,3.7nm,0.9s						
BW06	Boulder Array	46.94	355	IAmb	IAmb	04 13 40.3	
	comp=Z,7.8nm,1.4s						
PD31	Pinedale Array	46.94	355	IAmb	IAmb	04 13 40.3	
	comp=Z,6.5nm,1.4s						
PDAR	Pinedale Array	46.94	355	P	P	04 13 38.0	-1.0
	comp=Z,2.5nm,0.9s,baz=172,slow=7.3,SNR=16						
PDAR				LR	LR	04 29 59.3	
	comp=Z,91nm,19.1s,baz=188,slow=32						
PDAR	Pinedale Array	46.94	355	P	P	04 13 39.3	+0.3
TBI	Tubuai	47.39	242	eLR	LR	04 26 44.3	
	comp=Z,254nm,27.5s						
PLCA	Paso Flores	47.49	145	P	P	04 13 44.4	+1.1
	comp=Z,2.6nm,1.0s,baz=331,slow=10,SNR=3.5						
PLCA				LR	LR	04 29 27.2	
	comp=Z,479nm,19.1s,baz=312,slow=31						
PLCA	Paso Flores	47.49	145	P	P	04 13 44.8	+1.6
TPAW	Teton Pass	47.79	354	IAmb	IAmb	04 13 49.1	
	comp=Z,3.0nm,0.9s						
LOHW	Long Hollow	47.88	354	IAmb	IAmb	04 13 47.1	
	comp=Z,6.3nm,1.2s						
MOOW	Moose Ponds	48.02	354	IAmb	IAmb	04 13 48.7	
	comp=Z,3.1nm,1.1s						
M02C	Callahan	48.34	342	IAmb	IAmb	04 14 01.6	
	comp=Z,6.6nm,1.1s						
HLID	Hailey	48.34	350	IAmb	IAmb	04 13 52.0	
	comp=Z,4.1nm,0.9s						
FLWY	Flagg Ranch	48.35	354	P	P	04 13 50.9	+1.0
YBH	Yreka Blue Hor	48.60	342	LR	LR	04 30 43.2	
	comp=Z,171nm,18.4s,baz=168,slow=32						
YBH	Yreka Blue Hor	48.60	342	IAmb	IAmb	04 13 53.1	
	comp=Z,3.1nm,1.0s						
BCYI	Bear Canyon	48.92	352	P	P	04 13 55.2	+0.9
YHH	Holmes Hill	49.06	354	IAmb	IAmb	04 13 57.8	
	comp=Z,5.9nm,1.2s						
YHL	Hebgen Lake	49.16	354	IAmb	IAmb	04 13 58.5	
	comp=Z,6.6nm,1.0s						
I07A	Izee	49.89	346	P	P	04 14 02.4	+0.8
PINE	Pine Mountain	49.99	344	IAmb	IAmb	04 14 04.9	
	comp=Z,7.7nm,1.2s						
CPUP	Villa Florida	50.18	121	P	P	04 14 03.6	-0.3
	comp=Z,2.2nm,0.6s,baz=290,slow=7.3,SNR=6.3						
CPUP				LR	LR	04 32 54.0	
	comp=Z,191nm,19.2s,baz=298,slow=33						
CPUP	Villa Florida	50.18	121	IAmb	IAmb	04 14 10.5	
	comp=Z,4.3nm,0.9s						
H04A	Detroit Lake	51.15	344	IAmb	IAmb	04 14 12.0	
	comp=Z,4.9nm,0.9s						
HAWA	Hanford	52.08	347	IAmb	IAmb	04 14 20.0	
	comp=Z,7.0nm,1.1s						
MDP	Montagnes des	52.60	80	LR	LR	04 34 54.6	
	comp=Z,110nm,18.7s,baz=298,slow=34						
C09A	Chrisman Ranch	53.15	348	P	P	04 14 27.4	+1.6
C09A				IAmb	IAmb	04 14 27.5	
	comp=Z,4.8nm,1.0s						
NEW	Newport	53.37	350	LR	LR	04 34 49.3	
	comp=Z,247nm,18.1s,baz=176,slow=34						
NEW	Newport	53.37	350	IAmb	IAmb	04 14 28.6	
	comp=Z,6.6nm,1.1s						
SADO	Sadowa	53.74	22	LR	LR	04 37 44.3	
	comp=Z,140nm,18.0s,baz=200,slow=36						
ULM	Lac du Bonnet	54.71	7	P	P	04 14 36.0	-1.2
	comp=Z,5.5nm,0.9s,baz=196,slow=7.8,SNR=4.6						
ULM				LR	LR	04 36 29.2	
	comp=Z,97nm,19.4s,baz=168,slow=34						
ULM	Lac du Bonnet	54.71	7	P	P	04 14 37.0	-0.2
BDFB	Brasilia	56.63	106	P	P	04 14 51.1	-0.7
	comp=Z,2.1nm,0.8s,baz=254,slow=10,SNR=4.7						
BDFB	Brasilia	56.63	106	IAmb	IAmb	04 14 56.2	
	comp=Z,4.0nm,1.0s						
USHA	Ushuaia	58.31	156	LR	LR	04 35 11.3	
	comp=Z,358nm,18.4s,baz=83,slow=31						
BBB	Bella Bella	59.62	343	LR	LR	04 36 42.7	
	comp=Z,132nm,19.6s,baz=178,slow=32						
FCC	Fort Churchill	63.28	6	P	P	04 15 36.7	+0.3
DLBC	Dease Lake	65.67	346	LR	LR	04 42 53.4	
	comp=Z,118nm,18.1s,baz=98,slow=35						
SCHQ	Schefferville	66.55	23	LR	LR	04 44 52.0	
	comp=Z,203nm,18.8s,baz=200,slow=36						
YKA	Yellowknife Ar	66.92	355	P	P	04 15 58.3	-1.8
	comp=Z,1.1nm,0.8s,baz=164,slow=6.3,SNR=14						
PMSA	Palmer Station	67.02	162	LR	LR	04 39 01.2	
	comp=Z,278nm,18.3s,baz=291,slow=30						
RCBR	Riachuelo	68.31	95	LR	LR	04 45 27.6	
	comp=Z,248nm,18.4s,baz=60,slow=36						
BCAR	Beaver Creek A	72.72	343	P	P	04 16 36.5	+0.6
KDAK	Kodiak Island	72.78	335	LR	LR	04 41 40.1	
	comp=Z,224nm,18.5s,baz=151,slow=30						
FRB	Frobisher Bay	72.87	16	LR	LR	04 50 15.9	
	comp=Z,104nm,18.4s,baz=208,slow=37						
INK	Inuvik	75.09	349	LR	LR	04 48 00.7	
	comp=Z,171nm,18.3s,baz=147,slow=34						
ILAR	Eielson Array	75.49	343	P	P	04 16 50.6	-1.3
	comp=Z,2.2nm,0.8s,baz=157,slow=5.0,SNR=23						
ILAR				LR	LR	04 45 50.3	
	comp=Z,68nm,18.4s,baz=104,slow=32						
ILAR	Eielson Array	75.49	343	P	P	04 16 51.4	-0.6
H24K	Noodor Dome	76.55	343	P	P	04 16 57.7	-0.4
H24K				IAmb	IAmb	04 16 59.4	
	comp=Z,4.1nm,0.8s						
URZ	Urewera	78.32	232	LR	LR	04 44 46.5	
	comp=Z,105nm,19.4s,baz=36,slow=30						
SFJD	Kangerlussuaq	80.51	19	LR	LR	04 53 03.7	
	comp=Z,117nm,19.1s,baz=234,slow=36						
RPZ	Rata Peaks	83.13	227	LR	LR	04 49 11.8	
	comp=Z,194nm,18.0s,baz=104,slow=32						
VNDA	Vanda	86.76	193	LR	LR	04 49 00.7	
	comp=Z,132nm,18.3s,baz=261,slow=30						
SHEM	Shemya Is, Ala	88.09	323	LR	LR	04 53 03.2	
	comp=Z,105nm,18.0s,baz=99,slow=33						
H11N3	WAKE ISLAND Hy	90.07	290	T	T	05 57 43.0	
	baz=96,slow=74,SNR=8.0						
H11N2	WAKE ISLAND Hy	90.08	290	T	T	05 57 51.7	
	baz=96,slow=74,SNR=13						
H11N1	WAKE ISLAND Hy	90.09	290	T	T	05 57 53.5	
	baz=96,slow=74,SNR=6.8						
H11S2	WAKE ISLAND Hy	90.17	288	T	T	05 58 04.1	
	baz=94,slow=75,SNR=25						
H11S1	WAKE ISLAND Hy	90.18	288	T	T	05 57 57.8	
	baz=94,slow=75,SNR=9.8						
H11S3	WAKE ISLAND Hy	90.19	288	T	T	05 57 59.5	
	baz=94,slow=75,SNR=9.3						
BORG	Borgarnes	90.82	25	LR	LR	04 58 19.6	
	comp=Z,62nm,18.0s,baz=264,slow=35						
JMIC	Jan Mayen	95.87	19	LR	LR	05 01 47.6	
	comp=Z,77nm,19.9s,baz=256,slow=36						
PETK	Petropavlovsk-	98.00	323	LR	LR	04 55 47.4	
	comp=Z,81nm,19.1s,baz=99,slow=31						
SEY	Seymchan	99.66	333	LR	LR	04 59 05.0	
	comp=Z,76nm,18.2s,baz=48,slow=32						
EKA	Eskdalemuir Ar	99.86	35	LR	LR	05 02 58.0	
	comp=Z,88nm,18.5s,baz=282,slow=35						
DBIC	Dimbokro	100.03	84	LR	LR	05 02 18.1	
	comp=Z,59nm,18.2s,baz=228,slow=34						
WRA	Warramunga Arr	117.46	245	PKP	PKPdf	04 23 53.2	-1.6
	comp=Z,0.2nm,0.6s,baz=105,slow=2.8,SNR=2.1						
MKAR	Makanchi Array	137.13	353	PKP	PKPdf	04 24 30.8	-0.8
	comp=Z,0.5nm,0.9s,baz=354,slow=1.4,SNR=3.5						
GAR	Garm	145.00	7	PKPdf	PKPbc	04 24 46.2	+0.9
KSM	Kuching	145.14	267	PKPbc	PKPbc	04 24 46.6	+0.3
PZH	PanZhiHua	146.48	314	PKPbc	PKPbc	04 24 51.1	+0.8
CMAR	Chiang Mai Arr	153.04	304	PKPbc	PKPbc	04 25 07.3	+0.6
	comp=Z,1.3nm,0.3s,baz=344,slow=1.3,SNR=6.4						

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*IDC **03** 04:54:00.1±0.9, 37°.32N×141°.71E, h0km, mb3.4/8, mb1 3.7/9, mb1mx3.5/47, mbtmp3.4/9, ML2.3/1, Error ellipse: s-maj=29.4km s-min=20.9km az=135.0*
*JMA **03** 04:54:04.0±0.2, 37°.25N×141°.38E, h25km±2km, M3.4*
ISC 03 04:54:01.0±2.3**, 37°.24N**±0°.06×**141°.56E**±0°.09**, h8**km±14km**, n22,** σ1^{s}04/23**, mb3.4**/8**, 5C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.56	283	⇑P	Pg	04 54 12.5	+0.6
JFK				S	Sg	04 54 18.9	-0.3
ONAJ	Iwakimizuishiy	0.62	257	⇑P	Pg	04 54 13.6	+0.5
ONAJ				S	Sg	04 54 20.8	-0.4
JMST	Minamisoumatoc	0.72	312	⇑P	Pb	04 54 16.0	+0.2
JMST				S	Sb	04 54 25.0	-0.9
JFFD	Fukushimafurud	0.81	260	P	Pg	04 54 16.9	+0.3
JFFD				S	Sg	04 54 26.1	-1.0
JMM	Marumori	0.87	316	⇑P	Pb	04 54 18.6	+0.2
JMM				S	Sb	04 54 29.5	-0.8
JHO	Hitachi	1.01	232	⇓P	Pg	04 54 20.0	-0.4
JFT	Otama	1.01	286	⇑P	Pb	04 54 20.9	+0.1
JFT				S	Sg	04 54 33.0	-0.6
MJAR	Matsushiro Arr	2.77	256	Pn	Pn	04 54 46.9	+1.1
	0.5nm,0.3s,baz=50,slow=9.3,SNR=7.6						
MJAR				Sn	Sb	04 55 23.7	-1.3
	0.9nm,0.3s,baz=303,slow=35,SNR=2.5						
SONM	Songino Array	27.77	304	P	P	04 59 50.3	-0.1
	0.3nm,0.5s,baz=100,slow=7.5,SNR=1.5						
H11N2	WAKE ISLAND Hy	28.16	121	T	T	05 29 30.2	
	baz=314,slow=75						
H11N1	WAKE ISLAND Hy	28.16	121	T	T	05 29 32.0	
	baz=314,slow=75						
H11N3	WAKE ISLAND Hy	28.17	121	T	T	05 29 31.8	
	baz=314,slow=75						
H11S1	WAKE ISLAND Hy	28.88	123	T	T	05 30 21.3	
	baz=316,slow=75						
H11S3	WAKE ISLAND Hy	28.88	123	T	T	05 30 22.0	
	baz=316,slow=75						
H11S2	WAKE ISLAND Hy	28.89	123	T	T	05 30 22.5	
	baz=316,slow=75						
ILAR	Eielson Array	49.26	32	P	P	05 02 50.6	+0.8
	0.3nm,0.9s,baz=262,slow=5.4,SNR=2.2						
WRA	Warramunga Arr	57.28	188	P	P	05 03 50.3	+1.1
	0.4nm,0.7s,baz=6.0,slow=7.4,SNR=4.6						
ASAR	Alice Springs	61.01	188	P	P	05 04 16.4	+1.3
	0.2nm,0.5s,baz=19,slow=8.8,SNR=2.1						
YKA	Yellowknife Ar	63.57	30	P	P	05 04 29.9	-1.9
	0.1nm,0.5s,baz=293,slow=6.6,SNR=2.2						
FINES	FINESS Array B	68.69	332	P	P	05 05 06.3	+1.7
	1.5nm,0.8s,baz=41,slow=9.2,SNR=2.7						
PDAR	Pinedale Array	77.44	46	P	P	05 05 56.8	-0.4
	0.3nm,0.6s,baz=292,slow=4.8,SNR=1.7						
TXAR	Lajitas Array	89.91	52	P	P	05 06 59.2	-1.8
	0.1nm,0.5s,baz=296,slow=4.6,SNR=1.7						

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*INET **03** 05:02:26.0±1.3, 12°.01N×87°.21W, h15km±9km, MW3.6*
*SNET **03** 05:02:28.5±0.6, 12°.13N×87°.49W, h15km±5km, ML3.2*
ISC 03 05:02:23.4±2.2**, 11°.9N**±0°.1×**87°.28W**±0°.09**, h10**km**, n12,** σ1^{s}12/14**, 2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL3	Telica 3	0.76	34	eP	Pb	05 02 39.5	+0.7
CRIN	San Cristobal	0.79	16	eP	Pg	05 02 39.9	+1.2
CNGN	Cerro Negro	0.80	45	eP	Pg	05 02 38.7	-0.1
APYN	Apoyeque	0.96	72	eP	Pg	05 02 41.3	-0.5
TISN	Laguna Tiscapa	1.01	78	eP	Pg	05 02 43.1	+0.3
LCND	La Caada	1.49	336	⇓iP	Pn	05 02 50.1	-0.1
LCND				eS	Sn	05 03 07.6	-2.2
LCND				IAML		05 03 10.0	
	comp=Z,802nm,0.4s						
JUCU	Jucuar¡n	1.62	324	⇓eP	Pn	05 02 52.0	0.0
JUCU				eS	Sn	05 03 10.9	-2.1
JUCU				IAML		05 03 13.9	
	comp=Z,368nm,0.2s						
ALJI	Alcalda de J	1.87	318	eP	Pn	05 02 55.9	+0.4
COEB	Comit de Eme	1.98	322	eP	Pn	05 02 57.8	+0.7
COEB				IAML		05 03 24.6	
	comp=Z,129nm,0.2s						
PQSS	Presa 15 de Se	2.09	323	eP	Pn	05 02 59.2	+0.7
SCLA	Alcaldia de Sa	2.26	321	eP	Pn	05 03 01.8	+0.9
SJTE	Alcalda de S	2.37	315	eP	Pn	05 03 03.1	+0.6

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*TEH **03** 05:16:06.0, 36°.77N×54°.16E, h6km, ML3.6*
*AZER **03** 05:16:11.9±0.8, 36°.84N×53°.64E, h10km, Error ellipse: s-maj=14.1km s-min=5.1km az=41.0*
ISC 03 05:16:06.0±0.8**, 36°.82N**±0°.04×**54°.12E**±0°.03**, h10**km**, n76,** σ**2^{s}28**/97**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	Ghaloghah	0.40	216	ePg	Pb	05 16 14.4	-0.8
IGLO				eSg	Sb	05 16 21.5	+0.1
IMND	Minoodasht	1.12	67	ePg	Pb	05 16 26.8	-0.6
ISHM	Shahmirzad	1.22	214	ePg	Pn	05 16 29.9	+0.6
ISHM				e		05 16 52.1	
	comp=Z,17μm,0.2s						
IANJ	Anjilo	1.36	187	ePg	Pg	05 16 31.7	-0.5
IANJ				eSg	Sg	05 16 51.1	+1.2
IPRN	Peran	1.55	249	ePn	Pg	05 16 36.3	+0.6
IPRN				e		05 17 01.8	
	comp=Z,33μm,0.3s						
IFIR	Firoozkooh	1.62	224	ePn	Pg	05 16 37.3	+0.3
IFIR				e		05 17 01.7	
	comp=Z,5μm,0.3s						
ILAS	Lasjerd	1.72	214	ePg	Pg	05 16 39.0	+0.1
ILAS				e		05 17 06.9	
	comp=Z,6μm,0.2s						
SHRO	Shahrood	1.73	118	ePg	Pg	05 16 38.3	-1.0
MRVT	Maraveh tapeh	1.78	61	ePn	Pb	05 16 38.3	-0.4
IDMV	Damavand	2.10	234	ePn	Pg	05 16 46.1	-0.1
IDMV				e		05 17 20.8	
	comp=Z,7μm,0.5s						
DAMV	Damavand	2.11	236	ePn	Pg	05 16 45.6	-0.8
CHTH	Charan	2.58	250	ePn	Pb	05 16 53.2	+0.6
IVRN	Varamin	2.67	228	ePn	Pb	05 16 52.3	-1.5
IVRN				e		05 17 37.4	
	comp=Z,3μm,0.4s						
IHSB	Hasanabad	2.69	240	ePn	Pb	05 16 53.5	-0.7
IHSB				e		05 17 02.7	
	comp=Z,1μm,0.3s						
BJRD	Bojnurd	2.76	71	ePn	Pn	05 16 52.2	+1.7
THKV	Tehran--Karaj	2.77	252	ePn	Pb	05 16 53.9	-1.8
QALM	Alamut, Qazvin	2.82	263	ePn	Pb	05 16 54.7	-1.9
SBZV	Sabzevar	2.84	98	ePn	Pb	05 16 54.2	-2.7
ISFB	Sefidab	2.90	212	ePn	Pb	05 16 54.8	-3.1
ISFB				e		05 17 44.5	
	comp=Z,939nm,0.3s						
IMHD	Mahdasht	3.01	249	ePn	Pb	05 16 58.8	-1.0
IMHD				e		05 17 49.2	
	comp=Z,1μm,0.4s						
IQOM	Qom	3.17	232	ePn	Pb	05 16 59.9	-2.6
IQOM				e		05 17 42.0	
	comp=Z,1μm,0.6s						
IGZV	Ghazvin	3.17	263	ePn	Pb	05 17 00.2	-2.3
IGZV				e		05 17 49.8	
	comp=Z,3μm,0.3s						
LHJ2	Lahijan - Gila	3.27	277	ePn	Pn	05 17 01.1	+3.9
KRSH	Karshahi	3.28	210	ePn	Pb	05 17 00.6	-3.7
KRSH				e		05 18 03.4	
	comp=Z,2μm,0.4s						
GHVR	GHOM	3.28	225	ePn	Pb	05 17 01.9	-2.4
JIR1	Jirandeh	3.47	269	ePn	Pn	05 17 04.1	+3.9
TNSJ	Nastanj	3.50	144	ePn	Pn	05 17 02.9	+2.3
ANAR	Anarak	3.64	185	ePn	Pn	05 17 05.0	+2.5
IRAZ	Razeghan	3.68	249	ePn	Pb	05 17 07.5	-3.7
IRAZ				e		05 18 18.7	
	comp=Z,1μm,0.6s						
QAMS	Qamsar	3.80	217	ePn	Pn	05 17 07.0	+2.2
QABG	Abgarm-Qazvin	3.83	254	ePn	Pn	05 17 08.1	+2.9
QABG				e		05 18 14.3	
	comp=Z,717nm,0.5s						
TABS	Tabas	4.00	141	ePn	Pn	05 17 10.1	+2.6
ASAO	Ashtian	4.03	237	ePn	Pn	05 17 11.6	+3.6
TKDS	Koohdasht(Taba	4.04	142	ePn	Pn	05 17 11.4	+3.5
IKLH	Kolahrood	4.07	212	ePn	Pn	05 17 11.5	+3.0
IZEF	Zefreh	4.18	201	ePn	Pn	05 17 13.2	+3.1
TPRV	Parvadeh(Tabas	4.33	150	ePn	Pn	05 17 14.5	+2.5
ZNJK	Zanjan	4.37	270	ePn	Pn	05 17 17.0	+4.4
YZKH	Yazd	4.44	175	ePn	Pn	05 17 15.6	+2.1
HAGD	Aghdareh	4.51	245	ePn	Pn	05 17 19.0	+4.4
ASTR	Astara	4.57	294	P	Pn	05 17 16.5	+1.4
ASTR				S	Sn	05 18 05.6	-2.7
ICHK	Chekchek	4.57	177	ePn	Pn	05 17 18.3	+2.9
KHMZ	Khomeyn	4.59	229	ePn	Pn	05 17 19.5	+3.9
LRK	Lerik	4.93	293	P	Pn	05 17 21.7	+1.5
LRK				S	Sn	05 18 15.8	-1.6
ALIB	Äli-Bayra	5.09	309	P	Pn	05 17 23.2	+0.9
ALIB				S	Sn	05 18 23.0	+1.8
YRD	Yardimli	5.10	296	P	Pn	05 17 23.5	+0.9
YRD				S	Sn	05 18 19.5	-2.2
JRKH	Jarkhoshk	5.11	98	ePn	Pn	05 17 25.7	+3.0
GLBA	Clilabad	5.13	300	P	Pn	05 17 24.6	+1.8
GLBA				S	Sn	05 18 20.1	-2.0
IRAM	Ramesheh	5.20	197	ePn	Pn	05 17 28.2	+4.1
AFRZ	Afriz	5.25	129	ePn	Pn	05 17 27.5	+2.8
TBJM	Torbat-e-JAM	5.26	105	ePn	Pn	05 17 27.5	+2.6
GRMI	Germi	5.31	294	ePn	Pn	05 17 27.7	+2.2
IMEH	Mehriz	5.43	176	ePn	Pn	05 17 29.8	+2.5
ITEG	Tejag	5.46	134	ePn	Pn	05 17 30.6	+3.0
ATGJ	Altiaghaj	5.71	316	P	Pn	05 17 34.0	+3.1
ATGJ				S	Sn	05 18 35.6	-1.0
IMON	Monand	5.81	127	ePn	Pn	05 17 35.6	+3.1
PQL	Pirkuli	5.86	314	P	Pn	05 17 35.4	+2.4
PQL				S	Sn	05 18 38.5	-1.8
SIZA	Siyzn	5.88	318	P	Pn	05 17 34.5	+1.2
SIZA				S	Sn	05 18 39.4	-1.3
BLQ	Beylaqan	5.92	301	S	Sn	05 18 38.9	-2.7
IKOO	Kooshah	5.95	136	ePn	Pn	05 17 35.9	+1.5
SHRT	Shahrakht	5.96	120	ePn	Pn	05 17 36.7	+2.4
QRD	Qoradiz	5.97	298	P	Pn	05 17 35.3	+0.9
QRD				S	Sn	05 18 42.7	-0.1
IML	Ismayilli	6.10	312	P	Pn	05 17 37.8	+1.6
IML				S	Sn	05 18 44.5	-1.6
ZRD	Zardab	6.11	306	S	Sn	05 18 45.4	-0.9
KLNJ	Kolanjah	6.17	201	ePn	Pn	05 17 41.2	+3.7
QUBA	Quba, Azerbaij	6.30	318	P	Pn	05 17 40.9	+2.0
QUBA				S	Sn	05 18 49.8	-1.1
XNQ	Khinaliq	6.37	315	P	Pn	05 17 42.3	+2.2
XNQ				S	Sn	05 18 51.8	-1.1
BSRN	Basiran	6.37	138	ePn	Pn	05 17 42.9	+2.9
AGDM	Agdam	6.41	303	S	Sn	05 18 51.0	-2.6
QSAR	Qusar	6.53	318	P	Pn	05 17 43.5	+1.3
QSAR				S	Sn	05 18 54.5	-2.2
ORD	Ordubad	6.76	291	P	Pn	05 17 45.6	+0.3
ORD				S	Sn	05 19 01.5	-1.0
SEKA	Sheki	6.94	311	P	Pn	05 17 48.3	+0.5
SEKA				S	Sn	05 19 05.0	-1.9
GANJ	Ganja	7.19	304	P	Pn	05 17 52.7	+1.5
GANJ				S	Sn	05 19 10.2	-2.8
SBZ	Shahbuz	7.23	293	P	Pn	05 17 53.5	+1.8
SBZ				S	Sn	05 19 13.8	-0.2
ZKTA	Zakatala	7.55	312	P	Pn	05 17 58.1	+2.0
ZKTA				S	Sn	05 19 20.2	-1.5
GDB	GEDABAY	7.61	303	P	Pn	05 17 58.4	+1.4
GDB				S	Sn	05 19 20.3	-3.1

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*IDC **03** 05:17:38.7±1.0, 37°.72N×72°.75E, h0km, mb3.5/8, mb1 3.6/14, mb1mx3.5/65, mbtmp3.5/14, ML2.9/6, MS3.6/1, Ms1 3.6/1, ms1mx2.4/79, Error ellipse: s-maj=22.1km s-min=19.6km az=92.0*
*NNC **03** 05:17:44.1±11.0, 37°.99N×72°.40E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=92.8km s-min=65.5km az=168.0*
ISC 03 05:17:40.3±1.0**, 37°.74N**±0°.09×**72°.6E**±0°.1**, h10**km**, n19,** σ1^{s}79/21**, mb3.5**/8**, 4C-1D, Tajikistan**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.12	16	Pn	Pn	05 18 59.3	+2.2
	0.7nm,0.3s,baz=206,slow=12,SNR=8.3						
AAK				Sn	Sn	05 19 53.6	-2.7
	baz=154,slow=17,SNR=1.5						
KK08	Karatay Array	5.59	344	⇑Pn	Pn	05 19 04.4	+0.9
	2.3nm,0.4s,baz=151,slow=12						
KK08				⇑Sn	Sn	05 20 07.2	-0.6
	3.7nm,0.6s,baz=140,slow=24						
TKM2	Tokmak 2	5.68	23	⇑Pn	Pn	05 19 07.0	+2.1
	0.9nm,0.6s						
TKM2				⇓Sn	Sn	05 20 13.7	+3.4
	4.1nm,0.8s						
MKAR	Makanchi Array	11.57	35	Pn	Pn	05 20 25.7	+0.3
	0.0nm,0.3s,baz=216,slow=14,SNR=2.6						
KURBB	Kurchatov Arra	13.57	16	Pn	Pn	05 20 50.8	-2.0
	0.1nm,0.3s,baz=210,slow=11,SNR=3.9						
AB31	Akbulak array	14.68	326	P	Pn	05 21 06.0	-1.9
	0.6nm,0.5s,baz=176,slow=9.5,SNR=7.1						
BVAR	Borovoye Array	15.36	355	Pn	Pn	05 21 15.0	-2.0
	0.1nm,0.3s,baz=172,slow=12,SNR=1.9						
AKTO	Aktyubinsk	16.40	325	Pn	Pn	05 21 29.1	-1.3
	0.1nm,0.3s,baz=108,slow=20,SNR=1.8						
AKTO	Aktyubinsk	16.40	325	⇑P	P	05 21 34.2	+1.0
	2.1nm,0.7s						
ZALV	Zalesovo Beam	18.28	24	P	Pn	05 21 51.4	-2.5
	0.2nm,0.3s,baz=219,slow=10,SNR=8.6						
SONM	Songino Array	26.62	57	P	P	05 23 19.4	+0.4
	0.4nm,0.6s,baz=258,slow=12,SNR=4.0						
PALK	Pallekele	31.22	164	LR	LR	05 37 43.6	
	comp=Z,115nm,19.3s,baz=221,slow=39						
FINES	FINESS Array B	37.17	325	P	P	05 24 53.2	+2.1
	0.5nm,0.4s,baz=110,slow=10,SNR=4.6						
NOA	NORSAR Array B	44.15	322	P	P	05 25 48.9	+0.1
	0.3nm,0.5s,baz=92,slow=8.3,SNR=1.6						
TORD	Torodi Ar. Bea	66.98	269	P	P	05 28 34.3	+0.7
	0.3nm,0.5s,baz=42,slow=5.2,SNR=5.7						
ILAR	Eielson Array	73.25	17	P	P	05 29 10.5	-0.8
	0.3nm,0.8s,baz=312,slow=4.3,SNR=2.1						
YKA	Yellowknife Ar	79.95	3	P	P	05 29 49.0	-0.2
	0.3nm,0.7s,baz=349,slow=5.5,SNR=5.2						
WRA	Warramunga Arr	81.61	123	P	P	05 29 57.4	-1.3
	0.7nm,0.9s,baz=325,slow=5.0,SNR=5.6						
ASAR	Alice Springs	83.96	126	P	P	05 30 10.8	0.0
	0.3nm,1.0s,baz=272,slow=33,SNR=3.2						
SEY	Seymchan	24.97	304	P	P	05 27 03.6	+0.1
	comp=N,0.3nm,0.3s,baz=60,slow=16,SNR=3.9						
SONM	Songino Array	54.37	304	P	P	05 31 06.8	-0.1
	comp=N,0.3nm,0.6s,baz=46,slow=8.3,SNR=2.2						
SONM	Songino Array	54.37	304	P	P	05 31 06.9	0.0
DRLN	Deer Lake	55.45	51	P	P	05 31 13.6	-0.9

*IDC **03** 05:21:31.9±3.6, 55.°60N×157.°97W, h0^{km}, mb3.4/3, mb1 3.5/5, mb1mx3.2/58, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=73.5km s-min=24.8km az=166.0*
*AEIC **03** 05:21:40±2.0, 57.°02N±0.°02×157.°92W±0.°06, h4^{km}±5^{km}, ML3.0, ML3.3/34(NEIC), Error ellipse: s-maj=4.8km s-min=3.5km az=90.0*
*NEIC **03** 05:21:41.2±1.5, 57.°06N±0.°03×158.°04W±0.°08, h10^{km}±1^{km}, Error ellipse: s-maj=8.5km s-min=3.0km az=299.0*
ISC 03 05:21:40.9±1.1, **57.°01N**±0.°04×**157.°99W**±0.°04, **h14**^{km}±8^{km}, **n57**, $\sigma1^{s}$**13**/64, **mb3.5**/3, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.13	249		Pg	05 21 45.3	+0.8
ANPB	Aniakchak Plen	0.27	217		Pb	05 21 47.2	-0.3
CHGN	Chignik	0.75	198		Pg	05 21 54.9	-0.6
CHGN					Sb	05 22 06.4	+0.6
CHGN				IAML		05 22 07.6	
	comp=E,1μm,0.6s						
CHGN	Chignik	0.75	198	P	Pg	05 21 55.0	-0.4
	baz=20						
CHGN				S	Sb	05 22 06.3	+0.6
	baz=20						
VNHG	Veniaminof 1	1.03	220		Pb	05 22 00.9	+0.5
VNHG					Sb	05 22 15.5	+1.7
VNFG	Fog Glacier, M	1.13	230		Pn	05 22 02.8	+0.5
VNFG	Fog Glacier, M	1.13	230	P	Pn	05 22 02.8	+0.5
	baz=50						
PLK3	Peulik 3	1.15	53		Pb	05 22 02.2	-0.4
CHIR	Chirikof Islan	1.78	131	Pn	Pn	05 22 12.2	+1.1
CHIR				Sn	Sg	05 22 36.8	-1.2
CHIR				IAML		05 22 39.2	
	comp=E,376nm,0.9s						
CHIR				IAML		05 22 39.7	
	comp=N,389nm,1.0s						
CHIR	Chirikof Islan	1.78	131	P	Pb	05 22 12.9	-0.3
	baz=314						
CHIR				S	Sg	05 22 36.7	-1.3
	baz=314						
KABU	Katmai Buttres	1.93	48		Pn	05 22 13.2	-0.1
SII	Sitkinak Islan	2.14	101		Pn	05 22 17.6	+1.4
SDPT	Sand Point	2.17	221	Pn	Pn	05 22 18.1	+1.6
SDPT				IAML		05 22 55.8	
	comp=E,216nm,0.8s						
SDPT				IAML		05 22 55.9	
	comp=N,157nm,0.6s						
SDPT	Sand Point	2.17	221	P	Pn	05 22 18.4	+1.9
	baz=39						
SDPT				S	Sg	05 22 49.4	-1.3
	baz=39						
OHAK	Old Harbor	2.57	83		Pn	05 22 23.1	+1.0
OHAK	Old Harbor	2.57	83	P	Pn	05 22 22.6	+0.6
	baz=268						
P18K	Big Mountain,	2.80	30		Pn	05 22 25.2	0.0
P18K	Big Mountain,	2.80	30	P	Pn	05 22 25.0	-0.2
	baz=212						
Q19K	Cape Douglas,	3.01	49	Pn	Pn	05 22 28.4	+0.3
Q19K				IAML		05 23 31.6	
	comp=E,128nm,0.8s						
Q19K				IAML		05 23 35.5	
	comp=N,123nm,0.7s						
KDAK	Kodiak Island	3.03	73	Pn	Pn	05 22 29.5	+1.3
	comp=N,3.5nm,0.3s,baz=223,slow=7.6,SNR=14						
KDAK				Sn	Sn	05 23 04.9	+0.6
	comp=N,2.1nm,0.3s,baz=256,slow=10.0,SNR=5.1						
KDAK	Kodiak Island	3.03	73		Pn	05 22 29.2	+0.9
P19K	Oil Pt	3.65	41	Pn	Pn	05 22 37.5	+0.7
P19K				IAML		05 23 43.2	
	comp=N,76nm,0.8s						
O19K	Port Alsworth	3.72	30		Pn	05 22 38.1	+0.2
N19K	Bonanza Creek	4.22	24		Pn	05 22 45.5	+0.7
N19K				IAML		05 23 57.4	
	comp=N,39nm,0.7s						
N19K				IAML		05 24 12.2	
	comp=E,42nm,0.8s						
HOM	Homer	4.27	49	Pn	Pn	05 22 45.7	+0.4
SVW2	Sparrevohn	4.28	16		Pn	05 22 46.2	+0.6
SVW2				IAML		05 23 56.7	
	comp=E,32nm,0.7s						
SVW2				IAML		05 24 10.1	
	comp=N,41nm,0.7s						
CNPM	China Poot	4.37	52	Pn	Pn	05 22 49.3	+2.6
RSO	Redoubt South	4.41	36		Pn	05 22 48.3	+0.9
BRLK	Bradley Lake	4.64	51	Pn	Pn	05 22 51.0	+0.4
BRLK				IAML		05 24 55.6	
	comp=E,20nm,2.4s						
BRLK				IAML		05 25 10.6	
	comp=N,18nm,3.4s						
SPU	Mount Spurr	5.18	34		Pn	05 22 59.2	+1.3
M19K	Big River Lodg	5.24	19		Pn	05 22 59.0	+0.3
M19K				IAML		05 24 46.0	
	comp=E,23nm,0.9s						
M19K				IAML		05 24 53.1	
	comp=N,23nm,0.9s						
L19K	White Mountain	5.42	16		Pn	05 23 01.1	-0.2
M20K	Styx River	5.47	25		Pn	05 23 02.9	+0.9
TTA	Tatalina	6.02	9	Pn	Pn	05 23 09.1	-0.3
PPLA	Purkeypile	6.58	24	Pn	Pn	05 23 18.5	+1.3
K20K	Telida	6.66	15	Pn	Pn	05 23 17.8	-0.4
CUT	Chulitna	6.67	33	Pn	Pn	05 23 19.0	+0.8
SPIA	Saint Paul Isl	6.68	277	Pn	Pn	05 23 18.1	-0.4
SML	Sawmill	6.88	42	Pn	Pn	05 23 22.7	+1.5
CAST	Castle Rocks	7.06	22	Pn	Pn	05 23 23.9	+0.2
ANM	Nome	8.38	338		Pn	05 23 42.4	+0.6
NEA2	Nenana	8.76	26	Pn	Pn	05 23 49.4	+2.5
ISLE	Juniper Island	8.88	60	Pn	Pn	05 23 49.9	+1.2
WRH	Wood River Hil	8.90	29	Pn	Pn	05 23 50.0	+1.1
H21K	Melozitna Rive	9.02	14		Pn	05 23 50.1	-0.4
IMAR	Indian Mountai	9.22	11	Pn	Pn	05 23 53.4	+0.1
RIDG	Independent Ri	9.36	38	Pn	Pn	05 23 56.3	+1.1
TABL	Table Mountain	9.40	62	Pn	Pn	05 23 58.1	+2.1
ILAR	Eielson Array	9.46	30	Pn	Pn	05 24 00.9	+4.3
	comp=N,0.1nm,0.3s,baz=218,slow=12,SNR=6.4						
ILAR	Eielson Array	9.46	30		Pn	05 23 56.1	-0.4
BMAR	Burnt Mountain	12.14	25	Pn	Pn	05 24 32.6	-0.5
YKA	Yellowknife Ar	22.18	58	P	P	05 26 36.5	+0.4
	comp=N,0.7nm,0.8s,baz=274,slow=10,SNR=11						
YKA	Yellowknife Ar	22.18	58	P	P	05 26 35.3	-0.8

*ARE **03** 05:41:39±4.0, 17.°01S±0.°05×69.°59W±0.°07, h195^{km}±5^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=201.0*
*NEIC **03** 05:41:42.2±1.8, 16.°71S±0.°06×69.°70W±0.°08, h161^{km}±5^{km}, mb4.9/169, ML5.1(ARE), ML4.7(GUC), Error ellipse: s-maj=10.6km s-min=8.3km az=106.0*
*VAO **03** 05:41:42.2±0.3, 16.°71S×69.°52W, h158^{km}, mb4.9*
*GUC **03** 05:41:44.2±0.5, 17.°04S×69.°85W, h186^{km}±4^{km}, ML5.1*
*IDC **03** 05:41:45.4±0.9, 16.°65S×69.°40W, h182^{km}±5^{km}, mb4.4/17, mb1 4.5/19, mb1mx4.3/36, mbtmp4.9/19, MS3.3/2, Ms1 3.3/2, ms1mx2.7/66, Error ellipse: s-maj=16.3km s-min=11.6km az=46.0*
*GCMT **03** 05:41:46.2±0.4, 16.°78S±0.°03×69.°65W±0.°03, h208^{km}±4^{km}, MW4.9/79, Moment Tensor Solution. s11,c12; s79,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.24±.15; $M_{\theta\theta}$-1.85±.12; $M_{\phi\phi}$0.61±.15; $M_{r\theta}$0.82±.11; $M_{\theta\phi}$0.32±.12; $M_{\phi r}$-2.71±.14; Best double couple: $M_0$3.15400×10^{16} NP1:ϕ_s255.00000°, δ28.00000°, λ23.00000°. NP2: ϕ_s145.00000°, δ79.00000°, λ116.00000°. Principal axes: T 3.6850, Plg49.0000°, Azm84.0000°; N -1.0580, Plg26.0000°, Azm320.0000°; P -2.6230, Plg30.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 05:41:42.3±0.6, **16.°77S**±0.°04×**69.°61W**±0.°05, **h167**^{km}±5^{km}, **n319**, $\sigma1^{s}$**39**/318, **mb4.8**/88, **1C-8D**, **Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.50	72	P	Pn	05 42 16.4	+2.5
	115nm,0.3s,baz=309,slow=5.3,SNR=6035						
LPAZ				S	Sn	05 42 40.1	+2.1
	137nm,0.3s,baz=82,slow=19,SNR=22						
LPAZ				LR	LR	05 42 56.5	
	comp=Z,870nm,18.9s,baz=230,slow=56						
LPAZ	La Paz	1.50	72		Pn	05 42 16.2	+2.3
LPAZ				Sn	Sn	05 42 39.1	+1.0
PB16	IPOC Station P	1.56	176		Pn	05 42 17.2	+2.8
PB16				Sn	Sn	05 42 41.8	+2.6
PB16	IPOC Station P	1.56	176	⇓iP	Pn	05 42 17.1	+2.6
PB16				eS	Sn	05 42 42.0	+2.8
AP01	Chacalluta	1.74	203		Pn	05 42 15.8	+0.1
AP01				Sn	Sn	05 42 41.5	+0.1
AP01	Chacalluta	1.74	203	eP	Pn	05 42 16.2	+0.6
AP01				eS	Sn	05 42 40.9	-0.5
AP01				IAML		05 42 43.7	
	comp=E,18μm,0.4s						
PB12	IPOC Station P	1.96	200		Pn	05 42 18.6	+0.5
PB12	IPOC Station P	1.96	200	⇓iP	Pn	05 42 18.5	+0.5
PB12				i S	Sn	05 42 44.9	-0.9
GO01	Chusmiza	2.91	172		Pn	05 42 31.5	+1.8
GO01	Chusmiza	2.91	172	⇓iP	Pn	05 42 31.5	+1.8
GO01				i S	Sn	05 43 07.5	+0.9
GO01				IAML		05 43 12.7	
	comp=N,3μm,0.2s						
PB11	IPOC Station P	2.98	181		Pn	05 42 30.6	+0.3
PB11	IPOC Station P	2.98	181	⇓iP	Pn	05 42 30.9	+0.7
PB11				i S	Sn	05 43 06.4	-1.1
PB11				IAML		05 43 08.7	
	comp=E,5μm,0.4s						
PB08	IPOC Station P	3.38	173		Pn	05 42 37.0	+1.5
PB08	IPOC Station P	3.38	173	⇓iP	Pn	05 42 37.0	+1.5
PB08				eS	Sn	05 43 16.8	-0.2
PB08				IAML		05 43 20.0	
	comp=E,2μm,0.4s						
HMBC	Humberstone	3.50	184	⇓iP	Pn	05 42 36.7	0.0
HMBC				eS	Sn	05 43 16.1	-3.2
HMBC				IAML		05 43 21.2	
	comp=N,3μm,0.5s						
TA02	Huaiquique	3.52	188		Pn	05 42 36.3	-0.5
TA01	Diego Aracena	3.81	188		Pn	05 42 40.0	-0.6
TA01	Diego Aracena	3.81	188	⇓iP	Pn	05 42 40.0	-0.6
TA01				eS	Sn	05 43 22.2	-4.0
PATCX	Punta Patache	4.06	187		Pn	05 42 43.8	-0.1
PATCX	Punta Patache	4.06	187	⇓iP	Pn	05 42 43.2	-0.7
PATCX				eS	Sn	05 43 29.2	-2.9
PATCX				IAML		05 43 32.5	
PB01	IPOC Station P	4.25	178		Pn	05 42 46.4	0.0
PB02	IPOC Station P	4.53	183		Pn	05 42 50.1	0.0
PB07	IPOC Station P	4.94	183	Pn	Pn	05 42 55.3	-0.1
PB09	IPOC Station P	5.01	176		Pn	05 42 57.0	+0.6
PB04	IPOC Station P	5.56	185	Pn	Pn	05 43 02.8	-0.7
LVC	Limon Verde	5.85	174	P	Pn	05 43 07.9	+0.4
	comp=N,103nm,0.3s,baz=358,slow=9.1,SNR=1146						
LVC				S	Sn	05 44 11.5	-2.9
	comp=N,85nm,0.3s,baz=310,slow=23,SNR=13						
LVC	Limon Verde	5.85	174	Pn	Pn	05 43 08.0	+0.5
LVC	Limon Verde	5.85	174	eP	Pn	05 43 08.1	+0.5
PB06	IPOC Station P	5.91	180		Pn	05 43 07.5	-0.6
PB15	IPOC Station P	6.41	179		Pn	05 43 14.2	-0.6
PB10	IPOC Station P	6.77	187		Pn	05 43 18.0	-1.4
ETMB	Extrema	7.66	26	eP	Pn	05 43 30.7	-0.6
PB14	IPOC Station P	7.85	185	Pn	Pn	05 43 32.2	-1.8
SIV	San Ignacio	8.24	86	P	Pn	05 43 37.3	-1.6
	comp=N,30nm,0.3s,baz=271,slow=9.7,SNR=177						
SIV				S	Sn	05 45 04.6	-6.3
	comp=N,2.3nm,0.3s,baz=308,slow=11,SNR=6.8						
GO02	Mina Guanaco	8.35	180		Pn	05 43 39.2	-1.4
NNA	Nana	8.46	303	P	Pn	05 43 42.2	+0.2
	comp=N,82nm,0.3s,baz=130,slow=11,SNR=172						
NNA				S	Sn	05 45 12.7	-3.8
	comp=N,62nm,0.3s,baz=191,slow=20,SNR=10.0						
AC01	Pan de Azucar	9.38	185	Pn	Pn	05 43 51.7	-2.2
CZSB	Cruzeiro do Su	9.48	341	eP	Pn	05 43 53.9	-1.5
VILB	Vilhena	9.86	69	eP	Pn	05 43 59.0	-1.4
AC02	Maricunga	10.03	178	Pn	Pn	05 44 02.5	-0.4
PTLB	Pontes e Lacer	10.15	84	eP	Pn	05 44 02.5	-1.7
AC06	Mina Casimiro	10.56	184		Pn	05 44 07.7	-1.8
GO03	Copiap	10.79	183		Pn	05 44 10.1	-2.4
AC04	Llanos de Chal	11.46	186	Pn	Pn	05 44 18.2	-2.9
TBTG	Tabatinga, AM	12.51	359	eP	Pn	05 44 34.1	-0.7
TBTG	Tabatinga, AM	12.51	359	eP	Pn	05 44 34.2	-0.5
CO01	Juntas del Tor	13.15	182	Pn	P	05 44 45.5	-1.7
CO05	La Serena	13.17	186		Pn	05 44 43.5	+0.4
GO04	Tololo Observa	13.38	184	Pn	Pn	05 44 46.7	+0.6
SALV	Santo Antonio	13.39	88	eP	Pn	05 44 44.6	-1.4
PDRB	Porto dos Gac	13.50	69	eP	Pn	05 44 44.9	-2.5
AQDB	Aquidauana	13.69	108		Pn	05 44 49.4	-0.4
AQDB	Aquidauana	13.69	108	eP	Pn	05 44 49.6	-0.2
CO06	Fray Jorge	13.96	187	Pn	Pn	05 44 53.5	+0.4
PP1B	Ponte de Pedra	14.11	96	eP	Pn	05 44 53.9	-1.1
CLDB	Colider	14.64	68	eP	Pn	05 45 01.4	-0.3
ZON	Zonda	14.73	177		P	05 45 03.7	-0.8
CPUP	Villa Florida	14.86	132	P	Pn	05 45 04.0	-0.3
	comp=N,0.4nm,0.3s,baz=301,slow=12,SNR=14						
CPUP	Villa Florida	14.86	132		Pn	05 45 03.7	-0.6
CPUP	Villa Florida	14.86	132	eP	Pn	05 45 03.6	-0.6
VA06	Catapilco	15.80	185	IAmb	IAmb	05 45 17.7	
	comp=Z,102nm,0.9s						
VA03	San Esteban	15.95	183	P	Pn	05 45 17.8	+0.1
MCRA	Macar, Loja	15.96	319	P	Pn	05 45 17.9	-0.1
MCRA				IAmb	IAmb	05 45 22.7	
	comp=Z,13nm,0.4s						
BOSC	San Juan Bosco	16.10	326	P	Pn	05 45 19.4	-0.4
BOSC				IAmb	IAmb	05 45 26.2	
	comp=Z,72nm,0.7s						
MACA	Manacapuru-AM	16.12	34	eP	P	05 45 20.1	+0.1
ROC1	El Roble	16.19	184	P	Pn	05 45 19.4	-1.3
ROC1				IAmb	IAmb	05 45 47.5	
	comp=Z,65nm,0.8s						
VA01	Torpederas	16.29	186	P	Pn	05 45 22.3	+0.7
VA01				IAmb	IAmb	05 45 23.2	
	comp=Z,78nm,1.1s						
PEL	Peldehue	16.33	183	IAmb	IAmb	05 45 24.8	
	comp=Z,166nm,1.7s						
MT02	Curacav	16.48	185	P	Pn	05 45 24.8	+0.8
MT02				IAmb	IAmb	05 45 28.0	
	comp=Z,106nm,1.1s						
MT05	Renca	16.58	183		Pn	05 45 25.4	+0.1
ARNL	Arenillas	16.68	321	IAmb	IAmb	05 45 29.9	
	comp=Z,45nm,1.2s						
VA05	Santo Domingo	16.91	186	IAmb	IAmb	05 45 32.0	
	comp=Z,100nm,0.9s						
NPGB	Novo Progresso	16.96	57	eP	P	05 45 29.2	0.0
MT09	Talagante	16.98	184	P	Pn	05 45 29.8	-0.4
BO04	La Punta	17.17	183	P	P	05 45 31.6	+0.3
BO04				IAmb	IAmb	05 45 36.2	
	comp=Z,63nm,0.7s						
ITQB	Itaqui	17.51	139		P	05 45 34.9	-0.2
ITQB	Itaqui	17.51	139	eP	Pn	05 45 35.9	-0.6
PTLC	Puerto Leguiza	17.59	343	eP	P	05 45 27.5	-8.6
BO01	Tunca	17.60	184	P	P	05 45 36.3	+0.3
BO02	Sierra Bellavi	17.98	183	P	Pn	05 45 41.6	-0.4
PCMB	Pacaembu	17.99	108	eP	P	05 45 40.7	+0.3
PTGB	Pitanga	18.20	119	eP	P	05 45 43.4	+0.5
GO05	Huala	18.28	186		Pn	05 45 44.6	-0.9
GO05				IAmb	IAmb	05 46 01.3	
	comp=Z,44nm,0.9s						
ITTB	Itaituba	18.37	49	eP	P	05 45 44.8	+0.2
SNDB	Serra Nova Dou	18.37	77	eP	P	05 45 44.2	-0.5
ITRB	Iturama	18.52	102	eP	P	05 45 46.4	+0.1
ML02	Panimavida	18.98	185	P	P	05 45 51.7	+0.6
OTAV	Otavalo	19.01	332	P	P	05 45 51.1	-0.9
OTAV				IAmb	IAmb	05 46 05.5	
	comp=Z,89nm,1.6s						
OTAV	Otavalo	19.01	332	⇑eP	Pn	05 45 56.6	+1.9
OTAV	Otavalo	19.01	332	eP	P	05 45 53.0	+0.9
TULM	Tulcn-Chalpat	19.15	334	eP	P	05 45 54.7	+1.0
FLOC	Florencia	19.18	341	eP	P	05 45 54.7	+1.2
PAC1	Pacto, Paraso	19.20	331	eP	P	05 45 53.7	0.0
ITAB	Concordia	19.24	126	P	P	05 45 53.5	-0.5
ITAB	Concordia	19.24	126	eP	P	05 45 53.8	-0.2
MACC	Macarena, Meta	19.25	347	eP	P	05 45 54.7	+0.5
CMBC	Cumbal	19.37	335	eP	Pn	05 46 01.5	+2.6
GARC	Garzon, Huila	19.71	342	eP	P	05 45 56.6	-2.8
FRTB	Fartura	19.93	112	eP	P	05 46 01.1	-0.3
SOTA	Rioblanco	20.01	339	eP	P	05 46 02.4	-0.5
CPSB	Cacapava Do Su	20.07	135	eP	P	05 46 02.4	-0.4
PCON	Cinco Dias	20.12	340	eP	P	05 46 01.5	-2.7
BI05	Punta Hualpn	20.15	188	P	P	05 46 03.3	-0.3
BB19B	Bebedouro	20.40	105	eP	P	05 46 06.2	-0.3
POPC	Popayan, Colom	20.41	339	eP	P	05 46 06.3	-0.6
IPMB	Ipameri, GO	20.46	97	eP	P	05 46 05.9	-1.3
BDFB	Brasilia	20.77	90	P	P	05 46 10.4	-0.2
	comp=Z,48nm,0.7s,baz=253,slow=13,SNR=92						
BDFB	Brasilia	20.77	90	P	P	05 46 09.5	-1.1
BDFB				IAmb	IAmb	05 46 13.9	
	comp=Z,61nm,0.8s						
BDFB	Brasilia	20.77	90	eP	P	05 46 10.2	-0.4
PLTB	Pedras Altas	20.84	139	P	P	05 46 10.4	-0.6
PLTB				IAmb	IAmb	05 46 13.8	
	comp=Z,59nm,0.9s						
PLTB	Pedras Altas	20.84	139	eP	P	05 46 11.2	+0.1
TIJ01	Guaruva-PR	21.01	117	eP	P	05 46 14.1	+1.0
BOAV	Boa Vista	21.05	26	eP	P	05 46 13.9	+0.4
PEXB	Peixe	21.15	80	eP	P	05 46 14.4	-0.2
MALB	Monte Alegre	21.16	47	eP	P	05 46 14.5	-0.1
ORTC	Ortega, Tolima	21.29	344	eP	P	05 46 11.2	-4.9
GR1C	Gorgona, Isla	21.39	336	eP	P	05 46 17.0	0.0
RCLB	Rio Claro- Sao	21.54	109	eP	P	05 46 18.2	-0.5
YOTC	Yotoco, Valle	21.67	342	eP	P	05 46 17.9	-2.2
ROSC	El Rosal	21.97	347	LR	LR	05 55 34.9	
	comp=Z,84nm,21.0s,baz=243,slow=38						
ROSC	El Rosal	21.97	347	P	P	05 46 21.8	-1.7
PRPB	Parauapebas	22.05	64	eP	P	05 46 22.9	-1.1
LC01	Cunco	22.13	185	P	P	05 46 25.0	+0.5
LC01				IAmb	IAmb	05 46 26.9	
	comp=Z,37nm,1.0s						
VAO	Valinhos	22.17	110	eP	P	05 46 24.4	-0.7
PET01	Itanhaem-SP	22.20	113	eP	P	05 46 25.6	+0.3
PLMC	San Jos del P	22.52	342	eP	P	05 46 26.7	-1.8
GUY2C	Guyana, Caldas	22.58	345	eP	P	05 46 28.6	-0.8
SPBC	San Pablo de B	22.71	348	eP	P	05 46 30.6	+0.3
RUSC	La Rusia	22.78	351	eP	P	05 46 28.6	-2.6
NORC	Norcasia	22.79	346	eP	P	05 46 28.6	-2.3
SMTB	Santa Maria do	22.85	73	eP	P	05 46 31.0	-0.4
LR03	Panguipulli	22.90	185	P	P	05 46 32.2	+0.5
LR03				IAmb	IAmb	05 47 12.2	
	comp=Z,35nm,1.2s						
TAMC	Tame, Arauca	23.16	354	eP	P	05 46 31.5	-2.7
CBOC	Ciudad Bolivar	23.36	344	eP	P	05 46 33.5	-2.8
PARB	Paraibuna	23.45	110	eP	P	05 46 37.5	+0.6
BARC	Barichara	23.48	351	eP	P	05 46 36.4	-1.0
HELC	Santa Helena	23.55	345	eP	P	05 46 33.5	-4.7
PTBC	PUERTO BERRIO,	23.65	348	eP	P	05 46 34.4	-4.3
MCPB	Macapa, AP	23.77	48	eP	P	05 46 39.7	-0.2
PLCA	Paso Flores	23.89	182	P	P	05 46 42.1	+1.4
	comp=Z,52nm,0.8s,baz=360,slow=11,SNR=98						
PLCA	Paso Flores	23.89	182	P	P	05 46 41.6	+0.8
PLCA				IAmb	IAmb	05 46 44.7	
	comp=Z,61nm,0.8s						
PLCA	Paso Flores	23.89	182	eP	P	05 46 42.7	+2.0
PAMC	Pamplona, Colo	24.15	353	eP	P	05 46 41.2	-2.5
LL04	Puerto Octay	24.18	185	P	P	05 46 43.9	+0.7
LL04				IAmb	IAmb	05 46 55.4	
	comp=Z,16nm,0.9s						
SDBA	SAO DESIDERIO	24.30	83	eP	P	05 46 43.7	-0.9
JANB	Januaria	24.39	90	eP	P	05 46 44.5	-1.0
LL03	Petrohue	24.40	185	IAmb	IAmb	05 47 16.3	
	comp=Z,41nm,0.8s						
MC01	Montes Claros	24.58	94	eP	P	05 46 46.8	-0.5
ZARC	Zaragoza, Cauc	24.66	347	P	P	05 46 45.7	-2.1
ZARC				IAmb	IAmb	05 46 47.9	
	comp=Z,19nm,0.5s						
ZARC	Zaragoza, Cauc	24.66	347	eP	P	05 46 44.1	-3.7
UREC	San Jos de Ur	25.06	346	eP	P	05 46 50.0	-1.5
OCAC	Ocana	25.12	351	P	P	05 46 50.6	-1.5
VAS01	Vassouras-RJ	25.25	107	eP	P	05 46 54.1	+0.9
SDV	Santo Domingo	25.51	358	P	P	05 46 54.8	-0.9
	comp=Z,3.6nm,0.3s,baz=138,slow=5.2,SNR=16						
SDV	Santo Domingo	25.51	358	P	P	05 46 54.8	-0.9
SDV				IAmb	IAmb	05 47 39.1	
	comp=Z,56nm,1.7s						
SDV	Santo Domingo	25.51	358	eP	P	05 46 52.9	-2.9
SDV				eP	P	05 46 54.8	-0.9
SDV				eP	P	05 46 54.8	-0.9
SDV	Santo Domingo	25.51	358	eP	P	05 46 54.5	-1.3
TMAB	Tom-Au,PA,Br	25.54	58	eP	P	05 46 55.4	-0.5
PAYG	Puerto Ayora	25.89	306	P	P	05 46 57.7	-1.4
PAYG				IAmb	IAmb	05 47 44.0	
	comp=Z,32nm,0.9s						
MOTC	Monteria, Cord	26.08	346	eP	P	05 46 59.7	-1.0
LL02	Futaleuf	26.40	184	P	P	05 47 03.6	+0.2
LL02				IAmb	IAmb	05 47 08.9	
	comp=Z,14nm,1.1s						
CAM01	Campos-RJ	26.84	105	eP	P	05 47 08.5	+1.0
SJCC	San Jacinto, C	27.06	348	P	P	05 47 07.8	-1.7
SJCC				IAmb	IAmb	05 47 09.7	
	comp=Z,18nm,0.9s						
SJCC	San Jacinto, C	27.06	348	eP	P	05 47 06.5	-3.1
SJMB	Sao Joao De Ma	27.14	98	eP	P	05 47 11.4	+1.3
MDP	Montagnes des	27.46	39	P	P	05 47 13.5	+0.5
	comp=Z,20nm,0.7s,baz=215,slow=8.6,SNR=14						
AY01	Puyuhuapi	27.68	185	P	P	05 47 15.3	+0.6
AY01				IAmb	IAmb	05 47 16.8	
	comp=Z,17nm,0.8s						
RIB01	Linhares ES	27.88	100	eP	P	05 47 16.8	0.0
NAN01	Guarapari, ES	28.16	97	eP	P	05 47 19.6	+0.3
GUA01	Guaratinga, BA	28.55	94	eP	P	05 47 22.4	-0.3
ROSB	Rosrio	28.59	64	eP	P	05 47 22.5	-0.6
COYC	Coyhaique	28.79	184	P	P	05 47 25.2	+0.7
COYC				IAmb	IAmb	05 47 26.8	
	comp=Z,24nm,1.0s						
COYC	Coyhaique	28.79	184	P	P	05 47 25.6	+1.1
GDU01	Guandu, BA	29.13	88	eP	P	05 47 27.0	-0.9
NBPN	Ponto Novo - B	29.14	82	eP	P	05 47 26.8	-1.2
NBPS	Pedro II - PI	30.24	69	eP	P	05 47 37.2	-0.6
NBLA	Lagarto - SE	31.40	84	eP	P	05 47 46.5	-1.4
NBPB	Pedra_Branca-C	31.45	73	eP	P	05 47 48.2	-0.2
NBMA	Muriti-CE	31.54	76	eP	P	05 47 48.5	-0.6
NBMO	Morrinhos-CE	31.98	69	eP	P	05 47 52.5	-0.4
NBCL	Cascavel-CE	33.16	71	eP	P	05 48 03.2	0.0
NBRF	Rio Formoso -	34.54	81	eP	P	05 48 14.5	-0.7
MLPR	Magueyes Islan	34.61	4	P	P	05 48 14.6	-1.1
CRPR	Cabo Rojo, PR	34.65	4	P	P	05 48 15.2	-0.7
CRPR				IAmb	IAmb	05 48 40.8	
	comp=Z,34nm,1.2s						
OBIP	Obispado Ponce	34.72	5	P	P	05 48 15.9	-0.7
OBIP				IAmb	IAmb	05 48 17.3	
	comp=Z,20nm,0.8s						
RCBR	Riachuelo	34.74	76	P	P	05 48 15.8	-1.1
RCBR				IAmb	IAmb	05 48 18.3	
	comp=Z,42nm,0.9s						
RCBR	Riachuelo	34.74	76	eP	P	05 48 17.0	+0.1

RCBR	**Riachuelo**	**34.74**	**76**	P	**P**	**05 48 16.9**	**-0.1**
PDPR	**Patillas Dam,**	**34.75**	**6**	P	**P**	**05 48 15.7**	**-1.1**
PDPR				IAmb	IAmb	05 48 16.7	
	comp=Z,22nm,0.8s						
CELP	**Cerrillos**	**34.76**	**5**	P	**P**	**05 48 15.7**	**-1.1**
CELP				IAmb	IAmb	05 48 18.5	
	comp=Z,26nm,0.9s						
SJG	**San Juan**	**34.83**	**6**	P	**P**	**05 48 16.0**	**-1.5**
SJG				IAmb	IAmb	05 48 17.4	
	comp=Z,17nm,0.9s						
CBYP	**Canovanas**	**35.02**	**6**	P	**P**	**05 48 18.3**	**-0.9**
CBYP				IAmb	IAmb	05 48 18.9	
	comp=Z,25nm,0.8s						
NBPV	**Pedro Velho**	**35.10**	**77**	*e*P	**P**	**05 48 19.8**	**-0.2**
X48A	**Hartselle**	**53.57**	**342**	P	**P**	**05 50 45.2**	**-0.9**
X48A				IAmb	IAmb	05 51 31.9	
	comp=Z,45nm,1.9s						
V52A	**Sevierville**	**53.98**	**346**	P	**P**	**05 50 49.8**	**+0.7**
V52A				IAmb	IAmb	05 51 17.4	
	comp=Z,49nm,1.6s						
U49A	**Red Boiling Sp**	**55.15**	**344**	P	**P**	**05 50 56.3**	**-1.2**
U49A				IAmb	IAmb	05 51 41.8	
	comp=Z,48nm,1.9s						
Z38A	**Mt. Pleasant**	**55.34**	**334**	P	**P**	**05 51 00.1**	**+1.2**
Z38A				IAmb	IAmb	05 51 01.2	
	comp=Z,12nm,0.6s						
WVT	**Waverly**	**55.36**	**342**	P	**P**	**05 50 57.8**	**-1.3**
WVT				IAmb	IAmb	05 52 59.0	
	comp=Z,24nm,1.6s						
W41B	**Gary Mavity, V**	**55.95**	**338**	P	**P**	**05 51 02.5**	**-0.7**
W41B				IAmb	IAmb	05 52 52.2	
	comp=Z,44nm,1.9s						
TXAR	**Lajitas Array**	**56.41**	**324**	P	**P**	**05 51 07.6**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=146,slow=7.2,SNR=12						
TXAR	**Lajitas Array**	**56.41**	**324**	P	**P**	**05 51 07.5**	**+0.8**
TX31	**Lajitas Ar. Si**	**56.41**	**324**	P	**P**	**05 51 07.9**	**+1.2**
TX31				IAmb	IAmb	05 51 44.2	
	comp=Z,47nm,1.9s						
TX32	**Lajitas Array**	**56.41**	**324**	P	**P**	**05 51 07.9**	**+1.2**
TX32				IAmb	IAmb	05 51 44.2	
	comp=Z,16nm,1.9s						
FCAR	**Ozark Folk Cen**	**56.55**	**338**	P	**P**	**05 51 06.5**	**-1.0**
X37A	**Clayton**	**56.65**	**335**	P	**P**	**05 51 09.1**	**+0.9**
X37A				IAmb	IAmb	05 52 24.1	
	comp=Z,61nm,2.0s						
PBMO	**Poplar Bluff**	**56.77**	**340**	P	**P**	**05 51 08.3**	**-0.7**
PBMO				IAmb	IAmb	05 51 17.8	
	comp=Z,32nm,1.5s						
ABTX	**Abilene, Hawle**	**56.90**	**330**	P	**P**	**05 51 10.5**	**+0.4**
ABTX				IAmb	IAmb	05 51 12.3	
	comp=Z,7.0nm,0.9s						
P53A	**Whipple**	**57.03**	**349**	P	**P**	**05 51 10.9**	**+0.1**
U40A	**Yellville**	**57.23**	**338**	P	**P**	**05 51 11.7**	**-0.5**
U40A				IAmb	IAmb	05 52 07.3	
	comp=Z,5.2nm,0.8s						
S44A	**Carbondale**	**57.24**	**342**	P	**P**	**05 51 11.7**	**-0.5**
S44A				IAmb	IAmb	05 51 35.5	
	comp=Z,43nm,1.6s						
SIUC	**Southern Illin**	**57.25**	**342**	P	**P**	**05 51 11.6**	**-0.7**
SIUC				IAmb	IAmb	05 51 57.5	
	comp=Z,13nm,0.9s						
P52A	**Corning**	**57.31**	**349**	P	**P**	**05 51 11.9**	**-0.8**
CCM	**Cathedral Cave**	**58.20**	**340**	P	**P**	**05 51 18.8**	**-0.1**
L64A	**Middleborough**	**58.42**	**359**	P	**P**	**05 51 19.7**	**-0.7**
S39A	**Bolivar**	**58.58**	**338**	P	**P**	**05 51 21.1**	**-0.5**
S39A				IAmb	IAmb	05 52 12.0	
	comp=Z,7.6nm,0.6s						
R40A	**Maddies Statio**	**58.75**	**339**	P	**P**	**05 51 22.0**	**-0.8**
R40A				IAmb	IAmb	05 52 12.6	
	comp=Z,65nm,1.9s						
HRV	**Adam Dziewonsk**	**59.01**	**358**	P	**P**	**05 51 24.3**	**-0.1**
K62A	**Royalston**	**59.19**	**358**	P	**P**	**05 51 25.4**	**-0.3**
WVNY	**West Valley, N**	**59.46**	**352**	P	**P**	**05 51 27.1**	**-0.6**
P40A	**Paris**	**59.80**	**340**	P	**P**	**05 51 30.3**	**+0.3**
P40A				IAmb	IAmb	05 52 45.2	
	comp=Z,39nm,1.8s						
LBNH	**Lisbon**	**60.75**	**358**	P	**P**	**05 51 36.6**	**+0.3**
H62A	**Milan**	**61.06**	**359**	P	**P**	**05 51 38.0**	**-0.4**
G62A	**West of Eustis**	**61.70**	**359**	P	**P**	**05 51 43.1**	**+0.4**
G65A	**Princeton**	**61.70**	**2**	P	**P**	**05 51 42.5**	**-0.2**
PKME	**Peaks-Kenny Pk**	**61.74**	**0**	P	**P**	**05 51 42.6**	**-0.3**
SADO	**Sadowa**	**61.85**	**352**	LR	LR	06 20 23.7	
	comp=Z,20nm,18.1s,baz=152,slow=38						
MNTQ	**Montreal, Queb**	**62.08**	**357**	P	**P**	**05 51 45.4**	**+0.2**
ANMO	**Albuquerque**	**62.21**	**326**	P	**P**	**05 51 48.6**	**+2.1**
ANMO	**Albuquerque**	**62.21**	**326**	P	**P**	**05 51 48.1**	**+1.6**
F64A	**Sherman**	**62.35**	**1**	P	**P**	**05 51 46.8**	**-0.2**
LMN	**Caledonia Moun**	**62.48**	**4**	P	**P**	**05 51 47.1**	**-0.8**
BELA	**Belgrano 2**	**63.50**	**172**	P	**P**	**05 51 56.2**	**+2.0**
BELA				IAmb	IAmb	05 52 06.6	
	comp=Z,22nm,2.0s						
D62A	**Allapoint, All**	**63.56**	**0**	P	**P**	**05 51 54.8**	**-0.2**
BATG	**Bathurst New B**	**63.83**	**3**	P	**P**	**05 51 56.4**	**-0.3**
SDCO	**Great Sand Dun**	**63.87**	**329**	P	**P**	**05 51 59.6**	**+2.0**
VNA3	**Neumayer Olymp**	**64.75**	**162**	P	**P**	**05 52 04.4**	**+1.9**
OGNE	**Ogallala**	**64.82**	**333**	P	**P**	**05 52 05.1**	**+1.6**
ECSD	**EROS Data Cent**	**65.09**	**339**	P	**P**	**05 52 05.6**	**+0.6**
ECSD				IAmb	IAmb	05 52 06.3	
	comp=Z,44nm,1.8s						
VNA2	**Neumayer--Watz**	**65.32**	**161**	P	**P**	**05 52 07.6**	**+1.4**
	baz=313,slow=6.0						
PV01	**Paradox Valley**	**65.72**	**327**	P	**P**	**05 52 11.6**	**+2.1**
PV01				IAmb	IAmb	05 52 57.1	
	comp=Z,8.0nm,1.1s						
PV13	**Radium Mtn., P**	**65.87**	**327**	P	**P**	**05 52 12.5**	**+2.1**
PV13				IAmb	IAmb	05 52 57.9	
	comp=Z,16nm,1.4s						
DRLN	**Deer Lake**	**66.61**	**9**	P	**P**	**05 52 13.7**	**-0.8**
SNAA	**Sanae**	**66.95**	**162**	P	**P**	**05 52 18.1**	**+1.5**
SNAA	**Sanae**	**66.95**	**162**	P	**P**	**05 52 18.1**	**+1.5**
SNAA				IAmb	IAmb	05 52 18.7	
	comp=Z,26nm,1.4s						
MTPU	**Mount Pierson**	**67.60**	**325**	IAmb	IAmb	05 53 13.5	
	comp=Z,13nm,1.8s						
LIC	**Lamto**	**67.80**	**76**	*e*P	**P**	**05 52 22.3**	**-0.5**
	comp=Z,30nm,1.0s						
TIC	**Toumodi**	**67.96**	**75**	*e*P	**P**	**05 52 22.9**	**-0.9**
KIC	**Kosan Boka**	**68.11**	**76**	*e*P	**P**	**05 52 24.0**	**-0.8**
	comp=Z,42nm,0.7s						
DBIC	**Dimbokro**	**68.12**	**76**	P	**P**	**05 52 24.2**	**-0.6**
	comp=Z,20nm,0.6s,baz=259,slow=6.0,SNR=24						
DBIC	**Dimbokro**	**68.12**	**76**	P	**P**	**05 52 24.3**	**-0.5**
DBIC				IAmb	IAmb	05 52 25.2	
	comp=Z,40nm,1.1s						
RSSD	**Black Hills**	**68.27**	**334**	P	**P**	**05 52 27.3**	**+1.8**
RSSD				IAmb	IAmb	05 52 27.9	
	comp=Z,6.0nm,0.8s						
TROLL	**Troll, Antarti**	**68.66**	**161**	P	**P**	**05 52 29.0**	**+1.6**
E28A	**Huff**	**69.00**	**338**	IAmb	IAmb	05 52 31.7	
	comp=Z,25nm,0.7s						
MDND	**Maddock**	**69.70**	**339**	IAmb	IAmb	05 52 36.5	
	comp=Z,32nm,1.1s						
PDAR	**Pinedale Array**	**69.70**	**330**	P	**P**	**05 52 35.5**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=124,slow=8.7,SNR=28						
AHID	**Auburn Hatcher**	**70.46**	**329**	IAmb	IAmb	05 52 41.1	
	comp=Z,4.6nm,0.6s						
TPH	**Tonopah**	**70.51**	**322**	IAmb	IAmb	05 52 42.6	
	comp=Z,10nm,0.9s						
HVU	**Hansel Valley**	**70.59**	**327**	IAmb	IAmb	05 52 42.3	
	comp=Z,4.1nm,0.5s						
ULM	**Lac du Bonnet**	**70.63**	**342**	P	**P**	**05 52 39.2**	**-0.2**
	comp=Z,5.5nm,0.5s,baz=153,slow=6.2,SNR=8.9						
ULM	**Lac du Bonnet**	**70.63**	**342**	IAmb	IAmb	05 52 47.9	
	comp=Z,7.4nm,0.6s						
REDW	**Red Top Meadow**	**70.78**	**329**	IAmb	IAmb	05 52 52.5	
	comp=Z,15nm,1.7s						
TPAW	**Teton Pass**	**70.92**	**329**	IAmb	IAmb	05 53 38.9	
	comp=Z,18nm,1.8s						
SCHQ	**Schefferville**	**71.35**	**2**	P	**P**	**05 52 43.0**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=176,slow=5.5,SNR=5.8						
SCHQ	**Schefferville**	**71.35**	**2**	P	**P**	**05 52 43.2**	**-0.5**
SCHQ				IAmb	IAmb	05 53 27.0	
	comp=Z,56nm,1.9s						
NVAR	**Mina Array Bea**	**71.39**	**322**	P	**P**	**05 52 47.2**	**+2.6**
	comp=Z,1.7nm,0.9s,baz=150,slow=6.3,SNR=12						
KOWA	**Kowa**	**71.82**	**68**	P	**P**	**05 52 46.9**	**-0.5**
KOWA				IAmb	IAmb	05 52 47.8	
	comp=Z,34nm,1.1s						
KOWA	**Kowa**	**71.82**	**68**	P	**P**	**05 52 46.5**	**-0.8**
KOWA				pP	**PcP**	**05 52 58.9**	**-6.4**
YHH	**Holmes Hill**	**71.84**	**330**	IAmb	IAmb	05 53 36.4	
	comp=Z,15nm,1.6s						
EGMT	**Eagleton**	**73.79**	**333**	P	**P**	**05 52 58.9**	**+0.4**
EGMT				IAmb	IAmb	05 53 01.2	
	comp=Z,24nm,1.2s						
MOD	**Modoc Plateau**	**74.80**	**323**	IAmb	IAmb	05 53 53.2	
	comp=Z,14nm,1.5s						
TOA0	**Torodi Ar. Sit**	**76.45**	**72**	P	**P**	**05 53 13.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.45**	**72**	P	**P**	**05 53 13.6**	**-0.7**
	comp=Z,44nm,0.7s,baz=255,slow=5.3,SNR=213						
TORD	**Torodi Ar. Bea**	**76.45**	**72**	P	**P**	**05 53 13.8**	**-0.5**
HUMO	**Hull Mountain**	**76.77**	**323**	P	**P**	**05 53 17.0**	**+1.6**
H04A	**Detroit Lake**	**77.62**	**325**	P	**P**	**05 53 22.4**	**+2.3**
FCC	**Fort Churchill**	**77.90**	**347**	P	**P**	**05 53 21.6**	**+0.3**
FCC				IAmb	IAmb	05 54 12.2	
	comp=Z,41nm,2.0s						
D05A	**Enumclaw**	**79.09**	**327**	IAmb	IAmb	05 53 31.1	
	comp=Z,8.7nm,0.8s						
EDM	**Edmonton**	**79.22**	**335**	P	**P**	**05 53 29.7**	**+1.0**
EDM				IAmb	IAmb	05 53 30.2	
	comp=Z,36nm,1.1s						
NLWA	**Neilton Lookou**	**80.22**	**326**	IAmb	IAmb	05 53 37.9	
	comp=Z,7.4nm,0.8s						
TSUM	**Tsumeb**	**82.07**	**108**	P	**P**	**05 53 45.0**	**+0.2**
TSUM				IAmb	IAmb	05 53 46.7	
	comp=Z,18nm,0.8s						
ESDC	**Sonseca Array**	**82.96**	**45**	P	**P**	**05 53 49.7**	**+0.8**
	comp=Z,4.0nm,0.7s,baz=239,slow=6.4,SNR=13						
ESDC	**Sonseca Array**	**82.96**	**45**	P	**P**	**05 53 48.6**	**-0.2**
ESDC				IAmb	IAmb	05 53 51.5	
	comp=Z,19nm,1.6s						
BOSA	**Boshof**	**86.27**	**119**	P	**P**	**05 54 06.4**	**+0.5**
	comp=Z,6.4nm,0.6s,baz=265,slow=3.2,SNR=17						
BOSA	**Boshof**	**86.27**	**119**	P	**P**	**05 54 06.7**	**+0.8**
YKA	**Yellowknife Ar**	**86.53**	**341**	P	**P**	**05 54 07.0**	**+0.9**
	comp=Z,9.2nm,0.6s,baz=134,slow=5.0,SNR=196						
YKA	**Yellowknife Ar**	**86.53**	**341**	P	**P**	**05 54 07.2**	**+1.2**
LBTB	**Lobatse**	**87.61**	**115**	P	**P**	**05 54 12.8**	**+0.4**
LBTB				IAmb	IAmb	05 54 14.2	
	comp=Z,20nm,0.9s						
WRAK	**Wrangell Islan**	**89.69**	**330**	IAmb	IAmb	05 54 21.8	
	comp=Z,31nm,1.8s						
DLBC	**Dease Lake**	**89.72**	**333**	IAmb	IAmb	05 54 24.3	
	comp=Z,5.4nm,0.7s						
CLF	**Chambon-Foret**	**90.72**	**40**	P	**P**	**05 54 26.1**	**0.0**
EKA	**Eskdalemuir Ar**	**90.96**	**32**	P	**P**	**05 54 26.4**	**-0.7**
	comp=Z,3.3nm,1.0s,baz=248,slow=8.5,SNR=5.1						
KEST	**Kesra**	**91.00**	**53**	P	**P**	**05 54 28.2**	**+0.3**
	comp=Z,7.2nm,0.9s,baz=300,slow=1.4,SNR=6.2						
OSSC	**Osservatorio P**	**94.94**	**46**	P	**P**	**05 54 45.6**	**-0.2**
OSSC				IAmb	IAmb	05 54 47.0	
	comp=Z,11nm,1.0s						
DAVOX	**Davos/Dischmat**	**95.06**	**43**	P	**P**	**05 54 46.6**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=242,slow=6.6,SNR=11						
FETA	**Feichten**	**95.69**	**43**	*e*P	**P**	**05 54 49.0**	**-0.3**
	comp=Z,0.7nm,0.6s						
TEOL	**Teolo**	**95.80**	**44**	P	**P**	**05 54 49.1**	**-0.5**
A36M	**Sachs Harbour**	**95.99**	**345**	P	**P**	**05 54 49.8**	**0.0**
A36M				IAmb	IAmb	05 54 51.2	
	comp=Z,7.2nm,0.7s						
MOTA	**Moosalm**	**96.04**	**42**	*i* P	**P**	**05 54 50.8**	**0.0**
	comp=Z,0.8nm,0.4s						
SQTA	**Sankt Quirin**	**96.07**	**43**	*e*P	**P**	**05 54 50.7**	**-0.3**
	comp=Z,2.3nm,0.5s						
WTTA	**Wattenberg**	**96.36**	**43**	*e*P	**P**	**05 54 52.6**	**+0.2**
	comp=Z,0.6nm,0.2s						
ABTA	**Abfaltersbach**	**96.77**	**43**	*e*P	**P**	**05 54 54.0**	**-0.1**
	comp=Z,6.0nm,1.3s						
KBA	**Koelnbreinsper**	**97.42**	**43**	*e*P	**P**	**05 54 56.7**	**-0.4**
	comp=Z,1.2nm,0.7s						
OBKA	**Obir**	**98.05**	**44**	*e*P	**P**	**05 54 60.0**	**+0.1**
	comp=Z,2.5nm,0.8s						
MOA	**Molln**	**98.23**	**43**	*e*P	**P**	**05 55 00.4**	**-0.2**
	comp=Z,1.6nm,0.7s						
CLL	**Collm**	**98.39**	**39**	*i* Pdif	Pdif	05 55 01.4	+0.2
	comp=Z,4.0nm,1.0s						
CLL				*e*PP	**PP**	**05 59 07.0**	**+3.3**
VRAC	**Vranov**	**100.10**	**42**	P	**Pdif**	**05 55 06.8**	**-2.0**
	comp=Z,1.7nm,0.4s,baz=0.0,slow=4.0,SNR=2.6						
KBZ	**Khabaz**	**117.61**	**49**	PKP	**PKiKP**	**06 00 09.5**	**+0.9**
	comp=Z,3.5nm,0.9s,baz=225,slow=4.3,SNR=4.8						
ASAR	**Alice Springs**	**133.71**	**210**	PKP	**PKiKP**	**06 00 41.0**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=122,slow=2.0,SNR=13						
ASAR				SKPbc	**SKPbc**	**06 03 54.0**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=139,slow=3.9,SNR=7.8						
WRA	**Warramunga Arr**	**136.59**	**214**	PKP	**PKiKP**	**06 00 46.6**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=155,slow=1.9,SNR=9.3						
WRA				SKPbc	**SKPbc**	**06 04 02.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=146,slow=2.5,SNR=8.2						
ZALV	**Zalesovo Beam**	**137.91**	**22**	PKP	**PKPdf**	**06 00 46.9**	**+0.1**
	comp=Z,14nm,0.7s,baz=288,slow=1.8,SNR=45						
ZALV				SKPbc	**SKPbc**	**06 04 06.6**	**+1.3**
	comp=Z,5.4nm,0.7s,baz=324,slow=3.6,SNR=21						
MKAR	**Makanchi Array**	**142.09**	**32**	PKhKP	PKPpre	06 00 51.0	
	comp=Z,2.0nm,0.6s,baz=334,slow=4.4,SNR=19						
USRK	**Ussuriysk Ar.**	**147.13**	**331**	PKPbc	**PKPab**	**06 01 07.8**	**+0.1**
	comp=Z,8.8nm,0.8s,baz=345,slow=1.3,SNR=8.3						
MJAR	**Matsushiro Arr**	**148.46**	**314**	PKPbc	**PKiKP**	**06 01 11.2**	**0.0**
	comp=Z,4.9nm,0.7s,baz=181,slow=9.6,SNR=11						
MJAR	**Matsushiro Arr**	**148.46**	**314**	PKPab	**PKiKP**	**06 01 11.4**	**+0.3**
SONM	**Songino Array**	**148.85**	**5**	PKPbc	**PKiKP**	**06 01 12.4**	**+0.6**
	comp=Z,19nm,0.5s,baz=337,slow=2.0,SNR=116						
KSRS	**Korea Array**	**154.24**	**327**	PKP	**PKPdf**	**06 01 15.9**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=75,slow=0.4,SNR=5.3						
PZH	**PanZhiHua**	**167.42**	**38**	PKP	**PKPdf**	**06 01 29.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**168.96**	**80**	PKP	**PKPdf**	**06 01 31.4**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=299,slow=3.2,SNR=4.4						
CMAR				PKPab	**PKPab**	**06 02 42.9**	**+0.4**
	comp=Z,2.1nm,0.4s,baz=275,slow=6.1,SNR=16						
CMAR	**Chiang Mai Arr**	**168.96**	**80**	PKPab	**PKPab**	**06 02 42.6**	**+0.2**

*IGIL **03** 05:51:08.8, 35°.65N×3°.69W, h0km*
*SFS **03** 05:51:09.0, 35°.65N×3°.68W, ML2.5, ALBORAN SUR*
*MDD **03** 05:51:09.9±0.4, 35°.65N×3°.69W, h0km, mb_Lg2.6/16, Error ellipse: s-maj=3.2km s-min=2.5km az=175.0*
*INMG **03** 05:51:09.6±1.8, 35°.68N×3°.66W, h0km, ML2.5, Error ellipse: s-maj=4.2km s-min=3.0km az=63.0*
*CNRM **03** 05:51:10.1, 35°.67N×3°.62W, h14km, ml2.9*
ISC 03 05:51:08.8±1.2**, 35°.67N**±0°.02×**3°.62W**±0°.03**, h12**km±10km**,**
n56, σ1§**19**/97**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**210**	P	**Pb**	**05 51 20.0**	**+0.2**
PALE				S	**Sb**	**05 51 28.1**	**+0.8**
PALE	**Palemas**	**0.52**	**210**	P	**Pb**	**05 51 19.7**	**-0.1**
PALE				S	**Sb**	**05 51 27.6**	**+0.3**
EALB	**Alboran**	**0.55**	**60**	Pg	**Pn**	**05 51 21.3**	**-1.0**
EALB				Sg	**Sn**	**05 51 30.3**	**-1.1**
EALB				*i* Vmb_Lg		05 51 31.2	
EMEL	**Melilla**	**0.65**	**124**	Pg	**Pb**	**05 51 22.1**	**0.0**
EMEL				Sg	**Sb**	**05 51 31.4**	**+0.3**
PVLZ	**Peæn de**	**0.74**	**229**	P	**Pb**	**05 51 23.4**	**-0.2**
PVLZ				S	**Sg**	**05 51 33.2**	**+0.2**
AKLM	**AKL**	**1.17**	**190**	P	**Pg**	**05 51 31.1**	**-0.2**
AKLM	**AKL**	**1.17**	**190**	P	**Pb**	**05 51 30.8**	**-0.1**
AKLM				S	**Sn**	**05 51 47.3**	**+0.3**
ELGU	**Los Guajares,**	**1.20**	**360**	Pg	**Pb**	**05 51 30.9**	**-0.5**
ELGU				Sg	**Sg**	**05 51 47.0**	**-0.4**
ELGU				*i* Vmb_Lg		05 51 49.2	
EMAL	**Malaga-Limoner**	**1.27**	**329**	P	**Pn**	**05 51 31.0**	**-1.3**
EMAL				S	**Sb**	**05 51 47.3**	**-1.6**
EMIJ	**Mijas**	**1.29**	**314**	Pg	**Pn**	**05 51 32.0**	**-0.7**
EMIJ				Sg	**Sb**	**05 51 48.8**	**-0.8**
EMIJ				*i* Vmb_Lg		05 51 48.9	
TAF	**Taforalt**	**1.30**	**131**	P	**Pn**	**05 51 32.0**	**-0.8**
TAF				S	**Sb**	**05 51 49.3**	**-0.6**
EBER	**Berja**	**1.36**	**25**	Pg	**Pn**	**05 51 33.8**	**+0.1**
EBER				*i* Vmb_Lg		05 51 53.3	
EBER				Sg	**Sg**	**05 51 53.5**	**+0.9**
SMIR	**Smir Dam**	**1.44**	**271**	P	**Pn**	**05 51 32.4**	**-2.2**
ECEU	**Ceuta**	**1.45**	**280**	Pg	**Pn**	**05 51 34.0**	**-0.7**
ECEU				Sg	**Sn**	**05 51 51.8**	**-1.8**
ECEU				*i* Vmb_Lg		05 51 54.3	
EGOR	**Sierra Gorda,**	**1.49**	**345**	Pn	**Pb**	**05 51 36.1**	**-0.4**
EGOR				Sn	**Sg**	**05 51 57.0**	**+0.2**
EGOR				*i* Vmb_Lg		05 52 02.5	
CHEFC	**Chefchaouen**	**1.52**	**249**	P	**Pb**	**05 51 37.0**	**+0.2**
JBK	**JBK**	**1.58**	**147**	P	**Pn**	**05 51 35.8**	**-0.9**
JBK				S	**Sn**	**05 51 55.0**	**-2.3**
RSA	**Sarsar**	**1.96**	**247**	P	**Pb**	**05 51 43.8**	**-0.7**
SICH	**Sidi Chahed**	**2.09**	**222**	P	**Pb**	**05 51 45.2**	**-1.5**
ESPR	**Espera**	**2.17**	**304**	Pn	**Pn**	**05 51 45.6**	**+0.9**
ESPR				Sn	**Sb**	**05 52 14.3**	**-0.5**
ESPR				*i* Vmb_Lg		05 52 20.3	
LCRM	**LCR**	**2.23**	**208**	P	**Pn**	**05 51 45.7**	**+0.2**
LCRM				S	**Sb**	**05 52 16.1**	**-0.4**
EADA	**Adamuz**	**2.61**	**343**	Pn	**Pn**	**05 51 52.1**	**+1.3**
EADA				Sn	**Sn**	**05 52 24.4**	**+2.0**
EADA				*i* Vmb_Lg		05 52 30.6	
ECAB	**El Cabril**	**2.80**	**330**	Pn	**Pn**	**05 51 55.6**	**+2.2**
ECAB				Sn	**Sn**	**05 52 28.5**	**+1.4**
ECAB				*i* Vmb_Lg		05 52 35.0	
CZD	**Col de Zad**	**2.88**	**205**	P	**Pn**	**05 51 55.6**	**+0.9**
CZD				S	**Sn**	**05 52 29.8**	**+0.4**
TDRA	**Tendrara**	**2.93**	**153**	P	**Pn**	**05 51 55.7**	**+0.4**
MD31	**MD31**	**2.95**	**199**	P	**Pn**	**05 51 56.4**	**+0.9**
MD31				S	**Sn**	**05 52 31.4**	**+0.6**
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**05 51 57.1**	**+1.4**
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**05 51 57.1**	**+1.4**
MDT				S	**Sn**	**05 52 32.7**	**+1.6**
EMIN	**Mina Concepcio**	**3.23**	**311**	Pn	**Pn**	**05 51 59.7**	**+0.5**
EMIN				Sn	**Sn**	**05 52 36.8**	**-0.8**
EMIN				*i* Vmb_Lg		05 52 37.8	
EGRO	**El Granado**	**3.62**	**302**	Pn	**Pn**	**05 52 05.3**	**+0.6**
EGRO				Sn	**Sn**	**05 52 46.2**	**-1.1**
EGRO				*i* Vmb_Lg		05 52 53.5	
PBAR	**Barrancos**	**3.71**	**313**	*e*Pn	**Pn**	**05 52 06.5**	**+0.7**
PBAR				*e*Sn	**Sn**	**05 52 48.7**	**-0.8**
PBAR				A	A	05 52 52.1	
	4.9nm,0.4s						
PVAQ	**Vaqueiros**	**3.73**	**299**	*e*Pn	**Pn**	**05 52 07.1**	**+1.0**
PVAQ				*e*Sn	**Sn**	**05 52 49.8**	**-0.1**
PVAQ				A	A	05 52 51.3	
	5.9nm,0.3s						
PVAQ	**Vaqueiros**	**3.73**	**299**	P	**Pn**	**05 52 06.5**	**+0.4**
PVAQ	**Vaqueiros**	**3.73**	**299**	P	**Pn**	**05 52 06.5**	**+0.4**
PVAQ				S	**Sn**	**05 52 49.7**	**-0.2**
PBDV	**Barranco-do-Ve**	**3.82**	**296**	*e*Pn	**Pn**	**05 52 08.0**	**+0.7**
PBDV				*e*Sn	**Sn**	**05 52 51.9**	**-0.2**
PBDV				A	A	05 52 54.7	
	4.9nm,0.7s						
PAB	**San Pablo**	**3.91**	**352**	Pn	**Pn**	**05 52 10.5**	**+1.8**
PAB				Sn	**Sn**	**05 52 55.9**	**+1.3**
PAB				*i* Vmb_Lg		05 53 15.3	
ESDC	**Sonseca Array**	**4.01**	**356**	Pn	**Pn**	**05 52 11.2**	**+1.2**
ESDC				Sn	**Sn**	**05 52 58.6**	**+1.7**
ESDC				*i* Vmb_Lg		05 53 15.2	
PCVE	**Castro Verde**	**4.06**	**300**	*e*Pn	**Pn**	**05 52 11.1**	**+0.5**
PCVE				*e*Sn	**Sn**	**05 52 57.3**	**-0.8**
PCVE				A	A	05 53 09.5	
	4.7nm,0.4s						
EBAD	**Badajoz**	**4.10**	**320**	Pn	**Pn**	**05 52 11.5**	**+0.2**
EBAD				Sn	**Sn**	**05 52 58.0**	**-1.2**
EBAD				*i* Vmb_Lg		05 53 00.5	
MORF	**Marmelete**	**4.37**	**293**	*e*P	**Pn**	**05 52 13.8**	**-1.2**
MORF	**Marmelete**	**4.37**	**293**	*e*Pn	**Pn**	**05 52 14.0**	**-1.0**
MORF				*e*Sn	**Sn**	**05 53 05.4**	**-0.5**
MORF				A	A	05 53 13.1	
	3.7nm,0.7s						
PFVI	**Vila Bisbo**	**4.45**	**291**	*e*Pn	**Pn**	**05 52 18.8**	**+2.8**
PFVI				*e*Sn	**Sn**	**05 53 07.7**	**0.0**
PFVI				A	A	05 53 12.7	
	6.3nm,0.6s						
PESTR	**Estremoz**	**4.50**	**316**	*e*Pn	**Pn**	**05 52 18.8**	**+2.1**
PESTR				*e*Sn	**Sn**	**05 53 06.7**	**-2.2**
PESTR				A	A	05 53 12.7	
	3.8nm,0.4s						
PESTR	**Estremoz**	**4.50**	**316**	P	**Pn**	**05 52 16.2**	**-0.5**
PTEO	**Sao Teotonio**	**4.51**	**296**	*e*Pn	**Pn**	**05 52 18.6**	**+1.7**
PTEO				*e*Sn	**Sn**	**05 53 10.6**	**+1.3**
EVO	**Evora**	**4.53**	**310**	P	**Pn**	**05 52 18.8**	**+1.7**
EVO				S	**Sn**	**05 53 08.9**	**-0.7**
EVO	**Evora**	**4.53**	**310**	*e*Pn	**Pn**	**05 52 18.4**	**+1.3**
EVO				*e*Sn	**Sn**	**05 53 08.5**	**-1.1**
EVO				A	A	05 53 09.5	
	6.6nm,0.3s						
PNCL	**Nicolau / Gran**	**4.63**	**303**	*e*Pn	**Pn**	**05 52 19.4**	**+0.9**
PNCL				*e*Sn	**Sn**	**05 53 10.9**	**-1.2**
UCM	**Universidad Co**	**4.64**	**4**	S	**Sb**	**05 53 25.3**	**-0.6**
PMRV	**Marv??o**	**4.80**	**322**	*e*Pn	**Pn**	**05 52 22.5**	**+1.6**
PMRV				*e*Sn	**Sn**	**05 53 15.4**	**-1.0**
PMTG	**Montargil**	**5.00**	**314**	*e*Pn	**Pn**	**05 52 25.7**	**+2.2**
PMTG				*e*Sn	**Sn**	**05 53 21.3**	**+0.1**
PCBR	**Castelo Branco**	**5.17**	**325**	*e*Pn	**Pn**	**05 52 27.8**	**+2.0**
PACT	**Alcochete**	**5.19**	**308**	*e*Pn	**Pn**	**05 52 28.3**	**+2.2**
PSBE	**So Bento**	**5.62**	**315**	*e*Pn	**Pn**	**05 52 34.7**	**+2.5**
PSBE				*e*Sn	**Sn**	**05 53 35.7**	**-1.0**
OUK	**Oukaimeden**	**5.69**	**220**	P	**Pn**	**05 52 33.6**	**+0.2**
MVO	**Moncorvo**	**6.11**	**335**	*e*Pn	**Pn**	**05 52 41.2**	**+2.4**

NEIC 03 05:59:33.3±0.6**, 36°.45N**±0°.02×**98°.78W**±0°.01**, h4**km±2km**,**
ML2.0/20**, Error ellipse: s-maj=2.7km s-min=0.7km az=161.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.19**	**248**	Pg	Pg	05 59 37.0	-0.1
U32A				Sg	Sg	05 59 40.0	+0.4
WMOK	**Wichita Mounta**	**1.71**	**180**	Pn	Pn	06 00 02.3	-1.6
T35A	**Sooner Cattle**	**1.88**	**75**	Pn	Pn	06 00 06.5	+0.3
R32A	**Long Quarter,**	**1.97**	**2**	Pn	Pn	06 00 08.0	+0.5
X34A	**Smith Ranch, M**	**2.00**	**157**		Pn	06 00 08.8	+0.9
TUL1	**Leonard**	**2.48**	**102**	Pn	Pn	06 00 14.3	-0.1

*NEIC **03** 06:02:04.4±1.9, 28°.95S±0°.04×69°.99W±0°.08, h89km±5km, mb4.7/61, Mwr4.5(GUC), Error ellipse: s-maj=10.2km s-min=5.1km az=81.0*
*GUC **03** 06:02:04.5±0.8, 28°.98S×70°.16W, h108km±5km, ML4.7, MW4.5*
*SJA **03** 06:02:04.6±1.2, 28°.97S×70°.10W, h90km, ML4.6, MW4.2*
*VAO **03** 06:02:04.5±0.4, 28°.96S×70°.05W, h90km, mb4.5*
*IDC **03** 06:02:05.3±0.6, 28°.95S×69°.85W, h104km±5km, mb4.1/13, mb1 4.2/17, mb1mx4.1/29, mbtmp4.4/17, MS3.0/5, Ms1 3.0/5, ms1mx2.7/55, Error ellipse: s-maj=15.7km s-min=12.9km az=76.0*
ISC 03 06:02:04.3±0.5**, 28°.97S**±0°.03×**70°.13W**±0°.03**, h98**km±4km**,**
n247, σ1§**43**/271**, mb4.7**/38**, 5C-3D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.50**	**265**		**Pn**	**06 02 20.7**	**+0.5**
LCO	**Las Campanas**	**0.50**	**265**	*e*P	**Pn**	**06 02 20.1**	**-0.1**
LCO				*e*S	**Sn**	**06 02 32.9**	**+0.7**
LCO	**Las Campanas**	**0.50**	**265**	*i* P	**Pn**	**06 02 20.9**	**+0.6**
LCO				*e*S	**Sn**	**06 02 33.6**	**+1.5**
LCO				IAML		06 02 35.0	
	comp=Z,60µm,0.4s						
CO01	**Juntas del Tor**	**1.00**	**178**		**Pn**	**06 02 25.8**	**+0.9**
CO01				Sn	**Sn**	**06 02 41.5**	**+1.2**
CO01	**Juntas del Tor**	**1.00**	**178** ⇓	*i*P	**Pn**	**06 02 25.8**	**+0.9**
CO01				*i* S	**Sn**	**06 02 41.5**	**+1.2**
CO01	**Juntas del Tor**	**1.00**	**178**	*i* P	**Pn**	**06 02 25.9**	**+1.0**
CO01				*e*S	**Sn**	**06 02 41.9**	**+1.6**
CO01				IAML		06 02 42.7	
	comp=Z,7µm,0.6s						
AC04	**Llanos de Chal**	**1.13**	**312**		**Pn**	**06 02 27.0**	**+0.9**
AC04				Sn	**Sn**	**06 02 43.7**	**+1.3**
AC04	**Llanos de Chal**	**1.13**	**312** ⇑	*i*P	**Pn**	**06 02 26.8**	**+0.7**
AC04				*i* S	**Sn**	**06 02 43.5**	**+1.1**
AC04				IAML		06 02 45.3	
	comp=E,20µm,0.1s						
AC04	**Llanos de Chal**	**1.13**	**312**	*i* P	**Pn**	**06 02 27.0**	**+0.9**
AC04				*e*S	**Sn**	**06 02 43.8**	**+1.3**
AC04				IAML		06 02 44.5	
	comp=Z,5µm,0.1s						
AROD	**Rodeo**	**1.32**	**155**	*i* P	**Pn**	**06 02 29.7**	**+1.1**
AROD				*e*S	**Sn**	**06 02 48.8**	**+1.8**
GO04	**Tololo Observa**	**1.33**	**206**		**Pn**	**06 02 29.2**	**+0.5**
GO04	**Tololo Observa**	**1.33**	**206**	*i* P	**Pn**	**06 02 29.0**	**+0.3**
GO04	**Tololo Observa**	**1.33**	**206**	*i* P	**Pn**	**06 02 29.1**	**+0.4**
GO04				*e*S	**Sn**	**06 02 47.9**	**+0.8**
CO05	**La Serena**	**1.35**	**225** ⇓	*i*P	**Pn**	**06 02 29.0**	**+0.4**
CO05				*e*S	**Sn**	**06 02 47.4**	**+0.4**
CO05				IAML		06 02 50.2	
	comp=N,12µm,0.4s						
GO03	**Copiap**	**1.38**	**356**	Pn	**Pn**	**06 02 29.6**	**+0.6**
GO03				Sn	**Sn**	**06 02 48.4**	**+0.7**
GO03	**Copiap**	**1.38**	**356**	*i* P	**Pn**	**06 02 29.5**	**+0.4**
GO03				*i* S	**Sn**	**06 02 48.5**	**+0.7**
GO03				IAML		06 02 50.5	
	comp=E,18µm,0.5s						
GO03	**Copiap**	**1.38**	**356**	*i* P	**Pn**	**06 02 29.7**	**+0.6**
GO03				*e*S	**Sn**	**06 02 48.8**	**+1.1**
ACDV	**Cuesta del Vie**	**1.48**	**144**	*i* P	**Pn**	**06 02 31.7**	**+1.3**
ACDV				*e*S	**Sn**	**06 02 52.2**	**+2.0**

ACDV IAML 06 02 57.0
comp=Z,2µm,0.4s
AC06 Mina Casimiro 1.62 353⇑ *iP* **Pn 06 02 32.4 +0.4**
AC06 *eS* **Sn 06 02 53.7 +0.7**
AC06 IAML 06 02 54.8
comp=N,8µm,0.4s
VCA Vinchina 1.70 83 *i P* **Pn 06 02 35.2 +2.1**
VCA IAML 06 03 01.2
comp=Z,5µm,0.3s
ACCO Cerro Coronel 1.86 150 *i P* **Pn 06 02 36.9 +1.6**
CO03 El Pedregal 1.92 195 Pn 06 02 36.6 +0.6
CO06 Fray Jorge 2.14 217⇑ *iP* **Pn 06 02 38.5 -0.2**
CO06 *eS* **Sn 06 03 00.9 -4.0**
CO06 IAML 06 03 17.4
comp=E,6µm,0.7s
AC02 Maricunga 2.30 23 *eP* **Pn 06 02 42.3 +1.1**
AC02 IAML 06 03 14.7
comp=E,6µm,0.8s
AC02 Maricunga 2.30 23 *i P* **Pn 06 02 42.5 +1.3**
AC02 IAML 06 03 14.6
comp=Z,3µm,0.2s
TINO Tinogasta 2.43 69 *i P* **Pn 06 02 44.0 +1.5**
TINO *eS* **Sn 06 03 13.3 +1.5**
RTLL Cerro Villicun 2.75 149 *i P* **Pn 06 02 47.6 +0.9**
RTLL *i P* **Pn 06 02 47.7 +0.9**
RTLL ⇓*eS* **Sn 06 03 19.4 0.0**
ACLC CERRO LA CRUZ 2.81 100 *i P* **Pn 06 02 48.0 +0.3**
ACLC IAML 06 03 24.2
comp=Z,2µm,0.5s
AC01 Pan de Azucar 2.84 351 *eP* **Pn 06 02 48.1 +0.2**
AC01 IAML 06 03 32.7
comp=E,3µm,0.6s
AC01 Pan de Azucar 2.84 351 *i P* **Pn 06 02 48.0 0.0**
AC01 IAML 06 03 30.7
comp=Z,3µm,0.5s
ZON Zonda 2.86 154 *i P* **Pn 06 02 49.0 +0.9**
ZON IAML 06 03 31.8
comp=Z,710nm,0.7s
AVFE Valle Fertil 2.87 127 *i P* **Pn 06 02 48.7 +0.4**
AVFE IAML 06 03 25.4
comp=Z,3µm,0.5s
RTLS Leoncito 2.91 166 *i P* **Pn 06 02 50.8 +1.8**
RTLS IAML 06 03 31.9
comp=Z,598nm,0.4s
RTCV Cerro Valdivia 3.19 155 *i P* **Pn 06 02 53.8 +1.2**
RTCV IAML 06 03 35.1
comp=Z,14nm,0.8s
AUSP Uspallata 3.30 169 *i P* **Pn 06 02 56.0 +1.7**
APLL PUNTA DE LOS L 3.44 115 *i P* **Pn 06 02 56.0 +0.1**
ACHE Chepes 3.71 127 *i P* **Pn 06 03 00.0 +0.3**
VA06 Catapilco 3.72 195 Pn 06 02 59.1 -0.5
VA06 Catapilco 3.72 195⇑ *iP* **Pn 06 02 58.8 -0.8**
VA03 San Esteban 3.80 185⇑ *iP* **Pn 06 03 01.0 +0.2**
VA03 San Esteban 3.80 185 *i P* **Pn 06 03 01.0 +0.2**
VA03 IAML 06 03 51.7
comp=Z,1µm,0.6s
GO02 Mina Guanaco 3.82 7 Pn **Pn 06 03 01.2 -0.2**
GO02 Mina Guanaco 3.82 7 *eP* **Pn 06 03 01.2 -0.2**
GO02 Mina Guanaco 3.82 7 *i P* **Pn 06 03 01.2 -0.2**
ROC1 El Roble 4.06 191 Pn 06 03 01.0 -3.5
ROC1 El Roble 4.06 191 *i P* **Pn 06 03 01.0 -3.5**
PEL Peldehue 4.19 186 Pn 06 03 05.5 -0.6
PEL Peldehue 4.19 186 *i P* **Pn 06 03 05.4 -0.6**
VA01 Torpederas 4.25 198 *i P* **Pn 06 03 05.0 -1.7**
VA01 IAML 06 04 14.3
comp=Z,489nm,0.6s
PB14 IPOC Station P 4.33 357 Pn **Pn 06 03 07.3 -1.0**
PB14 IPOC Station P 4.33 357 *i P* **Pn 06 03 07.6 -0.7**
PB14 IAML 06 04 15.6
comp=Z,2µm,0.4s
MT02 Curacav 4.36 191 Pn 06 03 06.8 -1.5
MT02 Curacav 4.36 191 *i P* **Pn 06 03 06.7 -1.7**
MT02 IAML 06 04 13.4
comp=Z,503nm,0.8s
MT05 Renca 4.44 187 *i P* **Pn 06 03 09.0 -0.4**
MT05 IAML 06 04 25.4
comp=Z,502nm,0.7s
MT03 Universidad Ad 4.52 184 *i P* **Pn 06 03 10.0 -0.6**
MT03 IAML 06 04 14.6
comp=Z,911nm,0.8s
FSA Cafayete 4.66 53 *i P* **Pn 06 03 13.0 +0.5**
LMEL Las Melosas 4.86 181 Pn 06 03 15.5 +0.3
MT01 Popeta 4.97 191 *i P* **Pn 06 03 14.5 -2.1**
MT01 IAML 06 04 31.9
comp=Z,525nm,0.8s
BO04 La Punta 5.02 185 Pn **Pn 06 03 16.1 -1.2**
PB10 IPOC Station P 5.45 356 *i P* **Pn 06 03 21.0 -2.1**
PB10 IAML 06 04 50.0
comp=Z,378nm,0.6s
BO01 Tunca 5.47 188 *i P* **Pn 06 03 21.0 -2.3**
BO01 IAML 06 04 47.6
comp=Z,245nm,1.2s
PB15 IPOC Station P 5.77 6 *i P* **Pn 06 03 26.2 -1.4**
PB15 IAML 06 04 56.6
comp=Z,2µm,0.6s
BO02 Sierra Bellavi 5.83 185 *i P* **Pn 06 03 26.0 -2.3**
BO02 IAML 06 05 00.7
comp=Z,306nm,0.7s
RFA San Rafael 5.95 167 *i P* **Pn 06 03 28.6 -1.4**
RFA IAML 06 05 12.4
comp=Z,181nm,0.7s
GO05 Huala 6.21 194 *i P* **Pn 06 03 29.6 -3.9**
PB06 IPOC Station P 6.26 5 *i P* **Pn 06 03 31.8 -2.5**
PB06 IAML 06 05 13.9
comp=Z,502nm,0.4s
LVC Limon Verde 6.43 10 Pn **Pn 06 03 34.9 -1.9**
comp=Z,25nm,0.3s,baz=147,slow=11,SNR=111
LVC S **Sn 06 04 47.1 -1.8**
comp=Z,6.9nm,0.3s,baz=184,slow=20,SNR=1.4
LVC LR LR 06 05 48.2
comp=Z,73nm,19.6s,baz=210,slow=35
LVC Limon Verde 6.43 10 Pn **Pn 06 03 34.6 -2.2**
LVC Limon Verde 6.43 10 *i P* **Pn 06 03 35.0 -1.7**
LVC IAML 06 05 26.6
comp=Z,179nm,0.5s
LVC Limon Verde 6.43 10 *eP* **Pn 06 03 35.1 -1.7**
PB04 IPOC Station P 6.61 360 *i P* **Pn 06 03 35.5 -3.5**
PB04 IAML 06 05 16.5
comp=Z,651nm,1.1s
ML02 Panimavida 6.86 189 Pn 06 03 38.7 -3.5
HJA Humahuaca 7.13 38 *i P* **Pn 06 03 47.0 +0.6**
HJA IAML 06 05 12.6
comp=Z,16nm,0.6s
PB09 IPOC Station P 7.19 7 *i P* **Pn 06 03 45.3 -1.7**
PB09 IAML 06 05 35.2
comp=Z,534nm,1.0s
PB07 IPOC Station P 7.22 2 *i P* **Pn 06 03 43.8 -3.6**
PB07 IAML 06 05 46.6
comp=Z,387nm,0.8s
PB01 IPOC Station P 7.92 4 *i P* **Pn 06 03 53.0 -3.8**
PB01 IAML 06 05 50.4
comp=Z,206nm,1.0s
BI05 Punta Hualpn 8.17 198 Pn 06 03 56.3 -3.8
LC01 Cunco 10.01 188 Pn **Pn 06 04 22.1 -3.0**
PB12 IPOC Station P 10.31 359 *i P* Pn 06 04 24.4 -4.9
PB16 IPOC Station P 10.60 3 *i P* **Pn 06 04 31.2 -2.6**
CPUP Villa Florida 11.65 80 P **Pn 06 04 43.8 -3.5**
comp=Z,0.6nm,0.3s,baz=254,slow=10.0,SNR=10
CPUP S **Sn 06 06 51.0 -4.4**
comp=Z,0.7nm,0.3s,baz=269,slow=12,SNR=3.1
CPUP Villa Florida 11.65 80 Pn **Pn 06 04 44.6 -2.6**
CPUP Villa Florida 11.65 80 *eP* **Pn 06 04 44.7 -2.6**
PLCA Paso Flores 11.74 182 P **Pn 06 04 45.5 -3.0**
comp=Z,0.4nm,0.3s,baz=0.8,slow=10,SNR=21
PLCA LR LR 06 10 01.0
comp=Z,48nm,19.8s,baz=329,slow=40
PLCA Paso Flores 11.74 182 Pn **Pn 06 04 45.4 -3.1**
PLCA Paso Flores 11.74 182 *eP* **Pn 06 04 48.0 -0.5**
ITQB Itaqui 11.81 97 Pn 06 04 47.8 -1.6
ITQB Itaqui 11.81 97 *eP* **Pn 06 04 47.4 -2.0**
LL04 Puerto Octay 12.06 188 Pn 06 04 47.9 -4.7
LPAZ La Paz 12.76 9 P **Pn 06 04 59.9 -2.8**
comp=Z,0.9nm,0.3s,baz=183,slow=6.5,SNR=16
LPAZ La Paz 12.76 9 Pn **Pn 06 05 00.4 -2.2**
LPAZ La Paz 12.76 9 *eP* **Pn 06 05 00.8 -1.9**
GO07 Milladeo Hill, 14.40 190 Pn 06 05 21.9 -1.4
PLTB Pedras Altas 14.53 105 Pn **Pn 06 05 23.4 -1.8**
PLTB Pedras Altas 14.53 105 *eP* **Pn 06 05 23.0 -2.2**
CPSB Cacapava Do Su 14.58 100 *eP* **Pn 06 05 24.1 -1.6**
SIV San Ignacio 15.38 35 P **Pn 06 05 33.1 -2.9**
comp=Z,0.5nm,0.3s,baz=225,slow=9.8,SNR=11
AY01 Puyuhuapi 15.55 187 Pn **Pn 06 05 38.0 +0.1**
AY01 IAmb IAmb 06 05 42.0
comp=Z,20nm,0.8s
AQDB Aquidauana 15.59 60 P **Pn 06 05 40.5 -0.2**
AQDB Aquidauana 15.59 60 *eP* **Pn 06 05 36.9 -1.7**
ITAB Concordia 15.98 88 P **P 06 05 45.0 0.0**
COYC Coyhaique 16.64 185 Pn 06 05 50.5 -0.9
PTGB Pitanga 16.67 79 *eP* **Pn 06 05 51.7 -0.3**
PTLB Pontes e Lacer 16.86 39 *eP* **P 06 05 54.9 +0.1**
PP1B Ponte de Pedra 17.99 54 *eP* **Pn 06 06 08.1 +0.1**
NNA Nana 18.02 338 P **Pn 06 06 08.8 +0.3**
comp=Z,0.9nm,0.3s,baz=198,slow=9.6,SNR=1.9
NNA LR LR 06 12 55.8
comp=Z,18nm,18.8s,baz=153,slow=36
VILB Vilhena 18.42 32 *eP* **P 06 06 11.7 -0.4**
PCMB Pacaembu 18.55 71 *eP* **P 06 06 13.9 +0.5**
SALV Santo Antonio 18.61 49 *eP* **P 06 06 13.4 -0.6**
FRTB Fartura 19.28 78 *eP* **P 06 06 21.6 +0.2**
ETMB Extrema 19.41 12 *eP* **P 06 06 23.6 +0.8**
ITRB Iturama 20.21 67 *eP* **P 06 06 31.0 -0.5**
PET01 Itanhaem-SP 20.94 82 *eP* **P 06 06 38.2 -1.1**
BB19B Bebedouro 21.07 73 *eP* **P 06 06 39.8 -1.0**
CZSB Cruzeiro do Su 21.27 353 *eP* **P 06 06 43.9 +1.0**
PDRB Porto dos Gac 21.32 39 *eP* **P 06 06 42.5 -0.9**
RCLB Rio Claro- Sao 21.36 77 *eP* **P 06 06 42.9 -1.0**
VAO Valinhos 21.64 79 *eP* **P 06 06 45.8 -1.0**
CLDB Colider 22.45 40 *eP* **P 06 06 54.8 -0.6**
PARB Paraibuna 22.68 81 *eP* **P 06 06 56.0 -1.8**
BDFB Brasilia 24.33 62 P **P 06 07 11.4 -1.7**
comp=Z,6.1nm,0.9s,baz=228,slow=10.0,SNR=13
BDFB Brasilia 24.33 62 P **P 06 07 12.3 -0.8**
BDFB Brasilia 24.33 62 *eP* **P 06 07 12.0 -1.1**
SNDB Serra Nova Dou 24.38 50 *eP* **P 06 07 12.3 -1.1**
TBTG Tabatinga, AM 24.65 1 *eP* **P 06 07 16.6 +0.7**
VAS01 Vassouras-RJ 24.93 81 *eP* **P 06 07 18.2 -0.3**
DSPA Despedida 25.00 177 P **P 06 07 19.3 +0.6**
USHA Ushuaia 25.87 178 P **P 06 07 25.6 -0.9**
comp=Z,32nm,0.9s,baz=356,slow=6.3,SNR=6.5
NPGB Novo Progresso 25.88 35 *eP* **P 06 07 26.3 -0.8**
MCRA Macar, Loja 26.18 337 P **P 06 07 30.4 +0.6**
PEXB Peixe 26.37 55 *eP* **P 06 07 31.5 0.0**
MC01 Montes Claros 26.97 69 *eP* **P 06 07 36.0 -1.0**
MACA Manacapuru-AM 27.19 21 *eP* **P 06 07 38.0 -0.8**
JANB Januaria 27.57 65 *eP* **P 06 07 40.9 -1.5**
ITTB Itaituba 28.02 32 *eP* **P 06 07 45.5 -0.7**
SDBA SAO DESIDERIO 28.68 60 *eP* **P 06 07 51.6 -0.7**
SMTB Santa Maria do 29.13 51 *eP* **P 06 07 56.0 -0.1**
OTAV Otavalo 30.12 343 *eP* **P 06 08 05.2 -0.1**
SOTA Rioblanco 31.55 348 *eP* **P 06 08 20.3 +2.4**
POPC Popayan, Colom 31.95 348 *eP* **P 06 08 23.2 +2.0**
MARP Paez Belalcaza 32.12 349 *eP* **P 06 08 23.2 +0.4**
BOAV Boa Vista 32.52 18 *eP* **P 06 08 25.7 -0.2**
ORTC Ortega, Tolima 33.06 351 *eP* **P 06 08 31.9 +1.2**
NBPN Ponto Novo - B 33.27 63 *eP* **P 06 08 31.1 -1.4**
MCPB Macapa, AP 33.28 34 *eP* **P 06 08 32.5 -0.1**
YOTC Yotoco, Valle 33.31 349 *eP* **P 06 08 32.9 -0.1**
TMAB Tom-Au,PA,Br 33.76 42 *eP* **P 06 08 36.6 -0.2**
ROSC El Rosal 33.86 352 LR LR 06 23 39.4
comp=Z,55nm,18.4s,baz=192,slow=38
PLMC San Jos del P 34.20 349 *eP* **P 06 08 41.5 +0.9**
GUY2C Guyana, Caldas 34.37 351 *eP* **P 06 08 44.4 +1.9**
SPBC San Pablo de B 34.63 353 *eP* **P 06 08 43.5 -0.9**
NORC Norcasia 34.64 352 *eP* **P 06 08 43.5 -0.9**
RUSC La Rusia 34.78 355 *eP* **P 06 08 46.4 +0.3**
NBLA Lagarto - SE 35.09 66 *eP* **P 06 08 47.1 -1.2**
CBOC Ciudad Bolivar 35.09 350 *eP* **P 06 08 49.2 +0.8**
TAMC Tame, Arauca 35.24 357 *eP* **P 06 08 50.2 +0.7**
HELC Santa Helena 35.34 351 *eP* **P 06 08 51.2 +0.4**
PTBC PUERTO BERRIO, 35.55 353 *eP* **P 06 08 50.2 -1.9**
PAMC Pamplona, Colo 36.18 356 *eP* **P 06 08 57.0 -1.1**
NBMA Muriti-CE 36.54 60 *eP* **P 06 09 00.3 -0.4**
ZARC Zaragoza, Cauc 36.54 352 P **P 06 09 00.3 -0.3**
ZARC IAmb IAmb 06 09 01.8
comp=Z,9.9nm,0.6s
ZARC Zaragoza, Cauc 36.54 352 *eP* **P 06 08 59.8 -0.7**
NBPS Pedro II - PI 36.57 53 *eP* **P 06 09 00.7 -0.3**
UREC San Jos de Ur 36.88 351 *eP* **P 06 09 02.7 -0.7**
NBPB Pedra Branca-C 37.12 57 *eP* **P 06 09 05.8 +0.3**
SDV Santo Domingo 37.64 359 P **P 06 09 09.3 -0.8**
SDV IAmb IAmb 06 09 10.2
comp=Z,6.5nm,1.1s
SDV Santo Domingo 37.64 359 *eP* **P 06 09 09.5 -0.6**
SDV Santo Domingo 37.64 359 *eP* **P 06 09 09.7 -0.3**
MDP Montagnes des 37.82 29 LR LR 06 25 12.7
comp=Z,41nm,18.1s,baz=54,slow=37
SJCC San Jacinto, C 38.95 352 P **P 06 09 21.4 +0.5**
BELA Belgrano 2 51.55 171 P **P 06 11 00.7 +1.0**
BELA IAmb IAmb 06 11 01.3
comp=Z,5.3nm,0.8s
SOR Soroa 52.94 345 P **P 06 11 10.7 +0.2**
VNA3 Neumayer Olymp 53.44 159 P **P 06 11 13.9 +0.2**
SNAA Sanae 55.66 159 P **P 06 11 30.4 +0.6**
SNAA Sanae 55.66 159 P **P 06 11 29.7 -0.2**
QSPA South Pole Qui 61.25 180 P **P 06 12 10.1 +1.2**
QSPA IAmb IAmb 06 12 10.6
comp=Z,6.3nm,0.8s
833A Chaparral WMA, 63.48 331 P **P 06 12 26.0 +2.1**
143A Socs Landing, 64.58 340 P **P 06 12 32.3 +1.3**
237A Washetta, Mont 65.37 336 P **P 06 12 37.8 +1.6**
237A IAmb IAmb 06 12 38.9
comp=Z,12nm,0.8s
CPCT Cooper Cave 65.50 347 P **P 06 12 38.1 +1.1**
JCT Junction City 65.54 332 P **P 06 12 39.3 +1.9**
JCT IAmb IAmb 06 12 39.8
comp=Z,8.7nm,0.7s
TXAR Lajitas Array 66.24 328 P **P 06 12 43.6 +1.6**
comp=Z,2.4nm,0.7s,baz=152,slow=8.6,SNR=31
TXAR pP **pP 06 13 08.2 +0.8**
comp=Z,0.4nm,0.6s,baz=160,slow=5.8,SNR=2.0
TX31 Lajitas Ar. Si 66.24 328 P **P 06 12 43.7 +1.7**
TX31 IAmb IAmb 06 12 44.5
comp=Z,9.0nm,0.8s
TX32 Lajitas Array 66.24 328 P **P 06 12 43.7 +1.7**
TZTN Tazewell 66.38 348 P **P 06 12 42.9 +0.3**
WVT Waverly 66.86 344 P **P 06 12 45.9 +0.3**
WVT IAmb IAmb 06 12 46.5
comp=Z,11nm,0.8s
X37A Clayton 67.57 338 P **P 06 12 50.8 +0.6**
X37A IAmb IAmb 06 12 52.8
comp=Z,8.2nm,0.9s
LCAR Lake Charles 67.66 342 P **P 06 12 51.6 +0.9**
FCAR Ozark Folk Cen 67.76 341 P **P 06 12 51.7 +0.4**
FCAR IAmb IAmb 06 12 52.1
comp=Z,3.0nm,0.7s
PBMO Poplar Bluff 68.13 343 P **P 06 12 54.2 +0.6**
U40A Yellville 68.41 340 P **P 06 12 56.2 +0.8**
U40A IAmb IAmb 06 12 56.9
comp=Z,30nm,1.4s
S44A Carbondale 68.70 344 P **P 06 12 57.5 +0.3**
SIUC Southern Illin 68.71 344 P **P 06 12 57.6 +0.4**
TUL1 Leonard 68.91 338 P **P 06 12 59.3 +0.7**
TUL1 IAmb IAmb 06 13 00.2
comp=Z,14nm,0.8s
MNTX Cornudas Mount 69.03 328 P **P 06 13 00.1 +0.8**
FVM French Village 69.26 343 P **P 06 13 01.1 +0.4**
VNDA Vanda 69.33 191 P **P 06 13 02.3 +1.6**
comp=Z,0.4nm,0.7s,baz=157,slow=5.0,SNR=1.7
VNDA Vanda 69.33 191 P **P 06 13 01.8 +1.1**
CCM Cathedral Cave 69.55 342 P **P 06 13 03.2 +0.8**
CCM IAmb IAmb 06 13 03.9
comp=Z,17nm,0.8s
S39A Bolivar 69.78 341 P **P 06 13 05.0 +1.1**
S39A IAmb IAmb 06 13 05.5
comp=Z,10nm,0.7s
R40A Maddies Statio 70.04 342 P **P 06 13 06.1 +0.7**
LIC Lamto 71.65 72 *eP* **P 06 13 16.2 +0.5**
comp=Z,6.5nm,0.5s
TIC Toumodi 71.88 71 *eP* **P 06 13 17.0 -0.2**
KIC Kosan Boka 71.96 72 *eP* **P 06 13 17.6 0.0**
comp=Z,15nm,0.5s
DBIC Dimbokro 72.03 72 P **P 06 13 18.0 0.0**
comp=Z,9.5nm,0.5s,baz=243,slow=7.0,SNR=29
DBIC Dimbokro 72.03 72 IAmb IAmb 06 13 18.7
comp=Z,11nm,0.6s
ANMO Albuquerque 72.23 329 P **P 06 13 20.7 +1.7**
214A Organ Pipe Nat 72.92 323 P **P 06 13 24.6 +1.6**
214A IAmb IAmb 06 13 25.9
comp=Z,6.4nm,0.7s
L40A Anamosa 73.31 344 P **P 06 13 25.2 +0.3**
X16A Lo Mia Camp, P 74.16 325 P **P 06 13 32.4 +2.1**
SDCO Great Sand Dun 74.18 332 P **P 06 13 31.9 +1.4**
PV13 Radium Mtn., P 75.96 329 P **P 06 13 43.0 +2.3**
PV13 IAmb IAmb 06 13 43.5
comp=Z,5.8nm,0.8s
SPMN Marine on St. 76.68 344 P **P 06 13 44.6 +0.4**
SPMN IAmb IAmb 06 13 44.8
comp=Z,8.2nm,0.6s
KOWA Kowa 77.07 65 P **P 06 13 46.7 -0.4**
KOWA IAmb IAmb 06 13 48.0
comp=Z,12nm,0.7s
MTPU Mount Pierson 77.41 327 P **P 06 13 51.1 +2.1**
MTPU IAmb IAmb 06 13 51.9
comp=Z,4.9nm,0.7s
MAW Mawson 77.52 163 P **P 06 13 48.4 -0.4**
comp=Z,1.9nm,0.4s,baz=240,slow=9.4,SNR=2.3
DRLN Deer Lake 78.69 8 P **P 06 13 55.9 +0.6**
DRLN IAmb IAmb 06 14 05.9
comp=Z,30nm,1.4s
BW06 Boulder Array 80.07 332 P **P 06 14 04.6 +1.3**
PD31 Pinedale Array 80.07 332 P **P 06 14 04.0 +0.7**
PDAR Pinedale Array 80.07 332 P **P 06 14 04.5 +1.2**
comp=Z,0.9nm,0.5s,baz=127,slow=6.7,SNR=12
NVAR Mina Array Bea 80.76 324 P **P 06 14 09.1 +1.9**
comp=Z,1.8nm,0.8s,baz=152,slow=5.8,SNR=13
NVAR pP **pP 06 14 35.7 +2.5**
comp=Z,0.2nm,0.7s,baz=156,slow=4.9,SNR=1.2
NVAR Mina Array Bea 80.76 324 P **P 06 14 09.0 +1.9**
TOA0 Torodi Ar. Sit 80.95 70 P **P 06 14 07.9 -0.4**
TOA0 IAmb IAmb 06 14 09.0
comp=Z,12nm,0.7s
TORD Torodi Ar. Bea 80.95 70 P **P 06 14 08.1 -0.3**
comp=Z,10.0nm,0.6s,baz=271,slow=5.5,SNR=74
TORD pP **pP 06 14 35.5 +0.5**
comp=Z,2.1nm,0.6s,baz=269,slow=5.2,SNR=3.4
TORD Torodi Ar. Bea 80.95 70 P **P 06 14 08.0 -0.3**
TORD IAmb IAmb 06 14 09.0
comp=Z,8.9nm,0.7s
BOSA Boshof 80.95 118 P **P 06 14 07.7 -0.7**
comp=Z,1.6nm,0.5s,baz=252,slow=3.3,SNR=7.4
BOSA Boshof 80.95 118 P **P 06 14 08.3 -0.1**
BOSA IAmb IAmb 06 14 12.5
comp=Z,14nm,1.3s
KVN Kaiserville 81.12 324 P **P 06 14 10.8 +1.9**
ULM Lac du Bonnet 82.11 344 P **P 06 14 13.7 +0.1**
comp=Z,2.5nm,0.6s,baz=205,slow=6.2,SNR=3.8
MCMT McKenzie Canyo 83.14 331 P **P 06 14 21.6 +2.2**
SCHQ Schefferville 83.51 2 P **P 06 14 20.6 -0.2**
comp=Z,1.9nm,0.7s,baz=197,slow=5.0,SNR=5.7
O03E Paynes Creek 83.96 323 P **P 06 14 23.9 +0.4**
O03E IAmb IAmb 06 14 34.8
comp=Z,9.4nm,1.4s
MOD Modoc Plateau 84.36 325 P **P 06 14 26.5 +0.9**
J08A Circle Bar Ran 84.54 327 P **P 06 14 27.6 +1.1**
J08A IAmb IAmb 06 14 28.6
comp=Z,5.1nm,0.7s
PLID Pearl Lake 84.72 329 P **P 06 14 28.3 +0.9**
PLID IAmb IAmb 06 14 29.6
comp=Z,5.4nm,0.9s
YKA Yellowknife Ar 97.85 341 P Pdif 06 15 28.3 +0.2
comp=Z,0.6nm,0.7s,baz=138,slow=4.1,SNR=13
YKA Yellowknife Ar 97.85 341 P Pdif 06 15 28.8 +0.6
ASAR Alice Springs 122.78 206 PKP **PKPdf 06 20 49.1 -0.3**
comp=Z,0.3nm,0.4s,baz=113,slow=1.6,SNR=9.0
WRA Warramunga Arr 125.94 209 PKP **PKPdf 06 20 55.6 +0.1**
comp=Z,0.8nm,0.4s,baz=153,slow=1.7,SNR=32
WRA pPKP **pPKPdf 06 21 22.9 -0.4**
comp=Z,0.4nm,0.4s,baz=152,slow=1.7,SNR=2.6
ZALV Zalesovo Beam 149.08 29 PKPbc **PKPdf 06 21 37.9 +1.5**
comp=Z,12nm,0.5s,baz=291,slow=2.8,SNR=63
ZALV pPKPbc **pPKPbc 06 22 08.4 0.0**
comp=Z,2.2nm,0.5s,baz=313,slow=3.4,SNR=3.3
ZALV Zalesovo Beam 149.08 29 PKPdf **PKPdf 06 21 38.0 +1.6**
ZALV PKPbc **PKiKP 06 21 41.7 -0.2**
KSH Kashi 150.22 60 PKPbc **PKPdf 06 21 38.6 -0.3**
KSH pPKP pPKPdf 06 22 04.1 -2.9
MKAR Makanchi Array 152.10 43 PKPbc **PKiKP 06 21 48.3 -0.1**
comp=Z,2.4nm,0.4s,baz=306,slow=1.9,SNR=36
MKAR pPKPbc **pPKPbc 06 22 16.2 +0.2**
comp=Z,1.4nm,0.7s,baz=308,slow=2.1,SNR=3.7
MKAR Makanchi Array 152.10 43 PKiKP 06 21 48.5 +0.2
MKAR PKPab **PKPab 06 21 59.0 +1.1**
SONM Songino Array 160.97 7 PKPab **PKPab 06 22 36.5 +0.4**
comp=Z,1.2nm,0.6s,baz=328,slow=4.9,SNR=7.3
SONM Songino Array 160.97 7 PKPab 06 22 37.2 +1.2
PZH PanZhiHua 172.39 107 PKP **PKPdf 06 22 01.5 -0.7**

IDC 03 06:22:13.7±12.0, 19.89S×179.14W, h647km±133km, mb2.8/4, mb1 3.1/4, mb1mx2.7/39, mbtmp3.7/4, Error ellipse: s-maj=160.2km s-min=44.1km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.62**	**256**	P	P	06 29 23.6	-0.2
	1.0nm,0.5s,baz=96,slow=7.9,SNR=18						
ASAR				PcP	PcP	06 30 57.0	+0.9
	0.2nm,0.6s,baz=95,slow=4.6,SNR=1.5						
WRA	**Warramunga Arr**	**43.63**	**262**	P	P	06 29 23.9	0.0
	0.3nm,0.3s,baz=97,slow=7.5,SNR=19						
ILAR	**Eielson Array**	**87.97**	**13**	P	P	06 33 56.9	+0.7
	0.6nm,1.0s,baz=214,slow=4.2,SNR=3.6						
PDAR	**Pinedale Array**	**89.26**	**44**	P	P	06 34 02.1	-1.0
	0.2nm,0.6s,baz=225,slow=5.0,SNR=2.7						
AKASG	**Malin Array Be**	**141.97**	**331**	PKP	PKPdf	06 40 31.5	-2.0
	1.2nm,0.5s,baz=38,slow=4.2,SNR=6.7						

*NEIC **03** 06:46:51.6±1.2, 20.27S±0.04×68.94W±0.07, h115km±5km, mb4.1/14, ML4.0(GUC), Error ellipse: s-maj=9.9km s-min=5.7km az=95.0*

*VAO **03** 06:46:51.3±0.5, 20.20S×68.86W, h116km, mb4.1*

*IDC **03** 06:46:52.5±1.4, 20.31S×68.66W, h122km±13km, mb3.7/6, mb1 3.8/10, mb1mx3.5/31, mbtmp4.1/10, Error ellipse: s-maj=26.8km s-min=13.7km az=109.0*

*GUC **03** 06:46:52.5±0.7, 20.26S×68.91W, h110km±3km, ML4.0*

ISC 03 06:46:50.8±0.6, 20.26S±0.03×68.94W±0.06, h116km±5km, n106, σ1§04/125, mb4.0/6, 9C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.23**	**300**		**Pn**	**06 47 08.4**	**+0.9**
PB08					Sn	06 47 20.1	+0.1
PB08	**IPOC Station P**	**0.23**	**300⇑**	*iP*	**Pn**	**06 47 08.2**	**+0.7**
PB08				*i* S	**Sn**	**06 47 20.5**	**+0.4**
PB08				IAML		06 47 21.4	
	comp=E,19µm,0.2s						
GO01	**Chusmiza**	**0.63**	**338**		**Pn**	**06 47 10.7**	**+0.8**
GO01					Sn	06 47 24.8	+0.7
GO01	**Chusmiza**	**0.63**	**338⇓**	*iP*	**Pn**	**06 47 10.7**	**+0.8**
GO01				*i* S	**Sn**	**06 47 24.8**	**+0.7**
GO01				IAML		06 47 26.2	
	comp=E,11µm,0.1s						
PB11	**IPOC Station P**	**0.83**	**306**		**Pn**	**06 47 11.5**	**+0.4**
PB11					Sn	06 47 27.2	+0.7
PB11	**IPOC Station P**	**0.83**	**306⇑**	*iP*	**Pn**	**06 47 11.9**	**+0.8**
PB11				*i* S	**Sn**	**06 47 27.4**	**+1.0**
PB11				IAML		06 47 28.5	
	comp=E,10µm,0.4s						
HMBC	**Humberstone**	**0.89**	**268⇑**	*iP*	**Pn**	**06 47 12.1**	**+0.5**
HMBC				*i* S	**Sn**	**06 47 28.1**	**+0.8**
HMBC				IAML		06 47 29.1	
	comp=N,3µm,0.5s						
PB01	**IPOC Station P**	**0.94**	**213**		**Pn**	**06 47 12.1**	**+0.1**
PB01					Sn	06 47 28.6	+0.6
PB01	**IPOC Station P**	**0.94**	**213⇑**	*iP*	**Pn**	**06 47 12.8**	**+0.8**
PB01				*i* S	**Sn**	**06 47 28.8**	**+0.8**
PB01				IAML		06 47 29.9	
	comp=E,8µm,0.4s						
TA02	**Huaiquique**	**1.12**	**269**		**Pn**	**06 47 14.6**	**+0.9**
TA01	**Diego Aracena**	**1.20**	**255**		**Pn**	**06 47 14.9**	**+0.3**
TA01	**Diego Aracena**	**1.20**	**255⇑**	*iP*	**Pn**	**06 47 15.2**	**+0.6**
TA01				*i* S	**Sn**	**06 47 33.0**	**+0.4**
PATCX	**Punta Patache**	**1.27**	**244**		**Pn**	**06 47 16.1**	**+0.7**
PATCX	**Punta Patache**	**1.27**	**244⇑**	*iP*	**Pn**	**06 47 16.3**	**+0.9**
PATCX				*i* S	**Sn**	**06 47 34.4**	**+0.3**
PATCX				IAML		06 47 35.9	
	comp=E,2µm,0.3s						
PB02	**IPOC Station P**	**1.39**	**220**		**Pn**	**06 47 17.5**	**+0.7**
PB02	**IPOC Station P**	**1.39**	**220⇑**	*iP*	**Pn**	**06 47 17.8**	**+1.0**
PB02				*i* S	**Sn**	**06 47 37.4**	**+0.9**
PB02				IAML		06 47 40.4	
	comp=E,3µm,0.1s						
PB09	**IPOC Station P**	**1.56**	**190**		**Pn**	**06 47 20.0**	**+1.1**
PB09	**IPOC Station P**	**1.56**	**190⇑**	*eP*	**Pn**	**06 47 20.2**	**+1.3**
PB09				*eS*	**Sn**	**06 47 41.4**	**+1.1**
PB07	**IPOC Station P**	**1.71**	**211**		**Pn**	**06 47 21.4**	**+0.7**
PB07	**IPOC Station P**	**1.71**	**211⇓**	*iP*	**Pn**	**06 47 21.5**	**+0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB07				*i* S	Sn	06 47 43.7	+0.2
PB07				IAML		06 47 48.0	
	comp=N,1µm,0.3s						
PB16	IPOC Station P	1.98	344		Pn	06 47 26.4	+1.9
PB16	IPOC Station P	1.98	344	*e*P	Pn	06 47 26.6	+2.1
PB16				*i* S	Sn	06 47 52.5	+2.4
PB12	IPOC Station P	2.09	321		Pn	06 47 25.7	+0.3
PB12	IPOC Station P	2.09	321	*i* P	Pn	06 47 25.8	+0.3
PB12				*i* S	Sn	06 47 51.6	-0.2
PB12				IAML		06 47 57.0	
	comp=E,932nm,0.5s						
LVC	Limon Verde	2.34	179	P	Pn	06 47 30.3	+1.5
	comp=E,12nm,0.3s,baz=15,slow=9.0,SNR=90						
LVC				S	Sn	06 47 59.3	+1.5
	comp=E,63nm,0.3s,baz=63,slow=23,SNR=29						
LVC	Limon Verde	2.34	179⇑	*e*P	Pn	06 47 30.3	+1.5
LVC				*e*S	Sn	06 47 59.6	+1.7
LVC	Limon Verde	2.34	179	*e*P	Pn	06 47 30.1	+1.3
PB04	IPOC Station P	2.35	208	Pn	Pn	06 47 29.7	+1.0
PB04	IPOC Station P	2.35	208	*e*P	Pn	06 47 29.9	+1.1
PB04				*e*S	Sn	06 47 57.4	-0.5
PB04				IAML		06 48 06.2	
	comp=E,575nm,0.3s						
PB06	IPOC Station P	2.51	193		Pn	06 47 31.8	+1.1
PB06	IPOC Station P	2.51	193	*e*P	Pn	06 47 31.8	+1.1
PB06				*e*S	Sn	06 48 01.0	-0.3
PB06				IAML		06 48 07.0	
	comp=E,530nm,0.4s						
PB15	IPOC Station P	2.98	189		Pn	06 47 37.5	+0.5
PB15	IPOC Station P	2.98	189	*e*P	Pn	06 47 38.1	+1.2
PB10	IPOC Station P	3.57	205		Pn	06 47 44.0	-0.5
PB10	IPOC Station P	3.57	205	*e*P	Pn	06 47 44.1	-0.4
LPAZ	La Paz	4.02	11	P	Pn	06 47 54.1	+3.0
	comp=E,6.5nm,0.3s,baz=196,slow=6.3,SNR=218						
LPAZ	La Paz	4.02	11	Pn	Pn	06 47 53.6	+2.4
GO02	Mina Guanaco	4.92	187	Pn	Pn	06 48 02.4	-0.5
AC01	Pan de Azucar	6.06	194		Pn	06 48 15.8	-2.2
AC02	Maricunga	6.55	181	Pn	Pn	06 48 24.4	-0.7
AC04	Llanos de Chal	8.15	193	Pn	Pn	06 48 42.0	-4.3
SIV	San Ignacio	8.60	62	P	Pn	06 48 50.1	-2.4
	comp=E,1.4nm,0.3s,baz=254,slow=8.9,SNR=25						
PTLB	Pontes e Lacer	10.49	64	*e*P	Pn	06 49 16.2	-1.7
ETMB	Extrema	10.71	15	*e*P	Pn	06 49 20.0	-1.0
CPUP	Villa Florida	12.26	122	P	Pn	06 49 40.4	-1.2
	comp=E,0.3nm,0.3s,baz=309,slow=12,SNR=8.5						
CPUP	Villa Florida	12.26	122	Pn	Pn	06 49 40.5	-1.0
CPUP	Villa Florida	12.26	122	*e*P	Pn	06 49 40.7	-0.8
AQDB	Aquidauana	12.42	93	*e*P	Pn	06 49 44.4	+0.7
MT02	Curacav	13.10	188	Pn	Pn	06 49 52.4	-0.1
PP1B	Ponte de Pedra	13.56	81	*e*P	Pn	06 49 58.5	-0.1
MT01	Popeta	13.71	188	Pn	Pn	06 50 00.7	+0.3
BO04	La Punta	13.76	186	Pn	Pn	06 50 02.0	+1.0
BO01	Tunca	14.21	187	Pn	Pn	06 50 07.2	+0.4
PDRB	Porto dos Gac	14.54	56	*e*P	Pn	06 50 12.0	+0.8
BO02	Sierra Bellavi	14.57	186		Pn	06 50 11.8	+0.3
ML02	Panimavida	15.60	188		Pn	06 50 24.3	0.0
ML02				IAmb	IAmb	06 50 25.0	
	comp=Z,14nm,0.6s						
PTGB	Pitanga	16.21	109	*e*P	Pn	06 50 31.9	-0.2
PCMB	Pacaembu	16.57	98	*e*P	P	06 50 36.6	-0.3
ITAB	Concordia	16.87	118		P	06 50 40.4	+0.3
ITAB				IAmb	IAmb	06 50 41.4	
	comp=Z,16nm,0.7s						
ITAB	Concordia	16.87	118	*e*P	P	06 50 40.3	+0.1
CPSB	Cacapava Do Su	17.26	129	*e*P	Pn	06 50 44.6	-0.1
ITRB	Iturama	17.48	91	*e*P	Pn	06 50 47.4	0.0
PLTB	Pedras Altas	17.90	133	P	Pn	06 50 52.4	-0.1
PLTB				IAmb	IAmb	06 51 07.0	
	comp=Z,11nm,1.2s						
PLTB	Pedras Altas	17.90	133	*e*P	Pn	06 50 52.1	-0.3
FRTB	Fartura	18.25	103	*e*P	P	06 50 55.6	+0.2
NPGB	Novo Progresso	18.60	47	*e*P	P	06 50 57.9	-1.3
MACA	Manacapuru-AM	18.80	26	*e*P	P	06 51 01.3	-0.2
SNDB	Serra Nova Dou	18.83	67	*e*P	P	06 51 01.4	-0.4
TIJ01	Guaruva-PR	19.05	109	*e*P	P	06 51 03.5	-0.7
BB19B	Bebedouro	19.12	96	*e*P	P	06 51 04.9	0.0
IPMB	Ipameri, GO	19.71	87	*e*P	P	06 51 10.9	-0.5
TER01	Tubaro-SC	19.82	118	*e*P	P	06 51 11.4	-0.9
RCLB	Rio Claro- Sao	20.06	100	*e*P	P	06 51 14.3	-0.8
ITTB	Itaituba	20.36	41	*e*P	P	06 51 17.3	-1.1
BDFB	Brasilia	20.43	80	P	P	06 51 18.2	-0.9
	comp=Z,3.6nm,0.5s,baz=254,slow=12,SNR=18						
BDFB	Brasilia	20.43	80	P	P	06 51 18.8	-0.4
BDFB				IAmb	IAmb	06 51 22.0	
	comp=Z,3.7nm,0.6s						
BDFB	Brasilia	20.43	80	*e*P	P	06 51 18.6	-0.5
PET01	Itanhaem-SP	20.44	105	*e*P	P	06 51 19.4	+0.3
PLCA	Paso Flores	20.46	184	P	Pn	06 51 20.8	-1.7
	comp=Z,3.0nm,0.8s,baz=350,slow=8.8,SNR=8.5						
PLCA	Paso Flores	20.46	184	P	P	06 51 20.1	+1.0
PLCA				IAmb	IAmb	06 51 21.2	
	comp=Z,10nm,1.4s						
PLCA	Paso Flores	20.46	184	*e*P	P	06 51 20.2	+1.0
VAO	Valinhos	20.61	102	*e*P	P	06 51 19.8	-1.2
PEXB	Peixe	21.40	71	*e*P	P	06 51 28.2	-1.2
BSCB	Bom Sucesso	22.63	96	*e*P	P	06 51 41.9	-0.4
SMTB	Santa Maria do	23.53	64	*e*P	P	06 51 50.6	-0.2
MC01	Montes Claros	23.96	86	*e*P	P	06 51 54.1	-0.5
BOAV	Boa Vista	23.98	21	*e*P	P	06 51 55.5	+0.7
JANB	Januaria	24.02	82	*e*P	P	06 51 54.5	-0.7
SDBA	SAO DESIDERIO	24.33	75	*e*P	P	06 51 57.0	-1.0
DUB01	Friburgo-RJ	24.83	99	*e*P	P	06 52 02.9	+0.4
NAN01	Guarapari, ES	27.33	90	*e*P	P	06 52 25.1	+0.1
GUA01	Guaratinga, BA	27.86	87	*e*P	P	06 52 30.5	+0.7
ZARC	Zaragoza, Cauc	28.18	347	P	P	06 52 32.1	-0.5
NBLA	Lagarto - SE	31.33	78	*e*P	P	06 53 00.2	-0.3
OBIP	Obispado Ponce	38.13	4	P	P	06 53 58.8	0.0
CELP	Cerrillos	38.16	4	P	P	06 53 59.6	+0.5
DBIC	Dimbokro	68.41	74	P	P	06 57 40.2	-0.3
	comp=Z,4.1nm,0.6s,baz=252,slow=5.9,SNR=8.5						
DBIC	Dimbokro	68.41	74	P	P	06 57 40.3	-0.3
WUAZ	Wupatki	68.52	324	P	P	06 57 42.1	+1.0
WUAZ				IAmb	IAmb	06 57 55.4	
	comp=Z,3.0nm,1.4s						
QSPA	South Pole Qui	69.93	180	P	P	06 57 50.2	+0.9
QSPA				IAmb	IAmb	06 58 01.1	
	comp=Z,8.7nm,1.5s						
TORD	Torodi Ar. Bea	76.97	71	P	P	06 58 30.8	-0.4
	comp=Z,1.1nm,0.5s,baz=256,slow=5.5,SNR=14						
TORD	Torodi Ar. Bea	76.97	71	P	P	06 58 30.8	-0.4
MATP	Matopo	89.69	112	P	P	06 59 36.4	-0.2
	comp=Z,0.5nm,0.4s,baz=243,slow=6.8,SNR=1.4						
YKA	Yellowknife Ar	90.01	341	P	P	06 59 38.2	+1.4
	comp=Z,0.6nm,0.6s,baz=133,slow=4.8,SNR=12						
MKAR	Makanchi Array	144.64	35	PKP	PKPdf	07 06 13.6	-0.2
	comp=Z,0.2nm,0.4s,baz=327,slow=2.4,SNR=4.9						
PZH	PanZhiHua	169.43	52	PKP	PKPdf	07 06 42.7	-2.5

*IDC **03** 06:49:32.1±1.8, 5°.52S×72°.56E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.7/42, mbtmp4.0/7, MS2.7/1, Ms1 2.7/1, ms1mx2.3/85, Error ellipse: s-maj=53.6km s-min=24.9km az=54.0*

*NEIC **03** 06:49:34.1±0.8, 5°.46S±0°.02×72°.5E±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=29.7km s-min=3.1km az=271.0*

ISC 03 06:49:33.9±0.7**, 5°.44S**±0°.06×**72°.7E**±0°.2**, h10**km**, n29, σ1s.47**/27**, mb4.3**/11**, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGAR	Diego Garcia	1.97	188		Pn	06 50 06.3	-1.1
H08S3	Diego Garcia H	2.18	186	Pn	Pn	06 50 08.2	-1.9
	baz=6.5,slow=19,SNR=4378						
H08S2	Diego Garcia H	2.20	186	Pn	Pn	06 50 08.5	-1.7
	baz=6.5,slow=19,SNR=3186						
H08S1	Diego Carcia H	2.20	186	Pn	Pn	06 50 08.5	-1.8
	baz=6.5,slow=19,SNR=1950						
KAAM	Kaadhehdhoo	5.90	3	Pn	Pn	06 51 00.8	-0.7
KAAM				Sn	Sn	06 52 05.2	-4.1
PALK	Pallekele	14.94	32	Pn	Pn	06 53 01.9	-3.4
	0.3nm,0.3s,baz=184,slow=13,SNR=1.8						
PALK				Sn	Sn	06 55 42.1	-8.9
	0.3nm,0.3s,baz=177,slow=22,SNR=2.0						
PALK				LR	LR	06 57 43.1	
	comp=Z,31nm,19.3s,baz=324,slow=32						
PALK	Pallekele	14.94	32	Pn	Pn	06 53 06.3	+1.0
SOCY	Socotra	25.56	313	P	P	06 55 04.0	+0.6
CMAR	Chiang Mai Arr	35.11	47	P	P	06 56 28.7	+0.9
	1.4nm,0.3s,baz=240,slow=11,SNR=5.1						
H01W3	Cape Leeuwin H	48.13	133	T	T	07 49 44.1	
	baz=299,slow=75,SNR=14						
H01W2	Cape Leeuwin H	48.14	133	T	T	07 49 44.1	
	baz=299,slow=75,SNR=9.3						
H01W1	Cape Leeuwin H	48.15	133	T	T	07 49 45.7	
	baz=299,slow=75,SNR=14						
MK31	Makanchi Array	52.70	8	P	P	06 58 48.6	0.0
MKAR	Makanchi Array	52.70	8	P	P	06 58 48.9	+0.3
	1.8nm,0.6s,baz=165,slow=6.1,SNR=23						
FITZ	Fitzroy Crossi	53.13	108	P	P	06 58 52.7	+0.4
FITZ				IAmb	IAmb	06 59 04.4	
	comp=Z,5.5nm,1.4s						
ABKAR	Akbulak array	55.60	350	P	P	06 59 10.5	+0.8
ABKAR				IAmb	IAmb	06 59 11.1	
	comp=Z,2.5nm,0.7s						
ZAA0	Zalesovo Array	60.04	8	P	P	06 59 40.9	+0.1
ZAA0				IAmb	IAmb	06 59 41.8	
	comp=Z,2.7nm,0.8s						
ZALV	Zalesovo Beam	60.04	8	P	P	06 59 40.8	0.0
	comp=Z,2.3nm,0.6s,baz=206,slow=7.3,SNR=14						
SONM	Songino Array	60.76	25	P	P	06 59 47.2	+1.2
	comp=Z,1.7nm,0.7s,baz=217,slow=7.2,SNR=8.6						
SONM	Songino Array	60.76	25	P	P	06 59 46.9	+0.8
SONM				IAmb	IAmb	06 59 48.7	
	comp=Z,2.4nm,1.0s						
ASAR	Alice Springs	61.48	114	P	P	06 59 51.6	+0.3
	comp=Z,0.4nm,0.5s,baz=280,slow=6.7,SNR=7.7						
WRA	Warramunga Arr	61.51	110	P	P	06 59 51.8	+0.2
	comp=Z,0.6nm,0.7s,baz=283,slow=7.3,SNR=4.8						
WB0	Warramunga Arr	61.54	109	P	P	06 59 51.8	0.0
WR0	Warramunga Arr	61.70	110	P	P	06 59 53.2	+0.4
WR0				IAmb	IAmb	07 00 22.1	
	comp=Z,4.7nm,1.2s						
AKASG	Malin Array Be	67.26	332	P	P	07 00 27.4	-1.2
	comp=Z,0.4nm,0.4s,baz=131,slow=5.2,SNR=4.5						
CLL	Collm	76.01	326	*e*P	P	07 01 23.0	+1.7
NVAR	Mina Array Bea	145.67	15	PKPbc	PKPab	07 09 15.1	+1.1
	comp=Z,0.9nm,0.8s,baz=205,slow=1.2,SNR=7.8						
NVAR	Mina Array Bea	145.67	15		PKPab	07 09 15.0	+1.1
TXAR	Lajitas Array	155.99	352	PKPab	PKPab	07 09 56.3	0.0
	comp=Z,0.2nm,0.6s,baz=10,slow=5.5,SNR=2.4						

*IDC **03** 06:50:02.4±0.9, 28°.65N×140°.70E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.5/35, mbtmp3.6/10, ML3.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/85, Error ellipse: s-maj=31.8km s-min=19.8km az=68.0*

ISC 03 06:50:05.3±1.0**, 28°.8N**±0°.2×**140°.9E**±0°.2**, h35**km**, n14, σ2s.75**/6**, mb3.8**/8**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	2.04	146	Pn	Pn	06 50 36.8	-0.5
	6.3nm,0.3s,baz=299,slow=19,SNR=1.3						
JCJ				Sn	Sn	06 50 59.8	-1.7
	24nm,0.3s,baz=300,slow=23,SNR=6.5						
MJAR	Matsushiro Arr	8.05	344	Pn	Pn	06 51 56.9	-2.9
	0.2nm,0.3s,baz=172,slow=11,SNR=4.9						
KSRS	Korea Array	13.87	312	Pn	Pn	06 53 18.1	-1.2
	0.1nm,0.3s,baz=114,slow=11,SNR=2.5						
KSRS				LR	LR	06 58 29.0	
	comp=Z,23nm,18.2s,baz=145,slow=37						
SONM	Songino Array	32.70	315	P	P	06 56 37.4	+2.9
	1.2nm,0.8s,baz=118,slow=8.3,SNR=5.8						
ZALV	Zalesovo Beam	47.46	318	P	P	06 58 38.5	+2.0
	0.5nm,0.4s,baz=102,slow=7.5,SNR=3.5						
WRA	Warramunga Arr	48.86	188	P	P	06 58 48.8	+1.2
	0.8nm,0.7s,baz=9.6,slow=8.3,SNR=11						
ASAR	Alice Springs	52.59	188	P	P	06 59 16.8	+1.1
	0.1nm,0.4s,baz=4.4,slow=5.4,SNR=4.1						
YKA	Yellowknife Ar	71.20	28	P	P	07 01 24.2	+3.9
	0.3nm,0.6s,baz=295,slow=6.5,SNR=3.5						
NVAR	Mina Array Bea	80.37	51	P	P	07 02 16.3	+2.8
	0.3nm,0.7s,baz=276,slow=8.1,SNR=3.2						
BRTR	Keskin Array B	84.01	312	P	P	07 02 33.9	+1.4
	1.8nm,1.1s,baz=94,slow=5.0,SNR=4.1						
TXAR	Lajitas Array	95.49	52	P	P	07 03 32.4	+5.4
	0.2nm,0.7s,baz=316,slow=3.8,SNR=2.6						
H03N2	Juan Fernandez	145.74	108	T	T	09 51 55.9	
	baz=270,slow=75						
H03N3	Juan Fernandez	145.75	108	T	T	09 51 54.4	
	baz=270,slow=75						
H03N1	Juan Fernandez	145.76	108	T	T	09 51 57.5	
	baz=270,slow=75						

IDC 03 07:18:03.4±3.3**, 20°.59S**×**179°.72E, h0**km**, mb3.9**/3**, mb1 4.2**/4**, mb1mx3.7**/24**, mbtmp4.1**/4**, ML4.3**/1**, Error ellipse: s-maj=172.6km s-min=34.6km az=150.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	10.49	52	Pn	Pn	07 20 35.2	0.0
	2.5nm,0.3s,baz=180,slow=15,SNR=2.0						
AFI				Sn	Sn	07 22 16.9	-17
	1.8nm,0.3s,baz=103,slow=19,SNR=2.1						
STKA	Stephens Creek	35.83	244	P	P	07 25 04.1	-0.8
	1.4nm,0.4s,baz=66,slow=10.0,SNR=4.7						
ASAR	Alice Springs	42.42	257	P	P	07 26 00.5	+0.3
	1.5nm,0.7s,baz=94,slow=8.5,SNR=18						
WRA	Warramunga Arr	42.47	263	P	P	07 26 00.6	-0.1
	0.9nm,0.7s,baz=95,slow=8.2,SNR=10						

*TAP **03** 07:36:47.8, 24°.47N×122°.70E, h81km, ML3.3, C*

*JMA **03** 07:36:47.2±0.2, 24°.41N×122°.69E, h86km±2km, M2.2*

ISC 03 07:36:47.9±1.5**, 24°.42N**±0°.05×**122°.70E**±0°.03**, h80**km±10km**, n65, σ0s.65**/101**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.23	82	P	Pn	07 37 00.0	+0.3
JYNG				*e*S	Sn	07 37 09.1	+0.6
YOJ	Yonaguni jima	0.29	82	P	Pn	07 37 00.3	+0.2
YOJ				S	Sn	07 37 09.5	+0.5
YOJ	Yonaguni jima	0.29	82	*i* P	Pn	07 37 00.3	+0.2
	baz=94						
YOJ				*i* S	Sn	07 37 09.2	+0.2
	baz=94						
TWC	Suao	0.80	284	P	Pn	07 37 04.4	-0.2
	baz=286						
TWC				*e*S	Sn	07 37 16.4	-0.6
	baz=286						
EWUT	Wuta	0.84	272	*e*P	Pn	07 37 04.9	-0.1
	baz=262						
ENA	Nanau	0.87	271	*e*P	Pn	07 37 05.6	+0.2
	baz=261						
NTC	Toucheng	0.90	299	*e*P	Pn	07 37 05.7	-0.1
	baz=296						
NDS	Dongshan	0.92	284	*e*P	Pn	07 37 06.1	+0.1
	baz=287						
NDS				*e*S	Sn	07 37 19.4	-0.1
	baz=287						
IRIF	Iriomote-Funau	0.94	95	P	Pn	07 37 06.1	-0.2
IRIF				S	Sn	07 37 20.0	+0.1
TIPB	Shuangxi	0.97	305	*e*P	Pn	07 37 06.4	-0.2
	baz=302						
TWE	Neicheng	0.99	288	*e*P	Pn	07 37 06.9	+0.1
	baz=290						
SXI1	Grass Mountain	1.01	312	*e*P	Pn	07 37 07.0	-0.1
	baz=311						
SXI1				*e*S	Sn	07 37 20.7	-0.7
	baz=311						
ETL	Fush Village	1.01	255	*e*S	Sn	07 37 21.5	0.0
	baz=252						
NACB	Ninganchiao	1.04	257	P	Pn	07 37 07.0	-0.4
	baz=246						
NACB				*e*S	Sn	07 37 21.5	-0.4
	baz=246						
ENTT	Nioudou	1.05	282	*e*P	Pn	07 37 08.1	+0.5
	baz=283						
NWF	Wu-fen Shan	1.06	308	*e*P	Pn	07 37 07.7	0.0
	baz=299						
NWF				*e*S	Sn	07 37 21.7	-0.8
	baz=299						
TWD	Chiawan	1.06	252	*e*P	Pn	07 37 07.4	-0.2
	baz=249						
FUSB	Fushanzhiwuyua	1.07	289	P	Pn	07 37 07.9	+0.1
	baz=286						
FUSB				*e*S	Sn	07 37 22.5	-0.2
	baz=286						
HATJ	Hateruma jima	1.07	109	*e*S	Sn	07 37 23.5	+0.8
LATG	Datong	1.07	276	*e*P	Pn	07 37 08.1	+0.2
	baz=266						
LATG				*e*S	Sn	07 37 23.0	0.0
	baz=266						
HWA	Hwalien	1.09	246	*e*P	Pn	07 37 08.2	+0.2
	baz=243						
NDT	Datong Townshi	1.09	280	*e*P	Pn	07 37 08.6	+0.5
	baz=281						
NDT				*e*S	Sn	07 37 23.4	+0.2
	baz=281						
ETLH	Xiulin Townshi	1.13	259	*e*P	Pn	07 37 08.4	-0.2
	baz=250						
ETLH				*e*S	Sn	07 37 24.0	-0.1
	baz=250						
NWLT	Wulai	1.15	288	*e*P	Pn	07 37 09.0	+0.2
	baz=293						
TWA	Mucha	1.16	299	*e*S	Sn	07 37 23.8	-0.8
	baz=296						
NHDH	Xindian Distri	1.20	297	*e*S	Sn	07 37 24.9	-0.5
	baz=295						
NNSB	Datong	1.20	271	*e*P	Pn	07 37 09.4	-0.1
	baz=260						
NNSB				*e*S	Sn	07 37 25.4	-0.3
	baz=260						
NNS	Nan Shan	1.21	271	*e*P	Pn	07 37 09.6	-0.1
	baz=260						
NNS				*e*S	Sn	07 37 25.6	-0.2
	baz=260						
JKRS	Kuro-shima	1.21	98	P	Pn	07 37 09.9	+0.4
JKRS				S	Sn	07 37 26.5	+0.8
YHNB	Yeheng	1.23	282	P	Pn	07 37 10.1	+0.3
	baz=279						
YHNB				*e*S	Sn	07 37 26.1	-0.2
	baz=279						
NSK	Sanguang	1.25	282	*e*P	Pn	07 37 10.3	+0.3
	baz=279						
NSK				*e*S	Sn	07 37 26.3	-0.4
	baz=279						
YM01	YM01	1.25	305	*e*P	Pn	07 37 10.1	0.0
	baz=296						
YM01				*e*S	Sn	07 37 25.8	-1.0
	baz=296						
JIJ	Ishigaki jima	1.32	92	P	Pn	07 37 10.6	-0.3
JIJ				S	Sn	07 37 27.5	-0.6
WHF	Hehuan Shan	1.34	258	P	Pn	07 37 11.4	-0.2
	baz=256						
WHF				*e*S	Sn	07 37 28.7	-0.5
	baz=256						
FUSS	Fushou	1.34	263	*e*P	Pn	07 37 11.7	+0.4
	baz=261						
EGFH	Guangfu	1.38	238	*e*P	Pn	07 37 11.4	-0.3
	baz=231						
TWT	Tachien	1.40	264	*e*P	Pn	07 37 13.0	+0.9
	baz=261						
TWT				*e*S	Sn	07 37 30.4	+0.1
	baz=261						
TDCB	Techi	1.42	264	*e*P	Pn	07 37 12.8	+0.6
	baz=261						
TDCB				*e*S	Sn	07 37 30.3	-0.3
	baz=261						
CHGB	Renai	1.44	256	P	Pn	07 37 12.8	+0.2
	baz=247						
CHGB				*e*S	Sn	07 37 30.8	-0.4
	baz=247						
NFF	Wufeng Townshi	1.46	279	*e*P	Pn	07 37 13.1	+0.4
	baz=276						
OWD	Renai	1.47	252	*e*P	Pn	07 37 13.1	+0.2
	baz=244						
OWD				*e*S	Sn	07 37 31.4	-0.4
	baz=244						
JISG	Ishigakijimahi	1.48	83	P	Pn	07 37 12.6	-0.3
JISG				S	Sn	07 37 30.8	-1.0
HGSD	Ruisui	1.49	232	*e*P	Pn	07 37 12.7	-0.4
	baz=226						
WUSB	Renai	1.50	254	*e*P	Pn	07 37 13.6	+0.2
	baz=246						
WUSB				*e*S	Sn	07 37 32.2	-0.4
	baz=246						
LIOB	Emei	1.55	279	*e*P	Pn	07 37 14.2	+0.4
	baz=276						
EHY	Hungye	1.55	234	*e*P	Pn	07 37 13.4	-0.5
	baz=241						
NSTT	Nanjuang	1.56	278	*e*P	Pn	07 37 14.5	+0.5
	baz=275						
VWDT	VWDT	1.57	245	*e*P	Pn	07 37 14.5	+0.4
	baz=243						
VWDT				*e*S	Sn	07 37 33.6	-0.3
	baz=243						
WHP	Taichung City	1.60	265	*e*P	Pn	07 37 15.8	+1.2
	baz=259						
YULB	Yu-li	1.64	232	*e*P	Pn	07 37 14.6	-0.5
	baz=239						
EYUL	Yuli	1.65	230	*e*P	Pn	07 37 15.6	+0.4
	baz=224						
SSLB	Suanglung	1.71	249	*e*S	Sn	07 37 37.2	-0.2
	baz=247						
TYC	Yuchr	1.76	253	*e*P	Pn	07 37 17.2	+0.6
	baz=244						
FULB	Fuli	1.77	227	*e*P	Pn	07 37 16.4	-0.4
	baz=219						
FULB				*e*S	Sn	07 37 38.1	-0.5
	baz=219						
CHKT	Chengkung	1.79	223	*e*P	Pn	07 37 16.2	-0.9
	baz=217						
CHKT				*e*S	Sn	07 37 37.7	-1.5
	baz=217						
YUS	Yu-Shan	1.85	240	*e*P	Pn	07 37 18.7	+0.4
	baz=231						
YUS				*e*S	Sn	07 37 40.4	-0.8
	baz=231						
WJS	Zhushan	1.90	252	*e*P	Pn	07 37 19.9	+1.5
	baz=243						
EDH	Donghe	1.93	222	*e*P	Pn	07 37 18.2	-0.6
	baz=217						
EDH				*e*S	Sn	07 37 40.7	-1.7
	baz=217						
ELDTW	Lidau	1.97	232	*e*P	Pn	07 37 19.2	-0.3
	baz=225						
ELDTW				*e*S	Sn	07 37 42.4	-1.1
	baz=225						
CHN5	Tsauling	2.02	247	*e*P	Pn	07 37 21.8	+1.6
	baz=237						
CHN5				*e*S	Sn	07 37 46.2	+1.5
	baz=237						
LDUT	Ludao	2.07	213	*e*P	Pn	07 37 20.1	-0.6
	baz=216						
STYH	Taoyuan	2.16	235	*e*P	Pn	07 37 22.8	+0.9
	baz=229						
STYH				*e*S	Sn	07 37 48.2	+0.4
	baz=229						
TPUB	Ta-pu	2.20	240	*e*S	Sn	07 37 49.6	+0.7
	baz=238						
CHN4	Tsaushan	2.20	242	*e*P	Pn	07 37 24.2	+1.7
	baz=232						
CHN4				*e*S	Sn	07 37 51.0	+2.0
	baz=232						
CHN1	Nanshi	2.34	239	*e*S	Sn	07 37 53.1	+0.9
	baz=237						

NOU 03 07:51:23.5, 19°.39S×**168°.33E, h3**km**, MLv4.3**/17**, Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTV	Rentapao	1.59	3	P	Pb	07 51 53.4	-0.2
DVP	Devils Point	1.66	355	P	Pn	07 51 53.3	-0.2
LIFNC	LIFOU	1.72	216	P	Pn	07 51 52.7	-1.6
MARNC	Mare, Loyalty	2.10	188	P	Pn	07 51 58.2	-1.4
YATNC	Mamie plateau,	2.98	207	P	Pn	07 52 10.7	-1.0
DZM	Mont Dzumac	3.20	213	P	Pn	07 52 14.5	-0.3
NOUC	Port Laguerre	3.30	215	P	Pn	07 52 16.8	+0.7
PINNC	Pines Island,	3.31	194	P	Pn	07 52 16.8	+0.6
OUENC	Ouen Island, N	3.32	205	P	Pn	07 52 17.2	+0.8
ONTNC	Ouen Toro	3.39	211	P	Pn	07 52 18.7	+1.3
SANVU	Saraoutou	4.07	344	P	Pn	07 52 25.0	-1.6

*NNC **03** 07:59:24.1±1.2, 50°.81N×73°.65E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=13.0km s-min=12.2km az=152.0, Suspected Mining explosion.*

*IDC **03** 07:59:25.4±1.3, 51°.13N×73°.86E, h0km, mb3.2/2, mb1 3.2/6, mb1mx3.1/40, mbtmp3.0/6, ML2.2/4, Error ellipse: s-maj=31.7km s-min=8.7km az=32.0*

ISC 03 07:59:22.8±0.9**, 50°.99N**±0°.06×**73°.54E**±0°.06**, h0**km**, n16, σ0s.98**/14**, 9C-2D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BVAR	Borovoye Array	2.82	318	Pn	Pb	08 00 12.5	-1.5
	1.2nm,0.3s,baz=190,slow=26,SNR=14						
BVAR				Lg	Lg	08 00 55.8	
	3.5nm,0.3s,baz=238,slow=8.5,SNR=8.9						

OTUK Ortayu 2.85 196 ⇓Pn Pn 08 00 08.7 -0.9
1.7nm,0.7s
OTUK ⇑Pg Pb 08 00 14.4 -0.2
6.2nm,0.6s
OTUK ⇑Lg Lg 08 00 47.9
16nm,0.7s
BRVK Borovoye 2.89 317 ⇑Pn Pb 08 00 15.0 -0.2
6.3nm,0.8s
BRVK ⇑Lg Lg 08 00 56.8
104nm,0.8s
KURBB Kurchatov Arra 3.19 95 Pn Pn 08 00 13.9 -0.3
0.1nm,0.3s,baz=279,slow=14,SNR=39
KURBB Lg Lg 08 00 59.0
0.6nm,0.3s,baz=292,slow=30,SNR=16
KURBB Kurchatov Arra 3.19 95 ⇑Pn Pn 08 00 13.8 -0.4
11nm,0.5s
KURBB ⇑Pg Pg 08 00 22.8 -1.1
11nm,0.5s
KURBB ⇑Lg Lg 08 00 59.2
132nm,0.8s
MK31 Makanchi Array 7.13 123 ⇑Pg Pb 08 01 28.4 +0.9
0.8nm,0.6s,baz=303,slow=14,SNR=5.4
MK31 ⇓Lg Lg 08 03 04.3
18nm,0.9s,baz=317,slow=26,SNR=8.8
MKAR Makanchi Array 7.13 123 Pn Pn 08 01 07.7 -0.7
0.0nm,0.3s,baz=301,slow=15,SNR=3.3
MKAR Sn Sn 08 02 30.7 +0.6
0.1nm,0.3s,baz=300,slow=26,SNR=3.5
MKAR Lg Lg 08 03 03.5
0.3nm,0.3s,baz=307,slow=28,SNR=6.8
ZALV Zalesovo Beam 7.50 62 Pn Pn 08 01 13.9 +0.5
0.2nm,0.3s,baz=249,slow=14,SNR=4.9
ZALV Sn Sn 08 02 38.0 -1.1
0.1nm,0.3s,baz=249,slow=23,SNR=7.8
KK07 Karatay Array 8.17 196 Lg Lg 08 03 39.1
5.3nm,0.8s
TKM2 Tokmak 2 8.19 169 ⇑Lg Lg 08 03 38.6
21nm,0.8s
AAK Ala-Archa 8.38 175 Lg Lg 08 03 53.0
0.5nm,0.3s,baz=20,slow=19,SNR=7.0
PDGK Podgornoye 8.66 150 Lg Lg 08 03 54.1
16nm,0.9s
I31KZ AKTYUBINSK INF 9.86 273 *i* 09 01 30.0
baz=80,slow=332,SNR=2.0
AKTO Aktyubinsk 9.86 273 Lg Lg 08 04 39.2
0.1nm,0.3s,baz=344,slow=5.5,SNR=4.9
ILAR Eielson Array 60.40 19 P P 08 09 33.8 +0.4
0.2nm,0.6s,baz=322,slow=4.4,SNR=4.8
YKA Yellowknife Ar 66.68 4 P P 08 10 16.4 +1.6
0.1nm,0.6s,baz=352,slow=6.3,SNR=3.9

IDC 03 08:03:32.8±7.8**, 4°.73S**×**104°.05W, h0**km**, mb3.7**/5, **mb1 4.0**/5**, mb1mx3.7**/35**, mbtmp3.7**/5**, MS3.6**/6**, Ms1 3.6**/6**, ms1mx3.3**/53**, Error ellipse: s-maj=215.6km s-min=116.5km az=119.0, Central East Pacific Rise**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CMIG Matias Romero 23.50 22 LR LR 08 15 40.5
comp=Z,199nm,20.6s,baz=206,slow=31
JTS Las Juntas de 24.18 52 LR LR 08 15 48.2
comp=Z,250nm,20.4s,baz=338,slow=30
NNA Nana 27.85 107 LR LR 08 17 59.5
comp=Z,95nm,18.4s,baz=283,slow=31
ROSC El Rosal 31.18 73 LR LR 08 19 40.5
comp=Z,93nm,21.8s,baz=254,slow=31
TXAR Lajitas Array 33.87 1 P P 08 10 18.5 +1.0
0.5nm,0.9s,baz=172,slow=7.2,SNR=4.2
TXAR LR LR 08 21 28.8
comp=Z,71nm,19.7s,baz=184,slow=32
SDV Santo Domingo 35.96 68 LR LR 08 22 56.9
comp=Z,64nm,20.2s,baz=261,slow=32
H03N2 Juan Fernandez 36.92 144 T T 08 51 00.6
baz=318,slow=78,SNR=4.4
H03N1 Juan Fernandez 36.93 144 T T 08 51 02.3
baz=318,slow=78,SNR=5.6
H03N3 Juan Fernandez 36.94 144 T T 08 51 01.5
baz=318,slow=78,SNR=4.4
PDAR Pinedale Array 47.54 355 P P 08 12 09.8 -0.5
1.1nm,0.8s,baz=164,slow=4.7,SNR=10
YBH Yreka Blue Hor 49.27 342 P P 08 12 22.7 -0.8
1.0nm,0.8s,baz=68,slow=4.8,SNR=5.0
YKA Yellowknife Ar 67.52 355 P P 08 14 30.7 +0.2
0.3nm,0.7s,baz=162,slow=6.5,SNR=5.4
ILAR Eielson Array 76.16 343 P P 08 15 22.4 0.0
1.1nm,0.8s,baz=150,slow=5.2,SNR=13
H11N3 WAKE ISLAND Hy 90.67 290 T T 09 56 09.1
baz=93
H11N2 WAKE ISLAND Hy 90.69 290 T T 09 56 15.8
baz=93
H11N1 WAKE ISLAND Hy 90.69 290 T T 09 56 17.5
baz=93
H11S2 WAKE ISLAND Hy 90.76 288 T T 09 56 26.8
baz=94,slow=74,SNR=8.7
H11S1 WAKE ISLAND Hy 90.77 288 T T 09 56 27.1
baz=94,slow=74,SNR=4.1
H11S3 WAKE ISLAND Hy 90.78 288 T T 09 56 23.6
baz=94,slow=74,SNR=4.0

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*IDC **03** 08:23:46.7±0.3, 14°.30S×167°.04E, h0km, mb5.9/29, mb1 5.9/31, mb1mx5.9/31, mbtmp5.9/31, ML5.6/2, MS6.7/61, Ms1 6.7/61, ms1mx6.7/66, Error ellipse: s-maj=13.1km s-min=10.2km az=74.0*

*MOS **03** 08:23:51.6±1.0, 14°.23S×166°.77E, h37km, mb6.6/67, MS6.8/41, Error ellipse: s-maj=7.4km s-min=5.4km az=123.5*

*NEIC **03** 08:23:52.3±2.2, 14°.32S±0°.05×166°.86E±0°.07, h26km±1km, mb6.1/491, Ms_20 6.9/415, Mwc6.9/115, Mww6.9, Error ellipse: s-maj=11.8km s-min=8.1km az=64.0*

*BJI **03** 08:23:53.0±0.0, 14°.20S×166°.80E, h30km, mb6.2/88, mB6.8/76, Ms6.8/97, Ms7 6.7/91*

*NOU **03** 08:23:55.1, 14°.29S×166°.76E, h46km, mB6.9/157, Vanuatu Islands*

*GCMT **03** 08:23:58.3±0.0, 14°.27S×166°.66E, h35km, MW6.8/169, Moment Tensor Solution. s169,c461; s166,c791; Duration: 6s3 Moment tensor: Scale 10^{19}Nm; M_{rr}2.03±.01; $M_{\theta\theta}$0.07±.01; $M_{\phi\phi}$-2.09±.01; $M_{r\theta}$0.55±.01; $M_{\theta\phi}$0.40±.00; $M_{\phi r}$-0.01±.01; Best double couple: $M_0$2.17000×10^{19} NP1:ϕ_s4.00000°, δ45.00000°, λ111.00000°. NP2:ϕ_s155.00000°, δ48.00000°, λ70.00000°. Principal axes: T 2.1760, Plg75.0000°, Azm355.0000°; N -0.0060, Plg15.0000°, Azm169.0000°; P -2.1640, Plg1.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*

*NEIC **03** 08:24:01, 14°.25S×166°.72E, h36km, Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10^{19}Nm; M_{rr}2.32; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-2.34; $M_{r\theta}$0.12; $M_{\theta\phi}$0.36; $M_{\phi r}$-1.00; Fault plane solution: $M_0$2.56000×10^{19} NP1: ϕ_s351.00000°, δ33.00000°, λ89.00000°. NP2: ϕ_s172.00000°, δ57.00000°, λ91.00000°. Principal axes: T 2.5266, Plg78.0000°, Azm85.0000°; N 0.0746, Plg1.0000°, Azm352.0000°; P -2.6012, Plg12.0000°, Azm262.0000°;*

*NEIC **03** 08:24:11.7, 14°.47S×166°.42E, h39km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}2.41; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$-2.33; $M_{r\theta}$0.49; $M_{\theta\phi}$0.31; $M_{\phi r}$-0.19; Fault plane solution: $M_0$2.45000×10^{19} NP1:ϕ_s162.19000°, δ48.95000°, λ76.49000°. NP2:ϕ_s2.29000°, δ42.84000°, λ105.01000°. Principal axes: T 2.5098, Plg79.0000°, Azm9.0000°; N -0.1274, Plg10.0000°, Azm171.0000°; P -2.3824, Plg3.0000°, Azm262.0000°;*

ISC 03 08:23:52.6±0.3**, 14°.30S**±0°.03×**166°.86E**±0°.03**, h34**km±1km**, h35**km**:pP-P, n2485, σ1s97**/2297**, mb6.1**/362**, MS6.9**/340**, 316C-91D, Fault plane solution: NP1:**ϕ_s342.54294°, δ55.47045°, λ81.62406°. **NP2:**ϕ_s177.10410°, δ35.40803°, λ101.95378°. **Principal axes:** T Plg77.7241°, Azm223.5667°**;** N Plg6.8924°**,** Azm347.3138°**;** P Plg10.1086°**,** Azm78.5486°**; Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SANVU Saraoutou 1.19 164 Pn 08 24 12.9 +0.1
SANVU Sn Sn 08 24 27.4 -0.4
SANVU Saraoutou 1.19 164 ⇑P Pn 08 24 11.9 -1.0
SANVU Saraoutou 1.19 164 P Pb 08 24 14.5 -0.2
DVP Devils Point 3.64 160 P Pn 08 24 50.6 +4.1
RTV Rentapao 3.79 157 P Pn 08 24 53.0 +4.4
LIFNC LIFOU 6.46 177 Pn Pn 08 25 25.2 0.0
LIFNC LIFOU 6.46 177 P Pn 08 25 25.6 +0.3
2µm,0.8s
KOUNC Koumac, New Ca 6.69 201 Pn Pn 08 25 29.9 +1.4
KOUNC Koumac, New Ca 6.69 201 ⇑P Pn 08 25 30.0 +1.6
KOUNC Koumac, New Ca 6.69 201 P Pn 08 25 30.4 +1.9
33nm,0.9s
MARNC Mare, Loyalty 7.23 171 Pn Pn 08 25 37.2 +1.3
MARNC Mare, Loyalty 7.23 171 ⇓P Pn 08 25 37.8 +1.9
MARNC Mare, Loyalty 7.23 171 P Pn 08 25 38.3 +2.4
YATNC Mamie plateau, 7.72 180 P Pn 08 25 44.1 +1.4
2µm,1.0s
DZM Mont Dzumac 7.74 183 Pn Pn 08 25 44.1 +1.1
48nm,0.3s,baz=246,slow=8.9,SNR=62
DZM Sn Sn 08 27 13.4 +3.8
61nm,0.3s,baz=284,slow=23,SNR=1.3
DZM Mont Dzumac 7.74 183 *e*Pn Pn 08 25 43.9 +0.9
567nm,0.3s
DZM *e*Sn Sn 08 27 07.6 -2.0
361nm,0.3s
DZM *e*LR LR 08 27 33.3
comp=Z,1581µm,25.0s
DZM Mont Dzumac 7.74 183 Pn Pn 08 25 44.1 +1.1
DZM Mont Dzumac 7.74 183 ⇓P Pn 08 25 44.1 +1.1
DZM Mont Dzumac 7.74 183 P Pn 08 25 44.3 +1.3
1µm,0.8s
NOUC Port Laguerre 7.78 184 P Pn 08 25 45.5 +2.0
1µm,0.8s
ONTNC Ouen Toro 7.98 183 Pn Pn 08 25 46.4 +0.3
ONTNC Ouen Toro 7.98 183 P Pn 08 25 48.6 +2.4
OUENC Ouen Island, N 8.08 180 Pn Pn 08 25 48.9 +1.4
OUENC Ouen Island, N 8.08 180 P Pn 08 25 50.0 +2.5
3µm,1.3s
PINNC Pines Island, 8.29 176 Pn 08 25 51.9 +1.5
PINNC Pines Island, 8.29 176 P Pn 08 25 53.2 +2.8
2µm,0.7s
HNR Honiara 8.32 305 Pn Pn 08 25 52.4 +1.5
383nm,0.3s,baz=152,slow=7.3,SNR=24
HNR Sn Sn 08 27 23.6 0.0
275nm,0.3s,baz=327,slow=23,SNR=3.3
HNR LR LR 08 28 58.5
comp=Z,704µm,21.2s,baz=147,slow=37
HNR Honiara 8.32 305 P Pn 08 25 51.4 +0.6
HNR Honiara 8.32 305 Pn 08 25 51.4 +0.6
HNR Honiara 8.32 305 ⇓P Pn 08 25 51.3 +0.4
HNR Honiara 8.32 305 P Pn 08 25 52.3 +1.5
9µm,1.2s
MSVF Nonsavu 11.29 109 Pn Pn 08 26 38.0 +6.4
4.2nm,0.3s,baz=257,slow=7.6,SNR=24
MSVF LR LR 08 30 08.5
comp=Z,1398µm,19.2s,baz=287,slow=34
MSVF Nonsavu 11.29 109 P Pn 08 26 34.6 +3.0
MSVF Nonsavu 11.29 109 Pn Pn 08 26 34.6 +3.0
MSVF Nonsavu 11.29 109 ⇓P Pn 08 26 38.0 +6.4
MSVF Nonsavu 11.29 109 P Pn 08 26 38.1 +6.5
FUNA Funafuti 13.38 66 Pn 08 27 00.4 +0.2
FUNA Funafuti 13.38 66 ⇓P Pn 08 27 00.1 -0.1
FUNA Funafuti 13.38 66 P Pn 08 27 00.4 +0.2
NFK Norfolk Island 14.71 176 P P 08 27 22.8 -1.2
baz=15,SNR=4.2
NFK Norfolk Island 14.71 176 ⇓P P 08 27 24.7 +0.7
NFK Norfolk Island 14.71 176 P P 08 27 21.2 -2.8
RABL Rabaul 17.63 303 P Pn 08 27 55.4 -0.4
RABL IAmb IAmb 08 28 30.6
comp=Z,2µm,1.4s
RABL Rabaul 17.63 303 ⇓P Pn 08 27 55.5 -0.2
RABL Rabaul 17.63 303 P P 08 27 57.8 +1.3
comp=Z,534nm,1.4s
KRVT Keravat (AS076 17.67 303 P P 08 27 57.1 +0.2
comp=Z,4.5nm,0.3s,baz=54,slow=4.4,SNR=8.6
KRVT LR LR 08 35 14.8
comp=Z,305µm,20.1s,baz=267,slow=39
KRVT Keravat (AS076 17.67 303 P P 08 27 57.1 +0.2
RK1H Rockhampton Ha 17.92 237 P P 08 28 00.2 +0.6
EIDS Eidsvold 18.46 231 P Pn 08 28 07.7 +1.8
baz=19,SNR=38
EIDS Eidsvold 18.46 231 P Pn 08 28 06.2 +0.3
EIDS IAmb IAmb 08 28 35.4
comp=Z,5µm,2.3s
EIDS Eidsvold 18.46 231 ⇓P Pn 08 28 06.5 +0.7
EIDS Eidsvold 18.46 231 P Pn 08 28 08.2 +2.3
LHI Lord Howe Isla 18.57 201 P Pn 08 28 07.5 +0.4
baz=19,SNR=6.0
LHI Lord Howe Isla 18.57 201 Pn 08 28 07.8 +0.7
LHI IAmb IAmb 08 28 21.9
comp=Z,4µm,2.4s
LHI Lord Howe Isla 18.57 201 P Pn 08 28 10.4 +3.2
PMG Port Moresby 19.88 282 P Pn 08 28 22.7 -0.2
comp=Z,480nm,1.1s,baz=98,slow=6.9,SNR=83
PMG Port Moresby 19.88 282 *ce*P Pn 08 28 23.0 0.0
PMG pmax pmax
comp=Z,1µm,1.7s
PMG MLR MLR
comp=Z,676µm,16.0s
PMG Port Moresby 19.88 282 P Pn 08 28 22.8 -0.2
PMG IAmb IAmb 08 29 03.4
comp=Z,3µm,1.6s
PMG Port Moresby 19.88 282 ⇑P Pn 08 28 23.0 0.0
PMG Port Moresby 19.88 282 P Pn 08 28 23.5 +0.5
PMG Port Moresby 19.88 282 P Pn 08 28 23.4 +0.5
GLKZ Green Lake 20.50 139 P Pn 08 28 29.1 -0.9
CTA Charters Tower 20.50 251 P Pn 08 28 29.7 -0.6
comp=Z,300nm,0.9s,baz=78,slow=12,SNR=77
CTA LR LR 08 35 21.2
comp=Z,409µm,21.0s,baz=88,slow=34
CTA Charters Tower 20.50 251 P Pn 08 28 29.7 -0.6
comp=Z,1µm,1.2s
AFI Afiamalu 20.72 92 P P 08 28 31.4 +1.0
comp=Z,2µm,1.0s,baz=310,slow=5.1,SNR=42
AFI LR LR 08 34 42.5
comp=Z,275µm,20.8s,baz=249,slow=32
AFI Afiamalu 20.72 92 P Pn 08 28 32.3 -0.6
AFI pmax pmax
comp=Z,3µm,1.2s
AFI Afiamalu 20.72 92 P Pn 08 28 32.3 -0.6
AFI Afiamalu 20.72 92 ⇓P Pn 08 28 33.0 +0.1
AFI Afiamalu 20.72 92 P Pn 08 28 33.0 +0.1
comp=Z,3µm,1.1s
RMQ Roma 20.83 232 P Pn 08 28 33.4 -0.6
baz=21,SNR=270
RMQ Roma 20.83 232 P Pn 08 28 34.4 +0.4
ARMA Armidale 21.31 219 P P 08 28 38.6 +1.9
baz=22,SNR=81
ARMA Armidale 21.31 219 P P 08 28 37.2 +0.6
ARMA Armidale 21.31 219 ⇑P P 08 28 38.3 +1.6
ARMA Armidale 21.31 219 P P 08 28 38.7 +2.0
comp=Z,665nm,2.2s
OUZ Omahuta 21.70 165 P P 08 28 41.8 +1.1
OUZ Omahuta 21.70 165 ⇑P P 08 28 42.1 +1.5
OUZ Omahuta 21.70 165 P P 08 28 43.3 +2.7
MTSU Mount Surprise 21.98 257 P P 08 28 44.6 +0.8
baz=22,SNR=59
MTSU Mount Surprise 21.98 257 P P 08 28 45.1 +1.2
comp=Z,433nm,1.4s
WCZ Waipu Caves 22.57 164 P P 08 28 52.4 +2.4
PATS Pohnpei 22.64 337 P P 08 28 51.0 +0.1
baz=23,SNR=35
PATS Pohnpei 22.64 337 P P 08 28 50.6 -0.3
PATS Pohnpei 22.64 337 P P 08 28 51.0 +0.1
comp=Z,3µm,1.1s
NIUE Niue 22.73 105 P P 08 28 53.6 +1.7
baz=23,SNR=19
NIUE Niue 22.73 105 P P 08 28 52.5 +0.7
NIUE Niue 22.73 105 ⇓P P 08 28 53.5 +1.7
NIUE Niue 22.73 105 P P 08 28 53.8 +2.0
comp=Z,2µm,1.0s
MANU Manus Island 22.79 301 P P 08 28 52.3 -0.2
MANU IAmb IAmb 08 29 24.9
comp=Z,893nm,1.4s
MANU Manus Island 22.79 301 ⇑P P 08 28 51.9 -0.6
COEN Coen 22.97 268 P P 08 28 54.7 +0.3
COEN IAmb IAmb 08 29 07.6
comp=Z,690nm,1.1s
COEN Coen 22.97 268 ⇑P P 08 28 54.6 +0.1
COEN Coen 22.97 268 P P 08 28 54.9 +0.5
comp=Z,736nm,1.4s
NTLS Newcastle Soft 23.09 214 P P 08 28 56.9 +1.5
NTLH Newcastle Hard 23.10 214 P P 08 28 57.9 +2.4
comp=Z,313nm,0.8s
GRZ Great Barrier 23.18 162 P P 08 28 57.7 +1.4
ABAZ Army Bay 23.33 164 P P 08 28 59.5 +1.8
RVAZ Riverhead Bore 23.42 164 P P 08 29 01.0 +2.4
MBAZ Motutapu North 23.50 164 P P 08 29 01.4 +2.0
WTAZ Waiatarua 23.57 164 P P 08 29 01.9 +1.8
WIAZ Waiheke Island 23.59 163 P P 08 29 01.2 +0.8
MGCD Mangrove Creek 23.66 215 P P 08 29 02.3 +1.3
baz=24,SNR=28
MGCD Mangrove Creek 23.66 215 P P 08 29 02.6 +1.6
comp=Z,669nm,1.3s
AWAZ Awhitu Peninsu 23.71 164 P P 08 29 03.7 +2.2
KUZ Kuaotunu 23.72 162 P P 08 29 01.8 +0.3
MKAZ Moumakai 23.89 163 P P 08 29 03.9 +0.8
KNTN Kanton 24.04 64 P P 08 29 05.3 +0.5
KNTN IAmb IAmb 08 29 30.3
comp=Z,1µm,1.2s
RIV Riverview 24.10 213 P P 08 29 06.2 +1.1
baz=24,SNR=28
RIV Riverview 24.10 213 ⇑P P 08 29 06.3 +1.1
SYDH Sydney Hard Ro 24.27 214 P P 08 29 08.1 +1.4
QLP Quilpie 24.43 236 P P 08 29 08.8 +0.6
baz=24,SNR=76
QLP Quilpie 24.43 236 ⇑P P 08 29 08.6 +0.4
QLP Quilpie 24.43 236 P P 08 29 09.1 +0.9
TOZ Tahuroa Road 24.57 163 P P 08 29 10.3 +0.9
OPRZ Ohinepanea 24.98 162 P P 08 29 13.6 +0.5
HIZ Hauiti 25.14 165 P P 08 29 15.2 +0.8
HIZ IAMs_20 IAMs_20 08 38 15.6
comp=Z,355µm,20.0s
HIZ Hauiti 25.14 165 P P 08 29 15.3 +0.8
HIZ Hauiti 25.14 165 P P 08 29 15.8 +1.3
HAZ Te Kaha 25.30 159 P P 08 29 17.4 +1.4
MXZ Matakaoa Point 25.31 158 P P 08 29 15.6 -0.5
MXZ IAMs_20 IAMs_20 08 37 30.3
comp=Z,422µm,21.0s
MXZ Matakaoa Point 25.31 158 P P 08 29 17.5 +1.5
RUGZ Raukumara Rang 25.45 160 P P 08 29 18.0 +0.5
URZ Urewera 25.54 161 P P 08 29 17.8 -0.3
comp=Z,157nm,0.9s,baz=72,slow=1.3,SNR=22
URZ S S 08 33 51.9 +8.4
comp=Z,44nm,0.8s,baz=24,slow=20,SNR=3.0
URZ ScP ScP 08 36 29.7 +3.7
comp=Z,26nm,1.0s,baz=131,slow=19,SNR=3.1
URZ LR LR 08 38 07.4
comp=Z,303µm,20.0s,baz=346,slow=34
URZ Urewera 25.54 161 P P 08 29 17.9 -0.3
URZ IAMs_20 IAMs_20 08 37 55.8
comp=Z,299µm,20.0s
URZ Urewera 25.54 161 ⇑P P 08 29 17.7 -0.4
URZ Urewera 25.54 161 P P 08 29 17.7 -0.4
URZ Urewera 25.54 161 P P 08 29 18.1 0.0
comp=Z,2µm,1.2s
CMSA Cobar Meteorol 25.89 225 P P 08 29 21.7 +0.2
baz=26,SNR=200
CMSA Cobar Meteorol 25.89 225 P P 08 29 21.8 +0.3
comp=Z,402nm,0.9s
BKZ Black Stump Fm 26.19 163 P P 08 29 23.4 -0.6
BKZ IAmb IAmb 08 29 32.3
comp=Z,784nm,1.4s
BKZ IAMs_20 IAMs_20 08 38 24.0
comp=Z,304µm,21.0s
BKZ Black Stump Fm 26.19 163 P P 08 29 24.2 +0.1
comp=Z,2µm,1.3s
CNB Canberra Magne 26.19 214 P P 08 29 25.0 +0.8
baz=26,SNR=43
CNB Canberra Magne 26.19 214 P P 08 29 25.3 +1.1
comp=Z,437nm,1.9s
CAN Canberra 26.39 214 P P 08 29 26.5 +0.5
CAN pmax pmax
comp=Z,622nm,1.6s
CAN MLR MLR
comp=Z,218µm,19.0s
CAN Canberra 26.39 214 P P 08 29 26.5 +0.5
CAN IAmb IAmb 08 29 38.8
comp=Z,622nm,1.6s
CAN Canberra 26.39 214 ⇑P P 08 29 26.6 +0.5
CAN Canberra 26.39 214 P P 08 29 27.0 +1.0
comp=Z,396nm,2.0s
QIS Mount Isa 26.72 253 P P 08 29 28.9 -0.2
baz=27,SNR=80
QIS Mount Isa 26.72 253 P P 08 29 28.7 -0.4
comp=Z,295nm,2.2s
QRZ Quartz Range 26.89 170 P P 08 29 31.6 +1.3
QRZ IAmb IAmb 08 29 37.4
comp=Z,953nm,1.4s
QRZ Quartz Range 26.89 170 P P 08 29 31.8 +1.5
comp=Z,468nm,1.5s
NNZ Nelson 27.42 169 P P 08 29 35.2 +0.2
NNZ IAmb IAmb 08 29 54.0
comp=Z,2µm,2.2s
BFZ Birch Farm 27.54 164 IAmb IAmb 08 29 41.4
comp=Z,815nm,1.6s
BFZ IAMs_20 IAMs_20 08 40 54.1
comp=Z,314µm,18.0s
BFZ Birch Farm 27.54 164 P P 08 29 35.1 -1.1
comp=Z,292nm,1.8s
INKA Innaminka 27.73 237 P P 08 29 37.9 -0.2
comp=Z,1µm,1.1s
SNZO South Karori 27.77 167 P P 08 29 37.4 -0.7
SNZO South Karori 27.77 167 IAMs_20 IAMs_20 08 40 39.1
comp=Z,389µm,18.0s
SNZO South Karori 27.77 167 ⇑P P 08 29 37.5 -0.7
SNZO South Karori 27.77 167 P P 08 29 40.2 +2.0
THZ Tophouse 27.86 170 P P 08 29 38.8 -0.3
THZ IAmb IAmb 08 29 57.5
comp=Z,1µm,1.8s
MSWZ Moikau Station 27.99 166 P P 08 29 38.8 -1.5
PLWZ Palliser 28.14 167 P P 08 29 40.2 -1.4
JAY Jayapura 28.36 292 P P 08 29 43.9 0.0
comp=Z,14nm,0.8s,baz=348,slow=22,SNR=2.8
JAY LR LR 08 40 25.1
comp=Z,188µm,21.3s,baz=135,slow=35
JAY Jayapura 28.36 292 P P 08 29 43.9 0.0
KHZ Kahutara 28.61 170 P P 08 29 44.4 -1.3
KHZ IAmb IAmb 08 30 14.5
comp=Z,653nm,1.4s
KHZ IAMs_20 IAMs_20 08 40 58.2
comp=Z,298µm,18.0s
KHZ Kahutara 28.61 170 ⇑P P 08 29 44.4 -1.3
KHZ Kahutara 28.61 170 P P 08 29 44.5 -1.2
STKA Stephens Creek 28.98 229 P P 08 29 49.7 +0.5
comp=Z,141nm,0.8s,baz=44,slow=8.2,SNR=447
STKA PcP PcP 08 32 57.3 -0.1
comp=Z,108nm,0.9s,baz=38,slow=5.2,SNR=4.6
STKA ScP ScP 08 36 38.6 +2.1
comp=Z,34nm,1.2s,baz=157,slow=4.7,SNR=3.1
STKA LR LR 08 41 30.1
comp=Z,503µm,18.6s,baz=58,slow=36
STKA Stephens Creek 28.98 229 P P 08 29 50.0 +0.9
baz=29,SNR=342
STKA Stephens Creek 28.98 229 P P 08 29 50.1 +0.9
FOZ Fox Glacier 29.25 176 IAmb IAmb 08 30 10.1
comp=Z,608nm,1.3s
RPZ Rata Peaks 29.54 174 P P 08 29 53.3 -0.6
comp=Z,66nm,0.7s,baz=305,slow=1.9,SNR=36
RPZ ScP ScP 08 36 42.2 +4.1
comp=Z,18nm,0.9s,baz=131,slow=12,SNR=2.3
RPZ LR LR 08 40 39.8
comp=Z,115µm,21.7s,baz=353,slow=34
RPZ Rata Peaks 29.54 174 IAMs_20 IAMs_20 08 42 19.7
comp=Z,238µm,18.0s
RPZ Rata Peaks 29.54 174 P P 08 29 54.6 +0.6
MQZ McQueen's Vall 29.73 172 IAmb IAmb 08 30 13.5
comp=Z,1µm,1.5s
TOO Toolangi 29.97 215 P P 08 29 58.5 +0.6
baz=30,SNR=34
TOO Toolangi 29.97 215 P P 08 29 57.9 0.0
TOO pmax pmax
comp=Z,2µm,2.1s
TOO Toolangi 29.97 215 P P 08 29 57.9 0.0
TOO Toolangi 29.97 215 ⇑P P 08 29 58.5 +0.6
TOO Toolangi 29.97 215 P P 08 29 58.7 +0.8
LBZ Lake Benmore 30.12 175 P P 08 29 58.8 -0.3
LBZ IAmb IAmb 08 30 06.5
comp=Z,1µm,1.9s
WKZ Wanaka 30.48 177 IAmb IAmb 08 30 18.0
comp=Z,1µm,1.8s
WKZ IAMs_20 IAMs_20 08 40 59.7
comp=Z,234µm,20.0s
ODZ Otahua Downs 30.82 175 IAmb IAmb 08 30 11.5
comp=Z,926nm,1.9s
ODZ Otahua Downs 30.82 175 ⇓P P 08 30 04.8 -0.4
ODZ Otahua Downs 30.82 175 P P 08 30 05.9 +0.7
BRAT Ballarat 30.85 217 P P 08 30 07.4 +1.8
LCRK Leigh Creek 30.86 234 P P 08 30 06.2 +0.4
MLZ Mavora Lakes 30.99 178 IAmb IAmb 08 30 14.9
comp=Z,318nm,1.3s
MLZ IAMs_20 IAMs_20 08 41 45.0
comp=Z,251µm,19.0s
DCZ Deep Cove 31.07 180 IAmb IAmb 08 30 16.4
comp=Z,374nm,0.9s
GEXS Deakin Univers 31.09 216 P P 08 30 08.6 +0.9
GLAD Gladstone 31.26 208 P P 08 30 10.3 +1.2

WR0 Warramunga Arr 31.36 255 P **P** **08 30 08.9 -1.5**
WB0 Warramunga Arr 31.48 255 IAmb IAmb 08 30 27.0
comp=Z,1µm,1.8s
WHZ Wether Hill Ro 31.51 179 P **P** **08 30 10.6 -0.7**
WHZ IAmb IAmb 08 30 31.3
comp=Z,801nm,1.7s
WHZ IAMs_20 IAMs_20 08 42 09.8
comp=Z,209µm,20.0s
WRAB Tennant Creek 31.54 255*c iP* **P** **08 30 10.3 -1.6**
WRAB pmax pmax
comp=Z,289nm,1.7s
WRAB MLR MLR
comp=Z,242µm,19.0s
WRAB Tennant Creek 31.54 255 P **P** **08 30 10.2 -1.8**
WRAB Tennant Creek 31.54 255 IAMs_20 IAMs_20 08 41 21.3
comp=Z,269µm,22.0s
WRAB Tennant Creek 31.54 255 ⇑P **P** **08 30 10.5 -1.4**
WRAB Tennant Creek 31.54 255 P **P** **08 30 10.5 -1.4**
WRA Warramunga Arr 31.55 255 P **P** **08 30 10.8 -1.2**
comp=Z,112nm,0.9s,baz=85,slow=8.7,SNR=322
WRA ScP **ScP** **08 36 48.5 +3.3**
comp=Z,30nm,1.3s,baz=75,slow=3.4,SNR=3.3
WRA PKiKP **PKiKP** **08 40 32.2 -1.5**
comp=Z,4.2nm,0.7s,baz=0.1,slow=0.5,SNR=11
WRA LR LR 08 42 04.4
comp=Z,253µm,19.8s,baz=69,slow=35
WRA P3KPbc 09 01 48.5
comp=Z,4.3nm,1.1s,baz=276,slow=3.0,SNR=8.4
WRA Warramunga Arr 31.55 255 *i P* **P** **08 30 10.1 -2.0**
WRA pmax pmax
comp=Z,112nm,0.9s
WRA Warramunga Arr 31.55 255 P **P** **08 30 10.6 -1.4**
ARPS Mount Arapiles 31.61 220 P **P** **08 30 13.6 +1.2**
baz=32,SNR=12
ARPS Mount Arapiles 31.61 220 P **P** **08 30 13.5 +1.2**
HTT Hallett 31.71 228 P **P** **08 30 14.0 +0.7**
baz=32,SNR=76
HTT Hallett 31.71 228 ⇑P **P** **08 30 13.8 +0.5**
HTT Hallett 31.71 228 P **P** **08 30 14.4 +1.1**
OOD Oodnadatta 31.94 240 P **P** **08 30 15.6 +0.3**
CORO Coronation Par 32.02 200 P **P** **08 30 15.8 +0.9**
NAPP Napperby 32.15 229 P **P** **08 30 18.5 +1.4**
PTPS Port Pirie 32.26 229 P **P** **08 30 18.8 +0.8**
ASAR Alice Springs 32.46 248 P **P** **08 30 18.9 -1.1**
comp=Z,109nm,0.7s,baz=73,slow=9.4,SNR=666
ASAR PcP **PcP** **08 33 06.0 -0.8**
comp=Z,47nm,0.8s,baz=77,slow=3.1,SNR=6.2
ASAR ScP **ScP** **08 36 50.9 +2.6**
comp=Z,20nm,1.1s,baz=95,slow=2.8,SNR=5.0
ASAR PKiKP **PKiKP** **08 40 32.2 -2.2**
comp=Z,2.1nm,0.7s,baz=101,slow=1.3,SNR=8.4
ASAR LR LR 08 42 38.0
comp=Z,308µm,20.5s,baz=76,slow=35
ASAR P3KPbc 09 01 47.1
comp=Z,1.2nm,0.8s,baz=263,slow=4.4,SNR=6.6
ASAR Alice Springs 32.46 248 P **P** **08 30 18.7 -1.3**
ASAR Alice Springs 32.46 248 P **P** **08 30 18.7 -1.3**
RAR Rarotonga 32.46 107 P **P** **08 30 22.2 +2.2**
comp=Z,188nm,0.9s,baz=231,slow=7.8,SNR=14
RAR LR LR 08 41 01.5
comp=Z,178µm,21.4s,baz=282,slow=32
RAR Rarotonga 32.46 107 P **P** **08 30 21.0 +1.0**
RAR pmax pmax
comp=Z,707nm,1.4s
RAR Rarotonga 32.46 107 P **P** **08 30 21.0 +1.0**
RAR IAmb IAmb 08 30 26.4
comp=Z,707nm,1.4s
RAR Rarotonga 32.46 107 P **P** **08 30 22.6 +2.6**
WHYH Whyalla 32.50 230 P **P** **08 30 21.3 +1.1**
H11S2 WAKE ISLAND Hy 32.58 360 T T 09 04 55.6
baz=184,slow=76,SNR=5.5
H11S3 WAKE ISLAND Hy 32.58 360 T T 09 04 50.5
baz=184,slow=76,SNR=6.0
H11S1 WAKE ISLAND Hy 32.60 360 T T 09 04 52.1
baz=184,slow=76,SNR=8.1
GHSS Government Hou 32.70 226 P **P** **08 30 23.2 +1.3**
TWOA Tennyson Woods 32.78 226 P **P** **08 30 23.6 +1.0**
MOO Moorlands 32.79 207 P **P** **08 30 23.8 +1.2**
baz=33,SNR=19
MOO Moorlands 32.79 207 P **P** **08 30 23.8 +1.2**
TAU Tasmania Unive 33.10 207 P **P** **08 30 24.9 -0.5**
TAU pmax pmax
comp=Z,2µm,2.0s
TAU Tasmania Unive 33.10 207 P **P** **08 30 24.9 -0.5**
TAU Tasmania Unive 33.10 207 IAMs_20 IAMs_20 08 41 02.1
comp=Z,269µm,21.0s
TAU Tasmania Unive 33.10 207 ⇑P **P** **08 30 26.1 +0.7**
TAU Tasmania Unive 33.10 207 P **P** **08 30 26.3 +1.0**
WAKE Wake Island 33.37 360 P **P** **08 30 27.2 -0.6**
WAKE Wake Island 33.37 360 ⇑P **P** **08 30 27.6 -0.2**
WAKE Wake Island 33.37 360 P **P** **08 30 28.4 +0.6**
KDU Kakadu 33.46 269 P **P** **08 30 28.4 -0.3**
baz=34,SNR=35
KDU Kakadu 33.46 269 ⇑P **P** **08 30 27.1 -1.7**
KDU Kakadu 33.46 269 P **P** **08 30 28.5 -0.3**
BBOO Buckleboo 33.54 231 P **P** **08 30 29.8 +0.5**
baz=34,SNR=54
BBOO Buckleboo 33.54 231 P **P** **08 30 30.1 +0.8**
H11N1 WAKE ISLAND Hy 33.80 0 T T 09 06 32.6
baz=183,slow=76,SNR=11
H11N3 WAKE ISLAND Hy 33.80 0 T T 09 06 26.6
baz=183,slow=76,SNR=9.9
H11N2 WAKE ISLAND Hy 33.81 0 T T 09 06 30.1
baz=183,slow=76,SNR=9.3
MULG Mulgathing 34.11 237 P **P** **08 30 34.1 -0.2**
MTN Manton Dam 34.74 268 P **P** **08 30 40.0 +0.1**
baz=35,SNR=4.9
MTN Manton Dam 34.74 268 IAmb IAmb 08 31 15.3
comp=Z,364nm,1.2s
MTN Manton Dam 34.74 268 ⇑P **P** **08 30 39.4 -0.5**
MTN Manton Dam 34.74 268 P **P** **08 30 40.6 +0.7**
GUMO Guam 35.24 321 P **P** **08 30 43.9 -0.2**
comp=Z,160nm,0.8s,baz=180,slow=12,SNR=6.9
GUMO LR LR 08 43 46.1
comp=Z,108µm,21.2s,baz=142,slow=34
GUMO Guam 35.24 321 P **P** **08 30 43.9 -0.2**
GUMO Guam 35.24 321 ⇑P **P** **08 30 44.0 -0.1**
SAUI Saumlaki 35.42 276 IAMs_20 IAMs_20 08 46 10.6
comp=Z,222µm,18.0s
SAUI Saumlaki 35.42 276 P **P** **08 30 46.4 +0.6**
FAKI Fak Fak 35.98 285 P **P** **08 30 49.6 -1.0**
FAKI IAmb IAmb 08 31 09.6
comp=Z,554nm,1.3s
FAKI IAMs_20 IAMs_20 08 45 14.7
comp=Z,324µm,22.0s
FAKI Fak Fak 35.98 285 ⇑P **P** **08 30 49.8 -0.8**
FAKI Fak Fak 35.98 285 P **P** **08 30 50.4 -0.2**
KNRA Kununurra 36.80 263 P **P** **08 30 56.6 -0.9**
baz=37,SNR=134
KNRA Kununurra 36.80 263 P **P** **08 30 56.6 -0.9**
KNRA Kununurra 36.80 263 P **P** **08 30 56.6 -0.9**
SIJI Sorong 37.64 288 ScP **ScP** **08 37 10.7 +3.7**
comp=Z,3.3nm,0.3s,baz=126,slow=18,SNR=4.3
SIJI LR LR 08 47 09.5
comp=Z,224µm,19.6s,baz=121,slow=37
BNDI Bandanaira 37.67 281 ⇑P **P** **08 31 04.8 -0.2**
BNDI Bandanaira 37.67 281 P **P** **08 31 05.3 +0.3**
WRKA Warakurna 37.73 248 P **P** **08 31 04.5 -1.0**
baz=38,SNR=209
WRKA Warakurna 37.73 248 ⇑P **P** **08 31 04.5 -1.0**
WRKA Warakurna 37.73 248 P **P** **08 31 04.9 -0.6**
JOHN Johnston Islan 38.65 38 IAMs_20 IAMs_20 08 43 27.2
comp=Z,159µm,21.0s
XMAS Kiritimati 38.91 68 P **P** **08 31 15.7 +0.3**
XMAS IAmb IAmb 08 31 30.7
comp=Z,662nm,1.6s
XMAS Kiritimati 38.91 68 ⇑P **P** **08 31 18.9 +3.5**
XMAS Kiritimati 38.91 68 P **P** **08 31 18.4 +3.0**
FORT Forrest 39.18 239 P **P** **08 31 17.4 -0.1**
baz=39,SNR=125
FORT Forrest 39.18 239 P **P** **08 31 17.1 -0.4**
FORT Forrest 39.18 239 ⇑P **P** **08 31 17.4 -0.1**
FORT Forrest 39.18 239 P **P** **08 31 17.7 +0.2**
FITZ Fitzroy Crossi 39.71 259 LR LR 08 47 42.3
comp=Z,232µm,18.5s,baz=85,slow=36
FITZ Fitzroy Crossi 39.71 259 P **P** **08 31 21.4 -0.6**
FITZ IAmb IAmb 08 31 36.4
comp=Z,299nm,0.9s
MCQ Macquarie Isla 40.59 187 P **P** **08 31 29.7 +0.9**
baz=41,SNR=5.0
MCQ Macquarie Isla 40.59 187 P **P** **08 31 28.8 0.0**
MCQ pmax pmax
comp=Z,775nm,1.5s
MCQ Macquarie Isla 40.59 187 P **P** **08 31 28.8 0.0**
MCQ IAmb IAmb 08 31 34.9
comp=Z,775nm,1.4s
MCQ Macquarie Isla 40.59 187 P **P** **08 31 30.2 +1.4**
TNTI Ternate 41.86 288 P **P** **08 31 40.2 +0.3**
TNTI Ternate 41.86 288 P **P** **08 31 40.4 +0.5**
PAE Paea 41.94 101 *eP* **P** **08 31 41.7 +1.2**
comp=Z,80nm,1.1s
PPT2 Papeete2 41.95 100 *eP* **P** **08 31 42.2 +1.6**
comp=Z,348nm,1.2s
PPT2 *eS* **S** **08 37 57.9 +0.7**
comp=Z,82µm,28.5s
PPT2 eLQ LQ 08 41 34.9
comp=Z,245µm,28.2s
PPT2 eLR LR 08 43 25.5
comp=Z,283µm,25.2s,baz=263
PPT Papeete 41.95 100 P **P** **08 31 41.4 +0.9**
comp=Z,215nm,0.8s,baz=25,slow=4.6,SNR=14
PPT LR LR 08 45 12.8
comp=Z,67µm,20.9s,baz=280,slow=31
PPTF Pamatai, Papee 41.96 100 P **P** **08 31 41.0 +0.3**
PPTF IAmb IAmb 08 31 58.4
comp=Z,965nm,1.5s
PPTF Pamatai, Papee 41.96 100 ⇓P **P** **08 31 42.7 +2.1**
PPTF Pamatai, Papee 41.96 100 P **P** **08 31 42.8 +2.1**
SANI Sanana 42.16 283 ⇑P **P** **08 31 42.4 +0.1**
SANI Sanana 42.16 283 P **P** **08 31 42.7 +0.4**
TBI Tubuai 42.17 109 *eP* **P** **08 31 43.6 +1.3**
comp=Z,431nm,1.0s
TBI *eS* **S** **08 38 02.0 +1.7**
comp=Z,72µm,30.0s
TBI eLQ LQ 08 41 44.2
comp=Z,272µm,27.2s
TBI eLR LR 08 43 31.9
comp=Z,337µm,25.0s,baz=280
TVO Taravao 42.25 101 *eP* **P** **08 31 44.5 +1.4**
comp=Z,2.2nm,0.7s
PMOR Pomariorio Ree 43.72 97 *eP* **P** **08 31 56.3 +1.4**
comp=Z,3µm,1.2s
VAH Vaihoa 43.96 97 *eP* **P** **08 31 58.1 +1.3**
comp=Z,1µm,1.2s
MMRI Maumere 44.04 272 P **P** **08 31 56.7 -0.8**
MMRI Maumere 44.04 272 ⇑P **P** **08 31 57.0 -0.5**
MMRI Maumere 44.04 272 P **P** **08 31 57.6 +0.1**
PSA00 Pilbara Seismi 45.18 254 IAmb IAmb 08 32 22.4
comp=Z,1µm,1.6s
PSA00 Pilbara Seismi 45.18 254 P **P** **08 32 06.9 +0.4**
MBWA Marble Bar 45.28 254 IAMs_20 IAMs_20 08 50 18.6
comp=Z,155µm,20.0s
LUWI Luwuk 45.52 283 ⇑P **P** **08 32 09.8 +0.4**
LUWI Luwuk 45.52 283 P **P** **08 32 10.2 +0.9**
BIPH Bislig 45.97 297⇑ *eP* **P** **08 32 11.7 -1.1**
DAV Davao City (W) 46.13 295 LR LR 08 52 23.1
comp=Z,24µm,18.1s,baz=108,slow=37
KCP Kidapawan 46.53 294⇑ *iP* **P** **08 32 17.1 -0.2**
MEEK Meekatharra 46.59 247 P **P** **08 32 17.5 -0.1**
baz=47,SNR=148
MEEK Meekatharra 46.59 247 P **P** **08 32 17.9 +0.2**
KAPI Kappang 47.27 276 P **P** **08 32 23.4 +0.3**
KAPI pmax pmax
comp=Z,2µm,1.5s
KAPI Kappang 47.27 276 P **P** **08 32 23.4 +0.3**
KAPI Kappang 47.27 276 P **P** **08 32 23.9 +0.9**
CTBH Cotabato--PC H 47.38 294⇑ *eP* **P** **08 32 23.8 0.0**
JCJ Chichijima 47.61 330 LR LR 08 54 27.5
comp=Z,23µm,18.1s,baz=157,slow=39
JCJ Chichijima 47.61 330 P **P** **08 32 24.8 -0.7**
JCJ Chichijima 47.61 330 P **P** **08 32 25.7 +0.3**
KLBR Kellerberin 47.97 240 P **P** **08 32 27.4 -0.9**
baz=48,SNR=100
KLBR Kellerberin 47.97 240 P **P** **08 32 27.7 -0.6**
TOLI2 Tolitoli 48.12 285 P **P** **08 32 28.7 -1.0**
TOLI2 Tolitoli 48.12 285 P **P** **08 32 29.5 -0.1**
MSLP Maasin 48.21 298⇑ *eP* **P** **08 32 30.5 +0.2**
PLAI Plampang 48.33 271 P **P** **08 32 31.4 +0.1**
NWAO Narrogin (SRO) 48.63 239 P **P** **08 32 32.7 -0.7**
NWAO pmax pmax
comp=Z,353nm,0.9s
NWAO MLR MLR
comp=Z,227µm,19.0s
NWAO Narrogin (SRO) 48.63 239 P **P** **08 32 32.6 -0.7**
NWAO IAmb IAmb 08 32 45.3
comp=Z,352nm,0.9s
BLDU Ballidu 48.71 242 P **P** **08 32 33.1 -0.9**
baz=49,SNR=30
BLDU Ballidu 48.71 242 P **P** **08 32 33.7 -0.3**
TBP Tagbilaran 48.85 297⇑ *iP* **P** **08 32 32.3 -3.0**
TBP *iS* **S** **08 39 34.8 -2.1**
LLP Lapu-Lapu 49.07 298⇓ *eP* **P** **08 32 38.5 +1.6**
MORW Morawa 49.10 244 P **P** **08 32 36.7 -0.4**
baz=49,SNR=124
MORW Morawa 49.10 244 P **P** **08 32 36.5 -0.5**
MORW IAmb IAmb 08 32 49.2
comp=Z,396nm,0.9s
MORW Morawa 49.10 244 ⇑P **P** **08 32 36.6 -0.4**
MORW Morawa 49.10 244 P **P** **08 32 37.0 0.0**
RKGY Rocky Gully 49.16 236 P **P** **08 32 37.4 0.0**
baz=49,SNR=21
RKGY Rocky Gully 49.16 236 P **P** **08 32 37.8 +0.4**
SNPH Sibulan 49.23 296 *eP* **P** **08 32 41.4 +3.2**
MUN Mundaring 49.33 240 P **P** **08 32 38.4 -0.4**
baz=49,SNR=69
MUN Mundaring 49.33 240 P **P** **08 32 38.8 0.0**
KIP Kipapa 49.48 45 P **P** **08 32 39.8 -0.1**
KIP pmax pmax
comp=Z,2µm,2.4s
KIP Kipapa 49.48 45 P **P** **08 32 39.8 -0.1**
KIP Kipapa 49.48 45 P **P** **08 32 40.6 +0.6**
KIP Kipapa 49.48 45 P **P** **08 32 40.5 +0.6**
MTKN Mount Kenneth 49.69 240 P **P** **08 32 42.7 +1.2**
HUH Hualalai 49.88 48 IAmb IAmb 08 33 02.5
comp=Z,319nm,1.0s
MWH Moku'aweowe 49.92 49 IAmb IAmb 08 32 47.7
comp=Z,379nm,0.9s
MLOA Mauna Loa Obse 49.97 49 IAmb IAmb 08 32 48.0
comp=Z,367nm,1.0s
MLH Mauna Loa 50.08 49 IAmb IAmb 08 32 49.2
comp=Z,306nm,0.8s
KKO Keanakako`i 50.11 49 IAmb IAmb 08 32 52.8
comp=Z,452nm,1.0s
PUH Pauahi 50.13 49 IAmb IAmb 08 32 48.8
comp=Z,321nm,1.0s
POHA Pohakuloa 50.14 48 P **P** **08 32 45.5 +0.2**
POHA IAmb IAmb 08 32 49.2
comp=Z,354nm,0.9s
POHA Pohakuloa 50.14 48 IAMs_20 IAMs_20 08 49 08.5
comp=Z,125µm,20.0s
POHA Pohakuloa 50.14 48 ⇑P **P** **08 32 45.9 +0.6**
POHA Pohakuloa 50.14 48 P **P** **08 32 45.9 +0.6**
MHA Mahukona 50.15 48 P **P** **08 32 46.1 +1.1**
MHA Mahukona 50.15 48 P **P** **08 32 46.1 +1.1**
HLK Haleakala 50.27 47 P **P** **08 32 46.9 +0.7**
GIRL Giralia 50.39 252 P **P** **08 32 47.7 +0.8**
baz=50,SNR=9.6
GIRL Giralia 50.39 252 P **P** **08 32 47.3 +0.4**
GIRL Giralia 50.39 252 ⇑P **P** **08 32 47.6 +0.7**
GIRL Giralia 50.39 252 P **P** **08 32 48.1 +1.2**
RCP Roxas 50.72 298⇑ *eP* **P** **08 32 49.9 +0.5**
BKB Balikpapan 51.04 280 P **P** **08 32 54.2 +2.2**
BKB Balikpapan 51.04 280 P **P** **08 32 53.0 +1.1**
H01W1 Cape Leeuwin H 51.50 237 P **P** **08 32 55.9 +1.1**
baz=88,slow=8.8,SNR=8.3
H01W1 Cape Leeuwin H 51.50 237 P **P** **08 32 55.9 +1.1**
H01W3 Cape Leeuwin H 51.51 237 P **P** **08 32 56.0 +1.0**
baz=88,slow=8.8,SNR=5.6
H01W2 Cape Leeuwin H 51.52 237 P **P** **08 32 56.1 +1.2**
baz=88,slow=8.8,SNR=3.2
JAGI Jajag, Banyuwa 51.91 270 ⇑P **P** **08 32 56.3 -2.2**
JAGI Jajag, Banyuwa 51.91 270 P **P** **08 32 57.8 -0.7**
TAOE Nuku Hiva Isla 52.10 90 *eP* **P** **08 33 01.4 +1.4**
comp=Z,1µm,1.4s
TAOE *eS* **S** **08 40 21.3 -1.0**
comp=Z,30µm,30.2s
TAOE eLQ LQ 08 45 50.5
comp=Z,42µm,28.4s
TAOE eLR LR 08 48 05.0
comp=Z,207µm,23.4s,baz=260
TAOE Nuku Hiva Isla 52.10 90 P **P** **08 32 59.9 -0.1**
TAOE IAmb IAmb 08 33 06.3
comp=Z,390nm,1.0s
TAOE Nuku Hiva Isla 52.10 90 ⇑P **P** **08 33 02.3 +2.3**
TAOE Nuku Hiva Isla 52.10 90 P **P** **08 33 02.6 +2.6**
JCNP Jose Panganiba 52.12 301⇑ *iP* **P** **08 32 59.8 -0.1**
LQP Lukban 53.00 300⇑ *eP* **P** **08 33 06.3 -0.4**
PGP Puerto Galera 53.19 299⇑ *iP* **P** **08 33 06.8 -1.1**
SPMM Sapulut 53.42 287 P **P** **08 33 11.0 +1.3**
TGY Tagaytay City 53.50 300 LR LR 08 54 45.0
comp=Z,27µm,20.0s,baz=114,slow=35
JHJ2 Mitsune 53.76 332 P **P** **08 33 12.4 +0.7**
JHJ Hachijo jima 2 53.78 332 P **P** **08 33 11.7 -0.2**
comp=Z,514nm,0.9s,baz=181,slow=7.1,SNR=6.5
JHJ LR LR 08 55 28.3
comp=Z,30µm,19.1s,baz=154,slow=35
LUBP Lubang 53.90 299⇑ *eP* **P** **08 33 11.8 -1.3**
PCPH Palayan 54.10 302⇑ *eP* **P** **08 33 14.4 -0.1**
KKM Kota Kinabalu 54.15 288 P **P** **08 33 15.1 0.0**
KKM Kota Kinabalu 54.15 288 ⇑P **P** **08 33 14.9 -0.1**
KKM Kota Kinabalu 54.15 288 P **P** **08 33 15.7 +0.6**
JOW Kunigami 55.46 317 IAmb IAmb 08 33 26.6
comp=Z,338nm,1.0s
JOW Kunigami 55.46 317 ⇑P **P** **08 33 25.1 +0.9**
JOW Kunigami 55.46 317 P **P** **08 33 25.3 +1.1**
UGM Wanagama 55.54 270 P **P** **08 33 25.1 0.0**
SMRI Semarang 55.80 271 ⇑P **P** **08 33 27.8 +0.8**
SMRI Semarang 55.80 271 P **P** **08 33 27.7 +0.8**
JYT Yasato 56.22 334 ⇑P **P** **08 33 29.8 +0.4**
SBUM Sibu 56.63 283 IAmb IAmb 08 33 46.0
comp=Z,203nm,1.5s
SBUM Sibu 56.63 283 ⇑P **P** **08 33 33.5 +0.7**
SBUM Sibu 56.63 283 P **P** **08 33 34.0 +1.2**
INU Inuyama 56.90 331 IAmb IAmb 08 33 43.3
comp=Z,352nm,1.1s
INU Inuyama 56.90 331 ⇑P **P** **08 33 34.4 +0.1**
INU Inuyama 56.90 331 P **P** **08 33 34.6 +0.3**
JGF Kuroka 56.95 331 IAmb IAmb 08 34 05.3
comp=Z,854nm,2.0s
JGF Kuroka 56.95 331 ⇑P **P** **08 33 34.6 -0.1**
JMN Monobe 57.17 327 P **P** **08 33 36.9 +0.6**
JMN Monobe 57.17 327 ⇑P **P** **08 33 37.1 +0.8**
MJAR Matsushiro Arr 57.34 333 P **P** **08 33 36.6 -0.9**
comp=Z,472nm,1.1s,baz=183,slow=20,SNR=250
MJAR Matsushiro Arr 57.34 333 IAmb IAmb 08 33 41.5
comp=Z,492nm,1.1s
MAJO Matsushiro 57.34 333 P **P** **08 33 37.0 -0.4**
MAJO pmax pmax
comp=Z,452nm,1.0s
MAJO Matsushiro 57.34 333 P **P** **08 33 37.0 -0.4**
MAJO IAmb IAmb 08 33 40.7
comp=Z,452nm,1.0s
MJB9 Matsu-Tunnel 57.35 333 IAmb IAmb 08 33 40.6
comp=Z,446nm,1.0s
JMM Marumori 57.37 336 IAmb IAmb 08 33 44.4
comp=Z,440nm,1.0s
JMM Marumori 57.37 336 ⇑P **P** **08 33 38.0 +0.4**
JSU Suzuyama 57.40 323 IAmb IAmb 08 33 39.3
comp=Z,432nm,1.0s
JSU Suzuyama 57.40 323 ⇑P **P** **08 33 38.5 +0.5**
YOJ Yonaguni jima 57.59 312 ⇑P **P** **08 33 39.6 +0.3**
YOJ Yonaguni jima 57.59 312 P **P** **08 33 39.9 +0.6**
TWG Pinlang 58.06 309 IAmb IAmb 08 34 22.9
comp=Z,420nm,1.5s
KSM Kuching 58.14 281 P **P** **08 33 43.6 +0.1**
KSM IAmb IAmb 08 33 59.5
comp=Z,406nm,1.2s
KSM Kuching 58.14 281 ⇑P **P** **08 33 43.7 +0.2**
KSM Kuching 58.14 281 P **P** **08 33 44.0 +0.5**
KSM Kuching 58.14 281 P **P** **08 33 43.7 +0.2**
YULB Yu-li 58.22 309 IAmb IAmb 08 33 57.9
comp=Z,419nm,1.3s
JNU Nakatsue 58.34 325 LR LR 08 55 39.7
comp=Z,40µm,21.1s,baz=134,slow=33
JNU Nakatsue 58.34 325 ⇑P **P** **08 33 44.8 +0.2**
JNU Nakatsue 58.34 325 P **P** **08 33 45.1 +0.5**
JHS Saijyo 58.56 328 P **P** **08 33 46.4 +0.4**
JHS IAmb IAmb 08 33 47.2
comp=Z,254nm,0.8s
JHS Saijyo 58.56 328 ⇑P **P** **08 33 46.4 +0.4**
JSD Sado 58.57 334 P **P** **08 33 46.2 +0.3**
JSD Sado 58.57 334 ⇑P **P** **08 33 46.4 +0.3**
LEM Lembang 58.59 271 LR LR 09 00 19.0
comp=Z,53µm,19.7s,baz=88,slow=37
TPUB Ta-pu 58.67 309 P **P** **08 33 46.3 -0.7**
SSLB Suanglung 58.70 310 IAmb IAmb 08 33 50.7
comp=Z,357nm,1.3s
SSLB Suanglung 58.70 310 P **P** **08 33 46.7 -0.5**
YHNB Yeheng 58.90 311 P **P** **08 33 48.6 -0.1**
TATO Taipei 59.00 311 P **P** **08 33 48.6 -0.6**
XMI Christmas Isla 59.74 266 ⇑P **P** **08 33 55.3 +0.7**
XMI Christmas Isla 59.74 266 P **P** **08 33 55.3 +0.7**
XMIS Christmas Isla 59.77 266 P **P** **08 33 55.0 +0.1**
XMIS Christmas Isla 59.77 266 P **P** **08 33 55.2 +0.4**
JTM Tenmabayashi 59.80 338 ⇑P **P** **08 33 54.6 +0.2**
ERM Erimo 60.14 340*ce* P **P** **08 33 57.8 +1.0**
ERM pmax pmax
comp=Z,426nm,2.5s
ERM Erimo 60.14 340 P **P** **08 33 57.4 +0.7**
ERM Erimo 60.14 340 IAMs_20 IAMs_20 08 55 22.5
comp=Z,102µm,21.0s
ERM Erimo 60.14 340 ⇑P **P** **08 33 57.7 +1.0**
ERM Erimo 60.14 340 P **P** **08 33 58.4 +1.7**
JTU Tsushima 60.21 325 IAmb IAmb 08 34 27.0
comp=Z,306nm,1.3s
JTU Tsushima 60.21 325 ⇑P **P** **08 33 57.2 -0.1**
QZH Quanzhou 61.13 309⇑ *iP* **P** **08 34 04.3 +0.5**
QZH PP **PP** **08 36 18.4 -0.5**
QZH S **S** **08 42 20.7 -0.4**
QZH pmax pmax
comp=Z,240nm,2.4s
QZH pmax pmax
comp=Z,15µm,7.2s
QZH LR LR
comp=Z,21µm,19.9s
QZH LR LR
comp=Z,14µm,25.1s
QZH LR LR
comp=Z,22µm,17.1s
YUK Yuzh-Kuril'sk 61.13 343 *eP* **P** **08 34 03.9 +0.5**
YUK *e* 08 34 46.5
YUK *e* 08 36 18.7
YUK *e*PPP PPP 08 37 43.7
YUK *eS* **S** **08 42 21.5 +1.1**
YUK *e*SS **SS** **08 46 23.1 +2.0**
YUK pmax pmax
comp=Z,1µm,1.4s
YUK pmax pmax
comp=Z,882nm,1.2s
YUK pmax pmax
comp=E,808nm,1.0s
YUK pmax pmax
comp=N,1µm,1.3s
YUK MLR MLR
comp=Z,28µm,17.0s
YUK MLR MLR
comp=E,10µm,14.0s
YUK MLR MLR
comp=N,21µm,17.0s
JEW Eniwo 61.46 339 ⇑P **P** **08 34 06.0 +0.3**
KUR Kuril'sk 61.70 345*c iP* **P** **08 34 02.8 -4.5**
KUR *i* S **S** **08 42 23.6 -4.0**
KUR *e*SSS SSS 08 49 06.6
KUR pmax pmax
comp=Z,1µm,1.5s
KUR pmax pmax
comp=Z,16µm,16.5s
KUR pmax pmax
comp=N,11µm,18.6s
KUR pmax pmax
comp=E,8µm,16.5s
KUR MLR MLR
comp=Z,59µm,19.0s
KUR MLR MLR
comp=N,77µm,18.0s
KUR MLR MLR
comp=E,21µm,15.0s
ASAJ Asahikawa 62.20 340 P **P** **08 34 11.0 +0.3**
comp=E,201nm,0.8s,baz=209,slow=6.6,SNR=104
ASAJ LR LR 08 57 00.5
comp=E,103µm,21.5s,baz=180,slow=32
PMBI Palembang 62.25 274 P **P** **08 34 12.7 +1.0**
TJN Taejon 62.69 325*c iP* **P** **08 34 14.2 +0.1**
TJN Taejon 62.69 325 P **P** **08 34 14.1 0.0**
SSE Sheshan 62.94 316 P **P** **08 34 15.9 0.0**
SSE S **S** **08 42 46.0 +2.3**
SSE pmax pmax
comp=E,79nm,1.0s
SSE pmax pmax
comp=E,5µm,7.0s
SSE LR LR
comp=E,8µm,19.7s
SSE LR LR
comp=E,9µm,17.8s
HKC Hong Kong Obse 63.15 304 ⇑P **P** **08 34 19.0 +1.5**

KSRS Korea Array 63.16 326 P **P** **08 34 17.6 +0.5**
comp=E,88nm,0.9s,baz=140,slow=6.9,SNR=246
KSRS PKiKP **PKiKP** **08 41 04.4 -0.4**
comp=E,3.2nm,0.9s,baz=149,slow=0.8,SNR=4.8
KSRS S **S** **08 42 53.1 +6.8**
comp=E,1.0nm,0.8s,baz=131,slow=1.3,SNR=4.3
KSRS LR LR 08 58 41.6
comp=E,25μm,21.5s,baz=130,slow=33
KSRS PKP2bc 09 03 20.1
comp=E,4.0nm,1.0s,baz=318,slow=2.9,SNR=6.9
HKPS Hong Kong Po S 63.17 304 IAmb IAmb 08 34 24.9
comp=Z,282nm,0.9s
KSAR Wonju Array Be 63.17 326 P **P** **08 34 17.7 +0.4**
KSAR Wonju Array Be 63.17 326 P **P** **08 34 17.7 +0.4**
KS19 Wonju Array Si 63.23 326 P **P** **08 34 17.5 -0.1**
VNDA Vanda 63.28 181 P **P** **08 34 17.5 0.0**
comp=Z,112nm,0.7s,baz=358,slow=6.9,SNR=96
VNDA LR LR 09 00 38.1
comp=Z,26μm,18.0s,baz=40,slow=35
VNDA PKPPKP **P'P'df** **09 03 16.8 -1.4**
comp=Z,5.7nm,1.1s,baz=221,slow=3.7,SNR=4.2
VNDA Vanda 63.28 181 P **P** **08 34 17.7 +0.2**
DLV T Lat 63.45 291 P **P** **08 34 20.4 +0.6**
MCO Taipa Grande 63.56 304 P **P** **08 34 21.0 +0.8**
SBA Scott Base 63.57 180 P **P** **08 34 20.4 +1.1**
SBA pmax pmax
comp=Z,1μm,1.3s
SBA Scott Base 63.57 180 P **P** **08 34 20.4 +1.1**
MNAI Manna 63.66 272 P **P** **08 34 19.9 -1.1**
MNAI Manna 63.66 272 P **P** **08 34 22.1 +1.0**
CASY Casey 63.78 202 P **P** **08 34 20.8 -0.1**
CASY Casey 63.78 202 IAMs_20 IAMs_20 08 57 24.8
comp=Z,78μm,20.0s
CASY Casey 63.78 202 ⇑P **P** **08 34 21.1 +0.2**
INCN Inchon 63.89 325 P **P** **08 34 22.6 +0.5**
INCN pmax pmax
comp=Z,815nm,1.6s
INCN Inchon 63.89 325 P **P** **08 34 22.6 +0.5**
INCN Inchon 63.89 325 ⇑P **P** **08 34 22.5 +0.4**
INCN Inchon 63.89 325 P **P** **08 34 22.6 +0.5**
MYKOM Kota Tinggi 64.40 279 IAmb IAmb 08 34 42.4
comp=Z,110nm,0.8s
MYKOM Kota Tinggi 64.40 279 P **P** **08 34 27.0 +1.1**
YSS Yuzh-Sakhalins 64.70 342 *a i* P **P** **08 34 28.2 +1.2**
YSS *e* *SP **pwP** **08 34 38.8 -0.6**
YSS *e*S **S** **08 43 01.8 -3.1**
YSS *e*SS **SS** **08 47 19.0 +2.2**
YSS pmax pmax
comp=Z,430nm,1.1s
YSS pmax pmax
comp=Z,16μm,7.6s
YSS smax smax
comp=N,4μm,9.6s
YSS Yuzh-Sakhalins 64.70 342 P **P** **08 34 28.0 +0.9**
YSS IAMs_20 IAMs_20 08 59 13.0
comp=Z,90μm,20.0s
YSS Yuzh-Sakhalins 64.70 342 ⇑P **P** **08 34 28.2 +1.2**
YSS Yuzh-Sakhalins 64.70 342 P **P** **08 34 28.3 +1.2**
NJ2 Nanjing 65.09 316 ⇑ *i* P **P** **08 34 30.5 +0.5**
NJ2 pP **pP** **08 34 40.3 +0.3**
NJ2 sP **sP** **08 34 45.6 +1.7**
NJ2 S **S** **08 43 12.9 +2.5**
NJ2 sS **sS** **08 43 25.7 -1.1**
NJ2 SS **SS** **08 47 28.3 +4.8**
NJ2 pmax pmax
comp=Z,220nm,1.9s
NJ2 pmax pmax
comp=Z,14μm,5.7s
NJ2 LR LR
comp=Z,28μm,17.2s
NJ2 LR LR
comp=Z,26μm,20.1s
NJ2 LR LR
comp=Z,37μm,20.6s
TEY Ternei 65.12 337 ⇓ *e* P **P** **08 34 29.7 -0.2**
TEY *e* 08 43 06.6
TEY pmax pmax
comp=N,40nm,1.3s
TEY pmax pmax
comp=E,20nm,1.3s
TEY pmax pmax
comp=Z,80nm,1.2s
TEY pmax pmax
comp=E,200nm,16.6s
TEY pmax pmax
comp=N,200nm,19.8s
HHU Hamhung 65.18 328 P **P** **08 34 31.4 +0.9**
HHU sP **pwP** **08 34 42.9 +0.3**
HHU S **S** **08 43 13.4 +2.2**
HHU AmB
comp=Z,3μm,2.6s
HHU AMS AMS
comp=N,90μm,24.1s
HHU AMS AMS
comp=E,87μm,23.4s
HHU AMS AMS
comp=Z,95μm,25.4s
QIZ Qiongzhong 65.19 299 P **P** **08 34 31.8 +0.9**
QIZ Qiongzhong 65.19 299 ⇑ *i* P **P** **08 34 31.9 +1.0**
QIZ S **S** **08 43 15.5 +3.5**
QIZ pmax pmax
comp=Z,94nm,0.8s
QIZ pmax pmax
comp=Z,14μm,13.5s
QIZ LR LR
comp=Z,17μm,26.3s
QIZ LR LR
comp=Z,28μm,24.7s
QIZ LR LR
comp=Z,43μm,25.5s
QIZ Qiongzhong 65.19 299 P **P** **08 34 31.4 +0.5**
SKR Severo-Kuril's 65.38 353 *e* P **P** **08 34 31.7 +0.3**
SKR *e*S **S** **08 43 14.5 +1.3**
SKR *e* 08 43 44.0
SKR pmax pmax
comp=Z,257nm,0.9s
SKR pmax pmax
comp=Z,5μm,10.1s
SKR pmax pmax
comp=Z,3μm,8.1s
MSHR Mys Shultsa 65.42 332 *c i* P **P** **08 34 32.7 +0.8**
MSHR pmax pmax
comp=Z,192nm,1.2s
MSHR MLR MLR
comp=Z,17μm,20.0s
PYAG Pyongyang 65.49 326 P **P** **08 34 33.3 +0.9**
PYAG sP **pwP** **08 34 44.0 -0.6**
PYAG S **S** **08 43 17.1 +2.1**
PYAG AmB
comp=Z,2μm,2.1s
PYAG AMS AMS
comp=N,34μm,20.6s
PYAG AMS AMS
comp=E,34μm,20.6s
PYAG AMS AMS
comp=Z,38μm,23.0s
JRMM Jerantut 66.32 281 P **P** **08 34 39.0 +0.7**
USRK Ussuriysk Ar. 66.32 333 P **P** **08 34 38.6 +0.9**
comp=Z,626nm,1.1s,baz=142,slow=5.6,SNR=280
USRK LR LR 09 00 25.7
comp=Z,28μm,21.9s,baz=136,slow=33
USRK PKP2ab 09 03 11.5
comp=Z,2.6nm,0.7s,baz=2.9,slow=3.8,SNR=7.5
BKNI Bangkinang 66.69 277 P **P** **08 34 41.4 +0.6**
BKNI Bangkinang 66.69 277 ⇑P **P** **08 34 41.4 +0.6**
BKNI Bangkinang 66.69 277 P **P** **08 34 41.6 +0.9**
UGL Uglegorsk 66.81 343 *c i* P **P** **08 34 41.0 +0.3**
UGL *i* S **S** **08 43 32.8 +2.2**
UGL pmax pmax
comp=E,4μm,6.0s
UGL pmax pmax
comp=N,8μm,7.0s
UGL pmax pmax
comp=Z,16μm,8.0s
UGL pmax pmax
comp=E,520nm,1.1s
UGL pmax pmax
comp=Z,920nm,1.0s
UGL smax smax
comp=E,12μm,17.0s
UGL smax smax
comp=N,18μm,14.0s
SUJ Sinuiju 66.93 326 P **P** **08 34 42.0 +0.4**
SUJ sP **pwP** **08 34 53.6 -0.2**
SUJ S **S** **08 43 34.4 +2.0**
SUJ AmB
comp=Z,5μm,3.7s
SUJ AMS AMS
comp=N,50μm,19.7s
SUJ AMS AMS
comp=E,54μm,21.4s
SUJ AMS AMS
comp=Z,61μm,24.1s
SHEM Shemya Is, Ala 67.04 5 LR LR 09 01 23.4
comp=Z,39μm,19.0s,baz=194,slow=34
WHN Wuhan 67.36 312 ⇑ *i* P **P** **08 34 44.7 +0.1**
WHN *e* sP **sP** **08 34 59.1 +0.5**
WHN PP **PP** **08 37 20.5 +7.0**
WHN S **S** **08 43 37.9 -0.1**
WHN sS **sS** **08 43 56.6 +2.0**
WHN pmax pmax
comp=Z,5μm,2.3s
WHN pmax pmax
comp=Z,15μm,6.6s
WHN LR LR
comp=Z,43μm,15.4s
WHN LR LR
comp=Z,121μm,29.4s
WHN LR LR
comp=Z,98μm,23.0s
PET Petropavlovsk 67.42 355 ⇑ *i* P **P** **08 34 44.3 -0.1**
PET *e* 08 35 09.9
PET *i* S **S** **08 43 38.3 +0.5**
PET *e* 08 44 35.1
PET *e*SS **SS** **08 48 04.7 +5.9**
PET pmax pmax
comp=Z,274nm,1.1s
PET pmax pmax
comp=Z,25μm,17.0s
PET pmax pmax
comp=Z,17μm,16.5s
PET smax smax
comp=N,12μm,21.6s
PET smax smax
comp=N,11μm,19.4s
PET MLR MLR
comp=Z,37μm,19.0s
PET MLR MLR
comp=Z,32μm,19.0s
PET Petropavlovsk 67.42 355 P **P** **08 34 44.3 -0.1**
PET IAmb IAmb 08 34 50.8
comp=Z,281nm,1.2s
PET Petropavlovsk 67.42 355 ⇑P **P** **08 34 44.2 -0.1**
PET Petropavlovsk 67.42 355 P **P** **08 34 44.5 +0.1**
ADK Adak 67.44 11 P **P** **08 34 43.9 -0.7**
ADK pmax pmax
comp=Z,356nm,1.4s
ADK Adak 67.44 11 P **P** **08 34 43.9 -0.7**
ADK IAmb IAmb 08 35 26.5
comp=Z,356nm,1.4s
ADK Adak 67.44 11 IAMs_20 IAMs_20 08 58 25.2
comp=Z,82μm,21.0s
ADK Adak 67.44 11 ⇑P **P** **08 34 43.4 -1.2**
ADK Adak 67.44 11 P **P** **08 34 47.0 +2.4**
UBPT Khong Chiam 67.44 293 P **P** **08 34 45.9 +0.6**
UBPT IAmb IAmb 08 34 50.4
comp=Z,399nm,1.7s
UBPT Khong Chiam 67.44 293 ⇑P **P** **08 34 46.0 +0.7**
PEA0B Petropavlovsk- 67.59 354 *c i* P **P** **08 34 45.9 +0.3**
PEA0B Petropavlovsk- 67.59 354 P **P** **08 34 45.7 +0.1**
PETK Petropavlovsk- 67.59 354 P **P** **08 34 45.0 -0.6**
comp=Z,185nm,0.9s,baz=156,slow=8.1,SNR=94
PETK PKiKP **PKiKP** **08 41 09.4 -0.8**
comp=Z,1.1nm,0.4s,baz=58,slow=42,SNR=2.4
PETK LR LR 08 58 47.2
comp=Z,42μm,21.8s,baz=172,slow=31
PETK PKP2bc 09 03 07.4
comp=Z,23nm,1.3s,baz=46,slow=6.2,SNR=4.6
PETK Petropavlovsk- 67.59 354 P **P** **08 34 45.0 -0.6**
PETK Petropavlovsk- 67.59 354 P **P** **08 34 44.7 -0.9**
GULI GuiLin 67.66 305 ⇑P **P** **08 34 48.9 +2.3**
GULI S **S** **08 43 47.2 +5.4**
GULI pmax pmax
comp=Z,270nm,1.0s
GULI LR LR
comp=Z,28μm,21.7s
GULI LR LR
comp=Z,18μm,21.8s
GULI LR LR
comp=Z,39μm,20.6s
MDJ Mudanjiang 67.72 332 P **P** **08 34 47.3 +0.8**
MDJ pP pwP 08 34 58.0 -0.8
MDJ sP sP 08 35 02.2 +1.7
MDJ S **S** **08 43 46.1 +4.3**
MDJ sS sS 08 44 03.1 +4.3
MDJ pmax pmax
comp=Z,460nm,1.6s
MDJ pmax pmax
comp=Z,19μm,10.8s
MDJ LR LR
comp=Z,21μm,20.7s
MDJ LR LR
comp=Z,11μm,19.1s
MDJ LR LR
comp=Z,18μm,19.6s
MDJ Mudanjiang 67.72 332 P **P** **08 34 47.4 +0.9**
DL2 Dalian 67.72 323 ⇑ *i* P **P** **08 34 47.2 +0.5**
DL2 PP **PP** **08 37 20.6 +4.1**
DL2 S **S** **08 43 44.6 +2.6**
DL2 pmax pmax
comp=Z,410nm,1.0s
DL2 pmax pmax
comp=Z,13μm,10.4s
DL2 LR LR
comp=Z,27μm,22.2s
DL2 LR LR
comp=Z,38μm,24.3s
DL2 LR LR
comp=Z,44μm,27.9s
IPM Ipoh 67.88 281 P **P** **08 34 48.4 +0.1**
IPM Ipoh 67.88 281 P **P** **08 34 49.0 +0.7**
IPM Ipoh 67.88 281 P **P** **08 34 48.5 +0.2**
COCO West Island 67.96 262 IAMs_20 IAMs_20 09 02 48.9
comp=Z,60μm,20.0s
ATKA Atka Island 68.23 12 ⇑P **P** **08 34 49.1 -0.4**
ATKA ⇓P **P** **08 34 49.8 +0.3**
ATKA Atka Island 68.23 12 P **P** **08 34 51.2 +1.6**
TYV Tymovskoe 68.25 344 *e* P **P** **08 34 50.5 +0.7**
TYV *e*S **S** **08 43 51.1 +3.2**
TYV pmax pmax
comp=Z,13μm,7.7s
TYV pmax pmax
comp=Z,263nm,1.4s
TYV smax smax
comp=N,8μm,9.9s
TYV smax smax
comp=E,10μm,9.9s
TYV smax smax
comp=N,31nm,2.3s
TYV smax smax
comp=E,20nm,2.3s
KULM Kulim 68.48 282 P **P** **08 34 51.7 -0.3**
KULM Kulim 68.48 282 P **P** **08 34 52.0 0.0**
TIA Tai'an 68.75 319 ⇑P **P** **08 34 53.1 -0.2**
TIA S **S** **08 43 54.6 +0.1**
TIA pmax pmax
comp=E,170nm,1.1s
TIA pmax pmax
comp=E,12μm,12.7s
TIA LR LR
comp=E,18μm,28.4s
TIA LR LR
comp=E,18μm,24.0s
TIA LR LR
comp=E,28μm,24.5s
CN2 Changchun 69.08 329 *e* P **P** **08 34 54.8 -0.3**
CN2 PP **PP** **08 37 27.1 -1.1**
CN2 *e*S **S** **08 43 52.8 -5.2**
CN2 SS **SS** **08 48 29.0 +4.2**
CN2 pmax pmax
comp=E,400nm,1.0s
CN2 pmax pmax
comp=E,13μm,7.0s
CN2 LR LR
comp=E,29μm,19.2s
CN2 LR LR
comp=E,21μm,19.2s
CN2 LR LR
comp=E,45μm,21.3s
PSI Prapat 69.40 279 LR LR 09 07 07.3
comp=E,33μm,19.9s,baz=116,slow=37
BNX BinXian 69.57 332 ⇑P **P** **08 34 58.1 0.0**
BNX pP **pwP** **08 35 10.2 -0.2**
BNX sP **sP** **08 35 14.9 +2.8**
BNX PP **PP** **08 37 31.9 -0.5**
BNX S **S** **08 43 59.9 -3.9**
BNX sS **sS** **08 44 21.0 +0.2**
BNX pmax pmax
comp=E,710nm,0.9s
BNX pmax pmax
comp=E,17μm,7.1s
BNX LR LR
comp=E,21μm,17.6s
BNX LR LR
comp=E,50μm,18.6s
BNX LR LR
comp=E,88μm,23.4s
GRNR Gornyy 70.05 340 ⇑ *i* P **P** **08 35 02.5 +1.5**
GRNR *e*S **S** **08 44 15.6 +6.3**
GRNR pmax pmax
comp=E,60nm,1.1s
GRNR pmax pmax
comp=N,100nm,1.2s
GRNR pmax pmax
comp=Z,260nm,1.1s
GRNR smax smax
comp=N,2.0nm,0.9s
NIKH Nikolski High 70.18 15 P **P** **08 35 00.5 -1.2**
NIKH Nikolski High 70.18 15 P **P** **08 35 00.3 -1.4**
baz=205
NIKH S **S** **08 44 11.5 +0.8**
baz=205
GSI Gunungsitoli 70.29 277 ⇑P **P** **08 35 03.4 +0.2**
GSI Gunungsitoli 70.29 277 P **P** **08 35 03.5 +0.2**
KLR Kul'dur 70.45 336 PKiKP **PKiKP** **08 41 13.6 -0.7**
comp=N,6.8nm,0.8s,baz=175,slow=2.7,SNR=2.0
KLR LR LR 09 02 41.5
comp=N,48μm,21.5s,baz=150,slow=33
KLR Kul'dur 70.45 336 *c i* P **P** **08 35 04.3 +0.9**
KLR pmax pmax
comp=Z,513nm,1.4s
ENH Enshi 70.79 310 P **P** **08 35 05.6 -0.4**
NKL Nikolayevsk 70.85 344 *e* P **P** **08 35 05.6 -0.1**
NKL *e*S **S** **08 44 17.2 -1.1**
NKL pmax pmax
comp=E,4.0nm,1.1s
NKL pmax pmax
comp=N,1.0nm,0.7s
NKL pmax pmax
comp=Z,404nm,1.0s
NKL smax smax
comp=E,3.0nm,2.3s
NKL smax smax
comp=N,1.0nm,2.9s
LYN LuoYang 70.89 315 ⇑ *i* P **P** **08 35 06.9 +0.5**
LYN sP PcP 08 35 25.4 -1.5
LYN S **S** **08 44 15.4 -4.3**
LYN pmax pmax
comp=N,260nm,2.1s
LYN pmax pmax
comp=N,14μm,10.6s
LYN LR LR
comp=N,20μm,18.6s
LYN LR LR
comp=N,11μm,18.4s
LYN LR LR
comp=N,28μm,19.0s
HNS HongShan 71.02 318 ⇑P **P** **08 35 07.9 +0.8**
HNS pP **pP** **08 35 17.5 +0.3**
HNS PP **PP** **08 37 52.4 +7.3**
HNS S **S** **08 44 23.3 +2.3**
HNS sS **sS** **08 44 41.3 +3.4**
HNS SKS **SKSac** **08 45 01.8 -5.5**
HNS ScS **ScS** **08 45 09.6 +0.8**
HNS pmax pmax
comp=N,350nm,2.0s
HNS pmax pmax
comp=N,15μm,8.6s
HNS LR LR
comp=N,21μm,17.7s
HNS LR LR
comp=N,33μm,17.6s
HNS LR LR
comp=N,38μm,17.3s
GYA Guiyang 71.15 305 ⇑ *i* P **P** **08 35 08.7 +0.4**
GYA sP PcP 08 35 26.2 -2.1
GYA PP **PP** **08 37 50.3 +3.8**
GYA S **S** **08 44 23.1 -0.1**
GYA SKS **SKSac** **08 45 07.9 -1.1**
GYA pmax pmax
comp=N,190nm,1.2s
GYA pmax pmax
comp=N,14μm,7.8s
GYA LR LR
comp=N,8μm,18.8s
GYA LR LR
comp=N,25μm,21.1s
GYA LR LR
comp=N,40μm,20.6s
UNV Unalaska Valle 71.59 16 P **P** **08 35 08.5 -1.6**
baz=207
UNV S **S** **08 44 26.3 -0.6**
baz=207
BJT Baijiatuau 71.67 321 P **P** **08 35 11.6 +0.5**
BJT pmax pmax
comp=Z,391nm,1.2s
BJT Baijiatuau 71.67 321 P **P** **08 35 11.6 +0.5**
BJT IAmb IAmb 08 35 14.8
comp=Z,391nm,1.2s
BJI Beijing 71.68 321 P **P** **08 35 11.6 +0.5**
BJI PP **PP** **08 37 55.7 +5.0**
BJI S **S** **08 44 31.2 +2.6**
BJI ScS **ScS** **08 45 16.2 +2.2**
BJI pmax pmax
comp=Z,270nm,1.0s
BJI pmax pmax
comp=Z,15μm,10.9s
LHMI Lhok Sumawe 71.98 280 P **P** **08 35 13.7 +0.3**
LHMI IAmb IAmb 08 35 18.0
comp=Z,686nm,1.5s
TIY Taiyuan 72.68 317 ⇑P **P** **08 35 18.3 +1.1**
TIY S **S** **08 44 35.1 -5.2**
TIY SS **SS** **08 49 20.1 -0.5**
TIY pmax pmax
comp=Z,380nm,1.4s
TIY LR LR
comp=Z,14μm,17.9s
TIY LR LR
comp=Z,19μm,21.3s
TIY LR LR
comp=Z,29μm,19.2s
XAN Xi'an 73.11 313 P **P** **08 35 20.1 +0.3**
XAN pP pwP 08 35 31.3 -0.7
XAN sP PcP 08 35 36.1 -0.3
XAN S **S** **08 44 45.9 +0.6**
XAN sS pS 08 44 57.8 +0.4
XAN ScS **SKSac** **08 45 20.9 -2.5**
XAN pmax pmax
comp=Z,280nm,1.1s
XAN pmax pmax
comp=Z,22μm,11.7s
XAN LR LR
comp=Z,17μm,18.7s
XAN LR LR
comp=Z,34μm,19.9s
XAN LR LR
comp=Z,49μm,19.9s
FALS False Pass 73.35 17 P **P** **08 35 18.8 -1.8**
baz=210
FALS S **S** **08 44 46.7 -0.2**
baz=210
SPIA Saint Paul Isl 73.70 13 P **P** **08 35 22.2 -0.5**
baz=203
KMI Kunming 73.74 302 ⇑P **P** **08 35 25.4 +1.4**
KMI pP pwP 08 35 35.4 -0.7
KMI sP PcP 08 35 41.0 +1.4
KMI PcP **sP** **08 35 43.4 +5.4**
KMI PP **PP** **08 38 11.4 +2.5**
KMI S **SKiKP** **08 44 51.8 +0.5**
KMI SS **SS** **08 49 37.6 0.0**
KMI pmax pmax
comp=Z,330nm,1.1s
KMI pmax pmax
comp=Z,14μm,11.8s
KMI LR LR
comp=Z,20μm,19.7s

KMI LR LR
comp=Z,18µm,20.2s
KMI LR LR
comp=Z,40µm,22.8s
XLT XiLinHaoTe 74.13 324 ⇑*i* P **P 08 35 26.5 +0.9**
XLT pP pP 08 35 34.6 -1.1
XLT sP PcP 08 35 40.2 -0.4
XLT PP **PP 08 38 18.3 +6.7**
XLT S **S 08 44 59.7 +3.2**
XLT sS sS 08 45 15.9 +2.6
XLT SS **SS 08 49 41.0 -1.5**
XLT pmax pmax
comp=Z,370nm,2.1s
XLT pmax pmax
comp=Z,17µm,11.0s
XLT LR LR
comp=Z,29µm,22.7s
XLT LR LR
comp=Z,32µm,22.5s
CM31 Chiang Mai Arr 74.41 294 IAmb IAmb 08 35 33.1
comp=Z,538nm,1.4s
CMAR Chiang Mai Arr 74.41 294 P **P 08 35 28.9 +1.2**
comp=Z,134nm,0.9s,baz=121,slow=4.4,SNR=355
CMAR PKiKP **PKiKP 08 41 20.9 -0.1**
comp=Z,2.2nm,0.4s,baz=164,slow=0.7,SNR=2.2
CMAR PKP2bc 09 02 40.4
comp=Z,1.2nm,0.5s,baz=127,slow=4.2,SNR=8.4
CMAR PKPPKP 09 02 58.0
comp=Z,1.5nm,0.4s,baz=274,slow=4.0,SNR=4.9
CMAR Chiang Mai Arr 74.41 294 *i* P **P 08 35 28.8 +1.1**
CMAR pmax pmax
comp=Z,134nm,0.9s
CMAR Chiang Mai Arr 74.41 294 P **P 08 35 28.7 +0.9**
CHTO Chiang Mai 74.54 294 P **P 08 35 29.2 +0.7**
CHTO pmax pmax
comp=Z,469nm,1.4s
CHTO Chiang Mai 74.54 294 P **P 08 35 29.1 +0.7**
CHTO IAmb IAmb 08 35 33.5
comp=Z,469nm,1.4s
CHTO Chiang Mai 74.54 294 ⇑P **P 08 35 29.3 +0.9**
CHTO ⇑P **P 08 35 29.4 +0.9**
CHTO Chiang Mai 74.54 294 P **P 08 35 29.4 +0.9**
SDPT Sand Point 74.65 19 IAmb IAmb 08 35 55.6
comp=Z,672nm,1.8s
SDPT Sand Point 74.65 19 P **P 08 35 26.7 -1.5**
baz=213
MA2 Magadan 74.76 352 LR LR 09 03 22.9
comp=Z,81µm,21.9s,baz=184,slow=32
MA2 Magadan 74.76 352 *c i* P **P 08 35 28.4 -0.4**
MA2 pmax pmax
comp=Z,466nm,2.2s
MA2 MLR MLR
comp=Z,48µm,20.0s
MA2 Magadan 74.76 352 P **P 08 35 28.0 -0.9**
MA2 IAmb IAmb 08 35 32.7
comp=Z,224nm,1.1s
MA2 IAMs_20 IAMs_20 09 02 27.0
comp=Z,96µm,22.0s
MA2 Magadan 74.76 352 ⇑P **P 08 35 28.1 -0.7**
MA2 ⇑P **P 08 35 28.2 -0.6**
MA2 ⇓P **P 08 35 30.9 +2.1**
MA2 Magadan 74.76 352 P **P 08 35 28.1 -0.7**
HHC Hu-ho-hao-te 75.00 320 *e* P **P 08 35 31.8 +1.0**
HHC S **S 08 45 04.8 -1.6**
HHC sS sS 08 45 23.8 +0.4
HHC SS **SS 08 49 59.8 +3.8**
HHC pmax pmax
comp=Z,280nm,1.1s
HHC pmax pmax
comp=Z,15µm,5.5s
HHC LR LR
comp=Z,23µm,16.5s
HHC LR LR
comp=Z,28µm,17.4s
HHC LR LR
comp=Z,47µm,17.1s
PZH PanZhiHua 75.13 303 ⇑P **P 08 35 32.1 +0.2**
PZH sP **sP 08 35 48.3 +2.3**
PZH S **S 08 45 09.5 +1.0**
PZH ScS **SKKSac 08 45 40.6 +1.2**
PZH SS **SS 08 49 54.1 -4.4**
PZH pmax pmax
comp=Z,160nm,1.1s
PZH pmax pmax
comp=Z,11µm,8.8s
PZH LR LR
comp=Z,24µm,22.7s
PZH LR LR
comp=Z,22µm,22.0s
PZH LR LR
comp=Z,36µm,22.0s
CD2 Chengdu 75.43 308 ⇑*i* P **P 08 35 33.8 +0.4**
CD2 pP PcP 08 35 46.6 +0.1
CD2 PP **PP 08 38 28.4 +5.4**
CD2 S **S 08 45 12.3 +0.8**
CD2 sS sS 08 45 31.5 +3.4
CD2 SS **SS 08 50 06.9 +4.1**
CD2 pmax pmax
comp=Z,250nm,1.2s
CD2 pmax pmax
comp=Z,18µm,11.0s
CD2 LR LR
comp=Z,41µm,18.4s
CD2 LR LR
comp=Z,39µm,20.4s
HIA Hailar 75.72 330 P **P 08 35 34.8 +0.2**
HIA pmax pmax
comp=Z,416nm,1.1s
HIA MLR MLR
comp=Z,35µm,21.0s
HIA Hailar 75.72 330 P **P 08 35 34.8 +0.2**
HIA IAmb IAmb 08 35 36.1
comp=Z,416nm,1.1s
QSPA South Pole Qui 75.73 180 P **P 08 35 34.7 0.0**
comp=Z,304nm,0.9s
QSPA LR LR 09 08 18.3
comp=Z,42µm,18.1s,baz=34,slow=35
QSPA South Pole Qui 75.73 180 P **P 08 35 34.4 -0.3**
ZEA Zeya 75.74 337 *ce* P **P 08 35 35.8 +1.2**
ZEA *e* S **S 08 45 19.2 +5.3**
ZEA *e* 08 46 06.8
ZEA *e* 08 50 04.9
ZEA pmax pmax
comp=N,160nm,0.8s
ZEA pmax pmax
comp=E,50nm,0.8s
ZEA pmax pmax
comp=Z,280nm,0.8s
ZEA pmax pmax
comp=E,2µm,12.3s
ZEA pmax pmax
comp=N,3µm,12.8s
ZEA pmax pmax
comp=Z,8µm,13.6s
ZEA smax smax
comp=E,5µm,16.3s
BTO Baotou 75.84 319 *e* P **P 08 35 37.1 +1.5**
BTO S **S 08 45 20.4 +4.7**
BTO LR LR
comp=E,67µm,20.8s
BTO LR LR
comp=E,54µm,22.6s
CHGN Chignik 76.09 19 IAmb IAmb 08 37 44.9
comp=Z,150nm,0.9s
CHGN Chignik 76.09 19 P **P 08 35 34.2 -2.3**
baz=215
CHIR Chirikof Islan 76.62 21 P **P 08 35 38.6 -1.0**
baz=217
SII Sitkinak Islan 77.70 21 IAMs_20 IAMs_20 09 04 43.7
comp=Z,68µm,20.0s
SII Sitkinak Islan 77.70 21 P **P 08 35 45.1 -0.6**
baz=219
SII Sitkinak Islan 77.70 21 P **P 08 35 47.4 +1.8**
LZH Lanzhou 77.74 312 ⇑*i* P **P 08 35 48.1 +1.6**
LZH pP pwP 08 35 59.5 +0.7
LZH sP sP 08 36 03.6 +3.0
LZH PP **PP 08 38 42.8 +0.4**
LZH S **S 08 45 40.0 +3.2**
LZH sS sS 08 45 52.9 -0.8
LZH pmax pmax
comp=Z,480nm,1.2s
LZH pmax pmax
comp=Z,18µm,5.7s
LZH LR LR
comp=Z,20µm,16.3s
LZH LR LR
comp=Z,22µm,17.9s
LZH LR LR
comp=Z,38µm,17.9s
SEY Seymchan 77.81 353 LR LR 09 05 35.6
comp=Z,81µm,21.9s,baz=174,slow=32
SEY Seymchan 77.81 353 *c i* P **P 08 35 46.2 +0.2**
SEY pmax pmax
comp=Z,353nm,1.0s
PBA Port Blair 77.84 285 *e* P **P 08 35 45.1 -2.2**
PBA Port Blair 77.84 285 P P 08 35 52.2 +4.9
SNR=7.8
DGPR DIGLIPUR 78.13 287 *e* P **P 08 35 49.0 +0.1**
DGPR IAmb IAmb 08 35 56.4
comp=Z,292nm,0.9s
RPN Rapa Nui 78.20 115 LR LR 09 03 21.3
comp=Z,22µm,20.1s,baz=265,slow=30
OHAK Old Harbor 78.53 21 P **P 08 35 50.5 +0.4**
OHAK IAmb IAmb 08 36 35.3
comp=Z,365nm,1.4s
OHAK Old Harbor 78.53 21 P **P 08 35 49.1 -1.0**
baz=219
OHAK S **S 08 45 39.9 -4.1**
baz=219
KDAK Kodiak Island 79.20 21 P **P 08 35 54.0 +0.2**
comp=Z,23nm,0.9s,baz=204,slow=2.6,SNR=12
KDAK LR LR 09 04 51.0
comp=Z,98µm,21.3s,baz=242,slow=31
KDAK Kodiak Island 79.20 21 P **P 08 35 54.2 +0.4**
KDAK IAmb IAmb 08 36 13.3
comp=Z,151nm,1.2s
KDAK Kodiak Island 79.20 21 P **P 08 35 53.3 -0.6**
baz=220
KDAK S **S 08 45 46.0 -5.2**
baz=220
GAMB Gambell 79.57 10 IAmb IAmb 08 35 57.0
comp=Z,125nm,0.9s
GAMB IAMs_20 IAMs_20 09 07 24.2
comp=Z,46µm,20.0s
GAMB Gambell 79.57 10 P **P 08 35 55.4 -0.3**
baz=201,SNR=88
GAMB S **S 08 45 54.3 -0.4**
baz=201
P18K Big Mountain, 79.60 19 IAmb IAmb 08 36 23.9
comp=Z,364nm,1.4s
P18K IAMs_20 IAMs_20 09 04 14.1
comp=Z,76µm,21.0s
P18K Big Mountain, 79.60 19 P **P 08 35 54.5 -1.5**
baz=217
P18K S **S 08 45 55.3 -0.1**
baz=217
Q19K Cape Douglas, 79.73 20 IAmb IAmb 08 36 22.7
comp=Z,463nm,1.4s
Q19K Cape Douglas, 79.73 20 P **P 08 35 55.5 -1.3**
baz=219,SNR=14
Q19K S **S 08 45 58.0 +1.2**
baz=219
LKP Lekhapani 80.30 301 *e* P **P 08 36 00.6 0.0**
LKP IAmb IAmb 08 36 04.2
comp=Z,548nm,1.2s
P19K Oil Pt 80.43 19 IAmb IAmb 08 36 27.8
comp=Z,290nm,1.1s
P19K IAMs_20 IAMs_20 09 05 11.4
comp=Z,86µm,21.0s
P19K Oil Pt 80.43 19 P **P 08 35 58.9 -1.6**
baz=219,SNR=12
P19K S **S 08 46 05.3 +1.1**
baz=219
CIT Chita 80.50 330 *e* P **P 08 36 01.8 +0.7**
CIT *e* 08 36 17.9
CIT *e* S **S 08 46 06.6 +1.3**
CIT *e* 08 46 50.8
CIT pmax pmax
comp=Z,2µm,2.2s
O19K Port Alsworth 80.52 19 IAmb IAmb 08 36 29.0
comp=Z,811nm,2.0s
O19K IAMs_20 IAMs_20 09 04 21.2
comp=Z,80µm,22.0s
O19K Port Alsworth 80.52 19 P **P 08 35 59.4 -1.4**
baz=218,SNR=27
O19K S **S 08 46 04.6 -0.3**
baz=218
AIS Amsterdam Isla 80.84 233 IAMs_20 IAMs_20 09 08 05.2
comp=Z,70µm,20.0s
SVW2 Sparrevohn 80.86 17 IAmb IAmb 08 36 30.7
comp=Z,170nm,1.4s
HOM Homer 80.95 20 IAMs_20 IAMs_20 09 04 41.7
comp=Z,74µm,22.0s
HOM Homer 80.95 20 P **P 08 36 02.7 -0.5**
baz=220
HOM S **S 08 46 10.4 +0.9**
baz=220
N19K Bonanza Creek 80.96 18 P **P 08 36 02.1 -1.3**
baz=218,SNR=7.4
O20K Slope Mountain 80.96 19 P **P 08 36 02.4 -1.0**
baz=220
O20K S **S 08 46 10.7 +0.9**
baz=220
CNPM China Poot 80.99 20 IAmb IAmb 08 36 41.0
comp=Z,174nm,1.1s
CNPM IAMs_20 IAMs_20 09 09 06.6
comp=Z,71µm,20.0s
MOKO MOKOCHONG 81.05 300 *e* P **P 08 36 04.9 +0.2**
MOKO IAmb IAmb 08 36 08.4
comp=Z,794nm,1.0s
DIBR DIBRUGARH 81.12 301 *e* P **P 08 36 06.2 +1.3**
KOHI KOHIMA 81.18 299 *e* P **P 08 36 04.9 -0.6**
KOHI IAmb IAmb 08 36 25.3
comp=Z,644nm,1.2s
BRLK Bradley Lake 81.28 20 IAmb IAmb 08 36 11.9
comp=Z,189nm,1.0s
BRLK IAMs_20 IAMs_20 09 08 47.1
comp=Z,65µm,20.0s
BRSE Bradley Lake S 81.32 20 P **P 08 36 04.6 -0.6**
baz=221,SNR=25
BRSE S **S 08 46 13.0 -0.4**
baz=221
ANM Nome 81.42 12 IAmb IAmb 08 36 33.9
comp=Z,343nm,1.4s
ANM IAMs_20 IAMs_20 09 07 03.1
comp=Z,54µm,20.0s
ANM Nome 81.42 12 P **P 08 36 05.8 +0.2**
baz=207,SNR=129
ANM S **S 08 46 13.2 -1.1**
baz=207
YAK Yakutsk 81.50 343 LR LR 09 13 22.0
comp=Z,40µm,18.1s,baz=152,slow=36
YAK Yakutsk 81.50 343 *c i* P **P 08 36 05.9 -0.2**
YAK *e* *PP **pwP 08 36 18.9 +0.2**
YAK *e* S **S 08 46 14.3 -0.8**
YAK *e* *SS **SPn 08 46 56.3 -5.2**
YAK *e* SS **SS 08 51 30.0 -2.7**
YAK pmax pmax
comp=Z,940nm,0.9s
YAK pmax pmax
comp=N,184nm,0.9s
YAK pmax pmax
comp=E,192nm,1.0s
YAK smax smax
comp=N,1µm,3.8s
YAK smax smax
comp=E,791nm,2.4s
YAK MLR MLR
comp=Z,45µm,15.0s
YAK MLR MLR
comp=N,21µm,15.0s
YAK MLR MLR
comp=E,24µm,17.0s
YAK Yakutsk 81.50 343 P **P 08 36 05.9 -0.2**
YAK IAMs_20 IAMs_20 09 15 24.4
comp=Z,55µm,19.0s
ULN Ulaanbaatar 81.56 324 *c i* P **P 08 36 07.5 +0.6**
ULN pmax pmax
comp=Z,363nm,0.9s
ULN MLR MLR
comp=Z,23µm,19.0s
ULN Ulaanbaatar 81.56 324 P **P 08 36 07.6 +0.6**
ULN IAmb IAmb 08 36 08.3
comp=Z,301nm,0.9s
M19K Big River Lodg 81.85 17 IAmb IAmb 08 36 36.1
comp=Z,161nm,1.2s
M19K Big River Lodg 81.85 17 P **P 08 36 07.6 -0.4**
baz=218
M19K S **S 08 46 16.7 -2.1**
baz=218
TNA Tin City 81.85 10 P **P 08 36 07.5 -0.4**
TNA IAmb IAmb 08 36 34.9
comp=Z,162nm,1.1s
TNA Tin City 81.85 10 P **P 08 36 07.6 -0.3**
baz=205,SNR=113
TNA S **S 08 46 16.9 -1.6**
baz=205
SONM Songino Array 81.92 324 P **P 08 36 09.1 +0.2**
comp=Z,115nm,0.9s,baz=142,slow=6.1,SNR=415
SONM PKiKP **PKiKP 08 41 30.6 -1.2**
comp=Z,4.3nm,0.9s,baz=152,slow=6.7,SNR=1.6
SONM PKKPbc **PKKPbc 08 54 38.5 -3.0**
comp=Z,6.0nm,1.1s,baz=246,slow=2.0,SNR=4.9
SONM PKPPKP **P'P'df 09 02 40.0 -2.0**
comp=Z,0.9nm,1.0s,baz=85,slow=20,SNR=4.2
SONM LR LR 09 10 47.7
comp=Z,21µm,22.0s,baz=120,slow=34
SONM Songino Array 81.92 324 P **P 08 36 09.1 +0.2**
L19K White Mountain 81.94 17 IAMs_20 IAMs_20 09 05 51.7
comp=Z,77µm,22.0s
L19K White Mountain 81.94 17 P **P 08 36 08.3 -0.2**
baz=217,SNR=41
L19K S **S 08 46 18.9 -0.8**
baz=217
CAPN Captain Cook N 81.96 19 P **P 08 36 08.8 +0.3**
baz=221
ITAN ITANAGAR 82.00 301 *e* P **P 08 36 10.7 +1.1**
ITAN IAmb IAmb 08 36 27.4
comp=Z,666nm,0.8s
SEW Seward 82.02 20 P **P 08 36 08.1 -0.8**
baz=222,SNR=5.7
SEW S **S 08 46 19.3 -1.2**
baz=222
GTA Gaotai 82.08 314 ⇑P **P 08 36 11.0 +1.1**
GTA pP pP 08 36 19.7 -0.4
GTA sP sP 08 36 25.0 +1.0
GTA S **S 08 46 21.7 -0.7**
GTA pmax pmax
comp=Z,330nm,1.3s
GTA pmax pmax
comp=Z,15µm,10.8s
GTA LR LR
comp=Z,14µm,18.7s
GTA LR LR
comp=Z,26µm,21.9s
GTA LR LR
comp=Z,28µm,21.1s
BILL Bilibino 82.11 360 *d i* P **P 08 36 09.0 -0.2**
BILL *e* *PP **pP 08 36 17.6 -1.8**
BILL *e* *SP **sP 08 36 23.1 -0.2**
BILL *e* 08 39 15.4
BILL *i* S **S 08 46 14.2 -7.0**
BILL pmax pmax
comp=Z,448nm,0.9s
BILL Bilibino 82.11 360 P **P 08 36 09.1 -0.2**
MAW Mawson 82.14 202 P **P 08 36 09.5 -0.1**
comp=Z,96nm,0.9s,baz=121,slow=5.2,SNR=26
MAW LR LR 09 07 18.0
comp=Z,97µm,21.6s,baz=99,slow=32
MAW Mawson 82.14 202 P **P 08 36 10.0 +0.5**
baz=82,SNR=26
M20K Styx River 82.20 18 IAmb IAmb 08 37 38.0
comp=Z,176nm,1.6s
M20K Styx River 82.20 18 P **P 08 36 08.9 -1.1**
baz=219
M20K S **S 08 46 19.2 -3.4**
baz=219
O22K Cooper Landing 82.21 20 IAMs_20 IAMs_20 09 09 36.0
comp=Z,52µm,20.0s
O22K Cooper Landing 82.21 20 P **P 08 36 09.0 -0.9**
baz=222,SNR=21
O22K S **S 08 46 19.8 -2.6**
baz=222
TTA Tatalina 82.22 16 P **P 08 36 09.8 -0.2**
TTA pmax pmax
comp=Z,76nm,1.0s
TTA Tatalina 82.22 16 P **P 08 36 09.8 -0.2**
TTA Tatalina 82.22 16 P **P 08 36 09.9 0.0**
baz=216,SNR=70
TTA S **S 08 46 21.7 -1.0**
baz=216
L20K Farewell, AK 82.45 17 P **P 08 36 11.0 -0.2**
baz=218,SNR=133
L20K S **S 08 46 22.9 -2.1**
baz=218
Q23K Middleton Isla 82.62 22 IAMs_20 IAMs_20 09 11 04.1
comp=Z,40µm,19.0s
Q23K Middleton Isla 82.62 22 P **P 08 36 11.7 -0.3**
baz=225
RC01 Rabbit Creek A 82.66 20 IAmb IAmb 08 36 54.0
comp=Z,331nm,1.3s
RC01 IAMs_20 IAMs_20 09 05 24.7
comp=Z,70µm,22.0s
RC01 Rabbit Creek A 82.66 20 P **P 08 36 11.4 -0.8**
baz=222,SNR=14
PWL Port Wells 82.95 20 IAMs_20 IAMs_20 09 06 21.9
comp=Z,46µm,22.0s
PWL Port Wells 82.95 20 P **P 08 36 12.8 -1.0**
baz=224
SHL Shillong 83.02 298 *e* P **P 08 36 15.5 +0.3**
SHL IAmb IAmb 08 36 21.0
comp=Z,975nm,1.3s
SHL Shillong 83.02 298 P **P 08 36 15.6 +0.5**
SNR=422
M22K Willow 83.03 19 P **P 08 36 12.8 -1.2**
baz=222,SNR=42
K20K Telida 83.09 17 IAmb IAmb 08 36 43.9
comp=Z,533nm,1.8s
K20K IAMs_20 IAMs_20 09 07 11.2
comp=Z,58µm,21.0s
K20K Telida 83.09 17 P **P 08 36 14.3 -0.1**
baz=218,SNR=47
PMR Palmer 83.23 20 P **P 08 36 14.2 -0.9**
baz=223,SNR=63
PPLA Purkeypile 83.27 18 IAmb IAmb 08 36 43.3
comp=Z,521nm,1.9s
PPLA Purkeypile 83.27 18 P **P 08 36 13.6 -2.0**
baz=220,SNR=17
KNK Knik Glacier 83.31 20 IAmb IAmb 08 36 20.8
comp=Z,377nm,1.2s
KNK IAMs_20 IAMs_20 09 13 00.2
comp=Z,39µm,18.0s
KNK Knik Glacier 83.31 20 P **P 08 36 14.9 -0.8**
baz=223,SNR=61
GUWA GUWAHATI 83.39 299 *e* P **P 08 36 16.6 -0.2**
GUWA IAmb IAmb 08 36 22.3
comp=Z,2µm,1.9s
GLI Glacier Island 83.39 21 P **P 08 36 15.0 -1.1**
baz=225,SNR=17
GHO Glory Hole Cre 83.43 19 IAMs_20 IAMs_20 09 05 50.5
comp=Z,69µm,22.0s
CUT Chulitna 83.47 19 IAMs_20 IAMs_20 09 06 29.3
comp=Z,74µm,21.0s
CUT Chulitna 83.47 19 P **P 08 36 14.8 -1.6**
baz=222,SNR=33
GCSA Galena City Sc 83.47 15 P **P 08 36 16.2 -0.1**
baz=215,SNR=50
FID Port Fidalgo 83.51 21 IAMs_20 IAMs_20 09 12 20.8
comp=Z,43µm,19.0s
EYAK Cordova Ski Ar 83.62 21 IAmb IAmb 08 37 04.2
comp=Z,256nm,1.4s
EYAK Cordova Ski Ar 83.62 21 P **P 08 36 16.2 -1.0**
baz=226,SNR=14
SML Sawmill 83.64 20 P **P 08 36 16.7 -0.7**
baz=223,SNR=49
KAIM Kayak Island 83.68 22 IAmb IAmb 08 36 43.7
comp=Z,312nm,1.1s
KAIM IAMs_20 IAMs_20 09 09 28.0
comp=Z,51µm,19.0s
KAIM Kayak Island 83.68 22 P **P 08 36 17.1 -0.4**
baz=227
CAST Castle Rocks 83.70 17 IAmb IAmb 08 36 21.8
comp=Z,255nm,1.0s
CAST IAMs_20 IAMs_20 09 06 46.3
comp=Z,64µm,21.0s
CAST Castle Rocks 83.70 17 P **P 08 36 16.2 -1.4**
baz=220,SNR=185
J20K Nowinta River 83.72 16 IAmb IAmb 08 36 45.9
comp=Z,220nm,1.3s
J20K IAMs_20 IAMs_20 09 12 02.8
comp=Z,51µm,19.0s
J20K Nowinta River 83.72 16 P **P 08 36 17.6 0.0**
baz=218,SNR=75
MCCM Marconi Confer 83.84 48 IAmb IAmb 08 37 11.5
comp=Z,96nm,1.1s
KMPM Mount Pierce 83.88 46 IAmb IAmb 08 36 41.6
comp=Z,180nm,1.4s
BOD Bodaibo 83.92 335 *e* P **P 08 36 17.9 -0.9**
BOD pmax pmax
comp=Z,388nm,1.9s

KCPM	Cahto Peak	83.96	47	IAmb	IAmb	08 36 23.7	
	comp=Z,102nm,0.8s						
CHUM	Lake Minchumin	83.99	17	P	P	08 36 18.0	-1.0
	baz=220,SNR=74						
SCM	Sheep Creek Mo	83.99	20	P	P	08 36 18.3	-0.9
	baz=224,SNR=33						
SUCK	Suckling Hills	84.01	22	IAMs_20	IAMs_20	09 09 18.7	
	comp=Z,51µm,20.0s						
HMT	Hamilton	84.02	22	IAmb	IAmb	08 36 46.9	
	comp=Z,216nm,1.2s						
DIV	Divide	84.02	21	IAmb	IAmb	08 37 04.3	
	comp=Z,446nm,1.6s						
HOPS	Hopland Field	84.04	47	IAmb	IAmb	08 36 59.4	
	comp=Z,204nm,1.6s						
KMRM	Mail Ridge	84.09	46	IAmb	IAmb	08 36 24.5	
	comp=Z,94nm,0.8s						
JCC	Jacoby Creek,	84.11	45	IAmb	IAmb	08 37 00.9	
	comp=Z,130nm,1.4s						
JCC				IAMs_20	IAMs_20	09 05 57.0	
	comp=Z,42µm,20.0s						
KTH	Kantishna Hill	84.14	18	IAmb	IAmb	08 36 23.9	
	comp=Z,256nm,1.1s						
KLU	Klutina	84.23	21	IAmb	IAmb	08 37 15.7	
	comp=Z,182nm,1.2s						
KLU				IAMs_20	IAMs_20	09 10 52.3	
	comp=Z,39µm,19.0s						
KLU	Klutina	84.23	21	P	P	08 36 19.7	-0.7
	baz=226,SNR=36						
BGLC	Bering Glacier	84.23	23	P	P	08 36 20.1	-0.2
	baz=228						
TRF	Thorofare Moun	84.25	18	P	P	08 36 19.0	-1.5
	baz=222,SNR=95						
KRPM	Rodgers	84.26	45	IAmb	IAmb	08 36 40.9	
	comp=Z,104nm,1.2s						
BERG	Berg Lake	84.26	22	IAMs_20	IAMs_20	09 09 45.9	
	comp=Z,56µm,19.0s						
BMRM	Bremner River	84.32	22	IAmb	IAmb	08 36 51.6	
	comp=Z,219nm,1.3s						
BMRM	Bremner River	84.32	22	P	P	08 36 19.8	-1.1
	baz=227						
KHMM	Horse Mountain	84.34	46	IAmb	IAmb	08 36 41.9	
	comp=Z,76nm,1.0s						
WAT6	Susitna Watana	84.40	19	P	P	08 36 20.3	-1.1
	baz=224,SNR=54						
GOMU	GeErMu	84.41	309	P	P	08 36 22.6	+0.3
GOMU				S	S	08 46 37.2	-9.4
GOMU				pmax	pmax		
	comp=Z,26nm,1.1s						
GOMU				LR	LR		
	comp=Z,13µm,20.6s						
GOMU				LR	LR		
	comp=Z,15µm,20.4s						
GOMU				LR	LR		
	comp=Z,17µm,19.9s						
SNH	Sunshine Point	84.44	23	IAmb	IAmb	08 36 47.6	
	comp=Z,182nm,1.0s						
SNH				IAMs_20	IAMs_20	09 14 50.8	
	comp=Z,46µm,18.0s						
SNCC	San Nicolas Is	84.53	54	P	P	08 36 22.0	-0.5
	baz=249						
BPAW	Bear Paw Mtn.	84.54	17	IAmb	IAmb	08 36 48.4	
	comp=Z,476nm,1.9s						
BPAW				IAMs_20	IAMs_20	09 07 34.4	
	comp=Z,61µm,21.0s						
BPAW	Bear Paw Mtn.	84.54	17	P	P	08 36 20.3	-1.6
	baz=221,SNR=62						
M24K	Tolsona, Glenn	84.57	20	P	P	08 36 21.6	-0.5
	baz=225,SNR=22						
BBGB	Big Mountain B	84.59	50	IAmb	IAmb	08 36 41.7	
	comp=Z,92nm,1.0s						
WAX	Waxell Ridge	84.61	23	IAmb	IAmb	08 36 31.9	
	comp=Z,180nm,1.0s						
WAX				IAMs_20	IAMs_20	09 10 16.7	
	comp=Z,50µm,20.0s						
PMPB	Monarch Peak	84.63	51	IAmb	IAmb	08 37 11.2	
	comp=Z,201nm,1.5s						
O02D	Mt. Diablo Mer	84.72	46	IAmb	IAmb	08 36 28.1	
	comp=Z,93nm,0.8s						
O02D	Mt. Diablo Mer	84.72	46	P	P	08 36 23.1	-0.3
	baz=246,SNR=116						
N25K	Chitina, Valde	84.76	21	IAmb	IAmb	08 36 51.5	
	comp=Z,233nm,1.4s						
N25K	Chitina, Valde	84.76	21	P	P	08 36 22.0	-1.1
	baz=227,SNR=34						
DHUB	DHUBRI	84.77	298	*e*P	P	08 36 24.1	+0.3
DHUB				IAmb	IAmb	08 36 27.9	
	comp=Z,1µm,1.5s						
SBC	Santa Barbara	84.81	53	P	P	08 36 24.2	+0.3
	baz=249						
DIB	Dawson Inlet,	84.85	32	IAmb	IAmb	08 36 33.1	
	comp=Z,87nm,1.1s						
H02S1	DAWSON INLET T	84.85	32	P	P	08 36 23.0	-0.6
	SNR=41						
MCK	McKinley	84.87	18	P	P	08 36 22.3	-1.2
	baz=223,SNR=119						
DHY	Denali Highway	84.87	19	IAmb	IAmb	08 36 52.1	
	comp=Z,220nm,1.2s						
DHY	Denali Highway	84.87	19	P	P	08 36 22.7	-1.0
	baz=224,SNR=50						
ISLE	Juniper Island	84.90	23	IAmb	IAmb	08 36 45.1	
	comp=Z,144nm,1.1s						
SMMC	Simmler	84.91	52	P	P	08 36 24.2	-0.2
	baz=249						
VRDI	Verde Repeater	84.91	22	IAmb	IAmb	08 37 00.5	
	comp=Z,112nm,1.1s						
GLB	Gilahina Butte	84.93	21	IAmb	IAmb	08 37 10.8	
	comp=Z,192nm,1.4s						
L02E	Cave Junction	84.95	44	IAmb	IAmb	08 36 45.8	
	comp=Z,188nm,1.9s						
L02E				IAMs_20	IAMs_20	09 06 43.3	
	comp=Z,54µm,21.0s						
L02E	Cave Junction	84.95	44	P	P	08 36 24.3	-0.2
	baz=246,SNR=20						
YAH	Yahtse	84.97	23	IAmb	IAmb	08 36 54.7	
	comp=Z,467nm,1.8s						
YAH				IAMs_20	IAMs_20	09 15 57.8	
	comp=Z,38µm,18.0s						
ZAK	Zakamensk	84.97	325	*e*P	P	08 36 23.7	-0.8
ZAK				*e*		08 46 48.1	
ZAK				pmax	pmax		
	comp=Z,452nm,1.2s						
RDOG	Red Dog Mine	84.98	11	IAmb	IAmb	08 36 52.1	
	comp=Z,293nm,1.4s						
RDOG				IAMs_20	IAMs_20	09 09 04.1	
	comp=Z,50µm,21.0s						
RDOG	Red Dog Mine	84.98	11	P	P	08 36 24.0	0.0
	baz=209,SNR=111						
LSA	Lhasa	85.00	302	P	P	08 36 26.2	+0.6
LSA				S	S	08 46 42.3	-11
LSA				pmax	pmax		
	comp=Z,220nm,1.0s						
LSA				pmax	pmax		
	comp=Z,8µm,10.0s						
LSA				LR	LR		
	comp=Z,8µm,32.0s						
LSA				LR	LR		
	comp=Z,16µm,25.6s						
LSA				LR	LR		
	comp=Z,12µm,26.3s						
LSA	Lhasa	85.00	302	P	P	08 36 26.1	+0.6
BWN	Browne	85.03	18	IAMs_20	IAMs_20	09 07 16.9	
	comp=Z,77µm,22.0s						
HG4B	Hotspring	85.04	33	IAmb	IAmb	08 37 00.1	
	comp=Z,256nm,1.9s						
I21K	Tanana	85.09	16	IAMs_20	IAMs_20	09 08 23.9	
	comp=Z,66µm,21.0s						
I21K	Tanana	85.09	16	P	P	08 36 24.4	-0.1
	baz=220,SNR=227						
N02D	Trinity Center	85.09	46	IAmb	IAmb	08 36 49.7	
	comp=Z,170nm,1.4s						
N02D				IAMs_20	IAMs_20	09 06 18.0	
	comp=Z,67µm,21.0s						
N02D	Trinity Center	85.09	46	P	P	08 36 25.2	0.0
	baz=246,SNR=43						
HARP	HAARP	85.12	20	P	P	08 36 23.4	-1.4
	baz=226,SNR=16						
K02D	Willamette Mer	85.13	44	P	P	08 36 25.6	+0.2
	baz=246,SNR=28						
J01E	Myrtle Point	85.15	43	IAMs_20	IAMs_20	09 07 56.4	
	comp=Z,62µm,20.0s						
J01E	Myrtle Point	85.15	43	P	P	08 36 24.7	-0.6
	baz=245,SNR=12						
M02C	Callahan	85.16	45	IAmb	IAmb	08 37 06.3	
	comp=Z,249nm,1.8s						
M02C				IAMs_20	IAMs_20	09 06 20.6	
	comp=Z,49µm,21.0s						
M02C	Callahan	85.16	45	P	P	08 36 25.4	-0.1
	baz=246,SNR=66						
SCI2	San Clemente I	85.21	54	P	P	08 36 26.1	+0.2
	baz=250						
BCW	Bitter Crk WRg	85.22	52	IAmb	IAmb	08 36 33.3	
	comp=Z,61nm,0.8s						
H21K	Melozitna Rive	85.24	16	P	P	08 36 25.3	0.0
	baz=219,SNR=186						
TABL	Table Mountain	85.25	23	IAmb	IAmb	08 37 11.4	
	comp=Z,182nm,1.1s						
MLY	Manley	85.31	17	IAMs_20	IAMs_20	09 08 19.1	
	comp=Z,49µm,21.0s						
MLY	Manley	85.31	17	P	P	08 36 24.5	-1.2
	baz=221,SNR=61						
IRK	Irkutsk	85.36	327	*e*P	P	08 36 25.0	-1.2
IRK				*e*		08 46 53.9	
IRK				pmax	pmax		
	comp=Z,678nm,2.0s						
PCA	Pinnacle	85.37	24	IAmb	IAmb	08 36 53.3	
	comp=Z,131nm,1.0s						
PINM	Pinnacle	85.37	24	P	P	08 36 24.6	-1.6
	baz=231						
YBH	Yreka Blue Hor	85.39	45	PKKPbc	PKKPbc	08 54 30.8	-2.1
	comp=Z,1.6nm,0.9s,baz=358,slow=0.9,SNR=5.4						
YBH				LR	LR	09 07 01.3	
	comp=Z,45µm,21.0s,baz=252,slow=30						
YBH	Yreka Blue Hor	85.39	45	IAMs_20	IAMs_20	09 06 39.9	
	comp=Z,45µm,21.0s						
PAX	Paxson	85.41	20	IAmb	IAmb	08 37 21.1	
	comp=Z,128nm,1.3s						
PAX	Paxson	85.41	20	P	P	08 36 24.8	-1.5
	baz=226						
PNL	Peninsula	85.44	24	P	P	08 36 24.9	-1.6
	baz=232,SNR=7.9						
BARN	Barnard Glacie	85.45	22	IAmb	IAmb	08 37 13.2	
	comp=Z,220nm,1.2s						
CIS	Catalina Islan	85.46	54	P	P	08 36 26.4	-0.8
	baz=250						
O03E	Paynes Creek	85.46	47	IAmb	IAmb	08 37 07.0	
	comp=Z,171nm,1.2s						
O03E				IAMs_20	IAMs_20	09 06 41.6	
	comp=Z,57µm,20.0s						
O03E	Paynes Creek	85.46	47	P	P	08 36 26.1	-1.0
	baz=247,SNR=72						
NEA2	Nenana	85.46	18	IAMs_20	IAMs_20	09 07 50.9	
	comp=Z,64µm,22.0s						
NEA2	Nenana	85.46	18	P	P	08 36 24.8	-1.7
	baz=223,SNR=116						
HUMO	Hull Mountain	85.58	44	IAmb	IAmb	08 36 47.7	
	comp=Z,87nm,1.1s						
HUMO				IAMs_20	IAMs_20	09 07 50.7	
	comp=Z,49µm,20.0s						
I02E	Swisshome, OR	85.60	43	IAmb	IAmb	08 37 26.3	
	comp=Z,115nm,1.2s						
I02E				IAMs_20	IAMs_20	09 08 55.2	
	comp=Z,51µm,20.0s						
I02E	Swisshome, OR	85.60	43	P	P	08 36 27.6	0.0
	baz=245,SNR=6.7						
SIT	Sitka	85.61	28	P	P	08 36 26.1	-1.2
	baz=235						
OSI	Osito Audit: C	85.64	53	P	P	08 36 27.9	-0.2
	baz=249						
FMP	Fort Macarthur	85.66	54	P	P	08 36 27.9	-0.2
	baz=250						
WRH	Wood River Hil	85.66	18	IAmb	IAmb	08 36 54.3	
	comp=Z,392nm,1.4s						
ARVC	Arvin	85.73	52	P	P	08 36 27.6	-0.9
	baz=249,SNR=9.3						
VOG	Valley Oaks Go	85.74	51	P	P	08 36 27.4	-1.1
	baz=249						
CRAG	Craig	85.75	30	P	P	08 36 27.1	-0.9
	baz=237						
I03D	Drain, OR	85.76	43	P	P	08 36 27.8	-0.6
	baz=246,SNR=10						
I23K	Minto, Yukon-K	85.79	17	IAmb	IAmb	08 36 55.2	
	comp=Z,275nm,1.6s						
I23K				IAMs_20	IAMs_20	09 10 43.5	
	comp=Z,59µm,20.0s						
I23K	Minto, Yukon-K	85.79	17	P	P	08 36 26.7	-1.3
	baz=222,SNR=72						
VES	Vestal, Richgr	85.79	52	P	P	08 36 27.3	-1.4
	baz=249,SNR=14						
DECC	Green Verdugo	85.81	53	P	P	08 36 27.6	-1.4
	baz=250,SNR=5.7						
L04D	Klamath Falls	85.86	45	IAmb	IAmb	08 36 45.7	
	comp=Z,106nm,1.1s						
L04D	Klamath Falls	85.86	45	P	P	08 36 28.6	-0.5
	baz=247,SNR=49						
PASC	Pasadena Art C	85.90	53	IAMs_20	IAMs_20	09 08 34.6	
	comp=Z,54µm,20.0s						
HDA	Harding Lake	85.96	18	P	P	08 36 27.4	-1.5
	baz=224,SNR=182						
MENT	Mentasta	85.97	20	IAmb	IAmb	08 37 31.0	
	comp=Z,69nm,1.0s						
MDM	Murphy Dome	85.98	18	IAMs_20	IAMs_20	09 07 55.5	
	comp=Z,62µm,22.0s						
M04C	Macdoel	86.01	45	IAmb	IAmb	08 36 46.5	
	comp=Z,96nm,1.1s						
M04C	Macdoel	86.01	45	P	P	08 36 29.1	-0.8
	baz=247,SNR=35						
TCOL	CIGO, UAF Yank	86.02	18	IAMs_20	IAMs_20	09 07 56.7	
	comp=Z,74µm,22.0s						
TCOL	CIGO, UAF Yank	86.02	18	P	P	08 36 27.5	-1.7
	baz=224,SNR=72						
COLA	College	86.03	18*c*	*i*P	P	08 36 28.0	-1.2
COLA				pmax	pmax		
	comp=Z,249nm,1.4s						
COLA				MLR	MLR		
	comp=Z,23µm,18.0s						
COLA	College	86.03	18	P	P	08 36 27.5	-1.7
COLA	College	86.03	18	IAMs_20	IAMs_20	09 07 56.7	
	comp=Z,70µm,22.0s						
COLA	College	86.03	18	P	P	08 36 27.2	-1.9
	baz=224						
HEBO	Mount Hebo	86.12	42	IAmb	IAmb	08 36 45.3	
	comp=Z,112nm,1.1s						
RIDG	Independent Ri	86.15	19	P	P	08 36 28.5	-1.4
RIDG				IAMs_20	IAMs_20	09 08 01.5	
	comp=Z,55µm,22.0s						
RIDG	Independent Ri	86.15	19	P	P	08 36 28.7	-1.2
	baz=226,SNR=50						
COR	Corvallis	86.15	42	P	P	08 36 30.1	-0.2
COR				pmax	pmax		
	comp=Z,184nm,1.5s						
COR	Corvallis	86.15	42	P	P	08 36 30.1	-0.2
COR				IAmb	IAmb	08 37 29.0	
	comp=Z,184nm,1.4s						
L26K	Log Cabin Wild	86.16	20	IAmb	IAmb	08 36 35.1	
	comp=Z,74nm,1.1s						
L26K				IAMs_20	IAMs_20	09 08 25.3	
	comp=Z,52µm,21.0s						
L26K	Log Cabin Wild	86.16	20	P	P	08 36 29.0	-1.0
	baz=228,SNR=84						
RUBR	Rubicon Trail	86.16	48	P	P	08 36 30.0	-0.8
RUBR				IAmb	IAmb	08 36 36.9	
	comp=Z,75nm,0.9s						
ISA	Isabella, Lake	86.19	52	IAmb	IAmb	08 37 08.0	
	comp=Z,138nm,1.5s						
ISA	Isabella, Lake	86.19	52	P	P	08 36 30.0	-0.9
	baz=249,SNR=30						
BUCK	Buck Mountain	86.20	43	IAmb	IAmb	08 36 46.3	
	comp=Z,80nm,1.1s						
M27K	Edge Creek, AK	86.22	21	IAmb	IAmb	08 37 17.9	
	comp=Z,200nm,1.6s						
M27K	Edge Creek, AK	86.22	21	P	P	08 36 29.5	-1.0
	baz=229						
ILAR	Eielson Array	86.24	18	P	P	08 36 29.0	-1.3
	comp=Z,42nm,0.7s,baz=240,slow=5.2,SNR=519						
ILAR				PKiKP	PKiKP	08 41 36.7	-1.3
	comp=Z,2.0nm,0.6s,baz=264,slow=3.3,SNR=11						
ILAR				PKKPbc	PKKPdf	08 54 28.0	+2.9
	comp=Z,9.3nm,0.9s,baz=283,slow=1.6,SNR=12						
ILAR				PKPPKP	P'P'df	09 02 32.3	-0.3
	comp=Z,5.0nm,1.1s,baz=340,slow=3.3,SNR=6.4						
ILAR				LR	LR	09 09 31.1	
	comp=Z,89µm,21.1s,baz=240,slow=32						
EDW2	Edwards Air Fo	86.29	53	P	P	08 36 30.7	-0.6
	baz=250,SNR=36						
109C	Camp Elliot, M	86.31	55	P	P	08 36 30.1	-1.3
	baz=250						
POKR	Poker Plat Res	86.33	18	IAmb	IAmb	08 36 57.5	
	comp=Z,256nm,1.4s						
POKR				IAMs_20	IAMs_20	09 08 28.7	
	comp=Z,67µm,22.0s						
POKR	Poker Plat Res	86.33	18	P	P	08 36 28.8	-1.9
	baz=224,SNR=46						
BFSC	Mount Baldy Ra	86.33	53	P	P	08 36 30.7	-0.9
	baz=250,SNR=24						
DOT	Dot Lake	86.34	20	IAmb	IAmb	08 36 56.0	
	comp=Z,84nm,0.9s						
MPK	Martis Peak	86.34	48	IAmb	IAmb	08 37 08.9	
	comp=Z,165nm,1.2s						
YUK3	Moose Creek	86.36	22	P	P	08 36 30.2	-1.0
	baz=231,SNR=46						
GTK	Tadong	86.36	299	*e*P	P	08 36 32.7	+0.7
GTK				IAmb	IAmb	08 36 38.7	
	comp=Z,614nm,1.3s						
K04D	Chiloquin, OR	86.40	44	P	P	08 36 31.2	-0.5
	baz=247						
J04D	Umpqua Nationa	86.40	44	IAmb	IAmb	08 36 49.1	
	comp=Z,104nm,1.0s						
J04D				IAMs_20	IAMs_20	09 08 38.5	
	comp=Z,52µm,20.0s						
J04D	Umpqua Nationa	86.40	44	P	P	08 36 31.2	-0.7
	baz=247,SNR=20						
I04A	Tendick Farm,	86.42	43	P	P	08 36 30.2	-1.5
	baz=246,SNR=40						
G03D	McMinnville, O	86.43	42	IAmb	IAmb	08 36 51.8	
	comp=Z,130nm,1.2s						
G03D				IAMs_20	IAMs_20	09 12 46.3	
	comp=Z,38µm,18.0s						
G03D	McMinnville, O	86.43	42	P	P	08 36 31.2	-0.5
	baz=246,SNR=15						
MDPB	Devils Postpil	86.43	50	IAmb	IAmb	08 37 01.6	
	comp=Z,81nm,1.0s						
GRNB	Grenville Isla	86.47	32	IAmb	IAmb	08 37 32.1	
	comp=Z,106nm,1.3s						
MURC	Murrieta	86.48	54	P	P	08 36 31.2	-1.0
	baz=250,SNR=9.7						
OMMB	Old Mammoth Mi	86.49	50	IAmb	IAmb	08 37 09.7	
	comp=Z,95nm,1.3s						
H04D	Lebanon	86.49	42	IAmb	IAmb	08 37 30.5	
	comp=Z,292nm,1.9s						
H04D	Lebanon	86.49	42	P	P	08 36 31.1	-0.9
	baz=246,SNR=25						
RUBB	Prince Rupert	86.56	31	IAmb	IAmb	08 37 32.6	
	comp=Z,109nm,1.5s						
PNTR	Pine Nut	86.58	48	IAmb	IAmb	08 37 51.3	
	comp=Z,85nm,1.2s						
J25K	Salcha River,	86.59	19	IAmb	IAmb	08 37 03.5	
	comp=Z,105nm,0.8s						
J25K	Salcha River,	86.59	19	P	P	08 36 31.0	-1.1
	baz=226,SNR=106						
SCRK	Sand Creek	86.59	20	IAmb	IAmb	08 36 57.5	
	comp=Z,70nm,0.9s						
SCRK				IAMs_20	IAMs_20	09 07 51.7	
	comp=Z,43µm,22.0s						
SCRK	Sand Creek	86.59	20	P	P	08 36 30.9	-1.3
	baz=227,SNR=70						
MLAC	Mammoth, Mammo	86.61	50	P	P	08 36 32.3	-0.7
	baz=249,SNR=16						
BVCY	Beaver Creek	86.62	22	P	P	08 36 32.3	0.0
	baz=230,SNR=16						
WRAK	Wrangell Islan	86.62	29	IAMs_20	IAMs_20	09 07 55.9	
	comp=Z,44µm,20.0s						
WRAK	Wrangell Islan	86.62	29	P	P	08 36 30.5	-1.8
	baz=238,SNR=18						
YUK6	Outpost Mounta	86.63	24	P	P	08 36 32.5	-0.1
	baz=232,SNR=6.8						
BBB	Bella Bella	86.64	34	LR	LR	09 07 25.9	
	comp=Z,69µm,21.2s,baz=250,slow=30						
L27K	Beaver Creek,	86.70	21	P	P	08 36 31.5	-1.2
	baz=229,SNR=36						
H24K	Noodor Dome	86.72	17	IAmb	IAmb	08 37 57.1	
	comp=Z,126nm,1.4s						
H24K				IAMs_20	IAMs_20	09 11 31.1	
	comp=Z,48µm,20.0s						
H24K	Noodor Dome	86.72	17	P	P	08 36 30.8	-1.9
	baz=224,SNR=19						
LRMC	Laurel Mtn Rad	86.74	52	P	P	08 36 32.9	-0.7
	baz=250,SNR=20						
BWNR	Bhubaneshwar	86.74	292	*e*P	P	08 36 34.4	+0.6
C03A	Quillayute Air	86.76	39	IAmb	IAmb	08 37 03.1	
	comp=Z,186nm,1.4s						
CWC	Cottonwood Cre	86.76	51	P	P	08 36 33.1	-0.6
	baz=250						
YUK4	Talbot Arm	86.77	23	P	P	08 36 32.8	-0.4
	baz=232,SNR=14						
E03A	Lebam	86.79	40	IAmb	IAmb	08 36 53.3	
	comp=Z,113nm,1.0s						
MOY	Mondy	86.86	325	*e*P	P	08 36 33.2	-0.6
MOY				pmax	pmax		
	comp=Z,573nm,2.4s						
MONP2	Monument Peak	86.86	55	P	P	08 36 33.5	-0.9
	baz=251,SNR=34						
TIN	Tinemaha, Big	86.86	51	P	P	08 36 33.5	-0.6
	baz=250,SNR=13						
HYT	Haines Junctio	86.89	24	P	P	08 36 33.8	+0.1
	baz=233,SNR=24						
WISH	Wishkah	86.90	40	IAmb	IAmb	08 37 08.5	
	comp=Z,188nm,1.4s						
BBRC	Big Bear Solar	86.92	54	P	P	08 36 33.7	-1.0
	baz=250,SNR=12						
F04D	Rainier, OR	86.95	41	P	P	08 36 33.9	-0.3
	baz=246						
NLWA	Neilton Lookou	86.95	40	IAMs_20	IAMs_20	09 06 30.0	
	comp=Z,64µm,22.0s						
PAHR	Pah Rah Range	86.96	48	IAmb	IAmb	08 37 04.1	
	comp=Z,100nm,1.2s						
SKAG	Skagway	86.97	26	P	P	08 36 32.5	-1.5
	baz=235,SNR=8.5						
J05D	Fort Rock, OR	87.00	44	P	P	08 36 34.2	-0.5
	baz=247,SNR=77						
K05A	Summer Lake	87.02	45	IAmb	IAmb	08 36 56.9	
	comp=Z,161nm,1.4s						
IKP	In-Ko-Pah, Jac	87.03	55	P	P	08 36 34.7	-0.4
	baz=251,SNR=18						
RMX	La Rumorosa	87.04	55	IAmb	IAmb	08 36 38.8	
	comp=Z,71nm,1.0s						
RRX	Edison Barstow	87.06	53	P	P	08 36 34.9	-0.2
	baz=250						
PFO	Pinyon Flats O	87.06	54	LR	LR	09 07 53.6	
	comp=Z,99µm,20.0s,baz=262,slow=30						
PFO	Pinyon Flats O	87.06	54	P	P	08 36 34.4	-0.9
PFO				pmax	pmax		
	comp=Z,498nm,2.7s						
PFO	Pinyon Flats O	87.06	54	P	P	08 36 34.4	-0.9
PFO				IAmb	IAmb	08 37 07.9	
	comp=Z,498nm,2.7s						
PFO	Pinyon Flats O	87.06	54	P	P	08 36 34.4	-0.9
	baz=251,SNR=21						
LHV	Little Huntoon	87.08	49	IAmb	IAmb	08 37 16.1	
	comp=Z,155nm,1.3s						
J26L	Joseph Creek	87.08	19	P	P	08 36 33.7	-0.8
	baz=228,SNR=35						
MPMC	Manual Prospec	87.08	52	P	P	08 36 34.2	-1.2
	baz=250,SNR=45						
MOD	Modoc Plateau	87.12	46	IAMs_20	IAMs_20	09 07 47.5	
	comp=Z,51µm,20.0s						
COLD	Coldfoot	87.12	15	IAmb	IAmb	08 37 04.2	
	comp=Z,287nm,1.4s						
COLD	Coldfoot	87.12	15	P	P	08 36 34.8	+0.3
	baz=221,SNR=125						
TAPN	Taplejung	87.13	299	*e*P	P	08 36 36.0	+0.1
YUH	Yuha Desert	87.18	55	IAmb	IAmb	08 37 02.6	
	comp=Z,123nm,1.4s						
BELA	Belgrano 2	87.18	176	IAmb	IAmb	08 36 34.8	
	comp=Z,186nm,0.9s						
CBB	Campbell River	87.19	37	IAmb	IAmb	08 37 31.5	
	comp=Z,88nm,1.2s						
ODAN	Odare	87.25	298	*e*P	P	08 36 36.6	+0.2
	comp=Z,1µm,1.0s						
F04A	Amboy	87.27	41	IAmb	IAmb	08 37 33.9	
	comp=Z,218nm,1.5s						
NVAR	Mina Array Bea	87.29	49	P	P	08 36 35.4	-1.0
	comp=Z,22nm,0.8s,baz=230,slow=5.4,SNR=54						
NVAR				PKiKP	PKiKP	08 41 40.5	-0.4
	comp=Z,0.8nm,0.8s,baz=239,slow=4.3,SNR=3.7						
NVAR				PKKPbc	PKKPbc	08 54 28.9	+0.6
	comp=Z,2.2nm,0.7s,baz=59,slow=3.4,SNR=10						
NVAR				PKPPKP	P'P'df	09 02 34.2	+0.7
	comp=Z,9.2nm,1.1s,baz=82,slow=3.1,SNR=17						
NVAR				LR	LR	09 08 06.1	
	comp=Z,139µm,20.4s,baz=282,slow=30						
I05D	Terrebonne, OR	87.34	43	P	P	08 36 35.5	-0.7
	baz=247,SNR=25						
GSC	Goldstone, Bar	87.35	53	IAmb	IAmb	08 37 17.2	
	comp=Z,164nm,1.7s						
GSC	Goldstone, Bar	87.35	53	P	P	08 36 36.0	-0.6
	baz=250,SNR=15						
SWSC	Sam W. Stewart	87.37	55	P	P	08 36 35.7	-0.8
	baz=251,SNR=46						
PINE	Pine Mountain	87.40	44	IAmb	IAmb	08 37 35.3	
	comp=Z,258nm,1.8s						
CLRS	Cowichan Lake	87.40	38	IAmb	IAmb	08 37 49.7	
	comp=Z,106nm,1.4s						
NV11	Mina Array Sit	87.40	49	IAmb	IAmb	08 37 16.2	
	comp=Z,103nm,1.4s						

E04D	Cinebar	87.42	41	IAmb	IAmb	08 37 00.7	
	comp=Z,189nm,1.6s						
E04D	Cinebar	87.42	41	P	P	08 36 36.2	-0.3
	baz=246,SNR=18						
B04A	Port Angeles	87.46	39	IAmb	IAmb	08 37 00.9	
	comp=Z,74nm,1.2s						
GRAC	Grapevine Rang	87.49	51	IAmb	IAmb	08 37 18.1	
	comp=Z,356nm,1.6s						
GRAC	Grapevine Rang	87.49	51	P	P	08 36 36.6	-0.6
	baz=250,SNR=16						
D03D	Eldon	87.50	40	P	P	08 36 36.5	-0.3
	baz=246,SNR=33						
HOOD	Mount Hood Mea	87.52	42	IAmb	IAmb	08 36 52.3	
	comp=Z,117nm,1.1s						
D04E	Lakebay	87.55	40	P	P	08 36 37.2	+0.1
	baz=246,SNR=7.8						
BELC	Belle Mtn. Jos	87.55	54	P	P	08 36 36.7	-0.9
	baz=251,SNR=62						
HEC	Hector,Ludlow	87.56	53	P	P	08 36 36.5	-1.0
	baz=251,SNR=13						
KVN	Kaiserville	87.66	49	IAmb	IAmb	08 37 26.1	
	comp=Z,101nm,1.4s						
BOK	Bokaro	87.66	295	eP	P	08 36 38.1	0.0
BOK				IAmb	IAmb	08 36 43.7	
	comp=Z,92nm,0.9s						
FURC	Furnace Creek,	87.70	52	P	P	08 36 37.0	-1.0
	baz=250,SNR=65						
G05D	Wamic, OR	87.71	42	P	P	08 36 37.0	-0.9
	baz=247,SNR=20						
PGC	Sidney	87.73	38	IAmb	IAmb	08 37 06.2	
	comp=Z,79nm,1.2s						
GWY	Greenwater Val	87.75	52	IAmb	IAmb	08 37 14.8	
	comp=Z,102nm,1.5s						
WHY	Whitehorse	87.84	25	P	P	08 36 36.8	-1.5
	baz=236,SNR=12						
F05D	White Salmon	87.86	42	P	P	08 36 37.9	-0.7
	baz=247,SNR=8.0						
BC3	Big Chuckawall	87.87	55	P	P	08 36 38.7	-0.4
	baz=251,SNR=38						
SHOC	Shoshone, Teco	87.96	52	P	P	08 36 38.7	-0.6
	baz=251,SNR=28						
N31M	Braeburn, Yuko	87.96	24	P	P	08 36 37.2	-1.6
	baz=235,SNR=21						
EGAK	Eagle	88.04	20	IAmb	IAmb	08 37 16.9	
	comp=Z,82nm,1.0s						
EGAK				IAMs_20	IAMs_20	09 13 43.6	
	comp=Z,41µm,19.0s						
EGAK	Eagle	88.04	20	P	P	08 36 38.2	-0.8
	baz=230						
GMRC	Granite Mounta	88.07	54	P	P	08 36 39.5	-0.5
	baz=251,SNR=40						
TUQ	Turquoise Moun	88.08	53	P	P	08 36 40.1	0.0
	baz=251,SNR=6.8						
PALK	Pallekele	88.08	278	LR	LR	09 17 07.0	
	comp=Z,25µm,19.9s,baz=220,slow=36						
PALK	Pallekele	88.08	278c	iP	P	08 36 41.2	+0.8
PALK				pmax	pmax		
	comp=Z,784nm,1.7s						
PALK				MLR	MLR		
	comp=Z,31µm,19.0s						
PALK	Pallekele	88.08	278	P	P	08 36 41.2	+0.8
GLA	Glamis	88.18	55	IAmb	IAmb	08 37 07.9	
	comp=Z,315nm,1.6s						
GLA	Glamis	88.18	55	P	P	08 36 40.4	-0.1
	baz=252,SNR=25						
DAWY	Dawson	88.18	21	IAmb	IAmb	08 37 25.3	
	comp=Z,76nm,1.2s						
DAWY	Dawson	88.18	21	P	P	08 36 38.6	-1.1
	baz=231,SNR=26						
M30M	Minto, Yukon	88.21	23	P	P	08 36 38.0	-2.0
	baz=234,SNR=20						
A04D	Lummi Island	88.21	39	P	P	08 36 39.9	-0.2
	baz=246,SNR=9.2						
Q09A	Carvers	88.25	49	P	P	08 36 40.3	-0.6
IRM	Iron Mountain	88.28	54	P	P	08 36 40.6	-0.3
	baz=252,SNR=56						
TPNV	Topopah Spring	88.32	51	IAmb	IAmb	08 37 18.6	
	comp=Z,117nm,1.8s						
TPNV	Topopah Spring	88.32	51	P	P	08 36 40.7	-0.6
	baz=251,SNR=41						
TOLK	Toolik Lake Re	88.34	15	IAmb	IAmb	08 37 09.8	
	comp=Z,169nm,1.2s						
TOLK				IAMs_20	IAMs_20	09 11 16.8	
	comp=Z,71µm,21.0s						
TOLK	Toolik Lake Re	88.34	15	P	P	08 36 40.6	+0.1
	baz=222,SNR=93						
B05A	Bryant	88.40	39	P	P	08 36 40.5	-0.6
	baz=246,SNR=21						
P33M	Teslin, Yukon	88.45	26	IAMs_20	IAMs_20	09 15 18.0	
	comp=Z,37µm,18.0s						
P33M	Teslin, Yukon	88.45	26	P	P	08 36 39.3	-1.9
	baz=237						
WVOR	Wild Horse Val	88.46	46	IAmb	IAmb	08 37 12.1	
	comp=Z,98nm,1.2s						
WVOR				IAMs_20	IAMs_20	09 14 39.2	
	comp=Z,46µm,18.0s						
I07A	Izee	88.47	44	IAmb	IAmb	08 36 46.6	
	comp=Z,40nm,0.7s						
JIRN	Jiri	88.51	299	eP	P	08 36 42.6	0.0
	comp=Z,636nm,0.9s						
RAGD	RAYAGADA	88.58	290	eP	P	08 36 42.8	+0.2
BLYC	Blythe	88.64	55	IAmb	IAmb	08 36 46.3	
	comp=Z,71nm,0.9s						
DLBC	Dease Lake	88.74	28	LR	LR	09 13 18.5	
	comp=Z,34µm,18.2s,baz=246,slow=34						
BMN	Battle Mountai	88.77	48	IAmb	IAmb	08 37 21.2	
	comp=Z,70nm,1.1s						
J29M	Klondike Camp	88.83	21	P	P	08 36 41.8	-1.0
	baz=232,SNR=15						
GUN	Gumba	88.84	299	eP	P	08 36 44.1	0.0
	comp=Z,518nm,0.8s						
F07A	Phinny Hill Vi	88.86	42	IAmb	IAmb	08 37 41.6	
	comp=Z,158nm,1.7s						
B06A	Marblemount	88.88	39	IAmb	IAmb	08 37 32.6	
	comp=Z,89nm,1.4s						
NEE2	Needles Airpor	88.88	54	P	P	08 36 43.1	-0.5
	baz=252,SNR=6.8						
LTY	Liberty	88.90	41	IAmb	IAmb	08 37 15.2	
	comp=Z,73nm,1.3s						
J08A	Circle Bar Ran	88.90	45	IAmb	IAmb	08 37 22.1	
	comp=Z,72nm,1.0s						
M31M	Drury Creek, Y	88.91	24	IAMs_20	IAMs_20	09 14 38.1	
	comp=Z,43µm,19.0s						
M31M	Drury Creek, Y	88.91	24	P	P	08 36 41.0	-2.2
	baz=236,SNR=8.8						
S11A	Rachel	88.92	51	IAmb	IAmb	08 37 26.7	
	comp=Z,202nm,1.5s						
A21K	Barrow	88.93	11	P	P	08 36 42.8	-0.2
	baz=215						
113A	Mohawk Valley,	88.94	56	IAmb	IAmb	08 37 11.2	
	comp=Z,127nm,1.3s						
JHSG	JHARSUGUGA	88.97	293	eP	P	08 36 44.1	-0.2
SYO	Syowa Base	89.00	197⇓	eP	P	08 36 41.4	-2.2
SHPR	Sheep Range	89.01	52	IAmb	IAmb	08 37 21.3	
	comp=Z,134nm,1.4s						
C06D	Leavenworth	89.01	40	P	P	08 36 43.2	-0.8
	baz=247						
PDMCI	Parker Dam,Lak	89.11	54	P	P	08 36 44.4	-0.4
	baz=252,SNR=49						
PKI	Pulchoki	89.14	299	eP	P	08 36 45.2	-0.3
PKIN	Phulchoki	89.16	299	eP	P	08 36 45.2	-0.3
G08A	Pilot Rock	89.27	43	IAmb	IAmb	08 37 46.0	
	comp=Z,177nm,1.7s						
R11A	Troy Canyon, C	89.27	50	IAmb	IAmb	08 37 22.8	
	comp=Z,131nm,1.8s						
R11A	Troy Canyon, C	89.27	50	P	P	08 36 44.8	-0.9
	baz=251,SNR=43						
HAWA	Hanford	89.30	42	IAmb	IAmb	08 37 24.8	
	comp=Z,162nm,1.6s						
KKN	Kakani	89.32	299	eP	P	08 36 46.1	-0.1
I29M	Ogilvie Camp,	89.35	20	IAmb	IAmb	08 37 31.4	
	comp=Z,185nm,1.4s						
I29M	Ogilvie Camp,	89.35	20	P	P	08 36 43.5	-1.7
	baz=232,SNR=51						
LPIG	La Paz	89.37	65	LR	LR	09 07 31.9	
	comp=Z,29µm,21.4s,baz=254,slow=29						
PRN	Pahroc Range	89.37	51	IAmb	IAmb	08 37 42.5	
	comp=Z,158nm,1.4s						
DMN	Daman	89.41	299	eP	P	08 36 46.7	0.0
	comp=Z,417nm,0.7s						
LLLB	Lillooet	89.46	37	IAmb	IAmb	08 37 40.1	
	comp=Z,86nm,1.3s						
214A	Organ Pipe Nat	89.47	57	IAmb	IAmb	08 37 14.0	
	comp=Z,162nm,1.5s						
214A	Organ Pipe Nat	89.47	57	P	P	08 36 46.5	0.0
	baz=253,SNR=41						
TIXI	Tiksi	89.47	349	LR	LR	09 13 09.3	
	comp=Z,34µm,21.4s,baz=178,slow=33						
TIXI	Tiksi	89.47	349⇑	P	P	08 36 44.5	-1.1
TIXI	Tiksi	89.47	349	P	P	08 36 44.4	-1.1
TIXI				IAmb	IAmb	08 36 49.1	
	comp=Z,187nm,1.0s						
SLBS	Sierra La Lagu	89.58	66	P	P	08 36 46.5	-0.8
SLBS				IAmb	IAmb	08 37 07.9	
	comp=Z,94nm,1.4s						
E08A	Dider Farm, El	89.64	42	P	P	08 36 46.4	-0.5
E08A				IAmb	IAmb	08 37 02.6	
	comp=Z,150nm,1.4s						
GKN	Gorkha	89.92	299	eP	P	08 36 48.3	-0.6
	comp=Z,460nm,0.8s						
D08A	Wollman Farm,	89.93	41	IAmb	IAmb	08 37 49.2	
	comp=Z,124nm,1.6s						
MDRS	Chennai	89.96	283	eP	P	08 36 49.5	+0.4
MDRS				IAmb	IAmb	08 36 53.6	
	comp=Z,348nm,1.5s						
BMO	Blue Mountains	90.21	44	IAmb	IAmb	08 37 48.8	
	comp=Z,98nm,1.4s						
BMO				IAMs_20	IAMs_20	09 10 21.4	
	comp=Z,49µm,20.0s						
E09A	Wood Farm, Sta	90.23	42	IAmb	IAmb	08 37 18.8	
	comp=Z,86nm,1.2s						
ELK	Elko	90.29	48	LR	LR	09 09 15.7	
	comp=Z,78µm,21.7s,baz=253,slow=30						
VJD	Vijayawada	90.45	287	eP	P	08 36 51.7	+0.3
EPYK	Eagle Plains	90.48	20	IAmb	IAmb	08 37 35.0	
	comp=Z,250nm,1.6s						
EPYK				IAMs_20	IAMs_20	09 10 26.9	
	comp=Z,50µm,22.0s						
EPYK	Eagle Plains	90.48	20	P	P	08 36 48.9	-1.6
	baz=234						
BLSP	Bilaspur	90.54	293	eP	P	08 36 51.1	-0.6
F10A	Beach Ranch, E	90.65	43	IAmb	IAmb	08 36 55.6	
	comp=Z,66nm,0.8s						
MFID	Camas Ranch	90.74	45	IAMs_20	IAMs_20	09 10 25.3	
	comp=Z,36µm,20.0s						
KOLN	Koldanda	90.74	298	eP	P	08 36 51.8	-1.0
DANN	Dangsing	90.76	299	eP	P	08 36 52.1	-0.9
	comp=Z,466nm,0.9s						
SZCU	Shurtz Canyon	90.92	51	IAmb	IAmb	08 37 48.9	
	comp=Z,136nm,1.6s						
KNB	Kanab	90.95	52	IAmb	IAmb	08 37 49.0	
	comp=Z,333nm,1.8s						
TGTN	Hyland Airport	91.03	26	P	P	08 36 53.0	-0.2
	baz=241,SNR=13						
PLID	Pearl Lake	91.16	44	IAMs_20	IAMs_20	09 12 17.6	
	comp=Z,64µm,20.0s						
U15A	North Rim	91.19	53	IAmb	IAmb	08 36 59.1	
	comp=Z,52nm,0.8s						
TUC	Tucson	91.22	57	P	P	08 36 54.6	-0.2
TUC				pmax	pmax		
	comp=Z,52nm,1.1s						
TUC	Tucson	91.22	57	P	P	08 36 54.6	-0.2
TUC	Tucson	91.22	57	IAMs_20	IAMs_20	09 13 20.6	
	comp=Z,56µm,19.0s						
TUC	Tucson	91.22	57	P	P	08 36 54.8	0.0
	baz=254						
PYUN	Piuthan	91.35	299	eP	P	08 36 54.5	-1.1
	comp=Z,288nm,1.0s						
PKCU	Pink Cliffs	91.46	52	IAmb	IAmb	08 37 52.2	
	comp=Z,233nm,1.5s						
NEW	Newport	91.49	40	LR	LR	09 12 56.3	
	comp=Z,20µm,18.6s,baz=240,slow=32						
NEW	Newport	91.49	40	IAMs_20	IAMs_20	09 17 39.1	
	comp=Z,34µm,18.0s						
NEW	Newport	91.49	40	P	P	08 36 54.7	-0.9
	baz=250,SNR=30						
SALM	Salem	91.55	282	eP	P	08 36 57.6	+1.0
WUAZ	Wupatki	91.64	54	IAmb	IAmb	08 37 18.4	
	comp=Z,73nm,1.2s						
WUAZ	Wupatki	91.64	54	P	P	08 36 56.6	-0.1
	baz=254,SNR=29						
TCRU	Three Creeks R	91.70	51	IAmb	IAmb	08 37 21.9	
	comp=Z,41nm,0.9s						
HLID	Hailey	91.76	45	IAMs_20	IAMs_20	09 10 58.4	
	comp=Z,64µm,21.0s						
HLID	Hailey	91.76	45	P	P	08 36 57.0	-0.2
	baz=252,SNR=27						
DUG	Dugway, Tooele	91.89	49	P	P	08 36 57.5	-0.2
	baz=253,SNR=13						
KOD	Kodaikanal	91.91	280	eP	P	08 36 59.2	+0.6
TRD	Trivandrum	91.97	278	eP	P	08 36 59.4	+0.9
WMQ	Urumqi	92.14	315	P	P	08 36 58.4	-0.4
WMQ				sP	sP	08 37 14.5	+1.5
WMQ				SKS	SKSac	08 47 29.6	0.0
WMQ				S	S	08 47 57.8	-1.3
WMQ				SS	SS	08 54 09.0	-0.5
WMQ				pmax	pmax		
	comp=Z,260nm,2.1s						
WMQ				pmax	pmax		
	comp=Z,6µm,5.3s						
WMQ				LR	LR		
	comp=Z,16µm,23.9s						
WMQ				LR	LR		
	comp=Z,23µm,23.9s						
WMQ				LR	LR		
	comp=Z,33µm,23.9s						
319A	Douglas	92.20	58	IAmb	IAmb	08 37 03.7	
	comp=Z,75nm,0.9s						
PMSA	Palmer Station	92.31	161	LR	LR	09 13 05.3	
	comp=Z,35µm,20.8s,baz=226,slow=32						
H08S2	Diego Garcia H	92.34	262	P	P	08 36 59.8	-0.1
	baz=31,slow=6.3,SNR=7.4						
H08S3	Diego Garcia H	92.35	262	P	P	08 36 59.8	-0.3
	baz=31,slow=6.3,SNR=8.7						
H08S1	Diego Carcia H	92.36	262	P	P	08 37 00.3	+0.3
	baz=31,slow=6.3,SNR=6.9						
HVU	Hansel Valley	92.38	48	IAmb	IAmb	08 38 18.5	
	comp=Z,95nm,1.5s						
DGAR	Diego Garcia	92.44	262c	iP	P	08 37 00.2	-0.5
DGAR				pmax	pmax		
	comp=Z,467nm,1.6s						
DGAR	Diego Garcia	92.44	262	P	P	08 36 60.0	-0.7
DGAR	Diego Garcia	92.44	262	IAMs_20	IAMs_20	09 14 34.4	
	comp=Z,40µm,21.0s						
INK	Inuvik	92.61	19	P	P	08 36 58.7	-1.5
	comp=Z,2.7nm,0.8s,baz=234,slow=6.5,SNR=9.7						
INK				PKKPbc	PKKPdf	08 54 12.6	-1.2
	comp=Z,14nm,0.8s,baz=35,slow=5.0,SNR=17						
INK				LR	LR	09 12 36.6	
	comp=Z,76µm,21.9s,baz=220,slow=32						
INK	Inuvik	92.61	19	P	P	08 36 58.3	-1.9
	baz=237						
HYB	Hyderabad	92.62	287	eP	P	08 37 00.8	-0.7
HYB				IAmb	IAmb	08 37 04.7	
	comp=Z,246nm,1.2s						
HYBB	Hyderabad (bro	92.62	287	IVmB_BB		08 37 00.3	
	comp=Z,602nm,2.6s						
HYBB				eP	P	08 37 01.2	-0.3
HYBB				esP	pwP	08 37 13.3	-0.7
HYBB				ePP	PP	08 40 42.2	-1.4
HYBB				eSKSac	SKSac	08 47 32.9	-0.3
HYBB				eScS	ScS	08 48 06.8	+0.5
HYBB				eSP	SP	08 49 16.1	+0.7
HYBB				ePS	PS	08 49 19.7	-0.1
HYBB				IVMs_BB	IVMs_BB	08 49 34.5	
	comp=Z,4µm,13.4s						
HYBB				eSS	SS	08 54 17.9	+0.6
Q16A	Castle Valley	92.74	51	IAmb	IAmb	08 37 23.7	
	comp=Z,80nm,1.4s						
W18A	Petrified Fore	92.82	55	IAmb	IAmb	08 37 06.7	
	comp=Z,56nm,0.9s						
W18A	Petrified Fore	92.82	55	P	P	08 37 02.4	+0.2
	baz=254						
PCHI	Peechi	93.05	280⇑	eP	P	08 37 03.8	+0.3
MSO	Missoula	93.08	42	IAMs_20	IAMs_20	09 14 07.1	
	comp=Z,43µm,19.0s						
MSO	Missoula	93.08	42	P	P	08 37 01.9	-1.2
	baz=252						
HWUT	Hardware Ranch	93.20	48	IAMs_20	IAMs_20	09 10 24.6	
	comp=Z,51µm,22.0s						
P17A	Butcher Ranch,	93.22	50	IAmb	IAmb	08 38 02.3	
	comp=Z,78nm,1.8s						
TROLL	Troll, Antarti	93.26	185	P	P	08 37 03.1	-0.5
TROLL	Troll, Antarti	93.26	185	PKKPdf	PKKPdf	08 54 10.2	-0.7
TROLL	Troll, Antarti	93.26	185	PKiKP	PKiKP	08 41 52.6	+2.7
TROLL				S	S	08 48 09.7	+1.5
DLMT	Dillon	93.54	44	IAMs_20	IAMs_20	09 12 58.4	
	comp=Z,49µm,20.0s						
121A	Cookes Peak, D	93.73	58	IAmb	IAmb	08 38 16.5	
	comp=Z,71nm,1.5s						
121A	Cookes Peak, D	93.73	58	P	P	08 37 05.9	-0.6
	baz=255						
121A	Cookes Peak, D	93.73	58	P	P	08 37 06.1	-0.4
	baz=255						
KAAM	Kaadhehdhoo	93.87	270	PcP	PcP	08 37 07.8	0.0
	SNR=38						
SNAA	Sanae	93.96	183	P	P	08 37 05.7	-1.1
SNAA	Sanae	93.96	183	PKKPdf	PKKPdf	08 54 07.4	-2.2
SNAA	Sanae	93.96	183	PKiKP	PKiKP	08 41 54.5	+3.5
SNAA	Sanae	93.96	183	pPKiKP	PKiKP	08 41 58.2	+7.1
SNAA	Sanae	93.96	183	LR	LR	09 18 26.5	
	comp=Z,67µm,19.0s,baz=170,slow=35						
SNAA	Sanae	93.96	183c	iP	P	08 37 05.6	-1.1
SNAA				pmax	pmax		
	comp=Z,425nm,1.5s						
SNAA				MLR	MLR		
	comp=Z,56µm,18.0s						
SNAA	Sanae	93.96	183	P	P	08 37 05.3	-1.4
LGTI	Lohaghat	94.02	299	eP	P	08 37 07.3	-0.4
HPIG		94.15	63	P	P	08 37 08.2	-0.3
REDW	Red Top Meadow	94.19	46	P	P	08 37 07.6	-0.8
REDW				IAmb	IAmb	08 38 53.9	
	comp=Z,106nm,1.9s						
PV23	Carpenter Ridg	94.25	52	IAmb	IAmb	08 37 12.8	
	comp=Z,56nm,0.7s						
BOZ	Bozeman (W)	94.26	44	IAMs_20	IAMs_20	09 13 21.4	
	comp=Z,53µm,20.0s						
BOZ	Bozeman (W)	94.26	44	P	P	08 37 07.6	-0.9
	baz=254,SNR=18						
SNOW	Snow King Moun	94.28	46	IAmb	IAmb	08 38 07.3	
	comp=Z,105nm,1.9s						
MVCO	Mesa Verde	94.33	53	P	P	08 37 08.4	-0.8
	baz=255,SNR=9.0						
RDMU	Red Mountain	94.37	49	IAmb	IAmb	08 37 59.0	
	comp=Z,69nm,1.6s						
VNA3	Neumayer Olymp	94.64	181	P	P	08 37 08.6	-1.1
VNA3	Neumayer Olymp	94.64	181	PKKPdf	PKKPdf	08 54 05.5	-2.8
VNA3	Neumayer Olymp	94.64	181	PKiKP	PKiKP	08 41 56.4	+4.3
VNA3				S	S	08 48 26.3	+6.2
VNA3	Neumayer Olymp	94.64	181	pPKiKP	PKiKP	08 41 59.5	+7.3
H17A	Grant Village	94.65	45	P	P	08 37 11.4	+0.8
	baz=255,SNR=7.3						
LATR	Latur	94.70	288	eP	P	08 37 10.5	-0.5
Y22A	Socorro	94.74	56	P	P	08 37 10.5	-0.6
	baz=256						
Y22D	IRIS PASSCAL I	94.80	56	IAMs_20	IAMs_20	09 13 29.5	
	comp=Z,53µm,20.0s						
Y22D	IRIS PASSCAL I	94.80	56	P	P	08 37 13.4	+2.1
	baz=256						
Y22D	IRIS PASSCAL I	94.80	56	P	P	08 37 11.1	-0.3
	baz=256						
AKL	Akola	94.81	290	eP	P	08 37 10.9	-0.6
VNA2	Neumayer--Watz	94.90	182	P	P	08 37 10.0	-1.0
	baz=185,slow=4.0						
VNA2	Neumayer--Watz	94.90	182	PKiKP	PKiKP	08 41 55.2	+2.6
VNA2				S	S	08 48 26.2	+3.9
VNA2	Neumayer--Watz	94.90	182	pPKiKP	PKiKP	08 41 58.0	+5.4
BW06	Boulder Array	94.94	47	IAMs_20	IAMs_20	09 12 04.8	
	comp=Z,45µm,21.0s						
BW06	Boulder Array	94.94	47	P	P	08 37 10.2	-1.8
	baz=255,SNR=5.8						
PDAR	Pinedale Array	94.94	47	P	P	08 37 11.4	-0.5
	comp=Z,2.4nm,0.6s,baz=220,slow=3.7,SNR=14						
PDAR				PP	PP	08 41 04.4	+2.9
	comp=Z,2.0nm,0.9s,baz=253,slow=5.3,SNR=2.1						
PDAR				PKiKP	PKiKP	08 41 54.0	+0.3
	comp=Z,1.1nm,0.6s,baz=165,slow=1.8,SNR=5.1						
PDAR				PKKPbc	PKKPbc	08 54 05.3	-3.7
	comp=Z,3.3nm,0.7s,baz=96,slow=4.0,SNR=13						
PDAR				PKPPKP	P'P'df	09 02 18.2	-0.9
	comp=Z,1.3nm,0.9s,baz=225,slow=0.4,SNR=6.8						
PDAR				LR	LR	09 12 16.6	
	comp=Z,38µm,21.5s,baz=274,slow=31						
BHPL	Bhopal	95.02	293	eP	P	08 37 11.5	-1.0
BHPL				IAmb	IAmb	08 37 15.4	
	comp=Z,70nm,0.9s						
ZSN	Zaisan	95.08	318	eP	P	08 37 10.0	-2.1
ZSN				eS	SKSac	08 47 42.3	-3.1
ZSN				pmax	pmax		
	comp=Z,368nm,2.6s						
ZSN	Zaisan	95.08	318	eP	P	08 37 10.1	-2.1
	comp=Z,368nm,2.6s,baz=318						
ZSN				eS	SKSac	08 47 42.3	-3.1
	baz=318						
HMDM	Hanimaadhoo	95.19	276	PcP	PcP	08 37 14.2	+0.5
	SNR=14						
VNA1	Neumayer--Stat	95.20	182	P	P	08 37 11.5	-0.7
O20A	White River Ci	95.25	50	P	P	08 37 13.2	-0.2
	baz=256						
EDM	Edmonton	95.32	36	IAmb	IAmb	08 37 56.5	
	comp=Z,128nm,1.9s						
ANMO	Albuquerque	95.38	55	LR	LR	09 12 14.0	
	comp=Z,51µm,20.7s,baz=270,slow=30						
ANMO	Albuquerque	95.38	55c	iP	P	08 37 12.3	-1.8
ANMO				pmax	pmax		
	comp=Z,13nm,1.1s						
ANMO	Albuquerque	95.38	55	P	P	08 37 13.3	-0.8
ANMO	Albuquerque	95.38	55	IAMs_20	IAMs_20	09 12 32.7	
	comp=Z,47µm,20.0s						
ANMO	Albuquerque	95.38	55	P	P	08 37 15.6	+1.5
	baz=256						
ANMO	Albuquerque	95.38	55	P	P	08 37 13.4	-0.6
	baz=256						
MNTX	Cornudas Mount	95.51	59	P	P	08 37 15.8	+1.4
	baz=257						
MNTX	Cornudas Mount	95.51	59	P	P	08 37 13.8	-0.7
	baz=257						
MNCY	Minicoy	95.69	277	eP	P	08 37 32.7	+17
RLMT	Red Lodge	95.74	45	IAMs_20	IAMs_20	09 12 57.7	
	comp=Z,48µm,20.0s						
RLMT	Red Lodge	95.74	45	P	P	08 37 13.9	-1.5
	baz=256						
S22A	4UR Ranch, Cre	95.75	53	P	P	08 37 16.6	+0.8
	baz=256						
C36M	Paulatuk	96.12	19	IAmb	IAmb	08 37 18.9	
	comp=Z,52nm,1.2s						
C36M				IAMs_20	IAMs_20	09 13 57.5	
	comp=Z,42µm,22.0s						
C36M	Paulatuk	96.12	19	P	P	08 37 14.1	-2.2
	baz=246						
EGMT	Eagleton	96.14	42	P	P	08 37 16.0	-1.1
	baz=256						
RWWY	Rawlins	96.37	49	IAMs_20	IAMs_20	09 12 32.8	
	comp=Z,63µm,22.0s						
TX31	Lajitas Ar. Si	96.42	61	IAmb	IAmb	08 37 40.4	
	comp=Z,147nm,1.9s						
TX31	Lajitas Ar. Si	96.42	61	P	P	08 37 18.3	-0.5
	baz=257						
TXAR	Lajitas Array	96.42	61	P	P	08 37 18.1	-0.7
	comp=Z,5.8nm,0.9s,baz=232,slow=6.0,SNR=32						
TXAR				PP	PP	08 41 13.5	+0.4
	comp=Z,11nm,1.2s,baz=263,slow=2.9,SNR=5.0						
TXAR				PKKPbc	PKKPbc	08 54 03.6	-0.7
	comp=Z,3.0nm,0.8s,baz=98,slow=3.5,SNR=15						
TXAR				PKPPKP	P'P'df	09 02 13.2	-4.2
	comp=Z,2.3nm,1.2s,baz=100,slow=2.9,SNR=5.6						
TXAR				LR	LR	09 12 05.1	
	comp=Z,40µm,22.0s,baz=266,slow=30						
AYAN	Aya Nagar	96.46	298	eP	P	08 37 17.3	-1.5
MK31	Makanchi Array	96.62	316	i P	P	08 37 18.5	-0.7
MK31				pmax	pmax		
	comp=Z,131nm,0.9s						
MK31	Makanchi Array	96.62	316	P	P	08 37 18.6	-0.7
MK31				IAmb	IAmb	08 37 20.3	
	comp=Z,110nm,1.0s						
MKAR	Makanchi Array	96.62	316	P	P	08 37 18.9	-0.3
	comp=Z,88nm,0.8s,baz=100,slow=6.4,SNR=609						
MKAR				PP	PP	08 41 19.5	+5.4
	comp=Z,12nm,0.9s,baz=98,slow=9.2,SNR=5.2						
MKAR				PKiKP	PKiKP	08 41 55.9	-0.3
	comp=Z,7.7nm,0.6s,baz=102,slow=1.4,SNR=25						
MKAR				PKKPbc	PKKPbc	08 54 01.4	-3.0
	comp=Z,3.2nm,0.6s,baz=294,slow=3.2,SNR=9.7						
MKAR				PKPPKP		09 02 12.4	
	comp=Z,1.6nm,1.0s,baz=323,slow=3.8,SNR=6.6						
MKAR				LR	LR	09 20 05.9	
	comp=Z,21µm,21.6s,baz=94,slow=35						
MKAR	Makanchi Array	96.62	316	P	P	08 37 18.8	-0.3
SDCO	Great Sand Dun	96.77	53	P	P	08 37 21.8	+1.4
	baz=257						
SDCO	Great Sand Dun	96.77	53	P	P	08 37 19.6	-0.8
	baz=257						
ZAA0	Zalesovo Array	96.81	324	P	P	08 37 18.2	-1.6
ZAA0				IAmb	IAmb	08 37 19.8	
	comp=Z,93nm,0.9s						
ZALV	Zalesovo Beam	96.81	324	P	P	08 37 18.4	-1.4
	comp=Z,77nm,0.8s,baz=113,slow=4.4,SNR=386						
ZALV				PP	PP	08 41 21.7	+6.4
	comp=Z,17nm,1.1s,baz=90,slow=7.2,SNR=4.9						
ZALV				PKiKP	PKiKP	08 41 56.9	+0.6
	comp=Z,12nm,0.9s,baz=106,slow=2.6,SNR=3.2						

ZALV PKKPbc **PKKPbc** **08 54 01.1 -2.9**
comp=Z,1.3nm,0.4s,baz=298,slow=3.2,SNR=8.5
ZALV PKPPKP **P'P'df** **09 02 09.2 -5.0**
comp=Z,0.4nm,0.2s,baz=197,slow=2.4,SNR=4.1
ZALV LR LR 09 19 18.2
comp=Z,16µm,21.8s,baz=101,slow=34
ZALV Zalesovo Beam 96.81 324 *i* P **P** **08 37 18.3 -1.5**
ZALV pmax pmax
comp=Z,77nm,0.8s
ZALV Zalesovo Beam 96.81 324 P **P** **08 37 18.2 -1.5**
MAKZ Makanchi 96.83 316 P **P** **08 37 19.2 -0.9**
MAKZ Makanchi 96.83 316 P **P** **08 37 19.4 -0.8**
MAKZ IAmb IAmb 08 37 21.3
comp=Z,128nm,1.1s
USHA Ushuaia 96.84 151 PKKPbc PKKPbc 08 54 00.8 -2.7
comp=Z,10.0nm,0.9s,baz=342,slow=15,SNR=3.2
USHA LR LR 09 11 58.6
comp=Z,42µm,21.7s,baz=218,slow=30
A36M Sachs Harbour 96.87 17 IAmb IAmb 08 37 23.3
comp=Z,59nm,1.1s
A36M IAMs_20 IAMs_20 09 14 43.7
comp=Z,47µm,22.0s
A36M Sachs Harbour 96.87 17 P **P** **08 37 18.2 -1.5**
baz=245
KUDL Kundal 96.93 297 *eP* **P** **08 37 19.4 -1.6**
SMLA Simla 97.00 300 *eP* **P** **08 37 20.1 -1.1**
SMLA IAmb IAmb 08 37 27.9
comp=Z,84nm,1.1s
K22A Casper 97.09 48 P Pdif 08 37 21.9 +0.2
baz=257
K22A Casper 97.09 48 P **P** **08 37 21.2 -0.4**
baz=257
N23A Red Feather La 97.13 50 P **P** **08 37 21.9 0.0**
baz=257
ISCO Idaho Springs 97.13 51 P Pdif 08 37 22.5 +0.3
baz=257
ISCO Idaho Springs 97.13 51 P **P** **08 37 20.9 -1.2**
baz=257
POO Poona 97.23 287 *eP* **P** **08 37 21.8 -0.8**
POO IAmb IAmb 08 37 25.6
comp=Z,171nm,1.2s
Q24A Divide 97.31 52 P **P** **08 37 22.6 -0.3**
baz=258
YKA Yellowknife Ar 97.34 27 P **P** **08 37 20.7 -1.3**
comp=Z,33nm,1.0s,baz=253,slow=4.3,SNR=103
YKA PP PP 08 41 28.3 +9.1
comp=Z,4.3nm,1.0s,baz=254,slow=7.1,SNR=4.1
YKA PKiKP **PKiKP** **08 41 57.3 +0.3**
comp=Z,4.3nm,0.7s,baz=238,slow=1.4,SNR=13
YKA PKKPbc **PKKPbc** **08 53 58.7 -4.2**
comp=Z,4.2nm,0.7s,baz=72,slow=2.4,SNR=14
YKA PKPPKP 09 02 08.5
comp=Z,0.8nm,0.9s,baz=69,slow=1.9,SNR=5.7
YKA LR LR 09 14 14.3
comp=Z,18µm,21.1s,baz=256,slow=31
T25A Trinidad 97.49 54 P **P** **08 37 23.3 -0.3**
baz=258
KHET Khetri 97.51 297 *eP* **P** **08 37 22.3 -1.3**
SHLS Shalkode 97.76 312 *eP* **P** **08 37 21.2 -3.3**
SHLS *eS* **SKSac** **08 47 55.7 -4.1**
SHLS Shalkode 97.76 312 *eP* **P** **08 37 21.3 -3.3**
baz=312
SHLS *eS* **SKSac** **08 47 55.7 -4.1**
baz=312
PDGK Podgornoye 97.78 313 P **P** **08 37 23.1 -1.5**
MSTX Muleshoe 98.14 57 P **P** **08 37 23.9 -2.6**
baz=258
MSTX Muleshoe 98.14 57 P Pdif 08 37 26.5 0.0
baz=258
LAO LASA Array 98.17 44 IAMs_20 IAMs_20 09 16 11.9
comp=Z,50µm,20.0s
LAO LASA Array 98.17 44 P Pdif 08 37 28.1 +1.9
baz=258
LAO LASA Array 98.17 44 P Pdif 08 37 26.6 +0.3
baz=258
AJM Ajmer 98.19 295 *eP* **P** **08 37 25.8 -1.0**
UNM Universidad Na 98.28 72 IAMs_20 IAMs_20 09 16 30.9
comp=Z,48µm,18.0s
KPKS Kokpek 98.38 313 *eP* **P** **08 37 25.4 -1.9**
KPKS *e* 08 41 24.4
KPKS *eS* **SKSac** **08 47 59.9 -2.9**
KPKS pmax pmax
comp=Z,143nm,2.4s
KPKS Kokpek 98.38 313 *eP* **P** **08 37 25.5 -1.9**
comp=Z,143nm,2.4s,baz=313
KPKS *e*PP **PP** **08 41 24.4 -3.4**
baz=313
KPKS *eS* **SKSac** **08 47 60.0 -2.9**
baz=313
THN Thein Dam 98.47 301 *eP* **P** **08 37 27.1 -0.7**
SATY Saty 98.50 312 *eP* **P** **08 37 26.3 -1.6**
SATY *e* 08 41 26.0
SATY *eS* **SKSac** **08 48 01.4 -2.1**
SATY pmax pmax
comp=Z,93nm,2.3s
SATY Saty 98.50 312 *eP* **P** **08 37 26.3 -1.6**
comp=Z,92nm,2.3s,baz=312
SATY *e*PP **PP** **08 41 26.0 -2.8**
baz=312
SATY *eS* **SKSac** **08 48 01.5 -2.1**
baz=312
SEM Semipalatinsk 98.74 320 *eP* **P** **08 37 25.6 -3.3**
SEM *eS* **SKSac** **08 48 00.7 -3.9**
SEM pmax pmax
comp=Z,115nm,2.0s
SEM MLR MLR
comp=Z,5µm,18.0s
SEM Semipalatinsk 98.74 320 *eP* **P** **08 37 25.6 -3.3**
comp=Z,115nm,2.0s,baz=320
SEM *eS* **SKSac** **08 48 00.7 -3.9**
baz=320
SEM LR LR 09 22 41.8
comp=Z,5µm,17.9s,baz=320
TDK Taldyqorghan 98.88 314 *eP* **P** **08 37 27.9 -1.5**
TDK *eS* **SKSac** **08 48 03.6 -1.5**
TDK pmax pmax
comp=Z,658nm,3.1s
TDK MLR MLR
comp=Z,16µm,20.0s
TDK Taldyqorghan 98.88 314 *eP* **P** **08 37 27.9 -1.5**
comp=Z,658nm,3.1s,baz=314
TDK *eS* **SKSac** **08 48 03.7 -1.5**
baz=314
TDK LR LR 09 20 47.5
comp=Z,16µm,20.4s,baz=314
ARXS Arharly 99.14 313 *eP* **Pdif** **08 37 29.0 -1.6**
RSSD Black Hills 99.17 47 P **Pdif** **08 37 29.6 -1.3**
RSSD pmax pmax
comp=Z,91nm,2.4s
RSSD MLR MLR
comp=Z,32µm,19.0s
RSSD Black Hills 99.17 47 **Pdif** **08 37 29.6 -1.3**
RSSD IAmb IAmb 08 40 41.8
comp=Z,91nm,2.4s
RSSD Black Hills 99.17 47 IAMs_20 IAMs_20 09 20 37.6
comp=Z,32µm,19.0s
RSSD Black Hills 99.17 47 P **Pdif** **08 37 30.8 -0.2**
baz=259
RSSD Black Hills 99.17 47 P **Pdif** **08 37 30.0 -1.0**
baz=259
AMTX Amarillo 99.20 56 IAMs_20 IAMs_20 09 13 40.0
comp=Z,39µm,21.0s
AMTX Amarillo 99.20 56 P **Pdif** **08 37 28.6 -2.6**
baz=259
AMTX Amarillo 99.20 56 P **Pdif** **08 37 31.8 +0.6**
baz=259
KDJ Kajisay 99.21 311 IAmb IAmb 08 37 38.2
comp=Z,32nm,0.9s
KSCO Kaye Shedlock' 99.24 52 P **Pdif** **08 37 31.5 +0.2**
baz=259
KSCO Kaye Shedlock' 99.24 52 P **Pdif** **08 37 30.9 -0.4**
baz=259
MDOK Medeo 99.50 312 *eP* **Pdif** **08 37 30.5 -1.8**
MDOK *eS* **SKSac** **08 48 05.1 -3.4**
MDOK MLR MLR
comp=Z,9µm,21.0s
MDOK Medeo 99.50 312 *eP* **Pdif** **08 37 30.5 -1.8**
baz=312
MDOK *eS* **SKSac** **08 48 05.2 -3.4**
baz=312
MDOK LR LR 09 23 05.3
comp=Z,9µm,20.9s,baz=312
NRIK Noril'sk 99.53 339 P **Pdif** **08 37 30.8 -0.9**
comp=Z,116nm,1.0s,baz=100,slow=5.1,SNR=74
NRIK LR LR 09 19 51.6
comp=Z,43µm,21.7s,baz=100,slow=34
NRIK Noril'sk 99.53 339*c i*P **Pdif** **08 37 30.6 -1.1**
NRIK pmax pmax
comp=Z,155nm,1.0s
NRIK Noril'sk 99.53 339 **Pdif** **08 37 30.6 -1.1**
TNSS Tian-Shan 99.55 312 *eP* **Pdif** **08 37 31.7 -1.2**
TNSS Tian-Shan 99.55 312 *eP* **Pdif** **08 37 31.8 -1.2**
baz=312
AAA Alma-Ata 99.60 312 *eP* **Pdif** **08 37 31.4 -1.3**
AAA Alma-Ata 99.60 312 *eP* **Pdif** **08 37 31.4 -1.3**
baz=312
KSH Kashi 99.62 308 P **Pdif** **08 37 33.8 +0.8**
KSH pP sP 08 37 49.6 +2.4
KSH PP **PP** **08 41 38.4 +1.0**
KSH SKS **SKSac** **08 48 10.0 +0.7**
KSH S **ScS** **08 49 01.6 -2.4**
KSH SS **SS** **08 55 56.2 +0.4**
KSH pmax pmax
comp=Z,20nm,1.6s
KSH pmax pmax
comp=Z,5µm,12.4s
KSH LR LR
comp=Z,12µm,19.5s
KSH LR LR
comp=Z,20µm,20.7s
KSH LR LR
comp=Z,24µm,22.5s
CHKK Chushkaly 99.66 313 *eP* **Pdif** **08 37 31.4 -1.5**
CHKK Chushkaly 99.66 313 *eP* **Pdif** **08 37 31.4 -1.5**
baz=313
KURK Kurchatov 99.82 320 **PKiKP** **08 42 01.8 +0.1**
KURK Kurchatov 99.82 320 IAMs_20 IAMs_20 09 28 34.9
comp=Z,28µm,18.0s
KURBB Kurchatov Arra 99.86 320 PP **PP** **08 41 37.5 -1.2**
comp=Z,19nm,1.1s,baz=103,slow=7.2,SNR=5.0
KURBB PKiKP **PKiKP** **08 42 01.8 +0.1**
comp=Z,11nm,0.9s,baz=115,slow=1.5,SNR=3.9
KURBB PKKPbc **PKKPbc** **08 53 53.0 -2.3**
comp=Z,4.5nm,0.7s,baz=283,slow=3.3,SNR=19
KURBB LR LR 09 25 23.3
comp=Z,18µm,18.4s,baz=79,slow=37
KURBB Kurchatov Arra 99.86 320 P **Pdif** **08 37 31.6 -2.0**
DGMT Dagmar 99.86 42 P **Pdif** **08 37 34.4 +0.7**
baz=260
DGMT Dagmar 99.86 42 P **Pdif** **08 37 33.2 -0.5**
baz=260
833A Chaparral WMA, 99.88 63 P **Pdif** **08 37 34.8 +0.6**
baz=259
833A Chaparral WMA, 99.88 63 P **Pdif** **08 37 33.8 -0.5**
baz=259
JCT Junction City 99.94 61 IAMs_20 IAMs_20 09 14 38.5
comp=Z,44µm,21.0s
JCT Junction City 99.94 61 P **Pdif** **08 37 35.3 +0.8**
baz=259
JCT Junction City 99.94 61 P **Pdif** **08 37 33.6 -0.9**
baz=259
OGNE Ogallala 100.04 50 P **Pdif** **08 37 35.1 +0.3**
baz=260
OGNE Ogallala 100.04 50 P **Pdif** **08 37 35.0 +0.2**
baz=260
KUU Kurty 100.13 313 *eP* **Pdif** **08 37 32.7 -2.3**
KUU *eS* **SKSac** **08 48 08.8 -2.6**
KUU pmax pmax
comp=Z,157nm,1.7s
KUU MLR MLR
comp=Z,6µm,18.0s
KUU Kurty 100.13 313 *eP* **Pdif** **08 37 32.8 -2.3**
comp=Z,157nm,1.7s,baz=313
KUU *eS* **SKSac** **08 48 08.9 -2.6**
baz=313
KUU LR LR 09 23 35.0
comp=Z,6µm,17.8s,baz=313
ABTX Abilene, Hawle 100.46 59 P **Pdif** **08 37 37.4 +0.7**
baz=260
ABTX Abilene, Hawle 100.46 59 P **Pdif** **08 37 35.8 -0.9**
baz=260
TKM2 Tokmak 2 100.50 312 *i* P **Pdif** **08 37 35.6 -1.3**
TKM2 pmax pmax
comp=Z,17nm,1.0s
KVTX Kingsville 101.04 64 P **Pdif** **08 37 39.2 -0.2**
baz=260
CHMS Chumysh 101.12 312 *i* P **Pdif** **08 37 38.6 -0.9**
CHMS pmax pmax
comp=Z,28nm,1.7s
AAK Ala-Archa 101.25 311 P **Pdif** **08 37 40.6 +0.3**
comp=Z,8.1nm,1.0s,baz=157,slow=3.9,SNR=3.9
AAK PKiKP **PKiKP** **08 42 05.4 +0.6**
comp=Z,6.3nm,0.8s,baz=186,slow=5.3,SNR=4.1
AAK PKKPbc **PKKPbc** **08 53 49.0 -2.3**
comp=Z,5.4nm,0.6s,baz=218,slow=5.7,SNR=6.8
AAK Ala-Archa 101.25 311 P **Pdif** **08 37 39.3 -0.9**
AAK MLR MLR
comp=Z,19µm,20.0s
AAK Ala-Archa 101.25 311 **Pdif** **08 37 39.2 -0.9**
AAK Ala-Archa 101.25 311 *i* P **Pdif** **08 37 39.6 -0.6**
SNR=7.8
SGDS Sogindy 101.28 312 *eP* **Pdif** **08 37 38.8 -1.4**
SGDS Sogindy 101.28 312 *eP* **Pdif** **08 37 38.8 -1.4**
baz=312
735A Kenedy 101.35 63 P **Pdif** **08 37 42.3 +1.6**
baz=260
CBKS Cedar Bluff 101.43 53 P **Pdif** **08 37 40.7 -0.2**
baz=261
WMOK Wichita Mounta 101.53 57 IAMs_20 IAMs_20 09 14 40.6
comp=Z,37µm,21.0s
WMOK Wichita Mounta 101.53 57 P **Pdif** **08 37 42.7 +1.2**
baz=260
WMOK Wichita Mounta 101.53 57 P **Pdif** **08 37 40.8 -0.6**
baz=260
U32A Winter Ranch, 101.61 55 P **Pdif** **08 37 42.3 +0.5**
baz=261
AML Almayashu 101.76 311 *i* P **Pdif** **08 37 41.9 -0.9**
SNR=14
435B Jarrell 101.87 61 IAMs_20 IAMs_20 09 15 25.8
comp=Z,44µm,21.0s
435B Jarrell 101.87 61 P **Pdif** **08 37 43.4 +0.4**
baz=260
435B Jarrell 101.87 61 P **Pdif** **08 37 42.7 -0.3**
baz=260
E28A Huff 101.90 45 P **Pdif** **08 37 41.6 -1.2**
baz=262
BTLS Baital 101.94 314 *eP* **Pdif** **08 37 41.7 -1.3**
BTLS Baital 101.94 314 *eP* **Pdif** **08 37 41.7 -1.3**
baz=314
R32A Long Quarter, 102.16 53 P **Pdif** **08 37 44.7 +0.5**
baz=261
WHTX Lake Whitney, 102.18 60 P **Pdif** **08 37 44.7 +0.4**
baz=261
WHTX Lake Whitney, 102.18 60 P **Pdif** **08 37 44.5 +0.1**
baz=261
PAYG Puerto Ayora 102.28 94 *eP* PKiKP 08 42 20.7 +13
Z35A Perchaven, San 102.56 59 P **Pdif** **08 37 47.5 +1.4**
baz=261
OKCFA Oklahoma City 102.71 56 P **Pdif** **08 37 48.4 +1.7**
baz=261
K31A O'Neill 102.72 49 P **Pdif** **08 37 46.2 -0.3**
baz=262
MDND Maddock 102.81 44 P **Pdif** **08 37 45.3 -1.4**
baz=263
MDND Maddock 102.81 44 P **Pdif** **08 37 47.2 +0.4**
baz=263
SUSD Miller 102.82 47 P **Pdif** **08 37 47.7 +0.7**
baz=262
SUSD Miller 102.82 47 P **Pdif** **08 37 46.0 -0.9**
baz=262
BGNE Belgrade 103.01 50 P **Pdif** **08 37 46.7 -1.1**
baz=262
HKT Hockley 103.23 62 IAMs_20 IAMs_20 09 19 07.8
comp=Z,46µm,20.0s
HKT Hockley 103.23 62 P **Pdif** **08 37 46.8 -2.1**
baz=261
N33B J Bar K, Exete 103.44 51 P **Pdif** **08 37 49.4 -0.4**
baz=263
OTUK Ortayu 103.51 317 P **Pdif** **08 37 48.6 -1.3**
237A Washetta, Mont 103.56 60 P **Pdif** **08 37 52.6 +2.2**
baz=262
DZA Taraz 103.60 311 *e*PKiKP **PKiKP** **08 42 07.6 -1.3**
baz=311
EFI East Falkland 103.61 153 IAMs_20 IAMs_20 09 15 46.8
comp=Z,40µm,22.0s
T35B Sooner Cattle 103.67 55 P **Pdif** **08 37 52.2 +1.3**
baz=262
PLCA Paso Flores 103.72 139 PKiKP **PKiKP** **08 42 08.4 -0.9**
comp=Z,3.5nm,1.1s,baz=321,slow=5.2,SNR=3.1
PLCA PKKPbc **PKKPbc** **08 53 41.7 -1.9**
comp=Z,4.0nm,0.9s,baz=34,slow=5.9,SNR=4.9
RER Riviere de l'E 103.77 244 IAMs_20 IAMs_20 09 19 31.3
comp=Z,43µm,22.0s
KSU1 Kansas State U 103.88 53 P **Pdif** **08 37 53.6 +1.8**
baz=263
KSU1 Kansas State U 103.88 53 P **Pdif** **08 37 50.4 -1.4**
baz=263
TUL1 Leonard 104.12 56 IAMs_20 IAMs_20 09 19 26.1
comp=Z,45µm,20.0s
TUL1 Leonard 104.12 56 P **Pdif** **08 37 51.9 -1.0**
baz=262
X37A Clayton 104.28 58 P **Pdif** **08 37 53.1 -0.6**
baz=262
L34A Svendsen Farm, 104.39 50 P **Pdif** **08 37 49.1 -4.9**
baz=264
ECSD EROS Data Cent 104.41 48 IAMs_20 IAMs_20 09 23 10.4
comp=Z,33µm,19.0s
ECSD EROS Data Cent 104.41 48 P **Pdif** **08 37 54.5 +0.4**
baz=264
ECSD EROS Data Cent 104.41 48 P **Pdif** **08 37 53.3 -0.8**
baz=264
Z38A Mt. Pleasant 104.43 59 P **Pdif** **08 37 53.5 -0.8**
baz=262
IUG Iuzhnay 104.47 310 *e*PKiKP **PKiKP** **08 42 09.3 -1.3**
baz=310
D32B Dogwood Acres, 104.47 45 P **Pdif** **08 37 54.5 +0.3**
baz=264
NATX Nacogdoches 104.49 60 IAMs_20 IAMs_20 09 17 51.3
comp=Z,46µm,20.0s
NATX Nacogdoches 104.49 60 P **Pdif** **08 37 55.8 +1.1**
baz=262
N35A Tabor 104.82 51 P **Pdif** **08 37 58.5 +2.6**
baz=264
F33A 5 Mile Ranch, 104.85 46 P **Pdif** **08 37 56.6 +0.8**
baz=265
BVAR Borovoye Array 105.16 322 PKiKP **PKiKP** **08 42 10.9 -0.5**
comp=Z,4.5nm,0.4s,baz=250,slow=3.0,SNR=12
BRVK Borovoye 105.23 322 P **Pdif** **08 37 55.5 -1.9**
BRVK Borovoye 105.23 322 IAMs_20 IAMs_20 09 22 51.9
comp=Z,39µm,22.0s
AGMN Agassiz Nation 105.35 43 IAMs_20 IAMs_20 09 19 33.9
comp=Z,41µm,20.0s
AGMN Agassiz Nation 105.35 43 P **Pdif** **08 37 57.2 -0.9**
baz=266
AGMN Agassiz Nation 105.35 43 P **Pdif** **08 37 57.0 -1.1**
baz=266
ULM Lac du Bonnet 105.47 41 PKiKP **PKiKP** **08 42 09.5 -2.5**
comp=Z,9.4nm,0.8s,baz=314,slow=2.0,SNR=10
ULM PKKPbc **PKKPbc** **08 53 38.5 -0.2**
comp=Z,3.4nm,0.6s,baz=350,slow=2.3,SNR=4.0
441A DeRidder 105.61 62 P **Pdif** **08 38 02.4 +2.8**
baz=262
HHAR Hobbs 105.65 56 P **Pdif** **08 37 59.5 -0.3**
baz=264
W39A Magazine 105.66 57 IAMs_20 IAMs_20 09 17 32.9
comp=Z,44µm,22.0s
W39A Magazine 105.66 57 P **Pdif** **08 37 56.4 -3.3**
baz=263
Z41A Richland Creek 106.24 59 P **Pdif** **08 38 04.6 +2.2**
baz=263
Z41A P **Pdif** **08 38 04.6 +2.2**
baz=263
Z41A Richland Creek 106.24 59 P **Pdif** **08 38 04.0 +1.6**
baz=263
S39A Bolivar 106.29 55 P **Pdif** **08 38 02.7 +0.2**
baz=264
P38A Dawn 106.31 53 P **Pdif** **08 38 03.7 +1.2**
baz=265
X40A Basin Creek Fa 106.35 58 IAMs_20 IAMs_20 09 22 41.4
comp=Z,28µm,19.0s
X40A Basin Creek Fa 106.35 58 P **Pdif** **08 38 03.5 +0.7**
baz=264
X40A P **Pdif** **08 38 03.5 +0.7**
baz=264
X40A Basin Creek Fa 106.35 58 P **Pdif** **08 38 03.8 +1.0**
baz=264
342B Flagon Creek P 106.42 61 P **Pdif** **08 38 05.4 +2.2**
baz=263
SNET Serv Nac Est T 106.51 80 IAMs_20 IAMs_20 09 14 50.1
comp=Z,33µm,22.0s
U40A Yellville 106.53 56 IAMs_20 IAMs_20 09 21 09.0
comp=Z,50µm,20.0s
U40A Yellville 106.53 56 P **Pdif** **08 38 02.4 -1.3**
baz=264
U40A P **Pdif** **08 38 02.4 -1.3**
baz=264
U40A Yellville 106.53 56 P **Pdif** **08 38 04.5 +0.9**
baz=264
N38A Joes South For 106.64 51 P **Pdif** **08 38 02.1 -1.9**
baz=265
SCIA State Center 106.74 50 P **Pdif** **08 38 04.8 +0.4**
baz=266
I37B Waseca 106.75 48 P **Pdif** **08 38 04.6 +0.2**
baz=266
B35A Bob, Littlefor 106.77 43 P **Pdif** **08 38 01.8 -2.6**
baz=267
F36A Milaca 106.78 46 P **Pdif** **08 38 04.1 -0.4**
baz=267
W41B Gary Mavity, V 106.90 57 P **Pdif** **08 38 04.1 -1.2**
baz=264
W41B Gary Mavity, V 106.90 57 P **Pdif** **08 38 06.5 +1.3**
baz=264
K38A Parkersburg 107.12 49 P **Pdif** **08 38 04.2 -1.8**
baz=266
R40A Maddies Statio 107.17 54 P **Pdif** **08 38 04.8 -1.6**
baz=265
SPMN Marine on St. 107.25 47 P **Pdif** **08 38 06.5 -0.1**
baz=267
SPMN Marine on St. 107.25 47 P **Pdif** **08 38 10.6 +4.0**
baz=267
P40A Paris 107.44 53 P **Pdif** **08 38 10.4 +2.8**
baz=266
PEL Peldehue 107.63 132 IAMs_20 IAMs_20 09 16 56.4
comp=Z,45µm,22.0s
344A Westbrook Farm 107.78 61 P **Pdif** **08 38 08.2 -1.0**
baz=264
545B Wilberts Farm, 107.84 63 P **Pdif** **08 38 11.1 +1.6**
baz=264
LCAR Lake Charles 107.87 56 P **Pdif** **08 38 05.4 -4.2**
baz=265
CCM Cathedral Cave 107.96 54 P **Pdif** **08 38 09.3 -0.6**
baz=266
VBMS Vicksburg 108.04 60 IAMs_20 IAMs_20 09 21 41.3
comp=Z,29µm,21.0s
VBMS Vicksburg 108.04 60 P **Pdif** **08 38 11.2 +0.9**
baz=264
E38A The Farm, Brul 108.18 45 P **Pdif** **08 38 08.5 -2.2**
baz=268
L40A Anamosa 108.23 50 P **Pdif** **08 38 10.9 -0.2**
baz=267
EYMN Ely 108.25 44 IAMs_20 IAMs_20 09 23 41.8
comp=Z,43µm,19.0s
EYMN Ely 108.25 44 P **Pdif** **08 38 09.1 -1.9**
baz=269
N41A Harden Midland 108.43 52 P **Pdif** **08 38 12.2 +0.3**
baz=267
PBMO Poplar Bluff 108.51 56 P **Pdif** **08 38 11.9 -0.5**
baz=266
FVM French Village 108.60 54 P **Pdif** **08 38 14.8 +2.1**
baz=266
I40A Norwalk 108.75 48 P **Pdif** **08 38 14.9 +1.5**
baz=268
HOPE Hope Point 108.85 166 IAMs_20 IAMs_20 09 27 11.6
comp=Z,40µm,20.0s
346A Big Creek Wild 108.85 61 P **Pdif** **08 38 16.6 +2.5**
baz=264
JFWS Jewell Farm 108.99 49 P **Pdif** **08 38 11.5 -2.9**
baz=268
Y45A Yeager Farm, C 109.01 59 P **Pdif** **08 38 14.8 +0.2**
baz=265
G40A Rib Lake 109.09 47 P **Pdif** **08 38 16.5 +1.7**
baz=269
OXF Oxford 109.17 58 IAMs_20 IAMs_20 09 26 12.0
comp=Z,28µm,19.0s
OXF Oxford 109.17 58 P **Pdif** **08 38 15.9 +0.5**
baz=266
LNXT Lenox 109.22 56 P **Pdif** **08 38 16.2 +0.7**
baz=266
146A Union 109.31 60 P **Pdif** **08 38 17.7 +1.6**
baz=265
L42A Oliver, Polo 109.39 50 P **Pdif** **08 38 12.8 -3.4**
baz=268
P43A Skaggs, Pawnee 109.40 53 P **Pdif** **08 38 16.8 +0.6**
baz=267
W45A Hickory Valley 109.40 57 P **Pdif** **08 38 17.1 +0.7**
baz=266
MSEY Mahe Island 109.42 260 IAMs_20 IAMs_20 09 25 45.4
comp=Z,31µm,20.0s
S44A Carbondale 109.51 55 P **Pdif** **08 38 20.1 +3.3**
baz=267
HDIL Hopedale 109.61 52 P **Pdif** **08 38 18.5 +1.3**
baz=268

BOAB BOACO BROADBAN 109.69 82 IAMs_20 IAMs_20 09 21 51.3
comp=Z,38µm,18.0s
LCO Las Campanas 109.70 128 IAMs_20 IAMs_20 09 19 29.3
comp=Z,30µm,21.0s
Q44A Meyer Farm, Va 109.76 54 P **Pdif 08 38 18.8 +0.9**
baz=267
COWI Conover 109.84 46 IAMs_20 IAMs_20 09 22 23.0
comp=Z,41µm,20.0s
COWI Conover 109.84 46 P **Pdif 08 38 17.2 -1.0**
baz=270
T45B Paducah 109.95 56 P **Pdif 08 38 17.9 -0.9**
baz=267
JTS Las Juntas de 109.96 84 IAMs_20 IAMs_20 09 17 54.5
comp=Z,43µm,20.0s
JTS Las Juntas de 109.96 84 *e*P PKiKP 08 42 34.2 +13
I42A Draeger Farm, 109.98 48 P **Pdif 08 38 16.7 -2.1**
baz=269
Z47A Carrollton 110.18 60 P **Pdif 08 38 21.3 +1.4**
baz=266
O44A Mansfield 110.23 52 P **Pdif 08 38 20.2 +0.2**
baz=268
D41A Chassel 110.23 45 P **Pdif 08 38 19.9 +0.1**
baz=271
K43A Burlington 110.39 49 P **Pdif 08 38 20.5 -0.1**
baz=269
OLIL Olney 110.47 54 P **Pdif 08 38 21.6 +0.6**
baz=268
F42A Maple Grove Fa 110.54 46 P **Pdif 08 38 21.8 +0.6**
baz=270
WVT Waverly 110.56 57 IAMs_20 IAMs_20 09 25 49.8
comp=Z,44µm,19.0s
WVT Waverly 110.56 57 P **Pdif 08 38 22.6 +1.0**
baz=267
M44A Midewin, Midew 110.58 51 P **Pdif 08 38 23.1 +1.6**
baz=269
L44A Lake County Fo 110.69 50 P **Pdif 08 38 24.6 +2.6**
baz=269
HDC Heredia 110.71 85 IAMs_20 IAMs_20 09 17 50.4
comp=Z,38µm,21.0s
SVE Sverdlovsk 110.72 326 *i* PKiKP **PKiKP 08 42 21.5 -0.1**
SVE pmax pmax
comp=Z,61nm,1.4s
H43A Windswept, Lux 110.81 48 P **Pdif 08 38 23.0 +0.6**
baz=270
BRAL Brewton 110.89 62 P **Pdif 08 38 26.0 +2.9**
baz=266
LRAL Lakeview Retre 111.07 60 IAMs_20 IAMs_20 09 20 57.4
comp=Z,38µm,22.0s
LRAL Lakeview Retre 111.07 60 P **Pdif 08 38 24.8 +0.9**
baz=266
X48A Hartselle 111.11 58 P **Pdif 08 38 24.1 +0.1**
baz=267
P46A Rosedale 111.19 53 P **Pdif 08 38 25.0 +0.8**
baz=269
T47A Sharon Grove 111.19 56 P **Pdif 08 38 26.3 +2.0**
baz=268
SFIN Lafayette 111.28 52 P **Pdif 08 38 22.9 -1.7**
baz=269
E43A Lone Tree Farm 111.33 46 P **Pdif 08 38 23.8 -0.9**
baz=272
V48A Smith Brothers 111.36 57 P **Pdif 08 38 26.4 +1.2**
baz=267
TULEG Thule 111.51 12 *i* P **PKiKP 08 42 21.6 -1.0**
Y49A Blount Mountai 111.61 59 P **Pdif 08 38 28.6 +2.3**
baz=267
250A Grady 111.62 61 P **Pdif 08 38 26.6 +0.3**
baz=266
AB31 Akbulak array 111.73 318 *i* P **Pdif 08 38 26.0 -0.4**
L46A Eue Claire 111.90 50 P **Pdif 08 38 28.1 +0.8**
baz=270
L46A P **Pdif 08 38 28.1 +0.8**
baz=270
ARU Arti 111.91 325 Pdiff **Pdif 08 38 28.9 +1.8**
comp=Z,0.4nm,0.3s,baz=266,slow=23,SNR=1.4
ARU PKiKP **PKiKP 08 42 23.3 -0.6**
comp=Z,12nm,0.5s,baz=97,slow=0.3,SNR=23
ARU PKKPbc **PKKPbc 08 53 16.4 -1.9**
comp=Z,0.7nm,0.3s,baz=215,slow=3.8,SNR=3.5
ARU Arti 111.91 325 P **Pdif 08 38 25.3 -1.7**
ARU *i* 08 42 23.1
ARU 08 43 03.6
ARU SP SP 08 52 33.1 -2.6
ARU SSS SSS 09 02 48.7
ARU MLR MLR
comp=Z,26µm,22.0s
I45A Fountain 111.92 48 P **Pdif 08 38 28.4 +1.1**
baz=271
I45A P **Pdif 08 38 28.4 +1.1**
baz=271
451A Vernon 111.97 63 P **Pdif 08 38 29.8 +1.9**
baz=266
WSAR Wadi Sarin 112.04 290 PKiKP **PKiKP 08 42 24.5 -0.6**
comp=Z,14nm,1.0s,baz=223,slow=8.1,SNR=2.6
WSAR Wadi Sarin 112.04 290 **PKiKP 08 42 24.6 -0.6**
U49A Red Boiling Sp 112.23 56 P **Pdif 08 38 27.5 -1.5**
baz=268
G45A Suttons Bay 112.30 47 P **Pdif 08 38 28.9 -0.2**
baz=272
G45A P **Pdif 08 38 28.9 -0.2**
baz=272
N47A Urbana 112.35 51 P **Pdif 08 38 30.0 +0.6**
baz=270
N47A P **Pdif 08 38 30.0 +0.6**
baz=270
MHTO MHTO 112.38 287 PKiKP **PKiKP 08 42 29.0 +3.2**
SNR=7.1
SMDO Samad 112.55 289 PKiKP **PKiKP 08 42 29.0 +2.7**
SNR=6.0
P48A Milroy 112.56 53 P **Pdif 08 38 25.8 -4.5**
baz=270
P48A P **Pdif 08 38 25.8 -4.5**
baz=270
W50A Signal Mountai 112.57 58 P **Pdif 08 38 30.7 +0.1**
baz=268
Z51A Franklin 112.61 60 P **Pdif 08 38 32.5 +1.8**
baz=267
NOR Nord 112.64 1 *i* P **PKiKP 08 42 23.7 -1.0**
352A Blakely 112.73 62 P **Pdif 08 38 32.0 +0.7**
baz=267
R49A Shelbyville 112.75 54 P **Pdif 08 38 31.8 +0.6**
baz=269
R49A P **Pdif 08 38 31.8 +0.6**
baz=269
O48B Farmland 112.77 52 P **Pdif 08 38 30.0 -1.2**
baz=270
AKTO Aktyubinsk 112.89 319 Pdiff **Pdif 08 38 30.1 -1.5**
comp=Z,0.9nm,0.5s,baz=84,slow=5.9,SNR=2.2
AKTO PKiKP **PKiKP 08 42 25.3 -0.7**
comp=Z,24nm,0.8s,baz=79,slow=2.4,SNR=26
AKTO SKP 08 46 01.3
comp=Z,6.5nm,0.9s,baz=120,slow=6.9,SNR=3.6
X51A Calhoun 112.92 58 P **Pdif 08 38 33.1 +1.0**
baz=268
X51A P **Pdif 08 38 33.1 +1.0**
baz=268
J47A Sunmer 112.96 49 P **Pdif 08 38 32.9 +0.9**
baz=272
J47A P **Pdif 08 38 32.9 +0.9**
baz=272
152A Waverly Hall 112.97 60 P **Pdif 08 38 32.7 +0.4**
baz=267
T50A Nancy 113.00 56 P **Pdif 08 38 31.5 -0.9**
baz=269
T50A P **Pdif 08 38 31.5 -0.9**
baz=269
553A Crawfordville 113.08 63 P **Pdif 08 38 34.7 +1.8**
baz=266
P49A Miami Univ. Ec 113.11 53 P **Pdif 08 38 29.2 -3.6**
baz=270
E46A Sault Ste Mari 113.19 45 P **Pdif 08 38 31.6 -1.4**
baz=274
L48A N Adams 113.29 50 P **Pdif 08 38 35.3 +1.8**
baz=272
L48A P **Pdif 08 38 35.3 +1.8**
baz=272
GEYT Alibeck 113.36 305 PKiKP **PKiKP 08 42 26.9 -0.5**
comp=Z,20nm,0.8s,baz=194,slow=3.1,SNR=21
V51A Loudon 113.37 57 P **Pdif 08 38 33.7 -0.3**
baz=269
O49A Covington 113.40 52 P **Pdif 08 38 33.0 -1.0**
baz=271
O49A P **Pdif 08 38 33.0 -1.0**
baz=271
R50A Paris 113.42 54 P **Pdif 08 38 33.6 -0.6**
baz=270
R50A P **Pdif 08 38 33.6 -0.6**
baz=270
N49A Columbus Grove 113.50 51 P **Pdif 08 38 36.5 +2.0**
baz=271
N49A P **Pdif 08 38 36.5 +2.0**
baz=271
Y52A Lilburn 113.56 59 P **Pdif 08 38 37.4 +2.4**
baz=268
Y52A P **Pdif 08 38 37.4 +2.4**
baz=268
PAC1 Pacto, Paraso 113.63 96 *e*P **PKiKP 08 42 30.4 +1.7**
W52A Murphy 113.70 58 P **Pdif 08 38 37.1 +1.6**
baz=269
TKL Tuckaleechee C 113.84 57 P **Pdif 08 38 35.1 -1.0**
baz=269
AAM Ann Arbor 113.85 50 P **Pdif 08 38 35.2 -0.9**
baz=272
TIGA Tifton 113.87 62 P **Pdif 08 38 39.0 +2.6**
baz=267
OTAV Otavalo 113.95 96 IAMs_20 IAMs_20 09 19 45.8
comp=Z,32µm,20.0s
OTAV Otavalo 113.95 96 *e*P **PKiKP 08 42 34.2 +4.6**
V52A Sevierville 113.99 57 P **Pdif 08 38 36.4 -0.4**
baz=269
S51A Beattyville 114.00 55 P **Pdif 08 38 36.9 +0.2**
baz=270
S51A P **Pdif 08 38 36.9 +0.2**
baz=270
GOGA Godfrey 114.04 60 IAMs_20 IAMs_20 09 25 21.1
comp=Z,38µm,20.0s
GOGA Godfrey 114.04 60 P **Pdif 08 38 36.3 -0.8**
baz=268
SOHO SOHO 114.05 290 *i* P PKPdf 08 42 27.2 -1.7
SNR=28
PNME Penonome 114.06 87 *e*P PKPdf 08 42 24.6 -4.7
Q51A Peebles 114.18 53 P **Pdif 08 38 37.0 -0.5**
baz=271
Q51A P **Pdif 08 38 37.0 -0.5**
baz=271
LVC Limon Verde 114.21 123 IAMs_20 IAMs_20 09 20 49.4
comp=Z,28µm,22.0s
KBS Kingsbay 114.24 355 *e*P **PKiKP 08 42 27.8 0.0**
KBS Kingsbay 114.24 355 *e*PKPdf PKPdf 08 42 27.4 -0.3
KBS *e*PP **PP 08 43 24.1 +0.9**
154A Montrose 114.32 60 P **Pdif 08 38 38.8 +0.5**
baz=268
M50A Fremont 114.34 51 P **Pdif 08 38 38.6 +0.4**
baz=272
M50A P **Pdif 08 38 38.6 +0.4**
baz=272
I49A Point Hope 114.38 48 P **Pdif 08 38 35.9 -2.4**
baz=274
I49A P **Pdif 08 38 35.9 -2.4**
baz=274
P51A Williamsport 114.39 53 P **Pdif 08 38 37.7 -0.8**
baz=271
P51A P **Pdif 08 38 37.7 -0.8**
baz=271
UOSS Minazif 114.42 291 *i* P PKPdf 08 42 27.9 -1.8
SNR=8.6
ACSO Alum Creek Sta 114.43 52 P **Pdif 08 38 38.0 -0.6**
baz=272
SPA0 Spitsbergen Ar 114.46 354 *e*Pdif **Pdif 08 38 37.8 -0.2**
SPA0 IVmB_BB 08 38 38.5
comp=Z,598nm,8.6s
SPA0 *e*PKPdf **PKiKP 08 42 27.1 -1.2**
SPA0 *e*PP **PP 08 43 25.5 +0.6**
SPA0 *e*PS **PKKPbc 08 53 04.0 -6.2**
SPA0 IVMs_BB IVMs_BB 09 28 25.2
comp=Z,6µm,22.1s
SPITS Spitsbergen Ar 114.46 354 PKKPbc PKKPbc 08 53 06.7 -3.5
comp=Z,7.8nm,0.8s,baz=183,slow=9.2,SNR=7.7
HATD Hatta, Dubai 114.47 291 PKiKP **PKiKP 08 42 32.1 +2.3**
SNR=7.2
HATD Hatta, Dubai 114.47 291 *i* P PKPdf 08 42 28.0 -1.8
SNR=16
MSFE Esma-Masafi 114.49 292 *i* P PKPdf 08 42 28.9 -0.9
SNR=7.2
CASEE Lake Jocassee 114.52 58 P **Pdif 08 38 39.5 +0.3**
baz=269
ASHO Ashiyiah 114.53 291 PKiKP **PKiKP 08 42 30.0 +0.1**
SNR=8.1
ASHO Ashiyiah 114.53 291 *i* P PKPdf 08 42 28.6 -1.3
SNR=16
SHME Shamm 114.56 292 P PKPdf 08 42 29.0 -0.8
K50A Casco 114.59 49 P **Pdif 08 38 38.8 -0.4**
baz=273
K50A P **Pdif 08 38 38.8 -0.4**
baz=273
V53A Saluda 114.62 57 P **Pdif 08 38 41.4 +1.8**
baz=270
V53A P **Pdif 08 38 41.4 +1.8**
baz=270
656A Willston 114.68 64 P **Pdif 08 38 39.5 -0.5**
baz=267
HOPEN Hopen 114.68 351 *e*Pdif **Pdif 08 38 40.1 +1.2**
HOPEN *e*PP **PP 08 43 25.7 -0.7**
HOPEN *e*SP SP 08 53 01.3 +1.3
HOPEN IVMs_BB IVMs_BB 09 26 26.3
comp=Z,8µm,21.9s
TULM Tulcn-Chalpat 114.71 96 *e*P **PKiKP 08 42 32.3 +1.2**
TULM *e* 08 42 32.3
ALNE Al Ain 114.75 290 PKPdf PKPdf 08 42 28.9 -1.4
SNR=8.0
ALNE Al Ain 114.75 290 *i* P PKPdf 08 42 28.9 -1.4
SNR=8.3
SOCY Socotra 114.83 277 PKiKP **PKiKP 08 42 31.6 +0.8**
SNR=6.1
255A Hazlehurst 114.83 61 P **Pdif 08 38 40.8 +0.2**
baz=268
N51A Ashland 114.87 51 P **Pdif 08 38 38.9 -1.7**
baz=272
N51A P **Pdif 08 38 38.9 -1.7**
baz=272
NAZ Nazwa, Dubai 114.91 291 PKiKP **PKiKP 08 42 33.0 +2.4**
SNR=5.9
NAZ Nazwa, Dubai 114.91 291 *i* P PKPdf 08 42 29.7 -0.8
SNR=7.4
UPA Univ. de Panam 114.93 87 *e*P PKPdf 08 42 30.4 -0.5
FAQ Al Fea, Dubai 114.95 291 P PKPdf 08 42 29.1 -1.6
HODGE Hodges 115.07 59 P **Pdif 08 38 42.3 +0.7**
baz=269
ASUD Al Ashush, Dub 115.18 291 P **PKPdf 08 42 30.6 -0.5**
R53A Hurricane 115.28 54 P **Pdif 08 38 43.7 +1.2**
baz=272
R53A P **Pdif 08 38 43.7 +1.2**
baz=272
O52A Adamsville 115.31 52 P **Pdif 08 38 43.8 +1.2**
baz=272
O52A P **Pdif 08 38 43.8 +1.2**
baz=272
U54A Nelsons Funny 115.42 56 P **Pdif 08 38 44.0 +0.7**
baz=271
U54A P **Pdif 08 38 44.0 +0.7**
baz=271
PAULI Pauline 115.44 58 P **Pdif 08 38 43.2 0.0**
baz=270
RBK Rabkut 115.45 283 PKiKP **PKiKP 08 42 32.0 +0.1**
SNR=14
HSPB Hornsund (broa 115.57 353 *e*PKiKP **PKiKP 08 42 29.5 -0.9**
HSPB *e*PP **PP 08 43 31.0 -1.6**
HSPB *e*SP SP 08 53 11.3 +3.3
HSPB *e*L L 09 33 26.3
comp=Z,25µm,21.0s
HSPB Hornsund (broa 115.57 353 *e*Pdif **Pdif 08 38 43.8 +0.9**
HSPB *e*PKPdf **PKiKP 08 42 29.6 -0.8**
HSPB *e*PP **PP 08 43 32.4 -0.2**
HSPB *e*SP SP 08 53 09.3 +1.3
HSPB IVMs_BB IVMs_BB 09 33 13.8
comp=Z,8µm,20.0s
DWPF Disney Wildern 115.58 65 P **Pdif 08 38 44.8 +0.8**
baz=267
HAW Hawthorne Fire 115.60 60 P **Pdif 08 38 44.0 +0.1**
baz=269
M52A Chesterland 115.60 51 P **Pdif 08 38 44.3 +0.5**
baz=273
M52A P **Pdif 08 38 44.3 +0.5**
baz=273
DOK Doka 115.67 284 PKPdf **PKPdf 08 42 32.0 -0.2**
SNR=12
P53A Whipple 115.68 53 P **Pdif 08 38 46.5 +2.3**
baz=272
P53A P **Pdif 08 38 46.5 +2.3**
baz=272
S54A Dingess, Beckl 115.80 55 P **Pdif 08 38 46.7 +1.9**
baz=272
S54A P **Pdif 08 38 46.7 +1.9**
baz=272
KMSC Kings Mountain 115.83 58 P **Pdif 08 38 45.8 +0.8**
baz=270
JSC Jenkinsville 115.89 59 P **Pdif 08 38 46.1 +0.9**
baz=270
061Z Ochoppi 115.91 68 P **Pdif 08 38 43.1 -2.4**
baz=266
WHFO Wadi Hawf 115.92 283 PKiKP **PKiKP 08 42 33.0 +0.3**
SNR=11
V55A Taylorsville 115.92 57 P **Pdif 08 38 49.2 +3.8**
baz=271
V55A P **Pdif 08 38 49.2 +3.8**
baz=271
N53A Lisbon 116.04 51 P **Pdif 08 38 43.9 -1.9**
baz=273
N53A P **Pdif 08 38 43.9 -1.9**
baz=273
M53A WI Miller and 116.12 51 IAMs_20 IAMs_20 09 24 10.6
comp=Z,32µm,22.0s
Q54A Coxs Mills 116.14 53 P **Pdif 08 38 45.6 -0.7**
baz=272
Q54A P **Pdif 08 38 45.6 -0.7**
baz=272
SOTA Rioblanco 116.22 95 *e*P **PKPdf 08 42 33.3 -0.8**
PTAC Punta Ardita, 116.22 89 *e*P PKPpre 08 42 25.5
ABTO Aybut 116.29 282 PKiKP **PKiKP 08 42 35.0 +1.5**
SNR=14
KIRV Kirov 116.30 329 PKP **PKPdf 08 42 31.7 -0.5**
comp=Z,60nm,0.5s,baz=134,slow=1.2,SNR=17
KIRV Kirov 116.30 329 *i* PKiKP **PKPdf 08 42 31.2 -1.0**
UPD2 Meteti 116.31 87 *e*P **PKPdf 08 42 30.4 -3.2**
O54A Avella 116.42 52 P **Pdif 08 38 42.8 -4.7**
baz=273
O54A P **Pdif 08 38 42.8 -4.7**
baz=273
UPNV Upernavik 116.45 13 *i* P **PKPdf 08 42 31.3 -0.8**
PCON Cinco Dias 116.47 95 *e*P PKPpre 08 42 23.6
ALLY Alegheny Colle 116.50 50 P **Pdif 08 38 45.0 -2.8**
baz=274
BLA Blacksburg 116.53 55 P **Pdif 08 38 43.8 -4.3**
baz=272
BIRD Birdtown, Kers 116.55 58 P **Pdif 08 38 49.7 +1.5**
baz=271
ERPA Erie 116.58 50 P **Pdif 08 38 40.9 -7.3**
baz=275
U56A King 116.58 56 P **Pdif 08 38 46.7 -1.6**
baz=272
U56A P **Pdif 08 38 46.7 -1.6**
baz=272
Y57A Sumter 116.61 59 P **Pdif 08 38 49.0 +0.6**
baz=270
Y57A P **Pdif 08 38 49.0 +0.6**
baz=270
N54A Moraine State 116.67 51 P **Pdif 08 38 49.6 +1.0**
baz=274,SNR=5.3
R55A Marlinton 116.72 54 P **Pdif 08 38 50.0 +1.0**
baz=273
R55A P **Pdif 08 38 50.0 +1.0**
baz=273
MZR Muzera 116.73 289 PKiKP **PKiKP 08 42 36.5 +2.4**
SNR=6.7
MZR Muzera 116.73 289 *i* P **PKPdf 08 42 33.8 -0.3**
SNR=20
NHSC New Hope 116.80 60 IAMs_20 IAMs_20 09 25 04.0
comp=Z,29µm,22.0s
MCWV Mont Chateau 116.86 53 P **Pdif 08 38 49.5 0.0**
baz=274
M54A Oil Creek Stat 116.87 51 IAMs_20 IAMs_20 09 25 08.5
comp=Z,31µm,22.0s
M54A Oil Creek Stat 116.87 51 P **Pdif 08 38 50.0 +0.5**
baz=274
YOTC Yotoco, Valle 116.93 93 *e*P PKPpre 08 42 25.5
W57A Gilead 116.93 58 P **Pdif 08 38 50.9 +1.1**
baz=271
W57A P **Pdif 08 38 50.9 +1.1**
baz=271
FLOC Florencia 117.00 96 *e*P **PKiKP 08 42 41.0 +6.0**
MARP Paez Belalcaza 117.03 94 *e*P **PKiKP 08 42 36.2 +0.8**
PRGR Permogore 117.11 333 *e*PKiKP **PKPdf 08 42 31.5 -2.2**
PRGR *e* 08 43 42.3
PRGR pmax pmax
comp=Z,53nm,0.8s
BJO1 Bjornoya 117.20 351 *e*Pdif **Pdif 08 38 49.4 -0.8**
BJO1 *e*PKPdf **PKiKP 08 42 33.6 +0.1**
BJO1 *e*PP **PP 08 43 41.7 -2.4**
BJO1 *e*SP SP 08 53 23.6 +0.7
BJO1 IVMs_BB IVMs_BB 09 32 39.9
comp=Z,7µm,18.9s
PLMC San Jos del P 117.20 92 *e*P **PKPdf 08 42 32.3 -3.1**
Y58A Scranton 117.22 59 P **Pdif 08 38 53.7 +2.6**
baz=271
Y58A P **Pdif 08 38 53.7 +2.6**
baz=271
GARC Garzon, Huila 117.31 95 *e*P **PKiKP 08 42 42.0 +6.1**
Q56A Snyder Ridge, 117.41 53 P **Pdif 08 38 50.3 -1.7**
baz=274
Q56A P **Pdif 08 38 50.3 -1.7**
baz=274
PTLC Puerto Leguiza 117.45 97 *e*P **PKiKP 08 42 36.2 +0.3**
DAG Danmarks Havn 117.45 1 *i* P **PKPdf 08 42 32.3 -1.7**
J54A Appleton 117.47 49 P **Pdif 08 38 50.7 -1.4**
baz=276
J54A P **Pdif 08 38 50.7 -1.4**
baz=276
T57A Hurt 117.47 56 P **Pdif 08 38 50.9 -1.3**
baz=272
T57A P **Pdif 08 38 50.9 -1.3**
baz=272
X58A Rowland 117.48 58 P **Pdif 08 38 55.2 +2.9**
baz=271
X58A P **Pdif 08 38 55.2 +2.9**
baz=271
M55A Ridgway 117.55 51 P **Pdif 08 38 55.4 +2.8**
baz=275
M55A P **Pdif 08 38 55.4 +2.8**
baz=275
WVNY West Valley, N 117.58 49 P **Pdif 08 38 53.2 +0.5**
baz=276
V58A Windy Hill, Pi 117.63 57 P **Pdif 08 38 55.5 +2.6**
baz=272
V58A P **Pdif 08 38 55.5 +2.6**
baz=272
S57A Dark Hollow, R 117.67 55 P **Pdif 08 38 52.8 -0.3**
baz=273
S57A P **Pdif 08 38 52.8 -0.3**
baz=273
CBOC Ciudad Bolivar 117.69 91 *e*P **PKPdf 08 42 33.3 -3.2**
LPAZ La Paz 117.75 117 PKP **PKPdf 08 42 36.5 -0.6**
comp=Z,12nm,0.7s,baz=22,slow=0.8,SNR=45
LPAZ PKKPbc **PKKPbc 08 52 56.8 -1.1**
comp=Z,3.6nm,0.7s,baz=234,slow=1.2,SNR=8.0
LPAZ La Paz 117.75 117 *e*P **PKiKP 08 42 38.1 +1.0**
LPAZ La Paz 117.75 117 *e*P **PKiKP 08 42 37.2 +0.1**
O56A Blue Knob Stat 117.80 52 P **Pdif 08 38 55.6 +1.9**
baz=275
Y59A Loris 117.88 59 P **Pdif 08 38 50.2 -3.9**
baz=271
Y59A P **Pdif 08 38 50.2 -3.9**
baz=271
ANIL Santa Ana 117.96 92 *e*P **PKiKP 08 42 37.2 0.0**
ORTC Ortega, Tolima 117.97 93 *e*P **PKPdf 08 42 36.2 -0.7**
J55A Hilton 118.06 48 P **Pdif 08 38 56.6 +1.9**
baz=277
J55A P **Pdif 08 38 56.6 +1.9**
baz=277
GUY2C Guyana, Caldas 118.17 92 *e*P **PKPdf 08 42 34.2 -3.5**
HELC Santa Helena 118.23 91 *e*P **PKPdf 08 42 33.3 -4.5**
LVZ Lovozero 118.27 341 *i* PKiKP **PKPdf 08 42 34.5 -1.3**
LVZ Lovozero 118.27 341 PKPdf **PKPdf 08 42 34.6 -1.2**
SSPA Standing Stone 118.29 51 P **Pdif 08 38 53.2 -2.5**
baz=275
P57A Homestead Farm 118.29 53 P **Pdif 08 38 59.1 +3.3**
baz=275
P57A P **Pdif 08 38 59.1 +3.3**
baz=275
MTDJ Mount Denham 118.32 77 *e*P **PKPdf 08 42 34.2 -3.2**
L56A Greenwood 118.38 50 P **Pdif 08 38 55.4 -0.8**
baz=276,SNR=7.0
L56A P **Pdif 08 38 55.4 -0.8**
baz=276,SNR=7.0
R58B Mineral 118.51 54 P **Pdif 08 38 58.2 +1.4**
baz=274
R58B P **Pdif 08 38 58.2 +1.4**
baz=274
UREC San Jos de Ur 118.56 89 *e*P **PKPdf 08 42 36.2 -1.7**
MOTC Monteria, Cord 118.64 88 *e*P **PKPdf 08 42 37.2 -0.9**
CNNC Cliffs of the 118.65 58 P **Pdif 08 38 58.5 +1.0**
baz=272
U59A Littleton 118.67 56 P **Pdif 08 38 56.0 -1.6**
baz=273

U59A P Pdif 08 38 56.0 -1.6
baz=273
NORC Norcasia 118.73 91 *e*P **PKPdf 08 42 33.3 -5.0**
M57A Sunshine Farm, 118.79 51 P **Pdif 08 39 01.5 +3.5**
baz=276
M57A P Pdif 08 39 01.5 +3.5
baz=276
T59A Double "B" Far 118.83 56 P **Pdif 08 39 00.1 +1.8**
baz=274
T59A P Pdif 08 39 00.1 +1.8
baz=274
APA Apatity 118.85 341 ⇓*i* PKIKP **PKPdf 08 42 35.0 -1.9**
APA *i* 08 49 34.0
APA *i* PS PKKPdf 08 53 41.0 +16
APA pmax pmax
comp=Z,105nm,0.9s
APA MLR MLR
comp=Z,46μm,21.0s
MACC Macarena, Meta 118.89 96 *e*P **PKPdf 08 42 37.2 -1.4**
CBN Corbin Frederi 118.89 54 P **Pdif 08 38 54.4 -4.1**
baz=274
K57A Scipio Center 119.08 49 P **Pdif 08 39 03.9 +4.6**
baz=277
ROSC El Rosal 119.09 92 PKP **PKPdf 08 42 38.4 -1.0**
comp=Z,20nm,0.6s,baz=93,slow=5.5,SNR=8.4
ROSC El Rosal 119.09 92 *e*P **PKPdf 08 42 37.2 -2.3**
N58A Sunbury 119.15 51 P **Pdif 08 39 03.5 +3.9**
baz=276,SNR=5.5
N58A P **Pdif 08 39 03.5 +3.9**
baz=276,SNR=5.5
ZARC Zaragoza, Cauc 119.16 89 *e*P **PKPdf 08 42 36.2 -2.9**
SDMD Soldier's Deli 119.20 53 P **Pdif 08 38 57.0 -2.9**
baz=275
KEV Kevo 119.21 345 PKIKP **PKPdf 08 42 36.5 -1.0**
KEV Kevo 119.21 345 PKPdf **PKPdf 08 42 36.5 -1.0**
KEV IAMs_20 IAMs_20 09 36 59.9
comp=Z,33μm,20.0s
SJCC San Jacinto, C 119.32 87 *e*P PKiKP 08 42 48.8 +9.3
PTBC PUERTO BERRIO 119.34 90 *e*P **PKPdf 08 42 33.3 -6.2**
HAMF Hammerfest 119.35 347 IVmB_BB 08 38 59.5
comp=Z,658nm,3.5s
HAMF *e*Pdif **Pdif 08 39 01.2 +1.4**
HAMF *e*PKPdf **PKPdf 08 42 36.5 -1.2**
HAMF *e*PP **PP 08 43 57.7 -1.3**
HAMF *e*SP SP 08 53 44.5 +2.1
HAMF IVMs_BB IVMs_BB 09 30 15.4
comp=Z,9μm,25.1s
ITQB Itaqui 119.42 137 *e*P **PKPdf 08 42 37.8 -1.4**
T60A Surry 119.47 55 P **Pdif 08 38 59.0 -2.0**
baz=274
T60A P **Pdif 08 38 59.0 -2.0**
baz=274
SPBC San Pablo de B 119.52 92 *e*P **PKPdf 08 42 36.2 -3.7**
WCNY West Carthage 119.52 47 P **Pdif 08 39 02.7 +1.5**
baz=279
BINY Binghamton 119.53 49 P **Pdif 08 38 57.9 -3.4**
baz=278
CHIC Chingaza 119.61 93 *e*P **PKPdf 08 42 37.2 -3.3**
ARA0 ARCESS Array S 119.74 345 *e*Pdif **Pdif 08 39 01.9 +0.3**
ARA0 *e*PP **PP 08 44 00.1 -1.6**
ARA0 *e*SP SP 08 53 45.4 -0.6
ARA0 *e*SS **SS 09 00 22.0 -1.4**
ARA0 IVMs_BB IVMs_BB 09 37 07.2
comp=Z,10μm,19.5s
ARCES ARCESS Array B 119.74 345 PKP **PKPdf 08 42 37.8 -0.7**
comp=Z,58nm,0.5s,baz=73,slow=1.6,SNR=333
ARCES SKP 08 46 16.8
comp=Z,23nm,0.9s,baz=96,slow=1.2,SNR=7.2
ARCES PKKPbc **PKKPab 08 52 46.6 -3.3**
comp=Z,4.0nm,0.7s,baz=213,slow=3.1,SNR=10
ARCES PKKP **PKKPdf 08 53 19.4 -3.6**
comp=Z,4.2nm,0.7s,baz=222,slow=1.6,SNR=3.9
ARCES ARCESS Array B 119.74 345 PKPdf **PKPdf 08 42 37.9 -0.7**
KSPA Keystone Colle 119.78 50 P **Pdif 08 39 04.7 +2.3**
baz=277
N59A State Game Lan 119.86 51 IAMs_20 IAMs_20 09 28 07.4
comp=Z,41μm,20.0s
N59A State Game Lan 119.86 51 P **Pdif 08 38 58.8 -4.0**
baz=277
DBG Daneborg 119.86 2 *i* P **PKPdf 08 42 37.5 -1.2**
J58A Remsen 119.88 48 P **Pdif 08 39 00.8 -2.0**
baz=279
J58A P **Pdif 08 39 00.8 -2.0**
baz=279
PLTB Pedras Altas 119.98 140 *e*P **PKiKP 08 42 40.8 +0.5**
GEDE Greenville 120.09 52 P **Pdif 08 39 04.3 +0.5**
baz=276
KLMR Klimovskoe 120.12 333 *c i* PKIKP **PKPdf 08 42 38.4 -1.0**
KLMR *e* 08 49 30.9
KLMR *e*PS **SP 08 53 48.2 -1.7**
KLMR *e*SS **SKKSdf 09 00 31.3 -1.3**
KLMR *e*SSS SSS 09 04 58.8
KLMR MLR MLR
comp=Z,27μm,23.0s
KLMR Klimovskoe 120.12 333 ⇑*i* PKPdf **PKPdf 08 42 38.5 -1.0**
KLMR *i* PKPdf **PKPdf 08 42 38.5 -1.0**
KLMR *i* PKPdf **PKPdf 08 42 38.5 -1.0**
KLMR AMP 08 42 44.3
comp=Z,339nm,1.2s
KLMR *e*SKP 08 46 12.4
KLMR *e*SKSac **SKSac 08 49 30.9 -2.9**
KLMR *e*SKSac **SKSac 08 49 30.9 -2.9**
KLMR *e*PS **SP 08 53 48.2 -1.7**
KLMR *e*PS **SP 08 53 48.2 -1.7**
KLMR *e*SS **SKKSdf 09 00 31.4 -1.2**
KLMR *e*SS **SKKSdf 09 00 31.4 -1.2**
KLMR *e*SSS SSS 09 04 58.8
KLMR *e*SSS SSS 09 04 58.8
KLMR LQ LQ 09 23 56.0
KLMR LQ LQ 09 23 56.0
KLMR LR LR 09 29 12.5
KLMR AMP 09 31 53.0
comp=Z,27μm,23.2s
ILULI Ilulissat 120.14 15 IAMs_20 IAMs_20 09 36 33.2
comp=Z,28μm,20.0s
ILULI Ilulissat 120.14 15 *i* P **PKPdf 08 42 38.4 -0.9**
LONY Lake Ozonia 120.18 47 IAMs_20 IAMs_20 09 28 16.6
comp=Z,27μm,20.0s
BMNY Brushton-Moira 120.19 46 P **Pdif 08 39 04.2 +0.1**
baz=280
L59A Walton 120.23 49 P **Pdif 08 39 06.3 +1.9**
baz=278
L59A P **Pdif 08 39 06.3 +1.9**
baz=278
CNG Changalane 120.25 228 *i* P **PKiKP 08 42 41.6 +0.6**
CNG Changalane 120.25 228 *i* P **PKiKP 08 42 41.6 +0.6**
J59A Piesco 120.43 48 P **Pdif 08 39 07.2 +1.9**
baz=279,SNR=6.8
J59A P **Pdif 08 39 07.2 +1.9**
baz=279,SNR=6.8
SMRC Santa Marta, M 120.47 85 *e*P PKPpre 08 42 31.4
RUSC La Rusia 120.53 92 *e*P **PKPdf 08 42 40.1 -2.3**
NCB Newcomb 120.54 47 P **Pdif 08 39 08.4 +2.7**
baz=280
HCNY Howe Caverns 120.63 49 P **Pdif 08 39 09.8 +3.7**
baz=279,SNR=5.9
KTK1 Kautokeino 120.67 346 *e*Pdif **Pdif 08 39 06.5 +0.7**
KTK1 *e*PKPdf **PKPdf 08 42 39.3 -1.0**
KTK1 *e*PP **PP 08 44 06.2 -1.9**
KTK1 *e*SS SS 09 00 32.3 -3.1
KTK1 IVMs_BB IVMs_BB 09 36 52.3
comp=Z,6μm,21.1s
ODNJ Ogdensburg 120.71 51 P **Pdif 08 39 09.0 +2.5**
baz=278
PANJ Princeton 120.73 51 P **Pdif 08 39 09.0 +2.4**
baz=277
BRNJ Basking Ridge 120.79 51 P **Pdif 08 39 09.9 +3.0**
baz=278
TBTG Tabatinga, AM 120.80 104 *e*P **PKPdf 08 42 41.0 -1.2**
OCAC Ocana 120.80 89 *e*P **PKPdf 08 42 39.1 -3.3**
LL1C La Loma 1 Cana 120.83 87 *e*P **PKPdf 08 42 38.1 -4.1**
FRNY Flat Rock 120.84 46 P **Pdif 08 39 04.7 -2.3**
baz=281
JETT Jettan, Norway 120.91 347 *e*Pdif **Pdif 08 39 05.7 -1.1**
JETT *e*PKPdf **PKPdf 08 42 40.7 -0.1**
JETT *e*PP **PP 08 44 09.8 +0.1**
NPNY Mohonk Preserv 120.96 50 P **Pdif 08 39 10.2 +2.6**
baz=279
CPSB Cacapava Do Su 121.01 139 *e*P **PKPdf 08 42 41.1 -1.1**
CPSB Cacapava Do Su 121.01 139 *e*P **PKiKP 08 42 44.8 +2.4**
MAK Makhachkala 121.03 312 *d i* P **Pdif 08 39 06.6 -1.3**
MAK *i* 08 42 42.2
MAK *e* 08 44 07.5
MAK *e* 08 49 35.1
MAK *e*PS **PS 08 54 08.9 +4.8**
MAK *e*SS SS 09 00 50.7 +8.8
MAK *e*SSS SSS 09 05 07.7
MAK pmax pmax
comp=Z,305nm,0.8s
CPUP Villa Florida 121.03 133 PKP **PKPdf 08 42 41.5 -0.9**
comp=Z,23nm,0.9s,baz=263,slow=1.8,SNR=28
CPUP PKKPbc **PKKPbc 08 52 44.8 -0.7**
comp=Z,6.1nm,0.9s,baz=78,slow=4.7,SNR=6.5
CPUP Villa Florida 121.03 133 PKIKP **PKPdf 08 42 41.2 -1.2**
CPUP Villa Florida 121.03 133 PKPdf **PKPdf 08 42 41.2 -1.2**
CPUP Villa Florida 121.03 133 *e*P **PKPdf 08 42 41.0 -1.4**
PTGC Puerto Gaitan, 121.06 94 *e*P PKPpre 08 42 33.3
BRNY Black Rk. Fore 121.11 50 P **Pdif 08 39 09.0 +0.7**
baz=278
LL6C La Loma 6 Bece 121.14 87 *e*P PKPpre 08 42 38.1
TRO Tromso 121.16 347 *e*Pdif **Pdif 08 39 11.7 +3.9**
TRO IVmB_BB 08 39 16.7
comp=Z,1μm,2.7s
TRO *e*PKPdf **PKPdf 08 42 40.1 -1.1**
TRO *e*PP **PP 08 44 07.3 -4.1**
TRO *e*SP SP 08 53 56.8 -1.8
TRO *e*SS **SS 09 00 45.7 +4.1**
TRO IVMs_BB IVMs_BB 09 24 57.4
comp=Z,7μm,30.9s
PAL Palisades 121.24 51 PKIKP **PKPdf 08 42 41.5 -0.8**
PAL Palisades 121.24 51 PKPdf **PKPdf 08 42 41.5 -0.8**
PAL IAMs_20 IAMs_20 09 30 29.1
comp=Z,39μm,20.0s
PAL Palisades 121.24 51 P **Pdif 08 39 12.0 +3.2**
baz=278
MCVT Middlebury Col 121.42 47 P **Pdif 08 39 14.1 +4.5**
baz=281
N62A Caumsett State 121.58 51 P **Pdif 08 39 12.9 +2.5**
baz=279
N62A P **Pdif 08 39 12.9 +2.5**
baz=279
CRJC Cerrejon, Guaj 121.75 86 *e*P **PKPdf 08 42 43.0 -1.1**
J61A Chester 121.85 48 P **Pdif 08 39 16.2 +4.7**
baz=281,SNR=6.9
J61A P **Pdif 08 39 16.2 +4.7**
baz=281,SNR=6.9
SFJD Kangerlussuaq 121.87 16 PKIKP **PKPdf 08 42 41.3 -1.4**
SFJD Kangerlussuaq 121.87 16 PKPdf **PKPdf 08 42 41.3 -1.4**
SFJD Kangerlussuaq 121.87 16 IAMs_20 IAMs_20 09 30 36.1
comp=Z,30μm,21.0s
SFJD Kangerlussuaq 121.87 16 *i* P **PKPdf 08 42 41.6 -1.1**
TAMC Tame, Arauca 121.90 91 *e*P **PKPdf 08 42 41.0 -3.4**
L61B Northampton 121.92 49 P **Pdif 08 39 14.8 +3.0**
baz=280,SNR=6.3
LBNH Lisbon 122.12 47 IAMs_20 IAMs_20 09 34 38.9
comp=Z,37μm,18.0s
LBNH Lisbon 122.12 47 P **Pdif 08 39 15.2 +2.5**
baz=282
SCHQ Scheffer ville 122.16 33 PKP **PKPdf 08 42 42.5 -1.2**
comp=Z,11nm,0.6s,baz=274,slow=2.0,SNR=36
SCHQ SKP 08 46 21.3
comp=Z,9.1nm,0.8s,baz=29,slow=3.8,SNR=4.2
SCHQ PKKPbc **PKKPab 08 52 40.1 +0.2**
comp=Z,7.9nm,0.5s,baz=132,slow=1.8,SNR=24
K62A Royalston 122.20 48 P **Pdif 08 39 16.1 +3.0**
baz=281
K62A P **Pdif 08 39 16.1 +3.0**
baz=281
GROC Groznyy 122.22 312 *i* PKIKP **PKPdf 08 42 44.0 -0.1**
GROC *e* 08 42 59.2
GROC *e* 08 44 17.7
GROC *e* 08 49 50.9
GROC *e*PS PKKPdf 08 54 10.5 +53
GROC pmax pmax
comp=Z,302nm,1.4s
MOPA Mopani 122.48 230 *i* P **PKPdf 08 42 45.2 -0.1**
MOPA Mopani 122.48 230 *i* P **PKPdf 08 42 45.2 -0.1**
M63A Gales Ferry 122.57 50 P **Pdif 08 39 19.1 +4.4**
baz=280
M63A P **Pdif 08 39 19.1 +4.4**
baz=280
H62A Milan 122.59 46 P **Pdif 08 39 13.8 -1.0**
baz=283,SNR=5.9
H62A P **Pdif 08 39 13.8 -1.0**
baz=283,SNR=5.9
I62A Tamworth 122.61 47 P **Pdif 08 39 25.3 +10**
baz=282,SNR=6.0
I62A P **Pdif 08 39 25.3 +10**
baz=282,SNR=6.0
ICESG Greenland Ices 122.71 11 *i* P **PKPdf 08 42 43.6 -1.1**
URIC Uribia, Colomb 122.72 85 *e*P **PKPdf 08 42 41.0 -4.8**
HRV Adam Dziewonsk 122.72 48 P **Pdif 08 39 19.7 +4.2**
baz=281
VRH Novokhopyorsk 122.81 322 *i* PKIKP **PKPdf 08 42 44.1 -0.8**
VRH pmax pmax
comp=Z,200nm,0.6s
VRH MLR MLR
comp=Z,18μm,24.0s
G62A West of Eustis 122.87 45 P **Pdif 08 39 23.5 +7.4**
baz=284
G62A P **Pdif 08 39 23.5 +7.4**
baz=284
F62A Pittston Farm, 123.10 44 P **Pdif 08 39 24.7 +7.6**
baz=284,SNR=6.9
F62A P **Pdif 08 39 24.7 +7.6**
baz=284,SNR=6.9
I63A Otisfield 123.11 47 P **Pdif 08 39 14.3 -2.8**
baz=283,SNR=6.1
I63A P **Pdif 08 39 14.3 -2.8**
baz=283,SNR=6.1
UNH University of 123.11 48 P **Pdif 08 39 19.1 +2.0**
baz=282
JMIC Jan Mayen 123.27 358 *e*Pdif **Pdif 08 39 17.0 -0.2**
JMIC *e*PKPdf **PKiKP 08 42 46.6 +1.1**
JMIC *e*PP **PP 08 44 27.9 +2.4**
JMIC *e*SP SP 08 54 18.8 +1.8
JMIC *e*SS **SS 09 01 10.7 +2.5**
JMIC IVMs_BB IVMs_BB 09 29 27.8
comp=Z,4μm,23.6s
MOS Moscow 123.31 328 *i* PKIKP **PKPdf 08 42 44.0 -1.8**
MOS *e*PPS PPS 08 55 42.5
MOS pmax pmax
comp=Z,360nm,1.1s
STEI Steigen 123.33 348 *e*Pdif **Pdif 08 39 18.4 +0.8**
STEI *e*PKPdf **PKPdf 08 42 44.5 -0.9**
STEI *e*PP **PP 08 44 25.7 -0.4**
STEI *e*SP SP 08 54 16.8 -1.0
SUR Sutherland 123.34 214 SKP **SKPdf 08 46 19.2 -0.8**
comp=Z,8.1nm,0.8s,baz=169,slow=23,SNR=2.1
SUR Sutherland 123.34 214 PKPdf **PKPdf 08 42 46.9 -0.1**
SUR Sutherland 123.34 214 IAMs_20 IAMs_20 09 26 13.1
comp=Z,43μm,22.0s
L64A Middleborough 123.36 49 P **Pdif 08 39 17.8 -0.4**
baz=281
L64A P **Pdif 08 39 17.8 -0.4**
baz=281
D62A Allapoint, All 123.40 43 P **Pdif 08 39 20.7 +2.3**
baz=286,SNR=9.5
D62A P **Pdif 08 39 20.7 +2.3**
baz=286,SNR=9.5
DY2G Dye2 123.41 15 *i* P **PKPdf 08 42 45.4 -0.6**
VALR Valaam 123.43 336 *c i* PKIKP **PKPdf 08 42 45.4 -0.4**
VALR MLR MLR
comp=Z,20μm,20.0s
BOSA Boshof 123.44 221 PKP **PKPdf 08 42 46.9 -0.2**
comp=Z,69nm,1.0s,baz=111,slow=2.2,SNR=32
BOSA PKKPbc **PKKPbc 08 52 34.4 -2.1**
comp=Z,2.0nm,0.6s,baz=321,slow=4.5,SNR=6.3
BOSA Boshof 123.44 221 PKIKP **PKPdf 08 42 46.8 -0.4**
BOSA Boshof 123.44 221 PKPdf **PKPdf 08 42 46.8 -0.4**
BOSA Boshof 123.44 221 *i* P **PKPdf 08 42 47.0 -0.2**
BOSA Boshof 123.44 221 *i* P **PKPdf 08 42 47.0 -0.2**
LOF Lofoten 123.51 348 *e*Pdif **Pdif 08 39 18.0 -0.3**
LOF *e*PKPdf **PKPdf 08 42 45.5 -0.3**
LOF *e*PP **PP 08 44 27.3 0.0**
LOF *e*SP SP 08 54 22.4 +3.1
LOF IVMs_BB IVMs_BB 09 28 33.2
comp=Z,9μm,23.8s
SDV Santo Domingo 123.53 89 PKPdf **PKPdf 08 42 46.2 -1.5**
SDV Santo Domingo 123.53 89 IAMs_20 IAMs_20 09 26 39.2
comp=Z,27μm,20.0s
SDV Santo Domingo 123.53 89 *e*P **PKPdf 08 42 45.9 -1.8**
SDV Santo Domingo 123.53 89 *e*P **PKPdf 08 42 46.3 -1.4**
SDV Santo Domingo 123.53 89 *e*P **PKiKP 08 42 50.2 +2.3**
GNI Garni 123.55 309 PKP **PKiKP 08 42 47.4 +0.2**
comp=Z,97nm,0.8s,baz=348,slow=3.2,SNR=39
GNI Garni 123.55 309 *c i* PKIKP **PKiKP 08 42 47.2 0.0**
GNI Garni 123.55 309 PKPdf **PKPdf 08 42 47.0 +0.1**
GNI Garni 123.55 309 P **PKPdf 08 42 47.1 +0.1**
SCO Scoresbysund 123.58 4 IAMs_20 IAMs_20 09 35 18.9
comp=Z,26μm,21.0s
SCO Scoresbysund 123.58 4 *i* P **PKPdf 08 42 45.7 -0.2**
WVL Waterville 123.63 46 P **Pdif 08 39 24.9 +5.5**
baz=284
ZEI Tsey 123.67 312 *i* PKIKP **PKPdf 08 42 46.4 -0.8**
ZEI pmax pmax
comp=Z,102nm,0.9s
PKME Peaks-Kenny Pk 123.71 45 P **Pdif 08 39 28.4 +8.6**
baz=285,SNR=11
F63A Nahmakanta, Br 123.73 44 P **Pdif 08 39 22.1 +2.2**
baz=285,SNR=9.4
F63A P **Pdif 08 39 22.1 +2.2**
baz=285,SNR=9.4
GOF Gofitskoye 123.75 315 ⇑*e*PKIKP **PKPdf 08 42 46.7 -0.3**
GOF pmax pmax
comp=Z,204nm,1.1s
FAUS Fauske 123.78 347 *e*Pdif **Pdif 08 39 20.1 +0.5**
FAUS *e*PKPdf **PKiKP 08 42 48.1 +1.4**
FAUS *e*PP **PP 08 44 29.3 +0.1**
FAUS *e*SP SP 08 54 23.3 +1.5
FAUS IVMs_BB IVMs_BB 09 26 56.5
comp=Z,8μm,33.1s
SIV San Ignacio 123.88 121 PKP **PKPdf 08 42 47.0 -1.1**
comp=Z,19nm,0.6s,baz=247,slow=2.0,SNR=4.4
SIV PKKPbc **PKKPbc 08 52 33.7 -0.6**
comp=Z,6.7nm,1.1s,baz=28,slow=3.2,SNR=6.2
DABV Dabajuro 123.90 86 *e*P PKPpre 08 42 40.1
LPSR Galich'ya Gora 123.91 325 *i* PKIKP **PKPdf 08 42 46.6 -0.4**
LPSR *e* 08 44 27.3
LPSR pmax pmax
comp=Z,430nm,1.0s
E63A Oxbow 124.00 43 P **Pdif 08 39 23.3 +2.3**
baz=286,SNR=6.7
E63A P **Pdif 08 39 23.3 +2.3**
baz=286,SNR=6.7
ITAB Concordia 124.00 137 *e*P **PKPdf 08 42 47.7 -0.4**
RAYN Ar Rayn 124.09 289 ⇓PKIKP **PKPdf 08 42 47.7 -0.6**
RAYN Ar Rayn 124.09 289 PKPdf **PKPdf 08 42 48.0 -0.4**
RAYN Ar Rayn 124.09 289 *i* P **PKPdf 08 42 47.9 -0.5**
SNR=59
VORR Voronezh 124.11 323 *e*PKIKP **PKPdf 08 42 47.1 -0.3**
VORR pmax pmax
comp=Z,634nm,1.4s
OBN Obninsk 124.13 328 ⇓P **PKPdf 08 42 46.5 -0.8**
OBN Obninsk 124.13 328 PKP **PKPdf 08 42 46.9 -0.4**
comp=Z,32nm,0.8s,baz=104,slow=0.4,SNR=25
OBN Obninsk 124.13 328 *c i* PKIKP **PKPdf 08 42 46.7 -0.6**
OBN *e* 08 43 04.0
OBN *e*PPP PPP 08 47 10.4
OBN *e* 08 49 55.7
OBN *i* 08 56 01.3
OBN *e*SS SS 09 01 18.7 -1.4
OBN *e*SSS SSS 09 05 56.5
OBN pmax pmax
comp=Z,145nm,0.6s
OBN Obninsk 124.13 328 PKPdf **PKPdf 08 42 46.7 -0.6**
OBN IAMs_20 IAMs_20 09 39 20.1
comp=Z,33μm,21.0s
KBZ Khabaz 124.17 313 PKP **PKPdf 08 42 47.6 -0.2**
comp=Z,33nm,0.8s,baz=115,slow=3.9,SNR=29
KBZ Khabaz 124.17 313 *c i* PKIKP **PKPdf 08 42 47.3 -0.5**
MSNA Messina 124.19 230 *i* P **PKiKP 08 42 49.2 +0.3**
MSNA Messina 124.19 230 *i* P **PKiKP 08 42 49.2 +0.3**
F64A Sherman 124.20 44 P **Pdif 08 39 31.8 +10**
baz=286,SNR=6.8
F64A P **Pdif 08 39 31.8 +10**
baz=286,SNR=6.8
AKH Akhalkalaki 124.25 311 ⇓P **PKiKP 08 42 48.7 +0.1**
KIV Kislovodsk 124.27 314 *i* P **Pdif 08 39 21.6 -0.8**
KIV *i* 08 42 47.7
KIV *e* 08 44 32.7
KIV *e*PPP PPP 08 47 12.1
KIV *e* 08 49 46.3
KIV *e*PS PS 08 54 31.5 -1.4
KIV *e*SS SS 09 01 22.8 -0.3
KIV pmax pmax
comp=Z,107nm,1.0s
KIV MLR MLR
comp=Z,12μm,23.0s
KIV Kislovodsk 124.27 314 PKPdf **PKPdf 08 42 47.9 -0.2**
KIV Kislovodsk 124.27 314 *i* P **PKPdf 08 42 47.8 -0.3**
SNR=22
SDDR Presa de Saban 124.29 77 IAMs_20 IAMs_20 09 26 54.4
comp=Z,26μm,21.0s
SDDR Presa de Saban 124.29 77 *e*P **PKPdf 08 42 43.9 -4.9**
VORD Divnogorie 124.32 323 *e*PKIKP **PKPdf 08 42 46.4 -1.5**
VORD pmax pmax
comp=Z,80nm,0.5s
GRTK Grand Turk 124.60 74 IAMs_20 IAMs_20 09 30 13.5
comp=Z,23μm,20.0s
SOEG Soedalen 124.85 8 *e*P **PKPdf 08 42 47.5 -0.9**
G65A Princeton 124.91 45 P **Pdif 08 39 28.4 +3.3**
baz=286,SNR=7.9
G65A P **Pdif 08 39 28.4 +3.3**
baz=286,SNR=7.9
MOR8 Moi Rana 124.98 347 *e*Pdif **Pdif 08 39 27.9 +2.8**
MOR8 IVmB_BB 08 39 29.5
comp=Z,990nm,3.6s
MOR8 *e*PKPdf **PKPdf 08 42 47.1 -1.6**
MOR8 *e*PP **PP 08 44 36.9 -0.3**
MOR8 *e*SP SP 08 54 31.4 -1.0
MOR8 IVMs_BB IVMs_BB 09 28 13.1
comp=Z,8μm,26.1s
KONS Konsvik 124.99 347 *e*PKPdf **PKPdf 08 42 47.8 -0.9**
EMMW East Machias 125.11 45 P **Pdif 08 39 34.1 +8.1**
baz=286
STOK Stokkvaagen 125.15 347 *e*PKPdf **PKPdf 08 42 48.8 -0.2**
FINES FINESS Array B 125.18 338 PKhKP PKPpre 08 42 32.3
comp=Z,0.8nm,0.5s,baz=54,slow=3.6,SNR=4.9
FINES PKP **PKPdf 08 42 48.9 -0.3**
comp=Z,262nm,1.0s,baz=22,slow=2.3,SNR=65
FINES FINESS Array B 125.18 338 PKPdf **PKPdf 08 42 49.1 -0.1**
BATG Bathurst New B 125.29 42 PKPdf **PKPdf 08 42 49.2 -0.7**
ATD Arta Tunnel 125.47 274 IAMs_20 IAMs_20 09 37 51.1
comp=Z,26μm,20.0s
ATD Arta Tunnel 125.47 274 *e*P **PKPdf 08 42 50.4 -0.9**
ATD *e*P **PKiKP 08 42 52.0 +0.4**
ATD Arta Tunnel 125.47 274 ⇓*e*P **PKiKP 08 42 52.6 +1.0**
ATD Arta Tunnel 125.47 274 *e*P **PKiKP 08 42 52.1 +0.5**
ATD *e*S PP 08 44 30.3 -12
ATD Arta Tunnel 125.47 274 *e*P **PKPdf 08 42 50.4 -0.9**
ATD Arta Tunnel 125.47 274 *e*P **PKiKP 08 42 52.0 +0.4**
ATD *e*S SKiKP 08 46 12.6 -13
BATM Batumi 125.53 311 ⇓P **PKiKP 08 42 50.9 0.0**
BATM Batumi 125.53 311 ⇓PKIKP **PKiKP 08 42 50.9 0.0**
LBTB Lobatse 125.66 224 PKIKP **PKPdf 08 42 50.9 -0.6**
LBTB Lobatse 125.66 224 PKPdf **PKPdf 08 42 50.9 -0.6**
LBTB Lobatse 125.66 224 *i* P **PKPdf 08 42 51.4 -0.1**
LBTB Lobatse 125.66 224 *i* P **PKPdf 08 42 51.4 -0.1**
PTGB Pitanga 125.72 135 *e*P **PKPdf 08 42 50.6 -0.9**
PTGB Pitanga 125.72 135 *e*P **PKiKP 08 42 51.9 0.0**
AQDB Aquidauana 125.74 129 PKPdf **PKPdf 08 42 50.0 -1.6**
AQDB Aquidauana 125.74 129 *e*P **PKPdf 08 42 50.3 -1.3**
PTLB Pontes e Lacer 125.76 121 *e*P **PKiKP 08 42 54.2 +2.1**
ISOG Isortoq, Green 125.89 13 *i* P **PKPdf 08 42 49.3 -1.1**
VILB Vilhena 126.09 118 *e*P **PKiKP 08 42 54.8 +1.9**
ANGG Ammassalik, Gr 126.12 12 *i* P **PKPdf 08 42 49.3 -1.6**
SOC Sochi 126.44 314 *c i* PKIKP **PKPdf 08 42 50.6 -1.6**
SOC *e* 08 44 45.6
SOC *e*PPP PPP 08 47 28.9
SOC *e* 08 49 54.7
SOC *e*PS PS 08 54 49.2 -2.6
SOC pmax pmax
comp=Z,118nm,1.3s
SOC MLR MLR
comp=Z,14μm,22.0s
MATP Matopo 126.47 231 *i* P **PKiKP 08 42 53.4 -0.2**
MATP Matopo 126.47 231 *i* P **PKiKP 08 42 53.4 -0.2**
BLWY Bulawayo 126.56 231 *i* P **PKiKP 08 42 53.6 -0.1**
BLWY Bulawayo 126.56 231 *i* P **PKiKP 08 42 53.6 -0.1**
MEF Metsahovi 126.61 338 *e*P **PKiKP 08 42 51.2 -0.8**
KIBK Kibwezi 126.67 256 PKPdf **PKPdf 08 42 52.2 -1.4**
KIBK Kibwezi 126.67 256 PKiKP **PKiKP 08 42 54.1 0.0**
SNR=33
IVI Ivigtut 126.80 20 *i* P **PKPdf 08 42 51.3 -0.9**
VSU Vasula 126.86 335 *i* PKIKP **PKPdf 08 42 51.6 -0.9**
VSU Vasula 126.86 335 *e*P **PKPdf 08 42 51.5 -1.0**
NSS Namsos 126.93 347 *e*Pdif **Pdif 08 39 33.3 -0.3**
NSS *e*PKPdf **PKPdf 08 42 52.0 -0.5**
NSS *e*PP **PP 08 44 50.0 -0.1**
NSS *e*SP SP 08 54 49.7 +0.2
NSS IVMs_BB IVMs_BB 09 36 11.6
comp=Z,9μm,21.9s

RAF Rauma 126.98 340 eP PKPdf 08 42 51.2 -1.5
TEND Ethiopian Broa 127.29 274 eP PKPdf 08 42 54.7 0.0
ANN Anapa 127.64 316 i P Pdif 08 39 34.2 -3.0
ANN i 08 42 52.3
ANN e 08 43 03.4
ANN e 08 49 55.1
ANN eSS SS 09 02 10.7 +5.8
ANN pmax pmax
comp=Z,27nm,0.8s
ANN pmax pmax
comp=Z,114nm,1.0s
NRS Narsarsuaq 127.73 19 IAMs_20 IAMs_20 09 38 51.3
comp=Z,37µm,20.0s
NRS Narsarsuaq 127.73 19 i P PKPdf 08 42 52.0 -2.1
KMBO Kilima Mbogo 127.82 257 PKP PKiKP 08 42 56.8 +0.1
comp=Z,28nm,1.1s,baz=59,slow=4.5,SNR=20
KMBO Kilima Mbogo 127.82 257 eP PKPdf 08 42 54.4 -1.6
KMBO eP PKiKP 08 42 55.5 -1.1
KMBO Kilima Mbogo 127.82 257 eP PKiKP 08 42 56.4 -0.2
KMBO Kilima Mbogo 127.82 257 eP PKPdf 08 42 56.0 0.0
KMBO eS PP 08 44 50.9 -7.3
KMBO Kilima Mbogo 127.82 257 eP PKPdf 08 42 54.4 -1.6
KMBO Kilima Mbogo 127.82 257 i P PKPdf 08 42 56.1 0.0
SNR=28
MTSE Matsula 127.85 337 eP PKPdf 08 42 53.6 -0.8
PP1B Ponte de Pedra 128.04 126 eP PKPdf 08 42 55.9 -0.1
AAL Aland 128.19 340 eP PKPdf 08 42 53.6 -1.4
PCMB Pacaembu 128.31 133 eP PKiKP 08 42 57.3 +0.2
SALV Santo Antonio 128.34 124 eP PKiKP 08 42 57.9 +0.7
TBLU Trondheim 128.42 347 ePKPdf PKPdf 08 42 54.4 -1.0
TBLU ePP PP 08 44 59.5 -0.5
ARPR Arapgir-MALATY 128.61 309 eP SKiKP 08 46 31.6 +0.7
MNK Minsk 128.75 331 i PKIKP PKPdf 08 42 55.7 -0.5
MNK i 08 45 02.7
MNK i PPP PPP 08 47 47.0
MNK i 08 50 03.6
MNK i SS SS 09 02 18.8 +1.1
MNK i SSS SSS 09 07 04.5
MNK pmax pmax
comp=Z,295nm,1.1s
MNK pmax pmax
comp=N,75nm,0.9s
MNK pmax pmax
comp=E,15nm,1.1s
MNK MLR MLR
comp=N,16µm,26.0s
MNK MLR MLR
comp=Z,23µm,27.0s
MNK Minsk 128.75 331 i PKP PKPdf 08 42 55.7 -0.5
comp=E,15nm,1.1s
MNK i PKP PKPdf 08 42 55.7 -0.5
comp=N,75nm,0.9s
MNK i PKP PKPdf 08 42 55.7 -0.5
comp=Z,295nm,1.1s,baz=55
MNK i PP PP 08 45 02.7 +0.2
MNK i SKP SKPdf 08 46 27.2 -2.0
MNK i PKS 08 46 31.7
MNK i PPP PPP 08 47 47.1
MNK i SKS SKSdf 08 50 03.6 -1.6
MNK i SKKS SKKSdf 09 00 09.9 -6.0
MNK i SS SS 09 02 18.8 +1.1
MNK i SSS SSS 09 07 04.6
MNK i LQ LQ 09 32 00.9
MNK i LR LR 09 35 33.5
MNK i LRM MLR 09 37 57.9
comp=N,16µm,25.8s
MNK i LRM MLR 09 38 04.3
comp=Z,23µm,27.1s
MNK i LRM MLR 09 38 18.5
comp=E,1µm,21.9s
GBN Guysborough 128.89 43 PKPdf PKPdf 08 42 56.7 0.0
DILA Dilla 128.91 267 eP PKiKP 08 42 59.9 +1.2
TRIS Tristan da Cun 128.91 181 PKPdf 08 42 56.4 -0.7
TRIS IAMs_20 IAMs_20 09 32 14.9
comp=Z,37µm,22.0s
ISAL Salakas 128.92 332 eP PKPdf 08 42 55.4 -1.1
AAE Adis Abeba 128.98 270 eP PKPdf 08 42 56.9 -1.4
AAE eP PKiKP 08 42 59.5 +0.5
AAE eS SKiKP 08 46 26.8 -5.8
AAE Adis Abeba 128.98 270 eP PKiKP 08 42 59.2 +0.2
AAE Adis Abeba 128.98 270 eP PKiKP 08 42 59.3 +0.2
AAE Adis Abeba 128.98 270 eP PKPdf 08 42 56.9 -1.4
AAE eS SKiKP 08 46 26.8 -5.8
AAE Adis Abeba 128.98 270 eP PKiKP 08 42 59.5 +0.5
AAE eS SKiKP 08 46 25.8 -6.8
NACGM Naroch 129.03 332 eP PKPdf 08 42 56.8 +0.1
FURI Furi 129.04 270 IAMs_20 IAMs_20 09 34 36.7
comp=Z,34µm,22.0s
FURI Furi 129.04 270 eP PKiKP 08 42 59.2 +0.1
FURI eP PKiKP 08 43 00.1 +1.1
FURI eS SKPbc 08 46 22.7 +5.5
FURI Furi 129.04 270 eP PKiKP 08 43 00.6 +1.4
FURI Furi 129.04 270 eP PKiKP 08 43 00.2 +1.1
FURI Furi 129.04 270 eP PKiKP 08 43 00.1 +1.1
FURI eS SKPbc 08 46 22.7 +5.5
FURI Furi 129.04 270 eP PKiKP 08 42 59.2 +0.1
FURI eS SKiKP 08 46 27.1 -5.6
SJG San Juan 129.09 78 PKP PKPdf 08 42 56.9 -1.0
comp=Z,38nm,0.8s
SJG SKPbc SKPbc 08 46 19.0 +2.3
comp=Z,66nm,1.0s,baz=307,slow=4.6,SNR=5.9
SJG San Juan 129.09 78 PKPdf 08 42 57.1 -0.8
SJG San Juan 129.09 78 eP PKPpre 08 42 52.7
PET01 Itanhaem-SP 129.18 139 eP PKPdf 08 42 57.4 -0.7
SLIT Slitere, Latvi 129.18 336 eP PKPdf 08 42 54.8 -2.2
UPP Uppsala 129.22 341 eP PKPdf 08 42 53.0 -4.0
BORG Borgarnes 129.29 5 SKPbc SKPbc 08 46 20.5 +4.5
comp=Z,42nm,0.9s,baz=327,slow=7.2,SNR=5.2
BORG Borgarnes 129.29 5 PKIKP PKiKP 08 42 58.1 +0.4
BORG MLR MLR
comp=Z,19µm,21.0s
BORG Borgarnes 129.29 5 PKiKP 08 42 58.1 +0.4
DARE Darende-Malaty 129.38 308 eP SKPdf 08 46 26.2 -4.8
MOL Molde 129.60 348 ePKPdf PKPdf 08 42 57.8 +0.2
MOL eP PP 08 45 08.4 +0.8
LSZ Lusaka 129.67 236 SKP SKPdf 08 46 33.9 +1.6
comp=Z,22nm,0.9s,baz=124,slow=1.8,SNR=6.0
DOMB Dombas 129.75 347 ePdif Pdif 08 39 45.6 -0.7
DOMB ePKPdf PKPdf 08 42 58.1 +0.1
DOMB ePP PP 08 45 08.2 -0.5
DOMB IVMs_BB IVMs_BB 09 38 53.4
comp=Z,15µm,18.4s
MACA Manacapuru-AM 129.79 107 eP PKPdf 08 42 58.1 -1.3
MACA Manacapuru-AM 129.79 107 eP PKiKP 08 43 01.6 +1.4
SIM Simferopol' 129.79 317 PKIKP PKPdf 08 42 57.4 -1.1
SIM pmax pmax
comp=Z,73nm,0.5s
BBSR BB Station 129.85 60 IAMs_20 IAMs_20 09 37 34.7
comp=Z,22µm,20.0s
PABE Paberze 129.91 333 IAMs_20 IAMs_20 09 38 51.7
comp=Z,41µm,22.0s
PABE Paberze 129.91 333 eP PKPdf 08 42 57.8 -0.6
AKN Aaknes 130.07 348 ePP PP 08 45 12.5 +1.8
AKN eSS SS 09 02 37.1 +3.8
AKN IVMs_BB IVMs_BB 09 40 59.4
comp=Z,9µm,20.8s
KMRS Kahramanmaras 130.09 307 eP SKPbc 08 46 21.0 +1.2
NB2 NORSAR Subarra 130.10 345 PKPdf PKPdf 08 42 58.2 -0.5
comp=Z,253nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra 130.10 345 PKPdf PKPdf 08 42 58.2 -0.5
baz=31,slow=1.9
NOA NORSAR Array B 130.10 345 PKP PKPdf 08 42 58.0 -0.7
comp=Z,130nm,1.1s,baz=62,slow=1.9,SNR=69
NOA SKPbc SKPbc 08 46 20.9 +1.8
comp=Z,32nm,1.0s,baz=31,slow=4.2,SNR=16
NOA NORSAR Array B 130.10 345 PKIKP PKPdf 08 42 58.0 -0.7
AKASG Malin Array Be 130.16 326 PKP PKPdf 08 42 58.2 -0.8
comp=Z,35nm,0.7s,baz=46,slow=2.5,SNR=32
AKASG SKPbc SKPbc 08 46 21.1 +1.6
comp=Z,28nm,0.9s,baz=45,slow=4.8,SNR=7.6
ITRB Iturama 130.17 132 eP PKiKP 08 43 01.9 +1.0
HFS Hagfors 130.19 343 PKP PKPdf 08 42 57.7 -1.1
comp=Z,81nm,1.0s
HFS SKPbc SKPbc 08 46 20.6 +1.3
comp=Z,84nm,1.0s,baz=132,slow=2.2,SNR=11
SARI SarD1z-Kayseri 130.23 308 eP SKPbc 08 46 24.7 +4.2
NC602 NORSAR Array S 130.28 344 ePKPdf PKPdf 08 42 58.0 -1.0
NC602 ePP PP 08 45 12.8 +0.7
VAO Valinhos 130.29 138 eP PKPdf 08 42 59.2 -1.1
VAO Valinhos 130.29 138 eP PKiKP 08 43 01.9 +0.7
RCLB Rio Claro- Sao 130.33 137 eP PKPdf 08 42 59.4 -1.0
RCLB Rio Claro- Sao 130.33 137 eP PKiKP 08 43 02.4 +1.3
PBUR Paburge 130.43 335 eP PKPdf 08 42 58.7 -0.7

BNN Bunyan 130.55 309 eP SKPbc 08 46 26.8 +5.3
VIKU Vikbolandet 130.57 340 eP PKPdf 08 42 59.0 -0.6
BB19B Bebedouro 130.57 135 eP PKiKP 08 43 03.0 +1.3
DVLD Doverlandia 130.70 127 eP PKiKP 08 43 01.6 -0.4
YOZ Yozgat 130.72 310 eP SKPbc 08 46 24.7 +2.6
TAHT Tahtakopru-Hat 130.91 306 P SKPbc 08 46 24.1 +1.4
PARB Paraibuna 130.92 139 eP PKPdf 08 43 00.6 -0.9
PARB Paraibuna 130.92 139 eP PKPdf 08 43 01.9 +0.4
KOZT Kozan 130.92 307 eP SKPbc 08 46 14.6 -8.2
BZK Bozkurt 130.94 314 eP SKPbc 08 46 24.1 +1.5
LODK Lodwar 130.98 262 IAMs_20 IAMs_20 09 37 24.0
comp=Z,30µm,20.0s
LODK Lodwar 130.98 262 PKiKP PKiKP 08 43 05.8 +3.1
SNR=11
LODK Lodwar 130.98 262 eP PKPdf 08 43 00.8 -1.0
LODK eP PKiKP 08 43 02.6 -0.1
LODK Lodwar 130.98 262 ||eP PKiKP 08 43 03.6 +0.9
LODK Lodwar 130.98 262 eP PKPdf 08 43 02.1 +0.2
LODK eS PP 08 45 05.3 -13
LODK Lodwar 130.98 262 eP PKiKP 08 43 02.6 -0.1
LODK Lodwar 130.98 262 eP PKPdf 08 43 00.8 -1.0
LODK eS SKPbc 08 46 19.2 -4.6
FOO Floro 130.99 349 ePKPdf PKPdf 08 43 00.5 +0.3
FOO ePP PP 08 45 18.3 +1.8
FOO ePP PP 08 45 18.5 +1.9
FOO eSKPdf SKiKP 08 46 31.8 -2.9
FOO ⇑eSS SS 09 02 48.0 +3.7
FOO IVMs_BB IVMs_BB 09 41 33.1
comp=Z,8µm,20.0s
CORM Corum 131.06 311 eP SKPbc 08 46 25.8 +2.4
CEYT Ceyhan 131.10 307 eP SKPbc 08 46 26.9 +3.5
SKAR Skarslia 131.13 346 ePKPdf PKiKP 08 43 01.6 0.0
SKAR ePP PP 08 45 19.4 +1.8
HYA Hoyanger 131.15 348 ePKPdf PKPdf 08 43 00.9 +0.4
HYA ePP PP 08 45 21.3 +3.7
HYA eSKPdf SKiKP 08 46 30.6 -4.5
HYA eSKSdf SKSdf 08 50 09.1 -0.2
HYA eSP SP 08 55 27.7 +1.6
HYA IVMs_BB IVMs_BB 09 41 29.9
comp=Z,7µm,21.8s
ASF Jabal al Asfar 131.16 300 PKP PKPdf 08 43 00.4 -1.2
comp=Z,44nm,0.9s,baz=17,slow=3.6,SNR=6.9
ASF SKPbc SKPab 08 46 27.1 +2.8
comp=Z,62nm,1.1s,baz=22,slow=1.5,SNR=5.2
OSL Oslo 131.18 344 ePKPdf PKiKP 08 43 01.4 -0.2
OSL ePP PP 08 45 19.5 +1.6
SUW Suwalki 131.23 332 ePKPdf PKPdf 08 43 00.5 -0.4
SUW ePP PP 08 45 22.1 +3.5
SUW eL L 09 38 51.5
comp=Z,54µm,23.9s
SUW Suwalki 131.23 332 IAMs_20 IAMs_20 09 39 26.6
comp=Z,32µm,21.0s
SUW Suwalki 131.23 332 eP PKPdf 08 42 59.6 -1.4
KRTS Karatas 131.50 306 eP SKPbc 08 46 29.4 +4.5
CMRD Camardi-Nigde 131.51 308 eP SKPbc 08 46 33.1 +8.0
SUE Sulen 131.54 348 ePdif Pdif 08 39 55.2 +1.0
SUE ePKPdf PKiKP 08 43 01.9 -0.3
SUE ePP PP 08 45 23.3 +3.2
SUE eSKPdf SKiKP 08 46 31.7 -4.2
HWQ Hawqa 131.56 303 eP PKPdf 08 43 00.6 -1.8
KARA Karaisali 131.57 307 eP SKPbc 08 46 28.3 +3.1
KONO Kongsberg 131.72 345 PKIKP PKPdf 08 43 01.1 -0.6
KONO MLR MLR
comp=Z,22µm,22.0s
KONO Kongsberg 131.72 345 PKPdf PKPdf 08 43 01.1 -0.6
KONO Kongsberg 131.72 345 IAMs_20 IAMs_20 09 39 55.5
comp=Z,22µm,22.0s
KONO Kongsberg 131.72 345 ePKPdf PKPdf 08 43 00.8 -1.0
KONO ePP PP 08 45 20.3 -1.1
BOAV Boa Vista 131.76 100 eP PKiKP 08 43 05.8 +1.6
RCY Rachaya 131.80 302 eP PKPdf 08 43 02.5 -0.4
BHL Bhannes 131.87 303 eP PKPdf 08 43 01.9 -1.0
SHBL Chebaa 131.90 302 eP PKPdf 08 43 03.0 -0.1
BR131 Keskin Array S 131.93 311 PKIKP PKPdf 08 43 02.5 -0.4
BR131 Keskin Array S 131.93 311 PKPdf 08 43 02.5 -0.4
BRTR Keskin Array B 131.93 311 PKhKP PKPpre 08 42 50.5
comp=Z,2.9nm,0.7s,baz=140,slow=2.5,SNR=8.3
BRTR PKP PKPdf 08 43 02.1 -0.9
comp=Z,21nm,0.8s,baz=111,slow=2.2,SNR=26
BRTR SKPbc SKPab 08 46 29.2 +1.8
comp=Z,21nm,0.9s,baz=75,slow=2.1,SNR=7.7
BRTR PKKP PKKPdf 08 52 58.1 -1.1
comp=Z,3.2nm,1.0s,baz=182,slow=3.9,SNR=4.0
BRTR Keskin Array B 131.93 311 eP SKPbc 08 46 29.9 +3.4
BRTR Keskin Array B 131.93 311 PKPdf 08 43 02.3 -0.7
SORM Soroca 131.96 323 ⇑P PKPdf 08 43 01.4 -1.1
SORM Soroca 131.96 323 ⇑PKIKP PKPdf 08 43 01.4 -1.1
DQRL Deir Qamar 131.98 303 eP PKPdf 08 43 02.6 -0.6
ASK Askoy 131.98 348 ePKPdf PKPdf 08 43 02.1 -0.1
ASK eSKPdf SKPdf 08 46 33.5 -1.5
ASK eSKSac SKSac 08 50 10.1 -0.2
KAMT Kaman 131.99 310 eP SKPbc 08 46 33.9 +7.2
SMRT St. Maarten 132.00 78 eP PKPdf 08 43 02.8 -0.7
BERG Bergen 132.04 348 ePKPdf PKiKP 08 43 02.8 -0.5
BER ePP PP 08 45 24.8 +1.4
BER IVMs_BB IVMs_BB 09 32 23.3
comp=Z,7µm,25.7s
SEUS St. Eustatius 132.06 79 IAMs_20 IAMs_20 09 32 31.2
comp=Z,20µm,21.0s
SEUS St. Eustatius 132.06 79 e PKPdf 08 43 02.1 -1.5
MERS Mersin 132.08 307 eP SKPbc 08 46 29.2 +2.1
ODD1 Odda 132.19 347 ePKPdf PKPdf 08 43 02.6 -0.1
ODD1 ePP PP 08 45 27.0 +2.6
ODD1 eSKPdf SKiKP 08 46 32.8 -4.6
SERE Sereflikochisa 132.23 310 eP SKPbc 08 46 35.5 +7.9
MMAI Mount Meron Ar 132.25 302 PKP PKPdf 08 43 03.2 -0.4
comp=Z,26nm,0.8s,baz=170,slow=5.1,SNR=17
MMAI SKPbc SKPab 08 46 31.1 +2.3
comp=Z,1.7nm,0.3s,baz=100,slow=6.4,SNR=5.2
SKOC St. Kitts, UWI 132.28 80 e PKPdf 08 43 04.3 +0.3
MILM Milestii Mici 132.29 322 ||P PKPdf 08 43 01.9 -1.3
MILM Milestii Mici 132.29 322 ||PKIKP PKPdf 08 43 01.9 -1.3
AFSR Afar-Bala (An 132.44 311 eP SKPbc 08 46 31.6 +3.3
KULU Kulu 132.61 310 eP SKPbc 08 46 30.9 +2.0
BLS5 Blasjo 132.67 347 ePP PP 08 45 29.6 +2.1
BLS5 ePKSdf PKSdf 08 46 40.3 +0.6
BLS5 IVMs_BB IVMs_BB 09 41 04.5
comp=Z,15µm,21.5s
SILI Silifke-Mersin 132.68 307 eP SKPbc 08 46 31.9 +2.8
TPP Pointe-a-Pierr 132.69 89 e PKiKP 08 43 07.5 +1.5
EREN Erenkoy 132.70 305 eP SKPbc 08 46 32.1 +2.9
MBFL Flemmings, Mon 132.74 80 e PKPpre 08 42 54.2
MLYT Lee's Yard 132.76 80 e PKPdf 08 43 04.3 -0.7
GRGR Grenville 132.78 87 e PKPdf 08 43 04.2 -0.9
TRN Trinidad (W) 132.80 89 e PKPdf 08 42 59.4 -5.7
KEBE Keben-Mersin 132.82 307 eP SKPbc 08 46 34.7 +5.0
IPMB Ipameri, GO 132.83 132 eP PKiKP 08 43 07.3 +1.0
CHBY Čihanbeyli 132.84 310 eP SKPbc 08 46 30.3 +0.6
IKL Isikli 132.90 306 eP SKPbc 08 46 30.8 +1.0
AKKU Akkuyu-Mersin 133.02 306 eP SKPbc 08 46 31.6 +1.3
VASR Vaslui 133.04 322 ||P PKPdf 08 43 03.7 -0.9
NPGB Novo Progresso 133.05 114 eP PKiKP 08 43 08.7 +1.9
GCMP Grenada, Carri 133.05 86 e PKPdf 08 43 02.6 -3.0
VAS01 Vassouras-RJ 133.06 140 eP PKPdf 08 43 04.8 -0.7
DEL Delary 133.11 340 eP PKPdf 08 43 02.9 -1.5
KMY Karmoy 133.13 347 ePKPdf PKiKP 08 43 05.1 -0.4
KMY ePP PP 08 45 32.8 +2.5
EIL Elat 133.19 297 PKP PKPdf 08 43 05.4 -0.1
comp=Z,60nm,0.9s,baz=117,slow=4.1,SNR=27
EIL SKPbc SKPab 08 46 33.9 +1.0
comp=Z,59nm,1.2s,baz=121,slow=5.5,SNR=5.4
ANBD Bethesda, Anti 133.19 80 e PKPpre 08 42 57.0
HOMB Homborsund 133.20 344 ePdif Pdif 08 40 03.4 +1.7
HOMB ePKPdf PKPdf 08 43 03.4 -1.1
HOMB ePP PP 08 45 30.8 0.0
HOMB eSP SP 08 55 46.6 +2.9
ANWB Willy Bob 133.21 79 e PKPpre 08 42 57.8
TDBA Terre de Bas, 133.22 82 IAMs_20 IAMs_20 09 32 45.2
comp=Z,24µm,22.0s
TDBA Terre de Bas, 133.22 82 e PKPpre 08 42 57.0
BERE Bereket-Mersin 133.23 307 P SKPbc 08 46 31.2 0.0
VLDR Vladesti 133.25 321 ||P PKPdf 08 43 04.6 -0.4
CBE Ff, Capester 133.27 81 e PKPpre 08 42 57.0
SVB Belmont 133.33 85 e PKPdf 08 43 03.7 -2.4
LADK Ladik-KONYA 133.35 309 eP SKPbc 08 46 30.8 -0.7
TEKE Tekeli-Mersin 133.37 306 eP SKPbc 08 46 32.9 +1.5
MDCT Cottage Hill, 133.37 82 e PKPdf 08 43 04.5 -1.5
SCTR Scanteiesti 133.39 321 ⇑P PKPdf 08 43 05.3 0.0
TATR Tatarca 133.39 320 ||P PKPdf 08 43 05.4 +0.1
DSLB Salisbury 133.40 82 e PKPpre 08 42 58.5
LRW Lerwick 133.40 352 eP PKPdf 08 43 03.6 -1.2
MDN Morne-Daniel 133.41 82 e PKiKP 08 43 07.1 -0.3

ABD La Joyeuse, An 133.42 81 IAMs_20 IAMs_20 09 33 37.2
comp=Z,19µm,20.0s
ABD La Joyeuse, An 133.42 81 e PKPpre 08 42 57.0
LVV L'vov 133.42 327 ePKIKP PKPdf 08 43 04.8 -0.4
LVV eSS SS 09 03 17.4 +2.4
LVV MLR MLR
comp=Z,27µm,23.0s
KONT Konya--Tatoy 133.43 309 eP SKPbc 08 46 33.1 +1.5
MDUB Mudurnu 133.44 313 eP SKPbc 08 46 39.5 +7.8
SNART Snartemo 133.46 345 ePKPdf PKPdf 08 43 05.3 +0.3
SNART ePP PP 08 45 35.0 +2.4
SNART eSKPdf SKPdf 08 46 37.9 +0.1
KIZT Kizilcal 133.49 310 eP SKPbc 08 46 32.5 +0.6
TPGR Topolog 133.51 319 ⇑P PKPdf 08 43 04.8 -0.8
CFR Carcaliu 133.53 320 PKIKP PKPdf 08 43 05.3 -0.3
DLPL La Plaine 133.55 82 e PKiKP 08 43 09.7 +2.0
OVD Ostervraa, Den 133.55 343 i P PKPdf 08 43 04.4 -0.8
GHRR 133.56 321 P PKPdf 08 43 05.9 +0.2
SVRH Sivrihisar-ESK 133.57 311 eP SKPbc 08 46 31.4 -0.7
SCHL Schela 133.57 320 ||P PKPdf 08 43 05.9 +0.3
MAGL Barre de l'ile 133.57 81 IAMs_20 IAMs_20 09 33 04.3
comp=Z,23µm,21.0s
MAGL Barre de l'ile 133.57 81 e PKPpre 08 42 56.2
FDF Fort de France 133.59 83 IAMs_20 IAMs_20 09 31 24.9
comp=Z,21µm,21.0s
FDF Fort de France 133.59 83 e PKPdf 08 43 06.7 +0.1
HDMB Hadim 133.63 308 eP SKPbc 08 46 35.1 +2.5
BIM Bigot 133.64 83 e PKPdf 08 43 07.1 +0.4
MCLT Moule a Chique 133.68 85 e PKiKP 08 43 08.0 0.0
SLBI Saint Lucia, B 133.68 84 e PKPdf 08 43 05.9 -0.8
TIRR Tirgusor 133.69 319 ⇑P PKPdf 08 43 05.1 -0.9
TIRR Tirgusor 133.69 319 ⇑PKIKP PKPdf 08 43 05.0 -0.9
TOSP Speyside 133.74 88 e PKiKP 08 43 10.7 +2.5
BEL Belsk 133.75 331 ePKPdf PKPdf 08 43 06.2 +0.4
BEL eP PP 08 45 36.9 +2.2
TESR Tescani 133.78 322 ⇑P PKPdf 08 43 05.8 -0.3
PANC Panciu 133.81 321 ⇑P PKPdf 08 43 06.1 +0.1
BSD Bornholm Skovb 133.82 338 eP PKPdf 08 43 05.3 -0.5
BSD Bornholm Skovb 133.82 338 i P PKPdf 08 43 05.1 -0.7
MPOM Morne Pois Mar 133.84 84 IAMs_20 IAMs_20 09 34 00.4
comp=Z,19µm,20.0s
MPOM Morne Pois Mar 133.84 84 e PKPdf 08 43 04.5 -2.4
ILAM Ilet Lapin Mar 133.86 83 e PKPdf 08 43 05.1 -1.9
DUB01 Firburgo-RJ 133.86 141 eP PKiKP 08 43 09.8 +1.5
ITTB Itaituba 133.87 111 eP PKiKP 08 43 09.3 +0.8
SAUV Serdivan-Sakar 133.96 313 eP SKPbc 08 46 24.9 -8.3
SEYD Seydisehir-KON 133.99 309 eP SKPbc 08 46 34.1 +0.5
BURAR Bucovina Array 134.03 324 ||P PKPdf 08 43 06.4 -0.2
BURAR Bucovina Array 134.03 324 ||PKIKP PKPdf 08 43 06.4 -0.2
SNDB Serra Nova Dou 134.05 123 eP PKiKP 08 43 10.1 +1.3
VRI Vrincioaia 134.06 321 ⇑P PKPdf 08 43 05.4 -1.2
VRI Vrincioaia 134.06 321 ⇑PKIKP PKPdf 08 43 05.4 -1.2
GOET G??ttrup 134.07 343 i P PKPdf 08 43 05.6 -0.6
PLOR Plostina 134.12 321 ⇑P PKPdf 08 43 06.1 -0.6
PLOR Plostina 134.12 321 ⇑PKIKP PKPdf 08 43 06.1 -0.6
MBAR Mbarara 134.12 255 PKP PKPdf 08 43 08.0 +0.1
comp=Z,23nm,0.9s,baz=157,slow=11,SNR=9.8
MBAR SKPbc SKPab 08 46 39.2 +1.4
comp=Z,5.1nm,0.6s,baz=30,slow=19,SNR=2.1
MBAR Mbarara 134.12 255 PKIKP PKPdf 08 43 08.0 +0.1
MBAR Mbarara 134.12 255 eP PKPdf 08 43 05.9 -2.0
MBAR eP PKiKP 08 43 06.1 -3.1
MBAR Mbarara 134.12 255 ||eP PKPdf 08 43 05.7 -2.2
MBAR Mbarara 134.12 255 eP PKPdf 08 43 05.9 -2.0
MBAR Mbarara 134.12 255 eP PKiKP 08 43 24.0 +15
KALB Balgarevo 134.17 318 P PKPdf 08 43 06.9 +0.1
COP Copenhagen 134.22 340 i P PKPdf 08 43 06.6 +0.1
ICOR Ion Corvin 134.24 319 ⇑P PKPdf 08 43 06.8 -0.2
AMRR Amara 134.30 320 ||P PKPdf 08 43 07.0 -0.1
AMRR Amara 134.30 320 ||PKIKP PKPdf 08 43 07.0 -0.1
GKP Gorka Klasztor 134.31 335 eP PKPdf 08 43 06.8 +0.1
BDFB Brasilia 134.47 129 PKhKP PKPpre 08 42 57.0
comp=Z,5.3nm,0.6s,baz=271,slow=3.0,SNR=8.1
BDFB PKP PKPdf 08 43 07.6 -0.8
comp=Z,30nm,0.6s,baz=247,slow=1.1,SNR=37
BDFB SKPbc SKPbc 08 46 36.8 +0.9
comp=Z,32nm,1.0s,baz=358,slow=1.9,SNR=5.6
BDFB Brasilia 134.47 129 eP PKiKP 08 43 10.4 +0.6
NEHR Nehoiu 134.55 321 ⇑P PKPdf 08 43 07.5 0.0
ISR Istrita 134.55 321 PKIKP PKiKP 08 43 08.9 -0.1
LLD Lille Linde 134.58 340 i P PKPdf 08 43 07.4 +0.2
MUD Monsted U'grnd 134.59 343 i P PKPdf 08 43 06.4 -0.8
SUTC Sutluce-Ispart 134.60 309 eP SKPbc 08 46 35.1 -0.5
ISK Istanbul-Kandi 134.72 314 P PKPdf 08 43 08.3 -4.8
MLR Muntele Rosu 134.73 321 ||P PKPdf 08 43 08.6 -1.4
MLR Muntele Rosu 134.73 321 PKhKP PKPpre 08 42 56.3
comp=Z,6.6nm,0.9s,baz=254,slow=5.0,SNR=5.4
MLR PKP PKPdf 08 43 07.2 -0.9
comp=Z,85nm,1.1s,baz=14,slow=1.2,SNR=30
MLR SKPbc SKPab 08 46 39.7 +0.4
comp=Z,33nm,1.0s,baz=319,slow=11,SNR=5.3
MLR Muntele Rosu 134.73 321 ||PKIKP PKPdf 08 43 06.6 -1.4
MLR Muntele Rosu 134.73 321 IAMs_20 IAMs_20 09 50 34.1
comp=Z,23µm,20.0s
ARCR ARCALIA 134.81 324 ||P PKPdf 08 43 07.3 -0.7
PRD Provadia 134.92 318 P PKiKP 08 43 11.3 +1.6
BBGH Gun Hill 134.95 86 IAMs_20 IAMs_20 09 49 07.7
comp=Z,22µm,20.0s
BBGH Gun Hill 134.95 86 e PKPdf 08 43 06.8 -2.4
SULR 134.95 320 ⇑P PKPdf 08 43 08.1 -0.1
BMR Baia Mare 134.96 325 PKIKP PKPdf 08 43 04.4 -3.8
TSUM Tsumeb 135.02 223 PKP PKPdf 08 43 08.4 -0.9
comp=Z,43nm,1.0s
TSUM SKPbc SKPab 08 46 41.0 -0.3
comp=Z,26nm,1.2s,baz=156,slow=4.6,SNR=2.5
BBSP Saint Philip 135.04 86 e PKiKP 08 43 17.4 +6.7
UZH Uzhgorod 135.04 327 i PKHKP PKPpre 08 43 00.0
UZH eSS SS 09 04 03.6 +29
STHS Stebnicka Huta 135.10 329 ePKIKP PKiKP 08 43 09.6 -0.3
STHS Stebnicka Huta 135.10 329 ePKP PKiKP 08 43 09.6 -0.3
TRPA Tarpa 135.21 326 ⇑P PKPdf 08 43 07.6 -1.0
OJC Ojcow 135.29 330 ePKPdf PKPdf 08 43 08.6 -0.1
OJC ePP PP 08 45 46.2 +1.7
OJC eSS SS 09 03 40.0 +2.6
OJC eL L 09 42 33.6
comp=Z,36µm,22.9s
VOIR 135.29 322 PKIKP PKPdf 08 43 08.0 -1.0
CRVS Cervenica-Dubn 135.31 328 ePKHKP PKPpre 08 43 00.0
CRVS e 08 43 08.8
CRVS e 08 45 46.0
CRVS eSS SS 09 03 43.6 +5.8
CRVS MLR MLR
comp=Z,24µm,25.9s
CRVS Cervenica-Dubn 135.31 328 e PKPpre 08 43 00.0
CRVS Cervenica-Dubn 135.31 328 ePKP PKPdf 08 43 08.8 -0.1
CRVS ePP PP 08 45 46.0 +1.2
CRVS ePKP 08 46 40.2
BIGH Upper Bighouse 135.34 353 eP PKPdf 08 43 06.8 -1.7
BIGH IAMs_20 IAMs_20 09 44 36.0
comp=Z,16µm,19.7s
CJR Cluj-Napoca 135.45 324 P PKPdf 08 43 09.1 -0.1
CJR Cluj-Napoca 135.45 324 PKIKP PKPdf 08 43 09.1 -0.1
MLA1 Latheron 135.46 353 eP PKPdf 08 43 08.2 -0.6
NIE Niedzica 135.57 329 ePKPdf PKiKP 08 43 10.7 -0.3
NIE ePP PP 08 45 49.9 +3.4
NIE eSS SS 09 03 44.7 +3.8
NIE eL L 09 42 09.8
comp=Z,26µm,23.1s
ARR Arges 135.58 322 ⇑P PKPdf 08 43 09.2 -0.4
JMB Yambol 135.79 317 P PKiKP 08 43 12.9 +1.4
HUMR Humele 135.81 321 ||P PKPdf 08 43 08.8 -1.1
SZH Strazhica 135.84 319 P PKiKP 08 43 12.4 +0.8
COPA Copaceanca 135.86 320 ||P PKPdf 08 43 08.8 -1.2
DRGR 135.91 325 ⇑P PKPdf 08 43 09.7 -0.4
DRGR 135.91 325 ⇑PKIKP PKPdf 08 43 09.7 -0.4
EDRB Edirne 135.96 316 P PKPdf 08 43 07.6 -2.7
ALF01 Guarapari-ES 135.97 141 eP PKPpre 08 42 59.5
LEWI Lewis, Hebride 135.98 355 eP PKPpre 08 43 01.9
KULA Kula-Manisa 135.98 311 P PKPpre 08 42 54.6
LTVH Ltavrtes, Hu 136.00 326 ⇑P PKPdf 08 43 09.7 -0.5
LOT Lotru 136.05 322 ||P PKPdf 08 43 09.0 -1.5
KECS Kecovo 136.08 328 ePKP 08 46 50.2
MCD Coleburn Disti 136.15 352 eP PKPdf 08 43 08.8 -1.3
LANS Liptovska Anna 136.16 329 ePKIKP PKiKP 08 43 12.0 -0.1
LANS Liptovska Anna 136.16 329 ePKP PKiKP 08 43 12.0 -0.1
LANS Liptovska Anna 136.16 329 ePKP 08 46 48.5
PVL Pavlikeni 136.24 319 P PKPdf 08 43 10.8 +0.1
RUE Ruedersdorf 136.29 336 eP PKPdf 08 43 09.8 -0.6
DEV Deva 136.31 323 PKIKP PKPdf 08 43 10.9 +0.1
FETY Fethiye 136.32 308 P PKPdf 08 43 07.6 -3.5
OKC Ostrava-Krasne 136.34 331 ePKIKP PKPdf 08 43 09.8 -0.9

OKC MLR MLR
comp=Z,30µm,24.8s
OKC Ostrava-Krasne 136.34 331 ePKPDF PKPdf 08 43 09.8 -0.9
OKC eSKP SKPab **08 46 47.0 +1.0**
OKC AMS AMS 09 38 40.0
comp=Z,30µm,24.8s
PEXB Peixe 136.38 125 eP PKiKP 08 43 14.1 +0.5
IZAB Izabela 136.42 328 ePKIKP PKPdf 08 43 11.2 +0.3
KAC Achnashellach 136.47 354 eP PKPdf 08 43 06.5 -4.2
KSP Ksiaz 136.47 333 ePKPdf PKPdf 08 43 11.1 +0.1
KSP ePP PP **08 45 54.8 +2.9**
KSP eSS SS 09 03 52.0 +0.6
KSP eL L 09 43 20.2
comp=Z,55µm,22.6s
GZR Gura Zlata 136.66 323 PKIKP PKPdf 08 43 11.1 -0.5
MORC Moravsky Berou 136.66 331 ⇑P PKPdf 08 43 10.3 -1.1
MORC Moravsky Berou 136.66 331 ⇑PKIKP PKPdf 08 43 10.3 -1.1
MORC Moravsky Berou 136.66 331 ePP PP 08 45 53.2 0.0
MORC ePKP PKPpre 08 42 57.3
DRUM Mains of Drumt 136.70 352 eP PKPdf 08 43 10.1 -1.0
DRUM IAMs_20 IAMs_20 09 49 07.4
comp=Z,23µm,20.2s
MC01 Montes Claros 136.71 134 eP PKiKP 08 43 15.2 +1.0
OSTC Ostas 136.72 333 ePKPpre PKPpre 08 43 01.7
OSTC ePKPDF PKPdf **08 43 11.2 -0.2**
OSTC eSKP SKPdf **08 46 44.7 +0.7**
OSTC AMS AMS 09 43 10.0
comp=Z,52µm,21.8s
PSZ Piszkesteto 136.74 328 ⇑PKIKP PKPdf 08 43 09.7 -1.9
PSZ Piszkesteto 136.74 328 PKP PKPdf 08 43 03.4 -8.2
YER Yerkesik 136.76 309 P PKPpre 08 42 57.9
CHVC Chvalec 136.76 333 ePKPpre PKPpre 08 43 00.9
CHVC ePKPDF PKPdf **08 43 11.7 +0.2**
CHVC eSKP SKPdf **08 46 43.8 -0.3**
CHVC AMS AMS 09 43 10.0
comp=Z,49µm,22.3s
SIRR Siria 136.80 325 ⇓P PKPdf 08 43 11.0 -0.7
KRLC Kraliky 136.81 332 ePKHKP PKPpre 08 43 02.1
KRLC e 08 43 09.5
KRLC MLR MLR
comp=Z,38µm,22.7s
KRLC Kraliky 136.81 332 ePKPpre PKPpre 08 43 02.1
KRLC ex x 08 43 09.5
KRLC eSKP SKPdf **08 46 44.5 +0.3**
KRLC AMS AMS 09 42 40.0
comp=Z,38µm,22.7s
SRE Strehaia 136.81 322 PKIKP PKPdf 08 43 12.0 +0.2
DPC Dobruska-Polom 136.82 333 ePKHKP PKPpre 08 42 59.4
DPC MLR MLR
comp=Z,47µm,22.3s
DPC Dobruska-Polom 136.82 333 ePKPpre PKPpre 08 42 59.4
DPC ePKPDF PKiKP **08 43 13.8 +0.4**
DPC eSKP SKPdf **08 46 44.5 +0.3**
DPC AMS AMS 09 42 40.0
comp=Z,47µm,22.3s
UPC Upice 136.84 333 ePKHKP PKPpre 08 42 59.5
UPC MLR MLR
comp=Z,51µm,21.9s
UPC Upice 136.84 333 ePKPpre PKPpre 08 42 59.5
UPC ePKPDF PKiKP **08 43 13.9 +0.5**
UPC eSKP SKPdf **08 46 43.4 -0.8**
UPC AMS AMS 09 43 10.0
comp=Z,51µm,21.9s
ENEZ Enez 136.86 315 P PKPpre 08 43 05.0
ALN Alexandroupoli 136.86 316 P PKPpre 08 43 06.5
VYHS Vyhne 136.91 329 ePKIKP PKPdf 08 43 11.5 -0.3
VYHS e 08 45 56.1
VYHS Vyhne 136.91 329 ePKP PKPdf 08 43 11.5 -0.3
VYHS ePP PP **08 45 56.1 +1.3**
VYHS Vyhne 136.91 329 ePKP 08 46 44.8
KDZ Kurdzhali 136.94 317 P PKPdf 08 43 11.3 -0.8
KOLL Kolacno 137.07 329 e PKPpre 08 43 05.1
KOLL Kolacno 137.07 329 ePKP PKPpre 08 43 13.0
KOLL Kolacno 137.07 329 ePKP 08 46 45.3
BAIL Bailesti 137.07 321 ⇑P PKPdf 08 43 12.4 +0.1
RDO Rodhopi 137.09 316 P PKPpre 08 42 58.3
SJMB Sao Joao De Ma 137.12 139 eP PKPpre 08 42 59.5
EZN Ezine 137.13 314 P PKPpre 08 42 59.0
RIB01 Linhares ES 137.16 141 eP PKPpre 08 42 59.4
PUNG Punghina 137.19 322 ⇓P PKPdf 08 43 11.5 -0.9
PLD Plovdiv 137.19 318 P PKiKP 08 43 13.9 -0.5
BZS Buzias 137.21 324 ⇓P PKPdf 08 43 11.0 -1.4
BZS Buzias 137.21 324 ⇓PKIKP PKPdf 08 43 11.0 -1.4
JAVC Velka Javorina 137.24 330 ePKP PKPpre 08 43 01.0
JAVC e 08 43 13.5
JAVC ePP PP **08 45 57.5 +0.6**
JAVC e 08 46 47.0
JAVC e 08 58 10.9
AMBH Ambrzfalva 137.27 325 ⇑P PKPdf 08 43 12.0 -0.5
INVG Invergeldie, C 137.38 353 eP PKPdf 08 43 11.6 -0.8
RZN Rozhen 137.38 317 P PKiKP 08 43 15.7 +0.7
SMTH Samothraki Isl 137.40 315 P PKPpre 08 43 00.5
PRK Paraskevi 137.41 313 P PKPpre 08 42 59.8
DAT Datca 137.43 309 P PKPpre 08 42 59.8
VRAC Vranov 137.43 331 ePKP PKPpre 08 42 58.9
VRAC e 08 43 12.2
VRAC ePP PP **08 45 57.4 -0.6**
VRAC e 08 46 46.4
VRAC e 08 58 13.3
PVCC Panska Ves 137.45 334 ePKHKP PKPpre 08 43 03.2
PVCC e 08 43 12.5
PVCC MLR MLR
comp=Z,31µm,23.8s
PVCC Panska Ves 137.45 334 ePKPpre PKPpre 08 43 03.2
PVCC ePKPDF PKPdf **08 43 12.5 -0.2**
PVCC eSKP 08 46 51.5
PVCC AMS AMS 09 41 00.0
comp=Z,31µm,23.8s
BRG Berggiesshubel 137.45 335 ePKP PKPpre 08 42 59.5
BRG Amp 08 43 01.8
comp=Z,2.7nm,0.8s
BRG ex x 08 43 03.0
BRG Amp 08 43 09.0
comp=Z,14nm,1.0s
BRG ex x 08 43 13.3
BRG Amp 08 43 16.8
comp=Z,139nm,1.2s
BRG i x x 08 43 19.1
BRG Amp 08 43 20.0
comp=Z,162nm,1.3s
BRG PP PP 08 45 42.0 -16
BRG Amp 08 45 53.9
comp=Z,36nm,1.3s
BRG SKP 08 46 46.2
BRG Amp 08 46 52.5
comp=Z,240nm,1.4s
BRG PKKP 08 55 08.6
BRG Amp 08 55 11.0
comp=Z,77nm,2.4s
BRG Berggiesshubel 137.45 335 ePKHKP PKPpre 08 42 59.4
BRG e 08 43 13.3
BRG i 08 43 19.1
BRG SS SS 09 04 09.0 +6.1
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG pmax pmax
comp=Z,139nm,1.2s
BRG MLR MLR
comp=Z,30µm,20.9s
BRG MLR MLR
comp=N,31µm,22.5s
CLL Collm 137.50 336 ePKHKP PKPpre 08 43 01.0
CLL i 08 43 14.0
CLL pmax pmax
comp=Z,114nm,1.1s
CLL MLR MLR
comp=Z,30µm,21.5s
CLL Collm 137.50 336 IAMs_20 IAMs_20 09 48 22.3
comp=Z,29µm,20.0s
CLL Collm 137.50 336 ePdif Pdif 08 40 22.0 +1.0
CLL ePKPpre PKPpre 08 43 01.0
CLL i PKPdf PKiKP **08 43 14.0 -0.7**
comp=Z,114nm,1.1s
CLL i x x 08 43 18.3
comp=Z,238nm,1.3s
CLL ex x 08 43 32.0
CLL ePP PP **08 45 58.0 -0.2**
CLL eSKPdf SKPbc **08 46 45.0 +1.1**
comp=Z,68nm,1.2s
CLL ePKSdf PKSdf **08 46 49.0 +0.2**
comp=Z,309nm,1.6s
CLL i PKSab PKSab 08 46 54.6 -0.2
CLL epPKSab 08 47 05.0
CLL ePKKSbc PKKSbc 08 55 39.0 +0.9
CLL i pPKKSbc 08 55 44.1
comp=Z,24nm,1.4s
CLL i x x 08 56 00.9
CLL ex x 08 57 34.0
CLL ePPS PPS 08 58 11.0
CLL eSS SS **09 04 06.0 +2.6**
CLL ePSPS 09 05 18.0
CLL ex x 09 10 00.0
CLL Lm MLR 09 45 00.0
comp=Z,30µm,21.5s
CLL Lmax 09 51 00.0
BODT Bodrum 137.51 310 P PKPpre 08 43 05.4
JANB Januaria 137.56 132 eP PKiKP 08 43 16.4 +0.5
SMOL Smolenice 137.59 330 ePKIKP PKPdf 08 43 13.9 +0.8
SMOL e 08 46 00.8
SMOL Smolenice 137.59 330 ePKP PKPdf 08 43 13.9 +0.8
SMOL ePP PP **08 46 00.8 +1.8**
SMOL Smolenice 137.59 330 ePKP 08 46 47.4
SRO2 Moca 137.61 328 ePKIKP PKPdf 08 43 12.8 -0.3
SRO2 Moca 137.61 328 ePKP PKPdf 08 43 12.8 -0.3
SMG Samos 137.62 311 P PKPpre 08 42 59.0
BANR Banloc 137.62 324 ⇑P PKPdf 08 43 13.0 -0.1
SRO Srobarova 137.62 329 ePKIKP PKPdf 08 43 13.5 +0.4
SRO e 08 46 00.5
SRO Srobarova 137.62 329 ePKP PKPdf 08 43 13.5 +0.4
SRO ePP PP **08 46 00.5 +1.3**
KRUC Moravsky 137.70 331 ePKP PKPpre 08 43 00.8
KRUC e 08 43 12.5
KRUC ePP PP **08 45 59.0 -0.6**
KRUC e 08 46 46.9
KRUC e 08 58 15.7
SIGR SIGRI 137.72 313 P PKPpre 08 43 00.2
EDI Edinburgh 137.76 352 eP PKPpre 08 43 07.6
NISR Nisiros 137.81 309 P PKPpre 08 43 00.5
KAVA Kavala 137.84 316 P PKPpre 08 43 01.6
PRU Pruhonice 137.86 333 ePKHKP PKPpre 08 43 05.4
PRU e 08 43 13.4
PRU MLR MLR
comp=Z,37µm,21.8s
PRU Pruhonice 137.86 333 ePKPpre PKPpre 08 43 05.4
PRU ePKPDF PKPdf **08 43 13.4 -0.1**
PRU eSKP SKPdf **08 46 46.2 +0.2**
PRU AMS AMS 09 45 50.0
comp=Z,37µm,21.8s
VTS Vitosha 137.88 319 ⇓P PKPdf 08 43 13.6 -0.4
VTS Vitosha 137.88 319 ⇓PKIKP PKPdf 08 43 13.6 -0.4
VTS Vitosha 137.88 319 P PKiKP 08 43 16.5 +0.5
THAS Thassos island 137.89 316 P PKPdf 08 42 59.8 -14
LIA Limnos Island 137.89 315 P PKPpre 08 43 01.6
CHOS Chios island 137.92 312 P PKPdf 08 42 59.8 -14
TREC Trest 137.95 332 ePKIKP PKPpre 08 43 07.1
TREC e 08 43 14.2
TREC MLR MLR
comp=Z,47µm,21.9s
TREC Trest 137.95 332 ePKPpre PKPpre 08 43 07.1
TREC ePKPDF PKPdf **08 43 14.2 +0.4**
TREC eSKP SKPdf **08 46 46.8 +0.5**
TREC AMS AMS 09 44 40.0
comp=Z,47µm,21.9s
ZST Bratislava 137.96 330 ePKIKP PKPdf 08 43 14.3 +0.5
ZST e 08 46 05.1
ZST Bratislava 137.96 330 ePKP PKPdf 08 43 14.3 +0.5
ZST ePP PP **08 46 05.1 +3.8**
ZST Bratislava 137.96 330 ePKP 08 46 48.6
MMB Musomiste 138.08 318 P PKPdf 08 43 13.1 -1.1
NVR Nevrokopi 138.11 317 P PKPpre 08 43 02.0
KARP Karpathos 138.16 308 P PKPpre 08 43 02.4
KOKK Kokkinochori, 138.27 316 P PKPpre 08 43 01.6
EKA Eskdalemuir Ar 138.32 351 PKKP PKKPdf 08 52 42.5 -4.3
comp=Z,1.0nm,0.6s,baz=212,slow=3.3,SNR=4.1
PBCC Pribram 138.32 334 ePKPpre PKPpre 08 43 05.5
PBCC ePKPDF PKPdf **08 43 14.6 +0.2**
PBCC eSKP SKPbc **08 46 47.4 +1.1**
ESK Eskdalemuir 138.35 351 PKIKP PKPdf 08 43 14.9 +0.7
ESK MLR MLR
comp=Z,22µm,21.0s
ESK Eskdalemuir 138.35 351 PKPdf PKPdf 08 43 14.9 +0.7
ESK Eskdalemuir 138.35 351 IAMs_20 IAMs_20 09 44 14.7
comp=Z,22µm,21.0s
KKB Krupnik 138.36 318 P PKiKP 08 43 16.2 -0.6
SRS Serrai 138.40 317 P PKPpre 08 43 02.8
NAN01 Guarapari, ES 138.42 139 eP PKPpre 08 43 04.8
MPLH Magyarpolny 138.44 328 PKP PKPpre 08 43 06.2
MORH Mrgy, Hungar 138.49 327 eP PKPpre 08 43 07.1
FRGS Fruska Gora 138.50 324 ⇑P PKPpre 08 42 59.5
NKC Novy Kostel 138.56 335 ePKHKP PKPpre 08 43 05.3
NKC MLR MLR
comp=Z,33µm,19.2s
NKC Novy Kostel 138.56 335 ePKPpre PKPpre 08 43 05.3
NKC ePKPDF PKiKP **08 43 19.1 +2.1**
NKC eSKP SKPdf **08 46 49.1 +1.8**
NKC AMS AMS 09 52 10.0
comp=Z,33µm,19.2s
MOX Moxa 138.57 336 eL L 09 46 05.7
comp=Z,28µm,20.8s
EDMD Edmundbyers 138.62 350 eP PKPpre 08 43 05.2
EDMD IAMs_20 IAMs_20 09 46 53.2
comp=Z,29µm,21.1s
RONA Rosalia, Austr 138.70 330 eP PKPpre 08 43 06.4
comp=Z,6.8nm,0.8s,SNR=19
RONA eS SKiKP **08 46 49.9 -1.2**
RONA comp=Z,22nm,0.9s
eS SKKPbc **08 55 40.6 +10**
comp=Z,22nm,1.5s
SOH Sokhos 138.70 317 P PKPpre 08 43 02.4
CONA Conrad Observa 138.75 330 eP PKPpre 08 43 05.6
comp=Z,13nm,0.8s
CONA eS SKiKP **08 46 50.4 -0.8**
comp=Z,18nm,1.0s,SNR=6.3
CONA eS SKKPbc **08 55 40.1 +10**
comp=Z,10nm,1.1s
GDLE Glaisdale, N Y 138.82 349 eP PKPpre 08 43 10.4
APE Apeiranthos 138.82 311 P PKPpre 08 43 03.9
MCPB Macapa, AP 138.82 107 eP PKiKP 08 43 18.4 -0.1
CKRC Cesky Krumlov 138.83 332 ePKPpre PKPpre 08 43 05.5
CKRC ePKPDF PKPdf **08 43 15.6 +0.2**
CKRC eSKP SKPdf **08 46 50.1 +2.3**
PLG Polygyros 138.85 316 P PKPpre 08 43 02.4
KOVH Kovagotottos 138.86 327 PKP PKPpre 08 43 05.6
KHC Kasperske Hory 138.92 333 ePKHKP PKPpre 08 43 06.5
KHC e 08 43 13.6
KHC e 08 46 08.5
KHC MLR MLR
comp=Z,31µm,25.2s
KHC Kasperske Hory 138.92 333 ePKPpre PKPpre 08 43 06.5
KHC ePKPDF PKPdf **08 43 13.6 -2.0**
KHC ex x 08 43 17.5
KHC ex x 08 46 08.5
KHC eSKP 08 46 50.4
KHC ex x 08 47 11.0
KHC ex x 08 55 34.5
KHC AMS AMS 09 40 10.0
comp=Z,31µm,25.2s
CLGH Cloghs, Cushen 138.94 354 eP PKPpre 08 43 08.3
CLGH IAMs_20 IAMs_20 09 46 00.8
comp=Z,22µm,20.7s
VAY Valandovo 138.97 318 i P PKPpre 08 43 05.2
HORT Hortiatis 138.98 317 P PKPpre 08 43 03.9
GAL1 Galloway 138.99 353 eP PKPpre 08 43 05.1
GAL1 IAMs_20 IAMs_20 09 46 43.9
comp=Z,21µm,19.9s
STIP Stip 139.02 319 i P PKPpre 08 43 05.2
ZKR Zakros 139.03 308 P PKPpre 08 43 06.5
TEKS Tekeris 139.03 324 ⇑i P PKPpre 08 43 07.9
DIVS Divibare 139.03 323 ⇑i P PKPpre 08 43 02.7
KESW Keswick, Cumbr 139.04 351 IAMs_20 IAMs_20 09 44 40.4
comp=Z,26µm,22.0s
KESW eP PKPpre 08 43 08.3
THE Thessaloniki 139.05 317 P PKPpre 08 43 04.3
CMBO Columbo, Santo 139.15 310 P PKPpre 08 43 04.3
KARY Karystos 139.22 312 P PKPpre 08 43 03.1
GRG Griva 139.26 318 P PKPdf 08 43 01.6 -15
SKO Skopje 139.35 319 i P PKPpre 08 43 06.7
ARSA Arzberg 139.39 330 eP PKPpre 08 43 07.3
comp=Z,2.5nm,0.8s,SNR=14
ARSA eS SKKPbc **08 55 37.1 +9.4**
comp=Z,8.0nm,1.1s
FRMA Ierapetra Chan 139.44 308 P PKPpre 08 43 07.2
GRA1 Grafenberg Arr 139.47 336 IAMs_20 IAMs_20 09 46 34.3
comp=Z,23µm,20.0s
GRF Grafenberg Arr 139.47 336 ePKPdf PKPpre 08 43 09.0
baz=42,slow=1.3
GRF ePP PP **08 46 09.9 -0.6**
baz=36,slow=5.7
GRF eSKPbc SKiKP **08 46 52.3 -0.3**
baz=50,slow=2.3
GRF eSKKPab SKKPbc **08 55 29.0 +1.5**
baz=209,slow=4.8
GRF eL L 09 46 13.5
comp=Z,25µm,21.5s
GRFO Grafenberg 139.48 336 IAMs_20 IAMs_20 09 46 13.4
comp=Z,25µm,21.0s
NEO Neokhori 139.51 315 P PKPpre 08 43 05.4
BBLS Lazi?i 139.51 323 ⇑i P PKPpre 08 43 05.3
MOA Molln 139.56 331 eP PKPpre 08 43 07.5
comp=Z,8.4nm,0.9s,SNR=10
MOA eS SKiKP **08 46 52.2 -0.6**
comp=Z,57nm,1.5s
MOA eS SKKPbc **08 55 35.8 +8.7**
comp=Z,15nm,1.3s
IOMK Kirk Michael 139.56 352 eP PKPpre 08 43 05.0
DION Dionisos Attik 139.56 313 P PKPpre 08 43 05.4
KOGS Kog 139.58 328 e PKPpre 08 43 05.0
KOGS ePKPdf PKPdf **08 43 15.7 -1.1**
KOGS ePP PP **08 46 10.0 -1.3**
KOGS e 08 46 51.7
KOGS eSS SS 09 04 28.6 +0.2
PTL Penteli 139.62 313 P PKPpre 08 43 07.2
LIT Litokhoron 139.63 316 P PKPpre 08 42 59.8
LMK Market Rasen 139.64 348 eP PKPpre 08 43 05.2
RUDO Rudo 139.68 323 ⇑i P PKPpre 08 43 07.6
ATHU Athens Univers 139.72 313 P PKPpre 08 43 07.2
VLY Voula,Athens 139.76 313 P PKPpre 08 43 03.5
HRKL Herakleio 139.81 308 P PKPpre 08 43 08.0
LBWR Ladybower, Pea 139.95 349 eP PKPpre 08 43 07.4
LBWR IAMs_20 IAMs_20 09 46 24.1
comp=Z,33µm,21.6s
BIOA Bad Ischl, Aus 139.96 332 eP PKPpre 08 43 08.9
comp=Z,5.5nm,0.9s,SNR=17
BIOA eS SKiKP **08 46 52.8 -0.9**
comp=Z,8.9nm,0.7s
BIOA eS SKKPbc **08 55 33.8 +8.3**
comp=Z,20nm,1.6s
LKR Lokris 139.97 314 P PKPpre 08 43 06.9
VILL Villia 139.97 313 P PKPpre 08 43 04.6
IDI Anoyia 139.98 308 PKhKP PKPpre 08 43 10.4
comp=Z,9.8nm,0.8s,baz=323,slow=7.1,SNR=3.9
IDI PKP PKPdf **08 43 17.7 -0.3**
comp=Z,73nm,0.8s,baz=158,slow=4.5,SNR=17
IDI SKPbc SKiKP **08 46 54.0 -0.1**
comp=Z,72nm,1.1s,baz=181,slow=5.6,SNR=4.5
IDI Anoyia 139.98 308 P PKPpre 08 43 01.3
ILTH Belurgan, Co L 140.00 354 eP PKPpre 08 43 12.0
KZN Kozani 140.00 317 P PKPpre 08 43 09.1
FNA Florina 140.02 318 P PKPpre 08 43 08.0
SOKA Soboth 140.03 330 eS SKiKP 08 46 52.8 -1.1
comp=Z,26nm,1.3s
SOKA eP PKPpre 08 43 09.3
comp=Z,5.1nm,0.8s,SNR=26
SOKA eS SKKPab **08 55 36.0 +11**
comp=Z,22nm,1.4s
MDP Montagnes des 140.06 99 PKhKP PKPpre 08 43 14.5
comp=Z,20nm,0.7s,baz=245,slow=2.5,SNR=3.5
MDP SKPbc SKiKP **08 46 54.7 -0.1**
comp=Z,22nm,0.8s,baz=286,slow=2.2,SNR=4.5
WACR West Acre 140.13 347 eP PKPpre 08 43 09.4
PHP Peshkopia 140.13 320 P PKPpre 08 43 06.5
ZAG Zagreb 140.14 328 ⇑i P PKPdf 08 43 15.3 -2.5
UPM Unac-Piva 140.20 323 ⇑i P PKPpre 08 43 09.5
THL Klokotos Trika 140.21 316 P PKPpre 08 43 00.2
BLY Banja Luka 140.21 326 ⇑i P PKPpre 08 43 06.4
OHR Ohrid 140.22 319 i P PKPpre 08 43 07.0
PRNS Prines Rethymn 140.25 309 P PKPpre 08 43 04.3
AGG Agios Georgios 140.25 315 P PKPpre 08 42 58.1
LTK Loutraki 140.27 313 P PKPpre 08 43 06.5
DID Didima 140.31 312 P PKPpre 08 43 02.0
WME Myndd Eilian 140.37 352 eP PKPpre 08 43 11.4
WME e 08 46 53.8
OBKA Obir 140.38 330 eP PKPpre 08 43 10.2
comp=Z,7.6nm,1.0s
OBKA eS SKKPbc **08 55 32.8 +9.0**
comp=Z,16nm,1.7s
WPS Cemaes, Angles 140.39 352 eP PKPpre 08 43 07.8
MAKR Makrakomi, Fth 140.40 315 P PKPpre 08 43 07.6
CRES Cresnjev 140.41 328 ⇑i P PKPpre 08 43 05.4
NEST Nestorio 140.42 318 P PKPpre 08 43 10.2
KRND KRANIDI 140.43 312 P PKPpre 08 43 04.3
PDG Podgorica 140.44 321 IAMs_20 IAMs_20 09 48 34.4
comp=Z,25µm,22.0s
PDG Podgorica 140.44 321 ⇑i P PKPpre 08 43 07.6
KPRO Kipourio 140.45 317 P PKPdf 08 43 04.3 -14
KBN Korca 140.48 318 P PKPpre 08 43 06.5
MGRS Mrkonjic Grad 140.48 325 eP PKPdf 08 43 18.0 -0.5
WLF1 Llynfaes 140.49 352 eP PKPpre 08 43 10.6
WLF1 IAMs_20 IAMs_20 09 45 46.6
comp=Z,56µm,21.8s
CWF Charnwood Fore 140.51 349 eP PKPpre 08 43 10.1
CWF IAMs_20 IAMs_20 09 46 28.9
comp=Z,28µm,23.0s
BEBN Eben Emael 140.53 341 dPKP PKPpre 08 43 14.1
KBA Koelnbreinsper 140.55 331 eP PKPpre 08 43 10.3
comp=Z,20nm,1.0s,SNR=48
KBA eS SKPbc **08 46 53.7 +1.0**
comp=Z,48nm,0.9s
YRC Rhoscolyn 140.55 352 eP PKPpre 08 43 13.0
BTNL Ternell 140.57 341 dPKP PKPpre 08 43 10.6
MEM Membach 140.59 341 dPKP PKPpre 08 43 10.3
BRY Bratogost 140.59 323 ⇑i P PKPpre 08 43 09.7
YLL Llanberis 140.60 351 eP PKPpre 08 43 14.1
IMMV Iera Moni Meta 140.60 309 P PKPpre 08 43 03.5
DRME Dracevica, Mon 140.63 321 ⇑i P PKPpre 08 43 07.3
ELMS Elmsett, Ipswi 140.63 346 eP PKPpre 08 43 12.0
SRKY Kupres RS 140.66 325 ⇑i P PKPpre 08 43 11.1
EVR Evrytania 140.66 315 P PKPpre 08 43 05.0
TIR Tirane 140.68 320 P PKPpre 08 43 05.4
TIR Tirane 140.68 320 ⇑PKHKP PKPpre 08 43 10.7
TIR Tirane 140.68 320 IAMs_20 IAMs_20 09 49 44.0
comp=Z,21µm,21.0s
SBD1 Bryn Du 140.69 351 eP PKPdf 08 43 15.9 -2.7
FOEL Foel Wylfa 140.70 350 eP PKPpre 08 43 12.1
FOEL IAMs_20 IAMs_20 09 46 09.2
comp=Z,38µm,21.6s
LJU Ljubljana 140.72 329 ⇑i P PKPpre 08 43 08.6
LJU Ljubljana 140.72 329 i PKPpre 08 43 09.0
LJU i PKPdf PKPdf **08 43 18.5 -0.4**
LJU i 08 43 21.7
LJU i PP PP **08 46 16.6 -1.8**
LJU e 08 46 53.9
LJU e 08 58 22.9
LJU eSS SS 09 04 45.5 +3.7
MYKA Terra Mystica 140.74 331 eP PKPpre 08 43 11.0
comp=Z,14nm,0.9s,SNR=21
MYKA eS SKiKP **08 46 55.1 -0.2**
comp=Z,17nm,0.8s
MYKA eS SKKPbc **08 55 31.6 +9.1**
comp=Z,25nm,1.6s
BSTI Sart Tilman 140.75 341 dPKP PKPpre 08 43 11.7
GVDS Gavdos 140.75 308 P PKPpre 08 43 09.1
GVD Gavdhos 140.76 308 P PKPpre 08 43 07.2
LLW Llanuwchllyn 140.81 351 eP PKPpre 08 43 07.5
BHOU Houvegnez 140.81 341 dPKP PKPpre 08 43 11.4
TREB Trebinje 140.81 322 ⇑i P PKPpre 08 43 12.7
EFP Efpalio 140.83 314 P PKPpre 08 43 11.3
KLV Kalavryta, Ach 140.84 314 P PKPpre 08 43 06.5
VLI Veliai 140.86 311 P PKPpre 08 43 08.0
LAKA Lakka 140.87 314 P PKPpre 08 43 05.0
HCY Herceg Novi 140.89 322 ⇑i P PKPpre 08 43 10.7
KNR Palaiochora Ch 140.91 309 P PKPpre 08 43 07.2
UCC Uccle 140.93 342 dPKP PKPdf 08 43 15.2 -3.9
ANKY Antikythira Is 140.95 310 P PKPpre 08 43 08.4
KTHA Kythira Island 140.97 311 P PKPpre 08 43 06.9
BCLA Clavier 140.98 341 dPKP PKPpre 08 43 12.0
BCLA dpPKP pPKPdf 08 43 29.5 -0.4
CEY Cerknica 140.99 329 ⇑i P PKPpre 08 43 08.2
HLM1 Long Mynd 141.00 350 eP PKPpre 08 43 12.3
HLM1 IAMs_20 IAMs_20 09 48 24.5
comp=Z,31µm,22.0s
KTHR Kythira 141.01 311 P PKPpre 08 43 08.4
STU Stuttgart 141.01 336 IAMs_20 IAMs_20 09 47 36.0
comp=Z,20µm,20.0s
RICI Ricice 141.04 324 P PKPpre 08 43 10.6
BGES Gesves 141.08 341 dPKP PKPpre 08 43 12.0
STON Ston 141.10 323 ⇑i P PKPpre 08 43 10.8
STON Ston 141.10 323 P PKPpre 08 42 59.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KIJV	**Kijevo**	**141.12**	**325**	P	PKPpre	08 43 12.0	
UDBI	**Udbina**	**141.12**	**327**	P	PKPpre	08 43 11.4	
WATA	**Walderalm**	**141.16**	**333**	*e*P	PKPpre	08 43 13.0	
	comp=Z,54nm,1.3s,SNR=25						
WATA				*e*S	**SKiKP**	**08 46 56.8**	**+0.6**
	comp=Z,24nm,1.1s						
WATA				*e*S	**SKKPbc**	**08 55 28.2**	**+7.3**
	comp=Z,28nm,1.3s						
ABTA	**Abfaltersbach**	**141.18**	**332**	*i* P	PKPpre	08 43 12.1	
	comp=Z,10nm,0.5s,SNR=24						
ABTA				*e*S	**SKiKP**	**08 46 55.3**	**-1.0**
	comp=Z,18nm,0.8s						
ABTA				*e*S	**SKKPbc**	**08 55 29.5**	**+8.8**
	comp=Z,36nm,1.2s						
WTTA	**Wattenberg**	**141.18**	**333**	*e*P	PKPpre	08 43 13.3	
	comp=Z,22nm,0.5s,SNR=22						
WTTA				*e*S	**SKiKP**	**08 46 57.2**	**+0.8**
	comp=Z,40nm,0.8s						
WTTA				*e*S	**SKKPbc**	**08 55 29.1**	**+8.2**
	comp=Z,45nm,1.4s						
DRO	**Drossia**	**141.19**	**314**	P	PKPpre	08 43 08.0	
SNF	**Seneffe**	**141.21**	**342**	*d*PKP	PKPpre	08 43 12.8	
RCHB	**Rochefort**	**141.23**	**341**	*d*PKP	PKPpre	08 43 12.9	
MAKA	**Makarska**	**141.24**	**324**	P	PKPdf	08 43 05.7	-14
BMRD	**Maredsous**	**141.25**	**342**	*d*PKP	PKPpre	08 43 13.5	
RIY	**Rijeka**	**141.25**	**328**	⇑*i*P	PKPpre	08 43 10.7	
RLS	**Riolos of Patr**	**141.31**	**314**	P	PKPpre	08 43 06.1	
SKDS	**Skadanscina**	**141.33**	**329**	⇑*i*P	PKPpre	08 43 07.5	
MOTA	**Moosalm**	**141.35**	**333**	*e*P	PKPpre	08 43 13.7	
	comp=Z,24nm,1.0s,SNR=43						
MOTA				*e*S	**SKiKP**	**08 46 56.3**	**-0.5**
	comp=Z,71nm,0.9s						
MOTA				*e*S	**SKKPbc**	**08 55 27.2**	**+7.1**
	comp=Z,26nm,1.3s						
WLF	**Walferdange**	**141.36**	**340**	*d*PKP	PKPpre	08 43 13.2	
ITM	**Ithomi**	**141.39**	**313**	P	PKPpre	08 43 08.0	
RETA	**Reutte**	**141.39**	**334**	*e*P	PKPpre	08 43 13.3	
	comp=Z,15nm,0.9s,SNR=27						
RETA				*e*S	**SKiKP**	**08 46 56.8**	**+0.1**
	comp=Z,37nm,0.9s						
RETA				*e*S	**SKKPbc**	**08 55 27.4**	**+7.5**
	comp=Z,16nm,1.0s						
SQTA	**Sankt Quirin**	**141.41**	**333**	*e*P	PKPpre	08 43 14.1	
	comp=Z,20nm,0.7s,SNR=39						
SQTA				*e*S	**SKiKP**	**08 46 56.5**	**-0.3**
	comp=Z,57nm,0.9s						
SQTA				*e*S	**SKKPbc**	**08 55 28.2**	**+8.3**
	comp=Z,25nm,1.2s						
ELSH	**Elham, Standar**	**141.48**	**346**	*e*P	PKPpre	08 43 11.6	
ELSH				IAMs_20	IAMs_20	09 49 32.9	
	comp=Z,27µm,20.3s						
DOU	**Dourbes**	**141.48**	**342**	*d*PKP	PKPpre	08 43 13.6	
MCH1	**Michaelchurch**	**141.52**	**350**	*e*P	PKPpre	08 43 11.1	
MCH1				IAMs_20	IAMs_20	09 46 52.2	
	comp=Z,26µm,21.6s						
STRD	**Stroud**	**141.59**	**349**	*e*P	PKPpre	08 43 13.7	
STRD				IAMs_20	IAMs_20	09 46 59.5	
	comp=Z,30µm,22.3s						
MORI	**Morici**	**141.59**	**326**	P	PKPpre	08 43 14.0	
HVAR	**Hvar**	**141.63**	**324**	P	PKPpre	08 43 09.8	
LSTV	**Lastovo**	**141.63**	**324**	P	PKPpre	08 43 12.5	
MONM	**Monmouth**	**141.64**	**350**	*e*P	PKPpre	08 43 11.2	
MONM				IAMs_20	IAMs_20	09 47 17.5	
	comp=Z,27µm,21.0s						
PYL	**PYLOS**	**141.65**	**312**	P	PKPpre	08 43 09.1	
VIRC	**Vir**	**141.66**	**327**	P	PKPpre	08 43 13.5	
IWEX	**Carrickbyrne,**	**141.68**	**354**	*e*P	PKPpre	08 43 08.9	
BFO	**Black Forest**	**141.70**	**337**	IAMs_20	IAMs_20	09 52 59.3	
	comp=Z,21µm,19.0s						
FETA	**Feichten**	**141.77**	**333**	*i* P	PKPpre	08 43 14.2	
	comp=Z,51nm,1.3s,SNR=63						
FETA				*e*S	**SKiKP**	**08 46 57.2**	**-0.3**
	comp=Z,74nm,1.0s						
FETA				*e*S	**SKKPbc**	**08 55 25.6**	**+7.1**
	comp=Z,29nm,1.1s						
ZIRJ	**Zirje**	**141.77**	**326**	P	PKPpre	08 43 11.9	
OLDB	**Oldbury-Upon-S**	**141.77**	**349**	*e*P	PKPpre	08 43 15.2	
SWN1	**Swindon**	**141.77**	**349**	*e*P	PKPpre	08 43 14.4	
RSBS	**Rosebush, Pemb**	**141.84**	**352**	*e*P	PKPpre	08 43 11.7	
DUGI	**Dugi Otok**	**141.86**	**326**	P	PKPpre	08 43 14.3	
BRJN	**Brijuni**	**141.91**	**329**	P	PKPpre	08 43 16.7	
DAVA	**Damuels**	**141.92**	**334**	*e*P	PKPpre	08 43 14.8	
	comp=Z,15nm,0.7s,SNR=17						
DAVA				*e*S	**SKPbc**	**08 46 57.0**	**+0.8**
	comp=Z,64nm,0.9s						
DAVA				*e*S	**SKKPbc**	**08 55 26.1**	**+8.3**
	comp=Z,48nm,1.2s						
HMNX	**Herstmonceux**	**141.93**	**346**	*e*P	PKPpre	08 43 14.2	
HMNX				IAMs_20	IAMs_20	09 47 01.8	
	comp=Z,31µm,23.9s						
DAVOX	**Davos/Dischmat**	**142.32**	**334**	SKPbc	**SKiKP**	**08 47 00.4**	**+1.6**
	comp=Z,169nm,0.9s,baz=58,slow=10,SNR=7.6						
HTL	**Hartland**	**142.73**	**351**	*e*P	PKPpre	08 43 18.1	
HTL				IAMs_20	IAMs_20	09 49 16.4	
	comp=Z,27µm,20.3s						
CCA1	**Carnmenellis**	**143.63**	**351**	*e*P	PKPab	08 43 20.1	-0.4
CCA1				IAMs_20	IAMs_20	09 47 15.4	
	comp=Z,28µm,20.8s						
SENIN	**Lac Senin/Sane**	**143.72**	**336**	IAMs_20	IAMs_20	09 49 51.7	
	comp=Z,20µm,21.0s						
AQU	**L'Aquila**	**143.86**	**326**	⇑*i*P	PKPab	08 43 21.4	-0.3
CLF	**Chambon-Foret**	**144.03**	**342**	IAMs_20	IAMs_20	09 46 59.3	
	comp=Z,27µm,22.0s						
JSA	**Saint Aubin**	**144.06**	**348**	*e*P	**PKPab**	**08 43 19.3**	**-2.8**
JSA				IAMs_20	IAMs_20	09 46 21.3	
	comp=Z,30µm,21.8s						
CEL	**Celeste**	**144.94**	**318**	IAMs_20	IAMs_20	09 51 54.0	
	comp=Z,19µm,21.0s						
BNI	**Bardonecchia**	**145.04**	**335**	IAMs_20	IAMs_20	09 51 20.8	
	comp=Z,32µm,21.0s						
SSB	**Saint Sauveur**	**145.68**	**338**	IAMs_20	IAMs_20	09 47 46.5	
	comp=Z,20µm,22.0s						
VAE	**Valguarnera**	**146.35**	**318**	PKPbc	**PKPbc**	**08 43 30.6**	**+0.3**
	comp=Z,93nm,1.1s,baz=55,slow=11,SNR=5.0						
NBMA	**Muriti-CE**	**146.69**	**129**	*e*P	**PKPdf**	**08 43 30.6**	**+0.3**
CLTB	**Caltabellotta**	**147.05**	**320**	PKPdf	**PKPdf**	**08 43 29.1**	**-1.2**
VSL	**Villasalto**	**148.03**	**326**	PKPdf	**PKPdf**	**08 43 31.8**	**0.0**
VSL				PKPbc	**PKPbc**	**08 43 35.5**	**+0.6**
VSL				IAMs_20	IAMs_20	09 53 13.0	
	comp=Z,22µm,22.0s						
NBRF	**Rio Formoso -**	**148.43**	**135**	*e*P	**PKPdf**	**08 43 34.1**	**+0.9**
SHEL	**Horse Pasture**	**149.06**	**194**	IAMs_20	IAMs_20	09 52 57.2	
	comp=Z,18µm,20.0s						
RCBR	**Riachuelo**	**149.84**	**130**	PKPbc	**PKPbc**	**08 43 38.7**	**-1.6**
	comp=Z,100nm,0.7s,baz=13,slow=4.1,SNR=32						
RCBR	**Riachuelo**	**149.84**	**130**	PKIKP	**PKPdf**	**08 43 34.0**	**-1.5**
RCBR						08 43 39.4	
RCBR	**Riachuelo**	**149.84**	**130**	PKPdf	**PKPdf**	**08 43 34.0**	**-1.5**
RCBR				PKPbc	**PKPbc**	**08 43 39.4**	**-0.9**
RCBR	**Riachuelo**	**149.84**	**130**	IAMs_20	IAMs_20	09 45 04.6	
	comp=Z,25µm,21.0s						
RCBR	**Riachuelo**	**149.84**	**130**	*e*P	**PKPbc**	**08 43 38.9**	**-1.4**
NBPV	**Pedro Velho**	**149.89**	**132**	*e*P	**PKPdf**	**08 43 37.2**	**+1.7**
H07N1	**FLORES T-PHASE**	**150.18**	**29**	*e*PKP	**PKPdf**	**08 43 36.2**	**+1.0**
MAHO	**Mahon**	**150.28**	**332**	PKP	**PKPdf**	**08 43 34.8**	**-0.5**
MAHO	**Mahon**	**150.28**	**332**	PP	PP	08 47 17.1	+2.1
H07S1	**FLORES T-PHASE**	**150.38**	**29**	*e*PKP	**PKPdf**	**08 43 37.2**	**+1.6**
KEST	**Kesra**	**150.63**	**321**	PKP	**PKPdf**	**08 43 35.9**	**-0.2**
	comp=Z,49nm,1.0s,baz=337,slow=4.5,SNR=16						
KEST				PKPbc	**PKPbc**	**08 43 41.6**	**-0.1**
	comp=Z,458nm,0.8s,baz=281,slow=1.8,SNR=73						
KEST	**Kesra**	**150.63**	**321**	PKPdf	**PKPdf**	**08 43 36.2**	**+0.1**
KEST				PKPbc	**PKiKP**	**08 43 42.0**	**-0.3**
CMAH	**Djebel Manchou**	**151.16**	**324**	P	**PKPdf**	**08 43 34.5**	**-2.4**
ABSA	**Djebel Ababsia**	**151.37**	**324**	P	**PKPdf**	**08 43 35.9**	**-1.4**
CKFL	**Kef-Lekhel**	**151.72**	**325**	P	**PKPdf**	**08 43 35.7**	**-2.2**
CASM	**Ain Smara**	**151.94**	**325**	P	**PKPbc**	**08 43 41.5**	**-3.1**
PBRG	**Braganca**	**152.03**	**350**	*e*PKPdf	**PKPdf**	**08 43 38.1**	**0.0**
PBRG	**Braganca**	**152.03**	**350**	*e*PKPbc	**PKPbc**	**08 43 44.3**	**-0.3**
PBRG	**Braganca**	**152.03**	**350**	*e*PP	PP	08 47 24.9	+0.2
DFRA	**Djebel Bou Aff**	**152.07**	**326**	P	**PKPdf**	**08 43 36.8**	**-1.6**
PGRA	**Graciosa**	**152.10**	**25**	*e*PKP	**PKPbc**	**08 43 42.7**	**-2.1**
PGAV	**Gavieira, Arco**	**152.11**	**352**	*e*LR	LR	09 38 27.9	
	comp=Z,25µm,20.0s						
CTEI	**Djebel Teioual**	**152.13**	**325**	P	**PKPdf**	**08 43 36.2**	**-2.3**
CALA	**Caldeira**	**152.17**	**27**	*e*PKP	**PKPbc**	**08 43 42.5**	**-2.6**
ROSA	**Rosais**	**152.25**	**26**	*e*PKP	**PKPdf**	**08 43 41.6**	**+3.2**
PCAB	**Cabril**	**152.33**	**352**	*e*PKPdf	**PKPdf**	**08 43 38.8**	**+0.3**
PCAB	**Cabril**	**152.33**	**352**	*e*PKPbc	**PKPbc**	**08 43 45.2**	**-0.1**
PICO	**Pico**	**152.36**	**26**	*e*PKP	**PKPdf**	**08 43 39.2**	**+0.5**
PCAN	**Candelaria**	**152.36**	**27**	*e*PKP	**PKiKP**	**08 43 46.2**	**+0.5**
PMAN	**Manadas**	**152.39**	**26**	*e*PKP	**PKPdf**	**08 43 39.9**	**+1.3**
PID	**Ribeirinha**	**152.54**	**26**	*e*PKP	**PKPbc**	**08 43 44.8**	**-1.0**
SET	**Setif**	**152.59**	**326**	P	**PKPdf**	**08 43 38.0**	**-1.1**
POLO	**Lamas de Olo**	**152.62**	**351**	*e*PKPdf	**PKPdf**	**08 43 38.9**	**-0.1**
POLO	**Lamas de Olo**	**152.62**	**351**	*e*PKPbc	**PKPbc**	**08 43 45.8**	**-0.2**
POLO	**Lamas de Olo**	**152.62**	**351**	*e*PP	PP	08 47 29.3	+1.2
PAGU	**Agualva, Azore**	**152.65**	**24**	*e*PKP	**PKPdf**	**08 43 38.9**	**-0.1**
CKHR	**Kef el Ahmar**	**152.66**	**326**	P	**PKPdf**	**08 43 35.0**	**-4.3**
UCM	**Universidad Co**	**152.68**	**343**	PKP	**PKPdf**	**08 43 38.7**	**-0.3**
UCM	**Universidad Co**	**152.68**	**343**	PP	PP	08 47 34.0	+5.6
MVO	**Moncorvo**	**152.71**	**350**	*e*PKPdf	**PKPdf**	**08 43 38.7**	**-0.4**
MVO	**Moncorvo**	**152.71**	**350**	*e*PKPbc	**PKiKP**	**08 43 46.3**	**-0.1**
MVO				*e*pPKPab	**pPKPab**	**08 44 06.9**	**-0.3**
MVO	**Moncorvo**	**152.71**	**350**	*e*PP	PP	08 47 30.3	+1.8
MVO	**Moncorvo**	**152.71**	**350**	*e*LQ	LQ	09 27 07.6	
MVO	**Moncorvo**	**152.71**	**350**	*e*LR	LR	09 37 29.2	
	comp=Z,31µm,20.0s						
PVRL	**Vila Real**	**152.71**	**351**	*e*PKPdf	**PKPdf**	**08 43 39.6**	**+0.5**
PVRL	**Vila Real**	**152.71**	**351**	*e*PKPbc	**PKiKP**	**08 43 46.3**	**-0.1**
PVRL	**Vila Real**	**152.71**	**351**	*e*PP	PP	08 47 27.9	-0.6
ADH	**Angra Heroismo**	**152.72**	**25**	*e*PKP	**PKPdf**	**08 43 41.5**	**+2.4**
PTO	**Porto**	**152.97**	**352**	*e*PKPbc	**PKPbc**	**08 43 46.6**	**0.0**
PVIS	**Viseu**	**153.28**	**351**	*e*PKPdf	**PKPdf**	**08 43 39.3**	**-0.6**
PVIS	**Viseu**	**153.28**	**351**	*e*PKPbc	**PKiKP**	**08 43 47.5**	**-0.1**
PVIS	**Viseu**	**153.28**	**351**	*e*PP	PP	08 47 33.1	+1.4
ESBB	**Sonseca Array**	**153.46**	**344**		**PKPdf**	**08 43 39.5**	**-0.7**
ESDC	**Sonseca Array**	**153.46**	**344**	PKP	**PKPdf**	**08 43 39.9**	**-0.4**
	comp=Z,27nm,1.1s,baz=350,slow=2.9,SNR=43						
ESDC				PKPbc	**PKPbc**	**08 43 47.8**	**-0.1**
	comp=Z,89nm,1.0s,baz=352,slow=1.7,SNR=26						
ESDC				PP	**PP**	**08 47 26.2**	**-6.7**
	comp=Z,7.5nm,0.9s,baz=17,slow=2.8,SNR=4.2						
MTE	**Manteigas**	**153.54**	**350**	*e*PKPdf	**PKPdf**	**08 43 39.7**	**-0.6**
MTE	**Manteigas**	**153.54**	**350**	*e*PKPbc	**PKiKP**	**08 43 48.1**	**0.0**
MTE	**Manteigas**	**153.54**	**350**	*e*PP	PP	08 47 34.5	+1.3
MTE	**Manteigas**	**153.54**	**350**	*e*LR	LR	09 39 01.1	
	comp=Z,26µm,22.0s						
MTE	**Manteigas**	**153.54**	**350**	PKPbc	**PKiKP**	**08 43 48.4**	**+0.3**
PAB	**San Pablo**	**153.69**	**345**	PKIKP	**PKPdf**	**08 43 40.1**	**-0.5**
PAB						08 43 49.1	
PAB	**San Pablo**	**153.69**	**345**	PKPdf	**PKPdf**	**08 43 40.1**	**-0.5**
PAB				PKPbc	**PKiKP**	**08 43 49.0**	**+0.6**
PAB	**San Pablo**	**153.69**	**345**	IAMs_20	IAMs_20	09 52 46.9	
	comp=Z,26µm,22.0s						
PAB	**San Pablo**	**153.69**	**345**	P	**PKPdf**	**08 43 40.5**	**-0.1**
COI	**Coimbra**	**153.86**	**352**	*e*PKPdf	**PKPdf**	**08 43 40.6**	**-0.1**
COI	**Coimbra**	**153.86**	**352**	*e*PKPbc	**PKiKP**	**08 43 48.7**	**0.0**
COI	**Coimbra**	**153.86**	**352**	*e*PP	PP	08 47 35.8	+0.9
COI	**Coimbra**	**153.86**	**352**	PKIKP	**PKPdf**	**08 43 40.5**	**-0.1**
COI	**Coimbra**	**153.86**	**352**		**PKPdf**	**08 43 40.5**	**-0.2**
PCAS	**Casmilo, Conde**	**154.02**	**352**	*e*PKPdf	**PKPdf**	**08 43 40.3**	**-0.7**
PCAS	**Casmilo, Conde**	**154.02**	**352**	*e*PKPbc	**PKPbc**	**08 43 48.9**	**-0.1**
PCAS	**Casmilo, Conde**	**154.02**	**352**	*e*PP	PP	08 47 37.3	+1.5
PSET	**Sete Cidades**	**154.04**	**23**	*e*PKP	**PKPdf**	**08 43 43.4**	**+2.3**
PCBR	**Castelo Branco**	**154.07**	**350**	*e*PKPdf	**PKPdf**	**08 43 40.9**	**-0.1**
PCBR	**Castelo Branco**	**154.07**	**350**	*e*PKPbc	**PKiKP**	**08 43 49.3**	**+0.1**
PCBR	**Castelo Branco**	**154.07**	**350**	*e*PP	PP	08 47 36.8	+0.7
PDA	**Ponta Delgada**	**154.13**	**23**	*e*PKP	**PKPdf**	**08 43 44.3**	**+3.2**
PCALD	**Caldeiras da R**	**154.15**	**23**	*e*PKP	**PKPdf**	**08 43 42.3**	**+1.1**
CMLA	**Cha da Macela**	**154.17**	**23**	*e*PKP	**PKPdf**	**08 43 44.1**	**+2.9**
CMLA	**Cha da Macela**	**154.17**	**23**	IAMs_20	IAMs_20	09 51 58.9	
	comp=Z,25µm,19.0s						
BART	**Pico Bartolome**	**154.29**	**22**	*e*PKP	**PKPdf**	**08 43 44.4**	**+2.9**
CART	**Cartagena**	**154.41**	**337**	PKP	**PKPdf**	**08 43 39.8**	**-1.7**
CART	**Cartagena**	**154.41**	**337**	PP	PP	08 47 41.7	+3.4
CART	**Cartagena**	**154.41**	**337**	PKPbc	**PKiKP**	**08 43 50.4**	**+0.4**
CART				IAMs_20	IAMs_20	10 08 21.7	
	comp=Z,18µm,19.0s						
CART	**Cartagena**	**154.41**	**337**	P	**PKPdf**	**08 43 43.9**	**+2.3**
PMRV	**Marv??o**	**154.46**	**350**	*e*PKPdf	**PKPdf**	**08 43 41.5**	**-0.1**
PMRV	**Marv??o**	**154.46**	**350**	*e*PP	PP	08 47 39.0	+0.7
PMRV	**Marv??o**	**154.46**	**350**	*e*LR	LR	09 38 32.8	
	comp=Z,22µm,18.0s						
PSBE	**So Bento**	**154.59**	**352**	*e*PKPdf	**PKPdf**	**08 43 41.4**	**-0.4**
PSBE	**So Bento**	**154.59**	**352**	*e*PKPbc	**PKiKP**	**08 43 50.5**	**+0.2**
PSBE	**So Bento**	**154.59**	**352**	*e*PKPab	**PKPab**	**08 44 05.0**	**+0.2**
PSBE	**So Bento**	**154.59**	**352**	*e*PP	PP	08 47 39.3	+0.2
PMTG	**Montargil**	**154.95**	**351**	*e*PKPdf	**PKPdf**	**08 43 41.7**	**-0.5**
PMTG	**Montargil**	**154.95**	**351**	*e*PKPbc	**PKPbc**	**08 43 50.7**	**-0.3**
PMTG	**Montargil**	**154.95**	**351**	*e*PP	PP	08 47 42.3	+1.3
PSMA	**Santa Maria**	**154.99**	**23**	*e*PKP	**PKPdf**	**08 43 45.7**	**+3.3**
PSMN	**Pico do Norte,**	**155.01**	**23**	*e*PKP	**PKPdf**	**08 43 42.1**	**-0.3**
PESTR	**Estremoz**	**155.04**	**350**	*e*PKPdf	**PKPdf**	**08 43 41.5**	**-0.9**
PESTR	**Estremoz**	**155.04**	**350**	*e*PP	PP	08 47 42.3	+0.7
PESTR	**Estremoz**	**155.04**	**350**	PKPab	**PKPab**	**08 44 07.3**	**+0.6**
PESTR	**Estremoz**	**155.04**	**350**	P	**PKPdf**	**08 43 45.8**	**+3.3**
OKGL	**Djebel Kef Gue**	**155.07**	**333**	P	**PKPdf**	**08 43 42.0**	**-0.6**
PMAFR	**Mafra**	**155.20**	**353**	*e*PKPdf	**PKPdf**	**08 43 42.2**	**-0.4**
PMAFR	**Mafra**	**155.20**	**353**	*e*PKPbc	PKPdf	08 43 51.7	+9.1
PMAFR				*i* LQ	LQ	08 44 15.7	
PMAFR				*e*pPKPab	pPKPab	08 44 18.1	+0.4
PMAFR	**Mafra**	**155.20**	**353**	*e*PP	PP	08 47 41.8	-0.6
PACT	**Alcochete**	**155.33**	**352**	*e*PKPdf	**PKPdf**	**08 43 42.6**	**-0.1**
PACT	**Alcochete**	**155.33**	**352**	*e*PKPbc	PKPdf	08 43 51.7	+8.9
PACT				*i* LQ	LQ	08 44 13.6	
PACT	**Alcochete**	**155.33**	**352**	*e*PP	PP	08 47 44.3	+1.2
PMST	**Lisbon--Monsan**	**155.41**	**353**	*e*PKPdf	**PKPdf**	**08 43 41.5**	**-1.4**
PMST	**Lisbon--Monsan**	**155.41**	**353**	*e*PP	PP	08 47 44.4	+0.8
LIS	**Lisbon**	**155.42**	**352**	*e*PKPdf	**PKPdf**	**08 43 42.9**	**0.0**
LIS				*e*PP	**PP**	**08 47 46.0**	**+2.3**
LIS				IAMs_20	IAMs_20	09 54 04.8	
	comp=Z,35µm,26.5s						
LIS	**Lisbon**	**155.42**	**352**	*e*PKIKP	**PKPdf**	**08 43 42.8**	**0.0**
LIS				*e*		08 47 45.9	
EVO	**Evora**	**155.44**	**350**	PKP	**PKPdf**	**08 43 43.1**	**+0.1**
EVO	**Evora**	**155.44**	**350**	PP	PP	08 47 47.0	+3.2
EVO	**Evora**	**155.44**	**350**	*e*PKPdf	**PKPdf**	**08 43 42.7**	**-0.2**
EVO	**Evora**	**155.44**	**350**	*e*PKPab	**PKPab**	**08 44 08.2**	**-0.2**
EVO				*e*pPKPab	**pPKPab**	**08 44 19.2**	**+0.5**
EVO	**Evora**	**155.44**	**350**	*e*PP	PP	08 47 45.1	+1.3
OJGS	**Djebel Guires**	**155.47**	**332**	P	**PKPdf**	**08 43 42.0**	**-1.2**
OJBR	**Djebel Berber**	**155.58**	**333**	P	**PKPdf**	**08 43 46.0**	**+2.7**
PBAR	**Barrancos**	**155.61**	**348**	*e*PKPdf	**PKPdf**	**08 43 42.1**	**-1.1**
PBAR	**Barrancos**	**155.61**	**348**	*e*PKPab	**PKPab**	**08 44 09.2**	**+0.1**
PBAR	**Barrancos**	**155.61**	**348**	*e*PP	PP	08 47 45.3	+0.5
USTO	**Oran**	**155.84**	**334**	P	**PKPdf**	**08 43 44.0**	**+0.5**
PBEJ	**Beja**	**155.91**	**350**	*e*PKPdf	**PKPdf**	**08 43 43.2**	**-0.4**
PBEJ	**Beja**	**155.91**	**350**	*e*PKPab	**PKPab**	**08 44 10.5**	**+0.1**
PBEJ	**Beja**	**155.91**	**350**	*e*PP	PP	08 47 48.0	+1.6
PNCL	**Nicolau / Gran**	**155.93**	**351**	*e*PKPdf	**PKPdf**	**08 43 41.5**	**-2.1**
PNCL	**Nicolau / Gran**	**155.93**	**351**	*e*PKPab	**PKPab**	**08 44 10.3**	**-0.2**
PNCL	**Nicolau / Gran**	**155.93**	**351**	*e*PP	PP	08 47 46.3	-0.2
ODJA	**Bouhanifia**	**156.01**	**333**	P	**PKPdf**	**08 43 43.0**	**-0.9**
EMAL	**Malaga-Limoner**	**156.31**	**342**	PKP	**PKPdf**	**08 43 42.9**	**-1.2**
EMAL	**Malaga-Limoner**	**156.31**	**342**	PP	PP	08 47 45.6	-3.1
PCVE	**Castro Verde**	**156.32**	**350**	*e*PKPdf	**PKPdf**	**08 43 44.3**	**+0.2**
PCVE	**Castro Verde**	**156.32**	**350**	*e*PKPab	**PKPab**	**08 44 12.1**	**-0.1**
PCVE	**Castro Verde**	**156.32**	**350**	*e*PP	PP	08 47 48.3	-0.4
OTSS	**Djebel Tessala**	**156.33**	**334**	P	**PKPdf**	**08 43 45.0**	**+0.6**
PVAQ	**Vaqueiros**	**156.49**	**349**	*e*PKPdf	**PKPdf**	**08 43 43.5**	**-0.9**
PVAQ	**Vaqueiros**	**156.49**	**349**	*e*PKPab	**PKPab**	**08 44 12.8**	**-0.1**
PVAQ	**Vaqueiros**	**156.49**	**349**	*e*PP	PP	08 47 51.3	+1.7
PVAQ	**Vaqueiros**	**156.49**	**349**	*e*LR	LR	09 38 51.8	
	comp=Z,30µm,20.0s						
PVAQ	**Vaqueiros**	**156.49**	**349**	P	**PKPdf**	**08 43 44.7**	**+0.3**
PVAQ	**Vaqueiros**	**156.49**	**349**	P	**PKPdf**	**08 43 48.8**	**+4.5**
PTEO	**Sao Teotonio**	**156.51**	**351**	*e*PKPdf	**PKPdf**	**08 43 43.8**	**-0.6**
ARNO	**Arenosillo**	**156.58**	**347**	PKP	**PKPdf**	**08 43 43.5**	**-1.0**
ARNO	**Arenosillo**	**156.58**	**347**	PP	PP	08 47 44.0	-6.2
PBDV	**Barranco-do-Ve**	**156.68**	**349**	*e*PKPdf	**PKPdf**	**08 43 44.3**	**-0.4**
PBDV	**Barranco-do-Ve**	**156.68**	**349**	*e*PKPab	**PKPab**	**08 44 14.6**	**+0.8**
PBDV	**Barranco-do-Ve**	**156.68**	**349**	*e*PP	PP	08 47 53.8	+3.1
MORF	**Marmelete**	**156.74**	**351**	*e*PKPdf	**PKPdf**	**08 43 44.6**	**-0.1**
MORF				*e*PP	**PP**	**08 47 53.3**	**+2.2**
MORF				IAMs_20	IAMs_20	09 59 17.2	
	comp=Z,29µm,25.3s						
MORF	**Marmelete**	**156.74**	**351**	*e*PKPdf	**PKPdf**	**08 43 43.9**	**-0.9**
MORF	**Marmelete**	**156.74**	**351**	*e*PKPab	**PKPab**	**08 44 14.5**	**+0.5**
MORF	**Marmelete**	**156.74**	**351**	*e*PP	PP	08 47 50.8	-0.2
MORF	**Marmelete**	**156.74**	**351**	*e*PKIKP	**PKPdf**	**08 43 44.6**	**-0.1**
MORF				*e*		08 47 53.2	
PFVI	**Vila Bisbo**	**156.93**	**351**	*e*PKPdf	**PKPdf**	**08 43 43.8**	**-1.1**
PFVI	**Vila Bisbo**	**156.93**	**351**	*e*PKPab	**PKPab**	**08 44 14.2**	**-0.6**
PFVI	**Vila Bisbo**	**156.93**	**351**	*e*PP	PP	08 47 53.8	+1.7
PFVI	**Vila Bisbo**	**156.93**	**351**	P	**PKPdf**	**08 43 45.9**	**+0.9**
SFS	**San Fernando**	**157.07**	**346**	PKP	**PKPdf**	**08 43 45.7**	**+0.6**
SFS	**San Fernando**	**157.07**	**346**	PP	PP	08 47 45.1	-7.7
TAF	**Taforalt**	**157.39**	**337**	P	**PKPdf**	**08 43 47.0**	**+1.3**
SMIR	**Smir Dam**	**157.59**	**343**	P	**PKPdf**	**08 43 47.0**	**+1.2**
PVLZ	**Peæn de**	**157.74**	**341**	PKP	**PKPdf**	**08 43 44.2**	**-1.8**
PVLZ	**Peæn de**	**157.74**	**341**	PP	PP	08 47 45.2	-11
JBK	**JBK**	**157.88**	**336**	P	**PKPdf**	**08 43 47.0**	**+0.5**
ASCN	**Ascension**	**157.88**	**177**	IAMs_20	IAMs_20	10 10 19.4	
	comp=Z,20µm,20.0s						
CHEFC	**Chefchaouen**	**158.12**	**343**	P	**PKPdf**	**08 43 47.0**	**+0.4**
TDRA	**Tendrara**	**158.78**	**333**	P	**PKPdf**	**08 43 49.0**	**+1.4**
SICH	**Sidi Chahed**	**159.05**	**342**	P	**PKPdf**	**08 43 48.0**	**+0.4**
SICH	**Sidi Chahed**	**159.05**	**342**	P	**PKPdf**	**08 43 49.0**	**+1.3**
FIGM	**Figuig**	**159.19**	**331**	P	**PKPdf**	**08 43 49.0**	**+0.9**
LCRM	**LCR**	**159.28**	**340**	P	**PKPdf**	**08 43 49.0**	**+0.8**
CZD	**Col de Zad**	**159.94**	**340**	P	**PKPdf**	**08 43 50.0**	**+0.9**
MDT	**Midelt**	**159.99**	**339**	PKP	**PKPdf**	**08 43 49.0**	**+0.1**
	comp=Z,81nm,1.1s,baz=86,slow=0.6,SNR=49						
MDT	**Midelt**	**159.99**	**339**	P	**PKPdf**	**08 43 49.0**	**+0.1**
ZHG	**ZHG**	**160.04**	**344**	P	**PKPdf**	**08 43 49.0**	**+0.1**
AVE	**Averroes**	**160.38**	**346**	PKP	**PKPdf**	**08 43 49.5**	**+0.3**
AVE	**Averroes**	**160.38**	**346**	PP	PP	08 48 13.5	+2.6
AVE	**Averroes**	**160.38**	**346**	P	**PKPdf**	**08 43 49.3**	**+0.1**
PMPST	**Porto Santo, M**	**161.08**	**8**	*e*PKPdf	**PKPdf**	**08 43 49.4**	**-0.5**
PMPST	**Porto Santo, M**	**161.08**	**8**	*e*PKPab	**PKPab**	**08 44 33.9**	**+1.0**
PMPST	**Porto Santo, M**	**161.08**	**8**	*e*PP	PP	08 48 14.4	-0.2
GOLM	**Goulmima**	**161.12**	**338**	P	**PKPdf**	**08 43 51.0**	**+0.8**
GOLM	**Goulmima**	**161.12**	**338**	P	**PKPab**	**08 44 35.0**	**+1.6**
PMOZ	**Porto Moniz, M**	**161.19**	**11**	*e*PKPdf	**PKPdf**	**08 43 50.2**	**0.0**
PMOZ	**Porto Moniz, M**	**161.19**	**11**	*e*PKPab	**PKPab**	**08 44 32.0**	**-1.5**
PMOZ	**Porto Moniz, M**	**161.19**	**11**	*e*PP	PP	08 48 15.9	+0.5
PMOZ	**Porto Moniz, M**	**161.19**	**11**	*e*LQ	LQ	09 31 35.1	
PMOZ				*e*LR	LR	09 39 47.5	
	comp=Z,27µm,20.0s						
SRHM	**Skhour des Reh**	**161.29**	**346**	P	**PKPdf**	**08 43 50.1**	**-0.2**
SRHM	**Skhour des Reh**	**161.29**	**346**	P	**PKPab**	**08 44 38.0**	**+4.1**
PMAR	**Madeira**	**161.34**	**10**	*e*PKPdf	**PKPdf**	**08 43 49.6**	**-0.9**
PMAR	**Madeira**	**161.34**	**10**	*e*PKPab	**PKPab**	**08 44 32.9**	**-1.4**
PMAR	**Madeira**	**161.34**	**10**	*e*PP	PP	08 48 17.9	+1.7
TZRR	**Tazzarine**	**162.17**	**338**	P	**PKPdf**	**08 43 51.0**	**-0.3**
EAH	**EAH**	**162.42**	**350**	P	**PKPdf**	**08 43 52.0**	**+0.6**
OUZM	**OUZ**	**162.46**	**342**	P	**PKPdf**	**08 43 52.0**	**+0.4**
OUK	**Oukaimeden**	**162.49**	**345**	P	**PKPdf**	**08 43 52.0**	**+0.1**
ZGR	**Zagora**	**162.79**	**337**	P	**PKPdf**	**08 43 52.0**	**0.0**
TTIG	**Tnine Tigouga,**	**163.26**	**346**	P	**PKPdf**	**08 43 53.0**	**+0.6**
TOA0	**Torodi Ar. Sit**	**165.54**	**267**		**PKPdf**	**08 43 54.0**	**-0.6**
TOA0				PKPab	**PKPab**	**08 44 53.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**165.54**	**267**	PKP	**PKPdf**	**08 43 53.5**	**-1.2**
	comp=Z,61nm,1.1s,baz=74,slow=1.2,SNR=88						
TORD				PKPab	**PKPab**	**08 44 52.8**	**-0.5**
	comp=Z,80nm,0.9s,baz=89,slow=2.5,SNR=14						
TORD				PP	**PP**	**08 48 44.9**	**+4.3**
	comp=Z,29nm,1.3s,baz=130,slow=3.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**165.54**	**267**		**PKPdf**	**08 43 53.7**	**-1.0**
TORD				PKPab	**PKPab**	**08 44 52.6**	**-0.7**
KIC	**Kosan Boka**	**168.58**	**227**	*e*PKP1	**PKPdf**	**08 43 54.9**	**-2.1**
	comp=Z,371nm,1.9s						
KIC	**Kosan Boka**	**168.58**	**227**	*e*P	**PKPab**	**08 45 05.4**	**-1.2**
	comp=Z,152nm,1.3s						
LIC	**Lamto**	**168.69**	**226**	*e*PKP1	**PKPdf**	**08 43 55.5**	**-1.5**
	comp=Z,216nm,1.8s						
LIC	**Lamto**	**168.69**	**226**	*e*P	**PKPab**	**08 45 06.4**	**-0.6**
	comp=Z,205nm,1.8s						
DBIC	**Dimbokro**	**168.88**	**228**	PKP	**PKPdf**	**08 43 55.4**	**-1.8**
	comp=Z,26nm,0.9s,baz=308,slow=0.9,SNR=19						
DBIC				PKPab	**PKPab**	**08 45 07.5**	**-0.3**
	comp=Z,24nm,0.8s,baz=117,slow=4.1,SNR=5.0						
DBIC	**Dimbokro**	**168.88**	**228**		**PKPdf**	**08 43 55.9**	**-1.3**
TIC	**Toumodi**	**168.98**	**227**	*e*PKP1	**PKPdf**	**08 43 55.4**	**-1.9**
TIC	**Toumodi**	**168.98**	**227**	*e*P	**PKPab**	**08 45 07.4**	**-0.9**
KOWA	**Kowa**	**171.16**	**272**		**PKPdf**	**08 43 57.2**	**-1.2**
KOWA				PKPab	**PKPab**	**08 45 18.8**	**+0.7**
KOWA	**Kowa**	**171.16**	**272**	P	**PKPdf**	**08 43 57.5**	**-0.9**

IDC 03 08:43:04.1±2.9**, 13.°72S**×**166.°17E, h0**km**, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/43**, mbtmp3.7**/3 **Error ellipse: s-maj=177.2km s-min=34.3km az=134.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.86**	**227**	P	P	08 49 04.2	-0.3
	0.7nm,0.5s,baz=48,slow=6.6,SNR=4.2						
ASAR	**Alice Springs**	**32.05**	**247**	P	P	08 49 32.8	-0.1
	0.4nm,0.8s,baz=77,slow=9.4,SNR=4.9						
ILAR	**Eielson Array**	**85.91**	**18**	P	P	08 55 44.4	-1.1
	0.6nm,0.7s,baz=240,slow=5.1,SNR=1.2						
ARCES	**ARCESS Array B**	**119.01**	**345**	PKP	PKiKP	09 01 55.8	+1.5
	2.9nm,1.1s,baz=33,slow=2.5,SNR=1.5						

IDC ***03*** *08:50:59.1±0.7, 14.°20S×166.°65E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.3/33, mbtmp4.2/13, ML4.1/1, Error ellipse: s-maj=28.3km s-min=17.5km az=123.0*

NEIC ***03*** *08:51:02.5±2.1, 14.°32S±0.°07×167.°00E±0.°09, h27km±5km, mb4.6/25, Error ellipse: s-maj=14.4km s-min=7.4km az=58.0*

ISC 03 08:51:03.6±0.5**, 14.°34S**±0.°06×**166.°86E**±0.°09**, h35**km**, n58, σ1.°08**/61**, mb4.4**/22**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.15**	**163**		**Pn**	**08 51 21.8**	**-1.4**
SANVU				Sn	**Sn**	**08 51 37.4**	**-0.4**
LIFNC	**LIFOU**	**6.42**	**177**	Pn	**Pn**	**08 52 36.2**	**+0.6**
KOUNC	**Koumac, New Ca**	**6.65**	**201**	Pn	**Pn**	**08 52 37.6**	**-1.2**
MARNC	**Mare, Loyalty**	**7.19**	**171**	Pn	**Pn**	**08 52 45.2**	**-1.1**
DZM	**Mont Dzumac**	**7.70**	**183**	Pn	**Pn**	**08 52 54.4**	**+1.0**
	2.9nm,0.3s,baz=330,slow=17,SNR=17						
DZM				Sn	**Sn**	**08 54 20.2**	**+0.7**
	baz=152,slow=23,SNR=1.0						
DZM	**Mont Dzumac**	**7.70**	**183**		**Pn**	**08 52 53.7**	**+0.3**
ONTNC	**Ouen Toro**	**7.94**	**183**	Pn	**Pn**	**08 52 56.2**	**-0.3**
OUENC	**Ouen Island, N**	**8.04**	**180**	Pn	**Pn**	**08 52 58.7**	**+0.8**
PINNC	**Pines Island,**	**8.25**	**176**	Pn	**Pn**	**08 53 00.5**	**-0.3**
HNR	**Honiara**	**8.34**	**305**	Pn	**Pn**	**08 53 03.8**	**+1.8**
EIDS	**Eidsvold**	**18.44**	**231**	P	**Pn**	**08 55 16.6**	**+0.1**
CTA	**Charters Tower**	**20.49**	**251**	P	**P**	**08 55 39.2**	**+0.5**
	10.0nm,0.8s,baz=84,slow=12,SNR=6.6						
CTAO	**Charters Tower**	**20.49**	**251**	P	**P**	**08 55 38.9**	**+0.2**
CTAO				IAmb	IAmb	08 55 41.1	
	comp=Z,15nm,0.9s						
BFZ	**Birch Farm**	**27.50**	**164**	P	**P**	**08 56 47.4**	**+0.7**
STKA	**Stephens Creek**	**28.95**	**229**	P	**P**	**08 56 60.0**	**+0.2**
	comp=Z,6.7nm,0.7s,baz=37,slow=8.5,SNR=23						
STKA				PcP	**PcP**	**09 00 08.2**	**0.0**
	comp=Z,1.7nm,0.9s,baz=90,slow=4.5,SNR=3.1						
STKA	**Stephens Creek**	**28.95**	**229**	P	**P**	**08 57 00.5**	**+0.8**
WR0	**Warramunga Arr**	**31.35**	**255**	P	**P**	**08 57 19.8**	**-1.3**
WB0	**Warramunga Arr**	**31.48**	**256**	P	**P**	**08 57 21.0**	**-1.2**
WB0				IAmb	IAmb	08 57 21.7	
	comp=Z,10nm,1.0s						
WB2	**Warramunga Arr**	**31.53**	**255**	P	**P**	**08 57 21.4**	**-1.3**
WB2				IAmb	IAmb	08 57 39.6	
	comp=Z,7.6nm,1.5s						
WRAB	**Tennant Creek**	**31.53**	**255**	P	**P**	**08 57 21.6**	**-1.1**
WRA	**Warramunga Arr**	**31.54**	**255**	P	**P**	**08 57 21.4**	**-1.4**
	comp=Z,3.6nm,0.9s,baz=84,slow=8.9,SNR=13						
AS31	**Alice Springs**	**32.45**	**248**	P	**P**	**08 57 29.7**	**-1.1**
ASAR	**Alice Springs**	**32.45**	**248**	P	**P**	**08 57 29.2**	**-1.5**
	comp=Z,2.7nm,0.7s,baz=73,slow=9.4,SNR=44						
ASAR				PcP	**PcP**	**09 00 17.2**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=72,slow=1.8,SNR=4.9						
ASAR	**Alice Springs**	**32.45**	**248**	P	**P**	**08 57 30.0**	**-0.8**
BBOO	**Buckleboo**	**33.51**	**231**	P	**P**	**08 57 40.5**	**+0.6**
BBOO				IAmb	IAmb	08 57 56.2	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**36.79**	**263**	P	**P**	**08 58 07.4**	**-1.0**
KNRA				IAmb	IAmb	08 58 11.7	
	comp=Z,2.8nm,0.8s						
FORT	**Forrest**	**39.16**	**239**	P	**P**	**08 58 28.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**39.70**	**259**	P	**P**	**08 58 31.6**	**-1.2**
FITZ				IAmb	IAmb	08 58 32.8	
	comp=Z,4.1nm,0.8s						
MBWA	**Marble Bar**	**45.27**	**254**	P	**P**	**08 59 17.9**	**-0.2**
MBWA				IAmb	IAmb	08 59 18.8	
	comp=Z,14nm,1.1s						
NWAO	**Narrogin (SRO)**	**48.61**	**239**	P	**P**	**08 59 44.0**	**0.0**
NWAO				IAmb	IAmb	08 59 53.1	
	comp=Z,13nm,1.1s						
MORW	**Morawa**	**49.08**	**244**	P	**P**	**08 59 47.8**	**+0.1**
MJAR	**Matsushiro Arr**	**57.38**	**333**	P	**P**	**09 00 48.5**	**0.0**
MJAR				IAmb	IAmb	09 00 49.2	
	comp=Z,5.3nm,1.0s						
VNDA	**Vanda**	**63.24**	**181**	P	**P**	**09 01 30.0**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=2.7,slow=6.3,SNR=6.3						
VNDA	**Vanda**	**63.24**	**181**	P	**P**	**09 01 28.6**	**+0.5**
USRK	**Ussuriysk Ar.**	**66.36**	**333**	P	**P**	**09 01 49.0**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=141,slow=4.8,SNR=4.0						
USRK	**Ussuriysk Ar.**	**66.36**	**333**	P	**P**	**09 01 47.7**	**-1.1**
USA0B	**Ussuriysk Arra**	**66.36**	**333**	P	**P**	**09 01 47.3**	**-1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
USA0B				IAmb	IAmb	09 02 00.3	
	comp=Z,6.8nm,0.8s						
SMY	Shemya	67.08	5	P	P	09 01 52.1	-1.0
KIWB	Kanaga Island	67.36	11	P	P	09 01 52.8	-2.2
UBPT	Khong Chiam	67.45	293	P	P	09 01 56.2	-0.1
UBPT				IAmb	IAmb	09 02 08.5	
	comp=Z,7.7nm,1.4s						
PETK	Petropavlovsk-	67.63	354	P	P	09 01 57.4	+0.8
	comp=Z,2.1nm,0.8s,baz=299,slow=15,SNR=2.3						
GSI	Gunungsitoli	70.30	277	P	P	09 02 13.8	-0.3
GSI				IAmb	IAmb	09 02 15.8	
	comp=Z,7.8nm,1.0s						
CHTO	Chiang Mai	74.56	294	P	P	09 02 39.8	+0.4
CHTO				IAmb	IAmb	09 02 51.6	
	comp=Z,4.7nm,1.1s						
QSPA	South Pole Qui	75.69	180	P	P	09 02 42.8	-2.5
HIA	Hailar	75.75	330	P	P	09 02 44.3	-1.4
ILAR	Eielson Array	86.28	18	P	P	09 03 40.9	-0.4
	comp=Z,1.0nm,0.7s,baz=243,slow=4.9,SNR=8.8						
NVAR	Mina Array Bea	87.31	49	P	P	09 03 49.5	+2.2
	comp=Z,0.4nm,0.6s,baz=228,slow=9.5,SNR=1.1						
MKAR	Makanchi Array	96.65	316	P	P	09 04 30.6	+0.4
	comp=Z,0.9nm,0.8s,baz=93,slow=6.1,SNR=6.0						
ZALV	Zalesovo Beam	96.84	324	P	P	09 04 29.4	-1.4
	comp=Z,0.8nm,0.6s,baz=117,slow=8.4,SNR=3.2						
YKA	Yellowknife Ar	97.38	27	P	Pdif	09 04 32.8	-0.2
	comp=Z,0.3nm,0.7s,baz=253,slow=4.9,SNR=3.7						
ARCES	ARCESS Array B	119.77	345	PKP	PKiKP	09 09 49.3	-0.3
	comp=Z,1.4nm,0.5s,baz=291,slow=2.5,SNR=18						
ARCES	ARCESS Array B	119.77	345		PKiKP	09 09 49.6	+0.1
SIV	San Ignacio	123.86	121	PKP	PKiKP	09 10 01.5	+2.3
	comp=Z,0.9nm,1.0s,baz=209,slow=2.5,SNR=3.2						
FINES	FINESS Array B	125.21	338	PKP	PKiKP	09 10 00.4	-0.1
	comp=Z,1.3nm,0.8s,baz=123,slow=9.4,SNR=12						
FINES	FINESS Array B	125.21	338		PKiKP	09 10 00.5	+0.1
KEST	Kesra	150.66	321	PKPbc	PKiKP	09 10 53.8	+0.6
	comp=Z,5.0nm,0.6s,baz=202,slow=1.2,SNR=8.9						
ESDC	Sonseca Array	153.50	344	PKPbc	PKiKP	09 11 01.2	+2.3
	comp=Z,0.5nm,0.6s,baz=357,slow=5.4,SNR=4.1						
TORD	Torodi Ar. Bea	165.54	267	PKPab	PKPab	09 12 04.2	+0.1
	comp=Z,0.9nm,0.9s,baz=83,slow=4.9,SNR=3.8						

IDC 03 09:15:27.5±3.1, 42°.07N×129°.70E, h0km, mb1 2.7/2, mb1mx2.6/39, mbtmp2.7/2, ML1.9/2, Error ellipse: s-maj=51.8km s-min=20.9km az=120.0, North Korea

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
I45RU	USSURIYSK INFR	2.71	37	i		09 30 40.0	
	baz=220,slow=324,SNR=2.0						
USRK	Ussuriysk Ar.	2.71	37	Pn	Pn	09 16 13.6	+1.3
	baz=216,slow=16,SNR=8.0						
USRK				Lg	Lg	09 16 52.6	
	baz=237,slow=28,SNR=10						
KSRS	Korea Array	4.81	197	Pn	Pn	09 16 40.6	-0.5
	0.1nm,0.3s,baz=13,slow=14,SNR=3.4						

IDC 03 09:21:26.9±2.8, 13°.77S×166°.32E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/37, mbtmp3.7/4, Error ellipse: s-maj=121.0km s-min=35.0km az=135.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
STKA	Stephens Creek	28.94	227	P	P	09 27 27.8	-0.2
	1.2nm,0.6s,baz=57,slow=11,SNR=5.9						
WRA	Warramunga Arr	31.19	254	P	P	09 27 48.2	+0.2
	0.6nm,0.8s,baz=85,slow=8.3,SNR=3.6						
ASAR	Alice Springs	32.18	247	P	P	09 27 56.6	-0.1
	0.5nm,0.7s,baz=73,slow=9.7,SNR=9.6						
ILAR	Eielson Array	85.90	18	P	P	09 34 08.3	0.0
	0.4nm,0.9s,baz=240,slow=3.0,SNR=2.9						

IDC 03 09:37:25.0±14.0, 14°.57S×166°.04E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/46, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=239.3km s-min=37.8km az=58.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
DZM	Mont Dzumac	7.47	177	Pn	Pn	09 39 15.3	-0.1
	0.4nm,0.3s,baz=113,slow=15,SNR=12						
DZM				Sn	Sn	09 40 40.4	-0.6
	0.2nm,0.3s,baz=49,slow=20,SNR=1.2						
STKA	Stephens Creek	28.20	228	P	P	09 43 19.6	+0.1
	0.3nm,0.4s,baz=57,slow=9.7,SNR=3.6						
WRA	Warramunga Arr	30.71	255	P	P	09 43 42.1	0.0
	0.4nm,0.6s,baz=84,slow=9.6,SNR=4.7						
ASAR	Alice Springs	31.62	248	P	P	09 43 50.0	0.0
	0.3nm,0.5s,baz=72,slow=9.6,SNR=10						

IDC 03 09:41:24.3±1.0, 13°.71S×172°.02E, h0km, mb4.2/11, mb1 4.5/11, mb1mx4.0/40, mbtmp4.2/11, Error ellipse: s-maj=52.0km s-min=17.3km az=145.0
NEIC 03 09:41:31.1±1.3, 13°.7S±0°.2×171°.9E±0°.1, h42km±6km, mb4.6/21, Error ellipse: s-maj=26.1km s-min=14.6km az=148.0
ISC 03 09:41:29.5±0.5, 13°.7S±0°.1×171°.93E±0°.08, h35km, n46, σ0s.98/50, mb4.4/21, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
MSVF	Nonsavu	7.12	125	Pn	Pn	09 43 10.7	-0.6
FUNA	Funafuti	8.81	55	Pn	Pn	09 43 35.2	+0.8
NIUE	Niue	18.20	109	P	P	09 45 39.7	+0.2
COEN	Coen	27.91	266	P	P	09 47 15.6	-1.0
COEN				IAmb	IAmb	09 47 44.5	
	comp=Z,26nm,1.5s						
STKA	Stephens Creek	33.12	232	P	P	09 48 03.7	+1.2
	comp=Z,5.8nm,1.0s,baz=59,slow=7.6,SNR=9.1						
STKA	Stephens Creek	33.12	232	P	P	09 48 02.3	-0.2
TOO	Toolangi	33.43	220	P	P	09 48 06.3	+1.2
TOO				IAmb	IAmb	09 48 13.1	
	comp=Z,15nm,1.5s						
WR0	Warramunga Arr	36.26	255	P	P	09 48 29.2	-0.5
WR0				IAmb	IAmb	09 48 33.8	
	comp=Z,6.6nm,1.4s						
WB0	Warramunga Arr	36.38	255	P	P	09 48 30.3	-0.5
WB0				IAmb	IAmb	09 48 32.2	
	comp=Z,7.1nm,1.2s						
WB2	Warramunga Arr	36.44	255	P	P	09 48 30.3	-0.9
WB2				IAmb	IAmb	09 48 34.2	
	comp=Z,4.3nm,0.9s						
WRA	Warramunga Arr	36.45	255	P	P	09 48 31.1	-0.3
	comp=Z,2.3nm,0.9s,baz=88,slow=8.0,SNR=12						
WRA				PcP	PcP	09 50 55.7	+0.6
	comp=Z,1.5nm,1.0s,baz=69,slow=2.6,SNR=5.3						
WRA	Warramunga Arr	36.45	255	P	P	09 48 31.7	+0.4
AS31	Alice Springs	37.25	249	P	P	09 48 37.9	-0.2
ASAR	Alice Springs	37.25	249	P	P	09 48 38.0	-0.1
	comp=Z,9.5nm,0.9s,baz=73,slow=9.3,SNR=91						
ASAR				PcP	PcP	09 50 57.7	+0.2
	comp=Z,1.7nm,1.0s,baz=88,slow=3.4,SNR=7.5						
ASAR	Alice Springs	37.25	249	P	P	09 48 37.5	-0.7
BBOO	Buckleboo	37.78	234	P	P	09 48 43.0	+0.4
KNRA	Kununurra	41.74	262	P	P	09 49 14.7	-0.9
KNRA				IAmb	IAmb	09 49 35.1	
	comp=Z,20nm,1.5s						
FORT	Forrest	43.70	240	P	P	09 49 31.2	-0.1
FORT				IAmb	IAmb	09 49 32.5	
	comp=Z,15nm,0.9s						
FITZ	Fitzroy Crossi	44.64	258	P	P	09 49 40.0	+1.0
PSA00	Pilbara Seismi	50.05	253	P	P	09 50 21.2	+0.1
PSA00				IAmb	IAmb	09 50 22.9	
	comp=Z,3.7nm,0.8s						
PSA00	Pilbara Seismi	50.05	253	P	P	09 50 21.0	-0.1
PSA00				IAmb	IAmb	09 50 29.8	
	comp=Z,9.5nm,1.0s						
MORW	Morawa	53.77	244	P	P	09 50 49.1	+0.4
VNDA	Vanda	64.01	182	P	P	09 52 00.7	+1.6
XMIS	Christmas Isla	64.71	265	P	P	09 52 04.2	-0.5
SEY	Seymchan	77.92	351	P	P	09 53 23.4	0.0
	comp=Z,2.7nm,1.0s,baz=157,slow=4.4,SNR=7.0						
CMAR	Chiang Mai Arr	78.71	292	P	P	09 53 31.2	+2.4
	comp=Z,1.3nm,0.3s,baz=110,slow=3.9,SNR=7.3						
CMAR	Chiang Mai Arr	78.71	292	P	P	09 53 30.0	+1.2
YBH	Yreka Blue Hor	81.55	43	P	P	09 53 44.2	+0.4
	comp=Z,0.7nm,0.9s,baz=252,slow=8.0,SNR=3.8						
YBH	Yreka Blue Hor	81.55	43	P	P	09 53 44.4	+0.6
BILL	Bilibino	81.64	358	P	P	09 53 43.8	+0.2
BILL				IAmb	IAmb	09 53 44.5	
	comp=Z,7.7nm,1.3s						
NVAR	Mina Array Bea	83.22	48	P	P	09 53 52.4	-0.3
	comp=Z,1.8nm,1.2s,baz=233,slow=8.7,SNR=5.4						
NVAR	Mina Array Bea	83.22	48	P	P	09 53 51.7	-1.1
I21K	Tanana	83.24	14	P	P	09 53 52.1	+0.3
I21K				IAmb	IAmb	09 53 53.5	
	comp=Z,7.4nm,1.2s						
ILAR	Eielson Array	84.23	16	P	P	09 53 56.5	-0.5
	comp=Z,2.2nm,1.0s,baz=234,slow=5.2,SNR=13						
ILAR	Eielson Array	84.23	16	P	P	09 53 57.9	+0.9
PDAR	Pinedale Array	90.97	46	P	P	09 54 30.7	+0.3
	comp=Z,0.4nm,0.9s,baz=232,slow=6.8,SNR=2.9						
PDAR	Pinedale Array	90.97	46	P	P	09 54 29.1	-1.3
ANMO	Albuquerque	91.03	54	P	P	09 54 31.1	+0.3
TXAR	Lajitas Array	91.84	60	P	P	09 54 34.8	+0.3
	comp=Z,1.2nm,1.1s,baz=234,slow=4.0,SNR=7.2						
TXAR	Lajitas Array	91.84	60	P	P	09 54 34.5	-0.1
YKA	Yellowknife Ar	94.61	27	P	P	09 54 45.9	-0.5
	comp=Z,1.0nm,1.0s,baz=248,slow=4.5,SNR=5.8						
BDFB	Brasilia	130.90	125		PKPdf	10 00 36.8	-1.6
ESDC	Sonseca Array	153.90	353	PKPab	PKPab	10 01 39.3	+0.6
	comp=Z,1.7nm,1.0s,baz=1.3,slow=4.1,SNR=5.1						
ESDC	Sonseca Array	153.90	353	PKPdf	PKPdf	10 01 15.2	-2.5
ESDC					PKPab	10 01 38.5	-0.1
TORD	Torodi Ar. Bea	170.48	268	PKPab	PKPab	10 02 52.8	+0.9
	comp=Z,0.9nm,1.0s,baz=116,slow=3.4,SNR=4.2						
TORD	Torodi Ar. Bea	170.48	268	PKPdf	PKPdf	10 01 33.7	-1.1
TORD					PKPab	10 02 48.9	-3.0

NNC 03 09:57:49.3±1.9, 42°.87N×77°.08E, h0km, mpv2.6, Error ellipse: s-maj=11.3km s-min=6.5km az=144.0
SOME 03 09:57:50.1, 42°.93N×77°.02E, h15km
ISC 03 09:57:49.9±2.9, 42°.9N±0°.2×77°.01E±0°.09, h18km±3km, n11, σ0s.16/21, 2C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
TNSS	Tian-Shan	0.11	336	P	Pg	09 57 54.3	0.0
	5.0nm,0.1s						
TNSS				S	Sg	09 57 57.3	+0.1
	46nm,0.1s						
MDOK	Medeo	0.23	8	eP	Pb	09 57 55.3	-0.1
	11nm,0.1s						
MDOK				eS	Sb	09 57 59.0	+0.2
	22nm,0.2s						
MDOK	Medeo	0.23	8	⥣P	Pb	09 57 55.2	-0.2
	1.6nm,0.2s						
MDOK				⥣S	Sb	09 57 59.1	+0.2
	4.9nm,0.2s						
MDOK	Medeo	0.23	8	Pg	Pb	09 57 55.3	-0.1
	11nm,0.1s						
MDOK				Lg	Lg	09 57 59.0	
	22nm,0.2s						
IZV	Izvestkoviy	0.30	289	eP	Pg	09 57 56.8	+0.1
	6.3nm,0.2s						
IZV				eS	Sg	09 58 01.6	+0.3
	53nm,0.2s						
IZV	Izvestkoviy	0.30	289	P	Pg	09 57 56.8	+0.1
	6.3nm,0.2s						
IZV				S	Sg	09 58 01.6	+0.3
	53nm,0.2s						
KOTS	Kotyrbulak	0.31	15	eP	Pg	09 57 56.7	-0.1
	9.1nm,0.2s						
KOTS				eS	Sg	09 58 01.4	+0.1
	19nm,0.2s						
KOTS	Kotyrbulak	0.31	15	P	Pg	09 57 56.7	-0.1
	9.1nm,0.2s						
KOTS				S	Sg	09 58 01.4	+0.1
	19nm,0.2s						
MTBS	Maitube	0.47	295	eP	Pg	09 57 59.1	-0.3
	0.5nm,0.1s						
MTBS				eS	Sg	09 58 05.7	-0.2
	6.8nm,0.2s						
KTBS	Karatobe	0.81	343	eP	Pb	09 58 05.3	-0.2
	1.4nm,0.1s						
KTBS				eS	Sb	09 58 16.2	+0.1
	9.1nm,0.3s						
KRBS	Karabastau	1.23	308	eP	Pn	09 58 12.4	+0.1
	0.3nm,0.1s						
KRBS				eS	Sb	09 58 28.3	0.0
	1.2nm,0.1s						

NEIC 03 10:07:53.8±1.9, 18°.15N±0°.09×146°.0E±0°.2, h137km±10km, mb4.2/11, Error ellipse: s-maj=33.2km s-min=12.5km az=91.0
IDC 03 10:07:55.4±6.8, 18°.22N×145°.98E, h159km±36km, mb3.0/4, mb1 3.3/5, mb1mx2.8/59, mbtmp3.6/5, Error ellipse: s-maj=126.5km s-min=28.4km az=81.0
ISC 03 10:07:52.4±0.9, 18°.22N±0°.09×146°.2E±0°.2, h135km, n22, σ1s.67/23, mb4.0/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
GUMO	Guam	4.78	196	P	Pn	10 09 03.7	+1.0
	2.7nm,0.3s,baz=15,slow=21,SNR=1.6						
GUMO				S	Sn	10 10 01.7	+4.3
	4.2nm,0.3s,baz=337,slow=18,SNR=1.4						
GUMO	Guam	4.78	196		Pn	10 09 02.0	-0.7
PATS	Pohnpei	16.35	132		P	10 11 36.0	+1.2
COEN	Coen	32.12	186	P	P	10 14 04.9	-2.2
PETK	Petropavlovsk-	35.95	12	P	P	10 14 42.4	+2.6
WB0	Warramunga Arr	39.49	198	P	P	10 15 09.4	-0.5
WB0				IAmb	IAmb	10 15 28.9	
	comp=Z,5.2nm,1.4s						
WR0	Warramunga Arr	39.63	197	P	P	10 15 11.1	0.0
WR0				IAmb	IAmb	10 15 30.3	
	comp=Z,3.9nm,1.2s						
WB2	Warramunga Arr	39.67	198	P	P	10 15 11.4	-0.1
WB2				IAmb	IAmb	10 15 31.4	
	comp=Z,5.0nm,1.3s						
WRA	Warramunga Arr	39.67	198	P	P	10 15 11.3	-0.1
	comp=Z,0.5nm,0.5s,baz=15,slow=8.0,SNR=16						
WRA	Warramunga Arr	39.67	198	P	P	10 15 10.8	-0.7
FITZ	Fitzroy Crossi	41.37	210	P	P	10 15 25.1	-0.3
	comp=Z,0.8nm,0.5s,baz=19,slow=9.1,SNR=15						
FITZ	Fitzroy Crossi	41.37	210	P	P	10 15 24.4	-0.9
AS31	Alice Springs	43.33	197	P	P	10 15 42.3	+1.1
ASAR	Alice Springs	43.33	197	P	P	10 15 41.0	-0.2
	comp=Z,0.2nm,0.4s,baz=12,slow=9.0,SNR=8.4						
ASAR	Alice Springs	43.33	197	P	P	10 15 41.2	0.0
ARMA	Armidale	48.64	174	P	P	10 16 24.4	+1.6
ARMA				IAmb	IAmb	10 16 30.4	
	comp=Z,16nm,1.4s						
TOO	Toolangi	55.50	181	P	P	10 17 11.9	-1.4
TOO				IAmb	IAmb	10 17 25.3	
	comp=Z,11nm,1.2s						
ZAA0	Zalesovo Array	58.68	323	P	P	10 17 35.9	+0.4
ZAA0				IAmb	IAmb	10 17 37.4	
	comp=Z,3.3nm,1.4s						
MK31	Makanchi Array	59.13	314	P	P	10 17 39.9	+1.0
MK31				IAmb	IAmb	10 18 09.1	
	comp=Z,1.1nm,1.2s						
MKAR	Makanchi Array	59.13	314	P	P	10 17 38.9	0.0
	comp=Z,0.1nm,0.4s,baz=96,slow=8.5,SNR=1.5						
MKAR	Makanchi Array	59.13	314	P	P	10 17 38.6	-0.3
VNDA	Vanda	95.99	177	P	P	10 20 59.6	-3.8

IDC 03 10:26:05.7±1.3, 40°.22N×105°.22E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.2/49, mbtmp3.2/5, ML3.0/2, Error ellipse: s-maj=56.3km s-min=23.4km az=55.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
I34MN	SONGINO INFRAS	7.63	6	i		11 14 00.0	
	baz=183,slow=331,SNR=1.7						
SONM	Songino Array	7.66	6	Pn	Pn	10 27 59.2	+0.6
	0.3nm,0.3s,baz=186,slow=14,SNR=5.0						
SONM				Sn	Sn	10 29 19.4	-6.7
	0.3nm,0.3s,baz=202,slow=19,SNR=1.7						
SONM				Lg	Lg	10 30 01.0	
	0.1nm,0.3s,baz=190,slow=25,SNR=2.3						
MKAR	Makanchi Array	17.85	299	P	Pn	10 30 14.7	-0.7
	0.1nm,0.3s,baz=103,slow=13,SNR=2.2						
KURBB	Kurchatov Arra	21.32	308	P	P	10 30 53.8	-0.1
	0.4nm,0.7s,baz=111,slow=10,SNR=4.1						
WRA	Warramunga Arr	65.72	150	P	P	10 36 51.9	-0.3
	0.6nm,1.0s,baz=342,slow=6.8,SNR=7.1						
ASAR	Alice Springs	68.95	152	P	P	10 37 12.9	+0.3
	0.4nm,0.5s,baz=341,slow=7.0,SNR=13						

IDC 03 10:27:11.2±1.5, 29°.67N×88°.18E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.4/43, mbtmp3.5/7, ML3.7/2, Error ellipse: s-maj=55.4km s-min=20.8km az=64.0
ISC 03 10:27:15.9±1.4, 29°.7N±0°.2×88°.3E±0°.3, h35km, n7, σ1s.27/7, mb3.6/5, Xizang

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
CMAR	Chiang Mai Arr	14.80	137	Pn	Pn	10 30 41.6	-1.2
	0.3nm,0.3s,baz=327,slow=9.7,SNR=1.4						
MKAR	Makanchi Array	17.72	346	P	Pn	10 31 19.6	-0.2
	0.1nm,0.3s,baz=161,slow=14,SNR=3.4						
KURBB	Kurchatov Arra	22.18	343	P	P	10 32 07.5	-1.4
	0.5nm,0.8s,baz=162,slow=9.8,SNR=2.9						
SONM	Songino Array	22.90	33	P	P	10 32 17.3	+0.7
	1.2nm,0.8s,baz=229,slow=8.5,SNR=6.1						
FINES	FINESS Array B	51.17	327	P	P	10 36 15.7	+0.4
	1.0nm,0.7s,baz=93,slow=7.6,SNR=4.5						
WRA	Warramunga Arr	66.35	132	P	P	10 38 02.4	+1.0
	0.8nm,0.9s,baz=325,slow=6.9,SNR=4.9						
ASAR	Alice Springs	68.81	135	P	P	10 38 18.1	+1.2
	0.5nm,0.8s,baz=317,slow=6.9,SNR=7.4						

IDC 03 10:44:11.7±9.4, 22°.74S×66°.09W, h246km±64km, mb2.8/2, mb1 3.2/4, mb1mx3.0/18, mbtmp3.7/4, Error ellipse: s-maj=109.9km s-min=26.9km az=21.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
LPAZ	La Paz	6.70	343	P	Pn	10 45 48.9	-0.3
	3.6nm,0.3s,baz=136,slow=6.5,SNR=90						
LPAZ				S	S	10 47 07.0	-0.2
	0.3nm,0.3s,baz=53,slow=22,SNR=8.7						
BDFB	Brasilia	18.46	71	P	P	10 48 11.1	+1.3
	0.3nm,0.3s,baz=227,slow=14,SNR=4.0						
TXAR	Lajitas Array	63.15	323	P	P	10 54 14.4	+0.5
	0.1nm,0.5s,baz=152,slow=7.9,SNR=1.6						
TORD	Torodi Ar. Bea	75.33	69	P	P	10 55 27.5	-1.1
	0.3nm,0.3s,baz=258,slow=5.5,SNR=7.9						
MKAR	Makanchi Array	145.02	39	PKPbc	PKPab	11 03 19.8	-0.1
	0.1nm,0.3s,baz=315,slow=0.3,SNR=2.0						

IDC 03 10:44:51.6±12.0, 17°.20S×178°.76W, h526km±158km, mb3.1/7, mb1 3.5/7, mb1mx3.2/35, mbtmp4.0/7, Error ellipse: s-maj=95.8km s-min=38.2km az=164.0
NEIC 03 10:44:52.1±0.8, 17°.9S±0°.2×178°.3W±0°.2, h549km±12km, mb4.0/15, Error ellipse: s-maj=27.2km s-min=18.0km az=145.0
ISC 03 10:44:52.1±0.7, 17°.9S±0°.2×178°.4W±0°.1, h550km, n32, σ0s.78/32, mb3.9/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
MSVF	Nonsavu	3.42	272	P	P	10 46 09.9	-0.1
AFI	Afiamalu	7.46	59	P	P	10 46 43.2	-1.5
FUNA	Funafuti	9.60	345	P	P	10 47 06.7	+0.7
MARNC	Mare, Loyalty	13.31	252	P	P	10 47 44.0	-0.2
MQZ	McQueen's Vall	26.84	195	P	P	10 49 49.3	+0.5
COEN	Coen	37.15	270	P	P	10 51 17.5	+0.6
COEN				IAmb	IAmb	10 51 18.3	
	comp=Z,7.9nm,0.8s						
STKA	Stephens Creek	38.68	241	P	P	10 51 29.9	+0.8
	comp=Z,2.4nm,0.9s,baz=96,slow=14,SNR=3.3						
STKA	Stephens Creek	38.68	241	P	P	10 51 29.6	+0.5
BBOO	Buckleboo	43.46	241	P	P	10 52 06.9	-0.1
WR0	Warramunga Arr	44.49	260	P	P	10 52 15.0	-0.2
WR0				IAmb	IAmb	10 52 16.7	
	comp=Z,6.2nm,1.4s						
WB0	Warramunga Arr	44.65	260	P	P	10 52 15.8	-0.6
WB2	Warramunga Arr	44.67	260	P	P	10 52 15.9	-0.6
WB2				IAmb	IAmb	10 52 18.0	
	comp=Z,7.1nm,1.4s						
WRAB	Tennant Creek	44.67	260	P	P	10 52 15.9	-0.7
WRAB				IAmb	IAmb	10 52 26.8	
	comp=Z,4.2nm,1.2s						
WRA	Warramunga Arr	44.68	260	P	P	10 52 15.8	-0.9
	comp=Z,1.4nm,0.5s,baz=95,slow=7.2,SNR=67						
WRA	Warramunga Arr	44.68	260	P	P	10 52 15.8	-0.9
AS31	Alice Springs	44.84	254	P	P	10 52 17.6	-0.3
AS31				IAmb	IAmb	10 52 18.5	
	comp=Z,2.8nm,0.5s						
ASAR	Alice Springs	44.84	254	P	P	10 52 17.7	-0.2
	comp=Z,6.8nm,0.6s,baz=87,slow=8.7,SNR=202						
ASAR	Alice Springs	44.84	254	P	P	10 52 17.4	-0.5
MTN	Manton Dam	48.85	268	P	P	10 52 46.6	-1.5
MTN				IAmb	IAmb	10 52 52.8	
	comp=Z,8.4nm,1.2s						
FORT	Forrest	50.06	245	P	P	10 52 56.2	-0.6
KNRA	Kununurra	50.54	264	P	P	10 52 59.9	-0.6
KNRA				IAmb	IAmb	10 53 24.8	
	comp=Z,13nm,1.4s						
FITZ	Fitzroy Crossi	53.08	261	P	P	10 53 17.7	-1.0
FITZ				IAmb	IAmb	10 53 19.4	
	comp=Z,7.4nm,1.5s						
NVAR	Mina Array Bea	79.38	44	P	P	10 56 02.0	+0.4
	comp=Z,0.4nm,0.6s,baz=217,slow=7.4,SNR=4.3						
IMAR	Indian Mountai	85.65	10	P	P	10 56 32.4	+0.1
IL31		85.86	13	P	P	10 56 33.5	+0.3
IL31				IAmb	IAmb	10 56 38.8	
	comp=Z,3.7nm,1.5s						
ILAR	Eielson Array	85.86	13	P	P	10 56 32.3	-1.0
	comp=Z,0.3nm,0.4s,baz=220,slow=5.1,SNR=12						
ILAR	Eielson Array	85.86	13	P	P	10 56 33.0	-0.3
TXAR	Lajitas Array	85.94	58	P	P	10 56 36.4	+1.7
	comp=Z,0.8nm,0.8s,baz=223,slow=6.5,SNR=9.8						
TXAR	Lajitas Array	85.94	58	P	P	10 56 35.6	+0.9
PDAR	Pinedale Array	87.30	43	P	P	10 56 41.4	+0.4
	comp=Z,0.4nm,0.6s,baz=203,slow=4.3,SNR=4.9						
CLL	Collm	145.45	347	ePKPbc	PKPdf	11 03 28.0	+0.5
GERES	GERESS Array B	147.60	345	PKPbc	PKPbc	11 03 34.1	-0.8
	comp=Z,0.3nm,0.4s,baz=54,slow=6.9,SNR=4.2						

DJA 03 10:55:49.8±0.5, 1°N±2°×12°7E±°, h17km±5km, M4.0/9, MLv4.0/9
NEIC 03 10:55:53.5±1.6, 1°.28N±0°.09×127°.26E±0°.10, h56km±7km, mb4.2/22, Error ellipse: s-maj=15.9km s-min=11.3km az=224.0
IDC 03 10:55:54.0±3.1, 1°.23N×127°.15E, h68km±31km, mb3.7/10, mb1 3.8/13, mb1mx3.6/48, mbtmp4.0/13, ML3.6/3, Error ellipse: s-maj=23.8km s-min=15.1km az=76.0
ISC 03 10:55:52.5±0.5, 1°.32N±0°.05×127°.19E±0°.07, h50km, n51, σ1s.10/54, mb4.0/20, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
TNTI	Ternate	0.58	162	Pn	Pn	10 56 03.4	-1.3
TNTI	Ternate	0.58	162	P	Pn	10 56 03.4	-1.3
TNTI				S	Sn	10 56 12.5	-1.0
LBMI	Labuha	1.97	171	P	Pn	10 56 24.0	+0.5
LBMI				S	Sn	10 56 49.7	+2.6
SGSI	Sangihe	2.87	325	P	Pn	10 56 34.1	-1.7
KMSI	Cibinong	3.29	257	P	Pn	10 56 41.4	-0.1
SANI	Sanana	3.56	200	P	Pn	10 56 44.3	-0.9
GTOI	Gorontalo	4.23	261	P	Pn	10 56 53.5	-0.9
SIJI	Sorong	4.62	118	P	Pn	10 57 01.6	+1.7
	1.8nm,0.3s,baz=287,slow=19,SNR=2.5						
LUWI	Luwuk	5.00	242	Pn	Pn	10 57 08.2	+3.1
TOLI2	Tolitoli	6.41	268	Pn	Pn	10 57 25.2	+0.9
KAPI	Kappang	9.73	230	P	Pn	10 58 10.8	+0.8
	1.0nm,0.3s,baz=53,slow=15,SNR=1.7						
KAPI				S	Sn	10 59 57.7	-0.3
	1.2nm,0.3s,baz=97,slow=17,SNR=1.8						
SAUI	Saumlaki	10.11	156	Pn	Pn	10 58 15.6	+0.4
KSM	Kuching	16.87	271	P	P	10 59 48.9	+2.1
KNRA	Kununurra	16.96	175	P	P	10 59 48.4	+0.7
KNRA				IAmb	IAmb	11 00 02.1	
	comp=Z,12nm,1.3s						
FITZ	Fitzroy Crossi	19.36	184	P	P	11 00 12.3	-1.8
	comp=Z,0.1nm,0.3s,baz=23,slow=11,SNR=5.8						
FITZ	Fitzroy Crossi	19.36	184	P	P	11 00 14.6	+0.5
WB0	Warramunga Arr	22.12	162	P	P	11 00 43.0	-0.9
WB0				IAmb	IAmb	11 00 57.5	
	comp=Z,5.0nm,1.0s						
WRAB	Tennant Creek	22.26	162	P	P	11 00 44.8	-0.7
WRAB				IAmb	IAmb	11 00 45.6	
	comp=Z,7.9nm,1.2s						
WRA	Warramunga Arr	22.27	162	P	P	11 00 44.6	-0.9
	comp=Z,2.5nm,0.5s,baz=341,slow=11,SNR=32						
WB2	Warramunga Arr	22.27	162	P	P	11 00 45.2	-0.3
WR0	Warramunga Arr	22.35	162	P	P	11 00 45.0	-1.4
WR0				IAmb	IAmb	11 01 12.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,7.1nm,1.1s						
AS31	Alice Springs	25.68	166	P	P	11 01 17.5	-0.5
ASAR	Alice Springs	25.68	166	P	P	11 01 16.8	-1.2
	comp=Z,1.4nm,0.7s,baz=351,slow=14,SNR=28						
ASAR	Alice Springs	25.68	166	P	P	11 01 17.1	-0.9
FORT	Forrest	31.93	179	P	P	11 02 14.2	+0.6
MORW	Morawa	32.05	199	P	P	11 02 12.8	-1.7
MORW				IAmb	IAmb	11 02 23.4	
	comp=Z,3.7nm,0.8s						
BBOO	Buckleboo	34.97	167	P	P	11 02 38.6	-1.3
STKA	Stephens Creek	35.73	159	P	P	11 02 46.8	+0.3
	comp=Z,0.5nm,0.5s,baz=333,slow=11,SNR=1.8						
STKA	Stephens Creek	35.73	159	P	P	11 02 47.3	+0.8
KSRS	Korea Array	35.96	1	P	P	11 02 48.5	+0.1
	comp=Z,0.8nm,0.5s,baz=178,slow=11,SNR=5.7						
TOO	Toolangi	42.25	158	P	P	11 03 39.2	-1.8
TOO				IAmb	IAmb	11 04 06.8	
	comp=Z,7.6nm,1.1s						
KLR	Kul'dur	47.89	4	P	P	11 04 25.2	-0.3
	comp=Z,0.6nm,0.6s,baz=243,slow=2.3,SNR=2.4						
SONM	Songino Array	49.71	342	P	P	11 04 40.4	+0.7
	comp=Z,0.8nm,0.5s,baz=156,slow=8.9,SNR=5.3						
SONM	Songino Array	49.71	342	P	P	11 04 40.5	+0.7
SONM				IAmb	IAmb	11 04 41.5	
	comp=Z,1.7nm,0.9s						
PEA0B	Petropavlovsk-	57.48	21	P	P	11 05 37.1	+0.7
PETK	Petropavlovsk-	57.48	21	P	P	11 05 37.1	+0.7
	comp=Z,3.6nm,0.9s,baz=247,slow=11,SNR=2.7						
MK31	Makanchi Array	59.78	326	P	P	11 05 52.9	+0.4
MK31				IAmb	IAmb	11 05 53.9	
	comp=Z,3.6nm,0.7s						
MKAR	Makanchi Array	59.78	326	P	P	11 05 53.0	+0.4
	comp=Z,4.5nm,0.6s,baz=121,slow=8.5,SNR=18						
MKAR	Makanchi Array	59.78	326	P	P	11 05 53.4	+0.8
MAKZ	Makanchi	59.97	326	P	P	11 05 54.4	+0.6
MAKZ				IAmb	IAmb	11 05 55.1	
	comp=Z,4.5nm,0.7s						
ZALV	Zalesovo Beam	62.93	333	P	P	11 06 12.7	-0.9
	comp=Z,0.4nm,0.3s,baz=122,slow=7.0,SNR=3.6						
GAR	Garm	63.89	313	P	P	11 06 20.5	0.0
KURBB	Kurchatov Arra	64.00	328	P	P	11 06 20.8	0.0
	comp=Z,5.0nm,0.6s,baz=128,slow=6.2,SNR=40						
KURK	Kurchatov	64.00	328	P	P	11 06 20.8	0.0
KKAR	Karatay Array	65.30	318	P	P	11 06 29.4	0.0
ABKAR	Akbulak array	74.29	321	P	P	11 07 24.2	-0.3
ABKAR	Akbulak array	74.29	321	P	P	11 07 24.4	-0.1
ABKAR				IAmb	IAmb	11 07 44.8	
	comp=Z,2.1nm,1.2s						
VNDA	Vanda	81.00	173	P	P	11 08 01.1	-0.3
VNDA				IAmb	IAmb	11 08 14.9	
	comp=Z,4.5nm,1.5s						
IMAR	Indian Mountai	84.34	24	P	P	11 08 20.1	+1.1
QSPA	South Pole Qui	91.25	180	P	P	11 08 51.9	-0.4
QSPA				IAmb	IAmb	11 09 00.8	
	comp=Z,3.7nm,1.3s						
TORD	Torodi Ar. Bea	124.07	287	PKP	PKPdf	11 14 45.9	-0.6
	comp=Z,0.6nm,0.9s,baz=14,slow=0.6,SNR=3.4						

*IDC **03** 10:57:27.8±0.5, 12.°02N×143.°75E, h0km, mb4.2/22, mb1 4.3/22, mb1mx4.1/49, mbtmp4.2/22, Error ellipse: s-maj=19.1km s-min=12.6km az=83.0*

*NEIC **03** 10:57:30.5±1.8, 12.°04N±0.°05×144.°0E±0.°1, h10km±1km, mb4.6/37, Error ellipse: s-maj=18.7km s-min=5.5km az=249.0*

ISC 03 10:57:32.0±0.4**, 12.°03N**±0.°06×**143.°88E**±0.°09**, h26**km**, n78, σ1s.12**/78**, mb4.5**/38**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.83	32	Pn	Pn	10 58 02.8	+1.1
	424nm,0.3s,baz=163,slow=17,SNR=149						
GUMO				Sn	Sb	10 58 27.1	-0.1
	185nm,0.3s,baz=163,slow=19,SNR=12						
GUMO	Guam	1.83	32		Pn	10 58 02.9	+1.2
GUMO	Guam	1.83	32	P	Pn	10 58 03.7	+2.0
PATS	Pohnpei	15.14	109	Pn	Pn	11 01 01.7	-2.5
JOW	Kunigami	20.79	317	P	P	11 02 11.2	-0.1
	8.4nm,0.4s,baz=103,slow=14,SNR=4.3						
JOW	Kunigami	20.79	317	P	P	11 02 11.9	+0.6
JOW				IAmb	IAmb	11 02 23.6	
	comp=Z,32nm,1.2s						
H11S3	WAKE ISLAND Hy	22.91	71	T	T	11 26 22.9	
	baz=259,slow=74						
H11S1	WAKE ISLAND Hy	22.92	71	T	T	11 26 12.1	
	baz=259						
H11S2	WAKE ISLAND Hy	22.92	71	T	T	11 26 38.4	
	baz=259,slow=74						
JSU	Suzuyama	23.00	330	P	P	11 02 34.1	-0.9
JSU				IAmb	IAmb	11 02 41.8	
	comp=Z,19nm,1.0s						
JNU	Nakatsue	24.14	333	P	P	11 02 45.1	-0.9
	comp=Z,8.5nm,0.9s,baz=196,slow=1.0,SNR=7.4						
JNU	Nakatsue	24.14	333	P	P	11 02 45.4	-0.6
MJAR	Matsushiro Arr	24.94	349	P	P	11 02 51.5	-1.7
	comp=Z,1.3nm,0.6s,baz=162,slow=15,SNR=1.7						
KSRS	Korea Array	29.08	333	P	P	11 03 29.3	-1.1
	comp=Z,1.1nm,0.7s,baz=140,slow=10.0,SNR=5.1						
WB0	Warramunga Arr	32.95	197	P	P	11 04 05.7	+1.1
WR0	Warramunga Arr	33.09	196	P	P	11 04 06.5	+0.7
WRAB	Tennant Creek	33.12	197	P	P	11 04 07.2	+1.1
WRAB				IAmb	IAmb	11 04 10.4	
	comp=Z,6.9nm,1.3s						
WB2	Warramunga Arr	33.12	197	P	P	11 04 07.1	+0.9
WB2				IAmb	IAmb	11 04 30.0	
	comp=Z,7.2nm,1.3s						
WRA	Warramunga Arr	33.13	197	P	P	11 04 03.8	-2.4
	comp=Z,1.6nm,0.7s,baz=20,slow=9.7,SNR=8.8						
AS31	Alice Springs	36.79	195	P	P	11 04 38.5	+0.7
ASAR	Alice Springs	36.79	195	P	P	11 04 36.2	-1.6
	comp=Z,0.4nm,0.6s,baz=19,slow=12,SNR=10.0						
ASAR				PcP	PcP	11 07 00.6	+0.8
	comp=Z,0.2nm,0.7s,baz=26,slow=4.5,SNR=1.5						
ASAR	Alice Springs	36.79	195	P	P	11 04 38.1	+0.2
EIDS	Eidsvold	37.83	169	P	P	11 04 46.2	-0.3
EIDS				IAmb	IAmb	11 04 47.2	
	comp=Z,13nm,1.2s						
KLR	Kul'dur	38.43	347	P	P	11 04 50.8	-0.6
	comp=Z,1.4nm,0.7s,baz=138,slow=6.4,SNR=5.2						
KLR				PcP	PcP	11 07 05.2	+0.9
	comp=Z,1.2nm,0.8s,baz=314,slow=1.8,SNR=6.2						
DZM	Mont Dzumac	40.48	147	P	P	11 05 09.1	+0.3
	comp=Z,9.8nm,0.5s,baz=325,slow=12,SNR=12						
DZM	Mont Dzumac	40.48	147	P	P	11 05 09.8	+0.9
DZM				IAmb	IAmb	11 05 10.3	
	comp=Z,15nm,0.7s						
STKA	Stephens Creek	43.71	183	P	P	11 05 36.2	+1.2
	comp=Z,2.6nm,1.1s,baz=342,slow=9.6,SNR=2.8						
CMAR	Chiang Mai Arr	43.74	284	P	P	11 05 35.5	-0.1
	comp=Z,1.5nm,0.3s,baz=87,slow=7.3,SNR=2.4						
BBOO	Buckleboo	45.21	189	P	P	11 05 46.4	-0.6
SONM	Songino Array	47.47	326	P	P	11 06 04.1	-0.7
	comp=Z,1.0nm,0.5s,baz=144,slow=7.5,SNR=7.2						
SONM	Songino Array	47.47	326	P	P	11 06 05.5	+0.7
MORW	Morawa	48.91	213	P	P	11 06 16.6	+0.6
MORW				IAmb	IAmb	11 06 19.4	
	comp=Z,9.4nm,1.0s						
UNV	Unalaska Valle	57.15	32	P	P	11 07 15.1	-1.3
BILL	Bilibino	57.85	10	P	P	11 07 21.6	+0.5
BKZ	Black Stump Fm	59.31	151	P	P	11 07 32.4	+0.6
SDPT	Sand Point	60.97	33	P	P	11 07 42.8	0.0
MK31	Makanchi Array	61.95	317	P	P	11 07 49.8	+0.1
MKAR	Makanchi Array	61.95	317	P	P	11 07 49.1	-0.6
	comp=Z,0.7nm,0.5s,baz=92,slow=9.7,SNR=5.9						
MKAR	Makanchi Array	61.95	317	P	P	11 07 50.3	+0.6
ZAA0	Zalesovo Array	62.34	325	P	P	11 07 51.2	-0.9
ZALV	Zalesovo Beam	62.34	325	P	P	11 07 51.1	-1.0
	comp=Z,1.1nm,0.6s,baz=96,slow=7.6,SNR=4.5						
ZALV	Zalesovo Beam	62.34	325	P	P	11 07 52.3	+0.2
ANM	Nome	62.99	22	P	P	11 07 56.4	+0.1
ANM				IAmb	IAmb	11 07 56.9	
	comp=Z,4.2nm,1.0s						
KURK	Kurchatov	65.16	320	P	P	11 08 11.1	+0.4
KURK				IAmb	IAmb	11 08 11.8	
	comp=Z,5.2nm,0.8s						
KURBB	Kurchatov Arra	65.20	320	P	P	11 08 10.8	-0.3
	comp=Z,4.0nm,0.8s,baz=104,slow=6.6,SNR=23						
SVW2	Sparrevohn	65.50	28	P	P	11 08 13.4	+0.6
SVW2				IAmb	IAmb	11 08 13.9	
	comp=Z,3.1nm,0.8s						
N19K	Bonanza Creek	65.90	28	P	P	11 08 16.3	+0.8
K20K	Telida	66.95	26	P	P	11 08 23.1	+1.1
K20K				IAmb	IAmb	11 08 23.8	
	comp=Z,4.2nm,0.8s						
NRIK	Noril'sk	67.29	341	P	P	11 08 23.2	-0.9
	comp=Z,3.2nm,0.7s,baz=127,slow=8.5,SNR=4.4						
CAST	Castle Rocks	67.81	26	P	P	11 08 27.9	+0.3
CAST				IAmb	IAmb	11 08 28.7	
	comp=Z,5.2nm,0.8s						
KKAR	Karatay Array	69.75	312	P	P	11 08 41.0	+1.0
IL31		70.38	25	P	P	11 08 42.5	-0.9
IL31				IAmb	IAmb	11 08 43.1	
	comp=Z,3.9nm,0.8s						
ILAR	Eielson Array	70.38	25	P	P	11 08 42.4	-1.1
	comp=Z,2.6nm,0.7s,baz=254,slow=5.0,SNR=29						
ILAR	Eielson Array	70.38	25	P	P	11 08 42.7	-0.7
TOLK	Toolik Lake Re	70.41	21	P	P	11 08 44.9	+1.3
TOLK				IAmb	IAmb	11 08 45.5	
	comp=Z,7.8nm,1.1s						
BRVK	Borovoye	70.62	322	P	P	11 08 45.3	+0.2
BRVK				IAmb	IAmb	11 08 47.1	
	comp=Z,2.8nm,0.7s						
BMAR	Burnt Mountain	71.91	23	P	P	11 08 54.3	+1.6
BCAR	Beaver Creek A	72.26	27		P	11 08 56.0	+1.1
EGAK	Eagle	72.79	26	P	P	11 08 59.4	+1.4
DAWY	Dawson	73.46	27	P	P	11 09 03.1	+1.1
DAWY				IAmb	IAmb	11 09 04.3	
	comp=Z,13nm,1.5s						
INK	Inuvik	76.17	22	P	P	11 09 17.9	+0.4
ABKAR	Akbulak array	77.05	318	P	P	11 09 22.7	-0.2
ABKAR	Akbulak array	77.05	318	P	P	11 09 22.6	-0.3
ARU	Arti	77.50	325	P	P	11 09 24.9	-0.3
	comp=Z,0.9nm,0.4s,baz=86,slow=6.7,SNR=5.4						
H04A	Detroit Lake	84.42	46	P	P	11 10 03.7	+1.3
H04A				IAmb	IAmb	11 10 13.3	
	comp=Z,2.5nm,1.0s						
EUNU	Eureka	84.53	8	P	P	11 10 03.4	+1.0
EUNU				IAmb	IAmb	11 10 04.0	
	comp=Z,4.8nm,0.8s						
YKA	Yellowknife Ar	84.68	27	P	P	11 10 02.9	-0.4
	comp=Z,2.3nm,0.5s,baz=286,slow=5.0,SNR=36						
ARCES	ARCESS Array B	88.26	342	P	P	11 10 20.5	-0.2
	comp=Z,2.1nm,0.7s,baz=64,slow=9.2,SNR=8.5						
ARCES	ARCESS Array B	88.26	342	P	P	11 10 20.6	-0.2
NVAR	Mina Array Bea	88.64	51	P	P	11 10 25.3	+1.8
	comp=Z,2.8nm,0.7s,baz=266,slow=5.7,SNR=31						
NV11	Mina Array Sit	88.76	51	P	P	11 10 25.0	+1.1
NV11				IAmb	IAmb	11 10 26.4	
	comp=Z,4.5nm,1.0s						
FINES	FINESS Array B	92.16	335	P	P	11 10 37.7	-1.4
	comp=Z,2.5nm,0.7s,baz=68,slow=4.2,SNR=15						
FINES	FINESS Array B	92.16	335	P	P	11 10 38.0	-1.1
PDAR	Pinedale Array	93.74	45	P	P	11 10 47.8	+0.6
	comp=Z,0.3nm,0.6s,baz=237,slow=5.1,SNR=4.6						
TORD	Torodi Ar. Bea	134.92	302	PKP	PKPdf	11 16 48.9	-0.9
	comp=Z,0.3nm,0.8s,baz=329,slow=1.7,SNR=1.8						
TORD	Torodi Ar. Bea	134.92	302		PKPdf	11 16 49.6	-0.2
LPAZ	La Paz	148.69	102	PKPbc	PKPbc	11 17 19.3	+0.6
	comp=Z,1.9nm,0.7s,baz=343,slow=3.7,SNR=8.7						
LPAZ	La Paz	148.69	102	PKPdf	PKPdf	11 17 10.1	-4.9

*IDC **03** 10:58:24.0±0.7, 23.°82N×94.°55E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.7/56, mbtmp3.9/11, Error ellipse: s-maj=16.5km s-min=12.6km az=51.0*

*NEIC **03** 10:58:32.6±1.3, 23.°8N±0.°2×94.°3E±0.°3, h63km±6km, mb4.1/12, Error ellipse: s-maj=42.1km s-min=10.0km az=52.0*

*NDI **03** 10:58:33.6±3.0, 23.°87N×94.°16E, h40km, ML4.1, mb4.1(NEIC)*

ISC 03 10:58:31.2±0.7**, 23.°85N**±0.°05×**94.°18E**±0.°05**, h50**km**, n60, σ1s.98**/72**, mb3.9**/15**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOHI	KOHIMA	1.86	358	eP	Pn	10 59 03.2	+2.3
KOHI				eS	Sn	10 59 25.3	+2.0
KOHI				IAML		10 59 31.7	
	comp=E,4μm,0.6s						
KOHI				IAML		10 59 31.9	
	comp=N,4μm,0.6s						
MOKO	MOKOCHONG	2.48	7	eP	Pn	10 59 11.0	+1.7
MOKO				eS	Sn	10 59 41.8	+3.4
BRDH	Bariadhala	2.61	244	Pg	Pn	10 59 16.1	+5.2
	baz=359,slow=24,SNR=1.1						
BRDH				Sn	Sn	10 59 47.6	+6.3
	comp=N,0.3nm,0.3s,baz=180,slow=24,SNR=9.9						
BRDH				Lg	Lg	10 59 57.2	
	comp=N,0.5nm,0.3s,baz=180,slow=24,SNR=6.0						
AGT	Agartala	2.68	271	eS	Sn	10 59 46.2	+3.0
AGT				IAML		10 59 50.6	
	comp=E,2μm,0.5s						
SHL	Shillong	2.70	310	Pn	Pn	10 59 15.0	+2.7
JORH	JORHAT	2.88	1	IAML		10 59 58.9	
	comp=N,2μm,0.3s						
JORH				IAML		10 59 59.6	
	comp=E,1μm,0.4s						
GUWA	GUWAHATI	3.24	316	eP	Pn	10 59 20.8	+1.2
GUWA				eS	Sn	10 59 55.5	-1.5
GUWA				IAML		10 59 58.5	
	comp=E,299nm,0.2s						
GUWA				IAML		10 59 58.9	
	comp=N,8μm,0.3s						
ITAN	ITANAGAR	3.31	353	eS	Sn	10 59 58.2	-0.3
LKP	Lekhapani	3.78	23	eP	Pn	10 59 27.5	+0.5
LKP				eS	Sn	11 00 09.3	-0.9
LKP				IAML		11 00 11.5	
	comp=N,327nm,0.2s						
LKP				IAML		11 00 12.3	
	comp=E,275nm,0.2s						
TURI	Tura	3.88	297	eP	Pn	10 59 31.5	+3.1
TURI				eS	Sn	11 00 13.4	+0.6
TURI				IAML		11 00 17.6	
	comp=E,464nm,0.2s						
DHUB	DHUBRI	4.37	301	eP	Pn	10 59 36.6	+1.5
DHUB				eS	Sn	11 00 23.3	-1.3
DHUB				IAML		11 00 26.8	
	comp=N,1μm,0.2s						
DHUB				IAML		11 00 27.1	
	comp=E,1μm,0.2s						
GTK	Tadong	6.10	306	eP	Pn	11 00 00.1	+1.1
GTK				eS	Sn	11 01 01.4	-6.2
GTK				IAML		11 01 16.2	
	comp=E,65nm,0.4s						
LSA	Lhasa	6.42	336	Pn	Pn	11 00 07.4	+3.7
CHTO	Chiang Mai	6.70	138	Pn	Pn	11 00 07.9	+0.8
TAPN	Taplejung	6.80	302	ePn	Pn	11 00 11.7	+3.0
TAPN				eSn	Sn	11 01 25.6	+0.7
	comp=E,54nm,0.3s						
ODAN	Odare	6.83	297	ePn	Pn	11 00 11.0	+1.9
ODAN				eSn	Sn	11 01 24.4	-1.2
	comp=E,156nm,0.4s						
CM31	Chiang Mai Arr	6.97	139	Pn	Pn	11 00 09.8	-1.0
CMAR	Chiang Mai Arr	6.97	139	Pn	Pn	11 00 04.5	-6.3
	baz=247,slow=38,SNR=1.3						
CMAR				Pg		11 00 24.9	
	comp=E,1.9nm,0.3s,baz=35,slow=24,SNR=3.3						
CMAR				Lg	Lg	11 01 59.0	
	baz=337,slow=11,SNR=1.4						
CMAR	Chiang Mai Arr	6.97	139	Pn	Pn	11 00 12.0	+1.2
JIRN	Jiri	8.14	299	ePn	Pn	11 00 29.7	+2.6
JIRN				eSn	Sn	11 01 56.5	-1.4
	comp=E,108nm,0.3s						
GUN	Gumba	8.49	300	ePn	Pn	11 00 33.9	+1.9
GUN				eSn	Sn	11 02 05.3	-1.4
	comp=E,73nm,0.4s						
PKI	Pulchoki	8.73	297	ePn	Pn	11 00 37.2	+2.0
PKI				eSn	Sn	11 02 09.7	-2.7
	comp=E,18nm,0.3s						
PKIN	Phulchoki	8.74	297	ePn	Pn	11 00 37.1	+1.8
PKIN				eSn	Sn	11 02 09.8	-2.9
	comp=E,25nm,0.3s						
KKN	Kakani	8.92	298	eSn	Sn	11 02 14.7	-2.3
	comp=E,22nm,0.2s						
DMN	Daman	8.99	296	ePn	Pn	11 00 40.0	+1.3
DMN				eSn	Sn	11 02 15.5	-3.3
	comp=E,16nm,0.3s						
GKN	Gorkha	9.53	298	ePn	Pn	11 00 47.6	+1.6
GKN				eSn	Sn	11 02 28.9	-2.9
	comp=E,51nm,0.3s						
KOLN	Koldanda	10.30	295	ePn	Pn	11 00 57.3	+0.8
KOLN				eSn	Sn	11 02 46.0	-4.6
	comp=E,26nm,0.4s						
DANN	Dangsing	10.38	298	ePn	Pn	11 00 58.3	+0.6
DANN				eSn	Sn	11 02 48.4	-4.3
	comp=E,20nm,0.3s						
PYUN	Piuthan	10.92	295	ePn	Pn	11 01 05.6	+0.6
PYUN				eSn	Sn	11 03 00.8	-5.0
	comp=E,16nm,0.5s						
BSI	Banda Aceh	18.28	176	P	P	11 02 40.0	-1.0
TSI	Tuntungan	20.67	168	P	P	11 03 07.1	+0.1
MK31	Makanchi Array	24.80	340	P	P	11 03 49.8	+1.3
MK31				IAmb	IAmb	11 04 06.9	
	comp=Z,4.9nm,1.4s						
MKAR	Makanchi Array	24.80	340	P	P	11 03 49.4	+0.8
	comp=Z,1.4nm,0.6s,baz=145,slow=10.0,SNR=17						
MKAR	Makanchi Array	24.80	340	P	P	11 03 49.0	+0.5
AAK	Ala-Archa	24.83	324	P	P	11 03 50.7	+1.7
	comp=Z,2.7nm,0.3s,baz=168,slow=6.1,SNR=13						
AAK	Ala-Archa	24.83	324	P	P	11 03 50.5	+1.4
AAK				IAmb	IAmb	11 04 10.2	
	comp=Z,2.8nm,0.5s						
MAKZ	Makanchi	24.91	340	P	P	11 03 50.8	+1.3
MAKZ				IAmb	IAmb	11 04 12.3	
	comp=Z,1.7nm,0.6s						
SONM	Songino Array	25.84	19	P	P	11 03 56.9	-1.1
	comp=Z,0.6nm,0.7s,baz=194,slow=8.8,SNR=6.5						
KURBB	Kurchatov Arra	29.36	339	P	P	11 04 29.5	+0.2
	comp=Z,0.5nm,0.6s,baz=149,slow=9.3,SNR=5.5						
KURK	Kurchatov	29.41	340	P	P	11 04 30.3	+0.5
ZAA0	Zalesovo Array	30.87	349	P	P	11 04 43.4	+0.7
ZALV	Zalesovo Beam	30.87	349	P	P	11 04 43.3	+0.7
	comp=Z,0.2nm,0.3s,baz=183,slow=16,SNR=3.5						
ZALV	Zalesovo Beam	30.87	349	P	P	11 04 42.9	+0.3
FITZ	Fitzroy Crossi	51.78	141	P	P	11 07 33.0	-1.1
	comp=Z,0.9nm,0.7s,baz=343,slow=14,SNR=2.0						
FITZ	Fitzroy Crossi	51.78	141	P	P	11 07 33.4	-0.8
KNRA	Kununurra	51.82	136	P	P	11 07 31.9	-2.5
WB0	Warramunga Arr	58.45	134	P	P	11 08 19.6	-2.7
WRA	Warramunga Arr	58.54	135	P	P	11 08 20.6	-2.3
	comp=Z,2.0nm,0.6s,baz=324,slow=7.3,SNR=23						
WRA	Warramunga Arr	58.54	135	P	P	11 08 20.6	-2.3
WRAB	Tennant Creek	58.54	135	P	P	11 08 21.1	-1.8
WB2	Warramunga Arr	58.55	135	P	P	11 08 21.1	-1.8
WB2				IAmb	IAmb	11 08 21.2	
	comp=Z,3.1nm,0.8s						
WR0	Warramunga Arr	58.68	135	P	P	11 08 21.2	-2.7
WR0				IAmb	IAmb	11 08 22.5	
	comp=Z,3.3nm,1.0s						
FINES	FINESS Array B	58.89	329	P	P	11 08 26.2	+1.5
	comp=Z,1.8nm,1.0s,baz=52,slow=9.0,SNR=2.2						
FINES	FINESS Array B	58.89	329	P	P	11 08 25.8	+1.0
ARCES	ARCESS Array B	60.43	338	P	P	11 08 35.3	0.0
	comp=Z,2.8nm,1.0s,baz=95,slow=10.0,SNR=2.0						
AS31	Alice Springs	60.98	138	P	P	11 08 37.6	-2.0
AS31				IAmb	IAmb	11 08 38.1	
	comp=Z,0.6nm,0.6s						
ASAR	Alice Springs	60.98	138	P	P	11 08 37.5	-2.2
	comp=Z,1.5nm,0.6s,baz=320,slow=6.9,SNR=33						
ASAR	Alice Springs	60.98	138	P	P	11 08 37.9	-1.8
TXAR	Lajitas Array	124.41	19	PKP	PKPdf	11 17 23.6	-1.8
	comp=Z,0.2nm,0.6s,baz=66,slow=1.6,SNR=2.2						
TXAR	Lajitas Array	124.41	19		PKPdf	11 17 23.9	-1.5

*RSPR **03** 11:10:35.5, 18.°00N×68.°24W, h86km±3km, MD3.2/7*

*NEIC **03** 11:10:35.7±0.9, 18.°0N±0.°1×68.°22W±0.°06, h85km±8km, Error ellipse: s-maj=21.4km s-min=7.7km az=187.0*

ISC 03 11:10:35.1±1.4**, 18.°1N**±0.°1×**68.°21W**±0.°05**, h94**km**, n32, σ0s.67**/35**, 6C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.45	339	Pn	Pn	11 10 47.8	-2.1
PCDR				IAML		11 11 01.7	
	comp=E,110nm,1.6s						
PCDR				IAML		11 11 02.2	
	comp=N,212nm,1.5s						
IDE	Isla Desecheo	0.76	67⇑	eP	Pn	11 10 52.1	-0.5
IDE	Isla Desecheo	0.76	67	eS	Sn	11 11 05.0	-0.7
PRSN	Puerto Rico Se	1.02	83	Pn	Pn	11 10 55.8	+0.5
PRSN				IAML		11 11 18.4	
	comp=E,69nm,0.3s						
CRPR	Cabo Rojo, PR	1.05	94⇑	eP	Pn	11 10 55.6	0.0
CRPR	Cabo Rojo, PR	1.05	94	eS	Sn	11 11 10.6	-0.5
CRPR	Cabo Rojo, PR	1.05	94		Pn	11 10 55.6	0.0
CRPR					Sn	11 11 10.6	-0.5
AGPR	Aguadilla, PR	1.11	70	Pn	Pn	11 10 56.6	+0.3
AGPR				IAML		11 11 21.3	
	comp=E,76nm,1.9s						
AGPR				IAML		11 11 21.9	
	comp=N,110nm,2.1s						
MLPR	Magueyes Islan	1.12	96⇓	eP	Pn	11 10 56.3	-0.1
MLPR	Magueyes Islan	1.12	96	eS	Sn	11 11 12.2	-0.3
MLPR	Magueyes Islan	1.12	96		Pn	11 10 56.3	-0.1
MLPR					Sn	11 11 12.2	-0.3
AOPR	Arecibo Observ	1.41	79⇑	eP	Pn	11 11 00.0	+0.1
AOPR	Arecibo Observ	1.41	79	eS	Sn	11 11 19.2	+0.5
AOPR	Arecibo Observ	1.41	79	IAML		11 11 25.1	
	comp=E,116nm,0.3s						
AOPR				IAML		11 11 25.8	
	comp=N,74nm,0.3s						
AOPR	Arecibo Observ	1.41	79		Pn	11 11 00.0	+0.1
AOPR					Sn	11 11 19.2	+0.5
OBIP	Obispado Ponce	1.53	91⇑	eP	Pn	11 11 00.8	-0.6
OBIP	Obispado Ponce	1.53	91	eS	Sn	11 11 21.2	-0.2
OBIP	Obispado Ponce	1.53	91		Pn	11 11 00.8	-0.6
OBIP					Sn	11 11 21.2	-0.2
OBIP	Obispado Ponce	1.53	91	IAML		11 11 28.6	
	comp=N,23nm,2.2s						
CELP	Cerrillos	1.56	90⇑	eP	Pn	11 11 01.7	0.0
CELP	Cerrillos	1.56	90	eS	Sn	11 11 22.1	+0.1
CELP	Cerrillos	1.56	90		Pn	11 11 01.7	0.0
CELP					Sn	11 11 22.1	+0.1
EMPR	Esperanza - Ma	1.65	76⇑	eP	Pn	11 11 03.4	+0.5
EMPR	Esperanza - Ma	1.65	76	eS	Sn	11 11 24.6	+0.7
EMPR	Esperanza - Ma	1.65	76		Pn	11 11 03.4	+0.5
EMPR	Esperanza - Ma	1.65	76		Sn	11 11 24.6	+0.7
SDD	Santo Domingo	1.66	283	Pn	Pn	11 11 04.0	+1.0
SJG	San Juan	1.96	89	Pn	Pn	11 11 06.7	-0.2
SJG				IAML		11 11 34.8	
	comp=N,28nm,0.2s						
SJG				IAML		11 12 02.0	
	comp=N,18nm,3.0s						
BANI	BANI	2.06	279	Pn	Pn	11 11 07.0	-1.3
PDPR	Patillas Dam,	2.09	92	Pn	Pn	11 11 08.9	+0.4
CBYP	Canovanas	2.25	85	Pn	Pn	11 11 10.4	-0.4
CBYP				IAML		11 11 43.3	
	comp=E,54nm,0.2s						
SDDR	Presa de Saban	3.05	287	Pn	Pn	11 11 23.0	+1.6
SDDR				IAML		11 12 53.9	
	comp=E,18nm,2.5s						
SDDR				IAML		11 13 04.8	
	comp=E,16nm,3.4s						

*IDC **03** 11:52:06.7±0.8, 14.°26S×166.°85E, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.1/43, mbtmp4.3/14, ML3.3/2, Error ellipse: s-maj=21.2km s-min=19.6km az=155.0*

*NEIC **03** 11:52:13.3±1.5, 14.°24S±0.°05×166.°9E±0.°1, h41km±7km, mb4.4/21, Error ellipse: s-maj=19.4km s-min=5.9km az=100.0*

*NOU **03** 11:52:15.9, 14.°66S×166.°97E, h0km, MLv5.0/15, Vanuatu Islands*

ISC 03 11:52:12.2±0.6**, 14.°24S**±0.°07×**166.°82E**±0.°09**, h35**km**, n59, σ1s.09**/61**, mb4.3**/19**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.25	163	Pn	Pn	11 52 32.1	-1.2
SANVU	Saraoutou	1.25	163	P	Pn	11 52 31.7	-1.6
DVP	Devils Point	3.70	159	P	Pn	11 53 09.1	+2.1
RTV	Rentapao	3.85	157	P	Pn	11 53 10.5	+1.5
MARNC	Mare, Loyalty	7.29	171	Pn	Pn	11 53 56.9	+0.6
MARNC	Mare, Loyalty	7.29	171	P	Pn	11 53 56.7	+0.4
YATNC	Mamie plateau,	7.78	180	P	Pn	11 54 04.7	+1.7
DZM	Mont Dzumac	7.80	183	Pn	Pn	11 54 03.1	-0.2
	1.8nm,0.3s,baz=320,slow=12,SNR=28						
DZM				Sn	Sn	11 55 29.9	-0.6
	1.6nm,0.3s,baz=115,slow=4.3,SNR=1.4						
DZM	Mont Dzumac	7.80	183		Pn	11 54 04.4	+1.1
DZM	Mont Dzumac	7.80	183	P	Pn	11 54 04.5	+1.2
NOUC	Port Laguerre	7.83	184	P	Pn	11 54 05.3	+1.6
ONTNC	Ouen Toro	8.03	182	Pn	Pn	11 54 08.1	+1.7
ONTNC	Ouen Toro	8.03	182	P	Pn	11 54 07.9	+1.5
OUENC	Ouen Island, N	8.13	180	Pn	Pn	11 54 10.2	+2.3
OUENC	Ouen Island, N	8.13	180	P	Pn	11 54 09.8	+2.0
PINNC	Pines Island,	8.35	176	Pn	Pn	11 54 12.0	+1.3
PMG	Port Moresby	19.83	282	P	P	11 56 39.9	-0.3
	1.0nm,0.3s,baz=135,slow=5.7,SNR=3.6						
PMG	Port Moresby	19.83	282	P	P	11 56 39.5	-0.7
PMG				IAmb	IAmb	11 56 43.7	

comp=Z,20nm,1.0s
CTA Charters Tower 20.49 251 P P 11 56 47.4 +0.1
comp=Z,14nm,0.9s,baz=57,slow=12,SNR=7.6
AFI Afiamalu 20.76 92 P P 11 56 49.7 -0.6
comp=Z,13nm,0.8s,baz=250,slow=18,SNR=2.3
URZ Urewera 25.60 161 P P 11 57 36.6 -1.6
comp=Z,6.2nm,0.8s,baz=304,slow=3.6,SNR=1.6
BKZ Black Stump Fm 26.25 163 P P 11 57 44.4 +0.2
BKZ IAmb IAmb 11 57 57.0
comp=Z,23nm,1.3s
JAY Jayapura 28.30 292 P P 11 58 01.8 -1.1
comp=Z,20nm,1.0s,baz=159,slow=6.9,SNR=2.8
STKA Stephens Creek 28.98 228 P P 11 58 09.1 +0.4
comp=Z,5.6nm,0.6s,baz=31,slow=7.2,SNR=14
STKA Stephens Creek 28.98 228 P P 11 58 08.6 -0.1
WR0 Warramunga Arr 31.34 255 P P 11 58 28.9 -0.7
WR0 IAmb IAmb 11 58 40.0
comp=Z,5.2nm,1.1s
WB0 Warramunga Arr 31.46 255 P P 11 58 30.0 -0.8
WB0 IAmb IAmb 11 58 30.6
comp=Z,5.5nm,0.8s
WB2 Warramunga Arr 31.52 255 P P 11 58 30.5 -0.8
WB2 IAmb IAmb 11 58 31.2
comp=Z,3.6nm,0.8s
WRAB Tennant Creek 31.52 255 P P 11 58 30.4 -0.8
WRAB IAmb IAmb 11 58 30.5
comp=Z,5.8nm,1.1s
WRA Warramunga Arr 31.53 255 P P 11 58 30.1 -1.2
comp=Z,2.4nm,0.8s,baz=85,slow=9.6,SNR=15
WRA Warramunga Arr 31.53 255 P P 11 58 29.5 -1.8
AS31 Alice Springs 32.45 248 P P 11 58 38.2 -1.2
ASAR Alice Springs 32.45 248 P P 11 58 38.2 -1.2
comp=Z,2.5nm,0.8s,baz=73,slow=9.5,SNR=41
ASAR PcP PcP 12 01 26.1 -0.1
comp=Z,0.1nm,0.4s,baz=101,slow=2.6,SNR=4.3
ASAR Alice Springs 32.45 248 P P 11 58 37.8 -1.7
BBOO Buckleboo 33.54 231 P P 11 58 48.5 -0.3
KNRA Kununurra 36.77 263 P P 11 59 17.8 +1.0
KNRA IAmb IAmb 11 59 28.3
comp=Z,9.6nm,1.1s
FORT Forrest 39.18 239 P P 11 59 37.3 +0.3
FITZ Fitzroy Crossi 39.68 259 P P 11 59 40.7 -0.6
comp=Z,3.3nm,0.8s,baz=93,slow=5.8,SNR=8.5
FITZ Fitzroy Crossi 39.68 259 P P 11 59 41.0 -0.3
FITZ IAmb IAmb 11 59 41.8
comp=Z,3.9nm,0.8s
MORW Morawa 49.09 244 P P 12 00 56.9 +0.4
GIRL Giralia 50.37 252 P P 12 01 04.1 -2.2
VNDA Vanda 63.34 181 P P 12 02 38.0 +0.6
USA0B Ussuriysk Arra 66.26 333 P P 12 02 57.7 +1.0
USA0B IAmb IAmb 12 02 59.7
comp=Z,5.5nm,0.8s
USRK Ussuriysk Ar. 66.26 333 P P 12 02 57.1 +0.3
CMAR Chiang Mai Arr 74.36 294 P P 12 03 48.2 +1.3
comp=Z,0.5nm,0.3s,baz=122,slow=6.1,SNR=7.4
CMAR Chiang Mai Arr 74.36 294 P P 12 03 47.4 +0.5
QSPA South Pole Qui 75.78 180 P P 12 03 54.4 0.0
QSPA IAmb IAmb 12 03 55.9
comp=Z,4.3nm,0.9s
SONM Songino Array 81.85 324 P P 12 04 27.8 -0.1
comp=Z,0.3nm,0.4s,baz=132,slow=4.3,SNR=4.7
SONM Songino Array 81.85 324 P P 12 04 28.3 +0.3
IL31 86.20 18 P P 12 04 49.5 0.0
ILAR Eielson Array 86.20 18 P P 12 04 49.5 -0.1
comp=Z,0.8nm,0.7s,baz=231,slow=5.9,SNR=4.4
ILAR Eielson Array 86.20 18 P P 12 04 50.0 +0.4
SNAA Sanae 94.01 183 P P 12 05 26.1 -0.3
SNAA IAmb IAmb 12 05 26.6
comp=Z,1.1nm,0.6s
MKAR Makanchi Array 96.55 316 P P 12 05 39.5 +1.1
comp=Z,0.5nm,0.8s,baz=103,slow=5.2,SNR=4.3
ARCES ARCESS Array B 119.67 345 PKP PKPdf 12 10 57.4 -0.5
comp=Z,1.4nm,0.7s,baz=93,slow=2.4,SNR=4.4
ARCES ARCESS Array B 119.67 345 PKPdf 12 10 57.7 -0.3
FINES FINESS Array B 125.11 338 PKP PKPdf 12 11 07.3 -1.3
comp=Z,2.5nm,1.1s,baz=331,slow=14,SNR=1.3
FINES FINESS Array B 125.11 338 PKPdf 12 11 07.7 -0.8
TORD Torodi Ar. Bea 165.51 267 PKPab PKPab 12 13 13.7 +1.1
comp=Z,0.9nm,0.9s,baz=72,slow=4.7,SNR=4.1

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*IDC **03** 11:55:40.7±1.0, 20.°25N×93.°71E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.6/67, mbtmp3.7/10, Error ellipse: s-maj=48.9km s-min=19.1km az=58.0*

ISC 03 11:55:45.4±1.7**, 20.°3N**±0.°3×**94.°1E**±0.°3**, h35km, n11, σ1.s92**/5**, mb3.8**/10**, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	4.92	111	Pn	Pn	11 56 55.7	-1.3
	0.3nm,0.3s,baz=286,slow=39,SNR=1.6						
CMAR				Lg	Lg	11 58 14.1	
	0.3nm,0.3s,baz=283,slow=30,SNR=5.1						
MKAR	Makanchi Array	28.13	343	P	P	12 01 34.8	+0.7
	0.2nm,0.4s,baz=152,slow=7.9,SNR=4.3						
SONM	Songino Array	29.21	17	P	P	12 01 45.3	+1.4
	0.3nm,0.4s,baz=199,slow=7.6,SNR=2.9						
KURBB	Kurchatov Arra	32.66	342	P	P	12 02 13.2	-0.8
	1.3nm,0.2s,baz=151,slow=7.5,SNR=5.1						
ZALV	Zalesovo Beam	34.33	350	P	P	12 02 29.6	+1.1
	0.4nm,0.3s,baz=190,slow=9.7,SNR=4.0						
WRA	Warramunga Arr	56.14	133	P	P	12 05 23.3	+1.5
	0.7nm,0.8s,baz=318,slow=7.6,SNR=4.7						
ASAR	Alice Springs	58.43	136	P	P	12 05 40.6	+2.6
	0.4nm,0.5s,baz=314,slow=6.9,SNR=8.4						
AKASG	Malin Array Be	58.69	318	P	P	12 05 38.5	-0.9
	0.2nm,0.3s,baz=91,slow=5.4,SNR=1.6						
FINES	FINESS Array B	61.88	330	P	P	12 06 00.4	-0.6
	0.8nm,0.8s,baz=112,slow=5.1,SNR=4.4						
NOA	NORSAR Array B	69.03	329	P	P	12 06 46.5	-0.8
	0.5nm,0.8s,baz=86,slow=6.2,SNR=3.0						
TORD	Torodi Ar. Bea	87.73	283	P	P	12 08 30.8	-0.5
	0.3nm,0.6s,baz=40,slow=2.5,SNR=1.7						

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*IDC **03** 11:56:33.5±1.1, 14.°19S×166.°64E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/39, mbtmp3.7/9, ML3.9/1, Error ellipse: s-maj=42.3km s-min=22.5km az=133.0*
*NEIC **03** 11:56:39.0±1.4, 14.°30S±0.°03×166.°9E±0.°2, h35km±10km, mb4.3/9, Error ellipse: s-maj=25.5km s-min=4.9km az=88.0*

ISC 03 11:56:38.6±0.7**, 14.°31S**±0.°09×**166.°8E**±0.°1**, h35km, n28, σ0.s97**/29**, mb3.9**/13**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.20	161		Pn	11 56 57.8	-1.1
SANVU				Sn	Sn	11 57 13.0	-0.9
DZM	Mont Dzumac	7.73	182	Pn	Pn	11 58 28.9	+0.2
	1.6nm,0.3s,baz=309,slow=22,SNR=8.7						
DZM	Mont Dzumac	7.73	182		Pn	11 58 29.3	+0.6
ONTNC	Ouen Toro	7.96	182	Pn	Pn	11 58 32.5	+0.7
STKA	Stephens Creek	28.93	229	P	P	12 02 35.0	+0.5
	2.3nm,0.6s,baz=49,slow=7.8,SNR=7.3						
STKA	Stephens Creek	28.93	229	P	P	12 02 35.2	+0.6
WB0	Warramunga Arr	31.43	255	P	P	12 02 56.1	-0.7
WB0				IAmb	IAmb	12 03 24.3	
	comp=Z,3.2nm,1.1s						
WRA	Warramunga Arr	31.49	255	P	P	12 02 56.4	-1.0
	comp=Z,0.6nm,0.8s,baz=84,slow=8.7,SNR=4.2						
AS31	Alice Springs	32.40	248	P	P	12 03 04.4	-1.0
ASAR	Alice Springs	32.40	248	P	P	12 03 04.4	-1.0
	comp=Z,0.6nm,0.5s,baz=75,slow=9.3,SNR=14						
ASAR	Alice Springs	32.40	248	P	P	12 03 04.8	-0.6
BBOO	Buckleboo	33.48	231	P	P	12 03 15.3	+0.6
BBOO				IAmb	IAmb	12 03 19.7	
	comp=Z,5.7nm,1.0s						
KNRA	Kununurra	36.74	263	P	P	12 03 42.9	0.0
KNRA				IAmb	IAmb	12 04 08.6	
	comp=Z,9.3nm,1.1s						
FORT	Forrest	39.13	239	P	P	12 04 02.9	0.0
FITZ	Fitzroy Crossi	39.65	259	P	P	12 04 04.8	-2.6
	comp=Z,1.0nm,0.7s,baz=49,slow=11,SNR=2.7						
FITZ	Fitzroy Crossi	39.65	259	P	P	12 04 07.5	+0.1
MORW	Morawa	49.04	244	P	P	12 05 22.1	-0.3
VNDA	Vanda	63.27	181	P	P	12 07 04.9	+1.7
VNDA				IAmb	IAmb	12 07 28.4	
	comp=Z,1.9nm,1.2s						
QSPA	South Pole Qui	75.72	180	P	P	12 08 21.0	+0.6
QSPA				IAmb	IAmb	12 08 38.3	
	comp=Z,4.5nm,1.4s						
SONM	Songino Array	81.89	324	P	P	12 08 55.0	+0.5
	comp=Z,0.1nm,0.3s,baz=129,slow=5.2,SNR=1.8						
ILAR	Eielson Array	86.27	18	P	P	12 09 16.0	-0.3
	comp=Z,0.3nm,0.5s,baz=238,slow=5.0,SNR=4.5						

NVAR Mina Array Bea 87.34 49 P P 12 09 22.7 +0.3
comp=Z,0.1nm,0.3s,baz=318,slow=2.4,SNR=1.5
MKAR Makanchi Array 96.59 316 P P 12 10 05.3 +0.4
comp=Z,0.2nm,0.5s,baz=91,slow=2.8,SNR=2.3
ARCES ARCESS Array B 119.73 345 PKP PKPdf 12 15 24.1 -0.3
comp=Z,3.3nm,0.9s,baz=49,slow=2.7,SNR=5.1
ARCES ARCESS Array B 119.73 345 PKPdf 12 15 22.5 -1.9
FINES FINESS Array B 125.17 338 PKP PKiKP 12 15 35.8 +0.5
comp=Z,0.3nm,0.5s,baz=112,slow=11,SNR=1.5
FINES FINESS Array B 125.17 338 PKPdf 12 15 35.4 +0.4
TORD Torodi Ar. Bea 165.49 267 PKPab PKPab 12 17 37.5 -1.4
comp=Z,0.3nm,0.8s,baz=130,slow=4.0,SNR=2.1

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*IDC **03** 11:57:30.0±0.7, 14.°17S×166.°76E, h0km, mb4.1/16, mb1 4.3/17, mb1mx4.1/40, mbtmp4.2/17, ML4.5/1, Error ellipse: s-maj=19.8km s-min=18.2km az=92.0*
*NEIC **03** 11:57:36.4±1.8, 14.°10S±0.°10×166.°7E±0.°1, h35km±1km, mb4.5/19, Error ellipse: s-maj=23.7km s-min=15.9km az=77.0*
*NOU **03** 11:57:53.4, 15.°82S×166.°66E, h0km, MLv5.2/12, Vanuatu Islands*

ISC 03 11:57:35.7±0.6**, 14.°24S**±0.°08×**166.°69E**±0.°09**, h35km, n59, σ1.s69**/61**, mb4.3**/22**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	3.75	158	P	Pn	11 58 32.8	+1.7
RTV	Rentapao	3.91	155	P	Pn	11 58 37.6	+4.4
LIFNC	LIFOU	6.52	175	Pn	Pn	11 59 13.3	+4.2
LIFNC	LIFOU	6.52	175	P	Pn	11 59 10.3	+1.2
KOUNC	Koumac, New Ca	6.68	200	Pn	Pn	11 59 14.4	+3.1
MARNC	Mare, Loyalty	7.31	170	Pn	Pn	11 59 22.6	+2.6
MARNC	Mare, Loyalty	7.31	170	P	Pn	11 59 19.3	-0.7
YATNC	Mamie plateau,	7.78	179	P	Pn	11 59 27.4	+1.0
DZM	Mont Dzumac	7.79	182	Pn	Pn	11 59 25.9	-0.7
	6.4nm,0.3s,baz=73,slow=20,SNR=10						
DZM				Sn	Sn	12 00 49.7	-4.1
	3.0nm,0.3s,baz=151,slow=21,SNR=1.1						
DZM	Mont Dzumac	7.79	182		Pn	11 59 29.2	+2.5
DZM	Mont Dzumac	7.79	182	P	Pn	11 59 26.0	-0.7
NOUC	Port Laguerre	7.82	183	P	Pn	11 59 26.2	-0.9
ONTNC	Ouen Toro	8.02	182		Pn	11 59 32.6	+2.8
ONTNC	Ouen Toro	8.02	182	P	Pn	11 59 29.5	-0.3
OUENC	Ouen Island, N	8.13	179		Pn	11 59 33.8	+2.5
OUENC	Ouen Island, N	8.13	179	P	Pn	11 59 31.6	+0.3
PINNC	Pines Island,	8.36	175		Pn	11 59 37.9	+3.5
CTA	Charters Tower	20.36	251	P	P	12 02 10.5	+1.1
	6.5nm,0.9s,baz=127,slow=12,SNR=3.1						
AFI	Afiamalu	20.89	92	P	P	12 02 11.9	-3.3
	8.9nm,0.6s,baz=249,slow=8.6,SNR=1.7						
OUZ	Omahuta	21.79	165	P	P	12 02 26.5	+1.8
OUZ				IAmb	IAmb	12 02 28.4	
	comp=Z,20nm,0.9s						
URZ	Urewera	25.64	161	P	P	12 03 00.9	-1.1
	comp=Z,14nm,1.2s,baz=339,slow=9.3,SNR=2.0						
STKA	Stephens Creek	28.89	228	P	P	12 03 31.8	+0.5
	comp=Z,1.9nm,0.5s,baz=46,slow=9.4,SNR=5.6						
STKA	Stephens Creek	28.89	228	P	P	12 03 31.6	+0.3
RPZ	Rata Peaks	29.61	174	P	P	12 03 38.4	+0.8
	comp=Z,4.6nm,0.6s,baz=9.5,slow=6.1,SNR=1.3						
RPZ	Rata Peaks	29.61	174	P	P	12 03 39.0	+1.4
WB0	Warramunga Arr	31.33	255	P	P	12 03 52.1	-1.0
WB2	Warramunga Arr	31.39	255	P	P	12 03 53.5	-0.1
WB2				IAmb	IAmb	12 04 10.1	
	comp=Z,3.8nm,1.1s						
WRAB	Tennant Creek	31.39	255	P	P	12 03 53.6	0.0
WRAB				IAmb	IAmb	12 04 07.9	
	comp=Z,5.0nm,1.1s						
WRA	Warramunga Arr	31.40	255	P	P	12 03 52.7	-1.0
	comp=Z,0.6nm,0.8s,baz=84,slow=8.6,SNR=2.9						
AS31	Alice Springs	32.32	248	P	P	12 04 01.1	-0.7
ASAR	Alice Springs	32.32	248	P	P	12 04 00.7	-1.1
	comp=Z,0.7nm,0.6s,baz=74,slow=9.3,SNR=6.8						
ASAR				PcP	PcP	12 06 48.6	-0.7
	comp=Z,0.5nm,0.7s,baz=75,slow=2.6,SNR=5.2						
ASAR	Alice Springs	32.32	248	P	P	12 04 00.9	-0.9
BBOO	Buckleboo	33.44	231	P	P	12 04 11.6	+0.2
BBOO				IAmb	IAmb	12 04 20.9	
	comp=Z,23nm,1.4s						
KNRA	Kununurra	36.64	263	P	P	12 04 38.4	-0.7
KNRA				IAmb	IAmb	12 04 40.0	
	comp=Z,12nm,1.2s						
FORT	Forrest	39.06	238	P	P	12 04 59.4	-0.1
FITZ	Fitzroy Crossi	39.55	259	P	P	12 05 03.0	-0.7
	comp=Z,1.4nm,0.9s,baz=107,slow=14,SNR=2.1						
FITZ	Fitzroy Crossi	39.55	259	P	P	12 05 04.2	+0.4
FITZ				IAmb	IAmb	12 05 18.0	
	comp=Z,4.4nm,1.1s						
MORW	Morawa	48.97	244	P	P	12 06 18.3	-0.7
MORW				IAmb	IAmb	12 06 46.6	
	comp=Z,15nm,1.2s						
VNDA	Vanda	63.33	181	P	P	12 08 02.8	+2.0
	comp=Z,2.1nm,0.7s,baz=8.1,slow=7.1,SNR=14						
VNDA	Vanda	63.33	181	P	P	12 08 04.0	+3.2
VNDA				IAmb	IAmb	12 08 17.9	
	comp=Z,1.9nm,0.9s						
CASY	Casey	63.76	202	P	P	12 08 03.1	-0.7
CMAR	Chiang Mai Arr	74.24	294	P	P	12 09 11.2	+1.5
	comp=Z,0.8nm,0.3s,baz=72,slow=31,SNR=1.6						
QSPA	South Pole Qui	75.78	180	P	P	12 09 16.8	-1.1
	comp=Z,6.4nm,0.9s,baz=27,slow=2.3,SNR=6.2						
QSPA	South Pole Qui	75.78	180	P	P	12 09 17.1	-0.8
QSPA				IAmb	IAmb	12 09 23.6	
	comp=Z,9.5nm,0.9s						
SONM	Songino Array	81.77	324	P	P	12 09 51.4	+0.4
	comp=Z,0.3nm,0.6s,baz=150,slow=6.0,SNR=3.2						
SONM	Songino Array	81.77	324	P	P	12 09 50.4	-0.7
IMAR	Indian Mountai	85.25	15	P	P	12 10 09.1	+0.7
IL31		86.24	18	P	P	12 10 12.7	-0.5
IL31				IAmb	IAmb	12 10 32.4	
	comp=Z,2.5nm,0.9s						
ILAR	Eielson Array	86.24	18	P	P	12 10 12.0	-1.3
	comp=Z,1.0nm,0.7s,baz=235,slow=5.5,SNR=8.0						
ILAR	Eielson Array	86.24	18	P	P	12 10 12.3	-1.0
NVAR	Mina Array Bea	87.38	49	P	P	12 10 20.8	+1.0
	comp=Z,0.1nm,0.4s,baz=254,slow=3.4,SNR=2.2						
TOLK	Toolik Lake Re	88.33	15	P	P	12 10 24.2	+0.9
TOLK				IAmb	IAmb	12 10 53.2	
	comp=Z,5.3nm,1.4s						
SNAA	Sanae	94.00	183	P	P	12 10 48.5	-1.3
MKAR	Makanchi Array	96.47	317	P	P	12 11 01.9	+0.5
	comp=Z,0.7nm,0.7s,baz=106,slow=5.2,SNR=7.0						
ZALV	Zalesovo Beam	96.67	324	P	P	12 11 01.2	-0.9
	comp=Z,0.3nm,0.3s,baz=116,slow=6.6,SNR=2.6						
ARCES	ARCESS Array B	119.64	345	PKP	PKPdf	12 16 20.6	-0.8
	comp=Z,3.3nm,1.1s,baz=29,slow=2.1,SNR=4.8						
FINES	FINESS Array B	125.06	338	PKP	PKPdf	12 16 31.3	-0.6
	comp=Z,0.8nm,0.7s,baz=56,slow=4.8,SNR=3.9						
FINES	FINESS Array B	125.06	338		PKPdf	12 16 31.6	-0.4
TORD	Torodi Ar. Bea	165.38	268	PKPab	PKPab	12 18 34.9	-0.6
	comp=Z,0.4nm,0.9s,baz=85,slow=3.0,SNR=2.0						

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*IDC **03** 12:19:40.0±0.6, 36.°46N×142.°58E, h0km, mb4.1/19, mb1 4.2/26, mb1mx4.1/43, mbtmp4.1/26, ML3.5/7, MS3.8/5, Ms1 3.8/5, ms1mx3.3/95, Error ellipse: s-maj=16.0km s-min=13.1km az=135.0*
*MOS **03** 12:19:41.6±1.1, 36.°62N×142.°52E, h21km, mb4.7/22, Error ellipse: s-maj=9.4km s-min=5.8km az=105.9*
*JMA **03** 12:19:43.1±0.3, 36.°45N×142.°48E, h56km, M3.8*
*NIED **03** 12:19:43.1, 36.°45N×142.°48E, h56km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}5.06; $M_{\theta\theta}$-0.61; $M_{\phi\phi}$-4.45; $M_{r\theta}$1.34; $M_{\theta\phi}$-2.12; $M_{\phi r}$0.55; Fault plane solution: $M_0$5.43000×10^{15} NP1:ϕ_s35.00000°, δ52.00000°, λ104.00000°. NP2:ϕ_s193.00000°, δ40.00000°, λ73.00000°.*
*NEIC **03** 12:19:45.0±1.7, 36.°53N±0.°06×142.°47E±0.°10, h29km±5km, mb4.5/46 Error ellipse: s-maj=11.7km s-min=8.1km az=115.0*

ISC 03 12:19:42.2±0.5**, 36.°50N**±0.°05×**142.°54E**±0.°05**, h15km, n193, σ1.s42**/198**, mb4.5**/62**, MS4.2**/10**, 7C-4D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.52	294	P	Pn	12 20 08.6	-0.3
CHOJ	Chosi	1.58	240	P	Pn	12 20 08.6	-1.0
CHOJ				S	Sn	12 20 26.5	-3.2
JHYU	Hitachinakayam	1.58	265	P	Pn	12 20 08.8	-0.9
JHYU				*e*S	Sn	12 20 27.8	-2.1
JHO	Hitachi	1.59	275	P	Pn	12 20 08.7	-1.1
JYT	Yasato	1.91	263	Pn	Pn	12 20 13.0	-1.2
JMM	Marumori	1.95	315	Pn	Pn	12 20 14.0	-0.7
BSO1	Boso 1	2.24	215	P	Pn	12 20 17.1	-1.1
JAG	Ashikaga	2.49	269	P	Pn	12 20 21.4	-0.7
JYK	Kaneyama	2.97	325	P	Pn	12 20 28.7	-0.1
JRY	Ryogami san	2.98	262	P	Pn	12 20 28.2	-0.7
JOD2	Odawara 2	3.06	247	P	Pn	12 20 29.6	-0.4
JYN	Shimob	3.39	254	P	Pn	12 20 35.1	+0.5
MJAR	Matsushiro Arr	3.49	272	Pn	Pn	12 20 36.1	+0.2
	2.1nm,0.3s,baz=122,slow=13,SNR=109						
MJAR				Sn	Sn	12 21 17.7	+0.8
	0.8nm,0.3s,baz=223,slow=27,SNR=4.3						
MJAR				LR	LR	12 22 18.2	
	comp=Z,970nm,19.4s,baz=302,slow=45						
MJAR	Matsushiro Arr	3.49	272	Pn	Pn	12 20 35.5	-0.4
MAJO	Matsushiro	3.49	272	P	Pn	12 20 36.5	+0.6
MAJO	Matsushiro	3.49	272		Pn	12 20 36.5	+0.6
MAT	Matsushiro	3.49	272	P	Pn	12 20 36.8	+0.9
MJB9	Matsu-Tunnel	3.49	272	Pn	Pn	12 20 36.7	+0.7
JSD	Sado	3.74	295	Pn	Pn	12 20 40.1	+0.8
JHJ2	Mitsune	4.05	214	Pn	Pn	12 20 44.4	+0.8
JHJ	Hachijo jima 2	4.06	215	Pn	Pn	12 20 42.9	-0.9
	28nm,0.3s,baz=298,slow=23,SNR=9.1						
JHJ				Sn	Sn	12 21 24.6	-6.5
	23nm,0.3s,baz=285,slow=23,SNR=8.5						
JGF	Kuroka	4.29	259	Pn	Pn	12 20 48.7	+1.7
JTM	Tenmabayashi	4.43	345	Pn	Pn	12 20 49.2	+0.3
INU	Inuyama	4.63	257		Pn	12 20 52.5	+1.0
ERM	Erimo	5.53	5	P	Pn	12 21 02.3	-1.6
ERM	Erimo	5.53	5	Pn	Pn	12 21 02.3	-1.6
JEW	Eniwo	6.39	353		Pn	12 21 15.6	-0.1
JKA	Kamikawa-asahi	7.61	0	Pn	Pn	12 21 32.2	-0.3
ASAJ	Asahikawa	7.61	0	Pn	Pn	12 21 31.7	-0.7
	3.9nm,0.3s,baz=215,slow=13,SNR=36						
ASAJ				Sn	Sn	12 22 55.2	-3.2
	1.2nm,0.3s,baz=29,slow=19,SNR=1.8						
JMN	Monobe	7.62	251	Pn	Pn	12 21 34.5	+1.9
JHS	Saijyo	7.81	262	Pn	Pn	12 21 36.7	+1.5
SHO	Shikotan	8.06	23	*e*P	Pn	12 21 36.2	-2.4
JCJ	Chichijima	9.38	182	Pn	Pn	12 21 49.5	-7.4
	4.8nm,0.3s,baz=278,slow=19,SNR=2.0						
JCJ				Sn	Sn	12 23 29.5	-13
	9.4nm,0.3s,baz=277,slow=20,SNR=1.4						
KUR	Kuril'sk	9.61	23	*e*P	Pn	12 21 54.4	-5.5
JNU	Nakatsue	10.16	254	Pn	Pn	12 22 06.8	-0.7
	0.3nm,0.3s,baz=100,slow=7.4,SNR=4.6						
JNU				LR	LR	12 26 42.7	
	comp=Z,580nm,19.5s,baz=69,slow=42						
YSS	Yuzh-Sakhalins	10.45	1	*e*P	Pn	12 22 10.4	-0.9
YSS				pmax	pmax		
	comp=Z,30nm,1.3s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS				MLR	MLR		
	comp=N,700nm,17.0s						
YSS	Yuzh-Sakhalins	10.45	1	Pn	Pn	12 22 10.9	-0.4
USRK	Ussuriysk Ar.	11.13	317	Pn	Pn	12 22 22.1	+1.4
	baz=128,slow=14,SNR=4.9						
USRK	Ussuriysk Ar.	11.13	317	P	Pn	12 22 20.9	+0.2
USRK	Ussuriysk Ar.	11.13	317		Pn	12 22 20.9	+0.2
KSRS	Korea Array	11.73	279	Pn	Pn	12 22 31.2	+2.3
	comp=N,0.2nm,0.3s,baz=93,slow=14,SNR=8.7						
GRNR	Gornyy	14.93	345	⇑*i*P	P	12 23 18.6	+0.5
GRNR				pmax	pmax		
	comp=N,3.0nm,0.7s						
GRNR				pmax	pmax		
	comp=E,30nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GRNR				MLR	MLR		
	comp=E,390nm,14.0s						
GRNR				MLR	MLR		
	comp=N,370nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,490nm,17.0s						
KLR	Kul'dur	14.96	332	Pn	Pn	12 23 13.1	+0.1
	comp=Z,0.2nm,0.3s,baz=132,slow=12,SNR=7.3						
KLR	Kul'dur	14.96	332	*i* P	Pn	12 23 13.4	+0.4
OKH	Okha	17.05	1	*de*P	P	12 23 43.6	+2.0
OKH				*e*S	Sn	12 26 45.4	-3.6
OKH				MLR	MLR		
	comp=Z,400nm,15.0s						
OKH				MLR	MLR		
	comp=N,700nm,15.0s						
OKH				MLR	MLR		
	comp=E,500nm,15.0s						
PET	Petropavlovsk	20.02	29	*i* P	Pn	12 24 17.3	+1.3
NJ2	Nanjing	20.05	264	*e*P	Pn	12 24 16.3	-0.3
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZEA	Zeya	20.26	333	*e*P	P	12 24 17.2	+0.4
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZEA				MLR	MLR		
	comp=E,200nm,13.0s						
ZEA				MLR	MLR		
	comp=N,300nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,15.0s						
HNS	HongShan	22.23	281	⇑P	P	12 24 37.6	-0.7
HNS				pmax	pmax		
	comp=Z,15nm,0.7s						
GUMO	Guam	22.91	174	LR	LR	12 34 56.7	
	comp=Z,56nm,19.7s,baz=53,slow=40						
MA2	Magadan	23.70	10	P	P	12 24 53.0	-0.1
	comp=Z,5.1nm,0.6s,baz=193,slow=6.4,SNR=8.7						
MA2	Magadan	23.70	10	*i* P	P	12 24 53.4	+0.2
MA2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MA2	Magadan	23.70	10	P	P	12 24 53.1	-0.1
WHN	Wuhan	24.19	264	⇓P	P	12 24 57.8	-0.3
WHN				pP	pwP	12 25 08.0	+1.1
WHN				S	S	12 29 17.6	+1.8
WHN				pmax	pmax		
	comp=Z,190nm,2.0s						
WHN				LR	LR		
	comp=N,510nm,13.9s						
WHN				LR	LR		
	comp=E,2μm,16.3s						
WHN				LR	LR		
	comp=Z,1μm,14.8s						
HHC	Hu-ho-hao-te	24.50	290	*e*P	P	12 25 02.5	+1.5
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,240nm,4.6s						
LYN	LuoYang	24.51	274	*e*P	P	12 25 00.1	-0.8
YAK	Yakutsk	26.79	347	P	P	12 25 21.2	-0.1
	comp=Z,4.8nm,0.5s,baz=109,slow=2.3,SNR=1.7						
YAK	Yakutsk	26.79	347	*e*P	P	12 25 20.3	-1.0
YAK				*e**PP	pwP	12 25 32.2	+1.1
YAK				*e*S	S	12 29 53.3	-3.3
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK				smax	smax		
	comp=E,27nm,2.8s						
YAK				smax	smax		
	comp=N,27nm,2.5s						
YAK				MLR	MLR		
	comp=Z,353nm,13.0s						
YAK				MLR	MLR		
	comp=N,134nm,11.0s						
YAK	Yakutsk	26.79	347	P	P	12 25 20.4	-0.9
H11N2	WAKE ISLAND Hy	27.10	121	T	T	12 53 36.8	
	baz=313,slow=75,SNR=9.0						
H11N1	WAKE ISLAND Hy	27.11	122	T	T	12 53 38.9	
	baz=313,slow=75,SNR=8.9						
H11N3	WAKE ISLAND Hy	27.12	121	T	T	12 53 39.8	
	baz=313,slow=75,SNR=9.0						
SEY	Seymchan	27.15	10	P	P	12 25 24.9	+0.4
	comp=N,3.0nm,0.9s,baz=90,slow=20,SNR=8.3						
SEY	Seymchan	27.15	10	*ce*P	P	12 25 24.2	-0.3
SEY				pmax	pmax		
	comp=Z,11nm,1.7s						
XAN	Xi'an	27.48	275	P	P	12 25 27.1	-0.8
XAN				pP	pwP	12 25 37.6	+1.3
XAN				sP	sP	12 25 42.0	+9.3
XAN				PP	PnPn	12 26 16.3	+3.8
XAN				S	S	12 30 05.0	-3.1

XAN sS sS 12 30 20.3 +6.1
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,110nm,4.6s
XAN LR LR
comp=N,570nm,14.4s
XAN LR LR
comp=E,280nm,14.4s
XAN LR LR
comp=Z,540nm,17.0s
H11S1 WAKE ISLAND Hy 27.81 124 T T 12 54 34.5
baz=315,slow=76,SNR=9.0
H11S3 WAKE ISLAND Hy 27.81 124 T T 12 54 27.4
baz=315,slow=76,SNR=8.5
H11S2 WAKE ISLAND Hy 27.83 124 T T 12 54 31.8
baz=315,slow=76,SNR=4.6
ENH Enshi 28.20 267 P **P** **12 25 33.7 -0.6**
ULN Ulaanbaatar 28.40 305 *ce*P **P** **12 25 36.5 +0.4**
ULN pmax pmax
comp=Z,13nm,1.5s
ULN Ulaanbaatar 28.40 305 P **P** **12 25 36.6 +0.5**
ULN IAmb IAmb 12 25 49.5
comp=Z,15nm,1.1s
BOD Bodaibo 28.46 328 *e*P **P** **12 25 40.7 +4.4**
BOD pmax pmax
comp=Z,30nm,1.5s
SONM Songino Array 28.83 305 P **P** **12 25 40.8 +0.9**
comp=Z,9.9nm,0.8s,baz=111,slow=8.2,SNR=21
SONM Songino Array 28.83 305 P **P** **12 25 40.4 +0.5**
SONM pmax pmax
comp=Z,23nm,1.1s
SONM Songino Array 28.83 305 P **P** **12 25 40.4 +0.5**
LZH Lanzhou 31.05 281 *e*P **P** **12 26 00.5 +0.8**
LZH pP pwP 12 26 10.2 +2.1
LZH sP sP 12 26 15.9 +11
LZH pmax pmax
comp=Z,12nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.9s
LZH LR LR
comp=N,370nm,13.6s
LZH LR LR
comp=E,540nm,14.9s
LZH LR LR
comp=Z,860nm,16.0s
ZAK Zakamensk 31.31 309 *e*P **P** **12 26 00.9 -0.8**
ZAK pmax pmax
comp=Z,15nm,1.5s
GTA Gaotai 33.59 288 *e*P **P** **12 26 22.7 +0.8**
GTA sP pwP 12 26 33.1 +2.9
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,8.0s
GTA LR LR
comp=N,220nm,14.3s
GTA LR LR
comp=E,360nm,15.9s
GTA LR LR
comp=Z,280nm,13.9s
BILL Bilibino 34.29 16µ *e*P **P** **12 26 25.9 -1.6**
BILL *e* 12 26 29.9
BILL *e* 12 27 44.8
BILL *e*PPP PPP 12 27 56.8
BILL *e* 12 29 00.2
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL Bilibino 34.29 16 P **P** **12 26 28.3 +0.8**
BILL IAmb IAmb 12 26 28.8
comp=Z,6.8nm,1.2s
TIXI Tiksi 35.93 353 *i* P **P** **12 26 41.1 -0.4**
TIXI pmax pmax
comp=Z,1.0nm,1.2s
PZH PanZhiHua 35.95 266 P **P** **12 26 42.5 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,3.9s
GOMU GeErMu 38.13 284 P **P** **12 27 01.8 +0.7**
GOMU pP sP 12 27 05.4 -0.6
GOMU sP pwP 12 27 08.9 -0.6
GOMU S **S** **12 32 49.0 -4.9**
GOMU pmax pmax
comp=Z,7.0nm,1.2s
GOMU pmax pmax
comp=Z,110nm,4.8s
GOMU LR LR
comp=N,240nm,15.6s
GOMU LR LR
comp=E,290nm,15.8s
GOMU LR LR
comp=Z,220nm,15.4s
UBPT Khong Chiam 39.14 247 P **P** **12 27 10.2 +0.8**
UBPT IAmb IAmb 12 27 22.1
comp=Z,17nm,1.2s
ANM Nome 41.59 31 P **P** **12 27 30.7 +1.7**
ANM pmax pmax
comp=Z,3.0nm,0.8s
ANM Nome 41.59 31 P **P** **12 27 30.7 +1.7**
WMQ Urumqi 41.89 298 *e*P **P** **12 27 35.5 +3.6**
WMQ pP pwP 12 27 46.9 +6.7
WMQ pmax pmax
comp=Z,14nm,1.3s
CMAR Chiang Mai Arr 42.25 257 P **P** **12 27 36.2 +1.2**
comp=Z,0.5nm,0.3s,baz=46,slow=6.4,SNR=1.1
CMAR LR LR 12 45 30.5
comp=Z,124nm,21.1s,baz=205,slow=37
CMAR Chiang Mai Arr 42.25 257 P **P** **12 27 35.4 +0.4**
CMAR Chiang Mai Arr 42.25 257 P **P** **12 27 35.4 +0.4**
ZAA0 Zalesovo Array 42.94 313 P **P** **12 27 40.6 +0.4**
ZALV Zalesovo Beam 42.94 313 P **P** **12 27 41.0 +0.8**
comp=Z,2.6nm,0.6s,baz=100,slow=7.6,SNR=13
ZALV PcP **PcP** **12 29 31.5 +0.9**
comp=Z,1.1nm,0.6s,baz=80,slow=4.2,SNR=2.9
ZALV Zalesovo Beam 42.94 313 *i* P **P** **12 27 40.5 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 42.94 313 P **P** **12 27 40.1 -0.1**
MK31 Makanchi Array 45.17 303 *i* P **P** **12 27 58.0 -0.2**
MK31 pmax pmax
comp=Z,13nm,1.0s
MK31 Makanchi Array 45.17 303 P **P** **12 27 57.8 -0.4**
MK31 IAmb IAmb 12 28 13.7
comp=Z,9.2nm,1.0s
MKAR Makanchi Array 45.17 303 P **P** **12 27 58.7 +0.4**
comp=Z,2.2nm,0.6s,baz=86,slow=9.8,SNR=14
MKAR Makanchi Array 45.17 303 *i* P **P** **12 28 00.4 +2.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 45.17 303 P **P** **12 27 57.5 -0.8**
J20K Nowinta River 46.30 33 P **P** **12 28 08.0 +1.1**
J20K IAmb IAmb 12 28 10.8
comp=Z,4.1nm,1.0s
IMAR Indian Mountai 46.65 30 P **P** **12 28 10.6 +0.9**
KURK Kurchatov 46.97 309 *ce*P **P** **12 28 12.1 -0.2**
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 46.97 309 P **P** **12 28 12.3 -0.1**
H21K Melozitna Rive 47.01 31 P **P** **12 28 13.5 +1.1**
H21K IAmb IAmb 12 28 14.9
comp=Z,4.1nm,0.9s
PDGK Podgornoye 47.82 299 P **P** **12 28 18.4 -0.8**
MLY Manley 47.83 32 P **P** **12 28 19.7 +0.8**
MLY IAmb IAmb 12 28 21.4
comp=Z,6.4nm,1.0s
COLD Coldfoot 48.18 29 P **P** **12 28 21.8 +0.3**
NEA2 Nenana 48.52 32 P **P** **12 28 25.5 +1.3**
NEA2 IAmb IAmb 12 28 26.5
comp=Z,4.0nm,1.0s
TOLK Toolik Lake Re 48.53 27 P **P** **12 28 25.4 +1.1**
TOLK IAmb IAmb 12 28 27.2
comp=Z,4.1nm,0.9s
MDM Murphy Dome 48.89 32 P **P** **12 28 27.9 +0.9**
MDM IAmb IAmb 12 28 29.4
comp=Z,5.9nm,0.9s
H24K Noodor Dome 49.05 31 P **P** **12 28 28.5 +0.2**
H24K IAmb IAmb 12 28 31.0
comp=Z,3.1nm,0.9s
POKR Poker Plat Res 49.23 32 P **P** **12 28 31.1 +1.5**
POKR IAmb IAmb 12 28 32.6
comp=Z,6.0nm,0.8s
HDA Harding Lake 49.44 33 P **P** **12 28 31.5 +0.3**
HDA IAmb IAmb 12 28 32.5
comp=Z,4.0nm,0.9s

IL31 49.46 32 P **P** **12 28 31.9 +0.5**
IL31 IAmb IAmb 12 28 33.1
comp=Z,3.6nm,0.8s
ILAR Eielson Array 49.46 32 P **P** **12 28 31.6 +0.2**
comp=Z,2.5nm,0.7s,baz=264,slow=6.4,SNR=32
ILAR Eielson Array 49.46 32 P **P** **12 28 31.1 -0.3**
ILAR Eielson Array 49.46 32 P **P** **12 28 31.1 -0.3**
MDOK Medeo 49.59 299 P **P** **12 28 33.9 +1.0**
BMAR Burnt Mountain 50.37 29 P **P** **12 28 40.6 +2.4**
TKM2 Tokmak 2 50.68 299 *i* P **P** **12 28 42.2 +1.0**
TKM2 pmax pmax
comp=Z,12nm,1.3s
SCRK Sand Creek 50.76 33 P **P** **12 28 41.6 +0.3**
L26K Log Cabin Wild 51.12 34 P **P** **12 28 45.5 +1.5**
KSH Kashi 51.45 295 P **P** **12 28 50.6 +3.7**
KSH pmax pmax
comp=Z,4.0nm,0.6s
OTUK Ortayu 51.47 306 P **P** **12 28 46.4 -0.4**
AAK Ala-Archa 51.54 299 *i* P **P** **12 28 46.6 -1.0**
BRVK Borovoye 51.66 313 *i* P **P** **12 28 48.1 0.0**
BRVK pmax pmax
comp=Z,2.0nm,1.2s
BRVK Borovoye 51.66 313 P **P** **12 28 49.0 +0.9**
BCAR Beaver Creek A 51.83 34 P **P** **12 28 50.1 +0.8**
KNRA Kununurra 53.50 197 P **P** **12 29 03.0 +0.9**
EPYK Eagle Plains 53.54 30 P **P** **12 29 03.3 +1.4**
EPYK IAmb IAmb 12 29 04.6
comp=Z,7.4nm,0.9s
KKAR Karatay Array 54.17 301 P **P** **12 29 07.4 +0.5**
KKAR Karatay Array 54.17 301 P **P** **12 29 07.4 +0.5**
HYT Haines Junctio 54.19 37 P **P** **12 29 08.2 +1.4**
HYT IAmb IAmb 12 29 11.9
comp=Z,7.4nm,1.1s
INK Inuvik 54.45 27 P **P** **12 29 08.5 +0.1**
comp=Z,2.0nm,0.7s,baz=287,slow=6.4,SNR=13
INK Inuvik 54.45 27 P **P** **12 29 09.2 +0.8**
INK IAmb IAmb 12 29 10.4
comp=Z,4.3nm,0.9s
GAR Garm 55.74 296 P **P** **12 29 19.3 +0.9**
SVE Sverdlovsk 56.14 319 *e*P **P** **12 29 22.4 +1.6**
A36M Sachs Harbour 56.42 22 P **P** **12 29 24.3 +1.7**
A36M IAmb IAmb 12 29 44.4
comp=Z,3.7nm,0.9s
WB0 Warramunga Arr 56.49 189 P **P** **12 29 22.6 -1.0**
FITZ Fitzroy Crossi 56.60 199 P **P** **12 29 24.8 +0.3**
WRAB Tennant Creek 56.66 189 P **P** **12 29 24.7 -0.1**
WRAB pmax pmax
comp=Z,6.0nm,1.1s
WRAB Tennant Creek 56.66 189 P **P** **12 29 24.7 -0.1**
WRAB IAmb IAmb 12 29 42.6
comp=Z,6.4nm,1.1s
WR0 Warramunga Arr 56.66 189 P **P** **12 29 24.3 -0.6**
WR0 IAmb IAmb 12 29 26.6
comp=Z,7.5nm,1.2s
WB2 Warramunga Arr 56.67 189 P **P** **12 29 25.4 +0.5**
WRA Warramunga Arr 56.67 189 P **P** **12 29 24.4 -0.5**
comp=Z,2.7nm,1.1s,baz=7.9,slow=7.3,SNR=10.0
WRA Warramunga Arr 56.67 189 *i* P **P** **12 29 27.3 +2.4**
WRA pmax pmax
comp=Z,3.0nm,1.2s
WRA Warramunga Arr 56.67 189 P **P** **12 29 24.3 -0.7**
CHGR Chuyangaron 56.71 296 P **P** **12 29 25.6 +0.2**
ARU Arti 57.36 319 *d* iP **P** **12 29 29.7 +0.2**
ARU 12 30 24.3
ARU PPP PPP 12 32 53.2
ARU S **S** **12 37 25.0 -0.3**
ARU SS **SS** **12 41 06.8 -7.4**
ARU pmax pmax
comp=Z,17nm,1.7s
ARU Arti 57.36 319 P **P** **12 29 29.9 +0.4**
ARU IAmb IAmb 12 29 32.3
comp=Z,6.3nm,1.0s
C36M Paulatuk 57.53 25 P **P** **12 29 31.3 +0.9**
C36M IAmb IAmb 12 29 32.4
comp=Z,3.4nm,0.8s
AB31 Akbulak array 58.97 311 *i* P **P** **12 29 40.0 -0.9**
ABKAR Akbulak array 58.97 311 P **P** **12 29 40.8 -0.1**
ABKAR IAmb IAmb 12 29 53.2
comp=Z,6.5nm,1.4s
ABKAR Akbulak array 58.97 311 P **P** **12 29 40.4 -0.5**
AS31 Alice Springs 60.39 189 P **P** **12 29 52.7 +1.8**
ASAR Alice Springs 60.39 189 P **P** **12 29 50.4 -0.5**
comp=Z,1.0nm,0.9s,baz=12,slow=5.3,SNR=12
ASAR Alice Springs 60.39 189 P **P** **12 29 50.5 -0.4**
KIRV Kirov 61.22 323 *ce*P **P** **12 29 55.0 -1.1**
DZM Mont Dzumac 62.48 155 LR LR 12 51 22.0
comp=Z,350nm,21.2s,baz=15,slow=30
RES Resolute Bay 62.89 15 P **P** **12 30 07.4 +0.3**
RES pmax pmax
comp=Z,2.0nm,0.9s
RES Resolute Bay 62.89 15 P **P** **12 30 07.3 +0.3**
YKA Yellowknife Ar 63.81 30 P **P** **12 30 13.9 +0.5**
comp=Z,1.7nm,0.7s,baz=301,slow=6.7,SNR=24
YKA Yellowknife Ar 63.81 30 *i* P **P** **12 30 14.5 +1.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 63.81 30 P **P** **12 30 14.3 +1.0**
OBN Obninsk 69.06 324 *e*P **P** **12 30 45.9 -1.2**
OBN *e* 12 31 09.9
OBN *e* 12 33 18.2
OBN pmax pmax
comp=Z,5.0nm,0.9s
FIA1 FINESS Array S 69.70 333 P **P** **12 30 50.8 -0.1**
FINES FINESS Array B 69.70 333 P **P** **12 30 51.1 +0.2**
comp=Z,1.2nm,0.6s,baz=66,slow=4.8,SNR=8.0
FINES FINESS Array B 69.70 333 P **P** **12 30 51.5 +0.5**
KIV Kislovodsk 71.94 312 *e*P **P** **12 31 04.0 -1.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
NVAR Mina Array Bea 74.58 54 P **P** **12 31 22.2 +1.3**
comp=Z,1.1nm,0.6s,baz=292,slow=6.2,SNR=6.1
NB2 NORSAR Subarra 75.03 338 P **P** **12 31 22.7 -0.1**
comp=Z,0.2nm,0.5s,baz=41,slow=5.9
NOA NORSAR Array B 75.03 338 P **P** **12 31 22.9 +0.1**
comp=Z,0.5nm,0.6s,baz=39,slow=5.9,SNR=3.6
Q09A Carvers 75.08 53 P **P** **12 31 24.1 +0.4**
AKASG Malin Array Be 75.27 323 P **P** **12 31 24.0 -0.3**
comp=Z,0.7nm,0.5s,baz=43,slow=5.8,SNR=8.5
AKASG Malin Array Be 75.27 323 *i* P **P** **12 31 23.7 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 75.27 323 P **P** **12 31 24.4 +0.1**
AKBB Malin Array Si 75.27 323 *ce*P **P** **12 31 25.5 +1.2**
GCMT Greycliff 75.47 43 P **P** **12 31 25.0 -0.8**
PDAR Pinedale Array 77.39 46 P **P** **12 31 37.5 +0.7**
comp=Z,0.3nm,0.5s,baz=260,slow=2.7,SNR=3.5
PDAR Pinedale Array 77.39 46 P **P** **12 31 38.0 +1.1**
KNB Kanab 78.93 52 P **P** **12 31 46.1 +0.7**
KNB pmax pmax
comp=Z,6.0nm,1.1s
KNB Kanab 78.93 52 P **P** **12 31 46.1 +0.7**
KNB IAmb IAmb 12 31 49.7
comp=Z,5.7nm,1.1s
BURAR Bucovina Array 79.29 322 P **P** **12 31 46.3 -0.7**
BRTR Keskin Array B 79.88 312 P **P** **12 31 51.2 +0.7**
comp=Z,0.4nm,0.5s,baz=45,slow=18,SNR=4.1
BRTR Keskin Array B 79.88 312 P **P** **12 31 50.0 -0.5**
BRTR Keskin Array B 79.88 312 P **P** **12 31 50.0 -0.5**
LANS Liptovska Anna 80.91 326 *e*P **P** **12 31 54.1 -1.6**
LANS Liptovska Anna 80.91 326 *e*P **P** **12 31 54.1 -1.6**
TXAR Lajitas Array 89.72 53 P **P** **12 32 40.5 +0.3**
comp=Z,0.7nm,0.7s,baz=302,slow=2.9,SNR=10
TXAR Lajitas Array 89.72 53 P **P** **12 32 40.0 -0.2**
TXAR Lajitas Array 89.72 53 P **P** **12 32 40.0 -0.2**
LPAZ La Paz 146.17 62 PKPbc **PKPbc** **12 39 22.9 -0.2**
comp=Z,2.0nm,0.8s,baz=7.0,slow=7.6,SNR=7.0
LPAZ La Paz 146.17 62 **PKPbc** **12 39 23.3 +0.3**

*IDC **03** 12:46:13.5±0.5, 14.˚15S×166.˚63E, h0km, mb4.5/25, mb1 4.6/28, mb1mx4.5/50, mbtmp4.5/28, ML2.5/1, MS4.3/22, Ms1 4.3/22, ms1mx3.9/67, Error ellipse: s-maj=15.7km s-min=13.3km az=103.0*
*BJI **03** 12:46:14.7±0.0, 13.˚80S×167.˚25E, h19km, mb4.7/33, mB4.9/19, Ms4.5/2, Ms7 4.4/2*
*NEIC **03** 12:46:19.1±2.1, 14.˚24S±0.˚07×166.˚78E±0.˚09, h38km±5km, mb4.8/64, Error ellipse: s-maj=14.1km s-min=9.1km az=60.0*
*NOU **03** 12:46:22.5, 14.˚48S×166.˚47E, h40km, mb5.0/39, Vanuatu Islands*
ISC 03 12:46:18.9±0.5, 14.˚22S±0.˚05×166.˚67E±0.˚06, h35km±2km, h36km: pP-P, n247, σ1.9 35/247, mb4.7/65, MS4.3/24, 1C,

Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.33**	**157**		**Pn**	**12 46 39.0**	**-2.0**
DVP	**Devils Point**	**3.78**	**157**	P	**Pn**	**12 47 16.2**	**+1.4**
LIFNC	**LIFOU**	**6.55**	**175**	Pn	**Pn**	**12 47 51.2**	**-1.5**
KOUNC	**Koumac, New Ca**	**6.69**	**199**	Pn	**Pn**	**12 47 55.4**	**+0.6**
KOUNC	**Koumac, New Ca**	**6.69**	**199**	P	**Pn**	**12 47 55.5**	**+0.7**
MARNC	**Mare, Loyalty**	**7.34**	**170**		**Pn**	**12 48 04.2**	**+0.5**
YATNC	**Mamie plateau,**	**7.80**	**178**	P	**Pn**	**12 48 08.9**	**-1.1**
DZM	**Mont Dzumac**	**7.81**	**182**	Pn	**Pn**	**12 48 09.6**	**-0.6**
	10nm,0.3s,baz=22,slow=14,SNR=56						
DZM				Sn	**Sn**	**12 49 38.6**	**+1.1**
	2.0nm,0.3s,baz=288,slow=19,SNR=1.6						
DZM	**Mont Dzumac**	**7.81**	**182**	*e*Pn	**Pn**	**12 48 09.7**	**-0.6**
	43nm,0.3s						
DZM				*e*Sn	**Sn**	**12 49 33.9**	**-3.7**
	18nm,0.3s						
DZM				*e*LR	LR	12 49 55.0	
	comp=Z,3µm,25.9s						
DZM	**Mont Dzumac**	**7.81**	**182**	Pn	**Pn**	**12 48 09.8**	**-0.5**
DZM	**Mont Dzumac**	**7.81**	**182**	P	**Pn**	**12 48 09.7**	**-0.6**
NOUC	**Port Laguerre**	**7.85**	**182**	P	**Pn**	**12 48 10.4**	**-0.2**
ONTNC	**Ouen Toro**	**8.05**	**181**	Pn	**Pn**	**12 48 12.8**	**-0.6**
HNR	**Honiara**	**8.12**	**305**	Pn	**Pn**	**12 48 13.9**	**-0.5**
	53nm,0.3s,baz=174,slow=8.6,SNR=6.4						
HNR				Sn	**Sn**	**12 49 44.8**	**-0.1**
	18nm,0.3s,baz=133,slow=19,SNR=1.3						
HNR	**Honiara**	**8.12**	**305**	Pn	**Pn**	**12 48 15.8**	**+1.4**
OUENC	**Ouen Island, N**	**8.16**	**179**	Pn	**Pn**	**12 48 15.4**	**+0.6**
OUENC	**Ouen Island, N**	**8.16**	**179**	P	**Pn**	**12 48 14.2**	**-0.7**
PINNC	**Pines Island,**	**8.38**	**175**		**Pn**	**12 48 18.3**	**+0.3**
KRVT	**Keravat (AS076**	**17.47**	**303**	LR	LR	12 57 39.8	
	comp=Z,630nm,19.4s,baz=262,slow=39						
EIDS	**Eidsvold**	**18.37**	**230**	P	**Pn**	**12 50 31.3**	**+0.4**
	baz=19,SNR=7.8						
EIDS	**Eidsvold**	**18.37**	**230**		**Pn**	**12 50 32.3**	**+1.3**
EIDS	**Eidsvold**	**18.37**	**230**	P	**P**	**12 50 30.4**	**-0.4**
PMG	**Port Moresby**	**19.68**	**282**	P	**P**	**12 50 44.9**	**-0.3**
	0.4nm,0.3s,baz=94,slow=6.3,SNR=8.3						
PMG	**Port Moresby**	**19.68**	**282**	P	**P**	**12 50 45.1**	**-0.2**
PMG				IAmb	IAmb	12 50 48.0	
	comp=Z,68nm,1.1s						
PMG	**Port Moresby**	**19.68**	**282**	P	**Pn**	**12 50 47.6**	**+0.8**
PMG	**Port Moresby**	**19.68**	**282**	P	**Pn**	**12 50 47.7**	**+0.9**
CTA	**Charters Tower**	**20.35**	**250**	P	**P**	**12 50 52.4**	**-0.1**
	comp=Z,33nm,1.0s,baz=81,slow=10,SNR=11						
CTA				LR	LR	12 57 47.1	
	comp=Z,947nm,20.2s,baz=66,slow=34						
CTA	**Charters Tower**	**20.35**	**250**	P	**P**	**12 50 53.9**	**+1.4**
RMQ	**Roma**	**20.73**	**231**	P	Pn	12 50 58.6	-0.5
	baz=21,SNR=41						
RMQ	**Roma**	**20.73**	**231**	P	**P**	**12 50 57.3**	**+0.8**
AFI	**Afiamalu**	**20.91**	**92**	P	Pn	12 51 00.3	-1.1
	comp=Z,24nm,1.0s,baz=249,slow=17,SNR=1.9						
AFI	**Afiamalu**	**20.91**	**92**	P	Pn	12 51 00.9	-0.5
AFI	**Afiamalu**	**20.91**	**92**	P	Pn	12 51 05.2	+3.8
ARMA	**Armidale**	**21.25**	**218**	P	**P**	**12 51 03.2**	**+0.9**
	baz=22,SNR=7.1						
ARMA	**Armidale**	**21.25**	**218**	P	**P**	**12 51 03.6**	**+1.3**
ARMA				IAmb	IAmb	12 51 04.5	
	comp=Z,42nm,1.2s						
ARMA	**Armidale**	**21.25**	**218**	P	**P**	**12 51 03.3**	**+1.0**
MTSU	**Mount Surprise**	**21.81**	**257**	P	**P**	**12 51 08.8**	**+0.5**
	baz=22,SNR=10						
MTSU	**Mount Surprise**	**21.81**	**257**	P	**P**	**12 51 08.9**	**+0.6**
OUZ	**Omahuta**	**21.82**	**165**	P	**P**	**12 51 10.7**	**+2.5**
COEN	**Coen**	**22.79**	**268**	P	**P**	**12 51 18.5**	**-0.2**
COEN				IAmb	IAmb	12 51 21.1	
	comp=Z,31nm,1.0s						
COEN	**Coen**	**22.79**	**268**	P	**P**	**12 51 19.1**	**+0.4**
MGCD	**Mangrove Creek**	**23.61**	**214**	P	**P**	**12 51 27.8**	**+1.0**
	baz=24,SNR=4.7						
QLP	**Quilpie**	**24.31**	**236**	P	**P**	**12 51 33.9**	**+0.5**
	baz=25,SNR=19						
QLP	**Quilpie**	**24.31**	**236**	P	**P**	**12 51 33.8**	**+0.5**
URZ	**Urewera**	**25.67**	**161**	P	**P**	**12 51 47.0**	**+1.4**
	comp=Z,11nm,0.8s,baz=329,slow=5.9,SNR=2.4						
CMSA	**Cobar Meteorol**	**25.81**	**225**	P	**P**	**12 51 46.7**	**-0.2**
	baz=26,SNR=25						
CMSA	**Cobar Meteorol**	**25.81**	**225**	P	**P**	**12 51 48.2**	**+1.2**
CNB	**Canberra Magne**	**26.15**	**213**	P	**P**	**12 51 50.7**	**+0.6**
	baz=26,SNR=5.8						
CAN	**Canberra**	**26.35**	**214**	P	**P**	**12 51 53.3**	**+1.5**
CAN				IAmb	IAmb	12 52 18.5	
	comp=Z,32nm,1.4s						
MMPI	**Merauke**	**26.38**	**280**	P	**P**	**12 51 50.9**	**-1.4**
	comp=Z,284nm,0.6s						
QIS	**Mount Isa**	**26.56**	**252**	P	**P**	**12 51 53.6**	**-0.3**
	baz=27,SNR=7.7						
QIS	**Mount Isa**	**26.56**	**252**	P	**P**	**12 51 53.4**	**-0.5**
INKA	**Innaminka**	**27.61**	**237**	P	**P**	**12 52 04.4**	**+1.2**
JAY	**Jayapura**	**28.15**	**292**	P	**P**	**12 52 05.0**	**-3.2**
	comp=Z,10.0nm,1.0s						
STKA	**Stephens Creek**	**28.89**	**228**	P	**P**	**12 52 14.9**	**+0.3**
	comp=Z,27nm,0.6s,baz=43,slow=8.1,SNR=70						
STKA				LR	LR	13 03 57.2	
	comp=Z,1µm,18.4s,baz=62,slow=37						
STKA	**Stephens Creek**	**28.89**	**228**	P	**P**	**12 52 14.9**	**+0.3**
	baz=29,SNR=53						
STKA	**Stephens Creek**	**28.89**	**228**	P	**P**	**12 52 14.8**	**+0.3**
STKA	**Stephens Creek**	**28.89**	**228**	P	**P**	**12 52 15.4**	**+0.8**
LCRK	**Leigh Creek**	**30.75**	**234**	P	**P**	**12 52 31.7**	**+0.6**
WR0	**Warramunga Arr**	**31.20**	**255**	P	**P**	**12 52 33.9**	**-1.3**
WR0				IAmb	IAmb	12 52 34.5	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**31.32**	**255**	P	**P**	**12 52 34.5**	**-1.7**
WB0				IAmb	IAmb	12 52 35.6	
	comp=Z,15nm,0.8s						
WB2	**Warramunga Arr**	**31.38**	**255**	P	**P**	**12 52 35.1**	**-1.7**
WB2				IAmb	IAmb	12 52 36.1	
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**31.38**	**255**	P	**P**	**12 52 35.3**	**-1.4**
WRAB				IAmb	IAmb	12 52 36.0	
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**31.38**	**255**	P	**P**	**12 52 34.9**	**-1.8**
WRAB				pP	**pP**	**12 52 38.8**	**-7.1**
WRAB				sP	**sP**	**12 52 45.9**	**-3.7**
WRA	**Warramunga Arr**	**31.39**	**255**	P	**P**	**12 52 35.2**	**-1.7**
	comp=Z,8.8nm,0.8s,baz=84,slow=8.7,SNR=48						
WRA				LR	LR	13 04 30.1	
	comp=Z,782nm,19.8s,baz=42,slow=35						
WRA	**Warramunga Arr**	**31.39**	**255**	P	**P**	**12 52 34.7**	**-2.1**
HTT	**Hallett**	**31.62**	**228**	P	**P**	**12 52 39.0**	**+0.2**
	baz=32,SNR=7.1						
HTT	**Hallett**	**31.62**	**228**	P	**P**	**12 52 40.0**	**+1.2**
OOD	**Oodnadatta**	**31.81**	**240**	P	**P**	**12 52 40.9**	**+0.5**
NAPP	**Napperby**	**32.06**	**229**	P	**P**	**12 52 42.9**	**+0.4**
AS31	**Alice Springs**	**32.31**	**248**	P	**P**	**12 52 43.7**	**-1.3**
ASAR	**Alice Springs**	**32.31**	**248**	P	**P**	**12 52 43.5**	**-1.5**
	comp=Z,9.1nm,0.7s,baz=74,slow=9.3,SNR=175						
ASAR				LR	LR	13 04 54.1	
	comp=Z,619nm,20.3s,baz=104,slow=35						
ASAR	**Alice Springs**	**32.31**	**248**	P	**P**	**12 52 42.7**	**-2.2**
WHYH	**Whyalla**	**32.41**	**230**	P	**P**	**12 52 46.4**	**+0.8**
	comp=Z,29nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**32.50**	**0**	T	T	13 27 18.8	
	baz=184						
H11S3	**WAKE ISLAND Hy**	**32.51**	**0**	T	T	13 27 17.4	
	baz=184						
H11S1	**WAKE ISLAND Hy**	**32.52**	**0**	T	T	13 27 14.9	
	baz=184						
RAR	**Rarotonga**	**32.67**	**107**	LR	LR	13 03 20.6	
	comp=Z,315nm,20.6s,baz=278,slow=31						
KDU	**Kakadu**	**33.27**	**268**	P	**P**	**12 52 53.7**	**+0.3**
BBOO	**Buckleboo**	**33.44**	**231**	P	**P**	**12 52 54.8**	**+0.2**
	baz=34,SNR=17						
BBOO	**Buckleboo**	**33.44**	**231**	P	**P**	**12 52 54.6**	**0.0**
BBOO	**Buckleboo**	**33.44**	**231**	P	**P**	**12 52 55.0**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**33.72**	**0**	T	T	13 28 52.2	
	baz=184						
H11N3	**WAKE ISLAND Hy**	**33.72**	**0**	T	T	13 28 48.7	
	baz=184						
H11N2	**WAKE ISLAND Hy**	**33.74**	**0**	T	T	13 28 54.0	
	baz=184						
MULG	**Mulgathing**	**33.99**	**236**	P	**P**	**12 52 59.2**	**-0.3**
MTN	**Manton Dam**	**34.55**	**268**	P	**P**	**12 53 07.0**	**+2.4**
MTN				IAmb	IAmb	12 53 16.4	
	comp=Z,7.3nm,0.8s						
GUMO	**Guam**	**35.06**	**321**	LR	LR	13 09 05.2	
	comp=Z,141nm,18.1s,baz=127,slow=39						
KNRA	**Kununurra**	**36.62**	**263**	P	**P**	**12 53 21.1**	**-1.1**
	baz=37,SNR=8.0						
KNRA	**Kununurra**	**36.62**	**263**	P	**P**	**12 53 21.0**	**-1.2**
KNRA	**Kununurra**	**36.62**	**263**	P	**P**	**12 53 21.8**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SIJI	Sorong	37.43	288	LR	LR	13 09 35.2	
	comp=Z,514nm,19.5s,baz=151,slow=38						
WRKA	Warakurna	37.59	247	P	P	12 53 29.2	-1.3
	baz=38,SNR=76						
WRKA	Warakurna	37.59	247	P	P	12 53 29.5	-1.0
FORT	Forrest	39.06	238	P	P	12 53 42.4	-0.3
	baz=39,SNR=9.7						
FORT	Forrest	39.06	238	P	P	12 53 42.6	-0.2
FORT	Forrest	39.06	238	P	P	12 53 43.3	+0.6
FITZ	Fitzroy Crossi	39.54	259	LR	LR	13 09 58.6	
	comp=Z,628nm,18.7s,baz=98,slow=36						
FITZ	Fitzroy Crossi	39.54	259	P	P	12 53 46.0	-0.9
	baz=40,SNR=6.6						
FITZ	Fitzroy Crossi	39.54	259	P	P	12 53 46.3	-0.6
SANI	Sanana	41.96	283	P	P	12 54 08.7	+1.8
PPT2	Papeete2	42.15	101	*e*LR	LR	13 05 49.0	
	comp=Z,537nm,26.8s						
BATI	Baumata	42.17	270	LR	LR	13 11 45.7	
	comp=Z,408nm,19.6s,baz=131,slow=36						
TBI	Tubuai	42.38	109	*e*LR	LR	13 05 54.6	
	comp=Z,590nm,26.0s						
MMRI	Maumere	43.85	272	P	P	12 54 23.7	+1.5
PSA00	Pilbara Seismi	45.02	254	P	P	12 54 31.1	-0.4
PSA00				IAmb	IAmb	12 54 42.4	
	comp=Z,9.6nm,0.9s						
PSA00	Pilbara Seismi	45.02	254	P	P	12 54 31.3	-0.2
PSA00				IAmb	IAmb	12 54 32.0	
	comp=Z,11nm,1.3s						
MBWA	Marble Bar	45.12	254	⇑P	P	12 54 32.0	-0.2
MBWA				pP	pP	12 54 42.9	+1.3
MEEK	Meekatharra	46.45	247	P	P	12 54 42.2	-0.5
	baz=47,SNR=18						
MEEK	Meekatharra	46.45	247	P	P	12 54 42.6	-0.1
KLBR	Kellerberrin	47.84	240	P	P	12 54 52.5	-1.1
	baz=48,SNR=9.1						
KLBR	Kellerberrin	47.84	240	P	P	12 54 52.6	-1.0
TOLI2	Tolitoli	47.91	285	P	P	12 54 53.9	-0.4
TOLI2				IAmb	IAmb	12 55 06.9	
	comp=Z,17nm,1.2s						
NWAO	Narrogin (SRO)	48.51	239	P	P	12 54 57.6	-1.1
NWAO				pP	pP	12 55 09.4	+1.4
BLDU	Ballidu	48.58	242	P	P	12 54 59.5	+0.2
MORW	Morawa	48.96	244	P	P	12 55 01.4	-0.8
	baz=49,SNR=6.3						
MORW	Morawa	48.96	244	P	P	12 55 01.8	-0.4
MORW	Morawa	48.96	244	P	P	12 55 02.1	-0.1
MUN	Mundaring	49.21	240	P	P	12 55 03.5	-0.5
	baz=50,SNR=5.1						
MUN	Mundaring	49.21	240	P	P	12 55 04.4	+0.4
	comp=Z,25nm,0.9s						
JAGI	Jajag, Banyuwa	51.72	270	P	P	12 55 22.8	-0.4
TAOE	Nuku Hiva Isla	52.30	90	*e*LR	LR	13 10 27.7	
	comp=Z,454nm,26.0s						
MJAR	Matsushiro Arr	57.19	333	P	P	12 56 00.9	-1.6
	comp=Z,2.8nm,0.7s,baz=172,slow=8.1,SNR=8.2						
MJAR	Matsushiro Arr	57.19	333	P	P	12 56 02.8	+0.2
MAJO	Matsushiro	57.19	333	P	P	12 56 01.6	-0.9
MAJO				IAmb	IAmb	12 56 08.4	
	comp=Z,20nm,1.3s						
MAJO	Matsushiro	57.19	333	P	P	12 56 00.3	-2.3
MAJO				sP	pP	12 56 12.9	+0.8
MJB9	Matsu-Tunnel	57.19	333	P	P	12 56 01.8	-0.8
JNU	Nakatsue	58.17	325	P	P	12 56 09.1	-0.5
	comp=Z,4.1nm,0.8s,baz=165,slow=16,SNR=1.5						
JNU	Nakatsue	58.17	325	P	P	12 56 09.7	+0.1
JKA	Kamikawa-asahi	62.07	341	P	P	12 56 36.2	+0.2
ASAJ	Asahikawa	62.07	341	P	P	12 56 36.2	+0.2
	comp=Z,5.1nm,0.6s,baz=212,slow=7.5,SNR=6.4						
KSRS	Korea Array	62.99	326	P	P	12 56 42.2	0.0
	comp=Z,1.6nm,0.9s,baz=124,slow=6.7,SNR=4.4						
VNDA	Vanda	63.36	181	P	P	12 56 44.5	+0.3
	comp=Z,2.1nm,0.6s,baz=359,slow=8.7,SNR=12						
VNDA	Vanda	63.36	181	P	P	12 56 44.6	+0.3
VNDA				IAmb	IAmb	12 56 56.2	
	comp=Z,6.2nm,1.0s						
SBA	Scott Base	63.64	180	P	P	12 56 50.1	+4.0
SBA				pP	pP	12 56 57.3	+1.3
SBA				sP	sP	12 57 05.4	+6.1
NJ2	Nanjing	64.91	316	*e*P	P	12 56 58.4	+3.4
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CCD	Concordia, Ant	65.28	191	P	P	12 56 56.7	-0.6
CCD				pP	pP	12 57 07.2	-0.1
USRK	Ussuriysk Ar.	66.17	333	P	P	12 57 03.1	+0.2
	comp=Z,2.9nm,0.7s,baz=132,slow=6.0,SNR=2.4						
SHEM	Shemya Is, Ala	66.98	5	LR	LR	13 21 03.1	
	comp=Z,154nm,20.2s,baz=146,slow=31						
PEA0B	Petropavlovsk-	67.49	354	P	P	12 57 11.0	-0.2
PETK	Petropavlovsk-	67.49	354	P	P	12 57 10.5	-0.7
	comp=Z,3.3nm,0.7s,baz=191,slow=6.8,SNR=9.2						
PETK	Petropavlovsk-	67.49	354	P	P	12 57 11.2	0.0
ENH	Enshi	70.59	310	P	P	12 57 30.6	-0.3
ENH				IAmb	IAmb	12 57 31.3	
	comp=Z,9.8nm,1.0s						
ENH	Enshi	70.59	310	P	P	12 57 30.7	-0.3
XAN	Xi'an	72.92	313	P	P	12 57 45.1	+0.2
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,110nm,4.5s						
CM31	Chiang Mai Arr	74.21	294	P	P	12 57 51.1	-1.7
CM31				IAmb	IAmb	12 57 59.7	
	comp=Z,7.0nm,0.9s						
CMAR	Chiang Mai Arr	74.21	294	P	P	12 57 53.0	+0.2
	comp=Z,3.8nm,1.1s,baz=118,slow=4.4,SNR=16						
CMAR	Chiang Mai Arr	74.21	294	P	P	12 57 53.0	+0.2
CHTO	Chiang Mai	74.34	294	P	P	12 57 54.2	+0.7
MA2	Magadan	74.66	352	P	P	12 57 53.3	-1.2
	comp=Z,1.6nm,0.4s,baz=143,slow=7.4,SNR=4.9						
MA2	Magadan	74.66	352	P	P	12 57 54.3	-0.2
HHC	Hu-ho-hao-te	74.82	320	*e*P	P	12 57 58.5	+2.5
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,6.0s						
PZH	PanZhiHua	74.93	303	P	P	12 57 56.8	-0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,50nm,5.2s						
QSPA	South Pole Qui	75.81	180	P	P	12 58 00.4	-0.9
QSPA				IAmb	IAmb	12 58 05.2	
	comp=Z,13nm,1.1s						
LZH	Lanzhou	77.55	312	*e*P	P	12 58 12.0	+0.3
LZH				pP	pP	12 58 16.7	-4.9
LZH				sP	PcP	12 58 20.4	-1.5
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
SEY	Seymchan	77.71	353	P	P	12 58 11.2	-0.5
	comp=Z,5.8nm,0.8s,baz=167,slow=6.1,SNR=13						
GAMB	Gambell	79.52	10	P	P	12 58 21.9	+0.2
N19K	Bonanza Creek	80.94	18	P	P	12 58 30.4	+0.9
YAK	Yakutsk	81.38	343	P	P	12 58 31.8	+0.1
	comp=Z,6.9nm,0.4s,baz=64,slow=1.1,SNR=8.4						
YAK	Yakutsk	81.38	343	P	P	12 58 32.0	+0.3
SONM	Songino Array	81.74	324	P	P	12 58 34.1	0.0
	comp=Z,1.3nm,0.8s,baz=160,slow=5.8,SNR=8.1						
SONM	Songino Array	81.74	324	P	P	12 58 32.9	-1.3
GTA	Gaotai	81.89	314	*e*P	P	12 58 35.9	+0.8
GTA				sP	pP	12 58 43.3	-1.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BILL	Bilibino	82.03	360	P	P	12 58 33.6	-1.4
BILL				IAmb	IAmb	12 58 37.7	
	comp=Z,8.8nm,0.8s						
MAW	Mawson	82.14	202	LR	LR	13 29 16.1	
	comp=Z,203nm,19.6s,baz=156,slow=31						
MAW	Mawson	82.14	202	P	P	12 58 34.9	-0.8
SHL	Shillong	82.81	299	P	P	12 58 39.9	-0.4
CAST	Castle Rocks	83.68	17	P	P	12 58 42.8	-0.9
CAST				IAmb	IAmb	12 58 46.0	
	comp=Z,5.0nm,0.8s						
KTH	Kantishna Hill	84.12	18	P	P	12 58 45.0	-1.1
KTH				IAmb	IAmb	12 58 52.0	
	comp=Z,7.8nm,0.9s						
GOMU	GeErMu	84.21	309	P	P	12 58 35.1	-12
GOMU				pP	PcP	12 58 38.5	-13
GOMU				sP	pP	12 58 42.5	-15
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,90nm,9.4s						
RND	Reindeer	84.64	18	P	P	12 58 49.8	+1.1
RND				IAmb	IAmb	12 58 50.9	
	comp=Z,6.7nm,0.9s						
MCK	McKinley	84.85	18	P	P	12 58 49.8	+0.1
MCK				IAmb	IAmb	12 58 52.4	
	comp=Z,9.8nm,1.0s						
BWN	Browne	85.02	18	P	P	12 58 49.8	-0.7
I21K	Tanana	85.07	16	P	P	12 58 50.5	-0.1
I21K				IAmb	IAmb	12 58 53.7	
	comp=Z,8.4nm,0.8s						
H21K	Melozitna Rive	85.22	16	P	P	12 58 51.5	0.0
H21K				IAmb	IAmb	12 58 55.2	
	comp=Z,4.9nm,0.9s						
IMAR	Indian Mountai	85.23	15	P	P	12 58 50.7	-0.8
YBH	Yreka Blue Hor	85.47	45	P	P	12 58 52.4	-1.0
	comp=Z,1.5nm,1.0s,baz=291,slow=2.4,SNR=5.6						
YBH				LR	LR	13 28 24.7	
	comp=Z,97nm,21.4s,baz=159,slow=30						
CCB	Clear Creek Bu	85.86	18	P	P	12 58 53.6	-1.0
HDA	Harding Lake	85.95	18	P	P	12 58 54.2	-0.8
HDA				IAmb	IAmb	12 58 57.4	
	comp=Z,6.5nm,0.7s						
MDM	Murphy Dome	85.96	18	P	P	12 58 53.9	-1.3
MDM				IAmb	IAmb	12 58 58.1	
	comp=Z,6.8nm,1.2s						
TCOL	CIGO, UAF Yank	86.01	18	P	P	12 58 55.3	0.0
TCOL				IAmb	IAmb	12 58 57.6	
	comp=Z,7.7nm,0.8s						
COLA	College	86.01	18	P	P	12 58 54.4	-0.9
COLA				IAmb	IAmb	12 58 57.6	
	comp=Z,7.5nm,0.8s						
IL31		86.22	18	P	P	12 58 54.4	-2.0
ILAR	Eielson Array	86.22	18	P	P	12 58 54.6	-1.9
	comp=Z,3.0nm,0.7s,baz=237,slow=5.2,SNR=28						
ILAR				LR	LR	13 32 06.1	
	comp=Z,220nm,20.5s,baz=245,slow=32						
COLD	Coldfoot	87.09	15	P	P	12 59 01.1	+0.4
COLD				IAmb	IAmb	12 59 04.7	
	comp=Z,5.2nm,1.0s						
PFO	Pinyon Flats O	87.17	54	LR	LR	13 30 29.9	
	comp=Z,249nm,20.2s,baz=292,slow=30						
BELA	Belgrano 2	87.28	176	P	P	12 59 00.2	-1.4
BELA				IAmb	IAmb	12 59 10.6	
	comp=Z,3.9nm,0.9s						
NVAR	Mina Array Bea	87.38	49	P	P	12 59 03.9	+0.9
	comp=Z,1.2nm,1.0s,baz=228,slow=6.8,SNR=5.3						
NVAR				LR	LR	13 30 32.0	
	comp=Z,350nm,20.4s,baz=236,slow=30						
GRAC	Grapevine Rang	87.59	51	P	P	12 59 01.0	-2.8
TOLK	Toolik Lake Re	88.31	15	P	P	12 59 05.8	-0.7
TOLK				IAmb	IAmb	12 59 27.1	
	comp=Z,5.7nm,1.1s						
BMAR	Burnt Mountain	88.76	17	P	P	12 59 07.9	-0.7
G08A	Pilot Rock	89.34	43	P	P	12 59 11.9	0.0
G08A				IAmb	IAmb	12 59 14.0	
	comp=Z,5.4nm,1.3s						
TIXI	Tiksi	89.36	349	LR	LR	13 36 23.1	
	comp=Z,58nm,19.4s,baz=346,slow=34						
TIXI	Tiksi	89.36	349	P	P	12 59 10.1	-1.2
TIXI				IAmb	IAmb	12 59 15.0	
	comp=Z,7.0nm,1.0s						
LPIG	La Paz	89.51	65	LR	LR	13 31 32.5	
	comp=Z,51nm,21.6s,baz=301,slow=30						
ELK	Elko	90.38	48	LR	LR	13 32 32.1	
	comp=Z,159nm,20.7s,baz=270,slow=31						
WMQ	Urumqi	91.95	315	*e*P	P	12 59 25.9	+1.8
WMQ				pmax	pmax		
	comp=Z,14nm,1.5s						
INK	Inuvik	92.59	19	LR	LR	13 34 28.3	
	comp=Z,203nm,21.9s,baz=186,slow=31						
SNAA	Sanae	94.02	183	P	P	12 59 32.4	-0.8
VNA3	Neumayer Olymp	94.71	181	P	P	12 59 34.6	-1.7
VNA3	Neumayer Olymp	94.71	181	PP	PP	13 03 22.2	-1.9
VNA3	Neumayer Olymp	94.71	181	pP	P	12 59 37.2	+0.9
VNA2	Neumayer--Watz	94.97	182	P	P	12 59 35.8	-1.6
	baz=185,slow=6.0						
VNA2	Neumayer--Watz	94.97	182	PP	PP	13 03 24.7	-1.5
VNA2	Neumayer--Watz	94.97	182	pP	P	12 59 38.8	+1.3
PDAR	Pinedale Array	95.03	47	LR	LR	13 35 13.3	
	comp=Z,95nm,20.3s,baz=330,slow=31						
ANMO	Albuquerque	95.50	55	LR	LR	13 35 01.1	
	comp=Z,151nm,20.1s,baz=230,slow=31						
MK31	Makanchi Array	96.43	317	P	P	12 59 44.4	-0.2
MKAR	Makanchi Array	96.43	317	P	P	12 59 44.3	-0.3
	comp=Z,0.8nm,0.6s,baz=95,slow=6.4,SNR=12						
MKAR	Makanchi Array	96.43	317	P	P	12 59 45.3	+0.8
TXAR	Lajitas Array	96.55	62	P	P	12 59 46.1	+0.5
	comp=Z,0.2nm,0.8s,baz=219,slow=5.0,SNR=1.8						
ZALV	Zalesovo Beam	96.64	324	P	P	12 59 43.9	-1.3
	comp=Z,1.3nm,0.6s,baz=96,slow=4.5,SNR=6.9						
YKA	Yellowknife Ar	97.36	27	P	P	12 59 48.1	-0.2
	comp=Z,0.6nm,0.8s,baz=252,slow=4.8,SNR=5.9						
ARCES	ARCESS Array B	119.61	345	PKP	PKPdf	13 05 03.3	-1.2
	comp=Z,2.1nm,0.6s,baz=79,slow=2.0,SNR=19						
ARCES	ARCESS Array B	119.61	345		PKPdf	13 05 03.4	-1.1
KLMR	Klimovskoe	119.97	333	*e*PKPdf	PKPdf	13 05 04.6	-0.8
KLMR				AMP		13 05 08.5	
	comp=Z,19nm,1.4s						
FINES	FINESS Array B	125.03	338	PKP	PKPdf	13 05 14.2	-1.0
	comp=Z,2.8nm,0.7s,baz=26,slow=2.0,SNR=13						
FINES	FINESS Array B	125.03	338		PKPdf	13 05 14.9	-0.2
NB2	NORSAR Subarra	129.98	345	PKPdf	PKiKP	13 05 27.2	+1.7
	comp=Z,0.5nm,0.6s,baz=31,slow=1.9						
NOA	NORSAR Array B	129.98	345	PKP	PKPdf	13 05 24.9	+0.2
	comp=Z,1.6nm,0.9s,baz=27,slow=3.0,SNR=4.1						
AKASG	Malin Array Be	129.99	326	PKP	PKiKP	13 05 25.9	+0.1
	comp=Z,0.2nm,0.3s,baz=51,slow=2.1,SNR=8.2						
BRTR	Keskin Array B	131.74	311	PKP	PKPdf	13 05 29.4	+0.6
	comp=Z,0.5nm,0.7s,baz=299,slow=1.5,SNR=2.9						
BRTR				SKPbc	SKPab	13 08 54.3	+1.6
	comp=Z,0.6nm,0.6s,baz=82,slow=4.5,SNR=2.9						
BRTR	Keskin Array B	131.74	311		PKiKP	13 05 30.5	+0.7
CRVS	Cervenica-Dubn	135.14	328	*e*PKP	PKiKP	13 05 35.9	-0.3
OSTC	Ostas	136.56	333	*e*PKPDF	PKiKP	13 05 40.6	+1.5
DPC	Dobruska-Polom	136.66	332	*e*PKPDF	PKiKP	13 05 45.2	+5.9
BRG	Berggiesshubel	137.30	335	*e*PKP	PKiKP	13 05 41.9	+1.4
BRG				Amp		13 05 43.8	
	comp=Z,2.3nm,0.9s						
BRG				SKP	SKPdf	13 09 11.9	+0.8
BRG				Amp		13 09 20.0	
	comp=Z,3.8nm,1.0s						
RONA	Rosalia, Austr	138.54	330	S	SKiKP	13 09 15.7	-1.1
	comp=Z,5.4nm,1.5s						
CONA	Conrad Observa	138.59	330	*e*P	PKiKP	13 05 44.6	+1.2
	comp=Z,1.7nm,0.7s						
CONA				*e*S	SKPbc	13 09 14.7	+1.4
	comp=Z,0.2nm,0.2s						
CKRC	Cesky Krumlov	138.67	332	*e*PKPDF	PKiKP	13 05 44.1	+0.6
CKRC				*e*SKP	SKPdf	13 09 14.3	+0.6
KHC	Kasperske Hory	138.77	333	*e*PKP	PKiKP	13 05 44.4	+0.7
KHC				*e*SKP	SKPdf	13 09 14.7	+0.8
GERES	GERESS Array B	138.93	333	PKP	PKPdf	13 05 41.8	-0.1
	comp=Z,1.1nm,0.8s,baz=270,slow=1.3,SNR=6.8						
GERES				SKPbc	SKPbc	13 09 15.9	+1.6
	comp=Z,0.2nm,0.3s,baz=302,slow=2.5,SNR=5.4						
ARSA	Arzberg	139.22	330	*e*P	PKiKP	13 05 44.4	-0.3
	comp=Z,2.7nm,1.0s						
SOKA	Soboth	139.87	330	*e*P	PKiKP	13 05 46.6	+0.5
	comp=Z,5.8nm,1.8s						
SOKA				*e*S	SKiKP	13 09 18.8	-0.9
	comp=Z,5.0nm,1.3s						
KBA	Koelnbreinsper	140.39	331	*e*P	PKiKP	13 05 47.6	+0.3
	comp=Z,3.4nm,0.8s						
WATA	Walderalm	141.00	333	*e*P	PKiKP	13 05 47.3	-1.2
	comp=Z,3.7nm,1.0s						
WATA				*e*S	SKiKP	13 09 21.8	-0.3
	comp=Z,6.4nm,1.4s						
ABTA	Abfaltersbach	141.02	332	*e*P	PKPdf	13 05 44.5	-1.2
	comp=Z,4.7nm,1.2s						
ABTA				*e*S	SKiKP	13 09 21.9	-0.2
	comp=Z,4.5nm,1.6s						
WTTA	Wattenberg	141.03	333	*e*P	PKiKP	13 05 47.4	-1.1
	comp=Z,7.1nm,1.3s						
WTTA				*e*S	SKiKP	13 09 22.5	+0.3
	comp=Z,7.2nm,1.3s						
MOTA	Moosalm	141.20	333	*e*P	PKiKP	13 05 48.4	-0.4
	comp=Z,3.0nm,0.9s						
MOTA				*e*S	SKiKP	13 09 22.4	-0.2
	comp=Z,4.3nm,1.1s						
SQTA	Sankt Quirin	141.25	333	*e*P	PKiKP	13 05 48.4	-0.6
	comp=Z,3.3nm,0.7s						
SQTA				*i* S	SKiKP	13 09 22.5	-0.1
	comp=Z,3.5nm,0.8s						
FETA	Feichten	141.61	333	*e*P	PKPdf	13 05 44.0	-2.9
	comp=Z,3.1nm,1.1s						
FETA				*e*S	SKiKP	13 09 24.3	+0.9
	comp=Z,2.3nm,0.9s						
DAVA	Damuels	141.77	334	*e*P	PKiKP	13 05 52.8	+2.8
	comp=Z,4.4nm,1.1s						
KEST	Kesra	150.45	321	PKPbc	PKPbc	13 06 07.4	0.0
	comp=Z,13nm,0.8s,baz=214,slow=2.3,SNR=8.5						
ESDC	Sonseca Array	153.34	344	PKPbc	PKPbc	13 06 13.7	-0.1
	comp=Z,1.3nm,1.0s,baz=335,slow=3.4,SNR=6.6						
ESDC				PKPab	sPKPbc	13 06 27.4	-0.2
	comp=Z,2.9nm,0.9s,baz=6.2,slow=5.0,SNR=7.9						
ESDC	Sonseca Array	153.34	344	PKPdf	PKPdf	13 06 03.7	-2.6
ESDC					PKiKP	13 06 15.5	+1.5
ESDC					pPKPbc	13 06 25.1	+1.0
TORD	Torodi Ar. Bea	165.36	268	PKP	PKPdf	13 06 20.2	-0.5
	comp=Z,0.7nm,0.8s,baz=105,slow=1.0,SNR=4.1						
TORD				PKPab	PKPab	13 07 18.2	-0.5
	comp=Z,1.3nm,0.9s,baz=118,slow=1.8,SNR=5.7						
TORD	Torodi Ar. Bea	165.36	268		PKPdf	13 06 19.7	-1.0
TORD				PKPab	PKPab	13 07 15.9	-2.8

*IDC **03** 12:52:14.4±1.2, 14°.03S×166°.62E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/45, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=40.5km s-min=23.0km az=123.0*

*NEIC **03** 12:52:20.1±2.5, 14°.18S±0°.02×166°.7E±0°.2, h35km±2km, mb4.5/15, Error ellipse: s-maj=26.4km s-min=3.0km az=84.0*

ISC 03 12:52:20.6±0.8**, 14°.11S**±0°.09×**166°.7E**±0°.1**, h43km, n31, σ1§35**/32**, mb4.2**/14**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.43	159	Pn	Pn	12 52 41.0	-3.1
DZM	Mont Dzumac	7.92	181	Pn	Pn	12 54 12.0	-1.4
	0.7nm,0.3s,baz=314,slow=17,SNR=7.6						
DZM				Sn	Sn	12 55 42.8	+1.0
	0.3nm,0.3s,baz=272,slow=21,SNR=1.3						
DZM	Mont Dzumac	7.92	181		Pn	12 54 11.6	-1.8
PINNC	Pines Island,	8.49	175	Pn	Pn	12 54 20.2	-0.8
STKA	Stephens Creek	28.96	228	P	P	12 58 17.0	+0.9
	2.8nm,0.5s,baz=60,slow=9.6,SNR=9.9						
STKA	Stephens Creek	28.96	228	P	P	12 58 17.4	+1.3
WB0	Warramunga Arr	31.34	255	P	P	12 58 37.4	0.0
WB0				IAmb	IAmb	12 58 37.6	
	comp=Z,2.4nm,0.8s						
WRA	Warramunga Arr	31.41	255	P	P	12 58 37.4	-0.6
	comp=Z,0.8nm,0.8s,baz=86,slow=9.4,SNR=5.1						
WRA	Warramunga Arr	31.41	255	P	P	12 58 36.7	-1.3
AS31	Alice Springs	32.35	248	P	P	12 58 44.9	-1.3
ASAR	Alice Springs	32.35	248	P	P	12 58 45.5	-0.7
	comp=Z,1.4nm,0.7s,baz=73,slow=9.3,SNR=18						
ASAR	Alice Springs	32.35	248	P	P	12 58 44.9	-1.3
BBOO	Buckleboo	33.50	231	P	P	12 58 56.4	+0.2
KNRA	Kununurra	36.63	263	P	P	12 59 24.1	+0.9
KNRA				IAmb	IAmb	12 59 34.7	
	comp=Z,7.8nm,1.1s						
FORT	Forrest	39.11	238	P	P	12 59 43.0	-1.0
FORT				IAmb	IAmb	12 59 55.9	
	comp=Z,15nm,0.8s						
FITZ	Fitzroy Crossi	39.55	259	P	P	12 59 46.0	-1.9
	comp=Z,1.1nm,0.9s,baz=86,slow=8.1,SNR=2.1						
FITZ	Fitzroy Crossi	39.55	259	P	P	12 59 45.4	-2.5
FITZ				IAmb	IAmb	13 00 02.0	
	comp=Z,5.8nm,1.3s						
MCQ	Macquarie Isla	40.75	187	P	P	12 59 57.4	+0.2
TOLI2	Tolitoli	47.88	285	P	P	13 00 54.3	-0.6
TOLI2				IAmb	IAmb	13 00 58.2	
	comp=Z,14nm,1.1s						
VNDA	Vanda	63.47	181	P	P	13 02 48.4	+2.7
VNDA				IAmb	IAmb	13 02 54.7	
	comp=Z,3.0nm,1.4s						
QSPA	South Pole Qui	75.92	180	P	P	13 04 04.9	+2.2
QSPA				IAmb	IAmb	13 04 08.0	
	comp=Z,8.7nm,1.5s						
HDA	Harding Lake	85.84	18	P	P	13 04 55.3	0.0
HDA				IAmb	IAmb	13 05 02.5	
	comp=Z,5.5nm,1.3s						
ILAR	Eielson Array	86.12	18	P	P	13 04 56.4	-0.2
	comp=Z,0.5nm,0.6s,baz=237,slow=5.0,SNR=11						
ILAR	Eielson Array	86.12	18	P	P	13 04 55.8	-0.9
TOLK	Toolik Lake Re	88.20	15	P	P	13 05 07.4	+0.7
TOLK				IAmb	IAmb	13 05 12.0	
	comp=Z,3.3nm,1.3s						
SNAA	Sanae	94.13	183	P	P	13 05 33.5	-0.9
MKAR	Makanchi Array	96.35	317	P	P	13 05 45.7	+0.8
	comp=Z,0.2nm,0.6s,baz=112,slow=6.4,SNR=3.2						
ARCES	ARCESS Array B	119.50	345	PKP	PKPdf	13 11 04.8	-0.2
	comp=Z,2.8nm,0.8s,baz=72,slow=1.5,SNR=6.7						
ARCES	ARCESS Array B	119.50	345		PKiKP	13 11 05.2	+0.1
FINES	FINESS Array B	124.93	338	PKP	PKiKP	13 11 15.6	-0.3
	comp=Z,0.9nm,0.8s,baz=48,slow=2.1,SNR=2.2						
FINES	FINESS Array B	124.93	338		PKiKP	13 11 15.8	-0.1

*IDC **03** 12:53:10.4±6.4, 5°.98S×154°.78E, h107km±43km, mb3.3/3, mb1 3.5/5, mb1mx3.2/45, mbtmp3.7/5, Error ellipse: s-maj=56.9km s-min=23.2km az=92.0*

ISC 03 12:53:07.8±1.9**, 6°.0S**±0°.1×**155°.0E**±0°.2**, h89km, n6, σ0§85**/8**, mb3.1**/3**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.38	300	P	Pn	12 53 59.2	+0.8
	9.9nm,0.3s,baz=336,slow=15,SNR=2.2						
KRVT				S	Sn	12 54 37.1	-0.6
	25nm,0.3s,baz=272,slow=23,SNR=10						
PMG	Port Moresby	8.45	246	P	Pn	12 55 08.6	+1.1
	0.7nm,0.3s,baz=55,slow=12,SNR=2.0						
PMG				S	Sn	12 56 40.3	-0.9
	0.8nm,0.3s,baz=198,slow=16,SNR=1.4						
WRA	Warramunga Arr	24.37	233	P	P	12 58 17.7	-0.2
	0.5nm,0.6s,baz=58,slow=9.2,SNR=7.4						
ASAR	Alice Springs	26.82	227	P	P	12 58 39.6	-0.4
	0.3nm,0.5s,baz=59,slow=9.1,SNR=10.0						
CMAR	Chiang Mai Arr	60.34	295	P	P	13 03 08.0	+0.1
	0.7nm,0.5s,baz=125,slow=5.4,SNR=4.6						
TORD	Torodi Ar. Bea	152.73	287	PKPbc	PKPbc	13 12 54.7	-0.7
	0.1nm,0.3s,baz=94,slow=2.8,SNR=1.5						

*IDC **03** 12:55:21.9±1.2, 14°.09S×166°.68E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.8/42, mbtmp4.0/7, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/62, Error ellipse: s-maj=43.8km s-min=21.4km az=120.0*

*NEIC **03** 12:55:24.9±1.5, 14°.14S±0°.09×166°.9E±0°.1, h20km±5km, mb4.4/18, Error ellipse: s-maj=19.4km s-min=9.8km az=62.0*

ISC 03 12:55:26.8±0.7**, 14°.13S**±0°.07×**166°.8E**±0°.1**, h35km, n37, σ0§99**/37**, mb4.2**/15**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.36	164	Pn	Pn	12 55 48.3	-1.0
DZM	Mont Dzumac	7.90	182	Pn	Pn	12 57 19.3	0.0
	1.2nm,0.3s,baz=289,slow=21,SNR=2.3						
DZM				Sn	Sn	12 58 50.5	+2.9
	baz=331,slow=19,SNR=2.0						
DZM	Mont Dzumac	7.90	182	Pn	Pn	12 57 18.6	-0.7
ONTNC	Ouen Toro	8.14	182	Pn	Pn	12 57 22.8	+0.3
HNR	Honiara	8.18	304	Pn	Pn	12 57 23.0	0.0
EIDS	Eidsvold	18.52	231	P	Pn	12 59 40.7	0.0
EIDS				IAmb	IAmb	13 00 02.0	
	comp=Z,21nm,1.4s						
CTA	Charters Tower	20.51	250	LR	LR	13 06 51.9	
	comp=Z,112nm,20.6s,baz=341,slow=34						
BKZ	Black Stump Fm	26.36	163	P	P	13 00 58.8	-0.9
STKA	Stephens Creek	29.05	228	P	P	13 01 24.2	+0.5
	comp=Z,3.9nm,0.5s,baz=50,slow=8.3,SNR=12						
STKA	Stephens Creek	29.05	228	P	P	13 01 24.3	+0.5
WB0	Warramunga Arr	31.47	255	P	P	13 01 43.8	-1.7
WB0				IAmb	IAmb	13 01 51.4	
	comp=Z,7.9nm,1.4s						
WB2	Warramunga Arr	31.53	255	P	P	13 01 44.7	-1.3
WB2				IAmb	IAmb	13 02 04.1	
	comp=Z,4.4nm,1.1s						
WRA	Warramunga Arr	31.54	255	P	P	13 01 44.6	-1.4
	comp=Z,0.5nm,0.6s,baz=84,slow=8.9,SNR=5.1						
WRA	Warramunga Arr	31.54	255	P	P	13 01 45.6	-0.4
AS31	Alice Springs	32.47	248	P	P	13 01 52.6	-1.6
ASAR	Alice Springs	32.47	248	P	P	13 01 52.8	-1.4
	comp=Z,1.2nm,0.6s,baz=74,slow=9.2,SNR=15						
ASAR	Alice Springs	32.47	248	P	P	13 01 53.0	-1.1
BBOO	Buckleboo	33.59	231	P	P	13 02 03.7	-0.1
KNRA	Kununurra	36.77	263	P	P	13 02 30.8	-0.5
KNRA				IAmb	IAmb	13 02 32.2	
	comp=Z,10nm,1.2s						
FORT	Forrest	39.22	238	P	P	13 02 51.4	-0.5
FORT				IAmb	IAmb	13 02 54.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,19nm,1.0s						
FITZ	Fitzroy Crossi	39.69	259	P	P	13 02 55.6	-0.4
FITZ				IAmb	IAmb	13 03 15.9	
	comp=Z,5.2nm,1.3s						
MORW	Morawa	49.12	244	P	P	13 04 11.4	+0.1
MORW				IAmb	IAmb	13 04 29.2	
	comp=Z,10nm,1.2s						
VNDA	Vanda	63.44	181	P	P	13 05 52.1	-0.5
VNDA				IAmb	IAmb	13 06 19.4	
	comp=Z,1.6nm,1.2s						
QSPA	South Pole Qui	75.89	180	P	P	13 07 09.7	+0.1
QSPA				IAmb	IAmb	13 07 36.7	
	comp=Z,7.6nm,1.4s						
SEY	Seymchan	77.64	353	P	P	13 07 20.1	+1.0
	comp=Z,0.3nm,0.2s,baz=120,slow=5.1,SNR=3.5						
SONM	Songino Array	81.75	324	P	P	13 07 41.8	-0.3
IMAR	Indian Mountai	85.11	15	P	P	13 07 59.5	+0.8
IL31		86.10	18	P	P	13 08 03.3	-0.3
IL31				IAmb	IAmb	13 08 10.3	
	comp=Z,2.8nm,1.2s						
ILAR	Eielson Array	86.10	18	P	P	13 08 03.5	-0.1
	comp=Z,0.5nm,0.5s,baz=237,slow=5.2,SNR=12						
ILAR	Eielson Array	86.10	18	P	P	13 08 03.1	-0.5
BBB	Bella Bella	86.53	34	P	P	13 08 06.2	+0.2
SNAA	Sanae	94.11	183	P	P	13 08 39.9	-1.6
MKAR	Makanchi Array	96.47	317	P	P	13 08 54.3	+1.8
	comp=Z,0.1nm,0.5s,baz=104,slow=8.8,SNR=3.0						
MKAR	Makanchi Array	96.47	317	P	P	13 08 53.8	+1.2
ARCES	ARCESS Array B	119.57	345	PKP	PKiKP	13 14 12.4	+0.1
	comp=Z,0.8nm,0.5s,baz=66,slow=1.8,SNR=16						
FINES	FINESS Array B	125.01	338	PKP	PKiKP	13 14 23.3	+0.1
	comp=Z,0.7nm,0.8s,baz=58,slow=3.4,SNR=6.3						
FINES	FINESS Array B	125.01	338		PKiKP	13 14 23.7	+0.5

*IDC **03** 12:59:46.6±1.1, 14°.11S×166°.78E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/34, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=34.6km s-min=23.2km az=109.0*

ISC 03 12:59:52.1±1.0**, 14°.10S**±0°.09×**166°.8E**±0°.2**, h35**km**, n10, σ0s.92**/11**, mb3.8**/7**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.93	182	Pn	Pn	13 01 44.5	-0.5
	0.7nm,0.3s,baz=317,slow=17,SNR=13						
DZM				Sn	Sn	13 03 14.8	+1.3
	0.4nm,0.3s,baz=108,slow=20,SNR=1.3						
WRA	Warramunga Arr	31.50	255	P	P	13 06 10.0	-1.0
	0.4nm,0.8s,baz=86,slow=9.4,SNR=1.8						
ASAR	Alice Springs	32.43	248	P	P	13 06 17.9	-1.2
	0.6nm,0.8s,baz=74,slow=9.4,SNR=8.8						
FITZ	Fitzroy Crossi	39.64	259	P	P	13 07 21.4	+0.6
	1.9nm,1.1s,baz=131,slow=8.6,SNR=2.3						
VNDA	Vanda	63.47	181	P	P	13 10 17.7	-0.4
	0.6nm,0.6s,baz=34,slow=3.4,SNR=2.6						
SONM	Songino Array	81.70	324	P	P	13 12 08.0	+1.0
	0.5nm,0.8s,baz=143,slow=5.0,SNR=3.6						
ILAR	Eielson Array	86.09	18	P	P	13 12 28.6	-0.3
	0.6nm,0.6s,baz=239,slow=5.2,SNR=15						
MKAR	Makanchi Array	96.41	317	P	P	13 13 18.3	+0.8
	0.2nm,0.6s,baz=83,slow=7.7,SNR=4.2						
ARCES	ARCESS Array B	119.52	345	PKP	PKPdf	13 18 37.0	-0.5
	0.5nm,0.4s,baz=82,slow=1.4,SNR=7.5						
FINES	FINESS Array B	124.96	338	PKP	PKiKP	13 18 48.1	-0.3
	1.0nm,0.8s,baz=46,slow=4.0,SNR=5.1						

IDC 03 13:32:58.8±1.3**, 13°.85N**×**143°.13E, h0**km**, mb3.4**/4**, mb1 3.7**/4**, mb1mx3.4**/38**, mbtmp3.4**/4**, Error ellipse: s-maj=39.1km s-min=25.4km az=117.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.71	98	Pn	Pn	13 33 30.0	+0.2
	20nm,0.3s,baz=328,slow=19,SNR=17						
GUMO				Sn	Sn	13 33 48.3	-4.0
	36nm,0.3s,baz=336,slow=20,SNR=8.3						
WRA	Warramunga Arr	34.67	195	P	P	13 39 50.3	0.0
	0.5nm,0.7s,baz=29,slow=10,SNR=3.2						
ASAR	Alice Springs	38.36	194	P	P	13 40 21.6	-0.2
	0.3nm,1.0s,baz=5.7,slow=10,SNR=2.0						
ILAR	Eielson Array	69.06	26	P	P	13 44 06.1	-0.1
	0.2nm,0.4s,baz=252,slow=5.6,SNR=8.3						
YKA	Yellowknife Ar	83.41	27	P	P	13 45 28.0	+0.2
	0.2nm,0.6s,baz=280,slow=5.3,SNR=2.4						

JMA 03 13:33:08.3±0.1**, 26°.77N**×**130°.92E, h56**km±5km**, M3.6, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKDJ	Kitadaitoujima	0.88	157	P	Pn	13 33 24.7	0.0
JKDJ				S	Sn	13 33 36.8	+0.1
JMZ	Minamidaito 2	0.98	164	P	Pn	13 33 26.1	+0.1
JMZ				S	Sn	13 33 39.5	+0.5
JZK	Kikaishima	1.75	332	P	Pn	13 33 37.5	+1.1
JZK				S	Sn	13 33 59.4	+1.8
JAM	Amami Oshima	2.01	325	P	Pn	13 33 40.7	+0.9
JAM				S	Sn	13 34 03.7	-0.1
JTK	Tokunoshima	2.02	300	P	Pn	13 33 40.9	+0.9
JTK				S	Sn	13 34 05.2	+1.0
JAMN	Amaminishikomi	2.13	314	P	Pn	13 33 42.0	+0.5
JAMN				eS	Sn	13 34 07.0	+0.1
JOKE	Okinoerabujima	2.18	286	P	Pn	13 33 43.4	+1.3
JYRO	Yoronjima	2.22	277	P	Pn	13 33 43.8	+1.1
JYRO				eS	Sn	13 34 09.9	+0.9
JOW	Kunigami	2.37	272	P	Pn	13 33 46.0	+1.3
JOW				S	Sn	13 34 13.4	+0.8
JNTH	Nagotoyohara	2.61	265	P	Pn	13 33 48.9	+0.9
JNTH				S	Sn	13 34 18.7	+0.3
JIH	Iheya	2.65	276	P	Pn	13 33 50.0	+1.4
JIH				S	Sn	13 34 21.2	+1.7
JTAJ	Takarajima	2.82	328	S	Sn	13 34 23.7	+0.1
JJT3	Tamagusuku3	2.88	258	P	Pn	13 33 53.3	+1.6
JJT3				eS	Sn	13 34 26.8	+1.6
JAGN	Aguni-jima	3.30	268	P	Pn	13 33 58.6	+1.2
JAGN				S	Sn	13 34 35.9	+0.5
JYAK	Yakushimahirau	3.47	354	S	Sn	13 34 37.1	-2.6
JKE	Kume jima 2	3.73	264	P	Pn	13 34 04.3	+0.9
JKE				S	Sn	13 34 47.4	+1.4

*NEIC **03** 13:46:47.4±1.8, 23°.4S±0°.1×179°.9W±0°.2, h563km±7km, mb4.1/19, Error ellipse: s-maj=24.0km s-min=17.6km az=64.0*

*IDC **03** 13:46:47.2±7.6, 23°.34S×179°.91W, h568km±92km, mb2.9/6, mb1 3.1/7, mb1mx2.8/30, mbtmp4.0/7, Error ellipse: s-maj=78.2km s-min=29.4km az=9.0*

ISC 03 13:46:45.7±0.9**, 23°.3S**±0°.1×**179°.8W**±0°.1**, h550**km**, n33, σ0s.87**/32**, mb3.8**/14**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	11.36	277	P	P	13 49 17.8	+0.2
PINNC	Pines Island,	11.73	271	P	P	13 49 22.8	+1.3
MXZ	Matakaoa Point	14.32	186	P	P	13 49 46.5	-1.4
KOUNC	Koumac, New Ca	14.98	277	P	P	13 49 55.5	+0.6
URZ	Urewera	15.15	189	P	P	13 49 56.2	-0.3
	0.8nm,0.3s,baz=0.0,slow=5.1,SNR=5.3						
URZ	Urewera	15.15	189	P	P	13 49 56.0	-0.5
URZ				IAmb	IAmb	13 50 20.4	
	comp=Z,36nm,1.3s						
QRZ	Quartz Range	18.63	198	P	P	13 50 29.6	+0.5
THZ	Tophouse	19.40	197	P	P	13 50 36.4	+0.2
LTZ	Lake Taylor	20.52	197	P	P	13 50 45.1	-1.1
WHZ	Wether Hill Ro	24.63	201	P	P	13 51 23.9	+1.0
CTA	Charters Tower	31.62	269	P	P	13 52 24.3	+0.1
	comp=Z,3.3nm,0.4s,baz=90,slow=12,SNR=16						
CTAO	Charters Tower	31.62	269	P	P	13 52 24.3	+0.1
CTAO				IAmb	IAmb	13 52 43.6	
	comp=Z,12nm,1.1s						
STKA	Stephens Creek	35.09	247	P	P	13 52 53.5	+0.2
	comp=Z,0.7nm,0.4s,baz=96,slow=10,SNR=3.5						
AS31	Alice Springs	42.28	260	P	P	13 53 50.9	-0.6
ASAR	Alice Springs	42.28	260	P	P	13 53 51.1	-0.4
	comp=Z,0.8nm,0.5s,baz=95,slow=7.4,SNR=29						
ASAR	Alice Springs	42.28	260	P	P	13 53 50.9	-0.6
WR0	Warramunga Arr	42.41	265	P	P	13 53 51.4	-1.2
WR0				IAmb	IAmb	13 54 17.0	
	comp=Z,7.1nm,1.4s						
WB2	Warramunga Arr	42.58	265	P	P	13 53 52.7	-1.2
WB2				IAmb	IAmb	13 54 04.1	
	comp=Z,2.9nm,1.2s						
WB0	Warramunga Arr	42.58	266	P	P	13 53 52.8	-1.2
WB0				IAmb	IAmb	13 54 12.5	
	comp=Z,4.3nm,1.2s						
WRAB	Tennant Creek	42.59	265	P	P	13 53 52.7	-1.3
WRAB				IAmb	IAmb	13 54 05.9	
	comp=Z,6.5nm,1.4s						
WRA	Warramunga Arr	42.59	265	P	P	13 53 53.0	-1.0
	comp=Z,1.2nm,0.6s,baz=94,slow=8.3,SNR=40						
WRA	Warramunga Arr	42.59	265	P	P	13 53 52.7	-1.3
MTN	Manton Dam	47.55	274	P	P	13 54 30.6	-1.4
MTN				IAmb	IAmb	13 54 44.6	
	comp=Z,7.7nm,1.3s						
KNRA	Kununurra	48.83	269	P	P	13 54 41.1	-0.5
KNRA				IAmb	IAmb	13 54 47.6	
	comp=Z,13nm,1.4s						
FITZ	Fitzroy Crossi	51.02	265	P	P	13 54 57.6	+0.1
	comp=Z,0.7nm,0.8s,baz=108,slow=3.2,SNR=6.6						
FITZ	Fitzroy Crossi	51.02	265	IAmb	IAmb	13 55 24.2	
	comp=Z,5.0nm,1.4s						
QSPA	South Pole Qui	66.79	180	P	P	13 56 43.9	+1.2
JSU	Suzuyama	72.33	317	P	P	13 57 16.5	+0.4
JSU				IAmb	IAmb	13 57 36.7	
	comp=Z,23nm,1.3s						
BELA	Belgrano 2	77.02	173	P	P	13 57 41.4	-0.3
BELA				IAmb	IAmb	13 57 48.6	
	comp=Z,6.3nm,1.5s						
TXAR	Lajitas Array	89.99	58	P	P	13 58 47.6	+0.5
	comp=Z,0.2nm,0.7s,baz=194,slow=7.1,SNR=3.5						
AKASG	Malin Array Be	144.53	328	PKP	PKPdf	14 05 18.5	-0.9
	comp=Z,0.9nm,0.4s,baz=44,slow=4.1,SNR=8.3						
CLL	Collm	150.31	344	i PKPbc	PKPbc	14 05 34.6	-0.2
GERES	GERESS Array B	152.33	341	PKPbc	PKPbc	14 05 38.9	-0.6
	comp=Z,0.1nm,0.3s,baz=4.1,slow=1.4,SNR=1.6						

IDC 03 14:05:30.6±1.9**, 14°.14S**×**166°.60E, h0**km**, mb3.2**/3**, mb1 3.6**/4**, mb1mx3.4**/45**, mbtmp3.4**/4**, ML3.4**/1**, Error ellipse: s-maj=53.6km s-min=34.9km az=125.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.89	181	Pn	Pn	14 07 26.6	-0.1
	0.5nm,0.3s,baz=55,slow=7.3,SNR=10						
DZM				Sn	Sn	14 08 50.3	-6.5
	baz=238,slow=23,SNR=2.1						
WRA	Warramunga Arr	31.35	255	P	P	14 11 52.7	-0.5
	0.3nm,0.9s,baz=84,slow=11,SNR=1.8						
ASAR	Alice Springs	32.28	248	P	P	14 12 01.8	+0.3
	0.2nm,0.6s,baz=76,slow=9.2,SNR=6.2						
ILAR	Eielson Array	86.17	18	P	P	14 18 13.4	0.0
	0.2nm,0.7s,baz=241,slow=6.8,SNR=4.1						

*IDC **03** 14:10:31.5±2.7, 14°.75S×167°.50E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/45, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=53.2km s-min=48.0km az=102.0*

*NEIC **03** 14:10:46.0±1.7, 15°.5S±0°.1×167°.5E±0°.1, h109km±9km, mb4.4/11, Error ellipse: s-maj=21.9km s-min=17.0km az=212.0*

*NOU **03** 14:10:47.7, 15°.62S×167°.57E, h98km, MLv4.5/6, Vanuatu Islands*

ISC 03 14:10:46.6±1.4**, 15°.56S**±0°.09×**167°.6E**±0°.2**, h124**km**, n26, σ0s.97**/27**, mb4.3**/9**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.35	288	Pn	Pn	14 11 03.4	-0.9
SANVU	Saraoutou	0.35	288	P	Pn	14 11 03.8	-0.4
DVP	Devils Point	2.24	164	P	Pn	14 11 22.1	-1.1
LIFNC	LIFOU	5.20	183	Pn	Pn	14 11 60.0	-2.3
MARNC	Mare, Loyalty	5.91	176	Pn	Pn	14 12 11.6	-0.2
DZM	Mont Dzumac	6.56	189	Pn	Pn	14 12 20.5	-0.2
	3.4nm,0.3s,baz=188,slow=13,SNR=54						
DZM				Sn	Sn	14 13 32.6	-1.7
	3.4nm,0.3s,baz=90,slow=22,SNR=6.6						
DZM	Mont Dzumac	6.56	189		Pn	14 12 20.9	+0.2
ONTNC	Ouen Toro	6.79	189	Pn	Pn	14 12 25.2	+1.5
OUENC	Ouen Island, N	6.86	186	Pn	Pn	14 12 24.8	+0.1
PINNC	Pines Island,	7.02	181	Pn	Pn	14 12 27.6	+0.8
EIDS	Eidsvold	18.24	235	Pn	Pn	14 14 52.6	+0.7
EIDS				IAmb	IAmb	14 15 30.9	
	comp=Z,26nm,1.5s						
WR0	Warramunga Arr	31.71	257	P	P	14 16 58.4	-0.4
WR0				IAmb	IAmb	14 17 40.9	
	comp=Z,8.5nm,1.4s						
WB0	Warramunga Arr	31.84	258	P	P	14 16 59.1	-0.8
WB0				IAmb	IAmb	14 17 46.4	
	comp=Z,19nm,1.8s						
WB2	Warramunga Arr	31.89	257	P	P	14 16 59.8	-0.6
WB2				IAmb	IAmb	14 17 57.1	
	comp=Z,6.9nm,1.2s						
WRAB	Tennant Creek	31.89	257	P	P	14 16 59.7	-0.7
WRAB				IAmb	IAmb	14 17 20.6	
	comp=Z,12nm,1.6s						
WRA	Warramunga Arr	31.90	257	P	P	14 16 59.8	-0.7
	comp=Z,0.4nm,0.6s,baz=83,slow=7.2,SNR=8.8						
AS31	Alice Springs	32.64	250	P	P	14 17 06.2	-0.8
ASAR	Alice Springs	32.64	250	P	P	14 17 06.8	-0.2
	comp=Z,1.2nm,0.5s,baz=77,slow=9.1,SNR=36						
ASAR	Alice Springs	32.64	250	P	P	14 17 06.4	-0.6
BBOO	Buckleboo	33.30	233	P	P	14 17 12.9	+0.4
KNRA	Kununurra	37.32	264	P	P	14 17 46.8	-0.4
FITZ	Fitzroy Crossi	40.14	260	P	P	14 18 11.0	+0.3
	comp=Z,1.6nm,0.4s,baz=87,slow=8.5,SNR=27						
FITZ	Fitzroy Crossi	40.14	260	P	P	14 18 10.8	+0.1
VNDA	Vanda	62.04	181	P	P	14 20 55.6	+2.2
VNDA				IAmb	IAmb	14 21 25.9	
	comp=Z,5.2nm,1.6s						
IPM	Ipoh	68.77	281	P	P	14 21 37.4	-0.5
IPM				IAmb	IAmb	14 22 52.9	
	comp=Z,14nm,1.4s						
ARCES	ARCESS Array B	121.12	345	PKP	PKiKP	14 29 23.9	-0.3
	comp=Z,2.1nm,1.0s,baz=48,slow=1.3,SNR=1.8						

TAP 03 14:12:59.9, 24°.04N×**121°.63E, h9**km**, ML1.6, C, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.05	323	i P	Pg	14 13 02.1	+0.3
	baz=333						
TWD				i S	Sg	14 13 03.3	+0.3
	baz=333						
HWA	Hwalien	0.07	196	i P	Pg	14 13 02.3	+0.3
	baz=189						
HWA				S	Sg	14 13 04.3	+1.0
	baz=189						
ETL	Fush Village	0.12	359	i P	Pg	14 13 03.0	+0.3
	baz=359						
ETL				S	Sg	14 13 05.4	+0.8
	baz=359						
NACB	Ninganchiao	0.13	348	i P	Pg	14 13 03.2	+0.3
	baz=356						
NACB				S	Sg	14 13 05.3	+0.3
	baz=356						
ETLH	Xiulin Townshi	0.21	321	i P	Pg	14 13 04.9	+0.6
	baz=321						
ETLH				i S	Sg	14 13 08.0	+0.8
	baz=321						
ESL	Shilin	0.29	218	i P	Pg	14 13 05.8	+0.1
	baz=226						
ESL				S	Sg	14 13 10.1	+0.5
	baz=226						
WHF	Hehuan Shan	0.34	287	P	Pg	14 13 07.3	+0.4
	baz=287						
WHF				S	Sg	14 13 12.3	+0.7
	baz=287						
ENA	Nanau	0.40	15	P	Pg	14 13 08.0	+0.2
	baz=17						
ENA				eS	Sg	14 13 13.8	+0.8
	baz=17						
FUSS	Fushou	0.40	300	eP	Pg	14 13 07.6	-0.4
	baz=300						
FUSS				eS	Sb	14 13 15.9	+0.1
	baz=300						
CHGB	Renai	0.41	272	i P	Pb	14 13 08.9	-0.7
	baz=262						
CHGB				S	Sg	14 13 14.5	+0.9
	baz=262						
OWD	Renai	0.42	258	eP	Pb	14 13 09.3	-0.4
	baz=267						
OWD				eS	Sg	14 13 14.5	+0.8
	baz=267						
EWUT	Wuta	0.42	19	eP	Pg	14 13 08.2	0.0
	baz=19						
EWUT				eS	Sg	14 13 14.5	+0.7
	baz=19						
NNSB	Datong	0.44	330	P	Pg	14 13 09.1	+0.4
	baz=330						
NNSB				eS	Sg	14 13 15.2	+0.7
	baz=330						
NNS	Nan Shan	0.46	330	eP	Pg	14 13 09.4	+0.5
	baz=330						
NNS				eS	Sb	14 13 16.4	-0.9
	baz=330						
WUSB	Renai	0.47	264	i P	Pg	14 13 09.7	+0.6
	baz=263						
WUSB				S	Sg	14 13 15.2	-0.1
	baz=263						
TDCB	Techi	0.48	296	eP	Pb	14 13 10.0	-0.6
	baz=296						
LATG	Datong	0.50	350	i P	Pg	14 13 10.0	+0.3
	baz=349						
LATG				S	Sb	14 13 17.6	-0.8
	baz=349						
VWDT	VWDT	0.53	237	i P	Pg	14 13 10.7	+0.5
	baz=229						
VWDT				S	Sb	14 13 18.2	-1.0
	baz=229						
NDT	Datong Townshi	0.57	350	i P	Pb	14 13 11.6	-0.5
	baz=349						
NDT				S	Sg	14 13 19.0	+0.6
	baz=349						
NDS	Dongshan	0.59	8	eP	Pg	14 13 11.7	+0.3
	baz=8.0						
NDS				eS	Sg	14 13 19.8	+0.6
	baz=8.0						
ENTT	Nioudou	0.60	355	i P	Pb	14 13 12.1	-0.5
	baz=355						
ENTT				S	Sb	14 13 21.4	+0.3
	baz=355						
WCS	Beigang Elemen	0.65	271	eP	Pb	14 13 13.6	+0.1
	baz=271						
WHP	Taichung City	0.66	291	eP	Pb	14 13 13.9	+0.2
	baz=290						
WHP				eS	Sb	14 13 23.8	+0.6
	baz=290						
YHNB	Yeheng	0.66	340	eP	Pb	14 13 13.8	0.0
	baz=340						
YHNB				eS	Sb	14 13 22.4	-0.7
	baz=340						
SSLB	Suanglung	0.67	248	eP	Pg	14 13 12.8	0.0
	baz=258						
SSLB				eS	Sb	14 13 23.3	+0.2
	baz=258						
NSK	Sanguang	0.68	339	eP	Pb	14 13 13.7	-0.3
	baz=332						
NSK				eS	Sb	14 13 24.2	+0.8
	baz=332						
TWE	Neicheng	0.68	3	eP	Pb	14 13 13.7	-0.2
	baz=5.0						
TWE				eS	Sg	14 13 22.1	+0.3
	baz=5.0						
FUSB	Fushanzhiwuyua	0.71	357	eP	Pb	14 13 14.3	-0.3
	baz=357						
FUSB				eS	Sb	14 13 25.8	+1.2
	baz=357						
NWLT	Wulai	0.74	351	eP	Pb	14 13 14.9	-0.1
	baz=340						
NFF	Wufeng Townshi	0.75	322	eP	Pb	14 13 15.1	-0.1
	baz=321						

IDC 03 14:15:17.7±1.6**, 14°.06S**×**166°.47E, h0**km**, mb3.5**/3**, mb1 3.8**/4**, mb1mx3.5**/44**, mbtmp3.6**/4**, ML3.6**/1**, Error ellipse: s-maj=51.5km s-min=31.1km az=128.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.96	180	Pn	Pn	14 17 14.3	-0.6
	0.9nm,0.3s,baz=340,slow=19,SNR=10						
DZM				Sn	Sn	14 18 39.3	-6.5
	baz=102,slow=20,SNR=1.6						
WRA	Warramunga Arr	31.24	255	P	P	14 21 38.9	-0.5
	0.5nm,0.8s,baz=86,slow=9.8,SNR=3.6						
ASAR	Alice Springs	32.19	248	P	P	14 21 48.2	+0.4
	0.4nm,0.7s,baz=71,slow=9.4,SNR=7.3						
ILAR	Eielson Array	86.14	18	P	P	14 28 00.2	-0.2
	0.3nm,0.6s,baz=233,slow=5.3,SNR=6.7						
ARCES	ARCESS Array B	119.42	345	PKP	PKiKP	14 34 08.9	+0.1
	3.9nm,1.1s,baz=41,slow=1.7,SNR=2.7						

*NEIC **03** 14:17:44.6±1.3, 57°.14N±0°.04×157°.84W±0°.08, h12km±6km, Error ellipse: s-maj=7.7km s-min=3.7km az=127.0*

*IDC **03** 14:17:44.7±4.9, 57°.01N×157°.62W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.4/54, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=82.0km s-min=43.8km az=120.0*

*AEIC **03** 14:17:45±1.3, 57°.14N±0°.02×157°.82W±0°.04, h18km±4km, ML3.6, mb4.0/2(NEIC), ML3.8/38(NEIC), Error ellipse: s-maj=3.4km s-min=3.1km az=117.0*

ISC 03 14:17:44.2±1.4**, 57°.11N**±0°.05×**157°.79W**±0°.04**, h8**km±10km**, n94, σ0s.65**/94**, mb3.6**/4**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.27	238		Pb	14 17 51.5	0.0
ANNW					Sb	14 17 56.3	0.0
ANPB	Aniakchak Plen	0.41	221		Pg	14 17 53.2	+0.9
PLBL	Peulik Blue Cr	0.79	41		Pb	14 18 00.2	0.0
CHGN	Chignik	0.88	203		Pg	14 18 00.2	-0.9
CHGN					Sg	14 18 12.9	+0.3
CHGN	Chignik	0.88	203	IAML		14 18 18.6	
	comp=N,2µm,0.5s						
CHGN				IAML		14 18 18.6	
	comp=E,3µm,0.5s						
CHGN	Chignik	0.88	203	P	Pg	14 18 00.2	-0.9
	baz=21						
CHGN				S	Sg	14 18 12.9	+0.3
	baz=21						
PLK1	Peulik 1	0.94	42		Pb	14 18 03.0	+0.2
PLK3	Peulik 3	1.01	54		Pb	14 18 03.4	-0.6
VNHG	Veniaminof 1	1.17	221		Pb	14 18 06.0	-0.8
VNHG					Sn	14 18 22.9	-0.2
VNFG	Fog Glacier, M	1.28	230		Pb	14 18 08.6	0.0
VNFG	Fog Glacier, M	1.28	230	P	Pb	14 18 08.6	0.0
	baz=48						
ANCK	Angle Creek	1.65	48		Pn	14 18 13.8	+0.3
ANCK					Sn	14 18 34.9	0.0
CHIR	Chirikof Islan	1.77	136		Pn	14 18 15.0	-0.1
CHIR	Chirikof Islan	1.77	136	IAML		14 18 41.0	
	comp=E,971nm,0.8s						
CHIR				IAML		14 18 41.3	
	comp=N,780nm,1.0s						
CHIR	Chirikof Islan	1.77	136	P	Pn	14 18 15.0	-0.1
	baz=318						
KABU	Katmai Buttres	1.78	48		Pn	14 18 14.7	-0.7
SII	Sitkinak Islan	2.06	104		Pn	14 18 20.2	+1.1
SII					Sb	14 18 48.1	+0.6
SII	Sitkinak Islan	2.06	104	IAML		14 18 51.8	
	comp=N,608nm,0.7s						
SII	Sitkinak Islan	2.06	104	P	Pn	14 18 20.2	+1.1
	baz=288						
SII				S	Sb	14 18 48.1	+0.6
	baz=288						
SDPT	Sand Point	2.32	221		Pn	14 18 23.1	+0.4
SDPT	Sand Point	2.32	221	IAML		14 18 59.8	
	comp=N,433nm,0.9s						
SDPT				IAML		14 19 03.8	
	comp=E,638nm,1.1s						
SDPT	Sand Point	2.32	221	P	Pn	14 18 23.1	+0.4
	baz=38						
OHAK	Old Harbor	2.46	86		Pn	14 18 24.3	-0.2
OHAK	Old Harbor	2.46	86	P	Pn	14 18 24.3	-0.2
	baz=270						
P18K	Big Mountain,	2.66	30		Pn	14 18 26.7	-0.7
BLHA	Black Hill	2.77	241		Pn	14 18 29.6	+0.8
BLHA	Black Hill	2.77	241	P	Pn	14 18 29.6	+0.8
	baz=57						
Q19K	Cape Douglas,	2.86	49		Pn	14 18 31.5	+1.3
Q19K	Cape Douglas,	2.86	49	IAML		14 19 30.4	
	comp=N,454nm,1.4s						
Q19K	Cape Douglas,	2.86	49	P	Pn	14 18 31.5	+1.3
	baz=233						
KDAK	Kodiak Island	2.89	74	Pn	Pn	14 18 30.9	+0.4
	comp=N,7.7nm,0.3s,baz=263,slow=7.1,SNR=56						
KDAK				Sn	Sn	14 19 05.1	-0.4
	comp=N,4.4nm,0.3s,baz=37,slow=17,SNR=2.5						
O18K	Koktuh Hills	3.07	25		Pn	14 18 33.5	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
O18K	Koktuh Hills	3.07	25	IAML		14 19 26.1	
	comp=N,254nm,0.9s						
O18K	Koktuh Hills	3.07	25	P	Pn	14 18 33.5	+0.6
	baz=208						
P19K	Oil Pt	3.50	41	Pn	Pn	14 18 38.1	-0.9
P19K				IAML		14 19 41.5	
	comp=N,229nm,0.9s						
P19K				IAML		14 19 42.0	
	comp=E,267nm,1.1s						
O19K	Port Alsworth	3.58	29		Pn	14 18 39.3	-0.7
N19K	Bonanza Creek	4.09	23		Pn	14 18 47.5	+0.5
N19K	Bonanza Creek	4.09	23	IAML		14 19 52.8	
	comp=E,122nm,1.0s						
N19K				IAML		14 19 54.7	
	comp=N,100nm,0.9s						
N19K	Bonanza Creek	4.09	23	P	Pn	14 18 47.5	+0.5
	baz=206						
HOM	Homer	4.12	49	Pn	Pn	14 18 45.9	-1.5
HOM				IAML		14 19 59.2	
	comp=E,160nm,1.5s						
HOM				IAML		14 20 03.7	
	comp=N,169nm,0.8s						
SVW2	Sparrevohn	4.16	15		Pn	14 18 47.1	-0.8
SVW2				IAML		14 19 59.5	
	comp=E,87nm,0.6s						
SVW2				IAML		14 20 15.3	
	comp=N,91nm,0.8s						
RED	Redoubt Volcan	4.22	36		Pn	14 18 49.2	+0.4
RDWB	Redoubt West	4.25	35		Pn	14 18 49.6	+0.2
RSO	Redoubt South	4.26	36		Pn	14 18 48.9	-0.6
DFR	Drift River	4.38	35		Pn	14 18 51.8	+0.7
M19K	Big River Lodg	5.11	18		Pn	14 19 00.3	-0.7
M19K				IAML		14 20 33.2	
	comp=E,80nm,0.9s						
M19K				IAML		14 21 35.4	
	comp=N,56nm,0.3s						
M19K	Big River Lodg	5.11	18	P	Pn	14 19 01.5	+0.5
	baz=202						
L19K	White Mountain	5.30	15		Pn	14 19 03.6	0.0
L19K	White Mountain	5.30	15	P	Pn	14 19 03.6	0.0
	baz=198						
M20K	Styx River	5.34	24		Pn	14 19 04.6	+0.3
O22K	Cooper Landing	5.38	48	Pn	Pn	14 19 05.0	+0.3
L20K	Farewell, AK	5.73	18		Pn	14 19 10.3	+0.8
L20K	Farewell, AK	5.73	18	P	Pn	14 19 10.3	+0.8
	baz=202						
TT01	Tatalina	5.88	8		Pn	14 19 11.5	-0.1
TTA	Tatalina	5.91	8		Pn	14 19 11.7	-0.3
TTA	Tatalina	5.91	8	P	Pn	14 19 11.7	-0.3
	baz=190						
M22K	Willow	6.08	37	Pn	Pn	14 19 13.6	-0.7
PPLA	Purkeypile	6.44	23		Pn	14 19 19.4	0.0
K20K	Telida	6.53	15		Pn	14 19 19.8	-0.7
CAST	Castle Rocks	6.93	22	Pn	Pn	14 19 25.5	-0.5
EYAK	Cordova Ski Ar	7.13	56	Pn	Pn	14 19 28.8	+0.1
J20K	Nowinta River	7.31	13	Pn	Pn	14 19 30.6	-0.5
TRF	Thorofare Moun	7.37	27	Pn	Pn	14 19 31.6	-0.5
KLU	Klutina	7.49	49	Pn	Pn	14 19 34.5	+0.7
HMT	Hamilton	7.75	60	Pn	Pn	14 19 36.8	-0.4
BPAW	Bear Paw Mtn.	7.76	23	Pn	Pn	14 19 37.5	+0.1
BERG	Berg Lake	8.03	60	Pn	Pn	14 19 41.2	+0.2
ANM	Nome	8.34	337	Pn	Pn	14 19 44.4	-0.8
WAX	Waxell Ridge	8.45	60	Pn	Pn	14 19 46.4	-0.4
I21K	Tanana	8.56	17		Pn	14 19 47.2	-1.1
ISLE	Juniper Island	8.73	60	Pn	Pn	14 19 50.9	+0.1
H21K	Melozitna Rive	8.90	13		Pn	14 19 52.4	-0.6
YAH	Yahtse	8.95	62	Pn	Pn	14 19 53.4	-0.5
CCB	Clear Creek Bu	8.98	29		Pn	14 19 54.0	0.0
I23K	Minto, Yukon-K	9.03	23	Pn	Pn	14 19 53.7	-1.0
HDA	Harding Lake	9.03	31		Pn	14 19 53.9	-0.8
IMAR	Indian Mountai	9.11	10	Pn	Pn	14 19 55.2	-0.6
MDM	Murphy Dome	9.12	26		Pn	14 19 55.0	-1.0
BARN	Barnard Glacie	9.19	58	Pn	Pn	14 19 56.9	-0.2
RIDG	Independent Ri	9.21	38	Pn	Pn	14 19 57.2	-0.1
TABL	Table Mountain	9.26	62		Pn	14 19 57.8	-0.3
IL31		9.32	30	Pn	Pn	14 19 58.2	-0.5
ILAR	Eielson Array	9.32	30	Pn	Pn	14 19 59.1	+0.4
	comp=N,0.1nm,0.3s,baz=224,slow=12,SNR=11						
ILAR	Eielson Array	9.32	30		Pn	14 19 57.6	-1.1
L27K	Beaver Creek,	9.94	47	Pn	Pn	14 20 06.7	-0.5
BCAR	Beaver Creek A	9.96	47	Pn	Pn	14 20 07.0	-0.4
BMAR	Burnt Mountain	12.00	25	Pn	Pn	14 20 34.9	-0.5
A36M	Sachs Harbour	20.02	29	P	P	14 22 16.6	-0.4
A36M				IAmb	IAmb	14 22 35.2	
	comp=Z,4.1nm,1.0s						
YKA	Yellowknife Ar	22.04	58	P	P	14 22 38.8	0.0
	comp=Z,0.9nm,0.8s,baz=272,slow=10,SNR=14						
YKA	Yellowknife Ar	22.04	58	P	P	14 22 37.1	-1.7
ELK	Elko	31.76	103	P	P	14 24 09.8	+0.9
	comp=Z,0.6nm,0.5s,baz=325,slow=5.0,SNR=4.6						
ELK	Elko	31.76	103	IAmb	IAmb	14 24 32.6	
	comp=Z,8.7nm,1.9s						
NVAR	Mina Array Bea	31.85	109	P	P	14 24 10.8	+1.2
	comp=Z,1.0nm,0.8s,baz=308,slow=7.8,SNR=7.3						
TXAR	Lajitas Array	46.56	103	P	P	14 26 12.7	+0.4
	comp=Z,0.3nm,0.7s,baz=313,slow=5.0,SNR=4.9						

*IDC **03** 14:19:07.6±2.5, 14°.45S×166°.39E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/41, mbtmp3.8/4, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/58, Error ellipse: s-maj=51.1km s-min=35.9km az=84.0*

*NEIC **03** 14:19:08.9±2.8, 14°.35S±0°.09×166°.96E±0°.08, h35km±2km, mb4.3/4, Error ellipse: s-maj=15.7km s-min=11.6km az=148.0*

ISC 03 14:19:10.2±1.6**, 14°.4S**±0°.1×**166°.8E**±0°.2**, h35km, n13, σ1s.48**/14**, mb3.7**/4**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.09	156		Pn	14 19 27.9	-1.0
SANVU					Sn	14 19 42.4	-0.4
MARNC	Mare, Loyalty	7.10	170	Pn	Pn	14 20 50.5	-1.2
DZM	Mont Dzumac	7.59	182	Pn	Pn	14 20 59.4	+1.0
	2.1nm,0.3s,baz=326,slow=13,SNR=13						
DZM				Sn	Sn	14 22 25.2	+1.8
	0.5nm,0.3s,baz=156,slow=20,SNR=1.4						
ONTNC	Ouen Toro	7.83	182	Pn	Pn	14 20 59.6	-2.0
URZ	Urewera	25.43	161	LR	LR	14 32 39.9	
	comp=Z,118nm,20.3s,baz=196,slow=32						
STKA	Stephens Creek	28.80	229	P	P	14 25 05.9	+0.9
	1.3nm,0.5s,baz=51,slow=7.0,SNR=4.6						
STKA	Stephens Creek	28.80	229	P	P	14 25 06.0	+1.0
STKA				IAmb	IAmb	14 25 40.5	
	comp=Z,4.2nm,1.8s						
WRA	Warramunga Arr	31.41	255	P	P	14 25 27.4	-0.9
	comp=Z,0.4nm,0.8s,baz=86,slow=9.2,SNR=2.7						
AS31	Alice Springs	32.31	249	P	P	14 25 35.6	-0.5
ASAR	Alice Springs	32.31	249	P	P	14 25 35.5	-0.7
	comp=Z,0.4nm,0.5s,baz=75,slow=9.3,SNR=12						
KNRA	Kununurra	36.67	263	P	P	14 26 12.4	-1.5
QSPA	South Pole Qui	75.58	180	P	P	14 30 51.7	+0.4
QSPA				IAmb	IAmb	14 32 12.4	
	comp=Z,21nm,1.8s						
ARCES	ARCESS Array B	119.85	345	PKP	PKiKP	14 37 59.0	+2.7
	comp=Z,2.0nm,0.9s,baz=57,slow=3.3,SNR=4.5						

IDC 03 14:22:34.4±16.0**, 6°.73S×129°.42E, h188**km±174km**, mb2.8**/1**, mb1 2.8**/4**, mb1mx2.7**/34**, mbtmp3.3**/4**, ML3.1**/3**, Error ellipse: s-maj=141.5km s-min=54.9km az=42.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.11	18	S	Sn	14 25 00.1	-13
	1.4nm,0.3s,baz=241,slow=23,SNR=7.6						
FITZ	Fitzroy Crossi	11.88	198	P	Pn	14 25 18.5	+0.3
	0.1nm,0.3s,baz=20,slow=8.3,SNR=6.7						
FITZ				S	Sn	14 27 23.9	-6.6
	0.1nm,0.3s,baz=292,slow=7.4,SNR=1.3						
WRA	Warramunga Arr	13.98	160	P	Pn	14 25 43.9	-0.7
	0.2nm,0.3s,baz=333,slow=12,SNR=10						
WRA				S	Sn	14 28 10.7	-10
	0.1nm,0.3s,baz=332,slow=25,SNR=1.7						
ASAR	Alice Springs	17.38	166	P	P	14 26 24.7	+0.3
	0.1nm,0.3s,baz=342,slow=9.5,SNR=9.3						
MKAR	Makanchi Array	67.68	327	P	P	14 33 11.4	0.0
	0.1nm,0.3s,baz=121,slow=7.9,SNR=2.6						

*RSNC **03** 14:34:58.1±1.3, 6°.57N×77°.62W, h27km±5km, ML2.7*

*UPA **03** 14:34:59.5±0.5, 6°.44N×77°.76W, h114km±41km, MW4.6*

ISC 03 14:34:57.4±1.2**, 6°.62N**±0°.04×**77°.60W**±0°.03**, h21**km±6km**, n24, σ1s.40**/45**, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOLC	Bahia Solano	0.44	154	*e*P	Pb	14 35 05.6	-0.8
SOLC				*e*S	Sb	14 35 13.1	+0.6
PTAC	Punta Ardita,	0.56	339	*e*P	Pb	14 35 08.9	+0.3
PTAC				*e*S	Sn	14 35 18.7	0.0
CBOC	Ciudad Bolivar	1.75	115	*e*P	Pn	14 35 24.3	-2.3
CBOC				*e*S	Sn	14 35 44.7	-3.8
CBOC				*i*		14 35 47.3	
	comp=Z,82nm,0.2s						
HELC	Santa Helena	2.11	102	*e*P	Pn	14 35 30.7	-1.0
HELC				*e*S	Sn	14 35 56.5	-1.0
HELC				*i*		14 35 58.7	
	comp=Z,46nm,0.3s						
PLMC	San Jos del P	2.15	142	*e*P	Pn	14 35 30.9	-1.2
PLMC				*i*		14 36 00.6	
	comp=Z,30nm,0.4s						
UREC	San Jos de Ur	2.34	61	*e*P	Pn	14 35 34.4	-0.3
UREC				*e*S	Sn	14 36 02.5	-0.3
UREC				*i*		14 36 05.3	
	comp=Z,39nm,0.3s						
GUY2C	Guyana, Caldas	2.63	122	*e*P	Pn	14 35 38.4	-0.6
GUY2C				*e*S	Sn	14 36 11.3	+0.8
GUY2C				*i*		14 36 13.8	
	comp=Z,44nm,0.5s						
ACHO3	Achotines, Los	2.67	287	*e*P	Pn	14 35 39.7	+0.6
ACHO3				*e*S	Sn	14 36 09.8	-1.0
ZARC	Zaragoza, Cauc	2.86	72	*e*P	Pn	14 35 41.6	-0.2
ZARC				*e*S	Sn	14 36 14.9	-0.6
ZARC				*i*		14 36 17.4	
	comp=Z,54nm,0.5s						
MOTC	Monteria, Cord	2.88	42	*e*P	Pn	14 35 42.2	+0.2
MOTC				*e*S	Sn	14 36 16.1	+0.1
MOTC				*i*		14 36 19.4	
	comp=Z,10.0nm,0.4s						
AZU	Azuero	2.89	294	*e*P	Pn	14 35 42.7	+0.5
AZU				*e*S	Sn	14 36 15.2	-1.1
AZU	Azuero	2.89	294	*e*P	Pn	14 35 42.9	+0.7
AZU				*e*S	Sn	14 36 15.4	-0.9
NORC	Norcasia	2.92	111	*e*P	Pn	14 35 41.6	-1.0
NORC				*e*S	Sn	14 36 16.9	-0.1
NORC				*i*		14 36 24.8	
	comp=Z,25nm,0.6s						
ANIL	Santa Ana	3.05	134	*e*P	Pn	14 35 44.8	+0.1
ANIL				*e*S	Sn	14 36 22.5	+1.9
ANIL				*i*		14 36 36.5	
	comp=Z,24nm,0.5s						
CHIT3	Chitre	3.09	296	*e*P	Pn	14 35 45.7	+0.8
CHIT3				*e*S	Sn	14 36 20.4	-0.8
PTBC	PUERTO BERRIO,	3.13	91	*e*P	Pn	14 35 45.9	+0.4
PTBC				*e*S	Sn	14 36 22.4	+0.2
PTBC				*i*		14 36 26.4	
	comp=Z,27nm,0.4s						
VTON	El Valle, Cocl	3.17	309	*e*P	Pn	14 35 47.4	+1.3
VTON				*e*S	Sn	14 36 23.7	+0.2
ZANG	Zanguenga, Cho	3.22	316	*e*P	Pn	14 35 47.1	+0.4
ZANG				*e*S	Sn	14 36 26.6	+2.1
CACAO	El Cacao, Vera	3.31	283	*e*P	Pn	14 35 48.1	+0.1
CACAO				*e*S	Sn	14 36 23.8	-2.9
BCIP	Isla Barro Col	3.36	319	*e*P	Pn	14 35 47.7	-0.9
BCIP				*e*S	Sn	14 36 24.9	-2.9
BCIP	Isla Barro Col	3.36	319	*e*P	Pn	14 35 47.7	-0.9
BCIP				*e*S	Sn	14 36 28.4	+0.5
ORTC	Ortega, Tolima	3.58	139	*e*P	Pn	14 35 52.6	+0.9
ORTC				*i*		14 36 43.7	
	comp=Z,8.4nm,0.5s						
SPBC	San Pablo de B	3.64	105	*e*P	Pn	14 35 54.2	+1.5
SPBC				*e*S	Sn	14 36 38.3	+3.3
SPBC				*i*		14 36 57.7	
	comp=Z,6.6nm,0.2s						
MARP	Paez Belalcaza	4.10	156	*e*P	Pn	14 36 01.5	+2.4

IDC 03 14:44:58.6±2.1**, 0°.32N×126°.02E, h0**km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.2**/41**, mbtmp3.2**/3**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.5**/25**, Error ellipse: s-maj=167.1km s-min=28.3km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	10.72	193	LR	LR	14 52 39.8	
	comp=Z,82nm,18.2s,baz=208,slow=43						
WRA	Warramunga Arr	21.72	158	P	P	14 49 51.2	-0.5
	1.1nm,0.6s,baz=337,slow=12,SNR=8.3						
ASAR	Alice Springs	25.04	163	P	P	14 50 25.1	+0.3
	0.3nm,0.6s,baz=346,slow=12,SNR=9.6						
MKAR	Makanchi Array	59.97	327	P	P	14 55 06.9	-0.1
	0.1nm,0.4s,baz=123,slow=5.8,SNR=1.7						

*IDC **03** 14:48:00.5±0.4, 14°.23S×166°.68E, h0km, mb4.8/28, mb1 4.8/30, mb1mx4.7/44, mbtmp4.7/30, ML4.8/2, MS4.5/40, Ms1 4.5/40, ms1mx4.3/66, Error ellipse: s-maj=16.3km s-min=12.3km az=99.0*

*BJI **03** 14:48:02.0±0.0, 14°.19S×167°.43E, h36km, mb4.9/63, mB5.1/37, Ms4.8/20, Ms7 4.4/21*

*NOU **03** 14:48:02.9, 14°.17S×166°.66E, h0km, mb4.9/46, Vanuatu Islands*

*NEIC **03** 14:48:03.1±1.6, 14°.17S±0°.07×166°.77E±0°.08, h17km±3km, mb5.0/138, Error ellipse: s-maj=12.8km s-min=8.3km az=57.0*

*MOS **03** 14:48:04.7±1.2, 14°.10S×166°.62E, h36km, mb5.3/42, Error ellipse: s-maj=10.2km s-min=7.5km az=115.8*

*GCMT **03** 14:48:09.1±0.2, 14°.17S±0°.02×166°.60E±0°.01, h28km, MW5.3/89, Moment Tensor Solution. s68,c78; s89,c131; Duration: 1s.1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.01±.04; $M_{\theta\theta}$-0.11±.03; $M_{\phi\phi}$-0.90±.03; $M_{r\theta}$0.35±.05; $M_{\theta\phi}$0.21±.02; $M_{\phi r}$-0.05±.04; Best double couple: $M_0$1.03600×10^{17} NP1:ϕ_s1.00000°, δ43.00000°, λ113.00000°. NP2:ϕ_s150.00000°, δ51.00000°, λ70.00000°. Principal axes: T 1.1100, Plg74.0000°, Azm359.0000°; N -0.1480, Plg15.0000°, Azm163.0000°; P -0.9620, Plg4.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 14:48:06.8±0.3**, 14°.18S**±0°.04×**166°.74E**±0°.05**, h43**km**, n578, σ1s.64**/584**, mb5.0**/132**, MS4.5**/53**, 37C-13D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.33	161	Pn	Pn	14 48 25.9	-3.0
SANVU	Saraoutou	1.33	161	P	Pn	14 48 27.7	-1.3
DVP	Devils Point	3.79	159	P	Pn	14 49 03.7	+1.0
LIFNC	LIFOU	6.58	176	Pn	Pn	14 49 39.1	-1.8
KOUNC	Koumac, New Ca	6.75	200		Pn	14 49 41.5	-1.9
MARNC	Mare, Loyalty	7.36	171		Pn	14 49 51.5	-0.3
MARNC	Mare, Loyalty	7.36	171	P	Pn	14 49 51.8	0.0
YATNC	Mamie plateau,	7.84	179	P	Pn	14 49 57.2	-1.1
DZM	Mont Dzumac	7.85	182	Pn	Pn	14 49 57.2	-1.4
	6.5nm,0.3s,baz=328,slow=18,SNR=56						
DZM				Sn	Sn	14 51 25.6	-0.7
	3.8nm,0.3s,baz=162,slow=19,SNR=1.2						
DZM	Mont Dzumac	7.85	182	*e*Pn	Pn	14 49 57.0	-1.5
	44nm,0.3s						
DZM				*e*Sn	Sn	14 51 16.4	-10
	29nm,0.3s						
DZM				*e*LR	LR	14 51 42.0	
	comp=Z,4μm,24.8s						
DZM	Mont Dzumac	7.85	182		Pn	14 49 57.1	-1.5
DZM	Mont Dzumac	7.85	182	P	Pn	14 49 57.3	-1.3
NOUC	Port Laguerre	7.89	183	P	Pn	14 49 58.7	-0.3
ONTNC	Ouen Toro	8.09	182		Pn	14 50 01.2	-0.5
ONTNC	Ouen Toro	8.09	182	P	Pn	14 50 01.7	0.0
HNR	Honiara	8.16	305	Pn	Pn	14 50 01.1	-1.6
	32nm,0.3s,baz=177,slow=4.0,SNR=9.0						
HNR				Sn	Sn	14 51 28.0	-5.6
	16nm,0.3s,baz=64,slow=7.1,SNR=1.5						
HNR				LR	LR	14 52 50.7	
	comp=Z,2μm,20.6s,baz=150,slow=36						
HNR	Honiara	8.16	305	Pn	Pn	14 50 01.5	-1.2
HNR	Honiara	8.16	305	P	Pn	14 50 01.6	-1.1
OUENC	Ouen Island, N	8.19	179		Pn	14 50 02.6	-0.6
OUENC	Ouen Island, N	8.19	179	P	Pn	14 50 03.0	-0.2
PINNC	Pines Island,	8.41	176		Pn	14 50 06.0	-0.1
PINNC	Pines Island,	8.41	176	P	Pn	14 50 06.7	+0.5
MSVF	Nonsavu	11.43	109	LR	LR	14 54 14.5	
	comp=Z,4μm,18.6s,baz=324,slow=33						
KRVT	Keravat (AS076	17.52	303	LR	LR	14 59 36.3	
	comp=Z,1μm,18.6s,baz=264,slow=40						
RK1H	Rockhampton Ha	17.89	237	P	P	14 52 13.2	+0.5
EIDS	Eidsvold	18.45	231	P	Pn	14 52 19.4	+0.1
	baz=19,SNR=3.1						
EIDS	Eidsvold	18.45	231	P	P	14 52 17.6	-1.3
EIDS	Eidsvold	18.45	231	P	Pn	14 52 20.7	+1.4
PMG	Port Moresby	19.75	282	P	Pn	14 52 34.1	-0.8
	0.3nm,0.3s,baz=115,slow=5.2,SNR=6.1						
PMG				LR	LR	14 59 04.6	
	comp=Z,2μm,18.3s,baz=78,slow=34						
PMG	Port Moresby	19.75	282	*ce*P	Pn	14 52 34.5	-0.4
PMG				pmax	pmax		
	comp=Z,90nm,1.3s						
PMG	Port Moresby	19.75	282	Pn	P	14 52 33.6	+0.4
PMG				IAmb	IAmb	14 52 45.2	
	comp=Z,92nm,1.2s						
CTA	Charters Tower	20.43	250	P	P	14 52 39.5	-1.2
	comp=Z,36nm,1.2s,baz=75,slow=12,SNR=7.9						
CTA				LR	LR	14 59 45.5	
	comp=Z,1μm,19.1s,baz=82,slow=35						
CTA	Charters Tower	20.43	250	P	P	14 52 41.6	+1.0
RMQ	Roma	20.81	231	P	P	14 52 45.8	+1.1
	baz=21,SNR=21						
RMQ	Roma	20.81	231	P	P	14 52 45.7	+1.1
AFI	Afiamalu	20.84	92	P	Pn	14 52 48.9	+1.0
	comp=Z,59nm,0.8s,baz=253,slow=10,SNR=5.4						
AFI				LR	LR	14 58 56.7	
	comp=Z,895nm,18.2s,baz=259,slow=31						
AFI	Afiamalu	20.84	92	P	P	14 52 43.6	-1.5
AFI				pmax	pmax		
	comp=Z,99nm,1.0s						
AFI	Afiamalu	20.84	92	P	P	14 52 43.6	-1.5
AFI				IAmb	IAmb	14 52 55.8	
	comp=Z,99nm,0.9s						
AFI	Afiamalu	20.84	92	P	Pn	14 52 48.2	+0.3
ARMA	Armidale	21.33	218	P	P	14 52 50.8	+0.5
OUZ	Omahuta	21.84	165	P	P	14 52 58.8	+3.2
MTSU	Mount Surprise	21.89	257	P	P	14 52 58.2	+1.8
	baz=22,SNR=4.8						
MTSU	Mount Surprise	21.89	257	P	P	14 52 57.0	+0.6
COEN	Coen	22.86	268	P	P	14 53 04.7	-2.0
COEN				IAmb	IAmb	14 53 18.6	
	comp=Z,69nm,1.4s						
COEN	Coen	22.86	268	P	P	14 53 07.0	+0.3
MGCD	Mangrove Creek	23.69	214	P	P	14 53 17.9	+3.3
KUZ	Kuaotunu	23.86	162	P	P	14 53 20.3	+4.1
MKAZ	Moumakai	24.03	163	P	P	14 53 21.4	+3.6
RIV	Riverview	24.13	213	P	P	14 53 20.3	+1.6
	baz=24,SNR=3.1						
QLP	Quilpie	24.39	236	P	P	14 53 20.7	-0.5
	baz=24,SNR=7.8						
QLP	Quilpie	24.39	236	P	P	14 53 22.1	+0.9
TOZ	Tahuroa Road	24.71	163	P	P	14 53 26.8	+2.8
HIZ	Hauiti	25.28	165	P	P	14 53 34.2	+5.1
HIZ	Hauiti	25.28	165	P	P	14 53 30.7	+1.6
OMRZ	Omania	25.32	162	P	P	14 53 36.5	+7.0
URZ	Urewera	25.68	161	P	P	14 53 36.0	+3.2
	comp=Z,46nm,0.9s,baz=351,slow=5.6,SNR=16						
URZ				LR	LR	15 02 31.6	
	comp=Z,936nm,19.3s,baz=1.5,slow=34						
URZ	Urewera	25.68	161	P	P	14 53 33.0	+0.2
URZ				IAmb	IAmb	14 53 40.5	
	comp=Z,54nm,1.0s						
URZ	Urewera	25.68	161	P	P	14 53 35.8	+3.1
URZ	Urewera	25.68	161	P	P	14 53 36.5	+3.7
PRRZ	Plateau Road	25.68	162	P	P	14 53 37.7	+4.9
WMGZ	Waiomatatini S	25.73	158	P	P	14 53 38.5	+5.3
ALRZ	Allen Road	25.73	162	P	P	14 53 30.0	-3.2
CMSA	Cobar Meteorol	25.89	225	P	P	14 53 35.3	+0.6
	baz=26,SNR=8.0						
CMSA	Cobar Meteorol	25.89	225	P	P	14 53 35.7	+0.9
PUZ	Puketiti	25.90	159	P	P	14 53 37.9	+3.2
CNB	Canberra Magne	26.22	214	P	P	14 53 38.8	+1.0
SNGZ	Shannon Statio	26.23	161	P	P	14 53 38.1	+0.3
BKZ	Black Stump Fm	26.33	163	P	P	14 53 38.7	0.0
BKZ				IAmb	IAmb	14 53 47.0	
	comp=Z,26nm,0.8s						
BKZ	Black Stump Fm	26.33	163	P	P	14 53 38.9	+0.2
	comp=Z,143nm,1.6s						
QIS	Mount Isa	26.64	252	P	P	14 53 41.0	-0.8
	baz=27,SNR=3.5						
QIS	Mount Isa	26.64	252	P	P	14 53 42.5	+0.8
BFZ	Birch Farm	27.68	164	P	P	14 53 54.2	+3.5
INKA	Innaminka	27.70	237	P	P	14 53 52.1	+1.0
JAY	Jayapura	28.21	292	LR	LR	15 04 30.7	
	comp=Z,592nm,20.0s,baz=118,slow=35						
LTZ	Lake Taylor	28.90	172	P	P	14 54 01.4	-0.3
LTZ				IAmb	IAmb	14 54 02.8	
	comp=Z,43nm,1.5s						
STKA	Stephens Creek	28.97	228	P	P	14 54 01.9	-0.4
	comp=Z,5.3nm,0.4s,baz=48,slow=8.7,SNR=18						
STKA				LR	LR	15 05 45.8	
	comp=Z,3μm,18.1s,baz=56,slow=37						
STKA	Stephens Creek	28.97	228	P	P	14 54 02.3	0.0
	baz=29,SNR=12						
STKA	Stephens Creek	28.97	228	*i* P	P	14 54 02.2	-0.1
STKA	Stephens Creek	28.97	228	P	P	14 54 01.3	-1.0
STKA	Stephens Creek	28.97	228	P	P	14 54 03.4	+1.1
RPZ	Rata Peaks	29.66	174	P	P	14 54 10.7	+2.4
	comp=Z,14nm,0.6s,baz=283,slow=4.1,SNR=8.3						
RPZ				LR	LR	15 06 02.5	
	comp=Z,720nm,18.6s,baz=348,slow=36						
RPZ	Rata Peaks	29.66	174	IAmb	IAmb	14 54 14.0	
	comp=Z,18nm,0.7s						
TOO	Toolangi	30.00	215	P	P	14 54 10.9	-0.6
	baz=30,SNR=4.9						
TOO	Toolangi	30.00	215	P	P	14 54 13.4	+2.0
LCRK	Leigh Creek	30.84	234	P	P	14 54 19.9	+1.0
WR0	Warramunga Arr	31.28	255	P	P	14 54 20.4	-2.6
WR0				IAmb	IAmb	14 54 33.9	
	comp=Z,18nm,1.3s						
WB0	Warramunga Arr	31.40	255	P	P	14 54 21.5	-2.5
WB2	Warramunga Arr	31.46	255	P	P	14 54 22.4	-2.1
WB2				IAmb	IAmb	14 54 31.4	
	comp=Z,20nm,1.4s						
WRAB	Tennant Creek	31.46	255	*i* P	P	14 54 24.0	-0.6
WRAB				pmax	pmax		
	comp=Z,15nm,1.5s						
WRAB	Tennant Creek	31.46	255	P	P	14 54 22.3	-2.2
WRAB	Tennant Creek	31.46	255	P	P	14 54 23.9	-0.6
WRA	Warramunga Arr	31.47	255	P	P	14 54 22.2	-2.4
	comp=Z,3.1nm,0.8s,baz=85,slow=9.5,SNR=16						
WRA				ScP	ScP	15 01 00.6	+3.5
	comp=Z,1.2nm,1.1s,baz=83,slow=4.2,SNR=4.6						
WRA				PKiKP	PKiKP	15 04 45.5	-1.3
	comp=Z,0.4nm,0.9s,baz=7.2,slow=0.5,SNR=2.1						
WRA				LR	LR	15 06 45.9	
	comp=Z,1μm,18.1s,baz=80,slow=36						
WRA	Warramunga Arr	31.47	255	*i* P	P	14 54 23.8	-0.8
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	Warramunga Arr	31.47	255	P	P	14 54 23.7	-1.0
ARPS	Mount Arapiles	31.63	220	P	P	14 54 28.5	+2.7
HTT	Hallett	31.70	228	P	P	14 54 27.0	+0.5
	baz=32,SNR=5.2						
HTT	Hallett	31.70	228	P	P	14 54 27.6	+1.1
OOD	Oodnadatta	31.89	240	P	P	14 54 29.2	+1.0
AS31	Alice Springs	32.40	248	P	P	14 54 30.6	-2.1
ASAR	Alice Springs	32.40	248	P	P	14 54 30.7	-2.1
	comp=Z,2.3nm,0.5s,baz=72,slow=8.7,SNR=35						
ASAR				ScP	ScP	15 01 03.2	+3.1
	comp=Z,0.9nm,0.9s,baz=85,slow=3.1,SNR=4.1						
ASAR				LR	LR	15 06 52.8	
	comp=Z,1μm,19.8s,baz=76,slow=35						
ASAR	Alice Springs	32.40	248	P	P	14 54 30.8	-1.9
H11S2	WAKE ISLAND Hy	32.47	360	T	T	15 28 57.3	
	baz=184,slow=74						
H11S3	WAKE ISLAND Hy	32.47	360	T	T	15 29 04.5	
	baz=184						
H11S1	WAKE ISLAND Hy	32.48	360	T	T	15 29 02.7	
	baz=184,slow=74						
RAR	Rarotonga	32.61	107	LR	LR	15 05 15.7	
	comp=Z,501nm,20.8s,baz=284,slow=32						
MOO	Moorlands	32.84	207	P	P	14 54 38.1	+1.8
KDU	Kakadu	33.35	268	P	P	14 54 40.7	-0.4
	baz=33,SNR=6.6						
BBOO	Buckleboo	33.52	231	P	P	14 54 42.3	-0.1
	baz=34,SNR=9.7						
BBOO	Buckleboo	33.52	231	P	P	14 54 41.7	-0.7
BBOO				IAmb	IAmb	14 55 02.1	
	comp=Z,31nm,1.1s						
BBOO	Buckleboo	33.52	231	P	P	14 54 42.4	0.0
H11N1	WAKE ISLAND Hy	33.68	0	T	T	15 30 28.9	
	baz=183,slow=74						

H11N3 WAKE ISLAND Hy 33.69 0 T T 15 30 29.0
baz=183,slow=74
H11N2 WAKE ISLAND Hy 33.70 0 T T 15 30 28.5
baz=183
MULG Mulgathing 34.08 236 P **P** **14 54 46.4 -0.9**
MTN Manton Dam 34.63 268 P **P** **14 54 51.6 -0.6**
baz=35,SNR=3.2
MTN Manton Dam 34.63 268 P **P** **14 54 51.5 -0.7**
MTN IAmb IAmb 14 55 00.2
comp=Z,24nm,1.5s
GUMO Guam 35.08 321 LR LR 15 10 22.6
comp=Z,307nm,18.0s,baz=152,slow=38
KNRA Kununurra 36.70 263 P **P** **14 55 09.8 -0.1**
baz=37,SNR=6.1
KNRA Kununurra 36.70 263 P **P** **14 55 08.3 -1.6**
KNRA IAmb IAmb 14 55 21.0
comp=Z,28nm,0.9s
KNRA Kununurra 36.70 263 P **P** **14 55 10.7 +0.7**
SlJI Sorong 37.49 288 LR LR 15 11 32.7
comp=Z,1μm,18.9s,baz=133,slow=38
WRKA Warakurna 37.67 247 P **P** **14 55 16.5 -1.7**
baz=38,SNR=13
FORT Forrest 39.14 238 P **P** **14 55 29.6 -0.8**
baz=39,SNR=11
FORT Forrest 39.14 238 P **P** **14 55 29.4 -1.1**
FORT IAmb IAmb 14 55 54.3
comp=Z,29nm,0.8s
FORT Forrest 39.14 238 P **P** **14 55 31.7 +1.3**
FITZ Fitzroy Crossi 39.62 259 LR LR 15 11 56.8
comp=Z,1μm,18.1s,baz=90,slow=36
FITZ Fitzroy Crossi 39.62 259 P **P** **14 55 32.4 -2.2**
baz=40,SNR=3.8
FITZ Fitzroy Crossi 39.62 259 P **P** **14 55 33.8 -0.7**
PPT2 Papeete2 42.08 101 *e*S **S** **15 02 12.7 +0.9**
comp=Z,323nm,27.5s
PPT2 *e*LQ LQ 15 05 57.0
comp=Z,1μm,27.5s
PPT2 *e*LR LR 15 07 42.6
comp=Z,606nm,24.5s,baz=262
PPT Papeete 42.08 101 LR LR 15 09 48.2
comp=Z,226nm,21.6s,baz=277,slow=31
BATI Baumata 42.25 270 LR LR 15 14 05.0
comp=Z,840nm,18.9s,baz=126,slow=37
TBI Tubuai 42.32 109 *e*S **S** **15 02 15.9 +0.9**
comp=Z,270nm,27.0s
TBI *e*LQ LQ 15 06 02.3
comp=Z,963nm,27.0s
TBI *e*LR LR 15 07 49.7
comp=Z,725nm,23.2s
PSA00 Pilbara Seismi 45.10 254 P **P** **14 56 18.9 -0.3**
MEEK Meekatharra 46.53 247 P **P** **14 56 29.7 -0.7**
baz=47,SNR=5.8
KAPI Kappang 47.14 276 *i* P **P** **14 56 36.5 +1.2**
KLBR Kellerberrin 47.93 240 P **P** **14 56 40.8 -0.4**
baz=48,SNR=5.1
TOLI2 Tolitoli 47.98 285 P **P** **14 56 40.3 -1.5**
TOLI2 IAmb IAmb 14 57 02.5
comp=Z,17nm,1.3s
MORW Morawa 49.05 244 P **P** **14 56 50.0 +0.1**
baz=49,SNR=7.3
MORW Morawa 49.05 244 P **P** **14 56 47.9 -2.0**
MORW IAmb IAmb 14 57 00.6
comp=Z,18nm,0.9s
TAOE Nuku Hiva Isla 52.22 90 *e*S **S** **15 04 35.2 -1.2**
comp=Z,258nm,26.6s
TAOE *e*LR LR 15 12 27.2
comp=Z,672nm,22.4s
JYT Yasato 56.06 334 P **P** **14 57 39.8 -1.7**
INU Inuyama 56.75 331 P **P** **14 57 45.0 -1.4**
INU IAmb IAmb 14 57 48.2
comp=Z,26nm,1.2s
JMN Monobe 57.02 327 P **P** **14 57 46.7 -1.7**
MJAR Matsushiro Arr 57.19 333 P **P** **14 57 49.0 -0.5**
comp=Z,23nm,1.1s,baz=176,slow=5.6,SNR=16
MJAR Matsushiro Arr 57.19 333 P **P** **14 57 48.4 -1.1**
MJAR pmax pmax
comp=Z,21nm,1.2s
MJAR Matsushiro Arr 57.19 333 P **P** **14 57 48.4 -1.1**
MJAR IAmb IAmb 14 57 50.9
comp=Z,21nm,1.2s
MJB9 Matsu-Tunnel 57.19 333 P **P** **14 57 49.0 -0.6**
JMM Marumori 57.22 336 P **P** **14 57 48.6 -1.1**
JNU Nakatsue 58.18 325 P **P** **14 57 56.4 -0.3**
comp=Z,24nm,0.9s,baz=101,slow=4.8,SNR=12
JNU Nakatsue 58.18 325 P **P** **14 57 55.7 -0.9**
JHS Saijyo 58.40 328 P **P** **14 57 58.2 +0.2**
JHS IAmb IAmb 14 57 59.9
comp=Z,20nm,1.0s
JSD Sado 58.41 334 P **P** **14 57 58.5 +0.4**
LEM Lembang 58.47 271 LR LR 15 24 23.5
comp=Z,291nm,18.7s,baz=92,slow=37
TPUB Ta-pu 58.50 309 P **P** **14 57 58.6 -0.4**
YHNB Yeheng 58.74 311 P **P** **14 58 00.0 -0.7**
JTM Tenmabayashi 59.65 338 P **P** **14 58 06.7 +0.2**
QZH Quanzhou 60.97 309 P **P** **14 58 17.4 +1.5**
QZH S **S** **15 06 35.4 +4.0**
QZH LR LR
comp=Z,130nm,20.4s
JKA Kamikawa-asahi 62.06 341 P **P** **14 58 23.6 +0.7**
JKA Kamikawa-asahi 62.06 341 IAmb IAmb 14 58 24.4
comp=Z,45nm,1.4s
ASAJ Asahikawa 62.06 341 P **P** **14 58 23.6 +0.7**
comp=Z,11nm,0.6s,baz=231,slow=6.0,SNR=18
KSRS Korea Array 63.00 326 P **P** **14 58 30.0 +0.7**
comp=Z,4.7nm,0.8s,baz=137,slow=7.0,SNR=20
KSAR Wonju Array Be 63.01 326 P **P** **14 58 29.0 -0.4**
KSAR Wonju Array Be 63.01 326 P **P** **14 58 29.0 -0.4**
VNDA Vanda 63.40 181 P **P** **14 58 31.8 +0.4**
comp=Z,4.3nm,0.6s,baz=1.7,slow=7.5,SNR=14
VNDA Vanda 63.40 181 P **P** **14 58 30.9 -0.5**
VNDA pmax pmax
comp=Z,9.0nm,0.8s
VNDA Vanda 63.40 181 P **P** **14 58 30.9 -0.5**
VNDA IAmb IAmb 14 58 37.6
comp=Z,9.5nm,0.8s
SBA Scott Base 63.68 180 P **P** **14 58 33.5 +0.3**
SBA pmax pmax
comp=Z,28nm,0.9s
SBA Scott Base 63.68 180 P **P** **14 58 33.5 +0.3**
YSS Yuzh-Sakhalins 64.55 342 *e*P **P** **14 58 38.7 -0.6**
YSS *e*S **S** **15 07 14.2 -1.4**
YSS *e*SS **SS** **15 11 24.6 -2.5**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS Yuzh-Sakhalins 64.55 342 P **P** **14 58 40.0 +0.7**
NJ2 Nanjing 64.93 316 *e*P **P** **14 58 43.7 +1.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
USA0B Ussuriysk Arra 66.17 333 P **P** **14 58 50.0 +0.1**
USA0B pmax pmax
comp=Z,72nm,1.4s
USA0B Ussuriysk Arra 66.17 333 P **P** **14 58 50.0 +0.1**
USRK Ussuriysk Ar. 66.17 333 P **P** **14 58 50.4 +0.5**
comp=Z,31nm,1.1s,baz=134,slow=5.5,SNR=26
USRK Ussuriysk Ar. 66.17 333 P **P** **14 58 50.0 +0.1**
USRK Ussuriysk Ar. 66.17 333 P **P** **14 58 50.0 +0.1**
SHEM Shemya Is, Ala 66.94 5 LR LR 15 21 42.7
comp=Z,262nm,22.0s,baz=218,slow=30
WHN Wuhan 67.20 312 ⇑P P 14 59 02.7 +6.0
PET Petropavlovsk 67.29 355 *e*P **P** **14 58 56.9 +0.1**
PET *e*S **S** **15 07 50.5 +1.8**
PET pmax pmax
comp=Z,22nm,1.4s
PET MLR MLR
comp=Z,200nm,22.0s
PEA0B Petropavlovsk- 67.47 354 P **P** **14 58 57.0 -0.9**
PEA0B pmax pmax
comp=Z,40nm,1.2s
PEA0B Petropavlovsk- 67.47 354 P **P** **14 58 57.0 -0.9**
PETK Petropavlovsk- 67.47 354 P **P** **14 58 58.3 +0.4**
comp=Z,11nm,0.8s,baz=179,slow=12,SNR=11
PETK Petropavlovsk- 67.47 354 P **P** **14 58 56.9 -1.0**
PETK Petropavlovsk- 67.47 354 P **P** **14 58 56.9 -1.0**
DL2 Dalian 67.56 323 P **P** **14 58 59.5 +0.7**
DL2 pmax pmax
comp=Z,25nm,0.9s
MDJ Mudanjiang 67.56 332 P **P** **14 58 57.5 -1.2**
MDJ Mudanjiang 67.56 332 P **P** **14 59 00.2 +1.5**
MDJ pmax pmax
comp=Z,30nm,1.4s
MDJ pmax pmax
comp=Z,110nm,5.7s
TIA Tai'an 68.59 319 *e*P **P** **14 59 05.7 +0.3**
TIA pmax pmax
comp=Z,14nm,1.0s

CN2 Changchun 68.92 329 *e*P **P** **14 59 07.7 +0.5**
CN2 *e*S **S** **15 08 10.5 +2.0**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,15.0s
CN2 LR LR
comp=Z,100nm,15.0s
CN2 LR LR
comp=Z,200nm,21.3s
BNX BinXian 69.42 332 ⇓P **P** **14 59 10.7 +0.4**
BNX pmax pmax
comp=Z,38nm,0.9s
BNX pmax pmax
comp=Z,320nm,4.2s
GRNR Gornyy 69.91 340 ⇑*i*P **P** **14 59 14.8 +1.6**
GRNR pmax pmax
comp=Z,30nm,1.1s
KLR Kul'dur 70.30 336 P **P** **14 59 16.3 +0.6**
comp=Z,12nm,1.2s,baz=131,slow=5.7,SNR=16
KLR Kul'dur 70.30 336 *ce*P **P** **14 59 15.3 -0.4**
KLR pmax pmax
comp=Z,15nm,1.4s
ENH Enshi 70.63 310 P **P** **14 59 17.6 -0.5**
ENH IAmb IAmb 14 59 19.2
comp=Z,19nm,1.0s
NKL Nikolayevsk 70.70 344 *e*P **P** **14 59 16.7 -1.3**
NKL pmax pmax
comp=N,1.0nm,0.7s
NKL pmax pmax
comp=E,3.0nm,0.7s
NKL pmax pmax
comp=Z,22nm,1.0s
NKL MLR MLR
comp=E,6.0nm,12.0s
NKL MLR MLR
comp=N,1.0nm,11.0s
NKL MLR MLR
comp=Z,181nm,22.0s
LYN LuoYang 70.73 315 ⇓P **P** **14 59 19.5 +0.9**
LYN S **S** **15 08 32.3 +2.1**
LYN pmax pmax
comp=Z,10.0nm,1.3s
LYN pmax pmax
comp=Z,130nm,7.5s
LYN LR LR
comp=Z,160nm,11.6s
LYN LR LR
comp=Z,110nm,17.3s
LYN LR LR
comp=Z,160nm,19.0s
HNS HongShan 70.86 318 ⇓P **P** **14 59 20.7 +1.4**
HNS pmax pmax
comp=Z,17nm,1.4s
GYA Guiyang 70.98 305 ⇓P **P** **14 59 21.3 +0.8**
GYA pmax pmax
comp=Z,20nm,0.9s
BJT Baijiatuau 71.51 321 P **P** **14 59 22.8 -0.4**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuau 71.51 321 P **P** **14 59 22.8 -0.4**
BJT IAmb IAmb 14 59 30.8
comp=Z,8.8nm,0.6s
BJI Beijing 71.52 321 P **P** **14 59 24.5 +1.3**
BJI pP **pP** **14 59 34.1 -0.8**
BJI S **S** **15 08 41.2 +2.1**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI pmax pmax
comp=Z,110nm,4.0s
BJI LR LR
comp=Z,390nm,12.9s
XAN Xi'an 72.94 313 P **P** **14 59 32.6 +0.6**
XAN pP pP 14 59 43.1 -0.6
XAN sP sP 14 59 48.3 +0.1
XAN S **S** **15 08 57.4 +1.6**
XAN SKS **SKSac** **15 09 34.3 -0.1**
XAN SS **SS** **15 13 42.6 +5.2**
XAN pmax pmax
comp=Z,12nm,1.0s
XAN pmax pmax
comp=Z,180nm,4.5s
XAN LR LR
comp=Z,150nm,16.5s
XAN LR LR
comp=Z,150nm,16.0s
XAN LR LR
comp=Z,190nm,17.5s
KMI Kunming 73.58 302 ⇓P **P** **14 59 38.0 +1.8**
KMI pP PcP 14 59 49.9 -2.1
KMI S **SKiKP** **15 09 01.2 -2.0**
KMI pmax pmax
comp=Z,17nm,1.0s
KMI pmax pmax
comp=Z,110nm,4.7s
KMI LR LR
comp=Z,92nm,11.1s
KMI LR LR
comp=Z,110nm,18.3s
KMI LR LR
comp=Z,170nm,22.2s
XLT XiLinHaoTe 73.97 324 ⇓*i*P **P** **14 59 39.3 +1.5**
XLT pP pP 14 59 51.2 +1.7
XLT sP PcP 14 59 52.8 -0.2
XLT S **S** **15 09 14.4 +7.4**
XLT pmax pmax
comp=Z,29nm,1.3s
XLT pmax pmax
comp=Z,110nm,4.4s
XLT LR LR
comp=Z,130nm,14.5s
XLT LR LR
comp=Z,160nm,17.4s
CM31 Chiang Mai Arr 74.26 294 P **P** **14 59 38.7 -1.3**
CM31 IAmb IAmb 14 59 48.6
comp=Z,10nm,0.9s
CMAR Chiang Mai Arr 74.26 294 P **P** **14 59 41.1 +1.2**
comp=Z,5.2nm,1.0s,baz=119,slow=4.1,SNR=22
CMAR Chiang Mai Arr 74.26 294 *i* P **P** **14 59 41.5 +1.5**
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 74.26 294 P **P** **14 59 38.4 -1.6**
CHTO Chiang Mai 74.39 294 P **P** **14 59 39.0 -1.7**
CHTO pmax pmax
comp=Z,18nm,1.3s
CHTO Chiang Mai 74.39 294 P **P** **14 59 39.0 -1.7**
CHTO IAmb IAmb 14 59 48.4
comp=Z,18nm,1.3s
MA2 Magadan 74.63 352 P **P** **14 59 41.1 -0.1**
comp=Z,8.4nm,0.8s,baz=160,slow=5.9,SNR=11
MA2 LR LR 15 28 21.1
comp=Z,282nm,21.1s,baz=144,slow=32
MA2 Magadan 74.63 352 *ce*P **P** **14 59 40.0 -1.2**
MA2 pmax pmax
comp=Z,10.0nm,0.9s
MA2 Magadan 74.63 352 P **P** **14 59 40.3 -1.0**
MA2 IAmb IAmb 14 59 42.1
comp=Z,18nm,1.0s
HHC Hu-ho-hao-te 74.84 320 *e*P **P** **14 59 44.4 +1.4**
HHC S **S** **15 09 19.4 +2.4**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.1s
HHC LR LR
comp=Z,130nm,14.0s
HHC LR LR
comp=Z,180nm,13.3s
HHC LR LR
comp=Z,230nm,15.2s
PZH PanZhiHua 74.97 303 P **P** **14 59 44.5 +0.4**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,170nm,6.6s
CD2 Chengdu 75.27 308 P **P** **14 59 44.8 -0.8**
HIA Hailar 75.56 330 P **P** **14 59 46.4 -0.4**
HIA pmax pmax
comp=Z,45nm,1.4s
HIA Hailar 75.56 330 P **P** **14 59 46.4 -0.4**
ZEA Zeya 75.59 337 *e*P **P** **14 59 48.1 +1.2**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.8s
QSPA South Pole Qui 75.84 180 P **P** **14 59 48.2 -0.2**
comp=Z,15nm,1.0s,baz=8.1,slow=2.3,SNR=25
QSPA LR LR 15 30 44.8
comp=Z,137nm,19.1s,baz=40,slow=34
QSPA South Pole Qui 75.84 180 P **P** **14 59 47.5 -0.9**
LZH Lanzhou 77.58 312 *e*P **P** **15 00 01.0 +2.3**
LZH pP sP 15 00 12.8 -2.1
LZH sP pwP 15 00 17.1 +2.1
LZH S **S** **15 09 52.9 +5.5**
LZH sS SKKSac 15 10 11.0 +1.2
LZH SS **SS** **15 14 53.6 +5.8**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,270nm,4.9s
LZH LR LR
comp=Z,150nm,14.9s
LZH LR LR
comp=Z,130nm,14.6s
LZH LR LR
comp=Z,230nm,16.0s
SEY Seymchan 77.68 353 P **P** **14 59 58.2 -0.2**
comp=Z,16nm,0.9s,baz=153,slow=5.8,SNR=58
SEY LR LR 15 30 33.6
comp=Z,308nm,21.0s,baz=168,slow=33
SEY Seymchan 77.68 353 *ce*P **P** **14 59 57.3 -1.2**
SEY pmax pmax
comp=Z,15nm,0.9s
KDAK Kodiak Island 79.13 21 LR LR 15 29 31.2
comp=Z,355nm,20.1s,baz=239,slow=31
GAMB Gambell 79.47 10 P **P** **15 00 08.2 -0.1**
GAMB IAmb IAmb 15 00 09.6
comp=Z,9.3nm,0.9s
GAMB Gambell 79.47 10 P **P** **15 00 09.0 +0.8**
baz=201
N19K Bonanza Creek 80.88 18 P **P** **15 00 15.8 -0.3**
CNPM China Poot 80.92 20 P **P** **15 00 18.0 +1.7**
CNPM IAmb IAmb 15 00 25.4
comp=Z,18nm,1.2s
RSO Redoubt South 81.14 19 P **P** **15 00 18.1 +0.4**
BRLK Bradley Lake 81.22 20 P **P** **15 00 18.4 +0.5**
BRLK IAmb IAmb 15 00 22.1
comp=Z,11nm,0.8s
ANM Nome 81.33 12 P **P** **15 00 19.0 +0.7**
ANM pmax pmax
comp=Z,12nm,1.1s
ANM Nome 81.33 12 P **P** **15 00 19.0 +0.7**
ANM IAmb IAmb 15 00 20.1
comp=Z,12nm,1.1s
ANM Nome 81.33 12 P **P** **15 00 19.2 +0.9**
baz=207
YAK Yakutsk 81.36 343 P **P** **15 00 19.0 +0.5**
comp=Z,15nm,0.5s,baz=72,slow=0.8,SNR=20
YAK Yakutsk 81.36 343 *e*P **P** **15 00 18.5 0.0**
YAK pmax pmax
comp=Z,46nm,0.8s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK Yakutsk 81.36 343 P **P** **15 00 18.1 -0.3**
ULN Ulaanbaatar 81.39 324 *ce*P **P** **15 00 19.7 +0.5**
ULN pmax pmax
comp=Z,35nm,1.5s
ULN Ulaanbaatar 81.39 324 P **P** **15 00 18.8 -0.4**
SONM Songino Array 81.75 324 P **P** **15 00 21.3 +0.2**
comp=Z,4.6nm,0.9s,baz=144,slow=4.6,SNR=31
SONM Songino Array 81.75 324 P **P** **15 00 20.8 -0.3**
SONM pmax pmax
comp=Z,9.0nm,1.2s
SONM Songino Array 81.75 324 P **P** **15 00 20.8 -0.3**
TNA Tin City 81.76 10 P **P** **15 00 19.8 -0.7**
TNA Tin City 81.76 10 P **P** **15 00 21.1 +0.6**
baz=205
M19K Big River Lodg 81.77 17 P **P** **15 00 22.4 +1.7**
baz=218
L19K White Mountain 81.86 17 P **P** **15 00 21.6 +0.5**
L19K White Mountain 81.86 17 P **P** **15 00 22.4 +1.2**
baz=217
GTA Gaotai 81.92 314 ⇑P **P** **15 00 23.8 +1.6**
GTA pP PcP 15 00 29.0 +1.3
GTA pmax pmax
comp=Z,18nm,1.2s
BILL Bilibino 82.00 360 *e*P **P** **15 00 20.6 -1.1**
BILL *e* 15 03 28.1
BILL pmax pmax
comp=Z,42nm,1.3s
BILL MLR MLR
comp=Z,70nm,18.0s
BILL Bilibino 82.00 360 P **P** **15 00 21.2 -0.6**
M20K Styx River 82.13 18 P **P** **15 00 23.6 +0.9**
TTA Tatalina 82.14 16 P **P** **15 00 21.9 -0.8**
TTA pmax pmax
comp=Z,5.0nm,1.0s
TTA Tatalina 82.14 16 P **P** **15 00 21.9 -0.8**
TTA Tatalina 82.14 16 P **P** **15 00 24.8 +2.1**
baz=216
O22K Cooper Landing 82.14 20 P **P** **15 00 22.2 -0.4**
O22K Cooper Landing 82.14 20 P **P** **15 00 25.7 +3.1**
baz=222
MAW Mawson 82.20 202 LR LR 15 30 54.9
comp=Z,383nm,18.3s,baz=113,slow=31
L20K Farewell, AK 82.38 17 P **P** **15 00 25.2 +1.3**
baz=218
RC01 Rabbit Creek A 82.59 20 P **P** **15 00 25.1 +0.1**
RC01 IAmb IAmb 15 00 28.2
comp=Z,12nm,0.9s
RC01 Rabbit Creek A 82.59 20 P **P** **15 00 27.7 +2.7**
baz=222
PWL Port Wells 82.89 20 P **P** **15 00 25.3 -1.3**
PWL Port Wells 82.89 20 P **P** **15 00 26.4 -0.2**
baz=224
M22K Willow 82.96 19 P **P** **15 00 28.0 +1.1**
baz=222
K20K Telida 83.01 17 P **P** **15 00 28.2 +1.0**
K20K Telida 83.01 17 P **P** **15 00 29.4 +2.2**
baz=218
PMR Palmer 83.16 20 P **P** **15 00 27.6 -0.3**
PMR pmax pmax
comp=Z,17nm,1.3s
PMR Palmer 83.16 20 P **P** **15 00 27.6 -0.3**
PMR IAmb IAmb 15 00 29.7
comp=Z,17nm,1.3s
PMR Palmer 83.16 20 P **P** **15 00 27.5 -0.3**
baz=223
KNK Knik Glacier 83.25 20 P **P** **15 00 28.3 -0.1**
KNK IAmb IAmb 15 00 32.7
comp=Z,14nm,1.0s
KNK Knik Glacier 83.25 20 P **P** **15 00 29.3 +0.9**
baz=223
GLI Glacier Island 83.32 21 P **P** **15 00 29.1 +0.3**
GLI IAmb IAmb 15 00 31.7
comp=Z,20nm,1.2s
FID Port Fidalgo 83.44 21 P **P** **15 00 29.1 -0.3**
EYAK Cordova Ski Ar 83.56 22 P **P** **15 00 30.3 +0.3**
EYAK IAmb IAmb 15 00 34.0
comp=Z,9.3nm,1.0s
SML Sawmill 83.58 20 P **P** **15 00 32.0 +1.8**
baz=224
CAST Castle Rocks 83.62 17 P **P** **15 00 29.5 -0.8**
CAST IAmb IAmb 15 00 31.1
comp=Z,15nm,0.9s
CAST Castle Rocks 83.62 17 P **P** **15 00 30.2 -0.2**
baz=220,SNR=14
J20K Nowinta River 83.64 16 P **P** **15 00 29.5 -0.8**
J20K IAmb IAmb 15 00 33.2
comp=Z,4.6nm,0.7s
J20K Nowinta River 83.64 16 P **P** **15 00 31.6 +1.3**
baz=218,SNR=6.2
BOD Bodaibo 83.77 335 *e*P **P** **15 00 30.9 -0.2**
BOD pmax pmax
comp=Z,43nm,1.6s
CHUM Lake Minchumin 83.92 17 P **P** **15 00 31.9 +0.2**
baz=220
SCM Sheep Creek Mo 83.92 20 P **P** **15 00 32.0 0.0**
SCM pmax pmax
comp=Z,21nm,1.0s
SCM Sheep Creek Mo 83.92 20 P **P** **15 00 31.9 0.0**
SCM Sheep Creek Mo 83.92 20 P **P** **15 00 34.2 +2.2**
baz=224
HMT Hamilton 83.95 22 P **P** **15 00 32.7 +0.6**
KTH Kantishna Hill 84.07 18 P **P** **15 00 31.4 -1.2**
KLU Klutina 84.16 21 P **P** **15 00 33.0 -0.2**
KLU IAmb IAmb 15 00 37.8
comp=Z,7.8nm,1.0s

KLU **Klutina** 84.16 21 P P 15 00 35.8 +2.7
baz=226
TRF **Thorofare Moun** 84.18 18 P P 15 00 32.6 -0.7
TRF IAmb IAmb 15 00 37.1
comp=Z,9.9nm,0.8s
TRF **Thorofare Moun** 84.18 18 P P 15 00 32.9 -0.4
baz=222,SNR=7.7
GOMU **GeErMu** 84.25 309 P P 15 00 36.5 +1.9
GOMU pmax pmax
comp=Z,5.0nm,1.5s
GOMU pmax pmax
comp=Z,89nm,5.8s
BMRM **Bremner River** 84.26 22 P P 15 00 35.5 +1.8
baz=227
WAT6 **Susitna Watana** 84.33 19 P P 15 00 35.2 +1.1
baz=224
BPAW **Bear Paw Mtn.** 84.46 17 P P 15 00 33.5 -1.1
BPAW **Bear Paw Mtn.** 84.46 17 P P 15 00 33.9 -0.7
baz=221
M24K **Tolsona, Glenn** 84.50 20 P P 15 00 35.0 +0.1
M24K IAmb IAmb 15 01 03.2
comp=Z,16nm,1.1s
M24K **Tolsona, Glenn** 84.50 20 P P 15 00 38.3 +3.4
baz=226
WAX **Waxell Ridge** 84.55 23 P P 15 00 34.8 -0.3
WAX IAmb IAmb 15 00 38.9
comp=Z,13nm,1.1s
RND **Reindeer** 84.58 18 P P 15 00 34.6 -0.6
RND pmax pmax
comp=Z,17nm,0.9s
RND **Reindeer** 84.58 18 P P 15 00 34.6 -0.6
N25K **Chitina, Valde** 84.70 21 P P 15 00 35.4 -0.5
N25K IAmb IAmb 15 00 41.2
comp=Z,10nm,1.2s
N25K **Chitina, Valde** 84.70 21 P P 15 00 36.4 +0.5
baz=227
O02D **Mt. Diablo Mer** 84.72 46 P P 15 00 35.8 -0.7
O02D IAmb IAmb 15 00 40.4
comp=Z,7.7nm,1.1s
O02D **Mt. Diablo Mer** 84.72 46 P P 15 00 38.9 +2.4
baz=247,SNR=6.6
MCK **McKinley** 84.79 18 P P 15 00 36.0 -0.3
MCK pmax pmax
comp=Z,21nm,1.0s
MCK **McKinley** 84.79 18 P P 15 00 36.0 -0.3
MCK **McKinley** 84.79 18 P P 15 00 37.0 +0.8
baz=223,SNR=16
DHY **Denali Highway** 84.80 19 P P 15 00 36.6 +0.1
DHY IAmb IAmb 15 01 03.7
comp=Z,12nm,1.3s
DHY **Denali Highway** 84.80 19 P P 15 00 37.3 +0.8
baz=224
ZAK **Zakamensk** 84.81 325 eP P 15 00 36.7 -0.1
ZAK pmax pmax
comp=Z,39nm,1.4s
ISLE **Juniper Island** 84.84 23 P P 15 00 36.3 -0.4
ISLE IAmb IAmb 15 01 05.4
comp=Z,9.9nm,0.9s
VRDI **Verde Repeater** 84.85 22 P P 15 00 35.9 -0.9
VRDI IAmb IAmb 15 00 41.2
comp=Z,9.6nm,1.4s
GLB **Gilahina Butte** 84.86 22 P P 15 00 36.6 -0.1
RDOG **Red Dog Mine** 84.89 11 P P 15 00 37.0 +0.3
RDOG IAmb IAmb 15 00 38.2
comp=Z,11nm,1.0s
RDOG **Red Dog Mine** 84.89 11 P P 15 00 37.5 +0.9
baz=209
L02E **Cave Junction** 84.95 44 P P 15 00 39.0 +1.4
baz=246
BWN **Browne** 84.96 18 P P 15 00 36.6 -0.4
I21K **Tanana** 85.01 16 P P 15 00 37.0 -0.2
I21K **Tanana** 85.01 16 P P 15 00 37.6 +0.3
baz=220,SNR=24
HARP **HAARP** 85.05 20 P P 15 00 38.5 +0.9
baz=226
N02D **Trinity Center** 85.09 46 P P 15 00 39.9 +1.5
baz=246
K02D **Willamette Mer** 85.13 44 P P 15 00 38.4 -0.2
baz=246
M02C **Callahan** 85.16 45 P P 15 00 38.2 -0.5
M02C **Callahan** 85.16 45 P P 15 00 40.3 +1.6
baz=246,SNR=5.1
H21K **Melozitna Rive** 85.16 16 P P 15 00 38.5 +0.5
H21K IAmb IAmb 15 00 39.7
comp=Z,12nm,1.1s
H21K **Melozitna Rive** 85.16 16 P P 15 00 39.0 +0.9
baz=219,SNR=9.8
IMAR **Indian Mountai** 85.17 15 P P 15 00 38.3 +0.2
TABL **Table Mountain** 85.19 23 P P 15 00 37.9 -0.7
TABL IAmb IAmb 15 00 43.0
comp=Z,7.6nm,0.9s
IRK **Irkutsk** 85.20 327 eP P 15 00 36.8 -1.7
IRK pmax pmax
comp=Z,36nm,1.3s
MLY **Manley** 85.24 17 P P 15 00 38.3 -0.2
MLY IAmb IAmb 15 00 39.9
comp=Z,16nm,1.4s
MLY **Manley** 85.24 17 P P 15 00 38.7 +0.2
baz=221,SNR=6.7
NEA2 **Nenana** 85.39 18 P P 15 00 37.4 -1.8
NEA2 IAmb IAmb 15 00 39.3
comp=Z,10nm,1.3s
NEA2 **Nenana** 85.39 18 P P 15 00 38.7 -0.5
baz=223
BARN **Barnard Glacie** 85.39 22 P P 15 00 38.6 -1.0
BARN IAmb IAmb 15 00 44.3
comp=Z,15nm,1.4s
YBH **Yreka Blue Hor** 85.39 45 P P 15 00 41.0 +1.1
comp=Z,5.2nm,1.1s,baz=182,slow=4.5,SNR=9.9
YBH LR LR 15 31 21.7
comp=Z,143nm,20.1s,baz=246,slow=30
O03E **Paynes Creek** 85.46 47 P P 15 00 39.4 -0.8
O03E IAmb IAmb 15 00 43.2
comp=Z,12nm,1.2s
O03E **Paynes Creek** 85.46 47 P P 15 00 41.1 +0.9
baz=247,SNR=5.6
HUMO **Hull Mountain** 85.57 44 P P 15 00 40.3 -0.4
WRH **Wood River Hil** 85.59 18 P P 15 00 38.7 -1.5
WRH IAmb IAmb 15 00 44.2
comp=Z,7.6nm,0.9s
I23K **Minto, Yukon-K** 85.71 17 P P 15 00 40.1 -0.6
I23K **Minto, Yukon-K** 85.71 17 P P 15 00 40.7 -0.1
baz=222
CCB **Clear Creek Bu** 85.80 18 P P 15 00 39.4 -1.8
CCB IAmb IAmb 15 00 41.3
comp=Z,4.8nm,0.7s
L04D **Klamath Falls** 85.86 45 P P 15 00 43.8 +1.5
baz=247
HDA **Harding Lake** 85.89 18 P P 15 00 40.4 -1.2
HDA **Harding Lake** 85.89 18 P P 15 00 41.3 -0.4
baz=225,SNR=17
MDM **Murphy Dome** 85.90 18 P P 15 00 39.8 -1.9
TCOL **CIGO, UAF Yank** 85.95 18 P P 15 00 41.4 -0.5
TCOL IAmb IAmb 15 00 45.5
comp=Z,12nm,0.8s
TCOL **CIGO, UAF Yank** 85.95 18 P P 15 00 42.0 +0.1
baz=224
COLA **College** 85.95 18 *i* P P 15 00 41.4 -0.5
COLA pmax pmax
comp=Z,9.0nm,0.7s
COLA **College** 85.95 18 P P 15 00 41.6 -0.4
COLA IAmb IAmb 15 00 45.5
comp=Z,12nm,0.8s
RIDG **Independent Ri** 86.08 19 P P 15 00 41.9 -0.8
RIDG IAmb IAmb 15 00 47.4
comp=Z,16nm,1.3s
RIDG **Independent Ri** 86.08 19 P P 15 00 42.4 -0.3
baz=227
M27K **Edge Creek, AK** 86.16 21 P P 15 00 42.5 -0.7
M27K **Edge Creek, AK** 86.16 21 P P 15 00 44.2 +1.0
baz=229
IL31 **86.17 18 P P 15 00 41.2 -1.8**
IL31 IAmb IAmb 15 00 46.5
comp=Z,7.5nm,0.8s
ILAR **Eielson Array** 86.17 18 P P 15 00 41.6 -1.4
comp=Z,6.1nm,0.8s,baz=240,slow=4.8,SNR=74
ILAR PKiKP **PKiKP** 15 05 50.0 -0.9
comp=Z,0.2nm,0.6s,baz=269,slow=3.4,SNR=5.1
ILAR PKKP **PKKPdf** 15 18 38.8 +0.5
comp=Z,0.4nm,0.9s,baz=23,slow=1.2,SNR=5.7
ILAR LR LR 15 34 21.2
comp=Z,313nm,19.9s,baz=242,slow=32
ILAR **Eielson Array** 86.17 18 P P 15 00 41.2 -1.8
ILAR **Eielson Array** 86.17 18 P P 15 00 41.2 -1.8
ISA **Isabella, Lake** 86.22 52 P P 15 00 46.0 +1.9
baz=250

POKR **Poker Plat Res** 86.25 18 P P 15 00 41.8 -1.7
POKR **Poker Plat Res** 86.25 18 P P 15 00 42.3 -1.1
baz=224
DOT **Dot Lake** 86.27 20 P P 15 00 43.3 -0.3
YUK3 **Moose Creek** 86.30 22 P P 15 00 46.3 +2.3
baz=231
EDW2 **Edwards Air Fo** 86.32 53 P P 15 00 46.6 +2.0
baz=250
MPK **Martis Peak** 86.35 48 P P 15 00 43.8 -1.2
MPK IAmb IAmb 15 01 08.6
comp=Z,8.8nm,1.1s
I04A **Tendick Farm,** 86.41 43 P P 15 00 46.6 +1.8
baz=247
J25K **Salcha River,** 86.52 19 P P 15 00 43.7 -1.1
J25K IAmb IAmb 15 00 49.0
comp=Z,5.6nm,0.8s
J25K **Salcha River,** 86.52 19 P P 15 00 44.5 -0.3
baz=226,SNR=10
SCRK **Sand Creek** 86.52 20 P P 15 00 44.1 -0.9
SCRK **Sand Creek** 86.52 20 P P 15 00 44.4 -0.6
baz=227
BBB **Bella Bella** 86.61 34 LR LR 15 31 45.4
comp=Z,250nm,20.7s,baz=233,slow=30
L27K **Beaver Creek,** 86.64 21 P P 15 00 45.9 +0.5
baz=229
BCAR **Beaver Creek A** 86.65 21 P P 15 00 45.1 -0.4
MOY **Mondy** 86.70 325 eP P 15 00 46.3 +0.2
MOY pmax pmax
comp=Z,23nm,1.6s
LRMC **Laurel Mtn Rad** 86.76 52 P P 15 00 49.2 +2.4
baz=250
CWC **Cottonwood Cre** 86.78 51 P P 15 00 49.0 +2.0
baz=250
HYT **Haines Junctio** 86.83 24 P P 15 00 46.1 -0.5
J05D **Fort Rock, OR** 87.00 44 P P 15 00 48.8 +1.0
baz=247,SNR=5.2
COLD **Coldfoot** 87.04 15 P P 15 00 46.6 -0.7
COLD IAmb IAmb 15 00 53.0
comp=Z,8.2nm,1.0s
COLD **Coldfoot** 87.04 15 P P 15 00 48.7 +1.4
baz=222
PFO **Pinyon Flats O** 87.09 54 LR LR 15 32 54.7
comp=Z,452nm,19.2s,baz=246,slow=31
MPMC **Manual Prospec** 87.10 52 P P 15 00 50.6 +2.0
baz=250
NVAR **Mina Array Bea** 87.30 49 P P 15 00 51.2 +1.7
comp=Z,1.9nm,0.9s,baz=234,slow=7.3,SNR=12
NVAR LR LR 15 32 17.0
comp=Z,683nm,20.3s,baz=234,slow=30
BELA **Belgrano 2** 87.31 176 P P 15 00 46.5 -2.1
BELA IAmb IAmb 15 00 48.6
comp=Z,13nm,1.0s
SWSC **Sam W. Stewart** 87.40 55 P P 15 00 51.7 +1.9
baz=251
NV11 **Mina Array Sit** 87.41 49 P P 15 00 49.0 -1.0
NV11 IAmb IAmb 15 00 57.8
comp=Z,7.3nm,1.3s
GRAC **Grapevine Rang** 87.51 51 P P 15 00 52.8 +2.5
baz=250
BELC **Belle Mtn. Jos** 87.58 54 P P 15 00 52.9 +2.1
baz=251
FURC **Furnace Creek,** 87.72 52 P P 15 00 52.9 +1.7
baz=251
BC3 **Big Chuckawall** 87.90 55 P P 15 00 54.6 +2.2
baz=252
PALK **Pallekele** 87.95 278 LR LR 15 41 03.1
comp=Z,119nm,19.8s,baz=221,slow=36
EGAK **Eagle** 87.97 20 P P 15 00 50.9 -0.9
baz=230
GMRC **Granite Mounta** 88.10 54 P P 15 00 54.1 +0.8
baz=251
TUQ **Turquoise Moun** 88.10 53 P P 15 00 55.4 +2.1
baz=251
M30M **Minto, Yukon** 88.15 23 P P 15 00 53.9 +1.2
baz=234
TOLK **Toolik Lake Re** 88.26 15 P P 15 00 53.2 +0.1
TOLK IAmb IAmb 15 00 54.9
comp=Z,6.2nm,0.8s
TOLK **Toolik Lake Re** 88.26 15 P P 15 00 53.9 +0.8
baz=222
IRM **Iron Mountain** 88.30 54 P P 15 00 56.3 +2.2
baz=252
TPNV **Topopah Spring** 88.34 51 P P 15 00 55.9 +1.5
baz=251
I07A **Izee** 88.46 44 P P 15 00 54.7 -0.1
DLBC **Dease Lake** 88.70 28 LR LR 15 32 43.6
comp=Z,150nm,21.5s,baz=268,slow=30
BMAR **Burnt Mountain** 88.70 17 P P 15 00 55.4 +0.2
PDMCI **Parker Dam,Lak** 89.14 54 P P 15 01 00.6 +2.6
baz=252
G08A **Pilot Rock** 89.26 43 P P 15 00 58.0 -0.4
I29M **Ogilvie Camp,** 89.28 20 P P 15 00 56.6 -1.4
baz=232
R11A **Troy Canyon, C** 89.29 50 P P 15 01 00.4 +1.6
baz=251
TIXI **Tiksi** 89.34 349 ceP P 15 00 56.3 -1.7
TIXI pmax pmax
comp=Z,13nm,1.0s
TIXI **Tiksi** 89.34 349 P P 15 00 57.4 -0.7
TIXI IAmb IAmb 15 01 02.2
comp=Z,11nm,0.9s
LPIG **La Paz** 89.43 65 LR LR 15 30 48.4
comp=Z,96nm,21.8s,baz=230,slow=29
214A **Organ Pipe Nat** 89.50 57 P P 15 01 02.0 +2.2
baz=253
ELK **Elko** 90.30 48 P P 15 01 05.4 +1.8
comp=Z,2.4nm,0.9s,baz=267,slow=7.6,SNR=6.3
ELK LR LR 15 35 45.2
comp=Z,288nm,19.0s,baz=249,slow=32
ELK **Elko** 90.30 48 P P 15 01 02.4 -1.2
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK **Elko** 90.30 48 P P 15 01 02.4 -1.2
LCMT **Little Creek M** 90.65 52 P P 15 01 05.0 -0.2
LCMT IAmb IAmb 15 01 09.2
comp=Z,6.3nm,1.0s
CCUT **Cedar City** 90.72 51 P P 15 01 05.1 -0.5
MFID **Camas Ranch** 90.74 45 P P 15 01 03.8 -1.7
PLID **Pearl Lake** 91.16 44 P P 15 01 06.3 -1.2
PLID IAmb IAmb 15 01 10.2
comp=Z,6.7nm,1.2s
TUC **Tucson** 91.25 57 P P 15 01 10.4 +2.4
baz=254
NEW **Newport** 91.48 40 LR LR 15 41 08.1
comp=Z,142nm,18.3s,baz=244,slow=35
WUAZ **Wupatki** 91.67 54 P P 15 01 13.3 +3.3
baz=254
HLID **Hailey** 91.76 46 P P 15 01 13.3 +3.1
baz=252
WMQ **Urumqi** 91.98 315 eP P 15 01 11.6 +0.5
WMQ pmax pmax
comp=Z,17nm,1.9s
WMQ LR LR
comp=Z,400nm,19.9s
WMQ LR LR
comp=Z,100nm,26.7s
INK **Inuvik** 92.53 19 LR LR 15 37 17.6
comp=Z,257nm,20.5s,baz=224,slow=32
TROLL **Troll, Antarti** 93.36 185 P P 15 01 16.8 -0.4
SNAA **Sanae** 94.06 183 P P 15 01 20.3 0.0
SNAA **Sanae** 94.06 183 LR LR 15 43 07.7
comp=Z,192nm,18.0s,baz=187,slow=35
SNAA **Sanae** 94.06 183 ceP P 15 01 18.6 -1.7
SNAA pmax pmax
comp=Z,13nm,1.0s
VNA3 **Neumayer Olymp** 94.75 181 P P 15 01 22.1 -1.3
PDAR **Pinedale Array** 94.95 47 P P 15 01 27.1 +2.0
comp=Z,0.3nm,0.8s,baz=238,slow=3.1,SNR=1.9
PDAR LR LR 15 38 45.8
comp=Z,149nm,18.8s,baz=276,slow=32
VNA2 **Neumayer--Watz** 95.01 182 P P 15 01 23.5 -1.0
baz=183,slow=4.0
ANMO **Albuquerque** 95.41 55 LR LR 15 36 46.5
comp=Z,288nm,20.5s,baz=272,slow=31
ANMO **Albuquerque** 95.41 55 *i* P P 15 01 25.1 -2.2
ANMO pmax pmax
comp=Z,2.0nm,1.1s
C36M **Paulatuk** 96.05 19 P P 15 01 26.9 -2.1
C36M **Paulatuk** 96.05 19 P P 15 01 27.6 -1.4
baz=246
MK31 **Makanchi Array** 96.46 317 ⇑*i* P P 15 01 30.7 -0.8
MK31 **Makanchi Array** 96.46 317 P P 15 01 30.1 -1.4
MK31 IAmb IAmb 15 01 32.8
comp=Z,7.8nm,1.2s
MKAR **Makanchi Array** 96.46 317 P P 15 01 31.4 -0.1
comp=Z,5.4nm,1.1s,baz=101,slow=5.8,SNR=29
MKAR PKiKP **PKiKP** 15 06 10.9 +1.9

comp=Z,0.4nm,0.6s,baz=230,slow=1.2,SNR=5.5
MKAR PKKPbc **PKKPdf** 15 18 18.8 -0.5
comp=Z,0.3nm,0.6s,baz=278,slow=5.6,SNR=4.1
MKAR **Makanchi Array** 96.46 317 P P 15 01 30.2 -1.3
TXAR **Lajitas Array** 96.46 61 P P 15 01 33.5 +1.4
comp=Z,0.7nm,0.8s,baz=215,slow=8.4,SNR=5.8
TXAR PP PP 15 05 27.8 +1.1
comp=Z,1.5nm,1.1s,baz=241,slow=7.0,SNR=9.0
TXAR LR LR 15 36 17.6
comp=Z,171nm,21.8s,baz=260,slow=30
ZAA0 **Zalesovo Array** 96.65 324 P P 15 01 30.9 -1.3
ZAA0 IAmb IAmb 15 01 32.3
comp=Z,7.5nm,1.1s
ZALV **Zalesovo Beam** 96.65 324 P P 15 01 31.4 -0.8
comp=Z,3.0nm,0.7s,baz=108,slow=4.8,SNR=19
ZALV **Zalesovo Beam** 96.65 324 *i* P P 15 01 31.5 -0.7
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV **Zalesovo Beam** 96.65 324 P P 15 01 30.8 -1.4
MAKZ **Makanchi** 96.67 316 P P 15 01 31.1 -1.4
MAKZ pmax pmax
comp=Z,10.0nm,1.3s
MAKZ **Makanchi** 96.67 316 P P 15 01 31.1 -1.4
A36M **Sachs Harbour** 96.80 17 P P 15 01 31.1 -1.1
A36M IAmb IAmb 15 01 33.1
comp=Z,2.9nm,0.8s
A36M **Sachs Harbour** 96.80 17 P P 15 01 32.1 -0.3
baz=245
YKA **Yellowknife Ar** 97.30 27 P P 15 01 34.5 -0.4
comp=Z,0.6nm,0.6s,baz=256,slow=4.3,SNR=7.7
YKA PKiKP **PKiKP** 15 06 10.4 +0.5
comp=Z,0.3nm,0.7s,baz=259,slow=1.2,SNR=2.7
YKA PKKPbc **PKKPbc** 15 18 16.2 +0.1
comp=Z,0.3nm,0.7s,baz=79,slow=2.4,SNR=3.0
NRIK **Noril'sk** 99.38 339 P Pdif 15 01 43.6 -0.5
comp=Z,4.8nm,0.7s,baz=99,slow=5.5,SNR=9.0
NRIK **Noril'sk** 99.38 339 ceP Pdif 15 01 42.8 -1.3
NRIK pmax pmax
comp=Z,5.0nm,0.7s
NRIK **Noril'sk** 99.38 339 P Pdif 15 01 43.1 -1.0
KSH **Kashi** 99.46 308 P Pdif 15 01 45.5 +0.1
KSH pP pP 15 01 56.1 -1.1
KSH sP pwP 15 02 02.0 0.0
KSH pmax pmax
comp=Z,2.0nm,1.0s
KURK **Kurchatov** 99.66 320 *i* P Pdif 15 01 45.1 -0.6
KURK pmax pmax
comp=Z,1.0nm,0.9s
RES **Resolute Bay** 105.79 16 PKiKP **PKiKP** 15 06 24.3 -0.7
comp=Z,0.5nm,0.6s,baz=272,slow=4.8,SNR=5.9
PRGR **Permogore** 116.95 333 ePKiKP **PKPdf** 15 06 45.6 -0.8
PRGR pmax pmax
comp=Z,4.0nm,0.8s
DAG **Danmarks Havn** 117.34 1 *i* P **PKPdf** 15 06 44.0 -2.8
LPAZ **La Paz** 117.91 117 PKP **PKPdf** 15 06 49.6 -0.9
comp=Z,0.9nm,0.7s,baz=288,slow=5.7,SNR=3.1
ARCES **ARCESS Array B** 119.60 345 PKP **PKPdf** 15 06 49.8 -1.5
comp=Z,5.5nm,0.6s,baz=76,slow=1.5,SNR=32
ARCES **ARCESS Array B** 119.60 345 PKPdf **PKPdf** 15 06 50.2 -1.2
KLMR **Klimovskoe** 119.97 333 ePKiKP **PKiKP** 15 06 50.7 -1.5
KLMR pmax pmax
comp=Z,12nm,0.9s
KLMR **Klimovskoe** 119.97 333 ePKPdf **PKPdf** 15 06 50.8 -1.5
KLMR AMP 15 06 57.5
comp=Z,12nm,0.9s
CPUP **Villa Florida** 121.20 133 PKP **PKPdf** 15 06 55.0 -0.8
comp=Z,2.2nm,0.9s,baz=297,slow=2.3,SNR=3.0
CPUP **Villa Florida** 121.20 133 PKiKP **PKPdf** 15 06 55.0 -0.8
SCHQ **Schefferville** 122.12 33 PKP **PKPdf** 15 06 55.6 -1.0
comp=Z,1.8nm,0.7s,baz=248,slow=5.4,SNR=5.1
VRH **Novokhopyorsk** 122.64 322 ePKiKP **PKiKP** 15 07 01.1 +3.2
VRH pmax pmax
comp=Z,20nm,0.6s
ZEI **Tsey** 123.50 312 *i* PKiKP **PKiKP** 15 07 05.9 +5.7
ZEI pmax pmax
comp=Z,9.0nm,1.0s
LPSR **Galich'ya Gora** 123.75 325 ePKiKP **PKiKP** 15 07 00.5 +0.5
LPSR pmax pmax
comp=Z,30nm,0.8s
RAYN **Ar Rayn** 123.94 289 ⇑PKiKP **PKiKP** 15 07 01.8 +0.4
OBN **Obninsk** 123.97 328 *i* PKiKP **PKPdf** 15 06 58.6 -1.5
OBN *e* 15 08 45.3
OBN ePPP PPP 15 11 23.8
OBN pmax pmax
comp=Z,11nm,0.6s
KBZ **Khabaz** 124.01 313 PKP **PKiKP** 15 07 02.5 +1.7
comp=Z,2.2nm,0.9s,baz=90,slow=5.1,SNR=3.3
KIV **Kislovodsk** 124.10 314 ePKiKP **PKPdf** 15 07 00.7 -0.2
KIV pmax pmax
comp=Z,7.0nm,1.1s
FINES **FINESS Array B** 125.03 338 PKP **PKPdf** 15 07 01.7 -0.3
comp=Z,13nm,1.0s,baz=42,slow=2.2,SNR=22
FINES **FINESS Array B** 125.03 338 PKiKP **PKPdf** 15 07 01.3 -0.7
FINES **FINESS Array B** 125.03 338 PKPdf **PKPdf** 15 07 01.2 -0.7
MEF **Metsahovi** 126.46 338 eP **PKPdf** 15 07 04.4 -0.3
VSU **Vasula** 126.70 335 eP **PKPdf** 15 07 04.9 -0.3
RAF **Rauma** 126.83 340 eP **PKPdf** 15 07 05.1 -0.2
AAL **Aland** 128.04 340 eP **PKPdf** 15 07 07.5 -0.3
NACGM **Naroch** 128.87 331 ⇓ePKP **PKiKP** 15 07 10.3 +0.1
PABE **Paberze** 129.76 333 eP **PKiKP** 15 07 12.3 +0.4
NB2 **NORSAR Subarra** 129.96 345 PKPdf **PKPdf** 15 07 10.9 -0.6
comp=Z,21nm,1.7s,baz=31,slow=1.9
NB2 **NORSAR Subarra** 129.96 345 PKPdf **PKPdf** 15 07 10.9 -0.6
baz=31,slow=1.9
NOA **NORSAR Array B** 129.96 345 PKP **PKPdf** 15 07 11.6 +0.1
comp=Z,3.0nm,0.9s,baz=36,slow=2.2,SNR=4.5
AKASG **Malin Array Be** 130.00 326 PKP **PKPdf** 15 07 11.8 +0.1
comp=Z,3.0nm,0.6s,baz=52,slow=2.3,SNR=14
AKBB **Malin Array Si** 130.00 326 *c* PKiKP **PKPdf** 15 07 11.1 -0.7
SUW **Suwalki** 131.07 332 eP **PKiKP** 15 07 19.1 +4.4
BRTR **Keskin Array B** 131.77 311 PKP **PKPdf** 15 07 15.6 -0.1
comp=Z,0.9nm,0.9s,baz=55,slow=2.4,SNR=2.7
BRTR SKPbc **SKPab** 15 10 43.0 +4.1
comp=Z,0.7nm,0.7s,baz=104,slow=5.2,SNR=3.6
TLCR 132.94 320 ⇓P **PKiKP** 15 07 23.1 +4.4
TLCR 132.94 320 ⇓PKIKP **PKiKP** 15 07 23.1 +4.4
DEL **Delary** 132.97 340 eP **PKiKP** 15 07 20.2 +1.8
CFR **Carcaliu** 133.37 320 ⇑P **PKiKP** 15 07 18.7 +0.4
CFR **Carcaliu** 133.37 320 ⇑PKIKP **PKPdf** 15 07 18.7 +0.4
BSD **Bornholm Skovb** 133.67 338 eP PKPpre 15 07 13.0
BURAR **Bucovina Array** 133.87 324 ⇑P **PKiKP** 15 07 22.3 +1.6
BURAR **Bucovina Array** 133.87 324 ⇑PKIKP **PKiKP** 15 07 22.3 +1.6
VRI **Vrincioaia** 133.90 321 ⇑P **PKPdf** 15 07 19.7 +0.3
VRI **Vrincioaia** 133.90 321 ⇑PKIKP **PKPdf** 15 07 19.7 +0.3
MLR **Muntele Rosu** 134.57 321 ⇑P **PKPdf** 15 07 13.5 -7.3
MLR **Muntele Rosu** 134.57 321 ⇑PKIKP PKPpre 15 07 13.5
BDFB **Brasilia** 134.63 129 PKP **PKPdf** 15 07 21.6 -0.2
comp=Z,2.6nm,0.7s,baz=199,slow=2.8,SNR=5.7
DOPR **Dopca** 134.65 322 ⇓P **PKiKP** 15 07 22.2 +0.1
UZH **Uzhgorod** 134.88 327 ePKiKP **PKPdf** 15 07 17.6 -3.5
UZH *e* 15 07 27.2
TRPA **Tarpa** 135.05 326 ⇑P **PKiKP** 15 07 25.1 +2.3
TRPA **Tarpa** 135.05 326 PKP **PKiKP** 15 07 23.2 +0.3
VOIR 135.13 322 ⇑P **PKiKP** 15 07 24.5 +1.3
VOIR 135.13 322 ⇑PKIKP **PKiKP** 15 07 24.5 +1.3
CRVS **Cervenica-Dubn** 135.15 328 ePKIKP **PKiKP** 15 07 23.6 +0.5
CRVS **Cervenica-Dubn** 135.15 328 ePKP **PKiKP** 15 07 23.6 +0.5
ARR **Arges** 135.42 322 ⇑P **PKiKP** 15 07 23.7 -0.1
GZR **Gura Zlata** 136.50 323 ⇑P **PKiKP** 15 07 25.7 -0.3
GZR **Gura Zlata** 136.50 323 ⇑PKIKP **PKiKP** 15 07 25.7 -0.3
MORC **Moravsky Berou** 136.51 331 ePKP **PKPdf** 15 07 22.7 -1.4
OSTC **Ostas** 136.56 333 ePKPDF **PKPdf** 15 07 24.2 0.0
PSZ **Piszkesteto** 136.58 328 ⇑P **PKPdf** 15 07 25.1 +0.7
PSZ **Piszkesteto** 136.58 328 ⇑PKIKP **PKPdf** 15 07 25.1 +0.7
PSZ **Piszkesteto** 136.58 328 PKP **PKiKP** 15 07 26.7 +0.6
CHVC **Chvalec** 136.61 333 ePKPDF **PKiKP** 15 07 26.3 +0.3
CHVC eSKP 15 11 06.7
SIRR **Siria** 136.64 325 ⇑P **PKPdf** 15 07 25.3 +0.8
KRLC **Kraliky** 136.65 332 ePKIKP **PKPdf** 15 07 25.1 +0.7
KRLC **Kraliky** 136.65 332 ePKPDF **PKPdf** 15 07 25.1 +0.7
DPC **Dobruska-Polom** 136.66 333 ePKIKP **PKPdf** 15 07 18.0 -6.4
DPC **Dobruska-Polom** 136.66 333 ePKPpre **PKPpre** 15 07 18.0
DPC eSKP 15 11 06.9
BZS **Buzias** 137.05 324 ⇑P **PKPdf** 15 07 25.8 +0.6
BZS **Buzias** 137.05 324 ⇑PKIKP **PKPdf** 15 07 25.8 +0.6
BRG **Berggiesshubel** 137.30 335 ePKP **PKPdf** 15 07 26.1 +0.6
BRG Amp 15 07 33.2
comp=Z,7.8nm,1.0s
BRG SKP 15 11 00.3
BRG Amp 15 11 09.2
comp=Z,2.5nm,0.8s
BRG **Berggiesshubel** 137.30 335 ePKIKP **PKPdf** 15 07 26.1 +0.6
BRG pmax pmax
comp=Z,8.0nm,1.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	Collm	137.35	336	ePKIKP	PKPdf	15 07 26.0	+0.4
CLL				i		15 07 31.3	
CLL	Collm	137.35	336	ePKPdf	PKPdf	15 07 26.0	+0.4
CLL				ePKiKP	PKiKP	15 07 28.0	+0.5
CLL				i pPKPdf	pPKPdf	15 07 31.3	-6.8
	comp=Z,8.0nm,0.9s						
CLL				ePP	PP	15 10 08.0	-2.4
CLL				eSKPdf	SKiKP	15 11 00.0	-0.3
CLL				ePKSdf	PKSdf	15 11 03.0	+1.4
CLL				i sSKPdf		15 11 08.7	
CLL				epSKPab		15 11 12.0	
CLL				ex	x	15 11 17.0	
CLL				Lm	MLR	16 16 00.0	
	comp=Z,200nm,18.7s						
KRUC	Moravsky	137.54	331	ePKP	PKPdf	15 07 25.3	-0.7
PRU	Pruhonice	137.71	333	ePKIKP	PKiKP	15 07 28.1	-0.1
PRU	Pruhonice	137.71	333	ePKPDF	PKiKP	15 07 28.1	-0.1
VTS	Vitosha	137.72	319	⇑P	PKiKP	15 07 29.9	+1.2
VTS	Vitosha	137.72	319	⇑PKIKP	PKiKP	15 07 29.9	+1.2
TREC	Trest	137.80	332	eSKP		15 11 06.3	
PBCC	Pribram	138.17	334	ePKPDF	PKiKP	15 07 31.1	+1.9
MPLH	Magyarpolny	138.28	328	PKP	PKiKP	15 07 32.7	+3.2
NKC	Novy Kostel	138.40	335	ePKIKP	PKPdf	15 07 27.5	-0.1
NKC	Novy Kostel	138.40	335	ePKPDF	PKPdf	15 07 27.5	-0.1
RONA	Rosalia, Austr	138.54	330	eP	PKiKP	15 07 29.0	-1.0
	comp=Z,18nm,1.3s						
CONA	Conrad Observa	138.59	330	eP	PKPdf	15 07 27.4	-0.7
	comp=Z,4.3nm,1.2s						
CKRC	Cesky Krumlov	138.67	332	ePKPDF	PKiKP	15 07 30.5	+0.2
CKRC				eSKP		15 11 03.4	
KOVH	Kovagotottos	138.70	327	PKP	PKiKP	15 07 30.9	+0.5
KHC	Kasperske Hory	138.77	333	ePKIKP	PKPdf	15 07 28.4	+0.1
KHC	Kasperske Hory	138.77	333	ePKPDF	PKPdf	15 07 28.4	+0.1
KHC				eSKP		15 11 03.4	
GERES	GERESS Array B	138.93	333	PKP	PKPdf	15 07 28.7	0.0
	comp=Z,0.9nm,0.6s,baz=64,slow=2.5,SNR=5.6						
GERES				SKPbc	SKiKP	15 11 03.8	+0.1
	comp=Z,0.3nm,0.3s,baz=336,slow=2.9,SNR=5.5						
ARSA	Arzberg	139.23	330	eP	PKPdf	15 07 29.3	+0.1
	comp=Z,2.1nm,0.9s						
ARSA				eS	SKPab	15 11 11.2	+0.1
	comp=Z,1.3nm,0.7s						
GRF	Grafenberg Arr	139.32	336	ePKPdf	PKiKP	15 07 30.5	-1.1
	baz=48,slow=1.4						
GRF				eSKPbc	SKPab	15 11 13.6	+2.2
	baz=38,slow=2.5						
MOA	Molln	139.40	331	eP	PKPdf	15 07 29.2	-0.3
	comp=Z,7.0nm,1.2s						
BIOA	Bad Ischl, Aus	139.81	332	eP	PKPdf	15 07 30.4	+0.2
	comp=Z,6.3nm,1.0s						
SOKA	Soboth	139.87	330	eP	PKPdf	15 07 29.7	-0.7
	comp=Z,2.8nm,0.8s						
OBKA	Obir	140.23	330	eP	PKPdf	15 07 30.2	-1.0
	comp=Z,4.1nm,1.5s						
PDG	Podgorica	140.28	321	⇑P	PKPdf	15 07 30.0	-1.2
KBA	Koelnbreinsper	140.39	331	eP	PKiKP	15 07 33.2	-0.8
	comp=Z,8.5nm,1.2s						
BTNL	Ternell	140.43	341	dPKiKP	PKiKP	15 07 33.9	0.0
MEM	Membach	140.44	341	dPKiKP	PKiKP	15 07 33.9	+0.1
WATA	Walderalm	141.00	333	eP	PKPdf	15 07 32.2	-0.4
	comp=Z,6.1nm,1.0s						
WATA				eS	SKPab	15 11 17.2	-1.9
	comp=Z,2.8nm,0.8s						
ABTA	Abfaltersbach	141.02	332	eP	PKPdf	15 07 30.0	-2.6
	comp=Z,6.0nm,0.9s						
ABTA				eS	SKPab	15 11 19.3	+0.2
	comp=Z,4.5nm,0.9s						
WTTA	Wattenberg	141.03	333	eP	PKPdf	15 07 32.8	+0.2
	comp=Z,6.4nm,1.0s						
WTTA				eS	SKPab	15 11 17.8	-1.5
	comp=Z,5.7nm,0.9s						
BMRD	Maredsous	141.10	342	dPKiKP	PKPdf	15 07 32.6	+0.2
MOTA	Moosalm	141.20	333	eP	PKPdf	15 07 29.7	-3.3
	comp=Z,3.8nm,0.9s						
MOTA				eS	SKPab	15 11 17.4	-2.6
	comp=Z,6.0nm,1.2s						
SQTA	Sankt Quirin	141.25	333	eP	PKPdf	15 07 29.9	-3.1
	comp=Z,4.3nm,0.7s						
SQTA				eS	SKPab	15 11 17.8	-2.4
	comp=Z,4.2nm,1.1s						
FETA	Feichten	141.61	333	eP	PKPdf	15 07 28.8	-5.0
	comp=Z,9.8nm,1.1s						
DAVA	Damuels	141.77	334	eP	PKPdf	15 07 32.0	-2.0
	comp=Z,4.4nm,0.8s						
TIP	Timpagrande	143.70	319	⇑P	PKPdf	15 07 37.1	-0.5
KEST	Kesra	150.47	321	PKPbc	PKiKP	15 07 54.7	-0.3
	comp=Z,21nm,0.7s,baz=306,slow=2.8,SNR=15						
KEST	Kesra	150.47	321		PKPbc	15 07 54.0	-0.3
CMAH	Djebel Manchou	151.00	324	P	PKPab	15 08 01.8	-1.2
CASM	Ain Smara	151.78	325	P	PKPdf	15 07 53.4	+2.5
PBRG	Braganca	151.90	350	ePKPdf	PKPbc	15 07 55.2	-2.2
DFRA	Djebel Bou Aff	151.91	326	P	PKPdf	15 07 53.9	+2.7
CTEI	Djebel Teioual	151.97	325	P	PKPbc	15 07 57.9	+0.1
POLO	Lamas de Olo	152.49	351	ePKPdf	PKPbc	15 07 55.9	-2.9
MVO	Moncorvo	152.57	350	ePKPdf	PKiKP	15 08 00.3	+1.1
ESDC	Sonseca Array	153.32	344	PKPbc	PKiKP	15 08 01.1	+0.4
	comp=Z,4.7nm,1.0s,baz=15,slow=2.8,SNR=12						
MTE	Manteigas	153.41	350	ePKPdf	PKiKP	15 08 01.2	+0.3
PCVE	Castro Verde	156.19	350	ePKPdf	PKPab	15 08 24.3	-0.4
PVAQ	Vaqueiros	156.35	349	ePKPdf	PKPab	15 08 25.3	-0.1
MORF	Marmelete	156.61	351	ePKPdf	PKPab	15 08 26.8	+0.2
TORD	Torodi Ar. Bea	165.43	268	PKP	PKPdf	15 08 06.8	-0.8
	comp=Z,1.8nm,1.1s,baz=157,slow=0.5,SNR=7.3						
TORD				PKPab	PKPab	15 09 06.0	+0.1
	comp=Z,3.3nm,1.1s,baz=96,slow=3.1,SNR=4.7						

PRU 03 15:04:06.2±0.0,50°.16N×19°.06E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	Liptovska Anna	1.04	165	ePG	Pg	15 04 25.4	-0.8
LANS				eSG	Sg	15 04 38.7	-1.0
LANS				eLG	Lg	15 04 39.1	
MORC	Moravsky Berou	1.05	249	ePG	Pb	15 04 27.1	-0.2
MORC				eSG	Sb	15 04 41.1	-0.5
KRLC	Kraliky	1.47	268	eSG	Sg	15 04 53.3	-0.1
	comp=Z,2.3nm,0.4s						
VYHS	Vyhne	1.67	185	ePN	Pn	15 04 35.7	-1.1
VYHS				eSN	Sn	15 04 57.9	-1.0
DPC	Dobruska-Polom	1.77	277	ePG	Pn	15 04 38.2	+0.1
DPC				eSG	Sb	15 05 02.1	-0.1
	comp=Z,1.9nm,0.7s						
VRAC	Vranov	1.81	243	eSG	Sb	15 05 03.6	+0.1
OSTC	Ostas	1.86	283	eSG	Sg	15 05 05.6	-0.5
KRUC	Moravsky	2.05	239	eSG	Sb	15 05 10.4	0.0

DDA 03 15:04:42.8±0.0,37°.22N×28°.17E,h7km±1km,ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	Mugla, Merkez-	0.13	73	P	Pg	15 04 46.0	+0.4
TURN	Turunc	0.45	172	P	Pg	15 04 51.7	+0.3
AYDN	Tasoluk	0.50	333	P	Pb	15 04 53.4	-0.5
AYDN				S	Sg	15 04 60.0	+1.0
AYDN				i AML	AML	15 05 05.0	
	comp=N,28nm,0.4s						
BDRM	Kayabasi	0.60	255	P	Pg	15 04 54.8	+0.5
TAVA	DENIZLI_Tavas	0.64	67	P	Pg	15 04 55.1	-0.1
DAT	Datca	0.68	224	P	Pb	15 04 56.7	-0.3

THE 03 15:06:09.8,38°.82N×20°.66E,h10km±2km,ML1.3/1,Error ellipse: s-maj=3.4km s-min=1.5km az=89.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	Tsoukalades, L	0.01	331	P	Pg	15 06 11.6	0.0
TSLK				S	Sg	15 06 13.7	+0.9
LKD2	Lefkada island	0.03	185	P	Pg	15 06 11.3	-0.4
LKD2				S	Sg	15 06 12.2	-0.8
	378nm,0.1s						
NYDR	Nydri-Lefkada	0.11	164	P	Pg	15 06 12.3	-0.2
NYDR				S	Sg	15 06 14.4	+0.1
DRAG	Dragano-Lefkad	0.15	207	P	Pg	15 06 13.2	+0.1
DRAG				S	Sg	15 06 15.4	0.0
EVGI	Lefkada island	0.20	181	P	Pg	15 06 13.8	-0.1
EVGI				S	Sg	15 06 18.0	+1.3

MOS 03 15:34:21.6±1.2,36°.52N×142°.54E,h11km,mb4.9/31, MS4.2/9,Error ellipse: s-maj=9.0km s-min=5.4km az=113.7

IDC 03 15:34:21.9±0.6,36°.47N×142°.60E,h0km,mb4.1/24, mb1 4.3/29,mb1mx4.1/68,mbtmp4.1/29,ML3.9/4,MS4.0/25, Ms1 4.0/25,ms1mx3.6/93,Error ellipse: s-maj=15.4km s-min=12.7km az=115.0

BJI 03 15:34:22.1±0.0,36°.53N×142°.32E,h8km,mb4.5/63, mB4.8/42,Ms4.5/63,Ms7 4.4/60

NEIC 03 15:34:23.9±1.6,36°.55N±0°.04×142°.53E±0°.08,h10km±1km, mb4.7/56,Error ellipse: s-maj=12.4km s-min=3.2km az=117.0

NIED 03 15:34:23.4,36°.45N×142°.58E,h30km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}8.90; $M_{\theta\theta}$-0.93; $M_{\phi\phi}$-7.97; $M_{r\theta}$1.22; $M_{\theta\phi}$-3.32; $M_{\phi r}$0.31; Fault plane solution: $M_0$9.19000×10^{15} NP1:ϕ_s28.00000°, δ48.00000°,λ99.00000°. NP2:ϕ_s195.00000°,δ43.00000°, λ80.00000°.

JMA 03 15:34:23.4±0.3,36°.45N×142°.58E,h30km,M4.4

BGR 03 15:34:32.2±0.0,36°.51N×140°.98E,h38km,mb5.0

ISC 03 15:34:23.7±0.4,36°.48N±0°.04×142°.66E±0°.04,h15km,n254, σ1§68/263,mb4.6/84,MS4.3/43,21C-3D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.62	293	P	Pn	15 34 50.1	-1.6
CHOJ	Chosi	1.65	243	P	Pn	15 34 50.4	-1.6
JHYU	Hitachinakayam	1.68	266	⇑P	Pn	15 34 50.8	-1.6
JHYU				eS	Sn	15 35 10.4	-3.2
JFK	Kawauchi	1.68	302	⇑P	Pn	15 34 50.8	-1.8
JHO	Hitachi	1.69	275	P	Pn	15 34 50.7	-1.9
JYT	Yasato	2.00	264		Pn	15 34 54.8	-2.2
JMM	Marumori	2.04	314	Pn	Pn	15 34 55.6	-1.7
JFT	Otama	2.13	300	⇑P	Pn	15 34 58.1	-0.6
JFT				eS	Sn	15 35 23.2	-1.7
JAG	Ashikaga	2.58	270	P	Pn	15 35 03.3	-1.6
JMK	Ichinoseki	2.72	336	P	Pn	15 35 06.3	-0.5
JYK	Kaneyama	3.04	324	⇑P	Pn	15 35 10.6	-0.7
JRY	Ryogami san	3.07	263	P	Pn	15 35 10.0	-1.6
JOD2	Odawara 2	3.14	248	P	Pn	15 35 11.4	-1.2
JOM	Ohasama	3.18	341	P	Pn	15 35 12.9	-0.2
JYN	Shimob	3.48	255	P	Pn	15 35 16.6	-0.6
MJAR	Matsushiro Arr	3.58	272	Pn	Pn	15 35 18.2	-0.5
	2.3nm,0.3s,baz=18,slow=4.3,SNR=76						
MJAR				Sn	Sn	15 36 01.0	+0.2
	1.5nm,0.3s,baz=226,slow=28,SNR=6.6						
MJAR				LR	LR	15 36 59.8	
	comp=Z,1μm,19.1s,baz=108,slow=45						
MJAR	Matsushiro Arr	3.58	272	Pn	Pn	15 35 18.0	-0.7
MAT	Matsushiro	3.58	272	P	Pn	15 35 18.7	0.0
MJB9	Matsu-Tunnel	3.59	272	Pn	Pn	15 35 18.4	-0.4
JSD	Sado	3.84	295	P	Pn	15 35 22.3	+0.1
JSD	Sado	3.84	295	Pn	Pn	15 35 19.1	-3.1
JHJ2	Mitsune	4.09	216	Pn	Pn	15 35 24.6	-1.0
JHJ	Hachijo jima 2	4.10	216	Pn	Pn	15 35 24.8	-1.0
	40nm,0.3s,baz=315,slow=22,SNR=9.3						
JHJ				Sn	Sn	15 36 07.3	-6.2
	72nm,0.3s,baz=185,slow=23,SNR=6.9						
JGF	Kuroka	4.38	260	Pn	Pn	15 35 30.1	+0.3
JTM	Tenmabayashi	4.48	344	Pn	Pn	15 35 30.4	-0.6
INU	Inuyama	4.71	258	Pn	Pn	15 35 34.5	+0.3
ERM	Erimo	5.55	4	P	Pn	15 35 43.9	-1.7
ERM	Erimo	5.55	4	Pn	Pn	15 35 43.9	-1.7
JEW	Eniwo	6.42	352		Pn	15 35 56.8	-0.9
NMR	Nemuro--Hokkai	7.28	18	eP	Pn	15 36 05.9	-3.5
NMR				eS	Sn	15 37 23.8	-7.9
GLVR	Golovnino	7.58	16	eP	Pn	15 36 10.6	-2.9
GLVR				eS	Sn	15 37 32.4	-6.7
JKA	Kamikawa-asahi	7.63	360	Pn	Pn	15 36 13.4	-0.9
ASAJ	Asahikawa	7.63	360	Pn	Pn	15 36 13.8	-0.4
	4.1nm,0.3s,baz=215,slow=10,SNR=49						
ASAJ				Sn	Sn	15 37 39.0	-1.4
	1.4nm,0.3s,baz=99,slow=19,SNR=2.0						
ASAJ	Asahikawa	7.63	360	P	Pn	15 36 13.4	-0.9
JMN	Monobe	7.70	252	Pn	Pn	15 36 14.9	-0.4
RUSJ	Misakicho	7.87	14	eP	Pn	15 36 16.5	-1.0
RUSJ				eS	Sn	15 37 41.8	-4.5
JHS	Saijyo	7.90	262	Pn	Pn	15 36 17.6	-0.3
SHO	Shikotan	8.05	22	eP	Pn	15 36 14.1	-5.8
JCJ	Chichijima	9.36	183	Pn	Pn	15 36 34.5	-3.6
	6.5nm,0.3s,baz=277,slow=22,SNR=1.7						
JCJ				Sn	Sn	15 38 09.4	-14
	5.3nm,0.3s,baz=270,slow=20,SNR=1.8						
KUR	Kuril'sk	9.60	23	eP	Pn	15 36 34.1	-7.0
KUR				MLR	MLR		
	comp=Z,1μm,11.0s						
JNU	Nakatsue	10.25	254	Pn	Pn	15 36 52.8	+2.6
	comp=Z,0.3nm,0.3s,baz=69,slow=8.9,SNR=6.7						
JNU	Nakatsue	10.25	254	Pn	Pn	15 36 50.0	-0.1
YSS	Yuzh-Sakhalins	10.47	0	eP	Pn	15 36 52.0	-1.1
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				MLR	MLR		
	comp=Z,1μm,18.0s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS	Yuzh-Sakhalins	10.47	0	Pn	Pn	15 36 52.1	-1.1
USRK	Ussuriysk Ar.	11.21	317	Pn	Pn	15 37 05.7	+2.5
	baz=134,slow=11,SNR=4.2						
KSRS	Korea Array	11.83	279	Pn	Pn	15 37 12.4	+0.6
	comp=N,0.0nm,0.3s,baz=93,slow=14,SNR=16						
KSRS				LR	LR	15 41 16.8	
	comp=N,285nm,18.2s,baz=90,slow=35						
KSAR	Wonju Array Be	11.86	279	P	Pn	15 37 11.2	-1.0
KSAR	Wonju Array Be	11.86	279	Pn	Pn	15 37 11.2	-1.0
GRNR	Gornyy	14.97	345	⇑iP	P	15 38 00.7	+0.6
GRNR				pmax	pmax		
	comp=N,3.0nm,0.6s						
GRNR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GRNR				MLR	MLR		
	comp=E,550nm,15.0s						
GRNR				MLR	MLR		
	comp=N,540nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,850nm,13.0s						
KLR	Kul'dur	15.03	331	Pn	Pn	15 37 56.5	+1.1
	comp=Z,0.2nm,0.3s,baz=133,slow=13,SNR=12						
CN2	Changchun	15.04	304	eP	Pn	15 37 54.2	-1.4
CN2				eS	Sn	15 40 38.4	-3.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
JOW	Kunigami	15.55	236	LR	LR	15 43 56.7	
	comp=Z,292nm,19.7s,baz=283,slow=37						
DL2	Dalian	16.82	285	P	Pn	15 38 17.7	-0.8
DL2				S	Sn	15 41 26.7	+1.6
DL2				pmax	pmax		
	comp=Z,15nm,1.3s						
DL2				pmax	pmax		
	comp=Z,250nm,10.0s						
DL2				LR	LR		
	comp=Z,420nm,15.2s						
DL2				LR	LR		
	comp=Z,1μm,14.0s						
DL2				LR	LR		
	comp=Z,1μm,14.5s						
PET	Petropavlovsk	19.99	29	eP	Pn	15 39 03.6	+6.4
PET				eS	S	15 42 39.9	+0.3
PET				MLR	MLR		
	comp=Z,500nm,19.0s						
PET				MLR	MLR		
	comp=Z,500nm,16.0s						
NJ2	Nanjing	20.15	264	eP	P	15 38 56.5	-0.8
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,950nm,14.7s						
NJ2				LR	LR		
	comp=Z,990nm,14.9s						
NJ2				LR	LR		
	comp=Z,940nm,13.0s						
ZEA	Zeya	20.32	333	eP	P	15 38 59.2	+0.2
ZEA				e		15 39 15.3	
ZEA				pmax	pmax		
	comp=N,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=N,600nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,14.0s						
TIA	Tai'an	20.56	277	eP	P	15 38 51.8	-10
TIA				S	Sn	15 42 57.5	+2.0
TIA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
TIA				pmax	pmax		
	comp=Z,200nm,9.6s						
TIA				LR	LR		
	comp=N,260nm,12.6s						
TIA				LR	LR		
	comp=E,550nm,13.1s						
TIA				LR	LR		
	comp=Z,660nm,14.7s						
BJT	Baijiatuau	21.07	288	P	P	15 39 05.1	-2.2
BJT				pmax	pmax		
	comp=Z,15nm,1.2s						
BJT	Baijiatuau	21.07	288	P	P	15 39 05.1	-2.2
XLT	XiLinHaoTe	21.55	298	⇑iP	P	15 39 09.8	-2.7
XLT				sP	sP	15 39 17.5	+0.7
XLT				PP	PnPn	15 39 34.1	+1.2
XLT				SS	Sn	15 43 33.2	+14
XLT				pmax	pmax		
	comp=Z,21nm,1.5s						
XLT				pmax	pmax		
	comp=Z,190nm,4.2s						
XLT				LR	LR		
	comp=Z,1μm,14.0s						
XLT				LR	LR		
	comp=Z,1μm,14.5s						
HNS	HongShan	22.33	281	⇑P	P	15 39 18.4	-2.4
HNS				S	S	15 43 20.0	-5.8
HNS				pmax	pmax		
	comp=Z,14nm,0.9s						
HNS				LR	LR		
	comp=Z,560nm,16.1s						
HNS				LR	LR		
	comp=Z,1μm,15.6s						
HNS				LR	LR		
	comp=Z,1μm,15.8s						
GUMO	Guam	22.88	174	LR	LR	15 50 37.8	
	comp=Z,127nm,19.1s,baz=78,slow=43						
TPUB	Ta-pu	23.11	241	P	P	15 39 28.8	-0.3
TPUB				IAmb	IAmb	15 39 44.2	
	comp=Z,40nm,1.3s						
QZH	Quanzhou	23.60	248	P	P	15 39 32.1	-1.9
QZH				S	S	15 43 45.4	-2.5
QZH				LR	LR		
	comp=Z,350nm,15.2s						
QZH				LR	LR		
	comp=Z,280nm,15.2s						
QZH				LR	LR		
	comp=Z,420nm,12.8s						
MA2	Magadan	23.71	10	P	P	15 39 35.0	+0.3
	comp=Z,6.1nm,0.7s,baz=201,slow=10,SNR=8.0						
MA2				LR	LR	15 49 54.3	
	comp=Z,363nm,18.7s,baz=158,slow=39						
MA2	Magadan	23.71	10	ceP	P	15 39 34.8	+0.1
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MA2	Magadan	23.71	10	P	P	15 39 34.6	-0.1
TIY	Taiyuan	24.09	282	P	P	15 39 42.8	+4.1
WHN	Wuhan	24.28	264	⇓P	P	15 39 39.8	-0.6
WHN				sP	pwP	15 39 49.2	-0.5
WHN				S	S	15 44 00.0	+1.3
WHN				pmax	pmax		
	comp=Z,110nm,1.4s						
WHN				LR	LR		
	comp=Z,1μm,19.0s						
WHN				LR	LR		
	comp=Z,3μm,14.8s						
WHN				LR	LR		
	comp=Z,3μm,14.7s						
HHC	Hu-ho-hao-te	24.60	290	eP	P	15 39 43.7	+0.4
HHC				S	S	15 44 05.2	+1.3
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,5.5s						
HHC				LR	LR		
	comp=Z,420nm,12.1s						
HHC				LR	LR		
	comp=Z,540nm,12.6s						
HHC				LR	LR		
	comp=Z,590nm,13.3s						
LYN	LuoYang	24.60	275	⇓P	P	15 39 42.8	-0.5
LYN				S	S	15 44 06.2	+2.3
LYN				pmax	pmax		
	comp=Z,20nm,1.5s						
LYN				pmax	pmax		
	comp=Z,260nm,5.3s						
LYN				LR	LR		
	comp=Z,670nm,14.7s						
LYN				LR	LR		
	comp=Z,220nm,26.1s						
LYN				LR	LR		
	comp=Z,700nm,15.3s						
CIT	Chita	25.77	316	eP	P	15 39 54.9	+1.1
CIT				e		15 40 29.1	
CIT				pmax	pmax		
	comp=Z,294nm,2.0s						
YAK	Yakutsk	26.84	346	P	P	15 40 04.1	+0.9
	comp=Z,7.3nm,0.4s,baz=160,slow=18,SNR=4.6						
YAK				LR	LR	15 50 56.8	
	comp=Z,367nm,19.6s,baz=105,slow=37						
YAK	Yakutsk	26.84	346	eP	P	15 40 03.2	0.0
YAK				e*PP	pwP	15 40 11.0	-2.4
YAK				e		15 40 43.8	
YAK				eS	S	15 44 40.2	+1.4
YAK				eSS	SnSn	15 45 43.0	-0.3
YAK				pmax	pmax		
	comp=Z,35nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,41nm,2.2s						
YAK				pmax	pmax		
	comp=N,49nm,2.0s						
YAK				pmax	pmax		
	comp=E,23nm,1.9s						
YAK				smax	smax		
	comp=E,77nm,4.3s						
YAK				smax	smax		
	comp=N,100nm,3.5s						
YAK				MLR	MLR		
	comp=Z,941nm,16.0s						
YAK				MLR	MLR		
	comp=N,430nm,14.0s						
YAK	Yakutsk	26.84	346	P	P	15 40 03.2	0.0
H11N2	WAKE ISLAND Hy	27.00	122	T	T	16 08 24.2	
	baz=313,slow=75,SNR=8.6						
H11N1	WAKE ISLAND Hy	27.01	122	T	T	16 08 26.8	
	baz=313,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy	27.02	122	T	T	16 08 24.8	
	baz=313,slow=75,SNR=8.3						
SEY	Seymchan	27.16	10	P	P	15 40 07.0	+1.0
	comp=N,1.9nm,0.6s,baz=218,slow=8.8,SNR=9.2						
SEY	Seymchan	27.16	10	ceP	P	15 40 07.1	+1.0
SEY				pmax	pmax		
	comp=Z,13nm,1.7s						
XAN	Xi'an	27.58	275	P	P	15 40 09.5	-0.7
XAN				pP	pwP	15 40 20.0	+0.4
XAN				PP	PnPn	15 41 00.9	+5.6
XAN				S	S	15 44 49.6	-1.5
XAN				pmax	pmax		
	comp=Z,20nm,1.4s						
XAN				pmax	pmax		
	comp=Z,270nm,5.7s						
XAN				LR	LR		
	comp=Z,330nm,13.6s						
XAN				LR	LR		
	comp=Z,580nm,13.1s						
XAN				LR	LR		
	comp=Z,740nm,13.1s						
H11S1	WAKE ISLAND Hy	27.72	124	T	T	16 09 21.9	
	baz=315,slow=76,SNR=8.7						
H11S3	WAKE ISLAND Hy	27.72	124	T	T	16 09 25.4	
	baz=315,slow=76,SNR=7.8						
H11S2	WAKE ISLAND Hy	27.73	124	T	T	16 09 38.7	

baz=315,slow=76,SNR=6.5
ENH Enshi 28.29 267 P **P** **15 40 14.0 -2.6**
ULN Ulaanbaatar 28.49 305 *ce*P **P** **15 40 19.0 +0.6**
ULN pmax pmax
comp=Z,16nm,1.4s
ULN Ulaanbaatar 28.49 305 P **P** **15 40 17.7 -0.7**
ULN IAmb IAmb 15 40 31.6
comp=Z,27nm,1.1s
BOD Bodaibo 28.54 328 *e*P P 15 40 22.8 +4.4
BOD pmax pmax
comp=Z,265nm,1.5s
SONM Songino Array 28.92 305 P **P** **15 40 22.9 +0.7**
comp=Z,7.2nm,1.0s,baz=108,slow=7.5,SNR=34
SONM LR LR 15 50 28.7
comp=Z,161nm,21.2s,baz=146,slow=34
SONM Songino Array 28.92 305 P **P** **15 40 22.0 -0.2**
SONM pmax pmax
comp=Z,42nm,1.2s
SONM Songino Array 28.92 305 P **P** **15 40 22.0 -0.2**
LZH Lanzhou 31.15 281 *e*P **P** **15 40 42.0 0.0**
LZH pP pwP 15 40 48.7 -2.7
LZH sP sP 15 40 52.3 +5.8
LZH S **S** **15 45 48.1 +0.6**
LZH sS sS 15 45 57.9 +4.3
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,110nm,4.9s
LZH LR LR
comp=Z,500nm,13.6s
LZH LR LR
comp=Z,740nm,12.7s
LZH LR LR
comp=Z,1μm,15.7s
ZAK Zakamensk 31.40 309 *e*P **P** **15 40 44.3 +0.3**
ZAK pmax pmax
comp=Z,31nm,1.6s
GYA Guiyang 32.12 262 ⇓P **P** **15 40 51.5 +0.9**
GYA pmax pmax
comp=Z,12nm,0.9s
CD2 Chengdu 32.68 272 P **P** **15 40 55.4 0.0**
CD2 S **S** **15 46 11.8 +0.6**
CD2 sS sS 15 46 17.3 +0.3
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,80nm,6.1s
CD2 LR LR
comp=Z,70nm,13.1s
CD2 LR LR
comp=Z,410nm,13.7s
CD2 LR LR
comp=Z,510nm,11.8s
MOY Mondy 33.06 311 *e*P **P** **15 41 00.5 +1.9**
MOY pmax pmax
comp=Z,24nm,2.6s
QIZ Qiongzhong 33.63 248 P **P** **15 41 03.5 -0.2**
QIZ S **S** **15 46 29.2 +3.3**
QIZ LR LR
comp=Z,250nm,17.9s
QIZ LR LR
comp=Z,320nm,19.9s
QIZ LR LR
comp=Z,390nm,15.9s
GTA Gaotai 33.68 288 ⇑P **P** **15 41 04.0 -0.2**
GTA sP pwP 15 41 15.0 +1.4
GTA pmax pmax
comp=Z,6.0nm,2.0s
GTA pmax pmax
comp=Z,100nm,8.4s
GTA LR LR
comp=Z,290nm,13.5s
GTA LR LR
comp=Z,350nm,14.3s
GTA LR LR
comp=Z,340nm,15.9s
BILL Bilibino 34.29 16 *e*P **P** **15 41 09.6 +0.7**
BILL *e* 15 43 46.2
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL Bilibino 34.29 16 P **P** **15 41 08.9 0.0**
BILL IAmb IAmb 15 41 30.3
comp=Z,11nm,1.4s
KMI Kunming 35.87 263 ⇑P **P** **15 41 22.3 -1.1**
KMI pP sP 15 41 27.3 -0.5
KMI sP pP 15 41 28.6 +2.0
KMI S **S** **15 47 01.8 +0.8**
KMI pmax pmax
comp=Z,9.0nm,1.0s
KMI pmax pmax
comp=Z,160nm,7.8s
KMI LR LR
comp=Z,310nm,19.3s
KMI LR LR
comp=Z,470nm,13.4s
KMI LR LR
comp=Z,590nm,13.8s
TIXI Tiksi 35.97 353 LR LR 15 58 29.2
comp=Z,293nm,18.1s,baz=180,slow=40
TIXI Tiksi 35.97 353 *ce*P **P** **15 41 23.9 +0.6**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
TIXI Tiksi 35.97 353 P **P** **15 41 22.7 -0.6**
PZH PanZhiHua 36.05 266 P **P** **15 41 25.1 +0.4**
PZH S **S** **15 47 06.3 +2.9**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.3s
PZH LR LR
comp=Z,250nm,15.4s
PZH LR LR
comp=Z,530nm,15.4s
PZH LR LR
comp=Z,570nm,15.9s
GOMU GeErMu 38.22 284 P **P** **15 41 43.3 -0.1**
GOMU sP pwP 15 41 51.1 -1.7
GOMU S **S** **15 47 32.3 -4.5**
GOMU pmax pmax
comp=Z,11nm,2.3s
GOMU pmax pmax
comp=Z,170nm,4.7s
GOMU LR LR
comp=Z,340nm,15.4s
GOMU LR LR
comp=Z,370nm,15.1s
GOMU LR LR
comp=Z,350nm,15.6s
UBPT Khong Chiam 39.22 247 P **P** **15 41 51.9 +0.4**
UBPT IAmb IAmb 15 42 04.1
comp=Z,35nm,1.3s
ANM Nome 41.56 31 P **P** **15 42 11.5 +1.2**
ANM pmax pmax
comp=Z,5.0nm,1.0s
ANM Nome 41.56 31 P **P** **15 42 11.5 +1.2**
WMQ Urumqi 41.98 298 *e*P **P** **15 42 17.0 +2.9**
WMQ pmax pmax
comp=Z,36nm,1.5s
WMQ LR LR
comp=Z,440nm,19.7s
WMQ LR LR
comp=Z,650nm,12.9s
WMQ LR LR
comp=Z,160nm,15.5s
CHTO Chiang Mai 42.13 257 P **P** **15 42 14.7 -0.9**
CHTO pmax pmax
comp=Z,8.0nm,1.4s
CHTO Chiang Mai 42.13 257 P **P** **15 42 14.7 -0.9**
CMAR Chiang Mai Arr 42.33 257 P **P** **15 42 17.4 +0.2**
comp=Z,0.7nm,0.4s,baz=50,slow=6.0,SNR=2.4
CMAR LR LR 16 01 05.5
comp=Z,123nm,18.7s,baz=50,slow=38
ZAA0 Zalesovo Array 43.03 313 P **P** **15 42 21.3 -1.1**
ZAA0 IAmb IAmb 15 42 35.0
comp=Z,22nm,1.4s
ZALV Zalesovo Beam 43.03 313 P **P** **15 42 22.3 0.0**
comp=Z,3.1nm,0.8s,baz=85,slow=7.8,SNR=16
ZALV PcP **PcP** **15 44 12.7 +0.3**
comp=Z,1.0nm,0.7s,baz=90,slow=2.9,SNR=1.5
ZALV LR LR 16 00 04.6
comp=Z,85nm,18.7s,baz=88,slow=36
ZALV Zalesovo Beam 43.03 313 P **P** **15 42 21.2 -1.2**
ZALV 15 44 12.7
ZALV Zalesovo Beam 43.03 313 P **P** **15 42 21.2 -1.2**
SBUM Sibu 43.99 227 P **P** **15 42 30.3 -0.3**
NRIK Noril'sk 44.19 335 P **P** **15 42 31.9 +0.3**
comp=Z,1.0nm,0.4s,baz=91,slow=7.1,SNR=3.9
NRIK LR LR 16 03 03.0
comp=Z,465nm,19.7s,baz=96,slow=39
NRIK Noril'sk 44.19 335 *ce*P **P** **15 42 32.2 +0.7**
NRIK pmax pmax
comp=Z,1.0nm,0.3s
NRIK Noril'sk 44.19 335 P **P** **15 42 31.8 +0.3**
SHL Shillong 44.40 271 P **P** **15 42 34.2 +0.1**
SHL pmax pmax
comp=Z,6.0nm,1.0s
SHL Shillong 44.40 271 P **P** **15 42 34.2 +0.1**
MK31 Makanchi Array 45.26 303 P **P** **15 42 39.7 -0.8**
MK31 pmax pmax
comp=Z,14nm,1.1s
MK31 Makanchi Array 45.26 303 P **P** **15 42 39.7 -0.8**
MK31 IAmb IAmb 15 42 55.8
comp=Z,14nm,1.1s
MKAR Makanchi Array 45.26 303 P **P** **15 42 40.8 +0.3**
comp=Z,7.2nm,0.9s,baz=85,slow=7.5,SNR=22
MKAR Makanchi Array 45.26 303 P **P** **15 42 39.7 -0.8**
MKAR Makanchi Array 45.26 303 P **P** **15 42 39.7 -0.8**
MAKZ Makanchi 45.47 303 P **P** **15 42 41.6 -0.5**
MAKZ Makanchi 45.47 303 P **P** **15 42 41.8 -0.3**
MAKZ IAmb IAmb 15 42 57.7
comp=Z,19nm,1.1s
KSM Kuching 45.91 228 P **P** **15 42 46.3 +0.5**
KSM IAmb IAmb 15 42 46.7
comp=Z,15nm,1.2s
OHAK Old Harbor 46.49 42 P **P** **15 42 50.7 +0.8**
IMAR Indian Mountai 46.63 30 P **P** **15 42 52.2 +1.3**
H21K Melozitna Rive 46.98 31 P **P** **15 42 55.4 +1.8**
H21K IAmb IAmb 15 43 08.3
comp=Z,4.6nm,1.1s
KURK Kurchatov 47.06 309 *ce*P **P** **15 42 54.3 -0.2**
KURK pmax pmax
comp=Z,21nm,1.0s
KURK Kurchatov 47.06 309 P **P** **15 42 53.8 -0.7**
KURBB Kurchatov Arra 47.13 309 LR LR 16 02 08.6
comp=Z,150nm,18.8s,baz=72,slow=35
KURBB Kurchatov Arra 47.13 309 P **P** **15 42 54.2 -0.8**
PDGK Podgornoye 47.92 299 P **P** **15 42 59.7 -1.8**
BWN Browne 48.31 33 P **P** **15 43 06.6 +2.6**
TOLK Toolik Lake Re 48.51 27 P **P** **15 43 07.1 +1.5**
TOLK IAmb IAmb 15 43 18.5
comp=Z,7.7nm,1.3s
MDM Murphy Dome 48.86 32 P **P** **15 43 08.7 +0.5**
MDM IAmb IAmb 15 43 22.9
comp=Z,5.4nm,1.0s
H24K Noodor Dome 49.02 31 P **P** **15 43 11.6 +2.0**
H24K IAmb IAmb 15 43 24.6
comp=Z,6.5nm,1.2s
COLA College 49.02 32 *i* P **P** **15 43 11.9 +2.5**
POKR Poker Flat Res 49.20 32 P **P** **15 43 11.8 +1.0**
POKR IAmb IAmb 15 43 25.7
comp=Z,5.0nm,0.8s
IL31 49.43 32 P **P** **15 43 12.5 -0.1**
IL31 IAmb IAmb 15 43 28.0
comp=Z,5.2nm,1.1s
ILAR Eielson Array 49.43 32 P **P** **15 43 13.2 +0.5**
comp=Z,0.9nm,0.8s,baz=261,slow=6.2,SNR=12
ILAR Eielson Array 49.43 32 P **P** **15 43 12.0 -0.6**
ILAR Eielson Array 49.43 32 P **P** **15 43 12.0 -0.6**
MDOK Medeo 49.68 299 P **P** **15 43 14.3 -0.8**
KDJ Kajisay 49.88 298 P **P** **15 43 15.4 -1.2**
KDJ pmax pmax
comp=Z,15nm,1.4s
KDJ Kajisay 49.88 298 P **P** **15 43 15.4 -1.2**
KDJ IAmb IAmb 15 43 29.6
comp=Z,15nm,1.4s
COEN Coen 50.16 179 P **P** **15 43 20.6 +2.0**
COEN IAmb IAmb 15 43 21.2
comp=Z,14nm,1.1s
BMAR Burnt Mountain 50.34 29 P **P** **15 43 21.9 +2.3**
BOOM Boomskoye usch 50.66 299 P **P** **15 43 22.1 -0.4**
BOOM pmax pmax
comp=Z,10.0nm,1.0s
BOOM Boomskoye usch 50.66 299 P **P** **15 43 22.1 -0.4**
BOOM IAmb IAmb 15 43 44.7
comp=Z,9.6nm,1.0s
SCRK Sand Creek 50.73 33 P **P** **15 43 23.3 +0.7**
KSH Kashi 51.55 295 P **P** **15 43 32.6 +3.5**
KSH pP pwP 15 43 38.5 -1.3
KSH pmax pmax
comp=Z,5.0nm,1.6s
KSH LR LR
comp=Z,280nm,14.5s
KSH LR LR
comp=Z,260nm,14.1s
KSH LR LR
comp=Z,470nm,17.3s
OTUK Ortayu 51.56 307 P **P** **15 43 28.4 -0.6**
AAK Ala-Archa 51.63 299 P **P** **15 43 30.8 +1.0**
comp=Z,2.4nm,0.8s,baz=88,slow=5.7,SNR=6.0
AAK Ala-Archa 51.63 299 *ce*P **P** **15 43 28.9 -0.9**
AAK pmax pmax
comp=Z,7.0nm,1.7s
AAK Ala-Archa 51.63 299 P **P** **15 43 29.1 -0.7**
AAK IAmb IAmb 15 43 41.9
comp=Z,7.5nm,1.1s
BRVK Borovoye 51.74 313 *ce*P **P** **15 43 31.5 +1.3**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 51.74 313 P **P** **15 43 30.0 -0.2**
LEM Lembang 54.17 225 P **P** **15 43 49.0 +0.3**
comp=Z,4.6nm,0.4s,baz=352,slow=3.3,SNR=1.6
KKAR Karatay Array 54.27 301 P **P** **15 43 48.5 -0.6**
KKAR Karatay Array 54.27 301 P **P** **15 43 48.5 -0.6**
GSI Gunungsitoli 54.38 241 P **P** **15 43 48.9 -1.3**
INK Inuvik 54.43 27 LR LR 16 10 50.4
comp=Z,86nm,19.4s,baz=306,slow=40
GAR Garm 55.84 296 P **P** **15 44 00.0 -0.6**
SVE Sverdlovsk 56.22 319 *e*P **P** **15 44 03.4 +0.5**
SVE pmax pmax
comp=Z,23nm,1.5s
SVE MLR MLR
comp=Z,374nm,16.0s
WB0 Warramunga Arr 56.48 189 P **P** **15 44 06.5 +1.5**
WB0 IAmb IAmb 15 44 20.9
comp=Z,10nm,1.2s
FITZ Fitzroy Crossi 56.61 199 P **P** **15 44 06.0 0.0**
comp=Z,1.9nm,0.8s,baz=5.0,slow=8.1,SNR=3.6
FITZ Fitzroy Crossi 56.61 199 P **P** **15 44 07.2 +1.2**
WRAB Tennant Creek 56.65 189 P **P** **15 44 06.4 +0.1**
WRAB pmax pmax
comp=Z,18nm,1.5s
WRAB Tennant Creek 56.65 189 P **P** **15 44 06.4 +0.1**
WRAB IAmb IAmb 15 44 17.0
comp=Z,18nm,1.4s
WR0 Warramunga Arr 56.65 189 P **P** **15 44 06.7 +0.5**
WR0 IAmb IAmb 15 44 17.2
comp=Z,13nm,1.4s
WB2 Warramunga Arr 56.66 189 P **P** **15 44 07.2 +0.8**
WB2 IAmb IAmb 15 44 33.3
comp=Z,14nm,1.4s
WRA Warramunga Arr 56.66 189 P **P** **15 44 06.5 +0.2**
comp=Z,1.7nm,0.6s,baz=8.4,slow=7.4,SNR=13
WRA Warramunga Arr 56.66 189 P **P** **15 44 06.3 0.0**
WRA pmax pmax
comp=Z,1.0nm,1.4s
WRA Warramunga Arr 56.66 189 P **P** **15 44 06.3 0.0**
CHGR Chuyangaron 56.81 296 P **P** **15 44 07.0 -0.5**
ARU Arti 57.44 319 LR LR 16 10 28.7
comp=Z,120nm,18.1s,baz=63,slow=38
ARU Arti 57.44 319 *c i* P **P** **15 44 11.5 0.0**
ARU 15 45 05.1
ARU 15 46 17.9
ARU S **S** **15 52 10.9 +3.1**
ARU SS **SS** **15 55 58.8 +1.9**
ARU pmax pmax
comp=Z,17nm,1.2s
ARU MLR MLR
comp=Z,230nm,13.0s
ARU Arti 57.44 319 P **P** **15 44 10.8 -0.7**
C36M Paulatuk 57.52 25 P **P** **15 44 12.8 +1.0**
AB31 Akbulak array 59.06 311 P **P** **15 44 22.8 -0.2**
ABKAR Akbulak array 59.06 311 P **P** **15 44 22.3 -0.7**
HYBB Hyderabad (bro 59.19 270 *e*P **P** **15 44 24.3 -0.1**
HYBB *es*P **sP** **15 44 28.9 +0.5**
HYBB *e*S **S** **15 52 33.3 +1.5**
HYBB *es*ScS **ScS** **15 54 16.0 +1.7**
AKTO Aktyubinsk 59.79 313 LR LR 16 10 16.0
comp=Z,108nm,18.6s,baz=47,slow=36
ASAR Alice Springs 60.39 189 P **P** **15 44 32.9 +0.6**
comp=Z,1.1nm,0.9s,baz=3.3,slow=6.3,SNR=7.5
EUNU Eureka 60.59 9 P **P** **15 44 33.8 +0.7**
EUNU IAmb IAmb 15 44 54.4
comp=Z,6.8nm,1.4s
SPITS Spitsbergen Ar 61.26 349 LR LR 16 14 23.9
comp=Z,237nm,18.6s,baz=273,slow=39
KIRV Kirov 61.29 323 LR LR 16 15 22.1
comp=Z,242nm,18.1s,baz=53,slow=40
KIRV Kirov 61.29 323 *ce*P **P** **15 44 38.9 +0.8**
PRGR Permogore 61.77 327 *e*P **P** **15 44 39.0 -2.3**
PRGR *e* 15 46 54.0
PRGR pmax pmax
comp=Z,60nm,1.5s
YKA Yellowknife Ar 63.79 30 P **P** **15 44 55.3 +0.6**
comp=Z,0.6nm,0.8s,baz=296,slow=7.1,SNR=7.3
KLMR Klimovskoe 64.76 328 *e*P **P** **15 44 59.0 -2.0**
KLMR pmax pmax
comp=Z,22nm,1.4s
KLMR Klimovskoe 64.76 328 *e*P **P** **15 44 59.1 -2.0**
KLMR AMP 15 45 13.9
comp=Z,22nm,1.4s
ARCES ARCESS Array B 64.87 340 LR LR 16 16 34.3
comp=Z,151nm,18.6s,baz=42,slow=39
MOS Moscow 68.29 324 *e*P P 15 45 34.0 +10
OBN Obninsk 69.14 324 *e*P **P** **15 45 28.9 -0.1**
OBN *e* 15 45 54.7
OBN *e* 15 48 02.0
OBN *e*PPP PPP 15 49 37.9
OBN pmax pmax
comp=Z,5.0nm,0.5s
FIA1 FINESS Array S 69.77 333 P **P** **15 45 33.5 +0.7**
FIA1 IAmb IAmb 15 45 34.9
comp=Z,7.5nm,0.9s
FINES FINESS Array B 69.77 333 P **P** **15 45 32.7 -0.2**
comp=Z,3.6nm,0.8s,baz=73,slow=6.2,SNR=13
FINES FINESS Array B 69.77 333 P **P** **15 45 33.0 +0.1**
KBZ Khabaz 72.02 311 P **P** **15 45 47.5 +0.7**
comp=Z,4.1nm,0.8s,baz=31,slow=5.5,SNR=9.8
KBZ Khabaz 72.02 311 *ce*P **P** **15 45 46.6 -0.2**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 72.02 312 *e*P **P** **15 45 48.4 +1.4**
KIV pmax pmax
comp=Z,18nm,1.1s
GNI Garni 72.84 307 LR LR 16 20 30.3
comp=Z,82nm,18.2s,baz=62,slow=38
MNK Minsk 73.51 326 *i* P **P** **15 45 54.0 -1.5**
MNK *i* 15 48 35.6
MNK *i* PPP PPP 15 50 20.4
MNK *i* S **S** **15 55 23.6 -0.9**
MNK *i* SS **SS** **16 00 05.6 -0.6**
MNK *i* SSS SSS 16 03 26.2
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,6.0nm,0.7s
MNK pmax pmax
comp=Z,12nm,1.3s
MNK MLR MLR
comp=E,64nm,20.0s
MNK MLR MLR
comp=N,211nm,16.0s
MNK MLR MLR
comp=Z,274nm,13.0s
MNK Minsk 73.51 326 *i* P **P** **15 45 54.0 -1.5**
comp=E,1.0nm,0.8s
MNK *i* P **P** **15 45 54.0 -1.5**
comp=N,6.0nm,0.7s
MNK *i* P **P** **15 45 54.0 -1.5**
comp=Z,12nm,1.3s,baz=50
MNK *i* PP **PP** **15 48 35.7 -3.1**
MNK *i* PPP PPP 15 50 20.4
MNK *i* S **S** **15 55 23.6 -0.9**
MNK *i* SS **SS** **16 00 05.7 -0.6**
MNK *i* SSS SSS 16 03 26.3
MNK *i* LQ LQ 16 13 12.4
MNK *i* LR LR 16 18 47.5
MNK *i* LRM MLR 16 22 13.1
comp=E,64nm,20.4s
MNK *i* LRM MLR 16 22 52.0
comp=N,211nm,16.0s
MNK *i* LRM MLR 16 22 55.9
comp=Z,274nm,12.8s
NACGM Naroch 73.74 327 *e*P P 15 45 51.3 -5.5
NVAR Mina Array Bea 74.52 54 P **P** **15 46 03.6 +1.7**
comp=Z,0.7nm,0.7s,baz=290,slow=5.6,SNR=5.6
NVAR Mina Array Bea 74.52 54 P **P** **15 46 03.5 +1.5**
NB201 NORSAR Array S 75.05 338 P **P** **15 46 05.0 +0.6**
NOA NORSAR Array B 75.08 338 P **P** **15 46 05.7 +1.1**
comp=Z,0.9nm,0.6s,baz=40,slow=5.2,SNR=5.7
NOA LR LR 16 23 20.1
comp=Z,197nm,19.5s,baz=35,slow=39
AKASG Malin Array Be 75.35 323 P **P** **15 46 06.0 -0.2**
comp=Z,1.8nm,0.7s,baz=47,slow=5.9,SNR=12
AKASG LR LR 16 19 57.0
comp=Z,44nm,19.3s,baz=30,slow=36
AKASG Malin Array Be 75.35 323 P **P** **15 46 05.7 -0.5**
AKASG pmax pmax
comp=Z,5.0nm,1.2s
AKASG Malin Array Be 75.35 323 P **P** **15 46 05.7 -0.5**
AKASG IAmb IAmb 15 46 19.2
comp=Z,5.1nm,1.1s
AKBB Malin Array Si 75.35 323 P **P** **15 46 05.4 -0.8**
AKBB pmax pmax
comp=Z,10.0nm,1.0s
AKBB Malin Array Si 75.35 323 P **P** **15 46 05.4 -0.8**
AKBB IAmb IAmb 15 46 18.8
comp=Z,10nm,1.0s
PDAR Pinedale Array 77.34 46 P **P** **15 46 19.1 +1.0**
comp=Z,0.3nm,0.7s,baz=282,slow=5.4,SNR=3.8
BURAR Bucovina Array 79.36 322 P **P** **15 46 29.6 +0.6**
BRTR Keskin Array B 79.97 312 P **P** **15 46 33.3 +0.9**
comp=Z,1.3nm,0.8s,baz=95,slow=6.2,SNR=8.2
BRTR Keskin Array B 79.97 312 P **P** **15 46 31.7 -0.7**
BRTR Keskin Array B 79.97 312 P **P** **15 46 31.7 -0.7**
OJC Ojcow 80.06 327 P **P** **15 46 31.9 -0.7**
OJC pmax pmax
comp=Z,23nm,1.3s
OJC Ojcow 80.06 327 P **P** **15 46 31.9 -0.7**
UZH Uzhgorod 80.06 324 *e*P P 15 46 44.2 +12
UZH *e* 15 46 52.2
MLR Muntele Rosu 80.45 320 LR LR 16 27 57.4
comp=Z,176nm,18.4s,baz=44,slow=40
URZ Urewera 80.90 153 LR LR 16 19 52.0
comp=Z,231nm,18.5s,baz=28,slow=34
MORC Moravsky Berou 81.37 328 *e*P P 15 46 51.3 +12
DPC Dobruska-Polom 81.46 329 *e*P **P** **15 46 41.7 +1.6**
DPC *e* 15 46 51.3
DPC Dobruska-Polom 81.46 329 *e*P **P** **15 46 41.7 +1.6**
DPC *ex* x 15 46 51.3
JAVC Velka Javorina 82.00 327 *e*P P 15 46 56.5 +14
BRG Berggiesshubel 82.04 330 *e*P P 15 46 52.3 +9.2
BRG Amp 15 46 56.3
comp=Z,14nm,1.7s
BRG Berggiesshubel 82.04 330 *e*P P 15 46 52.2 +9.1
BRG pmax pmax
comp=Z,14nm,1.7s
CLL Collm 82.07 331 *i* P **P** **15 46 43.4 +0.2**
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 82.07 331 *i* P **P** **15 46 43.4 +0.2**
comp=Z,7.0nm,1.2s
CLL *i* x x 15 46 54.1
VRAC Vranov 82.13 328 *e*P P 15 46 55.5 +12
KRUC Moravsky 82.40 328 *e*P P 15 46 56.8 +12
CKRC Cesky Krumlov 83.47 329 *e*P **P** **15 46 51.6 +1.0**
KHC Kasperske Hory 83.54 329 *e*P **P** **15 46 50.6 -0.4**
KHC Kasperske Hory 83.54 329 *e*P **P** **15 46 50.6 -0.4**
KHC *ex* x 15 47 01.8
GERES GERESS Array B 83.71 329 P **P** **15 46 51.8 -0.1**
comp=Z,0.2nm,0.3s,baz=27,slow=4.5,SNR=5.2
GRF Grafenberg Arr 84.05 331 *e*P **P** **15 46 53.9 +0.4**
comp=Z,14nm,1.4s,baz=43,slow=4.4
GRF *ep*P **pwP** **15 47 05.1 +1.1**
ANMO Albuquerque 84.18 50 *ce*P **P** **15 46 58.2 +3.5**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
TXAR Lajitas Array 89.66 53 P **P** **15 47 23.6 +2.2**
comp=Z,0.8nm,0.8s,baz=314,slow=4.1,SNR=6.2
SADO Sadowa 90.72 28 LR LR 16 30 49.4
comp=Z,49nm,19.7s,baz=174,slow=37
ESDC Sonseca Array 98.23 335 LR LR 16 36 27.0
comp=Z,142nm,18.7s,baz=358,slow=38
LPAZ La Paz 146.09 62 PKPbc **PKPbc** **15 54 04.2 -0.1**
comp=Z,2.4nm,1.0s,baz=27,slow=2.3,SNR=5.3
LPAZ La Paz 146.09 62 PKIKP **PKPdf** **15 54 02.0 -1.4**

LPAZ	**La Paz**	**146.09**	**62**	PKPdf	**PKPdf**	**15 54 02.0**	**-1.4**
SIV	**San Ignacio**	**150.66**	**52**	PKPbc	**PKiKP**	**15 54 16.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=333,slow=4.5,SNR=2.9						

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*IDC **03** 15:35:44.1±1.4, 14.°07S×166.°56E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/49, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=52.9km s-min=30.1km az=127.0*

ISC 03 15:35:50.0±1.3**, 14.°2S**±0.°1×**166.°6E**±0.°3**, h43km, n6, σ0s27**/7**, mb3.3**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.79**	**181**	Pn	**Pn**	**15 37 41.1**	**+0.2**
	0.8nm,0.3s,baz=342,slow=20,SNR=16						
DZM				Sn	**Sn**	**15 39 07.5**	**-0.3**
	baz=343,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**31.34**	**255**	P	**P**	**15 42 06.6**	**-0.1**
	0.3nm,0.6s,baz=87,slow=9.1,SNR=1.7						
ASAR	**Alice Springs**	**32.26**	**248**	P	**P**	**15 42 14.8**	**0.0**
	0.4nm,0.8s,baz=73,slow=9.4,SNR=3.3						
ILAR	**Eielson Array**	**86.26**	**18**	P	**P**	**15 48 26.5**	**-0.2**
	0.6nm,0.6s,baz=238,slow=5.2,SNR=13						
ARCES	**ARCESS Array B**	**119.62**	**345**	PKP	**PKiKP**	**15 54 35.0**	**+0.3**
	1.3nm,0.8s,baz=46,slow=2.6,SNR=4.2						
FINES	**FINESS Array B**	**125.04**	**338**	PKP	**PKiKP**	**15 54 45.7**	**+0.1**
	1.6nm,1.1s,baz=39,slow=5.3,SNR=1.3						

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*REN **03** 15:36:13.3±0.9, 36.°48N±0.°03×113.°98W±0.°02, h1km±7km, Error ellipse: s-maj=3.8km s-min=2.7km az=162.0*

*ANF **03** 15:36:13.4±0.3, 36.°53N×113.°97W, h5km, ML2.9/15, ML2.9/15, Error ellipse: s-maj=2.5km s-min=2.2km az=164.0*

*NEIC **03** 15:36:13.2±1.1, 36.°46N±0.°03×113.°98W±0.°02, h4km±8km, ML2.6/83, ML2.5/7(REN), Error ellipse: s-maj=4.0km s-min=2.0km az=149.0*

ISC 03 15:36:13.9±0.8**, 36.°50N**±0.°02×**114.°03W**±0.°02**, h10km, n63, σ1s59**/79**, Southern Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.65**	**7**		**Pg**	**15 36 26.5**	**-0.1**
ICU					**Sg**	**15 36 35.1**	**-0.1**
LCMT	**Little Creek M**	**0.81**	**51**		**Pg**	**15 36 28.7**	**-0.9**
LCMT				Sg	**Sg**	**15 36 37.3**	**-2.9**
LCMT				IAML		15 36 40.6	
	comp=N,241nm,0.1s						
LCMT				IAML		15 36 41.5	
	comp=E,242nm,0.1s						
SHPR	**Sheep Range**	**0.91**	**271**		**Pg**	**15 36 31.1**	**-0.4**
KNB	**Kanab**	**1.10**	**62**	Sg	**Sg**	**15 36 47.1**	**-2.2**
PRN	**Pahroc Range**	**1.22**	**318**		**Pg**	**15 36 37.0**	**-0.3**
SZCU	**Shurtz Canyon**	**1.33**	**34**		**Pn**	**15 36 38.4**	**-0.4**
U15A	**North Rim**	**1.40**	**92**		**Pb**	**15 36 39.6**	**-0.8**
U15A				IAML		15 36 57.5	
	comp=N,153nm,0.6s						
W13A	**Hualapai Mount**	**1.40**	**175**		**Pb**	**15 36 39.5**	**-0.9**
PKCU	**Pink Cliffs**	**1.67**	**55**		**Pb**	**15 36 44.5**	**-0.4**
PKCU				IAML		15 37 11.9	
	comp=N,110nm,0.2s						
S11A	**Rachel**	**1.79**	**310**		**Pb**	**15 36 46.5**	**-0.3**
NEE2	**Needles Airpor**	**1.80**	**196**	Sb	**Sg**	**15 37 11.5**	**-0.1**
	baz=17						
TPNV	**Topopah Spring**	**1.84**	**285**		**Pb**	**15 36 46.4**	**-1.3**
TPNV				IAML		15 37 16.8	
	comp=N,60nm,0.3s						
TPNV				IAML		15 37 21.4	
	comp=N,49nm,0.5s						
TPNV	**Topopah Spring**	**1.84**	**285**	Pn	**Pb**	**15 36 46.6**	**-1.2**
	baz=104,SNR=122						
TPNV				Pb	**Pg**	**15 36 48.5**	**-0.8**
	baz=104						
TUQ	**Turquoise Moun**	**1.87**	**236**	Pn	**Pn**	**15 36 46.4**	**+0.3**
	baz=56						
TUQ				Pb	**Pb**	**15 36 48.5**	**+0.2**
	baz=56,SNR=24						
TUQ				Sb	**Sg**	**15 37 13.6**	**-0.4**
	baz=56						
SHOC	**Shoshone, Teco**	**1.91**	**252**	Pb	**Pg**	**15 36 49.7**	**-0.9**
	baz=73,SNR=7.5						
SHOC				S	**Sg**	**15 37 13.9**	**-1.5**
	baz=73						
PSUT	**Pine Spring**	**2.03**	**4**		**Pn**	**15 36 49.1**	**+0.7**
PSUT				IAML		15 37 22.4	
	comp=N,40nm,0.4s						
PSUT				IAML		15 37 24.4	
	comp=E,45nm,0.4s						
MTPU	**Mount Pierson**	**2.13**	**43**		**Pn**	**15 36 50.4**	**+0.5**
MTPU				IAML		15 37 21.3	
	comp=N,56nm,0.6s						
MTPU				IAML		15 37 21.7	
	comp=E,51nm,0.3s						
GWY	**Greenwater Val**	**2.15**	**262**		**Pn**	**15 36 50.9**	**+0.9**
GWY				IAML		15 37 06.1	
	comp=E,44nm,0.6s						
GWY				IAML		15 37 29.6	
	comp=N,42nm,0.6s						
GMRC	**Granite Mounta**	**2.17**	**218**	P	**Pn**	**15 36 50.0**	**-0.2**
	baz=39						
R11A	**Troy Canyon, C**	**2.22**	**327**		**Pn**	**15 36 51.1**	**+0.1**
R11A				IAML		15 37 27.3	
	comp=N,26nm,0.4s						
R11A	**Troy Canyon, C**	**2.22**	**327**	Pn	**Pn**	**15 36 51.2**	**+0.1**
	baz=146						
R11A				Pb	**Pb**	**15 36 54.9**	**+0.6**
	baz=146,SNR=34						
R11A				Sb	**Sg**	**15 37 24.0**	**-1.3**
	baz=146						
QSM	**Queen of Sheba**	**2.36**	**258**		**Pn**	**15 36 53.2**	**+0.5**
QSM				IAML		15 37 35.2	
	comp=E,33nm,1.0s						
QSM				IAML		15 37 37.0	
	comp=N,35nm,0.7s						
WUAZ	**Wupatki**	**2.37**	**114**	Pb	**Pb**	**15 36 56.4**	**-0.4**
	baz=295,SNR=41						
WUAZ				Sb	**Sb**	**15 37 26.1**	**0.0**
	baz=295						
IRM	**Iron Mountain**	**2.51**	**202**	P	**Pn**	**15 36 55.3**	**+0.5**
	baz=22,SNR=6.0						
IRM				Sb	**Sg**	**15 37 33.5**	**-1.1**
	baz=22						
HEC	**Hector,Ludlow**	**2.51**	**229**	Pn	**Pn**	**15 36 55.4**	**+0.5**
	baz=49						
HEC				Pg	**Pg**	**15 37 01.5**	**-0.6**
	baz=49,SNR=8.0						
HEC				Sb	**Sg**	**15 37 35.2**	**+0.6**
	baz=49						
GSC	**Goldstone, Bar**	**2.55**	**243**		**Pn**	**15 36 56.0**	**+0.5**
GSC				IAML		15 37 41.7	
	comp=E,26nm,1.5s						
GSC				IAML		15 37 43.1	
	comp=N,23nm,0.9s						
Y14A	**Wickenburg**	**2.69**	**162**	Pn	**Pn**	**15 36 58.0**	**+0.7**
Y14A				IAML		15 37 41.6	
	comp=N,31nm,0.7s						
Y14A				IAML		15 37 42.9	
	comp=E,28nm,0.7s						
GRAC	**Grapevine Rang**	**2.73**	**281**		**Pn**	**15 36 58.8**	**+1.0**
GRAC				IAML		15 37 52.7	
	comp=N,35nm,0.7s						
BLYC	**Blythe**	**2.77**	**189**	Pn	**Pn**	**15 36 59.9**	**+1.4**
BLYC				IAML		15 37 48.9	
	comp=E,19nm,0.7s						
MPMC	**Manual Prospec**	**2.83**	**262**	P	**Pn**	**15 37 00.8**	**+1.4**
	baz=81,SNR=13						
X16A	**Lo Mia Camp, P**	**2.96**	**134**	Pn	**Pn**	**15 37 03.0**	**+1.8**
X16A				IAML		15 37 47.9	
	comp=N,17nm,1.7s						
BELC	**Belle Mtn. Jos**	**2.97**	**213**	P	**Pn**	**15 37 01.9**	**+0.6**
	baz=33						
BELC				Sb	**Sg**	**15 37 48.4**	**-1.0**
	baz=33						
LCH	**Last Change Ra**	**2.99**	**285**		**Pn**	**15 37 02.3**	**+0.8**
TPH	**Tonopah**	**2.99**	**303**		**Pn**	**15 37 02.1**	**+0.4**
BC3	**Big Chuckawall**	**3.07**	**203**	P	**Pn**	**15 37 03.0**	**+0.4**
	baz=23						
BC3				Sb	**Sg**	**15 37 51.9**	**-0.7**
	baz=23						
LRMC	**Laurel Mtn Rad**	**3.13**	**252**	Sb	**Sg**	**15 37 53.0**	**-1.5**
	baz=71						
GLA	**Glamis**	**3.50**	**191**	Pn	**Pn**	**15 37 10.8**	**+2.3**
GLA				IAML		15 38 20.9	
	comp=N,14nm,1.7s						
GLA	**Glamis**	**3.50**	**191**	Sb	**Sg**	**15 38 03.4**	**-3.0**
	baz=11						
PFO	**Pinyon Flats O**	**3.50**	**215**	Pn	**Pn**	**15 37 08.9**	**+0.4**
PFO	**Pinyon Flats O**	**3.50**	**215**	Sb	**Sg**	**15 38 04.1**	**-2.4**
	baz=35						
CCAC	**Calif City Air**	**3.51**	**249**	Pn	**Pn**	**15 37 09.3**	**+0.7**
CCAC				IAML		15 38 21.1	
	comp=E,19nm,1.6s						
CCAC				IAML		15 39 01.9	
	comp=N,15nm,4.5s						
EDW2	**Edwards Air Fo**	**3.61**	**245**	P	**Pn**	**15 37 10.8**	**+0.8**
	baz=63						
EDW2				Sb	**Sg**	**15 38 07.3**	**-2.6**
	baz=63						
ISA	**Isabella, Lake**	**3.70**	**258**		**Pn**	**15 37 12.4**	**+1.2**
113A	**Mohawk Valley,**	**3.73**	**177**	Pn	**Pn**	**15 37 12.1**	**+0.5**
113A				IAML		15 38 14.9	
	comp=N,8.1nm,2.7s						
W18A	**Petrified Fore**	**3.75**	**110**	Sb	**Sb**	**15 38 08.2**	**+2.3**
	baz=292						
SRU	**San Rafael Swe**	**3.81**	**46**	Pn	**Pn**	**15 37 14.0**	**+1.2**
SRU				IAML		15 38 21.6	
	comp=N,12nm,0.7s						
SRU				IAML		15 38 28.4	
	comp=E,14nm,0.9s						
NV11	**Mina Array Sit**	**3.81**	**302**		**Pn**	**15 37 14.0**	**+1.2**
DUG	**Dugway, Tooele**	**3.81**	**14**	Pg	**Pg**	**15 37 26.5**	**-0.4**
	baz=194						
X18A	**Snowflake**	**3.87**	**119**	Pn	**Pn**	**15 37 14.9**	**+1.3**
NVAR	**Mina Array Bea**	**3.91**	**301**		**Pn**	**15 37 14.4**	**+0.2**
LHV	**Little Huntoon**	**3.97**	**297**	Pn	**Pn**	**15 37 16.0**	**+1.2**
LHV				IAML		15 37 42.3	
	comp=N,11nm,3.7s						
ELS	**Elsinore Mount**	**3.98**	**225**	Pn	**Pn**	**15 37 16.9**	**+1.8**
ELS				IAML		15 38 22.7	
	comp=N,7.6nm,3.2s						
KVN	**Kaiserville**	**4.11**	**309**	Pn	**Pn**	**15 37 17.8**	**+0.8**
KVN				IAML		15 38 27.6	
	comp=E,9.4nm,2.7s						
OMMB	**Old Mammoth Mi**	**4.13**	**287**	Pn	**Pn**	**15 37 18.2**	**+0.9**
OMMB				IAML		15 38 00.0	
	comp=N,6.2nm,4.9s						
OMMB				IAML		15 38 28.7	
	comp=E,5.6nm,4.1s						
RYN	**Ryan**	**4.16**	**302**	Pn	**Pn**	**15 37 18.3**	**+0.8**
RYN				IAML		15 38 35.0	
	comp=E,9.1nm,0.9s						
RYN				IAML		15 38 35.2	
	comp=N,7.2nm,0.7s						
ELK	**Elko**	**4.34**	**348**	Pn	**Pn**	**15 37 16.3**	**-3.9**
BAR	**Barrett**	**4.39**	**211**	Pn	**Pn**	**15 37 21.7**	**+1.0**
BAR				IAML		15 38 29.4	
	comp=N,6.6nm,3.0s						
BAR				IAML		15 39 08.8	
	comp=E,5.6nm,4.1s						
PV23	**Carpenter Ridg**	**4.44**	**62**		**Pn**	**15 37 23.2**	**+1.6**
MVCO	**Mesa Verde**	**4.49**	**79**	Pg	**Pg**	**15 37 37.7**	**-2.3**
	baz=262						
MVCO				Sb	**Sb**	**15 38 30.3**	**+3.0**
	baz=262						
214A	**Organ Pipe Nat**	**4.64**	**167**	Sb	**Sg**	**15 38 38.3**	**-4.8**
	baz=348						
TUC	**Tucson**	**4.97**	**146**	Pn	**Pn**	**15 37 30.1**	**+1.5**
TUC				IAML		15 39 01.8	
	comp=E,3.8nm,3.6s						
TUC				IAML		15 39 23.7	
	comp=E,4.6nm,4.2s						
TUC	**Tucson**	**4.97**	**146**	P	**Pn**	**15 37 30.0**	**+1.4**
	baz=328						
ANMO	**Albuquerque**	**6.35**	**102**	Sb	**Sb**	**15 39 27.1**	**+6.3**
	baz=286						

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*IDC **03** 15:40:50.7±17.0, 23.°33S×174.°41W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/40, mbtmp4.1/5, Error ellipse: s-maj=316.8km s-min=144.0km az=81.0*

*NEIC **03** 15:40:58.1±2.2, 23.°29S±0.°10×174.°6W±0.°2, h35km±2km, mb4.3/12, Error ellipse: s-maj=31.9km s-min=11.0km az=65.0*

ISC 03 15:40:56.1±6.7**, 23.°1S**±0.°8×**174.°4W**±0.°7**, h35km, n16, σ1s04**/15**, mb4.5**/10**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.69**	**270**	P	**P**	**15 45 02.4**	**+1.8**
DZM				IAmb	IAmb	15 45 09.3	
	comp=Z,6.9nm,0.8s						
CTA	**Charters Tower**	**36.60**	**267**	P	**P**	**15 47 59.3**	**0.0**
	comp=Z,4.0nm,0.4s,baz=91,slow=11,SNR=20						
CTAO	**Charters Tower**	**36.60**	**267**	P	**P**	**15 47 59.2**	**0.0**
STKA	**Stephens Creek**	**39.75**	**247**	P	**P**	**15 48 25.1**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=86,slow=8.8,SNR=4.4						
STKA	**Stephens Creek**	**39.75**	**247**	IAmb	IAmb	15 48 33.5	
	comp=Z,0.7nm,1.1s						
AS31	**Alice Springs**	**47.20**	**259**	P	**P**	**15 49 24.8**	**-1.0**
ASAR	**Alice Springs**	**47.20**	**259**	P	**P**	**15 49 24.8**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=97,slow=7.4,SNR=20						
WR0	**Warramunga Arr**	**47.38**	**264**	P	**P**	**15 49 26.0**	**-1.2**
WR0				IAmb	IAmb	15 49 52.8	
	comp=Z,7.8nm,1.4s						
WB2	**Warramunga Arr**	**47.55**	**264**	P	**P**	**15 49 27.6**	**-1.1**
WB2				IAmb	IAmb	15 49 49.2	
	comp=Z,7.8nm,1.5s						
WB0	**Warramunga Arr**	**47.56**	**264**	P	**P**	**15 49 27.5**	**-1.1**
WB0				IAmb	IAmb	15 49 27.9	
	comp=Z,7.6nm,1.2s						
WRAB	**Tennant Creek**	**47.56**	**264**	P	**P**	**15 49 27.6**	**-1.0**
WRAB				IAmb	IAmb	15 49 55.4	
	comp=Z,5.9nm,1.2s						
WRA	**Warramunga Arr**	**47.56**	**264**	P	**P**	**15 49 27.6**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=104,slow=8.0,SNR=26						
MTN	**Manton Dam**	**52.52**	**271**	P	**P**	**15 50 06.7**	**+0.4**
KNRA	**Kununurra**	**53.81**	**267**	P	**P**	**15 50 16.4**	**+0.6**
VNDA	**Vanda**	**55.65**	**186**	P	**P**	**15 50 28.8**	**+0.6**
VNDA				IAmb	IAmb	15 50 51.3	
	comp=Z,3.7nm,1.5s						
FITZ	**Fitzroy Crossi**	**55.99**	**263**	P	**P**	**15 50 32.0**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=123,slow=8.9,SNR=7.6						

IDC 03 15:42:16.1±1.6**, 3.°54S**×**142.°77E, h0km, mb3.4**/3**, mb1 3.8**/5**, mb1mx3.5**/46**, mbtmp3.6**/5**, ML3.7**/2**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.6**/33**, Error ellipse: s-maj=31.5km s-min=26.3km az=105.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.30**	**296**	Pn	Pn	15 42 56.0	+0.7
	4.6nm,0.3s,baz=146,slow=8.9,SNR=33						
JAY				Sn	Sn	15 43 23.6	-0.7
	5.9nm,0.3s,baz=184,slow=19,SNR=5.8						
WRA	**Warramunga Arr**	**18.26**	**206**	P	Pn	15 46 30.4	-0.7
	0.4nm,0.3s,baz=25,slow=13,SNR=14						
ASAR	**Alice Springs**	**21.77**	**202**	P	P	15 47 09.6	0.0
	0.4nm,0.8s,baz=32,slow=11,SNR=2.5						
FITZ	**Fitzroy Crossi**	**22.16**	**228**	P	P	15 47 14.2	+0.4
	1.2nm,0.7s,baz=69,slow=8.6,SNR=2.4						
H11S3	**WAKE ISLAND Hy**	**32.16**	**46**	T	T	16 22 31.0	
	baz=229,slow=75,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**32.17**	**46**	T	T	16 22 32.6	
	baz=229,slow=75,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**32.18**	**46**	T	T	16 22 33.2	
	baz=229,slow=75,SNR=8.7						
JHJ	**Hachijo jima 2**	**36.57**	**356**	LR	LR	16 04 18.6	
	comp=Z,47nm,18.1s,baz=278,slow=36						
ILAR	**Eielson Array**	**84.92**	**24**	P	P	15 54 52.6	-0.1
	0.7nm,0.6s,baz=265,slow=4.8,SNR=13						

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*IDC **03** 15:45:00.3±1.6, 28.°47N×52.°16E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.4/44, mbtmp3.6/9, Error ellipse: s-maj=36.8km s-min=25.7km az=163.0*

*TEH **03** 15:45:03.6, 28.°62N×52.°16E, h20km, ML3.6*

ISC 03 15:45:03.4±0.7**, 28.°60N**±0.°05×**52.°10E**±0.°05**, h15km, n41, σ1s14**/41**, mb3.6**/8**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.76**	**290**	*e*Pg	**Pn**	**15 45 19.7**	**+0.2**
QIR1	**Qir**	**0.84**	**98**	*e*Pg	**Pg**	**15 45 17.1**	**-2.5**
QIR1				*e*		15 45 39.5	
	comp=Z,39µm,0.5s						
SHI	**Shiraz**	**1.09**	**19**	*e*Pg	**Pb**	**15 45 23.5**	**-0.6**
SHI				*e*		15 45 44.4	
	comp=Z,17µm,0.5s						
KAZ1	**Kazerun**	**1.10**	**338**	*e*Pg	**Pb**	**15 45 24.1**	**0.0**
KAZ1				*e*		15 45 50.6	
	comp=Z,18µm,0.4s						
JHRM	**Jahrom**	**1.30**	**94**	*e*Pg	**Pg**	**15 45 27.8**	**-0.6**
LMD1	**Lamerd**	**1.57**	**143**	*e*Pg	**Pg**	**15 45 33.3**	**-0.2**
LMD1				*e*Sg	**Sg**	**15 45 55.7**	**+1.7**
LMD1				*e*		15 46 02.1	
	comp=Z,13µm,0.6s						
LAR1	**LAR**	**2.21**	**114**	*e*		15 46 37.8	
	comp=Z,7µm,0.7s						
KLNJ	**Kolanjah**	**2.44**	**350**	*e*Pn	**Pn**	**15 45 43.8**	**+0.8**
KLNJ				*e*		15 46 30.3	
	comp=Z,2µm,0.5s						
IRAM	**Ramesheh**	**3.20**	**4**	*e*Pn	**Pn**	**15 45 54.9**	**+1.5**
IRAM				*e*		15 46 51.0	
	comp=Z,912nm,1.1s						
IBRJ	**Brojen**	**3.37**	**348**	*e*Pn	**Pn**	**15 45 56.4**	**+0.6**
IMEH	**Mehriz**	**3.53**	**37**	*e*Pn	**Pn**	**15 46 00.0**	**+2.1**
IMEH				*e*		15 46 03.1	
	comp=Z,612nm,0.3s						
AMIS	**Naft Sefid**	**3.91**	**322**	*e*Pn	**Pn**	**15 46 04.5**	**+1.6**
NGRK	**Negar Kerman**	**4.18**	**75**	*e*Pn	**Pn**	**15 46 07.8**	**+0.9**
IPIR	**Pirpir**	**4.20**	**346**	*e*Pn	**Pn**	**15 46 08.8**	**+1.6**
KHGB	**Koh Gabri**	**4.20**	**64**	*e*		15 46 27.5	
	comp=Z,348nm,0.8s						
KHGB				*e*Pn	**Pn**	**15 46 08.3**	**+1.2**
IZEF	**Zefreh**	**4.28**	**3**	*e*Pn	**Pn**	**15 46 09.5**	**+1.2**
KRBR	**Kerman**	**4.29**	**70**	*e*Pn	**Pn**	**15 46 09.2**	**+0.8**
TVBK	**TV Kerman**	**4.29**	**70**	*e*		15 46 45.8	
	comp=Z,961nm,0.4s						
TVBK				*e*Pn	**Pn**	**15 46 08.8**	**+0.3**
YZKH	**Yazd**	**4.34**	**29**	*e*Pn	**Pn**	**15 46 10.7**	**+1.8**
IKLH	**Kolahrood**	**4.72**	**355**	*e*Pn	**Pn**	**15 46 15.3**	**+1.0**
ANAR	**Anarak**	**4.78**	**17**	*e*Pn	**Pn**	**15 46 16.8**	**+1.8**
MSFE	**Esma-Masafi**	**4.85**	**131**	*e*Pn	**Pn**	**15 46 15.0**	**-0.9**
ASUD	**Al Ashush, Dub**	**4.90**	**143**	*e*Pn	**Pn**	**15 46 18.0**	**+1.5**
UOSS	**Minazif**	**5.17**	**134**	*e*Pn	**Pn**	**15 46 20.4**	**+0.2**
KRSH	**Karshahi**	**5.35**	**0**	*e*Pn	**Pn**	**15 46 23.4**	**+0.6**
KBAM	**BAM**	**5.59**	**83**	*e*Pn	**Pn**	**15 46 27.3**	**+1.2**
MZR	**Muzera**	**5.71**	**167**	*e*Pn	**Pn**	**15 46 28.7**	**+1.0**
ISFB	**Sefidab**	**5.73**	**1**	*e*Pn	**Pn**	**15 46 28.6**	**+0.6**
UMZA	**Um Al Zommool**	**6.48**	**154**	*e*Pn	**Pn**	**15 46 38.8**	**+0.6**
TNSJ	**Nastanj**	**6.59**	**35**	*e*Pn	**Pn**	**15 46 41.0**	**+1.2**
TKDS	**Koohdasht(Taba**	**6.59**	**39**	*e*Pn	**Pn**	**15 46 40.7**	**+0.8**
TABS	**Tabas**	**6.62**	**39**	*e*Pn	**Pn**	**15 46 41.5**	**+1.3**
BRTR	**Keskin Array B**	**18.84**	**311**	P	**Pn**	**15 49 24.1**	**+0.7**
	baz=133,slow=13,SNR=2.1						
KURBB	**Kurchatov Arra**	**29.69**	**35**	P	**P**	**15 51 09.0**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=238,slow=9.5,SNR=3.4						
MKAR	**Makanchi Array**	**29.74**	**44**	P	**P**	**15 51 09.5**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=260,slow=7.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**34.77**	**34**	P	**P**	**15 51 52.8**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=236,slow=11,SNR=4.8						
FINES	**FINESS Array B**	**37.12**	**340**	P	**P**	**15 52 12.9**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=143,slow=10,SNR=9.5						
ARCES	**ARCESS Array B**	**43.75**	**347**	P	**P**	**15 53 08.0**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=143,slow=7.7,SNR=7.5						
TORD	**Torodi Ar. Bea**	**49.19**	**263**	P	**P**	**15 53 51.1**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=59,slow=8.7,SNR=6.0						
YKA	**Yellowknife Ar**	**88.60**	**354**	P	**P**	**15 57 55.3**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=9.8,slow=5.6,SNR=4.6						
ASAR	**Alice Springs**	**94.31**	**114**	P	**P**	**15 58 21.0**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=318,slow=4.6,SNR=1.0						

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*JMA **03** 15:50:54.8±0.2, 23.°46N×122.°12E, h31km, M2.5*

*TAP **03** 15:50:56.2, 23.°49N×122.°15E, h42km, ML2.8, D*

ISC 03 15:50:53.5±1.0**, 23.°48N**±0.°02×**122.°17E**±0.°02**, h16km**±8km**, n103, σ0s60**/185**, 1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.62**	**292**	P	**Pn**	**15 51 07.6**	**-0.1**
	baz=291						
TEGC				*e*S	**Sn**	**15 51 16.9**	**-0.6**
	baz=291						
TEYL	**Yanliau Villag**	**0.66**	**307**	*i* P	**Pn**	**15 51 08.7**	**+0.5**
	baz=317						
TEYL				S	**Sn**	**15 51 17.4**	**-0.7**
	baz=317						
ECBN	**Changbin**	**0.68**	**257**	*i* P	**Pn**	**15 51 08.8**	**+0.2**
	baz=246						
ECBN				S	**Sb**	**15 51 17.7**	**+1.4**
	baz=246						
HGSD	**Ruisui**	**0.69**	**271**	⇓*i*P	**Pn**	**15 51 08.4**	**-0.2**
	baz=270						
HGSD				S	**Sb**	**15 51 17.2**	**+0.7**
	baz=270						
EGFH	**Guangfu**	**0.71**	**286**	P	**Pn**	**15 51 08.8**	**-0.2**
	baz=293						
EGFH				*e*S	**Sn**	**15 51 18.6**	**-1.0**
	baz=293						
HWA	**Hwalien**	**0.72**	**314**	*e*P	**Pn**	**15 51 09.1**	**0.0**
	baz=308						
ESL	**Shilin**	**0.76**	**296**	P	**Pn**	**15 51 09.2**	**-0.4**
	baz=291						
ESL				*e*S	**Sb**	**15 51 18.9**	**+0.4**
	baz=291						
EHY	**Hungye**	**0.78**	**272**	P	**Pn**	**15 51 10.1**	**+0.2**
	baz=271						
EHY				*e*S	**Sn**	**15 51 20.8**	**-0.6**
	baz=271						
ETM	**Tongmen**	**0.79**	**308**	P	**Pn**	**15 51 09.9**	**-0.2**
	baz=308						
ETM				*e*S	**Sb**	**15 51 19.8**	**+0.4**
	baz=308						
EYUL	**Yuli**	**0.80**	**261**	P	**Pn**	**15 51 10.5**	**+0.4**
	baz=256						
EYUL				*e*S	**Sb**	**15 51 20.2**	**+0.7**
	baz=256						
TWD	**Chiawan**	**0.80**	**319**	*i* P	**Pn**	**15 51 09.7**	**-0.4**
	baz=319						
TWD				S	**Sb**	**15 51 20.3**	**+0.6**
	baz=319						
YULB	**Yu-li**	**0.81**	**264**	*i* P	**Pn**	**15 51 10.4**	**0.0**
	baz=259						
YULB				S	**Sn**	**15 51 21.9**	**-0.1**
	baz=259						
TWF1	**Yuli**	**0.81**	**261**	*i* P	**Pn**	**15 51 10.5**	**+0.1**
	baz=256						
TWF1				*e*S	**Sn**	**15 51 21.8**	**-0.3**
	baz=256						
CHKT	**Chengkung**	**0.83**	**243**	*i* P	**Pn**	**15 51 10.4**	**-0.2**
	baz=234						
CHKT				S	**Sg**	**15 51 20.6**	**-0.1**
	baz=234						
ETL	**Fush Village**	**0.85**	**324**	*e*P	**Pn**	**15 51 10.7**	**-0.2**
	baz=317						
ETL				*e*S	**Sb**	**15 51 21.3**	**+0.3**
	baz=317						
FULB	**Fuli**	**0.85**	**251**	*i* P	**Pg**	**15 51 10.7**	**+0.5**
	baz=242						
FULB				S	**Sb**	**15 51 21.5**	**+0.2**
	baz=242						
NACB	**Ninganchiao**	**0.87**	**323**	P	**Pg**	**15 51 10.8**	**+0.3**
	baz=317						
NACB				S	**Sg**	**15 51 21.7**	**-0.4**
	baz=317						
EDH	**Donghe**	**0.94**	**238**	P	**Pg**	**15 51 12.1**	**+0.2**
	baz=232						
EDH				*e*S	**Sb**	**15 51 23.7**	**-0.1**
	baz=232						
ECS	**Chishang**	**0.95**	**247**	*e*P	**Pn**	**15 51 12.7**	**+0.4**
	baz=239						
ETLH	**Xiulin Townshi**	**0.96**	**319**	*e*P	**Pn**	**15 51 12.6**	**+0.1**
	baz=318						
ETLH				*e*S	**Sb**	**15 51 24.4**	**-0.1**
	baz=318						
VWDT	**VWDT**	**0.99**	**286**	P	**Pn**	**15 51 13.4**	**+0.7**
	baz=286						
VWDT				*e*S	**Sg**	**15 51 25.7**	**+0.1**
	baz=286						
ENA	**Nanau**	**1.03**	**337**	*i* P	**Pn**	**15 51 13.7**	**+0.4**
	baz=330						
ENA				*e*S	**Sn**	**15 51 27.2**	**-0.2**
	baz=330						
LDUT	**Ludao**	**1.03**	**219**	P	**Pn**	**15 51 13.5**	**+0.2**
	baz=217						
LDUT				*e*S	**Sb**	**15 51 25.1**	**-1.2**
	baz=217						
EWUT	**Wuta**	**1.03**	**340**	*e*P	**Pn**	**15 51 13.8**	**+0.5**
	baz=332						
EWUT				*e*S	**Sg**	**15 51 26.8**	**-0.2**
	baz=332						
OWD	**Renai**	**1.03**	**298**	*e*P	**Pn**	**15 51 13.9**	**+0.5**
	baz=298						
OWD				*e*S	**Sb**	**15 51 26.4**	**-0.1**

	baz=298						
WHF	**Hehuan Shan**	**1.06**	**309**	eP	**Pn**	**15 51 14.3**	**+0.1**
	baz=308						
WHF				eS	**Sg**	**15 51 28.1**	**-0.1**
	baz=308						
CHGB	**Renai**	**1.08**	**303**	eP	**Pg**	**15 51 14.7**	**+0.1**
	baz=302						
CHGB				eS	**Sb**	**15 51 28.0**	**-0.1**
	baz=302						
WUSB	**Renai**	**1.09**	**298**	P	**Pg**	**15 51 15.1**	**+0.3**
	baz=298						
WUSB				eS	**Sb**	**15 51 28.0**	**-0.3**
	baz=298						
ELDTW	**Lidau**	**1.10**	**255**	P	**Pb**	**15 51 14.4**	**+0.1**
	baz=245						
ELDTW				eS	**Sb**	**15 51 27.0**	**-1.4**
	baz=245						
LONT	**Longtian**	**1.11**	**240**	P	**Pn**	**15 51 15.0**	**+0.5**
	baz=234						
LONT				eS	**Sb**	**15 51 28.3**	**-0.4**
	baz=234						
YUS	**Yu-Shan**	**1.12**	**271**	i P	**Pg**	**15 51 15.8**	**+0.4**
	baz=279						
YUS				S	**Sb**	**15 51 28.9**	**-0.5**
	baz=279						
FUSS	**Fushou**	**1.15**	**312**	P	**Pg**	**15 51 15.9**	**+0.2**
	baz=312						
FUSS				eS	**Sb**	**15 51 28.6**	**-1.2**
	baz=312						
SSLB	**Suanglung**	**1.16**	**286**	P	**Pg**	**15 51 15.6**	**-0.4**
	baz=286						
SSLB				eS	**Sb**	**15 51 29.1**	**-1.0**
	baz=286						
TWC	**Suao**	**1.17**	**345**	eP	**Pg**	**15 51 16.2**	**+0.1**
	baz=355						
TWC				eS	**Sn**	**15 51 30.8**	**0.0**
	baz=355						
NNSB	**Datong**	**1.19**	**323**	P	**Pg**	**15 51 16.4**	**-0.2**
	baz=313						
NNSB				eS	**Sb**	**15 51 30.3**	**-0.8**
	baz=313						
TWT	**Tachien**	**1.20**	**310**	eP	**Pg**	**15 51 16.7**	**+0.1**
	baz=309						
TWT				eS	**Sb**	**15 51 31.4**	**+0.1**
	baz=309						
JYNG	**Yonagunijimaku**	**1.20**	**36**	P	**Pg**	**15 51 16.6**	**-0.1**
JYNG				S	**Sn**	**15 51 31.8**	**+0.1**
TWGBT	**Beinan**	**1.20**	**237**	P	**Pn**	**15 51 16.0**	**+0.3**
	baz=231						
TWGBT				eS	**Sb**	**15 51 30.5**	**-0.7**
	baz=231						
TWG	**Pinlang**	**1.21**	**237**	P	**Pn**	**15 51 16.1**	**+0.3**
	baz=231						
TWG				S	**Sb**	**15 51 30.5**	**-0.9**
	baz=231						
NNS	**Nan Shan**	**1.21**	**323**	P	**Pg**	**15 51 16.7**	**-0.2**
	baz=313						
NNS				eS	**Sb**	**15 51 31.1**	**-0.4**
	baz=313						
LATG	**Datong**	**1.21**	**331**	P	**Pb**	**15 51 16.4**	**+0.3**
	baz=330						
LATG				eS	**Sb**	**15 51 31.0**	**-0.6**
	baz=330						
TDCB	**Techi**	**1.21**	**310**	P	**Pg**	**15 51 17.1**	**+0.1**
	baz=309						
TDCB				eS	**Sb**	**15 51 30.7**	**-0.9**
	baz=309						
NDS	**Dongshan**	**1.23**	**340**	P	**Pg**	**15 51 17.3**	**+0.1**
	baz=340						
NDS				eS	**Sn**	**15 51 32.5**	**+0.2**
	baz=340						
YOJ	**Yonaguni jima**	**1.25**	**38**	eS	**Sg**	**15 51 33.5**	**-0.3**
YOJ	**Yonaguni jima**	**1.25**	**38**	eP	**Pn**	**15 51 15.9**	**-0.4**
	baz=49						
YOJ				eS	**Sb**	**15 51 32.6**	**+0.1**
	baz=49						
ALS	**Alishan**	**1.26**	**272**	P	**Pg**	**15 51 18.0**	**+0.1**
	baz=279						
ALS				eS	**Sn**	**15 51 33.5**	**+0.1**
	baz=279						
NDT	**Datong Townshi**	**1.27**	**332**	eP	**Pg**	**15 51 17.8**	**-0.3**
	baz=331						
NDT				eS	**Sn**	**15 51 33.4**	**-0.1**
	baz=331						
TYC	**Yuchr**	**1.28**	**290**	eP	**Pg**	**15 51 18.2**	**0.0**
	baz=297						
TYC				eS	**Sb**	**15 51 32.4**	**-1.1**
	baz=297						
ENTT	**Nioudou**	**1.28**	**335**	P	**Pb**	**15 51 17.6**	**+0.2**
	baz=325						
ENTT				eS	**Sb**	**15 51 32.7**	**-0.9**
	baz=325						
WCS	**Beigang Elemen**	**1.29**	**297**	eP	**Pg**	**15 51 18.2**	**-0.3**
	baz=296						
STYH	**Taoyuan**	**1.32**	**257**	P	**Pb**	**15 51 18.6**	**+0.6**
	baz=252						
STYH				eS	**Sb**	**15 51 34.3**	**-0.4**
	baz=252						
TWE	**Neicheng**	**1.32**	**340**	P	**Pg**	**15 51 18.5**	**-0.5**
	baz=340						
WJS	**Zhushan**	**1.37**	**285**	eP	**Pg**	**15 51 19.8**	**-0.2**
	baz=285						
WJS				eS	**Sg**	**15 51 37.4**	**-0.4**
	baz=285						
CHN5	**Tsauling**	**1.38**	**275**	eP	**Pg**	**15 51 20.5**	**+0.4**
	baz=275						
CHN5				eS	**Sg**	**15 51 38.3**	**+0.2**
	baz=275						
WHP	**Taichung City**	**1.38**	**306**	P	**Pg**	**15 51 20.9**	**+0.7**
	baz=312						
WHP				eS	**Sb**	**15 51 36.4**	**0.0**
	baz=312						
FUSB	**Fushanzhiwuyua**	**1.39**	**337**	P	**Pb**	**15 51 19.2**	**+0.1**
	baz=337						
FUSB				eS	**Sn**	**15 51 36.0**	**-0.3**
	baz=337						
YHNB	**Yeheng**	**1.39**	**329**	eP	**Pb**	**15 51 19.4**	**+0.1**
	baz=328						
NSK	**Sanguang**	**1.41**	**328**	P	**Pb**	**15 51 19.7**	**+0.2**
	baz=328						
NSK				eS	**Sn**	**15 51 36.4**	**-0.5**
	baz=328						
WNT	**Mingjian**	**1.42**	**287**	eP	**Pg**	**15 51 21.2**	**+0.3**
	baz=287						
WNT				eS	**Sg**	**15 51 39.5**	**0.0**
	baz=287						
ECL	**Taimali**	**1.42**	**232**	eP	**Pn**	**15 51 18.5**	**-0.2**
	baz=241						
ECL				eS	**Sn**	**15 51 34.9**	**-2.3**
	baz=241						
TPUB	**Ta-pu**	**1.43**	**263**	P	**Pg**	**15 51 20.6**	**-0.4**
	baz=267						
TPUB				eS	**Sn**	**15 51 37.5**	**+0.2**
	baz=267						
NWLT	**Wulai**	**1.43**	**335**	P	**Pb**	**15 51 20.0**	**+0.1**
	baz=323						
NWLT				eS	**Sn**	**15 51 37.4**	**0.0**
	baz=323						
WTP	**Ta-pu**	**1.45**	**261**	P	**Pg**	**15 51 21.3**	**-0.2**
	baz=261						
WTP				eS	**Sg**	**15 51 40.0**	**-0.4**
	baz=261						
CHN4	**Tsaushan**	**1.46**	**265**	i P	**Pg**	**15 51 21.6**	**0.0**
	baz=265						
CHN4				eS	**Sb**	**15 51 39.2**	**+0.6**
	baz=265						
SLGT	**Liugui**	**1.48**	**251**	eP	**Pb**	**15 51 21.5**	**+0.8**
	baz=246						
NFF	**Wufeng Townshi**	**1.50**	**320**	eP	**Pg**	**15 51 22.7**	**+0.2**
	baz=319						
NFF				eS	**Sb**	**15 51 40.1**	**+0.2**
	baz=319						
SGST	**Jiashian**	**1.51**	**255**	eP	**Pb**	**15 51 21.2**	**-0.1**
	baz=255						
SGST				eS	**Sb**	**15 51 40.3**	**0.0**
	baz=255						
WDLH	**Douliu**	**1.52**	**278**	eP	**Pg**	**15 51 22.3**	**-0.4**
	baz=278						
WDLH				eS	**Sb**	**15 51 41.2**	**+0.9**
	baz=278						
TIPB	**Shuangxi**	**1.52**	**348**	eP	**Pb**	**15 51 22.0**	**+0.6**
	baz=356						
TIPB				eS	**Sn**	**15 51 40.1**	**+0.4**
	baz=356						
TCU	**Taichung**	**1.52**	**296**	eP	**Pg**	**15 51 22.1**	**-0.7**
	baz=296						
CHN1	**Nanshi**	**1.54**	**259**	eP	**Pg**	**15 51 22.6**	**-0.6**
	baz=259						
CHN1				eS	**Sg**	**15 51 42.8**	**-0.5**
	baz=259						
SNST	**Tainan City**	**1.56**	**261**	eP	**Pb**	**15 51 22.7**	**+0.6**
	baz=260						
SNST				eS	**Sg**	**15 51 43.9**	**0.0**
	baz=260						
TWK	**Hsinying**	**1.56**	**263**	eP	**Pb**	**15 51 22.7**	**+0.5**
	baz=262						
TWK				eS	**Sb**	**15 51 42.8**	**+1.1**
	baz=262						
NSTT	**Nanjuang**	**1.57**	**317**	P	**Pg**	**15 51 23.1**	**-0.7**
	baz=316						
NSTT				eS	**Sb**	**15 51 41.6**	**-0.3**
	baz=316						
LIOB	**Emei**	**1.57**	**318**	P	**Pg**	**15 51 23.4**	**-0.4**
	baz=317						
LIOB				eS	**Sb**	**15 51 42.1**	**+0.2**
	baz=317						
TWA	**Mucha**	**1.59**	**340**	eP	**Pb**	**15 51 23.1**	**+0.5**
	baz=340						
SSD	**Sandimen**	**1.59**	**243**	eP	**Pb**	**15 51 22.5**	**-0.1**
	baz=238						
HATJ	**Hateruma jima**	**1.60**	**69**	P	**Pb**	**15 51 22.5**	**-0.3**
HATJ				eS	**Sn**	**15 51 41.9**	**+0.3**
TSMG	**Majia**	**1.60**	**242**	eP	**Pb**	**15 51 22.3**	**-0.5**
	baz=237						
CHY	**Chiayi**	**1.61**	**271**	eP	**Pg**	**15 51 24.5**	**0.0**
	baz=271						
CHY				eS	**Sg**	**15 51 44.4**	**-1.0**
	baz=271						
NWF	**Wu-fen Shan**	**1.63**	**347**	eP	**Pb**	**15 51 23.2**	**0.0**
	baz=347						
NWF				eS	**Sb**	**15 51 43.6**	**0.0**
	baz=347						
SXI1	**Grass Mountain**	**1.63**	**350**	P	**Pb**	**15 51 23.1**	**-0.3**
	baz=3.0						
SXI1				eS	**Sb**	**15 51 43.5**	**-0.2**
	baz=3.0						
EAST	**Anshuo**	**1.64**	**229**	eP	**Pn**	**15 51 21.9**	**+0.2**
	baz=235						
TAWH	**Dawu Township**	**1.64**	**227**	eP	**Pn**	**15 51 22.3**	**+0.6**
	baz=233						
TAWH				eS	**Sn**	**15 51 40.5**	**-2.0**
	baz=233						
WTK	**Tuku**	**1.65**	**278**	eP	**Pb**	**15 51 24.4**	**+0.8**
	baz=278						
WTK				eS	**Sb**	**15 51 45.2**	**+1.1**
	baz=278						
SCST	**Cishan**	**1.65**	**249**	eP	**Pb**	**15 51 24.5**	**+0.9**
	baz=249						
SCST				eS	**Sg**	**15 51 45.8**	**-1.0**
	baz=249						
MASBT	**Mashibuluo**	**1.66**	**239**	P	**Pn**	**15 51 23.0**	**+1.0**
	baz=232						
IRIF	**Iriomote-Funau**	**1.66**	**59**	P	**Pb**	**15 51 23.7**	**-0.1**
IRIF				eS	**Sb**	**15 51 44.3**	**-0.2**
WRL	**Guolierlin Hig**	**1.70**	**285**	eP	**Pg**	**15 51 25.4**	**-0.8**
	baz=285						
TWM1	**Shoushan**	**1.74**	**248**	eP	**Pg**	**15 51 27.8**	**+0.9**
	baz=247						
SHHT	**Tainan City**	**1.74**	**255**	eP	**Pg**	**15 51 27.2**	**+0.2**
	baz=267						
SHHT				eS	**Sg**	**15 51 50.4**	**+0.8**
	baz=267						
YM01	**YM01**	**1.75**	**342**	eP	**Pb**	**15 51 25.4**	**0.0**
	baz=326						
SSPT	**Xinbi**	**1.78**	**237**	eP	**Pb**	**15 51 25.3**	**-0.5**
	baz=232						
SLIU	**Shizi**	**1.78**	**226**	eP	**Pn**	**15 51 24.4**	**+0.7**
	baz=224						
WSL	**Shuilin Townsh**	**1.79**	**272**	P	**Pb**	**15 51 25.7**	**-0.2**
	baz=272						
WSL				eS	**Sn**	**15 51 46.9**	**+0.8**
	baz=272						
SCZT	**Fangliau**	**1.81**	**233**	eP	**Pn**	**15 51 24.9**	**+0.9**
	baz=227						
JKRS	**Kuro-shima**	**1.84**	**65**	P	**Pb**	**15 51 26.3**	**-0.6**
JKRS				eS	**Sb**	**15 51 49.4**	**-0.3**
JIJ	**Ishigaki jima**	**2.01**	**64**	P	**Pn**	**15 51 28.2**	**+1.4**
JIJ				eS	**Sn**	**15 51 53.0**	**+1.4**
JISG	**Ishigakijimahi**	**2.25**	**60**	P	**Pn**	**15 51 30.9**	**+0.8**
JISG				eS	**Sn**	**15 51 57.3**	**-0.2**
PHUB	**P'eng-hu**	**2.39**	**271**	eP	**Pn**	**15 51 33.8**	**+1.8**
	baz=260						
PHUB				eS	**Sn**	**15 52 00.8**	**-0.2**
	baz=260						
PNG	**Penghu**	**2.40**	**273**	eP	**Pn**	**15 51 33.8**	**+1.6**
	baz=273						
PNG				eS	**Sn**	**15 52 01.7**	**+0.3**
	baz=273						
VWUC	**VWUC**	**2.91**	**302**	eP	**Pn**	**15 51 40.2**	**+1.0**
	baz=300						
PTMZ	**Houxiangcun**	**3.19**	**300**	eP	**Pn**	**15 51 41.6**	**-1.4**
	baz=299						

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*IDC **03** 16:00:39.2±0.8, 14°.17S×166°.56E, h0km, mb4.0/13, mb1 4.1/14, mb1mx3.9/47, mbtmp4.0/14, ML4.2/1, Error ellipse: s-maj=30.3km s-min=18.2km az=116.0*

*NEIC **03** 16:00:44.2±1.9, 14°.31S±0°.09×166°.8E±0°.2, h35km±2km, mb4.5/22, Error ellipse: s-maj=25.7km s-min=15.4km az=83.0*

ISC 03 16:00:44.3±0.6**, 14°.32S**±0°.07×**166°.7E**±0°.1**, h35km, n45, σ1s.38**/46**, mb4.2**/24**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.21**	**158**	Pn	**Pn**	**16 01 02.2**	**-2.5**
LIFNC	**LIFOU**	**6.44**	**176**	Pn	**Pn**	**16 02 15.0**	**-1.7**
MARNC	**Mare, Loyalty**	**7.23**	**170**	Pn	**Pn**	**16 02 27.9**	**+0.4**
DZM	**Mont Dzumac**	**7.71**	**182**	Pn	**Pn**	**16 02 33.4**	**-0.9**
	3.7nm,0.3s,baz=335,slow=12,SNR=23						
DZM				Sn	**Sn**	**16 04 00.7**	**+0.1**
	1.4nm,0.3s,baz=306,slow=24,SNR=1.4						
ONTNC	**Ouen Toro**	**7.95**	**182**	Pn	**Pn**	**16 02 37.1**	**-0.3**
OUENC	**Ouen Island, N**	**8.05**	**179**	Pn	**Pn**	**16 02 39.4**	**+0.5**
PINNC	**Pines Island,**	**8.28**	**175**	Pn	**Pn**	**16 02 42.4**	**+0.4**
CTA	**Charters Tower**	**20.38**	**251**	P	**P**	**16 05 18.2**	**-0.1**
	9.2nm,1.0s,baz=45,slow=11,SNR=3.6						
BKZ	**Black Stump Fm**	**26.20**	**163**	P	**P**	**16 06 16.0**	**+0.2**
STKA	**Stephens Creek**	**28.87**	**228**	P	**P**	**16 06 38.8**	**-1.0**
	0.9nm,0.4s,baz=22,slow=8.0,SNR=6.8						
WRA	**Warramunga Arr**	**31.43**	**255**	P	**P**	**16 06 59.8**	**-2.8**
	1.1nm,1.1s,baz=85,slow=9.3,SNR=4.6						
AS31	**Alice Springs**	**32.34**	**248**	P	**P**	**16 07 08.8**	**-1.8**
ASAR	**Alice Springs**	**32.34**	**248**	P	**P**	**16 07 09.1**	**-1.5**
	0.5nm,0.6s,baz=74,slow=9.6,SNR=9.9						
ASAR				PcP	**PcP**	**16 09 56.3**	**-1.8**
	0.4nm,0.7s,baz=52,slow=1.3,SNR=6.0						
FORT	**Forrest**	**39.06**	**239**	P	**P**	**16 08 07.9**	**-0.2**
VNDA	**Vanda**	**63.26**	**181**	P	**P**	**16 11 12.1**	**+3.1**
	1.7nm,0.7s,baz=1.6,slow=6.6,SNR=7.2						
VNDA	**Vanda**	**63.26**	**181**	IAmb	IAmb	16 11 14.6	
	comp=Z,2.2nm,0.8s						
SBA	**Scott Base**	**63.54**	**180**	P	**P**	**16 11 15.1**	**+4.3**
USRK	**Ussuriysk Ar.**	**66.29**	**333**	P	**P**	**16 11 29.8**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=114,slow=9.6,SNR=2.1						
CMAR	**Chiang Mai Arr**	**74.31**	**294**	P	**P**	**16 12 22.1**	**+3.4**
	comp=Z,0.8nm,0.7s,baz=104,slow=6.6,SNR=3.1						
QSPA	**South Pole Qui**	**75.70**	**180**	P	**P**	**16 12 25.5**	**-0.6**
QSPA				IAmb	IAmb	16 12 31.9	
	comp=Z,6.5nm,0.9s						
SEY	**Seymchan**	**77.82**	**353**	P	**P**	**16 12 37.5**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=141,slow=7.7,SNR=6.4						
GAMB	**Gambell**	**79.61**	**10**	P	**P**	**16 12 47.6**	**+0.1**
GAMB				IAmb	IAmb	16 12 57.0	
	comp=Z,6.0nm,1.4s						
ANM	**Nome**	**81.47**	**12**	P	**P**	**16 12 57.7**	**+0.1**
ANM				IAmb	IAmb	16 13 00.2	
	comp=Z,6.0nm,1.5s						
SONM	**Songino Array**	**81.86**	**324**	P	**P**	**16 13 00.6**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=154,slow=6.9,SNR=2.7						
BILL	**Bilibino**	**82.13**	**360**	P	**P**	**16 13 00.8**	**-0.2**
BILL				IAmb	IAmb	16 13 01.7	
	comp=Z,3.0nm,0.7s						
KTH	**Kantishna Hill**	**84.20**	**18**	P	**P**	**16 13 11.0**	**-0.8**
RND	**Reindeer**	**84.71**	**18**	P	**P**	**16 13 13.9**	**-0.5**
VRDI	**Verde Repeater**	**84.98**	**22**	P	**P**	**16 13 15.9**	**-0.1**
VRDI				IAmb	IAmb	16 13 28.6	
	comp=Z,4.6nm,1.3s						
I21K	**Tanana**	**85.14**	**16**	P	**P**	**16 13 17.2**	**+0.8**
I21K				IAmb	IAmb	16 13 35.8	
	comp=Z,5.5nm,1.2s						
H21K	**Melozitna Rive**	**85.30**	**16**	P	**P**	**16 13 17.6**	**+0.4**
H21K				IAmb	IAmb	16 13 23.7	
	comp=Z,3.3nm,1.3s						
IMAR	**Indian Mountai**	**85.31**	**15**	P	**P**	**16 13 17.3**	**0.0**
WRH	**Wood River Hil**	**85.72**	**18**	P	**P**	**16 13 18.4**	**-1.0**
WRH				IAmb	IAmb	16 13 26.7	
	comp=Z,6.3nm,1.5s						
CCB	**Clear Creek Bu**	**85.94**	**18**	P	**P**	**16 13 19.3**	**-1.1**
HDA	**Harding Lake**	**86.02**	**18**	P	**P**	**16 13 20.4**	**-0.5**
HDA				IAmb	IAmb	16 13 21.4	
	comp=Z,4.9nm,1.3s						
MDM	**Murphy Dome**	**86.04**	**18**	P	**P**	**16 13 19.6**	**-1.4**
MDM				IAmb	IAmb	16 13 21.1	
	comp=Z,4.2nm,1.3s						
IL31		**86.30**	**18**	P	**P**	**16 13 21.0**	**-1.1**
ILAR	**Eielson Array**	**86.30**	**18**	P	**P**	**16 13 20.9**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=243,slow=5.1,SNR=14						
J25K	**Salcha River,**	**86.65**	**19**	P	**P**	**16 13 24.3**	**+0.2**
J25K				IAmb	IAmb	16 13 24.5	
	comp=Z,1.3nm,0.7s						
NVAR	**Mina Array Bea**	**87.40**	**49**	P	**P**	**16 13 28.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=243,slow=6.5,SNR=3.6						
TOLK	**Toolik Lake Re**	**88.39**	**15**	P	**P**	**16 13 32.9**	**+0.6**
TIXI	**Tiksi**	**89.47**	**349**	P	**P**	**16 13 36.3**	**-0.9**
	comp=Z,0.2nm,0.2s,baz=271,slow=23,SNR=1.6						
MKAR	**Makanchi Array**	**96.55**	**317**	P	**P**	**16 14 09.7**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=90,slow=7.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**96.76**	**324**	P	**P**	**16 14 10.2**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=157,slow=4.7,SNR=2.0						
ARCES	**ARCESS Array B**	**119.73**	**345**	PKP	**PKPdf**	**16 19 29.7**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=90,slow=1.0,SNR=3.6						
FINES	**FINESS Array B**	**125.15**	**338**	PKP	**PKiKP**	**16 19 41.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=342,slow=2.4,SNR=4.1						

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*IDC **03** 16:04:26.8±0.6, 14°.31S×166°.76E, h0km, mb4.2/18, mb1 4.4/19, mb1mx4.2/47, mbtmp4.2/19, ML4.7/1, MS4.0/37, Ms1 4.0/37, ms1mx3.8/67, Error ellipse: s-maj=22.1km s-min=15.7km az=113.0*

*NEIC **03** 16:04:32.6±2.6, 14°.40S±0°.08×166°.83E±0°.10, h35km±1km, mb4.7/42, Error ellipse: s-maj=17.2km s-min=12.0km az=62.0*

*NOU **03** 16:04:35.4, 14°.47S×166°.58E, h38km, mb4.8/33, Vanuatu Islands*

ISC 03 16:04:32.7±0.4**, 14°.33S**±0°.06×**166°.76E**±0°.09**, h35km, n159, σ1s.54**/127**, mb4.6**/52**, MS4.0**/36**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.19**	**159**		**Pn**	**16 04 50.2**	**-2.6**
SANVU	**Saraoutou**	**1.19**	**159**	P	**Pn**	**16 04 55.0**	**+2.1**
DVP	**Devils Point**	**3.65**	**158**	P	Pn	16 05 30.9	+4.3
RTV	**Rentapao**	**3.80**	**155**	P	Pn	16 05 32.5	+3.8
LIFNC	**LIFOU**	**6.43**	**176**	Pn	**Pn**	**16 06 02.6**	**-2.3**
LIFNC	**LIFOU**	**6.43**	**176**	P	**Pn**	**16 06 05.9**	**+1.0**
	175nm,0.8s						
KOUNC	**Koumac, New Ca**	**6.62**	**201**		**Pn**	**16 06 05.3**	**-2.3**
MARNC	**Mare, Loyalty**	**7.22**	**171**	Pn	**Pn**	**16 06 15.1**	**-0.6**
MARNC	**Mare, Loyalty**	**7.22**	**171**	P	**Pn**	**16 06 16.8**	**+1.1**
	2.3nm,1.1s						
YATNC	**Mamie plateau,**	**7.69**	**179**	P	**Pn**	**16 06 20.9**	**-1.3**
	56nm,0.6s						
DZM	**Mont Dzumac**	**7.71**	**182**	Pn	**Pn**	**16 06 21.8**	**-0.7**
	12nm,0.3s,baz=327,slow=12,SNR=34						
DZM				Sn	**Sn**	**16 07 46.2**	**-2.5**
	baz=313,slow=23,SNR=1.1						
DZM				LR	LR	16 08 34.4	
	comp=Z,376nm,19.7s,baz=12,slow=32						
DZM	**Mont Dzumac**	**7.71**	**182**	ePn	**Pn**	**16 06 21.7**	**-0.8**
	36nm,0.3s						
DZM				eSn	**Sn**	**16 07 47.3**	**-1.4**
	13nm,0.3s						
DZM				eLR	LR	16 08 09.1	
	comp=Z,2μm,23.9s						
DZM	**Mont Dzumac**	**7.71**	**182**		**Pn**	**16 06 20.8**	**-1.7**
DZM	**Mont Dzumac**	**7.71**	**182**	P	**Pn**	**16 06 22.1**	**-0.4**
	43nm,1.2s						
NOUC	**Port Laguerre**	**7.74**	**183**	P	**Pn**	**16 06 23.3**	**+0.4**
	34nm,0.6s						
ONTNC	**Ouen Toro**	**7.94**	**182**	Pn	**Pn**	**16 06 24.9**	**-0.8**
ONTNC	**Ouen Toro**	**7.94**	**182**	P	**Pn**	**16 06 25.3**	**-0.4**
OUENC	**Ouen Island, N**	**8.05**	**179**		**Pn**	**16 06 26.5**	**-0.6**
OUENC	**Ouen Island, N**	**8.05**	**179**	P	**Pn**	**16 06 27.1**	**0.0**
	59nm,0.7s						
HNR	**Honiara**	**8.25**	**305**	LR	LR	16 09 39.1	
	comp=Z,986nm,18.9s,baz=184,slow=38						
PINNC	**Pines Island,**	**8.27**	**176**		**Pn**	**16 06 30.4**	**+0.3**
PINNC	**Pines Island,**	**8.27**	**176**	P	**Pn**	**16 06 31.3**	**+1.2**
	142nm,1.4s						
MSVF	**Nonsavu**	**11.37**	**109**	LR	LR	16 10 41.0	
	comp=Z,1μm,19.4s,baz=321,slow=33						
EIDS	**Eidsvold**	**18.37**	**231**		**Pn**	**16 08 45.1**	**+0.4**
EIDS	**Eidsvold**	**18.37**	**231**	P	**Pn**	**16 08 46.5**	**+1.8**
	17nm,0.7s						
PMG	**Port Moresby**	**19.79**	**282**	P	**Pn**	**16 09 02.3**	**+0.4**
	0.3nm,0.3s,baz=131,slow=20,SNR=1.4						
PMG				LR	LR	16 15 36.3	
	comp=Z,359nm,19.7s,baz=74,slow=34						
CTA	**Charters Tower**	**20.40**	**251**	P	Pn	16 09 07.3	-1.8
	15nm,0.9s,baz=79,slow=13,SNR=8.9						
CTA				LR	LR	16 16 00.2	
	comp=Z,552nm,19.3s,baz=74,slow=34						
CTA	**Charters Tower**	**20.40**	**251**	P	Pn	16 09 07.7	-1.3
	24nm,1.0s						
RMQ	**Roma**	**20.73**	**231**	P	Pn	16 09 11.5	-1.3
	38nm,0.9s						
AFI	**Afiamalu**	**20.82**	**91**	P	Pn	16 09 14.2	+0.2
	12nm,0.6s,baz=88,slow=14,SNR=1.8						
AFI				LR	LR	16 15 13.3	
	comp=Z,293nm,21.5s,baz=280,slow=31						
ARMA	**Armidale**	**21.22**	**219**		**P**	**16 09 16.6**	**+0.9**
OUZ	**Omahuta**	**21.69**	**165**	P	**P**	**16 09 19.9**	**-0.6**
OUZ				IAmb	IAmb	16 09 26.0	
	comp=Z,23nm,0.9s						
TOZ	**Tahuroa Road**	**24.57**	**163**	P	**P**	**16 09 53.2**	**+3.9**
OPRZ	**Ohinepanea**	**24.98**	**161**	P	**P**	**16 09 54.7**	**+1.6**
HIZ	**Hauiti**	**25.13**	**165**	P	**P**	**16 10 00.5**	**+6.1**
HIZ	**Hauiti**	**25.13**	**165**	P	**P**	**16 09 57.9**	**+3.5**
	comp=Z,397nm,1.0s						
HAZ	**Te Kaha**	**25.31**	**159**	P	**P**	**16 09 59.9**	**+3.9**
RUGZ	**Raukumara Rang**	**25.46**	**160**	P	**P**	**16 09 59.5**	**+1.9**
URZ	**Urewera**	**25.54**	**161**	P	**P**	**16 09 56.9**	**-1.2**
	comp=Z,5.1nm,0.3s,baz=262,slow=3.0,SNR=14						
URZ	**Urewera**	**25.54**	**161**	IAmb	IAmb	16 10 04.8	
	comp=Z,32nm,1.0s						
URZ	**Urewera**	**25.54**	**161**	P	**P**	**16 09 56.7**	**-1.4**
URZ	**Urewera**	**25.54**	**161**	P	**P**	**16 09 58.2**	**+0.1**
	comp=Z,151nm,1.1s						
MUGZ	**Murupara**	**25.63**	**162**	P	**P**	**16 09 58.4**	**-0.6**
MWZ	**Matawai**	**25.74**	**160**	P	**P**	**16 10 00.2**	**+0.2**
PUZ	**Puketiti**	**25.75**	**159**	P	**P**	**16 10 03.7**	**+3.6**
CMSA	**Cobar Meteorol**	**25.80**	**225**	P	**P**	**16 10 01.6**	**+1.0**
	comp=Z,14nm,0.9s						
RTZ	**Ruatahuna**	**25.82**	**161**	P	**P**	**16 09 59.1**	**-1.7**
SNGZ	**Shannon Statio**	**26.09**	**161**	P	**P**	**16 10 01.7**	**-1.4**
BKZ	**Black Stump Fm**	**26.19**	**163**	P	**P**	**16 10 03.9**	**-0.1**
BKZ				IAmb	IAmb	16 10 24.3	
	comp=Z,33nm,1.2s						
BKZ	**Black Stump Fm**	**26.19**	**163**	P	**P**	**16 10 04.8**	**+0.8**
	comp=Z,88nm,1.5s						
INKA	**Innaminka**	**27.63**	**237**	P	**P**	**16 10 18.0**	**+0.9**
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**28.88**	**229**	P	**P**	**16 10 28.3**	**0.0**
	comp=Z,5.6nm,0.5s,baz=43,slow=8.5,SNR=25						
STKA				PcP	**PcP**	**16 13 36.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=327,slow=7.1,SNR=3.3						
STKA				LR	LR	16 22 09.4	
	comp=Z,588nm,18.4s,baz=45,slow=37						
STKA	**Stephens Creek**	**28.88**	**229**	P	**P**	**16 10 28.3**	**0.0**
STKA	**Stephens Creek**	**28.88**	**229**	P	**P**	**16 10 28.9**	**+0.7**
	comp=Z,3.0nm,0.8s						
RPZ	**Rata Peaks**	**29.52**	**174**	LR	LR	16 22 16.6	
	comp=Z,388nm,18.2s,baz=4.0,slow=36						
LCRK	**Leigh Creek**	**30.76**	**234**	P	**P**	**16 10 46.2**	**+1.3**
	comp=Z,19nm,0.8s						
WRAB	**Tennant Creek**	**31.43**	**255**	P	**P**	**16 10 49.9**	**-1.1**
	comp=Z,6.9nm,2.7s						
WRA	**Warramunga Arr**	**31.45**	**255**	P	**P**	**16 10 48.9**	**-2.2**
	comp=Z,1.9nm,0.8s,baz=86,slow=9.4,SNR=12						
WRA				LR	LR	16 22 53.3	
	comp=Z,468nm,18.4s,baz=44,slow=35						
WRA	**Warramunga Arr**	**31.45**	**255**	IAmb	IAmb	16 10 50.5	
	comp=Z,0.6nm,1.4s						
HTT	**Hallett**	**31.61**	**228**	P	**P**	**16 10 54.7**	**+2.3**
	comp=Z,12nm,1.5s						
OOD	**Oodnadatta**	**31.83**	**240**	P	**P**	**16 10 55.1**	**+0.7**
	comp=Z,10nm,0.9s						
AS31	**Alice Springs**	**32.35**	**248**	P	**P**	**16 10 57.6**	**-1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR	**Alice Springs**	**32.36**	**248**	P	**P**	**16 10 57.2**	**-1.9**
	comp=Z,2.5nm,0.8s,baz=76,slow=9.1,SNR=27						
ASAR				PcP	**PcP**	**16 13 45.6**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=74,slow=3.2,SNR=5.9						
ASAR				LR	LR	16 23 45.9	
	comp=Z,332nm,18.3s,baz=102,slow=36						
RAR	**Rarotonga**	**32.55**	**107**	LR	LR	16 21 20.1	
	comp=Z,271nm,21.3s,baz=278,slow=31						
BBOO	**Buckleboo**	**33.44**	**231**	P	**P**	**16 11 08.1**	**-0.3**
BBOO	**Buckleboo**	**33.44**	**231**	P	**P**	**16 11 09.3**	**+0.9**
	comp=Z,26nm,1.6s						
MULG	**Mulgathing**	**34.01**	**237**	P	**P**	**16 11 12.7**	**-0.7**
	comp=Z,28nm,1.4s						
GUMO	**Guam**	**35.20**	**321**	LR	LR	16 27 03.6	
	comp=Z,118nm,18.0s,baz=97,slow=39						
KNRA	**Kununurra**	**36.70**	**263**	P	**P**	**16 11 35.4**	**-1.2**
KNRA				IAmb	IAmb	16 11 36.8	
	comp=Z,11nm,0.8s						
KNRA	**Kununurra**	**36.70**	**263**	P	**P**	**16 11 36.1**	**-0.5**
	comp=Z,14nm,1.7s						
WRKA	**Warakurna**	**37.63**	**248**	P	**P**	**16 11 43.2**	**-1.3**
	comp=Z,17nm,1.0s						
FORT	**Forrest**	**39.08**	**239**	P	**P**	**16 11 55.8**	**-0.8**
FORT	**Forrest**	**39.08**	**239**	P	**P**	**16 11 56.1**	**-0.5**
	comp=Z,56nm,0.7s						
FITZ	**Fitzroy Crossi**	**39.60**	**259**	LR	LR	16 28 11.8	
	comp=Z,331nm,18.0s,baz=90,slow=36						
FITZ	**Fitzroy Crossi**	**39.60**	**259**	P	**P**	**16 12 00.6**	**-0.6**
PPT2	**Papeete2**	**42.04**	**100**	*e*LR	LR	16 24 13.6	
	comp=Z,254nm,24.2s						
TBI	**Tubuai**	**42.26**	**109**	*e*LR	LR	16 24 20.0	
	comp=Z,293nm,26.2s						
BATI	**Baumata**	**42.27**	**271**	LR	LR	16 28 00.7	
	comp=Z,202nm,19.2s,baz=104,slow=34						
DAV	**Davao City (W)**	**46.05**	**295**	LR	LR	16 29 42.3	
	comp=Z,63nm,21.8s,baz=148,slow=33						
TAOE	**Nuku Hiva Isla**	**52.20**	**90**	*e*LR	LR	16 28 50.7	
	comp=Z,229nm,22.7s						
LEM	**Lembang**	**58.48**	**271**	LR	LR	16 40 30.5	
	comp=Z,72nm,18.0s,baz=172,slow=37						
ASAJ	**Asahikawa**	**62.20**	**341**	LR	LR	16 38 31.9	
	comp=Z,75nm,20.6s,baz=160,slow=33						
VNDA	**Vanda**	**63.25**	**181**	P	**P**	**16 14 56.8**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=35,slow=3.2,SNR=1.7						
VNDA	**Vanda**	**63.25**	**181**	P	**P**	**16 14 57.2**	**0.0**
VNDA				IAmb	IAmb	16 15 02.9	
	comp=Z,4.6nm,0.8s						
SBA	**Scott Base**	**63.53**	**180**	P	**P**	**16 14 59.4**	**+0.3**
NJ2	**Nanjing**	**65.05**	**316**	*e*P	**P**	**16 15 11.2**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**66.31**	**333**	P	**P**	**16 15 16.2**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=166,slow=20,SNR=1.7						
USRK	**Ussuriysk Ar.**	**66.31**	**333**	P	**P**	**16 15 17.3**	**-0.3**
SHEM	**Shemya Is, Ala**	**67.08**	**5**	LR	LR	16 37 42.2	
	comp=Z,96nm,21.7s,baz=322,slow=30						
PETK	**Petropavlovsk-**	**67.61**	**354**	LR	LR	16 40 08.5	
	comp=Z,95nm,18.8s,baz=139,slow=32						
PSI	**Prapat**	**69.31**	**279**	LR	LR	16 50 04.3	
	comp=Z,34nm,18.7s,baz=183,slow=40						
CMAR	**Chiang Mai Arr**	**74.34**	**294**	P	**P**	**16 16 08.5**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=133,slow=4.9,SNR=6.7						
CMAR	**Chiang Mai Arr**	**74.34**	**294**	P	**P**	**16 16 07.5**	**+0.3**
MA2	**Magadan**	**74.78**	**352**	LR	LR	16 44 20.1	
	comp=Z,72nm,19.8s,baz=92,slow=32						
HHC	**Hu-ho-hao-te**	**74.96**	**320**	*e*P	**P**	**16 16 13.0**	**+2.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,71nm,5.7s						
PZH	**PanZhiHua**	**75.07**	**303**	P	**P**	**16 16 11.6**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,7.8s						
QSPA	**South Pole Qui**	**75.70**	**180**	LR	LR	16 47 13.4	
	comp=Z,59nm,18.0s,baz=63,slow=34						
SEY	**Seymchan**	**77.83**	**353**	P	**P**	**16 16 25.1**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=70,slow=22,SNR=5.9						
KDAK	**Kodiak Island**	**79.27**	**21**	LR	LR	16 46 23.2	
	comp=Z,150nm,19.2s,baz=225,slow=32						
ANM	**Nome**	**81.48**	**12**	P	**P**	**16 16 46.3**	**+0.4**
ANM				IAmb	IAmb	16 17 09.1	
	comp=Z,5.0nm,1.3s						
YAK	**Yakutsk**	**81.51**	**343**	P	**P**	**16 16 45.8**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=150,slow=1.9,SNR=6.5						
YAK				LR	LR	16 53 53.2	
	comp=Z,52nm,18.0s,baz=126,slow=36						
YAK	**Yakutsk**	**81.51**	**343**	P	**P**	**16 16 45.9**	**-0.2**
SONM	**Songino Array**	**81.88**	**324**	P	**P**	**16 16 48.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=159,slow=7.1,SNR=5.3						
GTA	**Gaotai**	**82.03**	**314**	*e*P	**P**	**16 16 51.6**	**+2.0**
GTA				pP	pwP	16 17 02.3	-0.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL	**Bilibino**	**82.14**	**360**	P	**P**	**16 16 48.7**	**-0.6**
BILL				IAmb	IAmb	16 17 01.6	
	comp=Z,5.2nm,0.8s						
TTA	**Tatalina**	**82.28**	**16**	P	**P**	**16 16 50.6**	**+0.3**
FIS	**Fire Island**	**82.61**	**19**	P	**P**	**16 16 52.7**	**+0.9**
CAST	**Castle Rocks**	**83.76**	**17**	P	**P**	**16 16 58.1**	**+0.3**
CAST				IAmb	IAmb	16 17 16.0	
	comp=Z,8.1nm,1.2s						
J20K	**Nowinta River**	**83.78**	**16**	P	**P**	**16 16 59.0**	**+1.1**
J20K				IAmb	IAmb	16 17 10.8	
	comp=Z,5.3nm,1.2s						
KTH	**Kantishna Hill**	**84.20**	**18**	P	**P**	**16 16 58.6**	**-1.5**
KTH				IAmb	IAmb	16 17 27.8	
	comp=Z,6.3nm,1.1s						
KRPM	**Rodgers**	**84.35**	**45**	P	**P**	**16 16 59.3**	**-2.1**
BMRM	**Bremner River**	**84.39**	**22**	P	**P**	**16 16 59.8**	**-1.3**
BMRM				IAmb	IAmb	16 17 24.1	
	comp=Z,11nm,1.4s						
WAX	**Waxell Ridge**	**84.68**	**23**	P	**P**	**16 17 01.9**	**-0.8**
WAX				IAmb	IAmb	16 17 06.4	
	comp=Z,7.1nm,1.0s						
RND	**Reindeer**	**84.71**	**18**	P	**P**	**16 17 02.0**	**-0.8**
N25K	**Chitina, Valde**	**84.83**	**21**	P	**P**	**16 17 03.4**	**0.0**
N25K				IAmb	IAmb	16 17 32.6	
	comp=Z,8.8nm,1.4s						
I21K	**Tanana**	**85.15**	**16**	P	**P**	**16 17 05.3**	**+0.6**
H21K	**Melozitna Rive**	**85.30**	**16**	P	**P**	**16 17 06.2**	**+0.7**
H21K				IAmb	IAmb	16 17 18.5	
	comp=Z,4.0nm,1.1s						
IMAR	**Indian Mountai**	**85.31**	**15**	P	**P**	**16 17 05.5**	**-0.1**
YBH	**Yreka Blue Hor**	**85.48**	**45**	P	**P**	**16 17 07.7**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=182,slow=8.0,SNR=2.5						
YBH				LR	LR	16 47 52.5	
	comp=Z,53nm,19.6s,baz=258,slow=30						
WRH	**Wood River Hil**	**85.72**	**18**	P	**P**	**16 17 06.4**	**-1.3**
WRH				IAmb	IAmb	16 17 19.7	
	comp=Z,7.2nm,1.2s						
CCB	**Clear Creek Bu**	**85.94**	**18**	P	**P**	**16 17 07.1**	**-1.6**
HDA	**Harding Lake**	**86.02**	**18**	P	**P**	**16 17 08.2**	**-1.0**
HDA				IAmb	IAmb	16 17 37.7	
	comp=Z,4.6nm,0.8s						
MDM	**Murphy Dome**	**86.04**	**18**	P	**P**	**16 17 07.8**	**-1.4**
MDM				IAmb	IAmb	16 17 23.3	
	comp=Z,5.3nm,1.2s						
RIDG	**Independent Ri**	**86.21**	**19**	P	**P**	**16 17 09.2**	**-1.0**
RIDG				IAmb	IAmb	16 17 27.2	
	comp=Z,5.6nm,1.0s						
IL31		**86.30**	**18**	P	**P**	**16 17 08.7**	**-1.8**
IL31				IAmb	IAmb	16 17 10.9	
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**86.30**	**18**	P	**P**	**16 17 09.1**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=236,slow=5.2,SNR=26						
ILAR				LR	LR	16 50 22.4	
	comp=Z,114nm,19.9s,baz=241,slow=32						
J25K	**Salcha River,**	**86.65**	**19**	P	**P**	**16 17 12.2**	**-0.2**
J25K				IAmb	IAmb	16 17 17.0	
	comp=Z,3.6nm,0.9s						
SCRK	**Sand Creek**	**86.65**	**20**	P	**P**	**16 17 12.3**	**-0.1**
SCRK				IAmb	IAmb	16 17 26.7	
	comp=Z,2.6nm,1.1s						
BBB	**Bella Bella**	**86.72**	**34**	LR	LR	16 48 29.0	
	comp=Z,71nm,20.6s,baz=228,slow=30						
BELA	**Belgrano 2**	**87.16**	**176**	P	**P**	**16 17 12.9**	**-1.8**
PFO	**Pinyon Flats O**	**87.17**	**54**	LR	LR	16 50 12.7	
	comp=Z,158nm,18.6s,baz=260,slow=32						
NVAR	**Mina Array Bea**	**87.39**	**49**	P	**P**	**16 17 18.3**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=234,slow=3.0,SNR=4.1						
NVAR				LR	LR	16 48 57.8	
	comp=Z,194nm,20.2s,baz=236,slow=30						
PALK	**Pallekele**	**87.98**	**278**	LR	LR	16 55 55.7	
	comp=Z,31nm,21.1s,baz=243,slow=35						
TOLK	**Toolik Lake Re**	**88.39**	**15**	P	**P**	**16 17 20.5**	**-0.1**
TOLK				IAmb	IAmb	16 17 22.1	
	comp=Z,3.5nm,1.1s						
BMAR	**Burnt Mountain**	**88.84**	**17**	P	**P**	**16 17 23.8**	**+1.0**
LPIG	**La Paz**	**89.48**	**65**	LR	LR	16 49 29.6	
	comp=Z,49nm,20.0s,baz=81,slow=30						
TIXI	**Tiksi**	**89.48**	**349**	P	**P**	**16 17 26.6**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=266,slow=23,SNR=11						
TIXI	**Tiksi**	**89.48**	**349**	P	**P**	**16 17 27.5**	**+1.9**
TIXI				IAmb	IAmb	16 17 34.1	
	comp=Z,3.5nm,1.1s						
ELK	**Elko**	**90.39**	**48**	LR	LR	16 52 44.6	
	comp=Z,92nm,18.6s,baz=254,slow=32						
WMQ	**Urumqi**	**92.10**	**315**	*e*P	**P**	**16 17 39.4**	**+0.9**
INK	**Inuvik**	**92.67**	**19**	LR	LR	16 53 18.2	
	comp=Z,108nm,20.0s,baz=188,slow=32						
TROLL	**Troll, Antarti**	**93.22**	**185**	P	**P**	**16 17 46.7**	**+3.3**
SNAA	**Sanae**	**93.92**	**183**	P	**P**	**16 17 49.2**	**+2.7**
VNA3	**Neumayer Olymp**	**94.60**	**181**	P	**P**	**16 17 52.0**	**+2.5**
VNA2	**Neumayer--Watz**	**94.86**	**182**	P	**P**	**16 17 53.0**	**+2.3**
	baz=181,slow=4.0						
PDAR	**Pinedale Array**	**95.04**	**47**	LR	LR	16 53 10.0	
	comp=Z,51nm,20.5s,baz=322,slow=31						
ANMO	**Albuquerque**	**95.48**	**55**	LR	LR	16 52 46.3	
	comp=Z,91nm,21.2s,baz=264,slow=30						
TXAR	**Lajitas Array**	**96.52**	**62**	LR	LR	16 52 36.6	
	comp=Z,48nm,21.9s,baz=283,slow=30						
MKAR	**Makanchi Array**	**96.58**	**316**	P	**P**	**16 17 59.0**	**0.0**
	comp=Z,0.7nm,0.7s,baz=105,slow=5.8,SNR=9.5						
ZALV	**Zalesovo Beam**	**96.78**	**324**	P	**P**	**16 17 58.4**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=108,slow=4.8,SNR=4.4						
ZALV				LR	LR	17 00 28.2	
	comp=Z,20nm,21.7s,baz=115,slow=35						
YKA	**Yellowknife Ar**	**97.42**	**27**	P	**P**	**16 18 00.6**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=257,slow=4.4,SNR=3.3						
ARCES	**ARCESS Array B**	**119.74**	**345**	PKP	**PKPdf**	**16 23 17.5**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=80,slow=2.1,SNR=9.2						
FINES	**FINESS Array B**	**125.17**	**338**	PKP	**PKiKP**	**16 23 28.7**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=11,slow=1.9,SNR=4.8						
NOA	**NORSAR Array B**	**130.11**	**345**	PKP	**PKPdf**	**16 23 37.2**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=34,slow=2.1,SNR=2.7						
AKASG	**Malin Array Be**	**130.13**	**326**	PKP	**PKiKP**	**16 23 39.5**	**-0.2**
	comp=Z,0.1nm,0.2s,baz=49,slow=4.4,SNR=4.0						
AKASG				SKP		16 27 11.8	
	comp=Z,1.1nm,0.9s,baz=46,slow=4.3,SNR=4.2						
BRTR	**Keskin Array B**	**131.88**	**311**	SKP		16 27 19.0	
	comp=Z,0.7nm,0.8s,baz=72,slow=4.0,SNR=4.9						
GERES	**GERESS Array B**	**139.06**	**333**	PKhKP	PKPpre	16 23 42.6	
	comp=Z,0.5nm,0.8s,baz=11,slow=1.4,SNR=5.4						
GERES				PKP	**PKPdf**	**16 23 52.8**	**-3.1**
	comp=Z,0.4nm,0.7s,baz=336,slow=2.9,SNR=4.4						
GERES				SKPbc	**SKiKP**	**16 27 30.8**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=173,slow=1.1,SNR=7.8						
KEST	**Kesra**	**150.59**	**320**	PKPbc	**PKiKP**	**16 24 21.9**	**-0.2**
	comp=Z,7.6nm,0.9s,baz=73,slow=16,SNR=3.8						
ESDC	**Sonseca Array**	**153.47**	**344**	PKPbc	**PKPbc**	**16 24 26.0**	**-1.8**
	comp=Z,0.7nm,1.0s,baz=56,slow=1.7,SNR=2.9						

ISK ***03*** *16:11:13.3, 35°.72N×31°.53E, h31km, ML2.6/15*
DDA ***03*** *16:11:14.3±0.0, 36°.07N×31°.54E, h11km±2km, ML2.1*
NIC ***03*** *16:11:16.9±0.0, 35°.62N×31°.95E, h32km±28km, Ml2.6/5*
ISC 03 16:11:11.4±1.4**, 35°.74N**±0°.03×**31°.60E**±0°.03**, h21**km±4km**,**
n42, σ**1s.42**/53**, 2C, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.76**	**50**	P	**Pb**	**16 11 26.7**	**+0.8**
GAZI				S	**Sb**	**16 11 35.8**	**0.0**
GAZI				*i* AML	AML	16 11 38.0	
	comp=N,89nm,0.5s						
GAZI				*i* AML	AML	16 11 40.0	
	comp=E,113nm,0.3s						
AKMS	**Akamas**	**0.94**	**140**⇑	*i*P	**Pb**	**16 11 29.5**	**+0.4**
AKMS				S	**Sb**	**16 11 40.1**	**-0.9**
AKMS				AML	AML	16 11 50.2	
	2.1nm,0.4s						
AKMS				AML	AML	16 11 50.2	
	2.1nm,0.4s						
AKMS				AML	AML	16 11 51.5	
	1.1nm,0.5s						
AKMS				AML	AML	16 11 51.5	
	1.1nm,0.5s						
ALFC	**Alefka**	**1.00**	**125**⇑	*i*P	**Pb**	**16 11 30.5**	**+0.4**
ALFC				S	**Sb**	**16 11 41.6**	**-1.3**
ALFC				AML	AML	16 11 44.2	
	0.7nm,0.1s						
ALFC				AML	AML	16 11 44.2	
	0.7nm,0.1s						
ALFC				AML	AML	16 11 47.1	
	0.8nm,0.2s						
ALFC				AML	AML	16 11 47.1	
	0.8nm,0.2s						
KEPZ	**Antalya-Kepez**	**1.16**	**0**	P	**Pn**	**16 11 32.3**	**-0.1**
AKUM	**Antalya-Kumluc**	**1.17**	**300**	P	**Pb**	**16 11 33.6**	**+0.7**
AKUM				S	**Sb**	**16 11 47.6**	**-0.1**
AKUM				*i* AML	AML	16 11 54.0	
	comp=N,98nm,0.7s						
AKUM				*i* AML	AML	16 11 56.0	
	comp=E,96nm,0.3s						
AKDN	**Akdeniz- Kıbrı**	**1.20**	**111**	PN	**Pb**	**16 11 34.4**	**+0.9**
NATA	**Nata**	**1.25**	**140**	P	**Pb**	**16 11 37.0**	**+2.7**
NATA				AML	AML	16 12 04.1	
	1.9nm,0.8s						
NATA				AML	AML	16 12 08.3	
	2.0nm,0.7s						
TEKE	**Tekeli-Mersin**	**1.29**	**72**	PN	**Pb**	**16 11 36.5**	**+1.5**
ERMK	**Ermenek**	**1.39**	**49**	P	**Pb**	**16 11 39.0**	**+2.1**
HDMB	**Hadim**	**1.41**	**30**	PN	**Pb**	**16 11 38.1**	**+0.9**
HDMB				SN	**Sb**	**16 11 55.2**	**+0.3**
BERE	**Bereket-Mersin**	**1.45**	**65**	PN	**Pb**	**16 11 38.8**	**+1.0**
BERE				SN	**Sb**	**16 11 57.3**	**+1.5**
KORT	**Korkueli**	**1.61**	**322**	P	**Pb**	**16 11 41.5**	**+1.0**
CSS	**Mathiatis**	**1.62**	**118**	P	**Pn**	**16 11 38.9**	**+0.2**
CSS				S	**Sn**	**16 11 55.3**	**-3.6**
AKK1	**Akkuyu-Mersin**	**1.62**	**75**	PN	**Pb**	**16 11 41.1**	**+0.4**
AKK2	**Akkuyu-Mersin**	**1.63**	**75**	PN	**Pb**	**16 11 41.4**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.64**	**75**	PN	**Pb**	**16 11 41.4**	**+0.5**
LFK	**Lefkose**	**1.64**	**106**	PN	**Pb**	**16 11 41.5**	**+0.5**
TEVE	**Tevekalti-Mers**	**1.65**	**65**	PN	**Pb**	**16 11 41.6**	**+0.5**
SEYD	**Seydisehir-KON**	**1.67**	**7**	PN	**Pb**	**16 11 41.4**	**-0.1**
SEDI	**Konya, Seydise**	**1.71**	**4**	P	**Pn**	**16 11 41.3**	**+1.2**
SEDI				S	**Sn**	**16 12 00.1**	**-1.2**
SEDI				*i* AML	AML	16 12 10.0	
	comp=E,29nm,0.5s						
SEDI				*i* AML	AML	16 12 11.0	
	comp=N,28nm,0.5s						
TISA	**Tisan-Mersin**	**1.74**	**75**	PN	**Pb**	**16 11 42.7**	**+0.1**
IKL	**Isikli**	**1.76**	**73**	PN	**Pb**	**16 11 43.1**	**+0.1**
KARG	**Kargicak-Mersi**	**1.77**	**74**	PN	**Pb**	**16 11 43.2**	**0.0**
SUTC	**Sutluce-Ispart**	**1.80**	**345**	PN	**Pb**	**16 11 43.1**	**-0.6**
MVOU	**Mavrovouni**	**1.81**	**113**	P	**Pn**	**16 11 41.4**	**+0.1**
MVOU				S	**Sn**	**16 12 00.6**	**-3.1**
MVOU				AML	AML	16 12 01.8	
	0.2nm,0.2s						
MVOU				AML	AML	16 12 01.8	
	0.2nm,0.2s						
MVOU				AML	AML	16 12 02.3	
	0.2nm,0.2s						
MVOU				AML	AML	16 12 02.3	
	0.2nm,0.2s						
KKBE	**Karaman, Kazim**	**1.83**	**36**	P	**Pb**	**16 11 45.4**	**+1.2**
KEBE	**Keben-Mersin**	**1.85**	**67**	PN	**Pb**	**16 11 44.7**	**+0.1**
KRMN	**Karaman**	**1.96**	**43**	PN	**Pb**	**16 11 45.9**	**-0.6**
EREN	**Erenkoy**	**2.10**	**95**	PN	**Pb**	**16 11 48.3**	**-0.6**
KMER	**Konya-Meram**	**2.11**	**17**	P	**Pb**	**16 11 48.7**	**-0.4**
FETY	**Fethiye**	**2.22**	**294**	P	**Pn**	**16 11 49.1**	**+2.1**
FETY				S	**Sn**	**16 12 12.8**	**-1.1**
KONT	**Konya--Tatoy**	**2.28**	**15**	PN	**Pb**	**16 11 50.5**	**-1.4**
KONT	**Konya--Tatoy**	**2.28**	**15**	P	**Pb**	**16 11 51.7**	**-0.2**
DOGA	**KONYA_Doganhis**	**2.36**	**1**	P	**Pb**	**16 11 51.8**	**-1.5**
YVAC	**Isparta, Yalva**	**2.54**	**354**	P	**Pn**	**16 11 52.1**	**+0.6**
MERS	**Mersin**	**2.61**	**64**	PN	**Pn**	**16 11 55.3**	**+2.8**
KERG	**Konya-Eregli**	**2.63**	**50**	P	**Pb**	**16 11 57.4**	**-0.5**
TAVA	**DENIZLI_Tavas**	**2.76**	**309**	P	**Pn**	**16 11 56.2**	**+1.7**
GULE	**Gulek**	**2.98**	**58**	P	**Pb**	**16 12 03.1**	**-0.9**
PASA	**Karahalli, USA**	**3.10**	**328**	P	**Pn**	**16 11 59.7**	**+0.5**
PASA				S	**Sn**	**16 12 33.7**	**-2.0**
PASA				*i* AML	AML	16 12 40.0	
	comp=N,7.1nm,0.4s						
PASA				*i* AML	AML	16 12 42.0	
	comp=E,7.1nm,0.7s						
KARA	**Karaisali**	**3.17**	**60**	PN	**Pn**	**16 12 03.2**	**+3.1**
CMRD	**Camardi-Nigde**	**3.33**	**54**	PN	**Pn**	**16 12 05.5**	**+3.1**

IDC ***03*** *16:34:04.8±1.0, 14°.25S×166°.75E, h0km, mb4.0/12, mb1 4.1/13, mb1mx4.0/27, mbtmp4.0/13, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/64, Error ellipse: s-maj=33.0km s-min=18.8km az=108.0*
NEIC ***03*** *16:34:10.7±1.4, 14°.259S±0°.005×166°.8E±0°.1, h35km±2km, mb4.5/31, Error ellipse: s-maj=21.7km s-min=3.0km az=90.0*
NOU ***03*** *16:34:11.3, 14°.51S×166°.87E, h0km, MLv4.8/14, Vanuatu Islands*
ISC 03 16:34:10.3±0.6**, 14°.28S**±0°.07×**166°.8E**±0°.1**, h35**km**, n63,**
σ**0s.95**/62**, mb4.3**/28**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.23**	**161**		**Pn**	**16 34 29.6**	**-1.4**
SANVU	**Saraoutou**	**1.23**	**161**	P	**Pn**	**16 34 30.0**	**-0.9**
DVP	**Devils Point**	**3.68**	**159**	P	**Pn**	**16 35 06.5**	**+1.8**
KOUNC	**Koumac, New Ca**	**6.67**	**201**	Pn	**Pn**	**16 35 46.6**	**+0.8**
MARNC	**Mare, Loyalty**	**7.25**	**171**	Pn	**Pn**	**16 35 54.2**	**+0.4**
MARNC	**Mare, Loyalty**	**7.25**	**171**	P	**Pn**	**16 35 55.7**	**+1.9**
YATNC	**Mamie plateau,**	**7.73**	**179**	P	**Pn**	**16 36 01.0**	**+0.6**
DZM	**Mont Dzumac**	**7.75**	**182**	Pn	**Pn**	**16 36 00.2**	**-0.6**
	1.7nm,0.3s,baz=322,slow=18,SNR=32						
DZM				Sn	**Sn**	**16 37 27.0**	**-0.4**
	1.9nm,0.3s,baz=156,slow=22,SNR=1.7						
DZM				LR	LR	16 38 52.4	
	comp=Z,246nm,18.6s,baz=28,slow=37						
DZM	**Mont Dzumac**	**7.75**	**182**		**Pn**	**16 36 00.8**	**0.0**
DZM	**Mont Dzumac**	**7.75**	**182**	P	**Pn**	**16 36 01.6**	**+0.8**
NOUC	**Port Laguerre**	**7.79**	**183**	P	**Pn**	**16 36 02.8**	**+1.6**
ONTNC	**Ouen Toro**	**7.99**	**182**	Pn	**Pn**	**16 36 04.8**	**+0.9**
ONTNC	**Ouen Toro**	**7.99**	**182**	P	**Pn**	**16 36 06.5**	**+2.6**
OUENC	**Ouen Island, N**	**8.09**	**180**	Pn	**Pn**	**16 36 06.5**	**+1.2**
OUENC	**Ouen Island, N**	**8.09**	**180**	P	**Pn**	**16 36 07.2**	**+1.9**
PINNC	**Pines Island,**	**8.31**	**176**	Pn	**Pn**	**16 36 09.3**	**+1.1**
PINNC	**Pines Island,**	**8.31**	**176**	P	**Pn**	**16 36 09.0**	**+0.7**
STKA	**Stephens Creek**	**28.93**	**228**	P	**P**	**16 40 06.9**	**+0.7**
	3.6nm,0.6s,baz=43,slow=9.4,SNR=14						
STKA	**Stephens Creek**	**28.93**	**228**	IAmb	IAmb	16 40 10.5	
	comp=Z,3.1nm,1.5s						
WB0	**Warramunga Arr**	**31.42**	**255**	P	**P**	**16 40 27.5**	**-0.9**
WB0				IAmb	IAmb	16 40 45.1	
	comp=Z,6.1nm,1.4s						
WRA	**Warramunga Arr**	**31.48**	**255**	P	**P**	**16 40 27.3**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=85,slow=10,SNR=9.5						
WHZ	**Wether Hill Ro**	**31.52**	**178**	P	**P**	**16 40 27.7**	**-1.3**
AS31	**Alice Springs**	**32.40**	**248**	P	**P**	**16 40 35.7**	**-1.3**
ASAR	**Alice Springs**	**32.40**	**248**	P	**P**	**16 40 35.6**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=75,slow=9.2,SNR=25						
ASAR				PcP	**PcP**	**16 43 23.2**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=86,slow=2.9,SNR=2.5						
BBOO	**Buckleboo**	**33.49**	**231**	P	**P**	**16 40 45.9**	**-0.5**
FORT	**Forrest**	**39.12**	**239**	P	**P**	**16 41 34.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.64**	**259**	P	**P**	**16 41 39.3**	**+0.3**
MJAR	**Matsushiro Arr**	**57.30**	**333**	P	**P**	**16 43 54.5**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=104,slow=3.8,SNR=4.8						
MJAR	**Matsushiro Arr**	**57.30**	**333**	IAmb	IAmb	16 44 02.3	
	comp=Z,3.0nm,1.0s						
MAJO	**Matsushiro**	**57.30**	**333**	P	**P**	**16 43 54.4**	**-0.3**
MAJO				IAmb	IAmb	16 43 57.3	
	comp=Z,4.8nm,0.9s						
MJB9	**Matsu-Tunnel**	**57.30**	**333**	P	**P**	**16 43 54.2**	**-0.5**
MJB9				IAmb	IAmb	16 43 57.3	
	comp=Z,5.1nm,1.0s						
KSRS	**Korea Array**	**63.11**	**326**	P	**P**	**16 44 34.6**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=145,slow=7.6,SNR=3.1						
VNDA	**Vanda**	**63.29**	**181**	P	**P**	**16 44 35.5**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=14,slow=6.0,SNR=3.6						
VNDA	**Vanda**	**63.29**	**181**	IAmb	IAmb	16 44 39.2	
	comp=Z,1.4nm,1.0s						
PETK	**Petropavlovsk-**	**67.57**	**354**	P	**P**	**16 45 03.4**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=175,slow=8.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**74.34**	**294**	P	**P**	**16 45 45.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=107,slow=4.8,SNR=2.7						
QSPA	**South Pole Qui**	**75.74**	**180**	P	**P**	**16 45 52.5**	**+0.3**
GAMB	**Gambell**	**79.57**	**10**	P	**P**	**16 46 13.5**	**+0.3**
GAMB				IAmb	IAmb	16 46 14.5	
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array**	**81.86**	**324**	P	**P**	**16 46 26.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=159,slow=8.0,SNR=4.1						
BILL	**Bilibino**	**82.10**	**360**	P	**P**	**16 46 26.9**	**+0.2**
BILL				IAmb	IAmb	16 46 27.8	
	comp=Z,5.0nm,0.7s						
CAST	**Castle Rocks**	**83.71**	**17**	P	**P**	**16 46 35.6**	**+0.4**
J20K	**Nowinta River**	**83.73**	**16**	P	**P**	**16 46 36.5**	**+1.3**
J20K				IAmb	IAmb	16 46 43.9	
	comp=Z,4.4nm,1.4s						
I21K	**Tanana**	**85.10**	**16**	P	**P**	**16 46 43.2**	**+1.1**
I21K				IAmb	IAmb	16 46 43.7	
	comp=Z,3.3nm,0.8s						
H21K	**Melozitna Rive**	**85.25**	**16**	P	**P**	**16 46 43.9**	**+0.9**
H21K				IAmb	IAmb	16 46 56.5	
	comp=Z,4.9nm,1.3s						
IMAR	**Indian Mountai**	**85.26**	**15**	P	**P**	**16 46 43.8**	**+0.9**
TABL	**Table Mountain**	**85.26**	**23**	P	**P**	**16 46 44.0**	**+0.6**
MLY	**Manley**	**85.32**	**17**	P	**P**	**16 46 43.9**	**+0.5**
BARN	**Barnard Glacie**	**85.47**	**22**	P	**P**	**16 46 43.3**	**-1.0**
NEA2	**Nenana**	**85.47**	**18**	P	**P**	**16 46 43.8**	**-0.2**
NEA2				IAmb	IAmb	16 46 53.1	
	comp=Z,2.2nm,1.2s						
WRH	**Wood River Hil**	**85.67**	**18**	P	**P**	**16 46 44.7**	**-0.3**
WRH				IAmb	IAmb	16 47 06.5	
	comp=Z,4.7nm,1.3s						
CCB	**Clear Creek Bu**	**85.89**	**18**	P	**P**	**16 46 45.6**	**-0.5**
CCB				IAmb	IAmb	16 46 46.2	
	comp=Z,1.6nm,0.6s						
HDA	**Harding Lake**	**85.97**	**18**	P	**P**	**16 46 46.4**	**-0.1**
HDA				IAmb	IAmb	16 46 47.3	
	comp=Z,2.9nm,0.6s						
MDM	**Murphy Dome**	**85.99**	**18**	P	**P**	**16 46 46.0**	**-0.6**
MDM				IAmb	IAmb	16 47 03.6	
	comp=Z,4.6nm,1.3s						
IL31		**86.25**	**18**	P	**P**	**16 46 47.0**	**-0.8**
IL31				IAmb	IAmb	16 47 14.5	
	comp=Z,2.5nm,1.1s						
ILAR	**Eielson Array**	**86.25**	**18**	P	**P**	**16 46 47.1**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=239,slow=5.1,SNR=35						
J25K	**Salcha River,**	**86.60**	**19**	P	**P**	**16 46 50.4**	**+0.7**
J25K				IAmb	IAmb	16 47 04.1	
	comp=Z,5.1nm,1.4s						
TOLK	**Toolik Lake Re**	**88.34**	**15**	P	**P**	**16 46 58.4**	**+0.4**
TOLK				IAmb	IAmb	16 47 25.4	
	comp=Z,2.6nm,1.4s						
MKAR	**Makanchi Array**	**96.56**	**316**	P	**P**	**16 47 36.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=99,slow=5.5,SNR=7.2						
ZALV	**Zalesovo Beam**	**96.76**	**324**	P	**P**	**16 47 36.0**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=115,slow=6.5,SNR=2.3						
ARCES	**ARCESS Array B**	**119.70**	**345**	PKP	**PKPdf**	**16 52 55.7**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=89,slow=2.3,SNR=14						
FINES	**FINESS Array B**	**125.14**	**338**	PKP	**PKPdf**	**16 53 05.9**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=96,slow=3.8,SNR=5.4						
FINES	**FINESS Array B**	**125.14**	**338**		**PKPdf**	**16 53 06.4**	**-0.3**
GERES	**GERESS Array B**	**139.04**	**333**	PKP	**PKiKP**	**16 53 36.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=19,slow=5.7,SNR=3.6						

IDC ***03*** *16:49:38.0±0.9, 14°.29S×166°.82E, h0km, mb4.1/15, mb1 4.1/16, mb1mx3.9/41, mbtmp4.1/16, ML3.7/1, Error ellipse: s-maj=30.0km s-min=16.1km az=106.0*
NEIC ***03*** *16:49:41.3±2.4, 14°.25S±0°.06×166°.9E±0°.1, h17km±4km, mb4.5/16, Error ellipse: s-maj=20.5km s-min=8.3km az=85.0*
ISC 03 16:49:43.7±0.6**, 14°.22S**±0°.07×**166°.8E**±0°.1**, h35**km**, n38,**
σ**1s.03**/34**, mb4.2**/20**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.27**	**162**		**Pn**	**16 50 04.3**	**-0.8**
KOUNC	**Koumac, New Ca**	**6.74**	**201**		**Pn**	**16 51 20.6**	**+0.4**
DZM	**Mont Dzumac**	**7.81**	**182**	Pn	**Pn**	**16 51 34.1**	**-0.9**
	1.1nm,0.3s,baz=345,slow=8.1,SNR=22						
DZM				Sn	**Sn**	**16 53 02.2**	**-0.1**
	3.6nm,0.3s,baz=149,slow=23,SNR=6.2						
ONTNC	**Ouen Toro**	**8.05**	**182**	Pn	**Pn**	**16 51 39.2**	**+1.0**
OUENC	**Ouen Island, N**	**8.15**	**180**	Pn	**Pn**	**16 51 41.4**	**+1.9**
PINNC	**Pines Island,**	**8.37**	**176**	Pn	Pn	16 51 45.3	+2.8
BKZ	**Black Stump Fm**	**26.27**	**163**	P	**P**	**16 55 16.6**	**+0.8**
BKZ				IAmb	IAmb	16 55 23.8	
	comp=Z,22nm,1.2s						
STKA	**Stephens Creek**	**28.98**	**228**	P	**P**	**16 55 38.0**	**-2.2**
	comp=Z,3.3nm,0.6s,baz=36,slow=8.3,SNR=9.8						
STKA	**Stephens Creek**	**28.98**	**228**	P	**P**	**16 55 40.9**	**+0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WB0	Warramunga Arr	31.45	255	P	P	16 56 00.4	-1.7
WB0				IAmb	IAmb	16 56 01.3	
	comp=Z,5.9nm,1.2s						
WB2	Warramunga Arr	31.50	255	P	P	16 56 00.8	-1.8
WB2				IAmb	IAmb	16 56 06.2	
	comp=Z,6.4nm,1.2s						
WRA	Warramunga Arr	31.52	255	P	P	16 56 01.2	-1.6
	comp=Z,0.9nm,0.9s,baz=86,slow=9.7,SNR=5.4						
AS31	Alice Springs	32.44	248	P	P	16 56 09.4	-1.4
ASAR	Alice Springs	32.44	248	P	P	16 56 09.3	-1.5
	comp=Z,1.1nm,0.9s,baz=71,slow=9.8,SNR=22						
BBOO	Buckleboo	33.54	231	P	P	16 56 20.9	+0.6
FORT	Forrest	39.17	239	P	P	16 57 08.4	0.0
FITZ	Fitzroy Crossi	39.67	259	P	P	16 57 12.4	-0.2
	comp=Z,1.1nm,0.8s,baz=52,slow=5.8,SNR=2.6						
MJAR	Matsushiro Arr	57.25	333	P	P	16 59 28.2	+0.4
	comp=Z,5.9nm,1.2s,baz=132,slow=3.7,SNR=4.6						
MJAR	Matsushiro Arr	57.25	333	IAmb	IAmb	16 59 43.8	
	comp=Z,7.6nm,1.4s						
VNDA	Vanda	63.35	181	P	P	17 00 08.8	-0.1
	comp=Z,0.7nm,0.4s,baz=24,slow=3.1,SNR=7.0						
VNDA	Vanda	63.35	181	IAmb	IAmb	17 00 15.9	
	comp=Z,1.8nm,0.8s						
USRK	Ussuriysk Ar.	66.23	333	P	P	17 00 28.7	+0.6
	comp=Z,2.2nm,0.9s,baz=164,slow=8.9,SNR=6.1						
PETK	Petropavlovsk-	67.51	354	P	P	17 00 35.1	-1.0
	comp=Z,8.0nm,1.0s,baz=212,slow=16,SNR=4.5						
CMAR	Chiang Mai Arr	74.33	294	P	P	17 01 19.9	+1.7
	comp=Z,1.1nm,1.0s,baz=135,slow=3.6,SNR=6.9						
QSPA	South Pole Qui	75.80	180	P	P	17 01 26.5	+0.5
SEY	Seymchan	77.73	353	P	P	17 01 36.6	0.0
	comp=Z,1.7nm,0.8s,baz=152,slow=7.2,SNR=6.7						
YAK	Yakutsk	81.42	343	P	P	17 01 57.0	+0.4
	comp=Z,1.3nm,0.3s,baz=320,slow=1.3,SNR=6.6						
YAK	Yakutsk	81.42	343	P	P	17 01 56.7	0.0
ULN	Ulaanbaatar	81.47	324	P	P	17 01 57.2	-0.2
ULN				IAmb	IAmb	17 01 59.6	
	comp=Z,6.1nm,1.4s						
SONM	Songino Array	81.83	324	P	P	17 02 00.3	+0.9
	comp=Z,0.7nm,0.9s,baz=134,slow=4.3,SNR=6.7						
SONM	Songino Array	81.83	324	IAmb	IAmb	17 02 00.5	
	comp=Z,1.9nm,1.2s						
BILL	Bilibino	82.04	360	P	P	17 02 00.0	+0.2
BILL				IAmb	IAmb	17 02 01.1	
	comp=Z,4.9nm,1.1s						
ILAR	Eielson Array	86.19	18	P	P	17 02 20.4	-0.6
	comp=Z,0.8nm,0.7s,baz=242,slow=5.2,SNR=6.8						
TIXI	Tiksi	89.39	349	P	P	17 02 35.8	-0.4
	comp=Z,0.9nm,0.9s,baz=90,slow=24,SNR=4.2						
TIXI	Tiksi	89.39	349	IAmb	IAmb	17 02 36.8	
	comp=Z,4.9nm,1.4s						
MKAR	Makanchi Array	96.53	316	P	P	17 03 10.2	+0.4
	comp=Z,0.4nm,0.8s,baz=105,slow=8.9,SNR=5.0						
ARCES	ARCESS Array B	119.65	345	PKP	PKiKP	17 08 28.8	-0.7
	comp=Z,1.2nm,0.7s,baz=70,slow=2.5,SNR=6.7						
FINES	FINESS Array B	125.09	338	PKP	PKiKP	17 08 39.6	-0.8
	comp=Z,1.0nm,0.8s,baz=114,slow=4.6,SNR=5.6						

IDC 03 16:51:21.6±71.0, 13°.11S×167°.63E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.3/42, mbtmp3.7/3, Error ellipse: s-maj=1208.0km s-min=132.1km az=62.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	30.32	228	P	P	16 57 34.9	-0.1
	1.1nm,0.5s,baz=64,slow=9.6,SNR=3.0						
WRA	Warramunga Arr	32.59	253	P	P	16 57 55.4	+0.3
	0.3nm,0.6s,baz=87,slow=10,SNR=1.8						
ASAR	Alice Springs	33.60	247	P	P	16 58 03.7	-0.3
	0.5nm,0.6s,baz=73,slow=9.4,SNR=6.0						

*IDC **03** 16:53:08.8±0.5, 14°.25S×166°.87E, h0km, mb4.5/26, mb1 4.5/29, mb1mx4.4/44, mbtmp4.5/29, ML2.2/1, MS3.9/10, Ms1 3.9/10, ms1mx3.5/45, Error ellipse: s-maj=17.4km s-min=13.6km az=108.0*

*BJI **03** 16:53:13.1±0.0, 13°.89S×166°.89E, h28km, mb4.7/39, mB4.9/25, Ms4.5/4, Ms7 4.1/3*

*NEIC **03** 16:53:14.5±1.6, 14°.17S±0°.04×166°.81E±0°.07, h35km±1km, mb4.7/73, Error ellipse: s-maj=12.0km s-min=7.4km az=260.0*

*NOU **03** 16:53:44.3, 16°.57S×166°.87E, h0km, MLv4.6/12, Vanuatu Islands*

ISC 03 16:53:15.2±0.3, 14°.23S±0°.05×166°.69E±0°.06, h43km, n188, σ1s14/184, mb4.7/66, MS3.8/11, 3C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.30	158	Pn	Pn	16 53 35.0	-2.0
DVP	Devils Point	3.76	158	P	Pn	16 54 15.2	+4.5
RTV	Rentapao	3.91	155	P	Pn	16 54 18.6	+5.8
LIFNC	LIFOU	6.53	175	Pn	Pn	16 54 48.9	+0.2
LIFNC	LIFOU	6.53	175	P	Pn	16 54 49.4	+0.7
KOUNC	Koumac, New Ca	6.69	200	Pn	Pn	16 54 51.4	+0.4
MARNC	Mare, Loyalty	7.32	170		Pn	16 54 59.1	-0.4
MARNC	Mare, Loyalty	7.32	170	P	Pn	16 55 00.8	+1.2
YATNC	Mamie plateau,	7.79	179	P	Pn	16 55 06.6	+0.6
DZM	Mont Dzumac	7.80	182	Pn	Pn	16 55 05.4	-0.8
	9.6nm,0.3s,baz=321,slow=22,SNR=17						
DZM				Sn	Sn	16 56 32.4	-0.9
	1.5nm,0.3s,baz=311,slow=23,SNR=1.5						
DZM				LR	LR	16 57 57.9	
	comp=Z,1μm,18.3s,baz=33,slow=37						
DZM	Mont Dzumac	7.80	182	*e*Pn	Pn	16 55 06.0	-0.3
	36nm,0.3s						
DZM				*e*Sn	Sn	16 56 31.0	-2.3
	20nm,0.3s						
DZM				*e*LR	LR	16 56 43.8	
	comp=Z,873nm,24.6s						
DZM	Mont Dzumac	7.80	182	Pn	Pn	16 55 05.8	-0.4
DZM	Mont Dzumac	7.80	182	P	Pn	16 55 07.3	+1.0
NOUC	Port Laguerre	7.83	183	P	Pn	16 55 08.3	+1.7
ONTNC	Ouen Toro	8.03	182	Pn	Pn	16 55 09.5	+0.1
ONTNC	Ouen Toro	8.03	182	P	Pn	16 55 10.3	+0.9
OUENC	Ouen Island, N	8.14	179	Pn	Pn	16 55 11.3	+0.4
OUENC	Ouen Island, N	8.14	179	P	Pn	16 55 11.9	+1.0
HNR	Honiara	8.15	305	Pn	Pn	16 55 10.9	-0.1
	18nm,0.3s,baz=61,slow=2.5,SNR=2.9						
HNR				Sn	Sn	16 56 40.9	-0.9
	18nm,0.3s,baz=264,slow=5.1,SNR=2.2						
PINNC	Pines Island,	8.36	175		Pn	16 55 14.4	+0.4
PINNC	Pines Island,	8.36	175	P	Pn	16 55 15.0	+1.1
KRVT	Keravat (AS076	17.50	303	LR	LR	17 04 37.6	
	comp=Z,394nm,19.3s,baz=262,slow=39						
EIDS	Eidsvold	18.38	231	P	Pn	16 57 27.8	+0.9
PMG	Port Moresby	19.71	282	P	Pn	16 57 43.8	+0.9
	0.2nm,0.3s,baz=98,slow=7.1,SNR=1.9						
CTA	Charters Tower	20.37	251	P	P	16 57 48.7	+0.3
	4.6nm,0.8s,baz=61,slow=10,SNR=3.5						
CTA				LR	LR	17 04 54.0	
	comp=Z,404nm,18.1s,baz=84,slow=34						
AFI	Afiamalu	20.89	92	LR	LR	17 04 05.1	
	comp=Z,303nm,18.8s,baz=262,slow=32						
AFI				ScP	ScP	17 05 36.2	+1.5
	12nm,0.7s,baz=206,slow=22,SNR=2.1						
AFI	Afiamalu	20.89	92	Pn	P	16 57 54.0	0.0
URZ	Urewera	25.65	161	P	P	16 58 40.0	-0.9
	14nm,1.2s,baz=67,slow=9.5,SNR=3.2						
URZ				LR	LR	17 07 20.4	
	comp=Z,278nm,18.3s,baz=24,slow=33						
URZ	Urewera	25.65	161	P	P	16 58 41.5	+0.6
URZ				IAmb	IAmb	16 58 48.9	
	comp=Z,25nm,0.9s						
BKZ	Black Stump Fm	26.30	163	P	P	16 58 46.5	-0.3
BKZ				IAmb	IAmb	16 58 54.4	
	comp=Z,16nm,0.9s						
JAY	Jayapura	28.18	292	LR	LR	17 09 31.5	
	comp=Z,176nm,18.3s,baz=112,slow=35						
LTZ	Lake Taylor	28.85	171	P	P	16 59 10.3	+0.7
STKA	Stephens Creek	28.90	228	P	P	16 59 11.7	+1.5
	comp=Z,6.8nm,0.4s,baz=48,slow=9.4,SNR=37						
STKA				PcP	PcP	17 02 18.6	-0.1
	comp=Z,4.0nm,0.8s,baz=77,slow=3.2,SNR=3.9						
STKA	Stephens Creek	28.90	228	P	P	16 59 11.4	+1.2
RPZ	Rata Peaks	29.62	174	LR	LR	17 08 59.3	
	comp=Z,231nm,20.6s,baz=344,slow=32						
WRA	Warramunga Arr	31.41	255	P	P	16 59 31.8	-0.8
	comp=Z,1.1nm,0.5s,baz=86,slow=9.6,SNR=14						
WRA				LR	LR	17 11 45.6	
	comp=Z,338nm,19.3s,baz=44,slow=35						
WRA	Warramunga Arr	31.41	255	IAmb	IAmb	16 59 39.2	
	comp=Z,0.3nm,1.1s						
AS31	Alice Springs	32.33	248	P	P	16 59 39.9	-0.7
ASAR	Alice Springs	32.33	248	P	P	16 59 39.9	-0.8
	comp=Z,2.0nm,0.6s,baz=74,slow=9.5,SNR=30						
ASAR				ScP	ScP	17 06 12.9	+4.5
	comp=Z,0.6nm,0.9s,baz=95,slow=3.5,SNR=3.4						
ASAR	Alice Springs	32.33	248	P	P	16 59 40.0	-0.6
BBOO	Buckleboo	33.45	231	P	P	16 59 50.8	+0.6
MTN	Manton Dam	34.58	268	P	P	17 00 00.7	+0.5
MTN				IAmb	IAmb	17 00 12.5	
	comp=Z,8.4nm,0.8s						
KNRA	Kununurra	36.64	263	P	P	17 00 18.3	+0.4
KNRA				IAmb	IAmb	17 00 29.1	
	comp=Z,17nm,0.9s						
FORT	Forrest	39.07	238	P	P	17 00 38.6	+0.3
FITZ	Fitzroy Crossi	39.56	259	P	P	17 00 42.1	-0.4
	comp=Z,3.0nm,0.8s,baz=133,slow=5.6,SNR=7.3						
FITZ	Fitzroy Crossi	39.56	259	P	P	17 00 42.8	+0.3
FITZ				IAmb	IAmb	17 00 53.3	
	comp=Z,10nm,0.9s						
PPT2	Papeete2	42.12	101	*e*S	S	17 07 20.4	-0.4
	comp=Z,176nm,27.8s						
PPT2				*e*LR	LR	17 12 44.8	
	comp=Z,234nm,24.8s						
BATI	Baumata	42.20	270	P	P	17 01 03.0	-1.4
	comp=Z,41nm,1.2s						
TBI	Tubuai	42.35	109	*e*S	S	17 07 24.8	+0.9
	comp=Z,88nm,27.0s						
TBI				*e*LR	LR	17 12 53.9	
	comp=Z,195nm,24.5s						
MORW	Morawa	48.98	244	P	P	17 01 57.5	-0.3
TAOE	Nuku Hiva Isla	52.27	90	*e*LR	LR	17 17 27.1	
	comp=Z,200nm,23.2s						
STKI	Sintang	56.43	280	P	P	17 03 05.3	+12
MJAR	Matsushiro Arr	57.21	333	P	P	17 02 57.8	-0.4
	comp=Z,3.6nm,0.6s,baz=105,slow=4.2,SNR=9.6						
MJAR	Matsushiro Arr	57.21	333	P	P	17 02 57.8	-0.4
MJB9	Matsu-Tunnel	57.22	333	P	P	17 02 58.1	-0.1
MJB9				IAmb	IAmb	17 03 14.4	
	comp=Z,18nm,1.4s						
LEM	Lembang	58.42	271	LR	LR	17 29 05.0	
	comp=Z,116nm,18.2s,baz=67,slow=37						
KASI	Kota Agung	61.73	271	P	P	17 03 41.6	+12
ASAJ	Asahikawa	62.09	341	P	P	17 03 32.5	+0.9
	comp=Z,6.9nm,0.6s,baz=174,slow=8.8,SNR=10						
KSRS	Korea Array	63.02	326	P	P	17 03 38.4	+0.5
	comp=Z,2.2nm,0.8s,baz=138,slow=7.0,SNR=7.6						
VNDA	Vanda	63.34	181	P	P	17 03 40.9	+1.4
	comp=Z,5.4nm,0.7s,baz=0.3,slow=10.0,SNR=2.5						
VNDA	Vanda	63.34	181	IAmb	IAmb	17 03 46.5	
	comp=Z,6.7nm,0.8s						
SBA	Scott Base	63.63	180	P	P	17 03 41.3	0.0
CASY	Casey	63.77	202	P	P	17 03 43.2	+0.8
NJ2	Nanjing	64.94	316	*e*P	P	17 03 53.2	+2.6
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
USA0B	Ussuriysk Arra	66.20	333	P	P	17 03 59.8	+1.3
USA0B				IAmb	IAmb	17 04 00.6	
	comp=Z,9.6nm,0.9s						
USRK	Ussuriysk Ar.	66.20	333	P	P	17 04 00.2	+1.8
	comp=Z,5.1nm,0.8s,baz=134,slow=5.5,SNR=12						
USRK	Ussuriysk Ar.	66.20	333	P	P	17 03 59.8	+1.3
BKNI	Bangkinang	66.52	277	P	P	17 03 59.0	-2.2
PEA0B	Petropavlovsk-	67.51	354	P	P	17 04 07.0	+0.3
PETK	Petropavlovsk-	67.51	354	P	P	17 04 07.2	+0.5
	comp=Z,6.0nm,0.9s,baz=183,slow=12,SNR=5.2						
PETK	Petropavlovsk-	67.51	354	P	P	17 04 06.1	-0.6
CN2	Changchun	68.94	329	*e*P	P	17 04 16.6	+0.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BNX	BinXian	69.44	332	⇓P	P	17 04 19.7	+0.8
BNX				pmax	pmax		
	comp=Z,13nm,0.5s						
BNX				pmax	pmax		
	comp=Z,150nm,4.7s						
KLR	Kul'dur	70.33	337	P	P	17 04 25.6	+1.3
	comp=Z,2.5nm,0.8s,baz=132,slow=6.7,SNR=7.8						
ENH	Enshi	70.62	310	P	P	17 04 24.2	-2.3
ENH				IAmb	IAmb	17 04 43.5	
	comp=Z,11nm,0.9s						
XAN	Xi'an	72.95	313	P	P	17 04 41.1	+0.7
XAN				pP	pP	17 04 51.9	-0.2
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,73nm,4.1s						
FALS	False Pass	73.34	18	P	P	17 04 41.4	-0.7
KMI	Kunming	73.57	302	⇑P	P	17 04 46.5	+2.0
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
XLT	XiLinHaoTe	73.98	324	*e*P	P	17 04 48.4	+2.0
XLT				pP	PcP	17 05 00.2	-1.3
XLT				sP	pwP	17 05 03.4	+1.1
XLT				pmax	pmax		
	comp=Z,13nm,1.0s						
XLT				pmax	pmax		
	comp=Z,43nm,3.6s						
CM31	Chiang Mai Arr	74.24	294	P	P	17 04 47.4	-0.9
CM31				IAmb	IAmb	17 04 51.2	
	comp=Z,9.0nm,1.3s						
CMAR	Chiang Mai Arr	74.24	294	P	P	17 04 50.3	+2.0
	comp=Z,3.0nm,1.0s,baz=113,slow=4.0,SNR=12						
CMAR	Chiang Mai Arr	74.24	294	P	P	17 04 46.8	-1.5
CHTO	Chiang Mai	74.37	294	P	P	17 04 47.4	-1.7
MA2	Magadan	74.68	352	P	P	17 04 49.9	-0.1
	comp=Z,3.7nm,0.6s,baz=154,slow=4.7,SNR=5.2						
MA2	Magadan	74.68	352	IAmb	IAmb	17 04 50.9	
	comp=Z,8.6nm,1.0s						
HHC	Hu-ho-hao-te	74.85	320	*e*P	P	17 04 52.2	+0.7
HHC				pmax	pmax		
	comp=Z,24nm,1.1s						
HHC				pmax	pmax		
	comp=Z,81nm,4.3s						
PZH	PanZhiHua	74.96	303	P	P	17 04 53.3	+0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,70nm,6.2s						
HIA	Hailar	75.58	330	P	P	17 04 53.9	-1.5
HIA				IAmb	IAmb	17 04 58.0	
	comp=Z,8.3nm,0.7s						
SEY	Seymchan	77.73	353	P	P	17 05 07.7	+0.5
	comp=Z,7.5nm,0.9s,baz=143,slow=5.0,SNR=27						
GAMB	Gambell	79.53	10	P	P	17 05 17.3	+0.3
N19K	Bonanza Creek	80.95	18	P	P	17 05 25.9	+1.0
CNPM	China Poot	80.99	20	P	P	17 05 25.1	+0.1
ANM	Nome	81.40	12	P	P	17 05 27.0	-0.1
YAK	Yakutsk	81.40	343	P	P	17 05 27.2	+0.1
	comp=Z,7.8nm,0.5s,baz=11,slow=0.4,SNR=15						
YAK	Yakutsk	81.40	343	P	P	17 05 27.2	+0.1
ULN	Ulaanbaatar	81.41	324	P	P	17 05 27.6	-0.2
SONM	Songino Array	81.77	324	P	P	17 05 30.1	+0.4
	comp=Z,1.9nm,0.9s,baz=153,slow=6.0,SNR=11						
SONM				LR	LR	17 43 49.2	
	comp=Z,16nm,18.1s,baz=114,slow=37						
SONM	Songino Array	81.77	324	P	P	17 05 30.0	+0.4
GTA	Gaotai	81.92	314	⇑P	P	17 05 32.1	+1.5
GTA				pP	PcP	17 05 38.0	+1.9
GTA				sP	pP	17 05 43.7	+1.2
GTA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BILL	Bilibino	82.05	360	P	P	17 05 29.3	-1.1
TTA	Tatalina	82.20	16	P	P	17 05 32.7	+1.2
TTA				IAmb	IAmb	17 05 49.7	
	comp=Z,10nm,1.5s						
PWL	Port Wells	82.95	20	P	P	17 05 34.8	-0.6
PWL				IAmb	IAmb	17 05 39.5	
	comp=Z,9.0nm,0.8s						
K20K	Telida	83.08	17	P	P	17 05 36.7	+0.7
CAST	Castle Rocks	83.69	17	P	P	17 05 38.0	-1.1
CAST				IAmb	IAmb	17 05 39.9	
	comp=Z,6.2nm,0.8s						
KTH	Kantishna Hill	84.13	18	P	P	17 05 40.6	-0.8
KTH				IAmb	IAmb	17 05 56.2	
	comp=Z,5.3nm,0.8s						
TRF	Thorofare Moun	84.24	18	P	P	17 05 41.5	-0.6
TRF				IAmb	IAmb	17 06 05.5	
	comp=Z,6.1nm,1.0s						
BPAW	Bear Paw Mtn.	84.53	17	P	P	17 05 42.9	-0.5
WAX	Waxell Ridge	84.62	23	P	P	17 05 43.6	-0.3
WAX				IAmb	IAmb	17 06 09.0	
	comp=Z,10nm,1.2s						
RND	Reindeer	84.64	18	P	P	17 05 43.5	-0.5
MCK	McKinley	84.86	18	P	P	17 05 44.4	-0.7
VRDI	Verde Repeater	84.92	22	P	P	17 05 45.5	-0.1
VRDI				IAmb	IAmb	17 05 56.6	
	comp=Z,7.5nm,1.5s						
GLB	Gilahina Butte	84.93	22	P	P	17 05 44.8	-0.7
I21K	Tanana	85.07	16	P	P	17 05 46.3	+0.3
H21K	Melozitna Rive	85.22	16	P	P	17 05 46.9	+0.1
H21K				IAmb	IAmb	17 05 48.6	
	comp=Z,4.8nm,0.9s						
IMAR	Indian Mountai	85.24	15	P	P	17 05 47.0	+0.2
TABL	Table Mountain	85.25	23	P	P	17 05 47.0	-0.3
TABL				IAmb	IAmb	17 06 08.7	
	comp=Z,4.5nm,0.8s						
MLY	Manley	85.30	17	P	P	17 05 47.2	0.0
MLY				IAmb	IAmb	17 05 48.6	
	comp=Z,6.7nm,1.4s						
NEA2	Nenana	85.45	18	P	P	17 05 47.6	-0.4
NEA2				IAmb	IAmb	17 05 48.1	
	comp=Z,11nm,1.4s						
BARN	Barnard Glacie	85.46	22	P	P	17 05 48.3	0.0
BARN				IAmb	IAmb	17 06 15.0	
	comp=Z,8.4nm,1.3s						
WRH	Wood River Hil	85.65	18	P	P	17 05 47.9	-1.0
WRH				IAmb	IAmb	17 05 49.3	
	comp=Z,4.2nm,0.8s						
I23K	Minto, Yukon-K	85.78	17	P	P	17 05 48.8	-0.8
CCB	Clear Creek Bu	85.87	18	P	P	17 05 49.0	-1.0
CCB				IAmb	IAmb	17 05 50.1	
	comp=Z,3.4nm,0.6s						
HDA	Harding Lake	85.95	18	P	P	17 05 49.8	-0.6
MDM	Murphy Dome	85.97	18	P	P	17 05 49.4	-1.1
MDM				IAmb	IAmb	17 05 50.8	
	comp=Z,4.8nm,0.9s						
RIDG	Independent Ri	86.15	19	P	P	17 05 51.0	-0.5
RIDG				IAmb	IAmb	17 06 17.1	
	comp=Z,3.6nm,0.8s						
IL31		86.23	18	P	P	17 05 50.7	-1.1
IL31				IAmb	IAmb	17 05 52.0	
	comp=Z,4.2nm,0.7s						
ILAR	Eielson Array	86.23	18	P	P	17 05 51.0	-0.9
	comp=Z,3.3nm,0.6s,baz=239,slow=5.2,SNR=54						
ILAR				PKKPbc	PKKPdf	17 23 49.9	+3.3
	comp=Z,0.6nm,1.0s,baz=29,slow=1.9,SNR=4.2						
ILAR	Eielson Array	86.23	18	P	P	17 05 50.8	-1.0
DOT	Dot Lake	86.34	20	P	P	17 05 52.1	-0.3
J25K	Salcha River,	86.58	19	P	P	17 05 53.0	-0.6
J25K				IAmb	IAmb	17 05 54.5	
	comp=Z,3.1nm,0.6s						
SCRK	Sand Creek	86.59	20	P	P	17 05 53.5	-0.3
SCRK				IAmb	IAmb	17 06 00.7	
	comp=Z,4.5nm,1.1s						
COLD	Coldfoot	87.10	15	P	P	17 05 56.6	+0.6
COLD				IAmb	IAmb	17 05 58.6	
	comp=Z,3.8nm,1.0s						
BELA	Belgrano 2	87.26	176	P	P	17 05 55.4	-1.4
NVAR	Mina Array Bea	87.37	49	P	P	17 05 57.7	-0.6
	comp=Z,0.5nm,0.7s,baz=236,slow=6.4,SNR=3.2						
EGAK	Eagle	88.04	20	P	P	17 05 59.9	-0.6
EGAK				IAmb	IAmb	17 06 25.7	
	comp=Z,9.7nm,1.4s						
TOLK	Toolik Lake Re	88.32	15	P	P	17 06 02.0	+0.1
TOLK				IAmb	IAmb	17 06 04.5	
	comp=Z,5.5nm,1.1s						
BMAR	Burnt Mountain	88.77	17	P	P	17 06 04.3	+0.3
SYO	Syowa Base	89.02	197	⇑*e*P	P	17 06 04.0	-1.2
SYO	Syowa Base	89.02	197	⇓*e*pP	pP	17 06 15.0	-2.5
TIXI	Tiksi	89.38	349	P	P	17 06 06.3	-0.4
	comp=Z,3.2nm,0.9s,baz=268,slow=22,SNR=16						
TIXI	Tiksi	89.38	349	P	P	17 06 05.7	-1.0
TIXI				IAmb	IAmb	17 06 11.1	
	comp=Z,5.1nm,1.1s						
WMQ	Urumqi	91.99	315	*e*P	P	17 06 20.5	+0.9
TROLL	Troll, Antarti	93.31	185	P	P	17 06 24.8	-0.5
SNAA	Sanae	94.01	183	P	P	17 06 28.3	-0.2
VNA3	Neumayer Olymp	94.70	181	P	P	17 06 31.4	-0.2
VNA2	Neumayer--Watz	94.95	182	P	P	17 06 32.9	+0.2
	baz=178,slow=5.0						
VNA1	Neumayer--Stat	95.25	182	P	P	17 06 33.9	-0.2
MK31	Makanchi Array	96.46	317	P	P	17 06 38.7	-1.3
MK31				IAmb	IAmb	17 06 41.5	
	comp=Z,3.0nm,1.2s						
MKAR	Makanchi Array	96.46	317	P	P	17 06 40.7	+0.7
	comp=Z,1.3nm,0.7s,baz=91,slow=7.2,SNR=12						
MKAR	Makanchi Array	96.46	317	P	P	17 06 38.9	-1.1
TXAR	Lajitas Array	96.53	62	P	P	17 06 41.3	+0.4
	comp=Z,0.2nm,0.8s,baz=185,slow=7.2,SNR=2.7						
ZALV	Zalesovo Beam	96.67	324	P	P	17 06 40.3	-0.4
	comp=Z,1.8nm,0.7s,baz=124,slow=5.4,SNR=8.0						
ZALV	Zalesovo Beam	96.67	324	P	P	17 06 39.6	-1.1
MAKZ	Makanchi	96.67	316	P	P	17 06 39.8	-1.2
MAKZ				IAmb	IAmb	17 06 42.4	
	comp=Z,4.9nm,1.3s						
YKA	Yellowknife Ar	97.36	27	P	P	17 06 42.7	-0.9
	comp=Z,0.2nm,0.4s,baz=256,slow=4.6,SNR=4.1						
YKA				PKiKP	PKiKP	17 11 17.8	-0.7
	comp=Z,0.1nm,0.6s,baz=241,slow=1.4,SNR=1.5						
NRIK	Noril'sk	99.42	339	P	Pdif	17 06 51.9	-0.8
	comp=Z,0.8nm,0.3s,baz=102,slow=3.8,SNR=3.9						
RES	Resolute Bay	105.86	16	PKiKP	PKiKP	17 11 32.7	-0.8
	comp=Z,0.4nm,0.6s,baz=212,slow=4.9,SNR=5.3						
ARCES	ARCESS Array B	119.64	345	PKP	PKPdf	17 11 59.8	-0.1
	comp=Z,1.6nm,0.4s,baz=82,slow=2.0,SNR=21						
SCHQ	Schefferville	122.19	33	PKP	PKPdf	17 12 03.1	-2.1
	comp=Z,2.2nm,0.7s,baz=257,slow=3.9,SNR=4.6						
FINES	FINESS Array B	125.06	338	PKP	PKPdf	17 12 10.3	-0.1
	comp=Z,4.8nm,0.9s,baz=31,slow=4.4,SNR=10						
NACGM	Naroch	128.90	331	*e*PKP	PKPdf	17 12 12.0	-6.0
NB2	NORSAR Subarra	130.00	345	PKPdf	PKPdf	17 12 20.1	+0.1
	comp=Z,4.9nm,1.4s,baz=27,slow=1.8						
NOA	NORSAR Array B	130.00	345	PKP	PKiKP	17 12 20.4	-0.3
	comp=Z,1.0nm,0.7s,baz=97,slow=1.7,SNR=4.2						
AKASG	Malin Array Be	130.01	326	PKP	PKiKP	17 12 20.8	-0.2
	comp=Z,0.4nm,0.5s,baz=48,slow=2.2,SNR=6.9						
AKASG				SKP		17 15 52.1	
	comp=Z,0.1nm,0.3s,baz=44,slow=4.7,SNR=4.1						
BRTR	Keskin Array B	131.77	311	PKhKP	PKPpre	17 12 21.5	
	comp=Z,0.3nm,0.5s,baz=143,slow=11,SNR=4.0						
BRTR				SKP		17 16 00.2	
	comp=Z,1.2nm,0.9s,baz=96,slow=5.0,SNR=5.7						
BDFB	Brasilia	134.63	130	PKP	PKPdf	17 12 30.6	+0.5
	comp=Z,2.0nm,0.6s,baz=264,slow=3.9,SNR=5.0						
CRVS	Cervenica-Dubn	135.17	328	*e*PKP	PKiKP	17 12 31.8	+0.2
KECS	Kecovo	135.94	328	*e*PKP	PKiKP	17 12 33.9	+0.8
CLL	Collm	137.38	336	*e*PKPdf	PKPdf	17 12 34.0	-0.1
CLL				*e*sPKPdf	sPKPdf	17 12 52.0	+0.7
CLL				*e*SKPdf	SKPdf	17 16 06.0	+0.3
CLL				*e*pSKPdf		17 16 20.0	
PRU	Pruhonice	137.74	333	*e*PKPDF	PKiKP	17 12 37.9	+1.2
CONA	Conrad Observa	138.62	330	*e*P	PKiKP	17 12 38.9	+0.2
	comp=Z,1.8nm,0.8s						
CKRC	Cesky Krumlov	138.70	332	*e*PKPDF	PKiKP	17 12 40.6	+1.8
KHC	Kasperske Hory	138.79	333	*e*PKPDF	PKiKP	17 12 40.9	+1.9
GERES	GERESS Array B	138.95	333	PKhKP	PKPpre	17 12 33.3	
	comp=Z,0.1nm,0.3s,baz=60,slow=6.3,SNR=3.8						
GERES				SKP		17 16 16.5	
	comp=Z,0.2nm,0.3s,baz=45,slow=1.5,SNR=1.6						
MOA	Molln	139.43	331	*e*P	PKiKP	17 12 40.5	+0.1
	comp=Z,4.9nm,1.2s						
SOKA	Soboth	139.89	330	*e*P	PKPdf	17 12 39.6	+0.6
	comp=Z,2.6nm,1.0s						
KBA	Koelnbreinsper	140.42	331	*e*P	PKiKP	17 12 42.0	-0.5
	comp=Z,2.7nm,0.8s						
WATA	Walderalm	141.03	333	*e*P	PKiKP	17 12 43.2	-0.6
	comp=Z,5.6nm,1.3s						
ABTA	Abfaltersbach	141.05	332	*e*P	PKPdf	17 12 41.5	+0.4
	comp=Z,2.7nm,0.9s						
WTTA	Wattenberg	141.06	333	*e*P	PKiKP	17 12 43.7	-0.1
	comp=Z,5.2nm,1.1s						
MOTA	Moosalm	141.23	333	*e*P	PKiKP	17 12 44.0	-0.1
	comp=Z,5.8nm,1.2s						
FETA	Feichten	141.64	333	*e*P	PKPdf	17 12 42.6	+0.4
	comp=Z,3.8nm,0.9s						
RCBR	Riachuelo	150.00	130	PKPbc	PKPbc	17 13 00.9	-1.3
	comp=Z,7.3nm,0.6s,baz=357,slow=6.2,SNR=8.5						
KEST	Kesra	150.48	321	PKPbc	PKiKP	17 13 03.5	0.0
	comp=Z,12nm,0.7s,baz=212,slow=0.6,SNR=13						
KEST	Kesra	150.48	321		PKPbc	17 13 02.4	-0.4
ESDC	Sonseca Array	153.36	344	PKPbc	PKiKP	17 13 09.3	0.0
	comp=Z,2.8nm,1.0s,baz=360,slow=2.5,SNR=7.0						
TORD	Torodi Ar. Bea	165.38	268	PKP	PKPdf	17 13 15.2	-0.8
	comp=Z,0.9nm,1.0s,baz=130,slow=2.3,SNR=3.1						
TORD				PKPab	PKPab	17 14 15.2	+1.1
	comp=Z,1.8nm,1.1s,baz=102,slow=2.8,SNR=4.5						
TORD	Torodi Ar. Bea	165.38	268		PKPab	17 14 14.6	+0.5

*IDC **03** 16:54:39.1±2.0, 14°.27S×166°.99E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.7/42, mbtmp4.0/6, Error ellipse: s-maj=110.1km s-min=27.0km az=139.0*

*NEIC **03** 16:54:44.5±1.0, 14°.2S±0°.1×167°.02E±0°.06, h35km±2km, mb4.4/8, Error ellipse: s-maj=19.5km s-min=7.2km az=158.0*

ISC 03 16:54:44.6±0.8**, 14°.3S**±0°.1×**166°.9E**±0°.2**, h35**km**, n17, σ0ˢ.87**/16**, mb4.1**/10**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.19	167	Pn	Pn	16 55 04.9	+0.1
STKA	Stephens Creek	29.03	229	P	P	17 00 42.3	+0.8
	2.7nm,0.7s,baz=41,slow=13,SNR=1.9						
STKA	Stephens Creek	29.03	229	IAmb	IAmb	17 00 48.7	
	comp=Z,4.1nm,1.5s						
WB0	Warramunga Arr	31.54	255	P	P	17 01 02.8	-1.1
WB0				IAmb	IAmb	17 01 30.2	
	comp=Z,4.2nm,1.1s						
WRA	Warramunga Arr	31.61	255	P	P	17 01 03.2	-1.2
	comp=Z,1.0nm,0.8s,baz=84,slow=8.7,SNR=1.6						
AS31	Alice Springs	32.52	248	P	P	17 01 12.5	+0.1
ASAR	Alice Springs	32.52	248	P	P	17 01 12.3	-0.2
	comp=Z,1.4nm,0.9s,baz=73,slow=9.5,SNR=1.5						
BBOO	Buckleboo	33.59	231	P	P	17 01 21.2	-0.4
FITZ	Fitzroy Crossi	39.77	259	P	P	17 02 14.1	-0.3
FITZ				IAmb	IAmb	17 02 40.5	
	comp=Z,5.9nm,1.2s						
BILL	Bilibino	82.10	360	P	P	17 07 01.0	-0.1
IL31		86.21	18	P	P	17 07 21.1	-0.8
IL31				IAmb	IAmb	17 07 22.6	
	comp=Z,3.6nm,1.1s						
ILAR	Eielson Array	86.21	18	P	P	17 07 21.3	-0.7
	comp=Z,0.9nm,0.7s,baz=237,slow=5.1,SNR=7.5						
TOLK	Toolik Lake Re	88.31	15	P	P	17 07 32.8	+0.6
TOLK				IAmb	IAmb	17 07 57.0	
	comp=Z,4.3nm,1.3s						
MKAR	Makanchi Array	96.65	316	P	P	17 08 13.1	+1.9
	comp=Z,0.5nm,0.9s,baz=98,slow=7.6,SNR=3.1						
YKA	Yellowknife Ar	97.31	27	P	P	17 08 13.1	-0.6
	comp=Z,0.1nm,0.3s,baz=258,slow=4.8,SNR=1.4						
ARCES	ARCESS Array B	119.74	345	PKP	PKPdf	17 13 29.7	-0.7
	comp=Z,0.3nm,0.3s,baz=73,slow=2.1,SNR=11						
FINES	FINESS Array B	125.19	338	PKP	PKiKP	17 13 42.0	+0.6
	comp=Z,0.4nm,0.5s,baz=76,slow=3.8,SNR=4.7						

*NEIC **03** 16:58:56.6±1.2, 26°.9S±0°.2×176°.2W±0°.1, h10km±2km, mb4.4/8, Error ellipse: s-maj=26.6km s-min=17.1km az=173.0*

*IDC **03** 16:58:56.9±1.7, 26°.92S×176°.50W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/34, mbtmp3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/60, Error ellipse: s-maj=67.3km s-min=39.8km az=178.0*

ISC 03 16:58:56.3±1.0**, 26°.8S**±0°.2×**176°.3W**±0°.1**, h10**km**, n18, σ1ˢ.15**/14**, mb4.3**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	9.69	38	Pn	Pn	17 01 15.9	+0.1
URZ	Urewera	12.68	204	Sn	Sn	17 04 00.1	-18
	0.5nm,0.3s,baz=22,slow=22,SNR=1.3						
LIFNC	LIFOU	16.23	288	Pn	Pn	17 02 45.5	+1.0
DZM	Mont Dzumac	16.43	283	LR	LR	17 06 43.2	
	comp=Z,74nm,20.9s,baz=25,slow=29						
CTA	Charters Tower	34.92	273	P	P	17 05 50.3	+1.8
	5.1nm,0.9s,baz=112,slow=8.1,SNR=6.0						
CTAO	Charters Tower	34.92	273	P	P	17 05 46.6	-1.9
AS31	Alice Springs	44.94	263	P	P	17 07 09.9	-1.8
ASAR	Alice Springs	44.94	263	P	P	17 07 11.7	0.0
	0.3nm,0.5s,baz=100,slow=8.2,SNR=9.8						
WR0	Warramunga Arr	45.43	268	P	P	17 07 14.8	-0.8
WR0				IAmb	IAmb	17 07 18.5	
	comp=Z,5.8nm,1.4s						
WB2	Warramunga Arr	45.60	268	P	P	17 07 16.6	-0.3
WB2				IAmb	IAmb	17 07 17.4	
	comp=Z,3.0nm,1.0s						
WRA	Warramunga Arr	45.61	268	P	P	17 07 16.7	-0.3
	comp=Z,0.3nm,0.5s,baz=103,slow=8.6,SNR=7.0						
WRA	Warramunga Arr	45.61	268	IAmb	IAmb	17 07 24.9	
	comp=Z,0.1nm,1.0s						
WB0	Warramunga Arr	45.62	268	P	P	17 07 17.4	+0.3
WB0				IAmb	IAmb	17 07 39.1	
	comp=Z,8.2nm,1.5s						
QSPA	South Pole Qui	63.26	180	P	P	17 09 25.1	+0.2
QSPA				IAmb	IAmb	17 09 36.8	
	comp=Z,2.7nm,0.9s						
JTS	Las Juntas de	95.75	81	LR	LR	17 48 51.8	
	comp=Z,73nm,18.4s,baz=37,slow=31						
NOA	NORSAR Array B	145.43	354	PKPbc	PKiKP	17 18 36.8	-1.2
	comp=Z,0.6nm,0.8s,baz=8.8,slow=2.4,SNR=2.6						
AKASG	Malin Array Be	149.25	328	PKPbc	PKiKP	17 18 46.1	+0.1
	comp=Z,0.3nm,0.4s,baz=38,slow=3.0,SNR=2.4						
TORD	Torodi Ar. Bea	166.25	172	PKPab	PKPab	17 20 04.2	+1.0
	comp=Z,0.7nm,0.8s,baz=174,slow=5.2,SNR=2.3						

*IDC **03** 17:02:26.1±0.9, 14°.02S×166°.59E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/40, mbtmp3.9/12, ML4.3/1, Error ellipse: s-maj=35.1km s-min=19.7km az=110.0*

ISC 03 17:02:32.2±0.9**, 14°.2S**±0°.1×**166°.6E**±0°.2**, h43**km**, n14, σ1ˢ.44**/14**, mb3.8**/11**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.86	181	Pn	Pn	17 04 22.8	-1.3
	4.3nm,0.3s,baz=0.5,slow=18,SNR=20						
STKA	Stephens Creek	28.89	228	P	P	17 08 27.5	+0.5
	0.9nm,0.4s,baz=46,slow=8.5,SNR=9.0						
WRA	Warramunga Arr	31.36	255	P	P	17 08 47.5	-1.5
	0.7nm,1.0s,baz=84,slow=7.0,SNR=3.1						
ASAR	Alice Springs	32.29	248	P	P	17 08 55.8	-1.4
	0.2nm,0.3s,baz=72,slow=9.8,SNR=7.3						
VNDA	Vanda	63.41	181	P	P	17 12 59.8	+2.9
	1.1nm,0.7s,baz=355,slow=5.5,SNR=4.2						
KLR	Kul'dur	70.24	337	P	P	17 13 41.6	+0.9
	0.3nm,0.3s,baz=142,slow=5.7,SNR=3.6						
CMAR	Chiang Mai Arr	74.15	294	P	P	17 14 06.1	+1.4
	0.2nm,0.6s,baz=137,slow=3.2,SNR=3.3						
SEY	Seymchan	77.65	353	P	P	17 14 23.4	-0.2
	0.9nm,0.8s,baz=268,slow=23,SNR=4.1						
SONM	Songino Array	81.67	324	P	P	17 14 46.9	+0.9
	0.3nm,0.6s,baz=116,slow=3.7,SNR=2.5						
ILAR	Eielson Array	86.19	18	P	P	17 15 07.2	-1.4
	0.7nm,0.5s,baz=235,slow=5.0,SNR=19						
TIXI	Tiksi	89.30	349	P	P	17 15 22.2	-1.1
	1.3nm,0.3s,baz=92,slow=23,SNR=11						
MKAR	Makanchi Array	96.36	317	P	P	17 15 56.7	+0.2
	0.4nm,0.7s,baz=97,slow=6.4,SNR=5.0						
ARCES	ARCESS Array B	119.55	345	PKP	PKPdf	17 21 16.0	-0.7
	0.6nm,0.3s,baz=83,slow=2.0,SNR=22						
FINES	FINESS Array B	124.97	338	PKP	PKPdf	17 21 26.5	-0.8
	0.5nm,0.5s,baz=96,slow=1.4,SNR=9.5						

*IDC **03** 17:03:39.8±1.4, 14°.00S×167°.12E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.8/37, mbtmp3.8/8, ML3.2/1, Error ellipse: s-maj=49.0km s-min=26.5km az=123.0*

ISC 03 17:03:45.1±1.1**, 14°.12S**±0°.09×**167°.1E**±0°.2**, h35**km**, n10, σ1ˢ.10**/11**, mb3.5**/7**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.94	185	Pn	Pn	17 05 39.2	+1.1
	0.4nm,0.3s,baz=122,slow=23,SNR=1.3						
DZM				Sn	Sn	17 07 05.7	-1.0
	0.1nm,0.3s,baz=113,slow=23,SNR=1.5						
STKA	Stephens Creek	29.30	229	P	P	17 09 44.8	+0.5
	0.8nm,0.6s,baz=35,slow=5.9,SNR=2.9						
WRA	Warramunga Arr	31.86	255	P	P	17 10 08.6	+1.5
	0.5nm,0.7s,baz=90,slow=8.6,SNR=1.1						
ASAR	Alice Springs	32.78	248	P	P	17 10 13.3	-1.9
	0.3nm,0.5s,baz=75,slow=9.5,SNR=1.9						
CMAR	Chiang Mai Arr	74.59	294	P	P	17 15 21.0	-0.1
	0.4nm,0.7s,baz=118,slow=5.2,SNR=2.3						
SONM	Songino Array	81.94	324	P	P	17 16 01.7	+0.4
	0.2nm,0.4s,baz=145,slow=5.3,SNR=2.4						
ILAR	Eielson Array	85.99	18	P	P	17 16 21.7	+0.3
	0.5nm,0.5s,baz=235,slow=5.2,SNR=6.4						
MKAR	Makanchi Array	96.68	316	P	P	17 17 11.3	-0.5
	0.2nm,0.6s,baz=86,slow=6.2,SNR=3.8						
ARCES	ARCESS Array B	119.63	345	PKP	PKPdf	17 22 30.0	-0.7
	0.8nm,0.5s,baz=70,slow=2.1,SNR=7.8						
FINES	FINESS Array B	125.11	338	PKP	PKPdf	17 22 40.7	-0.7
	0.4nm,0.4s,baz=85,slow=2.1,SNR=5.8						

*IDC **03** 17:09:40.2±1.0, 21°.31S×66°.62W, h226km±15km, mb3.3/2, mb1 3.4/6, mb1mx3.2/29, mbtmp3.8/6, Error ellipse: s-maj=23.1km s-min=14.0km az=104.0*

*SCB **03** 17:09:42.0±1.3, 21°.34S×66°.69W, h218km±18km, ML3.3/10, MW3.4, Error ellipse: s-maj=7.7km s-min=6.7km az=2.0*

ISC 03 17:09:40.8±0.9**, 21°.29S**±0°.06×**66°.60W**±0°.07**, h219**km**, n20, σ1ˢ.30**/23**, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YJA	Yavi	1.34	131	P	Pn	17 10 17.0	+1.6
YJA				IAML		17 10 46.8	
	9.2nm,1.2s						
PB09	IPOC Station P	2.51	258	P	Pn	17 10 27.2	+1.1
PB09				S	S	17 11 00.2	-1.1
PB09				IAML		17 11 07.0	
	40nm,0.3s						
LVC	Limon Verde	2.51	238	P	Pn	17 10 27.3	+0.9
	1.9nm,0.3s,baz=27,slow=4.2,SNR=28						
LVC				S	S	17 11 01.7	-0.1
	2.8nm,0.3s,baz=249,slow=21,SNR=8.0						
LVC	Limon Verde	2.51	238	P	Pn	17 10 27.3	+0.9
PB08	IPOC Station P	2.65	295	P	Pn	17 10 29.8	+1.9
PB08				IAML		17 11 09.1	
	33nm,0.6s						
PB01	IPOC Station P	2.70	275	P	Pn	17 10 29.5	+1.3
PB01				IAML		17 11 07.5	
	102nm,0.2s						
PB02	IPOC Station P	3.07	269	P	Pn	17 10 33.0	+0.7
PB02				IAML		17 11 15.1	
	348nm,0.3s						
PB07	IPOC Station P	3.09	261	P	Pn	17 10 33.3	+0.7
PB07				IAML		17 11 14.4	
	123nm,0.4s						
PB06	IPOC Station P	3.09	242	P	Pn	17 10 34.1	+1.5
PB06				IAML		17 11 17.2	
	54nm,0.6s						
PB11	IPOC Station P	3.24	298	P	Pn	17 10 35.2	+0.8
PB11				IAML		17 11 18.1	
	101nm,0.2s						
PB15	IPOC Station P	3.27	234	P	Pn	17 10 36.3	+1.6
PB15				IAML		17 11 21.8	
	154nm,0.6s						
PB04	IPOC Station P	3.45	252	P	Pn	17 10 37.2	+0.3
PB04				IAML		17 11 23.8	
	51nm,0.2s						
PB16	IPOC Station P	4.02	317	P	Pn	17 10 45.7	+1.6
PB10	IPOC Station P	4.27	238	P	Pn	17 10 46.3	-0.3
LPAZ	La Paz	5.18	344	P	Pn	17 11 00.1	+1.5
	1.3nm,0.3s,baz=159,slow=8.8,SNR=22						
LPAZ				S	S	17 12 00.1	+0.1
	0.1nm,0.3s,baz=310,slow=17,SNR=9.1						
LPAZ	La Paz	5.18	344	P	Pn	17 11 00.4	+1.8
SIV	San Ignacio	7.44	46	P	Pn	17 11 25.8	-1.1
	3.5nm,0.3s,baz=241,slow=9.7,SNR=80						
CPUP	Villa Florida	9.86	122	P	Pn	17 11 59.0	+1.1
	baz=291,slow=8.6,SNR=1.5						
TORD	Torodi Ar. Bea	75.27	69	P	P	17 20 57.9	-2.3
	0.2nm,0.5s,baz=252,slow=6.8,SNR=4.4						
YKA	Yellowknife Ar	91.72	340	P	P	17 22 22.5	-0.3
	0.2nm,0.5s,baz=126,slow=4.9,SNR=4.3						

*NEIC **03** 17:17:36.1±1.9, 17°.51S±0°.10×168°.7E±0°.1, h35km±2km, mb4.6/16, Error ellipse: s-maj=21.6km s-min=13.1km az=53.0*

*IDC **03** 17:17:42.4±5.5, 18°.11S×168°.60E, h83km±49km, mb4.2/9, mb1 4.3/10, mb1mx3.7/48, mbtmp4.5/10, ML4.6/1, Error ellipse: s-maj=44.3km s-min=34.6km az=146.0*

*NOU **03** 17:17:42.9, 17°.92S×168°.43E, h75km, MLv4.8/29, Vanuatu Islands*

ISC 03 17:17:42.1±0.8**, 17°.98S**±0°.05×**168°.4E**±0°.1**, h70**km±6km**, n71, σ1ˢ.50**/72**, mb4.6**/22**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTV	Rentapao	0.19	8	P	Pn	17 17 54.8	+2.1
RTV	Rentapao	0.19	8	P	Pn	17 17 55.0	+2.3
DVP	Devils Point	0.32	322	P	Pn	17 17 55.9	+2.4
SANVU	Saraoutou	2.77	335		Pn	17 18 24.0	-0.2
SANVU	Saraoutou	2.77	335	P	Pn	17 18 24.7	+0.5
LIFNC	LIFOU	2.99	201	Pn	Pn	17 18 25.7	-1.4
MARNC	Mare, Loyalty	3.50	186		Pn	17 18 33.4	-0.7
MARNC	Mare, Loyalty	3.50	186	P	Pn	17 18 34.3	+0.2
YATNC	Mamie plateau,	4.30	199	P	Pn	17 18 47.0	+1.9
YATNC	Mamie plateau,	4.30	199	P	Pn	17 18 45.8	+0.7
DZM	Mont Dzumac	4.46	204	P	Pn	17 18 48.6	+1.2
	30nm,0.3s,baz=79,slow=7.5,SNR=256						
DZM				S	Sn	17 19 37.6	-0.5
	61nm,0.3s,baz=136,slow=23,SNR=19						
DZM	Mont Dzumac	4.46	204	P	Pn	17 18 49.6	+2.2
DZM	Mont Dzumac	4.46	204	P	Pn	17 18 49.4	+2.0
NOUC	Port Laguerre	4.55	205	P	Pn	17 18 50.6	+2.1
KOUNC	Koumac, New Ca	4.65	236		Pn	17 18 51.0	+1.2
KOUNC	Koumac, New Ca	4.65	236	P	Pn	17 18 52.9	+3.1
KOUNC	Koumac, New Ca	4.65	236	P	Pn	17 18 51.7	+1.9
OUENC	Ouen Island, N	4.65	198		Pn	17 18 51.5	+1.6
OUENC	Ouen Island, N	4.65	198	P	Pn	17 18 51.5	+1.6
ONTNC	Ouen Toro	4.67	203		Pn	17 18 51.9	+1.7
ONTNC	Ouen Toro	4.67	203	P	Pn	17 18 52.7	+2.5
ONTNC	Ouen Toro	4.67	203	P	Pn	17 18 52.3	+2.1
PINNC	Pines Island,	4.69	191		Pn	17 18 52.4	+1.9
PINNC	Pines Island,	4.69	191	P	Pn	17 18 52.4	+1.9
OUZ	Omahuta	17.78	166	P	Pn	17 21 46.1	+1.2
RMQ	Roma	20.03	242	P	Pn	17 22 11.9	0.0
CTA	Charters Tower	21.04	261	P	P	17 22 22.2	+1.8
	2.7nm,0.6s,baz=76,slow=9.9,SNR=6.3						
MTSU	Mount Surprise	22.89	266	P	P	17 22 41.8	+1.6
CMSA	Cobar Meteorol	24.58	232	P	P	17 22 56.8	+1.2
STKA	Stephens Creek	27.87	235	P	P	17 23 26.4	+1.1
	6.0nm,0.7s,baz=57,slow=7.7,SNR=14						
STKA	Stephens Creek	27.87	235	P	P	17 23 25.5	+0.2
STKA	Stephens Creek	27.87	235	P	P	17 23 26.5	+1.1
HTT	Hallett	30.55	234	P	P	17 23 50.2	+1.0
OOD	Oodnadatta	31.59	246	P	P	17 23 59.2	+0.9
WR0	Warramunga Arr	32.05	261	P	P	17 24 01.6	-0.8
WB0	Warramunga Arr	32.19	261	P	P	17 24 03.1	-0.6
WB0				IAmb	IAmb	17 24 03.9	
	comp=Z,10nm,1.3s						
WB2	Warramunga Arr	32.23	261	P	P	17 24 03.1	-0.9
WRAB	Tennant Creek	32.23	261	P	P	17 24 03.4	-0.7
WRAB				IAmb	IAmb	17 24 07.6	
	comp=Z,7.6nm,1.4s						
WRAB	Tennant Creek	32.23	261	P	P	17 24 03.3	-0.7
WRA	Warramunga Arr	32.24	261	P	P	17 24 03.0	-1.1
	comp=Z,3.0nm,0.5s,baz=86,slow=7.9,SNR=13						
BBOO	Buckleboo	32.58	237	P	P	17 24 07.1	+0.2
BBOO				IAmb	IAmb	17 24 08.2	
	comp=Z,12nm,0.8s						
BBOO	Buckleboo	32.58	237	P	P	17 24 07.7	+0.8
AS31	Alice Springs	32.68	254	P	P	17 24 07.6	-0.4
AS31				IAmb	IAmb	17 24 10.7	
	comp=Z,6.0nm,0.5s						
ASAR	Alice Springs	32.68	254	P	P	17 24 07.5	-0.5
	comp=Z,11nm,0.5s,baz=79,slow=8.7,SNR=320						
ASAR	Alice Springs	32.68	254	P	P	17 24 07.7	-0.3
MULG	Mulgathing	33.51	242	P	P	17 24 15.3	+0.2
MTN	Manton Dam	36.24	273	P	P	17 24 37.3	-1.4
MTN				IAmb	IAmb	17 24 51.6	
	comp=Z,14nm,1.4s						
WRKA	Warakurna	37.86	252	P	P	17 24 52.3	-0.1
KNRA	Kununurra	37.96	267	P	P	17 24 53.0	-0.3
KNRA	Kununurra	37.96	267	P	P	17 24 53.0	-0.3
FORT	Forrest	38.68	243	P	P	17 24 59.3	+0.1
FORT	Forrest	38.68	243	P	P	17 24 59.7	+0.5
FITZ	Fitzroy Crossi	40.59	263	P	P	17 25 15.6	+0.4
	comp=Z,16nm,0.7s,baz=101,slow=7.0,SNR=68						
FITZ	Fitzroy Crossi	40.59	263	P	P	17 25 15.4	+0.2
FITZ	Fitzroy Crossi	40.59	263	P	P	17 25 15.7	+0.5
BATI	Baumata	43.98	274	P	P	17 25 44.0	+1.1
	comp=Z,29nm,0.8s,baz=72,slow=1.0,SNR=5.5						
PSA00	Pilbara Seismi	45.69	257	P	P	17 25 54.7	-1.6
PSA00				IAmb	IAmb	17 25 58.3	
	comp=Z,11nm,1.5s						
MMRI	Maumere	45.76	275	P	P	17 25 54.2	-2.8
MORW	Morawa	48.91	247	P	P	17 26 18.9	-2.5
MORW				IAmb	IAmb	17 26 24.6	
	comp=Z,16nm,1.4s						
TOLI2	Tolitoli	50.54	287	P	P	17 26 32.8	-1.0
TOLI2				IAmb	IAmb	17 26 35.5	
	comp=Z,4.7nm,0.8s						
NJ2	Nanjing	68.75	316	eP	P	17 28 39.9	+1.2
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CMAR	Chiang Mai Arr	77.26	294	P	P	17 29 30.4	+1.1
	comp=Z,1.4nm,0.8s,baz=133,slow=4.5,SNR=12						
CMAR				pP	sP	17 29 51.7	-3.8
	comp=Z,0.6nm,0.8s,baz=109,slow=4.8,SNR=3.9						
PZH	PanZhiHua	78.36	303	P	P	17 29 38.1	+2.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,70nm,6.6s						
HHC	Hu-ho-hao-te	78.75	320	eP	P	17 29 39.2	+2.0
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,6.5s						
LZH	Lanzhou	81.30	312	eP	P	17 29 51.6	+0.4
LZH				pP	PcP	17 29 59.6	+2.5
LZH				sP	pP	17 30 03.8	-6.3
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK	Yakutsk	85.44	343	P	P	17 30 10.9	-0.7
	comp=Z,2.1nm,0.6s,baz=304,slow=0.9,SNR=4.2						
GTA	Gaotai	85.68	314	eP	P	17 30 14.0	+0.4
GTA				pP	PcP	17 30 19.5	+3.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	Songino Array	85.74	323	P	P	17 30 13.0	-0.6
	comp=Z,0.4nm,0.5s,baz=134,slow=6.2,SNR=2.7						
WMQ	Urumqi	95.76	314	eP	P	17 31 01.9	+1.3
ARCES	ARCESS Array B	123.65	345	PKP	PKPdf	17 36 29.4	-1.7
	comp=Z,2.5nm,1.0s,baz=77,slow=2.6,SNR=5.5						
TORD	Torodi Ar. Bea	166.32	251	PKPab	PKPab	17 38 40.7	-1.1
	comp=Z,0.4nm,0.8s,baz=156,slow=1.4,SNR=2.3						

*SKHL **03** 17:27:07.7±0.9, 47°.00N×147°.70E, h335km±5km, mb4.5/7, msha5.7/4*

*MOS **03** 17:27:10.4±1.0, 47°.00N×146°.83E, h350km, mb3.9/9, Error ellipse: s-maj=10.9km s-min=6.7km az=92.4*

*JMA **03** 17:27:12.1±0.6, 46°.41N×147°.02E, h377km, M4.0*

*IDC **03** 17:27:12.9±1.4, 47°.08N×146°.77E, h354km±14km, mb3.3/15, mb1 3.4/25, mb1mx3.2/52, mbtmp4.1/25, Error ellipse: s-maj=15.6km s-min=10.6km az=104.0*

ISC 03 17:27:10.1±0.6**, 46°.86N**±0°.05×**147°.10E**±0°.06**, h346**km±6km**, n112, σ2ˢ.03**/127**, mb3.7**/27**, 1C-1D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.72	162*d*	*i*PN	Pn	17 27 55.9	-3.2
KUR				*e*S	S	17 28 39.0	+0.6
KUR				pmax	pmax		
	comp=Z,172nm,0.4s						
KUR				pmax	pmax		
	comp=N,32nm,0.3s						
KUR				pmax	pmax		
	comp=E,17nm,0.4s						
KUR				smax	smax		
	comp=N,86nm,0.7s						
KUR				smax	smax		
	comp=E,56nm,0.5s						
KUR	Kuril'sk	1.72	162	*i* P	Pn	17 27 55.9	-3.2
KUR				AMB	AMB	17 27 56.6	
	comp=E,200nm,0.4s						
KUR				*e*S	S	17 28 35.0	-3.4
KUR				A	A	17 28 42.8	
	comp=E,60nm,0.6s						
KUR				A	A	17 28 42.8	
	comp=E,40nm,0.6s						
YUK	Yuzh-Kuril'sk	2.96	198	*e*PN	Pn	17 28 12.3	+3.5
YUK				*e*S	S	17 29 00.2	+4.3
YUK				smax	smax		
	comp=E,721nm,0.4s						
YUK				smax	smax		
	comp=N,909nm,0.3s						
YUK	Yuzh-Kuril'sk	2.96	198	*e*P	Pn	17 28 08.4	-0.4
YUK				AMB	AMB	17 28 11.6	
	comp=N,130nm,0.5s						
YUK				*e*S	S	17 28 57.1	+1.2
YUK				A	A	17 29 02.0	
	comp=N,910nm,0.4s						
YUK				A	A	17 29 02.0	
	comp=N,720nm,0.4s						
YSS	Yuzh-Sakhalins	2.98	273	*e*PN	Pn	17 28 09.3	+0.5
YSS				*e*S	S	17 28 53.1	-3.0
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				smax	smax		
	comp=N,20nm,1.1s						
YSS	Yuzh-Sakhalins	2.98	273	*e*P	Pn	17 28 09.0	+0.2
YSS				AMB	AMB	17 28 10.3	
	comp=N,20nm,0.5s						
YSS				*e*S	S	17 28 54.7	-1.4
SHO	Shikotan	3.00	184	*e*PN	Pn	17 28 08.7	-0.5
SHO				pmax	pmax		
	comp=Z,53nm,0.4s						
SHO	Shikotan	3.00	184	*e*P	Pn	17 28 08.6	-0.6
SHO				AMB	AMB	17 28 10.1	
	comp=Z,40nm,0.2s						
SHO				*e*S	S	17 28 53.2	-3.4
SHO				A	A	17 28 54.7	
	comp=Z,1μm,0.4s						
SHO				A	A	17 28 54.7	
	comp=Z,1μm,0.4s						
RUSJ	Misakicho	3.05	206	*e*PN	Pn	17 28 10.9	+1.3
JRA	Rausu	3.24	206	P	Pn	17 28 12.7	+1.4
GLVR	Golovnino	3.32	200	*e*PN	Pn	17 28 15.1	+3.0
GLVR				*e*S	S	17 29 05.3	+3.3
GLVR				smax	smax		
	comp=N,833nm,0.4s						
GLVR				smax	smax		
	comp=E,925nm,0.3s						
GLVR	Golovnino	3.32	200	*e*P	Pn	17 28 12.1	0.0
GLVR				*e*S	S	17 29 04.3	+2.3
GLVR				A	A	17 29 09.4	
	comp=E,830nm,0.4s						
GLVR				A	A	17 29 09.4	
	comp=E,930nm,0.4s						
JNSB	Nemuroshibetsu	3.42	206	P	Pn	17 28 14.2	+1.1
NMR	Nemuro--Hokkai	3.62	196	*e*PN	Pn	17 28 14.0	-1.0
NMR				*e*S	S	17 29 04.0	-3.4
NMR	Nemuro--Hokkai	3.62	196	*e*P	Pn	17 28 14.1	-1.0
NEM2	Nemuro 2	3.63	196	P	Pn	17 28 14.0	-1.1
NEM2				*e*S	S	17 29 03.9	-3.5
JTKR	Abashiri--Toko	3.66	219	P	Pn	17 28 16.5	+1.1
JTKR				*e*S	S	17 29 07.6	-0.4
JSE	Soyaes	3.68	240	P	Pn	17 28 16.9	+1.3
JWK2	Keihoku	3.94	249	P	Pn	17 28 20.2	+2.1
UGL	Uglegorsk	4.04	305	*e*P	Pn	17 28 17.9	-1.2
UGL				AMB	AMB	17 28 19.6	
	comp=E,50nm,0.8s						
AKK	Akkeshi	4.17	203	*e*P	Pn	17 28 19.5	-1.1
JKA	Kamikawa-asahi	4.19	231	*e*P	Pn	17 28 22.5	+1.7
ASAJ	Asahikawa	4.19	231	P	Pn	17 28 22.4	+1.6
	comp=E,15nm,0.3s,baz=59,slow=9.2,SNR=207						
JAK	Akkeshi	4.23	205	P	Pn	17 28 20.3	-0.9
JAK				*e*S	S	17 29 14.3	-4.2
JAR	Ashorobuto	4.27	215	P	Pn	17 28 22.8	+1.1
JKK2	Kamakawa 2	4.28	227	P	Pn	17 28 23.1	+1.3
JSS	Shosan	4.43	238	P	Pn	17 28 25.6	+2.3
JRBN	Rebuntou	4.43	253	P	Pn	17 28 24.5	+1.2
JCH	Churui	5.01	213	P	Pn	17 28 28.8	-0.9
JCH				*e*S	S	17 29 28.2	-5.8
JNBK	Urakawa-nobuka	5.53	216	P	Pn	17 28 34.1	-1.4
JNBK				*e*S	S	17 29 38.6	-6.0
ERM	Erimo	5.61	212	*e*PN	Pn	17 28 35.8	-0.5
JEW	Eniwo	5.68	227	P	Pn	17 28 38.2	+1.1
JOT	Ohata	7.00	221	P	Pn	17 28 50.6	-1.7
JOT				*e*S	S	17 30 08.2	-7.2
SKR	Severo-Kuril's	7.08	54	*e*P	Pn	17 28 45.8	-7.3
JOSM	Okushiri--Mats	7.25	231	P	Pn	17 28 54.5	-0.8
JOMM	Oshimamatsumae	7.38	226	P	Pn	17 28 55.7	-1.1
NKL	Nikolayevsk	7.53	329	*e*P	Pn	17 28 56.5	-1.8
JANG	Nango	7.64	214	P	Pn	17 28 58.0	-2.0
PAU	Pauzhetka	7.86	51	*e*P	Pn	17 28 54.9	-7.4
JOM	Ohasama	8.52	212	P	Pn	17 29 09.1	-1.2
PETK	Petropavlovsk-	9.25	44	P	P	17 29 21.7	+0.5
	comp=E,0.4nm,0.3s,baz=226,slow=11,SNR=9.0						
PET	Petropavlovsk	9.66	46	*e*P	Pn	17 29 21.7	-2.1
KLR	Kul'dur	10.55	289	P	P	17 29 35.1	-0.6
	comp=E,0.4nm,0.3s,baz=91,slow=12,SNR=13						
KLR	Kul'dur	10.55	289	*i* PN	Pn	17 29 34.6	+0.2
KLR	Kul'dur	10.55	289	*e*P	Pn	17 29 34.6	+0.2
USRK	Ussuriysk Ar.	10.93	261	P	Pn	17 29 38.9	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=66,slow=10,SNR=6.1						
MJA0	Matsu Arr-Jizo	12.24	216	ePN	Pn	17 29 56.4	+1.6
MJA0				pmax	pmax		
	comp=Z,12nm,0.5s						
MJAR	Matsushiro Arr	12.26	216	P	Pn	17 29 56.5	+1.5
	comp=Z,0.8nm,0.3s,baz=24,slow=9.7,SNR=45						
MA2	Magadan	12.92	8	P	Pn	17 30 02.9	+0.5
	comp=Z,0.8nm,0.3s,baz=194,slow=9.7,SNR=11						
MA2	Magadan	12.92	8	*i* PN	Pn	17 30 03.0	+0.5
MA2	Magadan	12.92	8	*e*P	Pn	17 30 03.0	+0.5
KBG	Krutoberegovo	13.48	40	*e*P	P	17 30 02.3	-5.7
ZEA	Zeya	14.40	306	*e*P	P	17 30 17.8	-0.3
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA	Zeya	14.40	306	*e*P	Pn	17 30 21.0	+1.1
SEY	Seymchan	16.38	9	P	Pn	17 30 41.3	-1.4
	comp=Z,0.1nm,0.3s,baz=202,slow=11,SNR=5.8						
SEY	Seymchan	16.38	9	*i* P	P	17 30 40.8	+1.3
SEY	Seymchan	16.38	9	*e*P	P	17 30 40.8	+1.3
KSRS	Korea Array	17.01	243	P	Pn	17 30 49.0	-1.0
	comp=Z,0.3nm,0.3s,baz=48,slow=10,SNR=11						
KSRS	Korea Array	17.01	243	*e*P	Pn	17 30 49.0	-1.0
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YAK	Yakutsk	18.16	333	P	P	17 30 57.9	-0.7
	comp=Z,0.1nm,0.3s,baz=329,slow=1.7,SNR=22						
YAK	Yakutsk	18.16	333	*e*P	P	17 30 57.6	-1.0
YAK				pmax	pmax		
	comp=Z,29nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK	Yakutsk	18.16	333	*e*P	P	17 30 57.6	-1.0
JNU	Nakatsue	18.46	228	P	P	17 31 05.7	+3.5
	comp=E,0.3nm,0.3s,baz=40,slow=7.9,SNR=3.6						
BILL	Bilibino	23.39	18	*e*P	P	17 31 49.8	+1.0
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BILL	Bilibino	23.39	18	*e*P	P	17 31 49.8	+1.0
TIXI	Tiksi	26.31	347	P	P	17 32 13.2	-1.6
	comp=Z,0.5nm,0.5s,baz=93,slow=23,SNR=5.3						
TIXI	Tiksi	26.31	347	*i* P	P	17 32 13.4	-1.4
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TIXI	Tiksi	26.31	347	*e*P	P	17 32 13.4	-1.4
ULN	Ulaanbaatar	26.93	287	*i* P	P	17 32 20.5	-0.4
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ULN	Ulaanbaatar	26.93	287	*e*P	P	17 32 20.5	-0.4
SONM	Songino Array	27.37	287	P	P	17 32 24.6	-0.1
	comp=Z,0.9nm,0.8s,baz=62,slow=7.2,SNR=3.2						
ILAR	Eielson Array	39.03	38	P	P	17 34 06.8	+2.7
	comp=Z,0.9nm,0.7s,baz=271,slow=8.6,SNR=9.5						
ZALV	Zalesovo Beam	39.16	304	P	P	17 34 04.5	-0.7
	comp=Z,1.1nm,0.5s,baz=62,slow=6.9,SNR=7.7						
MK31	Makanchi Array	43.18	295	*i* P	P	17 34 37.3	-0.5
MKAR	Makanchi Array	43.18	295	P	P	17 34 37.6	-0.1
	comp=Z,2.8nm,0.6s,baz=68,slow=4.1,SNR=50						
MAKZ	Makanchi	43.37	295	P	P	17 34 38.3	-1.0
KURK	Kurchatov	43.82	301	*i* P	P	17 34 42.0	-0.7
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KURK	Kurchatov	43.82	301	*e*P	P	17 34 42.0	-0.7
KURBB	Kurchatov Arra	43.91	301	P	P	17 34 42.7	-0.7
BRVK	Borovoye	47.59	307	*i* P	P	17 35 11.3	-0.6
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRVK	Borovoye	47.59	307	*e*P	P	17 35 11.3	-0.6
MDOK	Medeo	48.15	293	P	P	17 35 14.4	-2.1
OTUK	Ortayu	48.58	301	P	P	17 35 18.8	-0.7
KSH	Kashi	50.75	289	P	P	17 35 40.3	+4.3
KSH				ScP	ScP	17 40 11.6	+2.0
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
JIRN	Jiri	50.81	270	*e*P	P	17 35 37.6	+0.7
	comp=Z,4.8nm,0.4s						
RAMN	Ramite	50.98	269	*e*P	P	17 35 38.5	+0.5
	comp=Z,7.9nm,0.4s						
GKN	Gorkha	51.66	272	*e*P	P	17 35 43.6	+0.7
	comp=Z,5.7nm,0.4s						
DANN	Dangsing	52.05	273	*e*P	P	17 35 47.0	+1.2
ARU	Arti	52.08	315c	*i*P	P	17 35 44.6	-0.7
ARU						17 36 46.3	
ARU						17 37 37.3	
ARU				SS	SKiKP	17 46 20.9	-8.3
ARU				pmax	pmax		
	comp=Z,5.0nm,1.8s						
ARU	Arti	52.08	315	*e*P	P	17 35 44.6	-0.7
AB31	Akbulak array	55.12	307	*i* P	P	17 36 07.0	-0.2
ARCES	ARCESS Array B	56.32	339	P	P	17 36 15.0	-0.4
	comp=Z,3.6nm,1.1s,baz=31,slow=5.7,SNR=4.7						
FINES	FINESS Array B	62.09	332	P	P	17 36 54.0	-0.6
	comp=Z,5.4nm,0.5s,baz=40,slow=7.4,SNR=78						
OBN	Obninsk	62.80	323	*e*P	P	17 36 58.5	-0.8
OBN				*e*		17 37 31.6	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN	Obninsk	62.80	323	*e*P	P	17 36 58.5	-0.8
GEYT	Alibeck	62.94	297	P	P	17 37 01.6	+0.9
	comp=Z,5.3nm,0.8s,baz=47,slow=3.0,SNR=7.5						
NB2	NORSAR Subarra	66.69	338	P	P	17 37 23.7	-0.5
	comp=Z,2.0nm,0.5s,baz=31,slow=6.5						
NOA	NORSAR Array B	66.69	338	P	P	17 37 24.0	-0.2
	comp=Z,1.4nm,0.4s,baz=32,slow=6.6,SNR=37						
WRA	Warramunga Arr	67.48	193	P	P	17 37 31.9	+2.4
	comp=Z,0.7nm,0.6s,baz=8.3,slow=6.7,SNR=7.4						
KIV	Kislovodsk	67.68	311	*e*P	P	17 37 31.9	+1.1
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV	Kislovodsk	67.68	311	*e*P	P	17 37 31.9	+1.1
KBZ	Khabaz	67.73	311	P	P	17 37 31.8	+0.9
	comp=Z,5.0nm,0.9s,baz=58,slow=2.3,SNR=11						
KBZ	Khabaz	67.73	311	*i* P	P	17 37 31.4	+0.5
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBZ	Khabaz	67.73	311	*e*P	P	17 37 31.4	+0.5
ZEI	Tsey	67.85	309	*e*P	P	17 37 31.8	-0.2
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZEI	Tsey	67.85	309	*e*P	P	17 37 31.8	-0.2
AKASG	Malin Array Be	69.06	323	P	P	17 37 38.5	-0.4
	comp=Z,1.4nm,0.4s,baz=38,slow=6.2,SNR=14						
ASAR	Alice Springs	71.20	193	P	P	17 37 55.4	+3.2
	comp=Z,0.2nm,0.4s,baz=8.1,slow=6.1,SNR=25						
CLL	Collm	74.54	332	*e*P	P	17 38 11.0	-0.3
CLL	Collm	74.54	332	*e*P	P	17 38 11.0	-0.3
BRTR	Keskin Array B	75.38	313	P	P	17 38 16.9	+0.4
	comp=Z,1.3nm,0.8s,baz=66,slow=4.4,SNR=7.9						
GERES	GERESS Array B	76.43	330	P	P	17 38 21.8	-0.3
	comp=Z,0.5nm,0.7s,baz=57,slow=4.9,SNR=4.1						

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*IDC **03** 17:40:39.0±1.2, 14°.17S×166°.70E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/31, mbtmp3.6/6, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/51, Error ellipse: s-maj=43.0km s-min=26.7km az=122.0*

ISC 03 17:40:44.2±1.1**, 14°.3S**±0°.1×**166°.8E**±0°.2**, h35**km**, n8, σ1s.40**/9**, mb3.7**/5**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.76	182	Pn	Pn	17 42 33.2	-1.6
	0.5nm,0.3s,baz=11,slow=21,SNR=1.2						
DZM				Sn	Sn	17 44 02.3	+0.7
	0.5nm,0.3s,baz=127,slow=22,SNR=1.2						
STKA	Stephens Creek	28.92	228	P	P	17 46 41.4	+1.3
	1.2nm,0.6s,baz=359,slow=14,SNR=3.3						
STKA				LR	LR	17 57 52.0	
	comp=Z,92nm,18.0s,baz=45,slow=36						
WRA	Warramunga Arr	31.46	255	P	P	17 47 02.7	-0.1
	0.2nm,0.8s,baz=85,slow=9.4,SNR=1.2						
ASAR	Alice Springs	32.38	248	P	P	17 47 09.2	-1.7
	0.4nm,0.7s,baz=75,slow=9.8,SNR=6.1						
VNDA	Vanda	63.30	181	P	P	17 51 10.3	+1.2
	0.7nm,0.6s,baz=190,slow=5.1,SNR=1.6						
ILAR	Eielson Array	86.25	18	P	P	17 53 21.3	-0.5
	0.4nm,0.5s,baz=237,slow=5.2,SNR=7.6						
ARCES	ARCESS Array B	119.69	345	PKP	PKPdf	17 59 29.3	-0.7
	2.1nm,0.9s,baz=51,slow=2.3,SNR=5.0						
FINES	FINESS Array B	125.12	338	PKP	PKiKP	17 59 42.3	+1.4
	0.2nm,0.3s,baz=88,slow=5.9,SNR=3.8						

IDC 03 18:04:17.2±2.6**, 14°.11S**×**166°.40E, h0**km**, mb3.4**/4**, mb1 3.5**/5**, mb1mx3.4**/36**, mbtmp3.4**/5**, ML3.4**/1**, Error ellipse: s-maj=64.2km s-min=36.8km az=95.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.92	180	Pn	Pn	18 06 13.3	-0.4
	0.5nm,0.3s,baz=146,slow=17,SNR=9.0						
DZM				Sn	Sn	18 07 41.3	-2.9
	0.2nm,0.3s,baz=324,slow=20,SNR=1.1						
WRA	Warramunga Arr	31.16	255	P	P	18 10 38.3	+0.2
	0.2nm,0.8s,baz=81,slow=8.5,SNR=1.2						
ASAR	Alice Springs	32.11	248	P	P	18 10 46.4	-0.1
	0.1nm,0.5s,baz=74,slow=9.5,SNR=6.5						
SONM	Songino Array	81.50	324	P	P	18 16 37.9	+1.3
	0.2nm,0.7s,baz=131,slow=4.4,SNR=2.5						
MKAR	Makanchi Array	96.17	317	P	P	18 17 45.6	-1.6
	0.2nm,0.8s,baz=96,slow=5.9,SNR=2.3						

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*IDC **03** 18:06:10.1±0.7, 14°.16S×166°.72E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.1/36, mbtmp4.1/18, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/66, Error ellipse: s-maj=24.8km s-min=16.1km az=99.0*

*NOU **03** 18:07:06.8, 17°.74S×167°.74E, h0km, MLv4.1/10, Vanuatu Islands*

ISC 03 18:06:16.5±0.6**, 14°.22S**±0°.07×**166°.6E**±0°.1**, h43**km**, n32, σ1s.04**/27**, mb4.0**/16**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	3.80	157	P	Pn	18 07 13.8	+1.2
YATNC	Mamie plateau,	7.80	178	P	Pn	18 08 15.3	+7.8
DZM	Mont Dzumac	7.81	181	Pn	Pn	18 08 06.5	-1.2
	1.2nm,0.3s,baz=307,slow=23,SNR=8.1						
DZM				Sn	Sn	18 09 34.0	-0.8
	1.6nm,0.3s,baz=282,slow=22,SNR=4.7						
DZM				LR	LR	18 10 21.4	
	comp=Z,231nm,19.6s,baz=32,slow=32						
DZM	Mont Dzumac	7.81	181	P	Pn	18 08 14.1	+6.4
NOUC	Port Laguerre	7.84	182	P	Pn	18 08 15.4	+7.3
ONTNC	Ouen Toro	8.04	181	P	Pn	18 08 18.5	+7.7
OUENC	Ouen Island, N	8.16	178	P	Pn	18 08 20.6	+8.2
PINNC	Pines Island,	8.39	175	P	Pn	18 08 21.9	+6.4
CTA	Charters Tower	20.29	250	P	P	18 10 48.0	-0.9
	9.8nm,1.1s,baz=37,slow=15,SNR=2.4						
URZ	Urewera	25.69	161	P	P	18 11 42.2	-0.4
	4.6nm,1.0s,baz=16,slow=18,SNR=1.5						
STKA	Stephens Creek	28.84	228	P	P	18 12 11.6	+0.7
	2.9nm,0.7s,baz=40,slow=7.4,SNR=7.6						
WRA	Warramunga Arr	31.33	255	P	P	18 12 32.3	-0.8
	0.6nm,0.7s,baz=86,slow=9.4,SNR=7.0						
ASAR	Alice Springs	32.26	248	P	P	18 12 40.9	-0.4
	0.9nm,0.7s,baz=74,slow=9.0,SNR=21						
MJAR	Matsushiro Arr	57.16	333	P	P	18 15 59.1	+0.1
	1.7nm,0.8s,baz=109,slow=4.1,SNR=5.3						
KSRS	Korea Array	62.96	326	P	P	18 16 39.4	+0.6
	1.2nm,0.9s,baz=142,slow=7.2,SNR=3.8						
VNDA	Vanda	63.35	181	P	P	18 16 42.4	+1.5
	1.4nm,0.7s,baz=2.7,slow=6.1,SNR=7.3						
USRK	Ussuriysk Ar.	66.14	333	P	P	18 17 00.5	+1.1
	2.4nm,0.7s,baz=184,slow=5.0,SNR=4.4						
PETK	Petropavlovsk-	67.49	354	P	P	18 17 06.6	-1.2
	3.9nm,0.8s,baz=165,slow=6.0,SNR=2.7						
KLR	Kul'dur	70.28	337	P	P	18 17 25.9	+0.7
	0.7nm,0.5s,baz=324,slow=3.6,SNR=3.9						
CMAR	Chiang Mai Arr	74.15	294	P	P	18 17 51.1	+2.0
	1.0nm,0.8s,baz=121,slow=3.9,SNR=7.0						
SONM	Songino Array	81.71	324	P	P	18 18 31.1	+0.6
	0.8nm,0.9s,baz=134,slow=5.8,SNR=7.3						
ILAR	Eielson Array	86.25	18	P	P	18 18 51.8	-1.4
	1.6nm,0.6s,baz=237,slow=5.2,SNR=23						
MKAR	Makanchi Array	96.39	317	P	P	18 19 41.5	+0.5
	0.5nm,0.6s,baz=104,slow=5.1,SNR=6.9						
ZALV	Zalesovo Beam	96.60	324	P	P	18 19 40.4	-1.3
	0.5nm,0.6s,baz=104,slow=12,SNR=4.1						
YKA	Yellowknife Ar	97.39	27	P	P	18 19 44.2	-0.9
	0.1nm,0.6s,baz=261,slow=4.0,SNR=1.7						
ARCES	ARCESS Array B	119.60	345	PKP	PKPdf	18 25 00.0	-1.1
	2.7nm,0.7s,baz=48,slow=1.8,SNR=5.8						
FINES	FINESS Array B	125.01	338	PKP	PKPdf	18 25 11.0	-0.6
	1.7nm,0.8s,baz=46,slow=5.5,SNR=2.3						
AKASG	Malin Array Be	129.95	326	PKP	PKPdf	18 25 20.3	-1.1
	0.1nm,0.2s,baz=46,slow=2.7,SNR=1.7						
GERES	GERESS Array B	138.90	333	PKP	PKiKP	18 25 42.0	+1.4
	0.3nm,0.3s,baz=264,slow=1.2,SNR=6.1						
KEST	Kesra	150.41	320	PKPbc	PKPbc	18 26 04.0	+0.1
	3.7nm,0.7s,baz=68,slow=3.0,SNR=4.7						
ESDC	Sonseca Array	153.32	344	PKPbc	PKiKP	18 26 10.6	+0.2
	0.5nm,0.4s,baz=21,slow=4.2,SNR=2.9						
TORD	Torodi Ar. Bea	165.29	268	PKPab	PKPab	18 27 15.5	+0.5
	0.7nm,1.0s,baz=137,slow=3.2,SNR=2.5						

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*NNC **03** 18:08:52.2±0.9, 41°.36N×75°.99E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=6.1km s-min=4.2km az=174.0*

*KRNET **03** 18:08:52.3±0.1, 41°.40N×75°.98E, h19km, mb3.6*

*SOME **03** 18:08:52.0, 41°.40N×75°.93E, h10km*

*KNET **03** 18:08:53.5±0.6, 41°.50N×75°.86E, h0km, ml3.0, Error ellipse: s-maj=3.5km s-min=2.2km az=144.0*

ISC 03 18:08:52.6±1.3**, 41°.44N**±0°.04×**75°.95E**±0°.02**, h6**km±11km**, n99, σ1s.65**/153**, 36C-26D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	Ulahol	0.83	15	⇓P	Pb	18 09 09.0	-0.7
	26nm,0.2s,SNR=183						
ULHL				⇓S	Sg	18 09 21.3	+1.8
	469nm,0.3s						
ULHL	Ulahol	0.83	15	⇑*i*P	Pb	18 09 08.8	-0.9
	baz=13						
ULHL				⇑*i*S	Sg	18 09 20.8	+1.2
	baz=13						
BOOM	Boomskoye usch	1.05	360	⇑*i*P	Pb	18 09 12.7	-0.7
	baz=59						
BOOM				⇑*i*S	Sn	18 09 27.4	-1.8
	baz=59						
KDJ	Kajisay	1.15	53	⇑*i*P	Pb	18 09 14.1	-1.0
	baz=51						
KDJ				⇑*i*S	Sg	18 09 29.9	+0.3
	baz=51						
UCH	Uchtor	1.33	307	⇓P	Pn	18 09 17.0	-1.3
	17nm,0.2s,SNR=56						
UCH				⇑S	Sb	18 09 35.8	-0.1
	60nm,0.2s						
UCH	Uchtor	1.33	307	⇓*i*P	Pb	18 09 17.5	-0.8
	baz=8.0						
UCH				⇓*i*S	Sg	18 09 36.4	+0.9
	baz=8.0						
KBK	Karagaybulak	1.43	329	⇓P	Pb	18 09 19.7	-0.1
	46nm,0.1s,SNR=80						
KBK				⇑S	Sg	18 09 39.9	+1.3
	165nm,0.2s						
KBK	Karagaybulak	1.43	329	⇑*i*P	Pb	18 09 19.5	-0.3
	baz=29						
KBK				⇑*i*S	Sg	18 09 39.2	+0.7
	baz=29						
TKM2	Tokmak 2	1.50	350	⇓P	Pb	18 09 21.2	+0.1
	34nm,0.2s,SNR=52						
TKM2				⇑S	Sg	18 09 42.3	+1.3
	67nm,0.2s						
TKM2	Tokmak 2	1.50	350	⇓*i*P	Pb	18 09 20.7	-0.4
	baz=50						
TKM2				⇓*i*S	Sg	18 09 41.6	+0.6
	baz=50						
TKM2	Tokmak 2	1.50	350	⇓P	Pb	18 09 21.0	-0.1
	10nm,0.3s						
TKM2				⇑S	Sg	18 09 41.9	+0.9
	29nm,0.3s						
KST	Kastek	1.60	0	*e*P	Pg	18 09 23.1	-0.3
	16nm,0.2s						
KST				*e*S	Sg	18 09 45.9	+1.7
	105nm,0.6s						
KST	Kastek	1.60	0	P	Pg	18 09 23.1	-0.3
	16nm,0.2s						
KST				S	Sg	18 09 45.9	+1.7
	105nm,0.6s						
FRU1	Bishkek	1.69	325	⇑*i*P	Pb	18 09 24.4	+0.3
	baz=25						
FRU1				⇑*i*S	Sg	18 09 47.9	+1.1
	baz=25						
MTBS	Maitube	1.73	12	*e*P	Pg	18 09 25.3	-0.4
	8.4nm,0.2s						
MTBS				*e*S	Sg	18 09 49.8	+1.6
	101nm,0.6s						
MTBS	Maitube	1.73	12	P	Pg	18 09 25.3	-0.4
	8.4nm,0.2s						
MTBS				S	Sg	18 09 49.8	+1.6
	101nm,0.6s						
TNSS	Tian-Shan	1.76	25	*e*P	Pg	18 09 26.1	-0.4
	14nm,0.3s						
TNSS				*e*S	Sg	18 09 50.4	+1.2
	61nm,0.6s						
TNSS	Tian-Shan	1.76	25	*e*Pg	Pb	18 09 25.7	+0.1
	baz=24						
TNSS				*e*Lg	Lg	18 09 50.5	
	baz=24						
CHMS	Chumysh	1.80	331	⇓P	Pb	18 09 26.1	+0.1
	65nm,0.3s,SNR=69						
CHMS				⇓S	Sg	18 09 51.0	+0.6
	98nm,0.3s						
CHMS	Chumysh	1.80	331	⇓*i*P	Pb	18 09 25.9	-0.1
	baz=31						
CHMS				⇓*i*S	Sg	18 09 50.4	+0.1
	baz=31						
DGS	Degeres	1.81	356	*e*P	Pg	18 09 27.1	-0.2
	21nm,0.5s						
DGS				*e*S	Sg	18 09 52.9	+2.2
	127nm,0.7s						
DGS	Degeres	1.81	356	P	Pg	18 09 27.1	-0.2
	21nm,0.5s						
DGS				S	Sg	18 09 52.9	+2.2
	127nm,0.7s						
AML	Almayashu	1.82	293	⇑P	Pb	18 09 25.8	-0.8
	50nm,0.3s,SNR=49						
AML				⇑S	Sg	18 09 52.7	+1.4
	212nm,0.5s						
ANVS	Anan'yevo	1.85	43	⇑*i*P	Pb	18 09 26.5	-0.6
	baz=42						
ANVS				⇑*i*S	Sg	18 09 51.3	-0.9
	baz=42						
MDOK	Medeo	1.91	25	*e*P	Pg	18 09 28.6	-0.5
	10nm,0.4s						
MDOK				*e*S	Sg	18 09 55.5	+1.6
	114nm,0.7s						
MDOK	Medeo	1.91	25	*e*Pg	Pb	18 09 28.2	+0.3
	baz=24						
MDOK				*e*Lg	Lg	18 09 55.3	
	baz=24						
MDOK	Medeo	1.91	25	⇓Pg	Pb	18 09 28.2	+0.3
	19nm,0.4s						
MDOK				⇑Lg	Lg	18 09 55.0	
	110nm,0.6s						
MDOK	Medeo	1.91	25	Pg	Pg	18 09 28.6	-0.5
	10nm,0.4s						
MDOK				Lg	Lg	18 09 55.5	
	114nm,0.7s						
AAA	Alma-Ata	1.91	22	*e*P	Pg	18 09 29.3	+0.1
	12nm,0.1s						
AAA				*e*S	Sg	18 09 56.1	+2.1
	229nm,0.5s						
AAA	Alma-Ata	1.91	22	*e*Pg	Pg	18 09 28.4	-0.8
	baz=21						
AAA				*e*Lg	Lg	18 09 55.3	
	baz=21						
AAA	Alma-Ata	1.91	22	Pg	Pg	18 09 29.3	+0.1
	12nm,0.1s						
AAA				Lg	Lg	18 09 56.1	
	229nm,0.5s						
KNDC	Almaty	1.93	23	⇑Pg	Pg	18 09 29.7	+0.1
	51nm,0.5s						
KNDC				⇓Lg	Lg	18 09 57.1	
	479nm,0.8s						
KOTS	Kotyrbulak	1.99	25	*e*P	Pg	18 09 30.4	-0.3
	15nm,0.3s						
KOTS				*e*S	Sg	18 09 58.5	+1.9
	377nm,0.6s						
KOTS	Kotyrbulak	1.99	25	Pg	Pg	18 09 30.5	-0.3
	15nm,0.3s						
KOTS				Lg	Lg	18 09 58.5	
	377nm,0.6s						
EKS2	Erkin-Say	2.03	308	⇑*i*P	Pb	18 09 29.1	-0.9
	baz=8.0						
EKS2				⇑*i*S	Sb	18 09 56.0	+0.5
	baz=8.0						
USP	Ospenovka	2.12	330	⇑P	Pb	18 09 31.6	+0.1
	113nm,0.3s,SNR=185						
USP	Ospenovka	2.12	330	⇑*i*P	Pb	18 09 30.4	-1.1
	baz=30						
USP				⇑*i*S	Sb	18 09 58.0	-0.1
	baz=30						
SGDS	Sogindy	2.24	335	*e*P	Pb	18 09 34.1	+0.6
	122nm,0.4s						
SGDS				*e*S	Sg	18 10 04.4	-0.1
	49nm,0.7s						
SGDS	Sogindy	2.24	335	*e*Pg	Pb	18 09 34.1	+0.6
	baz=335						
SGDS				*e*Lg	Lg	18 10 05.2	
	baz=335						
SGDS	Sogindy	2.24	335	Pg	Pb	18 09 34.1	+0.6
	122nm,0.4s						
SGDS				Lg	Lg	18 10 04.4	
	49nm,0.7s						
KRBS	Karabastau	2.27	355	*e*P	Pg	18 09 35.2	-0.9
	109nm,0.2s						
KRBS				*e*S	Sg	18 10 06.2	+0.8
	67nm,0.4s						
KRBS	Karabastau	2.27	355	Pg	Pg	18 09 35.2	-0.9
	109nm,0.2s						
KRBS				Lg	Lg	18 10 06.2	
	67nm,0.4s						
KTBS	Karatobe	2.34	13	*e*P	Pg	18 09 36.5	-0.9
	56nm,0.3s						
KTBS				*e*S	Sg	18 10 08.5	+0.9
	299nm,0.7s						
KTBS	Karatobe	2.34	13	Pg	Pg	18 09 36.5	-0.9
	56nm,0.3s						
KTBS				Lg	Lg	18 10 08.5	
	299nm,0.7s						
MRKS	Merke	2.41	304	*e*P	Pg	18 09 38.1	-0.7
	42nm,0.7s						
MRKS				*e*S	Sg	18 10 11.4	+1.3
	101nm,0.6s						
MRKS	Merke	2.41	304	Pg	Pg	18 09 38.1	-0.7
	42nm,0.7s						
MRKS				Lg	Lg	18 10 11.4	
	101nm,0.6s						
SATY	Saty	2.44	48	*e*P	Pb	18 09 37.5	+0.6
	26nm,0.3s						
SATY				*e*S	Sg	18 10 10.7	-0.3
	192nm,0.5s						
SATY	Saty	2.44	48	*e*Pg	Pb	18 09 37.2	+0.2
	baz=47						
SATY				*e*Lg	Lg	18 10 11.1	
	baz=47						
SATY	Saty	2.44	48	Pg	Pb	18 09 37.5	+0.6
	26nm,0.3s						
SATY				Lg	Lg	18 10 10.7	
	192nm,0.5s						
KUU	Kurty	2.47	7	*e*P	Pg	18 09 38.7	-1.3
	67nm,0.6s						
KUU				*e*S	Sg	18 10 12.6	+0.7
	108nm,0.5s						
KUU	Kurty	2.47	7	*e*Pg	Pb	18 09 38.0	+0.6
	baz=6.6						
KUU				*e*Lg	Lg	18 10 12.5	
	baz=6.6						
KUU	Kurty	2.47	7	Pg	Pg	18 09 38.7	-1.3
	67nm,0.6s						
KUU				Lg	Lg	18 10 12.6	
	108nm,0.5s						
CHKK	Chushkaly	2.53	17	*e*P	Pb	18 09 39.6	+1.0
	29nm,0.5s						
CHKK				*e*S	Sg	18 10 13.8	-0.2
	176nm,0.3s						
CHKK	Chushkaly	2.53	17	*e*Pg	Pb	18 09 39.6	+1.0
	baz=17						
CHKK				*e*Lg	Lg	18 10 15.0	
	baz=17						
CHKK	Chushkaly	2.53	17	Pg	Pb	18 09 39.6	+1.0
	29nm,0.5s						
CHKK				Lg	Lg	18 10 13.8	
	176nm,0.3s						
KURS	Kuram	2.62	38	*e*P	Pg	18 09 41.1	-1.8
	20nm,0.6s						
KURS				*e*S	Sg	18 10 16.7	-0.3
	74nm,0.7s						
KURS	Kuram	2.62	38	Pg	Pg	18 09 41.1	-1.8
	20nm,0.6s						
KURS				Lg	Lg	18 10 16.7	
	74nm,0.7s						
UZB	Uzynbulak	2.85	52	*e*P	Pb	18 09 44.1	+0.1
	30nm,0.3s						
UZB				*e*S	Sg	18 10 21.7	-2.4
	82nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UZB	Uzynbulak	2.85	52	ePg	Pb	18 09 44.6	+0.7
	baz=51						
UZB				eLg	Lg	18 10 23.5	
	baz=51						
UZB	Uzynbulak	2.85	52	Pg	Pb	18 09 44.1	+0.1
	30nm,0.3s						
UZB				Lg	Lg	18 10 21.7	
	82nm,0.8s						
KPKS	Kokpek	2.86	44	eP	Pg	18 09 45.4	-2.1
	12nm,0.3s						
KPKS				eS	Sg	18 10 24.0	-0.6
	129nm,0.4s						
KPKS	Kokpek	2.86	44	ePg	Pb	18 09 44.5	+0.3
	baz=43						
KPKS				eLg	Lg	18 10 24.2	
	baz=43						
ARK	Arkit	3.01	278	⇓iP	Pn	18 09 42.6	+1.6
	baz=79						
ARK				⇓iS	Sb	18 10 19.2	-4.6
	baz=79						
ARXS	Arharly	3.10	26	eP	Pb	18 09 48.2	0.0
	5.7nm,0.5s						
ARXS				eS	Sb	18 10 28.5	+2.3
	98nm,0.6s						
ARXS	Arharly	3.10	26	Pg	Pb	18 09 48.2	0.0
	5.7nm,0.5s						
ARXS				Lg	Lg	18 10 28.5	
	98nm,0.6s						
SHLS	Shalkode	3.12	55	eP	Pg	18 09 54.5	+2.1
	17nm,0.5s						
SHLS				eS	Sg	18 10 39.8	+7.0
	82nm,0.5s						
SHLS	Shalkode	3.12	55	Pg	Pg	18 09 54.5	+2.1
	17nm,0.5s						
SHLS				Lg	Lg	18 10 39.8	
	82nm,0.5s						
PDGK	Podgornoye	3.23	53	Pg	Pb	18 09 50.7	+0.2
	6.5nm,0.6s						
PDGK				Lg	Lg	18 10 32.9	
	35nm,0.7s						
PDGK	Podgornoye	3.23	53	⇑Pg	Pb	18 09 47.9	-2.6
	13nm,0.6s						
PDGK				⇑Lg	Lg	18 10 32.3	
	88nm,0.8s						
BLB	Baldybastay	3.24	34	eP	Pg	18 09 52.4	-2.3
	21nm,0.4s						
BLB				eS	Sg	18 10 35.7	-1.1
	55nm,0.3s						
BLB	Baldybastay	3.24	34	Pg	Pg	18 09 52.4	-2.3
	21nm,0.4s						
BLB				Lg	Lg	18 10 35.7	
	55nm,0.3s						
TRKS	Terek-Say	3.62	273	⇑iP	Pn	18 09 50.6	+1.3
	baz=73						
TRKS				⇑iS	Sn	18 10 33.1	+0.7
	baz=73						
KNOS	Konyrlen	3.76	38	eP	Pg	18 10 01.6	-3.1
	1.6nm,0.5s						
KNOS				eS	Sg	18 10 51.6	-1.9
	6.5nm,0.3s						
KNOS	Konyrlen	3.76	38	Pg	Pg	18 10 01.6	-3.1
	1.6nm,0.5s						
KNOS				Lg	Lg	18 10 51.6	
	6.5nm,0.3s						
KTMS	Ketmen	3.83	57	eP	Pb	18 10 02.2	+1.5
	1.7nm,0.4s						
KTMS				eS	Sg	18 10 52.5	-3.0
	13nm,0.4s						
KTMS	Ketmen	3.83	57	Pg	Pb	18 10 02.2	+1.5
	1.7nm,0.4s						
KTMS				Lg	Lg	18 10 52.5	
	13nm,0.4s						
BTLS	Baital	3.86	340	eP	Pb	18 10 03.4	+2.3
	21nm,0.5s						
BTLS				eS	Sg	18 10 54.6	-2.0
	16nm,0.4s						
BTLS	Baital	3.86	340	ePg	Pg	18 10 04.0	-2.6
	baz=340						
BTLS	Baital	3.86	340	Pg	Pb	18 10 03.4	+2.3
	21nm,0.5s						
BTLS				Lg	Lg	18 10 54.6	
	16nm,0.4s						
TDK	Taldyqorghan	3.99	26	eP	Pb	18 10 05.4	+2.1
	46nm,0.5s						
TDK				eS	Sg	18 10 58.1	-2.5
	68nm,0.4s						
TDK	Taldyqorghan	3.99	26	ePg	Pg	18 10 06.3	-2.7
	baz=26						
TDK	Taldyqorghan	3.99	26	Pg	Pb	18 10 05.4	+2.1
	46nm,0.5s						
TDK				Lg	Lg	18 10 58.1	
	68nm,0.4s						
DJR	Jarkent	4.04	43	eP	Pb	18 10 06.5	+2.3
	3.5nm,0.5s						
DJR				eS	Sg	18 10 59.9	-2.5
	19nm,0.3s						
DJR	Jarkent	4.04	43	Pg	Pb	18 10 06.5	+2.3
	3.5nm,0.5s						
DJR				Lg	Lg	18 10 59.9	
	19nm,0.3s						
BTK	Batken	4.13	252	⇓iP	Pn	18 09 58.0	+1.6
	baz=53						
BTK				⇓iS	Sn	18 10 45.8	+0.7
	baz=53						
KK09	Karatay Array	4.38	294	⇓Pg	Pb	18 10 11.3	+1.3
	2.2nm,0.5s						
KK09				⇑Lg	Lg	18 11 07.2	
	7.7nm,0.6s						
IUG	Iuzhnay	4.48	281	eP	Pb	18 10 14.4	+2.6
	116nm,0.6s						
IUG				eS	Sg	18 11 13.5	-3.1
	46nm,0.9s						
IUG	Iuzhnay	4.48	281	ePg	Pb	18 10 13.7	+1.9
	baz=282						
IUG	Iuzhnay	4.48	281	Pg	Pb	18 10 14.4	+2.6
	116nm,0.6s						
IUG				Lg	Lg	18 11 13.5	
	46nm,0.9s						
KAPS	Kapalarasan	4.58	32	eP	Pb	18 10 15.2	+1.9
	4.9nm,0.6s						
KAPS				eS	Sg	18 11 15.0	-4.6
	13nm,0.5s						
KAPS	Kapalarasan	4.58	32	Pg	Pb	18 10 15.2	+1.9
	4.9nm,0.6s						
KAPS				Lg	Lg	18 11 15.0	
	13nm,0.5s						
BRLS	Borolday	4.81	291	eP	Pg	18 10 21.8	-3.0
	2.2nm,0.2s						
BRLS				eS	Sg	18 11 26.0	-1.1
	9.6nm,0.7s						
BRLS	Borolday	4.81	291	Pg	Pg	18 10 21.7	-3.0
	2.2nm,0.2s						
BRLS				Lg	Lg	18 11 26.0	
	9.6nm,0.7s						
CHM	Chimkent	4.82	283	ePg	Pb	18 10 20.1	+2.6
	baz=283						
GAR	Garm	4.95	242	⇑iP	Pn	18 10 09.0	+1.3
	baz=43						
GAR				⇑iS	Sn	18 11 05.3	0.0
	baz=43						
CHGR	Chuyangaron	5.91	244	⇑iP	Pn	18 10 22.1	+1.4
	baz=45						
CHGR				⇑iS	Sn	18 11 27.7	-1.1
	baz=45						
MAKZ	Makanchi	6.90	37	⇑Pn	Pn	18 10 35.6	+1.3
	0.7nm,0.9s						
MAKZ				⇓Pg	Pg	18 11 02.3	-2.4
	0.7nm,0.8s						
MAKZ				⇑Lg	Lg	18 12 28.0	
	2.6nm,0.7s						
MK31	Makanchi Array	7.03	38	⇓Pn	Pn	18 10 39.7	+3.6
	0.7nm,0.8s,baz=224,slow=14,SNR=6.1						
MK31				⇓Pg	Pg	18 11 04.0	-3.3
	0.8nm,0.6s,baz=218,slow=15,SNR=4.6						
MK31				⇓Lg	Lg	18 12 31.4	
	1.5nm,0.6s,baz=218,slow=24,SNR=3.5						
KURBB	Kurchatov Arra	9.36	10	⇓Lg	Lg	18 13 50.8	
	16nm,0.8s						

*IDC **03** 18:14:39.8±0.8, 22°.34N×145°.63E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.8/45, mbtmp3.8/12, ML4.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/85, Error ellipse: s-maj=27.9km s-min=18.4km az=79.0*

ISC 03 18:14:41.6±0.8**, 22°.4N**±0°.1×**145°.6E**±0°.2**, h10**km**, n14,** σ**1ˢ26**/16**, mb3.6**/11**, North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.63	328	Pn	Pn	18 16 06.4	+1.1
	7.0nm,0.3s,baz=287,slow=21,SNR=1.9						
JCJ				Sn	Sn	18 17 07.8	-2.2
	26nm,0.3s,baz=301,slow=24,SNR=11						
GUMO	Guam	8.75	184	LR	LR	18 19 42.8	
	comp=Z,54nm,20.2s,baz=110,slow=35						
KSRS	Korea Array	21.40	319	P	P	18 19 31.8	+2.4
	1.5nm,0.7s,baz=147,slow=8.7,SNR=15						
SONM	Songino Array	40.27	319	P	P	18 22 19.9	+1.1
	0.4nm,0.4s,baz=118,slow=7.4,SNR=6.1						
WRA	Warramunga Arr	43.45	195	P	P	18 22 45.0	0.0
	0.6nm,0.5s,baz=14,slow=8.5,SNR=10						
ASAR	Alice Springs	47.14	195	P	P	18 23 14.0	-0.2
	0.2nm,0.4s,baz=14,slow=6.4,SNR=14						
ZALV	Zalesovo Beam	55.08	321	P	P	18 24 13.9	+0.4
	1.9nm,0.5s,baz=103,slow=8.0,SNR=12						
ZALV				PcP	PcP	18 25 14.1	-0.8
	0.4nm,0.5s,baz=70,slow=5.1,SNR=2.5						
MKAR	Makanchi Array	55.89	312	P	P	18 24 19.3	-0.2
	0.4nm,0.5s,baz=88,slow=8.8,SNR=6.5						
MKAR				PcP	PcP	18 25 17.8	-0.5
	0.3nm,0.5s,baz=78,slow=4.6,SNR=5.8						
ILAR	Eielson Array	60.44	27	P	P	18 24 51.5	+0.4
	0.4nm,0.8s,baz=258,slow=4.5,SNR=3.5						
YKA	Yellowknife Ar	74.83	28	P	P	18 26 20.8	-1.2
	0.3nm,0.5s,baz=289,slow=5.9,SNR=4.2						
NVAR	Mina Array Bea	80.99	52	P	P	18 26 58.5	+1.4
	0.3nm,0.7s,baz=274,slow=5.8,SNR=3.8						
FINES	FINESS Array B	83.53	335	P	P	18 27 08.8	-0.7
	1.7nm,0.5s,baz=68,slow=4.4,SNR=23						
AKASG	Malin Array Be	88.24	325	P	P	18 27 31.6	-1.4
	0.7nm,0.5s,baz=53,slow=5.0,SNR=6.5						
LPAZ	La Paz	147.68	85	PKPbc	PKPbc	18 34 27.4	-0.6
	1.0nm,0.7s,baz=306,slow=1.4,SNR=3.7						

*IDC **03** 18:18:52.4±0.5, 14°.24S×166°.72E, h0km, mb4.9/24, mb1 4.9/26, mb1mx4.8/34, mbtmp4.8/26, ML2.5/1, MS4.8/55, Ms1 4.8/55, ms1mx4.7/67, Error ellipse: s-maj=17.8km s-min=12.9km az=104.0*

*BJI **03** 18:18:56.3±0.0, 14°.04S×166°.96E, h34km, mb4.9/63, mB5.2/58, Ms5.0/63, Ms7 4.7/59*

*MOS **03** 18:18:56.5±1.3, 14°.20S×166°.48E, h32km, mb5.3/30, MS4.9/6, Error ellipse: s-maj=11.4km s-min=8.2km az=112.8*

*NEIC **03** 18:18:57.9±1.5, 14°.27S±0°.08×166°.8E±0°.1, h35km±1km, mb5.2/85, Error ellipse: s-maj=18.4km s-min=13.1km az=68.0*

*GCMT **03** 18:18:58.9±0.1, 14°.26S±0°.01×166°.48E±0°.01, h19km, MW5.4/136, Moment Tensor Solution. s125,c207; s136,c236; Duration: 1ˢ2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.23±.02; $M_{\theta\theta}$0.08±.02; $M_{\phi\phi}$-1.31±.02; $M_{r\theta}$0.71±.04; $M_{\theta\phi}$0.29±.01; $M_{\phi r}$-0.60±.03; Best double couple: $M_0$1.60100×10^{17} NP1:ϕ_s8.00000°, δ34.00000°, λ125.00000°. NP2:ϕ_s148.00000°, δ63.00000°, λ69.00000°. Principal axes: T 1.6310, Plg65.0000°, Azm20.0000°; N -0.0590, Plg19.0000°, Azm158.0000°; P -1.5710, Plg15.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **03** 18:19:05.8, 14°.91S×166°.90E, h0km, MLv5.5/27, Vanuatu Islands*

ISC 03 18:18:59.7±0.3**, 14°.30S**±0°.04×**166°.59E**±0°.04**, h42**km±2km**, h42**km**:pP-P, n497,** σ**2ˢ21**/537**, mb5.1**/106**, MS4.8**/82**, 33C-24D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.29	153		Pn	18 19 18.4	-2.9
SANVU	Saraoutou	1.29	153	P	Pn	18 19 18.3	-2.9
DVP	Devils Point	3.74	156	P	Pn	18 19 55.7	+0.8
RTV	Rentapao	3.90	153	P	Pn	18 19 57.8	+0.7
LIFNC	LIFOU	6.47	175	P	Pn	18 20 33.8	+1.3
KOUNC	Koumac, New Ca	6.60	199		Pn	18 20 33.3	-0.8
KOUNC	Koumac, New Ca	6.60	199	P	Pn	18 20 36.2	+2.1
MARNC	Mare, Loyalty	7.28	169		Pn	18 20 41.7	-1.7
MARNC	Mare, Loyalty	7.28	169	P	Pn	18 20 43.6	+0.2
YATNC	Mamie plateau,	7.72	178	P	Pn	18 20 50.4	+0.8
DZM	Mont Dzumac	7.73	181	Pn	Pn	18 20 49.1	-0.7
	6.6nm,0.3s,baz=45,slow=8.8,SNR=35						
DZM				Sn	Sn	18 22 15.7	-0.5
	3.1nm,0.3s,baz=277,slow=21,SNR=1.6						
DZM	Mont Dzumac	7.73	181	ePn	Pn	18 20 49.0	-0.8
	36nm,0.3s						
DZM				eSn	Sn	18 22 13.6	-2.6
	16nm,0.3s						
DZM				eLR	LR	18 22 40.5	
	comp=Z,14μm,24.5s						
DZM	Mont Dzumac	7.73	181		Pn	18 20 48.3	-1.5
DZM	Mont Dzumac	7.73	181	P	Pn	18 20 49.5	-0.3
NOUC	Port Laguerre	7.77	182	P	Pn	18 20 52.3	+2.1
ONTNC	Ouen Toro	7.97	181		Pn	18 20 52.1	-0.8
ONTNC	Ouen Toro	7.97	181	P	Pn	18 20 54.3	+1.3
OUENC	Ouen Island, N	8.08	178	Pn	Pn	18 20 52.9	-1.6
OUENC	Ouen Island, N	8.08	178	P	Pn	18 20 56.7	+2.2
HNR	Honiara	8.10	306	Pn	Pn	18 20 55.9	+1.0
	22nm,0.3s,baz=146,slow=1.5,SNR=2.5						
HNR				LR	LR	18 24 01.7	
	comp=Z,6μm,19.4s,baz=144,slow=38						
PINNC	Pines Island,	8.31	175		Pn	18 20 57.5	-0.2
PINNC	Pines Island,	8.31	175	P	Pn	18 20 58.6	+0.9
MSVF	Nonsavu	11.54	109	Pn	Pn	18 21 42.8	+0.9
	4.1nm,0.3s,baz=25,slow=24,SNR=2.9						
MSVF				LR	LR	18 25 09.3	
	comp=Z,12μm,19.3s,baz=283,slow=33						
EIDS	Eidsvold	18.26	231	P	Pn	18 23 10.5	+0.5
	baz=18,SNR=5.9						
EIDS	Eidsvold	18.26	231	P	P	18 23 09.7	-0.1
EIDS	Eidsvold	18.26	231	P	Pn	18 23 18.1	+8.1
PMG	Port Moresby	19.62	282	P	P	18 23 24.3	-0.6
	0.4nm,0.3s,baz=102,slow=8.0,SNR=9.6						
PMG				LR	LR	18 29 55.8	
	comp=Z,5μm,18.7s,baz=70,slow=34						
PMG	Port Moresby	19.62	282	ceP	P	18 23 24.8	0.0
PMG				pmax	pmax		
	comp=Z,95nm,1.7s						
PMG	Port Moresby	19.62	282	P	P	18 23 24.9	+0.1
CTA	Charters Tower	20.25	251	P	P	18 23 30.6	-1.1
	comp=Z,25nm,0.9s,baz=62,slow=11,SNR=12						
CTA				LR	LR	18 30 42.6	
	comp=Z,4μm,18.0s,baz=78,slow=35						
CTA	Charters Tower	20.25	251	P	Pn	18 23 43.5	+10
	comp=Z,56nm,1.0s						
RMQ	Roma	20.62	231	P	P	18 23 36.3	+0.7
	baz=21,SNR=33						
AFI	Afiamalu	20.98	92	P	P	18 23 38.9	-0.8
	comp=Z,154nm,1.1s,baz=72,slow=3.6,SNR=10						
AFI				LR	LR	18 29 52.2	
	comp=Z,3μm,18.1s,baz=264,slow=32						
ARMA	Armidale	21.15	218	P	P	18 23 43.1	+1.7
	baz=21,SNR=6.5						
ARMA	Armidale	21.15	218	P	P	18 23 41.4	0.0
ARMA	Armidale	21.15	218	P	P	18 23 49.5	+8.1
MTSU	Mount Surprise	21.72	257	P	P	18 23 48.2	+0.7
	baz=22,SNR=7.6						
OUZ	Omahuta	21.77	164	P	P	18 23 53.1	+5.3
	comp=Z,56nm,1.1s						
COEN	Coen	22.71	268	P	P	18 23 58.2	+0.1
GRZ	Great Barrier	23.26	162	P	P	18 24 07.4	+4.0
MKAZ	Moumakai	23.96	163	P	P	18 24 12.3	+2.1
QLP	Quilpie	24.20	236	P	P	18 24 12.9	+0.4
	baz=24,SNR=6.7						
TOZ	Tahuroa Road	24.65	163	P	P	18 24 21.3	+4.9
HIZ	Hauiti	25.20	165	P	P	18 24 28.2	+6.7
HIZ	Hauiti	25.20	165	P	P	18 24 27.7	+6.3
	comp=Z,476nm,1.3s						
HAZ	Te Kaha	25.39	159	P	P	18 24 25.4	+2.3
MXZ	Matakaoa Point	25.41	158	P	P	18 24 27.9	+4.6
URZ	Urewera	25.62	161	P	P	18 24 26.9	+1.7
	comp=Z,47nm,1.0s,baz=14,slow=12,SNR=11						
URZ				LR	LR	18 33 57.6	
	comp=Z,2μm,18.3s,baz=346,slow=35						
URZ	Urewera	25.62	161	P	P	18 24 24.4	-0.8
URZ				IAmb	IAmb	18 24 46.1	
	comp=Z,43nm,0.9s						
URZ	Urewera	25.62	161	P	P	18 24 29.1	+3.9
URZ	Urewera	25.62	161	P	P	18 24 30.8	+5.6
	comp=Z,237nm,1.0s						
CMSA	Cobar Meteorol	25.71	225	P	P	18 24 26.3	+0.2
	baz=26,SNR=11						
RTZ	Ruatahuna	25.91	161	P	P	18 24 29.5	+1.6
CNB	Canberra Magne	26.04	213	P	P	18 24 29.4	+0.2
	baz=26,SNR=4.4						
RIGZ	Rimuhau	26.24	160	P	P	18 24 35.3	+4.4
BKZ	Black Stump Fm	26.27	162	P	P	18 24 30.2	-0.9
BKZ	Black Stump Fm	26.27	162	P	P	18 24 36.1	+4.9
BKZ	Black Stump Fm	26.27	162	P	P	18 24 35.7	+4.6
	comp=Z,120nm,1.1s						
QIS	Mount Isa	26.47	253	P	P	18 24 32.4	-0.7
	baz=27,SNR=7.4						
STKA	Stephens Creek	28.78	228	P	P	18 24 53.8	+0.1
	comp=Z,12nm,0.8s,baz=43,slow=7.3,SNR=26						
STKA				PcP	PcP	18 28 02.9	-0.1
	comp=Z,7.0nm,0.8s,baz=1.0,slow=4.7,SNR=5.1						
STKA				LR	LR	18 36 34.0	
	comp=Z,8μm,18.0s,baz=56,slow=37						
STKA	Stephens Creek	28.78	228	P	P	18 24 54.1	+0.4
	baz=29,SNR=16						
STKA	Stephens Creek	28.78	228	⇓iP	P	18 24 52.7	-1.0
STKA	Stephens Creek	28.78	228	P	P	18 24 53.6	-0.1
RPZ	Rata Peaks	29.57	173	LR	LR	18 36 53.1	
	comp=Z,4μm,18.7s,baz=354,slow=36						
WR0	Warramunga Arr	31.11	255	P	P	18 25 11.9	-2.6
WB0	Warramunga Arr	31.23	255	P	P	18 25 13.6	-2.0
WB2	Warramunga Arr	31.28	255	P	P	18 25 14.1	-1.9
WRAB	Tennant Creek	31.29	255	ceP	P	18 25 13.8	-2.2
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s						
WRAB	Tennant Creek	31.29	255	P	P	18 25 14.3	-1.7
WRAB	Tennant Creek	31.29	255	P	P	18 25 14.4	-1.6
WRAB				X		18 25 22.0	
WRAB				pP	pP	18 25 24.8	-1.4
WRAB				pwP	sP	18 25 30.7	-0.1
WRAB				sP	pwP	18 25 35.9	+4.8
WRA	Warramunga Arr	31.30	255	P	P	18 25 14.4	-1.7
	comp=Z,10nm,0.9s,baz=84,slow=8.8,SNR=43						
WRA				LR	LR	18 37 34.4	
	comp=Z,4μm,18.2s,baz=35,slow=36						
WRA	Warramunga Arr	31.30	255	iP	P	18 25 14.3	-1.8
WRA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WRA	Warramunga Arr	31.30	255	P	P	18 25 14.3	-1.8
HTT	Hallett	31.51	228	P	P	18 25 18.5	+0.6
	baz=32,SNR=5.2						
HTT	Hallett	31.51	228	P	P	18 25 29.7	+12
	comp=Z,22nm,1.1s						
AS31	Alice Springs	32.22	248	P	P	18 25 22.3	-1.9
ASAR	Alice Springs	32.22	248	P	P	18 25 22.6	-1.6
	comp=Z,8.8nm,0.9s,baz=73,slow=9.7,SNR=78						
ASAR				PcP	PcP	18 28 10.1	-2.2
	comp=Z,3.0nm,0.9s,baz=81,slow=3.3,SNR=4.9						
ASAR				ScP	ScP	18 31 55.0	+2.3
	comp=Z,1.2nm,1.0s,baz=103,slow=2.7,SNR=5.4						
ASAR				LR	LR	18 37 50.2	
	comp=Z,3μm,18.7s,baz=80,slow=35						
ASAR	Alice Springs	32.22	248	P	P	18 25 22.1	-2.1
ASAR	Alice Springs	32.22	248	P	P	18 25 22.1	-2.1
RAR	Rarotonga	32.72	107	LR	LR	18 36 00.3	
	comp=Z,1μm,21.9s,baz=283,slow=32						
KDU	Kakadu	33.20	269	P	P	18 25 32.4	-0.4
	baz=33,SNR=4.6						
BBOO	Buckleboo	33.33	231	P	P	18 25 34.2	+0.4
	baz=34,SNR=5.5						
BBOO	Buckleboo	33.33	231	P	P	18 25 33.5	-0.3
BBOO				IAmb	IAmb	18 25 46.4	
	comp=Z,36nm,0.9s						
MTN	Manton Dam	34.48	268	P	P	18 25 43.6	-0.3
	baz=35,SNR=4.6						
MTN	Manton Dam	34.48	268	P	P	18 25 42.7	-1.2
GUMO	Guam	35.08	321	LR	LR	18 40 15.6	
	comp=Z,759nm,18.3s,baz=146,slow=36						
KNRA	Kununurra	36.54	263	P	P	18 26 00.4	-1.2
	baz=37,SNR=20						
KNRA	Kununurra	36.54	263	P	P	18 25 59.2	-2.4
KNRA				IAmb	IAmb	18 26 01.6	
	comp=Z,44nm,1.0s						
SIJI	Sorong	37.39	288	LR	LR	18 42 39.5	
	comp=Z,3μm,18.1s,baz=149,slow=38						
WRKA	Warakurna	37.49	247	P	P	18 26 08.5	-1.2
	baz=38,SNR=21						
FORT	Forrest	38.96	239	P	P	18 26 22.0	+0.1
	baz=39,SNR=12						
FORT	Forrest	38.96	239	P	P	18 26 20.3	-1.6
FORT				IAmb	IAmb	18 26 33.1	
	comp=Z,67nm,1.1s						
FITZ	Fitzroy Crossi	39.45	259	LR	LR	18 42 44.2	
	comp=Z,3μm,18.4s,baz=92,slow=36						
BATI	Baumata	42.10	271	LR	LR	18 44 23.3	
	comp=Z,1μm,20.2s,baz=106,slow=36						
PPT2	Papeete2	42.21	100	eS	S	18 33 14.8	+8.1
	comp=Z,745nm,25.0s						
PPT2				eLQ	LQ	18 36 53.5	
	comp=Z,2μm,26.0s						
PPT2				eLR	LR	18 38 46.5	
	comp=Z,2μm,26.0s,baz=269						
PPT	Papeete	42.21	100	LR	LR	18 42 24.9	
	comp=Z,635nm,19.2s,baz=280,slow=34						
TBI	Tubuai	42.42	109	eS	S	18 33 17.7	+8.0
	comp=Z,602nm,25.5s						
TBI				eLQ	LQ	18 37 04.7	
	comp=Z,2μm,32.0s						
TBI				eLR	LR	18 38 53.7	
	comp=Z,2μm,26.0s,baz=277						
PMOR	Pomariorio Ree	43.98	97	eP	P	18 27 07.2	+3.9
	comp=Z,68nm,1.1s						
VAH	Vaihoa	44.22	97	eP	P	18 27 08.9	+3.7
	comp=Z,34nm,1.0s						
PSA00	Pilbara Seismi	44.92	254	P	P	18 27 09.0	-1.8
PSA00	Pilbara Seismi	44.92	254	P	P	18 27 09.7	-1.1
PSA00				IAmb	IAmb	18 27 17.5	
	comp=Z,42nm,1.4s						
MBWA	Marble Bar	45.02	254	P	P	18 27 11.6	+0.1
MBWA				pP	pP	18 27 21.5	-0.6
MEEK	Meekatharra	46.35	247	P	P	18 27 21.6	-0.4
	baz=47,SNR=12						
KAPI	Kappang	47.00	277	P	P	18 27 27.5	+0.3
KAPI				pmax	pmax		
	comp=Z,94nm,1.5s						
KAPI	Kappang	47.00	277	P	P	18 27 27.5	+0.3
KAPI	Kappang	47.00	277	P	P	18 27 27.9	+0.7
JCJ	Chichijima	47.48	330	LR	LR	18 43 53.8	
	comp=Z,246nm,21.3s,baz=114,slow=32						
KLBR	Kellerberrin	47.74	240	P	P	18 27 32.0	-0.8
	baz=48,SNR=6.5						
TOLI2	Tolitoli	47.86	285	P	P	18 27 33.9	-0.1
TOLI2				IAmb	IAmb	18 27 50.1	
	comp=Z,22nm,1.2s						
NWAO	Narrogin (SRO)	48.41	239	P	P	18 27 36.0	-1.9
NWAO				pP	pP	18 27 50.0	+1.4
NWAO				pwP	sP	18 27 55.4	+2.3
MORW	Morawa	48.86	244	P	P	18 27 40.9	-0.6
	baz=49,SNR=6.7						
MORW	Morawa	48.86	244	P	P	18 27 40.8	-0.7
MORW				IAmb	IAmb	18 27 51.0	
	comp=Z,27nm,0.9s						
MUN	Mundaring	49.10	240	P	P	18 27 46.6	+3.3
	baz=49,SNR=4.2						
JAGI	Jajag, Banyuwa	51.65	270	P	P	18 28 00.7	-2.0
	comp=Z,43nm,0.9s						
ABJI	Asem Bagus	51.70	271	P	P	18 28 05.0	+1.9
TAOE	Nuku Hiva Isla	52.37	90	eS	S	18 35 37.2	+5.7
	comp=Z,753nm,26.8s						
TAOE				eLR	LR	18 43 21.0	
	comp=Z,2μm,27.1s,baz=263						
JHJ	Hachijo jima 2	53.65	332	LR	LR	18 51 48.4	
	comp=Z,345nm,18.7s,baz=72,slow=37						
JOW	Kunigami	55.29	318	LR	LR	18 49 11.5	
	comp=Z,385nm,21.4s,baz=298,slow=33						
JYT	Yasato	56.10	334	P	P	18 28 33.9	-0.9
JYT				IAmb	IAmb	18 28 37.1	
	comp=Z,23nm,0.7s						
SBUM	Sibu	56.37	283	P	P	18 28 36.3	-0.9
INU	Inuyama	56.78	331	P	P	18 28 39.4	-0.2
INU				X		18 28 44.4	
INU				pP	pP	18 28 49.9	-0.6
JMN	Monobe	57.03	328	P	P	18 28 41.2	-0.3
MJAR	Matsushiro Arr	57.22	333	P	P	18 28 40.9	-1.9
	comp=Z,17nm,0.8s,baz=185,slow=6.7,SNR=21						
MJAR				LR	LR	18 54 01.4	
	comp=Z,266nm,19.1s,baz=148,slow=37						
MJAR	Matsushiro Arr	57.22	333	P	P	18 28 41.4	-1.4
MJAR				pmax	pmax		
	comp=Z,16nm,1.0s						
MJAR	Matsushiro Arr	57.22	333	P	P	18 28 41.4	-1.4
MJAR				IAmb	IAmb	18 28 42.8	
	comp=Z,16nm,1.0s						

MAJO Matsushiro 57.22 333 P **P** **18 28 41.8 -1.0**
MAJO pmax pmax
comp=Z,21nm,0.8s
MAJO Matsushiro 57.22 333 P **P** **18 28 41.8 -1.0**
MAJO IAmb IAmb 18 28 44.3
comp=Z,21nm,0.8s
MAJO Matsushiro 57.22 333 P **P** **18 28 42.3 -0.5**
MJB9 Matsu-Tunnel 57.23 333 P **P** **18 28 41.7 -1.2**
MJB9 IAmb IAmb 18 28 44.2
comp=Z,21nm,0.8s
KSM Kuching 57.88 281 P **P** **18 28 45.6 -2.3**
KSM IAmb IAmb 18 29 02.7
comp=Z,28nm,1.1s
JNU Nakatsue 58.19 325 P **P** **18 28 48.3 -1.4**
LEM Lembang 58.32 271 LR LR 18 55 22.6
comp=Z,562nm,19.7s,baz=95,slow=38
CNJI Cibinong 58.69 270 P pP 18 29 08.4 +4.0
CBJI Citeko 59.15 271 P pP 18 29 11.9 +4.3
DBJI Dramaga 59.22 271 P pP 18 29 10.1 +2.0
CGJI Cibinong 60.23 271 P **P** **18 29 02.6 -1.6**
comp=Z,1μmcomp=Z,58nm,1.2s
QZH Quanzhou 60.92 309⇑ *i*P **P** **18 29 09.0 +0.4**
QZH S **S** **18 37 27.2 +3.2**
QZH pmax pmax
comp=Z,220nm,6.9s
QZH LR LR
comp=Z,240nm,13.7s
QZH LR LR
comp=Z,250nm,19.9s
QZH LR LR
comp=Z,370nm,18.5s
KASI Kota Agung 61.63 271 P P 18 29 23.8 +10
KUR Kuril'sk 61.63 345 P **P** **18 29 12.8 -0.2**
KUR S **S** **18 37 32.1 -0.2**
KUR *e*SS **SS** **18 41 29.6 -5.0**
KUR MLR MLR
comp=N,2μm,14.0s
KUR MLR MLR
comp=Z,1μm,14.0s
JKA Kamikawa-asahi 62.12 341 P **P** **18 29 15.9 -0.4**
ASAJ Asahikawa 62.12 341 P **P** **18 29 16.3 0.0**
comp=Z,29nm,1.1s,baz=209,slow=6.9,SNR=16
ASAJ LR LR 18 53 14.9
comp=Z,750nm,20.4s,baz=167,slow=33
ASAJ Asahikawa 62.12 341 P **P** **18 29 15.9 -0.4**
ASAJ pmax pmax
comp=Z,57nm,1.3s
KSRS Korea Array 63.02 326 P **P** **18 29 21.9 -0.6**
comp=Z,7.0nm,1.0s,baz=142,slow=6.7,SNR=14
KSRS LR LR 18 52 21.9
comp=Z,169nm,21.6s,baz=120,slow=32
VNDA Vanda 63.28 181 P **P** **18 29 23.7 0.0**
comp=Z,7.6nm,0.8s,baz=358,slow=5.9,SNR=18
VNDA LR LR 18 53 52.7
comp=Z,616nm,19.4s,baz=12,slow=33
VNDA Vanda 63.28 181 P **P** **18 29 22.8 -0.8**
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA Vanda 63.28 181 P **P** **18 29 22.8 -0.8**
SBA Scott Base 63.56 180 P **P** **18 29 25.7 +0.2**
SBA pmax pmax
comp=Z,25nm,1.0s
SBA Scott Base 63.56 180 P **P** **18 29 25.7 +0.2**
SBA IAmb IAmb 18 29 27.9
comp=Z,25nm,1.0s
SBA Scott Base 63.56 180 P **P** **18 29 26.2 +0.7**
SBA X 18 29 33.0
SBA pP **pP** **18 29 37.1 0.0**
SBA pwP **sP** **18 29 42.1 +0.4**
SBA sP pwP 18 29 48.2 +8.5
CASY Casey 63.68 202 P **P** **18 29 25.9 -0.5**
CASY X 18 29 31.5
CASY sP **sP** **18 29 44.7 +2.2**
YSS Yuzh-Sakhalins 64.62 342 *ce*P **P** **18 29 33.3 +0.5**
YSS *e**PP **pP** **18 29 41.3 -2.4**
YSS *e**SP **sP** **18 29 46.0 -2.0**
YSS *e* 18 32 02.0
YSS *e*S **S** **18 38 13.8 +4.3**
YSS *e*PS **PnS** **18 38 20.6 -12**
YSS pmax pmax
comp=Z,400nm,3.6s
YSS pmax pmax
comp=Z,50nm,1.2s
YSS Yuzh-Sakhalins 64.62 342 P **P** **18 29 33.5 +0.7**
YSS pP **pP** **18 29 42.9 -0.8**
YSS sP **pwP** **18 29 54.4 +5.4**
NJ2 Nanjing 64.91 316 *e*P **P** **18 29 36.1 +1.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,430nm,20.4s
NJ2 LR LR
comp=Z,450nm,18.4s
NJ2 LR LR
comp=Z,630nm,18.9s
QIZ Qiongzhong 64.95 299 P **P** **18 29 35.2 -0.4**
QIZ sP **sP** **18 29 49.1 -1.5**
QIZ S **S** **18 38 17.1 +2.4**
QIZ sS **sS** **18 38 37.0 +4.6**
QIZ pmax pmax
comp=Z,170nm,5.2s
QIZ LR LR
comp=Z,140nm,13.2s
QIZ LR LR
comp=Z,200nm,17.7s
QIZ LR LR
comp=Z,230nm,21.1s
CCD Concordia, Ant 65.19 191 P **P** **18 29 36.7 0.0**
CCD pP **pP** **18 29 49.0 +0.8**
CCD pwP **sP** **18 29 53.5 +0.7**
CCD sP **PcP** **18 30 04.1 -4.9**
MSHR Mys Shultsa 65.29 332 *ce*P **P** **18 29 36.1 -1.2**
MSHR pmax pmax
comp=Z,9.0nm,0.8s
USA0B Ussuriysk Arra 66.21 333 P **P** **18 29 41.3 -1.9**
USA0B pmax pmax
comp=Z,54nm,1.4s
USA0B Ussuriysk Arra 66.21 333 P **P** **18 29 41.3 -1.9**
USRK Ussuriysk Ar. 66.21 333 P **P** **18 29 43.9 +0.7**
comp=Z,21nm,0.9s,baz=142,slow=5.8,SNR=27
USRK Ussuriysk Ar. 66.21 333 P **P** **18 29 41.8 -1.3**
USRK Ussuriysk Ar. 66.21 333 P **P** **18 29 41.8 -1.3**
SHEM Shemya Is, Ala 67.06 5 LR LR 18 53 43.1
comp=Z,748nm,21.0s,baz=181,slow=31
WHN Wuhan 67.17 312 ⇑P **P** **18 29 48.7 -0.9**
WHN S **S** **18 38 42.9 +1.7**
WHN LR LR
comp=Z,700nm,13.5s
WHN LR LR
comp=Z,360nm,12.3s
WHN LR LR
comp=Z,880nm,20.7s
PET Petropavlovsk 67.39 355 *e*P **P** **18 29 47.8 -2.7**
PET *e*S **S** **18 38 43.5 +0.5**
PET *e* 18 39 36.0
PET *e*SS **SS** **18 43 02.9 -1.2**
PET 18 46 05.2
PET pmax pmax
comp=Z,300nm,11.2s
PET pmax pmax
comp=Z,45nm,1.1s
PET pmax pmax
comp=Z,300nm,11.5s
PET MLR MLR
comp=Z,500nm,19.0s
PET MLR MLR
comp=Z,700nm,19.0s
PET Petropavlovsk 67.39 355 P **P** **18 29 49.0 -1.4**
PET IAmb IAmb 18 29 50.9
comp=Z,37nm,1.1s
DL2 Dalian 67.56 323 P **P** **18 29 51.7 -0.2**
DL2 S **S** **18 38 49.3 +3.6**
DL2 pmax pmax
comp=Z,27nm,1.1s
DL2 pmax pmax
comp=Z,210nm,5.5s
DL2 LR LR
comp=Z,550nm,14.5s
DL2 LR LR
comp=Z,270nm,15.3s
DL2 LR LR
comp=Z,400nm,17.7s
PEA0B Petropavlovsk- 67.56 354 *ce*P **P** **18 29 50.9 -0.7**
PETK Petropavlovsk- 67.56 354 P **P** **18 29 50.3 -1.3**
comp=Z,23nm,0.9s,baz=184,slow=13,SNR=15
PETK LR LR 18 54 21.2
comp=Z,688nm,21.1s,baz=153,slow=32
MDJ Mudanjiang 67.59 332 P **P** **18 29 52.3 +0.3**
MDJ pP pP 18 30 03.1 +0.1
MDJ sP sP 18 30 07.5 +0.1
MDJ S **S** **18 38 50.0 +4.1**
MDJ sS sS 18 39 07.6 +4.3
MDJ pmax pmax
comp=Z,28nm,1.3s
MDJ pmax pmax
comp=Z,360nm,7.9s
MDJ LR LR
comp=Z,230nm,19.4s
MDJ LR LR
comp=Z,300nm,18.7s
MDJ LR LR
comp=Z,190nm,19.3s
MDJ Mudanjiang 67.59 332 P **P** **18 29 52.0 0.0**
MDJ X **pP** **18 29 59.1 -3.9**
IPM Ipoh 67.62 281 P **P** **18 29 52.6 -0.2**
IPM IAmb IAmb 18 30 13.2
comp=Z,24nm,1.2s
MNSI Mandailing Nat 67.96 277 P P 18 30 02.5 +7.5
CN2 Changchun 68.94 329 *e*P **P** **18 30 00.1 -0.3**
CN2 *e*S **S** **18 39 03.2 +1.3**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,18.0s
PSI Prapat 69.14 279 LR LR 19 02 00.3
comp=Z,314nm,18.9s,baz=108,slow=37
BNX BinXian 69.45 332 ⇓P **P** **18 30 03.1 -0.4**
BNX pP **pP** **18 30 16.2 +1.4**
BNX sP **pwP** **18 30 21.6 +2.3**
BNX PP **PP** **18 32 35.2 -2.5**
BNX S **S** **18 39 04.8 -3.0**
BNX sS **sS** **18 39 25.3 0.0**
BNX pmax pmax
comp=Z,57nm,1.4s
BNX pmax pmax
comp=Z,540nm,5.6s
BNX LR LR
comp=Z,580nm,20.6s
GRNR Gornyy 69.96 340⇑ *i*P **P** **18 30 07.4 +0.8**
GRNR pmax pmax
comp=E,8.0nm,1.2s
GRNR pmax pmax
comp=N,10.0nm,1.3s
GRNR pmax pmax
comp=Z,30nm,1.1s
KLR Kul'dur 70.35 337 P **P** **18 30 08.6 -0.4**
comp=Z,7.6nm,1.1s,baz=123,slow=5.6,SNR=19
KLR LR LR 18 57 32.7
comp=Z,353nm,20.7s,baz=148,slow=33
KLR Kul'dur 70.35 337 *ce*P **P** **18 30 08.2 -0.8**
KLR pmax pmax
comp=Z,44nm,1.8s
ENH Enshi 70.58 310 P **P** **18 30 10.2 -0.7**
ENH pP **pP** **18 30 20.4 -1.3**
LYN LuoYang 70.71 315 *e*P **P** **18 30 12.2 +0.7**
LYN S **S** **18 39 24.8 +1.8**
LYN SS **SS** **18 43 54.3 -1.7**
LYN pmax pmax
comp=Z,250nm,7.1s
LYN LR LR
comp=Z,300nm,19.0s
LYN LR LR
comp=Z,270nm,16.9s
LYN LR LR
comp=Z,360nm,17.3s
NKL Nikolayevsk 70.77 344 *e*P **P** **18 30 09.4 -2.0**
NKL pmax pmax
comp=E,3.0nm,0.7s
NKL pmax pmax
comp=N,1.0nm,1.1s
NKL pmax pmax
comp=Z,40nm,1.2s
NKL MLR MLR
comp=N,1.0nm,18.0s
NKL MLR MLR
comp=E,35nm,16.0s
NKL MLR MLR
comp=Z,304nm,16.0s
HNS HongShan 70.84 318⇑ P **P** **18 30 12.7 +0.5**
HNS pP **pP** **18 30 25.4 +2.3**
HNS S **S** **18 39 26.0 +1.5**
HNS sS **pS** **18 39 39.3 +1.8**
HNS pmax pmax
comp=Z,14nm,1.1s
HNS pmax pmax
comp=Z,280nm,6.5s
HNS LR LR
comp=Z,350nm,17.3s
HNS LR LR
comp=Z,460nm,17.8s
HNS LR LR
comp=Z,530nm,18.2s
GYA Guiyang 70.93 305 ⇓P **P** **18 30 13.8 +0.6**
GYA pmax pmax
comp=Z,8.0nm,1.0s
BJI Beijing 71.52 321 P **P** **18 30 16.9 +0.6**
BJI pP **pP** **18 30 27.6 +0.5**
BJI S **S** **18 39 35.7 +3.5**
BJI pmax pmax
comp=Z,13nm,1.2s
BJI pmax pmax
comp=Z,280nm,6.9s
BJI LR LR
comp=Z,250nm,18.4s
TIY Taiyuan 72.50 318 P **P** **18 30 23.1 +0.8**
XAN Xi'an 72.92 313 P **P** **18 30 24.7 -0.2**
XAN pP pP 18 30 35.7 0.0
XAN sP sP 18 30 40.3 +0.4
XAN PP **PP** **18 33 10.0 +2.2**
XAN S **S** **18 39 49.5 +0.9**
XAN sS sS 18 40 06.0 -0.1
XAN ScS **ScS** **18 40 31.4 +1.8**
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN pmax pmax
comp=Z,190nm,5.2s
XAN LR LR
comp=Z,350nm,16.5s
XAN LR LR
comp=Z,220nm,17.2s
XAN LR LR
comp=Z,420nm,17.5s
KMI Kunming 73.52 302 ⇓P **P** **18 30 30.4 +1.6**
KMI pP sP 18 30 42.3 -1.6
KMI S **SKiKP** **18 39 56.9 +0.6**
KMI SS **SS** **18 44 36.1 -3.8**
KMI pmax pmax
comp=Z,18nm,1.2s
KMI pmax pmax
comp=Z,260nm,7.5s
KMI LR LR
comp=Z,140nm,14.0s
KMI LR LR
comp=Z,220nm,24.8s
KMI LR LR
comp=Z,300nm,21.5s
XLT XiLinHaoTe 73.97 325 ⇓ *i*P **P** **18 30 31.6 +0.7**
XLT pP pP 18 30 41.6 -0.6
XLT sP PcP 18 30 44.5 -1.6
XLT S **S** **18 40 04.6 +4.3**
XLT ScS **ScS** **18 40 39.1 +1.4**
XLT SS **SS** **18 44 46.3 +0.4**
XLT pmax pmax
comp=Z,27nm,1.3s
XLT pmax pmax
comp=Z,320nm,3.7s
XLT LR LR
comp=Z,32nm,14.8s
XLT LR LR
comp=Z,230nm,16.7s
XLT LR LR
comp=Z,240nm,19.8s
CMAR Chiang Mai Arr 74.17 294 P **P** **18 30 33.3 +0.8**
comp=Z,4.6nm,1.0s,baz=119,slow=4.4,SNR=26
CHTO Chiang Mai 74.30 294 P **P** **18 30 32.6 -0.7**
CHTO pmax pmax
comp=Z,12nm,1.1s
CHTO Chiang Mai 74.30 294 P **P** **18 30 32.6 -0.7**
MA2 Magadan 74.73 352 P **P** **18 30 32.8 -2.0**
comp=Z,20nm,1.0s,baz=164,slow=5.2,SNR=12
MA2 LR LR 18 59 36.1
comp=Z,702nm,20.7s,baz=144,slow=33
MA2 Magadan 74.73 352 *ce*P **P** **18 30 32.6 -2.2**
MA2 pmax pmax
comp=Z,16nm,0.9s
MA2 Magadan 74.73 352 P **P** **18 30 33.4 -1.4**
MA2 IAmb IAmb 18 30 34.9
comp=Z,35nm,1.1s
HHC Hu-ho-hao-te 74.83 320 *e*P **P** **18 30 36.3 +0.3**
HHC S **S** **18 40 13.6 +3.5**
HHC SS **SS** **18 45 00.5 +1.4**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,240nm,5.5s
HHC LR LR
comp=Z,430nm,15.9s
HHC LR LR
comp=Z,380nm,16.5s
HHC LR LR
comp=Z,530nm,15.9s
PZH PanZhiHua 74.91 303 P **P** **18 30 37.3 +0.5**
PZH pP **pP** **18 30 48.2 +0.5**
PZH sP **pwP** **18 30 54.6 +0.7**
PZH S **S** **18 40 13.8 +2.3**
PZH ScS **ScS** **18 40 45.0 -1.1**
PZH SS **SS** **18 45 03.0 +2.1**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,160nm,7.5s
PZH LR LR
comp=Z,590nm,23.9s
PZH LR LR
comp=Z,650nm,22.7s
PZH LR LR
comp=Z,900nm,22.9s
CD2 Chengdu 75.23 308 *e*P **P** **18 30 38.0 -0.4**
CD2 PP **PP** **18 33 27.7 +0.2**
CD2 S **S** **18 40 17.2 +2.5**
CD2 sS sS 18 40 35.3 +2.9
CD2 SS **SS** **18 45 08.4 +3.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,300nm,12.8s
CD2 LR LR
comp=Z,70nm,16.6s
CD2 LR LR
comp=Z,90nm,15.1s
CD2 LR LR
comp=Z,500nm,17.6s
ZEA Zeya 75.64 337 *ce*P **P** **18 30 40.6 +0.4**
ZEA *e*S **S** **18 40 25.1 +6.9**
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA pmax pmax
comp=N,100nm,5.9s
ZEA pmax pmax
comp=Z,100nm,6.4s
ZEA smax smax
comp=N,200nm,11.0s
ZEA smax smax
comp=E,200nm,12.7s
BTO Baotou 75.67 319 *e*P **P** **18 30 41.7 +0.9**
BTO S **S** **18 40 23.7 +4.4**
BTO LR LR
comp=E,940nm,15.8s
BTO LR LR
comp=E,890nm,16.6s
QSPA South Pole Qui 75.73 180 LR LR 18 59 44.9
comp=E,534nm,21.6s,baz=36,slow=32
QSPA South Pole Qui 75.73 180 P **P** **18 30 40.1 -0.7**
QSPA IAmb IAmb 18 30 52.1
comp=Z,31nm,1.1s
LZH Lanzhou 77.55 312 *e*P **P** **18 30 52.6 +1.0**
LZH pP sP 18 31 05.5 -1.2
LZH sP pwP 18 31 11.4 +2.5
LZH S **S** **18 40 42.7 +2.5**
LZH sS SKSac 18 41 01.9 -0.1
LZH pmax pmax
comp=Z,32nm,1.0s
LZH pmax pmax
comp=Z,270nm,4.9s
LZH LR LR
comp=Z,260nm,14.6s
LZH LR LR
comp=Z,330nm,15.2s
LZH LR LR
comp=Z,330nm,17.9s
SEY Seymchan 77.78 353 P **P** **18 30 50.1 -2.0**
comp=Z,30nm,1.0s,baz=154,slow=6.0,SNR=60
SEY LR LR 19 01 17.3
comp=Z,856nm,20.7s,baz=166,slow=33
SEY Seymchan 77.78 353 *ce*P **P** **18 30 50.8 -1.3**
SEY pmax pmax
comp=Z,52nm,1.1s
RPN Rapa Nui 78.44 115 LR LR 18 58 30.3
comp=Z,234nm,19.2s,baz=250,slow=30
KDAK Kodiak Island 79.30 21 LR LR 19 00 28.0
comp=Z,1μm,20.2s,baz=235,slow=32
GAMB Gambell 79.61 10 P **P** **18 31 01.2 -0.9**
GAMB IAmb IAmb 18 31 02.8
comp=Z,22nm,0.8s
GAMB Gambell 79.61 10 P **P** **18 31 01.2 -0.9**
baz=201
CIT Chita 80.37 330 *e*P **P** **18 31 06.4 -0.2**
CIT *e* 18 31 12.6
CIT pmax pmax
comp=Z,90nm,2.0s
ULN Ulaanbaatar 81.40 324 *ce*P **P** **18 31 12.4 +0.1**
ULN pmax pmax
comp=Z,67nm,2.5s
ULN Ulaanbaatar 81.40 324 P **P** **18 31 11.5 -0.8**
ULN IAmb IAmb 18 31 15.1
comp=Z,25nm,1.1s
YAK Yakutsk 81.43 343 P **P** **18 31 11.1 -0.8**
comp=Z,19nm,0.8s,baz=126,slow=1.4,SNR=57
YAK LR LR 19 08 43.0
comp=Z,530nm,18.0s,baz=105,slow=37
YAK Yakutsk 81.43 343 *e*P **P** **18 31 11.0 -0.9**
YAK *e**PP **PcP** **18 31 20.1 +2.3**
YAK *e*S **S** **18 41 20.3 +0.5**
YAK *e*SS **SS** **18 46 34.1 -3.1**
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,78nm,3.0s
YAK pmax pmax
comp=N,31nm,2.2s
YAK pmax pmax
comp=E,33nm,2.3s
YAK smax smax
comp=E,48nm,4.2s
YAK MLR MLR
comp=Z,842nm,17.0s
YAK MLR MLR
comp=N,395nm,17.0s
YAK MLR MLR
comp=E,338nm,17.0s
YAK Yakutsk 81.43 343 P **P** **18 31 09.7 -2.2**
ANM Nome 81.48 12 P **P** **18 31 11.2 -0.9**
ANM pmax pmax
comp=Z,27nm,1.1s
ANM Nome 81.48 12 P **P** **18 31 11.2 -0.9**
ANM IAmb IAmb 18 31 12.9
comp=Z,27nm,1.1s
ANM Nome 81.48 12 P **P** **18 31 11.5 -0.6**
baz=207
SONM Songino Array 81.76 324 P **P** **18 31 14.0 -0.2**
comp=Z,5.0nm,1.0s,baz=140,slow=6.0,SNR=35
SONM Songino Array 81.76 324 P **P** **18 31 13.9 -0.2**
SONM pmax pmax
comp=Z,18nm,1.3s

SONM Songino Array 81.76 324 P P 18 31 13.9 -0.3
SONM IAmb IAmb 18 31 16.7
comp=Z,18nm,1.3s
GTA Gaotai 81.90 314 ⇑P P 18 31 15.8 +0.7
GTA pP PcP 18 31 22.3 +1.7
GTA sP pP 18 31 26.3 -0.2
GTA PP **PP 18 34 28.6 +5.5**
GTA S **S 18 41 30.1 +4.1**
GTA pmax pmax
comp=Z,18nm,1.1s
GTA pmax pmax
comp=Z,220nm,7.6s
GTA LR LR
comp=Z,200nm,17.1s
GTA LR LR
comp=Z,370nm,18.3s
GTA LR LR
comp=Z,370nm,18.3s
TNA Tin City 81.90 10 P P 18 31 13.3 -1.0
baz=205
L19K White Mountain 82.02 17 P P 18 31 13.1 -2.0
L19K IAmb IAmb 18 31 18.2
comp=Z,12nm,0.8s
L19K White Mountain 82.02 17 P P 18 31 14.3 -0.7
baz=217
MAW Mawson 82.03 202 LR LR 19 02 58.2
comp=Z,808nm,21.1s,baz=100,slow=32
BILL Bilibino 82.11 360 *d* iP **P 18 31 14.2 -1.2**
BILL *e**PP **PcP 18 31 22.8 +2.1**
BILL *e* 18 34 22.2
BILL *e*PPP PPP 18 36 10.6
BILL *e*S **S 18 41 26.7 0.0**
BILL pmax pmax
comp=Z,33nm,0.7s
BILL MLR MLR
comp=Z,280nm,20.0s
BILL Bilibino 82.11 360 P P 18 31 13.6 -1.8
M20K Styx River 82.28 18 P P 18 31 14.9 -1.6
M20K Styx River 82.28 18 P P 18 31 15.8 -0.7
baz=219,SNR=6.1
TTA Tatalina 82.29 16 P P 18 31 16.8 +0.3
TTA pmax pmax
comp=Z,11nm,0.7s
TTA Tatalina 82.29 16 P P 18 31 16.8 +0.3
TTA IAmb IAmb 18 31 45.6
comp=Z,11nm,0.7s
TTA Tatalina 82.29 16 P P 18 31 16.0 -0.5
baz=216
L20K Farewell, AK 82.53 17 P P 18 31 17.6 -0.1
baz=218,SNR=12
RC01 Rabbit Creek A 82.75 20 P P 18 31 17.0 -1.9
RC01 IAmb IAmb 18 31 18.8
comp=Z,18nm,1.0s
RC01 Rabbit Creek A 82.75 20 P P 18 31 17.7 -1.2
baz=222,SNR=5.3
SHL Shillong 82.78 299 P P 18 31 19.0 -1.1
SHL pmax pmax
comp=Z,33nm,1.3s
SHL Shillong 82.78 299 P P 18 31 19.0 -1.1
SHL IAmb IAmb 18 31 26.7
comp=Z,33nm,1.3s
PWL Port Wells 83.05 20 P P 18 31 19.1 -1.3
PWL Port Wells 83.05 20 P P 18 31 19.2 -1.3
baz=224,SNR=14
M22K Willow 83.12 19 P P 18 31 19.0 -1.7
M22K Willow 83.12 19 P P 18 31 19.5 -1.2
baz=222
K20K Telida 83.17 17 P P 18 31 20.6 -0.4
baz=218,SNR=8.3
PMR Palmer 83.32 20 P P 18 31 20.7 -1.1
baz=223,SNR=5.7
KNK Knik Glacier 83.41 20 P P 18 31 21.4 -0.9
baz=223,SNR=7.6
GLI Glacier Island 83.48 21 P P 18 31 21.7 -1.0
baz=225
GCSA Galena City Sc 83.54 15 P P 18 31 23.0 +0.1
baz=215
EYAK Cordova Ski Ar 83.72 22 P P 18 31 23.2 -0.6
baz=226
SML Sawmill 83.73 20 P P 18 31 23.6 -0.4
baz=224,SNR=6.3
KAIM Kayak Island 83.78 22 P P 18 31 23.3 -0.9
baz=227
CAST Castle Rocks 83.78 17 P P 18 31 21.8 -2.4
CAST Castle Rocks 83.78 17 P P 18 31 22.6 -1.5
baz=220,SNR=24
J20K Nowinta River 83.79 16 P P 18 31 23.2 -0.9
J20K IAmb IAmb 18 31 26.3
comp=Z,7.8nm,0.7s
J20K Nowinta River 83.79 16 P P 18 31 23.7 -0.4
baz=218,SNR=8.5
BOD Bodaibo 83.81 335 *e*P **P 18 31 23.1 -1.3**
BOD pmax pmax
comp=Z,29nm,1.8s
CHUM Lake Minchumin 84.07 17 P P 18 31 24.6 -1.0
baz=220,SNR=13
SCM Sheep Creek Mo 84.08 20 P P 18 31 25.2 -0.6
baz=224,SNR=7.5
GOMU GeErMu 84.21 309 P P 18 31 27.5 +0.1
GOMU S **S 18 41 49.9 -0.2**
GOMU SS **SS 18 47 19.4 -1.0**
GOMU pmax pmax
comp=Z,3.0nm,1.1s
GOMU pmax pmax
comp=Z,190nm,5.1s
GOMU LR LR
comp=Z,95nm,18.6s
GOMU LR LR
comp=Z,130nm,17.5s
GOMU LR LR
comp=Z,190nm,17.4s
KTH Kantishna Hill 84.22 18 P P 18 31 24.6 -1.8
KLU Klutina 84.32 21 P P 18 31 26.4 -0.6
baz=226
TRF Thorofare Moun 84.33 18 P P 18 31 24.2 -3.0
TRF IAmb IAmb 18 31 26.3
comp=Z,28nm,1.0s
TRF Thorofare Moun 84.33 18 P P 18 31 25.3 -1.9
baz=222,SNR=17
WAT6 Susitna Watana 84.49 19 P P 18 31 27.3 -0.6
baz=224,SNR=8.4
BPAW Bear Paw Mtn. 84.62 17 P P 18 31 27.2 -1.2
BPAW IAmb IAmb 18 31 27.4
comp=Z,14nm,1.0s
BPAW Bear Paw Mtn. 84.62 17 P P 18 31 26.4 -2.0
baz=221,SNR=12
RND Reindeer 84.74 18 P P 18 31 27.7 -1.4
RND pmax pmax
comp=Z,51nm,1.1s
RND Reindeer 84.74 18 P P 18 31 27.7 -1.4
ZAK Zakamensk 84.82 325 *e*P **P 18 31 29.0 -0.9**
ZAK pmax pmax
comp=Z,28nm,1.4s
N25K Chitina, Valde 84.86 21 P P 18 31 29.2 -0.6
baz=227
O02D Mt. Diablo Mer 84.91 47 P P 18 31 29.2 -1.4
baz=246
MCK McKinley 84.95 18 P P 18 31 28.7 -1.4
MCK pmax pmax
comp=Z,49nm,1.1s
MCK McKinley 84.95 18 P P 18 31 28.7 -1.4
MCK McKinley 84.95 18 P P 18 31 28.6 -1.5
baz=223,SNR=28
DHY Denali Highway 84.96 19 P P 18 31 29.8 -0.5
baz=224,SNR=6.1
RDOG Red Dog Mine 85.03 11 P P 18 31 29.9 -0.5
baz=209,SNR=7.0
BWN Browne 85.11 18 P P 18 31 29.7 -1.2
I21K Tanana 85.16 16 P P 18 31 30.0 -1.1
I21K Tanana 85.16 16 P P 18 31 30.4 -0.7
baz=220,SNR=45
IRK Irkutsk 85.22 327 *e*P **P 18 31 27.7 -4.0**
IRK pmax pmax
comp=Z,48nm,3.9s
H21K Melozitna Rive 85.31 16 P P 18 31 30.9 -0.9
H21K Melozitna Rive 85.31 16 P P 18 31 31.3 -0.6
baz=219,SNR=24
IMAR Indian Mountai 85.32 15 P P 18 31 30.6 -1.3
M02C Callahan 85.34 45 P P 18 31 30.9 -1.7
baz=246
TABL Table Mountain 85.35 23 P P 18 31 30.6 -1.8
TABL IAmb IAmb 18 31 32.8
comp=Z,14nm,0.9s
MLY Manley 85.39 17 P P 18 31 31.3 -1.0
baz=221,SNR=17
NEA2 Nenana 85.54 18 P P 18 31 31.3 -1.8
baz=223,SNR=11
YBH Yreka Blue Hor 85.58 45 LR LR 19 02 18.3
comp=Z,447nm,20.8s,baz=252,slow=30
WRH Wood River Hil 85.74 18 P P 18 31 32.0 -2.0
WRH IAmb IAmb 18 31 33.8
comp=Z,22nm,0.9s
HUMO Hull Mountain 85.76 44 P P 18 31 32.5 -2.1
CMB Columbia Colle 85.82 49 P P 18 31 33.1 -2.0
CMB pmax pmax
comp=Z,3.0nm,1.0s
CMB Columbia Colle 85.82 49 P P 18 31 33.1 -2.0
I23K Minto, Yukon-K 85.87 17 P P 18 31 32.7 -1.8
I23K Minto, Yukon-K 85.87 17 P P 18 31 33.2 -1.4
baz=222,SNR=7.3
HDA Harding Lake 86.05 18 P P 18 31 33.5 -2.0
HDA Harding Lake 86.05 18 P P 18 31 34.8 -0.8
baz=225,SNR=28
L04D Klamath Falls 86.05 45 P P 18 31 35.0 -1.2
baz=247
MDM Murphy Dome 86.06 18 P P 18 31 33.0 -2.6
TCOL CIGO, UAF Yank 86.10 18 P P 18 31 34.8 -0.9
baz=224,SNR=5.8
COLA College 86.11 18 ⇓ *i*P **P 18 31 33.3 -2.4**
COLA pmax pmax
comp=Z,18nm,0.8s
COLA College 86.11 18 P P 18 31 34.1 -1.6
RIDG Independent Ri 86.24 20 P P 18 31 34.4 -2.1
RIDG IAmb IAmb 18 31 36.6
comp=Z,12nm,0.9s
RIDG Independent Ri 86.24 20 P P 18 31 34.9 -1.6
baz=227,SNR=8.2
L26K Log Cabin Wild 86.25 21 P P 18 31 35.6 -0.9
baz=228
M27K Edge Creek, AK 86.32 21 P P 18 31 36.2 -0.9
baz=229
IL31 86.32 18 IAmb IAmb 18 31 36.2
comp=Z,17nm,0.9s
ILAR Eielson Array 86.32 18 P P 18 31 34.1 -2.8
comp=Z,12nm,0.8s,baz=234,slow=5.4,SNR=89
ILAR PKKPbc **PKKPdf 18 49 34.0 +2.9**
comp=Z,0.6nm,0.8s,baz=21,slow=1.3,SNR=6.1
ILAR LR LR 19 05 37.9
comp=Z,976nm,19.8s,baz=241,slow=32
POKR Poker Plat Res 86.41 18 P P 18 31 35.8 -1.5
baz=224,SNR=5.4
YUK3 Moose Creek 86.46 22 P P 18 31 36.3 -1.6
baz=231
EDW2 Edwards Air Fo 86.50 53 P P 18 31 36.7 -1.8
baz=250
J25K Salcha River, 86.68 19 IAmb IAmb 18 31 38.6
comp=Z,17nm,0.9s
J25K Salcha River, 86.68 19 P P 18 31 37.1 -1.6
baz=226,SNR=20
SCRK Sand Creek 86.68 20 IAmb IAmb 18 31 38.9
comp=Z,11nm,0.8s
SCRK Sand Creek 86.68 20 P P 18 31 37.2 -1.6
baz=227
MOY Mondy 86.71 325 *e*P **P 18 31 38.4 -0.8**
MOY pmax pmax
comp=Z,28nm,2.7s
BVCY Beaver Creek 86.72 22 P P 18 31 38.1 -0.8
baz=230
BBB Bella Bella 86.79 34 LR LR 19 02 52.4
comp=Z,617nm,20.9s,baz=240,slow=30
H24K Noodor Dome 86.80 17 P P 18 31 37.3 -1.9
baz=224
L27K Beaver Creek, 86.80 21 P P 18 31 37.9 -1.4
baz=229
CWC Cottonwood Cre 86.97 51 P P 18 31 38.5 -2.4
baz=250
J26L Joseph Creek 87.17 19 P P 18 31 40.0 -1.1
baz=228
J05D Fort Rock, OR 87.19 44 P P 18 31 40.8 -1.0
baz=247
COLD Coldfoot 87.19 15 P P 18 31 40.4 -0.6
COLD IAmb IAmb 18 31 43.4
comp=Z,17nm,0.9s
COLD Coldfoot 87.19 15 P P 18 31 41.5 +0.4
baz=221,SNR=19
BELA Belgrano 2 87.20 176 IAmb IAmb 18 31 50.4
comp=Z,31nm,1.3s
PFO Pinyon Flats O 87.28 54 LR LR 19 04 48.1
comp=Z,1µm,18.7s,baz=244,slow=32
NVAR Mina Array Bea 87.49 49 P P 18 31 41.4 -2.0
comp=Z,2.1nm,0.8s,baz=225,slow=7.3,SNR=14
NVAR LR LR 19 03 33.2
comp=Z,2µm,20.1s,baz=260,slow=31
BELC Belle Mtn. Jos 87.77 54 P P 18 31 42.2 -2.6
baz=251
PALK Pallekele 87.82 278 LR LR 19 11 52.1
comp=Z,230nm,19.9s,baz=218,slow=36
EGAK Eagle 88.13 20 IAmb IAmb 18 31 45.4
comp=Z,10nm,1.1s
EGAK Eagle 88.13 20 P P 18 31 43.6 -2.0
baz=230
DAWY Dawson 88.28 21 P P 18 31 45.4 -0.9
baz=232
M30M Minto, Yukon 88.31 23 P P 18 31 43.8 -2.8
baz=234
A04D Lummi Island 88.38 39 P P 18 31 46.8 -0.3
baz=246
TOLK Toolik Lake Re 88.41 15 IAmb IAmb 18 31 47.9
comp=Z,15nm,0.8s
TOLK Toolik Lake Re 88.41 15 P P 18 31 46.7 -0.2
baz=222,SNR=18
IRM Iron Mountain 88.49 54 P P 18 31 46.6 -1.5
baz=252
DLBC Dease Lake 88.87 28 LR LR 19 03 40.0
comp=Z,497nm,21.3s,baz=268,slow=30
SYO Syowa Base 88.93 197 ⇑ *e*X **P 18 31 45.2 -4.2**
TIXI Tiksi 89.42 349 P **P 18 31 49.9 -1.6**
comp=Z,11nm,1.0s,baz=267,slow=19,SNR=31
TIXI Tiksi 89.42 349 *ce*P **P 18 31 50.1 -1.4**
TIXI pmax pmax
comp=Z,12nm,1.1s
TIXI Tiksi 89.42 349 P P 18 31 48.9 -2.5
TIXI IAmb IAmb 18 31 52.2
comp=Z,11nm,1.0s
I29M Ogilvie Camp, 89.44 20 P P 18 31 50.2 -1.6
baz=232
R11A Troy Canyon, C 89.48 50 P P 18 31 50.8 -2.0
baz=251
LPIG La Paz 89.61 65 LR LR 19 02 18.5
comp=Z,442nm,22.0s,baz=220,slow=29
ELK Elko 90.49 48 LR LR 19 07 00.4
comp=Z,977nm,19.1s,baz=247,slow=32
EPYK Eagle Plains 90.57 20 P P 18 31 54.9 -2.2
baz=234
NEW Newport 91.66 40 LR LR 19 11 38.2
comp=Z,397nm,18.0s,baz=225,slow=35
WMQ Urumqi 91.96 315 *e*P **P 18 32 03.9 -0.2**
WMQ pP PcP 18 32 09.8 +4.9
WMQ pmax pmax
comp=Z,13nm,1.9s
WMQ LR LR
comp=Z,280nm,22.7s
WMQ LR LR
comp=Z,210nm,21.1s
PMSA Palmer Station 92.39 161 LR LR 19 10 41.1
comp=Z,372nm,18.1s,baz=240,slow=34
INK Inuvik 92.69 19 LR LR 19 08 35.2
comp=Z,818nm,20.8s,baz=214,slow=32
TROLL Troll, Antarti 93.23 185 P P 18 32 08.8 -0.8
SNAA Sanae 93.94 183 P P 18 32 11.1 -1.7
SNAA Sanae 93.94 183 LR LR 19 12 19.3
comp=Z,462nm,20.1s,baz=186,slow=34
SNAA Sanae 93.94 183 *ce*P **P 18 32 12.1 -0.7**
SNAA pmax pmax
comp=Z,23nm,1.0s
SNAA Sanae 93.94 183 P P 18 32 09.8 -3.0
VNA3 Neumayer Olymp 94.63 181 P P 18 32 14.3 -1.6
VNA2 Neumayer--Watz 94.89 182 P P 18 32 15.8 -1.2
baz=167,slow=4.0
PDAR Pinedale Array 95.14 47 LR LR 19 09 51.6
comp=Z,471nm,19.0s,baz=272,slow=32
VNA1 Neumayer--Stat 95.19 182 P P 18 32 16.9 -1.5
ANMO Albuquerque 95.60 56 LR LR 19 07 42.7
comp=Z,919nm,20.4s,baz=272,slow=31
C36M Paulatuk 96.20 20 P P 18 32 19.9 -3.0
C36M IAmb IAmb 18 32 21.3
comp=Z,8.6nm,1.1s
C36M Paulatuk 96.20 20 P P 18 32 21.0 -1.8
baz=246
MK31 Makanchi Array 96.44 317 ⇓ *i*P **P 18 32 23.4 -1.1**
MK31 Makanchi Array 96.44 317 P P 18 32 23.4 -1.1
MK31 IAmb IAmb 18 32 25.2
comp=Z,7.3nm,1.1s
MKAR Makanchi Array 96.44 317 P P 18 32 23.9 -0.7
comp=Z,5.8nm,1.0s,baz=103,slow=5.5,SNR=41
MKAR PP PP 18 36 10.7 -8.3
comp=Z,0.6nm,0.9s,baz=90,slow=8.6,SNR=3.2
MKAR PKKPbc **PKKPbc 18 49 07.0 -3.9**
comp=Z,0.6nm,1.0s,baz=353,slow=3.2,SNR=4.2
MKAR Makanchi Array 96.44 317 P P 18 32 23.7 -0.8
TXAR Lajitas Array 96.65 62 P P 18 32 24.3 -1.7
comp=Z,0.3nm,0.8s,baz=193,slow=7.4,SNR=2.7
TXAR LR LR 19 07 13.9
comp=Z,558nm,21.8s,baz=264,slow=30
MAKZ Makanchi 96.65 316 P P 18 32 23.9 -1.6
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
MAKZ Makanchi 96.65 316 P P 18 32 23.9 -1.6
MAKZ IAmb IAmb 18 32 36.1
comp=Z,8.1nm,1.1s
ZALV Zalesovo Beam 96.66 324 P P 18 32 23.9 -1.4
comp=Z,2.5nm,0.7s,baz=108,slow=4.8,SNR=19
ZALV LR LR 19 14 49.8
comp=Z,196nm,21.1s,baz=100,slow=35
ZALV Zalesovo Beam 96.66 324 *i* P **P 18 32 23.8 -1.5**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
A36M Sachs Harbour 96.95 17 P P 18 32 23.7 -2.5
A36M IAmb IAmb 18 32 26.0
comp=Z,10nm,0.9s
A36M Sachs Harbour 96.95 17 P P 18 32 24.6 -1.6
baz=245
YKA Yellowknife Ar 97.47 27 P P 18 32 26.7 -2.0
comp=Z,1.7nm,0.8s,baz=254,slow=4.6,SNR=21
YKA PKiKP **PKiKP 18 37 03.5 +0.3**
comp=Z,0.5nm,0.7s,baz=240,slow=1.4,SNR=7.6
YKA LR LR 19 09 20.8
comp=Z,200nm,20.6s,baz=260,slow=31
YKA Yellowknife Ar 97.47 27 P P 18 32 26.0 -2.7
YKA Yellowknife Ar 97.47 27 P P 18 32 26.0 -2.7
NRIK Noril'sk 99.44 339 P Pdif 18 32 35.3 -2.1
comp=Z,4.9nm,0.9s,baz=124,slow=7.2,SNR=7.0
NRIK LR LR 19 19 02.5
comp=Z,300nm,18.5s,baz=100,slow=36
NRIK Noril'sk 99.44 339 *ce*P **Pdif 18 32 34.9 -2.5**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 99.69 320 LR LR 19 20 35.2
comp=Z,298nm,18.1s,baz=78,slow=37
ARU Arti 111.76 325 *i* PKiKP **PKiKP 18 37 28.7 -1.0**
ARU 18 38 16.8
ARU 18 44 40.6
ARU SS SS 18 54 04.5 +19
PRGR Permogore 116.99 333 *e*PKiKP **PKPdf 18 37 36.4 -3.1**
PRGR pmax pmax
comp=Z,17nm,1.5s
DAG Danmarks Havn 117.46 1 *i* P **PKPdf 18 37 37.0 -3.1**
LPAZ La Paz 117.99 117 PKP PKPdf 18 37 42.6 -1.1
comp=Z,1.9nm,0.9s,baz=45,slow=5.2,SNR=4.6
ARCES ARCESS Array B 119.67 345 PKP PKPdf 18 37 43.5 -1.1
comp=Z,6.2nm,0.8s,baz=70,slow=1.9,SNR=15
KLMR Klimovskoe 120.00 333 *e*PKiKP **PKPdf 18 37 42.9 -2.4**
KLMR pmax pmax
comp=Z,19nm,1.5s
KLMR Klimovskoe 120.00 333 *e*PKPdf **PKPdf 18 37 43.0 -2.4**
KLMR AMP 18 37 45.2
comp=Z,19nm,1.5s
MAK Makhachkala 120.84 312 *i* P **Pdif 18 34 07.1 -6.1**
MAK *e*PPP PPP 18 41 44.5
MAK *e* 18 44 36.3
MAK pmax pmax
comp=Z,72nm,1.0s
CPUP Villa Florida 121.22 133 PKP PKPdf 18 37 47.2 -1.7
comp=Z,5.5nm,1.0s,baz=320,slow=3.3,SNR=5.2
SCHQ Schefferville 122.30 33 PKP PKPdf 18 37 48.3 -1.8
comp=Z,5.7nm,0.9s,baz=341,slow=2.7,SNR=4.6
BOSA Boshof 123.27 221 PKP PKPdf 18 37 51.0 -1.9
comp=Z,5.1nm,1.0s,baz=300,slow=9.5,SNR=3.6
ZEI Tsey 123.47 312 *i* PKiKP **PKPdf 18 37 52.6 -0.3**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
VORR Voronezh 123.95 323 *e*PKiKP **PKPdf 18 37 52.2 -1.0**
VORR pmax pmax
comp=Z,30nm,0.5s
KBZ Khabaz 123.98 313 PKP PKPdf 18 37 53.0 -0.6
comp=Z,1.8nm,0.8s,baz=131,slow=1.5,SNR=4.9
OBN Obninsk 123.99 328 *i* PKiKP **PKPdf 18 37 51.4 -1.8**
OBN *e* 18 39 37.7
OBN *e*PPP PPP 18 42 12.9
OBN pmax pmax
comp=Z,7.0nm,1.0s
AKH Akhalkalaki 124.05 310 ⇓ P **PKiKP 18 37 54.3 0.0**
KIV Kislovodsk 124.07 314 *i* PKiKP **PKiKP 18 37 54.7 +0.5**
KIV *e* 18 39 38.4
KIV *e*PS PS 18 49 35.1 -2.5
KIV *e*SS SS 18 56 30.9 +4.7
KIV pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 125.08 338 PKP PKPdf 18 37 54.1 -1.0
comp=Z,2.2nm,0.5s,baz=66,slow=2.1,SNR=9.7
MEF Metsahovi 126.51 338 *e*P **PKPdf 18 37 56.9 -1.0**
RAF Rauma 126.89 339 *e*P **PKPdf 18 37 57.4 -1.2**
AAL Aland 128.10 340 *e*P **PKPdf 18 37 59.6 -1.3**
IDID Didziasalis 128.68 332 *e*P **PKiKP 18 38 03.1 +0.3**
IIGN Ignalina 128.89 332 *e*P **PKiKP 18 38 03.1 -0.1**
PABE Paberze 129.80 333 *e*P **PKiKP 18 38 05.1 +0.1**
AKASG Malin Array Be 130.01 326 PKP PKPdf 18 38 04.3 -0.6
comp=Z,0.6nm,0.6s,baz=48,slow=1.8,SNR=12
AKASG SKP 18 41 37.6
comp=Z,0.7nm,0.6s,baz=47,slow=4.5,SNR=5.4
AKBB Malin Array Si 130.01 326 *d i* PKiKP **PKiKP 18 38 05.4 -0.2**
NB2 NORSAR Subarra 130.04 345 PKPdf **PKPdf 18 38 03.6 -1.1**
comp=Z,27nm,1.7s,baz=31,slow=1.9
NB2 NORSAR Subarra 130.04 345 PKPdf **PKPdf 18 38 03.6 -1.1**
baz=31,slow=1.9
NOA NORSAR Array B 130.04 345 PKP PKPdf 18 38 04.2 -0.5
comp=Z,0.9nm,0.6s,baz=29,slow=2.0,SNR=3.3
BRTR Keskin Array B 131.73 311 PKP PKPdf 18 38 06.5 -2.2
comp=Z,0.6nm,0.8s,baz=46,slow=5.3,SNR=4.0
BRTR PP **PP 18 40 28.4 -0.7**
comp=Z,0.7nm,0.9s,baz=72,slow=4.0,SNR=4.0
BRTR SKP 18 41 42.8
comp=Z,3.2nm,0.9s,baz=79,slow=2.6,SNR=13
SORM Soroca 131.81 323 ⇓ P **PKPdf 18 38 08.3 0.0**
SORM Soroca 131.81 323 ⇑ P **SKiKP 18 41 44.8 +2.6**
SORM Soroca 131.81 323 ⇓ PKiKP **PKPdf 18 38 08.3 0.0**
TPGR Topolog 133.34 319 ⇑ P **SKiKP 18 41 50.2 +4.7**
CFR Carcaliu 133.37 320 ⇓ P **PKiKP 18 38 16.9 +4.3**
CFR Carcaliu 133.37 320 ⇓ PKiKP **PKiKP 18 38 16.9 +4.3**
BURAR Bucovina Array 133.88 324 ⇑ P **PKiKP 18 38 13.6 -0.1**
BURAR Bucovina Array 133.88 324 ⇓ P **SKiKP 18 41 53.3 +6.7**
BURAR Bucovina Array 133.88 324 ⇑ PKiKP **PKiKP 18 38 13.6 -0.1**
VRI Vrincioaia 133.90 321 ⇓ P **SKiKP 18 41 52.0 +6.0**
PLOR Plostina 133.96 321 ⇓ P **SKiKP 18 41 53.0 +6.2**
MLR Muntele Rosu 134.56 321 ⇑ P **SKiKP 18 41 49.8 +1.7**
ARCR ARCALIA 134.66 324 ⇓ P **SKiKP 18 41 55.3 +7.2**
BDFB Brasilia 134.67 130 PKP PKPdf 18 38 15.2 +0.3
comp=Z,5.7nm,0.8s,baz=215,slow=3.9,SNR=8.3
BDFB SKP 18 41 52.8
comp=Z,4.2nm,1.1s,baz=40,slow=4.5,SNR=4.7
TRPA Tarpa 135.07 326 P PKPdf 18 38 13.1 -1.4
VOIR 135.13 322 ⇓ P **PKPdf 18 38 14.3 -0.5**
VOIR 135.13 322 ⇑ P **SKiKP 18 41 57.7 +8.5**
VOIR 135.13 322 ⇓ PKiKP **PKPdf 18 38 14.3 -0.5**
CRVS Cervenica-Dubn 135.17 328 *e*PKiKP **PKiKP 18 38 15.4 -0.8**
CRVS Cervenica-Dubn 135.17 328 *e*PKP **PKiKP 18 38 15.4 -0.8**
MTUR Matau 135.23 321 ⇑ P SKiKP 18 42 02.4 +13
ARR Arges 135.42 322 ⇑ P **PKPdf 18 38 15.7 +0.3**
ARR Arges 135.42 322 ⇓ P **SKiKP 18 41 48.8 +1.0**
DRGR 135.75 325 ⇑ P **PKPdf 18 38 12.9 -3.0**
DRGR 135.75 325 ⇑ PKiKP **PKPdf 18 38 12.9 -3.0**
GZR Gura Zlata 136.51 323 ⇑ P **PKPdf 18 38 16.4 -1.0**
GZR Gura Zlata 136.51 323 ⇑ PKiKP **PKPdf 18 38 16.4 -1.0**
OSTC Ostas 136.59 333 *e*PKPDF **PKiKP 18 38 22.6 +3.5**
OSTC *e*PKS **PKSdf 18 42 00.0 +6.6**
CHVC Chvalec 136.64 333 *e*PKS 18 41 59.9
DPC Dobruska-Polom 136.69 332 *e*PKiKP **PKPdf 18 38 11.0 -6.5**
DPC Dobruska-Polom 136.69 332 *e*PKPpre PKPpre 18 38 11.0
DPC *e*PKS **PKSdf 18 41 59.8 +6.2**
UPC Upice 136.72 333 *e*PKS 18 42 00.4
VYHS Vyhne 136.77 329 *e*PKiKP **PKiKP 18 38 19.1 -0.4**
VYHS Vyhne 136.77 329 *e*PKP **PKiKP 18 38 19.0 -0.4**
BZS Buzias 137.05 324 ⇓ P **PKPdf 18 38 17.9 -0.3**
BZS Buzias 137.05 324 ⇓ PKiKP **PKPdf 18 38 17.9 -0.3**
BRG Berggiesshubel 137.34 335 *e*PKP **PKPdf 18 38 18.6 0.0**
BRG Amp 18 38 26.2
comp=Z,3.2nm,0.9s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRG				SKP		18 42 02.3	
BRG				Amp		18 42 07.1	
	comp=Z,7.2nm,1.2s						
BRG	**Berggiesshubel**	**137.34**	**335**	*e*PKIKP	**PKPdf**	**18 38 18.6**	**0.0**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CLL	**Collm**	**137.39**	**336**	*e*PKIKP	**PKPdf**	**18 38 18.0**	**-0.7**
CLL				*e*		18 38 30.0	
CLL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CLL				MLR	MLR		
	comp=Z,300nm,19.9s						
CLL	**Collm**	**137.39**	**336**	*e*PKPdf	**PKPdf**	**18 38 18.0**	**-0.7**
	comp=Z,4.0nm,1.0s						
CLL				*i* x	x	18 38 25.0	
	comp=Z,4.0nm,0.8s						
CLL				*e*(pPKPdf)		18 38 30.0	
CLL				*e*PP	**PP**	**18 41 05.0**	**+1.2**
CLL				*e*SKPdf	**SKPbc**	**18 41 49.0**	**+0.1**
CLL				*e*PKSdf	**PKSdf**	**18 41 54.0**	**-0.7**
CLL				*i* (pSKPdf)		18 42 02.1	
CLL				*e*PPS	PPS	18 53 18.0	
CLL				*e*SS	**SS**	**18 59 12.0**	**+4.3**
CLL				*e*x	x	19 01 12.0	
CLL				*e*SSS	SSS	19 04 12.0	
CLL				LmV		19 46 00.0	
	comp=Z,300nm,19.9s						
PRU	**Pruhonice**	**137.75**	**333**	*e*PKIKP	**PKiKP**	**18 38 23.9**	**+2.5**
PRU	**Pruhonice**	**137.75**	**333**	*e*PKPDF	**PKiKP**	**18 38 23.9**	**+2.5**
PRU				*e*PKS	PKSdf	18 42 03.2	+7.8
MORH	**Mrgy, Hungar**	**138.34**	**326**	⇓P	**PKPdf**	**18 38 20.0**	**-0.6**
MOX	**Moxa**	**138.46**	**336**	*e*L	L	19 42 59.1	
	comp=Z,341nm,20.3s						
RONA	**Rosalia, Austr**	**138.57**	**330**	*e*P	**PKPdf**	**18 38 20.2**	**-0.9**
	comp=Z,6.9nm,1.0s						
RONA	**Rosalia, Austr**	**138.57**	**330**	*e*P	**SKPab**	**18 42 04.9**	**+3.6**
	comp=Z,7.7nm,1.3s						
CONA	**Conrad Observa**	**138.62**	**330**	*e*P	**PKPdf**	**18 38 21.5**	**+0.3**
	comp=Z,4.0nm,1.0s						
CONA	**Conrad Observa**	**138.62**	**330**	*e*P	**SKPab**	**18 42 03.2**	**+1.6**
	comp=Z,7.7nm,1.4s						
CKRC	**Cesky Krumlov**	**138.71**	**332**	*e*PKPDF	**PKPdf**	**18 38 21.8**	**+0.5**
CKRC				*e*PKS	**SKPab**	**18 41 54.9**	**-7.0**
KHC	**Kasperske Hory**	**138.80**	**333**	*e*PKIKP	**PKPdf**	**18 38 19.2**	**-2.2**
KHC	**Kasperske Hory**	**138.80**	**333**	*e*PKPDF	**PKPdf**	**18 38 19.2**	**-2.2**
KHC				*e*PKS	PKSdf	18 42 05.7	+8.3
GERES	**GERESS Array B**	**138.96**	**333**	PKP	**PKPdf**	**18 38 21.2**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=215,slow=1.6,SNR=6.1						
GERES				SKP		18 41 55.6	
	comp=Z,1.2nm,0.9s,baz=300,slow=2.6,SNR=4.8						
GRF	**Grafenberg Arr**	**139.37**	**335**	*e*PKPdf	**PKPdf**	**18 38 22.2**	**-0.2**
	baz=38,slow=1.5						
GRF				*e*SKPbc	**SKPab**	**18 42 08.0**	**+3.2**
	baz=47,slow=2.2						
GRF				*e*L	L	19 43 37.4	
	comp=Z,346nm,20.1s						
MOA	**Molln**	**139.43**	**331**	*e*P	**PKPdf**	**18 38 23.5**	**+0.9**
	comp=Z,6.3nm,1.9s						
BIOA	**Bad Ischl, Aus**	**139.84**	**332**	*e*P	**PKiKP**	**18 38 24.6**	**-1.2**
	comp=Z,2.0nm,0.8s						
BIOA	**Bad Ischl, Aus**	**139.84**	**332**	*e*P	**SKPab**	**18 42 08.7**	**+1.7**
	comp=Z,1.0nm,0.5s						
SOKA	**Soboth**	**139.90**	**329**	*e*P	**PKPdf**	**18 38 23.1**	**-0.5**
	comp=Z,4.3nm,1.3s						
SOKA	**Soboth**	**139.90**	**329**	*e*P	**SKPab**	**18 42 10.2**	**+2.9**
	comp=Z,6.4nm,1.3s						
OBKA	**Obir**	**140.25**	**330**	*e*P	**PKPdf**	**18 38 21.2**	**-3.1**
	comp=Z,3.4nm,1.3s						
KBA	**Koelnbreinsper**	**140.42**	**331**	P	**PKPdf**	**18 38 20.3**	**-4.3**
	comp=Z,3.6nm,1.4s						
KBA	**Koelnbreinsper**	**140.42**	**331**	*e*P	**SKPab**	**18 42 11.0**	**+1.2**
	comp=Z,4.7nm,1.1s						
MYKA	**Terra Mystica**	**140.61**	**330**	*e*P	**SKPab**	**18 42 10.3**	**-0.1**
	comp=Z,4.6nm,1.1s						
WATA	**Walderalm**	**141.04**	**333**	*e*P	**PKPdf**	**18 38 25.1**	**-0.6**
	comp=Z,7.7nm,1.4s						
WATA	**Walderalm**	**141.04**	**333**	*e*P	**SKPab**	**18 42 12.3**	**-0.1**
	comp=Z,5.8nm,1.0s						
ABTA	**Abfaltersbach**	**141.05**	**331**	*e*P	**PKPdf**	**18 38 21.4**	**-4.2**
	comp=Z,9.6nm,1.6s						
ABTA	**Abfaltersbach**	**141.05**	**331**	*e*P	**SKPab**	**18 42 10.1**	**-2.3**
	comp=Z,6.2nm,1.6s						
WTTA	**Wattenberg**	**141.06**	**333**	P	**PKPdf**	**18 38 26.2**	**+0.4**
	comp=Z,6.1nm,1.0s						
WTTA	**Wattenberg**	**141.06**	**333**	*e*P	**SKPab**	**18 42 12.1**	**-0.5**
	comp=Z,9.2nm,1.2s						
MOTA	**Moosalm**	**141.24**	**333**	*e*P	**PKPdf**	**18 38 22.3**	**-3.8**
	comp=Z,8.3nm,1.4s						
MOTA	**Moosalm**	**141.24**	**333**	*e*P	**SKPab**	**18 42 12.0**	**-1.3**
	comp=Z,8.1nm,1.2s						
RETA	**Reutte**	**141.28**	**334**	*e*P	**PKiKP**	**18 38 28.5**	**-0.3**
	comp=Z,6.5nm,1.6s						
RETA	**Reutte**	**141.28**	**334**	*e*P	**SKPab**	**18 42 12.5**	**-0.8**
	comp=Z,3.4nm,1.2s						
SQTA	**Sankt Quirin**	**141.29**	**333**	P	**PKPdf**	**18 38 21.4**	**-4.8**
	comp=Z,4.4nm,0.8s						
SQTA	**Sankt Quirin**	**141.29**	**333**	*e*P	**SKPab**	**18 42 12.4**	**-1.1**
	comp=Z,6.9nm,1.2s						
FETA	**Feichten**	**141.65**	**333**	P	**PKPdf**	**18 38 25.8**	**-1.0**
	comp=Z,5.9nm,0.9s						
FETA	**Feichten**	**141.65**	**333**	*e*P	**SKPab**	**18 42 13.6**	**-1.6**
	comp=Z,8.3nm,1.1s						
DAVA	**Damuels**	**141.81**	**334**	*e*P	**SKPab**	**18 42 13.9**	**-2.0**
	comp=Z,11nm,1.1s						
SENIN	**Lac Senin/Sane**	**143.61**	**336**	PKPdf	PKPbc	18 38 28.5	+0.6
TIP	**Timpagrande**	**143.69**	**319**	⇓P	PKPbc	18 38 28.3	+0.1
OSSC	**Osservatorio P**	**144.02**	**329**		**PKPdf**	**18 38 30.5**	**-0.5**
SSB	**Saint Sauveur**	**145.58**	**337**	PKIKP	**PKPab**	**18 38 34.5**	**+0.4**
SSB	**Saint Sauveur**	**145.58**	**337**	PKPdf	**PKPab**	**18 38 34.5**	**+0.4**
KEST	**Kesra**	**150.46**	**320**	PKPbc	**PKPbc**	**18 38 46.7**	**-0.6**
	comp=Z,15nm,0.8s,baz=301,slow=2.6,SNR=14						
POLO	**Lamas de Olo**	**152.58**	**351**	*e*PKP	**PKPbc**	**18 38 51.9**	**-0.1**
MVO	**Moncorvo**	**152.66**	**349**	*e*PKP	**PKPbc**	**18 38 51.2**	**-1.0**
PVRL	**Vila Real**	**152.67**	**351**	*e*PKP	**PKPbc**	**18 38 51.9**	**-0.3**
ESDC	**Sonseca Array**	**153.39**	**344**	PKPbc	**PKPbc**	**18 38 53.3**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=11,slow=4.1,SNR=9.1						
PMRV	**Marv??o**	**154.41**	**349**	*e*PKP	**PKiKP**	**18 38 56.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.28**	**267**	PKP	**PKPdf**	**18 38 59.7**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=114,slow=2.0,SNR=11						
TORD				PKPab	**PKPab**	**18 39 58.1**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=103,slow=4.6,SNR=7.7						

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*PGC **03** 18:21:47.3±0.1, 49°.70N×114°.80W, h0^{km}, ML2.9/6, 73km Ene of Cranbrook, Bc British Columbia, Canada Mining explosion.*
*IDC **03** 18:21:48.3±4.0, 49°.90N×114°.35W, h0^{km}, mb2.8/1, mb1 3.4/2, mb1mx3.1/44, mbtmp3.1/2, ML2.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/15, Error ellipse: s-maj=55.5km s-min=34.6km az=92.0*
ISC 03 18:21:43.4±0.7, **49°.78N**±0°.03×**114°.90W**±0°.03, **h0**^{km}, **n24**, σ**2^{s}20**/35, **British Columbia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WALA	**Waterton Lakes**	**0.97**	**138**	P	**Pb**	**18 22 02.9**	**-0.3**
WALA				S	**Sg**	**18 22 14.6**	**+0.1**
BSMT	**Bassoo Peak**	**1.94**	**178**	Pn	**Pb**	**18 22 19.0**	**-0.6**
BSMT				Sg	**Sg**	**18 22 45.9**	**+0.4**
YBMT	**Yellow Bay**	**2.01**	**163**	Pn	**Pn**	**18 22 19.2**	**+0.6**
YBMT				Sg	**Sb**	**18 22 47.1**	**+0.7**
JTMT	**Jette**	**2.08**	**168**	Pn	**Pn**	**18 22 19.7**	**+0.1**
JTMT				Sg	**Sb**	**18 22 48.4**	**-0.1**
I56US	**NEWPORT INFRAS**	**2.11**	**225**	*i*		18 35 10.0	
	baz=46,slow=331,SNR=4.3						
MKRVA	**Milk River, Al**	**2.14**	**106**	Pn	**Pn**	**18 22 20.6**	**+0.2**
MKRVA				Sg	**Sn**	**18 22 47.8**	**+0.1**
SLEB	**Sale Mountain**	**2.49**	**305**	Pn	**Pb**	**18 22 28.3**	**-0.7**
SLEB				Sg	**Sg**	**18 23 04.8**	**+1.6**
C09A	**Chrisman Ranch**	**2.98**	**230**	Sg	**Sg**	**18 23 19.2**	**0.0**
OVMT	**Ovando**	**3.00**	**154**	Sg	**Sb**	**18 23 15.3**	**+0.3**
PNT	**Penticton**	**3.11**	**263**	Pn	**Pn**	**18 22 35.2**	**+1.5**
PNT				Sg	**Sg**	**18 23 26.1**	**+3.0**
B08A	**Colville Reser**	**3.24**	**246**	Sg	**Sg**	**18 23 26.6**	**-0.9**
MNB	**Mounoet Dainar**	**3.27**	**319**	Pn	**Pb**	**18 22 39.6**	**-2.8**
MNB				Sg	**Sg**	**18 23 31.6**	**+3.2**
LYMT	**Lyon Mountain**	**3.31**	**147**	Pn	**Pn**	**18 22 38.5**	**+1.9**
LYMT				Sg	**Sb**	**18 23 24.8**	**+0.9**
EDM	**Edmonton**	**3.58**	**15**	Pn	**Pn**	**18 22 41.8**	**+1.7**
EDM				Sg	**Sg**	**18 23 37.8**	**-0.4**
LLLB	**Lillooet**	**4.56**	**283**	Sg	**Sg**	**18 24 11.9**	**+2.2**
BRLDA	**Berland Lookou**	**4.58**	**341**	Pn	Pn	18 22 59.2	+5.3
BRLDA				Pg	**Pg**	**18 23 11.2**	**0.0**
BRLDA				Sg	**Sg**	**18 24 10.3**	**-0.3**
LTY	**Liberty**	**4.59**	**239**	Sg	**Sg**	**18 24 08.4**	**-2.3**
MBW	**Mount Baker**	**4.69**	**260**	Pg	**Pg**	**18 23 12.0**	**-1.2**
MBW				Sg	**Sg**	**18 24 13.0**	**-1.0**
A05A	**Maple Falls**	**4.76**	**263**	Sg	**Sg**	**18 24 16.6**	**+0.5**
HNBB	**Haney**	**5.02**	**267**	Sg	**Sg**	**18 24 24.1**	**-0.4**
D05A	**Enumclaw**	**5.38**	**244**	Sg	**Sg**	**18 24 34.2**	**-1.9**
YKA	**Yellowknife Ar**	**12.74**	**1**	Pn	**Pn**	**18 24 44.5**	**-1.1**
	0.1nm,0.3s,baz=180,slow=13,SNR=8.0						
YKA				Sn	**Sn**	**18 27 00.9**	**-7.1**
	0.0nm,0.3s,baz=178,slow=22,SNR=5.0						
YKA				Lg	Lg	18 28 17.0	
	baz=178,slow=24,SNR=1.6						
PFO	**Pinyon Flats O**	**16.20**	**185**	LR	LR	18 32 06.3	
	comp=Z,118nm,18.3s,baz=146,slow=38						
ILAR	**Eielson Array**	**22.54**	**324**	P	**P**	**18 26 51.2**	**+6.7**
	0.3nm,0.7s,baz=102,slow=8.4,SNR=2.5						

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*AEIC **03** 18:29:55±2.0, 57°.08N±0°.04×157°.76W±0°.07, h5^{km}±5^{km}, ML3.3, ML3.4/30(NEIC), Error ellipse: s-maj=7.2km s-min=2.4km az=131.0*
*NEIC **03** 18:29:56.1±1.8, 57°.14N±0°.02×158°.0W±0°.1, h24^{km}±11^{km}, Error ellipse: s-maj=8.5km s-min=1.8km az=109.0*
ISC 03 18:29:54.7±0.8, **57°.09N**±0°.04×**157°.81W**±0°.04, **h10**^{km}, **n36**, σ**0^{s}81**/38, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.26**	**240**		**Pb**	**18 30 01.4**	**-0.1**
PLBL	**Peulik Blue Cr**	**0.81**	**41**		**Pg**	**18 30 10.2**	**0.0**
CHGN	**Chignik**	**0.86**	**203**		**Pg**	**18 30 10.8**	**-0.5**
CHGN					**Sb**	**18 30 23.2**	**-0.1**
CHGN	**Chignik**	**0.86**	**203**	P	**Pg**	**18 30 10.8**	**-0.5**
	baz=24						
CHGN				S	**Sb**	**18 30 23.2**	**-0.1**
	baz=24						
PLK3	**Peulik 3**	**1.02**	**54**		**Pg**	**18 30 14.1**	**-0.3**
PLK3					**Sn**	**18 30 30.3**	**+0.8**
VNHG	**Veniaminof 1**	**1.15**	**221**		**Pb**	**18 30 16.2**	**-0.5**
VNFG	**Fog Glacier, M**	**1.26**	**231**		**Pn**	**18 30 18.6**	**+0.2**
VNFG	**Fog Glacier, M**	**1.26**	**231**	P	**Pn**	**18 30 18.6**	**+0.2**
	baz=50						
ANCK	**Angle Creek**	**1.66**	**47**		**Pb**	**18 30 25.2**	**-0.2**
ANCK					**Sg**	**18 30 48.1**	**0.0**
CHIR	**Chirikof Islan**	**1.76**	**136**		**Pb**	**18 30 26.1**	**-0.9**
CHIR	**Chirikof Islan**	**1.76**	**136**	IAML		18 30 53.3	
	comp=E,499nm,1.3s						
CHIR				IAML		18 30 54.4	
	comp=N,469nm,1.6s						
CHIR	**Chirikof Islan**	**1.76**	**136**	P	**Pb**	**18 30 26.1**	**-0.9**
	baz=317						
SII	**Sitkinak Islan**	**2.06**	**104**		**Pb**	**18 30 31.6**	**-0.6**
SII	**Sitkinak Islan**	**2.06**	**104**	P	**Pb**	**18 30 31.6**	**-0.6**
	baz=286						
SDPT	**Sand Point**	**2.30**	**222**		**Sb**	**18 31 03.9**	**-0.7**
SDPT	**Sand Point**	**2.30**	**222**	P	**Pn**	**18 30 34.3**	**+1.8**
	baz=40						
SDPT				S	**Sb**	**18 31 03.9**	**-0.7**
	baz=40						
SDPT	**Sand Point**	**2.30**	**222**	P	**Pn**	**18 30 33.9**	**+1.4**
OHAK	**Old Harbor**	**2.46**	**85**		**Pn**	**18 30 35.5**	**+0.7**
OHAK	**Old Harbor**	**2.46**	**85**	IAML		18 31 12.4	
	comp=E,127nm,1.1s						
OHAK				IAML		18 31 21.3	
	comp=N,145nm,0.7s						
OHAK	**Old Harbor**	**2.46**	**85**	P	**Pn**	**18 30 35.5**	**+0.7**
	baz=268						
P18K	**Big Mountain,**	**2.68**	**29**		**Pn**	**18 30 37.5**	**-0.3**
BLHA	**Black Hill**	**2.75**	**241**		**Pn**	**18 30 39.9**	**+1.1**
BLHA	**Black Hill**	**2.75**	**241**	P	**Pn**	**18 30 39.9**	**+1.1**
	baz=58						
Q19K	**Cape Douglas,**	**2.88**	**49**		**Pn**	**18 30 40.7**	**+0.1**
KDAK	**Kodiak Island**	**2.91**	**74**		**Pn**	**18 30 41.9**	**+1.0**
KDAK	**Kodiak Island**	**2.91**	**74**	IAML		18 31 35.5	
	comp=N,83nm,1.2s						
KDAK	**Kodiak Island**	**2.91**	**74**	P	**Pn**	**18 30 41.9**	**+1.0**
	baz=258						
P19K	**Oil Pt**	**3.52**	**41**		**Pn**	**18 30 49.5**	**+0.1**
P19K				IAML		18 31 53.6	
	comp=N,110nm,0.7s						
O19K	**Port Alsworth**	**3.60**	**29**		**Pn**	**18 30 50.0**	**-0.4**
N19K	**Bonanza Creek**	**4.11**	**23**		**Pn**	**18 30 57.5**	**0.0**
N19K				IAML		18 32 10.3	
	comp=N,60nm,0.7s						
N19K				IAML		18 32 15.9	
	comp=E,74nm,0.8s						
SVW2	**Sparrevohn**	**4.18**	**15**		**Pn**	**18 30 59.1**	**+0.7**
SVW2				IAML		18 32 12.2	
	comp=E,49nm,0.7s						
SVW2				IAML		18 32 14.9	
	comp=N,38nm,1.0s						
CNPM	**China Poot**	**4.24**	**52**		**Pn**	**18 31 01.2**	**+2.0**
CNPM				IAML		18 32 21.2	
	comp=N,31nm,1.7s						
RSO	**Redoubt South**	**4.28**	**36**		**Pn**	**18 31 00.5**	**+0.5**
BRLK	**Bradley Lake**	**4.51**	**51**	Pn	**Pn**	**18 31 04.7**	**+1.7**
BRLK				IAML		18 32 15.2	
	comp=E,26nm,2.6s						
M19K	**Big River Lodg**	**5.13**	**18**		**Pn**	**18 31 11.4**	**0.0**
M19K				IAML		18 32 55.7	
	comp=E,42nm,1.0s						
M19K				IAML		18 33 32.9	
	comp=N,20nm,2.1s						
M19K	**Big River Lodg**	**5.13**	**18**	P	**Pn**	**18 31 11.5**	**0.0**
	baz=218						

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*IDC **03** 18:42:25.4±0.9, 32°.20N×104°.77E, h0^{km}, mb3.6/7, mb1 3.7/10, mb1mx3.5/56, mbtmp3.5/10, ML3.7/3, Error ellipse: s-maj=36.4km s-min=18.1km az=61.0*
ISC 03 18:42:27.6±0.9, **32°.2N**±0°.1×**104°.9E**±0°.2, **h14**^{km}, **n10**, σ**0^{s}67**/10, **mb3.8**/7, **Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.73**	**203**	Pn	**Pn**	**18 45 55.7**	**+0.1**
	0.2nm,0.3s,baz=11,slow=10,SNR=2.9						
SONM	**Songino Array**	**15.62**	**4**	Pn	**Pn**	**18 46 07.4**	**0.0**
	0.2nm,0.3s,baz=190,slow=12,SNR=3.9						
KSRS	**Korea Array**	**19.61**	**68**	P	**Pn**	**18 46 56.8**	**-0.1**
	0.1nm,0.3s,baz=249,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**22.57**	**317**	P	**P**	**18 47 28.2**	**+0.7**
	0.3nm,0.5s,baz=122,slow=6.8,SNR=6.9						
ZALV	**Zalesovo Beam**	**26.00**	**332**	P	**P**	**18 48 00.1**	**+0.3**
	2.1nm,0.5s,baz=136,slow=10,SNR=14						
ARCES	**ARCESS Array B**	**56.49**	**336**	P	**P**	**18 52 08.0**	**-0.8**
	1.9nm,0.9s,baz=79,slow=6.3,SNR=9.7						
FINES	**FINESS Array B**	**56.99**	**326**	P	**P**	**18 52 11.5**	**-0.9**
	0.7nm,0.7s,baz=105,slow=8.8,SNR=2.6						
WRA	**Warramunga Arr**	**59.07**	**147**	P	**P**	**18 52 26.9**	**-0.6**
	0.7nm,0.7s,baz=338,slow=7.3,SNR=6.5						
ASAR	**Alice Springs**	**62.14**	**150**	P	**P**	**18 52 48.9**	**+0.4**
	0.2nm,0.6s,baz=336,slow=6.4,SNR=5.2						
YKA	**Yellowknife Ar**	**80.41**	**17**	P	**P**	**18 54 39.1**	**+0.7**
	0.5nm,0.7s,baz=329,slow=5.0,SNR=10						

IDC 03 19:03:21.9±3.3, **4°.71S**×**129°.03E**, **h209**^{km}±45^{km}, **mb2.5**/1, **mb1 2.7**/5, **mb1mx2.4**/39, **mbtmp3.2**/5, **Error ellipse: s-maj=74.8km s-min=18.2km az=82.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.42**	**30**	P	Pn	19 04 29.2	-0.1
	1.8nm,0.3s,baz=204,slow=20,SNR=21						
SIJI				S	S	19 05 18.0	-4.0
	4.1nm,0.3s,baz=77,slow=23,SNR=23						
FITZ	**Fitzroy Crossi**	**13.71**	**194**	P	P	19 06 29.3	-0.8
	0.1nm,0.3s,baz=25,slow=12,SNR=1.3						
WRA	**Warramunga Arr**	**16.00**	**162**	P	P	19 06 54.7	-0.7
	0.1nm,0.3s,baz=341,slow=12,SNR=1.4						
WRA				S	S	19 09 45.4	-7.3
	0.2nm,0.3s,baz=345,slow=24,SNR=7.8						
ASAR	**Alice Springs**	**19.43**	**166**	P	P	19 07 32.7	+0.1
	0.3nm,0.3s,baz=339,slow=9.0,SNR=16						
ASAR				S	S	19 10 57.2	-3.8
	0.0nm,0.3s,baz=348,slow=17,SNR=4.6						
MKAR	**Makanchi Array**	**65.79**	**327**	P	P	19 13 44.5	-0.1
	0.1nm,0.5s,baz=145,slow=5.3,SNR=1.6						

IDC 03 19:04:54.2±2.2, **9°.84S**×**118°.45E**, **h0**^{km}, **mb2.9**/2, **mb1 3.3**/4, **mb1mx3.0**/41, **mbtmp3.2**/4, **ML3.1**/2, **Error ellipse: s-maj=69.7km s-min=27.1km az=35.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.15**	**95**	Pn	Pn	19 06 13.3	+0.7
	2.4nm,0.3s,baz=302,slow=1.6,SNR=7.0						
BATI				Sn	Sn	19 07 13.1	+0.3
	4.0nm,0.3s,baz=242,slow=11,SNR=2.2						
FITZ	**Fitzroy Crossi**	**10.77**	**140**	Sn	Sn	19 09 31.9	+0.6
	0.1nm,0.3s,baz=116,slow=10,SNR=1.5						
WRA	**Warramunga Arr**	**18.33**	**125**	P	P	19 09 10.4	+0.1
	0.0nm,0.3s,baz=300,slow=13,SNR=1.8						
ASAR	**Alice Springs**	**20.17**	**135**	P	P	19 09 30.1	-0.4
	0.5nm,0.9s,baz=317,slow=8.9,SNR=3.5						
MKAR	**Makanchi Array**	**64.95**	**333**	P	P	19 15 35.7	-0.1
	0.1nm,0.5s,baz=157,slow=7.8,SNR=1.4						

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*IDC **03** 19:09:21.7±0.5, 15°.26N×122°.80E, h0^{km}, mb4.4/25, mb1 4.5/28, mb1mx4.3/43, mbtmp4.4/28, ML3.9/3, MS3.8/36, Ms1 3.8/36, ms1mx3.7/89, Error ellipse: s-maj=16.7km s-min=9.9km az=84.0*
*BJI **03** 19:09:22.0±0.0, 15°.30N×122°.90E, h10^{km}, mb4.4/43, mB4.8/28, Ms4.4/39, Ms7 4.2/37*
*NEIC **03** 19:09:24.1±1.8, 15°.25N±0°.08×122°.8E±0°.1, h10^{km}±1^{km}, mb4.9/48, Error ellipse: s-maj=23.0km s-min=13.5km az=256.0*
*MAN **03** 19:09:26±2.6, 15°.31N±0°.09×122°.6E±0°.1, h16^{km}±4^{km}, Error ellipse: s-maj=19.8km s-min=12.2km az=80.0*
*GCMT **03** 19:09:27.1±0.4, 15°.35N±0°.03×122°.55E±0°.03, h21^{km}±1^{km}, MW4.9/65, Moment Tensor Solution. s12,c13; s65,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.09±.20; $M_{\theta\theta}$0.74±.11; $M_{\phi\phi}$0.35±.13; $M_{r\theta}$-0.34±.16; $M_{\theta\phi}$1.26±.07; $M_{\phi r}$2.15±.30; Best double couple: $M_0$2.65000×10^{16} NP1:ϕ_s78.00000°,δ34.00000°,λ-25.00000°. NP2: ϕ_s189.00000°,δ77.00000°,λ-121.00000°. Principal axes: T 2.3740, Plg25.0000°, Azm303.0000°; N 0.5490, Plg30.0000°, Azm197.0000°; P -2.9260, Plg49.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 19:09:25.0±0.9, **15°.27N**±0°.03×**122°.73E**±0°.04, **h15**^{km}±5^{km}, **n298**, σ**1^{s}61**/296, **mb4.7**/88, **MS3.9**/45, **12C-19D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCNP	**Jose Panganiba**	**0.97**	**182**	⇓*i*P	**Pb**	**19 09 43.7**	**+0.1**
GQP	**Guinayangan**	**1.38**	**191**	⇑*i*P	**Pn**	**19 09 50.4**	**+0.7**
GQP				*i* S	**Sg**	**19 10 10.1**	**+0.5**
PCPH	**Palayan**	**1.60**	**281**	⇓*e*P	**Pn**	**19 09 50.4**	**-2.4**
PCPH				*e*S	**Sn**	**19 10 14.3**	**+1.2**
LQP	**Lukban**	**1.62**	**225**	⇓*i*P	**Pn**	**19 09 53.4**	**+0.1**
LQP				*i* S	**Sn**	**19 10 08.1**	**-5.9**
TGY	**Tagaytay City**	**2.08**	**236**	Pn	**Pn**	**19 09 59.5**	**0.0**
	345nm,0.3s,baz=63,slow=2.4,SNR=48						
TGY				Sn	**Sb**	**19 10 29.5**	**+1.3**
	440nm,0.3s,baz=340,slow=8.6,SNR=6.5						
TGY	**Tagaytay City**	**2.08**	**236**	⇓*e*P	**Pb**	**19 10 02.0**	**-0.5**
TGY				*i* S	**Sb**	**19 10 31.1**	**+2.8**
PGP	**Puerto Galera**	**2.45**	**225**	⇑*e*P	**Pn**	**19 10 06.1**	**+1.5**
PGP				*i* S	**Sg**	**19 10 43.9**	**-0.1**
MMPH	**Masbate**	**3.02**	**163**	*e*P	**Pb**	**19 10 15.4**	**-3.0**
MMPH				*e*S	**Sb**	**19 10 56.3**	**+1.1**
SGCP	**Gonzaga**	**3.03**	**348**	⇑*e*P	**Pn**	**19 10 11.3**	**-1.1**
SIPP	**Brgy, Tapao**	**3.42**	**321**	⇓*e*P	**Pn**	**19 10 18.6**	**+0.7**
SIPP				*e*S	**Sb**	**19 11 10.3**	**+3.5**
RCP	**Roxas**	**3.68**	**180**	⇑*e*P	**Pn**	**19 10 25.3**	**+3.9**
JAP	**San Jose, Anti**	**4.55**	**190**	⇓*e*P	**Pb**	**19 10 41.4**	**-3.3**
LLP	**Lapu-Lapu**	**5.07**	**166**	⇑*e*P	**Pn**	**19 10 43.4**	**+2.9**
TBP	**Tagbilaran**	**5.65**	**169**	*i* P	**Pn**	**19 10 52.9**	**+4.4**
TBP				*i* S	**Sb**	**19 12 09.8**	**-1.2**
SNPH	**Sibulan**	**5.91**	**175**	*e*P	**Pn**	**19 10 56.7**	**+4.6**
TWG	**Pinlang**	**7.68**	**349**		**Pn**	**19 11 15.4**	**-0.9**
BIPH	**Bislig**	**7.89**	**153**	⇓*e*P	**Pn**	**19 11 23.1**	**+3.9**
BIPH				*e*S	**Sn**	**19 12 52.6**	**+4.4**
YULB	**Yu-li**	**8.20**	**351**		**Pn**	**19 11 22.2**	**-1.3**
TPUB	**Ta-pu**	**8.23**	**346**		**Pn**	**19 11 24.3**	**+0.3**
KCP	**Kidapawan**	**8.53**	**164**	⇓*e*P	Pn	19 11 36.1	+8.0
SSLB	**Suanglung**	**8.64**	**349**	Pn	**Pn**	**19 11 29.4**	**-0.2**
NACB	**Ninganchiao**	**8.93**	**353**	Pn	**Pn**	**19 11 33.1**	**-0.4**
YOJ	**Yonaguni jima**	**9.15**	**2**	Pn	**Pn**	**19 11 36.4**	**-0.1**
YHNB	**Yeheng**	**9.44**	**352**		**Pn**	**19 11 41.9**	**+1.3**
JOW	**Kunigami**	**12.62**	**23**	LR	LR	19 16 40.8	
	comp=Z,443nm,20.8s,baz=192,slow=35						
KMSI	**Cibinong**	**14.65**	**175**	P	**P**	**19 13 01.5**	**+3.4**
	46nm,1.1s						
MRSI	**Marisa**	**14.71**	**183**	P	**P**	**19 12 58.6**	**-0.2**
	21nm,0.9s						
MPSI	**Mapaga**	**15.09**	**191**	P	**P**	**19 13 02.8**	**-0.2**
	13nm,1.0s						
TNTI	**Ternate**	**15.11**	**162**	P	**Pn**	**19 12 58.4**	**+0.3**
GULI	**GuiLin**	**15.28**	**313**	*e*P	**P**	**19 13 08.7**	**+3.6**
GULI				S	**S**	**19 16 05.0**	**-0.9**
GULI				pmax	pmax		
	comp=Z,10.0nm,1.6s						
GULI				LR	LR		
	comp=N,790nm,16.3s						
GULI				LR	LR		
	comp=E,490nm,14.6s						
GULI				LR	LR		
	comp=Z,740nm,17.9s						
APSI	**Ampana**	**16.11**	**184**	P	**P**	**19 13 18.5**	**+4.2**
	comp=Z,428nmcomp=Z,39nm,1.2s						
LUWI	**Luwuk**	**16.20**	**180**	P	**P**	**19 13 19.6**	**+4.2**
	comp=Z,5μmcomp=Z,63nm,1.0s						
SBUM	**Sibu**	**16.41**	**220**	P	**P**	**19 13 17.2**	**-0.6**
LBMI	**Labuha**	**16.49**	**163**	P	**P**	**19 13 24.1**	**+5.5**
	comp=Z,17nm,1.0s						
WHN	**Wuhan**	**17.04**	**335**	⇑P	**P**	**19 13 28.2**	**+3.7**
WHN				sP	**pwP**	**19 13 34.2**	**+0.8**
WHN				S	**S**	**19 16 42.7**	**+1.0**
WHN				LR	LR		
	comp=N,500nm,9.1s						
WHN				LR	LR		
	comp=E,1μm,12.5s						
WHN				LR	LR		
	comp=Z,1μm,13.9s						
NJ2	**Nanjing**	**17.08**	**349**	*e*P	**P**	**19 13 23.7**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,380nm,17.1s						
NJ2				LR	LR		
	comp=Z,550nm,18.0s						
NJ2				LR	LR		
	comp=Z,420nm,14.5s						
SANI	**Sanana**	**17.50**	**169**	P	**Pn**	**19 13 25.2**	**-3.5**
MTKI	**Muara Teweh, K**	**17.87**	**206**	P	**Pn**	**19 13 32.3**	**-0.9**
SIJI	**Sorong**	**18.12**	**151**	P	**Pn**	**19 13 34.4**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=287,slow=19,SNR=1.2						
SIJI				LR	LR	19 20 37.4	
	comp=Z,169nm,21.4s,baz=20,slow=37						
KSM	**Kuching**	**18.38**	**223**	P	**P**	**19 13 39.8**	**+0.3**
STKI	**Sintang**	**18.75**	**217**	P	**Pn**	**19 13 45.2**	**+1.2**
	comp=Z,34nm,1.6s						
JNU	**Nakatsue**	**19.25**	**21**	P	**P**	**19 13 47.2**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=151,slow=9.5,SNR=4.9						
BNSI	**Bone**	**19.71**	**188**	P	**Pn**	**19 13 58.7**	**+3.2**
	comp=Z,20nm,1.2s						
BBKI	**Banjar Baru**	**20.18**	**203**	P	**P**	**19 13 59.2**	**0.0**
	comp=Z,28nm,1.8s						
KAPI	**Kappang**	**20.36**	**189**	P	**P**	**19 13 59.9**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=349,slow=5.2,SNR=1.4						
KAPI				LR	LR	19 22 56.2	
	comp=Z,150nm,20.1s,baz=6.0,slow=40						
PBKI	**Pangkalan Bun**	**20.94**	**212**	P	**P**	**19 14 08.7**	**+1.2**
	comp=Z,153nm,0.6s						
JMN	**Monobe**	**20.97**	**27**	P	**P**	**19 14 08.1**	**+0.4**
KMI	**Kunming**	**21.14**	**301**	⇓P	**P**	**19 14 12.0**	**+2.2**
KMI				pP	pwP	19 14 14.6	-2.3
KMI				sP	sP	19 14 16.2	+1.1
KMI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KMI				LR	LR		
	comp=Z,470nm,15.9s						
KMI				LR	LR		
	comp=Z,400nm,15.9s						
KMI				LR	LR		
	comp=Z,280nm,17.9s						
LYN	**LuoYang**	**21.31**	**336**	*e*P	**P**	**19 14 12.5**	**+1.2**

LYN S **S** **19 18 09.6 +2.0**
LYN pmax pmax
comp=Z,20nm,1.5s
LYN pmax pmax
comp=Z,260nm,12.7s
LYN LR LR
comp=Z,540nm,15.7s
LYN LR LR
comp=Z,300nm,16.9s
LYN LR LR
comp=Z,580nm,16.5s
TIA Tai'an 21.45 348 ⇓P **P** **19 14 12.2 -0.6**
TIA pmax pmax
comp=Z,19nm,1.0s
GUMO Guam 21.51 92 LR LR 19 20 28.5
comp=Z,212nm,21.5s,baz=268,slow=31
JCJ Chichijima 21.59 54 LR LR 19 21 02.7
comp=Z,298nm,21.9s,baz=74,slow=33
JHS Saijyo 21.76 24 P **P** **19 14 15.2 -0.9**
JHS IAmb IAmb 19 14 20.5
comp=Z,82nm,1.2s
XAN Xi'an 22.47 329 P **P** **19 14 23.6 -0.2**
XAN pP sP 19 14 27.5 -0.8
XAN sP pwP 19 14 31.4 -1.4
XAN PP **PnPn** **19 14 54.8 +7.7**
XAN S **S** **19 18 29.4 -0.6**
XAN sS sS 19 18 35.6 +0.4
XAN pmax pmax
comp=Z,22nm,1.1s
XAN pmax pmax
comp=Z,170nm,4.5s
XAN LR LR
comp=Z,440nm,13.2s
XAN LR LR
comp=Z,620nm,12.9s
XAN LR LR
comp=Z,580nm,14.6s
PZH PanZhiHua 22.53 303 P **P** **19 14 25.9 +1.3**
PZH pP **pwP** **19 14 29.7 -2.0**
PZH S **S** **19 18 35.1 +3.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,3.5s
PZH LR LR
comp=Z,1μm,18.1s
PZH LR LR
comp=Z,790nm,16.1s
PZH LR LR
comp=Z,1μm,18.4s
KSRS Korea Array 22.58 11 P **P** **19 14 23.4 -1.4**
comp=Z,5.2nm,0.9s,baz=194,slow=12,SNR=16
KSRS LR LR 19 22 59.1
comp=Z,210nm,20.7s,baz=195,slow=36
CMAR Chiang Mai Arr 22.98 281 P **P** **19 14 29.1 -0.2**
comp=Z,5.5nm,0.9s,baz=90,slow=7.5,SNR=14
CMAR LR LR 19 24 10.2
comp=Z,291nm,18.2s,baz=120,slow=38
HNS HongShan 23.17 344 ⇑P **P** **19 14 31.2 +0.2**
HNS S **S** **19 18 46.6 +4.5**
HNS pmax pmax
comp=Z,18nm,1.4s
HNS LR LR
comp=Z,470nm,17.7s
HNS LR LR
comp=Z,650nm,18.8s
HNS LR LR
comp=Z,450nm,14.7s
CD2 Chengdu 23.33 315 P **P** **19 14 33.8 +1.0**
CD2 pP sP 19 14 36.5 -1.6
CD2 S **S** **19 18 47.5 +2.4**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,100nm,6.1s
JHJ Hachijo jima 2 23.56 38 LR LR 19 22 20.7
comp=Z,380nm,20.5s,baz=360,slow=33
DSRI Dabo 23.80 231 P **P** **19 14 42.2 +4.7**
PPBI Pangkal Pinang 23.86 225 P **P** **19 14 37.5 -0.5**
SRBI Singaraja 24.36 198 P **P** **19 14 44.4 +1.7**
comp=Z,28nm,0.9s
ABJI Asem Bagus 24.41 201 P **P** **19 14 44.1 +1.0**
comp=Z,33nm,0.8s
PLAI Plampang 24.43 192 P **P** **19 14 40.9 -2.4**
comp=Z,944nmcomp=Z,57nm,1.1s
MJAR Matsushiro Arr 25.29 30 P **P** **19 14 49.9 -1.0**
comp=Z,8.0nm,1.1s,baz=194,slow=22,SNR=6.8
MJAR LR LR 19 24 41.4
comp=Z,110nm,19.3s,baz=216,slow=36
BATI Baumata 25.32 178 P **P** **19 14 51.0 -0.4**
comp=Z,39nm,0.9s,baz=276,slow=23,SNR=6.7
BATI LR LR 19 25 42.0
comp=Z,282nm,20.2s,baz=355,slow=39
BATI Baumata 25.32 178 P **P** **19 14 50.4 -1.0**
comp=Z,35nm,0.8s
PSI Prapat 26.52 244 LR LR 19 25 00.1
comp=Z,109nm,18.3s,baz=83,slow=35
LEM Lembang 26.57 215 P **P** **19 15 03.2 +0.4**
comp=Z,6.3nm,0.4s,baz=311,slow=19,SNR=1.7
KLSI 26.66 223 P **P** **19 15 03.5 0.0**
comp=Z,16nm,2.2s
LZH Lanzhou 26.73 324 *e*P **P** **19 15 09.3 +5.1**
LZH pP pwP 19 15 14.3 +2.8
LZH sP sP 19 15 18.4 +8.8
LZH S **S** **19 19 40.3 +0.9**
LZH sS sS 19 19 50.6 +5.8
LZH pmax pmax
comp=Z,16nm,1.1s
LZH pmax pmax
comp=Z,97nm,4.6s
LZH LR LR
comp=Z,490nm,13.8s
LZH LR LR
comp=Z,380nm,15.2s
LZH LR LR
comp=Z,490nm,18.7s
HHC Hu-ho-hao-te 27.28 341 *e*P **P** **19 15 09.2 +0.2**
HHC S **S** **19 19 47.1 -0.8**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.1s
HHC LR LR
comp=Z,360nm,13.3s
HHC LR LR
comp=Z,430nm,14.6s
HHC LR LR
comp=Z,470nm,14.6s
LWLI Liwa 27.35 224 P **P** **19 15 10.7 +0.8**
comp=Z,3μmcomp=Z,44nm,1.0s
USRK Ussuriysk Ar. 29.90 13 P **P** **19 15 32.0 -0.1**
comp=Z,7.6nm,0.8s,baz=204,slow=7.8,SNR=9.7
USRK LR LR 19 26 24.9
comp=Z,218nm,20.8s,baz=193,slow=34
BNX BinXian 30.63 6 ⇑P **P** **19 15 38.3 -0.3**
BNX pmax pmax
comp=Z,15nm,1.1s
BNX pmax pmax
comp=Z,120nm,4.1s
KNRA Kununurra 31.32 169 P **P** **19 15 42.1 -2.8**
GTA Gaotai 31.33 325 *e*P **P** **19 15 47.0 +2.0**
GTA pP pwP 19 15 52.4 0.0
GOMU GeErMu 32.47 315 P **P** **19 15 58.2 +2.9**
GOMU pP pwP 19 16 01.6 -1.2
GOMU sP sP 19 16 05.7 +5.0
GOMU S **S** **19 21 05.2 -4.7**
GOMU pmax pmax
comp=Z,36nm,4.3s
GOMU LR LR
comp=Z,250nm,13.6s
GOMU LR LR
comp=Z,320nm,14.0s
GOMU LR LR
comp=Z,340nm,14.3s
FITZ Fitzroy Crossi 33.28 175 P **P** **19 16 00.3 -1.7**
baz=350,slow=6.8
ASAJ Asahikawa 33.35 26 LR LR 19 30 02.4
comp=Z,154nm,18.9s,baz=314,slow=37
PMG Port Moresby 34.45 134 P **P** **19 16 11.3 -1.1**
comp=Z,1.7nm,0.3s,baz=314,slow=17,SNR=1.6
TAPN Taplejung 34.65 296 *e*P **P** **19 16 14.0 -0.4**
comp=Z,13nm,0.9s
KLR Kul'dur 34.67 10 P **P** **19 16 12.9 -1.0**
comp=Z,4.3nm,0.8s,baz=206,slow=4.6,SNR=16
KLR LR LR 19 32 09.6
comp=Z,200nm,18.3s,baz=196,slow=40

ODAN Odare 34.82 295 *e*P **P** **19 16 15.6 -0.2**
comp=Z,50nm,0.8s
ULN Ulaanbaatar 35.00 342 P **P** **19 16 16.8 -0.1**
SONM Songino Array 35.18 341 P **P** **19 16 18.3 -0.2**
comp=Z,3.4nm,0.9s,baz=160,slow=9.3,SNR=21
SONM LR LR 19 31 31.7
comp=Z,322nm,21.3s,baz=152,slow=38
SONM Songino Array 35.18 341 P **P** **19 16 17.7 -0.8**
COEN Coen 35.39 144 P **P** **19 16 19.5 -1.0**
COEN IAmb IAmb 19 16 29.4
comp=Z,16nm,1.1s
RAMN Ramite 35.53 295 *e*P **P** **19 16 21.8 -0.1**
comp=Z,9.9nm,0.6s
JIRN Jiri 36.03 296 *e*P **P** **19 16 26.3 -0.1**
comp=Z,11nm,0.5s
GUN Gumba 36.35 296 *e*P **P** **19 16 28.8 -0.3**
comp=Z,60nm,0.9s
WB0 Warramunga Arr 36.66 161 P **P** **19 16 29.2 -2.1**
PKI Pulchoki 36.69 296 *e*P **P** **19 16 31.2 -0.8**
PKIN Phulchoki 36.70 296 *e*P **P** **19 16 31.1 -0.9**
WRAB Tennant Creek 36.80 162 P **P** **19 16 30.5 -2.0**
WRA Warramunga Arr 36.80 162 P **P** **19 16 30.4 -2.2**
comp=Z,4.8nm,0.8s,baz=343,slow=9.2,SNR=22
WRA Warramunga Arr 36.80 162 P **P** **19 16 30.6 -2.0**
WB2 Warramunga Arr 36.81 162 P **P** **19 16 30.7 -1.9**
KKN Kakani 36.85 296 *e*P **P** **19 16 32.6 -0.6**
WR0 Warramunga Arr 36.88 161 P **P** **19 16 31.2 -1.9**
DMN Daman 36.96 296 *e*P **P** **19 16 33.5 -0.7**
GKN Gorkha 37.45 296 *e*P **P** **19 16 37.2 -1.0**
comp=Z,43nm,1.0s
DANN Dangsing 38.28 297 *e*P **P** **19 16 44.7 -0.7**
comp=Z,52nm,0.8s
KOLN Koldanda 38.30 296 *e*P **P** **19 16 44.8 -0.7**
PYUN Piuthan 38.90 296 *e*P **P** **19 16 50.0 -0.5**
comp=Z,70nm,1.0s
AS31 Alice Springs 40.21 164 P **P** **19 17 00.1 -1.0**
ASAR Alice Springs 40.21 164 P **P** **19 17 00.0 -1.1**
comp=Z,2.1nm,0.7s,baz=339,slow=7.6,SNR=63
ASAR Alice Springs 40.21 164 P **P** **19 16 60.0 -1.1**
WMQ Urumqi 41.19 321 *e*P **P** **19 17 09.9 +0.8**
WMQ pP pwP 19 17 15.4 -1.3
WMQ sP sP 19 17 20.2 +5.6
WMQ PcP **PcP** **19 19 11.1 +2.9**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR
comp=Z,280nm,17.1s
WMQ LR LR
comp=Z,260nm,18.7s
WMQ LR LR
comp=Z,170nm,15.5s
PALK Pallekele 41.91 264 LR LR 19 34 08.2
comp=Z,172nm,18.1s,baz=182,slow=35
CTA Charters Tower 42.06 146 LR LR 19 38 05.2
comp=Z,69nm,18.8s,baz=336,slow=41
H11S3 WAKE ISLAND Hy 42.12 79 T T 20 02 42.5
baz=274,slow=74,SNR=2.3
H11S1 WAKE ISLAND Hy 42.13 79 T T 20 02 43.1
baz=274,slow=74,SNR=4.6
H11S2 WAKE ISLAND Hy 42.13 79 T T 20 02 32.2
baz=274,slow=74,SNR=14
H11N1 WAKE ISLAND Hy 42.27 77 T T 20 01 56.7
baz=267,slow=74,SNR=8.9
H11N2 WAKE ISLAND Hy 42.27 77 T T 20 02 02.9
baz=267,slow=74,SNR=8.5
H11N3 WAKE ISLAND Hy 42.29 77 T T 20 02 03.5
baz=267,slow=74,SNR=9.7
MK31 Makanchi Array 45.98 322 P **P** **19 17 48.1 +0.4**
MK31 IAmb IAmb 19 17 57.8
comp=Z,16nm,0.9s
MKAR Makanchi Array 45.98 322 P **P** **19 17 48.0 +0.3**
comp=Z,8.8nm,0.8s,baz=118,slow=8.9,SNR=87
MKAR LR LR 19 37 51.5
comp=Z,113nm,18.6s,baz=120,slow=37
MKAR Makanchi Array 45.98 322 P **P** **19 17 48.0 +0.3**
MAKZ Makanchi 46.18 322 P **P** **19 17 49.5 +0.2**
MAKZ IAmb IAmb 19 17 58.8
comp=Z,14nm,1.1s
PETK Petropavlovsk- 46.72 28 P **P** **19 17 52.0 -1.3**
comp=Z,11nm,0.9s,baz=210,slow=8.6,SNR=6.4
PETK LR LR 19 38 18.3
comp=Z,84nm,19.6s,baz=224,slow=37
PETK Petropavlovsk- 46.72 28 P **P** **19 17 51.8 -1.5**
YAK Yakutsk 46.97 4 LR LR 19 38 34.0
comp=Z,162nm,19.8s,baz=88,slow=37
KSH Kashi 47.36 310 P **P** **19 18 00.7 +2.0**
KSH pP pwP 19 18 05.3 -1.2
KSH PP **PP** **19 19 47.5 -2.5**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH LR LR
comp=Z,410nm,18.9s
KSH LR LR
comp=Z,230nm,18.2s
KSH LR LR
comp=Z,220nm,19.6s
ZAA0 Zalesovo Array 48.61 331 P **P** **19 18 07.0 -0.9**
ZALV Zalesovo Beam 48.61 331 P **P** **19 18 07.3 -0.6**
comp=Z,10.0nm,0.9s,baz=116,slow=6.8,SNR=39
ZALV LR LR 19 39 06.4
comp=Z,116nm,18.2s,baz=102,slow=37
ZALV Zalesovo Beam 48.61 331 P **P** **19 18 07.7 -0.2**
AAK Ala-Archa 49.38 314 LR LR 19 40 28.9
comp=Z,310nm,21.3s,baz=100,slow=38
BBOO Buckleboo 49.48 165 P **P** **19 18 13.9 -1.0**
KURK Kurchatov 50.02 325 P **P** **19 18 19.0 +0.2**
KURBB Kurchatov Arra 50.02 325 LR LR 19 41 30.9
comp=Z,118nm,19.1s,baz=80,slow=38
STKA Stephens Creek 50.25 159 P **P** **19 18 20.0 -0.7**
comp=Z,3.5nm,0.8s,baz=334,slow=6.4,SNR=7.8
STKA Stephens Creek 50.25 159 P **P** **19 18 20.6 -0.1**
KKAR Karatay Array 52.32 313 P **P** **19 18 36.0 -0.2**
SANVU Saraoutou 53.50 123 P **P** **19 18 44.3 -0.9**
SHEM Shemya Is, Ala 54.96 35 LR LR 19 38 35.0
comp=Z,41nm,21.8s,baz=324,slow=32
BRVK Borovoye 55.69 325 P **P** **19 19 00.8 +0.2**
BRVK IAmb IAmb 19 19 10.2
comp=Z,14nm,0.8s
TIXI Tiksi 56.49 2 LR LR 19 45 37.7
comp=Z,275nm,19.4s,baz=181,slow=38
TIXI Tiksi 56.49 2 P **P** **19 19 04.7 -1.3**
TIXI IAmb IAmb 19 19 06.3
comp=Z,14nm,0.9s
NRIK Noril'sk 58.36 346 P **P** **19 19 18.4 -0.9**
comp=Z,20nm,1.0s,baz=125,slow=6.1,SNR=22
NRIK LR LR 19 44 44.4
comp=Z,135nm,19.1s,baz=152,slow=36
GEYT Alibeck 60.83 305 P **P** **19 19 36.1 -0.9**
comp=Z,2.8nm,0.8s,baz=72,slow=11,SNR=6.4
GEYT LR LR 19 47 34.2
comp=Z,269nm,19.7s,baz=102,slow=38
ABKAR Akbulak array 60.86 318 P **P** **19 19 36.5 -0.5**
ABKAR Akbulak array 60.86 318 P **P** **19 19 36.4 -0.5**
ABKAR IAmb IAmb 19 19 45.8
comp=Z,4.5nm,0.8s
GAMB Gambell 65.69 26 P **P** **19 20 09.2 +0.7**
baz=255
TNA Tin City 67.69 25 P **P** **19 20 21.9 +0.5**
baz=257
ANM Nome 68.56 26 P **P** **19 20 28.0 +1.1**
baz=260
AFI Afiamalu 70.96 111 LR LR 19 44 39.8
comp=Z,68nm,21.0s,baz=287,slow=30
KBZ Khabaz 72.31 312 P **P** **19 20 49.9 -0.3**
comp=Z,4.8nm,1.0s,baz=115,slow=1.2,SNR=5.0
TTA Tatalina 72.56 28 P **P** **19 20 50.5 -0.9**
TTA IAmb IAmb 19 20 52.5
comp=Z,8.2nm,1.1s
TTA Tatalina 72.56 28 P **P** **19 20 52.0 +0.6**
baz=269
L19K White Mountain 73.09 29 P **P** **19 20 54.0 -0.5**
L19K IAmb IAmb 19 20 56.4
comp=Z,17nm,1.2s
L19K White Mountain 73.09 29 P **P** **19 20 55.6 +1.1**
baz=271
N19K Bonanza Creek 73.30 31 P **P** **19 20 56.3 +0.5**
baz=271
M19K Big River Lodg 73.32 29 P **P** **19 20 56.6 +0.8**
baz=271
J20K Nowinta River 73.39 27 P **P** **19 20 56.5 +0.3**
J20K IAmb IAmb 19 20 58.3
comp=Z,10nm,0.9s
J20K Nowinta River 73.39 27 P **P** **19 20 57.2 +1.0**
baz=271,SNR=7.7
O19K Port Alsworth 73.39 31 P **P** **19 20 57.3 +1.1**
baz=272

K20K Telida 73.44 28 P **P** **19 20 55.5 -1.0**
K20K IAmb IAmb 19 20 58.6
comp=Z,13nm,1.1s
K20K Telida 73.44 28 P **P** **19 20 57.6 +1.0**
baz=271
KLMR Klimovskoe 73.50 330 *e*P **P** **19 20 54.5 -2.4**
comp=Z,15nm,1.3s
KLMR AMP 19 20 59.0
IMAR Indian Mountai 73.55 25 P **P** **19 20 57.6 +0.5**
URZ Urewera 73.67 138 LR LR 19 53 26.8
comp=Z,62nm,19.3s,baz=198,slow=36
M20K Styx River 73.91 29 P **P** **19 20 58.3 -1.2**
M20K IAmb IAmb 19 21 04.4
comp=Z,15nm,1.4s
M20K Styx River 73.91 29 P **P** **19 21 00.3 +0.8**
baz=272
H21K Melozitna Rive 73.94 25 P **P** **19 20 59.9 +0.5**
H21K IAmb IAmb 19 21 02.1
comp=Z,15nm,1.1s
H21K Melozitna Rive 73.94 25 P **P** **19 21 00.5 +1.1**
baz=271,SNR=14
CHUM Lake Minchumin 74.21 27 P **P** **19 21 02.0 +1.1**
baz=272,SNR=6.7
I21K Tanana 74.30 26 P **P** **19 21 02.6 +1.1**
baz=272,SNR=11
PPLA Purkeypile 74.31 28 P **P** **19 21 02.2 +0.4**
PPLA IAmb IAmb 19 21 12.1
comp=Z,8.4nm,1.1s
PPLA Purkeypile 74.31 28 P **P** **19 21 02.3 +0.6**
baz=273
CAST Castle Rocks 74.33 28 P **P** **19 21 02.0 +0.2**
CAST Castle Rocks 74.33 28 P **P** **19 21 02.1 +0.4**
baz=273,SNR=6.4
KDAK Kodiak Island 74.41 34 LR LR 19 52 26.8
comp=Z,57nm,21.1s,baz=236,slow=35
BPAW Bear Paw Mtn. 74.78 27 P **P** **19 21 04.4 +0.1**
BPAW Bear Paw Mtn. 74.78 27 P **P** **19 21 04.9 +0.5**
baz=273,SNR=23
MLY Manley 74.83 26 P **P** **19 21 04.9 +0.2**
MLY IAmb IAmb 19 21 06.4
comp=Z,13nm,1.0s
MLY Manley 74.83 26 P **P** **19 21 05.2 +0.6**
baz=273,SNR=14
COLD Coldfoot 74.92 24 P **P** **19 21 06.1 +1.0**
baz=273,SNR=5.9
TOLK Toolik Lake Re 75.07 22 P **P** **19 21 03.3 -2.7**
TOLK IAmb IAmb 19 21 07.8
comp=Z,8.1nm,1.1s
TOLK Toolik Lake Re 75.07 22 P **P** **19 21 06.6 +0.6**
baz=274,SNR=6.5
TRF Thorofare Moun 75.14 28 P **P** **19 21 07.0 +0.4**
baz=274,SNR=5.4
CUT Chulitna 75.22 29 P **P** **19 21 06.3 -0.6**
baz=274
M22K Willow 75.35 29 P **P** **19 21 07.1 -0.5**
baz=275
I23K Minto, Yukon-K 75.41 26 P **P** **19 21 09.2 +1.4**
baz=275
NEA2 Nenana 75.58 26 P **P** **19 21 09.6 +0.7**
baz=275,SNR=10
MCK McKinley 75.71 27 P **P** **19 21 08.7 -1.0**
MCK McKinley 75.71 27 P **P** **19 21 09.7 0.0**
baz=275,SNR=22
PMR Palmer 75.83 30 P **P** **19 21 10.0 -0.3**
baz=276
MDM Murphy Dome 75.90 26 P **P** **19 21 08.9 -1.9**
MDM IAmb IAmb 19 21 12.9
comp=Z,14nm,1.2s
H24K Noodor Dome 75.96 25 P **P** **19 21 10.5 -0.6**
H24K IAmb IAmb 19 21 13.1
comp=Z,9.0nm,1.1s
H24K Noodor Dome 75.96 25 P **P** **19 21 12.0 +0.8**
baz=276,SNR=9.8
KNK Knik Glacier 76.17 30 P **P** **19 21 11.9 -0.4**
KNK IAmb IAmb 19 21 13.2
comp=Z,13nm,1.0s
KNK Knik Glacier 76.17 30 P **P** **19 21 12.2 -0.2**
baz=276,SNR=5.8
SML Sawmill 76.19 29 P **P** **19 21 12.5 0.0**
baz=276,SNR=6.7
POKR Poker Plat Res 76.22 26 P **P** **19 21 13.6 +1.1**
baz=276
PWL Port Wells 76.30 30 P **P** **19 21 12.9 -0.2**
baz=277,SNR=8.4
WAT6 Susitna Watana 76.38 28 P **P** **19 21 13.6 -0.1**
baz=277,SNR=14
DHY Denali Highway 76.48 28 P **P** **19 21 13.8 -0.5**
baz=277
ILAR Eielson Array 76.49 26 P **P** **19 21 12.0 -2.1**
comp=Z,1.2nm,0.9s,baz=254,slow=6.0,SNR=8.8
ILAR LR LR 19 57 10.5
comp=Z,30nm,18.7s,baz=286,slow=38
ILAR Eielson Array 76.49 26 P **P** **19 21 12.6 -1.5**
HDA Harding Lake 76.51 27 P **P** **19 21 12.9 -1.3**
baz=277
SCM Sheep Creek Mo 76.66 29 P **P** **19 21 15.4 +0.2**
baz=277,SNR=8.4
GLI Glacier Island 76.89 30 P **P** **19 21 16.4 -0.1**
GLI Glacier Island 76.89 30 P **P** **19 21 16.4 -0.1**
baz=278
BMAR Burnt Mountain 77.06 23 P **P** **19 21 18.3 +0.9**
J25K Salcha River, 77.16 26 P **P** **19 21 16.5 -1.5**
baz=278
PAX Paxson 77.36 28 P **P** **19 21 19.4 +0.3**
baz=279
RIDG Independent Ri 77.52 27 P **P** **19 21 17.8 -2.2**
RIDG Independent Ri 77.52 27 P **P** **19 21 19.7 -0.3**
baz=279,SNR=11
SCRK Sand Creek 77.86 27 P **P** **19 21 21.8 -0.1**
baz=280,SNR=5.6
J26L Joseph Creek 77.95 26 P **P** **19 21 22.2 -0.2**
baz=280,SNR=6.6
N25K Chitina, Valde 77.98 29 P **P** **19 21 23.2 +0.6**
baz=280
L26K Log Cabin Wild 78.30 28 P **P** **19 21 24.9 +0.6**
baz=280
ARCES ARCESS Array B 78.33 339 P **P** **19 21 21.3 -3.1**
comp=Z,2.0nm,0.9s,baz=67,slow=5.0,SNR=4.9
EGAK Eagle 78.91 26 P **P** **19 21 27.8 +0.2**
EGAK IAmb IAmb 19 21 28.6
comp=Z,6.6nm,0.9s
EGAK Eagle 78.91 26 P **P** **19 21 27.4 -0.2**
baz=282
L27K Beaver Creek, 78.98 28 P **P** **19 21 28.1 +0.1**
baz=282
BCAR Beaver Creek A 79.00 28 P **P** **19 21 28.4 +0.2**
M27K Edge Creek, AK 79.10 28 P **P** **19 21 28.6 -0.2**
M27K IAmb IAmb 19 21 30.4
comp=Z,8.4nm,1.1s
M27K Edge Creek, AK 79.10 28 P **P** **19 21 29.2 +0.3**
baz=282
BRTR Keskin Array B 79.72 308 P **P** **19 21 31.4 -1.4**
comp=Z,0.4nm,0.8s,baz=116,slow=6.6,SNR=2.8
DAWY Dawson 79.82 26 P **P** **19 21 33.3 +0.7**
baz=284
FINES FINESS Array B 79.88 331 P **P** **19 21 31.9 -1.0**
comp=Z,2.4nm,0.9s,baz=69,slow=5.3,SNR=7.9
FINES FINESS Array B 79.88 331 P **P** **19 21 31.7 -1.2**
YUK3 Moose Creek 79.88 29 P **P** **19 21 33.7 +0.5**
baz=283
I29M Ogilvie Camp, 79.95 25 P **P** **19 21 33.6 +0.3**
baz=284
VSU Vasula 80.23 328 *e*P **P** **19 21 34.2 -0.7**
EPYK Eagle Plains 80.32 24 P **P** **19 21 35.3 0.0**
baz=286
AKASG Malin Array Be 80.53 320 P **P** **19 21 35.1 -1.5**
comp=Z,0.2nm,0.3s,baz=62,slow=5.4,SNR=12
INK Inuvik 80.93 21 LR LR 20 03 01.0
comp=Z,40nm,18.3s,baz=248,slow=40
INK Inuvik 80.93 21 P **P** **19 21 38.1 -0.4**
baz=288
IDID Didziasalis 80.96 325 *e*P **P** **19 21 39.0 +0.2**
MEF Metsahovi 80.97 330 *e*P **P** **19 21 38.8 0.0**
NACGM Naroch 81.03 324 *e*P **P** **19 21 39.1 -0.1**
YUK6 Outpost Mounta 81.06 29 P **P** **19 21 40.5 +0.9**
baz=285
IIGN Ignalina 81.24 325 *e*P **P** **19 21 39.9 -0.5**
M30M Minto, Yukon 81.34 27 P **P** **19 21 41.9 +1.1**
baz=286
HYT Haines Junctio 81.50 29 P **P** **19 21 42.4 +0.6**
baz=286
RAF Rauma 82.00 331 *e*P **P** **19 21 43.9 -0.3**
N31M Braeburn, Yuko 82.11 28 P **P** **19 21 46.1 +1.2**
baz=287
A36M Sachs Harbour 82.18 17 P **P** **19 21 44.0 -0.9**
A36M IAmb IAmb 19 21 45.7
comp=Z,10nm,0.9s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
A36M	Sachs Harbour	82.18	17	P	P	19 21 44.7	-0.3
	baz=295						
PABE	Paberze	82.44	325	eP	P	19 21 46.1	-0.5
CFR	Carcaliu	82.51	315	⇓P	P	19 21 46.5	-0.7
M31M	Drury Creek, Y	82.52	27	P	P	19 21 47.3	+0.3
	baz=288						
WHY	Whitehorse	82.78	29	P	P	19 21 47.4	-1.1
WHY				IAmb	IAmb	19 21 50.6	
	comp=Z,9.7nm,1.1s						
WHY	Whitehorse	82.78	29	P	P	19 21 49.3	+0.8
	baz=288						
SKAG	Skagway	82.94	30	P	P	19 21 50.5	+1.3
	baz=288						
TESR	Tescani	83.19	316	⇓P	P	19 21 50.2	-0.6
SUW	Suwalki	83.29	324	eP	P	19 21 50.8	-0.3
VRI	Vrincioaia	83.30	316	⇑P	P	19 21 51.3	0.0
PLOR	Plostina	83.35	316	⇓P	P	19 21 51.2	-0.5
C36M	Paulatuk	83.70	19	P	P	19 21 52.7	-0.2
	baz=297						
BURAR	Bucovina Array	83.84	318	⇓P	P	19 21 54.2	0.0
BURAR	Bucovina Array	83.84	318	P	P	19 21 53.8	-0.4
BURAR				IAmb	IAmb	19 21 55.2	
	comp=Z,5.7nm,0.8s						
P33M	Teslin, Yukon	83.89	29	P	P	19 21 54.9	+0.7
	baz=290						
MLR	Muntele Rosu	83.93	315	⇑P	P	19 21 54.2	-0.6
UPP	Uppsala	84.32	331	eP	P	19 21 55.9	-0.3
ARR	Arges	84.85	316	⇓P	P	19 21 59.0	-0.3
TRPA	Tarpa	85.42	319	⇑P	P	19 22 01.9	-0.1
TGTN	Hyland Airport	85.47	27	P	P	19 22 03.0	+0.9
	baz=294						
DRGR		85.71	317	⇓P	P	19 22 03.6	-0.1
CRVS	Cervenica-Dubn	85.86	320	eP	P	19 22 04.7	+0.4
GZR	Gura Zlata	86.09	316	⇑P	P	19 22 06.1	+0.5
NIE	Niedzica	86.42	320	eP	P	19 22 08.2	+1.1
OJC	Ojcow	86.46	321	eP	P	19 22 07.3	+0.1
NC405	NORSAR Array S	86.52	333	P	P	19 22 06.7	-0.5
SIRR	Siria	86.56	317	⇓P	P	19 22 07.4	-0.4
NB2	NORSAR Subarra	86.77	333	P	P	19 22 07.2	-1.3
	comp=Z,7.5nm,0.9s,baz=63,slow=5.3						
NOA	NORSAR Array B	86.77	333	P	P	19 22 07.3	-1.3
	comp=Z,3.4nm,0.8s,baz=64,slow=4.9,SNR=6.9						
NOA				LR	LR	20 03 50.3	
	comp=Z,94nm,19.9s,baz=65,slow=38						
PSZ	Piszkesteto	87.17	319	⇓P	P	19 22 10.1	-0.7
RES	Resolute Bay	87.19	9	LR	LR	20 04 46.5	
	comp=Z,90nm,18.9s,baz=82,slow=38						
KRLC	Kraliky	88.32	322	eP	P	19 22 15.4	-0.8
OSTC	Ostas	88.48	322	eP	P	19 22 16.3	-0.6
DPC	Dobruska-Polom	88.49	322	eP	P	19 22 15.6	-1.4
CHVC	Chvalec	88.56	322	eP	P	19 22 16.6	-0.7
VRAC	Vranov	88.72	321	⇓P	P	19 22 08.1	-10
CONA	Conrad Observa	89.69	320	eP	P	19 22 22.8	0.0
	comp=Z,1.5nm,0.9s						
CLL	Collm	90.04	324	iP	P	19 22 24.1	-0.1
	comp=Z,12nm,1.8s						
CLL				ex	x	19 22 36.0	
CLL				ePP	PP	19 25 56.0	-0.9
CLL				Lm	MLR	21 23 00.0	
	comp=Z,100nm,19.0s						
ARSA	Arzberg	90.17	319	eP	P	19 22 24.1	-0.8
	comp=Z,0.9nm,0.6s						
CKRC	Cesky Krumlov	90.30	321	eP	P	19 22 25.5	0.0
YKA	Yellowknife Ar	90.58	23	P	P	19 22 26.6	+0.2
	comp=Z,2.4nm,0.8s,baz=301,slow=4.7,SNR=32						
KHC	Kasperske Hory	90.61	322	eP	P	19 22 25.5	-1.5
GERES	GERESS Array B	90.65	321	P	P	19 22 24.1	-3.2
	comp=Z,0.2nm,0.3s,baz=103,slow=2.1,SNR=5.6						
SOKA	Soboth	90.70	319	eP	P	19 22 27.0	-0.5
	comp=Z,2.5nm,1.0s						
MOA	Molln	90.71	320	eP	P	19 22 27.4	-0.1
	comp=Z,4.1nm,1.1s						
KBA	Koelnbreinsper	91.60	320	eP	P	19 22 30.8	-1.0
	comp=Z,2.5nm,1.2s						
ABTA	Abfaltersbach	92.25	320	eP	P	19 22 33.1	-1.6
	comp=Z,4.9nm,1.3s						
PPT	Papeete	92.38	107	LR	LR	20 02 47.5	
	comp=Z,22nm,18.7s,baz=346,slow=35						
WTTA	Wattenberg	92.58	320	eP	P	19 22 35.5	-0.8
	comp=Z,5.9nm,1.1s						
WATA	Walderalm	92.58	321	eP	P	19 22 35.3	-1.0
	comp=Z,3.1nm,1.2s						
SQTA	Sankt Quirin	92.86	321	eP	P	19 22 36.8	-0.8
	comp=Z,3.0nm,0.9s						
MOTA	Moosalm	92.87	321	eP	P	19 22 36.2	-1.4
	comp=Z,3.6nm,1.2s						
FETA	Feichten	93.24	321	eP	P	19 22 39.0	-0.4
	comp=Z,4.8nm,1.2s						
VNDA	Vanda	95.31	172	LR	LR	20 08 34.6	
	comp=Z,24nm,18.6s,baz=309,slow=37						
NVAR	Mina Array Bea	101.84	45	P	Pdif	19 23 17.4	-1.1
	comp=Z,0.1nm,0.3s,baz=260,slow=5.2,SNR=3.6						

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*IDC **03** 19:15:27.1±2.6, 7°.46S×155°.07E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/41, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=69.5km s-min=32.0km az=105.0*

ISC 03 19:15:33.8±1.7, **7°.4S**±0°.2×**154°.7E**±0°.3, **h35**km, **n6**, σ**0s95**/8, **mb3.4**/4, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	4.09	319	Pn	Pn	19 16 33.9	0.0
	1.9nm,0.3s,baz=164,slow=21,SNR=6.3						
KRVT				Sn	Sn	19 17 20.1	-0.4
	2.0nm,0.3s,baz=199,slow=5.2,SNR=3.8						
WRA	Warramunga Arr	23.35	236	P	P	19 20 39.8	+0.4
	0.8nm,0.7s,baz=58,slow=9.2,SNR=5.1						
ASAR	Alice Springs	25.69	229	P	P	19 21 00.9	0.0
	0.5nm,0.9s,baz=64,slow=7.3,SNR=2.6						
SONM	Songino Array	69.54	328	P	P	19 26 40.0	+0.8
	0.3nm,0.8s,baz=145,slow=5.3,SNR=2.8						
MKAR	Makanchi Array	83.54	319	P	P	19 27 59.0	+0.6
	0.4nm,0.8s,baz=101,slow=4.6,SNR=4.5						
TORD	Torodi Ar. Bea	152.87	284	PKPbc	PKPbc	19 35 26.9	-1.5
	0.4nm,0.8s,baz=66,slow=1.1,SNR=2.8						
TORD				PKPab	sPKPbc	19 35 39.9	-0.9
	0.4nm,1.0s,baz=116,slow=3.4,SNR=1.8						

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*ISK **03** 19:18:25.7, 41°.11N×44°.36E, h5km, ML2.5/4*
*TIF **03** 19:18:25.4, 41°.01N×44°.40E, h11km±1km*
*DDA **03** 19:18:26.6±0.0, 41°.15N×44°.32E, h12km±1km, ML2.3*
*NORS **03** 19:18:26.6±0.0, 41°.19N×44°.31E, h1km, MPVA3.4*

ISC 03 19:18:25.8±1.0, **41°.15N**±0°.02×**44°.38E**±0°.02, **h15**km±8km, **n32**, σ**1s18**/54, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DMNI	Dmanisi	0.23	322	P	Pg	19 18 31.3	+0.3
DMNI				S	Sg	19 18 35.0	+0.5
KZRT	Kazreti	0.23	4	P	Pb	19 18 32.4	+0.6
KZRT				S	Sb	19 18 35.9	+0.1
KZRT	Kazreti	0.23	4	P	Pb	19 18 32.1	+0.3
TRLG	Trialeti	0.44	332	P	Pg	19 18 35.0	+0.3
TRLG				S	Sb	19 18 41.6	-0.2
BGD	Bogdanovka	0.60	281	P	Pb	19 18 38.3	+0.3
BGD				S	Sb	19 18 47.3	+0.9
BTNK	Botanikuri	0.62	31	P	Pg	19 18 32.9	-5.1
BTNK				S	Sg	19 18 41.7	-4.6
BTNK	Botanikuri	0.62	31	P	Pg	19 18 32.9	-5.2
BTNK				S	Sg	19 18 41.4	-4.9
BTNK				i AML	AML	19 18 42.0	
	comp=E,1µm,0.1s						
BRNG	Burnasheti	0.63	319	P	Pb	19 18 39.1	+0.6
BRNG				S	Sn	19 18 48.5	-1.6
SEAG	Tbilisi Sea	0.69	28	P	Pb	19 18 39.4	-0.2
SEAG				S	Sb	19 18 49.3	+0.4
AKH	Akhalkalaki	0.71	291	P	Pb	19 18 40.1	0.0
AKH				S	Sb	19 18 50.3	+0.5
AKH	Akhalkalaki	0.71	291	PG	Pb	19 18 40.0	0.0
AKH				SG	Sb	19 18 50.2	+0.5
EAK	Akyaka	0.74	232	P	Pb	19 18 40.1	-0.5
EAK				S	Sb	19 18 50.0	-0.6
BKRG	Bakuriani	0.88	314	P	Pg	19 18 43.4	+0.4
BKRG				S	Sn	19 18 56.1	-0.4
GNI	Garni	1.04	164	PG	Pb	19 18 45.5	-0.1
GNI				SG	Sb	19 18 59.9	+0.9
KARS	Kars	1.11	242	PG	Pb	19 18 46.8	0.0
KARS				SG	Sn	19 19 02.2	+0.1
TASB	TASBURUN-IGDIR	1.17	185	PN	Pn	19 18 47.7	0.0
EPOS	Posof	1.29	286	P	Pb	19 18 50.1	+0.2
IGDI	IGDIR	1.30	190	P	Pn	19 18 49.2	-0.3
IGDI				S	Sn	19 19 06.1	-0.5
IGDI				i AML	AML	19 19 08.0	
	comp=N,49nm,0.2s						
ABS	Abastumani	1.32	298	P	Pg	19 18 51.1	-0.1
DDFL	Dedoflistskaro	1.35	77	P	Pg	19 18 52.1	+0.4
DDFL	Dedoflistskaro	1.35	77	P	Pg	19 18 52.8	+1.0
DDFL				S	Sg	19 19 12.2	+2.9
DDFL				i AML	AML	19 19 16.0	
	comp=E,51nm,0.3s						
DDFL				i AML	AML	19 19 19.0	
	comp=N,41nm,0.4s						
PNSH	Pansheti	1.49	7	P	Pb	19 18 53.8	+0.5
MTEO	Meteo	1.53	4	P	Pb	19 18 54.7	+0.6
LGD	Lagodekhi	1.56	63	P	Pb	19 18 54.5	+0.1
LGD				S	Sg	19 19 15.5	-0.6
ONI	Oni	1.59	335	P	Pb	19 18 55.0	+0.1
ONI				S	Sg	19 19 17.7	+0.5
ONI	Oni	1.59	335	ePg	Pb	19 18 55.6	+0.6
ONI				eSg	Sg	19 19 17.4	+0.2
ZEI	Tsey	1.67	348	ePg	Pb	19 18 57.2	+0.8
ZEI				eSg	Sg	19 19 20.2	+0.5
LACR	Lac	1.68	358	ePg	Pb	19 18 57.2	+0.8
LACR				eSg	Sg	19 19 20.4	+0.6
DIGR	Digorskoe uzhe	1.84	342	ePg	Pg	19 19 00.6	-0.6
DIGR				eSg	Sg	19 19 26.0	+0.8
DAGI	Agillar	1.86	269	P	Pb	19 18 59.6	0.0
KMGR	Komgaron	1.94	11	ePg	Pb	19 19 01.9	+1.1
KMGR				eSg	Sg	19 19 28.7	+0.5
DBAD	Bademkaya	2.03	267	P	Pb	19 19 03.2	+0.7
DBAD				S	Sg	19 19 30.6	-0.5

IDC 03 19:41:09.7±2.1, **1°.82N**×**124°.88E**, **h0**km, **mb3.1**/3, **mb1 3.4**/3, **mb1mx3.0**/46, **mbtmp3.1**/3, **MS3.6**/1, **Ms1 3.6**/1, **ms1mx2.6**/23, **Error ellipse: s-maj=196.7km s-min=28.0km az=64.0**, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.53	157	P	P	19 46 21.3	-0.5
	0.3nm,0.4s,baz=336,slow=11,SNR=6.2						
ASAR	Alice Springs	26.81	161	P	P	19 46 52.5	+0.6
	0.2nm,0.5s,baz=344,slow=8.3,SNR=6.9						
CTA	Charters Tower	30.22	137	LR	LR	20 00 31.9	
	comp=Z,115nm,19.6s,baz=98,slow=38						
MKAR	Makanchi Array	58.10	327	P	P	19 51 04.8	-0.3
	0.1nm,0.6s,baz=126,slow=5.4,SNR=1.8						

IDC 03 19:42:21.4±1.1, **25°.79S**×**72°.13E**, **h0**km, **mb3.8**/9, **mb1 3.9**/9, **mb1mx3.6**/48, **mbtmp3.8**/9, **MS3.6**/7, **Ms1 3.6**/7, **ms1mx3.1**/80, **Error ellipse: s-maj=33.5km s-min=25.0km az=2.0**, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALK	Pallekele	33.90	15	LR	LR	19 59 19.1	
	comp=Z,115nm,21.5s,baz=339,slow=30						
H01W2	Cape Leeuwin H	37.15	114	T	T	20 29 08.2	
	baz=271						
H01W3	Cape Leeuwin H	37.15	114	T	T	20 29 10.9	
	baz=271,slow=74						
H01W1	Cape Leeuwin H	37.16	114	T	T	20 29 20.2	
	baz=271,slow=74						
PSI	Prapat	38.48	46	LR	LR	20 02 58.5	
	comp=Z,111nm,18.4s,baz=190,slow=32						
LEM	Lembang	38.74	67	LR	LR	20 02 12.3	
	comp=Z,110nm,20.7s,baz=231,slow=31						
BOSA	Boshof	41.58	255	P	P	19 50 10.4	-0.9
	5.3nm,1.2s,baz=102,slow=9.3,SNR=3.9						
MAW	Mawson	42.22	185	LR	LR	20 06 02.3	
	comp=Z,137nm,18.2s,baz=314,slow=34						
KAPI	Kappang	49.99	74	LR	LR	20 11 13.0	
	comp=Z,52nm,18.1s,baz=273,slow=35						
CMAR	Chiang Mai Arr	51.13	33	P	P	19 51 26.7	+0.5
	0.8nm,1.0s,baz=218,slow=8.3,SNR=8.1						
CMAR				LR	LR	20 12 06.6	
	comp=Z,27nm,18.3s,baz=205,slow=35						
ASAR	Alice Springs	55.69	102	P	P	19 51 59.7	-0.2
	0.8nm,0.9s,baz=255,slow=6.3,SNR=6.8						
WRA	Warramunga Arr	57.17	98	P	P	19 52 10.6	+0.1
	1.3nm,1.0s,baz=257,slow=5.9,SNR=5.5						
AAK	Ala-Archa	68.12	2	P	P	19 53 23.3	+0.1
	0.2nm,0.3s,baz=158,slow=11,SNR=2.1						
MKAR	Makanchi Array	72.82	7	P	P	19 53 51.6	-0.1
	1.8nm,1.0s,baz=198,slow=7.2,SNR=15						
TORD	Torodi Ar. Bea	78.68	291	P	P	19 54 27.6	+1.7
	0.7nm,1.0s,baz=120,slow=5.2,SNR=3.1						
SONM	Songino Array	79.50	23	P	P	19 54 30.4	+0.6
	0.3nm,0.8s,baz=228,slow=3.7,SNR=3.0						
ZALV	Zalesovo Beam	80.16	8	P	P	19 54 31.3	-1.7
	0.9nm,0.7s,baz=200,slow=3.9,SNR=5.2						
KSRS	Korea Array	81.88	42	LR	LR	20 28 37.2	
	comp=Z,24nm,20.8s,baz=185,slow=34						

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*IDC **03** 19:43:11.8±1.4, 14°.02S×166°.68E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/33, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=51.7km s-min=30.0km az=127.0*

ISC 03 19:43:17.6±1.1, **14°.2S**±0°.1×**166°.7E**±0°.3, **h43**km, **n7**, σ**0s49**/8, **mb3.5**/4, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.83	182	Pn	Pn	19 45 09.6	+0.4
	1.1nm,0.3s,baz=302,slow=20,SNR=9.5						
DZM				Sn	Sn	19 46 36.0	-0.5
	0.3nm,0.3s,baz=39,slow=16,SNR=1.0						
WRA	Warramunga Arr	31.45	255	P	P	19 49 35.1	-0.2
	0.4nm,0.9s,baz=86,slow=9.1,SNR=2.0						
ASAR	Alice Springs	32.38	248	P	P	19 49 43.4	-0.1
	0.3nm,0.5s,baz=74,slow=8.9,SNR=6.4						
ILAR	Eielson Array	86.19	18	P	P	19 55 53.4	-0.6
	0.4nm,0.8s,baz=237,slow=4.3,SNR=5.5						
MKAR	Makanchi Array	96.46	317	P	P	19 56 42.6	+0.2
	0.2nm,0.7s,baz=92,slow=4.5,SNR=2.0						
ARCES	ARCESS Array B	119.61	345	PKP	PKPdf	20 02 02.4	+0.1
	0.8nm,0.7s,baz=84,slow=1.7,SNR=13						
FINES	FINESS Array B	125.04	338	PKP	PKiKP	20 02 13.7	+0.5
	0.2nm,0.4s,baz=29,slow=4.4,SNR=3.6						

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*IDC **03** 19:49:16.0±1.0, 14°.22S×166°.80E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.9/33, mbtmp3.9/10, ML3.7/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/64, Error ellipse: s-maj=31.8km s-min=22.3km az=117.0*
*NEIC **03** 19:49:21.6±2.4, 14°.20S±0°.10×166°.82E±0°.05, h35km±2km, mb4.4/9, Error ellipse: s-maj=17.6km s-min=6.2km az=158.0*

ISC 03 19:49:21.2±0.8, **14°.24S**±0°.09×**166°.8E**±0°.2, **h35**km, **n29**, σ**1s13**/29, **mb4.1**/12, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.27	162	Pn	Pn	19 49 40.7	-1.8
MARNC	Mare, Loyalty	7.30	171	Pn	Pn	19 51 07.1	+1.7
DZM	Mont Dzumac	7.80	182	Pn	Pn	19 51 12.0	-0.3
	1.2nm,0.3s,baz=143,slow=24,SNR=15						
DZM				Sn	Sn	19 52 38.2	-1.3
	1.0nm,0.3s,baz=138,slow=23,SNR=1.3						
DZM				LR	LR	19 53 50.8	
	comp=Z,232nm,19.5s,baz=18,slow=35						
DZM	Mont Dzumac	7.80	182		Pn	19 51 12.6	+0.3
OUENC	Ouen Island, N	8.14	180	Pn	Pn	19 51 18.8	+1.9
PINNC	Pines Island,	8.36	176	Pn	Pn	19 51 22.4	+2.5
CTA	Charters Tower	20.46	251	P	Pn	19 53 56.8	-1.5
	6.0nm,0.8s,baz=62,slow=11,SNR=2.9						
BKZ	Black Stump Fm	26.26	163	P	P	19 54 53.7	+0.4
BKZ				IAmb	IAmb	19 54 55.6	
	comp=Z,25nm,1.5s						
STKA	Stephens Creek	28.97	228	P	P	19 55 18.6	+1.1
	comp=Z,2.1nm,0.7s,baz=61,slow=10,SNR=5.4						
STKA				LR	LR	20 06 43.7	
	comp=Z,164nm,18.3s,baz=37,slow=36						
STKA	Stephens Creek	28.97	228	P	P	19 55 18.5	+0.9
WB0	Warramunga Arr	31.44	255	P	P	19 55 38.4	-1.2
WB0				IAmb	IAmb	19 55 42.5	
	comp=Z,6.9nm,1.4s						
WB2	Warramunga Arr	31.49	255	P	P	19 55 38.9	-1.1
WB2				IAmb	IAmb	19 55 57.0	
	comp=Z,4.2nm,1.1s						
WRA	Warramunga Arr	31.50	255	P	P	19 55 39.1	-1.0
	comp=Z,0.7nm,0.8s,baz=83,slow=9.6,SNR=4.7						
WRA				LR	LR	20 07 02.5	
	comp=Z,106nm,20.3s,baz=197,slow=34						
AS31	Alice Springs	32.42	248	P	P	19 55 48.8	+0.6
ASAR	Alice Springs	32.42	248	P	P	19 55 47.5	-0.7
	comp=Z,0.6nm,0.6s,baz=74,slow=9.4,SNR=10.0						
ASAR	Alice Springs	32.42	248	P	P	19 55 47.9	-0.3
BBOO	Buckleboo	33.52	231	P	P	19 55 56.9	-0.8
FORT	Forrest	39.16	239	P	P	19 56 44.0	-1.7
FITZ	Fitzroy Crossi	39.66	259	P	P	19 56 49.9	-0.2
CMAR	Chiang Mai Arr	74.33	294	P	P	20 00 55.4	-0.3
	comp=Z,0.2nm,0.5s,baz=111,slow=5.0,SNR=1.9						
QSPA	South Pole Qui	75.79	180	P	P	20 01 03.2	-0.3
	comp=Z,1.4nm,0.6s,baz=292,slow=1.6,SNR=12						
QSPA	South Pole Qui	75.79	180	P	P	20 01 03.7	+0.2
QSPA				IAmb	IAmb	20 01 28.9	
	comp=Z,3.5nm,1.1s						
SONM	Songino Array	81.83	324	P	P	20 01 36.6	-0.3
	comp=Z,0.1nm,0.3s,baz=142,slow=6.1,SNR=2.7						
HDA	Harding Lake	85.92	18	P	P	20 01 57.4	+0.1
HDA				IAmb	IAmb	20 01 59.1	
	comp=Z,2.6nm,0.6s						
ILAR	Eielson Array	86.20	18	P	P	20 01 58.9	+0.3
	comp=Z,0.7nm,0.5s,baz=240,slow=5.2,SNR=16						
ILAR	Eielson Array	86.20	18	P	P	20 01 57.0	-1.6
MKAR	Makanchi Array	96.53	316	P	P	20 02 48.3	+1.0
	comp=Z,0.4nm,0.8s,baz=88,slow=7.2,SNR=4.8						
ARCES	ARCESS Array B	119.66	345	PKP	PKiKP	20 08 07.2	+0.3
	comp=Z,2.1nm,0.9s,baz=72,slow=1.9,SNR=8.6						
FINES	FINESS Array B	125.10	338	PKP	PKiKP	20 08 18.4	+0.6
	comp=Z,1.1nm,0.9s,baz=299,slow=1.4,SNR=7.2						

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*TIF **03** 19:55:28.8, 41°.60N×46°.56E, h15km*
*MOS **03** 19:55:29.1±0.0, 41°.61N×46°.58E, h10km, MPVA3.3*
*DRS **03** 19:55:30.6±0.0, 41°.56N×46°.53E, h16km*

ISC 03 19:55:28.8±1.3, **41°.54N**±0°.05×**46°.52E**±0°.03, **h13**km±9km, **n25**, σ**1s68**/48, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDFL	Dedoflistskaro	0.32	253	P	Pb	19 55 38.6	+2.2
DDFL				S	Sn	19 55 47.2	+1.4
LGD	Lagodekhi	0.36	325	P	Pg	19 55 36.2	+0.1
LGD				S	Sb	19 55 41.5	-1.2
KMKR	Kumukh	0.73	36	ePg	Pn	19 55 43.5	-1.6
KMKR				eSg	Sb	19 55 53.0	-0.6
GNBR	Gunib	0.91	21	ePg	Pn	19 55 55.3	+7.9
GNBR				eSg	Sn	19 56 07.8	+7.3
XNZR	Khunzakh	1.01	8	ePg	Pn	19 55 48.5	-0.4
XNZR				eSg	Sn	19 56 02.1	-1.1
URKR	Urkarakh	1.04	53	ePg	Pn	19 55 49.2	-0.1
URKR				eSg	Sn	19 56 03.1	-0.7
ARKR	Arakani	1.12	18	ePg	Pg	19 55 50.2	-0.2
ARKR				eSg	Sn	19 56 05.2	-0.5
BTLR	Botlikh	1.14	349	ePg	Pg	19 55 50.6	-0.3
BTLR				eSg	Sn	19 56 05.8	-0.5
UNCR	Uncukul	1.19	10	ePg	Pg	19 55 52.3	+0.5
UNCR				eSg	Sn	19 56 08.1	+0.7
SGKR	Sergokala	1.25	42	ePg	Pg	19 55 52.8	-0.1
SGKR				eSg	Sg	19 56 09.8	+0.6
BTNK	Botanikuri	1.30	277	P	Pn	19 55 48.3	-4.4
KRNR	Karanay	1.32	13	ePg	Pg	19 55 53.6	-0.6
KRNR				eSg	Sg	19 56 11.2	-0.1
BUJR	Buynaksk	1.36	19	ePg	Pg	19 55 54.6	-0.3
BUJR				eSg	Sg	19 56 12.4	-0.2
DRN	Derbent	1.44	70	ePg	Pg	19 55 55.9	-0.6
DRN				eSg	Sg	19 56 15.0	-0.2
DVE	Vedeno	1.45	348	ePg	Pg	19 55 56.7	+0.1
DVE				eSg	Sg	19 56 16.8	+1.4
DBC	Dubki	1.50	9	ePg	Pg	19 55 57.6	0.0
DBC				eSg	Sg	19 56 17.8	+0.7
GROC	Groznyy	1.75	342	ePg	Pg	19 56 04.7	+2.4
GROC				eSg	Sg	19 56 28.2	+3.3
GUDG	Gudauri	1.78	302	P	Pb	19 56 01.4	-0.1
GUDG				S	Sb	19 56 24.9	+1.1
PNSH	Pansheti	1.79	308	P	Pb	19 56 01.0	-0.6
PNSH				S	Sg	19 56 25.4	-1.0
TRLG	Trialeti	1.81	271	P	Pn	19 56 00.7	+0.7
TRLG				S	Sb	19 56 25.2	+0.5
MTEO	Meteo	1.86	308	P	Pn	19 55 58.5	-2.4
MTEO				S	Sb	19 56 27.1	+0.6
LACR	Lac	2.09	309	ePg	Pb	19 56 06.2	-0.5
LACR				eSg	Sb	19 56 33.0	+0.3
BKRG	Bakuriani	2.26	277	P	Pb	19 56 09.4	-0.1
BKRG				S	Sb	19 56 38.8	+1.3
ZEI	Tsey	2.31	304	ePn	Pb	19 56 10.5	0.0
ZEI				eSn	Sg	19 56 41.2	-1.9
ONI	Oni	2.51	296	P	Pb	19 56 12.9	-0.9
ONI				S	Sb	19 56 44.0	-0.7

IDC 03 20:13:26.5±4.1, **2°.06S**×**101°.70E**, **h0**km, **mb3.2**/5, **mb1 3.4**/5, **mb1mx3.1**/38, **mbtmp3.2**/5, **Error ellipse: s-maj=181.5km s-min=24.7km az=56.0**, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.50	121	P	P	20 20 33.6	-0.3
	0.2nm,0.6s,baz=305,slow=8.6,SNR=1.1						
ASAR	Alice Springs	37.85	127	P	P	20 20 45.2	-0.1
	0.1nm,0.3s,baz=300,slow=7.8,SNR=4.0						
SONM	Songino Array	49.86	4	P	P	20 22 22.9	+1.3
	0.2nm,0.5s,baz=178,slow=7.1,SNR=2.5						
MKAR	Makanchi Array	51.56	343	P	P	20 22 34.1	-0.3
	0.2nm,0.5s,baz=156,slow=7.7,SNR=2.7						
ZALV	Zalesovo Beam	57.56	348	P	P	20 23 16.8	-0.9
	0.3nm,0.5s,baz=165,slow=6.0,SNR=2.1						

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*CNRM **03** 20:25:05.1, 35°.67N×3°.68W, h22km, ml1.7*
*MDD **03** 20:25:05.8±1.1, 35°.63N×3°.70W, h33km±3km, mb_Lg2.5/3, Error ellipse: s-maj=10.5km s-min=6.8km az=9.0*
*INMG **03** 20:25:05.9±1.6, 35°.65N×3°.73W, h0km, ML2.0, Error ellipse: s-maj=5.6km s-min=3.9km az=20.0*

ISC 03 20:25:04.9±1.2, **35°.63N**±0°.02×**3°.63W**±0°.03, **h22**km±6km, **n25**, σ**1s36**/44, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.49	211	P	Pn	20 25 15.5	-1.0
PALE				S	Sn	20 25 22.5	-1.9
EALB	Alboran	0.57	58	Pg	Pn	20 25 17.3	-0.4
EALB				Sg	Sn	20 25 26.2	-0.3
EALB				i Vmb_Lg		20 25 27.2	
EMEL	Melilla	0.64	121	Pg	Pn	20 25 18.5	-0.2
EMEL				Sg	Sn	20 25 27.9	-0.3
GOG	Mont Gurugu	0.66	128	P	Pn	20 25 18.5	-0.6
GOG				S	Sn	20 25 28.8	-0.1
PVLZ	Peæn de	0.71	230	P	Pn	20 25 19.0	-0.7
PVLZ				S	Sn	20 25 28.6	-1.3
AKLM	AKL	1.14	190	P	Pn	20 25 22.2	-3.4
AKLM				S	Sn	20 25 41.2	+0.7
ELGU	Los Guajares,	1.23	0	Pg	Pn	20 25 26.2	-0.7
ELGU				Sg	Sb	20 25 42.1	-0.8
ELGU				i Vmb_Lg		20 25 46.8	
TAF	Taforalt	1.29	129	P	Pb	20 25 28.0	-0.4
TAF				S	Sb	20 25 49.0	+4.3
EMAL	Malaga-Limoner	1.30	330	P	Pb	20 25 28.5	-0.1
EMAL				S	Sn	20 25 44.2	-0.2
EMIJ	Mijas	1.31	315	Pg	Pn	20 25 27.2	-0.7
EMIJ				Sg	Sn	20 25 42.9	-1.9
EMIJ				i Vmb_Lg		20 25 44.4	
EBER	Berja	1.40	25	Pg	Pb	20 25 29.8	-0.6
EBER				Sg	Sn	20 25 46.7	-0.4
SMIR	Smir Dam	1.43	272	P	Pb	20 25 30.2	-0.5
SMIR				S	Sn	20 25 47.1	-0.4
CHEFC	Chefchaouen	1.49	250	P	Pb	20 25 31.7	-0.2
CHEFC				S	Sb	20 25 49.7	-0.8
EGOR	Sierra Gorda,	1.52	345	Pg	Pn	20 25 29.8	-1.2
JBK	JBK	1.56	146	P	Pb	20 25 32.4	-0.8
JBK				S	Sb	20 25 51.9	-0.7
MD31	MD31	2.91	199	P	Pn	20 25 51.2	+1.1
MD31				S	Sn	20 26 26.8	+2.3
MDT	Midelt	2.93	196	P	Pn	20 25 51.2	+0.9
MDT				S	Sn	20 26 25.3	+0.5
PBAR	Barrancos	3.73	314	ePn	Pn	20 26 02.7	+1.6
PBAR				eSn	Sn	20 26 44.1	-0.2
PBAR				A	A	20 27 05.0	
	1.3nm,0.6s						
PVAQ	Vaqueiros	3.73	299	ePn	Pn	20 26 03.6	+2.4
PVAQ				eSn	Sn	20 26 43.7	-0.8
PVAQ				A	A	20 26 45.7	
	2.5nm,0.5s						
PBDV	Barranco-do-Ve	3.82	296	ePn	Pn	20 26 04.4	+2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBDV				eSn	Sn	20 26 46.8	+0.1
PCVE	**Castro Verde**	4.07	301	eSn	Sn	20 26 53.4	+0.7
PESTR	**Estremoz**	4.51	317	eSn	Sn	20 27 04.2	+0.4
PNCL	**Nicolau / Gran**	4.64	304	ePn	Pn	20 26 15.8	+2.2
PMRV	**Marv??o**	4.82	323	ePn	Pn	20 26 20.5	+4.3
PMRV				eSn	Sn	20 27 10.8	-0.6
PMTG	**Montargil**	5.01	314	eSn	Sn	20 27 16.2	+0.1

*NDI **03** 20:31:34.4±3.2, 24°.18N×94°.54E, h120km±23km, ML3.8*
*IDC **03** 20:31:35.9±1.9, 23°.89N×94°.60E, h105km±19km, mb3.4/5, mb1 3.5/6, mb1mx3.0/49, mbtmp3.6/6, MS4.0/1, Ms1 4.0/1, ms1mx2.6/60, Error ellipse: s-maj=19.4km s-min=14.7km az=45.0*
ISC 03 20:31:35.7±0.8**, 24°.13N**±0°.05×**94°.54E**±0°.06**, h96km, n32, σ1s.72**/60**, mb3.8**/5**, 1D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	1.63	346	eP	Pn	20 32 04.7	+1.2
KOHI				eS	Sn	20 32 25.3	+0.7
KOHI				IAML		20 32 28.9	
	comp=N,542nm,0.6s						
KOHI				IAML		20 32 29.6	
	comp=E,639nm,0.4s						
MOKO	**MOKOCHONG**	2.18	360	eP	Pn	20 32 11.2	+0.5
MOKO				eS	Sn	20 32 36.8	-0.5
MOKO				IAML		20 32 40.8	
	comp=N,455nm,0.2s						
MOKO				IAML		20 32 40.9	
	comp=E,680nm,0.2s						
JORH	**JORHAT**	2.61	354	eP	Pn	20 32 14.9	-1.3
JORH				eS	Sn	20 32 47.2	0.0
JORH				IAML		20 32 48.8	
	comp=N,522nm,0.3s						
JORH				IAML		20 32 48.9	
	comp=E,699nm,0.1s						
BELO	**BELONIA**	2.97	253	eP	Pn	20 32 21.3	+0.4
BELO				eS	Sn	20 32 57.0	+1.3
AGT	**Agartala**	3.02	266	eP	Pn	20 32 22.4	+0.8
AGT				eS	Sn	20 32 57.8	+0.9
AGT				IAML		20 33 01.0	
	comp=N,588nm,0.4s						
BRDH	**Bariadhala**	3.03	242	P	Pn	20 32 21.9	+0.1
	comp=N,0.3nm,0.3s,baz=360,slow=24,SNR=1.3						
BRDH				S	Sn	20 32 56.8	-0.5
	comp=N,0.6nm,0.3s,baz=180,slow=24,SNR=17						
ITAN	**ITANAGAR**	3.09	346	eP	Pn	20 32 23.1	+0.5
ITAN				eS	Sn	20 32 56.4	-2.3
ITAN				IAML		20 32 58.8	
	comp=E,924nm,0.3s						
GUWA	**GUWAHATI**	3.29	309	eP	Pn	20 32 25.0	-0.3
GUWA				eS	Sn	20 33 01.0	-2.7
GUWA				IAML		20 33 03.9	
	comp=N,520nm,0.2s						
GUWA				IAML		20 33 03.9	
	comp=E,638nm,0.3s						
LKP	**Lekhapani**	3.40	20	eP	Pn	20 32 26.7	0.0
LKP				eS	Sn	20 33 04.8	-1.4
LKP				IAML		20 33 12.2	
	comp=N,90nm,0.3s						
TURI	**Tura**	4.07	291	eP	Pn	20 32 36.9	+1.1
TURI				eS	Sn	20 33 22.5	+0.1
TURI				IAML		20 33 25.1	
	comp=E,32µm,0.2s						
GTK	**Tadong**	6.22	302	eP	Pn	20 33 06.5	+1.4
GTK				eS	Sn	20 34 11.5	-3.5
GTK				IAML		20 34 19.3	
	comp=N,53nm,0.3s						
GTK				IAML		20 34 20.3	
	comp=E,49nm,0.3s						
TAPN	**Taplejung**	6.94	299	ePn	Pn	20 33 16.1	+1.1
TAPN				eSn	Sn	20 34 32.1	-0.5
	comp=E,78nm,0.5s						
CMAR	**Chiang Mai Arr**	6.98	143	P	Pn	20 33 12.7	-2.8
	comp=E,0.4nm,0.3s,baz=317,slow=13,SNR=17						
ODAN	**Odare**	7.00	294	ePn	Pn	20 33 16.2	+0.3
ODAN				eSn	Sn	20 34 32.7	-1.5
RAMN	**Ramite**	7.70	293	ePn	Pn	20 33 25.7	+0.4
RAMN				eSn	Sn	20 34 49.1	-1.9
	comp=E,37nm,0.3s						
JIRN	**Jiri**	8.29	297	ePn	Pn	20 33 34.3	+0.7
JIRN				eSn	Sn	20 35 04.3	-1.5
	comp=E,64nm,0.3s						
GUN	**Gumba**	8.65	298	ePn	Pn	20 33 38.7	+0.3
GUN				eSn	Sn	20 35 12.5	-1.8
	comp=E,69nm,0.4s						
PKI	**Pulchoki**	8.90	295	ePn	Pn	20 33 42.2	+0.3
PKI				eSn	Sn	20 35 18.2	-2.4
	comp=E,27nm,0.4s						
PKIN	**Phulchoki**	8.92	295	ePn	Pn	20 33 42.2	+0.2
PKIN				eSn	Sn	20 35 18.4	-2.4
	comp=E,29nm,0.3s						
KKN	**Kakani**	9.09	296	ePn	Pn	20 33 44.6	+0.3
KKN				eSn	Sn	20 35 22.9	-2.1
	comp=E,23nm,0.3s						
DMN	**Daman**	9.17	294	ePn	Pn	20 33 45.7	+0.3
DMN				eSn	Sn	20 35 24.3	-2.7
	comp=E,16nm,0.3s						
GKN	**Gorkha**	9.70	296	ePn	Pn	20 33 53.4	+0.9
GKN				eSn	Sn	20 35 36.8	-2.9
	comp=E,81nm,0.4s						
KOLN	**Koldanda**	10.49	293	ePn	Pn	20 34 02.4	-0.9
KOLN				eSn	Sn	20 35 55.0	-3.9
	comp=E,27nm,0.3s						
DANN	**Dangsing**	10.54	296	ePn	Pn	20 34 04.3	+0.1
DANN				eSn	Sn	20 35 57.3	-3.2
	comp=E,14nm,0.3s						
PYUN	**Piuthan**	11.10	293	ePn	Pn	20 34 11.4	-0.2
PYUN				eSn	Sn	20 36 10.0	-3.9
	comp=E,20nm,0.3s						
JBP	**Jabalpur**	13.37	269	eP	P	20 34 50.2	+2.5
JBP				⇓eS	Sn	20 37 08.0	-0.8
MKAR	**Makanchi Array**	24.65	340	P	P	20 36 49.2	+1.9
	comp=E,1.7nm,0.5s,baz=150,slow=9.8,SNR=44						
MKAR				pP	pP	20 37 11.8	+2.9
	comp=E,0.6nm,0.6s,baz=147,slow=8.6,SNR=3.0						
MKAR				PcP	PcP	20 40 22.1	-0.2
	comp=E,0.2nm,0.8s,baz=151,slow=3.3,SNR=1.7						
SONM	**Songino Array**	25.46	19	P	P	20 36 55.7	+0.9
	comp=E,0.2nm,0.4s,baz=212,slow=8.9,SNR=4.9						
KURBB	**Kurchatov Arra**	29.21	339	P	P	20 37 29.4	+1.2
	comp=E,0.3nm,0.6s,baz=147,slow=10,SNR=4.8						
KURBB				PcP	PcP	20 40 32.8	-0.2
	comp=E,0.3nm,0.8s,baz=166,slow=2.0,SNR=4.6						
KURBB				ScP	ScP	20 44 04.2	-1.9
	comp=E,0.2nm,0.6s,baz=137,slow=2.9,SNR=4.8						
JHJ	**Hachijo jima 2**	40.46	67	LR	LR	20 59 02.3	
	comp=E,190nm,18.0s,baz=90,slow=41						
WRA	**Warramunga Arr**	58.50	135	P	P	20 41 19.6	-2.6
	comp=E,0.8nm,0.5s,baz=321,slow=7.5,SNR=16						
ASAR	**Alice Springs**	60.97	138	P	P	20 41 37.0	-2.1
	comp=E,0.7nm,0.5s,baz=322,slow=6.9,SNR=16						

*IDC **03** 20:34:47.9±4.6, 16°.95S×69°.38W, h182km±20km, mb3.6/4, mb1 3.6/5, mb1mx3.2/40, mbtmp4.1/5, Error ellipse: s-maj=94.6km s-min=33.2km az=19.0*
ISC 03 20:34:44.4±1.0**, 17°.36S**±0°.06×**69°.47W**±0°.09**, h163km**±7km**, n16, σ1s.45**/27**, mb4.1**/3**, 3C-1D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	0.97	182	⇑eP	Pn	20 35 12.5	+1.6
PB16				eS	Sn	20 35 33.3	+2.0
AP01	**Chacalluta**	1.30	219	⇑eP	Pn	20 35 12.1	-1.0
AP01				eS	Sn	20 35 34.3	-0.8
AP01				IAML		20 35 35.1	
	comp=E,1µm,0.3s						
PB12	**IPOC Station P**	1.49	213	eP	Pn	20 35 14.5	-0.5
PB12				eS	Sn	20 35 37.1	-1.4
PB12				IAML		20 35 38.3	
	comp=N,599nm,0.1s						
LPAZ	**La Paz**	1.67	51	P	Pn	20 35 19.0	+1.6
	comp=N,105nm,0.3s,baz=249,slow=7.0,SNR=1964						
LPAZ				S	Sn	20 35 43.9	+1.3
	comp=N,9.6nm,0.3s,baz=45,slow=18,SNR=11						
LPAZ	**La Paz**	1.67	51	eP	Pn	20 35 16.5	-0.9
LPAZ				eS	Sn	20 35 41.5	-1.2
GO01	**Chusmiza**	2.31	174	⇑eP	Pn	20 35 25.5	+1.0
GO01				eS	Sn	20 35 56.5	+1.1
GO01				IAML		20 36 03.4	
	comp=N,579nm,0.2s						
PB11	**IPOC Station P**	2.40	184	⇓eP	Pn	20 35 25.3	+0.2
PB11				eS	Sn	20 35 56.0	-0.7
PB11				IAML		20 35 59.6	
	comp=E,423nm,0.2s						
PB08	**IPOC Station P**	2.78	174	eP	Pn	20 35 30.9	+0.8
PB08				eS	Sn	20 36 05.8	+0.4
PB08				IAML		20 36 08.2	
	comp=E,299nm,0.2s						
HMBC	**Humberstone**	2.93	188	eP	Pn	20 35 31.5	-0.1
HMBC				eS	Sn	20 36 06.2	-2.1
HMBC				IAML		20 36 14.6	
	comp=N,249nm,0.2s						
PB01	**IPOC Station P**	3.67	180	eP	Pn	20 35 40.7	-0.1
PB01				eS	Sn	20 36 22.7	-2.1
PB02	**IPOC Station P**	3.96	186	eP	Pn	20 35 44.9	+0.3
PB02				eS	Sn	20 36 29.3	-2.3
SIV	**San Ignacio**	8.16	82	P	Pn	20 36 40.5	+0.4
	comp=N,3.3nm,0.3s,baz=268,slow=12,SNR=49						
SIV				S	Sn	20 38 07.6	-3.6
	comp=N,0.3nm,0.3s,baz=166,slow=23,SNR=7.5						
BDFB	**Brasilia**	20.64	88	P	Pn	20 39 14.3	-1.8
	comp=N,1.4nm,0.4s,baz=251,slow=11,SNR=4.3						
DBIC	**Dimbokro**	68.13	75	P	P	20 45 27.7	+0.3
	comp=N,3.1nm,0.5s,baz=264,slow=7.3,SNR=7.2						
TORD	**Torodi Ar. Bea**	76.51	71	P	P	20 46 16.9	-0.1
	comp=N,1.5nm,0.4s,baz=256,slow=4.8,SNR=24						
YKA	**Yellowknife Ar**	87.12	341	P	P	20 47 11.5	+0.1
	comp=N,0.3nm,0.6s,baz=135,slow=5.1,SNR=3.6						

*NEIC **03** 20:34:48.7±2.7, 7°.85N±0°.04×75°.09W±0°.05, h32km±5km, mb4.2/10, Error ellipse: s-maj=7.9km s-min=6.1km az=77.0*
*RSNC **03** 20:34:49.7±1.2, 7°.81N×75°.15W, h0km±3km, ML3.8, Mw3.9, Fault plane solution: NP1:φs110.00000°, δ39.00000°, λ78.00000°.*
*UPA **03** 20:34:51.7±1.9, 7°.68N×75°.18W, h42km±999km, MW4.0*
*IDC **03** 20:34:52.2±2.3, 7°.77N×75°.12W, h69km±21km, mb3.6/16, mb1 3.8/18, mb1mx3.7/41, mbtmp4.0/18, MS3.2/4, Ms1 3.2/4, ms1mx2.7/60, Error ellipse: s-maj=17.1km s-min=15.0km az=83.0*
ISC 03 20:34:48.8±0.8**, 7°.89N**±0°.02×**75°.13W**±0°.02**, h31km**±6km**, n96, σ2s.51**/137**, mb4.0**/18**, 11C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UREC	**San Jos de Ur**	0.42	251	⇑iP	Pb	20 34 57.9	-0.3
UREC				eS	Sb	20 35 04.2	-0.4
UREC				i		20 35 05.4	
	comp=Z,11µm,0.1s						
ZARC	**Zaragoza, Cauc**	0.48	146		Pb	20 34 58.3	-0.8
ZARC	**Zaragoza, Cauc**	0.48	146	⇑iP	Pb	20 34 59.0	-0.1
ZARC				eS	Sb	20 35 05.7	-0.3
ZARC				i		20 35 06.4	
	comp=Z,15µm,0.4s						
MOTC	**Monteria, Cord**	1.03	329	⇑iP	Pb	20 35 09.1	+0.9
MOTC				eS	Sn	20 35 24.2	+3.7
MOTC				i		20 35 26.3	
	comp=Z,2µm,0.2s						
DBBC	**Dabeiba**	1.38	231	⇑eP	Pn	20 35 12.4	+0.3
DBBC				eS	Sn	20 35 31.1	+1.8
PTBC	**PUERTO BERRIO,**	1.50	154	⇑iP	Pn	20 35 14.6	+1.0
PTBC				eS	Sn	20 35 34.4	+2.2
PTBC				i		20 35 36.2	
	comp=Z,2µm,0.3s						
LCBC	**Los crdobas,**	1.56	308	eP	Pb	20 35 18.3	+1.2
LCBC				eS	Sb	20 35 39.4	+3.0
LCBC				i		20 35 44.5	
	comp=Z,772nm,0.2s						
HELC	**Santa Helena**	1.74	193	⇓iP	Pn	20 35 18.2	+1.0
HELC				eS	Sn	20 35 41.0	+2.5
HELC				i		20 35 42.7	
	comp=Z,2µm,0.7s						
OCAC	**Ocana**	1.82	79		Pn	20 35 19.3	+1.0
OCAC	**Ocana**	1.82	79	⇑eP	Pb	20 35 20.2	-1.5
OCAC				eS	Sb	20 35 44.8	+0.6
OCAC				i		20 35 55.2	
	comp=Z,3µm,0.7s						
SJCC	**San Jacinto, C**	1.99	359		Pb	20 35 22.1	-2.4
SJCC	**San Jacinto, C**	1.99	359	eP	Pb	20 35 24.8	+0.2
SJCC				eS	Sb	20 35 51.5	+2.5
SJCC				i		20 35 56.6	
	comp=Z,275nm,0.7s						
CBOC	**Ciudad Bolivar**	2.20	204	eP	Pn	20 35 24.9	+1.5
CBOC				eS	Sn	20 35 52.9	+3.2
CBOC				i		20 35 58.9	
	comp=Z,371nm,0.6s						
LL1C	**La Loma 1 Cana**	2.26	43	eP	Pb	20 35 28.4	-0.6
LL1C				eS	Sb	20 35 59.6	+3.0
LL1C				i		20 36 12.0	
	comp=Z,2µm,0.8s						
BARC	**Barichara**	2.32	124	⇑eP	Pn	20 35 28.0	+2.8
BARC				eS	Sb	20 35 58.2	-0.4
BARC				i		20 36 01.7	
	comp=Z,1µm,0.4s						
NORC	**Norcasia**	2.33	174	eP	Pn	20 35 26.3	+1.2
NORC				eS	Sn	20 35 56.6	+3.9
NORC				i		20 36 01.9	
	comp=Z,612nm,0.2s						
SPBC	**San Pablo de B**	2.46	155	eP	Pn	20 35 28.7	+1.7
SPBC				eS	Sn	20 35 57.2	+1.3
SPBC				i		20 36 02.8	
	comp=Z,493nm,0.3s						
PAMC	**Pamplona, Colo**	2.47	103	⇑eP	Pn	20 35 30.3	+2.9
PAMC				eS	Sb	20 36 02.4	-0.7
PAMC				i		20 36 05.7	
	comp=Z,877nm,0.8s						
GUY2C	**Guyana, Caldas**	2.66	185	eS	Sb	20 36 09.4	+0.8
GUY2C				i		20 36 19.6	
	comp=Z,366nm,0.5s						
SOLC	**Bahia Solano**	2.80	234	eP	Pn	20 35 33.4	+1.8
SOLC				eS	Sn	20 36 05.3	+0.9
SOLC				i		20 36 08.1	
	comp=Z,141nm,0.3s						
RUSC	**La Rusia**	2.84	134	⇑eP	Pn	20 35 34.6	+2.1
RUSC				eS	Sn	20 36 10.7	+4.8
RUSC				i		20 36 20.8	
	comp=Z,655nm,0.6s						
UPD2	**Meteti**	2.93	283	eP	Pn	20 35 34.6	+1.3
UPD2				eS	Sn	20 36 08.7	+1.2
ROSC	**El Rosal**	3.14	165	P	Pn	20 35 38.5	+2.0
	comp=Z,29nm,0.3s,baz=260,slow=17,SNR=27						
ROSC				S	Sn	20 36 17.4	+4.3
	comp=Z,38nm,0.3s,baz=197,slow=19,SNR=2.1						
ROSC				LR	LR	20 37 12.8	
	comp=Z,245nm,20.6s,baz=15,slow=47						
ROSC	**El Rosal**	3.14	165	Pn	Pn	20 35 37.7	+1.2
ROSC	**El Rosal**	3.14	165	eP	Pn	20 35 41.2	+4.7
ROSC				eS	Sn	20 36 17.5	+4.4
ROSC				i		20 36 33.6	
	comp=Z,488nm,0.4s						
PLMC	**San Jos del P**	3.18	201	eP	Pn	20 35 39.0	+2.1
PLMC				eS	Sn	20 36 20.8	+7.0
PLMC				i		20 36 27.7	
	comp=Z,143nm,0.5s						
ANIL	**Santa Ana**	3.39	185	eP	Pn	20 35 43.2	+3.3
ANIL				eS	Sb	20 36 37.4	+8.0
ANIL				i		20 36 48.9	
	comp=Z,651nm,0.4s						
CHIC	**Chingaza**	3.53	157	eP	Pn	20 35 43.9	+2.0
CHIC				eS	Sb	20 36 31.2	-2.2
CHIC				i		20 36 33.9	
	comp=Z,227nm,0.4s						
TAMC	**Tame, Arauca**	3.61	113	⇑eP	Pn	20 35 46.0	+3.2
TAMC				eS	Sn	20 36 30.8	+6.4
TAMC				i		20 36 56.3	
	comp=Z,182nm,0.5s						
CRJC	**Cerrejon, Guaj**	3.82	35	eP	Pn	20 35 50.1	+4.5
CRJC				eS	Sb	20 36 35.5	-5.9
CRJC				i		20 37 04.4	
	comp=Z,160nm,0.5s						
ORTC	**Ortega, Tolima**	3.96	182	eP	Pb	20 35 55.3	-2.7
ORTC				eS	Sb	20 36 50.8	+5.3
ORTC				i		20 36 55.4	
	comp=Z,248nm,0.4s						
VILC	**Villavicencio,**	4.02	159	eP	Pn	20 35 49.9	+1.5
VILC				eS	Sn	20 36 37.1	+2.7
YOTC	**Yotoco, Valle**	4.07	197	eP	Pn	20 35 50.4	+1.3
CHPO	**Chepo, Panama**	4.14	288	eP	Pn	20 35 52.0	+2.0
CHPO				eS	Sn	20 36 37.5	+0.2
UPA	**Univ. de Panam**	4.49	284	eP	Pn	20 35 57.5	+2.8
UPA				eS	Sn	20 36 48.5	+2.5
UPA				i		20 36 57.2	
	comp=Z,32nm,0.5s						
UPA	**Univ. de Panam**	4.49	284	eP	Pn	20 35 57.6	+2.8
UPA				eS	Sn	20 36 47.5	+1.5
SDV	**Santo Domingo**	4.56	77	P	Pn	20 35 59.1	+3.3
	comp=Z,15nm,0.3s,baz=256,slow=4.8,SNR=151						
SDV				S	Sn	20 36 51.5	+3.6
	comp=Z,37nm,0.3s,baz=196,slow=20,SNR=8.0						
SDV				LR	LR	20 38 12.3	
	comp=Z,154nm,21.2s,baz=290,slow=44						
SDV	**Santo Domingo**	4.56	77	Pn	Pn	20 35 58.7	+2.9
SDV	**Santo Domingo**	4.56	77	⇑eP	Pn	20 35 58.8	+2.9
SDV				eS	Sn	20 36 51.3	+3.4
SDV				i		20 36 57.0	
	comp=Z,147nm,0.6s						
CHOR3	**La Chorrera**	4.70	283	eP	Pn	20 36 01.0	+3.4
CHOR3				eS	Sn	20 36 51.9	+0.9
ZANG	**Zanguenga, Cho**	4.80	283	eP	Pn	20 36 01.7	+2.6
ZANG				eS	Sn	20 36 54.6	+0.8
BCIP	**Isla Barro Col**	4.83	286	Pn	Pn	20 35 59.9	+0.5
BCIP	**Isla Barro Col**	4.83	286	eP	Pn	20 36 00.1	+0.8
BCIP				eS	Sn	20 36 54.0	-0.2
BCIP				i		20 37 06.5	
	comp=Z,45nm,0.4s						
URIC	**Uribia, Colomb**	4.89	39		Pn	20 36 02.9	+2.7
URIC	**Uribia, Colomb**	4.89	39	eP	Pn	20 36 03.4	+3.1
URIC				eS	Sn	20 36 59.5	+3.7
URIC				i		20 37 30.0	
	comp=Z,43nm,0.4s						
MARP	**Paez Belalcaza**	5.08	189	eP	Pn	20 36 04.7	+1.5
MARP				eS	Sb	20 37 27.6	+10
AZU	**Azuero**	5.10	269	eP	Pn	20 36 04.5	+1.3
AZU				eS	Sn	20 36 59.1	-1.9
CHIT3	**Chitre**	5.24	271	eP	Pn	20 36 08.0	+3.0
CHIT3				eS	Sn	20 37 02.9	-1.6
DABV	**Dabajuro**	5.36	55	eP	Pn	20 36 10.4	+3.7
DABV				eS	Sn	20 37 13.8	+6.4
POPC	**Popayan, Colom**	5.54	196	eP	Pn	20 36 10.8	+1.4
ELOV	**Elorza**	5.67	99	eP	Pn	20 36 13.0	+2.0
ELOV				eS	Sn	20 37 17.6	+2.6
PCON	**Cinco Dias**	5.67	193	eP	Pn	20 36 14.2	+2.7
GARC	**Garzon, Huila**	5.68	184	eP	Pb	20 36 22.2	-5.2
GARC				eS	Sb	20 37 39.1	+3.9
GARC				i		20 38 01.7	
	comp=Z,55nm,0.3s						
MACC	**Macarena, Meta**	5.85	167	eP	Pn	20 36 13.7	+0.2
SOTA	**Rioblanco**	5.91	195	eP	Pn	20 36 16.9	+2.2
FLOC	**Florencia**	6.29	185	eP	Pn	20 36 20.5	+0.9
FLOC				eS	Sb	20 37 49.9	-2.6
FLOC				i		20 38 06.7	
	comp=Z,23nm,0.6s						
PRVC	**Isla de Provid**	8.20	312	eS	Sn	20 38 12.7	-4.7
BIRV	**Birongo**	9.12	73	Pn	Pn	20 36 59.3	+1.0
MTDJ	**Mount Denham**	10.54	347	Pn	Pn	20 37 18.3	+0.4
BANI	**BANI**	11.42	23		Pn	20 37 28.1	-2.0
PDPR	**Patillas Dam,**	13.41	40	Pn	Pn	20 37 56.2	-0.9
MDP	**Montagnes des**	22.51	96	LR	LR	20 48 45.0	
	comp=Z,93nm,19.2s,baz=271,slow=37						
LPAZ	**La Paz**	25.00	164	P	P	20 40 09.4	-1.4
	comp=Z,1.5nm,0.4s,baz=320,slow=6.8,SNR=7.5						
LPAZ	**La Paz**	25.00	164	P	P	20 40 09.5	-1.3
LPAZ				IAmb	IAmb	20 40 18.1	
	comp=Z,6.6nm,1.4s						
PB16	**IPOC Station P**	26.64	168	P	P	20 40 24.4	-1.2
SIV	**San Ignacio**	27.51	150	P	P	20 40 30.9	-1.9
	comp=Z,1.3nm,0.5s,baz=343,slow=9.9,SNR=3.6						
GO01	**Chusmiza**	28.00	168	P	P	20 40 34.9	-2.8
GO01				IAmb	IAmb	20 40 53.1	
	comp=Z,6.1nm,1.2s						
TXAR	**Lajitas Array**	34.27	312	P	P	20 41 32.5	+0.1
	comp=Z,0.2nm,0.5s,baz=121,slow=7.4,SNR=5.0						
ANMO	**Albuquerque**	39.38	318	P	P	20 42 17.3	+1.3
	comp=Z,0.4nm,0.3s,baz=147,slow=7.2,SNR=3.7						
RCBR	**Riachuelo**	41.43	108	LR	LR	21 00 24.6	
	comp=Z,73nm,19.4s,baz=124,slow=37						
PDAR	**Pinedale Array**	46.05	325	P	P	20 43 09.9	-0.1
	comp=Z,0.3nm,0.6s,baz=139,slow=5.6,SNR=2.2						
PDAR				PcP	PcP	20 44 44.7	-1.5
	comp=Z,0.3nm,0.7s,baz=145,slow=6.6,SNR=2.1						
SCHQ	**Schefferville**	47.28	7	P	P	20 43 20.2	+1.0
	comp=Z,2.8nm,0.9s,baz=185,slow=7.4,SNR=4.4						
NVAR	**Mina Array Bea**	49.32	315	PcP	PcP	20 44 57.1	-0.8
	comp=Z,0.3nm,0.5s,baz=121,slow=4.3,SNR=4.4						
FRB	**Frobisher Bay**	55.95	4	P	P	20 44 23.2	-0.6
	comp=Z,0.9nm,0.5s,baz=206,slow=9.0,SNR=1.9						
YKA	**Yellowknife Ar**	61.59	340	P	P	20 45 02.3	-0.7
	comp=Z,2.9nm,0.5s,baz=134,slow=6.9,SNR=74						
YKA	**Yellowknife Ar**	61.59	340	P	P	20 45 02.4	-0.6
DLBC	**Dease Lake**	65.44	332	P	P	20 45 28.8	+0.1
	comp=Z,2.7nm,1.0s,baz=68,slow=5.4,SNR=4.0						
DLBC	**Dease Lake**	65.44	332	P	P	20 45 28.2	-0.4
DLBC				IAmb	IAmb	20 45 29.9	
	comp=Z,2.9nm,0.9s						
ESDC	**Sonseca Array**	70.52	51	P	P	20 46 00.9	-0.1
	comp=Z,0.9nm,1.0s,baz=282,slow=6.0,SNR=2.1						
A36M	**Sachs Harbour**	70.90	345	P	P	20 46 01.2	-1.3
INK	**Inuvik**	71.36	340	P	P	20 46 05.0	-0.3
	comp=Z,1.2nm,0.5s,baz=111,slow=3.6,SNR=4.4						
DOT	**Dot Lake**	73.68	334	P	P	20 46 17.6	-1.8
DOT				IAmb	IAmb	20 46 20.5	
	comp=Z,4.2nm,0.7s						
BMAR	**Burnt Mountain**	74.93	338	P	P	20 46 25.9	-0.7
ILAR	**Eielson Array**	75.16	335	P	P	20 46 27.2	-0.7
	comp=Z,0.3nm,0.3s,baz=115,slow=4.3,SNR=12						
ILAR	**Eielson Array**	75.16	335	P	P	20 46 27.4	-0.5
TORD	**Torodi Ar. Bea**	75.47	78	P	P	20 46 29.9	-0.7
	comp=Z,0.7nm,0.6s,baz=285,slow=6.6,SNR=2.6						
GERES	**GERESS Array B**	83.35	42	P	P	20 47 13.1	0.0
	comp=Z,0.2nm,0.3s,baz=291,slow=8.3,SNR=3.8						
ARCES	**ARCESS Array B**	86.37	20	P	P	20 47 27.5	-0.3
	comp=Z,0.9nm,0.6s,baz=296,slow=3.4,SNR=8.9						
ARCES	**ARCESS Array B**	86.37	20	P	P	20 47 27.4	-0.3
FINES	**FINESS Array B**	88.45	28	P	P	20 47 37.3	-0.5
	comp=Z,0.7nm,0.7s,baz=311,slow=7.0,SNR=3.3						
FINES	**FINESS Array B**	88.45	28	P	P	20 47 37.0	-0.9
MKAR	**Makanchi Array**	121.96	18	PKP	PKPdf	20 53 38.5	-1.9
	comp=Z,0.1nm,0.5s,baz=357,slow=3.0,SNR=2.0						
ASAR	**Alice Springs**	148.06	237	PKPbc	PKPdf	20 54 30.4	+1.2
	comp=Z,1.8nm,0.5s,baz=114,slow=3.7,SNR=21						
WRA	**Warramunga Arr**	149.05	244	PKPbc	PKPdf	20 54 33.0	+2.2
	comp=Z,1.3nm,0.7s,baz=107,slow=3.2,SNR=9.5						
WRA	**Warramunga Arr**	149.05	244		PKPdf	20 54 33.1	+2.3
CMAR	**Chiang Mai Arr**	153.17	13	PKPbc	PKPbc	20 54 43.9	-0.7
	comp=Z,0.4nm,0.6s,baz=332,slow=3.1,SNR=1.5						
CMAR				PKPab	pPKPbc	20 54 54.2	-0.6
	comp=Z,0.9nm,0.7s,baz=325,slow=3.7,SNR=6.3						

*IDC **03** 20:38:15.8±1.7, 43°.90N×105°.76W, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.3/63, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=47.9km s-min=9.0km az=147.0*
*NEIC **03** 20:38:16.4±0.8, 43°.72N±0°.02×105°.29W±0°.05, h0km±2km, ML3.1/30, Error ellipse: s-maj=7.2km s-min=3.0km az=65.0*
ISC 03 20:38:15.0±0.8**, 43°.73N**±0°.05×**105°.30W**±0°.06**, h0km, n27, σ1s.36**/27**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	0.99	66	Pg	Pb	20 38 35.1	-0.1
K22A	**Casper**	1.40	220		Pg	20 38 41.0	-0.8
K22A				IAML		20 39 03.1	
	comp=E,353nm,0.6s						
RWWY	**Rawlins**	2.48	215		Pn	20 38 58.8	+2.0
RWWY				IAML		20 39 33.0	
	comp=E,139nm,0.4s						
RWWY				IAML		20 39 36.1	
	comp=E,102nm,0.7s						
N23A	**Red Feather La**	2.87	190	Pn	Pn	20 39 03.9	+1.6
N23A				IAML		20 39 43.9	
	comp=N,52nm,0.9s						
N23A				IAML		20 39 47.2	
	comp=E,56nm,0.3s						
LAO	**LASA Array**	3.04	348	Pn	Pn	20 39 06.8	+2.5
LAO				IAML		20 39 57.8	
	comp=E,76nm,0.9s						
RLMT	**Red Lodge**	3.17	298		Pn	20 39 07.6	+1.3
RLMT				IAML		20 39 55.7	
	comp=E,34nm,0.3s						
RLMT				IAML		20 39 59.2	
	comp=E,44nm,0.3s						
PD31	**Pinedale Array**	3.26	254		Pn	20 39 08.7	+1.3
PDAR	**Pinedale Array**	3.26	254	Pn	Pn	20 39 08.4	+0.9
	comp=E,3.9nm,0.3s,baz=74,slow=16,SNR=40						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDAR				Lg	Lg	20 39 48.9	
	comp=E,6.8nm,0.3s,baz=70,slow=31,SNR=4.4						
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**20 39 08.8**	**+1.3**
YMP	**Mirror Lake Pl**	**3.64**	**288**		**Pn**	**20 39 14.5**	**+1.7**
OGNE	**Ogallala**	**3.69**	**138**	Pn	**Pn**	**20 39 14.1**	**+0.9**
GCMT	**Greycliff**	**3.73**	**305**		**Pn**	**20 39 15.6**	**+1.6**
LOHW	**Long Hollow**	**3.85**	**270**		**Pn**	**20 39 17.4**	**+1.7**
FLWY	**Flagg Ranch**	**3.92**	**277**		**Pn**	**20 39 17.8**	**+1.2**
FLWY				IAML		20 40 24.1	
	comp=E,24nm,3.4s						
FLWY				IAML		20 40 30.2	
	comp=E,26nm,3.5s						
ISCO	**Idaho Springs**	**3.93**	**184**	Pn	**Pn**	**20 39 18.4**	**+1.6**
ISCO				IAML		20 40 21.6	
	comp=E,19nm,4.3s						
MOOW	**Moose Ponds**	**3.95**	**272**	Pn	**Pn**	**20 39 18.7**	**+1.7**
TPAW	**Teton Pass**	**4.11**	**269**		**Pn**	**20 39 20.3**	**+0.9**
TPAW				IAML		20 40 11.2	
	comp=E,19nm,4.6s						
TPAW				IAML		20 40 36.4	
	comp=E,23nm,1.1s						
O20A	**White River Ci**	**4.21**	**212**		**Pn**	**20 39 21.5**	**+1.0**
O20A				IAML		20 39 51.8	
	comp=E,34nm,4.7s						
HWUT	**Hardware Ranch**	**5.08**	**248**	Pn	**Pn**	**20 39 33.5**	**+0.9**
HWUT				IAML		20 40 54.2	
	comp=E,17nm,1.2s						
HWUT				IAML		20 41 08.3	
	comp=E,16nm,3.5s						
HRY	**Holter Researc**	**5.50**	**305**		**Pn**	**20 39 39.2**	**+1.0**
P18A	**Preston Nutter**	**5.52**	**224**		**Pn**	**20 39 39.5**	**+0.8**
PV11	**David Mesa, Pa**	**6.06**	**208**		**Pn**	**20 39 47.2**	**+1.2**
DUG	**Dugway, Tooele**	**6.62**	**240**	Pn	**Pn**	**20 39 55.0**	**+1.4**
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**20 40 28.4**	**0.0**
	comp=E,1.3nm,0.3s,baz=240,slow=13,SNR=7.3						
ULM				Lg	Lg	20 43 03.7	
	comp=E,0.3nm,0.3s,baz=115,slow=19,SNR=3.8						
YKA	**Yellowknife Ar**	**19.57**	**347**	P	**P**	**20 42 43.3**	**-0.9**
	comp=E,0.0nm,0.3s,baz=152,slow=9.2,SNR=2.0						
ARCES	**ARCESS Array B**	**61.44**	**18**	P	**P**	**20 48 32.0**	**-0.5**
	comp=E,1.2nm,0.7s,baz=334,slow=6.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**85.97**	**358**	P	**P**	**20 50 55.9**	**-0.9**
	comp=E,0.1nm,0.4s,baz=4.1,slow=5.3,SNR=2.0						

IDC 03 20:39:51.2±7.5**, 13°.79S**×**166°.44E, h0**km**, mb3.5**/2**, mb1 3.7**/2**, mb1mx3.4**/45**, mbtmp3.5**/2**, Error ellipse: s-maj=446.7km s-min=40.2km az=141.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**32.27**	**247**	P	P	20 46 21.9	0.0
	0.3nm,0.6s,baz=74,slow=8.9,SNR=4.4						
ILAR	**Eielson Array**	**85.89**	**18**	P	P	20 52 32.7	0.0
	0.3nm,0.6s,baz=238,slow=5.7,SNR=7.3						
ARCES	**ARCESS Array B**	**119.14**	**345**	PKP	PKPdf	20 58 41.4	-0.3
	1.2nm,0.8s,baz=52,slow=1.5,SNR=1.2						

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*IDC **03** 20:46:23.6±0.8, 15°.28N×122°.99E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.7/61, mbtmp3.9/12, ML4.9/1, MS3.4/10, Ms1 3.4/10, ms1mx3.0/84, Error ellipse: s-maj=23.5km s-min=14.9km az=73.0*

*MAN **03** 20:46:26.7, 15°.20N×123°.16E, h65km, mb4.6, ML3.4, MS3.3, Hypocentre not reviewed by the ISC*

ISC 03 20:46:23.9±2.3**, 15°.34N**±0°.06×**122°.81E**±0°.07**, h1**km±14km**, n30,** σ1**s**.**00**/25**, mb3.9**/12**, MS3.5**/10**, 4C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCNP	**Jose Panganiba**	**1.05**	**186**⇑	*e*P	**Pn**	**20 46 45.4**	**-0.3**
GQP	**Guinayangan**	**1.47**	**194**⇑	*e*P	**Pg**	**20 46 52.4**	**+0.4**
GQP				*e*S	**Sb**	**20 47 10.9**	**-0.2**
PCPH	**Palayan**	**1.67**	**278**⇑	*e*P	**Pn**	**20 46 52.4**	**-1.9**
PCPH				*e*S	**Sn**	**20 47 16.1**	**-0.2**
LQP	**Lukban**	**1.73**	**225**⇓	*e*P	**Pn**	**20 46 55.2**	**0.0**
LQP				*e*S	**Sn**	**20 47 17.5**	**-0.6**
TGY	**Tagaytay City**	**2.19**	**236**	Pn	**Pb**	**20 47 03.8**	**-0.6**
	286nm,0.3s,baz=60,slow=2.1,SNR=40						
TGY				Sn	**Sb**	**20 47 31.7**	**-0.3**
	428nm,0.3s,baz=284,slow=15,SNR=14						
TGY	**Tagaytay City**	**2.19**	**236**⇓	*e*P	**Pn**	**20 47 01.4**	**-0.1**
TGY				*i* S	**Sg**	**20 47 34.0**	**-0.3**
PGP	**Puerto Galera**	**2.56**	**225**⇑	*e*P	**Pn**	**20 47 07.9**	**+1.3**
PGP				*i* S	**Sb**	**20 47 44.0**	**+1.3**
KSRS	**Korea Array**	**22.49**	**11**	LR	LR	21 00 12.1	
	comp=Z,47nm,20.4s,baz=205,slow=37						
CMAR	**Chiang Mai Arr**	**23.04**	**281**	P	**P**	**20 51 32.1**	**+1.3**
	2.0nm,0.7s,baz=90,slow=7.9,SNR=11						
CMAR				LR	LR	21 00 22.1	
	comp=Z,52nm,20.2s,baz=80,slow=36						
MJAR	**Matsushiro Arr**	**25.18**	**30**	LR	LR	21 02 41.9	
	comp=Z,15nm,18.1s,baz=82,slow=39						
KLR	**Kul'dur**	**34.58**	**10**	LR	LR	21 06 43.8	
	comp=Z,73nm,20.6s,baz=192,slow=35						
SONM	**Songino Array**	**35.14**	**341**	P	**P**	**20 53 19.2**	**+0.1**
	0.5nm,0.9s,baz=160,slow=8.9,SNR=2.9						
SONM				LR	LR	21 08 22.5	
	comp=Z,89nm,19.9s,baz=154,slow=37						
WRA	**Warramunga Arr**	**36.85**	**162**	P	**P**	**20 53 32.2**	**-1.6**
	1.6nm,0.8s,baz=344,slow=9.2,SNR=8.4						
ASAR	**Alice Springs**	**40.25**	**164**	P	**P**	**20 54 01.5**	**-1.0**
	0.7nm,0.3s,baz=338,slow=7.7,SNR=31						
H11S3	**WAKE ISLAND Hy**	**42.02**	**79**	T	T	21 39 54.0	
	baz=274,slow=75,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**42.03**	**79**	T	T	21 39 52.5	
	baz=274,slow=75,SNR=3.0						
H11S2	**WAKE ISLAND Hy**	**42.04**	**79**	T	T	21 39 53.2	
	baz=274,slow=75,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**42.17**	**77**	T	T	21 40 03.0	
	baz=273						
H11N2	**WAKE ISLAND Hy**	**42.18**	**77**	T	T	21 40 05.8	
	baz=273						
H11N3	**WAKE ISLAND Hy**	**42.19**	**77**	T	T	21 40 02.6	
	baz=273						
MKAR	**Makanchi Array**	**45.98**	**322**	P	**P**	**20 54 50.4**	**+1.7**
	2.0nm,0.8s,baz=122,slow=8.7,SNR=16						
ZALV	**Zalesovo Beam**	**48.59**	**331**	P	**P**	**20 55 09.6**	**+0.7**
	1.1nm,0.7s,baz=123,slow=5.5,SNR=6.6						
ZALV				LR	LR	21 15 29.9	
	comp=Z,34nm,19.3s,baz=66,slow=36						
AAK	**Ala-Archa**	**49.39**	**313**	P	**P**	**20 55 16.9**	**+1.5**
	0.2nm,0.3s,baz=190,slow=6.1,SNR=1.9						
AAK				LR	LR	21 17 30.3	
	comp=Z,74nm,19.9s,baz=97,slow=38						
KURBB	**Kurchatov Arra**	**50.01**	**325**	P	**P**	**20 55 20.8**	**+1.0**
	5.1nm,0.8s,baz=119,slow=8.2,SNR=25						
STKA	**Stephens Creek**	**50.28**	**159**	P	**P**	**20 55 21.3**	**-0.7**
	1.5nm,0.7s,baz=350,slow=6.4,SNR=3.5						
TIXI	**Tiksi**	**56.41**	**2**	P	**P**	**20 56 06.5**	**0.0**
	0.9nm,0.8s,baz=278,slow=15,SNR=9.3						
TIXI				LR	LR	21 22 50.0	
	comp=Z,55nm,18.8s,baz=182,slow=39						
NRIK	**Noril'sk**	**58.31**	**346**	P	**P**	**20 56 19.7**	**-0.3**
	1.2nm,0.4s,baz=122,slow=6.6,SNR=4.0						
NOA	**NORSAR Array B**	**86.75**	**333**	LR	LR	21 39 42.8	
	comp=Z,34nm,19.0s,baz=20,slow=37						
YKA	**Yellowknife Ar**	**90.48**	**23**	P	**P**	**20 59 27.5**	**+0.4**
	0.1nm,0.7s,baz=298,slow=4.4,SNR=4.3						
EKA	**Eskdalemuir Ar**	**96.21**	**332**	LR	LR	21 45 48.4	
	comp=Z,39nm,18.0s,baz=296,slow=37						

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*IDC **03** 20:51:15.7±1.1, 14°.08S×166°.64E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/41, mbtmp3.9/7, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/58, Error ellipse: s-maj=49.3km s-min=23.1km az=129.0*

*NOU **03** 20:51:16.8, 13°.87S×166°.80E, h20km, MLv4.9/11, Vanuatu Islands*

*NEIC **03** 20:51:19.5±2.6, 14°.04S±0°.02×166°.9E±0°.2, h35km±2km, mb4.5/6, Error ellipse: s-maj=27.0km s-min=3.8km az=90.0*

ISC 03 20:51:20.6±0.9**, 14°.21S**±0°.09×**166°.8E**±0°.1**, h35**km**, n30,** σ1**s**.**79**/31**, mb4.2**/9**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.30**	**162**		**Pn**	**20 51 42.1**	**-0.1**
SANVU	**Saraoutou**	**1.30**	**162**	P	**Pn**	**20 51 44.2**	**+2.0**
DVP	**Devils Point**	**3.75**	**159**	P	**Pn**	**20 52 17.9**	**+2.0**
KOUNC	**Koumac, New Ca**	**6.74**	**200**	Pn	**Pn**	**20 52 59.2**	**+2.1**
KOUNC	**Koumac, New Ca**	**6.74**	**200**	P	**Pn**	**20 52 59.2**	**+2.1**
MARNC	**Mare, Loyalty**	**7.33**	**171**	Pn	**Pn**	**20 53 03.2**	**-2.0**
YATNC	**Mamie plateau,**	**7.81**	**179**	P	**Pn**	**20 53 14.7**	**+2.9**
	19nm,1.1s						
DZM	**Mont Dzumac**	**7.83**	**182**	Pn	**Pn**	**20 53 12.3**	**+0.3**
	1.9nm,0.3s,baz=344,slow=17,SNR=13						
DZM				Sn	**Sn**	**20 54 38.6**	**-1.0**
	0.5nm,0.3s,baz=333,slow=22,SNR=1.7						
DZM				LR	LR	20 56 01.4	
	comp=Z,336nm,18.6s,baz=236,slow=36						
DZM	**Mont Dzumac**	**7.83**	**182**	*e*Pn	**Pn**	**20 53 12.4**	**+0.3**
	13nm,0.3s						
DZM				*e*Sn	**Sn**	**20 54 37.5**	**-2.1**
	4.2nm,0.2s						
DZM				*e*LR	LR	20 55 01.0	
	comp=Z,360nm,24.1s						
DZM	**Mont Dzumac**	**7.83**	**182**		**Pn**	**20 53 12.8**	**+0.7**
DZM	**Mont Dzumac**	**7.83**	**182**	P	**Pn**	**20 53 13.9**	**+1.8**
NOUC	**Port Laguerre**	**7.86**	**183**	P	**Pn**	**20 53 14.5**	**+2.0**
ONTNC	**Ouen Toro**	**8.06**	**182**	Pn	**Pn**	**20 53 18.2**	**+3.0**
OUENC	**Ouen Island, N**	**8.17**	**180**	Pn	**Pn**	**20 53 18.6**	**+1.9**
OUENC	**Ouen Island, N**	**8.17**	**180**	P	**Pn**	**20 53 19.1**	**+2.4**
STKA	**Stephens Creek**	**28.98**	**228**	P	**P**	**20 57 17.6**	**+0.6**
	1.7nm,0.8s,baz=44,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**28.98**	**228**	P	**P**	**20 57 18.1**	**+1.1**
WB0	**Warramunga Arr**	**31.43**	**255**	P	**P**	**20 57 37.7**	**-1.2**
WB0				IAmb	IAmb	20 57 50.6	
	comp=Z,7.4nm,1.4s						
WRAB	**Tennant Creek**	**31.49**	**255**	P	**P**	**20 57 35.2**	**-4.2**
WRA	**Warramunga Arr**	**31.50**	**255**	P	**P**	**20 57 38.0**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=87,slow=9.4,SNR=4.6						
ASAR	**Alice Springs**	**32.42**	**248**	P	**P**	**20 57 46.6**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=74,slow=9.2,SNR=10						
BBOO	**Buckleboo**	**33.53**	**231**	P	**P**	**20 57 57.2**	**+0.1**
BBOO				IAmb	IAmb	20 58 13.4	
	comp=Z,7.5nm,0.8s						
KNRA	**Kununurra**	**36.73**	**263**	P	**P**	**20 58 23.0**	**-1.9**
KNRA				IAmb	IAmb	20 58 49.8	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**75.81**	**180**	P	**P**	**21 03 03.1**	**+0.1**
QSPA				IAmb	IAmb	21 03 25.6	
	comp=Z,8.6nm,1.4s						
ILAR	**Eielson Array**	**86.18**	**18**	P	**P**	**21 03 57.6**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=237,slow=5.3,SNR=22						
MKAR	**Makanchi Array**	**96.50**	**317**	P	**P**	**21 04 47.1**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=94,slow=6.2,SNR=3.4						
YKA	**Yellowknife Ar**	**97.30**	**27**	P	Pdif	21 04 49.6	-0.2
	comp=Z,0.1nm,0.4s,baz=260,slow=5.1,SNR=2.2						
ARCES	**ARCESS Array B**	**119.63**	**345**	PKP	**PKiKP**	**21 10 06.5**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=67,slow=2.6,SNR=8.2						
FINES	**FINESS Array B**	**125.07**	**338**	PKP	**PKiKP**	**21 10 17.1**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=129,slow=2.7,SNR=4.5						
ESDC	**Sonseca Array**	**153.36**	**344**	PKPbc	**PKiKP**	**21 11 16.7**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=358,slow=3.5,SNR=1.8						

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*IDC **03** 21:06:56.5±0.7, 42°.76N×29°.37W, h0km, mb3.8/21, mb1 4.0/22, mb1mx3.9/53, mbtmp3.8/22, ML3.9/1, MS3.6/36, Ms1 3.5/36, ms1mx3.3/79, Error ellipse: s-maj=22.2km s-min=12.8km az=21.0*

*NEIC **03** 21:06:58.3±1.3, 42°.7N±0°.2×29°.4W±0°.1, h15km±5km, mb4.6/33, Error ellipse: s-maj=22.5km s-min=13.8km az=197.0*

ISC 03 21:06:57.7±0.6**, 42°.8N**±0°.1×**29°.34W**±0°.08**, h10**km**, n92,** σ1**s**.**00**/60**, mb4.1**/33**, MS3.5**/36**, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMOZ	**Porto Moniz, M**	**13.80**	**132**	Pn	**Pn**	**21 10 13.2**	**-0.2**
PAB	**San Pablo**	**19.07**	**91**	P	**P**	**21 11 20.5**	**+0.2**
PAB				IAmb	IAmb	21 11 28.6	
	comp=Z,48nm,1.6s						
ESDC	**Sonseca Array**	**19.32**	**91**	P	**P**	**21 11 23.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=280,slow=11,SNR=5.2						
ESDC	**Sonseca Array**	**19.32**	**91**	IAmb	IAmb	21 11 30.0	
	comp=Z,4.6nm,1.6s						
ESBB	**Sonseca Array**	**19.32**	**91**	P	**P**	**21 11 22.7**	**-0.3**
DRLN	**Deer Lake**	**20.53**	**298**	P	**P**	**21 11 36.8**	**+0.8**
EKA	**Eskdalemuir Ar**	**21.12**	**44**	P	**P**	**21 11 43.6**	**+1.3**
	comp=Z,2.7nm,0.9s,baz=243,slow=9.1,SNR=6.3						
EKA				LR	LR	21 18 18.7	
	comp=Z,102nm,18.6s,baz=242,slow=32						
MDT	**Midelt**	**21.86**	**109**	P	**P**	**21 11 51.8**	**+1.2**
	comp=Z,4.4nm,1.1s,baz=293,slow=9.7,SNR=4.3						
BORG	**Borgarnes**	**22.49**	**9**	LR	LR	21 18 15.1	
	comp=Z,72nm,19.0s,baz=201,slow=30						
LMN	**Caledonia Moun**	**25.43**	**289**	P	**P**	**21 12 26.6**	**+1.2**
SCHQ	**Schefferville**	**27.14**	**309**	P	**P**	**21 12 41.9**	**+1.1**
	comp=Z,5.1nm,0.9s,baz=92,slow=17,SNR=3.6						
SCHQ				LR	LR	21 21 51.9	
	comp=Z,65nm,18.9s,baz=90,slow=33						
SCHQ	**Schefferville**	**27.14**	**309**	P	**P**	**21 12 39.6**	**-1.2**
DAVOX	**Davos/Dischmat**	**27.93**	**68**	LR	LR	21 22 45.0	
	comp=Z,110nm,19.0s,baz=267,slow=34						
KHC	**Kasperske Hory**	**30.19**	**63**	*e*P	**P**	**21 13 05.3**	**-2.7**
GERES	**GERESS Array B**	**30.30**	**63**	P	**P**	**21 13 09.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=287,slow=10,SNR=2.0						
GERES				LR	LR	21 23 46.5	
	comp=Z,95nm,19.9s,baz=268,slow=33						
NOA	**NORSAR Array B**	**30.31**	**39**	LR	LR	21 23 04.4	
	comp=Z,32nm,19.1s,baz=355,slow=32						
KEST	**Kesra**	**30.57**	**90**	P	**P**	**21 13 10.6**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=320,slow=12,SNR=4.0						
KEST	**Kesra**	**30.57**	**90**	P	**P**	**21 13 09.7**	**-1.8**
FRB	**Frobisher Bay**	**30.71**	**327**	LR	LR	21 22 05.0	
	comp=Z,94nm,18.5s,baz=44,slow=30						
HFS	**Hagfors**	**31.23**	**41**	LR	LR	21 23 58.9	
	comp=Z,71nm,18.8s,baz=263,slow=33						
VRAC	**Vranov**	**32.14**	**62**	LR	LR	21 25 45.4	
	comp=Z,88nm,18.2s,baz=258,slow=35						
DIVS	**Divibare**	**35.42**	**71**	P	**P**	**21 13 53.9**	**+0.1**
SADO	**Sadowa**	**35.57**	**291**	LR	LR	21 28 17.5	
	comp=Z,144nm,18.6s,baz=141,slow=36						
FINES	**FINESS Array B**	**37.42**	**41**	P	**P**	**21 14 11.1**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=282,slow=9.5,SNR=5.4						
FINES				LR	LR	21 27 13.0	
	comp=Z,112nm,18.3s,baz=274,slow=32						
FINES	**FINESS Array B**	**37.42**	**41**	P	**P**	**21 14 09.2**	**-1.3**
H05N1	**Guadeloupe/Mar**	**37.78**	**235**	T	T	21 53 50.7	
BUR08	**Bucovina Ar. S**	**38.07**	**63**	P	**P**	**21 14 16.9**	**+0.5**
LIT	**Litokhoron**	**38.45**	**76**	P	**P**	**21 14 19.2**	**-0.4**
ARCES	**ARCESS Array B**	**38.51**	**28**	LR	LR	21 28 10.9	
	comp=Z,64nm,18.8s,baz=266,slow=33						
SJG	**San Juan**	**39.67**	**243**	LR	LR	21 26 44.1	
	comp=Z,44nm,21.2s,baz=76,slow=30						
TOA0	**Torodi Ar. Sit**	**39.87**	**128**	P	**P**	**21 14 30.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**39.87**	**128**	P	**P**	**21 14 31.9**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=327,slow=7.1,SNR=16						
TORD	**Torodi Ar. Bea**	**39.87**	**128**	P	**P**	**21 14 30.6**	**-0.9**
AKASG	**Malin Array Be**	**39.97**	**58**	P	**P**	**21 14 30.8**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=281,slow=8.0,SNR=2.4						
AKASG				LR	LR	21 30 28.2	
	comp=Z,91nm,19.7s,baz=264,slow=35						
DBIC	**Dimbokro**	**41.95**	**142**	P	**P**	**21 14 49.6**	**+0.9**
	comp=Z,3.6nm,0.9s,baz=321,slow=6.4,SNR=5.2						
DBIC				LR	LR	21 30 38.5	
	comp=Z,68nm,19.1s,baz=360,slow=34						
TKL	**Tuckaleechee C**	**42.14**	**279**	LR	LR	21 29 06.4	
	comp=Z,86nm,20.5s,baz=111,slow=32						
MDP	**Montagnes des**	**42.83**	**215**	LR	LR	21 29 56.4	
	comp=Z,18nm,18.2s,baz=18,slow=32						
RES	**Resolute Bay**	**42.84**	**339**	P	**P**	**21 14 55.9**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=105,slow=8.3,SNR=12						
RES	**Resolute Bay**	**42.84**	**339**	P	**P**	**21 14 55.1**	**-0.2**
RES				IAmb	IAmb	21 14 57.4	
	comp=Z,22nm,1.9s						
ULM	**Lac du Bonnet**	**45.01**	**304**	LR	LR	21 32 45.0	
	comp=Z,120nm,18.3s,baz=104,slow=34						
BRTR	**Keskin Array B**	**46.48**	**71**	P	**P**	**21 15 25.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=250,slow=7.1,SNR=1.9						
S39A	**Bolivar**	**48.07**	**287**		**P**	**21 15 36.5**	**-0.8**
S39A				IAmb	IAmb	21 15 39.1	
	comp=Z,8.7nm,0.9s						
U40A	**Yellville**	**48.36**	**285**		**P**	**21 15 39.1**	**-0.4**
U40A				IAmb	IAmb	21 15 42.4	
	comp=Z,7.5nm,0.8s						
SDV	**Santo Domingo**	**49.42**	**239**	LR	LR	21 34 08.9	
	comp=Z,25nm,21.3s,baz=79,slow=33						
KBZ	**Khabaz**	**51.03**	**63**	P	**P**	**21 16 01.4**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=292,slow=4.9,SNR=4.0						
YKA	**Yellowknife Ar**	**51.13**	**324**	P	**P**	**21 16 00.6**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=66,slow=7.6,SNR=10						
GNI	**Garni**	**53.89**	**66**	LR	LR	21 40 18.0	
	comp=Z,28nm,20.3s,baz=76,slow=37						
ARU	**Arti**	**54.72**	**43**	LR	LR	21 38 59.0	
	comp=Z,38nm,19.8s,baz=203,slow=35						
ROSC	**El Rosal**	**54.85**	**239**	LR	LR	21 37 33.4	
	comp=Z,37nm,20.7s,baz=59,slow=34						
INK	**Inuvik**	**55.87**	**334**	P	**P**	**21 16 35.9**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=27,slow=4.5,SNR=3.3						
INK	**Inuvik**	**55.87**	**334**	P	**P**	**21 16 35.1**	**+0.2**
INK				IAmb	IAmb	21 16 47.2	
	comp=Z,7.9nm,1.6s						
BOZ	**Bozeman (W)**	**56.55**	**304**	P	**P**	**21 16 38.7**	**-1.6**
BOZ				IAmb	IAmb	21 16 47.0	
	comp=Z,7.8nm,1.7s						
MSTX	**Muleshoe**	**56.58**	**287**	P	**P**	**21 16 39.9**	**-0.7**
MSTX				IAmb	IAmb	21 16 47.8	
	comp=Z,7.9nm,1.0s						
PDAR	**Pinedale Array**	**56.64**	**300**	P	**P**	**21 16 40.5**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=45,slow=6.6,SNR=4.4						
PDAR	**Pinedale Array**	**56.64**	**300**	P	**P**	**21 16 39.2**	**-1.9**
MOOW	**Moose Ponds**	**56.91**	**301**	P	**P**	**21 16 42.3**	**-0.7**
MOOW				IAmb	IAmb	21 17 01.7	
	comp=Z,9.8nm,1.8s						
REDW	**Red Top Meadow**	**57.17**	**301**	P	**P**	**21 16 43.5**	**-1.4**
REDW				IAmb	IAmb	21 16 47.0	
	comp=Z,11nm,1.5s						
AKTO	**Aktyubinsk**	**57.19**	**49**	LR	LR	21 41 29.5	
	comp=Z,60nm,18.3s,baz=298,slow=36						
JTS	**Las Juntas de**	**58.03**	**253**	LR	LR	21 37 19.0	
	comp=Z,76nm,21.7s,baz=156,slow=31						
HWUT	**Hardware Ranch**	**58.51**	**299**	P	**P**	**21 16 54.3**	**0.0**
HWUT				IAmb	IAmb	21 16 56.2	
	comp=Z,4.2nm,1.1s						
TMUT	**Trail Mountain**	**59.49**	**297**	P	**P**	**21 17 00.5**	**-0.7**
TMUT				IAmb	IAmb	21 17 04.8	
	comp=Z,5.3nm,1.0s						
TX31	**Lajitas Ar. Si**	**59.77**	**283**	P	**P**	**21 17 02.5**	**-0.5**
TXAR	**Lajitas Array**	**59.77**	**283**	P	**P**	**21 17 03.1**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=73,slow=7.4,SNR=13						
TXAR	**Lajitas Array**	**59.77**	**283**	P	**P**	**21 17 01.8**	**-1.2**
E09A	**Wood Farm, Sta**	**60.00**	**307**	P	**P**	**21 17 02.7**	**-1.5**
DUG	**Dugway, Tooele**	**60.06**	**299**	P	**P**	**21 17 05.4**	**+0.4**
DUG				IAmb	IAmb	21 17 12.2	
	comp=Z,2.3nm,0.8s						
CMIG	**Matias Romero**	**60.71**	**267**	LR	LR	21 41 58.0	
	comp=Z,30nm,19.9s,baz=32,slow=35						
ILAR	**Eielson Array**	**62.27**	**335**	P	**P**	**21 17 19.4**	**0.0**
	comp=Z,0.3nm,0.7s,baz=40,slow=6.0,SNR=5.4						
BBB	**Bella Bella**	**62.35**	**317**	LR	LR	21 44 32.6	
	comp=Z,51nm,19.1s,baz=28,slow=36						
NEA2	**Nenana**	**63.07**	**335**	P	**P**	**21 17 24.7**	**0.0**
NEA2				IAmb	IAmb	21 17 32.3	
	comp=Z,3.4nm,1.0s						
KVN	**Kaiserville**	**64.09**	**300**	P	**P**	**21 17 30.9**	**-1.1**
KVN				IAmb	IAmb	21 17 47.5	
	comp=Z,6.2nm,1.5s						
NVAR	**Mina Array Bea**	**64.58**	**300**	P	**P**	**21 17 36.0**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=64,slow=6.1,SNR=2.0						
YBH	**Yreka Blue Hor**	**65.40**	**305**	LR	LR	21 43 15.7	
	comp=Z,46nm,20.1s,baz=28,slow=33						
PFO	**Pinyon Flats O**	**66.19**	**294**	LR	LR	21 46 02.6	
	comp=Z,118nm,20.9s,baz=59,slow=36						
LPIG	**La Paz**	**67.64**	**283**	LR	LR	21 46 56.7	
	comp=Z,59nm,18.8s,baz=27,slow=36						
KURK	**Kurchatov**	**67.80**	**41**	P	**P**	**21 17 55.2**	**-0.3**
KURK				IAmb	IAmb	21 18 03.6	
	comp=Z,3.6nm,1.1s						
ZALV	**Zalesovo Beam**	**68.43**	**35**	P	**P**	**21 18 00.9**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=310,slow=9.0,SNR=2.6						
MBAR	**Mbarara**	**68.89**	**112**	LR	LR	21 48 34.8	
	comp=Z,52nm,18.3s,baz=278,slow=36						
GAR	**Garm**	**70.87**	**54**	P	**P**	**21 18 14.6**	**-0.3**
AAK	**Ala-Archa**	**70.93**	**49**	LR	LR	21 50 03.5	
	comp=Z,60nm,19.3s,baz=292,slow=36						
MK31	**Makanchi Array**	**72.24**	**42**	P	**P**	**21 18 22.9**	**0.0**
MKAR	**Makanchi Array**	**72.24**	**42**	P	**P**	**21 18 23.5**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=316,slow=5.5,SNR=11						
MKAR	**Makanchi Array**	**72.24**	**42**	P	**P**	**21 18 22.3**	**-0.5**
LVC	**Limon Verde**	**74.58**	**218**	LR	LR	21 50 16.0	
	comp=Z,17nm,18.6s,baz=262,slow=35						
TSUM	**Tsumeb**	**75.28**	**134**	LR	LR	21 49 17.9	
	comp=Z,53nm,19.3s,baz=307,slow=34						
LSZ	**Lusaka**	**78.21**	**124**	LR	LR	21 52 42.2	
	comp=Z,59nm,18.4s,baz=278,slow=35						
SONM	**Songino Array**	**81.68**	**28**	P	**P**	**21 19 16.3**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=336,slow=3.2,SNR=2.2						
LBTB	**Lobatse**	**84.30**	**132**	LR	LR	21 57 01.0	
	comp=Z,25nm,18.4s,baz=244,slow=36						
BOSA	**Boshof**	**86.98**	**134**	LR	LR	21 55 21.0	
	comp=Z,44nm,21.7s,baz=295,slow=33						
VNDA	**Vanda**	**144.84**	**184**	PKP	**PKPdf**	**21 26 34.5**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=206,slow=3.9,SNR=5.8						
VNDA	**Vanda**	**144.84**	**184**		**PKPdf**	**21 26 35.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**147.52**	**49**	PKPbc	**PKPbc**	**21 26 41.0**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=270,slow=1.0,SNR=2.5						

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*IDC **03** 21:14:42.2±2.0, 14°.04S×166°.54E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/39, mbtmp3.8/6, ML3.5/1, MS3.4/3, Ms1 3.4/3, ms1mx2.7/60, Error ellipse: s-maj=48.4km s-min=33.8km az=125.0*

*NEIC **03** 21:14:45.2±1.9, 14°.12S±0°.09×166°.8E±0°.1, h43km±14km, mb4.2/6, Error ellipse: s-maj=19.5km s-min=13.5km az=88.0*

ISC 03 21:14:45.6±1.3**, 14°.2S**±0°.1×**166°.7E**±0°.2**, h35**km**, n18,** σ1**s**.**37**/19**, mb3.9**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.35**	**160**	Pn	**Pn**	**21 15 07.5**	**-0.3**
SANVU				Sn	**Sn**	**21 15 24.2**	**-0.3**
DZM	**Mont Dzumac**	**7.86**	**182**	Pn	**Pn**	**21 16 38.7**	**+1.3**
	0.7nm,0.3s,baz=9.8,slow=7.2,SNR=7.9						
DZM				Sn	**Sn**	**21 18 04.5**	**-0.8**
	baz=261,slow=22,SNR=2.2						
DZM				LR	LR	21 19 28.4	
	comp=Z,178nm,18.3s,baz=78,slow=36						
DZM	**Mont Dzumac**	**7.86**	**182**		**Pn**	**21 16 38.6**	**+1.1**
STKA	**Stephens Creek**	**28.95**	**228**	P	**P**	**21 20 43.9**	**+2.2**
	1.2nm,0.6s,baz=29,slow=8.7,SNR=4.8						
STKA				LR	LR	21 30 31.9	
	comp=Z,74nm,18.1s,baz=32,slow=33						
STKA	**Stephens Creek**	**28.95**	**228**	P	**P**	**21 20 41.0**	**-0.7**
WR0	**Warramunga Arr**	**31.26**	**255**	P	**P**	**21 21 00.5**	**-1.8**
WR0				IAmb	IAmb	21 21 07.7	
	comp=Z,8.5nm,1.5s						
WB0	**Warramunga Arr**	**31.38**	**255**	P	**P**	**21 21 03.6**	**+0.2**
WB0				IAmb	IAmb	21 21 18.3	
	comp=Z,3.4nm,1.1s						
WB2	**Warramunga Arr**	**31.44**	**255**	P	**P**	**21 21 02.0**	**-1.9**
WB2				IAmb	IAmb	21 21 17.6	
	comp=Z,8.5nm,1.4s						
WRA	**Warramunga Arr**	**31.45**	**255**	P	**P**	**21 21 04.2**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=87,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**31.45**	**255**	P	**P**	**21 21 01.6**	**-2.4**
ASAR	**Alice Springs**	**32.38**	**248**	P	**P**	**21 21 12.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=71,slow=9.4,SNR=10						
ASAR	**Alice Springs**	**32.38**	**248**	P	**P**	**21 21 10.7**	**-1.5**
BBOO	**Buckleboo**	**33.50**	**231**	P	**P**	**21 21 21.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.60**	**259**	P	**P**	**21 22 14.5**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=112,slow=6.0,SNR=6.0						
FITZ	**Fitzroy Crossi**	**39.60**	**259**	P	**P**	**21 22 13.2**	**-0.8**
FITZ				IAmb	IAmb	21 22 15.8	
	comp=Z,2.8nm,0.9s						
ILAR	**Eielson Array**	**86.17**	**18**	P	**P**	**21 27 24.7**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=237,slow=5.0,SNR=2.2						
ILAR	**Eielson Array**	**86.17**	**18**	P	**P**	**21 27 21.4**	**-1.3**
PALK	**Pallekele**	**87.93**	**278**	LR	LR	22 08 03.0	
	comp=Z,28nm,18.7s,baz=223,slow=36						

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*NEIC **03** 21:16:19.8±1.2, 43°.97N±0°.05×105°.61W±0°.05, h0km±2km, ML3.1/32, Error ellipse: s-maj=9.0km s-min=4.5km az=331.0*

*IDC **03** 21:16:21.9±2.2, 43°.79N×105°.44W, h0km, mb3.6/1, mb1 3.4/4, mb1mx3.2/43, mbtmp3.1/4, ML3.1/3, Error ellipse: s-maj=45.3km s-min=14.6km az=149.0*

ISC 03 21:16:20.4±1.0**, 43°.94N**±0°.05×**105°.55W**±0°.05**, h0**km**, n31,** σ1**s**.**53**/31**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.10**	**80**	Pg	**Pn**	**21 16 41.6**	**-1.6**
RSSD				Sg	**Sn**	**21 16 56.9**	**-2.4**
K22A	**Casper**	**1.48**	**209**		**Pn**	**21 16 46.9**	**-1.5**
K22A				Sg	**Sn**	**21 17 07.8**	**-0.6**
K22A				IAML		21 17 11.4	
	comp=N,183nm,0.4s						
K22A				IAML		21 17 14.5	
	comp=E,151nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RWWY	Rawlins	2.56	209	Pn	Pn	21 17 04.0	+0.6
PHWY	Pilot Hill	2.64	179	Pn	Pn	21 17 04.5	0.0
PHWY				IAML		21 17 46.1	
	comp=E,64nm,0.8s						
RLMT	Red Lodge	2.91	295		Pn	21 17 07.0	-1.1
RLMT				IAML		21 18 21.0	
	comp=E,32nm,1.5s						
N23A	Red Feather La	3.06	186		Pn	21 17 09.1	-1.1
N23A				IAML		21 17 60.0	
	comp=E,65nm,1.2s						
N23A				IAML		21 18 05.1	
	comp=N,77nm,0.9s						
PD31	Pinedale Array	3.15	249		Pn	21 17 09.8	-1.6
PDAR	Pinedale Array	3.15	249	Pn	Pb	21 17 15.7	-1.7
	comp=N,1.4nm,0.3s,baz=77,slow=17,SNR=21						
PDAR				Lg	Lg	21 18 01.1	
	comp=N,10nm,0.3s,baz=71,slow=32,SNR=23						
PDAR	Pinedale Array	3.15	249		Pn	21 17 10.3	-1.2
YMP	Mirror Lake Pl	3.40	285	Pn	Pn	21 17 13.9	-1.0
YMP				IAML		21 18 31.5	
	comp=E,51nm,0.9s						
YMP				IAML		21 18 35.3	
	comp=N,56nm,0.8s						
FLWY	Flagg Ranch	3.72	274	Pn	Pn	21 17 17.7	-1.5
FLWY				IAML		21 18 40.5	
	comp=N,41nm,4.1s						
YNR	Norris Junctio	3.76	284	Pn	Pn	21 17 18.2	-1.7
MOOW	Moose Ponds	3.77	269	Pn	Pn	21 17 18.1	-1.8
SNOW	Snow King Moun	3.81	265	Pn	Pn	21 17 18.0	-2.5
ISCO	Idaho Springs	4.14	181	Pn	Pn	21 17 24.5	-0.6
ISCO				IAML		21 18 29.8	
	comp=N,16nm,1.0s						
ISCO				IAML		21 18 41.6	
	comp=N,14nm,3.0s						
YHL	Hebgen Lake	4.14	285	Pn	Pn	21 17 24.7	-0.4
YHL				IAML		21 18 59.8	
	comp=E,20nm,1.1s						
YHL				IAML		21 19 10.5	
	comp=N,21nm,1.0s						
O20A	White River Ci	4.30	209		Pn	21 17 26.9	-0.3
RDMU	Red Mountain	4.50	223	Pn	Pn	21 17 30.8	+0.8
RDMU				IAML		21 18 47.8	
	comp=E,22nm,1.0s						
RDMU				IAML		21 18 50.1	
	comp=N,23nm,1.0s						
HWUT	Hardware Ranch	5.01	244	Pn	Pn	21 17 36.5	-0.4
HWUT				IAML		21 19 38.3	
	comp=N,16nm,1.2s						
JLU	Jordanelle	5.51	235	Pn	Pn	21 17 42.6	-1.3
P18A	Preston Nutter	5.56	221		Pn	21 17 43.5	-1.1
PV07	Paradox Valley	5.98	204	Pn	Pn	21 17 49.3	-0.9
PV15	Paradox Valley	6.02	203	Pn	Pn	21 17 49.3	-1.6
SRU	San Rafael Swe	6.10	219	Pn	Pn	21 17 51.5	-0.4
PV11	David Mesa, Pa	6.17	205		Pn	21 17 52.3	-0.7
TMUT	Trail Mountain	6.29	224		Pn	21 17 54.0	-0.6
Q16A	Castle Valley	6.56	222		Pn	21 17 58.3	0.0
NVAR	Mina Array Bea	11.08	245	Pn	Pn	21 19 05.7	+5.5
	comp=N,0.0nm,0.3s,baz=62,slow=14,SNR=1.8						
TXAR	Lajitas Array	14.66	174	Lg	Lg	21 23 49.4	
	comp=N,0.0nm,0.3s,baz=356,slow=24,SNR=2.3						
YKA	Yellowknife Ar	19.32	347	P	Pn	21 20 51.7	+3.9
	comp=N,0.0nm,0.3s,baz=158,slow=12,SNR=2.6						
MKAR	Makanchi Array	89.38	355	P	P	21 29 20.8	+2.1
	comp=N,0.4nm,0.9s,baz=350,slow=4.7,SNR=2.0						

IDC 03 21:19:42.5±13.0, 17°.71S×178°.36W, h568km±134km, mb2.9/4, mb1 3.2/4, mb1mx2.8/39, mbtmp3.9/4, Error ellipse: s-maj=153.0km s-min=46.2km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.77	241	P	P	21 26 19.0	-0.2
	0.9nm,0.5s,baz=73,slow=11,SNR=2.2						
WRA	Warramunga Arr	44.72	259	P	P	21 27 06.0	-0.1
	0.7nm,0.4s,baz=95,slow=7.5,SNR=7.3						
ASAR	Alice Springs	44.89	254	P	P	21 27 07.3	-0.1
	2.6nm,0.6s,baz=85,slow=8.6,SNR=24						
ASAR				PcP	PcP	21 28 35.7	-1.0
	0.3nm,0.5s,baz=108,slow=3.2,SNR=2.5						
ILAR	Eielson Array	85.68	13	P	P	21 31 21.1	-0.2
	0.4nm,1.0s,baz=218,slow=5.2,SNR=8.2						
BRTR	Keskin Array B	144.68	315	PKP	PKPbc	21 38 15.8	-0.1
	0.3nm,0.5s,baz=75,slow=1.6,SNR=2.2						

IDC 03 21:21:24.9±1.6, 3°.20S×138°.99E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/31, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=37.4km s-min=23.2km az=140.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.84	68	Pg	Pn	21 21 58.4	+0.6
	8.4nm,0.3s,baz=252,slow=20,SNR=26						
JAY				Lg	Lg	21 22 14.6	
	25nm,0.3s,baz=152,slow=7.0,SNR=15						
WRA	Warramunga Arr	17.25	195	Pn	Pn	21 25 28.1	+0.7
	0.1nm,0.3s,baz=17,slow=13,SNR=4.6						
WRA				Sn	Sn	21 28 35.1	-5.0
	0.1nm,0.3s,baz=31,slow=24,SNR=1.9						
FITZ	Fitzroy Crossi	19.76	221	S	S	21 29 39.3	-1.0
	0.2nm,0.3s,baz=133,slow=6.4,SNR=4.0						
ASAR	Alice Springs	20.94	193	P	P	21 26 09.1	-0.3
	0.6nm,0.6s,baz=8.2,slow=11,SNR=9.6						
ASAR				S	S	21 30 01.2	-2.6
	0.3nm,0.6s,baz=6.9,slow=26,SNR=2.0						
MKAR	Makanchi Array	70.34	322	P	P	21 32 40.7	+0.1
	0.2nm,0.7s,baz=102,slow=6.1,SNR=2.1						

IDC 03 21:29:07.5±1.0, 14°.11S×166°.73E, h0km, mb4.0/12, mb1 4.1/13, mb1mx4.0/41, mbtmp4.0/13, ML4.2/1, MS3.4/8, Ms1 3.4/8, ms1mx3.0/62, Error ellipse: s-maj=34.6km s-min=19.5km az=115.0

NOU 03 21:29:11.2, 14°.28S×166°.87E, h0km, MLv5.2/14, Vanuatu Islands

NEIC 03 21:29:12.2±0.5, 14°.18S±0°.09×166°.9E±0°.1, h35km±6km, mb4.3/8, Error ellipse: s-maj=19.9km s-min=10.2km az=58.0

ISC 03 21:29:12.5±0.6, 14°.31S±0°.07×166°.8E±0°.1, h35km, n47, σ1s.88/46, mb4.1/13, MS3.5/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.21	159	Pn	Pn	21 29 33.6	+0.7
SANVU				Sn	Sn	21 29 47.4	-0.7
SANVU	Saraoutou	1.21	159	P	Pn	21 29 33.6	+0.7
DVP	Devils Point	3.66	158	P	Pn	21 30 10.3	+3.6
RTV	Rentapao	3.82	155	P	Pn	21 30 11.0	+2.2
LIFNC	LIFOU	6.45	176	Pn	Pn	21 30 46.0	+1.0
LIFNC	LIFOU	6.45	176	P	Pn	21 30 47.1	+2.1
KOUNC	Koumac, New Ca	6.63	200	Pn	Pn	21 30 48.9	+1.4
KOUNC	Koumac, New Ca	6.63	200	P	Pn	21 30 50.9	+3.3
YATNC	Mamie plateau,	7.71	179	P	Pn	21 31 04.2	+1.9
DZM	Mont Dzumac	7.72	182	Pn	Pn	21 31 04.1	+1.5
	3.1nm,0.3s,baz=339,slow=9.3,SNR=26						
DZM				Sn	Sn	21 32 23.0	-5.9
	baz=336,slow=23,SNR=0.7						
DZM				LR	LR	21 33 30.8	
	comp=Z,123nm,21.4s,baz=119,slow=33						
DZM	Mont Dzumac	7.72	182		Pn	21 31 04.0	+1.4
DZM	Mont Dzumac	7.72	182	P	Pn	21 31 05.4	+2.8
NOUC	Port Laguerre	7.76	183	P	Pn	21 31 06.6	+3.6
ONTNC	Ouen Toro	7.96	182	Pn	Pn	21 31 07.0	+1.3
ONTNC	Ouen Toro	7.96	182	P	Pn	21 31 09.1	+3.4
OUENC	Ouen Island, N	8.06	179	Pn	Pn	21 31 09.6	+2.5
OUENC	Ouen Island, N	8.06	179	P	Pn	21 31 09.8	+2.6
PINNC	Pines Island,	8.28	176	Pn	Pn	21 31 11.3	+1.2
CTA	Charters Tower	20.40	251	P	P	21 33 47.3	+0.7
	2.9nm,0.6s,baz=41,slow=11,SNR=2.3						
CTA				LR	LR	21 41 29.0	
	comp=Z,105nm,18.1s,baz=82,slow=36						
CTAO	Charters Tower	20.40	251	P	P	21 33 46.2	-0.4
CTAO				IAmb	IAmb	21 33 56.3	
	comp=Z,18nm,1.2s						
BKZ	Black Stump Fm	26.20	163	P	P	21 34 43.5	-0.5
BKZ				IAmb	IAmb	21 34 52.1	
	comp=Z,16nm,1.3s						
STKA	Stephens Creek	28.89	228	P	P	21 35 09.5	+1.4
	comp=Z,3.6nm,0.9s,baz=33,slow=7.7,SNR=8.7						
STKA				LR	LR	21 46 23.3	
	comp=Z,131nm,19.5s,baz=33,slow=36						
STKA	Stephens Creek	28.89	228	P	P	21 35 08.4	+0.3
WB0	Warramunga Arr	31.38	255	P	P	21 35 30.0	-0.3
WB0				IAmb	IAmb	21 35 58.1	
	comp=Z,2.4nm,0.9s						
WRA	Warramunga Arr	31.44	255	P	P	21 35 30.4	-0.5
	comp=Z,0.3nm,0.6s,baz=86,slow=9.0,SNR=2.6						
WRA				LR	LR	21 47 02.7	
	comp=Z,96nm,20.8s,baz=5.0,slow=34						
ASAR	Alice Springs	32.36	248	P	P	21 35 38.1	-0.8
	comp=Z,0.4nm,0.7s,baz=81,slow=8.9,SNR=4.9						
ASAR				LR	LR	21 47 49.4	
	comp=Z,90nm,18.3s,baz=142,slow=35						
ASAR	Alice Springs	32.36	248	P	P	21 35 37.1	-1.8
BBOO	Buckleboo	33.44	231	P	P	21 35 48.4	+0.2
FITZ	Fitzroy Crossi	39.60	259	LR	LR	21 52 43.6	
	comp=Z,65nm,18.4s,baz=100,slow=36						
NWAO	Narrogin (SRO)	48.53	239	P	P	21 37 52.8	+0.4
MJAR	Matsushiro Arr	57.31	333	LR	LR	21 59 19.0	
	comp=Z,12nm,21.8s,baz=190,slow=32						
VNDA	Vanda	63.27	181	P	P	21 39 39.4	+2.2
	comp=Z,1.5nm,0.7s,baz=7.1,slow=6.9,SNR=2.0						
VNDA	Vanda	63.27	181	P	P	21 39 37.7	+0.6
VNDA				IAmb	IAmb	21 40 00.4	
	comp=Z,3.5nm,1.2s						
CMAR	Chiang Mai Arr	74.32	294	P	P	21 40 48.3	+1.3
	comp=Z,0.2nm,0.4s,baz=148,slow=4.4,SNR=4.3						
CMAR	Chiang Mai Arr	74.32	294	P	P	21 40 46.0	-1.0
MA2	Magadan	74.76	352	P	P	21 40 49.2	+0.6
	comp=Z,6.9nm,0.8s,baz=131,slow=9.3,SNR=1.9						
SEY	Seymchan	77.81	353	P	P	21 41 05.1	-0.8
	comp=Z,1.5nm,0.8s,baz=163,slow=5.7,SNR=7.4						
SONM	Songino Array	81.87	324	P	P	21 41 27.6	-0.8
	comp=Z,0.5nm,0.9s,baz=120,slow=3.3,SNR=3.6						
SONM	Songino Array	81.87	324	P	P	21 41 27.1	-1.3
ILAR	Eielson Array	86.29	18	P	P	21 41 49.1	-1.2
	comp=Z,1.2nm,0.8s,baz=234,slow=5.2,SNR=9.5						
NVAR	Mina Array Bea	87.38	49	LR	LR	22 14 42.1	
	comp=Z,35nm,18.5s,baz=325,slow=31						
MKAR	Makanchi Array	96.56	316	P	P	21 42 38.8	+0.1
	comp=Z,0.3nm,0.6s,baz=88,slow=6.2,SNR=2.8						
ZALV	Zalesovo Beam	96.76	324	P	P	21 42 38.5	-0.9
	comp=Z,0.6nm,0.8s,baz=158,slow=4.7,SNR=1.6						
ARCES	ARCESS Array B	119.72	345	PKP	PKPdf	21 47 58.1	-0.3
	comp=Z,1.3nm,0.6s,baz=9.5,slow=1.7,SNR=5.5						
FINES	FINESS Array B	125.15	338	PKP	PKPdf	21 48 08.0	-0.9
	comp=Z,0.9nm,0.8s,baz=80,slow=1.6,SNR=1.5						
DAVOX	Davos/Dischmat	142.29	334	PKP	PKPdf	21 48 43.0	+1.3
	comp=Z,1.7nm,1.0s,baz=309,slow=4.7,SNR=3.2						
KEST	Kesra	150.57	320	PKPbc	PKiKP	21 49 02.6	+0.7
	comp=Z,2.7nm,0.7s,baz=95,slow=2.6,SNR=1.4						

JMA 03 21:32:21.3±0.5, 33°.75N×141°.43E, h40km, M2.9

IDC 03 21:32:21.7±2.4, 33°.04N×139°.96E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/50, mbtmp3.2/4, ML2.3/1, Error ellipse: s-maj=83.4km s-min=24.1km az=73.0

ISC 03 21:32:20.8±1.6, 33°.66N±0°.08×141°.7E±0°.2, h35km, n12, σ0s.83/13, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.14	331	P	Pn	21 32 38.8	-1.0
BSO3	Boso 3	1.49	321	P	Pn	21 32 43.9	-0.9
JHJ2	Mitsune	1.64	251	P	Pn	21 32 46.5	-0.5
JMKN	Mikurajimanish	1.74	278	P	Pn	21 32 47.4	-1.1
JOD2	Odawara 2	2.66	308	P	Pn	21 33 00.0	-1.2
JYN	Shimob	3.16	306	P	Pn	21 33 08.3	+0.2
JRY	Ryogami san	3.27	317	P	Pn	21 33 09.0	-0.5
JAG	Ashikaga	3.30	327	P	Pn	21 33 09.4	-0.6
MJAR	Matsushiro Arr	4.04	316	Pn	Pn	21 33 20.0	0.0
	0.2nm,0.3s,baz=160,slow=13,SNR=4.2						
MJAR				Sn	Sn	21 34 07.3	+1.2
	0.1nm,0.3s,baz=158,slow=29,SNR=1.8						
MKAR	Makanchi Array	46.15	305	P	P	21 40 41.7	-0.1
	0.4nm,0.8s,baz=86,slow=8.4,SNR=4.8						
WRA	Warramunga Arr	53.76	189	P	P	21 41 40.2	+0.5
	0.2nm,0.6s,baz=4.4,slow=7.5,SNR=1.6						
ASAR	Alice Springs	57.48	188	P	P	21 42 06.6	+0.2
	0.2nm,0.7s,baz=359,slow=12,SNR=1.5						

UPA 03 21:34:34.6±1.8, 9°.24N×82°.72W, h2km±3km, MW4.4

UCR 03 21:34:35.4±1.8, 9°.30N×82°.69W, h5km, MW3.7

INET 03 21:34:36.4±1.5, 9°.33N×82°.85W, h6km±24km, MW2.6

ISC 03 21:34:34.3±1.3, 9°.25N±0°.03×82°.72W±0°.02, h3km±12km, n35, σ0s.74/58, 4C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNI2	El Empalme, Bo	0.30	54	⇓iP	Pg	21 34 40.3	+0.1
CNI2				i S	Sg	21 34 44.5	+0.4
BC3P	Paso Ancho	0.44	166	⇓iP	Pb	21 34 44.6	-0.3
BC3P				i S	Sb	21 34 51.5	-0.5
BRU2	Volcan	0.45	176	⇓iP	Pb	21 34 44.9	-0.1
BRU2				i S	Sb	21 34 52.5	+0.3
MLIR3	Monte Lirio, C	0.46	193	⇓iP	Pb	21 34 45.9	+0.7
MLIR3				eS	Sb	21 34 52.8	+0.3
EDSV	San Vito	0.49	211	eP	Pb	21 34 46.5	+0.8
EDSV				eS	Sb	21 34 55.5	+2.2
DRK0	Durika	0.52	272	⇑iP	Pb	21 34 46.0	-0.2
DRK0				eS	Sb	21 34 54.2	0.0
DRK0	Durika	0.52	272	eP	Pb	21 34 45.9	-0.3
DRK0				eS	Sb	21 34 53.7	-0.5
LNBQ3	Los Naranjos,	0.53	149	eP	Pb	21 34 45.4	-0.9
LNBQ3				eS	Sb	21 34 53.0	-1.4
EDBA	Buenos Aires	0.56	262	⇑eP	Pb	21 34 47.7	+0.9
EDBA				eS	Sn	21 34 57.2	-1.8
BCO2	Palmira	0.56	160	⇓iP	Pb	21 34 46.4	-0.4
BCO2				i S	Sb	21 34 55.0	-0.3
PTAR3	Potrerillos Ar	0.59	158	⇓iP	Pb	21 34 47.0	-0.4
PTAR3				eS	Sb	21 34 56.7	+0.5
SRBA	San Rafael, Bu	0.63	269	eP	Pb	21 34 47.7	-0.4
SRBA				eS	Sb	21 34 57.4	0.0
CHGR2	Aguacate	0.65	118	eP	Pb	21 34 47.6	-0.7
CHGR2				eS	Sb	21 34 58.0	+0.3
CDITO	Canoas	0.69	193	eP	Pn	21 34 49.7	-1.2
EDPN	Palmar Norte	0.78	249	eP	Pn	21 34 51.7	-0.6
EDPN				eS	Sn	21 35 04.7	+0.2
DVD	David	0.85	162	⇑eP	Pb	21 34 51.5	-0.1
DVD				eS	Sb	21 35 04.3	+0.8
RIOS	Rincon, Osa	0.95	235	eP	Pb	21 34 53.1	-0.4
PEZE	Perez Zeledon,	0.96	278	eP	Pb	21 34 53.6	0.0
PEZE	Perez Zeledon,	0.96	278	eP	Pb	21 34 53.6	0.0
PIRO	Carate, Puerto	1.03	216	eP	Pb	21 34 55.0	+0.1
PIRO	Carate, Puerto	1.03	216	⇓eP	Pb	21 34 55.0	+0.1
PIRO				eS	Sb	21 35 08.6	-0.3
PIRO	Carate, Puerto	1.03	216	eP	Pb	21 34 54.9	+0.1
BATAN	Batan	1.07	323	⇑iP	Pg	21 34 54.2	-0.6
BATAN				i S	Sb	21 35 09.8	0.0
RIMA	Rio Macho	1.24	295	eP	Pg	21 34 58.1	0.0
RIMA	Rio Macho	1.24	295	eP	Pg	21 34 57.8	-0.3
LCR2	La Lucha 2	1.36	291	eP	Pg	21 35 00.0	-0.4
HDC	Heredia	1.57	299	eP	Pn	21 35 02.9	-0.3
HDC				eS	Sb	21 35 24.5	+0.2
JACO	JACO, Garabito	1.96	282	eP	Pn	21 35 09.6	+1.1
RSUS3	Rio de Jesus,	1.99	129	eS	Sn	21 35 34.9	+0.5
GMAL	Guarumal, Vera	2.08	135	eP	Pn	21 35 10.2	+0.1
GMAL				eS	Sn	21 35 36.1	-0.5
JTS	Las Juntas de	2.43	295	eP	Pn	21 35 15.7	+0.6
JTS	Las Juntas de	2.43	295	eP	Pn	21 35 15.7	+0.6
JTS				eS	Sb	21 35 49.2	0.0
CHIT3	Chitre	2.61	119	eP	Pn	21 35 16.5	-1.0
CHIT3				eS	Sn	21 35 51.3	+1.6
CACAO	El Cacao, Vera	2.64	136	eP	Pn	21 35 18.6	+0.8
CACAO				eS	Sn	21 35 49.0	-1.3
AZU	Azuero	2.82	121	eP	Pn	21 35 21.1	+0.9
AZU				eS	Sn	21 35 55.9	+1.1

IDC 03 21:36:56.0±0.9, 56°.24N×167°.99W, h0km, mb3.7/14, mb1 3.9/17, mb1mx3.8/47, mbtmp3.7/17, ML3.5/3, MS3.1/7, Ms1 3.1/7, ms1mx2.7/97, Error ellipse: s-maj=25.4km s-min=14.4km az=176.0

NEIC 03 21:36:57.9±1.8, 56°.37N±0°.06×167°.86W±0°.07, h10km±1km, mb3.8/8, Error ellipse: s-maj=11.9km s-min=3.0km az=213.0

ISC 03 21:37:01.2±0.6, 56°.35N±0°.08×167°.85W±0°.06, h35km, n60, σ0s.97/60, mb3.8/13, MS3.1/4, Pribilof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPIA	Saint Paul Isl	1.56	303	Pn	Pn	21 37 25.4	-0.9
SPIA				Sn	Sn	21 37 46.2	+0.8
UNV	Unalaska Valle	2.62	162	Pn	Pn	21 37 39.4	-1.6
FALS	False Pass	2.92	119	Pn	Pn	21 37 45.2	+0.1
NIKH	Nikolski High	3.43	190	Pn	Pn	21 37 52.5	+0.3
CHGN	Chignik	5.25	87	Pn	Pn	21 38 16.3	-0.8
GAMB	Gambell	7.70	347	Pn	Pn	21 38 49.3	-1.2
ANM	Nome	8.33	7	Pn	Pn	21 38 58.9	-0.4
KDAK	Kodiak Island	8.44	74	Pn	Pn	21 39 01.6	+0.7
	2.4nm,0.3s,baz=291,slow=7.3,SNR=14						
KDAK				Sn	Sn	21 40 36.7	+1.9
	0.3nm,0.3s,baz=116,slow=17,SNR=1.0						
KDAK				LR	LR	21 42 14.6	
	comp=Z,130nm,20.8s,baz=227,slow=37						
KDAK	Kodiak Island	8.44	74		Pn	21 39 00.9	0.0
M19K	Big River Lodg	8.87	46		Pn	21 39 05.5	-1.2
TNA	Tin City	9.24	360	Pn	Pn	21 39 10.1	-1.6
M20K	Styx River	9.37	48		Pn	21 39 12.9	-0.8
K20K	Telida	9.85	39		Pn	21 39 19.6	-0.5
J20K	Nowinta River	10.37	35	Pn	Pn	21 39 25.9	-1.3
CAST	Castle Rocks	10.60	42		Pn	21 39 28.1	-2.3
I21K	Tanana	11.73	35		Pn	21 39 44.2	-1.6
MLY	Manley	12.04	37		Pn	21 39 50.5	+0.4
DHY	Denali Highway	12.30	48		Pn	21 39 53.4	-0.2
WRH	Wood River Hil	12.66	42		Pn	21 39 59.8	+1.3
ILAR	Eielson Array	13.26	42	Pn	Pn	21 40 06.2	-0.5
	0.0nm,0.3s,baz=244,slow=14,SNR=3.3						
ILAR				LR	LR	21 45 11.0	
	comp=Z,40nm,21.6s,baz=118,slow=37						
ILAR	Eielson Array	13.26	42		Pn	21 40 05.4	-1.3
H24K	Noodor Dome	13.48	37		Pn	21 40 07.7	-2.1
DOT	Dot Lake	13.90	49	Pn	Pn	21 40 16.1	+0.7
SCRK	Sand Creek	14.05	47	Pn	Pn	21 40 16.5	-1.1
M27K	Edge Creek, AK	14.48	55		Pn	21 40 23.0	-0.4
L27K	Beaver Creek,	14.67	52	Pn	Pn	21 40 25.4	-0.5
BCAR	Beaver Creek A	14.69	52	Pn	Pn	21 40 25.1	-1.1
TOLK	Toolik Lake Re	14.85	27	Pn	Pn	21 40 27.1	-1.1
BMAR	Burnt Mountain	15.48	35	Pn	Pn	21 40 35.4	-1.2
EGAK	Eagle	15.48	46	Pn	Pn	21 40 36.8	+0.2
EGAK				IAmb	IAmb	21 40 46.4	
	comp=Z,8.1nm,1.3s						
DAWY	Dawson	15.99	50		P	21 40 44.7	-1.7
EPYK	Eagle Plains	17.77	43		P	21 41 05.8	-0.1
P33M	Teslin, Yukon	18.68	64	P	P	21 41 15.5	-0.5
INK	Inuvik	19.59	39	P	Pn	21 41 28.4	+1.0
	comp=Z,0.2nm,0.3s,baz=240,slow=8.3,SNR=3.3						
INK				LR	LR	21 49 08.3	
	comp=Z,74nm,18.4s,baz=214,slow=37						
DLBC	Dease Lake	20.31	68	P	Pn	21 41 36.7	+0.7
	comp=Z,1.7nm,0.9s,baz=288,slow=10,SNR=4.2						
DLBC	Dease Lake	20.31	68	P	P	21 41 33.0	-0.9
DLBC				IAmb	IAmb	21 41 47.9	
	comp=Z,6.3nm,1.3s						
SEY	Seymchan	20.86	305	P	P	21 41 40.6	+0.9
	comp=Z,0.5nm,0.4s,baz=78,slow=19,SNR=3.7						
YKA	Yellowknife Ar	27.08	55	P	P	21 42 40.5	+0.5
	comp=Z,1.4nm,0.7s,baz=276,slow=9.4,SNR=22						
YKA				PcP	PcP	21 46 00.9	+0.9
	comp=Z,0.2nm,0.6s,baz=293,slow=2.5,SNR=2.8						
YKA				LR	LR	21 53 47.2	
	comp=Z,84nm,18.6s,baz=297,slow=37						
YKA	Yellowknife Ar	27.08	55	P	P	21 42 39.0	-1.0
RES	Resolute Bay	32.41	28	LR	LR	21 59 32.6	
	comp=Z,20nm,21.0s,baz=114,slow=42						
ASAJ	Asahikawa	33.24	270	LR	LR	21 57 37.4	
	comp=Z,25nm,18.6s,baz=138,slow=37						
NVAR	Mina Array Bea	37.07	98	P	P	21 44 09.4	+1.4
	comp=Z,0.2nm,0.5s,baz=316,slow=6.4,SNR=2.0						
HWUT	Hardware Ranch	38.62	88	P	P	21 44 20.2	-0.8
SONM	Songino Array	50.09	299	P	P	21 45 52.8	+0.4
	comp=Z,0.7nm,0.8s,baz=47,slow=6.0,SNR=6.3						
SONM				PcP	PcP	21 47 12.8	+1.2
	comp=Z,0.4nm,0.7s,baz=42,slow=2.4,SNR=3.2						
SONM	Songino Array	50.09	299	P	P	21 45 51.9	-0.5
SONM				IAmb	IAmb	21 45 54.5	
	comp=Z,1.3nm,1.0s						
TXAR	Lajitas Array	51.93	93	P	P	21 46 06.4	-0.1
	comp=Z,0.9nm,0.9s,baz=297,slow=4.4,SNR=9.8						
TKL	Tuckaleechee C	58.07	73	LR	LR	22 11 04.2	
	comp=Z,33nm,19.1s,baz=332,slow=35						
MKAR	Makanchi Array	61.73	313	P	P	21 47 15.8	+0.2
	comp=Z,0.4nm,0.8s,baz=35,slow=5.3,SNR=4.4						
MKAR	Makanchi Array	61.73	313	P	P	21 47 15.7	+0.1
FINES	FINESS Array B	62.04	352	P	P	21 47 17.5	+0.2
	comp=Z,0.9nm,0.8s,baz=4.6,slow=7.0,SNR=4.5						
FINES	FINESS Array B	62.04	352	P	P	21 47 16.9	-0.5
NOA	NORSAR Array B	62.95	1	P	P	21 47 23.7	+0.2
	comp=Z,0.5nm,0.7s,baz=357,slow=6.6,SNR=1.4						
EKA	Eskdalemuir Ar	67.98	9	P	P	21 47 56.3	+0.2
	comp=Z,0.7nm,0.8s,baz=359,slow=5.9,SNR=1.7						
AKASG	Malin Array Be	72.38	349	P	P	21 48 22.8	-0.3
	comp=Z,1.2nm,0.6s,baz=11,slow=6.0,SNR=5.0						
AKASG	Malin Array Be	72.38	349	P	P	21 48 23.0	-0.1
AKASG				IAmb	IAmb	21 48 41.6	
	comp=Z,1.2nm,1.2s						
KBZ	Khabaz	76.98	338	P	P	21 48 49.6	-0.2
	comp=Z,0.9nm,0.7s,baz=39,slow=7.3,SNR=2.2						
BRTR	Keskin Array B	82.57	343	P	P	21 49 21.1	+0.7
	comp=Z,0.7nm,0.8s,baz=4.5,slow=7.4,SNR=4.0						
WRA	Warramunga Arr	90.15	233	P	P	21 49 56.8	-0.7
	comp=Z,0.7nm,1.1s,baz=35,slow=6.2,SNR=2.8						
ASAR	Alice Springs	93.61	231	P	P	21 50 13.5	0.0
	comp=Z,0.5nm,0.9s,baz=19,slow=6.1,SNR=4.1						
ASAR	Alice Springs	93.61	231	P	P	21 50 13.0	-0.5

IDC 03 21:47:22.8±2.0, 56°.23N×157°.97W, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.4/40, mbtmp3.5/6, ML3.6/2, Error ellipse: s-maj=46.9km s-min=19.3km az=162.0

NEIC 03 21:47:26.9±1.3, 57°.01N±0°.04×158°.00W±0°.08, h14km±2km, Error ellipse: s-maj=8.1km s-min=3.9km az=132.0

AEIC 03 21:47:26±1.5, 56°.99N±0°.02×157°.96W±0°.06, h10km±5km, ML3.3, mb3.4/2(NEIC), Error ellipse: s-maj=4.7km s-min=3.3km az=102.0

ISC 03 21:47:26.9±1.0, 56°.96N±0°.04×157°.94W±0°.03, h12km±6km, n50, σ0s.81/61, mb3.5/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.15	274		Pg	21 47 30.5	-0.1
AZAC	Aniakchak	0.17	249		Pg	21 47 30.8	-0.1
ANPB	Aniakchak Plen	0.24	231		Pb	21 47 32.0	-1.2
ANPB					Sb	21 47 36.9	+1.4
CHGN	Chignik	0.71	202		Pg	21 47 40.2	-0.4
CHGN					Sb	21 47 50.8	+0.1
CHGN	Chignik	0.71	202	P	Pg	21 47 40.2	-0.4
	baz=18						
CHGN				S	Sb	21 47 50.8	+0.1
	baz=18						
VNHG	Veniaminof 1	1.00	223		Pb	21 47 45.6	-0.5
VNFG	Fog Glacier, M	1.12	234		Pn	21 47 48.0	-0.4
VNFG	Fog Glacier, M	1.12	234	P	Pn	21 47 48.0	-0.4
	baz=49						
PLK3	Peulik 3	1.17	50		Pb	21 47 48.1	-0.9
PLK3					Sn	21 48 05.2	+0.4
CHIR	Chirikof Islan	1.72	131		Pn	21 47 56.5	0.0
KABU	Katmai Buttres	1.94	46		Pn	21 47 59.0	-0.7
SII	Sitkinak Islan	2.10	99		Pb	21 48 03.6	-1.3
SII					Sb	21 48 31.4	+0.4
SII	Sitkinak Islan	2.10	99	P	Pb	21 48 03.6	-1.3
	baz=284						
SII				S	Sb	21 48 31.4	+0.4
	baz=284						
SDPT	Sand Point	2.15	222		Pn	21 48 03.2	+0.8
SDPT					Sb	21 48 32.0	-0.2
SDPT	Sand Point	2.15	222	P	Pn	21 48 03.2	+0.8
	baz=39						
SDPT				S	Sb	21 48 32.0	-0.2
	baz=39						
OHAK	Old Harbor	2.55	82		Pn	21 48 08.6	+0.7
OHAK	Old Harbor	2.55	82	P	Pn	21 48 08.6	+0.7
	baz=267						
P18K	Big Mountain,	2.83	29	Pn	Pn	21 48 10.8	-1.1
KDAK	Kodiak Island	3.02	72	Pn	Pn	21 48 15.3	+0.9
	14nm,0.3s,baz=246,slow=8.5,SNR=418						
KDAK				Sn	Sn	21 48 52.9	+2.6
	2.4nm,0.3s,baz=85,slow=16,SNR=1.4						
KDAK	Kodiak Island	3.02	72		Pn	21 48 15.5	+1.1
KDAK	Kodiak Island	3.02	72	Pn	Pn	21 48 14.3	-0.1
Q19K	Cape Douglas,	3.02	47	Pn	Pn	21 48 13.7	-0.8
O19K	Port Alsworth	3.76	29		Pn	21 48 23.9	-0.6
O19K	Port Alsworth	3.76	29	P	Pn	21 48 24.0	-0.6
	baz=212						
IVE	Iliamna Volcan	4.01	38		Pn	21 48 27.9	-0.2
N19K	Bonanza Creek	4.26	23		Pn	21 48 31.3	-0.3

N19K	Bonanza Creek	4.26	23	P	Pn	21 48 31.3	-0.3
	baz=207						
SVW2	Sparrevohn	4.33	15		Pn	21 48 32.3	-0.1
RED	Redoubt Volcan	4.39	36		Pn	21 48 33.3	-0.1
RDWB	Redoubt West	4.43	35		Pn	21 48 32.8	-1.1
RSO	Redoubt South	4.43	35		Pn	21 48 34.7	+0.6
M19K	Big River Lodg	5.28	19		Pn	21 48 45.1	-0.3
M19K	Big River Lodg	5.28	19	P	Pn	21 48 45.1	-0.3
	baz=202						
L19K	White Mountain	5.47	15		Pn	21 48 47.4	-0.7
L19K	White Mountain	5.47	15	P	Pn	21 48 47.4	-0.7
	baz=198						
M20K	Styx River	5.51	24		Pn	21 48 48.1	-0.6
L20K	Farewell, AK	5.91	19		Pn	21 48 54.6	+0.5
L20K	Farewell, AK	5.91	19	P	Pn	21 48 54.6	+0.5
	baz=202						
TTA	Tatalina	6.07	8		Pn	21 48 55.2	-1.1
TTA	Tatalina	6.07	8	P	Pn	21 48 55.2	-1.1
	baz=190						
ANM	Nome	8.45	338		Pn	21 49 27.8	-1.1
ILAR	Eielson Array	9.50	30	Pn	Pn	21 49 44.2	+1.0
	0.2nm,0.3s,baz=214,slow=13,SNR=12						
ILAR				Lg	Lg	21 52 35.8	
	baz=225,slow=25,SNR=2.8						
ILAR	Eielson Array	9.50	30		Pn	21 49 42.4	-0.8
C36M	Paulatuk	19.34	37	P	P	21 51 50.9	-0.7
C36M				IAmb	IAmb	21 52 01.6	
	comp=Z,0.9nm,0.7s						
YKA	Yellowknife Ar	22.19	58	P	P	21 52 22.6	+0.1
	comp=Z,1.2nm,0.8s,baz=274,slow=10,SNR=24						
YKA				PcP	PcP	21 56 18.3	-0.2
	comp=Z,0.2nm,0.5s,baz=288,slow=2.2,SNR=3.8						
YKA	Yellowknife Ar	22.19	58	P	P	21 52 21.8	-0.6
SEY	Seymchan	25.03	304	P	P	21 52 50.5	+0.2
	comp=Z,1.0nm,0.7s,baz=95,slow=14,SNR=4.5						
SONM	Songino Array	54.43	304	P	P	21 56 53.8	+0.2
	comp=Z,0.5nm,0.7s,baz=54,slow=6.8,SNR=5.6						
SONM				PcP	PcP	21 57 57.2	+0.1
	comp=Z,0.3nm,0.6s,baz=56,slow=3.6,SNR=2.6						
SONM	Songino Array	54.43	304	P	P	21 56 52.7	-0.9
SONM				IAmb	IAmb	21 57 19.9	
	comp=Z,1.1nm,1.2s						
MKAR	Makanchi Array	65.11	319	P	P	21 58 08.7	+1.8
	comp=Z,0.2nm,0.6s,baz=38,slow=7.3,SNR=2.6						

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*NEIC **03** 22:11:48.8±1.1, 1°.36S±0°.06×16°.2W±0°.2, h10km±2km, mb4.4/9, Error ellipse: s-maj=33.0km s-min=10.2km az=271.0*

*IDC **03** 22:11:49.2±1.8, 1°.46S×15°.83W, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/29, mbtmp3.8/8, ML3.3/1, MS3.9/39, Ms1 3.9/39, ms1mx3.8/80, Error ellipse: s-maj=42.6km s-min=33.4km az=78.0*

*GCMT **03** 22:11:51.8±0.4, 1°.57S±0°.04×15°.95W±0°.03, h23km±1km, MW4.9/75, Moment Tensor Solution. s14,c14; s75,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.76±.31; $M_{\theta\theta}$0.26±.17; $M_{\phi\phi}$2.50±.19; $M_{r\theta}$-1.47±.26; $M_{\theta\phi}$-0.65±.09; $M_{\phi r}$0.57±.20; Best double couple: $M_0$3.10900×10^{16} NP1:ϕ_s2.00000°, δ38.00000°, λ-59.00000°. NP2: ϕ_s144.00000°, δ58.00000°, λ-112.00000°. Principal axes: T 2.8470, Plg11.0000°, Azm250.0000°; N 0.5230, Plg19.0000°, Azm157.0000°; P -3.3720, Plg68.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 22:11:50.1±1.0**, 1°.40S**±0°.09×**16°.0W**±0°.2**, h12**km**, n56, σ1s.23**/22**, mb4.2**/10**, MS3.9**/38**, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	6.56	167	Pn	Pn	22 13 26.4	+0.2
	SNR=5.9						
H10N2				T	T	22 20 07.4	
	baz=348,slow=74,SNR=122						
H10N3	ASCENSION HYDR	6.57	167	Pn	Pn	22 13 26.0	-0.3
	SNR=6.1						
H10N3				T	T	22 20 05.0	
	baz=348,slow=74,SNR=128						
H10N1	ASCENSION HYDR	6.58	167	Pn	Pn	22 13 26.0	-0.5
	SNR=7.2						
H10N1				T	T	22 20 09.6	
	baz=348,slow=74,SNR=119						
ASCN	Ascension	6.69	166	Pn	Pn	22 13 27.7	-0.6
H10S3	ASCENSION HYDR	7.62	170	T	T	22 21 26.1	
	baz=351,slow=74,SNR=56						
H10S2	ASCENSION HYDR	7.63	170	T	T	22 21 31.3	
	baz=229,slow=74,SNR=10						
DBIC	Dimbokro	13.70	54	Pn	Pn	22 15 04.8	+0.5
	0.2nm,0.3s,baz=258,slow=11,SNR=3.5						
DBIC				LR	LR	22 19 15.9	
	comp=Z,864nm,20.7s,baz=234,slow=33						
DBIC	Dimbokro	13.70	54		Pn	22 15 05.9	+1.6
MBO	M'Bour	15.71	357	Pn	Pn	22 15 29.4	-2.0
KOWA	Kowa	19.75	36	Pn	Pn	22 16 21.0	-0.4
KOWA				IAmb	IAmb	22 16 23.5	
	comp=Z,14nm,1.0s						
RCBR	Riachuelo	20.35	257	LR	LR	22 22 14.3	
	comp=Z,380nm,19.8s,baz=220,slow=30						
TOA0	Torodi Ar. Sit	22.73	50	P	P	22 16 52.2	0.0
TOA0				IAmb	IAmb	22 16 57.0	
	comp=Z,11nm,1.1s						
TORD	Torodi Ar. Bea	22.73	50	P	P	22 16 51.6	-0.6
	comp=Z,9.8nm,1.1s,baz=231,slow=9.0,SNR=16						
TORD				LR	LR	22 24 49.2	
	comp=Z,685nm,18.9s,baz=192,slow=34						
TORD	Torodi Ar. Bea	22.73	50	P	P	22 16 50.9	-1.2
BDFB	Brasilia	34.61	244	LR	LR	22 30 44.9	
	comp=Z,111nm,20.7s,baz=149,slow=33						
MDT	Midelt	35.69	17	LR	LR	22 32 42.5	
	comp=Z,184nm,20.8s,baz=186,slow=35						
TSUM	Tsumeb	37.34	120	LR	LR	22 31 08.2	
	comp=Z,155nm,20.0s,baz=280,slow=31						
ESDC	Sonseca Array	42.33	14	LR	LR	22 37 43.3	
	comp=Z,181nm,19.5s,baz=196,slow=37						
ESDC	Sonseca Array	42.33	14	P	P	22 19 42.2	-1.8
ESDC				IAmb	IAmb	22 19 46.3	
	comp=Z,3.8nm,0.5s						
ESBB	Sonseca Array	42.34	14	P	P	22 19 42.2	-1.8
KEST	Kesra	43.86	30	LR	LR	22 38 59.5	
	comp=Z,344nm,20.4s,baz=170,slow=37						
LSZ	Lusaka	45.71	110	LR	LR	22 35 53.3	
	comp=Z,130nm,21.7s,baz=310,slow=32						
SUR	Sutherland	46.35	136	LR	LR	22 36 10.5	
	comp=Z,105nm,18.5s,baz=277,slow=32						
LBTB	Lobatse	46.48	124	LR	LR	22 37 58.0	
	comp=Z,80nm,18.0s,baz=278,slow=34						
MBAR	Mbarara	46.72	90	LR	LR	22 38 09.2	
	comp=Z,337nm,18.7s,baz=250,slow=34						
SIV	San Ignacio	46.72	249	LR	LR	22 38 32.6	
	comp=Z,447nm,20.2s,baz=98,slow=34						
CPUP	Villa Florida	46.82	234	LR	LR	22 37 29.0	
	comp=Z,232nm,21.7s,baz=54,slow=33						
BOSA	Boshof	47.74	128	P	P	22 20 27.1	-0.3
	comp=Z,2.5nm,0.7s,baz=300,slow=6.0,SNR=7.5						
BOSA				LR	LR	22 38 29.5	
	comp=Z,59nm,18.5s,baz=312,slow=34						
BOSA	Boshof	47.74	128	P	P	22 20 25.7	-1.7
BOSA				IAmb	IAmb	22 20 41.8	
	comp=Z,5.6nm,1.1s						
VAE	Valguarnera	47.83	33	LR	LR	22 40 11.6	
	comp=Z,202nm,18.2s,baz=173,slow=36						
IDI	Anoyia	52.81	42	LR	LR	22 43 04.0	
	comp=Z,43nm,19.3s,baz=190,slow=36						
SJG	San Juan	53.02	294	LR	LR	22 39 03.5	
	comp=Z,104nm,20.3s,baz=82,slow=31						
DAVOX	Davos/Dischmat	53.09	22	LR	LR	22 43 44.1	
	comp=Z,101nm,18.6s,baz=262,slow=36						
KMBO	Kilima Mbogo	53.23	90	LR	LR	22 42 11.1	
	comp=Z,391nm,18.7s,baz=274,slow=34						
LPAZ	La Paz	53.42	251	LR	LR	22 43 22.5	
	comp=Z,285nm,19.1s,baz=73,slow=35						
TRI	Trieste	53.78	26	P	P	22 21 11.8	-0.6
TRI				IAmb	IAmb	22 21 15.8	
	comp=Z,7.9nm,1.2s						
SDV	Santo Domingo	55.40	282	LR	LR	22 45 02.9	
	comp=Z,51nm,18.0s,baz=132,slow=36						
LVC	Limon Verde	55.52	243	LR	LR	22 46 31.5	
	comp=Z,59nm,18.6s,baz=59,slow=37						
GERES	GERESS Array B	56.25	23	P	P	22 21 31.6	+1.1
	comp=Z,0.3nm,0.6s,baz=214,slow=9.4,SNR=7.7						
GERES				LR	LR	22 47 34.0	
	comp=Z,97nm,18.4s,baz=232,slow=38						
EIL	Elat	57.56	53	LR	LR	22 47 02.4	
	comp=Z,227nm,18.9s,baz=261,slow=37						
VRAC	Vranov	57.79	25	LR	LR	22 46 06.8	
	comp=Z,68nm,19.2s,baz=252,slow=36						
MMAI	Mount Meron Ar	59.27	50	LR	LR	22 48 18.4	
	comp=Z,66nm,18.5s,baz=36,slow=37						
MLR	Muntele Rosu	59.61	33	LR	LR	22 49 30.6	
	comp=Z,193nm,19.4s,baz=240,slow=38						
BRTR	Keskin Array B	61.05	42	P	P	22 22 05.4	+1.3
	comp=Z,0.4nm,0.8s,baz=254,slow=10,SNR=2.4						
BRTR				LR	LR	22 50 46.0	
	comp=Z,83nm,19.9s,baz=210,slow=38						
AKASG	Malin Array Be	64.58	30	P	P	22 22 27.4	+0.2
	comp=Z,0.1nm,0.3s,baz=237,slow=5.2,SNR=4.3						
AKASG				LR	LR	22 52 10.2	
	comp=Z,129nm,19.2s,baz=228,slow=38						
AKASG	Malin Array Be	64.58	30	P	P	22 22 26.9	-0.3
HFS	Hagfors	65.56	16	LR	LR	22 53 58.6	
	comp=Z,61nm,18.0s,baz=220,slow=39						
NOA	NORSAR Array B	65.69	14	LR	LR	22 52 42.0	
	comp=Z,62nm,18.4s,baz=205,slow=37						
BORG	Borgarnes	66.10	357	LR	LR	22 44 25.2	
	comp=Z,28nm,21.6s,baz=121,slow=30						
FINES	FINESS Array B	70.40	20	P	P	22 23 05.4	+1.6
	comp=Z,2.0nm,1.0s,baz=297,slow=12,SNR=3.3						
FINES				LR	LR	22 54 28.8	
	comp=Z,74nm,18.2s,baz=232,slow=36						
OBN	Obninsk	70.77	29	LR	LR	22 55 22.0	
	comp=Z,23nm,18.9s,baz=244,slow=37						
JMIC	Jan Mayen	72.42	3	LR	LR	22 53 29.4	
	comp=Z,29nm,18.3s,baz=208,slow=34						
WSAR	Wadi Sarin	76.44	66	LR	LR	22 59 40.1	
	comp=Z,44nm,18.5s,baz=334,slow=38						
GEYT	Alibeck	78.36	51	LR	LR	23 01 07.7	
	comp=Z,169nm,18.9s,baz=272,slow=38						
KIRV	Kirov	78.62	29	LR	LR	23 01 02.5	
	comp=Z,102nm,19.4s,baz=262,slow=38						
PDAR	Pinedale Array	93.57	313	P	P	22 25 08.4	+1.8
	comp=Z,0.3nm,0.8s,baz=87,slow=3.2,SNR=2.2						

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*MDD **03** 22:18:17.9±0.3, 37°.04N×3°.87W, h0km, M2.8/9, Error ellipse: s-maj=1.5km s-min=2.5km az=165.0, M is a weighted summary of computed magnitudes*

*INMG **03** 22:18:17.9±1.5, 36°.99N×3°.87W, h0km, ML2.4, Error ellipse: s-maj=2.9km s-min=2.1km az=12.0*

*CNRM **03** 22:18:18.1, 36°.90N×3°.92W, h8km, ml2.3*

*SFS **03** 22:18:18.0, 37°.00N×3°.80W, ML2.9, VENTAS DE HUELMA (GRANADA)*

*LDG **03** 22:18:19.0±0.3, 37°.03N×3°.78W, h10km, Ml2.0/3, Error ellipse: s-maj=6.5km s-min=4.6km az=178.0*

ISC 03 22:18:18.0±0.9**, 37°.01N**±0°.02×**3°.85W**±0°.02**, h11**km±7km**, n57, σ1s.82**/134**, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGOR	Sierra Gorda,	0.23	296	Pg	Pg	22 18 22.1	-0.7
EGOR				Sg	Sg	22 18 25.8	-0.4
ELGU	Los Guajares,	0.23	128	Pg	Pg	22 18 22.3	-0.5
ELGU				Sg	Sg	22 18 26.5	+0.4
EQUE	Quentar	0.38	59	Pg	Pg	22 18 24.6	-1.1
EQUE				Sg	Sg	22 18 30.1	-0.6
EMAL	Malaga-Limoner	0.52	242	P	Pg	22 18 27.3	-0.9
EMAL				S	Sg	22 18 35.6	+0.5
EBER	Berja	0.78	98	Pg	Pg	22 18 32.6	-0.5
EBER				Sg	Sg	22 18 43.0	-0.3
EMIJ	Mijas	0.86	239	Pg	Pg	22 18 32.8	-1.9
EMIJ				Sg	Sg	22 18 44.5	-1.3
LIJA	Lijar	1.25	266	P	Pg	22 18 44.0	+2.0
EADA	Adamuz	1.29	334	Pg	Pn	22 18 41.3	-0.7
EADA				Sg	Sb	22 18 59.0	+0.1
ESPR	Espera	1.61	266	Pg	Pg	22 18 48.6	-0.3
ESPR				Sg	Sb	22 19 08.3	+0.2
ECAB	El Cabril	1.64	311	Pn	Pn	22 18 46.1	-0.6
ECAB				Pg	Pb	22 18 48.3	+0.1
ECAB				Sn	Sn	22 19 07.2	-0.7
ECAB				Sg	Sg	22 19 10.1	-0.6
PALE	Palemas	1.79	182	P	Pn	22 18 49.0	+0.1
PALE				S	Sn	22 19 10.7	-0.9
SMIR	Smir Dam	1.81	223	P	Pn	22 18 46.7	-2.4
SMIR				S	Sn	22 19 10.4	-1.7
GOG	Mont Gurugu	1.91	159	P	Pn	22 18 49.0	-1.7
GOG				S	Sn	22 19 13.9	-0.9
EZAR	Zarzadilla de	1.92	63	Pg	Pb	22 18 52.9	-0.2
EZAR				Sn	Sn	22 19 15.6	+0.6
EZAR				Sg	Sg	22 19 20.3	+0.4
CART	Cartagena	2.35	75	P	Pn	22 18 57.6	+1.2
CART				S	Sg	22 19 37.0	+3.7
EMIN	Mina Concepcio	2.37	289	Pn	Pn	22 18 56.1	-0.7
EMIN				Sn	Sn	22 19 26.0	+0.1
EMIN				Sg	Sb	22 19 30.2	+0.2
ETOB	Tobarra	2.45	47	Pn	Pn	22 18 57.8	-0.2
ETOB				Pg	Pb	22 19 02.1	0.0
ETOB				Sn	Sn	22 19 28.8	+0.8
ETOB				Sg	Sb	22 19 34.2	+1.9
TAF	Taforalt	2.48	152	P	Pn	22 18 57.3	-1.2
TAF				S	Sn	22 19 29.2	+0.4
AKLM	AKL	2.49	180	P	Pn	22 18 57.6	-1.0
AKLM				S	Sn	22 19 25.8	-3.2
PAB	San Pablo	2.56	351	Pn	Pn	22 18 59.4	-0.2
PAB				Pg	Pb	22 19 05.5	+1.4
PAB				Sn	Sn	22 19 31.7	+0.9
PAB				Sg	Sb	22 19 37.4	+1.9
ESDC	Sonseca Array	2.66	358	Pn	Pn	22 19 00.9	0.0
ESDC				Pg	Pb	22 19 07.1	+1.4
ESDC				Sn	Sn	22 19 31.0	-2.2
ESDC				Sg	Sg	22 19 41.5	-2.0
PBAR	Barrancos	2.79	296	*e*Pn	Pn	22 19 02.0	-0.5
PBAR				*e*Sn	Sn	22 19 35.6	-0.5
PBAR				*e*Sg	Sg	22 19 47.9	+0.4
PBAR				A	A	22 19 57.3	
	8.4nm,0.5s						
JBK	JBK	2.87	158	P	Pn	22 19 02.4	-1.5
JBK				S	Sn	22 19 36.9	-1.6
EGRO	El Granado	2.94	281	Pn	Pn	22 19 04.2	-0.5
EGRO				Sn	Sn	22 19 40.4	+0.4
EGRO				Sg	Sb	22 19 49.4	+2.9
EBAD	Badajoz	3.05	306	Pn	Pn	22 19 05.4	-0.8
EBAD				Sn	Sn	22 19 40.1	-2.5
EBAD				Sg	Sb	22 19 51.3	+1.9
PVAQ	Vaqueiros	3.11	278	*e*Pn	Pn	22 19 06.6	-0.4
PVAQ				*e*Sn	Sn	22 19 44.1	-0.1
PVAQ				A	A	22 19 58.6	
	5.0nm,0.3s						
PVAQ	Vaqueiros	3.11	278	P	Pn	22 19 06.1	-0.9
PVAQ				S	Sn	22 19 43.3	-0.9
PBDV	Barranco-do-Ve	3.27	275	*e*Pn	Pn	22 19 09.3	+0.1
PBDV				*e*Sn	Sn	22 19 48.2	+0.1
PBDV				A	A	22 20 17.0	
	4.9nm,1.0s						
UCM	Universidad Co	3.33	8	P	Pb	22 19 16.7	-0.4
UCM				S	Sb	22 19 59.4	+1.8
PCVE	Castro Verde	3.39	282	*e*Pn	Pn	22 19 12.4	+1.5
PCVE				*e*Sn	Sn	22 19 52.3	+1.1
ECHE	Chera	3.43	40	Pn	Pn	22 19 12.0	+0.5
ECHE				Pg	Pb	22 19 21.4	+2.5
ECHE				Sn	Sn	22 19 51.5	-0.7
ECHE				Sg	Sg	22 20 07.6	-0.7
PESTR	Estremoz	3.49	303	*e*Pn	Pn	22 19 13.0	+0.8
PESTR				*e*Sn	Sn	22 19 52.4	-1.1
PESTR				*e*Sg	Sg	22 20 10.1	+0.1
PESTR				A	A	22 20 19.5	
	8.2nm,0.6s						
PESTR	Estremoz	3.49	303	P	Pn	22 19 12.4	+0.1
PESTR				S	Sn	22 19 57.4	+3.9
EPLA	Plasencia	3.51	331	Pn	Pn	22 19 12.9	+0.3
EPLA				Sn	Sn	22 19 54.4	+0.2
EPLA				Sg	Sb	22 20 06.1	+3.1
EVO	Evora	3.63	296	P	Pn	22 19 13.4	-0.7
EVO				S	Sn	22 19 56.1	-0.9
EVO	Evora	3.63	296	*e*Pn	Pn	22 19 14.8	+0.7
EVO				*e*Sn	Sn	22 19 55.5	-1.5
GUD	Guadarrama	3.64	356	Pn	Pn	22 19 13.5	-0.8
GUD				Pg	Pb	22 19 24.2	+1.9
GUD				Sn	Sn	22 19 54.6	-2.7
GUD				Sg	Sg	22 20 11.7	-3.1
PMRV	Marv??o	3.69	312	*e*Pn	Pn	22 19 15.1	+0.1
PMRV				*e*Sn	Sn	22 19 58.2	-0.2
PMRV				*e*Sg	Sg	22 20 12.8	-3.6
PMRV				A	A	22 20 19.7	
	9.3nm,0.5s						
PNCL	Nicolau / Gran	3.88	288	*e*Pn	Pn	22 19 17.5	0.0
PNCL				*e*Sn	Sn	22 20 02.0	-1.0
PNCL				*e*Sg	Sg	22 20 23.1	+0.7
PNCL				A	A	22 20 29.0	
	5.2nm,0.5s						
PTEO	Sao Teotonio	3.92	279	*e*Pn	Pn	22 19 21.2	+3.1
PTEO				*e*Sn	Sn	22 20 03.1	-1.1
PCBR	Castelo Branco	4.01	316	*e*Pn	Pn	22 19 20.3	+0.9
PCBR				*e*Sn	Sn	22 20 04.0	-2.4
PCBR				*e*Sg	Sg	22 20 26.1	-0.7
PCBR				A	A	22 20 37.4	
	5.8nm,0.5s						
PMTG	Montargil	4.02	302	*e*Pn	Pn	22 19 19.7	+0.2
PMTG				*e*Sn	Sn	22 20 05.0	-1.5
PMTG				*e*Sg	Sg	22 20 27.0	0.0
PMTG				A	A	22 20 37.8	
	6.5nm,0.7s						
ETOR	Torete	4.05	20	Pn	Pn	22 19 20.5	+0.4
ETOR				Pg	Pb	22 19 30.7	+1.2
ETOR				Sn	Sn	22 20 06.0	-1.5
ETOR				Sg	Sb	22 20 22.8	+4.3
MD31	MD31	4.20	190	P	Pn	22 19 22.2	+0.1
MD31				S	Sn	22 20 11.3	+0.2
MDT	Midelt	4.23	189	P	Pn	22 19 23.4	+0.9
MDT				S	Sn	22 20 11.3	-0.6
PACT	Alcochete	4.31	296	*e*Pn	Pn	22 19 24.4	+0.9
PACT				*e*Sn	Sn	22 20 12.9	-0.9
MTE	Manteigas	4.45	321	*e*Sg	Sg	22 20 36.5	-4.3
PSBE	So Bento	4.62	304	*e*Pn	Pn	22 19 28.6	+0.8
PSBE				*e*Sn	Sn	22 20 20.4	-1.1
PSBE				*e*Sg	Sg	22 20 48.4	+2.0
PSBE				A	A	22 20 50.9	
	5.7nm,0.5s						
PCAS	Casmilo, Conde	4.74	311	*e*Sn	Sn	22 20 22.0	-2.4
MVO	Moncorvo	4.83	330	*e*Pn	Pn	22 19 31.2	+0.5
MVO				*e*Sn	Sn	22 20 23.8	-2.8
MVO				A	A	22 21 00.1	
	6.3nm,0.6s						
PVIS	Viseu	4.86	321	*e*Pn	Pn	22 19 32.2	+1.1
PVIS				*e*Sn	Sn	22 20 24.9	-2.5
PVRL	Vila Real	5.21	326	*e*Pn	Pn	22 19 36.8	+0.9
POLO	Lamas de Olo	5.33	326	*e*Pn	Pn	22 19 38.3	+0.8
PCAB	Cabril	5.70	327	*e*Pn	Pn	22 19 43.3	+0.7
ETSF	Etsaut	6.40	22	*e*Pn	Pn	22 19 50.9	-1.4
ETSF				*e*Sn	Sn	22 20 58.5	-6.9
	0.2nm,0.1s						
SJPF	Ste Jean	6.42	17	*e*Pn	Pn	22 19 51.3	-1.2
SJPF				*e*Sn	Sn	22 20 58.8	-7.0
	0.2nm,0.2s						
EPF	Esparros	6.82	27	*e*Pn	Pn	22 19 57.1	-0.9
EPF				*e*Sn	Sn	22 21 08.5	-7.1

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*IDC **03** 22:21:35.7±0.5, 23°.31S×175°.71W, h0km, mb4.5/25, mb1 4.6/25, mb1mx4.5/43, mbtmp4.5/25, MS4.9/60, Ms1 4.9/60, ms1mx4.8/69, Error ellipse: s-maj=16.4km s-min=12.5km az=153.0*

*BJI **03** 22:21:35.4±0.0, 23°.44S×174°.88W, h11km, mb5.2/25, mB5.5/24, Ms5.2/22, Ms7 5.0/22*

*MOS **03** 22:21:37.6±1.3, 23°.55S×175°.67W, h17km, mb5.0/12, MS4.9/7, Error ellipse: s-maj=11.2km s-min=10.1km az=87.8*

*NEIC **03** 22:21:40.7±1.2, 23°.48S±0°.10×175°.5W±0°.1, h21km±4km, mb4.9/93, Error ellipse: s-maj=14.7km s-min=12.8km az=135.0*

*GCMT **03** 22:21:40.7±0.1, 23°.67S±0°.01×175°.06W±0°.01, h19km, MW5.3/144, Moment Tensor Solution. s106,c170; s144,c239; Duration: 1s.1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.96±.02; $M_{\theta\theta}$-0.26±.01; $M_{\phi\phi}$-0.69±.01; $M_{r\theta}$0.24±.03; $M_{\theta\phi}$-0.40±.01; $M_{\phi r}$0.50±.03; Best double couple: $M_0$1.09900×10^{17} NP1:ϕ_s213.00000°, δ30.00000°, λ94.00000°. NP2:ϕ_s28.00000°, δ60.00000°, λ88.00000°. Principal axes: T 1.1130, Plg75.0000°, Azm292.0000°; N -0.0270, Plg2.0000°, Azm30.0000°; P -1.0860, Plg15.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **03** 22:21:43.0±0.0, 22°.53S×173°.55W, h33km, Ms5.3*

ISC 03 22:21:40.6±0.5**, 23°.76S**±0°.04×**175°.46W**±0°.06**, h32**km±3km**, h31**km**:pP-P, n335, σ2s.35**/326**, mb4.9**/91**, MS4.9**/75**, 23C-2D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RIZ	Raoul Island	5.90	201	P	Pn	22 23 08.8	+3.0
RIZ				S	Sn	22 24 16.9	+4.6
GLKZ	Green Lake	5.91	201	P	Pn	22 23 07.1	+1.2
GLKZ				S	Sn	22 24 15.3	+2.7
MSVF	Nonsavu	8.53	313	Pn	Pn	22 23 43.1	+1.1
	3.9nm,0.3s,baz=124,slow=14,SNR=5.0						
MSVF				LR	LR	22 26 35.0	
	comp=Z,16μm,20.2s,baz=96,slow=37						
MSVF	Nonsavu	8.53	313	P	Pn	22 23 41.6	-0.4
MSVF	Nonsavu	8.53	313	Pn	Pn	22 23 41.6	-0.4
AFI	Afiamalu	10.39	20	Pn	Pn	22 23 57.7	-10
	14nm,0.3s,baz=178,slow=2.7,SNR=8.5						
AFI				Sn	Sn	22 25 46.1	-17
	10nm,0.3s,baz=120,slow=23,SNR=2.4						
AFI	Afiamalu	10.39	20	P	Pn	22 23 58.5	-9.1
AFI	Afiamalu	10.39	20	Pn	Pn	22 23 58.5	-9.1
RAR	Rarotonga	14.72	83	Pn	Pn	22 24 59.1	-7.5
	14nm,0.3s,baz=242,slow=7.7,SNR=42						
RAR				Sn	Sn	22 27 27.1	-22
	4.0nm,0.3s,baz=236,slow=17,SNR=2.4						
RAR				LR	LR	22 30 55.6	
	comp=Z,4μm,18.8s,baz=279,slow=38						
MXZ	Matakaoa Point	14.76	200	P	P	22 25 13.0	+0.2
URZ	Urewera	15.79	202	Pn	Pn	22 25 18.0	-2.6
	0.7nm,0.3s,baz=48,slow=12,SNR=1.7						
URZ				Sn	Sn	22 28 05.3	-9.3
	1.3nm,0.3s,baz=14,slow=17,SNR=1.3						
URZ	Urewera	15.79	202	P	Pn	22 25 17.2	-3.3
URZ	Urewera	15.79	202	P	Pn	22 25 17.8	-2.7
URZ				S	Sn	22 28 02.9	-12
RAGZ	Rawiri	15.90	201	P	P	22 25 30.1	+4.7
RAGZ				S	Sn	22 28 09.1	-8.3
RIGZ	Rimuhau	15.98	200	P	Pn	22 25 21.6	-1.5
RIGZ				S	Sn	22 28 14.5	-4.8
RTZ	Ruatahuna	16.15	202	P	Pn	22 25 20.2	-5.1
RTZ				S	Sn	22 28 12.9	-11
OUENC	Ouen Island, N	16.34	271	Pn	Pn	22 25 28.0	+0.3
RAHZ	Arahi	16.39	201	P	P	22 25 31.2	+0.4
RAHZ				S	Sn	22 28 22.5	-6.7
MTHZ	Maungataniwha	16.41	202	P	P	22 25 30.5	-0.7
MTHZ				S	Sn	22 28 21.7	-8.1
ONTNC	Ouen Toro	16.71	271	Pn	Pn	22 25 31.3	-1.1
ONTNC				IAmb	IAmb	22 26 16.6	
	comp=Z,106nm,1.3s						
DZM	Mont Dzumac	16.75	272	Pn	Pn	22 25 32.4	-0.7
	comp=Z,0.1nm,0.3s,baz=138,slow=19,SNR=1.8						
DZM				LR	LR	22 29 36.5	
	comp=Z,1μm,19.1s,baz=101,slow=29						
DZM	Mont Dzumac	16.75	272	*e*Pn	P	22 25 39.2	+4.1
	comp=Z,136nm,1.3s						
DZM				*e*LQ	LQ	22 28 52.8	
	comp=Z,9μm,28.4s						
DZM				*e*LR	LR	22 29 37.4	
	comp=Z,5μm,23.5s						
DZM	Mont Dzumac	16.75	272	Pn	Pn	22 25 32.9	-0.2
BKZ	Black Stump Fm	16.81	202	P	P	22 25 37.1	+1.5
OTVZ	Oturere	17.11	204	P	Pn	22 25 36.6	-0.9
OTVZ				S	Sn	22 28 39.6	-7.2
SNVZ	South Ngauruho	17.14	204	P	P	22 25 39.9	+0.6
BHHZ	Black Hill Sta	17.25	203	P	Pn	22 25 39.1	-0.1
BHHZ				S	Sn	22 28 42.6	-7.6
KAHZ	Kahuranaki	17.25	200	P	Pn	22 25 36.2	-3.0
KAHZ				S	Sn	22 28 42.0	-8.1
BFZ	Birch Farm	18.26	200	P	P	22 25 50.4	-1.1
BFZ				S	Sn	22 28 58.0	-16
SANVU	Saraoutou	18.29	294		Pn	22 25 52.2	+0.2
RPZ	Rata Peaks	22.79	206	P	P	22 26 43.4	+2.9
	comp=Z,9.8nm,0.8s,baz=356,slow=23,SNR=1.6						
RPZ				S	S	22 30 39.7	-7.8
	comp=Z,11nm,0.8s,baz=0.7,slow=18,SNR=2.1						
RPZ	Rata Peaks	22.79	206	P	P	22 26 44.2	+3.6
RPZ				IAmb	IAmb	22 27 11.6	
	comp=Z,60nm,1.3s						
TBI	Tubuai	23.83	94	*e*S	S	22 30 59.2	-5.8
	comp=Z,588nm,25.0s						
TBI				*e*LQ	LQ	22 31 20.4	
	comp=Z,3μm,26.5s						
TBI				*e*LR	LR	22 32 31.0	

comp=Z,4µm,22.5s
TBI Tubuai 23.83 94 *e*T T 22 50 52.8
comp=Z,12nm,0.3s
PAE Paea 24.94 81 *e*T T 22 52 09.9
comp=Z,8.5nm,0.4s
PPT2 Papeete2 24.96 81 *e*S **S 22 31 17.8 -5.6**
comp=Z,680nm,28.5s
PPT2 *e*LQ LQ 22 31 57.5
comp=Z,3µm,23.5s
PPT2 *e*LR LR 22 32 59.7
comp=Z,3µm,22.0s,baz=246
PPT2 Papeete2 24.96 81 *e*T T 22 52 12.0
comp=Z,11nm,0.4s
PPT Papeete 24.97 81 LR LR 22 35 58.2
comp=Z,3µm,18.5s,baz=260,slow=34
HNR Honiara 27.47 297 LR LR 22 38 13.4
comp=Z,2µm,18.7s,baz=151,slow=37
CTA Charters Tower 35.63 268 P **P 22 28 34.6 -1.3**
comp=Z,8.1nm,0.4s,baz=99,slow=10,SNR=17
CTA LR LR 22 42 14.3
comp=Z,1µm,18.8s,baz=98,slow=35
KRVT Keravat (AS076 36.83 297 LR LR 22 43 55.0
comp=Z,2µm,18.4s,baz=270,slow=37
TAOE Nuku Hiva Isla 36.86 72 *e*S **S 22 34 26.5 -2.7**
comp=Z,273nm,26.0s
TAOE *e*LR LR 22 38 29.7
comp=Z,1µm,22.1s,baz=250
PMG Port Moresby 38.42 285 P **P 22 28 56.1 -3.4**
comp=Z,7.8nm,0.3s,baz=103,slow=4.8,SNR=5.2
PMG LR LR 22 42 20.6
comp=Z,1µm,19.0s,baz=138,slow=33
PMG Port Moresby 38.42 285*ce*P **P 22 28 58.5 -1.0**
PMG pmax pmax
comp=Z,23nm,0.9s
PMG Port Moresby 38.42 285 P **P 22 28 59.1 -0.4**
STKA Stephens Creek 38.63 248 P **P 22 29 00.6 -0.6**
comp=Z,2.6nm,0.6s,baz=78,slow=9.3,SNR=10
STKA LR LR 22 44 15.6
comp=Z,4µm,19.3s,baz=78,slow=35
STKA Stephens Creek 38.63 248 P **P 22 29 02.5 +1.3**
AS31 Alice Springs 46.15 259 P **P 22 30 03.3 +0.8**
ASAR Alice Springs 46.15 259 P **P 22 30 01.7 -0.8**
comp=Z,3.3nm,0.8s,baz=95,slow=7.9,SNR=27
ASAR PcP **PcP 22 31 38.5 +0.3**
comp=Z,1.7nm,0.7s,baz=94,slow=3.8,SNR=1.6
ASAR S **S 22 36 46.8 0.0**
comp=Z,0.4nm,0.7s,baz=98,slow=13,SNR=2.9
ASAR LR LR 22 49 17.9
comp=Z,4µm,18.5s,baz=112,slow=36
ASAR Alice Springs 46.15 259 P **P 22 30 03.2 +0.7**
WR0 Warramunga Arr 46.37 265 P **P 22 30 03.9 -0.4**
WB2 Warramunga Arr 46.55 265 P **P 22 30 04.9 -0.7**
WRAB Tennant Creek 46.55 265*ce*P **P 22 30 04.1 -1.6**
WRAB pmax pmax
comp=Z,2.0nm,0.4s
WB0 Warramunga Arr 46.55 265 P **P 22 30 04.1 -1.6**
WB0 IAmb IAmb 22 30 17.9
comp=Z,13nm,0.8s
WRA Warramunga Arr 46.56 265 P **P 22 30 03.7 -2.1**
comp=Z,2.2nm,0.4s,baz=91,slow=6.5,SNR=68
WRA S **S 22 36 53.3 +0.6**
comp=Z,1.1nm,0.9s,baz=105,slow=18,SNR=4.6
WRA LR LR 22 49 26.4
comp=Z,3µm,18.7s,baz=82,slow=36
WRA Warramunga Arr 46.56 265 P **P 22 30 04.7 -1.1**
JAY Jayapura 47.33 290 P **P 22 30 08.7 -3.1**
comp=Z,6.1nm,0.6s,baz=168,slow=18,SNR=4.2
JAY LR LR 22 49 30.0
comp=Z,1µm,18.6s,baz=110,slow=36
KIP Kipapa 48.01 22*ce*P **P 22 30 17.3 +0.5**
KIP pmax pmax
comp=Z,32nm,0.8s
FORT Forrest 50.25 249 P **P 22 30 34.8 +0.8**
MTN Manton Dam 51.59 272 P **P 22 30 44.7 +0.4**
KNRA Kununurra 52.84 268 P **P 22 30 53.7 +0.1**
KNRA IAmb IAmb 22 31 03.8
comp=Z,18nm,0.8s
GUMO Guam 53.68 310 LR LR 22 53 06.5
comp=Z,586nm,18.0s,baz=111,slow=36
SBA Scott Base 54.81 185 P **P 22 31 11.7 +4.7**
SBA pmax pmax
comp=Z,17nm,0.9s
SBA Scott Base 54.81 185 P **P 22 31 11.7 +4.7**
VNDA Vanda 54.91 186 P **P 22 31 11.3 +3.5**
comp=Z,1.7nm,0.7s,baz=349,slow=6.8,SNR=9.9
VNDA LR LR 22 50 38.0
comp=Z,431nm,21.4s,baz=18,slow=32
VNDA Vanda 54.91 186 P **P 22 31 11.2 +3.5**
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 54.91 186 P **P 22 31 11.2 +3.5**
VNDA IAmb IAmb 22 31 26.9
comp=Z,8.9nm,0.8s
FITZ Fitzroy Crossi 54.98 264 LR LR 22 54 36.5
comp=Z,2µm,18.9s,baz=105,slow=36
SIJI Sorong 56.36 286 LR LR 22 56 04.6
comp=Z,1µm,19.6s,baz=117,slow=37
RPN Rapa Nui 59.19 108 LR LR 22 52 56.0
comp=Z,741nm,18.9s,baz=277,slow=32
BATI Baumata 59.37 272 P **P 22 31 39.1 -1.2**
comp=Z,26nm,0.7s,baz=98,slow=2.5,SNR=3.4
BATI LR LR 22 57 40.1
comp=Z,3µm,18.8s,baz=160,slow=37
CASY Casey 62.06 206 P **P 22 32 01.0 +3.2**
KAPI Kappang 64.94 276 LR LR 23 00 20.7
comp=Z,528nm,19.3s,baz=120,slow=36
JCJ Chichijima 65.03 319 LR LR 22 56 22.9
comp=Z,1µm,20.5s,baz=121,slow=32
DAV Davao City (W) 65.17 290 LR LR 22 58 57.9
comp=Z,285nm,19.8s,baz=124,slow=35
QSPA South Pole Qui 66.33 180 P **P 22 32 28.4 +2.4**
comp=Z,7.1nm,0.7s,baz=51,slow=2.2,SNR=18
QSPA LR LR 22 57 43.0
comp=Z,1µm,20.4s,baz=34,slow=32
QSPA South Pole Qui 66.33 180 P **P 22 32 29.0 +3.0**
TGY Tagaytay City 72.64 294 LR LR 23 03 25.3
comp=Z,744nm,19.7s,baz=124,slow=35
JOW Kunigami 74.05 309 LR LR 23 03 03.8
comp=Z,850nm,19.9s,baz=154,slow=34
MJAR Matsushiro Arr 74.21 323 LR LR 23 04 37.8
comp=Z,430nm,18.6s,baz=138,slow=35
LEM Lembang 75.33 269 LR LR 23 06 25.8
comp=Z,748nm,20.5s,baz=150,slow=36
BELA Belgrano 2 76.03 172 P **P 22 33 26.2 +1.9**
BELA IAmb IAmb 22 33 40.7
comp=Z,14nm,0.8s
KSM Kuching 76.19 278 P **P 22 33 26.1 -0.2**
KSM IAmb IAmb 22 33 40.8
comp=Z,15nm,1.1s
JNU Nakatsue 76.24 316 P **P 22 33 22.6 -3.6**
comp=Z,6.8nm,1.0s,baz=230,slow=15,SNR=1.8
JNU LR LR 23 02 44.7
comp=Z,559nm,20.8s,baz=119,slow=33
SHEM Shemya Is, Ala 76.70 353 P **P 22 33 26.7 -1.5**
comp=Z,72nm,0.9s,baz=180,slow=1.1,SNR=2.2
SHEM LR LR 23 03 53.7
comp=Z,1µm,18.8s,baz=152,slow=33
PMSA Palmer Station 77.38 156 LR LR 23 01 05.6
comp=Z,551nm,18.1s,baz=241,slow=30
JKA Kamikawa-asahi 77.70 330 P **P 22 33 34.9 +0.9**
ASAJ Asahikawa 77.70 330 P **P 22 33 32.6 -1.4**
comp=Z,23nm,0.9s,baz=98,slow=7.1,SNR=3.8
SSLB Suanglung 77.72 303 P **P 22 33 34.3 -0.3**
SSLB IAmb IAmb 22 33 38.7
comp=Z,8.4nm,0.7s
LPIG La Paz 79.10 58 LR LR 23 02 48.6
comp=Z,1µm,18.7s,baz=218,slow=31
PET Petropavlovsk 79.70 344 *e*P **P 22 33 43.2 -1.6**
PET *e*S **S 22 43 43.5 -1.4**
PET *e*PPS PPS 22 44 45.3
PET *e*SS **SS 22 48 56.9 +2.3**
PET pmax pmax
comp=Z,300nm,11.6s
PET MLR MLR
comp=Z,1µm,19.0s
KMPM Mount Pierce 79.73 37 P **P 22 33 46.9 +1.4**
KMPM IAmb IAmb 22 33 52.0
comp=Z,16nm,1.1s
YSS Yuzh-Sakhalins 79.85 332*c i*P **P 22 33 46.2 +0.4**
YSS *e**PP **pP 22 33 54.0 -0.4**
YSS *e* 22 33 56.1
YSS *e* 22 36 43.0
YSS *e*S **S 22 43 48.8 +2.1**
YSS *e*PS PnS 22 43 56.3 -38
YSS *e*SS **SS 22 48 58.0 +0.9**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,500nm,4.6s
YSS smax smax
comp=N,200nm,6.3s
YSS MLR MLR
comp=Z,600nm,18.0s
YSS Yuzh-Sakhalins 79.85 332 P **P 22 33 46.0 +0.2**
ISA Isabella, Lake 79.98 44 P **P 22 33 48.1 +1.2**
ISA pmax pmax
comp=Z,7.0nm,1.2s
ISA Isabella, Lake 79.98 44 P **P 22 33 48.1 +1.2**
PEA0B Petropavlovsk- 80.02 344*ce*P **P 22 33 47.5 +0.9**
PETK Petropavlovsk- 80.02 344 P **P 22 33 42.7 -3.9**
comp=Z,8.0nm,0.6s,baz=108,slow=8.4,SNR=8.5
PETK LR LR 23 06 52.7
comp=Z,400nm,19.1s,baz=163,slow=34
PFO Pinyon Flats O 80.03 47 LR LR 23 04 45.0
comp=Z,1µm,18.2s,baz=240,slow=32
USHA Ushuaia 80.13 146 LR LR 23 06 06.3
comp=Z,398nm,18.2s,baz=260,slow=33
CMB Columbia Colle 80.30 41 P **P 22 33 49.2 +0.6**
CMB pmax pmax
comp=Z,5.0nm,1.1s
CMB Columbia Colle 80.30 41 P **P 22 33 49.2 +0.6**
O02D Mt. Diablo Mer 80.31 38 P **P 22 33 50.0 +1.4**
KSRS Korea Array 80.87 318 P **P 22 33 47.5 -4.0**
comp=Z,0.8nm,0.5s,baz=146,slow=4.9,SNR=1.5
KSRS LR LR 23 05 20.1
comp=Z,661nm,20.6s,baz=125,slow=33
TEY Ternei 81.21 328 *e*P P 22 33 43.9 -9.2
YBH Yreka Blue Hor 81.40 37 P **P 22 33 53.4 -1.0**
comp=Z,2.6nm,0.8s,baz=241,slow=2.0,SNR=8.5
YBH LR LR 23 05 13.8
comp=Z,550nm,19.0s,baz=233,slow=32
YBH Yreka Blue Hor 81.40 37 P **P 22 33 55.0 +0.6**
PNTR Pine Nut 81.45 41 P **P 22 33 55.3 +0.4**
BEKR Beckworth 81.51 40 P **P 22 33 55.7 +0.6**
VCNR Virginia City 81.56 40 P **P 22 33 55.9 +0.5**
YERR Yerington 81.60 41 P **P 22 33 56.6 +1.0**
NVAR Mina Array Bea 81.82 42 P **P 22 33 56.0 -0.9**
comp=Z,2.0nm,0.8s,baz=225,slow=9.6,SNR=7.3
NVAR LR LR 23 06 34.0
comp=Z,783nm,18.3s,baz=220,slow=33
NVAR Mina Array Bea 81.82 42 P **P 22 33 58.0 +1.1**
PAHR Pah Rah Range 81.98 40 P **P 22 33 58.8 +1.2**
TPNV Topopah Spring 82.19 44 P **P 22 33 59.3 +0.6**
TPNV pmax pmax
comp=Z,3.0nm,1.1s
TPNV Topopah Spring 82.19 44 P **P 22 33 59.3 +0.6**
H03S2 Juan Fernandez 82.23 123 T T 00 05 19.9
baz=245
H03S1 Juan Fernandez 82.24 123 T T 00 05 41.5
baz=245
H03S3 Juan Fernandez 82.25 123 T T 00 05 25.7
baz=245,SNR=19
TPH Tonopah 82.26 43 P **P 22 33 59.6 +0.5**
TPH pmax pmax
comp=Z,48nm,1.3s
TPH Tonopah 82.26 43 P **P 22 33 59.6 +0.5**
KVN Kaiserville 82.33 41 P **P 22 33 59.8 +0.3**
KVN pmax pmax
comp=Z,23nm,1.8s
KVN Kaiserville 82.33 41 P **P 22 33 59.8 +0.3**
KVN IAmb IAmb 22 34 05.4
comp=Z,23nm,1.8s
H03N2 Juan Fernandez 82.38 123 T T 00 05 44.8
baz=250,slow=72,SNR=12
H03N3 Juan Fernandez 82.38 123 T T 00 05 43.6
baz=250,slow=72,SNR=15
H03N1 Juan Fernandez 82.40 123 T T 00 05 51.5
baz=250,slow=72,SNR=13
SHPR Sheep Range 82.62 45 P **P 22 34 01.4 +0.4**
SHPR IAmb IAmb 22 34 07.7
comp=Z,23nm,1.8s
W13A Hualapai Mount 82.63 47 P **P 22 34 01.6 +0.5**
W13A IAmb IAmb 22 34 07.6
comp=Z,15nm,1.8s
RGRI Rengat 82.72 273 P **P 22 34 03.0 +1.1**
USA0B Ussuriysk Arra 82.97 325 P **P 22 34 02.5 +0.1**
USA0B pmax pmax
comp=Z,24nm,1.1s
USA0B Ussuriysk Arra 82.97 325 P **P 22 34 02.5 +0.1**
USRK Ussuriysk Ar. 82.97 325 P **P 22 34 01.2 -1.1**
comp=Z,19nm,1.0s,baz=128,slow=2.8,SNR=31
USRK LR LR 23 06 44.5
comp=Z,384nm,20.4s,baz=128,slow=33
USRK Ussuriysk Ar. 82.97 325 P **P 22 34 02.7 +0.4**
K05A Summer Lake 83.07 37 P **P 22 34 03.7 +0.5**
TUC Tucson 83.18 50 P **P 22 34 05.2 +1.3**
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 83.18 50 P **P 22 34 05.2 +1.3**
PRN Pahroc Range 83.22 44 P **P 22 34 04.8 +0.7**
PRN IAmb IAmb 22 34 10.9
comp=Z,19nm,1.4s
KDAK Kodiak Island 83.45 12 LR LR 23 07 20.4
comp=Z,650nm,19.0s,baz=238,slow=33
BMN Battle Mountai 83.72 41 P **P 22 34 06.9 +0.3**
BMN pmax pmax
comp=Z,15nm,1.5s
BMN Battle Mountai 83.72 41 P **P 22 34 06.9 +0.3**
BMN IAmb IAmb 22 34 12.7
comp=Z,15nm,1.5s
PINE Pine Mountain 83.75 36 P **P 22 34 07.3 +0.6**
PINE IAmb IAmb 22 34 10.1
comp=Z,16nm,1.3s
X16A Lo Mia Camp, P 83.89 48 P **P 22 34 08.3 +0.7**
X16A IAmb IAmb 22 34 14.8
comp=Z,21nm,1.8s
SYO Syowa Base 84.07 192⇑ *e*P **P 22 34 11.1 +3.3**
SYO Syowa Base 84.07 192⇓ *e*pP pP 22 34 18.6 +2.9
WVOR Wild Horse Val 84.15 39 P **P 22 34 08.6 -0.1**
WVOR pmax pmax
comp=Z,14nm,1.4s
WVOR Wild Horse Val 84.15 39 P **P 22 34 08.6 -0.1**
WVOR IAmb IAmb 22 34 37.4
comp=Z,14nm,1.4s
LCMT Little Creek M 84.16 45 P **P 22 34 08.8 -0.1**
LCMT IAmb IAmb 22 34 15.4
comp=Z,7.9nm,1.2s
QIZ Qiongzhong 84.32 294 P **P 22 34 07.7 -2.2**
QIZ S **S 22 44 37.5 +3.6**
QIZ pmax pmax
comp=Z,250nm,6.5s
QIZ LR LR
comp=Z,160nm,16.9s
QIZ LR LR
comp=Z,310nm,21.6s
QIZ LR LR
comp=Z,390nm,23.9s
CCUT Cedar City 84.39 45 P **P 22 34 10.5 +0.3**
CCUT IAmb IAmb 22 34 17.1
comp=Z,12nm,1.2s
KNB Kanab 84.44 46 P **P 22 34 10.4 0.0**
KNB pmax pmax
comp=Z,12nm,1.1s
KNB Kanab 84.44 46 P **P 22 34 10.4 0.0**
KNB IAmb IAmb 22 34 17.1
comp=Z,12nm,1.1s
U15A North Rim 84.45 46 P **P 22 34 10.8 +0.3**
U15A IAmb IAmb 22 34 14.3
comp=Z,7.9nm,0.9s
TROLL Troll, Antarti 84.48 179 P **P 22 34 11.9 +1.9**
MDJ Mudanjiang 84.52 324 P **P 22 34 09.6 -0.7**
MDJ Mudanjiang 84.52 324 P **P 22 34 13.2 +2.9**
MDJ pmax pmax
comp=Z,22nm,1.1s
MDJ pmax pmax
comp=Z,370nm,10.5s
WUAZ Wupatki 84.55 47 P **P 22 34 11.1 +0.1**
WUAZ IAmb IAmb 22 34 17.6
comp=Z,10.0nm,1.2s
SZCU Shurtz Canyon 84.60 45 P **P 22 34 11.6 +0.4**
SZCU IAmb IAmb 22 34 17.9
comp=Z,17nm,1.4s
PSUT Pine Spring 84.65 44 P **P 22 34 11.6 +0.1**
PSUT IAmb IAmb 22 34 17.8
comp=Z,11nm,1.7s
SNAA Sanae 84.69 178 P **P 22 34 12.6 +1.5**
SNAA Sanae 84.69 178 LR LR 23 08 00.6
comp=Z,916nm,20.4s,baz=186,slow=33
I07A Izee 84.72 37 P **P 22 34 11.4 -0.1**
VNA3 Neumayer Olymp 84.74 175 P **P 22 34 12.6 +1.4**
J08A Circle Bar Ran 84.83 38 P **P 22 34 12.3 +0.2**
J08A IAmb IAmb 22 34 18.1
comp=Z,12nm,1.2s
X18A Snowflake 84.98 49 P **P 22 34 13.4 +0.2**
X18A IAmb IAmb 22 34 42.7
comp=Z,7.6nm,1.2s
ELK Elko 85.11 41 LR LR 23 09 13.3
comp=Z,976nm,18.2s,baz=226,slow=34
ELK Elko 85.11 41 P **P 22 34 12.1 -1.6**
ELK pmax pmax
comp=Z,8.0nm,1.3s
ELK Elko 85.11 41 P **P 22 34 12.1 -1.6**
ELK IAmb IAmb 22 34 19.6
comp=Z,8.4nm,1.2s
VNA2 Neumayer--Watz 85.21 176 P **P 22 34 15.2 +1.6**
baz=174,slow=4.0
PLCA Paso Flores 85.34 133 P **P 22 34 16.9 +2.0**
comp=Z,4.2nm,1.2s,baz=213,slow=2.1,SNR=3.5
PLCA LR LR 23 07 00.3
comp=Z,375nm,19.0s,baz=242,slow=32
PLCA Paso Flores 85.34 133 P **P 22 34 15.7 +0.8**
PLCA pmax pmax
comp=Z,52nm,2.0s
PLCA Paso Flores 85.34 133 P **P 22 34 15.7 +0.8**
VNA1 Neumayer--Stat 85.42 176 P **P 22 34 15.9 +1.3**
MTPU Mount Pierson 85.44 45 P **P 22 34 15.1 -0.5**
MTPU IAmb IAmb 22 34 21.5
comp=Z,11nm,1.1s
NKL Nikolayevsk 85.52 335 *e*P **P 22 34 14.3 -0.8**
NKL *e*S **S 22 44 37.1 -7.1**
NKL pmax pmax
comp=E,3.0nm,1.0s
NKL pmax pmax
comp=N,1.0nm,0.9s
NKL pmax pmax
comp=Z,30nm,1.4s
NKL MLR MLR
comp=E,44nm,17.0s
NKL MLR MLR
comp=N,1.0nm,27.0s
NKL MLR MLR
comp=Z,282nm,21.0s
G08A Pilot Rock 85.80 36 P **P 22 34 16.5 -0.4**
G08A IAmb IAmb 22 34 30.7
comp=Z,7.5nm,1.1s
IPM Ipoh 85.86 277 P **P 22 34 17.8 -0.1**
BBB Bella Bella 86.18 27 LR LR 23 08 36.2
comp=Z,484nm,18.2s,baz=236,slow=33
BMO Blue Mountains 86.43 37 P **P 22 34 19.5 -0.5**
BMO pmax pmax
comp=Z,13nm,1.7s
BMO Blue Mountains 86.43 37 P **P 22 34 19.5 -0.5**
BMO IAmb IAmb 22 34 35.4
comp=Z,13nm,1.7s
BNX BinXian 86.43 324 ⇓P **P 22 34 20.0 +0.2**
BNX pmax pmax
comp=Z,36nm,0.9s
BNX pmax pmax
comp=Z,480nm,3.8s
KLR Kul'dur 86.52 328 P **P 22 34 19.1 -1.0**
comp=Z,2.6nm,0.6s,baz=62,slow=3.0,SNR=9.5
KLR LR 23 09 28.7
comp=Z,630nm,19.9s,baz=132,slow=33
KLR Kul'dur 86.52 328*ce*P **P 22 34 19.9 -0.3**
KLR pmax pmax
comp=Z,11nm,1.4s
MNTX Cornudas Mount 86.75 53 P **P 22 34 21.1 -0.7**
MNTX IAmb IAmb 22 34 24.9
comp=Z,12nm,1.4s
TMUT Trail Mountain 86.78 44 P **P 22 34 22.4 +0.3**
TMUT IAmb IAmb 22 34 28.6
comp=Z,8.0nm,0.9s
GULI GuiLin 86.79 299 P **P 22 34 25.9 +3.8**
GULI S **S 22 44 54.0 -4.0**
GULI pmax pmax
comp=Z,10.0nm,1.1s
GULI LR LR
comp=Z,320nm,19.5s
GULI LR LR
comp=Z,370nm,19.4s
GULI LR LR
comp=Z,730nm,19.3s
TX31 Lajitas Ar. Si 86.86 56 P **P 22 34 22.2 -0.3**
TXAR Lajitas Array 86.86 56 P **P 22 34 22.4 -0.1**
comp=Z,1.6nm,0.8s,baz=219,slow=8.2,SNR=14
TXAR LR LR 23 07 34.2
comp=Z,635nm,19.0s,baz=229,slow=32
TXAR Lajitas Array 86.86 56 P **P 22 34 23.1 +0.6**
PSI Prapat 87.10 274 LR LR 23 13 12.4
comp=Z,474nm,21.4s,baz=117,slow=36
SRU San Rafael Swe 87.12 45 P **P 22 34 24.9 +1.3**
SRU pmax pmax
comp=Z,4.0nm,0.9s
SRU San Rafael Swe 87.12 45 P **P 22 34 24.9 +1.3**
TIA Tai'an 87.19 312 *e*P **P 22 34 24.1 +0.3**
TIA S **S 22 44 53.2 -8.2**
TIA pmax pmax
comp=Z,12nm,1.2s
TIA pmax pmax
comp=Z,240nm,9.2s
TIA LR LR
comp=Z,260nm,19.8s
TIA LR LR
comp=Z,260nm,18.6s
TIA LR LR
comp=Z,350nm,17.8s
GAMB Gambell 87.29 2 P **P 22 34 23.8 +0.3**
GAMB IAmb IAmb 22 34 38.9
comp=Z,9.3nm,0.9s
MA2 Magadan 87.55 344 P **P 22 34 23.4 -1.5**
comp=Z,5.0nm,0.6s,baz=169,slow=14,SNR=2.1
MA2 LR LR 23 14 30.0
comp=Z,274nm,18.1s,baz=131,slow=36
ANMO Albuquerque 87.63 50 LR LR 23 09 07.9
comp=Z,1µm,18.5s,baz=242,slow=33
ANMO Albuquerque 87.63 50*ce*P **P 22 34 28.0 +1.8**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 87.63 50 P **P 22 34 27.6 +1.4**
ANMO IAmb IAmb 22 34 32.7
comp=Z,11nm,1.4s
GSI Gunungsitoli 87.74 272 P **P 22 34 26.5 -0.5**
CMIG Matias Romero 88.48 71 LR LR 23 06 31.4
comp=Z,418nm,19.3s,baz=230,slow=30
N25K Chitina, Valde 88.62 14 P **P 22 34 29.9 -0.1**
N25K IAmb IAmb 22 34 43.6
comp=Z,5.6nm,0.8s
NEW Newport 88.66 35 LR LR 23 11 10.2
comp=Z,1µm,18.2s,baz=203,slow=34
CAST Castle Rocks 88.82 10 P **P 22 34 29.4 -1.6**
CAST IAmb IAmb 22 34 50.5
comp=Z,5.8nm,1.0s
S22A 4UR Ranch, Cre 88.83 48 P **P 22 34 32.7 +0.7**
BARN Barnard Glacie 88.83 16 P **P 22 34 29.9 -1.3**
BARN IAmb IAmb 22 34 45.1
comp=Z,6.8nm,0.8s
TRF Thorofare Moun 89.15 11 P **P 22 34 31.6 -1.0**
J20K Nowinta River 89.21 9 P **P 22 34 33.0 +0.3**
J20K IAmb IAmb 22 34 49.8
comp=Z,8.3nm,1.1s
TNA Tin City 89.22 3 P **P 22 34 32.7 0.0**
RND Reindeer 89.37 12 P **P 22 34 33.4 -0.1**
RND pmax pmax
comp=Z,10.0nm,1.0s
RND Reindeer 89.37 12 P **P 22 34 33.4 -0.1**
HNS HongShan 89.46 312⇑↑P **P 22 34 35.5 +1.0**
HNS SKS **SKSac 22 45 04.9 +2.4**
HNS S **S 22 45 20.4 -2.5**
HNS sS **sS 22 45 36.4 -0.8**
HNS pmax pmax
comp=Z,9.0nm,0.7s
HNS pmax pmax
comp=Z,230nm,5.7s
HNS LR LR
comp=Z,210nm,18.7s
HNS LR LR
comp=Z,490nm,18.1s
HNS LR LR
comp=Z,550nm,21.6s
LYN LuoYang 89.62 308 *e*P **P 22 34 36.4 +1.1**
LYN SKS **SKSac 22 45 05.3 +1.7**
LYN S **ScS 22 45 34.8 +5.9**
LYN pmax pmax
comp=Z,220nm,8.6s
LYN LR LR
comp=Z,400nm,18.0s
LYN LR LR

comp=Z,200nm,20.8s
LYN LR LR
comp=Z,430nm,18.0s
MCK McKinley 89.65 11 P **P 22 34 35.7 +0.9**
MCK pmax pmax
comp=Z,9.0nm,0.9s
MCK McKinley 89.65 11 P **P 22 34 35.7 +0.9**
MCK lAmb lAmb 22 34 55.5
comp=Z,9.3nm,0.9s
PDAR Pinedale Array 89.74 42 P **P 22 34 34.2 -1.8**
comp=Z,0.2nm,0.6s,baz=270,slow=1.5,SNR=4.3
PDAR LR LR 23 13 06.0
comp=Z,684nm,18.0s,baz=248,slow=34
ENH Enshi 89.80 303 P **P 22 34 36.6 +0.3**
M27K Edge Creek, AK 89.90 15 P **P 22 34 36.5 +0.3**
SEY Seymchan 90.08 346 P **P 22 34 35.5 -1.2**
comp=Z,2.4nm,0.7s,baz=146,slow=6.2,SNR=7.6
SEY LR LR 23 12 15.0
comp=Z,615nm,19.4s,baz=159,slow=34
SEY Seymchan 90.08 346 *ce*P **P 22 34 37.6 +0.9**
SEY pmax pmax
comp=Z,5.0nm,1.2s
DLBC Dease Lake 90.14 22 LR LR 23 11 11.7
comp=Z,232nm,18.1s,baz=222,slow=33
WRH Wood River Hil 90.48 11 P **P 22 34 38.2 -0.5**
WRH lAmb lAmb 22 34 58.0
comp=Z,11nm,1.2s
L27K Beaver Creek, 90.52 15 P **P 22 34 38.8 -0.1**
BCAR Beaver Creek A 90.54 15 P **P 22 34 37.9 -1.1**
DOT Dot Lake 90.54 13 P **P 22 34 39.1 +0.2**
DOT lAmb lAmb 22 34 53.3
comp=Z,5.7nm,0.9s
COLA College 90.89 11 *i* P **P 22 34 40.9 +0.4**
COLA pmax pmax
comp=Z,3.0nm,0.7s
ILAR Eielson Array 90.98 12 P **P 22 34 36.4 -4.5**
comp=Z,0.3nm,0.7s,baz=181,slow=8.1,SNR=2.2
ILAR Eielson Array 90.98 12 P **P 22 34 41.0 +0.1**
ILAR Eielson Array 90.98 12 P **P 22 34 41.0 +0.1**
J25K Salcha River, 91.13 12 P **P 22 34 42.3 +0.6**
J25K lAmb lAmb 22 34 55.9
comp=Z,5.6nm,0.9s
TIY Taiyuan 91.19 311 P **P 22 34 43.3 +0.6**
TIY pmax pmax
comp=Z,150nm,5.5s
ZEA Zeya 91.61 330 *e*P **P 22 34 44.1 0.0**
ZEA *e* 22 45 45.1
ZEA pmax pmax
comp=Z,100nm,8.3s
ZEA pmax pmax
comp=E,100nm,9.8s
ZEA pmax pmax
comp=N,200nm,16.6s
ZEA MLR MLR
comp=E,200nm,13.0s
ZEA MLR MLR
comp=N,200nm,21.0s
ZEA MLR MLR
comp=Z,200nm,20.0s
XAN Xi'an 91.96 306 P **P 22 34 46.7 +0.4**
XAN pP pP 22 34 54.5 -0.5
XAN sP pwP 22 34 59.5 -1.0
XAN SKS **SKSac 22 45 22.7 +5.5**
XAN S **ScS 22 45 54.8 +6.3**
XAN pmax pmax
comp=Z,19nm,1.3s
XAN pmax pmax
comp=Z,190nm,4.0s
XAN LR LR
comp=Z,470nm,18.7s
XAN LR LR
comp=Z,600nm,18.2s
XAN LR LR
comp=Z,1μm,19.1s
EGAK Eagle 92.16 14 P **P 22 34 47.1 +0.7**
EGAK lAmb lAmb 22 35 09.0
comp=Z,6.3nm,1.1s
BILL Bilibino 92.51 353 *e*P **P 22 34 48.8 +0.8**
BILL *e* 22 38 27.0
BILL *e*PPP PPP 22 40 29.6
BILL pmax pmax
comp=Z,9.0nm,1.8s
BILL MLR MLR
comp=Z,299nm,19.0s
NNA Nana 92.97 104 LR LR 23 08 35.3
comp=Z,2μm,19.4s,baz=222,slow=30
CMAR Chiang Mai Arr 93.40 289 P **P 22 34 53.9 +0.6**
comp=Z,11nm,0.9s,baz=140,slow=3.2,SNR=31
CMAR LR LR 23 14 35.2
comp=Z,245nm,21.4s,baz=100,slow=34
CMAR Chiang Mai Arr 93.40 289 *ce*P **P 22 34 55.5 +2.3**
CMAR pmax pmax
comp=Z,11nm,0.9s
PZH PanZhiHua 94.29 297 P **P 22 34 58.7 +1.4**
PZH SKS **SKSac 22 45 34.0 +3.5**
PZH S **ScS 22 46 11.2 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.5s
PZH LR LR
comp=Z,430nm,18.2s
PZH LR LR
comp=Z,580nm,20.4s
PZH LR LR
comp=Z,1μm,22.2s
JTS Las Juntas de 94.54 81 LR LR 23 11 15.9
comp=Z,153nm,18.4s,baz=348,slow=32
LVC Limon Verde 95.05 117 LR LR 23 11 38.9
comp=Z,543nm,18.4s,baz=266,slow=32
YAK Yakutsk 96.00 337 LR LR 23 16 48.2
comp=Z,144nm,19.2s,baz=87,slow=35
LZH Lanzhou 96.60 306 *e*P **P 22 35 09.9 +2.2**
LZH pP pwP 22 35 20.8 -1.1
LZH pmax pmax
comp=Z,11nm,1.0s
U38A Gravette 97.02 53 P Pdif 22 35 12.3 +2.8
U38A lAmb lAmb 22 35 13.4
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 98.49 24 P **P 22 35 12.6 -2.7**
comp=Z,0.3nm,0.8s,baz=236,slow=4.7,SNR=4.0
YKA PP **PP 22 39 15.5 -0.8**
comp=Z,0.1nm,0.4s,baz=233,slow=9.0,SNR=5.1
YKA PKKP **PKKPbc 22 51 47.5 -0.1**
comp=Z,0.3nm,0.9s,baz=43,slow=2.8,SNR=3.6
YKA LR LR 23 14 55.8
comp=Z,356nm,19.1s,baz=258,slow=33
LPAZ La Paz 98.66 112 LR LR 23 12 21.5
comp=Z,571nm,19.1s,baz=218,slow=31
SONM Songino Array 99.74 318 P **Pdif 22 35 18.6 -2.9**
comp=Z,0.5nm,0.8s,baz=134,slow=8.3,SNR=2.9
SONM LR LR 23 18 24.3
comp=Z,183nm,19.3s,baz=114,slow=34
GTA Gaotai 100.84 308 *e*P **Pdif 22 35 34.7 +8.1**
GTA pP pwP 22 35 39.9 -1.0
GTA sP sP 22 35 44.2 +5.6
GTA pmax pmax
comp=Z,4.0nm,1.2s
ZALV Zalesovo Beam 114.49 320 PKiKP PKPdf 22 40 14.9 -2.1
comp=Z,0.3nm,0.3s,baz=54,slow=7.4,SNR=2.3
MKAR Makanchi Array 115.12 312 PKP **PKPdf 22 40 18.4 -0.1**
comp=Z,0.5nm,0.7s,baz=79,slow=1.8,SNR=6.6
KURK Kurchatov 117.97 316 *c i*PKIKP **PKPdf 22 40 22.1 -1.7**
KURK pmax pmax
comp=Z,3.0nm,1.7s
BRVK Borovoye 123.13 319 *c i*PKIKP **PKiKP 22 40 35.4 +1.5**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
ARU Arti 129.20 325 *i* PKIKP **PKPdf 22 40 44.3 -0.9**
ARU 22 47 55.1
ARU MLR MLR
comp=Z,300nm,17.0s
ARCES ARCESS Array B 132.52 350 PKP **PKPdf 22 40 48.5 -2.7**
comp=Z,1.6nm,0.7s,baz=328,slow=3.3,SNR=2.5
FINES FINESS Array B 139.54 344 PKP **PKPdf 22 41 01.6 -2.8**
comp=Z,0.9nm,0.9s,baz=52,slow=3.1,SNR=4.3
MAK Makhachkala 139.84 309 *i* P **Pdif 22 38 15.7 -4.0**
MAK *i* 22 41 03.3
MAK *e* 22 48 13.8
MAK *e*SS SS 23 02 14.2 -6.9
MAK *e*SSS SSS 23 07 27.3
MAK pmax pmax
comp=Z,127nm,1.1s
OBN Obninsk 140.73 331 *e*PKIKP **PKPdf 22 41 07.2 +0.5**
OBN *e* 22 44 07.0
OBN *e*PPP PPP 22 47 11.1
OBN pmax pmax
comp=Z,3.0nm,0.9s
VORR Voronezh 141.51 325 *e*PKIKP **PKPdf 22 41 07.1 -1.1**
VORR pmax pmax
comp=Z,10.0nm,0.5s
NB2 NORSAR Subarra 142.45 355 PKP **PKPdf 22 41 06.1 -3.6**
comp=Z,1.3nm,1.0s,baz=17,slow=2.6
KIV Kislovodsk 142.89 312 *i* PKIKP **PKiKP 22 41 14.5 +0.2**
KIV pmax pmax
comp=Z,4.0nm,1.0s
VIKU Vikbolandet 144.21 349 *e*P **PKPab 22 41 09.5 -1.1**
IDID Didziasalis 144.45 338 *e*P **PKiKP 22 41 16.7 -0.3**
IIGN Ignalina 144.60 339 *e*P **PKiKP 22 41 15.6 -1.7**
NACGM Naroch 144.76 338 *e*PKP PKPbc 22 41 13.1 +0.3
PABE Paberze 145.19 341 *e*P **PKPdf 22 41 14.7 +0.2**
PBUR Paburge 145.32 343 *e*P **PKPdf 22 41 15.4 +0.6**
BORU Boraas 145.63 352 *i* P **PKPdf 22 41 14.9 -0.3**
ONAU Onsala 145.97 353 *i* P **PKPdf 22 41 15.9 +0.1**
ANN Anapa 146.00 316 *i* PKP2 **PKPab 22 41 17.8 +0.1**
ANN *e* 22 44 37.9
ANN pmax pmax
comp=Z,56nm,1.1s
FABU Falkenberg 146.26 352 *i* P **PKPdf 22 41 16.9 +0.6**
DEL Delary 146.61 351 *e*P **PKPbc 22 41 18.6 +0.1**
DEL Delary 146.61 351 *i* P **PKPbc 22 41 18.0 -0.5**
SUW Suwalki 146.69 340 *e*P **PKPbc 22 41 18.9 0.0**
AKASG Malin Array Be 146.99 331 PKPbc **PKPdf 22 41 17.8 0.0**
comp=Z,2.2nm,0.4s,baz=39,slow=3.9,SNR=20
AKASG Malin Array Be 146.99 331 **PKPbc 22 41 19.0 -0.8**
MUD Monsted U'grnd 147.16 355 *i* P **PKPdf 22 41 19.0 +1.1**
GKP Gorka Klasztor 149.00 345 *e*P **PKiKP 22 41 25.9 -0.5**
LVV L'vov 149.84 335 *e*PKP2 **PKiKP 22 41 28.9 +0.6**
LVV MLR MLR
comp=Z,400nm,20.0s
RUE Ruedersdorf 150.46 349 *e*P **PKPbc 22 41 28.9 +0.2**
RUE Ruedersdorf 150.46 349 *e*PKPbc **PKiKP 22 41 29.3 -0.1**
baz=9.6,slow=2.3
BRTR Keskin Array B 150.74 310 PKPbc **PKPbc 22 41 28.8 -1.3**
comp=Z,3.6nm,0.8s,baz=128,slow=3.2,SNR=17
RETH Rethem/Aller, 150.83 354 *e*PKPbc **PKPbc 22 41 29.8 +0.3**
baz=9.6,slow=2.3
FLTG Flechtingen 151.01 352 *e*PKPbc **PKPbc 22 41 30.1 +0.1**
baz=9.6,slow=2.3
ASSE Asse, Remlinge 151.28 352 *e*PKPbc **PKPbc 22 41 30.7 +0.1**
baz=9.6,slow=2.3
KSP Ksiaz 151.46 344 *e*PKP **PKiKP 22 41 31.8 +0.2**
UZH Uzhgorod 151.48 335 *e*PKIKP **PKiKP 22 41 33.2 +1.5**
NIE Niedzica 151.55 338 *e*PKP **PKiKP 22 41 33.2 +1.4**
CRVS Cervenica-Dubn 151.57 336 *e*PKIKP **PKiKP 22 41 32.7 +0.8**
CRVS Cervenica-Dubn 151.57 336 *e*PKP **PKiKP 22 41 32.7 +0.8**
CLZ Clausthal 151.60 352 *e*PKPbc **PKPbc 22 41 31.1 -0.3**
baz=9.6,slow=2.3
CLL Collm 151.73 349 *e*PKIKP **PKPdf 22 41 27.0 +1.6**
CLL *i* 22 41 31.8
CLL pmax pmax
comp=Z,22nm,1.0s
CLL MLR MLR
comp=Z,400nm,19.1s
CLL Collm 151.73 349 *e*PKPdf **PKPdf 22 41 27.0 +1.6**
CLL *i* PKPbc **PKPbc 22 41 31.8 +0.1**
comp=Z,22nm,1.0s
CLL *i* pPKPbc **sPKPdf 22 41 37.8 +0.7**
comp=Z,13nm,1.1s
CLL *es*PKPbc **sPKPbc 22 41 43.0 -0.4**
CLL *e*PSKS 22 55 30.0
CLL *e*SS SS 23 04 35.0 +0.7
CLL *e*SSS SSS 23 10 30.0
CLL *e*SSSS 23 14 18.0
CLL LmV 23 54 00.0
comp=Z,400nm,19.1s
CLL LmH 23 56 00.0
comp=N,200nm,19.4s
CLL LmH 23 56 00.0
comp=E,200nm,19.6s
CLL LmH 23 56 00.0
comp=Z,300nm,19.6s
OSTC Ostas 151.75 344⇑ *e*PKP **PKiKP 22 41 32.6 +0.4**
OSTC *e*PKPAB **sPKPbc 22 41 44.6 +1.1**
CHVC Chvalec 151.75 344⇑ *e*PKP **PKPbc 22 41 31.4 -0.4**
TRPA Tarpa 151.78 334 PKP **PKiKP 22 41 34.7 +2.5**
UPC Upice 151.84 344 *e*PKIKP **PKiKP 22 41 32.6 +0.2**
UPC Upice 151.84 344⇑ *e*PKP **PKiKP 22 41 32.6 +0.2**
DPC Dobruska-Polom 151.91 344 *e*PKIKP **PKiKP 22 41 32.5 -0.1**
DPC *e* 22 41 43.6
DPC Dobruska-Polom 151.91 344⇑ *e*PKP **PKiKP 22 41 32.5 -0.1**
DPC *e*PKPAB **sPKPbc 22 41 43.6 -0.3**
GTTG Gottingen 151.94 353 *e*PKPbc **PKiKP 22 41 32.7 +0.1**
baz=9.6,slow=2.3
BRG Berggiesshubel 151.96 347 *e*PKP **PKiKP 22 41 32.9 +0.2**
BRG Amp 22 41 35.6
comp=Z,7.8nm,0.7s
BRG *ex* x 22 41 45.5
BRG Amp 22 41 48.2
comp=Z,7.2nm,0.6s
BRG Berggiesshubel 151.96 347 *e*PKIKP **PKiKP 22 41 32.8 +0.2**
BRG pmax pmax
comp=Z,8.0nm,0.7s
BRG pmax pmax
comp=Z,7.0nm,0.6s
BRG Berggiesshubel 151.96 347 *e*PKPbc **PKiKP 22 41 32.7 +0.1**
baz=9.6,slow=2.3
FBE Freiberg 152.03 348 *e*PKPbc **PKiKP 22 41 33.2 +0.5**
baz=9.6,slow=2.3
KRLC Kralliky 152.04 343 *e*PKIKP **PKiKP 22 41 32.9 0.0**
KRLC Kralliky 152.04 343⇑ *e*PKP **PKiKP 22 41 32.9 0.0**
LANS Liptovska Anna 152.06 339 *e*PKIKP **PKiKP 22 41 34.2 +1.3**
LANS Liptovska Anna 152.06 339 *e*PKP **PKiKP 22 41 34.2 +1.3**
MORC Moravsky Berou 152.10 342 *e*PKP **PKiKP 22 41 33.4 +0.4**
PVCC Panska Ves 152.16 346 *e*PKIKP **PKiKP 22 41 33.1 +0.1**
PVCC *e* 22 41 44.3
PVCC Panska Ves 152.16 346⇑ *e*PKP **PKiKP 22 41 33.1 +0.1**
PVCC *e*PKPAB **sPKPbc 22 41 44.3 -0.1**
MOX Moxa 152.60 350 *e*PKPbc **PKPbc 22 41 33.7 0.0**
baz=9.6,slow=2.3
MOX *e*L L 23 58 04.7
comp=Z,401nm,19.0s
PRU Pruhonice 152.67 346 *e*PKIKP **PKiKP 22 41 34.1 0.0**
PRU Pruhonice 152.67 346⇑ *e*PKP **PKiKP 22 41 34.1 0.0**
VRAC Vranov 152.79 343 *e*PKP **PKiKP 22 41 36.3 +1.9**
NKC Novy Kostel 152.86 349 *e*PKIKP **PKiKP 22 41 35.9 +1.4**
NKC Novy Kostel 152.86 349⇑ *e*PKP **PKiKP 22 41 35.9 +1.4**
NKC *ep*PKP **pPKPab 22 41 52.8 -1.0**
JAVC Velka Javorina 152.88 341 *e*PKP **PKiKP 22 41 36.5 +1.8**
KRUC Moravsky 153.07 343 *e*PKP **PKPbc 22 41 34.9 +0.1**
MANZ Manzenberg 153.16 349 *e*PKPbc **PKiKP 22 41 35.4 +0.3**
baz=9.6,slow=2.3
GRF Grafenberg Arr 153.59 350 *e*L L 23 56 34.3
comp=Z,416nm,19.3s
KHC Kasperske Hory 153.69 347 *e*PKIKP **PKPbc 22 41 36.0 -0.2**
KHC Kasperske Hory 153.69 347⇑ *e*PKP **PKPbc 22 41 36.0 -0.2**
KHC *ex* x 22 41 52.5
CKRC Cesky Krumlov 153.82 345 *e*PKP **PKPdf 22 41 30.4 +1.8**
GERES GERESS Array B 153.93 346 PKPbc **PKiKP 22 41 37.1 +0.3**
comp=Z,1.3nm,0.9s,baz=350,slow=3.0,SNR=9.3
CONA Conrad Observa 154.25 342 *e*P **PKPdf 22 41 31.3 +2.0**
comp=Z,4.2nm,1.3s
RONA Rosalia, Austr 154.33 341 *e*P **PKiKP 22 41 38.6 +1.0**
comp=Z,1.9nm,0.8s
BIOA Bad Ischl, Aus 155.03 345 *e*P pPKPdf 22 41 40.1 +1.0
comp=Z,1.2nm,0.5s
KBA Koelnbreinsper 155.68 345 *e*P **PKPdf 22 41 33.6 +2.3**
comp=Z,2.1nm,1.0s
RETA Reutte 155.80 350 *e*P **PKPdf 22 41 34.8 +3.4**
comp=Z,4.4nm,1.7s
WATA Walderalm 155.80 348 P **PKPdf 22 41 33.4 +1.9**
comp=Z,5.5nm,1.8s
WTTA Wattenberg 155.86 348 *e*P **PKPdf 22 41 35.0 +3.3**
comp=Z,7.9nm,1.7s
SQTA Sankt Quirin 155.98 349 *e*P **PKPdf 22 41 33.8 +2.1**
comp=Z,2.6nm,1.0s
ABTA Abfaltersbach 156.18 346 *e*P **PKPdf 22 41 34.5 +2.5**
comp=Z,5.9nm,1.3s
FETA Feichten 156.26 349 *e*P **PKPdf 22 41 34.1 +1.9**
comp=Z,2.8nm,1.5s
TORD Torodi Ar. Bea 169.11 165 PKP **PKPdf 22 41 44.7 -0.7**
comp=Z,2.8nm,1.2s,baz=284,slow=4.1,SNR=6.0
TORD PKPab **PKPab 22 42 59.6 +2.8**
comp=Z,1.1nm,0.8s,baz=181,slow=3.6,SNR=5.4
TORD Torodi Ar. Bea 169.11 165 PKPdf **PKPdf 22 41 45.7 +0.3**

*IDC **03** 22:58:19.2±3.6,36°.57N×71°.34E,h141km±25km,mb3.4/8, mb1 3.5/15,mb1mx3.3/61,mbtmp3.9/15,Error ellipse: s-maj=35.0km s-min=16.4km az=154.0*

*NNC **03** 22:58:22.9±2.8,36°.85N×71°.14E,h142km±45km,mb3.3, mpv4.1,Error ellipse: s-maj=27.9km s-min=14.7km az=163.0*

ISC 03 22:58:19.3±0.7,36°.61N±0°.07×71°.37E±0°.06,h150km,n65, σ1s69/59,mb3.6/8,9C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.81**	**171**	P	Pn	22 59 10.8	+6.3
CEP				S	Sn	22 59 47.0	+7.6
CHCP	**Chirah Chowk**	**3.33**	**152**	P	Pn	22 59 17.4	+6.5
THW	**Thamme Wali**	**3.82**	**175**	P	Pn	22 59 23.0	+5.7
SARP	**Sargodha**	**4.80**	**167**	P	Pn	22 59 34.4	+4.3
AML	**Almayashu**	**5.80**	**17**	P	**Pn**	**22 59 46.0**	**+2.3**
	SNR=124						
UCH	**Uchtor**	**6.11**	**22**	P	**Sn**	**23 00 56.5**	**-0.7**
	SNR=7.1						
EKS2	**Erkin-Say**	**6.32**	**16**	P	Pn	22 59 52.9	+2.5
	SNR=16						
AAK	**Ala-Archa**	**6.48**	**21**	P	**Pn**	**22 59 54.7**	**+2.1**
	3.3nm,0.3s,baz=176,slow=6.2,SNR=55						
AAK				S	**Sn**	**23 01 04.7**	**-0.9**
	1.3nm,0.3s,baz=129,slow=19,SNR=14						
KK09	**Karatay Array**	**6.54**	**354**	⇑P	Pn	22 59 55.7	+2.5
	22nm,0.4s,baz=176,slow=13						
KK09				⇓S	**Sn**	**23 01 04.4**	**-2.3**
	27nm,0.6s,baz=179,slow=23						
KBK	**Karagaybulak**	**6.64**	**23**	P	Pn	22 59 58.0	+3.3
	SNR=9.2						
ULHL	**Ulahol**	**6.77**	**32**	P	Pn	22 59 58.7	+2.2
	SNR=6.0						
CHMS	**Chumysh**	**6.89**	**21**	P	Pn	23 00 00.3	+2.4
	SNR=5.7						
CHMS	**Chumysh**	**6.89**	**21**	⇑P	Pn	23 00 00.2	+2.4
	5.8nm,0.8s						
CHMS				⇑S	**Sn**	**23 01 13.5**	**-1.6**
	9.5nm,0.6s						
USP	**Ospenovka**	**7.07**	**19**	P	**Pn**	**23 00 02.0**	**+1.7**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.09**	**26**	P	Pn	23 00 02.7	+2.0
	SNR=17						
TKM2	**Tokmak 2**	**7.09**	**26**	⇑P	Pn	23 00 03.0	+2.3
	4.0nm,0.4s						
MDOK	**Medeo**	**7.87**	**32**	⇓P	**Pn**	**23 00 12.9**	**+1.9**
	3.9nm,0.6s						
PDGK	**Podgornoye**	**9.15**	**40**	⇑P	**Pn**	**23 00 29.4**	**+1.3**
	1.9nm,0.8s						
GEYT	**Ailbeck**	**10.65**	**281**	P	**Pn**	**23 00 48.3**	**+0.4**
	0.7nm,0.3s,baz=106,slow=11,SNR=10.0						
GEYT				S	**Sn**	**23 02 42.7**	**-2.9**
	0.7nm,0.3s,baz=99,slow=18,SNR=2.5						
GYA0B	**ALIBECK ARRAY**	**10.65**	**281**	⇑P	**Pn**	**23 00 46.5**	**-1.3**
GYA0B				⇓S	**Sn**	**23 02 44.5**	**-1.1**
OTUK	**Ortayu**	**11.65**	**3**	⇑P	**Pn**	**23 01 01.2**	**+0.2**
	2.7nm,1.0s						
PYUN	**Piuthan**	**12.97**	**128**	*e*P	**P**	**23 01 19.2**	**-4.0**
	28nm,0.4s						
MK31	**Makanchi Array**	**13.03**	**35**	P	**P**	**23 01 20.7**	**-2.8**
	0.6nm,0.4s,baz=225,slow=13,SNR=29						
MKAR	**Makanchi Array**	**13.03**	**35**	P	**P**	**23 01 20.8**	**-2.7**
	0.4nm,0.3s,baz=222,slow=13,SNR=12						
DANN	**Dangsing**	**13.30**	**125**	*e*P	**P**	**23 01 23.8**	**-3.2**
	20nm,0.3s						
KOLN	**Koldanda**	**13.59**	**127**	*e*P	**P**	**23 01 27.4**	**-2.7**
	13nm,0.2s						
GKN	**Gorkha**	**14.11**	**124**	*e*P	**P**	**23 01 34.2**	**-1.7**
	9.8nm,0.3s						
KKN	**Kakani**	**14.68**	**123**	*e*P	**P**	**23 01 41.7**	**-0.6**
PKIN	**Phulchoki**	**14.90**	**123**	*e*P	**P**	**23 01 44.7**	**0.0**
PKI	**Pulchoki**	**14.91**	**123**	*e*P	**P**	**23 01 44.9**	**0.0**
KURBB	**Kurchatov Arra**	**14.93**	**18**	P	**P**	**23 01 42.3**	**-2.2**
	0.1nm,0.3s,baz=208,slow=10,SNR=19						
KURBB	**Kurchatov Arra**	**14.93**	**18**	⇑P	**P**	**23 01 45.6**	**+1.1**
	5.8nm,0.7s						
GUN	**Gumba**	**15.02**	**121**	*e*P	**P**	**23 01 46.1**	**0.0**
	8.7nm,0.3s						
AB31	**Akbulak array**	**15.13**	**330**	P	**P**	**23 01 45.7**	**-1.1**
	1.3nm,0.5s,baz=142,slow=9.3,SNR=48						
JIRN	**Jiri**	**15.39**	**121**	*e*P	**P**	**23 01 50.3**	**+0.1**
	24nm,0.3s						
RAMN	**Ramite**	**16.12**	**122**	*e*P	**P**	**23 01 58.9**	**+0.7**
	30nm,0.4s						
BVAR	**Borovoye Array**	**16.43**	**358**	P	**Pn**	**23 02 01.7**	**+0.6**
	1.0nm,0.3s,baz=204,slow=17,SNR=24						
BRVK	**Borovoye**	**16.46**	**358**	⇓P	**Pn**	**23 02 02.1**	**+0.6**
	3.7nm,1.1s						
ODAN	**Odare**	**16.72**	**121**	*e*P	**Pn**	**23 02 06.7**	**+1.7**
AKTO	**Aktyubinsk**	**16.84**	**329**	P	**Pn**	**23 02 08.0**	**+2.0**
	2.1nm,0.3s,baz=149,slow=7.9,SNR=38						
AKTO				S	**S**	**23 05 09.5**	**-3.5**
	0.3nm,0.3s,baz=175,slow=23,SNR=2.7						
AKTO	**Aktyubinsk**	**16.84**	**329**	⇑P	**Pn**	**23 02 07.5**	**+1.5**
	4.3nm,0.5s						
ZALV	**Zalesovo Beam**	**19.69**	**24**	P	**Pn**	**23 02 37.2**	**-2.5**
	1.1nm,0.3s,baz=214,slow=9.8,SNR=18						
ARU	**Arti**	**21.63**	**340**	P	**P**	**23 02 58.2**	**+0.8**
	0.9nm,0.4s,baz=164,slow=6.1,SNR=7.0						
KBZ	**Khabaz**	**22.82**	**297**	P	**P**	**23 03 11.0**	**+1.8**
	0.9nm,0.7s,baz=137,slow=9.6,SNR=2.5						
AKASG	**Malin Array Be**	**33.11**	**309**	P	**P**	**23 04 42.4**	**+1.5**
	0.9nm,0.4s,baz=78,slow=7.4,SNR=8.8						
FINES	**FINESS Array B**	**37.56**	**326**	P	**P**	**23 05 20.2**	**+1.5**
	1.5nm,0.4s,baz=121,slow=9.0,SNR=25						
ARA0	**ARCESS Array S**	**41.16**	**337**	*e*P	**P**	**23 05 50.0**	**+1.5**
ARCES	**ARCESS Array B**	**41.16**	**337**	P	**P**	**23 05 50.0**	**+1.6**
	1.2nm,0.5s,baz=112,slow=8.6,SNR=20						
KTK1	**Kautokeino**	**41.64**	**336**	*e*P	**P**	**23 05 53.7**	**+1.3**
FAUS	**Fauske**	**43.84**	**332**	*e*P	**P**	**23 06 11.5**	**+1.4**
MOR8	**Moi Rana**	**43.87**	**331**	*e*P	**P**	**23 06 11.0**	**+0.7**
STEI	**Steigen**	**44.01**	**333**	*e*P	P	23 06 13.8	+2.4
NC602	**NORSAR Array S**	**44.29**	**323**	*e*P	**P**	**23 06 14.3**	**+0.6**
KONS	**Konsvik**	**44.46**	**331**	*e*P	**P**	**23 06 16.5**	**+1.6**
NB2	**NORSAR Subarra**	**44.47**	**323**	P	**P**	**23 06 15.7**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=93,slow=7.9						
NB2	**NORSAR Subarra**	**44.47**	**323**	P	**P**	**23 06 15.7**	**+0.4**
	baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.47**	**323**	P	**P**	**23 06 16.1**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=105,slow=7.1,SNR=18						
LOF	**Lofoten**	**44.68**	**333**	*e*P	**P**	**23 06 16.8**	**+0.1**
KONO	**Kongsberg**	**45.19**	**321**	*e*P	**P**	**23 06 22.0**	**+1.2**
BJO1	**Bjornoya**	**45.25**	**343**	*e*P	**P**	**23 06 22.6**	**+1.5**
SKAR	**Skarslia**	**45.87**	**322**	*e*P	**P**	**23 06 27.8**	**+1.5**
BLS5	**Blasjo**	**46.79**	**321**	*e*P	**P**	**23 06 32.8**	**-0.7**
SPA0	**Spitsbergen Ar**	**47.45**	**347**	*e*P	**P**	**23 06 39.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**66.02**	**269**	P	**P**	**23 08 49.2**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=54,slow=6.3,SNR=6.7						
YKA	**Yellowknife Ar**	**81.12**	**3**	P	**P**	**23 10 18.0**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=347,slow=5.5,SNR=12						

*NEIC **03** 23:10:48.8±2.0, 14°.15S±0°.04×167°.0E±0°.1,h10km±4km, mb4.3/7,Error ellipse: s-maj=14.4km s-min=6.1km az=88.0*

*IDC **03** 23:10:52.7±4.9, 14°.26S×166°.63E,h44km±48km,mb3.7/12, mb1 3.8/13,mb1mx3.8/39,mbtmp3.9/13,ML3.7/1,MS3.8/2, Ms1 3.8/2,ms1mx3.0/58,Error ellipse: s-maj=34.0km s-min=25.3km az=161.0*

ISC 03 23:10:51.8±0.6,14°.19S±0°.07×166°.8E±0°.1,h35km,n37, σ1s04/38,mb4.0/15,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.32**	**162**	P	**Pn**	**23 11 13.0**	**-0.7**
SANVU				S	**Sn**	**23 11 31.3**	**+1.2**
LIFNC	**LIFOU**	**6.57**	**176**	Pn	**Pn**	**23 12 27.1**	**+1.2**
KOUNC	**Koumac, New Ca**	**6.76**	**200**	Pn	**Pn**	**23 12 29.9**	**+1.3**
DZM	**Mont Dzumac**	**7.85**	**182**	P	**Pn**	**23 12 44.2**	**+0.6**
	1.2nm,0.3s,baz=1.8,slow=8.2,SNR=16						
DZM				S	**Sn**	**23 14 10.4**	**-1.0**
	baz=323,slow=20,SNR=0.9						
ONTNC	**Ouen Toro**	**8.08**	**182**	Pn	**Pn**	**23 12 46.6**	**-0.1**
OUENC	**Ouen Island, N**	**8.19**	**180**	Pn	**Pn**	**23 12 48.4**	**+0.2**
HNR	**Honiara**	**8.19**	**304**	Pn	**Pn**	**23 12 49.5**	**+1.2**
PINNC	**Pines Island,**	**8.40**	**176**	Pn	**Pn**	**23 12 53.2**	**+2.0**
MSVF	**Nonsavu**	**11.40**	**110**	LR	LR	23 16 57.1	
	comp=Z,705nm,18.8s,baz=305,slow=32						
CTA	**Charters Tower**	**20.47**	**250**	P	**P**	**23 15 25.4**	**-1.2**
	5.4nm,0.9s,baz=26,slow=11,SNR=3.1						
CTA				LR	LR	23 21 46.5	
	comp=Z,147nm,18.0s,baz=86,slow=32						
BKZ	**Black Stump Fm**	**26.32**	**163**	P	**P**	**23 16 24.1**	**-0.3**
BKZ				lAmb	lAmb	23 16 34.6	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**28.99**	**228**	P	**P**	**23 16 46.0**	**-2.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.3nm,0.4s,baz=0.0,slow=9.1,SNR=2.3						
STKA	Stephens Creek	28.99	228	P	P	23 16 49.1	+0.7
WRA	Warramunga Arr	31.50	255	P	P	23 17 08.5	-2.2
	comp=Z,0.3nm,0.6s,baz=86,slow=9.2,SNR=2.5						
ASAR	Alice Springs	32.43	248	P	P	23 17 17.4	-1.5
	comp=Z,0.8nm,0.6s,baz=74,slow=9.4,SNR=13						
ASAR	Alice Springs	32.43	248	P	P	23 17 18.9	0.0
BBOO	Buckleboo	33.54	231	P	P	23 17 29.1	+0.6
BBOO				IAmb	IAmb	23 17 49.0	
	comp=Z,8.9nm,1.1s						
FORT	Forrest	39.17	238	P	P	23 18 18.2	+1.7
FITZ	Fitzroy Crossi	39.65	259	P	P	23 18 21.0	+0.3
FITZ				IAmb	IAmb	23 18 31.9	
	comp=Z,3.6nm,0.8s						
KSRS	Korea Array	63.03	326	P	P	23 21 15.5	0.0
	comp=Z,0.3nm,0.3s,baz=197,slow=12,SNR=1.4						
SEY	Seymchan	77.69	353	P	P	23 22 45.0	+0.5
	comp=Z,0.7nm,0.3s,baz=86,slow=13,SNR=1.9						
SONM	Songino Array	81.78	324	P	P	23 23 07.3	+0.1
	comp=Z,0.4nm,0.5s,baz=121,slow=7.4,SNR=5.9						
SONM	Songino Array	81.78	324	P	P	23 23 07.3	+0.1
SONM				IAmb	IAmb	23 23 09.0	
	comp=Z,0.9nm,0.9s						
L19K	White Mountain	81.86	17	P	P	23 23 07.9	+0.7
L19K				IAmb	IAmb	23 23 11.6	
	comp=Z,3.6nm,1.1s						
ILAR	Eielson Array	86.16	18	P	P	23 23 28.0	-1.0
	comp=Z,0.9nm,0.6s,baz=236,slow=5.0,SNR=19						
NVAR	Mina Array Bea	87.28	49	P	P	23 23 37.0	+1.6
	comp=Z,0.2nm,0.6s,baz=213,slow=6.5,SNR=2.0						
MKAR	Makanchi Array	96.49	317	P	P	23 24 17.8	+0.1
	comp=Z,0.3nm,0.5s,baz=89,slow=7.3,SNR=6.7						
MKAR	Makanchi Array	96.49	317	P	P	23 24 17.6	0.0
ZALV	Zalesovo Beam	96.68	324	P	P	23 24 17.3	-1.0
	comp=Z,0.7nm,0.7s,baz=107,slow=9.7,SNR=4.1						
YKA	Yellowknife Ar	97.28	27	P	P	23 24 19.4	-1.4
	comp=Z,0.2nm,0.9s,baz=260,slow=4.4,SNR=3.8						
ARCES	ARCESS Array B	119.61	345	PKP	PKPdf	23 29 37.0	-0.4
	comp=Z,1.0nm,0.3s,baz=89,slow=1.9,SNR=32						
FINES	FINESS Array B	125.05	338	PKP	PKPdf	23 29 47.6	-0.5
	comp=Z,0.7nm,0.4s,baz=46,slow=1.6,SNR=16						
NB2	NORSAR Subarra	129.98	345	PKP	PKPdf	23 29 57.5	-0.1
	comp=Z,0.4nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	129.98	345	PKP	PKPdf	23 29 57.4	-0.2
	comp=Z,0.4nm,0.7s,baz=62,slow=1.9,SNR=2.5						
KEST	Kesra	150.49	321	PKPbc	PKPbc	23 30 40.4	0.0
	comp=Z,3.8nm,0.7s,baz=136,slow=4.6,SNR=5.7						
ESDC	Sonseca Array	153.34	344	PKPbc	PKiKP	23 30 46.7	-0.1
	comp=Z,0.3nm,0.5s,baz=360,slow=4.6,SNR=5.1						
TORD	Torodi Ar. Bea	165.47	268	PKP	PKPdf	23 30 53.4	-0.3
	comp=Z,0.4nm,0.9s,baz=90,slow=5.8,SNR=2.0						

IDC 04 00:48:24.8±2.4, 0°.91N×126°.63E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.4/3, Error ellipse: s-maj=213.6km s-min=28.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.05	160	P	P	00 53 21.2	-0.2
	0.6nm,0.3s,baz=339,slow=11,SNR=10						
ASAR	Alice Springs	25.43	164	P	P	00 53 54.6	+0.2
	0.3nm,0.4s,baz=344,slow=11,SNR=1.9						
MKAR	Makanchi Array	59.82	326	P	P	00 58 32.0	-0.1
	0.3nm,0.7s,baz=116,slow=8.8,SNR=3.7						

*IDC **04** 00:54:32.3±0.8, 43°.91N×128°.61W, h0km, mb4.0/15, mb1 4.0/23, mb1mx4.0/46, mbtmp3.9/23, ML3.3/8, MS3.5/36, Ms1 3.5/36, ms1mx3.3/90, Error ellipse: s-maj=22.8km s-min=10.4km az=40.0*

*ANF **04** 00:54:36.3±0.2, 44°.07N×128°.48W, h10km, ML3.7/18, Error ellipse: s-maj=3.3km s-min=1.4km az=39.0*

*NEIC **04** 00:54:36.7±2.3, 43°.96N±0°.07×128°.5W±0°.1, h10km±1km, mb4.3/189, Error ellipse: s-maj=13.4km s-min=9.9km az=230.0*

ISC 04 00:54:36.0±0.5, 43°.94N±0°.06×128°.54W±0°.06, h13km, n517, σ1s.06/490, mb4.2/78, MS3.5/28, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02E	Swisshome, OR	3.39	86	Pn	Pn	00 55 27.2	-1.3
I02E	Swisshome, OR	3.39	86	P	Pn	00 55 26.2	-2.3
	baz=269,SNR=16						
I02E				S	Sn	00 56 08.2	-0.4
	baz=269						
J01E	Myrtle Point	3.44	101	Pn	Pn	00 55 27.5	-1.7
J01E	Myrtle Point	3.44	101	P	Pn	00 55 27.3	-1.9
	baz=285,SNR=11						
HEBO	Mount Hebo	3.65	68	Pn	Pn	00 55 30.7	-1.5
I03D	Drain, OR	3.77	92	P	Pn	00 55 31.7	-2.0
	baz=276,SNR=36						
K02D	Willamette Mer	3.77	108	P	Pn	00 55 31.5	-2.3
	baz=292,SNR=14						
K02D				S	Sn	00 56 16.9	-1.2
	baz=292						
COR	Corvallis	3.82	78	Pn	Pn	00 55 33.7	-0.7
DBO	Dodson Butte	3.94	100	Pn	Pn	00 55 34.6	-1.6
G03D	McMinnville, O	3.98	70	Pn	Pn	00 55 35.4	-1.2
G03D	McMinnville, O	3.98	70	P	Pn	00 55 35.0	-1.6
	baz=253,SNR=25						
BUCK	Buck Mountain	4.01	84	Pn	Pn	00 55 36.6	-0.6
L02E	Cave Junction	4.03	114	Pn	Pn	00 55 36.7	-0.7
L02E	Cave Junction	4.03	114	S	Sn	00 56 24.2	-0.3
	baz=299						
H04D	Lebanon	4.21	80	Pn	Pn	00 55 39.1	-0.7
H04D	Lebanon	4.21	80	P	Pn	00 55 38.3	-1.5
	baz=264,SNR=12						
H04D				S	Sn	00 56 30.0	+1.1
	baz=264						
HUMO	Hull Mountain	4.29	106		Pn	00 55 40.0	-0.9
KRPM	Rodgers	4.34	128	Pn	Pn	00 55 42.1	+0.4
E03A	Lebam	4.38	52		Pn	00 55 41.7	-0.4
I04A	Tendick Farm,	4.43	90	P	Pn	00 55 41.7	-1.3
	baz=274,SNR=22						
F04D	Rainier, OR	4.47	59	P	Pn	00 55 42.3	-1.1
	baz=243						
JCC	Jacoby Creek,	4.57	131	Pn	Pn	00 55 45.3	+0.5
WISH	Wishkah	4.62	45		Pn	00 55 45.6	+0.2
H04A	Detroit Lake	4.62	79		Pn	00 55 45.1	-0.4
KHMM	Horse Mountain	4.70	129	Pn	Pn	00 55 46.4	-0.2
J04D	Umpqua Nationa	4.72	96		Pn	00 55 47.4	+0.3
J04D	Umpqua Nationa	4.72	96	P	Pn	00 55 46.4	-0.7
	baz=281,SNR=33						
NLWA	Neilton Lookou	4.76	42		Pn	00 55 47.3	0.0
F04A	Amboy	4.78	63	Pn	Pn	00 55 47.8	+0.1
KMPM	Mount Pierce	4.81	135	Pn	Pn	00 55 48.0	-0.2
YBH	Yreka Blue Hor	4.82	115	Pn	Pn	00 55 47.9	-0.4
	0.4nm,0.3s,baz=298,slow=11,SNR=8.9						
YBH				Sn	Sn	00 56 44.3	+0.3
	0.3nm,0.3s,baz=98,slow=11,SNR=6.5						
YBH				LR	LR	00 57 30.3	
	comp=Z,191nm,18.4s,baz=304,slow=37						
YBH	Yreka Blue Hor	4.82	115		Pn	00 55 48.2	-0.1
C03A	Quillayute Air	4.87	33	Pn	Pn	00 55 47.9	-1.0
L04D	Klamath Falls	4.88	108		Pn	00 55 49.6	+0.5
L04D	Klamath Falls	4.88	108	P	Pn	00 55 49.1	-0.1
	baz=293,SNR=28						
L04D				S	Sn	00 56 46.8	+1.2
	baz=293						
M02C	Callahan	4.91	119		Pn	00 55 50.9	+1.4
E04D	Cinebar	4.96	56		Pn	00 55 50.3	+0.2
E04D	Cinebar	4.96	56	P	Pn	00 55 49.7	-0.4
	baz=240,SNR=6.3						
HOOD	Mount Hood Mea	5.11	72	Pn	Pn	00 55 53.0	+0.7
K04D	Chiloquin, OR	5.13	103	P	Pn	00 55 53.0	+0.5
	baz=288						
KMRM	Mail Ridge	5.17	134		Pn	00 55 53.9	+0.8
D04E	Lakebay	5.19	49	P	Pn	00 55 51.2	-1.9
	baz=233,SNR=11						
I05D	Terrebonne, OR	5.20	83	P	Pn	00 55 53.2	-0.3
	baz=268						
N02D	Trinity Center	5.24	122	Pn	Pn	00 55 54.6	+0.6
D03D	Eldon	5.24	45	P	Pn	00 55 53.8	-0.2
	baz=228,SNR=7.8						
G05D	Wamic, OR	5.32	73	P	Pn	00 55 54.9	-0.2
	baz=258,SNR=19						
J05D	Fort Rock, OR	5.34	95	P	Pn	00 55 55.4	-0.2
	baz=280,SNR=10						
M04C	Macdoel	5.38	111	Pn	Pn	00 55 56.5	+0.5
F05D	White Salmon	5.39	66		Pn	00 55 56.1	0.0
F05D	White Salmon	5.39	66	P	Pn	00 55 56.0	-0.1
	baz=251,SNR=26						
F05D				S	Sn	00 57 00.0	+2.0
	baz=251						
B04A	Port Angeles	5.41	39	Pn	Pn	00 55 55.5	-0.8
OZB	Mount Ozzard	5.45	22	Pn	Pn	00 55 56.2	-0.6
PINE	Pine Mountain	5.50	89		Pn	00 55 57.0	-0.7
D05A	Enumclaw	5.63	52		Pn	00 55 59.5	+0.2
KCPM	Cahto Peak	5.64	137	Pn	Pn	00 56 00.5	+0.9
O02D	Mt. Diablo Mer	5.70	129		Pn	00 55 59.9	-0.5
O02D	Mt. Diablo Mer	5.70	129	P	Pn	00 56 01.3	+0.9
	baz=314						
K05A	Summer Lake	5.71	100		Pn	00 56 00.2	-0.4
CLRS	Cowichan Lake	5.76	30		Pn	00 56 00.1	-1.0
PGC	Sidney	5.88	35	Pn	Pn	00 56 01.4	-1.3
O03E	Paynes Creek	6.19	124		Pn	00 56 07.8	+0.6
O03E	Paynes Creek	6.19	124	P	Pn	00 56 07.4	+0.3
	baz=309,SNR=6.0						
B05A	Bryant	6.23	44	P	Pn	00 56 06.8	-0.7
	baz=228						
A04D	Lummi Island	6.26	38	P	Pn	00 56 07.1	-0.8
	baz=222						
MOD	Modoc Plateau	6.38	106	Pn	Pn	00 56 09.7	-0.1
LTY	Liberty	6.44	56		Pn	00 56 10.9	+0.4
CBB	Campbell River	6.47	18		Pn	00 56 11.4	+0.6
I07A	Izee	6.52	86	Pn	Pn	00 56 10.5	-1.2
E07A	Sunnyside	6.67	64		Pn	00 56 13.8	+0.2
B06A	Marblemount	6.70	44		Pn	00 56 13.5	-0.5
GDXM	Geysers	6.70	138	Pn	Pn	00 56 15.6	+1.5
ORV	Oroville	6.85	127	Pn	Pn	00 56 17.3	+1.3
G08A	Pilot Rock	6.97	75	Pn	Pn	00 56 17.5	-0.4
E08A	Dider Farm, El	7.17	66		Pn	00 56 20.7	+0.3
J08A	Circle Bar Ran	7.33	91		Pn	00 56 24.3	+1.6
BEKR	Beckworth	7.33	121	Pn	Pn	00 56 24.2	+1.3
WVOR	Wild Horse Val	7.39	98	Pn	Pn	00 56 22.6	-1.1
D08A	Wollman Farm,	7.44	62		Pn	00 56 24.4	+0.2
B08A	Colville Reser	7.77	52		Pn	00 56 30.3	+1.5
E09A	Wood Farm, Sta	7.78	67	Pn	Pn	00 56 30.2	+1.4
MPK	Martis Peak	7.88	123	Pn	Pn	00 56 32.0	+1.5
RUBR	Rubicon Trail	7.96	125	Pn	Pn	00 56 31.8	+0.2
PAHR	Pah Rah Range	8.04	119		Pn	00 56 33.9	+1.4
EMB	Emerald Bay	8.04	125		Pn	00 56 34.1	+1.4
LLLB	Lillooet	8.06	32		Pn	00 56 32.4	-0.3
BMO	Blue Mountains	8.10	80	Pn	Pn	00 56 33.3	0.0
VCNR	Virginia City	8.11	122	Pn	Pn	00 56 34.7	+1.1
C09A	Chrisman Ranch	8.14	58		Pn	00 56 33.8	+0.1
BBB	Bella Bella	8.26	2	Pn	Pn	00 56 33.6	-1.6
	0.7nm,0.3s,baz=182,slow=6.5,SNR=8.7						
PNTR	Pine Nut	8.27	123		Pn	00 56 37.4	+1.6
F10A	Beach Ranch, E	8.28	72	Pn	Pn	00 56 36.1	+0.3
CMB	Columbia Colle	8.53	131	Pn	Pn	00 56 40.9	+1.7
YERR	Yerington	8.56	122		Pn	00 56 40.7	+1.0
NEW	Newport	9.03	57	Pn	Pn	00 56 45.3	-0.7
	0.3nm,0.3s,baz=229,slow=8.0,SNR=10						
NEW				LR	LR	01 00 10.2	
	comp=Z,460nm,20.9s,baz=255,slow=37						
NEW	Newport	9.03	57	P	Pn	00 56 45.3	-0.7
	baz=246						
PLID	Pearl Lake	9.04	78		Pn	00 56 47.4	+1.2
BMN	Battle Mountai	9.10	109	Pn	Pn	00 56 48.8	+1.7
RYN	Ryan	9.22	122	Pn	Pn	00 56 49.1	+0.4
KVN	Kaiserville	9.23	118		Pn	00 56 50.5	+1.6
MFID	Camas Ranch	9.23	89	Pn	Pn	00 56 50.2	+1.4
BBGB	Big Mountain B	9.32	140	Pn	Pn	00 56 50.1	+0.1
LHV	Little Huntoon	9.47	123		Pn	00 56 52.9	+1.0
NVAR	Mina Array Bea	9.47	122	Pn	Pn	00 56 51.4	-1.0
	0.1nm,0.3s,baz=298,slow=13,SNR=13						
NVAR				LR	LR	01 00 25.6	
	comp=Z,260nm,19.8s,baz=264,slow=37						
NVAR	Mina Array Bea	9.47	122	Pn	Pn	00 56 53.3	+1.0
MOBC	Moresby Island	9.49	347	Pn	Pn	00 56 52.0	-0.3
NV11	Mina Array Sit	9.56	122		Pn	00 56 53.7	+0.2
OMMB	Old Mammoth Mi	9.60	128		Pn	00 56 55.1	+1.0
GRNB	Grenville Isla	9.96	355	Pn	Pn	00 56 58.3	-0.4
HLID	Hailey	10.23	87		Pn	00 57 03.0	+0.4
HLID	Hailey	10.23	87	P	Pn	00 57 03.7	+1.1
	baz=277,SNR=6.1						
ELK	Elko	10.35	103	Pn	Pn	00 57 05.5	+1.2
	0.1nm,0.3s,baz=290,slow=11,SNR=5.8						
ELK				LR	LR	01 01 30.8	
	comp=Z,152nm,19.5s,baz=296,slow=40						
ELK	Elko	10.35	103		Pn	00 57 04.1	-0.2
TPH	Tonopah	10.36	121	Pn	Pn	00 57 05.2	+0.8
PAGB	Antelope Grade	10.38	139	Pn	Pn	00 57 04.9	+0.4
LCH	Last Change Ra	10.65	125		Pn	00 57 08.7	+0.4
JTMT	Jette	10.65	64		Pn	00 57 09.9	+1.6
MSO	Missoula	10.67	69		Pn	00 57 08.2	-0.4
MSO	Missoula	10.67	69	P	Pn	00 57 07.6	-0.9
	baz=260,SNR=6.4						
VES	Vestal, Richgr	10.86	135	P	Pn	00 57 12.3	+1.2
	baz=321						
BCYI	Bear Canyon	10.89	83	Pn	Pn	00 57 11.6	-0.1
CWC	Cottonwood Cre	10.95	130	P	Pn	00 57 15.1	+2.7
	baz=317						
R11A	Troy Canyon, C	11.25	115	Pn	Pn	00 57 18.2	+1.7
MCMT	McKenzie Canyo	11.27	80		Pn	00 57 16.9	+0.1
ISA	Isabella, Lake	11.32	134	Pn	Pn	00 57 18.4	+1.0
ISA	Isabella, Lake	11.32	134	P	Pn	00 57 18.4	+1.0
	baz=320						
DLMT	Dillon	11.45	77	Pn	Pn	00 57 19.8	+0.6
S11A	Rachel	11.55	119		Pn	00 57 22.2	+1.6
MPMC	Manual Prospec	11.56	129	P	Pn	00 57 23.0	+2.2
	baz=317						
LRM	Limekiln Ridge	11.57	75	Pn	Pn	00 57 20.9	-0.1
FURC	Furnace Creek,	11.63	126	P	Pn	00 57 22.6	+1.0
	baz=314,SNR=8.2						
TPNV	Topopah Spring	11.67	123	Pn	Pn	00 57 25.1	+2.7
TPNV	Topopah Spring	11.67	123	P	Pn	00 57 24.8	+2.4
	baz=311						
HVU	Hansel Valley	11.77	95	Pn	Pn	00 57 24.0	+0.3
BGU	Big Grassy Mou	11.85	99		Pn	00 57 26.0	+1.2
GWY	Greenwater Val	11.94	126		Pn	00 57 27.4	+1.5
CCAC	Calif City Air	11.95	134	Pn	Pn	00 57 26.7	+0.7
QSM	Queen of Sheba	11.98	128		Pn	00 57 28.0	+1.7
HRY	Holter Researc	12.09	71	Pn	Pn	00 57 28.7	+0.8
PRN	Pahroc Range	12.14	118	Pn	Pn	00 57 30.1	+1.4
BOZ	Bozeman (W)	12.14	76		Pn	00 57 30.1	+1.4
BOZ	Bozeman (W)	12.14	76	P	Pn	00 57 29.1	+0.4
	baz=268						
EDW2	Edwards Air Fo	12.17	134	P	Pn	00 57 30.2	+1.2
	baz=322						
DUG	Dugway, Tooele	12.27	102	Pn	Pn	00 57 31.7	+1.2
QLMT	Earthquake Lak	12.28	80	Pn	Pn	00 57 31.8	+1.2
PSUT	Pine Spring	12.30	111	Pn	Pn	00 57 32.5	+1.6
SHOC	Shoshone, Teco	12.36	126	P	Pn	00 57 33.7	+2.0
	baz=315						
YHL	Hebgen Lake	12.45	80	Pn	Pn	00 57 34.6	+1.5
GSC	Goldstone, Bar	12.49	130		Pn	00 57 34.4	+0.9
GSC	Goldstone, Bar	12.49	130	P	Pn	00 57 34.6	+1.2
	baz=318,SNR=6.5						
YMR	Madison River	12.62	81	Pn	Pn	00 57 35.6	+0.3
SHPR	Sheep Range	12.63	121		Pn	00 57 36.4	+1.0
FXWY	Fox Creek	12.66	85	Pn	Pn	00 57 34.7	-1.2
HWUT	Hardware Ranch	12.69	95	Pn	Pn	00 57 37.5	+1.3
YHH	Holmes Hill	12.69	80		Pn	00 57 37.6	+1.3
YFT	Old Faithful	12.72	82	Pn	Pn	00 57 38.0	+1.3
TPAW	Teton Pass	12.74	86	Pn	Pn	00 57 38.5	+1.5
AHID	Auburn Hatcher	12.75	89	Pn	Pn	00 57 38.5	+1.4
YNR	Norris Junctio	12.82	80	Pn	Pn	00 57 38.1	0.0
REDW	Red Top Meadow	12.83	86	Pn	Pn	00 57 39.3	+1.1
FLWY	Flagg Ranch	12.85	83	Pn	Pn	00 57 39.8	+1.4
MOOW	Moose Ponds	12.85	85	Pn	Pn	00 57 40.4	+1.9
SNOW	Snow King Moun	12.88	86	Pn	Pn	00 57 39.9	+0.9
NLU	North Lily Min	12.89	102	Pn	Pn	00 57 40.4	+1.5
TUQ	Turquoise Moun	12.89	127	P	Pn	00 57 40.8	+1.8
	baz=315						
H17A	Grant Village	12.91	82	Pn	Pn	00 57 40.2	+0.9
LOHW	Long Hollow	12.97	85	Pn	Pn	00 57 41.1	+1.0
JLU	Jordanelle	13.09	99	Pn	Pn	00 57 43.0	+1.3
CCUT	Cedar City	13.15	114	Pn	Pn	00 57 44.0	+1.4
MPU	Maple Canyon	13.18	101	Pn	Pn	00 57 42.4	-0.5
MSU	Marysvale	13.45	108	Pn	Pn	00 57 48.6	+1.9
GMRC	Granite Mounta	13.51	128	P	Pn	00 57 48.4	+1.1
	baz=317						
GCMT	Greycliff	13.52	76	Pn	Pn	00 57 48.3	+0.8
LCMT	Little Creek M	13.53	116	Pn	Pn	00 57 48.3	+0.6
EDM	Edmonton	13.66	42	Pn	Pn	00 57 50.4	+1.1
MTPU	Mount Pierson	13.68	110	Pn	Pn	00 57 52.8	+2.9
EGMT	Eagleton	13.68	66	Pn	Pn	00 57 51.2	+1.5
EGMT	Eagleton	13.68	66	P	Pn	00 57 49.7	+0.1
	baz=260						
TMUT	Trail Mountain	13.77	104	Pn	Pn	00 57 53.2	+2.1
KNB	Kanab	13.81	115	Pn	Pn	00 57 52.9	+1.4
PDAR	Pinedale Array	13.87	88	Pn	Pn	00 57 54.0	+1.7
	0.0nm,0.3s,baz=281,slow=10.0,SNR=3.7						
PDAR				LR	LR	01 03 26.0	
	comp=Z,415nm,18.2s,baz=300,slow=38						
PDAR	Pinedale Array	13.87	88	Pn	Pn	00 57 52.7	+0.4
BELC	Belle Mtn. Jos	13.90	131	P	Pn	00 57 53.9	+1.2
	baz=320						
PKCU	Pink Cliffs	13.91	112	Pn	Pn	00 57 55.9	+2.9
PFO	Pinyon Flats O	13.95	134	LR	LR	01 02 47.7	
	comp=Z,210nm,20.0s,baz=352,slow=36						
IRM	Iron Mountain	14.26	129	P	Pn	00 57 59.3	+1.7
	baz=318,SNR=5.5						
P18A	Preston Nutter	14.31	101		Pn	00 57 59.4	+1.0
SRU	San Rafael Swe	14.33	103		Pn	00 57 59.5	+0.9
W13A	Hualapai Mount	14.33	123	Pn	Pn	00 58 00.5	+1.7
BC3	Big Chuckawall	14.46	131	P	Pn	00 58 01.8	+1.4
	baz=319,SNR=6.4						
U15A	North Rim	14.50	116	Pn	Pn	00 58 02.4	+1.3
MONP2	Monument Peak	14.54	135	P	Pn	00 58 02.8	+1.3
	baz=323						
DLBC	Dease Lake	14.55	357	Pn	Pn	00 58 01.1	-0.3
	0.0nm,0.3s,baz=168,slow=18,SNR=1.6						
DLBC				LR	LR	01 02 51.6	
	comp=Z,274nm,19.7s,baz=151,slow=34						
PDMCI	Parker Dam,Lak	14.73	126	P	Pn	00 58 06.0	+2.1
	baz=315,SNR=7.8						
SWSC	Sam W. Stewart	14.82	134	P	Pn	00 58 06.3	+1.1
	baz=322						
IKP	In-Ko-Pah, Jac	14.89	135	P	Pn	00 58 06.5	+0.3
	baz=323						
BLYC	Blythe	14.90	128		Pn	00 58 06.9	+0.6
CCX	Cicese	15.25	138	Pn	Pn	00 58 12.6	+1.7
GLA	Glamis	15.26	131		Pn	00 58 11.7	+0.6
GLA	Glamis	15.26	131	P	Pn	00 58 11.7	+0.6
	baz=320						
O20A	White River Ci	15.55	97	Pn	Pn	00 58 15.4	+0.4
O20A				IAmb	IAmb	00 58 23.8	
	comp=Z,13nm,1.0s						
O20A	White River Ci	15.55	97	P	Pn	00 58 14.9	-0.1
	baz=291,SNR=5.4						
WUAZ	Wupatki	15.64	117	Pn	Pn	00 58 18.2	+2.1
WUAZ				IAmb	IAmb	00 58 26.1	
	comp=Z,12nm,0.8s						
WUAZ	Wupatki	15.64	117	P	Pn	00 58 17.2	+1.1
	baz=308,SNR=9.0						
Y14A	Wickenburg	15.65	124	Pn	Pn	00 58 17.8	+1.6
Y14A				IAmb	IAmb	00 58 23.4	
	comp=Z,10nm,0.9s						
PV23	Carpenter Ridg	15.68	104	Pn	Pn	00 58 16.9	+0.1
PV23				IAmb	IAmb	00 58 25.9	
	comp=Z,22nm,1.2s						
PV10	Paradox Valley	15.69	104	Pn	Pn	00 58 17.9	+1.0
PV10				IAmb	IAmb	00 58 25.3	
	comp=Z,20nm,1.3s						
PV14	Lion Creek, Pa	15.71	104	Pn	Pn	00 58 17.9	+0.8
PV20	West Nyswonger	15.76	104	Pn	Pn	00 58 18.4	+0.6
PV19	Morning Glory	15.76	104	Pn	Pn	00 58 17.8	0.0
PV19				IAmb	IAmb	00 58 29.4	
	comp=Z,22nm,1.4s						
PV04	Paradox Valley	15.78	104	Pn	Pn	00 58 18.1	+0.1
PV04				IAmb	IAmb	00 58 26.2	
	comp=Z,21nm,1.4s						
PV17	East Wray Mesa	15.79	104	Pn	Pn	00 58 19.1	+1.0
PV16	Nyswonger Mesa	15.81	104	Pn	Pn	00 58 18.6	+0.2
PV18	Skein Mesa, Pa	15.84	104	Pn	Pn	00 58 19.9	+1.0
PV11	David Mesa, Pa	15.84	104		Pn	00 58 18.8	-0.1
PV03	Paradox Valley	15.88	104	Pn	Pn	00 58 20.1	+0.8
PV12	Saucer Basin,	15.88	104	Pn	Pn	00 58 21.0	+1.6
PV12				IAmb	IAmb	00 58 27.3	
	comp=Z,14nm,1.1s						
LAO	LASA Array	15.93	72	Pn	Pn	00 58 19.8	0.0
PV07	Paradox Valley	15.94	103	Pn	Pn	00 58 19.7	-0.4
PV07				IAmb	IAmb	00 58 27.9	
	comp=Z,23nm,1.4s						
PV13	Radium Mtn., P	15.95	104	Pn	Pn	00 58 20.0	-0.2
PV02	Paradox Valley	15.98	104	Pn	Pn	00 58 20.7	+0.1
PV02				IAmb	IAmb	00 58 28.3	
	comp=Z,19nm,1.1s						
113A	Mohawk Valley,	16.06	129	Pn	Pn	00 58 22.1	+0.7
SKAG	Skagway	16.09	347	Pn	Pn	00 58 22.6	+0.9
SKAG	Skagway	16.09	347	P	Pn	00 58 20.5	-1.2
	baz=162						
PV15	Paradox Valley	16.10	103	Pn	Pn	00 58 22.3	+0.1
PV01	Paradox Valley	16.13	104	Pn	Pn	00 58 22.5	-0.1
PV01				IAmb	IAmb	00 58 30.0	
	comp=Z,28nm,1.3s						
X16A	Lo Mia Camp, P	16.29	120	P	Pn	00 58 25.5	+0.9
P33M	Teslin, Yukon	16.50	352	Pn	Pn	00 58 27.1	+0.1
P33M	Teslin, Yukon	16.50	352	P	Pn	00 58 26.5	-0.5
	baz=169						
MVCO	Mesa Verde	16.62	107		Pn	00 58 29.2	+0.4
MVCO				IAmb	IAmb	00 58 56.1	
	comp=Z,18nm,1.1s						
MVCO	Mesa Verde	16.62	107	P	Pn	00 58 30.0	+1.2
	baz=300,SNR=7.0						
SMCO	Snowmass	16.82	99	Pn	Pn	00 58 31.6	+0.1
SFX	San Felipe	16.82	135	Pn	Pn	00 58 31.3	+0.2
N23A	Red Feather La	16.95	93	Pn	Pn	00 58 33.3	+0.3
N23A	Red Feather La	16.95	93	P	Pn	00 58 32.3	-0.7
	baz=288						
PNL	Peninsula	17.08	341	P	Pn	00 58 33.2	-1.1
	baz=152						
X18A	Snowflake	17.16	117		Pn	00 58 36.3	+0.7
PHWY	Pilot Hill	17.18	91	Pn	Pn	00 58 35.6	-0.4
214A	Organ Pipe Nat	17.20	129	Pn	Pn	00 58 36.1	+0.2
214A	Organ Pipe Nat	17.20	129	P	Pn	00 58 36.9	+1.0
	baz=319						
DGMT	Dagmar	17.42	66	Pn	Pn	00 58 38.2	-0.4
DGMT				IAmb	IAmb	00 58 43.7	
	comp=Z,28nm,1.1s						
S22A	4UR Ranch, Cre	17.53	103		Pn	00 58 40.6	+0.3
S22A	4UR Ranch, Cre	17.53	103	P	Pn	00 58 39.6	-0.8
	baz=298,SNR=7.4						
ISCO	Idaho Springs	17.55	96		P	00 58 41.9	+0.3
ISCO	Idaho Springs	17.55	96	P	Pn	00 58 40.3	-0.3
	baz=291						
RSSD	Black Hills	17.61	81	P	Pn	00 58 40.5	-0.7
RSSD	Black Hills	17.61	81	P	Pn	00 58 40.7	-0.4
	baz=278						
TGTN	Hyland Airport	17.62	0	P	Pn	00 58 40.1	-0.9
	baz=180						
HYT	Haines Junctio	17.75	345	Pn	Pn	00 58 42.9	+0.2
HYT	Haines Junctio	17.75	345	P	Pn	00 58 41.9	-0.7
	baz=158						
YUK6	Outpost Mounta	18.02	344	P	Pn	00 58 44.5	-1.6
	baz=156						
N31M	Braeburn, Yuko	18.09	349	P	Pn	00 58 46.0	-0.8
	baz=163						
TUC	Tucson	18.12	124		Pn	00 58 47.8	+0.4
TUC	Tucson	18.12	124	P	P	00 58 48.5	+0.8
	baz=315						
Q24A	Divide	18.20	98		Pn	00 58 48.1	-0.5
Q24A	Divide	18.20	98	P	P	00 58 49.2	+0.4
	baz=294						
YAH	Yahtse	18.27	339		Pn	00 58 49.3	+0.1
YAH				IAmb	IAmb	00 59 12.8	
	comp=Z,20nm,1.4s						
YUK4	Talbot Arm	18.44	344	P	P	00 58 50.7	-0.5
	baz=156						
SDCO	Great Sand Dun	18.47	102	P	Pn	00 58 52.5	+0.7
SDCO	Great Sand Dun	18.47	102	P	Pn	00 58 52.7	+0.9
	baz=297,SNR=9.3						
M31M	Drury Creek, Y	18.62	351	P	P	00 58 53.1	+0.2
M31M	Drury Creek, Y	18.62	351	P	P	00 58 52.8	-0.1
	baz=166						
ISLE	Juniper Island	18.63	338	P	P	00 58 52.9	-0.3
WAX	Waxell Ridge	18.64	337	P	P	00 58 53.2	0.0
WAX				IAmb	IAmb	00 59 00.9	
	comp=Z,16nm,1.2s						
KAIM	Kayak Island	18.68	335	P	P	00 58 53.0	-0.6
KAIM				IAmb	IAmb	00 58 60.0	
	comp=Z,17nm,1.1s						
BERG	Berg Lake	18.84	336	P	P	00 58 54.7	-0.6
BERG				IAmb	IAmb	00 58 55.6	
	comp=Z,14nm,1.1s						
BARN	Barnard Glacie	18.85	340	P	P	00 58 55.2	-0.4
BARN				IAmb	IAmb	00 59 00.2	
	comp=Z,17nm,1.0s						
Q23K	Middleton Isla	18.94	331	P	P	00 58 53.9	-2.5
RAGM	Ragged Mountai	19.12	335	P	P	00 58 57.6	-0.9
RAGM				IAmb	IAmb	00 58 59.8	
	comp=Z,13nm,1.2s						
YUK3	Moose Creek	19.20	343	P	P	00 58 58.3	-1.2
	baz=153						
ANMO	Albuquerque	19.23	110	P	P	00 59 00.4	+0.4
	comp=Z,0.1nm,0.3s,baz=303,slow=10,SNR=11						

ANMO LR LR 01 06 48.7
comp=Z,110nm,19.9s,baz=300,slow=38
ANMO Albuquerque 19.23 110 P **Pn** **00 59 01.0 0.0**
ANMO Albuquerque 19.23 110 P **Pn** **00 59 01.5 +0.5**
baz=305
M30M Minto, Yukon 19.28 348 P **P** **00 58 59.9 -0.3**
M30M Minto, Yukon 19.28 348 P **P** **00 58 59.4 -0.8**
baz=162
LENM Lemitar 19.34 113 P **Pn** **00 59 03.1 +0.9**
VRDI Verde Repeater 19.46 338 P **Pn** **00 59 04.4 +0.9**
T25A Trinidad 19.52 102 P **Pn** **00 59 04.6 +0.2**
T25A IAmb IAmb 00 59 09.0
comp=Z,23nm,1.1s
T25A Trinidad 19.52 102 P **Pn** **00 59 04.8 +0.4**
baz=298,SNR=8.6
BMRM Bremner River 19.57 336 P **P** **00 59 03.2 -0.1**
baz=143
BNM Barren Site 19.58 113 P **Pn** **00 59 05.4 +0.3**
EYAK Cordova Ski Ar 19.58 334 P **P** **00 59 04.0 +0.6**
baz=140
319A Douglas 19.69 123 P **P** **00 59 05.4 +0.5**
319A IAmb IAmb 00 59 12.9
comp=Z,9.8nm,0.8s
GLB Gilahina Butte 19.73 338 P **P** **00 59 05.3 +0.2**
OGNE Ogallala 19.76 90 P **P** **00 59 05.4 -0.3**
OGNE IAmb IAmb 00 59 17.3
comp=Z,15nm,0.9s
121A Cookes Peak, D 19.83 118 P **Pn** **00 59 07.9 -0.2**
121A IAmb IAmb 00 59 10.4
comp=Z,15nm,1.1s
121A Cookes Peak, D 19.83 118 P **Pn** **00 59 07.9 -0.2**
baz=311,SNR=7.4
FID Port Fidalgo 19.97 334 P **P** **00 59 08.3 +0.6**
FID IAmb IAmb 00 59 15.1
comp=Z,21nm,1.5s
KSCO Kaye Shedlock' 20.00 95 P **P** **00 59 08.1 -0.2**
KSCO IAmb IAmb 00 59 37.5
comp=Z,9.3nm,0.8s
M27K Edge Creek, AK 20.03 342 P **P** **00 59 07.6 -0.9**
baz=151
DIV Divide 20.04 335 P **P** **00 59 09.0 +0.5**
DIV IAmb IAmb 00 59 13.8
comp=Z,11nm,1.1s
N25K Chitina, Valde 20.08 337 P **P** **00 59 10.0 +1.0**
N25K Chitina, Valde 20.08 337 P **P** **00 59 08.4 -0.6**
baz=144
GLI Glacier Island 20.27 333 P **P** **00 59 11.3 +0.4**
GLI IAmb IAmb 00 59 13.5
comp=Z,16nm,1.2s
GLI Glacier Island 20.27 333 P **P** **00 59 09.9 -1.0**
baz=138
FFC Flin Flon 20.27 48 P **P** **00 59 11.6 +0.6**
YKA Yellowknife Ar 20.29 19 P **P** **00 59 10.3 -0.8**
comp=Z,3.3nm,0.7s,baz=209,slow=11,SNR=62
YKA PcP **PcP** **01 03 21.1 -2.9**
comp=Z,0.6nm,1.0s,baz=190,slow=2.1,SNR=3.5
YKA Yellowknife Ar 20.29 19 P **P** **00 59 11.2 +0.1**
KLU Klutina 20.37 336 P **P** **00 59 13.0 +0.9**
KLU IAmb IAmb 00 59 16.9
comp=Z,10nm,1.2s
KLU Klutina 20.37 336 P **P** **00 59 11.8 -0.4**
baz=142
KDAK Kodiak Island 20.40 321 LR LR 01 05 05.3
comp=Z,208nm,18.4s,baz=124,slow=31
OHAK Old Harbor 20.43 319 P **P** **00 59 13.9 +1.3**
HSIG 20.47 131 P **P** **00 59 14.5 +1.1**
SEW Seward 20.53 329 P **P** **00 59 13.0 -0.7**
baz=132
SII Sitkinak Islan 20.55 317 P **P** **00 59 14.4 +0.4**
BCAR Beaver Creek A 20.64 343 P **P** **00 59 16.0 +1.1**
L27K Beaver Creek, 20.64 343 P **P** **00 59 16.0 +1.0**
L27K Beaver Creek, 20.64 343 P **P** **00 59 14.4 -0.6**
baz=152
PWL Port Wells 20.66 332 P Pn 00 59 17.1 -0.4
PWL Port Wells 20.66 332 P **P** **00 59 14.3 -0.9**
baz=136
M24K Tolsona, Glenn 20.93 336 P **P** **00 59 19.9 +1.7**
M24K Tolsona, Glenn 20.93 336 P **P** **00 59 19.3 +1.1**
baz=142
L26K Log Cabin Wild 20.95 341 P **P** **00 59 19.9 +1.6**
L26K IAmb IAmb 00 59 24.2
comp=Z,19nm,1.4s
MENT Mentasta 20.97 340 P Pn 00 59 20.4 -0.7
MENT IAmb IAmb 00 59 26.0
comp=Z,9.0nm,0.8s
SCM Sheep Creek Mo 21.06 335 P **P** **00 59 20.5 +0.9**
SCM IAmb IAmb 00 59 34.1
comp=Z,16nm,1.0s
SCM Sheep Creek Mo 21.06 335 P **P** **00 59 19.3 -0.3**
baz=140
DAWY Dawson 21.09 347 P **P** **00 59 20.1 +0.2**
DAWY Dawson 21.09 347 P **P** **00 59 19.6 -0.2**
baz=158
KNK Knik Glacier 21.11 333 P **P** **00 59 20.1 +0.1**
KNK IAmb IAmb 00 59 23.6
comp=Z,18nm,1.2s
KNK Knik Glacier 21.11 333 P **P** **00 59 19.2 -0.8**
baz=137
SRIG Santa Rosalia 21.16 136 P **P** **00 59 20.9 +0.1**
RC01 Rabbit Creek A 21.31 331 P **P** **00 59 22.3 +0.2**
RC01 IAmb IAmb 00 59 26.0
comp=Z,9.2nm,0.9s
RC01 Rabbit Creek A 21.31 331 P **P** **00 59 21.3 -0.8**
baz=134
SML Sawmill 21.36 334 P **P** **00 59 22.8 0.0**
SML IAmb IAmb 00 59 29.4
comp=Z,8.4nm,0.9s
SML Sawmill 21.36 334 P **P** **00 59 22.7 0.0**
baz=138
PAX Paxson 21.43 339 P **P** **00 59 25.3 +1.7**
PAX Paxson 21.43 339 P **P** **00 59 22.8 -0.8**
baz=145
PMR Palmer 21.46 333 P **P** **00 59 24.6 +0.9**
PMR IAmb IAmb 00 59 27.3
comp=Z,8.4nm,1.0s
Q19K Cape Douglas, 21.49 323 P **P** **00 59 24.3 +0.2**
baz=123
CAPN Captain Cook N 21.60 329 P **P** **00 59 25.3 0.0**
DOT Dot Lake 21.65 341 P **P** **00 59 24.4 -1.5**
DOT IAmb IAmb 00 59 29.3
comp=Z,8.8nm,1.2s
K31A O'Neill 21.68 83 P **P** **00 59 25.8 -0.5**
O20K Slope Mountain 21.73 326 P **P** **00 59 26.4 -0.3**
baz=127
WAT6 Susitna Watana 21.76 336 P **P** **00 59 25.6 -1.6**
baz=140,SNR=6.0
M22K Willow 21.91 332 P **P** **00 59 28.3 -0.2**
M22K Willow 21.91 332 P **P** **00 59 27.4 -1.1**
baz=134
MNTX Cornudas Mount 21.92 116 P **P** **00 59 30.0 +1.1**
MNTX Cornudas Mount 21.92 116 P **P** **00 59 30.0 +1.1**
baz=311
RIDG Independent Ri 21.92 340 P **P** **00 59 28.3 -0.4**
RIDG Independent Ri 21.92 340 P **P** **00 59 27.5 -1.2**
baz=147,SNR=19
SCRK Sand Creek 21.92 342 P **P** **00 59 28.2 -0.6**
SCRK IAmb IAmb 00 59 29.5
comp=Z,7.8nm,1.0s
SCRK Sand Creek 21.92 342 P **P** **00 59 27.3 -1.6**
baz=149,SNR=8.6
DHY Denali Highway 22.04 337 P **P** **00 59 29.6 -0.6**
DHY IAmb IAmb 00 59 36.2
comp=Z,23nm,1.2s
DHY Denali Highway 22.04 337 P **P** **00 59 29.4 -0.8**
baz=141,SNR=7.0
EGAK Eagle 22.05 346 P **P** **00 59 29.7 -0.4**
EGAK IAmb IAmb 00 59 33.2
comp=Z,11nm,1.1s
EGAK Eagle 22.05 346 P **P** **00 59 28.9 -1.2**
baz=155
J26L Joseph Creek 22.28 343 P **P** **00 59 32.4 -0.3**
baz=150,SNR=8.9
MSTX Muleshoe 22.30 108 P **P** **00 59 35.0 +1.9**
MSTX IAmb IAmb 00 59 56.5
comp=Z,11nm,1.3s
CUT Chulitna 22.42 333 P **P** **00 59 34.6 +0.6**
P18K Big Mountain, 22.43 323 P **P** **00 59 33.3 -0.9**
P18K IAmb IAmb 00 59 33.5
comp=Z,14nm,0.8s
P18K Big Mountain, 22.43 323 P **P** **00 59 32.5 -1.7**
baz=122
O19K Port Alsworth 22.49 325 P **P** **00 59 35.7 +1.0**
AMTX Amarillo 22.56 104 P **P** **00 59 36.1 +0.3**
AMTX IAmb IAmb 00 59 39.9
comp=Z,17nm,0.9s
AMTX Amarillo 22.56 104 P **P** **00 59 35.6 -0.2**
baz=302
RND Reindeer 22.72 336 P **P** **00 59 37.7 +0.3**
RND IAmb IAmb 00 59 43.2
comp=Z,14nm,1.3s
J25K Salcha River, 22.78 341 P **P** **00 59 36.8 -1.1**
J25K Salcha River, 22.78 341 P **P** **00 59 35.9 -2.0**
baz=147
F33A 5 Mile Ranch, 22.85 74 P **P** **00 59 39.4 +0.7**
F33A IAmb IAmb 00 59 41.5
comp=Z,11nm,0.7s
N19K Bonanza Creek 22.91 327 P **P** **00 59 38.8 -0.6**
N19K Bonanza Creek 22.91 327 P **P** **00 59 37.6 -1.8**
baz=126
EPYK Eagle Plains 22.92 352 P **P** **00 59 38.6 -0.8**
EPYK IAmb IAmb 00 59 43.2
comp=Z,16nm,1.2s
ECSD EROS Data Cent 22.96 79 P **P** **00 59 39.8 -0.1**
ECSD IAmb IAmb 00 59 42.1
comp=Z,13nm,0.8s
ECSD EROS Data Cent 22.96 79 P **P** **00 59 39.7 -0.3**
baz=282,SNR=10.0
AGMN Agassiz Nation 22.96 68 P **P** **00 59 39.2 -0.8**
AGMN IAmb IAmb 00 59 45.2
comp=Z,4.5nm,0.8s
ULM Lac du Bonnet 22.99 63 P **P** **00 59 38.0 -2.1**
comp=Z,5.8nm,0.8s,baz=273,slow=11,SNR=4.9
ULM LR LR 01 08 46.0
comp=Z,248nm,18.9s,baz=299,slow=37
ULM Lac du Bonnet 22.99 63 P **P** **00 59 40.1 -0.1**
ULM IAmb IAmb 00 59 49.4
comp=Z,16nm,1.3s
HDA Harding Lake 22.99 339 P **P** **00 59 39.5 -0.6**
HDA IAmb IAmb 00 59 45.6
comp=Z,6.4nm,1.1s
HDA Harding Lake 22.99 339 P **P** **00 59 39.3 -0.8**
baz=144
MCK McKinley 23.00 337 P **P** **00 59 39.3 -0.9**
MCK IAmb IAmb 00 59 44.2
comp=Z,12nm,1.1s
MCK McKinley 23.00 337 P **P** **00 59 39.0 -1.1**
baz=140
R32A Long Quarter, 23.05 94 P **P** **00 59 42.2 +1.3**
R32A IAmb IAmb 00 59 52.6
comp=Z,7.4nm,0.8s
M20K Styx River 23.05 330 P **P** **00 59 39.5 -1.3**
baz=130
TRF Thorofare Moun 23.18 335 P **P** **00 59 42.5 +0.3**
TRF IAmb IAmb 01 00 02.9
comp=Z,16nm,1.4s
TRF Thorofare Moun 23.18 335 P **P** **00 59 41.4 -0.9**
baz=137
IL31 23.27 340 P **P** **00 59 42.3 -0.6**
IL31 IAmb IAmb 00 59 47.3
comp=Z,7.7nm,1.3s
ILAR Eielson Array 23.27 340 P **P** **00 59 41.0 -1.9**
comp=Z,1.7nm,0.9s,baz=149,slow=8.2,SNR=12
ILAR PcP **PcP** **01 03 28.1 -1.9**
comp=Z,1.0nm,0.7s,baz=186,slow=1.9,SNR=5.2
ILAR LR LR 01 07 10.3
comp=Z,197nm,20.5s,baz=129,slow=33
ILAR Eielson Array 23.27 340 P **P** **00 59 42.7 -0.3**
WRH Wood River Hil 23.34 339 P **P** **00 59 42.9 -0.7**
WRH IAmb IAmb 00 59 49.8
comp=Z,8.1nm,1.0s
PPLA Purkeypile 23.40 332 P **P** **00 59 44.7 +0.3**
PPLA Purkeypile 23.40 332 P **P** **00 59 44.1 -0.3**
baz=133
SDPT Sand Point 23.40 310 P **P** **00 59 46.5 +2.2**
KTH Kantishna Hill 23.45 335 P **P** **00 59 44.7 -0.2**
KTH IAmb IAmb 01 00 07.2
comp=Z,15nm,1.5s
SVW2 Sparrevohn 23.51 326 P **P** **00 59 46.0 +0.7**
M19K Big River Lodg 23.53 329 P **P** **00 59 47.1 +1.6**
M19K Big River Lodg 23.53 329 P **P** **00 59 44.3 -1.2**
baz=128
L34A Svendsen Farm, 23.55 84 P **P** **00 59 45.5 -0.4**
NEA2 Nenana 23.70 338 P **P** **00 59 46.8 -0.3**
NEA2 IAmb IAmb 00 59 50.5
comp=Z,10nm,0.9s
NEA2 Nenana 23.70 338 P **P** **00 59 46.1 -1.1**
baz=141,SNR=12
L20K Farewell, AK 23.70 330 P **P** **00 59 46.4 -0.8**
baz=130,SNR=6.3
U32A Winter Ranch, 23.72 98 P **P** **00 59 48.0 +0.4**
CAST Castle Rocks 23.73 333 P **P** **00 59 46.9 -0.6**
CAST IAmb IAmb 00 59 53.0
comp=Z,9.1nm,1.4s
CAST Castle Rocks 23.73 333 P **P** **00 59 46.6 -0.9**
baz=134
MDM Murphy Dome 23.77 339 P **P** **00 59 47.3 -0.5**
MDM IAmb IAmb 00 59 53.2
comp=Z,5.4nm,0.9s
BPAW Bear Paw Mtn. 23.87 336 P **P** **00 59 47.9 -1.0**
BPAW IAmb IAmb 00 59 51.5
comp=Z,5.5nm,0.9s
BPAW Bear Paw Mtn. 23.87 336 P **P** **00 59 47.4 -1.5**
baz=137
L19K White Mountain 23.87 329 P **P** **00 59 49.0 +0.1**
L19K White Mountain 23.87 329 P **P** **00 59 47.7 -1.1**
baz=128
CHUM Lake Minchumin 24.12 334 P **P** **00 59 49.7 -1.5**
baz=134
I23K Minto, Yukon-K 24.21 339 P **P** **00 59 51.8 -0.1**
I23K IAmb IAmb 00 59 53.8
comp=Z,11nm,0.8s
I23K Minto, Yukon-K 24.21 339 P **P** **00 59 51.2 -0.7**
baz=141,SNR=8.6
KSU1 Kansas State U 24.30 90 P **P** **00 59 54.5 +1.4**
KSU1 Kansas State U 24.30 90 P **P** **00 59 53.1 0.0**
baz=292
K20K Telida 24.34 332 P **P** **00 59 52.9 -0.3**
K20K IAmb IAmb 00 59 57.3
comp=Z,13nm,1.0s
K20K Telida 24.34 332 P **P** **00 59 51.7 -1.6**
baz=131
H24K Noodor Dome 24.39 341 P **P** **00 59 53.8 +0.1**
H24K IAmb IAmb 00 59 55.8
comp=Z,7.3nm,1.1s
H24K Noodor Dome 24.39 341 P **P** **00 59 52.3 -1.4**
baz=144,SNR=6.3
N35A Tabor 24.40 86 P **P** **00 59 54.0 +0.1**
MLY Manley 24.50 337 P **P** **00 59 53.7 -0.9**
MLY IAmb IAmb 00 59 58.4
comp=Z,10nm,0.9s
MLY Manley 24.50 337 P **P** **00 59 53.2 -1.4**
baz=139,SNR=12
INK Inuvik 24.57 356 P **P** **00 59 54.5 -0.6**
comp=Z,1.8nm,1.0s,baz=147,slow=7.2,SNR=5.4
INK LR LR 01 09 03.2
comp=Z,192nm,19.2s,baz=164,slow=35
INK Inuvik 24.57 356 P **P** **00 59 56.1 +1.0**
INK Inuvik 24.57 356 P **P** **00 59 54.1 -1.0**
baz=171
TX31 Lajitas Ar. Si 24.59 118 P **P** **00 59 56.7 +0.8**
TX32 Lajitas Array 24.59 118 P **P** **00 59 56.1 +0.3**
TX32 IAmb IAmb 01 00 09.7
comp=Z,12nm,1.4s
TXAR Lajitas Array 24.59 118 P **P** **00 59 55.9 +0.1**
comp=Z,2.6nm,0.8s,baz=296,slow=7.8,SNR=27
TXAR PcP **PcP** **01 03 31.5 -2.0**
comp=Z,0.2nm,0.6s,baz=3.4,slow=4.5,SNR=2.9
TXAR LR LR 01 08 57.5
comp=Z,55nm,21.3s,baz=308,slow=35
WMOK Wichita Mounta 24.67 102 P **P** **00 59 57.7 +1.2**
WMOK Wichita Mounta 24.67 102 P **P** **00 59 56.7 +0.2**
baz=301,SNR=21
TTA Tatalina 24.76 330 P **P** **00 59 58.0 +0.9**
TTA IAmb IAmb 01 00 03.2
comp=Z,7.3nm,1.1s
TTA Tatalina 24.76 330 P **P** **00 59 56.3 -0.7**
baz=127
F36A Milaca 24.76 73 P **P** **00 59 57.1 0.0**
F36A IAmb IAmb 00 59 59.7
comp=Z,12nm,0.9s
LPIG La Paz 24.80 137 LR LR 01 08 29.1
comp=Z,135nm,19.6s,baz=335,slow=34
J20K Nowinta River 24.91 333 P **P** **00 59 57.7 -0.6**
J20K IAmb IAmb 01 00 04.5
comp=Z,5.9nm,0.9s
J20K Nowinta River 24.91 333 P **P** **00 59 57.0 -1.4**
baz=132
I21K Tanana 24.96 337 IAmb IAmb 01 00 02.6
comp=Z,11nm,0.9s
I21K Tanana 24.96 337 P **P** **00 59 57.6 -1.1**
baz=137
BMAR Burnt Mountain 25.06 345 P **P** **00 59 59.7 0.0**
HPIG 25.07 125 P **P** **01 00 01.6 +1.2**
HPIG IAmb IAmb 01 00 03.6
comp=Z,5.7nm,0.9s
ABTX Abilene, Hawle 25.21 107 P **P** **01 00 00.9 -0.5**
ABTX IAmb IAmb 01 00 07.8
comp=Z,7.9nm,1.2s
T35A Sooner Cattle 25.26 95 P **P** **01 00 01.4 -0.3**
T35A IAmb IAmb 01 00 16.4
comp=Z,12nm,1.0s
OKCFA Oklahoma City 25.28 99 P **P** **01 00 01.5 -0.4**
H21K Melozitna Rive 25.54 337 IAmb IAmb 01 00 07.5
comp=Z,11nm,1.1s
H21K Melozitna Rive 25.54 337 P **P** **01 00 01.9 -2.2**
baz=136
FCC Fort Churchill 25.77 43 P **P** **01 00 07.3 +1.2**
FCC IAmb IAmb 01 00 27.2
comp=Z,8.9nm,1.1s
E38A The Farm, Brul 26.01 71 P **P** **01 00 08.6 +0.1**
COLD Coldfoot 26.07 341 P **P** **01 00 09.4 +0.7**
COLD IAmb IAmb 01 00 28.4
comp=Z,4.9nm,1.2s
COLD Coldfoot 26.07 341 P **P** **01 00 08.5 -0.3**
baz=142
P38A Dawn 26.33 87 P **P** **01 00 12.2 +0.7**
JCT Junction City 26.39 111 P **P** **01 00 11.4 -0.7**
JCT IAmb IAmb 01 00 13.0
comp=Z,5.5nm,0.8s
TOLK Toolik Lake Re 27.07 343 IAmb IAmb 01 00 22.2
comp=Z,10nm,1.0s
TOLK Toolik Lake Re 27.07 343 P **P** **01 00 17.8 -0.1**
baz=145,SNR=6.1
COWI Conover 27.75 72 P **P** **01 00 24.1 0.0**
R40A Maddies Statio 27.75 89 P **P** **01 00 25.7 +1.6**
N41A Harden Midland 27.89 83 P **P** **01 00 25.7 +0.2**
A36M Sachs Harbour 28.17 2 P **P** **01 00 29.3 +1.7**
A36M IAmb IAmb 01 00 30.9
comp=Z,3.9nm,0.8s
A36M Sachs Harbour 28.17 2 P **P** **01 00 27.9 +0.3**
baz=185
CCM Cathedral Cave 28.58 89 P **P** **01 00 31.3 -0.4**
CCM IAmb IAmb 01 00 51.5
comp=Z,15nm,1.5s
CCM Cathedral Cave 28.58 89 P **P** **01 00 31.4 -0.2**
baz=294
X40A Basin Creek Fa 29.04 97 P **P** **01 00 35.6 -0.1**
WLAR White Oak Lake 29.24 98 P **P** **01 00 38.1 +0.6**
HKT Hockley 29.42 107 P **P** **01 00 38.6 -0.4**
HKT IAmb IAmb 01 00 41.5
comp=Z,5.1nm,1.2s
LCAR Lake Charles 29.50 93 P **P** **01 00 40.6 +0.9**
TNA Tin City 30.56 329 P **P** **01 00 50.7 +1.9**
TNA IAmb IAmb 01 00 54.4
comp=Z,3.5nm,1.2s
GAMB Gambell 31.40 324 IAmb IAmb 01 00 56.0
comp=Z,4.7nm,1.0s
GAMB Gambell 31.40 324 P **P** **01 00 54.6 -1.6**
baz=108
RES Resolute Bay 34.27 15 LR LR 01 14 11.4
comp=Z,38nm,18.8s,baz=13,slow=34
RES Resolute Bay 34.27 15 IAmb IAmb 01 01 22.4
comp=Z,4.1nm,1.0s
SADO Sadowa 34.90 71 LR LR 01 15 58.2
comp=Z,170nm,18.8s,baz=306,slow=37
TKL Tuckaleechee C 35.02 88 LR LR 01 15 50.6
comp=Z,184nm,21.0s,baz=302,slow=36
SMY Shemya 38.20 304 P **P** **01 01 56.2 +1.2**
FRB Frobisher Bay 38.74 38 LR LR 01 18 58.5
comp=Z,37nm,19.1s,baz=228,slow=38
SCHQ Schefferville 40.35 52 LR LR 01 18 52.7
comp=Z,114nm,18.1s,baz=98,slow=36
QUA2 Belchertown 40.38 72 P **P** **01 02 14.8 +1.4**
TULEG Thule 40.75 18 P **P** **01 02 17.6 +1.6**
TULEG IAmb IAmb 01 02 33.5
comp=Z,4.1nm,0.7s
BILL Bilibino 41.00 329 P **P** **01 02 17.6 -0.6**
BILL IAmb IAmb 01 02 20.7
comp=Z,4.7nm,1.0s
SEY Seymchan 47.35 322 P **P** **01 03 05.9 -3.2**
comp=Z,3.1nm,0.8s,baz=79,slow=10,SNR=4.4
MA2 Magadan 49.10 318 LR LR 01 23 02.3
comp=Z,73nm,18.7s,baz=114,slow=35
JTS Las Juntas de 50.38 118 LR LR 01 28 59.9
comp=Z,41nm,18.0s,baz=46,slow=41
TIXI Tiksi 52.70 337 LR LR 01 27 20.1
comp=Z,55nm,19.1s,baz=2.0,slow=37
BORG Borgarnes 57.80 29 LR LR 01 26 58.6
comp=Z,29nm,18.9s,baz=330,slow=34
SJG San Juan 57.85 96 LR LR 01 31 18.8
comp=Z,29nm,18.4s,baz=296,slow=38
H11N3 WAKE ISLAND Hy 58.37 267 T T 02 07 15.7
baz=49,slow=75,SNR=2064
H11N2 WAKE ISLAND Hy 58.38 267 T T 02 07 21.4
baz=49,slow=75,SNR=1868
H11N1 WAKE ISLAND Hy 58.39 267 T T 02 07 21.1
baz=49,slow=75,SNR=1754
H11S1 WAKE ISLAND Hy 59.30 267 T T 02 08 30.4
baz=50,slow=75,SNR=511
H11S2 WAKE ISLAND Hy 59.31 267 T T 02 08 28.7
baz=50,slow=75,SNR=317
H11S3 WAKE ISLAND Hy 59.32 267 T T 02 08 30.2
baz=50,slow=75,SNR=262
ASAJ Asahikawa 60.66 304 LR LR 01 29 47.1
comp=Z,21nm,18.1s,baz=128,slow=35
SDV Santo Domingo 60.96 107 LR LR 01 34 58.7
comp=Z,21nm,18.2s,baz=225,slow=40
KLR Kul'dur 63.75 314 LR LR 01 29 40.3
comp=Z,22nm,21.8s,baz=340,slow=33
NRIK Noril'sk 63.94 347 P **P** **01 05 08.0 -0.1**
comp=Z,0.8nm,0.5s,baz=22,slow=7.0,SNR=4.8
NB2 NORSAR Subarra 70.39 20 P **P** **01 05 47.5 -1.7**
comp=Z,1.1nm,1.0s,baz=332,slow=6.2
NOA NORSAR Array B 70.39 20 P **P** **01 05 47.2 -2.0**
comp=Z,1.3nm,0.9s,baz=333,slow=5.9,SNR=4.6
RPN Rapa Nui 72.88 162 LR LR 01 31 44.9
comp=Z,17nm,18.4s,baz=26,slow=31
FINES FINESS Array B 72.97 12 P **P** **01 06 03.3 -1.4**
comp=Z,2.0nm,0.8s,baz=20,slow=4.4,SNR=7.1
FINES FINESS Array B 72.97 12 P **P** **01 06 05.2 +0.5**
KSAR Wonju Array Be 73.52 306 P **P** **01 06 08.2 -0.2**
MDP Montagnes des 76.33 96 LR LR 01 42 01.0
comp=Z,30nm,18.9s,baz=252,slow=37
SONM Songino Array 76.62 325 P **P** **01 06 24.4 -1.8**
comp=Z,2.3nm,0.8s,baz=48,slow=3.9,SNR=14
SONM LR LR 01 38 49.9
comp=Z,70nm,19.3s,baz=10.0,slow=35
SONM Songino Array 76.62 325 P **P** **01 06 28.2 +1.9**
SONM IAmb IAmb 01 06 28.9
comp=Z,4.2nm,1.0s
GUMO Guam 78.28 278 P **P** **01 06 37.2 +1.4**
ZAA0 Zalesovo Array 78.40 341 P **P** **01 06 35.5 -0.4**
ZAA0 IAmb IAmb 01 06 42.6
comp=Z,1.4nm,0.8s
ZALV Zalesovo Beam 78.40 341 P **P** **01 06 34.2 -1.7**
comp=Z,0.8nm,0.7s,baz=32,slow=8.5,SNR=5.1
ZALV LR LR 01 43 32.0
comp=Z,16nm,18.0s,baz=16,slow=38
ZALV Zalesovo Beam 78.40 341 P **P** **01 06 35.3 -0.5**
CLL Collm 79.44 23 *eP* **P** **01 06 44.0 +2.3**
HHC Hu-ho-hao-te 79.78 318 *eP* **P** **01 06 44.1 +0.2**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,83nm,5.8s
ARU Arti 79.82 356 LR LR 01 43 42.7
comp=Z,25nm,20.3s,baz=274,slow=37
MTE Manteigas 80.66 42 P **P** **01 06 49.3 +0.7**
PMOZ Porto Moniz, M 81.28 53 P **P** **01 06 51.4 -0.6**
LPAZ La Paz 81.38 122 P **P** **01 06 51.5 -1.7**
comp=Z,2.5nm,0.8s,baz=328,slow=5.3,SNR=11
LPAZ La Paz 81.38 122 P **P** **01 06 51.6 -1.7**
LPAZ IAmb IAmb 01 06 53.4
comp=Z,3.3nm,0.8s
GERES GERESS Array B 81.85 24 P **P** **01 06 53.4 -1.3**
comp=Z,0.2nm,0.3s,baz=320,slow=10,SNR=3.7
BRVK Borovoye 82.03 349 P **P** **01 06 56.8 +1.3**
BRVK IAmb IAmb 01 06 58.5
comp=Z,2.1nm,0.9s
KURK Kurchatov 82.81 343 P **P** **01 07 00.6 +1.0**
KURK IAmb IAmb 01 07 01.9
comp=Z,6.7nm,1.4s
PB11 IPOC Station P 83.15 126 **P** **01 07 01.0 -0.9**
CONA Conrad Observa 83.30 23 *eP* **P** **01 07 02.6 +0.3**
comp=Z,0.9nm,0.8s
KBA Koelnbreinsper 83.32 25 *eP* P 01 06 57.5 -5.1
comp=Z,0.3nm,0.4s
ABTA Abfaltersbach 83.36 26 *eP* **P** **01 07 02.9 +0.3**

	comp=Z,2.2nm,0.9s						
CTI	**Castel Tesino**	**83.70**	**27**	P	**P**	**01 07 04.9**	**+0.4**
CTI				IAmb	IAmb	01 07 07.3	
	comp=Z,3.3nm,1.0s						
AKASG	**Malin Array Be**	**83.78**	**14**	P	**P**	**01 07 02.9**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=38,slow=44,SNR=2.5						
SOKA	**Soboth**	**84.19**	**24**	*e*P	**P**	**01 07 06.9**	**0.0**
	comp=Z,3.9nm,1.4s						
OBKA	**Obir**	**84.20**	**25**	*e*P	**P**	**01 07 05.6**	**-1.3**
	comp=Z,1.3nm,0.8s						
MK31	**Makanchi Array**	**85.63**	**339**	P	**P**	**01 07 14.8**	**+0.8**
MKAR	**Makanchi Array**	**85.63**	**339**	P	**P**	**01 07 13.7**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=22,slow=7.2,SNR=6.9						
MKAR				LR	LR	01 47 13.8	
	comp=Z,32nm,19.2s,baz=24,slow=37						
AKTO	**Aktyubinsk**	**85.83**	**356**	LR	LR	01 47 53.0	
	comp=Z,16nm,18.9s,baz=38,slow=37						
WMQ	**Urumqi**	**86.83**	**335**	*e*P	**P**	**01 07 22.8**	**+2.7**
AAK	**Ala-Archa**	**91.37**	**343**	LR	LR	01 50 31.7	
	comp=Z,22nm,20.5s,baz=53,slow=37						
PZH	**PanZhiHua**	**96.13**	**316**	P	**P**	**01 08 06.5**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
GEYT	**Alibeck**	**98.29**	**355**	LR	LR	01 57 50.8	
	comp=Z,26nm,18.8s,baz=120,slow=39						

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*FUNV **04** 01:12:31.9, 8.°46N×71.°42W, h5km, MW3.4*
ISC 04 01:12:30.0±1.1**, 8.°45N**±0.°03×**71.°35W**±0.°03**, h9**km±10km**,**
n18, σ1.ˢ**51**/35**, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.83**	**58**	*e*P	**Pg**	**01 12 45.7**	**-0.3**
SDV				*e*S	**Sg**	**01 12 56.6**	**-0.3**
SDV				*i*		01 13 12.5	
	comp=Z,72nm,0.2s						
CAPV	**Capacho**	**1.12**	**239**	*e*P	**Pn**	**01 12 51.8**	**-0.2**
CAPV				*e*S	**Sb**	**01 13 06.3**	**-0.1**
PAMC	**Pamplona, Colo**	**1.73**	**231**	*e*P	**Pg**	**01 13 03.6**	**+0.3**
PAMC				*e*S	**Sg**	**01 13 29.8**	**+3.9**
PAMC				*i*		01 13 36.1	
	comp=Z,57nm,0.4s						
OCAC	**Ocana**	**1.96**	**264**	*e*P	**Pb**	**01 13 05.2**	**-0.8**
OCAC				*e*S	**Sg**	**01 13 32.3**	**-0.8**
OCAC				*i*		01 13 34.5	
	comp=Z,246nm,0.3s						
MCQV	**Machiques**	**1.98**	**324**	*e*P	**Pb**	**01 13 04.7**	**-1.5**
MCQV				*e*S	**Sb**	**01 13 29.1**	**-1.7**
TAMC	**Tame, Arauca**	**2.05**	**192**	*e*P	**Pg**	**01 13 09.3**	**0.0**
TAMC				*e*S	**Sg**	**01 13 38.1**	**+2.2**
CURV	**Curarigua**	**2.07**	**41**	*e*P	**Pg**	**01 13 09.3**	**-0.4**
CURV				*e*S	**Sb**	**01 13 32.6**	**-1.1**
SANV	**Sanarito**	**2.07**	**60**	*e*P	**Pb**	**01 13 08.2**	**+0.3**
SANV				*e*S	**Sb**	**01 13 33.6**	**-0.2**
DABV	**Dabajuro**	**2.56**	**16**	*e*P	**Pn**	**01 13 13.0**	**+1.4**
DABV				*e*S	**Sn**	**01 13 44.0**	**+1.1**
BARC	**Barichara**	**2.59**	**225**	*e*P	**Pg**	**01 13 18.5**	**-1.2**
BARC				*e*S	**Sg**	**01 13 53.4**	**0.0**
BARC				*i*		01 14 00.2	
	comp=Z,24nm,0.7s						
SIQV	**Siquisique**	**2.66**	**35**	*e*P	**Pn**	**01 13 14.9**	**+1.8**
SIQV				*e*S	**Sn**	**01 13 47.2**	**+1.6**
MAPV	**Macapo**	**3.17**	**64**	*e*P	**Pn**	**01 13 21.9**	**+1.8**
MAPV				*e*S	**Sn**	**01 13 58.9**	**+0.9**
TURV	**Turiamo**	**3.99**	**60**	*e*P	**Pn**	**01 13 34.0**	**+2.6**
TURV				*e*S	**Sn**	**01 14 18.8**	**+0.6**
BENV	**Beln**	**4.00**	**68**	*e*P	**Pn**	**01 13 33.0**	**+1.6**
BENV				*e*S	**Sn**	**01 14 18.8**	**+0.3**
PAYV	**Puerto Ayacuch**	**4.74**	**129**	*e*P	**Pn**	**01 13 43.0**	**+1.3**
PAYV				*e*S	**Sn**	**01 14 36.0**	**-0.8**
CACV	**CAICARA DEL OR**	**4.84**	**100**	*e*P	**Pb**	**01 13 52.4**	**-2.6**
CACV				*e*S	**Sb**	**01 14 51.8**	**-1.7**
MERV	**Las Mercedes**	**5.06**	**81**	*e*S	**Sn**	**01 14 43.7**	**-0.9**
BIRV	**Birongo**	**5.40**	**68**	*e*P	**Pn**	**01 13 52.2**	**+1.4**
BIRV				*e*S	**Sn**	**01 14 51.2**	**-1.9**

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*NOU **04** 01:19:18.7, 14.°11S×172.°36E, h621km, mb4.7/47, Vanuatu Islands Region*
*IDC **04** 01:19:22.9±1.6, 14.°52S×171.°76E, h612km±18km, mb3.6/14, mb1 3.9/15, mb1mx3.6/34, mbtmp4.5/15, Error ellipse: s-maj=17.5km s-min=13.9km az=137.0*
*NEIC **04** 01:19:24.1±2.0, 14.°6S±0.°1×171.°8E±0.°1, h617km±7km, mb4.3/54, Error ellipse: s-maj=20.1km s-min=17.5km az=112.0*
ISC 04 01:19:22.4±0.5**, 14.°49S**±0.°07×**171.°81E**±0.°08**, h600**km**,**
n158, σ1.ˢ**15**/150**, mb4.3**/46**, 1C, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.55**	**257**	P	**P**	**01 20 53.6**	**+1.7**
SANVU	**Saraoutou**	**4.55**	**257**	P	**P**	**01 20 54.1**	**+2.2**
RTV	**Rentapao**	**4.63**	**224**	P	**P**	**01 20 55.8**	**+3.4**
DVP	**Devils Point**	**4.75**	**227**	P	**P**	**01 20 56.0**	**+2.7**
MARNC	**Mare, Loyalty**	**7.83**	**207**	P	**P**	**01 21 20.4**	**+0.4**
YATNC	**Mamie plateau,**	**8.86**	**211**	P	**P**	**01 21 32.6**	**+2.6**
PINNC	**Pines Island,**	**9.08**	**206**	P	**P**	**01 21 33.8**	**+1.7**
DZM	**Mont Dzumac**	**9.10**	**213**	P	**P**	**01 21 34.4**	**+2.0**
	3.0nm,0.3s,baz=158,slow=22,SNR=27						
DZM				S	**S**	**01 23 21.2**	**+2.1**
	0.4nm,0.3s,baz=127,slow=20,SNR=2.5						
DZM	**Mont Dzumac**	**9.10**	**213**	P	**P**	**01 21 34.5**	**+2.1**
OUENC	**Ouen Island, N**	**9.19**	**210**	P	**P**	**01 21 35.0**	**+1.9**
OUENC	**Ouen Island, N**	**9.19**	**210**	P	**P**	**01 21 35.1**	**+1.9**
NOUC	**Port Laguerre**	**9.20**	**214**	P	**P**	**01 21 35.5**	**+2.2**
KOUNC	**Koumac, New Ca**	**9.38**	**229**	P	**P**	**01 21 37.4**	**+2.4**
EIDS	**Eidsvold**	**22.26**	**238**	P	**P**	**01 23 36.1**	**-0.4**
URZ	**Urewera**	**24.14**	**170**	P	**P**	**01 23 52.1**	**-0.7**
	3.0nm,0.4s,baz=342,slow=3.6,SNR=2.1						
ARMA	**Armidale**	**24.42**	**226**	P	**P**	**01 23 56.5**	**+1.0**
ARMA				IAmb	IAmb	01 23 56.7	
	comp=Z,14nm,0.8s						
ARMA	**Armidale**	**24.42**	**226**	P	**P**	**01 23 55.9**	**+0.3**
RMQ	**Roma**	**24.63**	**237**	P	**P**	**01 23 58.1**	**+0.7**
TMVZ	**Te Maari**	**24.77**	**173**	P	**P**	**01 24 00.1**	**+1.5**
ETVZ	**East Tongariro**	**24.80**	**173**	P	**P**	**01 23 59.2**	**+0.4**
OTVZ	**Oturere**	**24.82**	**173**	P	**P**	**01 23 59.6**	**+0.6**
OTVZ				S	**P**	**01 24 00.5**	**+1.5**
NGZ	**Ngauruhoe**	**24.82**	**173**	P	**P**	**01 23 59.4**	**+0.4**
SNVZ	**South Ngauruho**	**24.84**	**173**	P	**P**	**01 23 59.8**	**+0.5**
NMHZ	**Naumai**	**24.91**	**171**	P	**P**	**01 24 00.5**	**+0.7**
BKZ	**Black Stump Fm**	**24.93**	**171**	P	**P**	**01 23 58.6**	**-1.3**
BKZ	**Black Stump Fm**	**24.93**	**171**	P	**P**	**01 23 58.6**	**-1.3**
TRVZ	**Turoa**	**24.94**	**173**	P	**P**	**01 24 01.3**	**+1.1**
WNVZ	**Wahianoa**	**24.97**	**173**	P	**P**	**01 24 00.9**	**+0.5**
CTA	**Charters Tower**	**25.02**	**254**	P	**P**	**01 24 00.8**	**-0.1**
	comp=Z,11nm,0.6s,baz=84,slow=11,SNR=12						
MOVZ	**Moawhango**	**25.07**	**173**	P	**P**	**01 24 00.5**	**-0.7**
QRZ	**Quartz Range**	**26.25**	**179**	P	**P**	**01 24 10.0**	**-1.4**
BFZ	**Birch Farm**	**26.39**	**172**	P	**P**	**01 24 10.5**	**-2.1**
MGCD	**Mangrove Creek**	**26.48**	**222**	P	**P**	**01 24 13.9**	**+0.3**
THZ	**Tophouse**	**27.20**	**178**	P	**P**	**01 24 19.8**	**0.0**
COEN	**Coen**	**27.76**	**267**	P	**P**	**01 24 25.4**	**+0.4**
COEN				IAmb	IAmb	01 24 25.9	
	comp=Z,10nm,0.8s						
COEN	**Coen**	**27.76**	**267**	P	**P**	**01 24 26.1**	**+1.1**
KHZ	**Kahutara**	**27.87**	**177**	P	**P**	**01 24 24.5**	**-1.0**
CNB	**Canberra Magne**	**28.94**	**220**	P	**P**	**01 24 35.8**	**+0.8**
CAN	**Canberra**	**29.17**	**221**	P	**P**	**01 24 37.5**	**+0.5**
CAN				IAmb	IAmb	01 24 38.2	
	comp=Z,19nm,1.0s						
CAN	**Canberra**	**29.17**	**221**	P	**P**	**01 24 37.7**	**+0.7**
CMSA	**Cobar Meteorol**	**29.31**	**230**	P	**P**	**01 24 38.5**	**+0.3**
LBZ	**Lake Benmore**	**29.83**	**182**	P	**P**	**01 24 41.9**	**-0.6**
QIS	**Mount Isa**	**31.26**	**254**	P	**P**	**01 24 55.6**	**+0.5**
STKA	**Stephens Creek**	**32.57**	**233**	P	**P**	**01 25 06.4**	**+0.4**
	comp=Z,18nm,0.3s,baz=57,slow=8.4,SNR=100						
STKA	**Stephens Creek**	**32.57**	**233**	P	**P**	**01 25 06.6**	**+0.6**
STKA				IAmb	IAmb	01 25 07.3	
	comp=Z,4.7nm,0.5s						
STKA	**Stephens Creek**	**32.57**	**233**	P	**P**	**01 25 06.9**	**+0.9**
TOO	**Toolangi**	**32.78**	**221**	P	**P**	**01 25 08.1**	**+0.4**
TOO	**Toolangi**	**32.78**	**221**	P	**P**	**01 25 08.9**	**+1.2**
JAY	**Jayapura**	**32.92**	**288**	P	**P**	**01 25 09.2**	**-0.1**
	comp=Z,8.2nm,0.8s						
GLAD	**Gladstone**	**33.56**	**214**	P	**P**	**01 25 14.5**	**+0.4**
LCRK	**Leigh Creek**	**34.71**	**237**	P	**P**	**01 25 24.3**	**+0.4**
ARPS	**Mount Arapiles**	**34.73**	**225**	P	**P**	**01 25 24.6**	**+0.7**
MOO	**Moorlands**	**35.02**	**213**	P	**P**	**01 25 26.0**	**-0.3**
HTT	**Hallett**	**35.27**	**232**	P	**P**	**01 25 29.2**	**+0.6**
NAPP	**Napperby**	**35.76**	**233**	P	**P**	**01 25 33.0**	**+0.4**
WR0	**Warramunga Arr**	**35.96**	**256**	P	**P**	**01 25 33.4**	**-1.1**
WR0				IAmb	IAmb	01 25 34.2	
	comp=Z,9.2nm,0.8s						
OOD	**Oodnadatta**	**36.06**	**243**	P	**P**	**01 25 35.5**	**+0.4**
WB0	**Warramunga Arr**	**36.09**	**256**	P	**P**	**01 25 34.7**	**-0.8**
WB2	**Warramunga Arr**	**36.14**	**256**	P	**P**	**01 25 34.8**	**-1.1**
WRAB	**Tennant Creek**	**36.14**	**256**	P	**P**	**01 25 35.1**	**-0.8**
WRA	**Warramunga Arr**	**36.15**	**256**	P	**P**	**01 25 34.5**	**-1.5**
	comp=Z,21nm,0.8s,baz=86,slow=8.7,SNR=135						
WRA				ScP	**S**	**01 30 34.1**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=86,slow=4.2,SNR=8.2						
WRA	**Warramunga Arr**	**36.15**	**256**	P	**P**	**01 25 34.8**	**-1.2**
AS31	**Alice Springs**	**36.88**	**250**	P	**P**	**01 25 41.4**	**-0.5**
ASAR	**Alice Springs**	**36.88**	**250**	P	**P**	**01 25 40.8**	**-1.1**
	comp=Z,29nm,0.5s,baz=75,slow=9.6,SNR=506						
ASAR				ScP	**ScP**	**01 30 37.2**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=89,slow=3.8,SNR=21						
ASAR	**Alice Springs**	**36.88**	**250**	P	**P**	**01 25 41.6**	**-0.4**
BBOO	**Buckleboo**	**37.25**	**234**	P	**P**	**01 25 44.7**	**-0.1**
BBOO	**Buckleboo**	**37.25**	**234**	P	**P**	**01 25 45.2**	**+0.4**
MULG	**Mulgathing**	**38.08**	**239**	P	**P**	**01 25 51.4**	**-0.1**
KDU	**Kakadu**	**38.25**	**268**	P	**P**	**01 25 53.0**	**-0.1**
MTN	**Manton Dam**	**39.53**	**267**	P	**P**	**01 26 03.5**	**+0.1**
FAKI	**Fak Fak**	**40.68**	**283**	P	**P**	**01 26 11.9**	**-0.7**
FAKI				IAmb	IAmb	01 26 28.4	
	comp=Z,23nm,1.0s						
FAKI	**Fak Fak**	**40.68**	**283**	P	**P**	**01 26 10.0**	**-2.6**
KNRA	**Kununurra**	**41.53**	**263**	P	**P**	**01 26 18.9**	**-0.4**
KNRA	**Kununurra**	**41.53**	**263**	P	**P**	**01 26 19.0**	**-0.2**
WRKA	**Warakurna**	**42.12**	**249**	P	**P**	**01 26 23.9**	**+0.1**
FORT	**Forrest**	**43.22**	**240**	P	**P**	**01 26 31.8**	**-0.4**
FORT	**Forrest**	**43.22**	**240**	P	**P**	**01 26 33.0**	**+0.8**
BATI	**Baumata**	**47.16**	**269**	P	**P**	**01 27 03.0**	**+0.5**
PSA00	**Pilbara Seismi**	**49.73**	**254**	P	**P**	**01 27 20.9**	**-0.5**
PSA00				IAmb	IAmb	01 27 21.9	
	comp=Z,11nm,1.1s						
PSA00	**Pilbara Seismi**	**49.73**	**254**	P	**P**	**01 27 21.6**	**+0.2**
MEEK	**Meekatharra**	**50.94**	**247**	P	**P**	**01 27 29.7**	**-0.4**
BSSI	**Bau Bau, Buton**	**51.07**	**274**	P	**P**	**01 27 29.2**	**-2.0**
	comp=Z,9.9nm,0.8s						
BNSI	**Bone**	**51.87**	**276**	P	**P**	**01 27 37.0**	**+0.1**
	comp=Z,12nm,0.7s						
KLBR	**Kellerberrin**	**52.06**	**241**	P	**P**	**01 27 37.4**	**-0.7**
BLDU	**Ballidu**	**52.87**	**242**	P	**P**	**01 27 43.4**	**-0.4**
MORW	**Morawa**	**53.34**	**244**	P	**P**	**01 27 46.4**	**-0.8**
MORW	**Morawa**	**53.34**	**244**	P	**P**	**01 27 46.6**	**-0.6**
GIRL	**Giralia**	**54.91**	**252**	P	**P**	**01 27 59.0**	**+0.8**
GIRL	**Giralia**	**54.91**	**252**	P	**P**	**01 27 58.6**	**+0.4**
UGM	**Wanagama**	**60.33**	**269**	P	**P**	**01 28 34.7**	**-0.5**
UGM				IAmb	IAmb	01 28 40.0	
	comp=Z,39nm,1.0s						
UGM	**Wanagama**	**60.33**	**269**	P	**P**	**01 28 33.4**	**-1.7**
VNDA	**Vanda**	**63.25**	**182**	P	**P**	**01 28 52.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=353,slow=6.7,SNR=5.9						
VNDA	**Vanda**	**63.25**	**182**	P	**P**	**01 28 52.7**	**-0.1**
SBA	**Scott Base**	**63.43**	**181**	P	**P**	**01 28 54.8**	**+0.8**
CASY	**Casey**	**65.44**	**203**	P	**P**	**01 29 06.3**	**-0.5**
CASY				IAmb	IAmb	01 29 07.1	
	comp=Z,13nm,0.8s						
PETK	**Petropavlovsk-**	**68.41**	**351**	P	**P**	**01 29 25.3**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=175,slow=7.7,SNR=5.7						
QSPA	**South Pole Qui**	**75.54**	**180**	P	**P**	**01 30 04.5**	**-1.9**
	comp=Z,2.0nm,0.8s,baz=330,slow=4.3,SNR=9.9						
QSPA	**South Pole Qui**	**75.54**	**180**	P	**P**	**01 30 04.9**	**-1.5**
KMI	**Kunming**	**77.95**	**300**	⇑P	**P**	**01 30 21.9**	**+1.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**78.31**	**318**	*e*P	**P**	**01 30 24.5**	**+2.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,97nm,6.0s						
CMAR	**Chiang Mai Arr**	**78.89**	**292**	P	**P**	**01 30 24.0**	**-1.3**
	comp=Z,2.3nm,0.3s,baz=142,slow=4.5,SNR=4.8						
GAMB	**Gambell**	**79.05**	**7**	P	**P**	**01 30 25.7**	**+0.7**
PZH	**PanZhiHua**	**79.31**	**301**	P	**P**	**01 30 27.9**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,5.3s						
BRLK	**Bradley Lake**	**79.89**	**18**	P	**P**	**01 30 30.3**	**+0.7**
BRLK				IAmb	IAmb	01 30 49.0	
	comp=Z,12nm,1.1s						
M19K	**Big River Lodg**	**80.67**	**15**	P	**P**	**01 30 34.2**	**+0.6**
M19K				IAmb	IAmb	01 30 36.1	
	comp=Z,5.9nm,0.8s						
L19K	**White Mountain**	**80.78**	**15**	P	**P**	**01 30 35.4**	**+1.2**
L19K				IAmb	IAmb	01 30 36.7	
	comp=Z,23nm,0.9s						
TTA	**Tatalina**	**81.14**	**14**	P	**P**	**01 30 36.9**	**+0.9**
TTA				IAmb	IAmb	01 30 37.8	
	comp=Z,10nm,1.0s						
TNA	**Tin City**	**81.26**	**8**	P	**P**	**01 30 37.6**	**+1.1**
K20K	**Telida**	**81.97**	**15**	P	**P**	**01 30 40.8**	**+0.5**
YBH	**Yreka Blue Hor**	**82.18**	**43**	P	**P**	**01 30 43.4**	**+1.5**
HUMO	**Hull Mountain**	**82.42**	**43**	P	**P**	**01 30 44.2**	**+1.2**
HUMO				IAmb	IAmb	01 30 45.0	
	comp=Z,5.9nm,1.1s						
CAST	**Castle Rocks**	**82.53**	**16**	P	**P**	**01 30 41.6**	**-1.4**
CAST				IAmb	IAmb	01 30 43.0	
	comp=Z,5.2nm,0.8s						
NVAR	**Mina Array Bea**	**83.81**	**48**	P	**P**	**01 30 50.9**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=230,slow=8.9,SNR=19						
NVAR	**Mina Array Bea**	**83.81**	**48**	P	**P**	**01 30 50.8**	**+0.5**
LCH	**Last Change Ra**	**83.81**	**49**	P	**P**	**01 30 50.8**	**+0.6**
K05A	**Summer Lake**	**83.83**	**43**	P	**P**	**01 30 51.7**	**+1.5**
K05A				IAmb	IAmb	01 30 51.9	
	comp=Z,5.6nm,0.9s						
MOD	**Modoc Plateau**	**83.87**	**44**	P	**P**	**01 30 51.6**	**+1.2**
MOD				IAmb	IAmb	01 30 51.9	
	comp=Z,3.2nm,0.8s						
NV11	**Mina Array Sit**	**83.92**	**48**	P	**P**	**01 30 51.9**	**+1.2**
NV11				IAmb	IAmb	01 30 52.4	
	comp=Z,4.8nm,1.1s						
I21K	**Tanana**	**84.00**	**15**	P	**P**	**01 30 50.3**	**+0.1**
I21K				IAmb	IAmb	01 30 51.5	
	comp=Z,4.0nm,0.9s						
MLY	**Manley**	**84.18**	**15**	P	**P**	**01 30 51.0**	**-0.2**
KVN	**Kaiserville**	**84.21**	**47**	P	**P**	**01 30 51.9**	**-0.2**
IMAR	**Indian Mountai**	**84.25**	**13**	P	**P**	**01 30 51.2**	**-0.2**
PINE	**Pine Mountain**	**84.27**	**42**	P	**P**	**01 30 53.7**	**+1.4**
PINE				IAmb	IAmb	01 30 54.2	
	comp=Z,3.3nm,0.8s						
WRH	**Wood River Hil**	**84.43**	**16**	P	**P**	**01 30 51.4**	**-1.0**
WRH				IAmb	IAmb	01 30 52.6	
	comp=Z,3.0nm,0.7s						
TPNV	**Topopah Spring**	**84.73**	**50**	P	**P**	**01 30 56.1**	**+1.4**
IL31		**84.99**	**16**	P	**P**	**01 30 55.1**	**0.0**
IL31				IAmb	IAmb	01 30 55.8	
	comp=Z,4.5nm,0.8s						
ILAR	**Eielson Array**	**84.99**	**16**	P	**P**	**01 30 53.6**	**-1.4**
	comp=Z,2.9nm,0.7s,baz=233,slow=4.8,SNR=28						
CCUT	**Cedar City**	**87.10**	**50**	P	**P**	**01 31 06.7**	**+0.6**
CCUT				IAmb	IAmb	01 31 08.2	
	comp=Z,4.3nm,0.9s						
U15A	**North Rim**	**87.51**	**52**	P	**P**	**01 31 09.3**	**+1.2**
U15A				IAmb	IAmb	01 31 10.3	
	comp=Z,7.5nm,0.9s						
F10A	**Beach Ranch, E**	**87.58**	**41**	P	**P**	**01 31 08.1**	**+0.2**
F10A				IAmb	IAmb	01 31 09.1	
	comp=Z,6.8nm,0.8s						
PDAR	**Pinedale Array**	**91.58**	**46**	P	**P**	**01 31 26.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=226,slow=2.4,SNR=4.5						
TX31	**Lajitas Ar. Si**	**92.31**	**60**	P	**P**	**01 31 31.4**	**+1.2**
TX31				IAmb	IAmb	01 31 31.6	
	comp=Z,5.6nm,0.8s						
TX32	**Lajitas Array**	**92.31**	**60**	P	**P**	**01 31 31.3**	**+1.1**
TX32				IAmb	IAmb	01 31 31.6	
	comp=Z,1.9nm,0.8s						
TXAR	**Lajitas Array**	**92.31**	**60**	P	**P**	**01 31 31.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=225,slow=5.6,SNR=18						
TXAR	**Lajitas Array**	**92.31**	**60**	P	**P**	**01 31 31.3**	**+1.1**
YKA	**Yellowknife Ar**	**95.34**	**27**	P	**P**	**01 31 42.7**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=254,slow=4.6,SNR=40						
YKA	**Yellowknife Ar**	**95.34**	**27**	P	**P**	**01 31 43.1**	**+0.1**
WMQ	**Urumqi**	**95.72**	**314**	*e*P	**P**	**01 31 46.2**	**+0.9**
ARCES	**ARCESS Array B**	**121.07**	**347**	PKP	**PKPdf**	**01 37 06.2**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=43,slow=1.6,SNR=11						
KARS	**Kars**	**128.50**	**311**		**PKPdf**	**01 37 21.2**	**-1.3**
SOKA	**Soboth**	**142.48**	**334**	*e*P	**PKPdf**	**01 37 45.9**	**-2.2**
	comp=Z,2.1nm,1.2s						
KBA	**Koelnbreinsper**	**142.87**	**335**	*e*P	**PKPdf**	**01 37 47.3**	**-1.6**
	comp=Z,2.5nm,0.9s						
LIT	**Litokhoron**	**142.98**	**319**		**PKPdf**	**01 37 46.6**	**-2.5**
FNA	**Florina**	**143.27**	**321**		PKPab	01 37 47.4	-0.5
WATA	**Walderalm**	**143.34**	**337**	*e*P	PKPab	01 37 48.0	-0.1
	comp=Z,2.4nm,0.7s						
WTTA	**Wattenberg**	**143.38**	**337**	*e*P	PKPab	01 37 48.1	-0.3
	comp=Z,2.4nm,0.8s						
PDG	**Podgorica**	**143.47**	**325**		PKPab	01 37 47.1	-1.4
ABTA	**Abfaltersbach**	**143.47**	**336**	*e*P	PKPab	01 37 47.5	-1.0
	comp=Z,4.1nm,0.6s						
MOTA	**Moosalm**	**143.51**	**338**	*i* P	PKPab	01 37 48.7	-0.1
	comp=Z,5.9nm,1.0s,SNR=5.0						
RETA	**Reutte**	**143.51**	**338**	*e*P	PKPab	01 37 48.7	0.0
	comp=Z,2.5nm,0.7s						
SQTA	**Sankt Quirin**	**143.57**	**338**	*i* P	PKPab	01 37 48.9	-0.1
	comp=Z,5.1nm,0.7s,SNR=7.1						
BFO	**Black Forest**	**143.59**	**341**		PKPbc	01 37 49.1	+0.2
FETA	**Feichten**	**143.92**	**338**	*e*P	PKPbc	01 37 50.3	+0.1
	comp=Z,12nm,1.0s						
DAVA	**Damuels**	**144.00**	**339**	*e*P	PKPbc	01 37 50.5	+0.1
	comp=Z,14nm,1.2s						
TUE	**Stuetta**	**144.88**	**339**	PKPbc	PKPbc	01 37 53.4	+0.2
ZCCA	**Zocca**	**146.05**	**335**		**PKPab**	**01 37 57.6**	**-1.0**
MURB	**Monte Urbino**	**146.26**	**332**	PKPbc	**PKPbc**	**01 37 57.0**	**0.0**
TORD	**Torodi Ar. Bea**	**170.31**	**263**	PKPab	**PKPab**	**01 39 43.5**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=111,slow=4.7,SNR=6.0						

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*SFS **04** 01:57:03.0, 35.°73N×3.°62W, ML2.5, ALBORAN SUR*
*MDD **04** 01:57:03.9±0.6, 35.°72N×3.°63W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=5.4km s-min=3.4km az=27.0*
*INMG **04** 01:57:04.7±1.3, 35.°73N×3.°68W, h0km, ML2.0, Error ellipse: s-maj=5.4km s-min=3.7km az=12.0*
*CNRM **04** 01:57:04.3, 35.°74N×3.°48W, h24km, ml2.0*
ISC 04 01:57:03.0±1.1**, 35.°76N**±0.°02×**3.°57W**±0.°03**, h7**km±10km**,**
n23, σ1.ˢ**20**/45**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.47**	**67**	Pg	**Pb**	**01 57 14.9**	**+1.2**
EALB				Sg	**Sb**	**01 57 22.6**	**+1.9**
EALB				*i* Vmb_Lg		01 57 22.8	
PALE	**Palemas**	**0.62**	**210**	P	**Pg**	**01 57 16.0**	**+1.1**
PALE				S	**Sb**	**01 57 25.1**	**0.0**
EMEL	**Melilla**	**0.67**	**132**	Pg	**Pg**	**01 57 16.4**	**+0.4**
EMEL				Sg	**Sg**	**01 57 25.1**	**+0.3**
GOG	**Mont Gurugu**	**0.71**	**139**	P	**Pg**	**01 57 17.2**	**+0.6**
GOG				S	**Sg**	**01 57 27.2**	**+1.3**
ELGU	**Los Guajares,**	**1.11**	**358**	Pg	**Pg**	**01 57 24.0**	**-0.4**
ELGU				Sg	**Sn**	**01 57 40.2**	**-0.5**
ELGU				*i* Vmb_Lg		01 57 43.9	
EMAL	**Malaga-Limoner**	**1.22**	**326**	P	**Pn**	**01 57 26.6**	**0.0**
EMAL				S	**Sb**	**01 57 41.2**	**-1.3**
EBER	**Berja**	**1.27**	**25**	Pg	**Pg**	**01 57 26.9**	**-0.5**
EBER				Sg	**Sb**	**01 57 44.7**	**+0.8**
AKLM	**AKL**	**1.27**	**191**	P	**Pg**	**01 57 27.5**	**+0.2**
AKLM				S	**Sg**	**01 57 42.3**	**-1.5**
EMIJ	**Mijas**	**1.27**	**310**	Pg	**Pg**	**01 57 25.8**	**-1.6**
EMIJ				Sg	**Sg**	**01 57 42.2**	**-1.6**
EMIJ				*i* Vmb_Lg		01 57 43.5	
TAF	**Taforalt**	**1.33**	**135**	P	**Pn**	**01 57 26.9**	**-1.2**
TAF				S	**Sg**	**01 57 43.2**	**-2.7**
EGOR	**Sierra Gorda,**	**1.42**	**342**	Pn	**Pb**	**01 57 30.7**	**+0.7**
EGOR				Sn	**Sn**	**01 57 48.9**	**+0.4**
EGOR				*i* Vmb_Lg		01 57 54.5	
SMIR	**Smir Dam**	**1.48**	**268**	P	**Pg**	**01 57 31.4**	**0.0**
SMIR				S	**Sn**	**01 57 52.5**	**+2.9**
CHEFC	**Chefchaouen**	**1.59**	**246**	P	**Pn**	**01 57 31.4**	**-0.2**
CHEFC				S	**Sn**	**01 57 52.8**	**+0.4**
JBK	**JBK**	**1.64**	**150**	P	**Pn**	**01 57 30.5**	**-1.9**
JBK				S	**Sn**	**01 57 50.4**	**-3.5**
ECAB	**El Cabril**	**2.75**	**328**	Pn	**Pn**	**01 57 47.8**	**+0.2**
ECAB				Sn	**Sn**	**01 58 21.8**	**+0.7**
MD31	**MD31**	**3.04**	**199**	P	**Pn**	**01 57 51.9**	**+0.2**
MD31				S	**Sn**	**01 58 27.2**	**-1.3**
MDT	**Midelt**	**3.06**	**197**	P	**Pn**	**01 57 52.5**	**+0.6**
MDT				S	**Sn**	**01 58 29.3**	**+0.5**
EMIN	**Mina Concepcio**	**3.20**	**310**	Pn	**Pn**	**01 57 53.6**	**-0.2**
EMIN				Sn	**Sn**	**01 58 32.3**	**+0.1**
ETOB	**Tobarra**	**3.30**	**29**	Pn	**Pn**	**01 57 55.8**	**+0.5**
PBAR	**Barrancos**	**3.68**	**312**	*e*Pn	**Pn**	**01 58 01.0**	**+0.6**
PBAR				*e*Sn	**Sn**	**01 58 43.5**	**-0.5**
PBAR				A	A	01 58 44.0	
	1.9nm,0.6s						
PVAQ	**Vaqueiros**	**3.72**	**297**	*e*Pn	**Pn**	**01 58 01.6**	**+0.7**
PVAQ				*e*Sn	**Sn**	**01 58 43.4**	**-1.6**
PVAQ				A	A	01 58 59.6	
	3.6nm,0.9s						
PVAQ	**Vaqueiros**	**3.72**	**297**	P	**Pn**	**01 58 01.0**	**0.0**
PVAQ				S	**Sn**	**01 58 45.0**	**-0.1**
PBDV	**Barranco-do-Ve**	**3.82**	**294**	*e*Pn	**Pn**	**01 58 02.6**	**+0.4**
PBDV				*e*Sn	**Sn**	**01 58 47.1**	**-0.3**

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*IDC **04** 02:07:57.7±1.0, 17.°51S×178.°69W, h506km±10km, mb4.3/24, mb1 4.4/26, mb1mx4.4/36, mbtmp5.1/26, Error ellipse: s-maj=11.6km s-min=8.6km az=130.0*
*NEIC **04** 02:07:58.8±1.9, 17.°51S±0.°09×178.°71W±0.°10, h510km±5km, mb4.9/367, Error ellipse: s-maj=14.7km s-min=12.5km az=134.0*
*MOS **04** 02:07:59.7±1.4, 17.°33S×178.°76W, h527km, mb5.0/28, Error ellipse: s-maj=11.6km s-min=9.1km az=57.3*
*NOU **04** 02:08:00.1, 17.°51S×178.°63W, h534km, mb4.9/58, Fiji Islands Region*
*GCMT **04** 02:08:00.8±0.6, 17.°48S±0.°06×178.°57W±0.°05, h557km±3km, MW5.4/53, Moment Tensor Solution. s53,c64; Duration: 1.ˢ2 Moment tensor: Scale 10^17Nm; Mrr-0.34±.07; Mθθ1.15±.10; Mϕϕ-0.81±.11; Mrθ-0.61±.11; Mθϕ1.12±.09; Mϕr0.64±.11; Best double couple: M0 1.75600×10^17 NP1:ϕs205.00000°, δ62.00000°, λ-164.00000°. NP2:ϕs107.00000°, δ76.00000°, λ-29.00000°. Principal axes: T 1.7040, Plg9.0000°, Azm158.0000°; N 0.1000, Plg58.0000°, Azm263.0000°; P -1.8080, Plg30.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*BGR **04** 02:08:05.9±0.0, 16.°31S×177.°66W, h547km*
ISC 04 02:08:00.3±0.3**, 17.°47S**±0.°04×**178.°69W**±0.°04**,**
h539km±3km**, h539**km**:pP-P, n1112,** σ1.ˢ**23**/1049**, mb4.9**/258**,**
56C-65D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.12**	**265**	P	**P**	**02 09 16.5**	**+1.2**
	160nm,0.3s,baz=96,slow=4.0,SNR=221						
MSVF				S	**S**	**02 10 19.9**	**+3.6**
	baz=292,slow=23,SNR=9.7						
MSVF	**Nonsavu**	**3.12**	**265**	P	**P**	**02 09 15.3**	**0.0**
MSVF	**Nonsavu**	**3.12**	**265**	P	**P**	**02 09 15.3**	**0.0**
MSVF	**Nonsavu**	**3.12**	**265**	P	**P**	**02 09 16.5**	**+1.2**
AFI	**Afiamalu**	**7.54**	**63**	P	**P**	**02 09 50.9**	**-2.4**
	17nm,0.3s,baz=64,slow=2.9,SNR=13						
AFI				S	**S**	**02 11 19.9**	**-5.9**
	12nm,0.3s,baz=128,slow=23,SNR=7.9						
AFI	**Afiamalu**	**7.54**	**63**	P	**P**	**02 09 50.0**	**-3.3**
AFI	**Afiamalu**	**7.54**	**63**	P	**P**	**02 09 50.0**	**-3.3**
AFI	**Afiamalu**	**7.54**	**63**	P	**P**	**02 09 51.5**	**-1.8**
NIUE	**Niue**	**8.47**	**102**	P	**P**	**02 10 02.0**	**-0.5**
NIUE	**Niue**	**8.47**	**102**	P	**P**	**02 10 02.9**	**+0.4**
FUNA	**Funafuti**	**9.12**	**347**	P	**P**	**02 10 08.2**	**-1.0**
FUNA	**Funafuti**	**9.12**	**347**	P	**P**	**02 10 09.0**	**-0.2**
MARNC	**Mare, Loyalty**	**13.14**	**250**	P	**P**	**02 10 49.0**	**-1.8**
SANVU	**Saraoutou**	**13.68**	**276**	P	**P**	**02 10 54.1**	**-2.3**
LIFNC	**LIFOU**	**13.70**	**254**	P	P	02 10 51.5	-5.0
PINNC	**Pines Island,**	**14.00**	**246**	P	**P**	**02 10 57.9**	**-1.7**
OUENC	**Ouen Island, N**	**14.47**	**248**	P	**P**	**02 11 01.6**	**-2.9**
DZM	**Mont Dzumac**	**14.72**	**249**	P	**P**	**02 11 05.6**	**-1.7**
	1.7nm,0.3s,baz=93,slow=17,SNR=10						
DZM				S	**S**	**02 13 42.4**	**+1.0**
	0.1nm,0.3s,baz=323,slow=20,SNR=1.2						
DZM	**Mont Dzumac**	**14.72**	**249**	*e*P	**P**	**02 11 05.6**	**-1.7**
	68nm,0.9s						
DZM	**Mont Dzumac**	**14.72**	**249**	P	**P**	**02 11 05.4**	**-1.9**
DZM	**Mont Dzumac**	**14.72**	**249**	P	**P**	**02 11 08.2**	**+0.9**
NOUC	**Port Laguerre**	**14.86**	**250**	P	**P**	**02 11 09.7**	**+1.1**
KNTN	**Kanton**	**16.13**	**26**	P	**P**	**02 11 19.6**	**-2.0**
KNTN	**Kanton**	**16.13**	**26**	P	**P**	**02 11 20.3**	**-1.3**
KOUNC	**Koumac, New Ca**	**16.39**	**257**	P	**P**	**02 11 22.8**	**-1.2**
KOUNC	**Koumac, New Ca**	**16.39**	**257**	P	**P**	**02 11 25.4**	**+1.4**
	95nm,1.1s						

OUZ	**Omahuta**	**18.97**	**200**	P	**P**	**02 11 47.5**	**0.0**
OUZ				IAmb	IAmb	02 11 50.4	
	comp=Z,74nm,1.4s						
GRZ	**Great Barrier**	**19.41**	**194**	P	**P**	**02 11 52.4**	**+0.9**
KUZ	**Kuaotunu**	**19.83**	**193**	P	**P**	**02 11 55.8**	**+0.6**
WIAZ	**Waiheke Island**	**20.01**	**195**	P	**P**	**02 11 58.1**	**+1.2**
MBAZ	**Motutapu North**	**20.04**	**195**	P	**P**	**02 11 59.0**	**+1.8**
MXZ	**Matakaoa Point**	**20.19**	**187**	P	**P**	**02 11 56.7**	**-1.9**
MXZ				S	**S**	**02 15 13.6**	**+1.9**
ETAZ	**East Tamaki Re**	**20.21**	**195**	P	**P**	**02 12 00.1**	**+1.4**
WTAZ	**Waiatarua**	**20.28**	**196**	P	**P**	**02 12 00.7**	**+1.3**
MKAZ	**Moumakai**	**20.30**	**194**	P	**P**	**02 12 00.3**	**+0.8**
AWAZ	**Awhitu Peninsu**	**20.39**	**195**	P	**P**	**02 12 01.6**	**+1.3**
WMGZ	**Waiomatatini S**	**20.43**	**187**	P	**P**	**02 11 58.9**	**-1.8**
RUGZ	**Raukumara Rang**	**20.67**	**188**	P	**P**	**02 12 02.2**	**-0.8**
RUGZ				S	**S**	**02 15 19.7**	**+0.3**
TWGZ	**Tauwhareparae**	**20.84**	**187**	P	**P**	**02 12 03.9**	**-0.6**
TWGZ				S	**S**	**02 15 25.5**	**+3.5**
URZ	**Urewera**	**21.04**	**189**	P	**P**	**02 12 03.4**	**-2.7**
	comp=Z,13nm,0.4s,baz=327,slow=1.7,SNR=15						
URZ				S	**S**	**02 15 18.6**	**-6.5**
	comp=Z,5.9nm,0.6s,baz=60,slow=20,SNR=2.4						
URZ	**Urewera**	**21.04**	**189**	P	**P**	**02 12 03.8**	**-2.4**
URZ				IAmb	IAmb	02 12 10.8	
	comp=Z,22nm,0.7s						
URZ	**Urewera**	**21.04**	**189**	P	**P**	**02 12 04.1**	**-2.1**
BKZ	**Black Stump Fm**	**22.02**	**190**	P	**P**	**02 12 12.2**	**-3.0**
BKZ				IAmb	IAmb	02 12 19.2	
	comp=Z,35nm,1.4s						
SNZO	**South Karori**	**24.43**	**192**	P	**P**	**02 12 34.6**	**-1.9**
QRZ	**Quartz Range**	**24.48**	**196**	P	**P**	**02 12 36.6**	**-0.3**
KHZ	**Kahutara**	**25.74**	**193**	P	**P**	**02 12 45.6**	**-2.4**
KHZ				IAmb	IAmb	02 13 04.2	
	comp=Z,29nm,0.9s						
KHZ	**Kahutara**	**25.74**	**193**	P	**P**	**02 12 45.9**	**-2.1**
RPZ	**Rata Peaks**	**27.57**	**196**	P	**P**	**02 13 01.5**	**-2.6**
	comp=Z,14nm,0.4s,baz=6.7,slow=2.5,SNR=14						
RPZ	**Rata Peaks**	**27.57**	**196**	P	**P**	**02 13 03.0**	**-1.1**
PAE	**Paea**	**27.74**	**95**	*e*P	**P**	**02 13 06.6**	**+0.6**
	comp=Z,7.1nm,0.8s						
PPT2	**Papeete2**	**27.75**	**95**	*e*P	**P**	**02 13 07.0**	**+0.9**
	comp=Z,38nm,0.8s						
PPT	**Papeete**	**27.75**	**95**	P	**P**	**02 13 05.0**	**-1.0**
	comp=Z,44nm,0.6s,baz=221,slow=3.3,SNR=4.6						
PPTF	**Pamatai, Papee**	**27.76**	**95**	P	**P**	**02 13 06.5**	**+0.3**
TVO	**Taravao**	**28.04**	**95**	*e*P	**P**	**02 13 10.2**	**+1.5**
WKZ	**Wanaka**	**29.16**	**198**	P	**P**	**02 13 15.9**	**-2.1**
EIDS	**Eidsvold**	**29.17**	**249**	P	**P**	**02 13 17.9**	**-0.5**
	baz=29,SNR=6.8						
EIDS	**Eidsvold**	**29.17**	**249**	P	**P**	**02 13 17.3**	**-1.0**
EIDS				IAmb	IAmb	02 13 18.5	
	comp=Z,19nm,0.6s						
PMOR	**Pomariorio Ree**	**29.65**	**90**	*e*P	**P**	**02 13 23.9**	**+1.3**
	comp=Z,116nm,1.1s						
VAH	**Vaihoa**	**29.87**	**90**	*e*P	**P**	**02 13 24.8**	**+0.3**
	comp=Z,56nm,1.1s						
ARMA	**Armidale**	**29.93**	**239**	P	**P**	**02 13 25.4**	**+0.4**
	baz=30,SNR=26						
ARMA	**Armidale**	**29.93**	**239**	P	**P**	**02 13 24.4**	**-0.6**
ARMA				IAmb	IAmb	02 13 26.3	
	comp=Z,22nm,0.6s						
ARMA	**Armidale**	**29.93**	**239**	P	**P**	**02 13 25.4**	**+0.4**
MGCD	**Mangrove Creek**	**31.33**	**234**	P	**P**	**02 13 37.6**	**+0.8**
	baz=31,SNR=19						
RMQ	**Roma**	**31.42**	**248**	P	**P**	**02 13 38.3**	**+0.5**
	baz=32,SNR=28						
RMQ	**Roma**	**31.42**	**248**	P	**P**	**02 13 38.3**	**+0.5**
CTA	**Charters Tower**	**33.26**	**260**	P	**P**	**02 13 52.5**	**-0.9**
	comp=Z,22nm,0.7s,baz=91,slow=12,SNR=9.0						
CTA				ScP	**ScP**	**02 19 16.9**	**+3.4**
	comp=Z,14nm,0.9s,baz=100,slow=3.9,SNR=7.6						
CTA	**Charters Tower**	**33.26**	**260**	P	**P**	**02 13 52.8**	**-0.7**
CTAO	**Charters Tower**	**33.26**	**260**	P	**P**	**02 13 52.8**	**-0.7**
CTAO				pP	**pP**	**02 15 19.5**	**-4.4**
CNB	**Canberra Magne**	**33.49**	**232**	P	**P**	**02 13 55.8**	**+0.6**
	baz=34,SNR=19						
CNB	**Canberra Magne**	**33.49**	**232**	P	**P**	**02 13 55.8**	**+0.6**
CAN	**Canberra**	**33.76**	**232**	P	**P**	**02 13 57.1**	**-0.4**
CAN				pmax	pmax		
	comp=Z,44nm,1.5s						
CAN	**Canberra**	**33.76**	**232**	P	**P**	**02 13 57.1**	**-0.4**
CAN				IAmb	IAmb	02 14 13.6	
	comp=Z,44nm,1.5s						
CAN	**Canberra**	**33.76**	**232**	P	**P**	**02 13 58.1**	**+0.5**
PMG	**Port Moresby**	**34.13**	**279**	P	**P**	**02 14 01.2**	**+0.4**
	baz=76,slow=9.2						
PMG	**Port Moresby**	**34.13**	**279**	*ce*P	**P**	**02 14 00.7**	**-0.1**
PMG				pmax	pmax		
	comp=Z,59nm,0.8s						
PMG	**Port Moresby**	**34.13**	**279**	P	**P**	**02 14 00.3**	**-0.5**
PMG	**Port Moresby**	**34.13**	**279**	P	**P**	**02 14 01.7**	**+0.9**
PMG	**Port Moresby**	**34.13**	**279**	P	**P**	**02 14 01.6**	**+0.8**
CMSA	**Cobar Meteorol**	**35.14**	**240**	P	**P**	**02 14 08.9**	**-0.1**
	baz=35,SNR=78						
CMSA	**Cobar Meteorol**	**35.14**	**240**	P	**P**	**02 14 09.0**	**0.0**
JOHN	**Johnston Islan**	**35.16**	**15**	P	**P**	**02 14 09.3**	**0.0**
JOHN	**Johnston Islan**	**35.16**	**15**	P	**P**	**02 14 09.9**	**+0.6**
MTSU	**Mount Surprise**	**35.19**	**263**	P	**P**	**02 14 09.2**	**-0.5**
	baz=35,SNR=11						
MTSU	**Mount Surprise**	**35.19**	**263**	P	**P**	**02 14 09.2**	**-0.5**
QLP	**Quilpie**	**35.44**	**249**	P	**P**	**02 14 11.1**	**-0.6**
	baz=36,SNR=15						
QLP	**Quilpie**	**35.44**	**249**	P	**P**	**02 14 11.6**	**0.0**
COEN	**Coen**	**36.84**	**270**	P	**P**	**02 14 22.4**	**-1.0**
COEN				IAmb	IAmb	02 14 24.4	
	comp=Z,38nm,0.7s						
COEN	**Coen**	**36.84**	**270**	P	**P**	**02 14 23.7**	**+0.4**
TOO	**Toolangi**	**37.24**	**230**	P	**P**	**02 14 27.2**	**+0.8**
	baz=37,SNR=9.4						
TOO	**Toolangi**	**37.24**	**230**	P	**P**	**02 14 26.4**	**0.0**
TOO				pmax	pmax		
	comp=Z,12nm,0.8s						
TOO	**Toolangi**	**37.24**	**230**	P	**P**	**02 14 26.4**	**0.0**
TOO	**Toolangi**	**37.24**	**230**	P	**P**	**02 14 27.0**	**+0.6**
BRAT	**Ballarat**	**38.38**	**231**	P	**P**	**02 14 37.0**	**+1.4**
	comp=Z,12nm,0.8s						
TAU	**Tasmania Unive**	**38.39**	**221**	P	**P**	**02 14 35.1**	**-0.4**
TAU				pmax	pmax		
	comp=Z,52nm,1.5s						
TAU	**Tasmania Unive**	**38.39**	**221**	P	**P**	**02 14 35.1**	**-0.4**
TAU				IAmb	IAmb	02 15 00.7	
	comp=Z,52nm,1.4s						
TAOE	**Nuku Hiva Isla**	**38.43**	**82**	*e*P	**P**	**02 14 37.4**	**+1.0**
	comp=Z,132nm,0.9s						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**02 14 37.8**	**+0.2**
	comp=Z,19nm,0.5s,baz=86,slow=9.7,SNR=67						
STKA				ScP	**ScP**	**02 19 36.5**	**+3.3**
	comp=Z,6.0nm,0.9s,baz=81,slow=4.6,SNR=6.5						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**02 14 37.8**	**+0.2**
	baz=39,SNR=46						
STKA	**Stephens Creek**	**38.61**	**241**	⇓*i*P	**P**	**02 14 37.6**	**0.0**
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**02 14 37.7**	**+0.2**
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**02 14 37.9**	**+0.3**
QIS	**Mount Isa**	**39.48**	**259**	P	**P**	**02 14 44.8**	**+0.1**
	baz=40,SNR=3.2						
ARPS	**Mount Arapiles**	**39.70**	**233**	P	**P**	**02 14 46.4**	**+0.2**
	baz=40,SNR=8.0						
ARPS	**Mount Arapiles**	**39.70**	**233**	P	**P**	**02 14 46.6**	**+0.4**
	comp=Z,27nm,1.0s						
HTT	**Hallett**	**41.14**	**239**	P	**P**	**02 14 58.0**	**+0.2**
	baz=41,SNR=36						
HTT	**Hallett**	**41.14**	**239**	P	**P**	**02 14 58.3**	**+0.4**
	comp=Z,43nm,1.0s						
LCRK	**Leigh Creek**	**41.21**	**244**	P	**P**	**02 14 58.3**	**-0.1**
RKT	**Rikitea**	**41.27**	**105**	*e*P	**P**	**02 15 00.0**	**+1.0**
	comp=Z,49nm,1.0s						
NAPP	**Napperby**	**41.73**	**240**	P	**P**	**02 15 03.4**	**+1.0**
TWOA	**Tennyson Woods**	**41.77**	**237**	P	**P**	**02 15 03.0**	**+0.2**
WHYH	**Whyalla**	**42.17**	**240**	P	**P**	**02 15 06.3**	**+0.4**
JAY	**Jayapura**	**42.53**	**286**	P	**P**	**02 15 09.5**	**+0.4**
	comp=Z,411nmcomp=Z,43nm,1.0s						
GENI	**Genyem**	**42.99**	**285**	P	**P**	**02 15 14.6**	**+1.9**
KHLU	**Kahalu`u**	**43.10**	**32**	P	**P**	**02 15 13.6**	**+0.2**
OOD	**Oodnadatta**	**43.13**	**248**	P	**P**	**02 15 13.9**	**+0.3**
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**02 15 15.3**	**-0.2**
	baz=43,SNR=85						
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**02 15 15.0**	**-0.5**
BBOO				IAmb	IAmb	02 15 16.3	
	comp=Z,37nm,0.9s						
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**02 15 15.3**	**-0.2**
POHA	**Pohakuloa**	**43.42**	**33**	P	**P**	**02 15 17.4**	**+1.3**
POHA	**Pohakuloa**	**43.42**	**33**	P	**P**	**02 15 16.5**	**+0.4**
HPAH	**Hawaii Prepara**	**43.57**	**32**	P	**P**	**02 15 17.7**	**+0.6**
KIP	**Kipapa**	**43.64**	**28**	*ce*P	**P**	**02 15 17.1**	**-0.4**
KIP				pmax	pmax		
	comp=Z,56nm,1.0s						
KIP	**Kipapa**	**43.64**	**28**	P	**P**	**02 15 18.2**	**+0.8**
KIP	**Kipapa**	**43.64**	**28**	P	**P**	**02 15 18.3**	**+0.8**
KIP	**Kipapa**	**43.64**	**28**	P	**P**	**02 15 18.4**	**+0.9**
KIP	**Kipapa**	**43.64**	**28**	P	**P**	**02 15 18.2**	**+0.8**
KIP				pP	**PcP**	**02 16 50.0**	**-2.9**
HLK	**Haleakala**	**43.91**	**31**	P	**P**	**02 15 20.7**	**+0.8**
WB0	**Warramunga Arr**	**44.42**	**259**	P	**P**	**02 15 21.9**	**-1.8**
WRAB	**Tennant Creek**	**44.44**	**259**	*ce*P	**P**	**02 15 22.4**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**44.44**	**259**	P	**P**	**02 15 22.6**	**-1.3**
WRAB	**Tennant Creek**	**44.44**	**259**	P	**P**	**02 15 22.5**	**-1.4**
WRAB				pP	**PcP**	**02 16 56.3**	**+0.4**
WRA	**Warramunga Arr**	**44.45**	**259**	P	**P**	**02 15 22.2**	**-1.7**
	comp=Z,9.0nm,0.6s,baz=93,slow=7.0,SNR=122						
WRA				ScP	**ScP**	**02 19 60.0**	**+3.1**
	comp=Z,6.7nm,0.7s,baz=90,slow=4.0,SNR=16						
WRA				S	**S**	**02 21 15.1**	**-4.9**
	comp=Z,1.4nm,0.8s,baz=91,slow=14,SNR=4.3						
AS31	**Alice Springs**	**44.65**	**254**	IAmb	IAmb	02 15 25.7	
	comp=Z,30nm,0.6s						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**02 15 24.8**	**-0.7**
	comp=Z,92nm,0.6s,baz=87,slow=8.2,SNR=1033						
ASAR				PcP	**PcP**	**02 16 56.8**	**+0.2**
	comp=Z,2.6nm,0.3s,baz=101,slow=4.5,SNR=0.6						
ASAR				ScP	**ScP**	**02 20 00.9**	**+3.2**
	comp=Z,9.5nm,0.9s,baz=98,slow=4.0,SNR=18						
ASAR				S	**S**	**02 21 20.2**	**-2.7**
	comp=Z,6.8nm,1.0s,baz=87,slow=16,SNR=26						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**02 15 24.7**	**-0.8**
MULG	**Mulgathing**	**44.76**	**244**	P	**P**	**02 15 25.8**	**-0.3**
KDU	**Kakadu**	**47.30**	**269**	P	**P**	**02 15 45.3**	**-0.3**
	baz=47,SNR=74						
KDU	**Kakadu**	**47.30**	**269**	P	**P**	**02 15 45.3**	**-0.3**
MTN	**Manton Dam**	**48.55**	**268**	P	**P**	**02 15 54.5**	**-0.5**
	baz=49,SNR=9.9						
MTN	**Manton Dam**	**48.55**	**268**	IAmb	IAmb	02 15 55.1	
	comp=Z,55nm,0.8s						
MTN	**Manton Dam**	**48.55**	**268**	P	**P**	**02 15 54.4**	**-0.5**
WRKA	**Warakurna**	**49.73**	**252**	P	**P**	**02 16 03.2**	**-0.4**
	baz=50,SNR=69						
WRKA	**Warakurna**	**49.73**	**252**	P	**P**	**02 16 03.5**	**-0.1**
FORT	**Forrest**	**49.96**	**244**	P	**P**	**02 16 04.8**	**-0.3**
	baz=50,SNR=34						
FORT	**Forrest**	**49.96**	**244**	P	**P**	**02 16 04.1**	**-1.1**
FORT	**Forrest**	**49.96**	**244**	P	**P**	**02 16 04.5**	**-0.6**
KNRA	**Kununurra**	**50.27**	**264**	P	**P**	**02 16 07.1**	**-0.5**
	baz=50,SNR=34						
KNRA	**Kununurra**	**50.27**	**264**	P	**P**	**02 16 07.3**	**-0.3**
SWI	**Sorong**	**51.89**	**283**	P	**P**	**02 16 19.6**	**+0.2**
	comp=Z,2µmcomp=Z,209nm,0.8s						
DRV	**Dumont d'Urvil**	**55.99**	**198**	⇓P	**P**	**02 16 47.8**	**+0.4**
DRV				X		02 17 00.5	
DRV				pP	**pP**	**02 18 35.0**	**+4.0**
DRV				pwP	**pwP**	**02 18 38.7**	**+3.4**
SANI	**Sanana**	**56.41**	**279**	P	**P**	**02 16 50.9**	**-0.4**
	comp=Z,53nm,0.8s						
SANI	**Sanana**	**56.41**	**279**	P	**P**	**02 16 51.3**	**0.0**
	comp=Z,53nm,0.8s						
PSA00	**Pilbara Seismi**	**57.76**	**255**	P	**P**	**02 16 59.5**	**-0.9**
PSA00	**Pilbara Seismi**	**57.76**	**255**	P	**P**	**02 17 00.2**	**-0.2**
MBWA	**Marble Bar**	**57.92**	**256**	P	**P**	**02 17 00.9**	**-0.6**
MBWA				X		02 17 14.6	
MBWA				pP	**pP**	**02 18 50.8**	**+4.3**
MBWA				pwP	**pwP**	**02 18 54.5**	**+5.5**
MEEK	**Meekatharra**	**58.34**	**249**	P	**P**	**02 17 03.5**	**-0.8**
	baz=58,SNR=14						
KLBR	**Kellerberrin**	**58.79**	**243**	P	**P**	**02 17 06.5**	**-0.7**
	baz=59,SNR=9.3						
KLBR	**Kellerberrin**	**58.79**	**243**	P	**P**	**02 17 06.8**	**-0.4**
BLDU	**Ballidu**	**59.73**	**244**	P	**P**	**02 17 12.8**	**-0.7**
	baz=60,SNR=7.2						
BSSI	**Bau Bau, Buton**	**60.37**	**273**	P	**P**	**02 17 18.1**	**+0.1**
	comp=Z,17nm,0.7s						
MORW	**Morawa**	**60.41**	**246**	P	**P**	**02 17 17.5**	**-0.6**
	baz=60,SNR=4.7						
MORW	**Morawa**	**60.41**	**246**	P	**P**	**02 17 17.2**	**-0.9**
SBA	**Scott Base**	**60.84**	**183**	P	**P**	**02 17 21.7**	**+1.7**
SBA				pmax	pmax		
	comp=Z,21nm,1.1s						
SBA	**Scott Base**	**60.84**	**183**	P	**P**	**02 17 21.7**	**+1.7**
SBA	**Scott Base**	**60.84**	**183**	P	**P**	**02 17 22.3**	**+2.3**
SBA				pP	**pP**	**02 18 59.8**	**-6.9**
VNDA	**Vanda**	**60.86**	**185**	P	**P**	**02 17 20.8**	**+0.7**
	comp=Z,4.0nm,0.6s,baz=357,slow=8.4,SNR=30						
VNDA	**Vanda**	**60.86**	**185**	P	**P**	**02 17 21.1**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VNDA	**Vanda**	**60.86**	**185**	P	**P**	**02 17 21.1**	**+1.0**
APSI	**Ampana**	**60.88**	**279**	P	**P**	**02 17 22.1**	**+0.8**
	comp=Z,519nmcomp=Z,49nm,0.6s						
BKSI	**Bulukumba**	**60.96**	**274**	P	**P**	**02 17 21.0**	**-0.9**
	comp=Z,12nm,0.6s						
MRSI	**Marisa**	**61.07**	**281**	P	**P**	**02 17 22.7**	**+0.1**
	comp=Z,29nm,1.1s						
BNSI	**Bone**	**61.24**	**275**	P	**P**	**02 17 23.6**	**-0.1**
	comp=Z,30nm,1.0s						
KAPI	**Kappang**	**61.40**	**274**	*i* P	**P**	**02 17 23.7**	**-1.1**
KAPI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KAPI	**Kappang**	**61.40**	**274**	P	**P**	**02 17 24.3**	**-0.5**
KAPI	**Kappang**	**61.40**	**274**	P	**P**	**02 17 26.3**	**+1.5**
	comp=Z,17nm,1.0s						
KAPI	**Kappang**	**61.40**	**274**	P	**P**	**02 17 24.4**	**-0.4**
KAPI				X		02 17 32.0	
KAPI				pP	**pP**	**02 19 09.3**	**-2.8**
KAPI				PP	**PP**	**02 19 41.8**	**-7.1**
SPSI	**Sidrap Palu**	**61.69**	**275**	P	**P**	**02 17 26.1**	**-0.6**
	comp=Z,26nm,0.7s						
PLAI	**Plampang**	**62.23**	**269**	P	**P**	**02 17 29.7**	**-0.5**
	comp=Z,70nm,1.0s						
PLAI	**Plampang**	**62.23**	**269**	P	**P**	**02 17 30.3**	**+0.1**
TOLI2	**Tolitoli**	**62.37**	**281**	P	**P**	**02 17 31.0**	**-0.2**
GIRL	**Giralia**	**62.77**	**253**	P	**P**	**02 17 34.7**	**+1.2**
	baz=63,SNR=5.0						
GIRL	**Giralia**	**62.77**	**253**	P	**P**	**02 17 33.7**	**+0.2**
MPSI	**Mapaga**	**62.94**	**280**	P	**P**	**02 17 34.4**	**-0.4**
	comp=Z,32nm,1.0s						
CCD	**Concordia, Ant**	**65.23**	**194**	P	**P**	**02 17 49.0**	**+0.3**
CCD				pP	**pP**	**02 19 41.3**	**+4.0**
JAGI	**Jajag, Banyuwa**	**65.79**	**268**	P	**P**	**02 17 51.0**	**-1.9**
JAGI				IAmb	IAmb	02 17 52.5	
	comp=Z,47nm,0.9s						
JAGI	**Jajag, Banyuwa**	**65.79**	**268**	P	**P**	**02 17 51.1**	**-1.7**
	comp=Z,68nm,0.8s						
JAGI	**Jajag, Banyuwa**	**65.79**	**268**	P	**P**	**02 17 51.6**	**-1.2**
CASY	**Casey**	**66.42**	**205**	P	**P**	**02 17 55.7**	**-0.1**
CASY	**Casey**	**66.42**	**205**	P	**P**	**02 17 55.6**	**-0.1**
CASY				X		02 18 06.0	
CASY				pP	**pP**	**02 19 41.3**	**-3.1**
CASY				pwP	**pwP**	**02 19 48.0**	**-0.8**
BBKI	**Banjar Baru**	**66.53**	**274**	P	**P**	**02 17 59.3**	**+1.8**
MJAR	**Matsushiro Arr**	**67.40**	**323**	P	**P**	**02 18 01.0**	**-1.3**
	comp=Z,2.3nm,0.4s,baz=149,slow=12,SNR=7.1						
KKM	**Kota Kinabalu**	**68.38**	**284**	P	**P**	**02 18 08.8**	**-0.1**
JSD	**Sado**	**68.43**	**325**	P	**P**	**02 18 09.1**	**+0.6**
JSD				IAmb	IAmb	02 18 10.0	
	comp=Z,27nm,0.7s						
PCJI	**Pacitan**	**68.70**	**268**	P	**P**	**02 18 10.2**	**-0.5**
	comp=Z,125nm,1.0s						
ADK	**Adak**	**69.08**	**1**	P	**P**	**02 18 11.3**	**-0.8**
ADK				pmax	pmax		
	comp=Z,84nm,1.2s						
ADK	**Adak**	**69.08**	**1**	P	**P**	**02 18 11.3**	**-0.8**
UGM	**Wanagama**	**69.40**	**268**	P	**P**	**02 18 14.8**	**-0.1**
UGM	**Wanagama**	**69.40**	**268**	P	**P**	**02 18 14.8**	**-0.1**
	comp=Z,92nm,1.3s						
SHEM	**Shemya Is, Ala**	**70.18**	**355**	P	**P**	**02 18 17.5**	**-1.1**
	comp=Z,23nm,0.3s,baz=322,slow=2.4,SNR=6.2						
SMY	**Shemya**	**70.18**	**355**	P	**P**	**02 18 18.8**	**+0.1**
SMY				pmax	pmax		
	comp=Z,276nm,1.4s						
SMY	**Shemya**	**70.18**	**355**	P	**P**	**02 18 18.8**	**+0.1**
JEW	**Eniwo**	**70.32**	**330**	P	**P**	**02 18 18.8**	**-1.0**
JEW				IAmb	IAmb	02 18 35.1	
	comp=Z,61nm,1.2s						
YOJ	**Yonaguni jima**	**70.48**	**305**	P	**P**	**02 18 20.7**	**-0.4**
YOJ				pmax	pmax		
	comp=Z,45nm,0.8s						
YOJ	**Yonaguni jima**	**70.48**	**305**	P	**P**	**02 18 20.7**	**-0.4**
YOJ				IAmb	IAmb	02 18 22.3	
	comp=Z,45nm,0.8s						
NIKH	**Nikolski High**	**70.66**	**6**	P	**P**	**02 18 21.6**	**+0.1**
NIKH	**Nikolski High**	**70.66**	**6**	P	**P**	**02 18 20.7**	**-0.8**
	baz=190						
JKA	**Kamikawa-asahi**	**70.77**	**332**	P	**P**	**02 18 24.1**	**+1.7**
ASAJ	**Asahikawa**	**70.77**	**332**	P	**P**	**02 18 24.1**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.8s						
NACB	**Ninganchiao**	**71.45**	**304**	P	**P**	**02 18 26.4**	**-0.4**
SSLB	**Suanglung**	**71.78**	**303**	P	**P**	**02 18 27.5**	**-1.3**
UNV	**Unalaska Valle**	**71.79**	**8**	P	**P**	**02 18 27.2**	**-0.9**
UNV				IAmb	IAmb	02 18 29.6	
	comp=Z,75nm,1.1s						
UNV	**Unalaska Valle**	**71.79**	**8**	P	**P**	**02 18 28.0**	**-0.1**
	baz=192						
TPUB	**Ta-pu**	**71.80**	**302**	IAmb	IAmb	02 18 29.3	
	comp=Z,27nm,0.6s						
TPUB	**Ta-pu**	**71.80**	**302**	P	**P**	**02 18 28.7**	**-0.2**
	comp=Z,36nm,0.8s						
KSM	**Kuching**	**72.36**	**277**	P	**P**	**02 18 33.6**	**+1.2**
	comp=Z,29nm,0.9s						
LEM	**Lembang**	**72.46**	**268**	P	**P**	**02 18 33.0**	**-0.1**
	comp=Z,40nm,0.7s						
QSPA	**South Pole Qui**	**72.58**	**180**	P	**P**	**02 18 32.9**	**+0.1**
QSPA				IAmb	IAmb	02 18 34.8	
	comp=Z,24nm,0.8s						
CNJI	**Cibinong**	**72.80**	**268**	P	**P**	**02 18 33.9**	**-1.0**
	comp=Z,48nm,0.8s						
PET	**Petropavlovsk**	**72.89**	**346**	*i* P	**P**	**02 18 34.6**	**+0.2**
PET				pmax	pmax		
	comp=Z,25nm,1.4s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
PEA0B	**Petropavlovsk-**	**73.19**	**345**	*ce*P	**P**	**02 18 35.3**	**-0.9**
PEA0B	**Petropavlovsk-**	**73.19**	**345**	P	**P**	**02 18 36.5**	**+0.2**
PEA0B				IAmb	IAmb	02 18 37.7	
	comp=Z,47nm,1.1s						
PETK	**Petropavlovsk-**	**73.19**	**345**	P	**P**	**02 18 36.1**	**-0.1**
	comp=Z,24nm,0.8s,baz=156,slow=8.1,SNR=19						
SDPT	**Sand Point**	**74.16**	**11**	P	**P**	**02 18 42.2**	**+0.5**
	baz=198						
KSRS	**Korea Array**	**74.20**	**318**	P	**P**	**02 18 43.4**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=138,slow=6.8,SNR=7.0						
CGJI	**Cibinong**	**74.36**	**268**	P	**P**	**02 18 43.1**	**-0.6**
	comp=Z,84nm,0.6s						
SPIA	**Saint Paul Isl**	**74.69**	**5**	P	**P**	**02 18 44.4**	**-0.2**
	baz=188						
PPBI	**Pangkal Pinang**	**75.22**	**272**	P	**P**	**02 18 50.0**	**+1.4**
MSHR	**Mys Shultsa**	**75.49**	**324**	*ce*P	**P**	**02 18 50.7**	**+1.3**
MSHR				pmax	pmax		
	comp=Z,14nm,0.9s						
CHIR	**Chirikof Islan**	**75.56**	**13**	P	**P**	**02 18 50.7**	**+1.2**
	baz=203						
SNCC	**San Nicolas Is**	**75.69**	**48**	P	**P**	**02 18 52.5**	**+1.8**
	baz=238						
KASI	**Kota Agung**	**75.81**	**269**	P	**P**	**02 18 51.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**76.11**	**326**	P	**P**	**02 18 53.5**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=142,slow=7.3,SNR=9.5						
SBC	**Santa Barbara**	**76.20**	**47**	P	**P**	**02 18 55.2**	**+1.7**
	baz=237						
SCI2	**San Clemente I**	**76.25**	**49**	P	**P**	**02 18 55.3**	**+1.4**
	baz=238						
SAO	**San Andreas Ge**	**76.29**	**44**	P	**P**	**02 18 55.2**	**+1.2**
SAO				pmax	pmax		
	comp=Z,46nm,0.9s						
SAO	**San Andreas Ge**	**76.29**	**44**	P	**P**	**02 18 55.2**	**+1.2**
SAO				IAmb	IAmb	02 18 56.7	
	comp=Z,46nm,0.9s						
PMPB	**Monarch Peak**	**76.42**	**45**	P	**P**	**02 18 56.4**	**+1.6**
PMPB				IAmb	IAmb	02 18 57.7	
	comp=Z,60nm,1.1s						
BBGB	**Big Mountain B**	**76.46**	**44**	P	**P**	**02 18 56.9**	**+1.8**
BBGB				IAmb	IAmb	02 18 58.4	
	comp=Z,82nm,1.2s						
SMMC	**Simmler**	**76.47**	**46**	P	**P**	**02 18 56.9**	**+1.8**
	baz=237,SNR=8.8						
HOPS	**Hopland Field**	**76.52**	**41**	P	**P**	**02 18 56.2**	**+0.9**
PAGB	**Antelope Grade**	**76.53**	**45**	P	**P**	**02 18 56.2**	**+0.8**
CIS	**Catalina Islan**	**76.56**	**48**	P	**P**	**02 18 56.6**	**+1.0**
	baz=238						
KCPM	**Cahto Peak**	**76.61**	**41**	IAmb	IAmb	02 18 58.7	
	comp=Z,55nm,1.4s						
BCW	**Bitter Crk WRg**	**76.67**	**47**	P	**P**	**02 18 57.5**	**+1.2**
BCW				IAmb	IAmb	02 18 59.2	
	comp=Z,57nm,1.0s						
KMPM	**Mount Pierce**	**76.72**	**40**	IAmb	IAmb	02 18 59.3	
	comp=Z,44nm,0.9s						
FMP	**Fort Macarthur**	**76.81**	**48**	P	**P**	**02 18 58.3**	**+1.4**
	baz=238						
OSI	**Osito Audit: C**	**76.98**	**47**	P	**P**	**02 18 59.2**	**+1.3**
	baz=238						
DECC	**Green Verdugo**	**77.06**	**48**	P	**P**	**02 18 59.4**	**+1.0**
	baz=238						
PASC	**Pasadena Art C**	**77.12**	**48**	P	**P**	**02 18 59.5**	**+0.8**
PASC				IAmb	IAmb	02 19 00.8	
	comp=Z,38nm,0.9s						
ARVC	**Arvin**	**77.18**	**47**	P	**P**	**02 19 00.2**	**+1.3**
	baz=238,SNR=7.6						
KHMM	**Horse Mountain**	**77.23**	**40**	IAmb	IAmb	02 19 02.2	
	comp=Z,40nm,1.1s						
109C	**Camp Elliot, M**	**77.24**	**49**	P	**P**	**02 19 00.7**	**+1.5**
	baz=239						
CBX	**Cerro Bola**	**77.27**	**50**	P	**P**	**02 19 00.6**	**+1.0**
OHAK	**Old Harbor**	**77.37**	**14**	P	**P**	**02 18 59.8**	**+0.4**
OHAK				IAmb	IAmb	02 19 00.8	
	comp=Z,58nm,0.8s						
OHAK	**Old Harbor**	**77.37**	**14**	P	**P**	**02 19 00.0**	**+0.7**
	baz=205						
VES	**Vestal, Richgr**	**77.38**	**46**	P	**P**	**02 19 01.0**	**+1.0**
	baz=237,SNR=24						
O02D	**Mt. Diablo Mer**	**77.39**	**41**	IAmb	IAmb	02 19 03.2	
	comp=Z,48nm,1.2s						
O02D	**Mt. Diablo Mer**	**77.39**	**41**	P	**P**	**02 19 02.0**	**+1.9**
	baz=234,SNR=19						
VOG	**Valley Oaks Go**	**77.44**	**45**	P	**P**	**02 19 01.4**	**+1.1**
	baz=237						
BAR	**Barrett**	**77.44**	**50**	P	**P**	**02 19 00.6**	**+0.2**
NJ2	**Nanjing**	**77.46**	**310**	*e*P	**P**	**02 19 01.9**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BFSC	**Mount Baldy Ra**	**77.53**	**48**	P	**P**	**02 19 02.1**	**+1.1**
	baz=239,SNR=15						
MURC	**Murrieta**	**77.53**	**49**	P	**P**	**02 19 02.3**	**+1.4**
	baz=239,SNR=12						
EDW2	**Edwards Air Fo**	**77.63**	**47**	P	**P**	**02 19 02.8**	**+1.3**
	baz=238,SNR=39						
MDJ	**Mudanjiang**	**77.68**	**325**	P	**P**	**02 19 03.1**	**+1.7**
MDJ				S	**S**	**02 28 15.1**	**+5.6**
MDJ				pmax	pmax		
	comp=Z,29nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.9s						
MDJ	**Mudanjiang**	**77.68**	**325**	P	**P**	**02 19 03.3**	**+1.9**
	comp=Z,28nm,1.1s						
ISA	**Isabella, Lake**	**77.71**	**46**	IAmb	IAmb	02 19 04.5	
	comp=Z,53nm,0.9s						
ISA	**Isabella, Lake**	**77.71**	**46**	P	**P**	**02 19 03.3**	**+1.5**
	baz=238,SNR=39						
MONP2	**Monument Peak**	**77.73**	**50**	P	**P**	**02 19 03.8**	**+1.5**
	baz=240,SNR=22						
CCAC	**Calif City Air**	**77.75**	**47**	P	**P**	**02 19 03.6**	**+1.5**
CCAC				IAmb	IAmb	02 19 04.7	
	comp=Z,34nm,0.9s						
IKP	**In-Ko-Pah, Jac**	**77.84**	**50**	P	**P**	**02 19 04.4**	**+1.7**
	baz=240,SNR=14						
N02D	**Trinity Center**	**77.91**	**40**	P	**P**	**02 19 04.6**	**+1.8**
	baz=234,SNR=12						
YUH	**Yuha Desert**	**77.98**	**50**	P	**P**	**02 19 04.3**	**+1.1**
YUH				IAmb	IAmb	02 19 06.0	
	comp=Z,38nm,0.9s						
KDAK	**Kodiak Island**	**78.04**	**14**	P	**P**	**02 19 03.6**	**+0.6**
	comp=Z,35nm,0.7s,baz=231,slow=1.8,SNR=17						
KDAK	**Kodiak Island**	**78.04**	**14**	P	**P**	**02 19 03.5**	**+0.6**
KDAK				pmax	pmax		
	comp=Z,204nm,1.5s						
KDAK	**Kodiak Island**	**78.04**	**14**	P	**P**	**02 19 03.5**	**+0.5**
KDAK	**Kodiak Island**	**78.04**	**14**	P	**P**	**02 19 03.6**	**+0.5**
	baz=205						
M02C	**Callahan**	**78.07**	**40**	P	**P**	**02 19 05.5**	**+1.8**
	baz=234,SNR=12						
BBRC	**Big Bear Solar**	**78.07**	**48**	P	**P**	**02 19 05.3**	**+1.3**
	baz=239						
PFO	**Pinyon Flats O**	**78.07**	**49**	⇓*i*P	**P**	**02 19 04.8**	**+0.9**
PFO				pmax	pmax		
	comp=Z,23nm,0.9s						
PFO	**Pinyon Flats O**	**78.07**	**49**	P	**P**	**02 19 04.3**	**+0.4**
PFO	**Pinyon Flats O**	**78.07**	**49**	P	**P**	**02 19 05.2**	**+1.3**
	baz=240,SNR=9.1						
TPFO	**Pinon Flats**	**78.07**	**49**	P	**P**	**02 19 05.2**	**+1.3**

baz=240,SNR=6.9
L02E Cave Junction 78.07 39 P P 02 19 04.6 +1.0
L02E Cave Junction 78.07 39 P P 02 19 05.4 +1.8
baz=233
O03E Paynes Creek 78.08 41 IAmb IAmb 02 19 06.1
comp=Z,66nm,1.4s
O03E Paynes Creek 78.08 41 P P 02 19 04.8 +1.0
baz=235,SNR=16
LRMC Laurel Mtn Rad 78.16 47 P P 02 19 05.7 +1.3
baz=238,SNR=6.6
SWSC Sam W. Stewart 78.21 50 P P 02 19 05.9 +1.4
baz=240,SNR=16
RRX Edison Barstow 78.33 48 P P 02 19 06.6 +1.4
baz=239
K02D Willamette Mer 78.36 38 P P 02 19 06.7 +1.5
baz=233,SNR=6.5
CWC Cottonwood Cre 78.39 46 P P 02 19 06.9 +1.3
baz=238
OMMB Old Mammoth Mi 78.39 44 IAmb IAmb 02 19 08.3
comp=Z,51nm,1.3s
EMB Emerald Bay 78.41 43 P P 02 19 06.5 +0.8
J01E Myrtle Point 78.48 38 P P 02 19 06.1 +0.4
J01E Myrtle Point 78.48 38 P P 02 19 06.9 +1.2
baz=233
MLAC Mammoth, Mammo 78.51 44 P P 02 19 07.9 +1.6
baz=237,SNR=5.6
SLBS Sierra La Lagu 78.58 61 P P 02 19 07.9 +1.2
SLBS IAmb IAmb 02 19 10.1
comp=Z,39nm,1.0s
MPMC Manual Prospec 78.59 46 P P 02 19 08.2 +1.4
baz=238,SNR=36
BELC Belle Mtn. Jos 78.60 49 P P 02 19 08.3 +1.6
baz=240,SNR=21
TIN Tinemaha, Big 78.61 45 P P 02 19 08.4 +1.7
baz=238,SNR=12
MPK Martis Peak 78.64 43 P P 02 19 08.1 +1.1
GSC Goldstone, Bar 78.68 47 P P 02 19 08.3 +1.2
baz=239,SNR=13
HUMO Hull Mountain 78.72 38 IAmb IAmb 02 19 10.0
comp=Z,39nm,1.1s
BEKR Beckworth 78.74 42 IAmb IAmb 02 19 09.8
comp=Z,68nm,1.4s
HEC Hector,Ludlow 78.77 48 P P 02 19 08.8 +1.3
baz=239,SNR=19
BC3 Big Chuckawall 78.82 49 P P 02 19 09.5 +1.6
baz=240,SNR=15
Q19K Cape Douglas, 78.85 13 P P 02 19 07.3 -0.1
baz=204
VCNR Virginia City 78.88 43 P P 02 19 09.2 +0.9
L04D Klamath Falls 78.89 39 IAmb IAmb 02 19 10.5
comp=Z,48nm,0.8s
L04D Klamath Falls 78.89 39 P P 02 19 09.3 +1.2
baz=234,SNR=13
M04C Macdoel 78.91 40 P P 02 19 09.7 +1.5
baz=234,SNR=12
P18K Big Mountain, 78.95 12 P P 02 19 07.9 0.0
baz=203
GLA Glamis 78.98 50 IAmb IAmb 02 19 11.8
comp=Z,45nm,0.9s
GLA Glamis 78.98 50 P P 02 19 10.6 +2.0
baz=241,SNR=11
YERR Yerington 78.98 43 IAmb IAmb 02 19 11.1
comp=Z,47nm,0.7s
LHV Little Huntoon 79.06 44 IAmb IAmb 02 19 11.9
comp=Z,68nm,1.0s
LCH Last Chance Ra 79.10 45 IAmb IAmb 02 19 11.2
comp=Z,22nm,0.6s
I03D Drain, OR 79.14 37 P P 02 19 10.5 +1.3
baz=233
GRAC Grapevine Rang 79.17 46 IAmb IAmb 02 19 12.4
comp=Z,113nm,1.4s
GRAC Grapevine Rang 79.17 46 P P 02 19 11.2 +1.6
baz=238,SNR=25
GMRC Granite Mounta 79.23 48 P P 02 19 11.4 +1.3
baz=240,SNR=12
FURC Furnace Creek, 79.24 46 P P 02 19 11.1 +1.3
baz=239,SNR=15
PAHR Pah Rah Range 79.28 42 IAmb IAmb 02 19 12.7
comp=Z,35nm,1.0s
IRM Iron Mountain 79.29 49 P P 02 19 12.0 +1.7
baz=240,SNR=22
NVAR Mina Array Bea 79.29 44 P P 02 19 11.8 +1.4
comp=Z,29nm,0.8s,baz=225,slow=9.3,SNR=196
SHOC Shoshone, Teco 79.36 47 P P 02 19 11.8 +1.2
baz=239
TUQ Turquoise Moun 79.37 48 P P 02 19 12.2 +1.3
baz=240,SNR=14
NV11 Mina Array Sit 79.39 44 IAmb IAmb 02 19 13.4
comp=Z,48nm,1.1s
K04D Chiloquin, OR 79.45 39 P P 02 19 12.5 +1.4
baz=234
CN2 Changchun 79.51 322 *e*P P 02 19 10.0 -1.2
CN2 *es*P sP 02 21 52.3 -7.9
CN2 SKS **SKSac** 02 28 34.9 -1.4
CN2 Changchun 79.51 322 *e*SS sS 02 31 45.6 -8.1
CN2 Changchun 79.51 322 *e*SS SS 02 33 57.3 +4.9
CN2 pmax pmax
comp=Z,20nm,1.0s
BLYC Blythe 79.54 50 IAmb IAmb 02 19 14.4
comp=Z,26nm,0.8s
BNX BinXian 79.58 325 ⇓P P 02 19 11.9 +0.4
BNX pmax pmax
comp=Z,47nm,0.8s
BNX pmax pmax
comp=Z,240nm,3.8s
J04D Umpqua Nationa 79.60 38 P P 02 19 13.4 +1.5
baz=234,SNR=30
KLR Kul'dur 79.60 330 *ce*P P 02 19 11.9 +0.4
KLR pmax pmax
comp=Z,4.0nm,1.0s
BUCK Buck Mountain 79.66 37 P P 02 19 13.9 +1.9
BUCK IAmb IAmb 02 19 14.7
comp=Z,63nm,1.2s
I04A Tendick Farm, 79.75 38 P P 02 19 13.5 +0.9
baz=234,SNR=6.0
KVN Kaiserville 79.76 44 IAmb IAmb 02 19 15.2
comp=Z,85nm,1.4s
O19K Port Alsworth 79.87 12 P P 02 19 12.5 -0.1
baz=204,SNR=19
TPNV Topopah Spring 79.91 46 P P 02 19 15.1 +1.4
baz=239,SNR=25
CNPM China Poot 79.92 14 IAmb IAmb 02 19 14.4
comp=Z,41nm,0.8s
MOD Modoc Plateau 79.92 40 P P 02 19 14.5 +0.9
MOD IAmb IAmb 02 19 15.9
comp=Z,32nm,0.7s
HOM Homer 79.95 14 P P 02 19 13.8 +0.7
HOM Homer 79.95 14 P P 02 19 14.0 +0.9
baz=206
214A Organ Pipe Nat 79.95 52 IAmb IAmb 02 19 17.1
comp=Z,48nm,1.2s
214A Organ Pipe Nat 79.95 52 P P 02 19 15.9 +2.0
baz=242,SNR=18
NEE2 Needles Airpor 79.97 49 P P 02 19 15.5 +1.7
baz=240
H04D Lebanon 79.99 37 P P 02 19 15.0 +1.3
baz=233,SNR=5.4
K05A Summer Lake 80.03 39 IAmb IAmb 02 19 16.9
comp=Z,60nm,1.0s
PDMCI Parker Dam,Lak 80.08 49 P P 02 19 15.9 +1.5
baz=241,SNR=18
G03D McMinnville, O 80.11 36 IAmb IAmb 02 19 16.9
comp=Z,76nm,1.2s
G03D McMinnville, O 80.11 36 P P 02 19 15.3 +1.1
baz=233
O20K Slope Mountain 80.12 13 P P 02 19 14.0 -0.1
baz=205
J05D Fort Rock, OR 80.15 39 P P 02 19 16.3 +1.6
baz=235,SNR=50
BRLK Bradley Lake 80.22 14 IAmb IAmb 02 19 15.7
comp=Z,50nm,0.8s
BRSE Bradley Lake S 80.23 14 P P 02 19 15.0 +0.4
baz=207,SNR=14
N19K Bonanza Creek 80.41 12 IAmb IAmb 02 19 16.4
comp=Z,28nm,0.8s
N19K Bonanza Creek 80.41 12 P P 02 19 15.2 -0.4
baz=203,SNR=8.1
RSO Redoubt South 80.44 13 P P 02 19 15.3 -0.6
S11A Rachel 80.61 46 IAmb IAmb 02 19 19.8
comp=Z,57nm,1.0s
PINE Pine Mountain 80.61 38 IAmb IAmb 02 19 20.0
comp=Z,64nm,0.9s
I05D Terrebonne, OR 80.69 38 P P 02 19 18.7 +1.3
baz=234,SNR=8.7
MA2 Magadan 80.70 345 P P 02 19 16.2 -0.9
comp=Z,6.9nm,0.5s,baz=95,slow=11,SNR=4.0
MA2 Magadan 80.70 345 *ce*P P 02 19 16.5 -0.5
MA2 pmax pmax
comp=Z,18nm,0.9s
HG4B Hotspring 80.75 27 P P 02 19 18.6 +1.1
HG4B IAmb IAmb 02 19 44.1
comp=Z,60nm,1.1s
F04D Rainier, OR 80.77 36 P P 02 19 19.4 +1.7
baz=233
SEW Seward 80.85 14 IAmb IAmb 02 19 18.7
comp=Z,34nm,0.8s
SEW Seward 80.85 14 P P 02 19 17.6 -0.1
baz=208,SNR=8.2
DIB Dawson Inlet, 80.85 26 IAmb IAmb 02 19 19.8
comp=Z,31nm,1.0s
PRN Pahroc Range 80.97 46 IAmb IAmb 02 19 22.1
comp=Z,58nm,1.0s
WISH Wishkah 80.98 34 IAmb IAmb 02 19 21.1
comp=Z,41nm,0.9s
F04A Amboy 81.01 36 IAmb IAmb 02 19 21.2
comp=Z,91nm,1.4s
Q23K Middleton Isla 81.04 16 P P 02 19 21.6 +2.9
baz=211
CAPN Captain Cook N 81.06 13 P P 02 19 19.9 +1.1
baz=206
BMN Battle Mountai 81.07 43 P P 02 19 20.1 +0.5
BMN pmax pmax
comp=Z,45nm,1.0s
BMN Battle Mountai 81.07 43 P P 02 19 20.1 +0.5
BMN IAmb IAmb 02 19 22.1
comp=Z,45nm,1.0s
C03A Quillayute Air 81.07 33 P P 02 19 21.2 +2.0
R11A Troy Canyon, C 81.07 45 P P 02 19 20.7 +1.0
baz=239,SNR=28
HOOD Mount Hood Mea 81.09 37 IAmb IAmb 02 19 21.7
comp=Z,60nm,1.2s
NLWA Neilton Lookou 81.10 34 IAmb IAmb 02 19 22.0
comp=Z,50nm,1.2s
O22K Cooper Landing 81.12 14 P P 02 19 19.4 +0.2
baz=208,SNR=7.5
GAMB Gambell 81.17 3 IAmb IAmb 02 19 21.2
comp=Z,26nm,0.8s
GAMB Gambell 81.17 3 P P 02 19 20.1 +0.8
baz=187,SNR=26
OZB Mount Ozzard 81.23 32 P P 02 19 21.0 +1.0
OZB IAmb IAmb 02 19 29.4
comp=Z,54nm,1.2s
G05D Wamic, OR 81.23 37 P P 02 19 21.3 +1.2
baz=234,SNR=6.0
WVOR Wild Horse Val 81.25 40 IAmb IAmb 02 19 23.0
comp=Z,67nm,1.1s
E04D Cinebar 81.30 35 IAmb IAmb 02 19 23.2
comp=Z,88nm,1.4s
E04D Cinebar 81.30 35 P P 02 19 21.8 +1.4
baz=233,SNR=8.2
M19K Big River Lodg 81.43 11 P P 02 19 20.8 +0.1
baz=203
F05D White Salmon 81.53 36 P P 02 19 22.9 +1.3
baz=234
D04E Lakebay 81.56 35 P P 02 19 23.8 +2.1
baz=233
L19K White Mountain 81.60 11 IAmb IAmb 02 19 23.6
comp=Z,41nm,1.1s
L19K White Mountain 81.60 11 P P 02 19 22.0 +0.4
baz=203,SNR=13
D03D Eldon 81.61 34 P P 02 19 23.2 +1.3
baz=233,SNR=11
I07A Izee 81.63 39 IAmb IAmb 02 19 24.9
comp=Z,41nm,0.9s
TUC Tucson 81.64 52 P P 02 19 24.7 +2.0
TUC pmax pmax
comp=Z,45nm,0.9s
TUC Tucson 81.64 52 P P 02 19 24.7 +2.0
TUC IAmb IAmb 02 19 26.1
comp=Z,45nm,0.9s
TUC Tucson 81.64 52 P P 02 19 24.9 +2.3
baz=243
M20K Styx River 81.65 12 P P 02 19 21.2 -0.8
baz=205
RC01 Rabbit Creek A 81.66 14 IAmb IAmb 02 19 23.1
comp=Z,42nm,1.0s
RC01 Rabbit Creek A 81.66 14 P P 02 19 21.9 0.0
baz=208,SNR=22
B04A Port Angeles 81.70 34 IAmb IAmb 02 19 25.0
comp=Z,56nm,1.4s
PWL Port Wells 81.78 14 IAmb IAmb 02 19 23.5
comp=Z,59nm,0.9s
PWL Port Wells 81.78 14 P P 02 19 22.4 -0.2
baz=209,SNR=28
CLRS Cowichan Lake 81.84 33 IAmb IAmb 02 19 25.3
comp=Z,26nm,0.9s
CBB Campbell River 81.97 31 IAmb IAmb 02 19 26.1
comp=Z,46nm,1.0s
KAIM Kayak Island 81.98 17 P P 02 19 24.3 +0.7
baz=213,SNR=9.0
D05A Enumclaw 82.00 35 P P 02 19 25.1 +1.1
LCMT Little Creek M 82.03 47 IAmb IAmb 02 19 27.3
comp=Z,34nm,0.9s
L20K Farewell, AK 82.05 11 P P 02 19 24.0 0.0
baz=204,SNR=25
BBB Bella Bella 82.06 29 IAmb IAmb 02 19 26.2
comp=Z,37nm,0.9s
TTA Tatalina 82.09 10 IAmb IAmb 02 19 26.1
comp=Z,76nm,1.4s
TTA Tatalina 82.09 10 P P 02 19 24.9 +0.7
baz=202,SNR=21
PGC Sidney 82.09 33 IAmb IAmb 02 19 26.5
comp=Z,25nm,0.8s
GLI Glacier Island 82.10 15 P P 02 19 24.0 -0.2
baz=210,SNR=37
X16A Lo Mia Camp, P 82.11 50 IAmb IAmb 02 19 28.2
comp=Z,51nm,0.9s
FID Port Fidalgo 82.14 15 IAmb IAmb 02 19 25.2
comp=Z,49nm,1.2s
EYAK Cordova Ski Ar 82.16 16 P P 02 19 24.4 0.0
EYAK IAmb IAmb 02 19 25.5
comp=Z,24nm,0.8s
EYAK Cordova Ski Ar 82.16 16 P P 02 19 24.5 0.0
baz=212,SNR=8.3
M22K Willow 82.16 13 P P 02 19 24.3 -0.1
baz=207,SNR=19
CCUT Cedar City 82.21 47 IAmb IAmb 02 19 28.6
comp=Z,36nm,1.0s
CRAG Craig 82.23 24 P P 02 19 26.2 +1.3
baz=223
KNK Knik Glacier 82.24 14 IAmb IAmb 02 19 26.0
comp=Z,37nm,0.9s
KNK Knik Glacier 82.24 14 P P 02 19 25.0 +0.1
baz=209,SNR=23
PMR Palmer 82.24 14 IAmb IAmb 02 19 26.0
comp=Z,84nm,1.4s
PMR Palmer 82.24 14 P P 02 19 24.8 0.0
baz=208,SNR=32
RAGM Ragged Mountai 82.30 16 IAmb IAmb 02 19 26.7
comp=Z,55nm,1.2s
KNB Kanab 82.33 47 IAmb IAmb 02 19 29.0
comp=Z,36nm,0.9s
PSUT Pine Spring 82.34 46 IAmb IAmb 02 19 28.6
comp=Z,31nm,0.7s
HMT Hamilton 82.37 16 IAmb IAmb 02 19 26.9
comp=Z,36nm,0.9s
GRNB Grenville Isla 82.38 27 P P 02 19 26.7 +1.0
F07A Phinny Hill Vi 82.41 37 IAmb IAmb 02 19 28.3
comp=Z,25nm,0.8s
ANM Nome 82.42 6 P P 02 19 26.5 +0.8
baz=193,SNR=20
SZCU Shurtz Canyon 82.42 47 IAmb IAmb 02 19 29.5
comp=Z,42nm,1.1s
ELK Elko 82.52 43 IAmb IAmb 02 19 29.4
comp=Z,33nm,0.9s
A04D Lummi Island 82.53 34 P P 02 19 27.9 +1.4
baz=233,SNR=24
SIT Sitka 82.57 22 P P 02 19 28.5 +1.9
baz=221
B05A Bryant 82.58 34 P P 02 19 28.0 +1.1
baz=233,SNR=15
RUBB Prince Rupert 82.58 26 P P 02 19 27.5 +0.8
SML Sawmill 82.61 14 IAmb IAmb 02 19 28.7
comp=Z,53nm,1.4s
SML Sawmill 82.61 14 P P 02 19 26.7 -0.1
baz=209,SNR=10
G08A Pilot Rock 82.63 38 IAmb IAmb 02 19 29.7
comp=Z,50nm,1.1s
BELA Belgrano 2 82.63 173 P P 02 19 26.2 -0.6
WUAZ Wupatki 82.66 49 IAmb IAmb 02 19 30.8
comp=Z,60nm,1.1s
WUAZ Wupatki 82.66 49 P P 02 19 29.6 +1.8
baz=242,SNR=46
CUT Chulitna 82.71 13 P P 02 19 27.1 -0.1
baz=207,SNR=8.8
PPLA Purkeypile 82.76 12 P P 02 19 26.5 -1.1
baz=205
BMRM Bremner River 82.81 16 IAmb IAmb 02 19 28.6
comp=Z,41nm,0.7s
BMRM Bremner River 82.81 16 P P 02 19 28.0 +0.1
baz=213
E07A Sunnyside 82.82 37 IAmb IAmb 02 19 30.6
comp=Z,62nm,1.2s
K20K Telida 82.83 11 P P 02 19 27.8 0.0
K20K Telida 82.83 11 P P 02 19 28.1 +0.2
baz=204,SNR=47
SCM Sheep Creek Mo 82.87 14 P P 02 19 28.1 0.0
baz=210,SNR=42
HAWA Hanford 82.91 37 IAmb IAmb 02 19 31.0
comp=Z,60nm,1.1s
KLU Klutina 82.92 15 P P 02 19 28.5 +0.1
baz=211,SNR=14
TNA Tin City 83.18 4 IAmb IAmb 02 19 31.4
comp=Z,57nm,1.0s
TNA Tin City 83.18 4 P P 02 19 30.0 +0.6
baz=190,SNR=51
WRAK Wrangell Islan 83.22 24 IAmb IAmb 02 19 32.1
comp=Z,33nm,0.9s
WRAK Wrangell Islan 83.22 24 P P 02 19 30.9 +1.0
baz=224
PNL Peninsula 83.23 19 P P 02 19 30.3 +0.4
baz=217,SNR=11
E08A Dider Farm, El 83.24 37 IAmb IAmb 02 19 32.0
comp=Z,26nm,0.7s
CAST Castle Rocks 83.25 12 P P 02 19 28.8 -1.1
baz=206,SNR=72
X18A Snowflake 83.26 51 IAmb IAmb 02 19 33.8
comp=Z,23nm,0.9s
MTPU Mount Pierson 83.26 47 IAmb IAmb 02 19 34.4
comp=Z,48nm,1.0s
BJI Beijing 83.29 315 P P 02 19 31.7 +1.1
BJI sP **sP** 02 22 20.7 -0.4
BJI pmax pmax
comp=Z,14nm,0.9s
BJI pmax pmax
comp=Z,64nm,4.1s
SEY Seymchan 83.29 347 *ce*P P 02 19 30.1 0.0
SEY pmax pmax
comp=Z,42nm,0.8s
PCA Pinnacle 83.31 18 P P 02 19 30.6 +0.2
PCA IAmb IAmb 02 19 31.8
comp=Z,30nm,1.0s
VRDI Verde Repeater 83.34 16 IAmb IAmb 02 19 31.9
comp=Z,55nm,1.1s
LYN LuoYang 83.35 309 *e*P P 02 19 33.0 +1.9
N25K Chitina, Valde 83.35 16 P P 02 19 30.9 +0.3
baz=213,SNR=62
M24K Tolsona, Glenn 83.39 15 P P 02 19 31.4 +0.7
baz=211,SNR=26
WAT6 Susitna Watana 83.43 14 P P 02 19 31.0 0.0
baz=210,SNR=40
MFID Camas Ranch 83.52 41 IAmb IAmb 02 19 34.2
comp=Z,42nm,1.1s
J20K Nowinta River 83.57 11 P P 02 19 31.6 +0.2
J20K IAmb IAmb 02 19 33.0
comp=Z,35nm,0.8s
J20K Nowinta River 83.57 11 P P 02 19 31.8 +0.3
baz=204,SNR=28
KTH Kantishna Hill 83.61 12 IAmb IAmb 02 19 32.0
comp=Z,41nm,0.9s
CHUM Lake Minchumin 83.63 11 P P 02 19 31.2 -0.5
baz=205,SNR=35
D08A Wollman Farm, 83.64 36 IAmb IAmb 02 19 34.5
comp=Z,33nm,0.9s
TRF Thorofare Moun 83.64 12 P P 02 19 31.5 -0.5
baz=207,SNR=71
GCSA Galena City Sc 83.65 9 P P 02 19 32.5 +0.7
baz=201,SNR=6.2
W18A Petrified Fore 83.68 50 IAmb IAmb 02 19 35.8
comp=Z,53nm,1.4s
W18A Petrified Fore 83.68 50 P P 02 19 34.5 +1.5
baz=244,SNR=17
DUG Dugway, Tooele 83.86 45 P P 02 19 34.8 +1.1
baz=241,SNR=13
BESE Bessie Mountai 83.88 21 IAmb IAmb 02 19 35.5
comp=Z,56nm,1.1s
HARP HAARP 83.88 15 P P 02 19 33.4 +0.3
baz=212,SNR=25
RND Reindeer 83.90 13 P P 02 19 32.7 -0.5
RND pmax pmax
comp=Z,87nm,0.8s
RND Reindeer 83.90 13 P P 02 19 32.7 -0.5
DHY Denali Highway 83.94 14 IAmb IAmb 02 19 34.0
comp=Z,18nm,0.6s
DHY Denali Highway 83.94 14 P P 02 19 33.2 -0.3
baz=210,SNR=25
F10A Beach Ranch, E 84.02 38 IAmb IAmb 02 19 36.1
comp=Z,50nm,0.9s
121A Cookes Peak, D 84.03 53 P P 02 19 36.8 +2.1
baz=245,SNR=33
BPAW Bear Paw Mtn. 84.08 12 P P 02 19 32.9 -1.2
baz=206,SNR=15
B08A Colville Reser 84.14 35 IAmb IAmb 02 19 36.2
comp=Z,26nm,0.8s
MCK McKinley 84.17 13 P P 02 19 34.2 -0.3
baz=208,SNR=39
PLID Pearl Lake 84.28 39 IAmb IAmb 02 19 38.7
comp=Z,32nm,1.2s
PAX Paxson 84.30 15 IAmb IAmb 02 19 36.0
comp=Z,23nm,0.8s
PAX Paxson 84.30 15 P P 02 19 34.5 -0.7
baz=212,SNR=32
SKAG Skagway 84.38 21 IAmb IAmb 02 19 38.2
comp=Z,53nm,1.3s
SKAG Skagway 84.38 21 P P 02 19 36.9 +1.4
baz=221,SNR=15
HLID Hailey 84.47 41 IAmb IAmb 02 19 39.3
comp=Z,27nm,0.8s
HLID Hailey 84.47 41 P P 02 19 38.3 +1.6
baz=240,SNR=52
TMUT Trail Mountain 84.52 46 P P 02 19 38.2 +1.1
TMUT IAmb IAmb 02 19 40.1
comp=Z,27nm,1.0s
YUK6 Outpost Mounta 84.56 19 P P 02 19 37.4 +0.6
baz=218,SNR=9.3
YUK3 Moose Creek 84.61 17 P P 02 19 37.3 +0.4
baz=216,SNR=62
HVU Hansel Valley 84.65 43 IAmb IAmb 02 19 40.0
comp=Z,29nm,1.2s
ZEA Zeya 84.68 331 *e*P P 02 19 38.4 +1.2
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,0.9s
M27K Edge Creek, AK 84.69 16 P P 02 19 38.0 +0.7
baz=215
MENT Mentasta 84.70 15 IAmb IAmb 02 19 38.6
comp=Z,33nm,0.9s
HYT Haines Junctio 84.73 19 IAmb IAmb 02 19 39.3
comp=Z,21nm,0.9s
HYT Haines Junctio 84.73 19 P P 02 19 38.3 +0.8
baz=219,SNR=18
TIY Taiyuan 84.78 312 P P 02 19 39.8 +1.6
YUK4 Talbot Arm 84.79 18 P P 02 19 38.7 +0.9
baz=218,SNR=15
L26K Log Cabin Wild 84.86 15 P P 02 19 38.4 +0.5
baz=214,SNR=14
I21K Tanana 84.87 11 IAmb IAmb 02 19 39.1
comp=Z,30nm,0.9s
I21K Tanana 84.87 11 P P 02 19 37.8 0.0
baz=206,SNR=30
NEA2 Nenana 84.91 12 P P 02 19 37.1 -0.9
NEA2 Nenana 84.91 12 P P 02 19 37.2 -0.9
baz=208,SNR=9.2
SRU San Rafael Swe 84.91 46 IAmb IAmb 02 19 41.2
comp=Z,20nm,0.9s
MLY Manley 84.97 12 IAmb IAmb 02 19 38.9
comp=Z,21nm,1.0s
MLY Manley 84.97 12 P P 02 19 37.7 -0.7
baz=207,SNR=25
BVCY Beaver Creek 85.02 17 P P 02 19 39.3 +0.6
baz=216,SNR=18
RIDG Independent Ri 85.10 14 P P 02 19 39.1 0.0
baz=212,SNR=27
H21K Melozitna Rive 85.16 10 P P 02 19 39.4 +0.2
baz=205,SNR=16
HDA Harding Lake 85.19 13 IAmb IAmb 02 19 40.3
comp=Z,36nm,0.7s
HDA Harding Lake 85.19 13 P P 02 19 39.1 -0.3
baz=210,SNR=46
XLT XiLinHaoTe 85.25 319 ⇑*i*P P 02 19 41.6 +1.3
XLT pmax pmax
comp=Z,15nm,0.7s

XLT pmax pmax
comp=Z,67nm,3.6s
L27K Beaver Creek, 85.29 16 P **P** 02 19 40.2 +0.3
baz=215,SNR=22
NEW Newport 85.31 36 P **P** 02 19 40.9 +0.5
comp=Z,13nm,0.6s,baz=255,slow=3.1,SNR=32
NEW Newport 85.31 36 IAmb IAmb 02 19 41.5
comp=Z,15nm,0.7s
NEW Newport 85.31 36 P **P** 02 19 41.0 +0.5
baz=237,SNR=17
P18A Preston Nutter 85.34 46 P **P** 02 19 42.2 +1.0
I23K Minto, Yukon-K 85.34 12 IAmb IAmb 02 19 41.6
comp=Z,30nm,1.3s
I23K Minto, Yukon-K 85.34 12 P **P** 02 19 39.2 -0.9
baz=208,SNR=15
MDM Murphy Dome 85.40 12 IAmb IAmb 02 19 41.0
comp=Z,42nm,1.1s
TCOL CIGO, UAF Yank 85.40 13 P **P** 02 19 39.9 -0.5
baz=209,SNR=9.3
COLA College 85.41 13 *i*P **P** 02 19 39.6 -0.8
COLA pmax pmax
comp=Z,65nm,1.3s
COLA College 85.41 13 P **P** 02 19 39.9 -0.5
baz=209
WHY Whitehorse 85.44 20 IAmb IAmb 02 19 42.8
comp=Z,26nm,1.0s
WHY Whitehorse 85.44 20 P **P** 02 19 41.6 +0.7
baz=222,SNR=20
MVCO Mesa Verde 85.49 49 P **P** 02 19 42.8 +1.0
MVCO Mesa Verde 85.49 49 P **P** 02 19 42.8 +1.0
baz=244,SNR=5.8
SCRK Sand Creek 85.50 15 P **P** 02 19 41.0 -0.2
SCRK IAmb IAmb 02 19 42.5
comp=Z,19nm,0.8s
SCRK Sand Creek 85.50 15 P **P** 02 19 41.2 +0.1
baz=213,SNR=28
IL31 85.52 13 IAmb IAmb 02 19 41.7
comp=Z,26nm,0.9s
ILAR Eielson Array 85.52 13 P **P** 02 19 40.5 -0.6
comp=Z,15nm,0.8s,baz=222,slow=4.9,SNR=155
DLBC Dease Lake 85.53 23 P **P** 02 19 42.1 +0.8
DLBC IAmb IAmb 02 19 43.6
comp=Z,25nm,0.9s
MNTX Cornudas Mount 85.54 55 IAmb IAmb 02 19 44.8
comp=Z,36nm,1.2s
MNTX Cornudas Mount 85.54 55 P **P** 02 19 43.6 +1.7
baz=246
PV10 Paradox Valley 85.62 48 IAmb IAmb 02 19 46.1
comp=Z,13nm,0.7s
PV23 Carpenter Ridg 85.67 48 IAmb IAmb 02 19 45.0
comp=Z,17nm,0.8s
PV13 Radium Mtn., P 85.68 48 P **P** 02 19 42.9 +0.2
PV13 IAmb IAmb 02 19 45.0
comp=Z,31nm,1.5s
PV11 David Mesa, Pa 85.70 48 IAmb IAmb 02 19 45.2
comp=Z,20nm,1.1s
POKR Poker Flat Res 85.71 13 IAmb IAmb 02 19 43.3
comp=Z,17nm,0.8s
POKR Poker Flat Res 85.71 13 P **P** 02 19 41.1 -0.8
baz=210,SNR=16
J25K Salcha River, 85.72 14 IAmb IAmb 02 19 43.3
comp=Z,53nm,1.4s
J25K Salcha River, 85.72 14 P **P** 02 19 42.0 -0.1
baz=212,SNR=30
N31M Braeburn, Yuko 85.77 19 P **P** 02 19 42.5 +0.2
N31M IAmb IAmb 02 19 44.3
comp=Z,36nm,1.0s
N31M Braeburn, Yuko 85.77 19 P **P** 02 19 42.9 +0.6
baz=221,SNR=15
XAN Xi'an 85.78 307 P **P** 02 19 44.3 +1.2
XAN pmax pmax
comp=Z,30nm,1.0s
XAN pmax pmax
comp=Z,110nm,5.2s
P33M Teslin, Yukon 85.80 21 P **P** 02 19 43.3 +0.8
baz=223,SNR=9.5
BILL Bilibino 85.97 354⇑ *i*P **P** 02 19 42.9 -0.2
BILL *e**PP **pP** 02 21 38.2 -1.7
BILL *e* 02 23 13.1
BILL *e*PPP PPP 02 25 08.6
BILL pmax pmax
comp=Z,17nm,0.6s
BILL Bilibino 85.97 354 P **P** 02 19 43.2 +0.1
BILL IAmb IAmb 02 19 44.5
comp=Z,34nm,1.0s
TXAR Lajitas Array 85.99 58 P **P** 02 19 46.5 +2.3
comp=Z,27nm,0.8s,baz=220,slow=6.2,SNR=291
ANMO Albuquerque 86.03 52 *ce*P **P** 02 19 45.5 +1.1
ANMO pmax pmax
comp=Z,24nm,1.1s
ANMO Albuquerque 86.03 52 P **P** 02 19 45.3 +0.8
ANMO IAmb IAmb 02 19 46.8
comp=Z,20nm,1.0s
ANMO Albuquerque 86.03 52 P **P** 02 19 45.6 +1.1
baz=246
J26L Joseph Creek 86.05 14 P **P** 02 19 44.4 +0.8
baz=213,SNR=45
RDOG Red Dog Mine 86.06 6 P **P** 02 19 43.4 -0.1
baz=195
TLIG Tlapa 86.17 70 IAmb IAmb 02 19 48.8
comp=Z,19nm,0.9s
AHID Auburn Hatcher 86.21 43 IAmb IAmb 02 19 47.6
comp=Z,46nm,1.4s
RDMU Red Mountain 86.22 46 P **P** 02 19 45.9 +0.6
H24K Noodor Dome 86.24 12 P **P** 02 19 42.9 -1.6
baz=209,SNR=5.6
M30M Minto, Yukon 86.30 18 IAmb IAmb 02 19 46.3
comp=Z,30nm,0.8s
M30M Minto, Yukon 86.30 18 P **P** 02 19 45.3 +0.5
baz=220,SNR=35
MSO Missoula 86.41 38 P **P** 02 19 46.0 +0.2
baz=240
DLMT Dillon 86.50 40 IAmb IAmb 02 19 48.8
comp=Z,29nm,0.9s
TPAW Teton Pass 86.64 42 IAmb IAmb 02 19 49.8
comp=Z,31nm,0.9s
DAWY Dawson 86.74 16 P **P** 02 19 47.2 +0.4
baz=217,SNR=5.6
M31M Drury Creek, Y 86.75 19 P **P** 02 19 47.0 0.0
baz=222,SNR=12
HHC Hu-ho-hao-te 86.78 315 *e*P **P** 02 19 49.6 +1.9
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,76nm,5.3s
EGAK Eagle 86.86 15 P **P** 02 19 47.1 -0.2
EGAK IAmb IAmb 02 19 48.2
comp=Z,14nm,0.8s
EGAK Eagle 86.86 15 P **P** 02 19 47.8 +0.4
baz=216,SNR=18
S22A 4UR Ranch, Cre 86.92 49 IAmb IAmb 02 19 51.4
comp=Z,28nm,1.1s
S22A 4UR Ranch, Cre 86.92 49 P **P** 02 19 50.1 +1.5
baz=245,SNR=29
LOHW Long Hollow 86.92 42 IAmb IAmb 02 19 50.8
comp=Z,19nm,0.7s
O20A White River Ci 86.94 46 IAmb IAmb 02 19 50.4
comp=Z,16nm,0.9s
O20A White River Ci 86.94 46 P **P** 02 19 49.7 +1.1
baz=244,SNR=12
COLD Coldfoot 87.03 11 IAmb IAmb 02 19 49.8
comp=Z,26nm,0.9s
COLD Coldfoot 87.03 11 P **P** 02 19 48.8 +0.6
baz=207,SNR=30
YFT Old Faithful 87.16 42 IAmb IAmb 02 19 53.4
comp=Z,30nm,0.9s
YMR Madison River 87.18 41 P **P** 02 19 51.0 +1.3
YMR IAmb IAmb 02 19 52.8
comp=Z,32nm,0.8s
BOZ Bozeman (W) 87.20 40 IAmb IAmb 02 19 52.2
comp=Z,26nm,1.1s
BOZ Bozeman (W) 87.20 40 P **P** 02 19 50.8 +1.2
baz=242,SNR=26
BW06 Boulder Array 87.22 44 IAmb IAmb 02 19 51.7
comp=Z,53nm,1.4s
BW06 Boulder Array 87.22 44 P **P** 02 19 50.7 +0.9
baz=243,SNR=40
PD31 Pinedale Array 87.22 44 IAmb IAmb 02 19 51.7
comp=Z,44nm,1.4s
PDAR Pinedale Array 87.22 44 P **P** 02 19 50.6 +0.8
comp=Z,16nm,0.7s,baz=215,slow=3.1,SNR=145
PDAR PP **PP** 02 23 22.6 -1.5
comp=Z,3.1nm,1.1s,baz=252,slow=10,SNR=7.4
PDAR Pinedale Array 87.22 44 P **P** 02 19 49.9 0.0
H17A Grant Village 87.30 42 P **P** 02 19 52.8 +2.5
baz=242,SNR=36
YHH Holmes Hill 87.31 41 IAmb IAmb 02 19 54.4
comp=Z,18nm,1.0s
J29M Klondike Camp 87.36 16 P **P** 02 19 50.6 +0.8
baz=218,SNR=11
KMI Kunming 87.40 297⇑ P **P** 02 19 53.3 +2.2
KMI pmax pmax
comp=Z,11nm,0.7s
SMCO Snowmass 87.42 48 IAmb IAmb 02 19 55.4
comp=Z,22nm,1.1s
LKWY Lake 87.49 42 IAmb IAmb 02 19 55.0
comp=Z,27nm,0.9s
SDCO Great Sand Dun 87.88 49 P **P** 02 19 54.1 +0.9
baz=246,SNR=12
BMAR Burnt Mountain 88.29 13 P **P** 02 19 54.5 +0.4
TGTN Hyland Airport 88.30 22 P **P** 02 19 55.5 +1.3
baz=227,SNR=33
TOLK Toolik Lake Re 88.40 10 P **P** 02 19 54.7 +0.1
baz=208,SNR=11
T25A Trinidad 88.43 50 P **P** 02 19 56.7 +1.0
baz=247
MSTX Muleshoe 88.45 54 IAmb IAmb 02 19 57.7
comp=Z,29nm,0.9s
MSTX Muleshoe 88.45 54 P **P** 02 19 56.6 +0.9
baz=248
RLMT Red Lodge 88.46 42 IAmb IAmb 02 19 58.3
comp=Z,21nm,0.9s
RLMT Red Lodge 88.46 42 P **P** 02 19 57.3 +1.7
baz=243,SNR=18
CMAR Chiang Mai Arr 88.49 290 P **P** 02 19 57.6 +1.6
comp=Z,1.5nm,0.3s,baz=122,slow=3.0,SNR=12
CMAR Chiang Mai Arr 88.49 290 *i* P **P** 02 19 58.2 +2.1
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CD2 Chengdu 88.61 303 P **P** 02 19 57.6 +1.2
CD2 Chengdu 88.61 303 S **S** 02 29 59.0 +1.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,70nm,5.8s
Q24A Divide 88.62 48 P **P** 02 19 58.0 +1.3
baz=246,SNR=6.2
ISCO Idaho Springs 88.63 47 P **P** 02 19 57.9 +1.2
baz=246,SNR=7.8
PZH PanZhiHua 88.72 298 P **P** 02 19 58.6 +1.5
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,5.9s
COYC Coyhaique 88.81 138 P **P** 02 19 58.1 +1.0
COYC IAmb IAmb 02 20 00.5
comp=Z,15nm,0.8s
N23A Red Feather La 88.85 46 P **P** 02 19 59.1 +1.5
baz=246,SNR=18
YAK Yakutsk 89.07 338 *e*P **P** 02 19 58.2 +0.5
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,2.0nm,0.9s
833A Chaparral WMA, 89.11 60 P **P** 02 20 00.5 +1.8
baz=250
K22A Casper 89.18 45 IAmb IAmb 02 20 00.5
comp=Z,13nm,0.8s
K22A Casper 89.18 45 P **P** 02 19 59.9 +0.9
baz=245,SNR=8.3
EPYK Eagle Plains 89.25 16 IAmb IAmb 02 19 59.8
comp=Z,31nm,1.1s
EPYK Eagle Plains 89.25 16 P **P** 02 19 58.4 -0.1
baz=220,SNR=17
PHWY Pilot Hill 89.35 46 IAmb IAmb 02 20 01.9
comp=Z,16nm,0.9s
EGMT Eagleton 89.47 39 IAmb IAmb 02 20 02.2
comp=Z,27nm,1.4s
EGMT Eagleton 89.47 39 P **P** 02 20 01.0 +0.9
baz=243,SNR=7.3
JCT Junction City 89.53 58 IAmb IAmb 02 20 02.7
comp=Z,20nm,0.8s
JCT Junction City 89.53 58 P **P** 02 20 01.7 +1.0
baz=249
AMTX Amarillo 89.62 53 P **P** 02 20 02.0 +0.9
baz=248
ABTX Abilene, Hawle 90.40 56 P **P** 02 20 05.7 +1.0
baz=249
LZH Lanzhou 90.41 308⇑ P **P** 02 20 06.9 +2.1
LZH pP pP 02 22 04.3 +0.8
LZH sP sP 02 22 55.2 -2.5
LZH pmax pmax
comp=Z,31nm,1.4s
LZH pmax pmax
comp=Z,120nm,7.3s
KSCO Kaye Shedlock' 90.45 49 P **P** 02 20 06.5 +1.6
baz=248
TROLL Troll, Antarti 90.74 180 P **P** 02 20 05.6 -0.1
SNAA Sanae 91.04 179 P **P** 02 20 06.9 0.0
SNAA Sanae 91.04 179 *i* P **P** 02 20 06.7 -0.3
SNAA pmax pmax
comp=Z,2.0nm,0.4s
LAO LASA Array 91.06 41 P **P** 02 20 08.9 +1.5
baz=246,SNR=18
VNA3 Neumayer Olymp 91.19 176 P **P** 02 20 07.7 +0.1
435B Jarrell 91.43 58 P **P** 02 20 10.8 +1.4
baz=250
RSSD Black Hills 91.44 44 P **P** 02 20 09.5 +0.1
RSSD pmax pmax
comp=Z,23nm,1.0s
RSSD Black Hills 91.44 44 P **P** 02 20 09.5 +0.1
RSSD Black Hills 91.44 44 P **P** 02 20 10.0 +0.5
baz=247
INK Inuvik 91.53 15 P **P** 02 20 08.6 -0.4
comp=Z,18nm,0.9s,baz=218,slow=4.6,SNR=20
INK Inuvik 91.53 15 P **P** 02 20 08.8 -0.1
baz=223
OGNE Ogallala 91.60 48 P **P** 02 20 11.3 +1.3
baz=248
VNA2 Neumayer--Watz 91.63 177 P **P** 02 20 09.6 0.0
baz=185,slow=3.0
WMOK White Mounta 91.80 54 P **P** 02 20 12.0 +0.9
baz=250
VNA1 Neumayer--Stat 91.86 177 P **P** 02 20 11.2 +0.6
WHTX Lake Whitney, 91.93 57 IAmb IAmb 02 20 13.7
comp=Z,16nm,0.8s
WHTX Lake Whitney, 91.93 57 P **P** 02 20 12.7 +1.0
baz=251
CBKS Cedar Bluff 92.48 50 P **P** 02 20 15.0 +0.8
CBKS pmax pmax
comp=Z,19nm,1.0s
CBKS Cedar Bluff 92.48 50 P **P** 02 20 15.0 +0.8
CBKS IAmb IAmb 02 20 16.3
comp=Z,18nm,0.9s
CBKS Cedar Bluff 92.48 50 P **P** 02 20 15.1 +1.0
baz=250
X34A Smith Ranch, M 92.49 55 IAmb IAmb 02 20 16.7
comp=Z,12nm,0.9s
HKT Hockley 92.59 60 *i* P **P** 02 20 15.1 +0.4
HKT pmax pmax
comp=Z,10.0nm,1.1s
ULN Ulaanbaatar 92.65 320 *ce*P **P** 02 20 15.3 +0.5
ULN pmax pmax
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 92.65 320 P **P** 02 20 15.0 +0.2
DGMT Dagmar 93.03 40 P **P** 02 20 17.2 +0.8
DGMT Dagmar 93.03 40 P **P** 02 20 17.6 +1.2
baz=247
SONM Songino Array 93.05 319 P **P** 02 20 16.4 -0.2
comp=Z,1.9nm,0.8s,baz=137,slow=5.2,SNR=16
SONM PKiKP **PKiKP** 02 25 00.2 +0.2
comp=Z,0.5nm,0.7s,baz=119,slow=1.8,SNR=3.6
SONM Songino Array 93.05 319 P **P** 02 20 16.8 +0.2
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 93.05 319 P **P** 02 20 16.8 +0.2
237A Washetta, Mont 93.26 58 P **P** 02 20 18.6 +0.9
YKA Yellowknife Ar 94.05 25 P **P** 02 20 20.7 +0.1
comp=Z,13nm,0.8s,baz=244,slow=4.5,SNR=200
YKA PKiKP **PKiKP** 02 25 01.2 0.0
comp=Z,0.2nm,0.4s,baz=250,slow=1.4,SNR=6.1
YKA PKKP **PKKPdf** 02 37 19.8 -1.3
comp=Z,0.2nm,0.5s,baz=41,slow=2.1,SNR=7.3
T35A Sooner Cattle 94.26 53 P **P** 02 20 23.1 +0.8
T35A IAmb IAmb 02 20 25.8
comp=Z,13nm,0.8s
K31A O'Neill 94.48 47 P **P** 02 20 23.6 +0.4
TUL1 Leonard 94.50 54 P **P** 02 20 24.2 +0.9
baz=252
BGNE Belgrade 94.51 48 P **P** 02 20 24.7 +1.4
baz=251
C36M Paulatuk 94.75 17 P **P** 02 20 23.7 0.0
baz=231
KSU1 Kansas State U 94.88 51 P **P** 02 20 26.5 +1.5
KSU1 Kansas State U 94.88 51 P **P** 02 20 26.7 +1.7
baz=252
TIXI Tiksi 95.67 345 *ce*P **P** 02 20 26.8 -1.0
TIXI pmax pmax
comp=Z,4.0nm,0.8s
MDND Maddock 95.67 42 P **P** 02 20 28.7 +0.3
baz=250
ZAK Zakamensk 95.88 321 *e*P **P** 02 20 29.1 -0.3
ZAK pmax pmax
comp=Z,4.0nm,1.3s
A36M Sachs Harbour 96.12 15 P **P** 02 20 30.0 +0.2
baz=230
ECSD EROS Data Cent 96.32 46 IAmb IAmb 02 20 32.1
comp=Z,7.7nm,0.8s
ECSD EROS Data Cent 96.32 46 P **P** 02 20 31.7 +0.2
baz=252
U40A Yellville 96.90 54 P **P** 02 20 35.2 +1.0
baz=253
W41B Gary Mavity, V 97.04 55 P Pdif 02 20 35.6 +0.8
baz=254
GOMU GeErMu 97.37 306 P **P** 02 20 37.6 +0.8
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,24nm,3.5s
CCM Cathedral Cave 98.60 53 P **P** 02 20 42.7 +1.0
baz=255
SPMN Marine on St. 99.36 46 P **Pdif** 02 20 46.0 +1.1
baz=255
JFWS Jewell Farm 100.56 48 P **Pdif** 02 20 51.6 +1.3
baz=256
ZALV Zalesovo Beam 107.73 322 PKiKP **PKiKP** 02 25 25.6 -0.5
comp=Z,2.6nm,0.6s,baz=173,slow=1.3,SNR=16
MKAR Makanchi Array 108.64 314 Pdiff **Pdif** 02 21 26.7 +0.5
comp=Z,0.2nm,0.5s,baz=88,slow=5.3,SNR=2.8
MKAR PKiKP **PKiKP** 02 25 27.6 -0.5
comp=Z,2.4nm,0.5s,baz=197,slow=0.5,SNR=38
MKAR PKKPbc **PKKPbc** 02 36 38.4 -1.5
comp=Z,1.2nm,0.8s,baz=274,slow=2.8,SNR=8.6
KURK Kurchatov 111.32 318 *c i*PKiKP **PKiKP** 02 25 32.5 -0.5
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURBB Kurchatov Arra 111.38 318 PKiKP **PKiKP** 02 25 32.6 -0.5
comp=Z,3.8nm,0.7s,baz=98,slow=1.8,SNR=40
AAK Ala-Archa 113.90 309 PKiKP **PKiKP** 02 25 38.1 -0.3
comp=Z,1.3nm,0.5s,baz=183,slow=6.4,SNR=6.2
AAK Ala-Archa 113.90 309 *c i*PKiKP **PKiKP** 02 25 38.9 +0.5
AAK pmax pmax
comp=Z,5.0nm,1.7s
AAK Ala-Archa 113.90 309 PKiKP **PKiKP** 02 25 38.5 0.0
UPNV Upernavik 115.96 16 *i* P **PKPdf** 02 25 40.6 -0.7
BVAR Borovoye Array 116.34 321 PKP **PKPdf** 02 25 42.5 -0.1
comp=Z,3.1nm,0.3s,baz=229,slow=15,SNR=19
BRVK Borovoye 116.40 321 *c i*PKiKP **PKPdf** 02 25 42.7 0.0
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 116.40 321 PKPdf **PKPdf** 02 25 42.1 -0.5
GAR Garm 116.97 305 PKPdf **PKPdf** 02 25 44.2 -0.3
KBL Kabul 117.84 300 PKiKP **PKiKP** 02 25 46.6 +0.2
KBL Kabul 117.84 300 PKPdf **PKiKP** 02 25 46.5 +0.2
SPA0 Spitsbergen Ar 118.82 356 *e*PKPdf **PKPdf** 02 25 46.6 -0.1
DAG Danmarks Havn 119.80 5 *i* P **PKPdf** 02 25 47.1 -1.5
SFJD Kangerlussuaq 120.37 21 *i* P **PKPdf** 02 25 49.0 -0.8
SVE Sverdlovsk 121.13 326 *e*PKiKP **PKiKP** 02 25 52.1 +0.3
SVE pmax pmax
comp=Z,18nm,0.9s
BDFB Brasilia 121.29 121 PKP **PKPdf** 02 25 53.2 -0.1
comp=Z,2.9nm,0.5s,baz=250,slow=2.1,SNR=8.1
BDFB Brasilia 121.29 121 PKiKP **PKPdf** 02 25 52.7 -0.7
BDFB Brasilia 121.29 121 **PKPdf** 02 25 52.7 -0.7
DBG Daneborg 121.92 7 *i* P **PKPdf** 02 25 51.6 -1.1
DY2G Dye2 122.12 20 *i* P **PKPdf** 02 25 52.5 -1.1
ARU Arti 122.34 326 PKP **PKiKP** 02 25 54.3 +0.1
comp=Z,5.0nm,0.4s,baz=353,slow=0.9,SNR=28
ARU Arti 122.34 326 *i* PKiKP **PKiKP** 02 25 54.3 +0.1
ARU 02 27 38.0
ARU 02 32 15.3
ARU Arti 122.34 326 PKPdf **PKPdf** 02 25 53.6 -0.4
ICESG Greenland Ices 122.50 16 *i* P **PKPdf** 02 25 53.5 -0.9
AKTO Aktyubinsk 124.36 320 PKP **PKPdf** 02 25 58.0 0.0
comp=Z,6.3nm,0.7s,baz=88,slow=3.0,SNR=26
ISOG Isortoq, Green 125.05 19 *i* P **PKPdf** 02 25 57.0 -1.9
HAMF Hammerfest 125.14 351 *e*PKPdf **PKiKP** 02 25 59.2 -0.2
SCO Scoresbysund 125.15 9 *i* P **PKPdf** 02 25 58.4 -0.6
ARA0 ARCESS Array S 125.84 350 *e*PKPdf **PKiKP** 02 26 00.9 +0.1
ARCES ARCESS Array B 125.84 350 PKP **PKPdf** 02 26 00.2 -0.2
comp=Z,12nm,0.8s,baz=48,slow=1.5,SNR=3.5
KIRV Kirov 126.02 331 PKP **PKiKP** 02 26 01.3 -0.1
comp=Z,15nm,0.5s,baz=24,slow=1.5,SNR=13
PRGR Permogore 126.03 336 *e*PKiKP **PKPdf** 02 25 58.7 -2.2
PRGR pmax pmax
comp=Z,21nm,0.9s
GEYT Alibeck 126.57 305 PKP **PKiKP** 02 26 03.4 +0.1
comp=Z,8.9nm,0.8s,baz=226,slow=3.9,SNR=14
GYA0B ALIBECK ARRAY 126.57 305 PKPdf **PKPdf** 02 26 03.0 +0.2
JETT Jettan, Norway 126.60 352 *e*Pdif **Pdif** 02 22 47.6 +2.0
JETT *e*PKPdf **PKiKP** 02 26 02.5 +0.1
KTK1 Kautokeino 126.68 350 *e*PKPdf **PKPdf** 02 26 02.1 +0.2
TRO Tromso 126.72 352 *e*PKPdf **PKPdf** 02 26 01.8 -0.2
BOSA Boshof 128.67 207 PKP **PKiKP** 02 26 07.8 -0.2
comp=Z,3.0nm,0.8s,baz=216,slow=2.3,SNR=7.0
LOF Lofoten 128.76 354 *e*PKPdf **PKPdf** 02 26 02.8 -3.2
STEI Steigen 128.78 353 *e*PKPdf **PKiKP** 02 26 07.2 +0.5
KLMR Klimovskoe 128.85 337 *e*PKiKP **PKPdf** 02 26 05.0 -1.3
KLMR *e* 02 28 23.7
KLMR pmax pmax
comp=Z,11nm,0.9s
KLMR Klimovskoe 128.85 337 *e*PKPdf **PKPdf** 02 26 05.0 -1.3
KLMR AMP 02 26 07.3
comp=Z,11nm,0.9s
KLMR *e*PP **PP** 02 28 23.8 +2.4
FAUS Fauske 129.30 353 *e*PKPdf **PKiKP** 02 26 08.1 +0.3
KONS Konsvik 130.39 354 *e*PKPdf **PKPdf** 02 26 09.0 -0.1
MOR8 Moi Rana 130.56 353 *e*PKPdf **PKiKP** 02 26 10.0 -0.4
NSS Namsos 132.42 354 *e*PKPdf **PKPdf** 02 26 11.2 -1.8
FINES FINESS Array B 132.70 344 PKhKP PKPpre 02 25 58.3
comp=Z,0.8nm,0.7s,baz=44,slow=5.6,SNR=6.9
FINES PKP **PKPdf** 02 26 13.3 -0.3
comp=Z,4.2nm,0.6s,baz=35,slow=3.4,SNR=10
FINES SKPbc **SKPab** 02 28 52.3 -0.6
comp=Z,2.7nm,0.7s,baz=35,slow=4.7,SNR=7.9
OBN Obninsk 133.79 333 PKP **PKiKP** 02 26 16.7 -0.4
comp=Z,2.5nm,0.6s,baz=30,slow=8.7,SNR=4.5
OBN Obninsk 133.79 333 *d i*PKiKP **PKiKP** 02 26 16.6 -0.6
OBN *e* 02 28 57.1
OBN *e*PPP PPP 02 31 57.9
OBN pmax pmax
comp=Z,32nm,1.7s
RAF Rauma 134.11 346 *e*P **PKPdf** 02 26 16.2 0.0
MEF Metsahovi 134.18 344 *e*P **PKPdf** 02 26 16.5 +0.1
VORR Voronezh 134.63 327 *e*PKiKP **PKiKP** 02 26 18.4 -0.6
VORR pmax pmax
comp=Z,20nm,0.4s
AKN Aaknes 135.16 356 *e*Pdif **Pdif** 02 23 23.8 0.0
NB2 NORSAR Subarra 135.91 353 PKP PKPpre 02 26 12.5
comp=Z,1.0nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 135.91 353 PKhKP PKPpre 02 26 11.0
comp=Z,0.5nm,0.7s,baz=350,slow=2.1,SNR=2.7
NOA PKP **PKPdf** 02 26 19.7 0.0
comp=Z,2.0nm,0.6s,baz=49,slow=1.8,SNR=9.1
ZEI Tsey 135.99 314 *i*PKiKP **PKiKP** 02 26 24.7 +2.3
ZEI pmax pmax
comp=Z,5.0nm,1.1s
NC602 NORSAR Array S 136.17 353 *e* PKPpre 02 26 08.4
NC602 *e*PKPdf sPdif 02 26 20.7 +0.4
GNI Garni 136.30 310 PKP **PKPdf** 02 26 21.6 +0.4
comp=Z,2.9nm,0.6s,baz=270,slow=20,SNR=2.8
GNI Garni 136.30 310 *c i*PKiKP **PKiKP** 02 26 23.3 +0.3
GNI pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 136.31 316 PKP **PKPdf** 02 26 21.6 +0.7
comp=Z,2.3nm,0.9s,baz=268,slow=1.0,SNR=6.5
KIV Kislovodsk 136.36 316 *e*PKiKP **PKPdf** 02 26 21.3 +0.2
KIV pmax pmax
comp=Z,6.0nm,1.0s
SKAR Skarslia 136.55 355 *e*PKPdf **PKPdf** 02 26 21.1 +0.2
MNK Minsk 137.75 337 *i* PKHKP PKPpre 02 26 17.3
MNK *i* 02 32 35.1
MNK *i* SS SS 02 46 40.2 -3.5
MNK *i* SSS SSS 02 51 58.4
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax

	comp=E,2.0nm,1.1s					
MNK			pmax	pmax		
	comp=Z,21nm,0.9s					
MNK			MLR	MLR		
	comp=N,260nm,23.0s					
MNK			MLR	MLR		
	comp=E,22nm,23.0s					
MNK			MLR	MLR		
	comp=Z,144nm,23.0s					
MNK	**Minsk**	**137.75 337**	*i* PKP	PKPpre	02 26 17.3	
	comp=E,2.0nm,1.1s					
MNK			*i* PKP	PKPpre	02 26 17.3	
	comp=N,14nm,0.9s					
MNK			*i* PKP	PKPpre	02 26 17.3	
	comp=Z,21nm,0.9s,baz=220					
MNK			*i* pPKP	pPKPdf	02 28 21.9	-7.7
MNK			*i* PP	PP	02 29 03.1	-14
MNK			*i* PPP	PPP	02 32 18.4	
MNK			*i* SKS	**SKSdf**	**02 32 35.1**	**-7.5**
MNK			*i* SKKS	**SKKSdf**	**02 42 12.1**	**-8.0**
MNK			*i* SS	**SS**	**02 46 40.3**	**-3.4**
MNK			*i* SSS	SSS	02 51 58.4	
MNK			*i* LRM	MLR	03 27 29.6	
	comp=N,260nm,23.2s					
MNK			*i* LRM	MLR	03 27 32.9	
	comp=E,22nm,22.6s					
MNK			*i* LRM	MLR	03 28 12.2	
	comp=Z,144nm,23.2s					
NACGM	**Naroch**	**137.84 338**	*e*PKP	**PKPdf**	**02 26 23.5**	**+0.2**
PABE	**Paberze**	**138.29 341**	*e*P	PKPpre	02 26 16.2	
KIBK	**Kibwezi**	**138.78 245**	PKPdf	**PKPdf**	**02 26 26.8**	**+0.3**
GURO	**Guroymak-BITLI**	**138.80 309**	PKPdf	**PKPdf**	**02 26 26.1**	**+0.2**
KAC	**Achnashellach**	**139.73 6**	*e*P	PKPpre	02 26 20.5	
SUW	**Suwalki**	**139.79 340**	*e*PKP	**PKPdf**	**02 26 24.2**	**-2.7**
SUW	**Suwalki**	**139.79 340**	*e*P	**PKPdf**	**02 26 22.9**	**-4.0**
AKASG	**Malin Array Be**	**140.05 332**	PKhKP	PKPpre	02 26 20.1	
	comp=Z,0.9nm,0.3s,baz=43,slow=4.3,SNR=9.8					
AKASG			PKP	**PKPdf**	**02 26 28.0**	**+0.5**
	comp=Z,7.1nm,0.7s,baz=38,slow=2.7,SNR=18					
AKASG	**Malin Array Be**	**140.05 332**	*c i*PKIKP	**PKPdf**	**02 26 28.8**	**+1.3**
AKASG			pmax	pmax		
	comp=Z,7.0nm,0.6s					
AKASG	**Malin Array Be**	**140.05 332**		PKPpre	02 26 21.0	
KMBO	**Kilima Mbogo**	**140.07 246**	PKP	**PKPdf**	**02 26 29.0**	**0.0**
	comp=Z,1.0nm,0.4s,baz=91,slow=9.7,SNR=5.6					
KMBO	**Kilima Mbogo**	**140.07 246**	*i* PKIKP	**PKPdf**	**02 26 30.2**	**+1.2**
KMBO			pmax	pmax		
	comp=Z,1.0nm,0.4s					
INVG	**Invergeldie, C**	**140.90 5**	*e*P	PKPpre	02 26 22.9	
EBL	**Broad Law**	**141.62 4**	*e*P	**PKPdf**	**02 26 25.5**	**-4.7**
LVV	**L'vov**	**142.90 336**	*e*PKHKP	PKPpre	02 26 30.4	
BSEG	**Bad Segeberg**	**142.94 351**	*e*PKPbc	**PKPdf**	**02 26 30.6**	**-1.9**
	baz=15,slow=2.9					
IOMK	**Kirk Michael**	**143.00 6**	*e*P	PKPab	02 26 30.2	+0.1
WIM	**Isle of Man**	**143.10 6**	*e*P	PKPbc	02 26 30.8	-0.2
HPK	**Haverah Park**	**143.51 3**	*e*P	PKPab	02 26 32.0	0.0
KWP	**Kalwaria Pacla**	**143.56 336**	*e*PKP	PKPbc	02 26 33.1	+0.5
VASR	**Vaslui**	**143.60 329**	⇑P	**PKPdf**	**02 26 33.9**	**-0.1**
RUE	**Ruedersdorf**	**143.71 347**	*e*P	PKPbc	02 26 32.9	+0.1
RUE	**Ruedersdorf**	**143.71 347**	*e*PKPbc	PKPbc	02 26 33.3	+0.5
	baz=15,slow=2.9					
LODK	**Lodwar**	**143.81 251**	PKPdf	**PKPdf**	**02 26 35.0**	**-0.4**
WPS	**Cemaes, Angles**	**143.86 6**	*e*P	PKPbc	02 26 32.4	-0.9
WME	**Myndd Eilian**	**143.88 6**	*e*P	PKPbc	02 26 32.7	-0.7
BIR	**Birlad**	**143.94 329**	⇓P	**PKPdf**	**02 26 35.2**	**+0.7**
WLF1	**Llynfaes**	**143.98 6**	*e*P	PKPab	02 26 33.8	0.0
YRC	**Rhoscolyn**	**144.00 6**	*e*P	PKPab	02 26 33.9	0.0
VLDR	**Vladesti**	**144.00 328**	⇑P	**PKPdf**	**02 26 35.6**	**+1.0**
TLCR		**144.06 326**	⇑P	**PKPdf**	**02 26 35.4**	**+0.7**
LBWR	**Ladybower, Pea**	**144.06 3**	*e*P	PKPbc	02 26 33.7	-0.3
BURAR	**Bucovina Array**	**144.10 332**	⇓P	**PKPdf**	**02 26 35.6**	**+0.6**
OJC	**Ojcow**	**144.11 340**	*e*PKP	**PKPdf**	**02 26 34.8**	**0.0**
YLL	**Llanberis**	**144.15 6**	*e*P	**PKPab**	**02 26 34.5**	**+0.1**
SCTR	**Scanteiesti**	**144.16 327**	⇑P	**PKPdf**	**02 26 36.2**	**+1.2**
GIUM	**Giurgiulesti**	**144.18 327**	⇑P	**PKPdf**	**02 26 36.0**	**+1.1**
TATR	**Tatarca**	**144.19 327**	⇑P	**PKPdf**	**02 26 35.4**	**+0.5**
GHRR		**144.19 328**	⇑P	**PKPdf**	**02 26 36.6**	**+1.7**
RETH	**Rethem/Aller,**	**144.24 352**	*e*PKPbc	**PKPdf**	**02 26 35.1**	**+0.3**
	baz=15,slow=2.9					
TESR	**Tescani**	**144.25 330**	⇑P	**PKPab**	**02 26 35.8**	**+0.7**
BRTR	**Keskin Array B**	**144.29 315**	PKP	**PKPab**	**02 26 35.8**	**+0.1**
	comp=Z,14nm,0.8s,baz=73,slow=1.9,SNR=116					
BRTR			SKPbc	**SKiKP**	**02 29 26.1**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=124,slow=3.4,SNR=3.6					
BRTR			SKKPbc	**SKKPbc**	**02 37 31.6**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=238,slow=5.3,SNR=4.5					
BRTR	**Keskin Array B**	**144.29 315**	PKIKP	PKPbc	02 26 35.3	0.0
BRTR	**Keskin Array B**	**144.29 315**		PKPbc	02 26 35.3	0.0
STHS	**Stebnicka Huta**	**144.29 338**	*e*PKIKP	PKPbc	02 26 34.9	+0.1
STHS	**Stebnicka Huta**	**144.29 338**	*e*PKP	PKPbc	02 26 34.9	+0.1
JURR	**Jurilovca**	**144.30 326**	⇑P	**PKPab**	**02 26 35.4**	**+0.1**
SLCR	**Slobozia Conac**	**144.34 328**	⇑P	**PKPab**	**02 26 36.7**	**+1.3**
FLTG	**Flechtingen**	**144.34 350**	*e*PKPbc	**PKPab**	**02 26 35.2**	**0.0**
	baz=15,slow=2.9					
STNC	**Stoke**	**144.35 4**	*e*P	**PKPab**	**02 26 35.6**	**+0.4**
IZVR	**Izvoarele**	**144.37 327**	⇓P	**PKPab**	**02 26 36.6**	**+1.0**
NRDL	**Niedersach Rie**	**144.37 351**	*e*PKPbc	**PKPab**	**02 26 35.5**	**+0.2**
	baz=15,slow=2.9					
CFR	**Carcaliu**	**144.43 327**	⇓P	**PKPab**	**02 26 36.4**	**+0.6**
PANC	**Panciu**	**144.46 328**	⇑P	**PKPab**	**02 26 37.0**	**+1.1**
FOEL	**Foel Wylfa**	**144.48 5**	*e*P	**PKPab**	**02 26 35.6**	**-0.2**
TPGR	**Topolog**	**144.49 326**	⇑P	**PKPab**	**02 26 36.9**	**+0.8**
UZH	**Uzhgorod**	**144.53 336**	*e*PKIKP	**PKPdf**	**02 26 35.2**	**-0.3**
UZH			*i*		02 28 35.8	
ODBI	**Odobesti**	**144.58 328**	⇑P	**PKPab**	**02 26 37.7**	**+1.3**
KSP	**Ksiaz**	**144.62 344**	*e*PKP	**PKPab**	**02 26 37.0**	**+0.6**
NIE	**Niedzica**	**144.62 338**	*e*PKP	**PKPab**	**02 26 37.8**	**+1.3**
CRVS	**Cervenica-Dubn**	**144.63 337**	*e*PKIKP	**PKPab**	**02 26 37.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**144.63 337**	*e*PKP	**PKPab**	**02 26 37.0**	**+0.5**
ASSE	**Asse, Remlinge**	**144.63 350**	*e*PKPbc	**PKPab**	**02 26 36.4**	**+0.2**
	baz=15,slow=2.9					
VRI	**Vrincioaia**	**144.67 329**	⇑P	**PKPab**	**02 26 37.2**	**+0.4**
PLOR	**Plostina**	**144.72 329**	⇓P	PKPbc	02 26 36.6	+0.3
CWF	**Charnwood Fore**	**144.75 3**	*e*P	PKPbc	02 26 36.1	0.0
TIRR	**Tirgusor**	**144.76 326**	⇓P	**PKPab**	**02 26 37.0**	**0.0**
BMR	**Baia Mare**	**144.81 334**	⇓P	**PKPab**	**02 26 37.4**	**+0.2**
WACR	**West Acre**	**144.82 1**	*e*P	PKPbc	02 26 36.4	+0.1
TRPA	**Tarpa**	**144.84 335**	⇑P	**PKPab**	**02 26 37.6**	**+0.3**
TRPA	**Tarpa**	**144.84 335**	PKP	PKPbc	02 26 36.6	+0.1
HARR	**Harsova**	**144.86 326**	⇓P	**PKPab**	**02 26 38.0**	**+0.5**
IBBN	**Ibbenburen**	**144.87 353**	*e*PKPbc	**PKPab**	**02 26 37.3**	**+0.1**
	baz=15,slow=2.9					
HLM1	**Long Mynd**	**144.87 4**	*e*P	PKPbc	02 26 36.6	+0.1
TLBR	**Topalu**	**144.90 326**	⇑P	**PKPab**	**02 26 37.5**	**-0.1**
OSTC	**Ostas**	**144.90 343**	*e*PKP	**PKPab**	**02 26 38.0**	**+0.5**
BISRR	**Bisoca**	**144.90 328**	⇓P	**PKPab**	**02 26 38.1**	**+0.4**
CHVC	**Chvalec**	**144.91 344**	*e*PKP	**PKPab**	**02 26 38.0**	**+0.5**
MFTR	**Murfatlar**	**144.94 325**	⇑P	**PKPab**	**02 26 37.4**	**-0.4**
COVR	**Voineasa-Covas**	**144.94 329**	⇑P	**PKPab**	**02 26 37.6**	**-0.2**
CLZ	**Clausthal**	**144.96 350**	*e*PKPbc	PKPbc	02 26 37.0	+0.2
	baz=15,slow=2.9					
OZUR		**144.96 330**	⇑P	**PKPab**	**02 26 38.5**	**+0.6**
OKC	**Ostrava-Krasne**	**144.97 341**	*e*PKIKP	**PKPab**	**02 26 37.9**	**+0.2**
OKC	**Ostrava-Krasne**	**144.97 341**	*e*PKP	**PKPab**	**02 26 37.9**	**+0.2**
CLL	**Collm**	**144.98 347**	⇓*i*PKIKP	**PKPab**	**02 26 37.5**	**-0.2**
CLL			pmax	pmax		
	comp=Z,144nm,1.1s					
CLL	**Collm**	**144.98 347**	⇓*i*PKPbc	**PKPab**	**02 26 37.5**	**-0.2**
	comp=Z,144nm,1.1s					
CLL	**Collm**	**144.98 347**	*e*PKPbc	**PKPab**	**02 26 37.6**	**-0.2**
	baz=15,slow=2.9					
UPC	**Upice**	**145.00 344**	*e*PKIKP	**PKPab**	**02 26 38.3**	**+0.5**
UPC	**Upice**	**145.00 344**	*e*PKP	**PKPab**	**02 26 38.3**	**+0.5**
DPC	**Dobruska-Polom**	**145.05 343**	*e*PKIKP	**PKPab**	**02 26 38.5**	**+0.4**
DPC	**Dobruska-Polom**	**145.05 343**	*e*PKP	**PKPab**	**02 26 38.5**	**+0.4**
MANR	**Mangalia**	**145.08 325**	⇑P	**PKPdf**	**02 26 36.8**	**+0.3**
LANS	**Liptovska Anna**	**145.14 339**	*e*PKIKP	**PKPab**	**02 26 39.2**	**+0.7**
LANS	**Liptovska Anna**	**145.14 339**	*e*PKP	**PKPab**	**02 26 39.2**	**+0.7**
KRLC	**Kraliky**	**145.17 342**	*e*PKP2	**PKPab**	**02 26 38.6**	**0.0**
KRLC	**Kraliky**	**145.17 342**	*e*PKP	**PKPab**	**02 26 38.6**	**0.0**
BRG	**Berggiesshubel**	**145.18 346**	*e*PKP	**PKPbc**	**02 26 37.5**	**0.0**
BRG			Amp		02 26 39.3	
	comp=Z,51nm,0.8s					
BRG			*e*x	x	02 28 47.5	
BRG			Amp		02 28 49.2	
	comp=Z,9.9nm,1.4s					
BRG	**Berggiesshubel**	**145.18 346**	*e*PKIKP	**PKPbc**	**02 26 37.5**	**0.0**
BRG			pmax	pmax		
	comp=Z,51nm,0.8s					
BRG			pmax	pmax		
	comp=Z,10.0nm,1.4s					
BRG	**Berggiesshubel**	**145.18 346**	*e*PKPbc	**PKPab**	**02 26 38.3**	**-0.2**
	baz=15,slow=2.9					

NEHR	**Nehoiu**	**145.19 329**	⇑P	**PKPab**	**02 26 38.6**	**-0.2**
BHL	**Bhannes**	**145.20 305**	*e*P	**PKPbc**	**02 26 38.7**	**+0.5**
MORC	**Moravsky Berou**	**145.21 341**	⇑P	**PKPab**	**02 26 38.4**	**-0.4**
MORC	**Moravsky Berou**	**145.21 341**	*e*PKP	**PKPbc**	**02 26 38.1**	**+0.4**
DOPR	**Dopca**	**145.25 330**	⇑P	**PKPab**	**02 26 38.7**	**-0.2**
RSBS	**Rosebush, Pemb**	**145.26 7**	*e*P	**PKPbc**	**02 26 37.6**	**-0.1**
FBE	**Freiberg**	**145.27 347**	*e*PKPbc	**PKPab**	**02 26 38.9**	**+0.1**
	baz=15,slow=2.9					
FBE			*e*pPKPdf	**pPKPdf**	**02 28 48.3**	**+5.1**
ISR	**Istrita**	**145.29 328**	⇑P	**PKPbc**	**02 26 38.5**	**+0.4**
QRWL	**Qaraoun**	**145.29 304**	*e*P	**PKPab**	**02 26 39.3**	**-0.3**
SHBL	**Chebaa**	**145.31 304**	*e*P	**PKPbc**	**02 26 39.0**	**+0.4**
ICOR	**Ion Corvin**	**145.31 326**	⇑P	**PKPab**	**02 26 39.4**	**+0.1**
GTTG	**Gottingen**	**145.31 350**	*e*PKPbc	**PKPab**	**02 26 38.8**	**-0.2**
	baz=15,slow=2.9					
MLR	**Muntele Rosu**	**145.32 329**	⇑P	**PKPbc**	**02 26 38.1**	**-0.1**
MLR	**Muntele Rosu**	**145.32 329**	PKPbc	**PKPbc**	**02 26 38.6**	**+0.4**
	comp=Z,12nm,0.6s,baz=344,slow=5.4,SNR=35					
MLR			SKKPbc	SKKPbc	02 37 25.9	-0.7
	comp=Z,2.6nm,0.9s,baz=131,slow=5.1,SNR=5.4					
NEUB	**Neuenburg**	**145.32 348**	*e*PKPbc	**PKPab**	**02 26 38.8**	**-0.3**
	baz=15,slow=2.9					
DQRL	**Deir Qamar**	**145.33 304**	*e*P	**PKPab**	**02 26 39.6**	**-0.2**
KECS	**Kecovo**	**145.34 337**	*e*PKP2	**PKPab**	**02 26 39.2**	**0.0**
KECS	**Kecovo**	**145.34 337**	*e*PKP	**PKPab**	**02 26 39.2**	**0.0**
PVCC	**Panska Ves**	**145.35 345**	*e*PKP2	**PKPab**	**02 26 38.9**	**-0.3**
PVCC	**Panska Ves**	**145.35 345**	*e*PKP	**PKPab**	**02 26 38.9**	**-0.3**
MCH1	**Michaelchurch**	**145.38 5**	*e*P	**PKPbc**	**02 26 37.9**	**-0.2**
PSN	**Preselentsi**	**145.39 325**	*i* P	**PKPab**	**02 26 39.1**	**-0.5**
MESR	**Meseseni**	**145.45 334**	⇓P	**PKPbc**	**02 26 38.9**	**+0.5**
ELMS	**Elmsett, Ipswi**	**145.45 0**	*e*P	**PKPbc**	**02 26 38.5**	**+0.3**
CBBR	**Cluj-Babes-Bol**	**145.49 333**	⇑P	**PKPbc**	**02 26 39.0**	**+0.5**
IZAB	**Izabela**	**145.55 338**	*e*PKP2	**PKPab**	**02 26 39.8**	**-0.2**
SECR		**145.58 328**	⇓P	**PKPab**	**02 26 39.7**	**-0.6**
MDB	**Medias**	**145.59 331**	⇓P	**PKPab**	**02 26 39.8**	**-0.5**
STRD	**Stroud**	**145.66 4**	*e*P	**PKPbc**	**02 26 39.1**	**+0.3**
MMAI	**Mount Meron Ar**	**145.68 303**	PKPbc	**PKPbc**	**02 26 40.1**	**+0.5**
	comp=Z,9.2nm,0.5s,baz=70,slow=8.3,SNR=39					
LTVH	**Ltavrtes, Hu**	**145.69 335**	PKP	**PKPab**	**02 26 40.5**	**-0.1**
SULR		**145.74 328**	⇑P	**PKPbc**	**02 26 39.9**	**+0.7**
BUG	**Bochum--Univer**	**145.78 353**	*e*PKPdf	**PKPbc**	**02 26 38.5**	**-0.6**
	baz=18,slow=1.6					
BUG			*e*PKPbc	**PKPab**	**02 26 39.7**	**-1.0**
	baz=15,slow=2.9					
VOIR		**145.79 330**	⇓P	**PKPbc**	**02 26 39.5**	**0.0**
DRGR		**145.83 333**	⇑P	**PKPab**	**02 26 40.7**	**-0.6**
PRU	**Pruhonice**	**145.85 345**	*e*PKP2	**PKPab**	**02 26 40.5**	**-0.7**
PRU	**Pruhonice**	**145.85 345**	*e*PKP	**PKPab**	**02 26 40.5**	**-0.7**
KASTN	**Kahler Asten**	**145.87 352**	*e*PKPdf	**PKPbc**	**02 26 38.8**	**-0.7**
	baz=18,slow=1.6					
KASTN			*e*PKPbc	**PKPab**	**02 26 40.3**	**-1.0**
	baz=15,slow=2.9					
MOX	**Moxa**	**145.89 348**	*e*PKPdf	**PKPbc**	**02 26 38.8**	**-0.7**
	baz=18,slow=1.6					
MOX			*e*PKPbc	**PKPab**	**02 26 40.4**	**-1.0**
	baz=15,slow=2.9					
VRAC	**Vranov**	**145.91 342**	*e*PKP	**PKPbc**	**02 26 40.3**	**+0.6**
VYHS	**Vyhne**	**145.92 339**	*e*PKP2	**PKPab**	**02 26 41.0**	**-0.5**
VYHS	**Vyhne**	**145.92 339**	*e*PKP	**PKPab**	**02 26 41.0**	**-0.5**
PLN	**Plauen**	**145.93 348**	*e*PKPdf	**PKPbc**	**02 26 39.1**	**-0.6**
	baz=18,slow=1.6					
PLN			*e*PKPbc	**PKPab**	**02 26 40.6**	**-0.9**
	baz=15,slow=2.9					
TANN	**Tannenbergstha**	**145.94 347**	*e*PKPdf	**PKPbc**	**02 26 39.0**	**-0.7**
	baz=18,slow=1.6					
TANN			*e*PKPbc	**PKPab**	**02 26 40.7**	**-0.9**
	baz=15,slow=2.9					
WERD	**Werda**	**145.94 347**	*e*PKPbc	**PKPab**	**02 26 40.7**	**-0.9**
	baz=15,slow=2.9					
SWN1	**Swindon**	**145.94 3**	*e*P	**PKPbc**	**02 26 40.1**	**+0.5**
JAVC	**Velka Javorina**	**145.98 341**	*e*PKP	**PKPab**	**02 26 42.0**	**+0.2**
KOLL	**Kolacno**	**145.99 340**	*e*PKP	**PKPab**	**02 26 41.2**	**-0.6**
GUNZ	**Gunzen**	**146.01 347**	*e*PKPdf	**PKPbc**	**02 26 39.3**	**-0.7**
	baz=18,slow=1.6					
GUNZ			*e*PKPbc	**PKPab**	**02 26 41.0**	**-0.8**
	baz=15,slow=2.9					
PSZ	**Piszkesteto**	**146.03 337**	PKP2	**PKPbc**	**02 26 40.7**	**+0.6**
PSZ	**Piszkesteto**	**146.03 337**		**PKPbc**	**02 26 40.6**	**+0.6**
PSZ	**Piszkesteto**	**146.03 337**	P	**PKPbc**	**02 26 40.8**	**+0.7**
ARR	**Arges**	**146.05 330**	⇑P	**PKPbc**	**02 26 39.5**	**-0.8**
WERN	**Wernitzgruen**	**146.07 347**	*e*PKPdf	**PKPbc**	**02 26 39.4**	**-0.7**
	baz=18,slow=1.6					
WERN			*e*PKPbc	**PKPab**	**02 26 41.2**	**-0.9**
	baz=15,slow=2.9					
WERN			*e*PKPab	**PKiKP**	**02 26 43.1**	**+0.5**
	baz=17,slow=3.9					
NKC	**Novy Kostel**	**146.11 347**	*e*PKP2	**PKPbc**	**02 26 41.2**	**+1.0**
NKC	**Novy Kostel**	**146.11 347**	*e*PKP	**PKPbc**	**02 26 41.2**	**+1.0**
MQOL	**MQOL**	**146.12 281**	*i* P	**PKPdf**	**02 26 35.2**	**-3.8**
MQOL			AMP		02 26 42.9	
	comp=N,30nm,0.7s					
MQOL			*i*		02 26 44.3	
	baz=246,slow=18					
PRD	**Provadia**	**146.14 325**	*i* P	**PKPab**	**02 26 41.5**	**-1.0**
KRUC	**Moravsky**	**146.19 342**	*e*PKP	**PKPbc**	**02 26 41.1**	**+0.7**
SGRR	**Singureni**	**146.20 327**	⇑P	**PKPbc**	**02 26 40.8**	**+0.2**
HTL	**Hartland**	**146.23 7**	*e*P	**PKPbc**	**02 26 40.9**	**+0.4**
TREC	**Trest**	**146.24 343**	*e*PKP2	**PKPbc**	**02 26 41.5**	**+0.9**
TREC	**Trest**	**146.24 343**	*e*PKP	**PKPbc**	**02 26 41.5**	**+0.9**
PBCC	**Pribram**	**146.27 345**	*e*PKP	**PKPbc**	**02 26 41.3**	**+0.7**
SMOL	**Smolenice**	**146.36 341**	*e*PKP2	**PKiKP**	**02 26 42.7**	**-0.5**
SMOL	**Smolenice**	**146.36 341**	*e*PKP	**PKiKP**	**02 26 42.7**	**-0.5**
ELSH	**Elham, Standar**	**146.40 0**	*e*P	**PKPbc**	**02 26 41.7**	**+0.8**
MANZ	**Manzenberg**	**146.42 347**	*e*PKPdf	**PKPdf**	**02 26 39.8**	**+1.1**
	baz=18,slow=1.6					
MANZ			*e*PKPbc	**PKPbc**	**02 26 42.0**	**+0.9**
	baz=15,slow=2.9					
MANZ			*e*PKPab	**PKPab**	**02 26 44.0**	**+0.5**
	baz=17,slow=3.9					
DEV	**Deva**	**146.45 332**	⇓P	**PKPbc**	**02 26 41.0**	**-0.3**
HUMR	**Humele**	**146.49 329**	⇑P	**PKPbc**	**02 26 41.0**	**-0.4**
BEBN	**Eben Emael**	**146.57 355**	*d*PKPdf	**PKPdf**	**02 26 39.7**	**+0.8**
BEBN			*d*PKPbc	**PKPbc**	**02 26 42.1**	**+0.8**
BEBN			*d*PKiKP	**PKPab**	**02 26 43.8**	**-0.1**
ROTZ	**Rotzenmuhle**	**146.60 347**	*e*PKPbc	**PKPbc**	**02 26 42.5**	**+1.0**
	baz=15,slow=2.9					
ROTZ			*e*PKPab	**PKPab**	**02 26 45.5**	**+1.3**
	baz=17,slow=3.9					
COPA	**Copaceanca**	**146.65 328**	⇑P	**PKPdf**	**02 26 40.4**	**+1.2**
UCC	**Uccle**	**146.66 356**	*d*PKPbc	**PKPbc**	**02 26 42.3**	**+0.7**
HMNX	**Herstmonceux**	**146.67 1**	*e*P	**PKPbc**	**02 26 42.5**	**+0.9**
AHRW	**Bad Neuenahr-A**	**146.69 353**	*e*PKPbc	**PKPbc**	**02 26 42.4**	**+0.7**
	baz=15,slow=2.9					
AHRW			*e*PKPab	**PKPab**	**02 26 46.3**	**+1.9**
	baz=17,slow=3.9					
BUD	**Budapest**	**146.71 338**	PKP	**PKPbc**	**02 26 42.6**	**+0.8**
MEM	**Membach**	**146.72 355**	*d*PKPdf	**PKPdf**	**02 26 39.8**	**+0.7**
MEM			*d*PKPbc	**PKPbc**	**02 26 42.1**	**+0.3**
BTNL	**Ternell**	**146.74 354**	*d*PKPdf	**PKPdf**	**02 26 40.0**	**+0.8**
BTNL			*d*PKPbc	**PKPbc**	**02 26 42.4**	**+0.5**
ZST	**Bratislava**	**146.75 341**	*e*PKP2	**PKiKP**	**02 26 43.3**	**-0.7**
ZST	**Bratislava**	**146.75 341**	*e*PKP	**PKiKP**	**02 26 43.3**	**-0.7**
BSTI	**Sart Tilman**	**146.79 355**	*d*PKPbc	**PKPbc**	**02 26 42.7**	**+0.7**
TNS	**Taunus Mts**	**146.83 352**	*e*PKPbc	**PKPbc**	**02 26 43.1**	**+0.9**
	baz=15,slow=2.9					
TNS			*e*PKPab	**PKPab**	**02 26 45.7**	**+0.6**
	baz=17,slow=3.9					
DYA	**Yadsworthy**	**146.84 6**	*e*P	**PKPbc**	**02 26 42.2**	**0.0**
GRF	**Grafenberg Arr**	**146.88 348**	*e*PKPdf	**PKPdf**	**02 26 40.5**	**+1.1**
	baz=18,slow=1.6					
GRF			*e*PKPbc	**PKiKP**	**02 26 43.4**	**-0.8**
	baz=15,slow=2.9					
GRF			*e*PKPab	**PKPab**	**02 26 46.4**	**+1.1**
	baz=17,slow=3.9					
GRFO	**Grafenberg**	**146.88 348**	PKP2	**PKPbc**	**02 26 42.5**	**+0.2**
GRFO	**Grafenberg**	**146.88 348**		**PKPbc**	**02 26 42.5**	**+0.2**
KHC	**Kasperske Hory**	**146.89 345**	*e*PKIKP	**PKPdf**	**02 26 40.5**	**+1.0**
KHC			*e*		02 26 43.3	
KHC	**Kasperske Hory**	**146.89 345**	*e*PKP	**PKPdf**	**02 26 40.5**	**+1.0**
KHC			*e*x	**PKPbc**	**02 26 43.3**	**+0.9**
GZR	**Gura Zlata**	**146.89 332**	⇑P	**PKPbc**	**02 26 42.0**	**-0.5**
SNF	**Seneffe**	**146.95 357**	*d*PKPbc	**PKPbc**	**02 26 43.1**	**+0.7**
SNF			*d*PKPab	**PKPab**	**02 26 45.9**	**+0.4**
BCLA	**Clavier**	**146.97 355**	*d*PKP	**PKPbc**	**02 26 42.6**	**+0.1**
BCLA			*d*PKPab	**PKPab**	**02 26 45.5**	**-0.1**
BHOU	**Houvegnez**	**146.98 354**	*d*PKPdf	**PKPdf**	**02 26 40.4**	**+0.8**
BHOU			*d*PKPbc	**PKPbc**	**02 26 43.1**	**+0.6**
EIL	**Elat**	**146.98 298**	PKPbc	**PKPbc**	**02 26 43.9**	**+0.7**
	comp=N,13nm,0.7s,baz=119,slow=1.3,SNR=15					
CKRC	**Cesky Krumlov**	**146.99 344**	*e*PKP	**PKPdf**	**02 26 40.7**	**+1.0**
CKRC			*e*x	**PKPbc**	**02 26 43.6**	**+1.0**
AMBH	**Ambrzfalva**	**147.01 335**	PKP	**PKiKP**	**02 26 44.5**	**0.0**
AMBH	**Ambrzfalva**	**147.01 335**	P	**PKiKP**	**02 26 44.4**	**-0.2**

BGES	**Gesves**	**147.02 356**	*d*PKPbc	**PKPbc**	**02 26 43.0**	**+0.4**
BGES			*d*PKiKP	**PKiKP**	**02 26 45.1**	**+0.6**
WET	**Wettzell**	**147.04 346**	*e*PKPdf	**PKPdf**	**02 26 40.6**	**+0.8**
	baz=18,slow=1.6					
WET			*e*PKPbc	**PKPbc**	**02 26 43.7**	**+0.9**
	baz=15,slow=2.9					
WET			*e*PKPab	**PKPab**	**02 26 47.1**	**+1.1**
	baz=17,slow=3.9					
CSKK	**Cskako**	**147.09 339**	PKP	**PKPbc**	**02 26 43.4**	**+0.5**
GEC2	**GERESS Array S**	**147.12 345**	*e*PKPdf	**PKPdf**	**02 26 40.7**	**+0.7**
	baz=18,slow=1.6					
GEC2			*e*PKPbc	**PKPbc**	**02 26 43.9**	**+0.8**
	baz=15,slow=2.9					
GERES	**GERESS Array B**	**147.12 345**	PKPbc	**PKPbc**	**02 26 43.7**	**+0.6**
	comp=N,31nm,0.8s,baz=2.5,slow=2.3,SNR=160					
BMRD	**Maredsous**	**147.13 356**	*d*PKPdf	**PKPdf**	**02 26 40.6**	**+0.8**
BMRD			*d*PKPbc	**PKPbc**	**02 26 43.5**	**+0.6**
BZS	**Buzias**	**147.22 333**	⇑P	**PKPdf**	**02 26 40.5**	**+0.4**
RCHB	**Rochefort**	**147.24 355**	*d*PKPdf	**PKPdf**	**02 26 41.2**	**+1.2**
RCHB			*d*PKPbc	**PKPbc**	**02 26 43.7**	**+0.5**
DOU	**Dourbes**	**147.35 356**	*d*PKPdf	**PKPdf**	**02 26 41.5**	**+1.4**
DOU			*d*PKPbc	**PKPbc**	**02 26 44.2**	**+0.8**
EGYH	**Egyhazaskeszo**	**147.35 340**	P	**PKiKP**	**02 26 44.8**	**-0.5**
CONA	**Conrad Observa**	**147.37 342**	*e*P	**PKPdf**	**02 26 41.3**	**+0.9**
	comp=N,5.1nm,1.5s					
CONA			*i* P	**PKiKP**	**02 26 44.8**	**-0.6**
	comp=N,57nm,0.7s,SNR=38					
SOP	**Sopron**	**147.37 341**	PKP	**PKiKP**	**02 26 44.6**	**-0.7**
EDRB	**Edirne**	**147.39 323**	P	**PKPbc**	**02 26 43.9**	**0.0**
RONA	**Rosalia, Austr**	**147.44 341**	*e*P	**PKPdf**	**02 26 40.7**	**+0.2**
	comp=N,3.8nm,1.0s					
RONA			*i* P	**PKiKP**	**02 26 44.9**	**-0.6**
	comp=N,60nm,0.9s,SNR=32					
MPLH	**Magyarpolny**	**147.50 339**	PKP	**PKPbc**	**02 26 44.6**	**+0.7**
WLF	**Walferdange**	**147.65 354**	*e*PKPdf	**PKPdf**	**02 26 42.3**	**+1.6**
	baz=18,slow=1.6					
WLF			*e*PKPbc	**PKiKP**	**02 26 45.7**	**-0.1**
	baz=15,slow=2.9					
WLF	**Walferdange**	**147.65 354**	*d*PKPdf	**PKPbc**	**02 26 42.6**	**-1.6**
WLF			*d*PKPbc	**PKiKP**	**02 26 45.4**	**-0.4**
MOA	**Molln**	**147.89 343**	*i* P	**PKPbc**	**02 26 45.6**	**+0.6**
	comp=N,31nm,1.2s,SNR=17					
MORH	**Mrgy, Hungar**	**147.93 337**	⇓*i*P	**PKPbc**	**02 26 44.1**	**-1.0**
MORH	**Mrgy, Hungar**	**147.93 337**	P	**PKPdf**	**02 26 41.1**	**-0.2**
MPEP	**Malo Peshtene**	**147.96 328**	*i* P	**PKiKP**	**02 26 46.7**	**+0.1**
ARSA	**Arzberg**	**148.07 342**	*i* P	**PKPbc**	**02 26 45.6**	**+0.1**
	comp=N,21nm,1.1s,SNR=9.3					
STU	**Stuttgart**	**148.12 350**	PKP2	**PKPbc**	**02 26 46.1**	**+0.6**
STU	**Stuttgart**	**148.12 350**		**PKPdf**	**02 26 42.2**	**+0.7**
STU			PKPbc	**PKPbc**	**02 26 46.1**	**+0.6**
STU	**Stuttgart**	**148.12 350**	*e*PKPdf	**PKPdf**	**02 26 42.7**	**+1.2**
	baz=18,slow=1.6					
STU			*e*PKPbc	**PKiKP**	**02 26 46.6**	**-0.2**
	baz=15,slow=2.9					
STU			*e*PKPab	**PKPab**	**02 26 50.8**	**+0.4**
	baz=17,slow=3.9					
BIOA	**Bad Ischl, Aus**	**148.21 344**	*e*P	**PKPdf**	**02 26 42.2**	**+0.4**
	comp=N,1.8nm,0.7s					
BIOA			*i* P	**PKPbc**	**02 26 46.0**	**+0.2**
	comp=N,28nm,0.9s,SNR=15					
KOVH	**Kovagotottos**	**148.23 338**	PKP	**PKPbc**	**02 26 46.0**	**+0.1**
JSA	**Saint Aubin**	**148.24 4**	*e*P	**PKPbc**	**02 26 46.3**	**+0.5**
KDZ	**Kurdzhali**	**148.26 324**	*i* P	**PKPbc**	**02 26 46.0**	**-0.1**
PGB	**Panagyurishte**	**148.31 327**	*i* P	**PKiKP**	**02 26 47.1**	**-0.4**
FUR	**Furstenfeldbru**	**148.32 347**	*e*PKPbc	**PKiKP**	**02 26 47.0**	**-0.3**
	baz=15,slow=2.9					
FUR			*e*PKPab	**PKPab**	**02 26 52.1**	**+0.9**
	baz=17,slow=3.9					
BEHE	**Becsehely**	**148.37 339**	⇓*i*P	**PKPbc**	**02 26 46.8**	**+0.6**
BEHE	**Becsehely**	**148.37 339**	PKP	**PKPab**	**02 26 49.5**	**-1.9**
RJOB	**Jochberg**	**148.38 345**	*e*PKPbc	**PKiKP**	**02 26 46.9**	**-0.5**
	baz=15,slow=2.9					
RDO	**Rodhopi**	**148.53 324**	P	**PKPbc**	**02 26 47.0**	**+0.2**
KOGS	**Kog**	**148.56 340**	*i* PKPbc	**PKPbc**	**02 26 46.6**	**0.0**
BFO	**Black Forest**	**148.69 351**	PKHKP	PKPpre	02 26 47.0	
BFO	**Black Forest**	**148.69 351**		**PKPbc**	**02 26 47.0**	**0.0**
BFO	**Black Forest**	**148.69 351**	*e*PKPbc	**PKiKP**	**02 26 47.7**	**-0.3**
	baz=15,slow=2.9					
BFO			*e*PKPab	**PKPab**	**02 26 53.1**	**+0.3**
	baz=17,slow=3.9					
SOKA	**Soboth**	**148.74 342**	*e*P	**PKPdf**	**02 26 42.5**	**-0.2**
	comp=N,3.5nm,1.1s					
SOKA			*i* P	**PKPbc**	**02 26 47.2**	**0.0**
	comp=N,27nm,0.8s,SNR=19					
VTS	**Vitosha**	**148.75 328**	*i* P	**PKiKP**	**02 26 48.0**	**-0.5**
PERS	**Pernice**	**148.75 342**	*e*PKPbc	**PKPbc**	**02 26 47.2**	**-0.1**
KBA	**Koelnbreinsper**	**148.85 344**	*e*P	**PKPdf**	**02 26 41.7**	**-1.2**
	comp=N,3.4nm,1.4s					
KBA			*i* P	**PKPbc**	**02 26 47.6**	**0.0**
	comp=N,31nm,0.5s,SNR=32					
LOBO	**Lobor**	**148.88 340**	P	**PKPbc**	**02 26 46.7**	**-0.8**
A252A	**Venje**	**148.88 337**	P	**PKPbc**	**02 26 47.7**	**+0.2**
EZN	**Ezine**	**148.92 321**	P	**PKPbc**	**02 26 48.1**	**+0.4**
FETY	**Fethiye**	**148.93 313**	P	**PKPbc**	**02 26 48.0**	**0.0**
TEKS	**Tekeris**	**148.96 334**	⇓*i*P	**PKPbc**	**02 26 47.6**	**-0.2**
SMTH	**Samothraki Isl**	**148.98 323**	P	**PKPbc**	**02 26 47.8**	**-0.1**
UBR	**Ueberruh**	**149.02 348**	*e*PKPdf	**PKPdf**	**02 26 43.7**	**+0.6**
	baz=18,slow=1.6					
UBR			*e*PKPbc	**PKiKP**	**02 26 48.5**	**-0.3**
	baz=15,slow=2.9					
OBKA	**Obir**	**149.03 342**	*i* P	**PKPbc**	**02 26 47.8**	**-0.1**
	comp=N,15nm,0.9s,SNR=12					
WATA	**Walderalm**	**149.04 346**	*e*P	**PKPdf**	**02 26 44.0**	**+0.8**
	comp=N,5.0nm,1.0s					
WATA			*i* P	**PKPbc**	**02 26 48.4**	**+0.4**
	comp=N,36nm,0.5s,SNR=20					
RETA	**Reutte**	**149.07 347**	*e*P	**PKPdf**	**02 26 43.5**	**+0.3**
	comp=N,3.8nm,1.1s					
RETA			*i* P	**PKPbc**	**02 26 48.4**	**+0.4**
	comp=N,21nm,0.5s,SNR=14					
WTTA	**Wattenberg**	**149.09 346**	*e*P	**PKPdf**	**02 26 43.7**	**+0.3**
	comp=N,7.3nm,1.2s					
WTTA			*i* P	**PKiKP**	**02 26 48.8**	**-0.3**
	comp=N,81nm,0.6s,SNR=30					
MOSL	**Moslavina**	**149.12 339**	P	**PKPbc**	**02 26 47.1**	**-1.0**
DIVS	**Divibare**	**149.13 333**	⇓*i*P	**PKPbc**	**02 26 48.3**	**0.0**
MOTA	**Moosalm**	**149.13 347**	*e*P	**PKPdf**	**02 26 43.6**	**+0.2**
	comp=N,7.7nm,1.1s					
MOTA			*i* P	**PKiKP**	**02 26 48.7**	**-0.4**
	comp=N,69nm,1.2s,SNR=17					
MYKA	**Terra Mystica**	**149.18 343**	*e*P	**PKPdf**	**02 26 43.4**	**0.0**
	comp=N,1.8nm,0.5s					
MYKA			*i* P	**PKPbc**	**02 26 48.4**	**+0.1**
	comp=N,37nm,0.5s,SNR=21					
ZAG	**Zagreb**	**149.19 340**	⇓*i*P	**PKiKP**	**02 26 48.9**	**-0.2**
KAVA	**Kavala**	**149.21 324**	P	**PKPbc**	**02 26 48.5**	**+0.1**
YER	**Yerkesik**	**149.22 315**	P	**PKiKP**	**02 26 49.2**	**-0.3**
MMB	**Musomiste**	**149.22 326**	*i* P	**PKiKP**	**02 26 49.0**	**-0.4**
SQTA	**Sankt Quirin**	**149.23 347**	*e*P	**PKPdf**	**02 26 44.1**	**+0.6**
	comp=N,9.7nm,1.1s					
SQTA			*i* P	**PKiKP**	**02 26 49.0**	**-0.3**
	comp=N,54nm,0.6s,SNR=19					
NVR	**Nevrokopi**	**149.32 326**	P	**PKPbc**	**02 26 48.5**	**-0.2**
VNDS	**Vrh nad Dolski**	**149.36 342**	*i* PKPbc	**PKPbc**	**02 26 48.9**	**+0.2**
KKB	**Krupnik**	**149.37 327**	*i* P	**PKPbc**	**02 26 49.0**	**+0.2**
ABTA	**Abfaltersbach**	**149.37 345**	*e*P	**PKPdf**	**02 26 43.1**	**-0.6**
	comp=N,12nm,1.1s					
ABTA			*e*P	**PKPbc**	**02 26 48.8**	**0.0**
	comp=N,65nm,0.6s					
CRES	**Cresnjev**	**149.37 340**	⇓*i*P	**PKPbc**	**02 26 49.0**	**+0.3**
DAVA	**Damuels**	**149.44 348**	*e*P	**PKPdf**	**02 26 43.8**	**0.0**
	comp=N,4.2nm,0.7s					
DAVA			*i* P	**PKiKP**	**02 26 49.9**	**+0.1**
	comp=N,51nm,0.8s,SNR=18					
LJU	**Ljubljana**	**149.46 342**	⇓*i*P	**PKPbc**	**02 26 49.1**	**+0.2**
FETA	**Feichten**	**149.52 347**	*i* P	**PKPdf**	**02 26 44.6**	**+0.6**
	comp=N,12nm,1.0s,SNR=29					
KOKK	**Kokkinochori,**	**149.61 325**	P	**PKPbc**	**02 26 49.2**	**-0.2**
PRIJ	**Prijedor**	**149.69 338**	⇓*i*P	**PKiKP**	**02 26 50.4**	**+0.3**
A251A	**Rujevac**	**149.71 339**	P	**PKiKP**	**02 26 50.1**	**-0.1**
BLY	**Banja Luka**	**149.71 337**	⇓*i*P	**PKiKP**	**02 26 49.9**	**-0.3**
CEY	**Cerknica**	**149.77 342**	⇓*i*P	**PKPbc**	**02 26 49.8**	**+0.1**
RUDO	**Rudo**	**149.78 333**	*e*P	**PKPbc**	**02 26 49.6**	**-0.1**
SMG	**Samos**	**149.86 317**	P	**PKPbc**	**02 26 50.2**	**+0.1**
BODT	**Bodrum**	**149.91 316**	P	**PKPbc**	**02 26 50.1**	**-0.2**
DAT	**Datca**	**149.92 315**	P	**PKPbc**	**02 26 50.2**	**-0.2**
OUR	**Ouranopolis**	**149.95 324**	P	**PKPbc**	**02 26 49.7**	**-0.5**
STIP	**Stip**	**149.95 328**	*i* P	**PKPbc**	**02 26 49.8**	**-0.4**
KNT	**Kendrikon**	**149.97 326**	P	**PKPbc**	**02 26 49.3**	**-1.0**
JAWL	**J.Aulia**	**150.01 270**	*i* P	**PKPdf**	**02 26 39.8**	**-5.6**
JAWL			*i*		02 26 51.3	
	baz=224,slow=22					
VAY	**Valandovo**	**150.03 327**	*i* P	**PKPbc**	**02 26 50.0**	**-0.3**
MGRS	**Mrkonjic Grad**	**150.03 337**	*e*P	**PKiKP**	**02 26 50.8**	**-0.1**
SKDS	**Skadanscina**	**150.06 342**	⇓*i*P	**PKPbc**	**02 26 50.2**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKO	Skopje	150.12	329	iP	PKiKP	02 26 51.1	-0.1
RIY	Rijeka	150.12	341	⇓iP	PKPbc	02 26 50.5	+0.1
RIY	Rijeka	150.12	341	P	PKPbc	02 26 49.6	-0.8
A250A	Rusevo Krmpots	150.20	340	P	PKPbc	02 26 50.7	-0.1
PLG	Polygyros	150.22	325	P	PKPbc	02 26 50.3	-0.6
SRKY	Kupres RS	150.30	337	eP	PKPbc	02 26 51.2	+0.1
UPM	Unac-Piva	150.32	333	eP	PKPbc	02 26 50.2	-1.0
GRG	Griva	150.38	327	P	PKPbc	02 26 50.9	-0.3
UDBI	Udbina	150.41	339	P	PKiKP	02 26 51.6	-0.1
SMRN	Sveta Marina	150.48	341	P	PKPbc	02 26 51.3	0.0
KIJV	Kijevo	150.64	337	P	PKPbc	02 26 50.5	-1.2
NVLJ	Novalja	150.68	340	P	PKPbc	02 26 51.7	-0.1
BRY	Bratogost	150.72	334	⇓iP	PKPbc	02 26 52.1	0.0
BRJN	Brijuni	150.72	342	P	PKPbc	02 26 51.8	0.0
MRWI	Hamdab	150.75	277	iP	PKPab	02 27 05.5	+3.2
PDG	Podgorica	150.79	332	PKPdf	PKPdf	02 26 45.3	-0.6
PDG				PKPbc	PKPbc	02 26 52.1	+0.1
PDG	Podgorica	150.79	332	⇓iP	PKPbc	02 26 52.1	+0.1
RICI	Ricice	150.80	336	P	PKPbc	02 26 51.9	-0.2
PHP	Peshkopia	150.82	330	P	PKPbc	02 26 52.3	0.0
KARP	Karpathos	150.83	313	P	PKiKP	02 26 52.7	-0.2
VIRC	Vir	150.86	339	P	PKPbc	02 26 52.1	-0.1
SALO	Salr	150.90	347	PKPdf	PKPdf	02 26 45.2	-0.8
SALO					PKPbc	02 26 51.5	-0.8
LIT	Litokhoron	150.94	325	P	PKPbc	02 26 52.3	-0.3
TREB	Trebinje	150.95	334	eP	PKPbc	02 26 52.1	-0.4
MORI	Morici	151.01	338	P	PKPbc	02 26 52.4	-0.1
DRME	Dracevica, Mon	151.01	332	⇓iP	PKPbc	02 26 52.5	-0.1
MAKA	Makarska	151.02	336	P	PKPbc	02 26 52.2	-0.3
FNA	Florina	151.03	327	P	PKPbc	02 26 52.6	-0.2
DBRK	Dubrovnik	151.08	334	P	PKPbc	02 26 52.5	-0.3
OHR	Ohrid	151.08	329	iP	PKiKP	02 26 53.6	+0.3
STON	Ston	151.10	335	⇓iP	PKPbc	02 26 52.2	-0.5
STON	Ston	151.10	335	P	PKPbc	02 26 52.3	-0.5
HCY	Herceg Novi	151.11	333	⇓iP	PKPbc	02 26 52.7	-0.1
DUGI	Dugi Otok	151.12	339	P	PKPbc	02 26 52.7	-0.1
ZIRJ	Zirje	151.22	338	P	PKPbc	02 26 52.6	-0.4
HVAR	Hvar	151.33	337	P	PKPbc	02 26 52.7	-0.6
KBN	Korca	151.45	328	P	PKiKP	02 26 54.0	-0.1
LSTV	Lastovo	151.51	336	P	PKPbc	02 26 53.2	-0.5
KPRO	Kipourio	151.65	326	P	PKiKP	02 26 54.5	0.0
LTK	Loutraki	152.08	322	P	PKiKP	02 26 56.9	+1.5
JAN	Janina	152.13	326	P	PKPbc	02 26 54.9	-0.4
MURB	Monte Urbino	152.58	342		PKPdf	02 26 47.8	-0.8
MURB				PKPbc	PKPbc	02 26 56.1	-0.1
KEK	Kerkira	152.64	328	P	PKiKP	02 26 56.6	+0.2
NYDR	Nydri-Lefkada	152.90	325	P	PKiKP	02 26 57.2	+0.2
AQU	L'Aquila	153.13	340	⇓iP	PKPdf	02 26 49.2	-0.2
TIP	Timpagrande	154.53	331	⇑P	PKPdf	02 26 52.0	+0.5
PCAB	Cabril	154.55	16	ePKPab	PKPab	02 27 18.6	+1.0
PBRG	Braganca	154.78	14	ePKPab	PKPab	02 27 19.3	+0.6
POLO	Lamas de Olo	154.92	16	ePKPab	PKPab	02 27 20.1	+0.7
PVRL	Vila Real	155.04	16	ePKPab	PKPab	02 27 20.9	+1.1
MVO	Moncorvo	155.32	15	ePKPab	PKPab	02 27 22.5	+1.5
PVIS	Viseu	155.51	17	ePKPab	PKPab	02 27 22.9	+1.1
COI	Coimbra	155.83	18	ePKPab	PKPab	02 27 23.9	+0.8
MTE	Manteigas	155.90	17	ePKPab	PKPab	02 27 24.1	+0.6
PCAS	Casmilo, Conde	155.94	19	ePKPab	PKPab	02 27 24.4	+0.7
PSBE	So Bento	156.34	20	ePKPab	PKPab	02 27 26.0	+0.6
PCBR	Castelo Branco	156.44	17	ePKPab	PKPab	02 27 26.3	+0.5
PMRV	Marv??o	156.85	17	ePKPab	PKPab	02 27 28.3	+0.7
PMTG	Montargil	156.93	19	ePKPab	PKPab	02 27 28.3	+0.4
PESTR	Estremoz	157.31	18	ePKPab	PKPab	02 27 30.2	+0.6
ESDC	Sonseca Array	157.40	11	PKP	PKPdf	02 26 55.4	+0.2
	comp=N,1.1nm,0.7s,baz=328,slow=3.2,SNR=7.5						
ESDC				PKPab	PKPab	02 27 30.1	+0.1
	comp=N,5.7nm,0.9s,baz=341,slow=4.1,SNR=15						
ESDC	Sonseca Array	157.40	11		PKPab	02 27 29.7	-0.4
EVO	Evora	157.49	19	ePKPab	PKPab	02 27 30.0	-0.4
PBAR	Barrancos	158.11	18	ePKPab	PKPab	02 27 34.1	+1.0
KEST	Kesra	160.46	340	PKPab	PKPab	02 27 43.7	+0.2
	comp=N,5.4nm,0.7s,baz=54,slow=1.0,SNR=5.3						
LIC	Lamto	167.22	150	ePKIKP	PKPdf	02 27 06.0	+0.5
	comp=N,25nm,1.4s						
KIC	Kosan Boka	167.47	151	ePKIKP	PKPdf	02 27 05.6	-0.1
	comp=N,15nm,0.8s						
TIC	Toumodi	167.59	149	ePKIKP	PKPdf	02 27 05.7	-0.1
DBIC	Dimbokro	167.69	150	PKP	PKPdf	02 27 05.3	-0.5
	comp=N,6.7nm,0.8s,baz=133,slow=3.2,SNR=6.0						
KOWA	Kowa	174.08	119		PKPdf	02 27 08.8	-0.2
TOA0	Torodi Ar. Sit	175.69	185		PKPdf	02 27 08.6	-0.9
TORD	Torodi Ar. Bea	175.69	185	PKP	PKPdf	02 27 08.9	-0.6
	comp=N,6.4nm,0.8s,baz=358,slow=1.0,SNR=40						
TORD				PKPab	PKPab	02 28 50.1	-1.0
	comp=N,0.7nm,0.8s,baz=171,slow=3.4,SNR=3.9						
TORD	Torodi Ar. Bea	175.69	185		PKPdf	02 27 07.6	-1.9

*IDC **04** 02:16:33.9±0.7, 14°.21S×166°.65E, h0km, mb4.2/13, mb1 4.2/14, mb1mx4.1/40, mbtmp4.1/14, ML3.5/1, MS3.8/28, Ms1 3.8/28, ms1mx3.6/63, Error ellipse: s-maj=27.0km s-min=17.5km az=103.0*

*NEIC **04** 02:16:35.7±1.9, 14°.14S±0°.09×166°.9E±0°.1, h8km±4km, mb4.7/19, Error ellipse: s-maj=16.4km s-min=12.6km az=96.0*

ISC 04 02:16:35.7±0.6, 14°.20S±0°.07×166°.7E±0°.1, h10km, n74, σ1s.15/48, mb4.5/24, MS3.8/28, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.32	159	Pn	Pn	02 16 60.0	-0.2
KOUNC	Koumac, New Ca	6.73	200		Pn	02 18 16.2	+1.7
DZM	Mont Dzumac	7.83	182	Pn	Pn	02 18 29.8	0.0
	0.7nm,0.3s,baz=17,slow=19,SNR=2.0						
DZM				Sn	Sn	02 19 57.1	-1.5
	0.4nm,0.3s,baz=142,slow=19,SNR=1.3						
DZM	Mont Dzumac	7.83	182	ePn	Pn	02 18 31.5	+1.7
	26nm,0.5s						
DZM				eSn	Sn	02 19 49.6	-9.0
	25nm,0.5s						
DZM				eLR	LR	02 20 08.6	
	comp=Z,969nm,24.6s						
DZM	Mont Dzumac	7.83	182		Pn	02 18 30.1	+0.3
ONTNC	Ouen Toro	8.06	182	Pn	Pn	02 18 35.4	+2.5
HNR	Honiara	8.15	305	LR	LR	02 21 42.8	
	comp=Z,378nm,18.2s,baz=188,slow=38						
OUENC	Ouen Island, N	8.17	179	Pn	Pn	02 18 37.5	+3.2
PINNC	Pines Island,	8.39	175	Pn	Pn	02 18 39.1	+1.7
MSVF	Nonsavu	11.45	109	LR	LR	02 22 57.6	
	comp=Z,971nm,18.9s,baz=325,slow=33						
PMG	Port Moresby	19.73	282	LR	LR	02 27 36.7	
	comp=Z,269nm,18.1s,baz=50,slow=34						
CTA	Charters Tower	20.40	250	LR	LR	02 28 16.7	
	comp=Z,281nm,19.0s,baz=82,slow=35						
AFI	Afiamalu	20.86	92	LR	LR	02 27 22.5	
	comp=Z,159nm,21.0s,baz=263,slow=31						
URZ	Urewera	25.67	161	LR	LR	02 30 43.2	
	comp=Z,165nm,18.7s,baz=28,slow=33						
STKA	Stephens Creek	28.93	228	P	P	02 22 34.9	-0.3
	1.4nm,0.5s,baz=71,slow=10,SNR=3.3						
STKA				LR	LR	02 34 17.0	
	comp=Z,504nm,18.2s,baz=46,slow=37						
STKA	Stephens Creek	28.93	228	P	P	02 22 34.4	-0.8
RPZ	Rata Peaks	29.64	174	LR	LR	02 34 06.8	
	comp=Z,192nm,18.3s,baz=348,slow=36						
WB0	Warramunga Arr	31.37	255	P	P	02 22 55.9	-1.0
WRA	Warramunga Arr	31.44	255	P	P	02 22 56.1	-1.4
	1.4nm,0.8s,baz=86,slow=9.4,SNR=6.2						
WRA				LR	LR	02 35 07.8	
	comp=Z,242nm,18.3s,baz=99,slow=36						
ASAR	Alice Springs	32.37	248	P	P	02 23 04.0	-1.6
	0.6nm,0.6s,baz=74,slow=9.3,SNR=5.3						
ASAR				LR	LR	02 35 23.2	
	comp=Z,167nm,19.9s,baz=128,slow=35						
BBOO	Buckleboo	33.48	231	P	P	02 23 16.3	+1.0
BBOO				IAmb	IAmb	02 23 40.7	
	comp=Z,15nm,1.3s						
FITZ	Fitzroy Crossi	39.59	259	P	P	02 24 06.1	-1.4
	comp=Z,3.1nm,0.8s,baz=76,slow=8.3,SNR=5.5						
FITZ				LR	LR	02 39 47.4	
	comp=Z,144nm,19.4s,baz=93,slow=35						
FITZ	Fitzroy Crossi	39.59	259	P	P	02 24 05.2	-2.4
PPT2	Papeete2	42.10	101	eLR	LR	02 36 34.5	
	comp=Z,118nm,24.2s						
TBI	Tubuai	42.34	109	eLR	LR	02 36 39.0	
	comp=Z,133nm,26.8s						
TAOE	Nuku Hiva Isla	52.24	90	eLR	LR	02 40 59.2	
	comp=Z,125nm,26.4s						
MJAR	Matsushiro Arr	57.20	333	LR	LR	02 46 52.1	
	comp=Z,16nm,21.9s,baz=170,slow=32						
MJAR	Matsushiro Arr	57.20	333	P	P	02 26 23.9	+0.9
MJAR				IAmb	IAmb	02 26 52.0	
	comp=Z,8.6nm,1.4s						
MAJO	Matsushiro	57.20	333	P	P	02 26 24.6	+1.5
MJB9	Matsu-Tunnel	57.20	333	P	P	02 26 24.3	+1.2
ASAJ	Asahikawa	62.07	341	LR	LR	02 51 05.6	
	comp=Z,56nm,20.2s,baz=67,slow=33						
KSRS	Korea Array	63.01	326	P	P	02 27 03.8	+0.9
	comp=Z,1.7nm,0.9s,baz=134,slow=7.0,SNR=4.0						
VNDA	Vanda	63.37	181	P	P	02 27 05.5	+0.7
	comp=Z,1.3nm,0.8s,baz=354,slow=6.9,SNR=5.2						
VNDA	Vanda	63.37	181	P	P	02 27 05.3	+0.6
USRK	Ussuriysk Ar.	66.18	333	P	P	02 27 23.9	+0.5
	comp=Z,3.3nm,0.9s,baz=131,slow=6.5,SNR=13						
USRK	Ussuriysk Ar.	66.18	333	P	P	02 27 24.0	+0.6
SHEM	Shemya Is, Ala	66.96	5	LR	LR	02 51 13.6	
	comp=Z,61nm,20.7s,baz=34,slow=31						
PETK	Petropavlovsk-	67.48	354	P	P	02 27 32.8	+1.2
	comp=Z,3.6nm,0.8s,baz=176,slow=8.5,SNR=2.2						
MA2	Magadan	74.65	352	LR	LR	02 56 44.8	
	comp=Z,53nm,20.4s,baz=116,slow=32						
QSPA	South Pole Qui	75.82	180	P	P	02 28 22.1	+0.2
	comp=Z,4.2nm,1.0s,baz=279,slow=1.7,SNR=9.9						
QSPA	South Pole Qui	75.82	180	P	P	02 28 22.2	+0.2
KDAK	Kodiak Island	79.16	21	LR	LR	02 59 06.9	
	comp=Z,76nm,18.7s,baz=221,slow=32						
GAMB	Gambell	79.50	10	P	P	02 28 41.7	-0.4
GAMB				IAmb	IAmb	02 28 43.3	
	comp=Z,4.3nm,0.8s						
SONM	Songino Array	81.76	324	P	P	02 28 54.1	-0.7
	comp=Z,0.8nm,0.8s,baz=138,slow=7.0,SNR=6.5						
BILL	Bilibino	82.02	360	P	P	02 28 55.6	+0.1
TTA	Tatalina	82.17	16	P	P	02 28 57.1	+0.6
TTA				IAmb	IAmb	02 29 01.4	
	comp=Z,8.2nm,1.4s						
CAST	Castle Rocks	83.65	17	P	P	02 29 03.8	-0.4
CAST				IAmb	IAmb	02 29 04.8	
	comp=Z,4.8nm,0.9s						
KTH	Kantishna Hill	84.09	18	P	P	02 29 06.1	-0.3
KTH				IAmb	IAmb	02 29 12.7	
	comp=Z,4.8nm,1.1s						
TRF	Thorofare Moun	84.20	18	P	P	02 29 06.8	-0.4
TRF				IAmb	IAmb	02 29 07.2	
	comp=Z,5.0nm,0.9s						
I21K	Tanana	85.04	16	P	P	02 29 12.1	+1.0
I21K				IAmb	IAmb	02 29 13.0	
	comp=Z,6.2nm,0.9s						
YBH	Yreka Blue Hor	85.42	45	LR	LR	02 58 42.9	
	comp=Z,42nm,20.5s,baz=292,slow=30						
HDA	Harding Lake	85.92	18	P	P	02 29 15.2	-0.3
HDA				IAmb	IAmb	02 29 16.6	
	comp=Z,11nm,1.3s						
MDM	Murphy Dome	85.93	18	P	P	02 29 14.8	-0.8
MDM				IAmb	IAmb	02 29 16.3	
	comp=Z,11nm,1.4s						
IL31		86.19	18	P	P	02 29 16.1	-0.7
IL31				IAmb	IAmb	02 29 17.1	
	comp=Z,2.9nm,0.8s						
ILAR	Eielson Array	86.19	18	P	P	02 29 15.8	-1.1
	comp=Z,1.5nm,0.6s,baz=238,slow=5.2,SNR=25						
ILAR				LR	LR	03 02 06.6	
	comp=Z,85nm,18.9s,baz=244,slow=32						
BBB	Bella Bella	86.64	34	LR	LR	03 00 52.1	
	comp=Z,50nm,19.7s,baz=216,slow=31						
PFO	Pinyon Flats O	87.12	54	LR	LR	03 02 18.2	
	comp=Z,82nm,18.3s,baz=250,slow=32						
NVAR	Mina Array Bea	87.33	49	LR	LR	03 01 32.8	
	comp=Z,145nm,19.4s,baz=256,slow=31						
LPIG	La Paz	89.46	65	LR	LR	03 05 25.1	
	comp=Z,20nm,18.9s,baz=196,slow=33						
ELK	Elko	90.34	48	LR	LR	03 04 40.5	
	comp=Z,62nm,18.5s,baz=256,slow=32						
INK	Inuvik	92.56	19	LR	LR	03 06 35.6	
	comp=Z,83nm,19.0s,baz=182,slow=32						
PDAR	Pinedale Array	94.98	47	LR	LR	03 03 43.4	
	comp=Z,33nm,20.6s,baz=262,slow=30						
ANMO	Albuquerque	95.44	55	LR	LR	03 05 22.7	
	comp=Z,60nm,20.2s,baz=244,slow=31						
MKAR	Makanchi Array	96.46	317	P	P	02 30 05.1	-0.2
	comp=Z,0.8nm,0.8s,baz=100,slow=6.8,SNR=5.3						
MKAR				LR	LR	03 10 54.4	
	comp=Z,14nm,21.9s,baz=88,slow=34						
MKAR	Makanchi Array	96.46	317	P	P	02 30 06.0	+0.7
TXAR	Lajitas Array	96.50	61	LR	LR	03 05 03.2	
	comp=Z,35nm,21.0s,baz=254,slow=30						
YKA	Yellowknife Ar	97.33	27	P	P	02 30 08.0	-0.7
	comp=Z,0.2nm,0.6s,baz=256,slow=4.8,SNR=4.3						
FRB	Frobisher Bay	117.65	24	PKP	PKPdf	02 35 20.6	-1.0
	comp=Z,0.6nm,0.5s,baz=250,slow=3.1,SNR=7.2						
ARCES	ARCESS Array B	119.61	345	PKP	PKPdf	02 35 24.1	-1.1
	comp=Z,1.8nm,0.7s,baz=112,slow=1.3,SNR=8.5						
FINES	FINESS Array B	125.04	338	PKP	PKPdf	02 35 35.2	-0.6
	comp=Z,2.0nm,0.9s,baz=129,slow=5.2,SNR=4.0						
AKASG	Malin Array Be	130.00	326	SKP		02 39 20.2	
	comp=Z,0.1nm,0.3s,baz=43,slow=4.3,SNR=4.2						
BRTR	Keskin Array B	131.76	311	SKP		02 39 26.5	
	comp=Z,0.5nm,0.8s,baz=111,slow=3.4,SNR=3.9						
CLL	Collm	137.36	336	ePKPdf	PKiKP	02 36 01.0	-0.4
EKA	Eskdalemuir Ar	138.21	351	SKPab	SKPab	02 39 43.5	-0.1
	comp=Z,1.5nm,0.9s,baz=90,slow=1.7,SNR=4.2						

ATH 04 02:24:34.6, 38°.09N×23°.42E, h13km±5km, ML1.7/1, Error ellipse: s-maj=5.4km s-min=1.1km az=278.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIL2	Platees	0.17	315	P	Pg	02 24 37.7	-0.9
VIL2				S	Sg	02 24 39.9	-1.5
VIL2				AML	AML	02 24 40.3	
	comp=N,1114µm,0.1s						
VIL2				AML	AML	02 24 41.0	
	comp=E,804µm,0.2s						
ATH	Athens Observa	0.26	117	P	Pg	02 24 40.3	+0.2
ATH				S	Sg	02 24 44.5	+0.7
ATHU	Athens Univers	0.31	113	P	Pg	02 24 41.2	+0.2
ATHU				S	Sg	02 24 45.7	+0.5
PTL	Penteli	0.35	96	P	Pg	02 24 41.6	-0.2
VLY	Voula,Athens	0.38	129	P	Pg	02 24 42.2	0.0
VLY				S	Sg	02 24 47.0	-0.3
DION	Dionisos Attik	0.40	91	P	Pg	02 24 42.7	0.0
DION				S	Sg	02 24 48.2	+0.1

*JMA **04** 02:44:19.5±0.3, 21°.36N×121°.05E, h32km, M4.1*

*TAP **04** 02:44:19.5, 21°.38N×121°.13E, h74km, ML3.7, D*

ISC 04 02:44:22.2±1.9, 21°.50N±0°.09×121°.03E±0°.03, h72km±7km, n105, σ0s.95/200, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	Hengchuen, Pin	0.42	343	P	Pn	02 44 34.0	-0.5
	baz=333						
TSEB				S	Sn	02 44 44.8	+1.3
	baz=333						
TWKBT	Hengchun	0.49	335	P	Pn	02 44 34.3	-0.8
	baz=332						
TWKBT				S	Sn	02 44 45.1	+0.5
	baz=332						
TWK1	Hengchun	0.49	335	P	Pn	02 44 34.3	-0.8
	baz=332						
TWK1				S	Sn	02 44 45.1	+0.5
	baz=332						
SMST	Manzhou Townsh	0.55	341	P	Pn	02 44 35.1	-0.7
	baz=337						
SMST				eS	Sn	02 44 46.6	+0.9
	baz=337						
HEN	Hengchun	0.58	332	eP	Pn	02 44 35.4	-0.6
	baz=330						
HEN				eS	Sn	02 44 46.9	+0.8
	baz=330						
LYUB	Lan-yu	0.72	45	P	Pn	02 44 35.7	-1.7
	baz=34						
LYUB				S	Sn	02 44 47.7	-1.0
	baz=34						
LAY	Lan-yu	0.72	42	eP	Pn	02 44 35.5	-2.1
	baz=31						
LAY				eS	Sn	02 44 47.4	-1.5
	baz=31						
SLIU	Shizi	0.75	343	P	Pn	02 44 37.5	-0.4
	baz=339						
SLIU				S	Sn	02 44 50.7	+1.2
	baz=339						
TAWH	Dawu Township	0.85	351	P	Pn	02 44 38.3	-0.7
	baz=346						
TAWH				eS	Sn	02 44 52.6	+1.2
	baz=346						
TAW	Tawu	0.87	352	P	Pn	02 44 38.5	-0.7
	baz=347						
TAW				S	Sn	02 44 53.3	+1.5
	baz=347						
EAST	Anshuo	0.90	349	P	Pn	02 44 39.2	-0.4
	baz=345						
EAST				S	Sn	02 44 53.7	+1.1
	baz=345						
SCZT	Fangliau	0.95	336	P	Pn	02 44 40.1	-0.1
	baz=334						
SCZT				S	Sn	02 44 55.0	+1.4
	baz=334						
WLCH	Liuqiu	1.05	325	eP	Pn	02 44 41.7	+0.3
	baz=324						
WLCH				eS	Sn	02 44 57.6	+1.9
	baz=324						
SSPT	Xinbi	1.07	336	eP	Pn	02 44 41.6	-0.1
	baz=334						
SSPT				eS	Sn	02 44 58.2	+1.9
	baz=334						
ECL	Taimali	1.10	356	eP	Pn	02 44 41.2	-0.9
	baz=352						
ECL				eS	Sn	02 44 57.7	+0.8
	baz=352						
MASBT	Mashibuluo	1.17	342	eP	Pn	02 44 42.9	-0.1
	baz=339						
MASBT				eS	Sn	02 45 00.1	+1.6
	baz=339						
LDUT	Ludao	1.24	19	eP	Pn	02 44 43.1	-0.7
	baz=13						
LDUT				eS	Sn	02 45 00.5	+0.4
	baz=13						
TTN	Taitung	1.26	5	eP	Pn	02 44 43.4	-0.7
	baz=1.0						
TTN				eS	Sn	02 45 01.3	+0.9
	baz=1.0						
TSMG	Majia	1.26	343	eP	Pn	02 44 44.0	-0.1
	baz=341						
TSMG				eS	Sn	02 45 02.0	+1.5
	baz=341						
SSD	Sandimen	1.30	343	eP	Pn	02 44 44.5	-0.1
	baz=341						
SSD				eS	Sn	02 45 02.3	+0.8
	baz=341						
TWG	Pinlang	1.32	2	eP	Pn	02 44 45.0	0.0
	baz=358						
TWG				eS	Sn	02 45 02.8	+0.8
	baz=358						
WSSB	Gushan	1.35	328	eP	Pn	02 44 45.3	0.0
	baz=327						
WSSB				eS	Sn	02 45 04.2	+1.6
	baz=327						
LONT	Longtian	1.41	4	eP	Pn	02 44 45.0	-1.1
LONT				eS	Sn	02 45 04.7	+0.7
TWM1	Shoushan	1.44	337	eP	Pn	02 44 46.7	+0.2
	baz=335						
TWM1				eS	Sn	02 45 06.2	+1.4
	baz=335						
SCST	Cishan	1.47	340	eP	Pn	02 44 46.9	0.0
	baz=338						
SCST				eS	Sn	02 45 07.2	+1.7
	baz=338						
EDH	Donghe	1.49	10	P	Pn	02 44 47.1	-0.1
	baz=5.0						
EDH				S	Sn	02 45 06.3	+0.4
	baz=5.0						
CHKT	Chengkung	1.63	11	eP	Pn	02 44 48.2	-0.7
	baz=7.0						
CHKT				eS	Sn	02 45 09.1	0.0
	baz=7.0						
SGST	Jiashian	1.63	345	eP	Pn	02 44 49.0	0.0
	baz=343						
SGST				eS	Sn	02 45 10.6	+1.3
	baz=343						
SHHT	Tainan City	1.65	337	eP	Pn	02 44 49.6	+0.4
	baz=336						
SHHT				eS	Sn	02 45 11.3	+1.7
	baz=336						
STYH	Taoyuan	1.68	352	eP	Pn	02 44 49.6	-0.1
	baz=349						
STYH				eS	Sn	02 45 11.6	+1.1
	baz=349						
ELDTW	Lidau	1.69	359	eP	Pn	02 44 49.8	0.0
	baz=356						
ELDTW				eS	Sn	02 45 11.3	+0.6
	baz=356						
FULB	Fuli	1.71	8	eP	Pn	02 44 50.0	-0.2
	baz=4.0						
FULB				eS	Sn	02 45 12.0	+0.7
	baz=4.0						
CHN1	Nanshi	1.75	345	eP	Pn	02 44 50.9	+0.3
	baz=342						
CHN1				eS	Sn	02 45 13.6	+1.6
	baz=342						
WTP	Ta-pu	1.79	347	eP	Pn	02 44 51.7	+0.6
	baz=345						
WTP				eS	Sn	02 45 14.0	+1.0
	baz=345						
SNST	Tainan City	1.79	344	eP	Pn	02 44 50.6	-0.5
	baz=342						
SNST				eS	Sn	02 45 14.6	+1.6
	baz=342						
TWK	Hsinying	1.83	344	eP	Pn	02 44 52.3	+0.6
	baz=342						
TWK				eS	Sn	02 45 14.6	+0.4
	baz=342						
TPUB	Ta-pu	1.83	348	eP	Pn	02 44 51.3	-0.5
	baz=346						
TPUB				eS	Sn	02 45 15.2	+1.0
	baz=346						
SCLT	Jiali	1.84	335	eS	Sn	02 45 16.1	+1.7
	baz=334						
EYUL	Yuli	1.86	8	eP	Pn	02 44 53.2	+1.1
	baz=5.0						
EYUL				eS	Sn	02 45 14.7	0.0
	baz=5.0						
CHN4	Tsaushan	1.89	348	eP	Pn	02 44 52.7	+0.2
	baz=345						
CHN4				eS	Sn	02 45 16.4	+0.9
	baz=345						
YULB	Yu-li	1.90	7	eP	Pn	02 44 52.5	-0.2
	baz=4.0						
YULB				eS	Sn	02 45 16.2	+0.4
	baz=4.0						
ICHU	Yijhu	1.98	340	eP	Pn	02 44 54.0	+0.3
	baz=338						
ICHU				eS	Sn	02 45 18.9	+1.2
	baz=338						
YUS	Yu-Shan	1.99	358	eP	Pn	02 44 55.3	+1.1
	baz=355						
YUS				eS	Sn	02 45 18.4	0.0
	baz=355						
ALS	Alishan	2.02	354	eP	Pn	02 44 54.3	-0.2
	baz=352						
ALS				eS	Sn	02 45 18.7	-0.3
	baz=352						
EHY	Hungye	2.02	8	eP	Pn	02 44 53.2	-1.0
	baz=5.0						
EHY				eS	Sn	02 45 19.1	+0.6
	baz=5.0						
HGSD	Ruisui	2.02	10	eP	Pn	02 44 53.7	-0.5
	baz=7.0						
HGSD				eS	Sn	02 45 19.0	+0.5
	baz=7.0						
CHY	Chiayi	2.07	344	eS	Sn	02 45 20.6	+0.8
	baz=343						
CHN5	Tsauling	2.12	351	eP	Pn	02 44 55.7	+0.1
	baz=349						
CHN5				eS	Sn	02 45 21.9	+0.9
	baz=349						
WSL	Shuilin Townsh	2.15	340	eP	Pn	02 44 56.2	+0.2
	baz=338						
WSL				eS	Sn	02 45 22.9	+1.2
	baz=338						
WDGT	Dungji	2.17	324	eP	Pn	02 44 55.2	-1.0
	baz=324						
WDGT				eS	Sn	02 45 21.9	-0.2
	baz=324						
EGFH	Guangfu	2.19	9	eP	Pn	02 44 56.0	-0.6
	baz=6.0						
EGFH				eS	Sn	02 45 23.2	+0.5
	baz=6.0						
VWDT	VWDT	2.25	2	eP	Pn	02 44 57.4	+0.1
VWDT				eS	Sn	02 45 24.9	+0.8
WSF	Szhu	2.26	341	eP	Pn	02 44 57.2	-0.2
	baz=339						
WSF				eS	Sn	02 45 25.5	+1.1
	baz=339						
VCHM	Qimei	2.26	319	eP	Pn	02 44 57.9	+0.5
	baz=319						
VCHM				eS	Sn	02 45 25.5	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=319						
WTK	**Tuku**	**2.26**	**345**	*e*P	**Pn**	**02 44 57.5**	**+0.1**
	baz=343						
WTK				*e*S	**Sn**	**02 45 25.3**	**+0.9**
	baz=343						
SSLB	**Suanglung**	**2.28**	**358**	*e*P	**Pn**	**02 44 58.1**	**+0.3**
	baz=356						
SSLB				*e*S	**Sn**	**02 45 25.1**	**+0.2**
	baz=356						
ESL	**Shilin**	**2.34**	**9**	*e*S	**Sn**	**02 45 26.4**	**+0.2**
	baz=6.0						
WNT	**Mingjian**	**2.39**	**352**	*e*P	**Pn**	**02 44 59.1**	**-0.1**
	baz=350						
WNT				*e*S	**Sn**	**02 45 28.9**	**+1.3**
	baz=350						
TYC	**Yuchr**	**2.40**	**356**	*e*P	**Pn**	**02 44 58.9**	**-0.4**
	baz=354						
TYC				*e*S	**Sn**	**02 45 28.6**	**+0.9**
	baz=354						
PHUB	**P'eng-hu**	**2.42**	**326**	*e*P	**Pn**	**02 44 59.1**	**-0.5**
	baz=325						
PHUB				*e*S	**Sn**	**02 45 27.6**	**-0.7**
	baz=325						
OWD	**Renai**	**2.45**	**3**	*e*P	**Pn**	**02 45 01.2**	**+1.0**
OWD				*e*S	**Sn**	**02 45 29.5**	**+0.3**
WRL	**Guolierlin Hig**	**2.47**	**346**	*e*P	**Pn**	**02 45 00.2**	**-0.1**
	baz=344						
WRL				*e*S	**Sn**	**02 45 30.2**	**+0.8**
	baz=344						
PNG	**Penghu**	**2.48**	**327**	*e*P	**Pn**	**02 44 59.4**	**-1.0**
	baz=326						
PNG				*e*S	**Sn**	**02 45 29.9**	**+0.4**
	baz=326						
WUSB	**Renai**	**2.49**	**2**	*e*P	**Pn**	**02 45 00.8**	**+0.2**
	baz=359						
WUSB				*e*S	**Sn**	**02 45 30.7**	**+0.7**
	baz=359						
WCS	**Beigang Elemen**	**2.55**	**357**	*e*P	**Pn**	**02 45 01.6**	**+0.2**
	baz=355						
WCS				*e*S	**Sn**	**02 45 31.7**	**+0.3**
	baz=355						
CHGB	**Renai**	**2.56**	**3**	*e*P	**Pn**	**02 45 01.3**	**-0.4**
CHGB				*e*S	**Sn**	**02 45 32.0**	**+0.2**
WHF	**Hehuan Shan**	**2.65**	**5**	*e*P	**Pn**	**02 45 02.8**	**-0.3**
	baz=2.0						
WHF				*e*S	**Sn**	**02 45 34.0**	**-0.3**
	baz=2.0						
NACB	**Ninganchiao**	**2.72**	**11**	*e*P	**Pn**	**02 45 04.8**	**+1.2**
	baz=8.0						
NACB				*e*S	**Sn**	**02 45 35.6**	**+0.2**
	baz=8.0						
ETLH	**Xiulin Townshi**	**2.73**	**9**	*e*P	**Pn**	**02 45 04.2**	**+0.4**
	baz=6.0						
ETLH				*e*S	**Sn**	**02 45 35.7**	**-0.2**
	baz=6.0						
FUSS	**Fushou**	**2.75**	**4**	*e*P	**Pn**	**02 45 03.9**	**-0.4**
	baz=2.0						
FUSS				*e*S	**Sn**	**02 45 37.0**	**+0.5**
	baz=2.0						
WHP	**Taichung City**	**2.77**	**358**	*e*P	**Pn**	**02 45 04.7**	**+0.3**
	baz=356						
WHP				*e*S	**Sn**	**02 45 37.7**	**+0.9**
	baz=356						
TWQ1	**Liyutan**	**2.85**	**355**	*e*P	**Pn**	**02 45 05.6**	**+0.2**
	baz=353						
TWQ1				*e*S	**Sn**	**02 45 39.0**	**+0.3**
	baz=353						
NNSB	**Datong**	**2.94**	**6**	*e*P	**Pn**	**02 45 06.9**	**+0.1**
	baz=4.0						
NNSB				*e*S	**Sn**	**02 45 41.7**	**+0.7**
	baz=4.0						
NNS	**Nan Shan**	**2.95**	**6**	*e*P	**Pn**	**02 45 06.6**	**-0.3**
	baz=4.0						
NNS				*e*S	**Sn**	**02 45 41.4**	**+0.1**
	baz=4.0						
EWUT	**Wuta**	**3.02**	**13**	*e*P	**Pn**	**02 45 07.2**	**-0.5**
	baz=11						
EWUT				*e*S	**Sn**	**02 45 41.7**	**-1.0**
	baz=11						
LATG	**Datong**	**3.06**	**8**	*e*P	**Pn**	**02 45 08.2**	**-0.2**
	baz=6.0						
LATG				*e*S	**Sn**	**02 45 43.6**	**-0.3**
	baz=6.0						
NSTT	**Nanjuang**	**3.12**	**359**	*e*S	**Sn**	**02 45 45.9**	**+0.6**
	baz=358						
NFF	**Wufeng Townshi**	**3.12**	**1**	*e*P	**Pn**	**02 45 08.7**	**-0.5**
	baz=359						
NFF				*e*S	**Sn**	**02 45 45.3**	**-0.1**
	baz=359						
NDT	**Datong Townshi**	**3.12**	**8**	*e*P	**Pn**	**02 45 08.8**	**-0.4**
	baz=6.0						
NDT				*e*S	**Sn**	**02 45 45.1**	**-0.3**
	baz=6.0						
YHNB	**Yeheng**	**3.18**	**6**	*e*P	**Pn**	**02 45 10.9**	**+1.0**
	baz=3.0						
YHNB				*e*S	**Sn**	**02 45 46.2**	**-0.5**
	baz=3.0						
NSK	**Sanguang**	**3.18**	**5**	*e*P	**Pn**	**02 45 10.6**	**+0.6**
	baz=3.0						
NDS	**Dongshan**	**3.19**	**11**	*e*P	**Pn**	**02 45 09.9**	**-0.1**
	baz=9.0						
NDS				*e*S	**Sn**	**02 45 46.6**	**-0.3**
	baz=9.0						
FUSB	**Fushanzhiwuyua**	**3.29**	**9**	*e*P	**Pn**	**02 45 11.5**	**0.0**
	baz=7.0						
FUSB				*e*S	**Sn**	**02 45 48.5**	**-1.0**
	baz=7.0						
NWLT	**Wulai**	**3.29**	**7**	*e*P	**Pn**	**02 45 11.2**	**-0.4**
	baz=5.0						
NWLT				*e*S	**Sn**	**02 45 49.2**	**-0.4**
	baz=5.0						
JYNG	**Yonagunijimaku**	**3.43**	**31**	S	**Sn**	**02 45 54.8**	**+2.0**
YOJ	**Yonaguni jima**	**3.47**	**31**	*e*P	**Pn**	**02 45 12.7**	**-1.2**
	baz=29						
YOJ				*e*S	**Sn**	**02 45 51.8**	**-2.0**
	baz=29						
TIPB	**Shuangxi**	**3.54**	**12**	*e*P	**Pn**	**02 45 14.5**	**-0.3**
	baz=10.0						
TIPB				*e*S	**Sn**	**02 45 53.7**	**-1.7**
	baz=10.0						
HATJ	**Hateruma jima**	**3.61**	**45**	S	**Sn**	**02 45 59.2**	**+2.0**
NWF	**Wu-fen Shan**	**3.62**	**11**	*e*P	**Pn**	**02 45 16.6**	**+0.6**
	baz=9.0						
NWF				*e*S	**Sn**	**02 45 55.6**	**-2.1**
	baz=9.0						
SXI1	**Grass Mountain**	**3.67**	**12**	*e*P	**Pn**	**02 45 17.0**	**+0.4**
	baz=10.0						
SXI1				*e*S	**Sn**	**02 45 57.4**	**-1.3**
	baz=10.0						
IRIF	**Iriomote-Funau**	**3.76**	**41**	P	**Pn**	**02 45 18.8**	**+0.9**
KNM	**Kinmen**	**3.77**	**321**	*e*S	**Sn**	**02 46 02.5**	**+1.4**
	baz=319						
KNMB	**Chin-men Tao**	**3.83**	**321**	*e*P	**Pn**	**02 45 19.0**	**+0.2**
	baz=320						
KNMB				*e*S	**Sn**	**02 46 01.9**	**-0.7**
	baz=320						
JKRS	**Kuro-shima**	**3.87**	**45**	P	**Pn**	**02 45 20.6**	**+1.3**
JKRS				*e*S	**Sn**	**02 46 06.0**	**+2.4**
ZPLA	**Ao Xicun**	**3.88**	**309**	*e*P	**Pn**	**02 45 19.6**	**+0.1**
	baz=309						
ZPLA				*e*S	**Sn**	**02 46 02.8**	**-1.0**
	baz=309						
PTMZ	**Houxiangcun**	**3.94**	**334**	*e*P	**Pn**	**02 45 19.9**	**-0.4**
	baz=333						
PTMZ				*e*S	**Sn**	**02 46 04.7**	**-0.6**
	baz=333						
DSXP	**Dongshan**	**4.00**	**304**	*e*P	**Pn**	**02 45 20.9**	**-0.1**
	baz=304						
DSXP				*e*S	**Sn**	**02 46 05.8**	**-0.9**
	baz=304						
JIJ	**Ishigaki jima**	**4.04**	**45**	P	**Pn**	**02 45 22.5**	**+0.8**
JIJ				S	**Sn**	**02 46 08.5**	**+0.7**
JISG	**Ishigakijimahi**	**4.31**	**44**	P	**Pn**	**02 45 26.2**	**+0.9**
JISG				S	**Sn**	**02 46 16.0**	**+1.7**
AXDP	**Jialang**	**4.41**	**321**	*e*S	**Sn**	**02 46 15.7**	**-1.0**
	baz=320						
JTJ	**Tarama**	**4.61**	**46**	P	**Pn**	**02 45 30.0**	**+0.7**
JTJ				*e*S	**Sn**	**02 46 23.7**	**+2.1**
MATB	**Ma-tsu**	**4.74**	**348**	*e*P	**Pn**	**02 45 30.4**	**-0.9**
	baz=346						
MATB				*e*S	**Sn**	**02 46 22.2**	**-2.7**
	baz=346						
MHZQ	**Yeshan**	**4.94**	**339**	*e*P	**Pn**	**02 45 33.6**	**-0.2**
	baz=337						
MHZQ				*e*S	**Sn**	**02 46 27.8**	**-1.9**
	baz=337						
LYJJ	**Jianjiangzhen**	**5.17**	**347**	*e*P	**Pn**	**02 45 36.6**	**-0.4**
	baz=346						
LYJJ				*e*S	**Sn**	**02 46 32.9**	**-2.4**
	baz=346						
SXFK	**Yanhouchang**	**5.78**	**328**	*e*P	**Pn**	**02 45 45.0**	**-0.5**
	baz=327						
SXFK				*e*S	**Sn**	**02 46 47.6**	**-2.8**
	baz=327						

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*KRNET **04** 02:51:46.3±0.1, 39°.58N×72°.70E, h10^{km}, mb2.6*
*ISU **04** 02:51:47, 41°.34N×71°.83E, h5^{km}, Hypocentre not reviewed by the ISC*
*SOME **04** 02:51:50.2, 39°.87N×72°.38E, h15^{km}*
ISC 04 02:51:48.5±1.5**, 39°.77N**±0°.05×**72°.51E**±0°.04**, h1**^{km}±14^{km}**, n17,** σ**2ˢ.72**/34**, 11C-3D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.62**	**243**	⇑*i*P	**Pg**	**02 51 59.7**	**-0.7**
	baz=63						
DRK				⇑*i*S	**Sb**	**02 52 09.4**	**-2.2**
	baz=63						
OHH	**Osh**	**0.78**	**15**	⇑*i*P	**Pb**	**02 52 04.5**	**-0.4**
	baz=4.0						
OHH				⇑*i*S	**Sn**	**02 52 17.4**	**-1.7**
	baz=4.0						
TSTA	**Tashata**	**0.81**	**358**	P		02 52 05.6	
TSTA				S		02 52 19.2	
FRG	**Fergana**	**0.82**	**317**	P		02 52 08.2	
FRG				S		02 52 21.3	
CHMI	**Chimion**	**0.91**	**304**	P		02 52 09.2	
CHMI				S		02 52 24.5	
BTK	**Batken**	**1.34**	**283**	⇑*i*P	**Pg**	**02 52 14.9**	**+0.8**
	baz=89						
BTK				⇑*i*S	**Sg**	**02 52 36.0**	**+4.6**
	baz=89						
BTK	**Batken**	**1.34**	**283**	S		02 52 18.2	
TRKS	**Terek-Say**	**2.05**	**330**	⇑*i*P	**Pb**	**02 52 25.8**	**-0.7**
	baz=29						
TRKS				⇑*i*S	**Sg**	**02 52 54.7**	**+0.5**
	baz=29						
ARK	**Arkit**	**2.07**	**349**	⇑*i*P	**Pb**	**02 52 27.0**	**+0.1**
	baz=46						
ARK				⇑*i*S	**Sg**	**02 52 56.8**	**+1.8**
	baz=46						
MRKS	**Merke**	**3.02**	**10**	*e*P	**Pg**	**02 52 46.8**	**+0.4**
	3.4nm,0.1s						
MRKS				*e*S	**Sg**	**02 53 28.2**	**+2.7**
	8.2nm,0.1s						
IUG	**Iuzhnay**	**3.03**	**322**	*e*P	**Pb**	**02 52 42.6**	**-0.7**
	1.8nm,0.1s						
IUG				*e*S	**Sb**	**02 53 20.9**	**+0.1**
	11nm,0.3s						
KK08	**Karatay Array**	**3.67**	**336**	⇓P	**Pb**	**02 52 54.5**	**+0.5**
	0.8nm,0.5s,baz=148,slow=12						
KK08				⇓S	**Sb**	**02 53 35.4**	**-3.5**
	4.2nm,0.5s,baz=145,slow=24						
BRLS	**Borolday**	**3.83**	**329**	*e*P	**Pb**	**02 52 56.3**	**-0.5**
	0.8nm,0.2s						
BRLS				*e*S	**Sb**	**02 53 44.6**	**+0.9**
	1.7nm,0.2s						
TKM2	**Tokmak 2**	**3.91**	**35**	⇓P	**Pg**	**02 53 04.8**	**+1.3**
	1.2nm,0.8s						
TKM2				⇑S	**Sb**	**02 53 50.0**	**+3.7**
	1.3nm,0.5s						
SGDS	**Sogindy**	**4.01**	**23**	*e*P	**Pg**	**02 53 03.0**	**-2.3**
	1.4nm,0.6s						
SGDS				*e*S	**Sg**	**02 53 55.8**	**-1.4**
	2.6nm,0.2s						
KST	**Kastek**	**4.17**	**37**	*e*P	**Pb**	**02 53 04.4**	**+1.6**
	1.1nm,0.3s						
KST				*e*S	**Sg**	**02 53 58.4**	**-4.2**
	3.0nm,0.1s						
DGS	**Degeres**	**4.25**	**34**	*e*P	**Pb**	**02 53 06.4**	**+2.4**
	0.9nm,0.1s						
DGS				*e*S	**Sg**	**02 54 01.9**	**-2.9**
	2.4nm,0.5s						
IZV	**Izvestkoviy**	**4.49**	**42**	*e*P	**Pb**	**02 53 10.3**	**+2.2**
	1.4nm,0.4s						
IZV				*e*S	**Sg**	**02 54 08.7**	**-3.9**
	4.5nm,0.1s						
KRBS	**Karabastau**	**4.58**	**30**	*e*P	**Pb**	**02 53 11.7**	**+2.1**
	0.7nm,0.2s						
KRBS				*e*S	**Sg**	**02 54 10.7**	**-4.9**
	2.1nm,0.2s						
KUU	**Kurty**	**5.01**	**33**	*e*P	**Pb**	**02 53 20.0**	**+3.0**
	0.4nm,0.1s						
KUU				*e*S	**Sg**	**02 54 25.1**	**-4.4**
	0.8nm,0.1s						
KTBS	**Karatobe**	**5.02**	**37**	*e*P	**Pb**	**02 53 19.1**	**+1.9**
	1.3nm,0.1s						
KTBS				*e*S	**Sb**	**02 54 23.4**	**+5.3**
	2.5nm,0.2s						

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*NEIC **04** 02:58:56.4±1.0, 57°.10N±0°.05×157°.80W±0°.08, h21^{km}±7^{km}, Error ellipse: s-maj=8.5km s-min=3.3km az=138.0*
*AEIC **04** 02:58:56±1.2, 57°.09N±0°.05×157°.76W±0°.04, h20^{km}±5^{km}, ML3.2, mb3.5/2(NEIC), ML3.3/34(NEIC), Error ellipse: s-maj=7.9km s-min=2.4km az=159.0*
*IDC **04** 02:58:59.9±8.6, 56°.85N×156°.47W, h0^{km}, mb3.0/2, mb1 3.5/3, mb1mx3.2/31, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=147.8km s-min=34.7km az=81.0*
ISC 04 02:58:55.5±0.7**, 57°.08N**±0°.05×**157°.72W**±0°.05**, h10**^{km}**, n87,** σ**0ˢ.74**/91**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.29**	**248**		**Pb**	**02 59 02.9**	**-0.1**
AZAC	**Aniakchak**	**0.34**	**237**		**Pg**	**02 59 03.4**	**+1.2**
ANPB	**Aniakchak Plen**	**0.41**	**228**		**Pg**	**02 59 04.6**	**+0.9**
ANPB					**Sg**	**02 59 10.3**	**+1.2**
PLBL	**Peulik Blue Cr**	**0.79**	**38**		**Pg**	**02 59 11.8**	**+1.0**
CHGN	**Chignik**	**0.87**	**206**		**Pg**	**02 59 12.2**	**-0.1**
CHGN				IAML		02 59 30.3	
	comp=E,776nm,0.5s						
CHGN	**Chignik**	**0.87**	**206**	P	**Pg**	**02 59 12.1**	**-0.1**
	baz=24						
PLK1	**Peulik 1**	**0.94**	**39**		**Pg**	**02 59 14.4**	**+0.8**
PLK3	**Peulik 3**	**0.99**	**52**		**Pg**	**02 59 14.8**	**+0.2**
PLK3					**Sg**	**02 59 28.2**	**+0.7**
VNHG	**Veniaminof 1**	**1.17**	**223**		**Pb**	**02 59 17.6**	**-0.3**
VNFG	**Fog Glacier, M**	**1.29**	**233**		**Pn**	**02 59 19.1**	**-0.6**
VNFG	**Fog Glacier, M**	**1.29**	**233**	P	**Pn**	**02 59 19.1**	**-0.6**
	baz=50						
KJL	**Kejulik**	**1.51**	**49**		**Pn**	**02 59 22.2**	**-0.5**
CAHL	**Cahill**	**1.63**	**52**		**Pn**	**02 59 24.1**	**-0.2**
CAHL					**Sn**	**02 59 45.6**	**+0.3**
ANCK	**Angle Creek**	**1.64**	**46**		**Pn**	**02 59 24.5**	**+0.1**
CHIR	**Chirikof Islan**	**1.72**	**136**		**Pn**	**02 59 25.7**	**+0.4**
CHIR				IAML		02 59 52.4	
	comp=E,430nm,0.9s						
CHIR				IAML		02 59 55.0	
	comp=N,359nm,0.8s						
CHIR	**Chirikof Islan**	**1.72**	**136**	P	**Pn**	**02 59 25.8**	**+0.4**
	baz=318						
KABU	**Katmai Buttres**	**1.77**	**47**		**Pn**	**02 59 25.5**	**-0.8**
KABU					**Sn**	**02 59 48.7**	**-0.2**
SII	**Sitkinak Islan**	**2.01**	**104**	Pn	**Pn**	**02 59 29.9**	**+0.4**
SII				IAML		03 00 02.8	
	comp=N,311nm,0.5s						
SII	**Sitkinak Islan**	**2.01**	**104**	P	**Pn**	**02 59 30.3**	**+0.8**
	baz=287						
SDPT	**Sand Point**	**2.32**	**223**	Pn	**Pn**	**02 59 32.5**	**-1.2**
SDPT				IAML		03 00 13.2	
	comp=E,136nm,1.0s						
SDPT				IAML		03 00 22.0	
	comp=N,148nm,1.8s						
OHAK	**Old Harbor**	**2.42**	**85**	Pn	**Pn**	**02 59 35.2**	**+0.2**
OHAK	**Old Harbor**	**2.42**	**85**	P	**Pn**	**02 59 35.0**	**0.0**
	baz=269						
P18K	**Big Mountain,**	**2.67**	**29**	Pn	**Pn**	**02 59 37.7**	**-0.8**
P18K				IAML		03 00 21.5	
	comp=E,122nm,0.9s						
P18K				IAML		03 00 21.9	
	comp=N,104nm,0.7s						
Q19K	**Cape Douglas,**	**2.85**	**48**		**Pn**	**02 59 40.8**	**-0.3**
Q19K				IAML		03 00 32.5	
	comp=N,171nm,1.0s						
Q19K	**Cape Douglas,**	**2.85**	**48**	P	**Pn**	**02 59 40.7**	**-0.3**
	baz=232						
KDAK	**Kodiak Island**	**2.86**	**74**		**Pn**	**02 59 41.7**	**+0.5**
O19K	**Port Alsworth**	**3.59**	**28**	Pn	**Pn**	**02 59 50.7**	**-0.5**
O20K	**Slope Mountain**	**4.02**	**39**		**Pn**	**02 59 57.5**	**+0.4**
O20K	**Slope Mountain**	**4.02**	**39**	P	**Pn**	**02 59 57.5**	**+0.4**
	baz=224						
N19K	**Bonanza Creek**	**4.10**	**23**		**Pn**	**02 59 57.8**	**-0.5**
N19K				IAML		03 01 05.5	
	comp=N,50nm,0.4s						
N19K	**Bonanza Creek**	**4.10**	**23**	P	**Pn**	**02 59 57.9**	**-0.4**
	baz=206						
SVW2	**Sparrevohn**	**4.18**	**14**		**Pn**	**02 59 58.8**	**-0.4**
SVW2				IAML		03 01 10.2	
	comp=N,44nm,0.6s						
SVW2				IAML		03 01 12.1	
	comp=E,55nm,0.6s						
CNPM	**China Poot**	**4.21**	**52**	Pn	**Pn**	**02 59 59.3**	**-0.4**
RED	**Redoubt Volcan**	**4.22**	**35**		**Pn**	**02 59 59.7**	**-0.3**
RDWB	**Redoubt West**	**4.26**	**35**		**Pn**	**03 00 00.5**	**0.0**
RSO	**Redoubt South**	**4.26**	**35**		**Pn**	**03 00 01.0**	**+0.4**
BRLK	**Bradley Lake**	**4.49**	**50**	Pn	**Pn**	**03 00 02.2**	**-1.3**
BRLK				IAML		03 01 26.9	
	comp=E,22nm,2.2s						
M19K	**Big River Lodg**	**5.13**	**18**		**Pn**	**03 00 12.0**	**-0.2**
M19K				IAML		03 02 02.2	
	comp=N,21nm,1.4s						
M19K	**Big River Lodg**	**5.13**	**18**	P	**Pn**	**03 00 11.9**	**-0.4**
	baz=201						
L19K	**White Mountain**	**5.32**	**15**	Pn	**Pn**	**03 00 14.7**	**-0.2**
L19K	**White Mountain**	**5.32**	**15**	P	**Pn**	**03 00 14.5**	**-0.4**
	baz=197						
M20K	**Styx River**	**5.35**	**24**		**Pn**	**03 00 16.1**	**+0.6**
M20K				IAML		03 01 53.1	
	comp=N,22nm,1.6s						
M20K				IAML		03 02 07.7	
	comp=E,21nm,0.9s						
STLK	**Strandline Lak**	**5.36**	**32**		**Pn**	**03 00 16.5**	**+1.0**
RC01	**Rabbit Creek A**	**5.75**	**42**	Pn	**Pn**	**03 00 20.8**	**-0.1**
L20K	**Farewell, AK**	**5.75**	**18**		**Pn**	**03 00 20.8**	**-0.1**
L20K	**Farewell, AK**	**5.75**	**18**	P	**Pn**	**03 00 20.8**	**-0.1**
	baz=202						
TTA	**Tatalina**	**5.93**	**8**		**Pn**	**03 00 22.8**	**-0.5**
TTA	**Tatalina**	**5.93**	**8**	P	**Pn**	**03 00 22.7**	**-0.7**
	baz=189						
PWL	**Port Wells**	**6.16**	**48**	Pn	**Pn**	**03 00 27.0**	**+0.6**
PPLA	**Purkeypile**	**6.46**	**23**	Pn	**Pn**	**03 00 31.4**	**+0.7**
GHO	**Glory Hole Cre**	**6.50**	**40**	Pn	**Pn**	**03 00 29.7**	**-1.5**
K20K	**Telida**	**6.55**	**15**	Pn	**Pn**	**03 00 30.6**	**-1.3**
CAST	**Castle Rocks**	**6.95**	**21**	Pn	**Pn**	**03 00 36.7**	**-0.5**
SCM	**Sheep Creek Mo**	**7.12**	**44**	Pn	**Pn**	**03 00 39.7**	**+0.1**
KTH	**Kantishna Hill**	**7.31**	**25**	Pn	**Pn**	**03 00 43.0**	**+0.7**
J20K	**Nowinta River**	**7.33**	**12**	Pn	**Pn**	**03 00 41.8**	**-0.7**
TRF	**Thorofare Moun**	**7.38**	**27**	Pn	**Pn**	**03 00 43.7**	**+0.5**
KLU	**Klutina**	**7.48**	**49**	Pn	**Pn**	**03 00 44.3**	**-0.3**
RAGM	**Ragged Mountai**	**7.55**	**59**	Pn	**Pn**	**03 00 43.3**	**-2.3**
HMT	**Hamilton**	**7.73**	**59**	Pn	**Pn**	**03 00 47.6**	**-0.4**
BPAW	**Bear Paw Mtn.**	**7.78**	**22**	Pn	**Pn**	**03 00 48.2**	**-0.4**
BERG	**Berg Lake**	**8.01**	**60**	Pn	**Pn**	**03 00 49.7**	**-2.1**
BWN	**Browne**	**8.18**	**26**	Pn	**Pn**	**03 00 54.5**	**+0.4**
ANM	**Nome**	**8.38**	**337**	Pn	**Pn**	**03 00 56.7**	**-0.2**
WAX	**Waxell Ridge**	**8.43**	**60**	Pn	**Pn**	**03 00 56.7**	**-0.9**
I21K	**Tanana**	**8.58**	**16**	Pn	**Pn**	**03 00 59.1**	**-0.5**
MLY	**Manley**	**8.66**	**20**	Pn	**Pn**	**03 01 00.3**	**-0.4**
ISLE	**Juniper Island**	**8.72**	**60**	Pn	**Pn**	**03 01 02.2**	**+0.6**
WRH	**Wood River Hil**	**8.77**	**28**	Pn	**Pn**	**03 01 02.5**	**+0.2**
H21K	**Melozitna Rive**	**8.92**	**13**	Pn	**Pn**	**03 01 03.0**	**-1.2**
I23K	**Minto, Yukon-K**	**9.04**	**23**	Pn	**Pn**	**03 01 06.6**	**+0.8**
IMAR	**Indian Mountai**	**9.13**	**10**	Pn	**Pn**	**03 01 06.1**	**-1.1**
MDM	**Murphy Dome**	**9.14**	**26**	Pn	**Pn**	**03 01 07.3**	**+0.1**
TABL	**Table Mountain**	**9.24**	**62**	Pn	**Pn**	**03 01 08.8**	**-0.1**
IL31		**9.33**	**30**	Pn	**Pn**	**03 01 09.4**	**-0.4**
ILAR	**Eielson Array**	**9.33**	**30**	Pn	**Pn**	**03 01 08.6**	**-1.3**
	comp=E,0.1nm,0.3s,baz=217,slow=13,SNR=9.7						
ILAR	**Eielson Array**	**9.33**	**30**	Pn	**Pn**	**03 01 09.0**	**-0.9**
J25K	**Salcha River,**	**9.65**	**33**	Pn	**Pn**	**03 01 13.6**	**-0.6**
BCAR	**Beaver Creek A**	**9.95**	**46**	Pn	**Pn**	**03 01 16.6**	**-1.8**
H24K	**Noodor Dome**	**9.95**	**24**	Pn	**Pn**	**03 01 18.9**	**+0.4**
EGAK	**Eagle**	**11.12**	**39**	Pn	**Pn**	**03 01 34.5**	**+0.2**
BMAR	**Burnt Mountain**	**12.02**	**25**	Pn	**Pn**	**03 01 45.7**	**-0.9**
INK	**Inuvik**	**15.66**	**34**	Pn	**Pn**	**03 02 34.8**	**-1.1**
INK				IAmb	IAmb	03 02 55.9	
	comp=Z,3.4nm,1.3s						
A36M	**Sachs Harbour**	**20.03**	**29**	P	**P**	**03 03 27.7**	**-0.4**
A36M				IAmb	IAmb	03 03 35.8	
	comp=Z,3.2nm,1.2s						
YKA	**Yellowknife Ar**	**22.02**	**58**	P	**P**	**03 03 49.3**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=275,slow=9.9,SNR=10						
YKA	**Yellowknife Ar**	**22.02**	**58**	P	**P**	**03 03 48.6**	**-1.0**
TXAR	**Lajitas Array**	**46.51**	**103**	P	**P**	**03 07 23.5**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=312,slow=6.8,SNR=1.9						

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*IDC **04** 03:39:33.0±7.8, 20°.38S×176°.85W, h274^{km}±75^{km}, mb3.6/5, mb1 3.9/6, mb1mx3.3/37, mbtmp4.3/6, Error ellipse: s-maj=39.8km s-min=22.2km az=4.0*
ISC 04 03:39:30.9±0.9**, 20°.29S**±0°.09×**176°.9W**±0°.2**, h250**^{km}**, n24,** σ**2ˢ.02**/31**, mb3.7**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**8.99**	**186**	P	**Pn**	**03 41 36.8**	**+0.2**
GLKZ				S	**S**	**03 43 17.6**	**-0.8**
HAZ	**Te Kaha**	**18.02**	**194**	P	**P**	**03 43 24.3**	**+0.6**
HAZ				S	**S**	**03 46 34.0**	**-3.0**
PKGZ	**Pakihiroa**	**18.09**	**193**	P	**P**	**03 43 26.1**	**+1.6**
RUGZ	**Raukumara Rang**	**18.25**	**194**	P	**P**	**03 43 27.3**	**+1.1**
MWZ	**Matawai**	**18.64**	**194**	P	**P**	**03 43 30.3**	**0.0**
URZ	**Urewera**	**18.66**	**195**	P	**P**	**03 43 29.5**	**-1.0**
	5.4nm,0.3s,baz=275,slow=3.7,SNR=19						
URZ				S	**S**	**03 46 44.6**	**-5.0**
	0.5nm,0.3s,baz=336,slow=19,SNR=2.7						
URZ	**Urewera**	**18.66**	**195**	P	**P**	**03 43 30.2**	**-0.3**
MTHZ	**Maungataniwha**	**19.29**	**195**	P	**P**	**03 43 38.8**	**+1.5**
RAHZ	**Arahi**	**19.29**	**194**	P	**P**	**03 43 34.4**	**-2.9**
RAHZ				S	**S**	**03 47 03.1**	**+1.0**
BKZ	**Black Stump Fm**	**19.67**	**196**	P	**P**	**03 43 41.5**	**+0.1**
BKZ				S	**S**	**03 47 13.2**	**+3.7**
ETVZ	**East Tongariro**	**19.85**	**197**	P	**P**	**03 43 43.7**	**+0.3**
WTVZ	**West Tongariro**	**19.87**	**198**	P	**P**	**03 43 43.7**	**+0.2**
SNVZ	**South Ngauruho**	**19.92**	**197**	P	**P**	**03 43 45.9**	**+1.8**
WNVZ	**Wahianoa**	**20.06**	**197**	P	**P**	**03 43 47.6**	**+1.9**
BHHZ	**Black Hill Sta**	**20.09**	**196**	P	**P**	**03 43 45.4**	**-0.5**
KAHZ	**Kahuranaki**	**20.18**	**194**	P	**P**	**03 43 48.9**	**+2.1**
BFZ	**Birch Farm**	**21.17**	**195**	P	**P**	**03 43 57.0**	**0.0**
BFZ				S	**S**	**03 47 41.2**	**+5.6**
CTA	**Charters Tower**	**34.59**	**264**	P	**P**	**03 45 57.5**	**+0.9**
	3.5nm,0.4s,baz=84,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**45.62**	**256**	P	**P**	**03 47 26.6**	**-0.3**
	4.2nm,0.6s,baz=93,slow=8.3,SNR=55						
ASAR				PcP	**PcP**	**03 48 58.9**	**-1.9**
	0.3nm,0.5s,baz=101,slow=4.0,SNR=1.8						
WRA	**Warramunga Arr**	**45.70**	**262**	P	**P**	**03 47 26.3**	**-1.2**
	1.4nm,0.3s,baz=96,slow=7.6,SNR=76						
NVAR	**Mina Array Bea**	**80.13**	**43**	P	**P**	**03 51 13.5**	**0.0**
	0.5nm,0.8s,baz=229,slow=10,SNR=3.2						
TXAR	**Lajitas Array**	**86.03**	**57**	P	**P**	**03 51 43.5**	**-0.3**
	1.3nm,1.0s,baz=221,slow=7.5,SNR=11						
BRTR	**Keskin Array B**	**147.49**	**313**	PKPbc	**PKPdf**	**03 58 43.9**	**+0.9**
	0.3nm,0.5s,baz=123,slow=3.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**172.77**	**169**	PKPab	**PKPab**	**04 00 38.0**	**+0.1**
	0.5nm,0.7s,baz=181,slow=3.4,SNR=3.2						

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*IDC **04** 04:06:43.7±6.2, 20°.12S×178°.38W, h598^{km}±64^{km}, mb3.1/5, mb1 3.4/6, mb1mx2.8/31, mbtmp4.1/6, Error ellipse: s-maj=40.8km s-min=36.5km az=103.0*
ISC 04 04:06:43.5±1.1**, 20°.1S**±0°.3×**178°.3W**±0°.2**, h602**^{km}**, n11,** σ**0ˢ.63**/12**, mb3.5**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.42**	**259**	P	**P**	**04 09 47.4**	**+0.9**
	0.8nm,0.3s,baz=300,slow=23,SNR=6.1						
ASAR	**Alice Springs**	**44.38**	**256**	P	**P**	**04 14 01.7**	**-0.7**
	2.5nm,0.6s,baz=92,slow=7.4,SNR=31						
ASAR				PcP	**PcP**	**04 15 32.8**	**0.0**
	0.6nm,0.5s,baz=105,slow=3.9,SNR=7.1						
WRA	**Warramunga Arr**	**44.42**	**262**	P	**P**	**04 14 01.4**	**-1.3**
	1.8nm,0.3s,baz=97,slow=7.5,SNR=112						
WRA				PcP	**PcP**	**04 15 33.1**	**+0.2**
	0.4nm,0.8s,baz=100,slow=3.4,SNR=1.8						
FITZ	**Fitzroy Crossi**	**52.85**	**262**	P	**P**	**04 15 04.5**	**-0.3**
	0.8nm,0.4s,baz=77,slow=6.6,SNR=9.6						
QSPA	**South Pole Qui**	**70.00**	**180**	P	**P**	**04 16 55.7**	**+0.1**
	1.2nm,0.8s,baz=339,slow=8.6,SNR=2.8						
ILAR	**Eielson Array**	**87.95**	**13**	P	**P**	**04 18 30.2**	**+0.3**
	0.3nm,0.5s,baz=215,slow=5.4,SNR=6.2						
MKAR	**Makanchi Array**	**110.73**	**314**	PKiKP	**PKiKP**	**04 24 08.4**	**-0.5**
	0.3nm,0.6s,baz=29,slow=3.3,SNR=2.8						
ARCES	**ARCESS Array B**	**128.45**	**350**	PKP	**PKiKP**	**04 24 42.8**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.6nm,0.8s,baz=14,slow=0.4,SNR=3.9						
AKASG	Malin Array Be	142.52	331	PKhKP	PKPpre	04 25 05.6	
	1.2nm,0.5s,baz=42,slow=4.6,SNR=8.4						
BRTR	Keskin Array B	146.37	313	PKPbc	PKPbc	04 25 18.4	0.0
	0.8nm,0.6s,baz=145,slow=4.5,SNR=5.8						
GERES	GERESS Array B	149.72	344	PKPbc	PKiKP	04 25 27.2	+0.1
	0.4nm,0.4s,baz=348,slow=1.8,SNR=3.0						

TEH 04 04:09:11.8, 34°.35N×48°.91E, h9km, ML3.5, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSAM	Samen	0.29	242	ePg	Pb	04 09 19.1	-0.2
HAGD	Aghdareh	0.51	22	ePg	Pb	04 09 23.5	+0.4
HAGD				eSg	Sb	04 09 31.2	+0.5
IDOB	Doab	0.82	228	ePg	Pb	04 09 28.1	-0.3
IDOB				e		04 09 41.4	
	comp=Z,36µm,0.4s						
IBZA	Bozab	0.88	278	ePg	Pb	04 09 29.8	+0.5
IBZA				e		04 09 48.2	
	comp=Z,12µm,0.2s						
ASAO	Ashtian	0.94	77	ePn	Pg	04 09 30.2	+0.2
KHMZ	Khomeyn	1.06	124	ePn	Pg	04 09 31.1	-1.1
IKFM	Kafar-mosalman	1.21	227	ePg	Pg	04 09 35.3	+0.4
IKFM				e		04 09 59.9	
	comp=Z,14µm,0.6s						
IRAZ	Razeghan	1.35	38	ePg	Pg	04 09 38.4	+0.7
IRAZ				eSg	Sg	04 09 57.1	+1.9
IRAZ				e		04 10 02.0	
	comp=Z,4µm,0.6s						
QJF1	Jafarie	1.39	72	ePg	Pg	04 09 39.0	+0.6
QJF1				e		04 10 02.3	
	comp=Z,11µm,0.4s						
QABG	Abgarm-Qazvin	1.47	22	ePn	Pn	04 09 38.7	+0.1
QABG				e		04 10 04.3	
	comp=Z,2µm,0.5s						
KER	Kermanshah	1.47	272	ePg	Pg	04 09 40.4	+0.4
SNGE	Sanandaj	1.49	301	ePn	Pb	04 09 39.9	+0.2
KCHF	Cheshme Sefid,	1.55	268	ePg	Pg	04 09 42.3	+0.8
KCHF				e		04 09 45.2	
	comp=Z,11µm,0.3s						
IQOM	Qom	1.85	74	ePn	Pb	04 09 45.7	-0.2
IQOM				e		04 09 51.2	
	comp=Z,5µm,0.4s						
IGHG	Ghaleghazi	1.94	270	ePn	Pg	04 09 48.4	-0.6
IGHG				e		04 09 56.4	
	comp=Z,7µm,0.4s						
IMHD	Mahdasht	1.97	47	ePn	Pb	04 09 48.5	+0.7
IMHD				e		04 10 17.2	
	comp=Z,5µm,0.4s						
GHVR	GHOM	1.98	85	ePn	Pb	04 09 47.5	-0.5
IDHR	Dehrash	2.11	280	ePn	Pg	04 09 51.5	-0.8
IDHR				e		04 09 56.9	
	comp=Z,7µm,0.3s						
QAMS	Qamsar	2.15	106	ePn	Pb	04 09 50.3	-0.8
QAMS				e		04 10 24.6	
	comp=Z,4µm,0.6s						
THKV	Tehran--Karaj	2.25	45	ePn	Pn	04 09 50.6	+1.2
IGZV	Ghazvin	2.30	27	ePn	Pb	04 09 54.3	+0.7
IGZV				e		04 10 32.5	
	comp=Z,1µm,0.5s						
IPIR	Pirpir	2.34	134	ePn	Pb	04 09 54.4	0.0
IPIR				e		04 10 29.9	
	comp=Z,4µm,0.4s						
CHTH	Charan	2.39	49	ePn	Pb	04 09 55.7	+0.5
IVRN	Varamin	2.41	74	ePn	Pb	04 09 54.8	-0.6
IVRN				e		04 10 04.7	
	comp=Z,3µm,0.5s						
IKLH	Kolahrood	2.45	114	ePn	Pb	04 09 55.0	-1.1
IKLH				e		04 10 35.0	
	comp=Z,4µm,0.5s						
JIR1	Jirandeh	2.47	17	ePn	Pb	04 09 55.9	-0.5
QALM	Alamut, Qazvin	2.52	34	ePn	Pb	04 09 56.4	-0.9
QALM				e		04 10 39.3	
	comp=Z,3µm,0.5s						
SHK1	Shahrekord	2.60	140	ePn	Pb	04 09 57.4	-1.4
SHK1				e		04 10 45.6	
	comp=Z,1µm,0.7s						
AMIS	Naft Sefid	2.69	173	ePn	Pb	04 09 58.5	-1.6
KRSH	Karshahi	2.70	97	ePn	Pb	04 09 59.0	-1.4
KRSH				e		04 10 38.7	
	comp=Z,4µm,0.5s						
ISFB	Sefidab	2.76	89	ePn	Pb	04 09 59.3	-2.0
ISFB				e		04 10 39.9	
	comp=Z,1µm,0.8s						
DAMV	Damavand	2.82	62	ePn	Pb	04 10 01.3	-1.2
IDMV	Damavand	2.84	64	ePn	Pb	04 10 00.7	-2.2
IBRJ	Brojen	3.13	140	ePn	Pn	04 10 04.0	+2.5
IZEF	Zefreh	3.20	116	ePn	Pb	04 10 06.6	-2.3
IZEF				e		04 11 01.9	
	comp=Z,859nm,0.6s						
IPRN	Peran	3.38	55	ePn	Pn	04 10 07.1	+2.2
IPRN				e		04 11 01.3	
	comp=Z,1µm,0.6s						
IFIR	Firoozkooh	3.41	67	ePn	Pn	04 10 08.6	+3.2
ILAS	Lasjerd	3.49	72	ePn	Pn	04 10 09.4	+3.0
ILAS				e		04 11 11.6	
	comp=Z,796nm,0.6s						
ISRB	Sarab	3.62	344	ePn	Pn	04 10 11.7	+3.6
IRAM	Ramesheh	3.86	130	ePn	Pn	04 10 14.2	+2.7
IRAM				e		04 11 18.3	
	comp=Z,350nm,0.4s						
ISHM	Shahmirzad	3.88	67	ePn	Pn	04 10 15.5	+3.7
ISHM				e		04 10 30.7	
	comp=Z,1µm,0.4s						
KLNJ	Kolanjah	4.02	145	ePn	Pn	04 10 17.1	+3.2
KLNJ				e		04 11 37.0	
	comp=Z,410nm,0.6s						
ANAR	Anarak	4.18	105	ePn	Pn	04 10 20.0	+4.2
IANJ	Anjilo	4.26	73	ePn	Pn	04 10 21.3	+4.2
IGLO	Ghaloghah	4.56	60	e	Pg	04 10 45.0	+5.8
	comp=Z,425nm,0.8s						
IMEH	Mehriz	5.63	120	ePn	Pn	04 10 39.8	+3.9
IMEH				e		04 12 21.7	
	comp=Z,110nm,0.7s						
TABS	Tabas	6.85	94	ePn	Pn	04 10 54.9	+2.3

*IDC **04** 04:18:30.4±1.6, 28°.77S×177°.68W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/38, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=42.3km s-min=32.8km az=75.0*

ISC 04 04:18:37.2±1.4**, 28°.8S**±0°.1×**177°.7W**±0°.3**, h50km, n13, σ1s.72**/8**, mb3.5**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	10.40	203	Pn	Pn	04 21 01.9	-1.8
	0.2nm,0.3s,baz=22,slow=9.9,SNR=1.7						
URZ				Sn	Sn	04 23 00.9	+2.1
	0.7nm,0.3s,baz=3.4,slow=19,SNR=2.4						
ASAR	Alice Springs	43.47	265	P	P	04 26 35.1	-0.6
	0.2nm,0.4s,baz=92,slow=7.1,SNR=5.2						
WRA	Warramunga Arr	44.31	270	P	P	04 26 42.3	-0.1
	0.6nm,0.7s,baz=111,slow=7.0,SNR=9.9						
QSPA	South Pole Qui	61.34	180	P	P	04 28 48.1	+0.6
	1.1nm,0.7s,baz=44,slow=1.5,SNR=2.5						
H03S2	Juan Fernandez	81.16	124	T	T	06 00 41.1	
	baz=241						
H03S1	Juan Fernandez	81.17	124	T	T	06 00 41.4	
	baz=241						
H03S3	Juan Fernandez	81.17	124	T	T	06 00 47.0	
	baz=241						
H03N3	Juan Fernandez	81.34	123	T	T	06 00 59.5	
	baz=242						
H03N2	Juan Fernandez	81.34	123	T	T	06 01 01.3	
	baz=242						
H03N1	Juan Fernandez	81.36	123	T	T	06 00 48.3	
	baz=242						
AKASG	Malin Array Be	150.14	325	PKPbc	PKPbc	04 38 22.5	+0.5
	0.6nm,0.5s,baz=36,slow=3.2,SNR=4.9						
BRTR	Keskin Array B	152.00	301	PKPbc	PKiKP	04 38 29.3	+2.0
	0.5nm,0.6s,baz=134,slow=4.5,SNR=2.7						
TORD	Torodi Ar. Bea	164.45	178	PKPab	PKPab	04 39 28.9	-1.5
	0.4nm,0.9s,baz=190,slow=4.4,SNR=2.1						

*IDC **04** 04:21:05.1±1.6, 56°.27N×157°.97W, h0km, mb3.4/4, mb1 3.7/7, mb1mx3.4/63, mbtmp3.5/7, ML3.5/3, Error ellipse: s-maj=31.7km s-min=22.1km az=164.0*

*AEIC **04** 04:21:10±1.9, 57°.02N±0°.03×157°.98W±0°.08, h14km±6km, ML3.5, mb3.7/4(NEIC), ML3.7/28(NEIC), Error ellipse: s-maj=7.2km s-min=3.5km az=116.0*

*NEIC **04** 04:21:10.4±1.8, 56°.99N±0°.03×157°.93W±0°.08, h16km±7km, Error ellipse: s-maj=7.1km s-min=3.7km az=116.0*

ISC 04 04:21:09.5±1.5**, 57°.02N**±0°.04×**157°.98W**±0°.04**, h11km**±11km**, n106, σ0s.97**/113**, mb3.5**/4**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.14	249		Pb	04 21 14.7	+0.5
AZAC	Aniakchak	0.19	229		Pb	04 21 15.1	+0.1
ANPB	Aniakchak Plen	0.27	218		Pb	04 21 16.2	-0.3
CHGN	Chignik	0.76	199		Pg	04 21 24.0	-0.1
CHGN					Sb	04 21 34.9	0.0
CHGN				IAML		04 21 39.6	
	comp=E,2µm,0.4s						
CHGN	Chignik	0.76	199	P	Pg	04 21 24.1	-0.1
	baz=18						
CHGN				S	Sb	04 21 35.2	+0.3
	baz=18						
PLBL	Peulik Blue Cr	0.93	42		Pb	04 21 27.3	-0.3
PLBL					Sb	04 21 40.5	+0.6
VNHG	Veniaminof 1	1.03	220		Pg	04 21 29.6	+0.2
PLK1	Peulik 1	1.08	43		Pb	04 21 30.3	+0.1
VNFG	Fog Glacier, M	1.14	231		Pg	04 21 31.8	+0.4
VNFG	Fog Glacier, M	1.14	231	P	Pg	04 21 31.8	+0.4
	baz=49						
PLK3	Peulik 3	1.14	53		Pb	04 21 30.8	-0.5
PLK3					Sn	04 21 47.8	+0.7
CHIR	Chirikof Islan	1.77	132		Pn	04 21 40.0	0.0
CHIR					Sb	04 22 04.0	-0.2
CHIR				IAML		04 22 11.2	
	comp=N,1µm,1.4s						
CHIR	Chirikof Islan	1.77	132	P	Pn	04 21 40.6	+0.6
	baz=314						
CHIR				S	Sb	04 22 04.7	+0.5
	baz=314						
CAHL	Cahill	1.78	53		Pn	04 21 40.3	+0.2
ANCK	Angle Creek	1.79	47		Pn	04 21 40.5	+0.2
KABU	Katmai Buttres	1.92	48		Pn	04 21 41.7	-0.4
SII	Sitkinak Islan	2.14	101	Pn	Pn	04 21 42.8	-2.2
SII				IAML		04 22 20.0	
	comp=N,661nm,0.8s						
SII				IAML		04 22 22.1	
	comp=E,688nm,0.7s						
SII	Sitkinak Islan	2.14	101	P	Pn	04 21 46.4	+1.4
	baz=284						
SDPT	Sand Point	2.18	221	Pn	Pn	04 21 45.3	-0.3
SDPT				IAML		04 22 23.1	
	comp=N,365nm,1.3s						
SDPT				IAML		04 22 27.1	
	comp=E,459nm,1.0s						
SDPT	Sand Point	2.18	221	P	Pn	04 21 47.0	+1.4
	baz=39						
OHAK	Old Harbor	2.56	83	Pn	Pn	04 21 50.4	-0.6
OHAK	Old Harbor	2.56	83	P	Pn	04 21 51.4	+0.5
	baz=267						
P18K	Big Mountain,	2.79	30	Pn	Pn	04 21 53.4	-0.7
P18K				IAML		04 22 38.5	
	comp=N,178nm,0.8s						
P18K				IAML		04 22 39.9	
	comp=E,205nm,0.6s						
P18K	Big Mountain,	2.79	30	P	Pn	04 21 54.4	+0.3
	baz=213						
Q19K	Cape Douglas,	3.00	48	Pn	Pn	04 21 56.4	-0.5
KDAK	Kodiak Island	3.02	73	Pn	Pn	04 21 58.0	+0.9
	comp=E,7.0nm,0.3s,baz=244,slow=3.6,SNR=126						
KDAK				Sn	Sn	04 22 34.8	+1.6
	comp=E,5.5nm,0.3s,baz=341,slow=3.5,SNR=5.5						
KDAK	Kodiak Island	3.02	73	Pn	Pn	04 21 56.8	-0.3
O19K	Port Alsworth	3.72	29	Pn	Pn	04 22 06.4	-0.3
O20K	Slope Mountain	4.16	40		Pn	04 22 13.6	+0.7
O20K	Slope Mountain	4.16	40	P	Pn	04 22 13.6	+0.7
	baz=225						
N19K	Bonanza Creek	4.21	24	Pn	Pn	04 22 13.1	-0.6
N19K				IAML		04 23 26.7	
	comp=N,101nm,0.8s						
N19K	Bonanza Creek	4.21	24	P	Pn	04 22 14.1	+0.4
	baz=207						
SVW2	Sparrevohn	4.28	16		Pn	04 22 15.0	+0.6
SVW2				IAML		04 23 41.7	
	comp=E,118nm,0.7s						
SVW2				IAML		04 23 49.6	
	comp=N,80nm,0.8s						
CNPM	China Poot	4.36	52	Pn	Pn	04 22 17.7	+2.1
RED	Redoubt Volcan	4.36	36		Pn	04 22 16.1	+0.5
RDWB	Redoubt West	4.39	35		Pn	04 22 16.7	+0.6
RSO	Redoubt South	4.40	36	Pn	Pn	04 22 16.8	+0.6
DFR	Drift River	4.52	35		Pn	04 22 18.3	+0.4
M19K	Big River Lodg	5.23	19		Pn	04 22 28.0	+0.4
M19K				IAML		04 24 30.6	
	comp=N,54nm,1.0s						
M19K	Big River Lodg	5.23	19	P	Pn	04 22 27.8	+0.3
	baz=202						
L19K	White Mountain	5.42	16	Pn	Pn	04 22 30.4	+0.3
L19K	White Mountain	5.42	16	P	Pn	04 22 30.1	0.0
	baz=198						
SEW	Seward	5.43	52	Pn	Pn	04 22 33.1	+2.9
M20K	Styx River	5.47	25		Pn	04 22 31.9	+1.0
M20K	Styx River	5.47	25	P	Pn	04 22 32.0	+1.0
	baz=209						
STLK	Strandline Lak	5.49	32		Pn	04 22 33.1	+1.9
RC01	Rabbit Creek A	5.89	43	Pn	Pn	04 22 38.2	+1.6
TTA	Tatalina	6.01	9	Pn	Pn	04 22 37.9	-0.5
TTA	Tatalina	6.01	9	P	Pn	04 22 38.2	-0.1
	baz=190						
PWL	Port Wells	6.30	48	Pn	Pn	04 22 41.4	-0.8
PPLA	Purkeypile	6.57	24		Pn	04 22 47.0	+0.9
PPLA	Purkeypile	6.57	24	P	Pn	04 22 47.3	+1.2
	baz=209						
KNK	Knik Glacier	6.58	44	Pn	Pn	04 22 46.1	+0.1
GHO	Glory Hole Cre	6.64	40	Pn	Pn	04 22 46.7	-0.2
K20K	Telida	6.65	15	Pn	Pn	04 22 46.9	-0.2
SPIA	Saint Paul Isl	6.69	277	Pn	Pn	04 22 48.9	+1.4
SML	Sawmill	6.87	42	Pn	Pn	04 22 50.9	+0.8
CAST	Castle Rocks	7.06	22	Pn	Pn	04 22 52.9	+0.2
SCM	Sheep Creek Mo	7.26	44	Pn	Pn	04 22 55.7	+0.2
J20K	Nowinta River	7.42	13	Pn	Pn	04 22 57.8	+0.1
KTH	Kantishna Hill	7.43	25	Pn	Pn	04 22 59.2	+1.4
TRF	Thorofare Moun	7.50	27	Pn	Pn	04 23 00.4	+1.6
KLU	Klutina	7.63	49	Pn	Pn	04 23 00.0	-0.5
RAGM	Ragged Mountai	7.70	58	Pn	Pn	04 23 02.4	+0.9
RND	Reindeer	7.85	32	Pn	Pn	04 23 05.7	+2.2
M24K	Tolsona, Glenn	7.86	45	Pn	Pn	04 23 05.6	+1.9
HMT	Hamilton	7.88	59	Pn	Pn	04 23 05.0	+1.1
BPAW	Bear Paw Mtn.	7.89	23	Pn	Pn	04 23 03.9	-0.2
BMRM	Bremner River	7.96	55	Pn	Pn	04 23 05.0	+0.1
DHY	Denali Highway	8.06	37	Pn	Pn	04 23 05.1	-1.4
MCK	McKinley	8.08	30	Pn	Pn	04 23 08.7	+2.0
BERG	Berg Lake	8.16	60	Pn	Pn	04 23 07.6	-0.1
ANM	Nome	8.39	338	Pn	Pn	04 23 11.2	+0.4
VRDI	Verde Repeater	8.57	54	Pn	Pn	04 23 14.9	+1.3
WAX	Waxell Ridge	8.58	60	Pn	Pn	04 23 15.0	+1.4
I21K	Tanana	8.69	17	Pn	Pn	04 23 15.8	+1.0
NEA2	Nenana	8.75	26	Pn	Pn	04 23 17.1	+1.4
MLY	Manley	8.77	21	Pn	Pn	04 23 16.1	+0.1
ISLE	Juniper Island	8.87	60	Pn	Pn	04 23 18.3	+0.7
WRH	Wood River Hil	8.90	29	Pn	Pn	04 23 19.3	+1.5
H21K	Melozitna Rive	9.02	14	Pn	Pn	04 23 19.1	-0.3
YAH	Yahtse	9.09	62	Pn	Pn	04 23 20.9	+0.3
I23K	Minto, Yukon-K	9.15	23	Pn	Pn	04 23 22.9	+1.7
HDA	Harding Lake	9.16	31	Pn	Pn	04 23 22.0	+0.6
IMAR	Indian Mountai	9.22	11	Pn	Pn	04 23 22.2	0.0
MDM	Murphy Dome	9.26	27	Pn	Pn	04 23 24.2	+1.5
RIDG	Independent Ri	9.35	38	Pn	Pn	04 23 24.6	+0.5
TABL	Table Mountain	9.39	62	Pn	Pn	04 23 25.6	+0.8
IL31		9.46	30	Pn	Pn	04 23 25.6	+0.2
ILAR	Eielson Array	9.46	30	Pn	Pn	04 23 25.9	+0.5
	comp=N,0.2nm,0.3s,baz=223,slow=12,SNR=14						
ILAR	Eielson Array	9.46	30	Pn	Pn	04 23 26.1	+0.7
DOT	Dot Lake	9.56	40	Pn	Pn	04 23 27.9	+0.9
J25K	Salcha River,	9.78	34	Pn	Pn	04 23 31.5	+1.6
H24K	Noodor Dome	10.07	24	Pn	Pn	04 23 34.1	+0.3
BMAR	Burnt Mountain	12.13	25	Pn	Pn	04 24 01.1	-0.9
INK	Inuvik	15.79	34	Pn	P	04 24 53.8	-1.5
	comp=N,0.2nm,0.3s,baz=237,slow=8.1,SNR=6.4						
INK	Inuvik	15.79	34	Pn	Pn	04 24 51.4	-0.1
HOLB	Holberg	18.63	97	P	P	04 25 24.2	-2.6
HOLB				IAmb	IAmb	04 25 46.7	
	comp=Z,10nm,1.3s						
C36M	Paulatuk	19.31	37	P	P	04 25 33.7	-0.3
A36M	Sachs Harbour	20.16	29	P	P	04 25 43.8	+0.5
A36M				IAmb	IAmb	04 26 03.8	
	comp=Z,2.6nm,1.1s						
YKA	Yellowknife Ar	22.17	58	P	P	04 26 05.4	+0.3
	comp=Z,1.3nm,0.8s,baz=273,slow=10,SNR=20						
YKA				PcP	PcP	04 30 01.1	-0.2
	comp=Z,0.2nm,0.5s,baz=269,slow=1.7,SNR=5.8						
YKA	Yellowknife Ar	22.17	58	P	P	04 26 03.9	-1.2
EDM	Edmonton	25.45	79	P	P	04 26 36.5	-0.5
NVAR	Mina Array Bea	31.91	108	P	P	04 27 29.4	-5.6
	comp=Z,0.2nm,0.6s,baz=291,slow=7.6,SNR=2.6						
SONM	Songino Array	54.38	304	P	P	04 30 36.8	+0.8
	comp=Z,0.3nm,0.3s,baz=51,slow=7.6,SNR=2.2						
MKAR	Makanchi Array	65.05	319	P	P	04 31 49.5	+0.1
	comp=Z,0.2nm,0.5s,baz=41,slow=7.7,SNR=2.6						

*IDC **04** 04:25:33.1±0.4, 17°.79S×173°.26W, h0km, mb4.6/24, mb1 4.8/24, mb1mx4.6/40, mbtmp4.6/24, MS3.9/38, Ms1 3.9/38, ms1mx3.8/62, Error ellipse: s-maj=19.3km s-min=13.7km az=124.0*

*NEIC **04** 04:25:36.9±2.7, 17°.72S±0°.08×172°.94W±0°.09, h35km±1km, mb4.8/55, Error ellipse: s-maj=16.1km s-min=12.7km az=58.0*

*BGR **04** 04:25:42.3±0.0, 16°.74S×172°.19W, h33km*

ISC 04 04:25:36.6±0.3**, 17°.74S**±0°.06×**173°.24W**±0°.08**, h28km, n434, σ1s.85**/404**, mb4.8**/57**, MS4.0**/39**, 19C-4D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	3.41	113	Pn	Pn	04 26 21.6	-6.3
AFI	Afiamalu	4.06	20	Pn	Pn	04 26 32.4	-4.6
	14nm,0.3s,baz=191,slow=18,SNR=11						
AFI				Sn	Sn	04 27 15.3	-8.4
	32nm,0.3s,baz=4.5,slow=20,SNR=4.9						
AFI				LR	LR	04 28 18.7	
	comp=Z,845nm,19.3s,baz=213,slow=40						
AFI	Afiamalu	4.06	20	Pn	Pn	04 26 32.8	-4.2
MSVF	Nonsavu	8.30	269	LR	LR	04 30 33.7	
	comp=Z,2µm,19.3s,baz=57,slow=36						
GLKZ	Green Lake	12.24	200	P	Pn	04 28 29.2	+0.1
GLKZ				S	Sn	04 30 35.1	-10
RAR	Rarotonga	13.16	107	LR	LR	04 32 40.4	
	comp=Z,187nm,19.5s,baz=289,slow=32						
PINNC	Pines Island,	18.76	252		Pn	04 29 54.5	+0.4
PINNC				IAmb	IAmb	04 29 56.5	
	comp=Z,34nm,0.8s						
DZM	Mont Dzumac	19.58	254	P	Pn	04 30 05.6	+1.6
	comp=Z,0.5nm,0.3s,baz=100,slow=19,SNR=1.9						
DZM				LR	LR	04 36 29.9	
	comp=Z,771nm,20.4s,baz=56,slow=34						
DZM	Mont Dzumac	19.58	254	eLQ	LQ	04 34 19.0	
	comp=Z,1µm,30.3s						
DZM				eLR	LR	04 35 11.4	
	comp=Z,1µm,23.9s						
DZM	Mont Dzumac	19.58	254	P	P	04 30 02.4	-0.2
GRZ	Great Barrier	20.97	206	P	P	04 30 17.3	-0.3
OUZ	Omahuta	20.98	211	P	P	04 30 17.7	+0.1
OUZ				IAmb	IAmb	04 30 26.4	
	comp=Z,53nm,1.5s						
MXZ	Matakaoa Point	21.10	199	P	P	04 30 22.0	+3.1
KUZ	Kuaotunu	21.29	205	P	P	04 30 22.8	+1.9
HAZ	Te Kaha	21.44	200	P	P	04 30 25.3	+2.8
HAZ				S	S	04 34 10.7	-8.3
PKGZ	Pakihiroa	21.47	199	P	P	04 30 25.7	+2.9
PUZ	Puketiti	21.58	198	P	P	04 30 26.9	+2.9
RUGZ	Raukumara Rang	21.66	200	P	P	04 30 26.9	+1.8
RUGZ				S	S	04 34 11.8	-12
TWGZ	Tauwhareparae	21.76	199	P	P	04 30 29.2	+3.2
TWGZ				S	S	04 34 16.2	-9.2
CNGZ	Carnagh Statio	21.98	198	P	P	04 30 31.8	+3.5
URZ	Urewera	22.12	201	P	P	04 30 29.8	+0.1
	comp=Z,42nm,0.4s,baz=336,slow=3.3,SNR=46						
URZ				S	S	04 34 26.0	-6.1
	comp=Z,3.9nm,0.5s,baz=333,slow=22,SNR=1.6						
URZ	Urewera	22.12	201	P	P	04 30 30.6	+0.8
URZ	Urewera	22.12	201	P	P	04 30 30.5	+0.8
URZ				S	S	04 34 28.0	-4.1
TOZ	Tahuroa Road	22.23	204	P	P	04 30 33.7	+2.7
RAGZ	Rawiri	22.23	200	P	P	04 30 34.0	+2.9
OMRZ	Omania	22.23	202	P	P	04 30 33.0	+1.9
TARZ	Mount Tarawera	22.30	202	P	P	04 30 34.1	+2.2
MUGZ	Murupara	22.43	201	P	P	04 30 34.6	+1.5
PAE	Paea	22.54	93	eT	T	04 52 42.6	
	comp=Z,4.8nm,0.3s						
PPT2	Papeete2	22.55	93	eLR	LR	04 35 42.7	
	comp=Z,701nm,26.5s,baz=250						
PPT2	Papeete2	22.55	93	eT	T	04 52 43.6	
	comp=Z,4.6nm,0.3s						
PPT	Papeete	22.55	93	LR	LR	04 36 48.7	
	comp=Z,205nm,20.9s,baz=290,slow=30						
RAHZ	Arahi	22.72	200	P	P	04 30 37.5	+1.2
TVO	Taravao	22.84	94	eT	T	04 53 05.4	
TBI	Tubuai	22.94	108	eLQ	LQ	04 35 00.0	
	comp=Z,373nm,29.0s						
TBI				eLR	LR	04 35 59.2	
	comp=Z,685nm,27.8s,baz=281						
TBI	Tubuai	22.94	108	eT	T	04 53 19.7	
	comp=Z,6.1nm,0.3s						
BKZ	Black Stump Fm	23.14	201	P	P	04 30 39.1	-1.6
BKZ				IAmb	IAmb	04 30 48.0	
	comp=Z,27nm,0.7s						
HIZ	Hauiti	23.16	204	P	P	04 30 43.2	+2.4
NTVZ	North Tongarir	23.36	202	P	P	04 30 44.7	+1.7
WTVZ	West Tongariro	23.41	202	P	P	04 30 44.4	+1.0
TWVZ	Taurewa	23.43	203	P	P	04 30 44.3	+0.7
BHHZ	Black Hill Sta	23.58	201	P	P	04 30 45.3	+0.3
KRHZ	Kereru	23.61	200	P	P	04 30 46.5	+1.2
PKVZ	Pokaka	23.65	203	P	P	04 30 46.6	+0.9
DREZ	Durham Road	24.00	205	P	P	04 30 52.7	+3.8
ANWZ	Angora Road	24.32	199	P	P	04 30 56.4	+4.6
BFZ	Birch Farm	24.59	199	P	P	04 30 57.9	+3.6
MRZ	Mangatainoka R	24.79	201	P	P	04 30 57.4	+1.2
HOWZ	Holdsworth Sta	25.02	200	P	P	04 31 00.7	+2.4
PLWZ	Palliser	25.71	200	P	P	04 31 09.5	+5.0
TCW	Tory Channel	25.73	202	P	P	04 31 06.8	+2.2
TUWZ	Tuamarina	26.04	202	P	P	04 31 08.5	+1.1
TUWZ	Tuamarina	26.04	202	P	P	04 31 09.8	+2.4
QRZ	Quartz Range	26.07	205	P	P	04 31 10.0	+2.3
NNZ	Nelson	26.07	203	P	P	04 31 08.8	+1.2
MRNZ	Matariki Terra	26.46	204	P	P	04 31 16.4	+5.1
KHZ	Kahutara	27.05	202	P	P	04 31 22.2	+5.7
RPZ	Rata Peaks	29.09	204	P	P	04 31 39.7	+4.9
	comp=Z,22nm,0.5s,baz=339,slow=2.5,SNR=22						
RPZ				LR	LR	04 43 53.4	
	comp=Z,167nm,18.9s,baz=24,slow=38						
TAOE	Nuku Hiva Isla	33.35	79	eLR	LR	04 40 50.4	
	comp=Z,314nm,25.2s						
TAOE	Nuku Hiva Isla	33.35	79	eT	T	05 06 09.0	
	comp=Z,52nm,0.3s						
ARMA	Armidale	34.32	242	P	P	04 32 20.1	-0.9
ARMA				IAmb	IAmb	04 32 38.9	
	comp=Z,16nm,1.5s						
CTA	Charters Tower	38.33	260	LR	LR	04 46 42.2	
	comp=Z,366nm,21.4s,baz=84,slow=33						
CTAO	Charters Tower	38.33	260	P	P	04 32 55.5	+0.2
CTAO				IAmb	IAmb	04 32 56.9	
	comp=Z,11nm,0.7s						
PMG	Port Moresby	39.31	277	LR	LR	04 47 00.8	
	comp=Z,114nm,20.3s,baz=110,slow=33						
COEN	Coen	42.03	269	P	P	04 33 25.6	-0.4
STKA	Stephens Creek	43.04	242	P	P	04 33 33.2	-0.9
	comp=Z,1.0nm,0.4s,baz=96,slow=12,SNR=4.0						
STKA				LR	LR	04 49 30.3	
	comp=Z,182nm,18.3s,baz=33,slow=33						
STKA	Stephens Creek	43.04	242	P	P	04 33 33.6	-0.4
BBOO	Buckleboo	47.80	242	P	P	04 34 09.9	-1.9
WR0	Warramunga Arr	49.31	259	P	P	04 34 23.0	-0.6
WB0	Warramunga Arr	49.47	259	P	P	04 34 23.0	-1.8
WB0				IAmb	IAmb	04 34 27.1	
	comp=Z,11nm,0.7s						
WB2	Warramunga Arr	49.49	259	P	P	04 34 24.1	-0.9
WRAB	Tennant Creek	49.49	259	P	P	04 34 24.4	-0.5
WRAB				IAmb	IAmb	04 34 27.3	
	comp=Z,13nm,0.8s						
WRA	Warramunga Arr	49.50	259	P	P	04 34 23.5	-1.5
	comp=Z,7.0nm,0.5s,baz=97,slow=6.6,SNR=165						
WRA				PcP	PcP	04 35 48.0	+1.2
	comp=Z,3.2nm,0.9s,baz=90,slow=4.1,SNR=5.9						
WRA				LR	LR	04 54 22.5	
	comp=Z,305nm,19.4s,baz=126,slow=35						
WRA	Warramunga Arr	49.50	259	P	P	04 34 22.8	-2.2
AS31	Alice Springs	49.57	254	P	P	04 34 25.1	-0.4
AS31				IAmb	IAmb	04 34 26.6	
	comp=Z,6.0nm,0.7s						
ASAR	Alice Springs	49.57	254	P	P	04 34 24.6	-0.9
	comp=Z,18nm,0.6s,baz=90,slow=8.8,SNR=174						
ASAR				PcP	PcP	04 35 48.2	+1.2

comp=Z,7.1nm,0.8s,baz=101,slow=3.9,SNR=10
ASAR S S 04 41 27.4 -4.7
comp=Z,0.9nm,0.7s,baz=90,slow=15,SNR=9.1
ASAR LR LR 04 54 43.0
comp=Z,110nm,18.6s,baz=139,slow=35
ASAR Alice Springs 49.57 254 P P **04 34 24.9 -0.7**
GUMO Guam 51.75 304 LR LR 04 53 27.5
comp=Z,90nm,21.6s,baz=93,slow=32
MTN Manton Dam 53.73 267 P P **04 34 55.6 -1.1**
MTN IAmb IAmb 04 34 56.9
comp=Z,9.8nm,0.7s
FORT Forrest 54.53 245 P P **04 35 02.1 -0.2**
FORT IAmb IAmb 04 35 10.8
comp=Z,14nm,0.9s
KNRA Kununurra 55.40 263 P P **04 35 08.8 0.0**
KNRA IAmb IAmb 04 35 10.8
comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 57.91 259 LR LR 04 58 39.9
comp=Z,200nm,20.8s,baz=120,slow=34
FITZ Fitzroy Crossi 57.91 259 P P **04 35 26.9 +0.4**
RPN Rapa Nui 59.27 111 LR LR 04 53 50.7
comp=Z,154nm,21.9s,baz=256,slow=29
SBA Scott Base 60.94 185 P P **04 35 47.5 +1.0**
VNDA Vanda 61.07 186 P P **04 35 49.2 +1.7**
comp=Z,2.9nm,0.9s,baz=9.6,slow=7.6,SNR=9.1
VNDA LR LR 05 01 47.9
comp=Z,49nm,18.2s,baz=242,slow=36
VNDA Vanda 61.07 186 P P **04 35 47.8 +0.3**
VNDA IAmb IAmb 04 35 50.5
comp=Z,9.9nm,1.4s
BATI Baumata 61.46 268 LR LR 05 01 39.8
comp=Z,115nm,20.1s,baz=120,slow=35
PSA00 Pilbara Seismi 62.71 254 P P **04 35 59.6 +0.2**
PSA00 IAmb IAmb 04 36 01.0
comp=Z,10nm,0.9s
MBWA Marble Bar 62.88 255 P P **04 35 59.9 -0.7**
MBWA IAmb IAmb 04 36 02.8
comp=Z,12nm,1.0s
MORW Morawa 65.05 246 P P **04 36 15.5 +0.8**
MORW IAmb IAmb 04 36 17.4
comp=Z,13nm,1.0s
DAV Davao City (W) 65.23 287 LR LR 05 02 38.1
comp=Z,69nm,20.4s,baz=172,slow=34
KAPI Kappang 66.60 272 LR LR 05 04 16.6
comp=Z,50nm,18.2s,baz=113,slow=35
MJAR Matsushiro Arr 70.82 320 P P **04 36 51.6 +0.8**
comp=Z,2.9nm,0.5s,baz=152,slow=6.7,SNR=6.6
MJAR LR LR 05 02 52.6
comp=Z,84nm,21.6s,baz=136,slow=32
MJAR Matsushiro Arr 70.82 320 P P **04 36 51.1 +0.3**
MJAR IAmb IAmb 04 36 53.2
comp=Z,6.3nm,0.9s
JAGI Jajag, Banyuwa 70.97 267 P P **04 36 51.2 -0.9**
JOW Kunigami 71.99 307 LR LR 05 02 52.0
comp=Z,106nm,21.1s,baz=332,slow=31
QSPA South Pole Qui 72.31 180 P P **04 37 00.3 +0.8**
comp=Z,7.7nm,1.0s,baz=31,slow=1.2,SNR=11
QSPA South Pole Qui 72.31 180 P P **04 37 00.5 +1.0**
QSPA IAmb IAmb 04 37 02.1
comp=Z,11nm,1.1s
SMMC Simmler 73.02 43 P P **04 37 03.3 -0.7**
baz=233
JNU Nakatsue 73.51 314 P P **04 37 08.2 +1.2**
comp=Z,6.7nm,0.6s,baz=130,slow=7.9,SNR=2.4
ASAJ Asahikawa 73.60 328 LR LR 05 04 13.2
comp=Z,77nm,21.2s,baz=72,slow=32
VES Vestal, Richgr 73.93 43 P P **04 37 09.8 +0.5**
baz=233
MONP2 Monument Peak 74.03 47 P P **04 37 11.4 +1.2**
baz=236
EDW2 Edwards Air Fo 74.08 45 P P **04 37 11.1 +0.7**
baz=234
ISA Isabella, Lake 74.22 44 P P **04 37 11.9 +0.7**
baz=234
O02D Mt. Diablo Mer 74.32 38 P P **04 37 12.3 +0.6**
baz=230
PFO Pinyon Flats O 74.41 46 P P **04 37 12.8 +0.5**
baz=236
TPFO Pinon Flats 74.41 46 P P **04 37 13.3 +1.0**
baz=236
SWSC Sam W. Stewart 74.50 47 P P **04 37 12.2 -0.5**
baz=236
UGM Wanagama 74.57 266 P P **04 37 14.0 +0.3**
LRMC Laurel Mtn Rad 74.64 44 P P **04 37 14.3 +0.6**
baz=234
SPIA Saint Paul Isl 74.67 2 P P **04 37 15.9 +2.8**
baz=183
N02D Trinity Center 74.88 37 P P **04 37 15.7 +0.8**
baz=229
PEA0B Petropavlovsk- 74.90 342 P P **04 37 15.2 +0.7**
PETK Petropavlovsk- 74.90 342 P P **04 37 15.8 +1.3**
comp=Z,3.8nm,0.5s,baz=113,slow=8.8,SNR=16
PETK Petropavlovsk- 74.90 342 P P **04 37 16.1 +1.5**
CWC Cottonwood Cre 74.94 43 P P **04 37 16.2 +0.8**
baz=234
BELC Belle Mtn. Jos 74.94 46 P P **04 37 15.7 +0.3**
baz=236
O03E Paynes Creek 74.97 38 P P **04 37 16.1 +0.7**
baz=230
MPMC Manual Prospec 75.10 44 P P **04 37 17.2 +0.8**
baz=234,SNR=8.6
GSC Goldstone, Bar 75.12 45 P P **04 37 17.4 +1.0**
baz=235
L02E Cave Junction 75.15 36 P P **04 37 18.2 +1.9**
baz=228
HEC Hector,Ludlow 75.17 45 P P **04 37 17.3 +0.6**
baz=235
TIN Tinemaha, Big 75.20 43 P P **04 37 17.7 +0.9**
baz=234
YBH Yreka Blue Hor 75.37 37 P P **04 37 19.0 +1.3**
comp=Z,5.5nm,0.9s,baz=125,slow=2.1,SNR=11
GMRC Granite Mounta 75.61 46 P P **04 37 19.9 +0.7**
baz=236
IRM Iron Mountain 75.62 47 P P **04 37 19.5 +0.3**
baz=236
VCNR Virginia City 75.65 40 P P **04 37 17.8 -1.7**
GRAC Grapevine Rang 75.73 43 P P **04 37 20.6 +0.8**
baz=234,SNR=5.2
SII Sitkinak Islan 75.73 11 P P **04 37 22.5 +3.2**
baz=198
FURC Furnace Creek, 75.75 44 P P **04 37 20.6 +0.8**
baz=235
SHOC Shoshone, Teco 75.82 45 P P **04 37 20.8 +0.6**
baz=235
M04C Macdoel 75.90 37 P P **04 37 21.8 +1.0**
baz=230
L04D Klamath Falls 75.92 36 P P **04 37 21.9 +1.0**
baz=230
NVAR Mina Array Bea 75.97 42 P P **04 37 22.6 +1.2**
comp=Z,6.1nm,0.8s,baz=226,slow=9.8,SNR=46
NVAR LR LR 05 03 08.3
comp=Z,87nm,20.1s,baz=200,slow=30
NVAR Mina Array Bea 75.97 42 P P **04 37 22.9 +1.5**
NACB Ninganchiao 75.98 301 P P **04 37 22.1 +0.7**
NV11 Mina Array Sit 76.06 42 P P **04 37 21.2 -0.6**
NV11 IAmb IAmb 04 37 24.1
comp=Z,11nm,1.1s
PAHR Pah Rah Range 76.06 40 P P **04 37 21.1 -0.7**
214A Organ Pipe Nat 76.10 50 P P **04 37 22.2 +0.2**
baz=238
I03D Drain, OR 76.30 35 P P **04 37 24.9 +2.1**
baz=228
PDMCI Parker Dam,Lak 76.39 47 P P **04 37 24.5 +0.9**
baz=237
TPNV Topopah Spring 76.43 44 P P **04 37 25.5 +1.6**
baz=235
J04D Umpqua Nationa 76.69 36 P P **04 37 25.6 +0.3**
baz=230
MOD Modoc Plateau 76.87 38 IAmb IAmb 04 37 28.5
comp=Z,6.8nm,0.8s
J05D Fort Rock, OR 77.20 36 P P **04 37 29.7 +1.6**
baz=230
KSM Kuching 77.56 276 P P **04 37 31.7 +1.1**
LEM Lembang 77.64 267 LR LR 05 13 01.3
comp=Z,96nm,18.1s,baz=144,slow=37
R11A Troy Canyon, C 77.66 43 P P **04 37 31.1 +0.2**
baz=235,SNR=6.1
TUC Tucson 77.76 50 P P **04 37 30.9 -0.5**
TUC IAmb IAmb 04 37 34.0
comp=Z,6.7nm,1.1s
TUC Tucson 77.76 50 P P **04 37 31.8 +0.4**
baz=240
I05D Terrebonne, OR 77.82 35 P P **04 37 32.2 +0.7**
baz=230
KSRS Korea Array 77.93 316 P P **04 37 34.5 +2.4**
comp=Z,4.1nm,0.9s,baz=126,slow=5.9,SNR=12
KSRS LR LR 05 06 45.6

comp=Z,30nm,21.3s,baz=100,slow=32
G05D Wamic, OR 78.41 35 P P **04 37 34.9 +0.2**
baz=230
WUAZ Wupatki 78.97 47 P P **04 37 38.9 +0.8**
baz=239
O19K Port Alsworth 79.17 9 P P **04 37 38.9 +0.5**
baz=198
ELK Elko 79.24 41 P P **04 37 39.7 +0.2**
O20K Slope Mountain 79.34 10 P P **04 37 40.2 +0.8**
baz=200
USRK Ussuriysk Ar. 79.34 323 P P **04 37 41.6 +1.9**
comp=Z,3.2nm,0.9s,baz=96,slow=5.7,SNR=6.3
USRK LR LR 05 07 36.3
comp=Z,95nm,20.8s,baz=96,slow=32
USRK Ussuriysk Ar. 79.34 323 P P **04 37 40.4 +0.7**
BRSE Bradley Lake S 79.36 11 P P **04 37 40.6 +1.1**
baz=202
N19K Bonanza Creek 79.73 9 P P **04 37 42.4 +0.8**
baz=198
SEW Seward 79.94 12 P P **04 37 43.3 +0.7**
baz=203
A04D Lummi Island 79.97 31 P P **04 37 44.3 +1.3**
baz=228
B05A Bryant 79.97 32 P P **04 37 44.0 +0.9**
baz=229,SNR=5.1
121A Cookes Peak, D 80.08 51 P P **04 37 45.0 +0.7**
baz=241
BMO Blue Mountains 80.40 37 P P **04 37 43.5 -2.1**
CRAG Craig 80.44 22 P P **04 37 47.1 +1.7**
baz=218
DUG Dugway, Tooele 80.47 42 P P **04 37 47.0 +0.9**
baz=237
M19K Big River Lodg 80.78 9 P P **04 37 47.7 +0.5**
baz=198
RC01 Rabbit Creek A 80.80 11 P P **04 37 48.2 +1.0**
baz=202
D08A Wollman Farm, 80.85 34 P P **04 37 44.2 -3.6**
D08A IAmb IAmb 04 37 50.1
comp=Z,12nm,1.0s
PWL Port Wells 80.85 12 P P **04 37 48.1 +0.5**
baz=204
KAIM Kayak Island 80.86 14 P P **04 37 48.7 +1.1**
baz=208
M20K Styx River 80.95 9 P P **04 37 48.9 +0.7**
baz=199
L19K White Mountain 80.98 9 P P **04 37 49.4 +1.2**
baz=198
EYAK Cordova Ski Ar 81.11 13 P P **04 37 49.4 +0.5**
baz=206
GLI Glacier Island 81.12 13 P P **04 37 49.4 +0.4**
baz=205
GAMB Gambell 81.26 1 P P **04 37 51.4 +1.8**
baz=181,SNR=6.0
HLID Hailey 81.34 39 P P **04 37 51.5 +0.7**
baz=235,SNR=10
KNK Knik Glacier 81.34 12 P P **04 37 50.6 +0.5**
baz=204
PMR Palmer 81.37 11 P P **04 37 50.7 +0.5**
baz=203
L20K Farewell, AK 81.41 9 P P **04 37 51.0 +0.5**
baz=198
WRAK Wrangell Islan 81.46 22 P P **04 37 50.8 0.0**
baz=219
MNTX Cornudas Mount 81.50 53 P P **04 37 48.2 -3.5**
MNTX Cornudas Mount 81.50 53 P P **04 37 51.8 +0.1**
baz=243
TTA Tatalina 81.54 8 P P **04 37 52.7 +1.5**
baz=196
NJ2 Nanjing 81.70 307 eP P
NJ2 pmax pmax **04 37 54.3 +1.6**
comp=Z,6.0nm,0.5s
BMRM Bremner River 81.74 14 P P **04 37 53.3 +0.9**
baz=207
TXAR Lajitas Array 81.79 56 P P **04 37 54.7 +1.4**
comp=Z,1.5nm,1.0s,baz=216,slow=6.2,SNR=12
MVCO Mesa Verde 81.82 47 P P **04 37 54.2 +0.6**
baz=240
PNL Peninsula 81.91 17 P P **04 37 54.3 +1.2**
baz=212
SCM Sheep Creek Mo 81.94 12 P P **04 37 54.1 +0.7**
baz=205
ANMO Albuquerque 82.19 50 P P **04 37 56.2 +0.8**
baz=242
K20K Tela 82.21 9 P P **04 37 56.1 +1.4**
baz=198
ANM Nome 82.27 3 P P **04 37 56.0 +1.1**
baz=187
N25K Chitina, Valde 82.31 13 P P **04 37 56.2 +0.8**
baz=207,SNR=5.7
M24K Tolsona, Glenn 82.43 12 P P **04 37 57.0 +1.1**
baz=206
MA2 Magadan 82.43 342 P P **04 37 57.0 +1.1**
comp=Z,37nm,0.4s,baz=151,slow=19,SNR=2.1
WAT6 Susitna Watana 82.55 12 P P **04 37 57.1 +0.4**
baz=204
NEW Newport 82.55 34 P P **04 37 57.6 +0.7**
comp=Z,1.0nm,0.7s,baz=256,slow=4.2,SNR=3.7
NEW LR LR 05 06 37.0
comp=Z,115nm,20.0s,baz=220,slow=30
NEW Newport 82.55 34 P P **04 37 57.5 +0.7**
baz=233
KLR Kuldur 82.56 327 P P **04 37 58.9 +2.1**
comp=Z,1.9nm,0.9s,baz=83,slow=8.6,SNR=4.9
CAST Castle Rocks 82.57 9 P P **04 37 56.2 -0.3**
baz=200
BNX BinXian 82.88 323 ⇓P P **04 38 00.5 +2.0**
BNX pmax pmax
comp=Z,33nm,1.0s
BNX pmax pmax
comp=Z,220nm,6.6s
KTH Kantishna Hill 82.88 10 P P **04 37 56.6 -1.6**
KTH IAmb IAmb 04 38 10.9
comp=Z,7.4nm,1.1s
TRF Thorofare Moun 82.89 10 P P **04 37 57.7 -0.7**
TRF Thorofare Moun 82.89 10 P P **04 37 58.6 +0.2**
baz=202,SNR=11
SKAG Skagway 82.90 18 P P **04 37 58.7 +0.4**
baz=216
CHUM Lake Minchumin 82.97 9 P P **04 37 59.5 +0.9**
baz=200,SNR=6.5
CN2 Changchun 82.97 320 eP P
CN2 esP PcP 04 37 51.8 -7.3
CN2 eS S 04 37 58.8 -4.9
CN2 Changchun 82.97 320 eS S **04 38 08.2 -8.2**
J20K Nowinta River 82.98 8 P P **04 37 59.7 +1.1**
baz=198,SNR=7.3
DHY Denali Highway 83.07 12 P P **04 38 00.2 +0.9**
baz=205
TNA Tin City 83.15 2 P P **04 38 01.5 +2.0**
baz=185
S22A 4UR Ranch, Cre 83.24 47 P P **04 38 02.5 +1.5**
baz=241
YUK6 Outpost Mounta 83.26 16 P P **04 38 02.2 +1.7**
baz=213
BPAW Bear Paw Mtn. 83.38 10 P P **04 38 01.1 +0.3**
baz=201
MCK McKinley 83.38 11 P P **04 37 58.6 -2.2**
MCK McKinley 83.38 11 P P **04 38 01.2 +0.5**
baz=203,SNR=15
HYT Haines Junctio 83.40 17 P P **04 38 02.5 +1.5**
baz=214
YUK3 Moose Creek 83.43 15 P P **04 38 02.2 +0.9**
baz=211,SNR=5.8
O20A White River Ci 83.44 44 P P **04 38 02.5 +0.7**
baz=240
MSO Missoula 83.46 36 P P **04 38 01.7 0.0**
baz=235
YUK4 Talbot Arm 83.53 16 P P **04 38 03.7 +1.9**
baz=213
M27K Edge Creek, AK 83.59 14 P P **04 38 03.5 +1.5**
baz=210
MOOW Moose Ponds 83.67 40 P P **04 38 01.2 -1.7**
H03S2 Juan Fernandez 83.79 123 T T 06 09 13.7
baz=250
H03S1 Juan Fernandez 83.80 123 T T 06 09 14.8
baz=250
H03S3 Juan Fernandez 83.80 123 T T 06 09 15.4
baz=250
BVCY Beaver Creek 83.88 15 P P **04 38 04.6 +1.2**
baz=211
H03N2 Juan Fernandez 83.90 123 T T 06 09 15.6
baz=255,slow=74
H03N3 Juan Fernandez 83.90 123 T T 06 09 20.0
baz=255
BW06 Boulder Array 83.90 42 P P **04 38 04.3 +0.1**
baz=239
PDAR Pinedale Array 83.90 42 P P **04 38 04.6 +0.4**
comp=Z,7.6nm,0.9s,baz=217,slow=3.3,SNR=48
PDAR LR LR 05 08 52.6

comp=Z,60nm,19.0s,baz=244,slow=31
H03N1 Juan Fernandez 83.92 123 T T 06 09 16.5
baz=255,slow=74
H17A Grant Village 84.11 40 P P **04 38 07.3 +2.1**
baz=238,SNR=6.2
BOZ Bozeman (W) 84.12 38 P P **04 38 05.9 +0.7**
baz=237,SNR=10
NEA2 Nenana 84.16 10 P P **04 38 05.0 +0.3**
baz=203,SNR=7.2
RIDG Independent Ri 84.17 12 P P **04 38 03.3 -1.5**
RIDG IAmb IAmb 04 38 07.3
comp=Z,9.3nm,1.1s
RIDG Independent Ri 84.17 12 P P **04 38 06.1 +1.3**
baz=207,SNR=5.8
SDCO Great Sand Dun 84.17 48 P P **04 38 06.5 +0.8**
baz=242
L27K Beaver Creek, 84.22 14 P P **04 38 06.0 +0.9**
baz=210
I21K Tanana 84.24 9 P P **04 38 06.0 +1.0**
baz=200
P33M Teslin, Yukon 84.27 19 P P **04 38 06.4 +1.0**
baz=218
MLY Manley 84.29 9 P P **04 38 05.1 -0.3**
MLY IAmb IAmb 04 38 06.8
comp=Z,8.0nm,0.9s
MLY Manley 84.29 9 P P **04 38 05.6 +0.2**
baz=201,SNR=9.7
HDA Harding Lake 84.36 11 P P **04 38 06.3 +0.6**
baz=205,SNR=12
N31M Braeburn, Yuko 84.42 17 P P **04 38 07.3 +1.2**
baz=215
MSTX Muleshoe 84.47 52 P P **04 38 08.0 +0.9**
baz=244
CMIG Matias Romero 84.52 70 LR LR 05 07 10.1
comp=Z,88nm,20.8s,baz=232,slow=30
SCRK Sand Creek 84.55 13 P P **04 38 05.6 -1.2**
SCRK IAmb IAmb 04 38 08.9
comp=Z,5.5nm,1.0s
SCRK Sand Creek 84.55 13 P P **04 38 07.7 +0.8**
baz=208,SNR=6.3
H21K Melozitna Rive 84.58 8 P P **04 38 08.0 +1.2**
baz=199,SNR=7.9
I23K Minto, Yukon-K 84.62 10 P P **04 38 07.2 +0.2**
baz=203,SNR=6.7
TCOL CIGO, UAF Yank 84.62 11 P P **04 38 07.6 +0.6**
baz=204,SNR=14
COLA College 84.62 11 P P **04 38 07.3 +0.3**
baz=204
T25A Trinidad 84.67 48 P P **04 38 08.4 +0.2**
baz=243
ILAR Eielson Array 84.70 11 P P **04 38 07.5 +0.1**
comp=Z,3.2nm,0.8s,baz=233,slow=5.5,SNR=30
ILAR LR LR 05 06 30.5
comp=Z,45nm,21.5s,baz=175,slow=29
ILAR Eielson Array 84.70 11 P P **04 38 07.0 -0.5**
IMAR Indian Mountai 84.76 8 P P **04 38 07.7 0.0**
SEY Seymchan 84.81 345 P P **04 38 09.4 +1.4**
comp=Z,4.1nm,0.6s,baz=124,slow=6.7,SNR=17
J25K Salcha River, 84.84 12 P P **04 38 08.5 +0.3**
J25K IAmb IAmb 04 38 10.3
comp=Z,9.2nm,1.0s
J25K Salcha River, 84.84 12 P P **04 38 09.1 +0.8**
baz=206,SNR=8.5
POKR Poker Plat Res 84.92 11 P P **04 38 08.9 +0.4**
baz=204,SNR=9.1
M30M Minto, Yukon 85.04 16 P P **04 38 10.5 +1.2**
baz=214
J26L Joseph Creek 85.10 12 P P **04 38 11.1 +1.5**
baz=208,SNR=13
RLMT Red Lodge 85.29 40 P P **04 38 11.8 +0.7**
baz=239
M31M Drury Creek, Y 85.39 17 P P **04 38 11.9 +1.0**
baz=217
H24K Noodoi Dome 85.50 10 P P **04 38 11.9 +0.4**
baz=204
MAW Mawson 85.63 199 LR LR 05 14 05.5
comp=Z,321nm,19.1s,baz=294,slow=34
DAWY Dawson 85.64 14 P P **04 38 13.6 +1.4**
baz=212,SNR=9.3
AMTX Amarillo 85.68 51 P P **04 38 13.4 +0.3**
baz=245
EGAK Eagle 85.85 13 P P **04 38 14.8 +1.7**
baz=210
J29M Klondike Camp 86.25 14 P P **04 38 16.8 +1.6**
baz=213
ABTX Abilene, Hawle 86.30 54 P P **04 38 17.0 +0.8**
baz=246
COLD Coldfoot 86.42 9 P P **04 38 17.3 +1.3**
baz=202
EGMT Eagleton 86.50 37 P P **04 38 18.0 +1.1**
baz=238
BILL Bilibino 86.84 352 P P **04 38 15.8 -2.2**
BILL IAmb IAmb 04 38 20.3
comp=Z,7.7nm,1.1s
I29M Ogilvie Camp, 86.99 14 P P **04 38 20.0 +1.2**
baz=213
BJI Beijing 87.19 314 P P **04 38 22.7 +2.4**
BJI pmax pmax
comp=Z,8.0nm,1.2s
BJI pmax pmax
comp=Z,110nm,3.6s
LYN LuoYang 87.59 307 eP P **04 38 25.0 +2.6**
LYN pmax pmax
comp=Z,10.0nm,0.6s
WMOK Wichita Mounta 87.80 53 P P **04 38 22.9 -0.5**
baz=247
TOLK Toolik Lake Re 87.83 8 P P **04 38 24.3 +1.5**
baz=202
PLCA Paso Flores 87.83 132 LR LR 05 10 59.6
comp=Z,64nm,18.7s,baz=197,slow=31
LAO LASA Array 87.91 39 P P **04 38 24.4 +0.7**
baz=241
RSSD Black Hills 88.08 42 P P **04 38 24.5 -0.2**
baz=243
EPYK Eagle Plains 88.19 14 P P **04 38 25.7 +1.1**
baz=214
PSI Prapat 88.78 273 P P **04 38 29.8 +1.1**
comp=Z,14nm,0.9s,baz=136,slow=6.1,SNR=11
XAN Xi'an 90.12 306 P P **04 38 37.1 +2.7**
XAN pmax pmax
comp=Z,9.0nm,1.5s
XAN pmax pmax
comp=Z,40nm,5.5s
SYO Syowa Base 90.34 191 ⇑eP P **04 38 33.4 -1.3**
INK Inuvik 90.49 14 P P **04 38 35.6 +0.4**
comp=Z,1.8nm,0.9s,baz=217,slow=5.5,SNR=5.6
INK LR LR 05 12 01.8
comp=Z,64nm,19.2s,baz=156,slow=31
INK Inuvik 90.49 14 P P **04 38 35.2 -0.1**
INK IAmb IAmb 04 38 41.0
comp=Z,3.6nm,1.1s
HHC Hu-ho-hao-te 90.72 313 eP P **04 38 39.9 +2.8**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,83nm,4.4s
JTS Las Juntas de 91.47 80 LR LR 05 11 01.8
comp=Z,61nm,19.0s,baz=18,slow=30
W39A Magazine 91.78 54 P P **04 38 43.2 +1.2**
baz=249
KMI Kunming 92.17 296 ⇓P P **04 38 48.2 +3.8**
KMI pP pP 04 38 49.7 -3.0
KMI pmax pmax
comp=Z,12nm,1.0s
YKA Yellowknife Ar 92.18 23 P P **04 38 43.4 +0.3**
comp=Z,0.5nm,0.8s,baz=240,slow=4.8,SNR=7.0
ECSD EROS Data Cent 92.80 45 P P **04 38 47.2 +0.6**
baz=248
W41B Gary Mavity, V 92.95 54 P P **04 38 48.1 +0.7**
baz=250
PZH PanZhiHua 93.46 297 P P **04 38 53.1 +3.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,40nm,4.7s
CMAR Chiang Mai Arr 93.49 288 P P **04 38 53.0 +2.8**
comp=Z,1.8nm,0.4s,baz=98,slow=2.5,SNR=20
CMAR LR LR 05 17 39.2
comp=Z,25nm,20.4s,baz=110,slow=33
CMAR Chiang Mai Arr 93.49 288 P P **04 38 52.7 +2.4**
C36M Paulatuk 93.56 16 P P **04 38 50.8 +1.4**
baz=226
LZH Lanzhou 94.73 306 eP P **04 38 56.4 +0.6**
LZH pP PcP 04 38 59.7 +3.5
LZH sP pP 04 39 01.3 -2.9
LZH pmax pmax
comp=Z,23nm,1.3s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LZH				pmax	pmax		
	comp=Z,100nm,8.6s						
LZH				LR	LR		
	comp=Z,150nm,17.6s						
LZH				LR	LR		
	comp=Z,160nm,17.3s						
A36M	**Sachs Harbour**	**95.13**	**13**	P	**P**	**04 38 56.6**	**0.0**
A36M				IAmb	IAmb	04 38 59.8	
	comp=Z,5.1nm,0.9s						
A36M	**Sachs Harbour**	**95.13**	**13**	P	**P**	**04 38 58.2**	**+1.7**
	baz=225						
ULM	**Lac du Bonnet**	**95.65**	**39**	LR	LR	05 14 27.7	
	comp=Z,134nm,19.6s,baz=300,slow=31						
LVC	**Limon Verde**	**95.86**	**116**	LR	LR	05 12 18.5	
	comp=Z,56nm,20.1s,baz=228,slow=29						
EYMN	**Ely**	**97.60**	**42**	P	Pdif	04 39 09.1	+0.7
	baz=252						
LPAZ	**La Paz**	**98.87**	**110**	LR	LR	05 13 34.1	
	comp=Z,64nm,22.0s,baz=248,slow=29						
TKL	**Tuckaleechee C**	**99.70**	**56**	LR	LR	05 20 53.5	
	comp=Z,51nm,18.1s,baz=346,slow=33						
O48B	**Farmland**	**99.82**	**51**	P	**Pdif**	**04 39 17.9**	**-0.6**
	baz=255						
GOMU	**GeErMu**	**101.79**	**304**	P	**Pdif**	**04 39 26.4**	**-1.4**
GOMU				pP	pPdif	04 39 32.2	-4.0
GOMU				sP	pP	04 39 36.4	-0.1
LONY	**Lake Ozonia**	**108.33**	**48**	P	**PKiKP**	**04 44 01.8**	**-0.6**
	baz=263						
ZALV	**Zalesovo Beam**	**111.15**	**322**	PKiKP	**PKiKP**	**04 44 07.9**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=117,slow=2.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**111.15**	**322**		**PKiKP**	**04 44 05.7**	**-1.6**
MKAR	**Makanchi Array**	**112.56**	**314**	PKiKP	**PKiKP**	**04 44 10.8**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=120,slow=0.3,SNR=12						
MKAR	**Makanchi Array**	**112.56**	**314**	PKiKP	**PKiKP**	**04 44 09.1**	**-1.2**
KURBB	**Kurchatov Arra**	**115.05**	**318**	PKP	**PKPdf**	**04 44 15.5**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=92,slow=1.8,SNR=16						
KURBB				PP	**PP**	**04 45 12.6**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=95,slow=6.0,SNR=4.3						
BVAR	**Borovoye Array**	**119.81**	**321**	PKP	**PKiKP**	**04 44 24.7**	**+0.7**
	comp=Z,2.6nm,0.5s,baz=237,slow=8.5,SNR=14						
BRVK	**Borovoye**	**119.87**	**321**	PKPdf	**PKPdf**	**04 44 22.9**	**-1.1**
ARU	**Arti**	**125.40**	**328**	PKP	**PKiKP**	**04 44 35.4**	**+0.4**
	comp=Z,2.8nm,0.2s,baz=218,slow=1.0,SNR=6.9						
ARU	**Arti**	**125.40**	**328**	PKPdf	**PKPdf**	**04 44 33.5**	**-1.1**
ARCES	**ARCESS Array B**	**126.94**	**352**	PKP	**PKiKP**	**04 44 38.4**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=17,slow=0.9,SNR=7.1						
ARCES	**ARCESS Array B**	**126.94**	**352**	PKPdf	**PKPdf**	**04 44 35.9**	**-1.3**
AKTO	**Aktyubinsk**	**127.90**	**321**	PKP	**PKiKP**	**04 44 41.1**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=65,slow=4.1,SNR=5.8						
FINES	**FINESS Array B**	**134.25**	**347**	PKP	**PKPdf**	**04 44 51.7**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=350,slow=4.5,SNR=4.1						
MNK	**Minsk**	**139.87**	**341**	*i* PKP	PKPpre	04 44 54.2	
	comp=E,1.0nm,0.8s						
MNK				*i* PKP	PKPpre	04 44 54.2	
	comp=N,15nm,0.9s						
MNK				*i* PKP	PKPpre	04 44 54.2	
	comp=Z,4.0nm,0.8s,baz=212						
MNK				*i* PP	**PP**	**04 47 51.3**	**-6.2**
MNK				*i* PPP	PPP	04 50 55.2	
MNK				*i* SKS	**SKSdf**	**04 52 04.5**	**-5.7**
MNK				*i* SKKS	**SKKSdf**	**05 01 31.1**	**-8.8**
MNK				*i* SS	**SS**	**05 06 26.9**	**+10**
MNK				*i* SSS	SSS	05 11 02.2	
MNK				*i* LR	LR	05 41 27.8	
MNK				*i* LRM	MLR	05 46 29.4	
	comp=E,8.0nm,16.0s						
MNK				*i* LRM	MLR	05 46 51.7	
	comp=N,93nm,19.8s						
MNK				*i* LRM	MLR	05 46 59.1	
	comp=Z,172nm,22.4s						
AKASG	**Malin Array Be**	**142.54**	**336**	PKhKP	PKPpre	04 45 02.8	
	comp=Z,0.3nm,0.4s,baz=43,slow=4.1,SNR=4.8						
KIBK	**Kibwezi**	**143.27**	**240**	PKPdf	PKPbc	04 45 06.3	-0.1
KMBO	**Kilima Mbogo**	**144.60**	**241**	PKP	**PKPdf**	**04 45 12.7**	**+0.8**
	comp=Z,13nm,0.9s,baz=76,slow=5.2,SNR=28						
SORM	**Soroca**	**144.94**	**335**	⇑P	**PKPdf**	**04 45 11.2**	**+0.1**
RETH	**Rethem/Aller,**	**145.02**	**357**	*e*PKPbc	**PKPdf**	**04 45 11.9**	**+0.8**
	baz=6.0,slow=2.9						
NRDL	**Niedersach Rie**	**145.22**	**356**	*e*PKPbc	**PKPdf**	**04 45 12.5**	**+1.1**
	baz=6.0,slow=2.9						
FLTG	**Flechtingen**	**145.31**	**355**	*e*PKPbc	**PKPdf**	**04 45 12.5**	**+0.9**
	baz=6.0,slow=2.9						
IBBN	**Ibbenburen**	**145.50**	**359**	*e*PKPbc	**PKPab**	**04 45 13.7**	**+1.5**
	baz=6.0,slow=2.9						
ASSE	**Asse, Remlinge**	**145.55**	**356**	*e*PKPbc	**PKPab**	**04 45 13.6**	**+1.3**
	baz=6.0,slow=2.9						
CLZ	**Clausthal**	**145.86**	**356**	*e*PKPbc	**PKPab**	**04 45 14.2**	**+0.5**
	baz=6.0,slow=2.9						
OJC	**Ojcow**	**145.95**	**345**	*e*PKP	**PKPab**	**04 45 15.0**	**+1.1**
KSP	**Ksiaz**	**146.11**	**349**	*e*PKP	**PKPab**	**04 45 16.0**	**+1.4**
CLL	**Collm**	**146.15**	**353**	⇑*i*PKPbc	**PKPab**	**04 45 15.4**	**+0.8**
	comp=Z,43nm,1.3s						
CLL				*i* x	x	04 45 20.6	
CLL				*i* pPKPbc	pPKPab	04 45 23.8	+0.8
CLL	**Collm**	**146.15**	**353**	*e*PKPbc	**PKPab**	**04 45 15.4**	**+0.8**
	baz=6.0,slow=2.9						
GTTG	**Gottingen**	**146.18**	**356**	*e*PKPbc	**PKPab**	**04 45 15.9**	**+1.2**
	baz=6.0,slow=2.9						
NEUB	**Neuenburg**	**146.37**	**354**	*e*PKPbc	**PKPab**	**04 45 16.3**	**+0.8**
	baz=6.0,slow=2.9						
BUG	**Bochum--Univer**	**146.38**	**359**	*e*PKPbc	**PKPab**	**04 45 16.0**	**+0.5**
	baz=6.0,slow=2.9						
OSTC	**Ostas**	**146.40**	**349**	*e*PKP	**PKPab**	**04 45 16.6**	**+0.9**
BRG	**Berggiesshubel**	**146.45**	**352**	*e*PKP	**PKPab**	**04 45 16.1**	**+0.2**
BRG				Amp		04 45 18.5	
	comp=Z,32nm,1.5s						
BRG				*e*x	x	04 45 21.8	
BRG				Amp		04 45 23.3	
	comp=Z,11nm,1.1s						
BRG	**Berggiesshubel**	**146.45**	**352**	*e*PKPbc	**PKPab**	**04 45 16.5**	**+0.6**
	baz=6.0,slow=2.9						
FBE	**Freiberg**	**146.48**	**352**	*e*PKPbc	**PKPab**	**04 45 17.0**	**+1.0**
	baz=6.0,slow=2.9						
NIE	**Niedzica**	**146.56**	**344**	*e*PKP	**PKiKP**	**04 45 18.2**	**-0.1**
BUR08	**Bucovina Ar. S**	**146.56**	**337**	PKPbc	**PKPdf**	**04 45 13.7**	**-0.3**
DPC	**Dobruska-Polom**	**146.58**	**349**	*e*PKP	**PKPab**	**04 45 17.4**	**+1.0**
BURAR	**Bucovina Array**	**146.58**	**337**	⇓P	**PKPab**	**04 45 17.6**	**+1.0**
BURAR	**Bucovina Array**	**146.58**	**337**	PKPbc	**PKPdf**	**04 45 12.4**	**-1.7**
KASTN	**Kahler Asten**	**146.59**	**358**	*e*PKPbc	**PKPab**	**04 45 17.0**	**+0.5**
	baz=6.0,slow=2.9						
CRVS	**Cervenica-Dubn**	**146.71**	**342**	*e*PKP	**PKiKP**	**04 45 18.1**	**-0.4**
KRLC	**Kraliky**	**146.75**	**348**	*e*PKP	**PKPab**	**04 45 17.6**	**+0.5**
MORC	**Moravsky Berou**	**146.88**	**347**	⇑P	**PKiKP**	**04 45 18.9**	**0.0**
MORC	**Moravsky Berou**	**146.88**	**347**	PKPdf	**PKPdf**	**04 45 12.7**	**-1.8**
MORC	**Moravsky Berou**	**146.88**	**347**	*e*PKP	**PKPab**	**04 45 18.0**	**+0.4**
TESR	**Tescani**	**146.93**	**334**	⇓P	**PKPab**	**04 45 17.6**	**-0.3**
MOX	**Moxa**	**146.95**	**354**	*e*PKPbc	**PKPab**	**04 45 17.7**	**-0.1**
	baz=6.0,slow=2.9						
PLN	**Plauen**	**147.05**	**354**	*e*PKPbc	**PKPab**	**04 45 18.4**	**+0.2**
	baz=6.0,slow=2.9						
TRPA	**Tarpa**	**147.06**	**340**	⇑P	**PKPab**	**04 45 18.2**	**-0.1**
WERD	**Werda**	**147.07**	**353**	*e*PKPbc	**PKPab**	**04 45 18.5**	**+0.2**
	baz=6.0,slow=2.9						
TANN	**Tannenbergstha**	**147.09**	**353**	*e*PKPbc	**PKPab**	**04 45 18.6**	**+0.1**
	baz=6.0,slow=2.9						
BNN	**Bunyan**	**147.09**	**316**	PKPbc	**PKPdf**	**04 45 15.9**	**+0.6**
GUNZ	**Gunzen**	**147.15**	**353**	*e*PKPbc	**PKPab**	**04 45 18.8**	**+0.2**
	baz=6.0,slow=2.9						
WERN	**Wernitzgruen**	**147.22**	**353**	*e*PKPbc	**PKPab**	**04 45 19.2**	**+0.3**
	baz=6.0,slow=2.9						
CFR	**Carcaliu**	**147.33**	**331**	⇑P	**PKiKP**	**04 45 20.0**	**+0.2**
VRI	**Vrincioaia**	**147.41**	**334**	⇑P	**PKPab**	**04 45 19.2**	**-0.6**
TPGR	**Topolog**	**147.45**	**331**	⇑P	**PKiKP**	**04 45 20.6**	**+0.4**
PLOR	**Plostina**	**147.46**	**334**	⇑P	**PKPab**	**04 45 19.4**	**-0.6**
VRAC	**Vranov**	**147.52**	**348**	PKPbc	**PKPbc**	**04 45 19.2**	**+1.1**
	comp=Z,1.7nm,0.4s,baz=0.6,slow=4.9,SNR=4.8						
MANZ	**Manzenberg**	**147.55**	**354**	*e*PKPbc	**PKPab**	**04 45 19.9**	**-0.3**
	baz=6.0,slow=2.9						
JAVC	**Velka Javorina**	**147.72**	**346**	*e*PKP	**PKPab**	**04 45 21.6**	**+0.6**
ROTZ	**Rotzenmuhle**	**147.75**	**353**	*e*PKPbc	**PKiKP**	**04 45 20.5**	**-0.2**
	baz=6.0,slow=2.9						
VYHS	**Vyhne**	**147.79**	**345**	*e*PKP	**PKiKP**	**04 45 21.1**	**+0.3**
KRUC	**Moravsky**	**147.80**	**348**	*e*PKP	**PKiKP**	**04 45 20.2**	**-0.6**
HARR	**Harsova**	**147.80**	**331**	⇑P	**PKPab**	**04 45 21.4**	**+0.1**
KOLL	**Kolacno**	**147.81**	**345**	*e*PKP	**PKPab**	**04 45 21.5**	**+0.2**
DOPR	**Dopca**	**147.88**	**335**	⇑P	**PKPdf**	**04 45 17.3**	**+1.1**
GRF	**Grafenberg Arr**	**147.93**	**355**	*e*PKPbc	**PKiKP**	**04 45 20.9**	**-0.1**
	baz=6.0,slow=2.9						
BR131	**Keskin Array S**	**148.04**	**319**	PKPbc	**PKPdf**	**04 45 16.1**	**-0.7**
BRTR	**Keskin Array B**	**148.04**	**319**	PKP	**PKPdf**	**04 45 18.0**	**+1.2**
	comp=Z,7.3nm,0.8s,baz=72,slow=4.7,SNR=32						
BRTR				PKPbc	**PKiKP**	**04 45 21.5**	**-0.3**
	comp=Z,7.4nm,0.8s,baz=126,slow=2.1,SNR=22						
BRTR	**Keskin Array B**	**148.04**	**319**	PKPbc	**PKPdf**	**04 45 17.0**	**+0.2**
PSZ	**Piszkesteto**	**148.04**	**343**	⇑P	**PKiKP**	**04 45 22.0**	**+0.6**
PSZ	**Piszkesteto**	**148.04**	**343**	PKPbc	**PKPdf**	**04 45 16.6**	**+0.2**
MLR	**Muntele Rosu**	**148.04**	**334**	⇑P	**PKiKP**	**04 45 21.1**	**-0.4**
MLR	**Muntele Rosu**	**148.04**	**334**	PKPbc	**PKPdf**	**04 45 17.1**	**+0.5**
WLF	**Walferdange**	**148.15**	**1**	*e*PKPbc	**PKiKP**	**04 45 21.9**	**+0.4**
	baz=6.0,slow=2.9						
DRGR		**148.18**	**339**	⇑P	**PKPbc**	**04 45 20.2**	**+0.2**
KHC	**Kasperske Hory**	**148.21**	**351**	PKPbc	**PKPdf**	**04 45 17.4**	**+0.7**
KHC	**Kasperske Hory**	**148.21**	**351**	*e*PKP	**PKiKP**	**04 45 21.7**	**0.0**
VOIR		**148.45**	**335**	⇑P	**PKiKP**	**04 45 22.4**	**+0.1**
GEC2	**GERESS Array S**	**148.47**	**351**	*e*PKPbc	**PKiKP**	**04 45 22.3**	**+0.1**
	baz=6.0,slow=2.9						
GERES	**GERESS Array B**	**148.47**	**351**	PKPbc	**PKiKP**	**04 45 21.7**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=325,slow=2.1,SNR=18						
LODK	**Lodwar**	**148.56**	**246**	PKPbc	**PKPdf**	**04 45 19.6**	**+1.2**
ARR	**Arges**	**148.68**	**335**	⇑P	**PKPbc**	**04 45 20.1**	**-1.2**
CONA	**Conrad Observa**	**148.99**	**348**	*i* P	**PKPbc**	**04 45 21.0**	**-1.1**
	comp=Z,16nm,1.1s,SNR=7.3						
MDUB	**Mudurnu**	**149.06**	**322**		**PKPdf**	**04 45 16.6**	**-1.8**
RONA	**Rosalia, Austr**	**149.12**	**347**	*i* P	**PKiKP**	**04 45 23.7**	**+0.1**
	comp=Z,13nm,1.1s,SNR=6.0						
MOA	**Molln**	**149.35**	**350**	*e*P	**PKPbc**	**04 45 21.4**	**-1.5**
	comp=Z,5.7nm,1.1s						
GZR	**Gura Zlata**	**149.36**	**338**	⇑P	**PKPbc**	**04 45 21.7**	**-1.3**
BFO	**Black Forest**	**149.47**	**358**	*e*PKPbc	**PKiKP**	**04 45 24.6**	**+0.4**
	baz=6.0,slow=2.9						
BZS	**Buzias**	**149.57**	**339**	⇑P	**PKiKP**	**04 45 24.9**	**+0.4**
BIOA	**Bad Ischl, Aus**	**149.60**	**351**	*e*P	**PKiKP**	**04 45 24.8**	**+0.2**
	comp=Z,3.0nm,0.5s						
RJOB	**Jochberg**	**149.68**	**352**	*e*PKPbc	**PKiKP**	**04 45 25.2**	**+0.5**
	baz=6.0,slow=2.9						
ARSA	**Arzberg**	**149.70**	**348**	*e*P	**PKPdf**	**04 45 21.5**	**+2.4**
	comp=Z,1.7nm,0.5s						
HERR	**Herculane**	**149.93**	**337**	⇑P	**PKiKP**	**04 45 25.3**	**+0.1**
RETA	**Reutte**	**150.16**	**355**	*e*P	**PKiKP**	**04 45 26.7**	**+0.9**
	comp=Z,8.0nm,0.9s						
WATA	**Walderalm**	**150.22**	**353**	*e*P	**PKiKP**	**04 45 26.4**	**+0.4**
	comp=Z,4.8nm,0.6s						
KBA	**Koelnbreinsper**	**150.25**	**351**	*e*P	**PKPbc**	**04 45 25.3**	**0.0**
	comp=Z,4.8nm,0.8s						
MOTA	**Moosalm**	**150.26**	**354**	*i* P	**PKiKP**	**04 45 26.6**	**+0.5**
	comp=Z,15nm,1.0s,SNR=5.5						
WTTA	**Wattenberg**	**150.29**	**353**	*i* P	**PKiKP**	**04 45 26.9**	**+0.7**
	comp=Z,18nm,1.0s,SNR=6.3						
SOKA	**Soboth**	**150.35**	**348**	*i* P	**PKiKP**	**04 45 26.4**	**+0.2**
	comp=Z,10nm,1.0s,SNR=6.9						
SQTA	**Sankt Quirin**	**150.38**	**354**	*e*P	**PKiKP**	**04 45 26.2**	**-0.1**
	comp=Z,9.7nm,1.0s						
DAVA	**Damuels**	**150.43**	**356**	*i* P	**PKiKP**	**04 45 27.6**	**+1.2**
	comp=Z,18nm,1.1s,SNR=7.2						
OBKA	**Obir**	**150.60**	**349**	*e*P	**PKiKP**	**04 45 27.4**	**+0.7**
	comp=Z,4.6nm,1.5s						
FETA	**Feichten**	**150.62**	**354**	*i* P	**PKPdf**	**04 45 23.3**	**+2.6**
	comp=Z,11nm,0.9s,SNR=6.0						
MYKA	**Terra Mystica**	**150.64**	**350**	*e*P	**PKiKP**	**04 45 26.6**	**-0.2**
	comp=Z,2.8nm,0.7s						
ABTA	**Abfaltersbach**	**150.69**	**352**	*i* P	**PKiKP**	**04 45 27.2**	**+0.2**
	comp=Z,12nm,0.8s,SNR=11						
DAVOX	**Davos/Dischmat**	**150.93**	**356**	PKPbc	**PKiKP**	**04 45 28.5**	**+1.0**
	comp=Z,8.8nm,0.7s,baz=300,slow=3.3,SNR=23						
CRNS	**Crni Vrh**	**151.06**	**349**	*i* PKPbc	**PKiKP**	**04 45 27.9**	**+0.2**
ISP	**Isparta**	**151.13**	**319**	PKPdf	**PKPdf**	**04 45 18.9**	**-2.8**
VISS	**Visnje**	**151.22**	**348**	*i* PKPbc	**PKiKP**	**04 45 28.8**	**+0.8**
TUE	**Stuetta**	**151.27**	**356**	PKPbc	**PKPdf**	**04 45 21.7**	**-0.1**
GBRS	**Gornja Briga**	**151.49**	**348**	*i* PKPbc	**PKiKP**	**04 45 29.4**	**+0.8**
BNI	**Bardonecchia**	**152.77**	**0**	PKPbc	**PKPbc**	**04 45 29.6**	**-1.5**
ESDC	**Sonseca Array**	**156.25**	**21**	PKPab	**PKPab**	**04 45 58.2**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=345,slow=4.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**173.31**	**132**	PKP	**PKPdf**	**04 45 43.8**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=298,slow=1.0,SNR=8.0						
TORD				PKPab	**PKPab**	**04 47 12.7**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=268,slow=4.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**173.31**	**132**	PKPdf	**PKPdf**	**04 45 42.9**	**-1.3**

TAP ***04*** *04:26:30.6, 23°.94N×122°.67E, h41km±1km, ML3.0, D*
JMA ***04*** *04:26:31.0±0.1, 24°.04N×122°.62E, h34km, M2.4*
ISC 04 04:26:30.3±1.2**, 23°.96N**±0°.03×**122°.65E**±0°.02**, h25**km±13km**,**
n68, σ0s.91/118**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.56**	**29**	P	**Pn**	**04 26 41.4**	**-1.3**
JYNG				*e*S	**Sn**	**04 26 48.8**	**-2.3**
YOJ	**Yonaguni jima**	**0.60**	**33**	P	**Pn**	**04 26 42.0**	**-1.2**
YOJ				*e*S	**Sn**	**04 26 49.8**	**-2.3**
YOJ	**Yonaguni jima**	**0.60**	**33**	P	**Pn**	**04 26 42.3**	**-0.9**
	baz=30						
YOJ				S	**Sn**	**04 26 52.0**	**-0.1**
	baz=30						
EWUT	**Wuta**	**0.93**	**301**	*e*P	**Pn**	**04 26 47.6**	**-0.2**
	baz=302						
EWUT				*e*S	**Sn**	**04 27 01.0**	**+0.6**
	baz=302						
ENA	**Nanau**	**0.95**	**299**	P	**Pn**	**04 26 47.9**	**-0.2**
	baz=300						
ENA				*e*S	**Sn**	**04 27 01.3**	**+0.3**
	baz=300						
ETL	**Fush Village**	**0.96**	**282**	*e*P	**Pn**	**04 26 48.7**	**+0.4**
	baz=271						
ETL				*e*S	**Sn**	**04 27 01.0**	**-0.2**
	baz=271						
TEYL	**Yanliau Villag**	**0.97**	**265**	P	**Pn**	**04 26 47.5**	**-0.8**
	baz=258						
TWD	**Chiawan**	**0.97**	**277**	P	**Pn**	**04 26 47.6**	**-0.8**
	baz=279						
TWD				S	**Sb**	**04 27 00.2**	**-0.7**
	baz=279						
TWC	**Suao**	**0.98**	**312**	P	**Pn**	**04 26 48.2**	**-0.2**
	baz=303						
TWC				S	**Sn**	**04 27 01.8**	**+0.3**
	baz=303						
NACB	**Ninganchiao**	**0.99**	**283**	P	**Pn**	**04 26 48.4**	**-0.2**
	baz=273						
NACB				*e*S	**Sb**	**04 26 59.8**	**-1.7**
	baz=273						
IRIF	**Iriomote-Funau**	**1.05**	**69**	P	**Pb**	**04 26 50.1**	**+0.2**
IRIF				*e*S	**Sn**	**04 27 04.7**	**+1.3**
HATJ	**Hateruma jima**	**1.06**	**85**	P	**Pn**	**04 26 49.9**	**+0.3**
HATJ				*e*S	**Sn**	**04 27 04.0**	**+0.5**
NDS	**Dongshan**	**1.08**	**308**	*e*P	**Pb**	**04 26 50.6**	**+0.2**
	baz=309						
NDS				*e*S	**Sn**	**04 27 06.5**	**+2.3**
	baz=309						
EGS		**1.10**	**323**	*e*P	**Pb**	**04 26 50.9**	**+0.3**
	baz=312						
EGS				*e*S	**Sn**	**04 27 06.3**	**+1.9**
	baz=312						
ETLH	**Xiulin Townshi**	**1.10**	**283**	P	**Pn**	**04 26 50.0**	**-0.2**
	baz=275						
ETLH				*e*S	**Sn**	**04 27 04.6**	**-0.1**
	baz=275						
EGFH	**Guangfu**	**1.16**	**256**	*e*P	**Pn**	**04 26 51.1**	**+0.2**
	baz=245						
EGFH				*e*S	**Sn**	**04 27 06.2**	**+0.1**
	baz=245						
NTC	**Toucheng**	**1.16**	**320**	*e*P	**Pb**	**04 26 51.7**	**-0.1**
	baz=321						
NTC				*e*S	**Sn**	**04 27 07.3**	**+1.2**
	baz=321						
TWE	**Neicheng**	**1.17**	**310**	*e*P	**Pb**	**04 26 51.5**	**-0.5**
	baz=311						
TWE				*e*S	**Sb**	**04 27 07.8**	**+1.0**
	baz=311						
LATG	**Datong**	**1.18**	**299**	*e*P	**Pb**	**04 26 51.4**	**-0.6**
	baz=300						
LATG				*e*S	**Sb**	**04 27 06.5**	**-0.4**
	baz=300						
ENTT	**Nioudou**	**1.20**	**304**	P	**Pb**	**04 26 52.2**	**-0.1**
	baz=294						
ENTT				*e*S	**Sb**	**04 27 09.0**	**+1.5**
	baz=294						
TWB1	**Santiao Chiao**	**1.21**	**330**	P	**Pb**	**04 26 51.6**	**-0.9**
	baz=331						
TWB1				S	**Sn**	**04 27 07.6**	**+0.4**
	baz=331						
HGSD	**Ruisui**	**1.22**	**248**	*e*P	**Pn**	**04 26 51.8**	**0.0**
	baz=248						
HGSD				*e*S	**Sn**	**04 27 06.7**	**-0.8**
	baz=248						
NDT	**Datong Townshi**	**1.22**	**302**	*e*P	**Pb**	**04 26 53.1**	**+0.4**
	baz=292						
NDT				*e*S	**Sb**	**04 27 09.0**	**+0.9**
	baz=292						
NNSB	**Datong**	**1.25**	**292**	P	**Pn**	**04 26 52.5**	**+0.2**
	baz=293						
NNSB				*e*S	**Sb**	**04 27 08.7**	**-0.3**
	baz=293						
FUSB	**Fushanzhiwuyua**	**1.25**	**310**	*e*P	**Pb**	**04 26 53.2**	**-0.2**
	baz=299						
FUSB				*e*S	**Sb**	**04 27 11.1**	**+1.9**
	baz=299						
TIPB	**Shuangxi**	**1.26**	**323**	*e*P	**Pb**	**04 26 53.1**	**-0.3**
	baz=324						
TIPB				*e*S	**Sb**	**04 27 10.5**	**+1.3**
	baz=324						
NNS	**Nan Shan**	**1.26**	**292**	P	**Pb**	**04 26 52.9**	**-0.6**
	baz=293						
NNS				*e*S	**Sn**	**04 27 08.2**	**-0.5**
	baz=293						
JKRS	**Kuro-shima**	**1.27**	**77**	P	**Pb**	**04 26 53.4**	**-0.2**
JKRS				*e*S	**Sb**	**04 27 11.1**	**+1.6**
WHF	**Hehuan Shan**	**1.28**	**278**	P	**Pn**	**04 26 53.1**	**+0.1**
	baz=280						
WHF				S	**Sn**	**04 27 09.4**	**-0.3**
	baz=280						
EHY	**Hungye**	**1.30**	**250**	*e*P	**Pn**	**04 26 53.2**	**+0.3**
	baz=250						
EHY				*e*S	**Sn**	**04 27 08.1**	**-1.4**
	baz=250						
FUSS	**Fushou**	**1.32**	**283**	*e*P	**Pn**	**04 26 52.7**	**-0.7**
	baz=284						
FUSS				*e*S	**Sn**	**04 27 09.9**	**-0.4**
	baz=284						
NWLT	**Wulai**	**1.33**	**308**	*e*P	**Pb**	**04 26 54.4**	**-0.1**
	baz=309						
NWLT				*e*S	**Sb**	**04 27 11.9**	**+0.7**
	baz=309						
SXI1	**Grass Mountain**	**1.33**	**328**	P	**Pb**	**04 26 53.6**	**-1.1**
	baz=338						
OWD	**Renai**	**1.35**	**270**	P	**Pn**	**04 26 54.0**	**+0.3**
	baz=271						
OWD				S	**Sn**	**04 27 10.5**	**-0.5**
	baz=271						
CHGB	**Renai**	**1.35**	**274**	P	**Pn**	**04 26 54.1**	**+0.2**
	baz=276						
CHGB				S	**Sn**	**04 27 10.8**	**-0.4**
	baz=276						
NWF	**Wu-fen Shan**	**1.36**	**324**	*e*P	**Pb**	**04 26 54.0**	**-1.1**
	baz=325						
NWF				S	**Sb**	**04 27 12.3**	**+0.1**
	baz=325						
YHNB	**Yeheng**	**1.36**	**301**	*e*P	**Pb**	**04 26 54.4**	**-0.8**
	baz=303						
YHNB				*e*S	**Sb**	**04 27 12.4**	**+0.2**
	baz=303						
YULB	**Yu-li**	**1.36**	**246**	P	**Pn**	**04 26 53.6**	**-0.2**
	baz=238						
YULB				*e*S	**Sn**	**04 27 10.9**	**-0.3**
	baz=238						
EYUL	**Yuli**	**1.37**	**244**	*e*P	**Pn**	**04 26 54.0**	**+0.2**
	baz=236						
NSK	**Sanguang**	**1.38**	**301**	P	**Pb**	**04 26 54.5**	**-1.0**
	baz=303						
NSK				S	**Sb**	**04 27 12.8**	**+0.1**
	baz=303						
TWT	**Tachien**	**1.38**	**282**	*e*P	**Pb**	**04 26 55.9**	**+0.3**
	baz=283						
VWDT	**VWDT**	**1.40**	**262**	P	**Pn**	**04 26 54.9**	**+0.6**
	baz=263						
VWDT				S	**Sn**	**04 27 11.1**	**-0.8**
	baz=263						
WUSB	**Renai**	**1.40**	**272**	P	**Pn**	**04 26 55.0**	**+0.5**
	baz=273						
WUSB				S	**Sn**	**04 27 12.3**	**0.0**
	baz=273						
TWA	**Mucha**	**1.41**	**316**	*e*S	**Sb**	**04 27 15.3**	**+1.9**
	baz=318						
JIJ	**Ishigaki jima**	**1.42**	**73**	P	**Pn**	**04 26 55.2**	**+0.7**
JIJ				*e*S	**Sb**	**04 27 13.0**	**-0.8**
YM01	**YM01**	**1.54**	**320**	*e*P	**Pb**	**04 26 58.3**	**+0.1**
	baz=321						
YM01				*e*S	**Sb**	**04 27 16.4**	**-0.8**
	baz=321						
NFF	**Wufeng Townshi**	**1.55**	**296**	*e*P	**Pb**	**04 26 58.4**	**-0.1**
	baz=297						
NFF				*e*S	**Sb**	**04 27 17.0**	**-0.7**
	baz=297						
SSLB	**Suanglung**	**1.56**	**264**	*e*P	**Pn**	**04 26 57.1**	**+0.6**
	baz=264						
SSLB				*e*S	**Sn**	**04 27 16.0**	**-0.1**
	baz=264						
EDH	**Donghe**	**1.58**	**232**	*e*P	**Pn**	**04 26 56.1**	**-0.7**
	baz=225						
EDH				S	**Sn**	**04 27 14.9**	**-1.5**
	baz=225						
WHP	**Taichung City**	**1.59**	**282**	*e*P	**Pb**	**04 26 58.3**	**-0.8**
	baz=283						
WHP				*e*S	**Sn**	**04 27 17.4**	**+0.5**
	baz=283						
WCS	**Beigang Elemen**	**1.59**	**274**	*e*P	**Pn**	**04 26 57.8**	**+0.8**
	baz=269						
WCS				*e*S	**Sn**	**04 27 17.1**	**+0.3**
	baz=269						
TWY	**Chenhua**	**1.62**	**324**	*e*P	**Pb**	**04 26 58.7**	**-0.8**
	baz=324						
YUS	**Yu-Shan**	**1.63**	**254**	*e*P	**Pn**	**04 26 58.7**	**+0.9**
	baz=254						
JISG	**Ishigakijimahi**	**1.64**	**67**	P	**Pn**	**04 26 57.8**	**+0.3**
JISG				S	**Sn**	**04 27 17.9**	**+0.1**
LIOB	**Emei**	**1.64**	**295**	P	**Pb**	**04 26 59.2**	**-0.7**
	baz=296						
LIOB				*e*S	**Sb**	**04 27 19.3**	**-0.9**
	baz=296						
TYC	**Yuchr**	**1.64**	**268**	*e*P	**Pn**	**04 26 58.7**	**+1.1**
	baz=269						
TYC				*e*S	**Sn**	**04 27 17.4**	**-0.5**
	baz=269						
NSTT	**Nanjuang**	**1.65**	**294**	*e*P	**Pb**	**04 26 59.2**	**-0.8**
	baz=295						
NSTT				*e*S	**Sb**	**04 27 20.7**	**+0.4**
	baz=295						
WJS	**Zhushan**	**1.77**	**266**	*e*P	**Pn**	**04 26 60.0**	**+0.6**
	baz=266						
WNT	**Mingjian**	**1.80**	**268**	*e*P	**Pn**	**04 27 01.1**	**+1.3**
	baz=268						
CHN5	**Tsauling**	**1.84**	**259**	*e*P	**Pn**	**04 27 01.5**	**+1.0**
	baz=251						
STYH	**Taoyuan**	**1.89**	**246**	*e*P	**Pn**	**04 27 02.4**	**+1.3**
	baz=237						
TPUB	**Ta-pu**	**1.97**	**251**	*e*P	**Pn**	**04 27 03.5**	**+1.4**
	baz=242						
CHN4	**Tsaushan**	**1.98**	**253**	*e*P	**Pn**	**04 27 04.0**	**+1.7**
	baz=252						
WTP	**Ta-pu**	**2.00**	**250**	*e*P	**Pn**	**04 27 04.4**	**+1.8**
	baz=240						
WRL	**Guolierlin Hig**	**2.08**	**269**	*e*P	**Pb**	**04 27 06.2**	**-1.3**
	baz=269						
SGST	**Jiashian**	**2.09**	**246**	*e*P	**Pn**	**04 27 06.1**	**+2.2**
	baz=245						
CHN1	**Nanshi**	**2.10**	**249**	*e*P	**Pn**	**04 27 05.3**	**+1.4**
	baz=248						
SNST	**Tainan City**	**2.11**	**250**	*e*P	**Pn**	**04 27 04.3**	**+0.2**
	baz=249						

AEIC ***04*** *04:29:05±1.9, 57°.03N±0°.03×158°.13W±0°.08, h16km±7km, ML3.0, ML3.2/26(NEIC), Error ellipse: s-maj=7.0km s-min=3.3km az=56.0*
NEIC ***04*** *04:29:08.1±1.3, 57°.02N±0°.04×158°.0W±0°.1, h52km±24km, Error ellipse: s-maj=9.3km s-min=6.2km az=100.0*
ISC 04 04:29:04.6±0.9**, 57°.04N**±0°.05×**158°.10W**±0°.06**, h10**km**, n54,**
σ0s.94/56**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.76**	**193**	Pg	**Pg**	**04 29 19.4**	**+0.2**
CHGN				IAML		04 29 30.9	
	comp=N,1μm,0.6s						
CHGN	**Chignik**	**0.76**	**193**	P	**Pg**	**04 29 19.1**	**-0.2**
	baz=12						
CHGN				S	**Sb**	**04 29 30.5**	**+0.2**
	baz=12						
PLBL	**Peulik Blue Cr**	**0.96**	**46**		**Pg**	**04 29 23.2**	**+0.1**
VNFG	**Fog Glacier, M**	**1.10**	**227**	P	**Pb**	**04 29 26.1**	**+0.2**
	baz=46						
PLK1	**Peulik 1**	**1.11**	**46**		**Pb**	**04 29 25.8**	**-0.1**
PLK3	**Peulik 3**	**1.19**	**56**		**Pb**	**04 29 27.9**	**+0.7**
PLK2	**Peulik 2**	**1.20**	**52**		**Pn**	**04 29 28.0**	**+0.5**
KJL	**Kejulik**	**1.70**	**52**		**Pb**	**04 29 36.0**	**+0.1**
CAHL	**Cahill**	**1.82**	**55**		**Pb**	**04 29 38.0**	**0.0**
ANCK	**Angle Creek**	**1.82**	**49**		**Pn**	**04 29 37.7**	**+1.6**
CHIR	**Chirikof Islan**	**1.84**	**131**		**Pn**	**04 29 36.2**	**0.0**
CHIR				IAML		04 30 05.6	
	comp=N,298nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**1.84**	**131**	P	**Pn**	**04 29 36.4**	**+0.2**
	baz=312						
CHIR				S	**Sb**	**04 30 02.0**	**+0.7**
	baz=312						
KABU	**Katmai Buttres**	**1.95**	**50**		**Pn**	**04 29 38.9**	**+1.0**
SDPT	**Sand Point**	**2.15**	**219**	Pn	**Pn**	**04 29 41.8**	**+1.2**
SDPT				IAML		04 30 16.2	
	comp=N,142nm,1.0s						
SDPT				IAML		04 30 19.6	
	comp=E,208nm,1.2s						
SDPT	**Sand Point**	**2.15**	**219**	P	**Pn**	**04 29 42.0**	**+1.4**
	baz=37						
SII	**Sitkinak Islan**	**2.21**	**101**	Pn	**Pn**	**04 29 42.3**	**+1.0**
OHAK	**Old Harbor**	**2.63**	**84**		**Pn**	**04 29 47.3**	**+0.3**
OHAK				IAML		04 30 36.6	
	comp=N,90nm,1.0s						
OHAK	**Old Harbor**	**2.63**	**84**	P	**Pn**	**04 29 47.4**	**+0.4**
	baz=268						
P18K	**Big Mountain,**	**2.81**	**32**		**Pn**	**04 29 49.6**	**+0.1**
P18K	**Big Mountain,**	**2.81**	**32**	P	**Pn**	**04 29 49.6**	**+0.1**
	baz=214						
KDAK	**Kodiak Island**	**3.07**	**74**	Pn	**Pn**	**04 29 54.0**	**+0.8**
O19K	**Port Alsworth**	**3.73**	**30**	Pn	**Pn**	**04 30 02.7**	**+0.5**
O19K	**Port Alsworth**	**3.73**	**30**	P	**Pn**	**04 30 02.4**	**+0.3**
	baz=214						
O20K	**Slope Mountain**	**4.18**	**41**		**Pn**	**04 30 09.3**	**+0.7**
O20K	**Slope Mountain**	**4.18**	**41**	P	**Pn**	**04 30 09.3**	**+0.7**
	baz=226						
N19K	**Bonanza Creek**	**4.22**	**25**	Pn	**Pn**	**04 30 10.0**	**+0.9**
N19K				IAML		04 31 21.6	
	comp=E,26nm,0.6s						
N19K				IAML		04 31 24.8	
	comp=N,32nm,1.0s						
N19K	**Bonanza Creek**	**4.22**	**25**	P	**Pn**	**04 30 09.7**	**+0.6**
	baz=208						
SVW2	**Sparrevohn**	**4.27**	**17**		**Pn**	**04 30 10.6**	**+0.9**
SVW2				IAML		04 31 29.7	
	comp=E,30nm,1.3s						
SVW2				IAML		04 31 45.1	
	comp=N,27nm,1.2s						
RED	**Redoubt Volcan**	**4.38**	**37**		**Pn**	**04 30 12.0**	**+0.8**
CNPM	**China Poot**	**4.40**	**53**	Pn	**Pn**	**04 30 12.9**	**+1.5**
CNPM				IAML		04 31 27.6	
	comp=E,26nm,2.9s						
CNPM				IAML		04 31 33.8	
	comp=N,24nm,2.3s						
DFR	**Drift River**	**4.54**	**36**		**Pn**	**04 30 14.1**	**+0.7**
M19K	**Big River Lodg**	**5.23**	**20**		**Pn**	**04 30 23.4**	**+0.6**
M19K				IAML		04 32 12.7	
	comp=N,15nm,0.8s						
M19K	**Big River Lodg**	**5.23**	**20**	P	**Pn**	**04 30 23.4**	**+0.6**
	baz=203						
L19K	**White Mountain**	**5.41**	**16**	Pn	**Pn**	**04 30 25.3**	**-0.1**
M20K	**Styx River**	**5.48**	**25**	Pn	**Pn**	**04 30 26.8**	**+0.5**
TTA	**Tatalina**	**6.00**	**9**	Pn	**Pn**	**04 30 33.0**	**-0.5**
PWL	**Port Wells**	**6.34**	**49**	Pn	**Pn**	**04 30 38.8**	**+0.8**
PPLA	**Purkeypile**	**6.58**	**24**	Pn	**Pn**	**04 30 43.1**	**+1.7**
K20K	**Telida**	**6.65**	**16**	Pn	**Pn**	**04 30 42.2**	**-0.1**
CAST	**Castle Rocks**	**7.06**	**23**	Pn	**Pn**	**04 30 49.2**	**+1.3**
J20K	**Nowinta River**	**7.42**	**14**	Pn	**Pn**	**04 30 53.8**	**+1.0**
TRF	**Thorofare Moun**	**7.51**	**28**	Pn	**Pn**	**04 30 56.2**	**+2.0**
KLU	**Klutina**	**7.67**	**49**	Pn	**Pn**	**04 30 56.9**	**+0.6**
RAGM	**Ragged Mountai**	**7.75**	**59**	Pn	**Pn**	**04 30 58.8**	**+1.4**
ANM	**Nome**	**8.34**	**338**	Pn	**Pn**	**04 31 07.1**	**+1.7**
I21K	**Tanana**	**8.68**	**17**	Pn	**Pn**	**04 31 10.9**	**+0.8**
ISLE	**Juniper Island**	**8.91**	**60**	Pn	**Pn**	**04 31 12.9**	**-0.5**
H21K	**Melozitna Rive**	**9.01**	**14**	Pn	**Pn**	**04 31 14.3**	**-0.3**
HDA	**Harding Lake**	**9.18**	**32**	Pn	**Pn**	**04 31 17.6**	**+0.7**
IMAR	**Indian Mountai**	**9.21**	**11**	Pn	**Pn**	**04 31 17.4**	**+0.1**
GAMB	**Gambell**	**9.52**	**321**	Pn	**Pn**	**04 31 22.5**	**+1.0**
TNA	**Tin City**	**9.75**	**335**	Pn	**Pn**	**04 31 26.5**	**+1.7**
BCAR	**Beaver Creek A**	**10.13**	**47**	Pn	**Pn**	**04 31 29.9**	**0.0**
YKA	**Yellowknife Ar**	**22.21**	**58**	P	**P**	**04 33 58.1**	**-2.8**

*BJI **04** 04:31:22.8±0.0, 27°.49N×85°.67E, h11km, mb4.3/20, mB4.4/9, Ms3.6/2, Ms7 3.6/3*
*IDC **04** 04:31:23.2±0.8, 27°.56N×85°.95E, h0km, mb3.9/21, mb1 4.0/24, mb1mx3.9/68, mbtmp3.9/24, ML4.1/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/85, Error ellipse: s-maj=29.0km s-min=13.8km az=55.0*
*DMN **04** 04:31:25.6±0.1, 27°.71N×86°.09E, h10km, Ml4.8/6, Error ellipse: s-maj=2.4km s-min=0.8km az=21.0*
*NEIC **04** 04:31:26.6±2.1, 27°.54N±0°.06×85°.8E±0°.1, h24km±5km, mb4.2/29, Error ellipse: s-maj=14.7km s-min=4.7km az=59.0*
*NDI **04** 04:31:27.6±3.2, 27°.62N×86°.06E, h10km, ML4.0, mb4.2(NEIC)*
ISC 04 04:31:24.8±0.9, **27°.61N**±0°.03×**86°.00E**±0°.02, **h11**km±6km, **n101**, σ1§**62**/117, **mb4.0**/30, **1D, Nepal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**0.17**	**75**	*e*Pg	**Pg**	**04 31 28.9**	**0.0**
JIRN				*e*Sg	**Sg**	**04 31 30.8**	**-1.0**
JIRN				*e*Sg	Sg	04 31 31.0	-0.8
	41μm,0.3s						
GUN	**Gumba**	**0.32**	**340**	*e*Pg	**Pb**	**04 31 31.6**	**-1.0**
GUN				*e*Sg	**Sg**	**04 31 35.9**	**+0.2**
	13μm,0.2s						
PKI	**Pulchoki**	**0.53**	**265**	*e*Pg	**Pn**	**04 31 38.1**	**-0.4**
PKI				*e*Sg	**Sb**	**04 31 45.7**	**+1.7**
	4μm,0.3s						
PKIN	**Phulchoki**	**0.54**	**266**	*e*Pg	**Pn**	**04 31 38.0**	**-0.6**
KKN	**Kakani**	**0.66**	**286**	*e*Pg	**Pn**	**04 31 39.6**	**-0.7**
KKN				*e*Sg	**Sn**	**04 31 48.4**	**-2.4**
	3μm,0.2s						
DMN	**Daman**	**0.79**	**270**	*e*Pg	**Pn**	**04 31 42.6**	**+0.5**
RAMN	**Ramite**	**0.85**	**141**	*e*Pg	**Pb**	**04 31 41.8**	**+0.1**
RAMN	**Ramite**	**0.85**	**141**	*e*Pg	**Pb**	**04 31 42.2**	**+0.5**
RAMN				*e*Sg	**Sb**	**04 31 54.4**	**+1.2**
	4μm,0.5s						
GKN	**Gorkha**	**1.27**	**288**	*e*Pg	**Pn**	**04 31 50.5**	**+1.9**
GKN				*e*Sg	**Sn**	**04 32 07.3**	**+1.6**
	1μm,0.2s						
ODAN	**Odare**	**1.45**	**121**	*e*Pg	**Pg**	**04 31 52.7**	**+0.1**
ODAN	**Odare**	**1.45**	**121**	*e*Pg	**Pg**	**04 31 53.1**	**+0.5**
ODAN				*e*Sg	**Sg**	**04 32 11.9**	**+0.5**
	2μm,0.3s						
TAPN	**Taplejung**	**1.54**	**99**	*e*Pg	**Pn**	**04 31 53.3**	**+0.8**
TAPN	**Taplejung**	**1.54**	**99**	*e*Pg	**Pn**	**04 31 53.4**	**+0.9**
TAPN				*e*Sg	**Sn**	**04 32 13.1**	**+0.5**
	4μm,0.6s						
DANN	**Dangsing**	**2.11**	**291**	*e*Pg	**Pg**	**04 32 04.9**	**-0.5**
DANN				*e*Sg	**Sg**	**04 32 32.3**	**-0.5**
	818nm,0.2s						
KOLN	**Koldanda**	**2.13**	**275**	*e*Pg	**Pg**	**04 32 06.1**	**+0.3**
GTK	**Tadong**	**2.33**	**97**	*e*P	**Pn**	**04 32 05.5**	**+2.4**
GTK				*e*S	**Sb**	**04 32 35.0**	**-0.7**
GTK				IAML		04 32 37.7	
	comp=N,1μm,0.3s						
GTK				IAML		04 32 38.4	
	comp=E,982nm,0.3s						
PYUN	**Piuthan**	**2.71**	**281**	*e*Sg	**Sg**	**04 32 52.7**	**+0.8**
	comp=E,569nm,0.3s						
BOK	**Bokaro**	**3.80**	**182**	*e*P	**Pn**	**04 32 27.1**	**+3.8**
BOK				*e*S	**Sb**	**04 33 16.4**	**-1.7**
BOK				IAML		04 33 29.6	
	comp=E,2μm,0.5s						
TURI	**Tura**	**4.39**	**117**	*e*P	**Pn**	**04 32 30.7**	**-0.7**
TURI				*e*S	**Sn**	**04 33 19.3**	**-3.3**
TURI				IAML		04 33 22.5	
	comp=E,338nm,0.3s						
LSA	**Lhasa**	**4.98**	**64**	Pn	**Pn**	**04 32 42.1**	**+2.2**
GUWA	**GUWAHATI**	**5.27**	**104**	*e*P	**Pn**	**04 32 45.0**	**+1.5**
GUWA				*e*S	**Sn**	**04 33 44.4**	**+0.1**
SHL	**Shillong**	**5.65**	**110**	Pn	**Pn**	**04 32 49.3**	**+0.5**
SHL	**Shillong**	**5.65**	**110**	*e*P	**Pn**	**04 32 49.3**	**+0.5**
SHL				*e*S	**Sn**	**04 33 50.9**	**-2.9**
JBP	**Jabalpur**	**7.01**	**232**	⇓*e*S	**Sn**	**04 34 31.8**	**+4.6**
DDI	**Dehra Dun**	**7.46**	**293**	*e*S	**Sn**	**04 34 37.4**	**-1.0**
KOHI	**KOHIMA**	**7.49**	**103**	*e*S	**Sn**	**04 34 37.9**	**-1.4**
KOHI				IAML		04 34 40.5	
	comp=E,107nm,0.6s						
MOKO	**MOKOCHONG**	**7.71**	**98**	*e*P	**Pn**	**04 33 17.8**	**+0.7**
MOKO				*e*S	**Sn**	**04 34 39.8**	**-4.6**
MOKO				IAML		04 34 47.4	
	comp=E,112nm,0.5s						
SMLA	**Simla**	**8.46**	**297**	*e*P	**Pn**	**04 33 28.5**	**+1.2**
SMLA				*e*S	**Sn**	**04 35 00.7**	**-2.2**
SMLA				IAML		04 35 02.8	
	comp=E,123nm,0.6s						
SMLA				IAML		04 35 03.0	
	comp=N,107nm,0.3s						
BHPL	**Bhopal**	**8.89**	**243**	*e*P	Pn	04 33 38.0	+4.8
BHPL				*e*S	**Sn**	**04 35 09.6**	**-3.8**
BHPL				IAML		04 35 12.5	
	comp=E,45nm,0.2s						
HYBB	**Hyderabad (bro**	**12.26**	**216**	*e*Pn	**Pn**	**04 34 17.9**	**-1.5**
HYBB				*e*Sn	**Sn**	**04 36 32.5**	**-3.6**
HYBB				IVMs_BB	IVMs_BB	04 39 24.8	
	comp=Z,90nm,8.8s						
CHCP	**Chirah Chowk**	**12.51**	**302**	P	**Pn**	**04 34 21.9**	**-0.9**
NIL	**Nilore**	**12.51**	**302**	Pn	**Pn**	**04 34 20.7**	**-2.2**
THW	**Thamme Wali**	**13.37**	**296**	P	**Pn**	**04 34 33.7**	**-0.7**
CEP	**Cherat**	**13.61**	**300**	P	**Pn**	**04 34 34.8**	**-3.0**
KSH	**Kashi**	**14.51**	**327**	P	**Pn**	**04 34 47.1**	**-3.0**
KSH				sP	P	04 34 55.3	-1.5
KSH				pmax	pmax		
	comp=Z,17nm,0.9s						
CHTO	**Chiang Mai**	**14.77**	**124**	P	**P**	**04 34 59.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**14.99**	**125**	Pn	**Pn**	**04 34 55.2**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=304,slow=13,SNR=8.5						
CMAR	**Chiang Mai Arr**	**14.99**	**125**		**Pn**	**04 34 55.0**	**-1.6**
TARG	**Taragay, Kyrgy**	**15.60**	**337**	Pn	**Pn**	**04 35 04.2**	**-0.8**
TARG				IAmb	IAmb	04 35 11.5	
	comp=Z,8.5nm,0.9s						
KBL	**Kabul**	**16.08**	**300**	Pn	**Pn**	**04 35 08.1**	**-2.9**
KBL				IAmb	IAmb	04 35 16.8	
	comp=Z,12nm,0.8s						
WMQ	**Urumqi**	**16.23**	**4**	*e*P	**P**	**04 35 15.0**	**-0.9**
WMQ				pP	sP	04 35 20.6	-0.5
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
BOOM	**Boomskoye usch**	**16.95**	**334**	Pn	**Pn**	**04 35 22.0**	**-0.1**
BOOM				IAmb	IAmb	04 35 32.1	
	comp=Z,11nm,1.1s						
GAR	**Garm**	**17.32**	**315**		**Pn**	**04 35 22.8**	**-3.8**
LZH	**Lanzhou**	**17.34**	**56**	*e*P	**P**	**04 35 33.0**	**+4.7**
LZH				pP	sP	04 35 37.9	+4.2
LZH				sP	pP	04 35 40.1	+8.0
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
BTK	**Batken**	**17.66**	**319**	Pn	**Pn**	**04 35 28.2**	**-2.7**
BTK				IAmb	IAmb	04 35 30.0	
	comp=Z,12nm,0.9s						
AAK	**Ala-Archa**	**17.67**	**331**	P	**P**	**04 35 32.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=155,slow=6.2,SNR=7.9						
AAK	**Ala-Archa**	**17.67**	**331**		**P**	**04 35 31.9**	**-0.1**
CHGR	**Chuyangaron**	**17.86**	**312**	Pn	**Pn**	**04 35 30.6**	**-2.8**
MKAR	**Makanchi Array**	**19.37**	**352**	P	**P**	**04 35 50.9**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=170,slow=11,SNR=39						
MKAR	**Makanchi Array**	**19.37**	**352**		**P**	**04 35 50.6**	**+0.2**
MAKZ	**Makanchi**	**19.42**	**352**		**P**	**04 35 51.4**	**+0.5**
KKAR	**Karatay Array**	**19.91**	**325**	P	**P**	**04 35 55.0**	**-1.4**
KURBB	**Kurchatov Arra**	**23.67**	**348**	P	**P**	**04 36 36.3**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=169,slow=8.9,SNR=19						
KURK	**Kurchatov**	**23.75**	**348**	P	**P**	**04 36 37.3**	**+0.4**
KURK				IAmb	IAmb	04 36 38.7	
	comp=Z,7.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.81**	**51**	*e*P	**P**	**04 36 50.2**	**+3.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,75nm,6.0s						
SONM	**Songino Array**	**25.70**	**33**	P	**P**	**04 36 56.0**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=221,slow=9.4,SNR=9.3						
SONM	**Songino Array**	**25.70**	**33**	P	**P**	**04 36 56.9**	**+1.9**
ZAA0	**Zalesovo Array**	**26.32**	**358**	P	**P**	**04 37 00.9**	**+0.5**
ZAA0				IAmb	IAmb	04 37 04.1	
	comp=Z,3.2nm,0.6s						
ZALV	**Zalesovo Beam**	**26.32**	**358**	P	**P**	**04 37 01.1**	**+0.7**
	comp=Z,4.6nm,0.6s,baz=184,slow=9.1,SNR=19						
ZALV	**Zalesovo Beam**	**26.32**	**358**	P	**P**	**04 37 00.2**	**-0.1**
ABKAR	**Akbulak array**	**29.47**	**324**	P	**P**	**04 37 29.5**	**+0.9**
AKTO	**Aktyubinsk**	**31.18**	**325**	P	**P**	**04 37 44.4**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=125,slow=8.5,SNR=12						
ARU	**Arti**	**34.83**	**333**	P	**P**	**04 38 16.0**	**+0.5**
	comp=Z,3.1nm,0.2s,baz=102,slow=0.2,SNR=5.7						
NRIK	**Noril'sk**	**41.77**	**1**	P	**P**	**04 39 14.5**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=160,slow=5.6,SNR=4.4						
MMAI	**Mount Meron Ar**	**43.67**	**290**	LR	LR	05 02 16.4	
	comp=Z,50nm,18.5s,baz=49,slow=42						
AKASG	**Malin Array Be**	**48.32**	**315**	P	**P**	**04 40 05.8**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=79,slow=7.0,SNR=4.3						
AKASG	**Malin Array Be**	**48.32**	**315**	P	**P**	**04 40 04.4**	**-1.6**
TIXI	**Tiksi**	**49.96**	**16**	P	**P**	**04 40 18.4**	**0.0**
	comp=Z,1.2nm,0.3s,baz=274,slow=19,SNR=2.7						
TIXI	**Tiksi**	**49.96**	**16**	P	**P**	**04 40 18.3**	**0.0**
TIXI				IAmb	IAmb	04 40 25.4	
	comp=Z,2.5nm,1.1s						
BURAR	**Bucovina Array**	**50.76**	**310**	P	**P**	**04 40 25.9**	**+1.0**
BURAR				IAmb	IAmb	04 40 31.5	
	comp=Z,1.3nm,0.9s						
FINES	**FINESS Array B**	**51.83**	**328**	P	**P**	**04 40 32.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=102,slow=8.0,SNR=4.8						
FINES	**FINESS Array B**	**51.83**	**328**	P	**P**	**04 40 32.9**	**+0.4**
ARCES	**ARCESS Array B**	**54.17**	**338**	P	**P**	**04 40 50.0**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=102,slow=8.2,SNR=6.4						
ARCES	**ARCESS Array B**	**54.17**	**338**	P	**P**	**04 40 47.4**	**-2.3**
HFS	**Hagfors**	**57.71**	**326**	P	**P**	**04 41 15.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=104,slow=6.1,SNR=2.4						
NB2	**NORSAR Subarra**	**58.93**	**327**	P	**P**	**04 41 23.2**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=89,slow=6.9						
NOA	**NORSAR Array B**	**58.93**	**327**	P	**P**	**04 41 23.5**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=89,slow=7.0,SNR=2.2						
WB0	**Warramunga Arr**	**66.43**	**130**	P	**P**	**04 42 14.4**	**+0.2**
WRA	**Warramunga Arr**	**66.51**	**130**	P	**P**	**04 42 15.4**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=322,slow=6.4,SNR=22						
WRA	**Warramunga Arr**	**66.51**	**130**	P	**P**	**04 42 14.4**	**-0.4**
WB2	**Warramunga Arr**	**66.52**	**130**	P	**P**	**04 42 15.0**	**+0.2**
WR0	**Warramunga Arr**	**66.66**	**130**	P	**P**	**04 42 15.9**	**+0.2**
WR0				IAmb	IAmb	04 42 24.2	
	comp=Z,5.6nm,1.3s						
EKA	**Eskdalemuir Ar**	**67.31**	**322**	P	**P**	**04 42 20.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=88,slow=5.3,SNR=1.0						
ASAR	**Alice Springs**	**68.81**	**133**	P	**P**	**04 42 29.9**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=319,slow=7.0,SNR=9.3						
ESDC	**Sonseca Array**	**72.93**	**306**	P	**P**	**04 42 54.8**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=60,slow=5.1,SNR=1.4						
TOLK	**Toolik Lake Re**	**75.80**	**18**	P	**P**	**04 43 11.4**	**+0.9**
TOLK				IAmb	IAmb	04 43 14.2	
	comp=Z,5.1nm,1.5s						
BBOO	**Buckleboo**	**76.64**	**138**	P	**P**	**04 43 15.9**	**+0.3**
BMAR	**Burnt Mountain**	**78.00**	**18**	P	**P**	**04 43 24.6**	**+1.7**
CAST	**Castle Rocks**	**78.42**	**23**	P	**P**	**04 43 27.6**	**+2.4**
CAST				IAmb	IAmb	04 43 32.8	
	comp=Z,5.7nm,1.2s						
PPLA	**Purkeypile**	**78.72**	**23**	P	**P**	**04 43 27.1**	**0.0**
ILAR	**Eielson Array**	**79.22**	**20**	P	**P**	**04 43 30.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=302,slow=4.1,SNR=4.7						
ILAR	**Eielson Array**	**79.22**	**20**	P	**P**	**04 43 29.4**	**-0.2**
STKA	**Stephens Creek**	**79.38**	**134**	P	**P**	**04 43 31.1**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=302,slow=9.5,SNR=3.2						
STKA	**Stephens Creek**	**79.38**	**134**	P	**P**	**04 43 30.3**	**-0.6**
INK	**Inuvik**	**80.01**	**14**	P	**P**	**04 43 34.7**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=320,slow=4.7,SNR=1.8						
RIDG	**Independent Ri**	**80.58**	**20**	P	**P**	**04 43 38.1**	**+1.1**
RIDG				IAmb	IAmb	04 43 51.9	
	comp=Z,6.7nm,1.4s						
SCRK	**Sand Creek**	**80.67**	**20**	P	**P**	**04 43 38.4**	**+0.8**
SCRK				IAmb	IAmb	04 43 45.6	
	comp=Z,1.5nm,0.8s						
BCAR	**Beaver Creek A**	**82.01**	**20**	P	**P**	**04 43 46.5**	**+1.9**
FRB	**Frobisher Bay**	**86.75**	**349**	P	**P**	**04 44 08.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=53,slow=10,SNR=3.8						
YKA	**Yellowknife Ar**	**88.70**	**9**	P	**P**	**04 44 17.6**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=321,slow=5.6,SNR=2.6						
SIV	**San Ignacio**	**147.41**	**284**	PKPbc	**PKPdf**	**04 51 08.3**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=56,slow=3.6,SNR=2.5						

*IDC **04** 04:32:12.7±1.3, 27°.58N×85°.87E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.7/66, mbtmp3.8/13, ML4.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/85, Error ellipse: s-maj=47.2km s-min=20.5km az=56.0*
ISC 04 04:32:14.0±1.3, **27°.5N**±0°.2×**85°.7E**±0°.2, **h10**km, **n15**, σ**0§72**/14, **mb3.8**/12, **Nepal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**17.63**	**332**	LR	LR	04 44 02.6	
	comp=Z,40nm,18.7s,baz=142,slow=40						
MKAR	**Makanchi Array**	**19.42**	**353**	P	**P**	**04 36 40.6**	**+0.3**
	0.4nm,0.3s,baz=179,slow=11,SNR=5.9						
KURBB	**Kurchatov Arra**	**23.70**	**349**	P	**P**	**04 37 26.3**	**+0.4**
	1.2nm,0.6s,baz=166,slow=10.0,SNR=2.3						
BTO	**Baotou**	**23.87**	**51**	*e*P	**P**	**04 37 28.9**	**+1.1**
SONM	**Songino Array**	**25.89**	**33**	P	**P**	**04 37 45.1**	**-1.0**
	0.6nm,0.4s,baz=218,slow=9.1,SNR=1.4						
ZALV	**Zalesovo Beam**	**26.40**	**359**	P	**P**	**04 37 50.8**	**+0.3**
	2.3nm,0.6s,baz=188,slow=8.7,SNR=5.4						
AKTO	**Aktyubinsk**	**31.11**	**325**	P	**P**	**04 38 32.2**	**-0.3**
	1.1nm,0.4s,baz=105,slow=9.9,SNR=3.6						
ARU	**Arti**	**34.80**	**334**	P	**P**	**04 39 05.4**	**+0.8**
	2.8nm,0.2s,baz=180,slow=4.0,SNR=4.3						
FINES	**FINESS Array B**	**51.77**	**328**	P	**P**	**04 41 21.8**	**+0.3**
	0.5nm,0.4s,baz=111,slow=7.6,SNR=1.7						
ARCES	**ARCESS Array B**	**54.16**	**338**	P	**P**	**04 41 39.9**	**+0.8**
	2.6nm,1.0s,baz=105,slow=8.3,SNR=7.6						
NOA	**NORSAR Array B**	**58.87**	**327**	P	**P**	**04 42 12.5**	**-0.3**
	0.4nm,0.6s,baz=75,slow=6.9,SNR=1.2						
WRA	**Warramunga Arr**	**66.63**	**130**	P	**P**	**04 43 04.9**	**-0.2**
	0.8nm,0.7s,baz=321,slow=6.6,SNR=1.7						
ASAR	**Alice Springs**	**68.93**	**133**	P	**P**	**04 43 20.1**	**+0.6**
	0.2nm,0.4s,baz=322,slow=6.6,SNR=1.1						
ILAR	**Eielson Array**	**79.37**	**20**	P	**P**	**04 44 19.1**	**-0.7**
	0.3nm,0.7s,baz=306,slow=4.1,SNR=4.0						
YKA	**Yellowknife Ar**	**88.81**	**9**	P	**P**	**04 45 07.1**	**-0.8**
	0.2nm,0.7s,baz=327,slow=5.1,SNR=3.7						

*KNET **04** 04:49:54.2±0.4, 41°.29N×75°.25E, h3km±5km, ml2.7, Error ellipse: s-maj=5.2km s-min=2.2km az=142.0*
*KRNET **04** 04:49:54.0±0.1, 41°.23N×75°.26E, h19km, mb3.1*
*NNC **04** 04:49:54.6±1.2, 41°.19N×75°.24E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=8.4km s-min=5.7km az=174.0*
*SOME **04** 04:49:54.2, 41°.30N×75°.28E, h5km*
ISC 04 04:49:53.5±1.3, **41°.14N**±0°.04×**75°.09E**±0°.02, **h6**km±11km, **n75**, σ**1§45**/119, **34C-12D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.40**	**38**	⇓P	**Pn**	**04 50 17.5**	**-2.3**
	20nm,0.2s,SNR=58						
ULHL				⇑S	**Sb**	**04 50 35.0**	**-3.4**
	102nm,0.4s						
ULHL	**Ulahol**	**1.40**	**38**	⇑*i*P	**Pn**	**04 50 17.7**	**-2.1**
	baz=35						
ULHL				⇑*i*S	**Sb**	**04 50 35.2**	**-3.2**
	baz=35						
BOOM	**Boomskoye usch**	**1.49**	**25**	⇑*e*P	**Pn**	**04 50 19.7**	**-1.3**
	baz=22						
BOOM				⇑*i*S	**Sn**	**04 50 38.7**	**-2.2**
	baz=22						
KBK	**Karagaybulak**	**1.52**	**356**	⇑P	**Pn**	**04 50 21.1**	**-0.2**
	34nm,0.1s,SNR=75						
KBK				⇓S	**Sn**	**04 50 41.9**	**+0.3**
	123nm,0.1s						
KBK	**Karagaybulak**	**1.52**	**356**	⇑*i*P	**Pn**	**04 50 21.1**	**-0.2**
	baz=51						
KBK				⇑*i*S	**Sn**	**04 50 41.3**	**-0.3**
	baz=51						
FRU1	**Bishkek**	**1.70**	**349**	⇓*i*P	**Pb**	**04 50 25.4**	**+0.2**
	baz=44						
FRU1				⇓*i*S	**Sb**	**04 50 47.8**	**+0.9**
	baz=44						
EKS2	**Erkin-Say**	**1.81**	**328**	⇑P	**Pb**	**04 50 27.3**	**+0.2**
	SNR=6.9						
EKS2	**Erkin-Say**	**1.81**	**328**	⇓*i*P	**Pg**	**04 50 27.5**	**-0.6**
	baz=23						
EKS2				⇓*i*S	**Sg**	**04 50 52.1**	**+0.6**
	baz=23						
TKM2	**Tokmak 2**	**1.82**	**12**	⇑P	**Pn**	**04 50 26.0**	**+0.5**
	20nm,0.2s,SNR=19						
TKM2	**Tokmak 2**	**1.82**	**12**	⇑*i*P	**Pn**	**04 50 26.0**	**+0.5**
	baz=8.0						
TKM2				⇑*i*S	**Sn**	**04 50 49.5**	**+0.5**
	baz=8.0						
TKM2	**Tokmak 2**	**1.82**	**12**	⇑P	**Pn**	**04 50 26.3**	**+0.7**
	4.3nm,0.3s						
TKM2				⇓S	**Sn**	**04 50 49.4**	**+0.5**
	52nm,0.5s						
KDJ	**Kajisay**	**1.85**	**57**	⇑*e*P	**Pn**	**04 50 25.7**	**-0.3**
	baz=58						
KDJ				⇑*i*S	**Sn**	**04 50 49.3**	**-0.5**
	baz=58						
OHH	**Osh**	**1.85**	**251**	⇑*i*P	**Pg**	**04 50 31.0**	**+2.0**
	baz=50						
OHH				⇑*i*S	**Sg**	**04 50 57.7**	**+4.7**
	baz=50						
CHMS	**Chumysh**	**1.87**	**352**	⇓P	**Pb**	**04 50 27.6**	**-0.5**
	8.6nm,0.1s,SNR=8.8						
CHMS				⇓S	**Sb**	**04 50 52.5**	**+0.7**
	59nm,0.2s						
CHMS	**Chumysh**	**1.87**	**352**	⇑*i*P	**Pb**	**04 50 27.6**	**-0.5**
	baz=48						
CHMS				⇑*i*S	**Sb**	**04 50 52.2**	**+0.4**
	baz=48						
CHMS	**Chumysh**	**1.87**	**352**	⇓P	**Pb**	**04 50 27.6**	**-0.5**
	27nm,0.6s						
CHMS				⇑S	**Sb**	**04 50 52.6**	**+0.7**
	14nm,0.3s						
KST	**Kastek**	**2.01**	**19**	*e*P	**Pb**	**04 50 29.8**	**-0.7**
	8.4nm,0.1s						
KST				*e*S	**Sb**	**04 50 55.7**	**-0.1**
	96nm,0.1s						
KST	**Kastek**	**2.01**	**19**	Pg	**Pb**	**04 50 29.8**	**-0.7**
	8.4nm,0.4s						
KST				Lg	Lg	04 50 55.7	
	96nm,0.4s						
MRKS	**Merke**	**2.12**	**320**	*e*P	**Pg**	**04 50 35.1**	**+1.0**
	17nm,0.1s						
MRKS				*e*S	**Sg**	**04 51 03.9**	**+2.3**
	54nm,0.0s						
MRKS	**Merke**	**2.12**	**320**	Pg	**Pg**	**04 50 35.1**	**+1.0**
	17nm,0.3s						
MRKS				Lg	Lg	04 51 03.8	
	38nm,0.5s						
DGS	**Degeres**	**2.16**	**13**	*e*P	**Pb**	**04 50 33.1**	**0.0**
	21nm,0.2s						
DGS				*e*S	**Sb**	**04 51 01.2**	**+1.0**
	58nm,0.1s						
DGS	**Degeres**	**2.16**	**13**	Pg	**Pb**	**04 50 33.1**	**0.0**
	21nm,0.5s						
DGS				Lg	Lg	04 51 01.2	
	58nm,0.3s						
USP	**Ospenovka**	**2.17**	**349**	⇑P	**Pb**	**04 50 33.2**	**0.0**
	21nm,0.2s,SNR=49						
USP				⇑S	**Sb**	**04 51 01.9**	**+1.6**
	78nm,0.3s						
USP	**Ospenovka**	**2.17**	**349**	⇑*i*P	**Pb**	**04 50 32.5**	**-0.7**
	baz=45						
USP				⇑*i*S	**Sb**	**04 51 00.5**	**+0.2**
	baz=45						
IZV	**Izvestkoviy**	**2.21**	**30**	*e*P	**Pb**	**04 50 33.0**	**-0.9**
	7.1nm,0.1s						
IZV				*e*S	**Sb**	**04 51 01.2**	**-0.4**
	42nm,0.0s						
IZV	**Izvestkoviy**	**2.21**	**30**	Pg	**Pb**	**04 50 33.0**	**-0.9**
	12nm,0.4s						
IZV				Lg	Lg	04 51 01.2	
	37nm,0.3s						
MTBS	**Maitube**	**2.22**	**26**	*e*P	**Pb**	**04 50 33.6**	**-0.5**
	8.1nm,1.5s						
MTBS				*e*S	**Sb**	**04 51 02.0**	**+0.1**
	72nm,0.0s						
MTBS	**Maitube**	**2.22**	**26**	Pg	**Pb**	**04 50 33.6**	**-0.5**
	8.0nm,0.2s						
MTBS				Lg	Lg	04 51 02.0	
	72nm,0.2s						
SGDS	**Sogindy**	**2.33**	**352**	*e*P	**Pb**	**04 50 35.9**	**-0.1**
	11nm,0.2s						
SGDS				*e*S	**Sb**	**04 51 05.8**	**+0.7**
	148nm,0.6s						
SGDS	**Sogindy**	**2.33**	**352**	Pg	**Pb**	**04 50 35.9**	**-0.1**
	11nm,0.2s						
SGDS				Lg	Lg	04 51 05.8	
	148nm,0.6s						
TNSS	**Tian-Shan**	**2.34**	**36**	*e*P	**Pb**	**04 50 35.2**	**-1.2**
	6.1nm,0.3s						
TNSS				*e*S	**Sb**	**04 51 05.0**	**-0.7**
	14nm,0.0s						
TNSS	**Tian-Shan**	**2.34**	**36**	Pg	**Pb**	**04 50 35.2**	**-1.2**
	6.1nm,0.3s						
TNSS				Lg	Lg	04 51 05.0	
	14nm,0.3s						
ARK	**Arkit**	**2.44**	**287**	⇑*i*P	**Pg**	**04 50 38.6**	**-1.6**
	baz=84						
ARK				⇑*i*S	**Sg**	**04 51 10.9**	**-0.9**
	baz=84						
MDOK	**Medeo**	**2.49**	**35**	*e*P	**Pb**	**04 50 37.7**	**-1.0**
	7.8nm,0.0s						
MDOK				*e*S	**Sb**	**04 51 09.3**	**-0.4**
	30nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**2.49**	**35**	⇑Pn	**Pb**	**04 50 37.2**	**-1.5**
	5.9nm,0.6s						
MDOK				Sn	**Sn**	**04 51 08.1**	**+2.6**
	20nm,0.5s						
MDOK	**Medeo**	**2.49**	**35**	Pg	**Pb**	**04 50 37.7**	**-1.0**
	6.8nm,0.5s						
MDOK				Lg	Lg	04 51 09.3	
	30nm,0.5s						
ANVS	**Anan'yevo**	**2.53**	**49**	⇑*i*P	**Pn**	**04 50 35.9**	**+0.6**
	baz=48						
ANVS				⇑*i*S	**Sn**	**04 51 06.6**	**+0.1**
	baz=48						
KOTS	**Kotyrbulak**	**2.58**	**35**	*e*P	**Pb**	**04 50 40.2**	**0.0**
	5.3nm,0.0s						
KOTS				*e*S	**Sb**	**04 51 13.3**	**+1.1**
	118nm,0.5s						
KOTS	**Kotyrbulak**	**2.58**	**35**	Pg	**Pb**	**04 50 40.2**	**0.0**
	5.3nm,0.3s						
KOTS				Lg	Lg	04 51 13.3	
	118nm,0.5s						
KRBS	**Karabastau**	**2.59**	**9**	*e*P	**Pb**	**04 50 40.0**	**-0.4**
	5.6nm,0.1s						
KRBS				*e*S	**Sb**	**04 51 13.1**	**+0.6**
	87nm,0.1s						
KRBS	**Karabastau**	**2.59**	**9**	Pg	**Pb**	**04 50 40.0**	**-0.4**
	5.6nm,0.5s						
KRBS				Lg	Lg	04 51 13.1	
	88nm,0.4s						
KTBS	**Karatobe**	**2.83**	**24**	*e*P	**Pb**	**04 50 43.9**	**-0.5**
	2.7nm,0.0s						
KTBS				*e*S	**Sb**	**04 51 19.7**	**+0.5**
	120nm,0.5s						
KTBS	**Karatobe**	**2.83**	**24**	Pg	**Pb**	**04 50 43.9**	**-0.5**
	2.8nm,0.3s						
KTBS				Lg	Lg	04 51 19.7	
	120nm,0.5s						
KUU	**Kurty**	**2.90**	**18**	*e*P	**Pb**	**04 50 45.4**	**-0.3**
	2.4nm,0.1s						
KUU				*e*S	**Sb**	**04 51 22.6**	**+1.2**
	64nm,0.1s						
KUU	**Kurty**	**2.90**	**18**	Pg	**Pb**	**04 50 45.4**	**-0.3**
	3.6nm,0.4s						
KUU				Lg	Lg	04 51 22.6	
	50nm,0.4s						
TRKS	**Terek-Say**	**3.00**	**279**	⇑*i*P	**Pb**	**04 50 46.2**	**-1.2**
	baz=76						
TRKS				⇑*i*S	**Sb**	**04 51 24.2**	**-0.1**
	baz=76						
CHKK	**Chushkaly**	**3.05**	**27**	*e*P	**Pb**	**04 50 48.5**	**+0.3**
	1.5nm,0.1s						
CHKK				*e*S	**Sb**	**04 51 27.6**	**+1.8**
	55nm,0.1s						
CHKK	**Chushkaly**	**3.05**	**27**	Pg	**Pb**	**04 50 48.5**	**+0.3**
	1.5nm,0.3s						
CHKK				Lg	Lg	04 51 27.6	
	55nm,0.3s						
SATY	**Saty**	**3.12**	**51**	*e*P	**Pb**	**04 50 49.4**	**-0.1**
	14nm,0.2s						
SATY				*e*S	**Sb**	**04 51 29.1**	**+1.1**
	18nm,0.0s						
SATY	**Saty**	**3.12**	**51**	Pg	**Pb**	**04 50 49.4**	**-0.1**
	14nm,0.1s						
SATY				Lg	Lg	04 51 29.1	
	18nm,0.2s						
KURS	**Kuram**	**3.27**	**43**	*e*P	**Pb**	**04 50 50.9**	**-1.1**
	2.2nm,0.3s						
KURS				*e*S	**Sb**	**04 51 31.8**	**-0.4**
	7.6nm,0.5s						
KURS	**Kuram**	**3.27**	**43**	Pg	**Pb**	**04 50 50.9**	**-1.1**
	2.2nm,0.3s						
KURS				Lg	Lg	04 51 31.7	
	7.6nm,0.5s						
KPKS	**Kokpek**	**3.54**	**48**	*e*P	**Pb**	**04 50 55.6**	**-0.9**
	1.6nm,0.1s						
KPKS				*e*S	**Sb**	**04 51 39.9**	**+0.2**
	21nm,0.1s						
UZB	**Uzynbulak**	**3.54**	**54**	*e*P	**Pb**	**04 50 56.0**	**-0.7**
	2.0nm,0.5s						
UZB				*e*S	**Sb**	**04 51 40.2**	**+0.2**
	6.6nm,0.1s						
UZB	**Uzynbulak**	**3.54**	**54**	Pg	**Pb**	**04 50 56.0**	**-0.7**
	2.0nm,0.5s						
UZB				Lg	Lg	04 51 40.2	
	9.5nm,0.5s						
ARXS	**Arharly**	**3.67**	**32**	*e*P	**Pb**	**04 50 58.4**	**-0.4**
	2.5nm,0.0s						
ARXS				*e*S	**Sb**	**04 51 45.1**	**+1.4**
	25nm,0.1s						
ARXS	**Arharly**	**3.67**	**32**	Pg	**Pb**	**04 50 58.4**	**-0.4**
	4.5nm,0.6s						
ARXS				Lg	Lg	04 51 45.1	
	26nm,0.4s						
SHLS	**Shalkode**	**3.83**	**57**	*e*P	**Pg**	**04 51 06.4**	**-0.3**
	2.8nm,0.0s						
SHLS				*e*S	**Sg**	**04 51 58.2**	**+1.9**
	9.1nm,0.1s						
SHLS	**Shalkode**	**3.83**	**57**	Pg	**Pg**	**04 51 06.4**	**-0.3**
	2.9nm,0.6s						
SHLS				Lg	Lg	04 51 58.2	
	6.0nm,0.5s						
BLB	**Baldybastay**	**3.87**	**39**	*e*P	**Pb**	**04 51 02.0**	**-0.3**
	1.3nm,0.1s						
BLB				*e*S	**Sb**	**04 51 50.7**	**+1.3**
	14nm,0.1s						
BLB	**Baldybastay**	**3.87**	**39**	Pg	**Pb**	**04 51 02.0**	**-0.3**
	1.3nm,0.1s						
BLB				Lg	Lg	04 51 50.7	
	13nm,0.4s						
IUG	**Iuzhnay**	**3.92**	**287**	*e*P	**Pg**	**04 51 06.9**	**-1.7**
	136nm,0.1s						
IUG				*e*S	**Sg**	**04 51 58.9**	**-0.4**
	19nm,0.0s						
IUG	**Iuzhnay**	**3.92**	**287**	Pg	**Pg**	**04 51 06.9**	**-1.7**
	133nm,0.3s						
IUG				Lg	Lg	04 51 58.9	
	19nm,0.5s						
PDGK	**Podgornoye**	**3.93**	**55**	Pg	**Pb**	**04 51 02.1**	**-1.2**
	1.1nm,0.5s						
PDGK				Lg	Lg	04 51 50.7	
	3.3nm,0.8s						
PDGK	**Podgornoye**	**3.93**	**55**	⇑Pg	**Pb**	**04 51 01.4**	**-1.9**
	3.4nm,0.8s						
PDGK				⇑Lg	Lg	04 51 58.1	
	10nm,0.9s						
KK08	**Karatay Array**	**3.94**	**301**	⇓Pn	**Pb**	**04 50 59.7**	**-3.8**
	3.5nm,0.6s,baz=124,slow=16						
KK08				⇓Lg	Lg	04 52 01.7	
	2.6nm,0.5s,baz=124,slow=30						
BTLS	**Baital**	**3.97**	**349**	*e*P	**Pb**	**04 51 05.2**	**+1.4**
	1.0nm,0.1s						
BTLS				*e*S	**Sb**	**04 51 56.3**	**+4.1**
	9.5nm,0.5s						
BTLS	**Baital**	**3.97**	**349**	Lg	Lg	04 51 56.3	
	9.5nm,0.5s						
BRLS	**Borolday**	**4.34**	**297**	*e*P	**Pg**	**04 51 14.2**	**-2.3**
	1.5nm,0.0s						
BRLS				*e*S	**Sg**	**04 52 11.9**	**-0.9**
	4.5nm,0.1s						
BRLS	**Borolday**	**4.34**	**297**	Pg	**Pg**	**04 51 14.2**	**-2.3**
	1.5nm,0.5s						
BRLS				Lg	Lg	04 52 11.9	
	6.8nm,0.6s						
KTMS	**Ketmen**	**4.53**	**58**	*e*P	**Pb**	**04 51 16.4**	**+2.8**
	1.2nm,0.1s						
KTMS				*e*S	**Sg**	**04 52 15.8**	**-3.2**
	1.4nm,0.2s						
KTMS	**Ketmen**	**4.53**	**58**	Pg	**Pb**	**04 51 16.4**	**+2.8**
	1.3nm,0.3s						
DJR	**Jarkent**	**4.71**	**46**	*e*P	**Pb**	**04 51 17.4**	**+1.0**
	1.3nm,0.0s						
DJR				*e*S	**Sb**	**04 52 17.4**	**+4.0**
	6.2nm,0.0s						
KAPS	**Kapalarasan**	**5.18**	**36**	*e*P	**Pb**	**04 51 25.4**	**+0.9**
	0.9nm,0.2s						
KAPS				*e*S	**Sb**	**04 52 30.9**	**+3.8**
	5.8nm,0.0s						
OTUK	**Ortayu**	**7.37**	**346**	⇑Lg	Lg	04 53 47.4	
	3.5nm,0.8s						

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*THE **04** 04:56:51.6, 41.54N×19.71E, h16km±1km, ML1.9/6, Error ellipse: s-maj=3.4km s-min=1.3km az=306.0*
*PDG **04** 04:56:51.9±0.2, 41.44N×19.79E, h22km, ML2.3/12, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*SKO **04** 04:56:52.1, 41.32N×19.64E, h20km*
*TIR **04** 04:56:53.5, 41.46N×19.91E, h12km, Md2.6, Ml2.2*
ISC 04 04:56:51.3±0.9**, 41.35N**±0.02×**19.64E**±0.03**, h16**km±7km**, n37,** σ1s14/70**, 2C-4D, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.17**	**91**	P	**Pb**	**04 56 56.9**	**+0.9**
TIR				S	**Sg**	**04 57 00.7**	**+2.4**
	695nm,0.3s						
TIR	**Tirane**	**0.17**	**91**	*i* Pg	**Pb**	**04 56 56.8**	**+0.8**
ULC	**Ulcinj**	**0.68**	**334**	*i* Pg	**Pb**	**04 57 05.2**	**+0.4**
ULC	**Ulcinj**	**0.68**	**334**	⇓*i*Pg	**Pb**	**04 57 05.3**	**+0.5**
ULC				*i* Sg	**Sn**	**04 57 16.9**	**+0.3**
PHP	**Peshkopia**	**0.69**	**61**	P	**Pg**	**04 57 02.5**	**-2.2**
PHP				S	**Sg**	**04 57 10.6**	**-3.2**
DRME	**Dracevica, Mon**	**0.90**	**338**	*e*Pg	**Pb**	**04 57 08.7**	**+0.1**
DRME				*e*Sg	**Sn**	**04 57 22.8**	**+0.8**
OHR	**Ohrid**	**0.90**	**105**	*i* Pg	**Pn**	**04 57 08.6**	**-0.7**
OHR				*i* Sg	**Sn**	**04 57 21.4**	**-0.8**
OHR				*e*Lg	Lg	04 57 22.4	
	comp=N,38nm,0.6s						
BUM	**Brajici-Budva**	**1.10**	**330**	⇓*i*Pg	**Pn**	**04 57 12.3**	**+0.2**
BUM				*i* Sg	**Sn**	**04 57 29.1**	**+2.1**
PDG	**Podgorica**	**1.12**	**345**	*i* Pg	**Pg**	**04 57 12.9**	**+0.1**
PDG				*i* Sg	**Sn**	**04 57 28.6**	**+1.4**
TTG	**Podgorica**	**1.12**	**345**	*e*Pg	**Pb**	**04 57 11.9**	**-0.3**
TTG				*i* Sg	**Sn**	**04 57 28.3**	**+1.0**
KBN	**Korca**	**1.13**	**130**	P	**Pn**	**04 57 14.2**	**+1.7**
KBN				S	**Sn**	**04 57 30.7**	**+3.0**
	comp=N,45nm,0.4s						
PVY	**Plav**	**1.26**	**11**	⇓*i*Pg	**Pn**	**04 57 13.4**	**-1.0**
PVY				*i* Sg	**Sb**	**04 57 31.1**	**+0.2**
CEME	**Cevo**	**1.31**	**336**	*e*Pg	**Pb**	**04 57 15.4**	**-0.2**
CEME				*i* Sg	**Sg**	**04 57 34.4**	**+0.7**
HCY	**Herceg Novi**	**1.39**	**322**	⇑*i*Pg	**Pg**	**04 57 17.2**	**-0.9**
HCY				*i* Sg	**Sg**	**04 57 37.8**	**+1.6**
NEST	**Nestorio**	**1.42**	**131**	P	**Pg**	**04 57 18.4**	**-0.2**
NEST				S	**Sg**	**04 57 38.0**	**+0.9**
	comp=N,22nm,0.6s						
FNA	**Florina**	**1.43**	**113**	P	**Pb**	**04 57 17.0**	**-0.5**
FNA				S	**Sg**	**04 57 35.8**	**-1.5**
	comp=N,92nm,0.5s						
SRN	**Sarande**	**1.50**	**169**	P	**Pg**	**04 57 20.1**	**+0.1**
SRN				S	**Sg**	**04 57 40.4**	**+0.9**
	comp=N,20nm,1.1s						
KOME	**Kolasin**	**1.50**	**356**	⇑*i*Pg	**Pn**	**04 57 17.5**	**-0.1**
KOME				*i* Sg	**Sb**	**04 57 38.5**	**+0.8**
NKME	**Niksic**	**1.50**	**340**	*e*Pg	**Pn**	**04 57 18.1**	**+0.5**
NKME				*i* Sg	**Sg**	**04 57 39.6**	**-0.2**
BEY	**Berane**	**1.53**	**7**	*i* Pn	**Pb**	**04 57 19.4**	**+0.1**
IVA	**Berane**	**1.53**	**7**	*e*Pg	**Pn**	**04 57 17.6**	**-0.4**
IVA				*i* Sg	**Sn**	**04 57 38.8**	**+1.1**
KEK	**Kerkira**	**1.64**	**176**	P	**Pg**	**04 57 20.7**	**-2.1**
KEK				S	**Sg**	**04 57 43.8**	**-0.3**
BRY	**Bratogost**	**1.75**	**332**	⇓*i*Pn	**Pn**	**04 57 21.8**	**+0.7**
BRY				*i* Sn	**Sb**	**04 57 46.2**	**+1.2**
IGT	**Igoumenitsa**	**1.89**	**164**	P	**Pb**	**04 57 24.9**	**-0.5**
IGT				S	**Sg**	**04 57 49.9**	**-2.2**
	comp=N,15nm,0.8s						
UPM	**Unac-Piva**	**1.93**	**344**	*e*Pn	**Pn**	**04 57 23.8**	**+0.2**
UPM				*i* Sn	**Sb**	**04 57 49.8**	**-0.3**
STIP	**Stip**	**1.94**	**79**	*i* Pn	**Pb**	**04 57 26.1**	**-0.1**
STIP				*i* Sn	**Sb**	**04 57 50.6**	**+0.5**
STIP				*e*Lg	Lg	04 57 51.8	
	comp=E,2.0nm,0.3s						
STON	**Ston**	**2.10**	**317**	*e*Pn	**Pn**	**04 57 26.6**	**+0.9**
STON				Sn	**Sn**	**04 57 51.9**	**+0.5**
LSTV	**Lastovo**	**2.49**	**306**	*e*Pn	**Pn**	**04 57 31.5**	**+0.4**
LSTV				Sn	**Sn**	**04 58 00.5**	**-0.7**
MAKA	**Makarska**	**2.74**	**316**	*e*Pn	**Pn**	**04 57 34.9**	**+0.3**
MAKA				Sn	**Sn**	**04 58 06.7**	**-0.7**
RICI	**Ricice**	**2.83**	**320**	*i* Pn	**Pn**	**04 57 36.7**	**+0.8**
RICI				Sn	**Sn**	**04 58 10.4**	**+0.6**
HVAR	**Hvar**	**2.99**	**309**	*e*Pn	**Pn**	**04 57 37.9**	**-0.2**
HVAR				Sn	**Sn**	**04 58 12.2**	**-1.3**
KIJV	**Kijevo**	**3.57**	**319**	*e*Pn	**Pn**	**04 57 46.8**	**+0.8**
KIJV				Sn	**Sn**	**04 58 28.8**	**+1.0**
ZIRJ	**Zirje**	**3.75**	**309**	*e*Pn	**Pn**	**04 57 48.9**	**+0.5**
ZIRJ				Sn	**Sn**	**04 58 30.7**	**-1.4**
MORI	**Morici**	**3.84**	**312**	*e*Pn	**Pn**	**04 57 49.6**	**-0.1**
MORI				Sn	**Sn**	**04 58 32.8**	**-1.7**
DUGI	**Dugi Otok**	**4.29**	**309**	*i* Pn	**Pn**	**04 57 55.4**	**-0.5**
DUGI				Sn	**Sn**	**04 58 44.2**	**-1.3**
VIRC	**Vir**	**4.47**	**313**	*e*Pn	**Pn**	**04 57 58.2**	**-0.2**
VIRC				Sn	**Sn**	**04 58 48.6**	**-1.5**
ENEZ	**Enez**	**4.96**	**95**	P	**Pn**	**04 58 06.6**	**+1.5**

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*GUC **04** 05:13:47.8±0.5, 24.00S×67.24W, h225km±8km, ML3.7*
*IDC **04** 05:13:52.3±10.0, 23.52S×66.61W, h223km±71km, mb3.1/1, mb1 3.1/4, mb1mx3.0/23, mbtmp3.7/4, Error ellipse: s-maj=112.8km s-min=29.9km az=23.0*
ISC 04 05:13:46.4±1.1**, 23.99S**±0.05×**67.1W**±0.1**, h216**km±15km**, n26,** σ1s24/42**, 9C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.15**	**309**	⇑*i*P	**Pn**	**05 14 28.9**	**+0.8**
LVC				*i* S	**S**	**05 15 00.2**	**-0.1**
PB15	**IPOC Station P**	**2.30**	**289**	⇑*i*P	**Pn**	**05 14 30.6**	**+1.1**
PB15				*i* S	**S**	**05 15 02.8**	**+0.1**
GO02	**Mina Guanaco**	**2.54**	**242**	⇑*i*P	**Pn**	**05 14 33.0**	**+0.9**
GO02				*i* S	**S**	**05 15 08.0**	**+0.5**
GO02				IAML		05 15 10.5	
	comp=N,328nm,0.1s						
PB06	**IPOC Station P**	**2.59**	**299**	⇑*i*P	**Pn**	**05 14 33.7**	**+1.1**
PB06				*i* S	**S**	**05 15 08.2**	**-0.1**
PB06				IAML		05 15 09.2	
	comp=N,293nm,0.4s						
PB09	**IPOC Station P**	**2.94**	**318**	*e*P	**Pn**	**05 14 37.9**	**+1.5**
PB09				IAML		05 15 16.9	
	comp=N,45nm,0.3s						
PB14	**IPOC Station P**	**3.07**	**257**	*e*P	**Pn**	**05 14 38.9**	**+0.8**
PB14				*e*S	**S**	**05 15 17.7**	**-0.4**
PB14				IAML		05 15 21.3	
	comp=E,64nm,0.5s						
PB10	**IPOC Station P**	**3.19**	**278**	⇑*i*P	**Pn**	**05 14 40.5**	**+1.4**
PB10				*i* S	**S**	**05 15 19.6**	**-0.5**
PB04	**IPOC Station P**	**3.24**	**300**	⇑*i*P	**Pn**	**05 14 41.0**	**+1.0**
PB04				*i* S	**S**	**05 15 20.9**	**-0.7**
AC02	**Maricunga**	**3.37**	**212**	⇑*i*P	**Pn**	**05 14 42.4**	**+0.7**
AC02				IAML		05 15 31.6	
	comp=E,33nm,0.2s						
PB07	**IPOC Station P**	**3.41**	**311**	⇓*i*P	**Pn**	**05 14 42.7**	**+0.8**
PB07				*i* S	**S**	**05 15 24.1**	**-1.1**
PB01	**IPOC Station P**	**3.66**	**323**	*e*P	**Pn**	**05 14 45.5**	**+0.6**
PB01				*i* S	**S**	**05 15 29.1**	**-1.4**
PB02	**IPOC Station P**	**3.70**	**315**	*e*P	**Pn**	**05 14 46.0**	**+0.7**
AC01	**Pan de Azucar**	**3.82**	**235**	⇑*i*P	**Pn**	**05 14 46.5**	**-0.1**
AC01				*i* S	**S**	**05 15 32.5**	**-1.2**
PATCX	**Punta Patache**	**4.22**	**318**	⇑*e*P	**Pn**	**05 14 52.4**	**+0.7**
PB08	**IPOC Station P**	**4.27**	**333**	*e*P	**Pn**	**05 14 54.2**	**+1.6**
PB08				*i* S	**S**	**05 15 44.8**	**+0.3**
TA01	**Diego Aracena**	**4.43**	**320**	*e*P	**Pn**	**05 14 55.6**	**+1.4**
TA01				*i* S	**S**	**05 15 45.9**	**-1.5**
AC06	**Mina Casimiro**	**4.45**	**220**	*e*P	**Pn**	**05 14 53.8**	**-0.5**
HMBC	**Humberstone**	**4.50**	**325**	*e*P	**Pn**	**05 14 54.6**	**-0.6**
HMBC				*i* S	**S**	**05 15 46.2**	**-2.9**
GO03	**Copiap**	**4.56**	**217**	⇓*i*P	**Pn**	**05 14 55.1**	**-0.7**
GO03				*i* S	**S**	**05 15 48.1**	**-2.2**
GO01	**Chusmiza**	**4.71**	**335**	*e*P	**Pn**	**05 14 59.3**	**+1.1**
GO01				*i* S	**S**	**05 15 55.0**	**+0.4**
AC04	**Llanos de Chal**	**5.50**	**219**	*e*P	**Pn**	**05 15 06.3**	**-1.3**
LPAZ	**La Paz**	**7.72**	**353**	P	**Pn**	**05 15 37.5**	**+0.8**
	comp=E,0.3nm,0.3s,baz=176,slow=6.7,SNR=12						
LPAZ				S	**S**	**05 17 02.5**	**-2.3**
	comp=E,0.0nm,0.3s,baz=341,slow=24,SNR=1.2						
SIV	**San Ignacio**	**9.78**	**37**	P	**Pn**	**05 15 59.8**	**-2.9**
	comp=E,0.4nm,0.3s,baz=222,slow=12,SNR=13						
BDFB	**Brasilia**	**19.78**	**69**	P	**P**	**05 18 00.2**	**-0.4**
	comp=E,0.3nm,0.3s,baz=245,slow=11,SNR=8.6						
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**	**05 25 15.1**	**+1.1**
	comp=E,0.2nm,0.4s,baz=258,slow=5.3,SNR=10						
MKAR	**Makanchi Array**	**146.58**	**39**	PKPbc	**PKiKP**	**05 33 05.8**	**+0.8**
	comp=E,0.2nm,0.3s,baz=302,slow=2.7,SNR=3.7						

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*IDC **04** 05:40:20.1±1.4, 14.16S×166.75E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/32, mbtmp3.9/8, ML4.0/1, MS3.5/9, Ms1 3.6/9, ms1mx3.1/63, Error ellipse: s-maj=46.1km s-min=24.0km az=127.0*
*NEIC **04** 05:40:24.6±2.3, 14.30S±0.09×167.0E±0.1, h35km±2km, mb4.2/13, Error ellipse: s-maj=20.2km s-min=14.8km az=90.0*
ISC 04 05:40:24.6±0.9**, 14.30S**±0.09×**166.9E**±0.1**, h35**km**, n33,** σ1s08/29**, mb4.0**/10**, MS3.6**/7**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.17**	**167**	Pn	**Pn**	**05 40 43.8**	**-0.7**
LIFNC	**LIFOU**	**6.45**	**177**	Pn	**Pn**	**05 41 56.9**	**-0.2**
KOUNC	**Koumac, New Ca**	**6.71**	**202**	Pn	**Pn**	**05 42 01.6**	**+1.0**
MARNC	**Mare, Loyalty**	**7.21**	**172**	Pn	**Pn**	**05 42 07.2**	**-0.4**
DZM	**Mont Dzumac**	**7.74**	**183**	Pn	**Pn**	**05 42 15.9**	**+1.0**
	2.2nm,0.3s,baz=31,slow=18,SNR=25						
DZM				Sn	**Sn**	**05 43 41.9**	**+0.5**
	baz=129,slow=20,SNR=1.4						
DZM				LR	LR	05 44 57.4	
	comp=Z,193nm,18.3s,baz=325,slow=35						
DZM	**Mont Dzumac**	**7.74**	**183**		**Pn**	**05 42 14.8**	**-0.2**
ONTNC	**Ouen Toro**	**7.97**	**183**	Pn	**Pn**	**05 42 18.9**	**+0.9**
OUENC	**Ouen Island, N**	**8.07**	**181**	Pn	**Pn**	**05 42 20.2**	**+0.8**
PINNC	**Pines Island,**	**8.28**	**177**	Pn	**Pn**	**05 42 20.9**	**-1.3**
EIDS	**Eidsvold**	**18.51**	**231**	P	**Pn**	**05 44 38.2**	**-0.2**
EIDS				IAmb	IAmb	05 44 60.0	
	comp=Z,17nm,1.4s						
PMG	**Port Moresby**	**19.95**	**282**	LR	LR	05 52 08.4	
	comp=Z,103nm,18.0s,baz=167,slow=36						
CTA	**Charters Tower**	**20.57**	**251**	P	**P**	**05 45 00.5**	**-0.1**
	comp=Z,6.6nm,0.8s,baz=85,slow=11,SNR=5.5						
CTA				LR	LR	05 52 06.7	
	comp=Z,111nm,18.0s,baz=80,slow=34						
CTAO	**Charters Tower**	**20.57**	**251**	P	**P**	**05 45 00.0**	**-0.5**
CTAO				IAmb	IAmb	05 45 06.4	
	comp=Z,21nm,1.4s						
BKZ	**Black Stump Fm**	**26.16**	**163**	P	**P**	**05 45 56.7**	**+1.0**
STKA	**Stephens Creek**	**29.02**	**229**	P	**P**	**05 46 22.8**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=63,slow=9.0,SNR=4.2						
STKA				LR	LR	05 57 57.3	
	comp=Z,168nm,18.6s,baz=34,slow=36						
STKA	**Stephens Creek**	**29.02**	**229**	P	**P**	**05 46 20.7**	**-0.7**
WR0	**Warramunga Arr**	**31.43**	**255**	P	**P**	**05 46 41.5**	**-1.3**
WR0				IAmb	IAmb	05 47 04.3	
	comp=Z,5.9nm,1.3s						
WB0	**Warramunga Arr**	**31.55**	**256**	P	**P**	**05 46 42.9**	**-1.0**
WB0				IAmb	IAmb	05 46 43.4	
	comp=Z,4.4nm,1.0s						
WB2	**Warramunga Arr**	**31.60**	**255**	P	**P**	**05 46 42.4**	**-2.0**
WB2				IAmb	IAmb	05 47 06.6	
	comp=Z,5.9nm,1.4s						
WRAB	**Tennant Creek**	**31.60**	**255**	P	**P**	**05 46 42.8**	**-1.6**
WRA	**Warramunga Arr**	**31.61**	**255**	P	**P**	**05 46 42.7**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=84,slow=8.7,SNR=6.5						
WRA				LR	LR	05 58 40.2	
	comp=Z,84nm,18.7s,baz=34,slow=35						
AS31	**Alice Springs**	**32.52**	**248**	P	**P**	**05 46 50.9**	**-1.6**
ASAR	**Alice Springs**	**32.52**	**248**	P	**P**	**05 46 51.2**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=73,slow=9.4,SNR=11						
BBOO	**Buckleboo**	**33.59**	**231**	P	**P**	**05 47 02.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.77**	**259**	LR	LR	06 03 08.0	
	comp=Z,83nm,18.4s,baz=136,slow=34						
FITZ	**Fitzroy Crossi**	**39.77**	**259**	P	**P**	**05 47 53.8**	**-0.6**
FITZ				IAmb	IAmb	05 48 00.4	
	comp=Z,5.3nm,1.3s						
BATI	**Baumata**	**42.43**	**270**	LR	LR	06 04 24.3	
	comp=Z,98nm,19.3s,baz=155,slow=34						
SONM	**Songino Array**	**81.96**	**324**	P	**P**	**05 52 42.5**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=134,slow=6.2,SNR=2.7						
SONM	**Songino Array**	**81.96**	**324**	IAmb	IAmb	05 52 47.8	
	comp=Z,2.2nm,1.4s						
ILAR	**Eielson Array**	**86.22**	**18**	P	**P**	**05 53 02.4**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=230,slow=5.7,SNR=8.2						
ILAR				LR	LR	06 26 32.8	
	comp=Z,44nm,19.1s,baz=271,slow=32						
MKAR	**Makanchi Array**	**96.67**	**316**	P	**P**	**05 53 50.5**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=90,slow=4.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**96.86**	**324**	LR	LR	06 34 41.4	
	comp=Z,15nm,21.6s,baz=18,slow=34						
ARCES	**ARCESS Array B**	**119.76**	**345**	PKP	**PKiKP**	**05 59 10.9**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=46,slow=2.6,SNR=6.7						

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*NEIC **04** 05:49:23.0±0.8, 51°N±1°×174.3W±0.3, h11km±72km, Error ellipse: s-maj=189.4km s-min=17.9km az=175.0*
AEIC 04 05:49:23±1.5**, 51.3N**±0.3×**174.4W**±0.2**, h8**km±10km**, ML2.5, mb3.4**/8(NEIC)**, Error ellipse: s-maj=44.2km s-min=18.7km az=195.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**1.32**	**308**	Pn	Pn	05 49 47.7	-0.1
ADK	**Adak**	**1.56**	**293**	Pn	Pn	05 49 51.0	0.0
KIWB	**Kanaga Island**	**1.82**	**289**	Pn	Pn	05 49 55.2	+0.6
KNK	**Knik Glacier**	**17.45**	**45**		Pn	05 53 26.7	+0.2
POKR	**Poker Plat Res**	**19.61**	**35**	P	P	05 53 50.1	-1.4
IL31		**19.63**	**36**	P	P	05 53 51.0	-0.6
IL31				IAmb	IAmb	05 54 08.1	
	comp=Z,3.1nm,1.5s						
J25K	**Salcha River,**	**20.12**	**37**	P	P	05 53 55.0	-2.1
J25K				IAmb	IAmb	05 54 19.4	
	comp=Z,2.2nm,1.1s						
DOT	**Dot Lake**	**20.22**	**41**	P	P	05 53 56.3	-1.8
SCRK	**Sand Creek**	**20.38**	**40**	P	P	05 53 58.7	-1.3
SCRK				IAmb	IAmb	05 54 00.1	
	comp=Z,3.9nm,1.4s						
BCAR	**Beaver Creek A**	**20.96**	**43**	P	P	05 54 05.5	-0.7
EGAK	**Eagle**	**21.83**	**39**	P	P	05 54 14.1	-1.3
EGAK				IAmb	IAmb	05 54 22.7	
	comp=Z,2.3nm,1.2s						

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*IDC **04** 05:51:57.8±5.0, 36.19N×70.35E, h174km±43km, mb3.1/7, mb1 3.2/11, mb1mx3.0/57, mbtmp3.6/11, MS2.1/1, Ms1 2.1/1, ms1mx1.9/33, Error ellipse: s-maj=37.3km s-min=23.4km az=33.0*
*NNC **04** 05:52:05.2±7.2, 37.06N×70.57E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=60.7km s-min=54.0km az=143.0*
ISC 04 05:52:01.8±1.1**, 36.6N**±0.1×**70.4E**±0.1**, h204**km**, n14,** σ1s76/18**, mb3.1**/6**, 1C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK08	**Karatay Array**	**6.51**	**0**	⇓P	**Pn**	**05 53 35.9**	**+0.3**
	6.8nm,0.7s,baz=172,slow=12						
KK08				⇓S	**S**	**05 54 45.8**	**-4.1**
	3.6nm,0.4s						
AAK	**Ala-Archa**	**6.80**	**26**	P	**Pn**	**05 53 40.6**	**+1.1**
	5.0nm,0.3s,baz=197,slow=6.0,SNR=46						
AAK				S	**S**	**05 54 55.4**	**-1.6**
	1.6nm,0.3s,baz=359,slow=22,SNR=12						
CHMS	**Chumysh**	**7.21**	**26**	P	**Pn**	**05 53 45.3**	**+0.6**
	6.9nm,0.5s						
CHMS				⇑S	**S**	**05 55 05.4**	**-1.0**
	9.4nm,0.8s						
TKM2	**Tokmak 2**	**7.46**	**31**	⇓P	**Pn**	**05 53 49.1**	**+1.0**
	14nm,0.5s						
TKM2				⇓S	**S**	**05 55 11.2**	**-1.5**
	4.2nm,0.7s						
MKAR	**Makanchi Array**	**13.49**	**37**	P	**P**	**05 55 07.0**	**-0.6**
	0.2nm,0.3s,baz=230,slow=11,SNR=14						
MKAR				LR	LR	06 00 58.8	
	comp=Z,6.9nm,18.4s,baz=295,slow=39						
KURBB	**Kurchatov Arra**	**15.19**	**20**	P	**P**	**05 55 28.3**	**+2.0**
	0.0nm,0.3s,baz=208,slow=12,SNR=4.6						
AKTO	**Aktyubinsk**	**16.48**	**331**	P	**Pn**	**05 55 42.3**	**+0.8**
	0.2nm,0.3s,baz=135,slow=14,SNR=2.6						
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**	**05 56 20.2**	**+1.3**
	2.4nm,0.4s,baz=212,slow=11,SNR=7.7						
FINES	**FINESS Array B**	**37.16**	**326**	P	**P**	**05 58 54.3**	**+1.6**
	0.8nm,0.6s,baz=104,slow=8.0,SNR=3.6						
ARCES	**ARCESS Array B**	**40.89**	**338**	P	**P**	**05 59 25.3**	**+1.7**
	0.9nm,0.6s,baz=106,slow=6.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**65.27**	**268**	P	**P**	**06 02 19.9**	**-2.1**
	0.2nm,0.5s,baz=44,slow=5.2,SNR=1.9						
YKA	**Yellowknife Ar**	**81.18**	**2**	P	**P**	**06 03 55.5**	**+1.3**
	0.1nm,0.3s,baz=350,slow=5.4,SNR=5.3						
WRA	**Warramunga Arr**	**82.42**	**122**	P	**P**	**06 04 00.1**	**-1.2**
	0.3nm,0.7s,baz=319,slow=4.7,SNR=1.8						
ASAR	**Alice Springs**	**84.67**	**125**	P	**P**	**06 04 11.7**	**-1.1**
	0.2nm,0.5s,baz=302,slow=5.3,SNR=2.1						

IDC 04 05:54:38.0±3.3**, 54.34N**×**86.66E, h0**km**, mb1 2.6**/2**, mb1mx2.6**/56**, mbtmp2.6**/2**, ML2.1**/2**, Error ellipse: s-maj=26.0km s-min=17.0km az=53.0, Southwestern Siberia**

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

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.15	251	*i*		06 02 30.0	
	baz=70,slow=329,SNR=2.5						
ZALV	Zalesovo Beam	1.15	251	Pg	Pg	05 54 58.9	-1.3
	0.4nm,0.3s,baz=68,slow=17,SNR=6.7						
ZALV				Lg	Lg	05 55 16.1	
	0.8nm,0.3s,baz=72,slow=28,SNR=7.8						
ZALV				Rg	Rg	05 55 21.4	
	1.9nm,0.4s,baz=64,slow=34,SNR=6.1						
KURBB	Kurchatov Arra	6.21	236	Pn	Pn	05 56 12.1	+1.2
	0.0nm,0.3s,baz=53,slow=14,SNR=6.0						
KURBB				Lg	Lg	05 57 55.0	
	0.0nm,0.3s,baz=50,slow=32,SNR=2.1						
MKAR	Makanchi Array	8.05	202	Pn	Pn	05 56 36.8	+0.6
	0.0nm,0.3s,baz=12,slow=12,SNR=1.6						
MKAR				Lg	Lg	05 58 54.2	
	0.0nm,0.3s,baz=14,slow=31,SNR=1.7						

IDC 04 06:04:24.4±2.8**, 54°.32N×86°.77E, h0km, mb1 3.0**/2**, mb1mx2.9**/48**, mbtmp3.0**/2**, ML2.7**/2**, Error ellipse: s-maj=22.4km s-min=14.5km az=57.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.21	253	*i*		06 12 10.0	
	baz=72,slow=332,SNR=5.4						
ZALV	Zalesovo Beam	1.21	253	Pg	Pg	06 04 46.1	-1.3
	2.1nm,0.3s,baz=74,slow=17,SNR=22						
ZALV				Lg	Lg	06 05 03.3	
	2.0nm,0.3s,baz=71,slow=27,SNR=12						
KURBB	Kurchatov Arra	6.25	237	Pn	Pn	06 05 58.6	+0.9
	0.1nm,0.3s,baz=55,slow=14,SNR=12						
KURBB				Sn	Sn	06 07 10.2	+0.5
	0.0nm,0.3s,baz=53,slow=24,SNR=3.1						
KURBB				Lg	Lg	06 07 42.5	
	0.0nm,0.3s,baz=51,slow=31,SNR=5.4						
MKAR	Makanchi Array	8.05	203	Pn	Pn	06 06 23.5	+1.0
	0.2nm,0.3s,baz=25,slow=13,SNR=8.2						
MKAR				Sn	Sn	06 07 53.6	-0.6
	0.1nm,0.3s,baz=22,slow=25,SNR=4.3						
MKAR				Lg	Lg	06 08 39.4	
	0.0nm,0.3s,baz=20,slow=34,SNR=2.5						

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*NOU **04** 06:06:05.8, 14°.77S×167°.43E, h117km, MLv4.8/12, Vanuatu Islands*
*NEIC **04** 06:06:05.4±2.3, 14°.8S±0°.1×167°.3E±0°.1, h133km±6km, mb4.2/15, Error ellipse: s-maj=19.9km s-min=14.0km az=114.0*
*IDC **04** 06:06:06.7±9.4, 14°.92S×166°.85E, h115km±69km, mb3.8/4, mb1 4.0/5, mb1mx3.5/33, mbtmp4.3/5, Error ellipse: s-maj=131.0km s-min=53.9km az=70.0*
ISC 04 06:06:05.3±1.1**, 14°.8S**±0°.1×**167°.30E**±0°.10**, h150km, n38, σ1s43**/40**, mb4.2**/12**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.65	188		Pn	06 06 25.1	-2.3
SANVU				Sn	Sn	06 06 41.1	-3.4
SANVU	Saraoutou	0.65	188	P	Pn	06 06 25.8	-1.7
DVP	Devils Point	3.03	164	P	Pn	06 06 53.1	+0.1
LIFNC	LIFOU	5.94	181	Pn	Pn	06 07 29.7	-1.5
LIFNC	LIFOU	5.94	181	P	Pn	06 07 30.2	-1.0
KOUNC	Koumac, New Ca	6.40	206		Pn	06 07 37.2	-0.1
KOUNC	Koumac, New Ca	6.40	206	P	Pn	06 07 38.5	+1.2
MARNC	Mare, Loyalty	6.68	174	Pn	Pn	06 07 40.8	-0.3
DZM	Mont Dzumac	7.28	186	P	Pn	06 07 48.8	-0.3
	4.8nm,0.3s,baz=75,slow=6.2,SNR=53						
DZM				S	Sn	06 09 07.4	-3.2
	5.7nm,0.3s,baz=333,slow=24,SNR=7.4						
DZM	Mont Dzumac	7.28	186		Pn	06 07 48.4	-0.7
DZM	Mont Dzumac	7.28	186	P	Pn	06 07 49.1	0.0
NOUC	Port Laguerre	7.32	187	P	Pn	06 07 50.5	+0.9
ONTNC	Ouen Toro	7.51	186	Pn	Pn	06 07 50.8	-1.3
ONTNC	Ouen Toro	7.51	186	P	Pn	06 07 54.7	+2.6
OUENC	Ouen Island, N	7.59	183	Pn	Pn	06 07 53.2	0.0
OUENC	Ouen Island, N	7.59	183	P	Pn	06 07 55.7	+2.5
PINNC	Pines Island,	7.77	179	Pn	Pn	06 07 56.1	+0.5
MSVF	Nonsavu	10.73	107	Pn	Pn	06 08 36.0	+1.0
CTA	Charters Tower	20.75	252	P	P	06 10 35.0	+0.6
	4.5nm,0.8s,baz=49,slow=9.3,SNR=3.8						
OUZ	Omahuta	21.11	166	P	P	06 10 39.2	+1.2
OUZ				IAmb	IAmb	06 10 49.0	
	comp=Z,28nm,1.3s						
COEN	Coen	23.38	269	P	P	06 11 00.2	-0.5
COEN				IAmb	IAmb	06 11 20.7	
	comp=Z,8.4nm,1.1s						
BKZ	Black Stump Fm	25.58	163	P	P	06 11 20.5	0.0
STKA	Stephens Creek	28.97	230	P	P	06 11 52.8	+2.0
	comp=Z,5.3nm,0.5s,baz=54,slow=9.3,SNR=18						
STKA	Stephens Creek	28.97	230	P	P	06 11 52.3	+1.5
WR0	Warramunga Arr	31.65	256	P	P	06 12 13.6	-0.9
WR0				IAmb	IAmb	06 12 16.4	
	comp=Z,4.7nm,1.1s						
WB0	Warramunga Arr	31.77	256	P	P	06 12 15.0	-0.7
WB0				IAmb	IAmb	06 12 15.9	
	comp=Z,3.4nm,0.8s						
WB2	Warramunga Arr	31.82	256	P	P	06 12 14.7	-1.3
WB2				IAmb	IAmb	06 12 24.0	
	comp=Z,9.3nm,1.5s						
WRAB	Tennant Creek	31.82	256	P	P	06 12 17.1	+1.0
WRAB				IAmb	IAmb	06 12 34.7	
	comp=Z,2.5nm,0.8s						
WRA	Warramunga Arr	31.84	256	P	P	06 12 16.0	-0.2
	comp=Z,1.0nm,0.8s,baz=86,slow=9.5,SNR=6.7						
WRA	Warramunga Arr	31.84	256	P	P	06 12 16.7	+0.6
AS31	Alice Springs	32.67	249	P	P	06 12 23.8	+0.3
ASAR	Alice Springs	32.67	249	P	P	06 12 23.6	+0.1
	comp=Z,2.6nm,0.5s,baz=77,slow=9.0,SNR=40						
ASAR	Alice Springs	32.67	249	P	P	06 12 23.1	-0.4
BBOO	Buckleboo	33.56	232	P	P	06 12 32.7	+1.7
KNRA	Kununurra	37.16	263	P	P	06 13 02.7	+0.7
KNRA				IAmb	IAmb	06 13 04.4	
	comp=Z,6.8nm,0.8s						
FORT	Forrest	39.28	239	P	P	06 13 19.6	0.0
FITZ	Fitzroy Crossi	40.03	259	P	P	06 13 27.5	+1.6
FITZ				IAmb	IAmb	06 13 30.1	
	comp=Z,2.9nm,1.0s						
MBWA	Marble Bar	45.55	255	P	P	06 14 08.2	-2.2
MBWA				IAmb	IAmb	06 14 19.7	
	comp=Z,5.0nm,1.1s						

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*IDC **04** 06:22:27.3±3.0, 13°.83N×90°.08W, h0km, mb3.5/1, mb1 3.8/2, mb1mx3.3/31, mbtmp3.3/2, ML3.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/46, Error ellipse: s-maj=242.6km s-min=59.7km az=52.0*
*INET **04** 06:22:35.4±1.3, 13°.58N×90°.97W, h15km±21km, ML3.0, MW3.1*
*SNET **04** 06:22:36.3±0.9, 13°.68N×90°.89W, h24km±3km, ML3.5*
*GCG **04** 06:22:40.1±0.7, 14°.00N×90°.99W, h48km±15km, MD3.8*
ISC 04 06:22:33.6±1.1**, 13°.60N**±0°.08×**91°.00W**±0°.06**, h20km**±5km**, n39, σ1s11**/53**, 1C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUG	Fuego 3	0.86	10	*e*P	Pn	06 22 51.7	+1.0
PCG	Pacaya	0.88	26	*e*P	Pn	06 22 52.1	+1.1
NBG	Las Nubes	1.17	33	*e*P	Pn	06 22 56.9	+1.9
NBG				*e*S	Sn	06 23 11.8	+1.2
NUBE	Las Nubes	1.23	76	*e*P	Pn	06 22 56.2	+0.5
NUBE				*e*S	Sn	06 23 11.5	-0.3
STG3	Santiaguito 3,	1.24	334	*e*P	Pb	06 22 57.0	+0.6
STG3				*e*S	Sn	06 23 11.5	-0.5
SLOZ	Alcaldia de Sa	1.26	70	⇑*e*P	Pb	06 22 57.0	+0.4
SLOZ				*e*S	Sn	06 23 11.8	-0.6
RTR	El Retiro	1.35	77	*e*P	Pb	06 22 58.7	+0.4
CEVE	Cerro Verde	1.36	80	*e*P	Pn	06 22 58.6	+1.0
CEVE				IAML		06 23 18.7	
	comp=Z,2µm,0.2s						
SBLS	San Blas	1.36	80	*e*P	Pn	06 22 58.6	+0.9
SNJE	San Jose	1.38	79	*e*P	Pn	06 22 58.6	+0.7
SNJE				*e*S	Sb	06 23 17.1	+0.8
JAYA	Jayaque - finc	1.51	88	*e*P	Pn	06 23 00.1	+0.5
JAYA				*e*S	Sn	06 23 19.2	+0.4
JAYA				IAML		06 23 20.0	
	comp=Z,2µm,0.2s						
CEDA	San Andres	1.58	82	*e*P	Pn	06 23 01.4	+1.0
CEDA				*e*S	Sb	06 23 20.7	-0.9
CEDA				IAML		06 23 26.8	
	comp=Z,738nm,0.2s						
CEDA	San Andres	1.58	82	*e*P	Pn	06 23 01.4	+1.0
CEDA				*e*S	Sb	06 23 20.4	-1.1
CEDA				IAML		06 23 29.4	
	comp=Z,202nm,0.4s						
LALI	Alcalda de L	1.64	94	*e*P	Pn	06 23 02.1	+0.8
BOQS	Boqueron	1.68	85	*e*P	Pn	06 23 03.2	+1.2
BOQS				*e*S	Sb	06 23 24.7	-0.1
UEES	Universidad Ev	1.72	86	*e*P	Pn	06 23 03.0	+0.6
SNET	Serv Nac Est T	1.72	87	*e*P	Pn	06 23 03.3	+0.8
SNET				*e*S	Sn	06 23 24.6	+0.6
SNET				IAML		06 23 26.9	
	comp=Z,552nm,0.2s						
SNET	Serv Nac Est T	1.72	87	*e*P	Pn	06 23 03.7	+1.2
HUEH	Huehuetenango	1.78	344	*e*P	Pb	06 23 05.3	-0.4
HUEH				IAML		06 23 49.8	
	comp=Z,132nm,0.3s						
MTO3	Montecristo	1.78	63	*e*P	Pn	06 23 04.0	+0.6
MTO3				*e*S	Sb	06 23 26.9	-0.8
MTO3	Montecristo	1.78	63	*e*P	Pn	06 23 04.1	+0.6
MTO3				*e*S	Sb	06 23 28.3	+0.6
MTO3				IAML		06 23 29.5	
	comp=Z,158nm,0.6s						
ESQI	Esquipulas	1.88	59	*e*P	Pb	06 23 05.5	-1.7
LFRS	El Faro	1.89	89	*e*	Pn	06 23 06.5	+1.7
LFRS				*i* P	Pn	06 23 06.5	+1.7
LFRS				*e*S	Sn	06 23 28.7	+0.7
SJTE	Alcalda de S	1.94	89	*e*P	Pn	06 23 06.9	+1.4
SJTE				*e*S	Sn	06 23 30.2	+0.9
SJTE				IAML		06 23 32.6	
	comp=Z,253nm,0.2s						
MRL	Marmol	1.95	41	*e*P	Pb	06 23 07.6	-1.0
PAVA	Las Pavas	2.01	86	*e*P	Pn	06 23 07.8	+1.3
PAVA	Las Pavas	2.01	86	*e*P	Pn	06 23 08.0	+1.5
COEG	Centro de Oper	2.06	89	*e*P	Pn	06 23 08.8	+1.7
COEG				IAML		06 23 45.9	
	comp=Z,384nm,0.5s						
COEG	Centro de Oper	2.06	89	*e*P	Pn	06 23 08.8	+1.7
COEG				IAML		06 23 57.1	
	comp=Z,79nm,0.4s						
SCLA	Alcaldia de Sa	2.21	87	*e*P	Pn	06 23 10.7	+1.5
PQSS	Presa 15 de Se	2.38	89	*e*P	Pn	06 23 12.7	+1.3
COEB	Comit de Eme	2.41	92	*e*P	Pn	06 23 13.3	+1.4
COEB				IAML		06 23 49.2	
	comp=Z,215nm,0.3s						
JUCU	Jucuar¡n	2.70	97	*e*P	Pn	06 23 16.5	+0.6
JUCU				IAML		06 23 57.5	
	comp=Z,174nm,0.5s						
LCND	La Caada	3.04	95	*e*P	Pn	06 23 21.9	+1.3
LCND				IAML		06 24 01.4	
	comp=Z,126nm,0.4s						
TXAR	Lajitas Array	19.57	325	P	P	06 27 00.5	+0.1
	comp=Z,0.1nm,0.3s,baz=141,slow=12,SNR=8.3						
NVAR	Mina Array Bea	34.59	321	P	P	06 29 22.0	+0.5
	comp=Z,0.5nm,0.7s,baz=136,slow=9.4,SNR=5.4						
RCBR	Riachuelo	58.00	106	LR	LR	07 00 06.9	
	comp=Z,40nm,19.1s,baz=319,slow=40						
WRA	Warramunga Arr	136.23	255	PKP	PKPdf	06 41 52.9	-1.6
	comp=Z,0.3nm,0.9s,baz=91,slow=3.7,SNR=1.9						
CMAR	Chiang Mai Arr	146.67	343	PKPbc	PKPdf	06 42 11.3	-1.9
	comp=Z,1.2nm,0.3s,baz=325,slow=2.5,SNR=1.1						

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*IDC **04** 06:40:40.6±9.0, 14°.36S×166°.78E, h59km±88km, mb3.2/4, mb1 3.5/5, mb1mx3.3/30, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=64.4km s-min=34.8km az=159.0*
ISC 04 06:40:41.3±1.4**, 14°.4S**±0°.1×**166°.8E**±0°.3**, h67km, n6, σ0s09**/6**, mb3.2**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.66	182	P	Pn	06 42 30.3	0.0
	0.7nm,0.3s,baz=307,slow=19,SNR=6.5						
DZM				S	Sn	06 43 55.7	0.0
	0.4nm,0.3s,baz=319,slow=20,SNR=1.3						
WRA	Warramunga Arr	31.47	255	P	P	06 46 56.8	0.0
	0.3nm,0.9s,baz=86,slow=9.8,SNR=2.3						
ASAR	Alice Springs	32.38	248	P	P	06 47 04.7	0.0
	0.2nm,0.5s,baz=80,slow=9.0,SNR=1.7						
ILAR	Eielson Array	86.33	18	P	P	06 53 15.5	-0.1
	0.4nm,0.6s,baz=237,slow=5.2,SNR=9.8						
YKA	Yellowknife Ar	97.44	27	P	Pdif	06 54 07.4	+0.1
	0.1nm,0.4s,baz=263,slow=4.8,SNR=1.6						
ARCES	ARCESS Array B	119.80	345	PKP	PKiKP	06 59 23.5	+0.1
	0.5nm,0.6s,baz=79,slow=1.9,SNR=1.0						

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*NNC **04** 06:40:45.4±3.0, 49°.47N×83°.95E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=27.6km s-min=7.8km az=70.0, Suspected Mining explosion.*
*SOME **04** 06:40:45.5, 49°.65N×84°.02E, h5km*
ISC 04 06:40:53.9±2.1**, 49°.4N**±0°.2×**83°.3E**±0°.2**, h0km, n5, σ0s39**/6**, 7C-1D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZSN	Zaisan	2.20	150	*e*P	Pn	06 41 31.9	+0.1
	4.9nm,0.2s						
ZSN				*e*S	Sg	06 42 04.5	-0.1
	21nm,0.3s						
MK31	Makanchi Array	2.66	194	⇑Pg	Pn	06 41 37.6	-0.4
	0.3nm,0.4s,baz=27,slow=18,SNR=4.8						
MK31				⇑Lg	Lg	06 42 18.0	
	4.8nm,0.7s,baz=22,slow=26,SNR=20						
MAKZ	Makanchi	2.70	199	⇑Pg	Pn	06 41 39.1	+0.5
	1.8nm,1.1s						
MAKZ				⇑Lg	Lg	06 42 21.1	
	2.7nm,0.7s						
KURK	Kurchatov	3.27	296	⇓Pg	Pb	06 41 52.9	+0.1
	1.1nm,1.0s						
KURK				⇑Lg	Lg	06 42 38.7	
	6.0nm,0.6s						
KURBB	Kurchatov Arra	3.29	294	⇑Pg	Pb	06 41 53.0	-0.2
	0.5nm,0.5s						
KURBB				⇑Lg	Lg	06 42 41.6	
	6.1nm,0.5s						

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*SFS **04** 06:41:37.0, 36°.18N×1°.55W, h12km, ML2.8, MEDEITERRANEO ARGELIA*
*MDD **04** 06:41:37.1±1.0, 36°.19N×1°.55W, h12km±13km, mb_Lg2.8/8, Error ellipse: s-maj=15.4km s-min=4.3km az=140.0*
*CNRM **04** 06:41:38.9, 35°.77N×1°.59W, h140km, ml1.9*
ISC 04 06:41:34.7±1.4**, 36°.21N**±0°.03×**1°.51W**±0°.05**, h15km**±10km**, n13, σ1s03**/26**, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ENIJ	Nijar	0.94	324	Pg	Pn	06 41 54.4	+1.0
ENIJ				Sg	Sg	06 42 05.2	-0.2
ENIJ				*i* Vmb_Lg		06 42 07.6	
EALB	Alboran	1.26	258	Pn	Pg	06 41 59.0	0.0
EALB				Sn	Sb	06 42 14.1	-0.1
EALB				*i* Vmb_Lg		06 42 15.1	
EBER	Berja	1.30	302	Pn	Pg	06 42 00.8	+0.9
EBER				Sn	Sg	06 42 17.5	+0.6
EBER				*i* Vmb_Lg		06 42 22.5	
CART	Cartagena	1.43	16	P	Pb	06 42 00.7	-0.4
CART				S	Sn	06 42 16.4	-2.3
TAF	Taforalt	1.58	208	P	Pg	06 42 04.8	-0.2
TAF				S	Sb	06 42 23.9	+0.6
EZAR	Zarzadilla de	1.67	355	Pn	Pb	06 42 05.2	+0.1
EZAR				Sn	Sg	06 42 27.5	-1.0
ELGU	Los Guajares,	1.83	292	Pn	Pb	06 42 06.8	-1.1
ELGU				Pn	Pn	06 42 07.2	+1.6
ELGU				Sn	Sn	06 42 27.7	-0.8
ELGU				*i* Vmb_Lg		06 42 32.0	
JBK	JBK	2.06	205	P	Pb	06 42 11.3	-0.6
JBK				S	Sn	06 42 34.7	+0.3
PALE	Palemas	2.21	244	P	Pn	06 42 12.2	+1.3
PALE				S	Sb	06 42 40.8	-0.7
ETOB	Tobarra	2.43	359	Pn	Pb	06 42 16.6	-1.5
ETOB				Sn	Sn	06 42 43.9	+0.6
ETOB				*i* Vmb_Lg		06 42 48.3	
AFON	Font Roja	2.57	17	Pn	Pn	06 42 16.6	+0.7
AFON				Sn	Sn	06 42 47.9	+1.1
EMIJ	Mijas	2.66	279	Pn	Pn	06 42 17.2	+0.3
EMIJ				*i* Vmb_Lg		06 42 36.1	
EMIJ				Sn	Sn	06 42 47.3	-1.6
EADA	Adamuz	3.13	309	Sn	Sn	06 43 01.1	+0.4
EADA				*i* Vmb_Lg		06 43 10.4	

KRSC 04 06:46:18.4±0.4**, 60°.89N×167°.20E, h45km**±3km**, ML3.6, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TILK	Tilichiki	0.69	230	*e*P	Pn	06 46 32.5	+0.8
TILK				*e*S	Sn	06 46 42.9	+1.6
KMSK	Kamenskaya	1.65	344	*e*P	Pn	06 46 46.7	+1.9
KMSK				*e*S	Sn	06 47 07.4	+2.6
OSSR	Ossora	2.65	233	*e*P	Pn	06 47 01.2	+2.6
KBTR	Krutoberegovo	5.23	208	P	Pn	06 47 38.6	+4.6

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*IDC **04** 06:55:18.0±2.7, 24°.06S×67°.01W, h173km±28km, mb3.0/1, mb1 3.2/5, mb1mx3.0/27, mbtmp3.6/5, Error ellipse: s-maj=39.8km s-min=28.3km az=156.0*
*GUC **04** 06:55:20.3±0.5, 24°.14S×67°.29W, h186km±10km, ML3.9*
ISC 04 06:55:17.8±1.0**, 24°.14S**±0°.05×**67°.3W**±0°.1**, h204km**±14km**, n24, σ1s16**/43**, 2C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.12	316	P	Pn	06 55 59.0	+0.6
	2.4nm,0.3s,baz=142,slow=11,SNR=54						
LVC				S	S	06 56 28.8	-0.5
	17nm,0.3s,baz=41,slow=20,SNR=23						
LVC	Limon Verde	2.12	316	*e*P	Pn	06 55 59.3	+0.9
LVC				*i* S	S	06 56 29.1	-0.2
PB15	IPOC Station P	2.20	295	⇑*i*P	Pn	06 56 00.1	+1.2
PB15				*e*S	S	06 56 30.7	+0.4
PB15				IAML		06 56 34.5	
	comp=N,1µm,0.2s						
GO02	Mina Guanaco	2.32	244	⇑*i*P	Pn	06 56 01.0	+0.7
GO02				*e*S	S	06 56 33.6	+0.8
GO02				IAML		06 56 34.1	
	comp=N,330nm,0.1s						
PB06	IPOC Station P	2.53	304	*e*P	Pn	06 56 03.6	+1.1
PB06				*i* S	S	06 56 36.7	0.0
PB06				IAML		06 56 38.2	
	comp=E,344nm,0.2s						
PB09	IPOC Station P	2.94	322	*e*P	Pn	06 56 08.9	+1.7
PB09				*i* S	S	06 56 45.8	+0.6
PB09				IAML		06 56 47.8	
	comp=N,121nm,0.5s						
PB10	IPOC Station P	3.04	281	*e*P	Pn	06 56 09.5	+1.3
PB10				*i* S	S	06 56 46.7	-0.3
AC02	Maricunga	3.15	211	*e*P	Pn	06 56 10.4	+0.5
PB04	IPOC Station P	3.18	304	*e*P	Pn	06 56 10.9	+0.9
PB04				*i* S	S	06 56 49.3	-0.9
PB04				IAML		06 56 56.6	
	comp=N,140nm,0.5s						
PB07	IPOC Station P	3.39	315	*e*P	Pn	06 56 13.3	+0.8
PB07				*i* S	S	06 56 53.5	-1.2
AC01	Pan de Azucar	3.59	236	*e*P	Pn	06 56 14.4	-0.4
AC01				*i* S	S	06 56 56.9	-2.0
PB01	IPOC Station P	3.69	326	*e*P	Pn	06 56 16.6	+0.5
PB01				*i* S	S	06 57 00.0	-1.2
PB02	IPOC Station P	3.69	319	*e*P	Pn	06 56 16.8	+0.7
PB02				*i* S	S	06 56 59.9	-1.4
AC06	Mina Casimiro	4.22	220	*e*P	Pn	06 56 22.0	-0.6
AC06				*e*S	S	06 57 12.0	-1.0
PATCX	Punta Patache	4.23	321	*e*P	Pn	06 56 23.6	+0.9
PATCX				*e*S	S	06 57 12.3	-1.0
PATCX				IAML		06 57 18.6	
	comp=E,52nm,0.2s						
GO03	Copiap	4.33	217	*e*P	Pn	06 56 23.2	-0.8
GO03				*i* S	S	06 57 13.5	-2.1
PB08	IPOC Station P	4.34	336	*e*P	Pn	06 56 25.5	+1.1
PB08				*i* S	S	06 57 15.5	-0.7
GO01	Chusmiza	4.79	338	*e*P	Pn	06 56 31.2	+1.1
GO01				*e*S	S	06 57 26.7	0.0
PB11	IPOC Station P	4.88	333	*e*P	Pn	06 56 30.4	-0.6
PB11				*i* S	S	06 57 25.5	-2.7
LPAZ	La Paz	7.85	354	P	Pn	06 57 10.8	+1.0
	comp=E,1.3nm,0.3s,baz=155,slow=6.8,SNR=38						
LPAZ				S	S	06 58 37.5	-1.4
	comp=E,0.0nm,0.3s,baz=266,slow=18,SNR=1.4						
SIV	San Ignacio	10.00	37	P	Pn	06 57 34.6	-2.6
	comp=E,0.4nm,0.3s,baz=224,slow=12,SNR=14						
BDFB	Brasilia	19.99	69	P	P	06 59 34.8	-0.3
	comp=E,0.3nm,0.3s,baz=248,slow=12,SNR=5.9						
TORD	Torodi Ar. Bea	76.88	69	P	P	07 06 48.9	+1.0
	comp=E,0.2nm,0.4s,baz=260,slow=5.8,SNR=1.9						
MKAR	Makanchi Array	146.81	39	PKPbc	PKiKP	07 14 39.0	+0.8
	comp=E,0.2nm,0.5s,baz=304,slow=3.3,SNR=2.9						

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*NNC **04** 07:19:02.8±1.9, 50°.01N×78°.71E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=31.4km s-min=10.6km az=76.0, Suspected Mining explosion.*
*IDC **04** 07:19:03.8±0.9, 50°.05N×78°.78E, h0km, mb1 2.9/3, mb1mx2.8/52, mbtmp2.9/3, ML2.7/3, Error ellipse: s-maj=12.4km s-min=6.3km az=59.0*
ISC 04 07:19:03.5±0.9**, 50°.02N**±0°.06×**78°.74E**±0°.06**, h0km, n13, σ1s08**/18**, 7C-9D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.62	347	Pg	Pg	07 19 14.8	-0.6
	2.9nm,0.3s,baz=168,slow=17,SNR=206						
KURBB				Lg	Lg	07 19 23.3	
	3.3nm,0.3s,baz=168,slow=31,SNR=21						
KURBB	Kurchatov Arra	0.62	347	⇓P	Pg	07 19 14.9	-0.6
	11nm,0.2s						
KURBB				⇓S	Sg	07 19 24.0	+0.5
	135nm,0.6s						
KURK	Kurchatov	0.70	354	⇑P	Pg	07 19 16.1	-0.9
	5.2nm,0.3s						
KURK				⇓S	Sg	07 19 26.5	+0.4
	42nm,0.6s						
MAKZ	Makanchi	3.87	145	⇑Pn	Pn	07 20 05.4	+1.1
	0.3nm,0.3s						
MAKZ				⇓Pg	Pb	07 20 12.3	-0.4
	3.7nm,1.1s						
MAKZ				⇑Lg	Lg	07 21 02.8	
	7.2nm,0.5s						
MK31	Makanchi Array	4.00	142	⇓Pn	Pn	07 20 07.0	+0.9
	0.1nm,0.2s,baz=123,slow=15,SNR=43						
MK31				⇑Pg	Pb	07 20 15.1	+0.2
	0.5nm,0.3s,baz=324,slow=13,SNR=22						
MK31				Lg	Lg	07 21 08.2	
	5.8nm,0.5s,baz=330,slow=24,SNR=19						
MKAR	Makanchi Array	4.00	142	Pn	Pn	07 20 06.9	+0.8
	0.5nm,0.3s,baz=323,slow=10,SNR=43						
MKAR				Pg	Pb	07 20 13.3	-1.5
	0.5nm,0.3s,baz=332,slow=15,SNR=14						
MKAR				Lg	Lg	07 21 06.7	
	2.0nm,0.3s,baz=332,slow=30,SNR=18						
OTUK	Ortayu	4.56	250	⇓Pn	Pn	07 20 14.0	+0.2
	1.3nm,0.3s						
OTUK				⇓Pg	Pb	07 20 25.4	+0.9
	0.7nm,0.5s						
OTUK				⇓Lg	Lg	07 21 27.1	
	5.1nm,0.5s						
I46RU	ZALESOVO INFRA	5.44	41	*i*		07 53 30.0	
	baz=223,slow=323,SNR=1.7						
ZAA0	Zalesovo Array	5.44	41	⇑Pn	Pn	07 20 27.2	+1.5
	0.2nm,0.5s						
ZAA0				⇑Lg	Lg	07 21 56.8	
	1.0nm,0.8s						
ZALV	Zalesovo Beam	5.44	41	Pn	Pn	07 20 27.5	+1.7
	1.0nm,0.3s,baz=231,slow=14,SNR=13						
ZALV				Lg	Lg	07 21 56.1	
	0.3nm,0.3s,baz=229,slow=28,SNR=4.2						
BVAR	Borovoye Array	6.02	303	Pn	Pn	07 20 34.1	+0.3
	0.2nm,0.3s,baz=132,slow=11,SNR=2.2						
BVAR				Sn	Sn	07 21 42.3	-1.1
	0.7nm,0.3s,baz=144,slow=20,SNR=9.3						
BVAR				Lg	Lg	07 22 14.1	
	0.5nm,0.3s,baz=82,slow=32,SNR=2.3						
BRVK	Borovoye	6.09	303	⇓Sn	Sn	07 21 43.3	-1.8
	1.8nm,0.6s						
BRVK				⇑Lg	Lg	07 22 17.1	
	2.6nm,0.9s						
AAK	Ala-Archa	7.95	203	Lg	Lg	07 23 13.7	
	0.1nm,0.3s,baz=217,slow=22,SNR=1.8						

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*NEIC **04** 07:55:05.9±1.8, 14°.36S±0°.09×166°.8E±0°.2, h35km±2km, mb4.2/13, Error ellipse: s-maj=27.6km s-min=14.9km az=76.0*
*IDC **04** 07:55:07.0±5.9, 14°.37S×166°.84E, h51km±52km, mb3.6/8, mb1 3.7/9, mb1mx3.4/43, mbtmp3.8/9, ML3.5/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/46, Error ellipse: s-maj=33.5km s-min=29.9km az=36.0*
ISC 04 07:55:06.5±1.0**, 14°.38S**±0°.09×**166°.9E**±0°.2**, h50km, n26,**

σ1s12/23, mb3.9/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.11	163		Pn	07 55 26.3	+0.6
MARNC	Mare, Loyalty	7.15	171	Pn	Pn	07 56 46.5	-2.0
DZM	Mont Dzumac	7.66	183	P	Pn	07 56 56.8	+1.2
	0.7nm,0.3s,baz=129,slow=23,SNR=9.3						
DZM				S	Sn	07 58 22.0	+0.9
	baz=288,slow=20,SNR=2.4						
DZM	Mont Dzumac	7.66	183		Pn	07 56 56.0	+0.4
CTA	Charters Tower	20.48	251	LR	LR	08 07 33.2	
	comp=Z,34nm,18.0s,baz=85,slow=36						
BKZ	Black Stump Fm	26.11	163	P	P	08 00 35.1	-0.6
STKA	Stephens Creek	28.92	229	P	P	08 01 02.5	+1.5
	1.0nm,0.5s,baz=57,slow=8.3,SNR=5.7						
STKA	Stephens Creek	28.92	229	P	P	08 01 00.4	-0.6
WR0	Warramunga Arr	31.34	255	P	P	08 01 21.7	-0.8
WR0				IAmb	IAmb	08 01 27.4	
	comp=Z,12nm,1.5s						
WB0	Warramunga Arr	31.47	256	P	P	08 01 22.5	-1.1
WB0				IAmb	IAmb	08 01 38.8	
	comp=Z,5.7nm,1.3s						
WB2	Warramunga Arr	31.52	255	P	P	08 01 23.7	-0.4
WB2				IAmb	IAmb	08 01 43.8	
	comp=Z,4.7nm,1.2s						
WRAB	Tennant Creek	31.52	255	P	P	08 01 22.8	-1.3
WRAB				IAmb	IAmb	08 01 31.2	
	comp=Z,3.5nm,1.2s						
WRA	Warramunga Arr	31.53	255	P	P	08 01 23.5	-0.7
	comp=Z,0.6nm,0.6s,baz=86,slow=9.6,SNR=11						
WRA				LR	LR	08 14 40.0	
	comp=Z,38nm,19.6s,baz=47,slow=37						
WRA	Warramunga Arr	31.53	255	IAmb	IAmb	08 01 25.1	
	comp=Z,0.3nm,1.4s						
AS31	Alice Springs	32.43	248	P	P	08 01 30.9	-1.1
ASAR	Alice Springs	32.43	248	P	P	08 01 31.7	-0.4
	comp=Z,0.8nm,0.7s,baz=74,slow=9.4,SNR=16						
BBOO	Buckleboo	33.49	231	P	P	08 01 40.4	-0.8
FORT	Forrest	39.14	239	P	P	08 02 28.4	-1.0
FITZ	Fitzroy Crossi	39.69	259	P	P	08 02 34.2	0.0
	comp=Z,2.1nm,0.9s,baz=110,slow=9.3,SNR=4.3						
FITZ	Fitzroy Crossi	39.69	259	P	P	08 02 32.1	-2.0
FITZ				IAmb	IAmb	08 02 57.5	
	comp=Z,7.6nm,1.4s						
QSPA	South Pole Qui	75.65	180	P	P	08 06 46.6	+0.4
	comp=Z,1.2nm,0.9s,baz=0.2,slow=2.7						
QSPA	South Pole Qui	75.65	180	IAmb	IAmb	08 07 01.7	
	comp=Z,3.1nm,1.2s						
SONM	Songino Array	81.98	324	P	P	08 07 22.8	+1.6
	comp=Z,0.2nm,0.7s,baz=123,slow=5.3,SNR=1.9						
SONM	Songino Array	81.98	324	IAmb	IAmb	08 07 50.8	
	comp=Z,2.1nm,1.5s						
ILAR	Eielson Array	86.32	18	P	P	08 07 41.8	-0.8
	comp=Z,0.4nm,1.0s,baz=226,slow=4.9,SNR=2.0						
MKAR	Makanchi Array	96.68	316	P	P	08 08 32.2	+0.8
	comp=Z,0.2nm,0.6s,baz=97,slow=7.4,SNR=2.7						

*DJA **04** 08:02:59.8±0.2, 7°S±2°×12°7E±°, h383km±3km, M4.4/19, mB4.9/10, mb4.6/19, MLv4.7/12, Mw(mB)4.1/10*

*IDC **04** 08:03:00.9±1.3, 6°.84S×127°.29E, h406km±16km, mb3.7/14, mb1 3.7/19, mb1mx3.5/44, mbtmp4.4/19, Error ellipse: s-maj=18.8km s-min=9.7km az=64.0*

*NEIC **04** 08:03:01.0±1.4, 6°.78S±0°.09×127°.32E±0°.08, h403km±3km, mb4.2/25, Error ellipse: s-maj=13.8km s-min=11.1km az=150.0*

ISC 04 08:03:00.1±0.4, **6°.77S**±0°.04×**127°.34E**±0°.06, **h400km, n109, σ1s14**/112, **mb4.2**/26, **1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	3.18	16	P	Pn	08 04 04.4	-0.4
BNDI	Bandanaira	3.39	49	P	Pn	08 04 07.1	+0.5
MSAI	Masohi	3.75	25	P	Pn	08 04 07.3	-2.6
MSAI				S	S	08 05 01.4	-5.0
SAUI	Saumlaki	4.11	107	Pn	Pn	08 04 13.6	+0.3
SAUI	Saumlaki	4.11	107	P	Pn	08 04 13.7	+0.4
SANI	Sanana	4.88	344	P	Pn	08 04 19.7	-1.2
SANI				S	S	08 05 23.5	-3.0
SANI	Sanana	4.88	344	P	Pn	08 04 20.3	-0.6
BATI	Baumata	4.99	226	P	Pn	08 04 23.0	+1.0
	196nm,0.3s,baz=98,slow=4.4,SNR=48						
BATI				S	S	08 05 26.9	-1.6
	77nm,0.3s,baz=91,slow=6.8,SNR=11						
BATI	Baumata	4.99	226	P	Pn	08 04 22.4	+0.4
	2.3nm6μm456nm,0.5s						
MMRI	Maumere	5.38	250	Pn	Pn	08 04 27.0	+0.9
LBMI	Labuha	6.09	2	P	Pn	08 04 34.2	+0.4
	0.8nm2μm216nm,0.6s						
FAKI	Fak Fak	6.21	52		Pn	08 04 34.3	-0.8
FAKI	Fak Fak	6.21	52	P	Pn	08 04 34.4	-0.7
	0.7nm3μm131nm,0.6s						
FAKI	Fak Fak	6.21	52	P	Pn	08 04 34.4	-0.7
BSSI	Bau Bau, Buton	6.83	275	P	P	08 04 43.2	+0.7
	0.2nm49nm,0.8s						
SWI	Sorong	7.05	34	P	Pn	08 04 43.8	-0.6
	24nm,0.8s						
MTN	Manton Dam	7.10	149	Pn	Pn	08 04 45.6	+0.7
MTN	Manton Dam	7.10	149	P	Pn	08 04 45.7	+0.8
LUWI	Luwuk	7.29	321		Pn	08 04 46.9	-0.1
LUWI	Luwuk	7.29	321	P	P	08 04 51.0	+3.4
BKSI	Bulukumba	7.32	281	P	Pn	08 04 48.1	+0.8
	0.3nm743nm76nm,0.7s						
BASI	Baing, Sumba	7.51	242	P	Pn	08 04 49.4	-0.1
	0.7nm62nm,0.6s						
BNSI	Bone	7.57	288	P	P	08 04 51.5	+0.8
	0.2nm820nm93nm,1.0s						
KAPI	Kappang	7.74	283	P	P	08 04 53.7	+1.0
	2.7nm,0.3s,baz=105,slow=8.7,SNR=15						
KAPI	Kappang	7.74	283		P	08 04 53.4	+0.7
KAPI	Kappang	7.74	283	P	P	08 04 53.6	+1.0
KDU	Kakadu	7.76	140	P	Pn	08 04 53.0	+0.7
SPSI	Sidrap Palu	8.03	290	P	Pn	08 04 56.0	+0.5
	509nm37nm,0.8s						
TTSI	Tana Toraja	8.35	296	P	P	08 05 07.8	+8.4
WBSI	Waikabubak, Su	8.37	250	P	Pn	08 04 57.1	-2.2
	81nm,0.8s						
KNRA	Kununurra	8.96	171		Pn	08 05 06.6	+0.5
KNRA	Kununurra	8.96	171	P	Pn	08 05 07.0	+0.9
MRSI	Marisa	8.99	323	P	Pn	08 05 06.7	+0.2
	56nm,0.5s						
TOLI2	Tolitoli	10.20	320	P	P	08 05 20.3	+0.3
TOLI2	Tolitoli	10.20	320	P	P	08 05 21.1	+1.1
FITZ	Fitzroy Crossi	11.38	188	P	P	08 05 33.8	+0.8
	1.4nm,0.3s,baz=24,slow=10,SNR=67						
FITZ	Fitzroy Crossi	11.38	188	P	P	08 05 33.4	+0.5
BBKI	Banjar Baru	12.87	284	P	Pn	08 05 52.0	+0.6
JAGI	Jajag, Banyuwa	13.18	262	P	P	08 05 53.1	+0.3
BLJI	Banyuglugur	13.67	265	P	Pn	08 06 00.2	-0.4
	49nm,0.7s						
MTKI	Muara Teweh, K	13.69	294	P	P	08 05 58.7	+0.3
JAY	Jayapura	13.98	73	P	P	08 06 03.5	+1.9
	1.2nm,0.3s,baz=207,slow=6.8,SNR=2.0						
WB0	Warramunga Arr	14.63	153	P	P	08 06 08.8	+0.2
WRAB	Tennant Creek	14.75	153	P	P	08 06 10.3	+0.4
WRAB	Tennant Creek	14.75	153	P	P	08 06 10.6	+0.7
WRA	Warramunga Arr	14.76	153	P	P	08 06 10.2	+0.2
	1.3nm,0.3s,baz=327,slow=12,SNR=80						
WRA				S	S	08 08 43.4	-3.8
	0.5nm,0.3s,baz=330,slow=21,SNR=9.9						
WRA	Warramunga Arr	14.76	153	P	P	08 06 08.0	-2.0
WB2	Warramunga Arr	14.76	153	P	P	08 06 10.4	+0.4
WR0	Warramunga Arr	14.86	153	P	P	08 06 11.4	+0.3
MBWA	Marble Bar	16.09	206	P	P	08 06 24.6	+0.3
MBWA				IAmb	IAmb	08 06 26.6	
	comp=Z,6.8nm,0.9s						
PSA00	Pilbara Seismi	16.40	205	P	P	08 06 27.3	-0.4
PSA00	Pilbara Seismi	16.40	205	P	P	08 06 28.5	+0.8
COEN	Coen	17.13	116	P	P	08 06 35.7	+0.1
COEN				IAmb	IAmb	08 06 36.6	
	comp=Z,12nm,0.8s						
COEN	Coen	17.13	116	P	P	08 06 36.0	+0.4
SBUM	Sibu	17.65	301	P	P	08 06 41.5	+0.5
AS31	Alice Springs	17.95	160	P	P	08 06 44.8	+0.6
ASAR	Alice Springs	17.95	160	P	P	08 06 45.0	+0.9
	comp=Z,1.3nm,0.3s,baz=350,slow=13,SNR=76						
ASAR				S	S	08 09 48.5	-1.1
	comp=Z,0.4nm,0.3s,baz=347,slow=25,SNR=9.9						
ASAR	Alice Springs	17.95	160	P	P	08 06 44.8	+0.6
QIS	Mount Isa	18.15	140	P	P	08 06 47.1	+0.8
WRKA	Warakurna	18.19	177	P	P	08 06 47.8	+1.1
KPJI	Karang Pucung	18.27	267	P	P	08 06 46.2	-1.5
	comp=Z,29nm,0.6s						
CNJI	Cibinong	20.06	267	P	P	08 07 02.3	-2.9
	comp=Z,166nm,0.9s						
MEEK	Meekatharra	21.43	202	P	P	08 07 18.1	+0.4
FORT	Forrest	23.90	178	P	P	08 07 38.9	-0.9
FORT				IAmb	IAmb	08 07 41.7	
	comp=Z,20nm,1.2s						
MULG	Mulgathing	24.23	166	P	P	08 07 44.3	+1.5
BKNI	Bangkinang	27.17	284	P	P	08 08 18.3	+9.1
STKA	Stephens Creek	28.31	154	P	P	08 08 19.6	+0.7
	comp=Z,0.7nm,0.4s,baz=315,slow=5.7,SNR=2.9						
STKA	Stephens Creek	28.31	154	P	P	08 08 18.4	-0.6
PSI	Prapat	29.91	288	P	P	08 08 33.6	+0.1
	comp=Z,3.6nm,0.5s,baz=90,slow=5.1,SNR=6.8						
YHNB	Yeheng	31.78	350	P	P	08 08 48.1	-1.4
YHNB				IAmb	IAmb	08 09 06.2	
	comp=Z,22nm,1.1s						
CMAR	Chiang Mai Arr	37.59	312	P	P	08 09 39.2	+0.7
	comp=Z,1.0nm,0.3s,baz=126,slow=6.8,SNR=4.8						
CMAR	Chiang Mai Arr	37.59	312	P	P	08 09 38.6	+0.1
JMN	Monobe	40.75	8	P	P	08 10 04.9	+0.7
JHS	Saijyo	41.90	7	P	P	08 10 14.3	+0.9
KSAR	Wonju Array Be	43.98	1	P	P	08 10 29.7	0.0
KSRS	Korea Array	43.99	1	P	P	08 10 30.2	+0.4
	comp=Z,3.0nm,0.7s,baz=180,slow=10.0,SNR=13						
XAN	Xi'an	44.17	338	P	P	08 10 30.7	-0.7
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
XAN				pmax	pmax		
	comp=Z,39nm,4.1s						
MAJO	Matsushiro	44.27	13	P	P	08 10 31.6	-0.5
MAJO				IAmb	IAmb	08 10 32.3	
	comp=Z,14nm,1.1s						
MJB9	Matsu-Tunnel	44.27	13	P	P	08 10 31.5	-0.6
MJB9				IAmb	IAmb	08 10 32.3	
	comp=Z,15nm,1.1s						
JMM	Marumori	46.14	15	P	P	08 10 47.3	+0.8
JTM	Tenmabayashi	48.98	14	P	P	08 11 08.6	+0.6
JTM				IAmb	IAmb	08 11 36.7	
	comp=Z,25nm,1.2s						
USRK	Ussuriysk Ar.	50.90	4	P	P	08 11 22.6	+0.4
	comp=Z,4.4nm,0.5s,baz=195,slow=7.6,SNR=15						
GTA	Gaotai	52.53	333	⇓P	P	08 11 34.9	+0.5
GTA				pmax	pmax		
	comp=Z,11nm,0.6s						
ULN	Ulaanbaatar	57.27	344	P	P	08 12 08.9	+1.2
ULN				IAmb	IAmb	08 12 09.6	
	comp=Z,5.8nm,0.8s						
SONM	Songino Array	57.42	343	P	P	08 12 09.4	+0.6
	comp=Z,3.4nm,0.8s,baz=171,slow=7.5,SNR=26						
SONM	Songino Array	57.42	343	P	P	08 12 10.3	+1.6
PEA0B	Petropavlovsk-	64.96	20	P	P	08 12 59.9	+1.4
PETK	Petropavlovsk-	64.96	20	P	P	08 12 59.8	+1.4
	comp=Z,4.9nm,0.6s,baz=191,slow=6.9,SNR=5.8						
MK31	Makanchi Array	66.61	328	P	P	08 13 09.4	+0.4
MK31				IAmb	IAmb	08 13 10.3	
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	66.61	328	P	P	08 13 09.5	+0.5
	comp=Z,4.4nm,0.5s,baz=124,slow=8.0,SNR=64						
MKAR	Makanchi Array	66.61	328	P	P	08 13 09.8	+0.8
MAKZ	Makanchi	66.78	328	P	P	08 13 10.7	+0.6
MAKZ				IAmb	IAmb	08 13 11.3	
	comp=Z,2.4nm,0.7s						
BOOM	Boomskoye usch	67.69	321	P	P	08 13 15.8	-0.3
BOOM				IAmb	IAmb	08 13 34.8	
	comp=Z,8.9nm,1.3s						
AAK	Ala-Archa	68.67	321	P	P	08 13 23.2	+1.2
	comp=Z,1.5nm,0.5s,baz=194,slow=8.3,SNR=4.5						
AAK	Ala-Archa	68.67	321	P	P	08 13 21.9	-0.1
AAK				IAmb	IAmb	08 13 24.0	
	comp=Z,6.2nm,1.4s						
ZAA0	Zalesovo Array	70.23	335	P	P	08 13 30.8	-0.2
ZAA0				IAmb	IAmb	08 13 31.6	
	comp=Z,8.6nm,0.8s						
ZALV	Zalesovo Beam	70.23	335	P	P	08 13 30.8	-0.2
	comp=Z,8.0nm,0.6s,baz=132,slow=5.3,SNR=38						
ZALV	Zalesovo Beam	70.23	335	P	P	08 13 30.9	0.0
KURBB	Kurchatov Arra	70.95	330	P	P	08 13 35.8	+0.5
	comp=Z,9.0nm,0.7s,baz=132,slow=5.1,SNR=117						
KURK	Kurchatov	70.96	330	P	P	08 13 36.0	+0.6
KKAR	Karatay Array	71.44	320	P	P	08 13 38.2	-0.2
TIXI	Tiksi	78.26	0	P	P	08 14 16.7	+0.3
ABKAR	Akbulak array	80.69	322	P	P	08 14 30.1	+0.3
NRIK	Noril'sk	80.71	347	P	P	08 14 30.2	+0.7
	comp=Z,1.6nm,0.3s,baz=102,slow=4.6,SNR=3.5						
AKTO	Aktyubinsk	82.28	323	P	P	08 14 38.4	+0.4
	comp=Z,1.2nm,0.5s,baz=116,slow=4.5,SNR=6.9						
ILAR	Eielson Array	94.27	25	P	P	08 15 33.5	-1.2
	comp=Z,0.2nm,0.5s,baz=238,slow=6.1,SNR=7.4						
YKA	Yellowknife Ar	108.70	26	PKiKP	PKiKP	08 20 41.8	-0.2
	comp=Z,0.2nm,0.7s,baz=288,slow=2.2,SNR=5.5						
TORD	Torodi Ar. Bea	126.17	281	PKP	PKPdf	08 21 17.0	+0.3
	comp=Z,0.4nm,0.6s,baz=85,slow=2.5,SNR=2.3						
TXAR	Lajitas Array	127.07	58	PKP	PKiKP	08 21 19.7	+0.9
	comp=Z,0.2nm,0.8s,baz=281,slow=2.4,SNR=1.8						

*IDC **04** 08:22:01.5±0.4, 14°.23S×166°.72E, h0km, mb4.6/29, mb1 4.7/30, mb1mx4.6/39, mbtmp4.6/30, ML4.2/1, MS4.1/46, Ms1 4.1/46, ms1mx4.0/66, Error ellipse: s-maj=15.9km s-min=12.8km az=106.0*

*MOS **04** 08:22:05.5±0.8, 14°.29S×166°.62E, h35km, mb5.2/37, Error ellipse: s-maj=10.0km s-min=8.1km az=113.5*

*NEIC **04** 08:22:06.9±1.8, 14°.35S±0°.07×166°.85E±0°.08, h35km±1km, mb5.0/113, Error ellipse: s-maj=14.3km s-min=11.6km az=61.0*

*GCMT **04** 08:22:07.9±0.2, 14°.28S±0°.02×166°.48E±0°.01, h26km, MW5.0/87, Moment Tensor Solution. s67,c83; s87,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.60±.15; $M_{\theta\theta}$0.10±.11; $M_{\phi\phi}$-3.71±.10; $M_{r\theta}$1.75±.22; $M_{\theta\phi}$0.21±.07; $M_{\phi r}$-1.17±.17; Best double couple: $M_0$4.20200×10^{16} NP1:ϕ_s16.00000°,δ39.00000°,λ123.00000°. NP2: ϕ_s156.00000°,δ58.00000°,λ66.00000°. Principal axes: T 4.4490, Plg67.0000°, Azm19.0000°; N -0.5010, Plg20.0000°, Azm169.0000°; P -3.9550, Plg10.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **04** 08:22:09.4, 14°.67S×166°.81E, h0km, MLv5.3/25, Vanuatu Islands*

ISC 04 08:22:06.8±0.2, **14°.33S**±0°.04×**166°.83E**±0°.05, **h35km, h36km:pP-P, n453, σ1s65**/474, **mb4.9**/107, **MS4.2**/53, **7C-7D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.17	162	Pn	Pn	08 22 25.5	-1.3
SANVU	Saraoutou	1.17	162	P	Pn	08 22 26.3	-0.5
DVP	Devils Point	3.62	159	P	Pn	08 23 03.3	+2.8
RTV	Rentapao	3.77	156	P	Pn	08 23 04.6	+2.1
LIFNC	LIFOU	6.43	177	Pn	Pn	08 23 37.5	-1.5
LIFNC	LIFOU	6.43	177	P	Pn	08 23 40.2	+1.2
KOUNC	Koumac, New Ca	6.65	201	Pn	Pn	08 23 42.9	+0.8
KOUNC	Koumac, New Ca	6.65	201	P	Pn	08 23 43.3	+1.3
MARNC	Mare, Loyalty	7.21	171		Pn	08 23 48.5	-1.3
MARNC	Mare, Loyalty	7.21	171	P	Pn	08 23 51.4	+1.7
YATNC	Mamie plateau,	7.69	180	P	Pn	08 23 56.8	+0.4
DZM	Mont Dzumac	7.71	183	Pn	Pn	08 23 56.8	+0.1
	3.0nm,0.3s,baz=340,slow=12,SNR=37						
DZM				Sn	Sn	08 25 23.4	+0.5
	baz=17,slow=20,SNR=1.3						
DZM	Mont Dzumac	7.71	183	*e*Pn	Pn	08 23 57.3	+0.5
	97nm,0.6s						
DZM				*e*Sn	Sn	08 25 19.8	-3.1
	131nm,0.8s						
DZM				*e*LR	LR	08 25 54.9	
	comp=Z,2μm,24.2s						
DZM	Mont Dzumac	7.71	183	Pn	Pn	08 23 57.0	+0.2
DZM	Mont Dzumac	7.71	183	P	Pn	08 23 57.4	+0.6
NOUC	Port Laguerre	7.75	184	P	Pn	08 23 58.4	+1.2
ONTNC	Ouen Toro	7.95	182		Pn	08 23 58.3	-1.6
ONTNC	Ouen Toro	7.95	182	P	Pn	08 24 02.8	+2.9
OUENC	Ouen Island, N	8.05	180		Pn	08 23 58.4	-2.9
OUENC	Ouen Island, N	8.05	180	P	Pn	08 24 03.7	+2.4
PINNC	Pines Island,	8.26	176		Pn	08 24 03.2	-1.0
HNR	Honiara	8.30	305	Pn	Pn	08 24 04.3	-0.6
	32nm,0.3s,baz=162,slow=6.4,SNR=2.1						
HNR				LR	LR	08 27 12.8	
	comp=Z,1μm,18.9s,baz=144,slow=38						
HNR	Honiara	8.30	305	P	Pn	08 24 03.8	-1.1
HNR	Honiara	8.30	305		Pn	08 24 03.8	-1.1
FUNA	Funafuti	13.42	66	Pn	Pn	08 25 14.3	-0.7
RK1H	Rockhampton Ha	17.88	237	P	P	08 26 16.9	+3.7
EIDS	Eidsvold	18.42	231	P	P	08 26 19.2	0.0
	baz=18,SNR=3.9						
EIDS	Eidsvold	18.42	231	P	P	08 26 17.9	-1.3
PMG	Port Moresby	19.85	282	P	P	08 26 35.5	+0.6
	0.7nm,0.3s,baz=124,slow=7.3,SNR=4.4						
PMG				LR	LR	08 32 56.4	
	comp=Z,461nm,21.0s,baz=86,slow=33						
PMG	Port Moresby	19.85	282	*i* P	P	08 26 34.2	-0.8
PMG				pmax	pmax		
	comp=Z,35nm,1.1s						
PMG	Port Moresby	19.85	282	P	P	08 26 35.6	+0.6
CTA	Charters Tower	20.46	251	P	P	08 26 41.5	-0.1
	comp=Z,11nm,1.0s,baz=71,slow=12,SNR=6.5						
CTA				LR	LR	08 33 53.8	
	comp=Z,848nm,18.1s,baz=80,slow=35						
CTAO	Charters Tower	20.46	251	P	P	08 26 41.3	-0.3
CTAO				pmax	pmax		
	comp=Z,44nm,1.3s						
CTAO	Charters Tower	20.46	251	P	P	08 26 41.3	-0.3
AFI	Afiamalu	20.76	91	P	Pn	08 26 46.2	-1.2
	comp=Z,15nm,0.8s,baz=257,slow=7.1,SNR=1.9						
AFI				LR	LR	08 32 49.3	
	comp=Z,603nm,20.8s,baz=258,slow=31						
AFI	Afiamalu	20.76	91	P	P	08 26 43.0	-1.9
AFI				pmax	pmax		
	comp=Z,89nm,0.8s						
AFI	Afiamalu	20.76	91	P	P	08 26 43.0	-1.9
AFI				IAmb	IAmb	08 26 56.7	
	comp=Z,89nm,0.8s						
RMQ	Roma	20.78	232	P	P	08 26 45.0	0.0
	baz=21,SNR=11						
OUZ	Omahuta	21.68	165	P	P	08 26 58.4	+3.9
MTSU	Mount Surprise	21.94	257	P	P	08 26 53.6	-4.0
	baz=22,SNR=5.8						
COEN	Coen	22.94	268	P	P	08 27 07.3	-0.9
HIZ	Hauiti	25.12	165	P	P	08 27 33.2	+4.8
OMRZ	Omania	25.15	162	P	P	08 27 34.4	+5.6
HAZ	Te Kaha	25.28	159	P	P	08 27 36.0	+6.1
PKGZ	Pakihiroa	25.50	159	P	P	08 27 36.7	+4.7
URZ	Urewera	25.52	161	P	P	08 27 33.0	+0.9
	comp=Z,12nm,0.9s,baz=350,slow=6.1,SNR=1.6						
URZ				LR	LR	08 36 39.2	
	comp=Z,554nm,18.6s,baz=24,slow=34						
URZ	Urewera	25.52	161	P	P	08 27 31.8	-0.3
URZ				IAmb	IAmb	08 28 00.7	
	comp=Z,86nm,1.3s						
URZ	Urewera	25.52	161	P	P	08 27 33.8	+1.7
URZ	Urewera	25.52	161	P	P	08 27 36.7	+4.6
WMGZ	Waiomatatini S	25.56	158	P	P	08 27 38.1	+5.6
MWZ	Matawai	25.72	160	P	P	08 27 37.5	+3.5
TWGZ	Tauwhareparae	25.73	159	P	P	08 27 35.8	+1.7
PUZ	Puketiti	25.73	159	P	P	08 27 37.7	+3.6
RTZ	Ruatahuna	25.81	162	P	P	08 27 36.5	+1.7
CMSA	Cobar Meteorol	25.85	225	P	P	08 27 35.6	+0.5
	baz=26,SNR=8.5						
WTVZ	West Tongariro	25.87	164	P	P	08 27 42.1	+6.6
TKGZ	Te Karaka	25.92	160	P	P	08 27 36.7	+1.0
OTVZ	Oturere	25.94	164	P	P	08 27 41.7	+5.6
MTHZ	Maungataniwha	25.98	162	P	P	08 27 40.6	+4.3
SNGZ	Shannon Statio	26.07	161	P	P	08 27 41.9	+4.8
WNVZ	Wahianoa	26.07	164	P	P	08 27 40.5	+3.2
CNGZ	Carnagh Statio	26.08	159	P	P	08 27 39.6	+2.4
RAHZ	Arahi	26.11	162	P	P	08 27 38.8	+1.3
RIGZ	Rimuhau	26.14	160	P	P	08 27 38.1	+0.4
CNB	Canberra Magne	26.14	214	P	P	08 27 38.7	+0.8
	baz=26,SNR=5.8						
BKZ	Black Stump Fm	26.17	163	P	P	08 27 38.3	+0.2
BKZ				IAmb	IAmb	08 27 47.8	
	comp=Z,46nm,1.3s						
BKZ	Black Stump Fm	26.17	163	P	P	08 27 39.2	+1.2
BKZ	Black Stump Fm	26.17	163	P	P	08 27 43.9	+5.9
BHHZ	Black Hill Sta	26.35	164	P	P	08 27 41.5	+1.8
QIS	Mount Isa	26.68	253	P	P	08 27 42.0	-0.8
	baz=27,SNR=4.0						
TSZ	Takapari Road	26.86	164	P	P	08 27 46.6	+2.4
BFZ	Birch Farm	27.52	164	P	P	08 27 55.0	+4.9
KHZ	Kahutara	28.58	170	P	P	08 28 04.0	+4.4
STKA	Stephens Creek	28.93	229	P	P	08 28 03.1	+0.3
	comp=Z,13nm,0.6s,baz=46,slow=8.3,SNR=42						
STKA				PcP	PcP	08 31 11.4	0.0
	comp=Z,5.0nm,0.6s,baz=57,slow=3.8,SNR=8.1						
STKA				LR	LR	08 39 35.0	
	comp=Z,2μm,18.4s,baz=54,slow=36						
STKA	Stephens Creek	28.93	229	P	P	08 28 03.3	+0.5
	baz=29,SNR=28						
STKA	Stephens Creek	28.93	229	P	P	08 28 02.3	-0.5
OXZ	Oxford	29.24	172	P	P	08 28 03.1	-2.3
OXZ				IAmb	IAmb	08 28 12.6	
	comp=Z,20nm,0.8s						
RPZ	Rata Peaks	29.51	174	P	P	08 28 10.5	+2.6
	comp=Z,15nm,0.7s,baz=358,slow=3.6,SNR=8.9						
RPZ				LR	LR	08 39 51.4	
	comp=Z,682nm,18.1s,baz=354,slow=36						
RPZ	Rata Peaks	29.51	174	P	P	08 28 12.0	+4.2
WR0	Warramunga Arr	31.32	255	P	P	08 28 22.7	-1.4
WB0	Warramunga Arr	31.44	256	P	P	08 28 22.6	-2.6
WB2	Warramunga Arr	31.50	255	P	P	08 28 23.3	-2.4
WRAB	Tennant Creek	31.50	255	*i* P	P	08 28 24.0	-1.7
WRAB				pmax	pmax		
	comp=Z,14nm,1.4s						
WRAB	Tennant Creek	31.50	255	P	P	08 28 23.1	-2.5
WRAB	Tennant Creek	31.50	255	P	P	08 28 23.9	-1.7
WRA	Warramunga Arr	31.51	255	P	P	08 28 24.0	-1.8
	comp=Z,3.8nm,0.9s,baz=87,slow=9.2,SNR=36						
WRA				PcP	PcP	08 31 17.4	-0.9
	comp=Z,2.7nm,1.0s,baz=83,slow=2.1,SNR=5.5						
WRA				LR	LR	08 40 45.1	
	comp=Z,714nm,18.2s,baz=74,slow=36						
WRA	Warramunga Arr	31.51	255	P	P	08 28 24.1	-1.8
HTT	Hallett	31.66	228	P	P	08 28 27.6	+0.6
	baz=32,SNR=8.0						
AS31	Alice Springs	32.42	248	P	P	08 28 32.0	-1.8
ASAR	Alice Springs	32.42	248	P	P	08 28 32.2	-1.6
	comp=Z,4.3nm,0.6s,baz=74,slow=9.3,SNR=88						
ASAR				PcP	PcP	08 31 19.6	-1.1
	comp=Z,2.7nm,0.8s,baz=78,slow=2.5,SNR=6.9						
ASAR				LR	LR	08 41 01.2	
	comp=Z,611nm,19.0s,baz=96,slow=35						
ASAR	Alice Springs	32.42	248	P	P	08 28 31.2	-2.6
ASAR	Alice Springs	32.42	248	P	P	08 28 31.2	-2.6
RAR	Rarotonga	32.49	107	LR	LR	08 39 16.9	
	comp=Z,265nm,20.8s,baz=286,slow=32						
MOO	Moorlands	32.74	207	P	P	08 28 37.6	+1.3
	baz=33,SNR=3.7						
BBOO	Buckleboo	33.49	231	P	P	08 28 43.1	+0.2
	baz=34,SNR=29						
BBOO	Buckleboo	33.49	231	P	P	08 28 43.2	+0.2
MTN	Manton Dam	34.70	268	P	P	08 28 54.2	+0.5
MTN				IAmb	IAmb	08 29 13.5	
	comp=Z,12nm,0.9s						
GUMO	Guam	35.24	321	LR	LR	08 43 25.5	
	comp=Z,145nm,18.7s,baz=160,slow=37						
KNRA	Kununurra	36.76	263	P	P	08 29 10.2	-1.1
	baz=37,SNR=5.3						
KNRA	Kununurra	36.76	263	P	P	08 29 10.3	-1.0
KNRA				IAmb	IAmb	08 29 20.7	
	comp=Z,24nm,0.9s						
SIJI	Sorong	37.61	288	LR	LR	08 45 23.2	
	comp=Z,506nm,19.4s,baz=330,slow=37						
WRKA	Warakurna	37.69	248	P	P	08 29 17.7	-1.5
	baz=38,SNR=36						
FORT	Forrest	39.13	239	P	P	08 29 31.6	+0.4
	baz=39,SNR=7.7						
FORT	Forrest	39.13	239	P	P	08 29 30.6	-0.6
FITZ	Fitzroy Crossi	39.67	259	LR	LR	08 45 54.8	
	comp=Z,550nm,18.3s,baz=93,slow=36						
FITZ	Fitzroy Crossi	39.67	259	P	P	08 29 33.8	-2.0
PPT2	Papeete2	41.98	100	*e*S	S	08 36 26.5	+15
	comp=Z,176nm,25.8s						
PPT2				*e*LR	LR	08 41 52.6	
	comp=Z,474nm,25.8s,baz=245						
PPT	Papeete	41.98	100	LR	LR	08 43 07.9	
	comp=Z,307nm,18.9s,baz=288,slow=30						
TBI	Tubuai	42.20	109	*e*S	S	08 36 32.4	+18
	comp=Z,155nm,26.8s						
TBI				*e*LR	LR	08 41 59.0	
	comp=Z,381nm,25.2s						
BATI	Baumata	42.33	271	LR	LR	08 47 34.9	
	comp=Z,285nm,19.8s,baz=111,slow=36						
PSA00	Pilbara Seismi	45.14	254	P	P	08 30 19.5	-0.8
PSA00				IAmb	IAmb	08 30 30.6	
	comp=Z,21nm,1.1s						
MBWA	Marble Bar	45.24	254	P	P	08 30 19.9	-1.2
MBWA				IAmb	IAmb	08 30 31.5	
	comp=Z,29nm,1.0s						

MBWA Marble Bar 45.24 254 ⇓P **P** **08 30 20.5 -0.6**
MBWA pP **pP** **08 30 30.2 -0.6**
MBWA pwP **pwP** **08 30 34.1 +0.4**
MBWA sP sP 08 30 44.1 +9.4
MEEK Meekatharra 46.54 247 P **P** **08 30 30.9 -0.5**
baz=46,SNR=12
KLBR Kellerberrin 47.93 240 P **P** **08 30 41.1 -1.0**
baz=48,SNR=6.2
NWAO Narrogin (SRO) 48.59 239 P **P** **08 30 45.9 -1.3**
NWAO pmax pmax
comp=Z,45nm,0.9s
NWAO Narrogin (SRO) 48.59 239 P **P** **08 30 45.9 -1.3**
NWAO Narrogin (SRO) 48.59 239 P **P** **08 30 46.3 -0.8**
NWAO X 08 30 50.0
NWAO pP **pP** **08 30 56.5 -0.4**
NWAO pwP **sP** **08 31 00.4 -0.3**
MORW Morawa 49.05 244 P **P** **08 30 50.2 -0.6**
baz=49,SNR=5.6
MORW Morawa 49.05 244 P **P** **08 30 50.2 -0.6**
MUN Mundaring 49.29 240 P **P** **08 30 52.3 -0.3**
baz=49,SNR=5.2
ABJI Asem Bagus 51.93 271 P **P** **08 31 10.9 -1.8**
comp=Z,98nm,1.1s
TAOE Nuku Hiva Isla 52.14 90 *e*S S 08 38 53.7 +17
comp=Z,158nm,26.9s
TAOE *e*LR LR 08 46 25.6
comp=Z,387nm,26.9s
KKM Kota Kinabalu 54.13 288 P **P** **08 31 28.2 -0.8**
PCJI Pacitan 54.81 270 P **P** **08 31 32.7 -1.2**
comp=Z,114nm,1.2s
DRV Dumont d'Urvil 55.24 193 ⇓P **P** **08 31 36.5 +0.4**
DRV X 08 31 41.8
DRV pP **pP** **08 31 48.8 +2.7**
DRV sP sP 08 31 59.4 +9.4
JOW Kunigami 55.46 317 LR LR 08 56 15.7
comp=Z,80nm,18.0s,baz=120,slow=37
SBUM Sibu 56.60 283 P **P** **08 31 47.0 +0.3**
KPJI Karang Pucung 57.17 270 P **P** **08 31 50.2 -0.5**
comp=Z,40nm,1.0s
MJAR Matsushiro Arr 57.35 333 P **P** **08 31 50.3 -1.3**
comp=Z,13nm,0.7s,baz=102,slow=3.7,SNR=7.8
MJAR LR LR 08 57 59.2
comp=Z,59nm,18.9s,baz=172,slow=38
MJAR Matsushiro Arr 57.35 333 P **P** **08 31 51.3 -0.3**
MJAR pmax pmax
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 57.35 333 P **P** **08 31 51.3 -0.3**
MAJO Matsushiro 57.35 333 P **P** **08 31 50.9 -0.7**
MAJO pmax pmax
comp=Z,14nm,0.8s
MAJO Matsushiro 57.35 333 P **P** **08 31 50.9 -0.7**
MAJO IAmb IAmb 08 31 55.0
comp=Z,14nm,0.8s
MAJO Matsushiro 57.35 333 P **P** **08 31 51.1 -0.5**
MAJO pP **pP** **08 32 01.4 -0.4**
MAJO sP **sP** **08 32 12.8 +7.1**
MJB9 Matsu-Tunnel 57.36 333 P **P** **08 31 50.9 -0.8**
MJB9 IAmb IAmb 08 31 55.0
comp=Z,14nm,0.8s
KSM Kuching 58.11 281 P **P** **08 31 55.7 -1.7**
KSM IAmb IAmb 08 32 07.7
comp=Z,19nm,1.0s
JNU Nakatsue 58.35 325 LR LR 08 54 27.5
comp=Z,64nm,20.8s,baz=124,slow=33
JNU Nakatsue 58.35 325 P **P** **08 31 58.8 +0.1**
JSD Sado 58.58 334 P **P** **08 31 59.7 -0.4**
JTM Tenmabayashi 59.81 338 P **P** **08 32 08.6 0.0**
JKA Kamikawa-asahi 62.22 340 P **P** **08 32 25.1 +0.2**
ASAJ Asahikawa 62.22 340 LR LR 08 56 23.5
comp=Z,155nm,20.6s,baz=166,slow=33
ASAJ Asahikawa 62.22 340 P **P** **08 32 25.1 +0.2**
ASAJ pmax pmax
comp=Z,27nm,1.0s
KSRS Korea Array 63.17 326 P **P** **08 32 30.8 -0.6**
comp=Z,3.6nm,0.9s,baz=139,slow=7.0,SNR=11
KSRS LR LR 08 58 58.4
comp=Z,28nm,19.2s,baz=145,slow=35
KSAR Wonju Array Be 63.18 326 P **P** **08 32 31.3 -0.1**
KSAR Wonju Array Be 63.18 326 P **P** **08 32 31.3 -0.1**
VNDA Vanda 63.25 181 P **P** **08 32 31.9 +0.5**
comp=Z,7.0nm,0.9s,baz=359,slow=6.5,SNR=10
VNDA LR LR 08 57 00.3
comp=Z,159nm,19.0s,baz=272,slow=33
VNDA Vanda 63.25 181 P **P** **08 32 32.0 +0.6**
VNDA pmax pmax
comp=Z,7.0nm,0.8s
VNDA Vanda 63.25 181 P **P** **08 32 32.0 +0.6**
VNDA IAmb IAmb 08 32 37.3
comp=Z,7.3nm,0.8s
SBA Scott Base 63.54 180 P **P** **08 32 34.7 +1.5**
SBA pmax pmax
comp=Z,16nm,0.8s
SBA Scott Base 63.54 180 P **P** **08 32 34.7 +1.5**
SBA Scott Base 63.54 180 ⇓P **P** **08 32 35.1 +1.9**
SBA X 08 32 39.8
SBA pP **pP** **08 32 46.9 +3.6**
SBA sP **sP** **08 32 54.6 +7.5**
CASY Casey 63.74 202 ⇓P **P** **08 32 35.2 +0.5**
CASY X 08 32 40.7
CASY pP **pP** **08 32 45.0 +0.1**
CASY sP **sP** **08 32 52.2 +3.4**
YSS Yuzh-Sakhalins 64.72 342 *e*P **P** **08 32 42.2 +0.9**
YSS *e* 08 33 14.7
YSS *e*S **S** **08 41 20.3 +1.1**
YSS pmax pmax
comp=Z,100nm,4.0s
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,200nm,19.0s
YSS Yuzh-Sakhalins 64.72 342 P **P** **08 32 42.1 +0.9**
NJ2 Nanjing 65.09 316 *e*P **P** **08 32 45.2 +1.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
CCD Concordia, Ant 65.21 191 ⇓P **P** **08 32 45.6 +0.9**
CCD pP sP 08 33 06.7 +8.0
CCD sP **PcP** **08 33 16.2 -0.8**
USA0B Ussuriysk Arra 66.33 333 P **P** **08 32 53.0 +1.1**
USA0B pmax pmax
comp=Z,17nm,1.0s
USA0B Ussuriysk Arra 66.33 333 P **P** **08 32 53.0 +1.1**
USA0B IAmb IAmb 08 32 53.6
comp=Z,17nm,0.9s
USRK Ussuriysk Ar. 66.33 333 P **P** **08 32 52.1 +0.3**
comp=Z,7.3nm,0.8s,baz=147,slow=5.3,SNR=14
USRK Ussuriysk Ar. 66.33 333 P **P** **08 32 52.4 +0.5**
USRK Ussuriysk Ar. 66.33 333 P **P** **08 32 52.4 +0.5**
SHEM Shemya Is, Ala 67.07 5 LR LR 08 56 19.9
comp=Z,130nm,21.2s,baz=156,slow=31
PET Petropavlovsk 67.44 355 *e*P **P** **08 32 58.8 +0.1**
PET *e*S **S** **08 41 52.9 +0.8**
PET pmax pmax
comp=Z,23nm,0.9s
PET MLR MLR
comp=Z,200nm,18.0s
PEA0B Petropavlovsk- 67.62 354 P **P** **08 33 00.7 +0.9**
PEA0B pmax pmax
comp=Z,44nm,1.3s
PEA0B Petropavlovsk- 67.62 354 P **P** **08 33 00.7 +0.9**
PETK Petropavlovsk- 67.62 354 P **P** **08 33 00.1 +0.2**
comp=Z,13nm,0.8s,baz=157,slow=7.8,SNR=9.1
PETK LR LR 08 57 08.4
comp=Z,122nm,21.8s,baz=142,slow=31
PETK Petropavlovsk- 67.62 354 P **P** **08 32 59.5 -0.3**
PETK Petropavlovsk- 67.62 354 P **P** **08 32 59.5 -0.3**
MDJ Mudanjiang 67.73 332 P **P** **08 33 01.6 +0.8**
MDJ IAmb IAmb 08 33 02.3
comp=Z,10nm,0.9s
MNSI Mandailing Nat 68.19 277 P **P** **08 33 03.5 -0.8**
CN2 Changchun 69.08 329 *e*P **P** **08 33 07.5 -1.7**
CN2 *es*P pP 08 33 14.5 -5.0
CN2 *e*PP **PP** **08 35 42.7 +0.4**
CN2 *e*S **S** **08 42 11.6 -0.5**
CN2 *es*S pS 08 42 19.4 -5.2
CN2 Changchun 69.08 329 *e*SS SS 08 46 39.7 +0.7
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=N,130nm,15.0s
CN2 LR LR
comp=E,120nm,15.0s
CN2 LR LR
comp=Z,130nm,17.0s
NIKH Nikolski High 70.22 15 P **P** **08 33 16.4 +0.4**
baz=205
KLR Kul'dur 70.47 336 LR LR 09 01 41.9
comp=Z,72nm,19.9s,baz=158,slow=34
KLR Kul'dur 70.47 336 *ce*P **P** **08 33 17.2 -0.4**
KLR pmax pmax
comp=Z,18nm,1.7s
ENH Enshi 70.78 310 P **P** **08 33 19.4 -0.6**
ENH IAmb IAmb 08 33 20.3
comp=Z,20nm,1.0s
LYN LuoYang 70.89 315 *e*P **P** **08 33 20.8 +0.3**
UNV Unalaska Valle 71.63 16 P **P** **08 33 25.2 +0.7**
baz=207
BJI Beijing 71.68 321 P **P** **08 33 25.6 +0.4**
BJI pP **pP** **08 33 29.8 -5.8**
BJI S **S** **08 42 51.5 +8.9**
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI pmax pmax
comp=Z,88nm,4.5s
XAN Xi'an 73.10 313 P **P** **08 33 33.8 -0.1**
XAN pP pP 08 33 43.4 -0.6
XAN sP sP 08 33 48.8 +1.1
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN pmax pmax
comp=Z,92nm,4.6s
FALS False Pass 73.39 17 P **P** **08 33 35.7 +0.8**
baz=210
XLT XiLinHaoTe 74.13 324 ⇑ *i*P **P** **08 33 40.4 +0.7**
XLT sP pP 08 33 50.3 +0.1
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,140nm,6.1s
CMAR Chiang Mai Arr 74.39 294 P **P** **08 33 42.4 +0.6**
comp=Z,2.6nm,0.3s,baz=122,slow=4.4,SNR=14
CHTO Chiang Mai 74.52 294 P **P** **08 33 41.7 -0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 74.52 294 P **P** **08 33 41.7 -0.8**
SDPT Sand Point 74.69 19 P **P** **08 33 41.6 -1.0**
MA2 Magadan 74.79 352 P **P** **08 33 42.2 -0.8**
comp=Z,7.9nm,0.7s,baz=140,slow=9.1,SNR=6.9
MA2 LR LR 09 02 56.0
comp=Z,154nm,20.4s,baz=146,slow=33
MA2 Magadan 74.79 352 *ce*P **P** **08 33 43.3 +0.2**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
MA2 Magadan 74.79 352 IAmb IAmb 08 33 43.5
comp=Z,12nm,0.9s
HHC Hu-ho-hao-te 75.00 320 *e*P **P** **08 33 45.3 +0.4**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,61nm,4.1s
HHC LR LR
comp=N,140nm,12.7s
HHC LR LR
comp=E,130nm,13.3s
HHC LR LR
comp=Z,130nm,12.7s
PZH PanZhiHua 75.12 303 P **P** **08 33 47.7 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,3.7s
CD2 Chengdu 75.42 308 P **P** **08 33 47.9 +0.4**
CD2 S **S** **08 43 29.4 +4.0**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,120nm,4.7s
QSPA South Pole Qui 75.70 180 LR LR 09 05 25.9
comp=Z,106nm,18.0s,baz=356,slow=34
QSPA South Pole Qui 75.70 180 P **P** **08 33 48.5 0.0**
QSPA IAmb IAmb 08 33 54.4
comp=Z,16nm,0.8s
HIA Hailar 75.73 330 P **P** **08 33 49.0 +0.2**
HIA pmax pmax
comp=Z,8.0nm,0.7s
HIA Hailar 75.73 330 P **P** **08 33 49.0 +0.2**
HIA IAmb IAmb 08 33 49.7
comp=Z,8.1nm,0.7s
ZEA Zeya 75.76 337 *e*P **P** **08 33 49.4 +0.6**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
BTO Baotou 75.84 319 *e*P P 08 33 59.8 +10
LZH Lanzhou 77.73 312 *e*P **P** **08 34 02.0 +1.4**
LZH pP PcP 08 34 05.6 -4.9
LZH sP pP 08 34 08.2 -2.5
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,130nm,8.1s
LZH LR LR
comp=N,130nm,16.8s
LZH LR LR
comp=E,200nm,16.0s
LZH LR LR
comp=Z,330nm,18.0s
SEY Seymchan 77.83 353 P **P** **08 34 00.2 -0.1**
comp=Z,13nm,0.8s,baz=158,slow=5.9,SNR=45
SEY LR LR 09 04 27.0
comp=Z,180nm,20.9s,baz=191,slow=33
SEY Seymchan 77.83 353 *ce*P **P** **08 34 00.4 +0.1**
SEY pmax pmax
comp=Z,20nm,1.0s
RPN Rapa Nui 78.22 115 LR LR 09 02 52.0
comp=Z,49nm,18.4s,baz=268,slow=31
KDAK Kodiak Island 79.24 21 LR LR 09 03 46.5
comp=Z,217nm,19.8s,baz=231,slow=32
GAMB Gambell 79.60 10 P **P** **08 34 10.5 +0.6**
GAMB IAmb IAmb 08 34 11.3
comp=Z,16nm,0.7s
GAMB Gambell 79.60 10 P **P** **08 34 09.8 -0.2**
baz=201,SNR=12
P18K Big Mountain, 79.64 19 P **P** **08 34 10.2 -0.1**
baz=217
Q19K Cape Douglas, 79.78 20 P **P** **08 34 10.8 -0.3**
baz=219
N19K Bonanza Creek 81.00 18 P **P** **08 34 17.9 +0.2**
baz=218
O20K Slope Mountain 81.00 19 P **P** **08 34 17.7 0.0**
baz=220
BRSE Bradley Lake S 81.36 20 P **P** **08 34 19.7 +0.1**
baz=221
ANM Nome 81.46 12 P **P** **08 34 20.9 +0.9**
ANM pmax pmax
comp=Z,10.0nm,0.9s
ANM Nome 81.46 12 P **P** **08 34 20.9 +0.9**
ANM IAmb IAmb 08 34 21.5
comp=Z,10.0nm,0.9s
ANM Nome 81.46 12 P **P** **08 34 20.1 +0.2**
baz=207,SNR=7.1
YAK Yakutsk 81.52 343 *e*P **P** **08 34 20.3 0.0**
YAK *e* 08 34 26.0
YAK *e* 08 37 27.2
YAK *e*S **S** **08 44 33.9 +4.6**
YAK *e*SS **SS** **08 49 51.3 +4.3**
YAK pmax pmax
comp=Z,41nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=Z,138nm,4.8s
YAK pmax pmax
comp=E,62nm,5.5s
YAK pmax pmax
comp=N,75nm,5.4s
YAK smax smax
comp=E,63nm,4.4s
YAK smax smax
comp=N,24nm,2.2s
ULN Ulaanbaatar 81.56 324 *ce*P **P** **08 34 21.5 +0.4**
ULN pmax pmax
comp=Z,9.0nm,0.7s
ULN Ulaanbaatar 81.56 324 P **P** **08 34 21.2 +0.2**
ULN IAmb IAmb 08 34 22.4
comp=Z,14nm,1.1s
TNA Tin City 81.89 10 P **P** **08 34 22.1 -0.1**
TNA Tin City 81.89 10 P **P** **08 34 22.6 +0.4**
baz=205
M19K Big River Lodg 81.89 17 P **P** **08 34 23.2 +0.9**
M19K IAmb IAmb 08 34 42.6
comp=Z,14nm,1.2s
M19K Big River Lodg 81.89 17 P **P** **08 34 22.3 0.0**
baz=218
SONM Songino Array 81.92 324 P **P** **08 34 23.1 +0.1**
comp=Z,2.6nm,0.8s,baz=144,slow=6.3,SNR=14
SONM LR LR 09 08 21.5
comp=Z,56nm,21.9s,baz=256,slow=34
SONM Songino Array 81.92 324 P **P** **08 34 23.3 +0.3**
SONM pmax pmax
comp=Z,12nm,1.2s
SONM Songino Array 81.92 324 P **P** **08 34 23.3 +0.3**
L19K White Mountain 81.98 17 P **P** **08 34 23.0 +0.2**
L19K IAmb IAmb 08 34 25.4
comp=Z,7.5nm,0.7s
L19K White Mountain 81.98 17 P **P** **08 34 23.9 +1.1**
baz=217
SEW Seward 82.06 20 P **P** **08 34 22.9 -0.3**
baz=222
GTA Gaotai 82.08 314 ⇓P **P** **08 34 25.1 +1.1**
GTA sP pP 08 34 34.9 +0.4
GTA pmax pmax
comp=Z,11nm,1.1s
BILL Bilibino 82.14 360 *d* iP **P** **08 34 23.1 -0.4**
BILL *e* 08 37 33.7
BILL *e*S **S** **08 44 37.4 +1.9**
BILL pmax pmax
comp=Z,52nm,1.0s
BILL Bilibino 82.14 360 P **P** **08 34 23.8 +0.4**
O22K Cooper Landing 82.25 20 P **P** **08 34 24.9 +0.7**
O22K Cooper Landing 82.25 20 P **P** **08 34 24.0 -0.1**
baz=222
TTA Tatalina 82.26 16 P **P** **08 34 25.1 +0.8**
TTA pmax pmax
comp=Z,14nm,1.4s
TTA Tatalina 82.26 16 P **P** **08 34 25.1 +0.8**
TTA IAmb IAmb 08 34 27.1
comp=Z,14nm,1.4s
TTA Tatalina 82.26 16 P **P** **08 34 24.7 +0.4**
baz=216
L20K Farewell, AK 82.49 17 P **P** **08 34 25.5 +0.1**
baz=218
RC01 Rabbit Creek A 82.70 20 P **P** **08 34 26.2 -0.3**
baz=222
PWL Port Wells 82.99 20 P **P** **08 34 28.2 +0.1**
PWL Port Wells 82.99 20 P **P** **08 34 27.9 -0.2**
baz=223
M22K Willow 83.07 19 P **P** **08 34 28.6 +0.3**
M22K Willow 83.07 19 P **P** **08 34 28.5 +0.1**
baz=222
K20K Telida 83.13 17 P **P** **08 34 28.7 0.0**
baz=218
PMR Palmer 83.27 20 P **P** **08 34 29.1 -0.3**
PMR pmax pmax
comp=Z,9.0nm,0.9s
PMR Palmer 83.27 20 P **P** **08 34 29.1 -0.3**
PMR IAmb IAmb 08 34 31.5
comp=Z,8.9nm,0.9s
PMR Palmer 83.27 20 P **P** **08 34 28.8 -0.6**
baz=223
PPLA Purkeypile 83.31 18 P **P** **08 34 29.2 -0.7**
baz=220
KNK Knik Glacier 83.36 20 P **P** **08 34 30.1 +0.1**
baz=223
GLI Glacier Island 83.43 21 P **P** **08 34 29.6 -0.7**
baz=225
GCSA Galena City Sc 83.51 15 P **P** **08 34 31.0 +0.4**
baz=215,SNR=5.3
SML Sawmill 83.69 20 P **P** **08 34 31.6 -0.1**
baz=223
KAIM Kayak Island 83.72 22 P **P** **08 34 31.1 -0.7**
baz=227
CAST Castle Rocks 83.74 17 P **P** **08 34 31.2 -0.7**
CAST IAmb IAmb 08 34 32.9
comp=Z,20nm,1.2s
CAST Castle Rocks 83.74 17 P **P** **08 34 31.4 -0.5**
baz=220,SNR=13
J20K Nowinta River 83.76 16 P **P** **08 34 32.9 +1.0**
J20K IAmb IAmb 08 34 34.1
comp=Z,7.9nm,0.7s
J20K Nowinta River 83.76 16 P **P** **08 34 31.5 -0.5**
baz=218,SNR=9.2
BOD Bodaibo 83.93 335 *e*P **P** **08 34 32.3 -0.6**
BOD pmax pmax
comp=Z,11nm,1.7s
CHUM Lake Minchumin 84.03 17 P **P** **08 34 33.3 0.0**
baz=220
SCM Sheep Creek Mo 84.03 20 P **P** **08 34 33.8 +0.3**
SCM pmax pmax
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 84.03 20 P **P** **08 34 33.8 +0.3**
SCM IAmb IAmb 08 34 34.4
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 84.03 20 P **P** **08 34 33.1 -0.5**
baz=224
KTH Kantishna Hill 84.18 18 P **P** **08 34 33.9 -0.4**
KTH IAmb IAmb 08 34 34.5
comp=Z,14nm,0.9s
KLU Klutina 84.27 21 P **P** **08 34 34.0 -0.7**
baz=226
TRF Thorofare Moun 84.29 18 P **P** **08 34 34.1 -0.8**
TRF IAmb IAmb 08 34 51.5
comp=Z,18nm,1.2s
TRF Thorofare Moun 84.29 18 P **P** **08 34 33.8 -1.1**
baz=221,SNR=6.2
BERG Berg Lake 84.30 22 P **P** **08 34 35.2 +0.4**
GOMU GeErMu 84.40 309 P **P** **08 34 38.6 +2.2**
GOMU pP PcP 08 34 42.5 +2.5
GOMU sP pP 08 34 44.5 -2.4
WAT6 Susitna Watana 84.44 19 P **P** **08 34 35.3 -0.3**
baz=224
BPAW Bear Paw Mtn. 84.58 17 P **P** **08 34 35.6 -0.5**
BPAW Bear Paw Mtn. 84.58 17 P **P** **08 34 34.9 -1.2**
baz=221
RND Reindeer 84.69 18 P **P** **08 34 36.6 -0.2**
RND pmax pmax
comp=Z,28nm,1.2s
RND Reindeer 84.69 18 P **P** **08 34 36.6 -0.2**
N25K Chitina, Valde 84.80 21 P **P** **08 34 37.5 +0.1**
N25K Chitina, Valde 84.80 21 P **P** **08 34 36.1 -1.3**
baz=227
MCK McKinley 84.91 18 P **P** **08 34 37.5 -0.3**
MCK pmax pmax
comp=Z,18nm,1.0s
MCK McKinley 84.91 18 P **P** **08 34 37.5 -0.3**
MCK McKinley 84.91 18 P **P** **08 34 36.4 -1.4**
baz=223,SNR=12
DHY Denali Highway 84.91 19 P **P** **08 34 38.5 +0.4**
DHY IAmb IAmb 08 34 50.1
comp=Z,6.3nm,0.9s
DHY Denali Highway 84.91 19 P **P** **08 34 36.9 -1.1**
baz=224
ZAK Zakamensk 84.98 325 *e*P **P** **08 34 37.3 -1.3**
ZAK pmax pmax
comp=Z,19nm,1.3s
RDOG Red Dog Mine 85.02 11 P **P** **08 34 38.5 +0.2**
BWN Browne 85.07 18 P **P** **08 34 38.0 -0.6**
I21K Tanana 85.13 16 P **P** **08 34 39.5 +0.7**
I21K Tanana 85.13 16 P **P** **08 34 38.5 -0.4**
baz=220,SNR=27
H21K Melozitna Rive 85.28 16 P **P** **08 34 40.2 +0.5**
H21K IAmb IAmb 08 34 41.1
comp=Z,10nm,0.8s
H21K Melozitna Rive 85.28 16 P **P** **08 34 39.3 -0.3**
baz=219,SNR=13
IMAR Indian Mountai 85.29 15 P **P** **08 34 40.0 +0.3**
MLY Manley 85.35 17 P **P** **08 34 39.8 -0.2**
MLY IAmb IAmb 08 34 41.1
comp=Z,5.4nm,0.8s
MLY Manley 85.35 17 P **P** **08 34 39.7 -0.4**
baz=221,SNR=5.8
YBH Yreka Blue Hor 85.44 45 P **P** **08 34 42.9 +1.8**
comp=Z,2.5nm,1.0s,baz=236,slow=3.6,SNR=3.7
YBH LR LR 09 05 15.2
comp=Z,79nm,19.7s,baz=236,slow=30
BARN Barnard Glacie 85.50 22 P **P** **08 34 41.1 +0.1**
NEA2 Nenana 85.50 18 P **P** **08 34 40.3 -0.4**
NEA2 IAmb IAmb 08 34 40.6
comp=Z,4.9nm,0.7s
NEA2 Nenana 85.50 18 P **P** **08 34 39.8 -0.9**
baz=222
WRH Wood River Hil 85.70 18 P **P** **08 34 41.3 -0.5**
WRH IAmb IAmb 08 34 42.3
comp=Z,12nm,0.9s
I23K Minto, Yukon-K 85.83 17 P **P** **08 34 41.9 -0.4**

I23K IAmb IAmb 08 34 42.5
comp=Z,5.9nm,0.9s
I23K Minto, Yukon-K 85.83 17 P **P 08 34 42.1 -0.2**
baz=222
CCB Clear Creek Bu 85.91 18 P **P 08 34 41.8 -0.9**
HDA Harding Lake 86.00 18 P **P 08 34 42.6 -0.6**
HDA Harding Lake 86.00 18 P **P 08 34 42.3 -0.9**
baz=224,SNR=18
MENT Mentasta 86.01 20 P **P 08 34 42.7 -0.6**
MENT IAmb IAmb 08 35 09.4
comp=Z,16nm,1.6s
MDM Murphy Dome 86.02 18 P **P 08 34 42.1 -1.3**
MDM IAmb IAmb 08 34 43.3
comp=Z,9.4nm,0.7s
TCOL CIGO, UAF Yank 86.06 18 P **P 08 34 43.6 +0.1**
TCOL CIGO, UAF Yank 86.06 18 P **P 08 34 42.6 -0.9**
baz=224,SNR=6.7
COLA College 86.06 18 *i* P **P 08 34 43.9 +0.4**
COLA pmax pmax
comp=Z,13nm,0.8s
COLA College 86.06 18 P **P 08 34 42.8 -0.7**
COLA College 86.06 18 P **P 08 34 42.7 -0.7**
baz=224
RIDG Independent Ri 86.19 19 P **P 08 34 43.9 -0.4**
RIDG IAmb IAmb 08 34 45.1
comp=Z,6.5nm,0.8s
RIDG Independent Ri 86.19 19 P **P 08 34 43.2 -1.0**
baz=226,SNR=5.3
L26K Log Cabin Wild 86.20 20 P **P 08 34 44.2 -0.1**
L26K IAmb IAmb 08 35 09.1
comp=Z,13nm,1.6s
L26K Log Cabin Wild 86.20 20 P **P 08 34 43.5 -0.8**
baz=228
ISA Isabella, Lake 86.24 52 P **P 08 34 42.8 -2.4**
baz=249
M27K Edge Creek, AK 86.26 21 P **P 08 34 44.1 -0.6**
baz=229
IL31 86.28 18 P **P 08 34 43.6 -0.9**
IL31 IAmb IAmb 08 34 44.7
comp=Z,11nm,0.7s
ILAR Eielson Array 86.28 18 P **P 08 34 43.5 -1.1**
comp=Z,8.8nm,0.6s,baz=240,slow=5.2,SNR=156
ILAR PKiKP **PKiKP 08 39 51.8 -0.4**
comp=Z,0.4nm,0.9s,baz=273,slow=3.0,SNR=4.8
ILAR PKKP **PKKPdf 08 52 41.3 +2.1**
comp=Z,0.3nm,0.6s,baz=18,slow=2.6,SNR=4.8
ILAR LR LR 09 08 25.8
comp=Z,176nm,19.9s,baz=247,slow=32
ILAR Eielson Array 86.28 18 P **P 08 34 43.7 -0.9**
ILAR Eielson Array 86.28 18 P **P 08 34 43.7 -0.9**
BEKR Beckworth 86.36 47 P **P 08 34 45.0 -0.8**
POKR Poker Plat Res 86.36 18 P **P 08 34 44.2 -0.8**
baz=224
DOT Dot Lake 86.38 20 P **P 08 34 44.9 -0.3**
YUK3 Moose Creek 86.40 22 P **P 08 34 44.4 -1.1**
baz=230
J25K Salcha River, 86.63 19 P **P 08 34 45.8 -0.6**
J25K IAmb IAmb 08 34 47.1
comp=Z,9.6nm,0.7s
J25K Salcha River, 86.63 19 P **P 08 34 45.6 -0.8**
baz=226,SNR=16
SCRK Sand Creek 86.63 20 P **P 08 34 46.2 -0.3**
SCRK IAmb IAmb 08 34 47.5
comp=Z,6.3nm,0.8s
SCRK Sand Creek 86.63 20 P **P 08 34 45.3 -1.2**
baz=227,SNR=8.5
WRAK Wrangell Islan 86.67 29 P **P 08 34 46.3 -0.3**
baz=238
BBB Bella Bella 86.68 34 LR LR 09 06 00.3
comp=Z,128nm,20.7s,baz=270,slow=30
L27K Beaver Creek, 86.74 21 P **P 08 34 46.1 -0.9**
baz=229
CWC Cottonwood Cre 86.81 51 P **P 08 34 46.3 -1.8**
baz=250
MONP2 Monument Peak 86.91 55 P **P 08 34 47.2 -1.5**
baz=251
PFO Pinyon Flats O 87.11 54 LR LR 09 06 28.7
comp=Z,247nm,19.7s,baz=246,slow=31
J26L Joseph Creek 87.12 19 P **P 08 34 48.5 -0.3**
baz=228
MPMC Manual Prospec 87.13 52 P **P 08 34 48.0 -1.7**
baz=250
BELA Belgrano 2 87.16 176 P **P 08 34 48.1 -0.7**
BELA IAmb IAmb 08 34 49.3
comp=Z,7.3nm,0.7s
COLD Coldfoot 87.16 15 P **P 08 34 49.6 +0.7**
COLD IAmb IAmb 08 34 50.6
comp=Z,7.9nm,0.8s
COLD Coldfoot 87.16 15 P **P 08 34 48.5 -0.3**
baz=221,SNR=10.0
NVAR Mina Array Bea 87.34 49 P **P 08 34 50.3 -0.3**
comp=Z,1.0nm,0.7s,baz=232,slow=7.4,SNR=8.4
NVAR LR LR 09 07 00.6
comp=Z,355nm,19.7s,baz=246,slow=31
GRAC Grapevine Rang 87.54 51 P **P 08 34 50.2 -1.3**
baz=250
PALK Pallekele 88.05 278 LR LR 09 18 23.0
comp=Z,51nm,18.0s,baz=231,slow=38
EGAK Eagle 88.08 20 P **P 08 34 53.1 -0.2**
EGAK IAmb IAmb 08 34 53.8
comp=Z,21nm,1.6s
EGAK Eagle 88.08 20 P **P 08 34 53.0 -0.4**
baz=230,SNR=5.7
GMRC Granite Mounta 88.12 54 P **P 08 34 53.1 -1.3**
baz=251
DAWY Dawson 88.22 21 P **P 08 34 54.3 +0.2**
baz=231
A04D Lummi Island 88.26 39 P **P 08 34 54.2 -0.2**
baz=246
IRM Iron Mountain 88.32 54 P **P 08 34 53.8 -1.4**
baz=251
KNGR Kungurtug, Tuv 88.35 323 *i* P **P 08 34 55.0 -0.1**
TPNV Topopah Spring 88.37 51 P **P 08 34 54.6 -0.9**
baz=251
TOLK Toolik Lake Re 88.38 15 P **P 08 34 55.2 +0.5**
TOLK Toolik Lake Re 88.38 15 P **P 08 34 55.2 +0.5**
baz=222
DLBC Dease Lake 88.79 28 LR LR 09 06 37.1
comp=Z,82nm,22.0s,baz=242,slow=30
SYO Syowa Base 88.97 197 *i* *ep* P pP 08 35 07.2 -0.8
R11A Troy Canyon, C 89.32 50 P **P 08 34 59.5 -0.6**
baz=251
I29M Ogilvie Camp, 89.39 20 P **P 08 35 00.2 +0.7**
baz=232
LPIG La Paz 89.42 65 LR LR 09 05 25.7
comp=Z,82nm,21.8s,baz=248,slow=29
PRN Pahroc Range 89.42 51 P **P 08 35 00.8 +0.4**
PRN IAmb IAmb 08 35 04.3
comp=Z,8.2nm,1.3s
TIXI Tiksi 89.49 349 *ce* P **P 08 34 59.2 -0.6**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 89.49 349 P **P 08 34 59.0 -0.8**
TIXI IAmb IAmb 08 35 00.8
comp=Z,5.7nm,0.9s
ELK Elko 90.34 48 P **P 08 35 06.7 +1.9**
comp=Z,0.9nm,0.7s,baz=277,slow=8.1,SNR=4.5
ELK LR LR 09 10 08.0
comp=Z,171nm,19.1s,baz=242,slow=32
ELK Elko 90.34 48 P **P 08 35 04.0 -0.8**
ELK pmax pmax
comp=Z,6.0nm,1.7s
ELK Elko 90.34 48 P **P 08 35 04.0 -0.8**
LCMT Little Creek M 90.67 52 P **P 08 35 06.2 -0.1**
F10A Beach Ranch, E 90.69 43 P **P 08 35 05.7 -0.4**
F10A IAmb IAmb 08 35 10.1
comp=Z,3.9nm,0.8s
PLID Pearl Lake 91.21 44 P **P 08 35 08.2 -0.6**
U15A North Rim 91.23 53 P **P 08 35 09.0 -0.2**
U15A IAmb IAmb 08 36 10.3
comp=Z,7.4nm,1.5s
TUC Tucson 91.27 57 P **P 08 35 09.7 +0.6**
TUC pmax pmax
comp=Z,6.0nm,1.5s
TUC Tucson 91.27 57 P **P 08 35 09.7 +0.6**
X16A Lo Mia Camp, P 91.33 55 P **P 08 35 07.8 -1.7**
NEW Newport 91.54 40 P **P 08 35 10.4 +0.5**
comp=Z,1.5nm,0.9s,baz=273,slow=3.7,SNR=4.5
NEW Newport 91.54 40 P **P 08 35 10.4 +0.5**
NEW pmax pmax
comp=Z,6.0nm,1.3s
NEW Newport 91.54 40 IAmb IAmb 08 38 29.1
comp=Z,5.8nm,1.3s
NEW Newport 91.54 40 P **P 08 35 09.7 -0.3**
baz=250
WMQ Urumqi 92.14 315 *e*P **P 08 35 12.7 -0.2**
WMQ pP PcP 08 35 17.5 +3.9
WMQ sP pP 08 35 22.7 -0.8
WMQ pmax pmax
comp=Z,30nm,0.7s
HYBB Hyderabad (bro 92.59 287 *e*P **P 08 35 14.3 -1.2**
HYBB *ep* **pP 08 35 26.4 +0.7**
HYBB *e*SKSac **SKSac 08 45 45.4 -1.6**
INK Inuvik 92.65 19 P **P 08 35 15.2 +0.7**
comp=Z,0.3nm,0.4s,baz=246,slow=2.9,SNR=3.5
INK LR LR 09 10 48.7
comp=Z,158nm,20.4s,baz=207,slow=32
TROLL Troll, Antarti 93.22 185 P **P 08 35 17.0 -0.5**
SNAA Sanae 93.92 183 P **P 08 35 19.5 -1.2**
SNAA Sanae 93.92 183 LR LR 09 17 05.5
comp=Z,142nm,18.0s,baz=186,slow=35
VNA3 Neumayer Olymp 94.61 181 P **P 08 35 23.2 -0.5**
VNA2 Neumayer--Watz 94.87 182 P **P 08 35 24.7 -0.1**
baz=169,slow=3.0
PDAR Pinedale Array 94.99 47 P **P 08 35 28.2 +2.0**
comp=Z,0.4nm,0.7s,baz=251,slow=4.7,SNR=2.1
PDAR PKKPbc **PKKPbc 08 52 20.9 -2.0**
comp=Z,0.1nm,0.5s,baz=64,slow=4.1,SNR=3.8
PDAR LR LR 09 13 08.9
comp=Z,99nm,18.4s,baz=262,slow=32
PDAR Pinedale Array 94.99 47 P **P 08 35 26.3 0.0**
ANMO Albuquerque 95.43 55 LR LR 09 10 59.8
comp=Z,149nm,20.0s,baz=246,slow=31
C36M Paulatuk 96.16 19 P **P 08 35 29.9 -0.7**
baz=246
EGMT Eagleton 96.18 42 P **P 08 35 30.6 -0.8**
baz=256
TXAR Lajitas Array 96.46 61 P **P 08 35 31.9 -1.2**
comp=Z,0.2nm,0.7s,baz=245,slow=3.8,SNR=2.2
TXAR PKKPbc **PKKPbc 08 52 16.6 -1.6**
comp=Z,0.5nm,0.9s,baz=104,slow=4.0,SNR=5.2
TXAR LR LR 09 10 09.8
comp=Z,96nm,21.7s,baz=235,slow=30
MK31 Makanchi Array 96.62 316 P **P 08 35 33.0 -0.3**
MK31 pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 96.62 316 P **P 08 35 33.0 -0.3**
MK31 IAmb IAmb 08 35 44.4
comp=Z,4.9nm,1.1s
MKAR Makanchi Array 96.62 316 P **P 08 35 32.6 -0.6**
comp=Z,3.7nm,0.8s,baz=104,slow=6.0,SNR=30
MKAR PKiKP **PKiKP 08 40 09.6 -0.7**
comp=Z,0.1nm,0.5s,baz=242,slow=2.6,SNR=1.2
MKAR PKKPbc **PKKPbc 08 52 15.2 -3.2**
comp=Z,0.3nm,0.6s,baz=286,slow=3.6,SNR=4.6
ZAA0 Zalesovo Array 96.81 324 P **P 08 35 32.5 -1.4**
ZAA0 IAmb IAmb 08 35 43.4
comp=Z,5.2nm,1.1s
ZALV Zalesovo Beam 96.81 324 P **P 08 35 32.2 -1.7**
comp=Z,2.7nm,0.7s,baz=108,slow=4.8,SNR=15
ZALV LR LR 09 17 48.2
comp=Z,33nm,21.2s,baz=72,slow=35
ZALV Zalesovo Beam 96.81 324 P **P 08 35 32.8 -1.1**
ZALV Zalesovo Beam 96.81 324 P **P 08 35 32.8 -1.1**
MAKZ Makanchi 96.83 316 P **P 08 35 34.3 +0.1**
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
MAKZ Makanchi 96.83 316 P **P 08 35 34.3 +0.1**
MAKZ IAmb IAmb 08 35 34.7
comp=Z,6.2nm,1.2s
A36M Sachs Harbour 96.91 17 P **P 08 35 33.4 -0.5**
A36M IAmb IAmb 08 35 34.5
comp=Z,4.8nm,0.8s
A36M Sachs Harbour 96.91 17 P **P 08 35 33.9 0.0**
baz=245
N23A Red Feather La 97.17 50 P **P 08 35 34.7 -1.6**
baz=257
YKA Yellowknife Ar 97.39 27 P **P 08 35 35.2 -1.1**
comp=Z,0.6nm,0.4s,baz=254,slow=4.5,SNR=16
YKA PKiKP **PKiKP 08 40 10.6 -0.6**
comp=Z,0.5nm,0.8s,baz=238,slow=1.2,SNR=6.7
NRIK Noril'sk 99.55 339 P **Pdif 08 35 44.4 -1.4**
comp=Z,2.4nm,0.6s,baz=82,slow=6.0,SNR=5.2
NRIK LR LR 09 20 04.1
comp=Z,75nm,20.4s,baz=86,slow=35
NRIK Noril'sk 99.55 339 Pdif **Pdif 08 35 44.7 -1.1**
NRIK IAmb IAmb 08 35 45.8
comp=Z,7.4nm,1.2s
KURK Kurchatov 99.82 320 *i* P **Pdif 08 35 46.2 -1.3**
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 99.82 320 **Pdif 08 35 46.0 -1.4**
KURK IAmb IAmb 08 38 48.9
comp=Z,5.2nm,1.4s
KURBB Kurchatov Arra 99.86 320 P **Pdif 08 35 46.8 -0.9**
comp=Z,0.3nm,0.5s,baz=103,slow=3.6,SNR=4.0
O53A New Philadelph 115.83 52 P **PKPdf 08 40 44.6 -1.4**
baz=273
LPAZ La Paz 117.77 117 PKP **PKPdf 08 40 50.1 -1.1**
comp=Z,1.1nm,0.7s,baz=180,slow=2.0,SNR=3.8
LPAZ La Paz 117.77 117 PKiKP **PKPdf 08 40 49.7 -1.5**
LPAZ La Paz 117.77 117 **PKPdf 08 40 49.7 -1.5**
ARCES ARCESS Array B 119.76 345 PKP **PKPdf 08 40 52.1 -0.6**
comp=Z,4.7nm,0.7s,baz=79,slow=2.0,SNR=39
KLMR Klimovskoe 120.13 333 *e*PKiKP **PKPdf 08 40 51.3 -2.3**
KLMR pmax pmax
comp=Z,12nm,1.3s
KLMR Klimovskoe 120.13 333 *e*PKPdf **PKPdf 08 40 51.3 -2.3**
KLMR AMP 08 41 04.3
comp=Z,12nm,1.3s
ZEI Tsey 123.66 312 *i* PKiKP **PKiKP 08 41 02.6 +1.1**
ZEI pmax pmax
comp=Z,6.0nm,1.1s
OBN Obninsk 124.13 328 *e*PKiKP **PKiKP 08 41 02.8 +1.1**
OBN *e* 08 42 45.1
OBN pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 124.26 314 *i* PKiKP **PKPdf 08 41 01.8 -0.4**
KIV pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 125.19 338 PKP **PKPdf 08 41 02.8 -0.5**
comp=Z,6.4nm,0.9s,baz=29,slow=3.2,SNR=8.8
NB2 NORSAR Subarra 130.12 345 PKPdf **PKPdf 08 41 12.6 -0.2**
comp=Z,1.0nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 130.12 345 PKP **PKPdf 08 41 12.6 -0.2**
comp=Z,2.5nm,0.9s,baz=33,slow=2.0,SNR=7.4
AKASG Malin Array Be 130.16 326 PKP **PKPdf 08 41 12.6 -0.5**
comp=Z,0.9nm,0.6s,baz=54,slow=2.2,SNR=6.9
AKASG SKP **SKPdf 08 44 45.0 -0.9**
comp=Z,0.3nm,0.3s,baz=44,slow=4.2,SNR=4.3
AKASG Malin Array Be 130.16 326 PKiKP **PKPdf 08 41 13.3 +0.2**
AKASG Malin Array Be 130.16 326 **PKPdf 08 41 13.3 +0.2**
BDFB Brasilia 134.47 130 PKP **PKPdf 08 41 21.8 -0.7**
comp=Z,3.1nm,0.7s,baz=164,slow=1.6,SNR=6.8
CRVS Cervenica-Dubn 135.32 328 *e*PKiKP **PKiKP 08 41 24.6 +0.1**
CRVS Cervenica-Dubn 135.32 328 *e*PKP **PKiKP 08 41 24.6 +0.1**
CLL Collm 137.51 336 *e*PKiKP **PKiKP 08 41 28.0 -0.8**
CLL MLR MLR
comp=Z,700nm,19.2s
CLL Collm 137.51 336 *e*PKPdf **PKiKP 08 41 28.0 -0.8**
CLL Lm MLR 09 49 00.0
comp=Z,100nm,18.6s
EKA Eskdalemuir Ar 138.35 351 PKP **PKPdf 08 41 29.2 +0.9**
comp=Z,0.3nm,0.4s,baz=2.9,slow=1.4,SNR=4.5
RONA Rosalia, Austr 138.71 330 *e*P **PKPdf 08 41 29.4 +0.1**
comp=Z,5.5nm,0.8s
RONA *e*S **SKPab 08 45 14.2 +3.6**
comp=Z,3.0nm,0.7s
CONA Conrad Observa 138.76 330 *e*P **PKiKP 08 41 31.0 -0.6**
comp=Z,2.1nm,0.5s
CONA *e*S **SKPab 08 45 14.6 +3.7**
comp=Z,6.1nm,1.4s
GERES GERESS Array B 139.09 333 PKhKP PKPpre 08 41 28.8
comp=Z,1.0nm,0.2s,baz=68,slow=3.7,SNR=2.8
GERES SKPbc **SKiKP 08 45 06.3 +0.4**
comp=Z,0.4nm,0.2s,baz=241,slow=1.4,SNR=3.5
BIOA Bad Ischl, Aus 139.97 332 *e*P **PKPdf 08 41 32.2 +0.6**
comp=Z,2.2nm,0.4s
SOKA Soboth 140.04 330 *e*P **PKiKP 08 41 33.2 -1.1**
comp=Z,1.4nm,0.5s
SOKA *e*S **SKPab 08 45 19.4 +2.9**
comp=Z,1.3nm,0.4s
OBKA Obir 140.39 330 *e*P **PKiKP 08 41 35.8 +0.8**
comp=Z,4.7nm,1.2s
KBA Koelnbreinsper 140.56 331 *e*P **PKiKP 08 41 35.1 -0.4**
comp=Z,4.8nm,1.3s
KBA *e*S **SKiKP 08 45 10.0 +0.9**
comp=Z,2.4nm,0.9s
MYKA Terra Mystica 140.74 331 *e*P **PKPdf 08 41 32.1 -1.0**
comp=Z,3.7nm,1.1s
MYKA *e*S **SKPab 08 45 20.5 +0.8**
comp=Z,1.2nm,0.5s
WATA Walderalm 141.17 333 *e*P **PKiKP 08 41 35.8 -0.8**
comp=Z,2.5nm,0.6s
ABTA Abfaltersbach 141.19 332 *e*P **PKPdf 08 41 32.5 -1.4**
comp=Z,2.3nm,0.5s
ABTA *e*S **SKiKP 08 45 11.1 +0.8**
comp=Z,3.0nm,0.9s
WTTA Wattenberg 141.19 333 *e*P **PKPdf 08 41 35.4 +1.4**
comp=Z,4.4nm,0.6s
MOTA Moosalm 141.37 333 *e*P **PKPdf 08 41 34.0 -0.3**
comp=Z,7.5nm,1.2s
MOTA *e*S **SKPab 08 45 22.0 -0.6**
comp=Z,4.4nm,0.8s
RETA Reutte 141.40 334 *e*P **PKPdf 08 41 30.7 -3.5**
comp=Z,3.0nm,0.8s
SQTA Sankt Quirin 141.42 333 *e*P **PKiKP 08 41 36.4 -0.7**
comp=Z,3.5nm,0.4s
FETA Feichten 141.78 333 *e*P **PKPdf 08 41 35.5 +0.5**
comp=Z,4.6nm,1.0s
FETA *e*S **SKiKP 08 45 13.2 +1.7**
comp=Z,3.5nm,0.8s
DAVA Damuels 141.93 334 *e*P **PKPdf 08 41 32.8 -2.5**
comp=Z,1.8nm,0.4s
DAVA *e*S **SKPbc 08 45 08.2 -2.0**
comp=Z,4.2nm,0.9s
DAVOX Davos/Dischmat 142.33 334 PKhKP PKPpre 08 41 31.8
comp=Z,2.2nm,0.5s,baz=209,slow=12,SNR=3.0
KEST Kesra 150.63 321 PKPbc **PKPbc 08 41 56.0 +0.2**
comp=Z,31nm,1.0s,baz=352,slow=1.3,SNR=13
KEST Kesra 150.63 321 PKPdf **PKPdf 08 41 47.5 -2.7**
KEST **PKPbc 08 41 55.8 +0.1**
KEST PKPab **pPKPdf 08 42 00.2 -0.8**
PBRG Braganca 152.06 350 *e*PKP **PKPbc 08 41 57.9 -0.9**
POLO Lamas de Olo 152.65 351 *e*PKP **PKiKP 08 42 00.7 +0.3**
MVO Moncorvo 152.73 350 *e*PKP **PKiKP 08 42 01.0 +0.5**
PVRL Vila Real 152.73 351 *e*PKP **PKiKP 08 42 00.9 +0.4**
ESDC Sonseca Array 153.48 344 PKPbc **PKPbc 08 42 01.1 -0.9**
comp=Z,2.7nm,0.8s,baz=13,slow=2.5,SNR=12
ESDC Sonseca Array 153.48 344 PKPdf **PKPdf 08 41 52.5 -1.8**
ESDC **PKPbc 08 42 01.7 -0.3**
ESDC PKPab **pPKPbc 08 42 12.2 -0.6**
MTE Manteigas 153.56 350 *e*PKP **PKPbc 08 42 00.2 -2.0**
PMRV Marv??o 154.48 350 *e*PKP **PKiKP 08 42 05.5 +1.4**
TORD Torodi Ar. Bea 165.51 267 PKP **PKPdf 08 42 07.8 -0.9**
comp=Z,1.1nm,0.8s,baz=115,slow=1.2,SNR=5.8
TORD PKPab **PKPab 08 43 06.5 -0.8**
comp=Z,3.7nm,0.9s,baz=102,slow=4.1,SNR=11
TORD Torodi Ar. Bea 165.51 267 **PKPdf 08 42 07.6 -1.1**
TORD PKPab **PKPab 08 43 06.2 -1.0**

*IDC **04** 08:27:21.5±1.4, 14°.25S×166°.81E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/48, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=51.8km s-min=30.6km az=123.0*
*NEIC **04** 08:27:26.6±0.7, 14°.45S±0°.09×166°.9E±0°.1, h35km±2km, mb4.2/6, Error ellipse: s-maj=18.0km s-min=13.1km az=118.0*

ISC 04 08:27:26.2±0.9, 14°.43S±0°.09×166°.8E±0°.2, h35km, n20, σ0§64/22, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.07**	**161**	Pn	**Pn**	**08 27 44.8**	**0.0**
KOUNC	**Koumac, New Ca**	**6.56**	**201**	Pn	**Pn**	**08 29 00.0**	**-0.2**
MARNC	**Mare, Loyalty**	**7.10**	**171**	Pn	**Pn**	**08 29 06.7**	**-1.0**
DZM	**Mont Dzumac**	**7.61**	**183**	Pn	**Pn**	**08 29 16.1**	**+1.4**
	1.7nm,0.3s,baz=324,slow=14,SNR=13						
DZM				Sn	**Sn**	**08 30 40.1**	**+0.3**
	0.1nm,0.3s,baz=175,slow=15,SNR=2.0						
DZM	**Mont Dzumac**	**7.61**	**183**		**Pn**	**08 29 13.9**	**-0.9**
ONTNC	**Ouen Toro**	**7.84**	**180**	Pn	**Pn**	**08 29 18.1**	**+0.2**
OUENC	**Ouen Island, N**	**7.95**	**180**	Pn	**Pn**	**08 29 19.1**	**-0.1**
CAN	**Canberra**	**26.27**	**214**	P	**P**	**08 32 58.0**	**-0.4**
CAN				IAmb	IAmb	08 33 04.2	
	comp=Z,24nm,1.5s						
STKA	**Stephens Creek**	**28.88**	**229**	P	**P**	**08 33 21.7**	**0.0**
STKA				IAmb	IAmb	08 33 40.3	
	comp=Z,1.1nm,1.4s						
WR0	**Warramunga Arr**	**31.31**	**255**	P	**P**	**08 33 43.0**	**-0.5**
WR0				IAmb	IAmb	08 34 00.7	
	comp=Z,7.4nm,1.4s						
WB2	**Warramunga Arr**	**31.49**	**255**	P	**P**	**08 33 44.6**	**-0.3**
WB2				IAmb	IAmb	08 34 13.1	
	comp=Z,4.7nm,1.2s						
WRA	**Warramunga Arr**	**31.50**	**255**	P	**P**	**08 33 46.1**	**+1.1**
	comp=Z,0.4nm,1.0s,baz=87,slow=9.3,SNR=1.5						
WRA	**Warramunga Arr**	**31.50**	**255**	P	**P**	**08 33 44.9**	**-0.2**
ASAR	**Alice Springs**	**32.39**	**249**	P	**P**	**08 33 53.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=78,slow=9.1,SNR=2.2						
ASAR				PcP	**PcP**	**08 36 41.2**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=103,slow=2.1,SNR=1.8						
ASAR	**Alice Springs**	**32.39**	**249**	P	**P**	**08 33 52.6**	**-0.4**
BBOO	**Buckleboo**	**33.44**	**231**	P	**P**	**08 34 01.8**	**-0.1**
PETK	**Petropavlovsk-**	**67.72**	**354**	P	**P**	**08 38 19.8**	**0.0**
ILAR	**Eielson Array**	**86.37**	**18**	P	**P**	**08 40 04.7**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=239,slow=5.3,SNR=8.9						
MKAR	**Makanchi Array**	**96.70**	**316**	P	**P**	**08 40 52.2**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=123,slow=5.3,SNR=1.8						
ARCES	**ARCESS Array B**	**119.86**	**345**	PKP	**PKPdf**	**08 46 12.7**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=82,slow=1.9,SNR=4.5						

IDC 04 08:56:29.0±3.3, 55°.39N×86°.05E, h0km, mb1 2.8/2, mb1mx2.8/52, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.4km s-min=22.2km az=38.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**207**	*i*		09 07 30.0	
	baz=25,slow=329,SNR=8.3						
ZALV	**Zalesovo Beam**	**1.61**	**207**	Pg	Pn	08 56 56.4	-2.3
	2.5nm,0.3s,baz=29,slow=16,SNR=49						
ZALV				Lg	Lg	08 57 20.6	
	1.9nm,0.3s,baz=24,slow=30,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.59**	**227**	Pn	Pn	08 58 07.3	+0.3
	0.1nm,0.3s,baz=44,slow=14,SNR=9.1						
KURBB				Lg	Lg	08 59 59.3	
	0.0nm,0.3s,baz=43,slow=30,SNR=5.5						
MKAR	**Makanchi Array**	**8.93**	**197**	Pn	Pn	08 58 39.4	+0.2
	0.1nm,0.3s,baz=16,slow=12,SNR=4.3						
MKAR				Lg	Lg	09 01 12.3	
	0.1nm,0.3s,baz=29,slow=31,SNR=5.5						

TAP 04 09:07:07.6, 21°.27N×121°.95E, h176km±1km, ML3.6, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	**0.81**	**335**	*e*P	Pn	09 07 32.9	-0.6
	baz=335						
LYUB				*e*S	Sn	09 07 52.0	-1.6
	baz=335						
TSEB	**Hengchuen, Pin**	**1.16**	**303**	*e*P	Pn	09 07 35.9	-0.2
	baz=301						
TSEB				S	Sn	09 07 57.3	-0.8
	baz=301						
TWKBT	**Hengchun**	**1.25**	**303**	P	Pn	09 07 36.7	-0.1
	baz=302						
TWKBT				S	Sn	09 07 57.9	-1.7
	baz=302						
TWK1	**Hengchun**	**1.26**	**303**	P	Pn	09 07 36.7	-0.3
	baz=302						
TWK1				S	Sn	09 07 57.7	-1.9
	baz=302						
SMST	**Manzhou Townsh**	**1.28**	**306**	*e*P	Pn	09 07 36.9	-0.2
	baz=306						
SMST				*e*S	Sn	09 07 58.1	-1.9
	baz=306						
HEN	**Hengchun**	**1.34**	**303**	*e*P	Pn	09 07 37.1	-0.6
	baz=303						
HEN				S	Sn	09 07 59.2	-1.8
	baz=303						
SLIU	**Shizi**	**1.43**	**312**	P	Pn	09 07 38.2	-0.3
	baz=311						
SLIU				S	Sn	09 08 00.6	-1.8
	baz=311						
TAWH	**Dawu Township**	**1.45**	**318**	P	Pn	09 07 38.2	-0.6
	baz=317						
TAWH				*e*S	Sn	09 08 00.8	-2.1
	baz=317						
TAW	**Tawu**	**1.46**	**318**	*e*P	Pn	09 07 38.1	-0.7
	baz=318						
TAW				*e*S	Sn	09 08 00.8	-2.2
	baz=318						
LDUT	**Ludao**	**1.47**	**343**	*e*S	Sn	09 08 01.6	-1.7

	baz=342						
EAST	Anshuo	1.51	318	eP	Pn	09 07 39.0	-0.3
	baz=317						
EAST				eS	Sn	09 08 02.0	-1.9
	baz=317						
ECL	Taimali	1.61	325	eS	Sn	09 08 03.6	-2.1
	baz=325						
SCZT	Fangliau	1.65	312	eP	Pn	09 07 40.5	-0.2
	baz=311						
SCZT				eS	Sn	09 08 05.0	-1.4
	baz=311						
TWGBT	Beinan	1.74	333	eP	Pn	09 07 41.8	+0.2
	baz=332						
TWGBT				eS	Sn	09 08 06.2	-1.9
	baz=332						
TWG	Pinlang	1.75	332	eS	Sn	09 08 06.1	-2.1
	baz=332						
SSPT	Xinbi	1.76	314	eP	Pn	09 07 42.2	+0.4
	baz=313						
SSPT				eS	Sn	09 08 07.8	-0.5
	baz=313						
EDH	Donghe	1.80	341	eS	Sn	09 08 07.5	-1.7
	baz=340						
LONT	Longtian	1.80	335	eS	Sn	09 08 07.4	-1.8
	baz=335						
MASBT	Mashibuluo	1.81	318	eP	Pn	09 07 42.6	+0.2
	baz=317						
MASBT				eS	Sn	09 08 07.2	-2.2
	baz=317						
WLCH	Liuqiu	1.81	307	eS	Sn	09 08 09.9	+0.6
	baz=306						
TSMG	Majia	1.88	320	eP	Pn	09 07 43.0	0.0
	baz=319						
TSMG				eS	Sn	09 08 07.9	-2.6
	baz=319						
SSD	Sandimen	1.91	321	eP	Pn	09 07 43.9	+0.5
	baz=320						
SSD				eS	Sn	09 08 08.9	-2.4
	baz=320						
STYH	Taoyuan	2.19	330	eS	Sn	09 08 15.8	-0.8
	baz=330						
STYT	Tauyuan	2.19	330	eS	Sn	09 08 14.6	-2.2
	baz=329						
YULB	Yu-li	2.20	344	eS	Sn	09 08 16.3	-0.7
	baz=344						
SGST	Jiashian	2.21	325	eS	Sn	09 08 15.1	-2.0
	baz=325						
CHN1	Nanshi	2.32	326	eS	Sn	09 08 19.1	-0.3
	baz=325						
WTP	Ta-pu	2.33	328	eS	Sn	09 08 19.3	-0.3
	baz=328						
SNST	Tainan City	2.36	326	eS	Sn	09 08 19.0	-1.2
	baz=325						
TPUB	Ta-pu	2.37	329	eS	Sn	09 08 19.4	-0.9
	baz=328						

*IDC **04** 09:14:16.5±4.6, 14°62N×145°98E, h43km±43km, mb3.0/5, mb1 3.3/5, mb1mx3.1/49, mbtmp3.2/5, Error ellipse: s-maj=47.0km s-min=24.5km az=108.0*

ISC 04 09:14:17.1±1.1**, 14°6N**±0°2×**146°0E**±0°2**, h50**km**, n9,** σ**0ˢ85**/7**, mb3.3**/5**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.48	228	P	Pn	09 14 41.9	+0.4
	70nm,0.3s,baz=305,slow=7.8,SNR=37						
GUMO				S	Sn	09 14 58.7	-1.0
	53nm,0.3s,baz=346,slow=21,SNR=6.6						
GUMO				LR	LR	09 15 07.5	
	comp=Z,60nm,18.5s,baz=84,slow=34						
H11S3	WAKE ISLAND Hy	20.20	76	T	T	09 40 11.8	
	baz=263,slow=75,SNR=7.4						
H11S1	WAKE ISLAND Hy	20.22	76	T	T	09 40 08.6	
	baz=263,slow=75,SNR=4.7						
H11S2	WAKE ISLAND Hy	20.22	76	T	T	09 40 11.8	
	baz=263,slow=75,SNR=5.0						
WRA	Warramunga Arr	36.19	199	P	P	09 21 15.9	+0.8
	0.2nm,0.6s,baz=33,slow=9.6,SNR=5.3						
ASAR	Alice Springs	39.83	197	P	P	09 21 45.5	-0.3
	0.3nm,0.9s,baz=15,slow=7.1,SNR=4.1						
MKAR	Makanchi Array	61.53	316	P	P	09 24 29.6	+0.5
	0.2nm,0.4s,baz=88,slow=9.4,SNR=4.3						
ILAR	Eielson Array	67.19	25	P	P	09 25 04.8	-0.9
	0.2nm,0.4s,baz=262,slow=5.7,SNR=4.3						
YKA	Yellowknife Ar	81.46	28	P	P	09 26 29.0	+0.2
	0.1nm,0.5s,baz=287,slow=5.6,SNR=2.5						

IDC 04 09:19:05.8±47.0**, 21°91S**×**173°99W, h0**km**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.6**/36**, mbtmp3.9**/3**, Error ellipse: s-maj=898.6km s-min=162.6km az=86.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.60	246	P	P	09 26 46.0	-1.5
	0.4nm,0.3s,baz=92,slow=12,SNR=8.4						
ASAR	Alice Springs	47.85	257	P	P	09 27 45.9	+0.1
	0.4nm,0.4s,baz=94,slow=6.8,SNR=16						
WRA	Warramunga Arr	48.12	262	P	P	09 27 48.7	+0.9
	1.3nm,0.4s,baz=98,slow=8.0,SNR=51						

*IDC **04** 09:31:48.8±4.8, 36°27N×69°83E, h128km±40km, mb3.2/9, mb1 3.3/11, mb1mx3.2/39, mbtmp3.7/11, Error ellipse: s-maj=31.8km s-min=21.9km az=8.0*

*NNC **04** 09:31:57.9±10.0, 37°12N×70°20E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=90.5km s-min=86.4km az=110.0*

ISC 04 09:31:52.6±0.8**, 36°59N**±0°06×**69°81E**±0°10**, h150**km**, n27,** σ**1ˢ39**/32**, mb3.5**/8**, 4C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	3.25	147	P	Pn	09 32 44.6	+1.2
CEP				S	Sn	09 33 23.0	+0.4
CHCP	Chirah Chowk	4.07	135	P	Pn	09 32 55.2	+1.4
THW	Thamme Wali	4.11	157	P	Pn	09 32 54.7	+0.3
AML	Almayashu	6.30	27	P	Pn	09 33 24.6	+1.0
	SNR=216						
KK09	Karatay Array	6.55	4	⇓P	Pn	09 33 27.8	+1.3
	4.8nm,0.3s,baz=169,slow=11						
KK09				⇓S	Sn	09 34 37.4	-2.7
	36nm,0.6s,baz=194,slow=23						
UCH	Uchtor	6.70	31	P	Pn	09 33 30.1	+1.0
	SNR=68						
EKS2	Erkin-Say	6.79	26	P	Pn	09 33 31.4	+1.4
	SNR=16						
AAK	Ala-Archa	7.04	29	P	Pn	09 33 34.6	+1.4
	17nm,0.3s,baz=188,slow=4.6,SNR=147						
AAK				S	Sn	09 34 50.9	-1.3
	1.1nm,0.3s,baz=343,slow=21,SNR=2.0						
CHMS	Chumysh	7.44	29	P	Pn	09 33 39.5	+0.9
	SNR=22						
CHMS	Chumysh	7.44	29	⇑P	Pn	09 33 39.2	+0.7
	38nm,0.7s						
CHMS				⇑S	Sn	09 34 60.0	-1.8
	14nm,0.6s						
ULHL	Ulahol	7.53	39	P	Pn	09 33 40.6	+0.8
	SNR=8.1						
USP	Ospenovka	7.58	27	P	Pn	09 33 40.9	+0.5
	SNR=70						
TKM2	Tokmak 2	7.73	33	P	Pn	09 33 43.3	+0.8
	SNR=20						
TKM2	Tokmak 2	7.73	33	⇑P	Pn	09 33 43.2	+0.6
	8.2nm,0.5s						
TKM2				⇑S	Sn	09 35 07.6	-1.3
	5.4nm,0.8s						
MKAR	Makanchi Array	13.80	38	P	Pn	09 35 00.6	-1.2
	0.3nm,0.3s,baz=226,slow=14,SNR=12						
KURBB	Kurchatov Arra	15.37	21	P	Pn	09 35 19.7	-1.6
	0.1nm,0.3s,baz=209,slow=12,SNR=5.4						
AKTO	Aktyubinsk	16.24	332	P	P	09 35 33.6	+1.2
	0.5nm,0.3s,baz=151,slow=13,SNR=9.0						
ZALV	Zalesovo Beam	20.24	26	P	P	09 36 16.7	+0.8
	1.2nm,0.4s,baz=222,slow=10,SNR=11						
ARU	Arti	21.25	343	P	P	09 36 29.0	+2.3
	1.1nm,0.3s,baz=189,slow=4.7,SNR=5.7						
SONM	Songino Array	29.07	56	P	P	09 37 40.5	+1.5
	0.2nm,0.4s,baz=266,slow=10.0,SNR=2.0						
FINES	FINESS Array B	36.88	326	P	P	09 38 46.8	+0.6
	1.2nm,0.6s,baz=109,slow=10,SNR=4.8						
ARCES	ARCESS Array B	40.70	338	P	P	09 39 19.0	+1.0
	0.5nm,0.4s,baz=115,slow=8.0,SNR=15						
NB2	NORSAR Subarra	43.73	323	P	P	09 39 42.9	+0.2
	comp=Z,0.6nm,0.5s,baz=98,slow=7.9						
NOA	NORSAR Array B	43.73	323	P	P	09 39 42.1	-0.5
	comp=Z,0.6nm,0.5s,baz=97,slow=7.8,SNR=4.4						
TORD	Torodi Ar. Bea	64.76	268	P	P	09 42 13.6	-1.7
	comp=Z,0.4nm,0.3s,baz=50,slow=6.0,SNR=12						
YKA	Yellowknife Ar	81.19	2	P	P	09 43 51.1	-0.1
	comp=Z,0.1nm,0.5s,baz=352,slow=4.3,SNR=4.7						
ASAR	Alice Springs	85.09	124	P	P	09 44 08.9	-2.9
	comp=Z,0.1nm,0.5s,baz=325,slow=4.7,SNR=1.3						

*MEX **04** 10:13:32.8±0.4, 13°98N×92°39W, h15km±63km, MD3.9*

*GCG **04** 10:13:44.6±0.6, 14°43N×91°53W, h17km±156km, MD3.6*

ISC 04 10:13:26.4±2.3**, 14°00N**±0°10×**92°68W**±0°06**, h11**km±13km**, n12,** σ**1ˢ14**/20**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PATR	El Naranjo	1.19	21	eP	Pg	10 13 50.5	+1.2
PATR				i S	Sb	10 14 04.6	-0.1
CHUJ	Union Juarez	1.22	27	i P	Pg	10 13 50.5	+0.7
CHUJ				i S	Sb	10 14 04.6	-0.9
PAVE	Pavencul	1.28	22	i P	Pg	10 13 52.0	+0.9
PAVE				i S	Sb	10 14 06.9	-0.4
STG3	Santiaguito 3,	1.29	57	eP	Pg	10 13 51.4	+0.3
PCIG		1.77	343	i P	Pg	10 14 01.5	+1.1
PCIG				eS	Sg	10 14 23.1	-0.3
FUG	Fuego 3	1.84	76	eP	Pn	10 13 57.5	-0.6
PCG	Pacaya	2.05	79	eP	Pn	10 14 01.6	+0.5
CCIG	Comitan	2.33	13	eP	Pg	10 14 10.3	-0.8
CCIG				eS	Sn	10 14 34.4	+0.8
NBG	Las Nubes	2.33	75	eP	Pn	10 14 06.5	+1.5
TGIG		2.79	351	eP	Pb	10 14 15.6	-0.8
TGIG				i S	Sb	10 14 49.8	-0.9
UXUV	UXUV	3.59	337	eP	Pb	10 14 29.4	-0.5
UXUV				eS	Sb	10 15 15.8	+2.2
CMIG	Matias Romero	3.74	326	eP	Pb	10 14 30.2	-2.2
CMIG				eS	Sb	10 15 17.8	0.0

*NOU **04** 10:16:14.6, 12°53S×166°28E, h20km, mb4.7/14, Santa Cruz Islands*

*IDC **04** 10:16:32.6±0.6, 14°18S×166°52E, h0km, mb4.2/18, mb1 4.4/19, mb1mx4.3/34, mbtmp4.2/19, ML4.0/1, MS3.7/24, Ms1 3.7/24, ms1mx3.4/63, Error ellipse: s-maj=22.8km s-min=15.5km az=105.0*

*NEIC **04** 10:16:35.7±2.6, 14°19S±0°08×166°9E±0°1, h23km±5km, mb4.6/34, Error ellipse: s-maj=18.8km s-min=11.1km az=80.0*

ISC 04 10:16:38.4±0.5**, 14°23S**±0°06×**166°63E**±0°10**, h43**km**, n95,** σ**1ˢ26**/66**, mb4.4**/32**, MS3.7**/25**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.33	155		Pn	10 16 57.3	-3.2
DVP	Devils Point	3.78	157	P	Pn	10 17 36.2	+2.0
KOUNC	Koumac, New Ca	6.67	199		Pn	10 18 13.2	-0.6
KOUNC	Koumac, New Ca	6.67	199	P	Pn	10 18 13.2	-0.6
MARNC	Mare, Loyalty	7.33	170	Pn	Pn	10 18 21.9	-1.1
MARNC	Mare, Loyalty	7.33	170	P	Pn	10 18 25.6	+2.7
YATNC	Mamie plateau,	7.79	178	P	Pn	10 18 30.1	+0.9
DZM	Mont Dzumac	7.80	181	Pn	Pn	10 18 28.3	-1.1
	2.3nm,0.3s,baz=352,slow=16,SNR=17						
DZM				Sn	Sn	10 19 55.4	-1.1
	1.9nm,0.3s,baz=342,slow=20,SNR=2.3						
DZM				LR	LR	10 20 43.4	
	comp=Z,239nm,19.9s,baz=13,slow=32						
DZM	Mont Dzumac	7.80	181	ePn	Pn	10 18 28.6	-0.8
	33nm,0.5s						
DZM				eSn	Sn	10 19 54.7	-1.8
	45nm,0.7s						
DZM				eLR	LR	10 20 18.2	
	comp=Z,708nm,24.3s						
DZM	Mont Dzumac	7.80	181		Pn	10 18 27.2	-2.2
DZM	Mont Dzumac	7.80	181	P	Pn	10 18 28.8	-0.6
NOUC	Port Laguerre	7.83	182	P	Pn	10 18 30.1	+0.3
ONTNC	Ouen Toro	8.03	181	Pn	Pn	10 18 33.7	+1.2
ONTNC	Ouen Toro	8.03	181	P	Pn	10 18 34.9	+2.3
OUENC	Ouen Island, N	8.14	179	Pn	Pn	10 18 33.7	-0.4
OUENC	Ouen Island, N	8.14	179	P	Pn	10 18 33.7	-0.4
PINNC	Pines Island,	8.37	175	Pn	Pn	10 18 37.8	+0.6
PINNC	Pines Island,	8.37	175	P	Pn	10 18 38.2	+1.0
EIDS	Eidsvold	18.33	230	P	Pn	10 20 51.5	+2.0
PMG	Port Moresby	19.64	282	LR	LR	10 27 43.9	
	comp=Z,208nm,18.0s,baz=63,slow=34						
CTA	Charters Tower	20.31	251	P	P	10 21 09.9	-0.9
	11nm,1.1s,baz=99,slow=7.7,SNR=3.3						
CTA				LR	LR	10 28 13.9	
	comp=Z,250nm,18.9s,baz=80,slow=35						
CTAO	Charters Tower	20.31	251	P	Pn	10 21 12.5	-0.7
AFI	Afiamalu	20.95	92	LR	LR	10 27 20.8	
	comp=Z,159nm,19.4s,baz=280,slow=31						
URZ	Urewera	25.67	161	P	P	10 22 06.7	+2.4
	9.4nm,1.0s,baz=360,slow=18,SNR=2.3						
URZ				LR	LR	10 30 41.3	
	comp=Z,127nm,18.5s,baz=208,slow=33						
BKZ	Black Stump Fm	26.32	163	P	P	10 22 09.5	-0.7
BKZ				IAmb	IAmb	10 22 36.6	
	comp=Z,33nm,1.3s						
STKA	Stephens Creek	28.85	228	P	P	10 22 32.0	-0.9
	comp=Z,2.9nm,0.6s,baz=46,slow=9.0,SNR=18						
STKA				PcP	PcP	10 25 41.5	-0.2
	comp=Z,2.4nm,0.9s,baz=328,slow=8.4,SNR=3.8						
STKA				LR	LR	10 34 04.9	
	comp=Z,374nm,18.4s,baz=36,slow=36						
STKA	Stephens Creek	28.85	228	P	P	10 22 34.1	+1.2
RPZ	Rata Peaks	29.63	173	LR	LR	10 34 14.6	
	comp=Z,178nm,18.4s,baz=348,slow=36						
WR0	Warramunga Arr	31.16	255	P	P	10 22 52.0	-1.5
WB0	Warramunga Arr	31.28	255	P	P	10 22 53.6	-1.0
WB0				IAmb	IAmb	10 22 54.0	
	comp=Z,4.1nm,0.8s						
WB2	Warramunga Arr	31.33	255	P	P	10 22 54.2	-0.8
WB2				IAmb	IAmb	10 23 17.6	
	comp=Z,11nm,1.4s						
WRAB	Tennant Creek	31.33	255	P	P	10 22 54.0	-1.0
WRAB				IAmb	IAmb	10 23 09.6	
	comp=Z,8.8nm,1.4s						
WRA	Warramunga Arr	31.34	255	P	P	10 22 53.6	-1.5
	comp=Z,2.3nm,0.9s,baz=86,slow=9.2,SNR=20						
WRA				LR	LR	10 34 25.4	
	comp=Z,189nm,20.7s,baz=74,slow=34						
WRA	Warramunga Arr	31.34	255	IAmb	IAmb	10 22 54.8	
	comp=Z,0.2nm,1.0s						
AS31	Alice Springs	32.27	248	P	P	10 23 02.5	-0.8
ASAR	Alice Springs	32.27	248	P	P	10 23 02.1	-1.1
	comp=Z,1.5nm,0.7s,baz=74,slow=9.4,SNR=28						
ASAR				LR	LR	10 35 20.5	
	comp=Z,133nm,19.7s,baz=132,slow=35						
H11S2	WAKE ISLAND Hy	32.52	0	T	T	10 57 13.4	
	baz=180						
H11S3	WAKE ISLAND Hy	32.52	0	T	T	10 57 12.3	
	baz=180						
H11S1	WAKE ISLAND Hy	32.53	0	T	T	10 57 13.9	
	baz=180						
BBOO	Buckleboo	33.40	231	P	P	10 23 14.1	+1.1
BBOO				IAmb	IAmb	10 23 21.8	
	comp=Z,9.9nm,1.1s						
SIJI	Sorong	37.40	288	LR	LR	10 40 01.7	
	comp=Z,145nm,18.4s,baz=261,slow=38						
FORT	Forrest	39.02	238	P	P	10 24 01.3	+0.3
FORT				IAmb	IAmb	10 24 06.4	
	comp=Z,11nm,0.8s						
FITZ	Fitzroy Crossi	39.50	259	LR	LR	10 40 23.9	
	comp=Z,181nm,18.1s,baz=112,slow=36						
FITZ	Fitzroy Crossi	39.50	259	P	P	10 24 05.5	+0.4
BATI	Baumata	42.14	270	LR	LR	10 42 00.0	
	comp=Z,110nm,18.7s,baz=138,slow=36						
PPT2	Papeete2	42.19	101	eLR	LR	10 36 28.2	
	comp=Z,97nm,24.2s						
TBI	Tubuai	42.41	109	eLR	LR	10 36 35.0	
	comp=Z,86nm,23.8s						
DAV	Davao City (W)	45.90	295	LR	LR	10 43 53.9	
	comp=Z,26nm,18.1s,baz=124,slow=36						
TAOE	Nuku Hiva Isla	52.34	90	eS	S	10 33 22.4	+13
	comp=Z,42nm,24.2s						
TAOE				eLR	LR	10 41 00.8	
	comp=Z,109nm,25.0s						
MJAR	Matsushiro Arr	57.18	333	P	P	10 26 20.6	-0.5
	comp=Z,1.0nm,0.4s,baz=116,slow=3.3,SNR=2.1						
MJAR	Matsushiro Arr	57.18	333	P	P	10 26 19.9	-1.2
MJAR				IAmb	IAmb	10 26 22.6	
	comp=Z,3.2nm,0.9s						
MAJO	Matsushiro	57.18	333	P	P	10 26 20.9	-0.2
KSRS	Korea Array	62.98	326	P	P	10 27 01.5	+0.7
	comp=Z,1.9nm,0.9s,baz=136,slow=7.6,SNR=4.8						
KSRS				LR	LR	10 50 11.9	
	comp=Z,13nm,22.0s,baz=180,slow=32						
VNDA	Vanda	63.34	181	P	P	10 27 04.2	+1.5
	comp=Z,1.4nm,0.7s,baz=354,slow=5.3,SNR=7.7						
VNDA	Vanda	63.34	181	P	P	10 27 01.4	-1.3
VNDA				IAmb	IAmb	10 27 14.4	
	comp=Z,2.9nm,0.9s						
SBA	Scott Base	63.63	180	P	P	10 27 05.0	+0.5
SBA				IAmb	IAmb	10 27 11.4	
	comp=Z,5.9nm,0.8s						
USRK	Ussuriysk Ar.	66.16	333	P	P	10 27 23.1	+1.6
	comp=Z,2.6nm,0.8s,baz=128,slow=3.9,SNR=10						
SHEM	Shemya Is, Ala	67.00	5	LR	LR	10 52 31.3	
	comp=Z,33nm,21.6s,baz=182,slow=32						
PEA0B	Petropavlovsk-	67.50	354	P	P	10 27 30.1	+0.3
PETK	Petropavlovsk-	67.50	354	P	P	10 27 30.1	+0.4
	comp=Z,3.4nm,0.7s,baz=130,slow=2.3,SNR=5.5						
PETK	Petropavlovsk-	67.50	354	P	P	10 27 30.6	+0.8
CMAR	Chiang Mai Arr	74.18	294	P	P	10 28 12.2	+1.1
	comp=Z,1.2nm,0.3s,baz=145,slow=4.2,SNR=5.5						
MA2	Magadan	74.67	352	LR	LR	10 57 24.2	
	comp=Z,40nm,19.4s,baz=116,slow=33						
QSPA	South Pole Qui	75.79	180	P	P	10 28 20.1	+0.3
CHGN	Chignik	76.11	19	P	P	10 28 19.6	-1.7
KDAK	Kodiak Island	79.22	21	LR	LR	10 57 36.0	
	comp=Z,62nm,18.9s,baz=194,slow=31						
GAMB	Gambell	79.54	10	IAmb	IAmb	10 28 41.4	
	comp=Z,5.2nm,0.8s						
YAK	Yakutsk	81.38	343	LR	LR	11 06 12.1	
	comp=Z,29nm,18.1s,baz=232,slow=37						
SONM	Songino Array	81.73	324	P	P	10 28 53.7	+1.1
	comp=Z,0.4nm,0.3s,baz=152,slow=7.0,SNR=6.6						
SONM	Songino Array	81.73	324	P	P	10 28 52.1	-0.5
CAST	Castle Rocks	83.71	17	P	P	10 29 00.5	-1.9
CAST				IAmb	IAmb	10 29 03.4	
	comp=Z,4.9nm,1.0s						
MCK	McKinley	84.88	18	IAmb	IAmb	10 29 09.7	
	comp=Z,4.8nm,0.9s						
H21K	Melozitna Rive	85.24	16	P	P	10 29 08.9	-1.1
H21K				IAmb	IAmb	10 29 11.6	
	comp=Z,3.1nm,0.8s						
YBH	Yreka Blue Hor	85.51	45	LR	LR	11 02 12.6	
	comp=Z,37nm,19.0s,baz=36,slow=32						
WRH	Wood River Hil	85.67	18	IAmb	IAmb	10 29 12.4	
	comp=Z,3.0nm,0.8s						
IL31		86.25	18	IAmb	IAmb	10 29 15.6	
	comp=Z,2.6nm,0.7s						
ILAR	Eielson Array	86.25	18	P	P	10 29 14.1	-1.0
	comp=Z,2.1nm,0.7s,baz=238,slow=5.3,SNR=30						
J25K	Salcha River,	86.60	19	IAmb	IAmb	10 29 18.2	
	comp=Z,3.4nm,0.8s						
COLD	Coldfoot	87.12	15	IAmb	IAmb	10 29 23.6	
	comp=Z,2.7nm,0.9s						
PFO	Pinyon Flats O	87.22	54	LR	LR	11 05 53.1	
	comp=Z,77nm,18.0s,baz=274,slow=34						
NVAR	Mina Array Bea	87.42	49	P	P	10 29 24.1	+2.5
	comp=Z,0.3nm,0.7s,baz=235,slow=5.2,SNR=4.0						
TIXI	Tiksi	89.36	349	P	P	10 29 29.1	-0.7
	comp=Z,0.7nm,0.5s,baz=268,slow=24,SNR=5.7						
TIXI	Tiksi	89.36	349	IAmb	IAmb	10 29 31.7	
	comp=Z,3.0nm,1.1s						
LPIG	La Paz	89.56	65	LR	LR	11 03 00.6	
	comp=Z,54nm,18.0s,baz=248,slow=31						
ELK	Elko	90.42	48	LR	LR	11 04 58.5	
	comp=Z,43nm,19.0s,baz=248,slow=32						
PDAR	Pinedale Array	95.07	47	LR	LR	11 12 52.6	
	comp=Z,30nm,18.4s,baz=16,slow=36						
ANMO	Albuquerque	95.54	56	LR	LR	11 05 10.5	
	comp=Z,48nm,20.0s,baz=256,slow=30						
MKAR	Makanchi Array	96.42	317	P	P	10 30 03.0	+0.1
	comp=Z,0.7nm,0.7s,baz=91,slow=7.3,SNR=5.6						
ZALV	Zalesovo Beam	96.62	324	P	P	10 30 02.7	-0.9
	comp=Z,0.8nm,0.6s,baz=94,slow=8.9,SNR=4.3						
YKA	Yellowknife Ar	97.39	27	P	P	10 30 05.7	-1.3
	comp=Z,0.2nm,0.5s,baz=256,slow=4.6,SNR=6.8						
ARCES	ARCESS Array B	119.62	345	PKP	PKiKP	10 35 22.6	-0.4
	comp=Z,2.1nm,0.7s,baz=354,slow=1.2,SNR=7.3						
FINES	FINESS Array B	125.03	338	PKP	PKPdf	10 35 32.9	-0.7
	comp=Z,0.9nm,0.7s,baz=352,slow=2.8,SNR=2.2						
AKASG	Malin Array Be	129.98	326	PKP	PKiKP	10 35 44.9	+0.7
	comp=Z,0.4nm,0.5s,baz=55,slow=1.8,SNR=1.7						
KEST	Kesra	150.43	320	PKPbc	PKiKP	10 36 26.0	-0.5
	comp=Z,2.9nm,0.7s,baz=121,slow=5.9,SNR=2.4						
ESDC	Sonseca Array	153.34	344	PKPbc	PKiKP	10 36 32.6	+0.2
	comp=Z,0.6nm,1.0s,baz=20,slow=4.4,SNR=2.0						

*NIED **04** 10:32:33.6, 39°87N×141°96E, h34km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.59; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$0.84; $M_{r\theta}$-0.74; $M_{\theta\phi}$1.00; $M_{\phi r}$0.17; Fault plane solution: $M_0$1.46000×10^{15} NP1:ϕ_s68.00000°, δ68.00000°, λ-36.00000°. NP2:ϕ_s173.00000°, δ57.00000°, λ-154.00000°.*

*MOS **04** 10:32:33.2±1.1, 39°90N×141°99E, h46km, mb4.4/14 Error ellipse: s-maj=8.7km s-min=5.6km az=88.4*

*JMA **04** 10:32:33.6, 39°86N×141°96E, h34km±1km, M4.4 Broadband fault plane solution: P waves. NP1: ϕ_s172.00000°, δ75.00000°, λ-160.00000°. NP2: ϕ_s77.00000°, δ71.00000°, λ-15.00000°. Principal axes: T Plg3.0000°, Azm304.0000°; N Plg66.0000°, Azm207.0000°; P Plg24.0000°, Azm35.0000°;*

JMA Felt III J1.

*IDC **04** 10:32:35.3±1.5, 39°85N×141°87E, h48km±14km, mb3.7/21, mb1 3.9/28, mb1mx3.8/42, mbtmp4.0/28, ML3.3/6, MS3.0/8, Ms1 3.0/8, ms1mx2.7/93 Error ellipse: s-maj=16.2km s-min=10.4km az=104.0*

*NEIC **04** 10:32:37.0±2.1, 39°84N±0°06×142°0E±0°1, h58km±8km, mb4.3/21, Error ellipse: s-maj=12.1km s-min=7.8km az=116.0*

ISC 04 10:32:32.6±0.7**, 39°85N**±0°03×**142°07E**±0°05**, h26**km±4km**, n120,** σ**1ˢ84**/131**, mb4.2**/39**, MS3.1**/3**, 8C-7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	0.18	298	⇑P	Pn	10 32 39.6	-0.1
JTH				S	Sb	10 32 43.5	+1.5
MIYJ	Miyakonagasawa	0.34	215	⇓P	Pn	10 32 41.3	-0.5
MIYJ				S	Sb	10 32 46.4	+0.9
JKEN	Kujiedanarisaw	0.45	322	⇑P	Pb	10 32 42.4	+0.4
JKEN				S	Sb	10 32 48.5	+0.1
JKZ	Kuzumaki	0.59	283	⇑P	Pb	10 32 44.1	-0.2
JKZ				S	Sb	10 32 51.0	-1.3
JANG	Nango	0.67	321	⇑P	Pb	10 32 45.3	-0.5
JANG				S	Sb	10 32 53.5	-1.2
JOM	Ohasama	0.71	238	⇓P	Pb	10 32 46.1	-0.3
JOM				S	Sb	10 32 54.7	-1.1
OFUJ	Ofunato	0.83	202	⇓P	Pb	10 32 48.4	0.0
OFUJ				S	Sb	10 32 59.3	+0.1
JMK	Ichinoseki	1.12	217	⇓P	Pn	10 32 52.6	+0.1
JMK				S	Sn	10 33 06.5	-0.5
JAH	Hinai	1.15	287	⇑P	Pn	10 32 52.4	-0.6
JAH				S	Sn	10 33 06.7	-1.2
JTM	Tenmabayashi	1.21	321	⇑P	Pn	10 32 53.4	-0.4
JTM				S	Sn	10 33 07.7	-1.6
JMM	Marumori	2.22	207	Pn	Pn	10 33 08.4	+0.7
ERM	Erimo	2.31	20	d iP	Pn	10 33 10.8	+1.9
ERM	Erimo	2.31	20		Pn	10 33 11.0	+2.1
JEW	Eniwo	3.02	351	Pn	Pn	10 33 20.8	+2.1
JSD	Sado	3.48	240	Pn	Pn	10 33 25.6	+0.6
JYT	Yasato	3.91	203	Pn	Pn	10 33 31.6	+0.7
ASAJ	Asahikawa	4.28	5	P	Pn	10 33 37.9	+1.9
	38nm,0.3s,baz=219,slow=9.3,SNR=464						
ASAJ				S	Sn	10 34 27.7	+2.7
	4.1nm,0.3s,baz=258,slow=19,SNR=2.0						
ASAJ				LR	LR	10 35 53.3	
	comp=Z,89nm,21.4s,baz=166,slow=46						
JKA	Kamikawa-asahi	4.28	5	Pn	Pn	10 33 38.0	+2.0
JKA	Kamikawa-asahi	4.28	5		Sn	10 34 27.7	+2.7
NMR	Nemuro--Hokkai	4.46	37	⇓iP	Pn	10 33 38.8	+0.4
NMR				S	Sn	10 34 23.7	-5.7
MJAR	Matsushiro Arr	4.49	224	P	Pn	10 33 40.7	+1.7
	0.7nm,0.3s,baz=49,slow=7.0,SNR=14						
MJAR				LR	LR	10 35 43.8	
	comp=Z,213nm,20.0s,baz=24,slow=43						
MJAR	Matsushiro Arr	4.49	224	Pn	Pn	10 33 41.1	+2.2
MJB9	Matsu-Tunnel	4.49	224	Pn	Pn	10 33 41.0	+2.0
MAJO	Matsushiro	4.49	224	P	Pn	10 33 41.3	+2.3
MAJO	Matsushiro	4.49	224		Pn	10 33 41.2	+2.3
GLVR	Golovnino	4.66	32	eP	Pn	10 33 41.4	+0.2
GLVR				eS	Sn	10 34 34.2	-0.2
GLVR				pmax	pmax		
	comp=N,72nm,0.4s						

GLVR pmax pmax
comp=E,58nm,0.4s
GLVR pmax pmax
comp=Z,545nm,0.4s
GLVR smax smax
comp=E,532nm,0.3s
GLVR smax smax
comp=N,378nm,0.2s
RUSJ Misakicho 4.86 28 *e*P **Pn** 10 33 44.5 +0.5
RUSJ *e*S **Sn** 10 34 40.5 +1.1
YUK Yuzh-Kuril'sk 5.04 33 *e*P **Pn** 10 33 47.1 +0.6
YUK *e*S **Sn** 10 34 42.9 -0.9
YUK pmax pmax
comp=Z,674nm,0.4s
YUK pmax pmax
comp=E,163nm,0.1s
YUK pmax pmax
comp=N,157nm,0.2s
YUK smax smax
comp=E,247nm,0.3s
YUK smax smax
comp=N,738nm,0.5s
JGF Kuroka 5.65 223 Pn **Pn** 10 33 56.9 +1.9
INU Inuyama 6.03 223 Pn **Pn** 10 34 02.6 +2.6
KUR Kuril'sk 6.87 37 *ce*P **Pn** 10 34 07.6 -3.9
KUR S **Sn** 10 35 22.4 -6.4
KUR pmax pmax
comp=E,48nm,0.4s
KUR pmax pmax
comp=Z,158nm,0.4s
KUR pmax pmax
comp=N,28nm,0.5s
KUR smax smax
comp=N,21nm,0.5s
KUR smax smax
comp=E,118nm,0.5s
JHJ Hachijo jima 2 6.97 196 P **Pn** 10 34 12.6 -0.3
comp=E,8.2nm,0.3s,baz=53,slow=15,SNR=1.5
JHJ S **Sn** 10 35 28.3 -3.0
comp=E,6.8nm,0.3s,baz=58,slow=19,SNR=1.3
YSS Yuzh-Sakhalins 7.12 4 *e*P **Pn** 10 34 18.0 +3.1
YSS *e*S **Sn** 10 35 36.5 +1.6
YSS pmax pmax
comp=Z,20nm,1.0s
YSS smax smax
comp=N,10.0nm,1.0s
YSS MLR MLR
comp=Z,100nm,12.0s
VLA Vladivostok 8.31 296 *i* P **Pn** 10 34 29.9 -1.5
VLA pmax pmax
comp=Z,9.0nm,0.2s
JHS Saijyo 8.61 239 Pn **Pn** 10 34 38.0 +2.4
MSHR Mys Shultsa 8.67 292 *i* P **Pn** 10 34 37.6 +1.4
MSHR pmax pmax
comp=Z,6.0nm,0.5s
USA0B Ussuriysk Arra 8.67 303 P **Pn** 10 34 39.0 +2.7
USA0B Ussuriysk Arra 8.67 303 **Pn** 10 34 39.0 +2.7
USRK Ussuriysk Ar. 8.67 303 P **Pn** 10 34 37.2 +1.0
baz=112,slow=14,SNR=15
USRK LR LR 10 37 49.4
comp=Z,87nm,18.9s,baz=141,slow=37
USRK Ussuriysk Ar. 8.67 303 P **Pn** 10 34 39.6 +3.4
USRK Ussuriysk Ar. 8.67 303 Pn **Pn** 10 34 39.6 +3.4
JNU Nakatsue 11.23 237 P **Pn** 10 35 12.5 +1.0
comp=Z,0.2nm,0.3s,baz=322,slow=12,SNR=1.8
KSRS Korea Array 11.32 262 P **Pn** 10 35 15.6 +3.1
comp=Z,0.6nm,0.3s,baz=62,slow=14,SNR=6.3
KSRS LR LR 10 39 02.9
comp=Z,37nm,21.2s,baz=85,slow=35
KLR Kul'dur 11.91 325 P **Pn** 10 35 21.6 +1.0
comp=Z,0.1nm,0.3s,baz=230,slow=14,SNR=1.5
KLR LR LR 10 39 56.7
comp=Z,115nm,18.6s,baz=138,slow=37
JCJ Chichijima 12.72 180 P **Pn** 10 35 32.1 +0.3
comp=Z,1.3nm,0.3s,baz=290,slow=21,SNR=2.1
PEA0B Petropavlovsk- 17.02 34 *i* P **Pn** 10 36 28.7 +0.1
PETK Petropavlovsk- 17.02 34 P **Pn** 10 36 27.1 -1.5
comp=Z,0.4nm,0.3s,baz=198,slow=11,SNR=6.2
PETK LR LR 10 42 57.7
comp=Z,46nm,18.7s,baz=105,slow=36
HIA Hailar 18.43 308 *i* P **P** 10 36 44.6 -1.3
HIA pmax pmax
comp=Z,3.0nm,0.8s
MA2 Magadan 20.49 13 P **P** 10 37 08.7 +0.4
comp=Z,8.7nm,0.5s,baz=193,slow=10,SNR=7.9
MA2 Magadan 20.49 13 *i* P **P** 10 37 09.3 +1.0
MA2 pmax pmax
comp=Z,12nm,0.8s
MA2 Magadan 20.49 13 IAmb IAmb 10 37 11.0
comp=Z,11nm,0.8s
YAK Yakutsk 23.46 345 P **P** 10 37 37.9 -1.7
comp=Z,5.7nm,0.4s,baz=120,slow=3.0,SNR=1.6
YAK S **S** 10 41 44.6 -6.6
comp=Z,6.8nm,0.4s,baz=30,slow=3.1,SNR=1.1
YAK Yakutsk 23.46 345 *i* P **P** 10 37 38.3 -1.3
YAK pmax pmax
comp=Z,10.0nm,0.6s
SEY Seymchan 23.93 12 P **P** 10 37 44.2 +0.1
comp=Z,10.0nm,1.1s,baz=194,slow=8.4,SNR=17
SEY Seymchan 23.93 12 *i* P **P** 10 37 44.5 +0.4
SEY pmax pmax
comp=Z,17nm,1.4s
BOD Bodaibo 25.48 324 *e*P **P** 10 37 58.9 +0.6
BOD pmax pmax
comp=Z,7.0nm,2.0s
SONM Songino Array 26.75 299 P **P** 10 38 08.5 -1.6
comp=Z,0.7nm,0.6s,baz=88,slow=9.4,SNR=4.6
SONM Songino Array 26.75 299 *e*P **P** 10 38 10.1 0.0
SONM pmax pmax
comp=Z,1.0nm,0.6s
H11N2 WAKE ISLAND Hy 29.27 126 T T 11 09 04.8
baz=318,slow=75,SNR=1601
H11N1 WAKE ISLAND Hy 29.27 126 T T 11 09 05.5
baz=318,slow=75,SNR=1764
H11N3 WAKE ISLAND Hy 29.28 126 T T 11 09 06.1
baz=318,slow=75,SNR=1684
H11S1 WAKE ISLAND Hy 30.07 128 T T 11 10 09.0
baz=320,slow=76,SNR=223
H11S3 WAKE ISLAND Hy 30.07 128 T T 11 10 08.3
baz=320,slow=76,SNR=126
H11S2 WAKE ISLAND Hy 30.09 128 T T 11 10 13.2
baz=320,slow=76,SNR=129
BILL Bilibino 31.18 17 *de*P **P** 10 38 49.7 +0.6
BILL *e* 10 39 52.0
BILL *e*SS SS 10 45 36.2 -31
BILL pmax pmax
comp=Z,8.0nm,1.5s
BILL MLR MLR
comp=Z,33nm,16.0s
TIXI Tiksi 32.56 352 P **P** 10 39 01.3 +0.2
comp=Z,0.8nm,0.4s,baz=269,slow=22,SNR=7.3
TIXI Tiksi 32.56 352 *i* P **P** 10 39 01.4 +0.2
TIXI pmax pmax
comp=Z,5.0nm,2.2s
GOMU GeErMu 37.07 280 P **P** 10 39 37.8 -3.1
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU pmax pmax
comp=Z,76nm,5.0s
ANM Nome 38.94 33 P **P** 10 39 58.1 +2.2
ANM pmax pmax
comp=Z,3.0nm,1.0s
ANM Nome 38.94 33 P **P** 10 39 58.1 +2.2
ANM IAmb IAmb 10 40 13.3
comp=Z,3.4nm,1.0s
ZALV Zalesovo Beam 40.45 310 P **P** 10 40 08.0 -0.6
comp=Z,1.8nm,0.5s,baz=96,slow=8.6,SNR=10
ZALV Zalesovo Beam 40.45 310 P **P** 10 40 08.0 -0.6
NRIK Noril'sk 40.95 334 LR LR 10 58 18.6
comp=Z,69nm,18.9s,baz=148,slow=38
CMAR Chiang Mai Arr 42.77 253 LR LR 11 00 12.0
comp=Z,16nm,18.5s,baz=110,slow=39
MK31 Makanchi Array 43.12 300 P **P** 10 40 29.5 -1.0
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 43.12 300 P **P** 10 40 29.5 -1.0
MKAR Makanchi Array 43.12 300 P **P** 10 40 29.6 -0.9
comp=Z,0.8nm,0.5s,baz=88,slow=9.4,SNR=9.6
MKAR Makanchi Array 43.12 300 *e*P **P** 10 40 30.0 -0.5
MKAR pmax pmax
comp=Z,1.0nm,0.5s
J20K Nowinta River 43.72 35 P **P** 10 40 36.8 +1.7
J20K IAmb IAmb 10 40 46.3
comp=Z,3.7nm,0.8s
H21K Melozitna Rive 44.35 33 P **P** 10 40 42.0 +1.9
KURK Kurchatov 44.65 306 *i* P **P** 10 40 41.8 -0.9
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 44.65 306 P **P** 10 40 42.0 -0.8
KURBB Kurchatov Arra 44.72 306 P **P** 10 40 42.0 -1.3
comp=Z,2.5nm,0.6s,baz=80,slow=8.6,SNR=14
COLD Coldfoot 45.45 30 P **P** 10 40 50.9 +2.0
TOLK Toolik Lake Re 45.74 28 P **P** 10 40 53.0 +1.8
TOLK IAmb IAmb 10 40 56.0
comp=Z,2.3nm,0.8s
H24K Noodor Dome 46.38 32 P **P** 10 40 57.0 +0.7
H24K IAmb IAmb 10 41 06.9
comp=Z,2.6nm,0.9s
COLA College 46.44 34 *i* P **P** 10 40 56.9 +0.3
COLA pmax pmax
comp=Z,21nm,3.7s
IL31 46.85 34 P **P** 10 41 01.1 +1.2
IL31 IAmb IAmb 10 41 11.2
comp=Z,3.0nm,0.8s
ILAR Eielson Array 46.85 34 P **P** 10 41 01.0 +1.0
comp=Z,1.7nm,0.6s,baz=262,slow=6.0,SNR=26
ILAR Eielson Array 46.85 34 *e*P **P** 10 41 01.4 +1.4
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 46.85 34 P **P** 10 41 01.8 +1.8
BMAR Burnt Mountain 47.63 30 P **P** 10 41 08.3 +2.3
SCRK Sand Creek 48.18 35 P **P** 10 41 11.8 +1.4
DOT Dot Lake 48.19 35 P **P** 10 41 11.6 +1.2
DOT IAmb IAmb 10 41 32.7
comp=Z,1.9nm,0.8s
L26K Log Cabin Wild 48.59 36 P **P** 10 41 16.4 +2.9
L26K IAmb IAmb 10 41 16.5
comp=Z,3.2nm,0.8s
BVAR Borovoye Array 49.10 311 P **P** 10 41 17.2 -0.3
comp=Z,0.5nm,0.4s,baz=148,slow=1.5,SNR=3.1
L27K Beaver Creek, 49.27 36 P **P** 10 41 21.0 +2.3
L27K IAmb IAmb 10 41 32.2
comp=Z,2.6nm,0.7s
BCAR Beaver Creek A 49.29 36 P **P** 10 41 21.6 +2.7
EGAK Eagle 49.29 33 P **P** 10 41 20.3 +1.5
AAK Ala-Archa 49.65 296 *i* P **P** 10 41 20.8 -1.3
AAK pmax pmax
comp=Z,3.0nm,1.2s
A36M Sachs Harbour 53.46 23 IAmb IAmb 10 41 54.8
comp=Z,4.7nm,1.1s
ARU Arti 54.62 317 *c i* P **P** 10 42 00.0 +1.5
ARU *PP **sP** 10 42 08.3 -1.5
ARU 10 43 58.0
ARU S **S** 10 49 38.5 +2.1
ARU SS **SS** 10 53 22.3 +3.6
ARU pmax pmax
comp=Z,4.0nm,1.5s
ABKAR Akbulak array 56.55 309 P **P** 10 42 12.0 -0.5
ABKAR Akbulak array 56.55 309 IAmb IAmb 10 42 13.4
comp=Z,1.9nm,0.6s
WRAB Tennant Creek 59.91 188 *i* P **P** 10 42 35.3 -0.9
WRAB pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 59.92 188 P **P** 10 42 35.6 -0.7
comp=Z,0.5nm,0.5s,baz=7.3,slow=7.0,SNR=15
YKA Yellowknife Ar 61.12 31 P **P** 10 42 45.1 +1.0
comp=Z,0.8nm,0.6s,baz=300,slow=6.3,SNR=14
ARCES ARCESS Array B 61.55 339 P **P** 10 42 46.6 -0.3
comp=Z,1.3nm,0.9s,baz=51,slow=4.8,SNR=4.0
ARCES ARCESS Array B 61.55 339 *e*P **P** 10 42 47.5 +0.6
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 63.65 188 P **P** 10 43 01.4 0.0
comp=Z,0.4nm,0.8s,baz=1.7,slow=7.0,SNR=8.5
FINES FINESS Array B 66.57 332 P **P** 10 43 19.4 -0.5
comp=Z,1.0nm,0.6s,baz=60,slow=11,SNR=5.1
KIV Kislovodsk 69.46 310 *e*P **P** 10 43 36.6 -2.0
KIV pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 69.47 310 P **P** 10 43 39.5 +1.0
comp=Z,1.0nm,0.7s,baz=14,slow=4.2,SNR=1.8
NB2 NORSAR Subarra 71.79 337 P **P** 10 43 52.0 -0.4
comp=Z,0.8nm,0.6s,baz=38,slow=6.2
NOA NORSAR Array B 71.79 337 P **P** 10 43 51.2 -1.1
comp=Z,1.0nm,0.7s,baz=39,slow=6.1,SNR=5.5
NOA NORSAR Array B 71.79 337 *e*P **P** 10 43 52.3 -0.1
NOA pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 72.39 322 P **P** 10 43 54.7 -1.4
comp=Z,0.6nm,0.4s,baz=46,slow=6.3,SNR=3.1
NVAR Mina Array Bea 72.90 54 P **P** 10 44 00.6 +1.0
comp=Z,0.2nm,0.4s,baz=279,slow=5.6,SNR=4.3
PDAR Pinedale Array 75.33 46 P **P** 10 44 14.8 +1.0
comp=Z,0.5nm,0.7s,baz=285,slow=0.6,SNR=5.6
TXAR Lajitas Array 88.00 53 P **P** 10 45 21.5 +0.9
comp=Z,0.1nm,0.4s,baz=292,slow=4.4,SNR=5.5

IDC 04 10:40:45.2±2.5, 46°56N×151°70E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.3/42, mbtmp3.5/4, ML2.4/2, Error ellipse: s-maj=84.4km s-min=43.5km az=154.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.61**	**28**	Pn	Pn	10 42 37.9	+0.6
	0.2nm,0.3s,baz=208,slow=9.0,SNR=1.4						
USRK	**Ussuriysk Ar.**	**14.06**	**267**	Pn	Pn	10 44 05.6	+0.1
	baz=68,slow=10,SNR=1.3						
H11N2	**WAKE ISLAND Hy**	**29.52**	**150**	T	T	11 18 34.8	
	baz=341,slow=76,SNR=82						
H11N1	**WAKE ISLAND Hy**	**29.54**	**150**	T	T	11 18 35.9	
	baz=341,slow=76,SNR=124						
H11N3	**WAKE ISLAND Hy**	**29.54**	**150**	T	T	11 18 36.5	
	baz=341,slow=76,SNR=123						
H11S1	**WAKE ISLAND Hy**	**30.59**	**151**	T	T	11 19 56.7	
	baz=342,slow=76,SNR=97						
H11S3	**WAKE ISLAND Hy**	**30.60**	**151**	T	T	11 19 58.7	
	baz=342,slow=76,SNR=115						
H11S2	**WAKE ISLAND Hy**	**30.61**	**151**	T	T	11 19 57.0	
	baz=342,slow=76,SNR=112						
YKA	**Yellowknife Ar**	**51.65**	**36**	P	P	10 49 52.6	-0.6
	0.1nm,0.6s,baz=301,slow=7.0,SNR=3.6						
TXAR	**Lajitas Array**	**78.43**	**60**	P	P	10 52 48.2	+0.2
	0.5nm,0.5s,baz=300,slow=4.8,SNR=11						
H03N2	**Juan Fernandez**	**139.72**	**90**	T	T	13 35 29.9	
	baz=309,slow=77,SNR=12						
H03N1	**Juan Fernandez**	**139.74**	**90**	T	T	13 35 28.8	
	baz=309,slow=77,SNR=13						
H03N3	**Juan Fernandez**	**139.74**	**90**	T	T	13 35 28.2	
	baz=309,slow=77,SNR=14						

*TUL **04** 10:44:37.3±1.6, 36°.814N±0°.010×97°.63W±0°.01, h6km±5km, ML2.6, mb_Lg2.5/3(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=85.0*

NEIC 04 10:44:37.5±1.0, 36°.79N±0°.01×97°.63W±0°.01, h3km±7km, Error ellipse: s-maj=1.9km s-min=1.0km az=153.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.91**	**81**		Pg	10 44 54.4	-0.4
U32A	**Winter Ranch,**	**1.18**	**250**	Pg	Pg	10 44 59.5	-0.5
TUL1	**Leonard**	**1.72**	**120**		Pn	10 45 07.9	-0.5
W35A	**Tecumseh**	**1.74**	**159**	Pn	Pn	10 45 08.9	+0.3
R32A	**Long Quarter,**	**1.84**	**333**	Pn	Pn	10 45 10.9	+0.8
R32A				IAmb_Lg		10 45 35.8	
	comp=Z,13nm,1.0s						
X34A	**Smith Ranch, M**	**2.19**	**184**	Pn	Pn	10 45 16.2	+1.4
WMOK	**Wichita Mounta**	**2.25**	**205**		Pn	10 45 17.0	+1.3
HHAR	**Hobbs**	**3.01**	**99**		Pn	10 45 26.6	+0.4
X43A	**Marvell**	**5.94**	**110**	IAmb_Lg		10 47 41.1	
	comp=Z,406nm,1.3s						

*IDC **04** 10:45:21.4±5.4, 5°.51S×104°.75E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.0/48, mbtmp3.4/2, Error ellipse: s-maj=271.7km s-min=78.2km az=45.0*

*DJA **04** 10:45:27.9±0.4, 6°S±3°×10°5E±°, h10km, M3.5/6, MLv3.5/6*

ISC 04 10:45:27.2±0.9, 5°.98S±0°.05×104°.96E±0°.05, h10km, n12, σ1s35/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.65**	**315**	P	**Pg**	**10 45 40.4**	**+0.7**
KASI				S	**Sg**	**10 45 49.0**	**+0.8**
BLSI	**Bandar Lampung**	**0.67**	**25**	P	**Pg**	**10 45 40.4**	**+0.1**
BLSI				S	**Sg**	**10 45 49.1**	**0.0**
CGJI	**Cibinong**	**0.96**	**131**	P	**Pg**	**10 45 45.5**	**-0.3**
CGJI				S	**Sg**	**10 46 00.0**	**+1.6**
KLI	**Kotabumi**	**1.11**	**355**	P	**Pg**	**10 45 48.5**	**-0.2**
KLI				S	**Sb**	**10 46 04.4**	**+1.2**
KLSI		**1.30**	**350**	P	**Pn**	**10 45 51.7**	**+0.2**
LWLI	**Liwa**	**1.31**	**317**	P	**Pn**	**10 45 53.2**	**+1.5**
DBJI	**Dramaga**	**1.87**	**108**	S	**Sb**	**10 46 27.3**	**+2.3**
SKJI	**Sukabumi**	**1.89**	**123**	P	**Pn**	**10 45 59.9**	**+0.3**
MNAI	**Manna**	**2.56**	**309**	P	**Pn**	**10 46 08.1**	**-0.7**
WRA	**Warramunga Arr**	**31.74**	**119**	P	**P**	**10 51 50.5**	**-1.3**
	0.4nm,0.8s,baz=295,slow=9.8,SNR=2.7						
ASAR	**Alice Springs**	**32.93**	**125**	P	**P**	**10 52 02.0**	**-0.1**
	0.5nm,0.9s,baz=295,slow=8.2,SNR=6.1						
TXAR	**Lajitas Array**	**144.37**	**46**	PKP	**PKPab**	**11 04 59.7**	**-2.9**
	0.1nm,0.6s,baz=270,slow=0.8,SNR=2.2						

*DJA **04** 10:48:50.7±0.3, 3°S±3°×13°9E±°, h106km±5km, M4.7/5, mb4.7/5, mB5.4/2, MLv4.6/5, Mw(mB)4.8/2*

ISC 04 10:48:50.4±1.0, 3°.49S±0°.08×138°.39E±0°.07, h71km, n13, σ1s15/15, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.51**	**67**	P	**Pn**	**10 49 29.6**	**+0.7**
JAY				S	**Sn**	**10 49 58.0**	**-0.5**
SRPI	**Serui, Papua**	**2.68**	**307**	P	**Pn**	**10 49 32.9**	**+1.6**
BAKI	**Biak**	**3.23**	**315**	P	**Pn**	**10 49 38.9**	**+0.2**
MMPI	**Merauke**	**5.33**	**158**	P	**Pn**	**10 50 09.6**	**+2.2**
	3.2nm7μm314nm,1.1s						
MMPI				S	**Sn**	**10 51 08.5**	**+1.0**
	3.2nm7μm314nm,1.1s						
KDU	**Kakadu**	**10.85**	**212**	P	**Pn**	**10 51 22.5**	**-0.4**
COEN	**Coen**	**11.43**	**156**	P	**Pn**	**10 51 30.7**	**-0.1**
MTN	**Manton Dam**	**11.74**	**217**	P	**Pn**	**10 51 34.9**	**-0.2**
KNRA	**Kununurra**	**15.38**	**217**	P	**Pn**	**10 52 21.8**	**-1.5**
MTSU	**Mount Surprise**	**15.67**	**159**	P	**Pn**	**10 52 27.8**	**+0.7**
WRAB	**Tennant Creek**	**16.81**	**193**	P	**Pn**	**10 52 39.9**	**-1.4**
QIS	**Mount Isa**	**17.01**	**176**	P	**P**	**10 52 44.0**	**-0.6**
WRKA	**Warakurna**	**23.52**	**203**	P	**P**	**10 53 53.4**	**-1.0**
OOD	**Oodnadatta**	**24.31**	**186**	P	**P**	**10 54 00.9**	**-0.4**

*IDC **04** 11:05:27.9±0.9, 38°.97N×73°.49E, h0km, mb3.7/11, mb1 3.9/17, mb1mx3.7/83, mbtmp3.8/17, ML3.4/6, MS2.9/5, Ms1 2.9/5, ms1mx2.6/92, Error ellipse: s-maj=18.2km s-min=16.4km az=92.0*

*SOME **04** 11:05:29.6, 39°.25N×73°.48E, h10km*

*KRNET **04** 11:05:29.2±0.1, 39°.23N×73°.78E, mb4.3*

*BJI **04** 11:05:30.3±0.0, 39°.28N×73°.47E, h15km, mb4.3/12, mB4.3/4, ML3.6/5, Ms3.7/2, Ms7 3.5/1*

*MOS **04** 11:05:32.7±1.5, 39°.23N×73°.54E, h23km, mb4.3/6, Error ellipse: s-maj=8.2km s-min=4.4km az=78.9*

*NNC **04** 11:05:34.9±1.9, 39°.53N×73°.30E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=15.6km s-min=10.4km az=171.0*

*NEIC **04** 11:05:37.0±2.4, 39°.21N±0°.06×73°.45E±0°.08, h58km±9km, mb4.2/8, Error ellipse: s-maj=9.6km s-min=8.3km az=147.0*

ISC 04 11:05:30.0±1.0, 39°.27N±0°.03×73°.58E±0°.02, h11km±7km, n183, σ2s64/218, mb3.9/15, MS3.5/3, 40C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.39**	**334**	*e*PG	**Pg**	**11 05 57.3**	**+0.6**
OHH				*e*S	**Sg**	**11 06 18.0**	**+3.2**
OHH	**Osh**	**1.39**	**334**	⇑*e*P	**Pg**	**11 05 57.5**	**+0.8**
	baz=30						
OHH				⇑*e*S	**Sg**	**11 06 18.0**	**+3.2**
	baz=30						
DRK	**Karamyk**	**1.39**	**279**	⇑*i*P	**Pg**	**11 05 58.6**	**+1.8**
	baz=80						
DRK				⇑*i*S	**Sg**	**11 06 20.0**	**+5.1**
	baz=80						
DRK	**Karamyk**	**1.39**	**279**		**Pg**	**11 05 55.6**	**-1.1**
KSH	**Kashi**	**1.87**	**82**	Pg	**Pn**	**11 05 59.5**	**-2.7**
KSH				Sg	**Sn**	**11 06 21.6**	**-4.3**
KSH				smax	smax		
	comp=N,1μm,0.7s						
KSH				smax	smax		
	comp=E,780nm,0.7s						
BTK	**Batken**	**2.27**	**291**	PN	**Pg**	**11 06 11.9**	**-1.6**
BTK	**Batken**	**2.27**	**291**	⇑*e*P	**Pg**	**11 06 12.0**	**-1.6**
	baz=91						
BTK				⇑*i*S	**Sg**	**11 06 43.5**	**+0.6**
	baz=91						
BTK	**Batken**	**2.27**	**291**		**Pg**	**11 06 11.9**	**-1.6**
GAR	**Garm**	**2.55**	**265**	*e*PN	**Pb**	**11 06 15.6**	**-0.3**
GAR				*e*S	**Sg**	**11 06 50.1**	**-1.8**
GAR	**Garm**	**2.55**	**265**	⇑*e*P	**Pb**	**11 06 15.6**	**-0.3**
	baz=66						
GAR				⇑*i*S	**Sg**	**11 06 50.1**	**-1.8**
	baz=66						
GAR	**Garm**	**2.55**	**265**		**Pb**	**11 06 14.8**	**-1.1**
ARK	**Arkit**	**2.81**	**335**	⇑*e*P	**Pb**	**11 06 18.9**	**-1.4**
	baz=32						
ARK				⇑*i*S	**Sb**	**11 06 55.1**	**+0.4**
	baz=32						
AML	**Almayashu**	**2.86**	**2**	P	**Pb**	**11 06 22.0**	**+0.7**
	SNR=72						
TRKS	**Terek-Say**	**2.92**	**321**	⇑*i*P	**Pb**	**11 06 19.7**	**-2.6**
	baz=19						
TRKS				⇑*i*S	**Sb**	**11 06 57.0**	**-1.1**
	baz=19						
UCH	**Uchtor**	**3.04**	**13**	P	**Pb**	**11 06 24.8**	**+0.4**
	SNR=83						
UCH	**Uchtor**	**3.04**	**13**	*e*PN	**Pn**	**11 06 20.9**	**+2.4**
UCH				*e*S	**Sb**	**11 06 58.7**	**-2.9**
UCH	**Uchtor**	**3.04**	**13**	⇑*i*P	**Pn**	**11 06 20.9**	**+2.4**
	baz=10.0						
UCH				⇑*i*S	**Sb**	**11 06 58.7**	**-2.9**
	baz=10.0						
EKS2	**Erkin-Say**	**3.39**	**3**	P	**Pb**	**11 06 29.5**	**-0.7**
	SNR=27						
EKS2	**Erkin-Say**	**3.39**	**3**	*e*PN	**Pn**	**11 06 26.2**	**+3.2**
EKS2	**Erkin-Say**	**3.39**	**3**	⇑*i*P	**Pn**	**11 06 26.2**	**+3.2**
	baz=0.0						
EKS2				⇑*i*S	**Sb**	**11 07 07.5**	**-4.0**
	baz=0.0						
AAK	**Ala-Archa**	**3.43**	**11**	Pn	**Pb**	**11 06 30.3**	**-0.6**
	14nm,0.3s,baz=172,slow=7.0,SNR=86						
AAK				Sn	**Sb**	**11 07 15.8**	**+3.0**
	7.4nm,0.3s,baz=348,slow=10,SNR=8.0						
AAK				LR	LR	11 07 42.5	
	comp=Z,35nm,20.1s,baz=189,slow=36						
MRKS	**Merke**	**3.48**	**356**	*e*P	**Pg**	**11 06 35.4**	**-1.2**
	36nm,0.4s						
MRKS				*e*S	**Sg**	**11 07 23.8**	**+2.1**
	100nm,0.2s						
MRKS	**Merke**	**3.48**	**356**	Pg	**Pb**	**11 06 32.5**	**+0.8**
	36nm,0.8s						
MRKS				Lg	Lg	11 07 17.4	
	61nm,0.6s						
CHGR	**Chuyangaron**	**3.50**	**261**	PN	**Pn**	**11 06 26.2**	**+1.7**
CHGR	**Chuyangaron**	**3.50**	**261**	Pn	**Pn**	**11 06 26.2**	**+1.7**
KBK	**Karagaybulak**	**3.54**	**17**	P	**Pb**	**11 06 31.5**	**-1.3**
	SNR=23						
KBK	**Karagaybulak**	**3.54**	**17**	*e*PN	**Pn**	**11 06 27.5**	**+2.4**
KBK				*e*S	**Sn**	**11 07 10.2**	**+3.2**
KBK	**Karagaybulak**	**3.54**	**17**	⇑*i*P	**Pn**	**11 06 27.5**	**+2.4**
	baz=14						
KBK				⇑*e*S	**Sn**	**11 07 10.2**	**+3.2**
	baz=14						
ULHL	**Ulahol**	**3.59**	**33**	P	**Pb**	**11 06 32.1**	**-1.7**
	SNR=9.8						
ULHL	**Ulahol**	**3.59**	**33**	*e*PN	**Pn**	**11 06 27.7**	**+1.8**
ULHL				*e*S	**Sn**	**11 07 10.5**	**+2.0**
ULHL	**Ulahol**	**3.59**	**33**	⇑*e*P	**Pn**	**11 06 27.7**	**+1.8**
	baz=31						
ULHL				⇑*i*S	**Sn**	**11 07 10.5**	**+2.0**
	baz=31						
FRU1	**Bishkek**	**3.62**	**12**	PN	**Pb**	**11 06 30.4**	**-3.8**
FRU1	**Bishkek**	**3.62**	**12**		**Pb**	**11 06 30.4**	**-3.8**
BOOM	**Boomskoye usch**	**3.68**	**28**	PN	**Pb**	**11 06 32.1**	**-3.1**
BOOM	**Boomskoye usch**	**3.68**	**28**	⇑*i*P	**Pn**	**11 06 28.9**	**+1.8**
	baz=26						
BOOM				⇑*i*S	**Sn**	**11 07 12.9**	**+2.3**
	baz=26						
BOOM	**Boomskoye usch**	**3.68**	**28**		**Pb**	**11 06 32.1**	**-3.1**
CHMS	**Chumysh**	**3.83**	**13**	P	**Pb**	**11 06 35.4**	**-2.2**
	SNR=16						
CHMS	**Chumysh**	**3.83**	**13**	⇑Pn	**Pb**	**11 06 35.1**	**-2.5**
	45nm,0.7s						
CHMS				⇑Lg	Lg	11 07 34.5	
	81nm,0.8s						

TAS Tashkent 3.86 303 *e*PN **Pb 11 06 34.2 -4.0**
TAS *e*S **Sb 11 07 21.5 -3.5**
TAS Tashkent 3.86 303⇑*i*P **Pb 11 06 34.2 -4.0**
baz=3.0
TAS ⇑*i*S **Sb 11 07 21.5 -3.5**
baz=3.0
IUG Iuzhnay 3.94 318 *e*P **Pg 11 06 42.6 -2.9**
28nm,0.4s
IUG *e*S **Sg 11 07 35.4 -1.0**
143nm,0.9s
IUG Iuzhnay 3.94 318 Pg **Pb 11 06 35.6 -3.9**
548nm,0.6s
IUG Lg Lg 11 07 23.0
266nm,0.5s
TKM2 Tokmak 2 3.95 22 P **Pb 11 06 37.0 -2.8**
SNR=21
TKM2 Tokmak 2 3.95 22 *i* PN **Pb 11 06 37.2 -2.6**
TKM2 pmax pmax
comp=Z,8.0nm,0.5s
TKM2 Tokmak 2 3.95 22⇑Pn **Pb 11 06 36.6 -3.2**
comp=Z,7.5nm,0.5s
TKM2 ⇑Pg **Pg 11 06 45.7 0.0**
comp=Z,28nm,0.6s
TKM2 ⇓Lg Lg 11 07 38.3
comp=Z,46nm,0.6s
KDJ Kajisay 3.96 43 PN **Pb 11 06 37.0 -2.9**
KDJ Kajisay 3.96 43⇑*e*P **Pn 11 06 32.6 +1.7**
baz=41
KDJ ⇑*i*S **Sn 11 07 18.6 +1.2**
baz=41
KDJ Kajisay 3.96 43 Pn **Pb 11 06 37.0 -2.9**
DZA Taraz 3.99 336 *e*PN **Pg 11 06 44.5 -2.0**
DZA *e* 11 07 20.5
DZA Taraz 3.99 336 *e*P **Pb 11 06 38.2 -2.3**
comp=Z,142nm,0.0s
DZA *e*S **Sb 11 07 28.4 -0.3**
comp=Z,267nm,0.1s
DZA Taraz 3.99 336 *e*Pg **Pg 11 06 44.6 -2.0**
baz=336
DZA *e*Sn **Sn 11 07 20.6 +2.5**
baz=336
USP Ospenovka 4.05 10 P **Pb 11 06 38.8 -2.6**
SNR=10
USP Ospenovka 4.05 10 *e*PN **Pn 11 06 34.8 +2.8**
USP Ospenovka 4.05 10⇑*e*P **Pn 11 06 34.8 +2.8**
baz=7.0
USP ⇑*e*S **Sn 11 07 22.7 +3.2**
baz=7.0
TARG Taragay, Kyrgy 4.05 51 **Pb 11 06 38.0 -3.6**
KST Kastek 4.17 25 *e*P **Pb 11 06 47.2 +3.6**
comp=Z,21nm,0.9s
KST *e*S **Sg 11 07 44.6 +0.6**
comp=Z,70nm,0.8s
KST Kastek 4.17 25 Pg **Pg 11 06 48.5 -1.5**
comp=Z,21nm,0.9s
KST Lg Lg 11 07 44.6
comp=Z,70nm,0.8s
SGDS Sogindy 4.25 10 *e*PN **Pg 11 06 49.6 -1.8**
SGDS Sogindy 4.25 10 *e*P **Pb 11 06 46.4 +1.5**
comp=Z,9.7nm,0.1s
SGDS *e*S **Sg 11 07 42.3 -4.2**
comp=Z,13nm,0.0s
SGDS Sogindy 4.25 10 *e*Pg **Pg 11 06 49.6 -1.8**
baz=11
SGDS *e*Lg Lg 11 07 48.5
baz=11
SGDS Sogindy 4.25 10 Pg **Pb 11 06 46.9 +2.0**
comp=Z,22nm,0.7s
SGDS Lg Lg 11 07 41.7
comp=Z,16nm,0.6s
MTBS Maitube 4.41 28 *e*P **Pg 11 06 52.1 -2.4**
comp=Z,44nm,0.7s
MTBS *e*S **Sg 11 07 51.2 -0.5**
comp=Z,38nm,0.3s
MTBS Maitube 4.41 28 Pg **Pg 11 06 52.1 -2.4**
comp=Z,44nm,0.7s
MTBS Lg Lg 11 07 51.2
comp=Z,37nm,0.8s
KK31 Karatay Array 4.47 330 PN **Pb** 11 06 43.0 -5.6
KK31 Karatay Array 4.47 330 **Pb** 11 06 43.0 -5.6
KK31 Karatay Array 4.47 330 Pn **Pb** 11 06 43.0 -5.6
comp=Z,3.9nm,0.3s,baz=132,slow=12,SNR=91
KK31 ⇑Lg Lg 11 07 49.0
comp=Z,34nm,0.5s,baz=150,slow=23,SNR=5.7
KKAR Karatay Array 4.47 330 Pn **Pb** 11 06 42.5 -6.1
KKAR Karatay Array 4.47 330 **Pb** 11 06 43.0 -5.6
TNSS Tian-Shan 4.54 33 *e*P **Pg 11 06 56.2 -0.8**
comp=Z,18nm,0.2s
TNSS *e*S **Sg 11 07 58.0 +2.2**
comp=Z,20nm,0.5s
TNSS Tian-Shan 4.54 33 *e*Pg **Pg 11 06 55.6 -1.4**
baz=34
TNSS *e*Lg Lg 11 07 57.0
baz=34
TNSS Tian-Shan 4.54 33 Pg **Pg 11 06 56.2 -0.8**
comp=Z,18nm,0.5s
TNSS Lg Lg 11 07 58.0
comp=Z,13nm,0.7s
ANVS Anan'yevo 4.68 40⇑*i*P **Pn 11 06 42.6 +1.8**
baz=38
ANVS ⇑*i*S **Sn 11 07 36.3 +1.2**
baz=38
MDOK Medeo 4.69 33 *e*PN **Pn 11 06 44.1 +3.2**
MDOK *e* 11 06 58.6
MDOK Medeo 4.69 33 *e*P **Pg 11 06 58.2 -1.6**
comp=Z,22nm,0.2s
MDOK *e*S **Sg 11 08 01.2 +0.7**
comp=Z,46nm,0.1s
MDOK Medeo 4.69 33 *e*Pn **Pn 11 06 44.1 +3.2**
baz=34
MDOK *e*Pg **Pg 11 06 58.6 -1.2**
baz=34
MDOK *e*Lg Lg 11 08 01.7
baz=34
MDOK Medeo 4.69 33 Pn Pn 11 06 46.6 +5.7
comp=Z,4.4nm,0.6s
MDOK ⇓Pg **Pg 11 06 58.9 -0.9**
comp=Z,25nm,0.6s
MDOK ⇓Lg Lg 11 08 01.9
comp=Z,39nm,0.6s
MDOK Medeo 4.69 33 Pg **Pg 11 06 58.2 -1.6**
comp=Z,31nm,0.5s
MDOK Lg Lg 11 08 01.2
comp=Z,43nm,0.8s
KRBS Karabastau 4.69 19 *e*P **Pg 11 06 58.3 -1.6**
comp=Z,20nm,0.1s
KRBS *e*S **Sg 11 08 02.0 +1.3**
comp=Z,56nm,0.2s
KRBS Karabastau 4.69 19 Pg **Pg 11 06 58.3 -1.6**
comp=Z,33nm,1.0s
KRBS Lg Lg 11 08 02.0
comp=Z,39nm,0.6s
BRLS Boroldaу 4.70 324 *e*PN **Pg 11 06 55.8 -4.1**
BRLS *e* 11 07 57.1
BRLS Boroldaу 4.70 324 *e*P **Pb 11 06 51.8 -0.6**
comp=Z,3.5nm,0.3s
BRLS *e*S **Sb 11 07 51.4 +2.4**
comp=Z,26nm,0.2s
BRLS Boroldaу 4.70 324 *e*Pg **Pg 11 06 55.8 -4.1**
baz=322
BRLS *e*Lg Lg 11 07 57.2
baz=322
KOTS Kotyrbulak 4.77 33 *e*P **Pg 11 07 00.2 -1.2**
comp=Z,29nm,0.5s
KOTS *e*S **Sg 11 08 05.2 +2.1**
comp=Z,139nm,0.9s
KOTS Kotyrbulak 4.77 33 Pg **Pg 11 07 00.2 -1.2**
comp=Z,29nm,0.5s
KOTS Lg Lg 11 08 05.2
comp=Z,139nm,0.9s
KTBS Karatobe 5.01 27 *e*P **Pg 11 07 03.8 -2.2**
comp=Z,30nm,0.2s
KTBS *e*S **Sg 11 08 11.2 +0.4**
comp=Z,71nm,0.4s
KTBS Karatobe 5.01 27 Pg **Pg 11 07 03.8 -2.2**
comp=Z,30nm,0.8s
KTBS Lg Lg 11 08 11.2
comp=Z,71nm,0.6s
KUU Kurty 5.06 23 *e*P **Pg 11 07 04.3 -2.6**
comp=Z,22nm,0.2s
KUU *e*S **Sg 11 08 12.1 -0.3**
comp=Z,73nm,0.1s
KUU Kurty 5.06 23 *e*Pg **Pg 11 07 04.1 -2.8**
baz=24
KUU *e*Lg Lg 11 08 12.8
baz=24
KUU Kurty 5.06 23 Pg **Pg 11 07 04.3 -2.6**
comp=Z,22nm,1.0s
KUU Lg Lg 11 08 12.1
comp=Z,34nm,0.7s
CHKK Chushkaly 5.24 28 *e*P **Pg 11 07 07.5 -2.9**
comp=Z,11nm,0.2s
CHKK *e*S **Sg 11 08 17.3 -1.0**
comp=Z,59nm,0.1s
CHKK Chushkaly 5.24 28 *e*Pg **Pg 11 07 07.5 -2.9**
baz=29
CHKK *e*Lg Lg 11 08 19.1
baz=29
CHKK Chushkaly 5.24 28 Pg **Pg 11 07 07.5 -2.9**
comp=Z,23nm,0.9s
CHKK Lg Lg 11 08 17.3
comp=Z,59nm,0.7s
SATY Saty 5.25 42 *e*P **Pg 11 07 08.8 -1.8**
comp=Z,18nm,0.3s
SATY *e*S **Sg 11 08 19.8 +1.2**
comp=Z,55nm,0.2s
SATY Saty 5.25 42 *e*Pg **Pg 11 07 09.4 -1.2**
baz=43
SATY *e*Lg Lg 11 08 19.5
baz=43
SATY Saty 5.25 42 Pg **Pg 11 07 08.8 -1.8**
comp=Z,22nm,1.2s
SATY Lg Lg 11 08 19.8
comp=Z,56nm,1.2s
CEP Cherat 5.60 194 P **Pn 11 06 56.5 +3.0**
CHCP Chirah Chowk 5.61 183 P **Pn 11 06 57.7 +4.2**
NIL Nilore 5.62 183 PN Pn 11 06 59.1 +5.5
NIL Nilore 5.62 183 Pn 11 06 59.1 +5.5
UZB Uzynbulak 5.64 45 *e*P **Pg 11 07 15.3 -2.7**
comp=Z,5.8nm,0.1s
UZB *e*S **Sg 11 08 31.0 -0.1**
comp=Z,25nm,0.4s
UZB Uzynbulak 5.64 45 *e*Pg **Pg 11 07 16.4 -1.7**
baz=46
UZB *e*Lg Lg 11 08 31.4
baz=46
UZB Uzynbulak 5.64 45 Pg **Pg 11 07 15.3 -2.7**
comp=Z,5.9nm,0.5s
UZB Lg Lg 11 08 31.0
comp=Z,26nm,1.1s
KPKS Kokpek 5.68 41 *e*PN **Pn 11 06 58.4 +3.9**
KPKS *e* 11 07 16.3
KPKS Kokpek 5.68 41 *e*P **Pg 11 07 16.4 -2.5**
comp=Z,14nm,0.2s
KPKS *e*S **Sg 11 08 33.0 +0.6**
comp=Z,35nm,0.3s
KPKS Kokpek 5.68 41 *e*Pn **Pn 11 06 58.4 +3.9**
baz=41
KPKS *e*Pg **Pg 11 07 16.3 -2.5**
baz=41
KPKS *e*Lg Lg 11 08 34.2
baz=41
BTLS Baital 5.77 3 *e*P **Pg 11 07 17.3 -3.3**
comp=Z,9.9nm,0.2s
BTLS *e*S **Sg 11 08 34.0 -1.3**
comp=Z,13nm,0.3s
BTLS Baital 5.77 3 *e*Pg **Pg 11 07 17.6 -3.0**
baz=4.0
BTLS *e*Lg Lg 11 08 36.0
baz=4.0
BTLS Baital 5.77 3 Pg **Pb 11 07 13.1 +2.3**
comp=Z,15nm,0.9s
BTLS Lg Lg 11 08 27.0
comp=Z,2.0nm,0.4s
ARXS Arharly 5.87 31 *e*P **Pg 11 07 19.3 -3.1**
comp=Z,24nm,0.3s
ARXS *e*S **Sg 11 08 37.5 -0.9**
comp=Z,42nm,0.3s
ARXS Arharly 5.87 31 Pg **Pg 11 07 19.3 -3.1**
comp=Z,24nm,0.9s
ARXS Lg Lg 11 08 37.6
comp=Z,42nm,0.8s
SHLS Shalkode 5.89 47 *e*PN Pn 11 07 04.7 +7.2
SHLS *e* 11 07 25.1
SHLS Shalkode 5.89 47 *e*P **Pg 11 07 23.8 +0.9**
comp=Z,6.2nm,0.2s
SHLS *e*S **Sg 11 08 46.2 +7.0**
comp=Z,17nm,0.5s
SHLS Shalkode 5.89 47 *e*Pn Pn 11 07 04.7 +7.3
baz=49
SHLS *e*Pg **Pg 11 07 25.2 +2.3**
baz=49
SHLS *e*Lg Lg 11 08 49.1
baz=49
SHLS Shalkode 5.89 47 Pg **Pg 11 07 24.5 +1.6**
comp=Z,5.7nm,0.4s
SHLS Lg Lg 11 08 46.3
comp=Z,21nm,1.5s
PDGK Podgornoye 6.02 46 PN **Pn 11 07 03.3 +4.1**
PDGK 11 07 21.9
PDGK Podgornoye 6.02 46 Pg Pg 11 07 21.3 -4.0
comp=Z,3.9nm,0.7s
PDGK Lg Lg 11 08 41.3
comp=Z,14nm,1.6s
PDGK Podgornoye 6.02 46⇑Pn **Pn 11 07 03.3 +4.1**
comp=Z,5.5nm,0.6s
PDGK ⇑Pg **Pg 11 07 21.9 -3.4**
comp=Z,14nm,0.7s
PDGK ⇓Lg Lg 11 08 42.7
comp=Z,56nm,1.4s
BLB Baldybastay 6.06 36 *e*P Pg 11 07 22.1 -3.9
comp=Z,31nm,0.5s
BLB *e*S **Sg 11 08 43.0 -1.5**
comp=Z,39nm,0.1s
BLB Baldybastay 6.06 36 Pg **Pg 11 07 22.7 -3.3**
comp=Z,31nm,0.5s
BLB Lg Lg 11 08 43.0
comp=Z,19nm,1.0s
THW Thamme Wali 6.63 193 P **Pn 11 07 09.1 +1.6**
TDK Taldyqorghan 6.76 31 *e*PN **Pn 11 07 11.9 +2.7**
TDK *e* 11 07 35.9
TDK Taldyqorghan 6.76 31 *e*Pn **Pn 11 07 11.9 +2.7**
baz=31
TDK *e*Pg **Pg 11 07 36.0 -3.4**
baz=31
BHK Bhakra 8.18 163 *e*P **Pb 11 07 50.4 -1.3**
BHK *e*S **Sn 11 09 00.8 -0.3**
SMLA Simla 8.64 159 *e*P **Pn 11 07 35.7 +0.7**
SMLA *e*S **Sn 11 09 07.9 -4.6**
SMLA IAML 11 09 17.2
comp=E,67nm,0.6s
OTUK Ortayu 9.01 355 P Pn 11 07 44.6 +4.5
OTUK Ortayu 9.01 355⇑Pn **Pn 11 07 44.4 +4.3**
comp=E,2.0nm,0.5s
OTUK ⇓Lg Lg 11 10 18.0
comp=E,40nm,1.4s
MAKZ Makanchi 9.72 36 P Pn 11 07 55.7 +5.9
MAKZ Makanchi 9.72 36 Pn Pn 11 07 55.6 +5.9
MK31 Makanchi Array 9.85 37 *i* P Pn 11 07 57.8 +6.2
MK31 Makanchi Array 9.85 37 Pn Pn 11 07 57.5 +5.9
MKAR Makanchi Array 9.85 37 Pn **Pn 11 07 56.1 +4.4**
comp=E,0.1nm,0.3s,baz=218,slow=12,SNR=7.3
MKAR Lg Lg 11 10 40.6
comp=E,0.1nm,0.3s,baz=231,slow=30,SNR=2.6
MKAR LR LR 11 12 24.3
comp=E,33nm,19.6s,baz=222,slow=41
MKAR Makanchi Array 9.85 37 Pn 11 07 56.9 +5.2
LGTI Lohaghat 11.24 149 *e*P **Pn 11 08 13.5 +2.9**
LGTI *e*S **Sn 11 10 09.5 -6.7**
KUDL Kundal 11.36 167 *e*P **Pn 11 08 10.8 -1.5**
KUDL *e*S **Sn 11 10 15.0 -4.3**
KUDL IAML 11 10 22.1
comp=Z,16nm,0.5s
KUDL IAML 11 10 22.4
comp=N,17nm,0.3s
WMQ Urumqi 11.51 62 *e*P **Pn 11 08 17.2 +2.8**
WMQ pP 11 08 23.2
WMQ pmax pmax
comp=N,20nm,0.7s
KURBB Kurchatov Arra 11.88 16 Pn **Pn 11 08 22.2 +2.9**
comp=N,0.0nm,0.3s,baz=203,slow=12,SNR=1.5
KURBB Sn Sn 11 10 40.6 +9.0
comp=N,0.0nm,0.3s,baz=136,slow=52,SNR=1.0
KURBB Lg Lg 11 11 41.1
comp=N,0.1nm,0.3s,baz=223,slow=55,SNR=1.8
KURK Kurchatov 11.98 16 P **Pn 11 08 22.2 +1.5**
BVAR Borovoye Array 13.93 352 Pn **Pn 11 08 49.4 +2.1**
comp=N,0.2nm,0.3s,baz=204,slow=32,SNR=7.0
AB31 Akbulak array 13.94 320 P **Pn 11 08 47.5 0.0**
ABKAR Akbulak array 13.94 320 **Pn 11 08 48.0 +0.5**
ABKAR Akbulak array 13.94 320 P **Pn 11 08 49.4 +1.9**
BRVK Borovoye 13.97 352 *ce*P **Pn 11 08 49.8 +1.9**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 13.97 352 **Pn 11 08 49.3 +1.4**
BRVK Borovoye 13.97 352 ⇓Pg **Pn 11 08 48.0 +0.2**
comp=Z,4.1nm,0.9s
BRVK ⇑Lg Lg 11 12 54.3
comp=Z,11nm,1.4s
AKTO Aktyubinsk 15.66 321 Pn **Pn 11 09 11.1 +0.5**
comp=Z,0.2nm,0.3s,baz=111,slow=12,SNR=2.6
AKTO LR LR 11 14 59.7
comp=Z,31nm,20.9s,baz=160,slow=36
ZAA0 Zalesovo Array 16.55 24 **P 11 09 25.0 +0.5**
ZALV Zalesovo Beam 16.55 24 Pn **P 11 09 24.1 -0.5**
comp=Z,0.8nm,0.3s,baz=214,slow=12,SNR=17
ZALV Zalesovo Beam 16.55 24 *e*P **P 11 09 25.5 +0.9**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 16.55 24 **P 11 09 24.4 -0.2**
GOMU GeErMu 17.08 94 P **P 11 09 31.5 +0.6**
GOMU pP pP 11 09 36.4 +1.3
GOMU sP sP 11 09 37.6 +0.5
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,39nm,5.2s
ARU Arti 19.82 335*d* *i* P **Pn 11 10 03.5 +1.4**
ARU S **Sn 11 13 48.7 +4.0**
ARU pmax pmax
comp=Z,11nm,2.2s
GTA Gaotai 20.28 81 *e*P Pn 11 10 09.0 +1.2
GTA sP sP 11 10 15.9 +3.9
GTA pmax pmax
comp=Z,4.0nm,0.8s
KNGR Kungurtug, Tuv 20.29 48 *i* P Pn 11 10 11.7 +3.9
GNI Garni 22.16 281 *i* P **P 11 10 29.6 +3.5**
GNI pmax pmax
comp=Z,7.0nm,1.2s
ONI Oni 22.94 288 P **P 11 10 36.8 +2.5**
ONI pmax pmax
comp=Z,8.0nm,1.3s
ONI Oni 22.94 288 P **P 11 10 36.8 +2.5**
ONI IAmb IAmb 11 10 43.6
comp=Z,8.3nm,1.3s
SONM Songino Array 25.12 59 P **P 11 10 57.2 +2.1**
comp=Z,0.8nm,0.4s,baz=261,slow=10,SNR=4.2
SONM LR LR 11 21 34.2
comp=Z,77nm,18.1s,baz=288,slow=38
SONM Songino Array 25.12 59 P **P 11 10 57.8 +2.7**
BJI Beijing 32.58 75 P **P 11 12 02.4 +1.0**
BJI pmax pmax
comp=Z,7.0nm,0.6s
MNK Minsk 34.07 312 *i* P P 11 12 05.1 -9.1
MNK *i* PPP PPP 11 13 29.5
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=Z,9.0nm,0.6s
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK MLR MLR
comp=Z,132nm,19.0s
MNK MLR MLR
comp=N,219nm,19.0s
MNK MLR MLR
comp=E,11nm,17.0s
MNK Minsk 34.07 312 *i* P P 11 12 05.2 -9.0
comp=E,2.0nm,0.6s
MNK *i* P P 11 12 05.2 -9.0
comp=N,17nm,0.8s
MNK *i* P P 11 12 05.2 -9.0
comp=Z,9.0nm,0.7s,baz=276
MNK *i* PP **PnPn 11 13 18.2 -9.2**
MNK *i* PPP PPP 11 13 29.5
MNK *i* S **S 11 17 30.6 -9.0**
MNK *i* SS **SnSn 11 19 38.8 -7.7**
MNK *i* SSS SSS 11 19 59.3
MNK *i* LQ LQ 11 23 21.2
MNK *i* LR LR 11 24 14.2
MNK *i* LRM MLR 11 26 19.9
comp=Z,132nm,18.7s
MNK *i* LRM MLR 11 26 46.3
comp=N,219nm,18.7s
MNK *i* LRM MLR 11 27 07.0
comp=E,11nm,17.4s
FIA1 FINESS Array S 36.40 323 P **P 11 12 36.5 +2.4**
FINES FINESS Array B 36.40 323 P **P 11 12 35.4 +1.2**
comp=E,0.6nm,0.3s,baz=115,slow=8.6,SNR=7.1
FINES FINESS Array B 36.40 323 *e*P **P 11 12 36.0 +1.8**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 36.40 323 P **P 11 12 36.1 +2.0**
KARP Karpathos 36.74 279 P **P 11 12 36.8 -0.7**
ARCES ARCESS Array B 39.41 336 P **P 11 13 01.4 +1.9**
comp=Z,5.4nm,1.2s,baz=90,slow=6.4,SNR=8.1
ARCES ARCESS Array B 39.41 336 *e*P P 11 13 03.6 +4.1
ARCES pmax pmax
comp=Z,6.0nm,1.2s
ARCES ARCESS Array B 39.41 336 P **P 11 13 02.0 +2.4**
ARCES IAmb IAmb 11 13 24.0
comp=Z,12nm,1.4s
NOA NORSAR Array B 43.45 321 P **P 11 13 33.6 +0.9**
comp=Z,0.3nm,0.4s,baz=103,slow=7.3,SNR=3.3
MJAR Matsushiro Arr 50.09 72 LR LR 11 38 35.9
comp=Z,44nm,20.0s,baz=208,slow=40
ESDC Sonseca Array 57.98 297 P **P 11 15 23.1 +0.3**
comp=Z,0.6nm,0.5s,baz=56,slow=7.2,SNR=2.0
TOLK Toolik Lake Re 67.72 16 P **P 11 16 28.1 +1.0**
TOLK IAmb IAmb 11 16 44.7
comp=Z,6.4nm,1.4s
TORD Torodi Ar. Bea 67.81 269 P **P 11 16 26.9 -1.5**
comp=Z,0.3nm,0.5s,baz=47,slow=5.1,SNR=5.0
TORD Torodi Ar. Bea 67.81 269 P **P 11 16 26.5 -1.9**
TORD IAmb IAmb 11 16 53.1
comp=Z,2.1nm,1.3s
BMAR Burnt Mountain 69.76 15 P **P 11 16 41.2 +1.4**
INK Inuvik 70.83 10 P **P 11 16 47.1 +0.9**
comp=Z,0.7nm,0.6s,baz=333,slow=6.1,SNR=1.7
ILAR Eielson Array 71.55 17 P **P 11 16 51.5 +0.8**
comp=Z,0.7nm,1.0s,baz=316,slow=5.4,SNR=5.7
ILAR Eielson Array 71.55 17 *e*P P 11 16 55.5 +4.8
ILAR pmax pmax
comp=Z,1.0nm,1.0s
BCAR Beaver Creek A 74.16 16 P **P 11 17 06.9 +0.6**
YKA Yellowknife Ar 78.36 4 P **P 11 17 31.2 +1.1**
comp=Z,0.4nm,0.6s,baz=347,slow=5.4,SNR=4.4
WRA Warramunga Arr 81.78 124 P **P 11 17 48.6 -0.5**
comp=Z,0.5nm,0.6s,baz=326,slow=4.8,SNR=14
ASAR Alice Springs 84.22 127 P **P 11 18 01.1 -0.7**
comp=Z,0.3nm,0.7s,baz=316,slow=5.2,SNR=6.2

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*NOU **04** 11:05:31.3, 37.57S×179.01W, h93km, mb4.2/6, East of North Island, N.Z.*
*WEL **04** 11:05:43.2±1.3, 38.3S±11.×18.0E±., h33km, M3.7/11, ML4.1/11, MLv3.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=171.1*

ISC 04 11:05:38.2±3.3, 37.70S±0.08×179.9W±0.2, h28km±22km, n104, σ1.953/110, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.38**	**265**	P	**Pn**	**11 06 02.6**	**+1.0**
MXZ	**Matakaoa Point**	**1.47**	**275**	P	**Pn**	**11 06 03.2**	**+0.4**
MXZ				S	**Sn**	**11 06 19.1**	**-2.1**
PUZ	**Puketiti**	**1.54**	**256**	P	**Pn**	**11 06 05.0**	**+1.1**
PKGZ	**Pakihiroa**	**1.66**	**263**	P	**Pn**	**11 06 06.2**	**+0.8**
PKGZ				S	**Sn**	**11 06 24.2**	**-1.7**
CNGZ	**Carnagh Statio**	**1.72**	**242**	P	**Pb**	**11 06 08.6**	**-0.6**
TWGZ	**Tauwhareparae**	**1.78**	**254**	P	**Pn**	**11 06 08.6**	**+1.4**
TWGZ				S	**Sn**	**11 06 28.5**	**-0.4**
HAZ	**Te Kaha**	**1.88**	**268**	P	**Pn**	**11 06 09.8**	**+1.3**
HAZ				S	**Sn**	**11 06 29.9**	**-1.4**
TKGZ	**Te Karaka**	**1.96**	**247**	P	**Pn**	**11 06 11.1**	**+1.5**
RUGZ	**Raukumara Rang**	**1.98**	**262**	P	**Pn**	**11 06 11.0**	**+1.1**
RIGZ	**Rimuhau**	**2.13**	**241**	P	**Pn**	**11 06 13.9**	**+1.9**
RIGZ				S	**Sn**	**11 06 38.4**	**+0.8**
PRGZ	**Paritu Road**	**2.16**	**235**	P	**Pn**	**11 06 14.6**	**+2.2**
MWZ	**Matawai**	**2.17**	**252**	P	**Pn**	**11 06 13.4**	**+0.9**
MWZ				S	**Sn**	**11 06 36.4**	**-2.1**
MHGZ	**Mahia Peninsul**	**2.28**	**230**	P	**Pn**	**11 06 16.4**	**+2.4**
RAGZ	**Rawiri**	**2.30**	**249**	P	**Pn**	**11 06 16.7**	**+2.3**
RAGZ				S	**Sn**	**11 06 40.8**	**-1.0**
KNZ	**Kokohu**	**2.35**	**235**	P	**Pn**	**11 06 16.8**	**+1.9**
SNGZ	**Shannon Statio**	**2.46**	**243**	P	**Pn**	**11 06 18.5**	**+1.9**
URZ	**Urewera**	**2.47**	**256**	P	**Pn**	**11 06 18.3**	**+1.8**
URZ				S	**Sn**	**11 06 45.4**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
URZ	Urewera	2.47	256	P	Pn	11 06 18.6	+2.0
WHRZ	Whale Island	2.52	266	P	Pn	11 06 19.8	+2.5
RTZ	Ruatahuna	2.66	249	P	Pn	11 06 21.3	+1.9
WHHZ	Waihua	2.67	238	P	Pn	11 06 20.0	+0.6
RAHZ	Arahi	2.70	242	P	Pn	11 06 21.7	+1.9
EDRZ	Edgecumbe	2.73	260	P	Pn	11 06 21.9	+1.6
MUGZ	Murupara	2.78	253	P	Pn	11 06 22.3	+1.4
MTHZ	Maungataniwha	2.85	245	P	Pn	11 06 23.5	+1.7
OPRZ	Ohinepanea	2.85	266	P	Pn	11 06 22.9	+1.0
ARHZ	Aropaoanui	2.93	237	P	Pn	11 06 24.9	+2.0
TARZ	Mount Tarawera	2.93	258	P	Pn	11 06 24.6	+1.6
RRRZ	Republican Roa	2.94	256	P	Pn	11 06 24.8	+1.6
NMHZ	Naumai	2.98	241	P	Pn	11 06 25.4	+1.8
OMRZ	Omania	3.02	261	P	Pn	11 06 25.7	+1.5
HLRZ	Highlands Stat	3.05	258	P	Pn	11 06 26.1	+1.4
PRRZ	Plateau Road	3.07	254	P	Pn	11 06 26.3	+1.4
TGRZ	Tauranga	3.09	268	P	Pn	11 06 26.0	+0.9
CKHZ	Cape Kidnapper	3.10	230	P	Pn	11 06 27.1	+1.8
KARZ	Kaharoa	3.11	263	P	Pn	11 06 26.6	+1.2
ALRZ	Allen Road	3.12	253	P	Pn	11 06 27.0	+1.4
HRRZ	Handcock Road	3.13	256	P	Pn	11 06 27.8	+2.0
MYRZ	Mayor Island	3.14	276	P	Pn	11 06 26.9	+1.1
HSRZ	Hossack Road	3.15	258	P	Pn	11 06 28.6	+2.6
MCHZ	McNeill Hill	3.22	236	P	Pn	11 06 28.6	+1.7
BKZ	Black Stump Fm	3.23	242	P	Pn	11 06 28.6	+1.6
BKZ	Black Stump Fm	3.23	242	P	Pn	11 06 28.8	+1.8
KAHZ	Kahuranaki	3.31	230	P	Pn	11 06 30.0	+1.8
KMRZ	Kaimai	3.34	266	P	Pn	11 06 29.7	+1.1
KWHZ	Kaweka Forest	3.39	238	P	Pn	11 06 30.9	+1.6
PXZ	Pawanui	3.47	227	P	Pn	11 06 31.4	+1.2
KUTZ	Kaahu Road	3.50	256	P	Pn	11 06 32.3	+1.4
KRHZ	Kereru	3.54	236	P	Pn	11 06 32.4	+1.1
RITZ	Rihia Road	3.61	248	P	Pn	11 06 35.2	+2.9
KUZ	Kuaotunu	3.66	284	P	Pn	11 06 33.1	+0.1
BHHZ	Black Hill Sta	3.67	240	P	Pn	11 06 34.5	+1.3
TOZ	Tahuroa Road	3.69	268	P	Pn	11 06 34.3	+0.9
WPHZ	Waipukurau	3.74	230	P	Pn	11 06 35.2	+1.2
PRHZ	Porangahau	3.75	226	P	Pn	11 06 35.0	+0.8
TMVZ	Te Maari	3.77	247	P	Pn	11 06 36.1	+1.5
PNHZ	Pukenui	3.80	233	P	Pn	11 06 36.0	+1.1
KRVZ	Karewarewa	3.81	247	P	Pn	11 06 36.1	+1.0
OTVZ	Oturere	3.81	246	P	Pn	11 06 36.3	+1.0
NNVZ	North Ngauruho	3.84	247	P	Pn	11 06 40.6	+5.0
SNVZ	South Ngauruho	3.84	246	P	Pn	11 06 36.6	+1.0
MOVZ	Moawhango	3.85	242	P	Pn	11 06 37.4	+1.8
WTVZ	West Tongariro	3.85	247	P	Pn	11 06 37.7	+2.0
TUVZ	Tukino	3.86	245	P	Pn	11 06 37.3	+1.5
WNVZ	Wahianoa	3.92	244	P	Pn	11 06 37.7	+0.9
FWVZ	Far West T-bar	3.93	245	P	Pn	11 06 38.1	+1.2
TRVZ	Turoa	3.95	245	P	Pn	11 06 39.1	+1.9
ANWZ	Angora Road	3.97	225	P	Pn	11 06 38.0	+0.8
MKAZ	Moumakai	4.02	277	P	Pn	11 06 38.7	+0.8
GRZ	Great Barrier	4.03	290	P	Pn	11 06 38.8	+0.8
TSZ	Takapari Road	4.03	233	P	Pn	11 06 39.0	+0.9
DVHZ	Dannevirke	4.05	229	P	Pn	11 06 39.0	+0.7
WIAZ	Waiheke Island	4.11	281	P	Pn	11 06 40.0	+0.9
ETAZ	East Tamaki Re	4.23	279	P	Pn	11 06 42.1	+1.3
BFZ	Birch Farm	4.25	224	P	Pn	11 06 41.1	0.0
BFZ	Birch Farm	4.25	224	P	Pn	11 06 41.5	+0.4
HIZ	Hauiti	4.26	257	P	Pn	11 06 43.1	+1.9
HIZ	Hauiti	4.26	257	P	Pn	11 06 43.2	+2.0
MBAZ	Motutapu North	4.30	281	P	Pn	11 06 42.9	+1.2
PRWZ	Pori Road	4.32	227	P	Pn	11 06 43.0	+0.9
POWZ	Post Office Ro	4.34	230	P	Pn	11 06 43.4	+1.0
ABAZ	Army Bay	4.39	283	P	Pn	11 06 44.4	+1.4
EPAZ	Eden Park BICE	4.39	279	P	Pn	11 06 44.8	+1.8
HBAZ	Herne Bay Bore	4.41	279	P	Pn	11 06 45.0	+1.8
AWAZ	Awhitu Peninsu	4.43	277	P	Pn	11 06 44.6	+1.0
VRZ	Vera Road	4.47	250	P	Pn	11 06 46.0	+1.9
WTAZ	Waiatarua	4.51	278	P	Pn	11 06 46.3	+1.5
TIWZ	Tintock	4.52	226	P	Pn	11 06 45.1	+0.4
WAZ	Wanganui	4.53	242	P	Pn	11 06 47.4	+2.5
RVAZ	Riverhead Bore	4.54	280	P	Pn	11 06 46.6	+1.5
MRZ	Mangatainoka R	4.62	229	P	Pn	11 06 46.2	+0.1
HOWZ	Holdsworth Sta	4.81	227	P	Pn	11 06 48.7	-0.1
OGWZ	Otaki Gorge	4.96	230	P	Pn	11 06 51.0	+0.1
PREZ	Palmer Road	4.98	249	P	Pn	11 06 55.2	+4.1
WCZ	Waipu Caves	4.98	289	P	Pn	11 06 52.7	+1.6
PKE	Pukeiti	5.07	251	P	Pn	11 06 55.3	+3.0
KIW	Kapiti Island	5.15	231	P	Pn	11 06 53.3	-0.2
OUZ	Omahuta	5.84	293	P	Pn	11 07 04.7	+1.8
NNZ	Nelson	6.31	234	P	Pn	11 07 09.0	-0.3
CTZ	Chatham Island	6.51	159	P	Pn	11 07 20.4	+8.3
QRZ	Quartz Range	6.69	240	P	Pn	11 07 15.5	+0.9
MRNZ	Matariki Terra	6.80	235	P	Pn	11 07 15.8	-0.3
KHZ	Kahutara	6.92	225	P	Pn	11 07 17.7	0.0
GVZ	Greta Valley S	7.56	224	P	Pn	11 07 27.3	+0.8

*IDC **04** 11:06:22.2±1.0, 52°63S×13°05E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/44, mbtmp4.1/8, MS3.5/9, Ms1 3.5/9, ms1mx3.2/54, Error ellipse: s-maj=32.4km s-min=20.9km az=101.0*

*NEIC **04** 11:06:23.9±1.9, 52°6S±0°1×13°5E±0°2, h17km±5km, mb4.8/16, Error ellipse: s-maj=18.1km s-min=14.7km az=130.0*

ISC 04 11:06:22.8±0.6**, 52°6S**±0°1×**13°4E**±0°1**, h10**km**, n33, σ1s33**/25**, mb4.3**/9**, MS3.5**/9**, Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROLL	Troll, Antarti	20.06	190	P	Pn	11 10 59.7	+2.1
SNAA	Sanae	20.45	195	P	P	11 11 01.7	+1.7
SNAA	Sanae	20.45	195	P	P	11 11 01.6	+1.6
	15nm,0.8s,baz=23,slow=9.7,SNR=17						
SNAA				LR	LR	11 16 57.1	
	comp=Z,147nm,20.9s,baz=6.0,slow=31						
SNAA	Sanae	20.45	195	P	P	11 11 01.0	+1.0
SNAA				IAmb	IAmb	11 11 02.9	
	comp=Z,15nm,0.8s						
VNA2	Neumayer--Watz	20.63	199	P	P	11 11 03.2	+1.2
	baz=31,slow=10.0						
SUR	Sutherland	20.91	18	P	Pn	11 11 07.5	-0.4
	comp=Z,6.7nm,0.8s,baz=206,slow=12,SNR=6.4						
SUR				LR	LR	11 17 03.3	
	comp=Z,104nm,19.1s,baz=168,slow=30						
SUR	Sutherland	20.91	18	P	P	11 11 05.8	+0.3
SUR				IAmb	IAmb	11 11 10.3	
	comp=Z,50nm,1.5s						
VNA3	Neumayer Olymp	21.35	200	P	P	11 11 10.8	+1.1
BOSA	Boshof	25.53	25	P	P	11 11 54.2	+2.7
	comp=Z,2.1nm,0.8s,baz=198,slow=3.2,SNR=2.1						
BOSA				LR	LR	11 21 10.3	
	comp=Z,60nm,18.6s,baz=188,slow=35						
MAW	Mawson	27.89	141	P	P	11 12 11.4	-0.9
LBTB	Lobatse	29.05	23	LR	LR	11 21 31.6	
	comp=Z,80nm,22.0s,baz=182,slow=31						
TSUM	Tsumeb	33.49	7	LR	LR	11 24 36.8	
	comp=Z,104nm,18.7s,baz=273,slow=33						
QSPA	South Pole Qui	37.63	180	P	P	11 13 38.0	+0.5
	comp=Z,2.1nm,1.0s,baz=204,slow=4.8,SNR=8.4						
QSPA	South Pole Qui	37.63	180	P	P	11 13 37.3	-0.3
LSZ	Lusaka	39.04	23	LR	LR	11 27 10.9	
	comp=Z,73nm,21.9s,baz=150,slow=32						
SHEL	Horse Pasture	39.58	330	P	P	11 13 55.2	+1.0
EFI	East Falkland	42.21	242	P	P	11 14 14.6	-0.9
VNDA	Vanda	48.67	171	P	P	11 15 07.0	+0.7
	comp=Z,0.4nm,0.6s,baz=244,slow=3.4,SNR=3.6						
VNDA	Vanda	48.67	171	P	P	11 15 06.4	+0.1
SBA	Scott Base	48.78	173	P	P	11 15 09.8	+2.7
MBAR	Mbarara	53.81	22	LR	LR	11 36 18.4	
	comp=Z,75nm,20.2s,baz=108,slow=33						
CPUP	Villa Florida	57.99	268	P	P	11 16 14.3	-1.2
	comp=Z,1.7nm,0.7s,baz=135,slow=8.6,SNR=3.8						
CPUP	Villa Florida	57.99	268	P	P	11 16 14.5	-1.0
CPUP				IAmb	IAmb	11 16 37.8	
	comp=Z,6.0nm,1.4s						
LPAZ	La Paz	72.12	266	P	P	11 17 48.0	-0.2
	comp=Z,2.1nm,0.9s,baz=123,slow=12,SNR=4.9						
LPAZ	La Paz	72.12	266	P	P	11 17 47.5	-0.7
LPAZ				IAmb	IAmb	11 17 52.4	
	comp=Z,4.5nm,1.2s						
KAAM	Kaadhehdhoo	72.42	65	P	P	11 17 48.3	-0.9
KAAM				IAmb	IAmb	11 17 57.4	
	comp=Z,20nm,0.9s						
MORW	Morawa	74.56	118	P	P	11 18 01.0	-0.7
MORW				IAmb	IAmb	11 18 20.8	
	comp=Z,13nm,1.2s						
GIRL	Giralia	78.61	112	P	P	11 18 22.5	-2.2
WHZ	Wether Hill Ro	79.48	162	P	P	11 18 27.7	-1.4
WHZ				IAmb	IAmb	11 18 50.3	
	comp=Z,36nm,1.4s						
MDT	Midelt	86.50	345	LR	LR	11 56 00.5	
	comp=Z,26nm,18.7s,baz=13,slow=34						
MMAI	Mount Meron Ar	87.40	18	LR	LR	11 57 19.2	
	comp=Z,31nm,18.6s,baz=288,slow=35						
ASAR	Alice Springs	88.13	128	P	P	11 19 14.9	+1.1
	comp=Z,1.1nm,0.8s,baz=213,slow=3.9,SNR=9.2						
LHI	Lord Howe Isla	91.02	151		P	11 19 27.2	+0.1

*IDC **04** 11:12:42.5±0.9, 36°29N×70°50E, h0km, mb4.0/11, mb1 4.1/16, mb1mx3.8/67, mbtmp4.0/16, ML3.7/5, MS2.9/2, Ms1 2.9/2, ms1mx2.4/89, Error ellipse: s-maj=19.3km s-min=18.6km az=168.0*

*MOS **04** 11:12:53.8±0.9, 36°68N×70°63E, h93km, mb4.0/6, Error ellipse: s-maj=14.1km s-min=5.8km az=76.6*

*NEIC **04** 11:12:53.6±2.4, 36°64N±0°06×70°34E±0°07, h80km±7km, mb4.3/17, Error ellipse: s-maj=9.4km s-min=8.3km az=177.0*

*NNC **04** 11:12:56.4±6.4, 37°20N×70°47E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=52.9km s-min=48.7km az=111.0*

ISC 04 11:12:53.7±0.5**, 36°63N**±0°04×**70°38E**±0°05**, h100**km**, n118, σ2s60**/138**, mb4.0**/23**, 8C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	Chuyangaron	2.25	335	Pn	Pn	11 13 28.1	-1.5
KBL	Kabul	2.35	208	PN	Pn	11 13 33.0	+1.9
KBL	Kabul	2.35	208	Pn	Pn	11 13 33.0	+1.9
GAR	Garm	2.37	359		Pn	11 13 31.2	-0.1
DRK	Karamyk	3.06	21		Pn	11 13 42.3	+1.7
CEP	Cherat	3.06	155	P	Pn	11 13 40.9	+0.4
BTK	Batken	3.44	6	PN	Pn	11 13 46.8	+1.3
BTK	Batken	3.44	6	Pn	Pn	11 13 46.8	+1.3
CHCP	Chirah Chowk	3.79	141	P	Pn	11 13 50.6	+0.5
NIL	Nilore	3.79	141	PN	Pn	11 13 50.6	+0.5
NIL	Nilore	3.79	141		Pn	11 13 50.6	+0.5
THW	Thamme Wali	3.98	163	⇓P	Pn	11 13 52.7	-0.1
THW				S	Sn	11 14 38.0	-0.5
KSH	Kashi	5.27	55	P	Pn	11 14 06.2	-4.1
KSH				S	Sn	11 15 02.4	-7.4
THN	Thein Dam	6.07	132	*e*P	Pn	11 14 20.7	-0.3
THN				*e*S	Sn	11 15 26.2	-2.9
THN				*e*S	Sn	11 15 26.4	-2.7
UCH	Uchtor	6.44	29	P	Pn	11 14 25.9	-0.5
	SNR=15						
KK31	Karatay Array	6.47	1	PN	Pn	11 14 25.9	-0.5
KK31	Karatay Array	6.47	1		Pn	11 14 26.0	-0.4
KK31	Karatay Array	6.47	1	P	Pn	11 14 25.9	-0.4
	9.8nm,0.5s,baz=198,slow=14,SNR=196						
KK31				⇓S	Sn	11 15 35.7	-3.0
	20nm,0.5s,baz=192,slow=24,SNR=6.5						
KKAR	Karatay Array	6.47	1	PN	Pn	11 14 26.0	-0.4
KKAR	Karatay Array	6.47	1	Pn	Pn	11 14 25.6	-0.8
KKAR	Karatay Array	6.47	1		Pn	11 14 26.0	-0.4
EKS2	Erkin-Say	6.57	22	P	Pn	11 14 28.1	+0.3
	SNR=9.0						
AAK	Ala-Archa	6.79	27	Pn	Pn	11 14 31.1	+0.2
	5.4nm,0.3s,baz=177,slow=5.3,SNR=42						
AAK				Sn	Sn	11 15 45.3	-1.5
	3.4nm,0.3s,baz=110,slow=23,SNR=6.5						
AAK				LR	LR	11 17 39.0	
	comp=Z,54nm,19.1s,baz=206,slow=42						
AAK	Ala-Archa	6.79	27	*ce*PN	Pn	11 14 31.0	+0.2
AAK				pmax	pmax		
	comp=Z,12nm,0.7s						
AAK	Ala-Archa	6.79	27	Pn	Pn	11 14 30.8	-0.1
KBK	Karagaybulak	6.98	29	P	Pn	11 14 33.9	+0.5
	SNR=16						
CHMS	Chumysh	7.20	27	P	Pn	11 14 36.2	0.0
	SNR=17						
CHMS	Chumysh	7.20	27	⇑P	Pn	11 14 35.7	-0.6
	comp=Z,34nm,0.8s						
CHMS				⇑S	Sn	11 15 54.2	-2.3
	comp=Z,23nm,0.7s						
ULHL	Ulahol	7.22	37	P	Pn	11 14 36.3	-0.4
	SNR=16						
BHK	Bhakra	7.22	134	*e*P	Pn	11 14 38.0	+1.3
BHK				*e*S	Sn	11 15 52.0	-5.1
BOOM	Boomskoye usch	7.26	35	PN	Pn	11 14 37.1	-0.2
BOOM	Boomskoye usch	7.26	35	Pn	Pn	11 14 37.1	-0.2
USP	Ospenovka	7.35	24	P	Pn	11 14 37.8	-0.6
	SNR=12						
TKM2	Tokmak 2	7.46	31	P	Pn	11 14 39.6	-0.4
	SNR=21						
TKM2	Tokmak 2	7.46	31	*i* PN	Pn	11 14 39.7	-0.3
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TKM2	Tokmak 2	7.46	31	⇓P	Pn	11 14 39.7	-0.3
	comp=Z,17nm,0.8s						
TKM2				⇓S	Sn	11 15 58.3	-4.8
	comp=Z,10.0nm,0.7s						
KDJ	Kajisay	7.61	42	PN	Pn	11 14 41.7	-0.4
KDJ	Kajisay	7.61	42	Pn	Pn	11 14 41.6	-0.4
TARG	Taragay, Kyrgy	7.70	46		Pn	11 14 42.7	-0.7
SMLA	Simla	7.87	132	*e*P	Pn	11 14 43.2	-2.2
SMLA				*e*S	Sn	11 16 07.4	-5.4
SMLA				IAML		11 16 11.1	
	comp=N,57nm,0.2s						
SMLA				IAML		11 16 11.8	
	comp=E,101nm,0.2s						
GEYT	Alibeck	9.86	281	Pn	Pn	11 15 08.7	-3.8
	comp=E,1.3nm,0.3s,baz=119,slow=12,SNR=3.3						
GEYT				Sn	Sn	11 16 53.4	-7.9
	comp=E,2.1nm,0.3s,baz=80,slow=29,SNR=2.1						
GEYT	Alibeck	9.86	281		Pn	11 15 09.9	-2.6
SONA	Sohna	10.09	144	*e*P	Pn	11 15 17.4	+1.8
SONA				*e*S	Sn	11 16 59.4	-7.5
PTH	Pithoragarh	10.85	128	*e*P	Pn	11 15 23.0	-3.2
OTUK	Ortayu	11.70	6	⇑P	Pn	11 15 34.2	-3.1
	comp=E,2.2nm,0.8s						
OTUK				⇓S	Sn	11 17 40.1	-5.7
	comp=E,3.5nm,0.6s						
JHNI	Jhansi	13.13	146	*e*P	Pn	11 15 55.9	-0.5
JHNI				*e*S	Sn	11 18 07.5	-13
MAKZ	Makanchi	13.35	37	P	Pn	11 15 57.5	-1.5
MAKZ	Makanchi	13.35	37		Pn	11 15 57.5	-1.5
MK31	Makanchi Array	13.49	37	*i* P	Pn	11 15 58.9	-2.0
MK31	Makanchi Array	13.49	37	Pn	Pn	11 15 59.4	-1.5
MKAR	Makanchi Array	13.49	37	Pn	Pn	11 15 59.4	-1.5
	comp=E,0.2nm,0.3s,baz=226,slow=14,SNR=4.9						
MKAR	Makanchi Array	13.49	37		Pn	11 16 00.4	-0.5
PYUN	Piuthan	13.62	125	*e*P	Pn	11 15 58.9	-4.1
	comp=E,6.9nm,0.4s						
DANN	Dangsing	13.98	122	*e*P	Pn	11 16 04.2	-3.5
	comp=E,10nm,0.3s						
AB31	Akbulak array	14.73	332	P	Pn	11 16 14.8	-2.1
ABKAR	Akbulak array	14.73	332	Pn	Pn	11 16 14.9	-2.0
ABKAR	Akbulak array	14.73	332	Pn	Pn	11 16 15.1	-1.8
KURBB	Kurchatov Arra	15.17	20	Pn	Pn	11 16 19.4	-3.0
	comp=E,0.1nm,0.3s,baz=212,slow=12,SNR=1.5						
KURK	Kurchatov	15.28	20	P	Pn	11 16 19.4	-4.4
PKI	Pulchoki	15.60	121	*e*P	Pn	11 16 25.3	-3.0
	comp=E,9.4nm,0.5s						
GUN	Gumba	15.71	119	*e*P	Pn	11 16 25.8	-4.0
	comp=E,3.1nm,0.4s						
JIRN	Jiri	16.09	119	*e*P	Pn	11 16 30.8	-3.6
	comp=E,15nm,0.4s						
JIRN				*e*S	Sn	11 19 21.3	-11
AKTO	Aktyubinsk	16.43	331	Pn	Pn	11 16 37.7	-0.4
	comp=E,0.5nm,0.3s,baz=137,slow=14,SNR=15						
AKTO	Aktyubinsk	16.43	331	P	Pn	11 16 37.3	-0.8
BRVK	Borovoye	16.43	360	*ce*P	Pn	11 16 36.9	-1.2
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BRVK	Borovoye	16.43	360	P	Pn	11 16 37.5	-0.6
RAMN	Ramite	16.81	120	*e*P	Pn	11 16 39.9	-3.4
	comp=Z,6.5nm,0.4s						
GOMU	GeErMu	19.66	84	P	P	11 17 14.7	-0.4
GOMU				pmax	pmax		
	comp=Z,48nm,4.3s						
ZAA0	Zalesovo Array	20.01	26	P	P	11 17 18.9	+0.6
ZAA0				IAmb	IAmb	11 17 21.2	
	comp=Z,7.5nm,0.7s						
ZALV	Zalesovo Beam	20.01	26	P	P	11 17 18.8	+0.5
	comp=Z,6.4nm,0.4s,baz=212,slow=9.8,SNR=43						
ZALV	Zalesovo Beam	20.01	26	*i* P	P	11 17 18.7	+0.5
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ZALV	Zalesovo Beam	20.01	26	P	P	11 17 18.6	+0.3
ARU	Arti	21.35	342	*d i*P	P	11 17 31.4	-1.3
ARU						11 17 58.3	
ARU				S	S	11 21 23.4	-0.5
ARU				SS	SnSn	11 21 55.7	0.0
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SHL	Shillong	21.41	115	P	P	11 17 36.7	+2.9
SHL				IAmb	IAmb	11 17 37.9	
	comp=Z,12nm,1.2s						
KBZ	Khabaz	22.10	297	*i* P	P	11 17 44.4	+3.7
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KNGR	Kungurtug, Tuv	23.94	46	*i* P	P	11 17 57.9	-0.7
SONM	Songino Array	28.68	56	P	P	11 18 42.1	+0.9
	comp=Z,0.9nm,0.5s,baz=265,slow=9.6,SNR=6.1						
SONM	Songino Array	28.68	56	P	P	11 18 42.1	+0.9
OBN	Obninsk	29.52	320	*e*P	P	11 18 53.3	+5.0
OBN				*e*		11 19 45.6	
OBN				*e*S	S	11 23 41.3	+5.8
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
AKASG	Malin Array Be	32.48	309	LR	LR	11 37 02.5	
	comp=Z,37nm,18.9s,baz=52,slow=45						
MNK	Minsk	34.06	315	*i* P	P	11 19 23.3	-4.8
MNK				*i* *PP	pP	11 19 42.1	-9.0
MNK				*i* S	S	11 24 43.5	-2.7
MNK				*i* *SS	sS	11 25 16.6	-10
MNK				*i* SS	SnSn	11 27 01.6	-2.2
MNK				*i*		11 29 38.9	
MNK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,12nm,0.7s						
MNK				pmax	pmax		
	comp=N,46nm,0.9s						
MNK				MLR	MLR		
	comp=E,10.0nm,15.0s						
MNK				MLR	MLR		
	comp=N,254nm,19.0s						
MNK				MLR	MLR		
	comp=Z,58nm,19.0s						
MNK	Minsk	34.06	315	*i* P	P	11 19 23.4	-4.7
	comp=E,4.0nm,0.8s						
MNK				*i* P	P	11 19 23.4	-4.7
	comp=N,46nm,0.9s						
MNK				*i* P	P	11 19 23.4	-4.7
	comp=Z,12nm,0.7s,baz=104						
MNK				*i* pP	pP	11 19 42.2	-9.0
MNK				*i* PP	PnPn	11 20 39.4	-5.5
MNK				*i* S	S	11 24 43.5	-2.7
MNK				*i* sS	sS	11 25 16.7	-10
MNK				*i* SS	SnSn	11 27 01.6	-2.2
MNK				*i* LQ	LQ	11 30 42.3	
MNK				*i* LR	LR	11 31 29.6	
MNK				*i* LRM	MLR	11 34 45.1	
	comp=E,10.0nm,15.3s						
MNK				*i* LRM	MLR	11 34 49.6	
	comp=N,254nm,19.2s						
MNK				*i* LRM	MLR	11 34 54.1	
	comp=Z,58nm,18.5s						
NRIK	Noril'sk	34.09	11	*ce*P	P	11 19 29.0	+0.7
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	37.10	326	P	P	11 19 57.5	+3.4
	comp=Z,0.7nm,0.7s,baz=138,slow=26,SNR=1.9						
FINES	FINESS Array B	37.10	326	P	P	11 19 57.7	+3.7
ARCES	ARCESS Array B	40.84	338	P	P	11 20 27.9	+2.7
	comp=Z,1.4nm,0.7s,baz=103,slow=5.5,SNR=6.8						
ARCES	ARCESS Array B	40.84	338	P	P	11 20 28.1	+3.0
ARCES				IAmb	IAmb	11 20 51.0	
	comp=Z,7.4nm,1.3s						
NC405	NORSAR Array S	43.74	323	P	P	11 20 51.7	+2.9
NB2	NORSAR Subarra	43.98	323	P	P	11 20 53.4	+2.7
	comp=Z,0.6nm,0.4s,baz=97,slow=8.6						
NOA	NORSAR Array B	43.98	323	P	P	11 20 53.5	+2.8
	comp=Z,0.2nm,0.3s,baz=107,slow=7.2,SNR=6.0						
KLR	Kul'dur	45.47	54	*i* P	P	11 21 04.1	+1.4
KLR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TIXI	Tiksi	45.84	22	*ce*P	P	11 21 07.6	+2.3
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIXI	Tiksi	45.84	22	P	P	11 21 07.6	+2.3
TIXI				IAmb	IAmb	11 21 10.9	
	comp=Z,2.7nm,0.5s						
SEY	Seymchan	54.59	34	*ce*P	P	11 22 14.5	+3.1
SEY				pmax	pmax		
	comp=Z,5.0nm,1.7s						
TOA0	Torodi Ar. Sit	65.22	268	P	P	11 23 26.7	+1.9
TOA0				IAmb	IAmb	11 23 46.2	
	comp=Z,4.4nm,1.2s						
TORD	Torodi Ar. Bea	65.22	268	P	P	11 23 26.4	+1.5
	comp=Z,1.4nm,0.7s,baz=50,slow=6.3,SNR=12						
TORD	Torodi Ar. Bea	65.22	268	P	P	11 23 25.7	+0.8
TORD				IAmb	IAmb	11 23 26.6	
	comp=Z,4.8nm,1.4s						
TOLK	Toolik Lake Re	70.93	14	P	P	11 24 02.9	+3.2
TOLK				IAmb	IAmb	11 24 06.4	
	comp=Z,3.2nm,0.6s						
IMAR	Indian Mountai	72.20	17	P	P	11 24 09.3	+2.0
BMAR	Burnt Mountain	72.94	13	P	P	11 24 14.9	+3.2
INK	Inuvik	73.86	9	P	P	11 24 20.2	+3.2
	comp=Z,1.1nm,0.5s,baz=346,slow=6.3,SNR=13						
IL31		74.79	16	P	P	11 24 24.1	+1.6
IL31				IAmb	IAmb	11 24 46.3	
	comp=Z,3.9nm,1.3s						
ILAR	Eielson Array	74.79	16	P	P	11 24 25.2	+2.7
	comp=Z,0.3nm,0.5s,baz=309,slow=5.3,SNR=8.1						
ILAR	Eielson Array	74.79	16	P	P	11 24 25.0	+2.4
ILAR	Eielson Array	74.79	16	P	P	11 24 25.0	+2.4
KNRA	Kununurra	75.72	122	P	P	11 24 30.9	+2.4
YKA	Yellowknife Ar	81.14	2	P	P	11 25 00.8	+3.1
	comp=Z,1.7nm,0.7s,baz=349,slow=5.4,SNR=35						
YKA	Yellowknife Ar	81.14	2	P	P	11 25 00.1	+2.4
YKA	Yellowknife Ar	81.14	2	P	P	11 25 00.1	+2.4
WRA	Warramunga Arr	82.48	122	P	P	11 25 06.1	+0.7
	comp=Z,0.8nm,0.6s,baz=324,slow=5.0,SNR=12						
WRA	Warramunga Arr	82.48	122	P	P	11 25 06.3	+1.0
WRAB	Tennant Creek	82.48	121	P	P	11 25 06.4	+1.0
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.3s						
WRAB	Tennant Creek	82.48	121	P	P	11 25 06.4	+1.0
WRAB				IAmb	IAmb	11 25 33.9	
	comp=Z,5.0nm,1.3s						
WB2	Warramunga Arr	82.49	121	P	P	11 25 06.4	+1.0
WR0	Warramunga Arr	82.63	121	P	P	11 25 07.1	+1.0
AS31	Alice Springs	84.74	124	P	P	11 25 18.9	+2.1
ASAR	Alice Springs	84.74	124	P	P	11 25 17.8	+0.9
	comp=Z,0.8nm,0.7s,baz=313,slow=4.6,SNR=8.5						
ASAR	Alice Springs	84.74	124	P	P	11 25 18.5	+1.7

*NOU **04** 11:13:25.9, 37°74S×179°74W, h65km, MLv4.6/8, East of North Island, N.Z.*

*WEL **04** 11:13:29.4±1.3, 38°S±11°×18°0E±°, h33km, M3.4/11, ML3.7/11, MLv3.4/11, Error ellipse: s-maj=0.0km s-min=0.0km az=162.4*

ISC 04 11:13:27.8±2.7**, 37°75S**±0°06×**180°0W**±0°2**, h53**km±49km**, n95, σ0s83**/90**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	1.27	266	P	Pn	11 13 48.9	-0.3
MXZ	Matakaoa Point	1.37	277	P	Pn	11 13 49.5	-1.0
MXZ				S	Sn	11 14 05.6	-2.0
PUZ	Puketiti	1.43	256	P	Pn	11 13 51.2	-0.1
PKGZ	Pakihiroa	1.54	264	P	Pn	11 13 52.5	-0.5
PKGZ				S	Sn	11 14 10.3	-1.6
CNGZ	Carnagh Statio	1.60	242	P	Pn	11 13 55.0	+1.2
TWGZ	Tauwhareparae	1.67	255	P	Pn	11 13 54.8	+0.2
TWGZ				S	Sn	11 14 15.0	+0.1
HAZ	Te Kaha	1.77	269	P	Pn	11 13 55.7	-0.3
TKGZ	Te Karaka	1.84	247	P	Pn	11 13 57.5	+0.5
TKGZ				S	Sn	11 14 19.4	+0.2
RUGZ	Raukumara Rang	1.86	263	P	Pn	11 13 57.3	0.0
RIGZ	Rimuhau	2.02	241	P	Pn	11 14 00.3	+0.9
RIGZ				S	Sn	11 14 24.3	+0.8
PRGZ	Paritu Road	2.05	234	P	Pn	11 14 00.8	+1.0
MWZ	Matawai	2.05	253	P	Pn	11 13 59.6	-0.2
MWZ				S	Sn	11 14 22.9	-1.3
MHGZ	Mahia Peninsul	2.17	229	P	Pn	11 14 02.7	+1.2
RAGZ	Rawiri	2.18	249	P	Pn	11 14 02.7	+0.9
KNZ	Kokohu	2.24	235	P	Pn	11 14 03.0	+0.6
SNGZ	Shannon Statio	2.35	243	P	Pn	11 14 03.4	-0.4
URZ	Urewera	2.35	257	P	Pn	11 14 04.6	+0.7
URZ				S	Sn	11 14 31.2	-0.4
URZ	Urewera	2.35	257	P	Pn	11 14 04.8	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WHRZ	Whale Island	2.41	267	P	Pn	11 14 05.7	+0.9
RTZ	Ruatahuna	2.54	249	P	Pn	11 14 07.5	+0.9
WHHZ	Waihua	2.56	238	P	Pn	11 14 06.4	-0.3
RAHZ	Arahi	2.58	242	P	Pn	11 14 08.0	+0.8
MUGZ	Murupara	2.66	253	P	Pn	11 14 08.5	+0.3
MTHZ	Maungataniwha	2.73	245	P	Pn	11 14 09.8	+0.7
OPRZ	Ohinepanea	2.74	267	P	Pn	11 14 09.1	-0.2
ARHZ	Aropaoanui	2.81	237	P	Pn	11 14 11.2	+1.0
TARZ	Mount Tarawera	2.82	259	P	Pn	11 14 11.0	+0.6
RRRZ	Republican Roa	2.83	257	P	Pn	11 14 11.2	+0.7
NMHZ	Naumai	2.86	241	P	Pn	11 14 11.9	+0.9
OMRZ	Omania	2.90	262	P	Pn	11 14 12.0	+0.4
HLRZ	Highlands Stat	2.94	259	P	Pn	11 14 12.7	+0.6
PRRZ	Plateau Road	2.95	254	P	Pn	11 14 12.5	+0.3
TGRZ	Tauranga	2.98	269	P	Pn	11 14 12.3	-0.2
KARZ	Kaharoa	3.00	264	P	Pn	11 14 12.9	+0.1
ALRZ	Allen Road	3.01	253	P	Pn	11 14 13.5	+0.6
HSRZ	Hossack Road	3.03	258	P	Pn	11 14 17.1	+3.8
MCHZ	McNeill Hill	3.10	236	P	Pn	11 14 14.9	+0.7
BKZ	Black Stump Fm	3.11	242	P	Pn	11 14 15.0	+0.6
BKZ	Black Stump Fm	3.11	242	P	Pn	11 14 15.1	+0.8
KAHZ	Kahuranaki	3.19	229	P	Pn	11 14 16.2	+0.7
KWHZ	Kaweka Forest	3.27	238	P	Pn	11 14 17.2	+0.5
PXZ	Pawanui	3.35	226	P	Pn	11 14 17.6	0.0
KRHZ	Kereru	3.42	235	P	Pn	11 14 18.6	-0.1
BHHZ	Black Hill Sta	3.55	239	P	Pn	11 14 20.8	+0.4
KUZ	Kuaotunu	3.57	285	P	Pn	11 14 19.6	-1.0
TOZ	Tahuroa Road	3.58	269	P	Pn	11 14 20.4	-0.3
WPHZ	Waipukurau	3.62	229	P	Pn	11 14 21.5	+0.1
PRHZ	Porangahau	3.64	225	P	Pn	11 14 21.2	-0.5
TMVZ	Te Maari	3.65	247	P	Pn	11 14 22.3	+0.5
PNHZ	Pukenui	3.68	233	P	Pn	11 14 22.2	0.0
KRVZ	Karewarewa	3.69	247	P	Pn	11 14 22.7	+0.3
OTVZ	Oturere	3.70	246	P	Pn	11 14 22.8	+0.3
SNVZ	South Ngauruho	3.72	246	P	Pn	11 14 22.9	0.0
MOVZ	Moawhango	3.73	242	P	Pn	11 14 24.0	+1.2
TUVZ	Tukino	3.74	245	P	Pn	11 14 24.5	+1.4
WNVZ	Wahianoa	3.81	244	P	Pn	11 14 24.3	+0.3
FWVZ	Far West T-bar	3.81	245	P	Pn	11 14 25.4	+1.3
TRVZ	Turoa	3.83	245	P	Pn	11 14 24.8	+0.4
ANWZ	Angora Road	3.86	224	P	Pn	11 14 24.3	-0.4
TSZ	Takapari Road	3.92	233	P	Pn	11 14 25.2	-0.2
MKAZ	Moumakai	3.92	278	P	Pn	11 14 25.0	-0.4
DVHZ	Dannevirke	3.93	228	P	Pn	11 14 25.2	-0.4
GRZ	Great Barrier	3.94	291	P	Pn	11 14 25.1	-0.6
WIAZ	Waiheke Island	4.01	282	P	Pn	11 14 26.3	-0.4
ETAZ	East Tamaki Re	4.13	280	P	Pn	11 14 28.4	0.0
HIZ	Hauiti	4.14	258	P	Pn	11 14 29.4	+1.0
HIZ	Hauiti	4.14	258	P	Pn	11 14 29.4	+1.0
BFZ	Birch Farm	4.14	224	P	Pn	11 14 27.3	-1.2
BFZ	Birch Farm	4.14	224	P	Pn	11 14 28.3	-0.2
MBAZ	Motutapu North	4.20	282	P	Pn	11 14 29.3	0.0
PRWZ	Pori Road	4.21	227	P	Pn	11 14 29.3	-0.1
POWZ	Post Office Ro	4.23	230	P	Pn	11 14 29.6	0.0
EPAZ	Eden Park BICE	4.29	280	P	Pn	11 14 31.0	+0.5
HBAZ	Herne Bay Bore	4.31	280	P	Pn	11 14 31.1	+0.4
AWAZ	Awhitu Peninsu	4.33	277	P	Pn	11 14 31.6	+0.6
TIWZ	Tintock	4.41	225	P	Pn	11 14 31.4	-0.8
WAZ	Wanganui	4.41	241	P	Pn	11 14 34.2	+2.0
RVAZ	Riverhead Bore	4.45	281	P	Pn	11 14 32.9	+0.3
MRZ	Mangatainoka R	4.51	228	P	Pn	11 14 32.7	-0.8
HOWZ	Holdsworth Sta	4.70	227	P	Pn	11 14 35.0	-1.1
OGWZ	Otaki Gorge	4.85	229	P	Pn	11 14 37.1	-1.0
WCZ	Waipu Caves	4.89	290	P	Pn	11 14 39.2	+0.4
PKE	Pukeiti	4.95	251	P	Pn	11 14 41.2	+1.6
CAW	Cannon Point	5.09	227	P	Pn	11 14 40.3	-1.2
TCW	Tory Channel	5.63	230	P	Pn	11 14 47.9	-0.9
OUZ	Omahuta	5.75	294	P	Pn	11 14 51.1	+0.5
OUZ	Omahuta	5.75	294	P	Pn	11 14 51.1	+0.5
NNZ	Nelson	6.19	234	P	Pn	11 14 55.8	-0.8
CTZ	Chatham Island	6.50	158	P	Pn	11 15 06.3	+5.5
QRZ	Quartz Range	6.57	240	P	Pn	11 15 01.1	-0.6
QRZ	Quartz Range	6.57	240	P	Pn	11 15 01.9	+0.2
MRNZ	Matariki Terra	6.69	235	P	Pn	11 15 02.3	-1.0
KHZ	Kahutara	6.81	225	P	Pn	11 15 05.4	+0.4
	35nm,2.4s						
GVZ	Greta Valley S	7.45	223	P	Pn	11 15 13.4	-0.5
ODZ	Otahua Downs	10.13	221	P	Pn	11 15 50.4	0.0

*NEIC **04** 11:13:56.4±1.6, 1°.56N±0°.08×123°.97E±0°.06, h21km±5km, mb4.6/33, Error ellipse: s-maj=10.9km s-min=9.1km az=187.0*
*DJA **04** 11:13:59.1±0.2, 1°N±3°×12°4E±°, h10km, M4.6/24, mB5.1/12, mb4.9/24, MLv4.7/19, Mw(mB)4.5/12*
*MAN **04** 11:14:04.1, 1°.54N×123°.76E, h47km, mb4.2, ML3.0, MS2.7, Hypocentre not reviewed by the ISC*
*IDC **04** 11:14:17.9±3.3, 0°.39N×122°.67E, h186km±33km, mb3.7/10, mb1 3.7/12, mb1mx3.5/54, mbtmp4.2/12, MS3.3/9, Ms1 3.4/9, ms1mx2.9/78, Error ellipse: s-maj=30.9km s-min=12.7km az=68.0*
ISC 04 11:13:55.5±0.4**, 1°.47N**±0°.04×**124°.00E**±0°.05**, h10**km**, n122, σ2ˢ.05**/109**, mb4.7**/39**, MS3.5**/9**, 1C-1D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.89	181	P	Pg	11 14 12.7	0.0
KMSI				S	Sg	11 14 22.2	-2.1
GTOI	Gorontalo	1.29	230	P	Pn	11 14 20.8	+1.1
GTOI				S	Sb	11 14 36.2	-0.4
MRSI	Marisa	2.29	244	P	Pn	11 14 35.3	+2.0
LUWI	Luwuk	2.78	206	Pn	Pn	11 14 41.4	+1.2
LUWI	Luwuk	2.78	206	P	Pn	11 14 42.5	+2.3
TOLI2	Tolitoli	3.24	264	Pn	Pn	11 14 48.0	+1.5
TOLI2	Tolitoli	3.24	264	P	Pn	11 14 47.9	+1.5
APSI	Ampana	3.34	225	P	Pn	11 14 50.8	+3.0
TNTI	Ternate	3.43	102	Pn	Pn	11 14 49.5	+0.4
TNTI	Ternate	3.43	102	P	Pn	11 14 53.5	+4.4
TNTI	Ternate	3.43	102	P	Pn	11 14 53.9	+4.8
SANI	Sanana	4.02	150	P	Pn	11 14 56.9	-0.3
LBMI	Labuha	4.08	121	P	Pn	11 15 00.6	+2.6
MPSI	Mapaga	4.26	255	P	Pn	11 15 03.6	+3.2
KCP	Kidapawan	5.61	11⇑	iP	Pb	11 15 27.6	-6.0
KCP				iS	Sn	11 16 30.6	+7.0
TTSI	Tana Toraja	6.13	223	P	Pn	11 15 28.9	+2.6
	1.6nm5µm456nm,0.8s						
PAGZ	Pagadian	6.37	354⇓	iP	Pn	11 15 36.3	+6.9
SPSI	Sidrap Palu	6.86	218	P	Pn	11 15 39.2	+3.0
	0.6nm2µm138nm,0.6s						
MSAI	Masohi	6.87	134	P	Pn	11 15 39.7	+3.4
	0.1nm470nm30nm,0.6s						
BNSI	Bone	7.01	214	P	Pn	11 15 41.9	+3.6
	0.5nm1µm151nm,0.8s						
BBSI	Bau Bau	7.06	192	P	Pn	11 15 44.1	+5.1
	0.1nm203nm20nm,0.6s						
KAPI	Kappang	7.72	213	P	Pn	11 15 47.3	-0.7
	2.2nm,0.3s,baz=39,slow=20,SNR=2.3						
KAPI				S	Sn	11 17 01.7	-14
	1.5nm,0.3s,baz=257,slow=23,SNR=1.5						
KAPI	Kappang	7.72	213		Pn	11 15 47.8	-0.2
BKSI	Bulukumba	7.78	210	P	Pn	11 15 52.2	+3.3
	0.2nm644nm55nm,0.9s						
BSSI	Bau Bau, Buton	8.34	205	P	Pn	11 15 58.3	+1.8
	888nm107nm,1.0s						
BBKI	Banjar Baru	10.39	242	P	Pn	11 16 37.3	+13
BATI	Baumata	11.61	182	LR	LR	11 21 48.6	
	comp=Z,299nm,19.0s,baz=359,slow=43						
JAGI	Jajag, Banyuwa	13.93	225	P	Pn	11 17 14.3	+1.2
MTN	Manton Dam	15.88	154		Pn	11 17 40.1	+0.8
KPJI	Karang Pucung	17.40	240	P	P	11 18 00.8	+1.0
	69nm,0.8s						
KNRA	Kununurra	17.68	165	P	Pn	11 18 03.0	+1.0
KNRA				IAmb	IAmb	11 18 05.7	
	comp=Z,42nm,0.6s						
KNRA	Kununurra	17.68	165	P	Pn	11 18 03.2	+1.2
PPBI	Pangkal Pinang	18.22	259	P	P	11 18 21.5	+12
FITZ	Fitzroy Crossi	19.51	175	P	P	11 18 21.9	-1.2
	comp=Z,0.6nm,0.3s,baz=8.1,slow=8.0,SNR=21						
FITZ	Fitzroy Crossi	19.51	175	P	P	11 18 22.9	-0.2
DSRI	Dabo	19.52	264	P	Pn	11 18 26.8	+2.3
	comp=Z,7.4nm,1.2s						
KLSI		20.20	252	P	Pn	11 18 32.6	-0.1
	comp=Z,9.0nm,0.9s						
MASI	Maura Aman, Be	22.23	258	P	P	11 18 57.1	+4.4
	comp=Z,1µmcomp=Z,123nm,1.2s						
KRJI	Kerinci	22.81	261	P	P	11 19 02.6	+3.6
	comp=Z,169nm,0.5s						
UBPT	Khong Chiam	22.86	308	P	P	11 18 57.3	-2.0
UBPT				IAmb	IAmb	11 19 17.5	
	comp=Z,14nm,0.9s						
PSA00	Pilbara Seismi	23.26	190	P	P	11 19 02.7	-0.6
PSA00				IAmb	IAmb	11 19 14.9	
	comp=Z,7.8nm,0.7s						
WB0	Warramunga Arr	23.44	155	P	P	11 19 04.2	-1.0
WRAB	Tennant Creek	23.57	155	P	P	11 19 05.8	-0.7
WRAB				IAmb	IAmb	11 19 08.7	
	comp=Z,33nm,0.9s						
WRA	Warramunga Arr	23.57	155	P	P	11 19 05.4	-1.1
	comp=Z,26nm,0.8s,baz=333,slow=11,SNR=88						
WRA	Warramunga Arr	23.57	155	P	P	11 19 05.6	-0.9
WB2	Warramunga Arr	23.58	155	P	P	11 19 05.7	-0.8
WB2				IAmb	IAmb	11 19 08.7	
	comp=Z,33nm,0.8s						
WR0	Warramunga Arr	23.67	155	P	P	11 19 06.6	-0.9
COEN	Coen	24.41	130	P	P	11 19 14.3	-0.2
COEN				IAmb	IAmb	11 19 43.6	
	comp=Z,9.2nm,0.8s						
COEN	Coen	24.41	130	P	P	11 19 15.6	+1.1
MNSI	Mandailing Nat	24.43	269	P	P	11 19 18.0	+3.4
	comp=Z,23nm,0.9s						
SISI	Saibi	25.07	264	P	P	11 19 23.0	+2.6
	comp=Z,58nm,0.8s						
JOW	Kunigami	25.55	9	LR	LR	11 30 16.9	
	comp=Z,29nm,20.7s,baz=116,slow=36						
KCSI	Kotacane, Aceh	26.28	275	P	P	11 19 34.2	+2.7
	comp=Z,25nm,1.4s						
GSI	Gunungsitoli	26.42	270	P	P	11 19 30.8	-1.9
GSI	Gunungsitoli	26.42	270	P	P	11 19 34.5	+1.8
	comp=Z,5µmcomp=Z,50nm,0.9s						
WRKA	Warakurna	26.68	171	P	P	11 19 34.9	0.0
QIS	Mount Isa	26.70	146	P	P	11 19 36.5	+1.3
	comp=Z,40nm,0.8s						
AS31	Alice Springs	26.78	160	P	P	11 19 36.2	+0.3
ASAR	Alice Springs	26.78	160	P	P	11 19 35.9	0.0
	comp=Z,4.8nm,0.5s,baz=337,slow=7.9,SNR=60						
ASAR				PcP	PcP	11 22 58.6	-0.5
	comp=Z,0.4nm,0.3s,baz=354,slow=1.9,SNR=2.8						
ASAR	Alice Springs	26.78	160	P	P	11 19 37.0	+1.1
MTSU	Mount Surprise	27.92	135	P	P	11 19 47.8	+1.7
MEEK	Meekatharra	28.43	190	P	P	11 19 50.0	-0.6
CMAR	Chiang Mai Arr	29.82	306	P	P	11 20 03.8	+0.7
	comp=Z,0.6nm,0.3s,baz=134,slow=6.5,SNR=1.6						
CMAR				PcP	PcP	11 23 05.5	-1.1
	comp=Z,1.0nm,0.3s,baz=109,slow=26,SNR=1.2						
CMAR				LR	LR	11 32 07.0	
	comp=Z,59nm,21.2s,baz=130,slow=36						
CMAR	Chiang Mai Arr	29.82	306	P	P	11 20 01.4	-1.6
JSU	Suzuyama	30.49	11	P	P	11 20 07.2	-1.7
NJ2	Nanjing	30.80	351	eP	P	11 20 12.1	+0.6
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
OOD	Oodnadatta	31.19	160	P	P	11 20 15.5	+0.5
MORW	Morawa	31.31	193	P	P	11 20 14.5	-1.6
MORW				IAmb	IAmb	11 20 17.6	
	comp=Z,9.5nm,1.1s						
FORT	Forrest	32.30	173	P	P	11 20 24.0	-0.7
FORT	Forrest	32.30	173	P	P	11 20 25.0	+0.2
BLDU	Ballidu	32.66	192	P	P	11 20 27.2	-0.7
PZH	PanZhiHua	32.82	321	P	P	11 20 29.9	+0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.3s						
MULG	Mulgathing	33.00	164	P	P	11 20 31.3	+0.4
INKA	Innaminka	33.21	152	P	P	11 20 33.4	+0.7
LCRK	Leigh Creek	34.51	158	P	P	11 20 44.7	+0.6
BBOO	Buckleboo	35.95	163	P	P	11 20 55.2	-1.2
BBOO				IAmb	IAmb	11 20 57.3	
	comp=Z,11nm,1.0s						
BBOO	Buckleboo	35.95	163	P	P	11 20 56.7	+0.3
STKA	Stephens Creek	37.13	155	P	P	11 21 07.0	+0.5
	comp=Z,4.1nm,0.5s,baz=330,slow=8.9,SNR=25						
STKA	Stephens Creek	37.13	155	P	P	11 21 06.0	-0.5
STKA	Stephens Creek	37.13	155	P	P	11 21 07.5	+1.0
HTT	Hallett	37.46	159	P	P	11 21 10.4	+1.1
CMSA	Cobar Meteorol	38.75	150	P	P	11 21 21.7	+1.5
LZH	Lanzhou	39.19	334	eP	P	11 21 23.4	-0.6
LZH				pP	pwP	11 21 34.7	+3.7
LZH				sP	sP	11 21 38.2	+12
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,91nm,5.7s						
LZH				LR	LR		
	comp=N,150nm,14.1s						
LZH				LR	LR		
	comp=E,190nm,14.6s						
LZH				LR	LR		
	comp=Z,140nm,15.7s						
HHC	Hu-ho-hao-te	40.78	346	eP	P	11 21 37.5	+0.3
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,62nm,5.6s						
ARMA	Armidale	41.22	143	P	P	11 21 41.9	+1.1
ARMA				IAmb	IAmb	11 21 57.7	
	comp=Z,11nm,1.0s						
ARMA	Armidale	41.22	143	P	P	11 21 42.5	+1.6
CAN	Canberra	43.43	150	P	P	11 22 00.6	+1.9
CAN				IAmb	IAmb	11 22 16.9	
	comp=Z,16nm,1.0s						
CAN	Canberra	43.43	150	P	P	11 22 00.4	+1.6
PALK	Pallekele	43.53	279	LR	LR	11 41 56.2	
	comp=Z,85nm,18.5s,baz=215,slow=39						
TOO	Toolangi	43.65	155	P	P	11 22 02.0	+1.5
TOO				IAmb	IAmb	11 22 03.3	
	comp=Z,10nm,1.0s						
ASAJ	Asahikawa	45.56	19	P	P	11 22 30.4	+15
	comp=Z,5.8nm,0.8s,baz=209,slow=9.4,SNR=4.8						
KLR	Kul'dur	48.04	7	LR	LR	11 45 30.1	
	comp=Z,29nm,18.7s,baz=198,slow=38						
SONM	Songino Array	48.64	344	P	P	11 22 48.9	+9.1
	comp=Z,0.6nm,0.7s,baz=160,slow=8.9,SNR=3.8						
SONM	Songino Array	48.64	344	P	P	11 22 36.7	-3.0
WMQ	Urumqi	53.08	328	eP	P	11 23 13.5	+0.3
KSH	Kashi	57.77	317	P	P	11 23 53.6	+6.4
MK31	Makanchi Array	57.91	327	P	P	11 23 45.1	-2.8
MKAR	Makanchi Array	57.91	327	P	P	11 23 52.2	+4.3
	comp=Z,0.8nm,0.7s,baz=129,slow=7.5,SNR=5.6						
MKAR				LR	LR	11 52 18.4	
	comp=Z,34nm,18.2s,baz=97,slow=39						
MKAR	Makanchi Array	57.91	327	P	P	11 23 45.5	-2.4
PETK	Petropavlovsk-	58.55	23	P	P	11 24 05.5	+13
	comp=Z,3.8nm,0.9s,baz=203,slow=14,SNR=2.4						
PETK	Petropavlovsk-	58.55	23	P	P	11 23 49.8	-2.4
YAK	Yakutsk	60.56	3	LR	LR	11 53 19.3	
	comp=Z,12nm,19.2s,baz=262,slow=38						
ZAA0	Zalesovo Array	61.41	335	P	P	11 24 11.9	+0.1
ZAA0				IAmb	IAmb	11 24 38.4	
	comp=Z,2.3nm,0.9s						
ZALV	Zalesovo Beam	61.41	335	P	P	11 24 16.0	+4.2
	comp=Z,0.6nm,0.3s,baz=304,slow=45,SNR=3.1						
ZALV				LR	LR	11 51 50.2	
	comp=Z,31nm,18.4s,baz=132,slow=36						
ZALV	Zalesovo Beam	61.41	335	P	P	11 24 09.9	-1.9
GAR	Garm	61.49	314	P	P	11 24 10.2	-2.7
MA2	Magadan	61.56	15	P	P	11 24 22.0	+9.3
	comp=Z,5.3nm,0.9s,baz=180,slow=8.5,SNR=2.4						
CHGR	Chuyangaron	62.19	314	P	P	11 24 14.8	-2.8
KURBB	Kurchatov Arra	62.21	329	P	P	11 24 19.9	+2.7
	comp=Z,0.8nm,0.7s,baz=228,slow=33,SNR=2.0						
KURK	Kurchatov	62.22	329	P	P	11 24 14.7	-2.6
KURK				IAmb	IAmb	11 24 33.5	
	comp=Z,4.9nm,0.8s						
BKZ	Black Stump Fm	62.80	136	P	P	11 24 20.8	-0.7
KKAR	Karatay Array	63.07	319	P	P	11 24 20.7	-2.5
SEY	Seymchan	64.85	14	P	P	11 24 45.8	+11
	comp=Z,5.1nm,1.0s,baz=215,slow=5.0,SNR=5.5						
CASY	Casey	68.29	186	P	P	11 24 55.8	-0.5
CASY				IAmb	IAmb	11 25 11.4	
	comp=Z,12nm,1.2s						
TIXI	Tiksi	70.14	2	P	P	11 25 06.1	-1.7
TIXI				IAmb	IAmb	11 25 30.9	
	comp=Z,3.9nm,1.1s						
VOI	Vohitsoka	78.69	247	P	P	11 25 59.3	+0.5
VOI				IAmb	IAmb	11 26 22.2	
	comp=Z,13nm,1.3s						
VNDA	Vanda	81.56	172	P	P	11 26 11.4	-1.5
BMAR	Burnt Mountain	89.20	23	P	P	11 26 49.7	-1.7
QSPA	South Pole Qui	91.39	180	P	P	11 27 03.5	+1.8
QSPA				IAmb	IAmb	11 27 08.5	
	comp=Z,2.7nm,1.4s						
NOA	NORSAR Array B	99.56	333	LR	LR	12 15 57.3	
	comp=Z,16nm,20.3s,baz=280,slow=37						
TORD	Torodi Ar. Bea	120.98	286	PKP	PKPdf	11 32 48.1	-1.3
	comp=Z,0.3nm,0.7s,baz=5.7,slow=1.4,SNR=1.8						
TXAR	Lajitas Array	125.13	52	PKP	PKiKP	11 33 00.4	+2.9
	comp=Z,0.1nm,0.5s,baz=273,slow=1.6,SNR=1.6						

*MDD **04** 11:18:32.8±0.5, 35°.68N×3°.72W, h0km, mb_Lg2.5/15, Error ellipse: s-maj=5.0km s-min=3.0km az=18.0*
*SFS **04** 11:18:32.0, 35°.68N×3°.72W, ML2.5, ALBORAN SUR*
*INMG **04** 11:18:33.0±1.3, 35°.61N×3°.74W, h6km±9km, ML2.2, Error ellipse: s-maj=5.3km s-min=4.0km az=123.0*
*CNRM **04** 11:18:33.3, 35°.66N×3°.58W, h30km, ml2.3*
ISC 04 11:18:31.9±1.1**, 35°.68N**±0°.02×**3°.68W**±0°.03**, h15**km±9km**, n26, σ1ˢ.11**/49**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.51	205	P	Pb	11 18 43.1	+0.6
PALE				S	Sn	11 18 52.9	-0.1
EALB	Alboran	0.58	63	Pg	Pn	11 18 45.0	-0.6
EALB				Sg	Sn	11 18 53.6	-1.3
EALB				i Vmb_Lg		11 18 56.2	
EMEL	Melilla	0.70	122	Pg	Pb	11 18 46.1	+0.4
EMEL				Sg	Sb	11 18 55.4	+0.3
PVLZ	Peæn de	0.71	226	P	Pb	11 18 46.7	+0.7
PVLZ				S	Sg	11 18 55.1	-0.1
GOG	Mont Gurugu	0.72	129	P	Pg	11 18 46.2	+0.4
GOG				S	Sg	11 18 55.8	+0.4
ELGU	Los Guajares,	1.19	2	Pg	Pb	11 18 53.8	-0.4
ELGU				Sg	Sg	11 19 10.0	-0.4
ELGU				i Vmb_Lg		11 19 12.0	
EMAL	Malaga-Limoner	1.24	331	P	Pn	11 18 54.5	-0.2
EMAL				S	Sb	11 19 09.8	-1.0
EMIJ	Mijas	1.25	315	Pg	Pn	11 18 54.8	-0.1
EMIJ				Sg	Sb	11 19 10.6	-0.6
EMIJ				i Vmb_Lg		11 19 11.1	
TAF	Taforalt	1.34	129	P	Pn	11 18 55.8	-0.3
TAF				S	Sn	11 19 11.4	-2.3
EBER	Berja	1.38	27	Pg	Pb	11 18 57.1	-0.3
EBER				Sg	Sb	11 19 14.1	-0.7
EBER				i Vmb_Lg		11 19 18.5	
EGOR	Sierra Gorda,	1.47	346	Pn	Pg	11 19 00.0	-0.3
EGOR				Sn	Sb	11 19 17.8	+0.1
EGOR				i Vmb_Lg		11 19 24.1	
JBK	JBK	1.62	145	P	Pn	11 18 59.9	-0.2
JBK				S	Sn	11 19 18.9	-1.8
ESPR	Espera	2.13	305	Sn	Sb	11 19 34.9	-1.3
ESPR				i Vmb_Lg		11 19 39.9	
EADA	Adamuz	2.59	344	Pn	Pb	11 19 15.4	-2.6
EADA				Sn	Sn	11 19 45.4	+0.9
EADA				i Vmb_Lg		11 19 54.1	
ECAB	El Cabril	2.77	330	Pn	Pn	11 19 15.6	-0.2
ECAB				Sn	Sn	11 19 50.0	+1.0
ECAB				i Vmb_Lg		11 19 59.7	
EMIN	Mina Concepcio	3.19	312	Pn	Pn	11 19 22.1	+0.6
EMIN				Sn	Sn	11 19 58.5	-0.6
EMIN				i Vmb_Lg		11 20 00.0	
ETOB	Tobarra	3.42	29	Pn	Pn	11 19 27.6	+2.9
ETOB				Sn	Sn	11 20 07.5	+2.6
ETOB				i Vmb_Lg		11 20 26.3	
EGRO	El Granado	3.58	302	Pn	Pn	11 19 26.4	-0.4
EGRO				Sn	Sn	11 20 09.0	+0.2
EGRO				i Vmb_Lg		11 20 10.3	
PBAR	Barrancos	3.67	314	ePn	Pn	11 19 29.2	+1.1
PBAR				eSn	Sn	11 20 11.3	+0.2
PBAR				A	A	11 20 16.5	
	2.1nm,0.4s						
PVAQ	Vaqueiros	3.68	299	ePn	Pn	11 19 29.6	+1.4
PVAQ				eSn	Sn	11 20 11.2	-0.2
PVAQ				A	A	11 20 11.6	
	5.0nm,0.5s						
PBDV	Barranco-do-Ve	3.77	296	ePn	Pn	11 19 30.7	+1.2
PBDV				eSn	Sn	11 20 13.0	-0.5
PBDV				A	A	11 20 17.6	
	4.7nm,0.4s						
PAB	San Pablo	3.90	352	Pn	Pn	11 19 33.3	+2.0
PAB				Sn	Sn	11 20 18.3	+1.5
PAB				i Vmb_Lg		11 21 50.2	
PCVE	Castro Verde	4.01	300	ePn	Pn	11 19 33.7	+0.9
EBAD	Badajoz	4.07	320	Pn	Pn	11 19 34.7	+1.2
EBAD				i Vmb_Lg		11 20 08.7	
EBAD				Sn	Sn	11 20 21.1	+0.3
PESTR	Estremoz	4.46	317	eSn	Sn	11 20 30.7	+0.1
PNCL	Nicolau / Gran	4.59	303	ePn	Pn	11 19 41.5	+0.9
PNCL				eSn	Sn	11 20 33.1	-0.5
PNCL				A	A	11 20 41.4	
	2.8nm,0.8s						

*IDC **04** 11:20:10.8±2.2, 10°.60N×126°.63E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.5/57, mbtmp3.7/6, Error ellipse: s-maj=226.2km s-min=19.0km az=66.0*
ISC 04 11:20:12.1±1.2**, 10°.6N**±0°.2×**126°.7E**±0°.1**, h10**km**, n7, σ0ˢ.54**/8**, mb3.8**/6**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.88	255⇑	iP	Pg	11 20 48.0	-0.1
WRA	Warramunga Arr	31.30	166	P	P	11 26 32.5	-0.2
	0.4nm,0.9s,baz=345,slow=9.2,SNR=1.7						
ASAR	Alice Springs	34.81	168	P	P	11 27 03.1	-0.2
	0.2nm,0.3s,baz=345,slow=7.1,SNR=5.3						
ASAR				PcP	PcP	11 29 36.7	0.0
	0.4nm,0.8s,baz=344,slow=3.5,SNR=5.3						
STKA	Stephens Creek	44.61	162	P	P	11 28 25.1	+0.3
	0.9nm,0.7s,baz=355,slow=10,SNR=2.8						
MKAR	Makanchi Array	51.99	322	P	P	11 29 22.5	+0.8
	0.7nm,0.6s,baz=114,slow=7.8,SNR=8.5						
ZALV	Zalesovo Beam	54.51	331	P	P	11 29 39.3	-0.7
	0.4nm,0.3s,baz=163,slow=10,SNR=3.7						
KURBB	Kurchatov Arra	56.01	325	P	P	11 29 51.0	0.0
	0.7nm,0.4s,baz=125,slow=6.9,SNR=8.5						

IDC 04 11:30:38.1±5.2**, 27°.58N**×**138°.49E, h302**km±97km**, mb2.7**/3**, mb1 2.9**/4**, mb1mx2.6**/52**, mbtmp3.5**/4**, Error ellipse: s-maj=151.3km s-min=22.2km az=67.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.32	98	P	Pn	11 31 38.9	+1.6
	22nm,0.3s,baz=276,slow=23,SNR=40						
JCJ				S	S	11 32 23.9	-0.6
	7.6nm,0.3s,baz=280,slow=20,SNR=1.7						
SONM	Songino Array	32.11	318	P	P	11 36 37.5	-0.3
	0.5nm,0.3s,baz=136,slow=8.9,SNR=4.5						
WRA	Warramunga Arr	47.42	185	P	P	11 38 43.1	+0.2
	0.1nm,0.3s,baz=1.1,slow=7.6,SNR=5.5						
ASAR	Alice Springs	51.14	185	P	P	11 39 10.6	-0.3
	0.2nm,0.8s,baz=1.9,slow=6.3,SNR=10.0						

*IDC **04** 11:38:59.6±2.0, 49°.34N×151°.30E, h318km±22km, mb2.9/6, mb1 3.1/10, mb1mx2.8/77, mbtmp3.6/10, Error ellipse: s-maj=41.8km s-min=13.7km az=149.0*
ISC 04 11:38:58.6±1.1**, 49°.3N**±0°.2×**151°.4E**±0°.1**, h300**km**, n10, σ1ˢ.26**/10**, mb3.2**/5**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.50	44	P	Pn	11 40 23.7	+1.8
	0.3nm,0.3s,baz=214,slow=5.0,SNR=1.9						
ASAJ	Asahikawa	7.96	233	P	Pn	11 40 52.1	+0.5
	0.3nm,0.3s,baz=68,slow=18,SNR=4.6						
KLR	Kul'dur	12.82	277	P	P	11 41 52.6	+1.2
	0.5nm,0.3s,baz=82,slow=12,SNR=6.2						
SEY	Seymchan	13.67	2	P	P	11 42 01.0	+0.3
	0.1nm,0.3s,baz=190,slow=12,SNR=5.9						
KSRS	Korea Array	20.66	244	P	P	11 43 15.8	-0.3
	0.8nm,0.4s,baz=44,slow=11,SNR=4.4						
ILAR	Eielson Array	35.32	41	P	P	11 45 23.9	-1.5
	0.4nm,0.9s,baz=278,slow=8.4,SNR=5.5						
INK	Inuvik	40.14	34	P	P	11 46 04.7	-0.7
	0.9nm,0.3s,baz=293,slow=8.0,SNR=28						
MKAR	Makanchi Array	44.77	294	P	P	11 46 41.2	-1.7
	0.5nm,0.7s,baz=72,slow=7.8,SNR=5.5						
YKA	Yellowknife Ar	49.58	37	P	P	11 47 19.0	-0.4
	0.6nm,0.5s,baz=301,slow=6.9,SNR=12						
PDAR	Pinedale Array	64.18	54	P	P	11 49 01.7	-0.1
	0.3nm,0.6s,baz=37,slow=2.3,SNR=4.8						

KRSZO 04 11:44:13.3±1.1**, 48°.36N**×**18°.24E, h7**^{km}±10^{km}**, ML1.7**/4**, Error ellipse: s-maj=6.3km s-min=4.5km az=4.0, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLL	**Kolacno**	**0.24**	**27**	*e*PG	Pg	11 44 18.5	+0.4
KOLL				*e*SG	Sg	11 44 22.4	+1.1
VYHS	**Vyhne**	**0.42**	**72**	Pg	Pg	11 44 22.1	+0.7
	SNR=17						
VYHS				Lg	Lg	11 44 28.4	
VYHS	**Vyhne**	**0.42**	**72**	*e*PG	Pg	11 44 21.8	+0.4
VYHS				*e*SG	Sb	11 44 28.3	-1.3
JAVC	**Velka Javorina**	**0.62**	**323**	*e*PG	Pg	11 44 25.7	+0.4
JAVC				*e*SG	Sg	11 44 34.3	+0.9
JAVC	**Velka Javorina**	**0.62**	**323**	Pg	Pg	11 44 25.8	+0.5
	comp=Z,0.1nm,SNR=1.2						
JAVC				Lg	Lg	11 44 35.1	
ZST	**Bratislava**	**0.78**	**258**	Pg	Pb	11 44 29.0	-0.1
	comp=Z,0.7nm,SNR=1.8						
ZST				Lg	Lg	11 44 40.4	
ZST	**Bratislava**	**0.78**	**258**	*e*PG	Pb	11 44 28.9	-0.3
ZST				*e*SG	Sb	11 44 40.2	+0.3
A268A	**Rede**	**0.96**	**193**	Lg	Lg	11 44 45.3	
CSKK	**Cskako**	**1.00**	**179**	Lg	Lg	11 44 46.6	
CSKK	**Cskako**	**1.00**	**179**	S	Sb	11 44 46.6	+0.3
PSZ	**Piszkesteto**	**1.20**	**111**	Pn	Pg	11 44 36.2	0.0
	SNR=1.8						
PSZ				Sn	Sn	11 44 53.2	+0.1
PSZ	**Piszkesteto**	**1.20**	**111**	P	Pg	11 44 36.2	0.0
PSZ				S	Sn	11 44 53.2	+0.1
MORC	**Moravsky Berou**	**1.49**	**342**	Sn	Sn	11 44 59.8	-0.4

VIE 04 11:44:28.5±0.3**, 47°.31N**×**15°.74E, h0**^{km}**, mb0.9**/3**, ml1.3**/4**, Error ellipse: s-maj=2.3km s-min=1.1km az=146.0 13 km NE of Weiz Suspected Mining explosion., Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.16**	**248**	*e*Pg	Pg	11 44 31.4	-0.1
	0.4nm,0.1s						
ARSA				*e*Sg	Sg	11 44 33.5	0.0
	36nm,0.3s						
RONA	**Rosalia, Austr**	**0.54**	**44**	*e*Pg	Pg	11 44 39.1	+0.2
	22µm,0.0s						
RONA				*e*Sg	Sg	11 44 46.7	+0.8
	3.2nm,0.3s						
CONA	**Conrad Observa**	**0.62**	**8**	*e*Pg	Pg	11 44 40.5	+0.1
	1.3nm,0.2s						
CONA				*e*Sg	Sg	11 44 48.7	+0.2
	0.9nm,0.2s						
MOA	**Molln**	**1.14**	**299**	*e*Pg	Pg	11 44 50.3	+0.1
	2.6nm,0.3s						
MOA				*e*Sg	Sb	11 45 06.4	+0.1
	3.5nm,0.3s						

IDC 04 11:45:45.9±3.5**, 6°.11S**×**147°.86E, h0**^{km}**, mb3.5**/2**, mb1 3.7**/4**, mb1mx3.4**/50**, mbtmp3.5**/4**, ML3.4**/1**, Error ellipse: s-maj=75.9km s-min=42.2km az=100.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.35**	**192**	Pn	Pn	11 46 41.4	+1.9
	1.5nm,0.3s,baz=298,slow=11,SNR=3.3						
PMG				Sn	Sn	11 47 17.9	-2.1
	2.2nm,0.3s,baz=200,slow=21,SNR=2.0						
WRA	**Warramunga Arr**	**19.02**	**222**	P	P	11 50 09.1	-0.4
	0.1nm,0.3s,baz=49,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**22.02**	**216**	P	P	11 50 41.8	-0.4
	0.7nm,0.4s,baz=51,slow=9.6,SNR=25						
FITZ	**Fitzroy Crossi**	**24.74**	**239**	P	P	11 51 09.4	+0.1
	1.3nm,0.5s,baz=57,slow=8.1,SNR=11						
TORD	**Torodi Ar. Bea**	**145.95**	**284**	PKPbc	PKPdf	12 05 27.5	-0.5
	0.5nm,1.0s,baz=60,slow=2.8,SNR=1.8						

ECX ***04*** *11:47:06.2±0.4, 30°.17N×114°.20W, h5^{km}±13^{km}, MD3.5, ML3.6, Fault plane solution: NP1:φs18.00000°, δ48.00000°, λ-162.00000°.*
MEX ***04*** *11:47:08.4±0.6, 30°.09N×114°.35W, h5^{km}, MD4.1*
ANF ***04*** *11:47:09.7±1.3, 30°.30N×113°.68W, h0^{km}, ML3.7/11, Error ellipse: s-maj=15.2km s-min=5.9km az=7.0*
ISC 04 11:47:04.5±0.8**, 30°.18N**±0°.03×**114°.22W**±0°.03**, h10**^{km}**, n31,** σ**1**^{s}**59**/41**, 9C-4D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**1.01**	**328**	⇑*e*P	**Pn**	**11 47 24.4**	**-0.3**
SFX				*e*S	**Sb**	**11 47 37.8**	**+0.4**
SFX				IAML		11 47 40.3	
	comp=E,3µm,0.8s						
SFX				⇓*e*		11 47 40.3	
SFX				IAML		11 47 49.7	
	comp=N,1µm,0.8s						
SFX				⇓*e*		11 47 49.7	
BAHB	**Baha de los**	**1.36**	**155**	*e*P	**Pb**	**11 47 29.2**	**-0.8**
BAHB				*e*S	**Sg**	**11 47 47.2**	**-1.0**
BAHB	**Baha de los**	**1.36**	**155**	⇑*e*P	**Pb**	**11 47 29.2**	**-0.8**
BAHB				*e*S	**Sg**	**11 47 47.4**	**-0.8**
SPIG	**San Pedro Mart**	**1.38**	**309**	*e*P	**Pb**	**11 47 30.5**	**0.0**
SPIG				*e*S	**Sb**	**11 47 48.0**	**-0.3**
SPIG	**San Pedro Mart**	**1.38**	**309**	⇑*e*P	**Pn**	**11 47 30.1**	**+0.1**
SPIG				*e*S	**Sg**	**11 47 49.7**	**+0.8**
SPIG				IAML		11 47 51.3	
	comp=N,667nm,0.5s						
SPIG				IAML		11 47 51.9	
	comp=E,444nm,0.3s						
LAPR	**La Primavera**	**1.68**	**79**	*e*P	**Pg**	**11 47 36.8**	**+0.1**
LAPR				*e*S	**Sg**	**11 47 58.3**	**-0.2**
LAPR	**La Primavera**	**1.68**	**79**	⇓*e*P	**Pb**	**11 47 34.8**	**-0.6**
LAPR				IAML		11 48 03.7	
	comp=E,591nm,0.5s						
LAPR				IAML		11 48 11.4	
	comp=N,1µm,0.8s						
SVX	**San Vicente**	**2.09**	**304**	⇑*e*P	**Pb**	**11 47 41.0**	**-1.4**
SVX				*e*S	**Sb**	**11 48 10.2**	**+1.7**
SVX				IAML		11 48 12.1	
	comp=E,436nm,0.8s						
SVX				IAML		11 48 12.5	
	comp=N,313nm,1.0s						
214A	**Organ Pipe Nat**	**2.15**	**34**	⇑*e*P	**Pb**	**11 47 41.8**	**-1.7**
214A	**Organ Pipe Nat**	**2.15**	**34**	P	**Pb**	**11 47 41.8**	**-1.7**
	baz=204,SNR=39						
214A				S	**Sn**	**11 48 08.0**	**+0.9**
	baz=204						
YMD	**Yuma Desert**	**2.38**	**353**	⇑*e*P	**Pn**	**11 47 45.3**	**+1.7**
CPBX	**Cerro Prieto**	**2.42**	**338**	⇑*e*		11 48 55.8	
CPBX				IAML		11 48 55.8	
	comp=N,656nm,1.0s						
CPBX				IAML		11 48 55.8	
	comp=E,983nm,0.8s						
CPBX				⇓*e*		11 48 55.8	
CCX	**Cicese**	**2.69**	**309**	*e*P	**Pg**	**11 47 54.5**	**-1.5**
IKP	**In-Ko-Pah, Jac**	**2.94**	**327**	P	**Pg**	**11 48 00.6**	**-0.3**
	baz=138,SNR=44						
IKP				S	**Sg**	**11 48 38.6**	**-0.5**
	baz=138						
CBX	**Cerro Bola**	**2.98**	**316**	*e*P	**Pn**	**11 47 54.7**	**+2.7**
CBX				*i* S	**Sg**	**11 48 40.2**	**-0.1**
CBX	**Cerro Bola**	**2.98**	**316**	*e*P	**Pn**	**11 47 54.6**	**+2.7**
SWSC	**Sam W. Stewart**	**3.07**	**334**	P	**Pg**	**11 48 02.0**	**-1.3**
	baz=145						
HSIG		**3.08**	**111**	⇑*e*P	**Pn**	**11 47 53.9**	**+0.7**
MONP2	**Monument Peak**	**3.29**	**326**	P	**Pg**	**11 48 06.1**	**-1.5**
	baz=137,SNR=26						
MONP2				S	**Sg**	**11 48 48.6**	**-1.7**
	baz=137						
TUC	**Tucson**	**3.63**	**53**	P	**Pn**	**11 48 01.2**	**+0.3**
	baz=232						
109C	**Camp Elliot, M**	**3.65**	**318**	P	**Pb**	**11 48 11.0**	**+1.8**
	baz=131						
109C				S	**Sg**	**11 48 58.0**	**-3.9**
	baz=131						
GUYB	**Guaymas**	**3.71**	**127**	⇑*e*P	**Pn**	**11 48 03.2**	**+1.3**
TPFO	**Pinon Flats**	**3.91**	**332**	Pb	**Pg**	**11 48 21.0**	**+1.7**
	baz=144						
PFO	**Pinyon Flats O**	**3.92**	**332**	Pb	**Pg**	**11 48 21.5**	**+1.9**
	baz=144,SNR=9.7						
BELC	**Belle Mtn. Jos**	**4.10**	**339**	P	**Pb**	**11 48 14.2**	**-2.6**
	baz=152						
MURC	**Murrieta**	**4.25**	**324**	P	**Pb**	**11 48 19.2**	**-0.1**
	baz=137						
BFSC	**Mount Baldy Ra**	**4.99**	**325**	P	**Pb**	**11 48 30.2**	**-1.8**
	baz=138						
WUAZ	**Wupatki**	**5.84**	**24**	P	**Pn**	**11 48 35.2**	**+3.9**
	baz=201						
121A	**Cookes Peak, D**	**5.99**	**65**	P	**Pn**	**11 48 33.6**	**+0.3**
	baz=248						
LRMC	**Laurel Mtn Rad**	**6.03**	**332**	Pb	**Pg**	**11 48 58.7**	**-1.4**
	baz=146						
FURC	**Furnace Creek,**	**6.65**	**341**	Sg	Sg	11 50 51.5	+14
	baz=156						

IDC ***04*** *11:55:49.4±3.8, 4°.21S×69°.03E, h0^{km}, mb3.8/5, mb1 3.9/5, mb1mx3.4/41, mbtmp3.8/5, MS3.5/4, Ms1 3.5/4, ms1mx2.8/81, Error ellipse: s-maj=126.0km s-min=30.0km az=64.0*
NEIC ***04*** *11:55:52.0±1.6, 4°.2S±0°.1×69°.1E±0°.1, h15^{km}±4^{km}, mb4.4/13, Error ellipse: s-maj=20.9km s-min=15.6km az=61.0*
ISC 04 11:55:51.0±0.7**, 4°.2S**±0°.1×**69°.1E**±0°.1**, h10**^{km}**, n30,** σ**0**^{s}**79**/23**, mb4.3**/12**, MS3.5**/3**, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.63**	**134**	Pn	**Pn**	**11 57 01.3**	**+0.3**
H08S3	**Diego Garcia H**	**4.80**	**136**	T	T	12 02 05.5	
	baz=311,slow=74,SNR=15						
H08S1	**Diego Carcia H**	**4.80**	**136**	T	T	12 02 05.7	
	baz=311,slow=74,SNR=25						
H08S2	**Diego Garcia H**	**4.82**	**136**	T	T	12 02 06.9	
	baz=311,slow=74,SNR=20						
PALK	**Pallekele**	**16.23**	**46**	LR	LR	12 04 18.4	
	comp=Z,130nm,19.7s,baz=340,slow=31						
SOCY	**Socotra**	**22.14**	**317**	P	**P**	**12 00 47.8**	**+0.6**
SOCY				IAmb	IAmb	12 00 48.0	
	comp=Z,38nm,1.5s						
VOI	**Vohitsoka**	**27.90**	**229**	P	**P**	**12 01 42.8**	**+1.3**
VOI				IAmb	IAmb	12 01 47.9	
	comp=Z,7.7nm,1.3s						
PSI	**Prapat**	**30.60**	**77**	LR	LR	12 14 43.4	
	comp=Z,101nm,18.1s,baz=205,slow=37						
LSZ	**Lusaka**	**41.72**	**252**	LR	LR	12 17 09.1	
	comp=Z,47nm,19.7s,baz=154,slow=31						
KAPI	**Kappang**	**50.48**	**93**	LR	LR	12 26 10.3	
	comp=Z,49nm,18.1s,baz=232,slow=36						
MK31	**Makanchi Array**	**52.08**	**11**	P	**P**	**12 05 00.3**	**-0.8**
MKAR	**Makanchi Array**	**52.08**	**11**	P	**P**	**12 05 00.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=180,slow=7.3,SNR=7.5						
MKAR	**Makanchi Array**	**52.08**	**11**	P	**P**	**12 05 01.2**	**+0.1**
ABKAR	**Akbulak array**	**53.81**	**353**	P	**P**	**12 05 13.8**	**0.0**
ZALV	**Zalesovo Beam**	**59.40**	**11**	P	**P**	**12 05 52.7**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=205,slow=6.6,SNR=7.6						
ZALV	**Zalesovo Beam**	**59.40**	**11**	P	**P**	**12 05 53.3**	**-0.1**
SONM	**Songino Array**	**61.25**	**28**	P	**P**	**12 06 08.2**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=230,slow=7.1,SNR=7.1						
SONM	**Songino Array**	**61.25**	**28**	P	**P**	**12 06 07.0**	**+0.6**
ASAR	**Alice Springs**	**65.28**	**114**	P	**P**	**12 06 33.6**	**0.0**
	comp=Z,0.4nm,0.8s,baz=277,slow=7.4,SNR=2.6						
WRA	**Warramunga Arr**	**65.32**	**110**	P	**P**	**12 06 34.1**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=287,slow=6.1,SNR=5.5						
WRA	**Warramunga Arr**	**65.32**	**110**	P	**P**	**12 06 33.4**	**-0.5**
WRAB	**Tennant Creek**	**65.33**	**110**	P	**P**	**12 06 32.9**	**-1.0**
WB2	**Warramunga Arr**	**65.33**	**110**	P	**P**	**12 06 32.6**	**-1.3**
WB0	**Warramunga Arr**	**65.36**	**110**	P	**P**	**12 06 34.1**	**0.0**
WB0				IAmb	IAmb	12 06 48.7	
	comp=Z,6.0nm,1.2s						
WR0	**Warramunga Arr**	**65.51**	**110**	P	**P**	**12 06 34.6**	**-0.5**
WR0				IAmb	IAmb	12 06 43.6	
	comp=Z,4.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**69.09**	**286**	P	**P**	**12 06 56.7**	**-1.2**
TORD				IAmb	IAmb	12 07 07.7	
	comp=Z,2.9nm,1.4s						
SNAA	**Sanae**	**80.41**	**198**	P	**P**	**12 08 01.6**	**-0.9**
SNAA				IAmb	IAmb	12 08 18.5	
	comp=Z,9.1nm,1.4s						
QSPA	**South Pole Qui**	**85.83**	**180**	P	**P**	**12 08 30.7**	**0.0**
QSPA				IAmb	IAmb	12 08 57.6	
	comp=Z,2.5nm,1.3s						
NVAR	**Mina Array Bea**	**145.25**	**10**	PKPbc	**PKPbc**	**12 15 29.6**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=354,slow=1.8,SNR=9.5						
NVAR	**Mina Array Bea**	**145.25**	**10**		**PKPbc**	**12 15 29.0**	**-0.4**

MAN ***04*** *12:10:51.0, 13°.02N×124°.71E, h18^{km}, mb4.3, ML3.2, MS2.9, Hypocentre not reviewed by the ISC*
IDC ***04*** *12:10:50.0±2.0, 12°.01N×123°.20E, h0^{km}, mb3.6/6, mb1 3.8/6, mb1mx3.3/71, mbtmp3.6/6, Error ellipse: s-maj=166.0km s-min=21.5km az=65.0*
ISC 04 12:10:51.1±1.0**, 12°.2N**±0°.1×**123°.5E**±0°.2**, h10**^{km}**, n8,** σ**1**^{s}**27**/9**, mb3.5**/6**, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCNP	**Jose Panganiba**	**2.26**	**341**	⇑*i*P	**Pg**	**12 11 34.3**	**-0.1**
JCNP				*i* S	**Sg**	**12 12 03.4**	**-0.3**
LQP	**Lukban**	**2.70**	**317**	*e*P	**Pg**	**12 11 43.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**30.13**	**176**	P	**P**	**12 16 58.9**	**-2.3**
	4.8nm,1.3s,baz=4.4,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**33.64**	**161**	P	**P**	**12 17 30.8**	**-1.3**
	0.3nm,0.8s,baz=344,slow=9.4,SNR=2.8						
ASAR	**Alice Springs**	**37.03**	**164**	P	**P**	**12 18 02.4**	**+1.1**
	0.5nm,0.5s,baz=346,slow=7.1,SNR=22						
STKA	**Stephens Creek**	**47.10**	**159**	P	**P**	**12 19 24.5**	**+1.2**
	0.6nm,0.5s,baz=331,slow=10,SNR=1.7						
MKAR	**Makanchi Array**	**48.88**	**323**	P	**P**	**12 19 37.5**	**+0.4**
	0.2nm,0.5s,baz=115,slow=9.3,SNR=2.1						
KURBB	**Kurchatov Arra**	**52.98**	**326**	P	**P**	**12 20 07.6**	**-0.1**
	0.3nm,0.6s,baz=125,slow=7.8,SNR=1.7						

IDC ***04*** *12:15:15.5±4.5, 23°.74S×176°.97W, h70^{km}±40^{km}, mb3.9/9, mb1 3.9/10, mb1mx3.6/44, mbtmp4.2/10, ML4.2/1, Error ellipse: s-maj=35.5km s-min=23.7km az=145.0*
NEIC ***04*** *12:15:15.1±1.4, 24°.0S±0°.2×177°.0W±0°.1, h65^{km}±9^{km}, mb4.5/22, Error ellipse: s-maj=23.4km s-min=17.5km az=186.0*
ISC 04 12:15:13.2±0.6**, 23°.9S**±0°.1×**177°.1W**±0°.1**, h50**^{km}**, n41,** σ**0**^{s}**96**/40**, mb4.3**/19**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.18**	**56**	Pn	**Pn**	**12 17 10.8**	**+1.4**
AFI	**Afiamalu**	**11.10**	**28**	P	**Pn**	**12 17 49.1**	**-0.3**
	1.6nm,0.3s,baz=199,slow=3.8,SNR=6.2						
AFI				S	Sn	12 19 31.5	-21
	5.8nm,0.3s,baz=275,slow=5.7,SNR=12						
AFI	**Afiamalu**	**11.10**	**28**		**Pn**	**12 17 48.8**	**-0.6**
ARMA	**Armidale**	**28.55**	**250**	P	**P**	**12 21 03.6**	**-0.9**
ARMA				IAmb	IAmb	12 21 17.7	
	comp=Z,16nm,1.5s						
EIDS	**Eidsvold**	**28.96**	**260**	P	**P**	**12 21 06.8**	**-1.3**
EIDS				IAmb	IAmb	12 21 32.0	
	comp=Z,11nm,1.1s						
CTA	**Charters Tower**	**34.16**	**269**	P	**P**	**12 21 56.4**	**+2.6**
	comp=Z,3.7nm,0.4s,baz=91,slow=10,SNR=12						
TOO	**Toolangi**	**34.73**	**238**	P	**P**	**12 21 57.1**	**-1.4**
TOO				IAmb	IAmb	12 22 04.5	
	comp=Z,12nm,1.4s						
PMG	**Port Moresby**	**37.04**	**287**	P	**P**	**12 22 19.3**	**+0.8**
	comp=Z,6.3nm,0.6s,baz=112,slow=11,SNR=2.5						
PMG	**Port Moresby**	**37.04**	**287**	P	**P**	**12 22 20.2**	**+1.7**
PMG				IAmb	IAmb	12 22 21.1	
	comp=Z,8.0nm,0.7s						
STKA	**Stephens Creek**	**37.23**	**248**	P	**P**	**12 22 22.0**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=112,slow=15,SNR=3.7						
STKA	**Stephens Creek**	**37.23**	**248**	P	**P**	**12 22 21.2**	**+1.3**
COEN	**Coen**	**38.77**	**277**	P	**P**	**12 22 34.2**	**+1.1**
BBOO	**Buckleboo**	**41.92**	**247**	P	**P**	**12 22 58.3**	**-0.7**
BBOO				IAmb	IAmb	12 23 16.2	
	comp=Z,9.0nm,1.4s						
AS31	**Alice Springs**	**44.69**	**260**	P	**P**	**12 23 21.6**	**+0.1**
ASAR	**Alice Springs**	**44.69**	**260**	P	**P**	**12 23 21.9**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=95,slow=7.1,SNR=19						
ASAR				PcP	**PcP**	**12 25 02.6**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=115,slow=3.8,SNR=6.0						
ASAR	**Alice Springs**	**44.69**	**260**	P	**P**	**12 23 21.4**	**-0.1**
WR0	**Warramunga Arr**	**44.90**	**265**	P	**P**	**12 23 23.5**	**+0.3**
WR0				IAmb	IAmb	12 23 40.9	
	comp=Z,7.7nm,1.4s						
WB2	**Warramunga Arr**	**45.08**	**265**	P	**P**	**12 23 24.6**	**+0.1**
WB2				IAmb	IAmb	12 23 39.7	
	comp=Z,6.8nm,1.4s						
WRAB	**Tennant Creek**	**45.08**	**265**	P	**P**	**12 23 25.0**	**+0.4**
WRAB				IAmb	IAmb	12 23 44.2	
	comp=Z,6.3nm,1.4s						
WB0	**Warramunga Arr**	**45.08**	**265**	P	**P**	**12 23 24.5**	**-0.2**
WB0				IAmb	IAmb	12 23 24.7	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**45.09**	**265**	P	**P**	**12 23 24.7**	**0.0**
	comp=Z,0.7nm,0.3s,baz=98,slow=8.5,SNR=45						
WRA	**Warramunga Arr**	**45.09**	**265**	P	**P**	**12 23 24.7**	**0.0**
FORT	**Forrest**	**48.83**	**249**	P	**P**	**12 23 53.8**	**0.0**
MTN	**Manton Dam**	**50.13**	**273**	P	**P**	**12 24 02.9**	**-1.0**
KNRA	**Kununurra**	**51.37**	**269**	P	**P**	**12 24 13.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**53.51**	**265**	P	**P**	**12 24 30.0**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=122,slow=8.0,SNR=7.6						
FITZ	**Fitzroy Crossi**	**53.51**	**265**	P	**P**	**12 24 28.9**	**-0.1**
FITZ				IAmb	IAmb	12 24 52.1	
	comp=Z,5.5nm,1.3s						
VNDA	**Vanda**	**54.64**	**186**	P	**P**	**12 24 36.8**	**+0.4**
SIJI	**Sorong**	**54.99**	**287**	P	**P**	**12 24 39.4**	**-0.4**
	comp=Z,8.8nm,0.6s,baz=100,slow=14,SNR=3.9						
MORW	**Morawa**	**59.40**	**249**	P	**P**	**12 25 11.4**	**+0.6**
CASY	**Casey**	**61.31**	**206**	P	**P**	**12 25 23.0**	**-0.2**
CASY				IAmb	IAmb	12 25 35.0	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**66.21**	**180**	P	**P**	**12 25 56.3**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=6.3,slow=9.2,SNR=1.2						
QSPA	**South Pole Qui**	**66.21**	**180**	P	**P**	**12 25 55.6**	**0.0**
H03S2	**Juan Fernandez**	**83.38**	**124**	T	T	13 59 15.5	
	baz=245,SNR=7.0						
H03S1	**Juan Fernandez**	**83.40**	**124**	T	T	13 59 15.5	
	baz=245,SNR=7.2						
H03S3	**Juan Fernandez**	**83.40**	**124**	T	T	13 59 15.5	
	baz=245,SNR=3.2						
SNAA	**Sanae**	**84.62**	**178**	P	**P**	**12 27 39.2**	**-1.8**
SNAA				IAmb	IAmb	12 27 40.0	
	comp=Z,7.4nm,1.2s						
SEY	**Seymchan**	**89.84**	**347**	P	**P**	**12 28 06.2**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=133,slow=9.9,SNR=13						
AKASG	**Malin Array Be**	**146.36**	**329**	PKPbc	**PKPdf**	**12 34 47.0**	**+0.1**
	comp=Z,2.6nm,0.4s,baz=43,slow=4.4,SNR=26						
AKASG	**Malin Array Be**	**146.36**	**329**		**PKPdf**	**12 34 46.6**	**-0.3**
CLL	**Collm**	**151.53**	**347**	*i* PKPbc	**PKPbc**	**12 35 01.0**	**-0.5**
CLL				*i* PKPab	**pPKPdf**	**12 35 08.6**	**-1.2**
	comp=Z,5.0nm,0.7s						

IDC ***04*** *12:18:36.9±0.8, 86°.82N×45°.41E, h0^{km}, mb3.7/11, mb1 3.9/14, mb1mx3.7/71, mbtmp3.7/14, ML3.7/3, MS2.9/4, Ms1 2.9/4, ms1mx2.5/94, Error ellipse: s-maj=26.7km s-min=13.9km az=91.0*
IEPN ***04*** *12:18:40.0, 86°.55N×54°.46E, h10^{km}*
ISC 04 12:18:38.3±0.7**, 86°.65N**±0°.06×**44°.66E**±0°.08**, h10**^{km}**, n28,** σ**2**^{s}**32**/30**, mb3.9**/11**, North of Franz Josef Land**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.88**	**175**	*e*P	**Pn**	**12 20 05.5**	**+0.2**
ZFI2				*e*S	**Sn**	**12 21 07.2**	**-5.5**
	20nm,0.2s						
ZFI2				*e*tx	tx	12 24 29.0	
ZFI	**Zemlya Franca-**	**5.89**	**175**	*e*P	**Pn**	**12 20 05.6**	**+0.2**
ZFI				*e*S	**Sn**	**12 21 07.2**	**-5.6**
	25nm,1.7s						
ZFI				*e*tx	tx	12 24 29.0	
NOR	**Nord**	**7.45**	**265**	*i* P	**Pn**	**12 20 27.4**	**+0.6**
NOR				IAmb	IAmb	12 20 32.4	
	comp=Z,3.3nm,0.7s						
KBS	**Kingsbay**	**8.50**	**225**	*i* P	**Pn**	**12 20 41.5**	**+0.2**
KBS	**Kingsbay**	**8.50**	**225**	*e*P	**Pn**	**12 20 42.1**	**+0.9**
KBS				*e*S	**Sn**	**12 22 13.5**	**-3.5**
SPA0	**Spitsbergen Ar**	**9.07**	**218**	*e*P	**Pn**	**12 20 49.2**	**+0.2**
SPA0				*e*S	**Sn**	**12 22 26.8**	**-4.1**
SPITS	**Spitsbergen Ar**	**9.07**	**218**	Pn	**Pn**	**12 20 49.6**	**+0.6**
	baz=27,slow=13,SNR=24						
SPITS				Sn	**Sn**	**12 22 26.9**	**-4.1**
	baz=74,slow=23,SNR=1.0						
HSPB	**Hornsund (broa**	**10.26**	**218**	*e*P	**Pn**	**12 21 06.9**	**+1.6**
DAG	**Danmarks Havn**	**12.17**	**257**	*i* P	**Pn**	**12 21 32.5**	**+1.1**
DAG				IAmb	IAmb	12 21 33.5	
	comp=Z,2.9nm,0.5s						
DBG	**Daneborg**	**14.67**	**257**	*i* P	**Pn**	**12 22 07.0**	**+1.5**
DBG				IAmb	IAmb	12 22 16.1	
	comp=Z,1.0nm,0.8s						
JMIC	**Jan Mayen**	**17.31**	**242**	P	**Pn**	**12 22 40.5**	**+0.9**
	baz=147,slow=6.2,SNR=3.1						
JMIC				LR	LR	12 27 37.1	
	comp=Z,45nm,19.0s,baz=6.5,slow=31						
ARCES	**ARCESS Array B**	**17.44**	**203**	P	**Pn**	**12 22 42.6**	**+1.5**
	baz=7.6,slow=11,SNR=5.8						
RES	**Resolute Bay**	**18.11**	**326**	P	**Pn**	**12 22 47.2**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=16,slow=14,SNR=6.0						
TIXI	**Tiksi**	**18.42**	**86**	LR	LR	12 29 47.5	
	comp=Z,35nm,20.1s,baz=234,slow=36						
INK	**Inuvik**	**25.20**	**358**	P	**P**	**12 24 01.9**	**-1.5**
	comp=Z,2.3nm,0.9s,baz=353,slow=16,SNR=8.5						
FINES	**FINESS Array B**	**25.54**	**201**	P	**P**	**12 24 08.5**	**+1.9**
	comp=Z,2.6nm,0.8s,baz=10,slow=12,SNR=6.6						
YAK	**Yakutsk**	**28.02**	**89**	LR	LR	12 34 21.4	
	comp=Z,22nm,19.4s,baz=331,slow=34						
KIRV	**Kirov**	**28.22**	**175**	LR	LR	12 37 42.9	
	comp=Z,30nm,19.8s,baz=349,slow=40						
ILAR	**Eielson Array**	**28.69**	**10**	P	**P**	**12 24 34.7**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=0.0,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**30.84**	**341**	P	**P**	**12 24 51.8**	**-2.1**
	comp=Z,0.3nm,0.8s,baz=0.1,slow=8.3,SNR=7.0						
AKASG	**Malin Array Be**	**36.24**	**197**	P	**P**	**12 25 42.5**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=359,slow=8.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**36.80**	**144**	PcP	**PcP**	**12 28 08.1**	**+0.8**
	comp=Z,1.0nm,1.2s,baz=344,slow=3.0,SNR=4.7						
MKAR	**Makanchi Array**	**40.77**	**140**	P	**P**	**12 26 19.5**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=45,slow=5.1,SNR=1.6						
BRTR	**Keskin Array B**	**47.15**	**192**	P	**P**	**12 27 13.1**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=348,slow=5.3,SNR=3.6						
PDAR	**Pinedale Array**	**50.48**	**335**	P	**P**	**12 27 35.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=21,slow=7.7,SNR=3.3						
TXAR	**Lajitas Array**	**63.72**	**329**	P	**P**	**12 29 09.2**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=299,slow=5.1,SNR=6.4						
CMAR	**Chiang Mai Arr**	**69.71**	**125**	P	**P**	**12 29 48.0**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=348,slow=7.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**74.48**	**224**	P	**P**	**12 30 17.4**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=354,slow=6.5,SNR=10						

IDC ***04*** *12:22:09.1±3.3, 36°.61N×69°.72E, h297^{km}±32^{km}, mb3.3/12, mb1 3.3/17, mb1mx3.0/76, mbtmp3.9/17, Error ellipse: s-maj=23.4km s-min=12.7km az=31.0*
NEIC ***04*** *12:22:09.9±0.8, 36°.74N±0°.09×69°.70E±0°.08, h298^{km}±8^{km}, mb4.1/14, Error ellipse: s-maj=12.8km s-min=8.8km az=198.0*
ISC 04 12:22:09.6±0.6**, 36°.70N**±0°.07×**69°.82E**±0°.08**, h300**^{km}**, n53,** σ**1**^{s}**11**/56**, mb3.9**/16**, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.02**	**345**		**Pn**	**12 22 56.2**	**-0.5**
KBL	**Kabul**	**2.24**	**197**		**Pn**	**12 22 59.0**	**+0.2**
GAR	**Garm**	**2.33**	**10**		**Pn**	**12 22 59.1**	**-0.1**
BTK	**Batken**	**3.45**	**13**	Pn	**Pn**	**12 23 09.8**	**-0.1**
NIL	**Nilore**	**4.14**	**136**		**Pn**	**12 23 18.7**	**+1.2**
THN	**Thein Dam**	**6.46**	**129**	*e*P	**Pn**	**12 23 44.8**	**+0.2**
THN				*e*S	**S**	**12 24 58.9**	**-2.2**
AAK	**Ala-Archa**	**6.94**	**30**	P	**Pn**	**12 23 50.7**	**+0.4**
	0.5nm,0.3s,baz=221,slow=12,SNR=8.0						
AAK				S	**S**	**12 25 08.4**	**-3.3**
	baz=251,slow=19,SNR=1.4						
BOOM	**Boomskoye usch**	**7.47**	**37**	Pn	**Pn**	**12 23 57.1**	**+0.3**
BHK	**Bhakra**	**7.60**	**132**	*e*P	**Pn**	**12 23 58.3**	**0.0**
BHK				*e*S	S	12 25 15.8	-11
SMLA	**Simla**	**8.26**	**130**	*e*P	**Pn**	**12 24 06.7**	**+0.3**
SMLA				*e*S	**S**	**12 25 36.8**	**-4.3**
SMLA				IAML		12 25 46.2	
	comp=N,24nm,0.1s						
SMLA				IAML		12 25 46.4	
	comp=E,24nm,0.2s						
MAKZ	**Makanchi**	**13.56**	**38**	P	**P**	**12 25 11.0**	**+0.2**
MK31	**Makanchi Array**	**13.71**	**39**	P	**P**	**12 25 13.0**	**+0.7**
MKAR	**Makanchi Array**	**13.71**	**39**	P	**P**	**12 25 12.8**	**+0.4**
	comp=E,0.4nm,0.3s,baz=221,slow=12,SNR=19						
PYUN	**Piuthan**	**14.04**	**124**	*e*P	**P**	**12 25 17.2**	**+0.8**
	comp=E,11nm,0.4s						
DANN	**Dangsing**	**14.40**	**121**	*e*P	**P**	**12 25 21.8**	**+1.4**
	comp=E,12nm,0.4s						
ABKAR	**Akbulak array**	**14.46**	**333**	P	**P**	**12 25 20.2**	**-0.4**
KURBB	**Kurchatov Arra**	**15.26**	**22**	P	**P**	**12 25 30.0**	**+0.7**
	comp=E,0.3nm,0.3s,baz=211,slow=12,SNR=33						

KURK	**Kurchatov**	**15.37**	**22**	P	**P**	**12 25 30.5**	**0.0**
KURK				IAmb	IAmb	12 25 32.9	
	comp=Z,3.0nm,0.7s						
KKN	**Kakani**	**15.80**	**120**	*e*P	**Pn**	**12 25 38.7**	**+1.0**
	comp=Z,13nm,0.5s						
PKIN	**Phulchoki**	**16.01**	**120**	*e*P	**Pn**	**12 25 40.9**	**+0.7**
PKI	**Pulchoki**	**16.02**	**120**	*e*P	**Pn**	**12 25 41.1**	**+0.7**
	comp=Z,4.5nm,0.3s						
GUN	**Gumba**	**16.14**	**118**	*e*P	**Pn**	**12 25 42.2**	**+0.4**
	comp=Z,10nm,0.5s						
AKTO	**Aktyubinsk**	**16.15**	**332**	P	**Pn**	**12 25 39.9**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=152,slow=11,SNR=19						
BVAR	**Borovoye Array**	**16.33**	**1**	P	**P**	**12 25 41.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=189,slow=13,SNR=3.5						
JIRN	**Jiri**	**16.52**	**118**	*e*P	**Pn**	**12 25 46.4**	**+0.2**
	comp=Z,25nm,0.6s						
RAMN	**Ramite**	**17.24**	**120**	*e*P	**P**	**12 25 53.2**	**+1.8**
	comp=Z,16nm,0.2s						
TAPN	**Taplejung**	**17.78**	**117**	*e*P	**P**	**12 25 59.2**	**+1.9**
	comp=Z,11nm,0.3s						
ZAA0	**Zalesovo Array**	**20.14**	**26**	P	**P**	**12 26 21.2**	**-0.5**
ZAA0				IAmb	IAmb	12 26 23.8	
	comp=Z,3.2nm,0.6s						
ZALV	**Zalesovo Beam**	**20.14**	**26**	P	**P**	**12 26 21.4**	**-0.4**
	comp=Z,2.5nm,0.4s,baz=222,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**20.14**	**26**	P	**P**	**12 26 20.8**	**-1.0**
SHL	**Shillong**	**21.86**	**114**	P	**P**	**12 26 39.0**	**+0.4**
SHL				IAmb	IAmb	12 26 40.2	
	comp=Z,16nm,1.0s						
CMAR	**Chiang Mai Arr**	**31.39**	**117**	P	**P**	**12 28 04.2**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=293,slow=7.8,SNR=10						
FINES	**FINESS Array B**	**36.79**	**326**	P	**P**	**12 28 49.4**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=112,slow=11,SNR=2.3						
ARCES	**ARCESS Array B**	**40.60**	**338**	P	**P**	**12 29 21.4**	**+1.1**
	comp=Z,3.7nm,1.1s,baz=125,slow=7.9,SNR=1.5						
HFS	**Hagfors**	**42.32**	**322**	P	**P**	**12 29 34.9**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=31,slow=46,SNR=3.1						
NOA	**NORSAR Array B**	**43.65**	**323**	P	**P**	**12 29 44.6**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=77,slow=7.8,SNR=3.8						
KSRS	**Korea Array**	**45.71**	**71**	P	**P**	**12 30 02.4**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=283,slow=6.1,SNR=2.4						
TOA0	**Torodi Ar. Sit**	**64.77**	**268**	P	**P**	**12 32 15.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**64.77**	**268**	P	**P**	**12 32 15.5**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=48,slow=5.9,SNR=23						
TORD	**Torodi Ar. Bea**	**64.77**	**268**	P	**P**	**12 32 16.6**	**-0.3**
TOLK	**Toolik Lake Re**	**70.97**	**14**	P	**P**	**12 32 55.3**	**+0.8**
TOLK				IAmb	IAmb	12 33 14.6	
	comp=Z,3.6nm,1.4s						
FITZ	**Fitzroy Crossi**	**75.78**	**126**	P	**P**	**12 33 22.6**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=345,slow=9.7,SNR=2.4						
FITZ	**Fitzroy Crossi**	**75.78**	**126**	P	**P**	**12 33 23.1**	**+0.1**
FITZ				IAmb	IAmb	12 33 36.7	
	comp=Z,7.7nm,1.4s						
EGAK	**Eagle**	**75.97**	**13**	P	**P**	**12 33 24.7**	**+1.2**
EGAK				IAmb	IAmb	12 33 27.8	
	comp=Z,2.5nm,1.1s						
KNRA	**Kununurra**	**76.14**	**122**	P	**P**	**12 33 25.5**	**+0.5**
YKA	**Yellowknife Ar**	**81.09**	**2**	P	**P**	**12 33 51.4**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=353,slow=5.8,SNR=6.8						
WB0	**Warramunga Arr**	**82.82**	**121**	P	**P**	**12 34 00.1**	**-0.7**
WB0				IAmb	IAmb	12 34 26.4	
	comp=Z,5.4nm,1.2s						
WRA	**Warramunga Arr**	**82.91**	**121**	P	**P**	**12 34 00.7**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=333,slow=4.9,SNR=26						
WRA	**Warramunga Arr**	**82.91**	**121**	P	**P**	**12 34 00.6**	**-0.8**
WRAB	**Tennant Creek**	**82.91**	**121**	P	**P**	**12 34 00.6**	**-0.7**
WB2	**Warramunga Arr**	**82.91**	**121**	P	**P**	**12 34 00.8**	**-0.5**
WB2				IAmb	IAmb	12 34 01.1	
	comp=Z,6.0nm,1.1s						
WR0	**Warramunga Arr**	**83.06**	**121**	P	**P**	**12 34 01.3**	**-0.7**
ASAR	**Alice Springs**	**85.15**	**124**	P	**P**	**12 34 12.1**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=310,slow=4.9,SNR=35						

SJA ***04*** *12:32:38.8±0.8, 31°.18S×72°.16W, h8km±4km, ML5.3, MW4.9*

IDC ***04*** *12:32:40.4±0.4, 31°.17S×71°.72W, h0km, mb4.9/15, mb1 4.9/21, mb1mx4.8/29, mbtmp4.8/21, ML4.6/6, MS4.9/35, Ms1 4.9/35, ms1mx4.8/55, Error ellipse: s-maj=19.2km s-min=13.0km az=92.0*

VAO ***04*** *12:32:42.9±0.3, 31°.19S×71°.61W, h10km, mb5.2*

MOS ***04*** *12:32:44.7±1.1, 31°.14S×71°.68W, h33km, mb5.6/34, Error ellipse: s-maj=13.8km s-min=7.1km az=97.0*

GUC ***04*** *12:32:44.0±0.7, 31°.25S×71°.84W, h36km±3km, ML5.2*

NEIC ***04*** *12:32:44, 31°.24S×71°.76W, h28km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}4.87; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-4.39; $M_{r\theta}$1.38; $M_{\theta\phi}$0.40; $M_{\phi r}$-5.29; Fault plane solution: $M_0$7.19000×10^{16} NP1:ϕ_s167.72000°, δ69.86000°, λ86.02000°. NP2:ϕ_s359.13000°, δ20.51000°, λ100.71000°. Principal axes: T 7.4251, Plg65.0000°, Azm71.0000°; N -0.4970, Plg4.0000°, Azm169.0000°; P -6.9282, Plg25.0000°, Azm261.0000°;*

NEIC ***04*** *12:32:45±1.9, 31°.24S±0°.03×71°.77W±0°.08, h24km±3km, mb5.4/134, Mwr5.2/96, Mww5.3, Mwr5.2(GUC) Error ellipse: s-maj=10.4km s-min=1.3km az=113.0*

BJI ***04*** *12:32:45.0±0.0, 31°.20S×71°.70W, h30km, mB5.1/24, Ms5.4/26, Ms7 5.3/29*

NEIC ***04*** *12:32:46, 31°.14S×71°.81W, h24km, Moment Tensor Solution. Duration: 4s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.97; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-1.03; $M_{r\theta}$0.24; $M_{\theta\phi}$0.10; $M_{\phi r}$-0.75; Fault plane solution: $M_0$1.28000×10^{17} NP1:ϕ_s3.00000°, δ27.00000°, λ105.00000°. NP2:ϕ_s167.00000°, δ64.00000°, λ83.00000°. Principal axes: T 1.2513, Plg70.0000°, Azm62.0000°; N 0.0530, Plg7.0000°, Azm170.0000°; P -1.3043, Plg19.0000°, Azm262.0000°;*

GCMT ***04*** *12:32:49.0±0.1, 31°.26S±0°.01×72°.00W±0°.01, h29km, MW5.4/123, Moment Tensor Solution. s111,c174; s123,c192; Duration: 1s.2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.02±.02; $M_{\theta\theta}$0.04±.01; $M_{\phi\phi}$-1.06±.02; $M_{r\theta}$0.19±.02; $M_{\theta\phi}$0.08±.01; $M_{\phi r}$-1.01±.03; Best double couple: $M_0$1.46500×10^{17} NP1:ϕ_s1.00000°, δ23.00000°, λ99.00000°. NP2:ϕ_s171.00000°, δ67.00000°, λ86.00000°. Principal axes: T 1.4450, Plg67.0000°, Azm74.0000°; N 0.0430, Plg3.0000°, Azm172.0000°; P -1.4850, Plg22.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 12:32:44.1±0.5**, 31°.19S**±0°.02×**71°.87W**±0°.03**, h25**km±3km**, h24**km**:pP-P, n785,** σ1s.56/862**, mb5.3**/83**, MS5.0**/40**, 84C-18D, Fault plane solution: NP1:**ϕ_s169.90474°**,** δ62.32054°, λ87.44604°. **NP2:**ϕ_s355.38959°, δ27.78776°, λ94.85555°. **Principal axes:** T Plg72.5602°**,** Azm73.8699°**;** N Plg2.2615°**,** Azm171.0917°**;** P Plg17.2832°**,** Azm261.7958°**; Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.55**	**21**		**Pn**	**12 32 56.3**	**-0.1**
CO06				Sg	**Sb**	**12 33 03.4**	**+0.6**
CO06	**Fray Jorge**	**0.55**	**21**	⇑*e*P	**Pb**	**12 32 55.6**	**+0.4**
CO06				*e*S	**Sn**	**12 33 04.5**	**-0.4**
CO06				IAML		12 33 06.3	
	comp=E,239µm,0.4s						
CO02	**Combarbal**	**0.74**	**91**		**Pb**	**12 32 57.8**	**-0.7**
CO03	**El Pedregal**	**1.07**	**71**		**Pn**	**12 33 03.3**	**-0.4**
CO03	**El Pedregal**	**1.07**	**71**	⇑*e*P	**Pn**	**12 33 03.3**	**-0.4**
CO03				*e*S	**Sb**	**12 33 17.2**	**-0.5**
CO03				IAML		12 33 19.9	
	comp=N,113µm,0.4s						
CO03	**El Pedregal**	**1.07**	**71**	*e*P	**Pn**	**12 33 03.4**	**-0.3**
CO03				IAML		12 33 24.0	
	comp=Z,34µm,0.7s						
GO04	**Tololo Observa**	**1.37**	**43**		**Pb**	**12 33 09.2**	**0.0**
GO04	**Tololo Observa**	**1.37**	**43**	*e*P	**Pn**	**12 33 08.2**	**+0.3**
GO04				*e*S	**Sb**	**12 33 27.2**	**+0.8**
GO04	**Tololo Observa**	**1.37**	**43**	*e*P	Pn	12 33 02.8	-5.1
GO04				*e*P	**Pb**	**12 33 08.0**	**-1.2**
GO04				*e*S	**Sb**	**12 33 28.3**	**+1.8**
CO05	**La Serena**	**1.38**	**23**		**Pb**	**12 33 08.9**	**-0.3**
CO05	**La Serena**	**1.38**	**23**	⇑*e*P	**Pn**	**12 33 08.5**	**+0.7**
CO05				*e*S	**Sb**	**12 33 27.1**	**+0.6**
CO05				IAML		12 33 35.4	
	comp=E,134µm,0.8s						
VA06	**Catapilco**	**1.45**	**161**		**Pn**	**12 33 08.7**	**-0.1**
VA06	**Catapilco**	**1.45**	**161**	⇑*e*P	**Pn**	**12 33 08.3**	**-0.5**
VA06				*e*S	**Sn**	**12 33 26.4**	**-0.7**
VA06				IAML		12 33 34.7	
	comp=E,66µm,0.5s						
VA01	**Torpederas**	**1.84**	**174**	⇑*e*P	**Pn**	**12 33 13.8**	**-0.3**
VA01				*e*S	**Sn**	**12 33 36.5**	**-0.1**
VA01	**Torpederas**	**1.84**	**174**	*e*P	**Pn**	**12 33 13.8**	**-0.3**
ROCH	**El Roble**	**1.92**	**158**	⇑*e*P	**Pb**	**12 33 15.6**	**-3.0**
ROCH				⇑*e*P	**Pn**	**12 33 13.2**	**-2.3**
ROCH				*e*S	**Sn**	**12 33 37.3**	**-1.7**
ROCH				*e*S	**Sb**	**12 33 39.3**	**-3.0**
ROCH				IAML		12 33 44.4	
	comp=N,29µm,0.6s						
ROCH				IAML		12 33 51.2	
	comp=N,46µm,0.8s						
ROC1	**El Roble**	**1.92**	**158**		**Pn**	**12 33 13.9**	**-1.6**
ROC1	**El Roble**	**1.92**	**158**	*e*P	**Pn**	**12 33 13.5**	**-2.0**
ROC1				*e*S	**Sn**	**12 33 39.8**	**+0.8**
VA03	**San Esteban**	**1.93**	**145**	⇑*e*P	**Pn**	**12 33 15.8**	**+0.4**
VA03				*e*S	**Sn**	**12 33 39.5**	**+0.5**
VA03				IAML		12 33 43.7	
	comp=E,38µm,0.4s						
VA03	**San Esteban**	**1.93**	**145**	*e*P	**Pn**	**12 33 16.0**	**+0.5**
VA03				*e*P	**Pb**	**12 33 16.5**	**-2.2**
VA03				*e*S	**Sb**	**12 33 42.8**	**+0.5**
VA03				IAML		12 33 46.4	
	comp=Z,27µm,0.6s						
CO01	**Juntas del Tor**	**1.95**	**52**	⇑*e*P	**Pn**	**12 33 17.4**	**+1.5**
CO01				*e*S	**Sb**	**12 33 42.5**	**-0.6**
CO01				IAML		12 33 46.4	
	comp=N,25µm,0.2s						
CO01	**Juntas del Tor**	**1.95**	**52**	*e*P	**Pb**	**12 33 17.8**	**-1.3**
CO01				*e*S	**Sb**	**12 33 44.8**	**+1.7**
CO01				IAML		12 33 46.9	
	comp=Z,26µm,1.4s						
MT02	**Curacav**	**2.15**	**163**		**Pn**	**12 33 18.1**	**-0.5**
MT02	**Curacav**	**2.15**	**163**	⇑*e*P	**Pn**	**12 33 18.0**	**-0.5**
MT02				*e*S	**Sn**	**12 33 45.1**	**+0.7**
MT02	**Curacav**	**2.15**	**163**	*e*P	**Pn**	**12 33 18.2**	**-0.3**
MT02				*e*S	**Sb**	**12 33 50.6**	**+1.8**
PEL	**Peldehue**	**2.19**	**153**	P	**Pn**	**12 33 18.9**	**-0.2**
PEL	**Peldehue**	**2.19**	**153**		**Pn**	**12 33 18.9**	**-0.2**
PEL	**Peldehue**	**2.19**	**153**	⇑*e*P	**Pn**	**12 33 19.3**	**+0.2**
PEL				*e*S	**Sn**	**12 33 45.8**	**+0.3**
PEL	**Peldehue**	**2.19**	**153**	*e*P	**Pn**	**12 33 20.0**	**+0.9**
PEL				*e*S	**Sb**	**12 33 51.1**	**+1.2**
RTLS	**Leoncito**	**2.28**	**106**	*e*P	**Pb**	**12 33 24.0**	**-0.8**
RTLS				IAML		12 34 02.5	
	comp=Z,14µm,0.5s						
AROD	**Rodeo**	**2.30**	**64**	*e*P	**Pb**	**12 33 24.0**	**-1.2**
AUSP	**Uspallata**	**2.35**	**117**	*e*P	**Pb**	**12 33 24.0**	**-2.0**
AUSP				*e*P	**Pn**	**12 33 24.9**	**+3.4**
MT05	**Renca**	**2.40**	**157**	⇑*e*P	**Pn**	**12 33 21.8**	**0.0**
MT05				*e*S	**Sn**	**12 33 50.2**	**-0.3**
MT05				IAML		12 34 07.0	
	comp=E,21µm,0.6s						
MT05	**Renca**	**2.40**	**157**	*e*P	**Pn**	**12 33 22.8**	**+1.0**
MT05				*e*S	**Sb**	**12 33 56.8**	**+1.1**
MT05				IAML		12 34 00.1	
	comp=Z,9µm,0.8s						
LCO	**Las Campanas**	**2.40**	**25**	P	**Pn**	**12 33 22.9**	**+0.8**
LCO	**Las Campanas**	**2.40**	**25**		**Pn**	**12 33 22.9**	**+0.8**
VA05	**Santo Domingo**	**2.47**	**175**	⇑*e*P	**Pn**	**12 33 22.1**	**-0.7**
VA05				*e*S	**Sn**	**12 33 52.2**	**+0.1**
VA05				IAML		12 34 05.8	
	comp=N,15µm,0.5s						
ACCO	**Cerro Coronel**	**2.48**	**77**	*e*P	**Pb**	**12 33 27.0**	**-1.3**
FCH	**Farellones**	**2.52**	**148**	⇑*e*P	**Pn**	**12 33 24.5**	**+0.8**
FCH				*e*S	**Sn**	**12 33 55.0**	**+1.2**
MT03	**Universidad Ad**	**2.57**	**154**	*e*P	**Pn**	**12 33 24.8**	**+0.5**
MT03				*e*S	**Sn**	**12 33 56.6**	**+1.8**
MT03				IAML		12 34 07.5	
	comp=N,15µm,0.3s						
MT03	**Universidad Ad**	**2.57**	**154**	*e*P	**Pn**	**12 33 25.0**	**+0.7**
MT03				*e*S	**Sb**	**12 33 58.8**	**-1.9**
MT03				IAML		12 34 18.5	
	comp=Z,10µm,1.2s						
ACDV	**Cuesta del Vie**	**2.58**	**67**	*e*P	**Pb**	**12 33 28.0**	**-1.8**
ACDV				*e*S	**Sn**	**12 33 58.8**	**+3.7**
ACDV				*e*S	**Sb**	**12 34 03.6**	**+2.5**
ACDV				IAML		12 34 07.4	
	comp=Z,14µm,0.6s						
MT09	**Talagante**	**2.68**	**164**	⇑*e*P	**Pn**	**12 33 26.1**	**+0.2**
MT09				*e*S	**Sn**	**12 33 58.2**	**+0.5**
MT09				IAML		12 34 07.3	
	comp=E,11µm,0.5s						
MT01	**Popeta**	**2.72**	**169**	*e*P	**Pn**	**12 33 26.1**	**-0.2**
MT01				*e*S	**Sn**	**12 33 58.1**	**-0.2**
MT01	**Popeta**	**2.72**	**169**	*e*P	**Pn**	**12 33 26.0**	**-0.2**
MT01				*e*S	**Sn**	**12 34 00.3**	**+2.0**
MT01				IAML		12 34 10.6	
	comp=Z,6µm,0.8s						
ZON	**Zonda**	**2.75**	**98**	*e*P	Pn	12 33 19.0	-7.7
ZON				*e*P	**Pb**	**12 33 31.0**	**-1.7**
ZON				IAML		12 34 25.5	
	comp=Z,10µm,1.5s						
RTLL	**Cerro Villicun**	**2.91**	**94**	*e*P	**Pn**	**12 33 32.0**	**+3.1**
RTLL				*e*S	**Sb**	**12 34 15.6**	**+5.0**
RTCV	**Cerro Valdivia**	**2.92**	**104**	*e*P	**Pb**	**12 33 33.0**	**-2.5**
RTCV				*e*S	**Sb**	**12 34 12.9**	**+2.0**
BO04	**La Punta**	**2.99**	**159**		**Pn**	**12 33 29.8**	**-0.2**
BO04	**La Punta**	**2.99**	**159**	⇑*e*P	**Pn**	**12 33 30.4**	**+0.4**
BO04				*e*S	**Sn**	**12 34 05.1**	**+0.1**
BO04				IAML		12 34 17.4	
	comp=E,8µm,0.4s						
LMEL	**Las Melosas**	**3.00**	**152**		**Pn**	**12 33 30.6**	**+0.3**
LMEL	**Las Melosas**	**3.00**	**152**	⇑*e*P	**Pn**	**12 33 30.9**	**+0.6**
LMEL				*e*S	**Sn**	**12 34 06.1**	**+0.6**
LMEL				IAML		12 34 21.9	
	comp=N,6µm,0.5s						
AC04	**Llanos de Chal**	**3.06**	**13**	Pn	**Pn**	**12 33 30.9**	**+0.1**
AC04	**Llanos de Chal**	**3.06**	**13**	*e*P	**Pn**	**12 33 30.9**	**+0.1**
AC04				*e*P	**Pn**	**12 33 31.0**	**+0.1**
AC04				*e*S	**Sb**	**12 34 12.3**	**-2.3**
AC04				IAML		12 34 26.7	
	comp=Z,14µm,1.2s						
BO01	**Tunca**	**3.26**	**169**	Pn	**Pn**	**12 33 33.6**	**-0.1**
BO01	**Tunca**	**3.26**	**169**	*e*P	**Pn**	**12 33 33.8**	**+0.1**
BO01				*e*P	**Pn**	**12 33 34.0**	**+0.3**
BO02	**Sierra Bellavi**	**3.71**	**166**	*e*P	**Pn**	**12 33 40.6**	**+0.6**
BO02				*e*S	**Sb**	**12 34 28.8**	**-4.6**
BO02				IAML		12 34 45.1	
	comp=Z,4µm,0.7s						
GO05	**Huala**	**3.81**	**181**	Pn	**Pn**	**12 33 39.7**	**-1.6**
GO05	**Huala**	**3.81**	**181**	*e*P	**Pn**	**12 33 41.0**	**-0.3**
GO05				*e*S	**Sb**	**12 34 43.8**	**+7.5**
AVFE	**Valle Fertil**	**3.83**	**83**	*e*P	**Pn**	**12 33 44.3**	**+2.7**
AVFE				*e*S	**Sb**	**12 34 37.1**	**+0.1**
AVFE				IAML		12 34 46.1	
	comp=Z,14µm,0.7s						
GO03	**Copiap**	**3.86**	**22**	*e*P	**Pn**	**12 33 37.3**	**-4.6**
GO03				*e*P	Pb	12 33 42.8	-8.7
GO03				*e*S	**Sn**	**12 34 30.3**	**+3.8**
VCA	**Vinchina**	**4.01**	**53**	*e*P	**Pn**	**12 33 42.8**	**-1.3**
VCA				*e*P	**Pn**	**12 33 43.8**	**-0.3**
VCA				*e*P	Pb	12 33 49.0	-5.2
VCA				*e*S	**Sb**	**12 34 37.3**	**-5.0**
AC06	**Mina Casimiro**	**4.04**	**19**		**Pn**	**12 33 44.5**	**0.0**
ACHE	**Chepes**	**4.46**	**91**	*e*P	**Pn**	**12 33 52.8**	**+2.4**
RFA	**San Rafael**	**4.58**	**142**	*e*P	**Pn**	**12 33 54.1**	**+2.3**
RFA				*e*S	**Sb**	**12 35 03.3**	**+4.9**
RFA				IAML		12 35 08.4	
	comp=Z,3µm,2.0s						
ACLC	**CERRO LA CRUZ**	**4.60**	**69**	*e*P	**Pn**	**12 33 55.1**	**+2.8**
ACLC				IAML		12 35 19.5	
	comp=Z,4µm,0.9s						
BI05	**Punta Hualpn**	**5.65**	**191**	Pn	**Pn**	**12 34 04.5**	**-2.1**
H03N1	**Juan Fernandez**	**6.37**	**248**	T	T	12 41 02.0	
	baz=76,slow=72,SNR=2649						
H03N3	**Juan Fernandez**	**6.38**	**247**	T	T	12 41 03.5	
	baz=76,slow=72,SNR=3358						
H03N2	**Juan Fernandez**	**6.38**	**248**	T	T	12 40 56.9	
	baz=76,slow=72,SNR=2667						
H03S3	**Juan Fernandez**	**6.50**	**244**	T	T	12 41 22.2	
	SNR=32						
H03S1	**Juan Fernandez**	**6.50**	**244**	T	T	12 41 24.3	
	SNR=30						
H03S2	**Juan Fernandez**	**6.52**	**244**	T	T	12 41 33.4	
	SNR=37						
PB14	**IPOC Station P**	**6.67**	**12**	Pn	**Pn**	**12 34 19.7**	**-1.1**
LC01	**Cunco**	**7.69**	**180**	Pn	**Pn**	**12 34 33.2**	**-1.4**
LR04	**Corral**	**8.76**	**188**		**Pn**	**12 34 48.1**	**-1.2**
LVC	**Limon Verde**	**8.94**	**18**	Pn	**Pn**	**12 34 49.6**	**-2.5**
	comp=Z,1.2nm,0.3s,baz=155,slow=10,SNR=12						
LVC				Sn	**Sn**	**12 36 29.0**	**-3.3**
	comp=Z,25nm,0.3s,baz=190,slow=15,SNR=1.6						
LVC				LR	LR	12 38 19.1	
	comp=Z,9µm,21.4s,baz=212,slow=38						
LVC	**Limon Verde**	**8.94**	**18**		**Pn**	**12 34 51.2**	**-0.9**
LVC	**Limon Verde**	**8.94**	**18**	*e*P	**Pn**	**12 34 50.6**	**-1.6**
PLCA	**Paso Flores**	**9.58**	**174**	Pn	**Pn**	**12 35 00.8**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=336,slow=11,SNR=82						
PLCA				LR	LR	12 38 50.6	
	comp=Z,7µm,20.9s,baz=348,slow=39						
PLCA	**Paso Flores**	**9.58**	**174**	P	**Pn**	**12 34 59.1**	**-1.5**
PLCA	**Paso Flores**	**9.58**	**174**	Pn	**Pn**	**12 34 59.1**	**-1.5**
PLCA	**Paso Flores**	**9.58**	**174**	*e*P	**Pn**	**12 35 00.8**	**+0.2**
LL04	**Puerto Octay**	**9.71**	**182**	Pn	**Pn**	**12 35 00.3**	**-1.9**
ITQB	**Itaqui**	**13.24**	**87**	*e*P	**Pn**	**12 35 48.6**	**-2.0**
CPUP	**Villa Florida**	**13.64**	**73**	Pn	**Pn**	**12 35 54.7**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=254,slow=9.8,SNR=9.9						
CPUP				LR	LR	12 41 38.2	
	comp=Z,12µm,18.3s,baz=250,slow=40						
CPUP	**Villa Florida**	**13.64**	**73**	*e*P	**Pn**	**12 35 52.4**	**-3.6**
LPAZ	**La Paz**	**15.22**	**14**	Pn	**Pn**	**12 36 18.5**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=186,slow=8.1,SNR=116						
LPAZ	**La Paz**	**15.22**	**14**	*e*P	**Pn**	**12 36 17.7**	**-0.4**
PLTB	**Pedras Altas**	**15.60**	**97**	Pn	**Pn**	**12 36 21.0**	**-1.4**
PLTB	**Pedras Altas**	**15.60**	**97**	*e*P	**Pn**	**12 36 19.9**	**-2.5**
CPSB	**Cacapava Do Su**	**15.86**	**92**	*e*P	**Pn**	**12 36 23.5**	**-2.3**
GO08	**Villa O'Higgin**	**17.26**	**182**	P	**Pn**	**12 36 41.8**	**-1.6**
ITAB	**Concordia**	**17.67**	**82**	P	**Pn**	**12 36 46.6**	**-2.1**
ITAB				IAmb	IAmb	12 37 01.4	
	comp=Z,597nm,1.4s						
ITAB	**Concordia**	**17.67**	**82**	*e*P	**Pn**	**12 36 47.2**	**-1.5**
AQDB	**Aquidauana**	**18.02**	**58**	*e*P	**Pn**	**12 36 50.5**	**-2.5**
SIV	**San Ignacio**	**18.06**	**36**	P	**Pn**	**12 36 50.9**	**-2.5**
	comp=Z,1.9nm,0.3s,baz=221,slow=11,SNR=101						
SIV				LR	LR	12 45 16.0	
	comp=Z,5µm,18.6s,baz=218,slow=42						
PTGB	**Pitanga**	**18.64**	**75**	*e*P	**P**	**12 37 00.1**	**0.0**
PTLB	**Pontes e Lacer**	**19.52**	**39**	*e*P	**P**	**12 37 09.4**	**-0.4**
NNA	**Nana**	**19.66**	**345**	P	**Pn**	**12 37 12.3**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=202,slow=11,SNR=5.2						
NNA				LR	LR	12 43 33.1	
	comp=Z,2µm,18.5s,baz=168,slow=33						
NNA	**Nana**	**19.66**	**345**	*i* P	**Pn**	**12 37 13.2**	**+0.4**
NNA				pmax	pmax		
	comp=Z,65nm,1.0s						
TER01	**Tubaro-SC**	**19.89**	**88**	*e*P	**P**	**12 37 13.5**	**-0.3**
PP1B	**Ponte de Pedra**	**20.52**	**53**	*e*P	**P**	**12 37 19.9**	**-0.8**
PCMB	**Pacaembu**	**20.75**	**68**	*e*P	**P**	**12 37 22.3**	**-0.9**
TIJ01	**Guaruva-PR**	**20.95**	**79**	*e*P	**P**	**12 37 22.3**	**-3.2**
VILB	**Vilhena**	**21.10**	**33**	*e*P	**P**	**12 37 26.4**	**-0.6**
SALV	**Santo Antonio**	**21.21**	**48**	*e*P	**P**	**12 37 27.1**	**-1.0**
FRTB	**Fartura**	**21.29**	**74**	*e*P	**P**	**12 37 27.7**	**-1.3**
ETMB	**Extrema**	**21.91**	**15**	*e*P	**P**	**12 37 36.6**	**+1.0**
ITRB	**Iturama**	**22.50**	**65**	*e*P	**P**	**12 37 40.2**	**-1.7**
MG03	**Isla Dawson**	**22.67**	**178**	P	**P**	**12 37 43.0**	**-0.4**
PET01	**Itanhaem-SP**	**22.80**	**79**	*e*P	**P**	**12 37 44.9**	**-0.2**
EFI	**East Falkland**	**22.86**	**158**	*i* P	**P**	**12 37 46.4**	**+0.9**
EFI				pmax	pmax		
	comp=Z,71nm,1.2s						
BB19B	**Bebedouro**	**23.21**	**70**	*e*P	**P**	**12 37 46.8**	**-2.6**
CZSB	**Cruzeiro do Su**	**23.35**	**358**	*e*P	**P**	**12 37 52.5**	**+1.7**
RCLB	**Rio Claro- Sao**	**23.38**	**74**	*e*P	**P**	**12 37 49.2**	**-1.9**
VAO	**Valinhos**	**23.59**	**76**	*e*P	**P**	**12 37 51.1**	**-2.1**
USHA	**Ushuaia**	**23.76**	**175**	P	**P**	**12 37 55.2**	**+0.9**
	comp=Z,19nm,0.6s,baz=13,slow=8.7,SNR=8.1						
USHA				LR	LR	12 48 10.7	
	comp=Z,5µm,18.1s,baz=356,slow=39						
PARB	**Paraibuna**	**24.57**	**78**	*e*P	**P**	**12 38 00.8**	**-1.5**
CLDB	**Colider**	**25.11**	**40**	*e*P	**P**	**12 38 06.3**	**-0.8**
IPMB	**Ipameri, GO**	**25.15**	**64**	*e*P	**P**	**12 38 05.9**	**-1.6**
MAN01	**Angra dos Reis**	**26.15**	**78**	*e*P	**P**	**12 38 15.5**	**-1.1**
BDFB	**Brasilia**	**26.72**	**60**	P	**P**	**12 38 21.0**	**-0.9**
	comp=Z,72nm,0.9s,baz=235,slow=6.4,SNR=68						
BDFB				LR	LR	12 50 06.9	
	comp=Z,10µm,18.4s,baz=231,slow=39						
BDFB	**Brasilia**	**26.72**	**60**	P	**P**	**12 38 20.2**	**-1.7**
BDFB				pmax	pmax		
	comp=Z,102nm,1.0s						
BDFB	**Brasilia**	**26.72**	**60**	P	**P**	**12 38 20.2**	**-1.7**
BDFB				IAmb	IAmb	12 38 22.1	
	comp=Z,102nm,1.0s						
BDFB	**Brasilia**	**26.72**	**60**	*e*P	**P**	**12 38 21.1**	**-0.9**
VAS01	**Vassouras-RJ**	**26.83**	**78**	*e*P	**P**	**12 38 22.5**	**-0.3**
TBTG	**Tabatinga, AM**	**26.92**	**4**	*e*P	**P**	**12 38 25.5**	**+1.9**
TBTG	**Tabatinga, AM**	**26.92**	**4**	*e*P	**P**	**12 38 25.1**	**+1.5**
SNDB	**Serra Nova Dou**	**26.96**	**49**	*e*P	**P**	**12 38 23.1**	**-0.8**
MCRA	**Macar, Loja**	**27.74**	**342**	P	**P**	**12 38 31.4**	**+0.5**
DUB01	**Friburgo-RJ**	**27.81**	**78**	*e*P	**P**	**12 38 30.8**	**-0.8**
CAM01	**Campos-RJ**	**28.52**	**78**	*e*P	**P**	**12 38 36.8**	**-1.0**
NPGB	**Novo Progresso**	**28.56**	**36**	*e*P	**P**	**12 38 36.7**	**-1.5**
PEXB	**Peixe**	**28.88**	**54**	*e*P	**P**	**12 38 40.3**	**-0.8**
MC01	**Montes Claros**	**29.21**	**67**	*e*P	**P**	**12 38 42.9**	**-1.1**
MACA	**Manacapuru-AM**	**29.81**	**23**	*e*P	**P**	**12 38 49.7**	**+0.4**
ALF01	**Guarapari-ES**	**29.84**	**77**	*e*P	**P**	**12 38 48.8**	**-0.7**
JANB	**Januaria**	**29.88**	**64**	*e*P	**P**	**12 38 49.1**	**-0.9**
SJMB	**Sao Joao De Ma**	**30.37**	**73**	*e*P	**P**	**12 38 53.3**	**-0.9**
ITTB	**Itaituba**	**30.70**	**33**	*e*P	**P**	**12 38 56.1**	**-1.1**
RIB01	**Linhares ES**	**30.72**	**75**	*e*P	**P**	**12 38 56.7**	**-0.7**
SDBA	**SAO DESIDERIO**	**31.11**	**59**	*e*P	**P**	**12 38 59.9**	**-1.0**
PTLC	**Puerto Leguiza**	**31.31**	**354**	*e*P	**P**	**12 38 59.4**	**-3.2**
SMTB	**Santa Maria do**	**31.70**	**51**	*e*P	**P**	**12 39 05.4**	**-0.5**
OTAV	**Otavalo**	**31.87**	**347**	*e*P	**P**	**12 39 10.0**	**+2.0**
OTAV	**Otavalo**	**31.87**	**347**	*e*P	**P**	**12 39 09.6**	**+1.6**
PRPB	**Parauapebas**	**32.35**	**44**	*e*P	**P**	**12 39 10.6**	**-1.1**
GUA01	**Guaratinga, BA**	**32.58**	**71**	*e*P	**P**	**12 39 12.6**	**-1.1**
FLOC	**Florencia**	**32.79**	**353**	*e*P	**P**	**12 39 16.8**	**+1.2**
RPN	**Rapa Nui**	**32.86**	**267**	LR	LR	12 48 56.0	
	comp=Z,2µm,20.4s,baz=86,slow=30						
MACC	**Macarena, Meta**	**33.20**	**356**	⇑*e*P	**P**	**12 39 17.7**	**-1.4**
GARC	**Garzon, Huila**	**33.37**	**353**	*e*P	**P**	**12 39 20.6**	**-0.2**
SOTA	**Rioblanco**	**33.45**	**351**	*e*P	**P**	**12 39 25.5**	**+3.7**
CMC01	**Camacan, BA**	**33.48**	**69**	*e*P	**P**	**12 39 21.0**	**-0.6**
MALB	**Monte Alegre**	**33.59**	**33**	*e*P	**P**	**12 39 21.7**	**-0.9**
PCON	**Cinco Dias**	**33.61**	**352**	*e*P	**P**	**12 39 26.4**	**+3.1**
POPC	**Popayan, Colom**	**33.85**	**351**	*e*P	**P**	**12 39 26.4**	**+1.4**
PMSA	**Palmer Station**	**33.96**	**174**	LR	LR	12 53 09.8	
	comp=Z,3µm,19.3s,baz=340,slow=36						
PMSA	**Palmer Station**	**33.96**	**174**	*e*P	**P**	**12 39 26.8**	**+1.6**
MARP	**Paez Belalcaza**	**34.07**	**353**	*e*P	**P**	**12 39 25.5**	**-1.5**
GDU01	**Guandu, BA**	**34.36**	**67**	*e*P	**P**	**12 39 28.0**	**-1.3**
GR1C	**Gorgona, Isla**	**34.53**	**349**	*e*P	**P**	**12 39 32.2**	**+1.6**
ORTC	**Ortega, Tolima**	**35.05**	**354**	*e*P	**P**	**12 39 37.1**	**+1.9**
BOAV	**Boa Vista**	**35.10**	**20**	*e*P	**P**	**12 39 35.8**	**+0.2**
YOTC	**Yotoco, Valle**	**35.24**	**352**	*e*P	**P**	**12 39 36.1**	**-0.8**
NBPN	**Ponto Novo - B**	**35.62**	**62**	*e*P	**P**	**12 39 39.2**	**-1.0**
ANIL	**Santa Ana**	**35.64**	**354**	*e*P	**P**	**12 39 44.8**	**+4.3**
CHIC	**Chingaza**	**35.66**	**357**	*e*P	**P**	**12 39 41.0**	**+0.1**
ROSC	**El Rosal**	**35.90**	**356**	P	**P**	**12 39 46.5**	**+3.6**
	comp=Z,14nm,0.4s,baz=206,slow=6.2,SNR=8.1						
ROSC	**El Rosal**	**35.90**	**356**	P	**P**	**12 39 40.8**	**-2.1**
ROSC				pmax	pmax		
	comp=Z,21nm,0.6s						
ROSC	**El Rosal**	**35.90**	**356**	P	**P**	**12 39 40.8**	**-2.1**
ROSC				IAmb	IAmb	12 39 49.0	
	comp=Z,21nm,0.6s						
ROSC	**El Rosal**	**35.90**	**356**	*e*P	**P**	**12 39 44.8**	**+1.9**
MCPB	**Macapa, AP**	**35.96**	**35**	*e*P	**P**	**12 39 42.5**	**-0.5**
PLMC	**San Jos del P**	**36.14**	**353**	*e*P	**P**	**12 39 44.8**	**+0.3**
TMAB	**Tom-Au,PA,Br**	**36.41**	**43**	*e*P	**P**	**12 39 46.6**	**-0.3**
NORC	**Norcasia**	**36.66**	**355**	*e*P	**P**	**12 39 47.7**	**-1.2**
SPBC	**San Pablo de B**	**36.70**	**356**	*e*P	**P**	**12 39 48.7**	**-0.6**
RUSC	**La Rusia**	**36.89**	**358**	*e*P	**P**	**12 39 52.6**	**+1.1**
CBOC	**Ciudad Bolivar**	**37.06**	**353**	*e*P	**P**	**12 39 51.6**	**-0.9**
NBLA	**Lagarto - SE**	**37.38**	**65**	*e*P	**P**	**12 39 53.8**	**-1.4**
TAMC	**Tame, Arauca**	**37.41**	**0**	*e*P	**P**	**12 39 54.5**	**-0.9**
BARC	**Barichara**	**37.59**	**358**	*e*P	**P**	**12 39 58.4**	**+1.3**
PTBC	**PUERTO BERRIO,**	**37.60**	**356**	*e*P	**P**	**12 39 54.5**	**-2.4**
ROSB	**Rosrio**	**38.43**	**48**	*e*P	**P**	**12 40 04.0**	**+0.1**
ZARC	**Zaragoza, Cauc**	**38.57**	**355**	P	**P**	**12 40 05.3**	**+0.2**
ZARC				IAmb	IAmb	12 40 07.5	
	comp=Z,94nm,1.4s						
ZARC	**Zaragoza, Cauc**	**38.57**	**355**	*e*P	**P**	**12 40 04.2**	**-0.9**
UREC	**San Jos de Ur**	**38.88**	**354**	*e*P	**P**	**12 40 09.0**	**+1.3**
NBMA	**Muriti-CE**	**38.95**	**60**	*e*P	**P**	**12 40 07.6**	**-0.8**
NBPS	**Pedro II - PI**	**39.10**	**53**	*e*P	**P**	**12 40 09.0**	**-0.7**
NBAN	**Anadia - AL**	**39.37**	**65**	*e*P	**P**	**12 40 10.4**	**-1.5**
NBPB	**Pedra_Branca-C**	**39.59**	**57**	*e*P	**P**	**12 40 13.4**	**-0.3**
SDV	**Santo Domingo**	**39.87**	**2**	LR	LR	12 58 09.5	
	comp=Z,1µm,18.3s,baz=182,slow=38						
SDV	**Santo Domingo**	**39.87**	**2**	P	**P**	**12 40 15.9**	**-0.2**
SDV	**Santo Domingo**	**39.87**	**2**	*e*P	**P**	**12 40 13.9**	**-2.3**
SDV	**Santo Domingo**	**39.87**	**2**	*e*P	**P**	**12 40 16.6**	**+0.5**
MOTC	**Monteria, Cord**	**39.91**	**354**	*e*P	**P**	**12 40 11.9**	**-4.3**
MDP	**Montagnes des**	**40.49**	**30**	LR	LR	12 59 33.9	

comp=Z,1µm,19.7s,baz=212,slow=40
UPA Univ. de Panam 40.61 348 *e*P **P 12 40 20.6 -1.4**
NBMO Morrinhos-CE 40.84 54 *e*P **P 12 40 23.2 -0.9**
SJCC San Jacinto, C 40.98 355 P **P 12 40 26.1 +1.0**
SJCC IAmb IAmb 12 40 29.0
comp=Z,64nm,1.2s
SJCC San Jacinto, C 40.98 355 *e*P **P 12 40 24.5 -0.6**
NBCL Cascavel-CE 41.43 56 *e*P **P 12 40 28.0 -1.0**
SRBA San Rafael, Bu 41.67 343 P **P 12 40 32.7 +1.7**
RCBR Riachuelo 42.09 61 P **P 12 40 34.1 -0.3**
comp=Z,35nm,1.1s,baz=8.2,slow=6.8,SNR=5.9
RCBR LR LR 12 59 17.5
comp=Z,5µm,18.7s,baz=9.5,slow=38
RCBR Riachuelo 42.09 61 P **P 12 40 33.5 -0.9**
RCBR pmax pmax
comp=Z,47nm,1.2s
RCBR Riachuelo 42.09 61 P **P 12 40 33.5 -0.9**
RCBR IAmb IAmb 12 40 35.4
comp=Z,47nm,1.2s
RCBR Riachuelo 42.09 61 *e*P **P 12 40 34.1 -0.3**
NBPV Pedro Velho 42.17 62 *e*P **P 12 40 34.7 -0.2**
JTS Las Juntas de 43.11 341 *i*P **P 12 40 44.2 +1.6**
JTS pmax pmax
comp=Z,10.0nm,1.0s
SJG San Juan 49.33 7 P **P 12 41 30.8 -0.5**
SJG pmax pmax
comp=Z,108nm,1.0s
SJG San Juan 49.33 7 P **P 12 41 30.8 -0.5**
MTDJ Mount Denham 49.43 353 P **P 12 41 32.9 +0.6**
MTDJ IAmb IAmb 12 41 34.7
comp=Z,56nm,1.0s
BELA Belgrano 2 49.62 170 P **P 12 41 33.8 +0.9**
BELA IAmb IAmb 12 41 42.4
comp=Z,54nm,1.5s
SDDR Presa de Saban 49.89 1 P **P 12 41 36.3 +0.7**
SDDR IAmb IAmb 12 41 52.8
comp=Z,20nm,0.8s
GTBY Guantanamo Bay 50.92 356 P **P 12 41 44.0 +0.6**
GTBY IAmb IAmb 12 41 45.4
comp=Z,33nm,1.0s
VNA3 Neumayer Olymp 51.91 159 P **P 12 41 50.5 +0.1**
VNA1 Neumayer--Stat 52.20 158 P **P 12 41 50.6 -1.8**
VNA2 Neumayer--Watz 52.55 158 P **P 12 41 55.1 0.0**
baz=288,slow=8.0
CMIG Matias Romero 52.85 332 LR LR 13 00 13.5
comp=Z,588nm,18.3s,baz=142,slow=31
SNAA Sanae 54.13 159 P **P 12 42 06.9 +0.1**
SNAA Sanae 54.13 159 LR LR 13 03 14.4
comp=Z,949nm,21.2s,baz=352,slow=34
SNAA Sanae 54.13 159 *ce*P **P 12 42 06.8 +0.1**
SNAA pmax pmax
comp=Z,50nm,1.3s
SNAA Sanae 54.13 159 P **P 12 42 07.0 +0.3**
SNAA IAmb IAmb 12 42 26.1
comp=Z,44nm,1.2s
SOR Soroa 54.73 347 P **P 12 42 12.6 +1.1**
SOR pmax pmax
comp=Z,46nm,0.9s
SOR Soroa 54.73 347 P **P 12 42 12.6 +1.1**
SOR IAmb IAmb 12 42 13.3
comp=Z,46nm,0.9s
TROLL Troll, Antarti 55.84 159 P **P 12 42 19.3 +0.1**
QSPA South Pole Qui 59.04 180 P **P 12 42 42.6 +0.8**
comp=Z,14nm,0.8s,baz=301,slow=2.1,SNR=75
QSPA LR LR 13 07 27.2
comp=Z,532nm,20.7s,baz=166,slow=35
QSPA South Pole Qui 59.04 180 P **P 12 42 41.3 -0.6**
QSPA IAmb IAmb 12 42 43.3
comp=Z,28nm,1.1s
DWPF Disney Wildern 59.67 350 P **P 12 42 47.1 +0.7**
baz=170
656A Willston 61.07 349 P **P 12 42 56.6 +0.7**
656A Willston 61.07 349 P **P 12 42 56.5 +0.6**
baz=170
ZAIG Zacatecas 61.19 327 P **P 12 42 58.4 +1.1**
553A Crawfordville 62.20 348 P **P 12 43 04.5 +1.0**
TIGA Tifton 63.27 349 P **P 12 43 10.9 +0.2**
TIGA Tifton 63.27 349 P **P 12 43 11.2 +0.6**
baz=169
255A Hazlehurst 63.57 350 P **P 12 43 12.9 +0.3**
255A Hazlehurst 63.57 350 P **P 12 43 13.1 +0.5**
baz=170
BRAL Brewton 63.67 345 P **P 12 43 13.9 +0.6**
baz=166
154A Montrose 64.34 349 P **P 12 43 17.9 +0.3**
154A Montrose 64.34 349 P **P 12 43 18.7 +1.0**
baz=169
NHSC New Hope 64.43 352 P **P 12 43 19.2 +1.0**
baz=172
152A Waverly Hall 64.67 348 P **P 12 43 20.3 +0.5**
152A IAmb IAmb 12 43 33.0
comp=Z,28nm,1.0s
152A Waverly Hall 64.67 348 P **P 12 43 20.0 +0.2**
baz=168,SNR=5.6
833A Chaparral WMA, 64.74 333 P **P 12 43 21.8 +1.5**
833A Chaparral WMA, 64.74 333 P **P 12 43 22.1 +1.8**
baz=154,SNR=8.0
833A Chaparral WMA, 64.74 333 P **P 12 43 22.1 +1.8**
baz=154,SNR=8.0
HKT Hockley 64.93 337 *i*P **P 12 43 23.6 +2.1**
HKT pmax pmax
comp=Z,37nm,1.6s
HKT Hockley 64.93 337 P **P 12 43 23.2 +1.7**
HKT IAmb IAmb 12 43 41.2
comp=Z,24nm,1.4s
GOGA Godfrey 65.18 349 P **P 12 43 23.6 +0.5**
GOGA pmax pmax
comp=Z,30nm,1.2s
GOGA Godfrey 65.18 349 P **P 12 43 23.6 +0.5**
GOGA IAmb IAmb 12 43 35.9
comp=Z,30nm,1.2s
GOGA Godfrey 65.18 349 P **P 12 43 23.1 -0.1**
baz=169
GOGA Godfrey 65.18 349 P **P 12 43 23.0 -0.1**
baz=169
Z51A Franklin 65.38 348 P **P 12 43 24.2 -0.2**
Z51A IAmb IAmb 12 43 37.4
comp=Z,27nm,1.1s
Z51A Franklin 65.38 348 P **P 12 43 24.8 +0.4**
baz=168
LRAL Lakeview Retre 65.46 346 P **P 12 43 24.8 -0.1**
LRAL IAmb IAmb 12 43 38.6
comp=Z,54nm,1.4s
LRAL Lakeview Retre 65.46 346 P **P 12 43 25.6 +0.7**
baz=166
LRAL Lakeview Retre 65.46 346 P **P 12 43 26.4 +1.5**
baz=166
VBMS Vicksburg 65.49 343 P **P 12 43 27.1 +2.0**
VBMS Vicksburg 65.49 343 P **P 12 43 26.7 +1.5**
baz=163
Y52A Lilburn 65.72 349 P **P 12 43 26.9 +0.3**
Y52A Lilburn 65.72 349 P **P 12 43 26.5 -0.1**
baz=169,SNR=6.8
Y52A P **P 12 43 26.5 -0.1**
baz=169,SNR=6.8
JSC Jenkinsville 65.72 351 P **P 12 43 26.5 -0.1**
JSC pmax pmax
comp=Z,27nm,1.0s
JSC Jenkinsville 65.72 351 P **P 12 43 26.5 -0.1**
JSC IAmb IAmb 12 43 40.2
comp=Z,27nm,1.0s
JSC Jenkinsville 65.72 351 P **P 12 43 27.3 +0.7**
baz=171
X58A Rowland 65.77 353 P **P 12 43 27.4 +0.6**
baz=173
X58A P **P 12 43 27.4 +0.6**
baz=173
HODGE Hodges 65.81 351 P **P 12 43 27.7 +0.6**
baz=170
BIRD Birdtown, Kers 65.98 352 P **P 12 43 29.2 +0.9**
baz=172
Y49A Blount Mountai 66.14 347 P **P 12 43 29.9 +0.6**
baz=166
LPIG La Paz 66.16 322 LR LR 13 07 16.1
comp=Z,285nm,18.5s,baz=132,slow=31
NATX Nacogdoches 66.23 339 P **P 12 43 31.6 +1.7**
baz=159
435B Jarrell 66.29 336 P **P 12 43 31.9 +1.6**
baz=156
CNNC Cliffs of the 66.32 355 P **P 12 43 31.7 +1.3**
baz=174
PAULI Pauline 66.33 351 P **P 12 43 31.3 +0.8**
baz=171,SNR=5.4
W57A Gilead 66.43 353 P **P 12 43 31.9 +0.8**
baz=172
W57A P **P 12 43 31.9 +0.8**
baz=172
X51A Calhoun 66.54 348 P **P 12 43 32.7 +0.9**
baz=168,SNR=7.0
X51A P **P 12 43 32.7 +0.9**
baz=168,SNR=7.0
KMSC Kings Mountain 66.58 352 P **P 12 43 32.7 +0.6**
baz=171
KMSC Kings Mountain 66.58 352 P **P 12 43 32.7 +0.6**
baz=171
CASEE Lake Jocassee 66.65 350 P **P 12 43 33.5 +0.9**
baz=170,SNR=9.0
237A Washetta, Mont 66.81 338 P **P 12 43 35.2 +1.6**
237A Washetta, Mont 66.81 338 P **P 12 43 35.7 +2.0**
baz=158
Y45A Yeager Farm, C 66.82 344 P **P 12 43 35.2 +1.5**
baz=164,SNR=5.2
JCT Junction City 66.82 334 P **P 12 43 35.1 +1.3**
JCT pmax pmax
comp=Z,83nm,1.5s
JCT Junction City 66.82 334 P **P 12 43 35.1 +1.3**
JCT Junction City 66.82 334 P **P 12 43 35.4 +1.6**
baz=154,SNR=8.0
JCT Junction City 66.82 334 P **P 12 43 35.3 +1.4**
baz=154,SNR=8.0
X48A Hartselle 66.84 346 P **P 12 43 34.6 +0.9**
baz=166,SNR=10
VNDA Vanda 66.88 191 P **P 12 43 35.3 +1.7**
comp=Z,2.0nm,0.8s,baz=107,slow=3.4,SNR=6.9
VNDA LR LR 13 07 09.7
comp=Z,188nm,21.5s,baz=142,slow=31
VNDA Vanda 66.88 191 P **P 12 43 33.2 -0.4**
VNDA pmax pmax
comp=Z,10.0nm,1.3s
VNDA Vanda 66.88 191 P **P 12 43 33.2 -0.4**
W52A Murphy 66.90 349 P **P 12 43 35.1 +0.9**
baz=169
TAOE Nuku Hiva Isla 66.91 274 *e*S **S 12 52 27.6 +0.8**
comp=Z,398nm,25.5s
TAOE Nuku Hiva Isla 66.91 274 *e*LR LR 13 03 38.2
comp=Z,813nm,28.2s,baz=132
V58A Windy Hill, Pi 66.98 354 P **P 12 43 35.6 +1.0**
baz=173,SNR=5.0
V58A P **P 12 43 35.6 +1.0**
baz=173,SNR=5.0
Z41A Richland Creek 67.08 341 P **P 12 43 37.0 +1.6**
baz=161
W50A Signal Mountai 67.24 348 P **P 12 43 37.0 +0.7**
baz=168,SNR=6.9
V55A Taylorsville 67.27 352 P **P 12 43 37.2 +0.8**
baz=171,SNR=7.4
V55A P **P 12 43 37.2 +0.8**
baz=171,SNR=7.4
V53A Saluda 67.30 350 P **P 12 43 37.1 +0.4**
baz=170,SNR=10
V53A P **P 12 43 37.1 +0.4**
baz=170,SNR=10
CPCT Cooper Cave 67.35 349 P **P 12 43 37.4 +0.4**
WHTX Lake Whitney, 67.35 337 P **P 12 43 38.2 +1.1**
WHTX Lake Whitney, 67.35 337 P **P 12 43 38.2 +1.1**
baz=156,SNR=5.4
WHTX Lake Whitney, 67.35 337 P **P 12 43 38.3 +1.3**
baz=156
TXAR Lajitas Array 67.37 330 P **P 12 43 38.9 +1.5**
comp=Z,3.4nm,0.7s,baz=153,slow=8.1,SNR=45
TXAR LR LR 13 08 48.7
comp=Z,766nm,18.7s,baz=146,slow=32
TXAR Lajitas Array 67.37 330 P **P 12 43 38.3 +0.9**
TXAR Lajitas Array 67.37 330 P **P 12 43 38.3 +0.9**
TX31 Lajitas Ar. Si 67.37 330 P **P 12 43 38.5 +1.2**
TX31 IAmb IAmb 12 43 52.2
comp=Z,29nm,0.8s
TX31 Lajitas Ar. Si 67.37 330 P **P 12 43 38.7 +1.4**
baz=151,SNR=16
TX32 Lajitas Array 67.37 330 P **P 12 43 38.3 +0.9**
OXF Oxford 67.41 344 P **P 12 43 37.7 +0.3**
OXF pmax pmax
comp=Z,142nm,1.1s
OXF Oxford 67.41 344 P **P 12 43 37.7 +0.3**
OXF Oxford 67.41 344 P **P 12 43 38.0 +0.7**
baz=164,SNR=7.5
OXF Oxford 67.41 344 P **P 12 43 37.8 +0.4**
baz=164
U59A Littleton 67.42 355 P **P 12 43 38.6 +1.2**
baz=174
U59A P **P 12 43 38.6 +1.2**
baz=174
TKL Tuckaleechee C 67.43 350 P **P 12 43 37.4 -0.1**
TKL pmax pmax
comp=Z,48nm,1.0s
TKL Tuckaleechee C 67.43 350 P **P 12 43 37.4 -0.1**
TKL IAmb IAmb 12 43 51.0
comp=Z,48nm,1.0s
TKL Tuckaleechee C 67.43 350 P **P 12 43 37.8 +0.3**
baz=169,SNR=10
PLAL Pickwick Lake 67.57 346 P **P 12 43 38.2 -0.1**
PLAL IAmb IAmb 12 43 51.9
comp=Z,39nm,1.1s
V52A Sevierville 67.58 350 P **P 12 43 38.5 +0.1**
V52A Sevierville 67.58 350 P **P 12 43 38.9 +0.4**
baz=169,SNR=7.5
U56A King 67.66 353 P **P 12 43 40.1 +1.1**
baz=172
U56A P **P 12 43 40.1 +1.1**
baz=172
V51A Loudon 67.67 349 P **P 12 43 38.6 -0.4**
V51A IAmb IAmb 12 43 52.4
comp=Z,41nm,1.1s
V51A Loudon 67.67 349 P **P 12 43 39.3 +0.3**
baz=168,SNR=6.0
U54A Nelsons Funny 68.00 351 P **P 12 43 41.7 +0.5**
baz=171,SNR=5.5
U54A P **P 12 43 41.7 +0.5**
baz=171,SNR=5.5
T59A Double "B" Far 68.02 355 P **P 12 43 41.6 +0.5**
T59A Double "B" Far 68.02 355 P **P 12 43 41.9 +0.8**
baz=175,SNR=5.6
T59A P **P 12 43 41.9 +0.8**
baz=175,SNR=5.6
V48A Smith Brothers 68.04 347 P **P 12 43 42.1 +0.7**
baz=166,SNR=12
TBI Tubuai 68.14 255 *e*S **S 12 52 42.1 +0.9**
comp=Z,1µm,27.8s
TBI Tubuai 68.14 255 *e*LR LR 13 04 15.6
comp=Z,1µm,25.5s,baz=108
TBI Tubuai 68.14 255 *e*T T 13 57 45.0
comp=Z,16nm,0.3s
T57A Hurt 68.19 354 P **P 12 43 42.9 +0.7**
baz=173
T57A P **P 12 43 42.9 +0.7**
baz=173
X40A Basin Creek Fa 68.25 341 P **P 12 43 42.8 +0.1**
baz=161
TZTN Tazewell 68.26 350 P **P 12 43 43.0 +0.2**
baz=169
TZTN Tazewell 68.26 350 P **P 12 43 44.2 +1.5**
baz=169
CLTN Cedars of Leba 68.29 347 P **P 12 43 43.5 +0.6**
CLTN IAmb IAmb 12 43 56.1
comp=Z,50nm,1.1s
UALR University of 68.39 342 P **P 12 43 44.3 +0.7**
UALR IAmb IAmb 12 43 57.4
comp=Z,32nm,1.2s
SYO Syowa Base 68.42 159 ⓘ *e*P **P 12 43 43.2 -0.2**
Z35A Perchaven, San 68.51 337 P **P 12 43 45.7 +1.3**
Z35A Perchaven, San 68.51 337 P **P 12 43 45.3 +1.0**
baz=157
BLA Blacksburg 68.52 353 P **P 12 43 45.2 +0.9**
baz=172
U49A Red Boiling Sp 68.60 348 P **P 12 43 45.5 +0.7**
baz=167,SNR=5.4
WVT Waverly 68.62 346 P **P 12 43 45.5 +0.5**
baz=165,SNR=8.7
WVT Waverly 68.62 346 P **P 12 43 45.0 0.0**
baz=165
ABTX Abilene, Hawle 68.69 335 P **P 12 43 47.0 +1.4**
baz=155,SNR=5.5
ABTX Abilene, Hawle 68.69 335 P **P 12 43 46.7 +1.1**
baz=155,SNR=5.5
W41B Gary Mavity, V 68.74 342 P **P 12 43 46.8 +1.1**
baz=161
W41B Gary Mavity, V 68.74 342 P **P 12 43 46.5 +0.7**
baz=161
JSRW J. Sargeant Re 68.76 355 P **P 12 43 45.9 +0.1**
WHAR Wooly Hollow 68.86 342 P **P 12 43 46.7 +0.2**
WHAR IAmb IAmb 12 43 59.9
comp=Z,61nm,1.3s
S57A Dark Hollow, R 68.91 354 P **P 12 43 47.8 +1.0**
baz=174,SNR=5.7
S57A P **P 12 43 47.8 +1.0**
baz=174,SNR=5.7
R58B Mineral 69.03 355 P **P 12 43 48.9 +1.5**
baz=174,SNR=5.5
R58B P **P 12 43 48.9 +1.5**
baz=174,SNR=5.5
X37A Clayton 69.07 339 P **P 12 43 48.1 +0.3**
baz=159
W39A Magazine 69.18 341 P **P 12 43 49.7 +1.3**
baz=160,SNR=13
W39A Magazine 69.18 341 P **P 12 43 49.6 +1.2**
baz=160
CBN Corbin Frederi 69.23 355 P **P 12 43 49.9 +1.2**
baz=175
LCAR Lake Charles 69.31 343 P **P 12 43 49.3 0.0**
LCAR IAmb IAmb 12 44 02.9
comp=Z,46nm,0.9s
LCAR Lake Charles 69.31 343 P **P 12 43 49.9 +0.6**
baz=162,SNR=15
S51A Beattyville 69.34 350 P **P 12 43 50.0 +0.5**
baz=169
S51A P **P 12 43 50.0 +0.5**
baz=169
R55A Marlinton 69.54 353 P **P 12 43 51.7 +0.9**
baz=172
R55A P **P 12 43 51.7 +0.9**
baz=172
PARMO Parma 69.55 345 P **P 12 43 51.5 +0.8**
R53A Hurricane 69.80 352 P **P 12 43 52.6 +0.4**
baz=171
R53A P **P 12 43 52.6 +0.4**
baz=171
PBMO Poplar Bluff 69.81 344 P **P 12 43 53.3 +1.0**
baz=163,SNR=6.2
X34A Smith Ranch, M 69.86 337 P **P 12 43 53.9 +1.1**
X34A IAmb IAmb 12 44 07.0
comp=Z,56nm,1.2s
U40A Yellville 70.02 342 P **P 12 43 54.2 +0.6**
baz=161,SNR=11
U40A P **P 12 43 54.2 +0.6**
baz=161,SNR=11
U40A Yellville 70.02 342 P **P 12 43 54.2 +0.6**
baz=161
R50A Paris 70.08 350 P **P 12 43 54.3 +0.3**
baz=169
R50A P **P 12 43 54.3 +0.3**
baz=169
MNTX Cornudas Mount 70.15 330 P **P 12 43 55.0 +0.4**
baz=150,SNR=18
MNTX Cornudas Mount 70.15 330 P **P 12 43 54.8 +0.3**
baz=150
T42A Van Buren 70.21 344 P **P 12 43 54.8 0.0**
baz=163
HHAR Hobbs 70.24 341 P **P 12 43 55.6 +0.6**
HHAR IAmb IAmb 12 44 08.9
comp=Z,44nm,0.9s
HHAR Hobbs 70.24 341 P **P 12 43 55.8 +0.8**
baz=160
WMOK Wichita Mounta 70.30 337 P **P 12 43 55.8 +0.4**
baz=156,SNR=6.6
WMOK Wichita Mounta 70.30 337 P **P 12 43 55.8 +0.4**
baz=156,SNR=6.6
TUL1 Leonard 70.43 340 P **P 12 43 56.9 +0.8**
baz=158
TVO Taravao 70.44 261 *e*T T 14 00 35.9
comp=Z,0.2nm,0.2s
P57A Homestead Farm 70.55 355 P **P 12 43 58.5 +1.8**
baz=174,SNR=5.6
P57A P **P 12 43 58.5 +1.8**
baz=174,SNR=5.6
MGMO Mountain Grove 70.62 343 P **P 12 43 58.0 +0.7**
MGMO IAmb IAmb 12 44 11.3
comp=Z,31nm,1.0s
PPT2 Papeete2 70.80 261 *e*S **S 12 53 14.3 +1.4**
comp=Z,542nm,27.0s
PPT2 Papeete2 70.80 261 *e*LR LR 13 05 28.4
comp=Z,810nm,24.0s,baz=109
MCWV Mont Chateau 70.88 353 P **P 12 43 59.7 +0.9**
baz=173
FVM French Village 70.97 345 P **P 12 43 59.9 +0.5**
baz=163,SNR=7.7
MSTX Muleshoe 71.06 333 P **P 12 44 01.1 +0.9**
baz=152
P52A Corning 71.11 352 P **P 12 44 00.4 +0.2**
baz=171
CCM Cathedral Cave 71.22 344 P **P 12 44 01.1 +0.2**
CCM pmax pmax
comp=Z,71nm,1.0s
CCM Cathedral Cave 71.22 344 P **P 12 44 01.1 +0.2**
CCM Cathedral Cave 71.22 344 P **P 12 44 01.7 +0.8**
baz=163,SNR=13
CCM Cathedral Cave 71.22 344 P **P 12 44 01.5 +0.5**
baz=163
O56A Blue Knob Stat 71.37 355 P **P 12 44 03.0 +1.1**
baz=174
P49A Miami Univ. Ec 71.37 350 P **P 12 44 01.7 -0.1**
baz=168
P49A Miami Univ. Ec 71.37 350 P **P 12 44 01.7 -0.1**
baz=168
S39A Bolivar 71.40 342 P **P 12 44 02.8 +0.8**
baz=161,SNR=12
P48A Milroy 71.41 349 P **P 12 44 01.9 -0.2**
baz=168,SNR=5.2
P48A P **P 12 44 01.9 -0.2**
baz=168,SNR=5.2
AMTX Amarillo 71.46 334 P **P 12 44 03.2 +0.6**
baz=153,SNR=6.6
AMTX Amarillo 71.46 334 P **P 12 44 03.2 +0.6**
baz=153
T35B Sooner Cattle 71.57 339 P **P 12 44 03.9 +0.8**
baz=158,SNR=6.1
O53A New Philadelph 71.61 352 P **P 12 44 04.3 +1.1**
baz=172
319A Douglas 71.63 327 P **P 12 44 05.6 +1.9**
319A IAmb IAmb 12 44 19.1
comp=Z,24nm,1.2s
SSPA Standing Stone 71.68 355 P **P 12 44 04.8 +1.2**
SSPA IAmb IAmb 12 44 17.4
comp=Z,44nm,1.1s
SSPA Standing Stone 71.68 355 P **P 12 44 05.0 +1.3**
baz=175
R40A Maddies Statio 71.70 343 P **P 12 44 04.5 +0.8**
baz=162,SNR=16
ACSO Alum Creek Sta 71.81 351 P **P 12 44 04.8 +0.4**
baz=170
N59A State Game Lan 71.84 357 P **P 12 44 06.1 +1.5**
baz=176
PAL Palisades 71.86 358 P **P 12 44 06.5 +1.8**
baz=178
P46A Rosedale 71.88 348 P **P 12 44 04.9 +0.1**
baz=166
121A Cookes Peak, D 71.91 329 P **P 12 44 07.6 +2.2**
baz=148,SNR=18
121A Cookes Peak, D 71.91 329 P **P 12 44 07.6 +2.2**
baz=148,SNR=18
O49A Covington 71.95 350 P **P 12 44 05.4 +0.1**
baz=169
O49A P **P 12 44 05.4 +0.1**
baz=169
O48B Farmland 72.15 349 P **P 12 44 06.7 +0.3**
baz=168
N54A Moraine State 72.18 354 P **P 12 44 07.3 +0.6**
baz=173
P43A Skaggs, Pawnee 72.36 346 P **P 12 44 08.0 +0.4**
baz=164
M55A Ridgway 72.58 355 P **P 12 44 10.0 +1.0**
baz=174
M55A P **P 12 44 10.0 +1.0**
baz=174
SFIN Lafayette 72.59 348 P **P 12 44 06.6 -2.5**
baz=166
N49A Columbus Grove 72.65 350 P **P 12 44 10.0 +0.6**
baz=169,SNR=5.3
N49A P **P 12 44 10.0 +0.6**
baz=169,SNR=5.3
M54A Oil Creek Stat 72.69 354 P **P 12 44 08.6 -1.1**
baz=173
P40A Paris 72.82 344 P **P 12 44 11.3 +0.9**
baz=162,SNR=12
TUC Tucson 73.11 326 P **P 12 44 13.2 +0.7**
TUC pmax pmax
comp=Z,12nm,1.2s
TUC Tucson 73.11 326 P **P 12 44 13.2 +0.7**
TUC Tucson 73.11 326 P **P 12 44 12.8 +0.3**
baz=146
BINY Binghamton 73.13 357 P **P 12 44 13.0 +0.7**
baz=176

HDIL Hopedale 73.19 346 P P 12 44 12.7 +0.1
baz=164
P38A Dawn 73.27 343 P P 12 44 13.7 +0.6
baz=161,SNR=5.2
L61B Northampton 73.28 359 P P 12 44 12.7 -0.4
baz=179
ERPA Erie 73.33 354 P P 12 44 13.7 +0.3
baz=173
ANMO Albuquerque 73.40 331 LR LR 13 12 17.6
comp=Z,798nm,19.7s,baz=150,slow=32
ANMO Albuquerque 73.40 331 *ce*P P 12 44 16.4 +2.1
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO Albuquerque 73.40 331 P P 12 44 15.3 +1.1
ANMO Albuquerque 73.40 331 P P 12 44 16.0 +1.8
baz=150,SNR=12
ANMO Albuquerque 73.40 331 P P 12 44 15.3 +1.1
baz=150
R32A Long Quarter, 73.64 338 P P 12 44 16.2 +0.8
R32A IAmb IAmb 12 44 29.8
comp=Z,40nm,1.1s
N41A Harden Midland 73.67 345 P P 12 44 15.4 0.0
N41A Harden Midland 73.67 345 P P 12 44 15.9 +0.5
baz=163
LIC Lamto 73.77 72 *e*PKP2 P 12 44 16.8 +0.1
comp=Z,70nm,1.2s
214A Organ Pipe Nat 73.81 325 P P 12 44 18.1 +1.6
214A IAmb IAmb 12 44 32.1
comp=Z,27nm,1.4s
214A Organ Pipe Nat 73.81 325 P P 12 44 18.6 +2.1
baz=144,SNR=6.6
TIC Toumodi 74.01 72 *e*PKP2 P 12 44 17.7 -0.4
KIC Kosan Boka 74.08 72 *e*PKP2 P 12 44 18.2 -0.3
comp=Z,100nm,1.0s
SFX San Felipe 74.11 323 P P 12 44 19.8 +1.5
DBIC Dimbokro 74.16 72 P P 12 44 18.9 -0.1
comp=Z,46nm,0.9s,baz=236,slow=5.9,SNR=37
DBIC LR LR 13 14 07.8
comp=Z,2µm,20.5s,baz=230,slow=34
DBIC Dimbokro 74.16 72 P P 12 44 18.4 -0.6
DBIC pmax pmax
comp=Z,84nm,1.1s
DBIC Dimbokro 74.16 72 P P 12 44 18.4 -0.6
N38A Joes South For 74.30 343 P P 12 44 19.9 +0.8
baz=161
CBKS Cedar Bluff 74.33 338 P P 12 44 20.2 +0.8
CBKS pmax pmax
comp=Z,62nm,1.0s
CBKS Cedar Bluff 74.33 338 P P 12 44 20.2 +0.8
CBKS Cedar Bluff 74.33 338 P P 12 44 20.4 +1.0
baz=156
T25A Trinidad 74.48 334 P P 12 44 22.2 +1.6
T25A IAmb IAmb 12 44 36.4
comp=Z,60nm,1.1s
T25A Trinidad 74.48 334 P P 12 44 22.7 +2.1
baz=152,SNR=23
X18A Snowflake 74.56 328 P P 12 44 23.0 +1.9
W18A Petrified Fore 74.96 329 P P 12 44 24.7 +1.4
baz=147
L40A Anamosa 75.04 345 P P 12 44 23.8 +0.4
baz=163,SNR=5.6
LBNH Lisbon 75.07 360 P P 12 44 25.0 +1.5
baz=180
X16A Lo Mia Camp, P 75.16 327 P P 12 44 26.7 +2.2
SCIA State Center 75.35 344 P P 12 44 27.4 +2.2
baz=161
SDCO Great Sand Dun 75.43 333 P P 12 44 27.4 +1.3
SDCO IAmb IAmb 12 44 41.2
comp=Z,22nm,1.1s
SDCO Great Sand Dun 75.43 333 P P 12 44 28.0 +1.9
baz=151,SNR=21
SDCO Great Sand Dun 75.43 333 P P 12 44 27.9 +1.7
baz=151,SNR=21
KSCO Kaye Shedlock' 75.48 336 P P 12 44 27.9 +1.7
KSCO Kaye Shedlock' 75.48 336 P P 12 44 27.9 +1.7
baz=153
LONY Lake Ozonia 75.49 358 P P 12 44 26.3 +0.4
baz=178
Y14A Wickenburg 75.51 326 P P 12 44 27.7 +1.3
JFWS Jewell Farm 75.65 346 P P 12 44 27.8 +0.9
baz=164
JFWS Jewell Farm 75.65 346 P P 12 44 28.9 +2.0
baz=164
GLA Glamis 75.70 324 P P 12 44 29.2 +1.7
baz=143
MAW Mawson 75.83 164 P P 12 44 28.7 +1.0
comp=Z,5.6nm,0.4s,baz=253,slow=9.4,SNR=3.9
MAW LR LR 13 20 19.0
comp=Z,1µm,18.9s,baz=224,slow=38
MAW Mawson 75.83 164 P P 12 44 25.4 -2.3
MAW pmax pmax
comp=Z,10.0nm,1.2s
MAW Mawson 75.83 164 P P 12 44 25.4 -2.3
S22A 4UR Ranch, Cre 75.96 332 P P 12 44 31.0 +1.8
baz=150,SNR=16
WUAZ Wupatki 76.03 328 P P 12 44 31.4 +1.9
baz=146
IKP In-Ko-Pah, Jac 76.04 323 P P 12 44 31.3 +1.9
baz=142
SUR Sutherland 76.07 119 LR LR 13 13 57.1
comp=Z,798nm,19.9s,baz=232,slow=33
SWSC Sam W. Stewart 76.11 323 P P 12 44 31.7 +2.0
baz=142
PKME Peaks-Kenny Pk 76.13 2 P P 12 44 31.0 +1.4
baz=182
MVCO Mesa Verde 76.19 331 P P 12 44 32.0 +1.6
baz=148,SNR=13
BGNE Belgrade 76.20 340 P P 12 44 31.2 +1.1
baz=157
Q24A Divide 76.36 334 P P 12 44 33.2 +1.7
baz=151
MONP2 Monument Peak 76.39 323 P P 12 44 33.1 +1.5
baz=142
BC3 Big Chuckawall 76.50 324 P P 12 44 33.9 +1.9
baz=143
GLMI Grayling 76.54 351 P P 12 44 34.6 +2.6
baz=169
I40A Norwalk 76.66 346 P P 12 44 33.1 +0.5
baz=164
IRM Iron Mountain 76.74 324 P P 12 44 35.4 +2.1
baz=143
F62A Pittston Farm, 76.74 1 P P 12 44 33.6 +0.5
F62A IAmb IAmb 12 44 43.5
comp=Z,65nm,1.2s
109C Camp Elliot, M 76.75 322 P P 12 44 34.9 +1.5
baz=142
W13A Hualapai Mount 76.87 326 P P 12 44 36.0 +1.7
NEE2 Needles Airpor 76.97 325 P P 12 44 36.1 +1.6
baz=144
TPFO Pinon Flats 76.97 323 P P 12 44 37.0 +2.3
baz=142
PFO Pinyon Flats O 76.98 323 LR LR 13 12 02.6
comp=Z,538nm,20.4s,baz=142,slow=31
PFO Pinyon Flats O 76.98 323 *i* P P 12 44 36.6 +1.8
PFO pmax pmax
comp=Z,13nm,1.0s
PFO Pinyon Flats O 76.98 323 P P 12 44 36.6 +1.8
baz=142
OGNE Ogallala 77.01 337 P P 12 44 36.4 +1.6
baz=154
BELC Belle Mtn. Jos 77.05 324 P P 12 44 37.3 +2.0
baz=142
U15A North Rim 77.20 328 P P 12 44 37.3 +1.0
SMCO Snowmass 77.25 333 P P 12 44 38.2 +1.6
SMCO IAmb IAmb 12 44 55.0
comp=Z,63nm,1.2s
ISCO Idaho Springs 77.27 334 P P 12 44 37.6 +1.0
baz=151
ISCO Idaho Springs 77.27 334 P P 12 44 38.0 +1.5
baz=151
MURC Murrieta 77.35 323 P P 12 44 38.8 +2.0
baz=142
I37B Waseca 77.39 344 P P 12 44 37.3 +0.6
baz=161
GMRC Granite Mounta 77.50 324 P P 12 44 39.5 +1.8
baz=143
K31A O'Neill 77.50 340 P P 12 44 38.8 +1.4
baz=157
ELS Elsinore Mount 77.51 322 P P 12 44 39.2 +1.5
SCI2 San Clemente I 77.58 321 P P 12 44 40.1 +2.0
baz=140
BBRC Big Bear Solar 77.72 323 P P 12 44 41.2 +2.1
baz=142
CIS Catalina Islan 77.84 322 P P 12 44 40.9 +1.4
baz=141
ECSD EROS Data Cent 77.93 342 P P 12 44 40.6 +0.9
ECSD IAmb IAmb 12 44 53.7
comp=Z,50nm,1.0s
ECSD EROS Data Cent 77.93 342 P P 12 44 40.1 +0.4
baz=159
ECSD EROS Data Cent 77.93 342 P P 12 44 40.6 +0.9
baz=159
KNB Kanab 77.93 328 P P 12 44 41.5 +1.4
KNB pmax pmax
comp=Z,40nm,1.2s
KNB Kanab 77.93 328 P P 12 44 41.5 +1.4
KNB IAmb IAmb 12 44 55.7
comp=Z,40nm,1.2s
D62A Allapoint, All 77.95 2 P P 12 44 41.0 +1.3
BFSC Mount Baldy Ra 78.09 323 P P 12 44 42.9 +1.9
baz=141
TUQ Turquoise Moun 78.14 325 P P 12 44 43.3 +2.0
baz=143
RRX Edison Barstow 78.24 323 P P 12 44 43.7 +1.9
baz=142
N23A Red Feather La 78.34 334 P P 12 44 44.1 +1.6
baz=151
SPMN Marine on St. 78.40 345 P P 12 44 42.4 +0.1
SPMN IAmb IAmb 12 44 55.1
comp=Z,25nm,1.2s
SPMN Marine on St. 78.40 345 P P 12 44 42.5 +0.2
baz=162
SPMN Marine on St. 78.40 345 P P 12 44 41.9 -0.4
baz=162
DECC Green Verdugo 78.45 322 P P 12 44 44.9 +2.0
baz=141
GSC Goldstone, Bar 78.48 324 P P 12 44 44.9 +1.8
baz=142
O20A White River Ci 78.57 332 P P 12 44 44.5 +0.9
baz=149
SHOC Shoshone, Teco 78.68 325 P P 12 44 46.1 +2.0
baz=142
EDW2 Edwards Air Fo 78.76 323 P P 12 44 46.0 +1.4
baz=141
MSU Marysvale 78.86 329 P P 12 44 46.9 +1.6
MSU Marysvale 78.86 329 P P 12 44 46.9 +1.6
LRMC Laurel Mtn Rad 79.06 323 P P 12 44 48.0 +1.7
baz=141
VLDQ Val d'Or 79.10 356 P P 12 44 46.5 +0.5
VLDQ IAmb IAmb 12 44 55.7
comp=Z,42nm,1.2s
PRN Pahroc Range 79.29 326 P P 12 44 49.4 +1.9
PRN IAmb IAmb 12 45 03.3
comp=Z,21nm,1.0s
SBC Santa Barbara 79.33 321 P P 12 44 49.9 +2.3
baz=140
ARVC Arvin 79.38 322 P P 12 44 50.1 +2.2
baz=141
MPMC Manual Prospec 79.42 324 P P 12 44 50.2 +1.8
baz=142
FURC Furnace Creek, 79.42 325 P P 12 44 50.3 +2.2
baz=142
TPNV Topopah Spring 79.50 325 P P 12 44 51.1 +2.3
baz=143,SNR=7.3
ISA Isabella, Lake 79.61 323 P P 12 44 51.4 +2.1
baz=141,SNR=8.6
F33A 5 Mile Ranch, 79.81 343 P P 12 44 49.4 -0.6
TSUM Tsumeb 79.85 106 LR LR 13 16 31.7
comp=Z,1µm,19.0s,baz=206,slow=33
TSUM Tsumeb 79.85 106 P P 12 44 51.2 +0.1
TSUM IAmb IAmb 12 44 52.7
comp=Z,26nm,1.1s
CWC Cottonwood Cre 80.01 324 P P 12 44 53.5 +2.0
baz=141
VES Vestal, Richgr 80.06 323 P P 12 44 53.5 +1.8
baz=140
K22A Casper 80.08 335 P P 12 44 53.1 +1.3
baz=150
K22A Casper 80.08 335 P P 12 44 53.4 +1.6
baz=150
GRAC Grapevine Rang 80.09 325 P P 12 44 53.4 +1.6
baz=142
R11A Troy Canyon, C 80.29 327 P P 12 44 55.1 +2.0
baz=143,SNR=12
RSSD Black Hills 80.51 337 P P 12 44 55.0 +0.9
RSSD pmax pmax
comp=Z,17nm,1.1s
RSSD Black Hills 80.51 337 P P 12 44 55.0 +0.9
RSSD Black Hills 80.51 337 P P 12 44 55.3 +1.2
baz=152
RSSD Black Hills 80.51 337 P P 12 44 55.4 +1.3
baz=152
DUG Dugway, Tooele 80.53 329 P P 12 44 55.9 +1.7
DUG pmax pmax
comp=Z,33nm,1.2s
DUG Dugway, Tooele 80.53 329 P P 12 44 55.9 +1.7
DUG IAmb IAmb 12 45 09.2
comp=Z,33nm,1.2s
DUG Dugway, Tooele 80.53 329 P P 12 44 56.0 +1.7
baz=145
EYMN Ely 80.72 347 P P 12 44 54.8 -0.1
baz=163
TPH Tonopah 80.86 325 P P 12 44 57.7 +1.6
TPH pmax pmax
comp=Z,103nm,1.3s
TPH Tonopah 80.86 325 P P 12 44 57.7 +1.6
HWUT Hardware Ranch 81.16 331 P P 12 44 58.8 +1.2
HWUT IAmb IAmb 12 45 10.5
comp=Z,24nm,1.0s
BGU Big Grassy Mou 81.22 330 P P 12 44 58.9 +1.0
BOSA Boshof 81.25 118 P P 12 44 58.1 -0.4
comp=Z,12nm,0.9s,baz=256,slow=4.9,SNR=11
BOSA LR LR 13 18 52.8
comp=Z,1µm,18.4s,baz=240,slow=34
BOSA Boshof 81.25 118 P P 12 44 57.4 -1.2
BOSA pmax pmax
comp=Z,17nm,1.0s
BOSA Boshof 81.25 118 P P 12 44 57.4 -1.2
MLAC Mammoth, Mammo 81.31 324 P P 12 45 00.1 +1.5
baz=141
BW06 Boulder Array 81.33 333 P P 12 44 58.8 +0.2
BW06 Boulder Array 81.33 333 P P 12 44 59.5 +0.9
baz=148
PD31 Pinedale Array 81.33 333 P P 12 44 59.1 +0.6
PDAR Pinedale Array 81.33 333 P P 12 44 59.0 +0.4
comp=Z,1.1nm,0.8s,baz=160,slow=4.7,SNR=12
PDAR LR LR 13 17 58.8
comp=Z,393nm,19.2s,baz=152,slow=33
PDAR Pinedale Array 81.33 333 P P 12 44 59.0 +0.4
OMMB Old Mammoth Mi 81.39 324 P P 12 45 00.7 +1.6
MDPB Devils Postpil 81.44 324 P P 12 44 57.5 -1.8
B35A Bob, Littlefor 81.58 345 P P 12 44 59.8 +0.4
baz=161
NV11 Mina Array Sit 81.60 325 P P 12 45 01.6 +1.7
NVAR Mina Array Bea 81.67 325 P P 12 45 02.0 +1.6
comp=Z,3.7nm,0.9s,baz=152,slow=6.0,SNR=25
NVAR Mina Array Bea 81.67 325 P P 12 45 01.6 +1.1
AGMN Agassiz Nation 82.00 344 P P 12 45 02.0 +0.3
baz=159
AGMN Agassiz Nation 82.00 344 P P 12 45 01.9 +0.3
baz=159
ELK Elko 82.05 328 LR LR 13 16 36.1
comp=Z,398nm,21.6s,baz=146,slow=32
MDND Maddock 82.53 342 P P 12 45 05.4 +0.9
baz=156
MDND Maddock 82.53 342 P P 12 45 05.1 +0.7
baz=156
PNTR Pine Nut 82.82 325 P P 12 45 08.4 +1.9
PNTR IAmb IAmb 12 45 09.7
comp=Z,18nm,1.0s
CASY Casey 82.83 181 P P 12 45 06.7 +0.8
CASY IAmb IAmb 12 45 20.3
comp=Z,40nm,1.2s
FLWY Flagg Ranch 82.89 333 P P 12 45 07.9 +1.2
FLWY IAmb IAmb 12 45 21.4
comp=Z,26nm,1.1s
EMB Emerald Bay 82.98 324 P P 12 45 09.7 +2.4
VCNR Virginia City 83.00 325 P P 12 45 08.7 +1.3
RUBR Rubicon Trail 83.07 324 P P 12 45 09.3 +1.5
RUBR IAmb IAmb 12 45 28.2
comp=Z,26nm,1.1s
H17A Grant Village 83.10 333 P P 12 45 09.0 +1.2
baz=147
TOA0 Torodi Ar. Sit 83.12 70 P P 12 45 07.8 -0.5
TORD Torodi Ar. Bea 83.12 70 P P 12 45 08.0 -0.3
comp=Z,45nm,0.8s,baz=257,slow=4.6,SNR=193
TORD LR LR 13 19 52.6
comp=Z,2µm,20.0s,baz=206,slow=34
TORD Torodi Ar. Bea 83.12 70 P P 12 45 08.1 -0.1
PAHR Pah Rah Range 83.19 325 P P 12 45 09.7 +1.4
PAHR IAmb IAmb 12 45 19.1
comp=Z,50nm,1.5s
MPK Martis Peak 83.19 324 P P 12 45 10.1 +1.7
MPK IAmb IAmb 12 45 29.5
comp=Z,22nm,1.1s
RLMT Red Lodge 83.22 334 P P 12 45 09.2 +0.7
RLMT Red Lodge 83.22 334 P P 12 45 09.1 +0.7
baz=148
LBTB Lobatse 83.36 115 LR LR 13 19 01.2
comp=Z,2µm,19.2s,baz=233,slow=33
LBTB Lobatse 83.36 115 P P 12 45 08.7 -0.9
LBTB pmax pmax
comp=Z,48nm,1.5s
LBTB Lobatse 83.36 115 P P 12 45 08.7 -0.9
LBTB IAmb IAmb 12 45 24.6
comp=Z,48nm,1.4s
LAO LASA Array 83.50 337 P P 12 45 10.3 +0.7
baz=151
LAO LASA Array 83.50 337 P P 12 45 10.6 +1.1
baz=151
YHH Holmes Hill 83.54 333 P P 12 45 11.5 +1.4
YHH IAmb IAmb 12 45 24.9
comp=Z,27nm,1.3s
YHL Hebgen Lake 83.72 333 P P 12 45 09.1 -1.9
YHL IAmb IAmb 12 45 25.5
comp=Z,18nm,1.2s
QLMT Earthquake Lak 83.80 333 P P 12 45 12.9 +1.6
ULM Lac du Bonnet 83.83 345 P P 12 45 11.1 0.0
comp=Z,6.4nm,0.8s,baz=160,slow=3.6,SNR=6.5
ULM Lac du Bonnet 83.83 345 *i* P P 12 45 11.6 +0.5
ULM Lac du Bonnet 83.83 345 P P 12 45 11.1 0.0
ULM IAmb IAmb 12 45 24.5
comp=Z,27nm,1.1s
HLID Hailey 83.97 330 P P 12 45 12.8 +0.6
HLID Hailey 83.97 330 P P 12 45 13.5 +1.3
baz=144
ORV Oroville 84.13 324 P P 12 45 14.2 +1.3
ORV pmax pmax
comp=Z,41nm,1.5s
ORV Oroville 84.13 324 P P 12 45 14.2 +1.3
ORV IAmb IAmb 12 45 23.6
comp=Z,40nm,1.4s
BCYI Bear Canyon 84.16 331 P P 12 45 14.7 +1.4
MCMT McKenzie Canyo 84.36 332 P P 12 45 15.2 +0.9
DGMT Dagmar 84.42 339 P P 12 45 15.0 +0.9
DGMT Dagmar 84.42 339 P P 12 45 14.6 +0.4
baz=153
DGMT Dagmar 84.42 339 P P 12 45 15.1 +0.9
baz=153
BOZ Bozeman (W) 84.52 333 P P 12 45 15.5 +0.6
baz=147
O03E Paynes Creek 84.84 324 P P 12 45 17.0 +0.4
baz=139
O02D Mt. Diablo Mer 85.25 323 P P 12 45 19.5 +0.8
baz=138
MOD Modoc Plateau 85.32 326 P P 12 45 20.3 +1.3
MOD IAmb IAmb 12 45 37.5
comp=Z,21nm,1.4s
SCHQ Schefferville 85.78 3 P P 12 45 20.9 +0.1
comp=Z,11nm,1.1s,baz=191,slow=7.7,SNR=3.5
SCHQ Schefferville 85.78 3 P P 12 45 18.4 -2.4
N02D Trinity Center 85.80 324 P P 12 45 21.7 +0.4
baz=138
EGMT Eagleton 85.87 336 P P 12 45 21.9 +0.4
baz=148
M04C Macdoel 85.98 325 P P 12 45 21.8 -0.5
baz=139
TTIG Tnine Tigouga, 85.98 51 P P 12 45 42.1 +20
M02C Callahan 86.19 324 P P 12 45 23.9 +0.6
baz=138
MSO Missoula 86.44 333 P P 12 45 25.6 +1.2
baz=145
L04D Klamath Falls 86.53 325 P P 12 45 25.4 +0.4
baz=139
K04D Chiloquin, OR 86.57 326 P P 12 45 26.4 +1.3
baz=139
OUK Oukaimeden 86.78 50 P P 12 45 32.0 +5.3
J05D Fort Rock, OR 86.82 326 P P 12 45 28.0 +1.6
baz=140
L02E Cave Junction 87.13 324 P P 12 45 29.5 +1.7
baz=138
J04D Umpqua Nationa 87.20 326 P P 12 45 29.5 +1.1
baz=139
OUZM OUZ 87.33 51 P P 12 45 31.0 +1.9
K02D Willamette Mer 87.56 325 P P 12 45 31.1 +1.1
baz=138
SRHM Skhour des Reh 87.56 49 P P 12 45 25.0 -5.1
I05D Terrebonne, OR 87.67 327 P P 12 45 31.7 +1.4
baz=139
TZRR Tazzarine 88.05 52 P P 12 45 35.0 +2.4
G05D Wamic, OR 88.34 328 P P 12 45 35.0 +1.5
baz=140
HAWA Hanford 88.42 329 P P 12 45 34.9 +1.1
HAWA IAmb IAmb 12 45 44.0
comp=Z,34nm,1.4s
NEW Newport 88.87 332 LR LR 13 22 53.1
comp=Z,588nm,18.1s,baz=145,slow=34
NEW Newport 88.87 332 P P 12 45 36.7 +0.8
baz=143
FFC Flin Flon 89.41 343 P P 12 45 37.5 -0.7
FFC pmax pmax
comp=Z,9.0nm,1.3s
FFC Flin Flon 89.41 343 P P 12 45 37.5 -0.7
MDT Midelt 89.94 51 LR LR 13 26 05.2
comp=Z,417nm,19.4s,baz=188,slow=36
LSZ Lusaka 90.55 108 LR LR 13 23 55.1
comp=Z,788nm,18.2s,baz=214,slow=34
LSZ Lusaka 90.55 108 P P 12 45 43.9 -0.9
LSZ pmax pmax
comp=Z,27nm,1.1s
LSZ Lusaka 90.55 108 P P 12 45 43.9 -0.9
LSZ IAmb IAmb 12 45 47.2
comp=Z,27nm,1.1s
EDM Edmonton 91.47 337 P P 12 45 46.6 -1.4
EDM pmax pmax
comp=Z,19nm,1.2s
EDM Edmonton 91.47 337 P P 12 45 46.6 -1.4
EDM IAmb IAmb 12 46 02.5
comp=Z,19nm,1.2s
FCC Fort Churchill 91.51 349 P P 12 45 47.8 -0.1
FCC pmax pmax
comp=Z,25nm,1.4s
FCC Fort Churchill 91.51 349 P P 12 45 47.8 -0.1
FCC IAmb IAmb 12 45 49.3
comp=Z,25nm,1.4s
ESDC Sonseca Array 94.53 46 LR LR 13 28 20.3
comp=Z,904nm,18.5s,baz=224,slow=35
FRB Frobisher Bay 94.65 1 LR LR 13 31 54.3
comp=Z,187nm,19.7s,baz=182,slow=38
SFJD Kangerlussuaq 99.20 8 LR LR 13 30 05.6
comp=Z,185nm,21.6s,baz=202,slow=35
YKA Yellowknife Ar 99.45 341 P Pdif 12 46 23.6 -0.4
comp=Z,0.6nm,0.8s,baz=146,slow=4.5,SNR=12
DZM Mont Dzumac 103.00 234 *e*PS PS 13 00 08.5 +4.6
comp=Z,157nm,28.7s
DZM Mont Dzumac 103.00 234 *e*LR LR 13 20 26.7
comp=Z,1µm,23.6s
CLL Collm 110.68 42 *e*PP PP 12 51 54.0 +2.4
CLL *e*PS PKKPbc 13 01 24.0 -50
CLL *e*PPS PPS 13 02 36.0
CLL *e*SS SS 13 07 18.0 -1.7
CLL *e*SSS SSS 13 11 30.0
CLL *e*SSSS 13 15 06.0
CLL Lm MLR 13 37 00.0
comp=N,200nm,19.4s
CLL Lm MLR 13 37 00.0
comp=E,600nm,19.5s
CLL Lm MLR 13 37 00.0
comp=Z,700nm,19.2s
KWP Kalwaria Pacla 115.85 46 PKIKP PKiKP 12 51 24.5 +0.3
KWP Kalwaria Pacla 115.85 46 PKiKP 12 51 24.4 +0.3
BUR08 Bucovina Ar. S 116.81 49 PKPdf 12 51 26.2 -0.1
ANM Nome 119.17 330 P PKiKP 12 51 31.4 +1.2
baz=102
NACGM Naroch 119.68 41 ‖ *e*PKP PKiKP 12 51 31.4 0.0
ASAR Alice Springs 120.12 207 PKP PKPdf 12 51 32.3 -1.1
comp=Z,1.1nm,0.7s,baz=127,slow=1.7,SNR=19
ASAR PKKPbc PKKPbc 13 01 40.9 0.0
comp=Z,0.6nm,0.8s,baz=318,slow=2.2,SNR=5.5
AKASG Malin Array Be 120.17 46 PKP PKPdf 12 51 30.9 -1.5
comp=Z,4.8nm,0.8s,baz=263,slow=2.8,SNR=21
AKASG Malin Array Be 120.17 46 PKiKP PKPdf 12 51 31.0 -1.5
AKBB Malin Array Si 120.17 46 *c i*PKiKP PKPdf 12 51 31.6 -0.8
AKBB Malin Array Si 120.17 46 PKPdf 12 51 31.2 -1.2
MNK Minsk 120.22 42 *i* P Pdif 12 48 08.1 +12
MNK *i* 12 51 31.2
MNK *i* 12 52 58.5
MNK *i* PPP PPP 12 55 26.9
MNK *i* SS SS 13 09 26.3 +1.6

MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,17nm,0.7s
MNK MLR MLR
comp=N,238nm,22.0s
MNK MLR MLR
comp=E,83nm,24.0s
MNK MLR MLR
comp=Z,380nm,22.0s
MNK Minsk 120.22 42 *i* P Pdif 12 48 08.1 +12
comp=E,2.0nm,0.7s
MNK *i* P Pdif 12 48 08.1 +12
comp=N,17nm,0.7s
MNK *i* P Pdif 12 48 08.1 +12
comp=Z,10.0nm,0.7s,baz=257
MNK *i* PKP PKPdf 12 51 31.3 -1.1
MNK *i* PP PP 12 52 58.6 0.0
MNK *i* PPP PPP 12 55 27.0
MNK *i* SKS SKSdf 12 58 57.8 +15
MNK *i* SS SS 13 09 26.3 +1.7
MNK *i* SSS SSS 13 14 00.5
MNK *i* LR LR 13 38 33.8
MNK *i* LRM MLR 13 42 32.7
comp=N,238nm,21.7s
MNK *i* LRM MLR 13 42 53.8
comp=E,83nm,24.3s
MNK *i* LRM MLR 13 42 53.8
comp=Z,380nm,21.7s
BRTR Keskin Array B 120.32 59 PKP PKPdf 12 51 32.9 -0.5
comp=Z,3.2nm,0.8s,baz=224,slow=3.4,SNR=9.5
BRTR Keskin Array B 120.32 59 PKiKP 12 51 33.4 0.0
VSU Vasula 120.38 37 *i* PKIKP PKiKP 12 51 33.0 +0.3
FINES FINESS Array B 120.59 34 PKP PKPdf 12 51 32.5 -0.5
comp=Z,1.8nm,0.9s,baz=126,slow=9.7,SNR=4.9
FINES FINESS Array B 120.59 34 PKIKP PKPdf 12 51 31.6 -1.3
FINES FINESS Array B 120.59 34 PKPdf 12 51 31.6 -1.3
ARCES ARCESS Array B 121.41 24 PKP PKPdf 12 51 33.7 -0.6
comp=Z,2.9nm,1.0s,baz=14,slow=16,SNR=1.9
ARCES ARCESS Array B 121.41 24 PKIKP PKPdf 12 51 33.0 -1.3
ARCES ARCESS Array B 121.41 24 PKPdf 12 51 33.0 -1.3
GAMB Gambell 121.78 329 P PKiKP 12 51 35.8 +0.5
baz=97
PUL Pulkovo 122.42 36 *i* PKIKP PKiKP 12 51 39.3 +2.7
PUL pmax pmax
comp=Z,41nm,0.7s
WRA Warramunga Arr 123.27 210 PKP PKPdf 12 51 38.6 -0.9
comp=Z,2.1nm,0.5s,baz=158,slow=1.7,SNR=69
WRA Warramunga Arr 123.27 210 PKPdf PKPdf 12 51 39.1 -0.4
LVZ Lovozero 124.70 26*c* *i*PKIKP PKiKP 12 51 42.1 +1.1
LVZ pmax pmax
comp=Z,31nm,2.5s
OBN Obninsk 125.28 42 PKP PKPdf 12 51 41.8 -0.2
comp=Z,5.7nm,0.3s,baz=94,slow=5.4,SNR=4.7
OBN Obninsk 125.28 42*d* *i*PKIKP PKPdf 12 51 42.1 0.0
OBN *e* 12 53 36.9
OBN *e*SSS SSS 13 15 07.8
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN Obninsk 125.28 42 PKPdf 12 51 42.1 0.0
SOC Sochi 125.67 56 *i* PKIKP PKPdf 12 51 43.1 -0.1
SOC *e* 12 53 34.3
SOC *e*PPP PPP 12 56 18.7
SOC *e*SS SS 13 10 35.2 +0.6
SOC MLR MLR
comp=Z,131nm,19.0s
H11S2 WAKE ISLAND Hy 125.91 271 T T 15 10 35.1
baz=115,slow=74,SNR=195
H11S1 WAKE ISLAND Hy 125.92 271 T T 15 10 31.9
baz=115,slow=74,SNR=136
H11S3 WAKE ISLAND Hy 125.93 271 T T 15 10 32.4
baz=115,slow=74,SNR=251
H11N3 WAKE ISLAND Hy 126.25 273 T T 15 10 53.4
baz=116,slow=76,SNR=49
H11N1 WAKE ISLAND Hy 126.27 273 T T 15 10 46.0
baz=116,slow=76,SNR=15
H11N2 WAKE ISLAND Hy 126.27 273 T T 15 11 01.5
baz=116,slow=76,SNR=139
PSA00 Pilbara Seismi 126.35 194 PKPdf 12 51 45.0 -0.4
LPSR Galich'ya Gora 126.44 45 *e*PKIKP PKPdf 12 51 43.0 -1.4
LPSR pmax pmax
comp=Z,20nm,0.7s
KLMR Klimovskoe 127.04 35 *e*PKIKP PKPdf 12 51 44.2 -1.0
KLMR pmax pmax
comp=Z,38nm,1.2s
KLMR Klimovskoe 127.04 35 *e*PKPdf PKPdf 12 51 44.3 -1.0
KLMR AMP 12 51 46.5
comp=Z,38nm,1.2s
KIV Kislovodsk 127.85 56 *i* PKIKP PKiKP 12 51 48.9 +0.8
KIV pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 127.97 57 PKP PKPdf 12 51 46.9 -0.7
comp=Z,3.8nm,1.0s,baz=159,slow=0.7,SNR=7.4
KBZ Khabaz 127.97 57*c* *i*PKIKP PKiKP 12 51 48.5 +0.3
VRH Novokhopyorsk 128.05 47 *e*PKIKP PKPdf 12 51 46.2 -1.3
VRH pmax pmax
comp=Z,40nm,1.4s
ONI Oni 128.18 58 PKIKP PKiKP 12 51 49.3 +0.5
ONI Oni 128.18 58 PKiKP 12 51 49.3 +0.5
FITZ Fitzroy Crossi 128.19 201 PKP PKPdf 12 51 48.2 -0.7
comp=Z,4.4nm,0.8s,baz=173,slow=4.4,SNR=12
FITZ Fitzroy Crossi 128.19 201 PKiKP 12 51 49.5 -0.1
ZEI Tsey 128.54 58 *i* PKIKP PKPdf 12 51 48.9 -0.2
ZEI pmax pmax
comp=Z,4.0nm,1.2s
GNI Garni 128.70 61 PKP PKPdf 12 51 48.9 -0.5
comp=Z,4.0nm,0.5s,baz=147,slow=4.5,SNR=3.9
GNI Garni 128.70 61 PKPdf 12 51 49.2 -0.2
PRGR Permogore 129.92 34 *e*PKIKP PKPdf 12 51 49.0 -1.8
PRGR pmax pmax
comp=Z,51nm,1.3s
BILL Bilibino 130.36 335⇑*i*PKIKP PKiKP 12 51 52.4 +0.1
BILL *e* 12 54 08.3
BILL pmax pmax
comp=Z,6.0nm,1.7s
BILL Bilibino 130.36 335 PKiKP 12 51 52.5 +0.2
MAK Makhachkala 131.19 58 *i* P Pdif 12 48 39.5 -6.1
MAK *i* 12 51 50.9
MAK pmax pmax
comp=Z,269nm,1.2s
KIRV Kirov 132.23 37 PKP PKPdf 12 51 55.2 0.0
comp=Z,6.3nm,0.6s,baz=307,slow=2.6,SNR=6.1
KIRV Kirov 132.23 37*c* *i*PKIKP PKiKP 12 51 56.3 0.0
ARU Arti 137.50 39 PKP PKPdf 12 52 05.6 +0.5
comp=Z,3.5nm,0.7s,baz=319,slow=1.7,SNR=18
ARU Arti 137.50 39 *i* PKIKP PKPdf 12 52 05.7 +0.5
ARU MLR MLR
comp=Z,439nm,18.0s
ARU Arti 137.50 39 PKPdf 12 52 05.4 +0.3
SEY Seymchan 137.65 332*c* *i*PKIKP PKiKP 12 52 07.0 -0.2
SEY pmax pmax
comp=Z,7.0nm,1.3s
PET Petropavlovsk 137.72 316 *e*PKHKP PKPpre 12 51 38.2
PET *e*S PKPdf 12 52 05.9 +0.3
TIXI Tiksi 137.96 350*c* *i*PKIKP PKPdf 12 52 05.1 -0.5
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI Tiksi 137.96 350 PKPdf 12 52 05.4 -0.2
AKTO Aktyubinsk 138.38 48 PKP PKPdf 12 52 06.9 -0.1
comp=Z,5.2nm,1.0s,baz=247,slow=1.2,SNR=12
GEYT Alibeck 138.67 67 PKP PKPdf 12 52 08.1 +0.1
comp=Z,3.7nm,0.8s,baz=240,slow=15,SNR=4.3
GEYT Alibeck 138.67 67 PKPdf 12 52 07.5 -0.5
ABKAR Akbulak array 139.79 49 PKPdf 12 52 10.2 +0.6
PCHI Peechi 144.09 118⇑*e*P PKPab 12 52 16.1 +0.2
PCHI *e*x x 13 13 31.6
BRVK Borovoye 145.02 40 PKIKP PKPab 12 52 18.2 0.0
BRVK Borovoye 145.02 40 PKPab 12 52 18.2 0.0
PALK Pallekele 145.03 127 PKIKP PKPbc 12 52 19.3 -0.1
PALK Pallekele 145.03 127 PKPdf PKPbc 12 52 19.3 -0.1
YAK Yakutsk 146.12 342 *e*PKP2 PKPbc 12 52 21.3 0.0
YAK *e* 12 55 45.0
YAK pmax pmax
comp=Z,29nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,99nm,3.1s
YAK pmax pmax
comp=N,94nm,3.5s
KBL Kabul 147.14 74 PKIKP PKPdf 12 52 23.1 -0.2
KBL Kabul 147.14 74 PKPdf 12 52 23.1 -0.2
CHGR Chuyangaron 147.38 66 PKPdf 12 52 24.6 +1.2
TOLI2 Tolitoli 147.77 204 PKPbc 12 52 26.7 -0.9
NKL Nikolayevsk 147.83 323 *i* PKP2 PKPbc 12 52 27.1 +0.7
KKAR Karatay Array 148.00 58 PKIKP PKPdf 12 52 23.7 -0.5
KKAR Karatay Array 148.00 58 PKPdf 12 52 23.7 -0.5
GAR Garm 148.27 65 PKPdf 12 52 25.9 +1.0
GSI Gunungsitoli 148.64 159 PKPdf PKPdf 12 52 23.9 -2.2
GSI PKPbc 12 52 30.4 +0.6
YSS Yuzh-Sakhalins 149.15 311 *i* PKIKP PKPdf 12 52 23.9 -2.0
YSS *e* 12 52 40.1
YSS pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 149.15 311 PKiKP 12 52 31.3 0.0
HYBB Hyderabad (bro 149.87 110 *e*PKiKP PKPbc 12 52 32.7 -0.1
HYBB *e*pPKPbc pPKPbc 12 52 41.7 +1.2
KSM Kuching 150.37 184 PKPbc 12 52 33.9 -0.3
EKS2 Erkin-Say 150.44 58 P PKiKP 12 52 34.3 0.0
SNR=17
NIL Nilore 150.54 76 PKIKP PKPdf 12 52 27.4 -1.2
NIL 12 52 33.4
NIL 12 52 40.9
NIL Nilore 150.54 76 PKPdf 12 52 27.4 -1.2
NIL PKPbc PKPbc 12 52 33.4 -0.6
NIL PKPab PKPab 12 52 40.9 +0.2
KURK Kurchatov 150.68 40 PKPdf 12 52 28.2 +0.1
KURK PKPbc PKiKP 12 52 34.5 +0.1
KURK PKPab pPKPbc 12 52 42.0 +0.6
USP Ospenovka 150.83 56 P PKiKP 12 52 34.9 -0.1
SNR=18
AAK Ala-Archa 150.96 57 PKIKP PKPdf 12 52 29.4 +0.3
AAK Ala-Archa 150.96 57 PKPdf PKPdf 12 52 29.4 +0.3
AAK PKiKP 12 52 35.4 0.0
CHMS Chumysh 151.07 57 P PKiKP 12 52 35.6 +0.1
SNR=12
KBK Karagaybulak 151.28 57 P PKiKP 12 52 36.2 0.0
SNR=10.0
TKM2 Tokmak 2 151.69 56 P PKiKP 12 52 37.0 -0.1
SNR=10
ZAA0 Zalesovo Array 151.75 30 PKPdf 12 52 29.2 -0.4
ZAA0 PKPbc PKPbc 12 52 36.2 +0.1
ZAA0 PKPab pPKPbc 12 52 44.2 +0.5
ZALV Zalesovo Beam 151.75 30 PKP PKPdf 12 52 29.5 -0.2
comp=Z,7.9nm,0.9s,baz=285,slow=2.9,SNR=28
ZALV PKPbc PKPbc 12 52 36.1 +0.1
comp=Z,58nm,0.8s,baz=305,slow=2.9,SNR=98
ZALV PKPab PKPab 12 52 44.4 -0.6
comp=Z,28nm,0.6s,baz=315,slow=3.0,SNR=24
KSH Kashi 152.60 63 PKPbc PKPdf 12 52 31.2 -0.4
KSH pPKP sPKPdf 12 52 41.4 -0.6
KSH sPKP 12 52 46.2
KSH PP PP 12 56 20.0 -2.4
KSH SKKS 13 03 08.6
KSH AMB AMB
comp=Z,160nm,4.3s
KSH LR LR
comp=Z,330nm,21.6s
KSH LR LR
comp=Z,270nm,22.7s
KSH LR LR
comp=Z,540nm,22.3s
IPM Ipoh 152.60 164 PKPdf PKPdf 12 52 29.9 -2.4
IPM PKPbc 12 52 38.4 -0.8
IPM pPKPbc 12 52 46.1 -0.9
BOD Bodaibo 153.07 353 *e*PKIKP PKPdf 12 52 28.6 -2.9
BOD pmax pmax
comp=Z,28nm,1.4s
ZEA Zeya 153.58 334 *e*PKIKP PKPdf 12 52 32.0 -0.4
ZEA pmax pmax
comp=Z,10.0nm,1.4s
MJAR Matsushiro Arr 154.52 290 PKP PKPdf 12 52 33.1 -1.2
comp=Z,2.3nm,0.9s,baz=179,slow=16,SNR=4.2
MJAR Matsushiro Arr 154.52 290 PKPdf 12 52 32.1 -2.2
MJAR PKPbc pPKPdf 12 52 42.2 0.0
MJAR PKPab sPKPbc 12 52 54.4 +1.1
MAKZ Makanchi 154.54 45 PKPdf 12 52 33.7 -0.4
MAKZ pPKPdf 12 52 41.5 -0.3
MAKZ PKPab PKPab 12 52 57.0 -0.1
MK31 Makanchi Array 154.74 45 PKIKP PKPdf 12 52 34.0 -0.3
MK31 12 52 43.2
MK31 12 52 56.9
MK31 Makanchi Array 154.74 45 PKPdf 12 52 34.0 -0.3
MK31 PKPbc PKiKP 12 52 43.2 +0.2
MK31 PKPab PKPab 12 52 56.9 -1.1
MKAR Makanchi Array 154.74 45 PKP PKPdf 12 52 34.0 -0.3
comp=Z,2.6nm,0.8s,baz=335,slow=1.0,SNR=28
MKAR PKPbc pPKPdf 12 52 42.2 +0.1
comp=Z,8.8nm,0.8s,baz=48,slow=1.8,SNR=35
MKAR Makanchi Array 154.74 45 PKPdf PKPdf 12 52 33.8 -0.6
MKAR PKPbc PKiKP 12 52 43.2 +0.2
MKAR PKPab PKPab 12 52 57.3 -0.6
MOY Mondy 158.87 12 *e*PKIKP PKPdf 12 52 40.2 +0.6
MOY pmax pmax
comp=Z,24nm,2.1s
WMQ Urumqi 159.53 46 *e*PKP PKPdf 12 52 38.6 -1.9
WMQ LR LR
comp=Z,510nm,20.9s
WMQ LR LR
comp=Z,510nm,20.9s
WMQ LR LR
comp=Z,210nm,20.9s
ZAK Zakamensk 160.49 9 *e*PKIKP PKPdf 12 52 40.6 -0.8
ZAK pmax pmax
comp=Z,4.0nm,1.6s
KSRS Korea Array 162.51 296 PKP PKPdf 12 52 43.9 +0.1
comp=Z,0.4nm,0.4s,baz=26,slow=38,SNR=2.2
SONM Songino Array 163.32 4 PKP PKPdf 12 52 44.5 0.0
comp=Z,1.0nm,0.9s,baz=170,slow=3.6,SNR=7.5
SONM PKPab PKPab 12 53 35.7 +0.6
comp=Z,1.3nm,0.8s,baz=347,slow=4.0,SNR=4.8
SONM Songino Array 163.32 4 PKPdf 12 52 43.9 -0.6
SONM PKPab PKPab 12 53 35.7 +0.6
ULN Ulaanbaatar 163.33 3 PKIKP PKPdf 12 52 44.1 -0.4
ULN Ulaanbaatar 163.33 3 PKPdf PKPdf 12 52 44.1 -0.4
ULN PKPab PKPab 12 53 36.6 +1.4
CMAR Chiang Mai Arr 164.84 145 PKP PKPdf 12 52 47.1 +0.6
comp=Z,0.6nm,0.3s,baz=250,slow=2.8,SNR=13
CMAR PKPab PKPab 12 53 41.8 -0.6
comp=Z,1.5nm,0.9s,baz=226,slow=5.6,SNR=7.0
CMAR Chiang Mai Arr 164.84 145 PKP2 PKPab 12 53 39.6 -2.8
CMAR 13 52 46.3
CMAR Chiang Mai Arr 164.84 145 PKPdf 12 52 46.3 -0.3
CMAR PKPab PKPab 12 53 39.6 -2.8
CHTO Chiang Mai 165.14 144 PKP2 PKPab 12 53 43.2 -0.5
CHTO 13 52 45.6
CHTO Chiang Mai 165.14 144 PKPdf PKPdf 12 52 45.6 -1.2
CHTO PKPab PKPab 12 53 43.2 -0.5
GOMU GeErMu 167.84 62 PKP PKPdf 12 52 49.7 +0.8
GOMU pPKP pPKPdf 12 52 55.7 -1.0
GOMU sPKP 12 52 59.0
GOMU PKPab PKPab 12 53 55.5 -0.4
GOMU AMB AMB
comp=Z,120nm,4.5s
GOMU LR LR
comp=Z,230nm,18.8s
GOMU LR LR
comp=Z,290nm,17.5s
GOMU LR LR
comp=Z,170nm,20.0s
BJI Beijing 169.01 326 PKP PKPdf 12 52 49.3 +0.3
BJI PP PP 12 57 52.8 +3.4
GTA Gaotai 169.35 37 PKP PKPdf 12 52 50.2 +0.7
GTA sPKP 12 52 58.5
GTA LR LR
comp=Z,180nm,14.7s
GTA LR LR
comp=Z,180nm,19.1s
GTA LR LR
comp=Z,300nm,21.9s
HHC Hu-ho-hao-te 169.97 345 *e*PKP PKPdf 12 52 47.2 -2.5
HHC PP PP 12 57 52.2 -1.8
HHC AMB AMB
comp=Z,180nm,10.8s
HHC LR LR
comp=Z,490nm,15.9s
HHC LR LR
comp=Z,330nm,15.7s
HHC LR LR
comp=Z,640nm,17.8s
TIA Tai'an 170.99 306 ⇑PKP PKPdf 12 52 50.4 +0.1
HNS HongShan 171.76 320 ⇑PKP PKPdf 12 52 51.1 +0.5
HNS PP PP 12 58 04.0 +0.6
HNS AMB AMB
comp=Z,190nm,11.8s
HNS LR LR
comp=Z,400nm,17.3s
HNS LR LR
comp=Z,690nm,22.9s
HNS LR LR
comp=Z,700nm,24.5s
KMI Kunming 172.31 140 PKP PKPdf 12 52 51.6 0.0
KMI LR LR
comp=Z,220nm,22.4s
KMI LR LR
comp=Z,300nm,18.0s
KMI LR LR
comp=Z,410nm,28.2s
PZH PanZhiHua 172.71 128 PKP PKPdf 12 52 51.2 -0.4
PZH PP PP 12 58 11.1 +2.4
PZH AMB AMB
comp=Z,130nm,12.0s
PZH LR LR
comp=Z,630nm,19.0s
PZH LR LR
comp=Z,450nm,19.0s
PZH LR LR
comp=Z,730nm,21.8s
LZH Lanzhou 173.95 35 ⇑PKP PKPdf 12 52 53.1 +1.3
LZH pPKP sPKPdf 12 53 01.1 -1.2
LZH sPKP 12 53 03.6
LZH PP PP 12 58 18.2 +4.0
LZH SS SS 13 19 30.0 -1.1
LZH AMB AMB
comp=Z,200nm,9.6s
LZH LR LR
comp=Z,320nm,18.2s
LZH LR LR
comp=Z,370nm,18.4s
LZH LR LR
comp=Z,540nm,20.1s
WHN Wuhan 174.61 265 ⇓PKP PKPdf 12 52 52.7 +0.7
WHN pPKP pPKPdf 12 53 00.0 +0.2
WHN LR LR
comp=Z,740nm,16.0s
WHN LR LR
comp=Z,640nm,14.0s
WHN LR LR
comp=Z,1μm,24.8s
LYN LuoYang 175.05 314 *e*PKP PKPdf 12 52 53.1 +1.1
LYN PP PP 12 58 23.0 +3.3
LYN AMB AMB
comp=Z,150nm,11.4s
LYN LR LR
comp=Z,290nm,16.8s
LYN LR LR
comp=Z,220nm,19.0s
LYN LR LR
comp=Z,440nm,17.8s
GYA Guiyang 175.11 164 ⇓PKP PKPdf 12 52 49.1 -3.3
GYA SS SS 13 19 44.9 +3.7
GYA LR LR
comp=Z,350nm,16.4s
CD2 Chengdu 176.24 93 PKP PKPdf 12 52 52.6 +0.1
CD2 PP PP 12 58 26.3 -0.1
CD2 SKS SKSdf 12 59 50.0 -4.0
CD2 SKKS SKKSac 13 05 10.3 -0.6
CD2 AMB AMB
comp=Z,260nm,11.0s
XAN Xi'an 177.08 347 PKP PKPdf 12 52 52.6 +0.1
XAN pPKP pPKPdf 12 53 00.5 +0.1
XAN sPKP 12 53 06.9
XAN PKPab PKPab 12 54 36.4 +0.1
XAN AMB AMB
comp=Z,300nm,9.6s
XAN LR LR
comp=Z,200nm,17.9s
XAN LR LR
comp=Z,300nm,17.3s
XAN LR LR
comp=Z,280nm,18.2s

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*ANF **04** 12:33:59.2±0.2, 38.°85N×97.°51W, h5km, ML3.5/9 Error ellipse: s-maj=2.7km s-min=2.0km az=150.0*
*NEIC **04** 12:33:59.3±1.2, 38.°83N±0.°04×97.°48W±0.°03, h5km±2km, mb_Lg2.8/35, Error ellipse: s-maj=7.8km s-min=3.4km az=337.0*
ISC 04 12:33:58.5±0.8**, 38.°84N**±0.°03×**97.°55W**±0.°03**, h10km, n54, σ1.s14/58, Kansas**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSU1 Kansas State U 0.78 70 Pg Pg 12 34 12.8 -0.6
KSU1 Sg Sg 12 34 22.3 -1.2
KSU1 Kansas State U 0.78 70 P Pg 12 34 12.8 -0.6
baz=249
R32A Long Quarter, 1.00 246 Pn 12 34 18.8 +0.2
R32A Sg Sn 12 34 32.8 -0.1
R32A Long Quarter, 1.00 246 P Pn 12 34 18.3 -0.3
baz=66,SNR=50
R32A S Sn 12 34 33.6 +0.8
baz=66
CBKS Cedar Bluff 1.71 270 Pg 12 34 30.7 -0.6
CBKS Cedar Bluff 1.71 270 P Pb 12 34 29.8 -0.2
baz=89
N33B J Bar K, Exete 1.89 2 P Pb 12 34 32.5 -0.7
baz=181,SNR=21
N33B S Sg 12 34 57.6 -1.7
baz=181
N33A J Bar K, Exete 1.90 2 Pn Pb 12 34 32.5 -0.7
T35A Sooner Cattle 2.09 157 Pn Pb 12 34 35.7 -0.8
T35B Sooner Cattle 2.09 157 P Pb 12 34 35.4 -1.1
baz=339,SNR=40
T35B S Sb 12 35 03.0 +0.5
baz=339
N35A Tabor 2.49 35 Pn 12 34 40.1 +1.0
N35A Tabor 2.49 35 P Pb 12 34 42.3 -1.0
baz=215
N35A S Sb 12 35 14.5 +0.5
baz=215
BGNE Belgrade 2.60 350 Pn Pb 12 34 43.0 -2.3
BGNE Belgrade 2.60 350 P Pb 12 34 45.4 +0.2
baz=168
BGNE Sb Sg 12 35 21.1 -1.0
baz=168
U32A Winter Ranch, 2.72 206 Pn 12 34 43.0 +0.8
P38A Dawn 3.21 75 Pn 12 34 50.3 +1.3
P38A Dawn 3.21 75 P Pn 12 34 50.7 +1.8
baz=257,SNR=11
P38A S Sn 12 35 28.7 +1.4
baz=257
TUL1 Leonard 3.24 154 Pn Pn 12 34 50.6 +1.2
L34A Svendsen Farm, 3.25 16 Pn 12 34 51.4 +1.9
L34A IAmb_Lg 12 35 44.9
comp=Z,30nm,0.8s
S39A Bolivar 3.52 108 Pn 12 34 54.1 +0.9
S39A IAmb_Lg 12 35 52.4
comp=Z,20nm,1.2s
FNO Franklin 3.58 178 Pn 12 34 54.6 +0.6
FNO IAmb_Lg 12 35 56.4
comp=Z,17nm,0.8s
W35A Tecumseh 3.72 171 Pn 12 34 56.7 +0.7
HHAR Hobbs 3.84 131 Pn Pn 12 34 58.2 +0.5
N38A Joes South For 3.85 58 Pn 12 34 58.5 +0.8
K31A O'Neill 3.89 347 Pn 12 35 00.2 +1.9
KSCO Kaye Shedlock' 3.97 274 Pn Pn 12 35 00.6 +1.1
OGNE Ogallala 4.04 303 Pn Pn 12 35 02.0 +1.6
R40A Maddies Statio 4.17 96 Pn 12 35 02.9 +0.8
WMOK Wichita Mounta 4.21 194 Pn 12 35 04.2 +1.4
X34A Smith Ranch, M 4.24 183 Pn Pn 12 35 04.7 +1.6
X34A IAmb_Lg 12 36 17.7
comp=Z,25nm,0.8s
P40A Paris 4.33 79 Pn Pn 12 35 04.6 +0.3
P40A IAmb_Lg 12 36 26.3
comp=Z,17nm,1.1s
U40A Yellville 4.48 122 Pn 12 35 07.5 +1.1
MGMO Mountain Grove 4.50 110 Pn Pn 12 35 07.1 +0.5
X37A Clayton 4.59 157 Pn 12 35 08.4 +0.5
X37A IAmb_Lg 12 36 35.7
comp=Z,27nm,0.7s
W39A Magazine 4.72 139 Pn 12 35 10.5 +0.8
W39A Magazine 4.72 139 P Pn 12 35 10.8 +1.1
baz=322,SNR=6.2
ECSD EROS Data Cent 4.94 8 Pn 12 35 13.9 +1.3
CCM Cathedral Cave 5.01 97 Pn 12 35 12.8 -0.9
CCM Cathedral Cave 5.01 97 IAmb_Lg 12 36 38.7
comp=Z,9.7nm,0.8s
AMTX Amarillo 5.16 221 Pn 12 35 18.0 +2.2
FCAR Ozark Folk Cen 5.23 123 Pn Pn 12 35 17.8 +1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHAR	Wooly Hollow	5.50	129	Pn	Pn	12 35 21.3	+0.9
W41B	Gary Mavity, V	5.60	129	Pn	Pn	12 35 21.8	0.0
FVM	French Village	5.66	96	Pn	Pn	12 35 22.6	0.0
T25A	Trinidad	5.68	255		Pn	12 35 24.6	+1.5
T25A				IAmb_Lg		12 37 02.2	
	comp=Z,17nm,1.0s						
SUSD	Miller	5.69	350	IAmb_Lg		12 37 10.2	
	comp=Z,16nm,0.8s						
X40A	Basin Creek Fa	5.76	137		Pn	12 35 24.7	+0.6
LCAR	Lake Charles	5.79	117		Pn	12 35 25.4	+1.1
Q24A	Divide	5.93	274	Pn	Pn	12 35 28.4	+1.8
ISCO	Idaho Springs	6.33	281	Pn	Pn	12 35 33.6	+1.5
SDCO	Great Sand Dun	6.35	263	Pn	Pn	12 35 33.5	+1.1
N23A	Red Feather La	6.78	290	Pn	Pn	12 35 39.7	+1.5
237A	Washetta, Mont	6.97	168	IAmb_Lg		12 37 57.6	
	comp=Z,16nm,0.7s						
RSSD	Black Hills	7.18	319	IAmb_Lg		12 38 00.0	
	comp=Z,8.5nm,1.3s						

*LDG **04** 12:38:13.8±0.0, 42°.77N×1°.98E, h10km, Md2.9/1, Ml2.8/15, Error ellipse: s-maj=0.9km s-min=0.8km az=109.0*
*STR **04** 12:38:13.9±0.3, 43°N±3°×°±°, h13km±4km, MLv2.1/7, preliminary*
*MDD **04** 12:38:13.9±0.3, 42°.78N×1°.99E, h4km±4km, mb_Lg2.5/20, Error ellipse: s-maj=2.9km s-min=2.0km az=9.0*
*MRB **04** 12:38:14.1±0.4, 42°.76N×1°.98E, h5km±5km, ML2.0/19, Error ellipse: s-maj=1.5km s-min=1.4km az=220.0*
ISC 04 12:38:12.5±0.9, **42°.78N**±0°.01×**2°.01E**±0°.02, **h19**km±2km, **n65**, σ**1.00**/122, **4C-3D, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FNEB	Nbias	0.15	30	Pg	Pg	12 38 17.4	+0.5
FNEB				Sg	Sg	12 38 20.2	+0.3
FNEB	Nbias	0.15	30	⇓iP	Pg	12 38 18.0	+1.0
FNEB				S	Sg	12 38 20.7	+0.7
CLLI	Llivia	0.30	185	⇑P	Pb	12 38 19.7	+0.5
CLLI				S	Sb	12 38 23.8	+0.2
PAND	Andorre	0.42	234	Pg	Pb	12 38 21.6	+0.1
FILF	Fillols	0.46	118	P	Pg	12 38 21.0	-0.9
FILF				S	Sg	12 38 26.4	-1.9
ARBS	La Rabassa	0.47	226	⇑iP	Pb	12 38 23.0	+0.7
ARBS				S	Sb	12 38 29.5	+0.5
	68nm,0.3s						
CBRU	Bruguera	0.51	165	⇑P	Pn	12 38 23.6	-1.2
CBRU				S	Sb	12 38 30.5	+0.7
	95nm,0.2s						
CEST	Esterri de Car	0.58	253	⇑P	Pb	12 38 24.4	+0.4
CEST				S	Sb	12 38 32.2	+0.4
	154nm,0.1s						
MTLF	Montolieu	0.59	15	ePg	Pn	12 38 24.8	-1.0
MTLF	Montolieu	0.59	15	ePn	Pn	12 38 26.9	+1.1
MTLF				eSg	Sb	12 38 32.4	+0.5
MTLF				eSn	Sn	12 38 35.9	+1.1
	181nm,0.2s						
MLS	Moulis	0.69	286	Pg	Pg	12 38 26.4	+0.2
MLS	Moulis	0.69	286	P	Pn	12 38 26.9	-0.3
MLS				S	Sg	12 38 36.2	+0.7
	60nm,0.3s						
SJAF	Saint Jean de	0.71	114	Pg	Pn	12 38 26.8	-0.6
SJAF				Sg	Sn	12 38 36.7	-1.1
SJAF	Saint Jean de	0.71	114	P	Pn	12 38 27.4	-0.1
CBEU	Beuda	0.72	136	P	Pn	12 38 27.4	-0.2
CBEU				S	Sn	12 38 37.3	-0.8
	41nm,0.1s						
EJON	La Jonquera	0.73	116	Pg	Pn	12 38 27.5	-0.2
EJON				Sg	Sn	12 38 37.4	-1.0
EJON				i Vmb_Lg		12 38 39.0	
CORG	Organya	0.75	223	P	Pn	12 38 27.9	-0.1
CORG				S	Sn	12 38 37.8	-1.0
CSOR	Sort	0.76	239	⇓P	Pn	12 38 27.7	-0.5
CSOR				S	Sg	12 38 38.0	+0.5
	42nm,0.2s						
CORI	Orista	0.80	178	P	Pn	12 38 29.1	+0.3
CORI				S	Sn	12 38 39.6	-0.5
	33nm,0.2s						
CARA	Val d'Aran	0.88	266	⇓P	Pn	12 38 29.7	-0.2
CARA				S	Sn	12 38 41.8	-0.5
	203nm,0.2s						
EMIR	Miracle	0.93	203	Pg	Pn	12 38 31.6	+1.0
EMIR				Sg	Sn	12 38 43.8	+0.4
EMIR				i Vmb_Lg		12 38 46.1	
CPAL	Palau Saverder	0.97	118	P	Pg	12 38 31.8	+0.4
CPAL				S	Sn	12 38 45.4	+1.1
	25nm,0.1s						
CTRE	Tremp	1.02	244	P	Pg	12 38 32.6	+0.3
CTRE				S	Sn	12 38 46.3	+0.7
	19nm,0.2s						
CFON	Fontmartina	1.06	162	P	Pg	12 38 33.8	+0.7
CFON				S	Sg	12 38 48.1	+1.1
	111nm,0.2s						
CCAS	Cassa de la Se	1.11	143	P	Pg	12 38 34.8	+0.8
CCAS				S	Sg	12 38 49.9	+1.3
	22nm,0.3s						
FMON	Montouss	1.20	284	P	Pg	12 38 36.2	+0.5
FMON				S	Sg	12 38 51.7	+0.1
EPF	Esparros	1.25	282	ePn	Pg	12 38 36.5	-0.2
EPF	Esparros	1.25	282	ePg	Pg	12 38 37.0	+0.3
EPF				eSg	Sn	12 38 51.8	+0.5
	23nm,0.2s						
CAVN	Les Avellanes	1.29	227	S	Sg	12 38 54.3	+0.1
	48nm,0.2s						
ECHI	Chisagues Biel	1.34	266	Pn	Pg	12 38 38.2	-0.2
ECHI				Sg	Sg	12 38 55.3	-0.6
ECHI	Chisagues Biel	1.34	266	P	Pg	12 38 38.2	-0.2
ECHI				S	Sg	12 38 56.1	+0.2
	16nm,0.1s						
ECHI	Chisagues Biel	1.34	266	Pg	Pg	12 38 38.3	-0.1
ECHI				Sg	Sb	12 38 54.4	+0.5
ECHI				i Vmb_Lg		12 38 57.3	
VIEF	Viey	1.46	275	Pn	Pb	12 38 39.0	-0.1
VIEF				Pg	Pg	12 38 40.6	-0.1
VIEF				Sn	Sg	12 38 59.0	-0.8
EPOB	Poblet	1.58	206	P	Pg	12 38 42.3	-0.6
EPOB				S	Sg	12 39 03.3	-0.2
	14nm,0.2s						
EPOB	Poblet	1.58	206	Pn	Pg	12 38 42.7	-0.2
EPOB				Sn	Sg	12 39 01.9	-1.6
EPOB				i Vmb_Lg		12 39 05.0	
CGAR	Garraf	1.62	204	P	Pb	12 38 40.9	-0.8
CGAR				S	Sn	12 39 00.3	0.0
MONQ	Montcuq	1.70	340	Pn	Pb	12 38 42.3	-0.7
MONQ				Pg	Pg	12 38 46.1	+0.9
MONQ				Sn	Sg	12 39 07.3	+0.1
LASF	Ste Croix	1.87	45	ePn	Pn	12 38 44.2	+0.7
LASF	Ste Croix	1.87	45	eP	Pb	12 38 46.8	+0.8
LASF	Ste Croix	1.87	45	ePg	Pg	12 38 48.8	+0.3
LASF				eSg	Sg	12 39 13.7	+0.9
	19nm,0.3s						
ETSF	Etsaut	1.89	275	ePg	Pg	12 38 48.9	+0.1
ETSF				eSg	Sg	12 39 11.9	-1.5
	8.5nm,0.2s						
ATE	Arette	2.01	280	Pn	Pb	12 38 47.8	-0.6
ATE				Pg	Pg	12 38 50.5	-0.6
ATE				Sn	Sg	12 39 17.5	+0.2
ATE	Arette	2.01	280	P	Pb	12 38 48.5	+0.1
ATE				S	Sb	12 39 14.0	+0.9
	5.6nm,0.2s						
CAF	Calviac	2.15	1	ePn	Pb	12 38 49.2	-1.6
CAF	Calviac	2.15	1	eP	Pb	12 38 50.9	+0.1
CAF	Calviac	2.15	1	ePg	Pg	12 38 53.5	-0.3
CAF				eSn	Sn	12 39 13.0	-0.5
CAF				eSg	Sg	12 39 21.0	-0.7
	11nm,0.2s						
ERTA	Horta de San J	2.21	215	P	Pb	12 38 50.9	-0.8
ERTA				S	Sb	12 39 17.9	-0.7
	6.7nm,0.6s						
LFF	La Frestale	2.35	337	ePn	Pb	12 38 52.2	-2.0
LFF	La Frestale	2.35	337	ePg	Pg	12 38 57.5	-0.1
LFF				eSn	Sn	12 39 18.5	+0.2
LFF				eSg	Sg	12 39 27.1	-0.9
	25nm,0.3s						
SJPF	Ste Jean	2.40	279	ePg	Pg	12 38 57.8	-0.7
SJPF				eSg	Sg	12 39 28.9	-0.7
	5.0nm,0.3s						
CMAS	Mas de Barbera	2.41	212	P	Pb	12 38 53.5	-1.6
CMAS				S	Sb	12 39 23.2	-1.2
	6.8nm,0.2s						
RJF	Les Rejaudoux	2.55	352	ePg	Pg	12 39 00.6	-0.8
RJF				eSn	Sn	12 39 22.6	-0.8
RJF				eSg	Sg	12 39 33.5	-1.1
	5.8nm,0.2s						
VIVF	Saint-Julien-l	2.84	42	ePn	Pn	12 38 58.2	+1.5
VIVF	Saint-Julien-l	2.84	42	ePg	Pg	12 39 06.2	-0.7
VIVF				eSg	Sg	12 39 43.1	-0.5
	5.4nm,0.2s						
LMR	La Mourre	3.35	79	ePn	Pn	12 39 05.1	+1.4
LMR				eSn	Sn	12 39 42.8	-0.1
LMR				eSg	Sg	12 39 59.1	-0.8
	2.7nm,0.2s						
TCF	Toulx Ste Croi	3.52	2	ePg	Pg	12 39 18.6	-1.2
TCF				eSg	Sg	12 40 03.7	-1.6
	3.3nm,0.3s						
ETOR	Torete	3.61	239	Pn	Pn	12 39 09.6	+2.2
ETOR				Sn	Sn	12 39 49.7	+0.2
ETOR				i Vmb_Lg		12 40 14.7	
BGF	Bois d'Agland	3.83	9	ePn	Pn	12 39 11.6	+1.3
BGF	Bois d'Agland	3.83	9	ePg	Pg	12 39 24.7	-1.1
BGF				eSg	Sg	12 40 14.4	-1.0
	11nm,0.3s						
MFF	Saint Martin d	4.12	339	ePn	Pn	12 39 15.3	+0.9
MFF	Saint Martin d	4.12	339	eP	Pn	12 39 18.9	+4.5
MFF	Saint Martin d	4.12	339	ePg	Pg	12 39 30.0	-1.4
MFF				eSn	Sn	12 40 01.7	-0.3
MFF				eSg	Sg	12 40 22.9	-1.9
	4.4nm,0.3s						
AVF	Avril sur Loir	4.13	13	ePn	Pn	12 39 16.7	+2.3
AVF				eSg	Sg	12 40 23.0	-1.9
	1.5nm,0.3s						
LPL	La Plagne	4.37	50	ePn	Pn	12 39 19.2	+1.3
SSF	Saint Saulge	4.42	13	ePn	Pn	12 39 20.8	+2.4

*IDC **04** 12:52:05.6±2.4, 56°.47N×10°.04E, h0km, mb1 3.1/5, mb1mx3.0/43, mbtmp3.0/5, ML2.2/4, Error ellipse: s-maj=27.3km s-min=18.0km az=139.0*
*DNK **04** 12:52:05.5±2.0, 56°.24N×10°.40E, h0km, ML2.0, Explosion*
ISC 04 12:52:03.9±1.2, **56°.49N**±0°.07×**10°.20E**±0°.05, **h0**km, **n15**, σ**1.81**/19, **Denmark**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUD	Monsted U'grnd	0.57	267	i P	Pn	12 52 20.0	+0.7
MUD				IAML		12 52 24.7	
	comp=Z,34nm,0.4s						
ONAU	Onsala	1.31	45	i P	Pb	12 52 31.9	+2.6
FABU	Falkenberg	1.48	69	i P	Pg	12 52 32.2	-0.1
FABU				i S	Sn	12 52 52.1	+0.3
TJOU	Tjoern	1.73	26	i P	Pg	12 52 39.1	+2.0
BORU	Boraas	1.81	50	i P	Pg	12 52 40.2	+1.6
HOMB	Homborsund	2.01	334	i P	Pg	12 52 43.0	+0.6
DEL	Delary	2.04	89	i P	Pn	12 52 38.1	-1.3
STRU	Stroemstad	2.61	11	i P	Pb	12 52 52.1	+0.6
BSD	Bornholm Skovb	3.00	115	i P	Pn	12 52 52.8	+0.2
BLEU	Blekinge	3.13	91	eP	Pn	12 52 55.1	+0.7
BLEU				IAML		12 53 03.0	
	comp=Z,0.6nm,0.4s						
HFS	Hagfors	4.09	25	Pn	Pn	12 53 06.6	-1.1
	comp=Z,0.1nm,0.3s,baz=67,slow=11,SNR=1.4						
HFS				Sn	Sn	12 53 56.5	+0.3
	comp=Z,0.2nm,0.3s,baz=59,slow=3.8,SNR=1.6						
HFS				Lg	Lg	12 54 16.7	
	comp=Z,0.7nm,0.3s,baz=16,slow=42,SNR=2.3						
NOA	NORSAR Array B	4.60	6	Pn	Pn	12 53 15.7	+1.0
	comp=Z,0.0nm,0.3s,baz=134,slow=24,SNR=7.1						
NOA				Sn	Sn	12 54 06.5	-2.2
	comp=Z,0.0nm,0.3s,baz=21,slow=19,SNR=1.2						
EKA	Eskdalemuir Ar	7.60	267	Pn	Pn	12 53 55.4	-0.4
	baz=78,slow=14,SNR=7.2						
FINES	FINESS Array B	9.57	52	Pn	Pn	12 54 22.4	-0.4
	comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=3.3						
FINES				Sn	Sn	12 56 06.1	-4.9
	comp=Z,0.2nm,0.3s,baz=230,slow=24,SNR=1.9						
ARCES	ARCESS Array B	14.75	21	Pn	Pn	12 55 31.4	-2.1
	baz=208,slow=13,SNR=1.2						

*TUL **04** 13:07:09.8±0.9, 36°.73N±0°.02×98°.16W±0°.02, h6km±7km, ML3.3, mb_Lg2.9/42(NEIC), Error ellipse: s-maj=3.2km s-min=1.4km az=137.0*
*NEIC **04** 13:07:09.9±1.0, 36°.70N±0°.03×98°.13W±0°.04, h9km±7km, Error ellipse: s-maj=6.4km s-min=0.5km az=135.0*
*ANF **04** 13:07:10.1±0.3, 36°.71N×98°.12W, h5km, ML3.6/13, Error ellipse: s-maj=4.3km s-min=2.7km az=170.0*
ISC 04 13:07:10.1±0.8, **36°.72N**±0°.04×**98°.11W**±0°.03, **h10**km, **n54**, σ**0.65**/49, **Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.79	245	Pg	Pg	13 07 24.3	-1.1
U32A	Winter Ranch,	0.79	245	P	Pg	13 07 24.5	-0.9
	baz=64,SNR=31						
U32A				S	Sg	13 07 35.4	-0.4
	baz=64						
T35A	Sooner Cattle	1.30	81		Pn	13 07 34.2	-0.2
T35B	Sooner Cattle	1.30	81	P	Pn	13 07 34.5	+0.1
	baz=262						
T35B				S	Sg	13 07 52.6	+0.6
	baz=262						
FNO	Franklin	1.57	158		Pn	13 07 38.0	-0.1
R32A	Long Quarter,	1.77	345	Pn	Pn	13 07 41.4	+0.6
R32A	Long Quarter,	1.77	345	P	Pn	13 07 42.0	+1.2
	baz=165,SNR=32						
R32A				S	Sb	13 08 05.2	+0.3
	baz=165						
W35A	Tecumseh	1.86	147		Pn	13 07 42.2	+0.1
TUL1	Leonard	2.04	113	Pn	Pn	13 07 44.4	-0.2
TUL1				IAmb_Lg		13 08 15.4	
	comp=Z,43nm,0.8s						
TUL1	Leonard	2.04	113	P	Pb	13 07 46.6	-0.7
	baz=294						
TUL1				Sb	Sg	13 08 14.8	-1.0
	baz=294						
WMOK	Wichita Mounta	2.05	196		Pn	13 07 44.7	0.0
WMOK	Wichita Mounta	2.05	196	P	Pn	13 07 45.8	+1.0
	baz=15,SNR=49						
CBKS	Cedar Bluff	2.46	329	Pn	Pn	13 07 50.2	-0.1
KSU1	Kansas State U	2.66	26	Pn	Pn	13 07 53.6	+0.6
KSU1				IAmb_Lg		13 08 39.8	
	comp=Z,34nm,0.7s						
X37A	Clayton	3.08	133	Pn	Pn	13 07 59.4	+0.5
X37A	Clayton	3.08	133	P	Pn	13 07 60.0	+1.1
	baz=314,SNR=14						
HHAR	Hobbs	3.39	96	Pn	Pn	13 08 03.3	+0.2
AMTX	Amarillo	3.43	239	Pn	Pn	13 08 04.1	+0.3
AMTX	Amarillo	3.43	239	P	Pb	13 08 11.7	+0.6
	baz=56						
Z35A	Perchaven, San	3.45	168	Pn	Pn	13 08 04.7	+0.7
W39A	Magazine	3.83	112	Pn	Pn	13 08 10.2	+1.1
W39A				IAmb_Lg		13 09 18.7	
	comp=Z,35nm,1.0s						
W39A	Magazine	3.83	112	S	Sn	13 08 55.2	+1.0
	baz=295						
S39A	Bolivar	3.95	74	Pn	Pn	13 08 11.2	+0.5
S39A				IAmb_Lg		13 09 22.3	
	comp=Z,24nm,0.9s						
S39A	Bolivar	3.95	74	P	Pn	13 08 11.5	+0.7
	baz=257,SNR=12						
N33A	J Bar K, Exete	4.05	7	Pn	Pn	13 08 11.6	-0.5
U40A	Yellville	4.25	93	Pn	Pn	13 08 15.6	+0.6
U40A	Yellville	4.25	93	S	Sn	13 09 04.9	+0.2
	baz=276						
U40A				S	Sn	13 09 04.9	+0.2
	baz=276						
ABTX	Abilene, Hawle	4.28	198	Pn	Pn	13 08 15.4	+0.1
ABTX				IAmb_Lg		13 09 28.1	
	comp=Z,19nm,0.7s						
ABTX	Abilene, Hawle	4.28	198	P	Pb	13 08 25.9	+0.5
	baz=16						
Z38A	Mt. Pleasant	4.30	142	IAmb_Lg		13 09 32.1	
	comp=Z,22nm,0.7s						
P38A	Dawn	4.63	50	Pn	Pn	13 08 20.9	+0.7
P38A				IAmb_Lg		13 09 48.0	
	comp=Z,24nm,0.8s						
BGNE	Belgrade	4.68	360	Pn	Pn	13 08 20.9	0.0
BGNE				IAmb_Lg		13 09 50.8	
	comp=Z,36nm,0.8s						
MSTX	Muleshoe	4.69	236	Pn	Pn	13 08 21.2	+0.1
MSTX				IAmb_Lg		13 09 43.8	
	comp=Z,31nm,1.2s						
MGMO	Mountain Grove	4.70	83	Pn	Pn	13 08 21.9	+0.7
MGMO				IAmb_Lg		13 09 38.9	
	comp=Z,18nm,0.7s						
WHTX	Lake Whitney,	4.75	173	Pn	Pn	13 08 22.1	+0.3
WHTX	Lake Whitney,	4.75	173	P	Pn	13 08 22.3	+0.5
	baz=353,SNR=20						
X40A	Basin Creek Fa	4.84	116	Pn	Pn	13 08 24.0	+0.9
X40A				IAmb_Lg		13 09 51.7	
	comp=Z,24nm,0.8s						
R40A	Maddies Statio	4.91	70	Pn	Pn	13 08 24.4	+0.5
R40A	Maddies Statio	4.91	70	P	Pn	13 08 25.5	+1.6
	baz=253,SNR=8.6						
FCAR	Ozark Folk Cen	4.91	98	Pn	Pn	13 08 24.7	+0.7
WHAR	Wooly Hollow	4.93	105	Pn	Pn	13 08 24.1	-0.2
WHAR				IAmb_Lg		13 09 56.8	
	comp=Z,25nm,0.8s						
W41B	Gary Mavity, V	5.00	106	IAmb_Lg		13 09 57.5	
	comp=Z,19nm,0.7s						
T25A	Trinidad	5.06	277	Pn	Pn	13 08 26.1	-0.2
UALR	University of	5.08	111	IAmb_Lg		13 09 57.6	
	comp=Z,25nm,0.9s						
OGNE	Ogallala	5.21	325	Pn	Pn	13 08 28.1	-0.1
P40A	Paris	5.54	58	Pn	Pn	13 08 32.7	0.0
P40A				IAmb_Lg		13 10 10.7	
	comp=Z,19nm,0.7s						
Z41A	Richland Creek	5.56	127	IAmb_Lg		13 10 23.5	
	comp=Z,16nm,0.7s						
N38A	Joes South For	5.57	42	Pn	Pn	13 08 33.0	-0.1
CCM	Cathedral Cave	5.63	74	IAmb_Lg		13 10 10.7	
	comp=Z,22nm,0.8s						
LCAR	Lake Charles	5.65	95	IAmb_Lg		13 10 14.5	
	comp=Z,18nm,0.8s						
Q24A	Divide	6.00	294	IAmb_Lg		13 10 29.2	
	comp=Z,16nm,0.8s						
PBMO	Poplar Bluff	6.17	87	IAmb_Lg		13 10 36.2	
	comp=Z,19nm,0.7s						
S44A	Carbondale	7.14	80	IAmb_Lg		13 11 03.7	
	comp=Z,20nm,0.9s						
SIUC	Southern Illin	7.17	79	IAmb_Lg		13 10 57.0	
	comp=Z,21nm,0.8s						

GUC 04 13:22:50.1±0.6, **25°.02S**×**69°.00W**, **h121**km±5km, **ML4.0**, **6C-8D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	0.55	255	⇓iP	Pn	13 23 08.6	-0.2
GO02				i S	Sn	13 23 22.8	-0.2
GO02				IAML		13 23 24.8	
	comp=N,3µm,0.1s						
PB14	IPOC Station P	1.33	287	⇓iP	Pn	13 23 16.4	+0.4
PB14				i S	Sn	13 23 36.0	+0.3
AC02	Maricunga	1.81	184	eP	Pn	13 23 21.5	-0.2
AC02				eS	Sn	13 23 45.9	0.0
AC01	Pan de Azucar	1.82	232	⇑iP	Pn	13 23 20.8	-0.7
PB15	IPOC Station P	1.86	347	⇓iP	Pn	13 23 22.4	+0.3
PB15				i S	Sn	13 23 46.8	+0.4
PB10	IPOC Station P	2.06	316	⇓iP	Pn	13 23 24.9	+0.5
PB10				i S	Sn	13 23 50.2	-0.5
PB06	IPOC Station P	2.37	347	⇓iP	Pn	13 23 28.7	+0.3
PB06				i S	Sn	13 23 57.7	-0.1
PB06				IAML		13 23 59.8	
	comp=N,622nm,0.6s						
LVC	Limon Verde	2.41	2	⇑iP	Pn	13 23 29.3	+0.2
LVC				i S	Sn	13 23 58.3	-0.7
GO03	Copiap	2.79	203	⇑iP	Pn	13 23 32.2	-1.5
GO03				i S	Sn	13 24 01.4	-5.9
PB04	IPOC Station P	2.88	338	⇓iP	Pn	13 23 34.5	-0.5
PB04				eS	Sn	13 24 10.1	+0.5
PB09	IPOC Station P	3.22	356	⇓iP	Pn	13 23 39.9	+0.4
PB09				eS	Sn	13 24 18.7	+1.1
PB09				IAML		13 24 20.2	
	comp=N,175nm,0.3s						
PB07	IPOC Station P	3.38	346	⇓iP	Pn	13 23 40.8	-0.8
PB07				i S	Sn	13 24 16.3	-5.2
PB07				IAML		13 24 27.2	
	comp=E,174nm,0.6s						
VCA	Vinchina	3.77	169	eP	Pn	13 23 46.6	0.0
PB02	IPOC Station P	3.78	347	eP	Pn	13 23 45.9	-1.0
PB02				eS	Sn	13 24 30.4	-0.4
PB01	IPOC Station P	3.99	353	⇑iP	Pn	13 23 48.8	-0.8
PB01				i S	Sn	13 24 33.1	-2.6
PB01				IAML		13 24 40.2	
	comp=E,128nm,0.4s						
PATCX	Punta Patache	4.32	346	⇑iP	Pn	13 23 52.3	-1.7
PATCX				i S	Sn	13 24 41.5	-2.1
PATCX				IAML		13 24 42.7	
	comp=N,81nm,0.4s						
PB08	IPOC Station P	4.86	358	⇑iP	Pn	13 24 00.5	-1.1
PB08				i S	Sn	13 24 56.1	-1.1
PB08				IAML		13 24 57.8	
	comp=N,35nm,0.2s						
CO01	Juntas del Tor	5.03	191	eP	Pn	13 24 02.0	-1.7

*IDC **04** 13:23:06.0±0.4, 14°.17S×166°.77E, h0km, mb4.9/27, mb1 4.9/30, mb1mx4.8/44, mbtmp4.9/30, ML2.6/1, MS4.9/43, Ms1 5.0/43, ms1mx4.8/66, Error ellipse: s-maj=14.6km s-min=11.3km az=91.0*
*MOS **04** 13:23:08.4±0.8, 14°.15S×166°.49E, h20km, mb5.4/45, MS4.9/7, Error ellipse: s-maj=12.7km s-min=7.3km az=121.3*
*NEIC **04** 13:23:10.5±1.8, 14°.18S±0°.07×166°.66E±0°.09, h23km±3km, mb5.3/98, Error ellipse: s-maj=13.5km s-min=8.5km az=63.0*
*BJI **04** 13:23:11.9±0.0, 13°.90S×166°.68E, h37km, mb5.0/68, mB5.3/59, Ms5.1/62, Ms7 4.8/59*
*GCMT **04** 13:23:13.5±0.1, 14°.14S±0°.01×166°.49E±0°.01, h20km, MW5.4/132, Moment Tensor Solution. s132,c229; s131,c234; Duration: 1.3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.46±.02; $M_{\theta\theta}$-0.11±.02; $M_{\phi\phi}$-1.34±.02; $M_{r\theta}$0.72±.03; $M_{\theta\phi}$0.41±.01; $M_{\phi r}$-0.50±.03; Best double couple: $M_0$1.70200×10^{17} NP1:ϕ_s358.00000°, δ34.00000°, λ118.00000°. NP2:ϕ_s146.00000°, δ60.00000°, λ72.00000°. Principal axes: T 1.7740, Plg69.0000°, Azm18.0000°; N -0.1370, Plg15.0000°, Azm155.0000°; P -1.6310, Plg13.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 13:23:11.0±0.5, **14°.23S**±0°.04×**166°.72E**±0°.05, **h33**km±2km, **h35**km**:pP-P**, **n481**, σ**1.64**/518, **mb5.2**/138, **MS4.9**/71, **27C-10D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.30	159	Pn	Pn	13 23 32.6	-0.2
LIFNC	LIFOU	6.53	176	Pn	Pn	13 24 46.1	+1.3
KOUNC	Koumac, New Ca	6.70	200	Pn	Pn	13 24 48.1	+1.0
MARNC	Mare, Loyalty	7.32	170		Pn	13 24 58.2	+2.5
DZM	Mont Dzumac	7.80	182	Pn	Pn	13 25 03.3	+0.9
	11nm,0.3s,baz=356,slow=16,SNR=46						
DZM				Sn	Sn	13 26 30.9	+1.3
	4.8nm,0.3s,baz=152,slow=20,SNR=1.5						
DZM				LR	LR	13 27 19.0	
	comp=Z,4µm,21.6s,baz=358,slow=32						
DZM	Mont Dzumac	7.80	182	ePn	Pn	13 25 05.0	+2.6
	161nm,0.6s						
DZM				eSn	Sn	13 26 31.3	+1.7
	141nm,0.6s						
DZM				eLR	LR	13 26 53.5	
	comp=Z,15µm,24.9s						
DZM	Mont Dzumac	7.80	182	Pn	Pn	13 25 03.9	+1.5
ONTNC	Ouen Toro	8.04	182	Pn	Pn	13 25 06.9	+1.4
OUENC	Ouen Island, N	8.14	179		Pn	13 25 08.4	+1.5
HNR	Honiara	8.16	305	Pn	Pn	13 25 07.4	+0.1
	41nm,0.3s,baz=162,slow=5.6,SNR=9.2						
HNR				Sn	Sn	13 26 33.4	-5.1
	baz=194,slow=23,SNR=0.9						
HNR				LR	LR	13 28 14.9	
	comp=Z,6µm,19.5s,baz=146,slow=38						
HNR	Honiara	8.16	305	P	Pn	13 25 06.0	-1.2
HNR	Honiara	8.16	305		Pn	13 25 06.0	-1.2
PINNC	Pines Island,	8.37	175		Pn	13 25 12.3	+2.3
MSVF	Nonsavu	11.44	109	LR	LR	13 29 22.3	
	comp=Z,12µm,18.8s,baz=279,slow=33						
KRVT	Keravat (AS076	17.52	303	LR	LR	13 34 31.3	
	comp=Z,4µm,19.2s,baz=264,slow=39						
EIDS	Eidsvold	18.40	231	P	Pn	13 27 24.9	+1.3
	baz=19,SNR=5.2						
EIDS	Eidsvold	18.40	231	P	P	13 27 21.3	-2.1
PMG	Port Moresby	19.73	282	P	Pn	13 27 39.7	0.0
	0.6nm,0.3s,baz=101,slow=6.1,SNR=10						
PMG				LR	LR	13 34 09.9	
	comp=Z,5µm,18.9s,baz=82,slow=34						
PMG	Port Moresby	19.73	282	i P	P	13 27 37.1	-1.0

PMG pmax pmax
comp=Z,38nm,1.2s
CTA Charters Tower 20.39 251 P **P** **13 27 46.4 +1.1**
comp=Z,43nm,1.2s,baz=74,slow=13,SNR=9.3
CTA LR LR 13 34 49.3
comp=Z,5μm,18.9s,baz=74,slow=34
RMQ Roma 20.75 231 P Pn 13 27 51.5 -0.2
baz=21,SNR=30
AFI Afiamalu 20.87 92 P **P** **13 27 50.3 -0.2**
comp=Z,34nm,1.0s,baz=265,slow=15,SNR=2.7
AFI LR LR 13 34 22.2
comp=Z,3μm,18.2s,baz=262,slow=32
ARMA Armidale 21.27 218 P **P** **13 27 57.1 +2.2**
baz=22,SNR=6.6
MTSU Mount Surprise 21.85 257 P **P** **13 28 02.2 +1.2**
baz=22,SNR=7.0
COEN Coen 22.83 268 P **P** **13 28 11.9 +0.4**
COEN lAmb lAmb 13 28 24.4
comp=Z,109nm,1.4s
RIV Riverview 24.08 213 P **P** **13 28 26.5 +3.0**
baz=24,SNR=3.0
QLP Quilpie 24.34 236 P **P** **13 28 26.9 +0.9**
baz=24,SNR=10
HIZ Hauiti 25.24 165 P **P** **13 28 35.8 +1.8**
URZ Urewera 25.64 161 P **P** **13 28 39.1 +1.4**
comp=Z,5.7nm,0.6s,baz=350,slow=6.9,SNR=2.1
URZ LR LR 13 37 47.5
comp=Z,3μm,18.5s,baz=346,slow=34
CMSA Cobar Meteorol 25.84 225 P **P** **13 28 41.3 +1.8**
baz=26,SNR=11
QIS Mount Isa 26.60 252 P **P** **13 28 46.3 -0.2**
baz=27,SNR=5.7
POWZ Post Office Ro 27.24 165 P **P** **13 28 47.9 -4.2**
PRWZ Pori Road 27.45 165 P **P** **13 28 48.8 -5.1**
MRZ Mangatainoka R 27.45 165 P **P** **13 28 48.4 -5.5**
KIW Kapiti Island 27.48 166 P **P** **13 28 54.4 +0.2**
NNZ Nelson 27.51 169 P P 13 29 06.6 +12
TIWZ Tintock 27.63 165 P **P** **13 28 51.0 -4.6**
BFZ Birch Farm 27.64 164 P **P** **13 28 48.8 -6.9**
HOWZ Holdsworth Sta 27.66 166 P **P** **13 28 52.3 -3.5**
TCW Tory Channel 27.68 168 P **P** **13 29 00.7 +4.8**
CAW Cannon Point 27.75 166 P **P** **13 28 54.4 -2.2**
TUWZ Tuamarina 27.82 168 P **P** **13 29 02.8 +5.6**
TMWZ Te Maipa 27.95 165 P **P** **13 28 54.0 -4.4**
THZ Tophouse 27.95 170 P **P** **13 28 59.4 +0.9**
MSWZ Moikau Station 28.09 166 P **P** **13 28 55.7 -3.9**
PAWZ Paruwai Farm 28.09 166 P **P** **13 28 58.6 -1.1**
LTZ Lake Taylor 28.85 172 P **P** **13 29 07.0 +0.6**
STKA Stephens Creek 28.91 228 P **P** **13 29 08.2 +1.0**
comp=Z,10nm,0.5s,baz=45,slow=8.3,SNR=38
STKA PcP **PcP** **13 32 15.9 0.0**
comp=Z,6.0nm,0.9s,baz=75,slow=6.2,SNR=2.9
STKA LR LR 13 40 50.6
comp=Z,8μm,18.1s,baz=55,slow=37
STKA Stephens Creek 28.91 228 P **P** **13 29 08.1 +1.0**
baz=29,SNR=35
STKA Stephens Creek 28.91 228 *i* P **P** **13 29 06.6 -0.5**
STKA Stephens Creek 28.91 228 P **P** **13 29 07.9 +0.8**
RPZ Rata Peaks 29.62 174 P **P** **13 29 14.7 +1.5**
comp=Z,24nm,0.8s,baz=128,slow=11,SNR=9.5
RPZ LR LR 13 41 09.7
comp=Z,3μm,18.7s,baz=349,slow=36
RPZ Rata Peaks 29.62 174 P **P** **13 29 13.4 +0.1**
RPZ lAmb lAmb 13 29 19.6
comp=Z,30nm,0.9s
MQZ McQueen's Vall 29.81 171 P **P** **13 29 13.7 -1.2**
MQZ lAmb lAmb 13 29 16.3
comp=Z,42nm,1.3s
LBZ Lake Benmore 30.20 175 P **P** **13 29 19.1 +0.8**
ODZ Otahua Downs 30.89 175 P **P** **13 29 25.1 +0.6**
MLZ Mavora Lakes 31.06 178 P **P** **13 29 26.6 +0.7**
WR0 Warramunga Arr 31.24 255 P **P** **13 29 26.0 -1.9**
WB0 Warramunga Arr 31.36 255 P **P** **13 29 27.5 -1.5**
WRAB Tennant Creek 31.42 255 P **P** **13 29 28.1 -1.4**
WRAB pmax pmax
comp=Z,17nm,1.3s
WRAB Tennant Creek 31.42 255 P **P** **13 29 28.1 -1.4**
WRA Warramunga Arr 31.43 255 P **P** **13 29 27.9 -1.6**
comp=Z,4.5nm,0.8s,baz=84,slow=8.7,SNR=27
WRA ScP **ScP** **13 36 06.5 +3.1**
comp=Z,0.7nm,0.8s,baz=86,slow=2.9,SNR=2.6
WRA PKiKP **PKiKP** **13 39 50.6 -1.6**
comp=Z,0.6nm,0.9s,baz=18,slow=0.8,SNR=6.2
WRA LR LR 13 41 50.2
comp=Z,4μm,18.1s,baz=56,slow=36
WRA Warramunga Arr 31.43 255 *i* P **P** **13 29 27.8 -1.7**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 31.43 255 P **P** **13 29 27.6 -2.0**
WHZ Wether Hill Ro 31.58 178 P **P** **13 29 30.3 -0.2**
WHZ lAmb lAmb 13 29 55.3
comp=Z,43nm,1.3s
HTT Hallett 31.64 228 P **P** **13 29 32.7 +1.4**
baz=32,SNR=7.2
AS31 Alice Springs 32.35 248 P **P** **13 29 35.8 -1.9**
ASAR Alice Springs 32.35 248 P **P** **13 29 36.2 -1.4**
comp=Z,3.9nm,0.6s,baz=72,slow=9.5,SNR=66
ASAR ScP **ScP** **13 36 08.7 +2.2**
comp=Z,1.3nm,0.8s,baz=88,slow=3.3,SNR=4.8
ASAR PKiKP **PKiKP** **13 39 51.1 -1.8**
comp=Z,0.3nm,0.7s,baz=96,slow=1.6,SNR=6.5
ASAR LR LR 13 41 56.6
comp=Z,3μm,19.5s,baz=72,slow=35
ASAR Alice Springs 32.35 248 P **P** **13 29 36.8 -0.9**
ASAR Alice Springs 32.35 248 P **P** **13 29 36.8 -0.9**
RAR Rarotonga 32.62 107 LR LR 13 40 23.7
comp=Z,1μm,20.8s,baz=287,slow=32
KDU Kakadu 33.32 268 P **P** **13 29 45.5 -0.6**
baz=33,SNR=7.2
BBOO Buckleboo 33.47 231 P **P** **13 29 48.5 +1.3**
baz=34,SNR=38
BBOO Buckleboo 33.47 231 P **P** **13 29 47.3 +0.1**
BBOO lAmb lAmb 13 29 55.7
comp=Z,30nm,0.8s
MTN Manton Dam 34.60 268 P **P** **13 29 57.9 +0.6**
baz=35,SNR=5.3
MTN Manton Dam 34.60 268 P **P** **13 29 57.1 -0.1**
MTN lAmb lAmb 13 30 10.5
comp=Z,22nm,0.9s
KNRA Kununurra 36.66 263 P **P** **13 30 14.1 -0.9**
baz=37,SNR=12
KNRA Kununurra 36.66 263 P **P** **13 30 13.7 -1.3**
KNRA lAmb lAmb 13 30 25.7
comp=Z,77nm,1.3s
SIJI Sorong 37.48 288 LR LR 13 46 45.9
comp=Z,3μm,18.1s,baz=130,slow=38
SWI Sorong 37.49 288 P **P** **13 30 22.1 +0.1**
comp=Z,36nm,1.1s
WRKA Warakurna 37.63 247 P **P** **13 30 22.3 -0.9**
baz=38,SNR=54
FORT Forrest 39.09 238 P **P** **13 30 35.9 +0.6**
baz=39,SNR=11
FORT Forrest 39.09 238 P **P** **13 30 35.8 +0.4**
FORT lAmb lAmb 13 30 50.0
comp=Z,45nm,0.7s
FITZ Fitzroy Crossi 39.58 259 P **P** **13 30 39.4 -0.2**
comp=Z,5.3nm,0.8s,baz=91,slow=6.9,SNR=19
FITZ LR LR 13 47 00.7
comp=Z,4μm,18.2s,baz=92,slow=36
FITZ Fitzroy Crossi 39.58 259 P **P** **13 30 39.0 -0.6**
LBMI Labuha 41.06 286 P **P** **13 30 51.9 0.0**
comp=Z,1μmcomp=Z,79nm,1.4s
SANI Sanana 42.01 283 P **P** **13 30 59.5 -0.1**
comp=Z,954nmcomp=Z,35nm,1.0s
PPT2 Papeete2 42.10 101 *e*S S 13 37 35.3 +17
comp=Z,595nm,23.4s
PPT2 *e*LQ LQ 13 41 13.6
comp=Z,3μm,29.2s
PPT2 *e*LR LR 13 43 00.3
comp=Z,2μm,25.5s,baz=262
PPT Papeete 42.10 101 LR LR 13 44 22.6
comp=Z,924nm,19.6s,baz=282,slow=30
BATI Baumata 42.22 270 LR LR 13 48 39.3
comp=Z,2μm,20.1s,baz=126,slow=36
BATI Baumata 42.22 270 P **P** **13 31 01.5 +0.1**
comp=Z,1μmcomp=Z,109nm,0.9s
TBI Tubuai 42.33 109 *e*S S 13 37 38.7 +17
comp=Z,598nm,26.8s
TBI *e*LQ LQ 13 41 20.0
comp=Z,2μm,28.8s
TBI *e*LR LR 13 43 09.2
comp=Z,2μm,23.8s,baz=277
BBSI Bau Bau 44.28 277 P **P** **13 31 18.2 +0.2**
comp=Z,104nmcomp=Z,8.7nm,1.4s
PSA00 Pilbara Seismi 45.06 254 P **P** **13 31 24.0 -0.1**
BSSI Bau Bau, Buton 46.13 275 P **P** **13 31 32.7 0.0**
comp=Z,432nmcomp=Z,23nm,1.6s
APSI Ampana 46.48 283 P **P** **13 31 35.3 -0.1**
comp=Z,596nmcomp=Z,42nm,1.1s
MEEK Meekatharra 46.48 247 P **P** **13 31 35.5 +0.1**
baz=47,SNR=23
MRSI Marisa 46.66 284 P **P** **13 31 36.7 -0.1**
comp=Z,687nmcomp=Z,17nm,1.0s
BKSI Bulukumba 46.68 276 P **P** **13 31 37.0 0.0**
comp=Z,532nmcomp=Z,14nm,1.6s
BNSI Bone 46.93 277 P **P** **13 31 39.0 0.0**
comp=Z,827nmcomp=Z,50nm,1.5s
KAPI Kappang 47.12 276 *i* P **P** **13 31 40.4 0.0**
KAPI pmax pmax
comp=Z,14nm,1.0s
KAPI Kappang 47.12 276 P **P** **13 31 39.8 -0.6**
SPSI Sidrap Palu 47.37 278 P **P** **13 31 42.4 0.0**
comp=Z,19nm,1.6s
KLBR Kellerberrin 47.88 240 P **P** **13 31 46.1 -0.1**
baz=48,SNR=7.1
PLAI Plampang 48.18 271 P **P** **13 31 48.7 0.0**
comp=Z,76nm,0.8s
MPSI Mapaga 48.54 283 P **P** **13 31 51.3 -0.1**
comp=Z,626nmcomp=Z,29nm,0.9s
MORW Morawa 49.00 244 P **P** **13 31 55.6 +0.7**
baz=49,SNR=8.3
MORW Morawa 49.00 244 P **P** **13 31 54.1 -0.7**
MORW lAmb lAmb 13 32 05.2
comp=Z,26nm,0.8s
MUN Mundaring 49.24 240 P **P** **13 31 58.2 +1.6**
baz=49,SNR=5.4
KHLU Kahalu`u 49.84 49 P **P** **13 32 01.7 +0.3**
HUH Hualalai 49.94 48 P **P** **13 32 02.7 +0.3**
RIM Rim 50.17 49 P **P** **13 32 05.2 +1.3**
UWE Uwekahuna 50.17 49 P **P** **13 32 05.4 +1.5**
NPH North Pit 50.17 49 P **P** **13 32 06.0 +2.1**
OBL Observatory Le 50.17 49 P **P** **13 32 05.6 +1.7**
BYL Byron's Ledge 50.19 49 P **P** **13 32 05.1 +1.1**
HATHI Halema'uma'u T 50.19 49 P **P** **13 32 05.5 +1.4**
IGBI Denpasar 50.73 270 P **P** **13 32 08.2 0.0**
comp=Z,3μmcomp=Z,135nm,0.7s
SRBI Singaraja 50.81 271 P **P** **13 32 08.8 0.0**
comp=Z,2μmcomp=Z,47nm,1.5s
JAGI Jajag, Banyuwa 51.77 270 P **P** **13 32 15.0 -1.0**
JAGI Jajag, Banyuwa 51.77 270 P **P** **13 32 15.9 -0.1**
comp=Z,105nm,1.4s
ABJI Asem Bagus 51.82 271 P **P** **13 32 16.3 0.0**
comp=Z,121nm,1.4s
BBKI Banjar Baru 52.25 277 P **P** **13 32 19.4 -0.1**
comp=Z,2μmcomp=Z,41nm,1.8s
TAOE Nuku Hiva Isla 52.25 90 *e*S S 13 39 58.4 +15
comp=Z,790nm,26.4s
TAOE *e*LR LR 13 47 43.4
comp=Z,2μm,22.1s,baz=259
BLJI Banyuglugur 52.45 271 P **P** **13 32 21.0 0.0**
comp=Z,1μmcomp=Z,54nm,0.9s
KKM Kota Kinabalu 53.99 288 P **P** **13 32 31.7 -0.8**
PCJI Pacitan 54.71 270 P **P** **13 32 37.5 -0.1**
comp=Z,141nm,1.2s
JOW Kunigami 55.32 318 P **P** **13 32 42.2 +0.5**
JOW lAmb lAmb 13 32 49.7
comp=Z,22nm,0.8s
UGM Wanagama 55.40 270 P **P** **13 32 42.7 0.0**
JYT Yasato 56.09 334 P **P** **13 32 47.2 +0.1**
INU Inuyama 56.78 331 P **P** **13 32 51.6 -0.4**
INU lAmb lAmb 13 32 59.4
comp=Z,37nm,1.3s
JGF Kuroka 56.83 331 P **P** **13 32 52.6 +0.2**
JMN Monobe 57.04 327 P **P** **13 32 53.6 -0.4**
KPJI Karang Pucung 57.06 270 P **P** **13 32 54.3 -0.1**
comp=Z,81nm,0.9s
MJAR Matsushiro Arr 57.22 333 P **P** **13 32 54.6 -0.5**
comp=Z,15nm,0.9s,baz=107,slow=4.1,SNR=21
MJAR Matsushiro Arr 57.22 333 P **P** **13 32 54.6 -0.5**
MJAR pmax pmax
comp=Z,37nm,1.5s
MJAR Matsushiro Arr 57.22 333 P **P** **13 32 54.5 -0.6**
MJAR lAmb lAmb 13 32 55.9
comp=Z,37nm,1.4s
MJB9 Matsu-Tunnel 57.22 333 P **P** **13 32 54.6 -0.5**
MJB9 lAmb lAmb 13 32 58.7
comp=Z,29nm,0.8s
JMM Marumori 57.25 336 P **P** **13 32 55.7 +0.4**
JSU Suzuyama 57.26 323 P **P** **13 32 55.8 +0.3**
JSU lAmb lAmb 13 32 58.0
comp=Z,25nm,0.8s
YULB Yu-li 58.07 310 P **P** **13 33 00.4 -0.9**
YULB lAmb lAmb 13 33 19.7
comp=Z,24nm,1.2s
JNU Nakatsue 58.21 325 P **P** **13 33 01.9 -0.3**
JNU lAmb lAmb 13 33 03.8
comp=Z,55nm,1.1s
NACB Ninganchiao 58.30 310 P **P** **13 33 03.1 +0.2**
NACB lAmb lAmb 13 33 18.6
comp=Z,29nm,1.0s
JHS Saijyo 58.42 328 P **P** **13 33 03.8 +0.1**
JHS lAmb lAmb 13 33 04.9
comp=Z,28nm,1.0s
LEM Lembang 58.44 271 LR LR 13 59 36.6
comp=Z,824nm,18.8s,baz=104,slow=38
JSD Sado 58.45 334 P **P** **13 33 02.3 -1.4**
JSD lAmb lAmb 13 33 04.9
comp=Z,39nm,1.0s
TPUB Ta-pu 58.52 309 P **P** **13 33 03.4 -1.1**
TPUB lAmb lAmb 13 33 05.2
comp=Z,59nm,1.5s
YHNB Yeheng 58.75 311 P **P** **13 33 04.7 -1.5**
YHNB lAmb lAmb 13 33 12.6
comp=Z,26nm,0.8s
JTM Tenmabayashi 59.68 338 P **P** **13 33 12.3 +0.2**
ERM Erimo 60.03 340 *i* P **P** **13 33 14.1 -0.4**
ERM pmax pmax
comp=Z,6.0nm,0.6s
ERM Erimo 60.03 340 P **P** **13 33 15.7 +1.1**
CGJI Cibinong 60.35 270 P **P** **13 33 17.2 -0.2**
comp=Z,1μmcomp=Z,64nm,1.0s
QZH Quanzhou 60.98 309⇑ *i* P **P** **13 33 22.2 +0.8**
QZH S **S** **13 41 39.1 +1.3**
QZH pmax pmax
comp=Z,310nm,6.6s
QZH LR LR
comp=Z,290nm,16.1s
QZH LR LR
comp=Z,210nm,20.8s
QZH LR LR
comp=Z,330nm,17.0s
KUR Kuril'sk 61.60 345 P **P** **13 33 20.7 -4.4**
KUR MLR MLR
comp=Z,1μm,17.0s
KUR MLR MLR
comp=N,2μm,18.0s
KASI Kota Agung 61.75 271 P **P** **13 33 26.6 -0.3**
comp=N,72nm,1.2s
JKA Kamikawa-asahi 62.09 341 P **P** **13 33 29.2 +0.7**
JKA lAmb lAmb 13 33 30.4
comp=Z,27nm,0.7s
ASAJ Asahikawa 62.09 341 P **P** **13 33 29.7 +1.2**
comp=Z,21nm,0.6s,baz=206,slow=7.5,SNR=55
ASAJ Asahikawa 62.09 341 P **P** **13 33 29.3 +0.8**
ASAJ pmax pmax
comp=Z,27nm,0.7s
TJN Taejon 62.55 325 *ce* P **P** **13 33 32.5 +0.7**
SSE Sheshan 62.79 317 P **P** **13 33 35.2 +1.7**
SSE S **S** **13 42 02.2 +1.7**
SSE pmax pmax
comp=Z,9.0nm,0.8s
SSE pmax pmax
comp=Z,110nm,7.9s
SSE LR LR
comp=Z,200nm,17.2s
SSE LR LR
comp=Z,170nm,17.5s
DSRI Dabo 62.92 277 P **P** **13 33 34.4 -0.3**
comp=Z,14nm,1.2s
KSRS Korea Array 63.03 326 P **P** **13 33 35.6 +0.7**
comp=Z,8.4nm,0.9s,baz=138,slow=7.0,SNR=26
KSAR Wonju Array Be 63.04 326 P **P** **13 33 35.6 +0.6**
KSAR Wonju Array Be 63.04 326 P **P** **13 33 35.6 +0.6**
KS19 Wonju Array Si 63.09 326 P **P** **13 33 35.4 +0.1**
KS19 lAmb lAmb 13 33 42.9
comp=Z,30nm,1.4s
VNDA Vanda 63.34 181 P **P** **13 33 38.2 +1.8**
comp=Z,5.7nm,0.6s,baz=349,slow=6.9,SNR=18
VNDA LR LR 13 57 59.7
comp=Z,587nm,19.8s,baz=6.0,slow=33
VNDA Vanda 63.34 181 P **P** **13 33 37.9 +1.4**
VNDA pmax pmax
comp=Z,33nm,1.3s
VNDA Vanda 63.34 181 P **P** **13 33 37.9 +1.4**
VNDA lAmb lAmb 13 33 49.1
comp=Z,33nm,1.3s
SBA Scott Base 63.63 180 P **P** **13 33 40.0 +1.7**
SBA pmax pmax
comp=Z,59nm,1.3s
SBA Scott Base 63.63 180 P **P** **13 33 40.0 +1.7**
CASY Casey 63.78 202 P **P** **13 33 40.3 +0.8**
CASY lAmb lAmb 13 33 41.2
comp=Z,33nm,1.4s
MASI Maura Aman, Be 64.50 273 P P 13 33 57.8 +13
YSS Yuzh-Sakhalins 64.59 342 *α i* P **P** **13 33 45.7 +0.7**
YSS *e**SP **pP** **13 33 53.7 -0.8**
YSS *e* 13 34 24.5
YSS *e* 13 36 06.8
YSS *e*S **S** **13 42 20.4 -1.9**
YSS *e*SS **SS** **13 46 41.1 +7.4**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS pmax pmax
comp=Z,400nm,3.5s
YSS Yuzh-Sakhalins 64.59 342 P **P** **13 33 45.6 +0.6**
YSS lAmb lAmb 13 33 46.9
comp=Z,29nm,0.8s
NJ2 Nanjing 64.95 316 *e* P **P** **13 33 49.7 +2.1**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 LR LR
comp=Z,470nm,18.9s
NJ2 LR LR
comp=Z,380nm,18.9s
NJ2 LR LR
comp=Z,680nm,24.0s
TEY Ternei 65.01 337 *de* P **P** **13 33 45.6 -2.1**
TEY *e* 13 42 29.1
TEY pmax pmax
comp=Z,100nm,3.0s
QIZ Qiongzhong 65.03 299 P **P** **13 33 48.7 +0.3**
QIZ S **S** **13 42 32.2 +3.4**
QIZ ScS **SKSac** **13 43 36.0 -5.4**
QIZ SS **SS** **13 46 35.1 -6.4**
QIZ pmax pmax
comp=Z,230nm,9.6s
QIZ LR LR
comp=Z,190nm,15.1s
QIZ LR LR
comp=Z,300nm,16.7s
QIZ LR LR
comp=Z,420nm,19.9s
MSHR Mys Shultsa 65.29 332 *i* P **P** **13 33 49.2 -0.4**
MSHR pmax pmax
comp=Z,8.0nm,0.7s
SKR Severo-Kuril's 65.30 353 *ce* P **P** **13 33 49.4 -0.1**
VLA Vladivostok 65.39 333 *i* P **P** **13 33 50.6 +0.4**
VLA pmax pmax
comp=Z,89nm,2.0s
USA0B Ussuriysk Arra 66.20 333 P **P** **13 33 56.5 +1.0**
USA0B pmax pmax
comp=Z,108nm,1.5s
USA0B Ussuriysk Arra 66.20 333 P **P** **13 33 56.5 +1.0**
USRK Ussuriysk Ar. 66.20 333 P **P** **13 33 56.8 +1.3**
comp=Z,15nm,0.6s,baz=150,slow=5.7,SNR=27
SHEM Shemya Is, Ala 66.99 5 LR LR 13 58 03.5
comp=Z,862nm,20.4s,baz=172,slow=31
WHN Wuhan 67.21 312 ⇓ P **P** **13 34 03.0 +0.8**
WHN S **S** **13 42 53.5 -1.4**
WHN LR LR
comp=Z,560nm,9.8s
WHN LR LR
comp=Z,430nm,12.3s
WHN LR LR
comp=Z,1μm,24.8s
KIWB Kanaga Island 67.28 11 P **P** **13 34 02.6 +0.4**
PET Petropavlovsk 67.34 355 *e* P **P** **13 34 02.8 +0.3**
PET *e*S **S** **13 42 56.9 +1.4**
PET *e* 13 43 55.3
PET *e*SS **SS** **13 47 21.1 +4.9**
PET pmax pmax
comp=Z,24nm,0.8s
PET pmax pmax
comp=Z,200nm,11.2s
PET MLR MLR
comp=Z,700nm,19.0s
PET MLR MLR
comp=Z,800nm,19.0s
PET Petropavlovsk 67.34 355 P **P** **13 34 02.3 -0.2**
PET lAmb lAmb 13 34 03.8
comp=Z,12nm,0.7s
PEA0B Petropavlovsk- 67.51 354 *ce* P **P** **13 34 03.1 -0.5**
PEA0B Petropavlovsk- 67.51 354 P **P** **13 34 04.0 +0.4**
PEA0B lAmb lAmb 13 34 04.7
comp=Z,27nm,0.8s
PETK Petropavlovsk- 67.51 354 P **P** **13 34 03.9 +0.3**
comp=Z,14nm,0.7s,baz=146,slow=4.2,SNR=26
PETK LR LR 13 58 42.0
comp=Z,790nm,20.7s,baz=153,slow=32
PETK Petropavlovsk- 67.51 354 P P **13 34 03.4 -0.3**
PETK Petropavlovsk- 67.51 354 P **P** **13 34 03.4 -0.3**
DL2 Dalian 67.58 323 P **P** **13 34 04.8 +0.4**
DL2 pmax pmax
comp=Z,38nm,0.7s
MDJ Mudanjiang 67.59 332 P **P** **13 34 04.8 +0.5**
MDJ Mudanjiang 67.59 332 P **P** **13 34 05.4 +1.1**
MDJ S **S** **13 43 03.6 +4.7**
MDJ pmax pmax
comp=Z,35nm,1.1s
MDJ pmax pmax
comp=Z,310nm,6.7s
MNSI Mandailing Nat 68.08 277 P **P** **13 34 07.6 -0.5**
comp=Z,19nm,0.6s
TYV Tymovskoe 68.15 344 *e* P **P** **13 34 08.6 +0.9**
TYV pmax pmax
comp=Z,15nm,0.7s
TYV pmax pmax
comp=Z,400nm,4.4s
TIA Tai'an 68.61 319⇑ P **P** **13 34 11.0 +0.1**
TIA S **S** **13 43 09.9 -1.6**
TIA SS **SS** **13 47 29.9 -6.7**
TIA pmax pmax
comp=Z,15nm,1.0s
TIA pmax pmax
comp=Z,260nm,10.3s
TIA LR LR
comp=Z,470nm,20.1s
TIA LR LR
comp=Z,250nm,13.7s
TIA LR LR
comp=Z,570nm,20.6s
CN2 Changchun 68.94 329 *e* P **P** **13 34 11.7 -1.1**
CN2 sP pwP 13 34 30.0 +3.3
CN2 S **S** **13 43 11.9 -3.2**
CN2 SS **SS** **13 47 39.9 -1.6**
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 LR LR
comp=Z,360nm,15.0s
CN2 LR LR
comp=Z,480nm,15.0s
CN2 LR LR
comp=Z,580nm,17.0s
BNX BinXian 69.45 332⇑ P **P** **13 34 16.1 +0.2**
BNX pP **pwP** **13 34 29.8 0.0**
BNX PP **PP** **13 36 52.9 +3.0**
BNX S **S** **13 43 19.4 -1.6**
BNX sS **sS** **13 43 40.8 +3.8**
BNX pmax pmax
comp=Z,46nm,0.7s
BNX pmax pmax
comp=Z,530nm,4.6s
BNX LR LR
comp=Z,1μm,24.2s
GSI Gunungsitoli 70.14 277 P **P** **13 34 20.4 -0.5**
KLR Kul'dur 70.34 336 *ce* P **P** **13 34 22.3 +1.0**
KLR pmax pmax
comp=Z,44nm,1.5s
ENH Enshi 70.64 310 P **P** **13 34 22.4 -1.2**
ENH lAmb lAmb 13 34 24.9
comp=Z,38nm,1.1s
NKL Nikolayevsk 70.74 344 *e* P **P** **13 34 20.7 -2.9**
NKL *e*S **S** **13 43 32.3 -3.5**
NKL pmax pmax
comp=N,10.0nm,1.1s
NKL pmax pmax
comp=Z,35nm,0.9s

NKL pmax pmax
comp=Z,51nm,4.2s
NKL pmax pmax
comp=E,6.0nm,1.0s
NKL smax smax
comp=E,9.0nm,3.0s
NKL smax smax
comp=N,1.0nm,2.9s
NKL MLR MLR
comp=E,7.0nm,11.0s
NKL MLR MLR
comp=N,1.0nm,14.0s
NKL MLR MLR
comp=Z,422nm,17.0s
HNS HongShan 70.88 318 ⇑P **P 13 34 25.8 +1.0**
HNS S **S 13 43 41.0 +3.0**
HNS pmax pmax
comp=Z,21nm,1.3s
HNS pmax pmax
comp=Z,420nm,8.8s
HNS LR LR
comp=Z,130nm,15.5s
HNS LR LR
comp=Z,480nm,21.0s
HNS LR LR
comp=Z,310nm,20.6s
GYA Guiyang 70.99 305 ⇓P **P 13 34 26.9 +1.0**
GYA S **S 13 43 40.1 0.0**
GYA pmax pmax
comp=Z,12nm,1.2s
GYA pmax pmax
comp=Z,250nm,6.0s
GYA LR LR
comp=Z,270nm,12.9s
GYA LR LR
comp=Z,320nm,18.7s
GYA LR LR
comp=Z,300nm,23.0s
BJT Baijiatuau 71.53 321 P **P 13 34 28.9 +0.1**
BJT pmax pmax
comp=Z,22nm,1.1s
BJT Baijiatuau 71.53 321 P **P 13 34 28.9 +0.1**
BJT lAmb lAmb 13 34 30.3
comp=Z,22nm,1.1s
BJI Beijing 71.54 321 P **P 13 34 29.8 +1.0**
BJI sP **sP 13 34 42.1 +0.3**
BJI S **S 13 43 47.6 +2.0**
BJI pmax pmax
comp=Z,21nm,1.1s
BJI pmax pmax
comp=Z,280nm,6.6s
BJI LR LR
comp=Z,260nm,15.9s
TIY Taiyuan 72.53 318 P **P 13 34 36.7 +1.8**
TIY pP **PcP 13 34 51.6 -0.9**
TIY S **S 13 44 01.7 +4.4**
TIY pmax pmax
comp=Z,300nm,4.9s
XAN Xi'an 72.96 313 P **P 13 34 38.0 +0.5**
XAN pP pwP 13 34 51.2 -0.1
XAN PP **PP 13 37 24.6 +4.2**
XAN S **S 13 44 01.1 -1.2**
XAN sS sS 13 44 24.6 +6.3
XAN ScS **SKKSac 13 44 41.8 +0.7**
XAN pmax pmax
comp=Z,24nm,0.9s
XAN pmax pmax
comp=Z,280nm,5.5s
XAN LR LR
comp=Z,360nm,17.3s
XAN LR LR
comp=Z,250nm,17.9s
XAN LR LR
comp=Z,650nm,20.4s
KMI Kunming 73.59 302 ⇑P **P 13 34 43.4 +1.8**
KMI pP sP 13 34 53.7 -0.8
KMI sP PcP 13 34 59.0 +1.5
KMI S **S 13 44 12.0 +1.9**
KMI SS **SS 13 48 51.9 -2.0**
KMI pmax pmax
comp=Z,22nm,1.3s
KMI pmax pmax
comp=Z,230nm,7.1s
KMI LR LR
comp=Z,180nm,16.0s
KMI LR LR
comp=Z,210nm,21.4s
KMI LR LR
comp=Z,370nm,25.2s
XLT XiLinHaoTe 73.99 324 ⇑*i*P **P 13 34 44.6 +1.2**
XLT pP pP 13 34 50.7 -1.9
XLT S **S 13 44 16.0 +2.4**
XLT pmax pmax
comp=Z,33nm,1.2s
XLT pmax pmax
comp=Z,230nm,5.1s
XLT LR LR
comp=Z,37nm,14.8s
XLT LR LR
comp=Z,310nm,16.1s
XLT LR LR
comp=Z,210nm,21.9s
CMAR Chiang Mai Arr 74.26 294 P **P 13 34 46.4 +1.0**
comp=Z,4.8nm,0.7s,baz=114,slow=4.1,SNR=41
CHTO Chiang Mai 74.39 294 P **P 13 34 46.6 +0.5**
CHTO pmax pmax
comp=Z,17nm,1.3s
CHTO Chiang Mai 74.39 294 P **P 13 34 46.6 +0.5**
MA2 Magadan 74.68 352 P **P 13 34 45.9 -1.0**
comp=Z,14nm,0.8s,baz=179,slow=2.3,SNR=7.6
MA2 LR LR 14 03 36.7
comp=Z,833nm,20.7s,baz=163,slow=33
MA2 Magadan 74.68 352*ce*P **P 13 34 46.8 -0.1**
MA2 pmax pmax
comp=Z,14nm,1.3s
MA2 Magadan 74.68 352 P **P 13 34 46.6 -0.4**
MA2 lAmb lAmb 13 34 47.8
comp=Z,22nm,0.9s
HHC Hu-ho-hao-te 74.86 320 *e*P **P 13 34 49.8 +1.2**
HHC S **S 13 44 27.6 +4.1**
HHC SS **SS 13 49 11.7 -0.8**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,290nm,6.0s
HHC LR LR
comp=Z,360nm,16.5s
HHC LR LR
comp=Z,390nm,15.9s
HHC LR LR
comp=Z,800nm,15.9s
PZH PanZhiHua 74.98 303 P **P 13 34 50.0 +0.4**
PZH pP **sP 13 35 01.6 -0.9**
PZH S **S 13 44 27.1 +1.7**
PZH sS **sS 13 44 43.9 +2.4**
PZH SKS **SKSac 13 44 52.4 -4.2**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,150nm,5.7s
PZH LR LR
comp=Z,830nm,20.1s
PZH LR LR
comp=Z,830nm,21.4s
PZH LR LR
comp=Z,1μm,19.4s
CD2 Chengdu 75.28 308 P **P 13 34 52.0 +0.9**
CD2 S **S 13 44 30.3 +1.8**
CD2 sS sS 13 44 47.2 +2.6
CD2 SS **SS 13 49 21.0 +1.9**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,260nm,8.5s
CD2 LR LR
comp=Z,460nm,19.0s
CD2 LR LR
comp=Z,390nm,20.0s
HIA Hailar 75.59 330 P **P 13 34 52.2 -0.3**
HIA pmax pmax
comp=Z,47nm,1.3s
HIA Hailar 75.59 330 P **P 13 34 52.2 -0.3**
HIA lAmb lAmb 13 34 54.3
comp=Z,47nm,1.3s
ZEA Zeya 75.63 337*ce*P **P 13 34 54.0 +1.5**
ZEA *e*S **S 13 44 36.3 +5.1**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,30nm,1.8s
ZEA pmax pmax
comp=N,100nm,7.4s
ZEA pmax pmax
comp=Z,100nm,7.0s
ZEA smax smax
comp=N,200nm,14.4s
ZEA smax smax
comp=E,200nm,13.8s
BTO Baotou 75.70 319 *e*P **P 13 34 54.2 +0.8**
BTO S **S 13 44 34.6 +1.8**
BTO LR LR
comp=E,2μm,15.8s
BTO LR LR
comp=E,1μm,14.7s
QSPA South Pole Qui 75.79 180 P **P 13 34 54.2 +0.6**
comp=E,23nm,0.9s,baz=345,slow=1.1,SNR=53
QSPA LR LR 14 04 01.5
comp=E,442nm,21.8s,baz=34,slow=32
QSPA South Pole Qui 75.79 180 P **P 13 34 54.1 +0.6**
QSPA lAmb lAmb 13 34 55.8
comp=Z,36nm,1.1s
LZH Lanzhou 77.59 312 ⇑P **P 13 35 06.1 +1.8**
LZH pP pwP 13 35 18.2 +0.1
LZH sP sP 13 35 22.0 +4.6
LZH PP **PP 13 38 05.6 +5.9**
LZH S **S 13 44 57.5 +3.7**
LZH sS SKSac 13 45 14.3 -1.3
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,350nm,6.7s
LZH LR LR
comp=Z,430nm,16.3s
LZH LR LR
comp=Z,610nm,16.0s
LZH LR LR
comp=Z,630nm,18.5s
SEY Seymchan 77.73 353 P **P 13 35 04.1 0.0**
comp=Z,22nm,0.8s,baz=156,slow=5.8,SNR=73
SEY LR LR 14 05 38.9
comp=Z,1μm,20.8s,baz=160,slow=33
SEY Seymchan 77.73 353*ce*P **P 13 35 04.7 +0.5**
SEY pmax pmax
comp=Z,36nm,1.0s
KDAK Kodiak Island 79.19 21 LR LR 14 04 58.1
comp=Z,1μm,19.9s,baz=242,slow=32
P18K Big Mountain, 79.58 19 P **P 13 35 14.1 -0.4**
P18K lAmb lAmb 13 35 33.6
comp=Z,53nm,1.4s
CIT Chita 80.38 330 *e*P **P 13 35 19.6 +0.6**
CIT pmax pmax
comp=Z,121nm,1.9s
YAK Yakutsk 81.40 343*c i*P **P 13 35 24.3 +0.2**
YAK *e**PP **PcP 13 35 27.9 -2.2**
YAK *e* 13 35 28.9
YAK *e* 13 38 27.0
YAK *e*S **S 13 45 36.5 +3.8**
YAK *e**SS **SKKSac 13 45 43.6 +0.1**
YAK *e*SS **SS 13 50 52.2 +2.4**
YAK pmax pmax
comp=Z,75nm,0.9s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=N,58nm,3.3s
YAK pmax pmax
comp=Z,100nm,3.5s
YAK pmax pmax
comp=E,39nm,3.0s
YAK smax smax
comp=N,107nm,5.8s
YAK smax smax
comp=E,106nm,6.6s
YAK MLR MLR
comp=Z,1μm,19.0s
YAK MLR MLR
comp=E,524nm,21.0s
YAK MLR MLR
comp=N,505nm,20.0s
YAK Yakutsk 81.40 343 P **P 13 35 23.7 -0.5**
ULN Ulaanbaatar 81.42 324*ce*P **P 13 35 25.4 +0.6**
ULN pmax pmax
comp=Z,82nm,2.5s
ULN Ulaanbaatar 81.42 324 P **P 13 35 25.0 +0.1**
ULN lAmb lAmb 13 35 26.4
comp=Z,23nm,0.8s
SONM Songino Array 81.78 324 P **P 13 35 27.4 +0.7**
comp=Z,6.8nm,0.8s,baz=148,slow=7.2,SNR=31
SONM Songino Array 81.78 324 P **P 13 35 27.1 +0.4**
SONM pmax pmax
comp=Z,20nm,1.2s
SONM Songino Array 81.78 324 P **P 13 35 27.1 +0.4**
GTA Gaotai 81.94 314 ⇑P **P 13 35 29.1 +1.4**
GTA pP pP 13 35 35.3 -1.7
GTA S **S 13 45 42.7 +3.1**
GTA pmax pmax
comp=Z,28nm,1.3s
GTA pmax pmax
comp=Z,280nm,7.6s
GTA LR LR
comp=Z,300nm,17.5s
GTA LR LR
comp=Z,390nm,17.9s
GTA LR LR
comp=Z,530nm,19.5s
BILL Bilibino 82.05 360*d i*P **P 13 35 27.4 -0.1**
BILL *e* 13 38 39.0
BILL *e*PPP PPP 13 40 23.0
BILL *e*S SKKSac 13 46 37.1 +49
BILL pmax pmax
comp=Z,31nm,0.7s
BILL MLR MLR
comp=Z,317nm,15.0s
BILL Bilibino 82.05 360 P **P 13 35 27.3 -0.2**
PWL Port Wells 82.94 20 P **P 13 35 32.6 +0.3**
PWL lAmb lAmb 13 35 33.4
comp=Z,26nm,0.8s
KNK Knik Glacier 83.30 20 P **P 13 35 33.9 -0.3**
KNK lAmb lAmb 13 35 37.1
comp=Z,20nm,1.0s
GLI Glacier Island 83.38 21 P **P 13 35 34.2 -0.3**
GLI lAmb lAmb 13 35 35.3
comp=Z,13nm,0.7s
KAIM Kayak Island 83.67 22 P **P 13 35 37.4 +1.4**
KAIM lAmb lAmb 13 35 37.6
comp=Z,46nm,1.4s
BOD Bodaibo 83.80 335 *e*P **P 13 35 36.5 -0.2**
BOD pmax pmax
comp=Z,31nm,1.9s
BERG Berg Lake 84.25 22 P **P 13 35 39.4 +0.3**
BERG lAmb lAmb 13 35 40.7
comp=Z,20nm,1.0s
GOMU GeErMu 84.26 309 P **P 13 35 40.7 +0.6**
GOMU PP **PP 13 38 54.5 -0.7**
GOMU S **S 13 46 03.3 -0.5**
GOMU sS pS 13 46 16.3 +0.5
GOMU pmax pmax
comp=Z,7.0nm,1.7s
GOMU pmax pmax
comp=Z,140nm,6.7s
GOMU LR LR
comp=Z,190nm,18.4s
GOMU LR LR
comp=Z,290nm,16.7s
GOMU LR LR
comp=Z,170nm,19.8s
WAX Waxell Ridge 84.61 23 P **P 13 35 41.7 +0.8**
WAX lAmb lAmb 13 36 06.6
comp=Z,16nm,0.9s
ZAK Zakamensk 84.84 325 *e*P **P 13 35 42.4 +0.1**
ZAK pmax pmax
comp=Z,44nm,1.4s
ISLE Juniper Island 84.90 23 P **P 13 35 42.9 +0.4**
ISLE lAmb lAmb 13 36 06.2
comp=Z,15nm,1.1s
IRK Irkutsk 85.23 327 *e*P **P 13 35 43.1 -1.0**
IRK pmax pmax
comp=Z,57nm,2.1s
YBH Yreka Blue Hor 85.45 45 LR LR 14 06 28.7
comp=Z,506nm,20.7s,baz=266,slow=30
BARN Barnard Glacie 85.45 22 P **P 13 35 45.9 +0.6**
HDA Harding Lake 85.94 18 P **P 13 35 47.6 +0.1**
ILAR Eielson Array 86.22 18 P **P 13 35 47.7 -1.1**
comp=Z,7.3nm,0.7s,baz=234,slow=5.3,SNR=9.6
ILAR PKiKP **PKiKP 13 40 55.4 -1.1**
comp=Z,0.7nm,0.5s,baz=270,slow=3.3,SNR=8.1
ILAR LR LR 14 09 47.8
comp=Z,1μm,20.1s,baz=239,slow=32
BBB Bella Bella 86.66 34 LR LR 14 07 02.5
comp=Z,743nm,20.7s,baz=254,slow=30
MOY Mondy 86.72 325 *e*P **P 13 35 51.8 +0.1**
MOY pmax pmax
comp=Z,36nm,2.4s
ODAN Odare 87.09 298 *e*P **P 13 35 53.9 -0.3**
PFO Pinyon Flats O 87.14 54 LR LR 14 07 52.2
comp=Z,2μm,19.6s,baz=258,slow=31
BELA Belgrano 2 87.26 176 P **P 13 35 53.0 -0.9**
BELA lAmb lAmb 13 35 54.6
comp=Z,16nm,0.9s
NVAR Mina Array Bea 87.36 49 P **P 13 35 55.4 +0.2**
comp=Z,1.1nm,0.7s,baz=238,slow=8.8,SNR=3.8
NVAR LR LR 14 07 44.0
comp=Z,2μm,20.1s,baz=262,slow=31
PINE Pine Mountain 87.45 44 P **P 13 35 56.5 +1.0**
PALK Pallekele 87.93 278 LR LR 14 16 17.9
comp=Z,276nm,19.8s,baz=225,slow=36
EGAK Eagle 88.03 20 P **P 13 35 57.5 -0.1**
DAWY Dawson 88.17 21 P **P 13 35 58.1 -0.2**
TOLK Toolik Lake Re 88.31 15 P **P 13 35 59.8 +0.9**
TOLK lAmb lAmb 13 36 09.3
comp=Z,15nm,1.1s
JIRN Jiri 88.35 299 *e*P **P 13 36 00.4 0.0**
comp=Z,11nm,0.5s
GUN Gumba 88.69 299 *e*P **P 13 36 02.1 +0.1**
DLBC Dease Lake 88.75 28 LR LR 14 08 00.7
comp=Z,492nm,20.8s,baz=255,slow=30
PKI Pulchoki 88.99 299 *e*P **P 13 36 03.3 -0.1**
comp=Z,27nm,0.6s
PKIN Phulchoki 89.00 299 *e*P **P 13 36 02.8 -0.5**
comp=Z,6.0nm,0.4s
SYO Syowa Base 89.03 197⇓*e*pP pP 13 36 08.8 -3.3
SHPR Sheep Range 89.08 52 P **P 13 36 03.4 +0.1**
KKN Kakani 89.16 299 *e*P **P 13 36 04.1 +0.1**
TIXI Tiksi 89.38 349 P **P 13 36 03.1 -0.6**
comp=Z,9.7nm,1.0s,baz=272,slow=23,SNR=32
TIXI Tiksi 89.38 349*ce*P **P 13 36 02.9 -0.9**
TIXI pmax pmax
comp=Z,11nm,1.0s
TIXI Tiksi 89.38 349 P **P 13 36 02.8 -0.9**
TIXI lAmb lAmb 13 36 05.2
comp=Z,11nm,1.0s
LPIG La Paz 89.47 65 LR LR 14 05 55.6
comp=Z,353nm,21.9s,baz=268,slow=29
GKN Gorkha 89.77 299 *e*P **P 13 36 06.4 -0.4**
ELK Elko 90.36 48 LR LR 14 11 11.1
comp=Z,986nm,19.1s,baz=250,slow=32
KOLN Koldanda 90.58 298 *e*P **P 13 36 10.1 -0.6**
DANN Dangsing 90.61 299 *e*P **P 13 36 10.1 -0.8**
LCMT Little Creek M 90.70 52 P **P 13 36 10.8 -0.2**
PYUN Piuthan 91.19 299 *e*P **P 13 36 12.0 -1.5**
U15A North Rim 91.26 53 P **P 13 36 13.7 0.0**
NEW Newport 91.53 40 LR LR 14 15 04.1
comp=Z,461nm,18.1s,baz=250,slow=34
WMQ Urumqi 92.00 315 *e*P **P 13 36 17.6 +0.9**
WMQ pP pP 13 36 24.0 -2.2
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ pmax pmax
comp=Z,200nm,5.9s
WMQ LR LR
comp=Z,540nm,18.5s
WMQ LR LR
comp=Z,430nm,21.1s
WMQ LR LR
comp=Z,400nm,18.5s
PMSA Palmer Station 92.41 161 LR LR 14 15 15.2
comp=Z,407nm,18.1s,baz=242,slow=34
HYBB Hyderabad (bro 92.47 287 *e*P **P 13 36 19.2 -0.1**
HYBB *e*pP **pP 13 36 26.5 -2.3**
HYBB *e*PP **PP 13 39 59.9 -1.0**
HYBB *e*SKSac **SKSac 13 46 50.6 -0.4**
INK Inuvik 92.59 19 LR LR 14 12 34.8
comp=Z,952nm,20.7s,baz=218,slow=32
PCHI Peechi 92.89 280 *e*P P 13 36 13.3 -8.1
TROLL Troll, Antarti 93.31 185 P **P 13 36 22.5 +0.1**
SNAA Sanae 94.01 183 P **P 13 36 25.2 -0.3**
SNAA Sanae 94.01 183 LR LR 14 18 05.0
comp=Z,467nm,18.3s,baz=186,slow=35
SNAA Sanae 94.01 183 *i* P **P 13 36 25.7 +0.2**
SNAA pmax pmax
comp=Z,11nm,1.0s
SNAA Sanae 94.01 183 P **P 13 36 25.4 -0.1**
SNAA lAmb lAmb 13 36 26.7
comp=Z,23nm,1.1s
VNA3 Neumayer Olymp 94.70 181 P **P 13 36 28.1 -0.5**
VNA2 Neumayer--Watz 94.96 182 P **P 13 36 29.7 -0.1**
baz=179,slow=4.0
PDAR Pinedale Array 95.00 47 P **P 13 36 29.7 -1.1**
comp=Z,0.1nm,0.4s,baz=247,slow=5.8,SNR=1.9
PDAR LR LR 14 13 52.7
comp=Z,493nm,19.1s,baz=276,slow=32
VNA1 Neumayer--Stat 95.26 182 P **P 13 36 30.3 -0.8**
ANMO Albuquerque 95.46 55 LR LR 14 11 53.7
comp=Z,943nm,20.5s,baz=273,slow=31
MK31 Makanchi Array 96.47 317*c i*P **P 13 36 37.2 +0.1**
MK31 Makanchi Array 96.47 317 P **P 13 36 36.8 -0.3**
MK31 lAmb lAmb 13 36 38.5
comp=Z,10.0nm,1.1s
MKAR Makanchi Array 96.47 317 P **P 13 36 37.4 +0.3**
comp=Z,6.8nm,0.9s,baz=101,slow=5.8,SNR=50
MKAR PP **PP 13 40 27.1 -4.5**
comp=Z,1.8nm,1.1s,baz=94,slow=9.9,SNR=4.9
MKAR Makanchi Array 96.47 317 P **P 13 36 37.0 -0.1**
TXAR Lajitas Array 96.51 62 P **P 13 36 37.5 -0.3**
comp=Z,0.2nm,0.5s,baz=245,slow=3.2,SNR=3.6
TXAR LR LR 14 11 35.7
comp=Z,608nm,21.5s,baz=270,slow=30
ZAA0 Zalesovo Array 96.67 324 P **P 13 36 36.6 -1.1**
ZAA0 lAmb lAmb 13 36 37.5
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 96.67 324 P **P 13 36 36.9 -0.8**
comp=Z,7.1nm,0.7s,baz=114,slow=4.5,SNR=28
ZALV Zalesovo Beam 96.67 324 P **P 13 36 36.6 -1.2**
ZALV Zalesovo Beam 96.67 324 P **P 13 36 36.6 -1.2**
MAKZ Makanchi 96.69 316 P **P 13 36 37.3 -0.7**
MAKZ pmax pmax
comp=Z,11nm,1.2s
MAKZ Makanchi 96.69 316 P **P 13 36 37.3 -0.7**
MAKZ lAmb lAmb 13 36 39.5
comp=Z,11nm,1.1s
YKA Yellowknife Ar 97.35 27 P **P 13 36 39.5 -1.1**
comp=Z,0.9nm,0.6s,baz=255,slow=4.5,SNR=3.6
YKA PKiKP **PKiKP 13 41 14.9 -0.6**
comp=Z,1.2nm,0.8s,baz=247,slow=1.5,SNR=7.3
YKA LR LR 14 15 34.5
comp=Z,159nm,19.6s,baz=259,slow=32
NRIK Noril'sk 99.42 339 P **Pdif 13 36 48.9 -0.8**
comp=Z,8.8nm,0.8s,baz=94,slow=4.4,SNR=14
NRIK LR LR 14 22 36.3
comp=Z,274nm,18.8s,baz=97,slow=36
NRIK Noril'sk 99.42 339*ce*P **Pdif 13 36 49.2 -0.6**
NRIK pmax pmax
comp=Z,14nm,0.9s
NRIK Noril'sk 99.42 339 Pdif 13 36 49.1 -0.7
NRIK lAmb lAmb 13 36 50.3
comp=Z,12nm,0.9s
KSH Kashi 99.47 308 P **Pdif 13 36 52.5 +1.6**
KSH S **S 13 48 25.5 +4.0**
KSH LR LR
comp=Z,180nm,18.9s
KSH LR LR
comp=Z,210nm,19.6s
KSH LR LR
comp=Z,260nm,18.6s
KURK Kurchatov 99.68 320*ce*P **Pdif 13 36 51.0 -0.3**
KURK pmax pmax
comp=Z,2.0nm,1.1s
PLCA Paso Flores 103.87 139 Pdiff **Pdif 13 37 09.9 -0.5**
comp=Z,2.0nm,1.1s,baz=26,slow=20,SNR=2.8
RES Resolute Bay 105.85 16 PKiKP **PKiKP 13 41 29.8 -0.8**
comp=Z,2.0nm,0.6s,baz=236,slow=2.7,SNR=8.3
KIRV Kirov 116.17 329*c i*PKiKP **PKPdf 13 41 50.1 -0.4**
UPNV Upernavik 116.42 13 *i* P **PKPdf 13 41 50.5 -0.2**
PRGR Permogore 116.98 333 *e*PKiKP **PKPdf 13 41 50.4 -1.6**
PRGR *e* 13 42 59.3

PRGR pmax pmax
comp=Z,12nm,1.0s
DAG Danmarks Havn 117.39 1 *i* P **PKPdf** **13 41 50.0 -2.5**
LPAZ La Paz 117.91 117 PKP **PKPdf** **13 41 54.7 -1.3**
comp=Z,1.0nm,0.6s,baz=197,slow=3.6,SNR=3.6
LVZ Lovozero 118.16 341 *i* PKIKP **PKPdf** **13 41 53.7 -0.5**
LVZ pmax pmax
comp=Z,15nm,1.0s
HAMF Hammerfest 119.25 347 *e*P **PKPdf** **13 41 54.0 -2.2**
ARA0 ARCESS Array S 119.64 345 *e*P **PKPdf** **13 41 56.8 -0.2**
ARCES ARCESS Array B 119.64 345 PKP **PKPdf** **13 41 56.3 -0.6**
comp=Z,7.8nm,0.5s,baz=72,slow=1.9,SNR=49
ARCES ARCESS Array B 119.64 345 PKIKP **PKPdf** **13 41 56.0 -1.0**
ARCES ARCESS Array B 119.64 345 PKPdf **PKPdf** **13 41 56.0 -1.0**
DBG Daneborg 119.81 2 *i* P **PKPdf** **13 41 55.1 -2.0**
KLMR Klimovskoe 120.00 333 *e*PKIKP **PKPdf** **13 41 56.2 -1.6**
KLMR pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 120.00 333 *e*PKPdf **PKPdf** **13 41 56.3 -1.6**
KLMR AMP 13 42 02.4
comp=Z,9.0nm,0.8s
KTK1 Kautokeino 120.57 346 *e*P **PKPdf** **13 41 57.5 -1.3**
JETT Jettan, Norway 120.81 347 *e*P **PKiKP** **13 41 59.5 +0.2**
TRO Tromso 121.07 347 *e*P **PKPdf** **13 41 59.0 -0.6**
CPUP Villa Florida 121.18 133 PKP **PKPdf** **13 42 00.9 -0.3**
comp=Z,2.6nm,0.9s,baz=346,slow=1.6,SNR=4.4
CPUP Villa Florida 121.18 133 PKIKP **PKPdf** **13 42 01.0 -0.3**
ICESG Greenland Ices 122.68 11 *i* P **PKPdf** **13 42 01.8 -1.5**
STEI Steigen 123.24 348 *e*P **PKPdf** **13 42 03.5 -0.3**
VALR Valaam 123.31 336 *i* PKIKP **PKPdf** **13 42 03.9 -0.3**
VALR pmax pmax
comp=Z,25nm,0.9s
DY2G Dye2 123.39 15 *i* P **PKPdf** **13 42 03.5 -1.1**
GNI Garni 123.40 309*c* *i*PKIKP **PKPdf** **13 42 05.3 0.0**
GNI pmax pmax
comp=Z,5.0nm,0.8s
ZEI Tsey 123.52 312 *i* PKIKP **PKPdf** **13 42 05.3 -0.2**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
SCO Scoresbysund 123.52 3 PKIKP **PKPdf** **13 42 04.4 0.0**
SCO Scoresbysund 123.52 3 **PKPdf** **13 42 04.4 0.0**
SCO Scoresbysund 123.52 3 *i* P **PKPdf** **13 42 03.7 -0.6**
SDV Santo Domingo 123.67 89 PKPdf **PKPdf** **13 42 05.6 -1.0**
FAUS Fauske 123.69 347 *e*P **PKPdf** **13 42 02.2 -2.6**
ONI Oni 123.88 312 PKIKP **PKiKP** **13 42 06.6 +0.3**
ONI Oni 123.88 312 PKPdf **PKiKP** **13 42 06.5 +0.3**
RAYN Ar Rayn 123.93 289 PKIKP **PKPdf** **13 42 06.3 -0.3**
RAYN Ar Rayn 123.93 289 PKPdf **PKPdf** **13 42 06.3 -0.3**
VORR Voronezh 123.97 323 *e*PKIKP **PKiKP** **13 42 05.9 -0.1**
VORR pmax pmax
comp=Z,60nm,0.4s
OBN Obninsk 124.00 328 *i* PKIKP **PKPdf** **13 42 05.5 -0.2**
OBN *e* 13 43 47.6
OBN *e*PPP PPP 13 46 29.7
OBN *e* 13 49 01.2
OBN *e*SS SS 14 00 58.0 +21
OBN pmax pmax
comp=Z,8.0nm,0.6s
KBZ Khabaz 124.02 313 PKP **PKiKP** **13 42 07.0 +0.7**
comp=Z,2.8nm,0.9s,baz=119,slow=5.5,SNR=5.4
KBZ Khabaz 124.02 313*c* *i*PKIKP **PKPdf** **13 42 05.1 -1.0**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 124.12 314 *i* PKIKP **PKPdf** **13 42 05.0 -1.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,127nm,22.0s
MOR8 Moi Rana 124.89 347 *e*P **PKPdf** **13 42 05.6 -1.5**
KONS Konsvik 124.89 347 *e*P **PKPdf** **13 42 05.9 -1.1**
STOK Stokkvaagen 125.06 347 *e*P **PKPdf** **13 42 07.3 -0.1**
FIA1 FINESS Array S 125.06 338 PKPdf **PKPdf** **13 42 07.3 -0.2**
FINES FINESS Array B 125.06 338 PKP **PKPdf** **13 42 07.5 -0.1**
comp=Z,7.1nm,0.8s,baz=14,slow=3.2,SNR=18
FINES FINESS Array B 125.06 338 PKIKP **PKPdf** **13 42 06.9 -0.7**
FINES FINESS Array B 125.06 338 PKPdf **PKPdf** **13 42 06.9 -0.7**
ISOG Isortoq, Green 125.86 13 *i* P **PKPdf** **13 42 06.9 -2.1**
AQDB Aquidauana 125.89 129 **PKPdf** **13 42 09.7 -0.7**
SOC Sochi 126.29 314 *i* PKIKP **PKPdf** **13 42 09.1 -1.4**
SOC *e* 13 44 03.7
SOC *e* 13 49 04.8
SOC *e*PS **PS** **13 53 59.9 -9.2**
SOC *e*SS SS 14 01 20.7 +14
SOC pmax pmax
comp=Z,8.0nm,0.4s
MEF Metsahovi 126.50 338 *e*P **PKPdf** **13 42 10.4 +0.1**
VSU Vasula 126.74 335 *i* PKIKP **PKPdf** **13 42 10.6 -0.2**
VSU pmax pmax
comp=Z,23nm,0.9s
NSS Namsos 126.83 347 *e*PKPdf **PKPdf** **13 42 10.9 0.0**
RAF Rauma 126.86 340 *e*P **PKPdf** **13 42 10.8 -0.2**
AAL Aland 128.08 340 *e*P **PKPdf** **13 42 11.7 -1.7**
NACGM Naroch 128.90 331 *e*PKP **PKiKP** **13 42 16.2 +0.4**
DOMB Dombas 129.65 347 *e*PKPdf **PKiKP** **13 42 17.0 -0.2**
NC303 NORSAR Array S 129.81 345 **PKPdf** **13 42 16.6 0.0**
AKN Aaknes 129.98 348 *e*PKPdf **PKiKP** **13 42 17.5 -0.2**
NB2 NORSAR Subarra 130.00 345 PKPdf **PKPdf** **13 42 16.8 -0.3**
comp=Z,13nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra 130.00 345 PKPdf **PKPdf** **13 42 16.8 -0.3**
baz=31,slow=1.9
NOA NORSAR Array B 130.00 345 PKP **PKPdf** **13 42 17.4 +0.3**
comp=Z,4.8nm,0.8s,baz=32,slow=2.0,SNR=16
AKASG Malin Array Be 130.02 326 PKP **PKPdf** **13 42 17.6 +0.3**
comp=Z,1.7nm,0.6s,baz=53,slow=2.0,SNR=22
AKASG Malin Array Be 130.02 326 PKIKP **PKPdf** **13 42 17.3 0.0**
AKASG Malin Array Be 130.02 326 PKPdf **PKPdf** **13 42 17.3 0.0**
AKBB Malin Array Si 130.02 326*c* *i*PKIKP **PKPdf** **13 42 16.3 -1.0**
NBO00 NORSAR Array S 130.12 345 **PKPdf** **13 42 17.6 +0.3**
NC602 NORSAR Array S 130.18 344 **PKPdf** **13 42 17.1 -0.2**
SKAR Skarslia 131.03 346 *e*PKPdf **PKPdf** **13 42 18.9 -0.2**
BRTR Keskin Array B 131.78 311 PKP **PKiKP** **13 42 22.3 +0.1**
comp=Z,1.0nm,0.8s,baz=64,slow=5.0,SNR=4.1
ODD1 Odda 132.10 347 *e*PKPdf **PKiKP** **13 42 22.0 -0.1**
BLS5 Blasjo 132.57 346 *e*PKPdf **PKPdf** **13 42 22.3 +0.3**
DEL Delary 133.00 340 *e*P **PKPdf** **13 42 22.9 +0.1**
HOMB Homborsund 133.10 344 *e*PKPdf **PKiKP** **13 42 23.6 -0.5**
BSD Bornholm Skovb 133.71 338 *e*P **PKiKP** **13 42 25.3 -0.1**
BURAR Bucovina Array 133.89 324 PKPdf **PKPdf** **13 42 25.3 +0.4**
BDFB Brasilia 134.62 130 PKP **PKPdf** **13 42 26.8 -0.4**
comp=Z,4.1nm,0.5s,baz=174,slow=1.3,SNR=6.5
CRVS Cervenica-Dubn 135.18 328 *e*PKIKP **PKiKP** **13 42 28.7 0.0**
CRVS Cervenica-Dubn 135.18 328 *e*PKP **PKiKP** **13 42 28.7 0.0**
MORC Moravsky Berou 136.54 331 *e*PKP **PKPdf** **13 42 28.7 -1.0**
OSTC Ostas 136.59 333 *e*PKPDF **PKiKP** **13 42 31.6 +0.1**
OSTC *e*SKP 13 46 13.8
CHVC Chvalec 136.64 333 *e*PKPDF **PKiKP** **13 42 32.5 +0.9**
KRLC Kraliky 136.68 332 *e*PKIKP **PKPdf** **13 42 30.6 +0.6**
KRLC Kraliky 136.68 332 *e*PKPDF **PKPdf** **13 42 30.6 +0.6**
KRLC *e*SKP 13 46 06.4
DPC Dobruska-Polom 136.69 333 *e*PKIKP **PKiKP** **13 42 31.5 -0.3**
DPC Dobruska-Polom 136.69 333 *e*PKPDF **PKiKP** **13 42 31.5 -0.3**
DPC *e*SKP 13 46 11.6
JAVC Velka Javorina 137.11 330 *e*PKP **PKPdf** **13 42 31.7 +0.9**
JAVC *e* 13 46 14.4
VRAC Vranov 137.31 331 *e*PKP **PKPdf** **13 42 29.4 -1.7**
VRAC *e* 13 46 13.6
BRG Berggiesshubel 137.33 335 *e*PKP **PKiKP** **13 42 32.3 -0.7**
BRG Amp 13 42 34.2
comp=Z,6.7nm,0.9s
BRG *ex* x 13 46 14.6
BRG Amp 13 46 17.5
comp=Z,5.9nm,1.1s
BRG Berggiesshubel 137.33 335 *e*PKIKP **PKiKP** **13 42 32.3 -0.7**
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 137.38 336 *e*PKIKP **PKPdf** **13 42 31.0 -0.2**
CLL MLR MLR
comp=Z,500nm,19.7s
CLL Collm 137.38 336 *e*PKPdf **PKPdf** **13 42 31.0 -0.2**
CLL *ep*PKPdf **PKiKP** **13 42 37.0 +3.9**
CLL *ex* x 13 42 46.0
CLL *e*PKSab **PKSab** **13 46 14.0 +1.2**
comp=Z,7.0nm,1.1s
CLL *e*SS SS 14 03 24.0 +3.4
CLL *e*SKSSKSac **S'S'ac** **14 05 12.0 -1.1**
CLL LMV 14 50 00.0
comp=N,300nm,20.8s
CLL LMV 14 50 00.0
comp=E,200nm,21.3s
CLL LMV 14 50 00.0
comp=Z,500nm,19.7s

KRUC Moravsky 137.57 331 *e*PKP **PKPdf** **13 42 31.2 -0.4**
KRUC *e* 13 46 14.3
PRU Pruhonice 137.74 333 *e*PKIKP **PKiKP** **13 42 34.0 +0.2**
PRU Pruhonice 137.74 333 *e*PKPDF **PKiKP** **13 42 34.0 +0.2**
RONA Rosalia, Austr 138.57 330 *i* P **PKPdf** **13 42 33.9 +0.4**
comp=Z,9.5nm,1.0s
CONA Conrad Observa 138.62 330 *e*P **PKPdf** **13 42 33.7 +0.1**
comp=Z,6.1nm,0.8s
CKRC Cesky Krumlov 138.71 332 *e*PKPDF **PKiKP** **13 42 36.4 +0.5**
KHC Kasperske Hory 138.80 333 *e*PKIKP **PKPdf** **13 42 34.4 +0.5**
KHC *e* 13 42 36.6
KHC Kasperske Hory 138.80 333 PKPdf **PKPdf** **13 42 34.1 +0.2**
KHC Kasperske Hory 138.80 333 *e*PKPDF **PKPdf** **13 42 34.4 +0.5**
KHC *ex* x 13 42 36.6
KHC *e*SKP 13 46 13.3
DIVS Divibare 138.89 323 PKPdf **PKPdf** **13 42 34.4 0.0**
GERES GERESS Array B 138.96 333 PKhKP PKPpre 13 42 26.8
comp=Z,0.4nm,0.3s,baz=15,slow=5.1,SNR=3.8
GERES PKP **PKPdf** **13 42 34.5 +0.2**
comp=Z,2.6nm,0.7s,baz=228,slow=1.2,SNR=7.5
GERES SKPbc **SKiKP** **13 46 10.9 +0.6**
comp=Z,1.1nm,0.7s,baz=5.7,slow=4.0,SNR=5.0
ARSA Arzberg 139.26 330 *i* P **PKPdf** **13 42 33.7 -1.1**
comp=Z,5.3nm,1.2s
MOA Molln 139.43 331 *i* P **PKiKP** **13 42 36.6 -0.8**
comp=Z,4.5nm,0.8s
BIOA Bad Ischl, Aus 139.84 332 *e*P **PKPdf** **13 42 36.5 +0.6**
comp=Z,3.3nm,0.5s
FNA Florina 139.87 318 PKIKP **PKPdf** **13 42 35.6 -0.5**
FNA Florina 139.87 318 **PKPdf** **13 42 35.6 -0.5**
SOKA Soboth 139.90 330 *i* P **PKPdf** **13 42 36.6 +0.6**
comp=Z,4.9nm,0.9s
KBA Koelnbreinsper 140.42 331 *i* P **PKPdf** **13 42 37.3 +0.2**
comp=Z,8.3nm,0.9s
MEM Membach 140.48 341 *d*PKiKP **PKiKP** **13 42 39.8 +0.3**
MYKA Terra Mystica 140.61 331 *i* P **PKPdf** **13 42 35.7 -1.6**
comp=Z,1.9nm,0.4s
BCLA Clavier 140.87 341 *d*PKPdf **PKPdf** **13 42 37.7 +0.1**
ABTA Abfaltersbach 141.05 332 *i* P **PKPdf** **13 42 35.6 -2.6**
comp=Z,4.3nm,0.6s
WTTA Wattenberg 141.06 333 *e*P **PKPdf** **13 42 39.2 +0.9**
comp=Z,9.3nm,0.7s
BMRD Maredsous 141.14 342 *d*PKPdf **PKPdf** **13 42 38.1 +0.1**
BMRD *d*PKiKP **PKiKP** **13 42 41.0 +0.2**
MOTA Moosalm 141.23 333 *i* P **PKPdf** **13 42 36.5 -2.0**
comp=Z,7.5nm,1.0s
RETA Reutte 141.27 334 *e*P **PKPdf** **13 42 36.6 -1.9**
comp=Z,3.6nm,1.1s
DOU Dourbes 141.37 342 *d*PKPdf **PKPdf** **13 42 39.0 +0.6**
FETA Feichten 141.65 333 *i* P **PKPdf** **13 42 34.7 -4.6**
comp=Z,9.8nm,1.0s
DAVA Damuels 141.80 334 *i* P **PKPdf** **13 42 35.3 -4.3**
comp=Z,5.2nm,0.8s
TUE Stuetta 142.67 334 PKPpre 13 42 37.1
NRCA Norcia 143.55 327 PKPpre PKPpre 13 42 38.7
MURB Monte Urbino 143.56 328 PKPbc 13 42 40.3 +0.3
SENIN Lac Senin/Sane 143.60 336 PKPbc 13 42 40.4 +0.2
TIP Timpagrande 143.72 319 PKPbc 13 42 41.0 +0.3
OSSC Osservatorio P 144.03 329 PKPpre PKPpre 13 42 40.4
MSSA Maissana 144.27 332 **PKPab** **13 42 41.1 -0.7**
CEL Celeste 144.80 318 **PKPab** **13 42 43.7 -0.3**
BNI Bardonecchia 144.92 335 PKIKP PKPbc 13 42 44.4 +0.1
BNI Bardonecchia 144.92 335 PKPdf PKPbc 13 42 44.4 0.0
SSB Saint Sauveur 145.56 338 PKIKP **PKPbc** **13 42 46.2 0.0**
SSB Saint Sauveur 145.56 338 PKPdf **PKPbc** **13 42 46.2 0.0**
VSL Villasalto 147.90 326 **PKPbc** **13 42 53.1 0.0**
KEST Kesra 150.49 321 PKPbc **PKiKP** **13 43 00.6 0.0**
comp=Z,29nm,0.9s,baz=153,slow=0.4,SNR=25
KEST Kesra 150.49 321 **PKPbc** **13 43 00.1 +0.2**
CMAH Djebel Manchou 151.02 324 P **PKPbc** **13 43 01.0 -0.1**
ABSA Djebel Ababsia 151.24 323 P **PKiKP** **13 43 02.1 0.0**
CKFL Kef-Lekhel 151.58 325 P **PKiKP** **13 43 02.9 0.0**
DFRA Djebel Bou Aff 151.94 326 P **PKiKP** **13 43 04.4 +0.8**
PBRG Braganca 151.94 350 *e*PKP **PKiKP** **13 43 03.4 0.0**
CTEI Djebel Teioual 152.00 324 P **PKiKP** **13 43 03.7 -0.1**
PGAV Gavieira, Arco 152.03 352 *e*PKP **PKiKP** **13 43 04.2 +0.6**
PCAB Cabril 152.24 352 *e*PKP **PKPbc** **13 43 02.8 -0.9**
POLO Lamas de Olo 152.54 351 *e*PKP **PKiKP** **13 43 04.8 +0.1**
MVO Moncorvo 152.62 350 *e*PKP **PKiKP** **13 43 05.4 +0.6**
PVRL Vila Real 152.62 351 *e*PKP **PKiKP** **13 43 05.0 +0.2**
PVIS Viseu 153.20 351 *e*PKP **PKiKP** **13 43 06.6 +0.6**
ESDC Sonseca Array 153.36 344 PKPbc **PKPbc** **13 43 06.0 -0.2**
comp=Z,4.8nm,0.8s,baz=11,slow=2.3,SNR=15
MTE Manteigas 153.45 350 *e*PKP **PKiKP** **13 43 07.1 +0.6**
MTE Manteigas 153.45 350 **PKiKP** **13 43 06.6 0.0**
PCAS Casmilo, Conde 153.94 352 *e*PKP **PKiKP** **13 43 07.6 +0.1**
PCBR Castelo Branco 153.98 350 *e*PKP **PKPbc** **13 43 07.0 -0.5**
PMRV Marv??o 154.37 349 *e*PKP **PKiKP** **13 43 08.8 +0.4**
PMTG Montargil 154.86 351 *e*PKP **PKiKP** **13 43 09.5 +0.1**
TORD Torodi Ar. Bea 165.40 268 PKP **PKPdf** **13 43 13.2 +0.1**
comp=Z,2.0nm,0.8s,baz=66,slow=1.1,SNR=14
TORD PKPab **PKPab** **13 44 09.6 -1.7**
comp=Z,6.2nm,1.1s,baz=98,slow=1.8,SNR=8.1
TORD Torodi Ar. Bea 165.40 268 **PKPdf** **13 43 12.7 -0.5**

IDC 04 13:30:15.0±13.0, **18.70S**×**167.51E**, **h0**km, **mb4.0**/4, **mb1 4.2**/5, **mb1mx3.8**/42, **mbtmp4.1**/5, **ML4.4**/1, **Error ellipse: s-maj=225.8km s-min=38.0km az=77.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.50**	**196**	Pn	Pn		13 31 12.4	+1.4
	36nm,0.3s,baz=118,slow=20,SNR=216							
DZM				Sn	Sn		13 31 54.3	+1.1
	17nm,0.3s,baz=344,slow=15,SNR=4.2							
STKA	**Stephens Creek**	**26.78**	**236**	P	P		13 35 55.3	-1.5
	1.8nm,0.6s,baz=66,slow=12,SNR=4.3							
WRA	**Warramunga Arr**	**31.30**	**262**	P	P		13 36 37.6	+0.4
	0.5nm,0.7s,baz=95,slow=8.0,SNR=1.2							
ASAR	**Alice Springs**	**31.68**	**255**	P	P		13 36 40.8	+0.3
	2.6nm,0.6s,baz=85,slow=8.6,SNR=22							
FITZ	**Fitzroy Crossi**	**39.67**	**264**	P	P		13 37 49.1	0.0
	2.2nm,1.1s,baz=78,slow=9.3,SNR=1.7							

*IDC **04** 13:30:14.2±0.8, 57.7°N×158.08°W, h0km, mb4.1/18, mb1 4.3/21, mb1mx4.1/54, mbtmp4.1/21, ML3.9/3, MS3.4/1, Ms1 3.5/1, ms1mx2.8/100, Error ellipse: s-maj=26.2km s-min=12.1km az=10.0*

*NEIC **04** 13:30:15.7±1.4, 57.00N±0.04°×158.03W±0.07, h12km±4km, Error ellipse: s-maj=5.9km s-min=5.2km az=138.0*

*AEIC **04** 13:30:15±1.4, 56.99N±0.03°×158.04W±0.06, h11km±4km, ML4.3,mb4.6/40(NEIC),ML4.3/34(NEIC), Error ellipse: s-maj=5.3km s-min=4.9km az=125.0*

*ANF **04** 13:30:16.4±0.9, 57.07N×158.18W, h15km±6km, ML4.7/13, Error ellipse: s-maj=6.0km s-min=3.3km az=97.0*

ISC 04 13:30:15.9±0.9, **56.99N**±0.03°×**158.05W**±0.03, **h16**km±5km, **n316**, σ0**82**/324, **mb4.5**/41, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.09**	**257**			**Pg**	**13 30 19.2**	**-0.1**
AZAC	**Aniakchak**	**0.13**	**227**			**Pg**	**13 30 19.4**	**-0.5**
ANPB	**Aniakchak Plen**	**0.22**	**214**			**Pg**	**13 30 20.7**	**-0.4**
CHGN	**Chignik**	**0.72**	**196**			**Pg**	**13 30 29.0**	**-0.9**
CHGN						**Sg**	**13 30 39.4**	**+0.1**
CHGN	**Chignik**	**0.72**	**196**	IAML			13 30 40.4	
	comp=N,15μm,0.7s							
CHGN				IAML			13 30 41.0	
	comp=E,9μm,0.6s							
CHGN	**Chignik**	**0.72**	**196**	P		**Pg**	**13 30 28.7**	**-1.2**
	baz=17,SNR=218							
CHGN				S		**Sb**	**13 30 39.6**	**+0.1**
	baz=17							
PLBL	**Peulik Blue Cr**	**0.98**	**43**			**Pg**	**13 30 34.7**	**-0.1**
VNHG	**Veniaminof 1**	**0.98**	**219**			**Pb**	**13 30 34.3**	**-0.3**
VNFG	**Fog Glacier, M**	**1.09**	**230**			**Pn**	**13 30 36.6**	**0.0**
PLK1	**Peulik 1**	**1.13**	**43**			**Pg**	**13 30 37.5**	**-0.3**
PLK3	**Peulik 3**	**1.20**	**53**			**Pb**	**13 30 38.3**	**+0.1**
PLK3						**Sg**	**13 30 55.5**	**+0.9**
KJL	**Kejulik**	**1.71**	**50**			**Pn**	**13 30 46.1**	**+0.9**
CHIR	**Chirikof Islan**	**1.79**	**130**			**Pn**	**13 30 46.4**	**+0.4**
CHIR						**Sb**	**13 31 10.4**	**0.0**
CHIR	**Chirikof Islan**	**1.79**	**130**	IAML			13 31 17.9	
	comp=N,4μm,1.0s							
CHIR	**Chirikof Islan**	**1.79**	**130**	P		**Pn**	**13 30 46.4**	**+0.4**
	baz=312,SNR=18							
CHIR				S		**Sb**	**13 31 10.9**	**+0.6**
	baz=312							
CAHL	**Cahill**	**1.83**	**53**			**Pn**	**13 30 47.7**	**+1.0**
ANCK	**Angle Creek**	**1.84**	**48**			**Pn**	**13 30 47.8**	**+0.9**

KABU Katmai Buttres 1.97 48 **Pn** **13 30 47.9 -0.7**
KABU **Sb** **13 31 15.1 -0.7**
SDPT Sand Point 2.13 221 **Pn** **13 30 52.1 +1.3**
SDPT Sand Point 2.13 221 IAML 13 31 29.3
comp=N,2μm,0.7s
SDPT IAML 13 31 31.8
comp=E,3μm,1.2s
SDPT Sand Point 2.13 221 P **Pn** **13 30 51.2 +0.4**
baz=39,SNR=11
SII Sitkinak Islan 2.17 100 **Pn** **13 30 52.0 +0.5**
SII **Sb** **13 31 21.9 +0.4**
SII Sitkinak Islan 2.17 100 IAML 13 31 26.1
comp=N,3μm,1.2s
SII IAML 13 31 32.2
comp=E,3μm,1.3s
SII Sitkinak Islan 2.17 100 P **Pn** **13 30 51.9 +0.5**
baz=283,SNR=18
SII S **Sb** **13 31 20.8 -0.7**
baz=283
BLHA Black Hill 2.58 242 **Pn** **13 30 57.9 +0.9**
OHAK Old Harbor 2.61 83 **Pn** **13 30 57.5 +0.1**
OHAK **Sb** **13 31 32.7 -1.3**
OHAK Old Harbor 2.61 83 IAML 13 31 46.4
comp=N,908nm,0.9s
OHAK Old Harbor 2.61 83 P **Pn** **13 30 57.6 +0.2**
baz=267,SNR=41
PS4A Pavlof South-4 2.69 234 **Pn** **13 31 00.0 +1.5**
HAG Hague Volcano 2.73 234 **Pn** **13 31 00.7 +1.6**
P18K Big Mountain, 2.84 31 **Pn** **13 31 00.1 -0.5**
P18K Big Mountain, 2.84 31 IAML 13 31 47.3
comp=N,640nm,0.8s
P18K Big Mountain, 2.84 31 P **Pn** **13 30 60.0 -0.6**
baz=213,SNR=25
P18K S **Sn** **13 31 32.6 -1.8**
baz=213
Q19K Cape Douglas, 3.05 49 **Pn** **13 31 03.2 -0.3**
Q19K Cape Douglas, 3.05 49 P **Pn** **13 31 03.1 -0.4**
baz=232
KDAK Kodiak Island 3.07 73 Pn **Pn** **13 31 04.1 +0.4**
comp=N,32nm,0.3s,baz=255,slow=3.8,SNR=875
KDAK Sn **Sn** **13 31 36.8 -3.1**
comp=N,14nm,0.3s,baz=232,slow=8.0,SNR=4.4
KDAK Kodiak Island 3.07 73 **Pn** **13 31 04.1 +0.4**
KDAK Kodiak Island 3.07 73 P **Pn** **13 31 04.1 +0.4**
baz=257
KDAK S **Sn** **13 31 41.9 +2.0**
baz=257
O18K Koktuh Hills 3.24 26 **Pn** **13 31 06.0 -0.1**
O18K Koktuh Hills 3.24 26 IAML 13 32 08.8
comp=E,562nm,0.9s
O18K IAML 13 32 18.2
comp=N,669nm,0.7s
FALS False Pass 3.70 237 Pn **Pn** **13 31 11.9 -0.4**
O19K Port Alsworth 3.76 30 **Pn** **13 31 13.1 -0.1**
O19K Port Alsworth 3.76 30 P **Pn** **13 31 12.9 -0.3**
baz=213,SNR=28
O20K Slope Mountain 4.21 40 **Pn** **13 31 19.8 +0.3**
O20K Slope Mountain 4.21 40 P **Pn** **13 31 19.4 0.0**
baz=225
N19K Bonanza Creek 4.26 24 **Pn** **13 31 20.1 -0.1**
N19K IAML 13 32 40.0
comp=E,396nm,0.7s
N19K Bonanza Creek 4.26 24 P **Pn** **13 31 20.0 -0.1**
baz=207,SNR=15
N19K S **Sn** **13 32 09.9 +0.4**
baz=207
HOM Homer 4.31 49 Pn **Pn** **13 31 21.8 +1.0**
HOM IAML 13 32 56.4
comp=E,562nm,1.0s
HOM IAML 13 33 21.9
comp=N,505nm,1.0s
SVW2 Sparrevohn 4.32 16 **Pn** **13 31 20.3 -0.6**
SVW2 IAML 13 32 41.6
comp=E,487nm,1.1s
SVW2 IAML 13 32 42.0
comp=N,355nm,0.6s
RED Redoubt Volcan 4.41 36 **Pn** **13 31 22.3 +0.2**
CNPM China Poot 4.41 52 **Pn** **13 31 22.2 +0.1**
RDWB Redoubt West 4.44 36 **Pn** **13 31 22.6 -0.1**
RSO Redoubt South 4.45 36 **Pn** **13 31 22.9 +0.1**
BRLK Bradley Lake 4.69 51 Pn **Pn** **13 31 26.1 +0.2**
M19K Big River Lodg 5.27 19 **Pn** **13 31 33.9 -0.1**
M19K Big River Lodg 5.27 19 P **Pn** **13 31 33.9 -0.1**
baz=202,SNR=24
M19K S **Sn** **13 32 33.8 -0.5**
baz=202
L19K White Mountain 5.46 16 **Pn** **13 31 36.0 -0.6**
L19K White Mountain 5.46 16 P **Pn** **13 31 36.1 -0.4**
baz=199,SNR=38
SEW Seward 5.48 52 Pn **Pn** **13 31 36.3 -0.5**
SEW Seward 5.48 52 P **Pn** **13 31 37.2 +0.5**
baz=239
M20K Styx River 5.51 25 **Pn** **13 31 37.6 +0.3**
STLK Strandline Lak 5.54 33 **Pn** **13 31 39.1 +1.5**
UNV Unalaska Valle 5.75 240 Pn **Pn** **13 31 42.6 +2.1**
L20K Farewell, AK 5.90 19 **Pn** **13 31 42.7 +0.2**
L20K Farewell, AK 5.90 19 P **Pn** **13 31 42.6 0.0**
baz=203,SNR=25
L20K S **Sn** **13 32 49.8 0.0**
baz=203
RC01 Rabbit Creek A 5.94 43 Pn **Pn** **13 31 44.2 +1.0**
RC01 Rabbit Creek A 5.94 43 P **Pn** **13 31 43.3 +0.1**
baz=230
TT01 Tatalina 6.03 9 **Pn** **13 31 43.5 -0.8**
TTA Tatalina 6.05 9 **Pn** **13 31 43.9 -0.8**
TTA Tatalina 6.05 9 P **Pn** **13 31 44.4 -0.3**
baz=191,SNR=9.6
M22K Willow 6.26 37 **Pn** **13 31 46.8 -0.7**
M22K Willow 6.26 37 P **Pn** **13 31 48.2 +0.7**
baz=224,SNR=8.5
PWL Port Wells 6.35 48 Pn **Pn** **13 31 48.6 -0.2**
PWL Port Wells 6.35 48 P **Pn** **13 31 49.0 +0.2**
baz=236
PMR Palmer 6.49 41 **Pn** **13 31 51.3 +0.7**
PMR Palmer 6.49 41 P **Pn** **13 31 51.4 +0.7**
baz=228,SNR=6.8
PPLA Purkeypile 6.62 24 **Pn** **13 31 52.8 +0.3**
PPLA Purkeypile 6.62 24 P **Pn** **13 31 53.0 +0.5**
baz=209,SNR=7.1
KNK Knik Glacier 6.63 44 P **Pn** **13 31 53.0 +0.4**
baz=232
SPIA Saint Paul Isl 6.65 277 Pn **Pn** **13 31 53.8 +0.9**
SPIA Saint Paul Isl 6.65 277 P **Pn** **13 31 53.5 +0.6**
baz=86
GHO Glory Hole Cre 6.69 40 **Pn** **13 31 52.8 -0.6**
K20K Telida 6.69 16 **Pn** **13 31 52.7 -0.8**
K20K Telida 6.69 16 P **Pn** **13 31 53.0 -0.5**
baz=199,SNR=8.6
CUT Chulitna 6.71 33 Pn **Pn** **13 31 55.4 +1.8**
CUT Chulitna 6.71 33 P **Pn** **13 31 53.4 -0.2**
baz=219
GLI Glacier Island 6.88 51 Pn **Pn** **13 31 56.4 +0.3**
GLI Glacier Island 6.88 51 P **Pn** **13 31 55.7 -0.3**
baz=240
SML Sawmill 6.92 42 Pn **Pn** **13 31 56.9 +0.3**
SML Sawmill 6.92 42 P **Pn** **13 31 56.1 -0.6**
baz=230
FID Port Fidalgo 7.08 53 Pn **Pn** **13 31 58.1 -0.7**
CAST Castle Rocks 7.10 22 Pn **Pn** **13 31 59.1 0.0**
CAST Castle Rocks 7.10 22 P **Pn** **13 31 58.9 -0.2**
baz=207,SNR=29
SCM Sheep Creek Mo 7.31 44 Pn **Pn** **13 32 01.8 -0.2**
SCM Sheep Creek Mo 7.31 44 P **Pn** **13 32 01.8 -0.2**
baz=233
EYAK Cordova Ski Ar 7.32 56 Pn **Pn** **13 32 01.8 -0.2**
EYAK Cordova Ski Ar 7.32 56 P **Pn** **13 32 02.2 +0.1**
baz=246
J20K Nowinta River 7.46 13 **Pn** **13 32 03.4 -0.6**
J20K Nowinta River 7.46 13 P **Pn** **13 32 03.5 -0.5**
baz=197
CHUM Lake Minchumin 7.47 20 **Pn** **13 32 03.9 -0.2**
CHUM Lake Minchumin 7.47 20 P **Pn** **13 32 03.9 -0.2**
baz=205,SNR=14
KTH Kantishna Hill 7.47 25 Pn **Pn** **13 32 03.6 -0.6**
TRF Thorofare Moun 7.54 28 P **Pn** **13 32 06.7 +1.5**
baz=214,SNR=19
WAT6 Susitna Watana 7.64 39 P **Pn** **13 32 07.3 +0.7**
baz=227
KLU Klutina 7.68 49 **Pn** **13 32 06.4 -0.7**
KLU Klutina 7.68 49 P **Pn** **13 32 07.5 +0.4**
baz=239,SNR=8.5
GCSA Galena City Sc 7.81 4 P **Pn** **13 32 08.5 -0.1**
baz=185,SNR=9.7
M24K Tolsona, Glenn 7.92 45 Pn **Pn** **13 32 09.9 -0.3**
M24K Tolsona, Glenn 7.92 45 P **Pn** **13 32 11.5 +1.2**

baz=235
HMT Hamilton 7.93 59 Pn 13 32 09.9 -0.6
BPAW Bear Paw Mtn. 7.94 23 Pn Pn 13 32 10.0 -0.5
BPAW Bear Paw Mtn. 7.94 23 P Pn 13 32 10.5 0.0
baz=209,SNR=19
BMRM Bremner River 8.01 55 Pn Pn 13 32 11.3 -0.2
BMRM Bremner River 8.01 55 P Pn 13 32 11.9 +0.4
baz=246
DHY Denali Highway 8.11 37 Pn 13 32 12.7 -0.2
DHY Denali Highway 8.11 37 P Pn 13 32 13.6 +0.6
baz=226
MCK McKinley 8.13 30 P Pn 13 32 13.9 +0.8
baz=218,SNR=10
BERG Berg Lake 8.21 59 Pn 13 32 14.0 -0.3
N25K Chitina, Valde 8.29 50 Pn Pn 13 32 15.1 -0.3
N25K Chitina, Valde 8.29 50 P Pn 13 32 16.2 +0.8
baz=242
ANM Nome 8.40 338 Pn 13 32 17.2 +0.4
ANM Nome 8.40 338 P Pn 13 32 17.0 +0.2
baz=151,SNR=24
HARP HAARP 8.47 45 P Pn 13 32 19.1 +1.3
baz=236
GLB Gilahina Butte 8.55 53 Pn 13 32 18.9 -0.1
SNH Sunshine Point 8.56 62 Pn Pn 13 32 19.5 +0.4
VRDI Verde Repeater 8.62 54 Pn Pn 13 32 19.9 -0.2
WAX Waxell Ridge 8.63 60 Pn 13 32 19.9 -0.2
PAX Paxson 8.69 41 Pn 13 32 20.3 -0.7
PAX Paxson 8.69 41 P Pn 13 32 21.2 +0.2
baz=232,SNR=7.1
I21K Tanana 8.73 17 Pn 13 32 21.0 -0.3
I21K Tanana 8.73 17 P Pn 13 32 22.4 +1.2
baz=202,SNR=26
NEA2 Nenana 8.79 26 P Pn 13 32 21.5 -0.7
baz=214
MLY Manley 8.81 21 Pn Pn 13 32 21.9 -0.6
MLY Manley 8.81 21 P Pn 13 32 22.1 -0.4
baz=207,SNR=13
ISLE Juniper Island 8.92 60 Pn 13 32 23.9 -0.3
WRH Wood River Hil 8.94 29 Pn 13 32 24.5 +0.2
BAGL Bagley Icefiel 9.01 60 Pn 13 32 25.8 +0.7
KIAG Kiagna River 9.01 58 Pn 13 32 25.8 +0.4
H21K Melozitna Rive 9.05 14 Pn 13 32 25.1 -0.7
H21K Melozitna Rive 9.05 14 P Pn 13 32 25.2 -0.6
baz=198,SNR=34
YAH Yahtse 9.14 61 Pn 13 32 27.3 +0.2
I23K Minto, Yukon-K 9.20 24 Pn 13 32 27.9 +0.1
I23K Minto, Yukon-K 9.20 24 P Pn 13 32 27.8 +0.1
baz=211,SNR=7.2
HDA Harding Lake 9.21 32 Pn 13 32 28.5 +0.6
HDA Harding Lake 9.21 32 P Pn 13 32 28.3 +0.4
baz=221,SNR=16
IM03 9.26 11 Pn 13 32 28.1 -0.5
IMAR Indian Mountai 9.26 11 Pn Pn 13 32 28.3 -0.2
MDM Murphy Dome 9.30 27 Pn 13 32 28.6 -0.6
TCOL CIGO, UAF Yank 9.32 28 Pn 13 32 29.5 0.0
TCOL CIGO, UAF Yank 9.32 28 P Pn 13 32 29.7 +0.3
baz=217,SNR=6.0
MENT Mentasta 9.33 44 Pn Pn 13 32 29.1 -0.4
COLA College 9.33 28 Pn Pn 13 32 29.8 +0.3
COLA College 9.33 28 P Pn 13 32 29.4 -0.1
baz=217
BARN Barnard Glacie 9.38 57 Pn Pn 13 32 30.5 +0.1
RIDG Independent Ri 9.40 38 Pn Pn 13 32 31.5 +0.9
RIDG Independent Ri 9.40 38 P Pn 13 32 31.4 +0.9
baz=230,SNR=8.8
TABL Table Mountain 9.45 61 Pn Pn 13 32 31.6 +0.2
IL31 9.50 30 Pn 13 32 32.4 +0.5
ILAR Eielson Array 9.50 30 Pn Pn 13 32 31.8 -0.2
comp=N,1.4nm,0.3s,baz=218,slow=13,SNR=76
ILAR Lg Lg 13 35 06.6
comp=N,0.1nm,0.3s,baz=221,slow=26,SNR=2.4
ILAR LR LR 13 36 21.7
comp=N,225nm,19.4s,baz=115,slow=39
ILAR Eielson Array 9.50 30 Pn Pn 13 32 32.5 +0.5
GAMB Gambell 9.57 321 Pn 13 32 32.9 0.0
GAMB Gambell 9.57 321 P Pn 13 32 31.4 -1.4
baz=129
DOT Dot Lake 9.61 40 Pn Pn 13 32 33.2 -0.2
POKR Poker Plat Res 9.63 28 Pn 13 32 33.5 -0.1
POKR Poker Plat Res 9.63 28 P Pn 13 32 33.1 -0.6
baz=217
M27K Edge Creek, AK 9.78 50 Pn Pn 13 32 36.1 +0.3
M27K Edge Creek, AK 9.78 50 P Pn 13 32 36.3 +0.5
baz=244
PCA Pinnacle 9.80 64 Pn Pn 13 32 36.3 +0.1
TNA Tin City 9.81 335 Pn 13 32 36.9 +0.8
TNA Tin City 9.81 335 P Pn 13 32 36.2 +0.1
baz=147,SNR=8.7
J25K Salcha River, 9.82 34 Pn 13 32 36.9 +0.5
J25K Salcha River, 9.82 34 P Pn 13 32 35.9 -0.5
baz=225,SNR=11
SCRK Sand Creek 9.84 39 Pn Pn 13 32 37.0 +0.3
SCRK Sand Creek 9.84 39 P Pn 13 32 36.5 -0.2
baz=231
H24K Noodor Dome 10.11 24 Pn Pn 13 32 40.6 +0.3
H24K Noodor Dome 10.11 24 P Pn 13 32 40.5 +0.2
baz=213,SNR=6.1
L27K Beaver Creek, 10.13 46 Pn Pn 13 32 40.8 +0.3
L27K Beaver Creek, 10.13 46 P Pn 13 32 40.9 +0.4
baz=240
BCAR Beaver Creek A 10.15 46 Pn Pn 13 32 41.0 +0.2
YUK3 Moose Creek 10.16 55 P Pn 13 32 41.3 +0.1
baz=250
PNL Peninsula 10.17 67 P Pn 13 32 40.4 -0.6
baz=263
J26L Joseph Creek 10.32 37 P Pn 13 32 42.7 -0.5
baz=230
YUK4 Talbot Arm 10.86 58 P Pn 13 32 52.2 +1.5
baz=255
COLD Coldfoot 10.90 16 Pn Pn 13 32 51.9 +0.9
COLD Coldfoot 10.90 16 P Pn 13 32 52.6 +1.5
baz=203,SNR=23
HYT Haines Junctio 11.28 62 Pn Pn 13 32 57.4 +1.0
EGAK Eagle 11.31 39 Pn 13 32 56.6 0.0
DAWY Dawson 11.57 45 Pn Pn 13 32 59.4 -0.9
DAWY Dawson 11.57 45 P Pn 13 32 59.8 -0.5
baz=241
BMAR Burnt Mountain 12.18 25 Pn Pn 13 33 06.5 -2.0
TOLK Toolik Lake Re 12.30 15 P Pn 13 33 10.1 -0.2
baz=202
WHY Whitehorse 12.53 63 Pn Pn 13 33 13.2 -0.2
WHY Whitehorse 12.53 63 P Pn 13 33 14.7 +1.3
baz=263
DLBC Dease Lake 15.00 73 Pn Pn 13 33 46.8 -0.3
comp=N,0.1nm,0.3s,baz=275,slow=11,SNR=4.7
INK Inuvik 15.84 34 Pn Pn 13 33 55.4 -2.5
comp=N,0.7nm,0.3s,baz=232,slow=11,SNR=10
INK Inuvik 15.84 34 Pn Pn 13 33 55.0 -2.9
INK Inuvik 15.84 34 P Pn 13 33 56.2 -1.6
baz=236
C36M Paulatuk 19.36 37 P P 13 34 39.9 -0.5
C36M Paulatuk 19.36 37 P P 13 34 38.6 -1.7
baz=247
A36M Sachs Harbour 20.20 29 P P 13 34 48.2 -1.3
baz=239
YKA Yellowknife Ar 22.22 58 P P 13 35 11.3 -0.1
comp=N,8.1nm,0.8s,baz=275,slow=10,SNR=116
YKA PcP PcP 13 39 07.5 +0.5
comp=N,1.0nm,0.5s,baz=278,slow=1.9,SNR=16
YKA Yellowknife Ar 22.22 58 P P 13 35 10.9 -0.4
SEY Seymchan 24.96 304 P P 13 35 37.5 -0.7
comp=N,5.8nm,0.7s,baz=117,slow=9.8,SNR=2.0
PETK Petropavlovsk- 25.30 280 P P 13 35 42.0 +0.7
comp=N,5.1nm,0.7s,baz=74,slow=12,SNR=6.3
EDM Edmonton 25.49 79 P P 13 35 43.3 +0.1
EDM IAmb IAmb 13 35 44.8
comp=Z,14nm,0.7s
I07A Izee 27.29 102 P P 13 35 58.8 -0.7
EGMT Eagleton 30.15 86 P P 13 36 25.2 +0.3
baz=306
HLID Hailey 30.38 97 P P 13 36 27.0 -0.1
baz=312
YHH Holmes Hill 31.53 92 P P 13 36 38.3 +1.0
H17A Grant Village 31.93 93 P P 13 36 42.0 +1.1
baz=310
NVAR Mina Array Bea 31.94 108 P P 13 36 43.0 +2.0
comp=Z,3.2nm,0.7s,baz=299,slow=8.6,SNR=13
NVAR Mina Array Bea 31.94 108 P P 13 36 40.1 -0.9
RLMT Red Lodge 32.18 90 P P 13 36 43.6 +0.7
baz=309
FCC Fort Churchill 32.92 60 P P 13 36 49.2 +0.2
FCC IAmb IAmb 13 36 50.4
comp=Z,6.7nm,0.8s
R11A Troy Canyon, C 33.43 105 P P 13 36 55.1 +1.2
R11A IAmb IAmb 13 36 58.3
comp=Z,4.3nm,0.9s
R11A Troy Canyon, C 33.43 105 P P 13 36 54.4 +0.5
baz=318
PDAR Pinedale Array 33.56 94 P P 13 36 56.2 +1.1
comp=Z,0.7nm,0.5s,baz=320,slow=4.7,SNR=7.6
PDAR Pinedale Array 33.56 94 P P 13 36 56.0 +1.0
CWC Cottonwood Cre 33.57 110 P P 13 36 56.2 +1.1
baz=321
ISA Isabella, Lake 33.97 112 P P 13 36 59.3 +0.7
baz=322
TPNV Topopah Spring 34.13 108 P P 13 36 59.8 -0.2
TPNV IAmb IAmb 13 37 05.7
comp=Z,8.2nm,0.8s
TPNV Topopah Spring 34.13 108 P P 13 37 01.0 +1.0
baz=320
MPMC Manual Prospec 34.17 110 P P 13 37 02.0 +1.7
baz=321
FURC Furnace Creek, 34.18 109 P P 13 37 01.0 +0.8
baz=320
GWY Greenwater Val 34.49 109 P P 13 37 04.3 +1.1
GWY IAmb IAmb 13 37 07.8
comp=Z,7.3nm,0.8s
LRMC Laurel Mtn Rad 34.52 111 P P 13 37 04.0 +0.6
baz=321
QSM Queen of Sheba 34.56 110 P P 13 37 05.8 +2.2
QSM IAmb IAmb 13 37 08.2
comp=Z,6.7nm,0.8s
SHOC Shoshone, Teco 34.92 109 P P 13 37 07.7 +1.1
baz=321
GSC Goldstone, Bar 35.10 110 P P 13 37 09.5 +1.1
baz=321
TUQ Turquoise Moun 35.46 109 P P 13 37 12.6 +1.2
baz=321
RSSD Black Hills 35.69 87 P P 13 37 14.2 +0.8
RSSD IAmb IAmb 13 37 15.1
comp=Z,5.8nm,0.7s
RSSD Black Hills 35.69 87 P P 13 37 13.6 +0.2
baz=311
BBRC Big Bear Solar 35.86 112 P P 13 37 16.5 +1.5
baz=322
O20A White River Ci 36.09 96 P P 13 37 17.9 +1.0
baz=315
GMRC Granite Mounta 36.10 110 P P 13 37 18.0 +1.1
baz=321
ULM Lac du Bonnet 36.33 73 P P 13 37 17.8 -0.7
comp=Z,3.0nm,0.6s,baz=328,slow=15,SNR=3.2
BELC Belle Mtn. Jos 36.54 111 P P 13 37 21.5 +0.8
baz=322
PFO Pinyon Flats O 36.61 112 P P 13 37 22.4 +1.1
baz=323
TPFO Pinon Flats 36.61 112 P P 13 37 22.3 +1.0
baz=323
N23A Red Feather La 36.81 93 P P 13 37 23.8 +0.7
baz=314
IRM Iron Mountain 36.85 110 P P 13 37 25.2 +2.0
baz=322
BC3 Big Chuckawall 37.09 111 P P 13 37 25.8 +0.5
baz=322
SWSC Sam W. Stewart 37.47 112 P P 13 37 29.1 +0.7
baz=323
AGMN Agassiz Nation 37.49 76 P P 13 37 28.5 +0.1
AGMN IAmb IAmb 13 37 33.0
comp=Z,7.9nm,1.0s
AGMN Agassiz Nation 37.49 76 P P 13 37 28.2 -0.2
baz=307
BLYC Blythe 37.49 109 P P 13 37 30.4 +1.8
BLYC IAmb IAmb 13 37 33.2
comp=Z,8.4nm,0.8s
IKP In-Ko-Pah, Jac 37.55 112 P P 13 37 30.8 +1.5
baz=323
WUAZ Wupatki 37.78 104 P P 13 37 32.2 +0.9
baz=320
GLA Glamis 37.88 110 P P 13 37 32.9 +0.9
baz=322
S22A 4UR Ranch, Cre 38.56 98 P P 13 37 38.8 +0.8
baz=317
B35A Bob, Littlefor 38.58 75 P P 13 37 38.0 +0.3
W18A Petrified Fore 38.95 103 P P 13 37 41.7 +0.5
baz=320
SDCO Great Sand Dun 39.29 96 P P 13 37 44.6 +0.6
baz=317
214A Organ Pipe Nat 39.79 109 P P 13 37 48.9 +0.9
baz=323
ECSD EROS Data Cent 39.98 82 P P 13 37 49.9 +0.5
EYMN Ely 40.01 74 P P 13 37 50.0 +0.3
EYMN IAmb IAmb 13 37 50.8
comp=Z,13nm,0.7s
EYMN Ely 40.01 74 P P 13 37 48.8 -0.8
baz=309
F36A Milaca 40.26 77 P P 13 37 52.1 +0.4
F36A IAmb IAmb 13 37 55.9
comp=Z,11nm,1.3s
TUC Tucson 40.56 107 P P 13 37 55.4 +0.9
baz=322
SPMN Marine on St. 41.06 78 P P 13 37 59.3 +1.0
baz=311
G40A Rib Lake 42.42 76 P P 13 38 09.7 +0.2
G40A IAmb IAmb 13 38 12.0
comp=Z,15nm,1.2s
MNTX Cornudas Mount 43.90 102 P P 13 38 21.5 0.0
baz=321
E46A Sault Ste Mari 44.78 71 P P 13 38 29.2 +0.8
E46A IAmb IAmb 13 38 31.9
comp=Z,14nm,1.2s
WMOK Wichita Mounta 45.17 93 P P 13 38 32.6 +1.0
WMOK Wichita Mounta 45.17 93 P P 13 38 31.4 -0.3
baz=319
NRIK Noril'sk 45.40 333 P P 13 38 33.9 +0.9
comp=Z,5.1nm,0.7s,baz=62,slow=5.7,SNR=6.9
NRIK Noril'sk 45.40 333 P P 13 38 34.5 +1.4
NRIK IAmb IAmb 13 38 35.2
comp=Z,5.2nm,0.8s
GLMI Grayling 45.65 73 P P 13 38 35.3 -0.1
baz=313
ABTX Abilene, Hawle 46.29 96 P P 13 38 40.1 -0.5
baz=320
TX31 Lajitas Ar. Si 46.67 103 P P 13 38 43.5 -0.2
TX32 Lajitas Array 46.67 103 P P 13 38 43.5 -0.1
TX32 IAmb IAmb 13 38 52.6
comp=Z,3.1nm,0.8s
TXAR Lajitas Array 46.67 103 P P 13 38 45.0 +1.3
comp=Z,1.8nm,0.7s,baz=311,slow=5.8,SNR=21
CCM Cathedral Cave 46.85 84 P P 13 38 44.8 -0.1
baz=316
U40A Yellville 47.21 87 P P 13 38 47.2 -0.5
baz=318
W39A Magazine 47.56 89 P P 13 38 49.8 -0.6
baz=318
JCT Junction City 47.85 98 P P 13 38 52.3 -0.5
JCT IAmb IAmb 13 38 54.1
comp=Z,6.2nm,0.8s
JCT Junction City 47.85 98 P P 13 38 53.0 +0.2
baz=321
WHTX Lake Whitney, 47.97 95 P P 13 38 55.3 +1.7
baz=320
W41B Gary Mavity, V 48.42 87 P P 13 38 56.6 -0.5
baz=318
O48B Farmland 48.56 77 P P 13 38 57.4 -0.7
baz=316
SCO Scoresbysund 49.03 18 P P 13 39 01.1 -0.3
WVT Waverly 50.12 83 P P 13 39 09.3 -0.7
baz=318
OXF Oxford 50.46 86 P P 13 39 12.0 -0.6
baz=319
PLAL Pickwick Lake 50.84 84 P P 13 39 14.9 -0.6
PLAL IAmb IAmb 13 39 20.1
comp=Z,6.3nm,1.1s
M55A Ridgway 51.06 72 P P 13 39 16.8 -0.3
M55A IAmb IAmb 13 39 17.6
comp=Z,8.9nm,0.8s
KSRS Korea Array 51.20 281 P P 13 39 18.4 +0.3
comp=Z,2.7nm,0.9s,baz=43,slow=6.7,SNR=9.6
L56A Greenwood 51.20 70 P P 13 39 18.2 0.0
BINY Binghamton 51.96 69 P P 13 39 22.8 -1.1
baz=317
SSPA Standing Stone 52.12 72 P P 13 39 25.0 0.0
TZTN Tazewell 52.13 79 P P 13 39 24.7 -0.5
baz=318
KEV Kevo 53.51 358 P P 13 39 34.1 -0.7
KEV IAmb IAmb 13 39 56.7
comp=Z,16nm,1.3s
ARCES ARCESS Array B 53.75 358 P P 13 39 36.8 +0.1
comp=Z,1.4nm,0.9s,baz=9.6,slow=8.0,SNR=3.7
SONM Songino Array 54.36 304 P P 13 39 41.8 +0.3
comp=Z,2.1nm,0.7s,baz=39,slow=6.2,SNR=6.6
SONM PcP PcP 13 40 46.0 +0.7
comp=Z,1.9nm,0.6s,baz=36,slow=2.6,SNR=6.2
SONM Songino Array 54.36 304 P P 13 39 42.3 +0.7
352A Blakely 55.21 85 P P 13 39 45.6 -2.1
HHC Hu-ho-hao-te 57.15 295 eP P 13 40 02.1 +0.5
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.1s
ZALV Zalesovo Beam 58.16 322 P P 13 40 08.8 +0.3
comp=Z,0.3nm,0.3s,baz=19,slow=9.4,SNR=3.7
NC204 NORSAR Array S 61.75 6 P P 13 40 32.0 -1.0
NC204 IAmb IAmb 13 40 53.9
comp=Z,3.7nm,0.9s
FINES FINESS Array B 61.86 358 P P 13 40 32.1 -1.6
comp=Z,1.4nm,0.8s,baz=345,slow=8.6,SNR=3.0
FINES FINESS Array B 61.86 358 P P 13 40 33.0 -0.7
NC405 NORSAR Array S 61.97 6 P P 13 40 33.8 -0.6
NB2 NORSAR Subarra 62.01 6 P P 13 40 34.2 -0.6
comp=Z,1.0nm,0.7s,baz=354,slow=6.9
NOA NORSAR Array B 62.01 6 P P 13 40 34.2 -0.6
comp=Z,1.1nm,0.6s,baz=354,slow=6.8,SNR=6.4
KONO Kongsberg 63.30 7 P P 13 40 42.9 -0.4
LZH Lanzhou 64.64 297 eP P 13 40 52.0 -0.7
LZH pP pP 13 40 55.7 -2.3
LZH sP sP 13 40 57.0 -2.9
LZH pmax pmax
comp=Z,14nm,1.3s
MKAR Makanchi Array 65.04 319 P P 13 40 55.6 +0.6
comp=Z,0.3nm,0.5s,baz=18,slow=4.6,SNR=5.6
WMQ Urumqi 65.50 314 eP P 13 41 00.6 +2.5
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ LR LR
comp=N,580nm,19.9s
WMQ LR LR
comp=E,470nm,19.9s
WMQ LR LR
comp=Z,210nm,19.3s
ABKAR Akbulak array 69.54 334 P P 13 41 23.0 -0.4
CLL Collm 71.82 6 eP P 13 41 39.0 +1.8
AKASG Malin Array Be 72.51 355 P P 13 41 39.7 -1.6
comp=Z,0.8nm,0.5s,baz=8.1,slow=5.9,SNR=4.9
AKASG Malin Array Be 72.51 355 IAmb IAmb 13 41 46.1
comp=Z,2.1nm,1.4s
PZH PanZhiHua 73.47 293 P P 13 41 49.4 +1.8
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,50nm,4.1s
ESDC Sonseca Array 81.25 20 P P 13 42 30.9 0.0
comp=Z,0.5nm,0.7s,baz=340,slow=5.3,SNR=5.0
ESDC Sonseca Array 81.25 20 IAmb IAmb 13 42 34.6
comp=Z,1.8nm,1.2s
CMAR Chiang Mai Arr 81.58 291 P P 13 42 32.1 -0.8
comp=Z,1.0nm,0.5s,baz=8.7,slow=5.0,SNR=9.2
BOSA Boshof 151.54 354 PKPbc PKPbc 13 50 08.4 -0.5
comp=Z,1.6nm,0.5s,baz=1.9,slow=0.7,SNR=5.9

IDC ***04*** *13:35:21.4±0.5, 10.16S×162.66E, h0km, mb4.6/29, mb1 4.7/30, mb1mx4.6/41, mbtmp4.6/30, ML4.2/1, MS4.5/22, Ms1 4.5/22, ms1mx4.2/62, Error ellipse: s-maj=16.0km s-min=11.2km az=122.0*

GCMT ***04*** *13:35:23.6±0.2, 10.15S±0.01×163.04E±0.01, h12km, MW5.0/121, Moment Tensor Solution. s38,c41; s121,c198; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.47±.10; Mθθ0.76±.09; Mϕϕ-0.29±.09; Mrθ-0.80±.27; Mθϕ4.44±.07; Mrϕ0.13±.28; Best double couple: M₀4.54800×10^16 NP1:ϕs184.00000°, δ79.00000°, λ-177.00000°. NP2:ϕs93.00000°, δ87.00000°, λ-11.00000°. Principal axes: T 4.7570, Plg6.0000°, Azm139.0000°; N -0.4190, Plg79.0000°, Azm259.0000°; P -4.3380, Plg9.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***04*** *13:35:24.6±1.1, 10.26S×162.81E, h39km, mb5.1/35 Error ellipse: s-maj=9.6km s-min=8.1km az=113.9*

BJI ***04*** *13:35:25.0±0.0, 10.03S×163.04E, h44km, mb4.9/61, mB5.1/35, Ms4.9/27, Ms7 4.7/28*

NEIC ***04*** *13:35:27.6±1.5, 10.24S±0.09×162.83E±0.10, h46km±7km, mb5.0/81, Error ellipse: s-maj=14.0km s-min=12.2km az=65.0*

ISC 04 13:35:26.0±0.4, 10.23S±0.04×162.82E±0.05, h32km±2km, h33km:pP-P, n355, σ1s55/374, mb5.0/108, MS4.6/30, 10C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
HNR	Honiara	2.94	285	Pn	Pn	13 36 11.6	+1.1
	361nm,0.3s,baz=165,slow=9.0,SNR=141						
HNR				Sn	Sn	13 36 47.3	+2.5
	685nm,0.3s,baz=184,slow=20,SNR=10						
HNR	Honiara	2.94	285	P	Pn	13 36 11.9	+1.4
HNR	Honiara	2.94	285		Pn	13 36 11.8	+1.4
RABL	Rabaul	12.15	299	Pn	Pn	13 38 17.4	+0.4
KRVT	Keravat (AS076	12.22	298	Pn	Pn	13 38 18.2	+0.4
	26nm,0.3s,baz=196,slow=1.7,SNR=15						
KRVT				Sn	Sn	13 40 30.0	-3.0
	2.4nm,0.3s,baz=340,slow=22,SNR=0.8						
KRVT				LR	LR	13 43 28.1	
	comp=Z,3μm,19.5s,baz=272,slow=40						
DZM	Mont Dzumac	12.27	164	Pn	Pn	13 38 19.2	+0.5
	1.5nm,0.3s,baz=1.7,slow=16,SNR=8.3						
DZM				Sn	Sn	13 40 30.6	-3.9
	0.3nm,0.3s,baz=60,slow=23,SNR=1.4						
DZM				LR	LR	13 42 16.2	
	comp=Z,2μm,18.7s,baz=3.5,slow=34						
DZM	Mont Dzumac	12.27	164	ePn	Pn	13 38 18.8	+0.1
	194nm,1.4s						
DZM				eLQ	LQ	13 40 33.9	
	3μm,24.6s						
DZM				eLR	LR	13 41 06.8	
	comp=Z,4μm,24.9s						
DZM	Mont Dzumac	12.27	164	Pn	Pn	13 38 18.0	-0.7
ONTNC	Ouen Toro	12.50	164	Pn	Pn	13 38 20.5	-1.2
OUENC	Ouen Island, N	12.71	163	Pn	Pn	13 38 25.0	+0.4
PINNC	Pines Island,	13.08	161	Pn	Pn	13 38 30.0	+0.3
PMG	Port Moresby	15.46	272	Pn	P	13 39 06.4	+0.5
	1.1nm,0.3s,baz=60,slow=6.2,SNR=16						
PMG				LR	LR	13 44 03.8	
	comp=Z,2μm,18.7s,baz=110,slow=34						
PMG	Port Moresby	15.46	272	ceP	P	13 39 06.5	+0.5
PMG				pmax	pmax		
	comp=Z,58nm,0.8s						
PMG	Port Moresby	15.46	272	P	P	13 39 06.8	+0.8
MSVF	Nonsavu	16.54	118	LR	LR	13 44 49.0	
	comp=Z,1μm,18.7s,baz=291,slow=34						
MANU	Manus Island	17.38	297	P	P	13 39 26.9	-0.4
PATS	Pohnpei	17.54	345	P	Pn	13 39 23.3	-4.9
	baz=18,SNR=4.2						
EIDS	Eidsvold	18.73	215	P	Pn	13 39 44.7	+2.0
	baz=19,SNR=9.3						
EIDS	Eidsvold	18.73	215	P	Pn	13 39 44.1	+1.4
CTA	Charters Tower	18.74	237	P	Pn	13 39 44.6	+1.7
	comp=Z,3.1nm,0.3s,baz=61,slow=11,SNR=43						
CTA				LR	LR	13 46 07.3	
	comp=Z,2μm,19.0s,baz=60,slow=35						
COEN	Coen	19.56	257	P	Pn	13 39 52.9	+0.1
COEN				IAmb	IAmb	13 40 02.1	
	comp=Z,163nm,1.2s						
MTSU	Mount Surprise	19.57	244	P	Pn	13 39 54.4	+1.5
	baz=20,SNR=39						
RMQ	Roma	20.93	218	P	Pn	13 40 08.6	-0.2
	baz=22,SNR=25						
ARMA	Armidale	22.63	206	P	P	13 40 25.3	+0.9
	baz=23,SNR=8.5						
ARMA	Armidale	22.63	206	P	P	13 40 23.6	-0.8
ARMA				IAmb	IAmb	13 40 50.9	
	comp=Z,41nm,1.1s						
JAY	Jayapura	23.26	288	P	P	13 40 27.7	-3.3
	comp=Z,26nm,0.9s,baz=76,slow=2.6,SNR=5.6						
JAY				LR	LR	13 48 54.7	
	comp=Z,1μm,21.5s,baz=72,slow=35						
JAY	Jayapura	23.26	288	P	P	13 40 42.0	+11
QLP	Quilpie	23.94	225	P	P	13 40 37.9	+0.6
	baz=25,SNR=16						
QIS	Mount Isa	24.59	243	P	P	13 40 42.9	-0.5
	baz=25,SNR=3.4						
AFI	Afiamalu	25.10	101	LR	LR	13 47 54.6	
	comp=Z,811nm,20.5s,baz=278,slow=30						
MGCD	Mangrove Creek	25.28	203	P	P	13 40 48.0	-1.5
	baz=26,SNR=5.8						
CMSA	Cobar Meteorol	26.49	214	P	P	13 41 01.3	+0.9
	baz=27,SNR=31						

CNB Canberra Magne 27.82 204 P **P** **13 41 11.7 -0.7**
baz=28,SNR=5.8
CAN Canberra 27.97 205 P **P** **13 41 13.2 -0.6**
CAN pmax pmax
comp=Z,19nm,1.0s
CAN Canberra 27.97 205 P **P** **13 41 13.2 -0.6**
H11S2 WAKE ISLAND Hy 28.80 8 T T 14 11 18.8
baz=188,slow=76
H11S3 WAKE ISLAND Hy 28.80 8 T T 14 11 18.9
baz=188,slow=76
H11S1 WAKE ISLAND Hy 28.81 8 T T 14 11 20.2
baz=188,slow=76
WR0 Warramunga Arr 28.93 247 P **P** **13 41 21.3 -1.2**
WB0 Warramunga Arr 29.01 248 P **P** **13 41 22.1 -1.1**
WRAB Tennant Creek 29.09 247 *ce*P **P** **13 41 23.2 -0.7**
WRAB pmax pmax
comp=Z,19nm,1.7s
WRAB Tennant Creek 29.09 247 P **P** **13 41 22.6 -1.3**
WRAB lAmb lAmb 13 41 39.6
comp=Z,26nm,1.1s
WRAB Tennant Creek 29.09 247 P **P** **13 41 23.0 -0.9**
WRAB pP **pP** **13 41 29.8 -2.4**
WRAB sP **pwP** **13 41 38.7 +2.1**
WB2 Warramunga Arr 29.09 247 P **P** **13 41 22.6 -1.3**
WRA Warramunga Arr 29.10 247 P **P** **13 41 23.2 -0.8**
comp=Z,9.0nm,1.0s,baz=78,slow=9.2,SNR=28
WRA PcP **PcP** **13 44 32.4 +0.7**
comp=Z,1.8nm,0.8s,baz=77,slow=3.1,SNR=1.5
WRA S **S** **13 46 15.5 +1.5**
comp=Z,1.2nm,0.9s,baz=76,slow=16,SNR=3.8
WRA LR LR 13 53 05.9
comp=Z,1µm,18.1s,baz=48,slow=37
WRA Warramunga Arr 29.10 247 P **P** **13 41 22.6 -1.4**
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 29.10 247 P **P** **13 41 22.6 -1.4**
STKA Stephens Creek 29.15 219 P **P** **13 41 25.1 +0.8**
comp=Z,5.2nm,0.7s,baz=35,slow=11,SNR=11
STKA LR LR 13 52 21.2
comp=Z,2µm,20.8s,baz=38,slow=35
STKA Stephens Creek 29.15 219 P **P** **13 41 23.3 -1.0**
baz=30,SNR=4.8
STKA Stephens Creek 29.15 219 *i*P **P** **13 41 22.6 -1.7**
STKA Stephens Creek 29.15 219 P **P** **13 41 23.9 -0.4**
GUMO Guam 29.62 323 LR LR 13 52 15.7
comp=Z,957nm,21.3s,baz=136,slow=34
KDU Kakadu 29.84 262 P **P** **13 41 29.4 -1.1**
baz=30,SNR=4.9
H11N1 WAKE ISLAND Hy 30.02 8 T T 14 12 51.1
baz=188,slow=76
H11N3 WAKE ISLAND Hy 30.03 8 T T 14 12 51.7
baz=188,slow=76
H11N2 WAKE ISLAND Hy 30.04 8 T T 14 12 53.1
baz=188,slow=76
AS31 Alice Springs 30.64 240 P **P** **13 41 35.3 -2.3**
ASAR Alice Springs 30.64 240 P **P** **13 41 36.2 -1.4**
comp=Z,4.8nm,0.8s,baz=65,slow=10,SNR=60
ASAR PcP **PcP** **13 44 36.0 +0.4**
comp=Z,1.0nm,0.9s,baz=67,slow=2.7,SNR=2.6
ASAR S **S** **13 46 39.9 +1.8**
comp=Z,0.6nm,0.9s,baz=71,slow=14,SNR=2.6
ASAR LR LR 13 52 57.7
comp=Z,1µm,21.5s,baz=68,slow=35
ASAR Alice Springs 30.64 240 P **P** **13 41 35.3 -2.3**
ASAR Alice Springs 30.64 240 P **P** **13 41 35.3 -2.3**
URZ Urewera 30.71 158 LR LR 13 51 33.4
comp=Z,547nm,19.7s,baz=28,slow=32
MTN Manton Dam 31.15 262 P **P** **13 41 41.0 -1.2**
MTN lAmb lAmb 13 41 43.5
comp=Z,48nm,1.5s
TOO Toolangi 31.38 207 P **P** **13 41 44.8 +0.9**
baz=32,SNR=15
TOO Toolangi 31.38 207 P **P** **13 41 44.6 +0.6**
TOO pmax pmax
comp=Z,72nm,0.8s
TOO Toolangi 31.38 207 P **P** **13 41 44.6 +0.6**
HTT Hallett 31.86 220 P **P** **13 41 48.4 +0.1**
baz=33,SNR=6.2
TUWZ Tuamarina 32.58 164 P **P** **13 41 54.6 +0.2**
BBOO Buckleboo 33.36 224 P **P** **13 42 01.0 -0.3**
baz=34,SNR=8.4
BBOO Buckleboo 33.36 224 P **P** **13 42 00.7 -0.7**
BBOO lAmb lAmb 13 42 12.7
comp=Z,19nm,0.8s
LTZ Lake Taylor 33.46 167 P **P** **13 42 01.3 -0.9**
LTZ lAmb lAmb 13 42 14.3
comp=Z,16nm,0.9s
KNRA Kununurra 33.60 257 P **P** **13 42 02.9 -0.7**
baz=34,SNR=60
KNRA Kununurra 33.60 257 P **P** **13 42 02.7 -0.9**
RPZ Rata Peaks 34.12 169 P **P** **13 42 07.9 +0.1**
comp=Z,8.4nm,0.6s,baz=40,slow=2.3,SNR=4.1
RPZ LR LR 13 53 42.7
comp=Z,689nm,20.9s,baz=349,slow=32
RPZ Rata Peaks 34.12 169 P **P** **13 42 07.2 -0.6**
RPZ lAmb lAmb 13 42 15.7
comp=Z,21nm,0.9s
MQZ McQueen's Vall 34.43 167 P **P** **13 42 10.1 -0.4**
MQZ lAmb lAmb 13 42 23.6
comp=Z,16nm,0.9s
WRKA Warakurna 35.91 241 P **P** **13 42 22.4 -1.2**
baz=37,SNR=29
FITZ Fitzroy Crossi 36.83 254 LR LR 13 56 40.8
comp=Z,1µm,20.0s,baz=87,slow=35
FITZ Fitzroy Crossi 36.83 254 P **P** **13 42 30.3 -1.2**
baz=38,SNR=19
FITZ Fitzroy Crossi 36.83 254 P **P** **13 42 30.2 -1.2**
SANI Sanana 37.48 280 P P 13 42 47.3 +10
RAR Rarotonga 37.53 112 LR LR 13 54 29.6
comp=Z,554nm,21.1s,baz=288,slow=30
FORT Forrest 38.21 233 P **P** **13 42 43.0 0.0**
BATI Baumata 38.52 266 P **P** **13 42 47.3 +1.5**
comp=Z,6µmcomp=Z,35nm,0.6s
BSSI Bau Bau, Buton 42.07 272 P P 13 43 21.1 +5.9
BKSI Bulukumba 42.56 273 P **P** **13 43 20.9 +1.7**
comp=Z,12nm,1.1s
PSA00 Pilbara Seismi 42.71 249 P **P** **13 43 19.0 -1.3**
BNSI Bone 42.73 275 P **P** **13 43 22.3 +1.7**
comp=Z,27nm,1.4s
MBWA Marble Bar 42.76 250 P **P** **13 43 18.7 -2.0**
MBWA pP **pP** **13 43 27.0 -2.2**
MBWA sP **pwP** **13 43 40.3 +6.6**
KAPI Kappang 42.98 274 *i*P **P** **13 43 20.7 -1.9**
KAPI pmax pmax
comp=Z,20nm,1.2s
SPSI Sidrap Palu 43.14 275 P P 13 43 34.6 +11
MEEK Meekatharra 44.75 242 P **P** **13 43 36.8 +0.1**
baz=45,SNR=16
PPT Papeete 46.68 104 LR LR 13 58 16.5
comp=Z,165nm,21.1s,baz=302,slow=29
PPT2 Papeete2 46.68 104 *e*LQ LQ 13 54 44.2
comp=Z,1µm,35.5s
PPT2 *e*LR LR 13 56 51.4
comp=Z,528nm,25.0s
SRBI Singaraja 47.02 268 P P 13 44 07.5 +13
TBI Tubuai 47.30 112 *e*S S 13 50 37.3 -11
comp=Z,522nm,28.2s
TBI *e*LQ LQ 13 55 14.2
comp=Z,2µm,29.2s
TBI *e*LR LR 13 57 12.4
comp=Z,933nm,30.8s
MORW Morawa 47.52 240 P **P** **13 43 57.7 -0.8**
MORW lAmb lAmb 13 44 14.4
comp=Z,22nm,1.1s
JAGI Jajag, Banyuwa 48.02 268 P **P** **13 44 01.3 -1.3**
JAGI Jajag, Banyuwa 48.02 268 P P 13 44 08.3 +5.7
BBKI Banjar Baru 48.07 275 P P 13 44 13.8 +11
INU Inuyama 51.48 333 P **P** **13 44 28.5 0.0**
INU pP **pP** **13 44 36.9 -0.3**
INU sP **pwP** **13 44 47.7 +6.1**
UGM Wanagama 51.65 268 P **P** **13 44 27.4 -2.8**
JMN Monobe 51.66 329 P **P** **13 44 29.8 -0.1**
MJAR Matsushiro Arr 51.97 335 P **P** **13 44 30.2 -2.0**
comp=Z,5.1nm,0.9s,baz=91,slow=8.8,SNR=5.2
MJAR LR LR 14 04 37.4
comp=Z,249nm,21.6s,baz=144,slow=34
MJAR Matsushiro Arr 51.97 335 P **P** **13 44 30.0 -2.2**
MJAR pmax pmax
comp=Z,6.0nm,1.2s
MJAR Matsushiro Arr 51.97 335 P **P** **13 44 30.0 -2.2**
MAJO Matsushiro 51.97 335 P **P** **13 44 31.1 -1.1**
MAJO pP **pP** **13 44 37.6 -3.3**
JMM Marumori 52.10 338 P **P** **13 44 32.7 -0.4**
YULB Yu-li 52.60 310 P **P** **13 44 37.9 +0.9**
YULB lAmb lAmb 13 44 39.3
comp=Z,23nm,0.9s
JNU Nakatsue 52.77 326 P **P** **13 44 37.2 -0.9**
comp=Z,33nm,0.8s,baz=112,slow=4.3,SNR=15
JNU LR LR 14 03 36.3
comp=Z,374nm,21.1s,baz=144,slow=32
JNU Nakatsue 52.77 326 P **P** **13 44 37.5 -0.7**
JHS Saijyo 53.05 329 P **P** **13 44 39.0 -1.2**
TPUB Ta-pu 53.05 309 P **P** **13 44 39.8 -0.6**
SSLB Suanglung 53.08 310 P **P** **13 44 40.4 -0.3**
JSD Sado 53.23 336 P **P** **13 44 41.0 -0.4**
YHNB Yeheng 53.27 311 P **P** **13 44 40.6 -1.5**
JTM Tenmabayashi 54.60 340 P **P** **13 44 51.2 -0.1**
TAOE Nuku Hiva Isla 56.20 94 *e*LR LR 14 01 15.9
comp=Z,474nm,23.1s
CGJI Cibinong 56.57 269 P **P** **13 45 07.7 +1.6**
comp=Z,826nmcomp=Z,83nm,1.2s
JKA Kamikawa-asahi 57.12 343 P **P** **13 45 09.3 0.0**
ASAJ Asahikawa 57.12 343 P **P** **13 45 09.6 +0.2**
comp=Z,30nm,0.8s,baz=210,slow=11,SNR=23
ASAJ Asahikawa 57.12 343 P **P** **13 45 09.3 -0.1**
ASAJ pmax pmax
comp=Z,33nm,0.8s
TJN Taejon 57.12 326 *ce*P **P** **13 45 09.7 +0.2**
KSRS Korea Array 57.62 327 P **P** **13 45 13.2 +0.3**
comp=Z,8.5nm,0.9s,baz=138,slow=7.3,SNR=30
KSAR Wonju Array Be 57.63 327 P **P** **13 45 12.7 -0.4**
KSAR Wonju Array Be 57.63 327 P **P** **13 45 12.7 -0.4**
KS19 Wonju Array Si 57.68 327 P **P** **13 45 12.9 -0.5**
KS19 lAmb lAmb 13 45 14.2
comp=Z,18nm,1.1s
KASI Kota Agung 57.90 270 P P 13 45 23.0 +7.5
NJ2 Nanjing 59.45 317 *e*P **P** **13 45 26.9 +1.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
YSS Yuzh-Sakhalins 59.68 344 *e*P **P** **13 45 27.3 +0.1**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS Yuzh-Sakhalins 59.68 344 P **P** **13 45 26.8 -0.4**
YSS Yuzh-Sakhalins 59.68 344 P **P** **13 45 27.5 +0.3**
VLA Vladivostok 60.13 334 *i*P **P** **13 45 31.0 +0.7**
VLA pmax pmax
comp=Z,21nm,0.9s
USRK Ussuriysk Ar. 60.97 335 P **P** **13 45 36.5 +0.4**
comp=Z,30nm,0.9s,baz=141,slow=6.8,SNR=34
USRK Ussuriysk Ar. 60.97 335 P **P** **13 45 36.0 0.0**
USRK Ussuriysk Ar. 60.97 335 P **P** **13 45 36.0 0.0**
USA0B Ussuriysk Arra 60.97 335 P **P** **13 45 36.2 +0.2**
USA0B pmax pmax
comp=Z,53nm,1.1s
USA0B Ussuriysk Arra 60.97 335 P **P** **13 45 36.2 +0.2**
DL2 Dalian 62.13 324 P **P** **13 45 44.3 +0.3**
DL2 pmax pmax
comp=Z,32nm,0.8s
MDJ Mudanjiang 62.32 334 P **P** **13 45 45.1 -0.1**
MDJ Mudanjiang 62.32 334 P **P** **13 45 45.5 +0.3**
MDJ pmax pmax
comp=Z,32nm,1.1s
MDJ pmax pmax
comp=Z,160nm,5.6s
MDJ Mudanjiang 62.32 334 P **P** **13 45 45.5 +0.3**
PET Petropavlovsk 63.10 357 P **P** **13 45 54.7 +4.5**
PETK Petropavlovsk- 63.24 357 P **P** **13 45 51.0 -0.1**
comp=Z,4.1nm,0.8s,baz=177,slow=13,SNR=4.4
CN2 Changchun 63.60 331 *e*P **P** **13 45 51.8 -1.9**
CN2 pP pP 13 46 02.2 -0.4
CN2 S **S** **13 54 23.0 -2.4**
CN2 SS **SS** **13 58 32.7 -0.8**
CN2 LR LR
comp=Z,390nm,18.0s
CN2 LR LR
comp=Z,470nm,18.0s
CN2 LR LR
comp=Z,370nm,18.0s
MNSI Mandailing Nat 63.85 276 P **P** **13 45 57.5 +1.5**
comp=Z,28nm,0.5s
BNX BinXian 64.16 333 ⇓P **P** **13 45 57.3 0.0**
BNX pmax pmax
comp=Z,29nm,0.5s
BNX pmax pmax
comp=Z,280nm,5.4s
ENH Enshi 65.17 310 P **P** **13 46 03.8 -0.5**
ENH lAmb lAmb 13 46 05.1
comp=Z,20nm,1.1s
ENH Enshi 65.17 310 P **P** **13 46 04.7 +0.4**
ENH pP **pP** **13 46 10.8 -2.4**
KLR Kul'dur 65.20 338 P **P** **13 46 04.3 +0.3**
comp=Z,7.4nm,0.8s,baz=143,slow=3.5,SNR=19
KLR Kul'dur 65.20 338 *ce*P **P** **13 46 04.4 +0.3**
KLR pmax pmax
comp=Z,29nm,1.7s
HNS HongShan 65.38 319 ⇑P **P** **13 46 06.0 +0.6**
HNS pmax pmax
comp=Z,22nm,0.9s
GSI Gunungsitoli 65.92 276 P P 13 46 16.3 +6.9
VNDA Vanda 67.27 180 P **P** **13 46 17.7 +0.7**
comp=Z,1.9nm,1.0s,baz=340,slow=5.8,SNR=5.5
VNDA LR LR 14 10 43.5
comp=Z,202nm,21.2s,baz=330,slow=32
VNDA Vanda 67.27 180 P **P** **13 46 17.3 +0.3**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 67.27 180 P **P** **13 46 17.3 +0.3**
XAN Xi'an 67.47 313 P **P** **13 46 19.0 0.0**
XAN pP pP 13 46 28.3 +0.5
XAN sP pwP 13 46 32.7 +0.1
XAN S **S** **13 55 14.4 +1.2**
XAN pmax pmax
comp=Z,15nm,1.0s
XAN pmax pmax
comp=Z,140nm,4.1s
XAN LR LR
comp=Z,310nm,17.3s
XAN LR LR
comp=Z,380nm,17.0s
XAN LR LR
comp=Z,440nm,18.7s
XAN Xi'an 67.47 313 P **P** **13 46 18.9 -0.1**
XAN pP **pP** **13 46 27.0 -0.8**
SBA Scott Base 67.64 179 P **P** **13 46 20.5 +1.3**
SBA pP **pP** **13 46 28.0 +0.1**
SBA sP **PcP** **13 46 40.1 -6.0**
KMI Kunming 68.25 302 ⇓P **P** **13 46 27.0 +2.7**
KMI pP pwP 13 46 42.1 +4.5
KMI S **S** **13 55 25.2 +1.9**
KMI SS **SS** **13 59 46.5 -0.5**
KMI pmax pmax
comp=Z,23nm,1.0s
KMI pmax pmax
comp=Z,97nm,3.5s
KMI LR LR
comp=Z,180nm,18.6s
KMI LR LR
comp=Z,180nm,18.6s
KMI LR LR
comp=Z,320nm,19.5s
CCD Concordia, Ant 68.48 190 P **P** **13 46 25.1 0.0**
XLT XiLinHaoTe 68.55 326 ⇑*i*P **P** **13 46 26.4 +0.8**
XLT pP pwP 13 46 39.8 +0.8
XLT S **S** **13 55 20.8 -5.1**
XLT sS sS 13 55 49.0 +8.4
XLT pmax pmax
comp=Z,50nm,0.9s
XLT pmax pmax
comp=Z,160nm,3.5s
XLT LR LR
comp=Z,30nm,15.8s
XLT LR LR
comp=Z,300nm,16.9s
XLT LR LR
comp=Z,510nm,18.1s
CMAR Chiang Mai Arr 69.16 294 P **P** **13 46 30.6 +0.8**
comp=Z,4.9nm,0.8s,baz=120,slow=4.7,SNR=29
CMAR Chiang Mai Arr 69.16 294 *i*P **P** **13 46 31.2 +1.4**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 69.16 294 P **P** **13 46 29.9 +0.1**
CHTO Chiang Mai 69.27 295 P **P** **13 46 30.2 -0.3**
CHTO pmax pmax
comp=Z,34nm,1.4s
CHTO Chiang Mai 69.27 295 P **P** **13 46 30.2 -0.3**
CHTO lAmb lAmb 13 46 39.9
comp=Z,34nm,1.4s
CHTO Chiang Mai 69.27 295 P **P** **13 46 31.6 +1.0**
CHTO pP **pP** **13 46 38.4 -1.1**
HHC Hu-ho-hao-te 69.37 321 *e*P **P** **13 46 31.8 +1.0**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.0s
HHC LR LR
comp=Z,400nm,14.6s
HHC LR LR
comp=Z,370nm,15.2s
HHC LR LR
comp=Z,660nm,16.5s
PZH PanZhiHua 69.62 303 P **P** **13 46 33.5 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,80nm,4.8s
CD2 Chengdu 69.84 308 P **P** **13 46 34.4 +0.6**
CD2 sP PcP 13 46 52.0 -4.3
CD2 pmax pmax
comp=Z,30nm,0.9s
MA2 Magadan 70.25 354 P **P** **13 46 33.8 -1.8**
comp=Z,5.7nm,0.7s,baz=180,slow=8.1,SNR=2.3
MA2 Magadan 70.25 354 P **P** **13 46 33.8 -1.8**
MA2 pmax pmax
comp=Z,10.0nm,0.9s
MA2 Magadan 70.25 354 lAmb lAmb 13 46 43.7
comp=Z,10.0nm,0.9s
MA2 Magadan 70.25 354 P **P** **13 46 34.6 -1.0**
MA2 pP **pP** **13 46 42.2 -2.6**
HIA Hailar 70.27 332 *i*P **P** **13 46 36.3 +0.3**
HIA pmax pmax
comp=Z,24nm,0.8s
HIA Hailar 70.27 332 P **P** **13 46 36.1 +0.1**
HIA lAmb lAmb 13 46 37.5
comp=Z,22nm,0.8s
HIA Hailar 70.27 332 P **P** **13 46 36.7 +0.6**
HIA pP **pP** **13 46 43.0 -2.1**
ZEA Zeya 70.51 338 *e*P **P** **13 46 38.1 +0.7**
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA pmax pmax
comp=E,10.0nm,1.1s
LZH Lanzhou 72.10 313 *e*P **P** **13 46 49.3 +1.7**
LZH pP pP 13 46 56.7 +0.2
LZH sP sP 13 47 00.4 +0.5
LZH PP **PP** **13 49 31.2 +3.0**
LZH sS sS 13 56 23.3 +0.7
LZH SS **SS** **14 00 43.0 -2.7**
LZH pmax pmax
comp=E,25nm,1.3s
LZH pmax pmax
comp=E,160nm,6.5s
LZH LR LR
comp=E,310nm,15.7s
LZH LR LR
comp=E,270nm,16.0s
LZH LR LR
comp=E,370nm,18.3s
SEY Seymchan 73.39 355 P **P** **13 46 53.5 -0.9**
comp=E,1.5nm,0.7s,baz=176,slow=7.8,SNR=5.3
SEY Seymchan 73.39 355 *i*P **P** **13 46 54.4 0.0**
SEY pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 75.97 325 *ce*P **P** **13 47 10.9 +0.9**
ULN pmax pmax
comp=Z,46nm,1.7s
ULN Ulaanbaatar 75.97 325 P **P** **13 47 10.4 +0.5**
ULN lAmb lAmb 13 47 12.0
comp=Z,22nm,0.9s
GAMB Gambell 76.31 11 P **P** **13 47 11.7 +0.4**
baz=206
SONM Songino Array 76.33 325 P **P** **13 47 11.1 -0.8**
comp=Z,11nm,0.8s,baz=139,slow=6.2,SNR=43
SONM LR LR 14 20 07.0
comp=Z,458nm,20.2s,baz=134,slow=35
SONM Songino Array 76.33 325 P **P** **13 47 12.2 +0.2**
SONM pmax pmax
comp=Z,14nm,0.9s
SONM Songino Array 76.33 325 P **P** **13 47 12.2 +0.2**
SONM lAmb lAmb 13 47 13.9
comp=Z,14nm,0.9s
GTA Gaotai 76.44 315 ⇑P **P** **13 47 13.9 +1.1**
GTA pP pP 13 47 20.9 -0.9
GTA sP sP 13 47 25.5 +0.3
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,90nm,6.4s
GTA LR LR
comp=Z,260nm,20.3s
GTA LR LR
comp=Z,300nm,20.7s
GTA LR LR
comp=Z,550nm,19.5s
YAK Yakutsk 76.53 345 P **P** **13 47 11.7 -0.9**
comp=Z,2.9nm,0.4s,baz=49,slow=0.7,SNR=4.9
YAK Yakutsk 76.53 345 *e*P **P** **13 47 12.2 -0.4**
YAK *e**PP **pP** **13 47 19.6 -2.1**
YAK *e* 13 47 21.7
YAK *e*S **S** **13 56 57.7 +1.7**
YAK *e**SS **SKSac** **13 57 17.0 -4.5**
YAK *e* 13 57 27.0
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK smax smax
comp=E,100nm,5.0s
YAK Yakutsk 76.53 345 P **P** **13 47 11.6 -0.9**
YAK lAmb lAmb 13 47 32.7
comp=Z,23nm,1.1s
P18K Big Mountain, 77.12 21 P **P** **13 47 15.5 -0.6**
P18K lAmb lAmb 13 47 32.4
comp=Z,18nm,0.9s
P18K Big Mountain, 77.12 21 P **P** **13 47 15.9 -0.1**
baz=222
Q19K Cape Douglas, 77.34 21 P **P** **13 47 17.9 +0.6**
baz=224
BILL Bilibino 78.11 1 *de*P **P** **13 47 20.8 -0.5**
BILL *e* 13 50 20.8
BILL *e*S **SKSac** **13 57 41.7 +8.9**
BILL *e*SS **SS** **14 02 23.3 +7.9**
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 78.11 1 P **P** **13 47 20.5 -0.8**
BILL lAmb lAmb 13 47 30.1
comp=Z,12nm,0.9s
SVW2 Sparrevohn 78.27 19 P **P** **13 47 22.1 -0.2**
SVW2 lAmb lAmb 13 47 34.6
comp=Z,22nm,1.1s
BOD Bodaibo 78.59 336 *e*P **P** **13 47 24.0 -0.2**
BOD pmax pmax
comp=Z,12nm,2.0s
TNA Tin City 78.65 12 P **P** **13 47 24.5 +0.2**
baz=209
GOMU GeErMu 78.79 310 P **P** **13 47 27.6 +1.3**
GOMU PcP **pP** **13 47 36.8 +1.5**
GOMU PP **PP** **13 50 24.7 -0.4**
GOMU S **S** **13 57 19.6 -2.8**
GOMU SS **SS** **14 02 23.5 -4.3**
GOMU pmax pmax
comp=Z,3.0nm,0.7s
GOMU pmax pmax
comp=Z,68nm,4.9s
GOMU LR LR
comp=Z,120nm,18.6s
GOMU LR LR
comp=Z,130nm,18.7s
GOMU LR LR
comp=Z,160nm,19.6s
BRSE Bradley Lake S 78.97 22 P **P** **13 47 27.0 +0.7**
baz=227
M19K Big River Lodg 79.25 19 P **P** **13 47 27.7 0.0**
baz=223
L19K White Mountain 79.31 19 P **P** **13 47 29.8 +1.7**
baz=222
ZAK Zakamensk 79.41 326 *e*P **P** **13 47 28.9 -0.1**
ZAK pmax pmax
comp=Z,15nm,1.1s
TTA Tatalina 79.51 18 P **P** **13 47 29.7 +0.5**
baz=221
M20K Styx River 79.64 20 P **P** **13 47 30.8 +0.8**
baz=224

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
L20K	Farewell, AK	79.83	19	P	P	13 47 32.5	+1.5
	baz=223						
K20K	Telida	80.42	18	P	P	13 47 35.3	+1.2
	baz=223						
M22K	Willow	80.57	21	P	P	13 47 35.8	+1.0
	baz=227						
PWL	Port Wells	80.61	22	P	P	13 47 35.5	+0.3
	baz=229						
GCSA	Galena City Sc	80.64	16	P	P	13 47 35.6	+0.5
	baz=220						
PPLA	Purkeypile	80.68	19	P	P	13 47 38.6	+3.0
	baz=225						
PMR	Palmer	80.81	21	P	P	13 47 37.0	+0.9
	baz=228						
CAST	Castle Rocks	81.08	19	P	P	13 47 37.4	-0.2
	baz=225						
MOY	Mondy	81.30	326	*e*P	P	13 47 39.6	+0.5
CHUM	Lake Minchumin	81.34	18	P	P	13 47 40.2	+1.3
	baz=225						
KAIM	Kayak Island	81.52	24	P	P	13 47 40.4	+0.5
	baz=232						
TRF	Thorofare Moun	81.68	19	P	P	13 47 41.2	+0.2
	baz=226						
TAPN	Taplejung	81.70	300	*e*P	P	13 47 43.1	+1.0
ODAN	Odare	81.84	299	*e*P	P	13 47 43.5	+0.7
	comp=Z,20nm,0.8s						
BERG	Berg Lake	82.08	24	P	P	13 47 44.3	+1.3
BERG				IAmb	IAmb	13 47 58.0	
	comp=Z,21nm,1.0s						
M24K	Tolsona, Glenn	82.21	22	P	P	13 47 43.7	0.0
	baz=230						
MCK	McKinley	82.32	20	P	P	13 47 44.1	0.0
	baz=228						
I21K	Tanana	82.37	18	P	P	13 47 44.7	+0.3
	baz=225						
DHY	Denali Highway	82.41	21	P	P	13 47 47.1	+2.3
	baz=229						
IMAR	Indian Mountai	82.44	16	P	P	13 47 44.7	0.0
WAX	Waxell Ridge	82.46	24	P	P	13 47 45.6	+0.6
WAX				IAmb	IAmb	13 47 59.6	
	comp=Z,13nm,1.0s						
H21K	Melozitna Rive	82.47	17	P	P	13 47 44.3	-0.6
	baz=224						
N25K	Chitina, Valde	82.48	23	P	P	13 47 46.8	+1.7
	baz=232						
GLB	Gilahina Butte	82.68	23	P	P	13 47 46.5	+0.4
GLB				IAmb	IAmb	13 47 49.4	
	comp=Z,14nm,1.4s						
JIRN	Jiri	83.09	300	*e*P	P	13 47 50.0	+0.6
	comp=Z,18nm,0.8s						
WRH	Wood River Hil	83.09	19	P	P	13 47 47.3	-0.8
PINM	Pinnacle	83.31	25	P	P	13 47 50.3	+0.8
	baz=236						
GUN	Gumba	83.42	300	*e*P	P	13 47 51.7	+0.6
	comp=Z,24nm,0.8s						
HDA	Harding Lake	83.42	20	P	P	13 47 51.2	+1.3
HDA				IAmb	IAmb	13 48 00.9	
	comp=Z,12nm,1.0s						
HDA	Harding Lake	83.42	20	P	P	13 47 49.9	+0.1
	baz=230						
IL31		83.68	19	P	P	13 47 50.1	-1.0
ILAR	Eielson Array	83.68	19	P	P	13 47 50.2	-0.9
	comp=Z,3.1nm,1.1s,baz=232,slow=4.3,SNR=8.1						
ILAR	Eielson Array	83.68	19	P	P	13 47 50.1	-1.0
ILAR	Eielson Array	83.68	19	P	P	13 47 50.1	-1.0
RIDG	Independent Ri	83.71	21	P	P	13 47 51.2	-0.2
	baz=232						
PKI	Pulchoki	83.73	299	*e*P	P	13 47 53.0	+0.3
	comp=Z,30nm,0.9s						
PKIN	Phulchoki	83.75	299	*e*P	P	13 47 53.1	+0.4
	comp=Z,30nm,0.8s						
KKN	Kakani	83.90	300	*e*P	P	13 47 53.8	+0.4
	comp=Z,31nm,0.8s						
M27K	Edge Creek, AK	83.96	23	P	P	13 47 53.7	+0.9
M27K				IAmb	IAmb	13 48 09.2	
	comp=Z,9.3nm,0.9s						
M27K	Edge Creek, AK	83.96	23	P	P	13 47 53.8	+1.0
	baz=234						
DMN	Daman	84.00	299	*e*P	P	13 47 54.7	+0.7
	comp=Z,68nm,0.9s						
J25K	Salcha River,	84.08	20	P	P	13 47 53.3	0.0
J25K				IAmb	IAmb	13 48 01.1	
	comp=Z,7.4nm,0.7s						
J25K	Salcha River,	84.08	20	P	P	13 47 52.9	-0.4
	baz=231						
SCRK	Sand Creek	84.16	21	P	P	13 47 53.8	0.0
	baz=232						
COLD	Coldfoot	84.33	17	P	P	13 47 54.8	+0.4
	baz=226						
L27K	Beaver Creek,	84.39	22	P	P	13 47 55.4	+0.5
L27K	Beaver Creek,	84.39	22	P	P	13 47 55.6	+0.7
	baz=234						
BCAR	Beaver Creek A	84.41	22	P	P	13 47 55.5	+0.6
GKN	Gorkha	84.50	300	*e*P	P	13 47 56.6	+0.2
	comp=Z,49nm,0.9s						
J26L	Joseph Creek	84.62	20	P	P	13 47 56.1	0.0
	baz=233						
TIXI	Tiksi	84.77	350	P	P	13 47 55.7	-0.8
	comp=Z,2.0nm,0.8s,baz=269,slow=21,SNR=6.0						
TIXI	Tiksi	84.77	350	*ce*P	P	13 47 55.4	-1.1
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.5s						
HYT	Haines Junctio	84.86	25	P	P	13 47 57.4	+0.1
SKAG	Skagway	85.10	27	P	P	13 48 00.3	+1.9
	baz=240						
N02D	Trinity Center	85.17	47	P	P	13 47 59.8	+0.4
	baz=252						
M02C	Callahan	85.19	47	P	P	13 48 00.5	+1.1
	baz=252						
KOLN	Koldanda	85.34	299	*e*P	P	13 48 00.5	-0.1
	comp=Z,21nm,0.8s						
DANN	Dangsing	85.34	300	*e*P	P	13 48 00.5	-0.2
	comp=Z,59nm,1.0s						
YBH	Yreka Blue Hor	85.40	46	P	P	13 48 01.5	+1.1
	comp=Z,6.8nm,1.2s,baz=67,slow=4.3,SNR=5.4						
TOLK	Toolik Lake Re	85.47	16	P	P	13 48 01.1	+0.9
TOLK	Toolik Lake Re	85.47	16	P	P	13 48 01.5	+1.4
	baz=227						
O03E	Paynes Creek	85.62	48	P	P	13 48 01.3	-0.3
	baz=253						
DAWY	Dawson	85.86	22	P	P	13 48 02.2	0.0
DAWY				IAmb	IAmb	13 48 17.8	
	comp=Z,16nm,1.2s						
DAWY	Dawson	85.86	22	P	P	13 48 02.7	+0.5
	baz=237						
PYUN	Piuthan	85.94	299	*e*P	P	13 48 02.9	-0.7
	comp=Z,20nm,0.9s						
M04C	Macdoel	86.03	46	P	P	13 48 04.2	+0.5
	baz=253						
M30M	Minto, Yukon	86.06	24	P	P	13 48 03.9	+0.7
M30M				IAmb	IAmb	13 48 18.0	
	comp=Z,9.5nm,1.2s						
M30M	Minto, Yukon	86.06	24	P	P	13 48 04.2	+1.0
	baz=239						
BMAR	Burnt Mountain	86.10	18	P	P	13 48 04.0	+0.6
WMQ	Urumqi	86.50	316	*e*P	P	13 48 04.6	-1.2
WMQ				sP	pwP	13 48 26.0	+6.4
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
WMQ				LR	LR		
	comp=Z,400nm,20.9s						
WMQ				LR	LR		
	comp=Z,240nm,21.9s						
ISA	Isabella, Lake	86.87	53	P	P	13 48 08.3	+0.4
	baz=255						
J05D	Fort Rock, OR	86.90	45	P	P	13 48 08.4	+0.5
	baz=253						
I29M	Ogilvie Camp,	86.96	21	P	P	13 48 07.9	+0.4
	baz=238						
EDW2	Edwards Air Fo	87.05	54	P	P	13 48 08.5	-0.2
	baz=255						
DLBC	Dease Lake	87.08	29	LR	LR	14 21 52.4	
	comp=Z,331nm,19.1s,baz=266,slow=32						
BFSC	Mount Baldy Ra	87.16	55	P	P	13 48 09.2	-0.2
	baz=256						
CWC	Cottonwood Cre	87.38	52	P	P	13 48 10.4	-0.1
	baz=255						
HYBB	Hyderabad (bro	87.63	288	*e*P	P	13 48 11.2	-0.6
HYBB				*e*pP	pwP	13 48 25.0	-0.4
HYBB				*e*PP	PP	13 51 38.3	+0.8
NVAR	Mina Array Bea	87.71	50	P	P	13 48 12.5	+0.4
	comp=Z,4.5nm,1.1s,baz=230,slow=7.0,SNR=12						
NVAR	Mina Array Bea	87.71	50	P	P	13 48 10.9	-1.2
MPMC	Manual Prospec	87.75	53	P	P	13 48 12.8	+0.5
	baz=256						
MONP2	Monument Peak	87.84	56	P	P	13 48 12.4	-0.4
	baz=256						
PFO	Pinyon Flats O	87.98	55	*i* P	P	13 48 10.6	-2.7
PFO	Pinyon Flats O	87.98	55	P	P	13 48 11.3	-2.0
	baz=256						
KVN	Kaiserville	88.02	50	P	P	13 48 12.7	-0.8
KVN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KVN	Kaiserville	88.02	50	P	P	13 48 12.7	-0.8
I07A	Izee	88.33	45	P	P	13 48 14.6	-0.1
I07A				IAmb	IAmb	13 48 22.8	
	comp=Z,7.8nm,1.1s						
FURC	Furnace Creek,	88.33	53	P	P	13 48 14.9	+0.2
	baz=256						
BELC	Belle Mtn. Jos	88.44	55	P	P	13 48 16.2	+0.6
	baz=257						
WVOR	Wild Horse Val	88.50	47	P	P	13 48 15.4	-0.2
WVOR				pmax	pmax		
	comp=Z,19nm,1.5s						
WVOR	Wild Horse Val	88.50	47	P	P	13 48 15.4	-0.2
WVOR				IAmb	IAmb	13 48 29.9	
	comp=Z,19nm,1.4s						
BC3	Big Chuckawall	88.81	56	P	P	13 48 19.5	+2.2
	baz=257						
TUQ	Turquoise Moun	88.83	54	P	P	13 48 18.4	+1.1
	baz=257						
GMRC	Granite Mounta	88.89	55	P	P	13 48 18.4	+0.8
	baz=257						
BMN	Battle Mountai	89.02	49	P	P	13 48 16.9	-1.3
BMN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BMN	Battle Mountai	89.02	49	P	P	13 48 16.9	-1.3
BMN				IAmb	IAmb	13 48 37.1	
	comp=Z,5.7nm,1.1s						
IRM	Iron Mountain	89.17	55	P	P	13 48 19.3	+0.5
	baz=257						
GLA	Glamis	89.18	56	P	P	13 48 19.2	+0.3
	baz=257						
SHPR	Sheep Range	89.68	53	P	P	13 48 21.1	-0.2
SHPR				IAmb	IAmb	13 48 29.6	
	comp=Z,6.4nm,1.0s						
R11A	Troy Canyon, C	89.76	51	P	P	13 48 21.3	-0.4
R11A				IAmb	IAmb	13 48 29.6	
	comp=Z,7.5nm,1.1s						
R11A	Troy Canyon, C	89.76	51	P	P	13 48 22.2	+0.6
	baz=257						
PDMCI	Parker Dam,Lak	90.01	55	P	P	13 48 23.5	+0.8
	baz=258						
INK	Inuvik	90.08	19	P	P	13 48 23.8	+1.6
	comp=Z,0.9nm,0.9s,baz=284,slow=3.1,SNR=2.1						
INK	Inuvik	90.08	19	P	P	13 48 24.2	+2.0
	baz=242						
ELK	Elko	90.56	49	P	P	13 48 24.8	-0.6
ELK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ELK	Elko	90.56	49	P	P	13 48 24.8	-0.6
ELK				IAmb	IAmb	13 48 33.5	
	comp=Z,5.3nm,0.9s						
214A	Organ Pipe Nat	90.62	58	P	P	13 48 27.2	+1.6
	baz=258						
MK31	Makanchi Array	90.97	317	*i* P	P	13 48 26.7	-0.3
MK31	Makanchi Array	90.97	317	P	P	13 48 26.6	-0.3
MK31				IAmb	IAmb	13 48 28.0	
	comp=Z,5.8nm,0.8s						
MKAR	Makanchi Array	90.97	317	P	P	13 48 27.1	+0.2
	comp=Z,6.9nm,0.7s,baz=97,slow=6.1,SNR=73						
MKAR				PKKP	PKKPbc	14 05 58.0	+5.1
	comp=Z,0.8nm,0.7s,baz=250,slow=6.4,SNR=11						
MKAR				LR	LR	14 31 36.9	
	comp=Z,194nm,18.1s,baz=92,slow=37						
MKAR	Makanchi Array	90.97	317	P	P	13 48 26.7	-0.2
MKAR	Makanchi Array	90.97	317	P	P	13 48 26.7	-0.2
MAKZ	Makanchi	91.19	317	P	P	13 48 27.5	-0.4
MAKZ				pmax	pmax		
	comp=Z,13nm,1.2s						
MAKZ	Makanchi	91.19	317	P	P	13 48 27.5	-0.4
ZAA0	Zalesovo Array	91.23	325	P	P	13 48 26.5	-1.4
ZAA0				IAmb	IAmb	13 48 35.4	
	comp=Z,3.9nm,0.9s						
ZALV	Zalesovo Beam	91.23	325	P	P	13 48 27.4	-0.5
	comp=Z,2.4nm,0.9s,baz=107,slow=5.1,SNR=7.6						
ZALV	Zalesovo Beam	91.23	325	P	P	13 48 26.2	-1.6
ZALV	Zalesovo Beam	91.23	325	P	P	13 48 26.2	-1.6
BELA	Belgrano 2	91.49	176	P	P	13 48 28.0	-0.8
BELA				IAmb	IAmb	13 48 52.3	
	comp=Z,8.6nm,1.3s						
HVU	Hansel Valley	92.60	48	P	P	13 48 33.9	-0.8
HVU				pmax	pmax		
	comp=Z,11nm,1.0s						
HVU	Hansel Valley	92.60	48	P	P	13 48 33.9	-0.8
C36M	Paulatuk	93.64	20	P	P	13 48 38.1	-0.5
	baz=251						
KSH	Kashi	94.01	309	P	P	13 48 42.1	+0.8
A36M	Sachs Harbour	94.17	17	P	P	13 48 40.8	-0.3
A36M				IAmb	IAmb	13 48 51.0	
	comp=Z,9.4nm,0.9s						
A36M	Sachs Harbour	94.17	17	P	P	13 48 41.2	+0.2
	baz=250						
KURK	Kurchatov	94.19	321	*i* P	P	13 48 41.4	-0.2
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NRIK	Noril'sk	94.37	340	P	P	13 48 40.6	-1.4
	comp=Z,1.7nm,0.4s,baz=135,slow=3.6,SNR=3.7						
NRIK	Noril'sk	94.37	340	*ce*P	P	13 48 40.1	-1.9
NRIK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
NRIK	Noril'sk	94.37	340	IAmb	IAmb	13 49 00.1	
	comp=Z,6.2nm,1.2s						
PDAR	Pinedale Array	95.12	48	P	P	13 48 46.1	-0.3
	comp=Z,1.0nm,0.9s,baz=262,slow=1.0,SNR=6.5						
YKA	Yellowknife Ar	95.58	28	P	P	13 48 48.5	+0.8
	comp=Z,0.6nm,0.8s,baz=255,slow=4.7,SNR=7.1						
AAK	Ala-Archa	95.62	312	*i* P	P	13 48 49.5	+0.9
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TXAR	Lajitas Array	97.97	62	P	Pdif	13 49 01.4	+1.9
	comp=Z,0.3nm,0.9s,baz=224,slow=2.5,SNR=1.8						
BRVK	Borovoye	99.61	322	P	Pdif	13 49 05.4	-0.7
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	Borovoye	99.61	322		Pdif	13 49 05.4	-0.7
BRVK				IAmb	IAmb	13 49 15.2	
	comp=Z,3.7nm,0.9s						
ARCES	ARCESS Array B	114.81	345	PKP	PKPdf	13 54 05.3	+2.5
	comp=Z,0.7nm,0.5s,baz=43,slow=4.1,SNR=5.3						
OBN	Obninsk	118.61	328	*e*PKIKP	PKPdf	13 54 08.9	-1.6
OBN				*e*		13 55 30.4	
OBN				*e*		14 01 00.1	
OBN				*e*SS	SS	14 12 05.7	+22
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	La Paz	123.11	117	PKP	PKiKP	13 54 22.5	+1.2
	comp=Z,0.6nm,0.4s,baz=288,slow=3.2,SNR=2.6						
MNK	Minsk	123.29	330	*i* PKIKP	PKPdf	13 54 18.4	-1.0
MNK				*i*		13 54 33.6	
MNK				*i*		13 55 59.4	
MNK				*i* PPP	PPP	13 58 36.9	
MNK				*i*		14 01 26.0	
MNK				*i* PS	PS	14 05 59.7	+2.6
MNK				*i* SS	SS	14 12 41.2	-2.0
MNK				*i* SSS	SSS	14 17 16.2	
MNK				pmax	pmax		
	comp=E,2.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MNK				pmax	pmax		
	comp=N,24nm,0.9s						
MNK				MLR	MLR		
	comp=E,21nm,17.0s						
MNK				MLR	MLR		
	comp=N,340nm,23.0s						
MNK				MLR	MLR		
	comp=Z,442nm,21.0s						
MNK	Minsk	123.29	330	*i* PKP	PKPdf	13 54 18.5	-1.0
	comp=E,2.0nm,0.8s						
MNK				*i* PKP	PKPdf	13 54 18.5	-1.0
	comp=N,24nm,0.9s						
MNK				*i* PKP	PKPdf	13 54 18.5	-1.0
	comp=Z,6.0nm,0.5s,baz=237						
MNK				*i* pPKP	sPKPdf	13 54 33.6	+1.3
MNK				*i* PP	PP	13 55 59.4	-0.4
MNK				*i* PPP	PPP	13 58 36.9	
MNK				*i* SKS	SKSdf	14 01 26.0	-3.0
MNK				*i* PS	PS	14 05 59.7	+2.6
MNK				*i* SS	SS	14 12 41.3	-1.9
MNK				*i* SSS	SSS	14 17 16.2	
MNK				*i* LR	LR	14 45 51.8	
MNK				*i* LRM	MLR	14 47 04.2	
	comp=E,21nm,17.4s						
MNK				*i* LRM	MLR	14 47 23.7	
	comp=N,340nm,23.1s						
MNK				*i* LRM	MLR	14 47 29.1	
	comp=Z,442nm,21.0s						
BOSA	Boshof	123.69	225	PKP	PKiKP	13 54 22.0	+0.4
	comp=Z,1.9nm,0.8s,baz=167,slow=3.2,SNR=2.1						
AKASG	Malin Array Be	124.60	326	PKP	PKPdf	13 54 21.2	-0.9
	comp=Z,0.3nm,0.4s,baz=60,slow=1.8,SNR=1.3						
NB2	NORSAR Subarra	125.14	344	PKP	PKiKP	13 54 27.9	+4.6
	comp=Z,0.5nm,0.6s,baz=41,slow=2.2						
CRVS	Cervenica-Dubn	129.79	328	*i* P	Pdif	13 51 22.8	+2.3
CRVS	Cervenica-Dubn	129.79	328	*e*PDIFF	Pdif	13 51 22.8	+2.3
BDFB	Brasilia	140.08	130	PKP	PKPdf	13 54 51.9	-0.5
	comp=Z,1.2nm,0.4s,baz=180,slow=8.1,SNR=1.7						
KEST	Kesra	145.00	321	PKP	PKPdf	13 55 00.8	+0.2
	comp=Z,11nm,0.8s,baz=293,slow=1.9,SNR=12						
ESDC	Sonseca Array	148.41	340	PKPbc	PKPbc	13 55 09.3	-0.3
	comp=Z,1.5nm,0.9s,baz=338,slow=3.2,SNR=5.4						
TORD	Torodi Ar. Bea	161.29	281	PKP	PKPdf	13 55 24.4	0.0
	comp=Z,0.9nm,0.9s,baz=2.2,slow=1.3,SNR=3.8						
TORD				PKPab	PKPab	13 56 08.6	+0.2
	comp=Z,2.0nm,1.0s,baz=80,slow=3.0,SNR=4.4						

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*NEIC **04** 13:56:23.8±1.4, 17°.4S±0°.3×178°.7W±0°.2, h529km±19km, mb4.2/18, Error ellipse: s-maj=43.4km s-min=24.7km az=174.0*

*IDC **04** 13:56:23.4±2.0, 16°.92S×178°.99W, h515km±29km, mb3.6/3, mb1 3.6/5, mb1mx3.1/39, mbtmp4.5/5, Error ellipse: s-maj=90.1km s-min=21.8km az=151.0*

ISC 04 13:56:22.5±0.9, **17°.5S**±0°.3×**178°.8W**±0°.1, **h500km, n24, σ0s.88**/26, **mb4.2**/13, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.63	63	P	P	13 58 15.8	+0.5
	3.5nm,0.3s,baz=159,slow=2.4,SNR=6.0						
DZM	Mont Dzumac	14.63	249	P	P	13 59 30.4	+1.5
	0.2nm,0.3s,baz=78,slow=12,SNR=2.3						
KOUNC	Koumac, New Ca	16.29	257	P	P	13 59 47.8	+1.5
EIDS	Eidsvold	29.07	249	P	P	14 01 42.1	+0.2
ARMA	Armidale	29.84	239	P	P	14 01 49.6	+1.0
ARMA				IAmb	IAmb	14 02 13.7	
	comp=Z,13nm,1.2s						
TOO	Toolangi	37.15	230	P	P	14 02 51.1	+0.9
TOO				IAmb	IAmb	14 03 05.4	
	comp=Z,21nm,1.5s						
STKA	Stephens Creek	38.52	241	P	P	14 03 02.1	+0.6
	comp=Z,3.5nm,0.5s,baz=86,slow=10,SNR=24						
STKA	Stephens Creek	38.52	241	P	P	14 03 02.0	+0.6
BBOO	Buckleboo	43.29	241	P	P	14 03 39.4	-0.2
BBOO				IAmb	IAmb	14 03 39.9	
	comp=Z,7.0nm,0.7s						
WR0	Warramunga Arr	44.17	259	P	P	14 03 45.4	-1.2
WR0				IAmb	IAmb	14 04 12.2	
	comp=Z,7.3nm,1.4s						
WB0	Warramunga Arr	44.32	259	P	P	14 03 46.6	-1.2
WB0				IAmb	IAmb	14 03 47.0	
	comp=Z,4.9nm,1.2s						
WB2	Warramunga Arr	44.34	259	P	P	14 03 46.8	-1.1
WB2				IAmb	IAmb	14 03 56.4	
	comp=Z,10.0nm,1.4s						
WRAB	Tennant Creek	44.35	259	P	P	14 03 46.6	-1.3
WRAB				IAmb	IAmb	14 03 51.5	
	comp=Z,8.7nm,1.4s						
WRA	Warramunga Arr	44.36	259	P	P	14 03 47.0	-1.1
	comp=Z,1.7nm,0.7s,baz=91,slow=7.7,SNR=21						
WRA				PcP	pP	14 05 20.1	+0.3
	comp=Z,0.5nm,0.8s,baz=98,slow=2.9,SNR=3.2						
AS31	Alice Springs	44.56	254	P	P	14 03 49.3	-0.3
AS31				IAmb	IAmb	14 03 49.9	
	comp=Z,4.3nm,0.6s						
ASAR	Alice Springs	44.56	254	P	P	14 03 49.2	-0.3
	comp=Z,14nm,0.6s,baz=89,slow=7.9,SNR=350						
ASAR				PcP	pP	14 05 20.9	-0.6
	comp=Z,0.7nm,0.4s,baz=101,slow=3.7,SNR=7.8						
FORT	Forrest	49.86	244	P	P	14 04 28.5	-0.9
KNRA	Kununurra	50.17	264	P	P	14 04 31.4	-0.5
KNRA				IAmb	IAmb	14 04 32.2	
	comp=Z,11nm,0.8s						
FITZ	Fitzroy Crossi	52.74	260	P	P	14 04 50.4	-0.1
PSA00	Pilbara Seismi	57.67	255	P	P	14 05 24.1	-0.8
MBWA	Marble Bar	57.83	256	P	P	14 05 25.4	-0.7
MBWA				IAmb	IAmb	14 05 48.8	
	comp=Z,10nm,1.1s						
UGM	Wanagama	69.30	268	P	P	14 06 39.2	-0.6
QSPA	South Pole Qui	72.55	180	P	P	14 06 57.5	-0.6
GERES	GERESS Array B	147.12	345	PKPbc	PKPdf	14 15 06.4	+0.3
	comp=Z,0.5nm,0.5s,baz=33,slow=3.8,SNR=4.1						

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*NEIC **04** 14:00:35.5±1.3, 57°.04N±0°.04×158°.02W±0°.08, h15km±4km, Error ellipse: s-maj=6.1km s-min=5.1km az=114.0*

*MOS **04** 14:00:35.7±1.3, 57°.14N×157°.81W, h20km, mb4.5/24, Error ellipse: s-maj=11.2km s-min=6.2km az=82.8*

*AEIC **04** 14:00:35±1.4, 57°.04N±0°.03×158°.00W±0°.07, h13km±4km, ML4.4, mb4.6/33(NEIC), ML4.5/34(NEIC), Error ellipse: s-maj=6.2km s-min=4.1km az=126.0*

*IDC **04** 14:00:40.5±2.1, 57°.26N×157°.81W, h44km±18km, mb3.8/23, mb1 4.0/26, mb1mx3.9/51, mbtmp4.0/26, ML3.9/3, Error ellipse: s-maj=21.8km s-min=10.6km az=15.0*

ISC 04 14:00:35.1±0.9, **57°.00N**±0°.03×**157°.99W**±0°.03, **h12km**±6km, **n348, σ1s.34**/373, **mb4.4**/56, **11C-1D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.13	255		Pb	14 00 39.5	-0.1
AZAC	Aniakchak	0.17	232		Pg	14 00 39.8	+0.8
ANPB	Aniakchak Plen	0.26	219		Pg	14 00 41.1	+0.7
CHGN	Chignik	0.74	199	Pg	Pg	14 00 48.9	-0.5
CHGN				IAML		14 01 01.7	
	comp=N,12μm,0.9s						
CHGN				IAML		14 01 04.2	
	comp=E,12μm,0.7s						
CHGN	Chignik	0.74	199		Sb	14 01 00.1	+0.1
CHGN	Chignik	0.74	199	P	Pg	14 00 49.1	-0.3
	baz=17,SNR=82						
CHGN				S	Sb	14 01 00.3	+0.4
	baz=17						
PLBL	Peulik Blue Cr	0.94	42		Pb	14 00 53.2	-0.3
VNHG	Veniaminof 1	1.02	220		Pb	14 00 54.6	-0.1
VNFG	Fog Glacier, M	1.12	231		Pn	14 00 56.8	0.0
PLK3	Peulik 3	1.16	53		Pn	14 00 57.4	+0.2
PLK3					Sg	14 01 12.8	+0.3
KJL	Kejulik	1.68	50		Pn	14 01 05.1	+0.7
CHIR	Chirikof Islan	1.77	131		Pn	14 01 06.2	+0.7
CHIR					Sb	14 01 30.5	+0.9
CHIR	Chirikof Islan	1.77	131	IAML		14 01 32.9	
	comp=N,7μm,0.8s						
CHIR	Chirikof Islan	1.77	131	P	Pb	14 01 06.7	-0.7
	baz=314,SNR=21						
CHIR				S	Sb	14 01 30.4	+0.9
	baz=314						
ANCK	Angle Creek	1.80	47		Pn	14 01 06.7	+0.6
KABU	Katmai Buttres	1.93	48		Pn	14 01 07.2	-0.7
KABU					Sn	14 01 32.9	+0.7
SII	Sitkinak Islan	2.14	100		Pn	14 01 11.6	+1.0
SII					Sb	14 01 41.2	+0.9
SII	Sitkinak Islan	2.14	100	P	Pn	14 01 11.3	+0.6
	baz=284,SNR=25						
SII				S	Sb	14 01 40.2	-0.1
	baz=284						
SDPT	Sand Point	2.16	221		Pn	14 01 11.8	+0.8
SDPT	Sand Point	2.16	221	IAML		14 01 48.5	
	comp=E,4μm,1.2s						
SDPT				IAML		14 01 48.7	
	comp=N,2μm,0.9s						
SDPT	Sand Point	2.16	221	P	Pn	14 01 11.6	+0.6
	baz=38,SNR=11						
SDPT				Sb	Sg	14 01 44.0	-0.5
	baz=38						
OHAK	Old Harbor	2.57	83		Pn	14 01 16.5	0.0
OHAK					Sn	14 01 49.5	+1.7
OHAK	Old Harbor	2.57	83	IAML		14 01 58.8	
	comp=N,2μm,1.5s						
OHAK				IAML		14 02 01.6	
	comp=E,1μm,0.9s						
OHAK	Old Harbor	2.57	83	P	Pn	14 01 16.5	0.0
	baz=268,SNR=43						
OHAK				S	Sn	14 01 49.9	+2.1
	baz=268						
BLHA	Black Hill	2.62	242		Pn	14 01 18.2	+1.0

PS4A	Pavlof South-4	2.73	234		Pn	14 01 20.0	+1.3
HAG	Hague Volcano	2.77	234	P	Pn	14 01 20.7	+1.4
HAG	Hague Volcano	2.77	234		Pn	14 01 20.7	+1.4
P18K	Big Mountain,	2.81	30	Pn	Pn	14 01 18.4	-1.4
P18K	Big Mountain,	2.81	30	P	Pn	14 01 18.5	-1.3
	baz=213,SNR=19						
P18K				Sb	Sb	14 01 58.8	-0.7
	baz=213						
Q19K	Cape Douglas,	3.01	48		Pn	14 01 22.4	-0.3
Q19K	Cape Douglas,	3.01	48	IAML		14 02 16.4	
	comp=N,2μm,1.1s						
Q19K	Cape Douglas,	3.01	48	P	Pn	14 01 22.2	-0.5
	baz=232						
KDAK	Kodiak Island	3.03	73	P	Pn	14 01 23.1	+0.3
	comp=N,43nm,0.3s,baz=260,slow=6.1,SNR=484						
KDAK				S	Sn	14 01 55.8	-3.2
	comp=N,34nm,0.3s,baz=275,slow=3.4,SNR=4.6						
KDAK	Kodiak Island	3.03	73	P	Pn	14 01 23.0	+0.1
	baz=258						
KDAK				S	Sn	14 02 00.6	+1.6
	baz=258						
O18K	Koktuh Hills	3.21	26		Pn	14 01 24.4	-1.0
O18K	Koktuh Hills	3.21	26	IAML		14 02 15.9	
	comp=N,996nm,1.1s						
O18K				IAML		14 02 29.5	
	comp=E,1μm,1.1s						
O19K	Port Alsworth	3.73	29		Pn	14 01 31.8	-0.7
O19K	Port Alsworth	3.73	29	P	Pn	14 01 31.8	-0.7
	baz=213,SNR=30						
FALS	False Pass	3.73	237	Pn	Pn	14 01 31.9	-0.6
FALS	False Pass	3.73	237	P	Pn	14 01 33.0	+0.5
	baz=52						
O20K	Slope Mountain	4.17	40	P	Pn	14 01 38.0	-0.7
	baz=225						
N19K	Bonanza Creek	4.23	24		Pn	14 01 38.7	-0.8
N19K	Bonanza Creek	4.23	24	IAML		14 03 06.2	
	comp=N,638nm,1.5s						
N19K	Bonanza Creek	4.23	24	P	Pn	14 01 38.5	-1.0
	baz=207,SNR=33						
N19K				Sb	Sb	14 02 42.4	+1.9
	baz=207						
HOM	Homer	4.28	49	Pn	Pn	14 01 38.3	-1.6
HOM				IAML		14 02 56.9	
	comp=E,769nm,0.9s						
SVW2	Sparrevohn	4.29	16		Pn	14 01 39.2	-1.1
SVW2	Sparrevohn	4.29	16	IAML		14 02 54.3	
	comp=E,595nm,1.9s						
SVW2				IAML		14 02 59.2	
	comp=N,401nm,1.3s						
CNPM	China Poot	4.37	52		Pn	14 01 41.3	0.0
RED	Redoubt Volcan	4.38	36		Pn	14 01 41.2	-0.2
RDWB	Redoubt West	4.41	35		Pn	14 01 41.6	-0.3
RSO	Redoubt South	4.41	36		Pn	14 01 41.4	-0.7
RDJH	Redoubt Jeurge	4.50	35		Pn	14 01 43.2	+0.1
BRLK	Bradley Lake	4.65	50		Pn	14 01 44.7	-0.5
BRSE	Bradley Lake S	4.70	51	P	Pn	14 01 45.5	-0.3
	baz=238						
BRSE				S	Sn	14 02 37.9	-2.4
	baz=238						
M19K	Big River Lodg	5.25	19		Pn	14 01 52.7	-0.6
M19K	Big River Lodg	5.25	19	IAML		14 03 41.6	
	comp=N,287nm,1.2s						
M19K	Big River Lodg	5.25	19	P	Pn	14 01 52.3	-1.0
	baz=202,SNR=40						
M19K				S	Sn	14 02 51.8	-2.0
	baz=202						
L19K	White Mountain	5.43	16		Pn	14 01 54.6	-1.3
L19K	White Mountain	5.43	16	P	Pn	14 01 54.6	-1.3
	baz=198,SNR=40						
SEW	Seward	5.44	52	Pn	Pn	14 01 56.7	+0.8
SEW	Seward	5.44	52	S	Sn	14 02 58.9	+0.4
	baz=239						
M20K	Styx River	5.49	25		Pn	14 01 56.6	-0.1
STLK	Strandline Lak	5.50	32		Pn	14 01 57.9	+1.0
O22K	Cooper Landing	5.54	48	Pn	Pn	14 01 57.6	+0.3
L20K	Farewell, AK	5.87	19		Pn	14 02 01.4	-0.5
L20K	Farewell, AK	5.87	19	P	Pn	14 02 00.9	-1.0
	baz=203,SNR=18						
RC01	Rabbit Creek A	5.91	43	Pn	Pn	14 02 02.5	+0.1
TT01	Tatalina	6.01	9		Pn	14 02 01.8	-1.9
TTA	Tatalina	6.03	9	P	Pn	14 02 02.3	-1.8
TTA	Tatalina	6.03	9		Pn	14 02 02.3	-1.8
TTA	Tatalina	6.03	9	P	Pn	14 02 02.5	-1.6
	baz=190,SNR=13						
PWL	Port Wells	6.32	48		Pn	14 02 08.5	+0.5
PWL	Port Wells	6.32	48	P	Pn	14 02 07.5	-0.5
	baz=237						
PMR	Palmer	6.46	41	P	Pn	14 02 10.3	+0.4
PMR	Palmer	6.46	41		Pn	14 02 10.3	+0.4
PMR	Palmer	6.46	41	P	Pn	14 02 09.5	-0.4
	baz=229,SNR=13						
PPLA	Purkeypile	6.59	24		Pn	14 02 12.1	+0.2
PPLA	Purkeypile	6.59	24	P	Pn	14 02 11.7	-0.2
	baz=209,SNR=13						
KNK	Knik Glacier	6.59	44	Pn	Pn	14 02 11.7	-0.1
KNK	Knik Glacier	6.59	44	P	Pn	14 02 10.8	-1.0
	baz=232						
KNK				S	Sn	14 03 29.2	+2.4
	baz=232						
GHO	Glory Hole Cre	6.65	40	Pn	Pn	14 02 11.0	-1.7
K20K	Telida	6.67	15		Pn	14 02 11.1	-1.8
K20K	Telida	6.67	15	P	Pn	14 02 11.0	-1.8
	baz=199,SNR=8.9						
SPIA	Saint Paul Isl	6.69	277	Pn	Pn	14 02 12.3	-0.8
GLI	Glacier Island	6.84	51	Pn	Pn	14 02 15.6	+0.4
GLI	Glacier Island	6.84	51	P	Pn	14 02 14.6	-0.6
	baz=240						
SML	Sawmill	6.89	42	Pn	Pn	14 02 16.4	+0.5
SML	Sawmill	6.89	42	P	Pn	14 02 15.4	-0.5
	baz=230						
FID	Port Fidalgo	7.05	53	Pn	Pn	14 02 17.6	-0.4
CAST	Castle Rocks	7.08	22	Pn	Pn	14 02 17.8	-0.6
CAST	Castle Rocks	7.08	22	P	Pn	14 02 17.8	-0.6
	baz=207,SNR=18						
SCM	Sheep Creek Mo	7.28	44	P	Pn	14 02 20.3	-1.0
SCM	Sheep Creek Mo	7.28	44	Pn	Pn	14 02 20.3	-1.0
SCM	Sheep Creek Mo	7.28	44	P	Pn	14 02 19.8	-1.5
	baz=233						
EYAK	Cordova Ski Ar	7.29	56		Pn	14 02 20.8	-0.4
EYAK	Cordova Ski Ar	7.29	56	P	Pn	14 02 21.0	-0.2
	baz=246						
EYAK				S	Sn	14 03 43.5	-0.3
	baz=246						
J20K	Nowinta River	7.44	13		Pn	14 02 22.2	-1.2
J20K	Nowinta River	7.44	13	P	Pn	14 02 21.6	-1.8
	baz=196						
KTH	Kantishna Hill	7.45	25		Pn	14 02 22.9	-0.6
CHUM	Lake Minchumin	7.45	20		Pn	14 02 22.5	-0.9
CHUM	Lake Minchumin	7.45	20	P	Pn	14 02 22.2	-1.2
	baz=205,SNR=22						
TRF	Thorofare Moun	7.51	27		Pn	14 02 24.8	+0.3
TRF	Thorofare Moun	7.51	27	P	Pn	14 02 24.2	-0.3
	baz=214						
DIV	Divide	7.53	52	Pn	Pn	14 02 24.4	-0.2
KLU	Klutina	7.64	49		Pn	14 02 25.5	-0.7
KLU	Klutina	7.64	49	P	Pn	14 02 25.6	-0.7
	baz=240,SNR=5.8						
KAIM	Kayak Island	7.69	62		Pn	14 02 27.1	+0.3
GCSA	Galena City Sc	7.79	4	P	Pn	14 02 26.9	-1.3
	baz=184						
RND	Reindeer	7.87	31	P	Pn	14 02 29.3	0.0
RND	Reindeer	7.87	31	Pn	Pn	14 02 29.3	0.0
M24K	Tolsona, Glenn	7.88	45		Pn	14 02 29.3	-0.1
M24K	Tolsona, Glenn	7.88	45	P	Pn	14 02 29.4	-0.1
	baz=235						
HMT	Hamilton	7.89	59		Pn	14 02 28.9	-0.7
BPAW	Bear Paw Mtn.	7.91	23	Pn	Pn	14 02 29.6	-0.2
BMRM	Bremner River	7.97	55	Pn	Pn	14 02 31.1	+0.4
BMRM	Bremner River	7.97	55	P	Pn	14 02 31.0	+0.4
	baz=246						
SUCK	Suckling Hills	8.04	62	Pn	Pn	14 02 31.8	+0.1
DHY	Denali Highway	8.07	37	P	Pn	14 02 30.8	-1.4
	baz=226						
MCK	McKinley	8.10	30	P	Pn	14 02 34.0	+1.6
MCK	McKinley	8.10	30		Pn	14 02 34.0	+1.6
MCK	McKinley	8.10	30	P	Pn	14 02 32.6	+0.2
	baz=218						
BERG	Berg Lake	8.18	59	Pn	Pn	14 02 33.0	-0.5
N25K	Chitina, Valde	8.25	50	Pn	Pn	14 02 34.1	-0.5
N25K	Chitina, Valde	8.25	50	P	Pn	14 02 34.0	-0.7
	baz=242						
BWN	Browne	8.32	27	Pn	Pn	14 02 35.0	-0.4
ANM	Nome	8.40	338	P	Pn	14 02 36.5	0.0
ANM	Nome	8.40	338		Pn	14 02 36.5	0.0
ANM	Nome	8.40	338	P	Pn	14 02 36.0	-0.5
	baz=151,SNR=29						
HARP	HAARP	8.44	45	P	Pn	14 02 34.9	-2.2
	baz=236						
GLB	Gilahina Butte	8.52	53	Pn	Pn	14 02 37.8	-0.4
SNH	Sunshine Point	8.53	62		Pn	14 02 38.4	+0.1
VRDI	Verde Repeater	8.59	54	Pn	Pn	14 02 39.0	-0.3
WAX	Waxell Ridge	8.60	60		Pn	14 02 38.9	-0.4
PAX	Paxson	8.66	41	P	Pn	14 02 39.8	-0.4
PAX	Paxson	8.66	41	Pn	Pn	14 02 39.8	-0.4
PAX	Paxson	8.66	41	P	Pn	14 02 39.8	-0.4
	baz=232						
I21K	Tanana	8.70	17		Pn	14 02 40.0	-0.7
I21K	Tanana	8.70	17	P	Pn	14 02 39.8	-0.8
	baz=202						
NEA2	Nenana	8.77	26	P	Pn	14 02 41.1	-0.5
	baz=214						
MLY	Manley	8.78	21	Pn	Pn	14 02 41.1	-0.7
MLY	Manley	8.78	21	P	Pn	14 02 41.2	-0.7
	baz=207						
ISLE	Juniper Island	8.88	60		Pn	14 02 43.1	-0.1
WRH	Wood River Hil	8.91	29		Pn	14 02 43.4	-0.2
BAGL	Bagley Icefiel	8.97	60		Pn	14 02 44.7	+0.4
KIAG	Kiagna River	8.97	58		Pn	14 02 45.4	+0.8
BALM	Baldy	9.02	57		Pn	14 02 45.2	+0.1
H21K	Melozitna Rive	9.03	14		Pn	14 02 43.8	-1.4
H21K	Melozitna Rive	9.03	14	P	Pn	14 02 43.7	-1.5
	baz=198,SNR=14						
I23K	Minto, Yukon-K	9.17	23	P	Pn	14 02 46.4	-0.7
	baz=211						
HDA	Harding Lake	9.18	31		Pn	14 02 46.8	-0.3
HDA	Harding Lake	9.18	31	P	Pn	14 02 47.0	-0.2
	baz=221,SNR=10						
IM03		9.24	11		Pn	14 02 47.1	-0.8
IMAR	Indian Mountai	9.24	11	Pn	Pn	14 02 46.7	-1.3
MDM	Murphy Dome	9.27	27		Pn	14 02 47.9	-0.6
MENT	Mentasta	9.29	44	Pn	Pn	14 02 49.2	+0.5
TCOL	CIGO, UAF Yank	9.29	28	P	Pn	14 02 48.5	-0.2
	baz=217						
COLA	College	9.30	28	*i* P	Pn	14 02 47.8	-1.0
COLA	College	9.30	28	P	Pn	14 02 49.3	+0.5
	baz=217						
BARN	Barnard Glacie	9.34	57	Pn	Pn	14 02 49.7	+0.1
RIDG	Independent Ri	9.37	38	Pn	Pn	14 02 49.7	-0.1
RIDG	Independent Ri	9.37	38	P	Pn	14 02 49.3	-0.5
	baz=230						
TABL	Table Mountain	9.41	62		Pn	14 02 50.9	+0.3
IL31		9.47	30	Pn	Pn	14 02 51.0	-0.1
ILAR	Eielson Array	9.47	30	P	Pn	14 02 51.0	-0.2
	comp=N,0.5nm,0.3s,baz=217,slow=14,SNR=23						
ILAR	Eielson Array	9.47	30	P	Pn	14 02 51.0	-0.2
ILAR	Eielson Array	9.47	30	Pn	Pn	14 02 51.0	-0.2
L26K	Log Cabin Wild	9.48	44	P	Pn	14 02 50.2	-1.2
	baz=237						
SAMH	Samovar Hills	9.52	64		Pn	14 02 52.3	+0.4
GAMB	Gambell	9.59	321	Pn	Pn	14 02 52.3	-0.4
GAMB	Gambell	9.59	321	P	Pn	14 02 51.6	-1.1
	baz=129						
POKR	Poker Plat Res	9.60	28	Pn	Pn	14 02 52.2	-0.7
POKR	Poker Plat Res	9.60	28	P	Pn	14 02 51.2	-1.8
	baz=217						
M27K	Edge Creek, AK	9.74	50	Pn	Pn	14 02 54.9	-0.1
M27K	Edge Creek, AK	9.74	50	P	Pn	14 02 54.7	-0.3
	baz=244						
PCA	Pinnacle	9.77	64		Pn	14 02 55.5	+0.2
J25K	Salcha River,	9.79	34		Pn	14 02 54.8	-0.8
J25K	Salcha River,	9.79	34	P	Pn	14 02 54.8	-0.8
	baz=225						
SCRK	Sand Creek	9.81	39	Pn	Pn	14 02 55.2	-0.7
SCRK	Sand Creek	9.81	39	P	Pn	14 02 55.7	-0.3
	baz=231						
TNA	Tin City	9.81	335		Pn	14 02 55.3	-0.6
TNA	Tin City	9.81	335	P	Pn	14 02 55.3	-0.6
	baz=146,SNR=15						
BCPM	Bancas Point	10.05	65	Pn	Pn	14 02 59.0	-0.1
H24K	Noodor Dome	10.09	24	Pn	Pn	14 02 58.8	-0.9
H24K	Noodor Dome	10.09	24	P	Pn	14 03 00.0	+0.4
	baz=213						
L27K	Beaver Creek,	10.09	46	Pn	Pn	14 02 58.3	-1.4
L27K	Beaver Creek,	10.09	46	P	Pn	14 02 58.9	-0.8
	baz=240						
BCAR	Beaver Creek A	10.11	46	Pn	Pn	14 02 58.3	-1.7
YUK3	Moose Creek	10.12	55	P	Pn	14 03 00.6	+0.3
	baz=250						
PNL	Peninsula	10.13	67	P	Pn	14 03 00.1	-0.1
	baz=263						
J26L	Joseph Creek	10.29	37	P	Pn	14 03 03.2	+0.7
	baz=230						
YUK4	Talbot Arm	10.82	58	P	Pn	14 03 11.5	+1.6
	baz=255						
YUK6	Outpost Mounta	10.86	61	P	Pn	14 03 10.3	-0.1
	baz=258						
COLD	Coldfoot	10.88	16	P	Pn	14 03 11.3	+0.9
	baz=203						
EGAK	Eagle	11.28	39		Pn	14 03 14.9	-1.0
EGAK	Eagle	11.28	39	P	Pn	14 03 14.7	-1.1
	baz=234						
DAWY	Dawson	11.54	45	Pn	Pn	14 03 19.4	-0.1
DAWY	Dawson	11.54	45	P	Pn	14 03 18.4	-1.1
	baz=241						
BMAR	Burnt Mountain	12.15	25	Pn	Pn	14 03 26.9	-1.0
SKAG	Skagway	12.18	69	P	Pn	14 03 28.2	+0.1
	baz=268						
N31M	Braeburn, Yuko	12.19	59	P	Pn	14 03 29.6	+1.2
	baz=258						
WHY	Whitehorse	12.49	63	P	Pn	14 03 32.4	-0.2
	baz=263						
I29M	Ogilvie Camp,	12.61	40	P	Pn	14 03 32.8	-1.2
	baz=238						
M31M	Drury Creek, Y	12.99	57	P	Pn	14 03 39.1	-0.2
	baz=257						
INK	Inuvik	15.81	34	P	Pn	14 04 16.9	-0.3
	comp=N,0.4nm,0.3s,baz=227,slow=15,SNR=6.1						
INK	Inuvik	15.81	34	P	Pn	14 04 16.8	-0.3
INK				pmax	pmax		
	comp=Z,14nm,1.3s						
INK	Inuvik	15.81	34	Pn	Pn	14 04 16.8	-0.3
INK	Inuvik	15.81	34	P	Pn	14 04 16.1	-1.0
	baz=236						
C36M	Paulatuk	19.32	37	P	P	14 04 57.6	-2.1
BILL	Bilibino	19.51	319⇑	*e*P	Pn	14 05 03.6	+0.5
BILL				*e*S	Sn	14 08 36.4	-5.2
BILL				pmax	pmax		
	comp=Z,15nm,0.9s						
BILL				MLR	MLR		
	comp=Z,317nm,15.0s						
A36M	Sachs Harbour	20.17	29	P	P	14 05 05.8	-3.2
YKA	Yellowknife Ar	22.18	58	P	P	14 05 30.2	-0.6
	comp=Z,6.9nm,0.8s,baz=274,slow=10,SNR=103						
YKA				PcP	PcP	14 09 27.2	+0.4
	comp=Z,1.8nm,0.8s,baz=285,slow=1.9,SNR=4.5						
YKA				ScP	ScP	14 12 57.1	-6.7
	comp=Z,0.2nm,0.7s,baz=270,slow=1.9,SNR=2.4						
PET	Petropavlovsk	24.86	279	*i* P	P	14 05 58.6	+1.5
PET				pmax	pmax		
	comp=Z,19nm,1.4s						
SEY	Seymchan	24.98	304	P	P	14 05 59.5	+1.2
	comp=Z,5.0nm,0.9s,baz=99,slow=9.3,SNR=14						
SEY	Seymchan	24.98	304	*ce*P	P	14 05 59.8	+1.6
SEY				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PEA0B	Petropavlovsk-	25.33	280	*i* P	P	14 06 04.3	+2.8
PETK	Petropavlovsk-	25.33	280	P	P	14 06 03.4	+1.9
	comp=Z,2.8nm,0.8s,baz=75,slow=12,SNR=8.4						
EDM	Edmonton	25.46	79	P	P	14 06 02.6	-0.1
EDM				pmax	pmax		
	comp=Z,22nm,0.9s						
EDM	Edmonton	25.46	79	P	P	14 06 02.6	-0.1
NEW	Newport	25.94	92	P	P	14 06 09.2	+2.1
	comp=Z,2.2nm,0.7s,baz=318,slow=12,SNR=2.5						
NEW	Newport	25.94	92	P	P	14 06 07.7	+0.6
	baz=305						
MA2	Magadan	26.51	297	*i* P	P	14 06 16.0	+3.9
MA2				pmax	pmax		
	comp=Z,6.0nm,1.0s						
RES	Resolute Bay	29.22	29	PcP	PcP	14 09 42.0	-0.7
	comp=Z,1.3nm,0.7s,baz=165,slow=7.1,SNR=3.6						
EGMT	Eagleton	30.11	86	P	P	14 06 43.4	-1.0
	baz=306						
HLID	Hailey	30.35	97	P	P	14 06 46.4	-0.3
	baz=312						
PAHR	Pah Rah Range	30.40	108	P	P	14 06 47.5	+0.3
PAHR				IAmb	IAmb	14 06 50.1	
	comp=Z,6.6nm,1.0s						
BCYI	Bear Canyon	30.40	95	P	P	14 06 45.6	-1.6
YHH	Holmes Hill	31.49	92	P	P	14 06 56.6	-0.3
NVAR	Mina Array Bea	31.91	108	P	P	14 07 02.8	+2.3
	comp=Z,2.7nm,0.8s,baz=298,slow=8.8,SNR=13						
NVAR				PcP	PcP	14 09 51.0	+0.3
	comp=Z,0.8nm,0.8s,baz=277,slow=2.5,SNR=4.4						
TIXI	Tiksi	32.42	326	P	P	14 07 05.1	+0.8
	comp=Z,3.1nm,0.8s,baz=270,slow=23,SNR=12						
TIXI				PcP	PcP	14 09 50.8	-0.4
	comp=Z,1.0nm,0.7s,baz=87,slow=23,SNR=4.3						
TIXI	Tiksi	32.42	326	*ce*P	P	14 07 05.8	+1.5
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TIXI	Tiksi	32.42	326	P	P	14 07 04.5	+0.2
TIXI				IAmb	IAmb	14 07 08.5	
	comp=Z,6.4nm,1.1s						
FCC	Fort Churchill	32.88	60	P	P	14 07 08.3	-0.2
FCC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FCC	Fort Churchill	32.88	60	P	P	14 07 08.3	-0.2
FCC				IAmb	IAmb	14 07 09.6	
	comp=Z,7.6nm,0.9s						
R11A	Troy Canyon, C	33.40	106	P	P	14 07 13.6	+0.1
GRAC	Grapevine Rang	33.48	109	P	P	14 07 14.8	+0.7
	baz=320						
BW06	Boulder Array	33.52	94	P	P	14 07 13.5	-1.1
	baz=312						
PDAR	Pinedale Array	33.52	94	P	P	14 07 15.3	+0.7
	comp=Z,0.9nm,0.6s,baz=318,slow=3.8,SNR=7.4						
PDAR	Pinedale Array	33.52	94	P	P	14 07 13.8	-0.8
DUG	Dugway, Tooele	33.53	100	P	P	14 07 13.8	-0.8
	baz=316						
CWC	Cottonwood Cre	33.54	111	P	P	14 07 14.2	-0.5
	baz=321						
ISA	Isabella, Lake	33.94	112	P	P	14 07 19.3	+1.1
	baz=322						
TPNV	Topopah Spring	34.10	108	P	P	14 07 20.7	+1.2
	baz=320,SNR=10						
MPMC	Manual Prospec	34.14	110	P	P	14 07 20.5	+0.5
	baz=321						
QSM	Queen of Sheba	34.53	110	P	P	14 07 23.4	+0.3
QSM				IAmb	IAmb	14 07 27.4	
	comp=Z,7.5nm,0.8s						
GSC	Goldstone, Bar	35.08	110	P	P	14 07 28.0	+0.1
	baz=321						
YAK	Yakutsk	35.27	309	*e*P	P	14 07 29.5	+0.3
YAK				pmax	pmax		
	comp=Z,22nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.4s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK	Yakutsk	35.27	309	P	P	14 07 28.6	-0.6
TUQ	Turquoise Moun	35.43	109	P	P	14 07 31.4	+0.4
	baz=321						
BFSC	Mount Baldy Ra	35.48	113	P	P	14 07 31.2	-0.3
	baz=323						
RWWY	Rawlins	35.53	93	P	P	14 07 32.1	0.0
RWWY				IAmb	IAmb	14 07 50.4	
	comp=Z,13nm,1.4s						
SRU	San Rafael Swe	35.54	100	P	P	14 07 32.2	+0.1
SRU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SRU	San Rafael Swe	35.54	100	P	P	14 07 32.2	+0.1
SRU				IAmb	IAmb	14 07 46.7	
	comp=Z,8.1nm,0.9s						
RSSD	Black Hills	35.65	88	P	P	14 07 32.0	-1.0
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.7s						
RSSD	Black Hills	35.65	88	P	P	14 07 32.0	-1.0
RSSD				IAmb	IAmb	14 07 37.3	
	comp=Z,6.2nm,0.7s						
RSSD	Black Hills	35.65	88	P	P	14 07 32.5	-0.5
	baz=311						
HEC	Hector,Ludlow	35.69	110	P	P	14 07 34.4	+1.2
	baz=322						
GMRC	Granite Mounta	36.07	110	P	P	14 07 37.7	+1.1
	baz=321,SNR=7.2						
ULM	Lac du Bonnet	36.29	73	P	P	14 07 38.1	+0.1
	comp=Z,5.7nm,0.9s,baz=315,slow=9.4,SNR=4.4						
ULM	Lac du Bonnet	36.29	73	*i* P	P	14 07 38.0	-0.1
BELC	Belle Mtn. Jos	36.51	111	P	P	14 07 41.2	+0.9
	baz=322,SNR=7.2						
PFO	Pinyon Flats O	36.58	112	*i* P	P	14 07 44.4	+3.5
PFO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PFO	Pinyon Flats O	36.58	112	P	P	14 07 41.4	+0.5
	baz=323						
YSS	Yuzh-Sakhalins	36.74	280	*ce*P	P	14 07 40.9	-1.0
YSS				pmax	pmax		
	comp=Z,15nm,1.7s						
IRM	Iron Mountain	36.82	110	P	P	14 07 44.2	+1.4
	baz=322,SNR=7.7						
BC3	Big Chuckawall	37.06	111	P	P	14 07 46.5	+1.6
	baz=322						
MONP2	Monument Peak	37.17	112	P	P	14 07 47.4	+1.3
	baz=323						
AGMN	Agassiz Nation	37.45	76	P	P	14 07 47.4	-0.6
AGMN				IAmb	IAmb	14 07 48.9	
	comp=Z,8.3nm,0.8s						
AGMN	Agassiz Nation	37.45	76	P	P	14 07 48.4	+0.4
	baz=307						
WUAZ	Wupatki	37.75	104	P	P	14 07 51.6	+0.8
	baz=320						
MVCO	Mesa Verde	38.02	100	P	P	14 07 53.1	-0.1
	baz=318						
B35A	Bob, Littlefor	38.54	75	P	P	14 07 56.8	-0.4
B35A				IAmb	IAmb	14 07 58.0	
	comp=Z,10nm,0.9s						
SDCO	Great Sand Dun	39.25	96	P	P	14 08 04.0	+0.4
	baz=317						
EYMN	Ely	39.97	74	P	P	14 08 09.4	+0.2
EYMN				IAmb	IAmb	14 08 10.1	
	comp=Z,18nm,0.8s						
EYMN	Ely	39.97	74	P	P	14 08 08.5	-0.7
	baz=309						
F36A	Milaca	40.22	78	P	P	14 08 11.6	+0.3
TUC	Tucson	40.53	107	P	P	14 08 15.4	+1.3
	baz=322						
ZEA	Zeya	40.65	298	*e*P	P	14 08 17.8	+3.1
ZEA				*e*		14 08 24.4	
E38A	The Farm, Brul	40.79	75	P	P	14 08 15.4	-0.5
ANMO	Albuquerque	40.81	100	*ce*P	P	14 08 17.5	+1.1
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ANMO	Albuquerque	40.81	100	P	P	14 08 17.6	+1.2
	baz=319						
KLR	Kul'dur	41.13	290	*ce*P	P	14 08 19.4	+0.7
KLR				pmax	pmax		
	comp=Z,5.0nm,1.7s						
CBKS	Cedar Bluff	41.63	90	P	P	14 08 22.9	-0.1
	baz=316						
G40A	Rib Lake	42.38	76	P	P	14 08 28.1	-0.9
G40A				IAmb	IAmb	14 08 29.8	
	comp=Z,10nm,0.8s						
AMTX	Amarillo	43.44	96	P	P	14 08 37.3	-0.5
	baz=319						
MNTX	Cornudas Mount	43.87	102	P	P	14 08 41.9	+0.7
	baz=321						
WMOK	Wichita Mounta	45.13	93	P	P	14 08 51.3	0.0
	baz=319						
NRIK	Noril'sk	45.40	333	P	P	14 08 53.1	+0.2
	comp=Z,1.1nm,0.3s,baz=63,slow=2.3,SNR=1.8						
NRIK	Noril'sk	45.40	333	*ce*P	P	14 08 54.4	+1.5
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
MSHR	Mys Shultsa	45.83	283	*i* P	P	14 08 56.3	-0.3
MSHR				pmax	pmax		
	comp=Z,11nm,0.9s						
HDIL	Hopedale	46.08	80	P	P	14 08 57.8	-0.9
	baz=315						
TX31	Lajitas Ar. Si	46.63	103	P	P	14 09 03.2	-0.1
TX32	Lajitas Array	46.63	103	P	P	14 09 03.4	+0.2
TX32				IAmb	IAmb	14 09 13.0	
	comp=Z,5.8nm,1.4s						
TXAR	Lajitas Array	46.63	103	P	P	14 09 04.4	+1.2
	comp=Z,1.8nm,0.7s,baz=315,slow=5.2,SNR=19						
TXAR	Lajitas Array	46.63	103	P	P	14 09 03.2	0.0
TXAR	Lajitas Array	46.63	103	P	P	14 09 03.2	0.0
JCT	Junction City	47.82	98	P	P	14 09 12.3	-0.1
JCT				pmax	pmax		
	comp=Z,10.0nm,1.1s						
JCT	Junction City	47.82	98	P	P	14 09 12.3	-0.1
JCT	Junction City	47.82	98	P	P	14 09 12.4	0.0
	baz=321						
ACSO	Alum Creek Sta	49.69	76	P	P	14 09 25.9	-0.8
	baz=316						
WVT	Waverly	50.08	83	P	P	14 09 28.3	-1.3

	baz=318						
OXF	Oxford	50.42	86	P	P	14 09 31.8	-0.5
	baz=319						
PLAL	Pickwick Lake	50.80	84	P	P	14 09 34.3	-0.8
PLAL				IAmb	IAmb	14 09 36.3	
	comp=Z,5.0nm,0.8s						
LONY	Lake Ozonia	50.89	66	P	P	14 09 34.6	-1.0
	baz=316						
M55A	Ridgway	51.02	72	P	P	14 09 36.5	-0.2
L56A	Greenwood	51.16	70	P	P	14 09 36.5	-1.3
KSRS	Korea Array	51.23	281	P	P	14 09 39.0	+0.8
	comp=Z,1.3nm,0.9s,baz=41,slow=7.2,SNR=4.7						
BINY	Binghamton	51.92	69	P	P	14 09 42.1	-1.4
	baz=317						
SSPA	Standing Stone	52.08	72	P	P	14 09 43.5	-1.1
	baz=317						
TZTN	Tazewell	52.09	80	P	P	14 09 44.1	-0.7
	baz=318						
L59A	Walton	52.41	69	P	P	14 09 47.0	-0.1
Y49A	Blount Mountai	52.55	84	P	P	14 09 47.3	-0.9
Y49A				IAmb	IAmb	14 09 53.4	
	comp=Z,4.7nm,0.8s						
ARCES	ARCESS Array B	53.74	358	P	P	14 09 55.6	-0.9
	comp=Z,1.4nm,0.8s,baz=17,slow=8.9,SNR=4.0						
ARCES	ARCESS Array B	53.74	358	P	P	14 09 55.6	-0.9
ARCES				pmax	pmax		
	comp=Z,12nm,1.4s						
ARCES	ARCESS Array B	53.74	358	IAmb	IAmb	14 10 17.0	
	comp=Z,12nm,1.4s						
ULN	Ulaanbaatar	54.06	304	*i* P	P	14 10 03.5	+4.2
ULN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	Songino Array	54.38	304	P	P	14 10 01.5	-0.1
	comp=Z,2.1nm,0.7s,baz=40,slow=7.2,SNR=10						
SONM				PcP	PcP	14 11 05.0	-0.3
	comp=Z,2.1nm,0.7s,baz=50,slow=2.2,SNR=5.7						
HHC	Hu-ho-hao-te	57.17	295	*e*P	P	14 10 21.0	-0.7
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,4.2s						
ZALV	Zalesovo Beam	58.18	322	P	P	14 10 28.2	-0.2
	comp=Z,0.9nm,0.7s,baz=33,slow=3.4,SNR=5.4						
ZALV	Zalesovo Beam	58.18	322	*i* P	P	14 10 30.5	+2.1
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NC204	NORSAR Array S	61.73	6	P	P	14 10 51.4	-1.4
FINES	FINESS Array B	61.85	358	P	P	14 10 52.5	-1.0
	comp=Z,1.2nm,0.8s,baz=30,slow=4.6,SNR=4.5						
FINES	FINESS Array B	61.85	358	*ce*P	P	14 10 56.0	+2.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	61.85	358	P	P	14 10 52.4	-1.1
NB2	NORSAR Subarra	61.99	6	P	P	14 10 53.5	-1.0
	comp=Z,3.5nm,0.9s,baz=354,slow=6.9						
NOA	NORSAR Array B	61.99	6	P	P	14 10 53.8	-0.8
	comp=Z,1.0nm,0.7s,baz=353,slow=6.8,SNR=6.5						
KURK	Kurchatov	62.96	323	*i* P	P	14 11 03.0	+1.9
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARU	Arti	63.15	338	*d i*P	P	14 11 04.1	+1.9
ARU						14 11 37.9	
ARU				S	S	14 19 38.1	+5.4
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VSU	Vasula	64.82	357	*i* P	P	14 11 14.9	+1.7
VSU				pmax	pmax		
	comp=Z,21nm,1.1s						
MKAR	Makanchi Array	65.06	319	P	P	14 11 15.4	+0.4
	comp=Z,0.4nm,0.6s,baz=60,slow=5.8,SNR=5.4						
MKAR	Makanchi Array	65.06	319	*ce*P	P	14 11 19.1	+4.1
WMQ	Urumqi	65.52	314	*e*P	P	14 11 22.1	+4.0
WMQ				pP	pP	14 11 27.8	+5.9
WMQ				sP	sP	14 11 32.5	+9.2
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
EKA	Eskdalemuir Ar	66.17	15	P	P	14 11 21.4	-0.6
	comp=Z,1.8nm,0.7s,baz=352,slow=5.1,SNR=4.8						
MNK	Minsk	68.75	356	*i* P	P	14 11 37.9	-0.3
MNK				*i*		14 12 02.6	
MNK				*i*		14 14 09.3	
MNK				*i* PPP	PPP	14 15 48.5	
MNK				*i* S	S	14 20 39.0	-2.0
MNK				*i*		14 21 37.9	
MNK				*i* SS	SS	14 25 12.9	+8.4
MNK				pmax	pmax		
	comp=E,1.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,13nm,0.8s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MNK				MLR	MLR		
	comp=E,29nm,17.0s						
MNK				MLR	MLR		
	comp=N,293nm,19.0s						
MNK				MLR	MLR		
	comp=Z,235nm,19.0s						
MNK	Minsk	68.75	356	*i* P	P	14 11 38.0	-0.3
	comp=E,1.0nm,0.7s						
MNK				*i* P	P	14 11 38.0	-0.3
	comp=N,13nm,0.8s						
MNK				*i* P	P	14 11 38.0	-0.3
	comp=Z,6.0nm,0.7s,baz=184						
MNK				*i* PcP	PcP	14 12 02.7	-0.3
MNK				*i* PP	PP	14 14 09.3	0.0
MNK				*i* PPP	PPP	14 15 48.5	
MNK				*i* S	S	14 20 39.0	-2.0
MNK				*i* SS	SS	14 25 12.9	+8.4
MNK				*i* SSS	SSS	14 28 23.3	
MNK				*i* LQ	LQ	14 36 55.3	
MNK				*i* LR	LR	14 42 45.5	
MNK				*i* LRM	MLR	14 44 18.1	
	comp=E,29nm,16.6s						
MNK				*i* LRM	MLR	14 44 18.1	
	comp=N,293nm,19.2s						
MNK				*i* LRM	MLR	14 44 33.4	
	comp=Z,235nm,19.2s						
GOMU	GeErMu	68.82	304	P	P	14 11 37.6	-1.9
GOMU				pP	pP	14 11 40.9	-2.5
GOMU				sP	sP	14 11 42.8	-2.0
GOMU				PcP	PcP	14 12 02.7	-1.4
GOMU				PP	PP	14 14 08.8	-2.2
GOMU				S	S	14 20 42.0	-1.2
GOMU				sS	pS	14 20 46.8	-1.2
GOMU	GeErMu	68.82	304	SS	SS	14 25 06.5	-0.8
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,57nm,5.3s						
GOMU				LR	LR		
	comp=N,110nm,17.1s						
GOMU				LR	LR		
	comp=E,83nm,14.7s						
GOMU				LR	LR		
	comp=Z,76nm,13.9s						
ABKAR	Akbulak array	69.54	335	P	P	14 11 42.3	-1.0
AKASG	Malin Array Be	72.50	355	P	P	14 11 59.6	-1.6
	comp=Z,0.6nm,0.4s,baz=4.6,slow=5.6,SNR=4.9						
AKASG	Malin Array Be	72.50	355	*ce*P	P	14 12 02.4	+1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	Malin Array Si	72.50	355	*ce*P	P	14 12 01.6	+0.4
PZH	PanZhiHua	73.50	293	P	P	14 12 07.5	-0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSH	Kashi	73.66	319	P	P	14 12 15.2	+6.8
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GERES	GERESS Array B	74.30	6	P	P	14 12 11.2	-0.8
	comp=Z,0.3nm,0.3s,baz=295,slow=4.1,SNR=4.8						
ESDC	Sonseca Array	81.22	20	P	P	14 12 50.2	-0.5
	comp=Z,1.3nm,0.9s,baz=341,slow=5.5,SNR=4.6						
CMAR	Chiang Mai Arr	81.61	291	P	P	14 12 52.3	-0.6
	comp=Z,1.4nm,0.8s,baz=12,slow=5.0,SNR=9.6						
MCRA	Macar, Loja	87.14	102	P	P	14 13 19.9	-1.1
MCRA				IAmb	IAmb	14 13 21.0	
	comp=Z,3.7nm,1.0s						
ASAR	Alice Springs	98.45	239	P	P	14 14 12.5	-0.5
	comp=Z,0.4nm,0.9s,baz=36,slow=4.6,SNR=2.6						

*NEIC **04** 14:04:06.3±1.0, 56°.98N±0°.05×157°.96W±0°.08, h16km±11km, Error ellipse: s-maj=9.0km s-min=1.5km az=139.0*
*AEIC **04** 14:04:06±1.5, 56°.98N±0°.02×157°.95W±0°.09, h11km±7km, ML3.2/17, ML3.5/28(NEIC), Error ellipse: s-maj=7.0km s-min=3.2km az=101.0*
ISC 04 14:04:06.2±1.0**, 56°.97N**±0°.04×**157°.94W**±0°.04**, h14**km±9km**, n48, σ0.s62**/46**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.15	267		Pg	14 04 10.2	+0.2
AZAC	Aniakchak	0.18	243		Pg	14 04 10.6	+0.2
ANPB	Aniakchak Plen	0.25	227		Pg	14 04 11.8	+0.2
CHGN	Chignik	0.72	201		Pg	14 04 20.1	-0.1
CHGN	Chignik	0.72	201	IAML		14 04 34.7	
	comp=E,2µm,0.5s						
CHGN	Chignik	0.72	201	P	Pg	14 04 20.1	-0.1
	baz=21						
CHGN				S	Sb	14 04 30.6	+0.4
	baz=21						
PLBL	Peulik Blue Cr	0.95	39		Pb	14 04 24.1	-0.2
VNHG	Veniaminof 1	1.01	222		Pb	14 04 24.8	-0.7
PLK1	Peulik 1	1.10	41		Pb	14 04 26.9	0.0
VNFG	Fog Glacier, M	1.13	233		Pb	14 04 27.4	0.0
VNFG	Fog Glacier, M	1.13	233	P	Pb	14 04 27.4	0.0
	baz=51						
PLK3	Peulik 3	1.16	51		Pb	14 04 27.8	-0.1
PLK2	Peulik 2	1.18	47		Pg	14 04 28.8	-0.1
KJL	Kejulik	1.68	49		Pb	14 04 36.6	-0.2
CHIR	Chirikof Islan	1.73	131		Pn	14 04 35.9	+0.1
CHIR				IAML		14 05 04.3	
	comp=E,440nm,1.2s						
CHIR				IAML		14 05 06.3	
	comp=N,509nm,1.5s						
CHIR	Chirikof Islan	1.73	131	P	Pb	14 04 37.1	-0.6
	baz=313						
CHIR				S	Sg	14 05 01.3	-0.5
	baz=313						
CAHL	Cahill	1.79	52		Pb	14 04 37.9	-0.8
KABU	Katmai Buttres	1.93	47		Pn	14 04 39.4	+0.8
SII	Sitkinak Islan	2.11	100	Pn	Pn	14 04 40.1	-0.9
SII	Sitkinak Islan	2.11	100	S	Sb	14 05 11.3	+1.1
	baz=283						
SDPT	Sand Point	2.16	222		Pn	14 04 42.4	+0.8
SDPT	Sand Point	2.16	222	IAML		14 05 18.8	
	comp=N,299nm,1.1s						
SDPT				IAML		14 05 19.1	
	comp=E,368nm,1.7s						
SDPT	Sand Point	2.16	222	P	Pn	14 04 42.4	+0.8
	baz=40						
OHAK	Old Harbor	2.55	82		Pn	14 04 47.4	+0.4
OHAK	Old Harbor	2.55	82	P	Pn	14 04 47.6	+0.5
	baz=266						
PS4A	Pavlof South-4	2.73	235		Pn	14 04 51.0	+1.5
P18K	Big Mountain,	2.82	30	Pn	Pn	14 04 50.2	-0.6
KDAK	Kodiak Island	3.01	72		Pn	14 04 54.0	+0.6
O18K	Koktuh Hills	3.23	25		Pn	14 04 56.1	-0.2
O18K	Koktuh Hills	3.23	25	IAML		14 05 45.6	
	comp=N,92nm,0.7s						
O18K				IAML		14 05 58.6	
	comp=E,83nm,2.3s						
O18K	Koktuh Hills	3.23	25	P	Pn	14 04 56.1	-0.2
	baz=208						
O19K	Port Alsworth	3.75	29		Pn	14 05 02.6	-0.8
O19K	Port Alsworth	3.75	29	P	Pn	14 05 02.6	-0.8
	baz=212						
N19K	Bonanza Creek	4.25	24		Pn	14 05 10.1	-0.4
N19K				IAML		14 06 26.4	
	comp=E,59nm,2.0s						
N19K				IAML		14 06 43.5	
	comp=N,62nm,1.3s						
N19K	Bonanza Creek	4.25	24	P	Pn	14 05 10.0	-0.4
	baz=206						
HOM	Homer	4.28	48	Pn	Pn	14 05 10.5	-0.2
SVW2	Sparrevohn	4.31	15		Pn	14 05 10.9	-0.3
SVW2	Sparrevohn	4.31	15	IAML		14 06 33.1	
	comp=E,54nm,0.7s						
SVW2				IAML		14 06 37.4	
	comp=N,54nm,1.5s						
RED	Redoubt Volcan	4.38	36		Pn	14 05 12.1	-0.1
RSO	Redoubt South	4.42	36	Pn	Pn	14 05 13.1	+0.2
M19K	Big River Lodg	5.27	19	Pn	Pn	14 05 24.0	-0.3
M19K				IAML		14 06 07.2	
	comp=N,41nm,2.4s						
L19K	White Mountain	5.45	15	Pn	Pn	14 05 26.0	-0.9
M20K	Styx River	5.50	24	Pn	Pn	14 05 28.0	+0.4
BERG	Berg Lake	8.17	59	Pn	Pn	14 06 04.3	+0.2
ANM	Nome	8.43	338	Pn	Pn	14 06 07.7	0.0
WAX	Waxell Ridge	8.59	60	Pn	Pn	14 06 10.7	+0.8
ISLE	Juniper Island	8.88	59	Pn	Pn	14 06 15.3	+1.4
YAH	Yahtse	9.09	61	Pn	Pn	14 06 17.8	+0.8

LJU 04 14:24:36.4, 46°.39N×15°.07E, h0km, ML0.6, Confirmed Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDKS	Podkum	0.33	189	*e*Pg	Pg	14 24 42.8	0.0
PDKS				IAML		14 24 50.7	
	comp=Z,6.5nm,0.3s						
VNDS	Vrh nad Dolski	0.39	222	*e*Pg	Pg	14 24 43.7	-0.1

VIE 04 14:24:40.5±0.9**, 47°.84N×14°.15E, h0km, mb1.4**/2**, ml1.8**/3**, Error ellipse: s-maj=8.5km s-min=2.4km az=29.0 2 km N of Klaus Suspected Mining explosion., Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOA	Molln	0.08	80	*i* Pg	Pg	14 24 42.2	+0.2
	9.7nm,0.1s						
MOA				*e*Sg	Sg	14 24 43.4	+0.4
	51nm,0.2s						
ARSA	Arzberg	1.10	122	Sg	Sg	14 25 16.0	+0.2
	7.3nm,0.5s						
CONA	Conrad Observa	1.16	85	*e*Pg	Pg	14 25 02.4	-0.3
	0.8nm,0.2s						
CONA				*e*Sg	Sg	14 25 18.0	+0.4
	6.4nm,0.3s						

*IDC **04** 14:33:12.2±2.5, 37°.69N×141°.85E, h60km±27km, mb3.0/3, mb1 3.4/7, mb1mx3.0/49, mbtmp3.4/7, ML3.0/4, Error ellipse: s-maj=23.4km s-min=16.7km az=107.0*
*JMA **04** 14:33:16.4, 37°.82N×141°.17E, h77km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs161.00000°, δ72.00000°, λ82.00000°. NP2: φs7.00000°, δ19.00000°, λ114.00000°. Principal axes: T Plg62.0000°, Azm59.0000°; N Plg8.0000°, Azm164.0000°; P Plg27.0000°, Azm258.0000°;*
ISC 04 14:33:15.3±1.0**, 37°.76N**±0°.04×**141°.34E**±0°.07**, h79**km±7km**, n21, σ1.s73**/35**, mb3.4**/3**, 6C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMST	Minamisoumatoc	0.36	264	⇑P	Pn	14 33 28.1	+0.2
JMST				S	Sn	14 33 36.6	-0.5
JMM	Marumori	0.45	284	⇑P	Pn	14 33 28.3	-0.2
JMM				S	Sn	14 33 37.3	-0.9
JFK	Kawauchi	0.54	223	⇑P	Pn	14 33 30.0	+0.6
JFK				S	Sn	14 33 40.0	+0.2
JIKH	Ishinomakikobu	0.56	10	⇓P	Pn	14 33 30.4	+0.9
JIKH				S	Sn	14 33 40.6	+0.7
JIO	Ouri	0.69	1	⇓P	Pn	14 33 31.5	+0.7
JIO				S	Sn	14 33 42.2	-0.1
JOU	Okura	0.80	319	⇑P	Pn	14 33 31.6	-0.5
JOU				S	Sn	14 33 43.1	-1.4
JFT	Otama	0.83	253	⇑P	Pn	14 33 32.3	-0.1
JFT				S	Sn	14 33 44.5	-0.6
JYS	Shirataka	1.11	295	P	Pn	14 33 35.1	-0.5
JYS				S	Sn	14 33 49.6	-1.2
JMK	Ichinoseki	1.19	355	P	Pn	14 33 37.0	+0.4
JMK				S	Sn	14 33 52.2	-0.4
JFY	Yanaizu	1.35	255	P	Pn	14 33 38.5	-0.1
JFY				S	Sn	14 33 54.8	-1.4
JYK	Kaneyama	1.39	327	⇑P	Pn	14 33 39.0	-0.1
JYK				S	Sn	14 33 56.0	-1.1
JYA	Atsumi	1.53	303	P	Pn	14 33 40.7	-0.2
JNS	Sasagawa	1.60	273	P	Pn	14 33 41.8	-0.1
JOM	Ohasama	1.71	359	⇓P	Pn	14 33 44.2	+0.9
JOM				*e*S	Sn	14 34 04.5	0.0
MJAR	Matsushiro Arr	2.78	245	P	Pn	14 33 58.4	+0.7
	0.7nm,0.3s,baz=52,slow=17,SNR=18						
MJAR				S	Sn	14 34 36.7	+6.4
	0.8nm,0.3s,baz=316,slow=10.0,SNR=5.3						
JHJ	Hachijo jima 2	4.80	196	P	Pn	14 34 21.0	-4.2
	1.7nm,0.3s,baz=248,slow=19,SNR=1.6						
JHJ				S	Sn	14 35 17.0	-2.6
	6.4nm,0.3s,baz=129,slow=21,SNR=1.1						
ASAJ	Asahikawa	6.42	8	P	Pn	14 34 44.4	-2.7
	0.3nm,0.3s,baz=205,slow=14,SNR=6.2						
KSRS	Korea Array	10.65	272	P	Pn	14 35 47.6	+2.7
	0.2nm,0.3s,baz=82,slow=15,SNR=2.5						
MKAR	Makanchi Array	43.69	301	P	P	14 41 12.1	-0.2
	0.5nm,0.8s,baz=80,slow=8.9,SNR=5.3						
ILAR	Eielson Array	48.91	33	P	P	14 41 52.1	-0.8
	0.2nm,0.5s,baz=282,slow=5.4,SNR=2.0						
WRA	Warramunga Arr	57.77	188	P	P	14 42 57.9	-0.4
	0.4nm,1.0s,baz=4.9,slow=7.1,SNR=1.7						

*NEIC **04** 15:24:32.8±0.7, 36°.288N±0°.006×97°.10W±0°.02, h3km±7km, Error ellipse: s-maj=2.2km s-min=0.4km az=70.0*
*TUL **04** 15:24:32.9±0.9, 36°.29N±0°.01×97°.07W±0°.02, h6km±6km, ML3.0, mb_Lg2.8/38(NEIC), Error ellipse: s-maj=2.1km s-min=1.6km az=213.0*
*ANF **04** 15:24:32.8±0.3, 36°.31N×97°.05W, h5km, ML3.1/9, Error ellipse: s-maj=2.7km s-min=1.9km az=15.0*
ISC 04 15:24:32.4±1.3**, 36°.26N**±0°.03×**97°.09W**±0°.03**, h1**km±13km**, n36, σ0.s76**/26**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T35A	Sooner Cattle	0.81	35	Pg	Pg	15 24 47.8	-0.1
T35A				Sg	Sg	15 24 57.8	-0.5
T35B	Sooner Cattle	0.81	35	P	Pg	15 24 47.9	0.0
	baz=218						
T35B				S	Sg	15 24 57.9	-0.5
	baz=218						
FNO	Franklin	1.03	194		Pg	15 24 52.8	+0.6
TUL1	Leonard	1.10	108		Pb	15 24 53.6	-0.7
TUL1	Leonard	1.10	108	P	Pb	15 24 53.7	-0.7
	baz=290						
TUL1				S	Sg	15 25 08.3	+0.4
	baz=290						
W35A	Tecumseh	1.11	171		Pb	15 24 53.8	-0.7
U32A	Winter Ranch,	1.55	275		Pb	15 25 01.3	-0.7
U32A	Winter Ranch,	1.55	275	P	Pb	15 25 01.6	-0.4
	baz=93						
U32A				S	Sg	15 25 22.8	+0.5
	baz=93						
WMOK	Wichita Mounta	2.05	223		Pn	15 25 07.8	-0.3
WMOK				IAmb_Lg		15 25 42.5	
	comp=Z,27nm,0.8s						
WMOK	Wichita Mounta	2.05	223	P	Pb	15 25 09.4	-1.1
	baz=41						
X37A	Clayton	2.17	139	IAmb_Lg		15 25 45.4	
	comp=Z,31nm,1.0s						
X37A	Clayton	2.17	139	P	Pb	15 25 11.9	-0.7
	baz=321						
X37A				Sb	Sg	15 25 42.2	-0.1
	baz=321						
R32A	Long Quarter,	2.52	330	Sb	Sb	15 25 50.1	+0.1
	baz=149						
HHAR	Hobbs	2.54	89	P	Pb	15 25 17.4	-1.5
	baz=271						
HHAR				Sb	Sb	15 25 51.3	+0.6
	baz=271						
Z35A	Perchaven, San	2.92	183	Pn	Pn	15 25 20.2	+0.2
Z35A	Perchaven, San	2.92	183	P	Pn	15 25 21.4	+1.4
	baz=2.3						
CBKS	Cedar Bluff	3.31	321	IAmb_Lg		15 26 24.1	
	comp=Z,18nm,0.7s						
S39A	Bolivar	3.34	63	P	Pb	15 25 34.0	+1.6
	baz=246						
U40A	Yellville	3.42	87	Pn	Pn	15 25 27.2	+0.3
Z38A	Mt. Pleasant	3.45	149	IAmb_Lg		15 26 27.4	
	comp=Z,27nm,0.9s						
X40A	Basin Creek Fa	3.90	116	IAmb_Lg		15 26 42.0	
	comp=Z,24nm,0.7s						
MGMO	Mountain Grove	3.97	76	IAmb_Lg		15 26 43.1	
	comp=Z,14nm,0.8s						
AMTX	Amarillo	3.99	251	IAmb_Lg		15 26 45.3	
	comp=Z,21nm,0.9s						
FCAR	Ozark Folk Cen	4.04	94	IAmb_Lg		15 26 44.6	
	comp=Z,20nm,0.8s						
W41B	Gary Mavity, V	4.08	104	Pn	Pn	15 25 35.5	-0.5
W41B				IAmb_Lg		15 26 45.9	
	comp=Z,23nm,0.8s						
W41B	Gary Mavity, V	4.08	104	S	Sn	15 26 24.5	+0.1
	baz=287						
UALR	University of	4.14	110	IAmb_Lg		15 26 49.6	
	comp=Z,18nm,0.8s						
WLAR	White Oak Lake	4.15	127	IAmb_Lg		15 26 51.7	
	comp=Z,20nm,0.8s						
R40A	Maddies Statio	4.35	61	Pn	Pn	15 25 39.7	+0.1
R40A				IAmb_Lg		15 26 47.6	
	comp=Z,15nm,0.9s						
CCM	Cathedral Cave	5.00	67	IAmb_Lg		15 27 07.2	
	comp=Z,17nm,0.7s						
KSCO	Kaye Shedlock'	5.19	304	IAmb_Lg		15 27 31.2	
	comp=Z,15nm,0.8s						
PBMO	Poplar Bluff	5.39	82	IAmb_Lg		15 27 31.0	
	comp=Z,18nm,0.8s						
JCT	Junction City	6.19	202	IAmb_Lg		15 27 54.2	
	comp=Z,15nm,0.9s						
S44A	Carbondale	6.43	75	IAmb_Lg		15 28 07.7	
	comp=Z,15nm,1.1s						
ISCO	Idaho Springs	7.60	300	IAmb_Lg		15 28 33.7	
	comp=Z,6.9nm,1.1s						
SPMN	Marine on St.	9.53	19	IAmb_Lg		15 29 33.9	
	comp=Z,7.6nm,0.7s						

*NEIC **04** 15:36:03.8±1.3, 20°.5S±0°.1×176°.81W±0°.09, h297km±8km, mb4.4/65, Error ellipse: s-maj=16.9km s-min=12.4km az=170.0*
*NOU **04** 15:36:05.0, 20°.36S×176°.59W, h314km, mb4.5/15, Fiji Islands Region*
*IDC **04** 15:36:06.9±2.6, 20°.70S×177°.06W, h324km±24km, mb3.5/6, mb1 3.8/7, mb1mx3.5/22, mbtmp4.2/7, Error ellipse: s-maj=23.4km s-min=13.2km az=104.0*
ISC 04 15:36:03.6±0.6**, 20°.56S**±0°.08×**176°.80W**±0°.08**, h297**km**, n94, σ1.s22**/93**, mb4.3**/35**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.62	299	P	Pn	15 37 31.0	+2.6
	23nm,0.3s,baz=124,slow=21,SNR=14						
MSVF	Nonsavu	5.62	299		Pn	15 37 30.6	+2.2
MSVF	Nonsavu	5.62	299	P	Pn	15 37 31.4	+2.9
NIUE	Niue	6.64	78	Pn	Pn	15 37 40.8	+0.2
AFI	Afiamalu	8.17	37	Pn	Pn	15 37 56.5	-3.0
AFI	Afiamalu	8.17	37	P	Pn	15 37 57.1	-2.4
MARNC	Mare, Loyalty	14.19	264	Pn	Pn	15 39 13.7	+1.0
MARNC	Mare, Loyalty	14.19	264	P	Pn	15 39 14.5	+1.9
DVP	Devils Point	14.46	279	P	Pn	15 39 17.9	+2.0
OUENC	Ouen Island, N	15.34	260	Pn	Pn	15 39 25.9	-0.2
DZM	Mont Dzumac	15.68	261	P	Pn	15 39 30.1	-0.2
	1.7nm,0.3s,baz=84,slow=17,SNR=16						
DZM	Mont Dzumac	15.68	261	Pn	Pn	15 39 30.4	+0.1
DZM				IAmb	IAmb	15 39 34.1	
	comp=Z,16nm,0.7s						
DZM	Mont Dzumac	15.68	261	P	Pn	15 39 30.8	+0.5
NOUC	Port Laguerre	15.82	261	P	Pn	15 39 31.7	-0.1
SANVU	Saraoutou	16.04	286	P	Pn	15 39 33.4	-1.0
URZ	Urewera	18.41	195	P	P	15 39 56.8	-0.8
	comp=Z,1.0nm,0.3s,baz=267,slow=4.4,SNR=16						
URZ				S	S	15 43 08.9	-3.1
	comp=Z,2.4nm,0.3s,baz=49,slow=23,SNR=20						
URZ	Urewera	18.41	195	IAmb	IAmb	15 40 21.0	
	comp=Z,16nm,1.0s						
URZ	Urewera	18.41	195	P	Pn	15 40 01.3	-0.3
BKZ	Black Stump Fm	19.42	196	P	P	15 40 07.4	-1.2
BKZ				IAmb	IAmb	15 40 22.3	
	comp=Z,28nm,1.2s						
BKZ	Black Stump Fm	19.42	196	P	P	15 40 10.8	+2.2
BFZ	Birch Farm	20.91	195	P	P	15 40 25.8	+2.0
QRZ	Quartz Range	22.15	202	P	P	15 40 35.5	+0.4
QRZ	Quartz Range	22.15	202	P	P	15 40 37.2	+2.1
THZ	Tophouse	22.86	200	P	P	15 40 42.3	+0.7
KHZ	Kahutara	23.26	198	P	P	15 40 48.5	+3.3
LTZ	Lake Taylor	23.98	200	P	P	15 40 52.9	+1.1
LTZ				IAmb	IAmb	15 41 08.3	
	comp=Z,13nm,1.1s						
CTAO	Charters Tower	34.60	264	P	P	15 42 24.9	-0.4
PMG	Port Moresby	36.45	282	P	P	15 42 40.5	-0.5
COEN	Coen	38.70	273	P	P	15 42 59.4	-0.5
COEN				IAmb	IAmb	15 43 00.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,16nm,0.9s						
STKA	**Stephens Creek**	**38.77**	**244**	P	**P**	**15 42 59.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=82,slow=11,SNR=5.1						
WR0	**Warramunga Arr**	**45.51**	**262**	P	**P**	**15 43 52.7**	**-1.7**
AS31	**Alice Springs**	**45.59**	**257**	P	**P**	**15 43 53.8**	**-1.3**
ASAR	**Alice Springs**	**45.59**	**257**	P	**P**	**15 43 54.0**	**-1.2**
	comp=Z,4.4nm,0.7s,baz=91,slow=8.4,SNR=72						
ASAR	**Alice Springs**	**45.59**	**257**	P	**P**	**15 43 53.5**	**-1.6**
WB0	**Warramunga Arr**	**45.68**	**262**	P	**P**	**15 43 54.0**	**-1.8**
WB2	**Warramunga Arr**	**45.69**	**262**	P	**P**	**15 43 54.1**	**-1.8**
WRAB	**Tennant Creek**	**45.69**	**262**	P	**P**	**15 43 54.0**	**-1.8**
WRA	**Warramunga Arr**	**45.70**	**262**	P	**P**	**15 43 54.2**	**-1.8**
	comp=Z,2.0nm,0.3s,baz=96,slow=7.6,SNR=124						
WRA	**Warramunga Arr**	**45.70**	**262**	P	**P**	**15 43 54.2**	**-1.8**
MTN	**Manton Dam**	**50.28**	**270**	P	**P**	**15 44 29.5**	**-1.3**
MTN				IAmb	IAmb	15 44 30.1	
	comp=Z,10.0nm,0.6s						
KNRA	**Kununurra**	**51.77**	**266**	P	**P**	**15 44 40.5**	**-1.4**
KNRA				IAmb	IAmb	15 44 41.8	
	comp=Z,7.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.13**	**262**	P	**P**	**15 44 58.0**	**-1.0**
QSPA	**South Pole Qui**	**69.51**	**180**	P	**P**	**15 46 40.6**	**+0.3**
MJAR	**Matsushiro Arr**	**70.93**	**323**	P	**P**	**15 46 48.5**	**-0.6**
MAJO	**Matsushiro**	**70.93**	**323**	P	**P**	**15 46 48.5**	**-0.6**
MAJO				IAmb	IAmb	15 47 16.8	
	comp=Z,8.9nm,1.1s						
MJB9	**Matsu-Tunnel**	**70.93**	**323**	P	**P**	**15 46 48.5**	**-0.6**
MJB9				IAmb	IAmb	15 47 16.8	
	comp=Z,9.5nm,1.2s						
BELA	**Belgrano 2**	**79.35**	**172**	P	**P**	**15 47 36.6**	**+0.3**
BELA				IAmb	IAmb	15 47 52.3	
	comp=Z,7.0nm,1.5s						
OHAK	**Old Harbor**	**79.95**	**13**	P	**P**	**15 47 39.9**	**+0.4**
O18K	**Koktuh Hills**	**82.05**	**11**	P	**P**	**15 47 51.0**	**+0.5**
SVW2	**Sparrevohn**	**83.15**	**10**	P	**P**	**15 47 56.0**	**-0.2**
M19K	**Big River Lodg**	**84.11**	**10**	P	**P**	**15 48 00.9**	**-0.1**
M19K				IAmb	IAmb	15 48 26.0	
	comp=Z,13nm,1.5s						
GAMB	**Gambell**	**84.15**	**2**	P	**P**	**15 48 01.8**	**+0.7**
PWL	**Port Wells**	**84.33**	**14**	P	**P**	**15 48 02.2**	**+0.1**
GLI	**Glacier Island**	**84.63**	**14**	P	**P**	**15 48 03.8**	**+0.2**
KNK	**Knik Glacier**	**84.80**	**13**	P	**P**	**15 48 04.9**	**+0.4**
KNK				IAmb	IAmb	15 48 05.9	
	comp=Z,5.1nm,0.8s						
TTA	**Tatalina**	**84.82**	**9**	P	**P**	**15 48 05.0**	**+0.4**
PMR	**Palmer**	**84.82**	**13**	P	**P**	**15 48 04.7**	**+0.2**
PMR				IAmb	IAmb	15 48 05.0	
	comp=Z,3.4nm,0.5s						
GHO	**Glory Hole Cre**	**85.03**	**13**	P	**P**	**15 48 05.8**	**+0.1**
SML	**Sawmill**	**85.19**	**13**	P	**P**	**15 48 06.3**	**-0.2**
SML				IAmb	IAmb	15 48 10.3	
	comp=Z,8.2nm,1.4s						
WAX	**Waxell Ridge**	**85.29**	**16**	P	**P**	**15 48 07.8**	**+0.8**
WAX				IAmb	IAmb	15 48 08.8	
	comp=Z,7.2nm,0.9s						
BMRM	**Bremner River**	**85.30**	**15**	P	**P**	**15 48 07.4**	**+0.5**
BMRM				IAmb	IAmb	15 48 07.9	
	comp=Z,3.6nm,0.6s						
SCM	**Sheep Creek Mo**	**85.42**	**14**	P	**P**	**15 48 08.0**	**+0.4**
K20K	**Telida**	**85.53**	**10**	P	**P**	**15 48 08.5**	**+0.5**
ISLE	**Juniper Island**	**85.56**	**16**	P	**P**	**15 48 09.0**	**+0.6**
ISLE				IAmb	IAmb	15 48 11.6	
	comp=Z,7.2nm,1.2s						
TABL	**Table Mountain**	**85.74**	**17**	P	**P**	**15 48 10.2**	**+0.8**
TABL				IAmb	IAmb	15 48 11.4	
	comp=Z,13nm,1.5s						
VRDI	**Verde Repeater**	**85.81**	**15**	P	**P**	**15 48 10.2**	**+0.5**
VRDI				IAmb	IAmb	15 48 10.9	
	comp=Z,9.1nm,1.4s						
N25K	**Chitina, Valde**	**85.85**	**15**	P	**P**	**15 48 10.1**	**+0.4**
N25K				IAmb	IAmb	15 48 11.1	
	comp=Z,5.2nm,0.8s						
GLB	**Gilahina Butte**	**85.90**	**15**	P	**P**	**15 48 10.4**	**+0.5**
GLB				IAmb	IAmb	15 48 11.2	
	comp=Z,3.6nm,0.9s						
CAST	**Castle Rocks**	**85.92**	**11**	P	**P**	**15 48 09.9**	**-0.1**
CAST				IAmb	IAmb	15 48 10.1	
	comp=Z,3.7nm,0.8s						
BARN	**Barnard Glacie**	**86.12**	**16**	P	**P**	**15 48 12.0**	**+0.8**
BARN				IAmb	IAmb	15 48 12.8	
	comp=Z,3.8nm,1.0s						
TXAR	**Lajitas Array**	**86.15**	**57**	P	**P**	**15 48 14.4**	**+2.5**
	comp=Z,1.7nm,1.1s,baz=207,slow=3.8,SNR=14						
TRF	**Thorofare Moun**	**86.28**	**12**	P	**P**	**15 48 11.8**	**0.0**
J20K	**Nowinta River**	**86.28**	**10**	P	**P**	**15 48 11.9**	**+0.3**
J20K				IAmb	IAmb	15 48 25.1	
	comp=Z,6.2nm,1.5s						
RND	**Reindeer**	**86.52**	**12**	P	**P**	**15 48 13.8**	**+0.9**
MCK	**McKinley**	**86.79**	**12**	P	**P**	**15 48 14.2**	**0.0**
M27K	**Edge Creek, AK**	**87.16**	**16**	P	**P**	**15 48 17.2**	**+1.1**
M27K				IAmb	IAmb	15 48 18.6	
	comp=Z,6.2nm,1.2s						
WRH	**Wood River Hil**	**87.62**	**12**	P	**P**	**15 48 17.6**	**-0.4**
WRH				IAmb	IAmb	15 48 19.0	
	comp=Z,3.0nm,0.8s						
HDA	**Harding Lake**	**87.80**	**12**	P	**P**	**15 48 19.0**	**+0.2**
HDA				IAmb	IAmb	15 48 19.5	
	comp=Z,3.5nm,0.6s						
CCB	**Clear Creek Bu**	**87.84**	**12**	P	**P**	**15 48 18.6**	**-0.4**
CCB				IAmb	IAmb	15 48 19.2	
	comp=Z,2.7nm,0.6s						
H21K	**Melozitna Rive**	**87.87**	**10**	P	**P**	**15 48 19.9**	**+0.7**
H21K				IAmb	IAmb	15 48 21.8	
	comp=Z,5.7nm,1.5s						
I23K	**Minto, Yukon-K**	**87.99**	**11**	P	**P**	**15 48 19.5**	**-0.2**
I23K				IAmb	IAmb	15 48 37.4	
	comp=Z,5.3nm,1.4s						
IMAR	**Indian Mountai**	**88.03**	**9**	P	**P**	**15 48 20.3**	**+0.4**
MDM	**Murphy Dome**	**88.03**	**12**	P	**P**	**15 48 19.6**	**-0.4**
N31M	**Braeburn, Yuko**	**88.11**	**18**	P	**P**	**15 48 21.6**	**+1.1**
N31M				IAmb	IAmb	15 48 48.1	
	comp=Z,5.6nm,1.3s						
ILAR	**Eielson Array**	**88.13**	**12**	P	**P**	**15 48 20.0**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=221,slow=6.1,SNR=13						
J25K	**Salcha River,**	**88.30**	**13**	P	**P**	**15 48 21.3**	**0.0**
M30M	**Minto, Yukon**	**88.69**	**17**	P	**P**	**15 48 24.2**	**+1.1**
EGAK	**Eagle**	**89.38**	**14**	P	**P**	**15 48 27.2**	**+0.9**
EGAK				IAmb	IAmb	15 48 27.7	
	comp=Z,4.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.19**	**289**	P	**P**	**15 48 35.2**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=106,slow=2.7,SNR=6.8						
ARCES	**ARCESS Array B**	**129.18**	**350**	PKP	**PKPdf**	**15 54 35.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=90,slow=1.2,SNR=6.1						
FINES	**FINESS Array B**	**136.14**	**344**	PKP	**PKiKP**	**15 54 49.7**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=116,slow=4.4,SNR=3.6						
AKASG	**Malin Array Be**	**143.60**	**332**	PKhKP	PKPpre	15 54 59.2	
	comp=Z,1.2nm,0.5s,baz=38,slow=4.0,SNR=11						
CLL	**Collm**	**148.36**	**348**	⇓*i*PKPbc	**PKPbc**	**15 55 14.6**	**-0.2**
	comp=Z,5.0nm,0.5s						
CLL				LmV		18 18 00.0	
	comp=Z,100nm,19.6s						
TORD	**Torodi Ar. Bea**	**172.49**	**169**	PKPab	**PKPab**	**15 57 04.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=198,slow=3.5,SNR=2.9						

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*IDC **04** 15:52:35.8±1.2, 29°.86S×87°.59E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.8/43, mbtmp4.1/9, MS3.5/5, Ms1 3.5/5, ms1mx2.9/74, Error ellipse: s-maj=32.9km s-min=23.3km az=53.0*

*NEIC **04** 15:52:39.0±0.6, 30°.0S±0°.1×87°.6E±0°.1, h15km±4km, mb4.4/11, Error ellipse: s-maj=20.9km s-min=14.4km az=181.0*

ISC 04 15:52:37.8±0.8**, 29°.9S**±0°.1×**87°.7E**±0°.2**, h10**km**, n33, σ0§64**/23**, mb4.3**/16**, MS3.4**/5**, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**22.86**	**110**	T	T	16 21 03.7	
	baz=275,slow=75,SNR=100						
H01W3	**Cape Leeuwin H**	**22.86**	**109**	T	T	16 21 26.2	
	baz=275,slow=75,SNR=82						
H01W1	**Cape Leeuwin H**	**22.88**	**110**	T	T	16 21 26.8	
	baz=275,slow=75,SNR=110						
H08S2	**Diego Garcia H**	**26.32**	**324**	T	T	16 25 36.5	
	baz=149,slow=76,SNR=988						
H08S1	**Diego Carcia H**	**26.33**	**324**	T	T	16 25 37.2	
	baz=149,slow=76,SNR=538						
H08S3	**Diego Garcia H**	**26.34**	**324**	T	T	16 25 38.0	
	baz=149,slow=76,SNR=1397						
LEM	**Lembang**	**29.62**	**43**	LR	LR	16 08 14.5	
	comp=Z,76nm,19.5s,baz=198,slow=32						
FITZ	**Fitzroy Crossi**	**36.45**	**80**	P	**P**	**15 59 42.9**	**-0.2**
	3.5nm,0.7s,baz=236,slow=9.4,SNR=18						
FITZ				LR	LR	16 13 20.9	
	comp=Z,71nm,18.1s,baz=242,slow=34						
PALK	**Pallekele**	**37.54**	**349**	LR	LR	16 11 42.1	
	comp=Z,54nm,18.9s,baz=288,slow=31						
KAPI	**Kappang**	**39.08**	**57**	LR	LR	16 13 28.6	
	comp=Z,53nm,20.2s,baz=243,slow=32						
KNRA	**Kununurra**	**40.21**	**79**	P	**P**	**16 00 14.9**	**+0.2**
KNRA				IAmb	IAmb	16 00 31.7	
	comp=Z,15nm,1.2s						
ASAR	**Alice Springs**	**41.52**	**93**	P	**P**	**16 00 25.4**	**-0.1**
	comp=Z,3.4nm,0.5s,baz=259,slow=7.6,SNR=137						
ASAR				PcP	**PcP**	**16 02 22.3**	**-0.8**
	comp=Z,1.1nm,1.1s,baz=250,slow=3.0,SNR=2.3						
AS31	**Alice Springs**	**41.52**	**93**	P	**P**	**16 00 25.4**	**-0.1**
AS31				IAmb	IAmb	16 00 26.9	
	comp=Z,2.2nm,0.5s						
WRA	**Warramunga Arr**	**43.21**	**88**	P	**P**	**16 00 39.6**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=250,slow=9.0,SNR=26						
WRA	**Warramunga Arr**	**43.21**	**88**	P	**P**	**16 00 40.1**	**+0.8**
WB2	**Warramunga Arr**	**43.22**	**88**	P	**P**	**16 00 39.7**	**+0.3**
WB2				IAmb	IAmb	16 00 40.5	
	comp=Z,9.3nm,1.2s						
WB0	**Warramunga Arr**	**43.32**	**88**	P	**P**	**16 00 39.8**	**-0.4**
WB0				IAmb	IAmb	16 00 41.1	
	comp=Z,5.7nm,0.7s						
WR0	**Warramunga Arr**	**43.38**	**88**	P	**P**	**16 00 40.8**	**+0.2**
WR0				IAmb	IAmb	16 00 41.8	
	comp=Z,4.9nm,0.7s						
MTN	**Manton Dam**	**43.58**	**77**	P	**P**	**16 00 42.4**	**+0.1**
MTN				IAmb	IAmb	16 00 48.1	
	comp=Z,20nm,1.3s						
STKA	**Stephens Creek**	**45.92**	**107**	P	**P**	**16 01 01.3**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=279,slow=5.0,SNR=6.9						
STKA				LR	LR	16 19 06.5	
	comp=Z,130nm,20.0s,baz=215,slow=35						
STKA	**Stephens Creek**	**45.92**	**107**	IAmb	IAmb	16 01 01.9	
	comp=Z,0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.27**	**14**	P	**P**	**16 01 27.1**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=206,slow=8.2,SNR=11						
QSPA	**South Pole Qui**	**60.25**	**180**	P	**P**	**16 02 46.1**	**0.0**
	comp=Z,3.2nm,0.9s,baz=324,slow=13,SNR=4.7						
QSPA	**South Pole Qui**	**60.25**	**180**	IAmb	IAmb	16 02 51.2	
	comp=Z,9.9nm,1.3s						
KKAR	**Karatay Array**	**74.32**	**347**	P	**P**	**16 04 16.0**	**+0.7**
MKAR	**Makanchi Array**	**76.47**	**356**	P	**P**	**16 04 26.8**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=180,slow=4.3,SNR=1.9						
SONM	**Songino Array**	**79.17**	**13**	P	**P**	**16 04 40.7**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=186,slow=8.5,SNR=2.4						
KURK	**Kurchatov**	**80.64**	**354**	P	**P**	**16 04 51.2**	**+0.8**
KURK				IAmb	IAmb	16 04 51.8	
	comp=Z,2.8nm,0.9s						
ABKAR	**Akbulak array**	**82.58**	**342**	P	**P**	**16 05 01.3**	**+0.7**
PMSA	**Palmer Station**	**83.11**	**192**	P	**P**	**16 05 03.2**	**-0.2**
ZALV	**Zalesovo Beam**	**83.52**	**358**	P	**P**	**16 05 05.7**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=178,slow=3.6,SNR=8.3						
YKA	**Yellowknife Ar**	**144.30**	**18**	PKP	**PKPab**	**16 12 11.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=286,slow=1.0,SNR=10.0						
NVAR	**Mina Array Bea**	**156.92**	**61**	PKPab	**PKPab**	**16 13 04.3**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=294,slow=4.0,SNR=4.0						

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*NOU **04** 15:53:39.4, 40°.48S×174°.71E, h92km, MLv3.9/10, Cook Strait, New Zealand*

*WEL **04** 15:53:40.7±0.5, 40°S±4°×17°5E±°, h33km±8km, M3.6/13, ML3.9/13, MLv3.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0*

ISC 04 15:53:39.5±1.4**, 40°.46S**±0°.03×**174°.71E**±0°.03**, h74**km±9km**, n141, σ0§96**/145**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.43**	**159**	P	**Pn**	**15 53 52.0**	**-0.1**
KIW				S	**Sn**	**15 54 00.1**	**-1.3**
OGWZ	**Otaki Gorge**	**0.50**	**135**	P	**Pn**	**15 53 53.0**	**+0.4**
OHWZ	**Ohakea**	**0.53**	**61**	P	**Pn**	**15 53 53.1**	**+0.2**
OHWZ				S	**Sn**	**15 54 03.3**	**+0.4**
DUWZ	**D'Urville Isla**	**0.69**	**240**	P	**Pn**	**15 53 54.0**	**-0.6**
DUWZ				S	**Sn**	**15 54 04.5**	**-1.3**
MRZ	**Mangatainoka R**	**0.69**	**107**	P	**Pn**	**15 53 55.1**	**+0.5**
MRZ				S	**Sn**	**15 54 06.2**	**+0.3**
CAW	**Cannon Point**	**0.70**	**157**	P	**Pn**	**15 53 55.3**	**+0.6**
WAZ	**Wanganui**	**0.74**	**17**	P	**Pn**	**15 53 55.0**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.75**	**126**	P	**Pn**	**15 53 55.8**	**+0.5**
POWZ	**Post Office Ro**	**0.81**	**85**	P	**Pn**	**15 53 56.5**	**+0.5**
TCW	**Tory Channel**	**0.82**	**204**	P	**Pn**	**15 53 56.5**	**+0.5**
TCW				S	**Sn**	**15 54 08.4**	**+0.2**
WEL	**Wellington**	**0.82**	**177**	P	**Pn**	**15 53 56.8**	**+0.7**
WEL				S	**Sn**	**15 54 09.3**	**+0.9**
SNZO	**South Karori**	**0.85**	**180**	P	**Pn**	**15 53 57.4**	**+1.1**
MTW	**Mount Morrison**	**0.92**	**139**	P	**Pn**	**15 53 57.8**	**+0.6**
TIWZ	**Tintock**	**0.95**	**110**	P	**Pn**	**15 53 58.0**	**+0.4**
BHW	**Baring Head**	**0.95**	**173**	P	**Pn**	**15 53 58.5**	**+0.9**
PRWZ	**Pori Road**	**0.97**	**96**	P	**Pn**	**15 53 58.7**	**+0.9**
LREZ	**Lake Rotokare**	**1.03**	**347**	P	**Pn**	**15 53 58.7**	**+0.2**
MSWZ	**Moikau Station**	**1.04**	**157**	P	**Pn**	**15 54 00.2**	**+1.5**
TSZ	**Takapari Road**	**1.04**	**68**	P	**Pn**	**15 53 59.1**	**+0.4**
PAWZ	**Paruwai Farm**	**1.07**	**150**	P	**Pn**	**15 53 59.6**	**+0.6**
TMWZ	**Te Maipa**	**1.10**	**126**	P	**Pn**	**15 54 01.1**	**+1.5**
TUWZ	**Tuamarina**	**1.13**	**211**	P	**Pn**	**15 54 00.3**	**+0.5**
DVHZ	**Dannevirke**	**1.13**	**82**	P	**Pn**	**15 53 59.9**	**+0.1**
PLWZ	**Palliser**	**1.18**	**160**	P	**Pn**	**15 54 01.7**	**+1.2**
BFZ	**Birch Farm**	**1.19**	**101**	P	**Pn**	**15 54 01.0**	**+0.4**
BFZ	**Birch Farm**	**1.19**	**101**	P	**Pn**	**15 54 01.8**	**+1.2**
TRWZ	**Traveller**	**1.19**	**142**	P	**Pn**	**15 54 02.9**	**+2.2**
PREZ	**Palmer Road**	**1.20**	**339**	P	**Pn**	**15 54 01.4**	**+0.7**
CPWZ	**Castlepoint**	**1.22**	**112**	P	**Pn**	**15 54 02.0**	**+1.1**
MTVZ	**Mangateitei**	**1.23**	**29**	P	**Pn**	**15 54 01.4**	**+0.3**
NMEZ	**Namu Road**	**1.23**	**328**	P	**Pn**	**15 54 01.7**	**+0.7**
NNZ	**Nelson**	**1.26**	**233**	P	**Pn**	**15 54 01.8**	**+0.4**
PNHZ	**Pukenui**	**1.27**	**65**	P	**Pn**	**15 54 01.8**	**+0.3**
PKVZ	**Pokaka**	**1.27**	**23**	P	**Pn**	**15 54 01.5**	**-0.1**
NEZ	**North Egmont**	**1.28**	**338**	P	**Pn**	**15 54 02.5**	**+0.7**
KHEZ	**Kahui Hut**	**1.28**	**335**	P	**Pn**	**15 54 02.4**	**+0.6**
WNVZ	**Wahianoa**	**1.32**	**31**	P	**Pn**	**15 54 02.9**	**+0.4**
MOVZ	**Moawhango**	**1.33**	**38**	P	**Pn**	**15 54 02.8**	**+0.5**
TRVZ	**Turoa**	**1.33**	**29**	P	**Pn**	**15 54 03.4**	**+0.8**
DREZ	**Durham Road**	**1.33**	**343**	P	**Pn**	**15 54 03.3**	**+0.9**
VRZ	**Vera Road**	**1.34**	**2**	P	**Pn**	**15 54 02.8**	**+0.4**
CMWZ	**Cape Campbell**	**1.34**	**196**	P	**Pn**	**15 54 04.2**	**+1.8**
ANWZ	**Angora Road**	**1.35**	**90**	P	**Pn**	**15 54 03.0**	**+0.5**
DRZ	**Dome Shelter**	**1.36**	**29**	P	**Pn**	**15 54 04.4**	**+1.4**
NBEZ	**Newall Road No**	**1.36**	**331**	P	**Pn**	**15 54 03.3**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.36**	**30**	P	**Pn**	**15 54 03.9**	**+0.9**
FWVZ	**Far West T-bar**	**1.37**	**29**	P	**Pn**	**15 54 03.2**	**+0.1**
PKE	**Pukeiti**	**1.38**	**336**	P	**Pn**	**15 54 03.5**	**+0.4**
WPHZ	**Waipukurau**	**1.39**	**74**	P	**Pn**	**15 54 03.3**	**+0.3**
TUVZ	**Tukino**	**1.40**	**32**	P	**Pn**	**15 54 04.1**	**+0.7**
BSWZ	**Blackbirch Sta**	**1.40**	**206**	P	**Pn**	**15 54 04.4**	**+1.2**
MHEZ	**Mangahewa**	**1.42**	**348**	P	**Pn**	**15 54 04.6**	**+1.1**
BHHZ	**Black Hill Sta**	**1.43**	**47**	P	**Pn**	**15 54 04.3**	**+0.7**
TKNZ	**Takaka Hill**	**1.45**	**246**	P	**Pn**	**15 54 04.7**	**+0.8**
NGZ	**Ngauruhoe**	**1.46**	**28**	P	**Pn**	**15 54 05.6**	**+1.4**
SNVZ	**South Ngauruho**	**1.46**	**30**	P	**Pn**	**15 54 05.2**	**+0.9**
PRHZ	**Porangahau**	**1.49**	**83**	P	**Pn**	**15 54 05.2**	**+0.8**
OTVZ	**Oturere**	**1.49**	**30**	P	**Pn**	**15 54 05.8**	**+1.1**
TWVZ	**Taurewa**	**1.50**	**22**	P	**Pn**	**15 54 04.5**	**-0.2**
NNVZ	**North Ngauruho**	**1.50**	**28**	P	**Pn**	**15 54 06.0**	**+1.2**
WTVZ	**West Tongariro**	**1.51**	**27**	P	**Pn**	**15 54 05.0**	**+0.2**
KRHZ	**Kereru**	**1.52**	**58**	P	**Pn**	**15 54 05.2**	**+0.4**
ETVZ	**East Tongariro**	**1.53**	**31**	P	**Pn**	**15 54 06.4**	**+1.3**
TMVZ	**Te Maari**	**1.55**	**30**	P	**Pn**	**15 54 06.5**	**+1.2**
NTVZ	**North Tongarir**	**1.55**	**29**	P	**Pn**	**15 54 06.9**	**+1.5**
KATZ	**Kakaramea**	**1.67**	**27**	P	**Pn**	**15 54 08.3**	**+1.3**
KWHZ	**Kaweka Forest**	**1.68**	**52**	P	**Pn**	**15 54 07.4**	**+0.4**
QRZ	**Quartz Range**	**1.70**	**257**	P	**Pn**	**15 54 07.3**	**+0.2**
QRZ	**Quartz Range**	**1.70**	**257**	P	**Pn**	**15 54 07.6**	**+0.5**
PXZ	**Pawanui**	**1.71**	**76**	P	**Pn**	**15 54 07.5**	**+0.3**
RITZ	**Rihia Road**	**1.73**	**31**	P	**Pn**	**15 54 09.0**	**+1.4**
MRNZ	**Matariki Terra**	**1.75**	**237**	P	**Pn**	**15 54 09.3**	**+1.4**
KAHZ	**Kahuranaki**	**1.79**	**69**	P	**Pn**	**15 54 08.7**	**+0.2**
RATZ	**Rangitukua**	**1.79**	**28**	P	**Pn**	**15 54 10.3**	**+1.8**
MCHZ	**McNeill Hill**	**1.84**	**57**	P	**Pn**	**15 54 09.5**	**+0.5**
THZ	**Tophouse**	**1.88**	**226**	P	**Pn**	**15 54 11.0**	**+1.3**
BKZ	**Black Stump Fm**	**1.89**	**47**	P	**Pn**	**15 54 09.9**	**+0.1**
BKZ	**Black Stump Fm**	**1.89**	**47**	P	**Pn**	**15 54 10.8**	**+1.0**
WATZ	**Wairara**	**1.92**	**25**	P	**Pn**	**15 54 11.5**	**+1.3**
HIZ	**Hauiti**	**1.95**	**3**	P	**Pn**	**15 54 11.2**	**+0.7**
HIZ	**Hauiti**	**1.95**	**3**	P	**Pn**	**15 54 11.6**	**+1.0**
MRHZ	**Matea Rd**	**2.10**	**40**	P	**Pn**	**15 54 12.4**	**-0.1**
NMHZ	**Naumai**	**2.12**	**51**	P	**Pn**	**15 54 13.0**	**+0.2**
ARHZ	**Aropaoanui**	**2.13**	**57**	P	Pn	15 54 18.0	+5.1
KHZ	**Kahutara**	**2.14**	**204**	P	**Pn**	**15 54 13.8**	**+0.8**
KHZ	**Kahutara**	**2.14**	**204**	P	**Pn**	**15 54 13.9**	**+0.8**
KUTZ	**Kaahu Road**	**2.15**	**24**	P	**Pn**	**15 54 14.8**	**+1.6**
WPRZ	**Whakapapatarin**	**2.24**	**31**	P	**Pn**	**15 54 15.0**	**+0.5**
ALRZ	**Allen Road**	**2.28**	**34**	P	**Pn**	**15 54 15.1**	**+0.1**
MTHZ	**Maungataniwha**	**2.30**	**46**	P	**Pn**	**15 54 15.2**	**-0.1**
PRRZ	**Plateau Road**	**2.35**	**34**	P	**Pn**	**15 54 16.5**	**+0.5**
RAHZ	**Arahi**	**2.40**	**51**	P	**Pn**	**15 54 16.8**	**+0.2**
DSZ	**Denniston Nort**	**2.54**	**239**	P	**Pn**	**15 54 19.0**	**+0.5**
RRRZ	**Republican Roa**	**2.54**	**34**	P	**Pn**	**15 54 20.5**	**+2.0**
MUGZ	**Murupara**	**2.55**	**40**	P	**Pn**	**15 54 18.0**	**-0.5**
RTZ	**Ruatahuna**	**2.55**	**44**	P	**Pn**	**15 54 22.2**	**+3.6**
SNGZ	**Shannon Statio**	**2.64**	**51**	P	Pn	15 54 24.8	+5.0
MHGZ	**Mahia Peninsul**	**2.79**	**63**	P	**Pn**	**15 54 21.0**	**-0.9**
TOZ	**Tahuroa Road**	**2.80**	**13**	P	**Pn**	**15 54 22.5**	**+0.6**
GVZ	**Greta Valley S**	**2.80**	**206**	P	**Pn**	**15 54 22.0**	**+0.1**
URZ	**Urewera**	**2.88**	**41**	P	**Pn**	**15 54 21.9**	**-1.2**
URZ	**Urewera**	**2.88**	**41**	P	**Pn**	**15 54 22.5**	**-0.6**
RIGZ	**Rimuhau**	**2.94**	**54**	P	**Pn**	**15 54 22.8**	**-1.1**
LTZ	**Lake Taylor**	**2.95**	**217**	P	**Pn**	**15 54 24.3**	**+0.2**
OPRZ	**Ohinepanea**	**2.98**	**29**	P	**Pn**	**15 54 24.3**	**-0.2**
MWZ	**Matawai**	**3.05**	**47**	P	**Pn**	**15 54 24.8**	**-0.7**
AMCZ	**Amberley**	**3.12**	**209**	P	**Pn**	**15 54 26.1**	**-0.2**
TKGZ	**Te Karaka**	**3.16**	**51**	P	**Pn**	**15 54 25.4**	**-1.5**
INZ	**Inchbonnie**	**3.33**	**226**	P	**Pn**	**15 54 29.4**	**+0.2**
MKAZ	**Moumakai**	**3.37**	**6**	P	**Pn**	**15 54 30.5**	**+0.7**
AWAZ	**Awhitu Peninsu**	**3.39**	**359**	P	**Pn**	**15 54 30.9**	**+0.8**
RUGZ	**Raukumara Rang**	**3.40**	**44**	P	**Pn**	**15 54 29.0**	**-1.2**
TWGZ	**Tauwhareparae**	**3.41**	**49**	P	**Pn**	**15 54 30.1**	**-0.3**
OKCZ	**Okains Bay**	**3.48**	**200**	P	**Pn**	**15 54 30.7**	**-0.6**
OXZ	**Oxford**	**3.49**	**214**	P	**Pn**	**15 54 30.4**	**-0.9**
ETAZ	**East Tamaki Re**	**3.51**	**3**	P	**Pn**	**15 54 32.5**	**+0.9**
WTAZ	**Waiatarua**	**3.53**	**358**	P	**Pn**	**15 54 33.3**	**+1.4**
MQZ	**McQueen's Vall**	**3.58**	**205**	P	**Pn**	**15 54 31.0**	**-1.6**
HAZ	**Te Kaha**	**3.61**	**42**	P	**Pn**	**15 54 31.2**	**-1.8**
AKCZ	**Akaroa Harbour**	**3.66**	**201**	P	**Pn**	**15 54 32.6**	**-1.0**
WIAZ	**Waiheke Island**	**3.68**	**5**	P	**Pn**	**15 54 35.0**	**+1.0**
RVAZ	**Riverhead Bore**	**3.69**	**358**	P	**Pn**	**15 54 34.7**	**+0.6**
MBAZ	**Motutapu North**	**3.69**	**2**	P	**Pn**	**15 54 35.0**	**+0.9**
RACZ	**Rakaia**	**3.78**	**210**	P	**Pn**	**15 54 33.8**	**-1.5**
KUZ	**Kuaotunu**	**3.80**	**12**	P	**Pn**	**15 54 35.8**	**+0.3**
ABAZ	**Army Bay**	**3.86**	**1**	P	**Pn**	**15 54 37.3**	**+0.9**
WMGZ	**Waiomatatini S**	**3.91**	**49**	P	**Pn**	**15 54 35.3**	**-1.8**
WVZ	**Waitaha Valley**	**3.95**	**227**	P	**Pn**	**15 54 39.3**	**+1.6**
WACZ	**Wakanui South**	**4.08**	**211**	P	**Pn**	**15 54 38.3**	**-1.1**
RPZ	**Rata Peaks**	**4.24**	**219**	P	**Pn**	**15 54 42.2**	**+0.7**
RPZ	**Rata Peaks**	**4.24**	**219**	P	**Pn**	**15 54 41.9**	**+0.4**
GCSZ	**Gaunt Creek Bo**	**4.34**	**227**	P	**Pn**	**15 54 44.5**	**+1.7**
ARCZ	**Arundel**	**4.36**	**216**	P	**Pn**	**15 54 42.9**	**-0.3**
FOZ	**Fox Glacier**	**4.76**	**228**	P	**Pn**	**15 54 48.8**	**+0.1**
TMZ	**Timaru**	**4.78**	**214**	P	**Pn**	**15 54 48.1**	**-0.9**
OUZ	**Omahuta**	**5.31**	**350**	P	**Pn**	**15 54 57.0**	**+0.9**
OUZ	**Omahuta**	**5.31**	**350**	P	**Pn**	**15 54 56.5**	**+0.3**
ODZ	**Otahua Downs**	**5.47**	**212**	P	**Pn**	**15 54 56.9**	**-1.4**
ODZ	**Otahua Downs**	**5.47**	**212**	P	**Pn**	**15 54 57.5**	**-0.8**
JCZ	**Jackson Bay**	**5.68**	**229**	P	**Pn**	**15 55 02.3**	**+1.0**
CTZ	**Chatham Island**	**7.23**	**120**	P	**Pn**	**15 55 22.9**	**+0.5**

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*GUC **04** 15:54:04.9±0.7, 35°.87S×73°.67W, h23km±9km, ML3.8*

*NEIC **04** 15:54:05.1±1.5, 35°.92S±0°.05×73°.7W±0°.1, h22km±8km, mb4.3/3, ML3.8(GUC), Error ellipse: s-maj=13.8km s-min=7.0km az=98.0*

ISC 04 15:54:05.0±1.8**, 35°.97S**±0°.04×**73°.76W**±0°.10**, h24**km±15km**, n45, σ1§68**/58**, 6C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.90**	**150**		**Pb**	**15 54 21.7**	**-0.3**
BI05				Sn	**Sb**	**15 54 33.4**	**-0.1**
BI05	**Punta Hualpn**	**0.90**	**150**	⇑*i*P	**Pb**	**15 54 21.8**	**-0.1**
BI05				*i* S	**Sb**	**15 54 33.5**	**-0.1**
BI05				IAML		15 54 34.3	
	comp=N,8μm,0.2s						
GO05	**Huala**	**1.77**	**58**		**Pn**	**15 54 32.2**	**-2.0**
GO05	**Huala**	**1.77**	**58**	*e*P	**Pn**	**15 54 32.3**	**-1.9**
GO05				*e*S	**Sb**	**15 54 56.7**	**-2.0**
GO05				IAML		15 55 03.1	
	comp=N,831nm,0.8s						
ML02	**Panimavida**	**1.91**	**84**		**Pn**	**15 54 35.3**	**-0.8**
ML02	**Panimavida**	**1.91**	**84**	*e*P	**Pn**	**15 54 36.7**	**+0.6**
ML02				*e*S	**Sn**	**15 54 57.5**	**-1.9**
BO01	**Tunca**	**2.70**	**55**		**Pn**	**15 54 45.9**	**-0.9**
BO01	**Tunca**	**2.70**	**55**	*e*P	**Pn**	**15 54 46.0**	**-0.9**
BO01				*e*S	**Sn**	**15 55 21.0**	**+2.2**
BO01				IAML		15 55 38.4	
	comp=N,231nm,0.3s						
BO02	**Sierra Bellavi**	**2.70**	**65**		**Pn**	**15 54 46.0**	**-1.0**
BO02	**Sierra Bellavi**	**2.70**	**65**	⇓*i*P	**Pn**	**15 54 46.7**	**-0.4**
BO02				*e*S	**Sn**	**15 55 17.9**	**-1.1**
BO02				IAML		15 55 28.9	
	comp=N,814nm,0.1s						
LC02	**Puerto Saavedr**	**2.83**	**174**	Pn	**Pn**	**15 54 49.6**	**+0.9**
VA05	**Santo Domingo**	**2.91**	**38**	Pn	**Pn**	**15 54 48.1**	**-1.6**
MT01	**Popeta**	**2.94**	**45**		**Pn**	**15 54 48.5**	**-1.8**
MT01	**Popeta**	**2.94**	**45**	⇑*i*P	**Pn**	**15 54 48.7**	**-1.6**
MT01				*e*S	**Sb**	**15 55 35.2**	**+2.9**
MT01				IAML		15 55 46.2	
	comp=E,212nm,0.3s						
MT09	**Talagante**	**3.16**	**47**		**Pn**	**15 54 52.0**	**-1.4**
MT09	**Talagante**	**3.16**	**47**	⇑*i*P	**Pn**	**15 54 52.4**	**-1.0**
MT09				*e*S	**Sb**	**15 55 40.2**	**+1.6**
MT09				IAML		15 55 53.3	
	comp=N,247nm,0.5s						
BO04	**La Punta**	**3.25**	**54**		**Pn**	**15 54 53.3**	**-1.3**
BO04	**La Punta**	**3.25**	**54**	⇑*i*P	**Pn**	**15 54 53.9**	**-0.7**
BO04				*e*S	**Sb**	**15 55 41.8**	**+0.4**
LC01	**Cunco**	**3.28**	**153**	Pn	**Pn**	**15 54 55.8**	**+0.9**
LC01	**Cunco**	**3.28**	**153**	*e*P	**Pn**	**15 54 56.0**	**+1.1**
LC01				*e*S	**Sb**	**15 55 39.8**	**-2.2**
VA01	**Torpederas**	**3.42**	**31**	Pn	**Pn**	**15 54 54.9**	**-1.9**
MT02	**Curacav**	**3.46**	**39**		**Pn**	**15 54 55.5**	**-1.9**
MT05	**Renca**	**3.58**	**45**		**Pn**	**15 54 57.9**	**-1.1**
LMEL	**Las Melosas**	**3.61**	**55**		**Pn**	**15 54 58.8**	**-0.7**
MT03	**Universidad Ad**	**3.64**	**48**		**Pn**	**15 54 58.9**	**-1.1**
ROC1	**El Roble**	**3.75**	**38**		**Pn**	**15 54 58.0**	**-3.6**
ROCH	**El Roble**	**3.75**	**38**	⇑*i*P	**Pn**	**15 55 00.7**	**-1.0**
ROCH				⇑*i*P	**Pn**	**15 54 58.2**	**-3.5**
ROCH				*e*S	**Sb**	**15 55 52.8**	**-3.0**
ROCH				*e*S	**Sb**	**15 55 57.2**	**+1.4**
ROCH				IAML		15 56 20.1	
	comp=N,235nm,0.4s						
PEL	**Peldehue**	**3.79**	**43**		**Pn**	**15 55 01.6**	**-0.5**
LR03	**Panguipulli**	**3.82**	**163**		**Pn**	**15 55 03.2**	**+0.8**
FCH	**Farellones**	**3.89**	**48**	⇓*i*P	**Pn**	**15 55 02.8**	**-0.8**
FCH				*i* S	**Sb**	**15 56 03.8**	**+4.0**
FCH				IAML		15 56 11.6	
	comp=N,73nm,0.6s						
LR04	**Corral**	**3.91**	**176**		**Pn**	**15 55 04.5**	**+0.9**
VA06	**Catapilco**	**3.96**	**32**		**Pn**	**15 55 02.6**	**-1.7**
VA03	**San Esteban**	**4.16**	**41**		**Pn**	**15 55 06.4**	**-0.6**
LL04	**Puerto Octay**	**5.04**	**168**		**Pn**	**15 55 20.1**	**+1.0**
PLCA	**Paso Flores**	**5.38**	**153**	Pn	**Pn**	**15 55 26.1**	**+2.3**
LL05	**Los Muermos**	**5.43**	**178**	Pn	**Pn**	**15 55 26.0**	**+1.6**
ZON	**Zonda**	**6.11**	**45**		**Pn**	**15 55 32.3**	**-1.6**
GO04	**Tololo Observa**	**6.29**	**24**	Pn	**Pn**	**15 55 34.9**	**-1.6**
LL01	**San Ignacio de**	**6.48**	**171**	Pn	**Pn**	**15 55 40.0**	**+1.1**
CO01	**Juntas del Tor**	**6.72**	**28**	Pn	**Pn**	**15 55 42.1**	**-0.3**
AY01	**Puyuhuapi**	**8.48**	**175**	Pn	**Pn**	**15 56 08.9**	**+2.6**
GO03	**Copiap**	**8.87**	**21**	Pn	**Pn**	**15 56 10.7**	**-1.2**
AC02	**Maricunga**	**9.93**	**25**	Pn	**Pn**	**15 56 24.9**	**-1.7**
ITAB	**Concordia**	**20.34**	**71**		Pn	15 58 40.8	-1.0
ITAB				IAmb	IAmb	15 58 47.3	
	comp=Z,15nm,1.0s						
AQDB	**Aquidauana**	**22.11**	**51**	P	**P**	**15 58 58.4**	**-0.3**
AQDB				IAmb	IAmb	15 59 07.3	
	comp=Z,11nm,1.0s						

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*IDC **04** 16:16:16.5±0.5, 40°.13S×78°.19E, h0km, mb4.4/21, mb1 4.4/21, mb1mx4.2/54, mbtmp4.4/21, MS4.3/48, Ms1 4.3/48, ms1mx4.2/68, Error ellipse: s-maj=16.1km s-min=15.0km az=68.0*

*NEIC **04** 16:16:19.6±1.6, 39°.92S±0°.09×78°.1E±0°.1, h14km±4km, mb4.8/40, Error ellipse: s-maj=15.7km s-min=12.2km az=73.0*

*GCMT **04** 16:16:22.6±0.2, 40°.14S±0°.01×78°.01E±0°.01, h16km±1km, MW5.1/107, Moment Tensor Solution. s53,c75; s107,c171; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.35±.14; $M_{\theta\theta}$-4.30±.12; $M_{\phi\phi}$5.66±.14; $M_{r\theta}$-1.06±.37; $M_{\theta\phi}$0.40±.11; $M_{\phi r}$2.30±.37; Best double couple:*

M₀5.55800×10^16 NP1:φs48.00000°,δ63.00000°, λ-4.00000°. NP2:φs140.00000°,δ87.00000°, λ-153.00000°. Principal axes: T 6.3480, Plg17.0000°, Azm270.0000°; N -1.5690, Plg62.0000°, Azm146.0000°; P -4.7690, Plg21.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 04 16:16:18.7±0.4, 40.05S±0.07×78.05E±0.09, h10km, n139, σ1.37/105, mb4.8/56, MS4.4/53, 2C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AIS	Amsterdam Isla	2.28	350		Pn	16 16 54.6	-1.8
CRZF	Crozet Islands	20.07	243	P	Pn	16 20 53.9	+0.1
MAW	Mawson	28.85	192	P	P	16 22 15.1	-1.8
	37nm,1.0s,baz=48,slow=9.9,SNR=4.7						
MAW				LR	LR	16 31 32.6	
	comp=Z,760nm,18.2s,baz=22,slow=32						
MAW	Mawson	28.85	192	P	P	16 22 17.2	+0.3
H01W2	Cape Leeuwin H	28.96	91	T	T	16 52 50.6	
	baz=248,slow=74,SNR=120						
H01W3	Cape Leeuwin H	28.97	91	T	T	16 52 37.4	
	baz=248,slow=74,SNR=130						
H01W1	Cape Leeuwin H	28.98	91	T	T	16 52 32.8	
	baz=248,slow=74,SNR=135						
CASY	Casey	32.00	156	P	P	16 22 47.1	+2.4
CASY				IAmb	IAmb	16 22 51.7	
	comp=Z,20nm,1.3s						
VOI	Vohitsoka	32.10	295	P	P	16 22 46.3	0.0
H08S2	Diego Garcia H	32.65	350	T	T	16 57 07.4	
	baz=173,slow=76,SNR=7.4						
H08S1	Diego Carcia H	32.65	350	T	T	16 57 07.6	
	baz=173,slow=76,SNR=5.8						
H08S3	Diego Garcia H	32.67	350	T	T	16 57 13.3	
	baz=173,slow=76,SNR=6.5						
OPO	Ambohidratompo	34.12	300	P	P	16 23 02.9	-1.1
	comp=Z,6.2nm,1.1s,baz=183,slow=8.8,SNR=3.1						
OPO				LR	LR	16 34 04.1	
	comp=Z,304nm,19.7s,baz=9.0,slow=31						
SYO	Syowa Base	35.47	203	⇑eP	P	16 23 16.0	+1.1
FORT	Forrest	41.33	93	P	P	16 24 04.7	+0.1
LEM	Lembang	42.38	47	LR	LR	16 38 18.7	
	comp=Z,172nm,18.6s,baz=206,slow=31						
BOSA	Boshof	44.49	268	P	P	16 24 30.2	-0.3
	comp=Z,2.7nm,0.7s,baz=135,slow=8.1,SNR=4.5						
BOSA				LR	LR	16 39 53.0	
	comp=Z,816nm,18.2s,baz=145,slow=32						
BOSA	Boshof	44.49	268	P	P	16 24 30.8	+0.4
BOSA				IAmb	IAmb	16 24 48.5	
	comp=Z,16nm,1.3s						
LBTB	Lobatse	46.06	273	LR	LR	16 41 19.0	
	comp=Z,825nm,18.1s,baz=124,slow=32						
SUR	Sutherland	46.13	261	P	P	16 24 44.4	+0.9
	comp=Z,5.7nm,0.9s,baz=130,slow=6.6,SNR=2.0						
SUR				LR	LR	16 39 57.8	
	comp=Z,483nm,20.0s,baz=130,slow=31						
SUR	Sutherland	46.13	261	P	P	16 24 44.4	+0.9
SUR				IAmb	IAmb	16 24 55.8	
	comp=Z,14nm,1.2s						
FITZ	Fitzroy Crossi	46.34	76	LR	LR	16 40 37.8	
	comp=Z,444nm,22.0s,baz=240,slow=32						
FITZ	Fitzroy Crossi	46.34	76	P	P	16 24 44.3	-0.8
FITZ				IAmb	IAmb	16 24 47.5	
	comp=Z,11nm,1.2s						
BBOO	Buckleboo	46.52	100	P	P	16 24 45.5	-0.8
PALK	Pallekele	47.15	4	P	P	16 24 51.1	-0.3
	comp=Z,3.3nm,0.7s,baz=235,slow=12,SNR=2.7						
PALK				LR	LR	16 40 54.0	
	comp=Z,544nm,19.3s,baz=286,slow=31						
PALK	Pallekele	47.15	4	IAmb	IAmb	16 25 01.0	
	comp=Z,9.0nm,1.1s						
TROLL	Troll, Antarti	48.02	204	P	P	16 24 58.2	+0.5
ASAR	Alice Springs	49.39	88	P	P	16 25 07.3	-1.4
	comp=Z,5.7nm,0.9s,baz=243,slow=5.4,SNR=50						
ASAR				PcP	PcP	16 26 29.3	-1.8
	comp=Z,0.3nm,0.5s,baz=236,slow=2.9,SNR=8.6						
ASAR				LR	LR	16 43 53.7	
	comp=Z,1μm,18.0s,baz=256,slow=34						
ASAR	Alice Springs	49.39	88	P	P	16 25 07.8	-0.9
AS31	Alice Springs	49.39	88	P	P	16 25 07.7	-1.1
SNAA	Sanae	49.72	204	P	P	16 25 11.0	+0.3
SNAA	Sanae	49.72	204	P	P	16 25 09.4	-1.2
	comp=Z,5.1nm,0.9s,baz=52,slow=7.0,SNR=5.3						
SNAA				LR	LR	16 44 40.2	
	comp=Z,148nm,18.0s,baz=7.0,slow=34						
SNAA	Sanae	49.72	204	P	P	16 25 12.1	+1.5
SNAA				IAmb	IAmb	16 25 19.5	
	comp=Z,13nm,1.0s						
LSZ	Lusaka	49.81	285	LR	LR	16 42 39.3	
	comp=Z,611nm,21.3s,baz=138,slow=32						
VNDA	Vanda	49.94	164	P	P	16 25 11.1	-1.0
	comp=Z,3.8nm,0.7s,baz=265,slow=7.5,SNR=18						
VNDA				LR	LR	16 44 48.3	
	comp=Z,325nm,18.1s,baz=269,slow=34						
VNDA	Vanda	49.94	164	P	P	16 25 12.0	-0.1
VNDA				IAmb	IAmb	16 25 18.9	
	comp=Z,6.3nm,0.8s						
BATI	Baumata	50.10	66	LR	LR	16 45 01.6	
	comp=Z,181nm,18.9s,baz=227,slow=34						
QSPA	South Pole Qui	50.11	180	P	P	16 25 12.5	-1.3
	comp=Z,16nm,0.9s,baz=298,slow=4.0,SNR=26						
QSPA				LR	LR	16 44 51.8	
	comp=Z,979nm,19.0s,baz=302,slow=34						
QSPA	South Pole Qui	50.11	180	P	P	16 25 12.7	-1.1
KNRA	Kununurra	50.18	76	P	P	16 25 14.1	-0.7
SBA	Scott Base	50.94	164	P	P	16 25 21.1	+1.3
STKA	Stephens Creek	51.11	102	P	P	16 25 20.3	-1.4
	comp=Z,8.1nm,0.7s,baz=237,slow=5.9,SNR=30						
STKA				LR	LR	16 42 29.9	
	comp=Z,456nm,22.0s,baz=221,slow=31						
STKA	Stephens Creek	51.11	102	P	P	16 25 20.4	-1.2
KAPI	Kappang	51.20	58	LR	LR	16 42 47.4	
	comp=Z,199nm,21.9s,baz=212,slow=31						
VNA2	Neumayer--Watz	51.29	205	P	P	16 25 22.9	+0.5
	baz=93,slow=9.0						
TOO	Toolangi	51.45	110	P	P	16 25 23.6	-0.5
TOO				IAmb	IAmb	16 25 25.1	
	comp=Z,15nm,1.1s						
VNA1	Neumayer--Stat	51.63	205	P	P	16 25 24.2	-0.7
WRA	Warramunga Arr	51.82	85	P	P	16 25 25.1	-2.0
	comp=Z,4.5nm,0.9s,baz=235,slow=7.7,SNR=24						
WRA				PcP	PcP	16 26 39.3	-0.8
	comp=Z,1.2nm,0.9s,baz=227,slow=2.7,SNR=1.8						
WRA				LR	LR	16 45 08.6	
	comp=Z,648nm,18.9s,baz=214,slow=34						
WRA	Warramunga Arr	51.82	85	P	P	16 25 26.6	-0.5
WB2	Warramunga Arr	51.83	85	P	P	16 25 25.9	-1.2
WB2				IAmb	IAmb	16 25 43.4	
	comp=Z,17nm,1.4s						
WRAB	Tennant Creek	51.83	85	P	P	16 25 25.8	-1.4
WRAB				IAmb	IAmb	16 25 28.9	
	comp=Z,9.3nm,1.1s						
VNA3	Neumayer Olymp	51.95	204	P	P	16 25 27.3	-0.1
WB0	Warramunga Arr	51.96	84	P	P	16 25 26.9	-1.3
WB0				IAmb	IAmb	16 25 27.7	
	comp=Z,8.9nm,0.9s						
WR0	Warramunga Arr	51.97	85	P	P	16 25 26.5	-1.7
WR0				IAmb	IAmb	16 25 39.5	
	comp=Z,17nm,1.4s						
KMBO	Kilima Mbogo	53.60	306	P	P	16 25 42.0	+1.5
	comp=Z,1.9nm,0.7s,baz=123,slow=3.9,SNR=3.8						
KMBO				LR	LR	16 43 07.8	
	comp=Z,278nm,21.2s,baz=100,slow=30						
MTN	Manton Dam	53.75	75	P	P	16 25 40.6	-0.8
TSUM	Tsumeb	55.45	273	LR	LR	16 46 09.7	
	comp=Z,811nm,20.0s,baz=125,slow=32						
BELA	Belgrano 2	55.67	194	P	P	16 25 55.9	+1.3
BELA				IAmb	IAmb	16 26 01.4	
	comp=Z,8.4nm,1.2s						
MBAR	Mbarara	58.19	300	LR	LR	16 48 28.4	
	comp=Z,300nm,18.3s,baz=133,slow=33						
ATD	Arta Tunnel	60.83	320	LR	LR	16 47 50.8	
	comp=Z,93nm,20.2s,baz=126,slow=31						
CTA	Charters Tower	60.87	93	LR	LR	16 50 06.9	
	comp=Z,314nm,21.5s,baz=246,slow=33						
CM31	Chiang Mai Arr	61.38	23	P	P	16 26 33.5	-1.4
CMAR	Chiang Mai Arr	61.38	23	P	P	16 26 34.8	-0.2
	comp=Z,1.8nm,0.8s,baz=211,slow=6.2,SNR=13						
CMAR				LR	LR	16 47 21.2	
	comp=Z,47nm,20.9s,baz=200,slow=30						
CMAR	Chiang Mai Arr	61.38	23	P	P	16 26 34.0	-1.0
CHTO	Chiang Mai	61.72	23	P	P	16 26 35.8	-1.4
SIJI	Sorong	62.01	65	LR	LR	16 51 21.9	
	comp=Z,45nm,21.2s,baz=208,slow=34						
DAV	Davao City (W)	64.15	54	LR	LR	16 51 37.3	
	comp=Z,64nm,22.0s,baz=203,slow=33						
WSAR	Wadi Sarin	65.52	340	LR	LR	16 50 17.7	
	comp=Z,122nm,19.1s,baz=184,slow=31						
RPZ	Rata Peaks	65.66	127	LR	LR	16 48 42.3	
	comp=Z,319nm,20.4s,baz=236,slow=30						
QIZ	Qiongzhong	65.83	33	P	P	16 27 08.9	+4.6
QIZ				S	S	16 35 56.2	+5.1
QIZ				LR	LR		
	comp=N,160nm,25.8s						
QIZ				LR	LR		
	comp=E,170nm,22.0s						
QIZ				LR	LR		
	comp=Z,110nm,15.9s						
RAMN	Ramite	67.13	8	eP	P	16 27 13.1	+0.3
	comp=Z,17nm,0.8s						
ODAN	Odare	67.13	9	eP	P	16 27 12.8	0.0
	comp=Z,46nm,0.9s						
PKI	Pulchoki	67.62	7	eP	P	16 27 15.7	-0.3
	comp=Z,36nm,1.1s						
PKIN	Phulchoki	67.63	7	eP	P	16 27 15.4	-0.6
	comp=Z,27nm,1.0s						
DMN	Daman	67.63	7	eP	P	16 27 16.0	0.0
	comp=Z,52nm,1.0s						
TAPN	Taplejung	67.66	9	eP	P	16 27 17.0	+0.8
	comp=Z,46nm,0.9s						
KOLN	Koldanda	67.67	5	eP	P	16 27 15.9	-0.3
	comp=Z,43nm,1.0s						
JIRN	Jiri	67.79	8	eP	P	16 27 17.2	+0.1
KKN	Kakani	67.83	7	eP	P	16 27 17.1	-0.1
	comp=Z,37nm,0.9s						
PYUN	Piuthan	67.96	5	eP	P	16 27 17.6	-0.4
	comp=Z,47nm,1.0s						
GKN	Gorkha	67.98	6	eP	P	16 27 17.8	-0.3
	comp=Z,58nm,1.1s						
GUN	Gumba	68.00	7	eP	P	16 27 18.8	+0.4
	comp=Z,112nm,1.1s						
PMG	Port Moresby	68.03	84	LR	LR	16 55 12.6	
	comp=Z,374nm,19.0s,baz=232,slow=34						
PMG	Port Moresby	68.03	84	P	P	16 27 18.0	-0.5
DANN	Dangsing	68.26	5	eP	P	16 27 19.4	-0.5
	comp=Z,48nm,0.9s						
KMI	Kunming	68.80	24	⇑P	P	16 27 26.7	+3.4
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PZH	PanZhiHua	69.79	23	P	P	16 27 29.6	+0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
PMSA	Palmer Station	71.36	196	LR	LR	16 58 03.1	
	comp=Z,162nm,20.5s,baz=150,slow=35						
BKZ	Black Stump Fm	71.60	126	P	P	16 27 41.5	+1.2
URZ	Urewera	72.54	125	LR	LR	16 54 01.5	
	comp=Z,252nm,19.7s,baz=212,slow=31						
KBL	Kabul	74.69	352	P	P	16 27 57.6	-0.9
DZM	Mont Dzumac	74.96	106	LR	LR	16 55 53.4	
	comp=Z,238nm,19.5s,baz=236,slow=32						
DZM	Mont Dzumac	74.96	106	eLR	LR	16 51 06.2	
	comp=Z,380nm,25.1s						
KRVT	Keravat (AS076	74.98	83	LR	LR	16 59 18.5	
	comp=Z,280nm,19.9s,baz=339,slow=34						
CHGR	Chuyangaron	78.75	353	P	P	16 28 20.7	-0.5
CHGR				IAmb	IAmb	16 28 28.0	
	comp=Z,9.6nm,1.0s						
GAR	Garm	78.99	354	P	P	16 28 22.3	-0.3
GAR				IAmb	IAmb	16 28 33.1	
	comp=Z,10.0nm,1.0s						
XAN	Xi'an	79.05	26	P	P	16 28 22.5	-0.4
XAN				pP	pwP	16 28 29.5	+0.9
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,67nm,4.8s						
KSH	Kashi	79.21	358	P	P	16 28 21.4	-2.4
KSH				sP	pP	16 28 27.5	+1.2
KSH				pmax	pmax		
	comp=Z,6.0nm,1.3s						
LZH	Lanzhou	79.40	21	eP	P	16 28 25.5	+0.5
LZH				pP	sP	16 28 30.0	+1.6
LZH				sP	pwP	16 28 32.1	+1.5
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,86nm,7.5s						
LZH				LR	LR		
	comp=N,140nm,16.8s						
LZH				LR	LR		
	comp=E,140nm,16.5s						
LZH				LR	LR		
	comp=Z,210nm,19.0s						
GEYT	Alibeck	79.73	344	LR	LR	16 59 28.9	
	comp=Z,50nm,19.6s,baz=152,slow=32						
BTK	Batken	80.00	354	P	P	16 28 28.2	+0.2
BTK				IAmb	IAmb	16 28 39.5	
	comp=Z,12nm,1.0s						
EIL	Elat	80.09	323	P	P	16 28 29.7	+1.0
	comp=Z,1.4nm,0.6s,baz=186,slow=10,SNR=1.7						
EIL				LR	LR	16 59 55.6	
	comp=Z,62nm,18.2s,baz=177,slow=33						
NJ2	Nanjing	81.09	34	eP	P	16 28 36.5	+2.6
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GTA	Gaotai	81.55	17	eP	P	16 28 36.5	+0.1
GTA				pP	pwP	16 28 42.4	+0.3
GTA				sP	PcP	16 28 45.5	+3.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
AAK	Ala-Archa	82.37	357	P	P	16 28 41.5	+0.8
	comp=Z,1.3nm,0.7s,baz=121,slow=2.4,SNR=4.7						
AAK				LR	LR	17 01 28.3	
	comp=Z,252nm,21.1s,baz=182,slow=33						
MMAI	Mount Meron Ar	82.72	325	LR	LR	17 02 00.9	
	comp=Z,70nm,18.9s,baz=360,slow=33						
KKAR	Karatay Array	83.05	354	P	P	16 28 43.4	-0.6
WMQ	Urumqi	83.94	7	eP	P	16 28 50.5	+1.9
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				LR	LR		
	comp=N,240nm,13.1s						
WMQ				LR	LR		
	comp=E,350nm,21.1s						
WMQ				LR	LR		
	comp=Z,250nm,21.1s						
GNI	Garni	85.41	335	LR	LR	17 04 23.0	
	comp=Z,91nm,18.4s,baz=164,slow=34						
HHC	Hu-ho-hao-te	86.11	25	eP	P	16 29 01.3	+1.7
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
HHC				pmax	pmax		
	comp=Z,77nm,4.7s						
MSVF	Nonsavu	86.16	110	LR	LR	17 00 11.6	
	comp=Z,276nm,20.8s,baz=263,slow=31						
MK31	Makanchi Array	86.55	3	P	P	16 29 00.3	-1.2
MKAR	Makanchi Array	86.55	3	P	P	16 29 00.9	-0.6
	comp=Z,1.9nm,0.8s,baz=164,slow=6.5,SNR=22						
MKAR				LR	LR	17 04 28.5	
	comp=Z,153nm,21.6s,baz=184,slow=33						
MKAR	Makanchi Array	86.55	3	P	P	16 29 00.3	-1.2
MAKZ	Makanchi	86.55	3	P	P	16 29 00.5	-1.0
MAKZ				IAmb	IAmb	16 29 11.8	
	comp=Z,5.4nm,1.1s						
BJI	Beijing	86.97	28	P	P	16 29 00.8	-2.9
BJI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,55nm,4.7s						
TORD	Torodi Ar. Bea	88.19	289	P	P	16 29 09.7	-0.5
	comp=Z,0.7nm,0.8s,baz=104,slow=3.7,SNR=4.1						
TORD				LR	LR	17 06 53.1	
	comp=Z,495nm,19.5s,baz=196,slow=34						
TORD	Torodi Ar. Bea	88.19	289	P	P	16 29 10.4	+0.1
DBIC	Dimbokro	88.84	280	LR	LR	17 04 02.8	
	comp=Z,314nm,21.1s,baz=146,slow=32						
KURBB	Kurchatov Arra	90.30	0	P	P	16 29 18.4	-0.8
	comp=Z,1.3nm,0.2s,baz=186,slow=4.2,SNR=6.3						
KURBB				LR	LR	17 08 02.9	
	comp=Z,152nm,18.7s,baz=160,slow=34						
KURK	Kurchatov	90.39	0	P	P	16 29 18.4	-1.2
KURK	Kurchatov	90.39	0	IAmb	IAmb	16 29 43.0	
	comp=Z,5.2nm,1.3s						
SONM	Songino Array	91.06	19	P	P	16 29 21.9	-1.1
	comp=Z,0.5nm,0.8s,baz=185,slow=4.9,SNR=4.2						
SONM				LR	LR	17 08 16.3	
	comp=Z,91nm,20.9s,baz=172,slow=34						
AKTO	Aktyubinsk	91.81	347	P	P	16 29 25.3	-0.9
	comp=Z,0.5nm,0.6s,baz=234,slow=14,SNR=1.4						
AKTO				LR	LR	17 09 58.6	
	comp=Z,42nm,18.2s,baz=154,slow=35						
ZALV	Zalesovo Beam	93.81	4	P	P	16 29 33.8	-1.6
	comp=Z,0.7nm,0.7s,baz=148,slow=12,SNR=3.5						
ZALV				LR	LR	17 09 01.5	
	comp=Z,136nm,21.6s,baz=171,slow=34						
AFI	Afiamalu	95.96	114	LR	LR	17 05 16.8	
	comp=Z,102nm,19.6s,baz=276,slow=31						
ARU	Arti	97.52	349	LR	LR	17 13 19.1	
	comp=Z,94nm,18.1s,baz=120,slow=35						
KEST	Kesra	98.39	310	LR	LR	17 14 12.6	
	comp=Z,94nm,18.3s,baz=262,slow=35						
PPT2	Papeete2	107.51	132	eLR	LR	17 06 10.2	
	comp=Z,125nm,22.5s						
TAOE	Nuku Hiva Isla	119.87	135	eLR	LR	17 11 54.0	
	comp=Z,92nm,23.1s						
ILAR	Eielson Array	144.29	31	PKP	PKPab	16 35 50.8	-1.1
	comp=Z,0.4nm,0.8s,baz=305,slow=3.2,SNR=2.2						
RES	Resolute Bay	145.12	357	PKPbc	PKPbc	16 35 54.4	-0.2
	comp=Z,4.6nm,1.1s,baz=40,slow=4.5,SNR=7.4						
RES	Resolute Bay	145.12	357		PKPbc	16 35 54.8	+0.2
INK	Inuvik	146.94	21	PKPbc	PKPbc	16 36 00.2	-0.1
	comp=Z,7.8nm,1.0s,baz=299,slow=4.2,SNR=4.9						
INK	Inuvik	146.94	21	PKPdf	PKPdf	16 35 58.6	+0.3
YKA	Yellowknife Ar	156.26	15	PKP	PKPdf	16 36 09.8	-2.7
	comp=Z,0.1nm,0.3s,baz=335,slow=2.0,SNR=2.1						
YKA				PP	PP	16 40 20.2	+2.0
	comp=Z,0.4nm,0.9s,baz=335,slow=4.6,SNR=4.1						
NVAR	Mina Array Bea	167.21	92	PKP	PKPdf	16 36 23.3	-1.6
	comp=Z,0.2nm,0.7s,baz=289,slow=5.6,SNR=1.6						
NVAR				PKPab	PKPab	16 37 28.9	-0.8
	comp=Z,0.4nm,0.6s,baz=208,slow=4.8,SNR=2.6						
TXAR	Lajitas Array	169.22	172	PKP	PKPdf	16 36 23.6	-2.8
	comp=Z,0.7nm,1.2s,baz=149,slow=4.0,SNR=1.9						
PDAR	Pinedale Array	173.67	62	PKP	PKPdf	16 36 28.7	+0.3
	comp=Z,0.1nm,0.3s,baz=27,slow=2.2,SNR=1.5						

NOU 04 16:21:17.3, 14.71S×166.63E, h0km, MLv4.7/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.92	143	P	Pg	16 21 34.9	0.0
DVP	Devils Point	3.35	154	P	Pn	16 22 10.7	-0.3
KOUNC	Koumac, New Ca	6.22	201	P	Pn	16 22 50.3	-0.2
DZM	Mont Dzumac	7.32	181	P	Pn	16 23 05.3	-0.4
NOUC	Port Laguerre	7.36	182	P	Pn	16 23 06.3	+0.2

*NOU **04** 16:44:16.2, 39.00S×174.73E, h238km, MLv3.8/8, North Island, New Zealand*

*WEL **04** 16:44:23.1, 39°S±8°×17°5E±1°2, h187km±16km, M2.7/38, MLv2.7/38, Error ellipse: s-maj=0.0km s-min=0.0km az=94.9*

ISC 04 16:44:15.2±2.0, 39.03S±0.08×174.77E±0.07, h256km±13km, n103, σ0.49/102, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRZ	Vera Road	0.10	184	P	Pn	16 44 47.6	-0.4
HIZ	Hauiti	0.52	8	P	Pn	16 44 48.9	0.0
LREZ	Lake Rotokare	0.52	213	P	Pn	16 44 49.1	+0.3
PKVZ	Pokaka	0.52	120	P	Pn	16 44 48.7	-0.2
TWVZ	Taurewa	0.52	95	P	Pn	16 44 48.8	-0.3
PREZ	Palmer Road	0.57	236	P	Pn	16 44 49.5	+0.4
NEZ	North Egmont	0.58	245	P	Pn	16 44 49.6	+0.5
PKE	Pukeiti	0.63	254	P	Pn	16 44 49.7	+0.5
WTVZ	West Tongariro	0.65	98	P	Pn	16 44 49.2	-0.2
FWVZ	Far West T-bar	0.65	111	P	Pn	16 44 49.4	-0.2
MTVZ	Mangateitei	0.65	123	P	Pn	16 44 53.8	+4.4
TRVZ	Turoa	0.67	114	P	Pn	16 44 49.5	-0.2
SNVZ	South Ngauruho	0.70	103	P	Pn	16 44 49.7	0.0
OTVZ	Oturere	0.71	101	P	Pn	16 44 50.0	+0.2
WNVZ	Wahianoa	0.71	115	P	Pn	16 44 49.7	0.0
KATZ	Kakaramea	0.72	86	P	Pn	16 44 49.9	+0.1
TUVZ	Tukino	0.73	110	P	Pn	16 44 49.9	+0.1
WAZ	Wanganui	0.75	167	P	Pn	16 44 49.9	+0.2
WATZ	Wairara	0.82	67	P	Pn	16 44 50.3	+0.2
MOVZ	Moawhango	0.85	117	P	Pn	16 44 49.7	-0.5
KUTZ	Kaahu Road	0.98	57	P	Pn	16 44 51.2	+0.3
BHHZ	Black Hill Sta	1.11	115	P	Pn	16 44 51.1	-0.4
OHWZ	Ohakea	1.25	160	P	Pn	16 44 52.8	+0.5
MRHZ	Matea Rd	1.30	82	P	Pn	16 44 52.3	-0.5
KWHZ	Kaweka Forest	1.35	108	P	Pn	16 44 53.3	+0.2
BKZ	Black Stump Fm	1.35	96	P	Pn	16 44 52.1	-1.0
BKZ	Black Stump Fm	1.35	96	P	Pn	16 44 52.9	-0.2
TSZ	Takapari Road	1.38	139	P	Pn	16 44 53.3	+0.1
KRHZ	Kereru	1.39	117	P	Pn	16 44 53.4	+0.1
PNHZ	Pukenui	1.42	129	P	Pn	16 44 53.7	+0.2
MCHZ	McNeill Hill	1.56	106	P	Pn	16 44 55.3	+0.8
MTHZ	Maungataniwha	1.63	85	P	Pn	16 44 55.1	-0.1
WPHZ	Waipukurau	1.66	129	P	Pn	16 44 55.5	+0.2
MUGZ	Murupara	1.66	71	P	Pn	16 44 54.8	-0.5
DVHZ	Dannevirke	1.67	140	P	Pn	16 44 55.4	0.0
MRZ	Mangatainoka R	1.75	159	P	Pn	16 44 55.6	-0.4
ARHZ	Aropaoanui	1.75	98	P	Pn	16 44 56.7	+0.6
RTZ	Ruatahuna	1.78	77	P	Pn	16 44 56.2	-0.2
PRWZ	Pori Road	1.79	149	P	Pn	16 44 56.4	+0.1
KAHZ	Kahuranaki	1.81	116	P	Pn	16 44 57.2	+0.6
RAHZ	Arahi	1.81	87	P	Pn	16 44 57.0	+0.5
OGWZ	Otaki Gorge	1.81	170	P	Pn	16 44 56.5	0.0
KIW	Kapiti Island	1.84	177	P	Pn	16 44 56.5	-0.2
DUWZ	D'Urville Isla	1.89	200	P	Pn	16 44 57.2	0.0
CKHZ	Cape Kidnapper	1.90	110	P	Pn	16 44 58.1	+0.8
PRHZ	Porangahau	1.90	131	P	Pn	16 44 57.5	+0.3
PXZ	Pawanui	1.91	122	P	Pn	16 44 57.5	+0.3
WHHZ	Waihua	1.92	92	P	Pn	16 44 56.4	-1.1
ANWZ	Angora Road	1.94	138	P	Pn	16 44 57.9	+0.3
TIWZ	Tintock	1.95	154	P	Pn	16 44 57.4	-0.3
HOWZ	Holdsworth Sta	1.96	163	P	Pn	16 44 57.3	-0.5
URZ	Urewera	1.99	68	P	Pn	16 44 57.6	-0.4
URZ	Urewera	1.99	68	P	Pn	16 44 57.7	-0.4
BFZ	Birch Farm	2.01	146	P	Pn	16 44 57.9	-0.2
BFZ	Birch Farm	2.01	146	P	Pn	16 44 58.0	-0.2
CAW	Cannon Point	2.09	174	P	Pn	16 44 58.7	-0.2
MTW	Mount Morrison	2.20	165	P	Pn	16 44 59.4	-0.5
TCW	Tory Channel	2.21	190	P	Pn	16 45 00.2	+0.2
TMWZ	Te Maipa	2.25	158	P	Pn	16 45 00.1	-0.3
WEL	Wellington	2.25	180	P	Pn	16 45 00.1	-0.4
MWZ	Matawai	2.27	73	P	Pn	16 45 00.6	-0.1
SNZO	South Karori	2.28	181	P	Pn	16 45 00.7	0.0
RIGZ	Rimuhau	2.36	83	P	Pn	16 45 02.0	+0.5
BHW	Baring Head	2.38	178	P	Pn	16 45 01.1	-0.5
PAWZ	Paruwai Farm	2.41	168	P	Pn	16 45 01.5	-0.4
MSWZ	Moikau Station	2.42	171	P	Pn	16 45 01.6	-0.4
PRGZ	Paritu Road	2.43	89	P	Pn	16 45 02.9	+0.6
NNZ	Nelson	2.43	205	P	Pn	16 45 02.2	0.0
TKNZ	Takaka Hill	2.44	214	P	Pn	16 45 01.9	-0.3
MHGZ	Mahia Peninsul	2.45	94	P	Pn	16 45 03.0	+0.7
TRWZ	Traveller	2.47	164	P	Pn	16 45 02.3	-0.3
TKGZ	Te Karaka	2.48	77	P	Pn	16 45 03.3	+0.6
TUWZ	Tuamarina	2.48	194	P	Pn	16 45 02.8	+0.1
QRZ	Quartz Range	2.49	223	P	Pn	16 45 02.5	-0.2
QRZ	Quartz Range	2.49	223	P	Pn	16 45 02.5	-0.2
RUGZ	Raukumara Rang	2.52	66	P	Pn	16 45 02.5	-0.7
PLWZ	Palliser	2.57	172	P	Pn	16 45 03.0	-0.6
TWGZ	Tauwhareparae	2.66	72	P	Pn	16 45 05.0	+0.4
CNGZ	Carnagh Statio	2.74	80	P	Pn	16 45 06.3	+0.9
BSWZ	Blackbirch Sta	2.77	194	P	Pn	16 45 05.9	+0.3
MRNZ	Matariki Terra	2.83	212	P	Pn	16 45 05.9	-0.2
PKGZ	Pakihiroa	2.84	67	P	Pn	16 45 05.3	-1.1
PUZ	Puketiti	2.90	72	P	Pn	16 45 07.0	0.0
THZ	Tophouse	3.08	207	P	Pn	16 45 09.0	+0.1
WMGZ	Waiomatatini S	3.11	68	P	Pn	16 45 07.4	-1.9
KHZ	Kahutara	3.51	195	P	Pn	16 45 13.7	+0.1
KHZ	Kahutara	3.51	195	P	Pn	16 45 14.2	+0.6
DSZ	Denniston Nort	3.53	219	P	Pn	16 45 13.7	-0.2
GVZ	Greta Valley S	4.15	198	P	Pn	16 45 20.7	-0.2
LTZ	Lake Taylor	4.20	206	P	Pn	16 45 21.5	-0.1
INZ	Inchbonnie	4.47	213	P	Pn	16 45 24.7	0.0
OXZ	Oxford	4.76	205	P	Pn	16 45 27.6	-0.6
OKCZ	Okains Bay	4.87	195	P	Pn	16 45 29.1	-0.4
MQZ	McQueen's Vall	4.94	198	P	Pn	16 45 29.3	-1.0
AKCZ	Akaroa Harbour	5.04	195	P	Pn	16 45 31.1	-0.5
RACZ	Rakaia	5.09	202	P	Pn	16 45 31.6	-0.6
WACZ	Wakanui South	5.38	203	P	Pn	16 45 35.6	-0.1
RPZ	Rata Peaks	5.45	210	P	Pn	16 45 36.7	+0.1
RPZ	Rata Peaks	5.45	210	P	Pn	16 45 37.1	+0.5
ARCZ	Arundel	5.61	208	P	Pn	16 45 38.3	-0.2
TMZ	Timaru	6.05	207	P	Pn	16 45 44.4	+0.5
ODZ	Otahua Downs	6.75	206	P	Pn	16 45 53.8	+1.1
ODZ	Otahua Downs	6.75	206	P	Pn	16 45 53.8	+1.1

IDC 04 16:53:24.0±8.2, 19.26S×179.30E, h49km±59km, mb3.4/3, mb1 3.7/3, mb1mx3.3/33, mbtmp3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/23, Error ellipse: s-maj=81.7km s-min=52.5km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.93**	**322**	P	Pn	16 53 54.6	+0.2
	6.6nm,0.3s,baz=207,slow=22,SNR=1.6						
MSVF				S	Sn	16 54 17.7	+0.1
	12nm,0.3s,baz=164,slow=22,SNR=2.4						
PPT	**Papeete**	**29.56**	**92**	LR	LR	17 11 05.6	
	comp=Z,67nm,18.2s,baz=136,slow=36						
WRA	**Warramunga Arr**	**42.27**	**261**	P	P	17 01 13.8	+0.9
	0.3nm,0.3s,baz=95,slow=8.3,SNR=15						
ASAR	**Alice Springs**	**42.34**	**256**	P	P	17 01 12.4	-1.1
	0.6nm,0.9s,baz=94,slow=6.8,SNR=13						
CMAR	**Chiang Mai Arr**	**87.31**	**290**	P	P	17 06 06.0	-0.1
	1.2nm,1.0s,baz=136,slow=3.5,SNR=6.1						

IDC 04 17:03:47.0±2.6, 35.18N×7.42E, h0km, mb3.5/2, mb1 3.5/2, mb1mx3.2/35, mbtmp3.5/2, Error ellipse: s-maj=66.7km s-min=16.4km az=148.0, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**1.67**	**70**	Pg	Pn	17 04 16.6	-0.9
	20nm,0.3s,baz=306,slow=1.3,SNR=94						
KEST				Lg	Lg	17 04 40.4	
	19nm,0.3s,baz=336,slow=19,SNR=14						
TORD	**Torodi Ar. Bea**	**22.54**	**195**	P	P	17 08 48.6	0.0
	0.8nm,0.5s,baz=6.5,slow=9.3,SNR=6.0						
MKAR	**Makanchi Array**	**55.69**	**53**	P	P	17 13 25.2	+0.1
	0.4nm,0.5s,baz=284,slow=5.8,SNR=3.1						

*SOME **04** 17:04:19.8, 39.58N×73.28E, h5km*
*KRNET **04** 17:04:21.2±0.1, 39.24N×73.78E, mb2.7*
*ISU **04** 17:04:32, 39.80N×73.24E, h25km, Hypocentre not reviewed by the ISC*
ISC 04 17:04:27.0±2.4, 39.4N±0.1×73.48E±0.08, h10km, n12, σ2.76/23, 8C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.27**	**335**	⇓iP	**Pn**	**17 04 49.0**	**-2.0**
	baz=30						
OHH				⇓iS	**Sn**	**17 05 09.0**	**+0.8**
	baz=30						
DRK	**Karamyk**	**1.30**	**276**	⇑iP	**Pn**	**17 04 49.7**	**-1.9**
	baz=80						
DRK				⇑iS	**Sn**	**17 05 10.3**	**+1.0**
	baz=80						
SHAK	**Shakhimardan**	**1.47**	**294**	P		17 04 54.7	
SHAK				S		17 05 11.3	
FRG	**Fergana**	**1.65**	**308**	P		17 04 55.8	
FRG				S		17 05 14.5	
CHMI	**Chimion**	**1.76**	**302**	S		17 05 19.6	
BTK	**Batken**	**2.17**	**289**	⇑iP	**Pn**	**17 05 03.3**	**0.0**
	baz=91						
BTK				⇑iS	**Sn**	**17 05 33.9**	**+3.7**
	baz=91						
MINT	**Mingtut**	**2.22**	**301**	P		17 05 05.9	
ARK	**Arkit**	**2.69**	**335**	⇓iP	**Pn**	**17 05 09.7**	**-0.8**
	baz=32						
ARK				⇓iS	**Sn**	**17 05 45.3**	**+2.1**
	baz=32						
TRKS	**Terek-Say**	**2.80**	**321**	⇑iP	**Pn**	**17 05 10.5**	**-1.6**
	baz=19						
TRKS				⇑iS	**Sn**	**17 05 46.6**	**+0.5**
	baz=19						
MRKS	**Merke**	**3.38**	**357**	eP	**Pn**	**17 05 19.8**	**-0.3**
	0.7nm,0.2s						
MRKS				eS	**Sn**	**17 06 01.8**	**+1.5**
	7.2nm,0.4s						
KBK	**Karagaybulak**	**3.47**	**18**	⇑eP	**Pn**	**17 05 18.4**	**-2.9**
	baz=14						
KBK				⇑iS	**Sn**	**17 05 59.9**	**-2.7**
	baz=14						
IUG	**Iuzhnay**	**3.82**	**318**	eP	**Pn**	**17 05 26.2**	**+0.2**
	1.2nm,0.1s						
IUG				eS	**Sn**	**17 06 12.6**	**+1.6**
	6.2nm,0.4s						
KST	**Kastek**	**4.12**	**26**	eP	**Pn**	**17 05 33.6**	**+3.3**
KST				eS	**Sb**	**17 06 25.4**	**-4.4**
	1.6nm,0.2s						
SGDS	**Sogindy**	**4.17**	**12**	eP	**Pn**	**17 05 34.2**	**+3.4**
	0.8nm,0.1s						
SGDS				eS	**Sn**	**17 06 26.3**	**+6.6**
	2.2nm,0.0s						
BRLS	**Boroldav**	**4.58**	**324**	eP	**Pn**	**17 05 38.0**	**+1.7**
BRLS				eS	**Sn**	**17 06 32.4**	**+2.8**
KRBS	**Karabastau**	**4.63**	**20**	eP	Pb	17 05 43.2	-5.2
	0.8nm,0.4s						
KRBS				eS	**Sb**	**17 06 41.7**	**-2.6**
	1.8nm,0.6s						

*IDC **04** 17:11:00.9±3.3, 11.86N×141.51E, h20km±20km, mb4.3/30, mb1 4.4/32, mb1mx4.2/47, mbtmp4.4/32, ML3.7/2, MS3.9/53, Ms1 3.9/53, ms1mx3.8/78, Error ellipse: s-maj=17.9km s-min=9.9km az=97.0*
*BJI **04** 17:11:02.3±0.0, 11.74N×141.30E, h40km, mb4.4/28, mB4.8/20, Ms4.3/11, Ms7 4.0/9*
*DJA **04** 17:11:05.3±0.6, 12°N±4°×14°1E±°, h43km±7km, M4.8/37, mB5.2/15, mb4.9/37, MLv5.3/1, Mw(mB)4.5/15*
*GCMT **04** 17:11:05.1±0.3, 11.69N±0.02×141.49E±0.02, h34km±2km, MW4.9/76, Moment Tensor Solution. s22,c30; s76,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.82±.16; $M_{\theta\theta}$-1.99±.10; $M_{\phi\phi}$1.18±.11; $M_{r\theta}$1.41±.13; $M_{\theta\phi}$0.34±.08; $M_{\phi r}$-1.69±.18; Best double couple: $M_0$2.82200×10^{16} NP1:ϕ_s238.00000°,δ35.00000°,λ18.00000°. NP2: ϕ_s133.00000°,δ80.00000°,λ124.00000°. Principal axes: T 2.8080, Plg45.0000°, Azm77.0000°; N 0.0340, Plg34.0000°, Azm307.0000°; P -2.8360, Plg27.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 17:11:06.1±1.6, 11.89N±0.08×141.44E±0.04, h60km±5km, mb4.8/134 Error ellipse: s-maj=11.0km s-min=5.3km az=181.0*
ISC 04 17:11:04.8±0.3, 11.89N±0.04×141.40E±0.05, h50km, n413, σ1.02/371, mb4.7/108, MS3.9/56, 1C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.78**	**63**	Pn	**Pn**	**17 12 01.4**	**+0.8**
	110nm,0.3s,baz=189,slow=12,SNR=29						
GUMO				Sn	**Sn**	**17 12 46.1**	**+2.3**
	49nm,0.3s,baz=26,slow=23,SNR=1.1						
GUMO				LR	LR	17 13 36.5	
	comp=Z,3μm,19.4s,baz=233,slow=42						
GUMO	**Guam**	**3.78**	**63**	Pn	**Pn**	**17 12 01.0**	**+0.5**
GUMO				Sn	**Sn**	**17 12 42.6**	**-1.2**
JAY	**Jayapura**	**14.33**	**183**	Pn	**Pn**	**17 14 25.5**	**+0.6**
	17nm,0.3s,baz=313,slow=3.9,SNR=84						
JAY				Sn	**Sn**	**17 17 01.3**	**-1.3**
	1.1nm,0.3s,baz=353,slow=23,SNR=1.9						
JAY				LR	LR	17 19 40.7	
	comp=Z,601nm,18.4s,baz=17,slow=36						
JAY	**Jayapura**	**14.33**	**183**	P	**Pn**	**17 14 25.6**	**+0.6**
	522nm41nm,0.9s						
SRPI	**Serui, Papua**	**14.60**	**201**	P	**Pn**	**17 14 29.0**	**+0.4**
	1μm26nm,0.4s						
MANU	**Manus Island**	**15.06**	**156**		**Pn**	**17 14 33.4**	**-1.1**
MANU				IAmb	IAmb	17 14 35.2	
	comp=Z,47nm,1.2s						
JCJ	**Chichijima**	**15.14**	**3**	LR	LR	17 19 17.4	
	comp=Z,223nm,20.7s,baz=162,slow=33						
SWI	**Sorong**	**16.19**	**219**	P	**Pn**	**17 14 48.9**	**-0.1**
	comp=Z,40nm,1.7s						
SIJI	**Sorong**	**16.19**	**219**	Pn	**Pn**	**17 14 49.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=78,slow=20,SNR=3.2						
DAV	**Davao City (W)**	**16.32**	**254**	LR	LR	17 20 05.7	
	comp=Z,609nm,20.6s,baz=80,slow=33						
TNTI	**Ternate**	**17.78**	**233**		**Pn**	**17 15 09.0**	**+0.2**
TNTI				IAmb	IAmb	17 15 20.7	
	comp=Z,51nm,1.1s						
TNTI	**Ternate**	**17.78**	**233**	P	**Pn**	**17 15 08.6**	**-0.2**
	comp=Z,44nm,1.1s						
LBMI	**Labuha**	**18.59**	**229**	P	**P**	**17 15 18.8**	**+0.8**
	comp=Z,639nmcomp=Z,52nm,1.2s						
RABL	**Rabaul**	**19.23**	**146**	P	**P**	**17 15 25.6**	**+0.5**
RABL				IAmb	IAmb	17 15 36.9	
	comp=Z,28nm,0.7s						
JOW	**Kunigami**	**19.32**	**322**	P	**P**	**17 15 26.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=147,slow=14,SNR=2.7						
JOW				LR	LR	17 22 30.5	
	comp=Z,132nm,20.2s,baz=137,slow=36						
MSAI	**Masohi**	**19.57**	**220**	P	**P**	**17 15 29.8**	**+1.1**
	comp=Z,341nmcomp=Z,45nm,0.9s						
AAI	**Ambon**	**20.30**	**221**	P	**P**	**17 15 37.1**	**+0.4**
	comp=Z,1μmcomp=Z,127nm,0.9s						
KMSI	**Cibinong**	**20.62**	**238**	P	**P**	**17 15 40.9**	**+0.7**
	comp=Z,2μmcomp=Z,196nm,0.8s						
SANI	**Sanana**	**20.65**	**229**	P	**P**	**17 15 38.5**	**-2.0**
	comp=Z,467nmcomp=Z,20nm,0.9s						
SANI	**Sanana**	**20.65**	**229**	P	**P**	**17 15 39.8**	**-0.7**
JHJ	**Hachijo jima 2**	**21.18**	**356**	LR	LR	17 22 12.4	
	comp=Z,606nm,21.4s,baz=188,slow=32						
GTOI	**Gorontalo**	**21.41**	**240**	P	**P**	**17 15 49.5**	**+0.9**
	comp=Z,386nmcomp=Z,42nm,1.0s						
PMG	**Port Moresby**	**21.92**	**165**	P	**P**	**17 15 52.7**	**-1.3**
	comp=Z,33nm,0.9s,baz=6.9,slow=7.6,SNR=11						
PMG				LR	LR	17 24 40.3	
	comp=Z,284nm,18.5s,baz=352,slow=38						
PMG	**Port Moresby**	**21.92**	**165**	P	**P**	**17 15 53.1**	**-1.0**
PMG				IAmb	IAmb	17 15 54.9	
	comp=Z,53nm,1.0s						
PMG	**Port Moresby**	**21.92**	**165**	P	**P**	**17 15 54.5**	**+0.4**
MRSI	**Marisa**	**22.40**	**241**	P	**P**	**17 16 00.4**	**+1.1**
	comp=Z,1μmcomp=Z,101nm,0.8s						
LUWI	**Luwuk**	**22.53**	**236**	P	**P**	**17 16 00.3**	**-0.3**
LUWI	**Luwuk**	**22.53**	**236**	P	**P**	**17 16 00.4**	**-0.3**
	comp=Z,5μmcomp=Z,675nm,1.0s						
LUWI	**Luwuk**	**22.53**	**236**	P	**P**	**17 16 00.0**	**-0.7**
SSLB	**Suanglung**	**22.74**	**304**	P	**P**	**17 16 02.2**	**-0.7**
TOLI2	**Tolitoli**	**23.09**	**244**	P	**P**	**17 16 05.8**	**-0.7**
JNU	**Nakatsue**	**23.23**	**337**	P	**P**	**17 16 07.0**	**-0.7**
	comp=Z,5.4nm,0.7s,baz=142,slow=19,SNR=4.9						
JNU				LR	LR	17 23 48.0	
	comp=Z,274nm,21.2s,baz=186,slow=33						
MPSI	**Mapaga**	**24.23**	**243**	P	**P**	**17 16 17.2**	**0.0**
	comp=Z,461nmcomp=Z,43nm,0.9s						
MJAR	**Matsushiro Arr**	**24.71**	**354**	P	**P**	**17 16 22.0**	**+0.6**
	comp=Z,4.9nm,0.8s,baz=186,slow=9.8,SNR=3.3						
MJAR				LR	LR	17 24 54.7	
	comp=Z,202nm,22.0s,baz=146,slow=34						
H11S3	**WAKE ISLAND Hy**	**25.25**	**72**	T	T	17 40 56.5	
	baz=252,slow=74,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**25.27**	**72**	T	T	17 40 54.2	
	baz=252,slow=74,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**25.27**	**72**	T	T	17 40 50.0	
	baz=252,slow=74,SNR=9.7						
H11N1	**WAKE ISLAND Hy**	**25.70**	**69**	T	T	17 42 04.8	
	baz=248,slow=75						
H11N2	**WAKE ISLAND Hy**	**25.71**	**69**	T	T	17 41 58.3	
	baz=248,slow=75						
H11N3	**WAKE ISLAND Hy**	**25.72**	**69**	T	T	17 41 59.4	
	baz=248,slow=75						
COEN	**Coen**	**25.74**	**176**	P	**P**	**17 16 31.1**	**+0.2**
KWAJ	**Kwajalein Atol**	**25.96**	**94**	P	**P**	**17 16 31.6**	**-1.4**
KDU	**Kakadu**	**25.98**	**200**	P	**P**	**17 16 32.9**	**-0.1**
TTSI	**Tana Toraja**	**26.09**	**237**	P	P	17 16 42.3	+8.2
JSD	**Sado**	**26.19**	**354**	P	**P**	**17 16 33.5**	**-1.2**
JSD				IAmb	IAmb	17 16 50.8	
	comp=Z,28nm,1.2s						
MTN	**Manton Dam**	**26.60**	**203**	P	**P**	**17 16 37.8**	**-0.8**
MTN				IAmb	IAmb	17 16 41.6	
	comp=Z,23nm,0.8s						
MTN	**Manton Dam**	**26.60**	**203**	P	**P**	**17 16 38.2**	**-0.4**
BNSI	**Bone**	**26.65**	**234**	P	**P**	**17 16 40.8**	**+1.6**
	comp=Z,47nm,1.2s						
SPSI	**Sidrap Palu**	**26.66**	**235**	P	**P**	**17 16 39.7**	**+0.5**
	comp=Z,27nm,0.9s						
BKSI	**Bulukumba**	**27.21**	**232**	P	**P**	**17 16 45.7**	**+1.6**
	comp=Z,9.8nm,0.8s						
KAPI	**Kappang**	**27.31**	**233**	P	**P**	**17 16 44.9**	**-0.2**
	comp=Z,8.7nm,0.4s,baz=36,slow=4.2,SNR=8.5						
KAPI				LR	LR	17 27 36.8	
	comp=Z,137nm,18.0s,baz=54,slow=36						
KAPI	**Kappang**	**27.31**	**233**	P	**P**	**17 16 44.7**	**-0.3**
KAPI				IAmb	IAmb	17 16 46.1	
	comp=Z,23nm,1.1s						
BATI	**Baumata**	**28.16**	**219**	P	**P**	**17 16 51.2**	**-1.4**
	comp=Z,36nm,0.8s,baz=98,slow=1.4,SNR=10						
BATI				LR	LR	17 27 21.0	
	comp=Z,511nm,21.6s,baz=53,slow=35						
BATI	**Baumata**	**28.16**	**219**	P	**P**	**17 16 52.4**	**-0.2**
	comp=Z,31nm,1.0s						
KSRS	**Korea Array**	**28.18**	**337**	LR	LR	17 28 22.1	
	comp=Z,219nm,18.9s,baz=140,slow=37						
NJ2	**Nanjing**	**28.86**	**318**	eP	**P**	**17 16 59.4**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KNRA	**Kununurra**	**30.11**	**205**	P	**P**	**17 17 09.5**	**-0.4**
KNRA				IAmb	IAmb	17 17 10.9	
	comp=Z,15nm,0.8s						
KNRA	**Kununurra**	**30.11**	**205**	P	**P**	**17 17 10.3**	**+0.4**
QIZ	**Qiongzhong**	**31.20**	**287**	P	**P**	**17 17 16.7**	**-2.9**
QIZ				S	**S**	**17 22 19.3**	**-3.2**
QIZ				LR	LR		
	comp=Z,180nm,17.5s						
QIZ				LR	LR		
	comp=Z,170nm,22.3s						
QIZ				LR	LR		
	comp=Z,240nm,20.7s						
ASAJ	**Asahikawa**	**32.13**	**2**	LR	LR	17 29 10.4	
	comp=Z,93nm,21.1s,baz=174,slow=34						
CTA	**Charters Tower**	**32.13**	**171**	LR	LR	17 30 09.8	
	comp=Z,223nm,19.9s,baz=346,slow=36						
WB0	**Warramunga Arr**	**32.21**	**192**	P	**P**	**17 17 28.3**	**0.0**
WB0				IAmb	IAmb	17 17 28.6	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**32.36**	**192**	P	**P**	**17 17 29.3**	**-0.4**
WR0				IAmb	IAmb	17 17 30.0	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**32.38**	**192**	P	**P**	**17 17 29.3**	**-0.6**
WRAB				IAmb	IAmb	17 17 30.2	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**32.38**	**192**	P	**P**	**17 17 29.8**	**0.0**
WB2	**Warramunga Arr**	**32.39**	**192**	P	**P**	**17 17 29.6**	**-0.3**
WB2				IAmb	IAmb	17 17 30.8	
	comp=Z,17nm,0.7s						
WRA	**Warramunga Arr**	**32.39**	**192**	P	**P**	**17 17 29.7**	**-0.2**
	comp=Z,12nm,0.6s,baz=12,slow=9.5,SNR=60						
WRA				ScP	**ScP**	**17 23 59.1**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=22,slow=3.6,SNR=5.9						
WRA				LR	LR	17 31 13.0	
	comp=Z,278nm,21.5s,baz=18,slow=37						
WRA	**Warramunga Arr**	**32.39**	**192**	P	**P**	**17 17 29.2**	**-0.7**
USRK	**Ussuriysk Ar.**	**33.20**	**348**	P	**P**	**17 17 38.2**	**+1.5**
	comp=Z,2.5nm,0.7s,baz=149,slow=8.3,SNR=4.9						
USRK				LR	LR	17 30 55.7	
	comp=Z,180nm,18.1s,baz=162,slow=36						
USRK	**Ussuriysk Ar.**	**33.20**	**348**	P	**P**	**17 17 35.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**33.62**	**208**	P	**P**	**17 17 40.1**	**-0.6**
	comp=Z,15nm,0.9s,baz=42,slow=8.1,SNR=30						
FITZ				LR	LR	17 31 26.7	
	comp=Z,121nm,20.6s,baz=30,slow=36						
PWJI	**Pagerwojo**	**35.46**	**237**	P	**P**	**17 17 56.9**	**+0.2**
	comp=Z,73nm,0.9s						
BNX	**BinXian**	**35.78**	**343**	⇑P	**P**	**17 18 01.4**	**+2.3**
BNX				pmax	pmax		
	comp=Z,30nm,1.0s						
BNX				pmax	pmax		
	comp=Z,210nm,6.1s						
AS31	**Alice Springs**	**36.09**	**192**	P	**P**	**17 18 01.9**	**-0.1**
ASAR	**Alice Springs**	**36.09**	**192**	P	**P**	**17 18 02.0**	**0.0**
	comp=Z,5.0nm,0.7s,baz=18,slow=12,SNR=91						
ASAR				PP	**PnPn**	**17 19 26.1**	**+1.5**
	comp=Z,6.2nm,1.1s,baz=16,slow=11,SNR=7.8						
ASAR				ScP	**ScP**	**17 24 13.4**	**+3.7**
	comp=Z,0.6nm,1.1s,baz=22,slow=5.2,SNR=3.7						
ASAR				LR	LR	17 33 17.0	
	comp=Z,277nm,21.6s,baz=18,slow=37						
ASAR	**Alice Springs**	**36.09**	**192**	P	**P**	**17 18 01.5**	**-0.5**
KLR	**Kul'dur**	**38.08**	**350**	LR	LR	17 31 48.8	
	comp=Z,264nm,21.6s,baz=157,slow=33						
LEM	**Lembang**	**38.40**	**243**	P	**P**	**17 18 22.2**	**+0.2**
	comp=Z,19nm,0.8s,baz=354,slow=15,SNR=5.1						
LEM				LR	LR	17 34 02.5	
	comp=Z,160nm,20.9s,baz=59,slow=36						
WRKA	**Warakurna**	**38.87**	**199**	P	**P**	**17 18 26.1**	**+0.6**
HHC	**Hu-ho-hao-te**	**38.97**	**323**	eP	**P**	**17 18 27.0**	**+0.7**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,91nm,6.1s						
PSA00	**Pilbara Seismi**	**39.42**	**213**	P	**P**	**17 18 29.0**	**-1.1**
PSA00				IAmb	IAmb	17 18 30.3	
	comp=Z,9.6nm,0.9s						
PSA00	**Pilbara Seismi**	**39.42**	**213**	P	**P**	**17 18 29.6**	**-0.5**
PSA00				IAmb	IAmb	17 18 30.4	
	comp=Z,23nm,0.8s						
OOD	**Oodnadatta**	**39.84**	**188**	P	**P**	**17 18 34.0**	**+0.5**
CGJI	**Cibinong**	**39.99**	**244**	P	**P**	**17 18 33.1**	**-1.9**
PZH	**PanZhiHua**	**39.99**	**297**	P	**P**	**17 18 38.2**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,80nm,5.3s						
KLSI		**40.02**	**248**	P	**P**	**17 18 35.6**	**+0.4**
	comp=Z,8.4nm,1.5s						
CMAR	**Chiang Mai Arr**	**41.42**	**284**	P	**P**	**17 18 48.5**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=84,slow=7.2,SNR=9.4						
CMAR				LR	LR	17 35 37.8	
	comp=Z,56nm,19.6s,baz=95,slow=36						
CMAR	**Chiang Mai Arr**	**41.42**	**284**	P	**P**	**17 18 46.0**	**-0.8**
LZH	**Lanzhou**	**41.53**	**312**	eP	**P**	**17 18 49.6**	**+1.9**
LZH				pP	pP	17 18 58.2	-1.4
LZH				sP	sP	17 19 05.3	+0.3
LZH				PP	**PP**	**17 20 27.1**	**+2.7**
LZH				sS	sS	17 25 19.2	-1.8
LZH				SS	**SS**	**17 28 02.8**	**-3.5**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,120nm,5.6s						
LZH				LR	LR		
	comp=Z,220nm,13.2s						
LZH				LR	LR		
	comp=Z,290nm,13.5s						
LZH				LR	LR		
	comp=Z,290nm,15.7s						
LCRK	**Leigh Creek**	**42.20**	**184**	P	**P**	**17 18 53.6**	**+0.7**
MULG	**Mulgathing**	**42.52**	**189**	P	**P**	**17 18 56.4**	**+0.9**
PSI	**Prapat**	**43.03**	**261**	P	**P**	**17 19 00.8**	**+0.7**
	comp=Z,5.0nm,0.5s,baz=58,slow=4.1,SNR=6.9						
RPSI	**Rantau Prapat**	**43.06**	**261**	P	**P**	**17 19 00.8**	**+0.6**
PETK	**Petropavlovsk-**	**43.13**	**14**	LR	LR	17 34 14.8	
	comp=Z,149nm,20.8s,baz=204,slow=32						
STKA	**Stephens Creek**	**43.52**	**180**	P	**P**	**17 19 03.1**	**-0.4**
	comp=Z,5.1nm,1.1s,baz=301,slow=10,SNR=5.7						
STKA				PP	**PP**	**17 20 47.8**	**+2.1**
	comp=Z,2.0nm,0.7s,baz=347,slow=16,SNR=2.9						
STKA				LR	LR	17 38 58.9	
	comp=Z,309nm,18.3s,baz=14,slow=39						
STKA	**Stephens Creek**	**43.52**	**180**	P	**P**	**17 19 03.3**	**-0.3**
FORT	**Forrest**	**44.32**	**197**	P	**P**	**17 19 09.1**	**-0.9**
FORT	**Forrest**	**44.32**	**197**	P	**P**	**17 19 10.8**	**+0.8**
BBOO	**Buckleboo**	**44.74**	**186**	P	**P**	**17 19 12.2**	**-1.1**
BBOO				IAmb	IAmb	17 19 23.1	
	comp=Z,22nm,1.1s						
BBOO	**Buckleboo**	**44.74**	**186**	P	**P**	**17 19 13.8**	**+0.5**
HTT	**Hallett**	**45.13**	**183**	P	**P**	**17 19 17.1**	**+0.6**
GTA	**Gaotai**	**45.84**	**314**	eP	**P**	**17 19 25.3**	**+3.0**
GTA				pP	pP	17 19 30.0	-4.3
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	**Ulaanbaatar**	**45.93**	**328**	P	**P**	**17 19 20.8**	**-2.0**
SONM	**Songino Array**	**46.25**	**328**	P	**P**	**17 19 26.4**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=130,slow=8.3,SNR=5.5						
SONM				LR	LR	17 40 35.5	
	comp=Z,115nm,19.5s,baz=138,slow=38						
SONM	**Songino Array**	**46.25**	**328**	P	**P**	**17 19 25.7**	**+0.3**
MORW	**Morawa**	**47.52**	**211**	P	**P**	**17 19 35.6**	**+0.3**
MA2	**Magadan**	**48.11**	**6**	P	**P**	**17 19 39.8**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=159,slow=19,SNR=2.0						
MA2				LR	LR	17 39 33.5	
	comp=Z,80nm,19.8s,baz=168,slow=36						
MA2	**Magadan**	**48.11**	**6**	IAmb	IAmb	17 20 00.8	
	comp=Z,10nm,1.1s						
GOMU	**GeErMu**	**48.36**	**308**	P	P	17 19 36.9	-5.3
GOMU				pP	pP	17 19 40.4	-14
GOMU				sP	sP	17 19 42.5	-17
GOMU				PcP	pwP	17 19 59.9	-0.1
GOMU				S	S	17 26 52.2	+13
GOMU				sS	sS	17 26 58.9	-1.6
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,57nm,5.0s						
SHEM	**Shemya Is, Ala**	**48.44**	**26**	LR	LR	17 38 03.8	
	comp=Z,256nm,20.7s,baz=252,slow=34						
YAK	**Yakutsk**	**50.77**	**353**	P	**P**	**17 19 59.1**	**-0.6**
	comp=Z,11nm,0.7s,baz=137,slow=5.8,SNR=26						
YAK				LR	LR	17 39 32.1	
	comp=Z,177nm,21.8s,baz=100,slow=34						
YAK	**Yakutsk**	**50.77**	**353**	P	**P**	**17 19 58.7**	**-1.0**
SEY	**Seymchan**	**51.56**	**6**	P	**P**	**17 20 06.2**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=111,slow=12,SNR=6.3						
AFI	**Afiamalu**	**53.02**	**118**	LR	LR	17 39 52.3	
	comp=Z,96nm,18.5s,baz=296,slow=33						
WMQ	**Urumqi**	**55.90**	**315**	eP	**P**	**17 20 41.5**	**+3.7**
WMQ				pP	pwP	17 20 54.6	-1.4
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				LR	LR		
	comp=Z,190nm,20.9s						
WMQ				LR	LR		
	comp=Z,110nm,18.3s						
NIKH	**Nikolski High**	**56.94**	**33**	P	**P**	**17 20 44.3**	**-0.5**
	baz=243						
SPIA	**Saint Paul Isl**	**58.27**	**29**	P	**P**	**17 20 53.9**	**-0.1**
	baz=239						
BILL	**Bilibino**	**58.42**	**11**	P	**P**	**17 20 54.6**	**-0.4**
BILL				IAmb	IAmb	17 21 16.2	
	comp=Z,5.3nm,0.9s						
PALK	**Pallekele**	**59.94**	**272**	LR	LR	17 48 35.9	
	comp=Z,38nm,18.1s,baz=206,slow=38						
TIXI	**Tiksi**	**60.21**	**355**	P	**P**	**17 21 07.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=94,slow=19,SNR=5.8						
MK31	**Makanchi Array**	**60.40**	**317**	P	**P**	**17 21 08.9**	**-0.2**
MKAR	**Makanchi Array**	**60.40**	**317**	P	**P**	**17 21 10.9**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=92,slow=9.7,SNR=8.8						
MKAR	**Makanchi Array**	**60.40**	**317**	P	**P**	**17 21 07.7**	**-1.4**
MAKZ	**Makanchi**	**60.61**	**317**	P	**P**	**17 21 10.8**	**+0.2**
ZALV	**Zalesovo Beam**	**61.07**	**326**	P	**P**	**17 21 14.3**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=107,slow=7.4,SNR=4.9						
ZALV				LR	LR	17 50 34.9	
	comp=Z,85nm,18.1s,baz=117,slow=39						
ZALV	**Zalesovo Beam**	**61.07**	**326**	P	**P**	**17 21 12.6**	**-0.9**
GAMB	**Gambell**	**61.28**	**22**	P	**P**	**17 21 15.0**	**+0.3**
GAMB	**Gambell**	**61.28**	**22**	P	**P**	**17 21 15.0**	**+0.3**
	baz=235						
SDPT	**Sand Point**	**62.40**	**33**	P	**P**	**17 21 21.6**	**-0.8**
	baz=250						
TNA	**Tin City**	**63.62**	**21**	P	**P**	**17 21 30.7**	**+0.4**
	baz=238						
KURK	**Kurchatov**	**63.73**	**321**	P	**P**	**17 21 31.8**	**+0.5**
KURK				IAmb	IAmb	17 21 47.0	
	comp=Z,11nm,0.9s						
KURBB	**Kurchatov Arra**	**63.76**	**321**	P	**P**	**17 21 31.8**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=105,slow=6.8,SNR=21						
ANM	**Nome**	**64.04**	**23**	P	**P**	**17 21 33.3**	**+0.2**
	baz=241						
CHIR	**Chirikof Islan**	**65.17**	**34**	P	**P**	**17 21 39.9**	**-0.7**
	baz=254						
RAR	**Rarotonga**	**66.48**	**119**	LR	LR	17 47 00.5	
	comp=Z,40nm,21.2s,baz=298,slow=32						
NRIK	**Noril'sk**	**66.65**	**342**	P	**P**	**17 21 50.2**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=105,slow=8.9,SNR=5.8						
NRIK				LR	LR	17 52 42.7	
	comp=Z,106nm,18.6s,baz=64,slow=38						
NRIK	**Noril'sk**	**66.65**	**342**	P	**P**	**17 21 49.9**	**0.0**
NRIK				IAmb	IAmb	17 21 52.9	
	comp=Z,9.6nm,1.4s						
OHAK	**Old Harbor**	**66.78**	**33**	P	**P**	**17 21 51.1**	**+0.1**
	baz=255						
TTA	**Tatalina**	**67.16**	**26**	P	**P**	**17 21 54.2**	**+0.8**
	baz=251						
N19K	**Bonanza Creek**	**67.17**	**29**	P	**P**	**17 21 53.6**	**+0.1**
	baz=253						
KDAK	**Kodiak Island**	**67.29**	**32**	LR	LR	17 47 12.5	
	comp=Z,132nm,21.9s,baz=236,slow=32						
L19K	**White Mountain**	**67.42**	**27**	P	**P**	**17 21 54.9**	**-0.1**
	baz=252						
L20K	**Farewell, AK**	**67.95**	**27**	P	**P**	**17 21 58.2**	**-0.1**
	baz=253						
KKAR	**Karatay Array**	**68.03**	**312**	P	**P**	**17 21 59.4**	**+0.2**
M20K	**Styx River**	**68.11**	**28**	P	**P**	**17 21 59.0**	**-0.4**
	baz=254						

K20K Telida 68.13 26 P P 17 21 59.4 0.0
baz=252
BRSE Bradley Lake S 68.69 30 P P 17 22 02.2 -0.7
baz=257
PPLA Purkeypile 68.81 27 P P 17 22 04.0 +0.2
baz=254
CAST Castle Rocks 69.00 26 P P 17 22 04.2 -0.7
CAST IAmb IAmb 17 22 05.7
comp=Z,6.0nm,0.8s
CAST Castle Rocks 69.00 26 P P 17 22 04.1 -0.8
baz=254
CHUM Lake Minchumin 69.03 26 P P 17 22 05.0 0.0
baz=254
IMAR Indian Mountai 69.08 23 P P 17 22 05.5 +0.2
BVAR Borovoye Array 69.17 322 P P 17 22 07.3 +1.2
comp=Z,1.1nm,0.5s,baz=165,slow=6.0,SNR=13
BRVK Borovoye 69.24 322 P P 17 22 06.3 -0.2
H21K Melozitna Rive 69.35 24 P P 17 22 07.5 +0.5
H21K IAmb IAmb 17 22 08.9
comp=Z,14nm,1.4s
H21K Melozitna Rive 69.35 24 P P 17 22 06.3 -0.6
baz=253,SNR=5.2
SEW Seward 69.41 30 P P 17 22 07.0 -0.3
baz=258
I21K Tanana 69.54 24 P P 17 22 07.9 -0.2
I21K Tanana 69.54 24 P P 17 22 08.4 +0.3
baz=254
KTH Kantishna Hill 69.54 26 P P 17 22 07.9 -0.3
KTH IAmb IAmb 17 22 09.1
comp=Z,9.8nm,1.0s
CUT Chulitna 69.54 28 P P 17 22 07.3 -0.8
baz=256
BPAW Bear Paw Mtn. 69.66 26 P P 17 22 07.8 -1.1
baz=255
TRF Thorofare Moun 69.79 26 P P 17 22 08.6 -1.3
TRF Thorofare Moun 69.79 26 P P 17 22 08.6 -1.3
baz=256
A21K Barrow 70.00 18 P P 17 22 10.6 -0.2
baz=247
MLY Manley 70.00 25 P P 17 22 10.2 -0.8
MLY Manley 70.00 25 P P 17 22 10.0 -1.0
baz=255,SNR=5.5
PWL Port Wells 70.10 29 P P 17 22 11.0 -0.7
PWL IAmb IAmb 17 22 12.0
comp=Z,14nm,0.8s
PWL Port Wells 70.10 29 P P 17 22 10.9 -0.7
baz=258
KNK Knik Glacier 70.16 29 P P 17 22 11.5 -0.5
baz=258
SML Sawmill 70.30 28 P P 17 22 12.3 -0.5
baz=258
RND Reindeer 70.41 27 P P 17 22 13.0 -0.6
RND IAmb IAmb 17 22 35.5
comp=Z,20nm,1.5s
MCK McKinley 70.44 26 P P 17 22 13.0 -0.7
MCK IAmb IAmb 17 22 35.7
comp=Z,9.6nm,1.1s
MCK McKinley 70.44 26 P P 17 22 13.4 -0.4
baz=257
NEA2 Nenana 70.59 25 P P 17 22 14.5 -0.1
baz=256
I23K Minto, Yukon-K 70.60 25 P P 17 22 14.4 -0.2
I23K Minto, Yukon-K 70.60 25 P P 17 22 13.7 -0.8
baz=256,SNR=6.1
WAT6 Susitna Watana 70.73 28 P P 17 22 14.7 -0.9
baz=258
SCM Sheep Creek Mo 70.77 28 P P 17 22 16.0 +0.2
baz=259
COLD Coldfoot 70.80 23 P P 17 22 16.0 +0.2
COLD Coldfoot 70.80 23 P P 17 22 16.1 +0.3
baz=254,SNR=7.0
WRH Wood River Hil 70.97 26 P 17 22 16.2 -0.6
WRH IAmb IAmb 17 22 16.8
comp=Z,7.3nm,1.0s
DHY Denali Highway 70.99 27 P P 17 22 16.2 -1.0
DHY Denali Highway 70.99 27 P P 17 22 17.0 -0.2
baz=259
MDM Murphy Dome 71.02 25 P P 17 22 17.1 -0.1
M24K Tolsona, Glenn 71.36 28 P P 17 22 18.7 -0.6
baz=260
H24K Noodor Dome 71.36 24 P P 17 22 19.3 0.0
H24K IAmb IAmb 17 22 20.7
comp=Z,12nm,1.3s
H24K Noodor Dome 71.36 24 P P 17 22 19.9 +0.6
baz=257
KLU Klutina 71.37 29 P P 17 22 19.2 -0.3
baz=260
POKR Poker Plat Res 71.39 25 P P 17 22 18.5 -0.9
baz=258
TOLK Toolik Lake Re 71.41 21 P P 17 22 19.4 -0.1
TOLK IAmb IAmb 17 22 22.3
comp=Z,15nm,1.4s
TOLK Toolik Lake Re 71.41 21 P P 17 22 20.3 +0.8
baz=255
HDA Harding Lake 71.44 26 P P 17 22 17.6 -2.2
HDA Harding Lake 71.44 26 P P 17 22 18.9 -0.8
baz=259
IL31 71.54 25 P P 17 22 18.0 -2.2
ILAR Eielson Array 71.54 25 P P 17 22 18.9 -1.4
comp=Z,2.5nm,0.7s,baz=246,slow=6.1,SNR=44
ILAR LR LR 17 51 36.1
comp=Z,150nm,20.6s,baz=266,slow=34
ILAR Eielson Array 71.54 25 P P 17 22 18.3 -2.0
PAX Paxson 71.83 27 P P 17 22 21.1 -1.1
PAX Paxson 71.83 27 P P 17 22 21.7 -0.5
baz=260,SNR=6.0
KAIM Kayak Island 71.86 31 P P 17 22 21.7 -0.7
baz=262
HARP HAARP 71.87 28 P P 17 22 21.9 -0.5
baz=261
BMRM Bremner River 71.92 30 P P 17 22 21.4 -1.3
BMRM IAmb IAmb 17 22 24.2
comp=Z,9.7nm,1.0s
BMRM Bremner River 71.92 30 P P 17 22 21.8 -1.0
baz=262
N25K Chitina, Valde 72.01 29 P P 17 22 21.2 -2.1
baz=262
J25K Salcha River, 72.15 26 P P 17 22 23.5 -0.6
J25K Salcha River, 72.15 26 P P 17 22 23.0 -1.1
baz=260
RIDG Independent Ri 72.23 27 P P 17 22 23.1 -1.4
RIDG IAmb IAmb 17 22 25.6
comp=Z,9.0nm,0.9s
RIDG Independent Ri 72.23 27 P P 17 22 23.2 -1.4
baz=261,SNR=5.2
GLB Gilahina Butte 72.36 29 P P 17 22 24.1 -1.3
DOT Dot Lake 72.56 27 P P 17 22 25.9 -0.6
DOT IAmb IAmb 17 22 27.4
comp=Z,8.9nm,0.9s
MENT Mentasta 72.61 28 P 17 22 26.5 -0.3
SCRK Sand Creek 72.64 26 P P 17 22 27.1 0.0
SCRK Sand Creek 72.64 26 P P 17 22 26.2 -0.9
baz=261
L26K Log Cabin Wild 72.79 27 P P 17 22 26.9 -1.0
L26K IAmb IAmb 17 22 29.5
comp=Z,17nm,1.4s
L26K Log Cabin Wild 72.79 27 P P 17 22 27.4 -0.5
baz=262
J26L Joseph Creek 72.90 26 P P 17 22 27.8 -0.8
baz=262,SNR=5.0
BMAR Burnt Mountain 72.97 23 P P 17 22 29.4 +0.6
M27K Edge Creek, AK 73.38 28 P P 17 22 31.3 -0.2
M27K IAmb IAmb 17 22 48.8
comp=Z,13nm,1.4s
M27K Edge Creek, AK 73.38 28 P P 17 22 30.8 -0.8
baz=264
L27K Beaver Creek, 73.48 28 P P 17 22 31.6 -0.3
L27K Beaver Creek, 73.48 28 P P 17 22 31.7 -0.3
baz=264
BCAR Beaver Creek A 73.50 28 P P 17 22 31.9 -0.2
TABL Table Mountain 73.55 30 P P 17 22 32.4 -0.2
TABL IAmb IAmb 17 22 33.2
comp=Z,7.5nm,0.9s
BVCY Beaver Creek 73.86 28 P P 17 22 34.3 +0.1
baz=265
EGAK Eagle 73.97 26 P P 17 22 34.1 -0.6
EGAK Eagle 73.97 26 P P 17 22 35.1 +0.4
baz=264
YUK3 Moose Creek 73.99 29 P P 17 22 34.4 -0.8
baz=265,SNR=6.1
PPT2 Papeete2 74.17 112 *e*LR LR 17 45 25.5
comp=Z,204nm,24.5s
PNL Peninsula 74.37 31 P P 17 22 36.7 -0.5
baz=267
DAWY Dawson 74.66 27 P P 17 22 38.5 -0.3
DAWY Dawson 74.66 27 P P 17 22 38.9 0.0
baz=266,SNR=5.6
YUK4 Talbot Arm 74.83 29 P P 17 22 39.7 -0.4
baz=267,SNR=5.9
YUK6 Outpost Mounta 74.95 30 P P 17 22 40.4 -0.4
baz=267
HYT Haines Junctio 75.36 30 P P 17 22 42.5 -0.5
HYT IAmb IAmb 17 22 44.7
comp=Z,9.2nm,1.0s
HYT Haines Junctio 75.36 30 P P 17 22 43.4 +0.4
baz=268,SNR=7.3
ABKAR Akbulak array 75.53 318 P P 17 22 43.4 -0.6
ABKAR Akbulak array 75.53 318 P P 17 22 42.6 -1.4
ABKAR IAmb IAmb 17 22 58.1
comp=Z,5.5nm,1.4s
M30M Minto, Yukon 75.75 28 P P 17 22 44.9 -0.2
M30M Minto, Yukon 75.75 28 P P 17 22 44.7 -0.5
baz=268,SNR=5.7
TBI Tubuai 76.13 118 *e*LR LR 17 45 45.8
comp=Z,141nm,29.0s
N31M Braeburn, Yuko 76.21 29 P P 17 22 48.1 +0.3
N31M IAmb IAmb 17 22 50.0
comp=Z,15nm,1.3s
N31M Braeburn, Yuko 76.21 29 P P 17 22 46.9 -0.8
baz=270
ARU Arti 76.23 325 P P 17 22 46.9 -1.0
comp=Z,0.8nm,0.5s,baz=94,slow=19,SNR=6.5
ARU LR LR 17 58 37.7
comp=Z,140nm,20.0s,baz=80,slow=37
ARU Arti 76.23 325 P P 17 22 47.4 -0.5
WHY Whitehorse 76.65 30 P P 17 22 50.5 +0.2
WHY IAmb IAmb 17 22 52.1
comp=Z,8.8nm,1.1s
WHY Whitehorse 76.65 30 P P 17 22 50.1 -0.2
baz=270,SNR=5.2
AKTO Aktyubinsk 76.73 319 LR LR 17 58 55.3
comp=Z,72nm,18.5s,baz=76,slow=37
M31M Drury Creek, Y 76.87 29 P P 17 22 51.2 -0.2
M31M IAmb IAmb 17 22 52.6
comp=Z,7.5nm,1.1s
M31M Drury Creek, Y 76.87 29 P P 17 22 51.0 -0.5
baz=271,SNR=5.5
INK Inuvik 77.21 22 LR LR 17 57 50.6
comp=Z,37nm,19.5s,baz=236,slow=36
INK Inuvik 77.21 22 P P 17 22 53.2 0.0
INK IAmb IAmb 17 22 54.9
comp=Z,8.1nm,1.1s
INK Inuvik 77.21 22 P P 17 22 53.3 +0.1
baz=270
GEYT Alibeck 77.54 306 LR LR 18 01 12.1
comp=Z,53nm,19.8s,baz=127,slow=39
P33M Teslin, Yukon 77.68 31 P P 17 22 55.9 -0.2
P33M Teslin, Yukon 77.68 31 P P 17 22 56.2 +0.1
baz=272
WRAK Wrangell Islan 78.12 35 P P 17 22 58.1 -0.3
baz=274
WSAR Wadi Sarin 78.84 292 LR LR 18 01 52.1
comp=Z,23nm,18.1s,baz=104,slow=39
DLBC Dease Lake 79.22 32 P P 17 23 04.7 0.0
DLBC IAmb IAmb 17 23 06.9
comp=Z,10.0nm,1.1s
TGTN Hyland Airport 79.80 29 P P 17 23 07.3 -0.4
baz=276
A36M Sachs Harbour 79.82 18 P P 17 23 06.9 -0.5
A36M IAmb IAmb 17 23 08.8
comp=Z,11nm,1.0s
A36M Sachs Harbour 79.82 18 P P 17 23 07.5 +0.1
baz=277
C36M Paulatuk 80.56 21 P P 17 23 11.1 -0.4
C36M IAmb IAmb 17 23 12.7
comp=Z,17nm,1.3s
C36M Paulatuk 80.56 21 P P 17 23 10.8 -0.7
baz=278
TAOE Nuku Hiva Isla 80.66 101 *e*LR LR 17 48 10.4
comp=Z,92nm,21.9s
KIRV Kirov 80.99 328 LR LR 18 03 03.7
comp=Z,111nm,18.6s,baz=57,slow=38
BBB Bella Bella 81.01 39 LR LR 17 53 46.4
comp=Z,144nm,19.2s,baz=275,slow=32
EUNU Eureka 84.99 7 P P 17 23 34.6 +0.2
EUNU IAmb IAmb 17 23 35.6
comp=Z,5.0nm,0.9s
D03D Eldon 85.02 43 P P 17 23 33.8 -1.3
baz=282
SPITS Spitsbergen Ar 85.15 350 P P 17 23 35.7 +0.5
comp=Z,4.4nm,1.0s,baz=131,slow=10,SNR=5.8
SPITS LR LR 18 01 10.2
comp=Z,63nm,21.6s,baz=264,slow=35
B05A Bryant 85.51 42 P P 17 23 36.1 -1.4
baz=283
E04D Cinebar 85.57 43 P P 17 23 36.9 -1.0
baz=283
K02D Willamette Mer 85.62 47 P P 17 23 37.5 -0.9
baz=282
I03D Drain, OR 85.64 46 P P 17 23 38.1 -0.1
baz=282
H04D Lebanon 85.89 46 P P 17 23 38.4 -1.2
baz=283
YKA Yellowknife Ar 85.90 27 P P 17 23 39.3 +0.2
comp=Z,2.4nm,0.5s,baz=290,slow=5.1,SNR=35
YKA Yellowknife Ar 85.90 27 P P 17 23 38.9 -0.3
H04A Detroit Lake 86.24 45 P P 17 23 41.6 +0.3
I04A Tendick Farm, 86.28 46 P P 17 23 40.5 -1.0
baz=283
HOOD Mount Hood Mea 86.47 45 P P 17 23 42.5 0.0
M02C Callahan 86.49 49 P P 17 23 43.2 +0.5
M02C Callahan 86.49 49 P P 17 23 41.2 -1.5
baz=283
YBH Yreka Blue Hor 86.53 48 LR LR 17 53 57.9
comp=Z,122nm,21.7s,baz=350,slow=30
YBH Yreka Blue Hor 86.53 48 P P 17 23 43.5 +0.7
YBH IAmb IAmb 17 23 45.5
comp=Z,12nm,1.2s
J04D Umpqua Nationa 86.62 47 P P 17 23 43.6 +0.1
J04D Umpqua Nationa 86.62 47 P P 17 23 42.3 -1.2
baz=283
LTY Liberty 86.68 43 P P 17 23 42.9 -0.5
LTY IAmb IAmb 17 23 44.0
comp=Z,9.1nm,1.0s
N02D Trinity Center 86.70 49 P P 17 23 42.5 -1.1
baz=283
L04D Klamath Falls 86.71 48 P P 17 23 42.6 -1.2
baz=283
G05D Wamic, OR 86.72 45 P P 17 23 42.2 -1.5
baz=284
O02D Mt. Diablo Mer 86.81 50 P P 17 23 43.2 -1.0
baz=283
I05D Terrebonne, OR 86.91 45 P P 17 23 43.3 -1.3
baz=284
RES Resolute Bay 86.96 13 LR LR 18 06 45.3
comp=Z,37nm,18.9s,baz=292,slow=38
RES Resolute Bay 86.96 13 P P 17 23 43.6 -0.5
RES IAmb IAmb 17 23 45.9
comp=Z,8.9nm,1.1s
K04D Chiloquin, OR 87.02 47 P P 17 23 44.6 -0.6
baz=283
M04C Macdoel 87.15 48 P P 17 23 44.5 -1.5
M04C Macdoel 87.15 48 P P 17 23 45.3 -0.6
baz=283
J05D Fort Rock, OR 87.23 46 P P 17 23 45.7 -0.6
baz=284
B08A Colville Reser 87.28 41 P P 17 23 46.0 -0.3
PINE Pine Mountain 87.32 46 P P 17 23 47.2 +0.4
GNI Garni 87.45 310 LR LR 18 07 24.4
comp=Z,5.5nm,18.6s,baz=88,slow=39
O03E Paynes Creek 87.52 49 P P 17 23 47.5 -0.2
O03E Paynes Creek 87.52 49 P P 17 23 46.4 -1.3
baz=284
K05A Summer Lake 87.61 47 P P 17 23 48.6 +0.4
ARCES ARCESS Array B 87.63 342 P P 17 23 46.8 -0.7
comp=Z,4.2nm,1.0s,baz=64,slow=7.5,SNR=16
ARCES LR LR 18 06 08.0
comp=Z,93nm,20.9s,baz=62,slow=38
ARCES ARCESS Array B 87.63 342 IAmb IAmb 17 23 47.8
comp=Z,9.2nm,1.2s
ORV Oroville 87.92 50 P P 17 23 48.8 -0.7
ORV IAmb IAmb 17 23 51.1
comp=Z,7.5nm,1.1s
MOD Modoc Plateau 88.23 48 P P 17 23 50.8 -0.4
I07A Izee 88.25 45 P P 17 23 51.5 +0.4
I07A IAmb IAmb 17 23 52.5
comp=Z,7.1nm,1.1s
BEKR Beckworth 88.70 50 P P 17 23 53.6 +0.2
NEW Newport 88.73 41 LR LR 17 56 35.5
comp=Z,192nm,21.9s,baz=18,slow=31
NEW Newport 88.73 41 P P 17 23 52.6 -0.6
baz=286
MPK Martis Peak 89.08 50 P P 17 23 56.1 +0.7
CMB Columbia Colle 89.13 51 P P 17 23 54.8 -0.5
CMB IAmb IAmb 17 23 56.6
comp=Z,4.6nm,0.8s
J08A Circle Bar Ran 89.17 46 P P 17 23 55.3 -0.2
PNTR Pine Nut 89.46 50 P P 17 23 56.0 -1.1
PAHR Pah Rah Range 89.46 50 P P 17 23 56.8 -0.2
PAHR IAmb IAmb 17 23 58.9
comp=Z,7.3nm,1.0s
YERR Yerington 89.76 50 P P 17 23 58.4 0.0
YERR IAmb IAmb 17 24 00.6
comp=Z,4.6nm,0.8s
VNDA Vanda 90.02 176 LR LR 18 04 40.2
comp=Z,76nm,18.1s,baz=308,slow=36
OMMB Old Mammoth Mi 90.30 52 P P 17 24 01.8 +0.7
OMMB IAmb IAmb 17 24 02.7
comp=Z,4.1nm,0.9s
RYN Ryan 90.39 50 P P 17 24 02.0 +0.6
RYN IAmb IAmb 17 24 03.1
comp=Z,6.9nm,1.0s
LHV Little Huntoon 90.51 51 P P 17 24 02.8 +1.1
LHV IAmb IAmb 17 24 04.4
comp=Z,4.9nm,0.9s
KVN Kaiserville 90.60 50 P P 17 24 02.8 +0.4
KVN IAmb IAmb 17 24 03.9
comp=Z,7.2nm,1.0s
NVAR Mina Array Bea 90.61 51 P P 17 24 03.1 +0.7
comp=Z,4.7nm,0.6s,baz=268,slow=5.9,SNR=34
NVAR Mina Array Bea 90.61 51 P P 17 24 02.6 +0.1
NV11 Mina Array Sit 90.72 51 P P 17 24 02.9 +0.1
NV11 IAmb IAmb 17 24 05.1
comp=Z,8.6nm,1.2s
BMN Battle Mountai 90.87 48 P P 17 24 03.6 +0.1
BMN IAmb IAmb 17 24 05.8
comp=Z,4.8nm,1.1s
MFID Camas Ranch 91.00 45 P P 17 24 03.8 -0.2
FINES FINESS Array B 91.24 334 P P 17 24 03.4 -1.1
comp=Z,3.5nm,0.7s,baz=68,slow=4.8,SNR=23
FINES LR LR 18 07 05.1
comp=Z,44nm,20.0s,baz=62,slow=37
CWC Cottonwood Cre 91.32 52 P P 17 24 04.5 -1.2
baz=286
LCH Last Change Ra 91.44 52 P P 17 24 06.5 +0.3
LCH IAmb IAmb 17 24 07.7
comp=Z,3.0nm,1.1s
TPH Tonopah 91.53 51 P P 17 24 06.1 -0.5
EDW2 Edwards Air Fo 91.81 54 P P 17 24 06.5 -1.3
baz=286
CIS Catalina Islan 91.87 55 P P 17 24 06.8 -1.3
baz=286
SCI2 San Clemente I 91.87 56 P P 17 24 08.2 +0.1
baz=285
FMP Fort Macarthur 91.88 55 P P 17 24 08.4 +0.3
baz=286
MPMC Manual Prospec 91.88 53 P P 17 24 08.5 +0.1
baz=286
LRMC Laurel Mtn Rad 91.89 53 P P 17 24 07.9 -0.4
baz=286
HLID Hailey 91.94 45 P P 17 24 08.7 +0.3
HLID IAmb IAmb 17 24 09.9
comp=Z,2.9nm,0.9s
HLID Hailey 91.94 45 P P 17 24 07.3 -1.1
baz=288
ELK Elko 92.22 48 P P 17 24 10.2 +0.3
ELK IAmb IAmb 17 24 11.8
comp=Z,2.7nm,1.1s
BFSC Mount Baldy Ra 92.25 54 P P 17 24 09.5 -0.5
baz=286
FURC Furnace Creek, 92.25 52 P P 17 24 09.3 -0.5
baz=286
QSM Queen of Sheba 92.39 53 P P 17 24 10.5 +0.1
GWY Greenwater Val 92.48 52 P P 17 24 11.5 +0.4
GWY IAmb IAmb 17 24 12.6
comp=Z,5.7nm,1.0s
TPNV Topopah Spring 92.59 52 P P 17 24 11.4 -0.1
TPNV IAmb IAmb 17 24 13.1
comp=Z,3.6nm,0.9s
TPNV Topopah Spring 92.59 52 P P 17 24 10.9 -0.7
baz=287
GSC Goldstone, Bar 92.63 53 P P 17 24 12.0 +0.3
GSC Goldstone, Bar 92.63 53 P P 17 24 10.4 -1.3
baz=286
R11A Troy Canyon, C 92.68 50 P P 17 24 11.4 -0.6
baz=287
HEC Hector,Ludlow 93.13 54 P P 17 24 14.0 0.0
baz=287
BOZ Bozeman (W) 93.14 42 P P 17 24 13.6 -0.3
baz=290
TUQ Turquoise Moun 93.28 53 P P 17 24 13.7 -1.0
baz=287
PFO Pinyon Flats O 93.38 55 P P 17 24 14.8 -0.4
baz=287
TPFO Pinon Flats 93.39 55 P P 17 24 14.5 -0.8
baz=287
EGMT Eagleton 93.47 40 P P 17 24 13.8 -1.5
baz=292
MNK Minsk 93.53 328 *i* LRM MLR 18 08 15.4
comp=E,21nm,21.7s
MNK Minsk 93.53 328 *i* P P 17 24 12.3 -3.0
comp=E,2.0nm,0.9s
MNK Minsk 93.53 328 *i* P P 17 24 12.3 -3.0
comp=N,16nm,0.9s
MNK Minsk 93.53 328 *i* P P 17 24 12.3 -3.0
comp=Z,6.0nm,0.6s,baz=243
MNK Minsk 93.53 328 *i* pP pP 17 24 29.3 +0.8
MNK Minsk 93.53 328 *i* PP PP 17 27 57.1 -2.6
MNK Minsk 93.53 328 *i* PPP PPP 17 29 57.8
MNK Minsk 93.53 328 *i* S **SKSac** 17 34 46.5 +0.9
MNK Minsk 93.53 328 *i* sS S 17 35 11.4 -8.3
MNK Minsk 93.53 328 *i* SS SS 17 41 35.4 -1.4
MNK Minsk 93.53 328 *i* SSS SSS 17 45 16.4
MNK Minsk 93.53 328 *i* LR LR 18 03 47.6
MNK Minsk 93.53 328 *i* LRM MLR 18 07 29.8
comp=N,198nm,21.0s
MNK Minsk 93.53 328 *i* LRM MLR 18 07 59.5
comp=Z,87nm,22.4s
MONP2 Monument Peak 93.61 55 P P 17 24 15.1 -1.4
baz=287
BELC Belle Mtn. Jos 93.64 54 P P 17 24 15.5 -0.9
baz=287
HVU Hansel Valley 93.65 46 P P 17 24 15.6 -0.8
HVU IAmb IAmb 17 24 18.4
comp=Z,4.2nm,1.1s
GMRC Granite Mounta 93.68 53 P P 17 24 15.6 -1.0
baz=287
YMR Madison River 93.91 43 P P 17 24 18.5 +0.9
PSUT Pine Spring 93.92 49 P P 17 24 17.3 -0.4
PSUT IAmb IAmb 17 24 21.7
comp=Z,4.8nm,1.0s
IKP In-Ko-Pah, Jac 93.94 56 P P 17 24 16.7 -1.1
baz=287
YHH Holmes Hill 93.94 43 P P 17 24 18.1 +0.3
YHH IAmb IAmb 17 24 20.2
comp=Z,4.9nm,1.3s
YNR Norris Junctio 94.08 43 P P 17 24 20.0 +1.6
YUH Yuha Desert 94.09 56 P P 17 24 18.6 +0.3
YUH IAmb IAmb 17 24 19.7
comp=Z,6.5nm,1.1s
SWSC Sam W. Stewart 94.10 55 P P 17 24 18.0 -0.4
baz=287
DUG Dugway, Tooele 94.15 48 P P 17 24 17.8 -0.9
baz=289
BC3 Big Chuckawall 94.17 55 P P 17 24 18.1 -0.8
baz=287
H17A Grant Village 94.26 43 P P 17 24 21.1 +1.9
H17A Grant Village 94.26 43 P P 17 24 18.5 -0.7
baz=291
IRM Iron Mountain 94.27 54 P P 17 24 18.7 -0.5
baz=287
AKASG Malin Array Be 94.41 324 LR LR 18 09 34.8
comp=Z,70nm,19.2s,baz=58,slow=37
NEE2 Needles Airpor 94.50 53 P P 17 24 19.7 -0.5
baz=288
GLA Glamis 94.85 55 P P 17 24 21.0 -0.8
baz=288
RLMT Red Lodge 94.86 42 P P 17 24 21.7 -0.2
baz=292
PDMCI Parker Dam,Lak 95.02 54 P P 17 24 21.8 -0.8
baz=288
FFC Flin Flon 95.03 31 P P 17 24 22.3 +0.2
KNB Kanab 95.18 51 P P 17 24 23.9 +0.4
KNB IAmb IAmb 17 24 25.9
comp=Z,4.6nm,1.0s
BW06 Boulder Array 95.55 44 P P 17 24 23.9 -1.2
baz=292
PDAR Pinedale Array 95.55 44 P P 17 24 24.4 -0.7
comp=Z,0.3nm,0.8s,baz=224,slow=7.5,SNR=2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	95.74	312	LR	LR	18 13 24.9	
	comp=Z,34nm,18.7s,baz=57,slow=39						
Y14A	Wickenburg	96.03	54	P	P	17 24 27.6	+0.4
LAO	LASA Array	96.20	40	P	P	17 24 26.3	-1.4
	baz=294						
MAW	Mawson	96.58	202	LR	LR	18 07 17.3	
	comp=Z,145nm,20.7s,baz=102,slow=35						
DGMT	Dagmar	96.68	38	P	P	17 24 29.7	-0.2
	baz=296						
WUAZ	Wupatki	96.78	52	P	P	17 24 28.9	-1.9
	baz=290						
214A	Organ Pipe Nat	96.81	55	P	P	17 24 29.2	-1.6
	baz=289						
HFS	Hagfors	97.03	336	LR	LR	18 12 44.2	
	comp=Z,92nm,18.6s,baz=44,slow=38						
NOA	NORSAR Array B	97.39	338	LR	LR	18 13 21.0	
	comp=Z,29nm,18.1s,baz=50,slow=38						
AGMN	Agassiz Nation	101.60	35	P	Pdif	17 24 51.1	-0.8
	baz=303						
M53A	WI Miller and	114.28	34	P	PKiKP	17 29 38.5	-0.8
	baz=314						
L61B	Northampton	117.54	28	P	PKPdf	17 29 44.8	-0.7
	baz=322						
ZARC	Zaragoza, Cauc	139.12	64	PKPdf	PKPdf	17 30 24.0	-3.2
PLCA	Paso Flores	139.84	141	PKP	PKPdf	17 30 29.5	+1.7
	comp=Z,1.8nm,0.8s,baz=270,slow=5.1,SNR=4.5						
CO01	Juntas del Tor	145.69	126		PKPdf	17 30 36.0	-2.6
PB11	IPOC Station P	149.15	109		PKPdf	17 30 46.2	+1.6
LVC	Limon Verde	149.22	114	PKPab	PKPbc	17 30 50.3	+1.2
LPAZ	La Paz	151.04	102	PKPbc	PKPbc	17 30 55.1	+1.1
	comp=Z,15nm,0.8s,baz=300,slow=1.8,SNR=45						
LPAZ	La Paz	151.04	102		PKPbc	17 30 55.0	+1.0

*TIR **04** 17:20:39.8, 40°.51N×19°.55E, h20km±1km, Md1.7, Ml2.5*
*ATH **04** 17:20:40.9, 40°.52N×19°.52E, h12km±4km, ML1.8/5, Error ellipse: s-maj=5.3km s-min=1.6km az=170.0*
ISC 04 17:20:39.0±1.0**, 40°.58N**±0°.03×**19°.48E**±0°.04**, h15**km±6km**, n17,** σ0^{s}66/34**, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.12	174	P	Pg	17 20 42.5	+0.1
	baz=228						
VLO				S	Sg	17 20 44.9	+0.2
	baz=228						
VLO				AMP			
	comp=E,8.0nm,0.1s,baz=228						
SRN	Sarande	0.81	150	P	Pg	17 20 53.4	-1.3
	baz=151						
SRN				S	Sg	17 21 04.8	-0.5
	baz=151						
KEK	Kerkira	0.90	164	P	Pb	17 20 56.6	+0.3
KEK				S	Sb	17 21 08.7	+0.6
KEK				AML	AML	17 21 09.6	
	comp=N,106µm,0.3s						
KEK				AML	AML	17 21 10.3	
	comp=E,140µm,0.4s						
KASA	Kassiopi	0.91	157	P	Pn	17 20 57.2	0.0
KASA				S	Sg	17 21 07.1	-1.4
SCTE	Santa Cesarea	0.93	237	P	Pn	17 20 57.9	+0.5
SCTE				S	Sn	17 21 11.3	+0.8
SCTE				AML	AML	17 21 13.0	
	comp=N,123µm,0.2s						
SCTE				AML	AML	17 21 13.6	
	comp=E,108µm,0.3s						
SCTE	Santa Cesarea	0.93	237	P	Pn	17 20 58.0	+0.5
	baz=243						
SCTE				S	Sn	17 21 11.1	+0.7
	baz=243						
NEST	Nestorio	1.21	98	P	Pb	17 21 01.7	+0.1
NEST				S	Sn	17 21 19.0	+1.5
NEST				AML	AML	17 21 21.5	
	comp=N,59µm,0.6s						
NEST				AML	AML	17 21 23.5	
	comp=E,80µm,0.6s						
IGT	Igoumenitsa	1.24	148	P	Pn	17 21 01.6	-0.1
IGT				S	Sb	17 21 17.7	-0.1
IGT				AML	AML	17 21 22.0	
	comp=N,61µm,0.4s						
IGT				AML	AML	17 21 22.1	
	comp=E,41µm,0.2s						
IGT	Igoumenitsa	1.24	148	P	Pn	17 21 01.8	+0.1
	baz=148						
IGT				S	Sb	17 21 17.8	+0.1
	baz=148						
FNA	Florina	1.46	81	P	Pg	17 21 06.2	-0.7
FNA				S	Sg	17 21 26.6	+0.7
FNA				AML	AML	17 21 29.5	
	comp=N,82µm,0.4s						
FNA				AML	AML	17 21 30.1	
	comp=E,111µm,0.4s						
FNA	Florina	1.46	81	P	Pg	17 21 06.3	-0.7
	baz=78						
FNA				S	Sg	17 21 26.7	+0.7
	baz=78						
LSTV	Lastovo	2.92	319	*e*Pn	Pn	17 21 24.2	-0.6
LSTV				Sn	Sn	17 21 59.2	-0.4
RICI	Ricice	3.39	330	*e*Pn	Pn	17 21 31.8	+0.4
RICI				Sn	Sn	17 22 10.7	-0.7
KIJV	Kijevo	4.11	327	*e*Pn	Pn	17 21 41.3	+0.1
KIJV				Sn	Sn	17 22 29.4	+0.3
ZIRJ	Zirje	4.19	318	*e*Pn	Pn	17 21 43.3	+1.0
ZIRJ				Sn	Sn	17 22 30.3	-0.7
MORI	Morici	4.31	321	*e*Pn	Pn	17 21 44.5	+0.5
MORI				Sn	Sn	17 22 34.0	-0.1
DUGI	Dugi Otok	4.73	318	*e*Pn	Pn	17 21 49.8	+0.1
DUGI				Sn	Sn	17 22 44.3	0.0

*CNRM **04** 17:24:39.4, 35°.66N×3°.67W, h26km, ml2.9*
*SFS **04** 17:24:39.0, 35°.56N×3°.62W, h21km, ML2.9, ALBORAN SUR*
*MDD **04** 17:24:39.1±0.4, 35°.56N×3°.63W, h21km±1km, mb_Lg2.9/23, Error ellipse: s-maj=3.5km s-min=2.4km az=177.0*
*INMG **04** 17:24:39.9±1.6, 35°.62N×3°.60W, h23km±8km, ML2.6, Error ellipse: s-maj=7.4km s-min=3.7km az=146.0*
ISC 04 17:24:39.1±1.1**, 35°.66N**±0°.02×**3°.65W**±0°.02**, h24**km±12km**, n67,** σ1^{s}16/114**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.50	208	P	Pb	17 24 49.6	+0.3
PALE				S	Sb	17 24 56.6	+0.3
PALE	Palemas	0.50	208	P	Pb	17 24 49.3	0.0
EALB	Alboran	0.57	61	Pg	Pb	17 24 50.3	-0.2
EALB				Sg	Sb	17 24 58.2	0.0
EALB				*i* Vmb_Lg		17 25 02.6	
EMEL	Melilla	0.67	122	Pg	Pb	17 24 51.8	-0.4
EMEL				Sg	Sb	17 24 58.7	-2.3
GOG	Mont Gurugu	0.69	129	P	Pb	17 24 52.2	-0.4
GOG				S	Sb	17 25 01.8	+0.1
GOG	Mont Gurugu	0.69	129	S	Sn	17 25 03.0	-0.5
PVLZ	Peæn de	0.72	228	P	Pb	17 24 52.2	-0.8
PVLZ				S	Sb	17 25 02.4	-0.1
ELGU	Los Guajares,	1.20	1	Pn	Pn	17 25 00.2	-0.3
ELGU				Sn	Sn	17 25 16.2	0.0
ELGU				*i* Vmb_Lg		17 25 18.5	
EMAL	Malaga-Limoner	1.27	330	P	Pn	17 25 00.7	-0.6
EMAL				S	Sn	17 25 15.5	-2.0
EMIJ	Mijas	1.28	315	Pn	Pn	17 25 00.7	-0.8
EMIJ				Sn	Sn	17 25 16.9	-1.1
EMIJ				*i* Vmb_Lg		17 25 17.4	
TAF	Taforalt	1.32	130	P	Pn	17 25 02.3	+0.1
EBER	Berja	1.38	26	Pn	Pn	17 25 02.7	-0.4
EBER				Sn	Sn	17 25 20.1	-0.5
EBER				*i* Vmb_Lg		17 25 30.8	
SMIR	Smir Dam	1.41	271	P	Pn	17 25 01.2	-2.1
SMIR				S	Sn	17 25 19.9	-1.2
CHEFC	Chefchaouen	1.49	249	P	Pn	17 25 05.0	+0.5
CHEFC	Chefchaouen	1.49	249	P	Pb	17 25 06.0	-0.2
EGOR	Sierra Gorda,	1.49	346	Pn	Pb	17 25 05.7	-0.5
EGOR				Sn	Sn	17 25 23.6	+0.2
EGOR				*i* Vmb_Lg		17 25 30.3	
EQUE	Quentar	1.55	6	Pn	Pn	17 25 05.9	+0.6
EQUE				Sn	Sn	17 25 24.7	-0.1
EQUE				*i* Vmb_Lg		17 25 31.7	
JBK	JBK	1.60	146	P	Pn	17 25 05.8	-0.3
JBK				S	Sn	17 25 24.8	-1.2
JBK	JBK	1.60	146	S	Pn	17 25 06.0	-0.1
EJIF	Jimena Fronter	1.67	299	Pn	Pn	17 25 06.8	-0.1
EJIF				Sn	Sn	17 25 26.2	-1.4
ENIJ	Nijar	1.75	41	Pn	Pn	17 25 07.0	-1.0
ENIJ				Sn	Sn	17 25 29.2	-0.4
ENIJ				*i* Vmb_Lg		17 25 30.7	
ESPR	Espera	2.15	305	Pn	Pn	17 25 14.9	+1.4
ESPR				Sn	Sn	17 25 39.7	+0.2
ESPR				*i* Vmb_Lg		17 25 50.5	
LCRM	LCR	2.21	207	P	Pn	17 25 16.2	+1.7
EADA	Adamuz	2.61	344	Pn	Pn	17 25 20.1	+0.3
EADA				Sn	Sn	17 25 51.2	+0.4
EADA				*i* Vmb_Lg		17 25 59.5	
ECAB	El Cabril	2.79	330	Pn	Pn	17 25 23.0	+0.6
ECAB				Sn	Sn	17 25 55.9	+0.5
ECAB				*i* Vmb_Lg		17 26 05.7	
CZD	Col de Zad	2.87	204	P	Pn	17 25 24.8	+1.1
MD31	MD31	2.94	199	P	Pn	17 25 25.8	+1.3
TDRA	Tendrara	2.94	152	P	Pn	17 25 26.0	+1.5
TDRA				S	Sn	17 25 59.4	+0.2
MDT	Midelt	2.95	196	P	Pn	17 25 26.8	+2.2
EMIN	Mina Concepcio	3.21	312	Pn	Pn	17 25 27.5	-0.6
EMIN				Sn	Sn	17 26 04.3	-1.3
EMIN				*i* Vmb_Lg		17 26 07.6	
ETOB	Tobarra	3.42	29	Pn	Pn	17 25 31.3	+0.3
ETOB				Sn	Sn	17 26 11.2	+0.4
EGRO	El Granado	3.61	302	Pn	Pn	17 25 34.0	+0.5
EGRO				Sn	Sn	17 26 14.2	-1.1
PBAR	Barrancos	3.70	314	*e*Pn	Pn	17 25 35.6	+0.8
PBAR				*e*Sn	Sn	17 26 17.1	-0.5
PBAR				A	A	17 26 22.9	
	6.5nm,0.3s						
PVAQ	Vaqueiros	3.71	299	*e*Pn	Pn	17 25 35.3	+0.4
PVAQ				*e*Sn	Sn	17 26 17.4	-0.5
PVAQ	Vaqueiros	3.71	299	P	Pn	17 25 34.7	-0.2
PVAQ	Vaqueiros	3.71	299	P	Pn	17 25 35.3	+0.4
PBDV	Barranco-do-Ve	3.79	296	*e*Pn	Pn	17 25 36.3	+0.1
PBDV				*e*Sn	Sn	17 26 19.7	-0.4
PBDV				A	A	17 26 28.6	
	7.8nm,0.7s						
PAB	San Pablo	3.92	352	Pn	Pn	17 25 38.0	+0.1
PAB				Sn	Sn	17 26 22.2	-0.9
PAB				*i* Vmb_Lg		17 26 45.7	
ESDC	Sonseca Array	4.01	357	Pn	Pn	17 25 40.4	+1.2
ESDC				Sn	Sn	17 26 25.6	+0.1
PCVE	Castro Verde	4.04	300	*e*Pn	Pn	17 25 39.8	+0.3
PCVE				*e*Sn	Sn	17 26 25.6	-0.5
PCVE				A	A	17 26 32.1	
	6.3nm,0.7s						
FIGM	Figuig	4.04	150	P	Pn	17 25 41.1	+1.4
EBAD	Badajoz	4.09	320	Pn	Pn	17 25 40.5	+0.3
EBAD				Sn	Sn	17 26 25.2	-2.1
EBAD				*i* Vmb_Lg		17 26 32.2	
PBEJ	Beja	4.12	306	*e*Pn	Pn	17 25 41.9	+1.3
PBEJ				*e*Sn	Sn	17 26 25.8	-2.3
MORF	Marmelete	4.35	294	*e*Pn	Pn	17 25 45.0	+1.2
MORF				*e*Sn	Sn	17 26 32.3	-1.5
MORF				A	A	17 26 36.5	
	6.7nm,0.2s						
PESTR	Estremoz	4.48	317	*e*Pn	Pn	17 25 46.7	+1.1
PESTR				*e*Sn	Sn	17 26 36.6	-0.4
PESTR				A	A	17 26 38.8	
	5.8nm,0.5s						
PESTR	Estremoz	4.48	317	P	Pn	17 25 47.0	+1.4
PTEO	Sao Teotonio	4.49	296	*e*Pn	Pn	17 25 47.2	+1.5
PTEO				*e*Sn	Sn	17 26 36.6	-0.6
PTEO				A	A	17 26 50.8	
	13nm,0.7s						
EVO	Evora	4.51	311	*e*Pn	Pn	17 25 47.4	+1.4
EVO				*e*Sn	Sn	17 26 36.8	-0.9
EVO				A	A	17 26 38.4	
	9.9nm,0.5s						
PNCL	Nicolau / Gran	4.61	303	*e*Pn	Pn	17 25 47.7	+0.4
PNCL				*e*Sn	Sn	17 26 38.5	-1.6
PNCL				A	A	17 26 41.5	
	7.3nm,0.6s						
UCM	Universidad Co	4.65	4	P	Pn	17 25 51.2	+3.3
UCM				S	Sb	17 26 57.3	+1.8
PMRV	Marv??o	4.79	323	*e*Pn	Pn	17 25 51.2	+1.3
PMRV				*e*Sn	Sn	17 26 44.1	-0.5
PMRV				A	A	17 27 13.2	
	4.4nm,0.5s						
EPLA	Plasencia	4.80	337	Pn	Pn	17 25 49.8	-0.1
EPLA				Sn	Sn	17 26 44.4	-0.3
PMTG	Montargil	4.98	314	*e*Pn	Pn	17 25 53.9	+1.4
PMTG				*e*Sn	Sn	17 26 48.1	-1.2
PMTG				A	A	17 26 51.2	
	4.6nm,0.7s						
GUD	Guadarrama	4.99	356	Pn	Pn	17 25 53.6	+1.0
GUD				Sn	Sn	17 26 48.0	-1.6
PCBR	Castelo Branco	5.16	325	*e*Pn	Pn	17 25 56.4	+1.6
PCBR				*e*Sn	Sn	17 26 52.6	-1.0
PCBR				A	A	17 26 54.9	
	3.9nm,0.3s						
PACT	Alcochete	5.17	308	*e*Pn	Pn	17 25 56.7	+1.7
PACT				*e*Sn	Sn	17 26 54.6	+0.8
ETOR	Torete	5.30	13	Pn	Pn	17 25 58.2	+1.4
ETOR				Sn	Sn	17 26 56.0	-1.2
OUZM	OUZ	5.41	210	P	Pn	17 26 00.9	+2.4
PSBE	So Bento	5.61	315	*e*Pn	Pn	17 26 02.4	+1.3
MTE	Manteigas	5.64	328	*e*Pn	Pn	17 26 03.0	+1.5
MTE				*e*Sn	Sn	17 27 05.0	-0.6
MTE				A	A	17 27 07.6	
	7.7nm,0.5s						
PCAS	Casmilo, Conde	5.82	320	*e*Pn	Pn	17 26 05.1	+1.1
PCAS				*e*Sn	Sn	17 27 09.2	-0.8
PCAS				A	A	17 27 12.4	
	4.2nm,0.6s						
PVIS	Viseu	6.05	328	*e*Pn	Pn	17 26 09.3	+2.1
MVO	Moncorvo	6.10	335	*e*Pn	Pn	17 26 09.9	+2.0
MVO				*e*Sn	Sn	17 27 16.4	-0.5
MVO				A	A	17 27 53.7	
	5.0nm,0.7s						
PVRL	Vila Real	6.45	332	*e*Sn	Sn	17 27 24.6	-0.8
PVRL				A	A	17 27 26.4	
	10nm,0.5s						
POLO	Lamas de Olo	6.56	332	*e*Pn	Pn	17 26 16.8	+2.6
POLO				*e*Sn	Sn	17 27 26.2	-2.1
POLO				A	A	17 27 41.0	
	2.5nm,0.7s						
PBRG	Braganca	6.59	339	*e*Pn	Pn	17 26 16.3	+1.7
PGAV	Gavieira, Arco	7.25	332	*e*Sn	Sn	17 27 44.5	-0.8

*UPP **04** 17:31:59.2±1.0, 63°.51N×22°.49E, h0km, ML1.8, Suspected explosion*
*HEL **04** 17:31:59.7±0.1, 63°.49N×22°.51E, h0km, ML2.0, ML1.8(UPP), Explosion*
*HEL **04** 17:31:59.0, 63°.52N×22°.47E, h0km, ML2.0, Explosion*
*IDC **04** 17:32:02.8±0.9, 63°.70N×24°.21E, h0km, mb1 2.7/4, mb1mx2.6/37, mbtmp2.7/4, ML1.7/4, Error ellipse: s-maj=12.4km s-min=7.1km az=79.0*
ISC 04 17:31:58.3±0.7**, 63°.50N**±0°.02×**22°.51E**±0°.02**, h0**km**, n34,** σ1^{s}24/54**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VAF	Ylistaro	0.47	171	*e*P	Pg	17 32 07.6	+0.5
VAF				*e*S	Sg	17 32 13.8	+0.7
UMAU	Umeaa	0.90	296	P	Pb	17 32 15.9	-0.9
UMAU				S	Sg	17 32 27.7	+0.4
UMAU	Umeaa	0.90	296	*e*P	Pg	17 32 15.8	+0.2
UMAU				*e*S	Sg	17 32 27.3	0.0
ODEU	Stanfors	1.21	320	P	Pb	17 32 21.4	-0.6
ODEU				S	Sb	17 32 37.4	-0.7
ODEU	Stanfors	1.21	320	*e*P	Pb	17 32 21.4	-0.6
ODEU				*e*S	Sb	17 32 37.4	-0.7
OBF0	Syolatti, Pyha	1.26	36	*e*PB	Pn	17 32 23.0	0.0
	baz=219						
OBF0				*e*SB	Sn	17 32 40.4	-0.2
OUF	Merijarvi	1.31	47	*e*PB	Pg	17 32 23.5	+0.2
	baz=230						
OUF				MSG		17 32 38.7	
	comp=Z,28nm,0.2s						
OUF				*e*SB	Sb	17 32 41.3	+0.2
HUSU	Husum	1.49	265	P	Pb	17 32 26.6	-0.2
HUSU	Husum	1.49	265	*e*PN	Pb	17 32 28.1	+1.4
	baz=83						
SVAU	Svanoeiden	1.64	309	P	Pb	17 32 28.9	-0.3
SVAU	Svanoeiden	1.64	309	*e*P	Pb	17 32 28.9	-0.3
KEF	Keuruu	1.72	140	*e*PG	Pb	17 32 30.5	-0.2
KEF				MSG		17 32 51.1	
	comp=Z,7.8nm,0.2s						
KEF				*e*SN	Sg	17 32 53.5	0.0
BREU	Bredtraesk	1.80	284	P	Pb	17 32 31.4	-0.6
BREU	Bredtraesk	1.80	284	*e*P	Pb	17 32 31.4	-0.6
SUF	Sumiainen	1.83	114	*e*PN	Pb	17 32 32.1	-0.5
SUF				MSG		17 32 54.2	
	comp=Z,7.9nm,0.2s						
SUF				*e*SN	Sb	17 32 56.5	+0.5
OUL	Oulu	2.17	41	*e*PB	Pb	17 32 38.2	-0.2
OUL				*e*SB	Sb	17 33 06.0	+0.2
HEMU	Hemsoen	2.20	250	*e*P	Pb	17 32 37.5	-1.3
	baz=65						
HEMU				*e*SG	Sb	17 33 06.8	+0.3
KAF	Kangasniemi	2.23	127	*e*PB	Pb	17 32 39.0	-0.4
KAF				*e*SG	Sb	17 33 08.5	+1.0
KALU	Kalix	2.40	8	*e*SB	Sb	17 33 12.2	-0.1
RAF	Rauma	2.51	188	MSG		17 33 13.6	
	comp=Z,2.6nm,0.2s						
RAF				*e*SB	Sb	17 33 15.5	0.0
FIA0	FINESS Array S	2.65	140	*e*PB	Pb	17 32 44.8	-1.7
	baz=328						
FIA0				*e*SB	Sb	17 33 19.1	-0.3
FINES	FINESS Array B	2.65	140	Pn	Pb	17 32 44.8	-1.7
	comp=Z,1.0nm,0.3s,baz=341,slow=13,SNR=56						
FINES				Lg	Lg	17 33 19.2	
	comp=Z,1.6nm,0.3s,baz=328,slow=23,SNR=21						
TOF	Tornio	2.71	16	*e*PB	Pb	17 32 47.2	-0.3
TOF				MSG		17 33 18.3	
	comp=Z,6.0nm,0.2s						
TOF				*e*SB	Sb	17 33 20.8	-0.3
ERTU	Ertsjaerv	3.07	358	*e*P	Pn	17 32 49.8	+1.8
ERTU				*e*S	Sn	17 33 25.7	+0.4
MEF	Metsahovi	3.41	164	*e*SG	Sg	17 33 46.8	-1.0
AAL	Aland	3.54	201	*e*SG	Sg	17 33 50.2	-1.6
PAJU	Pajala	3.55	4	*e*P	Pn	17 32 56.4	+1.8
PAJU				*e*S	Sn	17 33 37.6	+0.5
MSF	Maaselka	3.70	46	*e*P	Pn	17 32 57.5	+0.8
	baz=229						
MSF				*e*S	Sn	17 33 41.4	+0.5
KLF	Kolari	3.80	9	*e*P	Pn	17 33 00.7	+2.7
	baz=194						
KLF				*e*S	Sn	17 33 43.8	+0.5
OLKF	Oulanka, Finla	4.08	43	*e*S	Sn	17 33 51.5	+1.4
LANU	Lannavaara	4.58	358	*e*S	Sn	17 34 01.4	-1.0
HFS	Hagfors	5.37	235	Pn	Pb	17 33 33.1	+0.2
	comp=Z,0.1nm,0.3s,baz=48,slow=20,SNR=1.3						
HFS				Sn	Sb	17 34 39.4	+1.6
	comp=Z,0.4nm,0.3s,baz=46,slow=10,SNR=7.2						
NOA	NORSAR Array B	5.82	250	Pn	Pb	17 33 38.8	-1.8
	comp=Z,0.0nm,0.3s,baz=60,slow=14,SNR=1.3						
ARCES	ARCESS Array B	6.18	10	Pn	Pn	17 33 30.1	-0.6
	baz=124,slow=23,SNR=4.7						
ARCES				Sn	Sn	17 34 36.0	-5.9
	baz=193,slow=22,SNR=12						
ARCES				Lg	Lg	17 35 08.8	
	baz=187,slow=27,SNR=2.9						

*IDC **04** 17:36:26.7±2.0, 41°.67N×14°.62E, h0km, mb3.3/2, mb1 3.4/5, mb1mx3.2/46, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=36.3km s-min=20.0km az=82.0*
*PDG **04** 17:36:27.5±0.5, 41°.54N×14°.67E, h16km, ML3.3/11, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*IASPEI **04** 17:36:27.3±0.8, 41°.55N±0°.02×14°.65E±0°.02, h17km±5km, Error ellipse: s-maj=3.5km s-min=2.6km az=36.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*ROM **04** 17:36:27.2±0.1, 41°.543N±0°.006×14°.627E±0°.007, h15km±1km, ML3.1/58, Error ellipse: s-maj=0.7km s-min=0.1km az=36.0*
*LDG **04** 17:36:28.3±0.2, 41°.52N×14°.77E, h10km, Ml3.2/4, Error ellipse: s-maj=5.9km s-min=2.3km az=14.0*
*PRU **04** 17:36:29.3±0.0, 41°.67N×14°.81E, h0km*
ISC 04 17:36:27.7±0.7**, 41°.55N**±0°.02×**14°.62E**±0°.02**, h14**km±4km**, n161,** σ1^{s}35/218**, 15C-10D, Southern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSSO	Busso	0.02	259	⇓P	Pg	17 36 29.8	-0.4
BSSO				S	Sg	17 36 31.8	-0.2
SACR	S. Croce Del S	0.17	158	⇑P	Pg	17 36 31.3	-0.4
SACR				S	Sg	17 36 34.7	+0.2
SACR				AML	AML		
SACR				AML	AML		
	comp=N,14600µm,0.5s						
SACR				AML	AML		
SACR				AML	AML		
	comp=E,13000µm,1.0s						
SACR				AML	AML		
PTRJ	Pietraroja	0.20	201	⇑P	Pg	17 36 31.6	-0.7
PTRJ				S	Sg	17 36 35.2	-0.2
PTRJ				AML	AML		
	comp=E,23950µm,0.5s						
PTRJ				AML	AML		
	comp=N,15750µm,0.5s						
PTRJ				AML	AML		
	comp=E,27450µm,0.5s						
PTRJ				AML	AML		
	comp=N,14350µm,0.5s						
PTRJ				AML	AML		
	comp=E,23900µm,0.5s						
GATE	Gambatesa	0.22	100	⇑P	Pg	17 36 33.0	+0.5
GATE				AML	AML		
	comp=E,10300µm,0.7s						
GATE				AML	AML		
	comp=N,9220µm,0.5s						
GATE				AML	AML		
	comp=E,10305µm,0.7s						
GATE				AML	AML		
	comp=N,8920µm,0.5s						
GATE				AML	AML		
	comp=E,10315µm,0.7s						
GATE				AML	AML		
	comp=E,6845µm,0.3s						
GATE				AML	AML		
	comp=N,9220µm,0.5s						
GATE				AML	AML		
	comp=N,8925µm,0.5s						
TRIV	Trivento	0.22	346	⇑P	Pg	17 36 33.0	+0.4
TRIV				S	Sb	17 36 38.2	+0.7
CIGN	Sant'Elia a Pi	0.24	64	⇑P	Pg	17 36 33.1	+0.3
CIGN				AML	AML		
	comp=N,7630µm,0.4s						
CIGN				AML	AML		
	comp=E,6945µm,0.9s						
SGG	Gregorio Mates	0.24	228	⇑P	Pg	17 36 32.5	-0.5
SGG				S	Sg	17 36 37.3	+0.7
SGG				AML	AML		
	comp=E,37nm,0.4s						
SGG				AML	AML		
	comp=N,26nm,0.4s						
SGG				AML	AML		
	comp=E,11860µm,0.4s						
SGG				AML	AML		
	comp=N,8620µm,0.4s						
MIDA	Miranda	0.29	288	⇓P	Pg	17 36 33.6	-0.2
MIDA				S	Sg	17 36 38.7	+0.7
MIDA				AML	AML		
	comp=E,5820µm,0.5s						
MIDA				AML	AML		
	comp=E,6170µm,0.5s						
MIDA				AML	AML		
	comp=N,5665µm,0.6s						
MIDA				AML	AML		
	comp=N,5920µm,0.6s						
VAGA	Valle Agricola	0.32	245	P	Pg	17 36 34.0	-0.3
VAGA				S	Sg	17 36 39.4	+0.6
VAGA				AML	AML		
	comp=E,5850µm,0.7s						
VAGA				AML	AML		
	comp=N,11250µm,0.6s						
VAGA				AML	AML		
	comp=E,6140µm,0.7s						
VAGA				AML	AML		
	comp=N,11700µm,0.6s						
PSB1	Pescosannita	0.36	156	⇑P	Pg	17 36 34.4	-0.5
PSB1				S	Sg	17 36 40.4	+0.6
PSB1				AML	AML		
	comp=N,2840µm,0.8s						
PSB1				AML	AML		
	comp=N,2745µm,0.8s						
PSB1				AML	AML		
	comp=E,4320µm,0.5s						

PSB1 AML AML
comp=E,4210µm,0.6s
VITU Vitulano (BN) 0.37 179 P **Pg** 17 36 34.4 -0.7
VITU S **Sg** 17 36 40.4 +0.2
VITU AML AML
comp=E,2455µm,0.3s
VITU AML AML
comp=N,9595µm,0.5s
VITU AML AML
comp=N,9955µm,0.5s
VITU AML AML
comp=E,2450µm,0.3s
VITU AML AML
comp=N,9590µm,0.5s
VITU AML AML
comp=N,9585µm,0.5s
VITU AML AML
comp=E,9150µm,0.3s
RNI2 Rionero Sannit 0.38 294 ⇓P **Pg** 17 36 35.4 -0.1
RNI2 AML AML
comp=N,4345µm,0.7s
RNI2 AML AML
comp=E,4195µm,0.6s
RNI2 AML AML
comp=N,4505µm,0.7s
RNI2 AML AML
comp=E,4380µm,0.6s
MELA Melanico ??? S 0.41 67 ⇑P **Pg** 17 36 35.4 -0.5
MELA S **Sb** 17 36 42.6 -0.2
MELA AML AML
comp=E,10095µm,0.5s
MELA AML AML
comp=N,11620µm,0.4s
MELA AML AML
comp=N,11955µm,0.4s
MELA AML AML
comp=E,10375µm,0.5s
MELA AML AML
comp=E,10050µm,0.5s
MELA AML AML
comp=N,11630µm,0.4s
FRES Fresagrandinar 0.42 5 ⇑P **Pg** 17 36 35.8 -0.4
FRES AML AML
comp=N,2030µm,0.4s
FRES AML AML
comp=E,3605µm,0.4s
CERA Filignano 0.46 276 ⇓P **Pg** 17 36 36.2 -0.6
CERA AML AML
comp=E,4535µm,0.5s
CERA AML AML
comp=N,3815µm,0.8s
CERA AML AML
comp=E,4660µm,0.5s
CERA AML AML
comp=N,3810µm,0.8s
CERA AML AML
comp=E,4540µm,0.5s
CERA AML AML
comp=N,3920µm,0.8s
MRB1 Monte Rocchett 0.50 148 P **Pg** 17 36 36.9 -0.7
MRB1 AML AML
comp=E,3685µm,0.4s
MRB1 AML AML
comp=E,3680µm,0.4s
MRB1 AML AML
comp=N,4240µm,0.4s
MRB1 AML AML
comp=N,4300µm,0.4s
MRB1 AML AML
comp=E,3725µm,0.4s
BIOG Biogem 0.52 132 P **Pg** 17 36 38.2 +0.3
BIOG AML AML
comp=E,2750µm,0.5s
BIOG AML AML
comp=E,3095µm,0.8s
BIOG AML AML
comp=E,2750µm,0.5s
BIOG AML AML
comp=N,2720µm,0.5s
BIOG AML AML
comp=E,3090µm,0.8s
BIOG AML AML
comp=N,2220µm,0.9s
PAOL Paolisi 0.52 185 P **Pg** 17 36 36.8 -1.2
PAOL AML AML
comp=N,3815µm,0.5s
PAOL AML AML
comp=E,3595µm,0.5s
PAOL AML AML
comp=E,3755µm,0.5s
PAOL AML AML
comp=N,4030µm,0.5s
LPEL Lama dei Pelig 0.59 327 P **Pg** 17 36 38.4 -1.0
LPEL AML AML
comp=E,2425µm,0.3s
LPEL AML AML
comp=N,2250µm,0.5s
MODR Mondragone 0.69 234 ⇑P **Pg** 17 36 40.6 -0.6
MODR AML AML
comp=N,3885µm,1.2s
MODR AML AML
comp=E,2620µm,1.6s
CAFE Carife 0.70 138 P **Pg** 17 36 40.0 -1.3
CAFE S **Sb** 17 36 51.2 0.0
CAFE AML AML
comp=E,1535µm,0.9s
CAFE AML AML
comp=N,976µm,0.5s
CAFE AML AML
comp=N,978µm,0.5s
CAFE AML AML
comp=E,1605µm,1.5s
CAFE AML AML
comp=N,1045µm,0.5s
CAFE AML AML
comp=E,1535µm,0.9s
POFI Posta Fibreno 0.70 284 P **Pg** 17 36 40.2 -1.2
POFI AML AML
comp=E,1385µm,0.6s
POFI AML AML
comp=N,817µm,0.7s
CAFR Castel Frentan 0.71 343 P **Pb** 17 36 40.5 -1.3
CAFR AML AML
comp=N,1525µm,0.3s
CAFR AML AML
comp=E,9µm,1.4s
INTR Introdacqua 0.71 311 ⇑P **Pg** 17 36 40.2 -1.3
INTR AML AML
comp=E,1µm,0.7s
INTR AML AML
comp=N,2µm,0.6s
INTR AML AML
comp=E,1265µm,0.8s
INTR AML AML
comp=N,2610µm,0.6s
INTR AML AML
comp=E,1260µm,0.8s
APRC Apricena 0.72 73 P **Pb** 17 36 39.9 -2.2
APRC AML AML
comp=E,2260µm,0.3s
APRC AML AML
comp=N,3255µm,0.3s
OVO Vesuviano 0.74 193 P **Pb** 17 36 42.2 -0.2
OVO AML AML
comp=N,2950µm,1.4s
OVO AML AML
comp=E,1985µm,0.8s
VTIR Vesuvio Tirone 0.76 191 P **Pg** 17 36 42.9 +0.5
VTIR AML AML
comp=E,1550µm,0.3s
VTIR AML AML
comp=N,1145µm,0.4s
SNAL S. Angelo Dei 0.77 144 P **Pb** 17 36 40.9 -2.0
SNAL AML AML
comp=E,1270µm,0.6s
SNAL AML AML
comp=N,1084µm,0.6s
SNAL AML AML
comp=E,1280µm,0.6s
SNAL AML AML
comp=E,1265µm,0.6s
SNAL AML AML
comp=N,1076µm,0.8s
LIK San Giovanni I 0.80 267 P **Pn** 17 36 44.7 +0.1
LIK AML AML
comp=N,3780µm,0.7s
LIK AML AML
comp=E,2855µm,0.6s
VVLD Villa Vallelon 0.81 294 P **Pb** 17 36 41.9 -1.8
VVLD AML AML
comp=E,1004µm,0.8s
VVLD AML AML
comp=N,1063µm,0.6s
SGRT San Giovanni R 0.86 76 P **Pb** 17 36 42.8 -1.8
MCRV Calabrutti - M 0.87 152 P **Pb** 17 36 42.8 -1.9
MCRV AML AML
comp=E,1380µm,0.5s
MCRV AML AML
comp=N,1404µm,0.7s
T0110 Collepietro 0.92 317 P **Pb** 17 36 43.7 -1.9
T0110 AML AML
comp=E,1185µm,0.6s
T0110 AML AML
comp=E,1190µm,0.6s
T0110 AML AML
comp=N,1950µm,0.4s
VULT Monte Vulture 0.96 128 P **Pb** 17 36 44.2 -1.9
VULT AML AML
comp=E,1555µm,0.3s
VULT AML AML
comp=N,2860µm,0.6s
VULT AML AML
comp=N,2735µm,0.6s
VULT AML AML
comp=E,1550µm,0.3s
VULT AML AML
comp=E,1575µm,0.3s
MSAG Monte S. Angel 0.98 80 P **Pb** 17 36 45.1 -1.4
MSAG AML AML
comp=E,2170µm,0.4s
MSAG AML AML
comp=N,3655µm,0.5s
MSAG AML AML
comp=E,2065µm,0.4s
MSAG AML AML
comp=N,3555µm,0.4s
CAPA Cerignola FG 0.98 113 P **Pb** 17 36 43.9 -2.5
CAPA AML AML
comp=E,1625µm,0.8s
CAPA AML AML
comp=N,1420µm,0.8s
GUAR Guarcino 1.01 284 P **Pb** 17 36 46.9 -0.1
GUAR AML AML
comp=E,710µm,1.5s
GUAR AML AML
comp=N,1012µm,0.5s
GIUL Giuliano Di Ro 1.03 271 P **Pb** 17 36 47.1 -0.2
GIUL AML AML
comp=N,553µm,0.8s
GIUL AML AML
comp=E,369µm,0.6s
MRLC Muro Lucano 1.03 140 P **Pb** 17 36 46.7 -0.6
MRLC AML AML
comp=N,1175µm,0.4s
MRLC AML AML
comp=N,1004µm,0.4s
MRLC AML AML
comp=E,1440µm,0.5s
MRLC AML AML
comp=E,1470µm,0.6s
FAGN Fagnano 1.05 313 P **Pb** 17 36 46.9 -0.9
FAGN AML AML
comp=E,1830µm,0.5s
FAGN AML AML
comp=N,1380µm,0.5s
FAGN AML AML
comp=E,1825µm,0.5s
PALZ Palazzo San Ge 1.18 121 P **Pn** 17 36 48.7 -1.0
PALZ AML AML
comp=N,1070µm,1.3s
PALZ AML AML
comp=E,856µm,1.2s
CDRU Civita di Ruta 1.18 154 P **Pn** 17 36 48.5 -1.3
CDRU AML AML
comp=E,712µm,0.5s
CDRU AML AML
comp=N,394µm,0.4s
AQU L'Aquila 1.21 312 ePn **Pg** 17 36 53.4 +2.3
ACER Acerenza 1.25 127 P **Pn** 17 36 50.2 -0.7
ACER AML AML
comp=N,595µm,0.6s
ACER AML AML
comp=E,681µm,1.5s
ACER AML AML
comp=N,568µm,0.7s
ACER AML AML
comp=E,646µm,0.6s
PZUN Potenza 1.27 135 AML AML
comp=E,511µm,0.5s
PZUN AML AML
comp=N,473µm,0.5s
PZUN AML AML
comp=E,508µm,0.5s
PZUN AML AML
comp=N,382µm,0.5s
MRVN Minervino Murg 1.28 112 P **Pn** 17 36 50.4 -0.8
MRVN AML AML
comp=N,434µm,1.6s
MRVN AML AML
comp=E,466µm,0.5s
CERT Cerreto 1.29 289 P **Pb** 17 36 51.6 -0.2
CERT AML AML
comp=E,474µm,0.6s
CERT AML AML
comp=N,290µm,0.9s
TERO Teramo 1.31 325 P **Pn** 17 36 51.2 -0.5
TERO AML AML
comp=E,128µm,0.5s
TERO AML AML
comp=N,178µm,0.5s
FIAM Fiamignano 1.33 303 P **Pg** 17 36 53.7 +0.3
FIAM AML AML
comp=N,406µm,0.7s
FIAM AML AML
comp=E,582µm,0.6s
CMPR Campora 1.33 157 P **Pn** 17 36 50.9 -1.1
CMPR AML AML
comp=E,367µm,0.4s
CMPR AML AML
comp=N,282µm,0.4s
SLCN Sala Consilina 1.39 146 P **Pb** 17 36 53.4 0.0
SLCN AML AML
comp=E,840µm,0.8s
SLCN AML AML
comp=N,568µm,0.6s
MCEL Monticello 1.52 143 P **Pn** 17 36 54.8 +0.3
MCEL AML AML
comp=N,276µm,0.9s
MCEL AML AML
comp=E,248µm,0.8s
MTSN Montesano sull 1.54 146 P **Pb** 17 36 55.5 -0.6
MTSN AML AML
comp=N,294µm,1.6s
MTSN AML AML
comp=E,260µm,1.1s
BULG Bulgheria - Ca 1.58 158 P **Pn** 17 36 55.0 -0.3
LNSS Leonessa 1.58 312 P **Pg** 17 36 57.7 -0.3
LNSS AML AML
comp=N,298µm,0.7s
LNSS AML AML
comp=E,330µm,0.7s
AMUR Altamura 1.63 113 P **Pn** 17 36 55.6 -0.4
AMUR AML AML
comp=N,402µm,0.3s
AMUR AML AML
comp=E,382µm,0.3s
SIRI Monte Sirino - 1.66 145 P **Pn** 17 36 56.7 +0.2
SIRI AML AML
comp=E,224µm,1.1s
SIRI AML AML
comp=N,209µm,1.2s
SIRI AML AML
comp=E,224µm,0.3s
SIRI AML AML
comp=N,210µm,1.2s
MIGL Miglionico 1.67 124 P **Pn** 17 36 57.0 +0.5
MIGL AML AML
comp=N,772µm,0.6s
MIGL AML AML
comp=E,834µm,0.4s
MATE Matera 1.81 119 P **Pn** 17 36 58.6 +0.1
MATE AML AML
comp=E,367µm,0.4s
MATE AML AML
comp=N,351µm,0.7s
CSP1 Cessapalombo 1.86 326 ⇑P **Pb** 17 37 01.8 +0.2
NOCI Noci 1.99 112 P **Pn** 17 37 00.6 -0.4
NOCI AML AML
comp=E,319µm,1.3s
NOCI AML AML
comp=N,394µm,0.4s
LSTV Lastovo 2.08 53 *e*Pn **Pn** 17 37 02.9 +0.7
LSTV Sn **Sn** 17 37 29.2 +1.3
ASSB Assisi San Ben 2.08 316 ⇓P **Pb** 17 37 06.2 +0.8
HVAR Hvar 2.12 39 *e*Pn **Pn** 17 37 02.6 0.0
HVAR Sn **Sn** 17 37 29.4 +0.6
HVAR Hvar 2.12 39 P **Pn** 17 37 02.9 +0.2
ZIRJ Zirje 2.23 19 *e*Pn **Pn** 17 37 04.2 -0.1
ZIRJ Sn **Sn** 17 37 30.9 -0.8
MORI Morici 2.45 19 *e*Pn **Pn** 17 37 06.4 -0.8
MORI Sn **Sn** 17 37 36.7 -0.3
DUGI Dugi Otok 2.46 7 *e*Pn **Pn** 17 37 06.4 -1.0
DUGI Sn **Sn** 17 37 36.5 -0.8
MAKA Makarska 2.48 45 *e*Pn **Pn** 17 37 07.6 -0.1
MAKA Sn **Sn** 17 37 37.7 -0.1
ATPI Pietralunga - 2.51 320 ⇓P **Pb** 17 37 13.2 +0.6
PIEI Pieia 2.51 323 ⇓P **Pb** 17 37 11.2 -1.4
PIEI AML AML
comp=E,60µm,0.5s
PIEI AML AML
comp=N,45µm,1.5s
STON Ston 2.64 59 *e*Pn **Pn** 17 37 09.6 -0.2
STON Ston 2.64 59 *e*Pn **Pn** 17 37 10.6 +0.7
STON Sn **Sn** 17 37 42.4 +0.7
STON Ston 2.64 59 P **Pn** 17 37 09.8 0.0
STON AML AML
comp=N,97µm,0.8s
STON AML AML
comp=E,59µm,0.8s
PIPA Pietrapaola 2.66 140 P **Pn** 17 37 07.4 -2.7
PIPA AML AML
comp=N,36µm,1.1s
PIPA AML AML
comp=E,42µm,1.4s
RICI Ricice 2.69 43 *e*Pn **Pn** 17 37 10.1 -0.4
RICI Sn **Sn** 17 37 43.7 +0.8
VIRC Vir 2.76 6 *e*Pn **Pn** 17 37 11.1 -0.3
VIRC Sn **Sn** 17 37 42.7 -1.9
KIJV Kijevo 2.78 28 *e*Pn **Pn** 17 37 11.9 0.0
KIJV Sn **Sn** 17 37 45.0 -0.3
TREB Trebinje 3.01 66 *e*Pn **Pn** 17 37 15.4 +0.5
NVLJ Novalja 3.02 3 *e*Pn **Pn** 17 37 14.6 -0.5
NVLJ Sn **Sn** 17 37 50.1 -0.9
HCY Herceg Novi 3.02 71 *e*Pn **Pn** 17 37 14.8 -0.3
HCY Herceg Novi 3.02 71 *e*Pn **Pn** 17 37 15.7 +0.6
HCY *i* Sn **Sn** 17 37 51.9 +0.8
UDBI Udbina 3.09 15 *e*Pn **Pn** 17 37 16.1 -0.1
UDBI Sn **Sn** 17 37 51.9 -1.0
LLI Lipari 3.11 175 P **Pb** 17 37 21.9 -0.9
SRKY Kupres RS 3.13 36 *e*Pn **Pn** 17 37 17.6 +0.8
RABC Rab 3.20 2 *e*Pn **Pn** 17 37 17.1 -0.5
RABC Sn **Sn** 17 37 54.5 -1.0
BRY Bratogost 3.21 64 *e*Pn **Pn** 17 37 18.0 +0.2
BRY Bratogost 3.21 64 ⇓*i*Pn **Pn** 17 37 18.5 +0.7
BRY *i* Sn **Sn** 17 37 56.5 +0.6
BUM Brajici-Budva 3.27 75 *e*Pn **Pn** 17 37 19.4 +0.7
BUM *i* Sn **Sn** 17 37 58.0 +0.6
CEME Cevo 3.35 71 *e*Pn **Pn** 17 37 20.2 +0.5
CEME *i* Sn **Sn** 17 37 59.9 +0.6
MGRS Mrkonjic Grad 3.39 31 *e*Pn **Pn** 17 37 23.0 +2.8
PLIT Plitvice 3.41 12 *e*Pn **Pn** 17 37 19.8 -0.6
PLIT Sn **Sn** 17 38 00.1 -0.3
BRJN Brijuni 3.41 350 *e*Pn **Pn** 17 37 19.4 -1.0
BRJN Sn **Sn** 17 37 58.8 -2.0
NKME Niksic 3.44 68 *e*Pn **Pn** 17 37 21.8 +0.9
NKME *i* Sn **Sn** 17 38 02.2 +0.6
DRME Dracevica, Mon 3.47 78 *e*Pn **Pn** 17 37 21.6 +0.4
DRME Dracevica, Mon 3.47 78 *e*Pn **Pn** 17 37 22.0 +0.8
DRME *i* Sn **Sn** 17 38 02.7 +0.6
ULC Ulcinj 3.48 82 *e*Pn **Pn** 17 37 22.3 +0.8
ULC *i* Sn **Sn** 17 38 03.1 +0.6
SMRN Sveta Marina 3.50 355 *e*Pn **Pn** 17 37 20.4 -1.3
SMRN Sn **Sn** 17 38 01.4 -1.5
IMOL Imola, Italy 3.51 324 S **Sb** 17 38 09.0 -3.2
A250A Rusevo Krmpots 3.54 3 *e*Pn **Pn** 17 37 21.6 -0.7
A250A Sn **Sn** 17 38 02.8 -1.1
PDG Podgorica 3.56 74 *e*Pn **Pn** 17 37 23.3 +0.8
TTG Podgorica 3.56 74 ⇓*i*Pn **Pn** 17 37 23.5 +1.0
TTG *i* Sn **Sn** 17 38 05.2 +0.7
PLLN Pollina 3.57 186 S **Sn** 17 38 01.0 -3.8
UPM Unac-Piva 3.58 61 *e*Pn **Pn** 17 37 23.7 +0.8
UPM Unac-Piva 3.58 61 *e*Pn **Pn** 17 37 23.7 +0.8
UPM *i* Sn **Sn** 17 38 05.5 +0.4
BLY Banja Luka 3.71 30 *e*Pn **Pn** 17 37 27.4 +2.9
FIU Minerbio Fiu 3.85 324 ⇑P **Pb** 17 37 35.1 -0.2
KOME Kolasin 3.86 69 *e*Pn **Pn** 17 37 27.5 +0.8
KOME *i* Sn **Sn** 17 38 12.4 +0.5
CARD Cardoso 3.92 310 S **Sn** 17 38 15.0 +1.6
BOJS Bojanci 3.98 6 P **Pn** 17 37 30.6 +2.4
BOJS S **Sn** 17 38 17.0 +2.3
BOJS AML AML
comp=E,218µm,0.5s
BOJS AML AML
comp=N,156µm,0.4s
SKDS Skadanscina 4.02 354 *e*Pn **Pn** 17 37 26.9 -2.0
RUDO Rudo 4.07 58 *e*Pn **Pn** 17 37 29.3 -0.2
OZLJ Ozalj 4.11 8 *e*Pn **Pn** 17 37 29.6 -0.4
OZLJ Sn **Sn** 17 38 17.3 -0.6
IVA Berane 4.13 70 *e*Pn **Pn** 17 37 31.3 +0.8
IVA *i* Sn **Sn** 17 38 19.0 +0.4
CEY Cerknica 4.19 358 *e*Pn **Pn** 17 37 31.0 -0.2
TRI Trieste 4.20 352 S **Sn** 17 38 22.0 +1.8
BBLS Lazići 4.22 55 *e*Pn **Pn** 17 37 32.9 +1.3
PGF Pioggiola 4.30 285 *e*Pn **Pn** 17 37 33.9 +1.0
PGF Pioggiola 4.30 285 *e*P **Pn** 17 37 36.6 +3.7
PGF *e*Sn **Sn** 17 38 21.0 -1.9
comp=N,3.5nm,0.5s
CRES Cresnjev 4.32 8 *e*Pn **Pn** 17 37 32.5 -0.4
MOSL Moslavina 4.35 20 *e*Pn **Pn** 17 37 33.8 +0.4
MOSL Sn **Sn** 17 38 23.3 -0.5
PTJ Puntijarka 4.46 12 *e*Pn **Pn** 17 37 35.1 0.0
PTJ Sn **Sn** 17 38 25.2 -1.6
VSL Villasalto 4.49 245 ⇓P **Pn** 17 37 34.9 -0.5
A252A Venje 4.54 30 *e*Pn **Pn** 17 37 36.4 +0.4
A252A Sn **Sn** 17 38 27.3 -1.2
OHR Ohrid 4.67 93 *i* Pn **Pn** 17 37 40.0 +2.1
DIVS Divibare 4.70 55 *e*Pn **Pn** 17 37 38.8 +0.6
DIVS Divibare 4.70 55 ⇑P **Pn** 17 37 38.9 +0.7
DIVS AML AML
comp=E,12µm,0.9s
DIVS AML AML
comp=N,12µm,1.0s
KALN Kalnik 4.77 16 *e*Pn **Pn** 17 37 38.2 -1.0
KALN Sn **Sn** 17 38 32.9 -1.3
OBKA Obir 4.96 359 *i* Pn **Pn** 17 37 43.6 +1.8
comp=N,3.6nm,0.4s
OBKA *i* Sn **Sn** 17 38 38.5 -0.5
comp=N,4.6nm,0.3s
MYKA Terra Mystica 5.13 352 *i* Pn **Pn** 17 37 46.5 +2.4
comp=N,2.0nm,0.3s
MYKA *i* Sn **Sn** 17 38 42.1 -1.0
comp=N,3.3nm,0.3s
SOKA Soboth 5.13 3 *i* Pn **Pn** 17 37 44.7 +0.5
comp=N,1.9nm,0.4s
SOKA *i* Sn **Sn** 17 38 43.1 -0.3
comp=N,2.3nm,0.5s
KOVH Kovagotottos 5.19 28 P **Pn** 17 37 46.2 +1.3
FRGS Fruska Gora 5.22 45 *e*Pn **Pn** 17 37 41.9 -3.5
ABTA Abfaltersbach 5.41 344 *i* Pn **Pn** 17 37 52.1 +4.0
comp=N,0.8nm,0.3s
ABTA *e*Sn **Sn** 17 38 49.7 -0.5
comp=N,7.0nm,0.6s
KOSI Kohlern 5.44 336 ⇑P **Pn** 17 37 50.2 +1.7
MORH Mrgy, Hungar 5.49 31 *e*Pn **Pn** 17 37 49.5 +0.4
MORH Mrgy, Hungar 5.49 31 P **Pn** 17 37 50.5 +1.4
STIP Stip 5.67 86 *i* Pn **Pn** 17 37 54.1 +2.6
ARSA Arzberg 5.74 6 *i* Pn **Pn** 17 37 55.2 +2.8
comp=N,1.3nm,0.3s
ARSA *i* Sn **Sn** 17 38 57.3 -0.7
comp=N,2.9nm,0.4s
SBF Sospel 5.78 296 *e*Pn **Pn** 17 37 53.6 +0.6
WTTA Wattenberg 6.10 340 *i* Sn **Sn** 17 39 08.7 +1.5
comp=N,5.1nm,0.5s
FETA Feichten 6.14 334 *e*Sn **Sn** 17 39 08.1 -0.2
comp=N,2.7nm,0.5s
SQTA Sankt Quirin 6.17 338 *i* Sn **Sn** 17 39 09.5 +0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,5.3nm,0.4s						
WATA	Walderalm	6.18	340	i Sn	Sn	17 39 08.2	-1.0
	comp=N,2.0nm,0.3s						
FRF	La Foret Royal	6.22	291	ePn	Pn	17 37 59.9	+0.8
DAVOX	Davos/Dischmat	6.24	328	Pn	Pn	17 38 00.6	+1.1
	comp=N,0.3nm,0.3s,baz=144,slow=17,SNR=5.5						
DAVOX				Sn	Sn	17 39 10.3	-0.5
	comp=N,0.5nm,0.3s,baz=337,slow=15,SNR=2.3						
LMR	La Mourre	6.26	289	ePn	Pn	17 38 00.4	+0.8
MOA	Molln	6.30	358	i Pn	Pn	17 37 59.4	-0.9
	comp=N,0.9nm,0.3s						
MOA				i Sn	Sn	17 39 10.5	-1.6
	comp=N,3.8nm,0.3s						
CONA	Conrad Observa	6.44	7	i Pn	Pn	17 38 02.8	+0.7
	comp=N,1.3nm,0.3s						
CONA				eSn	Sn	17 39 13.8	-1.6
	comp=N,2.9nm,0.4s						
KEST	Kesra	7.13	217	Pn	Pn	17 38 13.2	+1.6
	comp=N,0.4nm,0.3s,baz=153,slow=2.3,SNR=2.0						
CKRC	Cesky Krumlov	7.27	358	eSN	Sn	17 39 33.0	-2.9
GERES	GERESS Array B	7.32	355	Pn	Pn	17 38 13.0	-1.3
	comp=N,0.3nm,0.3s,baz=168,slow=14,SNR=4.0						
GERES				Sn	Sn	17 39 35.8	-1.4
	comp=N,0.8nm,0.3s,baz=171,slow=27,SNR=10						
KOLL	Kolacno	7.52	20	ePN	Pn	17 38 18.2	+1.3
VYHS	Vyhne	7.56	22	ePN	Pn	17 38 18.5	+1.1
KHC	Kasperske Hory	7.62	355	ePN	Pn	17 38 19.2	+0.9
KHC				ex	x	17 38 30.0	
KHC				eSN	Sn	17 39 41.3	-3.1
HINF	Hinteralfeld	8.36	321	ePn	Pn	17 38 28.5	+0.1
HINF				eSn	Sn	17 39 58.2	-4.4
	comp=N,3.7nm,0.5s						
CDF	Champ du Feu	8.61	325	ePn	Pn	17 38 31.1	-0.8
CDF	Champ du Feu	8.61	325	eP	Pn	17 38 36.9	+5.0
CDF				eSn	Sn	17 40 03.6	-5.2
	comp=N,1.4nm,0.3s						
HAU	Haudompre	8.73	320	ePn	Pn	17 38 33.6	+0.1
HAU				eSn	Sn	17 40 06.3	-5.4
	comp=N,2.8nm,0.4s						
FINES	FINESS Array B	21.10	15	P	P	17 41 13.1	+1.6
	comp=N,2.1nm,1.0s,baz=215,slow=12,SNR=3.6						
MKAR	Makanchi Array	47.46	60	P	P	17 45 02.6	+0.7
	comp=N,0.2nm,0.6s,baz=307,slow=6.8,SNR=4.4						

WEL 04 18:17:48.1±0.9**, 38°S**±6°×**17°7E**±°**, h116**km±10km**, M2.5**/9**, ML2.7**/19**, MLv2.5**/9**, Error ellipse: s-maj=0.0km s-min=0.0km az=71.8, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.64	148	P	Pn	18 18 07.0	+0.3
URZ				S	Sn	18 18 22.8	+2.2
URZ	Urewera	0.64	148	P	Pn	18 18 07.0	+0.4
MUGZ	Murupara	0.76	175	P	Pn	18 18 08.4	+0.7
MUGZ				S	Sn	18 18 24.2	+1.7
RUGZ	Raukumara Rang	0.82	108	P	Pn	18 18 07.7	-0.5
HAZ	Te Kaha	0.87	93	P	Pn	18 18 08.4	-0.2
MWZ	Matawai	0.90	133	P	Pn	18 18 08.7	-0.3
RTZ	Ruatahuna	0.93	166	P	Pn	18 18 09.4	+0.1
RTZ				S	Sn	18 18 26.8	+1.7
PKGZ	Pakihiroa	1.11	99	P	Pn	18 18 12.2	+1.1
MTHZ	Maungataniwha	1.14	174	P	Pn	18 18 11.7	+0.3
RAHZ	Arahi	1.24	166	P	Pn	18 18 12.6	+0.2
KUZ	Kuaotunu	1.24	321	P	Pn	18 18 12.4	0.0
MXZ	Matakaoa Point	1.29	84	P	Pn	18 18 14.3	+1.3
MKAZ	Moumakai	1.36	296	P	Pn	18 18 14.1	+0.4
WMGZ	Waiomatatini S	1.37	95	P	Pn	18 18 13.9	+0.1
NMHZ	Naumai	1.38	176	P	Pn	18 18 14.7	+0.6
BKZ	Black Stump Fm	1.45	186	P	Pn	18 18 14.2	-0.6
BKZ	Black Stump Fm	1.45	186	P	Pn	18 18 15.8	+0.9
WIAZ	Waiheke Island	1.55	306	P	Pn	18 18 16.1	+0.3
ARHZ	Aropaoanui	1.56	171	P	Pn	18 18 15.9	-0.1
HIZ	Hauiti	1.65	241	P	Pn	18 18 17.5	+0.4
OTVZ	Oturere	1.65	209	P	Pn	18 18 17.5	+0.2
TWVZ	Taurewa	1.67	216	P	Pn	18 18 18.0	+0.5
SNVZ	South Ngauruho	1.68	209	P	Pn	18 18 17.9	+0.2
KWHZ	Kaweka Forest	1.72	187	P	Pn	18 18 17.5	-0.4
MCHZ	McNeill Hill	1.72	180	P	Pn	18 18 17.8	-0.2
FWVZ	Far West T-bar	1.77	210	P	Pn	18 18 18.9	+0.1
WNVZ	Wahianoa	1.82	208	P	Pn	18 18 19.0	-0.4
BHHZ	Black Hill Sta	1.84	195	P	Pn	18 18 18.4	-1.0
MOVZ	Moawhango	1.84	203	P	Pn	18 18 18.6	-0.9
PKVZ	Pokaka	1.89	213	P	Pn	18 18 20.1	0.0
KRHZ	Kereru	1.94	187	P	Pn	18 18 20.4	-0.2
KAHZ	Kahuranaki	2.08	176	P	Pn	18 18 21.7	-0.8
PNHZ	Pukenui	2.23	190	P	Pn	18 18 22.9	-1.4
WAZ	Wanganui	2.43	213	P	Pn	18 18 26.0	-0.9

*IDC **04** 18:42:16.6±1.4, 1°.35S×99°.58E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/63, mbtmp3.8/10, ML3.8/2, Error ellipse: s-maj=64.8km s-min=16.2km az=63.0*

*DJA **04** 18:42:22.9±0.2, 1°S±2°×10°0E±°, h10km, M4.2/15, mb4.4/3, MLv4.1/15*

*NEIC **04** 18:42:24.3±0.8, 1°.13S±0°.06×99°.7E±0°.1, h41km±10km, mb4.3/6, Error ellipse: s-maj=16.6km s-min=5.2km az=60.0*

ISC 04 18:42:24.9±0.6**, 1°.03S**±0°.05×**99°.78E**±0°.05**, h57**km**, n42, σ1§32**/40**, mb4.2**/11**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SISI	Saibi	0.75	247	P	Pn	18 42 38.2	-1.4
SISI				S	Sn	18 42 49.3	-1.0
PPI	Padang Panjang	0.84	48	P	Pn	18 42 38.5	-2.3
PPI				S	Sn	18 42 49.8	-2.7
PPSI	Pulau Pagai	1.74	172	P	Pn	18 42 52.4	-0.4
MNSI	Mandailing Nat	1.82	354	P	Pn	18 42 54.0	0.0
BKNI	Bangkinang	1.85	43	Pn	Pn	18 42 54.4	+0.1
BKNI	Bangkinang	1.85	43	P	Pn	18 42 52.6	-1.7
KRJI	Kerinci	1.99	122	P	Pn	18 42 56.9	+0.6
KRJI				S	Sn	18 43 21.2	+1.1
RGRI	Rengat	2.65	75	P	Pn	18 43 26.8	+22
GSI	Gunungsitoli	3.20	316	Pn	Pn	18 43 12.6	-0.1
GSI	Gunungsitoli	3.20	316	P	Pn	18 43 13.1	+0.4
MASI	Maura Aman, Be	3.23	130	P	Pn	18 43 13.0	-0.3
RPSI	Rantau Prapat	3.80	347		Pn	18 43 22.2	+1.3
PSI	Prapat	3.90	347	Pn	Pn	18 43 22.2	-0.3
	5.5nm,0.3s,baz=159,slow=10,SNR=17						
PSI				Lg	Lg	18 44 27.8	
	1.3nm,0.3s,baz=135,slow=2.9,SNR=1.4						
MNAI	Manna	4.59	136	Pn	Pn	18 43 30.4	-1.4
TSI	Tuntungan	4.66	345	P	Pn	18 43 35.1	+2.3
MYKOM	Kota Tinggi	4.94	55	Pn	Pn	18 43 37.4	+0.7
KCSI	Kotacane, Aceh	4.95	336	P	Pn	18 43 38.8	+2.1
LWLI	Liwa	5.83	133	P	Pn	18 43 49.9	+1.0
	0.5nm36nm,0.8s						
KULM	Kulim	6.34	8	Pn	Pn	18 43 55.9	+0.1
KASI	Kota Agung	6.49	134	P	Pn	18 43 57.3	-0.6
CMAR	Chiang Mai Arr	19.38	358	P	P	18 46 47.1	+0.9
	0.1nm,0.3s,baz=183,slow=12,SNR=5.6						
BNSI	Bone	20.58	100	P	Pn	18 47 12.4	+10
H08S2	Diego Garcia H	27.97	256	T	T	19 16 20.6	
	baz=77,slow=75,SNR=11						
H08S3	Diego Garcia H	27.98	256	T	T	19 16 18.9	
	baz=77,slow=75,SNR=9.9						
H08S1	Diego Carcia H	27.99	256	T	T	19 16 20.8	
	baz=77,slow=75,SNR=10						
WRA	Warramunga Arr	38.68	121	P	P	18 49 42.0	-1.5
	0.8nm,1.0s,baz=303,slow=9.1,SNR=2.7						
ASAR	Alice Springs	40.01	127	P	P	18 49 52.5	-2.0
	0.3nm,1.0s,baz=298,slow=7.9,SNR=2.0						
BTK	Batken	48.70	330	P	P	18 51 00.9	-2.9
SONM	Songino Array	49.01	6	P	P	18 51 06.7	+0.7
	0.4nm,0.7s,baz=204,slow=6.3,SNR=3.0						
SONM				PcP	PcP	18 52 30.9	+1.6
	0.2nm,0.5s,baz=270,slow=0.6,SNR=2.3						
STKA	Stephens Creek	49.96	132	P	P	18 51 14.0	+0.5
	1.8nm,1.0s,baz=234,slow=20,SNR=2.3						
MK31	Makanchi Array	50.04	344	P	P	18 51 15.1	+1.2
MK31				IAmb	IAmb	18 51 16.1	
	comp=Z,1.6nm,0.6s						
MKAR	Makanchi Array	50.04	344	P	P	18 51 15.1	+1.2
	comp=Z,1.4nm,0.3s,baz=161,slow=8.6,SNR=54						
MKAR	Makanchi Array	50.04	344	P	P	18 51 14.9	+1.1
MAKZ	Makanchi	50.14	344	P	P	18 51 15.6	+1.0
KURK	Kurchatov	54.62	344	P	P	18 51 49.0	+1.4
KURK				IAmb	IAmb	18 51 49.9	
	comp=Z,2.9nm,0.9s						
ZAA0	Zalesovo Array	56.18	349	P	P	18 51 59.7	+0.9
ZAA0				IAmb	IAmb	18 52 00.2	
	comp=Z,2.1nm,0.7s						
ZALV	Zalesovo Beam	56.18	349	P	P	18 51 59.5	+0.7
	comp=Z,2.1nm,0.5s,baz=186,slow=4.8,SNR=12						
ZALV	Zalesovo Beam	56.18	349	P	P	18 51 59.3	+0.5
ABKAR	Akbulak array	60.69	331	P	P	18 52 30.9	+0.6
FINES	FINESS Array B	83.15	332	P	P	18 54 45.9	+1.3
	comp=Z,0.5nm,0.5s,baz=114,slow=8.5,SNR=6.1						
ARCES	ARCESS Array B	85.49	340	P	P	18 54 56.5	+0.2
	comp=Z,1.7nm,0.9s,baz=102,slow=8.4,SNR=1.2						
TXAR	Lajitas Array	144.06	36	PKP	PKPbc	19 01 54.6	+1.5
	comp=Z,0.2nm,0.4s,baz=359,slow=1.4,SNR=6.1						

*TUL **04** 18:48:09.8±1.2, 35°.84N±0°.01×97°.24W±0°.01, h6km±6km, ML2.7, mb_Lg2.4/6(NEIC), Error ellipse: s-maj=1.9km s-min=1.4km az=149.0*

NEIC 04 18:48:09.8±1.0**, 35°.860N**±0°.008×**97°.25W**±0°.01**, h5**km±2km**, Error ellipse: s-maj=3.0km s-min=1.9km az=136.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.61	192	Pg	Pg	18 48 21.4	-0.3
FNO				Sg	Sg	18 48 30.0	+0.3
W35A	Tecumseh	0.77	156	Pg	Pg	18 48 23.9	-0.7
TUL1	Leonard	1.19	87		Pg	18 48 31.1	-1.4
T35A	Sooner Cattle	1.21	29		Pg	18 48 32.3	-0.8
X34A	Smith Ranch, M	1.34	201		Pn	18 48 34.9	-0.4
U32A	Winter Ranch,	1.51	291	Pn	Pn	18 48 37.9	+0.3
WMOK	Wichita Mounta	1.68	229		Pn	18 48 40.2	+0.3
X37A	Clayton	1.99	129		Pn	18 48 44.9	+0.7
X37A				IAmb_Lg		18 49 17.8	
	comp=Z,21nm,0.9s						
W39A	Magazine	2.90	102	Pn	Pn	18 48 56.8	0.0
KSU1	Kansas State U	3.27	9	IAmb_Lg		18 50 00.6	
	comp=Z,15nm,0.7s						
ABTX	Abilene, Hawle	3.79	212	IAmb_Lg		18 50 14.4	
	comp=Z,6.0nm,0.8s						

ROM 04 18:49:18.2±0.3**, 38°.43N**±0°.02×**15°.55E**±0°.02**, h81**km±2km**, ML2.0**/7**, 1D, Error ellipse: s-maj=1.7km s-min=1.6km az=169.0, Sicily**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSRU	Castanea	0.17	191	P	Pn	18 49 29.7	-0.3
MSRU				S	Sn	18 49 38.4	-0.3
MSRU				AML	AML		
	comp=E,107μm,1.3s						
MSRU				AML	AML		
	comp=N,103μm,0.5s						
MSRU				AML	AML		
	comp=N,104μm,0.5s						
MSRU				AML	AML		
	comp=E,107μm,1.3s						
MSCL	Scilla	0.27	136	P	Pn	18 49 30.3	-0.3
MSCL				S	Sn	18 49 39.6	0.0
MILZ	Milazzo	0.29	238	AML	AML		
	comp=N,216μm,0.3s						
MILZ				AML	AML		
	comp=E,249μm,0.5s						
JOPP	Joppolo	0.32	56	⇓P	Pn	18 49 30.8	0.0
JOPP				S	Sn	18 49 40.1	0.0
JOPP				AML	AML		
	comp=N,52μm,0.3s						
JOPP				AML	AML		
	comp=E,52μm,0.9s						
MPNC	Port Mandanici	0.32	209	P	Pn	18 49 30.2	-0.5
MPNC				S	Sn	18 49 39.1	-0.9
GMB	Gambarie	0.34	139	P	Pn	18 49 30.9	-0.1
GMB				S	Sn	18 49 41.2	+0.8
GMB				AML	AML		
	comp=E,144μm,0.9s						
GMB				AML	AML		
	comp=N,248μm,0.4s						
MTTG	Motta San Giov	0.44	165	P	Pn	18 49 31.8	+0.2
VPL	Vulcano Piano	0.45	264	P	Pn	18 49 31.8	+0.1
VPL				S	Sn	18 49 41.3	-0.2
VPL				AML	AML		
	comp=N,302μm,0.8s						
VPL				AML	AML		
	comp=E,270μm,1.2s						
LLI	Lipari	0.47	272	P	Pn	18 49 32.3	+0.5
LLI				S	Sn	18 49 43.0	+1.1
NOV	Novara	0.51	219	P	Pn	18 49 32.7	+0.5
NOV				S	Sn	18 49 43.8	+1.2
NOV				AML	AML		
	comp=E,79μm,0.5s						
NOV				AML	AML		
	comp=N,55μm,0.7s						
NOV				AML	AML		
	comp=N,55μm,0.7s						
NOV				AML	AML		
	comp=E,79μm,0.5s						
AIO	Antillo	0.52	209	P	Pn	18 49 32.5	+0.3
AIO				S	Sn	18 49 43.7	+1.0
SOI	Samo	0.53	131	P	Pn	18 49 32.3	0.0
SOI				S	Sn	18 49 43.2	+0.4
SOI				AML	AML		
	comp=E,27μm,1.2s						
SOI				AML	AML		
	comp=N,35μm,1.3s						
MUCR	Ucria	0.66	234	P	Pn	18 49 33.6	0.0
PLAC	Placanica	0.70	88	P	Pn	18 49 34.5	+0.5
PLAC				S	Sn	18 49 46.6	+0.9
SERS	Sersale	1.08	55	P	Pn	18 49 39.1	+0.7
PLLN	Pollina	1.19	249	S	Sn	18 49 58.0	+2.2

*IDC **04** 18:51:49.6±0.8, 14°.36S×166°.86E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.0/40, mbtmp4.1/13, ML3.0/1, MS3.4/14, Ms1 3.4/14, ms1mx3.1/65, Error ellipse: s-maj=25.5km s-min=19.7km az=115.0*

*NEIC **04** 18:51:53.9±2.0, 14°.23S±0°.09×166°.8E±0°.1, h27km±4km, mb4.5/8, Error ellipse: s-maj=18.9km s-min=12.5km az=86.0*

ISC 04 18:51:55.0±0.6**, 14°.30S**±0°.07×**166°.8E**±0°.1**, h35**km**, n40, σ1§45**/31**, mb4.2**/15**, MS3.5**/12**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.21	161	Pn	Pn	18 52 16.6	+1.2
KOUNC	Koumac, New Ca	6.66	201		Pn	18 53 29.7	-0.6
DZM	Mont Dzumac	7.73	182	Pn	Pn	18 53 41.2	-4.0
	0.2nm,0.3s,baz=52,slow=14,SNR=2.4						
DZM				Sn	Sn	18 55 12.1	+0.4
	baz=103,slow=22,SNR=1.0						
DZM				LR	LR	18 55 45.4	
	comp=Z,56nm,18.5s,baz=4.0,slow=31						
DZM	Mont Dzumac	7.73	182	ePn	Pn	18 53 48.7	+3.5
	6.7nm,0.3s						
DZM				eSn	Sn	18 55 08.7	-2.9
	3.5nm,0.3s						
DZM				eLR	LR	18 55 46.0	
	comp=Z,341nm,24.8s						
ONTNC	Ouen Toro	7.97	182	Pn	Pn	18 53 48.0	-0.3
OUENC	Ouen Island, N	8.07	180	Pn	Pn	18 53 50.0	+0.2
PMG	Port Moresby	19.81	282	LR	LR	19 02 44.1	
	comp=Z,147nm,19.4s,baz=71,slow=33						
CTA	Charters Tower	20.43	251	LR	LR	19 03 34.1	
	comp=Z,96nm,19.1s,baz=84,slow=34						
AFI	Afiamalu	20.79	92	LR	LR	19 02 27.5	
	comp=Z,47nm,19.5s,baz=254,slow=31						
STKA	Stephens Creek	28.92	228	P	P	18 57 52.1	+1.2
	1.1nm,0.7s,baz=22,slow=9.3,SNR=5.3						
STKA				LR	LR	19 09 05.5	
	comp=Z,162nm,19.1s,baz=32,slow=36						
RPZ	Rata Peaks	29.54	174	LR	LR	19 08 25.2	
	comp=Z,54nm,18.1s,baz=5.5,slow=34						
WRA	Warramunga Arr	31.48	255	P	P	18 58 13.2	-0.5
	1.0nm,0.8s,baz=86,slow=9.5,SNR=7.0						
WRA				LR	LR	19 10 42.8	
	comp=Z,108nm,18.5s,baz=54,slow=36						
ASAR	Alice Springs	32.39	248	P	P	18 58 21.1	-0.6
	0.8nm,0.7s,baz=74,slow=9.3,SNR=14						
ASAR				LR	LR	19 10 39.5	
	comp=Z,118nm,19.2s,baz=142,slow=35						
RAR	Rarotonga	32.53	107	P	P	18 58 22.3	-0.6
	12nm,0.5s,baz=333,slow=9.0,SNR=2.6						
GUMO	Guam	35.20	321	LR	LR	19 12 17.6	
	comp=Z,36nm,18.9s,baz=100,slow=35						
SIJI	Sorong	37.57	288	LR	LR	19 15 01.4	
	comp=Z,81nm,18.4s,baz=170,slow=37						
FITZ	Fitzroy Crossi	39.64	259	LR	LR	19 15 52.8	
	comp=Z,71nm,18.1s,baz=127,slow=36						
BATI	Baumata	42.29	270	LR	LR	19 17 56.1	
	comp=Z,68nm,18.6s,baz=246,slow=37						
MJAR	Matsushiro Arr	57.31	333	P	P	19 01 39.8	+0.3
	1.1nm,0.4s,baz=103,slow=3.8,SNR=4.7						
MJAR	Matsushiro Arr	57.31	333	IAmb	IAmb	19 02 05.9	
	comp=Z,3.2nm,1.2s						
MAJO	Matsushiro	57.32	333	P	P	19 01 38.0	-1.5
MJB9	Matsu-Tunnel	57.32	333	P	P	19 01 38.4	-1.2
KSRS	Korea Array	63.13	326	P	P	19 02 20.1	+0.9
	comp=Z,1.2nm,0.9s,baz=138,slow=6.5,SNR=3.4						
SBA	Scott Base	63.56	180	P	P	19 02 22.8	+1.2
SBA				IAmb	IAmb	19 02 35.9	
	comp=Z,3.0nm,0.9s						
PETK	Petropavlovsk-	67.59	354	P	P	19 02 48.0	+0.2
	comp=Z,2.1nm,0.6s,baz=145,slow=5.4,SNR=4.3						
CMAR	Chiang Mai Arr	74.35	294	P	P	19 03 30.8	+1.2
	comp=Z,0.4nm,0.5s,baz=101,slow=4.7,SNR=3.9						
MA2	Magadan	74.76	352	LR	LR	19 33 22.1	
	comp=Z,18nm,18.5s,baz=310,slow=33						
QSPA	South Pole Qui	75.72	180	P	P	19 03 37.4	+0.6
QSPA				IAmb	IAmb	19 03 48.1	
	comp=Z,14nm,1.5s						
SONM	Songino Array	81.88	324	P	P	19 04 11.8	+0.9
	comp=Z,0.6nm,0.8s,baz=146,slow=6.1,SNR=4.7						
BILL	Bilibino	82.12	360	P	P	19 04 09.8	-1.7
BILL				IAmb	IAmb	19 04 13.1	
	comp=Z,4.5nm,0.7s						
ILAR	Eielson Array	86.27	18	P	P	19 04 32.6	-0.1
	comp=Z,0.8nm,0.5s,baz=236,slow=5.3,SNR=15						
ILAR	Eielson Array	86.27	18	P	P	19 04 31.8	-0.9
ELK	Elko	90.35	48	LR	LR	19 39 26.7	
	comp=Z,25nm,20.0s,baz=252,slow=32						
MKAR	Makanchi Array	96.58	316	P	P	19 05 22.3	+1.1
	comp=Z,0.3nm,0.5s,baz=85,slow=7.2,SNR=4.8						
MKAR	Makanchi Array	96.58	316	P	P	19 05 21.9	+0.7
ZALV	Zalesovo Beam	96.78	324	P	P	19 05 21.6	-0.3
	comp=Z,0.7nm,0.6s,baz=91,slow=8.9,SNR=4.1						
ARCES	ARCESS Array B	119.72	345	PKP	PKiKP	19 10 41.7	+0.8
	comp=Z,2.0nm,0.7s,baz=90,slow=2.4,SNR=8.8						
FINES	FINESS Array B	125.16	338	PKP	PKiKP	19 10 51.5	-0.2
	comp=Z,0.7nm,0.7s,baz=44,slow=12,SNR=1.7						
NOA	NORSAR Array B	130.09	345	PKP	PKiKP	19 11 00.7	-1.1
	comp=Z,0.5nm,0.8s,baz=18,slow=3.7,SNR=1.8						
AKASG	Malin Array Be	130.12	326	PKP	PKiKP	19 11 00.7	-1.3
	comp=Z,0.4nm,0.5s,baz=63,slow=1.8,SNR=1.7						

*LDG **04** 18:53:04.9±0.1, 39°.15N×15°.36E, h257km, Ml2.7/2, Error ellipse: s-maj=3.3km s-min=2.7km az=95.0*

*ROM **04** 18:53:04.4±0.2, 39°.10N±0°.01×15°.54E±0°.03, h261km±2km, ML3.3/51, Error ellipse: s-maj=2.4km s-min=0.9km az=109.0*

*NEIC **04** 18:53:05.2±2.0, 39°.23N±0°.08×15°.5E±0°.1, h254km±9km, mb4.2/9, Error ellipse: s-maj=11.7km s-min=11.0km az=131.0*

*IDC **04** 18:53:05.4±0.8, 39°.25N×15°.27E, h265km±10km, mb3.0/9, mb1 3.0/13, mb1mx2.9/47, mbtmp3.5/13, Error ellipse: s-maj=22.8km s-min=12.1km az=102.0*

ISC 04 18:53:04.4±0.6**, 39°.17N**±0°.05×**15°.48E**±0°.05**, h258**km±6km**, n150, σ1§51**/169**, mb3.5**/9**, 17C-18D, Southern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IST3	Stromboli F	0.42	208	P	Pn	18 53 39.4	+1.2
IST3				AML	AML		
	comp=E,228μm,0.2s						
IST3				AML	AML		
	comp=N,295μm,0.8s						
IST3				AML	AML		
	comp=N,296μm,0.8s						
IST3				AML	AML		
	comp=E,228μm,0.2s						
CET2	Cetraro	0.51	46	⇑P	Pn	18 53 39.2	+0.9
CET2				S	S	18 54 04.4	-0.6
CET2				AML	AML		
	comp=E,2825μm,0.7s						
CET2				AML	AML		
	comp=N,2145μm,0.8s						
CAR1	CAROLEI	0.57	82	P	Pn	18 53 39.2	+0.7
CAR1				S	S	18 54 03.9	-1.5
CAR1				AML	AML		
	comp=N,1715μm,0.6s						
CAR1				AML	AML		
	comp=E,1725μm,0.3s						
CAR1				AML	AML		
	comp=N,1715μm,0.6s						
CAR1				AML	AML		
	comp=N,1325μm,0.9s						
CAR1				AML	AML		
	comp=E,2035μm,0.3s						
CAR1				AML	AML		
	comp=E,1725μm,0.3s						
JOPP	Joppolo	0.65	151	⇓P	Pn	18 53 39.3	+0.4
JOPP				S	S	18 54 04.9	-1.0
JOPP				AML	AML		
	comp=N,478μm,0.2s						
JOPP				AML	AML		
	comp=N,477μm,0.2s						
JOPP				AML	AML		
	comp=E,467μm,0.8s						
SPS2	Spezzano della	0.68	79	P	Pn	18 53 39.9	+1.0
GRI	Girifalco	0.81	115	P	Pn	18 53 40.6	+1.2
GRI				S	S	18 54 06.6	-0.4
GRI				AML	AML		
	comp=E,890μm,0.8s						
GRI				AML	AML		
	comp=N,634μm,1.2s						
GRI				AML	AML		
	comp=E,892μm,0.8s						
GRI				AML	AML		
	comp=N,634μm,1.2s						
TDS	Terranova Siba	0.82	53	P	Pn	18 53 41.0	+1.6
TDS				S	S	18 54 07.3	+0.3
TDS				AML	AML		
	comp=E,217μm,0.9s						
TDS				AML	AML		
	comp=N,150μm,0.8s						
CELI	Celico	0.83	74	P	Pn	18 53 41.6	+1.9
LLI	Lipari	0.84	210	P	Pn	18 53 41.1	+1.6
LLI				AML	AML		
	comp=E,1098μm,0.4s						
LLI				AML	AML		
	comp=N,1605μm,0.4s						
CUC	Castrocucco	0.86	17	P	Pn	18 53 40.7	+1.1
VPL	Vulcano Piano	0.88	206	P	Pn	18 53 40.8	+1.0
VPL				AML	AML		
	comp=N,1050μm,0.5s						
VPL				AML	AML		
	comp=E,932μm,1.5s						
MSRU	Castanea	0.91	179	⇓P	Pn	18 53 40.1	+0.2
MSRU				S	S	18 54 06.7	-1.2
MSRU				AML	AML		
	comp=E,796μm,1.2s						
MSRU				AML	AML		
	comp=N,466μm,0.6s						
BULG	Bulgheria - Ca	0.91	355	⇑P	Pn	18 53 41.5	+1.7
BULG				AML	AML		
	comp=E,73μm,0.4s						
BULG				AML	AML		
	comp=N,140μm,1.3s						
BULG				AML	AML		
	comp=E,73μm,0.4s						
MILZ	Milazzo	0.92	192	AML	AML		
	comp=N,690μm,0.9s						
MILZ				AML	AML		
	comp=E,972μm,0.5s						
IFIL	Filicudi I Eol	0.94	230	P	Pn	18 53 40.8	+0.8
SERS	Sersale	0.95	98	⇓P	Pn	18 53 41.3	+1.1
SERS				S	S	18 54 07.7	-0.7
SERS				AML	AML		
	comp=N,506μm,0.3s						
SERS				AML	AML		
	comp=E,449μm,0.7s						
CEL	Celeste	0.97	160		Pn	18 53 40.2	0.0
CEL				Sn	S	18 54 02.0	-6.5
CEL	Celeste	0.97	160	P	Pn	18 53 40.4	+0.1
CEL				S	S	18 54 06.5	-2.0
CEL				AML	AML		
	comp=E,260μm,0.5s						
CEL				AML	AML		
	comp=N,297μm,0.4s						
CEL				AML	AML		
	comp=N,364μm,0.5s						
CEL				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,296μm,0.4s						
CEL				AML	AML		
	comp=E,321μm,0.5s						
MGR	Morigerati	0.97	3	⇑P	Pn	18 53 41.5	+1.4
MGR				S	S	18 54 09.0	+0.7
MGR				AML	AML		
	comp=N,90μm,1.5s						
MGR				AML	AML		
	comp=N,90μm,1.5s						
MGR				AML	AML		
	comp=E,62μm,0.7s						
MSCL	Scilla	0.97	165	P	Pn	18 53 40.5	+0.1
MSCL				S	S	18 54 07.3	-1.3
SALB	San Lorenzo Be	0.97	43	⇑P	Pn	18 53 41.8	+1.6
SALB				S	S	18 54 09.3	+0.7
SALB				AML	AML		
	comp=E,680μm,0.3s						
SALB				AML	AML		
	comp=N,297μm,0.6s						
SALB				AML	AML		
	comp=N,341μm,0.6s						
SALB				AML	AML		
	comp=E,700μm,0.3s						
TIP	Timpagrande	0.99	89	Pn	Pn	18 53 41.3	+1.0
TIP				Sn	S	18 54 03.0	-5.7
TIP	Timpagrande	0.99	89	⇓P	Pn	18 53 41.6	+1.3
TIP				S	S	18 54 08.0	-0.6
TIP				AML	AML		
	comp=N,252μm,0.7s						
TIP				AML	AML		
	comp=E,433μm,0.8s						
TIP				AML	AML		
	comp=N,194μm,0.7s						
TIP				AML	AML		
	comp=E,365μm,1.0s						
MPNC	Port Mandanici	1.03	186	⇓P	Pn	18 53 40.8	+0.2
GMB	Gambarie	1.04	165	⇓P	Pn	18 53 41.1	+0.3
GMB				AML	AML		
	comp=N,1775μm,0.4s						
GMB				AML	AML		
	comp=E,2195μm,1.2s						
PLAC	Placanica	1.04	134	⇓P	Pn	18 53 41.5	+0.8
PLAC				S	S	18 54 07.9	-1.2
PLAC				AML	AML		
	comp=E,587μm,0.7s						
PLAC				AML	AML		
	comp=N,584μm,0.6s						
PLAC				AML	AML		
	comp=N,620μm,0.7s						
PLAC				AML	AML		
	comp=E,588μm,0.6s						
SIRI	Monte Sirino -	1.05	16	⇑P	Pn	18 53 41.9	+1.2
SIRI				AML	AML		
	comp=E,212μm,0.3s						
SIRI				AML	AML		
	comp=N,172μm,0.5s						
SIRI				AML	AML		
	comp=N,187μm,0.3s						
SIRI				AML	AML		
	comp=N,188μm,0.3s						
SIRI				AML	AML		
	comp=E,214μm,0.3s						
PIPA	Pietrapaola	1.08	73	P	Pn	18 53 42.3	+1.5
PIPA				AML	AML		
	comp=N,518μm,1.1s						
PIPA				AML	AML		
	comp=N,518μm,1.1s						
PIPA				AML	AML		
	comp=E,408μm,0.3s						
PIPA				AML	AML		
	comp=N,315μm,0.9s						
PIPA				AML	AML		
	comp=E,401μm,0.3s						
IACL	Alicudi	1.08	234	P	Pn	18 53 41.9	+1.1
MTSN	Montesano sull	1.11	11	P	Pn	18 53 42.1	+1.1
SCHR	S. Chirico Rap	1.12	24	⇑P	Pn	18 53 43.1	+2.0
SCHR				S	S	18 54 12.0	+2.0
SCHR				AML	AML		
	comp=E,150μm,0.5s						
SCHR				AML	AML		
	comp=N,106μm,0.6s						
SCHR				AML	AML		
	comp=N,106μm,0.6s						
SCHR				AML	AML		
	comp=E,150μm,0.5s						
CMPR	Campora	1.15	353	⇑P	Pn	18 53 42.9	+1.7
CMPR				AML	AML		
	comp=N,72μm,0.4s						
CMPR				AML	AML		
	comp=E,66μm,0.5s						
ORI	Oriolo Calabro	1.16	40	⇑P	Pn	18 53 42.8	+1.6
ORI				S	S	18 54 11.5	+1.2
ORI				AML	AML		
	comp=N,1090μm,0.4s						
ORI				AML	AML		
	comp=E,994μm,0.5s						
LADO	San Nicola del	1.17	84	P	Pn	18 53 42.4	+1.1
NOV	Novara	1.17	193	⇓P	Pn	18 53 42.4	+0.9
NOV				AML	AML		
	comp=E,500μm,1.3s						
NOV				AML	AML		
	comp=N,387μm,1.1s						
MCEL	Monticello	1.18	12	P	Pn	18 53 42.9	+1.5
MCEL				AML	AML		
	comp=E,186μm,0.4s						
MCEL				AML	AML		
	comp=N,160μm,0.8s						
MTTG	Motta San Giov	1.18	172	⇓P	Pn	18 53 42.1	+0.6
MTTG				S	S	18 54 10.0	-0.6
MTTG				AML	AML		
	comp=N,464μm,0.6s						
MTTG				AML	AML		
	comp=E,426μm,0.7s						
SOI	Samo	1.19	158	⇓P	Pn	18 53 41.9	+0.4
SOI				AML	AML		
	comp=N,200μm,0.6s						
SOI				AML	AML		
	comp=E,252μm,0.5s						
AIO	Antillo	1.21	189	⇓P	Pn	18 53 42.6	+0.9
AIO				AML	AML		
	comp=E,310μm,0.2s						
AIO				AML	AML		
	comp=N,471μm,0.4s						
AG11	Viggiano (PZ)	1.22	17	P	Pn	18 53 44.0	+2.4
MUCR	Ucria	1.22	203	⇓P	Pn	18 53 42.2	+0.4
MUCR				AML	AML		
	comp=E,132μm,0.4s						
MUCR				AML	AML		
	comp=N,169μm,0.6s						
SLCN	Sala Consilina	1.22	5	⇑P	Pn	18 53 43.3	+1.7
SLCN				AML	AML		
	comp=E,520μm,1.6s						
SLCN				AML	AML		
	comp=N,445μm,1.5s						
SLCN				AML	AML		
	comp=E,868μm,1.6s						
SLCN				AML	AML		
	comp=E,241μm,0.3s						
SLCN				AML	AML		
	comp=N,220μm,0.5s						
SLCN				AML	AML		
	comp=N,890μm,1.6s						
MSFR	San Fratello	1.33	212	⇓P	Pn	18 53 43.3	+0.8
MSFR				AML	AML		
	comp=E,40μm,1.4s						
MSFR				AML	AML		
	comp=E,40μm,1.4s						
MSFR				AML	AML		
	comp=N,47μm,0.6s						
EPZF	Pizzo Felice	1.43	200	P	Pn	18 53 44.6	+1.3
EPZF				AML	AML		
	comp=N,337μm,0.4s						
EPZF				AML	AML		
	comp=E,228μm,0.4s						
PLLN	Pollina	1.58	222	P	Pn	18 53 44.7	+0.5
PLLN				AML	AML		
	comp=E,152μm,1.6s						
PLLN				AML	AML		
	comp=N,134μm,0.9s						
MRLC	Muro Lucano	1.58	0	⇑P	Pn	18 53 46.0	+1.9
MIGL	Miglionico	1.61	27	⇑P	Pn	18 53 45.1	+0.8
MIGL				S	S	18 54 16.0	+0.1
MIGL				AML	AML		
	comp=E,296μm,0.4s						
MIGL				AML	AML		
	comp=N,731μm,0.4s						
ESML	S. M. di Licod	1.62	197	P	Pn	18 53 45.6	+1.1
ESML				AML	AML		
	comp=N,152μm,1.2s						
ESML				AML	AML		
	comp=E,218μm,1.3s						
GALF	Gagliano Caste	1.63	207	P	Pn	18 53 46.4	+1.8
GALF				AML	AML		
	comp=E,82μm,0.5s						
GALF				AML	AML		
	comp=N,129μm,0.6s						
GIB	Gibilmanna	1.64	224	⇓P	Pn	18 53 45.5	+0.8
GIB				AML	AML		
	comp=E,250μm,0.4s						
GIB				AML	AML		
	comp=N,304μm,0.5s						
ACER	Acerenza	1.65	12	⇑P	Pn	18 53 45.8	+1.1
ACER				AML	AML		
	comp=E,114μm,0.7s						
ACER				AML	AML		
	comp=N,84μm,0.4s						
CSLB	Castelbuono	1.66	223	⇓P	Pn	18 53 45.5	+0.6
CSLB				AML	AML		
	comp=E,33μm,0.4s						
CSLB				AML	AML		
	comp=N,60μm,0.9s						
PETRA	Petralia Sopra	1.71	219	⇓P	Pn	18 53 46.5	+1.1
PETRA				AML	AML		
	comp=E,105μm,0.4s						
PETRA				AML	AML		
	comp=N,118μm,0.9s						
MATE	Matera	1.75	32	⇑P	Pn	18 53 45.9	+0.6
MATE				AML	AML		
	comp=N,226μm,0.3s						
MATE				AML	AML		
	comp=E,134μm,0.7s						
LTRZ	Laterza	1.76	35	⇑P	Pn	18 53 45.9	+0.4
LTRZ				AML	AML		
	comp=N,10600μm,1.6s						
LTRZ				AML	AML		
	comp=E,184μm,0.9s						
PALZ	Palazzo San Ge	1.81	12	⇑P	Pn	18 53 46.9	+1.0
PALZ				AML	AML		
	comp=N,94μm,0.9s						
PALZ				AML	AML		
	comp=E,146μm,0.8s						
HLNI	Lentini	1.88	195	P	Pn	18 53 46.8	+0.2
HLNI				AML	AML		
	comp=N,101μm,1.1s						
HLNI				AML	AML		
	comp=E,91μm,0.2s						
VAE	Valguarnera	1.89	207	P	Pn	18 53 48.5	+1.7
	comp=E,5.8nm,0.3s,baz=343,slow=7.2,SNR=14						
VAE				S	S	18 54 22.9	+2.7
	comp=E,0.9nm,0.3s,baz=296,slow=11,SNR=1.6						
RESU	Resuttano	1.89	217	P	Pn	18 53 49.1	+2.3
RESU				AML	AML		
	comp=N,58μm,0.5s						
RESU				AML	AML		
	comp=E,59μm,0.7s						
HAGA	Augusta	1.90	188	P	Pn	18 53 46.5	-0.3
ALJA	Alia	1.96	224	⇓P	Pn	18 53 48.9	+1.6
ALJA				AML	AML		
	comp=E,104μm,0.5s						
ALJA				AML	AML		
	comp=N,97μm,1.3s						
PAOL	Paolisi	1.99	340		Pn	18 53 48.8	+1.3
NOCI	Noci	2.02	36	⇑P	Pn	18 53 48.2	+0.5
NOCI				AML	AML		
	comp=N,143μm,0.7s						
NOCI				AML	AML		
	comp=E,202μm,0.6s						
SSY	Sortino	2.04	189	P	Pn	18 53 48.0	0.0
SSY				AML	AML		
	comp=E,139μm,1.0s						
SSY				AML	AML		
	comp=N,306μm,0.2s						
MEU	Monte Lauro	2.11	192	⇓P	Pn	18 53 49.3	+0.5
MEU				AML	AML		
	comp=N,196μm,0.9s						
MEU				AML	AML		
	comp=E,179μm,1.6s						
HAVL	Avola	2.23	187	P	Pn	18 53 49.9	+0.2
HAVL				AML	AML		
	comp=E,156μm,1.6s						
HAVL				AML	AML		
	comp=N,316μm,0.3s						
HMDC	Modica	2.28	194	P	Pn	18 53 50.8	+0.6
HMDC				AML	AML		
	comp=E,88μm,1.2s						
HMDC				AML	AML		
	comp=N,126μm,1.4s						
CLTB	Caltabellotta	2.39	229	Pn	Pn	18 53 52.2	+0.9
SCTE	Santa Cesarea	2.48	68	Pn	Pn	18 53 52.6	+0.7
HPAC	Pachino	2.49	187	P	Pn	18 53 52.9	+0.7
HPAC				AML	AML		
	comp=N,206μm,0.4s						
HPAC				AML	AML		
	comp=E,403μm,1.4s						
MSAG	Monte S. Angel	2.56	7	⇑P	Pn	18 53 53.9	+1.1
SGRT	San Giovanni R	2.59	4	Pn	Pn	18 53 54.0	+0.8
AQU	L'Aquila	3.55	334	Pn	Pn	18 54 03.3	-0.1
LSTV	Lastovo	3.75	16	P	Pn	18 54 06.6	+1.0
STON	Ston	4.06	24	P	Pn	18 54 09.8	+0.7
HVAR	Hvar	4.07	10	P	Pn	18 54 09.8	+0.5
MAKA	Makarska	4.27	15	P	Pn	18 54 11.1	-0.6
KBN	Korca	4.33	69	Pn	Pn	18 54 11.5	-1.0
PDG	Podgorica	4.33	40	Pn	Pn	18 54 12.8	+0.4
ZIRJ	Zirje	4.48	2	P	Pn	18 54 13.7	-0.4
RICI	Ricice	4.49	16	P	Pn	18 54 15.1	+0.8
MORI	Morici	4.69	2	P	Pn	18 54 17.1	+0.4
FNA	Florina	4.81	69		Pn	18 54 19.4	+1.3
DUGI	Dugi Otok	4.83	356	P	Pn	18 54 16.9	-1.4
KIJV	Kijevo	4.88	8	P	Pn	18 54 20.0	+1.1
ITM	Ithomi	5.45	109	Pn	Pn	18 54 28.0	+2.0
LIT	Litokhoron	5.49	78	Pn	Pn	18 54 28.6	+2.2
A250A	Rusevo Krmpots	5.92	356	P	Pn	18 54 33.1	+1.4
PGF	Pioggiola	5.96	307	*e*P	Pn	18 54 32.8	+0.5
TEOL	Teolo	6.80	337	Pn	Pn	18 54 47.8	+5.2
MSSA	Maissana	6.80	321	Pn	Pn	18 54 47.8	+5.1
VTS	Vitosha	6.81	57	Pn	Pn	18 54 44.3	+1.4
OBKA	Obir	7.37	355	*i* Pn	Pn	18 54 51.5	+1.8
	comp=E,2.3nm,0.5s						
SALO	Salr	7.41	332	Pn	Pn	18 54 55.0	+4.8
CTI	Castel Tesino	7.43	339	Pn	Pn	18 54 54.7	+4.2
MYKA	Terra Mystica	7.58	350	*i* Pn	Pn	18 54 54.1	+1.7
	comp=E,1.2nm,0.4s						
SBF	Sospel	7.64	310	*e*P	Pn	18 54 54.0	+0.8
SBF				*e*Sn	S	18 56 19.0	-1.8
	comp=E,0.5nm,0.2s						
ABTA	Abfaltersbach	7.88	345	*i* Pn	Pn	18 54 57.6	+1.4
	comp=E,2.1nm,0.5s						
MBDF	Montbardon	8.54	313	*e*P	Pn	18 55 05.5	+0.9
MBDF	Montbardon	8.54	313	*e*Pn	P	18 55 08.5	-3.3
MBDF				*e*Sn	S	18 56 40.0	-1.6
	comp=E,0.3nm,0.2s						
WTTA	Wattenberg	8.56	342	*i* Pn	Pn	18 55 07.7	+2.9
	comp=E,1.5nm,0.2s						
TUE	Stuetta	8.57	330	Pn	Pn	18 55 06.5	+1.5
FETA	Feichten	8.58	338	*i* Pn	Pn	18 55 08.4	+3.4
	comp=E,7.6nm,0.8s						
SQTA	Sankt Quirin	8.63	340	*i* Pn	Pn	18 55 08.8	+3.2
	comp=E,9.1nm,0.4s						
DAVOX	Davos/Dischmat	8.64	333	P	Pn	18 55 06.9	+1.1
	comp=E,0.7nm,0.3s,baz=145,slow=10,SNR=8.4						
WATA	Walderalm	8.64	342	*i* Pn	Pn	18 55 08.5	+2.7
	comp=E,5.6nm,0.5s						
MOTA	Moosalm	8.77	340	*i* Pn	Pn	18 55 08.9	+1.5
	comp=E,1.5nm,0.3s						
LPG	La Plagne	9.04	317	*e*P	Pn	18 55 11.9	+0.9
LPL	La Plagne	9.06	317	*e*P	Pn	18 55 12.4	+1.2
DAVA	Damuels	9.08	335	*i* Pn	Pn	18 55 13.2	+1.9
	comp=E,2.2nm,0.5s						
ORIF	Oris-en-Rattie	9.16	312	*e*Pn	Pn	18 55 14.8	+2.5
SENIN	Lac Senin/Sane	9.37	323	Pn	Pn	18 55 15.9	+0.8
GERES	GERESS Array B	9.76	353	P	Pn	18 55 20.9	+1.1
	comp=E,0.1nm,0.3s,baz=175,slow=12,SNR=2.6						
VIVF	Saint-Julien-l	9.84	309	*e*Pn	Pn	18 55 23.5	+2.6
KARP	Karpathos	9.97	108	Pn	Pn	18 55 23.7	+1.0
KHC	Kasperske Hory	10.05	353	Pn	Pn	18 55 24.5	+1.1
CABF	La Chapelle	10.13	320	*e*P	Pn	18 55 25.3	+0.8
BFO	Black Forest	10.51	333	Pn	Pn	18 55 29.1	0.0
HINF	Hinteralfeld	10.67	327	*e*P	Pn	18 55 30.7	-0.5
ECH	Echery	10.86	329	Pn	Pn	18 55 31.4	-2.1
GRFO	Grafenberg	10.95	345	Pn	Pn	18 55 33.4	-1.1
GRA1	Grafenberg Arr	10.95	345	Pn	Pn	18 55 33.3	-1.3
CDF	Champ du Feu	10.97	330	*e*P	Pn	18 55 35.6	+0.6
SMF	Signal de Mont	11.33	315	*e*P	Pn	18 55 40.2	+0.8
LOR	Lormes	11.71	317	*e*P	Pn	18 55 44.3	+0.2
BGF	Bois d'Agland	11.84	313	*e*P	Pn	18 55 45.7	0.0
LFF	La Frestale	12.37	303	*e*P	Pn	18 55 52.2	-0.1
ETSF	Etsaut	12.67	292	*e*Pn	P	18 56 00.7	+2.7
LDF	La Druitiere	14.65	315	*e*P	P	18 56 19.7	0.0
FLN	La Foliniere	14.94	315	*e*P	P	18 56 23.2	+0.3
ESDC	Sonseca Array	15.04	278	P	P	18 56 24.5	+0.3
	comp=E,0.1nm,0.3s,baz=85,slow=12,SNR=4.9						
AKASG	Malin Array Be	15.06	36	P	Pn	18 56 25.9	+1.1
	comp=E,0.4nm,0.3s,baz=226,slow=11,SNR=4.1						
EKA	Eskdalemuir Ar	20.42	328	P	P	18 57 20.2	-2.0
	comp=E,0.8nm,0.3s,baz=141,slow=11,SNR=19						
HFS	Hagfors	21.01	358	P	P	18 57 26.9	-1.3
	comp=E,0.8nm,0.4s,baz=206,slow=13,SNR=6.3						
NB2	NORSAR Subarra	22.05	354	P	P	18 57 37.7	-0.2
	comp=Z,0.3nm,0.4s,baz=173,slow=11						
NOA	NORSAR Array B	22.05	354	P	P	18 57 37.5	-0.5
	comp=Z,0.2nm,0.3s,baz=170,slow=13,SNR=5.4						
NB201	NORSAR Array S	22.06	355	P	P	18 57 37.7	-0.2
NC405	NORSAR Array S	22.09	355	P	P	18 57 38.1	-0.1
NC303	NORSAR Array S	22.23	355	P	P	18 57 39.5	+0.1
NC204	NORSAR Array S	22.32	354	P	P	18 57 40.3	-0.1
FINES	FINESS Array B	23.24	13	P	P	18 57 49.0	+0.3
	comp=Z,3.1nm,0.5s,baz=190,slow=8.5,SNR=31						
FINES	FINESS Array B	23.24	13	P	P	18 57 49.0	+0.3
FIA1	FINESS Array S	23.24	13	P	P	18 57 49.1	+0.4
FIA1				IAmb	IAmb	18 57 49.6	
	comp=Z,4.3nm,0.8s						
TORD	Torodi Ar. Bea	28.65	209	P	P	18 58 38.0	+0.5
	comp=Z,0.2nm,0.4s,baz=14,slow=9.9,SNR=4.5						
ARCES	ARCESS Array B	30.89	7	P	P	18 58 56.0	-0.7
	comp=Z,0.5nm,0.4s,baz=193,slow=9.4,SNR=20						
DBIC	Dimbokro	37.19	215	P	P	18 59 51.4	+0.1
	comp=Z,2.4nm,0.8s,baz=51,slow=8.2,SNR=4.0						
DBIC	Dimbokro	37.19	215	P	P	18 59 51.6	+0.4
SPB2	Spitsbergen Ar	39.12	0	P	P	19 00 07.1	+0.6
MKAR	Makanchi Array	48.13	58	P	P	19 01 19.5	+1.0
	comp=Z,0.4nm,0.7s,baz=269,slow=8.6,SNR=4.7						
YKA	Yellowknife Ar	71.05	338	P	P	19 03 54.2	+0.1
	comp=Z,0.1nm,0.4s,baz=39,slow=5.4,SNR=4.4						

*CNRM **04** 19:01:07.6, 35°.38N×4°.14W, h16km, ml2.5*
*MDD **04** 19:01:08.9±0.5, 35°.30N×4°.17W, h13km±6km, mb_Lg2.2/8, Error ellipse: s-maj=8.3km s-min=3.0km az=174.0*
*SFS **04** 19:01:08.0, 35°.29N×4°.17W, h13km, ML2.2, TORRES DE ALCALA (MARRUECOS)*
*INMG **04** 19:01:09.5±1.8, 35°.37N×4°.14W, h4km±8km, ML2.0, Error ellipse: s-maj=4.6km s-min=4.4km az=112.0*
ISC 04 19:01:08.1±0.9**, 35°.35N**±0°.03×**4°.14W**±0°.02**, h12**km±7km**, n29, σ1s.11**/50**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.21	130	P	Pg	19 01 12.7	+0.1
PALE				S	Sg	19 01 15.2	-0.5
PVLZ	Peæn de	0.23	217	P	Pg	19 01 12.8	-0.1
PVLZ				S	Sg	19 01 15.6	-0.5
GOG	Mont Gurugu	0.94	98	P	Pg	19 01 25.7	-0.5
EMEL	Melilla	0.96	93	Pg	Pb	19 01 27.0	+0.3
EMEL				Sg	Sg	19 01 40.3	+1.1
CHEFC	Chefchaouen	1.02	256	P	Pn	19 01 29.6	+1.4
SMIR	Smir Dam	1.07	288	P	Pb	19 01 28.2	-0.3
SMIR				S	Sb	19 01 40.1	-2.4
EALB	Alboran	1.07	57	Pg	Pb	19 01 28.9	+0.4
EALB				Sg	Sn	19 01 44.2	+0.4
EALB				*i* Vmb_Lg		19 01 49.2	
ECEU	Ceuta	1.15	299	Pg	Pb	19 01 29.3	-0.6
ECEU				Sg	Sb	19 01 45.2	+0.4
ECEU				*i* Vmb_Lg		19 01 49.8	
EMIJ	Mijas	1.31	337	Pn	Pn	19 01 32.9	+0.6
EMIJ				Sn	Sb	19 01 49.6	0.0
EMIJ				*i* Vmb_Lg		19 01 52.3	
EMAL	Malaga-Limoner	1.43	350	P	Pg	19 01 36.0	+0.6
EMAL				S	Sn	19 01 52.5	0.0
ELGU	Los Guajares,	1.57	15	Pn	Pn	19 01 36.7	+0.9
ELGU				Sn	Sn	19 01 55.8	-0.3
ELGU				*i* Vmb_Lg		19 02 01.1	
JBK	JBK	1.64	128	P	Pn	19 01 38.2	+1.2
JBK				S	Sn	19 01 55.1	-3.0
LCRM	LCR	1.77	200	P	Pb	19 01 41.2	+0.7
EBER	Berja	1.84	33	Pn	Pn	19 01 38.8	-0.9
EBER				Sn	Sb	19 02 04.3	-0.6
EBER				*i* Vmb_Lg		19 02 17.2	
EQUE	Quentar	1.93	17	Pn	Pn	19 01 40.4	-0.5
EQUE				Sn	Sn	19 02 06.1	+0.9
ESPR	Espera	2.06	318	Pn	Pn	19 01 41.1	-1.3
ESPR				Sn	Sn	19 02 06.4	-1.7
ENIJ	Nijar	2.25	43	Sn	Sn	19 02 12.9	+0.1
MD31	MD31	2.53	192	P	Pn	19 01 50.7	+1.6
MDT	Midelt	2.56	189	P	Pn	19 01 50.0	+0.5
MDT				S	Sn	19 02 20.1	-0.6
EADA	Adamuz	2.83	353	Pn	Pn	19 01 54.8	+1.6
EADA				Sn	Sn	19 02 26.7	-0.6
ECAB	El Cabril	2.91	340	Pn	Pn	19 01 53.5	-0.7
ECAB				Sn	Sn	19 02 27.4	-1.7
ECAB				*i* Vmb_Lg		19 02 37.2	
PVAQ	Vaqueiros	3.54	306	*e*Pn	Pn	19 02 04.3	+1.4
PVAQ				*e*Sn	Sn	19 02 44.9	+0.2
PVAQ				A	A	19 02 50.9	
	3.3nm,0.7s						
PBDV	Barranco-do-Ve	3.60	303	*e*Sn	Sn	19 02 46.4	+0.2
PBDV				A	A	19 02 50.6	
	6.6nm,0.7s						
PBAR	Barrancos	3.66	321	*e*Pn	Pn	19 02 06.7	+2.2
PBAR				*e*Sn	Sn	19 02 48.3	+0.8
EBAD	Badajoz	4.10	327	Pn	Pn	19 02 11.0	+0.4
EBAD				Sn	Sn	19 02 57.0	-1.5
PAB	San Pablo	4.19	358	Pn	Pn	19 02 12.6	+0.7
PAB				Sn	Sn	19 02 59.0	-1.8
PESTR	Estremoz	4.46	323	*e*Sn	Sn	19 03 08.8	+1.3
PNCL	Nicolau / Gran	4.47	309	*e*Pn	Pn	19 02 17.0	+1.3
PNCL				*e*Sn	Sn	19 03 07.5	-0.2
OUZM	OUZ	4.95	207	P	Pn	19 02 22.5	+0.2

*MEX **04** 19:03:06.2±0.9, 14°.89N×92°.86W, h81km±18km, MD3.8*
*GCG **04** 19:03:09.1±0.4, 15°.09N×92°.65W, h17km±3km, MD3.9*
ISC 04 19:03:07.3±2.1**, 15°.03N**±0°.08×**92°.86W**±0°.07**, h23**km±16km**, n11, σ0s.94**/21**, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.59	101	*e*P	Pb	19 03 18.9	-0.1
THIG				*i* S	Sn	19 03 30.1	+1.0
PATR	El Naranjo	0.61	81	*e*P	Pn	19 03 20.1	-0.8
PATR				*i* S	Sn	19 03 31.0	+0.9
PAVE	Pavencul	0.68	76	*i* P	Pn	19 03 21.5	-0.3
PAVE				*i* S	Sn	19 03 33.2	+1.4
CHUJ	Union Juarez	0.73	85	*e*P	Pb	19 03 21.3	-0.2
CHUJ				*i* S	Sn	19 03 33.2	+0.1
PCIG		0.76	333	*e*P	Pn	19 03 22.8	+0.2
PCIG				*i* S	Sn	19 03 35.1	+1.8
STG3	Santiaguito 3,	1.29	104	*e*P	Pn	19 03 29.4	-0.7
STG3				*e*S	Sn	19 03 45.4	-1.3
CCIG	Comitan	1.43	29	*i* P	Pb	19 03 32.9	-0.6
CCIG				*e*S	Sb	19 03 52.3	+1.0
TGIG		1.76	352	*i* P	Pn	19 03 35.6	-0.8
TGIG				*e*S	Sn	19 03 56.4	-1.8
FUG	Fuego 3	2.04	106	*e*P	Pn	19 03 40.5	+0.1
FUG				*e*S	Sn	19 04 05.2	0.0
UXUV	UXUV	2.59	332	*e*P	Pn	19 03 47.8	0.0
UXUV				*e*S	Sn	19 04 18.8	+0.1
MRL	Marmol	3.07	89	*e*P	Pn	19 03 54.9	+0.3

IDC 04 19:04:12.8±46.0**, 17°.85S**×**175°.64W, h0**km**, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.7**/31**, mbtmp4.2**/3**, Error ellipse: s-maj=869.1km s-min=157.8km az=80.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.97	242	P	P	19 11 57.8	+0.3
	1.5nm,0.4s,baz=95,slow=9.8,SNR=8.4						
WRA	Warramunga Arr	47.23	259	P	P	19 12 47.8	-0.2
	1.2nm,0.4s,baz=97,slow=7.3,SNR=39						
ASAR	Alice Springs	47.34	254	P	P	19 12 48.5	-0.4
	2.0nm,0.4s,baz=87,slow=8.4,SNR=44						

*IDC **04** 19:15:30.5±1.5, 35.°72N×4.°10W, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.1/59, mbtmp3.1/4, ML2.7/2, Error ellipse: s-maj=44.9km s-min=13.1km az=92.0*
*MDD **04** 19:15:31.9±0.4, 35.°59N×3.°62W, h18km±5km, mb_Lg2.8/25, Error ellipse: s-maj=4.9km s-min=2.2km az=167.0*
*SFS **04** 19:15:31.0, 35.°58N×3.°62W, h18km, ML2.8, ALBORAN SUR*
*INMG **04** 19:15:32.3±1.5, 35.°57N×3.°59W, h22km±7km, ML2.7, Error ellipse: s-maj=5.6km s-min=3.4km az=150.0*
*CNRM **04** 19:15:32.4, 35.°59N×3.°55W, h25km, ml3.3*
ISC 04 19:15:31.2±1.1**, 35.°63N**±0.°02×**3.°61W**±0.°02**, h14**km±9km**, n67, σ1.°47**/112**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.49	213	P	Pb	19 15 42.1	+0.5
PALE				S	Sn	19 15 49.8	-2.4
EALB	Alboran	0.56	57	Pg	Pg	19 15 42.8	+0.6
EALB				Sg	Sb	19 15 51.0	+0.4
EALB				*i* Vmb_Lg		19 15 52.4	
EMEL	Melilla	0.63	122	Pg	Pg	19 15 43.2	-0.3
EMEL				Sg	Sg	19 15 51.5	-0.4
GOG	Mont Gurugu	0.65	129	P	Pg	19 15 43.2	-0.7
GOG				S	Sg	19 15 52.4	-0.1
PVLZ	Peæn de	0.73	231	P	Pb	19 15 45.8	+0.2
PVLZ				S	Sb	19 15 55.7	+0.3
AKLM	AKL	1.14	190	P	Pg	19 15 52.7	-0.5
AKLM				S	Sb	19 16 06.6	-0.8
ELGU	Los Guajares,	1.23	360	Pn	Pn	19 15 52.7	-1.3
ELGU				Sn	Sb	19 16 09.2	-0.9
ELGU				*i* Vmb_Lg		19 16 12.6	
TAF	Taforalt	1.28	129	P	Pn	19 15 53.8	-0.9
TAF				S	Sb	19 16 10.3	-1.1
EMAL	Malaga-Limoner	1.30	330	P	Pn	19 15 53.8	-1.2
EMAL				S	Sn	19 16 09.1	-3.1
EMIJ	Mijas	1.32	315	Pn	Pn	19 15 54.0	-1.2
EMIJ				Sn	Sn	19 16 10.6	-2.1
EMIJ				*i* Vmb_Lg		19 16 11.2	
EBER	Berja	1.39	25	Pn	Pn	19 15 56.5	+0.2
EBER				Sn	Sn	19 16 13.3	-1.3
EBER				*i* Vmb_Lg		19 16 19.5	
SMIR	Smir Dam	1.44	272	P	Pg	19 15 59.0	+0.2
ECEU	Ceuta	1.46	281	Pn	Pn	19 15 56.1	-1.0
ECEU				Sn	Sn	19 16 13.9	-2.1
ECEU				*i* Vmb_Lg		19 16 14.7	
CHEFC	Chefchaouen	1.51	250	P	Pn	19 15 57.7	-0.1
CHEFC				S	Sn	19 16 17.0	-0.3
EGOR	Sierra Gorda,	1.53	345	Pn	Pn	19 15 57.4	-0.7
EGOR				Sn	Sn	19 16 16.5	-1.4
EGOR				*i* Vmb_Lg		19 16 21.1	
JBK	JBK	1.56	146	P	Pn	19 15 58.1	-0.5
JBK				S	Sn	19 16 15.5	-3.2
EQUE	Quentar	1.57	5	Pn	Pn	19 15 59.0	+0.3
EQUE				Sn	Sn	19 16 17.9	-1.1
EQUE				*i* Vmb_Lg		19 16 20.2	
EJIF	Jimena Fronter	1.71	299	Pn	Pn	19 15 59.3	-1.3
EJIF				Sn	Sn	19 16 20.9	-1.4
ENIJ	Nijar	1.75	40	Pn	Pn	19 15 59.5	-1.7
ENIJ				Sn	Sn	19 16 21.7	-1.6
ENIJ				*i* Vmb_Lg		19 16 24.1	
ESPR	Espera	2.19	305	Pn	Pn	19 16 06.6	-0.5
ESPR				Sn	Sn	19 16 32.3	-1.8
ESPR				*i* Vmb_Lg		19 16 41.1	
LCRM	LCR	2.20	208	P	Pb	19 16 09.0	-1.8
EADA	Adamuz	2.64	343	Pn	Pn	19 16 13.8	+0.3
EADA				Sn	Sn	19 16 43.3	-2.0
EADA				*i* Vmb_Lg		19 16 51.7	
EZAR	Zarzadilla de	2.72	34	Pn	Pn	19 16 14.0	-0.5
EZAR				Sn	Sn	19 16 46.2	-1.0
ECAB	El Cabril	2.83	330	Pn	Pn	19 16 16.5	+0.4
ECAB				Sn	Sn	19 16 48.5	-1.5
ECAB				*i* Vmb_Lg		19 17 00.3	
TDRA	Tendrara	2.90	153	P	Pn	19 16 17.3	+0.1
MD31	MD31	2.92	199	P	Pn	19 16 17.5	+0.3
MDT	Midelt	2.93	197	Pn	Pn	19 16 17.3	-0.1
	0.7nm,0.3s,baz=209,slow=4.0,SNR=19						
MDT				Sn	Sn	19 16 53.5	+1.0
	2.8nm,0.3s,baz=312,slow=20,SNR=3.5						
MDT				Lg	Lg	19 17 02.8	
	2.8nm,0.3s,baz=29,slow=7.8,SNR=6.1						
MDT	Midelt	2.93	197	P	Pn	19 16 19.8	+2.3
EMIN	Mina Concepcio	3.25	312	Pn	Pn	19 16 21.6	-0.2
EMIN				Sn	Sn	19 16 57.2	-3.0
EMIN				*i* Vmb_Lg		19 17 12.9	
ETOB	Tobarra	3.43	28	Pn	Pn	19 16 25.0	+0.7
ETOB				Sn	Sn	19 17 03.8	-1.0
EGRO	El Granado	3.65	302	Pn	Pn	19 16 26.9	-0.3
EGRO				Sn	Sn	19 17 06.7	-3.2
EGRO				*i* Vmb_Lg		19 17 11.7	
PBAR	Barrancos	3.74	314	*e*Pn	Pn	19 16 28.3	-0.1
PBAR				*e*Sn	Sn	19 17 11.0	-1.2
PBAR				A	A	19 17 14.6	
	9.1nm,0.9s						
PVAQ	Vaqueiros	3.75	299	*e*Pn	Pn	19 16 28.5	-0.1
PVAQ				*e*Sn	Sn	19 17 10.8	-1.7
PVAQ				A	A	19 17 19.0	
	8.9nm,0.4s						
PVAQ	Vaqueiros	3.75	299	P	Pn	19 16 28.9	+0.4
PBDV	Barranco-do-Ve	3.83	296	*e*Pn	Pn	19 16 29.8	0.0
PBDV				*e*Sn	Sn	19 17 13.8	-0.9
PBDV				A	A	19 17 17.9	
	8.4nm,0.5s						
PAB	San Pablo	3.95	352	Pn	Pn	19 16 31.4	0.0
PAB				Sn	Sn	19 17 16.1	-1.5
PAB				*i* Vmb_Lg		19 17 36.9	
FIGM	Figuig	4.00	150	P	Pn	19 16 32.0	-0.2
ESDC	Sonseca Array	4.04	356	Pn	Pn	19 16 31.5	-1.2
	0.3nm,0.3s,baz=176,slow=12,SNR=16						
ESDC				Sn	Sn	19 17 19.0	-0.9
	0.5nm,0.3s,baz=186,slow=23,SNR=6.6						
ESDC				Lg	Lg	19 17 35.4	
	0.8nm,0.3s,baz=177,slow=28,SNR=7.1						
ESDC	Sonseca Array	4.04	356	Pn	Pn	19 16 32.9	+0.2
ESDC				Sn	Sn	19 17 17.9	-2.0
ESDC				*i* Vmb_Lg		19 17 38.5	
PCVE	Castro Verde	4.08	301	*e*Pn	Pn	19 16 33.1	0.0
PCVE				*e*Sn	Sn	19 17 18.9	-1.8
PCVE				A	A	19 17 22.6	
	10nm,0.5s						
EBAD	Badajoz	4.13	320	Pn	Pn	19 16 33.8	-0.1
EBAD				Sn	Sn	19 17 19.5	-2.4
EBAD				*i* Vmb_Lg		19 17 23.5	
PBEJ	Beja	4.16	306	*e*Pn	Pn	19 16 34.7	+0.4
PBEJ				A	A	19 17 28.4	
	4.6nm,0.4s						
PESTR	Estremoz	4.53	317	*e*Pn	Pn	19 16 39.9	+0.6
PESTR				*e*Sn	Sn	19 17 30.6	-1.1
PESTR				A	A	19 17 36.0	
	8.2nm,0.5s						
PESTR	Estremoz	4.53	317	P	Pn	19 16 40.8	+1.5
PTEO	Sao Teotonio	4.53	296	*e*Pn	Pn	19 16 39.8	+0.4
EVO	Evora	4.55	311	*e*Pn	Pn	19 16 40.1	+0.5
EVO				*e*Sn	Sn	19 17 31.0	-1.4
EVO				A	A	19 17 35.6	
	8.4nm,0.3s						
PNCL	Nicolau / Gran	4.65	304	*e*Pn	Pn	19 16 41.1	+0.1
PNCL				*e*Sn	Sn	19 17 32.9	-1.9
PNCL				A	A	19 17 50.1	
	3.9nm,1.1s						
UCM	Universidad Co	4.67	3	P	Pn	19 16 43.7	+2.4
UCM				S	Sn	19 17 39.9	+4.5
PMRV	Marv??o	4.83	323	*e*Pn	Pn	19 16 44.4	+0.9
PMRV				*e*Sn	Sn	19 17 38.1	-1.2
PMRV				A	A	19 17 53.6	
	6.0nm,0.8s						
EPLA	Plasencia	4.83	337	Pn	Pn	19 16 43.0	-0.5
EPLA				Sn	Sn	19 17 37.0	-2.4
GUD	Guadarrama	5.02	355	Pn	Pn	19 16 46.4	+0.2
GUD				Sn	Sn	19 17 41.3	-2.7
PMTG	Montargil	5.02	314	*e*Pn	Pn	19 16 46.8	+0.7
PMTG				*e*Sn	Sn	19 17 42.5	-1.5
PMTG				A	A	19 17 51.0	
	5.5nm,0.6s						
PCBR	Castelo Branco	5.20	325	*e*Pn	Pn	19 16 49.5	+1.0
PCBR				A	A	19 17 47.3	
	5.9nm,0.5s						
PACT	Alcochete	5.21	308	*e*Pn	Pn	19 16 49.8	+1.2
PACT				A	A	19 17 54.2	
	29nm,0.7s						
ETOR	Torete	5.32	13	Pn	Pn	19 16 49.7	-0.6
ETOR				Sn	Sn	19 17 47.8	-3.6
OUZM	OUZ	5.40	210	P	Pn	19 16 52.9	+1.5
PMAFR	Mafra	5.60	308	*e*Pn	Pn	19 16 54.8	+0.7
PSBE	So Bento	5.65	315	*e*Pn	Pn	19 16 55.7	+0.9
MTE	Manteigas	5.68	328	*e*Sn	Sn	19 17 59.6	-0.6
MTE				A	A	19 18 37.6	
	13nm,0.8s						
PCAS	Casmilo, Conde	5.86	320	*e*Pn	Pn	19 16 58.2	+0.5
PCAS				*e*Sn	Sn	19 18 03.2	-1.5
PCAS				A	A	19 18 44.1	
	7.9nm,0.7s						
PVIS	Viseu	6.09	328	*e*Pn	Pn	19 17 01.9	+1.1
MVO	Moncorvo	6.14	335	*e*Pn	Pn	19 17 02.7	+1.2
MVO				*e*Sn	Sn	19 18 10.1	-1.4
MVO				A	A	19 18 11.5	
	5.2nm,0.5s						
TTIG	Tnine Tigouga,	6.49	220	P	Pn	19 17 06.5	+0.1
POLO	Lamas de Olo	6.60	331	*e*Pn	Pn	19 17 10.0	+2.1
PBRG	Braganca	6.63	339	*e*Pn	Pn	19 17 09.6	+1.4
TORD	Torodi Ar. Bea	22.90	167	P	P	19 20 39.2	+4.6
	0.8nm,0.8s,baz=353,slow=12,SNR=2.6						
YKA	Yellowknife Ar	67.78	332	P	P	19 26 28.7	+0.6
	0.4nm,1.0s,baz=74,slow=6.5,SNR=2.8						

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*IDC **04** 19:21:01.8±1.6, 37.°06S×51.°41E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/27, mbtmp3.8/5, MS3.4/7, Ms1 3.4/7, ms1mx3.0/68, Error ellipse: s-maj=83.7km s-min=26.5km az=22.0*
ISC 04 19:21:03.4±1.7**, 37.°1S**±0.°6×**51.°4E**±0.°3**, h10**km**, n19, σ0.°70**/7**, mb3.8**/5**, MS3.3**/7**, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBTB	Lobatse	25.08	291	LR	LR	19 33 23.1	
	comp=Z,50nm,20.4s,baz=148,slow=30						
MATP	Matopo	25.94	303	P	P	19 26 37.2	+1.1
	0.8nm,0.6s,baz=135,slow=2.9,SNR=1.7						
LSZ	Lusaka	29.93	310	LR	LR	19 37 27.7	
	comp=Z,70nm,19.6s,baz=155,slow=33						
H08S1	Diego Carcia H	35.00	38	T	T	20 05 07.3	
	baz=209,slow=76						
H08S2	Diego Garcia H	35.01	38	T	T	20 05 17.1	
	baz=209						
H08S3	Diego Garcia H	35.02	38	T	T	20 05 14.4	
	baz=209,slow=76						
KMBO	Kilima Mbogo	38.08	337	LR	LR	19 42 07.0	
	comp=Z,44nm,21.7s,baz=88,slow=33						
ATD	Arta Tunnel	49.01	349	LR	LR	19 48 02.0	
	comp=Z,21nm,21.3s,baz=14,slow=33						
H01W2	Cape Leeuwin H	49.98	107	T	T	20 23 33.5	
	baz=247,slow=75						
H01W3	Cape Leeuwin H	49.99	107	T	T	20 23 34.1	
	baz=247,slow=75						
H01W1	Cape Leeuwin H	50.00	107	T	T	20 23 32.2	
	baz=247,slow=75						
QSPA	South Pole Qui	53.12	180	LR	LR	19 51 08.5	
	comp=Z,91nm,18.1s,baz=272,slow=34						
TORD	Torodi Ar. Bea	68.39	307	P	P	19 32 04.7	-0.7
	0.3nm,0.7s,baz=116,slow=3.4,SNR=1.9						
TORD				LR	LR	20 00 40.7	
	comp=Z,28nm,20.0s,baz=236,slow=35						
ASAR	Alice Springs	70.41	105	P	P	19 32 18.3	+0.2
	0.3nm,0.4s,baz=224,slow=6.5,SNR=4.1						
CMAR	Chiang Mai Arr	71.12	48	P	P	19 32 22.2	+0.1
	0.5nm,0.7s,baz=223,slow=6.2,SNR=5.5						
STKA	Stephens Creek	71.75	116	LR	LR	19 55 48.6	
	comp=Z,40nm,19.2s,baz=28,slow=29						
WRA	Warramunga Arr	72.78	102	P	P	19 32 32.5	+0.2
	1.4nm,0.6s,baz=242,slow=6.4,SNR=4.4						
ILAR	Eielson Array	150.20	16	PKPbc	PKPbc	19 40 53.5	-0.2
	0.9nm,0.8s,baz=318,slow=3.0,SNR=6.6						
YKA	Yellowknife Ar	153.12	346	PKPbc	PKPbc	19 40 59.9	-0.4
	0.1nm,0.4s,baz=39,slow=1.9,SNR=4.3						

IDC 04 19:25:11.4±2.0**, 9.°64S**×**127.°16E, h0**km**, mb3.3**/1**, mb1 3.4**/3**, mb1mx3.2**/26**, mbtmp3.2**/3**, ML3.4**/2**, Error ellipse: s-maj=120.6km s-min=27.1km az=60.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.37	147	Pn	Pn	19 28 09.4	+0.5
	0.3nm,0.3s,baz=326,slow=14,SNR=26						
WRA				Sn	Sn	19 30 26.1	-1.5
	0.3nm,0.3s,baz=326,slow=24,SNR=4.6						
ASAR	Alice Springs	15.37	156	Pn	Pn	19 28 51.1	+1.3
	0.1nm,0.3s,baz=343,slow=14,SNR=12						
ASAR				Sn	Sn	19 31 40.5	-0.3
	0.1nm,0.3s,baz=321,slow=19,SNR=3.2						
MKAR	Makanchi Array	68.94	329	P	P	19 36 18.3	-0.1
	0.2nm,0.8s,baz=126,slow=7.5,SNR=2.6						

IDC 04 19:39:13.0±2.1**, 13.°97S**×**166.°46E, h0**km**, mb3.5**/3**, mb1 3.8**/4**, mb1mx3.4**/46**, mbtmp3.6**/4**, ML3.4**/1**, MS3.3**/6**, Ms1 3.3**/6**, ms1mx2.8**/38**, Error ellipse: s-maj=54.6km s-min=36.5km az=126.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.06	180	Pn	Pn	19 41 11.0	-0.5
	0.5nm,0.3s,baz=331,slow=19,SNR=1.2						
DZM				Sn	Sn	19 42 36.1	-7.3
	0.2nm,0.3s,baz=150,slow=20,SNR=1.7						
DZM				LR	LR	19 44 12.5	
	comp=Z,188nm,18.1s,baz=347,slow=37						
PMG	Port Moresby	19.44	281	LR	LR	19 49 26.3	
	comp=Z,35nm,20.9s,baz=116,slow=32						
CTA	Charters Tower	20.25	250	LR	LR	19 50 22.7	
	comp=Z,56nm,19.0s,baz=62,slow=33						
AFI	Afiamalu	21.12	92	LR	LR	19 50 01.3	
	comp=Z,63nm,19.4s,baz=281,slow=31						
WRA	Warramunga Arr	31.26	255	P	P	19 45 35.1	+0.2
	0.5nm,0.9s,baz=86,slow=9.8,SNR=2.5						
WRA				LR	LR	19 57 37.9	
	comp=Z,101nm,19.0s,baz=313,slow=35						
ASAR	Alice Springs	32.22	248	P	P	19 45 43.2	-0.1
	0.3nm,0.6s,baz=71,slow=9.4,SNR=9.2						
ASAR				LR	LR	19 58 22.6	
	comp=Z,67nm,19.3s,baz=154,slow=36						
ILAR	Eielson Array	86.05	18	P	P	19 51 55.2	0.0
	0.3nm,0.7s,baz=230,slow=5.6,SNR=2.4						

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*AUST **04** 19:42:33.0±0.7, 38.°56S×145.°98E, h4km±4km, Error ellipse: s-maj=7.4km s-min=2.0km az=2.0*
*NOU **04** 19:42:33.4, 38.°58S×146.°03E, h10km, MLv4.0/12, Near SE Coast of Australia*
*IDC **04** 19:42:42.3±7.0, 36.°48S×147.°65E, h0km, mb2.9/1, mb1 3.4/3, mb1mx3.0/31, mbtmp3.2/3, ML3.4/2, Error ellipse: s-maj=285.5km s-min=51.2km az=36.0*
ISC 04 19:42:32.6±1.0**, 38.°57S**±0.°05×**145.°98E**±0.°03**, h8**km**, n29, σ1.°61**/38**, Near southeast coast of Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUSSC	Sale College,	0.99	62	P	Pb	19 42 51.9	-0.1
	baz=1.0						
AUSSC				S	Sn	19 43 06.2	-0.7
	baz=1.0						
TOO	Toolangi	1.07	339	P	Pg	19 42 53.4	+0.3
	baz=1.1						
TOO				S	Sg	19 43 07.6	+0.5
	baz=1.1						
TOO	Toolangi	1.07	339	P	Pn	19 42 53.9	-0.1
GEXS	Deakin Univers	1.38	285	P	Pb	19 42 58.9	+0.3
BRAT	Ballarat	1.91	302	P	Pn	19 43 06.0	+0.6
AUMTC	Mt Clear Colle	1.91	300	P	Pn	19 43 06.5	+1.0
	baz=1.9						
AUMAG	Moama Anglican	2.66	338	P	Pn	19 43 16.7	+1.0
	baz=2.7						
AULHS	Lilydale High	2.84	161	P	Pn	19 43 18.5	+0.2
	baz=2.8						
GLAD	Gladstone	2.87	148	P	Pn	19 43 18.2	-0.5
MILA	Mila	2.94	60	P	Pn	19 43 19.8	+0.1
	baz=2.9						
MILA				S	Sn	19 43 53.7	-1.5
	baz=2.9						
AUSMG	Snowy Mountain	3.00	45	P	Pn	19 43 21.5	+1.0
	baz=3.0						
AUSMG				S	Sn	19 43 56.0	-0.7
	baz=3.0						
ARPS	Mount Arapiles	3.74	297	P	Pn	19 43 31.7	+1.0
	baz=3.7,SNR=60						
ARPS				S	Sn	19 44 16.1	+1.1
	baz=3.7						
ARPS	Mount Arapiles	3.74	297	P	Pn	19 43 31.9	+1.2
MOO	Moorlands	3.97	167	P	Pn	19 43 34.4	+0.6
	baz=4.0						
MOO				S	Sn	19 44 18.9	-1.8
	baz=4.0						
MOO	Moorlands	3.97	167	P	Pn	19 43 34.4	+0.6
CAN	Canberra	4.05	38	P	Pn	19 43 35.8	+0.9
AUMTS	Mt Stromlo	4.05	38	P	Pn	19 43 35.4	+0.4
	baz=4.0						
AUMHS	Melrose High S	4.06	39	P	Pn	19 43 35.2	+0.1
	baz=4.1						
CNB	Canberra Magne	4.23	41	P	Pn	19 43 37.7	+0.2
	baz=4.2						
CNB				S	Sb	19 44 40.7	+2.0
	baz=4.2						
CNB	Canberra Magne	4.23	41	P	Pn	19 43 37.4	-0.1
TAU	Tasmania Unive	4.45	167	P	Pn	19 43 41.1	+0.7
CMSA	Cobar Meteorol	7.02	358	P	Pn	19 44 15.0	-0.8
	baz=7.0						
CMSA	Cobar Meteorol	7.02	358	P	Pn	19 44 16.3	+0.5
	12nm,2.9s						
STKA	Stephens Creek	7.58	330	Pn	Pn	19 44 23.8	+0.4
	0.7nm,0.3s,baz=143,slow=16,SNR=32						
STKA				Sn	Sn	19 45 44.1	-5.4
	1.2nm,0.3s,baz=42,slow=21,SNR=5.6						
STKA				Lg	Lg	19 46 17.6	
	0.9nm,0.3s,baz=64,slow=21,SNR=3.1						
STKA	Stephens Creek	7.58	330	P	Pn	19 44 24.1	+0.8
	baz=7.6						
STKA				S	Sn	19 45 43.5	-6.0
	baz=7.6						
STKA	Stephens Creek	7.58	330	P	Pn	19 44 24.2	+0.8
	1.3nm,1.7s						
HTT	Hallett	7.68	310	P	Pn	19 44 25.9	+1.1
	9.1nm,1.3s						
ASAR	Alice Springs	18.07	322	P	P	19 46 45.6	+1.1
	0.0nm,0.3s,baz=136,slow=12,SNR=4.2						
WRA	Warramunga Arr	21.12	328	P	P	19 47 18.8	+0.9
	0.5nm,0.7s,baz=146,slow=10,SNR=5.1						

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*INMG **04** 19:59:37.6±1.3, 35.°60N×3.°61W, h14km±8km, ML2.3, Error ellipse: s-maj=5.0km s-min=3.2km az=142.0*
*MDD **04** 19:59:37.1±0.5, 35.°60N×3.°62W, h10km±6km, mb_Lg2.5/6, Error ellipse: s-maj=7.4km s-min=2.7km az=160.0*
*SFS **04** 19:59:37.0, 35.°59N×3.°62W, h10km, ML2.5, ALBORAN SUR*
*CNRM **04** 19:59:37.1, 35.°67N×3.°58W, h28km, ml2.8*
ISC 04 19:59:37.5±1.1**, 35.°64N**±0.°02×**3.°60W**±0.°03**, h24**km±12km**, n44, σ1.°03**/81**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.50	214	P	Pb	19 59 48.4	+0.6
PALE				S	Sb	19 59 55.1	+0.3
EALB	Alboran	0.55	56	Pg	Pb	19 59 48.3	-0.3
EALB				Sg	Sb	19 59 55.9	-0.1
EALB				*i* Vmb_Lg		19 59 58.1	
EMEL	Melilla	0.62	122	Pg	Pb	19 59 49.0	-0.7
EMEL				Sg	Sb	19 59 57.1	-0.9
GOG	Mont Gurugu	0.64	130	P	Pb	19 59 49.6	-0.5
GOG				S	Sb	19 59 57.7	-1.0
PVLZ	Peæn de	0.74	232	P	Pb	19 59 51.9	+0.2
PVLZ				S	Sb	20 00 01.1	-0.3
AKLM	AKL	1.14	191	P	Pn	19 59 58.5	+0.4
AKLM				S	Sb	20 00 13.6	+0.5
ELGU	Los Guajares,	1.23	359	Pn	Pn	19 59 58.4	-0.9
ELGU				Sn	Sn	20 00 15.4	+0.2
ELGU				*i* Vmb_Lg		20 00 18.7	
TAF	Taforalt	1.27	130	P	Pn	20 00 00.2	+0.4
TAF				S	Sn	20 00 15.6	-0.5
EMIJ	Mijas	1.33	315	Pn	Pn	20 00 00.1	-0.6
EMIJ				Sn	Sn	20 00 16.8	-0.8
EMIJ				*i* Vmb_Lg		20 00 17.8	
EBER	Berja	1.38	24	Pn	Pn	20 00 00.6	-0.9
EBER				Sn	Sb	20 00 20.1	-0.1
EBER				*i* Vmb_Lg		20 00 23.1	
SMIR	Smir Dam	1.45	272	P	Pn	20 00 00.2	-2.1
SMIR				S	Sn	20 00 18.2	-2.4
EGOR	Sierra Gorda,	1.53	344	Pn	Pn	20 00 03.8	+0.3
EGOR				Sn	Sn	20 00 22.8	+0.2
JBK	JBK	1.55	147	P	Pn	20 00 04.0	+0.3
JBK				S	Sn	20 00 19.4	-3.7
EQUE	Quentar	1.57	5	Pn	Pn	20 00 04.4	+0.4
EQUE				Sn	Sn	20 00 24.0	+0.3
EJIF	Jimena Fronter	1.72	299	Pn	Pn	20 00 05.4	-0.6
EJIF				Sn	Sn	20 00 27.6	+0.4
ESPR	Espera	2.20	305	Pn	Pn	20 00 11.8	-0.8
ESPR				Sn	Sn	20 00 38.1	-0.9
LCRM	LCR	2.21	208	P	Pb	20 00 16.6	-0.2
LCRM				S	Sb	20 00 44.1	+0.3
EADA	Adamuz	2.65	343	Pn	Pn	20 00 20.0	+1.3
EADA				Sn	Sn	20 00 50.9	+0.9
EADA				*i* Vmb_Lg		20 00 57.8	
ECAB	El Cabril	2.84	330	Pn	Pn	20 00 21.4	0.0
ECAB				Sn	Sn	20 00 54.7	-0.1
TDRA	Tendrara	2.90	153	P	Pn	20 00 23.3	+1.0
MD31	MD31	2.92	200	P	Pn	20 00 23.5	+0.9
MD31				S	Sn	20 00 56.6	-0.4
MDT	Midelt	2.94	197	P	Pn	20 00 25.1	+2.3
MDT				S	Sn	20 00 58.9	+1.6
EMIN	Mina Concepcio	3.26	312	Pn	Pn	20 00 27.6	+0.4
EMIN				Sn	Sn	20 01 03.7	-1.5
ETOB	Tobarra	3.42	28	Pn	Pn	20 00 31.0	+1.6
ETOB				Sn	Sn	20 01 09.4	+0.1
EGRO	El Granado	3.66	302	Pn	Pn	20 00 32.5	0.0
EGRO				Sn	Sn	20 01 13.2	-1.7
PBAR	Barrancos	3.75	314	*e*Pn	Pn	20 00 34.3	+0.5
PBAR				*e*Sn	Sn	20 01 16.8	-0.3
PBAR				A	A	20 01 17.9	
	3.3nm,0.4s						
PVAQ	Vaqueiros	3.76	299	*e*Pn	Pn	20 00 34.3	+0.3
PVAQ				*e*Sn	Sn	20 01 16.5	-1.0
PVAQ				A	A	20 01 21.1	
	4.0nm,0.5s						
PVAQ	Vaqueiros	3.76	299	P	Pn	20 00 34.1	+0.1
PVAQ				S	Sn	20 01 16.9	-0.6
PBDV	Barranco-do-Ve	3.85	296	*e*Pn	Pn	20 00 35.5	+0.3
PBDV				*e*Sn	Sn	20 01 18.9	-0.7
PAB	San Pablo	3.95	352	Pn	Pn	20 00 38.0	+1.3
PAB				Sn	Sn	20 01 22.2	-0.1
ESDC	Sonseca Array	4.04	356	Pn	Pn	20 00 38.6	+0.6
ESDC				Sn	Sn	20 01 24.5	0.0
PCVE	Castro Verde	4.09	300	*e*Pn	Pn	20 00 38.7	+0.2
PCVE				*e*Sn	Sn	20 01 24.4	-1.2
PCVE				A	A	20 01 34.2	
	4.8nm,0.8s						
EBAD	Badajoz	4.14	320	Pn	Pn	20 00 39.8	+0.6
EBAD				Sn	Sn	20 01 26.6	-0.3
PESTR	Estremoz	4.53	317	*e*Pn	Pn	20 00 45.7	+1.0
PESTR				*e*Sn	Sn	20 01 35.5	-1.1
PESTR	Estremoz	4.53	317	P	Pn	20 00 44.6	-0.1
PTEO	Sao Teotonio	4.54	296	*e*Pn	Pn	20 00 46.5	+1.7
EVO	Evora	4.56	311	*e*Pn	Pn	20 00 45.9	+0.9
EVO				*e*Sn	Sn	20 01 35.5	-1.8
EVO				A	A	20 01 37.3	
	4.1nm,0.4s						
PNCL	Nicolau / Gran	4.66	303	*e*Pn	Pn	20 00 46.9	+0.5
PNCL				*e*Sn	Sn	20 01 38.9	-0.8
PNCL				A	A	20 01 55.0	
	2.9nm,0.7s						
PMRV	Marv??o	4.84	323	*e*Pn	Pn	20 00 49.8	+0.9
PMRV				*e*Sn	Sn	20 01 44.2	0.0
PMRV				A	A	20 02 05.8	
	2.6nm,0.7s						
PMTG	Montargil	5.03	314	*e*Pn	Pn	20 00 52.8	+1.3
PMTG				*e*Sn	Sn	20 01 47.9	-1.0
PMTG				A	A	20 01 59.8	
	3.6nm,0.7s						
PCBR	Castelo Branco	5.20	325	*e*Pn	Pn	20 00 55.4	+1.6
OUZM	OUZ	5.41	210	P	Pn	20 00 57.6	+0.9
PSBE	So Bento	5.66	315	*e*Pn	Pn	20 01 01.3	+1.2
MVO	Moncorvo	6.14	335	*e*Pn	Pn	20 01 08.7	+1.9

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*NOU **04** 20:01:46.0, 40.°07S×175.°19E, h80km, MLv3.5/7, North Island, New Zealand*
*WEL **04** 20:01:46.0, 40°S±4°×17°5E±°, h31km±6km, M3.3/14, ML3.6/14, MLv3.3/14, Error ellipse: s-maj=0.0km*

s-min=0.0km az=33.6

ISC 04 20:01:46.1±1.1**,40°.06S**±0°.02×**175°.22E**±0°.03**,h34**km±3km**,**
n99,σ**0§98**/112**,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.17**	**155**	P	**Pb**	**20 01 52.2**	**-0.2**
OHWZ				S	**Sb**	**20 01 57.2**	**+0.5**
WAZ	**Wanganui**	**0.35**	**329**	P	**Pb**	**20 01 54.9**	**+0.3**
WAZ				S	**Sb**	**20 02 01.6**	**+1.2**
POWZ	**Post Office Ro**	**0.54**	**129**	P	**Pb**	**20 01 57.1**	**-0.2**
POWZ				S	**Sb**	**20 02 04.8**	**-0.2**
TSZ	**Takapari Road**	**0.57**	**91**	P	**Pb**	**20 01 57.2**	**-0.6**
MRZ	**Mangatainoka R**	**0.66**	**156**	P	**Pb**	**20 01 58.9**	**-0.4**
MRZ				S	**Sb**	**20 02 08.0**	**-0.4**
MTVZ	**Mangateitei**	**0.70**	**16**	P	**Pn**	**20 01 59.1**	**-0.4**
MTVZ				S	**Sb**	**20 02 08.9**	**-0.5**
PRWZ	**Pori Road**	**0.76**	**131**	P	**Pn**	**20 02 01.0**	**+0.6**
PRWZ				S	**Sb**	**20 02 11.6**	**+0.6**
OGWZ	**Otaki Gorge**	**0.76**	**183**	P	**Pn**	**20 02 00.0**	**-0.4**
OGWZ				S	**Sb**	**20 02 10.3**	**-0.8**
DVHZ	**Dannevirke**	**0.76**	**109**	P	**Pn**	**20 02 00.7**	**+0.2**
DVHZ				S	**Sb**	**20 02 11.5**	**+0.3**
PNHZ	**Pukenui**	**0.77**	**80**	P	**Pn**	**20 02 00.2**	**-0.4**
PNHZ				S	**Sb**	**20 02 10.3**	**-0.9**
MOVZ	**Moawhango**	**0.77**	**32**	P	**Pn**	**20 01 59.6**	**-0.9**
MOVZ				S	**Sb**	**20 02 10.2**	**-1.0**
PKVZ	**Pokaka**	**0.77**	**7**	P	**Pn**	**20 02 00.3**	**-0.4**
WNVZ	**Wahianoa**	**0.78**	**22**	P	**Pn**	**20 02 00.4**	**-0.5**
WNVZ				S	**Sb**	**20 02 11.4**	**-0.5**
TRVZ	**Turoa**	**0.80**	**19**	P	**Pn**	**20 02 00.6**	**-0.5**
TRVZ				S	**Sb**	**20 02 11.3**	**-1.0**
DRZ	**Dome Shelter**	**0.82**	**19**	P	**Pn**	**20 02 01.2**	**-0.3**
WHVZ	**Whangaehu Hut**	**0.82**	**20**	P	**Pn**	**20 02 01.1**	**-0.4**
WHVZ				S	**Sn**	**20 02 12.3**	**-0.3**
KIW	**Kapiti Island**	**0.84**	**196**	P	**Pn**	**20 02 01.0**	**-0.5**
FWVZ	**Far West T-bar**	**0.84**	**18**	P	**Pn**	**20 02 01.2**	**-0.5**
TUVZ	**Tukino**	**0.85**	**23**	P	**Pn**	**20 02 01.6**	**-0.2**
BHHZ	**Black Hill Sta**	**0.86**	**49**	P	**Pn**	**20 02 01.2**	**-0.7**
LREZ	**Lake Rotokare**	**0.87**	**313**	P	**Pn**	**20 02 02.1**	**+0.3**
HOWZ	**Holdsworth Sta**	**0.87**	**165**	P	**Pn**	**20 02 02.1**	**+0.2**
TIWZ	**Tintock**	**0.88**	**145**	P	**Pn**	**20 02 02.8**	**+0.7**
NGZ	**Ngauruhoe**	**0.93**	**19**	P	**Pn**	**20 02 02.7**	**-0.2**
SNVZ	**South Ngauruho**	**0.93**	**21**	P	**Pn**	**20 02 02.7**	**-0.2**
WPHZ	**Waipukurau**	**0.94**	**91**	P	**Pn**	**20 02 04.0**	**+1.1**
OTVZ	**Oturere**	**0.95**	**21**	P	**Pn**	**20 02 03.1**	**-0.1**
NNVZ	**North Ngauruho**	**0.97**	**18**	P	**Pn**	**20 02 03.5**	**0.0**
KRHZ	**Kereru**	**0.97**	**65**	P	**Pn**	**20 02 03.6**	**+0.2**
WTVZ	**West Tongariro**	**0.98**	**17**	P	**Pn**	**20 02 03.4**	**-0.2**
ETVZ	**East Tongariro**	**0.99**	**22**	P	**Pn**	**20 02 03.7**	**-0.1**
VRZ	**Vera Road**	**1.00**	**339**	P	**Pn**	**20 02 03.8**	**+0.2**
TWVZ	**Taurewa**	**1.00**	**10**	P	**Pn**	**20 02 03.3**	**-0.5**
BFZ	**Birch Farm**	**1.00**	**129**	P	**Pn**	**20 02 04.3**	**+0.6**
BFZ	**Birch Farm**	**1.00**	**129**	P	**Pn**	**20 02 05.0**	**+1.3**
TMVZ	**Te Maari**	**1.01**	**22**	P	**Pn**	**20 02 04.0**	**0.0**
KRVZ	**Karewarewa**	**1.01**	**19**	P	**Pn**	**20 02 04.0**	**0.0**
NTVZ	**North Tongarir**	**1.02**	**20**	P	**Pn**	**20 02 04.3**	**+0.2**
ANWZ	**Angora Road**	**1.04**	**113**	P	**Pn**	**20 02 05.3**	**+1.1**
CAW	**Cannon Point**	**1.06**	**186**	P	**Pn**	**20 02 04.8**	**+0.3**
PREZ	**Palmer Road**	**1.09**	**311**	P	**Pn**	**20 02 06.0**	**+1.1**
PRHZ	**Porangahau**	**1.10**	**101**	P	**Pn**	**20 02 06.1**	**+0.9**
KWHZ	**Kaweka Forest**	**1.12**	**56**	P	**Pn**	**20 02 06.0**	**+0.6**
MTW	**Mount Morrison**	**1.12**	**169**	P	**Pn**	**20 02 06.1**	**+0.7**
CPWZ	**Castlepoint**	**1.13**	**139**	P	**Pn**	**20 02 07.9**	**+2.4**
KATZ	**Kakaramea**	**1.14**	**19**	P	**Pn**	**20 02 06.0**	**+0.2**
TMWZ	**Te Maipa**	**1.17**	**154**	P	**Pn**	**20 02 06.7**	**+0.7**
DREZ	**Durham Road**	**1.17**	**317**	P	**Pn**	**20 02 07.2**	**+1.1**
NEZ	**North Egmont**	**1.17**	**312**	P	**Pn**	**20 02 07.4**	**+1.3**
RITZ	**Rihia Road**	**1.18**	**25**	P	**Pn**	**20 02 06.9**	**+0.7**
KHEZ	**Kahui Hut**	**1.20**	**309**	P	**Pn**	**20 02 08.1**	**+1.5**
NMEZ	**Namu Road**	**1.22**	**301**	P	**Pn**	**20 02 08.0**	**+1.3**
DUWZ	**D'Urville Isla**	**1.24**	**233**	P	**Pn**	**20 02 06.8**	**-0.3**
PXZ	**Pawanui**	**1.26**	**89**	P	**Pn**	**20 02 08.1**	**+0.8**
RATZ	**Rangitukua**	**1.26**	**20**	P	**Pn**	**20 02 08.0**	**+0.7**
WEL	**Wellington**	**1.27**	**196**	P	**Pn**	**20 02 08.1**	**+0.6**
PKE	**Pukeiti**	**1.28**	**312**	P	**Pn**	**20 02 09.2**	**+1.6**
MCHZ	**McNeill Hill**	**1.29**	**62**	P	**Pn**	**20 02 09.8**	**+2.1**
KAHZ	**Kahuranaki**	**1.30**	**79**	P	**Pn**	**20 02 08.9**	**+1.1**
SNZO	**South Karori**	**1.31**	**197**	P	**Pn**	**20 02 08.6**	**+0.6**
BKZ	**Black Stump Fm**	**1.32**	**48**	P	**Pn**	**20 02 09.6**	**+1.4**
BKZ	**Black Stump Fm**	**1.32**	**48**	P	**Pn**	**20 02 10.1**	**+1.9**
PAWZ	**Paruwai Farm**	**1.33**	**173**	P	**Pn**	**20 02 09.5**	**+1.1**
MSWZ	**Moikau Station**	**1.36**	**179**	P	**Pn**	**20 02 09.2**	**+0.5**
TCW	**Tory Channel**	**1.36**	**212**	P	**Pn**	**20 02 08.9**	**+0.2**
BHW	**Baring Head**	**1.38**	**191**	P	**Pn**	**20 02 09.4**	**+0.5**
TRWZ	**Traveller**	**1.39**	**165**	P	**Pn**	**20 02 10.4**	**+1.3**
PLWZ	**Palliser**	**1.51**	**179**	P	**Pn**	**20 02 11.0**	**+0.2**
MRHZ	**Matea Rd**	**1.53**	**38**	P	**Pn**	**20 02 12.7**	**+1.6**
NMHZ	**Naumai**	**1.56**	**52**	P	**Pn**	**20 02 13.5**	**+2.1**
HIZ	**Hauiti**	**1.57**	**349**	P	**Pn**	**20 02 11.8**	**+0.3**
HIZ	**Hauiti**	**1.57**	**349**	P	**Pn**	**20 02 11.9**	**+0.4**
ARHZ	**Aropaoanui**	**1.58**	**61**	P	**Pn**	**20 02 13.7**	**+2.0**
TUWZ	**Tuamarina**	**1.68**	**215**	P	**Pn**	**20 02 13.8**	**+0.7**
MTHZ	**Maungataniwha**	**1.74**	**47**	P	**Pn**	**20 02 15.2**	**+1.3**
NNZ	**Nelson**	**1.82**	**230**	P	**Pn**	**20 02 16.2**	**+1.3**
RAHZ	**Arahi**	**1.84**	**52**	P	**Pn**	**20 02 16.8**	**+1.6**
CMWZ	**Cape Campbell**	**1.86**	**204**	P	**Pn**	**20 02 19.1**	**+3.6**
BSWZ	**Blackbirch Sta**	**1.95**	**211**	P	**Pn**	**20 02 17.5**	**+0.7**
TKNZ	**Takaka Hill**	**1.98**	**240**	P	**Pn**	**20 02 18.1**	**+0.9**
RTZ	**Ruatahuna**	**1.98**	**44**	P	**Pn**	**20 02 19.0**	**+1.7**
QRZ	**Quartz Range**	**2.19**	**249**	P	**Pn**	**20 02 20.3**	**+0.2**
QRZ	**Quartz Range**	**2.19**	**249**	P	**Pn**	**20 02 20.4**	**+0.2**
MRNZ	**Matariki Terra**	**2.30**	**234**	P	**Pn**	**20 02 23.5**	**+1.8**
URZ	**Urewera**	**2.32**	**40**	P	**Pn**	**20 02 22.4**	**+0.5**
URZ	**Urewera**	**2.32**	**40**	P	**Pn**	**20 02 22.3**	**+0.5**
TOZ	**Tahuroa Road**	**2.33**	**5**	P	**Pn**	**20 02 22.4**	**+0.4**
THZ	**Tophouse**	**2.45**	**225**	P	**Pn**	**20 02 24.7**	**+1.1**
MWZ	**Matawai**	**2.48**	**47**	P	**Pn**	**20 02 25.0**	**+0.8**
KHZ	**Kahutara**	**2.68**	**208**	P	**Pn**	**20 02 26.5**	**-0.3**
KHZ	**Kahutara**	**2.68**	**208**	P	**Pn**	**20 02 26.5**	**-0.3**
RUGZ	**Raukumara Rang**	**2.83**	**43**	P	**Pn**	**20 02 30.0**	**+1.0**
HAZ	**Te Kaha**	**3.04**	**42**	P	**Pn**	**20 02 32.9**	**+1.1**
DSZ	**Denniston Nort**	**3.09**	**236**	P	**Pn**	**20 02 33.3**	**+0.8**
GVZ	**Greta Valley S**	**3.34**	**209**	P	**Pn**	**20 02 35.0**	**-0.9**
LTZ	**Lake Taylor**	**3.51**	**218**	P	**Pn**	**20 02 37.7**	**-0.6**
OKCZ	**Okains Bay**	**4.00**	**203**	P	**Pn**	**20 02 43.9**	**-1.1**
MQZ	**McQueen's Vall**	**4.12**	**207**	P	**Pn**	**20 02 45.0**	**-1.6**
AKCZ	**Akaroa Harbour**	**4.18**	**204**	P	**Pn**	**20 02 45.9**	**-1.6**

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*MEX **04** 20:10:18.2±0.8, 14°.61N×92°.49W, h72km±18km, MD4.0*
*GCG **04** 20:10:21.0±0.3, 14°.86N×92°.37W, h35km±345km, MD3.9*
ISC 04 20:10:17.5±1.9**,14°.57N**±0°.08×**92°.62W**±0°.05**,h28**km±14km**,**
n14,σ**0§87**/26**,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.48**	**46**	*i* P	**Pn**	**20 10 28.9**	**+0.3**
THIG				*i* S	**Sn**	**20 10 37.8**	**+1.6**
PATR	**El Naranjo**	**0.66**	**35**	*i* P	**Pb**	**20 10 30.3**	**-0.4**
PATR				*e*S	**Sb**	**20 10 40.2**	**+0.5**
CHUJ	**Union Juarez**	**0.72**	**44**	*i* P	**Pb**	**20 10 31.1**	**-0.6**
CHUJ				*i* S	**Sb**	**20 10 41.8**	**+0.4**
PAVE	**Pavencul**	**0.76**	**35**	*i* P	**Pb**	**20 10 31.9**	**-0.4**
PAVE				*i* S	**Sb**	**20 10 42.6**	**+0.3**
STG3	**Santiaguito 3,**	**1.03**	**82**	*e*P	**Pn**	**20 10 36.1**	**-0.2**
PCIG		**1.27**	**333**	*e*P	**Pn**	**20 10 38.9**	**-0.6**
PCIG				*i* S	**Sn**	**20 10 55.0**	**-0.5**
FUG	**Fuego 3**	**1.73**	**94**	*e*P	**Pn**	**20 10 46.5**	**+0.5**
FUG				*e*S	**Sn**	**20 11 06.4**	**-0.9**
CCIG	**Comitan**	**1.77**	**15**	*e*P	**Pn**	**20 10 47.1**	**+0.6**
CCIG				*e*S	**Sn**	**20 11 07.3**	**-0.8**
CARR	**Arriaga**	**2.08**	**323**	*i* P	**Pn**	**20 10 51.2**	**+0.6**
CARR				*e*S	**Sn**	**20 11 15.9**	**+0.3**
TGIG		**2.25**	**348**	*e*P	**Pn**	**20 10 53.0**	**0.0**
TGIG				*e*S	**Sn**	**20 11 17.4**	**-2.4**
UXUV	**UXUV**	**3.10**	**332**	*e*P	**Pn**	**20 11 05.3**	**+0.6**
UXUV				*i* S	**Sn**	**20 11 42.0**	**+1.2**
CMIG	**Matias Romero**	**3.32**	**319**	*e*P	**Pn**	**20 11 08.3**	**+0.6**
CMIG				*e*S	**Sn**	**20 11 45.7**	**-0.6**
HUIG	**Huatulco**	**3.57**	**290**	*e*P	**Pn**	**20 11 11.2**	**+0.1**
HUIG				*e*		20 11 46.8	
NEUV	**Arroyo Zacate**	**4.37**	**316**	*i* P	**Pn**	**20 11 23.2**	**+1.1**
NEUV				*i* S	**Sn**	**20 12 11.7**	**-0.5**

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*IDC **04** 20:10:40.4±0.5, 4°.41S×94°.28E, h0km, mb4.2/28,*
mb1 4.3/31, mb1mx4.1/63, mbtmp4.3/31, ML4.6/3, MS3.5/39,
Ms1 3.5/39, ms1mx3.3/83, Error ellipse: s-maj=14.5km
s-min=11.5km az=39.0
*NEIC **04** 20:10:43.0±1.9, 4°.38S±0°.08×94°.29E±0°.06, h15km±4km,*
mb4.5/40, Error ellipse: s-maj=13.9km s-min=3.3km
az=219.0
*DJA **04** 20:10:43.5±2.0, 4°S±4°×9°4E±°, h20km±16km, M5.0/25,*
mB5.4/13, mb4.8/25, MLv5.5/8, Mw(mB)4.8/13
ISC 04 20:10:45.7±0.4**,4°.31S**±0°.06×**94°.38E**±0°.06**,h35**km**,n135,**
σ**1§25**/111**,mb4.4**/50**,MS3.6**/36**,1D,Southwest of**
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**5.56**	**58**	P	**Pn**	**20 12 07.7**	**+1.7**
PPSI	**Pulau Pagai**	**5.82**	**75**	P	**Pn**	**20 12 10.5**	**+0.9**
	1.8nm6μm357nm,0.4s						
GSI	**Gunungsitoli**	**6.43**	**30**	Pn	**Pn**	**20 12 18.5**	**+0.5**
GSI				Sn	**Sn**	**20 13 27.5**	**-2.6**
GSI	**Gunungsitoli**	**6.43**	**30**	P	**Pn**	**20 12 18.7**	**+0.8**
	0.7nm128nm,0.7s						
PPI	**Padang Panjang**	**7.12**	**58**	P	**Pn**	**20 12 28.7**	**+1.2**
	5μm227nm,0.5s						
MNSI	**Mandailing Nat**	**7.26**	**46**	P	**Pn**	**20 12 31.1**	**+1.7**
	2.3nm4μm231nm,0.8s						
KRJI	**Kerinci**	**7.40**	**73**	P	**Pn**	**20 12 32.3**	**+0.8**
MASI	**Maura Aman, Be**	**7.92**	**82**	P	**Pn**	**20 12 38.1**	**-0.5**
	0.7nm1μm70nm,0.7s						
BKNI	**Bangkinang**	**8.09**	**55**	Pn	**Pn**	**20 12 39.6**	**-1.2**
BKNI	**Bangkinang**	**8.09**	**55**	P	Pn	20 12 52.8	+12
COCO	**West Island**	**8.19**	**163**	Pn	Pn	20 12 36.1	-6.1
COCO				Sn	Sn	20 13 58.1	-15
RPSI	**Rantau Prapat**	**8.31**	**33**		**Pn**	**20 12 45.4**	**+1.6**
PSI	**Prapat**	**8.40**	**33**	Pn	**Pn**	**20 12 45.4**	**+0.2**
	2.9nm,0.3s,baz=175,slow=9.5,SNR=6.5						
PSI				Sn	**Sn**	**20 14 13.4**	**-5.4**
	1.3nm,0.3s,baz=196,slow=18,SNR=2.6						
PSI				LR	LR	20 15 46.2	
	comp=Z,522nm,21.9s,baz=248,slow=36						
KCSI	**Kotacane, Aceh**	**8.49**	**24**	P	**Pn**	**20 12 47.8**	**+1.5**
	38nm,1.0s						
MNAI	**Manna**	**8.55**	**91**	Pn	**Pn**	**20 12 45.8**	**-1.3**
MNAI	**Manna**	**8.55**	**91**	P	**Pn**	**20 12 47.6**	**+0.5**
TSI	**Tuntungan**	**8.81**	**28**	P	**Pn**	**20 12 51.9**	**+1.2**
	51nm,0.7s						
LWLI	**Liwa**	**9.67**	**95**	P	**Pn**	**20 13 01.9**	**-0.7**
	2μm83nm,0.8s						
KASI	**Kota Agung**	**10.15**	**97**	P	**Pn**	**20 13 09.2**	**+0.2**
	683nm39nm,0.6s						
KLSI		**10.32**	**92**	P	**Pn**	**20 13 11.1**	**-0.3**
	221nm10nm,0.5s						
DSRI	**Dabo**	**10.87**	**70**	P	**Pn**	**20 13 19.7**	**+0.7**
	17nm,0.9s						
MYKOM	**Kota Tinggi**	**11.23**	**58**	Pn	**Pn**	**20 13 24.4**	**+0.5**
TPRI	**Tanjung Pinang**	**11.39**	**63**	P	**Pn**	**20 13 27.3**	**+1.3**
	44nm,0.8s						
KULM	**Kulim**	**11.41**	**33**	Pn	**Pn**	**20 13 26.7**	**+0.4**
CGJI	**Cibinong**	**11.49**	**102**	P	**Pn**	**20 13 26.6**	**-0.8**
	682nm55nm,0.7s						
CBJI	**Citeko**	**12.59**	**100**	P	**Pn**	**20 13 44.3**	**+1.9**
	65nm,0.7s						
CNJI	**Cibinong**	**13.02**	**104**	P	**Pn**	**20 13 47.6**	**-0.8**
	57nm,1.0s						
LEM	**Lembang**	**13.40**	**101**	Pn	**Pn**	**20 13 54.5**	**+0.8**
	6.4nm,0.3s,baz=170,slow=9.4,SNR=5.6						
LEM				Sn	Sn	20 16 11.3	-10
	3.1nm,0.3s,baz=319,slow=20,SNR=1.9						
LEM				LR	LR	20 18 47.1	
	comp=Z,201nm,20.4s,baz=262,slow=36						
PBA	**Port Blair**	**15.95**	**354**	Pn	**Pn**	**20 14 26.3**	**-1.3**
PBA				IAmb	IAmb	20 14 40.8	
	comp=Z,40nm,0.9s						
PALK	**Pallekele**	**17.86**	**310**	P	**Pn**	**20 14 51.4**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=228,slow=12,SNR=22						
PALK				S	Sn	20 17 55.2	-15
	comp=Z,0.2nm,0.3s,baz=299,slow=19,SNR=1.9						
PALK				LR	LR	20 20 38.4	
	comp=Z,185nm,18.6s,baz=242,slow=34						
PALK	**Pallekele**	**17.86**	**310**		**Pn**	**20 14 49.6**	**-2.0**
MTKI	**Muara Teweh, K**	**20.76**	**81**	P	**P**	**20 15 23.2**	**-0.6**
H08S2	**Diego Garcia H**	**22.02**	**260**	T	T	20 37 46.2	
	baz=82						
H08S3	**Diego Garcia H**	**22.03**	**260**	T	T	20 37 52.6	
	baz=82						
H08S1	**Diego Carcia H**	**22.04**	**260**	T	T	20 37 35.6	
	baz=82						
CM31	**Chiang Mai Arr**	**23.07**	**11**	P	**P**	**20 15 48.7**	**+0.3**
CM31				IAmb	IAmb	20 15 58.4	
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**23.07**	**11**	P	**P**	**20 15 50.0**	**+1.6**
	comp=Z,5.8nm,0.8s,baz=202,slow=9.1,SNR=32						
CMAR				LR	LR	20 25 29.7	
	comp=Z,110nm,18.4s,baz=185,slow=38						
CMAR	**Chiang Mai Arr**	**23.07**	**11**	P	**P**	**20 15 49.1**	**+0.7**
CHTO	**Chiang Mai**	**23.41**	**11**	P	**P**	**20 15 51.4**	**-0.4**
KAPI	**Kappang**	**25.29**	**93**	P	**P**	**20 16 09.6**	**+0.4**
	comp=Z,3.3nm,0.3s,baz=253,slow=11,SNR=3.6						
KAPI				LR	LR	20 26 53.2	
	comp=Z,58nm,18.4s,baz=272,slow=38						
KAPI	**Kappang**	**25.29**	**93**	IAmb	IAmb	20 16 12.4	
	comp=Z,7.8nm,0.8s						
GTOI	**Gorontalo**	**29.02**	**81**	P	**P**	**20 16 43.1**	**+0.4**
BATI	**Baumata**	**29.61**	**103**	P	**P**	**20 16 49.2**	**+1.2**
	comp=Z,5.5nm,0.5s,baz=322,slow=3.8,SNR=4.2						
SHL	**Shillong**	**29.80**	**355**	P	**P**	**20 16 51.0**	**+1.4**
ODAN	**Odare**	**31.72**	**348**	*e*P	**P**	**20 17 08.4**	**+1.7**
	comp=Z,32nm,0.9s						
TAPN	**Taplejung**	**32.13**	**349**	*e*P	**P**	**20 17 11.9**	**+1.6**
	comp=Z,4.5nm,0.6s						
JIRN	**Jiri**	**32.76**	**346**	*e*P	**P**	**20 17 16.8**	**+0.9**
	comp=Z,26nm,0.6s						
GUN	**Gumba**	**33.07**	**346**	*e*P	**P**	**20 17 19.9**	**+1.3**
	comp=Z,19nm,0.6s						
GKN	**Gorkha**	**33.47**	**344**	*e*P	**P**	**20 17 22.3**	**+0.4**
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**33.50**	**117**	P	**P**	**20 17 22.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=322,slow=12,SNR=1.5						
FITZ				LR	LR	20 32 32.9	
	comp=Z,66nm,18.0s,baz=300,slow=39						
LSA	**Lhasa**	**33.96**	**355**	P	**P**	**20 17 25.8**	**-0.7**
PYUN	**Piuthan**	**34.04**	**342**	*e*P	**P**	**20 17 27.6**	**+0.6**
	comp=Z,14nm,1.1s						
ENH	**Enshi**	**37.30**	**22**	P	**P**	**20 17 56.1**	**+1.4**
ENH				IAmb	IAmb	20 18 17.8	
	comp=Z,10nm,0.9s						
XAN	**Xi'an**	**40.54**	**19**	P	P	20 18 29.8	+8.0
XAN				pP	pwP	20 18 36.7	-0.3
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
XAN				pmax	pmax		
	comp=Z,120nm,5.5s						
WRA	**Warramunga Arr**	**41.89**	**115**	P	**P**	**20 18 33.0**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=294,slow=9.2,SNR=8.6						
WRA				PcP	**PcP**	**20 20 27.7**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=305,slow=1.7,SNR=3.0						
WRA	**Warramunga Arr**	**41.89**	**115**	IAmb	IAmb	20 18 34.8	
	comp=Z,0.4nm,1.1s						
ASAR	**Alice Springs**	**42.68**	**121**	P	**P**	**20 18 39.6**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=301,slow=8.0,SNR=9.6						
ASAR				PcP	**PcP**	**20 20 30.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=307,slow=2.2,SNR=5.4						
ASAR				LR	LR	20 33 57.9	
	comp=Z,82nm,19.2s,baz=314,slow=33						
ASAR	**Alice Springs**	**42.68**	**121**	P	**P**	**20 18 37.4**	**-2.2**
NIL	**Nilore**	**42.72**	**334**	P	**P**	**20 18 39.4**	**-0.2**
NIL				IAmb	IAmb	20 18 40.5	
	comp=Z,11nm,1.1s						
GTA	**Gaotai**	**43.79**	**6**	⇓P	**P**	**20 18 49.8**	**+1.5**
GTA				sP	pwP	20 19 03.5	-0.1
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WSAR	**Wadi Sarin**	**44.35**	**310**	LR	LR	20 34 54.6	
	comp=Z,92nm,19.6s,baz=144,slow=33						
JOW	**Kunigami**	**45.08**	**45**	LR	LR	20 35 19.0	
	comp=Z,28nm,21.6s,baz=253,slow=33						
KBL	**Kabul**	**45.43**	**330**	P	**P**	**20 18 59.7**	**-1.9**
KBL				IAmb	IAmb	20 19 18.9	
	comp=Z,6.8nm,1.2s						
KSH	**Kashi**	**46.80**	**340**	P	**P**	**20 19 10.1**	**-2.1**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
OPO	**Ambohidratompo**	**48.21**	**249**	P	**P**	**20 19 23.7**	**+0.2**
	comp=Z,6.3nm,0.6s,baz=66,slow=9.7,SNR=10						
DRK	**Karamyk**	**48.30**	**337**	P	**P**	**20 19 25.2**	**+1.3**
GAR	**Garm**	**48.50**	**335**	P	**P**	**20 19 25.0**	**-0.4**
GAR				IAmb	IAmb	20 19 25.5	
	comp=Z,5.7nm,0.9s						
CHGR	**Chuyangaron**	**48.71**	**334**	P	**P**	**20 19 26.6**	**-0.3**
HRA	**Herat**	**48.98**	**324**	P	**P**	**20 19 29.3**	**0.0**
HRA				IAmb	IAmb	20 19 31.5	
	comp=Z,5.2nm,1.2s						
BTK	**Batken**	**49.18**	**336**	P	**P**	**20 19 31.0**	**+0.5**
BTK				IAmb	IAmb	20 19 32.8	
	comp=Z,6.4nm,0.9s						
BOOM	**Boomskoye usch**	**49.50**	**342**	P	**P**	**20 19 33.2**	**+0.2**
BOOM				IAmb	IAmb	20 19 34.4	
	comp=Z,2.9nm,0.7s						
AAK	**Ala-Archa**	**50.09**	**341**	LR	LR	20 40 26.1	
	comp=Z,108nm,21.0s,baz=178,slow=36						
KK31	**Karatay Array**	**51.90**	**338**	P	**P**	**20 19 50.1**	**-0.9**
KKAR	**Karatay Array**	**51.90**	**338**	P	**P**	**20 19 50.2**	**-0.7**
KKAR	**Karatay Array**	**51.90**	**338**	P	**P**	**20 19 50.5**	**-0.5**
KSRS	**Korea Array**	**51.96**	**34**	P	**P**	**20 19 53.2**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=143,slow=41,SNR=2.0						
KSRS				LR	LR	20 42 17.0	
	comp=Z,25nm,19.1s,baz=225,slow=36						
MK31	**Makanchi Array**	**52.00**	**349**	P	**P**	**20 19 51.3**	**-0.3**
MKAR	**Makanchi Array**	**52.00**	**349**	P	**P**	**20 19 51.0**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=162,slow=8.5,SNR=14						
MKAR				LR	LR	20 44 22.2	
	comp=Z,27nm,21.2s,baz=181,slow=39						
MKAR	**Makanchi Array**	**52.00**	**349**	P	**P**	**20 19 51.3**	**-0.3**
STKA	**Stephens Creek**	**52.01**	**128**	P	**P**	**20 19 51.4**	**-0.5**
	comp=Z,3.9nm,1.0s,baz=293,slow=12,SNR=6.5						
STKA				LR	LR	20 41 03.0	
	comp=Z,93nm,20.2s,baz=227,slow=35						
STKA	**Stephens Creek**	**52.01**	**128**	P	**P**	**20 19 50.7**	**-1.2**
MAKZ	**Makanchi**	**52.07**	**349**	P	**P**	**20 19 51.5**	**-0.7**
CTA	**Charters Tower**	**52.83**	**112**	LR	LR	20 40 10.6	
	comp=Z,49nm,21.8s,baz=258,slow=34						
SONM	**Songino Array**	**52.99**	**10**	P	**P**	**20 20 00.3**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=191,slow=10,SNR=12						
SONM				LR	LR	20 45 31.8	
	comp=Z,40nm,18.1s,baz=183,slow=39						
SONM	**Songino Array**	**52.99**	**10**		**P**	**20 20 00.3**	**+1.2**
GEYT	**Alibeck**	**53.84**	**325**	P	**P**	**20 20 06.7**	**+1.3**
	comp=Z,4.0nm,0.7s,baz=203,slow=22,SNR=5.6						
GEYT				LR	LR	20 43 54.6	
	comp=Z,54nm,20.2s,baz=156,slow=37						
GEYT	**Alibeck**	**53.84**	**325**	P	**P**	**20 20 04.4**	**-1.0**
GEYT				IAmb	IAmb	20 20 21.7	
	comp=Z,4.5nm,0.7s						
KURBB	**Kurchatov Arra**	**56.40**	**348**	P	**P**	**20 20 23.3**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=168,slow=6.9,SNR=24						
KURK	**Kurchatov**	**56.47**	**348**	P	**P**	**20 20 21.9**	**-2.1**
KURK				IAmb	IAmb	20 20 24.9	
	comp=Z,6.6nm,1.2s						
MJAR	**Matsushiro Arr**	**57.65**	**41**	LR	LR	20 44 35.5	
	comp=Z,26nm,21.3s,baz=214,slow=35						
ZAA0	**Zalesovo Array**	**58.60**	**353**	P	**P**	**20 20 38.4**	**-0.5**
ZALV	**Zalesovo Beam**	**58.60**	**353**	P	**P**	**20 20 39.0**	**+0.1**
	comp=Z,8.9nm,0.6s,baz=179,slow=6.7,SNR=56						
ZALV				LR	LR	20 46 33.1	
	comp=Z,32nm,21.8s,baz=158,slow=37						
ZALV	**Zalesovo Beam**	**58.60**	**353**	P	**P**	**20 20 38.4**	**-0.5**
BRVK	**Borovoye**	**60.67**	**344**	P	**P**	**20 20 52.5**	**-0.8**
BRVK				IAmb	IAmb	20 21 07.7	
	comp=Z,3.4nm,0.9s						
ABKAR	**Akbulak array**	**61.16**	**335**	P	**P**	**20 20 56.9**	**+0.2**
KLR	**Kul'dur**	**62.41**	**27**	LR	LR	20 50 22.5	
	comp=Z,18nm,18.6s,baz=224,slow=38						
AKTO	**Aktyubinsk**	**62.87**	**335**	P	**P**	**20 21 08.1**	**0.0**
	comp=Z,2.2nm,0.8s,baz=140,slow=7.0,SNR=7.1						
AKTO				LR	LR	20 49 20.6	
	comp=Z,19nm,18.4s,baz=164,slow=37						
GNI	**Garni**	**63.45**	**319**	P	**P**	**20 21 11.8**	**-0.6**
	comp=Z,3.4nm,0.4s,baz=76,slow=8.3,SNR=3.6						
GNI				LR	LR	20 49 46.2	
	comp=Z,36nm,21.4s,baz=119,slow=37						
GURO	**Guroymak-BITLI**	**64.45**	**317**	P	**P**	**20 21 16.1**	**-2.9**
GURO				IAmb	IAmb	20 21 35.8	
	comp=Z,3.7nm,0.9s						
ONI	**Oni**	**65.56**	**321**	P	**P**	**20 21 23.7**	**-2.3**
ONI				IAmb	IAmb	20 21 50.5	
	comp=Z,3.8nm,1.0s						
MATP	**Matopo**	**65.92**	**250**	P	**P**	**20 21 28.4**	**-0.4**
	comp=Z,15nm,0.7s,baz=85,slow=6.5,SNR=38						
LSZ	**Lusaka**	**65.92**	**255**	P	**P**	**20 21 28.6**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=88,slow=5.1,SNR=8.8						
LSZ	**Lusaka**	**65.92**	**255**	IAmb	IAmb	20 21 29.7	
	comp=Z,3.7nm,0.8s						
KBZ	**Khabaz**	**66.50**	**322**	P	**P**	**20 21 33.0**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=110,slow=7.1,SNR=6.1						
ARU	**Arti**	**67.23**	**339**	P	**P**	**20 21 35.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=162,slow=12,SNR=3.5						
ARU				LR	LR	20 52 31.7	
	comp=Z,30nm,18.6s,baz=160,slow=37						
ARU	**Arti**	**67.23**	**339**	P	**P**	**20 21 35.7**	**-0.7**
ARU				IAmb	IAmb	20 21 51.8	
	comp=Z,3.1nm,0.7s						
LBTB	**Lobatse**	**68.97**	**245**	LR	LR	20 49 45.1	
	comp=Z,40nm,18.4s,baz=148,slow=34						
LBTB	**Lobatse**	**68.97**	**245**	P	**P**	**20 21 43.9**	**-4.2**
BOSA	**Boshof**	**69.64**	**241**	P	**P**	**20 21 50.6**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=115,slow=5.0,SNR=7.8						
BRTR	**Keskin Array B**	**70.83**	**315**	P	**P**	**20 21 58.9**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=145,slow=5.0,SNR=2.2						
BRTR				LR	LR	20 55 16.6	
	comp=Z,47nm,18.2s,baz=130,slow=38						
YAK	**Yakutsk**	**71.47**	**17**	LR	LR	20 55 59.6	
	comp=Z,59nm,18.2s,baz=268,slow=38						
KIRV	**Kirov**	**72.19**	**337**	LR	LR	20 54 43.8	
	comp=Z,45nm,19.2s,baz=120,slow=37						
NRIK	**Noril'sk**	**73.65**	**357**	P	**P**	**20 22 15.4**	**+0.1**
NRIK				IAmb	IAmb	20 22 31.2	
	comp=Z,4.2nm,1.0s						
MA2	**Magadan**	**77.49**	**26**	LR	LR	20 58 54.4	
	comp=Z,33nm,20.2s,baz=99,slow=37						
PETK	**Petropavlovsk-**	**77.86**	**33**	LR	LR	21 00 44.5	
	comp=Z,20nm,18.0s,baz=187,slow=38						
AKASG	**Malin Array Be**	**77.95**	**324**	P	**P**	**20 22 39.5**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=98,slow=5.5,SNR=4.1						
AKASG				LR	LR	20 58 15.8	
	comp=Z,35nm,21.8s,baz=152,slow=37						
MLR	**Muntele Rosu**	**78.19**	**318**	LR	LR	20 59 43.6	
	comp=Z,32nm,20.8s,baz=127,slow=38						
SEY	**Seymchan**	**79.90**	**23**	LR	LR	21 02 40.1	
	comp=Z,36nm,18.1s,baz=58,slow=39						
VNDA	**Vanda**	**81.02**	**168**	P	**P**	**20 22 56.5**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=286,slow=6.8,SNR=7.7						
VNDA	**Vanda**	**81.02**	**168**	IAmb	IAmb	20 22 57.0	
	comp=Z,3.0nm,1.1s						
FINES	**FINESS Array B**	**83.59**	**333**	P	**P**	**20 23 09.8**	**-0.3**
	comp=Z,2.5nm,1.2s,baz=121,slow=9.2,SNR=3.8						
FINES				LR	LR	21 02 39.7	
	comp=Z,32nm,19.1s,baz=68,slow=37						
VRAC	**Vranov**	**85.32**	**320**	LR	LR	21 07 01.8	
	comp=Z,22nm,18.2s,baz=77,slow=40						
TROLL	**Troll, Antarti**	**86.50**	**198**	P	**P**	**20 23 25.4**	**+0.5**
ARCES	**ARCESS Array B**	**86.76**	**341**	P	**P**	**20 23 26.3**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=78,slow=10,SNR=3.6						
ARCES				LR	LR	21 03 55.2	
	comp=Z,18nm,19.1s,baz=148,slow=37						
GERES	**GERESS Array B**	**87.10**	**319**	P	**P**	**20 23 29.5**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=111,slow=5.4,SNR=1.9						
SNAA	**Sanae**	**88.21**	**198**	P	**P**	**20 23 34.1**	**+1.1**
HFS	**Hagfors**	**89.08**	**330**	LR	LR	21 05 57.7	
	comp=Z,24nm,18.1s,baz=81,slow=37						
VNA2	**Neumayer--Watz**	**89.79**	**199**	P	**P**	**20 23 41.5**	**+1.2**
	baz=88,slow=4.0						
NOA	**NORSAR Array B**	**90.43**	**331**	LR	LR	21 06 25.7	
	comp=Z,15nm,20.1s,baz=255,slow=37						
SPITS	**Spitsbergen Ar**	**91.74**	**348**	LR	LR	21 08 27.8	
	comp=Z,30nm,21.8s,baz=179,slow=38						
TORD	**Torodi Ar. Bea**	**93.58**	**283**	P	**P**	**20 23 58.7**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=89,slow=5.1,SNR=8.2						
TORD	**Torodi Ar. Bea**	**93.58**	**283**	IAmb	IAmb	20 24 07.6	
	comp=Z,1.9nm,1.2s						
EKA	**Eskdalemuir Ar**	**97.82**	**325**	LR	LR	21 12 18.0	
	comp=Z,31nm,19.5s,baz=315,slow=38						
MDT	**Midelt**	**99.88**	**302**	LR	LR	21 12 18.7	
	comp=Z,32nm,18.1s,baz=354,slow=37						
TXAR	**Lajitas Array**	**149.80**	**33**	PKP	**PKPdf**	**20 30 28.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=257,slow=1.6,SNR=1.7						
TXAR				PKPbc	**PKPbc**	**20 30 33.2**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=259,slow=0.8,SNR=9.9						
TXAR				PKPab	**PKPab**	**20 30 39.1**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=247,slow=1.4,SNR=5.2						

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*IDC **04** 20:21:59.6±8.8, 2°.16N×123°.05E, h437km±112km, mb3.1/5,*
mb1 3.3/6, mb1mx2.8/48, mbtmp4.0/6, Error ellipse:
s-maj=106.8km s-min=22.8km az=57.0
ISC 04 20:22:01.0±1.3**,2°.0N**±0°.1×**122°.9E**±0°.2**,h450**km**,n14,**

σ1^{s}25/15, mb3.6/4, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	Tolitoli	2.34	247	P	P	20 23 02.7	-0.9
SANI	Sanana	5.06	143	P	P	20 23 25.7	-0.4
BATI	Baumata	12.17	177	P	P	20 24 43.2	+1.3
	3.2nm,0.3s,baz=96,slow=4.6,SNR=5.5						
BATI				S	S	20 26 51.2	-3.3
	0.7nm,0.3s,baz=343,slow=20,SNR=1.9						
JAGI	Jajag, Banyuwa	13.62	220	P	P	20 24 59.2	+1.7
MTN	Manton Dam	16.86	151	P	P	20 25 32.4	+0.5
KDU	Kakadu	17.41	147	P	P	20 25 38.3	+0.5
KNRA	Kununurra	18.50	162	P	P	20 25 49.0	+0.3
FITZ	Fitzroy Crossi	20.17	173	P	P	20 26 04.1	0.0
	0.9nm,0.3s,baz=352,slow=6.7,SNR=43						
WRAB	Tennant Creek	24.52	153	P	P	20 26 43.2	-0.2
WRA	Warramunga Arr	24.52	153	P	P	20 26 42.9	-0.5
	2.1nm,0.3s,baz=335,slow=9.8,SNR=37						
WRKA	Warakurna	27.39	169	P	P	20 27 09.0	+0.2
ASAR	Alice Springs	27.67	158	P	P	20 27 11.3	+0.1
	0.8nm,0.5s,baz=336,slow=6.7,SNR=21						
STKA	Stephens Creek	38.08	154	P	P	20 28 40.6	+0.8
	2.5nm,0.6s,baz=322,slow=9.4,SNR=8.3						
MKAR	Makanchi Array	56.88	328	P	P	20 31 00.9	-0.8
	0.2nm,0.4s,baz=128,slow=8.2,SNR=6.0						

*DJA **04** 20:33:24.7±0.5, 8˚S±3˚×12˚2E±˚, h163^{km}±6^{km}, M3.8/14, mb4.0/2, mB4.7/1, MLv3.6/14, Mw(mB)3.9/1*
*IDC **04** 20:33:24.2±1.4, 8˚24S×121˚67E, h189^{km}±14^{km}, mb3.4/2, mb1 3.4/7, mb1mx3.1/37, mbtmp3.8/7, Error ellipse: s-maj=78.6km s-min=13.9km az=55.0*
ISC 04 20:33:23.1±0.9, **8˚41S**±0˚05×**121˚60E**±0˚06, **h200**^{km}, **n19**, σ1^{s}**72**/25, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.67	110	P	Pn	20 33 49.7	-1.2
MMRI				S	Sn	20 34 08.0	-4.4
BASI	Baing, Sumba	2.07	209	P	Pn	20 34 01.7	-0.6
BASI				S	Sn	20 34 30.5	-2.5
BSSI	Bau Bau, Buton	2.51	334	P	Pn	20 34 05.6	-1.5
WBSI	Waikabubak, Su	2.51	241	P	Pn	20 34 06.8	-0.3
BATI	Baumata	2.71	132	P	Pn	20 34 10.7	+1.3
	15nm,0.3s,baz=26,slow=4.1,SNR=27						
BATI				S	Sn	20 34 46.9	+1.3
	37nm,0.3s,baz=42,slow=23,SNR=17						
BATI	Baumata	2.71	132	P	Pn	20 34 10.2	+0.8
BBSI	Bau Bau	3.06	18	P	Pn	20 34 12.8	-0.7
BKSI	Bulukumba	3.40	334	P	Pn	20 34 16.1	-1.5
PLAI	Plampang	3.81	263	P	Pn	20 34 23.1	+0.6
KAPI	Kappang	3.84	331	P	Pn	20 34 23.4	+0.4
	4.3nm,0.3s,baz=165,slow=8.7,SNR=15						
BNSI	Bone	4.25	339	P	Pn	20 34 28.8	+0.7
SPSI	Sidrap Palu	4.78	337	P	Pn	20 34 34.6	-0.1
SRBI	Singaraja	6.33	272	P	Pn	20 34 55.6	+0.9
	0.1nm19nm,0.8s						
JAGI	Jajag, Banyuwa	7.37	269	P	Pn	20 35 06.8	-1.5
FITZ	Fitzroy Crossi	10.40	158	P	Pn	20 35 48.9	+1.3
	0.5nm,0.3s,baz=347,slow=9.7,SNR=45						
FITZ				S	Sn	20 37 43.1	-0.7
	0.5nm,0.3s,baz=245,slow=23,SNR=5.2						
WRA	Warramunga Arr	16.84	134	P	Pn	20 37 10.2	+2.7
	0.4nm,0.3s,baz=316,slow=11,SNR=14						
WRA				S	S	20 40 09.2	-2.8
	0.3nm,0.3s,baz=195,slow=13,SNR=5.7						
ASAR	Alice Springs	19.21	144	P	Pn	20 37 36.6	+1.1
	0.6nm,0.3s,baz=325,slow=11,SNR=32						
ASAR				S	S	20 41 00.8	+1.6
	0.0nm,0.3s,baz=317,slow=22,SNR=3.4						
MKAR	Makanchi Array	65.14	331	P	P	20 43 44.4	+1.7
	0.3nm,0.4s,baz=143,slow=7.3,SNR=12						
ZALV	Zalesovo Beam	69.44	338	P	P	20 44 09.9	+0.5
	0.5nm,0.3s,baz=136,slow=5.4,SNR=6.0						

RHSSO 04 20:46:04.7±0.3, **42˚78N**×**18˚54E**, **h8**^{km}±2^{km}, **ML1.4**/7, **3C-4D**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	Bratogost	0.13	1	⇑iPg	Pg	20 46 07.7	+0.1
BRY				eSg	Sg	20 46 10.5	+0.9
TREB	Trebinje	0.15	247	⇓iPg	Pg	20 46 08.1	+0.3
TREB				eSg	Sg	20 46 11.7	+1.7
DBRK	Dubrovnik	0.30	250	ePg	Pg	20 46 10.2	-0.6
DBRK				Sg	Sg	20 46 15.8	+1.0
HCY	Herceg Novi	0.33	185	⇓iPg	Pg	20 46 10.5	-0.7
HCY				eSg	Sg	20 46 16.7	+1.2
UPM	Unac-Piva	0.51	32	⇑iPg	Pg	20 46 13.2	-1.3
UPM				eSg	Sg	20 46 21.6	+0.4
STON	Ston	0.62	279	⇓iPg	Pg	20 46 15.6	-1.1
STON				eSg	Sg	20 46 25.3	+0.5
STON	Ston	0.62	279	ePg	Pg	20 46 15.4	-1.3
STON				Sg	Sg	20 46 25.1	+0.3
PDG	Podgorica	0.63	123	ePg	Pg	20 46 16.4	-0.5
PDG				eSg	Sg	20 46 26.1	+0.9
DRME	Dracevica, Mon	0.76	141	⇑iPg	Pg	20 46 18.4	-0.9
DRME				eSg	Sg	20 46 29.0	-0.2
RUDO	Rudo	1.04	36	ePg	Pg	20 46 23.7	-1.0
RUDO				eSg	Sg	20 46 37.4	-0.8
LSTV	Lastovo	1.21	270	ePg	Pb	20 46 26.1	-1.8
LSTV				Sg	Sg	20 46 43.0	-0.6
MAKA	Makarska	1.22	295	ePg	Pb	20 46 26.8	-1.3
MAKA				Sg	Sg	20 46 44.4	+0.3
BBLS	Lazići	1.26	30	⇓iPg	Pn	20 46 28.1	-0.6
BBLS				eSg	Sb	20 46 45.1	-0.1
HVAR	Hvar	1.58	285	ePn	Pn	20 46 31.5	-1.5
HVAR				Sn	Sn	20 46 53.8	0.0
DIVS	Divibare	1.69	38	ePn	Pn	20 46 34.1	-0.6
DIVS				eSn	Sn	20 46 56.7	+0.1

ROM 04 20:46:36.9±0.1, **40˚647N**±0˚005×**15˚49E**±0˚02, **h10**^{km}, **ML1.2**/2, **Error ellipse: s-maj=1.3km s-min=0.6km az=262.0**, **Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRLC	Muro Lucano	0.11	359	P	Pg	20 46 39.8	+0.1
MRLC				S	Sg	20 46 42.6	+1.0
MRLC				AML	AML		
	comp=E,204μm,1.1s						
MRLC				AML	AML		
	comp=N,317μm,1.1s						
CDRU	Civita di Ruta	0.21	222	P	Pg	20 46 41.8	+0.4
CDRU				AML	AML		
	comp=N,35μm,0.9s						
CDRU				AML	AML		
	comp=E,73μm,0.7s						
SLCN	Sala Consilina	0.28	157	P	Pg	20 46 43.3	+0.7
MCRV	Calabrutti - M	0.28	299	P	Pg	20 46 43.2	+0.6
SNAL	S. Angelo Dei	0.35	322	P	Pb	20 46 44.8	-0.6
CMPR	Campora	0.36	204	P	Pg	20 46 44.5	+0.5
CMPR				S	Sb	20 46 51.4	+0.2
MCEL	Monticello	0.40	144	P	Pb	20 46 45.5	-0.6
MTSN	Montesano sull	0.43	152	P	Pb	20 46 46.2	-0.5
MGR	Morigerati	0.51	175	P	Pg	20 46 47.0	+0.1
SIRI	Monte Sirino -	0.55	148	P	Pg	20 46 47.7	+0.2
BULG	Bulgheria - Ca	0.57	189	P	Pg	20 46 48.3	+0.3

PRU 04 20:47:14.2±0.0, **50˚49N**×**18˚99E**, **h0**^{km}, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	Liptovska Anna	1.38	167	eSG	Sg	20 47 51.8	-6.6
LANS				eLG	Lg	20 47 55.3	
KRLC	Kraliky	1.48	255	ePG	Pn	20 47 41.3	-0.8
DPC	Dobruska-Polom	1.71	266	ePG	Pn	20 47 45.9	+0.6
CLL	Collm	3.88	284	eSn	Sb	20 49 11.0	+0.1

PRU 04 20:47:37.9±0.0, **49˚83N**×**18˚55E**, **h0**^{km}, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.26	272	ePG	Pg	20 47 43.1	+0.2
OKC				eSG	Sg	20 47 46.9	+0.6
	comp=Z,16nm,0.5s						
MORC	Moravsky Berou	0.66	266	ePG	Pg	20 47 50.7	+0.3
KRLC	Kraliky	1.17	283	ePG	Pg	20 47 58.5	-1.8
VRAC	Vranov	1.38	248	ePG	Pg	20 48 04.0	-0.3
VRAC				eSG	Sg	20 48 21.9	-0.2
DPC	Dobruska-Polom	1.53	291	ePG	Pn	20 48 06.4	-0.1
DPC				eSG	Sg	20 48 26.6	-0.3
KRUC	Moravsky	1.60	242	ePG	Pn	20 48 07.6	+0.1
OSTC	Ostas	1.67	297	ePG	Pn	20 48 08.3	-0.1
CLL	Collm	3.83	295	eSb	Sg	20 49 44.0	+3.0

*IDC **04** 20:52:49.6±2.7, 5˚12N×73˚36W, h204^{km}±21^{km}, mb2.9/2, mb1 3.3/2, mb1mx2.8/47, mbtmp3.4/2, Error ellipse: s-maj=85.1km s-min=29.4km az=69.0*
*RSNC **04** 20:52:49.9±1.2, 6˚41N×73˚64W, h110^{km}±5^{km}, ML3.3, Fault plane solution: NP1:φs86.00000°, δ54.00000°, λ-180.00000°.*
ISC 04 20:52:49.1±0.9, **6˚40N**±0˚03×**73˚63W**±0˚03, **h113**^{km}±7^{km}, **n38**, σ1^{s}**46**/72, **4C-5D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.48	67	⇓iP	Pn	20 53 07.1	+0.7
BARC				eS	Sn	20 53 19.9	+0.5
BARC				i		20 53 21.5	
	comp=Z,2μm,0.2s						
RUSC	La Rusia	0.74	133	⇓iP	Pn	20 53 08.9	+0.3
RUSC				eS	Sn	20 53 23.4	+0.1
PTBC	PUERTO BERRIO,	0.84	279	⇑iP	Pn	20 53 08.1	-0.8
PTBC				eS	Sn	20 53 22.1	-1.8
SPBC	San Pablo de B	0.87	211	⇑iP	Pn	20 53 09.1	-0.2
SPBC				eS	Sn	20 53 24.2	-0.4
SPBC				i		20 53 26.4	
	comp=Z,736nm,0.4s						
PAMC	Pamplona, Colo	1.31	45	⇑iP	Pn	20 53 15.3	+0.9
PAMC				eS	Sn	20 53 34.5	+1.1
PAMC				i		20 53 39.9	
	comp=Z,291nm,0.6s						
NORC	Norcasia	1.49	236	⇑iP	Pn	20 53 15.3	-0.7
NORC				eS	Sn	20 53 36.1	-0.3
NORC				i		20 53 41.0	
	comp=Z,322nm,0.3s						
ZARC	Zaragoza, Cauc	1.63	312	⇓iP	Pn	20 53 18.1	+0.4
ZARC				eS	Sn	20 53 39.5	+0.1
ZARC				i		20 53 43.7	
	comp=Z,384nm,0.3s						
ROSC	El Rosal	1.70	204	P	Pn	20 53 20.0	+1.2
	comp=Z,56nm,0.3s,baz=78,slow=22,SNR=35						
ROSC				S	Sn	20 53 44.3	+2.9
	comp=Z,68nm,0.3s,baz=69,slow=21,SNR=11						
ROSC	El Rosal	1.70	204	eP	Pn	20 53 19.8	+1.0
ROSC				eS	Sn	20 53 44.0	+2.6
ROSC				i		20 53 48.2	
	comp=Z,187nm,0.3s						
CHIC	Chingaza	1.76	183	eP	Pn	20 53 20.0	+0.3
CHIC				eS	Sn	20 53 43.9	+1.0
CHIC				i		20 53 46.9	
	comp=Z,190nm,0.2s						
TAMC	Tame, Arauca	1.82	89	⇓iP	Pn	20 53 20.9	+0.9
TAMC				eS	Sn	20 53 43.1	-0.5
TAMC				i		20 53 43.8	
	comp=Z,202nm,0.2s						
OCAC	Ocana	1.85	9	eP	Pn	20 53 21.1	+0.6
OCAC				eS	Sn	20 53 45.4	+0.9
HELC	Santa Helena	1.90	264	eP	Pn	20 53 21.4	+0.1
HELC				eS	Sn	20 53 46.1	+0.2
HELC				i		20 53 49.1	
	comp=Z,221nm,0.2s						
GUY2C	Guyana, Caldas	2.09	236	eP	Pn	20 53 23.9	+0.2
GUY2C				eS	Sn	20 53 51.2	+1.0
GUY2C				i		20 53 54.9	
	comp=Z,171nm,0.3s						
VILC	Villavicencio,	2.28	182	eP	Pn	20 53 26.4	+0.6
VILC				eS	Sn	20 53 55.0	+1.0
UREC	San Jos de Ur	2.32	305	eP	Pn	20 53 25.4	-0.8
UREC				eS	Sn	20 53 54.1	-0.7
UREC				i		20 54 00.9	
	comp=Z,137nm,0.2s						
CBOC	Ciudad Bolivar	2.43	257	eP	Pn	20 53 28.9	+1.0
CBOC				eS	Sn	20 53 57.0	-0.7
CBOC				i		20 53 59.9	
	comp=Z,78nm,0.2s						
ANIL	Santa Ana	2.59	223	eP	Pn	20 53 30.9	+0.8
ANIL				eS	Sn	20 54 04.8	+3.2
ANIL				i		20 54 07.2	
	comp=Z,282nm,0.3s						
DBBC	Dabeiba	2.64	284	eP	Pn	20 53 30.9	+0.4
DBBC				eS	Sn	20 54 02.6	+0.3
DBBC				i		20 54 12.8	
	comp=Z,236nm,0.4s						
PTGC	Puerto Gaitan,	2.65	146	⇓iP	Pn	20 53 30.0	-0.5
PTGC				eS	Sn	20 54 00.9	-1.5
PTGC				i		20 54 07.8	
	comp=Z,76nm,0.2s						
ORTC	Ortega, Tolima	2.96	213	eP	Pn	20 53 34.8	+0.2
ORTC				eS	Sn	20 54 11.8	+2.0
ORTC				i		20 54 20.9	
	comp=Z,63nm,0.3s						
PLMC	San Jos del P	3.03	241	eP	Pn	20 53 36.5	+0.9
PLMC				eS	Sn	20 54 11.2	-0.4
PLMC				i		20 54 15.8	
	comp=Z,48nm,0.2s						
MOTC	Monteria, Cord	3.11	320	eP	Pn	20 53 35.8	-0.8
MOTC				eS	Sn	20 54 12.9	-0.4
MOTC				i		20 54 19.6	
	comp=Z,36nm,0.3s						
LL1C	La Loma 1 Cana	3.12	1	eP	Pn	20 53 38.6	+1.8
LL1C				eS	Sn	20 54 17.9	+4.4
SOCV	Socops	3.32	56	eP	Pn	20 53 40.1	+0.7
SOCV				eS	Sn	20 54 17.0	-1.5
SJCC	San Jacinto, C	3.80	336	eP	Pn	20 53 44.5	-1.3
SJCC				eS	Sn	20 54 27.7	-2.1
SJCC				i		20 54 31.1	
	comp=Z,32nm,0.3s						
SDV	Santo Domingo	3.86	50	eP	Pn	20 53 47.5	+0.8
SDV				eS	Sn	20 54 30.7	-0.8
SDV				i		20 54 33.8	
	comp=Z,47nm,0.4s						
GUVC	San Jose del G	3.96	165	eP	Pn	20 53 45.9	-2.1
GUVC				eS	Sn	20 54 31.1	-2.6
GUVC				i		20 54 33.9	
	comp=Z,115nm,0.3s						
MARP	Paez Belalcaza	4.23	213	eP	Pn	20 53 51.6	-0.3
MARP				eS	Sn	20 54 39.7	-0.8
MACC	Macarena, Meta	4.23	183	eP	Pn	20 53 50.0	-1.7
MACC				eS	Sn	20 54 36.8	-3.4
MACC				i		20 54 42.6	
	comp=Z,49nm,0.7s						
GARC	Garzon, Huila	4.58	204	eP	Pn	20 53 55.6	-0.9
GARC				eS	Sn	20 54 44.1	-4.9
CRJC	Cerrejon, Guaj	4.65	9	eP	Pn	20 53 57.3	0.0
CRJC				eS	Sn	20 54 50.2	0.0
CRJC				i		20 54 57.1	
	comp=Z,102nm,0.3s						
SMRC	Santa Marta, M	4.77	353	eP	Pn	20 53 59.2	+0.4
SMRC				eS	Sn	20 54 53.3	+0.2
PCON	Cinco Dias	4.90	214	eP	Pn	20 54 02.2	+1.1
SOTA	Rioblanco	5.18	215	eP	Pn	20 54 06.2	+1.4
URIC	Uribia, Colomb	5.51	17	eP	Pn	20 54 07.9	-0.9
URIC				eS	Sn	20 55 08.8	-2.2
URIC				i		20 55 12.8	
	comp=Z,12nm,0.3s						
TXAR	Lajitas Array	36.37	313	P	P	20 59 43.2	+0.6
	comp=Z,0.1nm,0.4s,baz=122,slow=8.6,SNR=1.7						
YKA	Yellowknife Ar	63.48	340	P	P	21 03 06.2	-0.7
	comp=Z,0.6nm,0.5s,baz=133,slow=6.5,SNR=15						

*NOU **04** 21:03:29.6, 14˚01S×166˚63E, h0^{km}, mb4.8/28, Vanuatu Islands*
*NEIC **04** 21:03:35.2±1.9, 14˚20S±0˚07×166˚79E±0˚09, h35^{km}±5^{km}, mb4.8/61, Error ellipse: s-maj=13.5km s-min=9.0km az=61.0*
*GCMT **04** 21:03:36.2±0.4, 14˚14S±0˚03×166˚52E±0˚02, h31^{km}, MW5.0/64, Moment Tensor Solution. s38,c41; s64,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.31±.20; $M_{\theta\theta}$0.01±.13; $M_{\phi\phi}$-3.33±.14; $M_{r\theta}$-0.09±.20; $M_{\theta\phi}$0.83±.09; $M_{\phi r}$-0.56±.15; Best double couple: $M_0$3.46600×10^{16} NP1:φs343.00000°, δ41.00000°, λ84.00000°. NP2: φs171.00000°, δ50.00000°, λ95.00000°. Principal axes: T 3.3660, Plg84.0000°, Azm119.0000°; N 0.1940, Plg4.0000°, Azm347.0000°; P -3.5660, Plg4.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **04** 21:03:36.6±2.4, 14˚17S×166˚67E, h47^{km}±22^{km}, mb4.4/31, mb1 4.4/34, mb1mx4.2/63, mbtmp4.7/34, ML3.6/2, MS4.0/37, Ms1 4.0/37, ms1mx3.8/59 Error ellipse: s-maj=15.8km s-min=11.6km az=76.0*
ISC 04 21:03:35.6±0.3, **14˚25S**±0˚05×**166˚68E**±0˚06, **h43**^{km}, **n208**, σ1^{s}**13**/186, **mb4.7**/61, **MS4.0**/38, **2D**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.30	157	Pn	Pn	21 03 55.8	-1.5
SANVU	Saraoutou	1.30	157	P	Pn	21 03 56.7	-0.6
DVP	Devils Point	3.75	158	P	Pn	21 04 33.0	+2.0
RTV	Rentapao	3.90	155	P	Pn	21 04 35.3	+2.2
LIFNC	LIFOU	6.52	175	Pn	Pn	21 05 07.8	-1.2
LIFNC	LIFOU	6.52	175	P	Pn	21 05 09.8	+0.8
KOUNC	Koumac, New Ca	6.67	200	Pn	Pn	21 05 11.9	+0.8
KOUNC	Koumac, New Ca	6.67	200	P	Pn	21 05 12.2	+1.0
MARNC	Mare, Loyalty	7.31	170	Pn	Pn	21 05 19.0	-0.8
YATNC	Mamie plateau,	7.77	179	P	Pn	21 05 26.0	-0.3
DZM	Mont Dzumac	7.79	182	P	Pn	21 05 26.6	0.0
	4.8nm,0.3s,baz=12,slow=18,SNR=25						
DZM				S	Sn	21 06 54.2	+0.8
	4.4nm,0.3s,baz=142,slow=22,SNR=2.1						
DZM				LR	LR	21 08 20.7	
	comp=Z,1μm,18.7s,baz=3.5,slow=36						
DZM	Mont Dzumac	7.79	182	ePn	Pn	21 05 27.3	+0.8
	37nm,0.3s						
DZM				eSn	Sn	21 06 47.3	-6.2
	9.7nm,0.3s						
DZM				eLR	LR	21 07 10.2	
	comp=Z,707nm,23.0s						
DZM	Mont Dzumac	7.79	182	P	Pn	21 05 26.8	+0.3
NOUC	Port Laguerre	7.82	183	P	Pn	21 05 27.9	+1.0
ONTNC	Ouen Toro	8.02	182	Pn	Pn	21 05 29.8	+0.2
ONTNC	Ouen Toro	8.02	182	P	Pn	21 05 31.0	+1.4
OUENC	Ouen Island, N	8.13	179	Pn	Pn	21 05 31.3	+0.2
OUENC	Ouen Island, N	8.13	179	P	Pn	21 05 32.2	+1.1
HNR	Honiara	8.15	305	P	Pn	21 05 30.3	-1.0
	28nm,0.3s,baz=153,slow=9.6,SNR=2.0						
HNR				S	Sn	21 06 60.0	-2.2
	20nm,0.3s,baz=175,slow=21,SNR=1.4						
HNR				LR	LR	21 08 38.4	
	comp=Z,922nm,20.9s,baz=140,slow=37						
HNR	Honiara	8.15	305	Pn	Pn	21 05 29.4	-2.0
PINNC	Pines Island,	8.35	175	Pn	Pn	21 05 35.0	+0.8
KRVT	Keravat (AS076	17.50	303	P	Pn	21 07 35.8	-0.9
	28nm,0.3s,baz=160,slow=8.6,SNR=2.9						
KRVT				LR	LR	21 14 55.0	
	comp=Z,632nm,20.2s,baz=265,slow=39						
EIDS	Eidsvold	18.36	231	P	Pn	21 07 49.1	+2.0
PMG	Port Moresby	19.70	282	P	P	21 08 01.5	0.0
	1.7nm,0.3s,baz=124,slow=12,SNR=3.6						
PMG				LR	LR	21 15 13.9	
	comp=Z,379nm,18.6s,baz=18,slow=35						
PMG	Port Moresby	19.70	282	P	P	21 08 00.2	-1.4
CTA	Charters Tower	20.36	251	P	P	21 08 09.6	+0.9
	12nm,0.9s,baz=79,slow=7.5,SNR=6.0						
CTA				LR	LR	21 15 12.9	
	comp=Z,501nm,18.7s,baz=86,slow=34						
RMQ	Roma	20.72	231	P	P	21 08 11.9	-0.7
	baz=21,SNR=12						
AFI	Afiamalu	20.89	92	P	Pn	21 08 16.5	-0.9
	7.0nm,0.3s,baz=272,slow=18,SNR=1.7						
AFI				LR	LR	21 14 27.0	
	comp=Z,369nm,18.1s,baz=274,slow=31						
ARMA	Armidale	21.24	218	P	P	21 08 15.7	-2.6
OUZ	Omahuta	21.79	165	P	P	21 08 25.7	+1.8
KNTN	Kanton	24.18	64	P	P	21 08 46.8	-1.3
URZ	Urewera	25.64	161	P	P	21 09 04.1	+2.8
	21nm,0.9s,baz=358,slow=8.7,SNR=5.7						
URZ				LR	LR	21 18 02.0	
	comp=Z,476nm,18.9s,baz=26,slow=34						
CMSA	Cobar Meteorol	25.81	225	P	P	21 09 03.2	+0.3
	baz=26,SNR=11						
CMSA	Cobar Meteorol	25.81	225	P	P	21 09 03.6	+0.8
BKZ	Black Stump Fm	26.29	163	P	P	21 09 07.2	+0.1
BKZ				IAmb	IAmb	21 09 27.4	
	comp=Z,60nm,1.5s						
BKZ	Black Stump Fm	26.29	163	P	P	21 09 07.4	+0.2
QIS	Mount Isa	26.57	253	P	P	21 09 08.0	-1.9
	baz=27,SNR=3.2						
QIS	Mount Isa	26.57	253	P	P	21 09 10.2	+0.3
MSWZ	Moikau Station	28.08	166	P	P	21 09 23.0	-0.2
KHZ	Kahutara	28.69	169	P	P	21 09 29.9	+1.4
STKA	Stephens Creek	28.88	228	P	P	21 09 31.9	+1.5
	comp=Z,9.5nm,0.6s,baz=48,slow=8.4,SNR=42						
STKA				LR	LR	21 21 04.8	
	comp=Z,802nm,18.6s,baz=52,slow=36						
STKA	Stephens Creek	28.88	228	P	P	21 09 30.7	+0.3
	baz=29,SNR=24						
STKA	Stephens Creek	28.88	228	P	P	21 09 31.9	+1.5
STKA	Stephens Creek	28.88	228	P	P	21 09 31.7	+1.3
RPZ	Rata Peaks	29.61	174	P	P	21 09 38.2	+1.5
	comp=Z,14nm,0.8s,baz=8.1,slow=7.1,SNR=3.9						
RPZ				LR	LR	21 21 32.3	
	comp=Z,308nm,18.2s,baz=346,slow=36						
LBZ	Lake Benmore	30.19	175	P	P	21 09 41.3	-0.6
LBZ				IAmb	IAmb	21 09 48.6	
	comp=Z,45nm,1.4s						
LCRK	Leigh Creek	30.75	234	P	P	21 09 48.2	+1.2
WR0	Warramunga Arr	31.21	255	P	P	21 09 50.4	-0.8
WB0	Warramunga Arr	31.33	255	P	P	21 09 51.1	-1.2
WB0				IAmb	IAmb	21 10 03.9	
	comp=Z,10nm,0.9s						
WB2	Warramunga Arr	31.39	255	P	P	21 09 51.8	-0.9
WB2				IAmb	IAmb	21 10 07.0	
	comp=Z,19nm,1.4s						
WRAB	Tennant Creek	31.39	255	P	P	21 09 51.5	-1.3
WRAB				IAmb	IAmb	21 10 06.9	
	comp=Z,14nm,1.2s						
WRAB	Tennant Creek	31.39	255	P	P	21 09 50.8	-1.9
WRA	Warramunga Arr	31.40	255	P	P	21 09 51.1	-1.7
HTT	Hallett	31.61	228	P	P	21 09 54.7	+0.1
	baz=32,SNR=4.5						
HTT	Hallett	31.61	228	P	P	21 09 55.0	+0.4
OOD	Oodnadatta	31.81	240	P	P	21 09 57.3	+0.9
AS31	Alice Springs	32.32	248	P	P	21 10 00.7	-0.3
ASAR	Alice Springs	32.32	248	P	P	21 10 00.2	-0.7
	comp=Z,2.5nm,0.7s,baz=74,slow=9.4,SNR=29						
ASAR				LR	LR	21 22 39.2	
	comp=Z,366nm,18.9s,baz=76,slow=35						
RAR	Rarotonga	32.64	107	LR	LR	21 20 46.4	
	comp=Z,168nm,21.1s,baz=294,slow=32						
BBOO	Buckleboo	33.43	231	P	P	21 10 11.8	+1.3
	baz=34,SNR=23						
BBOO	Buckleboo	33.43	231	P	P	21 10 11.7	+1.1
BBOO	Buckleboo	33.43	231	P	P	21 10 11.6	+1.1
MULG	Mulgathing	33.99	237	P	P	21 10 15.6	+0.2
SIJI	Sorong	37.46	288	LR	LR	21 27 00.9	
	comp=Z,321nm,18.4s,baz=154,slow=38						
FORT	Forrest	39.06	238	P	P	21 10 58.0	-0.6
	baz=39,SNR=18						
FORT	Forrest	39.06	238	P	P	21 10 59.0	+0.4
FITZ	Fitzroy Crossi	39.55	259	P	P	21 11 02.8	0.0
	comp=Z,5.7nm,0.7s,baz=115,slow=7.3,SNR=6.8						
FITZ				LR	LR	21 27 24.6	
	comp=Z,335nm,18.5s,baz=60,slow=36						
PPT2	Papeete2	42.13	101	eS	S	21 17 56.8	+16
	comp=Z,76nm,19.9s						
PPT2				eLR	LR	21 23 19.0	
	comp=Z,277nm,26.5s						
PPT	Papeete	42.13	101	LR	LR	21 25 15.0	
	comp=Z,142nm,18.4s,baz=320,slow=31						
BATI	Baumata	42.19	270	P	P	21 11 26.0	+1.3
	comp=Z,26nm,0.8s,baz=99,slow=13,SNR=5.3						
BATI				LR	LR	21 29 11.3	
	comp=Z,280nm,19.4s,baz=96,slow=36						
TBI	Tubuai	42.35	109	eLR	LR	21 23 23.2	
	comp=Z,267nm,23.0s						
PSA00	Pilbara Seismi	45.03	254	P	P	21 11 47.7	+0.3
PSA00				IAmb	IAmb	21 11 48.7	
	comp=Z,18nm,1.4s						
MEEK	Meekatharra	46.45	247	P	P	21 11 59.1	+0.5
	baz=46,SNR=9.0						
KAPI	Kappang	47.09	276	P	P	21 12 03.5	-0.2
	comp=Z,2.2nm,0.4s,baz=96,slow=9.2,SNR=3.5						
KAPI	Kappang	47.09	276	P	P	21 12 04.9	+1.2
KAPI				IAmb	IAmb	21 12 11.8	
	comp=Z,22nm,1.4s						
JCJ	Chichijima	47.48	330	LR	LR	21 28 59.5	
	comp=Z,87nm,21.1s,baz=139,slow=32						
KLBR	Kellerberrin	47.85	240	P	P	21 12 08.9	-0.5
	baz=48,SNR=7.0						

MORW	Morawa	48.97	244	P	P	21 12 16.2	-1.9
	baz=49,SNR=6.4						
MORW	Morawa	48.97	244	P	P	21 12 18.2	+0.1
MORW				IAmb	IAmb	21 12 29.4	
	comp=Z,18nm,0.9s						
RSD	Rainshed	50.24	49	P	P	21 12 26.9	-1.0
JAGI	Jajag, Banyuwa	51.74	270	P	P	21 12 39.2	0.0
TAOE	Nuku Hiva Isla	52.28	90	*e*LR	LR	21 28 08.4	
	comp=Z,477nm,26.5s						
JGF	Kuroka	56.82	332	P	P	21 13 17.2	+1.3
JGF				IAmb	IAmb	21 13 17.8	
	comp=Z,7.5nm,0.7s						
MJAR	Matsushiro Arr	57.22	333	P	P	21 13 18.6	0.0
	comp=Z,4.5nm,0.7s,baz=111,slow=3.9,SNR=4.6						
MJAR				LR	LR	21 40 39.3	
	comp=Z,40nm,18.3s,baz=186,slow=39						
MJAR	Matsushiro Arr	57.22	333	P	P	21 13 19.2	+0.6
JNU	Nakatsue	58.20	325	P	P	21 13 26.0	+0.4
	comp=Z,11nm,0.8s,baz=84,slow=3.2,SNR=7.5						
JNU	Nakatsue	58.20	325	P	P	21 13 26.0	+0.4
LEM	Lembang	58.41	271	P	P	21 13 28.2	+0.6
	comp=Z,13nm,0.5s,baz=202,slow=19,SNR=2.6						
JHS	Saijyo	58.42	328	P	P	21 13 28.2	+1.1
JSD	Sado	58.45	334	P	P	21 13 27.6	+0.5
YHNB	Yeheng	58.74	311	P	P	21 13 30.7	+1.2
ERM	Erimo	60.04	340	P	P	21 13 40.7	+2.6
JKA	Kamikawa-asahi	62.10	341	IAmb	IAmb	21 14 17.7	
	comp=Z,17nm,1.1s						
ASAJ	Asahikawa	62.10	341	P	P	21 13 53.1	+1.1
	comp=Z,9.2nm,0.8s,baz=212,slow=11,SNR=9.7						
ASAJ				LR	LR	21 37 26.1	
	comp=Z,99nm,21.7s,baz=162,slow=33						
KSRS	Korea Array	63.02	326	P	P	21 13 58.4	+0.1
	comp=Z,2.5nm,0.7s,baz=136,slow=7.0,SNR=12						
VNDA	Vanda	63.33	181	P	P	21 14 01.1	+1.2
	comp=Z,1.9nm,0.6s,baz=348,slow=6.1,SNR=8.3						
VNDA				LR	LR	21 37 52.2	
	comp=Z,91nm,19.2s,baz=282,slow=32						
VNDA	Vanda	63.33	181	P	P	21 14 01.0	+1.2
VNDA				IAmb	IAmb	21 14 03.1	
	comp=Z,8.5nm,1.2s						
SBA	Scott Base	63.62	180	P	P	21 14 02.9	+1.2
SBA				IAmb	IAmb	21 14 05.0	
	comp=Z,14nm,1.1s						
CASY	Casey	63.76	202	P	P	21 14 03.2	+0.5
CASY				IAmb	IAmb	21 14 10.2	
	comp=Z,16nm,1.4s						
NJ2	Nanjing	64.94	316	*e*P	P	21 14 13.8	+2.8
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
USRK	Ussuriysk Ar.	66.20	333	P	P	21 14 20.4	+1.5
	comp=Z,4.8nm,0.7s,baz=126,slow=4.9,SNR=9.3						
USRK				LR	LR	21 40 38.4	
	comp=Z,35nm,20.7s,baz=171,slow=34						
USRK	Ussuriysk Ar.	66.20	333	P	P	21 14 20.9	+2.0
SHEM	Shemya Is, Ala	67.00	5	LR	LR	21 38 05.2	
	comp=Z,84nm,20.2s,baz=133,slow=31						
PEA0B	Petropavlovsk-	67.52	354	P	P	21 14 27.5	+0.3
PEA0B				IAmb	IAmb	21 14 28.6	
	comp=Z,13nm,0.9s						
PETK	Petropavlovsk-	67.52	354	P	P	21 14 27.2	+0.1
	comp=Z,5.5nm,0.7s,baz=178,slow=11,SNR=7.3						
RPSI	Rantau Prapat	69.20	278	P	P	21 14 38.4	0.0
PSI	Prapat	69.23	279	P	P	21 14 38.4	-0.4
	comp=Z,1.4nm,0.3s,baz=287,slow=21,SNR=1.9						
KLR	Kul'dur	70.34	337	P	P	21 14 45.6	+0.9
	comp=Z,1.7nm,0.6s,baz=129,slow=4.2,SNR=7.6						
ENH	Enshi	70.62	310	P	P	21 14 47.0	+0.1
ENH				IAmb	IAmb	21 14 48.1	
	comp=Z,8.9nm,0.8s						
XAN	Xi'an	72.95	313	P	P	21 15 01.7	+0.9
XAN				pP	pP	21 15 12.1	0.0
XAN				sP	sP	21 15 16.4	-0.1
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,74nm,4.0s						
KMI	Kunming	73.57	302	⇓P	P	21 15 06.6	+1.7
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CMAR	Chiang Mai Arr	74.24	294	P	P	21 15 09.7	+1.0
	comp=Z,2.2nm,0.9s,baz=129,slow=4.4,SNR=12						
CMAR	Chiang Mai Arr	74.24	294	P	P	21 15 09.3	+0.7
CHTO	Chiang Mai	74.36	294	P	P	21 15 09.9	+0.5
MA2	Magadan	74.69	352	P	P	21 15 10.0	-0.4
	comp=Z,3.1nm,0.3s,baz=130,slow=16,SNR=3.8						
HHC	Hu-ho-hao-te	74.85	320	*e*P	P	21 15 12.1	+0.2
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,83nm,5.2s						
PZH	PanZhiHua	74.96	303	P	P	21 15 12.7	-0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,110nm,5.8s						
HIA	Hailar	75.59	330	P	P	21 15 16.1	+0.2
HIA				IAmb	IAmb	21 15 30.4	
	comp=Z,8.2nm,0.7s						
QSPA	South Pole Qui	75.78	180	P	P	21 15 17.9	+1.0
	comp=Z,15nm,1.0s,baz=319,slow=0.9,SNR=22						
QSPA	South Pole Qui	75.78	180	P	P	21 15 17.6	+0.7
QSPA				IAmb	IAmb	21 15 21.9	
	comp=Z,17nm,1.0s						
LZH	Lanzhou	77.58	312	*e*P	P	21 15 29.4	+1.8
LZH				pP	sP	21 15 42.3	-1.0
LZH				sP	pwP	21 15 45.4	+0.7
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,120nm,7.6s						
LZH				LR	LR		
	comp=N,230nm,16.7s						
LZH				LR	LR		
	comp=E,260nm,16.5s						
LZH				LR	LR		
	comp=Z,260nm,18.4s						
SEY	Seymchan	77.74	353	P	P	21 15 27.8	+0.2
	comp=Z,9.2nm,0.9s,baz=159,slow=5.8,SNR=38						
RPN	Rapa Nui	78.38	115	LR	LR	21 42 44.5	
	comp=Z,31nm,19.8s,baz=214,slow=30						
GAMB	Gambell	79.55	10	P	P	21 15 38.1	+0.6
YAK	Yakutsk	81.41	343	P	P	21 15 48.0	+0.5
	comp=Z,6.5nm,0.4s,baz=242,slow=1.6,SNR=10						
YAK				LR	LR	21 47 12.2	
	comp=Z,67nm,21.9s,baz=89,slow=32						
YAK	Yakutsk	81.41	343	P	P	21 15 47.5	0.0
ANM	Nome	81.41	12	P	P	21 15 47.9	+0.3
ULN	Ulaanbaatar	81.41	324	P	P	21 15 48.7	+0.5
ULN				IAmb	IAmb	21 15 50.2	
	comp=Z,7.7nm,0.9s						
SONM	Songino Array	81.77	324	P	P	21 15 50.7	+0.7
	comp=Z,1.8nm,0.7s,baz=154,slow=6.1,SNR=13						
SONM				LR	LR	21 50 09.6	
	comp=Z,42nm,21.6s,baz=166,slow=34						
SONM	Songino Array	81.77	324	P	P	21 15 50.1	0.0
SONM				IAmb	IAmb	21 16 04.3	
	comp=Z,10nm,1.4s						
TNA	Tin City	81.83	10	P	P	21 15 49.2	-0.5
GTA	Gaotai	81.92	314	⇓P	P	21 15 52.7	+1.6
GTA				pP	PcP	21 15 58.8	+2.2
GTA				sP	sP	21 16 05.3	-2.1
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BILL	Bilibino	82.06	360	P	P	21 15 50.8	-0.1
SHL	Shillong	82.84	299	P	P	21 15 56.2	0.0
SHL				IAmb	IAmb	21 16 13.2	
	comp=Z,8.9nm,1.1s						
CAST	Castle Rocks	83.70	17	P	P	21 15 59.1	-0.5
CAST				IAmb	IAmb	21 16 00.3	
	comp=Z,7.1nm,0.8s						
KTH	Kantishna Hill	84.14	18	P	P	21 16 00.8	-1.1
KTH				IAmb	IAmb	21 16 02.4	
	comp=Z,6.0nm,0.9s						
RND	Reindeer	84.66	18	P	P	21 16 03.8	-0.7
RND				IAmb	IAmb	21 16 05.6	
	comp=Z,8.8nm,1.0s						
MCK	McKinley	84.87	18	P	P	21 16 05.2	-0.3
MCK				IAmb	IAmb	21 16 09.6	
	comp=Z,11nm,1.1s						
I21K	Tanana	85.09	16	P	P	21 16 07.4	+0.9
H21K	Melozitna Rive	85.24	16	P	P	21 16 07.5	+0.2
H21K				IAmb	IAmb	21 16 08.9	
	comp=Z,5.1nm,0.9s						
IMAR	Indian Mountai	85.25	15	P	P	21 16 07.9	+0.6
YBH	Yreka Blue Hor	85.48	45	LR	LR	21 45 27.5	
	comp=Z,50nm,21.0s,baz=244,slow=29						
WRH	Wood River Hil	85.67	18	P	P	21 16 08.9	-0.5
WRH				IAmb	IAmb	21 16 10.2	
	comp=Z,7.3nm,1.0s						
HDA	Harding Lake	85.97	18	P	P	21 16 10.2	-0.7
MDM	Murphy Dome	85.98	18	P	P	21 16 10.2	-0.8
IL31		86.24	18	P	P	21 16 10.0	-2.2
IL31				IAmb	IAmb	21 16 13.0	
	comp=Z,4.1nm,0.8s						
ILAR	Eielson Array	86.24	18	P	P	21 16 11.4	-0.9
	comp=Z,3.0nm,0.6s,baz=239,slow=5.2,SNR=36						
ILAR				LR	LR	21 50 39.5	
	comp=Z,117nm,19.0s,baz=248,slow=33						
J25K	Salcha River,	86.60	19	P	P	21 16 12.7	-1.4
SCRK	Sand Creek	86.60	20	P	P	21 16 14.4	+0.2
SCRK				IAmb	IAmb	21 16 38.3	
	comp=Z,5.0nm,1.1s						
OZB	Mount Ozzard	86.71	38	P	P	21 16 14.9	0.0
PFO	Pinyon Flats O	87.18	54	LR	LR	21 49 49.2	
	comp=Z,132nm,18.1s,baz=242,slow=32						
BELA	Belgrano 2	87.25	176	P	P	21 16 16.8	-0.3
BELA				IAmb	IAmb	21 16 18.0	
	comp=Z,5.3nm,0.8s						
NVAR	Mina Array Bea	87.39	49	LR	LR	21 48 06.6	
	comp=Z,211nm,20.0s,baz=254,slow=30						
TIXI	Tiksi	89.39	349	P	P	21 16 26.6	-0.5
	comp=Z,3.0nm,0.9s,baz=296,slow=5.4,SNR=16						
TIXI	Tiksi	89.39	349	P	P	21 16 25.7	-1.5
TIXI				IAmb	IAmb	21 16 27.5	
	comp=Z,5.9nm,1.1s						
LPIG	La Paz	89.51	65	LR	LR	21 52 30.5	
	comp=Z,33nm,18.6s,baz=26,slow=33						
ELK	Elko	90.39	48	LR	LR	21 51 53.5	
	comp=Z,79nm,18.7s,baz=248,slow=32						
NEW	Newport	91.56	40	LR	LR	21 52 17.7	
	comp=Z,42nm,18.8s,baz=176,slow=32						
WMQ	Urumqi	91.99	315	*e*P	P	21 16 42.0	+2.0
INK	Inuvik	92.61	19	LR	LR	21 53 17.2	
	comp=Z,96nm,19.8s,baz=200,slow=32						
TROLL	Troll, Antarti	93.29	185	P	P	21 16 45.6	-0.1
SNAA	Sanae	94.00	183	P	P	21 16 48.5	-0.4
VNA3	Neumayer Olymp	94.69	181	P	P	21 16 51.8	-0.1
VNA2	Neumayer--Watz	94.94	182	P	P	21 16 52.7	-0.4
	baz=167,slow=4.0						
PDAR	Pinedale Array	95.04	47	LR	LR	21 56 24.0	
	comp=Z,42nm,18.1s,baz=290,slow=33						
ANMO	Albuquerque	95.50	55	LR	LR	21 52 26.5	
	comp=Z,89nm,20.4s,baz=260,slow=31						
MK31	Makanchi Array	96.46	317	P	P	21 16 58.7	-1.7
MKAR	Makanchi Array	96.46	317	P	P	21 17 00.6	+0.2
	comp=Z,2.0nm,0.8s,baz=102,slow=6.2,SNR=9.6						
MKAR	Makanchi Array	96.46	317	P	P	21 16 58.8	-1.6
TXAR	Lajitas Array	96.55	62	LR	LR	21 53 09.9	
	comp=Z,50nm,19.9s,baz=254,slow=31						
ZALV	Zalesovo Beam	96.67	324	P	P	21 17 00.5	-0.6
	comp=Z,1.8nm,0.7s,baz=120,slow=5.4,SNR=8.5						
ZALV				LR	LR	22 02 27.2	
	comp=Z,17nm,18.0s,baz=82,slow=36						
ZALV	Zalesovo Beam	96.67	324	P	P	21 16 59.7	-1.4
MAKZ	Makanchi	96.68	316	P	P	21 17 01.9	+0.5
YKA	Yellowknife Ar	97.38	27	P	P	21 17 02.6	-1.6
	comp=Z,0.3nm,0.8s,baz=257,slow=4.5,SNR=4.7						
NRIK	Noril'sk	99.42	339	P	Pdif	21 17 11.2	-1.9
	comp=Z,1.4nm,0.5s,baz=117,slow=7.0,SNR=3.8						
NRIK	Noril'sk	99.42	339	IAmb	IAmb	21 17 13.7	
	comp=Z,3.6nm,0.9s						
KURBB	Kurchatov Arra	99.71	320	LR	LR	22 04 38.7	
	comp=Z,35nm,18.6s,baz=111,slow=37						
FRB	Frobisher Bay	117.71	24	PKP	PKPdf	21 22 15.4	-1.2
	comp=Z,1.8nm,0.7s,baz=34,slow=3.3,SNR=3.7						
ARCES	ARCESS Array B	119.64	345	PKP	PKPdf	21 22 19.7	-0.6
	comp=Z,3.1nm,0.7s,baz=61,slow=2.0,SNR=16						
ARCES	ARCESS Array B	119.64	345		PKPdf	21 22 20.0	-0.3
KBZ	Khabaz	124.01	313	PKP	PKiKP	21 22 29.9	+0.2
	comp=Z,1.0nm,0.7s,baz=89,slow=2.4,SNR=2.5						
FINES	FINESS Array B	125.06	338	PKP	PKPdf	21 22 30.4	-0.4
	comp=Z,2.2nm,0.9s,baz=10,slow=4.3,SNR=7.5						
FINES	FINESS Array B	125.06	338		PKPdf	21 22 30.6	-0.3
NB2	NORSAR Subarra	130.01	345	PKP	PKPdf	21 22 40.4	0.0
	comp=Z,0.6nm,0.6s,baz=42,slow=2.6						
NOA	NORSAR Array B	130.01	345	PKP	PKPdf	21 22 40.5	0.0
	comp=Z,0.7nm,0.6s,baz=31,slow=2.0,SNR=5.9						
AKASG	Malin Array Be	130.02	326	PKP	PKPdf	21 22 40.4	-0.3
	comp=Z,0.3nm,0.3s,baz=67,slow=2.2,SNR=6.2						
AKASG	Malin Array Be	130.02	326	PKPdf	PKPdf	21 22 39.8	-0.9
BDFB	Brasilia	134.63	130	PKP	PKPdf	21 22 50.2	-0.4
	comp=Z,2.1nm,0.6s,baz=155,slow=3.0,SNR=5.7						
BDFB	Brasilia	134.63	130	PKPdf	PKPdf	21 22 49.1	-1.5
CRVS	Cervenica-Dubn	135.18	328	*e*PKP	PKPdf	21 22 50.2	-0.3
OSTC	Ostas	136.59	333	*e*PKPDF	PKPdf	21 22 53.7	+0.6
KRLC	Kraliky	136.68	332	*e*PKPDF	PKiKP	21 22 54.4	-0.7
VYHS	Vyhne	136.77	329	*e*PKP	PKiKP	21 22 55.5	+0.2
CLL	Collm	137.38	336	Lm	MLR	22 24 00.0	
	comp=Z,100nm,18.3s						
CLL	Collm	137.38	336	*e*PKPdf	PKPdf	21 22 54.0	-0.5
CLL	Collm	137.38	336	*e*PKiKP	PKiKP	21 22 57.0	+0.6
CLL	Collm	137.38	336	*e*x	x	21 23 18.0	
CKRC	Cesky Krumlov	138.70	332	*e*PKPDF	PKiKP	21 23 00.0	+0.8
KHC	Kasperske Hory	138.80	333	*e*PKPDF	PKiKP	21 23 00.2	+0.8
GERES	GERESS Array B	138.96	333	PKP	PKPdf	21 22 57.1	-0.5
	comp=Z,0.2nm,0.3s,baz=54,slow=1.7,SNR=3.9						
TIP	Timpagrande	143.71	319	PKPdf	PKPbc	21 23 03.8	-0.2
BNI	Bardonecchia	144.92	335	PKPdf	PKPab	21 23 06.5	-1.1
SSB	Saint Sauveur	145.57	337	PKPdf	PKPab	21 23 10.2	+0.3
KEST	Kesra	150.48	320	PKPbc	PKPbc	21 23 23.2	0.0
	comp=Z,4.1nm,0.7s,baz=67,slow=1.6,SNR=7.8						
ESDC	Sonseca Array	153.37	344	PKPbc	PKPbc	21 23 29.0	-0.6
	comp=Z,1.5nm,0.9s,baz=6.6,slow=2.4,SNR=5.7						
ESDC	Sonseca Array	153.37	344	PKPbc	PKiKP	21 23 30.0	+0.3
TORD	Torodi Ar. Bea	165.37	268	PKP	PKPdf	21 23 36.2	-0.2
	comp=Z,0.6nm,0.7s,baz=87,slow=0.5,SNR=3.4						
TORD				PKPab	PKPab	21 24 34.4	-0.1
	comp=Z,1.6nm,1.1s,baz=94,slow=4.1,SNR=5.4						
TORD	Torodi Ar. Bea	165.37	268		PKPab	21 24 34.5	+0.1

*IDC **04** 21:05:47.8±0.7, 3.°03S×129.°54E, h0km, mb4.0/11, mb1 4.2/14, mb1mx3.8/57, mbtmp4.0/14, ML4.2/3, Error ellipse: s-maj=32.2km s-min=15.1km az=79.0*
*DJA **04** 21:05:51.5±0.3, 3°S±3°×13°0E±°, h10km, M4.2/14, mb4.5/7, mB4.8/5, MLv4.1/14, Mw(mB)4.0/5*
*NEIC **04** 21:05:53.8±2.0, 2.°97S±0.°06×129.°63E±0.°04, h37km±8km, mb4.2/16, Error ellipse: s-maj=9.8km s-min=4.9km az=149.0*
ISC 04 21:05:52.6±0.5**, 2.°91S**±0.°04×**129.°59E**±0.°05**, h28km, n72, σ1.s71**/76**, mb4.2**/19**, 1D, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.79	237	P	Pb	21 06 06.3	-1.4
MSAI				S	Sn	21 06 20.5	+1.8
AAI	Ambon	1.59	241	P	Pn	21 06 19.8	+0.9
BNDI	Bandanaira	1.63	169	P	Pb	21 06 22.4	+0.4
SIJI	Sorong	2.63	40	Pn	Pn	21 06 32.5	-0.8
	44nm,0.3s,baz=256,slow=22,SNR=143						
SIJI				Sn	Sn	21 07 04.7	+0.4
	27nm,0.3s,baz=231,slow=12,SNR=4.4						
SWI	Sorong	2.63	39	P	Pn	21 06 32.8	-0.5
LBMI	Labuha	3.08	317	P	Pn	21 06 38.8	-0.5
SANI	Sanana	3.70	283	P	Pn	21 06 46.4	-1.5
SANI	Sanana	3.70	283	P	Pn	21 06 46.6	-1.3
TNTI	Ternate	4.28	329	Pn	Pn	21 06 55.3	-0.6
TNTI	Ternate	4.28	329	P	Pn	21 06 54.4	-1.5
SAUI	Saumlaki	5.32	161	Pn	Pn	21 07 09.8	-0.4
KMSI	Cibinong	6.59	302	P	Pn	21 07 27.4	-0.3
	0.4nm1µm54nm,0.6s						
BAKI	Biak	6.74	75	P	Pn	21 07 29.6	-0.1
	56nm,0.8s						
LUWI	Luwuk	7.06	285	Pn	Pn	21 07 34.1	-0.1
BBSI	Bau Bau	7.45	250	P	Pn	21 07 42.0	+2.5
	0.0nm72nm3.3nm,0.8s						
GTOI	Gorontalo	7.46	298	P	Pn	21 07 41.5	+1.9
APSI	Ampana	8.18	284	P	Pn	21 07 49.7	+0.2
MRSI	Marisa	8.35	294	P	Pn	21 07 50.2	-1.7
	707nm25nm,0.4s						
BATI	Baumata	9.33	219	Pn	Pn	21 08 08.8	+3.4
	1.5nm,0.3s,baz=0.0,slow=1.0,SNR=4.6						
BSSI	Bau Bau, Buton	9.62	250	P	Pn	21 08 23.2	+14
TOLI2	Tolitoli	9.67	294	Pn	Pn	21 08 09.0	-1.0
TOLI2	Tolitoli	9.67	294	P	Pn	21 08 09.8	-0.1
BKSI	Bulukumba	9.74	255	P	Pn	21 08 12.5	+1.6
	12nm,1.3s						
MTN	Manton Dam	9.98	171	Pn	Pn	21 08 13.5	-0.7
MTN	Manton Dam	9.98	171	P	Pn	21 08 14.3	0.0
KAPI	Kappang	10.03	258	Pn	Pn	21 08 19.0	+4.1
	1.6nm,0.3s,baz=316,slow=3.5,SNR=8.1						
KAPI	Kappang	10.03	258	Pn	Pn	21 08 18.2	+3.3
KNRA	Kununurra	12.71	184	Pn	Pn	21 08 50.0	-1.6
KNRA	Kununurra	12.71	184	P	Pn	21 08 51.5	-0.1
FITZ	Fitzroy Crossi	15.58	194	Pn	Pn	21 09 28.6	-1.8
	0.5nm,0.3s,baz=35,slow=12,SNR=15						
FITZ				Sn	Sn	21 12 27.2	+5.0
	0.1nm,0.3s,baz=73,slow=17,SNR=1.4						
FITZ	Fitzroy Crossi	15.58	194	Pn	Pn	21 09 27.8	-2.6
COEN	Coen	17.34	130		Pn	21 09 52.7	-0.1
COEN				IAmb	IAmb	21 09 53.3	
	comp=Z,20nm,1.1s						
COEN	Coen	17.34	130	P	P	21 09 56.2	+2.3
	comp=Z,14nm,1.2s						
WRA	Warramunga Arr	17.55	165	P	Pn	21 09 51.7	-3.6
	comp=Z,0.8nm,0.3s,baz=346,slow=12,SNR=31						
WRA				S	Sn	21 13 11.9	+1.8
	comp=Z,0.1nm,0.3s,baz=332,slow=23,SNR=2.9						
KSM	Kuching	19.76	282	P	P	21 10 20.7	+0.1
KSM				IAmb	IAmb	21 10 22.9	
	comp=Z,7.0nm,0.9s						
QIS	Mount Isa	20.07	152	P	P	21 10 22.9	-1.1
AS31	Alice Springs	21.05	169	P	P	21 10 32.5	-2.0
AS31				IAmb	IAmb	21 10 37.4	
	comp=Z,8.6nm,0.8s						
ASAR	Alice Springs	21.05	169	P	P	21 10 33.2	-1.3
	comp=Z,21nm,0.7s,baz=350,slow=10,SNR=56						
ASAR				S	S	21 14 25.6	-2.1
	comp=Z,2.4nm,0.8s,baz=348,slow=22,SNR=9.3						
ASAR	Alice Springs	21.05	169	P	P	21 10 32.3	-2.3
WRKA	Warakurna	22.03	183	P	P	21 10 42.9	-2.2
	baz=38,SNR=74						
KULM	Kulim	30.03	286	P	P	21 11 58.4	-1.1
BBOO	Buckleboo	30.36	169	P	P	21 12 00.1	-1.9
STKA	Stephens Creek	30.95	160	P	P	21 12 06.3	-1.1
	comp=Z,2.0nm,0.9s,baz=11,slow=12,SNR=1.9						
STKA	Stephens Creek	30.95	160	P	P	21 12 07.1	-0.3
GSI	Gunungsitoli	32.27	277	P	P	21 12 18.9	-0.3
CMAR	Chiang Mai Arr	36.90	306	P	P	21 12 58.3	-0.9
	comp=Z,0.2nm,0.6s,baz=135,slow=6.6,SNR=3.4						
CMAR	Chiang Mai Arr	36.90	306	P	P	21 12 59.2	0.0
CHTO	Chiang Mai	37.09	307	P	P	21 13 00.9	+0.1
CHTO				IAmb	IAmb	21 13 06.0	
	comp=Z,4.0nm,1.0s						
KMI	Kunming	38.15	318	⇓P	P	21 13 14.7	+4.8
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PZH	PanZhiHua	39.74	319	P	P	21 13 21.1	-2.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
HHC	Hu-ho-hao-te	46.56	341	*e*P	P	21 14 20.9	+2.8
SONM	Songino Array	54.47	341	P	P	21 15 18.7	+1.1
	comp=Z,0.2nm,0.4s,baz=168,slow=8.2,SNR=3.8						
SONM	Songino Array	54.47	341	P	P	21 15 18.8	+1.1
WMQ	Urumqi	59.78	326	*e*P	P	21 15 57.2	+1.9
PETK	Petropavlovsk-	60.61	19	P	P	21 16 01.3	+0.6
	comp=Z,3.1nm,0.7s,baz=191,slow=5.9,SNR=3.6						
PETK	Petropavlovsk-	60.61	19	P	P	21 16 01.4	+0.7
MK31	Makanchi Array	64.61	326	P	P	21 16 27.8	+0.1
MK31				IAmb	IAmb	21 16 33.0	
	comp=Z,2.2nm,1.3s						
MKAR	Makanchi Array	64.61	326	P	P	21 16 27.6	0.0
	comp=Z,0.5nm,0.6s,baz=114,slow=7.5,SNR=12						
MKAR	Makanchi Array	64.61	326	P	P	21 16 27.1	-0.5
YAK	Yakutsk	64.77	0	P	P	21 16 28.5	+0.3
	comp=Z,10nm,0.4s,baz=83,slow=1.6,SNR=2.5						
MAKZ	Makanchi	64.80	326	P	P	21 16 28.2	-0.6
ZAA0	Zalesovo Array	67.77	333	P	P	21 16 49.0	+1.4
ZAA0				IAmb	IAmb	21 17 00.8	
	comp=Z,3.1nm,0.9s						
ZALV	Zalesovo Beam	67.77	333	P	P	21 16 47.8	+0.2
	comp=Z,0.5nm,0.4s,baz=87,slow=8.2,SNR=5.3						
ZALV	Zalesovo Beam	67.77	333	P	P	21 16 47.3	-0.4
SEY	Seymchan	67.89	11	P	P	21 16 49.0	+0.8
	comp=Z,2.6nm,0.8s,baz=185,slow=5.9,SNR=4.7						
KURBB	Kurchatov Arra	68.84	328	P	P	21 16 54.2	-0.2
	comp=Z,1.0nm,0.5s,baz=126,slow=5.7,SNR=12						
KURK	Kurchatov	68.85	328	P	P	21 16 54.5	+0.1
TIXI	Tiksi	74.43	360	P	P	21 17 28.1	+0.5
TIXI				IAmb	IAmb	21 17 43.5	
	comp=Z,4.9nm,1.5s						
VNDA	Vanda	76.53	173	P	P	21 17 37.7	-2.0
	comp=Z,0.4nm,0.7s,baz=335,slow=7.6,SNR=1.4						
VNDA	Vanda	76.53	173	P	P	21 17 37.5	-2.1
VNDA				IAmb	IAmb	21 17 50.0	
	comp=Z,1.9nm,1.0s						
ABKAR	Akbulak array	79.08	321	P	P	21 17 53.8	-0.6
QSPA	South Pole Qui	87.04	180	P	P	21 18 34.7	-0.7
	comp=Z,1.0nm,0.9s,baz=67,slow=6.8,SNR=1.6						

*IDC **04** 21:10:22.7±0.6, 2.°95S×129.°66E, h0km, mb4.3/18, mb1 4.4/23, mb1mx4.2/50, mbtmp4.3/23, ML4.2/5, MS3.7/6, Ms1 3.7/6, ms1mx3.1/71, Error ellipse: s-maj=17.0km s-min=12.6km az=71.0*
*DJA **04** 21:10:26.8±0.9, 3°S±2°×13°0E±°, h27km±9km, M4.5/21, mB5.2/10, mb4.6/21, MLv4.4/12, Mw(mB)4.6/10*
*NEIC **04** 21:10:27.4±1.9, 2.°92S±0.°07×129.°63E±0.°08, h30km±5km, mb4.4/30, Error ellipse: s-maj=12.2km s-min=9.0km az=69.0*
ISC 04 21:10:26.5±0.4**, 2.°95S**±0.°04×**129.°66E**±0.°05**, h28km, n121, σ1.s09**/122**, mb4.4**/38**, MS3.6**/4**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.83	242	P	Pn	21 10 41.6	-0.8
MSAI				S	Sn	21 10 56.3	+2.6
AAI	Ambon	1.64	244	P	Pn	21 10 54.6	+1.1
SIJI	Sorong	2.62	38	Pn	Pn	21 11 07.0	0.0
	57nm,0.3s,baz=266,slow=23,SNR=60						
SIJI				Sn	Sn	21 11 38.4	+0.6
	49nm,0.3s,baz=198,slow=7.2,SNR=4.4						
SWI	Sorong	2.62	38	P	Pn	21 11 06.8	-0.2
LBMI	Labuha	3.16	317	P	Pn	21 11 13.8	-0.6
SANI	Sanana	3.78	284	P	Pn	21 11 21.8	-1.1
TNTI	Ternate	4.35	328	Pn	Pn	21 11 30.3	-0.6
TNTI	Ternate	4.35	328	P	Pn	21 11 30.1	-0.8
SAUI	Saumlaki	5.25	162	Pn	Pn	21 11 45.9	+2.6
SAUI	Saumlaki	5.25	162	P	Pn	21 11 45.5	+2.2
	1.0nm6µm216nm,0.8s						
BAKI	Biak	6.67	75	P	Pn	21 12 03.7	+0.9
	0.4nm82nm,0.9s						
KMSI	Cibinong	6.67	302	P	Pn	21 12 01.8	-1.0
	0.9nm2µm119nm,0.6s						
LUWI	Luwuk	7.14	285	Pn	Pn	21 12 08.7	-0.5
BBSI	Bau Bau	7.51	250	P	Pn	21 12 15.4	+1.2
	0.0nm83nm8.0nm,1.0s						
APSI	Ampana	8.26	284	P	Pn	21 12 23.3	-1.3
	1µm94nm,0.5s						
MRSI	Marisa	8.44	294	P	Pn	21 12 25.7	-1.3
	729nm58nm,0.5s						
BATI	Baumata	9.35	219	Pn	Pn	21 12 44.6	+5.1
	2.2nm,0.3s,baz=186,slow=0.9,SNR=5.7						
BATI				LR	LR	21 16 23.0	
	comp=Z,726nm,21.4s,baz=38,slow=38						
BATI	Baumata	9.35	219	P	Pn	21 12 41.0	+1.5
	25nm,1.1s						
BSSI	Bau Bau, Buton	9.68	251	P	Pn	21 12 46.2	+2.2
	33nm,1.0s						
TOLI2	Tolitoli	9.75	294		Pn	21 12 44.0	-1.0
BKSI	Bulukumba	9.80	256	P	Pn	21 12 46.6	+0.9
	27nm,1.2s						
SPSI	Sidrap Palu	9.93	264	P	Pn	21 12 48.0	+0.6
	26nm,0.8s						
MTN	Manton Dam	9.93	172	P	Pn	21 12 49.6	+2.1
	baz=10.0,SNR=10						
MTN	Manton Dam	9.93	172	Pn	Pn	21 12 48.9	+1.4
KDU	Kakadu	10.06	164	P	Pn	21 12 49.3	+0.1
	baz=10,SNR=17						
KAPI	Kappang	10.10	258	Pn	Pn	21 12 50.9	+1.1
	1.6nm,0.3s,baz=67,slow=6.0,SNR=18						
KAPI				LR	LR	21 17 35.1	
	comp=Z,320nm,21.9s,baz=71,slow=43						
KAPI	Kappang	10.10	258	Pn	Pn	21 12 51.6	+1.9
MPSI	Mapaga	10.29	288	P	Pn	21 12 53.0	+0.6
	18nm,1.0s						
JAY	Jayapura	11.04	88	Pn	Pn	21 13 02.2	-0.5

	0.3nm,0.3s,baz=216,slow=8.4,SNR=2.1						
KNRA	**Kununurra**	**12.68**	**184**	P	**Pn**	**21 13 26.0**	**+1.0**
	baz=13,SNR=16						
KNRA	**Kununurra**	**12.68**	**184**	Pn	**Pn**	**21 13 25.5**	**+0.5**
BBKI	**Banjar Baru**	**14.81**	**268**	P	**Pn**	**21 13 56.1**	**+1.9**
	19nm,1.7s						
FITZ	**Fitzroy Crossi**	**15.56**	**194**	Pn	**Pn**	**21 14 04.3**	**+0.3**
	0.7nm,0.3s,baz=34,slow=9.0,SNR=12						
FITZ				Sn	**Sn**	**21 16 53.9**	**-1.8**
	baz=213,slow=21,SNR=1.2						
JAGI	**Jajag, Banyuwa**	**16.37**	**250**	Pn	**Pn**	**21 14 14.9**	**+0.4**
JAGI				IAmb	IAmb	21 14 22.8	
	comp=Z,34nm,1.1s						
COEN	**Coen**	**17.25**	**130**	Pn	**Pn**	**21 14 25.6**	**-0.1**
COEN				IAmb	IAmb	21 14 46.9	
	comp=Z,34nm,1.3s						
WB0	**Warramunga Arr**	**17.34**	**165**	Pn	**Pn**	**21 14 25.9**	**-0.7**
WRAB	**Tennant Creek**	**17.49**	**165**	Pn	**Pn**	**21 14 27.3**	**-1.2**
WRA	**Warramunga Arr**	**17.49**	**165**	P	**Pn**	**21 14 26.6**	**-1.9**
	comp=Z,2.2nm,0.3s,baz=347,slow=13,SNR=28						
WRA				S	**Sn**	**21 17 43.8**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=340,slow=21,SNR=6.8						
WRA	**Warramunga Arr**	**17.49**	**165**	Pn	**Pn**	**21 14 26.7**	**-1.9**
WB2	**Warramunga Arr**	**17.50**	**165**	Pn	**Pn**	**21 14 27.5**	**-1.1**
WB2				IAmb	IAmb	21 14 35.9	
	comp=Z,12nm,0.5s						
WR0	**Warramunga Arr**	**17.56**	**165**	Pn	**Pn**	**21 14 29.2**	**-0.2**
SBUM	**Sibu**	**18.24**	**287**		**P**	**21 14 38.8**	**+0.9**
SBUM				IAmb	IAmb	21 14 41.2	
	comp=Z,18nm,1.1s						
KSM	**Kuching**	**19.84**	**283**	P	**Pn**	**21 14 56.1**	**-1.1**
KSM				IAmb	IAmb	21 14 57.5	
	comp=Z,15nm,0.8s						
QIS	**Mount Isa**	**20.00**	**152**	P	**P**	**21 14 57.8**	**+0.7**
	baz=20,SNR=20						
PSA00	**Pilbara Seismi**	**20.82**	**207**	P	**P**	**21 15 05.9**	**-0.1**
PSA00				IAmb	IAmb	21 15 08.7	
	comp=Z,28nm,1.3s						
MTSU	**Mount Surprise**	**20.83**	**137**	P	**P**	**21 15 06.8**	**+0.6**
	baz=21,SNR=6.5						
AS31	**Alice Springs**	**21.00**	**169**	P	**P**	**21 15 07.0**	**-0.8**
ASAR	**Alice Springs**	**21.00**	**169**	P	**P**	**21 15 07.8**	**-0.1**
	comp=Z,56nm,0.7s,baz=348,slow=11,SNR=114						
ASAR				S	**S**	**21 18 57.5**	**-3.0**
	comp=Z,6.3nm,0.8s,baz=348,slow=22,SNR=12						
ASAR	**Alice Springs**	**21.00**	**169**	P	**P**	**21 15 07.6**	**-0.3**
WRKA	**Warakurna**	**22.00**	**183**	P	**P**	**21 15 17.7**	**-0.9**
	baz=22,SNR=88						
LEM	**Lembang**	**22.30**	**259**	P	**P**	**21 15 21.1**	**-1.0**
	comp=Z,7.0nm,0.3s,baz=342,slow=22,SNR=1.8						
LEM				LR	LR	21 25 45.1	
	comp=Z,225nm,18.4s,baz=75,slow=41						
CTA	**Charters Tower**	**23.50**	**138**	P	**P**	**21 15 35.2**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=344,slow=14,SNR=2.0						
PPBI	**Pangkal Pinang**	**23.52**	**271**	P	**P**	**21 15 35.5**	**+1.0**
	comp=Z,3µmcomp=Z,19nm,1.1s						
MEEK	**Meekatharra**	**25.82**	**203**	P	**P**	**21 15 53.8**	**-1.8**
	baz=26,SNR=5.6						
FORT	**Forrest**	**27.72**	**183**	P	**P**	**21 16 10.9**	**-1.6**
MORW	**Morawa**	**29.02**	**205**	P	**P**	**21 16 23.1**	**-1.2**
JOW	**Kunigami**	**29.64**	**357**	LR	LR	21 27 51.3	
	comp=Z,74nm,21.2s,baz=132,slow=35						
BBOO	**Buckleboo**	**30.30**	**169**	P	**P**	**21 16 35.6**	**+0.1**
	baz=30,SNR=4.8						
BBOO	**Buckleboo**	**30.30**	**169**	P	**P**	**21 16 35.1**	**-0.4**
BBOO				IAmb	IAmb	21 16 46.1	
	comp=Z,7.5nm,0.8s						
HNR	**Honiara**	**30.77**	**103**	P	**P**	**21 16 40.1**	**+0.2**
	comp=Z,84nm,0.4s,baz=258,slow=14,SNR=2.1						
STKA	**Stephens Creek**	**30.89**	**160**	P	**P**	**21 16 41.4**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=328,slow=8.2,SNR=6.1						
STKA	**Stephens Creek**	**30.89**	**160**	P	**P**	**21 16 41.3**	**+0.6**
	baz=31,SNR=6.8						
STKA	**Stephens Creek**	**30.89**	**160**	P	**P**	**21 16 41.0**	**+0.3**
RPSI	**Rantau Prapat**	**31.23**	**280**	P	**P**	**21 16 43.9**	**-0.1**
PSI	**Prapat**	**31.25**	**280**	P	**P**	**21 16 43.9**	**-0.5**
	comp=Z,4.1nm,0.5s,baz=124,slow=5.0,SNR=6.0						
GSI	**Gunungsitoli**	**32.35**	**277**	P	**P**	**21 16 53.4**	**-0.5**
CM31	**Chiang Mai Arr**	**36.98**	**306**	P	**P**	**21 17 34.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**36.98**	**306**	P	**P**	**21 17 34.5**	**+0.7**
	comp=Z,5.8nm,1.1s,baz=133,slow=6.5,SNR=12						
CMAR	**Chiang Mai Arr**	**36.98**	**306**	P	**P**	**21 17 33.5**	**-0.3**
JHJ	**Hachijo jima 2**	**37.13**	**14**	LR	LR	21 31 14.9	
	comp=Z,103nm,18.2s,baz=80,slow=34						
CHTO	**Chiang Mai**	**37.17**	**307**	P	**P**	**21 17 35.5**	**+0.1**
CHTO				IAmb	IAmb	21 17 44.2	
	comp=Z,8.9nm,1.0s						
MJAR	**Matsushiro Arr**	**40.09**	**11**	P	**P**	**21 17 58.5**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=191,slow=18,SNR=5.2						
MJAR	**Matsushiro Arr**	**40.09**	**11**	P	**P**	**21 17 58.8**	**-0.9**
MAJO	**Matsushiro**	**40.09**	**11**	P	**P**	**21 17 59.0**	**-0.7**
MJB9	**Matsu-Tunnel**	**40.10**	**11**	P	**P**	**21 17 59.0**	**-0.8**
MJB9				IAmb	IAmb	21 18 10.3	
	comp=Z,19nm,1.4s						
HHC	**Hu-ho-hao-te**	**46.62**	**341**	*e*P	**P**	**21 18 55.2**	**+2.7**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,68nm,4.7s						
USRK	**Ussuriysk Ar.**	**46.99**	**2**	P	**P**	**21 18 55.3**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=179,slow=7.6,SNR=2.8						
GTA	**Gaotai**	**50.31**	**330**	*e*P	**P**	**21 19 21.2**	**+0.3**
GTA				pP	pP	21 19 26.3	-3.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ODAN	**Odare**	**50.42**	**309**	*e*P	**P**	**21 19 22.3**	**+0.2**
	comp=Z,3.6nm,0.4s						
RAMN	**Ramite**	**51.08**	**308**	*e*P	**P**	**21 19 27.8**	**+0.7**
	comp=Z,9.8nm,0.4s						
JIRN	**Jiri**	**51.74**	**309**	*e*P	**P**	**21 19 30.5**	**-1.7**
	comp=Z,6.5nm,0.7s						
KLR	**Kul'dur**	**52.01**	**2**	P	**P**	**21 19 33.5**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=188,slow=6.4,SNR=5.5						
GUN	**Gumba**	**52.10**	**309**	*e*P	**P**	**21 19 33.0**	**-1.9**
	comp=Z,5.7nm,0.5s						
PKI	**Pulchoki**	**52.31**	**308**	*e*P	**P**	**21 19 36.1**	**-0.3**
KKN	**Kakani**	**52.51**	**309**	*e*P	**P**	**21 19 36.3**	**-1.5**
DMN	**Daman**	**52.56**	**308**	*e*P	**P**	**21 19 37.6**	**-0.6**
	comp=Z,4.1nm,0.5s						
GKN	**Gorkha**	**53.11**	**309**	*e*P	**P**	**21 19 41.5**	**-0.6**
	comp=Z,7.8nm,0.8s						
KOLN	**Koldanda**	**53.82**	**308**	*e*P	**P**	**21 19 47.3**	**-0.1**
	comp=Z,12nm,0.8s						
DANN	**Dangsing**	**53.96**	**308**	*e*P	**P**	**21 19 46.6**	**-1.9**
	comp=Z,11nm,0.7s						
ULN	**Ulaanbaatar**	**54.34**	**341**	P	**P**	**21 19 50.9**	**+0.1**
ULN				IAmb	IAmb	21 19 55.5	
	comp=Z,2.6nm,0.9s						
PYUN	**Piuthan**	**54.45**	**308**	*e*P	**P**	**21 19 51.6**	**-0.4**
	comp=Z,15nm,1.0s						
SONM	**Songino Array**	**54.53**	**341**	P	**P**	**21 19 52.7**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=153,slow=7.5,SNR=6.7						
SONM	**Songino Array**	**54.53**	**341**	P	**P**	**21 19 52.2**	**+0.1**
RPZ	**Rata Peaks**	**54.65**	**144**	LR	LR	21 43 29.9	
	comp=Z,81nm,18.1s,baz=332,slow=36						
WMQ	**Urumqi**	**59.86**	**326**	*e*P	**P**	**21 20 32.2**	**+2.4**
PETK	**Petropavlovsk-**	**60.62**	**19**	P	**P**	**21 20 36.0**	**+1.3**
	comp=Z,5.1nm,0.7s,baz=180,slow=3.0,SNR=5.8						
PETK	**Petropavlovsk-**	**60.62**	**19**	P	**P**	**21 20 35.8**	**+1.1**
MK31	**Makanchi Array**	**64.69**	**326**	P	**P**	**21 21 02.2**	**+0.2**
MK31				IAmb	IAmb	21 21 11.8	
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**64.69**	**326**	P	**P**	**21 21 02.3**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=118,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**64.69**	**326**	P	**P**	**21 21 02.7**	**+0.6**
YAK	**Yakutsk**	**64.81**	**0**	P	**P**	**21 21 03.1**	**+0.7**
	comp=Z,5.6nm,0.4s,baz=194,slow=0.5,SNR=7.1						
MAKZ	**Makanchi**	**64.87**	**326**	P	**P**	**21 21 03.0**	**-0.2**
MAKZ				IAmb	IAmb	21 21 07.0	
	comp=Z,2.5nm,1.1s						
AAK	**Ala-Archa**	**67.27**	**319**	P	**P**	**21 21 20.8**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=351,slow=2.5,SNR=2.1						
ZAA0	**Zalesovo Array**	**67.83**	**333**	P	**P**	**21 21 21.7**	**-0.3**
ZAA0				IAmb	IAmb	21 21 25.3	
	comp=Z,4.2nm,1.1s						
ZALV	**Zalesovo Beam**	**67.83**	**333**	P	**P**	**21 21 22.0**	**0.0**
	comp=Z,2.5nm,0.8s,baz=108,slow=4.8,SNR=8.6						
ZALV	**Zalesovo Beam**	**67.83**	**333**	P	**P**	**21 21 21.5**	**-0.5**
KURK	**Kurchatov**	**68.92**	**328**	P	**P**	**21 21 29.0**	**+0.2**
KKAR	**Karatay Array**	**70.11**	**318**	P	**P**	**21 21 36.8**	**+0.4**
TIXI	**Tiksi**	**74.47**	**360**	P	**P**	**21 22 01.0**	**-0.8**
TIXI				IAmb	IAmb	21 22 03.9	
	comp=Z,3.1nm,0.8s						
VNDA	**Vanda**	**76.48**	**173**	P	**P**	**21 22 13.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=312,slow=8.5,SNR=4.1						
VNDA	**Vanda**	**76.48**	**173**	P	**P**	**21 22 13.2**	**-0.1**
VNDA				IAmb	IAmb	21 22 24.8	
	comp=Z,3.5nm,1.1s						
NRIK	**Noril'sk**	**77.58**	**346**	P	**P**	**21 22 19.9**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=140,slow=7.9,SNR=2.3						
NRIK	**Noril'sk**	**77.58**	**346**	P	**P**	**21 22 19.9**	**+0.3**
NRIK				IAmb	IAmb	21 22 37.1	
	comp=Z,2.3nm,0.8s						
ABKAR	**Akbulak array**	**79.16**	**321**	P	**P**	**21 22 27.9**	**-0.8**
ILAR	**Eielson Array**	**89.85**	**25**	P	**P**	**21 23 22.7**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=228,slow=4.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**127.60**	**284**	PKP	**PKiKP**	**21 29 31.0**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=41,slow=1.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**127.60**	**284**		**PKiKP**	**21 29 30.0**	**-0.7**
CPUP	**Villa Florida**	**150.11**	**167**	PKPbc	**PKiKP**	**21 30 16.6**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=238,slow=2.4,SNR=6.8						
CPUP	**Villa Florida**	**150.11**	**167**		**PKiKP**	**21 30 16.1**	**-0.2**
LPAZ	**La Paz**	**154.02**	**138**	PKPbc	**PKiKP**	**21 30 26.4**	**+0.9**
	comp=Z,1.4nm,1.1s,baz=207,slow=6.8,SNR=2.0						
LPAZ	**La Paz**	**154.02**	**138**	PKPbc	**PKPbc**	**21 30 24.2**	**-1.2**

*FUNV **04** 21:13:58.3, 8.°83N×70.°94W, h5km, MW3.3*

ISC 04 21:13:59.0±1.0**, 8.°86N**±0.°03×**70.°85W**±0.°03**, h14**km±7km**,**
n22, σ**1.°52**/39**, 1C, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.21**	**84**⇑	*i*P	**Pg**	**21 14 03.4**	**-0.5**
SDV				*e*S	**Sg**	**21 14 08.0**	**+0.8**
SOCV	**Socops**	**0.58**	**181**	*e*P	**Pg**	**21 14 10.2**	**-0.2**
SOCV				*e*S	**Sb**	**21 14 19.3**	**+0.4**
SOCV	**Socops**	**0.58**	**181**	*e*S	**Sg**	**21 14 16.2**	**-1.8**
CURV	**Curarigua**	**1.44**	**37**	*e*P	**Pb**	**21 14 26.5**	**+0.8**
CURV				*e*S	**Sg**	**21 14 45.9**	**+0.5**
SANV	**Sanarito**	**1.44**	**64**	*e*P	**Pn**	**21 14 25.6**	**+0.9**
SANV				*e*S	**Sg**	**21 14 46.8**	**+1.3**
CAPV	**Capacho**	**1.76**	**236**	*e*S	**Sn**	**21 14 50.9**	**-0.7**
SIQV	**Siquisique**	**2.05**	**30**	*e*P	**Pn**	**21 14 33.8**	**+0.7**
SIQV				*e*S	**Sn**	**21 14 59.7**	**+1.2**
ELOV	**Elorza**	**2.29**	**144**	*e*P	**Pn**	**21 14 37.7**	**+1.3**
ELOV				*e*S	**Sb**	**21 15 09.5**	**+1.1**
ELOV	**Elorza**	**2.29**	**144**	*e*P	**Pn**	**21 14 36.9**	**+0.5**
ELOV				*e*S	**Sn**	**21 15 05.6**	**+1.1**
PAMC	**Pamplona, Colo**	**2.38**	**231**	*e*P	**Pn**	**21 14 39.7**	**+1.7**
PAMC				*e*S	**Sb**	**21 15 11.5**	**+0.1**
MAPV	**Macapo**	**2.55**	**68**	*e*P	**Pn**	**21 14 41.2**	**+1.2**
MAPV				*e*S	**Sn**	**21 15 12.6**	**+1.8**
TAMC	**Tame, Arauca**	**2.59**	**201**	*e*P	**Pn**	**21 14 42.1**	**+1.6**
CRJC	**Cerrejon, Guaj**	**2.93**	**317**	*e*P	**Pn**	**21 14 43.1**	**-2.2**
CRJC				*e*S	**Sn**	**21 15 17.1**	**-3.3**
CRJC				*i*		21 15 19.6	
	comp=Z,36nm,0.4s						
BARC	**Barichara**	**3.23**	**226**	*e*P	**Pb**	**21 14 57.7**	**+1.3**
BARC				*e*S	**Sb**	**21 15 38.4**	**+2.7**
BARC				*i*		21 15 44.0	
	comp=Z,24nm,0.4s						
BENV	**Beln**	**3.39**	**71**	*e*P	**Pn**	**21 14 52.4**	**+0.9**
BENV				*e*S	**Sn**	**21 15 31.9**	**+0.4**
ZARC	**Zaragoza, Cauc**	**4.20**	**251**	*e*P	**Pn**	**21 15 02.8**	**+0.1**
ZARC				*e*S	**Sn**	**21 15 51.1**	**-0.4**
PTBC	**PUERTO BERRIO,**	**4.26**	**237**	*e*P	**Pn**	**21 15 02.5**	**-1.0**
PTBC				*e*S	**Sn**	**21 15 52.5**	**-0.5**
CACV	**CAICARA DEL OR**	**4.46**	**107**	*e*P	**Pb**	**21 15 13.9**	**-3.1**
CACV				*e*S	**Sb**	**21 16 09.9**	**-0.8**
PAYV	**Puerto Ayacuch**	**4.66**	**137**	*e*P	**Pn**	**21 15 08.2**	**-0.9**
PAYV				*e*S	**Sn**	**21 15 59.9**	**-3.1**
UREC	**San Jos de Ur**	**4.77**	**257**	*e*P	**Pn**	**21 15 11.1**	**+0.6**
BIRV	**Birongo**	**4.79**	**70**	*e*P	**Pn**	**21 15 11.1**	**+0.4**
BIRV				*e*S	**Sn**	**21 16 04.4**	**-1.7**
GUY2C	**Guyana, Caldas**	**5.76**	**231**	*e*P	**Pn**	**21 15 26.6**	**+2.1**

*SFS **04** 21:17:46.0, 35.°63N×9.°95W, h30km, ML3.5, SW. CABO DE SAN VICENTE*

*MDD **04** 21:17:46.2±0.7, 35.°64N×9.°99W, h30km, mb_Lg3.5/28, Error ellipse: s-maj=5.5km s-min=4.1km az=77.0*

*CNRM **04** 21:17:47.8, 35.°11N×9.°62W, h0km, ml3.6*

*IGIL **04** 21:17:48.3, 35.°72N×9.°92W, h25km, ML3.0*

*INMG **04** 21:17:48.6±0.9, 35.°69N×9.°95W, h31km, ML2.8, Error ellipse: s-maj=3.9km s-min=3.0km az=90.0*

ISC 04 21:17:45.0±1.6**, 35.°65N**±0.°05×**9.°89W**±0.°07**, h35**km**, n71,**
σ**2.°06**/116**, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.71**	**30**	*e*Pn	**Pn**	**21 18 14.4**	**+2.2**
PFVI				*e*Sn	**Sn**	**21 18 33.8**	**+1.0**
PFVI				A	A	21 18 36.0	
	36nm,0.2s						
MORF	**Marmelete**	**1.93**	**31**	*e*P	**Pn**	**21 18 17.5**	**+2.2**
MORF				*e*S	**Sn**	**21 18 38.8**	**+0.4**
MORF				IAML		21 18 43.1	
	comp=E,110nm,0.3s						
MORF	**Marmelete**	**1.93**	**31**	*e*Pn	**Pn**	**21 18 17.5**	**+2.2**
MORF				*e*Sn	**Sn**	**21 18 39.1**	**+0.7**
MORF				A	A	21 18 39.4	
	comp=E,53nm,0.1s						
PTEO	**Sao Teotonio**	**2.11**	**26**	*e*Pn	**Pn**	**21 18 19.9**	**+2.2**
PTEO				*e*Sn	**Sn**	**21 18 43.8**	**+1.1**
PTEO				A	A	21 18 45.7	
	comp=E,100nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.24**	**44**	*e*Pn	**Pn**	**21 18 22.2**	**+2.6**
PBDV				*e*Sn	**Sn**	**21 18 47.1**	**+1.1**
PBDV				A	A	21 18 54.9	
	comp=E,21nm,0.5s						
PCVE	**Castro Verde**	**2.47**	**36**	*e*Pn	**Pn**	**21 18 25.3**	**+2.6**
PCVE				*e*Sn	**Sn**	**21 18 52.8**	**+1.1**
PCVE				A	A	21 18 54.0	
	comp=E,28nm,0.3s						
PVAQ	**Vaqueiros**	**2.47**	**44**	*e*Pn	**Pn**	**21 18 25.2**	**+2.5**
PVAQ				*e*Sn	**Sn**	**21 18 52.7**	**+1.0**
PVAQ				A	A	21 18 54.3	
	comp=E,50nm,0.1s						
PVAQ	**Vaqueiros**	**2.47**	**44**	P	**Pn**	**21 18 25.0**	**+2.3**
PNCL	**Nicolau / Gran**	**2.69**	**24**	*e*Pn	**Pn**	**21 18 28.0**	**+2.3**
PNCL				*e*Sn	**Sn**	**21 18 57.7**	**+0.8**
PNCL				A	A	21 19 00.6	
	comp=E,24nm,0.1s						
EGRO	**El Granado**	**2.70**	**45**	P	**Pn**	**21 18 28.0**	**+2.2**
EGRO				S	**Sn**	**21 18 58.1**	**+0.9**
EGRO				*i* Vmb_Lg		21 18 59.8	
PBEJ	**Beja**	**2.87**	**34**	*e*Pn	**Pn**	**21 18 30.4**	**+2.2**
PBEJ				*e*Sn	**Sn**	**21 19 01.6**	**+0.1**
PBEJ				A	A	21 19 04.9	
	comp=E,14nm,0.2s						
AVE	**Averroes**	**3.12**	**138**	P	**Pn**	**21 18 32.3**	**+0.7**
AVE				S	**Sn**	**21 19 07.0**	**-0.7**
AVE	**Averroes**	**3.12**	**138**	P	**Pn**	**21 18 33.3**	**+1.7**
PMST	**Lisbon--Monsan**	**3.13**	**10**	*e*Pn	**Pn**	**21 18 33.9**	**+2.1**
PMST				*e*Sn	**Sn**	**21 19 07.3**	**-0.6**
PMST				A	A	21 19 12.8	
	comp=E,38nm,0.5s						
PACT	**Alcochete**	**3.22**	**15**	*e*Pn	**Pn**	**21 18 35.2**	**+2.2**
PACT				*e*Sn	**Sn**	**21 19 11.2**	**+1.1**
EVO	**Evora**	**3.24**	**27**	P	Pn	21 18 41.4	+8.1
EVO				S	**Sn**	**21 19 09.5**	**-1.1**
EVO	**Evora**	**3.24**	**27**	*e*Pn	**Pn**	**21 18 35.3**	**+2.0**
EVO				*e*Sn	**Sn**	**21 19 10.6**	**-0.1**
EVO				A	A	21 19 12.3	
	comp=E,40nm,0.1s						
PMAFR	**Mafra**	**3.33**	**8**	*e*Pn	**Pn**	**21 18 36.2**	**+1.6**
PMAFR				*e*Sn	**Sn**	**21 19 12.3**	**-0.6**
PMAFR				A	A	21 19 16.0	
	comp=E,58nm,0.2s						
EMIN	**Mina Concepcio**	**3.34**	**50**	P	**Pn**	**21 18 37.3**	**+2.6**
EMIN				S	**Sn**	**21 19 12.7**	**-0.3**
EMIN				*i* Vmb_Lg		21 19 15.9	
PBAR	**Barrancos**	**3.40**	**41**	*e*Pn	**Pn**	**21 18 37.5**	**+2.0**
PBAR				*e*Sn	**Sn**	**21 19 15.3**	**+0.7**
PBAR				A	A	21 19 15.9	
	comp=E,14nm,0.4s						
ESPR	**Espera**	**3.48**	**68**	P	**Pn**	**21 18 38.7**	**+2.2**
ESPR				S	**Sn**	**21 19 16.5**	**-0.1**
ESPR				*i* Vmb_Lg		21 19 18.4	
SRHM	**Skhour des Reh**	**3.58**	**152**	P	**Pn**	**21 18 38.2**	**+0.2**
SRHM				S	**Sn**	**21 19 15.5**	**-3.7**
PMTG	**Montargil**	**3.66**	**21**	*e*Pn	**Pn**	**21 18 40.8**	**+1.8**
PMTG				*e*Sn	**Sn**	**21 19 20.6**	**-0.3**
PMTG				A	A	21 19 22.8	
	comp=E,8.7nm,0.4s						
SMIR	**Smir Dam**	**3.67**	**88**	P	**Pn**	**21 18 41.2**	**+2.0**
PESTR	**Estremoz**	**3.69**	**29**	*e*Pn	**Pn**	**21 18 41.4**	**+1.8**
PESTR				*e*Sn	**Sn**	**21 19 21.6**	**-0.3**
PESTR				A	A	21 19 24.4	
	comp=E,9.2nm,0.3s						
PESTR	**Estremoz**	**3.69**	**29**	P	Pn	21 18 51.4	+12
EBAD	**Badajoz**	**3.85**	**36**	P	**Pn**	**21 18 41.3**	**-0.5**
EBAD				S	**Sn**	**21 19 25.1**	**-0.7**
EBAD				*i* Vmb_Lg		21 19 30.4	
PSBE	**So Bento**	**3.95**	**12**	*e*Pn	**Pn**	**21 18 44.7**	**+1.6**
PSBE				*e*Sn	**Sn**	**21 19 27.4**	**-0.8**
PSBE				A	A	21 19 36.0	
	comp=E,15nm,0.7s						
EAH	**EAH**	**4.00**	**176**	P	**Pn**	**21 18 43.1**	**-0.7**
EMIJ	**Mijas**	**4.24**	**76**	P	**Pn**	**21 18 48.4**	**+1.2**
EMIJ				S	**Sn**	**21 19 33.1**	**-2.3**
EMIJ				*i* Vmb_Lg		21 19 43.5	
PMRV	**Marv??o**	**4.26**	**27**	*e*Pn	**Pn**	**21 18 49.1**	**+1.8**
PMRV				*e*Sn	**Sn**	**21 19 35.0**	**-0.8**
PMRV				A	A	21 19 38.3	
	comp=E,14nm,0.2s						
ECAB	**El Cabril**	**4.32**	**55**	P	**Pn**	**21 18 50.2**	**+1.9**
ECAB				S	**Sn**	**21 19 35.5**	**-1.9**
ECAB				*i* Vmb_Lg		21 19 39.6	
PCAS	**Casmilo, Conde**	**4.53**	**14**	*e*Pn	**Pn**	**21 18 53.2**	**+2.2**
PCAS				*e*Sn	**Sn**	**21 19 41.1**	**-1.3**
PCAS				A	A	21 19 46.3	
	comp=E,7.6nm,0.8s						
LCRM	**LCR**	**4.59**	**114**	P	**Pn**	**21 18 52.9**	**+1.0**
PCBR	**Castelo Branco**	**4.60**	**24**	*e*Pn	**Pn**	**21 18 54.0**	**+2.1**
PCBR				*e*Sn	**Sn**	**21 19 43.0**	**-1.0**
PCBR				A	A	21 19 46.9	
	comp=E,7.5nm,0.3s						
OUK	**Oukaimeden**	**4.75**	**159**	P	**Pn**	**21 18 54.5**	**+0.2**
CZD	**Col de Zad**	**4.79**	**122**	P	**Pn**	**21 18 55.7**	**+0.8**
EADA	**Adamuz**	**4.94**	**58**	P	**Pn**	**21 18 58.5**	**+1.8**
EADA				S	**Sn**	**21 19 51.3**	**-1.4**
EADA				*i* Vmb_Lg		21 19 53.9	
AKLM	**AKL**	**5.07**	**101**	P	**Pn**	**21 19 02.3**	**+3.7**
MD31	**MD31**	**5.08**	**122**	P	**Pn**	**21 18 59.2**	**+0.6**
MTE	**Manteigas**	**5.09**	**21**	*e*Sn	**Sn**	**21 19 55.5**	**-0.8**
MTE				A	A	21 20 01.1	
	comp=E,7.2nm,0.4s						
ELGU	**Los Guajares,**	**5.21**	**75**	P	**Pn**	**21 19 02.0**	**+1.7**
ELGU				S	**Sn**	**21 19 55.7**	**-3.5**
ELGU				*i* Vmb_Lg		21 20 04.0	
MDT	**Midelt**	**5.21**	**121**	P	**Pn**	**21 19 01.4**	**+0.8**
TTIG	**Tnine Tigouga,**	**5.24**	**166**	P	**Pn**	**21 18 57.3**	**-3.6**
PVIS	**Viseu**	**5.29**	**17**	*e*Pn	**Pn**	**21 19 03.2**	**+1.7**
PVIS				*e*Sn	**Sn**	**21 20 00.3**	**-1.0**
PVIS				A	A	21 20 12.4	
	comp=E,5.2nm,0.4s						
EPLA	**Plasencia**	**5.34**	**33**	P	**Pn**	**21 19 04.1**	**+2.0**
EPLA				S	**Sn**	**21 20 01.2**	**-1.2**
EPLA				*i* Vmb_Lg		21 20 03.0	
OUZM	**OUZ**	**5.41**	**150**	P	**Pn**	**21 19 03.5**	**+0.3**
GOG	**Mont Gurugu**	**5.65**	**92**	P	**Pn**	**21 19 07.1**	**+0.7**
PVRL	**Vila Real**	**5.87**	**16**	*e*Sn	**Sn**	**21 20 12.8**	**-2.6**
PVRL				A	A	21 20 16.8	
	comp=E,12nm,0.1s						
PAB	**San Pablo**	**5.87**	**47**	P	**Pn**	**21 19 11.8**	**+2.3**
PAB				S	**Sn**	**21 20 12.0**	**-3.6**
PAB				*i* Vmb_Lg		21 20 15.1	
MVO	**Moncorvo**	**5.94**	**21**	*e*Pn	**Pn**	**21 19 11.9**	**+1.4**
MVO				*e*Sn	**Sn**	**21 20 14.8**	**-2.5**
MVO				A	A	21 20 18.6	
	comp=E,5.1nm,0.4s						
POLO	**Lamas de Olo**	**5.94**	**15**	*e*Pn	**Pn**	**21 19 12.1**	**+1.6**
POLO				*e*Sn	**Sn**	**21 20 15.6**	**-1.8**
POLO				A	A	21 20 17.6	
	comp=E,2.2nm,0.5s						
TZRR	**Tazzarine**	**6.06**	**142**	P	**Pn**	**21 19 12.3**	**+0.2**
JBK	**JBK**	**6.15**	**100**	P	**Pn**	**21 19 15.1**	**+1.6**
TAF	**Taforalt**	**6.18**	**96**	P	**Pn**	**21 19 14.7**	**+1.0**
ESDC	**Sonseca Array**	**6.18**	**48**	P	**Pn**	**21 19 15.7**	**+1.9**
ESDC				S	**Sn**	**21 20 19.7**	**-3.5**
ESDC				*i* Vmb_Lg		21 20 31.7	
PCAB	**Cabril**	**6.22**	**13**	*e*Pn	**Pn**	**21 19 15.6**	**+1.3**
PCAB				*e*Sn	**Sn**	**21 20 21.0**	**-3.1**
PCAB				A	A	21 20 26.3	
	comp=E,4.1nm,0.4s						
ELOB	**Lobios**	**6.37**	**12**	P	**Pn**	**21 19 16.8**	**+0.5**
ELOB				S	**Sn**	**21 20 24.1**	**-3.8**
ELOB				*i* Vmb_Lg		21 22 32.1	
PGAV	**Gavieira, Arco**	**6.43**	**11**	*e*Pn	**Pn**	**21 19 18.6**	**+1.4**
PGAV				*e*Sn	**Sn**	**21 20 25.5**	**-3.8**
PGAV				A	A	21 20 29.7	
	comp=E,5.6nm,0.4s						
EZAM	**Zamans**	**6.55**	**8**	S	**Sn**	**21 20 29.4**	**-2.8**
ZGR	**Zagora**	**6.58**	**146**	P	**Pn**	**21 19 20.0**	**+0.6**
PBRG	**Braganca**	**6.62**	**21**	*e*Pn	**Pn**	**21 19 21.5**	**+1.8**
PBRG				*e*Sn	**Sn**	**21 20 32.0**	**-1.9**
PBRG				A	A	21 20 35.9	
	comp=E,2.3nm,0.2s						
GUD	**Guadarrama**	**6.72**	**41**	P	**Pn**	**21 19 23.1**	**+1.8**
GUD				S	**Sn**	**21 20 34.7**	**-2.0**
TDRA	**Tendrara**	**7.01**	**110**	P	**Pn**	**21 19 26.5**	**+1.2**
UCM	**Universidad Co**	**7.01**	**47**	P	**Pn**	**21 19 27.6**	**+2.5**
UCM				S	**Sn**	**21 20 41.6**	**-2.0**
EAGO	**Agolada(Pontev**	**7.27**	**11**	P	**Pn**	**21 19 29.5**	**+0.8**
EAGO				S	**Sn**	**21 20 44.6**	**-5.5**
EAGO				*i* Vmb_Lg		21 20 49.7	
ETOB	**Tobarra**	**7.30**	**63**	P	**Pn**	**21 19 30.2**	**+1.0**
ETOB				S	**Sn**	**21 20 47.9**	**-2.9**
ETOB				*i* Vmb_Lg		21 23 47.6	
EMAZ	**Mazaricos**	**7.32**	**5**	P	**Pn**	**21 19 29.2**	**-0.1**
EMAZ				S	**Sn**	**21 20 44.4**	**-6.7**
EMAZ				*i* Vmb_Lg		21 20 48.1	
FIGM	**Figuig**	**7.99**	**114**	P	**Pn**	**21 19 41.0**	**+2.3**
ETOR	**Torete**	**8.04**	**48**	P	**Pn**	**21 19 41.8**	**+2.6**
ETOR				S	**Sn**	**21 21 05.0**	**-3.9**
EMOS	**Mosqueruela**	**8.79**	**55**	S	**Sn**	**21 21 24.7**	**-2.9**

*IDC **04** 21:56:34.8±3.4, 21.°43S×177.°36W, h160km±31km, mb3.3/4, mb1 3.8/6, mb1mx3.5/22, mbtmp4.0/6, MS3.7/1, Ms1 3.7/1, ms1mx2.7/20, Error ellipse: s-maj=47.3km s-min=18.2km az=143.0*

ISC 04 21:56:33.9±0.9**, 21.°5S**±0.°2×**177.°4W**±0.°2**, h150**km**, n10,**
σ**1.°44**/10**, mb3.6**/4**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.21**	**36**	P	**Pn**	**21 58 45.2**	**+1.6**
	5.2nm,0.3s,baz=115,slow=18,SNR=2.0						
AFI				S	**Sn**	**22 00 24.4**	**-1.4**
	2.4nm,0.3s,baz=2.9,slow=16,SNR=2.1						
URZ	**Urewera**	**17.41**	**195**	P	**Pn**	**22 00 28.4**	**+0.8**
	0.3nm,0.3s,baz=37,slow=10,SNR=1.3						
ASAR	**Alice Springs**	**44.87**	**258**	P	**P**	**22 04 33.8**	**+0.1**
	0.5nm,0.6s,baz=100,slow=6.7,SNR=6.6						
ASAR				PcP	**PcP**	**22 06 11.2**	**-1.6**
	0.2nm,0.5s,baz=100,slow=4.8,SNR=1.8						
WRA	**Warramunga Arr**	**45.05**	**263**	P	**P**	**22 04 34.5**	**-0.5**
	0.7nm,0.4s,baz=104,slow=8.5,SNR=35						
BATI	**Baumata**	**57.53**	**271**	LR	LR	22 31 26.8	
	comp=Z,58nm,18.3s,baz=64,slow=36						
TXAR	**Lajitas Array**	**87.08**	**57**	P	**P**	**22 09 01.1**	**-1.9**
	0.5nm,0.8s,baz=200,slow=9.6,SNR=4.9						
ILAR	**Eielson Array**	**89.11**	**13**	P	**P**	**22 09 13.2**	**+1.5**
	0.7nm,1.0s,baz=220,slow=6.1,SNR=3.9						
ARCES	**ARCESS Array B**	**129.96**	**350**	PKP	**PKPdf**	**22 15 24.8**	**-0.2**
	1.4nm,0.8s,baz=2.4,slow=2.9,SNR=5.4						
FINES	**FINESS Array B**	**136.85**	**344**	PKP	**PKPdf**	**22 15 38.8**	**+0.6**
	0.5nm,0.7s,baz=103,slow=6.0,SNR=1.4						
AKASG	**Malin Array Be**	**144.13**	**331**	PKP	PKPbc	22 15 51.4	+1.3
	0.3nm,0.4s,baz=40,slow=4.0,SNR=10						

*NEIC **04** 22:09:12.5±2.2, 12.°11N±0.°10×144.°2E±0.°2, h10km±1km, mb4.6/26, Error ellipse: s-maj=30.7km s-min=14.6km az=107.0*

*IDC **04** 22:09:16.9±2.5, 12.°13N×144.°36E, h51km±23km, mb3.9/20, mb1 4.0/20, mb1mx3.8/42, mbtmp4.1/20, MS3.5/31, Ms1 3.5/31, ms1mx3.3/79, Error ellipse: s-maj=22.7km s-min=13.3km az=95.0*

ISC 04 22:09:14.7±0.6**, 12.°14N**±0.°07×**144.°3E**±0.°1**, h29**km**, n84,**
σ**0.°98**/54**, mb4.3**/31**, MS3.6**/27**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.56**	**22**	P	**Pn**	**22 09 40.6**	**+0.1**
	414nm,0.3s,baz=171,slow=5.7,SNR=46						
GUMO				S	**Sb**	**22 10 02.3**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	323nm,0.3s,baz=152,slow=24,SNR=18						
GUMO	**Guam**	**1.56**	**22**		**Pn**	**22 09 40.7**	**+0.2**
JCJ	**Chichijima**	**15.01**	**353**	LR	LR	22 17 37.0	
	comp=Z,248nm,21.2s,baz=130,slow=33						
KRVT	**Keravat (AS076**	**18.07**	**154**	LR	LR	22 18 50.1	
	comp=Z,175nm,20.1s,baz=119,slow=32						
SIJI	**Sorong**	**18.26**	**226**	LR	LR	22 20 51.1	
	comp=Z,193nm,18.4s,baz=155,slow=38						
DAV	**Davao City (W)**	**19.09**	**256**	LR	LR	22 22 34.3	
	comp=Z,27nm,18.8s,baz=80,slow=42						
JOW	**Kunigami**	**20.96**	**317**	P	Pn	22 13 57.4	-0.7
	7.9nm,0.6s,baz=159,slow=15,SNR=4.7						
JOW	**Kunigami**	**20.96**	**317**		**P**	**22 13 55.9**	**+0.5**
JOW				IAmb	IAmb	22 14 17.5	
	comp=Z,23nm,1.1s						
JHJ	**Hachijo jima 2**	**21.28**	**350**	LR	LR	22 21 35.2	
	comp=Z,144nm,19.2s,baz=138,slow=35						
PMG	**Port Moresby**	**21.60**	**172**	LR	LR	22 21 55.1	
	comp=Z,104nm,18.9s,baz=318,slow=35						
H11S3	**WAKE ISLAND Hy**	**22.53**	**71**	T	T	22 37 44.7	
	baz=252,slow=72						
H11S1	**WAKE ISLAND Hy**	**22.54**	**71**	T	T	22 37 55.8	
	baz=252,slow=72						
H11S2	**WAKE ISLAND Hy**	**22.54**	**71**	T	T	22 37 43.3	
	baz=252,slow=72						
H11N1	**WAKE ISLAND Hy**	**23.02**	**68**	T	T	22 38 16.9	
	baz=255,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**23.02**	**68**	T	T	22 38 01.4	
	baz=255,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**23.03**	**68**	T	T	22 38 04.2	
	baz=255,slow=75,SNR=14						
JNU	**Nakatsue**	**24.21**	**332**	P	**P**	**22 14 31.0**	**+2.0**
	comp=Z,9.3nm,0.7s,baz=144,slow=3.1,SNR=7.9						
MJAR	**Matsushiro Arr**	**24.90**	**348**	P	**P**	**22 14 35.6**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=190,slow=9.5,SNR=6.5						
MJAR				LR	LR	22 23 50.3	
	comp=Z,190nm,18.6s,baz=163,slow=35						
JHS	**Saijyo**	**24.90**	**338**	P	**P**	**22 14 36.6**	**+1.4**
JHS				IAmb	IAmb	22 14 52.2	
	comp=Z,26nm,1.3s						
JSD	**Sado**	**26.34**	**349**	P	**P**	**22 14 50.6**	**+2.4**
KSRS	**Korea Array**	**29.15**	**333**	P	**P**	**22 15 14.3**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=144,slow=9.9,SNR=8.8						
BATI	**Baumata**	**30.19**	**224**	P	**P**	**22 15 22.1**	**-0.7**
	comp=Z,7.9nm,0.4s,baz=156,slow=5.8,SNR=2.5						
ASAJ	**Asahikawa**	**31.90**	**358**	LR	LR	22 26 52.3	
	comp=Z,22nm,21.7s,baz=190,slow=33						
CTA	**Charters Tower**	**32.08**	**176**	P	**P**	**22 15 40.1**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=335,slow=18,SNR=1.0						
CTA				LR	LR	22 29 23.1	
	comp=Z,60nm,18.3s,baz=285,slow=38						
WB0	**Warramunga Arr**	**33.16**	**197**	P	**P**	**22 15 49.6**	**+0.8**
WB0				IAmb	IAmb	22 16 15.9	
	comp=Z,8.2nm,1.4s						
WR0	**Warramunga Arr**	**33.30**	**197**	P	**P**	**22 15 50.3**	**+0.3**
WR0				IAmb	IAmb	22 15 54.8	
	comp=Z,7.3nm,1.4s						
WB2	**Warramunga Arr**	**33.34**	**197**	P	**P**	**22 15 51.2**	**+0.8**
WRA	**Warramunga Arr**	**33.34**	**197**	P	**P**	**22 15 51.2**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=17,slow=9.3,SNR=9.0						
WRA	**Warramunga Arr**	**33.34**	**197**	P	**P**	**22 15 50.4**	**0.0**
USRK	**Ussuriysk Ar.**	**33.65**	**344**	P	**P**	**22 15 54.5**	**+1.7**
	comp=Z,1.9nm,0.6s,baz=131,slow=46,SNR=1.8						
FITZ	**Fitzroy Crossi**	**35.22**	**212**	LR	LR	22 33 54.2	
	comp=Z,40nm,18.5s,baz=134,slow=42						
ASAR	**Alice Springs**	**37.00**	**196**	P	**P**	**22 16 22.0**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=23,slow=10,SNR=7.6						
ASAR				LR	LR	22 31 48.2	
	comp=Z,145nm,19.9s,baz=11,slow=36						
ASAR	**Alice Springs**	**37.00**	**196**	P	**P**	**22 16 23.3**	**+1.4**
KLR	**Kul'dur**	**38.41**	**347**	LR	LR	22 31 43.5	
	comp=Z,82nm,19.1s,baz=194,slow=35						
DZM	**Mont Dzumac**	**40.37**	**147**	LR	LR	22 30 41.0	
	comp=Z,91nm,19.1s,baz=295,slow=32						
LEM	**Lembang**	**41.01**	**245**	LR	LR	22 33 24.8	
	comp=Z,38nm,21.1s,baz=82,slow=35						
PETK	**Petropavlovsk-**	**42.26**	**12**	LR	LR	22 32 30.8	
	comp=Z,62nm,21.1s,baz=190,slow=33						
CMAR	**Chiang Mai Arr**	**44.07**	**284**	P	**P**	**22 17 20.5**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=74,slow=6.7,SNR=1.9						
BBOO	**Buckleboo**	**45.38**	**190**	P	**P**	**22 17 31.5**	**+0.9**
BBOO				IAmb	IAmb	22 17 44.7	
	comp=Z,17nm,1.4s						
SHEM	**Shemya Is, Ala**	**47.02**	**24**	LR	LR	22 36 59.4	
	comp=Z,41nm,19.5s,baz=202,slow=35						
SONM	**Songino Array**	**47.58**	**326**	P	**P**	**22 17 48.3**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=120,slow=5.2,SNR=2.2						
SONM				LR	LR	22 38 38.7	
	comp=Z,56nm,18.2s,baz=122,slow=37						
MA2	**Magadan**	**47.60**	**4**	LR	LR	22 36 33.3	
	comp=Z,27nm,20.7s,baz=113,slow=34						
MORW	**Morawa**	**49.20**	**213**	P	**P**	**22 17 59.9**	**-0.6**
MK31	**Makanchi Array**	**62.12**	**317**	P	**P**	**22 19 32.5**	**-0.7**
MKAR	**Makanchi Array**	**62.12**	**317**	P	**P**	**22 19 32.7**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=93,slow=8.5,SNR=24						
MKAR	**Makanchi Array**	**62.12**	**317**	P	**P**	**22 19 32.8**	**-0.3**
MAKZ	**Makanchi**	**62.34**	**317**	P	**P**	**22 19 34.5**	**0.0**
MAKZ				IAmb	IAmb	22 19 35.7	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**62.45**	**325**	P	**P**	**22 19 34.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=102,slow=7.5,SNR=2.4						
ZALV	**Zalesovo Beam**	**62.45**	**325**	P	**P**	**22 19 34.1**	**-1.1**
KURK	**Kurchatov**	**65.31**	**320**	P	**P**	**22 19 53.7**	**-0.3**
KURK				IAmb	IAmb	22 19 54.2	
	comp=Z,2.8nm,0.8s						
KDAK	**Kodiak Island**	**65.61**	**32**	LR	LR	22 44 16.0	
	comp=Z,46nm,21.2s,baz=241,slow=32						
CAST	**Castle Rocks**	**67.56**	**26**	P	**P**	**22 20 08.6**	**+0.3**
CAST				IAmb	IAmb	22 20 20.1	
	comp=Z,5.0nm,1.3s						
PWL	**Port Wells**	**68.53**	**29**	P	**P**	**22 20 14.4**	**0.0**
GLI	**Glacier Island**	**69.12**	**29**	P	**P**	**22 20 17.2**	**-0.9**
WRH	**Wood River Hil**	**69.55**	**25**	P	**P**	**22 20 20.4**	**-0.2**
WRH				IAmb	IAmb	22 20 36.0	
	comp=Z,7.8nm,1.4s						
KKAR	**Karatay Array**	**69.96**	**312**	P	**P**	**22 20 24.3**	**+0.7**
GAR	**Garm**	**70.02**	**307**	P	**P**	**22 20 23.8**	**-0.3**
GAR				IAmb	IAmb	22 20 25.7	
	comp=Z,5.7nm,1.1s						
IL31		**70.13**	**25**	P	**P**	**22 20 23.4**	**-0.7**
ILAR	**Eielson Array**	**70.13**	**25**	P	**P**	**22 20 23.3**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=247,slow=5.6,SNR=8.2						
ILAR				LR	LR	22 50 36.6	
	comp=Z,29nm,19.9s,baz=282,slow=35						
TOLK	**Toolik Lake Re**	**70.18**	**21**	P	**P**	**22 20 25.5**	**+1.1**
TOLK				IAmb	IAmb	22 20 35.2	
	comp=Z,5.9nm,1.3s						
BRVK	**Borovoye**	**70.76**	**322**	P	**P**	**22 20 28.3**	**+0.1**
BRVK				IAmb	IAmb	22 20 28.7	
	comp=Z,3.1nm,0.6s						
BMAR	**Burnt Mountain**	**71.66**	**23**	P	**P**	**22 20 35.2**	**+1.7**
INK	**Inuvik**	**75.93**	**22**	P	**P**	**22 20 58.9**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=281,slow=10,SNR=3.7						
INK				LR	LR	22 52 52.0	
	comp=Z,33nm,20.6s,baz=0.5,slow=34						
INK	**Inuvik**	**75.93**	**22**	P	**P**	**22 20 59.0**	**+0.7**
P33M	**Teslin, Yukon**	**76.05**	**31**	P	**P**	**22 21 00.5**	**+1.1**
ABKAR	**Akbulak array**	**77.21**	**318**	P	**P**	**22 21 05.3**	**-0.8**
ARU	**Arti**	**77.61**	**325**	LR	LR	22 56 31.7	
	comp=Z,26nm,19.0s,baz=78,slow=36						
BBB	**Bella Bella**	**79.08**	**39**	LR	LR	22 49 57.9	
	comp=Z,80nm,19.6s,baz=284,slow=31						
C36M	**Paulatuk**	**79.33**	**21**	P	**P**	**22 21 17.5**	**+0.2**
C36M				IAmb	IAmb	22 21 36.6	
	comp=Z,8.3nm,1.4s						
GEYT	**Alibeck**	**79.63**	**307**	P	**P**	**22 21 18.5**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=59,slow=6.1,SNR=3.6						
YBH	**Yreka Blue Hor**	**84.27**	**49**	LR	LR	22 53 26.2	
	comp=Z,29nm,19.5s,baz=280,slow=32						
EUNU	**Eureka**	**84.38**	**8**	P	**P**	**22 21 45.4**	**+1.6**
YKA	**Yellowknife Ar**	**84.42**	**27**	P	**P**	**22 21 44.0**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=286,slow=5.0,SNR=11						
YKA				LR	LR	22 58 13.0	
	comp=Z,58nm,20.1s,baz=282,slow=35						
NEW	**Newport**	**86.70**	**41**	LR	LR	22 57 29.5	
	comp=Z,43nm,19.9s,baz=178,slow=33						
ARCES	**ARCESS Array B**	**88.27**	**342**	P	**P**	**22 22 02.5**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=67,slow=7.1,SNR=3.8						
ARCES	**ARCESS Array B**	**88.27**	**342**	P	**P**	**22 22 02.8**	**-0.3**
NVAR	**Mina Array Bea**	**88.29**	**51**	P	**P**	**22 22 01.8**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=255,slow=9.2,SNR=3.1						
ELK	**Elko**	**89.98**	**48**	LR	LR	22 56 43.9	
	comp=Z,33nm,19.1s,baz=264,slow=32						
FINES	**FINESS Array B**	**92.22**	**335**	P	**P**	**22 22 20.0**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=67,slow=4.8,SNR=19						
FINES				LR	LR	23 05 23.0	
	comp=Z,20nm,20.6s,baz=54,slow=36						
FINES	**FINESS Array B**	**92.22**	**335**	P	**P**	**22 22 19.9**	**-1.6**
PDAR	**Pinedale Array**	**93.41**	**45**	LR	LR	23 00 40.4	
	comp=Z,40nm,19.1s,baz=300,slow=33						
AKASG	**Malin Array Be**	**95.85**	**325**	LR	LR	23 09 35.6	
	comp=Z,25nm,18.1s,baz=10.0,slow=38						
NOA	**NORSAR Array B**	**98.18**	**339**	LR	LR	23 10 48.6	
	comp=Z,18nm,18.5s,baz=75,slow=38						
DBIC	**Dimbokro**	**144.05**	**300**	PKP	PKPbc	22 28 47.0	+0.4
	comp=Z,2.0nm,0.6s,baz=80,slow=6.1,SNR=1.5						

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*DDA **04** 22:13:40.9±0.0, 38°.93N×26°.09E, h7km±4km, ML2.7*
*ATH **04** 22:13:41.0, 38°.94N×26°.08E, h26km±1km, ML2.3/4, Error ellipse: s-maj=2.8km s-min=1.2km az=269.0*
*THE **04** 22:13:41.8, 38°.94N×26°.11E, h8km±1km, ML2.4/6, Error ellipse: s-maj=1.8km s-min=0.8km az=91.0*
*ISK **04** 22:13:41.0, 38°.95N×26°.09E, h7km, ML2.7/20*
ISC 04 22:13:41.2±1.0**, 38°.94N**±0°.02×**26°.09E**±0°.02**, h12**km±9km**, n57, σ0s.59**/83**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.33**	**326**	P	**Pb**	**22 13 48.6**	**-0.4**
SIGR				S	**Sb**	**22 13 53.4**	**-0.9**
SIGR				AML	AML	22 13 53.8	
	comp=N,2890μm,0.2s						
SIGR				AML	AML	22 13 53.9	
	comp=E,2118μm,0.3s						
SIGR	**SIGRI**	**0.33**	**326**	P	**Pb**	**22 13 48.6**	**-0.4**
SIGR				S	**Sb**	**22 13 53.2**	**-1.0**
	comp=E,1μm,0.2s						
SIGR	**SIGRI**	**0.33**	**326**	PG	**Pb**	**22 13 48.4**	**-0.6**
SIGR				SG	**Sg**	**22 13 52.9**	**+0.6**
PRK	**Paraskevi**	**0.34**	**25**	P	**Pb**	**22 13 49.3**	**+0.2**
PRK				S	**Sb**	**22 13 55.1**	**+0.6**
PRK	**Paraskevi**	**0.34**	**25**	P	**Pb**	**22 13 49.0**	**-0.2**
PRK				S	**Sg**	**22 13 52.8**	**+0.2**
	comp=E,820nm,0.5s						
GPNR	**Gulpinar-Canak**	**0.52**	**4**	PG	**Pg**	**22 13 51.4**	**0.0**
GPNR				SG	**Sb**	**22 13 58.9**	**-0.8**
FOCM	**Foa**	**0.55**	**114**	PG	**Pb**	**22 13 52.3**	**-0.5**
FOCM				SG	**Sb**	**22 14 00.6**	**0.0**
CHOS	**Chios island**	**0.55**	**183**	P	**Pg**	**22 13 52.1**	**+0.1**
CHOS				S	**Sg**	**22 13 59.9**	**+0.5**
CHOS				AML	AML	22 14 03.8	
	comp=E,1034μm,0.1s						
CHOS				AML	AML	22 14 03.9	
	comp=N,757μm,0.2s						
CHOS	**Chios island**	**0.55**	**183**	P	**Pg**	**22 13 52.0**	**0.0**
CHOS				S	**Sb**	**22 14 01.5**	**+0.7**
	comp=N,498nm,0.2s						
CHOS	**Chios island**	**0.55**	**183**	PG	**Pg**	**22 13 52.1**	**+0.1**
KOCA	**Canakkale, Ayv**	**0.56**	**4**	P	**Pg**	**22 13 52.4**	**+0.1**
KOCA				S	**Sb**	**22 14 02.0**	**+1.0**
PSRA	**Psara**	**0.57**	**226**	P	**Pb**	**22 13 53.8**	**+0.7**
PSRA				S	**Sb**	**22 14 01.6**	**+0.4**
AYVA	**Ayvalik**	**0.59**	**52**	P	**Pg**	**22 13 52.7**	**-0.1**
DKL	**Dikili**	**0.65**	**78**	PG	**Pg**	**22 13 53.9**	**0.0**
DKL				SG	**Sb**	**22 14 03.6**	**+0.1**
URLA	**Izmir**	**0.70**	**145**	PG	**Pg**	**22 13 54.5**	**-0.3**
URLA				SG	**Sb**	**22 14 05.6**	**+0.6**
URLA	**Izmir**	**0.70**	**145**	P	**Pg**	**22 13 54.0**	**-0.9**
URLA				S	**Sb**	**22 14 05.9**	**+0.9**
ZEDA	**zmir-Bergama**	**0.77**	**88**	P	**Pg**	**22 13 56.2**	**+0.1**
ZEDA				S	**Sb**	**22 14 06.7**	**-0.3**
ZEDA				*i* AML	AML	22 14 08.0	
	comp=N,305nm,0.3s						
ZEDA				*i* AML	AML	22 14 09.0	
	comp=N,403nm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**0.77**	**155**	P	**Pg**	**22 13 55.0**	**-1.2**
ZEYE				S	**Sg**	**22 14 06.3**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.88**	**24**	P	**Pg**	**22 13 57.5**	**-0.7**
BAYC				S	**Sb**	**22 14 11.1**	**+1.1**
BOZC	**Bozcaada**	**0.90**	**358**	PG	**Pg**	**22 13 57.9**	**-0.7**
BOZC	**Bozcaada**	**0.90**	**358**	P	**Pg**	**22 13 58.5**	**-0.2**
BOZC				S	**Sb**	**22 14 10.9**	**+0.1**
BOZC				*i* AML	AML	22 14 13.0	
	comp=N,244nm,0.2s						
BOZC				*i* AML	AML	22 14 13.0	
	comp=N,198nm,0.3s						
EZN	**Ezine**	**0.90**	**12**	P	**Pg**	**22 13 58.3**	**-0.4**
EZN				S	**Sb**	**22 14 11.2**	**+0.4**
	comp=N,415nm,0.3s						
EZN	**Ezine**	**0.90**	**12**	PG	**Pg**	**22 13 58.5**	**-0.2**
BUHA	**Balikesir, Bur**	**0.95**	**54**	P	**Pg**	**22 13 59.1**	**-0.5**
BUHA				S	**Sg**	**22 14 11.6**	**-0.3**
BUHA				*i* AML	AML	22 14 15.0	
	comp=N,189nm,0.3s						
BUHA				*i* AML	AML	22 14 15.0	
	comp=N,187nm,0.2s						
ECEA	**Canakkale, Ece**	**1.11**	**3**	P	**Pb**	**22 14 02.2**	**0.0**
ECEA				S	**Sn**	**22 14 17.6**	**-0.1**
ECEA				*i* AML	AML	22 14 20.0	
	comp=N,193nm,0.4s						
ECEA				*i* AML	AML	22 14 20.0	
	comp=N,203nm,0.4s						
LIA	**Limnos Island**	**1.19**	**324**	P	**Pn**	**22 14 03.8**	**+0.2**
LIA				AML	AML	22 14 21.5	
	comp=E,254μm,0.3s						
LIA				AML	AML	22 14 23.1	
	comp=N,241μm,0.6s						
LIA	**Limnos Island**	**1.19**	**324**	P	**Pn**	**22 14 03.8**	**+0.2**
LIA				S	**Sn**	**22 14 19.6**	**-0.1**
	comp=N,140nm,0.5s						
GOKA	**anakkale-Gk**	**1.26**	**354**	P	**Pn**	**22 14 04.5**	**-0.1**
GOKA				*i* AML	AML	22 14 27.0	
	comp=N,135nm,0.2s						
STEP	**BALIKESIR_Sava**	**1.34**	**70**	P	**Pn**	**22 14 05.4**	**-0.4**
STEP				S	**Sb**	**22 14 23.4**	**0.0**
STEP				*i* AML	AML	22 14 26.0	
	comp=N,118nm,0.5s						
STEP				*i* AML	AML	22 14 27.0	
	comp=N,135nm,0.5s						
SMG	**Samos**	**1.36**	**154**	P	**Pn**	**22 14 05.4**	**-0.6**
SMG	**Samos**	**1.36**	**154**	P	**Pn**	**22 14 05.2**	**-0.9**
BALY	**Balya**	**1.43**	**56**	P	**Pn**	**22 14 07.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.49**	**11**	PN	**Pb**	**22 14 08.4**	**-0.4**
GELI				SN	**Sg**	**22 14 28.7**	**-0.4**
GCAM	**G?zelcaml?**	**1.53**	**144**	PN	**Pb**	**22 14 09.5**	**0.0**
GCAM				SN	**Sg**	**22 14 30.3**	**-0.1**
SMTH	**Samothraki Isl**	**1.59**	**344**	P	**Pn**	**22 14 09.2**	**0.0**
SMTH				AML	AML	22 14 33.5	
	comp=E,89μm,0.3s						
SMTH				AML	AML	22 14 35.7	
	comp=N,67μm,0.4s						
SMTH	**Samothraki Isl**	**1.59**	**344**	P	**Pn**	**22 14 09.1**	**0.0**
SMTH				S	**Sb**	**22 14 30.6**	**0.0**
	comp=N,52nm,0.5s						
KRBG	**Karabiga-Canak**	**1.73**	**32**	PN	**Pn**	**22 14 11.1**	**+0.1**
KNL	**Balıkesir**	**1.73**	**39**	P	**Pb**	**22 14 13.2**	**+0.3**
CAVK	**Edirne/Enez-Ca**	**1.75**	**2**	P	**Pn**	**22 14 12.3**	**+1.0**
ERIK	**Erikli-Kesan**	**1.76**	**11**	PN	**Pn**	**22 14 12.2**	**+0.7**
ENEZ	**Enez**	**1.79**	**2**	P	**Pn**	**22 14 12.6**	**+0.6**
ENEZ	**Enez**	**1.79**	**2**	PN	**Pn**	**22 14 13.0**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.94**	**25**	PN	**Pn**	**22 14 15.2**	**+1.2**
KESN	**Edirne-Kesan**	**1.94**	**13**	P	**Pn**	**22 14 14.9**	**+0.6**
SART	**Tekirdag**	**1.94**	**25**	P	**Pb**	**22 14 15.9**	**-0.7**
ALN	**Alexandroupoli**	**1.96**	**359**	P	**Pn**	**22 14 14.5**	**+0.3**
ALN	**Alexandroupoli**	**1.96**	**359**	P	**Pn**	**22 14 14.5**	**+0.3**
ALN	**Alexandroupoli**	**1.96**	**359**	PN	**Pn**	**22 14 14.7**	**+0.5**
EDC	**Edincik**	**1.96**	**44**	PN	**Pn**	**22 14 15.4**	**+1.1**
THAS	**Thassos island**	**1.97**	**328**	P	**Pn**	**22 14 14.2**	**-0.2**
MAR6	**Marsite Statio**	**1.98**	**27**	PN	**Pn**	**22 14 15.7**	**+1.1**
MAR3	**Marsite Statio**	**2.03**	**27**	PN	**Pn**	**22 14 16.3**	**+1.1**
GZKV	**Gazikoy-Tekird**	**2.04**	**27**	PN	**Pn**	**22 14 16.6**	**+1.2**
UKOP	**Uzunkopru-Edir**	**2.23**	**11**	PN	**Pn**	**22 14 19.2**	**+1.3**
RDO	**Rodhopi**	**2.25**	**349**	P	**Pn**	**22 14 18.7**	**+0.6**
RDO	**Rodhopi**	**2.25**	**349**	P	**Pn**	**22 14 18.7**	**+0.6**
RDO	**Rodhopi**	**2.25**	**349**	PN	**Pn**	**22 14 18.8**	**+0.6**

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*NEIC **04** 22:27:52.6±1.4, 60°.13N±0°.04×153°.4W±0°.1, h154km±3km, Error ellipse: s-maj=8.4km s-min=5.9km az=79.0*
AEIC 04 22:27:54±1.2**, 60°.15N**±0°.04×**153°.3W**±0°.1**, h141**km±4km**, ML2.6, ML2.8**/22(NEIC)**, Error ellipse: s-maj=7.9km s-min=5.6km az=82.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.18**	**136**		Pn	22 28 13.1	-0.2
IVE					Sn	22 28 28.7	+0.8
O20K	**Slope Mountain**	**0.33**	**102**		Pn	22 28 14.1	+0.5
O20K					Sn	22 28 29.6	+1.1
RED	**Redoubt Volcan**	**0.37**	**43**		Pn	22 28 14.2	+0.4
RED					Sn	22 28 29.9	+1.0
RDWB	**Redoubt West**	**0.40**	**32**		Pn	22 28 14.5	+0.4
RDWB					Sn	22 28 29.9	+0.7
RSO	**Redoubt South**	**0.41**	**39**	Pn	Pn	22 28 14.3	+0.2
OPT	**Oil Point**	**0.50**	**178**		Pn	22 28 14.5	+0.1
AUL	**Augustine Lava**	**0.78**	**186**		Pn	22 28 16.1	0.0
AUL					Sn	22 28 32.9	+0.1
N19K	**Bonanza Creek**	**0.90**	**318**		Pn	22 28 17.0	-0.1
HOM	**Homer**	**0.96**	**120**		Pn	22 28 17.8	+0.3
HOM				IAML		22 28 37.5	
	comp=N,347nm,0.4s						
HOM				IAML		22 28 39.4	
	comp=E,281nm,1.0s						
CKN	**Chakachatna No**	**1.20**	**26**		Pn	22 28 20.7	+0.9
CNPM	**China Poot**	**1.20**	**121**		Pn	22 28 19.9	+0.1
CNPM					Sn	22 28 39.2	-0.2
CNPM				IAML		22 28 40.8	
	comp=N,135nm,0.5s						
Q19K	**Cape Douglas,**	**1.24**	**189**		Pn	22 28 19.2	-1.0
Q19K				IAML		22 28 40.9	
	comp=E,250nm,1.4s						
Q19K				IAML		22 28 44.6	
	comp=N,266nm,1.1s						
BRLK	**Bradley Lake**	**1.26**	**107**		Pn	22 28 20.9	+0.6
BRLK				IAML		22 28 41.9	
	comp=N,190nm,0.3s						
BRSE	**Bradley Lake S**	**1.34**	**107**		Pn	22 28 21.5	+0.4
BRSE					Sn	22 28 41.7	-0.2
SVW2	**Sparrevohn**	**1.48**	**311**	Pn	Pn	22 28 22.2	-0.5
SVW2				IAML		22 28 51.5	
	comp=N,21nm,0.5s						
SLKM	**Skilak Lake**	**1.56**	**75**		Pn	22 28 23.8	+0.2
SLKM					Sn	22 28 45.6	-0.4
M19K	**Big River Lodg**	**1.84**	**343**	Pn	Pn	22 28 26.3	-0.3
SEW	**Seward**	**1.91**	**90**		Pn	22 28 27.4	0.0
KABU	**Katmai Buttres**	**2.15**	**210**		Pn	22 28 29.4	-1.1
ANCK	**Angle Creek**	**2.27**	**211**		Pn	22 28 32.6	+0.7
KDAK	**Kodiak Island**	**2.40**	**171**	Pn	Pn	22 28 30.8	-2.7
PWL	**Port Wells**	**2.54**	**72**	Pn	Pn	22 28 36.0	+0.8
PWL				IAML		22 29 19.1	
	comp=E,67nm,0.4s						
PWL				IAML		22 29 19.7	
	comp=N,63nm,0.4s						
FID	**Port Fidalgo**	**3.42**	**77**	Pn	Pn	22 28 46.0	-0.3
ISLE	**Juniper Island**	**5.44**	**80**	Pn	Pn	22 29 13.0	-0.2
BARN	**Barnard Glacie**	**5.79**	**76**		Sn	22 30 21.8	-1.6
N31M	**Braeburn, Yuko**	**8.65**	**74**	Pn	Pn	22 29 53.2	-2.7

DJA 04 22:30:11.4±0.6**, 0°N**±7°×**12°7E**±°**, h115**km±8km**, M4.0**/6**, mb4.6**/1**, mB5.2**/1**, MLv3.8**/6**, Mw(mB)4.5**/1**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.70**	**161**	P	Pn	22 30 31.5	+1.2
LBMI				S	Sn	22 30 46.8	+2.3
SANI	**Sanana**	**2.43**	**212**	P	Pn	22 30 50.2	+0.1
APSI	**Ampana**	**5.70**	**261**	P	Pn	22 31 33.7	0.0

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*IDC **04** 22:37:01.6±1.2, 4°.39S×125°.81E, h412km±14km, mb3.2/6, mb1 3.5/11, mb1mx3.1/39, mbtmp4.2/11, Error ellipse: s-maj=24.5km s-min=11.9km az=68.0*
*DJA **04** 22:37:01.9±0.3, 4°S±3°×12°6E±°, h400km±5km, M4.0/23, mb4.3/17, mB4.5/12, MLv4.3/23, Mw(mB)3.7/12*
ISC 04 22:37:00.9±0.5**, 4°.45S**±0°.05×**125°.86E**±0°.06**, h400**km**, n53, σ1s.46**/63**, mb3.6**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**2.38**	**3**	P	**Pn**	**22 38 00.1**	**+0.6**
SANI				S	**S**	**22 38 46.6**	**-0.1**
SANI	**Sanana**	**2.38**	**3**	P	**Pn**	**22 38 00.9**	**+1.4**
AAI	**Ambon**	**2.45**	**72**	P	**Pn**	**22 38 00.4**	**+0.5**
MSAI	**Masohi**	**3.25**	**70**	P	**Pn**	**22 38 06.9**	**+0.7**
BBSI	**Bau Bau**	**3.44**	**252**	P	**Pn**	**22 38 08.7**	**+0.8**
LBMI	**Labuha**	**4.12**	**23**	P	**Pn**	**22 38 15.9**	**+1.7**
KMSI	**Cibinong**	**5.33**	**339**	P	**Pn**	**22 38 27.3**	**+0.9**
	1.0nm102nm,0.4s						
TNTI	**Ternate**	**5.40**	**16**	P	**Pn**	**22 38 27.9**	**+0.8**
	0.1nm42nm,0.9s						
APSI	**Ampana**	**5.48**	**310**	P	**Pn**	**22 38 29.4**	**+1.4**
	0.1nm352nm27nm,0.9s						
MMRI	**Maumere**	**5.50**	**221**	P	**Pn**	**22 38 30.2**	**+2.0**
	0.2nm21nm,0.8s						
BSSI	**Bau Bau, Buton**	**5.61**	**252**	P	**Pn**	**22 38 30.8**	**+1.4**
	0.2nm725nm77nm,0.8s						
BNSI	**Bone**	**5.74**	**270**	P	**Pn**	**22 38 32.3**	**+1.6**
	1.0nm3μm340nm,0.8s						
BKSI	**Bulukumba**	**5.79**	**261**	P	**Pn**	**22 38 32.6**	**+1.4**
	0.9nm2μm235nm,0.6s						
SPSI	**Sidrap Palu**	**6.10**	**274**	P	**Pn**	**22 38 35.8**	**+1.2**
	0.7nm2μm187nm,0.7s						
KAPI	**Kappang**	**6.12**	**264**	P	**Pn**	**22 38 35.8**	**+1.0**
	12nm,0.3s,baz=91,slow=4.1,SNR=40						
KAPI				S	**S**	**22 39 48.8**	**-2.5**
	baz=243,slow=23,SNR=0.4						
KAPI	**Kappang**	**6.12**	**264**	P	**Pn**	**22 38 36.7**	**+1.9**
BATI	**Baumata**	**6.12**	**201**	P	**Pn**	**22 38 37.0**	**+2.0**
	8.3nm,0.3s,baz=106,slow=2.9,SNR=5.8						
BATI				S	**S**	**22 39 51.1**	**-0.5**
	3.7nm,0.3s,baz=182,slow=6.7,SNR=2.0						
TTSI	**Tana Toraja**	**6.19**	**283**	P	**Pn**	**22 38 36.9**	**+1.3**
	0.1nm496nm42nm,0.9s						
MRSI	**Marisa**	**6.27**	**321**	P	**Pn**	**22 38 37.4**	**+0.9**
	0.2nm54nm,0.9s						
SIJI	**Sorong**	**6.46**	**57**	P	**Pn**	**22 38 41.1**	**+2.5**
	1.4nm,0.3s,baz=267,slow=7.8,SNR=4.2						
SIJI				S	**S**	**22 39 57.7**	**-0.7**
	1.6nm,0.3s,baz=166,slow=21,SNR=2.2						
TOLI2	**Tolitoli**	**7.50**	**317**	P	**P**	**22 38 51.9**	**+1.1**
MPSI	**Mapaga**	**7.62**	**308**	P	**Pn**	**22 38 52.7**	**+1.1**
MTN	**Manton Dam**	**9.84**	**148**	P	**P**	**22 39 17.8**	**+1.1**
KDU	**Kakadu**	**10.47**	**142**	P	**P**	**22 39 24.6**	**+0.8**
BBKI	**Banjar Baru**	**11.04**	**275**	P	**P**	**22 39 31.0**	**+0.9**
KNRA	**Kununurra**	**11.52**	**166**	P	**P**	**22 39 37.1**	**+1.8**
JAGI	**Jajag, Banyuwa**	**12.30**	**250**	P	**Pn**	**22 39 46.6**	**+0.9**
BLJI	**Banyuglugur**	**12.63**	**254**	P	**P**	**22 39 48.8**	**+1.2**
	2μm40nm,0.7s						
GMJI	**Gumukmas**	**12.91**	**252**	P	**Pn**	**22 39 56.0**	**+3.3**
FITZ	**Fitzroy Crossi**	**13.57**	**181**	P	**P**	**22 39 58.0**	**+0.2**
	3.9nm,0.3s,baz=16,slow=9.8,SNR=144						
FITZ				S	**S**	**22 42 19.9**	**-4.4**
	0.2nm,0.3s,baz=175,slow=16,SNR=4.1						
STKI	**Sintang**	**15.05**	**287**	P	**P**	**22 40 15.0**	**+0.9**
WRAB	**Tennant Creek**	**17.47**	**152**	P	**P**	**22 40 42.1**	**+2.2**
WRA	**Warramunga Arr**	**17.48**	**152**	P	**P**	**22 40 39.8**	**-0.2**
	0.7nm,0.3s,baz=333,slow=10,SNR=38						
WRA				S	**S**	**22 43 38.9**	**-2.5**
	0.3nm,0.3s,baz=331,slow=18,SNR=7.6						
PSA00	**Pilbara Seismi**	**18.00**	**198**	P	**P**	**22 40 46.0**	**+0.5**
WRKA	**Warakurna**	**20.61**	**174**	P	**P**	**22 41 11.7**	**+0.7**
ASAR	**Alice Springs**	**20.62**	**159**	P	**P**	**22 41 12.1**	**+0.9**
	5.9nm,0.4s,baz=345,slow=14,SNR=113						
ASAR				S	**S**	**22 44 33.2**	**-2.2**
	3.4nm,0.9s,baz=347,slow=21,SNR=14						
ASAR				PcP	**PcP**	**22 45 03.9**	**-0.4**
	0.7nm,0.4s,baz=356,slow=1.5,SNR=6.8						
ASAR				ScP	**ScP**	**22 48 01.7**	**-0.6**
	0.4nm,0.6s,baz=336,slow=2.0,SNR=2.3						
QIS	**Mount Isa**	**20.86**	**141**	P	**P**	**22 41 14.7**	**+1.4**
MEEK	**Meekatharra**	**23.13**	**197**	P	**P**	**22 41 34.5**	**+0.6**
OOD	**Oodnadatta**	**25.04**	**159**	P	**P**	**22 41 51.5**	**+0.6**
FORT	**Forrest**	**26.27**	**176**	P	**P**	**22 42 02.7**	**+0.8**
MULG	**Mulgathing**	**26.84**	**164**	P	**P**	**22 42 07.2**	**+0.3**
LCRK	**Leigh Creek**	**28.37**	**157**	P	**P**	**22 42 21.5**	**+1.1**
BBOO	**Buckleboo**	**29.79**	**163**	P	**P**	**22 42 34.4**	**+1.6**
STKA	**Stephens Creek**	**31.03**	**153**	P	**P**	**22 42 44.2**	**+0.7**
	3.3nm,0.4s,baz=328,slow=10,SNR=10						
STKA				PcP	**PcP**	**22 45 26.1**	**-2.2**
	1.5nm,0.5s,baz=323,slow=5.7,SNR=5.2						
HTT	**Hallett**	**31.30**	**159**	P	**P**	**22 42 47.5**	**+1.5**
ARPS	**Mount Arapiles**	**35.36**	**158**	P	**P**	**22 43 21.7**	**+1.2**
	18nm,0.7s						
USRK	**Ussuriysk Ar.**	**48.74**	**6**	P	**P**	**22 45 05.8**	**-1.1**
	0.7nm,0.6s,baz=188,slow=8.7,SNR=1.9						
SONM	**Songino Array**	**54.80**	**344**	P	**P**	**22 45 50.5**	**-0.7**
	0.2nm,0.4s,baz=144,slow=10.0,SNR=2.5						
MKAR	**Makanchi Array**	**63.87**	**328**	P	**P**	**22 46 51.8**	**-0.8**
	0.7nm,0.5s,baz=116,slow=8.1,SNR=16						
ZALV	**Zalesovo Beam**	**67.52**	**335**	P	**P**	**22 47 13.5**	**-1.7**
	0.3nm,0.4s,baz=163,slow=9.7,SNR=2.1						

BOSA	**Boshof**	**97.16**	**241**	P	**P**	**22 49 48.9**	**-0.8**
	3.2nm,0.9s,baz=185,slow=2.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**124.25**	**283**	PKP	**PKPdf**	**22 55 13.0**	**-0.9**
	0.7nm,0.7s,baz=94,slow=2.0,SNR=5.6						
CPUP	**Villa Florida**	**149.25**	**174**	PKPbc	**PKPbc**	**22 56 04.2**	**+0.3**
	1.0nm,0.5s,baz=256,slow=2.4,SNR=4.5						

IDC ***04*** *23:12:10.1±0.8, 30°.95S×71°.46W, h0km, mb4.2/10, mb1 4.2/15, mb1mx4.2/27, mbtmp4.1/15, ML3.7/5, MS3.4/11, Ms1 3.4/11, ms1mx3.1/54, Error ellipse: s-maj=24.2km s-min=19.2km az=82.0*

SJA ***04*** *23:12:12.7±0.7, 30°.78S×71°.69W, h14km, ML4.5, MW4.2*

VAO ***04*** *23:12:17.8±0.6, 30°.91S×71°.31W, h43km, mb4.4*

GUC ***04*** *23:12:17.3±0.7, 30°.80S×71°.32W, h41km±2km, ML4.6*

NEIC ***04*** *23:12:17.8±1.6, 30°.83S±0°.03×71°.46W±0°.06, h46km±3km, mb4.5/60, Mwr4.3/57, ML4.6(GUC), Error ellipse: s-maj=7.8km s-min=3.7km az=75.0*

NEIC ***04*** *23:12:18, 30°.83S×71°.48W, h54km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.54; $M_{\theta\theta}$0.28; $M_{\phi\phi}$-3.82; $M_{r\theta}$0.35; $M_{\theta\phi}$0.31; $M_{\phi r}$-0.72; Fault plane solution: $M_0$3.78000×10^{15} NP1:ϕ_s170.69000°, δ50.88000°, λ83.57000°. NP2:ϕ_s0.82000°, δ39.56000°, λ97.84000°. Principal axes: T 3.6358, Plg82.0000°, Azm44.0000°; N 0.2816, Plg5.0000°, Azm175.0000°; P -3.9175, Plg6.0000°, Azm265.0000°;*

ISC 04 23:12:15.7±0.9**, 30°.89S**±0°.02×**71°.41W**±0°.03**, h31**km±6km**, n231, σ1^{s}80**/284**, mb4.6**/32**, MS3.6**/6**, 12C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.29**	**318**		**Pn**	**23 12 26.1**	**+2.2**
CO06					**Sn**	**23 12 32.0**	**+2.8**
CO06	**Fray Jorge**	**0.29**	**318⇑**	*e*P	**Pn**	**23 12 26.3**	**+2.5**
CO06				*e*S	**Sn**	**23 12 32.6**	**+3.5**
CO06				IAML		23 12 33.3	
	comp=N,54μm,0.2s						
CO02	**Combarbal**	**0.47**	**132**		**Pn**	**23 12 29.0**	**+2.5**
CO02					**Sn**	**23 12 37.3**	**+3.5**
CO02	**Combarbal**	**0.47**	**132**	*e*P	**Pn**	**23 12 29.2**	**+2.8**
CO02				*i* S	**Sn**	**23 12 37.3**	**+3.5**
CO02				IAML		23 12 38.6	
	comp=E,115μm,0.3s						
CO02	**Combarbal**	**0.47**	**132**	*e*P	**Pb**	**23 12 24.1**	**-1.7**
CO02				*e*S	**Sn**	**23 12 37.5**	**+3.8**
CO02				IAML		23 12 38.7	
	comp=Z,21μm,0.3s						
CO03	**El Pedregal**	**0.62**	**85**		**Pn**	**23 12 30.2**	**+1.7**
GO04	**Tololo Observa**	**0.89**	**36**		**Pb**	**23 12 33.6**	**+0.7**
GO04				Sn	**Sn**	**23 12 45.3**	**+1.0**
GO04	**Tololo Observa**	**0.89**	**36**	*e*P	**Pb**	**23 12 33.5**	**+0.6**
GO04				*e*S	**Sn**	**23 12 45.3**	**+1.0**
GO04				IAML		23 12 46.9	
	comp=N,43μm,0.2s						
GO04	**Tololo Observa**	**0.89**	**36**	*e*P	**Pb**	**23 12 33.0**	**+0.1**
GO04				*e*S	**Sn**	**23 12 46.0**	**+1.7**
CO05	**La Serena**	**0.98**	**9**	Pn	**Pb**	**23 12 34.5**	**+0.3**
CO05				Sn	**Sb**	**23 12 46.9**	**0.0**
CO05	**La Serena**	**0.98**	**9⇑**	*e*P	**Pb**	**23 12 33.8**	**-0.4**
CO05				*e*S	**Sb**	**23 12 46.7**	**-0.1**
CO01	**Juntas del Tor**	**1.46**	**52**		**Pb**	**23 12 42.6**	**+0.2**
CO01				Sn	**Sb**	**23 13 00.9**	**+0.2**
CO01	**Juntas del Tor**	**1.46**	**52⇓**	*e*P	**Pb**	**23 12 42.6**	**+0.2**
CO01				*e*S	**Sb**	**23 13 00.8**	**+0.1**
CO01	**Juntas del Tor**	**1.46**	**52**	*e*P	**Pn**	**23 12 37.1**	**-3.0**
CO01				*e*P	**Pb**	**23 12 42.0**	**-0.4**
CO01				*e*S	**Sb**	**23 13 01.5**	**+0.8**
VA06	**Catapilco**	**1.67**	**177**		**Pb**	**23 12 46.1**	**+0.3**
VA06				Sn	**Sb**	**23 13 07.5**	**+1.1**
VA06	**Catapilco**	**1.67**	**177⇑**	*e*P	**Pb**	**23 12 46.0**	**+0.3**
VA06				IAML		23 13 14.3	
	comp=E,7μm,0.3s						
VA06				IAML		23 13 16.6	
	comp=N,7μm,0.5s						
AROD	**Rodeo**	**1.82**	**67**	*e*P	**Pb**	**23 12 49.0**	**+0.4**
AROD				*e*P	**Pb**	**23 12 49.4**	**+0.8**
AROD				*e*P	**Pb**	**23 12 49.4**	**+0.8**
AROD				*e*S	**Sn**	**23 13 07.6**	**+0.2**
LCO	**Las Campanas**	**1.97**	**18**		**Pn**	**23 12 48.8**	**+1.5**
LCO	**Las Campanas**	**1.97**	**18⇑**	*e*P	**Pn**	**23 12 48.0**	**+0.8**
LCO				*e*S	**Sn**	**23 13 12.2**	**+1.2**
LCO	**Las Campanas**	**1.97**	**18**	*e*P	**Pn**	**23 12 49.0**	**+1.7**
VA03	**San Esteban**	**2.00**	**159**		**Pb**	**23 12 51.0**	**-0.6**
VA03	**San Esteban**	**2.00**	**159**	*e*P	**Pb**	**23 12 51.0**	**-0.6**
VA03				*e*S	**Sb**	**23 13 17.6**	**+1.5**
VA03				IAML		23 13 24.9	
	comp=E,5μm,0.2s						
VA03	**San Esteban**	**2.00**	**159**	*e*P	**Pb**	**23 12 51.0**	**-0.6**
VA03				*e*S	**Sb**	**23 13 21.1**	**+4.9**
VA03				IAML		23 13 26.3	
	comp=Z,3μm,0.8s						
RTLS	**Leoncito**	**2.02**	**117**	*e*P	**Pb**	**23 12 53.0**	**+1.0**
RTLS				*e*S	**Sn**	**23 13 14.1**	**+1.8**
ACCO	**Cerro Coronel**	**2.04**	**82**	*e*P	**Pb**	**23 12 53.0**	**+0.6**
ACCO				*e*S	**Sn**	**23 13 06.1**	**-6.7**
ROCH	**El Roble**	**2.10**	**171⇑**	*e*P	**Pb**	**23 12 52.5**	**-0.8**
ROCH				*e*P	**Pn**	**23 12 50.2**	**+1.2**
ROCH				*e*S	**Sb**	**23 13 19.5**	**+0.4**
ROCH				*e*S	**Sb**	**23 13 20.9**	**+1.8**
ROCH				IAML		23 13 28.4	
	comp=N,5μm,0.4s						
ROCH				IAML		23 13 31.3	
	comp=E,4μm,0.5s						
ACDV	**Cuesta del Vie**	**2.10**	**71**	*e*P	**Pb**	**23 12 54.0**	**+0.7**
ROC1	**El Roble**	**2.10**	**171**		**Pn**	**23 12 50.3**	**+1.3**
ROC1	**El Roble**	**2.10**	**171**	*e*P	**Pn**	**23 12 50.1**	**+1.1**
ROC1				*e*S	**Sb**	**23 13 18.1**	**-1.1**
VA01	**Torpederas**	**2.13**	**185**		**Pb**	**23 12 51.5**	**-2.2**
VA01	**Torpederas**	**2.13**	**185⇑**	*e*P	**Pb**	**23 12 51.8**	**-1.9**
VA01				⇓*e*S	**Sb**	**23 13 18.8**	**-1.0**
VA01				IAML		23 13 31.1	
	comp=E,2μm,0.5s						
VA01	**Torpederas**	**2.13**	**185**	*e*P	**Pn**	**23 12 51.0**	**+1.8**
AUSP	**Uspallata**	**2.18**	**128**	*e*P	**Pb**	**23 12 55.1**	**+0.5**
AUSP				*e*S	Sb	23 13 34.1	+13
PEL	**Peldehue**	**2.33**	**165**		**Pb**	**23 12 55.2**	**-1.9**
PEL	**Peldehue**	**2.33**	**165⇑**	*e*P	**Pb**	**23 12 55.8**	**-1.3**
PEL				*e*S	**Sb**	**23 13 25.7**	**+0.3**
PEL				IAML		23 13 38.6	
	comp=E,3μm,0.5s						
PEL	**Peldehue**	**2.33**	**165**	*e*P	**Pb**	**23 12 56.0**	**-1.1**
PEL				*e*S	**Sb**	**23 13 24.1**	**-1.3**
PEL				*e*S	**Sb**	**23 13 28.7**	**+3.3**
MT02	**Curacav**	**2.37**	**174**		**Pb**	**23 12 56.1**	**-1.7**
MT02	**Curacav**	**2.37**	**174⇑**	*e*P	**Pb**	**23 12 55.5**	**-2.3**
MT02				*e*S	**Sb**	**23 13 28.4**	**+1.8**
MT02				IAML		23 13 36.8	
	comp=E,2μm,0.4s						
MT02	**Curacav**	**2.37**	**174**	*e*P	**Pb**	**23 12 55.4**	**-2.3**
MT02				*e*P	**Pb**	**23 12 55.5**	**-2.3**
MT02				*e*S	**Sb**	**23 13 29.4**	**+2.8**
MT02				IAML		23 13 36.4	
	comp=Z,2μm,0.5s						
ZON	**Zonda**	**2.43**	**106**		**Pb**	**23 12 57.9**	**-0.8**
ZON	**Zonda**	**2.43**	**106**	*e*P	**Pb**	**23 12 58.0**	**-0.8**
ZON				*e*S	Sb	23 13 49.4	+21
ZON				IAML		23 13 50.0	
	comp=Z,1μm,0.6s						
RTLL	**Cerro Villicun**	**2.56**	**101**	*e*P	**Pb**	**23 12 59.0**	**-1.9**
RTLL				*e*S	Sb	23 13 51.2	+19
MT05	**Renca**	**2.56**	**167**		**Pb**	**23 12 59.0**	**-2.0**
MT05	**Renca**	**2.56**	**167⇑**	*e*P	**Pb**	**23 12 59.0**	**-2.0**
MT05				*e*S	**Sb**	**23 13 33.1**	**+1.0**
MT05				IAML		23 13 43.7	
	comp=E,5μm,0.4s						
MT05	**Renca**	**2.56**	**167**	*e*P	**Pb**	**23 12 58.9**	**-2.0**
MT05				*e*S	**Sb**	**23 13 32.1**	**+0.1**
MT05				IAML		23 13 42.2	
	comp=Z,2μm,0.6s						
FCH	**Farellones**	**2.61**	**159⇑**	*e*P	**Pb**	**23 12 59.8**	**-2.2**
FCH				*i* S	**Sb**	**23 13 34.7**	**+1.0**
FCH				IAML		23 13 46.7	
	comp=E,1μm,0.3s						
RTCV	**Cerro Valdivia**	**2.64**	**112**	*e*P	**Pn**	**23 12 57.1**	**+0.9**
RTCV				*e*P	**Pb**	**23 13 02.0**	**-0.3**
RTCV				*e*S	Sb	23 13 55.5	+21
AC04	**Llanos de Chal**	**2.69**	**6**		**Pn**	**23 12 59.0**	**+2.0**
AC04	**Llanos de Chal**	**2.69**	**6**	*e*P	**Pn**	**23 12 58.0**	**+1.1**
AC04				*e*S	**Sb**	**23 13 37.0**	**+1.1**
MT03	**Universidad Ad**	**2.70**	**164**		**Pb**	**23 13 00.6**	**-2.9**
MT03	**Universidad Ad**	**2.70**	**164⇑**	*e*P	**Pb**	**23 13 01.1**	**-2.5**
MT03				*e*S	**Sb**	**23 13 36.6**	**+0.3**
MT03				IAML		23 13 48.1	
	comp=E,4μm,0.5s						
MT03	**Universidad Ad**	**2.70**	**164**	*e*P	**Pb**	**23 13 01.0**	**-2.5**
MT03				*e*S	**Sb**	**23 13 37.1**	**+0.9**
MT03				IAML		23 13 53.7	
	comp=Z,2μm,1.8s						
VA05	**Santo Domingo**	**2.76**	**184⇑**	*e*P	**Pn**	**23 13 00.1**	**+2.2**
VA05				*e*S	**Sn**	**23 13 31.9**	**+1.7**
VA05				IAML		23 13 48.2	
	comp=E,3μm,0.6s						
ASAL	**Salagasta**	**2.77**	**128**	*e*P	**Pn**	**23 12 58.1**	**+0.1**
ASAL				*e*P	**Pb**	**23 13 03.9**	**-0.7**
ASAL				*e*S	Sb	23 13 51.6	+13
ASAL				IAML		23 13 59.7	
	comp=Z,962nm,0.7s						
ARCO	**CERRO ARCO**	**2.87**	**133**	*e*P	Pn	23 12 51.7	-7.8
ARCO				*e*S	Sb	23 13 50.4	+9.4
ARCO				IAML		23 13 51.1	
	comp=Z,1μm,0.7s						
MT09	**Talagante**	**2.90**	**173**		**Pb**	**23 13 03.5**	**-3.3**
MT09	**Talagante**	**2.90**	**173**	*e*P	**Pb**	**23 13 03.5**	**-3.3**
MT09				*e*S	**Sb**	**23 13 41.8**	**-0.1**
MT09				IAML		23 13 52.9	
	comp=N,3μm,0.6s						
MT01	**Popeta**	**2.97**	**177**	*e*P	**Pn**	**23 13 03.7**	**+3.0**
MT01				*e*S	**Sb**	**23 13 41.8**	**-1.9**
MT01				IAML		23 13 57.8	
	comp=E,1μm,0.6s						
MT01	**Popeta**	**2.97**	**177**	*e*P	**Pn**	**23 13 03.6**	**+3.0**
MT01				*e*S	**Sb**	**23 13 43.6**	**-0.1**
MT01				IAML		23 13 55.3	
	comp=Z,990nm,0.5s						
AAGR	**Agrelo**	**3.10**	**136**	*e*P	**Pb**	**23 13 09.0**	**-1.2**
LMEL	**Las Melosas**	**3.12**	**161**		**Pb**	**23 13 07.7**	**-2.9**
LMEL	**Las Melosas**	**3.12**	**161**	*e*P	**Pb**	**23 13 07.8**	**-2.9**
LMEL				*e*S	**Sb**	**23 13 46.8**	**-1.5**
LMEL				IAML		23 13 59.6	
	comp=N,2μm,0.3s						
GO03	**Copiap**	**3.44**	**18**		**Pn**	**23 13 09.3**	**+2.0**
GO03	**Copiap**	**3.44**	**18**	*e*P	**Pn**	**23 13 09.3**	**+2.0**
GO03				*e*S	**Sn**	**23 13 49.5**	**+2.5**
GO03				IAML		23 14 02.2	
	comp=N,622nm,0.4s						
GO03	**Copiap**	**3.44**	**18**	*e*P	**Pn**	**23 13 09.0**	**+1.7**
GO03				*e*S	**Sb**	**23 14 03.1**	**+5.6**
BO01	**Tunca**	**3.50**	**176**	*e*P	**Pn**	**23 13 11.4**	**+3.4**
BO01				*e*S	**Sb**	**23 13 58.1**	**-0.9**
BO01				IAML		23 14 16.2	
	comp=Z,460nm,1.0s						
VCA	**Vinchina**	**3.52**	**53**	*e*P	Pn	23 13 13.0	+4.6
VCA				*e*S	**Sb**	**23 13 57.1**	**-2.6**
VCA				IAML		23 14 21.3	
	comp=Z,574nm,1.6s						
BO02	**Sierra Bellavi**	**3.92**	**172**		**Pn**	**23 13 17.2**	**+3.3**
BO02	**Sierra Bellavi**	**3.92**	**172**	*e*P	**Pn**	**23 13 17.4**	**+3.5**
BO02				*e*S	**Sb**	**23 14 07.6**	**-3.7**
BO02				IAML		23 14 21.2	
	comp=Z,748nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.13**	**70**	*e*P	**Pn**	**23 13 20.7**	**+3.9**
ACLC				*e*S	**Sb**	**23 14 15.7**	**-1.6**
ACLC				IAML		23 14 17.1	
	comp=Z,876nm,1.0s						
GO05	**Huala**	**4.13**	**186**	Pn	**Pn**	**23 13 18.4**	**+1.7**
GO05	**Huala**	**4.13**	**186**	*e*P	**Pn**	**23 13 18.3**	**+1.7**
GO05				*e*S	**Sb**	**23 14 15.6**	**-1.5**
APLL	**PUNTA DE LOS L**	**4.24**	**85**	*e*P	**Pn**	**23 13 21.6**	**+3.4**
APLL				*e*S	**Sb**	**23 14 18.4**	**-1.9**
APLL				IAML		23 14 18.6	
	comp=Z,803nm,2.3s						
AC02	**Maricunga**	**4.51**	**27**	Pn	**Pn**	**23 13 24.7**	**+2.3**
AC02	**Maricunga**	**4.51**	**27**	*e*P	**Pn**	**23 13 25.0**	**+2.7**
AC02				*e*S	**Sn**	**23 14 15.6**	**+1.6**
AC02				IAML		23 14 36.8	
	comp=Z,334nm,1.1s						
RFA	**San Rafael**	**4.59**	**148**	*e*P	**Pn**	**23 13 21.1**	**-2.0**
RFA				*e*P	Pn	23 13 27.6	+4.5
AC01	**Pan de Azucar**	**4.78**	**9**	Pn	**Pn**	**23 13 25.4**	**-0.2**
AC01	**Pan de Azucar**	**4.78**	**9**	*e*P	**Pn**	**23 13 25.4**	**-0.2**
AC01				*e*S	**Sb**	**23 14 29.6**	**-6.3**
ML02	**Panimavida**	**4.86**	**180**		**Pn**	**23 13 29.1**	**+2.4**
MRA	**San Martin**	**5.09**	**109**	*e*P	**Pn**	**23 13 33.0**	**+3.1**
MRA				*e*P	**Pn**	**23 13 33.2**	**+3.3**
MRA				*e*S	**Sn**	**23 14 24.6**	**-3.0**
MRA				IAML		23 14 39.4	
	comp=Z,957nm,0.7s						
GO02	**Mina Guanaco**	**5.93**	**16**		**Pn**	**23 13 42.4**	**+0.7**
GO02	**Mina Guanaco**	**5.93**	**16**	*e*P	**Pn**	**23 13 42.0**	**+0.3**
GO02				*e*P	**Pn**	**23 13 42.4**	**+0.7**
GO02				*e*S	**Sb**	**23 15 06.1**	**-3.1**
BI05	**Punta Hualpn**	**6.03**	**194**	Pn	**Pn**	**23 13 43.4**	**+0.7**
PB14	**IPOC Station P**	**6.31**	**8**	Pn	**Pn**	**23 13 47.9**	**+1.0**
AHML	**Horco Molle**	**6.72**	**54**	*e*P	**Pn**	**23 13 50.1**	**-2.2**
AHML				*e*P	**Pn**	**23 13 54.0**	**+1.7**
AHML				*e*P	Pn	23 13 57.4	+5.1
AHML				*e*S	**Sn**	**23 15 12.6**	**+4.8**
FSA	**Cafayete**	**6.75**	**46**	*e*P	**Pn**	**23 13 50.1**	**-2.7**
FSA				*e*P	**Pn**	**23 13 56.0**	**+3.2**
FSA				*e*P	**Pn**	**23 13 56.2**	**+3.4**
FSA				*e*S	**Sn**	**23 15 17.1**	**+8.4**
H03N1	**Juan Fernandez**	**6.85**	**246**	T	T	23 20 47.4	
	baz=74,slow=72,SNR=4427						
H03N3	**Juan Fernandez**	**6.86**	**246**	T	T	23 20 47.3	
	baz=74,slow=72,SNR=4269						
H03N2	**Juan Fernandez**	**6.86**	**246**	T	T	23 20 47.9	
	baz=74,slow=72,SNR=4823						
PB10	**IPOC Station P**	**7.39**	**6**	Pn	**Pn**	**23 14 02.3**	**+0.8**
PB10	**IPOC Station P**	**7.39**	**6**	*e*P	**Pn**	**23 14 02.4**	**+1.0**
PB10				*e*P	**Pn**	**23 14 03.9**	**+2.5**
PB15	**IPOC Station P**	**7.85**	**13**		**Pn**	**23 14 07.6**	**-0.3**
LC01	**Cunco**	**8.00**	**183**	Pn	**Pn**	**23 14 11.7**	**+1.9**
PB06	**IPOC Station P**	**8.32**	**12**	Pn	**Pn**	**23 14 15.7**	**+1.3**
LVC	**Limon Verde**	**8.55**	**16**	Pn	**Pn**	**23 14 16.2**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=164,slow=5.5,SNR=8.6						
LVC				Sn	**Sn**	**23 15 55.2**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=185,slow=23,SNR=1.7						
LVC				LR	LR	23 18 15.1	
	comp=Z,63nm,18.1s,baz=213,slow=42						
LVC	**Limon Verde**	**8.55**	**16**	Pn	**Pn**	**23 14 18.7**	**+1.0**
PB04	**IPOC Station P**	**8.60**	**8**	Pn	**Pn**	**23 14 20.6**	**+2.4**
PB07	**IPOC Station P**	**9.23**	**9**	Pn	**Pn**	**23 14 28.2**	**+1.3**
PB09	**IPOC Station P**	**9.27**	**13**	Pn	**Pn**	**23 14 27.9**	**+0.5**
PB09	**IPOC Station P**	**9.27**	**13**	*e*P	Pn	23 14 21.6	-5.8
PB09				*e*P	**Pn**	**23 14 27.2**	**-0.2**
PB02	**IPOC Station P**	**9.63**	**8**	Pn	**Pn**	**23 14 33.5**	**+1.2**
PLCA	**Paso Flores**	**9.84**	**176**	Pn	**Pn**	**23 14 32.9**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=351,slow=10.0,SNR=1.7						
PLCA				Lg	Lg	23 17 20.3	
	comp=Z,0.1nm,0.3s,baz=40,slow=6.0,SNR=1.4						
PLCA				LR	LR	23 19 00.3	
	comp=Z,131nm,21.1s,baz=332,slow=42						
PLCA	**Paso Flores**	**9.84**	**176**	Pn	**Pn**	**23 14 36.9**	**+1.7**
PLCA	**Paso Flores**	**9.84**	**176**	*e*P	**Pn**	**23 14 36.5**	**+1.4**
PB01	**IPOC Station P**	**9.96**	**10**	Pn	**Pn**	**23 14 36.4**	**-0.4**
LL04	**Puerto Octay**	**10.03**	**184**		**Pn**	**23 14 39.1**	**+1.5**
PATCX	**Punta Patache**	**10.09**	**7**	Pn	**Pn**	**23 14 39.2**	**+0.5**
PB16	**IPOC Station P**	**12.62**	**8**	Pn	**Pn**	**23 15 13.8**	**+0.1**
ITQB	**Itaqui**	**12.84**	**88**		**Pn**	**23 15 16.1**	**0.0**
ITQB	**Itaqui**	**12.84**	**88**	*e*P	**Pn**	**23 15 15.7**	**-0.4**
CPUP	**Villa Florida**	**13.18**	**73**	Pn	**Pn**	**23 15 21.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=251,slow=19,SNR=1.8						
CPUP				Sn	**Sn**	**23 17 44.3**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=273,slow=12,SNR=1.8						
CPUP				LR	LR	23 20 55.4	
	comp=Z,137nm,20.1s,baz=234,slow=40						
CPUP	**Villa Florida**	**13.18**	**73**	Pn	**Pn**	**23 15 23.4**	**+2.7**
CPUP	**Villa Florida**	**13.18**	**73**	*e*P	**Pn**	**23 15 21.7**	**+1.0**
COYC	**Coyhaique**	**14.67**	**182**	Pn	**P**	**23 15 45.2**	**-1.6**
LPAZ	**La Paz**	**14.84**	**12**	Pn	**Pn**	**23 15 44.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=190,slow=7.3,SNR=7.0						
LPAZ	**La Paz**	**14.84**	**12**		**Pn**	**23 15 45.0**	**+0.9**
LPAZ	**La Paz**	**14.84**	**12**	*e*P	**Pn**	**23 15 45.5**	**+1.4**
PLTB	**Pedras Altas**	**15.25**	**98**	Pn	**Pn**	**23 15 51.1**	**+2.3**
PLTB	**Pedras Altas**	**15.25**	**98**	*e*P	**Pn**	**23 15 48.6**	**-0.1**
ITAB	**Concordia**	**17.24**	**83**	P	**P**	**23 16 15.4**	**-0.1**
ITAB	**Concordia**	**17.24**	**83**	*e*P	**Pn**	**23 16 14.3**	**0.0**
AQDB	**Aquidauana**	**17.53**	**57**		**P**	**23 16 19.1**	**+0.4**
AQDB	**Aquidauana**	**17.53**	**57**	*e*P	**P**	**23 16 19.2**	**+0.5**
SIV	**San Ignacio**	**17.59**	**35**	P	**Pn**	**23 16 18.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=219,slow=9.5,SNR=29						
SIV				LR	LR	23 22 54.2	
	comp=Z,75nm,21.9s,baz=244,slow=36						
PTGB	**Pitanga**	**18.18**	**75**	*e*P	**P**	**23 16 26.4**	**+0.5**
PTLB	**Pontes e Lacer**	**19.04**	**39**	*e*P	**P**	**23 16 35.9**	**+0.5**
NNA	**Nana**	**19.47**	**344**	LR	LR	23 22 52.3	
	comp=Z,40nm,18.5s,baz=184,slow=33						
TER01	**Tubaro-SC**	**19.49**	**89**	*e*P	**P**	**23 16 40.6**	**+0.3**
PCMB	**Pacaembu**	**20.27**	**68**	*e*P	**P**	**23 16 49.4**	**+0.6**
VILB	**Vilhena**	**20.63**	**33**	*e*P	**P**	**23 16 53.0**	**+0.2**
SALV	**Santo Antonio**	**20.72**	**47**	*e*P	**P**	**23 16 53.4**	**-0.2**
FRTB	**Fartura**	**20.83**	**74**	*e*P	**P**	**23 16 55.2**	**+0.4**
ETMB	**Extrema**	**21.52**	**14**	*e*P	**P**	**23 17 03.2**	**+0.9**
ITRB	**Iturama**	**22.01**	**65**	*e*P	**P**	**23 17 07.1**	**-0.5**
BB19B	**Bebedouro**	**22.74**	**70**	*e*P	**P**	**23 17 15.0**	**-0.4**
VAO	**Valinhos**	**23.13**	**76**	*e*P	**P**	**23 17 19.1**	**-0.4**
PDRB	**Porto dos Gac**	**23.52**	**38**	*e*P	**P**	**23 17 23.6**	**+0.5**
PARB	**Paraibuna**	**24.12**	**78**	*e*P	**P**	**23 17 29.4**	**+0.5**
IPMB	**Ipameri, GO**	**24.66**	**64**	*e*P	**P**	**23 17 33.2**	**-0.7**
BDFB	**Brasilia**	**26.23**	**60**	P	**P**	**23 17 47.3**	**-0.9**
	comp=Z,7.8nm,0.8s,baz=230,slow=9.0,SNR=13						
BDFB	**Brasilia**	**26.23**	**60**	P	**P**	**23 17 48.0**	**-0.2**
BDFB				IAmb	IAmb	23 17 48.6	
	comp=Z,9.6nm,0.9s						
BDFB	**Brasilia**	**26.23**	**60**	*e*P	**P**	**23 17 48.0**	**-0.2**
VAS01	**Vassouras-RJ**	**26.39**	**78**	*e*P	**P**	**23 17 50.2**	**+0.7**
SNDB	**Serra Nova Dou**	**26.47**	**49**	*e*P	**P**	**23 17 51.1**	**+0.9**
DIAM	**Diamantina, MG**	**28.08**	**70**	*e*P	**P**	**23 18 04.9**	**0.0**
PEXB	**Peixe**	**28.39**	**54**	*e*P	**P**	**23 18 07.6**	**+0.2**
MC01	**Montes Claros**	**28.73**	**67**	*e*P	**P**	**23 18 10.4**	**-0.1**
JANB	**Januaria**	**29.40**	**64**	*e*P	**P**	**23 18 16.1**	**-0.4**
SJMB	**Sao Joao De Ma**	**29.90**	**73**	*e*P	**P**	**23 18 20.9**	**+0.1**
SDBA	**SAO DESIDERIO**	**30.61**	**59**	*e*P	**P**	**23 18 26.9**	**-0.3**
NAN01	**Guarapari, ES**	**31.20**	**73**	*e*P	**P**	**23 18 32.1**	**-0.2**
SMTB	**Santa Maria do**	**31.20**	**50**	*e*P	**P**	**23 18 33.1**	**+0.7**
TULM	**Tulcn-Chalpat**	**32.01**	**348**	P	**P**	**23 18 38.3**	**-1.7**
TULM				IAmb	IAmb	23 18 57.1	
	comp=Z,6.8nm,0.9s						
RPN	**Rapa Nui**	**33.27**	**267**	LR	LR	23 28 40.1	
	comp=Z,109nm,18.8s,baz=232,slow=30						
ESPZ	**Base Esperanza**	**33.80**	**168**	P	**P**	**23 18 55.4**	**+0.8**
ORCD	**Orcadas**	**34.68**	**157**	P	**P**	**23 19 03.9**	**+1.7**
BOAV	**Boa Vista**	**34.69**	**19**	*e*P	**P**	**23 19 02.8**	**0.0**
PAYG	**Puerto Ayora**	**34.98**	**326**	P	**P**	**23 19 05.1**	**-0.2**
NBPN	**Ponto Novo - B**	**35.14**	**62**	*e*P	**P**	**23 19 06.2**	**-0.5**
ZARC	**Zaragoza, Cauc**	**38.31**	**354**	P	**P**	**23 19 32.1**	**-1.5**
RCBR	**Riachuelo**	**41.60**	**60**	LR	LR	23 39 03.1	
	comp=Z,63nm,18.9s,baz=320,slow=39						
CRPR	**Cabo Rojo, PR**	**48.79**	**5**	P	**P**	**23 20 57.2**	**-0.7**
PDPR	**Patillas Dam,**	**48.90**	**7**	P	**P**	**23 20 57.5**	**-1.3**
CELP	**Cerrillos**	**48.91**	**6**	P	**P**	**23 20 58.3**	**-0.5**
AOPR	**Arecibo Observ**	**49.16**	**6**	P	**P**	**23 21 02.4**	**+1.6**
VNA3	**Neumayer Olymp**	**52.04**	**159**	P	**P**	**23 21 22.8**	**+0.8**
VNA2	**Neumayer--Watz**	**52.68**	**158**	P	**P**	**23 21 27.5**	**+0.8**
	baz=285,slow=7.0						
SNAA	**Sanae**	**54.27**	**159**	P	**P**	**23 21 39.1**	**+0.6**
SNAA	**Sanae**	**54.27**	**159**	P	**P**	**23 21 39.4**	**+0.9**
SNAA				IAmb	IAmb	23 21 40.1	
	comp=Z,6.2nm,1.0s						
TROLL	**Troll, Antarti**	**55.98**	**159**	P	**P**	**23 21 51.4**	**+0.5**
TXAR	**Lajitas Array**	**67.31**	**330**	P	**P**	**23 23 07.9**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=157,slow=6.8,SNR=5.7						
MBO	**M'Bour**	**69.02**	**58**	P	**P**	**23 23 17.4**	**-1.1**
W39A	**Magazine**	**69.03**	**340**	P	**P**	**23 23 18.6**	**+0.4**
W39A				IAmb	IAmb	23 23 20.2	
	comp=Z,7.7nm,1.0s						
T47A	**Sharon Grove**	**69.11**	**347**	P	**P**	**23 23 17.9**	**-0.8**
T47A				IAmb	IAmb	23 23 20.1	
	comp=Z,13nm,1.1s						
LCAR	**Lake Charles**	**69.14**	**343**	P	**P**	**23 23 18.1**	**-0.8**
LCAR				IAmb	IAmb	23 23 19.7	
	comp=Z,4.2nm,0.7s						
PBMO	**Poplar Bluff**	**69.64**	**344**	P	**P**	**23 23 21.2**	**-0.8**
PBMO				IAmb	IAmb	23 23 23.9	
	comp=Z,4.7nm,0.8s						
GSR	**Geological Sur**	**69.70**	**355**	P	**P**	**23 23 20.9**	**-1.4**
U40A	**Yellville**	**69.86**	**342**	P	**P**	**23 23 22.9**	**-0.4**
U40A				IAmb	IAmb	23 23 24.3	
	comp=Z,3.8nm,0.8s						
HHAR	**Hobbs**	**70.09**	**341**	P	**P**	**23 23 23.5**	**-1.3**
HHAR				IAmb	IAmb	23 23 25.8	
	comp=Z,5.3nm,0.8s						
MNTX	**Cornudas Mount**	**70.09**	**330**	P	**P**	**23 23 24.3**	**-0.5**
WMOK	**Wichita Mounta**	**70.19**	**336**	P	**P**	**23 23 25.4**	**0.0**
WMOK				IAmb	IAmb	23 23 38.9	
	comp=Z,4.4nm,0.8s						
S39A	**Bolivar**	**71.24**	**342**	P	**P**	**23 23 30.7**	**-1.0**
S39A				IAmb	IAmb	23 23 33.5	
	comp=Z,5.2nm,0.9s						
R40A	**Maddies Statio**	**71.53**	**343**	P	**P**	**23 23 32.8**	**-0.7**
R40A				IAmb	IAmb	23 23 34.5	
	comp=Z,9.0nm,0.8s						
121A	**Cookes Peak, D**	**71.87**	**328**	P	**P**	**23 23 34.8**	**-1.1**
121A				IAmb	IAmb	23 23 52.5	
	comp=Z,7.1nm,1.0s						
N49A	**Columbus Grove**	**72.43**	**350**	P	**P**	**23 23 37.7**	**-1.0**
P40A	**Paris**	**72.64**	**343**	P	**P**	**23 23 39.7**	**-0.4**
DBIC	**Dimbokro**	**73.69**	**72**	P	**P**	**23 23 46.8**	**0.0**
	comp=Z,6.8nm,0.7s,baz=248,slow=4.8,SNR=7.7						
DBIC				LR	LR	23 56 03.0	
	comp=Z,25nm,18.2s,baz=208,slow=36						
DBIC	**Dimbokro**	**73.69**	**72**	IAmb	IAmb	23 23 47.7	
	comp=Z,10.0nm,0.8s						
L40A	**Anamosa**	**74.86**	**345**	P	**P**	**23 23 52.1**	**-0.8**
SDCO	**Great Sand Dun**	**75.35**	**333**	P	**P**	**23 23 55.9**	**-0.4**
SUR	**Sutherland**	**75.87**	**119**	LR	LR	23 54 54.7	
	comp=Z,32nm,18.2s,baz=158,slow=34						
MAW	**Mawson**	**76.00**	**164**	LR	LR	00 00 13.0	
	comp=Z,127nm,18.7s,baz=88,slow=38						
Q24A	**Divide**	**76.27**	**334**	P	**P**	**23 24 01.3**	**-0.3**
Q24A				IAmb	IAmb	23 24 03.9	
	comp=Z,5.9nm,0.9s						
H43A	**Windswept, Lux**	**76.47**	**348**	P	**P**	**23 24 00.6**	**-1.6**
PV01	**Paradox Valley**	**76.93**	**331**	P	**P**	**23 24 05.5**	**+0.3**
PV01				IAmb	IAmb	23 24 14.2	
	comp=Z,3.0nm,0.8s						
SMCO	**Snowmass**	**77.17**	**332**	P	**P**	**23 24 06.6**	**-0.2**
SMCO				IAmb	IAmb	23 24 23.1	
	comp=Z,6.4nm,1.1s						
ISCO	**Idaho Springs**	**77.17**	**334**	P	**P**	**23 24 06.3**	**-0.3**
PV11	**David Mesa, Pa**	**77.20**	**331**	P	**P**	**23 24 05.8**	**-0.9**
PV10	**Paradox Valley**	**77.33**	**331**	P	**P**	**23 24 06.3**	**-1.2**
PV10				IAmb	IAmb	23 24 11.9	
	comp=Z,13nm,1.1s						
K31A	**O'Neill**	**77.36**	**340**		**P**	**23 24 07.2**	**0.0**
ECSD	**EROS Data Cent**	**77.77**	**342**	P	**P**	**23 24 09.3**	**-0.2**
ECSD				IAmb	IAmb	23 24 10.7	
	comp=Z,7.7nm,0.9s						
F36A	**Milaca**	**78.98**	**344**	P	**P**	**23 24 15.6**	**-0.6**
F36A				IAmb	IAmb	23 24 16.7	
	comp=Z,6.0nm,1.1s						
PRN	**Pahroc Range**	**79.26**	**326**	P	**P**	**23 24 18.0**	**0.0**
PRN				IAmb	IAmb	23 24 34.5	
	comp=Z,4.5nm,1.0s						
PSUT	**Pine Spring**	**79.60**	**327**	P	**P**	**23 24 19.2**	**-0.8**
F33A	**5 Mile Ranch,**	**79.64**	**343**	P	**P**	**23 24 19.1**	**-0.6**
F33A				IAmb	IAmb	23 24 20.6	
	comp=Z,5.0nm,1.1s						
EYMN	**Ely**	**80.53**	**346**	P	**P**	**23 24 23.8**	**-0.7**
EYMN				IAmb	IAmb	23 24 30.0	
	comp=Z,9.7nm,1.1s						
BOSA	**Boshof**	**81.05**	**118**	P	**P**	**23 24 27.8**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=278,slow=11,SNR=1.9						
BOSA	**Boshof**	**81.05**	**118**	P	**P**	**23 24 28.2**	**+0.1**
PDAR	**Pinedale Array**	**81.25**	**333**	P	**P**	**23 24 29.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=130,slow=17,SNR=2.3						
NVAR	**Mina Array Bea**	**81.65**	**325**	P	**P**	**23 24 31.5**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=156,slow=6.8,SNR=2.6						
ELK	**Elko**	**82.01**	**328**	P	**P**	**23 24 32.6**	**-0.2**
KVN	**Kaiserville**	**82.03**	**325**	P	**P**	**23 24 32.3**	**-0.6**
TOA0	**Torodi Ar. Sit**	**82.65**	**70**	P	**P**	**23 24 35.5**	**-1.0**
TOA0				IAmb	IAmb	23 24 36.8	
	comp=Z,5.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P	**P**	**23 24 35.2**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=262,slow=4.6,SNR=12						
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P	**P**	**23 24 35.6**	**-0.9**
TORD				IAmb	IAmb	23 24 36.8	
	comp=Z,4.1nm,1.0s						
LBTB	**Lobatse**	**83.13**	**115**	LR	LR	23 56 27.9	
	comp=Z,32nm,21.9s,baz=186,slow=32						
CASY	**Casey**	**83.13**	**181**	P	**P**	**23 24 38.6**	**+0.5**
CASY				IAmb	IAmb	23 24 45.1	
	comp=Z,9.8nm,1.1s						
ULM	**Lac du Bonnet**	**83.65**	**344**	P	**P**	**23 24 39.6**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=158,slow=2.8,SNR=4.5						
ULM	**Lac du Bonnet**	**83.65**	**344**	IAmb	IAmb	23 24 41.4	

	comp=Z,4.5nm,0.9s						
HLID	Hailey	83.91	330	P	P	23 24 42.0	-0.5
LSZ	Lusaka	90.26	108	P	P	23 25 15.3	+1.2
	comp=Z,3.0nm,0.9s,baz=332,slow=1.0,SNR=5.6						
LSZ	Lusaka	90.26	108	P	P	23 25 16.2	+2.1
YKA	Yellowknife Ar	99.29	341	P	Pdif	23 25 52.1	-1.8
	comp=Z,0.3nm,0.9s,baz=108,slow=2.3,SNR=3.6						
WRA	Warramunga Arr	123.72	209	PKP	PKPdf	23 31 09.5	-1.5
	comp=Z,1.5nm,1.1s,baz=146,slow=1.7,SNR=6.5						
H11S2	WAKE ISLAND Hy	126.30	271	T	T	01 50 04.5	
	baz=116,slow=75,SNR=118						
H11S1	WAKE ISLAND Hy	126.31	271	T	T	01 50 02.6	
	baz=116,slow=75,SNR=106						
H11S3	WAKE ISLAND Hy	126.31	271	T	T	01 50 03.1	
	baz=116,slow=75,SNR=94						
ZALV	Zalesovo Beam	151.30	30	PKPbc	PKPbc	23 32 04.1	-1.5
	comp=Z,3.9nm,0.9s,baz=306,slow=3.3,SNR=11						
KSH	Kashi	152.11	63	PKPbc	PKPdf	23 32 03.8	+2.3
KSH				pPKP	sPKPdf	23 32 14.5	-1.1
KSH				sPKP		23 32 16.9	
PZH	PanZhiHua	172.57	124	PKP	PKPdf	23 32 22.7	+0.6
LZH	Lanzhou	173.48	36	ePKP	PKPdf	23 32 22.3	+0.1
LZH				pPKP	sPKPdf	23 32 35.2	-1.1
LZH				sPKP		23 32 39.4	

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*BJI **04** 23:25:19.8±0.0, 44°.49N×138°.18E, h266km, mb4.5/35, mB4.3/19*

*JMA **04** 23:25:21.4±0.3, 44°.45N×138°.12E, h306km±4km, M3.8*

*NIED **04** 23:25:21.4, 44°.45N×138°.12E, h306km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.96; $M_{\theta\theta}$4.62; $M_{\phi\phi}$-3.66; $M_{r\theta}$0.22; $M_{\theta\phi}$-0.93; $M_{\phi r}$1.22; Fault plane solution: $M_0$4.48000×10^{15} NP1: ϕ_s233.00000°, δ76.00000°, λ-164.00000°. NP2: ϕ_s139.00000°, δ75.00000°, λ-14.00000°.*

*IDC **04** 23:25:22.6±0.7, 44°.57N×138°.03E, h275km±7km, mb3.7/26, mb1 3.9/36, mb1mx3.8/41, mbtmp4.4/36 Error ellipse: s-maj=8.5km s-min=7.8km az=3.0*

*MOS **04** 23:25:22.2±0.9, 44°.55N×138°.10E, h283km, mb4.2/10, Error ellipse: s-maj=6.9km s-min=5.2km az=86.6*

*SKHL **04** 23:25:22.8±0.3, 44°.50N×138°.20E, h285km±15km, mb4.9/10, mbv4.7/4, msh4.3/3, msha5.0/8*

*NEIC **04** 23:25:23.2±2.0, 44°.51N±0°.07×138°.15E±0°.09, h277km±6km, mb4.3/180, Error ellipse: s-maj=10.3km s-min=8.8km az=144.0*

ISC 04 23:25:22.5±0.5**, 44°.48N**±0°.03×**138°.12E**±0°.03**, h277**km±4km**, n527, σ1s.31**/564**, mb4.3**/153**, 28C-8D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEY	Ternei	1.22	298	⇓iP	Pn	23 26 02.4	+0.9
TEY				eS	S	23 26 32.1	-0.3
TEY				pmax	pmax		
	comp=Z,450nm,0.6s						
TEY				pmax	pmax		
	comp=E,300nm,1.0s						
TEY				pmax	pmax		
	comp=N,100nm,0.8s						
TEY				pmax	pmax		
	comp=Z,500nm,1.1s						
TEY				pmax	pmax		
	comp=E,230nm,0.9s						
TEY				pmax	pmax		
	comp=N,80nm,0.4s						
TEY				smax	smax		
	comp=E,120nm,0.8s						
TEY				smax	smax		
	comp=N,190nm,0.8s						
TEY	Ternei	1.22	298	iP	Pn	23 26 01.9	+0.4
TEY				AMB	AMB	23 26 02.6	
	comp=N,450nm,0.6s						
TEY				AMB	AMB	23 26 02.7	
	comp=N,500nm,1.1s						
TEY				eS	S	23 26 32.1	-0.3
TEY				A	A	23 26 32.6	
	comp=N,190nm,0.8s						
TEY				A	A	23 26 32.6	
	comp=N,120nm,0.8s						
JRBN	Rebuntou	2.29	65	P	Pn	23 26 10.7	+1.1
JRBN				eS	S	23 26 47.4	+0.2
JOSM	Okushiri--Mats	2.59	157	P	Pn	23 26 13.8	+1.2
JOSM				eS	S	23 26 55.3	+2.8
JSS	Shosan	2.67	90	P	Pn	23 26 15.1	+1.8
JHR	Hokuryu	2.70	105	P	Pn	23 26 15.0	+1.4
JWK2	Keihoku	2.81	71	P	Pn	23 26 16.8	+2.2
JWK2				eS	S	23 26 59.0	+2.9
JEW	Eniwo	2.92	123	P	Pn	23 26 17.4	+1.6
JEW				eS	S	23 27 01.1	+2.8
JEW	Eniwo	2.92	123	Pn	Pn	23 26 16.1	+0.3
JSE	Soyaes	3.21	80	P	Pn	23 26 20.6	+1.8
JSE				eS	S	23 27 06.1	+2.4
ASAJ	Asahikawa	3.23	95	P	Pn	23 26 20.0	+1.0
	comp=N,21nm,0.3s,baz=280,slow=10.0,SNR=60						
ASAJ				S	S	23 27 06.3	+2.2
	comp=N,2.4nm,0.3s,baz=140,slow=33,SNR=0.9						
JKA	Kamikawa-asahi	3.23	95		Pn	23 26 19.5	+0.5
JOMM	Oshimamatsumae	3.26	154	P	Pn	23 26 20.1	+0.7
JOMM				eS	S	23 27 05.3	+0.5
JKK2	Kamakawa 2	3.38	99	P	Pn	23 26 21.9	+1.2
JKK2				eS	S	23 27 09.4	+2.3
JOT	Ohata	3.77	144	P	Pn	23 26 24.9	-0.1
JNBK	Urakawa-nobuka	4.03	122	P	Pn	23 26 28.1	+0.3
JNBK				eS	S	23 27 20.2	+0.2
YSS	Yuzh-Sakhalins	4.08	51	ceP	Pn	23 26 29.2	+1.0
YSS				eS	S	23 27 21.0	+0.2
YSS				pmax	pmax		
	comp=Z,200nm,3.7s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				smax	smax		
	comp=N,600nm,5.6s						
YSS				smax	smax		
	comp=E,100nm,1.0s						
YSS	Yuzh-Sakhalins	4.08	51		Pn	23 26 28.9	+0.6
YSS	Yuzh-Sakhalins	4.08	51	eP	Pn	23 26 29.1	+0.9
YSS				AMB	AMB	23 26 29.9	
	comp=E,200nm,3.7s						
YSS				AMB	AMB	23 26 30.1	
	comp=E,90nm,0.5s						
YSS				eS	S	23 27 20.1	-0.7
YSS				A	A	23 27 22.1	
	comp=E,600nm,5.6s						
YSS				A	A	23 27 22.6	
	comp=E,100nm,0.5s						
JTKR	Abashiri--Toko	4.19	95	P	Pn	23 26 30.5	+0.9
JCH	Churui	4.24	114	P	Pn	23 26 28.5	-1.7
JCH				eS	S	23 27 20.8	-3.6
JAR	Ashorobuto	4.25	104	P	Pn	23 26 30.9	+0.6
JAR				eS	S	23 27 25.8	+1.2
JTM	Tenmabayashi	4.29	149		Pn	23 26 29.6	-1.2
GRTR	Gornotajezhnoj	4.37	262	eP	Pn	23 26 32.2	+0.5
GRTR				AMB	AMB	23 26 32.9	
	comp=E,40nm,0.4s						
GRTR				AMB	AMB	23 26 34.0	
	comp=E,120nm,4.0s						
GRTR				eS	S	23 27 26.1	-0.9
GRTR				A	A	23 27 27.2	
	comp=E,20nm,0.6s						
GRTR				A	A	23 27 27.2	
	comp=E,30nm,0.6s						
GRTR				A	A	23 27 29.0	
	comp=E,410nm,6.0s						
GRTR				A	A	23 27 29.0	
	comp=E,180nm,6.0s						
USRK	Ussuriysk Ar.	4.41	268	P	Pn	23 26 33.0	+0.9
	baz=81,slow=13,SNR=267						
USRK				S	S	23 27 26.6	-1.3
	baz=32,slow=36,SNR=1.2						
USA0B	Ussuriysk Arra	4.41	268	P	Pn	23 26 32.9	+0.7
USA0B	Ussuriysk Arra	4.41	268		Pn	23 26 32.9	+0.7
ERM	Erimo	4.43	122	ceP	Pn	23 26 33.0	+0.6
ERM				pmax	pmax		
	comp=Z,71nm,0.7s						
ERM	Erimo	4.43	122		Pn	23 26 33.2	+0.9
VLA	Vladivostok	4.72	255	diP	Pn	23 26 36.6	+0.9
VLA				pmax	pmax		
	comp=Z,197nm,0.8s						
VLA	Vladivostok	4.72	255	eP	Pn	23 26 36.6	+0.9
JANG	Nango	4.81	147	P	Pn	23 26 35.7	-1.3
JANG				eS	S	23 27 31.7	-4.9
JAK	Akkeshi	4.99	105	P	Pn	23 26 37.9	-1.0
JAK				eS	S	23 27 37.4	-2.8
JRA	Rausu	5.06	94	P	Pn	23 26 40.9	+1.1
AKK	Akkeshi	5.08	104	eP	Pn	23 26 39.0	-1.1
AKK				eS	S	23 27 38.3	-4.0
UGL	Uglegorsk	5.33	29	eP	Pn	23 26 44.2	+1.3
UGL				S	S	23 27 45.0	-2.5
UGL				pmax	pmax		
	comp=Z,231nm,0.7s						
UGL	Uglegorsk	5.33	29	eP	Pn	23 26 43.5	+0.6
UGL				AMB	AMB	23 26 45.0	
	comp=Z,210nm,0.4s						
UGL				eS	S	23 27 46.6	-0.9
UGL				A	A	23 27 47.0	
	comp=Z,90nm,0.4s						
UGL				A	A	23 27 47.0	
	comp=Z,40nm,0.4s						
MSHR	Mys Shultsa	5.41	252	deP	Pn	23 26 45.2	+1.2
MSHR				pmax	pmax		
	comp=Z,23nm,1.3s						
YUK	Yuzh-Kuril'sk	5.58	92	erx	rx	23 26 52.5	
NEM2	Nemuro 2	5.62	99	P	Pn	23 26 44.7	-1.7
NEM2				eS	S	23 27 48.3	-5.5
JMK	Ichinoseki	5.99	156	P	Pn	23 26 50.1	-1.0
JMK				eS	S	23 27 58.2	-4.1
MDJ	Mudanjiang	6.10	274	Pn	Pn	23 26 53.1	+0.7
MDJ	Mudanjiang	6.10	274	P	Pn	23 26 53.0	+0.7
MDJ				pmax	pmax		
	comp=Z,64nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.2s						
GRNR	Gornyy	6.39	350	⇑iP	Pn	23 26 56.5	+0.7
GRNR				pmax	pmax		
	comp=N,40nm,1.1s						
GRNR				pmax	pmax		
	comp=E,70nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,30nm,1.0s						
GRNR	Gornyy	6.39	350	eP	Pn	23 26 56.0	+0.2
GRNR				AMB	AMB	23 26 57.0	
	comp=Z,150nm,1.2s						
GRNR				AMB	AMB	23 26 57.6	
	comp=Z,80nm,0.7s						
GRNR				eS	S	23 28 07.5	-3.5
GRNR				A	A	23 28 11.0	
	comp=Z,50nm,3.0s						
GRNR				A	A	23 28 11.0	
	comp=Z,50nm,3.0s						
JSD	Sado	6.44	179	Pn	Pn	23 26 56.7	0.0
KLR	Kul'dur	6.45	320	P	Pn	23 26 56.3	-0.2
	comp=Z,1.6nm,0.3s,baz=132,slow=9.8,SNR=45						
KLR				S	S	23 28 11.4	-0.9
	comp=Z,0.1nm,0.3s,baz=156,slow=16,SNR=6.3						
JMM	Marumori	6.91	162		Pn	23 27 00.6	-1.8
KUR	Kuril'sk	6.96	80	⇓iP	Pn	23 26 58.7	-4.2
KUR				S	S	23 28 18.3	-5.6
KUR				pmax	pmax		
	comp=Z,211nm,0.5s						
KUR				pmax	pmax		
	comp=N,47nm,0.4s						
KUR				pmax	pmax		
	comp=E,56nm,0.5s						
KUR	Kuril'sk	6.96	80	iP	Pn	23 27 04.2	+1.3
KUR				AMB	AMB	23 27 05.0	
	comp=E,210nm,0.5s						
KUR				eS	S	23 28 21.6	-2.3
TYV	Tymovskoe	7.08	24	eP	Pn	23 27 06.1	+1.9
TYV				eS	S	23 28 28.9	+2.6
TYV				pmax	pmax		
	comp=Z,200nm,1.8s						
TYV				pmax	pmax		
	comp=Z,138nm,0.6s						
TYV				smax	smax		
	comp=N,11nm,1.2s						
TYV				smax	smax		
	comp=E,11nm,1.2s						
TYV	Tymovskoe	7.08	24	eP	Pn	23 27 04.4	+0.2
TYV				AMB	AMB	23 27 06.5	
	comp=E,10.0nm,0.4s						
TYV				eS	S	23 28 24.3	-2.0
TYV				A	A	23 28 27.5	
	comp=E,10.0nm,0.4s						
TYV				A	A	23 28 27.5	
	comp=E,20nm,0.4s						
BNX	BinXian	7.69	283	⇓P	Pn	23 27 12.4	+0.5
BNX				pmax	pmax		
	comp=E,180nm,3.5s						
MJB9	Matsu-Tunnel	7.93	180		Pn	23 27 14.9	-0.2
MJAR	Matsushiro Arr	7.93	180	P	Pn	23 27 15.2	+0.1
	comp=E,5.3nm,0.3s,baz=359,slow=6.2,SNR=91						
JYT	Yasato	8.40	168		Pn	23 27 17.1	-3.7
JRY	Ryogami san	8.48	176	P	Pn	23 27 20.3	-1.6
JGF	Kuroka	8.89	184		Pn	23 27 26.7	-0.3
CN2	Changchun	9.14	270	eP	Pn	23 27 28.2	-1.8
CN2				pmax	pmax		
	comp=E,20nm,1.0s						
INU	Inuyama	9.16	186		Pn	23 27 30.1	-0.3
JHS	Saijyo	10.22	204	Pn	Pn	23 27 43.2	-0.4
KS19	Wonju Array Si	10.42	232	Pn	Pn	23 27 46.1	+0.1
KSRS	Korea Array	10.43	231	P	Pn	23 27 46.9	+0.9
	comp=E,0.5nm,0.3s,baz=48,slow=11,SNR=18						
KSAR	Wonju Array Be	10.46	231	P	Pn	23 27 46.0	-0.4
KSAR	Wonju Array Be	10.46	231	Pn	Pn	23 27 46.0	-0.4
JMN	Monobe	11.23	198	Pn	Pn	23 27 57.5	+1.4
JHJ	Hachijo jima 2	11.42	173	P	Pn	23 27 55.3	-3.0
	comp=E,54nm,0.3s,baz=326,slow=22,SNR=39						
TJN	Taejon	11.52	229	ceP	Pn	23 28 00.4	+1.0
TJN	Taejon	11.52	229	Pn	Pn	23 27 59.7	+0.3
ZEA	Zeya	11.67	326	eP	Pn	23 28 01.5	+0.3
ZEA				pmax	pmax		
	comp=E,10.0nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA	Zeya	11.67	326	eP	Pn	23 28 00.9	-0.3
JTU	Tsushima	12.01	217	Pn	Pn	23 28 06.0	+0.5
JNU	Nakatsue	12.67	209	P	Pn	23 28 13.7	+0.1
	comp=Z,2.0nm,0.3s,baz=42,slow=9.9,SNR=12						
HIA	Hailar	13.45	297	iP	Pn	23 28 22.5	-0.4
HIA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HIA	Hailar	13.45	297		P	23 28 23.4	-0.1
JSU	Suzuyama	14.29	208	P	P	23 28 32.0	-0.9
PEA0B	Petropavlovsk-	15.48	49	P	Pn	23 28 47.7	+0.7
PEA0B				pmax	pmax		
	comp=Z,40nm,1.4s						
PEA0B	Petropavlovsk-	15.48	49	Pn	Pn	23 28 47.7	+0.7
PETK	Petropavlovsk-	15.48	49	P	Pn	23 28 47.2	+0.2
	comp=Z,0.7nm,0.3s,baz=209,slow=6.8,SNR=7.4						
PETK	Petropavlovsk-	15.48	49	P	Pn	23 28 47.4	+0.3
PETK	Petropavlovsk-	15.48	49	P	Pn	23 28 47.4	+0.3
XLT	XiLinHaoTe	15.82	276	eP	Pn	23 28 51.0	-0.3
XLT				pmax	pmax		
	comp=Z,28nm,0.8s						
XLT				pmax	pmax		
	comp=Z,51nm,4.4s						
BJT	Baijiatuau	16.84	262	P	P	23 29 01.5	+0.7
BJT				pmax	pmax		
	comp=Z,22nm,0.7s						
BJT	Baijiatuau	16.84	262	P	P	23 29 01.5	+0.7
MA2	Magadan	16.95	22	P	P	23 29 01.5	-0.3
	comp=Z,4.9nm,0.3s,baz=198,slow=9.5,SNR=26						
MA2	Magadan	16.95	22	ceP	P	23 29 01.4	-0.3
MA2				pmax	pmax		
	comp=Z,39nm,0.7s						
MA2	Magadan	16.95	22		P	23 29 01.9	+0.2
JCJ	Chichijima	17.66	168	P	P	23 29 09.9	+0.2
	comp=Z,39nm,0.3s,baz=276,slow=23,SNR=14						
JCJ				S	S	23 32 14.1	-4.4
	comp=Z,3.5nm,0.3s,baz=278,slow=18,SNR=2.3						
JCJ	Chichijima	17.66	168	P	P	23 29 10.1	+0.4
TIA	Tai'an	17.98	250	eP	P	23 29 11.2	-1.9
TIA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YAK	Yakutsk	18.26	347	P	P	23 29 14.3	-1.5
	comp=Z,0.3nm,0.3s,baz=232,slow=4.6,SNR=7.6						
YAK				S	S	23 32 24.2	-5.4
	comp=Z,0.2nm,0.3s,baz=315,slow=23,SNR=9.1						
YAK	Yakutsk	18.26	347	diP	P	23 29 14.2	-1.6
YAK				eS	S	23 32 27.8	-1.8
YAK				pmax	pmax		
	comp=Z,30nm,0.8s						
YAK				pmax	pmax		
	comp=N,14nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				smax	smax		
	comp=E,81nm,1.6s						
YAK				smax	smax		
	comp=N,45nm,1.8s						
YAK	Yakutsk	18.26	347	P	P	23 29 14.9	-0.9
JOW	Kunigami	19.32	208	P	P	23 29 25.2	-2.3
	comp=N,1.7nm,0.3s,baz=113,slow=22,SNR=9.0						
JOW				S	S	23 32 47.7	-3.3
	comp=N,0.5nm,0.3s,baz=210,slow=12,SNR=2.0						
HHC	Hu-ho-hao-te	19.83	269	eP	P	23 29 32.9	-0.1
HHC				pmax	pmax		
	comp=N,17nm,0.8s						
HHC				pmax	pmax		
	comp=N,95nm,5.4s						
SEY	Seymchan	20.23	19	P	P	23 29 35.5	-1.3
	comp=N,20nm,0.5s,baz=209,slow=8.3,SNR=75						
SEY				S	S	23 33 05.3	-1.7
	comp=N,0.9nm,0.2s,baz=356,slow=23,SNR=2.0						
SEY	Seymchan	20.23	19	ceP	P	23 29 35.9	-0.8
SEY				pmax	pmax		
	comp=Z,21nm,0.7s						
SEY	Seymchan	20.23	19	eP	P	23 29 35.9	-0.8
ULN	Ulaanbaatar	21.70	290	ceP	P	23 29 50.7	-0.8
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ULN	Ulaanbaatar	21.70	290	P	P	23 29 51.0	-0.6
ULN				IAmb	IAmb	23 29 52.2	
	comp=Z,14nm,1.5s						
SONM	Songino Array	22.15	290	P	P	23 29 54.1	-1.4
	comp=Z,2.2nm,0.3s,baz=89,slow=8.6,SNR=25						
SONM				S	S	23 33 36.5	-2.4
	comp=Z,0.2nm,0.5s,baz=168,slow=41,SNR=1.4						
SONM	Songino Array	22.15	290	P	P	23 29 54.7	-0.8
SONM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SONM	Songino Array	22.15	290	P	P	23 29 54.7	-0.8
ZAK	Zakamensk	24.14	297	eP	P	23 30 11.5	-2.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NACB	Ninganchiao	24.34	219	P	P	23 30 14.5	-1.0
XAN	Xi'an	24.78	255	P	P	23 30 20.7	+1.3
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,41nm,5.8s						
SMY	Shemya	24.96	58	P	P	23 30 21.0	+0.3
SMY				pmax	pmax		
	comp=Z,75nm,1.0s						
SMY	Shemya	24.96	58	P	P	23 30 21.0	+0.3
MOY	Mondy	25.61	300	eP	P	23 30 26.6	-0.2
LZH	Lanzhou	27.30	264	⇓P	P	23 30 43.8	+1.7
LZH				pP	pP	23 31 29.9	-5.7
LZH				pmax	pmax		
	comp=Z,31nm,1.3s						
TIXI	Tiksi	27.61	354	P	P	23 30 41.7	-2.4
	comp=Z,2.1nm,0.3s,baz=272,slow=22,SNR=6.2						
TIXI	Tiksi	27.61	354	ceP	P	23 30 42.5	-1.6
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TIXI	Tiksi	27.61	354	P	P	23 30 42.1	-2.0
TIXI				IAmb	IAmb	23 31 49.4	
	comp=Z,7.1nm,1.1s						
BILL	Bilibino	27.82	22	c iP	P	23 30 44.8	-1.2
BILL				e*PP	pP	23 31 43.1	+4.0
BILL				pmax	pmax		
	comp=Z,12nm,0.6s						
BILL	Bilibino	27.82	22	P	P	23 30 45.4	-0.6
BILL	Bilibino	27.82	22	eP	P	23 30 45.0	-1.0
KIWB	Kanaga Island	30.32	60	P	P	23 31 08.1	-0.2
ADK	Adak	30.61	60	P	P	23 31 10.7	0.0
ADK				pmax	pmax		
	comp=Z,151nm,1.5s						
ADK	Adak	30.61	60	P	P	23 31 10.7	0.0
GOMU	GeErMu	33.70	271	P	P	23 31 38.8	+0.5
GOMU				pmax	pmax		
	comp=Z,11nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,39nm,5.1s						
GAMB	Gambell	33.97	38	P	P	23 31 38.5	-1.3
GAMB				IAmb	IAmb	23 31 53.1	
	comp=Z,6.3nm,1.2s						
GAMB	Gambell	33.97	38	P	P	23 31 38.7	-1.1
	baz=260						
PZH	PanZhiHua	34.27	251	P	P	23 31 43.8	+0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,50nm,6.0s						
ZAA0	Zalesovo Array	35.31	305	P	P	23 31 51.3	+0.1
ZAA0				IAmb	IAmb	23 31 51.6	
	comp=Z,6.4nm,0.5s						
ZALV	Zalesovo Beam	35.31	305	P	P	23 31 50.9	-0.4
	comp=Z,6.1nm,0.4s,baz=93,slow=8.6,SNR=37						
ZALV	Zalesovo Beam	35.31	305	P	P	23 31 51.2	0.0
ZALV	Zalesovo Beam	35.31	305	P	P	23 31 51.2	0.0
NRIK	Noril'sk	35.49	332	P	P	23 31 50.4	-2.2
	comp=Z,2.3nm,0.3s,baz=82,slow=3.2,SNR=3.5						
NRIK	Noril'sk	35.49	332	ceP	P	23 31 49.2	-3.4
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WMQ	Urumqi	35.72	287	eP	P	23 31 56.7	+1.7
TNA	Tin City	35.88	35	P	P	23 31 55.0	-1.0
TNA				IAmb	IAmb	23 31 55.4	
	comp=Z,4.5nm,0.6s						
TNA	Tin City	35.88	35	P	P	23 31 54.6	-1.3
	baz=261,SNR=5.0						
ANM	Nome	36.83	37	P	P	23 32 02.2	-1.7
ANM				pmax	pmax		
	comp=Z,9.0nm,1.6s						
ANM	Nome	36.83	37	P	P	23 32 02.2	-1.7
ANM	Nome	36.83	37	P	P	23 32 02.9	-1.0
	baz=265						
RDOG	Red Dog Mine	38.20	31	P	P	23 32 13.8	-1.6
	baz=263						
MK31	Makanchi Array	38.41	294	iP	P	23 32 16.8	-0.6
MK31	Makanchi Array	38.41	294	P	P	23 32 17.4	-0.1
MKAR	Makanchi Array	38.41	294	P	P	23 32 16.7	-0.7
	comp=Z,0.9nm,0.8s,baz=82,slow=12,SNR=3.9						
MKAR				ScP	ScP	23 37 45.4	0.0
	comp=Z,0.4nm,0.8s,baz=86,slow=3.9,SNR=2.2						
MKAR	Makanchi Array	38.41	294	P	P	23 32 17.2	-0.2
MKAR	Makanchi Array	38.41	294	P	P	23 32 17.2	-0.2
MKAR	Makanchi Array	38.41	294	eP	P	23 32 17.4	0.0
MAKZ	Makanchi	38.61	294	P	P	23 32 19.0	-0.1
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MAKZ	Makanchi	38.61	294	P	P	23 32 19.0	-0.1
KURK	Kurchatov	39.65	301	ceP	P	23 32 27.1	-0.4
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KURK	Kurchatov	39.65	301	P	P	23 32 27.6	+0.1
KURK				IAmb	IAmb	23 32 28.8	
	comp=Z,12nm,1.0s						
CHGN	Chignik	40.71	50	P	P	23 32 35.5	-0.5
	baz=281						
A21K	Barrow	40.75	27	P	P	23 32 34.8	-1.3
	baz=265						
TTA	Tatalina	40.99	40	P	P	23 32 38.4	0.0
TTA				pmax	pmax		
	comp=Z,29nm,2.0s						
TTA	Tatalina	40.99	40	P	P	23 32 38.4	0.0
TTA				IAmb	IAmb	23 33 25.9	
	comp=Z,29nm,2.0s						
TTA	Tatalina	40.99	40	P	P	23 32 37.2	-1.2
	baz=275						
SVW2	Sparrevohn	41.40	42	P	P	23 32 41.8	+0.2
SVW2				IAmb	IAmb	23 33 01.2	
	comp=Z,26nm,1.6s						
CHTO	Chiang Mai	41.46	245	P	P	23 32 44.6	+2.0
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	Chiang Mai	41.46	245	P	P	23 32 44.6	+2.0
L19K	White Mountain	41.60	41	P	P	23 32 42.7	-0.6
L19K				IAmb	IAmb	23 33 20.5	
	comp=Z,20nm,1.6s						
L19K	White Mountain	41.60	41	P	P	23 32 42.4	-0.9
	baz=277						
CMAR	Chiang Mai Arr	41.72	244	P	P	23 32 46.3	+1.5
	comp=Z,1.2nm,0.4s,baz=51,slow=6.2,SNR=1.4						
IMAR	Indian Mountai	41.73	35	P	P	23 32 43.1	-1.1
K20K	Telida	41.82	39	P	P	23 32 45.0	0.0
K20K				IAmb	IAmb	23 34 13.6	
	comp=Z,21nm,1.7s						
K20K	Telida	41.82	39	P	P	23 32 43.8	-1.2
	baz=276						
M19K	Big River Lodg	41.85	41	P	P	23 32 45.7	+0.4

M19K IAmb IAmb 23 34 19.4
comp=Z,36nm,1.7s
M19K Big River Lodg 41.85 41 P P 23 32 44.6 -0.7
baz=278
N19K Bonanza Creek 41.97 43 P P 23 32 45.9 -0.4
N19K Bonanza Creek 41.97 43 P P 23 32 45.6 -0.7
baz=279
H21K Melozitna Rive 42.14 35 P P 23 32 46.8 -0.8
H21K Melozitna Rive 42.14 35 P P 23 32 46.4 -1.2
baz=275
CHIR Chirikof Islan 42.34 50 P P 23 32 49.9 +0.6
I21K Tanana 42.53 36 P P 23 32 49.4 -1.3
baz=276
CHUM Lake Minchumin 42.54 38 P P 23 32 49.9 -0.9
baz=277
CAST Castle Rocks 42.70 38 P P 23 32 52.2 +0.1
CAST Castle Rocks 42.70 38 P P 23 32 51.5 -0.6
baz=278
PPLA Purkeypile 42.73 39 P P 23 32 53.4 +1.0
PPLA IAmb IAmb 23 33 42.0
comp=Z,45nm,1.8s
PPLA Purkeypile 42.73 39 P P 23 32 52.0 -0.5
baz=278
COLD Coldfoot 43.04 33 P P 23 32 54.2 -0.5
COLD IAmb IAmb 23 32 55.0
comp=Z,7.5nm,0.6s
COLD Coldfoot 43.04 33 P P 23 32 53.8 -0.9
baz=275,SNR=11
MLY Manley 43.07 36 P P 23 32 53.6 -1.5
baz=277
BPAW Bear Paw Mtn. 43.09 37 P P 23 32 55.7 +0.5
BPAW IAmb IAmb 23 32 58.7
comp=Z,23nm,1.9s
BPAW Bear Paw Mtn. 43.09 37 P P 23 32 54.0 -1.2
baz=278
TOLK Toolik Lake Re 43.16 31 P P 23 32 54.9 -0.8
TOLK IAmb IAmb 23 32 55.4
comp=Z,7.7nm,0.5s
TOLK Toolik Lake Re 43.16 31 P P 23 32 54.7 -1.0
baz=274,SNR=9.2
KTH Kantishna Hill 43.20 38 P P 23 32 56.2 0.0
KTH IAmb IAmb 23 32 56.8
comp=Z,12nm,1.0s
OHAK Old Harbor 43.27 48 P P 23 32 57.0 +0.3
TRF Thorofare Moun 43.49 38 P P 23 32 58.0 -0.6
TRF IAmb IAmb 23 34 30.5
comp=Z,46nm,2.0s
TRF Thorofare Moun 43.49 38 P P 23 32 57.8 -0.8
baz=279
KDJ Kajisay 43.51 289 P P 23 32 59.0 0.0
KDJ pmax pmax
comp=Z,4.0nm,0.6s
KDJ Kajisay 43.51 289 P P 23 32 59.0 0.0
KDAK Kodiak Island 43.51 47 P P 23 32 58.6 +0.1
KDAK pmax pmax
comp=Z,187nm,1.9s
KDAK Kodiak Island 43.51 47 P P 23 32 58.6 +0.1
TAPN Taplejung 43.55 264 *eP* **P 23 33 00.8 +1.2**
comp=Z,17nm,0.3s
HOM Homer 43.57 44 P P 23 32 58.0 -1.0
I23K Minto, Yukon-K 43.63 36 P P 23 32 58.9 -0.5
baz=278
NEA2 Nenana 43.84 37 P P 23 33 00.5 -0.6
baz=279,SNR=7.2
BRLK Bradley Lake 43.92 44 P P 23 33 02.8 +1.0
BRVK Borovoye 43.97 306 *i* P **P 23 33 02.8 +0.5**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
BRVK Borovoye 43.97 306 *eP* **P 23 33 02.8 +0.5**
MCK McKinley 44.04 38 P **P 23 33 02.5 -0.3**
MCK pmax pmax
comp=Z,34nm,1.9s
MCK McKinley 44.04 38 P P 23 33 02.5 -0.3
MCK IAmb IAmb 23 34 31.2
comp=Z,34nm,1.9s
ODAN Odare 44.07 264 *eP* **P 23 33 05.7 +2.0**
comp=Z,18nm,0.5s
RND Reindeer 44.14 38 P P 23 33 03.1 -0.5
RND pmax pmax
comp=Z,13nm,1.4s
RND Reindeer 44.14 38 P P 23 33 03.1 -0.5
RND IAmb IAmb 23 34 49.0
comp=Z,13nm,1.4s
H24K Noodor Dome 44.14 35 P P 23 33 03.6 0.0
H24K Noodor Dome 44.14 35 P P 23 33 03.2 -0.3
baz=279
BOOM Boomskoye usch 44.19 290 P P 23 33 05.0 +0.5
BOOM pmax pmax
comp=Z,6.0nm,0.7s
BOOM Boomskoye usch 44.19 290 P P 23 33 05.0 +0.5
RC01 Rabbit Creek A 44.19 42 P P 23 33 04.4 +0.5
RC01 IAmb IAmb 23 34 40.9
comp=Z,18nm,0.9s
TCOL CIGO, UAF Yank 44.30 36 P P 23 33 04.3 -0.4
baz=280
COLA College 44.31 36 P P 23 33 04.2 -0.6
baz=280
CCB Clear Creek Bu 44.37 36 IAmb IAmb 23 34 03.4
comp=Z,18nm,1.8s
POKR Poker Plat Res 44.44 36 P P 23 33 05.5 -0.4
POKR Poker Plat Res 44.44 36 P P 23 33 05.0 -0.8
baz=280
JIRN Jiri 44.45 266 *eP* **P 23 33 07.7 +0.9**
comp=Z,25nm,0.4s
GUN Gumba 44.52 266 *eP* **P 23 33 07.9 +0.5**
comp=Z,25nm,0.3s
RAMN Ramite 44.58 265 *eP* **P 23 33 08.3 +0.6**
comp=Z,28nm,0.4s
SML Sawmill 44.70 40 P P 23 33 08.3 +0.3
SML IAmb IAmb 23 33 28.4
comp=Z,18nm,1.3s
SML Sawmill 44.70 40 P P 23 33 07.7 -0.2
baz=283
KNK Knik Glacier 44.73 41 P P 23 33 08.1 -0.1
KNK IAmb IAmb 23 34 18.9
comp=Z,34nm,1.7s
KNK Knik Glacier 44.73 41 P P 23 33 07.8 -0.3
baz=283
ILAR Eielson Array 44.73 36 P P 23 33 07.2 -0.9
comp=Z,4.9nm,0.8s,baz=286,slow=8.0,SNR=56
ILAR Eielson Array 44.73 36 P P 23 33 07.5 -0.7
ILAR Eielson Array 44.73 36 P P 23 33 07.5 -0.7
HDA Harding Lake 44.78 37 P P 23 33 07.8 -0.7
HDA Harding Lake 44.78 37 P P 23 33 07.5 -0.9
baz=281
WAT6 Susitna Watana 44.80 39 P P 23 33 08.0 -0.9
baz=282
DHY Denali Highway 44.86 38 IAmb IAmb 23 33 09.8
comp=Z,13nm,1.2s
DHY Denali Highway 44.86 38 P P 23 33 08.7 -0.7
baz=282
PWL Port Wells 44.91 42 P P 23 33 09.1 -0.5
PWL IAmb IAmb 23 33 42.0
comp=Z,43nm,1.7s
PWL Port Wells 44.91 42 P P 23 33 09.1 -0.5
baz=284
KKN Kakani 45.02 267 *eP* **P 23 33 12.1 +1.0**
comp=Z,22nm,0.6s
PKI Pulchoki 45.05 266 *eP* **P 23 33 11.9 +0.3**
comp=Z,19nm,0.4s
PKIN Phulchoki 45.06 266 *eP* **P 23 33 11.8 +0.3**
comp=Z,17nm,0.4s
AAK Ala-Archa 45.10 291 *ceP* **P 23 33 12.0 +0.5**
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 45.10 291 P P 23 33 12.1 +0.6
AAK Ala-Archa 45.10 291 *eP* **P 23 33 12.0 +0.5**
SCM Sheep Creek Mo 45.16 40 P P 23 33 11.8 +0.2
SCM pmax pmax
comp=Z,48nm,1.6s
SCM Sheep Creek Mo 45.16 40 P P 23 33 11.8 +0.2
SCM IAmb IAmb 23 33 43.5
comp=Z,48nm,1.6s
SCM Sheep Creek Mo 45.16 40 P P 23 33 10.7 -0.9
baz=283
BMAR Burnt Mountain 45.17 32 P P 23 33 11.6 0.0
DMN Daman 45.25 267 *eP* **P 23 33 13.7 +0.7**
comp=Z,14nm,0.5s
GKN Gorkha 45.35 267 *eP* **P 23 33 14.3 +0.6**
comp=Z,26nm,0.4s
J25K Salcha River, 45.41 36 P P 23 33 12.0 -1.5
J25K Salcha River, 45.41 36 P P 23 33 12.3 -1.1
baz=282
GLI Glacier Island 45.49 41 P P 23 33 13.6 -0.5
GLI IAmb IAmb 23 33 45.8
comp=Z,35nm,1.6s

GLI Glacier Island 45.49 41 P P 23 33 13.6 -0.5
baz=284
M24K Tolsona, Glenn 45.62 40 P P 23 33 15.8 +0.6
M24K IAmb IAmb 23 34 03.9
comp=Z,49nm,1.6s
M24K Tolsona, Glenn 45.62 40 P P 23 33 15.0 -0.2
baz=284
PAX Paxson 45.73 38 P P 23 33 16.2 +0.1
PAX pmax pmax
comp=Z,14nm,1.5s
PAX Paxson 45.73 38 P P 23 33 16.2 +0.1
PAX IAmb IAmb 23 33 42.0
comp=Z,14nm,1.5s
PAX Paxson 45.73 38 P P 23 33 15.1 -1.0
baz=284
DANN Dangsing 45.78 268 *eP* **P 23 33 18.3 +1.1**
comp=Z,64nm,0.4s
FID Port Fidalgo 45.82 42 P P 23 33 16.5 -0.1
FID IAmb IAmb 23 33 17.9
comp=Z,31nm,1.6s
RIDG Independent Ri 45.82 37 P P 23 33 15.9 -0.8
RIDG Independent Ri 45.82 37 P P 23 33 15.3 -1.4
baz=284
TOLI2 Tolitoli 45.85 205 P P 23 33 17.5 +0.1
KLU Klutina 45.89 40 P P 23 33 17.6 +0.3
KLU Klutina 45.89 40 P P 23 33 16.9 -0.5
baz=285
HARP HAARP 46.01 39 P P 23 33 18.2 +0.1
baz=284,SNR=5.1
SCRK Sand Creek 46.14 37 IAmb IAmb 23 33 18.9
comp=Z,6.4nm,0.6s
SCRK Sand Creek 46.14 37 P P 23 33 18.0 -1.2
baz=284,SNR=5.6
DOT Dot Lake 46.18 37 P P 23 33 18.8 -0.7
DOT IAmb IAmb 23 34 37.3
comp=Z,34nm,1.8s
J26L Joseph Creek 46.19 36 P P 23 33 18.4 -1.2
baz=284
EYAK Cordova Ski Ar 46.22 42 P P 23 33 19.4 -0.3
baz=286
KOLN Koldanda 46.23 268 *eP* **P 23 33 21.6 +1.0**
comp=Z,17nm,0.3s
N25K Chitina, Valde 46.47 40 P P 23 33 22.2 +0.4
N25K IAmb IAmb 23 33 23.7
comp=Z,27nm,1.9s
N25K Chitina, Valde 46.47 40 P P 23 33 21.8 0.0
baz=286
PYUN Piuthan 46.47 269 *eP* **P 23 33 23.5 +1.0**
comp=Z,14nm,0.3s
MENT Mentasta 46.51 38 P P 23 33 22.4 +0.3
MENT IAmb IAmb 23 33 23.3
comp=Z,7.5nm,0.4s
BMRM Bremner River 46.64 41 P P 23 33 24.1 +1.0
BMRM IAmb IAmb 23 34 37.8
comp=Z,11nm,1.2s
BMRM Bremner River 46.64 41 P P 23 33 22.6 -0.5
baz=286
RAGM Ragged Mountai 46.78 42 P P 23 33 25.3 +1.1
RAGM IAmb IAmb 23 33 37.3
comp=Z,46nm,1.6s
GLB Gilahina Butte 46.88 40 P P 23 33 25.6 +0.7
VRDI Verde Repeater 47.11 40 P P 23 33 27.7 +0.8
EGAK Eagle 47.12 35 P P 23 33 26.2 -0.5
baz=285
L27K Beaver Creek, 47.31 38 P P 23 33 28.9 +0.7
L27K Beaver Creek, 47.31 38 P P 23 33 28.7 +0.4
baz=286,SNR=7.3
BCAR Beaver Creek A 47.33 38 P P 23 33 29.0 +0.7
M27K Edge Creek, AK 47.49 39 P P 23 33 30.6 +0.8
M27K Edge Creek, AK 47.49 39 P P 23 33 30.2 +0.5
baz=287
KK31 Karatay Array 47.54 293 P P 23 33 30.8 +0.6
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KK31 Karatay Array 47.54 293 P P 23 33 30.8 +0.6
KKAR Karatay Array 47.54 293 P P 23 33 30.9 +0.7
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 47.54 293 P P 23 33 30.9 +0.7
KKAR Karatay Array 47.54 293 P P 23 33 30.9 +0.7
KKAR IAmb IAmb 23 33 31.2
comp=Z,4.0nm,0.7s
WAX Waxell Ridge 47.62 41 P P 23 33 31.8 +1.1
WAX IAmb IAmb 23 34 33.4
comp=Z,13nm,1.1s
SNH Sunshine Point 47.71 42 P P 23 33 33.2 +1.9
SNH IAmb IAmb 23 33 49.4
comp=Z,29nm,1.0s
ISLE Juniper Island 47.81 41 P P 23 33 32.8 +0.6
ISLE IAmb IAmb 23 33 34.2
comp=Z,8.9nm,0.8s
BARN Barnard Glacie 47.99 40 P P 23 33 34.5 +0.9
BARN IAmb IAmb 23 33 35.9
comp=Z,9.0nm,0.6s
DAWY Dawson 48.06 36 P P 23 33 33.8 -0.1
DAWY Dawson 48.06 36 P P 23 33 33.5 -0.4
baz=288
I29M Ogilvie Camp, 48.12 34 P P 23 33 34.5 +0.2
I29M Ogilvie Camp, 48.12 34 P P 23 33 34.2 -0.1
baz=287
YUK3 Moose Creek 48.31 39 P P 23 33 35.7 -0.3
baz=289
BTK Batken 48.73 290 P P 23 33 40.2 +0.8
BTK pmax pmax
comp=Z,4.0nm,0.7s
BTK Batken 48.73 290 P P 23 33 40.2 +0.8
INK Inuvik 49.01 29 P P 23 33 40.7 -0.2
INK pmax pmax
comp=Z,19nm,0.7s
INK Inuvik 49.01 29 P P 23 33 40.7 -0.2
INK IAmb IAmb 23 33 41.4
comp=Z,19nm,0.7s
INK Inuvik 49.01 29 P P 23 33 40.8 -0.1
baz=289,SNR=21
ARU Arti 49.26 314 *c i* P **P 23 33 43.1 +0.1**
ARU *PP **pP** 23 34 39.0 -2.8
ARU S **S** 23 40 28.6 +1.6
ARU SS **SS** 23 44 00.3 -1.3
ARU pmax pmax
comp=Z,2.0nm,1.0s
ARU Arti 49.26 314 P P 23 33 43.9 +0.9
YUK4 Talbot Arm 49.27 39 P P 23 33 44.0 +0.7
baz=290
YUK6 Outpost Mounta 49.54 40 P P 23 33 46.3 +0.9
baz=291
GAR Garm 49.58 289 P P 23 33 46.3 +0.4
GAR IAmb IAmb 23 34 59.0
comp=Z,7.3nm,0.4s
M30M Minto, Yukon 49.66 37 P P 23 33 47.2 +1.2
M30M Minto, Yukon 49.66 37 P P 23 33 46.9 +0.9
baz=291
HYT Haines Junctio 49.97 40 P P 23 33 50.2 +1.7
HYT IAmb IAmb 23 33 50.9
comp=Z,6.9nm,0.7s
HYT Haines Junctio 49.97 40 P P 23 33 50.0 +1.5
baz=292,SNR=9.0
A36M Sachs Harbour 50.36 24 IAmb IAmb 23 33 51.7
comp=Z,7.4nm,0.9s
A36M Sachs Harbour 50.36 24 P P 23 33 50.7 -0.3
baz=293,SNR=5.5
N31M Braeburn, Yuko 50.50 38 P P 23 33 54.0 +1.6
N31M IAmb IAmb 23 33 54.2
comp=Z,24nm,1.5s
N31M Braeburn, Yuko 50.50 38 P P 23 33 53.6 +1.3
baz=292
CHGR Chuyangaron 50.54 289 P P 23 33 53.8 +0.8
CHGR IAmb IAmb 23 33 56.3
comp=Z,13nm,0.6s
PBA Port Blair 50.75 244 P P 23 33 54.0 -0.7
M31M Drury Creek, Y 50.84 37 P P 23 33 55.6 +0.9
M31M IAmb IAmb 23 35 19.4
comp=Z,17nm,1.9s
M31M Drury Creek, Y 50.84 37 P P 23 33 55.7 +0.9
baz=293
WHY Whitehorse 51.23 39 P P 23 33 58.9 +1.2
baz=294
ABKAR Akbulak array 51.42 305 P P 23 34 00.1 +0.9
ABKAR Akbulak array 51.42 305 P P 23 34 00.5 +1.2
ABKAR IAmb IAmb 23 35 00.3
comp=Z,2.8nm,0.8s
C36M Paulatuk 51.80 27 P P 23 34 01.5 -0.2
C36M IAmb IAmb 23 34 02.1
comp=Z,11nm,0.6s
C36M Paulatuk 51.80 27 P P 23 34 01.3 -0.4
baz=296,SNR=15
BESE Bessie Mountai 52.10 42 P P 23 34 05.8 +1.7

BESE IAmb IAmb 23 34 16.9
comp=Z,40nm,2.0s
P33M Teslin, Yukon 52.34 39 P P 23 34 07.7 +1.7
P33M Teslin, Yukon 52.34 39 P P 23 34 06.6 +0.6
baz=295
SIT Sitka 52.53 43 P P 23 34 08.3 +1.1
SIT pmax pmax
comp=Z,33nm,1.2s
SIT Sitka 52.53 43 P P 23 34 08.2 +1.1
SIT Sitka 52.53 43 P P 23 34 08.3 +1.1
baz=296
SPB2 Spitsbergen Ar 52.73 347 P P 23 34 07.7 -0.7
SPB2 IAmb IAmb 23 35 02.5
comp=Z,22nm,1.1s
SPITS Spitsbergen Ar 52.73 347 P P 23 34 07.9 -0.5
SPITS pmax pmax
comp=Z,58nm,1.7s
KBL Kabul 52.76 284 P P 23 34 11.0 +1.4
KBL pmax pmax
comp=Z,4.0nm,0.5s
KBL Kabul 52.76 284 P P 23 34 11.0 +1.4
KBL IAmb IAmb 23 34 12.2
comp=Z,4.3nm,0.5s
KBS Kingsbay 52.88 349 P P 23 34 12.9 +3.4
KBS pmax pmax
comp=Z,21nm,1.1s
KBS Kingsbay 52.88 349 P P 23 34 12.9 +3.4
KBS IAmb IAmb 23 34 15.8
comp=Z,21nm,1.1s
EUNU Eureka 53.20 9 P P 23 34 11.3 -0.6
NOR Nord 53.45 356 *i* P **P 23 34 11.9 -1.7**
NOR IAmb IAmb 23 34 13.6
comp=Z,2.7nm,0.7s
TGTN Hyland Airport 53.75 36 P P 23 34 17.1 +1.0
baz=298
DLBC Dease Lake 54.43 40 P P 23 34 21.8 +0.8
DLBC IAmb IAmb 23 35 27.3
comp=Z,28nm,2.0s
DIB Dawson Inlet, 55.78 47 P P 23 34 32.6 +2.0
RES Resolute Bay 56.03 15 P P 23 34 31.4 -0.7
RES pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 56.03 15 P P 23 34 31.4 -0.7
ARCES ARCESS Array B 56.16 337 P P 23 34 32.4 -0.7
comp=Z,2.9nm,0.5s,baz=59,slow=8.5,SNR=41
ARCES ARCESS Array B 56.16 337 P P 23 34 32.8 -0.3
ARCES pmax pmax
comp=Z,31nm,1.6s
ARCES ARCESS Array B 56.16 337 P P 23 34 32.8 -0.3
ARCES IAmb IAmb 23 34 34.7
comp=Z,31nm,1.6s
TULEG Thule 58.04 7 P P 23 34 44.9 -1.1
TULEG IAmb IAmb 23 35 22.3
comp=Z,7.8nm,0.9s
DAG Danmarks Havn 58.13 354 *i* P **P 23 34 45.0 -1.6**
DAG IAmb IAmb 23 34 46.7
comp=Z,1.6nm,0.8s
GEYT Alibeck 58.29 294 P P 23 34 49.5 +1.0
comp=Z,1.0nm,0.4s,baz=55,slow=14,SNR=2.5
GEYT Alibeck 58.29 294 P P 23 34 50.0 +1.5
BBB Bella Bella 58.58 46 P P 23 34 49.7 -0.4
YKA Yellowknife Ar 58.68 31 P P 23 34 50.5 -0.1
comp=Z,1.1nm,0.4s,baz=306,slow=6.5,SNR=41
YKA Yellowknife Ar 58.68 31 P P 23 34 50.3 -0.3
KNRA Kunumurra 60.48 190 P P 23 35 04.4 +1.0
OBN Obninsk 60.71 320 *eP* **P 23 35 00.8 -3.7**
OBN *e*PP **pP 23 36 06.5 +0.5**
OBN *e* 23 37 19.9
OBN *eS* S 23 43 17.9 +19
OBN pmax pmax
comp=Z,7.0nm,0.5s
FIA1 FINESS Array S 61.10 329 P P 23 35 06.6 -0.4
FIA1 IAmb IAmb 23 35 07.3
comp=Z,9.6nm,0.8s
FINES FINESS Array B 61.10 329 P P 23 35 06.5 -0.5
comp=Z,5.5nm,0.4s,baz=44,slow=8.5,SNR=79
FINES FINESS Array B 61.10 329 P P 23 35 06.8 -0.2
FINES FINESS Array B 61.10 329 P P 23 35 06.8 -0.2
VORR Voronezh 61.49 316 *eP* **P 23 35 11.1 +1.3**
VORR pmax pmax
comp=Z,10.0nm,0.4s
MEF Metsahovi 62.53 329 *eP* **P 23 35 16.3 -0.2**
LLLB Lillooet 62.67 45 P P 23 35 19.1 +1.4
LLLB IAmb IAmb 23 37 16.2
comp=Z,22nm,1.8s
VSU Vasula 62.82 327 *i* P **P 23 35 18.2 -0.2**
VSU pmax pmax
comp=Z,11nm,0.8s
VSU Vasula 62.82 327 *eP* **P 23 35 18.5 +0.1**
RAF Rauma 62.92 331 *eP* **P 23 35 18.8 -0.3**
PGC Sidney 63.06 47 P P 23 35 21.7 +1.5
NLWA Neilton Lookou 63.60 49 P P 23 35 25.8 +1.9
MTSE Matsula 63.77 328 *eP* **P 23 35 25.1 +0.4**
WISH Wishkah 63.82 49 P P 23 35 27.2 +2.0
AAL Aland 64.14 331 *eP* **P 23 35 26.4 -0.7**
WRA Warramunga Arr 64.20 184 P P 23 35 27.9 0.0
comp=Z,0.5nm,0.5s,baz=359,slow=7.0,SNR=15
WRA Warramunga Arr 64.20 184 *ceP* **P 23 35 28.2 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 64.20 184 P P 23 35 28.4 +0.5
WR0 Warramunga Arr 64.21 184 P P 23 35 28.4 +0.5
WR0 IAmb IAmb 23 37 26.1
comp=Z,17nm,1.6s
KIV Kislovodsk 64.28 307 *eP* **P 23 35 29.1 +0.7**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV Kislovodsk 64.28 307 *eP* **P 23 35 29.1 +0.7**
KBZ Khabaz 64.30 307 P P 23 35 29.4 +1.0
comp=Z,0.4nm,0.3s,baz=5.7,slow=10,SNR=1.7
IDID Didziasalis 64.93 324 *eP* **P 23 35 33.3 +1.1**
HEBO Mount Hebo 65.01 51 P P 23 35 34.6 +1.6
EDM Edmonton 65.09 39 P P 23 35 34.5 +1.1
EDM pmax pmax
comp=Z,10.0nm,0.6s
EDM Edmonton 65.09 39 P P 23 35 34.5 +1.1
IIGN Ignalina 65.12 324 *eP* **P 23 35 34.2 +0.8**
UPP Uppsala 65.19 331 *eP* **P 23 35 33.2 -0.6**
LTY Liberty 65.39 47 P P 23 35 37.8 +2.4
PABE Paberze 65.94 325 P P 23 35 38.9 +0.2
PABE IAmb IAmb 23 35 39.5
comp=Z,7.9nm,0.8s
PABE Paberze 65.94 325 *eP* **P 23 35 39.1 +0.4**
NC405 NORSAR Array S 66.16 335 P P 23 35 39.9 -0.1
NC204 NORSAR Array S 66.32 335 P P 23 35 41.0 -0.1
NB201 NORSAR Array S 66.34 335 P P 23 35 40.8 -0.4
NB2 NORSAR Subarra 66.37 335 P P 23 35 40.5 -0.9
comp=Z,2.7nm,0.5s,slow=6.2
NOA NORSAR Array B 66.37 335 P P 23 35 40.7 -0.7
comp=Z,2.3nm,0.5s,baz=40,slow=6.1,SNR=34
MNCI Minicoy 66.51 258 P P 23 35 42.3 -0.5
NC602 NORSAR Array S 66.51 335 P P 23 35 41.2 -0.9
NBO00 NORSAR Array S 66.51 335 P P 23 35 41.9 -0.4
VIKU Vikbolandet 66.52 331 *eP* **P 23 35 41.7 -0.6**
HAWA Hanford 66.54 47 P P 23 35 44.4 +1.7
NEW Newport 66.56 45 P P 23 35 45.1 +2.2
baz=311
DBO Dodson Butte 66.61 52 P P 23 35 45.0 +1.7
NAO01 NORSAR Array S 66.62 335 P P 23 35 42.5 -0.4
AKASG Malin Array Be 66.95 319 P P 23 35 45.1 0.0
comp=Z,3.1nm,0.6s,baz=44,slow=6.0,SNR=22
AKASG Malin Array Be 66.95 319 *ceP* **P 23 35 45.0 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 66.95 319 P P 23 35 45.8 +0.7
AKBB Malin Array Si 66.95 319 *ceP* **P 23 35 44.8 -0.3**
AKBB Malin Array Si 66.95 319 P P 23 35 45.2 +0.1
AKBB IAmb IAmb 23 35 45.9
comp=Z,5.5nm,0.6s
J04D Umpqua Nationa 67.17 51 P P 23 35 48.9 +2.0
J04D Umpqua Nationa 67.17 51 P P 23 35 48.6 +1.6
baz=310
PINE Pine Mountain 67.47 50 P P 23 35 51.1 +2.3
PINE IAmb IAmb 23 35 51.6
comp=Z,4.9nm,0.7s
J05D Fort Rock, OR 67.63 51 P P 23 35 51.2 +1.5
baz=311
L04D Klamath Falls 67.72 52 P P 23 35 52.1 +1.8
baz=310
ASAR Alice Springs 67.93 184 P P 23 35 52.3 +0.8
comp=Z,1.2nm,0.7s,baz=359,slow=5.3,SNR=9.4
ASAR Alice Springs 67.93 184 P P 23 35 52.6 +1.1
ASAR Alice Springs 67.93 184 P P 23 35 52.6 +1.1
M02C Callahan 67.94 53 P P 23 35 53.4 +1.8

baz=310
KONO Kongsberg 67.97 335 P P 23 35 51.1 -0.2
KONO pmax pmax
comp=Z,39nm,1.7s
KONO Kongsberg 67.97 335 P P 23 35 51.1 -0.2
M04C Macdoel 68.27 52 P P 23 35 55.3 +1.6
M04C IAmb IAmb 23 35 56.6
comp=Z,6.7nm,0.8s
M04C Macdoel 68.27 52 P P 23 35 55.5 +1.8
baz=311
JTMT Jette 68.33 44 P P 23 35 55.2 +1.3
JTMT IAmb IAmb 23 36 41.4
comp=Z,9.3nm,1.2s
FCC Fort Churchill 68.44 26 P P 23 35 54.7 +0.4
FCC pmax pmax
comp=Z,6.0nm,1.0s
FCC Fort Churchill 68.44 26 P P 23 35 54.6 +0.4
FCC IAmb IAmb 23 35 55.2
comp=Z,6.3nm,1.0s
SFJD Kangerlussuaq 68.65 4 P P 23 35 56.7 +1.3
comp=Z,4.2nm,0.7s,baz=80,slow=14,SNR=2.0
O02D Mt. Diablo Mer 68.77 54 P P 23 35 57.5 +0.8
baz=311
FFC Flin Flon 68.79 33 P P 23 35 57.3 +0.8
FFC pmax pmax
comp=Z,13nm,1.3s
FFC Flin Flon 68.79 33 P P 23 35 57.2 +0.8
FFC IAmb IAmb 23 35 58.5
comp=Z,13nm,1.3s
SORM Soroca 69.13 318 ⇑P P 23 35 58.7 +0.1
SORM Soroca 69.13 318 ⇑P P 23 35 58.7 +0.1
PLID Pearl Lake 69.26 47 P P 23 36 01.8 +1.9
PLID IAmb IAmb 23 36 52.7
comp=Z,14nm,1.9s
O03E Paynes Creek 69.26 54 P P 23 36 00.9 +1.1
baz=311
DY2G Dye2 69.32 2 *i* P P 23 35 58.8 -1.0
DY2G IAmb IAmb 23 36 00.0
comp=Z,6.4nm,0.6s
LIFNC LIFOU 70.19 151 P P 23 36 05.4 +0.1
HRY Holter Researc 70.25 43 P P 23 36 07.9 +2.2
EGMT Eagleton 70.33 41 P P 23 36 07.2 +1.2
baz=315
BUR08 Bucovina Ar. S 70.98 319 P P 23 36 10.8 +0.8
BUR08 IAmb IAmb 23 37 25.2
comp=Z,8.3nm,1.7s
BURAR Bucovina Array 70.99 319 ⇑P P 23 36 11.4 +1.3
BURAR Bucovina Array 70.99 319 ⇑P P 23 36 11.4 +1.3
BURAR Bucovina Array 70.99 319 P P 23 36 11.2 +1.2
EMB Emerald Bay 71.12 54 P P 23 36 11.7 +0.6
EMB IAmb IAmb 23 36 14.4
comp=Z,7.9nm,0.8s
BOZ Bozeman (W) 71.14 44 P P 23 36 12.5 +1.4
baz=315
OJC Ojcow 71.52 323 P P 23 36 14.0 +1.0
OJC pmax pmax
comp=Z,6.0nm,0.7s
OJC Ojcow 71.52 323 P P 23 36 14.0 +1.0
OJC IAmb IAmb 23 36 14.7
comp=Z,6.2nm,0.7s
TRPA Tarpa 71.86 321 ⇑P P 23 36 16.3 +1.3
KVN Kaiserville 72.22 53 P P 23 36 19.5 +1.9
KVN pmax pmax
comp=Z,6.0nm,1.1s
KVN Kaiserville 72.22 53 P P 23 36 19.5 +1.9
KVN IAmb IAmb 23 36 20.5
comp=Z,6.2nm,1.1s
H17A Grant Village 72.51 44 P P 23 36 18.0 -1.4
baz=316
NVAR Mina Array Bea 72.52 53 P P 23 36 21.0 +1.5
comp=Z,2.9nm,0.7s,baz=292,slow=5.7,SNR=18
NVAR Mina Array Bea 72.52 53 P P 23 36 21.3 +1.8
DGMT Dagmar 72.55 38 P P 23 36 21.6 +2.3
RLMT Red Lodge 72.64 43 P P 23 36 22.4 +2.3
ELK Elko 72.64 50 P P 23 36 22.7 +2.5
ELK pmax pmax
comp=Z,9.0nm,1.8s
ELK Elko 72.64 50 P P 23 36 22.7 +2.5
ELK IAmb IAmb 23 37 00.9
comp=Z,9.3nm,1.8s
OSTC Ostas 72.75 325 *eP* **P 23 36 21.5 +1.1**
CHVC Chvalec 72.80 326 *eP* **P 23 36 21.8 +1.2**
MORC Moravsky Berou 72.81 324 ⇑P P 23 36 21.6 +0.9
MORC Moravsky Berou 72.81 324 ⇑P P 23 36 21.6 +0.9
MORC Moravsky Berou 72.81 324 P P 23 36 21.8 +1.1
MORC IAmb IAmb 23 36 22.6
comp=Z,3.5nm,0.8s
MORC Moravsky Berou 72.81 324 *eP* **P 23 36 21.8 +1.1**
DPC Dobruska-Polom 72.87 325 *eP* **P 23 36 22.2 +1.1**
DPC Dobruska-Polom 72.87 325 *eP* **P 23 36 22.2 +1.1**
ARR Arges 72.89 317 ⇑P P 23 36 22.5 +1.2
KRLC Kraliky 72.89 325 *eP* **P 23 36 22.1 +0.9**
KRLC Kraliky 72.89 325 *eP* **P 23 36 22.1 +0.9**
CLL Collm 73.43 328 *i*⇑*iP* **P 23 36 24.5 +0.2**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 73.43 328 P P 23 36 24.8 +0.5
CLL IAmb IAmb 23 36 25.4
comp=Z,7.2nm,0.7s
CLL Collm 73.43 328 *i*⇑*iP* **P 23 36 24.5 +0.2**
comp=Z,8.0nm,0.7s
PVCC Panska Ves 73.44 326 *eP* **P 23 36 25.6 +1.3**
PVCC Panska Ves 73.44 326 *eP* **P 23 36 25.6 +1.3**
JAVC Velka Javorina 73.45 324 *eP* **P 23 36 27.1 +2.6**
VRAC Vranov 73.56 324 ⇑P P 23 36 26.9 +1.8
VRAC Vranov 73.56 324 ⇑P P 23 36 26.9 +1.8
VRAC Vranov 73.56 324 *eP* **P 23 36 26.5 +1.4**
BGU Big Grassy Mou 73.71 48 P P 23 36 28.4 +2.1
LCH Last Change Ra 73.72 54 P P 23 36 28.2 +1.8
LCH IAmb IAmb 23 37 45.1
comp=Z,11nm,1.9s
KRUC Moravsky 73.84 324 *eP* **P 23 36 27.5 +0.9**
PRU Pruhonice 73.87 326 *eP* **P 23 36 28.0 +1.2**
PRU Pruhonice 73.87 326 *eP* **P 23 36 28.0 +1.2**
BW06 Boulder Array 74.20 45 P P 23 36 30.2 +1.0
BW06 IAmb IAmb 23 36 36.4
comp=Z,4.4nm,0.8s
BW06 Boulder Array 74.20 45 P P 23 36 29.7 +0.5
baz=317
PD31 Pinedale Array 74.20 45 P P 23 36 30.4 +1.2
PD31 IAmb IAmb 23 36 36.4
comp=Z,3.9nm,0.8s
PDAR Pinedale Array 74.20 45 P P 23 36 30.2 +1.0
comp=Z,2.9nm,0.6s,baz=321,slow=1.5,SNR=39
PDAR Pinedale Array 74.20 45 P P 23 36 30.6 +1.4
ISA Isabella, Lake 74.32 55 P P 23 36 31.0 +1.2
baz=314
DUG Dugway, Tooele 74.34 49 P P 23 36 31.0 +1.0
baz=316
ULM Lac du Bonnet 74.61 33 P P 23 36 30.9 -0.1
comp=Z,4.8nm,0.6s,baz=332,slow=5.4,SNR=6.1
ULM Lac du Bonnet 74.61 33 P P 23 36 32.0 +0.9
ULM pmax pmax
comp=Z,16nm,1.4s
ULM Lac du Bonnet 74.61 33 P P 23 36 31.9 +0.9
ULM IAmb IAmb 23 36 33.1
comp=Z,16nm,1.4s
MPMC Manual Prospec 74.63 54 P P 23 36 32.5 +0.8
baz=314
FURC Furnace Creek, 74.70 54 P P 23 36 32.9 +1.1
baz=314
TPNV Topopah Spring 74.72 53 P P 23 36 33.9 +1.7
TPNV pmax pmax
comp=Z,2.0nm,0.7s
TPNV Topopah Spring 74.72 53 P P 23 36 33.9 +1.7
TPNV Topopah Spring 74.72 53 P P 23 36 33.2 +1.0
baz=314
CKRC Cesky Krumlov 74.89 325 *eP* **P 23 36 33.6 +0.9**
KHC Kasperske Hory 74.93 326 *eP* **P 23 36 33.6 +0.6**
KHC Kasperske Hory 74.93 326 P P 23 36 33.8 +0.8
KHC Kasperske Hory 74.93 326 *eP* **P 23 36 33.6 +0.6**
GWY Greenwater Val 75.01 54 P P 23 36 35.4 +1.5
GWY IAmb IAmb 23 36 35.7
comp=Z,3.4nm,0.4s
QSM Queen of Sheba 75.05 54 P P 23 36 35.2 +1.3
QSM IAmb IAmb 23 36 43.2
comp=Z,13nm,1.7s
GERES GERESS Array B 75.11 326 P P 23 36 33.7 -0.4
comp=Z,0.3nm,0.4s,baz=325,slow=6.5,SNR=4.2
GRF Grafenberg Arr 75.41 328 *eP* **P 23 36 36.2 +0.5**
comp=Z,3.8nm,1.0s,baz=36,slow=4.6
DIVS Divibare 76.05 319 P P 23 36 40.1 +0.6
DIVS IAmb IAmb 23 36 43.2
comp=Z,6.1nm,1.5s
P18A Preston Nutter 76.12 48 P P 23 36 42.8 +2.6
P18A IAmb IAmb 23 36 50.2
comp=Z,15nm,1.9s
GMRC Granite Mounta 76.58 54 P P 23 36 42.6 -0.1
baz=315
PFO Pinyon Flats O 76.94 56 P P 23 36 43.8 -0.9
baz=315
B35A Bob, Littlefor 76.97 33 P P 23 36 45.8 +1.3
IRM Iron Mountain 77.33 54 P P 23 36 47.2 +0.5
baz=316
U15A North Rim 77.33 51 P P 23 36 49.2 +2.2
U15A IAmb IAmb 23 36 49.8
comp=Z,2.7nm,0.7s
PV23 Carpenter Ridg 77.64 48 P P 23 36 52.1 +3.4
PV23 IAmb IAmb 23 36 56.5
comp=Z,5.1nm,0.7s
PDG Podgorica 77.67 318 ⇓P P 23 36 49.0 +0.6
PDG Podgorica 77.67 318 P P 23 36 49.1 +0.8
F33A 5 Mile Ranch, 77.99 36 P P 23 36 51.8 +1.7
EYMN Ely 78.16 32 P P 23 36 52.2 +1.2
EYMN Ely 78.16 32 P P 23 36 51.8 +0.8
baz=326
GLA Glamis 78.30 55 P P 23 36 53.1 +1.0
baz=316
DAVOX Davos/Dischmat 78.30 327 P P 23 36 53.0 +1.0
comp=Z,1.4nm,0.8s,baz=330,slow=14,SNR=2.2
DAVOX Davos/Dischmat 78.30 327 P P 23 36 53.0 +1.0
SCHQ Schefferville 78.81 14 P P 23 36 54.5 +0.2
comp=Z,11nm,1.1s,baz=305,slow=4.8,SNR=3.0
SCHQ Schefferville 78.81 14 P P 23 36 55.2 +0.8
MVCO Mesa Verde 78.83 48 P P 23 36 55.7 +0.6
baz=316
ECSD EROS Data Cent 79.54 37 P P 23 37 01.3 +2.7
ECSD IAmb IAmb 23 37 05.3
comp=Z,14nm,1.5s
ECSD EROS Data Cent 79.54 37 P P 23 36 58.6 0.0
baz=324
NRCA Norcia 80.16 322 P P 23 37 03.1 +1.2
NRCA IAmb IAmb 23 40 06.0
comp=Z,8.7nm,1.5s
214A Organ Pipe Nat 80.27 55 P P 23 37 02.9 +0.3
baz=317
BNI Bardonecchia 80.98 327 P P 23 37 07.5 +1.1
BNI pmax pmax
comp=Z,19nm,1.6s
BNI Bardonecchia 80.98 327 P P 23 37 07.5 +1.1
BNI IAmb IAmb 23 39 12.9
comp=Z,18nm,1.6s
ANMO Albuquerque 81.62 49 P P 23 37 10.9 +1.0
baz=319
VLDQ Val d'Or 82.64 23 P P 23 37 14.7 +0.1
TXAR Lajitas Array 87.43 50 P P 23 37 39.6 +0.7
comp=Z,0.4nm,0.7s,baz=305,slow=4.4,SNR=4.7
M53A WI Miller and 87.65 28 P P 23 37 40.4 +0.8
baz=333
LBNH Lisbon 87.70 21 P P 23 37 40.4 +0.7
baz=339
ESDC Sonseca Array 89.53 332 P P 23 37 49.2 +0.8
comp=Z,0.4nm,0.8s,baz=1.1,slow=4.0,SNR=1.0
TROLL Troll, Antarti 145.35 202 PKPbc PKPab 23 44 27.5 +0.4
SNAA Sanae 146.97 201 PKPbc PKPbc 23 44 31.3 +0.2
VNA2 Neumayer--Watz 148.59 201 PKPbc PKPbc 23 44 35.8 +0.5
baz=115,slow=3.0
VNA3 Neumayer Olymp 148.95 200 PKPbc PKPbc 23 44 36.4 +0.2

*IDC **05** 00:17:56.0±1.1, 14˚.50S×166˚.70E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/37, mbtmp3.7/8, ML4.0/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/58, Error ellipse: s-maj=44.3km s-min=26.0km az=133.0*
ISC 05 00:18:00.2±0.8, **14˚.58S**±0˚.09×**166˚.7E**±0˚.2, **h28**km, **n11**, σ0**5**0/**11**, **mb3.5/7**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.45**	**182**	Pn	**Pn**	**00 19 47.7**	**+0.5**
	2.1nm,0.3s,baz=321,slow=10.0,SNR=24						
DZM				Sn	**Sn**	**00 21 10.4**	**-0.5**
	0.3nm,0.3s,baz=142,slow=23,SNR=1.5						
DZM				LR	LR	00 22 21.4	
	comp=Z,112nm,20.9s,baz=73,slow=35						
WRA	**Warramunga Arr**	**31.35**	**256**	P	**P**	**00 24 18.0**	**-0.6**
	0.5nm,1.0s,baz=83,slow=8.4,SNR=1.4						
ASAR	**Alice Springs**	**32.23**	**249**	P	**P**	**00 24 26.4**	**0.0**
	0.5nm,0.7s,baz=75,slow=9.8,SNR=5.2						
PSI	**Prapat**	**69.31**	**279**	LR	LR	00 59 50.2	
	comp=Z,61nm,18.1s,baz=204,slow=36						
SONM	**Songino Array**	**82.06**	**324**	P	**P**	**00 30 18.7**	**+0.6**
	0.2nm,0.5s,baz=116,slow=6.7,SNR=2.5						
ILAR	**Eielson Array**	**86.55**	**18**	P	**P**	**00 30 40.1**	**-0.1**
	1.5nm,0.8s,baz=245,slow=4.9,SNR=15						
NVAR	**Mina Array Bea**	**87.58**	**49**	P	**P**	**00 30 45.8**	**-0.3**
	0.1nm,0.3s,baz=278,slow=6.3,SNR=1.9						
MKAR	**Makanchi Array**	**96.73**	**316**	P	**P**	**00 31 28.0**	**-0.1**
	0.4nm,0.7s,baz=96,slow=5.8,SNR=3.4						
YKA	**Yellowknife Ar**	**97.66**	**27**	P	**P**	**00 31 31.7**	**-0.2**
	0.1nm,0.6s,baz=251,slow=4.7,SNR=2.4						
ARCES	**ARCESS Array B**	**119.97**	**345**	PKP	**PKPdf**	**00 36 47.4**	**-0.1**
	0.9nm,0.7s,baz=47,slow=2.3,SNR=4.9						
FINES	**FINESS Array B**	**125.39**	**338**	PKP	**PKiKP**	**00 36 59.2**	**+0.7**
	0.7nm,0.9s,baz=39,slow=5.3,SNR=1.4						

*BJI **05** 00:18:06.0±0.0, 29˚.40N×130˚.50E, h30km, mb4.5/17, mB4.6/7, Ms3.8/4, Ms7 3.7/4*
*JMA **05** 00:18:06.3±0.1, 29˚.32N×130˚.52E, h33km, M3.8*
*NIED **05** 00:18:06.3, 29˚.32N×130˚.52E, h33km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.16; Mθθ-0.10; Mφφ-0.06; Mrθ0.87; Mθφ-0.34; Mφr1.41; Fault plane solution: M₀1.69000×10¹⁵ NP1:φs31.00000°, δ85.00000°, λ84.00000°. NP2:φs264.00000°, δ8.00000°, λ143.00000°.*
*IDC **05** 00:18:07.6±1.9, 29˚.42N×130˚.37E, h48km±17km, mb3.7/16, mb1 3.9/19, mb1mx3.7/50, mbtmp4.0/19, ML3.5/3, MS3.4/14, Ms1 3.5/14, ms1mx3.0/92 Error ellipse: s-maj=22.6km s-min=13.2km az=97.0*
*NEIC **05** 00:18:08.1±1.5, 29˚.37N±0˚.07×130˚.47E±0˚.06, h42km±7km, mb4.3/60, Error ellipse: s-maj=11.2km s-min=4.7km az=145.0*
ISC 05 00:18:06.0±0.4, **29˚.28N**±0˚.04×**130˚.55E**±0˚.05, **h34**km, **n137**, σ1**9**29/132, **mb4.3**/51, **MS3.5**/12, **1D**, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.82**	**314**	P	**Pn**	**00 18 20.5**	**-0.6**
JNN				S	**Sb**	**00 18 31.8**	**-0.8**
JYAK	**Yakushimahirau**	**0.96**	**358**	P	**Pb**	**00 18 23.0**	**-1.2**
JZK	**Kikaishima**	**1.09**	**208**	P	**Pn**	**00 18 26.6**	**+1.8**
JMTN	**Minamitane**	**1.16**	**15**	P	**Pb**	**00 18 26.1**	**-1.4**
JTAJ	**Takarajima**	**1.19**	**264**	P	**Pn**	**00 18 26.8**	**+0.6**
JAM	**Amamí Oshima**	**1.20**	**224**	P	**Pn**	**00 18 27.3**	**+1.0**
JKC	**Kuchinoerabu**	**1.22**	**345**	P	**Pb**	**00 18 26.9**	**-1.7**
JKC				S	**Sb**	**00 18 43.0**	**-1.1**
JTN	**Tanegashima 3**	**1.42**	**15**	P	**Pn**	**00 18 29.9**	**+0.4**
JAMN	**Amaminishikomi**	**1.59**	**230**	P	**Pn**	**00 18 32.6**	**+0.9**
JTSR	**Tashiro 2**	**1.91**	**10**	P	**Pn**	**00 18 37.0**	**+0.8**
JTK	**Tokunoshima**	**2.05**	**224**	P	**Pn**	**00 18 39.5**	**+1.4**
JSU	**Suzuyama**	**2.22**	**358**		**Pn**	**00 18 40.9**	**+0.4**
JOKE	**Okinoerabujima**	**2.59**	**223**	P	**Pn**	**00 18 46.9**	**+1.4**
JYRO	**Yoronjima**	**2.91**	**220**	P	**Pn**	**00 18 50.7**	**+0.8**
JOW	**Kunigami**	**3.16**	**220**	P	**Pn**	**00 18 54.8**	**+1.4**
	9.1nm,0.3s,baz=110,slow=29,SNR=22						
JOW				S	**Sn**	**00 19 28.6**	**-1.3**
	17nm,0.3s,baz=9.1,slow=14,SNR=5.4						
JOW	**Kunigami**	**3.16**	**220**	P	**Pn**	**00 18 54.7**	**+1.4**
JOW	**Kunigami**	**3.16**	**220**	Pn	**Pn**	**00 18 55.0**	**+1.6**
JIH	**Iheya**	**3.19**	**226**	P	**Pn**	**00 18 54.7**	**+0.9**
JKDJ	**Kitadaitoujima**	**3.38**	**169**	P	**Pn**	**00 18 56.0**	**-0.4**
JKDJ				*eS*	**Sn**	**00 19 33.1**	**-2.2**
JMZ	**Minamidaito 2**	**3.50**	**170**	P	**Pn**	**00 18 57.5**	**-0.5**
JMZ				S	**Sn**	**00 19 35.6**	**-2.5**
JNU	**Nakatsue**	**3.84**	**4**	P	**Pn**	**00 19 03.6**	**+0.8**
	4.7nm,0.3s,baz=184,slow=18,SNR=23						
JNU				S	**Sn**	**00 19 45.5**	**-1.3**
	4.0nm,0.3s,baz=60,slow=2.1,SNR=3.9						
JNU				LR	LR	00 20 48.4	
	comp=Z,182nm,19.0s,baz=172,slow=43						
JNU	**Nakatsue**	**3.84**	**4**	Pn	**Pn**	**00 19 03.9**	**+1.2**
JMN	**Monobe**	**5.27**	**32**	Pn	**Pn**	**00 19 22.2**	**-0.1**
JTU	**Tsushima**	**5.32**	**350**	Pn	**Pn**	**00 19 23.3**	**+0.3**
JHS	**Saijyo**	**6.11**	**20**	Pn	**Pn**	**00 19 33.8**	**0.0**
INU	**Inuyama**	**8.16**	**40**	Pn	**Pn**	**00 20 03.9**	**+1.9**
KSRS	**Korea Array**	**8.45**	**346**	P	**Pn**	**00 20 09.4**	**+3.5**
	0.5nm,0.3s,baz=174,slow=13,SNR=3.2						

JCJ Chichijima 10.49 99 Pn Pn 00 20 34.3 +0.3
CN2 Changchun 15.06 346 *eP* **P 00 21 42.9 +1.8**
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=Z,300nm,12.0s
ENH Enshi 18.32 278 P Pn 00 22 17.7 +0.2
XAN Xi'an 19.01 290 P P 00 22 24.7 -0.2
XAN pmax pmax
comp=Z,9.0nm,0.7s
XAN pmax pmax
comp=Z,32nm,4.6s
KLR Kul'dur 19.95 2 P P 00 22 34.0 -1.0
comp=Z,0.3nm,0.3s,baz=188,slow=5.8,SNR=16
KLR LR LR 00 30 04.2
comp=Z,29nm,20.1s,baz=282,slow=36
PZH PanZhiHua 25.59 271 P P 00 23 35.0 +2.8
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,5.7s
SONM Songino Array 26.29 321 P P 00 23 35.3 -3.1
comp=Z,2.0nm,0.6s,baz=136,slow=10,SNR=11
SONM LR LR 00 35 22.2
comp=Z,134nm,18.8s,baz=179,slow=40
SONM Songino Array 26.29 321 P P 00 23 37.8 -0.5
GTA Gaotai 27.20 300 ⇓P P 00 23 51.7 +5.0
GTA sP sP 00 23 58.7 -0.6
GTA pmax pmax
comp=Z,7.0nm,0.7s
GOMU GeErMu 30.72 292 P P 00 24 18.7 +0.4
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU pmax pmax
comp=Z,44nm,4.0s
CMAR Chiang Mai Arr 30.76 257 LR LR 00 37 56.6
comp=Z,33nm,18.6s,baz=235,slow=39
FAKI Fak Fak 32.05 177 P P 00 24 30.9 +1.2
MA2 Magadan 33.27 19 LR LR 00 39 22.2
comp=Z,40nm,18.6s,baz=263,slow=38
H11N2 WAKE ISLAND Hy 34.29 98 T T 01 01 25.3
baz=296,slow=75,SNR=5.7
H11N1 WAKE ISLAND Hy 34.29 98 T T 01 01 27.0
baz=296,slow=75,SNR=4.2
H11N3 WAKE ISLAND Hy 34.31 98 T T 01 01 28.5
baz=296,slow=75,SNR=5.0
JIRN Jiri 38.86 279 *eP* **P 00 25 29.0 +0.4**
GUN Gumba 39.07 279 *eP* **P 00 25 30.4 0.0**
comp=Z,21nm,0.5s
KKN Kakani 39.62 279 *eP* **P 00 25 34.9 +0.2**
DANN Dangsing 40.80 281 *eP* **P 00 25 44.7 +0.1**
KOLN Koldanda 41.07 280 *eP* **P 00 25 46.6 -0.2**
comp=Z,2.5nm,0.2s
MK31 Makanchi Array 41.14 309 P P 00 25 46.9 0.0
MKAR Makanchi Array 41.14 309 P P 00 25 46.3 -0.6
comp=Z,1.6nm,0.4s,baz=90,slow=10,SNR=28
MKAR Makanchi Array 41.14 309 P P 00 25 46.6 -0.3
ZAA0 Zalesovo Array 41.16 320 P P 00 25 45.9 -1.0
ZALV Zalesovo Beam 41.16 320 P P 00 25 45.9 -1.0
comp=Z,1.9nm,0.4s,baz=103,slow=8.5,SNR=13
MAKZ Makanchi 41.35 309 P P 00 25 48.5 -0.1
MAKZ IAmb IAmb 00 25 49.0
comp=Z,1.8nm,0.4s
PYUN Piuthan 41.52 280 *eP* **P 00 25 50.4 0.0**
comp=Z,18nm,0.6s
TARG Taragay, Kyrgy 44.07 301 P P 00 26 11.7 +0.4
KURK Kurchatov 44.11 314 P P 00 26 10.3 -0.6
KDJ Kajisay 44.53 302 P P 00 26 14.3 -0.3
KSH Kashi 45.57 298 P P 00 26 20.0 +3.1
KSH pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 46.50 302 LR LR 00 48 23.6
comp=Z,41nm,18.7s,baz=102,slow=39
NRIK Noril'sk 47.03 341 P P 00 26 32.1 -1.6
comp=Z,1.6nm,0.3s,baz=117,slow=8.5,SNR=8.4
NIL Nilore 48.55 291 P P 00 26 45.1 -0.9
WB0 Warramunga Arr 48.90 175 P P 00 26 49.6 +0.9
WB0 IAmb IAmb 00 26 55.6
comp=Z,2.4nm,1.1s
WRA Warramunga Arr 49.07 175 P P 00 26 51.0 +1.0
comp=Z,0.5nm,0.8s,baz=352,slow=8.2,SNR=2.6
WRA Warramunga Arr 49.07 175 P P 00 26 53.4 +3.4
WB2 Warramunga Arr 49.07 175 P P 00 26 53.1 +3.1
WB2 IAmb IAmb 00 27 01.7
comp=Z,3.1nm,1.1s
WR0 Warramunga Arr 49.10 175 P P 00 26 51.1 +0.9
WR0 IAmb IAmb 00 26 59.2
comp=Z,3.6nm,1.1s
KK31 Karatay Array 49.40 303 P P 00 26 52.3 -0.2
KK31 IAmb IAmb 00 26 53.8
comp=Z,3.1nm,0.8s
KKAR Karatay Array 49.40 303 P P 00 26 52.9 +0.4
KKAR Karatay Array 49.40 303 P P 00 26 52.0 -0.5
KKAR IAmb IAmb 00 26 53.8
comp=Z,3.1nm,0.8s
BRVK Borovoye 49.50 316 P P 00 26 52.5 -0.5
GAR Garm 49.99 298 P P 00 26 56.8 -0.3
GAR IAmb IAmb 00 26 58.6
comp=Z,2.4nm,0.7s
KBL Kabul 51.78 293 P P 00 27 10.3 -0.5
KBL IAmb IAmb 00 27 11.9
comp=Z,2.5nm,0.6s
ASAR Alice Springs 52.74 176 P P 00 27 18.4 +0.8
comp=Z,0.2nm,0.6s,baz=10,slow=13,SNR=7.3
ASAR LR LR 00 48 20.0
comp=Z,28nm,21.3s,baz=20,slow=34
ABKAR Akbulak array 56.11 312 P P 00 27 41.6 -0.3
ARU Arti 56.32 321 LR LR 00 54 03.9
comp=Z,28nm,20.9s,baz=32,slow=38
ARU Arti 56.32 321 P P 00 27 42.6 -0.6
AKTO Aktyubinsk 57.20 313 LR LR 00 54 26.6
comp=Z,83nm,18.5s,baz=59,slow=38
J20K Nowinta River 57.69 30 P P 00 27 54.3 +1.5
K20K Telida 57.74 31 P P 00 27 55.1 +1.9
K20K IAmb IAmb 00 27 59.7
comp=Z,2.1nm,0.9s
H21K Melozitna Rive 58.23 28 P P 00 27 57.8 +1.1
PPLA Purkeypile 58.62 32 P P 00 28 01.2 +1.7
CAST Castle Rocks 58.63 31 P P 00 28 01.0 +1.5
CAST IAmb IAmb 00 28 12.3
comp=Z,3.0nm,1.2s
RND Reindeer 60.08 31 P P 00 28 10.1 +0.5
MDM Murphy Dome 60.20 29 P P 00 28 11.3 +1.0
MDM IAmb IAmb 00 28 24.7
comp=Z,3.7nm,1.0s
H24K Noodor Dome 60.26 28 P P 00 28 12.5 +1.8
ILAR Eielson Array 60.79 29 P P 00 28 13.6 -0.7
comp=Z,0.5nm,0.7s,baz=286,slow=7.9,SNR=6.4
ILAR Eielson Array 60.79 29 P P 00 28 14.5 +0.2
GLI Glacier Island 61.23 34 P P 00 28 16.6 -0.7
BMAR Burnt Mountain 61.38 26 P P 00 28 19.4 +1.2
INK Inuvik 65.28 24 P P 00 28 44.2 +0.3
comp=Z,0.8nm,0.6s,baz=270,slow=1.0,SNR=2.0
M30M Minto, Yukon 65.64 31 P P 00 28 47.4 +0.9
N31M Braeburn, Yuko 66.42 32 P P 00 28 52.8 +1.3
N31M IAmb IAmb 00 29 03.8
comp=Z,4.3nm,1.1s
ARCES ARCESS Array B 67.93 339 LR LR 01 03 20.5
comp=Z,55nm,18.7s,baz=74,slow=40
C36M Paulatuk 68.12 22 P P 00 29 03.1 +1.0
C36M IAmb IAmb 00 29 09.6
comp=Z,2.2nm,0.7s
KBZ Khabaz 68.84 309 P P 00 29 06.0 -1.0
comp=Z,2.0nm,0.6s,baz=120,slow=1.7,SNR=14
ONI Oni 68.86 308 P P 00 29 07.9 +0.6
KIV Kislovodsk 68.90 309 P P 00 29 07.9 +0.4
KIV IAmb IAmb 00 29 10.2
comp=Z,2.4nm,0.6s
EUNU Eureka 69.04 6 P P 00 29 07.7 0.0
EUNU IAmb IAmb 00 29 09.4
comp=Z,3.1nm,0.9s
AFI Afiamalu 70.28 119 LR LR 00 53 55.9
comp=Z,109nm,20.4s,baz=273,slow=30
GEVA Gevas 70.71 304 P P 00 29 19.4 +0.5
GEVA IAmb IAmb 00 29 20.2
comp=Z,3.5nm,0.7s
FIA1 FINESS Array S 71.23 331 P P 00 29 20.4 -1.0
FIA1 IAmb IAmb 00 29 37.4
comp=Z,5.1nm,1.1s
FINES FINESS Array B 71.23 331 P P 00 29 19.6 -1.7
comp=Z,0.9nm,0.3s,baz=58,slow=5.9,SNR=22

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FINES				LR	LR	01 04 40.8	
	comp=Z,30nm,18.2s,baz=60,slow=39						
FINES	**FINESS Array B**	**71.23**	**331**	P	**P**	**00 29 20.1**	**-1.3**
GRNB	**Grenville Isla**	**72.15**	**38**	P	**P**	**00 29 28.7**	**+1.7**
RES	**Resolute Bay**	**72.17**	**11**	P	**P**	**00 29 27.8**	**+0.9**
RES				IAmb	IAmb	00 29 28.2	
	comp=Z,3.4nm,0.7s						
SOCY	**Socotra**	**72.51**	**274**	P	**P**	**00 29 28.4**	**-1.6**
SOCY				IAmb	IAmb	00 29 44.8	
	comp=Z,5.9nm,1.0s						
AKASG	**Malin Array Be**	**74.55**	**320**	P	**P**	**00 29 39.6**	**-1.7**
	comp=Z,2.6nm,0.4s,baz=58,slow=6.3,SNR=11						
AKASG				LR	LR	01 05 14.6	
	comp=Z,44nm,18.1s,baz=26,slow=38						
AKASG	**Malin Array Be**	**74.55**	**320**	P	**P**	**00 29 41.6**	**+0.4**
AKBB	**Malin Array Si**	**74.55**	**320**	P	**P**	**00 29 41.0**	**-0.2**
AKBB				IAmb	IAmb	00 29 41.4	
	comp=Z,3.9nm,0.5s						
TOKA	**Tokat**	**74.56**	**308**	P	**P**	**00 29 42.4**	**+0.7**
TOKA				IAmb	IAmb	00 29 43.1	
	comp=Z,3.8nm,0.7s						
RAYN	**Ar Rayn**	**74.80**	**289**	P	**P**	**00 29 43.0**	**-0.2**
YKA	**Yellowknife Ar**	**74.90**	**26**	P	**P**	**00 29 43.2**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=302,slow=5.6,SNR=8.7						
BR131	**Keskin Array S**	**76.79**	**308**	P	**P**	**00 29 54.0**	**-0.4**
BR131				IAmb	IAmb	00 29 55.8	
	comp=Z,4.6nm,0.8s						
BRTR	**Keskin Array B**	**76.79**	**308**	P	**P**	**00 29 53.5**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=122,slow=4.5,SNR=13						
BRTR	**Keskin Array B**	**76.79**	**308**	P	**P**	**00 29 54.4**	**0.0**
NC405	**NORSAR Array S**	**77.25**	**334**	P	**P**	**00 29 55.5**	**-1.0**
NB201	**NORSAR Array S**	**77.45**	**334**	P	**P**	**00 29 56.5**	**-1.1**
NB2	**NORSAR Subarra**	**77.49**	**334**	P	**P**	**00 29 56.1**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=51,slow=5.9						
NOA	**NORSAR Array B**	**77.49**	**334**	P	**P**	**00 29 55.4**	**-2.4**
	comp=Z,1.0nm,0.9s,baz=64,slow=9.3,SNR=4.7						
NC204	**NORSAR Array S**	**77.51**	**335**	P	**P**	**00 29 57.1**	**-0.8**
NC204				IAmb	IAmb	00 29 58.9	
	comp=Z,1.9nm,0.7s						
NBO00	**NORSAR Array S**	**77.66**	**334**	P	**P**	**00 29 57.4**	**-1.4**
TIRR	**Tirgusor**	**77.99**	**314**	P	**P**	**00 30 01.0**	**+0.1**
LLLB	**Lillooet**	**78.05**	**38**	P	**P**	**00 30 02.5**	**+1.3**
LLLB				IAmb	IAmb	00 30 21.4	
	comp=Z,2.2nm,0.7s						
BUR08	**Bucovina Ar. S**	**78.34**	**318**	P	**P**	**00 30 03.3**	**+0.4**
BUR08				IAmb	IAmb	00 30 04.4	
	comp=Z,1.7nm,0.6s						
BURAR	**Bucovina Array**	**78.35**	**318**	P	**P**	**00 30 03.3**	**+0.3**
BURAR				IAmb	IAmb	00 30 04.4	
	comp=Z,1.9nm,0.6s						
MLR	**Muntele Rosu**	**79.00**	**316**	LR	LR	01 09 30.5	
	comp=Z,40nm,19.7s,baz=54,slow=39						
CSS	**Mathiatis**	**79.20**	**304**	P	**P**	**00 30 08.3**	**+0.5**
CSS				IAmb	IAmb	00 30 09.2	
	comp=Z,3.3nm,0.7s						
OJC	**Ojcow**	**79.98**	**322**	P	**P**	**00 30 13.2**	**+1.5**
OJC				IAmb	IAmb	00 30 13.7	
	comp=Z,3.6nm,0.6s						
KECS	**Kecovo**	**80.57**	**321**	*e*P	**P**	**00 30 13.7**	**-1.2**
ELL	**Elmali**	**80.78**	**307**	P	**P**	**00 30 16.5**	**+0.1**
DIVS	**Divibare**	**83.32**	**317**	P	**P**	**00 30 28.5**	**-1.1**
GERES	**GERESS Array B**	**84.00**	**324**	P	**P**	**00 30 32.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=73,slow=4.6,SNR=3.8						
FCC	**Fort Churchill**	**84.76**	**22**	P	**P**	**00 30 37.1**	**+0.7**
FCC				IAmb	IAmb	00 30 44.0	
	comp=Z,2.2nm,1.1s						
IDI	**Anoyia**	**85.02**	**308**	P	**P**	**00 30 37.6**	**-0.8**
DAVOX	**Davos/Dischmat**	**87.30**	**324**	P	**P**	**00 30 48.9**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=128,slow=2.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**115.09**	**303**	PKP	**PKiKP**	**00 36 44.1**	**-0.2**
	comp=Z,0.3nm,1.0s,baz=2.2,slow=5.6,SNR=1.3						

IDC 05 00:23:03.2±14.0**, 14°36S**×**166°20E, h0km, mb3.8**/3**, mb1 3.9**/4**, mb1mx3.6**/34**, mbtmp3.8**/4**, ML3.6**/1**, Error ellipse: s-maj=240.7km s-min=38.6km az=59.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.67**	**178**	Pn	Pn	00 24 56.7	+0.2
	0.9nm,0.3s,baz=85,slow=10.0,SNR=11						
DZM				Sn	Sn	00 26 24.0	-0.3
	baz=148,slow=17,SNR=2.1						
STKA	**Stephens Creek**	**28.46**	**228**	P	P	00 29 00.0	0.0
	2.0nm,0.4s,baz=48,slow=8.0,SNR=5.5						
WRA	**Warramunga Arr**	**30.92**	**255**	P	P	00 29 21.8	-0.2
	1.0nm,0.8s,baz=86,slow=8.8,SNR=2.8						
ASAR	**Alice Springs**	**31.85**	**248**	P	P	00 29 30.4	+0.2
	0.5nm,0.5s,baz=73,slow=9.1,SNR=11						

*TUL **05** 00:31:46.6±1.4, 36°35N±0°01×97°37W±0°02, h4km±7km, ML2.9, mb_Lg2.9/60(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=64.0*

*NEIC **05** 00:31:46.7±1.0, 36°35N±0°01×97°39W±0°02, h3km±7km, Error ellipse: s-maj=2.1km s-min=1.5km az=64.0*

*ANF **05** 00:31:46.4±0.4, 36°38N×97°38W, h3km, ML3.4/9, Error ellipse: s-maj=4.5km s-min=2.7km az=171.0*

ISC 05 00:31:46.9±0.8**, 36°34N**±0°03×**97°42W**±0°03**, h10km, n60,** σ**1§11**/50**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.93**	**51**		**Pg**	**00 32 03.8**	**-1.0**
T35B	**Sooner Cattle**	**0.93**	**51**	P	**Pg**	**00 32 03.8**	**-1.1**
	baz=231						
T35B				S	**Sg**	**00 32 15.8**	**-1.1**
	baz=231						
FNO	**Franklin**	**1.08**	**179**	Pg	**Pg**	**00 32 06.7**	**-0.9**
U32A	**Winter Ranch,**	**1.28**	**272**		**Pn**	**00 32 10.8**	**-0.1**
U32A	**Winter Ranch,**	**1.28**	**272**	P	**Pn**	**00 32 11.0**	**+0.1**
	baz=91						
U32A				S	**Sg**	**00 32 29.1**	**+1.0**
	baz=91						
TUL1	**Leonard**	**1.38**	**107**	Pn	**Pn**	**00 32 11.5**	**-0.8**
TUL1	**Leonard**	**1.38**	**107**	P	**Pn**	**00 32 11.4**	**-0.8**
	baz=289						
TUL1				S	**Sn**	**00 32 30.1**	**-0.6**
	baz=289						
X34A	**Smith Ranch, M**	**1.77**	**191**	Pn	**Pb**	**00 32 18.8**	**-0.6**
WMOK	**Wichita Mounta**	**1.94**	**215**		**Pb**	**00 32 21.4**	**-1.1**
WMOK	**Wichita Mounta**	**1.94**	**215**	P	**Pb**	**00 32 21.7**	**-0.8**
	baz=35						
R32A	**Long Quarter,**	**2.32**	**334**	Pn	**Pn**	**00 32 25.6**	**+0.4**
X37A	**Clayton**	**2.42**	**136**		**Pn**	**00 32 27.7**	**+1.2**
X37A				IAmb_Lg		00 33 08.6	
	comp=Z,63nm,0.8s						
X37A	**Clayton**	**2.42**	**136**	S	**Sb**	**00 32 58.5**	**-1.8**
	baz=318						
HHAR	**Hobbs**	**2.81**	**90**		**Pn**	**00 32 32.4**	**+0.5**
KSU1	**Kansas State U**	**2.83**	**13**		**Pn**	**00 32 33.2**	**+1.0**
Z35A	**Perchaven, San**	**3.00**	**177**		**Pn**	**00 32 34.6**	**0.0**
Z35A	**Perchaven, San**	**3.00**	**177**	P	**Pn**	**00 32 36.1**	**+1.6**
	baz=358						
CBKS	**Cedar Bluff**	**3.08**	**324**		**Pn**	**00 32 36.3**	**+0.6**
CBKS				IAmb_Lg		00 33 30.2	
	comp=Z,47nm,0.7s						
W39A	**Magazine**	**3.17**	**110**		**Pn**	**00 32 38.1**	**+1.3**
W39A				IAmb_Lg		00 33 29.2	
	comp=Z,41nm,0.7s						
S39A	**Bolivar**	**3.55**	**66**	Pn	**Pn**	**00 32 43.0**	**+1.0**
S39A				IAmb_Lg		00 33 37.9	
	comp=Z,26nm,0.7s						
S39A	**Bolivar**	**3.55**	**66**	P	**Pn**	**00 32 42.6**	**+0.6**
	baz=249						
Z38A	**Mt. Pleasant**	**3.67**	**146**		**Pn**	**00 32 44.6**	**+0.9**
Z38A				Pg	**Pb**	**00 32 53.9**	**+2.2**
U40A	**Yellville**	**3.69**	**88**	Pg	**Pb**	**00 32 52.6**	**+0.5**
U40A				IAmb_Lg		00 33 43.7	
	comp=Z,22nm,0.8s						
AMTX	**Amarillo**	**3.76**	**249**		**Pn**	**00 32 46.9**	**+1.8**
AMTX	**Amarillo**	**3.76**	**249**	P	**Pb**	**00 32 55.6**	**+2.1**
	baz=66						
ABTX	**Abilene, Hawle**	**4.13**	**207**		**Pn**	**00 32 50.8**	**+0.6**
ABTX				IAmb_Lg		00 34 01.1	
	comp=Z,29nm,0.7s						
X40A	**Basin Creek Fa**	**4.17**	**115**		**Pn**	**00 32 50.8**	**+0.2**
X40A				IAmb_Lg		00 34 07.4	
	comp=Z,22nm,0.8s						
MGMO	**Mountain Grove**	**4.21**	**77**		**Pn**	**00 32 52.0**	**+0.7**
WHAR	**Wooly Hollow**	**4.30**	**103**	Pn	**Pn**	**00 32 52.9**	**+0.5**
WHAR					**Pb**	**00 33 05.4**	**+2.8**
WHAR				IAmb_Lg		00 34 09.9	
	comp=Z,28nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.31**	**94**		**Pn**	**00 32 53.2**	**+0.6**
FCAR				IAmb_Lg		00 34 01.5	
	comp=Z,18nm,0.7s						
WHTX	**Lake Whitney,**	**4.34**	**180**	Pn	**Pn**	**00 32 54.2**	**+1.3**
WHTX					**Pb**	**00 33 04.5**	**+1.3**
WHTX	**Lake Whitney,**	**4.34**	**180**	P	**Pn**	**00 32 54.5**	**+1.6**
	baz=0.7						
W41B	**Gary Mavity, V**	**4.36**	**104**		**Pn**	**00 32 53.5**	**+0.3**
N33A	**J Bar K, Exete**	**4.39**	**360**	IAmb_Lg		00 34 13.7	
	comp=Z,21nm,0.9s						
WLAR	**White Oak Lake**	**4.41**	**126**	Pn	**Pn**	**00 32 54.3**	**+0.4**
WLAR				IAmb_Lg		00 34 04.8	
	comp=Z,21nm,0.9s						
UALR	**University of**	**4.42**	**109**	Pn	**Pn**	**00 32 54.0**	**0.0**
UALR				IAmb_Lg		00 34 08.2	
	comp=Z,22nm,0.8s						
P38A	**Dawn**	**4.49**	**42**	IAmb_Lg		00 34 09.9	
	comp=Z,23nm,0.7s						
237A	**Washetta, Mont**	**4.53**	**162**	Pn	**Pn**	**00 32 55.9**	**+0.4**
R40A	**Maddies Statio**	**4.54**	**63**		**Pn**	**00 32 56.1**	**+0.3**
R40A				IAmb_Lg		00 34 08.7	
	comp=Z,30nm,0.7s						
N35A	**Tabor**	**4.73**	**17**		**Pn**	**00 32 59.5**	**+1.2**
KSCO	**Kaye Shedlock'**	**4.92**	**304**	Pn	**Pn**	**00 33 01.4**	**+0.4**
KSCO					**Pg**	**00 33 19.2**	**-1.9**
MSTX	**Muleshoe**	**4.98**	**243**	Pn	**Pn**	**00 33 02.7**	**+0.8**
LCAR	**Lake Charles**	**5.07**	**91**	Pn	**Pn**	**00 33 03.9**	**+0.9**
BGNE	**Belgrade**	**5.09**	**354**	Pn	**Pn**	**00 33 04.1**	**+0.8**
CCM	**Cathedral Cave**	**5.22**	**69**	IAmb_Lg		00 34 32.9	
	comp=Z,23nm,0.7s						
CCAR	**Cane Creek**	**5.22**	**116**	Pn	**Pn**	**00 33 05.0**	**0.0**
P40A	**Paris**	**5.31**	**51**	IAmb_Lg		00 34 48.5	
	comp=Z,22nm,0.8s						
PBMO	**Poplar Bluff**	**5.64**	**83**	IAmb_Lg		00 34 47.1	
	comp=Z,22nm,0.8s						
FVM	**French Village**	**5.82**	**72**	IAmb_Lg		00 34 55.8	
	comp=Z,21nm,0.7s						
OGNE	**Ogallala**	**5.85**	**323**	IAmb_Lg		00 35 00.6	
	comp=Z,26nm,0.8s						
JCT	**Junction City**	**6.17**	**200**	IAmb_Lg		00 35 07.7	
	comp=Z,16nm,0.9s						
K31A	**O'Neill**	**6.36**	**351**	IAmb_Lg		00 35 14.2	
	comp=Z,17nm,0.8s						
Q24A	**Divide**	**6.67**	**295**	IAmb_Lg		00 35 20.9	
	comp=Z,15nm,0.8s						
L40A	**Anamosa**	**7.47**	**38**	IAmb_Lg		00 35 44.8	
	comp=Z,20nm,0.8s						
OLIL	**Olney**	**7.78**	**69**	IAmb_Lg		00 36 11.9	
	comp=Z,16nm,0.9s						
N23A	**Red Feather La**	**8.07**	**307**	IAmb_Lg		00 36 09.3	
	comp=Z,11nm,0.8s						
L42A	**Oliver, Polo**	**8.26**	**44**	IAmb_Lg		00 36 13.4	
	comp=Z,18nm,0.8s						
JFWS	**Jewell Farm**	**8.59**	**38**	IAmb_Lg		00 36 19.2	
	comp=Z,14nm,0.7s						
RSSD	**Black Hills**	**9.27**	**329**	IAmb_Lg		00 36 50.5	
	comp=Z,7.1nm,1.1s						
K22A	**Casper**	**9.44**	**315**	IAmb_Lg		00 37 03.1	
	comp=Z,8.3nm,1.0s						

*DJA **05** 00:32:01.0±0.3, 3°S±4°×14°6E±°, h10km, M4.4/12, mB4.9/5, mb4.4/12, MLv4.5/2, Mw(mB)4.1/5*

*IDC **05** 00:32:02.8±0.7, 3°29S×145°68E, h0km, mb4.2/16, mb1 4.5/18, mb1mx4.3/40, mbtmp4.3/18, ML4.2/2, MS3.7/27, Ms1 3.7/27, ms1mx3.5/46, Error ellipse: s-maj=27.0km s-min=13.8km az=99.0*

*NEIC **05** 00:32:21.3±2.0, 4°5S±0°1×145°1E±0°1, h35km±2km, mb4.6/26, Error ellipse: s-maj=22.7km s-min=15.7km az=47.0*

ISC 05 00:32:06.4±0.6**, 3°39S**±0°06×**146°0E**±0°1**, h25km, n89,** σ**2§31**/59**, mb4.4**/28**, MS3.8**/23**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.09**	**169**	Pn	**Pn**	**00 33 32.7**	**-2.2**
	2.3nm,0.3s,baz=9.1,slow=6.7,SNR=11						
PMG				Sn	**Sn**	**00 34 43.4**	**-0.5**
	1.3nm,0.3s,baz=162,slow=19,SNR=1.4						
PMG				LR	LR	00 35 41.3	
	comp=Z,358nm,18.9s,baz=354,slow=35						
PMG	**Port Moresby**	**6.09**	**169**	Pn	**Pn**	**00 33 36.6**	**+1.7**
PMG	**Port Moresby**	**6.09**	**169**	P	**Pn**	**00 33 32.8**	**-2.2**
	125nm,0.8s						
COEN	**Coen**	**10.85**	**195**	Pn	**Pn**	**00 34 37.0**	**-3.3**
COEN	**Coen**	**10.85**	**195**	P	**Pn**	**00 34 38.2**	**-2.1**
	29nm,1.7s						
FAKI	**Fak Fak**	**13.70**	**272**	Pn	**Pn**	**00 35 22.6**	**+3.3**
MTSU	**Mount Surprise**	**14.74**	**186**	P	**Pn**	**00 35 31.1**	**-2.3**
	18nm,0.9s						
KDU	**Kakadu**	**16.23**	**235**	P	**Pn**	**00 35 52.0**	**-0.9**
	42nm,0.8s						
CTA	**Charters Tower**	**16.60**	**179**	Pn	**Pn**	**00 35 58.4**	**+0.8**
	0.4nm,0.3s,baz=244,slow=1.6,SNR=2.5						
CTA				LR	LR	00 42 26.2	
	comp=Z,173nm,19.8s,baz=13,slow=37						
CTAO	**Charters Tower**	**16.60**	**179**	Pn	**P**	**00 35 59.5**	**-0.4**
GUMO	**Guam**	**16.91**	**356**	LR	LR	00 40 51.3	
	comp=Z,168nm,19.2s,baz=117,slow=32						
MTN	**Manton Dam**	**17.41**	**237**	Pn	**Pn**	**00 36 03.4**	**-4.4**
MTN				IAmb	IAmb	00 36 15.0	
	comp=Z,28nm,0.9s						
MTN	**Manton Dam**	**17.41**	**237**	P	**Pn**	**00 36 08.0**	**+0.2**
	comp=Z,33nm,0.8s						
QIS	**Mount Isa**	**18.15**	**199**	P	**Pn**	**00 36 14.7**	**-2.2**
	comp=Z,14nm,1.1s						
TNTI	**Ternate**	**19.04**	**282**	P	**Pn**	**00 36 33.8**	**+6.0**
TNTI				IAmb	IAmb	00 36 51.1	
	comp=Z,20nm,0.7s						
WB0	**Warramunga Arr**	**19.81**	**214**	P	**P**	**00 36 33.8**	**-1.5**
WB0				IAmb	IAmb	00 36 36.5	
	comp=Z,60nm,0.9s						
WR0	**Warramunga Arr**	**19.88**	**213**	P	**P**	**00 36 33.9**	**-2.2**
WR0				IAmb	IAmb	00 36 38.5	
	comp=Z,65nm,1.1s						
WRAB	**Tennant Creek**	**19.97**	**214**	P	**P**	**00 36 35.4**	**-1.6**
WRAB				IAmb	IAmb	00 36 38.3	
	comp=Z,52nm,0.7s						
WRAB	**Tennant Creek**	**19.97**	**214**	P	**P**	**00 36 36.5**	**-0.5**
	comp=Z,76nm,1.2s						
WB2	**Warramunga Arr**	**19.97**	**214**	P	**P**	**00 36 35.5**	**-1.6**
WB2				IAmb	IAmb	00 36 38.5	
	comp=Z,55nm,0.8s						
WRA	**Warramunga Arr**	**19.98**	**214**	P	**P**	**00 36 35.7**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=37,slow=12,SNR=42						
WRA				LR	LR	00 44 30.5	
	comp=Z,195nm,19.7s,baz=28,slow=38						
WRA	**Warramunga Arr**	**19.98**	**214**	P	**P**	**00 36 34.9**	**-2.3**
KNRA	**Kununurra**	**20.87**	**233**	P	**P**	**00 36 45.5**	**-1.4**
KNRA	**Kununurra**	**20.87**	**233**	P	Pn	00 36 48.7	-0.7
	comp=Z,122nm,1.0s						
EIDS	**Eidsvold**	**22.40**	**168**	P	**P**	**00 37 08.0**	**+4.9**
EIDS				IAmb	IAmb	00 37 11.1	
	comp=Z,17nm,1.1s						
DAV	**Davao City (W)**	**22.85**	**297**	LR	LR	00 46 23.9	
	comp=Z,38nm,18.1s,baz=346,slow=38						
QLP	**Quilpie**	**23.12**	**184**	P	**P**	**00 37 10.3**	**-0.4**
	comp=Z,38nm,0.9s						
RMQ	**Roma**	**23.12**	**174**	P	**P**	**00 37 11.7**	**+1.0**
	comp=Z,14nm,0.8s						
BATI	**Baumata**	**23.14**	**252**	P	**P**	**00 37 08.9**	**-2.2**
	comp=Z,23nm,0.5s,baz=177,slow=2.3,SNR=6.6						
BATI	**Baumata**	**23.14**	**252**	P	**P**	**00 37 10.4**	**-0.7**
	comp=Z,36nm,0.9s						
AS31	**Alice Springs**	**23.28**	**209**	P	**P**	**00 37 10.7**	**-1.7**
ASAR	**Alice Springs**	**23.28**	**209**	P	**P**	**00 37 11.2**	**-1.2**
	comp=Z,19nm,0.9s,baz=41,slow=9.0,SNR=114						
GTOI	**Gorontalo**	**23.29**	**279**	P	**P**	**00 37 13.0**	**+0.5**
	comp=Z,172nmcomp=Z,12nm,0.8s						
LUWI	**Luwuk**	**23.29**	**275**	P	**P**	**00 37 16.9**	**+4.3**
FITZ	**Fitzroy Crossi**	**24.70**	**232**	P	**P**	**00 37 24.6**	**-1.2**
	comp=Z,22nm,0.8s,baz=54,slow=9.5,SNR=36						
FITZ				LR	LR	00 47 50.8	
	comp=Z,312nm,18.1s,baz=57,slow=39						
FITZ	**Fitzroy Crossi**	**24.70**	**232**	P	**P**	**00 37 24.9**	**-0.9**
FITZ				IAmb	IAmb	00 37 31.3	
	comp=Z,31nm,0.9s						
TOLI2	**Tolitoli**	**25.56**	**280**	P	**P**	**00 37 39.5**	**+5.8**
TOLI2				IAmb	IAmb	00 37 52.3	
	comp=Z,8.2nm,0.7s						
BNSI	**Bone**	**25.82**	**267**	P	P	00 37 46.7	+11
BKSI	**Bulukumba**	**25.84**	**265**	P	**P**	**00 37 35.0**	**-1.1**
	comp=Z,6.7nm,1.2s						
OOD	**Oodnadatta**	**26.17**	**201**	P	**P**	**00 37 39.7**	**+0.7**
	comp=Z,25nm,0.9s						
KAPI	**Kappang**	**26.19**	**266**	P	**P**	**00 37 42.9**	**+3.6**
DZM	**Mont Dzumac**	**27.20**	**135**	LR	LR	00 47 10.7	
	comp=Z,251nm,19.0s,baz=294,slow=33						
WRKA	**Warakurna**	**27.43**	**217**	P	**P**	**00 37 52.6**	**+2.2**
	comp=Z,18nm,1.0s						
OUENC	**Ouen Island, N**	**27.70**	**135**	P	P	00 38 05.2	+12
OUENC				IAmb	IAmb	00 38 21.9	
	comp=Z,25nm,1.1s						
STKA	**Stephens Creek**	**28.63**	**188**	P	**P**	**00 38 02.8**	**+1.8**
	comp=Z,7.1nm,0.8s,baz=340,slow=7.5,SNR=8.1						
STKA				LR	LR	00 50 21.5	
	comp=Z,257nm,18.3s,baz=11,slow=38						
STKA	**Stephens Creek**	**28.63**	**188**	P	**P**	**00 38 04.6**	**+3.6**
STKA	**Stephens Creek**	**28.63**	**188**	P	**P**	**00 38 01.9**	**+0.9**
	comp=Z,2.7nm,1.3s						
LHI	**Lord Howe Isla**	**30.58**	**158**	P	P	00 38 25.2	+6.9
BBOO	**Buckleboo**	**30.70**	**196**	P	**P**	**00 38 18.0**	**-1.4**
BBOO				IAmb	IAmb	00 38 33.9	
	comp=Z,12nm,1.1s						
KKM	**Kota Kinabalu**	**31.15**	**287**	P	P	00 38 29.8	+6.1
PSA00	**Pilbara Seismi**	**31.15**	**232**	P	**P**	**00 38 24.1**	**+0.6**
PSA00	**Pilbara Seismi**	**31.15**	**232**	P	**P**	**00 38 23.0**	**-0.5**
PSA00				IAmb	IAmb	00 38 36.9	
	comp=Z,13nm,1.1s						
CAN	**Canberra**	**31.89**	**175**	P	**P**	**00 38 34.6**	**+4.7**
CAN				IAmb	IAmb	00 38 43.3	
	comp=Z,14nm,1.1s						
FORT	**Forrest**	**32.06**	**210**	P	**P**	**00 38 30.0**	**-1.4**
SBUM	**Sibu**	**34.22**	**279**	P	P	00 38 57.3	+6.8
SBUM				IAmb	IAmb	00 39 15.1	
	comp=Z,4.0nm,0.9s						
JOW	**Kunigami**	**34.57**	**331**	LR	LR	00 50 07.1	
	comp=Z,179nm,20.8s,baz=139,slow=32						
JOW	**Kunigami**	**34.57**	**331**	P	P	00 39 10.5	+17
MJAR	**Matsushiro Arr**	**40.38**	**350**	P	**P**	**00 39 42.2**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=247,slow=14,SNR=4.4						
KSRS	**Korea Array**	**43.96**	**339**	P	**P**	**00 40 10.2**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=156,slow=9.6,SNR=5.6						
URZ	**Urewera**	**44.86**	**145**	LR	LR	00 56 58.9	
	comp=Z,116nm,18.4s,baz=24,slow=33						
RPZ	**Rata Peaks**	**45.89**	**155**	LR	LR	01 00 11.6	
	comp=Z,78nm,18.1s,baz=325,slow=37						
MNSI	**Mandailing Nat**	**46.55**	**274**	P	P	00 40 27.2	-5.3
USRK	**Ussuriysk Ar.**	**49.01**	**347**	P	**P**	**00 40 49.7**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=163,slow=11,SNR=2.0						
CMAR	**Chiang Mai Arr**	**51.13**	**297**	P	**P**	**00 41 06.5**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=115,slow=5.8,SNR=5.6						
PETK	**Petropavlovsk-**	**57.16**	**8**	LR	LR	01 02 39.8	
	comp=Z,30nm,21.9s,baz=191,slow=32						
SHEM	**Shemya Is, Ala**	**60.75**	**19**	LR	LR	01 03 20.5	
	comp=Z,44nm,20.6s,baz=134,slow=31						
SONM	**Songino Array**	**61.64**	**331**	P	**P**	**00 42 21.0**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=138,slow=6.5,SNR=6.3						
MA2	**Magadan**	**62.89**	**3**	LR	LR	01 06 15.1	
	comp=Z,13nm,21.6s,baz=133,slow=33						
SEY	**Seymchan**	**66.33**	**3**	P	**P**	**00 42 52.4**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=132,slow=14,SNR=1.4						
YAK	**Yakutsk**	**66.43**	**352**	LR	LR	01 12 00.2	
	comp=Z,22nm,18.4s,baz=257,slow=36						
VNDA	**Vanda**	**74.56**	**176**	P	**P**	**00 43 43.5**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=294,slow=5.2,SNR=4.1						
MKAR	**Makanchi Array**	**74.84**	**320**	P	**P**	**00 43 44.0**	**-1.0**
	comp=Z,1.7nm,1.0s,baz=106,slow=7.7,SNR=8.9						
ZALV	**Zalesovo Beam**	**76.27**	**328**	P	**P**	**00 43 50.2**	**-2.7**
	comp=Z,0.5nm,0.4s,baz=130,slow=8.0,SNR=3.9						
KDAK	**Kodiak Island**	**78.12**	**29**	LR	LR	01 17 32.1	
	comp=Z,36nm,19.4s,baz=238,slow=35						
NRIK	**Noril'sk**	**82.49**	**342**	P	**P**	**00 44 25.0**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=117,slow=7.2,SNR=5.1						
ILAR	**Eielson Array**	**83.51**	**23**	P	**P**	**00 44 32.5**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=259,slow=5.2,SNR=11						
ILAR				LR	LR	01 20 02.8	
	comp=Z,26nm,19.4s,baz=266,slow=34						
INK	**Inuvik**	**89.62**	**22**	LR	LR	01 19 59.9	
	comp=Z,48nm,21.3s,baz=96,slow=32						
DLBC	**Dease Lake**	**89.73**	**32**	LR	LR	01 25 54.1	
	comp=Z,32nm,18.7s,baz=296,slow=36						
BBB	**Bella Bella**	**90.15**	**38**	LR	LR	01 15 30.5	
	comp=Z,53nm,21.3s,baz=277,slow=29						
AKTO	**Aktyubinsk**	**91.28**	**320**	LR	LR	01 25 19.5	
	comp=Z,49nm,22.0s,baz=74,slow=35						
ARU	**Arti**	**91.36**	**326**	LR	LR	01 25 32.6	
	comp=Z,51nm,21.8s,baz=106,slow=35						
YBH	**Yreka Blue Hor**	**93.23**	**49**	LR	LR	01 18 11.8	
	comp=Z,58nm,20.9s,baz=278,slow=30						
KIRV	**Kirov**	**96.30**	**328**	LR	LR	01 29 23.5	
	comp=Z,138nm,20.7s,baz=78,slow=36						
NVAR	**Mina Array Bea**	**96.59**	**52**	LR	LR	01 19 27.5	
	comp=Z,45nm,21.6s,baz=265,slow=29						
NEW	**Newport**	**97.13**	**42**	LR	LR	01 23 58.5	
	comp=Z,21nm,19.0s,baz=323,slow=32						
YKA	**Yellowknife Ar**	**97.36**	**28**	P	Pdif	00 45 38.4	+1.0
	comp=Z,0.5nm,0.8s,baz=271,slow=4.6,SNR=6.7						
PFO	**Pinyon Flats O**	**98.18**	**57**	LR	LR	01 21 24.3	
	comp=Z,38nm,21.9s,baz=228,slow=30						
TORD	**Torodi Ar. Bea**	**143.39**	**287**	PKhKP	PKPpre	00 51 31.4	
	comp=Z,0.7nm,1.1s,baz=73,slow=2.4,SNR=2.3						
TORD				PKP	PKPbc	00 51 38.2	+1.2
	comp=Z,0.3nm,0.6s,baz=66,slow=1.9,SNR=5.0						
SIV	**San Ignacio**	**147.05**	**127**	PKPbc	**PKPbc**	**00 51 48.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=274,slow=3.4,SNR=5.3						

*TUL **05** 00:35:58.4±1.3, 36°48N±0°02×98°75W±0°01, h8km±2km, ML2.6, mb_Lg2.8/4(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=177.0*

NEIC 05 00:35:58.4±1.1**, 36°51N**±0°01×**98°74W**±0°01**, h5km**±1km**, Error ellipse: s-maj=2.9km s-min=2.1km az=172.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.25**	**237**	Pg	Pg	00 36 03.2	-0.1
U32A				Sg	Sg	00 36 06.9	+0.3
FNO	**Franklin**	**1.66**	**139**	Pn	Pn	00 36 27.7	-0.5
WMOK	**Wichita Mounta**	**1.77**	**181**	Pn	Pn	00 36 28.9	-0.9
T35A	**Sooner Cattle**	**1.84**	**77**	Pn	Pn	00 36 30.6	0.0
R32A	**Long Quarter,**	**1.91**	**1**	Pn	Pn	00 36 30.9	-0.7
X34A	**Smith Ranch, M**	**2.05**	**158**	Pn	Pn	00 36 33.7	+0.1
CBKS	**Cedar Bluff**	**2.43**	**341**	Pn	Pn	00 36 38.5	-0.3
TUL1	**Leonard**	**2.46**	**103**	Pn	Pn	00 36 38.7	-0.6
AMTX	**Amarillo**	**2.89**	**237**	Pn	Pn	00 36 44.5	-0.7
AMTX				IAmb_Lg		00 37 30.6	
	comp=Z,15nm,1.1s						
KSU1	**Kansas State U**	**3.09**	**33**	Pn	Pn	00 36 47.1	-0.7
146A	**Union**	**8.87**	**113**	IAmb_Lg		00 40 33.0	
	comp=Z,14nm,0.8s						

*IDC **05** 00:40:49.9±1.9, 5°77N×126°50E, h162km±17km, mb3.4/5, mb1 3.5/5, mb1mx3.1/43, mbtmp3.8/5, MS3.7/1, Ms1 3.7/1, ms1mx2.6/32, Error ellipse: s-maj=91.1km s-min=21.1km az=67.0*

*MAN **05** 00:40:50.7, 5°86N×126°69E, h130km, mb5.2, ML4.2, MS4.3, Hypocentre not reviewed by the ISC*

ISC 05 00:40:49.1±1.0**, 5°73N**±0°08×**126°5E**±0°1**, h150km, n11,** σ**1§35**/14**, mb3.7**/5**, 1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.59**	**283**	*e*P	**Pn**	**00 41 19.9**	**+0.2**
GSPH				*i* S	**Sn**	**00 41 42.0**	**-1.2**
DAV	**Davao City (W)**	**1.62**	**325**	P	**Pn**	**00 41 21.1**	**+1.1**
	92nm,0.3s,baz=6.3,slow=3.0,SNR=2.3						
DAV				S	**Sn**	**00 41 45.5**	**+1.8**
	157nm,0.3s,baz=4.6,slow=2.7,SNR=8.0						
KCP	**Kidapawan**	**1.90**	**312**	⇓*i*P	**Pn**	**00 41 24.1**	**+1.0**
KCP				*i* S	**Sn**	**00 41 46.8**	**-2.4**
BIPH	**Bislig**	**2.45**	**357**	⇓*i*P	**Pn**	**00 41 29.9**	**+0.3**
BIPH				*i* S	**Sn**	**00 41 58.8**	**-2.0**
CGP	**Cagayan de Oro**	**3.25**	**327**	⇑*e*P	Pn	00 41 47.7	+8.1
CGP				*e*S	**Sn**	**00 42 20.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**23.69**	**182**	P	**P**	**00 45 48.0**	**+0.8**
	0.8nm,0.3s,baz=7.7,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**26.65**	**163**	P	**P**	**00 46 13.5**	**-0.5**
	0.4nm,0.4s,baz=342,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**30.09**	**166**	P	**P**	**00 46 44.5**	**-0.1**
	0.8nm,0.4s,baz=342,slow=7.7,SNR=9.3						
STKA	**Stephens Creek**	**40.07**	**160**	P	**P**	**00 48 10.0**	**+0.2**
	2.1nm,0.5s,baz=346,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**55.80**	**325**	P	**P**	**00 50 09.8**	**-0.8**
	0.2nm,0.4s,baz=117,slow=7.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**59.95**	**327**	LR	LR	01 17 12.9	

	comp=Z,58nm,20.8s,baz=72,slow=36						

*IDC **05** 01:19:58.4±1.9, 14°.18S×166°.44E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/30, mbtmp3.9/4, ML3.8/1, MS3.4/3, Ms1 3.4/3, ms1mx2.7/60, Error ellipse: s-maj=49.6km s-min=36.3km az=125.0*
*NEIC **05** 01:19:59.0±0.4, 14°.10S±0°.10×167°.2E±0°.2, h41km±13km, mb4.2/7, Error ellipse: s-maj=22.9km s-min=13.9km az=101.0*
ISC 05 01:19:59.3±1.1**, 14°.16S**±0°.10×**167°.1E**±0°.1**, h35**km**, n22, σ1s.95**/21**, mb4.1**/7**, MS3.4**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.28**	**176**	Pn	**Pn**	**01 20 21.3**	**+0.6**
SANVU				Sn	**Sn**	**01 20 37.6**	**+0.9**
KOUNC	**Koumac, New Ca**	**6.90**	**203**	Pn	**Pn**	**01 21 38.5**	**+0.4**
DZM	**Mont Dzumac**	**7.89**	**185**	Pn	**Pn**	**01 21 53.2**	**+1.5**
	1.4nm,0.3s,baz=6.3,slow=3.3,SNR=11						
DZM				Sn	**Sn**	**01 23 18.2**	**-1.7**
	0.4nm,0.3s,baz=90,slow=16,SNR=1.7						
DZM	**Mont Dzumac**	**7.89**	**185**		**Pn**	**01 21 51.9**	**+0.1**
ONTNC	**Ouen Toro**	**8.13**	**184**	Pn	**Pn**	**01 21 55.4**	**+0.5**
AFI	**Afiamalu**	**20.48**	**92**	P	**P**	**01 24 32.3**	**-2.1**
STKA	**Stephens Creek**	**29.25**	**229**	P	**P**	**01 25 59.1**	**+1.0**
	1.0nm,0.5s,baz=56,slow=7.1,SNR=4.0						
STKA	**Stephens Creek**	**29.25**	**229**	IAmb	IAmb	01 26 01.3	
	comp=Z,1.5nm,1.4s						
WB0	**Warramunga Arr**	**31.76**	**255**	P	**P**	**01 26 19.1**	**-1.4**
WB0				IAmb	IAmb	01 26 30.9	
	comp=Z,4.7nm,1.3s						
WB2	**Warramunga Arr**	**31.81**	**255**	P	**P**	**01 26 19.7**	**-1.2**
WB2				IAmb	IAmb	01 26 42.1	
	comp=Z,9.7nm,1.5s						
WRA	**Warramunga Arr**	**31.82**	**255**	P	**P**	**01 26 19.7**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=88,slow=9.5,SNR=11						
WRA				LR	LR	01 37 44.2	
	comp=Z,45nm,19.0s,baz=103,slow=34						
WRA	**Warramunga Arr**	**31.82**	**255**	P	**P**	**01 26 19.4**	**-1.6**
AS31	**Alice Springs**	**32.74**	**248**	P	**P**	**01 26 28.4**	**-0.7**
AS31				IAmb	IAmb	01 26 31.8	
	comp=Z,1.3nm,0.3s						
ASAR	**Alice Springs**	**32.74**	**248**	P	**P**	**01 26 27.1**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=73,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**32.74**	**248**	P	**P**	**01 26 28.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**39.98**	**259**	LR	LR	01 43 35.5	
	comp=Z,51nm,18.1s,baz=169,slow=36						
FITZ	**Fitzroy Crossi**	**39.98**	**259**	P	**P**	**01 27 29.7**	**-1.2**
FITZ				IAmb	IAmb	01 27 38.5	
	comp=Z,4.6nm,1.2s						
INK	**Inuvik**	**92.40**	**19**	LR	LR	02 11 45.6	
	comp=Z,26nm,18.6s,baz=92,slow=34						
ARCES	**ARCESS Array B**	**119.67**	**345**	PKP	**PKiKP**	**01 38 48.9**	**+3.8**
	comp=Z,0.7nm,0.6s,baz=48,slow=1.8,SNR=4.8						
ARCES	**ARCESS Array B**	**119.67**	**345**		**PKiKP**	**01 38 46.8**	**+1.7**
FINES	**FINESS Array B**	**125.14**	**338**	PKP	**PKiKP**	**01 39 00.3**	**+4.2**
	comp=Z,0.3nm,0.4s,baz=79,slow=7.5,SNR=3.4						
FINES	**FINESS Array B**	**125.14**	**338**		**PKPdf**	**01 38 53.2**	**-2.5**

*RSPR **05** 01:31:19.1, 18°.25N×68°.77W, h174km±1km, MD3.7/14*
*NEIC **05** 01:31:19.8±1.0, 18°.2N±0°.4×68°.77W±0°.09, h171km±11km, Error ellipse: s-maj=54.2km s-min=9.1km az=189.0*
*OSPL **05** 01:31:20.5±2.6, 18°.17N×68°.73W, h177km±15km, ML3.2*
ISC 05 01:31:16.5±1.2**, 18°.25N**±0°.10×**68°.80W**±0°.03**, h200**km**, n80, σ1s.55**/94**, 12C-4D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.47**	**56**	⇑eP	**Pn**	**01 31 43.1**	**-0.3**
PCDR	**Punta Cana, DR**	**0.47**	**56**	eS	**Sn**	**01 32 01.1**	**-3.3**
PCDR	**Punta Cana, DR**	**0.47**	**56**		**Sn**	**01 32 01.1**	**-3.3**
PCDR	**Punta Cana, DR**	**0.47**	**56**		**Pn**	**01 31 43.1**	**-0.3**
PCDR	**Punta Cana, DR**	**0.47**	**56**	IAML		01 31 44.1	
	comp=N,70nm,0.6s						
DR12	**Loma Pena Alta**	**0.77**	**314**		**Pn**	**01 31 43.7**	**-1.2**
SDD	**Santo Domingo**	**1.08**	**281**	Pn	**Pn**	**01 31 46.9**	**+0.1**
SDD				IAML		01 32 08.0	
	comp=E,453nm,0.4s						
SDD				IAML		01 32 08.1	
	comp=N,448nm,0.2s						
SDD	**Santo Domingo**	**1.08**	**281**	i P	**Pn**	**01 31 47.0**	**+0.1**
SDD				eS	**Sn**	**01 32 06.6**	**-3.6**
IDE	**Isla Desecheo**	**1.26**	**84**	⇑eP	**Pn**	**01 31 48.3**	**+0.1**
IDE	**Isla Desecheo**	**1.26**	**84**	eS	**Sn**	**01 32 10.5**	**-2.2**
BANI	**BANI**	**1.49**	**276**		**Pn**	**01 31 51.3**	**+1.1**
BANI	**BANI**	**1.49**	**276**	i P	**Pn**	**01 31 51.5**	**+1.3**
BANI				IAML		01 32 17.2	
	comp=Z,230nm,0.2s						
LONA1	**Toro Cenizo, N**	**1.51**	**318**	eS	**Sn**	**01 32 15.8**	**-0.8**
PRSN	**Puerto Rico Se**	**1.57**	**91**	Pn	**Pn**	**01 31 51.6**	**+0.8**
AGPR	**Aguadilla, PR**	**1.61**	**82**	⇑eP	**Pn**	**01 31 51.9**	**+0.7**
AGPR	**Aguadilla, PR**	**1.61**	**82**	eS	**Sn**	**01 32 16.9**	**-1.2**
AGPR	**Aguadilla, PR**	**1.61**	**82**		**Pn**	**01 31 51.9**	**+0.7**
AGPR					**Sn**	**01 32 16.9**	**-1.2**
AGPR	**Aguadilla, PR**	**1.61**	**82**	IAML		01 32 21.5	
	comp=N,503nm,0.5s						
AGPR				IAML		01 32 23.1	
	comp=E,420nm,0.3s						
AGPR	**Aguadilla, PR**	**1.61**	**82**	i P	**Pn**	**01 31 52.3**	**+1.1**
AGPR				IAML		01 32 19.9	
	comp=Z,157nm,0.1s						
CRPR	**Cabo Rojo, PR**	**1.62**	**98**	⇓eP	**Pn**	**01 31 51.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.62**	**98**	eS	**Sn**	**01 32 16.9**	**-1.3**
CRPR	**Cabo Rojo, PR**	**1.62**	**98**		**Pn**	**01 31 51.1**	**-0.2**
CRPR					**Sn**	**01 32 16.9**	**-1.3**
CRPR	**Cabo Rojo, PR**	**1.62**	**98**	i P	**Pn**	**01 31 51.2**	**0.0**
CRPR				eS	**Sn**	**01 32 15.1**	**-3.1**
CRPR				IAML		01 32 29.2	
	comp=Z,81nm,0.4s						
LSP	**Las Mesas**	**1.63**	**92**	⇑eP	**Pn**	**01 31 51.4**	**+0.1**
MLPR	**Magueyes Islan**	**1.69**	**99**	⇑eP	**Pn**	**01 31 52.3**	**+0.4**
MLPR	**Magueyes Islan**	**1.69**	**99**	eS	**Sn**	**01 32 18.2**	**-1.1**
MLPR	**Magueyes Islan**	**1.69**	**99**		**Pn**	**01 31 52.3**	**+0.4**
MLPR					**Sn**	**01 32 18.2**	**-1.1**
AOPR	**Arecibo Observ**	**1.94**	**87**	⇑eP	**Pn**	**01 31 54.8**	**+0.4**
AOPR	**Arecibo Observ**	**1.94**	**87**	eS	**Sn**	**01 32 23.0**	**-0.8**
AOPR	**Arecibo Observ**	**1.94**	**87**		**Pn**	**01 31 54.8**	**+0.4**
AOPR					**Sn**	**01 32 23.0**	**-0.8**
AOPR	**Arecibo Observ**	**1.94**	**87**	eP	**Pn**	**01 31 55.0**	**+0.6**
AOPR				eS	**Sn**	**01 32 21.3**	**-2.6**
UUPR	**Utuado, UPR, P**	**1.97**	**90**	⇑eP	**Pn**	**01 31 55.4**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.97**	**90**	eS	**Sn**	**01 32 23.5**	**-0.9**
UUPR	**Utuado, UPR, P**	**1.97**	**90**		**Pn**	**01 31 55.4**	**+0.7**
UUPR					**Sn**	**01 32 23.5**	**-0.9**
OBIP	**Obispado Ponce**	**2.09**	**95**	⇑eP	**Pn**	**01 31 56.2**	**+0.2**
OBIP	**Obispado Ponce**	**2.09**	**95**	eS	**Sn**	**01 32 26.2**	**-0.4**
OBIP	**Obispado Ponce**	**2.09**	**95**		**Pn**	**01 31 56.2**	**+0.2**
OBIP					**Sn**	**01 32 26.2**	**-0.4**
OBIP	**Obispado Ponce**	**2.09**	**95**	IAML		01 32 28.6	
	comp=N,107nm,0.5s						
CELP	**Cerrillos**	**2.12**	**94**	⇓eP	**Pn**	**01 31 57.1**	**+0.9**
CELP	**Cerrillos**	**2.12**	**94**	eS	**Sn**	**01 32 27.0**	**-0.1**
CELP	**Cerrillos**	**2.12**	**94**		**Pn**	**01 31 57.1**	**+0.9**
CELP					**Sn**	**01 32 27.0**	**-0.1**
CELP	**Cerrillos**	**2.12**	**94**	IAML		01 32 30.3	
	comp=N,206nm,0.3s						
CELP				IAML		01 32 31.0	
	comp=E,146nm,0.4s						
EMPR	**Esperanza - Ma**	**2.16**	**84**	⇑eP	**Pn**	**01 31 57.4**	**+0.7**
EMPR	**Esperanza - Ma**	**2.16**	**84**	eS	**Sn**	**01 32 27.0**	**-0.9**
EMPR	**Esperanza - Ma**	**2.16**	**84**		**Pn**	**01 31 57.4**	**+0.7**
EMPR					**Sn**	**01 32 27.0**	**-0.9**
SC01	**Santiago de lo**	**2.17**	**303**	Pn	**Pn**	**01 31 58.8**	**+2.0**
SC01	**Santiago de lo**	**2.17**	**303**	i P	**Pn**	**01 31 58.9**	**+2.1**
SC01				eS	**Sn**	**01 32 29.0**	**+0.8**
SC01				IAML		01 32 32.6	
	comp=Z,112nm,0.2s						
LOBA2	**Hotel Casa Bon**	**2.19**	**266**	i P	**Pn**	**01 31 58.4**	**+1.4**
LOBA2				eS	**Sn**	**01 32 26.1**	**-2.4**
LOBA2				IAML		01 32 27.9	
	comp=Z,132nm,0.1s						
SDDR	**Presa de Saban**	**2.47**	**288**		**Pn**	**01 32 01.6**	**+1.5**
SDDR				IAML		01 32 40.2	
	comp=Z,146nm,0.6s						
SDDR				IAML		01 32 40.7	
	comp=Z,113nm,0.6s						
SDDR	**Presa de Saban**	**2.47**	**288**	i P	**Pn**	**01 32 02.3**	**+2.2**
SDDR				eS	**Sn**	**01 32 33.7**	**-0.4**
SDDR				IAML		01 32 44.4	
	comp=Z,57nm,0.3s						
SJG	**San Juan**	**2.52**	**93**		**Pn**	**01 32 01.0**	**+0.4**
SJG				IAML		01 32 37.3	
	comp=Z,155nm,0.5s						
SJG				IAML		01 32 38.3	
	comp=Z,135nm,0.5s						
SJG	**San Juan**	**2.52**	**93**	eP	**Pn**	**01 32 01.9**	**+1.3**
SJG				eS	**Sn**	**01 32 34.5**	**-0.4**
LONE2	**Loma La Sidra**	**2.56**	**277**	i P	**Pn**	**01 32 03.4**	**+2.2**
LONE2				eS	**Sn**	**01 32 36.3**	**+0.4**
LONE2				IAML		01 32 39.0	
	comp=Z,58nm,0.7s						
IGPR	**InterUniversit**	**2.57**	**96**	⇓eP	**Pn**	**01 32 02.1**	**+0.9**
IGPR	**InterUniversit**	**2.57**	**96**	eS	**Sn**	**01 32 36.8**	**+0.9**
GCPR	**Guaynabo City**	**2.58**	**88**		**Pn**	**01 32 01.1**	**-0.2**
GCPR				IAML		01 32 37.9	
	comp=E,89nm,0.5s						
GCPR				IAML		01 32 40.1	
	comp=N,86nm,0.5s						
PDPR	**Patillas Dam,**	**2.65**	**95**		**Pn**	**01 32 02.6**	**+0.6**
PDPR				IAML		01 32 40.0	
	comp=E,112nm,0.1s						
HUMP	**Col San Antoni**	**2.80**	**92**	⇑eP	**Pn**	**01 32 05.3**	**+1.5**
HUMP	**Col San Antoni**	**2.80**	**92**	eS	**Sn**	**01 32 40.8**	**+0.1**
HUMP	**Col San Antoni**	**2.80**	**92**		**Pn**	**01 32 05.3**	**+1.5**
HUMP					**Sn**	**01 32 40.8**	**+0.1**
HUMP	**Col San Antoni**	**2.80**	**92**	IAML		01 32 45.5	
	comp=N,145nm,0.2s						
MTP	**Monte Pirata**	**3.09**	**92**	⇑eP	**Pn**	**01 32 08.8**	**+1.7**
MTP	**Monte Pirata**	**3.09**	**92**	eS	**Sn**	**01 32 47.1**	**+0.4**
MTP	**Monte Pirata**	**3.09**	**92**		**Pn**	**01 32 08.8**	**+1.7**
MTP					**Sn**	**01 32 47.1**	**+0.4**
MTP	**Monte Pirata**	**3.09**	**92**	IAML		01 32 49.0	
	comp=N,72nm,0.8s						
MTP				IAML		01 32 49.7	
	comp=E,83nm,0.3s						
CUPR	**Culebra, Puert**	**3.34**	**88**	⇑eP	**Pn**	**01 32 11.7**	**+1.5**
CUPR	**Culebra, Puert**	**3.34**	**88**	eS	**Sn**	**01 32 52.4**	**+0.3**
CUPR	**Culebra, Puert**	**3.34**	**88**		**Pn**	**01 32 11.7**	**+1.5**
CUPR					**Sn**	**01 32 52.4**	**+0.3**
STVI	**Saint Thomas**	**3.65**	**88**	⇓eP	**Pn**	**01 32 16.0**	**+2.1**
STVI	**Saint Thomas**	**3.65**	**88**	eS	**Sn**	**01 32 59.7**	**+0.8**
STVI	**Saint Thomas**	**3.65**	**88**		**Pn**	**01 32 16.0**	**+2.1**
STVI	**Saint Thomas**	**3.65**	**88**	IAML		01 32 59.3	
	comp=N,66nm,0.2s						
CDVI	**St. Croix**	**3.87**	**97**	eP	**Pn**	**01 32 17.2**	**+0.7**
CDVI				eS	**Sn**	**01 33 00.9**	**-2.8**
GRTK	**Grand Turk**	**3.92**	**326**	i P	**Pn**	**01 32 18.4**	**+1.1**
GRTK				eS	**Sn**	**01 33 03.5**	**-1.6**
GRTK				IAML		01 33 05.4	
	comp=Z,69nm,0.2s						
MBFL	**Flemmings, Mon**	**6.46**	**102**	eP	**Pn**	**01 32 52.6**	**+2.9**
MLYT	**Lee's Yard**	**6.48**	**103**	eP	**Pn**	**01 32 54.4**	**+4.3**
ANWB	**Willy Bob**	**6.70**	**94**	eP	**Pn**	**01 32 52.7**	**-0.1**
ANWB	**Willy Bob**	**6.70**	**94**	eS	**Sn**	**01 34 03.7**	**-5.4**
ANBD	**Bethesda, Anti**	**6.81**	**99**	eP	**Pn**	**01 32 55.5**	**+1.3**
ANBD	**Bethesda, Anti**	**6.81**	**99**	eS	**Sn**	**01 34 08.8**	**-3.0**

IDC 05 02:16:01.4±3.5**, 23°.47N**×**142°.91E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.3**/36**, mbtmp3.5**/4**, MS2.8**/2**, Ms1 2.8**/2**, ms1mx2.3**/57**, Error ellipse: s-maj=147.0km s-min=29.5km az=77.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**20.60**	**359**	LR	LR	02 33 52.1	
	comp=Z,7.7nm,18.0s,baz=85,slow=52						
WRA	**Warramunga Arr**	**43.95**	**192**	P	P	02 24 10.2	-0.2
	0.4nm,0.6s,baz=9.4,slow=8.1,SNR=8.8						
PSI	**Prapat**	**47.23**	**251**	LR	LR	02 44 26.7	
	comp=Z,25nm,18.3s,baz=201,slow=36						
MKAR	**Makanchi Array**	**53.33**	**312**	P	P	02 25 22.7	+0.3
	0.3nm,0.5s,baz=84,slow=8.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**56.07**	**316**	P	P	02 25 42.4	+0.2
	0.3nm,0.4s,baz=92,slow=7.4,SNR=7.3						
FINES	**FINESS Array B**	**81.48**	**334**	P	P	02 28 19.8	-0.6
	0.2nm,0.3s,baz=61,slow=8.6,SNR=1.7						

*IASPEI **05** 02:16:13.9±1.1, 38°.48N±0°.03×118°.37W±0°.03, h9km±8km, Error ellipse: s-maj=4.4km s-min=4.0km az=59.6, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*REN **05** 02:16:13.6±1.1, 38°.47N±0°.04×118°.38W±0°.03, h3km±7km, ML3.1/25, ML3.0/64(NEIC), Error ellipse: s-maj=6.2km s-min=1.8km az=213.0*
*NEIC **05** 02:16:14.1±0.9, 38°.49N±0°.03×118°.38W±0°.03, h8km±7km, Error ellipse: s-maj=4.5km s-min=1.9km az=217.0*
*ANF **05** 02:16:14.0±1.2, 38°.46N×118°.34W, h3km, ML3.2/12, Error ellipse: s-maj=12.8km s-min=5.6km az=141.0*
ISC 05 02:16:14.0±0.9**, 38°.49N**±0°.02×**118°.37W**±0°.02**, h7**km±8km**, n67, σ0s.73**/81**, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**0.08**	**139**	Pg	**Pg**	**02 16 14.7**	**-1.4**
NV11	**Mina Array Sit**	**0.18**	**109**		**Pg**	**02 16 17.8**	**+0.2**
NV11				Sg	**Sg**	**02 16 20.7**	**+0.6**
NV11				IAML		02 16 21.1	
	comp=N,6µm,0.6s						
NV11				IAML		02 16 21.8	
	comp=E,3µm,0.6s						
RYN	**Ryan**	**0.18**	**319**		**Pg**	**02 16 18.2**	**+0.5**
RYN				Sg	**Sg**	**02 16 21.2**	**+0.8**
LHV	**Little Huntoon**	**0.26**	**204**		**Pg**	**02 16 19.0**	**-0.1**
LHV				Sg	**Sg**	**02 16 22.8**	**+0.2**
LHV				IAML		02 16 24.8	
	comp=E,5µm,0.5s						
LHV				IAML		02 16 25.4	
	comp=N,4µm,0.3s						
KVN	**Kaiserville**	**0.60**	**20**	Pg	**Pg**	**02 16 25.6**	**+0.1**
KVN				Sg	**Sg**	**02 16 34.3**	**+0.9**
YERR	**Yerington**	**0.84**	**306**		**Pg**	**02 16 29.8**	**-0.4**
YERR				Sg	**Sb**	**02 16 41.9**	**-0.8**
YERR				IAML		02 16 47.1	
	comp=E,827nm,0.5s						
YERR				IAML		02 16 47.4	
	comp=N,683nm,0.6s						
MLAC	**Mammoth, Mammo**	**0.93**	**203**	P	**Pg**	**02 16 31.6**	**-0.3**
	baz=23						
MLAC				S	**Sg**	**02 16 44.3**	**+0.2**
	baz=23						
Q09A	**Carvers**	**0.99**	**69**		**Pg**	**02 16 33.0**	**0.0**
TPH	**Tonopah**	**0.99**	**114**		**Pg**	**02 16 32.9**	**-0.1**
TPH					**Sb**	**02 16 46.8**	**-0.1**
OMMB	**Old Mammoth Mi**	**1.01**	**210**	Pg	**Pg**	**02 16 32.6**	**-0.7**
PNTR	**Pine Nut**	**1.13**	**302**		**Pg**	**02 16 35.2**	**-0.5**
PNTR				IAML		02 17 11.5	
	comp=N,377nm,1.0s						
VCNR	**Virginia City**	**1.28**	**309**		**Pn**	**02 16 37.8**	**-0.7**
VCNR				IAML		02 17 02.4	
	comp=N,377nm,0.6s						
LCH	**Last Change Ra**	**1.38**	**155**		**Pn**	**02 16 39.7**	**-0.1**
LCH				IAML		02 17 03.5	
	comp=E,203nm,0.5s						
KCC	**Kaiser Creek**	**1.39**	**213**		**Pn**	**02 16 39.5**	**-0.3**
TIN	**Tinemaha, Big**	**1.44**	**176**	P	**Pn**	**02 16 40.6**	**+0.1**
	baz=355						
TIN				S	**Sg**	**02 17 00.4**	**+0.3**
	baz=355						
EMB	**Emerald Bay**	**1.44**	**290**		**Pn**	**02 16 40.7**	**0.0**
EMB				IAML		02 17 07.2	
	comp=E,191nm,0.6s						
EMB				IAML		02 17 07.3	
	comp=N,262nm,0.6s						
PAHR	**Pah Rah Range**	**1.45**	**327**		**Pn**	**02 16 40.7**	**-0.1**
PAHR				IAML		02 17 04.8	
	comp=E,169nm,1.3s						
RUBR	**Rubicon Trail**	**1.51**	**292**		**Pn**	**02 16 41.4**	**-0.2**
RUBR				IAML		02 17 05.6	
	comp=N,190nm,0.9s						
RUBR				IAML		02 17 08.5	
	comp=E,214nm,0.6s						
MPK	**Martis Peak**	**1.53**	**302**		**Pn**	**02 16 42.1**	**+0.2**
MPK				IAML		02 17 09.1	
	comp=N,180nm,0.7s						
CMB	**Columbia Colle**	**1.65**	**255**	Pn	**Pn**	**02 16 43.4**	**-0.1**
CMB				IAML		02 17 11.1	
	comp=N,159nm,1.0s						
GRAC	**Grapevine Rang**	**1.69**	**152**	P	**Pn**	**02 16 43.9**	**-0.1**
	baz=332						
GRAC				S	**Sb**	**02 17 06.9**	**0.0**
	baz=332						
CWC	**Cottonwood Cre**	**2.06**	**174**	P	**Pn**	**02 16 49.4**	**+0.3**
	baz=353						
CWC				S	**Sn**	**02 17 15.8**	**+0.7**
	baz=353						
BEKR	**Beckworth**	**2.07**	**312**		**Pn**	**02 16 49.6**	**+0.2**
BMN	**Battle Mountai**	**2.13**	**24**		**Pn**	**02 16 49.9**	**-0.2**
R11A	**Troy Canyon, C**	**2.19**	**93**		**Pn**	**02 16 50.5**	**-0.4**
R11A				IAML		02 17 24.2	
	comp=N,111nm,0.8s						
R11A				IAML		02 17 27.0	
	comp=E,91nm,1.0s						
R11A	**Troy Canyon, C**	**2.19**	**93**	P	**Pn**	**02 16 50.7**	**-0.2**
	baz=274						
R11A				Sb	**Sg**	**02 17 23.3**	**-1.0**
	baz=274						
S11A	**Rachel**	**2.23**	**111**		**Pn**	**02 16 51.2**	**-0.3**
TPNV	**Topopah Spring**	**2.28**	**132**	Pn	**Pn**	**02 16 51.9**	**-0.2**
VOG	**Valley Oaks Go**	**2.31**	**201**	Sb	**Sg**	**02 17 26.8**	**-1.3**
	baz=20						
FURC	**Furnace Creek,**	**2.35**	**149**	P	**Pn**	**02 16 53.2**	**+0.4**
	baz=330						
MPMC	**Manual Prospec**	**2.53**	**164**	P	**Pn**	**02 16 55.7**	**+0.2**
	baz=344						
MPMC				Sb	**Sg**	**02 17 33.3**	**-1.8**
	baz=344						
ORV	**Oroville**	**2.66**	**295**	Pn	**Pn**	**02 16 57.1**	**-0.1**
GWY	**Greenwater Val**	**2.67**	**149**	Pn	**Pn**	**02 16 57.5**	**0.0**
VES	**Vestal, Richgr**	**2.70**	**192**	P	**Pn**	**02 16 58.2**	**+0.4**
	baz=12						
VES				Sb	**Sb**	**02 17 38.0**	**+2.0**
	baz=12						
QSM	**Queen of Sheba**	**2.79**	**154**		**Pn**	**02 16 59.0**	**-0.1**
ISA	**Isabella, Lake**	**2.82**	**182**	Pn	**Pn**	**02 16 59.7**	**+0.2**
ISA				IAML		02 17 45.9	
	comp=N,49nm,0.5s						
ISA				IAML		02 17 46.3	
	comp=E,50nm,0.7s						
ISA	**Isabella, Lake**	**2.82**	**182**	P	**Pn**	**02 17 00.3**	**+0.8**
	baz=1.5						
ISA				Sb	**Sb**	**02 17 41.3**	**+1.8**
	baz=1.5						
PRN	**Pahroc Range**	**2.84**	**111**		**Pn**	**02 16 59.7**	**-0.1**
BBGB	**Big Mountain B**	**2.85**	**229**	Pn	**Pn**	**02 16 59.7**	**-0.3**
LRMC	**Laurel Mtn Rad**	**3.05**	**169**	P	**Pn**	**02 17 04.0**	**+1.2**
	baz=350						
SHOC	**Shoshone, Teco**	**3.08**	**146**	Pb	**Pb**	**02 17 08.8**	**-0.3**
	baz=328						
O03E	**Paynes Creek**	**3.21**	**305**	Pn	**Pn**	**02 17 05.0**	**+0.1**
O03E				IAML		02 18 06.5	
	comp=E,32nm,0.9s						
SHPR	**Sheep Range**	**3.23**	**127**	Pn	**Pn**	**02 17 05.4**	**+0.2**
ELK	**Elko**	**3.30**	**46**	Pn	**Pn**	**02 17 06.2**	**-0.1**
CCAC	**Calif City Air**	**3.34**	**175**	Pn	**Pn**	**02 17 05.5**	**-1.1**
CCAC				IAML		02 18 03.9	
	comp=E,36nm,0.6s						
CCAC				IAML		02 18 23.8	
	comp=N,29nm,1.1s						
GSC	**Goldstone, Bar**	**3.42**	**158**	Pn	**Pn**	**02 17 08.3**	**+0.5**
GSC				IAML		02 18 07.0	
	comp=E,28nm,1.4s						
GSC				IAML		02 18 18.2	
	comp=N,22nm,1.6s						
PSUT	**Pine Spring**	**3.54**	**88**	Pn	**Pn**	**02 17 08.9**	**-0.7**
MOD	**Modoc Plateau**	**3.72**	**337**	Pn	**Pn**	**02 17 11.7**	**-0.3**
MOD				IAML		02 18 20.1	
	comp=E,29nm,0.9s						
MOD				IAML		02 18 30.2	
	comp=N,24nm,0.8s						
ICU	**Indian Springs**	**3.77**	**109**		**Pn**	**02 17 13.6**	**+1.0**
WVOR	**Wild Horse Val**	**3.95**	**357**	Pn	**Pn**	**02 17 15.6**	**+0.6**
WVOR				IAML		02 18 21.6	
	comp=N,16nm,1.4s						
CCUT	**Cedar City**	**4.06**	**102**	Pn	**Pn**	**02 17 17.2**	**+0.5**
M04C	**Macdoel**	**4.23**	**322**	Pn	**Pn**	**02 17 18.9**	**0.0**
M04C				IAML		02 18 04.5	
	comp=N,25nm,4.0s						
SZCU	**Shurtz Canyon**	**4.26**	**100**	Pn	**Pn**	**02 17 19.1**	**-0.4**
LCMT	**Little Creek M**	**4.32**	**108**		**Pn**	**02 17 21.2**	**+1.0**
DUG	**Dugway, Tooele**	**4.63**	**67**	Pn	**Pn**	**02 17 24.8**	**+0.3**
KNB	**Kanab**	**4.63**	**107**	Pn	**Pn**	**02 17 24.3**	**-0.3**
TCRU	**Three Creeks R**	**4.64**	**87**	Pn	**Pn**	**02 17 26.4**	**+1.6**
K05A	**Summer Lake**	**4.65**	**336**	Pn	**Pn**	**02 17 24.0**	**-0.7**
BGU	**Big Grassy Mou**	**4.78**	**58**		**Pn**	**02 17 27.1**	**+0.6**
MSU	**Marysvale**	**4.86**	**88**	Pn	**Pn**	**02 17 28.4**	**+0.7**
J08A	**Circle Bar Ran**	**4.87**	**359**	Pn	**Pn**	**02 17 27.7**	**+0.1**
MTPU	**Mount Pierson**	**4.89**	**93**	Pn	**Pn**	**02 17 27.6**	**-0.6**
PKCU	**Pink Cliffs**	**4.90**	**100**	Pn	**Pn**	**02 17 27.8**	**-0.5**
NLU	**North Lily Min**	**5.10**	**71**	Pn	**Pn**	**02 17 31.8**	**+0.8**
MFID	**Camas Ranch**	**5.28**	**21**	Pn	**Pn**	**02 17 32.4**	**-1.0**
HVU	**Hansel Valley**	**5.40**	**51**	Pn	**Pn**	**02 17 32.5**	**-2.5**
HLID	**Hailey**	**5.88**	**29**	Pn	**Pn**	**02 17 41.6**	**-0.1**

*THE **05** 02:30:30.7, 34°.75N×24°.92E, h9km±1km, ML2.1/5, Error ellipse: s-maj=1.6km s-min=0.6km az=346.0*
*ISK **05** 02:30:31.1, 34°.83N×24°.86E, h14km, ML2.5/7*
ISC 05 02:30:31.3±1.4**, 34°.80N**±0°.06×**24°.89E**±0°.03**, h16**km±8km**, n23, σ0s.72**/36**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.23**	**343**	P	**Pb**	**02 30 36.9**	**-0.2**
SIVA				S	**Sg**	**02 30 41.0**	**+1.0**
TMBK	**Timbaki Herakl**	**0.29**	**339**	P	**Pg**	**02 30 37.6**	**+0.1**
TMBK				S	**Sb**	**02 30 43.3**	**+0.4**
	360nm,0.2s						
IDI	**Anoyia**	**0.49**	**360**	P	**Pg**	**02 30 40.3**	**-0.8**
IDI				S	**Sb**	**02 30 48.8**	**+0.2**
	238nm,0.3s						
IDI	**Anoyia**	**0.49**	**360**	PG	**Pg**	**02 30 40.3**	**-0.8**
IDI				SG	**Sg**	**02 30 47.7**	**0.0**
KSTL	**Kastelli Herak**	**0.53**	**16**	P	**Pb**	**02 30 42.2**	**0.0**
KSTL				S	**Sb**	**02 30 51.0**	**+1.5**
HRKL	**Herakleio**	**0.54**	**18**	P	**Pg**	**02 30 41.8**	**-0.2**
HRKL				S	**Sb**	**02 30 50.4**	**+0.4**
HRKL	**Herakleio**	**0.54**	**18**	PG	**Pg**	**02 30 41.8**	**-0.2**
HRKL				SG	**Sb**	**02 30 49.7**	**-0.3**
GVDS	**Gavdos**	**0.66**	**274**	P	**Pg**	**02 30 44.0**	**-0.3**
GVDS				S	**Sn**	**02 30 55.3**	**-0.8**
	178nm,0.2s						
GVD	**Gavdhos**	**0.66**	**274**	P	**Pg**	**02 30 43.5**	**-0.8**
GVD				S	**Sb**	**02 30 54.4**	**+0.9**
	242nm,0.5s						
GVD	**Gavdhos**	**0.66**	**274**	PG	**Pg**	**02 30 43.8**	**-0.5**
GVD				SG	**Sb**	**02 30 54.1**	**+0.6**
IMMV	**Iera Moni Meta**	**1.00**	**312**	P	**Pg**	**02 30 49.9**	**-0.7**
IMMV				S	**Sn**	**02 31 05.0**	**+0.5**
	160nm,0.5s						
IMMV	**Iera Moni Meta**	**1.00**	**312**	PG	**Pg**	**02 30 49.9**	**-0.7**
IMMV				SG	**Sb**	**02 31 03.6**	**+0.4**
KNDR	**Palaiochora Ch**	**1.08**	**294**	P	**Pb**	**02 30 51.5**	**-0.2**
KNDR				S	**Sn**	**02 31 08.4**	**+1.9**
KNDR	**Palaiochora Ch**	**1.08**	**294**	PN	**Pn**	**02 30 52.1**	**+0.3**
ZKR	**Zakros**	**1.13**	**73**	PN	**Pg**	**02 30 53.4**	**+0.2**
RODP	**Rodopos**	**1.20**	**310**	P	**Pn**	**02 30 52.9**	**-0.6**
RODP	**Rodopos**	**1.20**	**310**	PN	**Pn**	**02 30 53.6**	**+0.1**
THR3	**Thira Island,**	**1.66**	**14**	P	**Pn**	**02 30 58.9**	**-0.9**
ANKY	**Antikythira Is**	**1.68**	**310**	P	**Pn**	**02 31 00.1**	**0.0**
KARP	**Karpathos**	**2.00**	**67**	P	**Pn**	**02 31 03.8**	**-0.7**
KTHA	**Kythira Island**	**2.08**	**315**	P	**Pn**	**02 31 05.6**	**-0.1**
KTHR	**Kythira**	**2.12**	**314**	P	**Pn**	**02 31 05.2**	**-1.0**
VLI	**Veliai**	**2.49**	**321**	P	**Pn**	**02 31 10.3**	**-0.9**

*IDC **05** 03:10:51.5±1.0, 54°.46N×34°.88W, h0km, mb3.4/8, mb1 3.6/8, mb1mx3.4/62, mbtmp3.4/8, MS3.2/16, Ms1 3.2/16, ms1mx2.9/66, Error ellipse: s-maj=39.0km s-min=21.5km az=26.0*
ISC 05 03:10:52.9±0.9**, 54°.5N**±0°.2×**34°.9W**±0°.2**, h10**km**, n23, σ0s.67**/9**, mb3.4**/8**, MS3.1**/13**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**12.36**	**28**	LR	LR	03 17 20.1	
	comp=Z,107nm,21.0s,baz=239,slow=31						
SFJD	**Kangerlussuaq**	**14.68**	**335**	LR	LR	03 18 48.6	
	comp=Z,49nm,19.5s,baz=106,slow=32						
EKA	**Eskdalemuir Ar**	**18.19**	**74**	LR	LR	03 20 42.9	
	comp=Z,118nm,18.0s,baz=288,slow=32						
JMIC	**Jan Mayen**	**20.21**	**25**	LR	LR	03 21 08.3	
	comp=Z,58nm,21.6s,baz=256,slow=30						
NOA	**NORSAR Array B**	**25.01**	**56**	LR	LR	03 24 27.4	

	comp=Z,34nm,20.1s,baz=275,slow=33						
ESDC	**Sonseca Array**	**25.47**	**113**	P	**P**	**03 16 21.2**	**+0.2**
	0.6nm,0.7s,baz=318,slow=9.9,SNR=2.5						
ESDC				LR	LR	03 24 33.5	
	comp=Z,23nm,18.1s,baz=352,slow=32						
HFS	**Hagfors**	**26.35**	**58**	LR	LR	03 25 06.7	
	comp=Z,48nm,19.9s,baz=302,slow=32						
DAVOX	**Davos/Dischmat**	**29.00**	**87**	LR	LR	03 28 04.1	
	comp=Z,70nm,19.1s,baz=76,slow=36						
SADO	**Sadowa**	**29.81**	**270**	LR	LR	03 27 48.9	
	comp=Z,91nm,19.0s,baz=16,slow=34						
VRAC	**Vranov**	**31.60**	**78**	LR	LR	03 29 22.5	
	comp=Z,24nm,19.3s,baz=298,slow=35						
FINES	**FINESS Array B**	**31.99**	**52**	LR	LR	03 28 46.2	
	comp=Z,36nm,18.9s,baz=278,slow=34						
ULM	**Lac du Bonnet**	**36.46**	**289**	LR	LR	03 31 30.8	
	comp=Z,44nm,19.2s,baz=92,slow=34						
AKASG	**Malin Array Be**	**37.94**	**69**	LR	LR	03 32 34.9	
	comp=Z,20nm,19.8s,baz=346,slow=34						
TKL	**Tuckaleechee C**	**38.39**	**261**	LR	LR	03 32 47.6	
	comp=Z,42nm,19.4s,baz=81,slow=34						
MLR	**Muntele Rosu**	**39.00**	**77**	LR	LR	03 33 39.4	
	comp=Z,44nm,21.0s,baz=286,slow=35						
YKA	**Yellowknife Ar**	**39.88**	**315**	P	**P**	**03 18 25.4**	**-0.8**
	0.2nm,0.7s,baz=63,slow=8.7,SNR=3.7						
PDAR	**Pinedale Array**	**48.48**	**288**	P	**P**	**03 19 35.4**	**-0.3**
	0.3nm,0.7s,baz=54,slow=9.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**50.19**	**131**	P	**P**	**03 19 48.3**	**-0.5**
	1.2nm,0.9s,baz=317,slow=8.7,SNR=4.8						
ILAR	**Eielson Array**	**50.23**	**329**	P	**P**	**03 19 48.5**	**0.0**
	0.3nm,0.8s,baz=50,slow=6.0,SNR=2.6						
TXAR	**Lajitas Array**	**54.53**	**272**	P	**P**	**03 20 21.9**	**+0.9**
	0.1nm,0.5s,baz=36,slow=7.8,SNR=1.8						
TXAR				LR	LR	03 43 11.0	
	comp=Z,49nm,18.4s,baz=348,slow=36						
MKAR	**Makanchi Array**	**66.01**	**42**	P	**P**	**03 21 39.1**	**-0.2**
	0.8nm,1.0s,baz=348,slow=3.7,SNR=3.6						
SONM	**Songino Array**	**72.97**	**26**	P	**P**	**03 22 23.2**	**+0.8**
	0.2nm,0.4s,baz=343,slow=3.1,SNR=3.7						
ASAR	**Alice Springs**	**148.13**	**20**	PKPbc	**PKPbc**	**03 30 38.6**	**-0.1**
	1.1nm,0.5s,baz=352,slow=2.2,SNR=21						

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*ANF **05** 03:18:04.3±0.8, 57.08N×158.15W, $h5^{km}\pm9^{km}$, ML4.8/16, Error ellipse: s-maj=6.1km s-min=4.0km az=73.0*

*AEIC **05** 03:18:05±1.5, 57.05N±0.03×158.00W±0.05, $h9^{km}\pm4^{km}$, ML4.3, mb4.4/43(NEIC), ML4.4/34(NEIC), Mwr4.1/19(NEIC), Error ellipse: s-maj=4.4km s-min=3.4km az=115.0*

*NEIC **05** 03:18:05, 57.05N×158.00W, $h2^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.10; $M_{\theta\theta}$-0.93; $M_{\phi\phi}$-0.17; $M_{r\theta}$-0.93; $M_{\theta\phi}$-0.39; $M_{\phi r}$-0.75; Fault plane solution: $M_0$1.62000×10^{15} NP1:ϕ_s235.58000°, δ68.93000°, λ81.62000°. NP2:ϕ_s77.87000°, δ22.60000°, λ110.72000°. Principal axes: T 1.6443, Plg65.0000°, Azm131.0000°; N -0.0541, Plg8.0000°, Azm239.0000°; P -1.5901, Plg23.0000°, Azm332.0000°;*

*NEIC **05** 03:18:05.5±1.5, 57.05N±0.03×157.98W±0.06, $h12^{km}\pm4^{km}$ Error ellipse: s-maj=5.3km s-min=3.5km az=126.0*

*MOS **05** 03:18:07.0±1.6, 57.11N×157.67W, $h27^{km}$, mb4.6/20, Error ellipse: s-maj=12.6km s-min=6.8km az=79.7*

*IDC **05** 03:18:08.8±3.8, 57.22N×157.91W, $h27^{km}\pm25^{km}$, mb3.9/24, mb1 4.1/26, mb1mx4.0/43, mbtmp4.0/26, ML3.6/2, MS3.4/23, Ms1 3.4/23, ms1mx3.1/96, Error ellipse: s-maj=21.9km s-min=11.1km az=15.0*

ISC 05 03:18:05.6±0.9**, 57.00N**±0.03×**157.91W**±0.03**, $h10^{km}\pm5^{km}$, n305, σ1.29**/305**, mb4.3**/60**, MS3.4**/21**, 8C-1D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.17**	**258**		**Pb**	**03 18 10.0**	**-0.9**
AZAC	**Aniakchak**	**0.21**	**239**		**Pg**	**03 18 10.4**	**+0.4**
ANPB	**Aniakchak Plen**	**0.29**	**226**		**Pg**	**03 18 11.6**	**+0.2**
CHGN	**Chignik**	**0.76**	**202**		**Pg**	**03 18 19.6**	**-0.6**
CHGN					**Sg**	**03 18 30.4**	**+0.4**
CHGN	**Chignik**	**0.76**	**202**	IAML		03 18 35.2	
	comp=E,9μm,0.6s						
CHGN	**Chignik**	**0.76**	**202**	P	**Pg**	**03 18 19.4**	**-0.8**
	baz=17						
CHGN				S	**Sg**	**03 18 29.5**	**-0.6**
	baz=17						
PLBL	**Peulik Blue Cr**	**0.92**	**40**		**Pb**	**03 18 23.2**	**-0.4**
VNHG	**Veniaminof 1**	**1.05**	**222**		**Pb**	**03 18 25.0**	**-0.9**
PLK3	**Peulik 3**	**1.12**	**52**		**Pn**	**03 18 27.0**	**-0.4**
PLK3					**Sn**	**03 18 42.5**	**-0.4**
VNFG	**Fog Glacier, M**	**1.16**	**232**		**Pb**	**03 18 27.3**	**-0.5**
VNFG					**Sn**	**03 18 43.9**	**+0.1**
KJL	**Kejulik**	**1.64**	**49**		**Pb**	**03 18 35.4**	**-0.6**
KJL					**Sg**	**03 18 57.2**	**-1.2**
CHIR	**Chirikof Islan**	**1.74**	**132**		**Pn**	**03 18 36.5**	**+0.7**
CHIR					**Sb**	**03 19 01.4**	**+2.0**
CHIR	**Chirikof Islan**	**1.74**	**132**	IAML		03 19 06.5	
	comp=N,4μm,1.2s						
CHIR				IAML		03 19 07.3	
	comp=E,4μm,0.9s						
CHIR	**Chirikof Islan**	**1.74**	**132**	P	**Pn**	**03 18 36.3**	**+0.5**
	baz=314,SNR=17						
CHIR				S	**Sb**	**03 19 00.8**	**+1.4**
	baz=314						
CAHL	**Cahill**	**1.76**	**52**		**Pn**	**03 18 36.5**	**+0.4**
ANCK	**Angle Creek**	**1.77**	**46**		**Pb**	**03 18 36.8**	**-1.3**
KABU	**Katmai Buttres**	**1.90**	**47**		**Pn**	**03 18 36.7**	**-1.4**
KABU					**Sb**	**03 19 02.6**	**-1.6**
SII	**Sitkinak Islan**	**2.10**	**101**		**Pn**	**03 18 41.4**	**+0.6**
SII					**Sb**	**03 19 10.3**	**+0.5**
SII	**Sitkinak Islan**	**2.10**	**101**	IAML		03 19 17.5	
	comp=N,3μm,0.7s						
SII	**Sitkinak Islan**	**2.10**	**101**	P	**Pn**	**03 18 41.3**	**+0.6**
	baz=285,SNR=33						
SII				S	**Sb**	**03 19 10.3**	**+0.5**
	baz=285						
SDPT	**Sand Point**	**2.19**	**222**		**Pn**	**03 18 42.4**	**+0.4**
SDPT	**Sand Point**	**2.19**	**222**	IAML		03 19 17.5	
	comp=N,2μm,1.2s						
SDPT				IAML		03 19 19.2	
	comp=E,3μm,1.3s						
SDPT	**Sand Point**	**2.19**	**222**	P	**Pn**	**03 18 41.7**	**-0.3**
	baz=38,SNR=13						
SDPT				Sb	**Sb**	**03 19 13.5**	**+1.1**
	baz=38						
OHAK	**Old Harbor**	**2.53**	**83**		**Pn**	**03 18 47.1**	**+0.4**
OHAK	**Old Harbor**	**2.53**	**83**	IAML		03 19 29.3	
	comp=N,1μm,1.0s						
OHAK				IAML		03 19 36.1	
	comp=E,868nm,1.1s						
OHAK	**Old Harbor**	**2.53**	**83**	P	**Pn**	**03 18 46.8**	**+0.2**
	baz=268,SNR=44						
OHAK				S	**Sn**	**03 19 20.0**	**+2.5**
	baz=268						
BLHA	**Black Hill**	**2.66**	**242**		**Pn**	**03 18 47.9**	**-0.5**
PS4A	**Pavlof South-4**	**2.76**	**235**		**Pn**	**03 18 50.4**	**+0.5**
P18K	**Big Mountain,**	**2.79**	**30**		**Pn**	**03 18 48.7**	**-1.6**
P18K				IAML		03 19 40.0	
	comp=E,1μm,1.5s						
P18K	**Big Mountain,**	**2.79**	**30**	P	**Pn**	**03 18 48.7**	**-1.6**
	baz=213						
HAG	**Hague Volcano**	**2.80**	**235**	P	**Pn**	**03 18 50.9**	**+0.5**
HAG	**Hague Volcano**	**2.80**	**235**		**Pn**	**03 18 50.9**	**+0.5**
Q19K	**Cape Douglas,**	**2.98**	**48**	Pn	**Pn**	**03 18 53.6**	**+0.7**
Q19K	**Cape Douglas,**	**2.98**	**48**	P	**Pn**	**03 18 51.9**	**-1.1**
	baz=233						
KDAK	**Kodiak Island**	**2.99**	**73**	Pn	**Pn**	**03 18 53.5**	**+0.6**
	comp=E,22nm,0.3s,baz=259,slow=5.8,SNR=296						
KDAK				LR	LR	03 19 28.2	
	comp=E,52nm,21.1s,baz=290,slow=27						
KDAK				Sn	**Sn**	**03 19 31.5**	**+2.8**
	comp=E,16nm,0.3s,baz=68,slow=23,SNR=10.0						
KDAK	**Kodiak Island**	**2.99**	**73**		**Pn**	**03 18 53.6**	**+0.7**
KDAK	**Kodiak Island**	**2.99**	**73**	P	**Pn**	**03 18 53.2**	**+0.3**
	baz=258						
KDAK				S	**Sn**	**03 19 31.6**	**+2.8**
	baz=258						
O18K	**Koktuh Hills**	**3.19**	**25**		**Pn**	**03 18 54.6**	**-1.2**
O18K	**Koktuh Hills**	**3.19**	**25**	IAML		03 19 46.2	
	comp=N,1μm,0.8s						
O18K				IAML		03 19 50.9	
	comp=E,723nm,0.8s						
O18K	**Koktuh Hills**	**3.19**	**25**	P	**Pn**	**03 18 54.5**	**-1.3**
	baz=209						
O19K	**Port Alsworth**	**3.71**	**29**		**Pn**	**03 19 01.6**	**-1.3**
O19K	**Port Alsworth**	**3.71**	**29**	P	**Pn**	**03 19 01.5**	**-1.3**
	baz=213,SNR=13						
FALS	**False Pass**	**3.77**	**238**	Pn	**Pn**	**03 19 02.8**	**-0.9**
FALS	**False Pass**	**3.77**	**238**	P	**Pn**	**03 19 00.9**	**-2.8**
	baz=52						
O20K	**Slope Mountain**	**4.15**	**40**		**Pn**	**03 19 08.5**	**-0.4**
O20K	**Slope Mountain**	**4.15**	**40**	P	**Pn**	**03 19 08.5**	**-0.4**
	baz=225						
O20K				S	**Sn**	**03 19 57.4**	**-0.1**
	baz=225						
N19K	**Bonanza Creek**	**4.21**	**23**		**Pn**	**03 19 08.9**	**-1.0**
N19K	**Bonanza Creek**	**4.21**	**23**	IAML		03 20 21.6	
	comp=N,490nm,1.1s						
N19K				IAML		03 20 21.8	
	comp=E,654nm,1.2s						
N19K	**Bonanza Creek**	**4.21**	**23**	P	**Pn**	**03 19 08.8**	**-1.1**
	baz=207,SNR=16						
N19K				S	**Sn**	**03 19 58.3**	**-0.9**
	baz=207						
SVW2	**Sparrevohn**	**4.28**	**15**		**Pn**	**03 19 09.1**	**-1.7**
SVW2	**Sparrevohn**	**4.28**	**15**	IAML		03 20 28.3	
	comp=E,388nm,1.3s						
SVW2				IAML		03 20 31.6	
	comp=N,371nm,1.2s						
CNPM	**China Poot**	**4.34**	**52**	Pn	**Pn**	**03 19 12.0**	**+0.5**
RED	**Redoubt Volcan**	**4.35**	**36**		**Pn**	**03 19 11.2**	**-0.5**
RDWB	**Redoubt West**	**4.38**	**35**		**Pn**	**03 19 11.7**	**-0.5**
BRLK	**Bradley Lake**	**4.62**	**50**	Pn	**Pn**	**03 19 15.0**	**-0.4**
SPCR	**Spurr Chakacha**	**5.13**	**33**	P	**Pn**	**03 19 22.4**	**-0.1**
	baz=218						
SPCR				Sb	**Sb**	**03 20 37.9**	**+0.8**
	baz=218						
M19K	**Big River Lodg**	**5.23**	**19**		**Pn**	**03 19 22.7**	**-1.1**
M19K	**Big River Lodg**	**5.23**	**19**	IAML		03 21 13.3	
	comp=N,257nm,1.3s						
M19K	**Big River Lodg**	**5.23**	**19**	P	**Pn**	**03 19 22.7**	**-1.1**
	baz=202						
M19K				Sb	**Sb**	**03 20 44.1**	**+4.2**
	baz=202						
SEW	**Seward**	**5.41**	**51**		**Pg**	**03 19 51.1**	**+2.0**
L19K	**White Mountain**	**5.42**	**15**		**Pn**	**03 19 24.7**	**-1.7**
L19K	**White Mountain**	**5.42**	**15**	P	**Pn**	**03 19 24.5**	**-1.9**
	baz=199,SNR=48						
STLK	**Strandline Lak**	**5.48**	**32**		**Pn**	**03 19 27.5**	**+0.2**
O22K	**Cooper Landing**	**5.51**	**47**	P	**Pn**	**03 19 28.1**	**+0.6**
	baz=235						
UNV	**Unalaska Valle**	**5.83**	**241**		**Pn**	**03 19 33.2**	**+1.3**
UNV	**Unalaska Valle**	**5.83**	**241**	P	**Pn**	**03 19 32.7**	**+0.8**
	baz=53						
L20K	**Farewell, AK**	**5.86**	**19**		**Pn**	**03 19 31.4**	**-0.9**
L20K	**Farewell, AK**	**5.86**	**19**	P	**Pn**	**03 19 31.1**	**-1.3**
	baz=203,SNR=18						
TTA	**Tatalina**	**6.02**	**8**	P	**Pn**	**03 19 32.5**	**-2.2**
TTA	**Tatalina**	**6.02**	**8**		**Pn**	**03 19 32.5**	**-2.2**
TTA	**Tatalina**	**6.02**	**8**	P	**Pn**	**03 19 32.4**	**-2.2**
	baz=190,SNR=11						
M22K	**Willow**	**6.21**	**37**		**Pn**	**03 19 37.2**	**+0.2**
M22K	**Willow**	**6.21**	**37**	P	**Pn**	**03 19 37.8**	**+0.7**
	baz=224						
PMR	**Palmer**	**6.43**	**41**	P	**Pn**	**03 19 40.1**	**-0.1**
PMR	**Palmer**	**6.43**	**41**		**Pn**	**03 19 40.0**	**-0.1**
PMR	**Palmer**	**6.43**	**41**	P	**Pn**	**03 19 39.7**	**-0.5**
	baz=229						
PPLA	**Purkeypile**	**6.57**	**24**		**Pn**	**03 19 42.0**	**-0.2**
PPLA	**Purkeypile**	**6.57**	**24**	P	**Pn**	**03 19 41.7**	**-0.6**
	baz=209,SNR=12						
CUT	**Chulitna**	**6.65**	**32**		**Pn**	**03 19 42.7**	**-0.6**
CUT	**Chulitna**	**6.65**	**32**	P	**Pn**	**03 19 43.5**	**+0.3**
	baz=220						
K20K	**Telida**	**6.66**	**15**		**Pn**	**03 19 41.2**	**-2.1**
K20K	**Telida**	**6.66**	**15**	P	**Pn**	**03 19 41.3**	**-2.1**
	baz=199,SNR=7.6						
SPIA	**Saint Paul Isl**	**6.73**	**277**		**Pn**	**03 19 44.3**	**0.0**
SML	**Sawmill**	**6.86**	**41**	P	**Pn**	**03 19 45.3**	**-0.9**
	baz=230						
CAST	**Castle Rocks**	**7.06**	**22**	Pn	**Pn**	**03 19 48.0**	**-0.9**
CAST	**Castle Rocks**	**7.06**	**22**	P	**Pn**	**03 19 47.6**	**-1.2**
	baz=207,SNR=15						
SCM	**Sheep Creek Mo**	**7.25**	**44**	P	**Pn**	**03 19 51.0**	**-0.5**
SCM	**Sheep Creek Mo**	**7.25**	**44**		**Pn**	**03 19 51.0**	**-0.5**
SCM	**Sheep Creek Mo**	**7.25**	**44**	P	**Pn**	**03 19 51.5**	**0.0**
	baz=233						
KTH	**Kantishna Hill**	**7.43**	**25**		**Pn**	**03 19 53.2**	**-0.7**
J20K	**Nowinta River**	**7.43**	**13**		**Pn**	**03 19 51.8**	**-2.2**
CHUM	**Lake Minchumin**	**7.43**	**19**		**Pn**	**03 19 52.3**	**-1.6**
CHUM	**Lake Minchumin**	**7.43**	**19**	P	**Pn**	**03 19 52.5**	**-1.4**
	baz=205,SNR=16						
TRF	**Thorofare Moun**	**7.49**	**27**		**Pn**	**03 19 55.8**	**+0.8**
TRF	**Thorofare Moun**	**7.49**	**27**	P	**Pn**	**03 19 55.0**	**+0.1**
	baz=214,SNR=8.8						
WAT6	**Susitna Watana**	**7.58**	**38**	P	**Pn**	**03 19 55.4**	**-0.8**
	baz=228						
KLU	**Klutina**	**7.61**	**49**		**Pn**	**03 19 56.5**	**+0.1**
KLU	**Klutina**	**7.61**	**49**	P	**Pn**	**03 19 55.9**	**-0.6**
	baz=240						
GCSA	**Galena City Sc**	**7.79**	**3**		**Pn**	**03 19 57.3**	**-1.5**
GCSA	**Galena City Sc**	**7.79**	**3**	P	**Pn**	**03 19 57.0**	**-1.8**
	baz=185						
RND	**Reindeer**	**7.84**	**31**	P	**Pn**	**03 19 59.9**	**+0.3**
RND	**Reindeer**	**7.84**	**31**	Pn	**Pn**	**03 19 59.9**	**+0.3**
M24K	**Tolsona, Glenn**	**7.85**	**44**	P	**Pn**	**03 19 59.7**	**-0.1**
	baz=235						
BPAW	**Bear Paw Mtn.**	**7.89**	**23**	Pn	**Pn**	**03 19 59.5**	**-0.7**
BPAW	**Bear Paw Mtn.**	**7.89**	**23**	P	**Pn**	**03 19 58.8**	**-1.4**
	baz=209,SNR=21						
BMRM	**Bremner River**	**7.93**	**54**	P	**Pn**	**03 20 00.9**	**0.0**
	baz=246						
DHY	**Denali Highway**	**8.05**	**36**		**Pn**	**03 20 02.0**	**-0.5**
DHY	**Denali Highway**	**8.05**	**36**	P	**Pn**	**03 20 01.6**	**-0.9**
	baz=226						
MCK	**McKinley**	**8.08**	**30**	P	**Pn**	**03 20 03.1**	**+0.3**
MCK	**McKinley**	**8.08**	**30**		**Pn**	**03 20 03.1**	**+0.3**
MCK	**McKinley**	**8.08**	**30**	P	**Pn**	**03 20 02.9**	**+0.1**
	baz=218						
ANM	**Nome**	**8.41**	**337**	P	**Pn**	**03 20 06.6**	**-0.8**
ANM	**Nome**	**8.41**	**337**		**Pn**	**03 20 06.6**	**-0.8**
ANM	**Nome**	**8.41**	**337**	P	**Pn**	**03 20 06.4**	**-1.0**
	baz=151,SNR=48						
GLB	**Gilahina Butte**	**8.48**	**53**		**Pn**	**03 20 08.7**	**+0.3**
PAX	**Paxson**	**8.63**	**41**	P	**Pn**	**03 20 09.9**	**-0.5**
PAX	**Paxson**	**8.63**	**41**	Pn	**Pn**	**03 20 09.9**	**-0.5**
PAX	**Paxson**	**8.63**	**41**	P	**Pn**	**03 20 10.0**	**-0.5**
	baz=232						
I21K	**Tanana**	**8.69**	**17**		**Pn**	**03 20 09.9**	**-1.3**
I21K	**Tanana**	**8.69**	**17**	P	**Pn**	**03 20 10.0**	**-1.1**
	baz=202,SNR=7.9						
NEA2	**Nenana**	**8.74**	**26**		**Pn**	**03 20 10.9**	**-1.1**
NEA2	**Nenana**	**8.74**	**26**	P	**Pn**	**03 20 11.1**	**-0.8**
	baz=214						
MLY	**Manley**	**8.77**	**20**		**Pn**	**03 20 10.6**	**-1.7**
MLY	**Manley**	**8.77**	**20**	P	**Pn**	**03 20 10.4**	**-1.8**
	baz=207						
WRH	**Wood River Hil**	**8.89**	**29**		**Pn**	**03 20 13.4**	**-0.6**
H21K	**Melozitna Rive**	**9.02**	**14**		**Pn**	**03 20 14.1**	**-1.7**
H21K	**Melozitna Rive**	**9.02**	**14**	P	**Pn**	**03 20 13.8**	**-2.0**
	baz=198,SNR=17						
CCB	**Clear Creek Bu**	**9.11**	**29**		**Pn**	**03 20 16.1**	**-0.7**
I23K	**Minto, Yukon-K**	**9.15**	**23**		**Pn**	**03 20 16.6**	**-0.9**
I23K	**Minto, Yukon-K**	**9.15**	**23**	P	**Pn**	**03 20 15.9**	**-1.6**
	baz=211,SNR=9.8						
HDA	**Harding Lake**	**9.15**	**31**		**Pn**	**03 20 16.9**	**-0.6**
HDA	**Harding Lake**	**9.15**	**31**	P	**Pn**	**03 20 16.4**	**-1.2**
	baz=221						
IMAR	**Indian Mountai**	**9.23**	**11**	Pn	**Pn**	**03 20 16.8**	**-1.8**
MDM	**Murphy Dome**	**9.25**	**26**		**Pn**	**03 20 18.3**	**-0.6**
TCOL	**CIGO, UAF Yank**	**9.27**	**28**	P	**Pn**	**03 20 18.9**	**-0.3**
	baz=217						
COLA	**College**	**9.28**	**28**	*i* P	**Pn**	**03 20 18.9**	**-0.3**
COLA	**College**	**9.28**	**28**	P	**Pn**	**03 20 18.6**	**-0.6**
	baz=217						
RIDG	**Independent Ri**	**9.34**	**38**	P	**Pn**	**03 20 19.6**	**-0.5**
	baz=230,SNR=5.9						
TABL	**Table Mountain**	**9.37**	**61**		**Pn**	**03 20 20.2**	**-0.5**
IL31		**9.45**	**30**	Pn	**Pn**	**03 20 21.1**	**-0.5**
ILAR	**Eielson Array**	**9.45**	**30**	Pn	**Pn**	**03 20 21.0**	**-0.6**
	comp=N,0.5nm,0.3s,baz=218,slow=13,SNR=21						
ILAR				Lg	Lg	03 22 58.7	
	baz=215,slow=30,SNR=4.0						
ILAR				LR	LR	03 24 07.7	
	comp=N,189nm,21.4s,baz=211,slow=39						
ILAR	**Eielson Array**	**9.45**	**30**	P	**Pn**	**03 20 20.9**	**-0.6**
ILAR	**Eielson Array**	**9.45**	**30**		**Pn**	**03 20 20.9**	**-0.6**
L26K	**Log Cabin Wild**	**9.45**	**44**	P	**Pn**	**03 20 21.6**	**0.0**
	baz=237						
POKR	**Poker Plat Res**	**9.58**	**28**		**Pn**	**03 20 22.1**	**-1.3**
POKR	**Poker Plat Res**	**9.58**	**28**	P	**Pn**	**03 20 21.5**	**-1.8**
	baz=217						
GAMB	**Gambell**	**9.61**	**321**	Pn	**Pn**	**03 20 22.6**	**-1.1**
GAMB	**Gambell**	**9.61**	**321**	P	**Pn**	**03 20 21.8**	**-2.0**
	baz=129						
J25K	**Salcha River,**	**9.77**	**33**		**Pn**	**03 20 25.4**	**-0.6**
J25K	**Salcha River,**	**9.77**	**33**	P	**Pn**	**03 20 25.8**	**-0.2**
	baz=225,SNR=8.5						
SCRK	**Sand Creek**	**9.78**	**39**	P	**Pn**	**03 20 24.8**	**-1.5**
	baz=231						
TNA	**Tin City**	**9.83**	**335**	Pn	**Pn**	**03 20 25.6**	**-1.1**
TNA	**Tin City**	**9.83**	**335**	P	**Pn**	**03 20 25.9**	**-0.9**
	baz=146,SNR=12						
L27K	**Beaver Creek,**	**10.06**	**46**	Pn	**Pn**	**03 20 29.4**	**-0.6**
L27K	**Beaver Creek,**	**10.06**	**46**	P	**Pn**	**03 20 28.5**	**-1.5**
	baz=240						
H24K	**Noodor Dome**	**10.07**	**24**	Pn	**Pn**	**03 20 29.1**	**-0.9**
H24K	**Noodor Dome**	**10.07**	**24**	P	**Pn**	**03 20 28.8**	**-1.3**
	baz=213						
PNL	**Peninsula**	**10.09**	**67**	P	**Pn**	**03 20 30.8**	**+0.4**
	baz=263						
YUK3	**Moose Creek**	**10.09**	**54**	P	**Pn**	**03 20 31.0**	**+0.5**
	baz=250,SNR=5.2						
J26L	**Joseph Creek**	**10.26**	**37**	P	**Pn**	**03 20 32.0**	**-0.8**
	baz=230,SNR=9.2						
YUK4	**Talbot Arm**	**10.78**	**58**	P	**Pn**	**03 20 40.0**	**-0.1**
	baz=255						
COLD	**Coldfoot**	**10.86**	**16**	Pn	**Pn**	**03 20 40.3**	**-0.6**
COLD	**Coldfoot**	**10.86**	**16**	P	**Pn**	**03 20 40.2**	**-0.7**
	baz=203,SNR=31						
EGAK	**Eagle**	**11.25**	**39**		**Pn**	**03 20 46.0**	**-0.2**
EGAK	**Eagle**	**11.25**	**39**	P	**Pn**	**03 20 44.5**	**-1.7**
	baz=234						
RDOG	**Red Dog Mine**	**11.32**	**350**		**Pn**	**03 20 46.0**	**-1.2**
RDOG	**Red Dog Mine**	**11.32**	**350**	P	**Pn**	**03 20 45.8**	**-1.4**
	baz=166						
DAWY	**Dawson**	**11.51**	**44**	P	**Pn**	**03 20 50.0**	**+0.2**
	baz=241						
TOLK	**Toolik Lake Re**	**12.27**	**14**		**Pn**	**03 20 59.1**	**-1.0**
TOLK	**Toolik Lake Re**	**12.27**	**14**	P	**Pn**	**03 20 58.3**	**-1.8**
	baz=202						
M31M	**Drury Creek, Y**	**12.95**	**57**	P	**Pn**	**03 21 11.2**	**+1.7**
	baz=257						
DLBC	**Dease Lake**	**14.92**	**73**	Pn	**Pn**	**03 21 36.9**	**+0.5**
	comp=N,0.1nm,0.3s,baz=274,slow=8.5,SNR=3.9						
DLBC				LR	LR	03 27 39.3	
	comp=N,83nm,18.4s,baz=266,slow=38						
DLBC	**Dease Lake**	**14.92**	**73**		**Pn**	**03 21 36.8**	**+0.3**
INK	**Inuvik**	**15.78**	**34**	Pn	**Pn**	**03 21 44.1**	**-3.4**
	comp=N,0.2nm,0.3s,baz=217,slow=8.8,SNR=8.3						
INK				LR	LR	03 27 42.0	
	comp=N,112nm,20.6s,baz=262,slow=37						
INK	**Inuvik**	**15.78**	**34**	P	**Pn**	**03 21 45.2**	**-2.4**
	baz=236						
C36M	**Paulatuk**	**19.30**	**37**	P	**P**	**03 22 27.3**	**-2.9**
C36M	**Paulatuk**	**19.30**	**37**	P	**P**	**03 22 28.3**	**-1.9**
	baz=247						
BILL	**Bilibino**	**19.54**	**319**	*i* P	**Pn**	**03 22 33.7**	**-0.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,134nm,17.0s						
A36M	**Sachs Harbour**	**20.15**	**29**	P	**P**	**03 22 37.3**	**-2.2**
	baz=239						
YKA	**Yellowknife Ar**	**22.15**	**58**	P	**P**	**03 23 00.9**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=272,slow=9.9,SNR=42						
YKA				ScP	**ScP**	**03 30 33.2**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=286,slow=2.2,SNR=9.8						
YKA	**Yellowknife Ar**	**22.15**	**58**	P	**P**	**03 23 00.7**	**-0.4**
B08A	**Colville Reser**	**24.64**	**94**	P	**P**	**03 23 27.2**	**+1.2**
B08A				IAmb	IAmb	03 23 31.2	
	comp=Z,4.4nm,0.8s						
SEY	**Seymchan**	**25.02**	**304**	P	**P**	**03 23 28.9**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=89,slow=11,SNR=9.5						
SEY	**Seymchan**	**25.02**	**304**	*ce*P	**P**	**03 23 32.3**	**+3.1**
SEY				pmax	pmax		
	comp=Z,6.0nm,1.5s						
PETK	**Petropavlovsk-**	**25.38**	**280**	P	**P**	**03 23 33.0**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=78,slow=14,SNR=6.2						
PETK	**Petropavlovsk-**	**25.38**	**280**	P	**P**	**03 23 32.4**	**-0.2**
PETK	**Petropavlovsk-**	**25.38**	**280**	P	**P**	**03 23 32.4**	**-0.2**
EDM	**Edmonton**	**25.41**	**79**	P	**P**	**03 23 32.3**	**-0.7**
EDM				pmax	pmax		
	comp=Z,19nm,1.1s						
EDM	**Edmonton**	**25.41**	**79**	P	**P**	**03 23 32.3**	**-0.7**
MA2	**Magadan**	**26.55**	**297**	LR	LR	03 35 08.1	
	comp=Z,46nm,18.6s,baz=104,slow=38						
YBH	**Yreka Blue Hor**	**27.16**	**109**	P	**P**	**03 23 51.5**	**+2.6**
	comp=Z,1.2nm,0.7s,baz=291,slow=8.6,SNR=2.8						
YBH				LR	LR	03 32 21.2	
	comp=Z,70nm,19.0s,baz=298,slow=31						
PLID	**Pearl Lake**	**28.45**	**97**	P	**P**	**03 24 00.7**	**+0.1**
PAHR	**Pah Rah Range**	**30.36**	**108**	P	**P**	**03 24 17.1**	**-0.4**
PAHR				IAmb	IAmb	03 24 21.0	
	comp=Z,7.8nm,1.2s						
PNTR	**Pine Nut**	**30.71**	**109**	P	**P**	**03 24 21.8**	**+1.1**
YHH	**Holmes Hill**	**31.45**	**92**	P	**P**	**03 24 27.0**	**-0.2**
YHH				IAmb	IAmb	03 24 31.9	
	comp=Z,2.7nm,0.8s						
KVN	**Kaiserville**	**31.52**	**108**	P	**P**	**03 24 27.5**	**-0.2**
KVN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KVN	**Kaiserville**	**31.52**	**108**	P	**P**	**03 24 27.5**	**-0.2**
KVN				IAmb	IAmb	03 24 31.3	
	comp=Z,9.1nm,1.3s						
NVAR	**Mina Array Bea**	**31.88**	**109**	P	**P**	**03 24 32.9**	**+1.9**
	comp=Z,2.7nm,0.9s,baz=300,slow=8.0,SNR=10						
NVAR				PcP	**PcP**	**03 27 21.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=290,slow=2.6,SNR=3.9						
NVAR				LR	LR	03 35 37.8	
	comp=Z,86nm,18.3s,baz=278,slow=33						
NVAR	**Mina Array Bea**	**31.88**	**109**	P	**P**	**03 24 29.3**	**-1.6**
FLWY	**Flagg Ranch**	**31.99**	**93**	P	**P**	**03 24 30.2**	**-1.6**
FLWY				IAmb	IAmb	03 24 37.3	
	comp=Z,6.5nm,0.8s						
TIXI	**Tiksi**	**32.44**	**326**	P	**P**	**03 24 34.9**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=91,slow=24,SNR=1.3						
TIXI				LR	LR	03 40 17.0	
	comp=Z,39nm,18.2s,baz=186,slow=41						
TIXI	**Tiksi**	**32.44**	**326**	*ce*P	**P**	**03 24 37.7**	**+2.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
FCC	**Fort Churchill**	**32.84**	**60**	P	**P**	**03 24 36.7**	**-2.2**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FCC	**Fort Churchill**	**32.84**	**60**	P	**P**	**03 24 36.7**	**-2.2**
FCC				IAmb	IAmb	03 24 42.2	
	comp=Z,4.6nm,0.9s						
R11A	**Troy Canyon, C**	**33.36**	**106**	P	**P**	**03 24 43.2**	**-0.6**
PD31	**Pinedale Array**	**33.48**	**94**	P	**P**	**03 24 43.3**	**-1.6**
PDAR	**Pinedale Array**	**33.48**	**94**	P	**P**	**03 24 45.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=316,slow=4.1,SNR=11						
PDAR	**Pinedale Array**	**33.48**	**94**	P	**P**	**03 24 44.3**	**-0.7**
TPNV	**Topopah Spring**	**34.06**	**108**	P	**P**	**03 24 50.0**	**+0.1**
TPNV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TPNV	**Topopah Spring**	**34.06**	**108**	P	**P**	**03 24 50.0**	**+0.1**
TPNV				IAmb	IAmb	03 24 53.0	
	comp=Z,7.4nm,1.0s						
PRN	**Pahroc Range**	**34.34**	**106**	P	**P**	**03 24 51.3**	**-1.1**
PRN				IAmb	IAmb	03 24 55.8	
	comp=Z,8.4nm,1.2s						
GWY	**Greenwater Val**	**34.42**	**109**	P	**P**	**03 24 51.3**	**-1.8**
GWY				IAmb	IAmb	03 24 57.1	
	comp=Z,4.9nm,1.0s						
QSM	**Queen of Sheba**	**34.49**	**110**	P	**P**	**03 24 52.6**	**-0.9**
QSM				IAmb	IAmb	03 24 57.7	
	comp=Z,4.7nm,0.8s						
YAK	**Yakutsk**	**35.30**	**309**	LR	LR	03 40 49.9	
	comp=Z,63nm,19.1s,baz=84,slow=39						
YAK	**Yakutsk**	**35.30**	**309**	*ce*P	**P**	**03 25 01.4**	**+1.2**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
RWWY	**Rawlins**	**35.49**	**93**	P	**P**	**03 25 02.1**	**-0.3**
RWWY				IAmb	IAmb	03 25 31.6	
	comp=Z,9.7nm,1.1s						
SRU	**San Rafael Swe**	**35.50**	**100**	P	**P**	**03 25 02.1**	**-0.3**
SRU				pmax	pmax		
	comp=Z,11nm,1.1s						
SRU	**San Rafael Swe**	**35.50**	**100**	P	**P**	**03 25 02.1**	**-0.3**
SRU				IAmb	IAmb	03 25 17.1	
	comp=Z,11nm,1.1s						
RSSD	**Black Hills**	**35.61**	**88**	P	**P**	**03 25 02.8**	**-0.5**
RSSD				pmax	pmax		
	comp=Z,16nm,1.5s						
RSSD	**Black Hills**	**35.61**	**88**	P	**P**	**03 25 02.8**	**-0.5**
O20A	**White River Ci**	**36.01**	**96**	P	**P**	**03 25 05.7**	**-1.1**
O20A				IAmb	IAmb	03 25 22.1	
	comp=Z,5.5nm,0.8s						

ULM Lac du Bonnet 36.25 74 P **P** 03 25 08.0 -0.4
comp=Z,1.6nm,0.4s,baz=316,slow=9.1,SNR=4.4
ULM Lac du Bonnet 36.25 74 P **P** 03 25 08.4 0.0
ULM pmax pmax
comp=Z,4.0nm,0.9s
ULM Lac du Bonnet 36.25 74 P **P** 03 25 08.4 0.0
ULM IAmb IAmb 03 25 09.0
comp=Z,3.8nm,0.9s
PFO Pinyon Flats O 36.54 112 LR LR 03 38 22.6
comp=Z,62nm,18.3s,baz=324,slow=33
W13A Hualapai Mount 36.70 108 P **P** 03 25 11.2 -1.6
AGMN Agassiz Nation 37.41 76 P **P** 03 25 17.4 -1.0
AGMN IAmb IAmb 03 25 19.6
comp=Z,6.5nm,0.9s
B35A Bob, Littlefor 38.50 75 P **P** 03 25 26.6 -1.0
B35A IAmb IAmb 03 25 28.0
comp=Z,3.8nm,0.8s
214A Organ Pipe Nat 39.72 110 P **P** 03 25 36.3 -1.7
EYMN Ely 39.93 74 P **P** 03 25 38.5 -1.0
F36A Milaca 40.18 78 P **P** 03 25 41.9 +0.3
F36A IAmb IAmb 03 25 44.5
comp=Z,4.4nm,0.8s
SPMN Marine on St. 40.98 78 P **P** 03 25 48.0 -0.2
KLR Kul'dur 41.17 290 LR LR 03 44 14.5
comp=Z,11nm,18.1s,baz=298,slow=38
KLR Kul'dur 41.17 290 *ce*P P 03 25 54.1 +4.3
KLR pmax pmax
comp=Z,6.0nm,1.4s
G40A Rib Lake 42.34 76 P **P** 03 25 59.2 -0.1
G40A IAmb IAmb 03 25 59.8
comp=Z,5.8nm,0.8s
U32A Winter Ranch, 43.75 92 P **P** 03 26 11.1 +0.1
U32A IAmb IAmb 03 26 14.0
comp=Z,6.4nm,0.7s
MNTX Cornudas Mount 43.83 102 P **P** 03 26 11.6 0.0
WMOK Wichita Mounta 45.09 94 P **P** 03 26 22.0 +0.3
WMOK pmax pmax
comp=Z,5.0nm,1.2s
WMOK Wichita Mounta 45.09 94 P **P** 03 26 21.9 +0.3
WMOK IAmb IAmb 03 26 23.3
comp=Z,4.8nm,1.1s
NRIK Noril'sk 45.42 333 P **P** 03 26 23.5 -0.3
comp=Z,1.4nm,0.4s,baz=81,slow=8.3,SNR=1.9
NRIK LR LR 03 49 17.6
comp=Z,44nm,18.3s,baz=193,slow=41
NRIK Noril'sk 45.42 333 *ce*P **P** 03 26 27.5 +3.7
NRIK pmax pmax
comp=Z,8.0nm,1.4s
NRIK Noril'sk 45.42 333 P **P** 03 26 20.6 -3.2
NRIK IAmb IAmb 03 26 28.5
comp=Z,9.2nm,1.3s
W35A Tecumseh 45.82 91 P **P** 03 26 27.1 -0.4
HDIL Hopedale 46.04 80 P **P** 03 26 28.6 -0.5
TX31 Lajitas Ar. Si 46.59 103 P **P** 03 26 32.9 -0.7
TX32 Lajitas Array 46.59 103 P **P** 03 26 33.5 -0.2
TX32 IAmb IAmb 03 26 37.9
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 46.59 103 P **P** 03 26 34.7 +1.0
comp=Z,1.7nm,0.8s,baz=313,slow=5.8,SNR=18
TXAR PcP **PcP** 03 28 07.4 -0.2
comp=Z,0.6nm,0.6s,baz=230,slow=0.7,SNR=5.6
TXAR Lajitas Array 46.59 103 P **P** 03 26 33.7 +0.1
TXAR Lajitas Array 46.59 103 P **P** 03 26 33.7 +0.1
SCHQ Schefferville 47.41 52 P **P** 03 26 38.7 -0.9
comp=Z,3.5nm,0.7s,baz=306,slow=5.9,SNR=5.7
JCT Junction City 47.78 98 P **P** 03 26 43.1 +0.3
JCT pmax pmax
comp=Z,6.0nm,0.9s
JCT Junction City 47.78 98 P **P** 03 26 43.1 +0.3
JMIC Jan Mayen 50.48 12 LR LR 03 49 12.0
comp=Z,26nm,20.2s,baz=283,slow=37
KSRS Korea Array 51.27 281 P **P** 03 27 09.2 -0.1
comp=Z,1.6nm,0.6s,baz=45,slow=7.3,SNR=6.7
ARCES ARCESS Array B 53.74 359 P **P** 03 27 27.3 +0.1
comp=Z,3.0nm,0.9s,baz=15,slow=7.5,SNR=2.4
ARCES LR LR 03 51 14.4
comp=Z,28nm,18.4s,baz=66,slow=37
BORG Borgarnes 54.15 21 LR LR 03 55 43.3
comp=Z,25nm,18.8s,baz=337,slow=42
SONM Songino Array 54.41 304 P **P** 03 27 33.1 +0.5
comp=Z,1.8nm,0.7s,baz=46,slow=6.5,SNR=13
SONM PcP **PcP** 03 28 35.4 -0.7
comp=Z,1.6nm,0.8s,baz=61,slow=2.2,SNR=6.2
SONM Songino Array 54.41 304 P **P** 03 27 33.2 +0.6
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 54.41 304 P **P** 03 27 33.2 +0.6
JSC Jenkinsville 54.98 80 P **P** 03 27 35.8 -0.8
JSC pmax pmax
comp=Z,39nm,0.8s
JSC Jenkinsville 54.98 80 P **P** 03 27 35.8 -0.8
HHC Hu-ho-hao-te 57.21 296 *e*P **P** 03 27 54.5 +1.8
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.4s
ZALV Zalesovo Beam 58.20 322 P **P** 03 27 58.2 -1.1
comp=Z,0.4nm,0.3s,baz=54,slow=7.3,SNR=2.1
ZALV LR LR 03 55 30.0
comp=Z,60nm,18.1s,baz=40,slow=39
FINES FINESS Array B 61.85 358 P **P** 03 28 22.2 -2.0
comp=Z,0.9nm,0.6s,baz=38,slow=5.4,SNR=3.2
NB2 NORSAR Subarra 61.99 6 P **P** 03 28 23.5 -1.7
comp=Z,1.5nm,0.7s,baz=354,slow=6.9
NOA NORSAR Array B 61.99 6 P **P** 03 28 23.3 -1.9
comp=Z,2.8nm,0.7s,baz=353,slow=6.8,SNR=6.3
KURK Kurchatov 62.98 323 *ce*P **P** 03 28 35.2 +3.2
KURK pmax pmax
comp=Z,1.0nm,1.0s
HFS Hagfors 63.02 5 LR LR 03 55 17.6
comp=Z,12nm,19.6s,baz=337,slow=36
ARU Arti 63.16 338 LR LR 03 58 39.2
comp=Z,41nm,18.1s,baz=354,slow=39
ARU Arti 63.16 338 *c i*P **P** 03 28 34.7 +1.7
ARU 03 29 08.5
ARU S **S** 03 37 08.9 +5.1
ARU SS **SS** 03 41 09.3 +0.7
ARU pmax pmax
comp=Z,14nm,2.2s
WHN Wuhan 63.78 286 ⇓P P 03 28 47.4 +10
MKAR Makanchi Array 65.08 319 P **P** 03 28 47.1 +1.2
comp=Z,0.4nm,0.7s,baz=50,slow=6.8,SNR=4.3
MKAR LR LR 03 57 19.7
comp=Z,41nm,18.1s,baz=20,slow=36
MKAR Makanchi Array 65.08 319 *ce*P P 03 28 51.5 +5.6
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 65.08 319 P **P** 03 28 44.2 -1.7
WMQ Urumqi 65.55 314 *e*P **P** 03 28 52.6 +3.6
GOMU GeErMu 68.86 304 P **P** 03 29 09.5 -1.0
GOMU pP pP 03 29 14.2 +0.3
GOMU sP sP 03 29 16.4 +1.3
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU pmax pmax
comp=Z,44nm,4.4s
AKTO Aktyubinsk 68.89 336 LR LR 04 02 19.7
comp=Z,30nm,18.2s,baz=360,slow=39
AAK Ala-Archa 71.42 322 *i* P **P** 03 29 29.1 +3.2
AAK pmax pmax
comp=Z,4.0nm,2.6s
AKASG Malin Array Be 72.50 355 P **P** 03 29 31.3 -0.6
comp=Z,0.9nm,0.5s,baz=9.5,slow=6.2,SNR=5.4
AKASG LR LR 04 04 39.8
comp=Z,15nm,18.3s,baz=356,slow=39
AKASG Malin Array Be 72.50 355 P **P** 03 29 30.8 -1.1
AKASG pmax pmax
comp=Z,2.0nm,1.5s
AKASG Malin Array Be 72.50 355 P **P** 03 29 30.8 -1.1
PZH PanZhiHua 73.53 293 P **P** 03 29 40.3 +1.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.9s
GERES GERESS Array B 74.29 6 P **P** 03 29 42.3 -0.3
comp=Z,0.2nm,0.3s,baz=323,slow=6.3,SNR=5.1
GERES GERESS Array B 74.29 6 P **P** 03 29 41.2 -1.5
GERES GERESS Array B 74.29 6 P **P** 03 29 41.2 -1.5
WTTA Wattenberg 75.74 7 *i* P **P** 03 29 52.2 +1.1
comp=Z,3.3nm,1.0s
KBA Koelnbreinsper 76.03 6 *i* P **P** 03 29 54.1 +1.2
comp=Z,2.0nm,0.9s
SOKA Soboth 76.52 5 *e*P **P** 03 29 56.6 +1.1
comp=Z,2.5nm,1.1s
OBKA Obir 76.66 5 *i* P **P** 03 29 57.1 +0.8
comp=Z,3.4nm,0.6s
KIV Kislovodsk 77.93 345 *e*P **P** 03 30 06.0 +2.5
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,18nm,19.0s
GEYT Alibeck 80.65 332 LR LR 04 11 19.3
comp=Z,36nm,18.6s,baz=222,slow=40
ESDC Sonseca Array 81.21 20 P **P** 03 30 20.5 -0.8
comp=Z,0.5nm,0.7s,baz=346,slow=5.2,SNR=5.5
ESDC LR LR 04 10 27.7
comp=Z,13nm,19.2s,baz=317,slow=39
GNI Garni 81.34 343 LR LR 04 12 35.5
comp=Z,35nm,18.1s,baz=340,slow=40
CMAR Chiang Mai Arr 81.65 291 P **P** 03 30 23.0 -0.9
comp=Z,2.4nm,0.3s,baz=10,slow=5.5,SNR=8.5
CMAR Chiang Mai Arr 81.65 291 *i* P **P** 03 30 26.6 +2.7
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 81.65 291 P **P** 03 30 22.1 -1.8
WRA Warramunga Arr 95.10 241 P **P** 03 31 28.5 -0.1
comp=Z,0.5nm,0.9s,baz=34,slow=5.7,SNR=2.9
WRA Warramunga Arr 95.10 241 P **P** 03 31 26.8 -1.8
WRA Warramunga Arr 95.10 241 P **P** 03 31 26.8 -1.8
ASAR Alice Springs 98.49 239 P Pdif 03 31 46.3 +2.4
comp=Z,0.5nm,0.9s,baz=16,slow=5.2,SNR=2.5
ASAR Alice Springs 98.49 239 P **P** 03 31 42.9 -1.1
ASAR Alice Springs 98.49 239 P **P** 03 31 42.9 -1.1
BOSA Boshof 151.54 354 PKPbc **PKPbc** 03 37 58.1 -1.4
comp=Z,1.6nm,0.7s,baz=17,slow=2.3,SNR=6.5
BOSA Boshof 151.54 354 PKIKP **PKPdf** 03 37 51.0 -2.4
BOSA Boshof 151.54 354 PKPdf **PKPdf** 03 37 51.0 -2.4

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*JSO **05** 03:18:55.6±4.8, 33˚N±32˚×3˚6E±˚, h0km±8km, Mc3.0, MLv2.5/6*
*GII **05** 03:18:56.1±0.0, 33.˚50N×35.˚61E, h1km, MD1.2/6, Mm1.9/6*
*GRAL **05** 03:18:56.9±0.3, 33.˚53N×35.˚60E, h0km±16km, MD3.0*
ISC 05 03:18:55.4±0.9, **33.˚56N**±0.˚03×**35.˚68E**±0.˚04, **h14**km±6km, **n26**, σ**0.˚58**/39, **Jordan-Syria region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
QRWL Qaraoun 0.01 147 *e*P **Pg** 03 18 58.2 +0.1
RCY Rachaya 0.15 114 *e*P **Pb** 03 19 00.5 +0.4
RCY *e*S **Sb** 03 19 03.1 +0.1
DQRL Deir Qamar 0.17 329 *e*P **Pb** 03 19 00.0 -0.5
DQRL *e*S **Sg** 03 19 02.4 -0.2
SHBL Chebaa 0.21 165 *e*P **Pb** 03 19 00.8 -0.4
SHBL *e*S **Sg** 03 19 03.7 0.0
NATI Neve Ativ 0.30 170 P **Pb** 03 19 02.1 -0.4
NATI Neve Ativ 0.30 170 Pg **Pb** 03 19 02.2 -0.3
NATI Sg **Sb** 03 19 06.8 -0.4
GEM Giv'at Ha'Em 0.34 182 P **Pb** 03 19 03.2 -0.1
GEM Giv'at Ha'Em 0.34 182 Pg **Pb** 03 19 03.0 -0.3
GEM Sg **Sb** 03 19 08.3 -0.3
BHL Bhannes 0.35 357 *e*P **Pb** 03 19 03.6 +0.1
BEYL Beirut 0.35 334 *e*P **Pb** 03 19 03.3 -0.2
KSHT Keshet 0.58 169 Pg **Pn** 03 19 08.0 -1.3
KSHT Sg **Sb** 03 19 16.5 +0.9
MMC7 Mount Meron ar 0.58 204 Pg **Pg** 03 19 06.8 -0.1
MMC7 Sg **Sb** 03 19 16.0 +0.4
MMA0B Mount Meron ar 0.58 203 Pg **Pb** 03 19 07.0 -0.5
MMA0B Sg **Sb** 03 19 16.3 +0.7
HNTI Hanita 0.63 222 P **Pg** 03 19 07.8 0.0
HNTI Hanita 0.63 222 Pg **Pb** 03 19 08.1 -0.1
HNTI Sg **Sb** 03 19 17.2 +0.3
HWQ Hawqa 0.76 17 *e*P **Pn** 03 19 11.4 -0.4
SHMJ Saham 0.83 175 P **Pn** 03 19 12.5 -0.2
BLGI Bet Lehem HaGe 0.92 207 Sg **Sb** 03 19 25.9 +0.8
OFRI `Ofer 1.10 212 Pg **Pg** 03 19 16.5 -0.1
OFRI Sg **Sn** 03 19 31.5 +0.2
MMLI Mount Malkishu 1.14 191 Pg **Pg** 03 19 17.0 -0.3
HMDT Nahal Hemdat 1.30 186 P **Pb** 03 19 19.7 0.0
HMDT Nahal Hemdat 1.30 186 Pg **Pg** 03 19 20.2 -0.4
HMDT Sg **Sg** 03 19 38.3 +0.7
SLTI Sal'it 1.42 202 Pn **Pg** 03 19 22.6 -0.1
SLTI Sn **Sg** 03 19 41.6 +0.5
DSI Dead Sea 2.00 187 Pn **Pn** 03 19 29.6 +0.9
YTIR Yattir 2.24 192 Pn **Pb** 03 19 34.0 -1.7
YTIR Sn **Sb** 03 20 02.9 -0.3
PRNI Paran 3.25 190 Pn **Pn** 03 19 47.1 +1.2

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*THE **05** 03:50:17.6, 35.˚05N×22.˚71E, h12km±1km, ML3.4/5, Error ellipse: s-maj=1.8km s-min=0.8km az=52.0*
*ISK **05** 03:50:18.5, 35.˚23N×22.˚91E, h81km, ML3.5/8*
*ATH **05** 03:50:18.0, 35.˚12N×22.˚77E, h36km±6km, ML3.6/9, Error ellipse: s-maj=9.8km s-min=2.3km az=58.0*
*DDA **05** 03:50:20.0±0.0, 35.˚19N×22.˚95E, h42km±82km, MW3.7*
*HLW **05** 03:50:20.8, 35.˚18N×23.˚38E, h25km±30km, Md4.0, Ml4.0*
*IDC **05** 03:50:22.5±4.0, 35.˚34N×22.˚98E, h67km±36km, mb3.5/12, mb1 3.6/16, mb1mx3.4/63, mbtmp3.7/16, ML3.5/4, MS2.8/6, Ms1 2.8/6, ms1mx2.5/60, Error ellipse: s-maj=25.5km s-min=20.1km az=173.0*
ISC 05 03:50:21.0±0.8, **35.˚12N**±0.˚04×**23.˚01E**±0.˚05, **h68**km±7km, **n100**, σ**1.˚55**/115, **mb3.7**/12, **Crete**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KNDR Palaiochora Ch 0.57 79 P **Pn** 03 50 33.0 -1.3
KNDR S **Sn** 03 50 43.7 -0.4
KNDR AML AML 03 50 46.1
comp=E,29155µm,0.5s
KNDR AML AML 03 50 46.8
comp=N,20407µm,0.7s
KNDR Palaiochora Ch 0.57 79 P **Pn** 03 50 32.2 -2.1
KNDR S **Sn** 03 50 44.5 +0.4
comp=N,4µm,0.6s
KNDR Palaiochora Ch 0.57 79 PG **Pn** 03 50 33.1 -1.2
KNDR SG **Sn** 03 50 44.8 +0.7
RODP Rodopos 0.75 54 P **Pn** 03 50 35.9 -0.5
RODP Rodopos 0.75 54 PG **Pn** 03 50 35.8 -0.6
RODP SG **Sn** 03 50 48.2 +0.4
ANKY Antikythira Is 0.78 18 P **Pn** 03 50 33.9 -2.8
ANKY AML AML 03 50 50.0
comp=N,5050µm,0.5s
ANKY AML AML 03 50 50.5
comp=E,5061µm,0.6s
ANKY Antikythira Is 0.78 18 P **Pn** 03 50 34.0 -2.8
IMMV Iera Moni Meta 0.87 67 P **Pn** 03 50 37.7 -0.1
IMMV AML AML 03 50 54.5
comp=E,6191µm,0.6s
IMMV AML AML 03 51 00.5
comp=N,7169µm,0.5s
IMMV Iera Moni Meta 0.87 67 P **Pn** 03 50 37.6 -0.1
IMMV Iera Moni Meta 0.87 67 PG **Pn** 03 50 37.3 -0.5
IMMV SG **Sn** 03 50 50.9 +0.7
GVD Gavdhos 0.93 107 P **Pn** 03 50 39.0 +0.4
GVD AML AML 03 51 08.7
comp=E,4038µm,0.5s
GVD AML AML 03 51 09.2
comp=N,4994µm,0.5s
GVD Gavdhos 0.93 107 P **Pn** 03 50 39.0 +0.4
GVD Gavdhos 0.93 107 PG **Pn** 03 50 38.9 +0.4
GVDS Gavdos 0.93 107 P **Pn** 03 50 38.8 +0.2
GVDS S **Sn** 03 50 53.4 +1.8
comp=N,1µm,0.5s
CHAN Chania 0.94 65 P **Pn** 03 50 38.7 +0.2
CHAN AML AML 03 50 59.4
comp=E,7365µm,0.7s
CHAN AML AML 03 51 01.1
comp=N,8745µm,0.5s
KTHA Kythira Island 1.13 2 P **Pn** 03 50 39.7 -1.4
KTHA AML AML 03 50 57.3
comp=E,7762µm,0.8s
KTHA AML AML 03 51 08.8
comp=N,2088µm,0.6s
KTHA Kythira Island 1.13 2 P **Pn** 03 50 39.9 -1.2
KTHA S **Sn** 03 50 57.0 +0.9
comp=N,2µm,0.7s
KTHR Kythira 1.13 360 P **Pn** 03 50 39.8 -1.4
KTHR AML AML 03 51 01.0
comp=E,12538µm,0.5s
KTHR AML AML 03 51 01.1
comp=N,7234µm,0.4s
KTHR Kythira 1.13 360 P **Pn** 03 50 39.7 -1.4
KTHR S **Sn** 03 50 56.9 +0.7
comp=N,2µm,0.5s
PRNS Prines Rethymn 1.25 78 P **Pn** 03 50 42.5 -0.1
TMBK Timbaki Herakl 1.45 92 P **Pn** 03 50 46.4 +1.3
IDI Anoyia 1.55 83 P **Pn** 03 50 47.4 +0.8
IDI AML AML 03 51 27.0
comp=N,946µm,0.7s
IDI AML AML 03 51 32.1
comp=E,1004µm,0.6s
IDI Anoyia 1.55 83 P **Pn** 03 50 47.6 +0.9
IDI Anoyia 1.55 83 PN **Pn** 03 50 47.1 +0.4
VLI Veliai 1.59 358 P **Pn** 03 50 46.0 -1.2
VLI AML AML 03 51 17.4
comp=N,2320µm,0.9s
VLI AML AML 03 51 23.1
comp=E,1664µm,0.7s
VLI Veliai 1.59 358 P **Pn** 03 50 46.3 -0.8
HRKL Herakleio 1.73 83 PN **Pn** 03 50 48.9 0.0
PYL PYLOS 2.04 330 P **Pn** 03 50 50.6 -2.6
PYL PYLOS 2.04 330 P **Pn** 03 50 50.6 -2.6
ITM Ithomi 2.23 337 P **Pn** 03 50 54.1 -1.6
KRND KRANIDI 2.26 3 P **Pn** 03 50 55.2 -0.9
KRND S **Sn** 03 51 25.8 +2.9
comp=E,398nm,0.8s
ZKR Zakros 2.63 89 PN **Pn** 03 51 01.6 +0.4
VLY Voula,Athens 2.80 13 P **Pn** 03 51 02.9 -0.5
APE Apeiranthos 2.82 46 PN **Pn** 03 51 02.9 -0.9
APE Apeiranthos 2.82 46 P **Pn** 03 51 02.5 -1.3
KLV Kalavryta, Ach 2.99 347 P **Pn** 03 51 05.5 -0.7
PTL Penteli 3.00 13 P **Pn** 03 51 05.8 -0.4
DRO Drossia 3.01 340 P **Pn** 03 51 05.1 -1.2
DION Dionisos Attik 3.04 14 P **Pn** 03 51 06.2 -0.6
VILL Villia 3.04 5 P **Pn** 03 51 05.8 -1.0
LAKA Lakka 3.22 345 P **Pn** 03 51 08.3 -0.9
EFP Efpalio 3.41 345 P **Pn** 03 51 11.2 -0.6
KARP Karpathos 3.42 82 PN **Pn** 03 51 12.2 +0.2
LKR Lokris 3.52 360 P **Pn** 03 51 12.3 -1.0
PSDA Pessada-Kefalo 3.56 328 P **Pn** 03 51 11.2 -2.6
KOSK Kos Island 3.61 62 PN **Pn** 03 51 14.2 -0.3
VLS Valsamata 3.61 328 P **Pn** 03 51 11.8 -2.8
KEF3 Kipouria, Keph 3.74 326 P **Pn** 03 51 13.7 -2.6
DMLN Damoulianata-K 3.76 327 P **Pn** 03 51 13.7 -2.9
FSK Fiskardo 3.86 330 P **Pn** 03 51 16.0 -1.9
EVR Evrytania 3.91 346 P **Pn** 03 51 17.9 -0.7
AGG Agios Georgios 3.93 352 P **Pn** 03 51 17.8 -1.1
AGG Agios Georgios 3.93 352 P **Pn** 03 51 17.4 -1.5
AGG S **Sn** 03 52 01.9 -1.8
EVGI Lefkada island 3.97 332 P **Pn** 03 51 17.6 -1.8
BODT Bodrum 3.99 60 PN **Pn** 03 51 19.2 -0.5
BODT Bodrum 3.99 60 P **Pn** 03 51 19.2 -0.5
DAT Datca 4.04 65 PN **Pn** 03 51 20.1 -0.4
SLUM Salum 4.07 152 P **Pn** 03 51 21.1 +0.3
baz=156
SLUM S **Sn** 03 52 03.5 -3.6
baz=156
BDRM Kayabasi 4.08 60 P **Pn** 03 51 20.6 -0.3
TSLK Tsoukalades, L 4.15 334 P **Pn** 03 51 20.3 -1.5
ZEYE Izmir, Urla-Ze 4.19 41 P **Pn** 03 51 20.0 -2.4
GCAM G?zelcaml? 4.27 52 P **Pn** 03 51 21.5 -2.0
URLA Izmir 4.33 41 P **Pn** 03 51 23.6 -0.8
TURN Turunc 4.56 67 P **Pn** 03 51 27.4 0.0
TURN S **Sn** 03 52 18.1 -0.9
AYDN Tasoluk 4.68 56 P **Pn** 03 51 28.9 -0.2
AYDN S **Sn** 03 52 18.7 -3.4
YER Yerkesik 4.72 63 P **Pn** 03 51 30.6 +0.9
MULA Mugla, Merkez- 4.80 62 P **Pn** 03 51 32.0 +1.2
MULA S **Sn** 03 52 24.9 -0.2
KEK Kerkira 5.24 332 P **Pn** 03 51 34.7 -2.1
AKAS Kas 5.49 76 P **Pn** 03 51 39.6 -0.6
AKAS S **Sn** 03 52 39.2 -2.8
GOLH Golhisar 5.71 66 P **Pn** 03 51 42.8 -0.5
GOLH S **Sn** 03 52 43.8 -3.6
ELL Elmali 5.83 72 P **Pn** 03 51 45.1 +0.2
ELL S **Sn** 03 52 45.2 -5.3
USAK Uak-Merkez 6.00 52 P **Pn** 03 51 46.7 -0.5
PASA Karahalli, USA 6.12 56 P **Pn** 03 51 50.0 +1.1
SWA2 6.22 160 P **Pn** 03 51 50.1 -0.1
baz=162
SWA2 S **Sn** 03 52 56.0 -3.9
baz=162
OHR Ohrid 6.23 344 *i* Pn **Pn** 03 51 48.3 -2.0
STIP Stip 6.59 355 *i* Pn **Pn** 03 51 52.9 -2.3
RYAN Fayoum 8.62 132 P **Pn** 03 52 22.1 -0.9
baz=134
HFRF Wahat Farafira 9.16 149 P **Pn** 03 52 30.1 -0.2
baz=150
GLL Jalalah 9.20 125 P **Pn** 03 52 29.9 -1.1
baz=126
BRTR Keskin Array B 9.62 58 P **Pn** 03 52 38.0 +1.3
comp=E,0.2nm,0.3s,baz=230,slow=12,SNR=5.3
BRTR LR LR 03 57 03.8
comp=E,60nm,21.8s,baz=296,slow=42
MLR Muntele Rosu 10.60 11 LR LR 03 56 48.4
comp=E,64nm,19.7s,baz=330,slow=37
VRAC Vranov 14.94 344 LR LR 04 00 54.3
comp=E,56nm,18.6s,baz=77,slow=43
GERES GERESS Array B 15.34 336 P **Pn** 03 53 54.0 +0.5
comp=E,0.1nm,0.3s,baz=161,slow=9.2,SNR=4.0
GERES LR LR 04 01 06.0
comp=E,53nm,21.0s,baz=107,slow=42
KHC Kasperske Hory 15.63 336 *e*P **P** 03 53 59.7 -0.2
AKASG Malin Array Be 16.21 14 P **Pn** 03 54 02.0 -2.3
comp=E,0.4nm,0.3s,baz=210,slow=10,SNR=1.7
KBZ Khabaz 17.58 55 P **P** 03 54 22.8 +1.4
comp=E,0.1nm,0.3s,baz=261,slow=7.3,SNR=6.7
GNI Garni 17.92 67 LR LR 04 02 43.3
comp=E,24nm,20.5s,baz=276,slow=42
HFS Hagfors 25.75 349 P **P** 03 55 43.9 -1.0
comp=E,1.2nm,0.4s,baz=39,slow=29,SNR=15
FINES FINESS Array B 26.41 3 P **P** 03 55 49.5 -1.4
comp=E,1.4nm,1.0s,baz=170,slow=14,SNR=4.7
NB2 NORSAR Subarra 27.02 347 P **P** 03 55 55.7 -0.7
comp=Z,0.2nm,0.4s,baz=156,slow=9.3
NOA NORSAR Array B 27.02 347 P **P** 03 55 55.6 -0.7
comp=Z,0.3nm,0.6s,baz=152,slow=9.6,SNR=4.5
NOA LR LR 04 08 47.2
comp=Z,8.0nm,19.8s,baz=50,slow=41
EKA Eskdalemuir Ar 27.07 326 P **P** 03 55 56.9 0.0
comp=Z,1.1nm,0.9s,baz=114,slow=8.8,SNR=2.1
TORD Torodi Ar. Bea 29.15 227 P **P** 03 56 18.0 +2.2
comp=Z,0.3nm,0.6s,baz=43,slow=11,SNR=4.3
ARCES ARCESS Array B 34.49 2 P **P** 03 57 01.1 -0.9
comp=Z,0.9nm,0.6s,baz=182,slow=7.0,SNR=6.3
KURBB Kurchatov Arra 42.52 51 P **P** 03 58 09.7 +0.2
comp=Z,1.1nm,0.5s,baz=273,slow=8.6,SNR=5.1
SPITS Spitsbergen Ar 43.25 358 P **P** 03 58 15.7 +0.6
comp=Z,4.9nm,1.0s,baz=141,slow=9.3,SNR=1.8
MKAR Makanchi Array 45.27 56 P **P** 03 58 32.4 +0.7
comp=Z,1.6nm,0.6s,baz=280,slow=7.1,SNR=28
ZALV Zalesovo Beam 46.30 46 P **P** 03 58 39.4 -0.3
comp=Z,1.2nm,0.3s,baz=270,slow=7.8,SNR=8.2
SONM Songino Array 60.87 50 P **P** 04 00 27.3 +0.8
comp=Z,0.2nm,0.3s,baz=282,slow=7.2,SNR=1.8
YKA Yellowknife Ar 76.93 341 P **P** 04 02 07.3 +1.7
comp=Z,0.4nm,0.6s,baz=33,slow=5.3,SNR=11

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*IDC **05** 03:54:51.2±2.0, 36.˚76N×141.˚39E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/66, mbtmp3.5/5, ML2.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.2/68, Error ellipse: s-maj=47.3km s-min=26.4km az=48.0*
*NIED **05** 03:54:54.1, 36.˚74N×141.˚24E, h32km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.74; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$0.80; $M_{r\theta}$0.65; $M_{\theta\phi}$0.49; $M_{\phi r}$0.05; Fault plane solution: $M_0$1.12000×10^{14} NP1: ϕ_s234.00000°, δ63.00000°, λ-54.00000°. NP2: ϕ_s356.00000°, δ44.00000°, λ-139.00000°.*
*JMA **05** 03:54:54.0, 36.˚74N×141.˚24E, h32km±1km, M3.6*
JMA Felt I J1.
ISC 05 03:54:53.5±2.0, **36.˚74N**±0.˚04×**141.˚26E**±0.˚09, **h15**km±11km, **n24**, σ**0.˚58**/22, **mb3.6**/4, **1C-6D**, **Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ONAJ Iwakimizuishiy 0.52 315 ⇓P **Pb** 03 55 04.3 0.0
ONAJ *e*S **Sb** 03 55 11.5 -0.1
JHO Hitachi 0.57 257 ⇑P **Pb** 03 55 05.0 -0.1
JHO *e*S **Sb** 03 55 12.9 -0.1
JFFD Fukushimafurud 0.66 302 ⇓P **Pg** 03 55 06.4 +0.1
JFFD *e*S **Sg** 03 55 15.3 +0.2
JHYU Hitachinakayam 0.67 234 ⇓P **Pg** 03 55 06.8 +0.3
JHYU S **Sb** 03 55 16.1 +0.1
JFK Kawauchi 0.70 334 ⇓P **Pg** 03 55 07.1 0.0
JFK S **Sg** 03 55 16.6 +0.3
JYT Yasato 1.00 240 P **Pb** 03 55 11.5 -0.9
JYT *e*S **Sb** 03 55 24.1 -1.3
JFT Otama 1.07 317 ⇓P **Pb** 03 55 13.5 -0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMM	Marumori	1.18	342	⇓P	Pn	03 55 14.7	-0.8
JMM				S	Sb	03 55 30.1	-0.7
JAG	Ashikaga	1.48	258	P	Pn	03 55 19.0	-0.7
MJAR	Matsushiro Arr	2.46	266	Pn	Pn	03 55 33.7	+0.6
	1.7nm,0.3s,baz=97,slow=10,SNR=14						
MJAR				Sn	Sb	03 56 07.2	-0.4
	1.5nm,0.3s,baz=332,slow=29,SNR=5.7						
KSRS	Korea Array	10.68	278	LR	LR	04 01 05.4	
	comp=Z,16nm,20.9s,baz=185,slow=35						
H11N2	WAKE ISLAND Hy	28.11	120	T	T	04 30 08.2	
	baz=313,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy	28.12	120	T	T	04 30 16.6	
	baz=313,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy	28.13	120	T	T	04 30 12.7	
	baz=313,slow=75,SNR=40						
H11S1	WAKE ISLAND Hy	28.81	122	T	T	04 31 03.2	
	baz=315,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	28.81	122	T	T	04 31 03.0	
	baz=315,slow=76,SNR=30						
H11S2	WAKE ISLAND Hy	28.82	122	T	T	04 31 05.4	
	baz=315,slow=76,SNR=27						
MKAR	Makanchi Array	44.17	302	P	P	04 03 01.8	+0.2
	0.3nm,0.5s,baz=88,slow=10,SNR=3.6						
KURBB	Kurchatov Arra	46.08	308	P	P	04 03 17.6	+0.9
	0.2nm,0.3s,baz=82,slow=7.6,SNR=4.1						
KURBB				LR	LR	04 25 08.5	
	comp=Z,45nm,18.3s,baz=195,slow=39						
WRA	Warramunga Arr	56.75	188	P	P	04 04 37.2	+0.3
	0.9nm,1.1s,baz=3.9,slow=7.6,SNR=6.6						
ASAR	Alice Springs	60.48	188	P	P	04 05 03.2	+0.3
	0.8nm,1.1s,baz=18,slow=13,SNR=2.0						
H03N2	Juan Fernandez	147.12	96	T	T	06 59 07.7	
	baz=291,slow=76,SNR=6.4						
H03N3	Juan Fernandez	147.13	96	T	T	06 59 10.1	
	baz=291,slow=76,SNR=6.5						
H03N1	Juan Fernandez	147.13	96	T	T	06 59 04.9	
	baz=291,slow=76,SNR=6.0						

*ATH **05** 03:57:43.7,35°.18N×22°.85E,h35km±5km,ML2.6/8,Error ellipse: s-maj=10.3km s-min=2.4km az=49.0*
*THE **05** 03:57:45.2,35°.17N×22°.97E,h10km±3km,ML2.2/3,Error ellipse: s-maj=3.8km s-min=1.0km az=81.0*
*HLW **05** 03:57:45.9,35°.18N×23°.34E,h25km±41km,Md3.4*
ISC 05 03:57:43.6±1.5,35°.12N±0°.05×22°.88E±0°.06,h26km±15km, n29,σ1^{s}24/34,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.67	80	P	Pn	03 57 57.5	+0.1
KNDR				S	Sn	03 58 07.0	0.0
KNDR				AML	AML	03 58 10.4	
	comp=E,2476μm,0.4s						
KNDR				AML	AML	03 58 15.3	
	comp=N,1438μm,0.5s						
KNDR	Palaiochora Ch	0.67	80	P	Pb	03 57 55.7	-0.9
KNDR				S	Sb	03 58 02.7	-2.8
	comp=N,332nm,0.5s						
ANKY	Antikythira Is	0.82	25	P	Pb	03 57 58.5	-0.7
ANKY				AML	AML	03 58 12.5	
	comp=E,662μm,0.4s						
ANKY				AML	AML	03 58 15.5	
	comp=N,642μm,0.4s						
ANKY	Antikythira Is	0.82	25	P	Pb	03 57 58.6	-0.6
RODP	Rodopos	0.84	58	P	Pn	03 58 00.2	+0.4
RODP				S	Sb	03 58 10.5	0.0
IMMV	Iera Moni Meta	0.96	69	P	Pb	03 58 02.2	+0.7
IMMV				AML	AML	03 58 25.0	
	comp=N,566μm,0.4s						
IMMV				AML	AML	03 58 27.7	
	comp=E,430μm,0.5s						
IMMV	Iera Moni Meta	0.96	69	P	Pb	03 58 02.3	+0.7
GVD	Gavdhos	1.03	105	P	Pb	03 58 03.6	+0.8
GVD				AML	AML	03 58 33.1	
	comp=E,382μm,0.5s						
GVD				AML	AML	03 58 33.7	
	comp=N,404μm,0.4s						
GVD	Gavdhos	1.03	105	P	Pb	03 58 03.5	+0.8
CHAN	Chania	1.03	67	P	Pb	03 58 03.4	+0.6
CHAN				AML	AML	03 58 23.9	
	comp=E,649μm,0.6s						
CHAN				AML	AML	03 58 25.6	
	comp=N,690μm,0.5s						
GVDS	Gavdos	1.03	105	P	Pb	03 58 03.2	+0.5
GVDS				S	Sb	03 58 16.4	+0.6
	comp=N,98nm,0.4s						
KTHR	Kythira	1.14	5	P	Pn	03 58 04.1	+0.2
KTHR				AML	AML	03 58 25.4	
	comp=E,1779μm,0.4s						
KTHR				AML	AML	03 58 30.7	
	comp=N,1162μm,0.4s						
KTHR	Kythira	1.14	5	P	Pb	03 58 04.5	-0.2
KTHR				S	Sb	03 58 21.2	+2.1
	comp=N,230nm,0.4s						
KTHA	Kythira Island	1.15	7	P	Pn	03 58 04.3	+0.3
KTHA				AML	AML	03 58 21.8	
	comp=E,775μm,0.7s						
KTHA				AML	AML	03 58 25.7	
	comp=N,222μm,0.4s						
KTHA	Kythira Island	1.15	7	P	Pb	03 58 04.7	0.0
SIVA	Sivas	1.59	93	P	Pb	03 58 11.8	-0.4
VLI	Veliai	1.60	2	P	Pn	03 58 11.1	+1.0
VLI	Veliai	1.60	2	P	Pb	03 58 11.7	-0.7
IDI	Anoyia	1.65	84	P	Pn	03 58 12.1	+1.1
IDI				AML	AML	03 58 48.7	
	comp=N,60μm,0.4s						
IDI				AML	AML	03 58 51.4	
	comp=E,96μm,0.5s						
PYL	PYLOS	2.00	333	P	Pb	03 58 18.0	-1.2
ITM	Ithomi	2.20	340	P	Pn	03 58 20.3	+1.9
KRND	KRANIDI	2.27	5	P	Pn	03 58 21.4	+2.0
THR5	Thira Island,	2.39	56	P	Pn	03 58 20.6	-0.4
THR6	Thira Island,	2.39	58	P	Pn	03 58 21.6	+0.5
KARP	Karpathos	3.52	82	P	Pn	03 58 37.4	+0.7
SLUM	Salum	4.11	151	P	Pn	03 58 46.5	+1.7
	baz=156						
SWA2		6.25	159	P	Pn	03 59 15.3	+1.1
	baz=162						
SWA2				S	Sn	04 00 21.3	-3.4
	baz=162						
RYAN	Fayoum	8.69	132	P	Pn	03 59 47.6	0.0
	baz=134						
HFRF	Wahat Farafira	9.21	148	P	Pn	03 59 55.3	+0.6
	baz=150						

TEH 05 04:07:59.6,30°.47N×57°.53E,h8km,ML4.1,Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.61	179	ePg	Pg	04 08 11.6	+0.1
CHMN				eSg	Sg	04 08 20.1	+0.6
TVBK	TV Kerman	0.82	234	ePg	Pb	04 08 16.1	-0.2
TVBK				e		04 08 33.7	
	comp=Z,64μm,0.4s						
KRBR	Kerman	0.82	234	ePn	Pb	04 08 16.2	-0.1
KHGB	Koh Gabri	0.91	264	ePg	Pg	04 08 17.0	-0.1
KHGB				eSg	Sg	04 08 28.7	-0.3
NGRK	Negar Kerman	1.07	220	ePg	Pb	04 08 20.5	-0.2
NGRK				eSg	Sb	04 08 35.0	0.0
NGRK				e		04 08 39.1	
	comp=Z,23μm,0.3s						
KBAM	BAM	1.56	149	ePn	Pb	04 08 28.3	-0.4
KBAM				e		04 08 54.3	
	comp=Z,39μm,0.2s						
BSRN	Basiran	2.02	42	ePn	Pb	04 08 36.1	-0.6
IKOO	Kooshah	2.32	33	ePn	Pn	04 08 39.1	+0.8
IKOO				e		04 09 19.3	
	comp=Z,26μm,0.4s						
NHDN	Nehbandan	2.36	66	ePn	Pn	04 08 40.3	+1.6
NHDN				e		04 09 16.8	
	comp=Z,40μm,0.3s						
KHNJ	Kahnooj	2.52	176	ePn	Pb	04 08 43.1	-2.0
ITEG	Tejag	2.63	23	ePn	Pn	04 08 43.4	+0.8
ITEG				e		04 09 32.9	
	comp=Z,10μm,0.5s						
TPRV	Parvadeh(Tabas	2.65	345	ePn	Pn	04 08 44.3	+1.6
TPRV				e		04 09 26.5	
	comp=Z,22μm,0.4s						
IMEH	Mehriz	2.66	291	ePn	Pn	04 08 44.9	+1.9
IMEH				e		04 09 23.9	
	comp=Z,7μm,0.6s						
ZHSF	Zahedan	2.95	106	ePn	Pn	04 08 48.1	+1.3
IDAH	Dahanechah	3.02	41	ePn	Pn	04 08 50.1	+2.2
IDAH				e		04 08 59.7	
	comp=Z,5μm,0.5s						
ZHDN	Zahedan	3.04	110	ePn	Pn	04 08 50.2	+2.0
IBND	Bandar-abas	3.13	196	e		04 09 59.7	
	comp=Z,6μm,1.0s						
TKDS	Koohdasht(Taba	3.15	354	ePn	Pn	04 08 51.0	+1.4
TKDS				e		04 09 47.9	
	comp=Z,8μm,0.9s						
YZKH	Yazd	3.15	308	ePn	Pn	04 08 51.7	+2.1
TABS	Tabas	3.19	354	ePn	Pn	04 08 51.9	+1.8
ICHK	Chekchek	3.20	304	ePn	Pn	04 08 52.5	+2.1
ICHK				e		04 09 50.3	
	comp=Z,4μm,0.6s						
AFRZ	Afriz	3.21	23	ePn	Pn	04 08 51.8	+1.4
IMON	Monand	3.27	33	ePn	Pn	04 08 53.1	+1.8
IMON				e		04 09 50.8	
	comp=Z,4μm,0.4s						
GENO	Geno	3.28	202	ePn	Pb	04 08 55.5	-2.7
GENO				e		04 09 45.6	
	comp=Z,3μm,0.5s						
TNSJ	Nastanj	3.57	348	ePn	Pn	04 08 56.5	+1.2
TNSJ				e		04 10 09.9	
	comp=Z,10μm,0.7s						
ISAD	Sadrabad	3.59	295	ePn	Pn	04 08 57.9	+2.1
ISAD				e		04 10 01.5	
	comp=Z,3μm,0.5s						
SHRT	Shahrakht	3.94	36	ePn	Pn	04 09 02.4	+2.0
ANAR	Anarak	4.22	311	ePn	Pn	04 09 06.4	+2.1
IZEF	Zefreh	5.04	300	ePn	Pn	04 09 18.0	+2.2
KLNJ	Kolanjah	5.13	277	ePn	Pn	04 09 19.8	+2.7
TBJM	Torbat-e-JAM	5.33	26	ePn	Pn	04 09 21.9	+2.2
SHRO	Shahrood	5.65	347	ePn	Pn	04 09 26.5	+2.6
KRSH	Karshahi	5.75	309	ePn	Pn	04 09 27.4	+2.1
IANJ	Anjilo	5.83	330	ePn	Pn	04 09 28.1	+1.5
SBZV	Sabzevar	5.90	1	ePn	Pn	04 09 29.6	+2.1
ISFB	Sefidab	5.91	312	e		04 11 27.4	
	comp=Z,395nm,0.6s						
IAKL	Akhelmad	6.20	9	ePn	Pn	04 09 32.6	+0.9
IKRD	Kardeh	6.50	14	ePn	Pn	04 09 38.2	+2.4
IFIR	Firoozkooh	6.53	323	ePn	Pn	04 09 38.3	+2.1
IGLO	Ghaloghah	6.76	334	ePn	Pn	04 09 42.1	+2.8
IGLO				e		04 11 49.6	
	comp=Z,1μm,1.0s						
KHMZ	Khomeyn	7.20	299	ePn	Pn	04 09 48.6	+3.3
MRVT	Maraveh tapeh	7.27	351	ePn	Pn	04 09 49.7	+3.6

*OSPL **05** 04:19:07.2±4.0,19°.96N×73°.17W,h0km±29km,ML2.8*
SSNC 05 04:19:05.2±1.7,20°.08N×72°.99W,h4km±13km,ML2.9, MW3.2,Haiti region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MASC	Masc	1.17	275	eP	Pg	04 19 26.1	-1.6
MASC				eS	Sg	04 19 41.2	-1.8
MASC				IAML		04 19 44.1	
	comp=N,370nm,0.2s						
MASC				IAML		04 19 45.0	
	comp=E,289nm,0.3s						
LGNH	Logne	1.60	167	eP	Pn	04 19 31.9	-2.3
LGNH				eS	Sn	04 19 50.9	-4.4
LGNH				IAML		04 19 53.5	
	comp=N,28nm,0.2s						
LGNH				IAML		04 19 55.0	
	comp=E,35nm,0.2s						
LGNH	Logne	1.60	167	iP	Pn	04 19 32.6	-1.6
PAPH	Port-au-Prince	1.68	157	iP	Pn	04 19 34.2	-1.1
PAPH				eS	Sn	04 19 54.8	-2.5
SDDR	Presa de Saban	1.94	124	iP	Pn	04 19 38.9	0.0
SDDR				eS	Sg	04 20 07.1	-0.4
SDDR				IAML		04 20 12.3	
	comp=Z,105nm,0.6s						
MOAC	Moa	1.94	288	eP	Pn	04 19 36.4	-2.5
MOAC				eS	Sn	04 20 00.2	-3.5
MOAC				IAML		04 20 06.4	
	comp=E,58nm,0.5s						
MOAC				IAML		04 20 10.1	
	comp=N,113nm,0.2s						
GTBY	Guantanamo Bay	2.00	266	eP	Pn	04 19 37.5	-2.3
GTBY				eS	Sn	04 20 00.7	-4.6
GTBY				IAML		04 20 05.5	
	comp=N,69nm,0.2s						
GTBY				IAML		04 20 05.7	
	comp=N,72nm,0.2s						
GTBY	Guantanamo Bay	2.00	266	iP	Pn	04 19 37.9	-1.9
GTBY				eS	Sn	04 20 02.0	-3.3
GTBY				IAML		04 20 05.4	
	comp=Z,29nm,0.2s						
LONE2	Loma La Sidra	2.08	136	iP	Pn	04 19 41.4	+0.4
SC01	Santiago de lo	2.23	107	iP	Pb	04 19 46.4	+0.4
SC01				eS	Sb	04 20 14.8	+0.9
SC01				IAML		04 20 18.3	
	comp=Z,85nm,0.6s						
GRTK	Grand Turk	2.25	50	iP	Pn	04 19 44.4	+1.3
GRTK				IAML		04 20 24.8	
	comp=Z,45nm,1.9s						
RCC	Rio Carpintero	2.55	269	eP	Pn	04 19 44.2	-3.1
RCC				eS	Sn	04 20 13.3	-5.4
RCC				IAML		04 20 19.1	
	comp=E,34nm,0.1s						
RCC				IAML		04 20 19.9	
	comp=N,36nm,0.2s						
LOBA2	Hotel Casa Bon	2.67	138	iP	Pb	04 19 52.7	-0.9
BANI	BANI	3.00	124	iP	Pb	04 19 56.9	-2.3
LMGC	Las Mercedes	3.78	270	eP	Pn	04 20 00.8	-3.4
LMGC				eS	Sn	04 20 42.7	-6.3
LMGC				IAML		04 20 50.9	
	comp=E,19nm,0.5s						
LMGC				IAML		04 20 54.2	
	comp=N,19nm,0.5s						
CCCC	Cccc	4.61	285	eP	Pn	04 20 07.2	-8.5
CCCC				eS	Sn	04 20 55.6	-14
CCCC				IAML		04 21 03.1	
	comp=N,4.1nm,0.4s						
CCCC				IAML		04 21 05.4	
	comp=E,3.9nm,0.3s						
MGV	Manicaragua	6.83	288	eP	Pn	04 20 33.1	-13
MGV				eS	Sn	04 21 39.6	-25
MGV				IAML		04 21 51.1	
	comp=N,1.7nm,0.2s						
MGV				IAML		04 21 52.8	
	comp=E,2.0nm,0.5s						

*NEIC **05** 04:33:24.6±0.7,37°.27N±0°.03×71°.75E±0°.10,h106km±5km, mb4.1/1,Error ellipse: s-maj=11.5km s-min=3.5km az=76.0*
*NNC **05** 04:33:25.7±4.5,37°.74N×71°.58E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=35.0km s-min=24.3km az=177.0*
ISC 05 04:33:22.6±0.8,37°.20N±0°.05×71°.86E±0°.06,h150km,n27, σ2^{s}08/32,3C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAR	Garm	2.17	326		Pn	04 33 58.6	-1.3
DRK	Karamyk	2.27	359		Pn	04 34 00.2	-1.0
CHGR	Chuyangaron	2.58	305	Pn	Pn	04 34 03.4	-1.5
BTK	Batken	2.97	344	Pn	Pn	04 34 10.5	+0.9
KBL	Kabul	3.50	222		Pn	04 34 18.0	+1.4
KBL					Sn	04 34 57.4	-1.1
NIL	Nilore	3.72	162		Pn	04 34 21.4	+2.1
AML	Almayashu	5.12	15	P	Pn	04 34 39.2	+1.2
	SNR=109						
UCH	Uchtor	5.42	21	P	Pn	04 34 43.8	+1.8
	SNR=7.6						
EKS2	Erkin-Say	5.65	15	P	Pn	04 34 46.0	+1.3
	SNR=6.7						
THN	Thein Dam	5.72	145	eP	Pn	04 34 47.7	+2.2
THN				eS	Sn	04 35 46.5	-3.9
AAK	Ala-Archa	5.79	20	P	Pn	04 34 34.9	-12
	SNR=5.9						
AAK	Ala-Archa	5.79	20	Pn	Pn	04 34 47.9	+1.2
KK31	Karatay Array	5.98	350	Pn	Pn	04 34 49.4	+0.4
KK31	Karatay Array	5.98	350	⇑P	Pn	04 34 49.3	+0.2
	5.8nm,0.5s,baz=183,slow=14,SNR=68						
KK31				⇓S	Sn	04 35 53.2	-3.5
	1.7nm,0.2s,baz=170,slow=20,SNR=7.7						
KKAR	Karatay Array	5.98	350	Pn	Pn	04 34 49.5	+0.5
KKAR	Karatay Array	5.98	350	Pn	Pn	04 34 49.6	+0.5
BOOM	Boomskoye usch	6.14	29	Pn	Pn	04 34 53.3	+1.9
CHMS	Chumysh	6.20	20	P	Pn	04 34 53.9	+1.9
	SNR=7.1						
USP	Ospenovka	6.38	18	P	Pn	04 34 55.7	+1.3
	SNR=8.6						
TKM2	Tokmak 2	6.39	25	⇑P	Pn	04 34 56.7	+2.1
	5.0nm,1.0s						
TKM2				⇓S	Sn	04 36 05.9	-0.8
	4.4nm,0.8s						
TARG	Taragay, Kyrgy	6.45	44	Pn	Pn	04 34 57.3	+1.7
BHK	Bhakra	6.89	146	eS	Sn	04 36 14.2	-4.4
SMLA	Simla	7.49	142	eP	Pn	04 35 09.1	-0.1
SMLA				eS	Sn	04 36 24.9	-7.9
SMLA				IAML		04 36 32.9	
	comp=N,53nm,0.2s						
SMLA				IAML		04 36 34.0	
	comp=E,64nm,0.3s						
AB31	Akbulak array	14.83	328	⇓P	P	04 36 47.6	+0.9
	comp=E,0.6nm,0.5s,baz=135,slow=12,SNR=22						
AB31				⇑S	Sn	04 39 25.6	-3.7
	comp=E,2.0nm,0.9s,baz=138,slow=22,SNR=2.6						
ABKAR	Akbulak array	14.83	328	Pn	Pn	04 36 44.4	-0.3
AKTO	Aktyubinsk	16.54	327	⇓P	P	04 37 08.9	+3.3
	comp=E,2.8nm,1.4s						
AKTO				⇓S	S	04 40 08.8	-0.5
	comp=E,3.1nm,1.4s						
GNI	Garni	21.35	286	P	P	04 38 01.3	+3.2
GNI				IAmb	IAmb	04 38 29.7	
	comp=Z,5.3nm,0.6s						

RSNC 05 04:35:02.8±1.5,4°.04N×76°.39W,h132km±6km,ML3.1, Mw3.7,3C-7D,Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOTC	Yotoco, Valle	0.07	141	⇑iP	Pn	04 35 20.4	-0.4
YOTC				eS	Sn	04 35 34.2	-0.2
YOTC				i		04 35 36.5	
	comp=Z,380nm,0.2s						
PLMC	San Jos del P	0.87	7	⇑iP	Pn	04 35 24.1	-0.7
PLMC				eS	Sn	04 35 41.5	0.0
PLMC				i		04 35 45.4	
	comp=Z,924nm,0.3s						
ANIL	Santa Ana	1.08	65	eP	Pn	04 35 26.2	-0.8
ANIL				eS	Sn	04 35 44.4	-0.8
ANIL				i		04 35 46.9	
	comp=Z,620nm,0.3s						
ORTC	Ortega, Tolima	1.15	96	⇓iP	Pn	04 35 27.0	-0.3
ORTC				eS	Sn	04 35 45.4	-0.5
ORTC				i		04 35 48.0	
	comp=Z,225nm,0.2s						
MARP	Paez Belalcaza	1.26	160	eP	Pn	04 35 29.0	+0.3
MARP				eS	Sn	04 35 48.7	+0.3
MARP				i		04 35 51.9	
	comp=Z,78nm,0.3s						
PIZC	Pizarro, Choco	1.34	314	eP	Pn	04 35 29.9	+0.7
PIZC				eS	Sn	04 35 49.9	+0.5
PIZC				i		04 35 53.0	
	comp=Z,188nm,0.3s						
POPC	Popayan, Colom	1.51	191	⇓iP	Pn	04 35 30.7	-0.7
POPC				eS	Sn	04 35 52.1	-1.1
POPC				i		04 35 53.9	
	comp=Z,121nm,0.5s						
GUY2C	Guyana, Caldas	1.56	41	⇑eP	Pn	04 35 31.9	-0.2
GUY2C				eS	Sn	04 35 53.8	-0.7
GUY2C				i		04 35 56.0	
	comp=Z,179nm,0.5s						
BETC	Betania	1.64	145	⇓iP	Pn	04 35 32.7	0.0
BETC				eS	Sn	04 35 55.2	-0.3
BETC				i		04 35 56.9	
	comp=Z,156nm,0.6s						
PCON	Cinco Dias	1.70	180	⇓iP	Pn	04 35 34.4	+0.6
PCON				eS	Sn	04 35 58.6	+1.1
PCON				i		04 36 00.4	
	comp=Z,162nm,0.8s						
CBOC	Ciudad Bolivar	1.85	12	eP	Pn	04 35 35.1	-0.2
CBOC				eS	Sn	04 36 00.3	+0.2
CBOC				i		04 36 03.8	
	comp=Z,89nm,0.2s						
SOTA	Rioblanco	1.90	187	⇓iP	Pn	04 35 36.2	0.0
SOTA				eS	Sn	04 36 02.0	+0.3
SOTA				i		04 36 10.8	
	comp=Z,103nm,0.8s						
GARC	Garzon, Huila	2.04	154	⇓eP	Pn	04 35 37.2	-0.4
GARC				i		04 36 05.2	
	comp=Z,95nm,0.2s						
GR1C	Gorgona, Isla	2.05	240	eP	Pn	04 35 36.2	-1.3
GR1C				eS	Sn	04 36 02.0	-2.0
GR1C				i		04 36 12.7	
	comp=Z,640nm,0.4s						
NORC	Norcasia	2.14	45	eP	Pn	04 35 38.4	-0.3
NORC				eS	Sn	04 36 05.4	-0.7
NORC				i		04 36 13.9	
	comp=Z,30nm,0.4s						
ROSC	El Rosal	2.21	69	eP	Pn	04 35 41.2	+1.4
ROSC				eS	Sn	04 36 11.0	+2.8
ROSC				i		04 36 13.9	
	comp=Z,42nm,0.4s						
HELC	Santa Helena	2.31	22	eP	Pn	04 35 40.7	-0.3
HELC				eS	Sn	04 36 10.2	-0.1
HELC				i		04 36 13.2	
	comp=Z,45nm,0.7s						
SOLC	Bahia Solano	2.40	335	eP	Pn	04 35 41.5	-0.3
SOLC				eS	Sn	04 36 11.0	-0.9
CRUC	La Cruz	2.52	193	eP	Pn	04 35 43.2	-0.4
CRUC				eS	Sn	04 36 12.8	-2.2
CRUC				i		04 36 18.1	
	comp=Z,42nm,0.2s						
SPBC	San Pablo de B	2.81	55	eP	Pn	04 35 47.5	+0.4
PTBC	PUERTO BERRIO,	3.14	38	eP	Pn	04 35 51.0	-0.4
PTBC				eS	Sn	04 36 26.9	-2.0
PTBC				i		04 36 29.3	
	comp=Z,25nm,0.6s						
MACC	Macarena, Meta	3.15	126	⇓iP	Pn	04 35 50.9	-0.6
CMBC	Cumbal	3.39	205	eP	Pn	04 35 54.8	-0.2
CMBC				i		04 36 46.0	
	comp=Z,1μm,0.3s						
ZARC	Zaragoza, Cauc	3.76	24	eP	Pn	04 36 00.1	+0.7
ZARC				eS	Sn	04 36 41.3	-2.0
ZARC				i		04 36 43.1	
	comp=Z,18nm,0.4s						
UREC	San Jos de Ur	3.79	13	eP	Pn	04 36 00.5	+0.6
UREC				eS	Sn	04 36 43.5	-0.6
UREC				i		04 36 45.5	
	comp=Z,14nm,0.3s						
MOTC	Monteria, Cord	4.77	9	eP	Pn	04 36 12.2	-0.6
MOTC				eS	Sn	04 37 05.6	-1.7
OCAC	Ocana	5.17	36	eP	Pn	04 36 02.2	-16
OCAC				eS	Sn	04 37 15.1	-2.2
OCAC				i		04 37 18.5	
	comp=Z,17nm,0.6s						

*ANF **05** 04:50:07.3±0.2,34°.34N×118°.64W,h10km,ML3.2/30, Error ellipse: s-maj=1.8km s-min=1.5km az=79.0*
*NEIC **05** 04:50:08.8±2.0,34°.34N±0°.03×118°.69W±0°.04,h18km±4km, Error ellipse: s-maj=4.9km s-min=3.3km az=51.0*
*PAS **05** 04:50:08.9±2.2,34°.36N±0°.03×118°.65W±0°.05,h10km±7km, ML3.1/197,ML2.9/80(NEIC),Error ellipse: s-maj=6.8km s-min=2.4km az=60.0*
ISC 05 04:50:08.2±0.9,34°.33N±0°.02×118°.67W±0°.02,h15km±7km, n70,σ0^{s}88/89,Southern California

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DECC	Green Verdugo	0.29	105	P	Pg	04 50 14.8	+0.4
	baz=293,SNR=142						
DECC				S	Sg	04 50 17.7	-0.8
	baz=293						
OSI	Osito Audit: C	0.29	351	P	Pg	04 50 14.2	-0.2
	baz=166,SNR=28						
OSI				S	Sg	04 50 18.3	-0.4
	baz=166						
PASC	Pasadena Art C	0.43	111		Pg	04 50 17.0	+0.1
PASC					Sg	04 50 23.4	+0.6
PASC	Pasadena Art C	0.43	111	IAML		04 50 24.0	
	comp=E,1μm,0.6s						
GVRC	Garvey Reservo	0.53	121		Pb	04 50 19.2	-0.1
FMP	Fort Macarthur	0.69	153	P	Pb	04 50 21.5	-0.4
	baz=336,SNR=8.6						
FMP				S	Sb	04 50 31.0	-0.3
	baz=336						
EDW2	Edwards Air Fo	0.79	45	P	Pb	04 50 22.3	-1.3
	baz=226,SNR=58						
EDW2				S	Sb	04 50 32.3	-1.8
	baz=226						
ARVC	Arvin	0.81	351	P	Pb	04 50 23.2	-0.8
	baz=169,SNR=82						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARVC				S	Sb	04 50 34.1	-0.7
	baz=169						
BFSC	Mount Baldy Ra	0.84	96	P	Pb	04 50 23.6	-1.1
	baz=279,SNR=101						
BFSC				S	Sb	04 50 35.5	-0.4
	baz=279						
BCW	Bitter Crk WRg	0.86	315		Pb	04 50 24.7	-0.3
BCW				Sg	Sb	04 50 36.2	-0.3
BCW				IAML		04 50 40.9	
	comp=N,538nm,0.9s						
SBC	Santa Barbara	0.87	278	P	Pb	04 50 25.1	+0.1
	baz=95						
SBC				S	Sn	04 50 37.6	-0.8
	baz=95						
CIS	Catalina Islan	0.95	167	P	Pb	04 50 26.0	-0.4
	baz=349,SNR=24						
CIS				S	Sb	04 50 39.4	+0.7
	baz=349						
CCAC	Calif City Air	0.98	33		Pb	04 50 26.0	-1.0
CCAC				Sg	Sb	04 50 38.9	-1.0
ELS	Elsinore Mount	1.24	123	Pn	Pn	04 50 30.1	-1.0
SNCC	San Nicolas Is	1.29	214		Pn	04 50 31.2	-0.5
SNCC	San Nicolas Is	1.29	214	P	Pn	04 50 31.3	-0.5
	baz=33,SNR=5.7						
SNCC				S	Sb	04 50 48.9	+0.3
	baz=33						
ISA	Isabella, Lake	1.34	7	Pn	Pn	04 50 31.9	-0.7
ISA				IAML		04 50 53.1	
	comp=E,138nm,0.5s						
ISA	Isabella, Lake	1.34	7	Pb	Pn	04 50 32.1	-0.4
	baz=186,SNR=39						
ISA				S	Sn	04 50 49.6	-0.6
	baz=186						
SCI2	San Clemente I	1.35	176	P	Pn	04 50 32.1	-0.4
	baz=356						
SCI2				Sg	Sg	04 50 53.0	+1.2
	baz=356						
LRMC	Laurel Mtn Rad	1.41	35	Pg	Pb	04 50 34.2	-0.1
	baz=216						
LRMC				S	Sn	04 50 51.1	-0.8
	baz=216						
MURC	Murrieta	1.43	120	P	Pn	04 50 32.6	-1.0
	baz=303,SNR=38						
MURC				Sb	Sn	04 50 52.6	+0.5
	baz=303						
BBRC	Big Bear Solar	1.45	92	Pg	Pn	04 50 34.8	+0.6
	baz=275,SNR=44						
BBRC				Sg	Sb	04 50 54.7	+1.2
	baz=275						
RRX	Edison Barstow	1.48	68	Pb	Pn	04 50 34.2	-0.3
	baz=250						
RRX				Sg	Sb	04 50 55.7	+1.5
	baz=250						
VES	Vestal, Richgr	1.55	347	P	Pn	04 50 34.8	-0.5
	baz=166,SNR=66						
VES				S	Sn	04 50 55.1	0.0
	baz=166						
GSC	Goldstone, Bar	1.82	57		Pn	04 50 38.6	-0.5
GSC				IAML		04 51 09.5	
	comp=N,124nm,0.6s						
GSC	Goldstone, Bar	1.82	57	Pg	Pb	04 50 42.2	+1.0
	baz=239						
PAGB	Antelope Grade	1.91	318		Pn	04 50 41.0	+0.7
PAGB				IAML		04 51 13.2	
	comp=E,80nm,0.7s						
PAGB				IAML		04 51 16.2	
	comp=N,81nm,0.6s						
109C	Camp Elliot, M	1.94	137	Pn	Pn	04 50 39.8	-0.9
109C				IAML		04 51 13.4	
	comp=E,100nm,0.4s						
109C				IAML		04 51 17.3	
	comp=N,93nm,0.3s						
109C	Camp Elliot, M	1.94	137	P	Pn	04 50 39.6	-1.1
	baz=319						
109C				S	Sn	04 51 04.5	-0.3
	baz=319						
PFO	Pinyon Flats O	1.97	111	Pn	Pn	04 50 41.5	+0.2
PFO	Pinyon Flats O	1.97	111	P	Pn	04 50 40.0	-1.2
	baz=293,SNR=13						
TPFO	Pinon Flats	1.98	111	P	Pn	04 50 40.3	-1.0
	baz=293,SNR=16						
MPMC	Manual Prospec	1.98	29	P	Pn	04 50 40.1	-1.3
	baz=210,SNR=53						
VOG	Valley Oaks Go	2.07	344	P	Pn	04 50 42.0	-0.5
	baz=163						
QSM	Queen of Sheba	2.20	42		Pn	04 50 43.8	-0.5
QSM				IAML		04 51 19.2	
	comp=E,98nm,0.8s						
BELC	Belle Mtn. Jos	2.24	98	P	Pn	04 50 44.7	-0.3
	baz=280						
BAR	Barrett	2.34	134		Pn	04 50 46.3	0.0
BAR				IAML		04 51 17.1	
	comp=N,54nm,0.2s						
BAR				IAML		04 51 17.2	
	comp=E,56nm,0.2s						
MONP2	Monument Peak	2.36	127	P	Pn	04 50 45.9	-0.7
	baz=309,SNR=9.2						
GWY	Greenwater Val	2.47	41	Pn	Pn	04 50 47.5	-0.6
GWY				IAML		04 51 28.9	
	comp=E,71nm,0.5s						
GWY				IAML		04 51 32.0	
	comp=N,62nm,1.0s						
SHOC	Shoshone, Teco	2.51	51	Pg	Pb	04 50 55.2	+2.1
	baz=232						
TUQ	Turquoise Moun	2.51	63	P	Pn	04 50 47.9	-0.8
	baz=245						
GMRC	Granite Mounta	2.53	79	P	Pn	04 50 48.2	-0.7
	baz=261,SNR=15						
PMPB	Monarch Peak	2.57	318		Pn	04 50 49.0	-0.4
PMPB				IAML		04 51 36.2	
	comp=E,63nm,2.4s						
CBX	Cerro Bola	2.62	140		Pn	04 50 50.0	-0.1
CBX				IAML		04 51 34.8	
	comp=N,44nm,0.6s						
CBX				IAML		04 51 35.9	
	comp=E,60nm,0.7s						
IKP	In-Ko-Pah, Jac	2.72	127	Pg	Pg	04 50 59.7	-0.7
	baz=310						
YUH	Yuha Desert	2.84	125	Pn	Pn	04 50 54.6	+1.5
GRAC	Grapevine Rang	2.87	21		Pn	04 50 54.5	+1.1
GRAC				IAML		04 51 43.7	
	comp=N,38nm,1.2s						
GRAC				IAML		04 51 51.3	
	comp=E,36nm,0.8s						
IRM	Iron Mountain	2.92	92	P	Pn	04 50 53.7	-0.5
	baz=275,SNR=19						
LCH	Last Change Ra	3.02	16	Pn	Pn	04 50 56.1	+0.5
TPNV	Topopah Spring	3.27	36	Pn	Pn	04 50 59.3	+0.1
TPNV				IAML		04 51 55.3	
	comp=E,35nm,0.9s						
TPNV				IAML		04 52 03.3	
	comp=E,26nm,0.9s						
TPNV	Topopah Spring	3.27	36	P	Pn	04 50 58.5	-0.7
	baz=218,SNR=6.7						
OMMB	Old Mammoth Mi	3.29	355		Pn	04 51 01.2	+1.7
OMMB				IAML		04 51 51.3	
	comp=E,26nm,1.0s						
OMMB				IAML		04 51 51.4	
	comp=N,27nm,1.0s						
MDPB	Devils Postpil	3.31	354		Pn	04 50 59.6	-0.2
MDPB				IAML		04 51 57.3	
	comp=N,22nm,0.8s						
BLYC	Blythe	3.49	98	Pn	Pn	04 51 01.7	-0.3
BLYC				IAML		04 52 06.9	
	comp=N,19nm,0.9s						
BLYC				IAML		04 52 07.9	
	comp=E,17nm,0.8s						
SHPR	Sheep Range	3.60	52		Pn	04 51 04.4	+0.7
LHV	Little Huntoon	3.92	2	Pn	Pn	04 51 09.3	+1.5
CMB	Columbia Colle	3.95	340		Pn	04 51 09.5	+1.1
W13A	Hualapai Mount	4.02	78	Pn	Pn	04 51 09.8	+0.3
W13A				IAML		04 52 18.8	
	comp=N,17nm,1.4s						
W13A				IAML		04 52 19.9	
	comp=E,11nm,0.6s						
S11A	Rachel	4.07	35	Pn	Pn	04 51 09.9	-0.3
NVAR	Mina Array Bea	4.10	4	Pn	Pn	04 51 11.7	+1.1
PRN	Pahroc Range	4.25	43	Pn	Pn	04 51 13.4	+0.8
PRN				IAML		04 52 30.6	
	comp=E,17nm,1.0s						
PRN				IAML		04 52 32.5	
	comp=N,16nm,0.9s						
RYN	Ryan	4.29	2	Pn	Pn	04 51 14.7	+1.5
RYN				IAML		04 52 33.3	
	comp=E,10nm,2.5s						
YERR	Yerington	4.67	355	Pn	Pn	04 51 20.4	+1.9
YERR				IAML		04 52 35.2	
	comp=N,11nm,4.2s						
Y14A	Wickenburg	4.71	93		Pn	04 51 19.2	+0.3
Y14A				IAML		04 52 47.8	
	comp=N,8.2nm,2.7s						
Y14A				IAML		04 53 04.6	
	comp=E,7.2nm,2.9s						
R11A	Troy Canyon, C	4.72	31	Pn	Pn	04 51 19.1	0.0
KVN	Kaiserville	4.74	5	Pn	Pn	04 51 20.1	+0.8
PNTR	Pine Nut	4.81	351	Pn	Pn	04 51 21.9	+1.5
LCMT	Little Creek M	5.17	57		Pn	04 51 26.2	+1.1
LCMT				IAML		04 52 56.7	
	comp=N,6.8nm,4.7s						
KNB	Kanab	5.46	59	Pn	Pn	04 51 30.4	+1.1
PSUT	Pine Spring	5.72	41	Pn	Pn	04 51 34.4	+1.6

*IDC **05** 04:54:44.0±1.3, 10°.06N×125°.87E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/47, mbtmp3.4/5, MS2.4/1, Ms1 2.6/1, ms1mx2.0/46, Error ellipse: s-maj=91.0km s-min=23.4km az=68.0*

*MAN **05** 04:54:50.5, 10°.09N×126°.11E, h19km, mb4.1, ML2.9, MS2.5, Hypocentre not reviewed by the ISC*

ISC 05 04:54:51.5±1.1**, 10°.10N**±0°.08×**126°.12E**±0°.08**, h54km, n14, σ1s.48**/14**, mb3.4**/5**, 2C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.70	243⇓	iP	Pn	04 55 03.8	-1.6
SCPH				iS	Sn	04 55 13.6	-2.0
BIPH	Bislig	1.92	173⇑	eP	Pn	04 55 22.2	+0.3
BIPH				eS	Sn	04 55 46.5	+1.7
CGP	Cagayan de Oro	2.16	221⇓	eP	Pn	04 55 25.7	+0.6
CGP				eS	Sn	04 55 52.0	+1.3
TBP	Tagbilaran	2.26	260	eP	Pn	04 55 27.4	+0.8
TBP				iS	Sn	04 55 55.4	+2.1
RCP	Roxas	3.62	294⇑	eP	Pn	04 55 46.5	+1.4
CMAR	Chiang Mai Arr	27.59	291	LR	LR	05 11 49.1	
	comp=Z,7.3nm,19.9s,baz=80,slow=38						
WRA	Warramunga Arr	30.93	165	P	P	05 01 02.3	-1.3
	0.3nm,0.7s,baz=344,slow=9.6,SNR=2.2						
ASAR	Alice Springs	34.41	167	P	P	05 01 34.0	+0.1
	0.2nm,0.4s,baz=347,slow=7.2,SNR=5.7						
H11N1	WAKE ISLAND Hy	40.45	71	T	T	05 45 38.6	
	baz=264,slow=74,SNR=9.6						
H11N2	WAKE ISLAND Hy	40.45	71	T	T	05 45 41.9	
	baz=264,slow=74,SNR=9.2						
H11N3	WAKE ISLAND Hy	40.47	71	T	T	05 45 48.9	
	baz=264,slow=74,SNR=9.6						
MKAR	Makanchi Array	52.07	323	P	P	05 03 55.0	-1.0
	0.4nm,0.6s,baz=127,slow=8.4,SNR=5.1						
KURBB	Kurchatov Arra	56.13	325	P	P	05 04 24.1	-1.4
	0.3nm,0.7s,baz=127,slow=6.7,SNR=4.6						
YKA	Yellowknife Ar	93.97	24	P	P	05 08 04.3	+0.9
	0.1nm,0.7s,baz=301,slow=4.9,SNR=2.5						

*NOU **05** 05:01:17.5, 14°.32S×166°.61E, h0km, MLv5.5/12, Vanuatu Islands*

*IDC **05** 05:01:20.8±3.3, 14°.51S×166°.56E, h49km±32km, mb4.1/19, mb1 4.2/21, mb1mx4.1/40, mbtmp4.3/21, ML3.1/2, MS4.0/24, Ms1 4.1/24, ms1mx3.7/61, Error ellipse: s-maj=19.1km s-min=17.2km az=17.0*

*NEIC **05** 05:01:20.5±2.1, 14°.33S±0°.09×166°.7E±0°.1, h41km±8km, mb4.7/35, Error ellipse: s-maj=15.6km s-min=12.8km az=70.0*

ISC 05 05:01:21.1±0.5**, 14°.40S**±0°.06×**166°.63E**±0°.09**, h50km, n99, σ1s.23**/75**, mb4.6**/33**, MS4.0**/25**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.18	152		Pn	05 01 39.4	-1.8
SANVU	Saraoutou	1.18	152	P	Pn	05 01 39.7	-1.5
DVP	Devils Point	3.62	156	P	Pn	05 02 18.1	+3.4
KOUNC	Koumac, New Ca	6.51	200		Pn	05 02 54.3	0.0
KOUNC	Koumac, New Ca	6.51	200	P	Pn	05 02 54.6	+0.3
YATNC	Mamie plateau,	7.62	178	P	Pn	05 03 11.3	+1.8
DZM	Mont Dzumac	7.63	181	P	Pn	05 03 08.9	-0.8
	2.5nm,0.3s,baz=12,slow=23,SNR=20						
DZM				S	Sn	05 04 31.8	-3.1
	1.6nm,0.3s,baz=312,slow=23,SNR=1.7						
DZM	Mont Dzumac	7.63	181	ePn	Pn	05 03 09.0	-0.8
	35nm,0.5s						
DZM				eSn	Sn	05 04 34.6	-0.3
	46nm,0.8s						
DZM				eLR	LR	05 04 58.6	
	comp=Z,1μm,23.1s						
DZM	Mont Dzumac	7.63	181		Pn	05 03 09.7	-0.1
DZM	Mont Dzumac	7.63	181	P	Pn	05 03 09.6	-0.1
NOUC	Port Laguerre	7.66	182	P	Pn	05 03 11.0	+0.9
ONTNC	Ouen Toro	7.86	181	Pn	Pn	05 03 13.8	+1.0
ONTNC	Ouen Toro	7.86	181	P	Pn	05 03 15.6	+2.7
OUENC	Ouen Island, N	7.97	179	Pn	Pn	05 03 15.8	+1.4
OUENC	Ouen Island, N	7.97	179	P	Pn	05 03 16.7	+2.3
PINNC	Pines Island,	8.20	175	Pn	Pn	05 03 17.7	+0.2
KRVT	Keravat (AS076	17.55	303	LR	LR	05 12 39.8	
	comp=Z,359nm,19.4s,baz=264,slow=39						
EIDS	Eidsvold	18.22	231	P	Pn	05 05 31.2	+0.7
PMG	Port Moresby	19.68	282	P	P	05 05 45.0	-1.3
	0.4nm,0.3s,baz=64,slow=4.6,SNR=1.7						
PMG				LR	LR	05 12 16.0	
	comp=Z,390nm,19.0s,baz=66,slow=33						
CTA	Charters Tower	20.26	251	P	P	05 05 51.4	-1.1
	8.8nm,1.0s,baz=86,slow=13,SNR=4.0						
CTA				LR	LR	05 12 59.9	
	comp=Z,408nm,19.0s,baz=84,slow=35						
CTAO	Charters Tower	20.26	251	P	P	05 05 52.4	-0.1
AFI	Afiamalu	20.94	91	P	Pn	05 06 01.2	-1.8
	10nm,0.3s,baz=271,slow=15,SNR=1.2						
AFI				LR	LR	05 12 17.5	
	comp=Z,316nm,18.7s,baz=268,slow=31						
AFI	Afiamalu	20.94	91	IAmb	IAmb	05 06 12.3	
	comp=Z,49nm,0.8s						
OUZ	Omahuta	21.66	164	P	P	05 06 08.4	+1.0
OUZ				IAmb	IAmb	05 06 16.9	
	comp=Z,44nm,1.2s						
URZ	Urewera	25.51	161	P	P	05 06 43.5	-1.3
	comp=Z,8.7nm,1.0s,baz=275,slow=5.5,SNR=3.2						
URZ				LR	LR	05 16 11.7	
	comp=Z,348nm,18.6s,baz=30,slow=35						
URZ	Urewera	25.51	161	IAmb	IAmb	05 06 53.8	
	comp=Z,28nm,1.0s						
BKZ	Black Stump Fm	26.15	162	P	P	05 06 51.7	+0.9
BKZ				IAmb	IAmb	05 07 08.6	
	comp=Z,18nm,0.9s						
STKA	Stephens Creek	28.74	228	P	P	05 07 13.3	-0.7
	comp=Z,2.4nm,0.9s,baz=100,slow=11,SNR=2.3						
STKA				LR	LR	05 18 50.7	
	comp=Z,727nm,18.6s,baz=48,slow=37						
STKA	Stephens Creek	28.74	228	IAmb	IAmb	05 07 22.9	
	comp=Z,1.1nm,0.8s						
RPZ	Rata Peaks	29.45	173	LR	LR	05 19 21.9	
	comp=Z,597nm,18.2s,baz=1.5,slow=37						
WR0	Warramunga Arr	31.12	255	P	P	05 07 34.8	-0.4
WB0	Warramunga Arr	31.24	256	P	P	05 07 35.7	-0.6
WB2	Warramunga Arr	31.30	255	P	P	05 07 35.5	-1.2
WB2				IAmb	IAmb	05 07 44.6	
	comp=Z,11nm,1.4s						
WRAB	Tennant Creek	31.30	255	P	P	05 07 34.7	-2.0
WRAB				IAmb	IAmb	05 07 57.8	
	comp=Z,13nm,1.5s						
WRA	Warramunga Arr	31.31	255	P	P	05 07 35.0	-1.8
	comp=Z,2.1nm,0.9s,baz=85,slow=9.1,SNR=13						
WRA				LR	LR	05 19 51.8	
	comp=Z,384nm,18.1s,baz=88,slow=36						
ASAR	Alice Springs	32.21	248	P	P	05 07 42.3	-2.5
	comp=Z,1.2nm,0.8s,baz=74,slow=9.8,SNR=4.3						
ASAR				LR	LR	05 20 16.8	
	comp=Z,302nm,18.4s,baz=126,slow=35						
RAR	Rarotonga	32.65	107	LR	LR	05 20 28.0	
	comp=Z,149nm,18.6s,baz=272,slow=35						
BBOO	Buckleboo	33.29	231	P	P	05 07 55.1	+1.0
BBOO				IAmb	IAmb	05 08 05.2	
	comp=Z,17nm,1.0s						
MTN	Manton Dam	34.52	268	P	P	05 08 06.7	+1.9
MTN				IAmb	IAmb	05 08 12.5	
	comp=Z,13nm,1.1s						
SIJI	Sorong	37.46	288	LR	LR	05 24 39.2	
	comp=Z,354nm,18.9s,baz=36,slow=37						
FITZ	Fitzroy Crossi	39.47	259	LR	LR	05 24 51.8	
	comp=Z,310nm,18.3s,baz=96,slow=36						
FITZ	Fitzroy Crossi	39.47	259	P	P	05 08 46.6	-0.3
SANI	Sanana	41.97	283	P	P	05 09 10.2	+2.6
	comp=Z,32nm,0.9s						
PPT2	Papeete2	42.15	100	eLR	LR	05 20 41.4	
	comp=Z,238nm,25.2s						
TBI	Tubuai	42.35	109	eLR	LR	05 20 44.7	
	comp=Z,299nm,28.0s						
GTOI	Gorontalo	45.68	285	P	P	05 09 38.8	+1.4
	comp=Z,6.3nm,1.0s						
KAPI	Kappang	47.06	277	P	P	05 09 48.0	-0.2
	comp=Z,9.7nm,0.3s,baz=85,slow=11,SNR=4.6						
KAPI				LR	LR	05 30 39.2	
	comp=Z,44nm,18.4s,baz=92,slow=37						
KAPI	Kappang	47.06	277	IAmb	IAmb	05 09 52.1	
	comp=Z,17nm,1.1s						
MPSI	Mapaga	48.50	284	P	P	05 09 59.1	-0.3
TAOE	Nuku Hiva Isla	52.33	90	eLR	LR	05 25 17.6	
	comp=Z,278nm,24.5s						
MJAR	Matsushiro Arr	57.33	333	P	P	05 11 04.5	+0.3
	comp=Z,1.6nm,0.4s,baz=196,slow=3.9,SNR=4.9						
MJAR	Matsushiro Arr	57.33	333	IAmb	IAmb	05 11 14.2	
	comp=Z,9.9nm,1.4s						
LEM	Lembang	58.36	271	LR	LR	05 37 09.2	
	comp=Z,85nm,18.0s,baz=132,slow=37						
JHS	Saijyo	58.53	328	P	P	05 11 12.2	-0.3
KSRS	Korea Array	63.12	326	P	P	05 11 43.4	-0.3
	comp=Z,0.6nm,0.4s,baz=145,slow=6.6,SNR=2.2						
VNDA	Vanda	63.17	181	P	P	05 11 42.8	-0.7
	comp=Z,2.0nm,0.9s,baz=9.4,slow=5.7,SNR=8.2						
VNDA	Vanda	63.17	181	P	P	05 11 44.6	+1.1
SHEM	Shemya Is, Ala	67.17	5	LR	LR	05 37 18.3	
	comp=Z,64nm,19.2s,baz=142,slow=32						
PETK	Petropavlovsk-	67.67	354	P	P	05 12 13.2	+0.4
	comp=Z,2.9nm,0.5s,baz=169,slow=10,SNR=6.5						
PSI	Prapat	69.20	279	P	P	05 12 23.4	+0.1
	comp=Z,1.9nm,0.5s,baz=143,slow=15,SNR=1.4						
KLR	Kul'dur	70.46	337	P	P	05 12 31.5	+1.3
	comp=Z,1.7nm,0.8s,baz=103,slow=10,SNR=4.4						
QSPA	South Pole Qui	75.62	180	P	P	05 13 02.1	+1.5
QSPA				IAmb	IAmb	05 13 13.1	
	comp=Z,14nm,1.2s						
KDAK	Kodiak Island	79.38	21	LR	LR	05 44 22.2	
	comp=Z,110nm,18.1s,baz=233,slow=32						
GAMB	Gambell	79.71	10	IAmb	IAmb	05 13 24.9	
	comp=Z,7.9nm,0.8s						
ANM	Nome	81.57	12	P	P	05 13 33.2	+0.2
ANM				IAmb	IAmb	05 13 35.5	
	comp=Z,6.8nm,1.0s						
SONM	Songino Array	81.87	324	P	P	05 13 35.4	+0.1
	comp=Z,0.2nm,0.4s,baz=101,slow=2.9,SNR=4.1						
BILL	Bilibino	82.22	360	P	P	05 13 36.4	0.0
BILL				IAmb	IAmb	05 13 38.3	
	comp=Z,18nm,1.3s						
YBH	Yreka Blue Hor	85.62	45	LR	LR	05 44 44.7	
	comp=Z,54nm,19.1s,baz=240,slow=30						
CCB	Clear Creek Bu	86.05	18	P	P	05 13 55.8	-0.1
CCB				IAmb	IAmb	05 13 57.2	
	comp=Z,5.6nm,0.8s						
COLA	College	86.20	18	P	P	05 13 55.7	-0.9
IL31		86.41	18	P	P	05 13 56.9	-0.8
IL31				IAmb	IAmb	05 13 59.2	
	comp=Z,6.4nm,0.8s						
ILAR	Eielson Array	86.41	18	P	P	05 13 56.8	-1.0
	comp=Z,5.3nm,0.7s,baz=237,slow=5.1,SNR=49						
ILAR				LR	LR	05 48 52.4	
	comp=Z,97nm,19.1s,baz=249,slow=33						
ILAR	Eielson Array	86.41	18	P	P	05 13 56.4	-1.4
J25K	Salcha River,	86.76	19	P	P	05 13 59.7	+0.2
SCRK	Sand Creek	86.77	20	P	P	05 13 59.7	+0.1
SCRK				IAmb	IAmb	05 14 02.0	
	comp=Z,5.6nm,0.9s						
BBB	Bella Bella	86.85	34	LR	LR	05 45 59.5	
	comp=Z,65nm,19.6s,baz=264,slow=31						
PFO	Pinyon Flats O	87.31	54	LR	LR	05 47 04.4	
	comp=Z,147nm,18.2s,baz=239,slow=31						
NVAR	Mina Array Bea	87.53	49	P	P	05 14 04.3	+0.2
	comp=Z,0.6nm,0.8s,baz=236,slow=7.4,SNR=2.4						
NVAR				LR	LR	05 46 38.5	
	comp=Z,191nm,19.3s,baz=263,slow=31						
NVAR	Mina Array Bea	87.53	49	P	P	05 14 03.0	-1.1
PALK	Pallekele	87.87	278	LR	LR	05 54 16.9	
	comp=Z,38nm,19.2s,baz=225,slow=36						
EGAK	Eagle	88.22	20	P	P	05 14 06.5	0.0
EGAK				IAmb	IAmb	05 14 10.3	
	comp=Z,2.9nm,0.8s						
ELK	Elko	90.53	48	LR	LR	05 49 25.7	
	comp=Z,96nm,18.5s,baz=264,slow=32						
F10A	Beach Ranch, E	90.88	43	P	P	05 14 17.0	-2.5
INK	Inuvik	92.78	19	LR	LR	05 50 40.0	
	comp=Z,89nm,19.2s,baz=186,slow=32						
TROLL	Troll, Antarti	93.13	185	P	P	05 14 30.6	+1.0
VNA3	Neumayer Olymp	94.53	181	P	P	05 14 36.7	+0.9
VNA2	Neumayer--Watz	94.78	182	P	P	05 14 38.3	+1.3
	baz=198,slow=2.0						
MK31	Makanchi Array	96.54	317	P	P	05 14 45.4	0.0
MK31				IAmb	IAmb	05 15 00.6	
	comp=Z,1.6nm,0.9s						
MKAR	Makanchi Array	96.54	317	P	P	05 14 46.1	+0.6
	comp=Z,0.9nm,0.7s,baz=99,slow=7.5,SNR=9.9						
ZALV	Zalesovo Beam	96.77	324	P	P	05 14 45.4	-0.8
	comp=Z,1.1nm,0.6s,baz=117,slow=6.1,SNR=6.5						
YKA	Yellowknife Ar	97.54	27	P	Pdif	05 14 48.9	-0.6
	comp=Z,1.0nm,0.8s,baz=254,slow=4.6,SNR=14						
H03S1	Juan Fernandez	101.36	129	T	T	07 10 13.7	
ARCES	ARCESS Array B	119.78	345	PKP	PKiKP	05 20 05.6	+0.3
	comp=Z,2.2nm,0.8s,baz=46,slow=5.2,SNR=5.7						
KLMR	Klimovskoe	120.12	333	ePKPdf	PKiKP	05 20 06.2	+0.1
KLMR				AMP		05 20 08.3	
	comp=Z,5.0nm,1.0s						
FINES	FINESS Array B	125.19	338	PKP	PKiKP	05 20 16.2	+0.1
	comp=Z,1.2nm,0.9s,baz=93,slow=5.6,SNR=4.6						
NB2	NORSAR Subarra	130.15	345	SKPb	SKPdf	05 24 08.1	+12
	comp=Z,3.0nm,1.0s,baz=38,slow=4.8						
NOA	NORSAR Array B	130.15	345	PKP	PKiKP	05 20 25.7	-0.4
	comp=Z,0.8nm,0.9s,baz=118,slow=19,SNR=3.1						
GERES	GERESS Array B	139.07	333	PKP	PKPdf	05 20 41.4	-1.0
	comp=Z,0.3nm,0.3s,baz=72,slow=4.4,SNR=1.5						
KEST	Kesra	150.57	320	PKPbc	PKPbc	05 21 07.0	-1.0
	comp=Z,4.6nm,0.7s,baz=354,slow=7.1,SNR=3.0						
KEST				PKPab	PKPab	05 21 13.9	-0.8
	comp=Z,7.2nm,0.7s,baz=63,slow=2.3,SNR=7.7						

*IDC **05** 05:04:51.4±6.1, 21°.22S×169°.41E, h46km±43km, mb3.9/5, mb1 4.1/6, mb1mx3.8/33, mbtmp4.1/6, ML3.7/1, Error ellipse: s-maj=92.0km s-min=38.3km az=148.0*

*NOU **05** 05:04:51.6, 20°.08S×168°.50E, h0km, MLv4.6/11, Loyalty Islands*

ISC 05 05:04:50.5±1.4**, 20°.1S**±0°.1×**168°.6E**±0°.2**, h10km, n16, σ2s.28**/16**, mb4.2**/5**, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	1.43	243	P	Pn	05 05 16.0	-0.5
RTV	Rentapao	2.34	356	P	Pn	05 05 30.8	+1.8
DVP	Devils Point	2.43	351	P	Pn	05 05 31.3	+1.1
YATNC	Mamie plateau,	2.50	220	P	Pn	05 05 31.6	+0.4
DZM	Mont Dzumac	2.79	226	P	Pn	05 05 36.3	+1.0
	10nm,0.3s,baz=115,slow=9.7,SNR=20						
DZM				S	Sn	05 06 08.1	-1.0
	20nm,0.3s,baz=338,slow=21,SNR=3.7						
DZM	Mont Dzumac	2.79	226	P	Pn	05 05 36.9	+1.6
OUENC	Ouen Island, N	2.81	216	P	Pn	05 05 38.0	+2.6
NOUC	Port Laguerre	2.91	227	P	Pn	05 05 38.9	+2.1
ONTNC	Ouen Toro	2.95	222	P	Pn	05 05 40.7	+3.3
CTA	Charters Tower	20.99	266	P	Pn	05 09 39.9	+3.1
	6.7nm,0.9s,baz=108,slow=9.6,SNR=3.5						
STKA	Stephens Creek	26.87	239	P	P	05 10 28.6	-2.9
	2.2nm,0.7s,baz=61,slow=10,SNR=2.5						
WRA	Warramunga Arr	32.16	264	P	P	05 11 19.9	+1.2
	2.4nm,0.8s,baz=92,slow=8.1,SNR=19						
ASAR	Alice Springs	32.34	257	P	P	05 11 22.2	+1.9
	3.5nm,0.6s,baz=81,slow=9.1,SNR=19						
SONM	Songino Array	87.58	323	P	P	05 17 41.1	+2.2
	1.3nm,0.9s,baz=131,slow=5.9,SNR=5.5						
ILAR	Eielson Array	91.26	17	P	P	05 17 54.0	-1.6
	0.8nm,1.1s,baz=231,slow=4.3,SNR=2.1						
NOA	NORSAR Array B	136.15	344	PKP	PKPdf	05 24 07.8	-4.0
	0.3nm,0.6s,baz=30,slow=4.2,SNR=4.4						

IDC 05 05:10:00.2±2.8**, 19°.43S×178°.72W, h0km, mb3.8**/3**, mb1 4.2**/3**, mb1mx3.7**/32**, mbtmp3.8**/3**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.6**/64**, Error ellipse: s-maj=284.2km s-min=35.5km az=160.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.12	257	LR	LR	05 17 57.2	
	comp=Z,272nm,19.1s,baz=28,slow=34						

WRA	Warramunga Arr	44.08	261	P	P	05 18 10.4	0.0
	0.5nm,0.3s,baz=96,slow=7.5,SNR=32						
ASAR	Alice Springs	44.11	256	P	P	05 18 10.4	-0.3
	1.9nm,0.6s,baz=95,slow=8.6,SNR=27						
TXAR	Lajitas Array	87.06	58	P	P	05 22 48.2	0.0
	0.4nm,1.0s,baz=224,slow=5.0,SNR=2.6						

*INET **05** 05:14:59.1±1.3, 9°.92N×84°.42W, h15km±8km, MW2.6*
*UPA **05** 05:15:00.0±0.7, 9°.87N×84°.47W, h36km±6km, MW4.0*
ISC 05 05:14:59.1±1.3**, 9°.89N**±0°.05×**84°.45W**±0°.04**, h26**km±14km**, n19,** σ**0s.65**/27**, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HDC	Heredia	0.34	72	eP	Pn	05 15 08.9	+0.3
HDC				eS	Sn	05 15 16.1	+1.3
HDC3	Heredia 3	0.35	72	eP	Pn	05 15 08.6	0.0
LAFE	Finca La Fe, P	0.47	259	eP	Pn	05 15 10.6	+0.5
RIMA	Rio Macho	0.59	102	eP	Pb	05 15 10.9	0.0
JTS	Las Juntas de	0.64	308	eP	Pb	05 15 11.9	+0.2
JTS				eS	Sn	05 15 21.9	0.0
JTS	Las Juntas de	0.64	308	eP	Pb	05 15 11.7	+0.1
CDM	Cerro de Muert	0.75	117	eP	Pb	05 15 13.3	-0.5
PEZE	Perez Zeledon,	0.91	124	eP	Pb	05 15 15.6	-0.7
PEZE				eS	Sb	05 15 28.7	+0.6
DUNO	Dulce Nombre,	1.05	280	eP	Pn	05 15 17.4	-0.8
ORTG	Ortega, Santa	1.10	295	eP	Pn	05 15 18.6	-0.4
DRK0	Durika	1.34	118	eP	Pn	05 15 22.3	0.0
DRK0				eS	Sn	05 15 39.8	+0.3
DRK0	Durika	1.34	118	eP	Pn	05 15 21.2	-1.1
HZTE	Horizontes, Gu	1.40	306	eP	Pn	05 15 23.0	+0.1
RIOS	Rincon, Osa	1.50	142	eP	Pn	05 15 25.0	+0.6
PIRO	Carate, Puerto	1.84	143	eP	Pb	05 15 31.5	-0.6
PIRO				eS	Sn	05 15 51.5	0.0
CNI2	El Empalme, Bo	2.00	103	eP	Pn	05 15 30.9	-0.4
CNI2				eS	Sn	05 15 54.3	-1.2
BRU2	Volcan	2.05	122	eP	Pn	05 15 32.4	+0.4
BRU2				eS	Sn	05 15 57.8	+0.9
ACON	Acoyapa	2.18	341	eP	Pn	05 15 32.9	-0.9
BCO2	Palmira	2.22	122	eP	Pn	05 15 34.8	+0.4
BCO2				eS	Sn	05 16 01.6	+0.4

IDC 05 05:15:47.5±4.8**, 20°.04S**×**168°.43E, h0**km**, mb4.4**/4**, mb1 4.5**/4**, mb1mx3.9**/38**, mbtmp4.4**/4**, ML3.1**/1**, MS3.3**/2**, Ms1 3.3**/2**, ms1mx2.6**/53**, Error ellipse: s-maj=104.6km s-min=34.3km az=117.0, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.74	222	Pn	Pn	05 16 32.2	-0.6
	2.9nm,0.3s,baz=43,slow=19,SNR=36						
DZM				Sn	Sn	05 17 05.8	-0.9
	9.8nm,0.3s,baz=39,slow=19,SNR=3.9						
AFI	Afiamalu	19.89	75	LR	LR	05 25 57.4	
	comp=Z,72nm,19.5s,baz=289,slow=31						
WRA	Warramunga Arr	32.00	264	P	P	05 22 15.2	-0.6
	0.7nm,0.6s,baz=91,slow=8.0,SNR=13						
WRA				LR	LR	05 33 50.8	
	comp=Z,52nm,19.4s,baz=92,slow=34						
ASAR	Alice Springs	32.20	257	P	P	05 22 17.6	+0.1
	3.6nm,0.7s,baz=83,slow=9.1,SNR=33						
FITZ	Fitzroy Crossi	40.41	265	P	P	05 23 28.5	+0.8
	3.6nm,0.7s,baz=126,slow=7.3,SNR=13						
SONM	Songino Array	87.40	323	P	P	05 28 36.4	-0.4
	4.7nm,0.4s,baz=116,slow=4.5,SNR=1.3						

JMA 05 05:24:35.5±0.2**, 28°.12N**×**129°.54E, h44**km±3km**, M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.30	11	P	Pn	05 24 43.7	-0.4
JAM				S	Sn	05 24 50.0	-0.1
JAMN	Amaminishikomi	0.34	291	P	Pn	05 24 44.7	+0.1
JAMN				S	Sn	05 24 51.8	+0.9
JZK	Kikaishima	0.43	63	P	Pn	05 24 45.5	0.0
JZK				S	Sn	05 24 54.7	+2.1
JTK	Tokunoshima	0.62	238	P	Pn	05 24 47.9	-0.1
JTK				S	Sn	05 24 57.9	+1.0
JTAJ	Takarajima	1.07	344	P	Pn	05 24 54.5	+0.4
JTAJ				S	Sn	05 25 09.4	+1.6
JOKE	Okinoerabujima	1.14	229	P	Pn	05 24 55.5	+0.4
JYRO	Yoronjima	1.46	222	P	Pn	05 24 59.4	0.0
JYRO				S	Sn	05 25 17.6	+0.3
JOW	Kunigami	1.71	222	P	Pn	05 25 02.7	-0.1
JOW				eS	Sn	05 25 24.0	+0.6
JNN	Nakanoshima	1.74	10	P	Pn	05 25 03.9	+0.6
JIH	Iheya	1.77	233	P	Pn	05 25 03.8	+0.2
JNTH	Nagotoyohara	2.09	221	P	Pn	05 25 08.0	0.0
JNTH				eS	Sn	05 25 33.1	+0.3
JYAK	Yakushimahirau	2.27	22	P	Pn	05 25 10.8	+0.2
JYAK				eS	Sn	05 25 38.3	+0.9
JAGN	Aguni-jima	2.55	234	P	Pn	05 25 14.7	+0.3
JMTN	Minamitane	2.56	27	P	Pn	05 25 15.1	+0.6
JMTN				eS	Sn	05 25 45.0	+0.5
JKDJ	Kitadaitoujima	2.67	144	eS	Sn	05 25 42.3	-4.8
JMZ	Minamidaito 2	2.74	146	P	Pn	05 25 14.6	-2.4
JTN	Tanegashima 3	2.82	26	P	Pn	05 25 18.8	+0.7
JTN				eS	Sn	05 25 52.2	+1.3
JKE	Kume jima 2	3.03	235	P	Pn	05 25 21.1	+0.1
JKE				eS	Sn	05 25 55.8	-0.3

*SFS **05** 05:31:22.0, 35°.69N×3°.61W, ML2.5, ALBORAN SUR*
*INMG **05** 05:31:22.6±1.5, 35°.64N×3°.60W, h10km±13km, ML2.2, Error ellipse: s-maj=8.6km s-min=4.7km az=101.0*
*MDD **05** 05:31:22.0±0.5, 35°.69N×3°.62W, h0km, mb_Lg2.5/15, Error ellipse: s-maj=4.6km s-min=3.0km az=17.0*
*CNRM **05** 05:31:22.9, 35°.69N×3°.54W, h24km, ml2.8*
ISC 05 05:31:22.0±1.1**, 35°.59N**±0°.03×**3°.55W**±0°.03**, h32**km±13km**, n32,** σ**1s.62**/59**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.49	221	P	Pn	05 31 33.4	+0.6
PALE				S	Sn	05 31 42.1	+1.8
EALB	Alboran	0.55	50	Pg	Pb	05 31 32.1	-1.1
EALB				Sg	Sn	05 31 40.6	-0.9
EALB				i Vmb_Lg		05 31 41.7	
EMEL	Melilla	0.56	121	Pg	Pn	05 31 33.8	+0.1
EMEL				Sg	Sn	05 31 42.9	+1.0
TAF	Taforalt	1.21	129	P	Pb	05 31 44.1	-0.3
TAF				S	Sb	05 32 04.5	+4.9
ELGU	Los Guajares,	1.28	357	Pg	Pn	05 31 42.2	-1.5
ELGU				Sg	Sn	05 31 58.3	-1.5
ELGU				i Vmb_Lg		05 32 01.5	
EMAL	Malaga-Limoner	1.37	329	P	Pn	05 31 44.1	-0.8
EMAL				S	Sn	05 32 00.5	-1.4
EMIJ	Mijas	1.39	315	Pg	Pn	05 31 44.1	-1.1
EMIJ				Sg	Sn	05 32 01.2	-1.3
EMIJ				i Vmb_Lg		05 32 02.4	
EBER	Berja	1.41	22	Pg	Pn	05 31 44.8	-0.8
EBER				Sg	Sn	05 32 02.6	-0.6
EBER				i Vmb_Lg		05 32 05.1	
JBK	JBK	1.49	147	P	Pb	05 31 48.2	-1.0
JBK				S	Sb	05 32 07.3	-0.4
CHEFC	Chefchaouen	1.54	252	P	Pb	05 31 49.4	-0.6
CHEFC				S	Sb	05 32 11.3	+2.2
EGOR	Sierra Gorda,	1.58	344	Pn	Pn	05 31 48.9	+0.9
EGOR				Sn	Sn	05 32 08.0	+0.6
EGOR				i Vmb_Lg		05 32 13.6	
LCRM	LCR	2.18	210	P	Pb	05 32 01.0	+0.1
LCRM				S	Sb	05 32 30.8	+3.2
EADA	Adamuz	2.70	343	Pn	Pn	05 32 04.3	+1.1
EADA				Sn	Sn	05 32 35.8	+1.0
EADA				i Vmb_Lg		05 32 41.9	
TDRA	Tendrara	2.84	153	P	Pb	05 32 11.3	-0.7
TDRA				S	Sb	05 32 42.3	-4.1
MD31	MD31	2.90	201	P	Pb	05 32 10.5	-2.5
MD31				S	Sb	05 32 44.6	-3.4
ECAB	El Cabril	2.90	329	Pn	Pn	05 32 06.7	+0.7
ECAB				Sn	Sn	05 32 41.4	+1.7
ECAB				i Vmb_Lg		05 32 49.9	
MDT	Midelt	2.90	198	P	Pb	05 32 11.3	-1.8
EMIN	Mina Concepcio	3.32	312	Pn	Pn	05 32 12.3	+0.5
EMIN				Sn	Sn	05 32 49.5	-0.6
EMIN				i Vmb_Lg		05 32 51.1	
ETOB	Tobarra	3.44	27	Pn	Pn	05 32 14.9	+1.5
ETOB				Sn	Sn	05 32 55.8	+2.6
ETOB				i Vmb_Lg		05 34 27.3	
PBAR	Barrancos	3.81	314	ePn	Pn	05 32 19.1	+0.7
PBAR				eSn	Sn	05 33 01.8	-0.2
PBAR				A	A	05 33 16.5	
	2.6nm,0.6s						
PVAQ	Vaqueiros	3.82	300	ePn	Pn	05 32 19.8	+1.3
PVAQ				eSn	Sn	05 33 02.0	-0.3
PVAQ				A	A	05 33 07.2	
	4.6nm,1.3s						
PVAQ	Vaqueiros	3.82	300	P	Pn	05 32 19.7	+1.2
PVAQ				S	Sn	05 33 01.4	-0.8
PBDV	Barranco-do-Ve	3.90	296	ePn	Pn	05 32 20.8	+1.1
PBDV				eSn	Sn	05 33 03.7	-0.7
PBDV				A	A	05 33 05.4	
	6.4nm,0.7s						
PAB	San Pablo	4.00	351	Pn	Pn	05 32 22.3	+1.1
PAB				Sn	Sn	05 33 07.1	+0.1
PAB				i Vmb_Lg		05 34 02.2	
EBAD	Badajoz	4.20	320	Pn	Pn	05 32 24.5	+0.7
EBAD				Sn	Sn	05 33 10.9	-0.8
EBAD				i Vmb_Lg		05 33 13.8	
PESTR	Estremoz	4.59	317	ePn	Pn	05 32 30.6	+1.4
PESTR				eSn	Sn	05 33 21.1	-0.4
PESTR				A	A	05 33 32.2	
	2.4nm,0.6s						
PESTR	Estremoz	4.59	317	P	Pn	05 32 30.5	+1.3
EVO	Evora	4.62	311	ePn	Pn	05 32 31.4	+1.8
EVO				eSn	Sn	05 33 21.3	-0.9
EVO				A	A	05 33 35.6	
	2.6nm,0.4s						
PNCL	Nicolau / Gran	4.72	304	ePn	Pn	05 32 32.4	+1.5
PNCL				eSn	Sn	05 33 23.8	-0.8
PMTG	Montargil	5.09	314	ePn	Pn	05 32 37.9	+1.8
PSBE	So Bento	5.72	315	ePn	Pn	05 32 47.2	+2.5
MVO	Moncorvo	6.20	335	ePn	Pn	05 32 53.3	+2.0

*IDC **05** 05:35:07.5±0.9, 36°.36N×141°.34E, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.6/59, mbtmp3.7/10, ML3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.5/84, Error ellipse: s-maj=22.4km s-min=17.4km az=94.0*
*JMA **05** 05:35:13.0±0.1, 36°.41N×141°.09E, h45km±2km, M3.3*
ISC 05 05:35:11.5±1.7**, 36°.39N**±0°.04×**141°.21E**±0°.07**, h24**km±12km**, n27,** σ**1s.12**/29**, mb3.6**/7**, 5C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.50	264	⇑P	Pn	05 35 23.0	-0.1
JHYU				S	Sn	05 35 29.9	-1.1
JHO	Hitachi	0.56	293	⇑P	Pb	05 35 23.4	+0.7
JHO				S	Sb	05 35 30.6	+0.3
JIHU	Itakohorinouch	0.69	233	⇑P	Pn	05 35 26.4	+0.6
JIHU				S	Sn	05 35 35.9	+0.1
ONAJ	Iwakimizuishiy	0.78	335	⇓P	Pb	05 35 26.6	+0.1
ONAJ				S	Sb	05 35 36.0	-0.7
JYT	Yasato	0.83	259	⇑P	Pb	05 35 27.2	-0.1
JYT				S	Sb	05 35 36.9	-1.2
JSMT	Sammumatsuo	0.97	220	P	Pn	05 35 30.0	+0.5
JSMT				S	Sn	05 35 42.6	+0.1
JFK	Kawauchi	1.01	345	⇓P	Pn	05 35 29.8	-0.4
JFT	Otama	1.32	328	⇓P	Pn	05 35 35.4	+0.9
JFT				S	Sn	05 35 51.2	-0.2
JAG	Ashikaga	1.42	272	⇑P	Pn	05 35 35.5	-0.2
JAG				S	Sn	05 35 52.0	-1.6
MJAR	Matsushiro Arr	2.42	274	Pn	Pn	05 35 50.1	+0.6
	2.3nm,0.3s,baz=127,slow=13,SNR=48						
MJAR				Sn	Sn	05 36 19.7	+1.3
	2.1nm,0.3s,baz=329,slow=16,SNR=7.4						
JHJ	Hachijo jima 2	3.47	200	Pn	Pn	05 36 05.0	+1.0
	17nm,0.3s,baz=64,slow=22,SNR=2.1						
JHJ				Sn	Sn	05 36 47.2	+3.0
	9.7nm,0.3s,baz=76,slow=20,SNR=1.5						
JCJ	Chichijima	9.30	175	Pn	Pn	05 37 21.4	-2.8
	4.6nm,0.3s,baz=308,slow=14,SNR=2.6						
KLR	Kul'dur	14.57	335	LR	LR	05 44 35.4	
	comp=Z,48nm,18.6s,baz=305,slow=39						
H11N2	WAKE ISLAND Hy	27.97	119	T	T	06 10 24.7	
	baz=312,slow=75,SNR=19						
H11N1	WAKE ISLAND Hy	27.98	119	T	T	06 10 22.1	
	baz=312,slow=75,SNR=13						
H11N3	WAKE ISLAND Hy	27.99	119	T	T	06 10 22.9	
	baz=312,slow=75,SNR=15						
SONM	Songino Array	28.01	305	P	P	05 41 02.1	+1.5
	0.2nm,0.5s,baz=114,slow=9.8,SNR=2.0						
H11S1	WAKE ISLAND Hy	28.66	122	T	T	06 11 18.4	
	baz=314,slow=76,SNR=42						
H11S3	WAKE ISLAND Hy	28.66	122	T	T	06 11 17.0	
	baz=314,slow=76,SNR=27						
H11S2	WAKE ISLAND Hy	28.67	122	T	T	06 11 18.5	
	baz=314,slow=76,SNR=26						
ZALV	Zalesovo Beam	42.23	313	P	P	05 43 02.0	-0.4
	0.6nm,0.6s,baz=114,slow=3.6,SNR=2.5						
KURBB	Kurchatov Arra	46.27	308	P	P	05 43 34.9	+0.1
	0.3nm,0.4s,baz=85,slow=7.6,SNR=6.0						
ILAR	Eielson Array	50.13	32	P	P	05 44 04.0	-0.4
	0.9nm,0.7s,baz=270,slow=6.0,SNR=10						
WRA	Warramunga Arr	56.40	188	P	P	05 44 50.3	-0.7
	0.7nm,0.7s,baz=1.0,slow=7.4,SNR=10						
ASAR	Alice Springs	60.13	188	P	P	05 45 16.2	-0.7
	0.5nm,0.7s,baz=8.8,slow=6.1,SNR=4.9						
YKA	Yellowknife Ar	64.45	30	P	P	05 45 45.5	0.0
	0.2nm,0.7s,baz=299,slow=6.7,SNR=4.5						
BRTR	Keskin Array B	79.15	312	LR	LR	06 26 55.3	
	comp=Z,36nm,18.2s,baz=275,slow=39						

*IDC **05** 05:46:40.0±0.8, 14°.14S×166°.73E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/44, mbtmp3.8/11, ML3.5/1, MS3.5/9, Ms1 3.5/9, ms1mx3.0/60, Error ellipse: s-maj=33.7km s-min=19.6km az=128.0*
*NEIC **05** 05:46:44.7±2.4, 14°.06S±0°.07×166°.69E±0°.07, h25km±3km, mb4.4/5, Error ellipse: s-maj=10.7km s-min=9.1km az=123.0*
ISC 05 05:46:46.1±0.6**, 14°.13S**±0°.07×**166°.6E**±0°.1**, h43**km**, n32,** σ**1s.00**/27**, mb3.9**/11**, MS3.5**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.42	157	Pn	Pn	05 47 08.2	-1.3
SANVU				Sn	Sn	05 47 28.1	+1.1
KOUNC	Koumac, New Ca	6.76	199		Pn	05 48 22.3	-0.6
DZM	Mont Dzumac	7.90	181	Pn	Pn	05 48 37.5	-1.0
	0.7nm,0.3s,baz=54,slow=23,SNR=1.9						
DZM				Sn	Sn	05 50 05.4	-1.3
	baz=319,slow=19,SNR=1.5						
DZM				LR	LR	05 51 24.5	
	comp=Z,156nm,18.8s,baz=253,slow=36						
DZM	Mont Dzumac	7.90	181	Pn	Pn	05 48 38.6	+0.1
ONTNC	Ouen Toro	8.13	181	Pn	Pn	05 48 43.6	+2.0
OUENC	Ouen Island, N	8.24	179	Pn	Pn	05 48 44.5	+1.4
PINNC	Pines Island,	8.47	175	Pn	Pn	05 48 46.3	+0.1
CTA	Charters Tower	20.34	250	P	Pn	05 51 22.2	+0.9
	1.5nm,0.4s,baz=20,slow=17,SNR=8.7						
AFI	Afiamalu	20.96	92	LR	LR	05 57 27.6	
	comp=Z,63nm,20.7s,baz=272,slow=31						
MANU	Manus Island	22.50	301	P	P	05 51 41.0	-1.3
STKA	Stephens Creek	28.91	228	P	P	05 52 39.5	-1.7
	1.3nm,0.7s,baz=355,slow=12,SNR=2.0						
STKA				LR	LR	06 03 60.0	
	comp=Z,171nm,18.6s,baz=32,slow=36						
RPZ	Rata Peaks	29.72	174	LR	LR	06 04 27.5	
	comp=Z,72nm,18.0s,baz=316,slow=36						
WRA	Warramunga Arr	31.37	255	P	P	05 53 03.3	+0.2
	0.9nm,0.9s,baz=84,slow=9.5,SNR=4.7						
WRA				LR	LR	06 05 01.0	
	comp=Z,85nm,20.2s,baz=74,slow=35						
ASAR	Alice Springs	32.31	248	P	P	05 53 12.0	+0.7
	0.6nm,0.5s,baz=74,slow=9.4,SNR=13						
ASAR				LR	LR	06 05 55.6	
	comp=Z,83nm,18.8s,baz=104,slow=36						
FITZ	Fitzroy Crossi	39.51	259	P	P	05 54 15.0	+2.0
	0.7nm,0.8s,baz=108,slow=6.4,SNR=1.6						
FITZ				LR	LR	06 10 57.5	
	comp=Z,82nm,18.1s,baz=96,slow=37						
FITZ	Fitzroy Crossi	39.51	259	IAmb	IAmb	05 54 27.0	
	comp=Z,7.6nm,0.9s						
BATI	Baumata	42.13	270	LR	LR	06 12 25.2	
	comp=Z,131nm,18.7s,baz=274,slow=37						
UBPT	Khong Chiam	67.16	293	P	P	05 57 35.4	-0.7
UBPT				IAmb	IAmb	05 57 38.1	
	comp=Z,4.9nm,0.8s						
PETK	Petropavlovsk-	67.41	354	P	P	05 57 37.4	+0.4
	comp=Z,0.7nm,0.6s,baz=169,slow=8.7,SNR=1.2						
KDAK	Kodiak Island	79.13	21	LR	LR	06 27 49.9	
	comp=Z,45nm,21.5s,baz=164,slow=31						
SONM	Songino Array	81.65	324	P	P	05 59 00.1	+0.2
	comp=Z,0.9nm,1.0s,baz=142,slow=7.3,SNR=4.2						
SONM	Songino Array	81.65	324	IAmb	IAmb	05 59 03.4	
	comp=Z,3.0nm,1.3s						
ILAR	Eielson Array	86.16	18	P	P	05 59 21.9	-0.5
	comp=Z,0.5nm,0.6s,baz=243,slow=5.0,SNR=6.7						
NVAR	Mina Array Bea	87.36	49	P	P	05 59 29.5	+0.3
	comp=Z,0.1nm,0.3s,baz=221,slow=9.5,SNR=1.4						
MKAR	Makanchi Array	96.34	317	P	P	06 00 10.9	+0.5
	comp=Z,0.4nm,0.6s,baz=81,slow=3.6,SNR=4.1						
YKA	Yellowknife Ar	97.31	27	P	P	06 00 13.3	-1.0
	comp=Z,0.1nm,0.6s,baz=258,slow=4.9,SNR=1.7						
LPAZ	La Paz	118.04	117	PKP	PKiKP	06 05 30.8	+0.8
	comp=Z,0.5nm,0.5s,baz=270,slow=4.0,SNR=2.1						
ARCES	ARCESS Array B	119.52	345	PKP	PKiKP	06 05 31.2	+0.6
	comp=Z,0.5nm,0.3s,baz=70,slow=1.8,SNR=31						
FINES	FINESS Array B	124.94	338	PKP	PKiKP	06 05 41.7	+0.2
	comp=Z,1.1nm,0.9s,baz=108,slow=4.1,SNR=6.0						
NOA	NORSAR Array B	129.89	345	PKP	PKiKP	06 05 51.6	+0.2
	comp=Z,0.2nm,0.6s,baz=29,slow=2.4,SNR=2.0						
KEST	Kesra	150.35	321	PKPbc	PKiKP	06 06 34.0	-0.1
	comp=Z,3.1nm,0.8s,baz=23,slow=0.7,SNR=2.6						
TORD	Torodi Ar. Bea	165.32	268	PKP	PKPdf	06 06 46.8	-0.1
	comp=Z,0.3nm,0.6s,baz=100,slow=1.9,SNR=2.2						

IDC 05 05:49:57.8±3.4**, 54°.46N**×**86°.91E, h0**km**, mb1 2.9**/2**, mb1mx2.8**/64**, mbtmp2.9**/2**, ML2.7**/2**, Error ellipse: s-maj=31.0km s-min=19.0km az=54.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.33	248	i		05 58 10.0	
	baz=70,slow=328,SNR=2.7						
ZALV	Zalesovo Beam	1.33	248	Pg	Pg	05 50 21.4	-1.9
	1.0nm,0.3s,baz=68,slow=16,SNR=10						
ZALV				Lg	Lg	05 50 40.6	
	1.4nm,0.3s,baz=64,slow=26,SNR=6.8						
KURBB	Kurchatov Arra	6.39	236	Pn	Pn	05 51 33.7	+0.6
	0.1nm,0.3s,baz=54,slow=14,SNR=14						
MKAR	Makanchi Array	8.21	203	Pn	Pn	05 51 59.9	+1.7
	0.2nm,0.3s,baz=26,slow=13,SNR=1.5						

*BGR **05** 05:50:14.7±0.0, 39°.47N×32°.02W, h10km, mb4.7*
*IDC **05** 05:50:32.6±0.7, 40°.62N×29°.39W, h0km, mb3.9/20, mb1 4.0/21, mb1mx3.9/52, mbtmp3.9/21, ML3.8/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/37, Error ellipse: s-maj=18.7km s-min=14.7km az=178.0*
*NEIC **05** 05:50:34.2±1.6, 40°.44N±0°.10×29°.3W±0°.1, h10km±1km, mb4.6/34, Error ellipse: s-maj=17.4km s-min=15.1km az=226.0*
*SVSA **05** 05:50:35.6±1.5, 40°.61N×29°.29W, h5km, ML3.1(INMG), Error ellipse: s-maj=20.8km s-min=6.8km az=100.0*
ISC 05 05:50:34.4±1.1**, 40°.43N**±0°.06×**29°.35W**±0°.07**, h13**km±6km**, n105,** σ**1s.92**/98**, mb4.3**/38**, MS3.6**/9**, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRBC	Serra Branca	1.72	144	eP	Pn	05 51 02.4	-1.6
SRBC				A	A	05 51 31.0	
	233nm,0.3s						
PGRA	Graciosa	1.75	142	eP	Pn	05 51 02.5	-2.0
PGRA				A	A	05 51 28.8	
	117nm,0.4s						
PCED	Cedros	1.87	164	eP	Pn	05 51 05.8	-0.3
PCED				eS	Sn	05 51 28.2	-1.3
PCED				A	A	05 51 32.4	
	143nm,0.4s						
ROSA	Rosais	1.91	153	eP	Pn	05 51 05.4	-1.3
ROSA				A	A	05 51 36.0	
	163nm,0.3s						
ROSA	Rosais	1.91	153		Pn	05 51 05.7	-1.0
CALA	Caldeira	1.91	164	eP	Pn	05 51 06.4	-0.4
CALA				eS	Sn	05 51 29.2	-1.5
CALA				A	A	05 51 34.1	
	255nm,0.4s						
PFCBR	Castelo Branco	1.97	165	eP	Pn	05 51 07.4	0.0
PFCBR				eS	Sn	05 51 30.4	-1.5
PFCBR				A	A	05 51 35.6	
	66nm,0.4s						
PMAN	Manadas	2.04	151	eP	Pn	05 51 07.1	-1.4
PMAN				eS	Sn	05 51 32.9	-0.9
PMAN				A	A	05 51 36.3	
	75nm,0.2s						
PICO	Pico	2.06	159	eP	Pn	05 51 08.5	-0.2
PICO				eS	Sn	05 51 32.9	-1.3
PICO				A	A	05 51 37.3	
	102nm,0.2s						
PCAN	Candelaria	2.08	161	eP	Pn	05 51 08.5	-0.4
PCAN				eS	Sn	05 51 33.2	-1.5
PCAN				A	A	05 51 37.5	
	173nm,0.3s						
PPNO	Prainha do Nor	2.13	156	eP	Pn	05 51 09.5	-0.2
PID	Ribeirinha	2.20	154	eP	Pn	05 51 10.1	-0.6
PAGU	Agualva, Azore	2.36	134	eP	Pn	05 51 11.0	-1.8
ADH	Angra Heroismo	2.41	137	eP	Pn	05 51 11.7	-1.8
PSET	Sete Cidades	3.84	131	eP	Pn	05 51 32.2	-1.0
PDA	Ponta Delgada	3.93	132	eP	Pn	05 51 33.8	-0.6
CMLA	Cha da Macela	4.00	131	eP	Pn	05 51 34.3	-1.0
CMLA	Cha da Macela	4.00	131		Pn	05 51 34.0	-1.3
BART	Pico Bartolome	4.20	128	eP	Pn	05 51 37.0	-1.2
PSMA	Santa Maria	4.76	135	eP	Pn	05 51 45.4	-0.4
PSMN	Pico do Norte,	4.79	134	eP	Pn	05 51 45.8	-0.5
PCAS	Casmilo, Conde	15.93	85	eP	P	05 54 27.4	+5.6
PVIS	Viseu	16.31	82	eP	P	05 54 31.9	+5.8
MTE	Manteigas	16.61	83	eP	P	05 54 35.3	+5.9
PCBR	Castelo Branco	16.74	85	eP	P	05 54 36.6	+5.8
PCVE	Castro Verde	16.79	93	eP	P	05 54 42.1	+11
PMRV	Marv??o	16.88	86	eP	P	05 54 37.7	+5.4
MVO	Moncorvo	16.92	80	eP	P	05 54 38.8	+6.0
ESDC	Sonseca Array	19.44	84	P	Pn	05 55 02.5	+0.7
	0.1nm,0.3s,baz=191,slow=21,SNR=4.0						
ESDC	Sonseca Array	19.44	84	IAmb	IAmb	05 55 12.0	
	comp=Z,4.3nm,1.1s						
MDT	Midelt	21.22	103	P	P	05 55 22.1	+2.0
	comp=Z,4.1nm,0.9s,baz=175,slow=6.6,SNR=2.1						
EKA	Eskdalemuir Ar	22.85	41	P	P	05 55 36.5	-0.6
	comp=Z,1.9nm,0.8s,baz=241,slow=10,SNR=2.5						
ECH	Echery	27.05	61	P	P	05 56 15.9	-0.5
ECH				IAmb	IAmb	05 56 24.7	
	comp=Z,9.5nm,0.9s						
BFO	Black Forest	27.84	61	P	P	05 56 21.5	-2.0
BFO				IAmb	IAmb	05 56 32.8	
	comp=Z,11nm,1.1s						
SCHQ	Schefferville	28.67	313	LR	LR	06 07 23.0	
	comp=Z,160nm,18.1s,baz=84,slow=35						
SFJD	Kangerlussuaq	29.12	343	LR	LR	06 05 45.3	
	comp=Z,117nm,18.9s,baz=162,slow=32						
GRF	Grafenberg Arr	29.80	58	eP	P	05 56 40.8	0.0
	comp=Z,12nm,1.1s,baz=266,slow=8.8						
CLL	Collm	31.02	55	esP	sP	05 56 56.0	-0.4
CLL				LmH		06 08 00.0	
	comp=N,100nm,19.0s						
CLL				LmH		06 08 00.0	
	comp=E,100nm,19.3s						
CLL				LmV		06 08 00.0	
	comp=Z,100nm,19.4s						
KHC	Kasperske Hory	31.33	59	P	P	05 56 54.3	-0.1
KHC				IAmb	IAmb	05 56 59.8	
	comp=Z,4.2nm,0.9s						
KHC	Kasperske Hory	31.33	59	eP	P	05 56 58.9	+4.5
GERES	GERESS Array B	31.41	60	P	P	05 56 55.7	+0.5
	comp=Z,0.3nm,0.3s,baz=33,slow=13,SNR=2.2						
NRCA	Norcia	31.59	71	P	P	05 56 56.3	-0.5
NRCA				IAmb	IAmb	05 57 03.6	
	comp=Z,5.4nm,0.8s						
NOA	NORSAR Array B	32.16	36	P	P	05 57 00.9	-0.6
	comp=Z,0.5nm,0.8s,baz=265,slow=18,SNR=1.9						
FRB	Frobisher Bay	32.68	329	LR	LR	06 06 27.9	
	comp=Z,148nm,18.9s,baz=50,slow=29						
KRUC	Moravsky	33.18	59	eP	P	05 57 13.8	+3.2
VRAC	Vranov	33.30	59	eP	P	05 57 14.7	+3.1
KRLC	Kraliky	33.40	58	eP	P	05 57 17.4	+4.9
MORC	Moravsky Berou	33.90	58	eP	P	05 57 19.4	+2.5
KOVH	Kovagotottos	34.60	65	P	P	05 57 19.8	-3.2
OJC	Ojcow	35.34	57	P	P	05 57 28.0	-1.2
OJC				IAmb	IAmb	05 57 34.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,8.5nm,0.9s						
DIVS	Divibare	36.27	68	P	P	05 57 35.9	-1.5
DIVS				IAmb	IAmb	05 57 42.7	
	comp=Z,5.9nm,1.1s						
CRVS	Cervenica-Dubn	36.52	59	eP	P	05 57 44.3	+4.9
FNA	Florina	38.07	72	P	P	05 57 52.1	-0.6
TOA0	Torodi Ar. Sit	38.46	126	P	P	05 57 55.0	-1.1
TORD	Torodi Ar. Bea	38.46	126	P	P	05 57 56.9	+0.8
	comp=Z,4.7nm,1.1s,baz=315,slow=7.3,SNR=7.1						
TORD	Torodi Ar. Bea	38.46	126	P	P	05 57 54.1	-2.0
BURAR	Bucovina Array	39.19	61	P	P	05 58 00.7	-1.3
FINES	FINESS Array B	39.23	39	P	P	05 58 00.3	-1.7
	comp=Z,0.6nm,0.7s,baz=269,slow=11,SNR=1.5						
MLR	Muntele Rosu	40.11	64	P	P	05 58 10.9	+1.1
ARCES	ARCESS Array B	40.60	26	LR	LR	06 11 38.9	
	comp=Z,52nm,20.6s,baz=276,slow=31						
MDP	Montagnes des	40.93	217	LR	LR	06 12 27.7	
	comp=Z,50nm,19.4s,baz=54,slow=32						
AKASG	Malin Array Be	41.27	55	P	P	05 58 17.8	-1.3
	comp=Z,3.9nm,0.8s,baz=276,slow=8.2,SNR=7.4						
AKASG	Malin Array Be	41.27	55	IAmb	IAmb	05 58 23.6	
	comp=Z,3.4nm,1.4s						
AKBB	Malin Array Si	41.27	55	P	P	05 58 16.9	-2.2
AKBB				IAmb	IAmb	05 58 23.7	
	comp=Z,7.8nm,0.9s						
ALN	Alexandroupoli	41.42	71	P	P	05 58 20.3	-0.1
ALN				IAmb	IAmb	05 58 26.9	
	comp=Z,18nm,1.2s						
KLMR	Klimovskoe	45.73	40	eP	P	05 58 53.6	-1.4
KLMR				AMP		05 59 00.0	
	comp=Z,12nm,1.0s						
RCBR	Riachuelo	46.42	189	LR	LR	06 15 07.1	
	comp=Z,63nm,18.4s,baz=136,slow=32						
BRTR	Keskin Array B	47.27	69	P	P	05 59 07.7	+0.2
	comp=Z,1.8nm,0.9s,baz=272,slow=5.9,SNR=2.3						
BRTR	Keskin Array B	47.27	69	P	P	05 59 06.0	-1.5
MGMO	Mountain Grove	48.23	287	P	P	05 59 14.5	-0.4
MGMO				IAmb	IAmb	05 59 16.5	
	comp=Z,6.4nm,1.0s						
S39A	Bolivar	48.77	289	P	P	05 59 19.4	+0.4
S39A				IAmb	IAmb	05 59 28.8	
	comp=Z,6.8nm,0.8s						
U40A	Yellville	48.99	287	P	P	05 59 20.4	-0.2
U40A				IAmb	IAmb	05 59 25.8	
	comp=Z,6.3nm,0.9s						
KBZ	Khabaz	52.15	61	P	P	05 59 45.1	+0.7
	comp=Z,1.6nm,0.9s,baz=355,slow=6.9,SNR=3.8						
YKA	Yellowknife Ar	53.02	325	P	P	05 59 49.2	-1.4
	comp=Z,0.4nm,0.7s,baz=67,slow=7.4,SNR=8.9						
YKA				PcP	PcP	06 00 59.0	-0.1
	comp=Z,0.4nm,0.8s,baz=81,slow=4.0,SNR=3.9						
YKA				LR	LR	06 20 21.7	
	comp=Z,76nm,19.7s,baz=272,slow=34						
ARU	Arti	56.46	42	P	P	06 00 15.0	-0.6
PDAR	Pinedale Array	57.81	301	P	P	06 00 25.6	-0.2
	comp=Z,0.4nm,0.4s,baz=67,slow=9.3,SNR=2.3						
INK	Inuvik	57.98	335	P	P	06 00 24.4	-1.7
	comp=Z,1.0nm,0.8s,baz=52,slow=9.1,SNR=2.5						
BDFB	Brasilia	58.42	201	P	P	06 00 32.4	+2.5
	comp=Z,2.3nm,0.8s,baz=63,slow=15,SNR=2.0						
TXAR	Lajitas Array	60.33	285	P	P	06 00 43.1	-0.1
	comp=Z,0.6nm,0.6s,baz=68,slow=6.8,SNR=12						
TXAR	Lajitas Array	60.33	285	P	P	06 00 43.6	+0.4
TX31	Lajitas Ar. Si	60.33	285	P	P	06 00 43.1	0.0
TX32	Lajitas Array	60.33	285	P	P	06 00 42.9	-0.3
TX32				IAmb	IAmb	06 00 51.1	
	comp=Z,4.3nm,1.2s						
ABKAR	Akbulak array	60.39	49	P	P	06 00 43.5	+0.4
NRIK	Noril'sk	61.23	21	P	P	06 00 48.2	-0.3
	comp=Z,2.0nm,0.4s,baz=344,slow=5.6,SNR=5.5						
NRIK				LR	LR	06 27 11.2	
	comp=Z,34nm,18.4s,baz=160,slow=36						
NRIK	Noril'sk	61.23	21	P	P	06 00 48.6	0.0
J08A	Circle Bar Ran	63.23	305	P	P	06 01 03.1	+0.6
WVOR	Wild Horse Val	63.81	304	P	P	06 01 07.2	+0.8
WVOR				IAmb	IAmb	06 01 12.3	
	comp=Z,7.8nm,1.3s						
BRVK	Borovoye	64.03	41	P	P	06 01 07.2	-0.3
ILAR	Eielson Array	64.38	335	P	P	06 01 08.6	-1.1
	comp=Z,0.3nm,0.6s,baz=41,slow=6.3,SNR=4.5						
LPAZ	La Paz	66.95	221	P	P	06 01 28.9	+1.4
	comp=Z,1.1nm,0.9s,baz=35,slow=4.2,SNR=3.8						
LPAZ	La Paz	66.95	221	P	P	06 01 27.9	+0.4
LPAZ				IAmb	IAmb	06 01 36.6	
	comp=Z,4.3nm,1.2s						
TKX	Tecate	67.85	294	P	P	06 01 32.6	+0.1
KURK	Kurchatov	69.58	40	P	P	06 01 41.7	-1.2
KKAR	Karatay Array	69.88	50		P	06 01 44.1	-0.8
ZAA0	Zalesovo Array	70.35	35	P	P	06 01 47.0	-0.5
ZAA0				IAmb	IAmb	06 01 52.8	
	comp=Z,7.3nm,1.2s						
ZALV	Zalesovo Beam	70.35	35	P	P	06 01 46.9	-0.7
	comp=Z,2.2nm,0.8s,baz=302,slow=8.5,SNR=11						
GAR	Garm	72.25	54	P	P	06 01 59.9	+0.4
KMBO	Kilima Mbogo	73.12	106	P	P	06 02 04.0	-1.1
	comp=Z,6.2nm,0.2s,baz=330,slow=14,SNR=9.0						
MKAR	Makanchi Array	73.98	42	P	P	06 02 09.8	+0.3
	comp=Z,2.8nm,0.9s,baz=308,slow=7.1,SNR=10						
KSH	Kashi	75.33	50	P	P	06 02 18.9	+1.4
KSH				pP	pwP	06 02 23.8	+0.5
KSH				sP	PcP	06 02 27.9	-2.9
KSH				PcP	sP	06 02 31.8	+9.2
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SONM	Songino Array	83.75	28	P	P	06 03 01.8	-1.4
	comp=Z,1.1nm,0.9s,baz=313,slow=5.0,SNR=6.6						
SONM	Songino Array	83.75	28	IAmb	IAmb	06 03 08.3	
	comp=Z,3.8nm,1.2s						
SUR	Sutherland	86.02	139	LR	LR	06 38 44.7	
	comp=Z,30nm,18.6s,baz=321,slow=34						
GOMU	GeErMu	88.11	42	P	P	06 03 28.8	+3.5
GOMU				pP	sP	06 03 32.4	+2.0
GOMU				sP	pP	06 03 33.7	+4.7
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,40nm,3.7s						
ASAR	Alice Springs	158.14	45	PKPab	PKPab	06 11 04.8	-0.3
	comp=Z,0.7nm,0.8s,baz=326,slow=4.4,SNR=4.8						

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*BGR **05** 05:51:43.5±0.0, 40.39°N×30.92°W, h33km, mb4.8*

*IDC **05** 05:51:48.0±0.7, 40.69°N×29.43°W, h0km, mb4.0/21, mb1 4.2/22, mb1mx4.0/50, mbtmp4.0/22, ML4.1/1, MS3.8/7, Ms1 3.8/7, ms1mx3.3/38, Error ellipse: s-maj=19.2km s-min=14.2km az=174.0*

*NEIC **05** 05:51:49.3±1.7, 40.46°N±0.10×29.33°W±0.09, h10km±1km, mb4.7/46, Error ellipse: s-maj=16.8km s-min=10.6km az=194.0*

*SVSA **05** 05:51:50.6±1.5, 40.61°N×29.35°W, h5km, ML4.0(INMG), Error ellipse: s-maj=10.6km s-min=6.3km az=90.0*

ISC 05 05:51:49.5±1.1**, 40.46°N**±0.06×**29.31°W**±0.06**, h12**km±6km**, n128,** σ**1s35**/127**, mb4.5**/50**, MS3.7**/7**, 5D, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	Serra Branca	1.72	145	eP	Pn	05 52 17.9	-1.3
PGRA	Graciosa	1.75	144	eP	Pn	05 52 18.0	-1.7
PCED	Cedros	1.89	165	eP	Pn	05 52 21.3	-0.2
PCED				eS	Sn	05 52 43.5	-1.6
PCED				A	A	05 52 49.0	
	467nm,0.4s						
ROSA	Rosais	1.92	154	eP	Pn	05 52 20.9	-1.1
ROSA				A	A	05 52 52.7	
	314nm,0.3s						
ROSA	Rosais	1.92	154		Pn	05 52 20.8	-1.1
CALA	Caldeira	1.93	166	eP	Pn	05 52 22.0	-0.2
CALA				eS	Sn	05 52 44.4	-2.0
CALA				A	A	05 52 50.8	
	735nm,0.4s						
PFCBR	Castelo Branco	1.99	166	eP	Pn	05 52 23.0	+0.2
PFCBR				eS	Sn	05 52 46.1	-1.5
PFCBR				A	A	05 52 47.2	
	169nm,0.4s						
PMAN	Manadas	2.05	152	eP	Pn	05 52 22.6	-1.1
PMAN				eS	Sn	05 52 47.5	-1.7
PMAN				A	A	05 52 50.6	
	162nm,0.3s						
PICO	Pico	2.07	160	eP	Pn	05 52 23.7	-0.4
PICO				eS	Sn	05 52 48.0	-1.8
PICO				A	A	05 52 54.8	
	300nm,0.4s						
PCAN	Candelaria	2.09	162	eP	Pn	05 52 24.0	-0.3
PCAN				eS	Sn	05 52 48.5	-1.7
PCAN				A	A	05 52 52.9	
	467nm,0.4s						
PPNO	Prainha do Nor	2.14	157	eP	Pn	05 52 25.0	0.0
PID	Ribeirinha	2.21	155	eP	Pn	05 52 25.5	-0.5
PTOPO	Topo S. Jorge	2.25	147	eP	Pn	05 52 25.3	-1.2
PAGU	Agualva, Azore	2.35	135	eP	Pn	05 52 26.3	-1.6
PAGU				eS	Sn	05 52 54.7	-2.0
PAGU				A	A	05 52 59.8	
	176nm,0.2s						
ADH	Angra Heroismo	2.41	138	eP	Pn	05 52 27.3	-1.3
ADH				A	A	05 53 02.7	
PSET	Sete Cidades	3.83	132	eP	Pn	05 52 47.9	-0.4
PDA	Ponta Delgada	3.92	133	eP	Pn	05 52 49.0	-0.4
PDA				eS	Sn	05 53 32.4	-2.9
PDA				A	A	05 53 39.3	
	60nm,0.4s						
CMLA	Cha da Macela	3.99	131	eP	Pn	05 52 49.8	-0.6
CMLA				eS	Sn	05 53 34.2	-2.8
CMLA				A	A	05 53 40.5	
	153nm,0.4s						
CMLA	Cha da Macela	3.99	131	Pn	Pn	05 52 50.0	-0.4
BART	Pico Bartolome	4.19	128	eP	Pn	05 52 52.2	-1.0
PSMA	Santa Maria	4.76	135	eP	Pn	05 53 00.8	-0.1
PSMN	Pico do Norte,	4.79	135	eP	Pn	05 53 01.0	-0.3
COI	Coimbra	15.94	84	eP	Pn	05 55 34.8	+1.4
	158nm,1.3s						
COI	Coimbra	15.94	84		P	05 55 36.9	-0.2
PNCL	Nicolau / Gran	16.26	92	eP	P	05 55 39.7	-0.9
MORF	Marmelete	16.39	94	eP	Pn	05 55 40.8	+1.5
EVO	Evora	16.55	90	eP	Pn	05 55 41.9	+0.6
	44nm,1.6s						
PCBR	Castelo Branco	16.70	85	eP	Pn	05 55 43.6	+0.4
MVO	Moncorvo	16.88	80	eP	P	05 55 49.0	+1.4
	38nm,1.1s						
ESDC	Sonseca Array	19.40	84	P	Pn	05 56 16.5	+0.1
	0.1nm,0.3s,baz=289,slow=8.2,SNR=2.2						
ESDC				LR	LR	06 02 08.1	
	comp=Z,524nm,19.6s,baz=268,slow=32						
ESDC	Sonseca Array	19.40	84	P	P	05 56 14.9	-0.4
MDT	Midelt	21.20	103	P	P	05 56 37.1	+2.2
	8.0nm,0.8s,baz=268,slow=12,SNR=6.8						
EKA	Eskdalemuir Ar	22.81	41	P	P	05 56 51.5	-0.3
	2.5nm,0.8s,baz=242,slow=8.7,SNR=5.0						
BORG	Borgarnes	24.77	8	LR	LR	06 04 03.9	
	comp=Z,188nm,20.1s,baz=241,slow=30						
SNF	Seneffe	25.41	55	dP	P	05 57 16.7	+0.1
DOU	Dourbes	25.53	56	dpP	pP	05 57 21.2	+0.3
BMRD	Maredsous	25.68	56	dpP	pP	05 57 23.0	+0.8
BCLA	Clavier	26.03	56	dP	P	05 57 22.6	+0.3
	comp=Z,12nm,0.9s						
BSTI	Sart Tilman	26.23	56	dP	P	05 57 24.1	+0.1
ECH	Echery	27.01	61	P	P	05 57 34.0	+2.9
ECH				IAmb	IAmb	05 57 39.8	
	comp=Z,14nm,0.9s						
BATG	Bathurst New B	27.17	297	P	P	05 57 32.4	-0.1
TUE	Stuetta	28.48	65	P	P	05 57 46.8	+2.3
TUE				IAmb	IAmb	05 57 50.8	
	comp=Z,14nm,1.2s						
DAVOX	Davos/Dischmat	28.84	64	LR	LR	06 07 19.6	
	comp=Z,149nm,19.7s,baz=261,slow=32						
GRFO	Grafenberg	29.75	58	P	P	05 57 56.7	+1.1
GRF	Grafenberg Arr	29.76	58	eP	P	05 57 56.1	+0.5
	comp=Z,16nm,1.2s,baz=267,slow=8.8						
NKC	Novy Kostel	30.57	57	eP	P	05 58 07.4	+4.6
KEST	Kesra	30.61	86	LR	LR	06 09 09.2	
	comp=Z,284nm,19.1s,baz=248,slow=34						
CLL	Collm	30.98	55	esP	sP	05 58 11.0	0.0
CLL				ex	x	05 58 17.0	
CLL				eS	S	06 03 12.0	+1.4
KHC	Kasperske Hory	31.29	59	eP	P	05 58 14.1	+5.0
GERES	GERESS Array B	31.37	60	P	P	05 58 09.7	-0.2
	comp=Z,0.3nm,0.3s,baz=222,slow=1.3,SNR=1.8						
NRCA	Norcia	31.55	72	P	P	05 58 10.4	-1.1
NRCA				IAmb	IAmb	05 58 18.8	
	comp=Z,8.4nm,0.9s						
NOA	NORSAR Array B	32.12	36	P	P	05 58 16.0	-0.4
	comp=Z,1.4nm,1.0s,baz=246,slow=7.4,SNR=2.7						
KRUC	Moravsky	33.14	59	eP	P	05 58 26.9	+1.6
VRAC	Vranov	33.26	59	eP	P	05 58 28.8	+2.4
KRLC	Kraliky	33.36	58	eP	P	05 58 27.0	-0.3
MORC	Moravsky Berou	33.86	58	eP	P	05 58 36.2	+4.5
OJC	Ojcow	35.29	57	P	P	05 58 44.4	+0.4
DIVS	Divibare	36.22	68	P	P	05 58 52.0	-0.2
DIVS				IAmb	IAmb	05 58 57.9	
	comp=Z,7.8nm,1.0s						
CRVS	Cervenica-Dubn	36.48	59	eP	P	05 58 55.0	+0.8
FNA	Florina	38.03	72	P	P	05 59 09.9	+2.4
FNA				IAmb	IAmb	05 59 13.6	
	comp=Z,8.2nm,0.9s						
TOA0	Torodi Ar. Sit	38.45	126	P	P	05 59 11.7	+0.6
TORD	Torodi Ar. Bea	38.45	126	P	P	05 59 12.4	+1.2
	comp=Z,6.0nm,1.0s,baz=316,slow=7.4,SNR=7.6						
TORD	Torodi Ar. Bea	38.45	126	P	P	05 59 11.9	+0.7
BURAR	Bucovina Array	39.14	61	P	P	05 59 17.2	+0.3
FINES	FINESS Array B	39.18	39	P	P	05 59 16.1	-0.7
	comp=Z,1.3nm,0.7s,baz=242,slow=12,SNR=2.6						
NACGM	Naroch	39.33	49	eP	P	05 59 18.0	-0.1
MLR	Muntele Rosu	40.06	64	P	P	05 59 25.2	+0.7
AKASG	Malin Array Be	41.23	55	P	P	05 59 32.5	-1.4
	comp=Z,5.1nm,0.8s,baz=277,slow=8.2,SNR=5.9						
AKBB	Malin Array Si	41.23	55		P	05 59 33.5	-0.4
AKBB				IAmb	IAmb	05 59 38.9	
	comp=Z,9.7nm,0.9s						
TIRR	Tirgusor	42.02	65	P	P	05 59 43.0	+2.5
KLMR	Klimovskoe	45.69	40	eP	P	06 00 07.5	-2.3
KLMR				AMP		06 00 15.2	
	comp=Z,17nm,1.3s						
BR131	Keskin Array S	47.23	69	P	P	06 00 23.3	+0.9
BR131				IAmb	IAmb	06 00 28.7	
	comp=Z,6.8nm,0.8s						
BRTR	Keskin Array B	47.23	69	P	P	06 00 22.8	+0.4
	comp=Z,1.6nm,1.0s,baz=269,slow=14,SNR=2.4						
BRTR	Keskin Array B	47.23	69	P	P	06 00 21.6	-0.8
MGMO	Mountain Grove	48.25	287	P	P	06 00 30.3	+0.1
MGMO				IAmb	IAmb	06 00 33.2	
	comp=Z,7.6nm,0.9s						
S39A	Bolivar	48.80	289	P	P	06 00 33.4	-0.9
S39A				IAmb	IAmb	06 00 39.2	
	comp=Z,9.2nm,0.9s						
ECSD	EROS Data Cent	48.80	297	P	P	06 00 34.8	+0.4
ECSD				IAmb	IAmb	06 00 45.9	
	comp=Z,10nm,1.1s						
U40A	Yellville	49.01	287	P	P	06 00 35.9	-0.2
U40A				IAmb	IAmb	06 00 45.8	
	comp=Z,7.3nm,0.9s						
KBZ	Khabaz	52.10	61	P	P	06 01 00.5	+1.3
	comp=Z,4.7nm,1.0s,baz=331,slow=8.3,SNR=4.0						
EIL	Elat	52.65	80	LR	LR	06 23 46.0	
	comp=Z,120nm,21.3s,baz=240,slow=36						
ONI	Oni	52.93	62	P	P	06 01 05.5	+0.1
YKA	Yellowknife Ar	53.02	325	P	P	06 01 04.8	-1.0
	comp=Z,1.3nm,0.8s,baz=69,slow=7.0,SNR=8.3						
YKA				PcP	PcP	06 02 13.4	-0.7
	comp=Z,0.9nm,0.9s,baz=71,slow=4.2,SNR=4.9						
WHTX	Lake Whitney,	54.40	284	P	P	06 01 17.1	+0.8
K22A	Casper	55.88	300	P	P	06 01 25.1	-2.0
ARU	Arti	56.41	42		P	06 01 30.1	-0.3
Q24A	Divide	56.61	295	IAmb	IAmb	06 01 33.0	
	comp=Z,4.9nm,0.9s						
PDAR	Pinedale Array	57.83	301	P	P	06 01 39.2	-1.8
	comp=Z,0.7nm,0.7s,baz=60,slow=7.2,SNR=3.9						
INK	Inuvik	57.97	335	P	P	06 01 40.0	-1.2
	comp=Z,2.2nm,0.9s,baz=48,slow=9.9,SNR=4.9						
INK	Inuvik	57.97	335	IAmb	IAmb	06 01 46.3	
	comp=Z,4.1nm,1.1s						
BDFB	Brasilia	58.46	201	P	P	06 01 47.5	+2.2
	comp=Z,2.2nm,1.0s,baz=24,slow=13,SNR=2.3						
TXAR	Lajitas Array	60.35	285	P	P	06 01 57.9	-0.7
	comp=Z,1.3nm,0.7s,baz=63,slow=7.2,SNR=8.4						
TXAR	Lajitas Array	60.35	285	P	P	06 01 57.6	-0.9
TX31	Lajitas Ar. Si	60.35	285	P	P	06 01 58.0	-0.5
TX32	Lajitas Array	60.35	285	P	P	06 01 57.4	-1.1
NRIK	Noril'sk	61.19	21	P	P	06 02 04.0	+0.6
	comp=Z,4.2nm,0.8s,baz=305,slow=5.7,SNR=5.3						
NRIK	Noril'sk	61.19	21	P	P	06 02 03.6	+0.2
NRIK				IAmb	IAmb	06 02 05.7	
	comp=Z,9.0nm,1.1s						
CCUT	Cedar City	62.93	297	P	P	06 02 16.0	+0.1
J08A	Circle Bar Ran	63.24	305	P	P	06 02 18.1	+0.3
J08A				IAmb	IAmb	06 02 23.8	
	comp=Z,7.7nm,1.2s						
BRVK	Borovoye	63.98	41	P	P	06 02 21.8	-0.6
BRVK				IAmb	IAmb	06 02 23.7	
	comp=Z,6.1nm,0.9s						
ILAR	Eielson Array	64.37	335	P	P	06 02 23.4	-1.3
	comp=Z,0.7nm,0.7s,baz=41,slow=6.0,SNR=7.0						
KVN	Kaiserville	65.29	301	P	P	06 02 31.0	-0.4
KVN				IAmb	IAmb	06 02 51.0	
	comp=Z,4.4nm,1.0s						
NVAR	Mina Array Bea	65.76	301	P	P	06 02 33.0	-1.5
	comp=Z,0.1nm,0.4s,baz=32,slow=40,SNR=1.5						
LPAZ	La Paz	67.00	221	P	P	06 02 44.8	+1.9
	comp=Z,2.2nm,1.0s,baz=20,slow=5.2,SNR=4.8						
TIXI	Tiksi	67.13	7	P	P	06 02 42.1	-0.2
TIXI				IAmb	IAmb	06 02 43.8	
	comp=Z,6.2nm,0.8s						
KURK	Kurchatov	69.54	40	P	P	06 02 57.8	+0.1
KURK				IAmb	IAmb	06 02 58.6	
	comp=Z,8.0nm,1.0s						
KK31	Karatay Array	69.83	50	P	P	06 02 59.3	-0.5
KK31				IAmb	IAmb	06 03 00.9	
	comp=Z,2.8nm,0.8s						
KKAR	Karatay Array	69.83	50	P	P	06 02 59.7	-0.1
KKAR				IAmb	IAmb	06 03 00.9	
	comp=Z,2.8nm,0.8s						
ZAA0	Zalesovo Array	70.31	35	P	P	06 03 02.0	-0.5
ZAA0				IAmb	IAmb	06 03 03.3	
	comp=Z,7.8nm,1.3s						
ZALV	Zalesovo Beam	70.31	35	P	P	06 03 01.4	-1.0
	comp=Z,4.3nm,0.8s,baz=308,slow=7.3,SNR=12						
ZALV	Zalesovo Beam	70.31	35		P	06 03 01.7	-0.8
CPUP	Villa Florida	71.38	206	LR	LR	06 31 06.1	
	comp=Z,21nm,18.4s,baz=76,slow=33						
GAR	Garm	72.20	54	P	P	06 03 14.7	+0.3
AAK	Ala-Archa	72.43	49	P	P	06 03 16.3	+0.5
MAKZ	Makanchi	73.77	42	P	P	06 03 22.9	-0.6
MAKZ				IAmb	IAmb	06 03 29.2	
	comp=Z,11nm,1.4s						
MK31	Makanchi Array	73.94	42	P	P	06 03 23.9	-0.5
MKAR	Makanchi Array	73.94	42	P	P	06 03 24.4	-0.1
	comp=Z,3.2nm,0.8s,baz=317,slow=6.2,SNR=11						
MKAR	Makanchi Array	73.94	42		P	06 03 23.9	-0.5
KSH	Kashi	75.28	50	P	P	06 03 34.2	+1.7
KSH				pP	sP	06 03 38.9	+1.6
KSH				sP	PcP	06 03 43.1	-2.7
KSH				PcP	pP	06 03 46.9	+11
KSH				pmax	pmax		
	comp=Z,12nm,0.9s						
KSH				LR	LR		
	comp=N,300nm,15.5s						
KSH				LR	LR		
	comp=E,270nm,16.1s						
WMQ	Urumqi	78.74	41	eP	P	06 03 50.3	-1.5
WMQ				pmax	pmax		
	comp=Z,21nm,1.1s						
SONM	Songino Array	83.70	28	P	P	06 04 17.8	-0.3
	comp=Z,1.8nm,0.8s,baz=318,slow=3.9,SNR=8.7						
GTA	Gaotai	87.95	37	eP	P	06 04 43.9	+4.5
GTA				pP	sP	06 04 49.8	+5.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GOMU	GeErMu	88.06	42	P	P	06 04 30.7	-10
GOMU				pP	pP	06 04 33.9	-10
GOMU				sP	PcP	06 04 35.3	-6.7
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GOMU				pmax	pmax		
	comp=Z,73nm,5.6s						
PLCA	Paso Flores	89.09	210	LR	LR	06 43 28.7	
	comp=Z,31nm,19.6s,baz=117,slow=35						
HHC	Hu-ho-hao-te	91.60	29	eP	P	06 04 54.4	-2.0
HHC				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC				pmax	pmax		
	comp=Z,80nm,4.9s						
LZH	Lanzhou	92.50	36	eP	P	06 05 00.3	-0.4
LZH				pP	pP	06 05 03.0	-1.3
LZH				sP	sP	06 05 05.2	-0.4
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
PZH	PanZhiHua	99.33	43	P	Pdif	06 05 31.8	-0.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.6s						
WRA	Warramunga Arr	155.22	39	PKPab	PKPab	06 12 07.4	-0.3
	comp=Z,0.7nm,0.8s,baz=346,slow=3.8,SNR=5.6						
ASAR	Alice Springs	158.09	45	PKPab	PKPab	06 12 19.6	-0.4
	comp=Z,0.9nm,0.8s,baz=332,slow=4.2,SNR=6.0						

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*IDC **05** 05:52:18.9±2.1, 3.17°N×128.11°E, h127km±20km, mb3.7/17, mb1 3.8/19, mb1mx3.7/45, mbtmp4.1/19, Error ellipse: s-maj=21.0km s-min=10.5km az=83.0*

*NEIC **05** 05:52:18.2±2.2, 3.26°N±0.06×128.3°E±0.1, h114km±8km, mb4.4/16, Error ellipse: s-maj=17.4km s-min=7.3km az=71.0*

*DJA **05** 05:52:26.2±0.7, 3°N±5°×12°8E±°, h111km±7km, M4.5/13, mb4.6/8, mB4.9/6, MLv4.7/13, Mw(mB)4.2/6, MwMwp4.3/1, Mwp4.7/1*

ISC 05 05:52:21.0±0.5**, 3.11°N**±0.06×**128.15°E**±0.07**, h150**km**, n53,** σ**1s07**/49**, mb4.2**/22**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.45	199		Pn	05 53 03.8	+2.3
TNTI	Ternate	2.45	199	P	Pn	05 53 03.6	+2.1
SGSI	Sangihe	2.68	282	P	Pn	05 53 05.0	+0.7
KMSI	Cibinong	4.87	239	P	Pn	05 53 33.4	+0.8
SWI	Sorong	5.02	142	P	Pn	05 53 40.2	+5.5
	0.2nm898nm32nm,0.8s						
SIJI	Sorong	5.03	142	P	Pn	05 53 33.3	-1.6
	0.6nm,0.3s,baz=0.0,slow=19,SNR=1.4						
SIJI				S	Sn	05 54 33.4	+0.9
	2.8nm,0.3s,baz=223,slow=22,SNR=1.4						
SANI	Sanana	5.56	203	P	Pn	05 53 41.5	-0.4
	0.5nm3µm102nm,0.6s						
GTOI	Gorontalo	5.69	245	P	Pn	05 53 45.4	+1.8
	0.2nm592nm47nm,0.6s						
MRSI	Marisa	6.73	247	P	Pn	05 53 58.3	+0.8
	0.9nm2µm291nm,0.7s						
APSI	Ampana	7.63	239	P	Pn	05 54 11.0	+1.6
SPSI	Sidrap Palu	10.93	230	P	Pn	05 54 55.0	+1.7
	16nm,0.5s						
KAPI	Kappang	11.64	226	P	Pn	05 55 00.6	-2.1
	0.8nm,0.3s,baz=48,slow=15,SNR=1.4						
KAPI				S	Sn	05 57 10.0	-1.4
	2.2nm,0.3s,baz=203,slow=22,SNR=4.0						
BSSI	Bau Bau, Buton	11.96	220	P	P	05 55 11.0	-2.4
	12nm,0.5s						
SBUM	Sibu	15.92	268	P	P	05 55 57.7	+0.1
MTN	Manton Dam	16.12	169	Pn	P	05 55 58.4	-1.3
KSM	Kuching	17.90	265	P	Pn	05 56 21.4	+0.6
KSM				IAmb	IAmb	05 56 24.8	
	comp=Z,33nm,1.1s						
KNRA	Kununurra	18.68	178	P	Pn	05 56 29.9	+0.2
FITZ	Fitzroy Crossi	21.22	187	P	P	05 56 54.9	-0.1
	comp=Z,0.8nm,0.4s,baz=10,slow=9.0,SNR=8.0						
WB0	Warramunga Arr	23.55	165	P	P	05 57 18.1	+0.2
WB0				IAmb	IAmb	05 57 19.2	
	comp=Z,9.4nm,0.5s						
WRAB	Tennant Creek	23.70	165	P	P	05 57 19.5	+0.3
WRA	Warramunga Arr	23.70	165	P	P	05 57 18.9	-0.3
	comp=Z,4.5nm,0.3s,baz=343,slow=10,SNR=88						
WRA				PcP	PcP	06 01 00.4	+1.0
	comp=Z,0.8nm,1.1s,baz=357,slow=2.4,SNR=2.4						
WB2	Warramunga Arr	23.70	165	P	P	05 57 19.6	+0.3
WB2				IAmb	IAmb	05 57 58.6	
	comp=Z,36nm,1.9s						
WR0	Warramunga Arr	23.77	165	P	P	05 57 20.1	+0.2
WR0				IAmb	IAmb	05 57 21.5	
	comp=Z,6.2nm,0.5s						
ASAR	Alice Springs	27.20	168	P	P	05 57 51.4	+0.6
	comp=Z,0.5nm,0.4s,baz=353,slow=8.0,SNR=14						
ASAR				PcP	PcP	06 01 08.2	+0.8
	comp=Z,0.9nm,0.5s,baz=350,slow=2.0,SNR=9.2						
JNU	Nakatsue	29.97	5	P	P	05 58 13.9	-1.4
	comp=Z,8.5nm,1.1s,baz=100,slow=0.5,SNR=3.6						
KSRS	Korea Array	34.18	360	P	P	05 58 50.5	-1.4
	comp=Z,0.8nm,0.4s,baz=172,slow=9.1,SNR=2.0						
MJAR	Matsushiro Arr	34.54	14	P	P	05 58 53.4	-1.7
	comp=Z,1.2nm,0.3s,baz=288,slow=14,SNR=1.8						
STKA	Stephens Creek	37.07	161	P	P	05 59 17.7	+1.0
	comp=Z,2.2nm,0.3s,baz=346,slow=9.4,SNR=9.0						
STKA	Stephens Creek	37.07	161	IAmb	IAmb	06 00 12.1	
	comp=Z,8.2nm,1.9s						
H11S3	WAKE ISLAND Hy	40.69	65	T	T	06 43 38.8	
	baz=252,slow=75,SNR=9.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H11S2	WAKE ISLAND Hy	40.71	65	T	T	06 43 37.8	
	baz=252,slow=75,SNR=6.8						
H11S1	WAKE ISLAND Hy	40.71	65	T	T	06 43 43.6	
	baz=252,slow=75,SNR=5.5						
USRK	Ussuriysk Ar.	41.06	4	P	P	05 59 49.7	+0.1
	comp=Z,3.3nm,0.7s,baz=185,slow=8.7,SNR=3.4						
H11N1	WAKE ISLAND Hy	41.25	63	T	T	06 44 20.3	
	baz=250,slow=75,SNR=7.2						
H11N2	WAKE ISLAND Hy	41.26	63	T	T	06 44 19.4	
	baz=250,slow=75,SNR=3.4						
H11N3	WAKE ISLAND Hy	41.27	63	T	T	06 44 26.0	
	baz=250,slow=75,SNR=5.2						
KLR	Kul'dur	46.05	3	P	P	06 00 29.2	-0.3
	comp=Z,1.3nm,0.4s,baz=216,slow=9.1,SNR=6.7						
SONM	Songino Array	48.34	340	P	P	06 00 47.7	+0.2
	comp=Z,1.3nm,0.6s,baz=156,slow=9.1,SNR=8.5						
SONM				PcP	PcP	06 02 12.0	+0.2
	comp=Z,0.5nm,0.6s,baz=146,slow=3.4,SNR=3.9						
PETK	Petropavlovsk-	55.48	21	P	P	06 01 40.5	+0.5
	comp=Z,3.1nm,0.7s,baz=201,slow=12,SNR=5.9						
MK31	Makanchi Array	58.87	325		P	06 02 04.5	+0.5
MK31				IAmb	IAmb	06 03 30.1	
	comp=Z,3.9nm,1.0s						
MKAR	Makanchi Array	58.87	325	P	P	06 02 04.7	+0.6
	comp=Z,2.6nm,0.5s,baz=119,slow=8.2,SNR=23						
MKAR	Makanchi Array	58.87	325	P	P	06 02 04.4	+0.3
MAKZ	Makanchi	59.06	325		P	06 02 05.8	+0.5
ZALV	Zalesovo Beam	61.78	333	P	P	06 02 22.9	-0.7
	comp=Z,0.6nm,0.4s,baz=118,slow=5.6,SNR=1.7						
VNDA	Vanda	82.64	173	P	P	06 04 27.6	+0.7
	comp=Z,0.5nm,0.5s,baz=332,slow=5.9,SNR=2.7						
CAST	Castle Rocks	82.65	27	P	P	06 04 26.9	-0.5
H21K	Melozitna Rive	82.67	24	P	P	06 04 28.6	+1.2
H21K				IAmb	IAmb	06 04 29.7	
	comp=Z,5.4nm,0.9s						
MLY	Manley	83.44	25	IAmb	IAmb	06 04 33.2	
	comp=Z,5.1nm,0.9s						
ILAR	Eielson Array	85.05	25	P	P	06 04 38.6	-0.9
	comp=Z,0.3nm,0.4s,baz=251,slow=5.1,SNR=5.9						
BRTR	Keskin Array B	91.50	310	P	P	06 05 11.1	+0.1
	comp=Z,0.5nm,0.7s,baz=153,slow=12,SNR=1.8						
YKA	Yellowknife Ar	99.47	25	P	Pdif	06 05 46.6	+0.2
	comp=Z,0.2nm,0.4s,baz=296,slow=4.5,SNR=6.9						
TXAR	Lajitas Array	120.85	53	PKP	PKiKP	06 10 57.0	+0.6
	comp=Z,0.1nm,0.6s,baz=29,slow=2.9,SNR=2.1						
TORD	Torodi Ar. Bea	124.46	288	PKP	PKiKP	06 11 03.7	0.0
	comp=Z,0.6nm,0.8s,baz=80,slow=1.5,SNR=8.5						

*JMA **05** 07:00:32.7±0.4, 33°.54N×138°.40E, h317km±4km, M3.1*
*IDC **05** 07:00:37.2±0.8, 33°.60N×138°.22E, h300km±15km, mb3.0/6, mb1 3.1/7, mb1mx2.9/39, mbtmp3.7/7, Error ellipse: s-maj=50.5km s-min=14.7km az=62.0*
ISC 05 07:00:36.4±0.8**, 33°.71N**±0°.08×**138°.37E**±0°.08**, h300**km**, n29, σ1s.12**/33**, mb3.3**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.56	295	P	Pn	07 01 14.3	-0.6
TTO5	TONANKAI O.B.S	0.77	315	P	Pn	07 01 14.9	-0.7
TK04	Tokai 4	0.79	329	P	Pn	07 01 15.4	-0.3
TTO2	TONANKAI O.B.S	1.12	272	P	Pn	07 01 16.1	-0.9
HMMJ	Hamamatsu 2	1.26	335	P	Pn	07 01 17.2	-0.9
JHJ	Hachijo jima 2	1.32	116	P	Pn	07 01 17.8	-0.7
	4.9nm,0.3s,baz=36,slow=23,SNR=1.5						
JHJ				S	S	07 01 54.5	+2.5
	12nm,0.3s,baz=120,slow=19,SNR=1.7						
JIE	Ise	1.54	297	P	Pn	07 01 18.3	-1.5
JOD2	Odawara 2	1.66	21	P	Pn	07 01 20.2	-0.4
JOD2				S	S	07 01 57.0	+1.2
JNY	Yasuok	1.70	346	P	Pn	07 01 20.4	-0.5
JYN	Shimob	1.79	5	P	Pn	07 01 21.2	-0.4
JAO	Obara	1.80	330	P	Pn	07 01 21.0	-0.7
BSO4	Boso 4	2.07	51	*e*S	S	07 02 00.3	-0.9
BSO3	Boso 3	2.08	58	P	Pn	07 01 22.2	-1.3
BSO3				S	S	07 01 59.7	-1.3
JHU	Hanno	2.27	19	P	Pn	07 01 25.3	0.0
JTNC	Tanabenakahech	2.30	274	P	Pn	07 01 23.9	-1.8
JYTA	Yamagatataniai	2.31	325	P	Pn	07 01 24.6	-1.1
JRY	Ryogami san	2.34	11	P	Pn	07 01 26.1	+0.1
BSO1	Boso 1	2.36	66	P	Pn	07 01 24.4	-1.1
BSO1				*e*S	S	07 02 03.5	-1.3
MAT	Matsushiro	2.83	357	P	Pn	07 01 29.9	-0.6
JAG	Ashikaga	2.85	18	P	Pn	07 01 29.5	-1.2
JWT	Wachi	2.91	304	P	Pn	07 01 29.7	-1.5
JHO	Hitachi	3.41	31	P	Pn	07 01 34.9	-1.4
KSRS	Korea Array	9.29	297	P	Pn	07 02 45.2	-0.5
	baz=113,slow=13,SNR=5.4						
SONM	Songino Array	27.79	310	P	P	07 06 00.4	+2.0
	0.3nm,0.5s,baz=139,slow=9.2,SNR=2.9						
MKAR	Makanchi Array	43.86	305	P	P	07 08 14.1	+0.5
	0.6nm,0.4s,baz=85,slow=9.7,SNR=10						
FITZ	Fitzroy Crossi	52.93	195	P	P	07 09 21.3	-1.2
	2.0nm,1.0s,baz=28,slow=8.4,SNR=2.1						
WRA	Warramunga Arr	53.49	185	P	P	07 09 26.4	-0.2
	0.6nm,0.4s,baz=0.6,slow=7.7,SNR=25						
ASAR	Alice Springs	57.21	185	P	P	07 09 53.5	+0.6
	0.1nm,0.5s,baz=15,slow=11,SNR=4.3						
FINES	FINESS Array B	70.58	332	P	P	07 11 19.2	+0.2
	0.4nm,0.4s,baz=41,slow=7.4,SNR=2.2						

*TUL **05** 07:12:40.1±1.2, 36°.62N±0°.02×98°.22W±0°.02, h6km±7km, ML2.6, mb_Lg2.2/2(NEIC), Error ellipse: s-maj=2.9km s-min=1.2km az=144.0*
NEIC 05 07:12:40.0±1.4**, 36°.60N**±0°.02×**98°.18W**±0°.01**, h5**km±1km**, Error ellipse: s-maj=3.3km s-min=2.9km az=152.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.70	252	Pg	Pg	07 12 53.2	-0.2
T35A	Sooner Cattle	1.38	76	Pn	Pn	07 13 05.8	-0.2
FNO	Franklin	1.49	154	Pn	Pn	07 13 07.8	+0.3
W35A	Tecumseh	1.79	143	Pn	Pb	07 13 12.7	-0.7
R32A	Long Quarter,	1.86	347		Pn	07 13 13.3	+0.6
R32A				IAmb_Lg		07 13 40.1	
	comp=Z,8.7nm,0.8s						
X34A	Smith Ranch, M	2.02	172		Pb	07 13 16.7	-0.5
TUL1	Leonard	2.05	109		Pn	07 13 15.8	+0.6
X37A	Clayton	3.05	130	Pn	Pn	07 13 29.7	+0.8
AMTX	Amarillo	3.32	240		Pn	07 13 33.1	+0.3
HHAR	Hobbs	3.44	94	Pn	Pn	07 13 32.6	-1.6
W39A	Magazine	3.84	110		Pn	07 13 38.6	-1.1
S39A	Bolivar	4.03	73		Pn	07 13 42.2	-0.2
U40A	Yellville	4.30	92	Pn	Pn	07 13 46.7	+0.5
WHTX	Lake Whitney,	4.64	172	Pn	Pn	07 13 50.4	-0.4
P38A	Dawn	4.75	49	Pn	Pn	07 13 52.8	+0.5
MGMO	Mountain Grove	4.77	82	Pn	Pn	07 13 52.2	-0.4
X40A	Basin Creek Fa	4.84	114	Pn	Pn	07 13 53.8	+0.2
FCAR	Ozark Folk Cen	4.95	96	Pn	Pn	07 13 55.4	+0.3
WHAR	Wooly Hollow	4.96	104	Pn	Pn	07 13 55.5	+0.4
R40A	Maddies Statio	5.00	69	Pn	Pn	07 13 54.4	-1.3
T25A	Trinidad	5.02	278	Pn	Pn	07 13 55.1	-1.1
T25A				IAmb_Lg		07 15 25.3	
	comp=Z,7.7nm,1.1s						
P40A	Paris	5.65	57	Pn	Pn	07 14 02.7	-2.0
LCAR	Lake Charles	5.70	93	Pn	Pn	07 14 04.2	-1.2
CCM	Cathedral Cave	5.72	73	Pn	Pn	07 14 05.6	0.0
SDCO	Great Sand Dun	5.95	283	Pn	Pn	07 14 07.9	-1.2
ISCO	Idaho Springs	6.66	301	Pn	Pn	07 14 17.2	-1.7

*NEIC **05** 07:20:31.9±1.9, 0°.59N±0°.07×121°.67E±0°.07, h92km±7km, mb4.6/29, Error ellipse: s-maj=12.7km s-min=7.9km az=223.0*
*DJA **05** 07:20:32.9±0.3, 1°N±3°×12°2E±°, h73km±4km, M4.4/14, mb4.5/9, mB4.8/3, MLv4.4/14, Mw(mB)4.1/3*
*IDC **05** 07:20:32.4±5.5, 0°.56N×121°.77E, h101km±54km, mb3.9/7, mb1 4.1/9, mb1mx3.6/50, mbtmp4.3/9, MS3.7/3, Ms1 3.7/3, ms1mx2.7/71, Error ellipse: s-maj=56.6km s-min=14.5km az=64.0*
ISC 05 07:20:32.4±0.5**, 0°.63N**±0°.05×**121°.70E**±0°.05**, h100**km**, n82, σ1s.13**/79**, mb4.6**/22**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRSI	Marisa	0.29	122	P	Pn	07 20 45.1	-1.8
MRSI				S	Sn	07 20 55.1	-2.6
TOLI2	Tolitoli	1.03	297		Pn	07 20 51.4	-1.8
TOLI2	Tolitoli	1.03	297	P	Pn	07 20 51.8	-1.4
GTOI	Gorontalo	1.31	90	P	Pn	07 20 54.9	-1.4
APSI	Ampana	1.53	182	P	Pn	07 20 57.9	-1.2
MPSI	Mapaga	1.82	261	P	Pn	07 21 01.7	-1.0
LUWI	Luwuk	1.98	147		Pn	07 21 04.8	+0.1
LUWI	Luwuk	1.98	147	P	Pn	07 21 05.1	+0.4
LUWI	Luwuk	1.98	147	P	Pn	07 21 06.4	+1.7
KMSI	Cibinong	2.28	91	P	Pn	07 21 10.6	+2.0
TTSI	Tana Toraja	4.11	207	P	Pn	07 21 32.8	-0.2
SPSI	Sidrap Palu	4.96	203	P	Pn	07 21 45.0	+0.5
SANI	Sanana	5.05	122	P	Pn	07 21 45.3	-0.5
	0.4nm1µm28nm,0.6s						
BKB	Balikpapan	5.16	249	Pn	Pn	07 21 45.5	-1.8
BNSI	Bone	5.25	198	P	Pn	07 21 49.0	+0.5
	0.4nm2µm124nm,0.9s						
KAPI	Kappang	5.94	199	P	Pn	07 21 55.9	-1.9
	3.1nm,0.3s,baz=348,slow=11,SNR=10						
KAPI				S	Sn	07 23 04.8	+0.3
	1.3nm,0.3s,baz=36,slow=21,SNR=1.3						
KAPI	Kappang	5.94	199		Pn	07 21 56.9	-0.9
KAPI	Kappang	5.94	199	P	Pn	07 21 58.5	+0.7
BKSI	Bulukumba	6.12	195	P	Pn	07 22 00.4	+0.1
	0.1nm42nm,0.7s						
BBSI	Bau Bau	6.14	172	P	Pn	07 22 01.7	+1.1
	0.1nm12nm,0.9s						
KKM	Kota Kinabalu	7.67	315		Pn	07 22 21.0	-0.6
BATI	Baumata	10.94	170	LR	LR	07 27 19.3	
	comp=Z,90nm,22.0s,baz=326,slow=38						
FAKI	Fak Fak	11.12	109	Pn	Pn	07 23 05.8	-2.6
KPJI	Karang Pucung	14.99	238	P	Pn	07 24 00.3	+1.2
	53nm,1.1s						
MTN	Manton Dam	16.34	145	P	Pn	07 24 16.2	+0.3
MTN				IAmb	IAmb	07 24 19.1	
	comp=Z,20nm,0.6s						
MTN	Manton Dam	16.34	145	P	P	07 24 17.8	+0.8
KDU	Kakadu	17.01	141	P	P	07 24 25.1	+0.6
CGJI	Cibinong	17.52	245	P	Pn	07 24 31.7	+1.3
	comp=Z,26nm,0.8s						
KNRA	Kununurra	17.64	157	P	P	07 24 32.2	+0.7
KNRA				IAmb	IAmb	07 24 33.7	
	comp=Z,19nm,0.8s						
KNRA	Kununurra	17.64	157	P	Pn	07 24 33.0	+1.1
FITZ	Fitzroy Crossi	19.01	168	P	P	07 24 46.2	-0.3
	comp=Z,1.2nm,0.3s,baz=9.6,slow=7.8,SNR=40						
FITZ	Fitzroy Crossi	19.01	168	P	P	07 24 45.7	-0.8
FITZ				IAmb	IAmb	07 24 47.2	
	comp=Z,16nm,1.1s						
PSA00	Pilbara Seismi	22.14	185	P	P	07 25 18.8	-1.2
PSA00				IAmb	IAmb	07 25 20.2	
	comp=Z,14nm,0.8s						
PSA00	Pilbara Seismi	22.14	185	P	P	07 25 19.6	-0.5
PSA00				IAmb	IAmb	07 25 20.2	
	comp=Z,5.1nm,0.9s						
PSA00	Pilbara Seismi	22.14	185	P	P	07 25 19.7	-0.4
WB0	Warramunga Arr	23.79	149	P	P	07 25 34.8	-1.3
WRAB	Tennant Creek	23.91	149	P	P	07 25 35.8	-1.4
WRAB				IAmb	IAmb	07 25 37.3	
	comp=Z,27nm,0.7s						
WRAB	Tennant Creek	23.91	149	P	P	07 25 37.1	0.0
WRA	Warramunga Arr	23.91	149	P	P	07 25 35.5	-1.6
	comp=Z,36nm,0.7s,baz=324,slow=11,SNR=215						
WRA	Warramunga Arr	23.91	149	P	P	07 25 35.1	-2.0
WB2	Warramunga Arr	23.91	149	P	P	07 25 35.8	-1.4
WB2				IAmb	IAmb	07 25 37.4	
	comp=Z,30nm,0.7s						
WR0	Warramunga Arr	24.02	149	P	P	07 25 37.0	-1.2
GIRL	Giralia	24.25	197	P	P	07 25 39.3	-0.8
COEN	Coen	25.74	125	P	P	07 25 54.3	+0.4
COEN				IAmb	IAmb	07 26 18.2	
	comp=Z,19nm,1.4s						
AS31	Alice Springs	26.91	155	P	P	07 26 03.9	-0.4
ASAR	Alice Springs	26.91	155	P	P	07 26 03.5	-0.8
	comp=Z,3.2nm,0.6s,baz=340,slow=10,SNR=37						
ASAR	Alice Springs	26.91	155	P	P	07 26 03.0	-1.3
QIS	Mount Isa	27.40	141	P	P	07 26 08.7	0.0
FORT	Forrest	31.82	170	P	P	07 26 47.0	-0.6
MULG	Mulgathing	32.92	160	P	P	07 26 56.9	-0.4
INKA	Innaminka	33.62	149	P	P	07 27 03.3	-0.1
	comp=Z,101nm,0.4s						
QLP	Quilpie	34.70	143	P	P	07 27 13.0	+0.2
XAN	Xi'an	35.33	341	P	P	07 27 27.6	+9.5
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,69nm,4.0s						
BBOO	Buckleboo	35.92	159	P	P	07 27 20.9	-2.2
BBOO				IAmb	IAmb	07 27 22.5	
	comp=Z,11nm,1.0s						
STKA	Stephens Creek	37.42	152	P	P	07 27 35.3	-0.7
	comp=Z,10nm,0.8s,baz=328,slow=8.6,SNR=13						
STKA	Stephens Creek	37.42	152	P	P	07 27 35.7	-0.2
STKA	Stephens Creek	37.42	152	P	P	07 27 36.3	+0.4
	comp=Z,3.5nm,1.0s						
MJAR	Matsushiro Arr	38.87	21	LR	LR	07 46 42.1	
	comp=Z,9.1nm,18.1s,baz=180,slow=40						
CMSA	Cobar Meteorol	39.26	147	P	P	07 27 51.7	+0.4
	comp=Z,32nm,0.8s						
ARMA	Armidale	42.01	140	P	P	07 28 14.2	+0.1
ARMA				IAmb	IAmb	07 28 16.6	
	comp=Z,9.1nm,0.9s						
TOO	Toolangi	43.92	152	P	P	07 28 28.4	-0.9
TOO				IAmb	IAmb	07 28 31.7	
	comp=Z,22nm,1.3s						
CAN	Canberra	43.92	147	P	P	07 28 30.0	+0.6
USA0B	Ussuriysk Arra	44.34	11	P	P	07 28 31.8	-0.8
USA0B				IAmb	IAmb	07 28 42.2	
	comp=Z,11nm,0.8s						
USRK	Ussuriysk Ar.	44.34	11	P	P	07 28 32.6	+0.1
SONM	Songino Array	48.86	346	P	P	07 29 09.0	+1.0
	comp=Z,1.2nm,0.7s,baz=164,slow=8.8,SNR=9.8						
SONM	Songino Array	48.86	346	P	P	07 29 09.5	+1.5
KSH	Kashi	56.84	319	P	P	07 30 09.1	+2.2
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	Makanchi Array	57.40	329	P	P	07 30 11.9	+1.4
MKAR	Makanchi Array	57.40	329	P	P	07 30 11.4	+0.9
	comp=Z,1.3nm,0.6s,baz=122,slow=8.7,SNR=9.7						
MKAR	Makanchi Array	57.40	329	P	P	07 30 12.0	+1.5
KBL	Kabul	59.54	310	P	P	07 30 26.4	+0.5
PETK	Petropavlovsk-	60.23	24	P	P	07 30 30.9	+0.9
ZALV	Zalesovo Beam	61.21	336	P	P	07 30 36.2	-0.3
	comp=Z,1.2nm,0.6s,baz=118,slow=5.0,SNR=6.9						
KURBB	Kurchatov Arra	61.77	330	LR	LR	07 59 59.4	
	comp=Z,377nm,19.1s,baz=134,slow=38						
KURK	Kurchatov	61.79	330	P	P	07 30 41.5	+1.0
KURK				IAmb	IAmb	07 30 45.3	
	comp=Z,4.7nm,0.8s						
KHZ	Kahutara	63.25	139	P	P	07 30 49.9	-0.5
KHZ				IAmb	IAmb	07 31 00.9	
	comp=Z,18nm,1.2s						
BKZ	Black Stump Fm	63.81	135	P	P	07 30 53.6	-0.6
ABKAR	Akbulak array	71.44	322	P	P	07 31 43.1	+1.1
GNI	Garni	79.63	311	LR	LR	08 14 16.5	
	comp=Z,28nm,18.6s,baz=134,slow=40						
VNDA	Vanda	81.05	172	P	P	07 32 34.7	-1.1
	comp=Z,0.7nm,0.6s,baz=309,slow=6.4,SNR=4.7						
VNDA	Vanda	81.05	172	P	P	07 32 35.8	0.0
QSPA	South Pole Qui	90.56	180	P	P	07 33 21.9	-1.2
QSPA				IAmb	IAmb	07 33 23.8	
	comp=Z,4.1nm,1.4s						

*NEIC **05** 07:24:47.2±1.4, 57°.09N±0°.04×157°.69W±0°.08, h14km±5km, Error ellipse: s-maj=8.2km s-min=3.6km az=139.0*
*AEIC **05** 07:24:47±1.9, 57°.05N±0°.03×157°.68W±0°.07, h15km±5km, ML3.1, ML3.4/30(NEIC), Error ellipse: s-maj=5.8km s-min=3.5km az=124.0*
*IDC **05** 07:24:48.6±2.9, 57°.59N×157°.58W, h0km, mb3.0/2, mb1 3.1/4, mb1mx3.0/53, mbtmp2.9/4, ML2.9/2, Error ellipse: s-maj=49.4km s-min=19.3km az=3.0*
ISC 05 07:24:47.2±1.2**, 57°.08N**±0°.06×**157°.69W**±0°.06**, h14**km±11km**, n48, σ0s.78**/47**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.31	249		Pg	07 24 54.0	+0.3
AZAC	Aniakchak	0.35	239		Pg	07 24 54.4	0.0
AZAC					Sg	07 24 59.1	-0.1
ANPB	Aniakchak Plen	0.43	230		Pg	07 24 55.2	-0.5
ANPB					Sg	07 25 02.2	+0.6
PLBL	Peulik Blue Cr	0.78	37		Pn	07 25 03.1	-0.7
PLK3	Peulik 3	0.98	51		Pn	07 25 06.4	-0.1
PLK3					Sn	07 25 20.3	+0.1
PLK5	Peulik 5	1.02	25		Pn	07 25 07.6	+0.6
VNHG	Veniaminof 1	1.19	224		Pn	07 25 08.3	-1.0
VNHG					Sg	07 25 25.8	+0.4
CAHL	Cahill	1.61	52		Pb	07 25 16.1	-0.6
CHIR	Chirikof Islan	1.70	137		Pn	07 25 16.6	+0.2
CHIR					Sb	07 25 39.5	0.0
CHIR	Chirikof Islan	1.70	137	IAML		07 25 41.2	
	comp=E,375nm,2.7s						
KABU	Katmai Buttres	1.76	46		Pn	07 25 16.7	-0.6
SII	Sitkinak Islan	2.00	104		Pn	07 25 20.8	+0.4
SII	Sitkinak Islan	2.00	104	IAML		07 25 51.6	
	comp=E,283nm,1.0s						
SII				IAML		07 25 51.7	
	comp=N,233nm,3.0s						
SDPT	Sand Point	2.33	223		Pn	07 25 23.9	-1.1
SDPT				IAML		07 26 03.8	
	comp=N,178nm,2.1s						
OHAK	Old Harbor	2.40	85		Pn	07 25 26.4	+0.5
OHAK	Old Harbor	2.40	85	IAML		07 26 06.5	
	comp=N,147nm,3.1s						
P18K	Big Mountain,	2.66	28		Pn	07 25 29.0	-0.6
Q19K	Cape Douglas,	2.84	48	Pn	Pn	07 25 31.6	-0.4
KDAK	Kodiak Island	2.85	73	Pn	Pn	07 25 32.8	+0.7
	comp=N,3.6nm,0.3s,baz=261,slow=10.0,SNR=3.7						
KDAK				Sn	Sn	07 26 04.2	-2.0
	comp=N,1.0nm,0.3s,baz=255,slow=20,SNR=2.1						
KDAK				Lg	Lg	07 26 13.8	
	baz=180,slow=20,SNR=2.2						
KDAK	Kodiak Island	2.85	73		Pn	07 25 32.5	+0.4
O19K	Port Alsworth	3.59	28		Pn	07 25 43.2	+1.0
N19K	Bonanza Creek	4.10	23		Pn	07 25 49.4	0.0
N19K	Bonanza Creek	4.10	23	IAML		07 27 01.1	
	comp=N,38nm,0.9s						
SVW2	Sparrevohn	4.18	14		Pn	07 25 49.8	-0.6
SVW2	Sparrevohn	4.18	14	IAML		07 27 03.6	
	comp=N,33nm,2.6s						
SVW2				IAML		07 27 05.5	
	comp=E,36nm,2.7s						
CNPM	China Poot	4.20	52	Pn	Pn	07 25 52.6	+1.9
CNPM				IAML		07 26 48.5	
	comp=N,61nm,3.6s						
RSO	Redoubt South	4.26	35	Pn	Pn	07 25 50.9	-0.7
NCT	North Crescent	4.28	33		Pn	07 25 52.2	+0.3
DFR	Drift River	4.38	34		Pn	07 25 53.5	+0.3
BRLK	Bradley Lake	4.48	50	Pn	Pn	07 25 55.6	+1.1
BRLK				IAML		07 26 56.0	
	comp=N,41nm,3.1s						
BRLK				IAML		07 28 34.5	
	comp=E,48nm,2.9s						
M19K	Big River Lodg	5.12	18		Pn	07 26 02.9	-0.5
M19K	Big River Lodg	5.12	18	IAML		07 26 49.9	
	comp=N,20nm,4.1s						
M19K				IAML		07 27 37.1	
	comp=E,24nm,2.6s						
L19K	White Mountain	5.32	14		Pn	07 26 05.5	-0.6
TT01	Tatalina	5.91	7		Pn	07 26 13.2	-0.9
TTA	Tatalina	5.93	7	Pn	Pn	07 26 13.8	-0.7
PWL	Port Wells	6.14	48	Pn	Pn	07 26 16.6	-0.8
PMR	Palmer	6.29	40	Pn	Pn	07 26 19.3	-0.1
PPLA	Purkeypile	6.45	23	Pn	Pn	07 26 22.0	+0.3
K20K	Telida	6.55	14	Pn	Pn	07 26 22.1	-0.9
CAST	Castle Rocks	6.94	21	Pn	Pn	07 26 27.2	-1.1
SCM	Sheep Creek Mo	7.11	44	Pn	Pn	07 26 29.6	-1.1
J20K	Nowinta River	7.33	12	Pn	Pn	07 26 33.6	0.0
KLU	Klutina	7.47	49	Pn	Pn	07 26 35.9	+0.2
ANM	Nome	8.39	337		Pn	07 26 48.4	+0.2
H21K	Melozitna Rive	8.92	13	Pn	Pn	07 26 55.4	0.0
ILAR	Eielson Array	9.32	30	Pn	Pn	07 26 51.9	-9.1
	comp=E,0.1nm,0.3s,baz=218,slow=11,SNR=4.1						
YKA	Yellowknife Ar	22.01	58	P	P	07 29 40.5	0.0
	comp=E,0.1nm,0.4s,baz=274,slow=9.8,SNR=6.1						
SONM	Songino Array	54.47	305	P	P	07 34 15.6	+1.7
	comp=E,0.1nm,0.3s,baz=42,slow=6.6,SNR=1.4						

*IDC **05** 07:36:08.5±2.0, 9°.24S×110°.81W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/32, mbtmp3.7/5, MS3.6/23, Ms1 3.6/23, ms1mx3.5/56, Error ellipse: s-maj=60.0km s-min=26.2km az=71.0*
ISC 05 07:36:10.0±1.8**, 9°.3S**±0°.2×**110°.8W**±0°.3**, h10**km**, n32, σ0s.24**/6**, mb3.9**/6**, MS3.7**/22**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	17.83	176	LR	LR	07 45 32.0	
	comp=Z,261nm,20.0s,baz=19,slow=32						
CMIG	Matias Romero	30.55	31	LR	LR	07 50 38.8	
	comp=Z,42nm,19.8s,baz=217,slow=28						
JTS	Las Juntas de	32.24	54	LR	LR	07 51 56.2	
	comp=Z,194nm,21.8s,baz=76,slow=29						
LPIG	La Paz	33.16	1	LR	LR	07 52 20.3	
	comp=Z,113nm,20.7s,baz=194,slow=29						
NNA	Nana	33.49	98	LR	LR	07 51 48.2	
	comp=Z,55nm,20.5s,baz=258,slow=28						
H03N2	Juan Fernandez	37.95	134	T	T	08 23 03.0	
	baz=307,slow=77,SNR=158						
H03N3	Juan Fernandez	37.97	134	T	T	08 23 03.8	
	baz=307,slow=77,SNR=241						
H03N1	Juan Fernandez	37.97	134	T	T	08 22 58.5	
	baz=307,slow=77,SNR=231						
PPT	Papeete	38.54	253	LR	LR	07 55 52.0	
	comp=Z,152nm,18.6s,baz=118,slow=31						
ROSC	El Rosal	38.98	70	LR	LR	07 54 53.7	
	comp=Z,43nm,21.4s,baz=274,slow=29						
TXAR	Lajitas Array	38.98	10	P	P	07 43 36.7	-0.1
	0.4nm,0.9s,baz=188,slow=12,SNR=2.9						
TXAR				LR	LR	07 56 01.8	
	comp=Z,81nm,21.7s,baz=172,slow=31						
LPAZ	La Paz	42.15	104	P	P	07 44 03.8	0.0
	0.9nm,0.7s,baz=284,slow=4.2,SNR=4.3						
LVC	Limon Verde	42.27	113	LR	LR	07 56 33.6	
	comp=Z,51nm,18.1s,baz=282,slow=29						
PFO	Pinyon Flats O	42.97	353	LR	LR	07 57 34.6	
	comp=Z,135nm,20.0s,baz=198,slow=30						
SDV	Santo Domingo	43.88	67	P	P	07 44 17.5	+0.1
	2.0nm,0.8s,baz=294,slow=7.4,SNR=3.9						
SDV				LR	LR	08 00 15.6	
	comp=Z,56nm,20.2s,baz=256,slow=33						
ANMO	Albuquerque	44.15	5	LR	LR	07 59 13.4	
	comp=Z,106nm,19.5s,baz=195,slow=31						
PLCA	Paso Flores	47.45	138	P	P	07 44 44.8	-0.3
	3.1nm,1.1s,baz=288,slow=8.8,SNR=4.2						
PLCA				LR	LR	07 59 17.3	
	comp=Z,110nm,21.1s,baz=282,slow=29						
NVAR	Mina Array Bea	47.95	352	LR	LR	08 00 40.7	
	comp=Z,115nm,19.0s,baz=162,slow=31						
RAR	Rarotonga	48.53	250	LR	LR	08 01 19.6	
	comp=Z,19nm,18.8s,baz=100,slow=31						
ELK	Elko	49.92	356	LR	LR	08 02 30.2	
	comp=Z,106nm,18.2s,baz=194,slow=32						
PDAR	Pinedale Array	51.78	1	LR	LR	08 04 20.1	
	comp=Z,116nm,18.4s,baz=196,slow=33						
SJG	San Juan	51.80	58	LR	LR	08 03 55.3	
	comp=Z,33nm,18.7s,baz=284,slow=32						
YBH	Yreka Blue Hor	51.90	349	LR	LR	08 02 12.3	
	comp=Z,100nm,22.0s,baz=172,slow=30						
CPUP	Villa Florida	53.30	116	LR	LR	08 03 21.7	
	comp=Z,43nm,21.6s,baz=274,slow=31						
USHA	Ushuaia	56.48	152	P	P	07 45 52.4	+0.3
	18nm,0.6s,baz=344,slow=0.7,SNR=3.1						
NEW	Newport	57.54	355	LR	LR	08 07 01.1	
	comp=Z,73nm,18.2s,baz=178,slow=32						
MDP	Montagnes des	59.71	79	LR	LR	08 08 31.2	
	comp=Z,46nm,18.8s,baz=234,slow=32						
YKA	Yellowknife Ar	71.59	358	P	P	07 47 31.2	0.0
	0.7nm,1.1s,baz=173,slow=7.2,SNR=4.4						
RCBR	Riachuelo	74.23	93	LR	LR	08 19 08.6	
	comp=Z,70nm,18.1s,baz=140,slow=35						
H11S2	WAKE ISLAND Hy	85.86	289	T	T	09 24 51.8	
	baz=101,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy	85.87	289	T	T	09 24 52.4	
	baz=101,slow=75,SNR=8.3						
H11S3	WAKE ISLAND Hy	85.88	289	T	T	09 24 53.5	
	baz=101,slow=75,SNR=8.2						

*IDC **05** 07:37:13.1±2.3, 18°.05S×177°.89W, h458km±24km, mb3.3/11, mb1 3.6/11, mb1mx3.4/30, mbtmp4.0/11, Error ellipse: s-maj=25.8km s-min=14.9km az=145.0*
*NEIC **05** 07:37:17.3±1.5, 18°.0S±0°.1×178°.0W±0°.1, h497km±8km, mb4.2/23, Error ellipse: s-maj=18.8km s-min=16.4km az=111.0*
ISC 05 07:37:17.1±0.4**, 17°.96S**±0°.09×**178°.00W**±0°.08**, h500**km**, n57, σ1s.41**/63**, mb4.0**/22**, Fiji Islands region**

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

MSVF Nonsavu 3.77 273 P P 07 38 38.1 +4.3
5.3nm,0.3s,baz=137,slow=12,SNR=8.4
MSVF Nonsavu 3.77 273 P **P 07 38 34.0 +0.2**
AFI Afiamalu 7.22 57 P **P 07 39 03.9 -1.8**
1.1nm,0.3s,baz=261,slow=22,SNR=1.7
AFI S **S 07 40 32.1 -2.4**
0.7nm,0.3s,baz=259,slow=16,SNR=1.8
AFI Afiamalu 7.22 57 P **P 07 39 05.3 -0.4**
NIUE Niue 7.74 99 P **P 07 39 14.3 +3.4**
FUNA Funafuti 9.77 343 P **P 07 39 33.5 +1.4**
URZ Urewera 20.67 191 P **P 07 41 19.6 -2.0**
2.7nm,0.3s,baz=70,slow=14,SNR=10
URZ Urewera 20.67 191 P **P 07 41 20.4 -1.3**
BKZ Black Stump Fm 21.66 192 P **P 07 41 28.4 -2.4**
LTZ Lake Taylor 26.08 196 P **P 07 42 08.4 -1.6**
LTZ IAmb IAmb 07 42 11.5
comp=Z,7.7nm,0.7s
TOO Toolangi 37.44 231 P **P 07 43 48.0 +0.8**
COEN Coen 37.49 270 P **P 07 43 48.5 +0.6**
COEN IAmb IAmb 07 44 02.3
comp=Z,11nm,1.2s
STKA Stephens Creek 38.94 241 P **P 07 43 59.2 -0.3**
comp=Z,3.9nm,0.6s,baz=96,slow=13,SNR=5.3
STKA Stephens Creek 38.94 241 P **P 07 43 59.9 +0.3**
BBOO Buckleboo 43.72 241 P **P 07 44 37.4 -0.1**
BBOO IAmb IAmb 07 44 38.0
comp=Z,10nm,1.1s
WR0 Warramunga Arr 44.81 260 P **P 07 44 45.9 -0.2**
WR0 IAmb IAmb 07 45 01.0
comp=Z,7.0nm,1.4s
WB0 Warramunga Arr 44.97 260 P **P 07 44 46.5 -0.9**
WB2 Warramunga Arr 44.99 260 P **P 07 44 46.9 -0.7**
WB2 IAmb IAmb 07 44 57.2
comp=Z,11nm,1.5s
WRAB Tennant Creek 44.99 260 P **P 07 44 46.4 -1.2**
WRAB IAmb IAmb 07 45 04.1
comp=Z,5.2nm,1.2s
WRA Warramunga Arr 45.00 260 P **P 07 44 46.6 -1.1**
comp=Z,0.6nm,0.4s,baz=98,slow=7.0,SNR=38
WRA PcP **PcP 07 46 18.2 -0.2**
comp=Z,0.4nm,0.4s,baz=90,slow=3.8,SNR=6.4
WRA ScP **ScP 07 49 26.8 +3.9**
comp=Z,0.2nm,0.6s,baz=97,slow=6.8,SNR=1.6
WRA Warramunga Arr 45.00 260 P **P 07 44 47.0 -0.7**
AS31 Alice Springs 45.15 254 P **P 07 44 48.5 -0.3**
ASAR Alice Springs 45.15 254 P **P 07 44 48.3 -0.5**
comp=Z,9.7nm,0.7s,baz=89,slow=8.2,SNR=131
ASAR PcP **PcP 07 46 18.6 -0.2**
comp=Z,0.9nm,0.4s,baz=105,slow=3.9,SNR=6.6
ASAR ScP **ScP 07 49 27.2 +3.7**
comp=Z,0.6nm,0.7s,baz=87,slow=8.9,SNR=4.8
ASAR S **S 07 50 47.3 -4.2**
comp=Z,0.1nm,0.4s,baz=88,slow=15,SNR=3.6
ASAR Alice Springs 45.15 254 P **P 07 44 47.7 -1.1**
FORT Forrest 50.33 245 P **P 07 45 26.0 -1.5**
KNRA Kununurra 50.87 264 P **P 07 45 31.1 -0.6**
KNRA IAmb IAmb 07 45 41.8
comp=Z,14nm,1.4s
FITZ Fitzroy Crossi 53.40 261 P **P 07 45 49.2 -0.7**
FITZ IAmb IAmb 07 46 06.1
comp=Z,8.5nm,1.5s
VNDA Vanda 60.42 185 P **P 07 46 38.1 +0.9**
CASY Casey 66.25 205 P **P 07 47 14.7 0.0**
CASY IAmb IAmb 07 47 26.8
comp=Z,13nm,1.2s
JHS Saijyo 70.19 319 P **P 07 47 39.4 +0.1**
QSPA South Pole Qui 72.09 180 P **P 07 47 49.9 -0.1**
QSPA IAmb IAmb 07 48 05.7
comp=Z,10nm,1.5s
NVAR Mina Array Bea 79.20 44 P **P 07 48 29.4 -0.7**
comp=Z,0.1nm,0.2s,baz=225,slow=8.9,SNR=4.1
TXAR Lajitas Array 85.70 57 P **P 07 49 03.1 0.0**
comp=Z,0.5nm,0.8s,baz=227,slow=7.1,SNR=6.1
TXAR Lajitas Array 85.70 57 P **P 07 49 03.5 +0.4**
IL31 85.86 13 P **P 07 49 03.8 +0.9**
IL31 IAmb IAmb 07 49 14.6
comp=Z,6.5nm,1.5s
ILAR Eielson Array 85.86 13 P **P 07 49 02.9 -0.1**
comp=Z,0.5nm,0.4s,baz=222,slow=4.9,SNR=11
ILAR Eielson Array 85.86 13 P **P 07 49 02.3 -0.7**
PDAR Pinedale Array 87.13 43 P **P 07 49 09.6 -0.2**
comp=Z,0.2nm,0.6s,baz=174,slow=3.0,SNR=3.8
BMAR Burnt Mountain 88.63 12 P **P 07 49 16.6 +0.6**
SNAA Sanae 90.53 178 P **P 07 49 24.9 0.0**
SNAA IAmb IAmb 07 49 53.9
comp=Z,5.3nm,1.1s
PLCA Paso Flores 91.01 134 P **P 07 49 26.4 -1.4**
comp=Z,0.7nm,0.7s,baz=226,slow=7.0,SNR=3.3
INK Inuvik 91.84 15 P **P 07 49 30.5 -0.2**
comp=Z,0.6nm,0.7s,baz=230,slow=7.6,SNR=3.2
INK Inuvik 91.84 15 P **P 07 49 31.0 +0.3**
INK IAmb IAmb 07 49 32.9
comp=Z,2.8nm,1.5s
YKA Yellowknife Ar 94.22 25 P **P 07 49 42.2 +0.5**
comp=Z,0.4nm,0.9s,baz=241,slow=4.8,SNR=6.6
ARU Arti 123.11 326 PKP **PKPdf 07 55 15.7 -0.4**
comp=Z,1.1nm,0.2s,baz=20,slow=6.0,SNR=3.6
ARCES ARCESS Array B 126.44 350 PKP **PKPdf 07 55 21.6 -0.5**
comp=Z,1.1nm,0.7s,baz=56,slow=2.2,SNR=3.8
ARCES ARCESS Array B 126.44 350 PKPdf 07 55 22.0 -0.2
JMIC Jan Mayen 126.61 4 PKP **PKPdf 07 55 21.4 -1.1**
comp=Z,31nm,0.6s,baz=319,slow=1.0,SNR=3.0
AKASG Malin Array Be 140.79 333 PKP **PKPdf 07 55 49.8 +0.4**
comp=Z,0.6nm,0.4s,baz=46,slow=2.7,SNR=2.9
BRTR Keskin Array B 145.10 315 PKPbc **PKPbc 07 55 58.7 +0.3**
comp=Z,2.6nm,0.7s,baz=127,slow=3.3,SNR=6.0
BRTR Keskin Array B 145.10 315 PKPdf 07 55 57.4 -0.3
CLL Collm 145.60 348 *i* PKPbc **PKPbc 07 55 59.8 +0.6**
comp=Z,6.0nm,0.9s
JAVC Velka Javorina 146.66 341 *e*PKP **PKiKP 07 56 04.3 -0.2**
KRUC Moravsky 146.86 343 *e*PKP **PKPbc 07 56 03.5 +0.7**
GERES GERESS Array B 147.76 345 PKPbc **PKPbc 07 56 06.0 +0.7**
comp=Z,1.7nm,0.5s,baz=350,slow=3.0,SNR=6.8
GERES GERESS Array B 147.76 345 PKPbc 07 56 05.7 +0.4
DAVOX Davos/Dischmat 150.53 349 PKPbc **PKiKP 07 56 13.2 +0.4**
comp=Z,6.3nm,0.5s,baz=333,slow=4.5,SNR=8.4

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*BJI **05** 07:42:23.5±0.0, 25.97N×90.60E, h7km, mb4.6/59, mB4.8/39, ML4.6/3, Ms4.4/58, Ms7 4.2/52*
*NEIC **05** 07:42:24.4±1.6, 25.76N±0.06×90.55E±0.04, h10km±1km, mb5.0/140, Error ellipse: s-maj=11.1km s-min=5.5km az=155.0*
*NDI **05** 07:42:24.8±4.7, 25.83N×90.53E, h10km±10km, ML4.9, mb5.0(NEIC)*
*MOS **05** 07:42:25.5±0.9, 25.79N×90.51E, h33km, mb5.0/64, MS4.0/6, Error ellipse: s-maj=6.9km s-min=3.4km az=118.8*
*IDC **05** 07:42:27.0±2.1, 25.78N×90.50E, h33km±15km, mb4.4/40, mb1 4.5/41, mb1mx4.4/54, mbtmp4.6/41, ML4.4/1, MS3.9/28, Ms1 3.9/28, ms1mx3.6/85, Error ellipse: s-maj=11.9km s-min=8.7km az=55.0*
*BGR **05** 07:42:26.0±0.0, 25.25N×90.04E, h22km, mb5.0, Ms4.1*
*DMN **05** 07:42:28.6±0.5, 25.54N×90.28E, h10km, Ml5.4/4, Error ellipse: s-maj=24.5km s-min=8.2km az=18.0*
ISC 05 07:42:25.8±0.5, **25.76N**±0.02×**90.46E**±0.02, **h25**km±3km, **h25km:pP-P, n697, σ1.48/783, mb4.9/210, MS4.0/42, 48C-34D, India-Bangladesh border region**

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

TURI Tura 0.23 209 *e*P **Pn 07 42 34.3 +0.6**
TURI *e*S **Sb 07 42 39.6 +3.5**
TURI IAML 07 42 44.0
comp=N,129μm,0.1s
TURI IAML 07 42 44.6
comp=E,101μm,0.2s
DHUB DHUBRI 0.49 302 *e*P **Pb 07 42 36.0 +0.1**
DHUB *e*S **Sb 07 42 43.4 +0.7**
DHUB IAML 07 42 46.2
comp=N,32μm,0.2s
DHUB IAML 07 42 46.2
comp=E,35μm,0.2s
GUWA GUWAHATI 1.19 68 *e*P **Pn 07 42 46.5 -0.4**
GUWA *e*S **Sn 07 43 00.9 -1.4**
GUWA IAML 07 43 02.7
comp=N,54μm,0.4s
GUWA IAML 07 43 02.8
comp=E,33μm,0.2s
SHL Shillong 1.30 98 P **Pn 07 42 47.5 -1.0**
SHL 07 43 02.9
SHL Shillong 1.30 98 Pn 07 42 47.5 -1.0
SHL Sn **Sn 07 43 02.9 -2.3**
SHL Shillong 1.30 98 *e*P **Pn 07 42 48.9 +0.4**
SHL *e*S **Sn 07 43 03.2 -2.0**
SHL IAML 07 43 06.3
comp=N,49μm,0.2s
SHL IAML 07 43 06.5
comp=E,46μm,0.2s
AGT Agartala 2.00 159 *e*P **Pb 07 43 00.2 -1.3**
AGT *e*S **Sb 07 43 29.3 +3.5**
AGT IAML 07 43 37.2
comp=N,12μm,0.6s
GTK Tadong 2.28 313⇓*e*P **Pb 07 43 05.7 -0.7**
GTK *e*S **Sb 07 43 34.1 0.0**
GTK IAML 07 43 42.3
comp=E,9μm,0.5s
BELO BELONIA 2.65 160 *e*S **Sb 07 43 42.9 -1.9**
TAPN Taplejung 2.93 303 *e*Pn **Pn 07 43 13.3 +2.2**
ODAN Odare 2.97 292 *e*Pn **Pn 07 43 14.0 +2.5**
ITAN ITANAGAR 3.23 64 *e*P **Pn 07 43 16.2 +1.2**
ITAN *e*S **Sn 07 43 53.4 +0.6**
BRDH Bariadhala 3.25 160 Pn **Pn 07 43 17.5 +2.3**
comp=E,0.6nm,0.3s,baz=360,slow=24,SNR=32
BRDH Sn **Sn 07 43 53.6 +0.5**
comp=E,1.0nm,0.3s,baz=0.0,slow=20,SNR=6.5
KOHI KOHIMA 3.29 90 *e*P **Pn 07 43 16.8 +0.8**
KOHI *e*S **Sn 07 43 53.9 -0.5**
KOHI IAML 07 44 11.1
comp=E,13μm,0.7s
KOHI IAML 07 44 11.6
comp=N,16μm,0.6s
JORH JORHAT 3.54 73 *e*P **Pn 07 43 17.8 -1.5**
JORH *e*S **Sn 07 43 59.5 -0.9**
RAMN Ramite 3.66 290 *e*Pn **Pn 07 43 23.5 +2.4**
MOKO MOKOCHONG 3.69 80 *e*P **Pn 07 43 21.5 0.0**
MOKO *e*S **Sn 07 44 00.4 -3.9**
MOKO IAML 07 44 24.2
comp=N,5μm,0.5s
MOKO IAML 07 44 25.1
comp=E,8μm,0.4s
LSA Lhasa 3.98 9 P **Pn 07 43 28.0 +2.4**
LSA Lhasa 3.98 9 Pn **Pn 07 43 28.0 +2.4**
LSA Lhasa 3.98 9 Pg **Pn 07 43 28.7 +3.1**
LSA Sg **Sb 07 44 20.9 -2.4**
LSA LR LR
comp=E,3μm,8.5s
LSA LR LR
comp=E,5μm,6.4s
LSA LR LR
comp=E,4μm,6.4s
JIRN Jiri 4.26 297 *e*Pn **Pn 07 43 31.9 +2.4**
BOK Bokaro 4.59 246 *e*P **Pn 07 43 35.4 +1.7**
BOK *e*S **Sn 07 44 25.5 -0.8**
BOK IAML 07 44 35.6
comp=E,912nm,0.6s
GUN Gumba 4.62 299 *e*Pn **Pn 07 43 36.7 +2.3**
PKI Pulchoki 4.87 293 *e*Pn **Pn 07 43 39.4 +1.6**
PKIN Phulchoki 4.88 293 *e*Pn **Pn 07 43 39.5 +1.6**
KKN Kakani 5.05 295 *e*Pn **Pn 07 43 42.0 +1.8**
DMN Daman 5.13 292 *e*Pn **Pn 07 43 42.7 +1.4**
DMN *e*Sn **Sn 07 44 37.3 -2.6**
comp=E,1μm,0.6s
GKN Gorkha 5.66 295 *e*Pn **Pn 07 43 50.3 +1.8**
GKN *e*Sn **Sn 07 44 51.5 -1.3**
comp=E,982nm,0.4s
KOLN Koldanda 6.45 290 *e*Pn **Pn 07 44 00.4 +1.0**
KOLN *e*Sn **Sn 07 45 09.0 -3.4**
comp=E,714nm,0.4s
DANN Dangsing 6.51 295 *e*Pn **Pn 07 44 01.1 +0.8**
PYUN Piuthan 7.06 291 *e*Pn **Pn 07 44 08.2 +0.4**
PYUN *e*Sn **Sn 07 45 24.1 -3.4**
comp=E,974nm,0.5s
JBP Jabalpur 9.88 257 *e*P **Pn 07 44 48.2 +1.9**
JBP *e*x x 07 44 48.2
JBP *e*S **Sn 07 46 35.5 -1.1**
PZH PanZhiHua 10.17 83 P **Pn 07 44 51.9 +1.6**
PZH S **Sn 07 46 45.9 +2.2**
PZH pmax pmax
comp=E,10.0nm,0.6s
PZH pmax pmax
comp=E,80nm,4.5s
PZH LR LR
comp=E,1μm,16.7s
PZH LR LR
comp=E,2μm,17.6s
PZH LR LR
comp=E,2μm,17.5s
CHTO Chiang Mai 10.46 130 P **Pn 07 44 52.4 -1.8**
CHTO Chiang Mai 10.46 130 Pn **Pn 07 44 52.4 -1.8**
CHTO Chiang Mai 10.46 130 P **Pn 07 44 53.2 -1.0**
CM31 Chiang Mai Arr 10.70 131 Pn **Pn 07 44 55.2 -2.4**
CMAR Chiang Mai Arr 10.70 131 Pn **Pn 07 44 55.7 -1.9**
comp=E,0.9nm,0.3s,baz=314,slow=13,SNR=32
CMAR LR LR 07 50 49.2
comp=E,259nm,20.2s,baz=315,slow=47
CMAR Chiang Mai Arr 10.70 131 *i* P **Pn 07 44 55.7 -1.9**
CMAR pmax pmax
comp=Z,9.0nm,0.7s
CMAR Chiang Mai Arr 10.70 131 Pn **Pn 07 44 56.0 -1.5**
GOMU GeErMu 11.06 19 P **Pn 07 45 01.0 -1.7**
GOMU pP 07 45 05.0
GOMU sP 07 45 06.8
GOMU S **Sn 07 47 08.0 +2.2**
GOMU pmax pmax
comp=Z,5.0nm,0.8s
GOMU pmax pmax
comp=Z,100nm,4.0s
GOMU LR LR
comp=Z,2μm,9.3s
GOMU LR LR
comp=Z,780nm,12.6s
GOMU LR LR
comp=Z,2μm,14.2s
KMI Kunming 11.12 91 ⇑P **Pn 07 45 05.3 +1.9**
KMI pP 07 45 07.7
KMI PP **PnPn 07 45 13.4 +2.2**
KMI S **Sn 07 47 09.4 +2.3**
KMI SS **SnSn 07 47 24.7 +5.8**
KMI pmax pmax
comp=Z,19nm,0.8s
KMI pmax pmax
comp=Z,79nm,3.5s
KMI LR LR
comp=Z,560nm,11.7s
KMI LR LR
comp=Z,860nm,15.7s
KMI LR LR
comp=Z,950nm,15.4s
DDI Dehra Dun 11.86 295 *e*P **Pn 07 45 12.0 -1.5**
DDI *e*S **Sn 07 47 17.0 -8.1**
DDI IAML 07 47 28.4
comp=N,541nm,0.4s
BHPL Bhopal 12.13 261 *e*P **Pn 07 45 14.8 -2.4**
BHPL *e*S Sn 07 47 22.4 -9.3
BHPL IAML 07 47 33.7
comp=N,202nm,0.9s
BHPL IAML 07 47 35.5
comp=E,193nm,0.5s
DGPR DIGLIPUR 12.73 169 *e*P **Pn 07 45 22.4 -2.9**
DGPR *e*S **Sn 07 47 39.6 -6.6**
DGPR IAML 07 47 47.7
comp=E,154nm,0.5s
DGPR IAML 07 47 47.8
comp=N,98nm,0.5s
CD2 Chengdu 12.79 63 P **Pn 07 45 26.6 +0.5**
CD2 S **Sn 07 47 50.2 +2.5**
CD2 pmax pmax
comp=N,10.0nm,0.5s
CD2 pmax pmax
comp=N,120nm,5.5s
CD2 LR LR
comp=N,120nm,9.4s
CD2 LR LR
comp=N,740nm,17.9s
CD2 LR LR
comp=N,1μm,18.8s
SMLA Simla 12.86 298 *e*P **Pn 07 45 25.4 -1.7**
SMLA *e*S **Sn 07 47 40.7 -8.6**
SMLA IAML 07 47 46.0
comp=E,236nm,0.4s
SMLA IAML 07 47 47.7
comp=N,139nm,0.6s
HYBB Hyderabad (bro 13.83 235 *e*Pn **Pn 07 45 41.5 +1.1**
HYBB *e*Sn **Sn 07 48 16.8 +3.5**
HYBB IVMs_BB IVMs_BB 07 50 42.2
comp=Z,596nm,10.3s
HYB Hyderabad 13.83 235 *e*P **Pn 07 45 39.7 -0.7**
GYA Guiyang 14.58 84⇑*i*P **Pn 07 45 50.6 0.0**
GYA S **Sn 07 48 31.9 +0.4**
GYA pmax pmax
comp=Z,22nm,0.7s
GYA pmax pmax
comp=Z,130nm,3.5s
GYA LR LR
comp=Z,320nm,13.3s
GYA LR LR
comp=Z,620nm,17.1s
GYA LR LR
comp=Z,900nm,20.6s
LZH Lanzhou 15.41 45 ⇓P **Pn 07 45 58.9 -2.8**
LZH pP P 07 46 01.1 -5.0
LZH sP pP 07 46 03.8 -9.1
LZH PP **PnPn 07 46 11.0 +0.9**
LZH S **Sn 07 48 51.3 -0.5**
LZH sS S 07 48 56.7 -11
LZH SS **SnSn 07 49 08.4 +3.7**
LZH pmax pmax
comp=Z,96nm,1.1s
LZH pmax pmax
comp=Z,260nm,4.2s
LZH LR LR
comp=Z,1μm,12.1s
LZH LR LR
comp=Z,2μm,12.0s
LZH LR LR
comp=Z,2μm,13.6s
GTA Gaotai 15.72 28 ⇑P **Pn 07 46 02.7 -3.0**
GTA pP P 07 46 09.1 -0.4
GTA sP pP 07 46 13.2 -3.1
GTA sS S 07 49 08.2 -5.5
GTA pmax pmax
comp=Z,64nm,8.4s
GTA LR LR
comp=Z,580nm,13.1s
GTA LR LR
comp=Z,630nm,11.9s
GTA LR LR
comp=Z,900nm,15.1s
MDRS Chennai 15.87 219 *e*P **Pn 07 46 08.4 +0.8**
CHCP Chirah Chowk 16.87 302 P **Pn 07 46 18.1 -2.3**
NIL Nilore 16.88 302 P **Pn 07 46 18.1 -2.4**
NIL pmax pmax
comp=Z,121nm,0.7s
NIL Nilore 16.88 302 Pn 07 46 18.1 -2.4
NIL IAmb IAmb 07 46 26.2
comp=Z,121nm,0.7s
POO Poona 16.98 248 *e*P **Pn 07 46 21.0 -0.7**
comp=Z,50nm,0.2s
POO *e*P **P 07 46 22.8 -0.7**
ENH Enshi 17.39 71 Pn 07 46 25.1 -1.7
ENH IAmb IAmb 07 46 37.1
comp=Z,80nm,0.8s
UBPT Khong Chiam 17.48 124 Pn 07 46 25.6 -2.4
UBPT IAmb IAmb 07 46 30.3
comp=Z,62nm,0.7s
THW Thamme Wali 17.76 298 P **Pn 07 46 28.4 -3.0**
CEP Cherat 17.98 301 P **Pn 07 46 31.0 -3.2**
XAN Xi'an 17.99 58 P **Pn 07 46 32.5 -1.8**
XAN S **S 07 49 57.5 -2.5**
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN pmax pmax
comp=Z,170nm,4.6s
XAN LR LR
comp=Z,380nm,13.9s
XAN LR LR
comp=Z,370nm,11.5s
XAN LR LR
comp=Z,530nm,14.9s
WMQ Urumqi 18.16 354 *e*P **P 07 46 36.4 -0.1**
WMQ pP pP 07 46 41.3 -2.0
WMQ sP sP 07 46 44.3 -2.2
WMQ PP **PnPn 07 46 55.2 +7.4**
WMQ S **Sn 07 49 57.6 -0.7**
WMQ pmax pmax
comp=Z,29nm,1.1s
WMQ pmax pmax
comp=Z,210nm,4.3s
WMQ LR LR
comp=Z,980nm,14.5s
WMQ LR LR
comp=Z,450nm,17.7s
WMQ LR LR
comp=Z,400nm,18.9s
KSH Kashi 18.33 322 P **P 07 46 36.9 -1.5**
KSH pP Pn 07 46 41.4 +3.0
KSH sP pP 07 46 45.1 -0.1
KSH S **Sn 07 49 56.8 -5.6**
KSH pmax pmax
comp=Z,11nm,0.7s
KSH LR LR
comp=Z,330nm,19.2s
KSH LR LR
comp=Z,330nm,17.9s
KSH LR LR
comp=Z,470nm,16.9s
TARG Taragay, Kyrgy 19.06 330 Pn 07 46 48.0 +0.5
QIZ Qiongzhong 19.12 107 Pn 07 46 48.4 +0.3
QIZ Qiongzhong 19.12 107 P **P 07 46 47.3 +0.2**
QIZ S **Sn 07 50 21.9 +0.2**
QIZ pmax pmax
comp=Z,51nm,1.0s
QIZ LR LR
comp=Z,330nm,16.1s
QIZ LR LR
comp=Z,310nm,20.9s
QIZ LR LR
comp=Z,280nm,15.5s
QIZ Qiongzhong 19.12 107 P **Pn 07 46 48.6 +0.6**
SRIT Nakonsritamara 19.16 151 P **P 07 46 47.8 +0.3**
SHLS Shalkode 19.55 335 *e*P **P 07 46 50.5 -1.2**
SHLS Shalkode 19.55 335 *e*P **P 07 46 50.6 -1.2**
baz=336
KDJ Kajisay 19.66 329 P **Pn 07 46 55.4 +0.9**
KDJ pmax pmax
comp=Z,42nm,0.8s
KDJ Kajisay 19.66 329 P **Pn 07 46 55.4 +0.9**
KDJ IAmb IAmb 07 47 03.0
comp=Z,42nm,0.8s
PDGK Podgornoye 19.69 336 P **P 07 46 51.6 -1.7**
UZB Uzynbulak 19.71 335 *i* P **P 07 46 53.9 +0.4**
UZB Uzynbulak 19.71 335 *i* P **P 07 46 54.0 +0.4**
baz=334
SATY Saty 19.88 333 *e*P **P 07 46 55.4 0.0**
SATY Saty 19.88 333 *e*P **P 07 46 55.4 0.0**
baz=333
KPKS Kokpek 20.11 334 *e*P **P 07 46 57.8 -0.1**
KPKS Kokpek 20.11 334 *e*P **P 07 46 57.8 -0.1**
baz=334
ULHL Ulahol 20.19 328 P Pn 07 47 02.4 +1.6
SNR=16
KBL Kabul 20.45 300 P **P 07 47 02.7 +0.9**
KBL pmax pmax
comp=Z,89nm,1.1s
KBL Kabul 20.45 300 P 07 47 02.7 +0.9
KBL IAmb IAmb 07 47 09.8
comp=Z,89nm,1.1s
TNSS Tian-Shan 20.48 331 *e*P Pn 07 47 03.4 -1.0
TNSS Tian-Shan 20.48 331 *e*P Pn 07 47 03.5 -1.0
baz=330
BOOM Boomskoye usch 20.52 328 P Pn 07 47 04.7 +0.1
BOOM pmax pmax
comp=Z,38nm,1.1s
BOOM Boomskoye usch 20.52 328 P Pn 07 47 04.7 0.0
MDOK Medeo 20.54 331 P Pn 07 47 04.1 -0.7
MDOK Medeo 20.54 331 *e*P **P 07 47 01.9 -0.7**
baz=331
PALK Pallekele 20.60 209 P **P 07 47 04.4 +1.1**
comp=Z,7.6nm,0.6s,baz=121,slow=10,SNR=13
PALK S **S 07 50 44.6 -8.1**
comp=Z,7.8nm,0.5s,baz=58,slow=22,SNR=5.5
PALK LR LR 07 54 55.8
comp=Z,281nm,20.6s,baz=144,slow=36
PALK Pallekele 20.60 209*c i*P Pn 07 47 05.1 -0.5
PALK pmax pmax
comp=Z,25nm,0.9s
PALK Pallekele 20.60 209 P Pn 07 47 05.2 -0.5
AAA Alma-Ata 20.64 331 *e*P **P 07 47 03.8 +0.3**
AAA Alma-Ata 20.64 331 *e*P **P 07 47 03.9 +0.3**
baz=331
DRK Karamyk 20.78 316 P **P 07 47 05.4 0.0**
TKM2 Tokmak 2 21.01 328 P **P 07 47 10.5 +2.8**

SNR=10
TKM2 **Tokmak 2** 21.01 328 *i* P P 07 47 09.3 +1.6
TKM2 pmax pmax
comp=Z,34nm,0.7s
UCH **Uchtor** 21.03 325 P P 07 47 10.0 +1.8
SNR=17
ARXS **Arharly** 21.08 334 *e*P P 07 47 09.4 +1.1
CHKK **Chushkaly** 21.12 332 *e*P P 07 47 08.6 -0.1
CHKK **Chushkaly** 21.12 332 *e*P P 07 47 08.6 -0.1
baz=332
KBK **Karagaybulak** 21.13 327 P P 07 47 12.5 +3.6
SNR=7.6
LHMI **Lhok Sumawe** 21.34 162 P P 07 47 13.2 +2.1
LHMI **Lhok Sumawe** 21.34 162 P P 07 47 13.0 +1.9
comp=Z,201nm,0.9s
LHMI **Lhok Sumawe** 21.34 162 P P 07 47 13.4 +2.3
AAK **Ala-Archa** 21.34 326 P P 07 47 13.2 +2.0
comp=Z,8.0nm,0.6s,baz=159,slow=8.7,SNR=12
AAK **Ala-Archa** 21.34 326⇓ *e*P P 07 47 13.6 +2.4
AAK pmax pmax
comp=Z,19nm,1.3s
AAK **Ala-Archa** 21.34 326 P P 07 47 13.2 +2.0
AML **Almayashu** 21.39 324 P P 07 47 13.4 +1.5
SNR=12
FRU1 **Bishkek** 21.40 327 P P 07 47 13.6 +1.9
FRU1 pmax pmax
comp=Z,41nm,1.2s
FRU1 **Bishkek** 21.40 327 P P 07 47 13.6 +1.9
KUU **Kurty** 21.43 331 *e*P P 07 47 11.5 -0.5
KUU **Kurty** 21.43 331 *e*P P 07 47 11.5 -0.5
baz=331
GAR **Garm** 21.48 313 P P 07 47 13.2 +0.6
GAR IAmb IAmb 07 47 23.5
comp=Z,124nm,1.0s
TDK **Taldyqorghan** 21.53 336 *e*P P 07 47 13.5 +0.5
TDK **Taldyqorghan** 21.53 336 *e*P P 07 47 13.6 +0.5
baz=336
WHN **Wuhan** 21.58 72 ⇓P P 07 47 13.7 0.0
WHN S S 07 51 04.4 -7.4
WHN LR LR
comp=Z,480nm,10.4s
WHN LR LR
comp=Z,2μm,15.8s
WHN LR LR
comp=Z,2μm,15.4s
EKS2 **Erkin-Say** 21.72 325 P P 07 47 15.7 +0.4
SNR=13
BTK **Batken** 21.74 316 P P 07 47 17.0 +1.6
BTK pmax pmax
comp=Z,101nm,0.8s
BTK **Batken** 21.74 316 P P 07 47 17.0 +1.6
USP **Osepenovka** 21.80 327 P P 07 47 17.5 +1.5
SNR=12
DLV **T Lat** 21.86 126 P P 07 47 16.6 -0.4
DLV IAmb IAmb 07 47 21.0
comp=Z,41nm,1.0s
DLV **T Lat** 21.86 126 P P 07 47 18.1 +1.0
comp=Z,45nm,1.0s
SGDS **Sogindy** 21.88 328 *e*P P 07 47 16.8 0.0
SGDS **Sogindy** 21.88 328 *e*P P 07 47 16.9 0.0
baz=328
MK31 **Makanchi Array** 21.98 345 *d i*P P 07 47 17.8 -0.1
MK31 pmax pmax
comp=Z,29nm,0.6s
MK31 **Makanchi Array** 21.98 345 P P 07 47 17.5 -0.4
MK31 IAmb IAmb 07 47 27.8
comp=Z,40nm,0.9s
MKAR **Makanchi Array** 21.98 345 P P 07 47 17.9 +0.1
comp=Z,21nm,0.8s,baz=154,slow=12,SNR=48
MKAR PcP PcP 07 51 16.1 +0.2
comp=Z,0.8nm,0.5s,baz=240,slow=4.1,SNR=2.2
MKAR ScP ScP 07 54 49.5 -2.1
comp=Z,0.7nm,0.6s,baz=205,slow=2.8,SNR=4.0
MKAR **Makanchi Array** 21.98 345 P P 07 47 18.0 +0.1
MKZ **Makanchi** 22.07 344 P P 07 47 19.3 +0.5
MAKZ pmax pmax
comp=Z,30nm,0.9s
MAKZ **Makanchi** 22.07 344 P P 07 47 19.3 +0.5
MAKZ IAmb IAmb 07 47 28.1
comp=Z,30nm,0.9s
CHGR **Chuyangaron** 22.08 311 P P 07 47 18.9 -0.2
CHGR IAmb IAmb 07 47 28.0
comp=Z,61nm,0.7s
TIY **Taiyuan** 22.11 52 *e*P P 07 47 20.1 +0.7
TIY pP pP 07 47 26.6 +0.3
TIY S S 07 51 19.1 -2.8
TIY LR LR
comp=Z,670nm,14.1s
TIY LR LR
comp=Z,340nm,11.8s
TIY LR LR
comp=Z,620nm,12.4s
KULM **Kulim** 22.57 153 P P 07 47 24.7 +0.3
HHC **Hu-ho-hao-te** 23.10 44 *e*P P 07 47 29.3 -0.6
HHC S S 07 51 36.4 -3.3
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,190nm,4.8s
HHC LR LR
comp=Z,1μm,10.9s
HHC LR LR
comp=Z,550nm,12.0s
HHC LR LR
comp=Z,980nm,12.6s
DZA **Taraz** 23.19 322 *e*P P 07 47 30.9 +0.3
DZA **Taraz** 23.19 322 *e*P P 07 47 31.0 +0.3
baz=322
KCSI **Kotacane, Aceh** 23.20 161 P P 07 47 29.1 -1.8
comp=Z,842nmcomp=Z,32nm,1.1s
BTLS **Baital** 23.35 330 *e*P P 07 47 32.6 +0.3
BTLS **Baital** 23.35 330 *e*P P 07 47 32.6 +0.3
baz=330
IUG **Iuzhnay** 23.45 319 *e*P P 07 47 34.0 +0.6
IUG **Iuzhnay** 23.45 319 *e*P P 07 47 34.0 +0.6
baz=319
IPM **Ipoh** 23.46 153 P P 07 47 32.1 -1.4
IPM IAmb IAmb 07 47 33.6
comp=Z,28nm,1.0s
IPM **Ipoh** 23.46 153 P P 07 47 33.0 -0.5
TSI **Tuntungan** 23.46 159 P P 07 47 34.3 +0.8
comp=Z,137nm,0.6s
HNS **HongShan** 23.62 55 ⇑P P 07 47 35.5 +0.5
HNS S S 07 51 48.2 +0.1
HNS pmax pmax
comp=Z,15nm,1.0s
HNS LR LR
comp=Z,470nm,16.9s
HNS LR LR
comp=Z,300nm,15.9s
HNS LR LR
comp=Z,350nm,15.1s
KK31 **Karatay Array** 23.78 322 P P 07 47 37.3 +0.9
KK31 pmax pmax
comp=Z,16nm,1.2s
KK31 **Karatay Array** 23.78 322 P P 07 47 37.3 +0.9
KKAR **Karatay Array** 23.78 322 P P 07 47 36.9 +0.4
KKAR **Karatay Array** 23.78 322 P P 07 47 36.9 +0.4
PSI **Prapat** 24.23 159 P P 07 47 41.4 +0.4
comp=Z,15nm,0.7s,baz=306,slow=8.9,SNR=11
PSI LR LR 08 00 42.5
comp=Z,150nm,18.3s,baz=343,slow=45
GSI **Gunungsitoli** 25.26 163 P P 07 47 50.8 +0.6
GSI **Gunungsitoli** 25.26 163 P P 07 47 50.4 +0.3
comp=Z,12μmcomp=Z,49nm,1.3s
GSI **Gunungsitoli** 25.26 163 P P 07 47 51.0 +0.9
SONM **Songino Array** 25.37 26 P P 07 47 51.9 +0.9
comp=Z,13nm,0.7s,baz=207,slow=9.3,SNR=57
SONM ScP ScP 07 55 00.2 -0.7
comp=Z,1.7nm,1.1s,baz=234,slow=4.3,SNR=4.2
SONM LR LR 07 59 10.1
comp=Z,597nm,21.0s,baz=176,slow=40
SONM **Songino Array** 25.37 26 P P 07 47 52.0 +0.9
SONM pmax pmax
comp=Z,21nm,0.8s
SONM **Songino Array** 25.37 26 P P 07 47 52.0 +0.9
SONM IAmb IAmb 07 47 59.0
comp=Z,21nm,0.8s
NJ2 **Nanjing** 25.59 69 *e*P P 07 47 53.0 -0.1
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ULN **Ulaanbaatar** 25.65 26 *d i*P P 07 47 53.7 +0.1
ULN pmax pmax
comp=Z,18nm,0.8s
ULN **Ulaanbaatar** 25.65 26 P P 07 47 54.8 +1.1
ULN IAmb IAmb 07 48 01.3
comp=Z,26nm,0.9s
BJI **Beijing** 25.75 50 P P 07 47 53.9 -0.5
BJI S S 07 52 23.9 +1.9
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI pmax pmax
comp=Z,66nm,3.9s
BJI LR LR
comp=Z,400nm,11.1s
BJI LR LR
comp=Z,420nm,10.3s
HRA **Herat** 25.82 296 P P 07 47 56.7 +1.3
SEM **Semipalatinsk** 25.84 345 *e*P P 07 47 54.8 -0.6
SEM **Semipalatinsk** 25.84 345 *e*P P 07 47 54.9 -0.6
baz=345
MNSI **Mandailing Nat** 26.33 159 P P 07 48 00.1 +0.3
comp=Z,192nm,0.9s
KURBB **Kurchatov Arra** 26.47 343 P P 07 48 01.5 +0.7
comp=Z,12nm,0.9s,baz=158,slow=9.3,SNR=39
KURBB PcP PcP 07 51 25.4 -0.1
comp=Z,1.5nm,0.6s,baz=170,slow=2.3,SNR=5.0
KURBB ScP ScP 07 55 03.3 -0.5
comp=Z,1.1nm,0.6s,baz=160,slow=2.6,SNR=6.3
KURBB **Kurchatov Arra** 26.47 343 P P 07 47 59.5 -1.3
ZAK **Zakamensk** 26.50 19 *e*P P 07 48 01.8 +0.6
ZAK pmax pmax
comp=Z,25nm,1.5s
KURK **Kurchatov** 26.53 343 *c i*P P 07 48 02.0 +0.6
KURK pmax pmax
comp=Z,16nm,1.0s
KURK **Kurchatov** 26.53 343 P P 07 48 02.5 +1.2
KURK IAmb IAmb 07 48 08.9
comp=Z,30nm,0.9s
OTUK **Ortayu** 26.58 332 P P 07 48 01.5 -0.4
BKNI **Bangkinang** 27.27 156 P P 07 48 08.7 +0.4
comp=Z,62nm,0.7s
XLT **XiLinHaoTe** 27.57 42 *e*P P 07 48 15.8 +4.8
XLT pP sP 07 48 20.4 -1.0
XLT sP pP 07 48 22.6 +4.2
XLT pmax pmax
comp=Z,8.0nm,1.6s
XLT pmax pmax
comp=Z,110nm,4.8s
XLT LR LR
comp=Z,640nm,13.0s
XLT LR LR
comp=Z,760nm,13.8s
SSLB **Suanglung** 27.73 87 P P 07 48 15.2 +2.7
PPI **Padang Panjang** 27.77 158 P P 07 48 12.9 +0.1
BRZS **Berezniki** 27.82 335 *e*P P 07 48 12.9 -0.1
BRZS **Berezniki** 27.82 335 *e*P P 07 48 12.1 -0.9
baz=335
YHNB **Yeheng** 27.96 85 P P 07 48 15.9 +1.3
TWG **Pinlang** 28.02 89 P P 07 48 16.5 +1.4
TWG IAmb IAmb 07 48 17.6
comp=Z,21nm,0.8s
YULB **Yu-li** 28.11 88 P P 07 48 16.4 +0.5
YULB IAmb IAmb 07 48 18.4
comp=Z,17nm,0.9s
SISI **Saibi** 28.19 161 P P 07 48 18.3 +1.8
comp=Z,47nm,1.3s
ZAA0 **Zalesovo Array** 28.47 353 P P 07 48 19.8 +1.0
ZALV **Zalesovo Beam** 28.47 353 P P 07 48 19.3 +0.6
comp=Z,2.1nm,0.4s,baz=169,slow=8.6,SNR=12
ZALV PcP PcP 07 51 30.0 -0.1
comp=Z,1.1nm,0.4s,baz=188,slow=5.1,SNR=2.5
DSRI **Dabo** 29.43 150 P P 07 48 28.9 +1.3
comp=Z,12nm,0.5s
GEYT **Alibeck** 29.89 302 P P 07 48 31.7 +0.2
comp=Z,1.4nm,0.5s,baz=220,slow=13,SNR=1.4
GEYT LR LR 08 03 09.6
comp=Z,360nm,18.0s,baz=140,slow=42
GEYT **Alibeck** 29.89 302 P P 07 48 31.3 -0.2
GYA0B **ALIBECK ARRAY** 29.89 302 P P 07 48 31.7 +0.2
KSM **Kuching** 30.80 138 P P 07 48 40.4 +0.7
BRVK **Borovoye** 31.19 336⇓ *e*P P 07 48 43.6 +0.8
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK **Borovoye** 31.19 336 P P 07 48 44.3 +1.5
SBUM **Sibu** 31.23 134 P P 07 48 43.9 +0.4
SBUM IAmb IAmb 07 48 45.9
comp=Z,12nm,0.9s
STKI **Sintang** 32.62 138 P P 07 48 57.4 +1.7
HIA **Hailar** 32.67 36⇓ *e*P P 07 48 56.2 +0.3
HIA pmax pmax
comp=Z,8.0nm,0.8s
TJN **Taejon** 33.16 62 *de*P P 07 48 58.9 -1.4
AB31 **Akbulak array** 33.33 323 *i* P P 07 49 02.8 +1.2
ABKAR **Akbulak array** 33.33 323 P P 07 49 02.8 +1.2
ABKAR **Akbulak array** 33.33 323 P P 07 49 02.8 +1.2
ABKAR IAmb IAmb 07 49 10.3
comp=Z,14nm,0.7s
CN2 **Changchun** 33.59 49 *e*P P 07 49 03.8 -0.2
CN2 S S 07 54 24.3 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,12.0s
KSAR **Wonju Array Be** 33.73 61 P P 07 49 04.3 -1.0
KSAR **Wonju Array Be** 33.73 61 P P 07 49 04.3 -1.0
KSRS **Korea Array** 33.76 61 P P 07 49 03.7 -1.8
comp=Z,1.7nm,0.7s,baz=258,slow=8.1,SNR=5.6
KSRS PcP PcP 07 51 44.5 -0.1
comp=Z,1.1nm,0.6s,baz=248,slow=2.6,SNR=4.3
JOW **Kunigami** 33.84 80 LR LR 08 04 12.3
comp=Z,180nm,19.1s,baz=264,slow=39
AKTO **Aktyubinsk** 35.02 323 P P 07 49 17.0 +0.7
comp=Z,8.9nm,0.7s,baz=120,slow=8.4,SNR=26
BNX **BinXian** 35.59 46 ⇓P P 07 49 21.6 +0.4
BNX pmax pmax
comp=Z,24nm,0.9s
BNX pmax pmax
comp=Z,290nm,5.2s
JNU **Nakatsue** 35.79 69 LR LR 08 06 23.6
comp=Z,165nm,18.7s,baz=262,slow=40
JNU **Nakatsue** 35.79 69 P P 07 49 22.9 -0.2
JNU IAmb IAmb 07 49 28.2
comp=Z,22nm,1.0s
JNU **Nakatsue** 35.79 69 P P 07 49 24.2 +1.0
LEM **Lembang** 36.43 150 LR LR 08 07 50.0
comp=Z,181nm,18.4s,baz=284,slow=42
MDJ **Mudanjiang** 36.67 49 P P 07 49 34.4 +3.9
MDJ pmax pmax
comp=Z,12nm,1.0s
MDJ pmax pmax
comp=Z,86nm,4.3s
MDJ LR LR
comp=Z,350nm,17.1s
MDJ LR LR
comp=Z,270nm,15.7s
SOCY **Socotra** 36.90 255 P P 07 49 32.0 -0.8
SOCY IAmb IAmb 07 49 39.5
comp=Z,13nm,0.8s
BBKI **Banjar Baru** 37.44 137 P P 07 49 38.8 +1.5
comp=Z,22nm,0.4s
KPJI **Karang Pucung** 37.47 149 P P 07 49 37.5 0.0
comp=Z,38nm,0.8s
SVE **Sverdlovsk** 37.71 333 *e*P P 07 49 40.7 +1.6
SMRI **Semarang** 37.95 147 P P 07 49 42.2 +0.5
SMRI **Semarang** 37.95 147 P P 07 49 43.8 +2.2
comp=Z,61nm,0.8s
TOLI2 **Tolitoli** 38.13 125 P P 07 49 42.5 -0.6
TOLI2 IAmb IAmb 07 49 45.5
comp=Z,24nm,0.9s
USRK **Ussuriysk Ar.** 38.20 50 P P 07 49 43.7 +0.2
comp=Z,4.2nm,0.7s,baz=250,slow=9.7,SNR=5.7
USRK **Ussuriysk Ar.** 38.20 50 P P 07 49 42.0 -1.5
DAV **Davao City (W)** 38.29 113 LR LR 08 06 36.7
comp=Z,87nm,19.0s,baz=338,slow=38
ARU **Arti** 38.31 332 P P 07 49 44.4 +0.2
comp=Z,1.9nm,0.4s,baz=169,slow=5.5,SNR=6.6
ARU **Arti** 38.31 332 *c i*P P 07 49 44.8 +0.6
ARU 07 51 09.4
ARU S S 07 55 42.0 +5.1
ARU pmax pmax
comp=Z,4.0nm,0.5s
ARU MLR MLR
comp=Z,176nm,16.0s
ARU **Arti** 38.31 332 P P 07 49 45.2 +1.0
MAK **Makhachkala** 38.92 307 *e*P P 07 49 44.4 -5.1
MAK *e*S S 07 55 42.4 -4.1
MAK pmax pmax
comp=Z,126nm,1.0s
ZEA **Zeya** 39.04 34 *e*P P 07 49 51.7 +1.3
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=E,200nm,10.0s
ZEA MLR MLR
comp=N,300nm,13.0s
ZEA MLR MLR
comp=Z,300nm,12.0s
MRSI **Marisa** 39.41 125 P P 07 49 54.5 +0.6
comp=Z,850nmcomp=Z,60nm,0.8s
KLR **Kul'dur** 39.60 43 P P 07 49 54.6 -0.5
comp=Z,0.9nm,0.6s,baz=252,slow=17,SNR=2.3
KLR LR LR 08 08 19.3
comp=Z,293nm,19.3s,baz=266,slow=39
KLR **Kul'dur** 39.60 43⇑ *e*P P 07 49 54.8 -0.3
KLR pmax pmax
comp=Z,7.0nm,0.9s
KMMI **Kalianget** 39.82 142 P P 07 49 58.4 +1.2
comp=Z,55nm,0.9s
GROC **Groznyy** 40.20 307 *e*P P 07 50 00.8 +0.6
GROC *e* 07 51 35.3
GROC pmax pmax
comp=Z,82nm,0.8s
TTSI **Tana Toraja** 40.35 131 P P 07 50 03.4 +1.7
GNI **Garni** 40.52 302⇓ *e*P P 07 50 05.3 +2.2
GNI pmax pmax
comp=Z,23nm,1.9s
SPSI **Sidrap Palu** 40.99 132 P P 07 50 07.7 +0.7
comp=Z,604nmcomp=Z,55nm,1.1s
SRBI **Singaraja** 41.37 141 P P 07 50 11.2 +1.2
comp=Z,76nm,1.2s
ZEI **Tsey** 41.50 306 *e*P P 07 50 10.7 -0.5
ZEI pmax pmax
comp=Z,54nm,1.3s
KAPI **Kappang** 41.76 133 LR LR 08 11 04.0
comp=Z,111nm,19.0s,baz=313,slow=41
KAPI **Kappang** 41.76 133⇓ *e*P P 07 50 13.8 +0.5
KAPI pmax pmax
comp=Z,10.0nm,1.0s
ONI **Oni** 41.80 306 P P 07 50 16.7 +3.2
ONI pmax pmax
comp=Z,17nm,0.9s
ONI **Oni** 41.80 306 P P 07 50 16.6 +3.2
ONI IAmb IAmb 07 50 23.6
comp=Z,17nm,0.9s
NCK **Nalchik** 41.83 307⇑ *e*P P 07 50 15.2 +1.5
NCK pmax pmax
comp=Z,18nm,1.0s
MJAR **Matsushiro Arr** 41.88 63 P P 07 50 13.5 -0.7
comp=Z,1.5nm,0.3s,baz=232,slow=17,SNR=7.4
MJAR LR LR 08 10 48.2
comp=Z,68nm,18.5s,baz=240,slow=41
MJAR **Matsushiro Arr** 41.88 63 P P 07 50 14.3 +0.1
MJAR pmax pmax
comp=Z,5.0nm,1.0s
MJAR **Matsushiro Arr** 41.88 63 P P 07 50 14.3 +0.1
BKSI **Bulukumba** 42.23 133 P P 07 50 17.4 +0.3
comp=Z,14nm,1.0s
KBZ **Khabaz** 42.37 307 P P 07 50 17.5 -0.5
comp=Z,3.4nm,0.8s,baz=134,slow=6.3,SNR=8.0
KBZ **Khabaz** 42.37 307 *ce*P P 07 50 18.2 +0.2
KBZ pmax pmax
comp=Z,11nm,0.9s
NEY **Neytrino** 42.42 307⇓ *e*P P 07 50 21.0 +2.3
NEY pmax pmax
comp=Z,14nm,2.4s
KIV **Kislovodsk** 42.55 308 *e*P P 07 50 20.4 +0.8
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,78nm,16.0s
KIV **Kislovodsk** 42.55 308 P P 07 50 19.6 -0.1
KIV IAmb IAmb 07 50 28.6
comp=Z,28nm,1.0s
MARD **Mardin** 43.44 298 P P 07 50 27.8 +0.9
MARD IAmb IAmb 07 50 35.0
comp=Z,23nm,0.7s
KIRV **Kirov** 43.58 330 P P 07 50 27.6 +0.1
comp=Z,6.6nm,0.4s,baz=44,slow=4.4,SNR=3.5
KIRV LR LR 08 10 12.3
comp=Z,170nm,18.9s,baz=130,slow=38
NRIK **Noril'sk** 43.64 359 P P 07 50 27.5 -0.4
comp=Z,2.3nm,0.4s,baz=154,slow=6.1,SNR=5.8
NRIK **Noril'sk** 43.64 359 P P 07 50 28.3 +0.4
NRIK pmax pmax
comp=Z,5.0nm,0.6s
NRIK **Noril'sk** 43.64 359 P P 07 50 28.3 +0.4
SOC **Sochi** 44.64 307 *e*P P 07 50 35.2 -1.1
SOC *e* 07 52 18.9
SOC *e*PPP PPP 07 52 57.2
SOC *e*S S 07 57 13.3 +2.3
SOC *e*SS SS 08 00 31.5 +0.1
SOC *e*SSS SSS 08 01 18.4
SOC pmax pmax
comp=Z,22nm,1.0s
YAK **Yakutsk** 44.72 25 LR LR 08 10 56.7
comp=Z,409nm,20.7s,baz=267,slow=38
YAK **Yakutsk** 44.72 25 *e*P P 07 50 37.8 +1.1
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.3s
VRH **Novokhopyorsk** 44.76 318 *e*P P 07 50 33.7 -3.4
VRH pmax pmax
comp=Z,50nm,1.7s
WBSI **Waikabubak, Su** 45.06 138 P P 07 50 39.0 -1.0
comp=Z,83nm,0.7s
JCJ **Chichijima** 46.07 76 LR LR 08 09 22.6
comp=Z,69nm,21.2s,baz=154,slow=35
MMRI **Maumere** 46.09 134 P P 07 50 46.7 -1.4
comp=Z,39nm,0.6s
YSS **Yuzh-Sakhalins** 46.16 49 *e*P P 07 50 48.3 0.0
YSS *e* 07 50 54.7
YSS pmax pmax
comp=Z,20nm,1.3s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS MLR MLR
comp=E,200nm,18.0s
YSS **Yuzh-Sakhalins** 46.16 49 P P 07 50 48.6 +0.3
YSS IAmb IAmb 07 50 55.3
comp=Z,29nm,0.9s
VORR **Voronezh** 46.40 318 *e*P P 07 50 51.1 +1.0
VORR pmax pmax
comp=Z,60nm,0.4s
ANN **Anapa** 46.40 308 *e*P P 07 50 50.4 +0.2
ANN pmax pmax
comp=Z,18nm,0.8s
PRGR **Permogore** 46.76 332 *e*P P 07 50 52.2 -0.5
PRGR pmax pmax
comp=Z,9.0nm,0.6s
LPSR **Galich'ya Gora** 46.79 319 *e*P P 07 50 53.6 +0.4
LPSR pmax pmax
comp=Z,40nm,0.9s
ATD **Arta Tunnel** 47.03 262 LR LR 08 09 38.8
comp=Z,92nm,18.4s,baz=42,slow=35
MOS **Moscow** 48.35 323 *e*P P 07 51 02.0 -3.2
SIM **Simferopol'** 48.76 308 *e*P P 07 51 14.8 +6.2
SIM pmax pmax
comp=Z,23nm,0.8s
OBN **Obninsk** 48.77 322 P P 07 51 06.5 -1.9
comp=Z,3.6nm,0.3s,baz=72,slow=14,SNR=4.1
OBN **Obninsk** 48.77 322⇓ *e*P P 07 51 08.6 +0.2
OBN *i* 07 51 15.3
OBN *e* 07 53 02.1
OBN *e*S S 07 58 13.1 +3.3
OBN *e*SS SS 08 01 41.3 +1.2
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN MLR MLR
comp=Z,107nm,17.0s
OBN **Obninsk** 48.77 322 P P 07 51 08.8 +0.3
EIL **Elat** 48.91 288 LR LR 08 15 58.3
comp=Z,144nm,18.6s,baz=74,slow=41
ILGA **Ilgaz** 48.95 303 P P 07 51 11.5 +1.1
BR131 **Keskin Array S** 49.03 301⇑ *e*P P 07 51 11.6 +0.7
BRTR **Keskin Array B** 49.03 301 P P 07 51 09.9 -1.0
comp=Z,5.1nm,1.2s,baz=118,slow=7.3,SNR=7.7
BRTR PcP PcP 07 52 34.8 +0.2
comp=Z,2.0nm,0.7s,baz=145,slow=4.5,SNR=4.2

BRTR Keskin Array B 49.03 301 *i* P **P 07 51 11.8 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 49.03 301 P **P 07 51 10.8 0.0**
KLMR Klimovskoe 49.08 330 *e*P **P 07 51 09.9 -0.8**
KLMR *e* 07 53 03.3
KLMR pmax pmax
comp=Z,24nm,1.2s
KLMR Klimovskoe 49.08 330 *e*P **P 07 51 10.0 -0.8**
KLMR AMP 07 51 17.8
comp=Z,24nm,1.2s
KLMR *e*PP **PP 07 53 03.3 -1.0**
TIXI Tiksi 50.67 15 LR LR 08 14 11.7
comp=Z,153nm,18.1s,baz=188,slow=38
TIXI Tiksi 50.67 15*de*P **P 07 51 22.5 -0.2**
TIXI pmax pmax
comp=Z,15nm,0.8s
TIXI Tiksi 50.67 15 P **P 07 51 22.3 -0.4**
TIXI IAmb IAmb 07 51 29.2
comp=Z,16nm,0.6s
BORA Eskisehir 51.47 302 P **P 07 51 30.0 +0.7**
BORA IAmb IAmb 07 51 36.2
comp=Z,14nm,0.8s
ELL Elmali 52.15 298 P **P 07 51 35.3 +0.8**
ELL pmax pmax
comp=Z,145nm,0.8s
ELL Elmali 52.15 298 P **P 07 51 35.3 +0.8**
AKASG Malin Array Be 52.45 315 P **P 07 51 35.7 -0.6**
comp=Z,2.1nm,0.6s,baz=81,slow=6.8,SNR=19
AKASG LR LR 08 17 46.6
comp=Z,156nm,18.1s,baz=84,slow=40
AKASG Malin Array Be 52.45 315 *i* P **P 07 51 35.7 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 52.45 315 P **P 07 51 36.4 +0.1**
AKBB Malin Array Si 52.45 315⇑*e*P **P 07 51 35.5 -0.8**
AKBB Malin Array Si 52.45 315 P **P 07 51 35.6 -0.7**
AKBB IAmb IAmb 07 51 42.8
comp=Z,15nm,0.8s
MILM Milestii Mici 52.54 311⇑P **P 07 51 37.3 +0.3**
MILM Milestii Mici 52.54 311⇑P **P 07 51 37.3 +0.3**
CFR Carcaliu 53.00 308⇑P **P 07 51 40.9 +0.4**
CFR Carcaliu 53.00 308⇑P **P 07 51 40.9 +0.4**
HARR Harsova 53.16 308⇑P **P 07 51 42.6 +1.0**
HARR Harsova 53.16 308⇑P **P 07 51 42.6 +1.0**
MA2 Magadan 53.18 34 LR LR 08 16 44.6
comp=Z,181nm,18.3s,baz=274,slow=39
MA2 Magadan 53.18 34⇓*e*P **P 07 51 41.0 -0.5**
MA2 pmax pmax
comp=Z,10.0nm,1.2s
VALR Valaam 53.22 329*c i*P **P 07 51 41.8 0.0**
VALR pmax pmax
comp=Z,20nm,1.0s
GIRL Giralia 53.35 152 P **P 07 51 41.7 -1.4**
LVZ Lovozero 53.71 337*d i*P **P 07 51 45.6 +0.2**
LVZ pmax pmax
comp=Z,29nm,1.3s
LVZ Lovozero 53.71 337 P **P 07 51 45.4 0.0**
VRI Vrincioaia 53.98 309⇑P **P 07 51 48.9 +1.2**
VRI Vrincioaia 53.98 309⇑P **P 07 51 48.9 +1.2**
TESR Tescani 54.03 310⇑P **P 07 51 48.8 +0.8**
APA Apatity 54.03 337⇓*e*P **P 07 51 44.8 -2.9**
APA *i* 07 51 52.4
APA pmax pmax
comp=Z,6.0nm,0.7s
APA MLR MLR
comp=Z,200nm,21.0s
PLOR Plostina 54.04 309⇑P **P 07 51 49.3 +1.2**
PLOR Plostina 54.04 309⇑P **P 07 51 49.3 +1.2**
ISR Istrita 54.13 308⇑P **P 07 51 49.7 +0.8**
ISR Istrita 54.13 308⇑P **P 07 51 49.7 +0.8**
NACGM Naroch 54.28 320 *e*P P 07 51 56.5 +6.8
COVR Voineasa-Covas 54.35 309⇑P **P 07 51 48.8 -1.6**
KARP Karpathos 54.51 297 P **P 07 51 52.1 +0.4**
MLR Muntele Rosu 54.54 309⇑P **P 07 51 53.2 +1.2**
MLR Muntele Rosu 54.54 309 P **P 07 51 52.9 +1.0**
comp=Z,20nm,0.8s,baz=154,slow=0.4,SNR=24
MLR LR LR 08 21 07.2
comp=Z,106nm,18.4s,baz=56,slow=42
MLR Muntele Rosu 54.54 309⇑P **P 07 51 53.2 +1.2**
MLR Muntele Rosu 54.54 309 P **P 07 51 53.1 +1.2**
IIGN Ignalina 54.65 321 *e*P **P 07 51 52.4 +0.1**
SEY Seymchan 54.66 30 LR LR 08 17 26.6
comp=Z,134nm,18.2s,baz=32,slow=38
SEY Seymchan 54.66 30⇓*e*P **P 07 51 52.3 0.0**
SEY pmax pmax
comp=Z,15nm,2.5s
VSU Vasula 54.73 325*ce*P **P 07 51 52.7 -0.1**
VSU pmax pmax
comp=Z,33nm,0.9s
VSU Vasula 54.73 325 *e*P **P 07 51 53.2 +0.4**
DOPR Dopca 54.91 309⇑P **P 07 51 54.7 +0.2**
BURAR Bucovina Array 54.99 311⇑P **P 07 51 55.3 +0.2**
BURAR Bucovina Array 54.99 311⇑P **P 07 51 55.3 +0.2**
BURAR Bucovina Array 54.99 311 P **P 07 51 55.2 +0.2**
BUR08 Bucovina Ar. S 55.00 311 P **P 07 51 55.8 +0.6**
PSA00 Pilbara Seismi 55.01 146 P **P 07 51 56.0 +0.7**
PSA00 IAmb IAmb 07 51 56.7
comp=Z,20nm,0.9s
VOIR 55.17 309⇑P **P 07 51 57.1 +0.7**
VOIR 55.17 309⇑P **P 07 51 57.1 +0.7**
ARR Arges 55.47 309⇑P **P 07 51 59.2 +0.7**
FIA1 FINESS Array S 55.50 328 P **P 07 51 58.5 +0.1**
FIA1 IAmb IAmb 07 51 59.4
comp=Z,9.1nm,0.8s
FINES FINESS Array B 55.50 328 P **P 07 51 58.0 -0.4**
comp=Z,6.2nm,0.6s,baz=103,slow=8.6,SNR=26
FINES LR LR 08 18 07.7
comp=Z,136nm,18.7s,baz=64,slow=39
FINES FINESS Array B 55.50 328 P **P 07 51 58.7 +0.3**
FINES FINESS Array B 55.50 328 P **P 07 51 58.7 +0.3**
KNRA Kununurra 55.55 134 P **P 07 51 59.7 +0.3**
LVV L'vov 55.75 314 *e*P **P 07 52 00.3 -0.1**
PABE Paberze 55.94 321 P **P 07 52 02.0 +0.4**
PABE Paberze 55.94 321 *e*P **P 07 51 01.4 -0.2**
MEF Metsahovi 56.14 327 *e*P **P 07 52 02.8 -0.2**
MTSE Matsula 56.27 325 *e*P **P 07 52 04.5 +0.5**
PETK Petropavlovsk- 56.28 42 P **P 07 52 02.7 -1.5**
comp=Z,3.2nm,0.9s,baz=255,slow=10,SNR=2.0
IDI Anoyia 56.38 297⇑P **P 07 52 05.1 -0.2**
VTS Vitosha 56.68 305⇑P **P 07 52 08.2 +0.8**
VTS Vitosha 56.68 305⇑P **P 07 52 08.2 +0.8**
GZR Gura Zlata 56.77 309⇑P **P 07 52 08.5 +0.6**
TRPA Tarpa 56.77 312 P **P 07 52 08.6 +0.9**
UZH Uzhgorod 56.92 313 *e*P **P 07 52 09.0 +0.3**
UZH *e* 07 52 17.1
BLKB Belogradchik 56.99 307⇓P **P 07 52 08.2 -1.3**
LODK Lodwar 57.27 257 P **P 07 52 11.1 -0.8**
ARA0 ARCESS Array S 57.40 338 *e*P **P 07 52 12.3 +0.5**
ARCES ARCESS Array B 57.40 338 P **P 07 52 12.6 +0.7**
comp=Z,5.0nm,0.7s,baz=93,slow=7.6,SNR=24
ARCES ARCESS Array B 57.40 338 P **P 07 52 12.3 +0.5**
ARCES IAmb IAmb 07 52 19.1
comp=Z,13nm,0.9s
CRVS Cervenica-Dubn 57.45 313 *e*P **P 07 52 16.5 +3.9**
CRVS Cervenica-Dubn 57.45 313 *e*P **P 07 52 16.5 +3.9**
RAF Rauma 57.52 327 *e*P **P 07 52 12.6 -0.1**
MDVR Moldovita 57.58 308⇓P **P 07 52 14.7 +1.1**
AGG Agios Georgios 57.81 301 P **P 07 52 14.4 -0.9**
AGG pmax pmax
comp=Z,23nm,1.0s
AGG Agios Georgios 57.81 301 P **P 07 52 14.4 -0.9**
AGG IAmb IAmb 07 52 21.3
comp=Z,22nm,1.0s
KMBO Kilima Mbogo 57.89 251 P **P 07 52 17.3 +0.9**
comp=Z,2.4nm,0.5s,baz=43,slow=11,SNR=8.3
KMBO Kilima Mbogo 57.89 251 *i* P **P 07 52 17.2 +0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.5s
KMBO Kilima Mbogo 57.89 251 P **P 07 52 17.1 +0.8**
KTK1 Kautokeino 58.07 337 *e*P **P 07 52 16.6 0.0**
HAMF Hammerfest 58.26 339 *e*P **P 07 52 18.5 +0.6**
FNA Florina 58.29 304 P **P 07 52 18.2 -0.4**
FNA pmax pmax
comp=Z,9.0nm,0.7s
FNA Florina 58.29 304 P **P 07 52 18.2 -0.4**
FNA IAmb IAmb 07 52 25.1
comp=Z,8.6nm,0.7s
ITM Ithomi 58.42 299 P **P 07 52 18.3 -1.2**
ITM IAmb IAmb 07 52 33.2
comp=Z,14nm,0.9s
PSZ Piszkesteto 58.56 312 P **P 07 52 20.8 +0.4**
PSZ pmax pmax
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 58.56 312 P **P 07 52 20.8 +0.4**
PSZ IAmb IAmb 07 52 27.9
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 58.56 312 P **P 07 52 20.4 0.0**
IZAB Izabela 58.63 313 *e*P **P 07 52 23.1 +2.3**
DIVS Divibare 58.87 308 P **P 07 52 22.9 +0.3**
DIVS IAmb IAmb 07 52 24.5
comp=Z,5.2nm,0.7s
JETT Jettan, Norway 59.15 337 *e*P **P 07 52 25.1 +0.9**
VYHS Vyhne 59.22 313 *e*P **P 07 52 26.5 +1.6**
VYHS Vyhne 59.22 313 *e*P **P 07 52 26.5 +1.6**
UPP Uppsala 59.51 326 *e*P **P 07 52 26.9 +0.3**
PDG Podgorica 59.63 306⇓P **P 07 52 27.8 0.0**
PDG Podgorica 59.63 306 P **P 07 52 27.5 -0.2**
PDG IAmb IAmb 07 52 34.3
comp=Z,20nm,1.1s
TRO Tromso 59.68 337 *e*P **P 07 52 28.1 +0.5**
CSKK Cskako 59.71 311 P P 07 52 34.9 +6.6
MORC Moravsky Berou 59.95 314 P **P 07 52 30.5 +0.5**
MORC pmax pmax
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 59.95 314 P **P 07 52 30.5 +0.5**
MORC IAmb IAmb 07 52 37.5
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 59.95 314 *e*P **P 07 52 29.9 -0.1**
MORC *e* 07 52 36.4
JAVC Velka Javorina 59.95 313 *e*P **P 07 52 31.5 +1.5**
JAVC *e* 07 52 37.4
KOVH Kovagototos 59.97 310 P **P 07 52 29.4 -0.7**
VIKU Vikbolandet 59.98 324 *e*P **P 07 52 30.3 +0.4**
MPLH Magyarpolny 60.22 311 P **P 07 52 29.6 -2.2**
KRLC Kraliky 60.41 315 *e*P **P 07 52 33.5 +0.4**
KRLC *e* 07 52 39.5
KRLC Kraliky 60.41 315 *e*P **P 07 52 33.5 +0.4**
KRLC *e*pP **pP 07 52 39.5 -1.5**
VRAC Vranov 60.61 314 P **P 07 52 35.5 +1.1**
comp=Z,4.9nm,0.6s,baz=61,slow=7.7,SNR=7.8
VRAC LR LR 08 23 00.8
comp=Z,57nm,19.6s,baz=66,slow=40
VRAC Vranov 60.61 314 *e*P **P 07 52 35.2 +0.8**
VRAC *e* 07 52 41.2
DPC Dobruska-Polom 60.68 315 *e*P P 07 52 41.2 +6.3
DPC Dobruska-Polom 60.68 315 *e*P P 07 52 41.2 +6.3
KRUC Moravsky 60.77 314 *e*P **P 07 52 36.2 +0.7**
KRUC *e* 07 52 42.1
FAUS Fauske 60.80 335 *e*P **P 07 52 35.5 +0.1**
SOP Sopron 60.82 312 P **P 07 52 35.8 -0.1**
CHVC Chvalec 60.82 315 *e*P P 07 52 42.6 +6.7
STEI Steigen 60.85 335 *e*P **P 07 52 35.0 -0.7**
RONA Rosalia, Austr 60.99 312 *i* P **P 07 52 37.1 0.0**
comp=Z,6.3nm,1.3s
RONA *i* P **pP 07 52 43.7 -1.3**
comp=Z,11nm,1.2s
BILL Bilibino 61.08 25⇑*i*P **P 07 52 37.9 +0.6**
BILL *i* 07 52 43.1
BILL *i* 07 54 58.8
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,165nm,17.0s
BILL Bilibino 61.08 25 P **P 07 52 37.9 +0.6**
BILL IAmb IAmb 07 52 44.9
comp=Z,12nm,1.0s
MOR8 Moi Rana 61.09 333 *e*P **P 07 52 36.4 -1.0**
CONA Conrad Observa 61.26 312 *i* P **P 07 52 39.2 +0.2**
comp=Z,9.7nm,1.1s
CONA *i* P **pP 07 52 45.8 -1.1**
comp=Z,16nm,1.1s
TREC Trest 61.33 314 *e*P **P 07 52 36.5 -2.9**
TREC Trest 61.33 314 *e*P **P 07 52 36.5 -2.9**
HFS Hagfors 61.48 326 P **P 07 52 40.2 +0.1**
baz=134,slow=8.2
LOF Lofoten 61.50 335 *e*P **P 07 52 39.8 -0.3**
ARSA Arzberg 61.57 312 *i* P P 07 52 47.6 +6.6
comp=Z,5.6nm,0.8s
DEL Delary 61.60 322 *e*P **P 07 52 41.9 +0.9**
KONS Konsvik 61.63 334 *e*P **P 07 52 40.9 -0.1**
STOK Stokkvaagen 61.67 333 *e*P **P 07 52 41.1 -0.1**
SPB2 Spitsbergen Ar 61.71 347 P **P 07 52 42.9 +1.5**
SPA0 Spitsbergen Ar 61.72 347 *e*P **P 07 52 39.6 -1.8**
SPITS Spitsbergen Ar 61.72 347 P **P 07 52 42.4 +0.9**
comp=Z,9.6nm,0.9s,baz=126,slow=12,SNR=7.3
SPITS LR LR 08 24 26.0
comp=Z,114nm,19.3s,baz=203,slow=41
PRU Pruhonice 61.85 315 *e*P **P 07 52 43.6 +0.8**
PRU *e* 07 52 49.5
PRU Pruhonice 61.85 315 *e*P **P 07 52 43.6 +0.8**
PRU *e*pP **pP 07 52 49.5 -1.2**
PERS Pernice 61.94 311 *i* P **P 07 52 43.7 +0.2**
PERS *i* pP **pP 07 52 49.9 -1.5**
SOKA Soboth 61.99 311 *e*P **P 07 52 44.1 +0.2**
comp=Z,3.9nm,0.6s
SOKA *e*P **pP 07 52 50.7 -1.1**
comp=Z,11nm,0.9s
RUE Ruedersdorf 62.03 318 *e*P **P 07 52 43.7 -0.2**
comp=Z,31nm,0.4s,baz=81,slow=6.6
BRG Berggiesshubel 62.12 316 *e*P **P 07 52 45.3 +0.7**
BRG Amp 07 52 47.1
comp=Z,5.1nm,0.7s
BRG *i* x x 07 52 51.5
BRG Amp 07 52 52.3
comp=Z,9.3nm,0.9s
BRG Rg Rg 08 23 52.2
BRG Amp 08 23 55.9
comp=Z,8.9nm,1.1s
BRG Berggiesshubel 62.12 316 *e*P **P 07 52 45.3 +0.7**
BRG *i* 07 52 51.5
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 62.12 316 *e*P **P 07 52 45.0 +0.3**
comp=Z,9.3nm,0.9s,baz=81,slow=6.6
BRG *e*pP **pP 07 52 51.2 -1.3**
baz=81,slow=6.5
NSS Namsos 62.13 331 *e*P **P 07 52 44.2 -0.2**
CKRC Cesky Krumlov 62.16 313 *e*P P 07 52 51.2 +6.2
WB0 Warramunga Arr 62.20 132 P **P 07 52 45.8 +0.2**
PBCC Pribram 62.24 314 *e*P P 07 52 52.1 +6.6
WRA Warramunga Arr 62.29 133 P **P 07 52 46.7 +0.6**
comp=Z,37nm,0.6s,baz=322,slow=7.1,SNR=377
WRA Warramunga Arr 62.29 133 P **P 07 52 46.2 0.0**
WRAB Tennant Creek 62.29 133*c i*P **P 07 52 46.6 +0.5**
WRAB pmax pmax
comp=Z,86nm,1.3s
WRAB Tennant Creek 62.29 133 P **P 07 52 46.2 +0.1**
WRAB Tennant Creek 62.29 133 P **P 07 52 47.5 +1.4**
WB2 Warramunga Arr 62.30 133 P **P 07 52 46.6 +0.4**
SGRT San Giovanni R 62.32 305 P **P 07 52 46.5 +0.3**
SGRT IAmb IAmb 07 52 46.9
comp=Z,14nm,0.8s
GBRS Gornja Briga 62.32 310 *i* P **P 07 52 46.2 +0.1**
GBRS *i* pP **pP 07 52 52.5 -1.5**
MOA Molln 62.33 312 *e*P **P 07 52 46.0 -0.1**
comp=Z,6.0nm,0.8s
MOA *i* P **pP 07 52 52.6 -1.4**
comp=Z,10nm,0.8s
OBKA Obir 62.34 311 *i* P **P 07 52 46.4 +0.1**
comp=Z,6.2nm,0.8s
OBKA *i* P **pP 07 52 53.1 -1.1**
comp=Z,7.1nm,0.6s
NC405 NORSAR Array S 62.40 327 P **P 07 52 46.2 -0.1**
LJU Ljubljana 62.43 310 *i* P **P 07 52 47.2 +0.4**
LJU *i* pP **pP 07 52 53.5 -1.2**
WR0 Warramunga Arr 62.44 132 P **P 07 52 47.3 +0.2**
MUN Mundaring 62.45 155 P **P 07 52 47.3 +0.4**
comp=Z,83nm,0.8s
FBE Freiberg 62.49 316 *e*P **P 07 52 47.8 +0.7**
comp=Z,20nm,1.1s,baz=81,slow=6.6
FBE *e*pP **pP 07 52 53.9 -1.1**
baz=81,slow=6.5
NC602 NORSAR Array S 62.51 327 *e*P **P 07 52 46.4 -0.6**
GEC2 GERESS Array S 62.55 314 P **P 07 52 48.3 +0.6**
GEC2 IAmb IAmb 07 52 55.1
comp=Z,15nm,1.0s
GEC2 GERESS Array S 62.55 314 *e*P **P 07 52 48.0 +0.3**
comp=Z,22nm,1.3s,baz=81,slow=6.6
GEC2 *e*pP **pP 07 52 54.3 -1.3**
baz=81,slow=6.5
GERES GERESS Array B 62.55 314 P **P 07 52 48.1 +0.5**
comp=Z,3.1nm,0.6s,baz=97,slow=3.2,SNR=22
GERES LR LR 08 21 43.5
comp=Z,82nm,18.5s,baz=85,slow=38
GERES GERESS Array B 62.55 314 P **P 07 52 48.0 +0.3**
KHC Kasperske Hory 62.59 314*de*P **P 07 52 48.2 +0.3**
KHC pmax pmax
comp=Z,13nm,1.1s
KHC Kasperske Hory 62.59 314 *e*P **P 07 52 47.7 -0.2**
KHC *e*pP **pP 07 52 54.0 -1.8**
NB2 NORSAR Subarra 62.65 327 P **P 07 52 47.4 -0.6**
comp=Z,13nm,0.8s,baz=84,slow=6.5
NB2 NORSAR Subarra 62.65 327 P **P 07 52 47.4 -0.6**
baz=84,slow=6.5
NOA NORSAR Array B 62.65 327 P **P 07 52 47.6 -0.5**
comp=Z,5.4nm,0.8s,baz=86,slow=6.6,SNR=18
NOA LR LR 08 22 38.4
comp=Z,111nm,18.3s,baz=85,slow=38
CLL Collm 62.65 316 *e*P **P 07 52 48.0 -0.2**
CLL *i* 07 52 54.1
CLL Collm 62.65 316 *e*P **P 07 52 48.0 -0.2**
CLL *i* sP **pP 07 52 54.1 -2.0**
comp=Z,7.0nm,1.0s
CLL Collm 62.65 316 *e*pP pP 07 52 54.4 -1.6
baz=81,slow=6.5
CEL Celeste 62.91 302 P **P 07 52 50.6 +0.5**
OSL Oslo 62.98 326 *e*P **P 07 52 50.1 -0.1**
TRI Trieste 63.02 310 P **P 07 52 50.5 -0.1**
TRI pmax pmax
comp=Z,17nm,0.8s
TRI Trieste 63.02 310 P **P 07 52 50.5 -0.1**
TRI IAmb IAmb 07 52 57.5
comp=Z,16nm,0.8s
WET Wettzell 63.05 314 *e*P **P 07 52 51.1 +0.2**
comp=Z,17nm,1.4s,baz=81,slow=6.6
WET *e*pP **pP 07 52 57.6 -1.2**
baz=81,slow=6.5
KBA Koelnbreinsper 63.07 312 *i* P **P 07 52 50.9 -0.4**
comp=Z,2.9nm,0.7s
KBA *i* P **pP 07 52 57.2 -1.9**
comp=Z,5.4nm,0.8s
TANN Tannenbergstha 63.12 315 *e*P **P 07 52 51.6 +0.2**
comp=Z,6.2nm,1.1s,baz=81,slow=6.6
TANN *e*pP **pP 07 52 58.0 -1.3**
baz=81,slow=6.5
WERN Wernitzgruen 63.19 315 *e*P **P 07 52 52.4 +0.6**
comp=Z,5.5nm,1.1s,baz=81,slow=6.6
WERN *e*pP **pP 07 52 58.5 -1.2**
baz=81,slow=6.5
GUNZ Gunzen 63.21 315 *e*P **P 07 52 52.3 +0.4**
comp=Z,14nm,1.0s,baz=81,slow=6.6
GUNZ *e*pP **pP 07 52 58.6 -1.2**
baz=81,slow=6.5
WERD Werda 63.21 315 *e*P **P 07 52 52.2 +0.3**
comp=Z,9.2nm,1.0s,baz=81,slow=6.6
WERD *e*pP **pP 07 52 58.5 -1.4**
baz=81,slow=6.5
MBAR Mbarara 63.25 255*ce*P **P 07 52 54.1 +1.2**
MBAR pmax pmax
comp=Z,6.0nm,1.0s
MBAR Mbarara 63.25 255 P **P 07 52 53.4 +0.5**
MBAR IAmb IAmb 07 52 54.5
comp=Z,7.3nm,0.7s
PLN Plauen 63.30 316 *e*P **P 07 52 52.8 +0.3**
comp=Z,4.1nm,0.7s,baz=81,slow=6.6
PLN *e*pP **pP 07 52 59.1 -1.3**
baz=81,slow=6.5
RJOB Jochberg 63.33 312 *e*P **P 07 52 52.5 -0.3**
comp=Z,5.1nm,1.2s,baz=81,slow=6.6
ROTZ Rotzenmuhle 63.38 315 *e*P **P 07 52 53.8 +0.7**
comp=Z,4.0nm,1.2s,baz=81,slow=6.6
ROTZ *e*pP **pP 07 53 00.1 -0.8**
baz=81,slow=6.5
MANZ Manzenberg 63.41 315 *e*P **P 07 52 54.0 +0.7**
comp=Z,2.9nm,1.4s,baz=81,slow=6.6
MANZ *e*pP **pP 07 53 00.1 -1.1**
baz=81,slow=6.5
NEUB Neuenburg 63.43 316 *e*P **P 07 52 53.6 +0.2**
comp=Z,12nm,0.8s,baz=81,slow=6.6
NEUB *e*pP **pP 07 52 59.8 -1.4**
baz=81,slow=6.5
VOI Vohitsoka 63.55 226 P **P 07 52 55.4 +0.9**
VOI IAmb IAmb 07 52 55.8
comp=Z,10nm,0.7s
KONO Kongsberg 63.57 326⇑*e*P **P 07 52 54.6 +0.5**
KONO pmax pmax
comp=Z,11nm,1.1s
KONO Kongsberg 63.57 326 *e*P **P 07 52 54.2 +0.1**
DOMB Dombas 63.59 329 *e*P **P 07 52 54.3 0.0**
FLTG Flechtingen 63.59 318 *e*P **P 07 52 54.2 -0.1**
comp=Z,9.8nm,1.1s,baz=81,slow=6.6
FLTG *e*pP **pP 07 53 00.4 -1.9**
baz=81,slow=6.5
MOX Moxa 63.62 316 *e*P **P 07 52 55.0 +0.4**
comp=Z,11nm,1.0s,baz=81,slow=6.6
MOX *e*pP **pP 07 53 01.2 -1.3**
baz=81,slow=6.5
MOX *e*L L 08 22 56.8
comp=Z,158nm,20.8s
ABTA Abfaltersbach 63.69 311 *e*P **P 07 52 55.0 -0.3**
comp=Z,5.8nm,0.9s
ABTA *i* P **pP 07 53 00.7 -2.4**
comp=Z,8.7nm,1.2s
BSEG Bad Segeberg 63.91 320 *e*P **P 07 52 57.3 +0.9**
comp=Z,17nm,1.0s,baz=81,slow=6.6
BSEG *e*pP **pP 07 53 03.5 -0.8**
baz=81,slow=6.5
NRCA Norcia 64.02 307 P **P 07 52 57.4 -0.1**
GRF Grafenberg Arr 64.02 315 *e*P **P 07 52 57.9 +0.6**
comp=Z,7.5nm,1.0s,baz=81,slow=6.6
GRF *e*pP **pP 07 53 04.3 -1.0**
baz=81,slow=6.5
GRF *e*L L 08 23 13.5
comp=Z,103nm,21.0s
SKAR Skarslia 64.10 327 *e*P **P 07 52 57.9 +0.2**
WTTA Wattenberg 64.18 312 *i* P **P 07 52 57.9 -0.7**
comp=Z,11nm,1.2s
WTTA *i* P **pP 07 53 04.3 -2.2**
comp=Z,15nm,0.9s
CLZ Clausthal 64.20 317 *e*P **P 07 52 58.1 -0.4**
comp=Z,15nm,1.1s,baz=81,slow=6.6
CLZ *e*pP **pP 07 53 04.4 -1.9**
baz=81,slow=6.5
WATA Walderalm 64.21 312 *i* P P 07 53 04.3 +5.6
comp=Z,10nm,0.8s
MOL Molde 64.24 329 *e*P **P 07 52 57.9 -0.5**
NRDL Niedersach Rie 64.25 318 *e*P **P 07 52 59.6 +1.0**
comp=Z,24nm,1.1s,baz=81,slow=6.6
NRDL *e*pP **pP 07 53 05.8 -0.7**
baz=81,slow=6.5
HOMB Homborsund 64.30 324 *e*P **P 07 52 59.0 +0.1**
MURB Monte Urbino 64.35 308 P **P 07 53 00.0 +0.4**
CTI Castel Tesino 64.41 311 P **P 07 53 00.1 +0.1**
CTI pmax pmax
comp=Z,7.0nm,0.8s
CTI Castel Tesino 64.41 311 P **P 07 53 00.1 +0.1**
CTI IAmb IAmb 07 53 06.1
comp=Z,6.7nm,0.8s
MOTA Moosalm 64.52 312 *i* P **P 07 53 00.6 -0.2**
comp=Z,8.9nm,0.8s
MOTA *i* P **pP 07 53 06.5 -2.2**
comp=Z,17nm,1.1s
UBBA Unterbreizbach 64.60 316 *e*P **P 07 53 01.1 +0.2**
comp=Z,15nm,1.7s,baz=81,slow=6.6
RETH Rethem/Aller, 64.66 318 *e*P **P 07 53 01.8 +0.5**
comp=Z,11nm,1.4s,baz=81,slow=6.6
RETH *e*pP **pP 07 53 08.1 -1.2**
baz=81,slow=6.5
AS31 Alice Springs 64.67 136 P **P 07 53 02.2 +0.3**
AS31 IAmb IAmb 07 53 03.4
comp=Z,8.6nm,0.7s
ASAR Alice Springs 64.67 136 P **P 07 53 02.7 +0.9**
comp=Z,30nm,0.7s,baz=318,slow=6.7,SNR=262
RETA Reutte 64.72 312 *i* P **P 07 53 01.1 -0.9**
comp=Z,7.4nm,0.9s
RETA *i* P **pP 07 53 08.0 -2.0**
comp=Z,8.8nm,0.9s
COEN Coen 64.74 121 P **P 07 53 02.1 -0.3**
COEN IAmb IAmb 07 53 02.6
comp=Z,27nm,1.5s
FETA Feichten 64.84 312 *i* P **P 07 53 02.0 -0.8**
comp=Z,6.5nm,1.1s
FETA *i* P **pP 07 53 08.6 -2.2**
comp=Z,13nm,1.6s
UBR Ueberruh 65.12 313 *e*P **P 07 53 04.1 -0.5**
comp=Z,18nm,1.6s,baz=81,slow=6.6
UBR *e*pP **pP 07 53 10.4 -2.1**
baz=81,slow=6.5
SALO Salr 65.26 310 P **P 07 53 05.8 +0.3**

PMG Port Moresby 65.27 115c iP P 07 53 06.2 +0.3
PMG pmax pmax
comp=Z,25nm,1.0s
PMG Port Moresby 65.27 115 P P 07 53 06.4 +0.6
PMG Port Moresby 65.27 115 P P 07 53 06.9 +1.0
DAVA Damuels 65.35 312 i P P 07 53 05.8 -0.4
comp=Z,13nm,1.1s
DAVA i P pP 07 53 12.3 -1.8
comp=Z,16nm,0.8s
DAVOX Davos/Dischmat 65.46 312 P P 07 53 05.2 -1.7
comp=Z,1.4nm,0.5s,baz=96,slow=10,SNR=2.5
DAVOX LR LR 08 26 39.4
comp=Z,71nm,19.0s,baz=84,slow=40
KASTN Kahler Asten 65.51 317 eP P 07 53 07.4 +0.4
comp=Z,8.6nm,1.2s,baz=81,slow=6.6
KASTN epP pP 07 53 13.7 -1.3
baz=81,slow=6.5
TNS Taunus Mts 65.69 316 eP P 07 53 08.5 +0.4
comp=Z,11nm,0.9s,baz=81,slow=6.6
TNS epP pP 07 53 14.9 -1.2
baz=81,slow=6.5
IBBN Ibbenburen 65.70 318 eP P 07 53 08.7 +0.6
comp=Z,14nm,1.0s,baz=81,slow=6.6
IBBN epP pP 07 53 14.9 -1.2
baz=81,slow=6.5
TUE Stuetta 65.88 312 P P 07 53 09.3 -0.3
TUE IAmb IAmb 07 53 19.9
comp=Z,9.3nm,0.9s
BFO Black Forest 66.16 314 epP pP 07 53 16.9 -2.3
baz=81,slow=6.5
BUG Bochum--Univer 66.17 317 eP P 07 53 11.5 +0.3
comp=Z,10nm,1.0s,baz=81,slow=6.6
BUG epP pP 07 53 17.9 -1.2
baz=81,slow=6.5
QIS Mount Isa 66.30 129 P P 07 53 13.2 +0.8
AHRW Bad Neuenahr-A 66.48 316 eP P 07 53 13.7 +0.6
comp=Z,11nm,0.8s,baz=81,slow=6.6
AHRW epP pP 07 53 20.0 -1.1
baz=81,slow=6.5
FORT Forrest 66.74 145 P P 07 53 15.7 +0.7
BTNL Ternell 67.06 316 dP P 07 53 17.2 +0.3
MEM Membach 67.13 317 dP P 07 53 17.0 -0.3
MEM dx x 07 53 24.2
WLF Walferdange 67.25 315 P P 07 53 19.0 +0.9
WLF pmax pmax
comp=Z,44nm,1.3s
WLF Walferdange 67.25 315 P P 07 53 19.0 +0.9
WLF Walferdange 67.25 315 eP P 07 53 19.1 +0.9
comp=Z,22nm,1.0s,baz=81,slow=6.6
WLF epP pP 07 53 25.4 -0.7
baz=81,slow=6.5
WLF Walferdange 67.25 315 dP P 07 53 19.1 +0.9
WLF dx x 07 53 25.5
SENIN Lac Senin/Sane 67.28 312 P P 07 53 18.9 +0.2
SENIN IAmb IAmb 07 53 25.3
comp=Z,7.0nm,0.8s
BCLA Clavier 67.61 316 dP P 07 53 20.2 -0.2
BMRD Maredsous 67.97 316 dP P 07 53 23.1 +0.4
BMRD dx x 07 53 29.2
DOU Dourbes 68.13 316 dP P 07 53 23.4 -0.2
DOU dPcP PcP 07 53 49.8 +0.3
MTSU Mount Surprise 68.16 124 P P 07 53 25.7 +1.5
comp=Z,9.6nm,0.8s
KEST Kesra 68.62 300 P P 07 53 26.1 -1.0
comp=Z,23nm,0.9s,baz=355,slow=3.5,SNR=17
KEST Kesra 68.62 300 P P 07 53 27.3 +0.3
OOD Oodnadatta 68.77 138 P P 07 53 28.9 +1.1
MULG Mulgathing 69.63 140 P P 07 53 33.7 +0.6
MCD Coleburn Disti 70.57 325 eP P 07 53 39.2 +0.7
EDMD Edmundbyers 70.70 322 eP P 07 53 39.7 +0.2
EDMD IAmb IAmb 07 53 46.5
comp=Z,31nm,1.0s
ESY Stoneypath 70.73 323 eP P 07 53 39.9 +0.3
CTA Charters Tower 70.80 125 P P 07 53 41.4 +0.9
EBL Broad Law 71.01 323 eP P 07 53 41.4 +0.1
EDI Edinburgh 71.04 324 eP P 07 53 41.8 +0.3
EDI IAmb IAmb 07 53 47.0
comp=Z,25nm,1.3s
EKA Eskdalemuir Ar 71.21 323 P P 07 53 42.5 +0.1
comp=Z,11nm,0.9s,baz=84,slow=7.2,SNR=12
EKA PP PP 07 56 21.4 +1.2
comp=Z,1.2nm,0.7s,baz=68,slow=7.6,SNR=3.4
ESK Eskdalemuir 71.24 323 eP P 07 53 42.7 0.0
ESK IAmb IAmb 07 53 48.9
comp=Z,36nm,1.4s
ESK Eskdalemuir 71.24 323 P P 07 53 43.2 +0.5
ESK pmax pmax
comp=Z,23nm,1.0s
ESK Eskdalemuir 71.24 323 P P 07 53 43.2 +0.5
ESK IAmb IAmb 07 53 50.5
comp=Z,23nm,0.9s
KAC Achnashellach 71.64 326 eP P 07 53 45.1 0.0
INKA Innaminka 71.90 134 P P 07 53 48.8 +1.8
MCH1 Michaelchurch 72.18 320 eP P 07 53 48.4 0.0
LCRK Leigh Creek 72.20 138 P P 07 53 50.1 +1.3
comp=Z,40nm,1.0s
BBOO Buckleboo 72.65 141 P P 07 53 51.2 -0.2
BBOO Buckleboo 72.65 141 P P 07 53 52.3 +0.9
ANM Nome 72.87 26 P P 07 53 53.3 +1.0
ANM pmax pmax
comp=Z,7.0nm,1.0s
ANM Nome 72.87 26 P P 07 53 53.3 +1.0
ANM Nome 72.87 26 P P 07 53 52.3 0.0
baz=294
LSZ Lusaka 73.03 243 P P 07 53 55.1 +0.9
LSZ pmax pmax
comp=Z,19nm,0.8s
LSZ Lusaka 73.03 243 P P 07 53 55.1 +0.9
LSZ IAmb IAmb 07 53 55.9
comp=Z,19nm,0.8s
RSBS Rosebush, Pemb 73.21 320 eP P 07 53 54.8 +0.2
RSBS IAmb IAmb 07 53 55.4
comp=Z,26nm,0.9s
QLP Quilpie 73.45 131 P P 07 53 58.0 +1.8
EUNU Eureka 74.39 359 P P 07 54 02.0 +0.9
EUNU IAmb IAmb 07 54 09.2
comp=Z,18nm,0.8s
HTT Hallett 74.75 140 P P 07 54 05.5 +1.7
comp=Z,24nm,1.1s
STKA Stephens Creek 75.27 137 P P 07 54 06.3 -0.4
comp=Z,9.4nm,0.8s,baz=332,slow=8.7,SNR=11
STKA Stephens Creek 75.27 137ceP P 07 54 06.9 +0.2
STKA Stephens Creek 75.27 137 P P 07 54 07.2 +0.4
STKA Stephens Creek 75.27 137 P P 07 54 07.4 +0.7
comp=Z,3.9nm,1.2s
GCSA Galena City Sc 76.03 24 P P 07 54 11.1 +0.4
baz=301
TOLK Toolik Lake Re 76.28 19 P P 07 54 12.8 +0.6
TOLK IAmb IAmb 07 54 20.1
comp=Z,16nm,1.0s
TOLK Toolik Lake Re 76.28 19 P P 07 54 12.3 +0.2
baz=306
IMAR Indian Mountai 76.48 22 P P 07 54 13.2 0.0
RMQ Roma 76.53 128 P P 07 54 16.5 +2.4
COLD Coldfoot 76.93 20 P P 07 54 16.8 +1.0
COLD IAmb IAmb 07 54 23.9
comp=Z,19nm,1.4s
COLD Coldfoot 76.93 20 P P 07 54 16.3 +0.6
baz=306
H21K Melozitna Rive 76.99 22 P P 07 54 16.9 +0.8
H21K IAmb IAmb 07 54 24.3
comp=Z,20nm,1.3s
H21K Melozitna Rive 76.99 22 P P 07 54 16.9 +0.8
baz=304
ESDC Sonseca Array 77.22 308 P P 07 54 17.1 -0.9
comp=Z,2.8nm,0.9s,baz=58,slow=5.6,SNR=9.2
ESDC Sonseca Array 77.22 308 P P 07 54 18.2 +0.2
J20K Nowinta River 77.34 24 P P 07 54 18.7 +0.6
J20K IAmb IAmb 07 54 20.4
comp=Z,11nm,1.1s
J20K Nowinta River 77.34 24 P P 07 54 18.9 +0.8
baz=303
I21K Tanana 77.54 23 P P 07 54 20.1 +0.9
I21K IAmb IAmb 07 54 21.4
comp=Z,8.2nm,1.0s
I21K Tanana 77.54 23 P P 07 54 20.6 +1.4
baz=305
CMSA Cobar Meteorol 77.64 134 P P 07 54 21.1 +1.0
K20K Telida 77.82 25 P P 07 54 21.6 +0.7
baz=304
MLY Manley 78.06 22 P P 07 54 22.7 +0.6
MLY IAmb IAmb 07 54 30.2
comp=Z,18nm,1.2s
MLY Manley 78.06 22 P P 07 54 22.7 +0.6
baz=306

CHUM Lake Minchumin 78.17 24 P P 07 54 23.6 +0.9
baz=305
I23K Minto, Yukon-K 78.46 22 P P 07 54 25.2 +1.0
baz=307
BMAR Burnt Mountain 78.51 19 P P 07 54 25.8 +1.2
H24K Noodor Dome 78.52 21 P P 07 54 25.4 +0.7
baz=308
BPAW Bear Paw Mtn. 78.52 23 P P 07 54 25.5 +0.8
BPAW IAmb IAmb 07 54 32.5
comp=Z,9.8nm,1.0s
BPAW Bear Paw Mtn. 78.52 23 P P 07 54 25.3 +0.6
baz=306
CAST Castle Rocks 78.53 24 P P 07 54 25.4 +0.6
baz=305
PPLA Purkeypile 78.79 25 P P 07 54 26.6 +0.3
baz=305
NEA2 Nenana 78.89 22 P P 07 54 27.1 +0.4
baz=308
MDM Murphy Dome 78.95 22 P P 07 54 27.4 +0.4
MDM IAmb IAmb 07 54 34.9
comp=Z,21nm,0.9s
POKR Poker Plat Res 79.12 21 P P 07 54 28.1 +0.2
baz=309
TCOL CIGO, UAF Yank 79.13 22 P P 07 54 28.1 +0.2
baz=309
COLA College 79.13 22c iP P 07 54 28.0 +0.1
COLA pmax pmax
comp=Z,8.0nm,1.0s
CCB Clear Creek Bu 79.29 22 P P 07 54 27.8 -1.1
A36M Sachs Harbour 79.46 11 P P 07 54 30.5 +0.8
A36M Sachs Harbour 79.46 11 P P 07 54 30.1 +0.5
baz=328
MCK McKinley 79.47 23 P P 07 54 30.1 +0.2
baz=308
O19K Port Alsworth 79.49 27 P P 07 54 30.4 +0.4
baz=304
IL31 79.52 22 P P 07 54 30.2 +0.2
ILAR Eielson Array 79.52 22 P P 07 54 28.9 -1.2
comp=Z,3.9nm,0.9s,baz=303,slow=5.2,SNR=32
ILAR Eielson Array 79.52 22 P P 07 54 30.1 0.0
ILAR Eielson Array 79.52 22 P P 07 54 30.1 0.0
CUT Chulitna 79.80 24 P P 07 54 31.6 0.0
baz=307
J25K Salcha River, 80.12 21 P P 07 54 32.8 -0.7
baz=311
M22K Willow 80.25 25 P P 07 54 33.9 -0.2
baz=307
LBTB Lobatse 80.45 236 P P 07 54 36.8 +0.9
LBTB pmax pmax
comp=Z,26nm,1.0s
LBTB Lobatse 80.45 236 P P 07 54 36.8 +0.9
LBTB IAmb IAmb 07 54 37.6
comp=Z,26nm,0.9s
WAT6 Susitna Watana 80.61 24 P P 07 54 36.6 +0.3
baz=309
PMR Palmer 80.72 25 P P 07 54 37.0 +0.4
baz=308
J26L Joseph Creek 80.78 21 P P 07 54 36.9 -0.1
baz=312
INK Inuvik 80.80 15 P P 07 54 36.7 -0.2
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 80.80 15 P P 07 54 36.7 -0.2
INK IAmb IAmb 07 54 44.3
comp=Z,15nm,0.8s
INK Inuvik 80.80 15 P P 07 54 36.9 0.0
baz=321
RC01 Rabbit Creek A 80.80 25 P P 07 54 37.4 +0.4
baz=308
RIDG Independent Ri 80.87 22 P P 07 54 37.0 -0.4
baz=311
SML Sawmill 80.89 24 P P 07 54 37.8 +0.2
baz=309
SCRK Sand Creek 80.99 21 P P 07 54 38.1 -0.1
SCRK IAmb IAmb 07 54 39.2
comp=Z,8.5nm,0.7s
SCRK Sand Creek 80.99 21 P P 07 54 38.5 +0.2
baz=312
PAX Paxson 81.16 23 P P 07 54 38.9 -0.2
baz=311
SCM Sheep Creek Mo 81.24 24 P P 07 54 40.2 +0.7
baz=309
EGAK Eagle 81.34 20 P P 07 54 40.6 +0.7
PWL Port Wells 81.48 25 P P 07 54 41.4 +0.7
baz=309
M24K Tolsona, Glenn 81.48 23 P P 07 54 41.5 +0.8
baz=310
KDAK Kodiak Island 81.61 29 P P 07 54 41.1 -0.3
KDAK pmax pmax
comp=Z,32nm,1.1s
KDAK Kodiak Island 81.61 29 P P 07 54 41.1 -0.3
OHAK Old Harbor 81.62 30 P P 07 54 40.9 -0.6
baz=305
HARP HAARP 81.65 23 P P 07 54 42.6 +1.0
baz=311
I29M Ogilvie Camp, 81.77 19 P P 07 54 41.7 -0.5
baz=317
L26K Log Cabin Wild 81.85 22 P P 07 54 43.2 +0.6
baz=313
C36M Paulatuk 81.92 12 P P 07 54 42.4 -0.5
C36M IAmb IAmb 07 54 49.7
comp=Z,20nm,1.0s
C36M Paulatuk 81.92 12 P P 07 54 42.4 -0.5
baz=329
KLU Klutina 81.97 24 P P 07 54 44.0 +0.6
baz=311
L27K Beaver Creek, 82.33 21 P P 07 54 46.1 +0.9
baz=314
BCAR Beaver Creek A 82.34 21 P P 07 54 45.3 +0.1
N25K Chitina, Valde 82.37 23 P P 07 54 46.0 +0.5
baz=312
DAWY Dawson 82.39 20 P P 07 54 45.8 +0.3
DAWY IAmb IAmb 07 54 52.9
comp=Z,8.7nm,1.1s
DAWY Dawson 82.39 20 P P 07 54 45.3 -0.2
baz=316
J29M Klondike Camp 82.46 19 P P 07 54 46.5 +0.6
baz=317
BOSA Boshof 82.72 234 P P 07 54 48.3 +0.5
comp=Z,11nm,0.9s,baz=62,slow=5.0,SNR=11
BOSA Boshof 82.72 234 P P 07 54 48.0 +0.2
BOSA pmax pmax
comp=Z,11nm,0.9s
BOSA Boshof 82.72 234 P P 07 54 48.0 +0.2
BOSA IAmb IAmb 07 54 49.2
comp=Z,11nm,0.8s
M27K Edge Creek, AK 82.80 22 P P 07 54 48.7 +0.9
baz=314
TOA0 Torodi Ar. Sit 83.30 281 P P 07 54 50.7 -0.4
TORD Torodi Ar. Bea 83.30 281 P P 07 54 51.4 +0.3
comp=Z,2.5nm,0.6s,baz=55,slow=4.1,SNR=16
TORD Torodi Ar. Bea 83.30 281 P P 07 54 50.9 -0.2
M31M Drury Creek, Y 85.30 19 P P 07 55 00.8 +0.4
M31M IAmb IAmb 07 55 07.9
comp=Z,11nm,1.4s
M31M Drury Creek, Y 85.30 19 P P 07 55 00.4 +0.1
baz=320
N31M Braeburn, Yuko 85.42 20 P P 07 55 01.1 +0.1
baz=319
WHY Whitehorse 86.33 21 P P 07 55 05.7 +0.1
baz=320
SKAG Skagway 87.11 22 P P 07 55 09.7 +0.4
baz=320
P33M Teslin, Yukon 87.33 20 P P 07 55 10.7 +0.2
baz=322
KOWA Kowa 87.75 285 P P 07 55 13.6 +0.4
KOWA IAmb IAmb 07 55 15.0
comp=Z,8.7nm,0.9s
YKA Yellowknife Ar 89.80 11 P P 07 55 21.3 -0.7
comp=Z,3.5nm,0.8s,baz=332,slow=4.6,SNR=59
YKA PP PP 07 58 53.1 -0.4
comp=Z,0.5nm,0.8s,baz=338,slow=8.1,SNR=5.4
YKA PKKP PKKPdf 08 12 49.9 +0.2
comp=Z,0.1nm,0.5s,baz=161,slow=2.4,SNR=6.2
YKA Yellowknife Ar 89.80 11 P P 07 55 21.6 -0.3
DBIC Dimbokro 91.90 278 P P 07 55 33.2 +0.6
comp=Z,8.2nm,0.8s,baz=83,slow=4.3,SNR=8.2
DBIC Dimbokro 91.90 278 P P 07 55 33.1 +0.5
CASY Casey 93.01 172 P P 07 55 37.1 +0.7
SYO Syowa Base 101.42 197⇓epPKiKP PKiKP 08 00 46.0 +7.6
NVAR Mina Array Bea 110.69 24 PKiKP PKiKP 08 00 57.0 0.0
comp=Z,0.5nm,0.7s,baz=62,slow=3.1,SNR=4.4
MNTX Cornudas Mount 120.90 16 PKPdf PKiKP 08 01 16.8 +0.2
JCT Junction City 123.23 11 PKIKP PKPdf 08 01 21.1 +0.1
JCT Junction City 123.23 11 PKPdf PKPdf 08 01 21.1 +0.1
TXAR Lajitas Array 123.57 15 PKP PKPdf 08 01 21.6 -0.2
comp=Z,0.8nm,0.5s,baz=35,slow=1.7,SNR=24

UREC San Jos de Ur 144.01 336 eP PKPbc 08 01 57.7 -0.2
PTBC PUERTO BERRIO,144.71 333 eP PKPab 08 01 58.7 -1.3
RUSC La Rusia 144.71 331 eP PKPab 08 01 57.4 -3.2
SPBC San Pablo de B 145.35 332 eP PKPbc 08 02 00.4 -1.9
HELC Santa Helena 145.45 335 eP PKPbc 08 01 59.7 -3.2
NORC Norcasia 145.76 333 eP PKPdf 08 01 59.7 -3.4
PTGC Puerto Gaitan, 145.77 328 eP PKPbc 08 02 03.4 -0.1
CBOC Ciudad Bolivar 145.93 335 eP PKPdf 08 01 59.7 -3.9
CHIC Chingaza 146.12 331 eP PKPdf 08 01 59.7 -4.5
ROSC El Rosal 146.19 332 PKPbc PKPbc 08 02 05.5 +0.2
comp=Z,71nm,0.9s,baz=117,slow=5.8,SNR=27
ROSC El Rosal 146.19 332 eP PKPab 08 02 06.7 +0.8
GUY2C Guyana, Caldas 146.27 334 eP PKPdf 08 01 59.7 -4.8
PLMC San Jos del P 146.92 335 eP PKPdf 08 01 59.7 -5.4
ANIL Santa Ana 146.95 333 eP PKPbc 08 02 07.6 +0.2
ORTC Ortega, Tolima 147.42 333 eP PKPdf 08 02 03.7 -2.3
GUVC San Jose del G 147.45 327 eP PKPdf 08 02 03.7 -2.3
YOTC Yotoco, Valle 147.79 335 eP PKPdf 08 02 06.5 -0.2
MACC Macarena, Meta 148.38 329 eP PKPbc 08 02 11.5 +0.5
MARP Paez Belalcaza 148.67 333 eP PKPbc 08 02 11.5 -0.5
GARC Garzon, Huila 149.07 332 eP PKPdf 08 02 07.6 -1.4
POPC Popayan, Colom 149.24 334 eP PKPbc 08 02 12.8 -0.6
PCON Cinco Dias 149.32 334 eP PKiKP 08 02 15.4 +0.2
SOTA Rioblanco 149.58 334⇑eP PKPbc 08 02 12.4 -2.2
SOTA eP PKiKP 08 02 15.2 -0.5
PTLC Puerto Leguiza 150.55 329 eP PKPbc 08 02 16.6 +0.3
CPUP Villa Florida 151.09 262 PKP PKPdf 08 02 11.1 -0.3
comp=Z,12nm,0.8s,baz=0.2,slow=6.0,SNR=5.1
CPUP PKPbc PKPbc 08 02 16.9 -0.4
comp=Z,14nm,0.7s,baz=88,slow=2.5,SNR=41
CPUP PKPab sPKPdf 08 02 23.4 +0.8
comp=Z,11nm,0.7s,baz=65,slow=4.0,SNR=14
CPUP Villa Florida 151.09 262 PKPdf PKPdf 08 02 09.6 -1.7
CPUP PKPbc 08 02 16.7 -0.5
CPUP PKPab PKPab 08 02 24.2 -0.7
CMBC Cumbal 151.14 335 eP PKPdf 08 02 11.5 -0.9
TULM Tulcn-Chalpat 151.34 335 eP PKiKP 08 02 20.4 +1.1
TBTG Tabatinga, AM 151.46 315 eP PKPbc 08 02 17.6 -0.9
CUSE Cuicocha Este 151.94 336 eP PKPdf 08 02 15.4 +1.8
OTAV Otavalo 152.03 336 eP PKPdf 08 02 11.5 -2.3
LPAZ La Paz 157.93 291 PKP PKPdf 08 02 21.2 -0.7
comp=Z,1.5nm,1.0s,baz=32,slow=3.5,SNR=3.7
LPAZ PKPab PKPab 08 02 54.3 -0.7
comp=Z,3.6nm,0.9s,baz=7.8,slow=2.3,SNR=10
LPAZ La Paz 157.93 291 PKPdf 08 02 20.4 -1.5
LPAZ PKPab PKPab 08 02 54.4 -0.6
PLCA Paso Flores 158.27 222 PKP PKPdf 08 02 20.0 -1.0
comp=Z,2.8nm,1.0s,baz=198,slow=4.4,SNR=4.3
PLCA PKPab PKPab 08 02 54.7 -0.4
comp=Z,3.9nm,0.8s,baz=108,slow=2.4,SNR=10.0
PLCA Paso Flores 158.27 222 PKPdf 08 02 20.4 -0.6
PLCA PKPab PKPab 08 02 54.4 -0.7

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*IDC **05** 07:44:48.7±9.1, 27.°08S×179.°06W, h348km±97km, mb3.2/4, mb1 3.5/6, mb1mx3.2/24, mbtmp4.0/6, Error ellipse: s-maj=53.0km s-min=31.7km az=11.0*

ISC 05 07:44:48.8±1.2**, 27.°1S**±0.°2×**179.°1W**±0.°2**, h350**km**, n6,** σ**1.s03**/6**, mb3.3**/4**, Kermadec Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 14.05 288 P Pn 07 47 54.5 -0.3
0.4nm,0.3s,baz=150,slow=14,SNR=2.7
RPZ Rata Peaks 18.44 203 P P 07 48 39.8 -0.4
0.7nm,0.3s,baz=21,slow=8.6,SNR=2.0
ASAR Alice Springs 42.41 264 P P 07 52 12.1 +1.6
0.4nm,0.6s,baz=94,slow=7.1,SNR=5.4
WRA Warramunga Arr 43.09 269 P P 07 52 15.2 -0.7
0.6nm,0.5s,baz=105,slow=7.9,SNR=29
TXAR Lajitas Array 91.41 58 P P 07 57 16.0 -0.1
0.4nm,0.7s,baz=220,slow=5.7,SNR=5.9
ILAR Eielson Array 94.89 13 P P 07 57 31.2 +0.1
0.9nm,1.0s,baz=224,slow=5.0,SNR=3.9

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*IDC **05** 07:49:46.5±3.2, 37.°44N×71.°66E, h132km±24km, mb3.2/6, mb1 3.5/12, mb1mx3.2/52, mbtmp3.8/12, MS2.8/1, Ms1 3.0/1, ms1mx2.2/46, Error ellipse: s-maj=30.5km s-min=16.4km az=156.0*

*NEIC **05** 07:49:47.3±1.6, 37.°28N±0.°06×71.°9E±0.°1, h153km±8km, mb4.0/3, Error ellipse: s-maj=14.4km s-min=7.8km az=105.0*

*NNC **05** 07:49:48.2±4.2, 37.°79N×71.°84E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=33.1km s-min=21.8km az=177.0*

*SOME **05** 07:49:51.0, 38.°52N×71.°72E, h10km, MS3.4*

ISC 05 07:49:47.2±0.6**, 37.°38N**±0.°05×**71.°78E**±0.°06**, h150**km**, n62,** σ**1.s96**/74**, mb3.4**/6**, 5C-7D, Afghanistan-Tajikistan border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GAR Garm 1.99 325 Pn 07 50 23.7 +1.5
DRK Karamyk 2.10 0 Pn 07 50 26.0 +2.3
CHGR Chuyangaron 2.43 302 Pn Pn 07 50 29.2 +1.7
BTK Batken 2.78 345 Pn Pn 07 50 35.2 +3.4
CEP Cherat 3.55 178 P Pn 07 50 41.2 -0.5
CEP S Sn 07 51 22.0 -2.0
KBL Kabul 3.60 219 Pn Pn 07 50 43.4 +0.9
CHCP Chirah Chowk 3.91 162 P Pn 07 50 46.1 -0.1
NIL Nilore 3.91 162 Pn 07 50 45.4 -0.9
THW Thamme Wali 4.58 180 P Pn 07 50 53.9 -1.1
IUG Iuzhnay 4.95 345 eP Pn 07 51 04.0 +4.1
420nm,0.2s
IUG eS Sn 07 51 56.3 -0.4
182nm,0.4s
AML Almayashu 4.97 17 P Pn 07 51 01.4 +1.0
SNR=116
UCH Uchtor 5.28 23 P Pn 07 51 05.5 +0.8
SNR=218
MRKS Merke 5.47 11 eP Pn 07 51 11.8 +4.9
50nm,0.4s
MRKS eS Sn 07 52 10.2 +1.1
194nm,0.5s
EKS2 Erkin-Say 5.49 16 P Pn 07 51 08.4 +1.2
SNR=79
DZA Taraz 5.52 357 eP Pn 07 51 11.6 +4.2
103nm,0.1s
DZA eS Sn 07 52 09.6 -0.5
454nm,0.3s
AAK Ala-Archa 5.65 21 P Pn 07 51 10.5 +1.2
SNR=96
AAK Ala-Archa 5.65 21 P Pn 07 51 09.9 +0.7
21nm,0.3s,baz=111,slow=4.3,SNR=149
AAK S Sn 07 52 12.4 -1.0
7.2nm,0.3s,baz=139,slow=19,SNR=12
AAK Ala-Archa 5.65 21 Pn Pn 07 51 10.3 +1.1
KK31 Karatay Array 5.80 351 Pn 07 51 12.8 +1.6
KK31 Karatay Array 5.80 351 ⇑P Pn 07 51 12.5 +1.3
15nm,0.5s,baz=179,slow=13,SNR=72
KK31 ⇑S Sn 07 52 14.9 -2.0
76nm,0.4s,baz=174,slow=23,SNR=32
KKAR Karatay Array 5.80 351 Pn Pn 07 51 12.7 +1.6
KKAR Karatay Array 5.80 351 Pn Pn 07 51 12.8 +1.6
KBK Karagaybulak 5.80 24 P Pn 07 51 12.5 +1.1
SNR=7.6
BRLS Borolday 5.84 346 eP Pn 07 51 12.6 +0.9
12nm,0.2s
BRLS eS Sn 07 52 11.5 -6.3
93nm,0.4s
FRU1 Bishkek 5.85 21 Pn 07 51 13.1 +1.3
ULHL Ulahol 5.95 34 P Pn 07 51 13.2 -0.1
SNR=45
BOOM Boomskoye usch 6.02 31 Pn Pn 07 51 14.4 +0.1
CHMS Chumysh 6.05 21 P Pn 07 51 15.4 +0.9
SNR=25
CHMS Chumysh 6.05 21 ⇓P Pn 07 51 15.0 +0.5
34nm,0.5s
CHMS ⇓S Sn 07 52 20.8 -2.2
25nm,0.9s
USP Ospenovka 6.24 19 P Pn 07 51 17.5 +0.6
SNR=57
TKM2 Tokmak 2 6.26 27 P Pn 07 51 17.9 +0.5
SNR=14
TKM2 Tokmak 2 6.26 27 ⇑P Pn 07 51 17.5 +0.1
17nm,0.6s
TKM2 ⇑S Sn 07 52 24.4 -3.7
10nm,0.8s
KDJ Kajisay 6.31 40 Pn 07 51 18.4 +0.3
TARG Taragay, Kyrgy 6.37 45 Pn Pn 07 51 18.3 -0.7
MDOK Medeo 7.04 33 ⇓P Pn 07 51 27.6 -0.2
12nm,0.6s
MDOK S Sn 07 52 46.3 -0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	10nm,0.9s						
PDGK	Podgornoye	8.36	42	⇓P	Pn	07 51 44.4	-1.0
	4.8nm,0.5s						
PDGK				⇓S	Sn	07 53 16.4	-2.0
	5.8nm,0.8s						
GEYT	Alibeck	10.85	277	P	Pn	07 52 17.0	-1.3
	1.2nm,0.3s,baz=105,slow=15,SNR=8.3						
GEYT				S	Sn	07 54 15.3	-3.0
	1.5nm,0.3s,baz=85,slow=34,SNR=3.2						
GEYT	Alibeck	10.85	277		Pn	07 52 19.1	+0.7
GYA0B	ALIBECK ARRAY	10.85	277	Pn	Pn	07 52 18.8	+0.5
MAKZ	Makanchi	12.08	36	Pn	Pn	07 52 33.6	-0.7
MKAR	Makanchi Array	12.21	36	P	Pn	07 52 34.6	-1.4
	0.2nm,0.3s,baz=206,slow=9.9,SNR=3.4						
MKAR	Makanchi Array	12.21	36		Pn	07 52 36.2	+0.1
KURBB	Kurchatov Arra	14.09	18	P	Pn	07 52 57.8	-2.3
	0.1nm,0.3s,baz=208,slow=12,SNR=2.2						
KURK	Kurchatov	14.20	18		P	07 53 03.9	-0.3
AB31	Akbulak array	14.64	328	⇓P	Pn	07 53 08.5	+1.6
	1.0nm,0.3s,baz=159,slow=11,SNR=53						
AB31				S	Sn	07 55 44.9	-4.5
	2.4nm,0.5s,baz=152,slow=21,SNR=9.6						
ABKAR	Akbulak array	14.64	328		Pn	07 53 09.5	+2.5
ABKAR	Akbulak array	14.64	328	P	Pn	07 53 09.5	+2.5
BRVK	Borovoye	15.71	357	P	Pn	07 53 20.4	+0.3
BRVK				IAmb	IAmb	07 53 26.1	
	comp=Z,2.8nm,0.7s						
AKTO	Aktyubinsk	16.36	327	P	P	07 53 26.2	-1.9
	comp=Z,0.1nm,0.3s,baz=100,slow=11,SNR=1.3						
AKTO				S	S	07 56 23.1	-6.4
	comp=Z,0.3nm,0.3s,baz=192,slow=19,SNR=6.9						
AKTO	Aktyubinsk	16.36	327	⇑P	Pn	07 53 33.9	+5.9
	comp=Z,2.9nm,1.1s						
AKTO				⇓S	S	07 56 26.9	-2.7
	comp=Z,4.9nm,0.9s						
ZAA0	Zalesovo Array	18.86	24	P	P	07 53 56.4	+1.0
ZAA0				IAmb	IAmb	07 53 59.0	
	comp=Z,5.8nm,0.8s						
ZALV	Zalesovo Beam	18.86	24	P	P	07 53 56.0	+0.5
	comp=Z,2.2nm,0.3s,baz=207,slow=9.6,SNR=32						
ZALV	Zalesovo Beam	18.86	24	P	P	07 53 56.3	+0.8
CMAR	Chiang Mai Arr	30.35	121	LR	LR	08 11 55.8	
	comp=Z,17nm,18.1s,baz=235,slow=44						
ARCES	ARCESS Array B	40.58	337	P	P	07 57 12.0	+0.5
	comp=Z,1.2nm,0.8s,baz=112,slow=9.8,SNR=1.5						
ARCES	ARCESS Array B	40.58	337	P	P	07 57 12.7	+1.2
ARCES				IAmb	IAmb	07 57 35.2	
	comp=Z,14nm,1.5s						
ESDC	Sonseca Array	57.60	298	P	P	07 59 23.7	+2.3
	comp=Z,0.8nm,0.7s,baz=57,slow=7.8,SNR=4.0						
TORD	Torodi Ar. Bea	66.36	269	P	P	08 00 20.0	-0.2
	comp=Z,0.4nm,0.7s,baz=48,slow=6.4,SNR=4.2						
INK	Inuvik	72.94	10	P	P	08 01 01.1	+1.6
	comp=Z,0.3nm,0.4s,baz=354,slow=4.9,SNR=4.3						
YKA	Yellowknife Ar	80.34	3	P	P	08 01 42.0	+0.9
	comp=Z,0.2nm,0.3s,baz=351,slow=5.5,SNR=11						
WRA	Warramunga Arr	81.93	123	P	P	08 01 51.9	+1.7
	comp=Z,0.1nm,0.4s,baz=314,slow=6.0,SNR=1.0						
LPAZ	La Paz	138.92	290	PKP	PKPdf	08 08 57.5	+0.6
	comp=Z,0.4nm,0.4s,baz=25,slow=2.3,SNR=2.0						

VIE 05 07:51:26.0±0.3, 47°.52N×14°.92E, h0km, mb0.9/2, ml1.1/3, Error ellipse: s-maj=2.6km s-min=1.3km az=41.0 1 km NNE of Erzberg Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	Arzberg	0.50	123	*i* Pg	Pg	07 51 35.4	0.0
	1.0nm,0.1s						
ARSA				*i* Sg	Sg	07 51 41.9	+0.1
	0.8nm,0.1s						
MOA	Molln	0.55	307	*e*Pg	Pg	07 51 37.0	+0.6
	0.7nm,0.1s						
MOA				*i* Sg	Sg	07 51 43.9	+0.4
	1.1nm,0.1s						
CONA	Conrad Observa	0.76	57	*e*Pg	Pg	07 51 41.1	+0.6
	0.1nm,0.1s						

*IDC **05** 08:14:14.0±1.4, 40°.58N×29°.36W, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/54, mbtmp3.5/9, ML3.4/1, Error ellipse: s-maj=40.7km s-min=24.5km az=12.0*
*SVSA **05** 08:14:17.0±1.0, 40°.67N×29°.25W, h5km, ML3.1(INMG), Error ellipse: s-maj=15.7km s-min=5.2km az=89.0*
ISC 05 08:14:14.2±3.6, 40°.44N±0°.07×29°.3W±0°.1, h4km±23km, n25, σ0s.62/31, mb3.5/8, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	Serra Branca	1.72	144	*e*P	Pn	08 14 44.8	-0.1
PGRA	Graciosa	1.75	143	*e*P	Pn	08 14 44.9	-0.5
PCED	Cedros	1.87	165	*e*P	Pb	08 14 48.8	-0.2
PCED				*e*S	Sn	08 15 10.3	-0.8
PCED				A	A	08 15 11.6	
	131nm,0.4s						
ROSA	Rosais	1.92	153	*e*P	Pn	08 14 47.8	+0.2
ROSA				*e*S	Sn	08 15 11.5	-0.7
ROSA				A	A	08 15 12.2	
	74nm,0.4s						
CALA	Caldeira	1.92	165	*e*P	Pb	08 14 49.0	-0.8
CALA				*e*S	Sn	08 15 11.9	-0.5
CALA				A	A	08 15 18.9	
	188nm,0.4s						
PFCBR	Castelo Branco	1.98	166	*e*S	Sn	08 15 13.6	0.0
PFCBR				A	A	08 15 13.9	
	61nm,0.4s						
PMAN	Manadas	2.05	152	*e*P	Pn	08 14 49.4	0.0
PMAN				*e*S	Sn	08 15 14.6	-0.8
PMAN				A	A	08 15 17.1	
	36nm,0.3s						
PICO	Pico	2.06	160	*e*P	Pn	08 14 50.5	+0.8
PICO				*e*S	Sn	08 15 16.0	+0.2
PICO				A	A	08 15 18.4	
	103nm,0.4s						
PCAN	Candelaria	2.08	161	*e*P	Pn	08 14 50.9	+1.0
PCAN				*e*S	Sn	08 15 15.8	-0.5
PCAN				A	A	08 15 24.8	
	166nm,0.4s						
PPNO	Prainha do Nor	2.13	157	*e*P	Pn	08 14 51.4	+0.7
PID	Ribeirinha	2.21	154	*e*P	Pn	08 14 52.3	+0.7
PID				A	A	08 15 25.2	
	76nm,0.4s						
ADH	Angra Heroismo	2.41	137	*e*P	Pn	08 14 54.4	0.0
PSET	Sete Cidades	3.84	132	*e*P	Pn	08 15 14.9	+0.8
CMLA	Cha da Macela	3.99	131	*e*P	Pn	08 15 17.0	+0.8
BART	Pico Bartolome	4.19	128	*e*P	Pn	08 15 18.7	-0.3
PSMN	Pico do Norte,	4.79	134	*e*P	Pn	08 15 27.9	+0.8
ESDC	Sonseca Array	19.42	84	P	P	08 18 42.1	+0.6
	0.0nm,0.3s,baz=281,slow=9.1,SNR=2.0						
TORD	Torodi Ar. Bea	38.45	126	P	P	08 21 38.4	+1.2
	0.7nm,0.8s,baz=316,slow=10,SNR=3.9						
AKASG	Malin Array Be	41.25	55	P	P	08 21 59.7	-0.5
	0.3nm,0.3s,baz=276,slow=9.2,SNR=1.3						
YKA	Yellowknife Ar	53.02	325	P	P	08 23 31.3	-0.5
	0.2nm,0.8s,baz=73,slow=7.2,SNR=3.7						
TXAR	Lajitas Array	60.34	285	P	P	08 24 24.4	-0.1
	0.3nm,0.7s,baz=54,slow=6.8,SNR=5.4						
KURBB	Kurchatov Arra	69.58	40	P	P	08 25 23.9	-0.2
	0.9nm,0.9s,baz=311,slow=6.9,SNR=8.0						
ZALV	Zalesovo Beam	70.33	35	P	P	08 25 28.4	-0.3
	0.2nm,0.2s,baz=297,slow=6.3,SNR=4.3						
MKAR	Makanchi Array	73.97	42	P	P	08 25 50.8	+0.1
	0.7nm,0.8s,baz=337,slow=4.1,SNR=6.6						
SONM	Songino Array	83.73	28	P	P	08 26 44.7	+0.3
	0.2nm,0.7s,baz=319,slow=4.2,SNR=1.6						

*IDC **05** 08:17:21.4±1.4, 37°.22S×176°.83E, h458km±15km, mb3.5/3, mb1 3.7/4, mb1mx3.2/41, mbtmp4.5/4, Error ellipse: s-maj=49.8km s-min=22.1km az=179.0*
*NOU **05** 08:17:24.7, 37°.24S×176°.36E, h424km, MLv4.5/11, North Island, New Zealand*
*WEL **05** 08:17:27.9±1.0, 37°S±6°×17°7E±°, h393km±8km, M3.6/82, MLv3.6/82, Error ellipse: s-maj=0.0km s-min=0.0km az=49.8*
ISC 05 08:17:22.2±0.8, 37°.31S±0°.08×176°.43E±0°.08, h437km±6km, n186, σ1s.89/194, mb3.9/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	Tauranga	0.44	197	P	P	08 18 16.9	+1.1
OPRZ	Ohinepanea	0.55	169	P	P	08 18 16.6	+0.6
KMRZ	Kaimai	0.66	215	P	P	08 18 17.7	+1.5
LIRZ	Lichensteins R	0.70	183	P	P	08 18 17.7	+1.5
WHRZ	Whale Island	0.70	142	P	P	08 18 16.7	+0.4
MARZ	Manawahe	0.70	164	P	P	08 18 17.6	+1.3
KARZ	Kaharoa	0.73	191	P	P	08 18 17.7	+1.4
KUZ	Kuaotunu	0.80	315	P	P	08 18 17.2	+0.6
OMRZ	Omania	0.80	183	P	P	08 18 17.8	+1.3
NGRZ	Ngongotaha	0.81	193	P	P	08 18 18.2	+1.6
EDRZ	Edgecumbe	0.84	163	P	P	08 18 18.0	+1.3
TOZ	Tahuroa Road	0.85	240	P	P	08 18 18.3	+1.7
UTU	Utuhina	0.89	192	P	P	08 18 18.6	+1.9
TARZ	Mount Tarawera	0.93	176	P	P	08 18 18.5	+1.5
HLRZ	Highlands Stat	0.94	183	P	P	08 18 18.7	+1.7
HSRZ	Hossack Road	1.01	188	P	P	08 18 18.9	+1.8
MKAZ	Moumakai	1.03	281	P	P	08 18 18.7	+1.5
RRRZ	Republican Roa	1.03	176	P	P	08 18 18.3	+1.1
GRRZ	Galatos Road	1.07	193	P	P	08 18 19.0	+1.7
HRRZ	Handcock Road	1.09	186	P	P	08 18 18.7	+1.4
URZ	Urewera	1.09	150	P	P	08 18 17.9	+0.6
	58nm,0.3s,baz=261,slow=5.2,SNR=724						
URZ				S	S	08 18 59.3	-2.8
	112nm,0.3s,baz=92,slow=21,SNR=31						
URZ	Urewera	1.09	150	P	P	08 18 17.9	+0.6
URZ				S	S	08 18 59.5	-2.7
URZ	Urewera	1.09	150	P	P	08 18 17.9	+0.6
WIAZ	Waiheke Island	1.15	296	P	P	08 18 19.0	+1.3
HAZ	Te Kaha	1.17	113	P	P	08 18 18.0	+0.4
HAZ				S	S	08 18 60.0	-2.6
PRRZ	Plateau Road	1.19	181	P	P	08 18 18.8	+1.2
RUGZ	Raukumara Rang	1.19	124	P	P	08 18 17.9	+0.1
RUGZ				S	S	08 18 59.2	-3.8
MUGZ	Murupara	1.20	167	P	P	08 18 18.7	+1.0
MUGZ				S	S	08 19 00.4	-2.4
WPRZ	Whakapapatarin	1.23	190	P	P	08 18 19.3	+1.4
ETAZ	East Tamaki Re	1.25	286	P	P	08 18 19.5	+1.5
ALRZ	Allen Road	1.25	183	P	P	08 18 19.1	+1.2
KUTZ	Kaahu Road	1.27	202	P	P	08 18 20.0	+2.0
GRZ	Great Barrier	1.31	323	P	P	08 18 19.0	+0.7
MBAZ	Motutapu North	1.33	293	P	P	08 18 19.7	+1.4
MWZ	Matawai	1.35	140	P	P	08 18 19.4	+1.0
MWZ				S	S	08 19 01.8	-2.1
RTZ	Ruatahuna	1.38	162	P	P	08 18 19.6	+1.1
WHTZ	Whakaora	1.41	195	P	P	08 18 20.4	+1.8
EPAZ	Eden Park BICE	1.41	287	P	P	08 18 20.2	+1.5
RAGZ	Rawiri	1.42	147	P	P	08 18 20.2	+1.5
HBAZ	Herne Bay Bore	1.43	288	P	P	08 18 20.2	+1.5
PKGZ	Pakihiroa	1.44	114	P	P	08 18 19.5	+0.8
AWAZ	Awhitu Peninsu	1.44	279	P	P	08 18 20.6	+1.8
ABAZ	Army Bay	1.46	298	P	P	08 18 20.4	+1.6
WATZ	Wairara	1.50	201	P	P	08 18 20.6	+1.6
TWGZ	Tauwhareparae	1.51	126	P	P	08 18 20.4	+1.4
MXZ	Matakaoa Point	1.52	100	P	P	08 18 19.7	+0.6
MRHZ	Matea Rd	1.52	180	P	P	08 18 20.3	+1.2
WTAZ	Waiatarua	1.53	284	P	P	08 18 21.1	+2.0
RVAZ	Riverhead Bore	1.57	289	P	P	08 18 20.8	+1.4
MTHZ	Maungataniwha	1.58	168	P	P	08 18 20.6	+1.3
TKGZ	Te Karaka	1.60	136	P	P	08 18 20.7	+1.3
HATZ	Hinemaiaia	1.60	189	P	P	08 18 20.8	+1.4
RATZ	Rangitukua	1.64	198	P	P	08 18 21.1	+1.4
SNGZ	Shannon Statio	1.64	154	P	P	08 18 21.3	+1.7
PUZ	Puketiti	1.64	118	P	P	08 18 20.3	+0.7
WMGZ	Waiomatatini S	1.66	109	P	P	08 18 20.7	+1.0
RAHZ	Arahi	1.69	162	P	P	08 18 21.7	+1.9
RITZ	Rihia Road	1.73	195	P	P	08 18 21.9	+1.9
HIZ	Hauiti	1.73	225	P	P	08 18 22.2	+2.2
HIZ	Hauiti	1.73	225	P	P	08 18 22.3	+2.3
RIGZ	Rimuhau	1.75	143	P	P	08 18 22.0	+1.8
KATZ	Kakaramea	1.76	199	P	P	08 18 22.0	+1.7
NMHZ	Naumai	1.81	171	P	P	08 18 22.8	+2.3
CNGZ	Carnagh Statio	1.83	130	P	P	08 18 22.3	+1.7
BKZ	Black Stump Fm	1.86	178	P	P	08 18 22.2	+1.5
BKZ	Black Stump Fm	1.86	178	P	P	08 18 22.3	+1.5
WHHZ	Waihua	1.88	160	P	P	08 18 21.2	+0.4
NTVZ	North Tongarir	1.88	198	P	P	08 18 22.7	+1.7
KRVZ	Karewarewa	1.89	199	P	P	08 18 22.5	+1.5
TMVZ	Te Maari	1.89	197	P	P	08 18 22.7	+1.7
ETVZ	East Tongariro	1.91	197	P	P	08 18 22.7	+1.6
WTVZ	West Tongariro	1.92	200	P	P	08 18 22.6	+1.4
TWVZ	Taurewa	1.93	204	P	P	08 18 22.6	+1.5
NNVZ	North Ngauruho	1.93	199	P	P	08 18 22.8	+1.5
OTVZ	Oturere	1.95	198	P	P	08 18 22.9	+1.6
KNZ	Kokohu	1.98	150	P	P	08 18 23.1	+1.9
NGZ	Ngauruhoe	1.98	199	P	P	08 18 23.1	+1.6
SNVZ	South Ngauruho	1.98	198	P	P	08 18 23.0	+1.5
PRGZ	Paritu Road	1.98	145	P	P	08 18 23.2	+1.8
ARHZ	Aropaoanui	2.00	167	P	P	08 18 23.8	+2.3
TUVZ	Tukino	2.05	197	P	P	08 18 23.5	+1.6
FWVZ	Far West T-bar	2.06	199	P	P	08 18 23.4	+1.3
DRZ	Dome Shelter	2.08	199	P	P	08 18 24.2	+1.9
WHVZ	Whangaehu Hut	2.08	198	P	P	08 18 23.8	+1.6
TRVZ	Turoa	2.10	199	P	P	08 18 24.0	+1.6
KWHZ	Kaweka Forest	2.11	180	P	P	08 18 24.1	+1.9
WNVZ	Wahianoa	2.12	198	P	P	08 18 23.8	+1.4
MCHZ	McNeill Hill	2.14	174	P	P	08 18 24.7	+2.4
PKVZ	Pokaka	2.15	203	P	P	08 18 23.9	+1.4
WCZ	Waipu Caves	2.16	309	P	P	08 18 23.6	+1.0
MOVZ	Moawhango	2.16	194	P	P	08 18 23.7	+1.3
MHGZ	Mahia Peninsul	2.18	148	P	P	08 18 24.8	+2.3
BHHZ	Black Hill Sta	2.20	187	P	P	08 18 24.3	+1.6
MTVZ	Mangateitei	2.21	200	P	P	08 18 24.3	+1.6
VRZ	Vera Road	2.24	215	P	P	08 18 24.7	+1.8
KRHZ	Kereru	2.33	181	P	P	08 18 25.3	+1.8
CKHZ	Cape Kidnapper	2.40	168	P	P	08 18 26.5	+2.6
MHEZ	Mangahewa	2.42	223	P	P	08 18 26.9	+2.9
KAHZ	Kahuranaki	2.51	172	P	P	08 18 27.2	+2.6
PNHZ	Pukenui	2.61	184	P	P	08 18 27.1	+1.8
LREZ	Lake Rotokare	2.67	216	P	P	08 18 28.0	+2.3
NEZ	North Egmont	2.68	222	P	P	08 18 28.7	+2.7
PKE	Pukeiti	2.69	225	P	P	08 18 28.7	+2.8
WAZ	Wanganui	2.69	204	P	P	08 18 27.6	+1.7
PREZ	Palmer Road	2.70	221	P	P	08 18 28.3	+2.3
PXZ	Pawanui	2.74	173	P	P	08 18 28.8	+2.7
KHEZ	Kahui Hut	2.74	223	P	P	08 18 29.0	+2.7
WPHZ	Waipukurau	2.75	180	P	P	08 18 28.5	+2.2
TSZ	Takapari Road	2.77	187	P	P	08 18 28.2	+1.8
NBEZ	Newall Road No	2.81	225	P	P	08 18 29.9	+3.2
NMEZ	Namu Road	2.90	223	P	P	08 18 30.5	+3.1
PRHZ	Porangahau	2.96	177	P	P	08 18 30.3	+2.5
DVHZ	Dannevirke	2.99	184	P	P	08 18 30.0	+2.0
OHWZ	Ohakea	3.02	196	P	P	08 18 30.7	+2.5
OUZ	Omahuta	3.09	311	P	P	08 18 29.6	+0.6
OUZ	Omahuta	3.09	311	P	P	08 18 29.7	+0.7
POWZ	Post Office Ro	3.12	189	P	P	08 18 30.9	+1.8
ANWZ	Angora Road	3.15	179	P	P	08 18 31.9	+2.7
PRWZ	Pori Road	3.26	186	P	P	08 18 32.5	+2.4
BFZ	Birch Farm	3.37	182	P	P	08 18 33.5	+2.5
BFZ	Birch Farm	3.37	182	P	P	08 18 33.6	+2.6
MRZ	Mangatainoka R	3.41	191	P	P	08 18 33.0	+1.6
TIWZ	Tintock	3.49	187	P	P	08 18 34.2	+2.2
CPWZ	Castlepoint	3.60	183	P	P	08 18 36.3	+3.4
OGWZ	Otaki Gorge	3.64	195	P	P	08 18 35.1	+1.9
HOWZ	Holdsworth Sta	3.65	191	P	P	08 18 35.2	+1.8
KIW	Kapiti Island	3.74	198	P	P	08 18 35.6	+1.5
TMWZ	Te Maipa	3.82	186	P	P	08 18 37.2	+2.4
MTW	Mount Morrison	3.91	190	P	P	08 18 37.6	+2.0
CAW	Cannon Point	3.94	195	P	P	08 18 37.6	+1.8
DUWZ	D'Urville Isla	4.00	208	P	P	08 18 37.7	+1.3
TRWZ	Traveller	4.12	188	P	P	08 18 40.1	+2.6
PAWZ	Paruwai Farm	4.14	190	P	P	08 18 40.0	+2.3
WEL	Wellington	4.17	197	P	P	08 18 40.3	+2.3
MSWZ	Moikau Station	4.20	192	P	P	08 18 40.4	+2.1
SNZO	South Karori	4.21	198	P	P	08 18 40.3	+2.0
TCW	Tory Channel	4.24	202	P	P	08 18 40.2	+1.7
BHW	Baring Head	4.27	196	P	P	08 18 40.7	+2.0
PLWZ	Palliser	4.35	192	P	P	08 18 41.9	+2.3
TUWZ	Tuamarina	4.54	204	P	P	08 18 43.0	+1.6
NNZ	Nelson	4.56	210	P	P	08 18 42.8	+1.2
TKNZ	Takaka Hill	4.59	215	P	P	08 18 42.9	+1.0
QRZ	Quartz Range	4.64	220	P	P	08 18 43.1	+0.8
QRZ	Quartz Range	4.64	220	P	P	08 18 43.6	+1.3
CMWZ	Cape Campbell	4.75	200	P	P	08 18 46.1	+2.7
BSWZ	Blackbirch Sta	4.82	203	P	P	08 18 46.0	+2.0
MRNZ	Matariki Terra	4.98	214	P	P	08 18 46.6	+1.0
THZ	Tophouse	5.21	210	P	P	08 18 49.1	+1.1
KHZ	Kahutara	5.56	203	P	P	08 18 53.2	+1.9
KHZ	Kahutara	5.56	203	P	P	08 18 53.9	+2.6
DSZ	Denniston Nort	5.69	217	P	P	08 18 53.5	+0.8
GVZ	Greta Valley S	6.22	204	P	P	08 18 59.8	+1.6
LTZ	Lake Taylor	6.33	209	P	P	08 19 00.1	+0.8
AMCZ	Amberley	6.53	205	P	P	08 19 03.1	+1.5
INZ	Inchbonnie	6.62	214	P	P	08 19 03.2	+0.6
OXZ	Oxford	6.88	208	P	P	08 19 05.9	+0.6
OKCZ	Okains Bay	6.90	201	P	P	08 19 07.6	+2.0
MQZ	McQueen's Vall	7.01	203	P	P	08 19 08.0	+1.3
AKCZ	Akaroa Harbour	7.08	201	P	P	08 19 09.6	+2.2
RACZ	Rakaia	7.20	206	P	P	08 19 10.5	+1.8
WVZ	Waitaha Valley	7.22	215	P	P	08 19 09.9	+1.0
WACZ	Wakanui South	7.49	206	P	P	08 19 13.6	+1.8
RPZ	Rata Peaks	7.59	211	P	P	08 19 14.5	+1.5
	4.6nm,0.3s,baz=274,slow=1.4,SNR=32						
RPZ				S	S	08 20 41.1	-2.7
	1.9nm,0.3s,baz=339,slow=19,SNR=7.7						
RPZ	Rata Peaks	7.59	211	P	P	08 19 14.6	+1.5
RPZ	Rata Peaks	7.59	211	P	P	08 19 15.0	+2.0
GCSZ	Gaunt Creek Bo	7.60	216	P	P	08 19 14.5	+1.5
ARCZ	Arundel	7.74	209	P	P	08 19 15.8	+1.2
FOZ	Fox Glacier	8.00	217	P	P	08 19 19.0	+1.7
TMZ	Timaru	8.17	208	P	P	08 19 21.9	+2.7
LBZ	Lake Benmore	8.50	212	P	P	08 19 25.1	+2.2
ODZ	Otahua Downs	8.87	208	P	P	08 19 30.1	+3.3
ODZ	Otahua Downs	8.87	208	P	P	08 19 30.4	+3.6
JCZ	Jackson Bay	8.90	218	P	P	08 19 28.8	+1.6
RAO	Raoul Island	9.32	32	P	P	08 19 34.6	+2.6
WKZ	Wanaka	9.36	214	P	P	08 19 34.0	+1.8
EAZ	Earnscleugh	9.55	212	P	P	08 19 36.7	+2.4
MLZ	Mavora Lakes	10.18	215	P	P	08 19 43.1	+1.9
WHZ	Wether Hill Ro	10.66	214	P	P	08 19 48.6	+2.1
SYZ	Scrubby Hill	10.70	208	P	P	08 19 50.6	+3.9
STKA	Stephens Creek	29.07	270	P	P	08 22 47.5	+2.1
	2.1nm,0.4s,baz=112,slow=8.9,SNR=9.5						
ASAR	Alice Springs	38.77	278	P	P	08 24 07.8	+0.2
	4.1nm,0.5s,baz=120,slow=7.9,SNR=78						
ASAR				S	S	08 29 31.9	-0.6
	0.8nm,0.8s,baz=122,slow=14,SNR=4.3						
WRA	Warramunga Arr	40.42	283	P	P	08 24 20.7	-0.3
	1.8nm,0.4s,baz=123,slow=7.0,SNR=67						
WRA				ScP	ScP	08 29 17.2	-3.7
	0.8nm,1.1s,baz=122,slow=3.3,SNR=4.9						
MKAR	Makanchi Array	118.56	309	PKP	PKPdf	08 35 15.9	-3.0
	0.2nm,0.5s,baz=126,slow=2.0,SNR=2.8						
KURBB	Kurchatov Arra	122.34	312	PKP	PKPdf	08 35 23.5	-2.5
	0.4nm,0.6s,baz=116,slow=2.2,SNR=3.1						
ARCES	ARCESS Array B	144.10	343	PKP	PKPbc	08 36 01.6	-3.5
	1.5nm,0.5s,baz=46,slow=3.9,SNR=24						
FINES	FINESS Array B	149.57	332	PKPbc	PKPdf	08 36 16.9	+1.6
	0.7nm,0.5s,baz=72,slow=6.0,SNR=2.2						

KRSZO 05 08:20:23.1±1.3, 48°.59N×20°.75E, h6km±10km, ML1.5/5, Error ellipse: s-maj=7.5km s-min=4.7km az=142.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	Kecovo	0.20	239	Pg	Pg	08 20 27.0	-0.1
	comp=Z,1.5nm,SNR=23						
KECS				Lg	Lg	08 20 30.9	
KECS	Kecovo	0.20	239	*e*PG	Pg	08 20 27.0	-0.1
KECS				*e*SG	Sg	08 20 30.8	+1.0
KECS				*e*LG	Lg	08 20 33.2	
CRVS	Cervenica-Dubn	0.57	56	Pg	Pg	08 20 34.1	0.0
	SNR=1.6						
CRVS				Lg	Lg	08 20 42.3	
CRVS	Cervenica-Dubn	0.57	56	*e*PG	Pg	08 20 34.1	0.0
CRVS				*e*SG	Sg	08 20 41.7	+0.2
PSZ	Piszkesteto	0.88	221	Pg	Pb	08 20 41.3	+0.5
	SNR=1.5						
PSZ				Lg	Lg	08 20 53.9	
PSZ	Piszkesteto	0.88	221	P	Pb	08 20 41.3	+0.5
PSZ				S	Sb	08 20 53.9	+1.1
LANS	Liptovska Anna	1.01	304	*e*PG	Pg	08 20 42.5	-0.1
LANS				*e*SG	Sb	08 20 56.6	-0.1
VYHS	Vyhne	1.27	267	Pn	Pg	08 20 47.7	+0.2
	SNR=2.4						
VYHS				Sn	Sn	08 21 04.6	-0.3
VYHS	Vyhne	1.27	267	*e*PG	Pg	08 20 47.5	0.0
VYHS				*e*SG	Sn	08 21 04.5	-0.3

*KRNET **05** 08:23:12.5±0.1, 40°.17N×71°.96E, h11km, mb2.6*
*SOME **05** 08:23:16.7, 40°.35N×72°.08E, h10km*
*NNC **05** 08:23:18.5±5.3, 40°.46N×72°.00E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=43.4km s-min=20.6km az=178.0*
ISC 05 08:23:12.3±1.3, 40°.20N±0°.03×72°.00E±0°.03, h3km±15km, n16, σ1s.41/27, 13C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	Osh	0.68	61	⇑*i*P	Pg	08 23 26.5	+1.1
	baz=60						
OHH				⇑*i*S	Sb	08 23 36.9	+0.1
	baz=60						
DRK	Karamyk	0.73	192	⇓*i*P	Pg	08 23 25.9	-0.4
	baz=90						
DRK				⇓*i*S	Sg	08 23 36.4	+0.6
	baz=90						
BTK	Batken	0.92	262	⇑*i*P	Pg	08 23 29.4	-0.5
	baz=63						
BTK				⇑*i*S	Sg	08 23 41.8	0.0
	baz=63						
TRKS	Terek-Say	1.48	334	⇑*i*P	Pn	08 23 39.9	-0.2
	baz=36						
TRKS				⇑*i*S	Sg	08 23 59.4	-0.6
	baz=36						
ARK	Arkit	1.60	359	⇑*i*P	Pg	08 23 43.0	+0.1
	baz=0.0						
ARK				⇑*i*S	Sg	08 24 05.9	+2.2
	baz=0.0						
IUG	Iuzhnay	2.45	323	*e*P	Pg	08 23 59.3	0.0
	69nm,0.2s						
IUG				*e*S	Sg	08 24 29.7	-1.3
	17nm,0.5s						
IUG	Iuzhnay	2.45	323	Pg	Pb	08 23 56.9	-0.1
	120nm,0.3s						
IUG				Lg	Lg	08 24 28.1	
	25nm,0.6s						
MRKS	Merke	2.71	19	*e*P	Pg	08 24 05.3	+1.1
	3.4nm,0.3s						
MRKS				*e*S	Sg	08 24 39.9	+0.6
	7.1nm,0.3s						
MRKS	Merke	2.71	19	Pg	Pg	08 24 03.6	-0.5
	4.6nm,0.3s						
MRKS				Lg	Lg	08 24 39.9	
	7.9nm,0.6s						
UCH	Uchtor	2.78	42	⇓*e*P	Pb	08 24 01.1	-1.7
	baz=42						
UCH				⇓*i*S	Sb	08 24 36.8	-0.6
	baz=42						
EKS2	Erkin-Say	2.80	28	⇑*e*P	Pb	08 24 01.3	-1.7
	baz=28						
EKS2				⇑*i*S	Sb	08 24 37.2	-0.6
	baz=28						
KK31	Karatay Array	3.11	339	⇑Pn	Pb	08 24 08.3	0.0
	0.7nm,0.4s,baz=152,slow=13,SNR=4.3						
KK31				⇓Lg	Lg	08 24 48.9	
	0.7nm,0.3s,baz=157,slow=30,SNR=3.6						
BRLS	Boroldav	3.26	331	*e*P	Pb	08 24 12.5	+1.6
	0.8nm,0.1s						
BRLS				*e*S	Sb	08 24 51.9	+0.9
	2.9nm,0.4s						
TKM2	Tokmak 2	3.83	44	⇑Pg	Pb	08 24 23.2	+2.6
	1.4nm,0.5s						
TKM2				⇑Lg	Lg	08 25 13.3	
	2.0nm,0.6s						
KRBS	Karabastau	4.44	37	*e*P	Pg	08 24 35.8	-1.6
	0.4nm,0.3s						
KRBS				*e*S	Sg	08 25 31.9	-3.0
	1.4nm,0.6s						
KRBS	Karabastau	4.44	37	Pg	Pb	08 24 33.4	+2.5
	0.8nm,0.4s						
KRBS				Lg	Lg	08 25 31.0	
	1.4nm,0.6s						

*BJI **05** 08:27:57.0±0.0, 4°.30N×126°.80E, h10km, mb4.7/19, mB4.8/10, Ms7 4.8/1*
*DJA **05** 08:27:59.1±0.8, 4°N±3°×12°7E±°, h11km±5km, M5.1/29, mB5.2/10, mb4.7/29, MLv6.0/13, Mw(mB)4.6/10, MwMwp5.1/3, Mwp5.3/3*
*NEIC **05** 08:28:02.4±1.7, 4°.18N±0°.06×126°.68E±0°.09, h31km±4km, mb4.7/49, Error ellipse: s-maj=12.6km s-min=8.0km az=74.0*
*IDC **05** 08:28:03.6±1.8, 4°.05N×126°.42E, h51km±16km, mb4.2/29, mb1 4.2/31, mb1mx4.0/67, mbtmp4.4/31, ML4.5/2, Error*

ellipse: s-maj=22.7km s-min=8.6km az=73.0

ISC 05 08:28:03.3±0.3**, 4°16N**±0°04×**126°66E**±0°06**, h45km, n138,** σ1s39/138**, mb4.6**/54**, 3C-2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.23**	**247**	P	**Pn**	**08 28 23.3**	**-0.7**
DAV	**Davao City (W)**	**3.08**	**340**	P	**Pn**	**08 28 48.5**	**-1.0**
	92nm,0.3s,baz=135,slow=1.4,SNR=1.5						
DAV				S	**Sn**	**08 29 27.7**	**+2.4**
	92nm,0.3s,baz=254,slow=20,SNR=4.4						
KCP	**Kidapawan**	**3.23**	**331**	⇑*e*P	**Pn**	**08 28 53.2**	**+1.5**
TNTI	**Ternate**	**3.44**	**168**	Pn	**Pn**	**08 28 54.1**	**-0.3**
TNTI	**Ternate**	**3.44**	**168**	P	**Pn**	**08 28 55.8**	**+1.4**
TNTI	**Ternate**	**3.44**	**168**	P	**Pn**	**08 28 55.6**	**+1.2**
BUKP	**Musuan**	**4.02**	**337**	⇑*i*P	**Pn**	**08 29 04.7**	**+2.2**
KMSI	**Cibinong**	**4.46**	**217**	P	**Pn**	**08 29 13.1**	**+4.7**
CGP	**Cagayan de Oro**	**4.69**	**335**	⇓*e*P	Pn	08 29 20.0	+8.3
LBMI	**Labuha**	**4.84**	**170**	P	**Pn**	**08 29 17.7**	**+4.0**
	17nm3μm69nm,0.5s						
GTOI	**Gorontalo**	**5.06**	**226**	P	**Pn**	**08 29 17.8**	**+1.2**
	4.5nm606nm32nm,0.5s						
MRSI	**Marisa**	**5.97**	**232**	P	**Pn**	**08 29 30.4**	**+1.2**
	13nm2μm167nm,0.8s						
LUWI	**Luwuk**	**6.47**	**217**	Pn	**Pn**	**08 29 37.6**	**+1.6**
LUWI	**Luwuk**	**6.47**	**217**	P	Pn	08 29 41.2	+5.2
	38nm4μm452nm,1.2s						
LUWI	**Luwuk**	**6.47**	**217**	P	**Pn**	**08 29 40.6**	**+4.6**
TOLI2	**Tolitoli**	**6.61**	**243**	Pn	**Pn**	**08 29 37.6**	**-0.4**
SWI	**Sorong**	**6.78**	**137**	P	**Pn**	**08 29 41.2**	**+0.9**
	4.1nm44nm,0.5s						
SIJI	**Sorong**	**6.79**	**137**	P	**Pn**	**08 29 40.4**	**-0.1**
	5.9nm,0.3s,baz=336,slow=10,SNR=9.7						
APSI	**Ampana**	**7.11**	**225**	P	**Pn**	**08 29 48.8**	**+4.0**
	13nm1μm108nm,0.9s						
FAKI	**Fak Fak**	**8.98**	**141**	Pn	**Pn**	**08 30 08.0**	**-2.5**
TTSI	**Tana Toraja**	**9.90**	**224**	P	**Pn**	**08 30 26.4**	**+3.3**
	2μm43nm,0.7s						
BBKI	**Banjar Baru**	**14.03**	**238**	P	**P**	**08 31 23.4**	**-3.0**
	36nm,0.5s						
SBUM	**Sibu**	**14.52**	**264**	Pn	**Pn**	**08 31 24.2**	**-2.0**
WBSI	**Waikabubak, Su**	**15.51**	**208**	P	**P**	**08 31 43.2**	**+0.4**
	87nm,0.8s						
PLAI	**Plampang**	**15.65**	**214**	P	**P**	**08 31 46.7**	**+2.3**
	6μm71nm,0.8s						
PLAI	**Plampang**	**15.65**	**214**	P	**P**	**08 31 45.3**	**+0.9**
STKI	**Sintang**	**15.71**	**255**	P	**P**	**08 31 46.3**	**+1.3**
KSM	**Kuching**	**16.55**	**261**	P	**P**	**08 31 55.8**	**+1.4**
KSM	**Kuching**	**16.55**	**261**	P	**P**	**08 31 57.4**	**+3.0**
SRBI	**Singaraja**	**16.69**	**223**	P	**P**	**08 31 56.0**	**+0.1**
	4μm26nm,1.0s						
MTN	**Manton Dam**	**17.47**	**165**		**Pn**	**08 32 02.3**	**-1.4**
MTN	**Manton Dam**	**17.47**	**165**	P	**P**	**08 32 06.1**	**+1.6**
KNRA	**Kununurra**	**19.82**	**174**	P	**P**	**08 32 30.3**	**0.0**
KNRA				IAmb	IAmb	08 32 49.1	
	comp=Z,24nm,0.6s						
KNRA	**Kununurra**	**19.82**	**174**	P	**Pn**	**08 32 32.7**	**+0.5**
TPUB	**Ta-pu**	**19.90**	**344**	P	**P**	**08 32 29.9**	**-1.3**
TPUB				IAmb	IAmb	08 32 36.2	
	comp=Z,30nm,0.6s						
TPUB	**Ta-pu**	**19.90**	**344**	P	**P**	**08 32 30.6**	**-0.6**
SSLB	**Suanglung**	**20.28**	**345**	P	**P**	**08 32 35.0**	**-0.3**
SSLB	**Suanglung**	**20.28**	**345**	P	**P**	**08 32 35.8**	**+0.5**
KPJI	**Karang Pucung**	**21.06**	**237**	P	**P**	**08 32 43.9**	**+0.1**
	comp=Z,44nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.14**	**183**	P	**P**	**08 32 53.8**	**-1.6**
	comp=Z,5.6nm,0.5s,baz=15,slow=12,SNR=34						
FITZ	**Fitzroy Crossi**	**22.14**	**183**	P	**P**	**08 32 54.1**	**-1.2**
FITZ				IAmb	IAmb	08 33 14.1	
	comp=Z,18nm,0.9s						
CBJI	**Citeko**	**22.40**	**242**	P	**P**	**08 33 02.0**	**+3.8**
	comp=Z,169nm,0.4s						
JOW	**Kunigami**	**22.60**	**4**	P	**P**	**08 33 01.6**	**+1.4**
	comp=Z,10nm,0.7s,baz=170,slow=14,SNR=4.5						
JOW	**Kunigami**	**22.60**	**4**	P	**P**	**08 32 58.9**	**-1.3**
JOW				IAmb	IAmb	08 33 21.2	
	comp=Z,22nm,0.9s						
UBPT	**Khong Chiam**	**23.60**	**299**	P	**P**	**08 33 10.1**	**-0.2**
UBPT				IAmb	IAmb	08 33 10.8	
	comp=Z,31nm,1.1s						
MDSI	**Maura Dua**	**24.05**	**249**	P	**P**	**08 33 14.0**	**-0.5**
	comp=Z,5.5nm,1.3s						
WB0	**Warramunga Arr**	**24.96**	**163**	P	**P**	**08 33 22.8**	**+0.1**
WB0				IAmb	IAmb	08 33 35.4	
	comp=Z,27nm,1.1s						
WRAB	**Tennant Creek**	**25.11**	**163**	P	**P**	**08 33 26.3**	**+2.2**
WRA	**Warramunga Arr**	**25.11**	**163**	P	**P**	**08 33 23.3**	**-0.8**
	comp=Z,3.8nm,0.6s,baz=342,slow=10,SNR=40						
WRA	**Warramunga Arr**	**25.11**	**163**	P	**P**	**08 33 23.1**	**-1.0**
WB2	**Warramunga Arr**	**25.12**	**163**	P	**P**	**08 33 24.2**	**+0.1**
WB2				IAmb	IAmb	08 33 34.0	
	comp=Z,16nm,0.8s						
WR0	**Warramunga Arr**	**25.19**	**162**	P	**P**	**08 33 24.2**	**-0.6**
WR0				IAmb	IAmb	08 33 36.9	
	comp=Z,9.4nm,0.7s						
XMIS	**Christmas Isla**	**25.48**	**235**	P	**P**	**08 33 27.4**	**-0.2**
PSA00	**Pilbara Seismi**	**26.43**	**194**	P	**P**	**08 33 35.4**	**-0.7**
PSA00				IAmb	IAmb	08 33 53.5	
	comp=Z,19nm,1.0s						
QIS	**Mount Isa**	**27.66**	**153**	P	**P**	**08 33 48.6**	**+1.5**
AS31	**Alice Springs**	**28.54**	**166**	P	**P**	**08 33 55.1**	**+0.1**
ASAR	**Alice Springs**	**28.55**	**166**	P	**P**	**08 33 54.2**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=342,slow=6.6,SNR=32						
ASAR	**Alice Springs**	**28.55**	**166**	P	**P**	**08 33 54.7**	**-0.3**
GSI	**Gunungsitoli**	**29.19**	**265**	P	**P**	**08 34 01.2**	**+0.3**
GIRL	**Giralia**	**29.28**	**204**	P	**P**	**08 34 00.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**30.60**	**300**	P	**P**	**08 34 12.7**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=115,slow=6.5,SNR=13						
ENH	**Enshi**	**30.62**	**330**	P	**P**	**08 34 13.6**	**+0.2**
ENH				IAmb	IAmb	08 34 14.4	
	comp=Z,14nm,0.8s						
CHTO	**Chiang Mai**	**30.75**	**300**	P	**P**	**08 34 15.2**	**+0.6**
KSAR	**Wonju Array Be**	**33.14**	**2**	P	**P**	**08 34 34.6**	**-0.8**
KSRS	**Korea Array**	**33.16**	**2**	P	**P**	**08 34 36.2**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=181,slow=10.0,SNR=13						
XAN	**Xi'an**	**34.00**	**333**	P	**P**	**08 34 42.6**	**-0.4**
XAN				pmax	pmax		
	comp=Z,41nm,0.6s						
XAN				pmax	pmax		
	comp=Z,45nm,3.6s						
FORT	**Forrest**	**34.77**	**178**	P	**P**	**08 34 49.2**	**-0.3**
HNS	**HongShan**	**34.85**	**343**	⇓P	**P**	**08 34 50.6**	**+0.5**
HNS				pmax	pmax		
	comp=Z,13nm,1.0s						
BJT	**Baijiatuau**	**36.94**	**347**	P	**P**	**08 35 09.2**	**+1.2**
BJT				IAmb	IAmb	08 35 09.8	
	comp=Z,16nm,1.0s						
EIDS	**Eidsvold**	**37.73**	**142**	P	**P**	**08 35 14.4**	**-0.6**
EIDS				IAmb	IAmb	08 35 33.7	
	comp=Z,14nm,1.1s						
BBOO	**Buckleboo**	**37.83**	**167**	P	**P**	**08 35 16.1**	**+0.4**
LZH	**Lanzhou**	**38.10**	**329**	⇑P	**P**	**08 35 19.3**	**+1.2**
LZH				pP	pP	08 35 21.6	-7.9
LZH				sP	pwP	08 35 23.0	-10
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
STKA	**Stephens Creek**	**38.55**	**159**	P	**P**	**08 35 22.2**	**+0.4**
	comp=Z,7.2nm,0.7s,baz=349,slow=8.4,SNR=12						
STKA	**Stephens Creek**	**38.55**	**159**	P	**P**	**08 35 23.5**	**+1.7**
SHL	**Shillong**	**39.57**	**306**	P	**P**	**08 35 30.2**	**-0.4**
USRK	**Ussuriysk Ar.**	**40.15**	**6**	P	**P**	**08 35 36.3**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=226,slow=3.7,SNR=2.3						
USRK	**Ussuriysk Ar.**	**40.15**	**6**	P	**P**	**08 35 35.5**	**+0.6**
XLT	**XiLinHaoTe**	**40.66**	**348**	*e*P	**P**	**08 35 40.1**	**+0.8**
XLT				pmax	pmax		
	comp=Z,21nm,0.8s						
XLT				pmax	pmax		
	comp=Z,82nm,6.0s						
ARMA	**Armidale**	**41.86**	**147**	P	**P**	**08 35 50.5**	**+1.1**
ARMA				IAmb	IAmb	08 35 52.6	
	comp=Z,9.6nm,0.9s						
GOMU	**GeErMu**	**43.31**	**322**	P	**P**	**08 36 01.2**	**-0.2**
GOMU				pP	pP	08 36 05.9	-7.0
GOMU				sP	pwP	08 36 07.0	-9.3
GOMU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GOMU				pmax	pmax		
	comp=Z,51nm,5.6s						
TOO	**Toolangi**	**45.06**	**159**	P	**P**	**08 36 13.6**	**-1.3**
KLR	**Kul'dur**	**45.12**	**5**	P	**P**	**08 36 16.1**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=173,slow=12,SNR=8.0						
DZM	**Mont Dzumac**	**46.84**	**126**	P	**P**	**08 36 29.7**	**+0.4**
	comp=Z,7.8nm,0.8s,baz=30,slow=20,SNR=1.8						
SONM	**Songino Array**	**46.87**	**341**	P	**P**	**08 36 29.4**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=157,slow=8.4,SNR=20						
SONM	**Songino Array**	**46.87**	**341**	P	**P**	**08 36 29.0**	**-0.2**
SONM				IAmb	IAmb	08 36 31.9	
	comp=Z,13nm,1.5s						
PETK	**Petropavlovsk-**	**55.06**	**22**	P	**P**	**08 37 31.0**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=159,slow=4.5,SNR=1.8						
PETK	**Petropavlovsk-**	**55.06**	**22**	P	**P**	**08 37 30.6**	**+0.1**
MK31	**Makanchi Array**	**57.17**	**325**	P	**P**	**08 37 45.2**	**-0.5**
MK31				IAmb	IAmb	08 37 48.5	
	comp=Z,2.9nm,0.5s						
MKAR	**Makanchi Array**	**57.17**	**325**	P	**P**	**08 37 44.9**	**-0.8**
	comp=Z,3.8nm,0.4s,baz=120,slow=8.2,SNR=32						
MKAR				PcP	**PcP**	**08 38 40.1**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=148,slow=2.5,SNR=6.4						
MKAR	**Makanchi Array**	**57.17**	**325**	P	**P**	**08 37 45.1**	**-0.5**
MAKZ	**Makanchi**	**57.35**	**325**	P	**P**	**08 37 46.0**	**-0.9**
MAKZ				IAmb	IAmb	08 37 49.8	
	comp=Z,3.5nm,0.6s						
KSH	**Kashi**	**57.69**	**315**	P	**P**	**08 37 50.5**	**+0.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KDJ	**Kajisay**	**57.98**	**318**	P	**P**	**08 37 51.5**	**-0.3**
BOOM	**Boomskoye usch**	**58.97**	**318**	P	**P**	**08 37 58.8**	**+0.2**
KURBB	**Kurchatov Arra**	**61.34**	**327**	P	**P**	**08 38 13.3**	**-1.1**
	comp=Z,5.5nm,0.8s,baz=128,slow=7.2,SNR=46						
KURK	**Kurchatov**	**61.34**	**327**	P	**P**	**08 38 13.3**	**-1.1**
GAR	**Garm**	**61.58**	**312**	P	**P**	**08 38 16.8**	**+0.3**
SEY	**Seymchan**	**61.63**	**13**	P	**P**	**08 38 17.1**	**+1.0**
	comp=Z,2.7nm,0.9s,baz=216,slow=6.0,SNR=11						
KK31	**Karatay Array**	**62.87**	**317**	P	**P**	**08 38 25.1**	**+0.2**
KKAR	**Karatay Array**	**62.87**	**317**	P	**P**	**08 38 24.6**	**-0.2**
KKAR	**Karatay Array**	**62.87**	**317**	P	**P**	**08 38 25.1**	**+0.2**
KKAR				IAmb	IAmb	08 38 26.6	
	comp=Z,4.2nm,1.1s						
BRVK	**Borovoye**	**67.00**	**327**	P	**P**	**08 38 51.5**	**0.0**
BRVK				IAmb	IAmb	08 38 52.9	
	comp=Z,8.2nm,1.1s						
TIXI	**Tiksi**	**67.42**	**1**	P	**P**	**08 38 53.9**	**+0.2**
	comp=Z,3.0nm,0.4s,baz=266,slow=23,SNR=10						
TIXI	**Tiksi**	**67.42**	**1**	P	**P**	**08 38 53.3**	**-0.4**
TIXI				IAmb	IAmb	08 38 58.2	
	comp=Z,4.9nm,0.8s						
NRIK	**Noril'sk**	**70.00**	**346**	P	**P**	**08 39 10.3**	**+0.4**
	comp=Z,7.9nm,0.7s,baz=136,slow=6.1,SNR=12						
NRIK	**Noril'sk**	**70.00**	**346**	P	**P**	**08 39 11.0**	**+1.2**
CASY	**Casey**	**71.23**	**187**	P	**P**	**08 39 18.8**	**+1.4**
CASY				IAmb	IAmb	08 39 34.9	
	comp=Z,8.4nm,1.0s						
ABKAR	**Akbulak array**	**71.78**	**321**	P	**P**	**08 39 20.0**	**-1.1**
ABKAR	**Akbulak array**	**71.78**	**321**	P	**P**	**08 39 20.2**	**-0.9**
SOCY	**Socotra**	**72.21**	**281**	P	**P**	**08 39 22.6**	**-1.9**
SOCY				IAmb	IAmb	08 39 26.1	
	comp=Z,6.0nm,0.9s						
AKTO	**Aktyubinsk**	**73.28**	**322**	P	**P**	**08 39 28.4**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=86,slow=4.3,SNR=4.8						
ARU	**Arti**	**74.54**	**328**	P	**P**	**08 39 35.5**	**-1.8**
	comp=Z,2.0nm,0.2s,baz=121,slow=4.0,SNR=7.2						
RAYN	**Ar Rayn**	**80.25**	**293**	P	**P**	**08 40 09.0**	**-1.0**
RAYN				IAmb	IAmb	08 40 09.6	
	comp=Z,7.2nm,1.4s						
KDAK	**Kodiak Island**	**81.56**	**32**	P	**P**	**08 40 17.6**	**+1.5**
MLY	**Manley**	**83.12**	**25**	P	**P**	**08 40 26.2**	**+2.0**
MLY				IAmb	IAmb	08 40 33.1	
	comp=Z,6.1nm,1.1s						
VNDA	**Vanda**	**83.86**	**173**	P	**P**	**08 40 27.9**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=312,slow=8.0,SNR=10						
VNDA	**Vanda**	**83.86**	**173**	P	**P**	**08 40 29.0**	**+1.3**
VNDA				IAmb	IAmb	08 40 37.5	
	comp=Z,9.9nm,1.5s						
ILAR	**Eielson Array**	**84.75**	**25**	P	**P**	**08 40 33.6**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=239,slow=5.5,SNR=7.2						
ILAR	**Eielson Array**	**84.75**	**25**	P	**P**	**08 40 33.5**	**+1.0**
KLMR	**Klimovskoe**	**85.00**	**331**	*e*	**P**	**08 40 32.4**	**-1.4**
KLMR				AMP		08 40 34.7	
	comp=Z,19nm,0.8s						
BMAR	**Burnt Mountain**	**85.71**	**23**	P	**P**	**08 40 39.1**	**+1.9**
BRTR	**Keskin Array B**	**89.70**	**310**	P	**P**	**08 40 56.5**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=308,slow=14,SNR=1.5						
BRTR	**Keskin Array B**	**89.70**	**310**	P	**P**	**08 40 56.1**	**-1.1**
INK	**Inuvik**	**89.79**	**21**	P	**P**	**08 40 57.3**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=283,slow=6.5,SNR=3.3						
ARCES	**ARCESS Array B**	**90.02**	**340**	P	**P**	**08 40 57.0**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=84,slow=6.0,SNR=9.5						
SPITS	**Spitsbergen Ar**	**90.05**	**349**	P	**P**	**08 40 58.0**	**+0.2**
	comp=Z,11nm,1.0s,baz=64,slow=3.4,SNR=8.8						
FIA1	**FINESS Array S**	**91.42**	**332**	P	**P**	**08 41 04.9**	**+0.4**
FINES	**FINESS Array B**	**91.42**	**332**	P	**P**	**08 41 03.8**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=87,slow=8.4,SNR=10						
FINES	**FINESS Array B**	**91.42**	**332**	P	**P**	**08 41 03.3**	**-1.2**
AKASG	**Malin Array Be**	**91.52**	**321**	P	**P**	**08 41 03.8**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=68,slow=4.2,SNR=4.5						
AKASG	**Malin Array Be**	**91.52**	**321**	P	**P**	**08 41 04.4**	**-0.7**
BURAR	**Bucovina Array**	**94.64**	**318**	P	**P**	**08 41 20.4**	**+0.6**
BURAR				IAmb	IAmb	08 41 21.3	
	comp=Z,3.6nm,1.0s						
NOA	**NORSAR Array B**	**98.37**	**334**	P	**P**	**08 41 34.5**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=62,slow=1.9,SNR=1.9						
YKA	**Yellowknife Ar**	**99.14**	**24**	P	**Pdif**	**08 41 38.9**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=294,slow=4.7,SNR=3.2						
TXAR	**Lajitas Array**	**121.39**	**52**	PKP	**PKPdf**	**08 46 52.2**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=290,slow=2.6,SNR=2.6						
TXAR	**Lajitas Array**	**121.39**	**52**		**PKPdf**	**08 46 51.7**	**-0.9**
TORD	**Torodi Ar. Bea**	**122.72**	**288**	PKP	**PKPdf**	**08 46 54.2**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=101,slow=1.4,SNR=6.9						
TORD	**Torodi Ar. Bea**	**122.72**	**288**		**PKPdf**	**08 46 54.4**	**-1.0**

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*TEH **05** 08:28:37.4, 36°72N×54°75E, h7km, ML3.4*

*AZER **05** 08:28:37.4±0.8, 36°86N×54°46E, h18km±195km, Error ellipse: s-maj=361.9km s-min=18.1km az=304.0*

ISC 05 08:28:37.5±0.9**, 36°71N**±0°05×**54°79E**±0°03**, h10km, n45,** σ1s95/51**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.73**	**42**	*e*Pg	**Pg**	**08 28 51.1**	**-0.5**
IMND				*e*		08 28 52.7	
	comp=Z,16μm,0.3s						
IGLO	**Ghaloghah**	**0.80**	**255**	*e*Pg	**Pg**	**08 28 52.4**	**-0.6**
IGLO				*e*		08 29 13.1	
	comp=Z,22μm,0.7s						
SHRO	**Shahrood**	**1.22**	**126**	*e*Pg	**Pn**	**08 29 00.1**	**-0.6**
MRVT	**Maraveh tapeh**	**1.40**	**47**	*e*Pn	**Pn**	**08 29 03.3**	**+0.1**
ISHM	**Shahmirzad**	**1.51**	**234**	*e*Pn	**Pg**	**08 29 06.0**	**-0.6**
IFIR	**Firoozkooh**	**1.97**	**238**	*e*Pn	**Pb**	**08 29 13.0**	**-0.6**
IFIR				*e*		08 29 14.6	
	comp=Z,4μm,0.5s						
ILAS	**Lasjerd**	**1.99**	**229**	*e*Pn	**Pb**	**08 29 13.5**	**-0.5**
IPRN	**Peran**	**2.03**	**257**	*e*Pn	**Pb**	**08 29 13.6**	**-1.0**
IPRN				*e*		08 29 48.5	
	comp=Z,9μm,0.9s						
SBZV	**Sabzevar**	**2.29**	**97**	*e*Pn	**Pb**	**08 29 18.5**	**-0.6**
BJRD	**Bojnurd**	**2.31**	**64**	*e*Pn	**Pn**	**08 29 17.4**	**+1.7**
IDMV	**Damavand**	**2.51**	**244**	*e*Pn	**Pb**	**08 29 21.9**	**-0.9**
IDMV				*e*		08 29 26.2	
	comp=Z,2μm,0.6s						
DAMV	**Damavand**	**2.53**	**245**	*e*Pn	**Pb**	**08 29 22.3**	**-0.8**
IVRN	**Varamin**	**3.02**	**236**	*e*Pn	**Pn**	**08 29 27.9**	**+2.4**
IVRN				*e*		08 30 17.3	
	comp=Z,1μm,0.6s						
CHTH	**Charan**	**3.07**	**256**	*e*Pn	**Pb**	**08 29 30.5**	**-1.8**
TNSJ	**Nastanj**	**3.12**	**151**	*e*Pn	**Pb**	**08 29 30.3**	**-2.8**
TNSJ				*e*		08 30 27.6	
	comp=Z,2μm,0.7s						
ISFB	**Sefidab**	**3.14**	**222**	*e*Pn	**Pn**	**08 29 28.9**	**+1.7**
ISFB				*e*		08 30 22.5	
	comp=Z,687nm,0.4s						
IAKL	**Akhelmad**	**3.19**	**91**	*e*Pn	**Pn**	**08 29 31.3**	**+3.3**
THKV	**Tehran--Karaj**	**3.26**	**257**	*e*Pn	**Pb**	**08 29 32.3**	**-3.3**
IPAY	**Payeh**	**3.39**	**93**	*e*Pn	**Pn**	**08 29 33.9**	**+3.2**
IPAY				*e*		08 29 49.2	
	comp=Z,285nm,0.4s						
KRSH	**Karshahi**	**3.50**	**219**	*e*Pn	**Pn**	**08 29 34.5**	**+2.4**
IQOM	**Qom**	**3.56**	**239**	*e*Pn	**Pn**	**08 29 34.8**	**+1.8**
IQOM				*e*		08 29 50.2	
	comp=Z,514nm,0.6s						
TABS	**Tabas**	**3.60**	**147**	*e*Pn	**Pn**	**08 29 35.7**	**+2.2**
ANAR	**Anarak**	**3.62**	**194**	*e*Pn	**Pn**	**08 29 36.1**	**+2.3**
TKDS	**Koohdasht(Taba**	**3.63**	**148**	*e*Pn	**Pn**	**08 29 36.2**	**+2.3**
TKDS				*e*		08 30 52.4	
	comp=Z,623nm,0.7s						
IKRD	**Kardeh**	**3.79**	**88**	*e*Pn	**Pn**	**08 29 39.0**	**+2.8**
IKRD				*e*		08 31 00.2	
	comp=Z,255nm,0.6s						
TPRV	**Parvadeh(Tabas**	**3.99**	**157**	*e*Pn	**Pn**	**08 29 40.9**	**+2.1**
IRAZ	**Razeghan**	**4.15**	**253**	*e*Pn	**Pn**	**08 29 43.3**	**+2.2**
IMYA	**Miami**	**4.29**	**93**	*e*Pn	**Pn**	**08 29 46.7**	**+3.7**
IZEF	**Zefreh**	**4.32**	**209**	*e*Pn	**Pn**	**08 29 46.2**	**+2.8**
YZKH	**Yazd**	**4.32**	**182**	*e*Pn	**Pn**	**08 29 44.8**	**+1.5**
ASAO	**Ashtian**	**4.44**	**242**	*e*Pn	**Pn**	**08 29 47.1**	**+1.9**
TBJM	**Torbat-e-JAM**	**4.71**	**106**	*e*Pn	**Pn**	**08 29 51.8**	**+2.9**
AFRZ	**Afriz**	**4.77**	**132**	*e*Pn	**Pn**	**08 29 52.4**	**+2.8**
ITEG	**Tejag**	**5.01**	**138**	*e*Pn	**Pn**	**08 29 55.5**	**+2.6**
IRAM	**Ramesheh**	**5.28**	**203**	*e*Pn	**Pn**	**08 29 58.9**	**+2.2**
SHRT	**Shahrakht**	**5.44**	**123**	*e*Pn	**Pn**	**08 30 00.9**	**+2.1**
LRK	**Lerik**	**5.47**	**293**	P	**Pn**	**08 29 58.8**	**-0.4**
LRK				S	**Sn**	**08 30 59.6**	**-2.6**
YRD	**Yardimli**	**5.63**	**295**	P	**Pn**	**08 30 01.3**	**-0.2**
YRD				S	**Sn**	**08 31 06.1**	**-0.2**
GLBA	**Clilabad**	**5.65**	**298**	S	**Sn**	**08 31 06.3**	**-0.1**
GRMI	**Germi**	**5.85**	**293**	*e*Pn	**Pn**	**08 30 04.9**	**+0.5**
BSRN	**Basiran**	**5.94**	**142**	*e*Pn	**Pn**	**08 30 07.8**	**+2.1**
PQL	**Pirkuli**	**6.33**	**312**	P	**Pn**	**08 30 11.8**	**+0.9**
PQL				S	**Sn**	**08 31 23.7**	**+0.4**
SIZA	**Siyzn**	**6.33**	**315**	P	**Pn**	**08 30 09.4**	**-1.5**
SIZA				S	**Sn**	**08 31 26.0**	**+2.6**
XNQ	**Khinaliq**	**6.83**	**313**	P	**Pn**	**08 30 18.5**	**+0.6**
XNQ				S	**Sn**	**08 31 35.9**	**0.0**
GDB	**GEDABAY**	**8.12**	**302**	P	**Pn**	**08 30 35.8**	**+0.2**
GDB				S	**Sn**	**08 32 07.0**	**-0.5**

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*MAN **05** 08:29:00.4, 2°89N×128°13E, h14km, mb6.2, ML5.3, MS5.9, Hypocentre not reviewed by the ISC*

MAN INTENSITY II - TUPI SOUTH COTABATO; INTENSITY I - KIAMBIA & GLAN SARANGANI; GENERAL SANTOS CITY.

*IDC **05** 08:29:14.5±0.4, 4°11N×126°39E, h0km, mb4.9/54, mb1 4.9/58, mb1mx4.8/69, mbtmp4.9/58, ML4.8/2, Error ellipse: s-maj=13.5km s-min=8.8km az=70.0*

*MOS **05** 08:29:17.3±1.0, 4°16N×126°42E, h29km, mb5.6/29, MS5.4/17, Error ellipse: s-maj=9.1km s-min=4.3km az=115.8*

*BJI **05** 08:29:19.0±0.0, 4°20N×126°70E, h35km, mB5.5/39, mb5.2/63, Ms5.6/66, Ms7 5.5/61*

*DJA **05** 08:29:20.7±0.3, 4°N±2°×12°7E±°, h42km±3km, M5.7/112, mb5.7/112, mB6.0/101, MLv6.0/13, Mw(mB)5.7/101, MwMwp5.7/77, Mwp5.8/77*

*NEIC **05** 08:29:20.9±2.5, 4°21N±0°05×126°65E±0°07, h35km±1km, mb5.7/121, Ms_20 5.6/351, Mww5.9, Error ellipse: s-maj=12.1km s-min=8.8km az=72.0*

*KLM **05** 08:29:28, 4°35N×126°53E, h86km, mb5.9*

ISC 05 08:29:21.6±0.2**, 4°15N**±0°03×**126°51E**±0°04**, h45km, n772,** σ1s46/662**, mb4.8**/52**, 30C-31D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.08**	**245**	P	**Pn**	**08 29 41.2**	**+1.0**
DAV	**Davao City (W)**	**3.05**	**342**	Sn	**Sn**	**08 30 40.5**	**-2.2**
	561nm,0.3s,baz=310,slow=23,SNR=5.8						
DAV	**Davao City (W)**	**3.05**	**342**	Pn	**Pn**	**08 30 07.5**	**+0.2**
TNTI	**Ternate**	**3.46**	**166**	Pn	**Pn**	**08 30 14.1**	**+1.1**
CTBH	**Cotabato--PC H**	**3.79**	**324**	⇑*i*P	**Pn**	**08 30 20.6**	**+3.0**
KMSI	**Cibinong**	**4.35**	**215**	P	**Pn**	**08 30 25.0**	**-0.2**
LBMI	**Labuha**	**4.85**	**168**	P	**Pn**	**08 30 29.5**	**-2.6**
GTOI	**Gorontalo**	**4.93**	**225**	P	**Pn**	**08 30 35.1**	**+1.9**
	4.5nm41μm11μm737nm,1.2s						
MRSI	**Marisa**	**5.84**	**231**	P	Pn	08 30 51.0	+5.4
	13nm79μm33μm3μm,0.6s						
TBP	**Tagbilaran**	**6.10**	**335**	*e*P	Pn	08 30 43.4	-5.9
MSLP	**Maasin**	**6.17**	**345**	⇑*e*P	Pn	08 30 56.4	+6.2
SANI	**Sanana**	**6.17**	**185**	P	**Pn**	**08 30 50.5**	**+0.2**
	4.6nm17μm12μm572nm,0.6s						
LUWI	**Luwuk**	**6.36**	**216**	Pn	**Pn**	**08 30 57.3**	**+4.4**
LUWI	**Luwuk**	**6.36**	**216**	P	**Pn**	**08 30 53.7**	**+0.9**
	38nm62μm105μm5μm,1.3s						
CNOP	**Candoni, Negro**	**6.83**	**326**	⇓*i*P	Pn	08 31 04.4	+5.2
SWI	**Sorong**	**6.88**	**136**	P	**Pn**	**08 30 58.6**	**-1.3**
	4.1nm74μm10μm615nm,1.0s						
SIJI	**Sorong**	**6.89**	**136**	Pn	**Pn**	**08 30 58.1**	**-2.0**
	14nm,0.3s,baz=328,slow=14,SNR=11						
MPSI	**Mapaga**	**7.61**	**240**	P	**Pn**	**08 31 10.7**	**+0.8**
	4.0nm82μm48μm338nm,1.0s						
MSAI	**Masohi**	**7.83**	**162**	P	**Pn**	**08 31 12.8**	**-0.1**
	0.4nm1μm140nm,1.0s						
RCP	**Roxas**	**8.25**	**333**	⇓*e*P	**Pn**	**08 31 22.2**	**+3.4**
FAKI	**Fak Fak**	**9.07**	**141**	Pn	**Pn**	**08 31 28.3**	**-1.7**
FAKI	**Fak Fak**	**9.07**	**141**	P	**Pn**	**08 31 29.2**	**-0.8**
	44μm9μm735nm,0.7s						
PPR	**Puerto Princes**	**9.53**	**306**	⇓*i*P	**Pn**	**08 31 38.3**	**+2.0**
TTSI	**Tana Toraja**	**9.78**	**223**	P	**Pn**	**08 31 40.1**	**+0.4**
	38μm13μm1μm,1.3s						
BBSI	**Bau Bau**	**10.34**	**202**	P	**Pn**	**08 31 46.7**	**-0.8**
	641nm50nm,1.0s						
KKM	**Kota Kinabalu**	**10.42**	**281**	Pn	**Pn**	**08 31 52.3**	**+3.6**
SPSI	**Sidrap Palu**	**10.50**	**220**	P	**Pn**	**08 31 50.0**	**+0.4**
	35μm8μm204nm,1.2s						
BNSI	**Bone**	**10.63**	**217**	P	**Pn**	**08 31 51.7**	**+0.4**
	30μm7μm419nm,1.2s						
BAKI	**Biak**	**10.96**	**119**	P	**Pn**	**08 31 53.7**	**-2.2**
	18μm632nm,1.5s						
BKB	**Balikpapan**	**11.00**	**241**	P	**Pn**	**08 31 55.3**	**-1.2**
	55μm8μm428nm,1.5s						
TGY	**Tagaytay City**	**11.32**	**331**	Pn	**Pn**	**08 31 58.0**	**-2.8**
	baz=135,slow=17,SNR=0.9						
TGY	**Tagaytay City**	**11.32**	**331**	P	**Pn**	**08 31 58.0**	**-2.8**
KAPI	**Kappang**	**11.33**	**217**	Pn	**Pn**	**08 31 57.2**	**-3.7**
	0.1nm,0.3s,baz=9.3,slow=10,SNR=1.3						
KAPI	**Kappang**	**11.33**	**217**	pmax	pmax		
	comp=Z,28nm,1.1s						
KAPI	**Kappang**	**11.33**	**217**	Pn	**Pn**	**08 32 04.6**	**+3.7**
KAPI	**Kappang**	**11.33**	**217**	*d i*P	**Pn**	**08 32 02.1**	**+1.2**
BKSI	**Bulukumba**	**11.36**	**214**	P	**Pn**	**08 32 01.7**	**+0.3**
	comp=Z,24μmcomp=Z,3μmcomp=Z,224nm,1.2s						
SRPI	**Serui, Papua**	**11.42**	**121**	P	**Pn**	**08 32 00.0**	**-2.2**
BSSI	**Bau Bau, Buton**	**11.85**	**210**	P	**Pn**	**08 32 08.3**	**+0.2**
	comp=Z,10μmcomp=Z,4μmcomp=Z,277nm,1.5s						
MTKI	**Muara Teweh, K**	**12.65**	**247**	P	**Pn**	**08 32 19.4**	**+0.3**
	comp=Z,22μmcomp=Z,8μmcomp=Z,386nm,1.4s						
SAUI	**Saumlaki**	**12.96**	**158**	P	**Pn**	**08 32 20.9**	**-2.4**
	comp=Z,15μmcomp=Z,1μm,1.0s						
MMRI	**Maumere**	**13.39**	**199**	P	**Pn**	**08 32 28.4**	**-0.7**
	comp=Z,8μmcomp=Z,12μmcomp=Z,223nm,1.1s						
BBKI	**Banjar Baru**	**13.89**	**237**	P	**Pn**	**08 32 35.9**	**-0.1**
	comp=Z,17μmcomp=Z,12μmcomp=Z,783nm,1.4s						
SBUM	**Sibu**	**14.36**	**264**	Pn	**Pn**	**08 32 44.3**	**+2.0**
BATI	**Baumata**	**14.54**	**191**	Pn	**Pn**	**08 32 42.4**	**-2.2**
	comp=Z,6.6nm,0.3s,baz=272,slow=9.7,SNR=2.0						
BATI	**Baumata**	**14.54**	**191**	P	**Pn**	**08 32 44.9**	**+0.3**
	comp=Z,4μmcomp=Z,4μmcomp=Z,340nm,1.2s						
WBSI	**Waikabubak, Su**	**15.42**	**207**	P	**Pn**	**08 32 55.8**	**-0.5**
	comp=Z,21μmcomp=Z,3μm,1.4s						
BASI	**Baing, Sumba**	**15.44**	**202**	P	**Pn**	**08 32 56.3**	**-0.2**
	comp=Z,10μmcomp=Z,408nm,1.2s						
PLAI	**Plampang**	**15.55**	**214**	P	**Pn**	**08 32 57.3**	**-0.6**
	comp=Z,14μmcomp=Z,14μmcomp=Z,1μm,1.3s						
STKI	**Sintang**	**15.55**	**255**	P	**Pn**	**08 32 57.9**	**-0.1**
	comp=Z,19μmcomp=Z,12μmcomp=Z,197nm,1.2s						
PBKI	**Pangkalan Bun**	**16.31**	**246**	P	**Pn**	**08 33 08.0**	**+0.3**
	comp=Z,8μmcomp=Z,463nm,1.3s						
KSM	**Kuching**	**16.39**	**261**		**P**	**08 33 12.0**	**+1.1**
KSM				IAmb	IAmb	08 33 59.4	
	comp=Z,1μm,1.3s						
SRBI	**Singaraja**	**16.57**	**223**	P	**Pn**	**08 33 11.1**	**+0.3**
	comp=Z,21μmcomp=Z,8μmcomp=Z,357nm,1.0s						
KMMI	**Kalianget**	**16.74**	**228**	P	**Pn**	**08 33 13.6**	**+0.6**
	comp=Z,21μmcomp=Z,6μmcomp=Z,252nm,1.2s						
DNP	**Denpasar**	**17.00**	**221**	P	**P**	**08 33 18.7**	**+1.1**
	comp=Z,23μmcomp=Z,997nm,1.1s						
BWJI	**Bawean**	**17.02**	**234**	P	**Pn**	**08 33 16.1**	**-0.5**
	comp=Z,13μmcomp=Z,8μmcomp=Z,387nm,1.1s						
ABJI	**Asem Bagus**	**17.05**	**226**	P	**Pn**	**08 33 16.2**	**-0.6**
	comp=Z,25μmcomp=Z,6μmcomp=Z,176nm,1.5s						
IGBI	**Denpasar**	**17.15**	**221**	P	**Pn**	**08 33 17.0**	**-1.1**
	comp=Z,12μmcomp=Z,8μmcomp=Z,699nm,0.8s						
BLJI	**Banyuglugur**	**17.48**	**228**	P	**Pn**	**08 33 21.8**	**-0.4**
	comp=Z,16μmcomp=Z,3μmcomp=Z,213nm,1.5s						
MTN	**Manton Dam**	**17.49**	**165**	P	**Pn**	**08 33 21.1**	**-1.3**
	baz=18,SNR=4.9						
MTN	**Manton Dam**	**17.49**	**165**	Pn	**Pn**	**08 33 21.3**	**-1.1**
MTN				IAmb	IAmb	08 33 49.8	
	comp=Z,378nm,0.8s						
JAGI	**Jajag, Banyuwa**	**17.57**	**225**		**P**	**08 33 25.9**	**+1.9**
JAGI				IAmb	IAmb	08 34 13.2	
	comp=Z,556nm,1.1s						
JAGI	**Jajag, Banyuwa**	**17.57**	**225**	P	**Pn**	**08 33 22.4**	**-1.0**
	comp=Z,20μmcomp=Z,7μmcomp=Z,321nm,0.9s						
GMJI	**Gumukmas**	**17.94**	**227**	P	**Pn**	**08 33 26.4**	**-1.5**

comp=Z,19μmcomp=Z,5μmcomp=Z,374nm,1.1s
MMPI Merauke 18.67 132 P **Pn** **08 33 38.0 +1.3**
comp=Z,17μmcomp=Z,19μmcomp=Z,800nm,0.6s
UWJI Ujung Watu 18.75 236 P **Pn** **08 33 37.3 -0.4**
comp=Z,8μmcomp=Z,189nm,0.7s
PWJI Pagerwojo 19.00 231 P **P** **08 33 37.8 -1.9**
TWG Pinlang 19.30 345 P **P** **08 33 40.7 -2.1**
DLV T Lat 19.44 295 P **Pn** **08 33 46.6 +0.4**
DLV IAmb IAmb 08 34 11.4
comp=Z,551nm,1.1s
SMRI Semarang 19.51 235 P **Pn** **08 33 46.2 -0.6**
SMRI IAmb IAmb 08 34 22.4
comp=Z,314nm,0.9s
SMRI Semarang 19.51 235 P **Pn** **08 33 46.5 -0.4**
comp=Z,27μmcomp=Z,8μmcomp=Z,304nm,0.9s
PCJI Pacitan 19.60 231 P **Pn** **08 33 47.5 -0.3**
comp=Z,19μmcomp=Z,5μmcomp=Z,293nm,1.2s
YULB Yu-li 19.79 346 P **P** **08 33 47.5 -0.7**
KNRA Kununurra 19.82 174 P **Pn** **08 33 50.7 +0.3**
baz=20,SNR=9.0
KNRA Kununurra 19.82 174 P **P** **08 33 48.2 -0.4**
TPUB Ta-pu 19.87 344 P **P** **08 33 47.3 -1.9**
TPUB IAmb IAmb 08 34 26.7
comp=Z,328nm,0.7s
UGM Wanagama 19.94 233 P **Pn** **08 33 51.2 -0.8**
UGM IAmb IAmb 08 34 32.3
comp=Z,380nm,1.0s
UGM Wanagama 19.94 233 P **P** **08 33 50.3 +0.3**
comp=Z,23μmcomp=Z,5μmcomp=Z,110nm,1.5s
YOGI Yogyakarta 20.07 234 P **P** **08 33 52.0 +0.6**
comp=Z,13μmcomp=Z,5μmcomp=Z,460nm,1.3s
SSLB Suanglung 20.25 345 P **P** **08 33 52.8 -0.5**
SSLB IAmb IAmb 08 34 35.4
comp=Z,398nm,1.2s
NACB Ninganchiao 20.47 347 P **P** **08 33 54.9 -0.7**
YOJ Yonaguni jima 20.48 351 pmax pmax
comp=Z,362nm,1.0s
YOJ Yonaguni jima 20.48 351 P **P** **08 33 56.3 +0.6**
YOJ IAmb IAmb 08 34 44.9
comp=Z,362nm,1.0s
YOJ Yonaguni jima 20.48 351 P **P** **08 33 56.3 +0.6**
KPJI Karang Pucung 20.92 237 P **P** **08 34 01.0 +0.4**
YHNB Yeheng 21.00 347 P **P** **08 34 01.2 -0.2**
TATO Taipei 21.27 347 P **P** **08 34 05.7 +1.5**
PPBI Pangkal Pinang 21.30 253 P **P** **08 34 04.7 0.0**
comp=Z,25μmcomp=Z,143nm,1.1s
CMJI Cimerak 21.56 237 P **P** **08 34 05.6 -1.9**
comp=Z,13μmcomp=Z,4μmcomp=Z,162nm,1.3s
HKPS Hong Kong Po S 21.64 327 **P** **08 34 09.7 +1.4**
QIZ Qiongzhong 21.99 314 P **P** **08 34 10.8 -1.2**
QIZ Qiongzhong 21.99 314 P **P** **08 34 15.0 +2.9**
FITZ Fitzroy Crossi 22.12 182 P **P** **08 34 12.3 -1.1**
comp=Z,19nm,0.8s,baz=7.3,slow=12,SNR=4.0
FITZ Fitzroy Crossi 22.12 182 P **P** **08 34 14.8 +1.4**
FITZ IAmb IAmb 08 34 35.9
comp=Z,501nm,1.2s
TPRI Tanjung Pinang 22.19 262 P **P** **08 34 14.7 +0.5**
comp=Z,5μmcomp=Z,256nm,0.8s
CBJI Citeko 22.25 242 P **P** **08 34 16.6 +1.7**
comp=Z,26μmcomp=Z,9μmcomp=Z,479nm,1.2s
DSRI Dabo 22.39 259 P **P** **08 34 16.7 +0.3**
comp=Z,14μmcomp=Z,3μmcomp=Z,146nm,1.2s
CNJI Cibinong 22.43 240 P **P** **08 34 17.1 +0.2**
comp=Z,17μmcomp=Z,6μmcomp=Z,285nm,1.3s
JOW Kunigami 22.62 4 P **P** **08 34 19.3 +0.5**
comp=Z,49nm,0.9s,baz=184,slow=9.4,SNR=9.4
JOW Kunigami 22.62 4 IAmb IAmb 08 34 56.9
comp=Z,366nm,1.0s
JOW Kunigami 22.62 4 P **P** **08 34 19.7 +1.0**
MYKOM Kota Tinggi 22.74 265 P **P** **08 34 23.2 +3.1**
MYKOM IAmb IAmb 08 34 45.0
comp=Z,286nm,1.0s
SKJI Sukabumi 22.79 241 P **P** **08 34 22.0 +1.4**
comp=Z,3μmcomp=Z,219nm,1.2s
BLSI Bandar Lampung 23.24 246 P **P** **08 34 26.1 +0.9**
comp=Z,29μmcomp=Z,7μmcomp=Z,359nm,1.0s
CGJI Cibinong 23.36 243 P **P** **08 34 23.8 -2.6**
comp=Z,4μmcomp=Z,288nm,0.6s
KLI Kotabumi 23.40 248 P **P** **08 34 27.9 +1.1**
comp=Z,19μmcomp=Z,6μmcomp=Z,456nm,1.1s
UBPT Khong Chiam 23.47 300 P **P** **08 34 27.4 0.0**
MDSI Maura Dua 23.90 249 P **P** **08 34 30.9 -0.5**
comp=Z,12μmcomp=Z,3μmcomp=Z,44nm,0.7s
JRMM Jerantut 23.97 270 P **P** **08 34 33.0 +0.9**
KASI Kota Agung 23.99 247 P **P** **08 34 32.1 -0.1**
comp=Z,16μmcomp=Z,3μmcomp=Z,202nm,1.2s
LWLI Liwa 24.20 248 P **P** **08 34 34.7 +0.4**
comp=Z,10μmcomp=Z,449nm,0.7s
COEN Coen 24.43 138 P **P** **08 34 35.6 -0.7**
PMG Port Moresby 24.59 123 P **P** **08 34 37.3 -0.5**
comp=Z,3.5nm,0.5s,baz=304,slow=7.3,SNR=1.3
PMG Port Moresby 24.59 123 pmax pmax
comp=Z,24nm,1.3s
PMG Port Moresby 24.59 123 P **P** **08 34 37.9 +0.1**
PMG Port Moresby 24.59 123⇑*e*P **P** **08 34 36.6 -1.2**
WB0 Warramunga Arr 25.00 162 P **P** **08 34 40.6 -0.8**
MNAI Manna 25.00 251 P **P** **08 34 42.9 +1.4**
WRAB Tennant Creek 25.14 162 pmax pmax
comp=Z,102nm,1.6s
WRAB Tennant Creek 25.14 162 P **P** **08 34 42.1 -0.6**
WRAB Tennant Creek 25.14 162*de*P **P** **08 34 40.9 -1.8**
WRA Warramunga Arr 25.14 162 P **P** **08 34 41.6 -1.1**
comp=Z,21nm,0.7s,baz=343,slow=10,SNR=14
WRA Warramunga Arr 25.14 162 P **P** **08 34 43.2 +0.4**
WB2 Warramunga Arr 25.15 162 P **P** **08 34 42.3 -0.4**
WR0 Warramunga Arr 25.22 162 P **P** **08 34 44.5 +1.1**
MASI Maura Aman, Be 25.31 254 P **P** **08 34 48.2 +3.9**
comp=Z,12μmcomp=Z,1μm,1.1s
XMIS Christmas Isla 25.34 235 P **P** **08 34 45.5 +0.9**
IPM Ipoh 25.41 272 P **P** **08 34 46.5 +1.3**
IPM IAmb IAmb 08 35 11.4
comp=Z,190nm,0.9s
BKNI Bangkinang 25.72 262⇑P **P** **08 34 53.2 +5.1**
BKNI Bangkinang 25.72 262 P **P** **08 34 48.9 +0.8**
comp=Z,15μmcomp=Z,7μmcomp=Z,656nm,0.9s
KRJI Kerinci 25.78 257 P **P** **08 34 49.7 +1.0**
comp=Z,16μmcomp=Z,14μmcomp=Z,158nm,1.0s
KULM Kulim 25.79 274 P **P** **08 34 52.1 +3.5**
KULM IAmb IAmb 08 35 12.7
comp=Z,542nm,1.6s
KULM Kulim 25.79 274⇓P **P** **08 34 52.8 +4.1**
PSA00 Pilbara Seismi 26.38 194 P **P** **08 34 53.8 -0.1**
PSA00 IAmb IAmb 08 35 25.5
comp=Z,357nm,0.9s
PSA00 Pilbara Seismi 26.38 194 P **P** **08 34 53.8 -0.1**
PSA00 IAmb IAmb 08 35 24.9
comp=Z,366nm,1.0s
PPI Padang Panjang 26.48 261 P **P** **08 34 56.5 +1.6**
comp=Z,2μmcomp=Z,181nm,0.9s
KRVT Keravat (AS076 26.84 108 P **P** **08 34 58.0 -0.1**
comp=Z,38nm,0.6s,baz=321,slow=2.3,SNR=7.4
MNSI Mandailing Nat 27.10 264 P **P** **08 35 03.1 +2.6**
comp=Z,4μmcomp=Z,509nm,1.0s
SSE Sheshan 27.27 350 P **P** **08 35 02.6 +0.8**
SSE Sheshan 27.27 350 S **S** **08 39 42.1 +4.0**
JCJ Chichijima 27.30 32 P **P** **08 35 03.0 +0.8**
comp=Z,55nm,0.7s,baz=108,slow=19,SNR=3.4
JCJ Chichijima 27.30 32 P **P** **08 35 00.4 -1.7**
PSI Prapat 27.56 268 P **P** **08 35 04.1 -0.7**
comp=Z,8.4nm,0.5s,baz=264,slow=1.7,SNR=7.3
QIS Mount Isa 27.71 153 P **P** **08 35 05.7 -0.2**
baz=28,SNR=5.9
SISI Saibi 27.93 259 P **P** **08 35 09.1 +1.2**
comp=Z,2μmcomp=Z,152nm,1.0s
MTSU Mount Surprise 28.26 142 P **P** **08 35 09.9 -0.9**
baz=28,SNR=5.2
AS31 Alice Springs 28.57 166 P **P** **08 35 13.4 -0.1**
ASAR Alice Springs 28.57 166 P **P** **08 35 12.2 -1.3**
comp=Z,3.7nm,0.6s,baz=346,slow=6.9,SNR=10
ASAR Alice Springs 28.57 166 P **P** **08 35 13.8 +0.3**
WHN Wuhan 28.66 338⇑P **P** **08 35 14.2 +0.1**
KCSI Kotacane, Aceh 28.68 270 P **P** **08 35 14.4 -0.2**
comp=Z,2μmcomp=Z,82nm,1.1s
NJ2 Nanjing 28.68 346 pP pP 08 35 23.4 -2.0
NJ2 Nanjing 28.68 346 *e*P **P** **08 35 14.7 +0.4**
NJ2 Nanjing 28.68 346 sP sP 08 35 31.6 +1.2
NJ2 Nanjing 28.68 346 S **S** **08 39 57.9 -2.3**
NJ2 Nanjing 28.68 346 sS sS 08 40 15.0 -4.7
GSI Gunungsitoli 29.03 265 P **P** **08 35 17.4 -0.3**
GSI IAmb IAmb 08 35 41.0
comp=Z,160nm,0.9s
GSI Gunungsitoli 29.03 265 P **P** **08 35 17.5 -0.3**
comp=Z,10μmcomp=Z,3μmcomp=Z,211nm,0.9s
WRKA Warakurna 29.06 177 P **P** **08 35 18.9 +1.0**
baz=29,SNR=13

JNU Nakatsue 29.12 8 P **P** **08 35 17.2 -1.1**
comp=Z,14nm,0.9s,baz=226,slow=5.7,SNR=8.2
JNU Nakatsue 29.12 8 P **P** **08 35 18.1 -0.2**
JNU IAmb IAmb 08 35 55.0
comp=Z,110nm,0.8s
GIRL Giralia 29.20 204 P **P** **08 35 19.8 +0.8**
GYA Guiyang 29.21 321 S **S** **08 40 09.4 +0.4**
CMAR Chiang Mai Arr 30.47 300 P **P** **08 35 30.4 0.0**
comp=Z,10nm,0.8s,baz=115,slow=7.2,SNR=22
CMAR Chiang Mai Arr 30.47 300 P **P** **08 35 31.0 +0.6**
ENH Enshi 30.56 330 P **P** **08 35 30.6 -0.5**
ENH IAmb IAmb 08 35 50.2
comp=Z,141nm,1.0s
CHTO Chiang Mai 30.62 301 MLR MLR
comp=Z,8μm,21.0s
CHTO pmax pmax
comp=Z,109nm,0.7s
CHTO Chiang Mai 30.62 301 P **P** **08 35 32.3 +0.6**
CHTO IAmb IAmb 08 35 56.5
comp=Z,109nm,0.7s
CHTO Chiang Mai 30.62 301⇑P **P** **08 35 32.6 +0.8**
CHTO Chiang Mai 30.62 301 pwP pwP 08 35 42.0 -5.0
CHTO Chiang Mai 30.62 301 sP sP 08 35 48.7 +1.0
CHTO Chiang Mai 30.62 301⇓pP pP 08 35 38.1 -4.6
CHTO Chiang Mai 30.62 301 P **P** **08 35 32.3 +0.6**
CTA Charters Tower 30.93 142 P **P** **08 35 33.3 -1.1**
comp=Z,6.9nm,0.9s,baz=339,slow=15,SNR=2.4
KMI Kunming 30.93 315 S **S** **08 40 39.8 +3.5**
KMI Kunming 30.93 315 sS sS 08 40 51.0 -4.8
JHS Saijyo 31.31 10 P **P** **08 35 37.5 -0.1**
JHS IAmb IAmb 08 36 18.9
comp=Z,105nm,1.1s
MEEK Meekatharra 31.54 194 P **P** **08 35 39.6 -0.2**
baz=32,SNR=6.5
TJN Taejon 32.09 1⇓*e*P **P** **08 35 44.3 -0.1**
TJN Taejon 32.09 1 P **P** **08 35 44.9 +0.5**
PZH PanZhiHua 32.49 316 pP pP 08 36 02.8 +3.5
PZH PanZhiHua 32.49 316 sP sP 08 36 05.8 +1.5
PZH PanZhiHua 32.49 316 *e*P **P** **08 35 51.1 +2.8**
INU Inuyama 32.54 16 P **P** **08 35 48.7 +0.3**
INU IAmb IAmb 08 36 24.2
comp=Z,75nm,0.8s
INU Inuyama 32.54 16⇓P **P** **08 35 49.0 +0.6**
LYN LuoYang 32.94 338⇑P **P** **08 35 50.3 -1.6**
TIA Tai'an 33.06 346⇑P **P** **08 35 52.4 -0.6**
KSAR Wonju Array Be 33.16 2 P **P** **08 35 54.3 +0.5**
KSAR Wonju Array Be 33.16 2 P **P** **08 35 54.3 +0.5**
KSRS Korea Array 33.18 2 P **P** **08 35 54.2 +0.3**
comp=Z,7.1nm,0.7s,baz=182,slow=10,SNR=16
INCN Inchon 33.18 0 MLR MLR
comp=Z,5μm,22.0s
INCN pmax pmax
comp=Z,65nm,0.9s
INCN Inchon 33.18 0 **P** **08 35 54.1 +0.1**
INCN Inchon 33.18 0 P **P** **08 35 54.1 +0.1**
KS19 Wonju Array Si 33.22 2 P **P** **08 35 54.7 +0.3**
XAN Xi'an 33.95 333⇓P **P** **08 35 60.0 -0.8**
XAN Xi'an 33.95 333 P **P** **08 35 59.6 -1.2**
XAN Xi'an 33.95 333 S **S** **08 41 24.0 +1.3**
XAN Xi'an 33.95 333 PcS PcS 08 42 24.1 -0.5
CD2 Chengdu 34.18 324 P **P** **08 36 03.1 +0.3**
CD2 Chengdu 34.18 324 pP pP 08 36 14.3 +0.4
CD2 Chengdu 34.18 324 sP sP 08 36 18.6 -0.3
CD2 Chengdu 34.18 324 sS sS 08 41 47.9 +1.9
CD2 Chengdu 34.18 324 S **S** **08 41 28.3 +1.9**
DGPR DIGLIPUR 34.34 287 *e*P **P** **08 36 03.6 -0.8**
MORW Morawa 34.52 196 **P** **08 36 06.1 +0.4**
MORW IAmb IAmb 08 36 37.4
comp=Z,150nm,1.1s
FORT Forrest 34.76 178 P **P** **08 36 10.8 +3.1**
baz=35,SNR=7.1
FORT Forrest 34.76 178 **P** **08 36 08.0 +0.3**
HNS HongShan 34.82 343⇑P **P** **08 36 07.7 -0.5**
HNS HongShan 34.82 343 SS SS 08 43 55.5 -13
DL2 Dalian 34.88 353 P **P** **08 36 09.5 +0.8**
DL2 Dalian 34.88 353 sS sS 08 41 55.6 -1.0
DL2 Dalian 34.88 353 sP sP 08 36 22.6 -2.3
QLP Quilpie 35.03 152 P **P** **08 36 09.7 -0.5**
baz=35,SNR=13
JSD Sado 35.40 16 **P** **08 36 12.9 -0.3**
JSD IAmb IAmb 08 36 33.3
comp=Z,66nm,0.8s
BLDU Ballidu 35.81 195 P **P** **08 36 16.5 -0.3**
baz=36,SNR=7.0
JMM Marumori 36.02 19 P **P** **08 36 18.4 0.0**
KLBR Kellyberrin 36.50 193 P **P** **08 36 22.3 -0.4**
baz=37,SNR=11
BJT Baijiatuan 36.91 347 MLR MLR
comp=Z,3μm,21.0s
BJT pmax pmax
comp=Z,145nm,0.7s
BJT Baijiatuan 36.91 347 P **P** **08 36 26.0 -0.1**
BJT Baijiatuan 36.91 347⇓P **P** **08 36 26.3 +0.2**
BJT Baijiatuan 36.91 347 P **P** **08 36 26.0 -0.1**
BJI Beijing 36.93 347 P **P** **08 36 26.4 +0.2**
MUN Mundaring 37.24 195 P **P** **08 36 28.9 -0.1**
baz=37,SNR=9.2
RMQ Roma 37.30 146 P **P** **08 36 28.1 -1.5**
baz=37,SNR=6.7
MOKO MOKOCHONG 37.73 309 *e*P **P** **08 36 34.8 +1.4**
EIDS Eidsvold 37.81 142 P **P** **08 36 33.1 -0.8**
baz=38,SNR=14
EIDS Eidsvold 37.81 142 P **P** **08 36 32.9 -1.0**
EIDS IAmb IAmb 08 36 53.1
comp=Z,128nm,0.8s
BBOO Buckleboo 37.85 167 P **P** **08 36 35.1 +0.9**
baz=38,SNR=15
BBOO Buckleboo 37.85 167 P **P** **08 36 34.5 +0.4**
LZH Lanzhou 38.03 330⇓P **P** **08 36 36.4 +0.5**
LZH Lanzhou 38.03 330 PP PP 08 38 05.4 +2.0
LZH Lanzhou 38.03 330 SS SS 08 45 05.2 -8.1
MSHR Mys Shultsa 38.49 6 pmax pmax
comp=Z,54nm,1.6s
MSHR Mys Shultsa 38.49 6⇓*e*P **P** **08 36 40.2 +0.8**
STKA Stephens Creek 38.59 159 P **P** **08 36 39.5 -1.0**
comp=Z,12nm,0.6s,baz=329,slow=7.9,SNR=10
STKA Stephens Creek 38.59 159 P **P** **08 36 40.1 -0.3**
baz=39,SNR=12
STKA Stephens Creek 38.59 159⇑*i*P **P** **08 36 39.8 -0.6**
STKA Stephens Creek 38.59 159 P **P** **08 36 40.0 -0.4**
ITAN ITANAGAR 38.76 310 *e*P **P** **08 36 41.9 0.0**
HHC Hu-ho-hao-te 38.94 342 *e*P **P** **08 36 43.2 -0.1**
HHC Hu-ho-hao-te 38.94 342 S **S** **08 42 41.0 +2.2**
HTT Hallett 39.18 163 P **P** **08 36 46.4 +1.1**
baz=39,SNR=12
SHL Shillong 39.45 306 pmax pmax
comp=Z,244nm,0.7s
SHL Shillong 39.45 306 P **P** **08 36 47.2 -0.7**
SHL Shillong 39.45 306 *e*P **P** **08 36 47.2 -0.7**
SHL Shillong 39.45 306 P **P** **08 36 48.1 +0.2**
SHL Shillong 39.45 306 P **P** **08 36 47.3 -0.7**
CN2 Changchun 39.50 359 *e*P **P** **08 36 47.1 -0.7**
CN2 Changchun 39.50 359 S **S** **08 42 48.4 +1.4**
RKGY Rocky Gully 39.58 192 P **P** **08 36 48.4 -0.2**
baz=40,SNR=5.6
GUWA GUWAHATI 39.89 307 *e*P **P** **08 36 50.8 -0.5**
CMSA Cobar Meteorol 39.92 154 P **P** **08 36 50.2 -1.2**
baz=40,SNR=7.7
USA0B Ussuriysk Arra 40.18 6 pmax pmax
comp=Z,64nm,0.9s
USA0B Ussuriysk Arra 40.18 6 P **P** **08 36 54.9 +1.4**
USA0B Ussuriysk Arra 40.18 6 P **P** **08 36 54.9 +1.4**
USRK Ussuriysk Ar. 40.18 6 P **P** **08 36 53.6 +0.1**
comp=Z,81nm,0.7s,baz=198,slow=6.8,SNR=8.7
MDJ Mudanjiang 40.40 3 P **P** **08 36 54.1 -1.2**
MDJ IAmb IAmb 08 37 22.0
comp=Z,122nm,0.8s
MDJ Mudanjiang 40.40 3⇑P **P** **08 36 56.3 +1.1**
MDJ Mudanjiang 40.40 3 pP pP 08 37 05.6 -1.2
MDJ Mudanjiang 40.40 3 P **P** **08 36 55.5 +0.2**
MDJ Mudanjiang 40.40 3 sP sP 08 37 11.0 -0.8
MDJ Mudanjiang 40.40 3 sS sS 08 43 19.8 -0.5
MDJ Mudanjiang 40.40 3 S **S** **08 43 03.9 +3.5**
XLT XiLinHaoTe 40.65 348⇑*i*P **P** **08 36 57.4 -0.1**
XLT XiLinHaoTe 40.65 348 sS sS 08 43 22.5 -1.8
XLT XiLinHaoTe 40.65 348 sP sP 08 37 13.3 -0.5
XLT XiLinHaoTe 40.65 348 PcS PcS 08 42 51.4 +2.0
XLT XiLinHaoTe 40.65 348 S **S** **08 43 07.8 +3.5**
XLT XiLinHaoTe 40.65 348 pP pP 08 37 04.7 -4.1
ARMA Armidale 41.93 147 P **P** **08 37 08.6 +0.4**
baz=42,SNR=11
ARMA Armidale 41.93 147 P **P** **08 37 07.7 -0.5**
ARMA IAmb IAmb 08 37 30.2

comp=Z,144nm,0.9s
LSA Lhasa 42.00 311 MLR MLR
comp=Z,3μm,22.0s
LSA pmax pmax
comp=Z,74nm,0.8s
LSA Lhasa 42.00 311 P **P** **08 37 08.4 -0.8**
LSA Lhasa 42.00 311 P **P** **08 37 09.5 +0.3**
LSA Lhasa 42.00 311⇑P **P** **08 37 10.5 +1.3**
LSA Lhasa 42.00 311 P **P** **08 37 08.4 -0.8**
LSA Lhasa 42.00 311 P **P** **08 37 09.8 +0.6**
ASAJ Asahikawa 42.26 17 P **P** **08 37 09.5 -1.1**
comp=Z,8.6nm,0.6s,baz=8,slow=24,SNR=2.6
JKA Kamikawa-asahi 42.26 17 **P** **08 37 10.7 +0.1**
GTA Gaotai 42.63 329⇓P **P** **08 37 13.6 -0.2**
ARPS Mount Arapiles 43.15 162 P **P** **08 37 19.0 +1.2**
baz=43,SNR=10
GOMU GeErMu 43.22 322 S **S** **08 43 47.0 +3.8**
GOMU GeErMu 43.22 322 PcP **PcP** **08 39 07.8 +0.1**
GOMU GeErMu 43.22 322 pP pP 08 37 29.1 -1.2
GOMU GeErMu 43.22 322 P **P** **08 37 19.5 +0.5**
GOMU GeErMu 43.22 322 PP PP 08 39 01.4 +1.4
TAPN Taplejung 43.59 306 *e*P **P** **08 37 21.9 -0.1**
comp=Z,145nm,0.7s
ODAN Odare 43.65 305 *e*P **P** **08 37 21.9 -0.5**
comp=Z,259nm,0.7s
BOK Bokaro 43.76 300 *e*P **P** **08 37 23.6 +0.6**
MGCD Mangrove Creek 43.85 150 P **P** **08 37 24.1 +0.6**
baz=44,SNR=9.1
CAN Canberra 44.58 154 MLR MLR
comp=Z,7μm,19.0s
CAN pmax pmax
comp=Z,197nm,1.1s
CAN Canberra 44.58 154 P **P** **08 37 29.7 +0.3**
CAN IAmb IAmb 08 37 52.0
comp=Z,197nm,1.1s
CAN Canberra 44.58 154⇑P **P** **08 37 31.3 +1.9**
CAN Canberra 44.58 154 P **P** **08 37 29.7 +0.3**
RAGD RAYAGADA 44.59 293 *e*P **P** **08 37 33.0 +3.3**
CNB Canberra Magne 44.74 153 P **P** **08 37 29.5 -1.2**
baz=45,SNR=4.6
YSS Yuzh-Sakhalins 44.91 16 pmax pmax
comp=Z,32nm,1.3s
YSS Yuzh-Sakhalins 44.91 16 **P** **08 37 32.2 +0.5**
YSS Yuzh-Sakhalins 44.91 16⇑*e*P **P** **08 37 31.9 +0.1**
JIRN Jiri 44.95 306 *e*P **P** **08 37 33.0 +0.1**
comp=Z,228nm,0.7s
TOO Toolangi 45.10 159 P **P** **08 37 34.2 +0.6**
baz=45,SNR=9.2
KLR Kul'dur 45.14 5 P **P** **08 37 33.2 -0.5**
comp=Z,13nm,0.9s,baz=261,slow=3.6,SNR=12
GUN Gumba 45.30 306 *e*P **P** **08 37 35.6 -0.1**
comp=Z,477nm,0.8s
HIA Hailar 45.33 354 MLR MLR
comp=Z,7μm,20.0s
HIA pmax pmax
comp=Z,675nm,1.8s
HIA Hailar 45.33 354 P **P** **08 37 34.8 -0.4**
HIA Hailar 45.33 354 P **P** **08 37 35.8 +0.7**
HIA Hailar 45.33 354 P **P** **08 37 34.8 -0.4**
PKI Pulchoki 45.55 305 *e*P **P** **08 37 36.9 -0.7**
comp=Z,90nm,0.7s
PALK Pallekele 45.67 276 P **P** **08 37 37.5 -1.0**
comp=Z,6.1nm,0.8s,baz=130,slow=6.4,SNR=3.6
PALK Pallekele 45.67 276 P **P** **08 37 38.2 -0.2**
PALK Pallekele 45.67 276 P **P** **08 37 38.8 -0.7**
MDRS Chennai 46.52 284 *e*P **P** **08 37 46.2 +1.2**
ULN Ulaanbaatar 46.66 342 pmax pmax
comp=Z,27nm,0.9s
ULN Ulaanbaatar 46.66 342 P **P** **08 37 45.8 0.0**
ULN Ulaanbaatar 46.66 342 P **P** **08 37 46.0 +0.1**
ULN Ulaanbaatar 46.66 342⇓P **P** **08 37 46.0 +0.1**
ULN Ulaanbaatar 46.66 342*c i*P **P** **08 37 45.5 -0.3**
UGL Uglegorsk 46.69 14 *e*P **P** **08 37 52.0 +6.2**
UGL *e*S S 08 44 41.3 +9.1
UGL *e*SS **SS** **08 47 53.1 -5.9**
UGL pmax pmax
comp=Z,1μm,4.5s
UGL pmax pmax
comp=Z,110nm,1.4s
UGL smax smax
comp=N,2μm,7.0s
UGL smax smax
comp=E,2μm,7.0s
SONM Songino Array 46.84 341 P **P** **08 37 46.8 -0.4**
comp=E,12nm,0.6s,baz=154,slow=8.8,SNR=20
SONM Songino Array 46.84 341 pmax pmax
comp=Z,54nm,0.6s
SONM Songino Array 46.84 341 IAmb IAmb 08 38 08.2
comp=Z,54nm,0.6s
SONM Songino Array 46.84 341 P **P** **08 37 46.6 -0.6**
SONM Songino Array 46.84 341 P **P** **08 37 46.6 -0.6**
DZM Mont Dzumac 46.96 125 P **P** **08 37 47.9 -0.5**
comp=Z,22nm,1.0s,baz=243,slow=9.4,SNR=5.9
DZM Mont Dzumac 46.96 125 *e*S **S** **08 44 45.3 +8.3**
comp=Z,7μm,31.2s
DZM Mont Dzumac 46.96 125 P **P** **08 37 47.4 -1.1**
DZM Mont Dzumac 46.96 125⇑P **P** **08 37 48.5 +0.1**
DZM Mont Dzumac 46.96 125 *e*P P 08 37 54.3 +5.8
comp=Z,344nm,1.1s
KOLN Koldanda 47.10 305 *e*P **P** **08 37 49.4 -0.3**
comp=Z,370nm,0.7s
DANN Dangsing 47.19 305 *e*P **P** **08 37 50.2 -0.3**
comp=Z,481nm,0.8s
PYUN Piuthan 47.73 305 *e*P **P** **08 37 54.5 -0.1**
comp=Z,319nm,0.8s
ALBI Allahabad 47.76 301 *e*P **P** **08 37 53.5 -1.1**
SALM Salem 48.37 282 *e*P **P** **08 37 59.6 +0.2**
HYB Hyderabad 48.77 289 *e*P **P** **08 38 02.2 -0.3**
HYBB Hyderabad (bro 48.77 289 *e*P **P** **08 38 02.7 +0.2**
HYBB Hyderabad (bro 48.77 289 *e*PcP **PcP** **08 39 26.9 -0.1**
HYBB Hyderabad (bro 48.77 289 *e*S **S** **08 45 04.5 +1.8**
CIT Chita 48.92 349 pmax pmax
comp=Z,628nm,2.4s
CIT Chita 48.92 349 *e*P **P** **08 38 04.3 +1.2**
KOD Kodaikanal 48.98 280 *e*P **P** **08 38 04.6 +0.1**
TRD Trivandrum 49.41 278 *e*P **P** **08 38 07.1 -0.3**
ZEA Zeya 49.44 1 pmax pmax
comp=Z,10.0nm,1.0s
ZEA Zeya 49.44 1 *e*P **P** **08 38 06.7 -0.3**
ZAK Zakamensk 50.06 341 pmax pmax
comp=Z,8.0nm,1.2s
ZAK Zakamensk 50.06 341 *e*P **P** **08 38 10.9 -1.0**
JHNI Jhansi 50.62 300 *e*P **P** **08 38 15.3 -1.2**
AKL Akola 50.82 293 *e*P **P** **08 38 17.7 -0.3**
BHPL Bhopal 51.02 297 *e*P **P** **08 38 18.7 -0.9**
WMQ Urumqi 52.26 325 *e*P **P** **08 38 28.6 +0.1**
WMQ Urumqi 52.26 325 S **S** **08 45 54.2 +3.7**
DDI Dehra Dun 52.55 305 *e*P **P** **08 38 33.4 +2.5**
SONA Sohna 52.69 303 *e*P **P** **08 38 30.4 -1.4**
NDI New Delhi 52.71 303 *e*P **P** **08 38 33.0 +1.0**
GOA Goa 52.98 286 *e*P **P** **08 38 33.1 -1.1**
KUDL Kundal 53.15 302 *e*P **P** **08 38 34.3 -1.0**
POO Poona 53.36 290 *e*P **P** **08 38 35.5 -1.5**
SMLA Simla 53.54 306 *e*P **P** **08 38 37.5 -0.6**
KAAM Kaadhehdhoo 53.58 268 P **P** **08 38 38.5 -0.1**
AJM Ajmer 54.27 300 *e*P **P** **08 38 42.6 -0.9**
BOD Bodaibo 54.42 352 *e*P P 08 38 35.1 -8.9
BOD pmax pmax
comp=Z,31nm,0.8s
PEA0B Petropavlovsk- 55.13 22⇓*e*P **P** **08 38 49.3 0.0**
PETK Petropavlovsk- 55.13 22 P **P** **08 38 49.9 +0.6**
comp=Z,2.5nm,0.6s,baz=201,slow=2.8,SNR=6.6
PETK Petropavlovsk- 55.13 22 P **P** **08 38 50.1 +0.9**
THN Thein Dam 55.14 307 *e*P **P** **08 38 47.9 -1.8**
MSVF Nonsavu 55.29 115 pmax pmax
comp=Z,92nm,1.5s
MSVF Nonsavu 55.29 115 **P** **08 38 49.0 -2.1**
MSVF Nonsavu 55.29 115⇓*e*P **P** **08 38 51.7 +0.6**
PET Petropavlovsk 55.44 23 **P** **08 38 51.6 +0.2**
PET IAmb IAmb 08 39 31.5
comp=Z,128nm,1.3s
ZSN Zaisan 56.04 327 *e*P **P** **08 38 55.1 -0.8**
ZSN Zaisan 56.04 327 *e*P **P** **08 38 55.2 -0.8**
baz=327
SHLS Shalkode 56.89 320 *e*P **P** **08 38 59.2 -2.9**
SHLS Shalkode 56.89 320 *e*P **P** **08 38 59.3 -2.9**
baz=320
MK31 Makanchi Array 57.09 325*d i*P **P** **08 39 02.8 -0.6**
MK31 Makanchi Array 57.09 325 P **P** **08 39 03.0 -0.4**
MK31 IAmb IAmb 08 40 17.6
comp=Z,80nm,1.2s
MKAR Makanchi Array 57.09 325 P **P** **08 39 02.7 -0.7**
comp=Z,9.5nm,0.7s,baz=122,slow=8.6,SNR=14
MKAR Makanchi Array 57.09 325 P **P** **08 39 02.5 -0.9**

MKAR **Makanchi Array** 57.09 325 P P 08 39 02.5 -0.9
UZB **Uzynbulak** 57.16 320 *e*P P 08 39 03.0 -1.1
UZB **Uzynbulak** 57.16 320 *e*P P 08 39 03.0 -1.1
baz=320
MAKZ **Makanchi** 57.27 325 MLR MLR
comp=Z,10µm,19.0s
MAKZ pmax pmax
comp=Z,78nm,1.0s
MAKZ **Makanchi** 57.27 325 P P 08 39 04.2 -0.6
MAKZ IAmb IAmb 08 39 59.7
comp=Z,78nm,0.9s
MAKZ **Makanchi** 57.27 325 ⇓P P 08 39 04.1 -0.6
MAKZ **Makanchi** 57.27 325 P P 08 39 04.2 -0.6
TARG **Taragay, Kyrgy** 57.29 318 P P 08 39 05.0 -0.4
NIL **Nilore** 57.50 308 MLR MLR
comp=Z,2µm,20.0s
NIL pmax pmax
comp=Z,267nm,1.3s
NIL **Nilore** 57.50 308 P P 08 39 06.1 -0.5
NIL **Nilore** 57.50 308 P P 08 39 06.3 -0.2
NIL **Nilore** 57.50 308 P P 08 39 06.1 -0.5
SATY **Saty** 57.52 320 pmax pmax
comp=Z,7.0nm,0.7s
SATY **Saty** 57.52 320 *e*P P 08 39 05.6 -1.1
comp=Z,6.9nm,0.7s,baz=320
SATY **Saty** 57.52 320 *e*P P 08 39 05.5 -1.1
KPKS **Kokpek** 57.53 320 pmax pmax
comp=Z,6.0nm,0.7s
KPKS **Kokpek** 57.53 320 *e*P P 08 39 05.5 -1.3
comp=Z,6.3nm,0.7s,baz=320
KPKS **Kokpek** 57.53 320 *e*P P 08 39 05.4 -1.3
KSH **Kashi** 57.59 315 P P 08 39 07.6 +0.4
KSH **Kashi** 57.59 315 pP pP 08 39 18.5 -0.5
KSH **Kashi** 57.59 315 sP sP 08 39 25.0 +1.2
YAK **Yakutsk** 57.80 2 P P 08 39 07.9 -0.2
comp=Z,35nm,0.7s,baz=179,slow=2.2,SNR=10
YAK **Yakutsk** 57.80 2 *e* PcP 08 39 59.7 -0.6
YAK *e* 08 41 14.7
YAK *e* 08 48 50.9
YAK pmax pmax
comp=Z,86nm,1.2s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=Z,296nm,3.6s
YAK pmax pmax
comp=N,233nm,3.3s
YAK pmax pmax
comp=E,203nm,3.8s
YAK smax smax
comp=E,714nm,4.6s
YAK smax smax
comp=N,511nm,3.8s
YAK MLR MLR
comp=Z,3µm,24.0s
YAK MLR MLR
comp=N,1µm,20.0s
YAK MLR MLR
comp=E,1µm,22.0s
YAK **Yakutsk** 57.80 2 pwP pwP 08 39 27.0 +4.5
YAK **Yakutsk** 57.80 2 *e*SS sS 08 47 31.6 +8.2
YAK **Yakutsk** 57.80 2 *e*P P 08 39 07.8 -0.2
YAK **Yakutsk** 57.80 2 P P 08 39 08.5 +0.4
YAK **Yakutsk** 57.80 2 P P 08 39 08.6 +0.6
YAK **Yakutsk** 57.80 2 *e*SS SS 08 50 54.5 -0.6
YAK **Yakutsk** 57.80 2 *e*S S 08 47 03.0 -0.9
KDJ **Kajisay** 57.89 318 P P 08 39 09.1 -0.2
KDJ **Kajisay** 57.89 318 P P 08 39 09.1 -0.2
MA2 **Magadan** 58.36 14 P P 08 39 11.6 -0.5
comp=E,7.8nm,0.8s,baz=200,slow=9.8,SNR=4.9
MA2 **Magadan** 58.36 14 P P 08 39 12.2 +0.2
MA2 IAmb IAmb 08 39 55.6
comp=Z,62nm,0.9s
MDOK **Medeo** 58.44 319 P P 08 39 12.2 -1.0
MDOK **Medeo** 58.44 319 *e*P P 08 39 12.2 -1.0
baz=319
TNSS **Tian-Shan** 58.45 319 *e*P P 08 39 12.8 -0.7
TNSS **Tian-Shan** 58.45 319 *e*P P 08 39 12.9 -0.7
baz=319
TDK **Taldyqorghan** 58.45 322 pmax pmax
comp=Z,9.0nm,0.4s
TDK **Taldyqorghan** 58.45 322 *e*P P 08 39 12.1 -1.0
comp=Z,8.5nm,0.4s,baz=322
TDK **Taldyqorghan** 58.45 322 *e*P P 08 39 12.0 -1.0
AAA **Alma-Ata** 58.55 319 *e*P P 08 39 12.8 -1.0
AAA **Alma-Ata** 58.55 319 *e*P P 08 39 12.9 -1.0
baz=319
CHKK **Chushkaly** 58.80 320 *e*P P 08 39 13.9 -1.6
CHKK **Chushkaly** 58.80 320 *e*P P 08 39 13.9 -1.6
baz=320
BOOM **Boomskoye usch** 58.87 318 pmax pmax
comp=Z,40nm,0.9s
BOOM **Boomskoye usch** 58.87 318 P P 08 39 15.8 -0.4
BOOM IAmb IAmb 08 40 25.5
comp=Z,40nm,0.8s
BOOM **Boomskoye usch** 58.87 318 P P 08 39 15.8 -0.4
KUU **Kurty** 59.23 320 pmax pmax
comp=Z,10.0nm,0.7s
KUU **Kurty** 59.23 320 *e*P P 08 39 16.2 -2.4
comp=Z,10.0nm,0.7s,baz=320
KUU **Kurty** 59.23 320 *e*P P 08 39 16.1 -2.4
TKM2 **Tokmak 2** 59.29 318 P P 08 39 17.9 -1.2
AAK **Ala-Archa** 59.90 318 P P 08 39 22.5 -0.8
comp=Z,4.2nm,0.8s,baz=104,slow=9.7,SNR=6.4
AAK **Ala-Archa** 59.90 318 pmax pmax
comp=Z,11nm,1.6s
AAK **Ala-Archa** 59.90 318 P P 08 39 24.1 +0.8
AAK IAmb IAmb 08 40 29.4
comp=Z,79nm,1.2s
AAK **Ala-Archa** 59.90 318 P P 08 39 22.8 -0.5
AAK **Ala-Archa** 59.90 318⇑*e*P P 08 39 25.2 +1.9
ZAA0 **Zalesovo Array** 60.12 333 P 08 39 23.3 -1.0
ZALV **Zalesovo Beam** 60.12 333 P P 08 39 22.8 -1.5
comp=Z,6.5nm,0.6s,baz=118,slow=7.1,SNR=12
ZALV **Zalesovo Beam** 60.12 333 P P 08 39 23.3 -1.0
SGDS **Sogindy** 60.16 319 pmax pmax
comp=Z,46nm,2.4s
SGDS **Sogindy** 60.16 319 *e*P P 08 39 22.4 -2.6
comp=Z,46nm,2.4s,baz=319
SGDS **Sogindy** 60.16 319 *e*P P 08 39 22.3 -2.6
SEM **Semipalatinsk** 60.23 328 *e*P P 08 39 23.3 -2.2
SEM **Semipalatinsk** 60.23 328 *e*P P 08 39 23.3 -2.2
baz=328
AML **Almayashu** 60.23 317 P P 08 39 25.7 -0.1
KBL **Kabul** 61.09 307 pmax pmax
comp=Z,69nm,0.8s
KBL **Kabul** 61.09 307 P P 08 39 30.9 -0.8
KBL IAmb IAmb 08 39 54.2
comp=Z,69nm,0.8s
KBL **Kabul** 61.09 307 P P 08 39 30.8 -0.8
SNR=6.7
KBL **Kabul** 61.09 307 P P 08 39 30.9 -0.8
BTLS **Baital** 61.22 320 *e*P P 08 39 30.2 -1.8
BTLS **Baital** 61.22 320 *e*P P 08 39 30.2 -1.8
baz=320
KURBB **Kurchatov Arra** 61.27 327 P P 08 39 31.2 -1.0
comp=Z,26nm,0.8s,baz=124,slow=6.1,SNR=29
KURBB **Kurchatov Arra** 61.27 327 P P 08 39 30.8 -1.4
KURK **Kurchatov** 61.27 327 pmax pmax
comp=Z,43nm,0.8s
KURK **Kurchatov** 61.27 327 P P 08 39 31.4 -0.8
KURK **Kurchatov** 61.27 327 P P 08 39 31.7 -0.5
KURK **Kurchatov** 61.27 327 ⇓P P 08 39 31.6 -0.7
KURK **Kurchatov** 61.27 327*c* *i*P P 08 39 31.1 -1.1
BTK **Batken** 61.47 314 pmax pmax
comp=Z,201nm,1.5s
BTK **Batken** 61.47 314 P P 08 39 33.5 -0.4
BTK **Batken** 61.47 314 P P 08 39 33.5 -0.4
GAR **Garm** 61.48 313 P P 08 39 33.6 -0.5
SEY **Seymchan** 61.68 13 P P 08 39 34.1 -0.6
comp=Z,7.2nm,0.9s,baz=208,slow=4.2,SNR=12
DZA **Taraz** 62.14 317 *e*P P 08 39 36.6 -1.7
DZA **Taraz** 62.14 317 *e*P P 08 39 36.7 -1.7
baz=317
LBZ **Lake Benmore** 62.15 146 P P 08 39 38.7 +0.4
CHGR **Chuyangaron** 62.22 312 P P 08 39 38.5 -0.5
OXZ **Oxford** 62.56 144 P P 08 39 40.7 -0.3
OXZ IAmb IAmb 08 40 07.3
comp=Z,139nm,1.3s
IUG **Iuzhnay** 62.76 316 *e*P P 08 39 41.3 -1.2
IUG **Iuzhnay** 62.76 316 *e*P P 08 39 41.4 -1.2
baz=316
KK31 **Karatay Array** 62.78 317 *i*P P 08 39 40.7 -1.8
KK31 **Karatay Array** 62.78 317 P P 08 39 41.6 -0.9
KK31 IAmb IAmb 08 40 38.8
comp=Z,52nm,1.0s
KKAR **Karatay Array** 62.78 317 P P 08 39 41.6 -0.9
KKAR **Karatay Array** 62.78 317 P P 08 39 41.6 -0.9
KKAR **Karatay Array** 62.78 317 P P 08 39 41.6 -0.9
KKAR IAmb IAmb 08 40 38.8
comp=Z,52nm,1.0s
BKZ **Black Stump Fm** 63.04 138 P P 08 39 43.3 -1.0
BKZ IAmb IAmb 08 40 05.8
comp=Z,62nm,0.8s
BHW **Baring Head** 63.18 141 P P 08 39 43.9 -1.2
BRLS **Borolday** 63.21 317 *e*P P 08 39 44.9 -0.5
BRLS **Borolday** 63.21 317 *e*P P 08 39 44.9 -0.5
baz=316
OTUK **Ortayu** 63.66 323 P P 08 39 47.3 -1.0
BRZS **Berezniki** 64.22 325 pmax pmax
comp=Z,8.0nm,0.9s
BRZS **Berezniki** 64.22 325 *e*P P 08 39 50.6 -1.4
comp=Z,8.2nm,0.9s,baz=325
BRZS **Berezniki** 64.22 325 *e*P P 08 39 50.5 -1.4
BVAR **Borovoye Array** 66.85 327 P P 08 40 07.6 -1.2
comp=Z,26nm,1.0s
BRVK **Borovoye** 66.92 327 pmax pmax
comp=Z,37nm,1.1s
BRVK **Borovoye** 66.92 327 P P 08 40 08.4 -0.8
BRVK **Borovoye** 66.92 327 P P 08 40 08.6 -0.8
BRVK **Borovoye** 66.92 327 ⇓P P 08 40 08.5 -0.8
BRVK **Borovoye** 66.92 327*c* *i*P P 08 40 08.1 -1.2
TIXI **Tiksi** 67.43 1 P P 08 40 11.8 -0.3
comp=Z,13nm,0.6s,baz=92,slow=23,SNR=13
TIXI **Tiksi** 67.43 1 pmax pmax
comp=Z,33nm,1.2s
TIXI **Tiksi** 67.43 1 IAmb IAmb 08 40 43.7
comp=Z,104nm,0.9s
TIXI **Tiksi** 67.43 1 ⇓P P 08 40 11.8 -0.3
TIXI **Tiksi** 67.43 1*d* *i*P P 08 40 12.0 -0.1
TIXI **Tiksi** 67.43 1 P P 08 40 11.0 -1.1
MHTO **MHTO** 68.49 291 P P 08 40 18.5 -1.3
SNR=10
DQM **DQM** 68.83 290 P P 08 40 21.3 -0.6
SNR=10
BILL **Bilibino** 69.21 15 *i*S S 08 49 34.6 +8.7
BILL pmax pmax
comp=Z,11nm,1.5s
BILL MLR MLR
comp=Z,2µm,20.0s
BILL **Bilibino** 69.21 15 P P 08 40 23.4 +0.1
BILL **Bilibino** 69.21 15 P P 08 40 23.2 -0.2
BILL **Bilibino** 69.21 15 *i*P P 08 40 22.8 -0.6
NRIK **Noril'sk** 69.97 346 P P 08 40 28.1 0.0
comp=Z,47nm,1.0s,baz=131,slow=6.0,SNR=23
NRIK **Noril'sk** 69.97 346 pmax pmax
comp=Z,53nm,0.9s
NRIK **Noril'sk** 69.97 346*de*P P 08 40 28.5 +0.5
NRIK **Noril'sk** 69.97 346 P P 08 40 28.0 0.0
UOSS **Minazif** 70.41 295 P P 08 40 30.8 -0.7
GEYT **Alibeck** 70.46 309 P P 08 40 30.9 -0.8
comp=Z,10nm,0.8s,baz=140,slow=5.0,SNR=9.9
GEYT **Alibeck** 70.46 309 P P 08 40 31.3 -0.4
GYA0B **ALIBECK ARRAY** 70.46 309 P P 08 40 31.5 -0.2
ALNE **Al Ain** 70.75 294 P P 08 40 34.4 +0.7
SNR=8.0
DMTO **DMTO** 71.19 287 P P 08 40 35.5 -0.9
SNR=7.4
CASY **Casey** 71.20 187 P P 08 40 35.8 +0.4
CASY IAmb IAmb 08 41 08.1
comp=Z,64nm,0.8s
CASY **Casey** 71.20 187 ⇓P P 08 40 36.0 +0.5
DRV **Dumont d'Urvil** 71.31 174 P P 08 40 36.1 0.0
AB31 **Akbulak array** 71.69 321 *i*P P 08 40 37.4 -1.4
ABKAR **Akbulak array** 71.69 321 P P 08 40 37.8 -1.0
ABKAR **Akbulak array** 71.69 321 P P 08 40 37.8 -1.0
SOCY **Socotra** 72.06 281 P P 08 40 39.6 -2.2
SOCY IAmb IAmb 08 41 19.2
comp=Z,67nm,0.9s
SOCY **Socotra** 72.06 281 P P 08 40 39.9 -2.0
SNR=7.5
WHFO **Wadi Hawf** 72.31 287 P P 08 40 41.0 -2.2
MZR **Muzera** 72.77 293 P P 08 40 45.6 -0.3
SNR=9.2
AKTO **Aktyubinsk** 73.20 322 P P 08 40 46.8 -1.0
comp=Z,8.7nm,0.6s,baz=101,slow=7.7,SNR=12
AKTO **Aktyubinsk** 73.20 322 P P 08 40 46.3 -1.5
GAMB **Gambell** 74.11 24 P P 08 40 52.7 -0.1
ARU **Arti** 74.47 328 P P 08 40 53.9 -1.2
comp=Z,2.9nm,0.3s,baz=124,slow=4.2,SNR=13
ARU **Arti** 74.47 328 S S 08 50 27.0 +0.3
ARU pmax pmax
comp=Z,12nm,0.6s
ARU **Arti** 74.47 328 IAmb IAmb 08 41 25.9
comp=Z,76nm,0.8s
ARU **Arti** 74.47 328*d* *i*P P 08 40 53.6 -1.5
ARU **Arti** 74.47 328 P P 08 40 53.8 -1.2
ANM **Nome** 76.98 24 MLR MLR
comp=Z,2µm,22.0s
ANM pmax pmax
comp=Z,31nm,0.8s
ANM **Nome** 76.98 24 P P 08 41 08.4 -0.9
ANM **Nome** 76.98 24 P P 08 41 08.4 -0.9
RDOG **Red Dog Mine** 78.98 21 P P 08 41 20.5 +0.1
RDOG IAmb IAmb 08 41 40.1
comp=Z,104nm,1.4s
MAK **Makhachkala** 79.14 313 *e* 08 44 23.7
MAK pmax pmax
comp=Z,222nm,1.3s
MAK **Makhachkala** 79.14 313 *e*P P 08 41 19.1 -2.6
MAK **Makhachkala** 79.14 313 *e*S S 08 51 16.4 -1.7
MAK **Makhachkala** 79.14 313 *e*SS SS 08 56 22.7 -2.2
KIRV **Kirov** 79.75 329 P P 08 41 23.6 -1.1
comp=Z,35nm,0.9s,baz=123,slow=1.7,SNR=12
KIRV **Kirov** 79.75 329*c* *i*P P 08 41 23.5 -1.2
RAYN **Ar Rayn** 80.11 293 pmax pmax
comp=Z,48nm,1.0s
RAYN **Ar Rayn** 80.11 293 P P 08 41 26.5 -1.0
RAYN **Ar Rayn** 80.11 293 P P 08 41 26.5 -1.0
GNI **Garni** 81.05 310 P P 08 41 31.2 -1.1
comp=Z,4.1nm,0.4s,baz=18,slow=3.2,SNR=1.5
GNI **Garni** 81.05 310 pmax pmax
comp=Z,7.0nm,1.0s
GNI **Garni** 81.05 310⇑*e*P P 08 41 33.3 +1.0
J20K **Nowinta River** 81.65 26 P P 08 41 36.0 +1.2
J20K IAmb IAmb 08 42 14.2
comp=Z,180nm,1.4s
KDAK **Kodiak Island** 81.66 32 pmax pmax
comp=Z,112nm,2.6s
KDAK **Kodiak Island** 81.66 32 P P 08 41 35.5 +0.6
KDAK IAmb IAmb 08 41 54.4
comp=Z,76nm,0.8s
KDAK **Kodiak Island** 81.66 32⇑*e*P P 08 41 34.3 -0.6
ZEI **Tsey** 81.77 312 pmax pmax
comp=Z,13nm,1.2s
ZEI **Tsey** 81.77 312 *e*P P 08 41 34.6 -1.6
VOI **Vohitsoka** 82.02 247 P P 08 41 37.7 0.0
VOI IAmb IAmb 08 41 57.0
comp=Z,66nm,0.9s
VOI **Vohitsoka** 82.02 247 P P 08 41 39.2 +1.5
PRGR **Permogore** 82.03 332 pmax pmax
comp=Z,81nm,1.0s
PRGR **Permogore** 82.03 332 *e*P P 08 41 35.7 -1.1
IMAR **Indian Mountai** 82.06 24 P P 08 41 37.6 +0.7
KBZ **Khabaz** 82.53 313 P P 08 41 38.8 -1.0
comp=Z,3.5nm,0.8s,baz=97,slow=7.0,SNR=6.1
KBZ **Khabaz** 82.53 313 pmax pmax
comp=Z,5.0nm,0.9s
KBZ **Khabaz** 82.53 313⇓*e*P P 08 41 39.0 -0.8
NEY **Neytrino** 82.65 313 ⇓pmax pmax
comp=Z,16nm,2.1s
NEY **Neytrino** 82.65 313⇑*e*P P 08 41 41.8 +1.1
KIV **Kislovodsk** 82.69 314 pmax pmax
comp=Z,7.0nm,1.0s
KIV **Kislovodsk** 82.69 314 *e*P P 08 41 41.7 +0.9
VNDA **Vanda** 83.86 173 P P 08 41 45.6 -0.4
comp=Z,2.9nm,0.8s,baz=307,slow=6.5,SNR=6.0
VNDA **Vanda** 83.86 173 P P 08 41 45.7 -0.3
MAW **Mawson** 84.06 200 P P 08 41 46.8 -0.4
comp=Z,12nm,1.1s,baz=330,slow=16,SNR=3.0
MAW **Mawson** 84.06 200 P P 08 41 47.1 0.0
baz=84,SNR=7.9
COLA **College** 84.42 25 pmax pmax
comp=Z,29nm,0.9s
COLA **College** 84.42 25⇑*e*P P 08 41 49.8 +0.8
IL31 84.83 25 P P 08 41 51.6 +0.5
ILAR **Eielson Array** 84.83 25 P P 08 41 50.9 -0.2
comp=Z,2.1nm,0.8s,baz=256,slow=5.0,SNR=14
ILAR **Eielson Array** 84.83 25 P P 08 41 51.0 -0.2
SOC **Sochi** 84.84 313 *e* 08 45 03.4
SOC *e*PPP PPP 08 46 58.9
SOC *e*S S 08 52 11.2 -5.6
SOC *e*SS SS 08 57 54.2 +4.5
SOC pmax pmax
comp=Z,5.0nm,0.4s
SOC **Sochi** 84.84 313 *e*P P 08 41 50.3 -1.4
KLMR **Klimovskoe** 84.94 331 pmax pmax
comp=Z,75nm,0.9s
KLMR **Klimovskoe** 84.94 331 *e*P P 08 41 48.7 -3.0
KLMR **Klimovskoe** 84.94 331 *e*P P 08 41 48.7 -3.0
VORR **Voronezh** 85.10 321 pmax pmax
comp=Z,90nm,0.5s
VORR **Voronezh** 85.10 321 *e*P P 08 41 52.4 -0.3
PPT2 **Papeete2** 85.46 108 *e*P P 08 41 59.2 +3.9
comp=Z,62nm,1.2s
PPT2 **Papeete2** 85.46 108 *e*S S 08 52 29.4 +5.5
comp=Z,5µm,27.5s
PAE **Paea** 85.46 108 *e*P P 08 41 58.8 +3.6
comp=Z,15nm,1.4s
BMAR **Burnt Mountain** 85.78 23 P P 08 41 56.9 +1.0
MOS **Moscow** 85.97 325 *e*S SKSac 08 52 18.5 -0.7
MOS pmax pmax
comp=Z,76nm,0.7s
MOS MLR MLR
comp=Z,4µm,19.0s
MOS **Moscow** 85.97 325 *e*P P 08 41 55.4 -1.6
TBI **Tubuai** 86.16 114 *e*S S 08 52 35.9 +5.4
comp=Z,4µm,28.0s
ANN **Anapa** 86.45 315 pmax pmax
comp=Z,20nm,0.8s
ANN **Anapa** 86.45 315 *e*P P 08 41 59.6 0.0
OBN **Obninsk** 86.59 325 P P 08 41 58.2 -1.9
comp=Z,5.2nm,0.4s,baz=79,slow=6.8,SNR=11
OBN **Obninsk** 86.59 325 *e* 08 45 22.7
OBN pmax pmax
comp=Z,60nm,1.1s
OBN MLR MLR
comp=Z,5µm,19.0s
OBN **Obninsk** 86.59 325 P P 08 41 57.8 -2.3
OBN **Obninsk** 86.59 325*d* *i*P P 08 41 59.5 -0.6
OBN **Obninsk** 86.59 325 *e*S S 08 52 32.9 -0.6
OBN **Obninsk** 86.59 325 *e*SS SS 08 58 12.5 -2.2
PMOR **Pomariorio Ree** 86.82 105 *e*P P 08 42 05.9 +3.9
comp=Z,146nm,1.3s
LVZ **Lovozero** 86.89 338 pmax pmax
comp=Z,65nm,0.9s
LVZ **Lovozero** 86.89 338 P P 08 42 01.5 +0.1
LVZ IAmb IAmb 08 42 24.7
comp=Z,65nm,0.9s
LVZ **Lovozero** 86.89 338 P P 08 42 01.5 +0.1
VAH **Vaihoa** 87.10 105 *e*P P 08 42 07.2 +3.9
comp=Z,59nm,1.1s
FURI **Furi** 87.22 279 *e*S S 08 52 44.3 +2.4
FURI **Furi** 87.22 279 *e*S S 08 52 44.3 +2.4
EGAK **Eagle** 87.28 25 P P 08 42 02.3 -0.9
KIBK **Kibwezi** 88.63 268 P P 08 42 10.5 -0.3
KIBK IAmb IAmb 08 42 29.3
comp=Z,30nm,0.9s
HOPEN **Hopen** 88.67 347 *e*P P 08 42 07.2 -2.5
MMAI **Mount Meron Ar** 88.69 303 P P 08 42 08.6 -2.2
comp=Z,1.0nm,0.3s,baz=349,slow=5.9,SNR=2.1
VALR **Valaam** 89.09 331 pmax pmax
comp=Z,51nm,0.9s
VALR **Valaam** 89.09 331*c* *i*P P 08 42 10.8 -1.1
EIL **Elat** 89.32 300 P P 08 42 12.8 -0.9
comp=Z,3.7nm,0.6s,baz=107,slow=13,SNR=2.4
KMBO **Kilima Mbogo** 89.33 269 P P 08 42 13.5 -1.0
comp=Z,4.8nm,0.8s,baz=36,slow=6.8,SNR=11
KMBO **Kilima Mbogo** 89.33 269 pmax pmax
comp=Z,33nm,1.1s
KMBO **Kilima Mbogo** 89.33 269 IAmb IAmb 08 42 32.8
comp=Z,33nm,1.1s
KMBO **Kilima Mbogo** 89.33 269 P P 08 42 13.4 -1.0
KMBO **Kilima Mbogo** 89.33 269 P P 08 42 13.4 -1.0
PUL **Pulkovo** 89.57 330 pmax pmax
comp=Z,52nm,0.6s
PUL **Pulkovo** 89.57 330⇑*e*P P 08 42 16.4 +2.3
BR131 **Keskin Array S** 89.58 310⇑*e*P P 08 42 13.7 -1.2
BRTR **Keskin Array B** 89.58 310 P P 08 42 13.5 -1.4
comp=Z,3.1nm,0.7s,baz=116,slow=5.4,SNR=10
BRTR **Keskin Array B** 89.58 310 P P 08 42 13.7 -1.2
INK **Inuvik** 89.86 21 P P 08 42 14.6 -0.8
comp=Z,3.9nm,1.0s,baz=288,slow=6.0,SNR=8.4
INK **Inuvik** 89.86 21 IAmb IAmb 08 42 53.7
comp=Z,56nm,1.3s
INK **Inuvik** 89.86 21 P P 08 42 14.9 -0.5
ARA0 **ARCESS Array S** 89.98 340 *e*P P 08 42 15.2 -0.7
ARCES **ARCESS Array B** 89.98 340 P P 08 42 15.1 -0.8
comp=Z,5.5nm,0.7s,baz=83,slow=5.4,SNR=10
ARCES **ARCESS Array B** 89.98 340 IAmb IAmb 08 42 40.8
comp=Z,48nm,0.9s
ARCES **ARCESS Array B** 89.98 340 P P 08 42 15.3 -0.7
SPA0 **Spitsbergen Ar** 90.03 349 *e*P P 08 42 17.3 +1.3
SPITS **Spitsbergen Ar** 90.03 349 P P 08 42 15.6 -0.4
comp=Z,3.6nm,0.7s,baz=77,slow=8.7,SNR=8.9
HAMF **Hammerfest** 90.35 341 *e*P P 08 42 17.1 -0.5
KBS **Kingsbay** 90.56 350 *e*P P 08 42 20.1 +1.7
HSPB **Hornsund (broa** 90.62 348 *e*P P 08 42 18.2 -0.6
KTK1 **Kautokeino** 90.89 339 *e*P P 08 42 20.3 +0.1
FIA1 **FINESS Array S** 91.36 332 P P 08 42 21.3 -1.2
FIA1 IAmb IAmb 08 42 40.4
comp=Z,52nm,0.8s
FINES **FINESS Array B** 91.36 332 P P 08 42 21.7 -0.8
comp=Z,13nm,0.8s,baz=91,slow=8.4,SNR=28
FINES **FINESS Array B** 91.36 332 P P 08 42 21.7 -0.8
AKASG **Malin Array Be** 91.43 321 P P 08 42 21.5 -1.6
comp=Z,4.4nm,0.7s,baz=70,slow=4.2,SNR=14
AKBB **Malin Array Si** 91.43 321*d* *i*P P 08 42 21.7 -1.3
VSU **Vasula** 91.60 329 pmax pmax
comp=Z,61nm,0.7s
VSU **Vasula** 91.60 329 *e*P P 08 42 22.9 -0.7
VSU **Vasula** 91.60 329*d* *i*P P 08 42 22.6 -1.0
MNK **Minsk** 91.66 325*de*P P 08 42 22.0 -2.0
MNK **Minsk** 91.66 325 *i*S SKKSac 08 53 07.7 -1.6
MNK **Minsk** 91.66 325 *i*S SKKSac 08 53 07.6 -1.6
JETT **Jettan, Norway** 91.72 340 *e*P P 08 42 24.5 +0.4
IDID **Didziasalis** 92.17 326 *e*P P 08 42 26.3 0.0
TRO **Tromso** 92.19 340 *e*P P 08 42 27.3 +1.1
MEF **Metsahovi** 92.42 331 *e*P P 08 42 26.8 -0.6
IIGN **Ignalina** 92.45 326 *e*P P 08 42 27.8 +0.1
NOR **Nord** 92.66 355 IAmb IAmb 08 43 07.8
comp=Z,11nm,0.7s
NOR **Nord** 92.66 355 *i*P P 08 42 29.3 +1.1
SYO **Syowa Base** 92.73 201⇑*e*P P 08 42 30.6 +2.0
SYO **Syowa Base** 92.73 201⇑*e*PP PP 08 46 13.0 +2.2
MTSE **Matsula** 93.04 329 *e*P P 08 42 29.4 -0.9
RAF **Rauma** 93.49 332 *e*P P 08 42 32.0 -0.3
PABE **Paberze** 93.68 326 *e*P P 08 42 33.0 -0.3
TAOE **Nuku Hiva Isla** 93.93 99 *e*S S 08 53 46.2 +3.3
comp=Z,2µm,29.2s
STEI **Steigen** 94.03 339 *e*P P 08 42 33.9 -0.8
QSPA **South Pole Qui** 94.05 180 P P 08 42 34.4 -0.5
QSPA IAmb IAmb 08 43 27.8
comp=Z,33nm,0.9s
SLIT **Slitere, Latvi** 94.08 328 *e*P P 08 42 35.1 0.0
FAUS **Fauske** 94.21 339 *e*P P 08 42 35.6 +0.1
MLR **Muntele Rosu** 94.45 316 P P 08 42 36.6 -0.6
comp=Z,6.9nm,0.8s,baz=274,slow=1.0,SNR=8.5
SUW **Suwalki** 94.46 325 *e*P P 08 42 36.0 -0.9
BURAR **Bucovina Array** 94.54 318 P P 08 42 37.2 -0.4
BURAR IAmb IAmb 08 42 56.9
comp=Z,45nm,0.8s
LOF **Lofoten** 94.54 340 *e*P P 08 42 38.2 +1.2
BUR08 **Bucovina Ar. S** 94.55 318 P P 08 42 37.3 -0.4
BUR08 IAmb IAmb 08 42 56.6
comp=Z,39nm,0.9s
AAL **Aland** 94.56 331 *e*P P 08 42 36.2 -1.0
MOR8 **Moi Rana** 94.97 338 *e*P P 08 42 39.0 -0.1
KONS **Konsvik** 95.34 338 *e*P P 08 42 40.0 -0.7
STOK **Stokkvaagen** 95.44 338 *e*P P 08 42 41.8 +0.6
UPP **Uppsala** 95.79 331 *e*P P 08 42 42.5 -0.3
TRPA **Tarpa** 96.20 319 P P 08 42 44.6 -0.4
UZH **Uzhgorod** 96.24 320 *e*PPP PPP 08 48 44.6
UZH *e* 08 53 17.5
UZH MLR MLR
comp=N,100nm,20.0s
UZH MLR MLR
comp=E,400nm,20.0s
UZH MLR MLR
comp=Z,200nm,20.0s
UZH **Uzhgorod** 96.24 320 *e*P P 08 42 46.0 +0.8
UZH **Uzhgorod** 96.24 320 *i*SP SP 08 55 24.8 +4.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UZH	**Uzhgorod**	**96.24**	**320**	*i* S	**S**	**08 54 00.0**	**-1.5**
NSS	**Namsos**	**96.57**	**337**	*e*P	**P**	**08 42 46.8**	**+0.5**
VIKU	**Vikbolandet**	**96.68**	**330**	*e*P	**P**	**08 42 47.6**	**+0.6**
CRVS	**Cervenica-Dubn**	**96.71**	**320**	*e*PDIFF	**P**	**08 42 47.8**	**+0.4**
CRVS	**Cervenica-Dubn**	**96.71**	**320**	*i* P	**P**	**08 42 47.8**	**+0.4**
DAG	**Danmarks Havn**	**96.81**	**352**	*i* P	**P**	**08 42 45.0**	**-2.2**
HFS	**Hagfors**	**97.55**	**332**	P	**P**	**08 42 49.2**	**-1.6**
	comp=Z,7.4nm,1.0s,baz=149,slow=3.5,SNR=8.1						
PSZ	**Piszkesteto**	**97.97**	**319**	P	**P**	**08 42 52.3**	**-0.9**
PSZ	**Piszkesteto**	**97.97**	**319**	P	**P**	**08 42 52.5**	**-0.6**
NC405	**NORSAR Array S**	**98.07**	**334**	P	**P**	**08 42 52.0**	**-1.2**
NB2	**NORSAR Subarra**	**98.32**	**334**	P	**P**	**08 42 53.0**	**-1.3**
	comp=Z,26nm,1.0s,baz=66,slow=4.6						
NB2	**NORSAR Subarra**	**98.32**	**334**	P	**P**	**08 42 53.0**	**-1.3**
	baz=66,slow=4.6						
NOA	**NORSAR Array B**	**98.32**	**334**	P	**P**	**08 42 53.1**	**-1.3**
	comp=Z,4.2nm,0.8s,baz=68,slow=4.6,SNR=12						
BSD	**Bornholm Skovb**	**98.75**	**327**	*e*P	**P**	**08 42 55.3**	**-1.0**
BSD	**Bornholm Skovb**	**98.75**	**327**	*i* P	**P**	**08 42 54.1**	**-2.2**
DEL	**Delary**	**98.82**	**329**	*e*P	**P**	**08 42 55.6**	**-1.0**
DOMB	**Dombas**	**98.82**	**335**	*e*Pdif	Pdif	08 42 57.1	+0.6
MORC	**Moravsky Berou**	**98.94**	**322**	*e*PDIFF	**P**	**08 42 57.1**	**-0.3**
DBG	**Daneborg**	**99.08**	**351**	*i* P	**Pdif**	**08 42 55.2**	**-2.2**
JAVC	**Velka Javorina**	**99.13**	**321**	*e*PDIFF	**Pdif**	**08 42 59.1**	**+0.8**
CSKK	**Cskako**	**99.19**	**319**	P	**Pdif**	**08 42 57.8**	**-0.7**
YKA	**Yellowknife Ar**	**99.22**	**24**	P	**Pdif**	**08 42 58.1**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=297,slow=4.6,SNR=8.6						
KRLC	**Kraliky**	**99.32**	**322**	MLR	MLR		
	comp=Z,2μm,21.5s						
KRLC	**Kraliky**	**99.32**	**322**	*e*PDIFF	**Pdif**	**08 42 58.9**	**-0.2**
KRLC	**Kraliky**	**99.32**	**322**	*e*P	**Pdif**	**08 42 58.9**	**-0.2**
DPC	**Dobruska-Polom**	**99.52**	**322**	MLR	MLR		
	comp=Z,3μm,20.8s						
DPC	**Dobruska-Polom**	**99.52**	**322**	*e*PDIFF	**Pdif**	**08 43 00.3**	**+0.3**
DPC	**Dobruska-Polom**	**99.52**	**322**	*e*P	**Pdif**	**08 43 00.3**	**+0.3**
OSTC	**Ostas**	**99.52**	**323**	*e*PDIFF	**Pdif**	**08 42 59.6**	**-0.3**
CHVC	**Chvalec**	**99.60**	**323**	*e*PDIFF	**Pdif**	**08 43 00.1**	**-0.2**
KOVH	**Kovagotottos**	**99.65**	**318**	P	**Pdif**	**08 42 59.6**	**-0.9**
VRAC	**Vranov**	**99.67**	**321**	P	**Pdif**	**08 42 58.9**	**-1.8**
	comp=Z,1.5nm,0.3s,baz=151,slow=1.8,SNR=3.6						
VRAC	**Vranov**	**99.67**	**321**	*e*PDIFF	**Pdif**	**08 43 01.2**	**+0.5**
MPLH	**Magyarpolny**	**99.71**	**319**	P	**Pdif**	**08 42 59.4**	**-1.4**
SKAR	**Skarslia**	**99.76**	**334**	*e*Pdif	**Pdif**	**08 43 00.9**	**+0.1**
KRUC	**Moravsky**	**99.87**	**321**	*e*PDIFF	**Pdif**	**08 43 01.1**	**-0.4**
PRU	**Pruhonice**	**100.72**	**322**	MLR	MLR		
	comp=Z,3μm,19.9s						
PRU	**Pruhonice**	**100.72**	**322**	*e*PDIFF	**Pdif**	**08 43 05.2**	**0.0**
PRU	**Pruhonice**	**100.72**	**322**	*e*P	**Pdif**	**08 43 05.2**	**0.0**
BRG	**Berggiesshubel**	**100.77**	**323**	PP	**PKiKP**	**08 47 36.0**	**+4.8**
BRG	**Berggiesshubel**	**100.77**	**323**	PS	PS	08 57 08.0	+53
BRG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,26nm,0.9s						
BRG				pmax	pmax		
	comp=N,2μm,22.0s						
BRG	**Berggiesshubel**	**100.77**	**323**	*i* P	**Pdif**	**08 43 05.3**	**-0.2**
BRG	**Berggiesshubel**	**100.77**	**323**	*i* P	**Pdif**	**08 43 05.3**	**-0.2**
SUE	**Sulen**	**101.10**	**335**	*e*Pdif	**Pdif**	**08 43 06.8**	**+0.1**
BLS5	**Blasjo**	**101.17**	**333**	*e*Pdif	**Pdif**	**08 43 07.8**	**+0.8**
CLL	**Collm**	**101.17**	**324**	*e*PP(2)		08 47 36.0	
CLL	**Collm**	**101.17**	**324**	*e*Pdif	**Pdif**	**08 43 07.0**	**-0.2**
CLL	**Collm**	**101.17**	**324**	*e*PKKPbc	PKKPbc	08 59 17.0	-2.3
KHC	**Kasperske Hory**	**101.60**	**322**	MLR	MLR		
	comp=Z,2μm,20.3s						
KHC	**Kasperske Hory**	**101.60**	**322**	*e*PDIFF	**Pdif**	**08 43 08.8**	**-0.5**
KHC	**Kasperske Hory**	**101.60**	**322**	*e*PKP	**PKiKP**	**08 47 32.9**	**+0.1**
KHC	**Kasperske Hory**	**101.60**	**322**	*e*P	**Pdif**	**08 43 08.8**	**-0.5**
GERES	**GERESS Array B**	**101.62**	**322**	P	**Pdif**	**08 43 08.5**	**-0.9**
	comp=Z,0.5nm,0.2s,baz=93,slow=2.7,SNR=6.9						
GERES	**GERESS Array B**	**101.62**	**322**	*i* P	**Pdif**	**08 43 08.9**	**-0.6**
GERES	**GERESS Array B**	**101.62**	**322**		**Pdif**	**08 43 08.9**	**-0.6**
DAVOX	**Davos/Dischmat**	**104.78**	**321**	Pdiff	**Pdif**	**08 43 23.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=34,slow=9.8,SNR=3.6						
NVAR	**Mina Array Bea**	**106.80**	**48**	Pdiff	**Pdif**	**08 43 34.0**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=283,slow=4.5,SNR=2.8						
NVAR				PKiKP	**PKiKP**	**08 47 42.3**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=284,slow=4.5,SNR=1.9						
F36A	**Milaca**	**118.84**	**31**	P	**PKPdf**	**08 48 05.2**	**-0.1**
	baz=313						
SCHQ	**Schefferville**	**120.19**	**9**	PKP	**PKiKP**	**08 48 08.0**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=71,slow=6.6,SNR=4.2						
SCHQ	**Schefferville**	**120.19**	**9**		**PKPdf**	**08 48 06.3**	**-1.4**
R32A	**Long Quarter,**	**120.49**	**40**	P	**PKiKP**	**08 48 09.5**	**+0.6**
	baz=305						
PVAQ	**Vaqueiros**	**120.70**	**318**	*e*PKP	**PKiKP**	**08 48 09.7**	**+0.5**
KSU1	**Kansas State U**	**121.43**	**39**	P	**PKiKP**	**08 48 11.1**	**+0.5**
	baz=307						
TXAR	**Lajitas Array**	**121.52**	**52**	PKP	**PKiKP**	**08 48 11.7**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=230,slow=0.7,SNR=7.6						
I42A	**Draeger Farm,**	**122.55**	**30**	P	**PKPdf**	**08 48 12.6**	**+0.1**
	baz=317						
TORD	**Torodi Ar. Bea**	**122.58**	**288**	PKP	**PKPdf**	**08 48 12.5**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=47,slow=2.0,SNR=9.9						
TORD	**Torodi Ar. Bea**	**122.58**	**288**		**PKPdf**	**08 48 12.4**	**-0.9**
L40A	**Anamosa**	**122.65**	**33**	P	**PKPdf**	**08 48 12.3**	**-0.5**
	baz=314						
P38A	**Dawn**	**122.97**	**36**		**PKPdf**	**08 48 13.2**	**-0.2**
P38A	**Dawn**	**122.97**	**36**	P	**PKPdf**	**08 48 13.0**	**-0.4**
	baz=310						
L42A	**Oliver, Polo**	**123.52**	**32**	P	**PKPdf**	**08 48 14.3**	**-0.2**
	baz=315						
S39A	**Bolivar**	**124.33**	**38**	PKPdf	**PKPdf**	**08 48 16.0**	**-0.1**
S39A	**Bolivar**	**124.33**	**38**	P	**PKPdf**	**08 48 15.8**	**-0.3**
	baz=309,SNR=12						
R40A	**Maddies Statio**	**124.58**	**37**	P	**PKPdf**	**08 48 16.1**	**-0.4**
	baz=311,SNR=6.8						
HDIL	**Hopedale**	**124.74**	**33**	P	**PKPdf**	**08 48 16.1**	**-0.7**
	baz=315						
HHAR	**Hobbs**	**124.82**	**40**	PKPdf	**PKiKP**	**08 48 17.6**	**+0.1**
HHAR	**Hobbs**	**124.82**	**40**	P	**PKPdf**	**08 48 17.0**	**-0.1**
	baz=308						
U40A	**Yellville**	**125.46**	**39**	PKPdf	**PKPdf**	**08 48 18.4**	**+0.1**
U40A	**Yellville**	**125.46**	**39**	P	**PKPdf**	**08 48 18.0**	**-0.3**
	baz=309,SNR=7.5						
U40A	**Yellville**	**125.46**	**39**	P	**PKPdf**	**08 48 18.0**	**-0.3**
	baz=309,SNR=7.5						
SFIN	**Lafayette**	**126.04**	**32**	P	**PKPdf**	**08 48 19.3**	**0.0**
	baz=317						
LCAR	**Lake Charles**	**126.70**	**38**	PKPdf	**PKPdf**	**08 48 20.8**	**+0.1**
LCAR	**Lake Charles**	**126.70**	**38**	P	**PKPdf**	**08 48 20.6**	**-0.1**
	baz=311,SNR=12						
O49A	**Covington**	**127.58**	**30**	P	**PKiKP**	**08 48 23.0**	**+0.2**
	baz=320						
O49A	**Covington**	**127.58**	**30**	P	**PKiKP**	**08 48 23.0**	**+0.2**
	baz=320						
N54A	**Moraine State**	**128.99**	**26**	P	**PKPdf**	**08 48 24.8**	**-0.1**
	baz=325						
MCVT	**Middlebury Col**	**129.01**	**18**	P	**PKiKP**	**08 48 27.4**	**+1.8**
	baz=335						
R50A	**Paris**	**129.03**	**31**	P	**PKiKP**	**08 48 25.6**	**-0.2**
	baz=319						
R50A	**Paris**	**129.03**	**31**	P	**PKiKP**	**08 48 25.6**	**-0.2**
	baz=319						
X58A	**Rowland**	**134.46**	**30**	P	**PKPdf**	**08 48 32.1**	**-3.4**
	baz=322						
X58A	**Rowland**	**134.46**	**30**	P	**PKPdf**	**08 48 32.1**	**-3.4**
	baz=322						
PLCA	**Paso Flores**	**140.47**	**160**	PKP	**PKPdf**	**08 48 45.6**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=229,slow=3.4,SNR=6.6						
PLCA	**Paso Flores**	**140.47**	**160**		**PKPdf**	**08 48 45.9**	**-0.5**
SC01	**Santiago de lo**	**151.08**	**35**		**PKiKP**	**08 49 12.8**	**+1.5**
ITQB	**Itaqui**	**154.44**	**174**		**PKiKP**	**08 49 18.2**	**+0.2**
ITQB					**sPKPdf**	**08 49 29.1**	**+1.2**
OTAV	**Otavalo**	**154.69**	**81**	PKPdf	**PKPdf**	**08 49 09.3**	**-1.6**
LL5C	**La Loma 5 El P**	**155.57**	**56**	*e*P	**PKPdf**	**08 49 14.3**	**+2.8**
PB11	**IPOC Station P**	**157.88**	**136**	PKPdf	**PKPdf**	**08 49 11.2**	**-3.4**
PB11					**PKPab**	**08 49 44.4**	**-3.0**
LPAZ	**La Paz**	**161.23**	**131**	PKP	**PKPdf**	**08 49 18.1**	**-1.0**
	comp=Z,2.4nm,1.1s,baz=47,slow=3.4,SNR=3.2						
LPAZ	**La Paz**	**161.23**	**131**		**PKPab**	**08 49 58.0**	**-4.7**
LPAZ	**La Paz**	**161.23**	**131**		**PKPdf**	**08 49 17.4**	**-1.6**
LPAZ				PKPab	**PKPab**	**08 49 58.0**	**-4.7**
LPAZ	**La Paz**	**161.23**	**131**	PKIKP	**PKPdf**	**08 49 17.5**	**-1.6**

*MOS **05** 08:29:35.6±1.0, 4.°18N×126.°35E, h40km, mb5.8/45, MS5.2/22, Error ellipse: s-maj=9.9km s-min=5.0km az=109.0*

*IDC **05** 08:29:35.7±1.4, 4.°15N×126.°40E, h25km±8km, mb5.3/56, mb1 5.3/61, mb1mx5.2/70, mbtmp5.5/61, ML5.2/5, MS5.2/5, Ms1 5.2/5, ms1mx4.9/15, Error ellipse: s-maj=11.4km s-min=7.0km az=77.0*

*NEIC **05** 08:29:38, 4.°31N×127.°02E, h36km, Moment Tensor Solution. Duration: 34.s0 Moment tensor: Scale 10^{18}Nm; M_{rr}0.78; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-0.84; $M_{r\theta}$-0.19; $M_{\theta\phi}$0.20; $M_{\phi r}$0.55; Fault plane solution: $M_0$1.02000×10^{18} NP1: ϕ_s174.00000°, δ28.00000°, λ99.00000°. NP2: ϕ_s344.00000°, δ62.00000°, λ85.00000°. Principal axes: T 0.9665, Plg72.0000°, Azm243.0000°; N 0.0961, Plg4.0000°, Azm346.0000°; P -1.0625, Plg17.0000°, Azm77.0000°;*

*GCMT **05** 08:29:39.0±0.1, 4.°21N×126.°63E, h30km, MW5.9/162, Moment Tensor Solution. s162,c344; s158,c476; Duration: 2.s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.65±.01; $M_{\theta\theta}$0.21±.01; $M_{\phi\phi}$-0.85±.01; $M_{r\theta}$0.00±.01; $M_{\theta\phi}$0.04±.00; $M_{\phi r}$0.60±.01; Best double couple: $M_0$0.96000×10^{18} NP1:ϕ_s176.00000°, δ26.00000°, λ86.00000°. NP2:ϕ_s360.00000°, δ64.00000°, λ92.00000°. Principal axes: T 0.8540, Plg71.0000°, Azm273.0000°; N 0.2110, Plg2.0000°, Azm179.0000°; P -1.0650, Plg19.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 05 08:29:37.4±0.4**, 4.°22N**±0.°03×**126.°41E**±0.°04**, h40**km±3km**, h40km:pP-P, n1093, σ1.s67**/891**, mb5.5**/128**, MS5.6**/227**, 119C-39D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.95**	**344**	Pn	**Pn**	**08 30 22.0**	**+0.2**
	245nm,0.3s,baz=330,slow=16,SNR=4.4						
DAV				Sn	**Sn**	**08 30 59.4**	**+3.4**
	746nm,0.3s,baz=280,slow=17,SNR=4.6						
DAV				Lg	Lg	08 31 12.2	
	617nm,0.3s,baz=252,slow=20,SNR=3.0						
DAV				LR	LR	08 31 32.9	
	comp=Z,24μm,21.6s,baz=280,slow=39						
KCP	**Kidapawan**	**3.07**	**335**	*i* S	Sn	08 31 11.4	+12
TNTI	**Ternate**	**3.56**	**164**	⇓P	**Pn**	**08 30 29.4**	**-0.8**
CTBH	**Cotabato--PC H**	**3.68**	**324**	*i* S	Sn	08 31 27.6	+14
BIPH	**Bislig**	**3.94**	**359**	⇓*e*P	Pn	08 30 43.7	+8.3
BIPH				*e*S	Sn	08 31 40.9	+21
PAGZ	**Pagadian**	**4.70**	**320**	⇑*e*P	Pn	08 30 51.4	+5.6
ZCP	**Zamboanga City**	**5.08**	**302**	*i* S	**Sn**	**08 31 51.1**	**+2.5**
ZCP	**Zamboanga City**	**5.08**	**302**	⇓*i*P	Pn	08 30 56.5	+5.3
DCPH	**Dipolog City**	**5.29**	**325**	⇓*e*P	Pn	08 31 14.2	+20
SNPH	**Sibulan**	**5.99**	**328**	*e*P	**Pn**	**08 31 04.4**	**+0.8**
SNPH				*e*S	Sn	08 31 40.2	-31
SIJI	**Sorong**	**7.01**	**136**	Pn	**Pn**	**08 31 15.6**	**-2.0**
	121nm,0.3s,baz=346,slow=12,SNR=24						
SIJI				Sn	**Sn**	**08 32 32.6**	**-3.5**
	26nm,0.3s,baz=162,slow=20,SNR=1.6						
I39PW	**PALAU INFRASON**	**8.74**	**67**	Pn	**Pn**	**08 31 41.6**	**+0.3**
	baz=207,slow=18,SNR=1.1						
I39PW				*i*		09 18 50.0	
	baz=246,slow=308,SNR=2.0						
SPMM	**Sapulut**	**9.93**	**273**	P	Pn	08 31 49.0	-8.6
KKM	**Kota Kinabalu**	**10.31**	**281**	⇑P	Pn	08 31 54.7	-8.3
JCNP	**Jose Panganiba**	**10.65**	**340**	⇑*e*P	Pn	08 32 01.6	-6.0
PGP	**Puerto Galera**	**10.68**	**330**	⇓*e*P	Pn	08 32 17.5	+10
TGY	**Tagaytay City**	**11.20**	**332**	Pn	**Pn**	**08 32 14.3**	**-0.8**
	61nm,0.3s,baz=218,slow=12,SNR=4.8						
TGY	**Tagaytay City**	**11.20**	**332**	P	**Pn**	**08 32 14.3**	**-0.8**
LUBP	**Lubang**	**11.24**	**328**	⇑*e*P	Pn	08 32 22.8	+7.3
KAPI	**Kappang**	**11.33**	**216**	Pn	**Pn**	**08 32 15.2**	**-1.6**
	1.6nm,0.3s,baz=328,slow=11,SNR=6.5						
KAPI	**Kappang**	**11.33**	**216**	*c* *i*P	**Pn**	**08 32 21.2**	**+4.4**
KAPI				pmax	pmax		
	comp=Z,449nm,1.1s						
KAPI	**Kappang**	**11.33**	**216**	⇓P	Pn	08 32 08.7	-8.1
PCPH	**Palayan**	**12.42**	**335**	⇓*e*P	Pn	08 32 36.8	+5.0
SAUI	**Saumlaki**	**13.07**	**158**	⇑P	**Pn**	**08 32 39.9**	**-0.7**
MMRI	**Maumere**	**13.43**	**198**	⇑P	**Pn**	**08 32 45.1**	**-0.4**
SBUM	**Sibu**	**14.27**	**263**	⇑P	Pn	08 32 47.5	-10
SBUM	**Sibu**	**14.27**	**263**	P	Pn	08 32 48.0	-9.0
BATI	**Baumata**	**14.59**	**191**	Pn	**Pn**	**08 32 60.0**	**-1.4**
	comp=Z,8.6nm,0.3s,baz=69,slow=9.4,SNR=4.5						
KSM	**Kuching**	**16.31**	**261**	⇑P	Pn	08 33 13.9	-10
KSM	**Kuching**	**16.31**	**261**	P	Pn	08 33 14.0	-10
MTN	**Manton Dam**	**17.59**	**165**	⇓P	**Pn**	**08 33 35.1**	**-4.6**
SMRI	**Semarang**	**19.48**	**235**	⇓p	**Pn**	**08 34 05.0**	**+2.4**
YOJ	**Yonaguni jima**	**20.39**	**351**	⇑P	Pn	08 34 12.7	-0.6
YHNB	**Yeheng**	**20.90**	**347**	IAMs_20	IAMs_20	08 43 13.3	
	comp=Z,19μm,22.0s						
KNMB	**Chin-men Tao**	**21.56**	**340**	IAMs_20	IAMs_20	08 43 15.5	
	comp=Z,19μm,20.0s						
LEM	**Lembang**	**21.73**	**240**	P	**P**	**08 34 25.3**	**-0.4**
	comp=Z,134nm,0.9s,baz=22,slow=16,SNR=7.4						
LEM	**Lembang**	**21.73**	**240**	P	**P**	**08 34 25.3**	**-0.4**
QIZ	**Qiongzhong**	**21.87**	**314**	sP	**P**	**08 34 28.1**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,1μm,8.4s						
QIZ				LR	LR		
	comp=Z,7μm,15.1s						
QIZ				LR	LR		
	comp=Z,9μm,23.1s						
QIZ				LR	LR		
	comp=Z,14μm,25.5s						
QZH	**Quanzhou**	**21.93**	**341**	P	**P**	**08 34 27.6**	**+0.1**
QZH				S	**S**	**08 38 28.1**	**+0.4**
QZH				pmax	pmax		
	comp=Z,3μm,4.3s						
QZH				pmax	pmax		
	comp=Z,180nm,1.7s						
QZH				LR	LR		
	comp=N,14μm,21.5s						
QZH				LR	LR		
	comp=E,6μm,21.8s						
QZH				LR	LR		
	comp=Z,12μm,20.4s						
FITZ	**Fitzroy Crossi**	**22.19**	**182**	P	**P**	**08 34 29.8**	**-0.6**
	comp=Z,200nm,0.7s,baz=9.2,slow=8.3,SNR=35						
FITZ				S	**S**	**08 38 27.8**	**-4.8**
	comp=Z,41nm,0.9s,baz=196,slow=18,SNR=2.4						
JOW	**Kunigami**	**22.56**	**4**	P	**P**	**08 34 33.9**	**-0.4**
	comp=Z,166nm,0.9s,baz=199,slow=9.8,SNR=8.9						
JOW				S	**S**	**08 38 40.0**	**+1.0**
	comp=Z,8.5nm,0.7s,baz=270,slow=20,SNR=1.0						
PMG	**Port Moresby**	**24.72**	**123**	P	**P**	**08 34 54.6**	**-0.6**
	comp=Z,23nm,1.0s,baz=261,slow=8.5,SNR=3.2						
PMG	**Port Moresby**	**24.72**	**123**	⇑*i*P	**P**	**08 34 54.7**	**-0.5**
PMG				pmax	pmax		
	comp=Z,51nm,1.3s						
PMG	**Port Moresby**	**24.72**	**123**	⇓P	**P**	**08 34 49.6**	**-5.6**
MNAI	**Manna**	**24.93**	**250**	IAMs_20	IAMs_20	08 45 37.4	
	comp=Z,11μm,20.0s						
WRAB	**Tennant Creek**	**25.24**	**162**	*c* *i*P	**P**	**08 34 59.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,537nm,1.4s						
WRA	**Warramunga Arr**	**25.25**	**162**	P	**P**	**08 34 59.0**	**-0.9**
	comp=Z,220nm,0.7s,baz=342,slow=10,SNR=28						
WRA				S	**S**	**08 39 25.0**	**+2.0**
	comp=Z,48nm,1.1s,baz=333,slow=20,SNR=5.8						
WRA				ScP	**ScP**	**08 42 10.3**	**+1.3**
	comp=Z,8.3nm,1.0s,baz=351,slow=3.2,SNR=2.9						
WRA	**Warramunga Arr**	**25.25**	**162**	P	**P**	**08 34 59.0**	**-0.9**
KULM	**Kulim**	**25.69**	**273**	IAMs_20	IAMs_20	08 45 26.9	
	comp=Z,16μm,22.0s						
KRVT	**Keravat (AS076**	**26.96**	**108**	P	**P**	**08 35 15.5**	**0.0**
	comp=Z,43nm,0.5s,baz=288,slow=3.2,SNR=3.3						
SSE	**Sheshan**	**27.18**	**350**	LR	LR		
	comp=Z,3μm,19.6s						
SSE				pmax	pmax		
	comp=Z,23nm,0.7s						
SSE				LR	LR		
	comp=Z,2μm,19.6s						
JCJ	**Chichijima**	**27.29**	**32**	P	**P**	**08 35 17.6**	**-0.7**
	comp=Z,266nm,0.6s,baz=267,slow=8.7,SNR=15						
JSU	**Suzuyama**	**27.41**	**8**	⇑P	**P**	**08 35 19.6**	**+0.2**
PSI	**Prapat**	**27.47**	**268**	P	**P**	**08 35 20.6**	**+0.3**
	comp=Z,76nm,1.0s,baz=83,slow=3.7,SNR=19						
PSI				S	**S**	**08 40 00.2**	**+1.6**
	comp=Z,2.6nm,0.3s,baz=168,slow=20,SNR=0.9						
PSI				ScP	**ScP**	**08 42 15.8**	**-0.1**
	comp=Z,24nm,0.9s,baz=194,slow=6.4,SNR=6.8						
PSI	**Prapat**	**27.47**	**268**	P	**P**	**08 35 20.6**	**+0.3**
WHN	**Wuhan**	**28.55**	**338**	⇑P	**P**	**08 35 30.9**	**+1.4**
WHN				pP	**pP**	**08 35 40.8**	**+1.4**
WHN				S	S	08 40 26.3	+11
WHN				pmax	pmax		
	comp=Z,110nm,0.9s						
WHN				LR	LR		
	comp=N,26μm,21.1s						
WHN				LR	LR		
	comp=E,35μm,20.4s						
WHN				LR	LR		
	comp=Z,46μm,23.2s						
NJ2	**Nanjing**	**28.58**	**347**	LR	LR		
	comp=Z,7μm,20.8s						
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,170nm,3.5s						
NJ2				LR	LR		
	comp=Z,5μm,23.2s						
NJ2				LR	LR		
	comp=Z,9μm,19.9s						
ASAR	**Alice Springs**	**28.66**	**166**	P	**P**	**08 35 29.8**	**-0.9**
	comp=Z,35nm,0.5s,baz=345,slow=6.9,SNR=30						
ASAR				PcP	**PcP**	**08 38 41.5**	**+0.6**
	comp=Z,8.5nm,0.8s,baz=359,slow=2.1,SNR=1.9						
ASAR				S	**S**	**08 40 18.6**	**+1.7**
	comp=Z,27nm,1.1s,baz=354,slow=24,SNR=4.7						
ASAR				ScP	**ScP**	**08 42 19.2**	**0.0**
	comp=Z,12nm,1.1s,baz=353,slow=2.6,SNR=3.0						
ASAR				LR	LR	08 49 31.2	
	comp=Z,5μm,18.6s,baz=2.5,slow=42						
ASAR	**Alice Springs**	**28.66**	**166**	P	**P**	**08 35 29.8**	**-0.9**
ASAR						08 38 41.5	
GSI	**Gunungsitoli**	**28.94**	**265**	⇓P	**P**	**08 35 34.0**	**+0.8**
JNU	**Nakatsue**	**29.06**	**8**	P	**P**	**08 35 34.5**	**+0.4**
	comp=Z,61nm,0.9s,baz=174,slow=3.7,SNR=13						
JNU				LR	LR	08 47 22.9	
	comp=Z,5μm,20.7s,baz=188,slow=37						
GYA	**Guiyang**	**29.09**	**321**	⇑P	P	08 35 24.6	-10
GYA				sP	pP	08 35 36.9	-7.6
GYA				pmax	pmax		
	comp=Z,21nm,0.8s						
GYA				pmax	pmax		
	comp=Z,860nm,7.6s						
GYA				LR	LR		
	comp=Z,11μm,21.0s						
GYA				LR	LR		
	comp=Z,5μm,17.4s						
GYA				LR	LR		
	comp=Z,17μm,19.4s						
GIRL	**Giralia**	**29.23**	**204**	P	**P**	**08 35 38.8**	**+3.1**
	baz=29,SNR=5.2						
GIRL	**Giralia**	**29.23**	**204**	⇓P	**P**	**08 35 39.4**	**+3.8**
JMN	**Monobe**	**30.17**	**12**	⇑P	**P**	**08 35 44.5**	**+0.6**
JTU	**Tsushima**	**30.28**	**5**	⇑P	**P**	**08 35 45.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.35**	**300**	P	**P**	**08 35 46.4**	**+0.7**
	comp=Z,41nm,0.9s,baz=108,slow=6.9,SNR=10.0						
CMAR				ScP	**ScP**	**08 42 26.6**	**+1.8**
	comp=Z,13nm,0.9s,baz=152,slow=1.8,SNR=13						
CMAR	**Chiang Mai Arr**	**30.35**	**300**	P	**P**	**08 35 46.4**	**+0.7**
CMAR						08 42 26.6	
ENH	**Enshi**	**30.45**	**330**	IAMs_20	IAMs_20	08 48 41.8	
	comp=Z,11μm,21.0s						
KMI	**Kunming**	**30.81**	**315**	⇑P	**P**	**08 35 51.1**	**+1.2**
KMI				pP	pP	08 35 57.4	-2.5
KMI				sP	pwP	08 36 00.2	-4.1
KMI				PP	**PP**	**08 36 58.7**	**-1.3**
KMI				pmax	pmax		
	comp=Z,29nm,1.3s						
KMI				pmax	pmax		
	comp=Z,620nm,7.6s						
KMI				LR	LR		
	comp=N,3μm,23.6s						
KMI				LR	LR		
	comp=E,9μm,21.3s						
KMI				LR	LR		
	comp=Z,16μm,27.6s						
CTA	**Charters Tower**	**31.05**	**142**	P	**P**	**08 35 51.5**	**-0.3**
	comp=Z,26nm,0.8s,baz=325,slow=10,SNR=16						
CTA				ScP	**ScP**	**08 42 28.8**	**+1.8**
	comp=Z,20nm,0.8s,baz=316,slow=6.4,SNR=5.8						
CTA	**Charters Tower**	**31.05**	**142**	P	**P**	**08 35 51.5**	**-0.3**
CTAO	**Charters Tower**	**31.05**	**142**	IAMs_20	IAMs_20	08 50 21.5	
	comp=Z,9μm,18.0s						
JHS	**Saijyo**	**31.25**	**11**	⇑P	**P**	**08 35 53.2**	**-0.2**
PATS	**Pohnpei**	**31.86**	**84**	IAMs_20	IAMs_20	08 45 28.4	
	comp=Z,14μm,22.0s						
TJN	**Taejon**	**32.01**	**1**	*c* *i*P	**P**	**08 36 00.7**	**+0.6**
PZH	**PanZhiHua**	**32.37**	**316**	LR	LR		
	comp=Z,12μm,25.0s						
PZH				pmax	pmax		
	comp=Z,20nm,0.6s						
PZH				pmax	pmax		
	comp=Z,560nm,8.6s						
PZH				LR	LR		
	comp=Z,7μm,21.4s						
PZH				LR	LR		
	comp=Z,6μm,21.6s						
INU	**Inuyama**	**32.49**	**16**	⇑P	**P**	**08 36 04.2**	**-0.2**
INU	**Inuyama**	**32.49**	**16**	⇓pwP	**P**	**08 36 06.2**	**+2.0**
INU	**Inuyama**	**32.49**	**16**	⇓pP	**P**	**08 36 04.1**	**-0.2**
JGF	**Kuroka**	**32.83**	**17**	⇓P	**P**	**08 36 07.9**	**+0.6**
LYN	**LuoYang**	**32.84**	**338**	⇑P	**P**	**08 36 07.0**	**-0.3**
LYN				sP	pwP	08 36 22.8	+0.8
LYN				PP	**PP**	**08 37 21.6**	**-0.5**
LYN				PcP	**PcP**	**08 38 53.9**	**+2.3**
LYN				S	**S**	**08 41 19.3**	**-2.8**
LYN				SS	**SS**	**08 43 34.3**	**-10**
LYN				pmax	pmax		
	comp=Z,50nm,0.9s						
LYN				pmax	pmax		
	comp=Z,770nm,9.4s						
LYN				LR	LR		
	comp=N,8μm,24.2s						
LYN				LR	LR		
	comp=E,6μm,20.6s						
LYN				LR	LR		
	comp=Z,11μm,24.0s						
LYN	**LuoYang**	**32.84**	**338**	pmax	pmax		
	comp=Z,20nm,0.7s						
TIA	**Tai'an**	**32.97**	**346**	⇑P	**P**	**08 36 11.0**	**+2.6**
TIA				S	**S**	**08 41 21.5**	**-2.5**
TIA				pmax	pmax		
	comp=Z,41nm,0.7s						
TIA				pmax	pmax		
	comp=Z,990nm,7.2s						
TIA				LR	LR		
	comp=N,3μm,16.7s						
TIA				LR	LR		
	comp=E,6μm,22.6s						
TIA				LR	LR		
	comp=Z,5μm,20.5s						
TIA	**Tai'an**	**32.97**	**346**	pmax	pmax		
	comp=Z,25nm,0.8s						
KSRS	**Korea Array**	**33.11**	**2**	P	**P**	**08 36 11.2**	**+1.6**
	comp=Z,36nm,0.6s,baz=179,slow=9.4,SNR=24						
KSRS				PcP	**PcP**	**08 38 53.8**	**+1.5**
	comp=Z,9.6nm,0.8s,baz=178,slow=2.7,SNR=5.0						
KSRS				S	**S**	**08 41 30.1**	**+4.1**
	comp=Z,1.2nm,0.9s,baz=130,slow=39,SNR=1.8						
KSRS				LR	LR	08 50 00.5	
	comp=Z,4μm,20.8s,baz=180,slow=37						
KSRS	**Korea Array**	**33.11**	**2**	P	**P**	**08 36 11.2**	**+1.6**
KSRS						08 38 53.8	
KSRS				S	**S**	**08 41 30.2**	**+4.1**
XAN	**Xi'an**	**33.84**	**333**	pP	P	08 36 16.0	-0.1
XAN				pmax	pmax		
	comp=Z,160nm,0.7s						
XAN				pmax	pmax		
	comp=Z,110nm,3.8s						
XAN				LR	LR		
	comp=Z,6μm,17.3s						
XAN				LR	LR		
	comp=Z,9μm,19.7s						
XAN				LR	LR		
	comp=Z,16μm,18.2s						
XAN	**Xi'an**	**33.84**	**333**	pwP	**P**	**08 36 18.5**	**+2.4**
XAN	**Xi'an**	**33.84**	**333**	pP	**P**	**08 36 16.9**	**+0.8**
XAN	**Xi'an**	**33.84**	**333**	sP	sP	08 36 28.6	-1.8
MJAR	**Matsushiro Arr**	**33.95**	**17**	P	**P**	**08 36 17.0**	**0.0**
	comp=Z,19nm,0.9s,baz=286,slow=42,SNR=10						
MJAR	**Matsushiro Arr**	**33.95**	**17**	P	**P**	**08 36 17.0**	**0.0**
CD2	**Chengdu**	**34.06**	**324**	LR	LR		
	comp=Z,12μm,20.4s						
CD2				pmax	pmax		
	comp=Z,30nm,1.1s						
CD2				pmax	pmax		
	comp=Z,80nm,4.3s						
CD2				LR	LR		
	comp=Z,12μm,20.8s						
DGPR	**DIGLIPUR**	**34.23**	**287**	IAmb	IAmb	08 36 42.2	
	comp=Z,31nm,0.6s						
MORW	**Morawa**	**34.56**	**196**	P	**P**	**08 36 19.2**	**-3.2**
	baz=35,SNR=4.6						
MORW	**Morawa**	**34.56**	**196**	⇓P	**P**	**08 36 20.9**	**-1.5**

HNS	HongShan	34.72	344	⇑P	P	08 36 24.6	+1.0
HNS				PP	PP	08 37 38.3	-4.6
HNS				S	S	08 41 51.4	+0.3
HNS				pmax	pmax		
	comp=Z,53nm,1.0s						
HNS				LR	LR		
	comp=N,6µm,21.0s						
HNS				LR	LR		
	comp=E,10µm,20.6s						
HNS				LR	LR		
	comp=Z,13µm,20.8s						
HNS	HongShan	34.72	344	pmax	pmax		
	comp=Z,56nm,1.0s						
DL2	Dalian	34.80	353	S	S	08 41 43.4	-8.9
DL2				pmax	pmax		
	comp=Z,140nm,0.9s						
DL2				pmax	pmax		
	comp=Z,220nm,4.0s						
DL2				LR	LR		
	comp=Z,6µm,19.4s						
DL2				LR	LR		
	comp=Z,2µm,19.9s						
DL2				LR	LR		
	comp=Z,8µm,19.4s						
FORT	Forrest	34.84	178	⇑P	P	08 36 23.3	-1.4
JSD	Sado	35.36	16	⇑P	P	08 36 28.7	-0.4
JMM	Marumori	35.98	20	⇑P	P	08 36 35.1	+0.7
HNR	Honiara	36.07	112	IAMs_20	IAMs_20	08 50 06.4	
	comp=Z,8µm,20.0s						
BJT	Baijiatuau	36.82	347	pP	P	08 36 43.1	+1.5
BJT	Baijiatuau	36.82	347	sP	sP	08 36 51.6	-4.5
BJI	Beijing	36.84	347	sP	P	08 36 43.0	+1.2
BJI				pmax	pmax		
	comp=Z,67nm,0.8s						
BJI				LR	LR		
	comp=Z,3µm,19.4s						
BJI				LR	LR		
	comp=Z,4µm,21.4s						
LZH	Lanzhou	37.92	330	sP	P	08 36 52.9	+1.7
LZH				S	S	08 42 30.8	-10
LZH				sS	ScP	08 42 43.8	-7.6
LZH				pmax	pmax		
	comp=Z,110nm,1.3s						
LZH				pmax	pmax		
	comp=Z,1µm,5.6s						
LZH				LR	LR		
	comp=Z,14µm,13.6s						
LZH				LR	LR		
	comp=Z,9µm,14.0s						
LZH				LR	LR		
	comp=Z,15µm,16.8s						
MSHR	Mys Shultsa	38.43	6c	iP	P	08 36 56.7	+1.5
MSHR				pmax	pmax		
	comp=Z,130nm,2.0s						
STKA	Stephens Creek	38.70	159	P	P	08 36 57.4	-0.2
	comp=Z,210nm,0.8s,baz=332,slow=8.5,SNR=28						
STKA				S	S	08 42 50.2	-1.7
	comp=Z,11nm,0.8s,baz=101,slow=22,SNR=3.7						
STKA	Stephens Creek	38.70	159d	iP	P	08 36 57.1	-0.5
JTM	Tenmabayashi	38.72	18	⇓P	P	08 36 59.5	+1.8
HHC	Hu-ho-hao-te	38.84	342	sS	S	08 42 56.9	+2.9
HHC				pmax	pmax		
	comp=Z,37nm,1.0s						
HHC				pmax	pmax		
	comp=Z,1µm,4.4s						
HHC				LR	LR		
	comp=Z,7µm,19.0s						
HHC				LR	LR		
	comp=Z,5µm,19.0s						
HHC				LR	LR		
	comp=Z,12µm,18.4s						
BTO	Baotou	39.12	340	eP	P	08 37 02.0	+0.9
BTO				S	S	08 43 14.8	+17
BTO				LR	LR		
	comp=N,34µm,21.2s						
BTO				LR	LR		
	comp=E,19µm,18.8s						
HTT	Hallett	39.27	163	⇓P	P	08 37 02.2	-0.2
SHL	Shillong	39.33	306	IAmb	IAmb	08 37 06.3	
	comp=Z,188nm,0.7s						
CN2	Changchun	39.43	359	sP	P	08 37 03.7	+0.2
CN2				sS	S	08 43 02.8	+0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,1µm,6.0s						
CN2				LR	LR		
	comp=Z,3µm,20.0s						
CN2				LR	LR		
	comp=Z,4µm,20.0s						
CN2				LR	LR		
	comp=Z,2µm,18.0s						
USA0B	Ussuriysk Arra	40.12	6c	iP	P	08 37 11.8	+2.5
USRK	Ussuriysk Ar.	40.12	6	P	P	08 37 10.3	+1.1
	comp=Z,6.6nm,0.5s,baz=218,slow=6.0,SNR=4.8						
USRK	Ussuriysk Ar.	40.12	6	P	P	08 37 10.4	+1.1
MDJ	Mudanjiang	40.33	4	LR	LR		
	comp=Z,5µm,21.8s						
MDJ				pmax	pmax		
	comp=Z,25nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.0s						
MDJ				LR	LR		
	comp=Z,2µm,19.0s						
MDJ				LR	LR		
	comp=Z,4µm,20.7s						
MDJ	Mudanjiang	40.33	4	⇑pP	P	08 37 13.6	+2.6
MDJ				pwP	pP	08 37 19.6	-1.6
ERM	Erimo	40.50	19	IAMs_20	IAMs_20	08 53 33.9	
	comp=Z,6µm,20.0s						
ERM	Erimo	40.50	19	⇓P	P	08 37 18.2	+5.7
XLT	XiLinHaoTe	40.56	349	LR	LR		
	comp=Z,5µm,22.7s						
XLT				pmax	pmax		
	comp=Z,43nm,0.7s						
XLT				pmax	pmax		
	comp=Z,120nm,4.2s						
XLT				LR	LR		
	comp=Z,7µm,21.6s						
KWAJ	Kwajalein Atol	41.17	82	IAMs_20	IAMs_20	08 53 12.2	
	comp=Z,6µm,20.0s						
TEY	Ternei	41.62	11⇑	eP	P	08 37 22.7	+1.1
TEY				eS	S	08 43 33.4	-1.9
TEY				pmax	pmax		
	comp=E,10.0nm,1.0s						
TEY				pmax	pmax		
	comp=N,20nm,1.0s						
TEY				pmax	pmax		
	comp=Z,30nm,1.4s						
TEY				pmax	pmax		
	comp=N,400nm,3.0s						
TEY				pmax	pmax		
	comp=Z,600nm,3.0s						
TEY				smax	smax		
	comp=E,2µm,5.9s						
TEY				MLR	MLR		
	comp=N,1µm,17.0s						
TEY				MLR	MLR		
	comp=Z,1µm,18.0s						
LSA	Lhasa	41.88	311	LR	LR		
	comp=Z,3µm,26.3s						
LSA				LR	LR		
	comp=Z,2µm,24.9s						
LSA				LR	LR		
	comp=Z,3µm,22.8s						
LSA	Lhasa	41.88	311	P	P	08 37 25.9	+1.4
LSA	Lhasa	41.88	311	⇓pP	P	08 37 27.6	+3.1
LSA				pwP	pP	08 37 32.1	-2.7
ASAJ	Asahikawa	42.22	17	P	P	08 37 27.5	+1.0
	comp=Z,47nm,0.7s,baz=208,slow=14,SNR=14						
ASAJ	Asahikawa	42.22	17	P	P	08 37 27.5	+1.0
GTA	Gaotai	42.51	329	sS	S	08 43 54.1	+5.2
GTA				pmax	pmax		
	comp=Z,20nm,0.6s						
GTA				LR	LR		
	comp=Z,7µm,18.7s						
GTA				LR	LR		
	comp=Z,8µm,21.5s						
GTA				LR	LR		
	comp=Z,12µm,20.3s						
GTA	Gaotai	42.51	329	sP	P	08 37 29.7	+0.5
GTA	Gaotai	42.51	329	S	S	08 43 40.6	-8.3
GOMU	GeErMu	43.10	322	sS	S	08 44 01.8	+3.6
GOMU				pmax	pmax		
	comp=Z,13nm,1.2s						
GOMU				LR	LR		
	comp=Z,6µm,19.2s						
GOMU				LR	LR		
	comp=Z,5µm,19.1s						
GOMU				LR	LR		
	comp=Z,8µm,20.0s						
GOMU	GeErMu	43.10	322	sP	P	08 37 32.2	-2.1
YUK	Yuzh-Kuril'sk	43.21	21	eP	P	08 37 34.2	-0.3
YUK						08 39 13.4	
YUK				PPP	PPP	08 39 47.2	
YUK				S	S	08 43 56.2	-2.4
YUK				eSS	SS	08 47 11.3	-1.4
YUK				MLR	MLR		
	comp=Z,6µm,22.0s						
BOK	Bokaro	43.63	300	IAmb	IAmb	08 37 52.7	
	comp=Z,38nm,0.8s						
KOUNC	Koumac, New Ca	44.59	125	⇑P	P	08 37 46.6	+0.7
CAN	Canberra	44.69	153	⇓P	P	08 37 47.2	+0.6
CAN	Canberra	44.69	153	pwP	P	08 37 50.8	+4.1
CAN	Canberra	44.69	153	pP	P	08 37 47.8	+1.1
CAN	Canberra	44.69	153	IAMs_20	IAMs_20	08 58 31.1	
	comp=Z,7µm,19.0s						
YSS	Yuzh-Sakhalins	44.86	16	eP	P	08 37 46.0	-1.7
YSS				e*SP	pwP	08 38 01.0	-1.0
YSS				e		08 39 28.7	
YSS				eS	S	08 44 20.6	-2.0
YSS				eSS	ScS	08 47 41.7	-0.2
YSS				pmax	pmax		
	comp=Z,80nm,1.9s						
YSS				pmax	pmax		
	comp=Z,900nm,9.5s						
YSS				pmax	pmax		
	comp=N,400nm,10.0s						
YSS				smax	smax		
	comp=E,700nm,14.9s						
YSS	Yuzh-Sakhalins	44.86	16	⇑P	P	08 37 47.2	-0.5
YSS	Yuzh-Sakhalins	44.86	16	⇓sP	P	08 37 54.1	+6.4
YSS				⇓pP	P	08 37 54.1	+6.4
YSS	Yuzh-Sakhalins	44.86	16	P	P	08 37 49.8	+2.1
SANVU	Saraoutou	44.87	117	⇓P	P	08 37 49.8	+1.5
KUR	Kuril'sk	44.96	21	eP	P	08 37 42.7	-5.9
KUR				i S	S	08 44 15.8	-8.3
KUR				pmax	pmax		
	comp=Z,1µm,4.4s						
KUR				pmax	pmax		
	comp=Z,290nm,1.5s						
KUR				MLR	MLR		
	comp=Z,1µm,17.0s						
KLR	Kul'dur	45.08	5	P	P	08 37 50.4	+0.9
	comp=Z,87nm,1.1s,baz=176,slow=5.2,SNR=16						
KLR				S	S	08 44 26.7	+0.9
	comp=Z,2.0nm,0.7s,baz=338,slow=18,SNR=1.9						
KLR	Kul'dur	45.08	5c	iP	P	08 37 50.8	+1.3
KLR				pmax	pmax		
	comp=Z,104nm,1.2s						
TOO	Toolangi	45.21	159	⇑P	P	08 37 51.5	+0.8
HIA	Hailar	45.24	354c	iP	P	08 37 52.5	+1.7
HIA				pmax	pmax		
	comp=Z,371nm,1.8s						
HIA	Hailar	45.24	354	IAMs_20	IAMs_20	08 59 25.1	
	comp=Z,7µm,20.0s						
HIA	Hailar	45.24	354	pP	P	08 37 55.2	+4.4
HIA	Hailar	45.24	354	sP	sP	08 38 04.8	-0.6
PALK	Pallekele	45.56	276	P	P	08 37 54.9	+1.0
	comp=Z,50nm,1.1s,baz=298,slow=13,SNR=4.2						
PALK	Pallekele	45.56	276c	iP	P	08 37 54.7	+0.8
PALK				pmax	pmax		
	comp=Z,101nm,1.3s						
PALK	Pallekele	45.56	276	⇑P	P	08 37 54.1	+0.2
MDRS	Chennai	46.41	284	IAmb	IAmb	08 38 04.4	
	comp=Z,42nm,0.7s						
ULN	Ulaanbaatar	46.56	342c	iP	P	08 38 02.1	+0.7
ULN				pmax	pmax		
	comp=Z,151nm,1.4s						
ULN	Ulaanbaatar	46.56	342	IAMs_20	IAMs_20	08 58 32.0	
	comp=Z,8µm,21.0s						
ULN	Ulaanbaatar	46.56	342	⇑pP	P	08 38 03.9	+2.5
ULN	Ulaanbaatar	46.56	342	⇑pwP	P	08 38 05.9	+4.5
ULN	Ulaanbaatar	46.56	342	sP	sP	08 38 14.5	-1.5
SONM	Songino Array	46.73	342	P	P	08 38 04.4	+1.7
	comp=Z,44nm,0.5s,baz=158,slow=6.9,SNR=35						
SONM				PcP	PcP	08 39 38.3	+2.5
	comp=Z,11nm,0.8s,baz=151,slow=5.1,SNR=1.4						
SONM				ScP	ScP	08 43 28.1	+1.7
	comp=Z,4.3nm,0.9s,baz=168,slow=4.3,SNR=4.0						
SONM	Songino Array	46.73	342	P	P	08 38 04.4	+1.7
SONM						08 39 38.3	
DZM	Mont Dzumac	47.08	125	P	P	08 38 06.3	+0.5
	comp=Z,134nm,0.9s,baz=259,slow=7.0,SNR=18						
DZM	Mont Dzumac	47.08	125	eLR	LR	08 51 19.2	
	comp=Z,7µm,24.2s						
DZM	Mont Dzumac	47.08	125	⇑pP	P	08 38 06.5	+0.8
DZM	Mont Dzumac	47.08	125	⇑pwP	P	08 38 09.9	+4.2
GRNR	Gornyy	47.15	9⇑	iP	P	08 38 06.4	+0.7
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,520nm,19.0s						
GRNR				MLR	MLR		
	comp=N,1µm,18.0s						
GRNR				MLR	MLR		
	comp=Z,2µm,20.0s						
JBP	Jabalpur	48.60	297	ex	P	08 38 18.1	+0.7
HYB	Hyderabad	48.65	289	IAmb	IAmb	08 38 22.2	
	comp=Z,82nm,1.1s						
HYBB	Hyderabad (bro	48.65	289	IAMs_20	IAMs_20	08 55 12.5	
	comp=Z,2µm,28.4s						
HYBB	Hyderabad (bro	48.65	289	esP	P	08 38 18.4	+0.4
CIT	Chita	48.83	349	e	P	08 38 21.1	+2.3
TRD	Trivandrum	49.30	278	IAmb	IAmb	08 38 25.6	
	comp=Z,127nm,0.9s						
ZEA	Zeya	49.37	1	eP	P	08 38 24.1	+1.3
ZEA				e		08 38 33.6	
ZEA				e		08 40 25.1	
ZEA				eS	S	08 45 26.3	-0.4
ZEA				e		08 45 43.8	
ZEA				e		08 48 14.5	
ZEA				pmax	pmax		
	comp=E,100nm,5.1s						
ZEA				pmax	pmax		
	comp=N,300nm,7.0s						
ZEA				pmax	pmax		
	comp=Z,400nm,6.9s						
ZEA				pmax	pmax		
	comp=N,60nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,90nm,1.4s						
ZEA				pmax	pmax		
	comp=N,500nm,6.2s						
ZEA				pmax	pmax		
	comp=Z,600nm,7.1s						
ZEA				smax	smax		
	comp=E,500nm,18.3s						
ZEA				MLR	MLR		
	comp=N,2µm,20.0s						
ZEA				MLR	MLR		
	comp=Z,2µm,20.0s						
ZAK	Zakamensk	49.96	341	eP	P	08 38 28.2	+0.7
ZAK				e		08 48 18.7	
ZAK				pmax	pmax		
	comp=Z,36nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,24nm,1.6s						
NKL	Nikolayevsk	50.17	11	eP	P	08 38 27.1	-1.8
NKL				eS	SS	08 49 09.7	-2.0
NKL				pmax	pmax		
	comp=E,3.0nm,0.8s						
NKL				pmax	pmax		
	comp=N,1.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,89nm,0.9s						
NKL				smax	smax		
	comp=N,1.0nm,2.7s						
NKL				smax	smax		
	comp=E,2.0nm,2.7s						
NKL				MLR	MLR		
	comp=E,129nm,17.0s						
NKL				MLR	MLR		
	comp=N,1.0nm,16.0s						
NKL				MLR	MLR		
	comp=Z,1µm,14.0s						
IRK	Irkutsk	51.27	343	eP	P	08 38 36.1	-1.1
IRK				pmax	pmax		
	comp=Z,252nm,2.8s						
WMQ	Urumqi	52.14	325	sP	P	08 38 45.3	+1.3
WMQ				pmax	pmax		
	comp=Z,26nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,410nm,4.1s						
WMQ				LR	LR		
	comp=Z,12µm,16.9s						
WMQ				LR	LR		
	comp=Z,6µm,20.5s						
WMQ				LR	LR		
	comp=Z,6µm,20.5s						
DDI	Dehra Dun	52.43	305	IAmb	IAmb	08 39 02.0	
	comp=Z,204nm,0.3s						
SKR	Severo-Kuril's	52.59	23	eP	P	08 38 47.4	+0.3
SKR				e		08 39 56.4	
SKR				eS	S	08 46 11.0	-0.4
SKR				eSS	ScS	08 48 34.6	+1.0
SKR				pmax	pmax		
	comp=Z,400nm,15.2s						
SKR				MLR	MLR		
	comp=Z,800nm,18.0s						
GOA	Goa	52.87	286	IAmb	IAmb	08 38 52.1	
	comp=Z,89nm,0.9s						
HMDM	Hanimaadhoo	53.02	275	IAMs_20	IAMs_20	09 00 26.2	
	comp=Z,5µm,22.0s						
MNCY	Minicoy	53.18	277	IAmb	IAmb	08 39 10.9	
	comp=Z,40nm,0.7s						
POO	Poona	53.25	290	IAmb	IAmb	08 38 54.6	
	comp=Z,187nm,1.2s						
SMLA	Simla	53.42	306	IAmb	IAmb	08 39 00.8	
	comp=Z,134nm,0.6s						
BOD	Bodaibo	54.34	352	eP	P	08 39 01.4	+1.6
BOD				pmax	pmax		
	comp=Z,265nm,2.0s						
PEA0B	Petropavlovsk-	55.10	22⇑	eP	P	08 39 05.8	+0.4
PETK	Petropavlovsk-	55.10	22	P	P	08 39 06.1	+0.7
	comp=Z,44nm,0.7s,baz=147,slow=3.0,SNR=17						
PETK	Petropavlovsk-	55.10	22	P	P	08 39 06.1	+0.7
PET	Petropavlovsk	55.40	23c	iP	P	08 39 07.7	+0.2
PET				e		08 40 03.9	
PET				e		08 41 14.5	
PET				i S	S	08 46 48.2	-1.1
PET				e		08 48 50.5	
PET				eSS	SS	08 50 36.2	+1.8
PET						08 52 44.8	
PET				pmax	pmax		
	comp=Z,800nm,10.5s						
PET				pmax	pmax		
	comp=Z,97nm,1.4s						
PET				pmax	pmax		
	comp=Z,700nm,15.5s						
PET				MLR	MLR		
	comp=Z,1µm,16.0s						
PET				MLR	MLR		
	comp=Z,1µm,20.0s						
PET	Petropavlovsk	55.40	23	⇑P	P	08 39 07.9	+0.4
MSVF	Nonsavu	55.41	115⇓	eP	P	08 39 09.1	+0.8
MSVF				pmax	pmax		
	comp=Z,372nm,1.2s						
SHLS	Shalkode	56.77	320	eP	P	08 39 15.4	-2.3
SHLS				pmax	pmax		
	comp=Z,63nm,1.5s						
SHLS	Shalkode	56.77	320	eP	P	08 39 15.5	-2.3
	comp=Z,62nm,1.5s,baz=320						
SHLS				i S	S	08 47 05.2	-2.9
	baz=320						
MK31	Makanchi Array	56.97	325⇑	iP	P	08 39 19.5	+0.5
MKAR	Makanchi Array	56.97	325	P	P	08 39 19.6	+0.6
	comp=Z,32nm,0.4s,baz=122,slow=7.7,SNR=21						
MKAR				ScP	ScP	08 44 12.2	+1.6
	comp=Z,23nm,0.8s,baz=115,slow=5.3,SNR=8.0						
MKAR				S	S	08 47 11.3	+0.8
	comp=Z,2.7nm,0.9s,baz=108,slow=14,SNR=4.1						
MKAR				PKP2bc	P'P'bc	09 09 26.1	+2.6
	comp=Z,1.0nm,0.8s,baz=268,slow=3.6,SNR=3.5						
MKAR	Makanchi Array	56.97	325	i P	P	08 39 19.6	+0.6
MKAR				pmax	pmax		
	comp=Z,32nm,0.4s						
UZB	Uzynbulak	57.04	320	eP	P	08 39 19.3	-0.4
UZB				pmax	pmax		
	comp=Z,90nm,1.8s						
UZB	Uzynbulak	57.04	320	eP	P	08 39 19.3	-0.4
	comp=Z,90nm,1.8s,baz=320						
MAKZ	Makanchi	57.16	325	pP	P	08 39 22.0	+1.8
MAKZ				pwP	pP	08 39 26.9	-4.0
MAKZ				sP	pwP	08 39 32.6	-2.6
SATY	Saty	57.40	320	eP	P	08 39 21.9	-0.3
SATY				pmax	pmax		
	comp=Z,97nm,1.5s						
SATY	Saty	57.40	320	eP	P	08 39 21.9	-0.3
	comp=Z,97nm,1.5s,baz=320						
KPKS	Kokpek	57.41	320	eP	P	08 39 21.7	-0.5
KPKS				pmax	pmax		
	comp=Z,82nm,1.5s						
KPKS	Kokpek	57.41	320	eP	P	08 39 21.7	-0.5
	comp=Z,82nm,1.5s,baz=320						
KSH	Kashi	57.47	315	LR	LR		
	comp=Z,6µm,26.3s						
KSH				pmax	pmax		
	comp=Z,120nm,5.5s						
KSH				LR	LR		
	comp=Z,3µm,23.4s						
KSH				LR	LR		
	comp=Z,4µm,20.9s						
YAK	Yakutsk	57.73	2	P	P	08 39 24.9	+0.9
	comp=Z,95nm,0.6s,baz=293,slow=1.7,SNR=17						
YAK	Yakutsk	57.73	2	pmax	pmax		
	comp=Z,318nm,0.8s						
YAK	Yakutsk	57.73	2	sP	sP	08 39 32.5	-6.3
YAK	Yakutsk	57.73	2	e*PP	P	08 39 24.7	+0.8
YAK	Yakutsk	57.73	2	pP	P	08 39 25.4	+1.5
YAK	Yakutsk	57.73	2c	iP	P	08 39 24.7	+0.8
MA2	Magadan	58.31	14	P	P	08 39 29.2	+1.1
	comp=Z,43nm,0.8s,baz=202,slow=8.7,SNR=4.7						
MA2	Magadan	58.31	14	i P	P	08 39 29.0	+0.9
MA2				pmax	pmax		
	comp=Z,56nm,1.0s						
MA2	Magadan	58.31	14	⇑P	P	08 39 28.7	+0.6
MDOK	Medeo	58.33	319	eP	P	08 39 28.7	0.0
MDOK	Medeo	58.33	319	eP	P	08 39 28.7	0.0
	baz=319						
TNSS	Tian-Shan	58.33	319	eP	P	08 39 29.6	+0.5
TNSS	Tian-Shan	58.33	319	eP	P	08 39 29.6	+0.5
	baz=319						
TDK	Taldyqorghan	58.34	322	eP	P	08 39 28.4	-0.2
TDK	Taldyqorghan	58.34	322	eP	P	08 39 28.4	-0.2
	baz=322						
MIDW	Midway	58.42	59	IAMs_20	IAMs_20	08 59 21.4	
	comp=Z,5µm,21.0s						
AAA	Alma-Ata	58.43	319	eP	P	08 39 29.1	-0.2
AAA	Alma-Ata	58.43	319	eP	P	08 39 29.2	-0.2
	baz=319						
CHKK	Chushkaly	58.68	320	eP	P	08 39 31.0	0.0
CHKK	Chushkaly	58.68	320	eP	P	08 39 31.0	0.0
	baz=320						
KUU	Kurty	59.12	320	eP	P	08 39 33.5	-0.5
KUU				pmax	pmax		
	comp=Z,109nm,1.4s						
KUU	Kurty	59.12	320	eP	P	08 39 33.5	-0.5
	comp=Z,109nm,1.4s,baz=320						
OUZ	Omahuta	59.14	136	⇑P	P	08 39 35.6	+1.4
AAK	Ala-Archa	59.78	318	P	P	08 39 39.4	+0.6
	comp=Z,11nm,0.6s,baz=124,slow=7.1,SNR=17						
AAK				PKP2bc	P'P'bc	09 09 17.0	-0.5
	comp=Z,3.5nm,0.8s,baz=34,slow=0.2,SNR=3.7						
AAK	Ala-Archa	59.78	318c	iP	P	08 39 39.9	+1.1
AAK				pmax	pmax		
	comp=Z,61nm,1.6s						
AAK	Ala-Archa	59.78	318	⇑P	P	08 39 39.5	+0.7
AAK	Ala-Archa	59.78	318	i P	P	08 39 39.5	+0.7
	SNR=15						
ZALV	Zalesovo Beam	60.01	333	P	P	08 39 39.6	-0.2
	comp=Z,13nm,0.4s,baz=124,slow=6.5,SNR=16						
ZALV				S	S	08 47 47.7	-2.0
	comp=Z,1.2nm,0.7s,baz=131,slow=15,SNR=2.7						
ZALV				PKP2bc	P'P'bc	09 09 14.9	-1.0
	comp=Z,3.4nm,0.9s,baz=287,slow=2.9,SNR=5.9						
ZALV	Zalesovo Beam	60.01	333	P	P	08 39 39.7	-0.2
SGDS	Sogindy	60.04	319	eP	P	08 39 39.5	-0.9
SGDS				pmax	pmax		
	comp=Z,51nm,2.0s						
SGDS	Sogindy	60.04	319	eP	P	08 39 39.5	-0.9
	comp=Z,51nm,2.0s,baz=319						
AML	Almayashu	60.12	317	i P	P	08 39 42.2	+0.8
	SNR=13						
SEM	Semipalatinsk	60.12	328	eP	P	08 39 39.5	-1.5
SEM	Semipalatinsk	60.12	328	eP	P	08 39 39.5	-1.5
	baz=328						

BTLS **Baital** 61.10 320 *e*P P 08 39 46.5 -1.0
BTLS pmax pmax
comp=Z,68nm,2.3s
BTLS Baital 61.10 320 *e*P P 08 39 46.5 -1.0
comp=Z,68nm,2.3s,baz=320
KURBB **Kurchatov Arra** 61.16 327 P P 08 39 47.2 -0.6
comp=Z,53nm,0.7s,baz=128,slow=6.3,SNR=19
KURBB S S 08 48 00.0 -4.4
comp=Z,1.2nm,0.7s,baz=125,slow=6.3,SNR=1.9
KURBB PKP2bc P'P'bc 09 09 10.0 -3.4
comp=Z,1.2nm,0.9s,baz=286,slow=3.6,SNR=5.2
KURBB PKP2ab P'P'ab 09 09 20.1 -2.9
comp=Z,1.7nm,0.9s,baz=282,slow=3.6,SNR=5.1
KURK Kurchatov 61.16 327*c* *i*P P 08 39 48.8 +1.0
KURK pmax pmax
comp=Z,230nm,1.4s
KURK Kurchatov 61.16 327 IAMs_20 IAMs_20 09 07 53.9
comp=Z,3µm,20.0s
KURK Kurchatov 61.16 327 pwP P 08 39 52.7 +4.8
KURK Kurchatov 61.16 327 pP P 08 39 49.1 +1.3
DCZ Deep Cove 61.33 148 IAMs_20 IAMs_20 09 04 08.1
comp=Z,3µm,22.0s
QRZ Quartz Range 61.51 142 P P 08 39 50.7 +0.3
FOZ Fox Glacier 61.52 145 IAMs_20 IAMs_20 09 06 26.1
comp=Z,5µm,20.0s
PYZ Puysegur Point 61.56 149 IAMs_20 IAMs_20 09 05 53.3
comp=Z,4µm,21.0s
DSZ Denniston Nort 61.60 143 P P 08 39 54.7 +3.6
SEY Seymchan 61.63 13 P P 08 39 52.6 +1.8
comp=Z,33nm,0.8s,baz=215,slow=8.0,SNR=14
SEY PKP2bc P'P'bc 09 09 10.6 -0.7
comp=Z,0.7nm,0.3s,baz=151,slow=1.9,SNR=3.8
SEY Seymchan 61.63 13⇑ *i*P P 08 39 52.4 +1.6
SEY pmax pmax
comp=Z,108nm,1.1s
HIZ Hauiti 61.73 138 IAMs_20 IAMs_20 09 05 19.2
comp=Z,3µm,21.0s
WVZ Waitaha Valley 61.77 144 P P 08 39 57.1 +5.1
MLZ Mavora Lakes 61.77 148 IAMs_20 IAMs_20 09 07 06.8
comp=Z,3µm,20.0s
INZ Inchbonnie 61.97 144 P P 08 39 57.4 +4.0
DZA Taraz 62.02 317 *e*P P 08 39 53.2 -0.6
DZA Taraz 62.02 317 *e*P P 08 39 53.2 -0.6
baz=317
WHZ Wether Hill Ro 62.03 148 IAMs_20 IAMs_20 09 04 27.6
comp=Z,4µm,21.0s
KNTN Kanton 62.22 95 IAMs_20 IAMs_20 09 03 47.0
comp=Z,3µm,19.0s
NNZ Nelson 62.26 141 P P 08 39 55.0 -0.4
THZ Tophouse 62.28 142 IAMs_20 IAMs_20 09 06 26.0
comp=Z,6µm,20.0s
LTZ Lake Taylor 62.49 143 P P 08 39 59.7 +2.7
NNVZ North Ngauruho 62.56 138 P P 08 40 00.9 +3.3
OTVZ Oturere 62.61 138 P P 08 40 00.7 +2.7
TMVZ Te Maari 62.61 138 P P 08 40 01.6 +3.7
IUG Iuzhnay 62.64 316 *e*P P 08 39 57.4 -0.7
IUG Iuzhnay 62.64 316 *e*P P 08 39 57.5 -0.7
baz=316
OXZ Oxford 62.68 144 P P 08 40 02.3 +4.2
TUWZ Tuamarina 62.73 141 P P 08 40 00.5 +2.0
WACZ Wakanui South 62.93 145 P P 08 40 02.8 +3.0
ODZ Otahua Downs 62.93 146 ⇑P P 08 40 00.3 +0.5
KHZ Kahutara 63.04 142 IAMs_20 IAMs_20 09 06 40.2
comp=Z,5µm,19.0s
GVZ Greta Valley S 63.06 143 P P 08 40 01.6 +0.9
BRLS Borolday 63.09 317 *e*P P 08 40 01.6 +0.6
BRLS Borolday 63.09 317 *e*P P 08 40 01.7 +0.6
baz=316
URZ Urewera 63.12 137 ⇓P P 08 40 01.2 0.0
SNZO South Karori 63.14 141 IAMs_20 IAMs_20 09 08 12.7
comp=Z,6µm,20.0s
BKZ Black Stump Fm 63.16 138 IAMs_20 IAMs_20 09 06 55.0
comp=Z,5µm,20.0s
KWHZ Kaweka Forest 63.25 138 P P 08 40 02.9 +0.8
MQZ McQueen's Vall 63.27 144 P P 08 40 02.9 +0.9
TSZ Takapari Road 63.27 139 P P 08 40 03.0 +0.8
BHW Baring Head 63.30 141 P P 08 40 01.5 -0.8
PLWZ Palliser 63.63 141 P P 08 40 04.5 -0.1
BFZ Birch Farm 63.79 140 P P 08 40 01.0 -4.5
AFI Afiamalu 63.90 108 IAMs_20 IAMs_20 09 02 24.7
comp=Z,5µm,20.0s
BRZS Berezniki 64.11 325 *e*P P 08 40 06.5 -1.0
BRZS pmax pmax
comp=Z,50nm,1.4s
BRZS Berezniki 64.11 325 *e*P P 08 40 06.5 -1.0
comp=Z,50nm,1.4s,baz=325
ADK Adak 66.74 34 IAMs_20 IAMs_20 09 03 52.0
comp=Z,5µm,22.0s
BRVK Borovoye 66.81 327*c* *i*P P 08 40 24.8 -0.1
BRVK pmax pmax
comp=Z,132nm,1.2s
BRVK Borovoye 66.81 327 IAMs_20 IAMs_20 09 11 04.4
comp=Z,4µm,19.0s
BRVK Borovoye 66.81 327 pP P 08 40 26.9 +2.0
BRVK sP **pwP** 08 40 39.3 -0.7
TIXI Tiksi 67.36 1 P P 08 40 28.5 +0.5
comp=Z,27nm,0.4s,baz=114,slow=10.0,SNR=18
TIXI Tiksi 67.36 1*d* *i*P P 08 40 26.8 -1.3
TIXI pmax pmax
comp=Z,145nm,1.5s
TIXI Tiksi 67.36 1 sP sP 08 40 36.8 -6.3
TIXI Tiksi 67.36 1 ⇑pP P 08 40 28.6 +0.5
TIXI Tiksi 67.36 1 IAMs_20 IAMs_20 09 09 39.6
comp=Z,4µm,21.0s
ATKA Atka Island 68.28 35 ⇓P P 08 40 35.8 +1.6
BILL Bilibino 69.17 15*d* *i*P P 08 40 39.6 +0.1
BILL pmax pmax
comp=Z,32nm,1.1s
BILL Bilibino 69.17 15 *i* P 08 40 39.3 -0.1
BILL Bilibino 69.17 15 *i* P 08 40 45.5 +6.0
NRIK Noril'sk 69.88 346 P P 08 40 45.1 +1.3
comp=Z,99nm,0.8s,baz=161,slow=4.2,SNR=6.7
NRIK Noril'sk 69.88 346*c* *i*P P 08 40 45.4 +1.6
NRIK pmax pmax
comp=Z,53nm,0.9s
SOHO SOHO 69.93 294 *i* P P 08 40 43.8 -1.2
SNR=6.0
BANOM **Banah** 70.28 296 P P 08 40 46.6 -0.6
UOSS Minazif 70.29 295 P P 08 40 45.8 -1.4
GEYT Alibeck 70.34 309 P P 08 40 47.6 +0.2
comp=Z,32nm,0.8s,baz=114,slow=7.3,SNR=20
HATD Hatta, Dubai 70.34 295 P P 08 40 46.5 -1.1
MSFE Esma-Masafi 70.36 295 P P 08 40 47.1 -0.6
ASHO Ashiyiah 70.40 295 P P 08 40 47.0 -0.9
SHAO Shalim 70.44 288 *i* P P 08 40 47.9 -0.4
SNR=6.9
ALNE Al Ain 70.63 294 *i* P P 08 40 49.0 -0.4
SNR=8.6
FAQ Al Faqa, Dubai 70.83 295 P P 08 40 51.0 +0.5
ASUD Al Ashush, Dub 71.06 294 P P 08 40 51.9 0.0
CASY Casey 71.26 187 ⇑P P 08 40 52.4 +0.2
CASY Casey 71.26 187 pwP P 08 40 56.2 +4.0
CASY Casey 71.26 187 sP sP 08 41 07.4 +0.3
CASY Casey 71.26 187 ⇓pP P 08 40 52.8 +0.6
DRV Dumont d'Urvil 71.39 174 ⇓pwP P 08 40 56.9 +3.9
DRV Dumont d'Urvil 71.39 174 ⇓pP P 08 40 52.6 -0.4
DRV Dumont d'Urvil 71.39 174 sP sP 08 41 06.5 -1.8
MSEY Mahe Island 71.41 264 IAMs_20 IAMs_20 09 10 07.5
comp=Z,2µm,20.0s
MSEY Mahe Island 71.41 264 P P 08 40 53.1 -1.2
NIKH Nikolski High 71.60 35 pP P 08 40 55.4 +0.8
baz=252
SPIA Saint Paul Isl 72.24 31 pP P 08 40 59.1 +0.8
baz=249
MZR Muzera 72.65 293 *i* P P 08 41 01.4 -0.1
SNR=10.0
AKTO Aktyubinsk 73.08 322 P P 08 41 04.0 +0.5
comp=Z,27nm,0.7s,baz=122,slow=6.6,SNR=16
AKTO Aktyubinsk 73.08 322 P P 08 41 04.0 +0.5
UNV Unalaska Valle 73.20 35 pP P 08 41 04.1 0.0
baz=253
SVE Sverdlovsk 73.38 328*de* P P 08 41 05.7 +0.6
SVE *e*S S 08 50 31.2 0.0
SVE pmax pmax
comp=Z,115nm,1.1s
SVE MLR MLR
comp=Z,2µm,19.0s
GAMB Gambell 74.08 24 pP P 08 41 10.0 +0.9
baz=246
ARU Arti 74.35 328 P P 08 41 10.3 -0.5
comp=Z,22nm,0.6s,baz=103,slow=4.4,SNR=18
ARU Arti 74.35 328*c* *i*P P 08 41 10.6 -0.2
ARU 08 41 22.9
ARU 08 43 53.7
ARU PPP PPP 08 45 41.8
ARU S S 08 50 42.9 +0.7
ARU 08 51 13.8
ARU SSS SSS 08 58 48.0
ARU pmax pmax
comp=Z,232nm,2.5s
ARU MLR MLR
comp=Z,3µm,20.0s
ARU Arti 74.35 328 ⇑P P 08 41 10.6 -0.2
ARU Arti 74.35 328 IAMs_20 IAMs_20 09 16 02.8
comp=Z,3µm,21.0s
FALS False Pass 75.21 34 pP P 08 41 15.8 0.0
baz=256
TNA Tin City 76.27 23 ⇑P P 08 41 22.3 +0.7
TNA Tin City 76.27 23 pP P 08 41 22.3 +0.7
baz=249
ANM Nome 76.95 24 pP P 08 41 26.2 +0.7
baz=252
SDPT Sand Point 76.97 34 pP P 08 41 25.7 -0.1
baz=258
SBV Sambava 77.89 255 P P 08 41 37.6 +5.9
RDOG Red Dog Mine 78.94 21 pP P 08 41 37.4 +0.8
baz=253
KIRV Kirov 79.64 329 P P 08 41 41.0 +0.5
comp=Z,102nm,0.7s,baz=102,slow=3.0,SNR=19
KIRV Kirov 79.64 329*c* *i*P P 08 41 41.0 +0.5
CHIR Chirikof Islan 79.77 34 pP P 08 41 41.9 +0.6
baz=262
RAYN Ar Rayn 80.00 293 *i* P P 08 41 42.5 -0.8
SNR=9.3
GROC Groznyy 80.28 313 *e*P P 08 41 37.5 -6.8
GROC *e* 08 44 44.7
GROC *e*S S 08 51 44.0 -3.1
GROC pmax pmax
comp=Z,70nm,1.2s
P18K Big Mountain, 80.46 31 IAMs_20 IAMs_20 09 13 22.9
comp=Z,2µm,21.0s
P18K Big Mountain, 80.46 31 pP P 08 41 45.4 +0.4
baz=262
GCSA Galena City Sc 80.54 25 pP P 08 41 46.3 +1.1
baz=260
TTA Tatalina 80.61 27 pP P 08 41 46.9 +1.1
baz=261
SII Sitkinak Islan 80.66 33 pP P 08 41 46.7 +0.6
baz=263
GNI Garni 80.92 310 P P 08 41 49.3 +1.2
comp=Z,7.3nm,0.7s,baz=170,slow=18,SNR=1.9
GNI Garni 80.92 310 P P 08 41 48.7 +0.6
GNI Garni 80.92 310*c* *i*P P 08 41 49.5 +1.4
GNI pmax pmax
comp=Z,80nm,2.8s
N19K Bonanza Creek 81.02 29 pP P 08 41 49.1 +1.0
baz=262
O19K Port Alsworth 81.02 30 IAMs_20 IAMs_20 09 13 33.8
comp=Z,2µm,21.0s
O19K Port Alsworth 81.02 30 pP P 08 41 48.7 +0.8
baz=262
L19K White Mountain 81.03 28 IAMs_20 IAMs_20 09 15 16.1
comp=Z,2µm,22.0s
L19K White Mountain 81.03 28 pP P 08 41 49.2 +1.2
baz=264
M19K Big River Lodg 81.21 28 IAMs_20 IAMs_20 09 22 25.8
comp=Z,2µm,22.0s
M19K Big River Lodg 81.21 28 pP P 08 41 50.2 +1.3
baz=262
Q19K Cape Douglas, 81.21 31 IAMs_20 IAMs_20 09 12 53.8
comp=Z,3µm,22.0s
Q19K Cape Douglas, 81.21 31 pP P 08 41 50.0 +1.0
baz=263
OHAK Old Harbor 81.22 33 pP P 08 41 49.7 +0.7
baz=264
L20K Farewell, AK 81.52 28 pP P 08 41 51.5 +0.9
baz=263
CLDR Caldiran 81.53 309 P P 08 41 51.9 +0.5
K20K Telida 81.55 27 IAMs_20 IAMs_20 09 17 17.8
comp=Z,2µm,21.0s
K20K Telida 81.55 27 pP P 08 41 52.0 +1.3
baz=262
KDAK Kodiak Island 81.65 32*c* *i*P P 08 41 52.0 +0.7
KDAK pmax pmax
comp=Z,120nm,0.8s
KDAK Kodiak Island 81.65 32 IAMs_20 IAMs_20 09 14 26.3
comp=Z,2µm,21.0s
KDAK Kodiak Island 81.65 32 ⇑P P 08 41 52.4 +1.1
KDAK Kodiak Island 81.65 32 pP P 08 41 51.9 +0.6
baz=264
ZEI Tsey 81.65 312 *e*P P 08 41 52.1 +0.2
ZEI pmax pmax
comp=Z,27nm,0.7s
CUKT Cukurca 81.73 307 P P 08 41 52.6 +0.2
O20K Slope Mountain 81.85 30 pP P 08 41 52.4 0.0
baz=264
A21K Barrow 81.86 18 pP P 08 41 53.6 +1.5
baz=259
AKH Akhalkalaki 81.91 311 ⇑P P 08 41 55.5 +2.2
AKH Akhalkalaki 81.91 311 P P 08 41 54.3 +1.0
PRGR Permogore 81.92 332 *e*P P 08 41 51.1 -1.5
PRGR *e*S S 08 51 59.6 -3.8
PRGR pmax pmax
comp=Z,109nm,0.6s
VANB Van 81.93 308 P P 08 41 53.9 +0.5
VOI Vohitsoka 81.96 247 P P 08 41 54.2 +0.4
VOI Vohitsoka 81.96 247 IAMs_20 IAMs_20 09 12 09.0
comp=Z,3µm,22.0s
SPCR Spurr Chakacha 82.17 29 pP P 08 41 54.4 +0.4
baz=264
AKDM Akdamar-Van 82.25 308 P P 08 41 54.6 -0.5
HOM Homer 82.31 30 pP P 08 41 55.2 +0.5
baz=265
PPLA Purkeypile 82.34 27 pP P 08 41 55.4 +0.3
baz=264
GOF Gofitskoye 82.34 315⇑ *e*P P 08 41 55.0 -0.2
H21K Melozitna Rive 82.37 24 pP P 08 41 56.3 +1.3
baz=263
CHUM Lake Minchumin 82.39 26 pP P 08 41 56.1 +1.1
baz=264
KBZ Khabaz 82.41 313 P P 08 41 56.7 +1.1
comp=Z,6.2nm,0.7s,baz=215,slow=8.5,SNR=4.5
KBZ Khabaz 82.41 313*c* *i*P P 08 41 55.3 -0.3
KBZ pmax pmax
comp=Z,22nm,1.5s
CAST Castle Rocks 82.44 27 pP P 08 41 56.4 +1.0
baz=264
CNPM China Poot 82.50 31 IAMs_20 IAMs_20 09 14 07.9
comp=Z,2µm,21.0s
KIV Kislovodsk 82.57 314 P P 08 41 57.4 +0.8
KIV Kislovodsk 82.57 314 *e*P P 08 41 56.6 +0.1
KIV *e* 08 45 06.6
KIV *e*S S 08 52 11.8 +0.8
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,1µm,19.0s
KIV Kislovodsk 82.57 314 *i* P P 08 41 56.7 +0.1
SNR=8.1
MLAZ Malazgirt-MUS 82.59 309 P P 08 41 57.9 +1.0
CAPN Captain Cook N 82.64 29 pP P 08 41 56.9 +0.5
baz=265
I21K Tanana 82.66 25 pP P 08 41 58.0 +1.6
baz=264
BRLK Bradley Lake 82.70 30 IAMs_20 IAMs_20 09 14 13.8
comp=Z,2µm,21.0s
SENK Senkaya-Erzuru 82.76 310 P P 08 41 58.9 +1.1
BRSE Bradley Lake S 82.77 30 pP P 08 41 57.9 +0.7
baz=266
ATD Arta Tunnel 82.87 281 *e*P P 08 41 57.9 -0.8
ATD Arta Tunnel 82.87 281 *e*P P 08 41 56.8 -1.9
ATD Arta Tunnel 82.87 281 *e*P P 08 41 56.8 -1.9
ATD Arta Tunnel 82.87 281 *e*P P 08 41 57.9 -0.8
CHVG Ch'k'valeri 82.99 312 ⇑P P 08 42 03.8 +5.1
CHVG Ch'k'valeri 82.99 312 ⇑P P 08 42 03.8 +5.1
BPAW Bear Paw Mtn. 82.99 26 IAMs_20 IAMs_20 09 18 14.0
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 82.99 26 pP P 08 41 58.8 +0.5
baz=265
GURO Guruymak-BITLI 82.99 308 P P 08 41 59.8 +0.8
KOPR Koprukoy-ERZUR 83.14 310 P P 08 42 00.2 +0.5
MLY Manley 83.17 25 pP P 08 41 59.7 +0.5
baz=265
CUT Chulitna 83.18 28 pP P 08 41 59.3 +0.1
baz=266
M22K Willow 83.21 28 pP P 08 41 58.9 -0.4
baz=266
TRF Thorofare Moun 83.25 27 IAMs_20 IAMs_20 09 18 31.5
comp=Z,2µm,20.0s
TRF Thorofare Moun 83.25 27 pP P 08 41 59.9 +0.1
baz=266
BATM Batumi 83.27 311 P P 08 42 01.1 +1.0
O22K Cooper Landing 83.32 30 pP P 08 41 59.5 -0.5
baz=266
RC01 Rabbit Creek A 83.35 29 pP P 08 42 00.1 0.0
baz=266
VRH Novokhopyorsk 83.40 321 *e*P P 08 42 01.7 +1.1
VRH *e*S S 08 52 16.4 -2.5
VRH pmax pmax
comp=Z,80nm,0.8s
VRH smax smax
comp=N,1µm,7.3s
VRH MLR MLR
comp=Z,2µm,20.0s
SEW Seward 83.44 30 pP P 08 42 00.6 +0.1
baz=267
VRTB Varto-Mus 83.44 309 P P 08 42 02.7 +1.4
EJDE Erzurum, Palan 83.56 309 P P 08 42 00.5 -1.6
COLD Coldfoot 83.57 23 pP P 08 42 02.6 +1.5
baz=265
SVAN Silvan-Diyarba 83.65 308 P P 08 42 02.5 +0.3
PMR Palmer 83.67 29 pP P 08 42 01.7 0.0
baz=267
I23K Minto, Yukon-K 83.77 25 pP P 08 42 02.8 +0.6
baz=266
NEA2 Nenana 83.86 26 pP P 08 42 02.8 +0.1
baz=267
MCK McKinley 83.87 26 IAMs_20 IAMs_20 09 19 01.2
comp=Z,2µm,20.0s
MCK McKinley 83.87 26 pP P 08 42 02.8 0.0
baz=267
RND Reindeer 83.89 27 IAMs_20 IAMs_20 09 17 06.7
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 83.91 21 pP P 08 42 04.4 +1.5
baz=266
VNDA Vanda 83.95 173 P P 08 42 02.8 -0.1
comp=Z,33nm,1.2s,baz=321,slow=7.1,SNR=17
VNDA Vanda 83.95 173 P P 08 42 02.8 -0.1
CHOM Cayeli-Rize 83.97 311 P P 08 42 04.9 +1.1
KNK Knik Glacier 83.98 29 pP P 08 42 03.8 +0.4
baz=268
PWL Port Wells 84.02 29 pP P 08 42 03.9 +0.3
baz=268
BNGB Bingl 84.05 309 P P 08 42 05.4 +1.1
SML Sawmill 84.06 28 IAMs_20 IAMs_20 09 12 47.2
comp=Z,2µm,22.0s
SML Sawmill 84.06 28 pP P 08 42 04.2 +0.4
baz=268
MAW Mawson 84.10 200 P P 08 42 03.7 0.0
comp=Z,24nm,0.9s,baz=56,slow=8.4,SNR=8.8
MAW Mawson 84.10 200 P P 08 42 03.7 0.0
MAW Mawson 84.10 200 ⇑P P 08 42 03.7 0.0
MAZI Mazidag 84.25 307 P P 08 42 06.2 +0.8
WAT6 Susitna Watana 84.36 28 pP P 08 42 05.5 0.0
baz=268
TCOL CIGO, UAF Yank 84.39 25 pP P 08 42 05.0 -0.3
baz=268
COLA College 84.39 25 ⇑P P 08 42 06.3 +1.0
COLA College 84.39 25 pP P 08 42 04.8 -0.5
baz=268
H24K Noodle Dome 84.42 24 pP P 08 42 06.3 +0.8
baz=268
DYBB Diyarbakir 84.49 308 P P 08 42 07.4 +0.9
SCM Sheep Creek Mo 84.54 28 pP P 08 42 06.8 +0.5
baz=268
DHY Denali Highway 84.55 27 IAMs_20 IAMs_20 09 17 16.1
comp=Z,2µm,22.0s
DHY Denali Highway 84.55 27 pP P 08 42 06.4 +0.1
baz=268
POKR Poker Plat Res 84.58 25 pP P 08 42 06.4 +0.1
baz=268
GLI Glacier Island 84.63 29 pP P 08 42 06.9 +0.3
baz=269
TEND Ethiopian Broa 84.66 281 *e*P P 08 42 07.1 -0.7
SOC Sochi 84.72 313*c* *i*P P 08 42 06.8 -0.7
SOC *e* 08 45 20.3
SOC *e*PPP PPP 08 47 15.2
SOC *e*S S 08 52 27.6 -4.8
SOC *e*SS SS 08 58 01.2 -3.4
SOC pmax pmax
comp=Z,24nm,0.7s
SOC MLR MLR
comp=Z,2µm,20.0s
KTUT Trabzon 84.72 311 ⇑P P 08 42 09.8 +2.2
KTUT Trabzon 84.72 311 P P 08 42 08.0 +0.5
HDA Harding Lake 84.77 26 pP P 08 42 06.6 -0.7
baz=269
ERZN Erzincan 84.78 309 P P 08 42 09.4 +1.3
ILAR Eielson Array 84.80 25 P P 08 42 08.2 +0.7
comp=Z,17nm,0.9s,baz=241,slow=5.5,SNR=23
ILAR Eielson Array 84.80 25 P P 08 42 08.2 +0.7
KLMR Klimovskoe 84.82 331 *e*P P 08 42 08.5 +1.0
KLMR *e* 08 45 23.4
KLMR *e*S S 08 52 30.0 -2.7
KLMR pmax pmax
comp=Z,343nm,1.1s
KLMR MLR MLR
comp=Z,3µm,20.0s
KLMR Klimovskoe 84.82 331 AMP 08 41 52.2
comp=Z,75nm,0.9s
KLMR Klimovskoe 84.82 331 *e*P P 08 42 08.6 +1.0
KLMR AMP 08 42 12.1
comp=Z,343nm,1.1s
KLMR *e*PP PP 08 45 23.4 -0.7
KLMR *e*S S 08 52 30.1 -2.7
KLMR *e*S S 08 52 30.1 -2.7
KLMR *e*SS SS 08 58 15.2 +10
KLMR *e*SS SS 08 58 15.2 +10
KLMR LQ LQ 09 12 02.3
KLMR LQ LQ 09 12 02.3
KLMR LR LR 09 18 22.2
KLMR AMP 09 22 20.0
comp=Z,3µm,20.3s
VORR Voronezh 84.98 321 *e*P P 08 42 10.9 +2.3
VORR pmax pmax
comp=Z,70nm,0.4s
Q23K Middleton Isla 84.99 31 pP P 08 42 07.8 -0.6
baz=270
M24K Tolsona, Glenn 85.09 28 pP P 08 42 09.6 +0.6
baz=270
SVRC Sivrice-ELAZID 85.13 308 P P 08 42 10.3 +0.4
LPSR Galich'ya Gora 85.14 322 *e*P P 08 42 09.2 -0.2
LPSR *e*S SKSac 08 52 28.7 -2.3
LPSR pmax pmax
comp=Z,100nm,1.1s
LPSR smax smax
comp=N,260nm,2.2s
LPSR MLR MLR
comp=Z,1µm,18.0s
KLU Klutina 85.20 29 IAMs_20 IAMs_20 09 22 15.4
comp=Z,2µm,21.0s
KLU Klutina 85.20 29 pP P 08 42 10.0 +0.4
baz=270
EYAK Cordova Ski Ar 85.29 30 pP P 08 42 10.7 +0.7
baz=270
PAX Paxson 85.41 27 pP P 08 42 11.1 +0.4
baz=270
J25K Salcha River, 85.45 26 pP P 08 42 10.7 -0.1
baz=270
HARP HAARP 85.56 28 pP P 08 42 11.6 +0.3
baz=270
PPT2 Papeete2 85.57 108 *e*LQ LQ 09 05 32.4
comp=Z,3µm,35.2s
PPT2 Papeete2 85.57 108 *e*LR LR 09 09 13.9
comp=Z,6µm,27.5s
ILIC ilic-Erzincan 85.68 309 P P 08 42 13.6 +1.1
RIDG Independent Ri 85.69 26 IAMs_20 IAMs_20 09 19 45.3
comp=Z,2µm,21.0s
RIDG Independent Ri 85.69 26 pP P 08 42 12.0 +0.1
baz=270
N25K Chitina, Valde 85.84 29 pP P 08 42 13.4 +0.6
baz=271
BMRM Bremner River 85.85 29 IAMs_20 IAMs_20 09 21 05.4
comp=Z,2µm,21.0s
BMRM Bremner River 85.85 29 pP P 08 42 12.7 -0.1
baz=271
MOS Moscow 85.86 325 *e* P 08 42 12.6 -0.2
ARPR Arapgir-MALATY 85.87 309 P P 08 42 15.3 +1.8
HMT Hamilton 86.03 30 IAMs_20 IAMs_20 09 15 37.2
comp=Z,2µm,22.0s
SCRK Sand Creek 86.06 26 IAMs_20 IAMs_20 09 20 09.2
comp=Z,2µm,22.0s
SCRK Sand Creek 86.06 26 pP P 08 42 13.9 0.0
baz=271
J26L Joseph Creek 86.23 26 pP P 08 42 14.7 0.0
baz=272
TBI Tubuai 86.28 114 *e*LR LR 09 09 28.7

TBI **Tubuai** **86.28 114** *e*LQ LQ 09 05 54.6
comp=Z,2µm,38.8s
BERG **Berg Lake** **86.31 30** IAMs_20 IAMs_20 09 23 02.6
comp=Z,2µm,21.0s
ANN **Anapa** **86.33 314** *e*P **P** **08 42 14.8 -0.6**
ANN *e* 08 52 36.8
ANN pmax pmax
comp=Z,85nm,0.7s
ANN pmax pmax
comp=N,16nm,0.6s
ANN pmax pmax
comp=E,20nm,0.6s
ANN MLR MLR
comp=E,2µm,25.0s
ANN MLR MLR
comp=Z,3µm,23.0s
ANN MLR MLR
comp=N,738nm,24.0s
L26K **Log Cabin Wild** **86.38 27** IAMs_20 IAMs_20 09 18 33.6
comp=Z,2µm,22.0s
L26K **Log Cabin Wild** **86.38 27** pP **P** **08 42 16.1 +0.7**
baz=272
OBN **Obninsk** **86.48 325** ⇑P **P** **08 42 16.3 +0.4**
OBN **Obninsk** **86.48 325** P **P** **08 42 17.0 +1.1**
comp=Z,41nm,1.1s,baz=102,slow=1.9,SNR=15
OBN **Obninsk** **86.48 325** pmax pmax
comp=Z,226nm,1.3s
OBN **Obninsk** **86.48 325** *i* *PP **P** **08 42 15.9 0.0**
OBN **Obninsk** **86.48 325** *e*P **P** **08 42 15.9 0.0**
DARE **Darende-Malaty** **86.56 308** P **P** **08 42 18.5 +1.6**
RSDY **Resadiye-TOKAT** **86.59 310** P **P** **08 42 17.9 +1.0**
WAX **Waxell Ridge** **86.73 30** IAMs_20 IAMs_20 09 16 00.6
comp=Z,2µm,22.0s
SNH **Sunshine Point** **86.75 30** IAMs_20 IAMs_20 09 18 07.1
comp=Z,2µm,21.0s
LVZ **Lovozero** **86.78 338** *c* *i*P **P** **08 42 16.3 -1.0**
LVZ pmax pmax
comp=Z,60nm,0.8s
LVZ **Lovozero** **86.78 338** ⇑P **P** **08 42 17.6 +0.4**
SVSK **Karacayir** **86.87 310** P **P** **08 42 19.6 +1.4**
L27K **Beaver Creek,** **87.07 27** pP **P** **08 42 19.1 +0.4**
baz=273
M27K **Edge Creek, AK** **87.09 28** pP **P** **08 42 19.5 +0.5**
baz=273
FURI **Furi** **87.12 279** IAMs_20 IAMs_20 09 18 29.8
comp=Z,2µm,22.0s
FURI **Furi** **87.12 279** *e*P **P** **08 42 16.3 -4.0**
FURI **Furi** **87.12 279** *e*P **P** **08 42 21.3 +0.9**
FURI **Furi** **87.12 279** *e*P **P** **08 42 21.3 +0.9**
FURI **Furi** **87.12 279** *e*P **P** **08 42 16.3 -4.0**
TOKT **Tokat** **87.19 310** P **P** **08 42 20.7 +0.8**
EGAK **Eagle** **87.25 25** pP **P** **08 42 20.2 +0.6**
baz=274
APA **Apatity** **87.28 337** ⇓ *i*P **P** **08 42 18.2 -1.4**
APA *i* SS SS 08 58 50.0 +9.1
APA pmax pmax
comp=Z,52nm,1.0s
APA MLR MLR
comp=Z,6µm,18.0s
YAH **Yahtse** **87.28 30** IAMs_20 IAMs_20 09 15 53.2
comp=Z,3µm,22.0s
ASF **Jabal al Asfar** **87.37 302** P **P** **08 42 22.3 +1.4**
comp=Z,28nm,0.7s,baz=307,slow=3.2,SNR=4.3
ASF **Jabal al Asfar** **87.37 302** P **P** **08 42 22.3 +1.4**
SARI **SarD1z-Kayseri** **87.40 308** P **P** **08 42 21.9 +0.8**
KVT **Kavak** **87.53 311** P **P** **08 42 22.6 +1.1**
BVCY **Beaver Creek** **87.56 28** pP **P** **08 42 21.3 +0.2**
baz=274
TABL **Table Mountain** **87.57 30** IAMs_20 IAMs_20 09 16 02.0
comp=Z,2µm,22.0s
DILA **Dilla** **87.67 276** *e*P **P** **08 42 23.2 +0.4**
DILA **Dilla** **87.67 276** *e*P **P** **08 42 23.2 +0.4**
TAHT **Tahtakopru-Hat** **87.71 306** P **P** **08 42 23.1 +0.8**
YAYL **Yayladag** **87.79 306** P **P** **08 42 23.8 +0.9**
YUK3 **Moose Creek** **87.80 28** pP **P** **08 42 22.6 +0.1**
baz=274
BNN **Bunyan** **87.82 309** P **P** **08 42 23.2 +0.2**
KOZT **Kozan** **87.92 307** P **P** **08 42 24.0 +0.6**
CEYT **Ceyhan** **88.02 307** P **P** **08 42 24.8 +1.0**
DAWY **Dawson** **88.08 26** ⇑P **P** **08 42 25.3 +1.7**
DAWY **Dawson** **88.08 26** pP **P** **08 42 23.4 -0.2**
baz=275
YOZ **Yozgat** **88.18 309** P **P** **08 42 25.1 +0.4**
I29M **Ogilvie Camp,** **88.40 25** pP **P** **08 42 25.6 +0.6**
baz=276
PNL **Peninsula** **88.51 30** pP **P** **08 42 25.8 +0.1**
baz=276
J29M **Klondike Camp** **88.55 26** pP **P** **08 42 25.8 0.0**
baz=276
KARA **Karaisali** **88.55 307** P **P** **08 42 26.1 -0.3**
MMAI **Mount Meron Ar** **88.57 303** P **P** **08 42 28.1 +1.5**
comp=Z,4.3nm,0.6s,baz=324,slow=41,SNR=2.3
MMAI LR LR 09 25 52.7
comp=Z,1µm,21.9s,baz=244,slow=38
UJAP **Al Uja** **88.59 302** P **P** **08 42 27.7 +1.1**
MMLI **Mount Malkishu** **88.60 302** P **P** **08 42 28.3 +1.6**
CORM **Corum** **88.67 310** P **P** **08 42 27.6 +0.6**
SIM **Simferopol'** **88.67 315** *e*P **P** **08 42 27.6 +0.9**
SIM MLR MLR
comp=Z,3µm,26.0s
YUK4 **Talbot Arm** **88.70 29** pP **P** **08 42 27.1 +0.3**
baz=276
YUK6 **Outpost Mounta** **88.89 29** pP **P** **08 42 27.5 -0.2**
baz=276
VALR **Valaam** **88.98 331** *c* *i*P **P** **08 42 27.8 0.0**
VALR pmax pmax
comp=Z,149nm,0.8s
BZK **Bozkurt** **89.00 312** ⇑P P 08 42 23.0 -5.3
BZK **Bozkurt** **89.00 312** P **P** **08 42 27.7 -0.6**
MERS **Mersin** **89.01 307** P **P** **08 42 28.0 -0.6**
EIL **Elat** **89.20 300** P **P** **08 42 31.0 +1.4**
comp=Z,9.0nm,0.7s,baz=125,slow=3.9,SNR=12
EIL **Elat** **89.20 300** P **P** **08 42 30.7 +1.1**
EIL **Elat** **89.20 300** ⇑P **P** **08 42 30.0 +0.4**
KMBO **Kilima Mbogo** **89.24 269** P **P** **08 42 31.1 +0.7**
comp=Z,23nm,1.0s,baz=64,slow=5.5,SNR=28
KMBO **Kilima Mbogo** **89.24 269** *c* *i*P **P** **08 42 31.1 +0.7**
KMBO **Kilima Mbogo** **89.24 269** IAMs_20 IAMs_20 09 19 01.2
comp=Z,2µm,22.0s
KMBO **Kilima Mbogo** **89.24 269** *e*P **P** **08 42 31.2 +0.9**
KMBO *e*S **SKSac** **08 52 56.3 -1.9**
KMBO **Kilima Mbogo** **89.24 269** *e*P **P** **08 42 31.2 +0.9**
KMBO *e*S **SKSac** **08 52 56.3 -1.9**
KMBO **Kilima Mbogo** **89.24 269** *i* P **P** **08 42 31.0 +0.6**
SNR=12
HYT **Haines Junctio** **89.32 29** pP **P** **08 42 29.5 -0.1**
baz=277
KEV **Kevo** **89.32 340** IAMs_20 IAMs_20 09 25 14.8
comp=Z,3µm,22.0s
EREN **Erenkoy** **89.40 305** P **P** **08 42 30.4 +0.1**
M30M **Minto, Yukon** **89.42 27** pP **P** **08 42 29.6 -0.3**
baz=278
KAMT **Kaman** **89.44 309** P **P** **08 42 30.4 -0.2**
BR131 **Keskin Array S** **89.46 310** *e*P **P** **08 42 31.3 +0.5**
BRTR **Keskin Array B** **89.46 310** P **P** **08 42 31.5 +0.7**
comp=Z,12nm,0.8s,baz=115,slow=5.4,SNR=18
BRTR **Keskin Array B** **89.46 310** P **P** **08 42 29.7 -1.1**
BRTR **Keskin Array B** **89.46 310** P **P** **08 42 31.5 +0.7**
KEBE **Keben-Mersin** **89.69 306** P **P** **08 42 32.1 +0.3**
SULT **Sultanhani-AKS** **89.69 308** P **P** **08 42 31.7 -0.1**
IKL **Isikli** **89.73 306** P **P** **08 42 31.9 0.0**
INK **Inuvik** **89.83 21** P **P** **08 42 32.1 +0.5**
comp=Z,18nm,1.0s,baz=287,slow=4.3,SNR=24
INK **Inuvik** **89.83 21** P **P** **08 42 32.1 +0.5**
INK **Inuvik** **89.83 21** pP **P** **08 42 31.4 -0.2**
baz=281
AKKU **Akkuyu-Mersin** **89.84 306** P **P** **08 42 32.3 -0.1**
ARCES **ARCESS Array B** **89.88 340** P **P** **08 42 32.7 +0.8**
comp=Z,18nm,0.6s,baz=83,slow=6.1,SNR=15
ARCES PKiKP **PKiKP** **08 47 28.1 -0.1**
comp=Z,2.1nm,0.6s,baz=117,slow=1.0,SNR=5.5
ARCES **ARCESS Array B** **89.88 340** P **P** **08 42 32.7 +0.8**
AFSR **Afar-Bala (An** **89.93 309** P **P** **08 42 32.9 0.0**
LFK **Lefkose** **89.94 305** P **P** **08 42 33.3 +0.3**
SPITS **Spitsbergen Ar** **89.94 349** P **P** **08 42 32.9 +0.9**
comp=Z,40nm,1.0s,baz=111,slow=9.2,SNR=15
SPITS **Spitsbergen Ar** **89.94 349** P **P** **08 42 32.9 +0.9**
KURC **Kurucasile-Bar** **89.95 312** P **P** **08 42 29.4 -3.4**
N31M **Braeburn, Yuko** **90.05 28** IAMs_20 IAMs_20 09 27 22.6
comp=Z,2µm,20.0s
N31M **Braeburn, Yuko** **90.05 28** pP **P** **08 42 33.1 +0.2**
baz=279
BERE **Bereket-Mersin** **90.09 306** P **P** **08 42 34.1 +0.3**
CSS **Mathiatis** **90.13 305** P **P** **08 42 33.9 +0.1**

M31M **Drury Creek, Y** **90.58 28** IAMs_20 IAMs_20 09 25 13.7
comp=Z,2µm,20.0s
M31M **Drury Creek, Y** **90.58 28** pP **P** **08 42 35.8 +0.4**
baz=280
SKAG **Skagway** **90.59 30** pP **P** **08 42 35.6 +0.2**
baz=279
LADK **Ladik-KONYA** **90.59 308** P **P** **08 42 35.3 -0.7**
WHY **Whitehorse** **90.62 29** pP **P** **08 42 36.1 +0.4**
baz=279
HDMB **Hadim** **90.62 307** P **P** **08 42 36.3 0.0**
KONT **Konya--Tatoy** **90.62 308** P **P** **08 42 35.3 -0.8**
LODK **Lodwar** **90.79 273** *e*P P 08 42 30.1 -7.3
LODK **Lodwar** **90.79 273** *e*P **P** **08 42 34.0 -3.4**
LODK **Lodwar** **90.79 273** *e*P **P** **08 42 34.0 -3.4**
LODK **Lodwar** **90.79 273** *e*P P 08 42 30.1 -7.3
GAZI **Gazipasa** **90.83 306** P **P** **08 42 36.9 -0.2**
KIZT **Kizilcal** **90.90 309** P **P** **08 42 36.9 -0.6**
AUMIH **MIHALICIK** **91.10 310** P **P** **08 42 38.2 -0.2**
AUSIV **SIVRIHISAR** **91.11 309** P **P** **08 42 37.9 -0.5**
SVRH **Sivrihisar-ESK** **91.12 309** P **P** **08 42 37.9 -0.5**
FINES **FINESS Array B** **91.25 332** P **P** **08 42 38.6 +0.3**
comp=Z,41nm,0.8s,baz=94,slow=5.9,SNR=32
FINES **FINESS Array B** **91.25 332** *i* P **P** **08 42 38.7 +0.3**
FINES pmax pmax
comp=Z,41nm,0.8s
MDUB **Mudurnu** **91.25 311** P **P** **08 42 38.8 -0.2**
AKASG **Malin Array Be** **91.31 321** P **P** **08 42 38.8 -0.1**
comp=Z,17nm,0.7s,baz=68,slow=4.3,SNR=15
AKASG **Malin Array Be** **91.31 321** P **P** **08 42 38.8 -0.1**
MNK **Minsk** **91.54 325** *i* P **P** **08 42 38.2 -1.6**
MNK *i* 08 46 16.3
MNK *i* PPP PPP 08 48 15.0
MNK *i* SP SP 08 54 45.1 -0.1
MNK *i* PS PnS 08 55 13.9 +22
MNK *i* SS **SS** **08 59 43.7 +0.4**
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,124nm,0.9s
MNK MLR MLR
comp=Z,4µm,19.0s
MNK MLR MLR
comp=N,1µm,19.0s
MNK MLR MLR
comp=E,518nm,19.0s
MNK **Minsk** **91.54 325** *i* P **P** **08 42 38.2 -1.6**
comp=E,6.0nm,0.8s
MNK *i* P **P** **08 42 38.2 -1.6**
comp=N,17nm,0.8s
MNK *i* P **P** **08 42 38.2 -1.6**
comp=Z,124nm,0.8s,baz=81
MNK *i* PP **PP** **08 46 16.3 -1.8**
MNK *i* PPP PPP 08 48 15.0
MNK *i* PS PS 08 55 13.9 +23
MNK *i* SS SS 08 59 43.7 +0.5
MNK *i* SSS SSS 09 04 08.1
MNK *i* LQ LQ 09 15 54.9
MNK *i* LR LR 09 20 53.5
MNK *i* LRM MLR 09 26 03.5
comp=Z,4µm,19.4s
MNK *i* LRM MLR 09 26 04.2
comp=N,1µm,19.4s
MNK *i* LRM MLR 09 26 05.1
comp=E,518nm,19.4s
A36M **Sachs Harbour** **91.61 17** pP **P** **08 42 40.1 +0.3**
baz=288
P33M **Teslin, Yukon** **91.70 29** IAMs_20 IAMs_20 09 19 22.3
comp=Z,2µm,22.0s
SUTC **Sutluce-Ispart** **91.75 308** P **P** **08 42 39.9 -1.5**
GULT **Gulveren** **91.77 311** P **P** **08 42 40.9 -0.5**
SAUV **Serdivan-Sakar** **91.88 311** P **P** **08 42 41.5 -0.3**
BORA **Eskisehir** **91.89 310** P **P** **08 42 41.2 -0.8**
SHUT **Suhut-Afyon** **91.97 309** P **P** **08 42 42.2 -0.2**
NACGM **Naroch** **92.10 325** *e*P **P** **08 42 43.6 +1.2**
AUBOZ **BOZOYUK** **92.20 310** P **P** **08 42 43.2 -0.2**
SORM **Soroca** **92.26 318** ⇑P **P** **08 42 42.1 -1.2**
SORM **Soroca** **92.26 318** ⇑P **P** **08 42 42.1 -1.2**
CAVI **Cavuskoy** **92.31 310** P **P** **08 42 43.8 0.0**
KORT **Korkueli** **92.32 307** P **P** **08 42 43.5 -0.6**
ADVT **Abdulvahap** **92.36 311** P **P** **08 42 43.5 -0.5**
HRT **Hereke** **92.36 311** P **P** **08 42 43.5 -0.6**
WRAK **Wrangell Islan** **92.71 33** IAMs_20 IAMs_20 09 24 34.3
comp=Z,1µm,20.0s
SYO **Syowa Base** **92.76 201** ⇑ *e*sP **P** **08 42 45.8 +0.6**
KLYT **Kilyos** **92.77 312** P **P** **08 42 45.5 -0.4**
ISK **Istanbul-Kandi** **92.79 311** P **P** **08 42 45.1 -0.9**
C36M **Paulatuk** **92.86 20** pP **P** **08 42 46.0 +0.4**
baz=290
SCTR **Scanteiesti** **92.88 316** ⇑P **P** **08 42 48.9 +2.7**
CTKS **Kestanelik-??a** **93.18 312** P **P** **08 42 46.4 -1.3**
ALE **Alert** **93.27 1** IAMs_20 IAMs_20 09 28 02.3
comp=Z,2µm,20.0s
SLVT **Silivri** **93.40 312** P **P** **08 42 49.1 +0.3**
KCTX **Karacabey (Bur** **93.43 311** P **P** **08 42 48.7 -0.3**
TGTN **Hyland Airport** **93.56 28** pP **P** **08 42 50.2 +1.0**
baz=285
TESR **Tescani** **93.66 317** ⇑P **P** **08 42 49.8 -0.1**
VRI **Vrincioaia** **93.72 316** ⇑P **P** **08 42 48.0 -2.2**
VRI **Vrincioaia** **93.72 316** P **P** **08 42 50.4 +0.2**
VRI **Vrincioaia** **93.72 316** ⇑P **P** **08 42 48.0 -2.2**
PLOR **Plostina** **93.78 316** ⇓P **P** **08 42 47.9 -2.6**
PLOR **Plostina** **93.78 316** ⇓P **P** **08 42 47.9 -2.6**
BISRR **Bisoca** **93.79 316** ⇑P **P** **08 42 52.6 +2.0**
YER **Yerkesik** **93.94 308** P **P** **08 42 50.7 -0.8**
TURN **Turunc** **94.02 307** P **P** **08 42 51.7 0.0**
TAOE **Nuku Hiva Isla** **94.04 99** *e*LR LR 09 13 05.3
comp=E,6µm,24.2s
TAOE **Nuku Hiva Isla** **94.04 99** *e*T T 10 26 48.7
comp=Z,46nm,0.2s
COVR **Voineasa-Covas** **94.08 316** ⇑P **P** **08 42 53.9 +2.0**
NEHR **Nehoiu** **94.10 316** ⇑P **P** **08 42 49.9 -2.0**
GZKV **Gazikoy-Tekird** **94.13 311** P **P** **08 42 51.7 -0.4**
RKY **Sarkoy-Tekirda** **94.25 311** P **P** **08 42 52.0 -0.8**
MLR **Muntele Rosu** **94.33 316** ⇑P **P** **08 42 49.6 -3.5**
MLR **Muntele Rosu** **94.33 316** P **P** **08 42 53.3 +0.2**
comp=Z,24nm,0.8s,baz=192,slow=6.0,SNR=14
MLR **Muntele Rosu** **94.33 316** ⇑P **P** **08 42 49.6 -3.5**
MLR **Muntele Rosu** **94.33 316** IAMs_20 IAMs_20 09 31 18.8
comp=Z,3µm,21.0s
DAT **Datca** **94.56 307** P **P** **08 42 53.7 -0.7**
LPK **Lapseki** **94.62 311** P **P** **08 42 54.3 -0.1**
GCAM **G?zelcaml?** **94.68 308** P **P** **08 42 54.6 -0.1**
BODT **Bodrum** **94.72 308** P **P** **08 42 54.6 -0.4**
LVV **L'vov** **94.75 321** *e*P **P** **08 42 54.7 -0.1**
ERIK **Erikli-Kesan** **94.76 311** P **P** **08 42 53.9 -1.1**
GELI **Tayfur-Gelibol** **94.83 311** P **P** **08 42 54.6 -0.8**
ENEZ **Enez** **95.01 311** P **P** **08 42 55.9 -0.3**
EZN **Ezine** **95.04 310** P **P** **08 42 55.9 -0.4**
ALN **Alexandroupoli** **95.07 312** P **P** **08 42 56.6 +0.2**
URLA **Izmir** **95.07 309** P **P** **08 42 55.9 -0.7**
BOZC **Bozcaada** **95.24 310** P **P** **08 42 57.3 0.0**
ARR **Arges** **95.26 316** ⇑P **P** **08 42 58.3 +0.9**
RDO **Rodhopi** **95.40 312** P **P** **08 42 57.6 -0.4**
CHOS **Chios Island** **95.49 309** P **P** **08 42 57.9 -0.6**
SIGR **SIGRI** **95.50 310** P **P** **08 42 58.2 -0.3**
MBAR **Mbarara** **95.70 270** IAMs_20 IAMs_20 09 24 52.4
comp=Z,1µm,22.0s
MBAR **Mbarara** **95.70 270** *e*P P 08 42 50.3 -10
MBAR **Mbarara** **95.70 270** *e*P P 08 42 50.3 -10
TRPA **Tarpa** **96.08 319** ⇓P **P** **08 43 00.5 -0.4**
UZH **Uzhgorod** **96.12 320** *i* **P** **08 42 59.7 -1.4**
DEV **Deva** **96.34 317** ⇑P **P** **08 43 04.9 +2.8**
DEV **Deva** **96.34 317** ⇑P **P** **08 43 04.9 +2.8**
CRVS **Cervenica-Dubn** **96.59 320** *e* **P** **08 43 04.8 +1.6**
CRVS **Cervenica-Dubn** **96.59 320** *e* **P** **08 43 04.8 +1.6**
LTVH **Ltavrtes, Hu** **96.67 319** P **P** **08 43 03.5 0.0**
VTS **Vitosha** **96.80 314** ⇑P **P** **08 43 04.2 -0.3**
VTS **Vitosha** **96.80 314** ⇑P **P** **08 43 04.2 -0.3**
DJES **Djerdap** **96.87 316** ⇑P **P** **08 43 06.4 +1.8**
HERR **Herculane** **96.89 316** ⇑P **P** **08 43 07.0 +2.3**
BLKB **Belogradchik** **96.99 315** ⇑P **P** **08 43 04.8 -0.4**
BZS **Buzias** **97.28 317** ⇑P Pdif 08 43 08.4 +2.0
BZS **Buzias** **97.28 317** ⇑P Pdif 08 43 08.4 +1.9
HORT **Hortiatis** **97.32 312** P **P** **08 43 04.6 -2.2**
KECS **Kecovo** **97.32 320** *e* Pdif 08 43 09.0 +2.4
RES **Resolute Bay** **97.39 10** ⇑P Pdif 08 43 07.6 +1.3
HFS **Hagfors** **97.44 332** P **P** **08 43 06.3 -0.5**
comp=Z,23nm,1.0s,baz=124,slow=7.4,SNR=16
HFS **Hagfors** **97.44 332** P **P** **08 43 06.3 -0.5**
IMMV **Iera Moni Meta** **97.64 306** P **P** **08 43 07.9 -0.4**
GVD **Gavdhos** **97.67 306** P **P** **08 43 07.2 -1.2**

BOVS **Bovan** **97.67 315** ⇑P Pdif 08 43 09.6 +1.3
AMBH **Ambrzfalva** **97.70 318** P Pdif 08 43 09.9 +1.6
LANS **Liptovska Anna** **97.80 321** *e* Pdif 08 43 10.8 +2.0
PSZ **Piszkesteto** **97.85 319** ⇑P **P** **08 43 08.9 -0.1**
PSZ **Piszkesteto** **97.85 319** ⇑P **P** **08 43 08.9 -0.1**
PSZ **Piszkesteto** **97.85 319** IAMs_20 IAMs_20 09 30 54.5
comp=Z,2µm,20.0s
NOA **NORSAR Array B** **98.21 334** P **P** **08 43 09.6 -0.7**
comp=Z,15nm,0.9s,baz=68,slow=4.5,SNR=19
NOA **NORSAR Array B** **98.21 334** P **P** **08 43 09.6 -0.7**
VYHS **Vyhne** **98.38 320** *e* Pdif 08 43 12.3 +1.0
OKC **Ostrava-Krasne** **98.43 322** AMS AMS 09 31 10.0
comp=Z,2µm,18.0s
BSD **Bornholm Skovb** **98.63 327** ⇑P **P** **08 43 11.9 -0.3**
DIVS **Divibare** **98.77 316** IAMs_20 IAMs_20 09 33 38.3
comp=Z,2µm,22.0s
DIVS **Divibare** **98.77 316** ⇑P **P** **08 43 13.1 -0.1**
MORC **Moravsky Berou** **98.83 322** *e*PDIFF Pdif 08 43 14.2 +0.9
TULEG **Thule** **98.88 4** IAMs_20 IAMs_20 09 29 56.4
comp=Z,1µm,22.0s
DBG **Daneborg** **99.00 351** ⇑P Pdif 08 43 14.6 +1.1
JAVC **Velka Javorina** **99.02 321** *e*PDIFF **Pdif** **08 43 15.7 +1.5**
YKA **Yellowknife Ar** **99.19 24** P **Pdif** **08 43 14.8 +0.3**
comp=Z,3.7nm,0.9s,baz=299,slow=4.5,SNR=19
YKA PKiKP **PKiKP** **08 47 44.5 0.0**
comp=Z,1.1nm,0.7s,baz=294,slow=1.7,SNR=8.2
YKA PKKPbc **PKKPbc** **08 59 38.2 -3.5**
comp=Z,0.7nm,0.7s,baz=121,slow=3.2,SNR=9.0
YKA PKKP **PKKPdf** **08 59 46.9 +1.9**
comp=Z,0.9nm,0.7s,baz=119,slow=2.1,SNR=6.5
YKA **Yellowknife Ar** **99.19 24** *i* P **Pdif** **08 43 15.1 +0.5**
YKA pmax pmax
comp=Z,4.0nm,0.9s
KRLC **Kraliky** **99.20 322** *e*SKS **SKSac** **08 53 43.0 -7.4**
KRLC **Kraliky** **99.20 322** AMS AMS 09 30 20.0
comp=Z,2µm,21.5s
KRLC **Kraliky** **99.20 322** *e*PP **PP** **08 47 13.6 -4.1**
KRLC **Kraliky** **99.20 322** *ex* **Pdif** **08 43 15.5 +0.5**
KRLC **Kraliky** **99.20 322** *e* **Pdif** **08 43 15.5 +0.5**
DPC **Dobruska-Polom** **99.40 322** *e*SKS **SKSac** **08 53 46.9 -4.4**
DPC **Dobruska-Polom** **99.40 322** *e*PP **PP** **08 47 13.6 -5.5**
DPC **Dobruska-Polom** **99.40 322** *es*P **Pdif** **08 43 17.4 +1.5**
DPC **Dobruska-Polom** **99.40 322** AMS AMS 09 30 30.0
comp=Z,3µm,20.8s
DPC **Dobruska-Polom** **99.40 322** *e* **Pdif** **08 43 17.4 +1.5**
OSTC **Ostas** **99.40 323** *ex* **Pdif** **08 43 17.6 +1.8**
OSTC **Ostas** **99.40 323** *ex* x 08 47 22.4
OSTC **Ostas** **99.40 323** *e*SKS **SKSac** **08 53 46.0 -5.3**
OSTC **Ostas** **99.40 323** AMS AMS 09 30 30.0
comp=Z,3µm,19.6s
CHVC **Chvalec** **99.48 323** AMS AMS 09 30 40.0
comp=Z,3µm,20.9s
CHVC **Chvalec** **99.48 323** *e*PP **PP** **08 47 20.6 +0.8**
CHVC **Chvalec** **99.48 323** *ex* **Pdif** **08 43 17.2 +1.0**
KONO **Kongsberg** **99.52 333** IAMs_20 IAMs_20 09 31 19.6
comp=Z,3µm,22.0s
UPC **Upice** **99.54 323** MLR MLR
comp=Z,3µm,19.8s
UPC **Upice** **99.54 323** AMS AMS 09 30 40.0
comp=Z,3µm,19.8s
UPC **Upice** **99.54 323** *es*P **Pdif** **08 43 18.3 +1.9**
UPC **Upice** **99.54 323** *e*PP PP 08 46 57.9 -22
UPC **Upice** **99.54 323** *e*SKS **SKSac** **08 53 48.6 -3.3**
UPC **Upice** **99.54 323** *e* 08 53 48.6
UPC **Upice** **99.54 323** *e*P **Pdif** **08 43 18.3 +1.9**
TIR **Tirane** **99.54 313** IAMs_20 IAMs_20 09 35 45.2
comp=Z,2µm,22.0s
VRAC **Vranov** **99.56 321** ⇑P **Pdif** **08 43 17.5 +1.0**
VRAC **Vranov** **99.56 321** P **Pdif** **08 43 16.9 +0.3**
comp=Z,13nm,0.9s,baz=80,slow=4.7,SNR=12
VRAC **Vranov** **99.56 321** ⇑P **Pdif** **08 43 17.5 +1.0**
VRAC **Vranov** **99.56 321** *e*PDIFF **Pdif** **08 43 17.1 +0.6**
PDG **Podgorica** **99.71 314** IAMs_20 IAMs_20 09 37 04.4
comp=Z,2µm,22.0s
KRUC **Moravsky** **99.76 321** *e*PDIFF **Pdif** **08 43 17.7 +0.3**
NLWA **Neilton Lookou** **100.08 41** IAMs_20 IAMs_20 09 18 57.7
comp=Z,2µm,20.0s
RONA **Rosalia, Austr** **100.24 320** *e*P **Pdif** **08 43 20.9 +1.3**
comp=Z,6.6nm,1.2s
TREC **Trest** **100.25 322** AMS AMS 09 30 40.0
comp=Z,2µm,21.8s
PVCC **Panska Ves** **100.40 323** *e*P **Pdif** **08 43 21.8 +1.6**
PVCC *e* 08 47 27.6
PVCC MLR MLR
comp=Z,3µm,18.2s
PVCC **Panska Ves** **100.40 323** *e*PKP PKiKP 08 47 27.6 -19
PVCC **Panska Ves** **100.40 323** *es*P **Pdif** **08 43 21.8 +1.6**
PVCC **Panska Ves** **100.40 323** AMS AMS 09 31 20.0
comp=Z,3µm,18.2s
CONA **Conrad Observa** **100.45 320** *e*P **Pdif** **08 43 22.3 +1.6**
comp=Z,4.1nm,1.0s
D03D **Eldon** **100.54 40** pP **Pdif** **08 43 21.4 +0.4**
baz=288
PRU **Pruhonice** **100.60 322** *e*SKS 08 53 55.0
PRU **Pruhonice** **100.60 322** AMS AMS 09 31 20.0
comp=Z,3µm,19.9s
PRU **Pruhonice** **100.60 322** *ex* x 08 47 24.1
PRU **Pruhonice** **100.60 322** *es*P **Pdif** **08 43 23.1 +2.0**
BRG **Berggiesshubel** **100.66 323** Amp 08 43 06.3
comp=Z,8.0nm,0.8s
BRG Amp 08 43 23.8
comp=Z,26nm,0.9s
BRG **Berggiesshubel** **100.66 323** *ex* **Pdif** **08 43 22.2 +0.8**
ARSA **Arzberg** **100.88 320** *e*P **Pdif** **08 43 24.1 +1.6**
comp=Z,5.3nm,0.9s
PBCC **Pribram** **101.03 322** *ex* **Pdif** **08 43 24.8 +1.7**
CLL **Collm** **101.06 324** MLR MLR
comp=Z,2µm,19.4s
CLL **Collm** **101.06 324** IAMs_20 IAMs_20 09 32 19.5
comp=Z,2µm,19.0s
CLL **Collm** **101.06 324** *e*SP SP 08 56 24.0 -5.1
CLL *e*PPS PPS 08 57 06.0
CLL *e*SS(2) 09 02 18.0
CLL *e*SSS(2) 09 06 36.0
CLL LmV 09 32 00.0
comp=Z,2µm,19.4s
CLL **Collm** **101.06 324** pmax pmax
comp=Z,23nm,1.2s
CLL **Collm** **101.06 324** *e*S **Sdif** **08 55 00.0 +1.0**
CLL **Collm** **101.06 324** *e*P **Pdif** **08 43 24.0 +0.9**
CLL **Collm** **101.06 324** *e*SKSac(2) 08 53 54.0
CLL **Collm** **101.06 324** *e*Sdiff(2) 08 55 00.0
CLL **Collm** **101.06 324** *e*Pdif(2) 08 43 24.0
comp=Z,23nm,1.2s
CKRC **Cesky Krumlov** **101.14 321** *e*SKS 08 53 50.6
CKRC **Cesky Krumlov** **101.14 321** *e*PP **PP** **08 47 25.9 -6.4**
J01E **Myrtle Point** **101.29 45** IAMs_20 IAMs_20 09 23 43.6
comp=Z,2µm,21.0s
COR **Corvallis** **101.30 43** IAMs_20 IAMs_20 09 21 13.9
comp=Z,3µm,22.0s
PERS **Pernice** **101.34 319** *i* Pdiff **Pdif** **08 43 24.4 -0.2**
PERS *e*SKSac **SKSac** **08 53 57.3 -3.7**
SOKA **Soboth** **101.38 319** *e*P **Pdif** **08 43 26.1 +1.3**
comp=Z,9.6nm,1.1s
KHC **Kasperske Hory** **101.48 322** ⇑ *e*P **Pdif** **08 43 25.6 +0.4**
KHC pmax pmax
comp=Z,18nm,0.9s
KHC **Kasperske Hory** **101.48 322** AMS AMS 09 33 40.0
comp=Z,2µm,20.3s
KHC **Kasperske Hory** **101.48 322** ⇓P **Pdif** **08 43 26.1 +1.0**
KHC **Kasperske Hory** **101.48 322** *es*P **Pdif** **08 43 24.9 -0.3**
KHC **Kasperske Hory** **101.48 322** *e*SKS 08 53 47.5
KHC **Kasperske Hory** **101.48 322** *e* 08 53 47.5
MOA **Molln** **101.49 320** *e*P **Pdif** **08 43 27.0 +1.8**
comp=Z,14nm,1.0s
GERES **GERESS Array B** **101.50 322** P **Pdif** **08 43 23.9 -1.4**
comp=Z,7.5nm,1.0s,baz=50,slow=2.1,SNR=17
GERES **GERESS Array B** **101.50 322** P **Pdif** **08 43 23.9 -1.4**
I03D **Drain, OR** **101.53 44** pP **Pdif** **08 43 25.6 +0.2**
baz=287
BOJS **Bojanci** **101.61 318** *i* Pdiff **Pdif** **08 43 25.9 +0.2**
OBKA **Obir** **101.75 319** *e*P **Pdif** **08 43 27.8 +1.3**
comp=Z,7.6nm,1.1s
NKC **Novy Kostel** **101.78 323** *e*PP **PP** **08 47 41.6 +4.5**
NKC **Novy Kostel** **101.78 323** AMS AMS 09 32 40.0
comp=Z,4µm,18.4s
L02E **Cave Junction** **101.81 46** IAMs_20 IAMs_20 09 26 59.4
comp=Z,2µm,20.0s
JCC **Jacoby Creek,** **101.88 47** IAMs_20 IAMs_20 09 20 33.3
comp=Z,3µm,21.0s
LJU **Ljubljana** **101.91 319** *i* Pdiff **Pdif** **08 43 26.8 -0.4**
LJU *e* 08 47 40.4
MOX **Moxa** **102.12 324** *e*L L 09 36 00.1
comp=Z,2µm,22.0s
F05D **White Salmon** **102.13 41** IAMs_20 IAMs_20 09 20 52.9

comp=Z,3µm,22.0s
HUMO Hull Mountain 102.13 45 IAMs_20 IAMs_20 09 23 11.0
comp=Z,1µm,21.0s
KBA Koelnbreinsper 102.34 320 *i* P **Pdif** **08 43 29.9 +0.7**
comp=Z,7.9nm,0.8s
TIP Timpagrande 102.40 311 IAMs_20 IAMs_20 09 35 49.1
comp=Z,1µm,22.0s
SCO Scoresbysund 102.50 350 IAMs_20 IAMs_20 09 33 33.7
comp=Z,2µm,22.0s
J04D Umpqua Nationa 102.53 44 IAMs_20 IAMs_20 09 22 00.6
comp=Z,2µm,22.0s
M02C Callahan 102.57 46 IAMs_20 IAMs_20 09 24 45.5
comp=Z,2µm,21.0s
YBH Yreka Blue Hor 102.57 46 IAMs_20 IAMs_20 09 24 38.5
comp=Z,1µm,20.0s
L04D Klamath Falls 102.71 45 IAMs_20 IAMs_20 09 20 31.3
comp=Z,1µm,22.0s
GRF Grafenberg Arr 102.71 323 *e*Pdiff **Pdif** **08 43 31.5 +1.0**
GRF eL L 09 33 38.8
comp=Z,3µm,19.5s
ABTA Abfaltersbach 102.99 320 *e*P **Pdif** **08 43 31.9 0.0**
comp=Z,10nm,1.2s
HOPS Hopland Field 103.10 49 IAMs_20 IAMs_20 09 22 34.6
comp=Z,2µm,21.0s
J05D Fort Rock, OR 103.13 44 pP **Pdif** **08 43 33.3 +0.6**
baz=289
M04C Macdoel 103.17 46 IAMs_20 IAMs_20 09 25 08.6
comp=Z,1µm,21.0s
HAWA Hanford 103.22 40 IAMs_20 IAMs_20 09 21 19.7
comp=Z,3µm,22.0s
WTTA Wattenberg 103.36 321 *i* P **Pdif** **08 43 34.9 +1.2**
comp=Z,12nm,0.9s
WATA Walderalm 103.37 321 *e*P **Pdif** **08 43 34.8 +1.0**
comp=Z,3.2nm,0.5s
MCCM Marconi Confer 103.48 49 IAMs_20 IAMs_20 09 19 46.8
comp=Z,2µm,22.0s
SQTA Sankt Quirin 103.65 321 *i* P **Pdif** **08 43 36.2 +1.2**
comp=Z,6.1nm,0.6s
MOTA Moosalm 103.67 321 *e*P **Pdif** **08 43 36.3 +1.2**
comp=Z,12nm,1.2s
RETA Reutte 103.83 321 *i* P **Pdif** **08 43 38.3 +2.6**
comp=Z,4.4nm,1.2s
AQU L'Aquila 103.88 315 IAMs_20 IAMs_20 09 37 29.6
comp=Z,2µm,22.0s
FETA Feichten 104.03 321 *e*P **Pdif** **08 43 38.2 +1.5**
comp=Z,7.8nm,0.9s
NEW Newport 104.04 38 IAMs_20 IAMs_20 09 20 40.4
comp=Z,2µm,22.0s
ORV Oroville 104.10 48 IAMs_20 IAMs_20 09 22 21.1
comp=Z,2µm,22.0s
MOD Modoc Plateau 104.22 45 IAMs_20 IAMs_20 09 29 04.3
comp=Z,1µm,19.0s
STU Stuttgart 104.30 323 IAMs_20 IAMs_20 09 33 59.4
comp=Z,2µm,20.0s
DAVA Damuels 104.46 321 *i* P **Pdif** **08 43 40.2 +1.6**
comp=Z,3.4nm,0.6s
DAVOX Davos/Dischmat 104.66 321 Pdiff **Pdif** **08 43 39.7 +0.2**
comp=Z,3.4nm,0.7s,baz=149,slow=6.1,SNR=5.8
SAO San Andreas Ge 104.97 50 IAMs_20 IAMs_20 09 32 58.2
comp=Z,2µm,18.0s
WVOR Wild Horse Val 105.21 44 IAMs_20 IAMs_20 09 30 04.4
comp=Z,1µm,20.0s
BMO Blue Mountains 105.23 41 IAMs_20 IAMs_20 09 22 39.0
comp=Z,2µm,22.0s
CMB Columbia Colle 105.39 49 IAMs_20 IAMs_20 09 22 08.4
comp=Z,1µm,22.0s
SNAA Sanae 105.60 195 IAMs_20 IAMs_20 09 31 21.6
comp=Z,2µm,19.0s
WLF Walferdange 105.72 324 IAMs_20 IAMs_20 09 40 35.9
comp=Z,2µm,20.0s
ECH Echery 105.76 323 IAMs_20 IAMs_20 09 36 36.1
comp=Z,2µm,19.0s
MSO Missoula 106.60 39 IAMs_20 IAMs_20 09 26 35.0
comp=Z,1µm,22.0s
MSO Missoula 106.60 39 pP **PKiKP** **08 48 00.0 +1.4**
baz=295
MFID Camas Ranch 106.77 42 IAMs_20 IAMs_20 09 23 56.6
comp=Z,2µm,22.0s
NVAR Mina Array Bea 106.82 48 Pdiff **Pdif** **08 43 50.1 +0.8**
comp=Z,1.1nm,0.7s,baz=290,slow=4.2,SNR=7.5
NVAR PKiKP **PKiKP** **08 47 58.5 -0.9**
comp=Z,2.4nm,1.1s,baz=270,slow=2.7,SNR=3.6
NVAR PKKPbc **PKKPbc** **08 59 15.7 -3.1**
comp=Z,0.8nm,0.7s,baz=115,slow=6.3,SNR=5.7
NVAR PKKP **PKKPdf** **08 59 30.8 -0.2**
comp=Z,1.5nm,0.6s,baz=106,slow=4.5,SNR=5.6
ISA Isabella, Lake 107.60 51 pP **PKiKP** **08 48 01.6 +0.9**
baz=289
EKA Eskdalemuir Ar 107.64 332 PKiKP **PKiKP** **08 48 00.5 +0.3**
comp=Z,0.6nm,0.5s,baz=336,slow=3.3,SNR=2.5
HLID Hailey 107.65 42 IAMs_20 IAMs_20 09 23 51.0
comp=Z,2µm,22.0s
HLID Hailey 107.65 42 pP **PKiKP** **08 48 02.0 +1.2**
baz=294
ELK Elko 108.20 45 IAMs_20 IAMs_20 09 27 09.6
comp=Z,1µm,21.0s
EDW2 Edwards Air Fo 108.22 51 pP **PKiKP** **08 48 03.7 +1.8**
baz=289
PASC Pasadena Art C 108.29 52 IAMs_20 IAMs_20 09 28 18.3
comp=Z,2µm,20.0s
FURC Furnace Creek, 108.56 49 pP **PKiKP** **08 48 03.8 +1.4**
baz=290
BOZ Bozeman (W) 108.58 39 IAMs_20 IAMs_20 09 24 31.5
comp=Z,2µm,22.0s
BOZ Bozeman (W) 108.58 39 pP **PKiKP** **08 48 03.8 +1.4**
baz=297
EGMT Eagleton 108.58 36 IAMs_20 IAMs_20 09 33 41.5
comp=Z,1µm,21.0s
EGMT Eagleton 108.58 36 pP **PKiKP** **08 48 04.1 +1.8**
baz=299
SSB Saint Sauveur 108.66 321 IAMs_20 IAMs_20 09 38 11.3
comp=Z,1µm,20.0s
BFSC Mount Baldy Ra 108.69 52 pP **PKiKP** **08 48 04.1 +1.2**
baz=289
R11A Troy Canyon, C 108.85 47 pP **PKiKP** **08 48 04.4 +1.3**
baz=291
TPNV Topopah Spring 108.86 49 pP **PKiKP** **08 48 04.4 +1.3**
baz=290
FFC Flin Flon 108.94 27 IAMs_20 IAMs_20 09 29 28.1
comp=Z,2µm,22.0s
TSUM Tsumeb 109.15 251 IAMs_20 IAMs_20 09 30 15.0
comp=Z,2µm,20.0s
MURC Murrieta 109.26 52 pP **PKiKP** **08 48 05.1 +1.2**
baz=289
109C Camp Elliot, M 109.56 53 IAMs_20 IAMs_20 09 27 29.7
comp=Z,2µm,22.0s
TUQ Turquoise Moun 109.63 50 pP **PKiKP** **08 48 05.9 +1.2**
baz=290
PFO Pinyon Flats O 109.83 52 pP **PKiKP** **08 48 05.9 +0.9**
baz=289
TPFO Pinon Flats 109.84 52 pP **PKiKP** **08 48 05.9 +0.9**
baz=289
TPAW Teton Pass 109.96 41 IAMs_20 IAMs_20 09 25 36.1
comp=Z,2µm,22.0s
GMRC Granite Mounta 110.06 51 pP **PKiKP** **08 48 07.0 +1.6**
baz=290
BELC Belle Mtn. Jos 110.06 52 pP **PKiKP** **08 48 07.0 +1.5**
baz=290
MONP2 Monument Peak 110.10 53 pP **PKiKP** **08 48 07.7 +2.0**
baz=289
DUG Dugway, Tooele 110.12 44 IAMs_20 IAMs_20 09 25 14.3
comp=Z,2µm,22.0s
DUG Dugway, Tooele 110.12 44 pP **PKiKP** **08 48 06.8 +1.4**
baz=294
RLMT Red Lodge 110.28 39 pP **PKiKP** **08 48 07.6 +1.9**
baz=298
HWUT Hardware Ranch 110.38 43 IAMs_20 IAMs_20 09 27 00.3
comp=Z,2µm,22.0s
IKP In-Ko-Pah, Jac 110.43 53 pP **PKiKP** **08 48 08.2 +2.0**
baz=289
SWSC Sam W. Stewart 110.58 53 pP **PKiKP** **08 48 07.6 +1.3**
baz=290
BC3 Big Chuckawall 110.61 52 pP **PKiKP** **08 48 08.1 +1.6**
baz=290
IRM Iron Mountain 110.68 51 pP **PKiKP** **08 48 08.5 +2.0**
baz=290
BW06 Boulder Array 111.20 41 pP **PKiKP** **08 48 09.4 +1.9**
baz=297
PDAR Pinedale Array 111.20 41 PKiKP **PKiKP** **08 48 08.2 +0.7**
comp=Z,0.9nm,0.5s,baz=64,slow=2.1,SNR=11
PDAR PKKPbc PKKPbc 08 58 56.4 -8.6
comp=Z,1.5nm,0.8s,baz=121,slow=7.2,SNR=8.5
PDAR PKKPab **PKKPab** **08 59 12.4 -2.0**
comp=Z,4.5nm,0.8s,baz=122,slow=5.7,SNR=14
LAO LASA Array 111.33 36 IAMs_20 IAMs_20 09 28 11.1
comp=Z,2µm,22.0s
LAO LASA Array 111.33 36 pP **PKiKP** **08 48 09.6 +2.2**
baz=302

DGMT Dagmar 111.51 34 pP **PKiKP** **08 48 09.7 +2.0**
baz=304
WUAZ Wupatki 113.05 49 IAMs_20 IAMs_20 09 31 46.0
comp=Z,1µm,20.0s
WUAZ Wupatki 113.05 49 pP **PKiKP** **08 48 12.7 +1.5**
baz=293
K22A Casper 113.21 40 pP **PKiKP** **08 48 13.1 +1.9**
baz=300
214A Organ Pipe Nat 113.29 53 pP **PKiKP** **08 48 13.5 +1.9**
baz=291
O20A White River Ci 113.29 43 pP **PKiKP** **08 48 13.9 +2.3**
baz=298
RSSD Black Hills 114.00 37 IAMs_20 IAMs_20 09 32 42.8
comp=Z,1µm,19.0s
RSSD Black Hills 114.00 37 pP **PKiKP** **08 48 14.7 +1.8**
baz=303
MDND Maddock 114.36 32 pP PKPdf 08 48 15.4 +2.3
baz=308
MVCO Mesa Verde 114.44 46 IAMs_20 IAMs_20 09 28 16.8
comp=Z,2µm,22.0s
MVCO Mesa Verde 114.44 46 pP **PKiKP** **08 48 15.8 +2.0**
baz=296
N23A Red Feather La 114.47 41 pP PKPdf 08 48 15.2 +1.3
baz=300
PHWY Pilot Hill 114.58 41 IAMs_20 IAMs_20 09 29 12.3
comp=Z,2µm,21.0s
SMCO Snowmass 114.61 43 IAMs_20 IAMs_20 09 27 52.1
comp=Z,2µm,22.0s
ULM Lac du Bonnet 114.69 28 PKP PKPdf 08 48 14.9 +1.3
comp=Z,4.0nm,0.8s,baz=307,slow=1.1,SNR=4.2
ULM Lac du Bonnet 114.69 28 PKIKP PKPdf 08 48 14.9 +1.3
TUC Tucson 114.75 52 IAMs_20 IAMs_20 09 28 03.2
comp=Z,2µm,22.0s
TUC Tucson 114.75 52 pP PKPdf 08 48 15.8 +1.4
baz=292
ISCO Idaho Springs 115.23 42 IAMs_20 IAMs_20 09 29 23.5
comp=Z,2µm,22.0s
ISCO Idaho Springs 115.23 42 pP **PKPdf** **08 48 16.3 +0.9**
baz=300
S22A 4UR Ranch, Cre 115.38 45 pP **PKPdf** **08 48 16.8 +1.1**
baz=298
AGMN Agassiz Nation 116.00 30 IAMs_20 IAMs_20 09 36 17.8
comp=Z,2µm,20.0s
AGMN Agassiz Nation 116.00 30 pP **PKPdf** **08 48 18.0 +1.8**
baz=312
SDCO Great Sand Dun 116.31 44 pP **PKiKP** **08 48 19.0 +1.5**
baz=299
ESDC Sonseca Array 116.88 319 PKP **PKiKP** **08 48 19.2 +1.0**
comp=Z,2.0nm,1.1s,baz=29,slow=2.9,SNR=5.2
ESDC PP **PP** **08 49 29.7 +2.9**
comp=Z,1.4nm,0.8s,baz=60,slow=4.9,SNR=2.7
ANMO Albuquerque 116.93 47 IAMs_20 IAMs_20 09 33 45.8
comp=Z,2µm,21.0s
ANMO Albuquerque 116.93 47 pP **PKiKP** **08 48 19.6 +0.9**
baz=297
OGNE Ogallala 116.97 39 IAMs_20 IAMs_20 09 29 41.4
comp=Z,2µm,22.0s
121A Cookes Peak, D 116.98 50 pP **PKiKP** **08 48 19.8 +0.9**
baz=295
PAB San Pablo 117.20 319 IAMs_20 IAMs_20 09 43 02.6
comp=Z,2µm,21.0s
T25A Trinidad 117.36 44 pP **PKiKP** **08 48 20.4 +0.9**
baz=299
KSCO Kaye Shedlock' 117.62 42 pP **PKiKP** **08 48 20.5 +0.7**
baz=302
MVO Moncorvo 118.02 322 *e*LQ LQ 09 20 08.0
MVO eLR LR 09 27 32.2
comp=Z,2µm,22.0s
PGAV Gavieira, Arco 118.31 323 *e*LQ LQ 09 18 33.0
PGAV eLR LR 09 24 55.4
comp=Z,1µm,20.0s
EYMN Ely 118.36 28 IAMs_20 IAMs_20 09 38 23.1
comp=Z,2µm,22.0s
EYMN Ely 118.36 28 pP **PKiKP** **08 48 21.5 +0.7**
baz=316
POLO Lamas de Olo 118.37 322 *e*PKP **PKiKP** **08 48 23.4 +2.2**
PVRL Vila Real 118.38 322 *e*PKP **PKiKP** **08 48 22.7 +1.6**
ECSD EROS Data Cent 118.57 34 IAMs_20 IAMs_20 09 44 14.7
comp=Z,1µm,21.0s
ECSD EROS Data Cent 118.57 34 pP **PKiKP** **08 48 21.9 +0.5**
baz=309
MTE Manteigas 118.78 321 *e*LQ LQ 09 19 49.2
MTE eLR LR 09 24 40.4
comp=Z,2µm,20.0s
MTE Manteigas 118.78 321 IAMs_20 IAMs_20 09 49 24.9
comp=Z,2µm,22.0s
PCBR Castelo Branco 119.06 321 *e*PKP **PKiKP** **08 48 23.2 +0.8**
BGNE Belgrade 119.10 37 pP **PKiKP** **08 48 22.5 0.0**
baz=307
MNTX Cornudas Mount 119.18 50 IAMs_20 IAMs_20 09 32 56.5
comp=Z,2µm,21.0s
MNTX Cornudas Mount 119.18 50 pP **PKiKP** **08 48 23.3 +0.4**
baz=296
PMRV Marv??o 119.23 320 *e*LQ LQ 09 20 08.5
PMRV eLR LR 09 24 15.5
comp=Z,1µm,20.0s
CBKS Cedar Bluff 119.62 40 pP **PKiKP** **08 48 24.2 +0.6**
baz=304
SPMN Marine on St. 119.63 31 pP **PKiKP** **08 48 24.4 +1.0**
baz=313
PBAR Barrancos 119.71 319 *e*PKP **PKiKP** **08 48 25.5 +1.8**
MSTX Muleshoe 120.08 47 pP **PKiKP** **08 48 25.1 +0.4**
baz=299
SCHQ Schefferville 120.14 9 PKP **PKiKP** **08 48 24.9 +0.8**
comp=Z,14nm,0.7s,baz=260,slow=2.9,SNR=15
AMTX Amarillo 120.40 45 pP **PKiKP** **08 48 25.8 +0.5**
baz=300
PVAQ Vaqueiros 120.58 318 eLR LR 09 24 53.9
comp=Z,1µm,20.0s
COWI Conover 120.81 28 IAMs_20 IAMs_20 09 39 44.9
comp=Z,2µm,21.0s
KSU1 Kansas State U 121.43 38 IAMs_20 IAMs_20 09 35 47.0
comp=Z,2µm,19.0s
KSU1 Kansas State U 121.43 38 pP **PKiKP** **08 48 27.4 +0.3**
baz=307
TXAR Lajitas Array 121.55 52 PKP **PKiKP** **08 48 27.9 +0.1**
comp=Z,6.0nm,0.8s,baz=248,slow=1.1,SNR=29
TXAR PKKPbc **PKKPab** **08 58 29.0 +0.2**
comp=Z,0.5nm,0.6s,baz=125,slow=5.0,SNR=6.2
TXAR Lajitas Array 121.55 52 PKIKP **PKiKP** **08 48 27.9 +0.1**
TORD Torodi Ar. Bea 122.46 288 PKP **PKPdf** **08 48 28.8 -0.8**
comp=Z,8.6nm,0.7s,baz=40,slow=0.9,SNR=9.7
TORD PKKPbc **PKKPab** **08 58 24.7 0.0**
comp=Z,1.5nm,0.8s,baz=267,slow=2.8,SNR=8.0
WMOK Wichita Mounta 122.51 44 pP **PKiKP** **08 48 29.8 +0.4**
baz=303
JFWS Jewell Farm 122.56 31 pP **PKiKP** **08 48 29.4 +0.2**
baz=315
ABTX Abilene, Hawle 123.02 46 pP **PKiKP** **08 48 30.4 -0.1**
baz=301
GLMI Grayling 123.84 26 pP **PKiKP** **08 48 32.9 +1.2**
baz=322
TUL1 Leonard 123.86 41 IAMs_20 IAMs_20 09 44 41.8
comp=Z,2µm,20.0s
TUL1 Leonard 123.86 41 pP **PKiKP** **08 48 32.3 +0.4**
baz=306
JCT Junction City 123.98 49 IAMs_20 IAMs_20 09 41 24.5
comp=Z,1µm,19.0s
JCT Junction City 123.98 49 pP **PKiKP** **08 48 32.8 +0.4**
baz=300
L44A Lake County Fo 124.29 30 IAMs_20 IAMs_20 09 35 48.0
comp=Z,2µm,22.0s
L44A Lake County Fo 124.29 30 pP **PKiKP** **08 48 34.2 +1.6**
baz=317
HDIL Hopedale 124.73 33 pP **PKiKP** **08 48 34.1 +0.6**
baz=315
WHTX Lake Whitney, 124.92 46 pP **PKiKP** **08 48 34.7 +0.5**
baz=302
833A Chaparral WMA, 125.34 51 pP **PKiKP** **08 48 35.9 +0.8**
baz=299
CCM Cathedral Cave 125.34 36 pP **PKiKP** **08 48 35.8 +1.0**
baz=312
U40A Yellville 125.47 39 pP **PKiKP** **08 48 35.8 +0.7**
baz=309
U40A Yellville 125.47 39 IAMs_20 IAMs_20 09 35 20.4
comp=Z,2µm,20.0s
435B Jarrell 125.47 47 pP **PKiKP** **08 48 35.8 +0.5**
baz=302
W39A Magazine 125.59 41 pP **PKiKP** **08 48 36.3 +0.9**
baz=308
SFIN Lafayette 126.02 31 pP **PKiKP** **08 48 37.0 +0.9**
baz=317
AAM Ann Arbor 126.25 27 pP **PKiKP** **08 48 37.6 +1.1**
baz=322
W41B Gary Mavity, V 126.59 40 pP **PKiKP** **08 48 38.4 +1.0**
baz=309
X40A Basin Creek Fa 126.64 41 pP **PKiKP** **08 48 38.5 +1.0**
baz=308

KVTX Kingsville 126.88 51 IAMs_20 IAMs_20 09 38 40.4
comp=Z,1µm,20.0s
NATX Nacogdoches 127.03 45 pP **PKiKP** **08 48 38.8 +0.4**
baz=305
O48B Farmland 127.11 30 pP **PKiKP** **08 48 39.4 +1.1**
baz=319
HKT Hockley 127.19 47 IAMs_20 IAMs_20 09 35 19.2
comp=Z,2µm,21.0s
Z41A Richland Creek 127.42 42 pP **PKiKP** **08 48 40.0 +0.9**
baz=307
KOWA Kowa 127.46 292 IAMs_20 IAMs_20 09 45 56.7
comp=Z,1µm,21.0s
LONY Lake Ozonia 127.86 19 pP **PKiKP** **08 48 40.7 +1.0**
baz=333
P49A Miami Univ. Ec 127.87 30 pP **PKiKP** **08 48 40.3 +0.5**
baz=319
ERPA Erie 128.01 25 pP **PKiKP** **08 48 41.1 +1.0**
baz=326
ACSO Alum Creek Sta 128.19 29 IAMs_20 IAMs_20 09 48 56.2
comp=Z,2µm,21.0s
ACSO Alum Creek Sta 128.19 29 pP **PKiKP** **08 48 41.4 +0.9**
baz=321
M53A WI Miller and 128.27 26 pP **PKiKP** **08 48 41.6 +0.9**
baz=324
M54A Oil Creek Stat 128.65 25 pP **PKiKP** **08 48 42.5 +1.1**
baz=326
WVT Waverly 128.65 36 IAMs_20 IAMs_20 09 41 10.6
comp=Z,2µm,21.0s
WVT Waverly 128.65 36 pP **PKiKP** **08 48 42.6 +1.1**
baz=314
PKME Peaks-Kenny Pk 128.78 14 pP **PKiKP** **08 48 42.9 +1.4**
baz=340
OXF Oxford 128.80 38 pP **PKiKP** **08 48 42.3 +0.4**
baz=311
N54A Moraine State 128.96 26 pP **PKiKP** **08 48 42.6 +0.6**
baz=325
O53A New Philadelph 129.00 27 pP **PKiKP** **08 48 42.7 +0.6**
baz=323
LBNH Lisbon 129.02 17 pP **PKiKP** **08 48 43.4 +1.3**
baz=336
P52A Corning 129.06 28 IAMs_20 IAMs_20 09 38 21.0
comp=Z,2µm,22.0s
P52A Corning 129.06 28 pP **PKiKP** **08 48 42.9 +0.7**
baz=322
BINY Binghamton 129.51 22 pP **PKiKP** **08 48 43.8 +0.7**
baz=330
PMOZ Porto Moniz, M 129.53 320 *e*LR LR 09 30 53.6
comp=Z,826nm,20.0s
VBMS Vicksburg 129.57 41 pP **PKiKP** **08 48 44.2 +0.7**
baz=309
MCWV Mont Chateau 130.09 27 pP **PKiKP** **08 48 45.3 +1.0**
baz=325
SSPA Standing Stone 130.12 24 pP **PKiKP** **08 48 45.3 +0.9**
baz=327
O56A Blue Knob Stat 130.14 25 pP **PKiKP** **08 48 45.3 +0.8**
baz=326
DBIC Dimbokro 130.16 282 PKP **PKPdf** **08 48 43.1 -1.2**
comp=Z,21nm,1.1s,baz=119,slow=1.6,SNR=6.0
DBIC SKPbc **SKPbc** **08 52 06.0 +1.7**
comp=Z,22nm,0.9s,baz=43,slow=3.8,SNR=6.7
DBIC Dimbokro 130.16 282 PKIKP **PKPdf** **08 48 43.1 -1.2**
L61B Northampton 130.42 19 pP **PKiKP** **08 48 46.0 +1.1**
baz=334
N59A State Game Lan 130.71 22 pP **PKiKP** **08 48 46.7 +1.2**
baz=330
TZTN Tazewell 130.73 32 pP **PKiKP** **08 48 46.3 +0.6**
baz=319
LRAL Lakeview Retre 131.28 38 pP **PKiKP** **08 48 47.9 +1.0**
baz=313
PAL Palisades 131.31 20 pP **PKiKP** **08 48 47.5 +0.8**
baz=332
BLA Blacksburg 131.80 29 pP **PKiKP** **08 48 48.7 +0.9**
baz=323
CBN Corbin Frederi 132.38 25 pP **PKiKP** **08 48 49.5 +0.6**
baz=327
BRAL Brewton 132.50 40 pP **PKiKP** **08 48 50.0 +0.7**
baz=312
KMSC Kings Mountain 132.96 31 pP **PKiKP** **08 48 50.9 +0.7**
baz=320
GOGA Godfrey 133.10 35 pP **PKiKP** **08 48 50.8 +0.3**
baz=317
TIGA Tifton 134.45 37 pP **PKiKP** **08 48 54.1 +0.8**
baz=316
NHSC New Hope 135.14 32 IAMs_20 IAMs_20 09 45 19.3
comp=Z,2µm,21.0s
NHSC New Hope 135.14 32 pP **PKiKP** **08 48 55.0 +0.3**
baz=321
DWPF Disney Wildern 138.14 38 pP **PKiKP** **08 49 00.5 -0.4**
baz=316
SNET Serv Nac Est T 140.41 63 IAMs_20 IAMs_20 09 42 52.5
comp=Z,1µm,21.0s
PLCA Paso Flores 140.57 160 PKhKP PKPpre 08 48 59.5
comp=Z,3.1nm,0.7s,baz=234,slow=5.1,SNR=8.2
TGUH Tegucigalpa,Un 141.97 61 IAMs_20 IAMs_20 09 42 50.8
comp=Z,2µm,22.0s
TGUH Tegucigalpa,Un 141.97 61 *e*P **PKiKP** **08 49 09.3 +0.1**
JTS Las Juntas de 145.60 65 IAMs_20 IAMs_20 09 40 26.2
comp=Z,1µm,21.0s
JTS Las Juntas de 145.60 65 *e*P **PKPab** **08 49 13.8 +0.7**
HDC Heredia 146.47 65 IAMs_20 IAMs_20 09 50 46.4
comp=Z,1µm,20.0s
PEL Peldehore 147.09 153 IAMs_20 IAMs_20 09 46 46.8
comp=Z,1µm,22.0s
PRVC Isla de Provid 147.35 57 *e*P **PKPab** **08 49 19.7 0.0**
MTDJ Mount Denham 147.52 46 IAMs_20 IAMs_20 09 50 28.0
comp=Z,932nm,22.0s
MTDJ Mount Denham 147.52 46 *e*P **PKPbc** **08 49 17.9 -0.5**
MCJ Malvern 147.61 47 *i* P **PKiKP** **08 49 20.6 -0.1**
GTBY Guantanamo Bay 148.01 41 *e*P **PKPbc** **08 49 19.7 +0.2**
STH Stony Hill 148.14 45 *i* P **PKiKP** **08 49 21.3 -0.5**
HOJ Hope 148.23 45 *i* P **PKiKP** **08 49 22.3 +0.4**
BRU2 Volcan 148.24 66 *e*P **PKPdf** **08 49 15.8 -1.4**
CMJ Castle Mountai 148.41 45 *i* P **PKiKP** **08 49 22.9 +0.6**
CACAO El Cacao, Vera 150.46 67 *e*P **PKPdf** **08 49 22.6 +2.0**
BCIP Isla Barro Col 150.65 63 *e*P **PKPdf** **08 49 22.6 +1.7**
UPA Univ. de Panam 151.00 63 *e*P **PKPbc** **08 49 25.6 -1.5**
SDDR Presa de Saban 151.10 37 *e*P **PKPbc** **08 49 26.1 -1.2**
PTAC Punta Ardita, 153.32 65 *e*P **PKPdf** **08 49 23.8 -1.1**
SJCC San Jacinto, C 154.32 57 *e*P **PKPdf** **08 49 27.4 +1.1**
SMRC Santa Marta, M 154.40 53 *e*P **PKPdf** **08 49 27.0 +0.6**
MOTC Monteria, Cord 154.48 60 *e*P **PKPdf** **08 49 25.6 -0.9**
PIZC Pizarro, Choco 154.56 69 *e*P **PKPdf** **08 49 30.6 +4.0**
SJG San Juan 154.59 29 IAMs_20 IAMs_20 09 57 14.4
comp=Z,942nm,21.0s
SJG San Juan 154.59 29 *e*P **PKPdf** **08 49 26.1 -0.4**
OTAV Otavalo 154.77 80 PKIKP **PKPdf** **08 49 28.6 +1.1**
OTAV Otavalo 154.77 80 *e*P **PKPdf** **08 49 31.0 +3.5**
OTAV Otavalo 154.77 80 **PKPdf** **08 49 28.6 +1.1**
CUSE Cuicocha Este 154.81 80 *e*P **PKPdf** **08 49 24.2 -3.3**
SJDU San Jose de Ur 155.09 62 *e*P **PKPdf** **08 49 26.5 -0.8**
TULM Tulcn-Chalpat 155.33 79 *e*P **PKPdf** **08 49 29.2 +0.9**
CBOC Ciudad Bolivar 155.47 66 *e*P **PKPdf** **08 49 24.2 -3.8**
CRJC Cerrejon, Guaj 155.55 52 *e*P **PKPdf** **08 49 27.6 -0.4**
PLMC San Jos del P 155.59 68 *e*P **PKPdf** **08 49 29.2 +1.1**
HELC Santa Helena 155.78 65 *e*P **PKPdf** **08 49 26.5 -2.2**
ZARC Zaragoza, Cauc 155.80 61 *e*P **PKPdf** **08 49 27.9 -0.4**
URIC Uribia, Colomb 155.81 49 *e*P **PKPdf** **08 49 27.9 -0.4**
YOTC Yotoco, Valle 155.85 71 *e*P **PKPdf** **08 49 27.9 -0.7**
POPC Popayan, Colom 155.97 74 *e*P **PKPdf** **08 49 29.2 +0.4**
SMRT St. Maarten 155.97 23 IAMs_20 IAMs_20 09 55 00.1
comp=Z,1µm,22.0s
LL6C La Loma 6 Bece 155.99 55 *e*P **PKPdf** **08 49 27.4 -1.1**
SOTA Rioblanco 156.15 75 *e*P **PKPdf** **08 49 29.2 -0.2**
PCON Cinco Dias 156.30 74 *e*P **PKPdf** **08 49 30.6 +0.9**
GUY2C Guyana, Caldas 156.31 67 *e*P **PKPdf** **08 49 27.4 -2.2**
LVC Limon Verde 156.46 142 IAMs_20 IAMs_20 09 55 25.1
comp=Z,1µm,21.0s
ANIL Santa Ana 156.55 69 *e*P **PKPdf** **08 49 27.6 -2.0**
MARP Paez Belalcaza 156.58 73 *e*P **PKPdf** **08 49 29.7 0.0**
PTBC PUERTO BERRIO 156.59 63 *e*P **PKPdf** **08 49 27.4 -1.9**
NORC Norcasia 156.63 66 *e*P **PKPdf** **08 49 28.3 -1.1**
OCAC Ocana 156.75 58 *e*P **PKPdf** **08 49 30.1 +0.4**
ANWB Willy Bob 156.80 20 IAMs_20 IAMs_20 09 59 56.8
comp=Z,1µm,21.0s
ORTC Ortega, Tolima 156.91 70 *e*P **PKPdf** **08 49 29.7 -0.1**
GARC Garzon, Huila 157.21 74 *e*P **PKPdf** **08 49 29.3 -1.1**
SPBC San Pablo de B 157.32 65 *e*P **PKPdf** **08 49 29.7 -0.7**
DABV Dabajuro 157.33 48 *e*P **PKPdf** **08 49 27.6 -2.6**
ROSC El Rosal 157.42 67 PKP **PKPdf** **08 49 31.8 +0.9**
comp=Z,11nm,0.9s,baz=148,slow=4.8,SNR=7.9
ROSC El Rosal 157.42 67 PKIKP **PKPdf** **08 49 31.8 +0.9**
ROSC El Rosal 157.42 67 *e*P **PKPdf** **08 49 31.0 +0.1**
HATO Hato, Curacao 157.66 43 IAMs_20 IAMs_20 10 04 19.5
comp=Z,1µm,22.0s
BARC Barichara 157.69 61 *e*P **PKPdf** **08 49 31.0 0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CPUP	Villa Florida	157.72	171	PKP	PKPdf	08 49 30.9	+0.5
	comp=Z,5.5nm,0.9s,baz=140,slow=2.2,SNR=6.9						
CPUP				PKPab	PKPab	08 50 01.6	-1.1
	comp=Z,21nm,1.1s,baz=192,slow=4.4,SNR=5.2						
CPUP	Villa Florida	157.72	171	PKIKP	PKPdf	08 49 30.9	+0.5
CPUP						08 50 01.6	
CHIC	Chingaza	158.04	67	eP	PKPdf	08 49 29.3	-2.4
GDHS	Morne Mazeau,	158.09	21	IAMs_20	IAMs_20	09 56 33.2	
	comp=Z,906nm,21.0s						
RUSC	La Rusia	158.10	63	eP	PKPdf	08 49 31.0	-0.8
PTLC	Puerto Leguiza	158.37	79	eP	PKPdf	08 49 31.9	+0.3
SDV	Santo Domingo	158.59	53	eP	PKPdf	08 49 31.0	-1.0
SOCV	Socops	158.77	54⇑	eP	PKPdf	08 49 30.6	-1.5
MACC	Macarena, Meta	158.79	73	eP	PKPdf	08 49 31.0	-1.1
TAMC	Tame, Arauca	158.97	60	eP	PKPdf	08 49 32.9	+0.5
SVN	Savane Anatole	159.63	21	IAMs_20	IAMs_20	09 57 15.9	
	comp=Z,943nm,20.0s						
PTGC	Puerto Gaitan,	159.67	66	eP	PKPdf	08 49 29.7	-3.4
FDF	Fort de France	159.73	22	IAMs_20	IAMs_20	09 57 19.7	
	comp=Z,1μm,22.0s						
LPAZ	La Paz	161.35	131	PKP	PKPdf	08 49 35.9	+0.3
	comp=Z,14nm,1.1s,baz=225,slow=2.8,SNR=4.8						
LPAZ				PKPab	PKPab	08 50 18.5	-1.1
	comp=Z,4.4nm,0.7s,baz=315,slow=2.9,SNR=1.6						
LPAZ	La Paz	161.35	131	PKIKP	PKPdf	08 49 35.9	+0.3
LPAZ						08 50 18.5	
LPAZ	La Paz	161.35	131	eP	PKPdf	08 49 31.9	-3.7
TBTG	Tabatinga, AM	163.73	90	eP	PKPdf	08 49 35.1	-2.2
BDFB	Brasilia	167.39	205	PKP	PKPdf	08 49 41.0	+0.6
	comp=Z,7.7nm,1.0s,baz=32,slow=2.4,SNR=7.5						
BDFB				PKPab	PKPab	08 50 45.1	-0.3
	comp=Z,25nm,1.2s,baz=96,slow=2.3,SNR=6.5						
BDFB	Brasilia	167.39	205	PKIKP	PKPdf	08 49 41.0	+0.6
BDFB						08 50 45.1	

*IDC **05** 08:42:48.6±0.5, 4.°09N×126.°40E, h0km, mb4.5/25, mb1 4.6/28, mb1mx4.4/49, mbtmp4.5/28, ML4.2/3, Error ellipse: s-maj=24.0km s-min=8.8km az=75.0*

*MAN **05** 08:42:49.2, 3.°77N×126.°55E, h8km, mb4.7, ML3.6, MS3.5, Hypocentre not reviewed by the ISC*

*DJA **05** 08:42:50.7±0.6, 4°N±3°×12°7E±°, h12km±3km, M5.2/32, mB6.1/6, mb4.8/32, MLv5.0/13, Mw(mB)5.8/6*

*BJI **05** 08:42:53.4±0.0, 4.°11N×126.°53E, h41km, mb4.8/49, mB5.6/11, Ms5.0/6, Ms7 4.8/6*

*NEIC **05** 08:42:55.4±2.1, 4.°18N±0.°06×126.°64E±0.°07, h38km±6km, mb4.7/64, Error ellipse: s-maj=11.6km s-min=7.9km az=58.0*

ISC 05 08:42:55.4±0.3**, 4.°16N**±0.°04×**126.°69E**±0.°06**, h45**km**, n160,** σ**1.§60**/169**, mb4.7**/65**, 4C-4D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.25	248	P	Pn	08 43 14.4	-2.1
GSPH	General Santos	2.58	318⇑	iP	Pn	08 43 34.6	-0.3
DAV	Davao City (W)	3.10	339	Pn	Pn	08 43 39.9	-1.8
	52nm,0.3s,baz=79,slow=10,SNR=1.4						
DAV				Sn	Sn	08 44 15.8	-1.8
	50nm,0.3s,baz=72,slow=19,SNR=2.0						
DAV				Lg	Lg	08 44 25.2	
	97nm,0.3s,baz=142,slow=22,SNR=4.2						
DAV	Davao City (W)	3.10	339		Pn	08 43 39.7	-2.1
KCP	Kidapawan	3.25	331⇑	eP	Pn	08 43 45.0	+1.1
TNTI	Ternate	3.43	169		Pn	08 43 46.1	-0.3
TNTI	Ternate	3.43	169	P	Pn	08 43 46.9	+0.5
CTBH	Cotabato--PC H	3.90	321⇓	eP	Pn	08 43 53.7	+1.0
CTBH				i S	Sn	08 44 44.0	+6.7
BUKP	Musuan	4.03	336⇑	iP	Pn	08 43 56.6	+1.9
KMSI	Cibinong	4.48	217	P	Pn	08 44 00.9	+0.2
CGP	Cagayan de Oro	4.71	335⇓	eP	Pn	08 44 09.4	+5.6
LBMI	Labuha	4.83	170	P	Pn	08 44 06.3	+0.6
	1.0nm107nm,0.8s						
GTOI	Gorontalo	5.08	227	P	Pn	08 44 10.0	+1.0
	0.4nm54nm,0.9s						
MRSI	Marisa	5.99	232	P	Pn	08 44 21.1	-0.5
	0.9nm198nm,0.6s						
SANI	Sanana	6.21	187	P	Pn	08 44 23.2	-1.3
	0.3nm37nm,0.6s						
LUWI	Luwuk	6.49	217	Pn	Pn	08 44 29.8	+1.5
LUWI	Luwuk	6.49	217	P	Pn	08 44 32.0	+3.7
	1.5nm308nm,0.8s						
TOLI2	Tolitoli	6.64	243	Pn	Pn	08 44 28.2	-2.2
SWI	Sorong	6.76	137	P	Pn	08 44 31.7	-0.4
	0.3nm79nm,0.8s						
SIJI	Sorong	6.77	137	Pn	Pn	08 44 32.6	+0.3
	8.2nm,0.3s,baz=302,slow=23,SNR=9.2						
SIJI				Sn	Sn	08 45 48.4	+0.3
	2.2nm,0.3s,baz=164,slow=23,SNR=9.4						
APSI	Ampana	7.13	225	P	Pn	08 44 41.6	+4.5
	0.7nm227nm,1.1s						
RCP	Roxas	8.33	332⇑	eP	Pn	08 44 56.9	+3.3
FAKI	Fak Fak	8.96	142		Pn	08 45 00.9	-1.4
FAKI	Fak Fak	8.96	142	P	Pn	08 45 01.7	-0.6
	8μm44nm,1.2s						
TTSI	Tana Toraja	9.92	224	P	Pn	08 45 18.5	+3.0
	65nm,1.3s						
KKM	Kota Kinabalu	10.60	281	Pn	Pn	08 45 25.7	+0.8
BNSI	Bone	10.75	218	P	Pn	08 45 30.7	+3.9
	4μm24nm,1.3s						
KAPI	Kappang	11.45	217	Pn	Pn	08 45 30.6	-5.8
	0.5nm,0.3s,baz=27,slow=14,SNR=2.4						
KAPI	Kappang	11.45	217	Pn	Pn	08 45 39.5	+3.1
MMRI	Maumere	13.47	199	P	Pn	08 46 06.8	+2.8
BBKI	Banjar Baru	14.06	238	P	Pn	08 46 14.5	+2.5
	57nm,1.0s						
SBUM	Sibu	14.55	264		Pn	08 46 20.1	+1.5
WBSI	Waikabubak, Su	15.52	208	P	Pn	08 46 32.9	+1.5
	157nm,0.8s						
PLAI	Plampang	15.67	215	P	P	08 46 36.5	-0.2
	92nm,1.4s						
STKI	Sintang	15.74	255	P	P	08 46 37.5	+0.1
KSM	Kuching	16.58	261	P	P	08 46 47.1	+0.4
SRBI	Singaraja	16.71	223	P	P	08 46 47.6	-0.6
	37nm,0.8s						
MTN	Manton Dam	17.46	165	P	Pn	08 46 53.8	-1.9
JAGI	Jajag, Banyuwa	17.72	225	P	P	08 47 00.3	+0.9
DLV	T Lat	19.60	294	P	P	08 47 20.8	+0.5
DLV				IAmb	IAmb	08 47 22.5	
	comp=Z,36nm,1.0s						
KNRA	Kununurra	19.82	174	P	P	08 47 23.0	+0.7
KNRA				IAmb	IAmb	08 47 26.1	
	comp=Z,37nm,0.7s						
YULB	Yu-li	19.82	345	P	P	08 47 19.7	-2.7
SSLB	Suanglung	20.28	345	P	P	08 47 27.1	-0.3
KPJI	Karang Pucung	21.09	237	P	P	08 47 35.3	-0.8
	comp=Z,50nm,1.0s						
FITZ	Fitzroy Crossi	22.14	183	P	P	08 47 46.1	-1.3
	comp=Z,13nm,0.7s,baz=5.6,slow=6.7,SNR=18						
FITZ				S	S	08 51 42.1	-6.8
	comp=Z,4.4nm,1.0s,baz=20,slow=12,SNR=2.5						
FITZ	Fitzroy Crossi	22.14	183	P	P	08 47 45.6	-1.8
JOW	Kunigami	22.59	4	P	P	08 47 52.9	+0.7
	comp=Z,24nm,0.9s,baz=181,slow=12,SNR=6.7						
JOW	Kunigami	22.59	4	P	P	08 47 52.4	+0.2
JOW				IAmb	IAmb	08 48 05.7	
	comp=Z,53nm,1.2s						
UBPT	Khong Chiam	23.63	299	P	P	08 48 01.7	-1.0
UBPT				IAmb	IAmb	08 48 02.4	
	comp=Z,51nm,1.1s						
MDSI	Maura Dua	24.08	249	P	P	08 48 06.1	-0.8
	comp=Z,12nm,0.9s						
COEN	Coen	24.32	138	P	P	08 48 10.0	+1.0
WB0	Warramunga Arr	24.95	163	P	P	08 48 14.3	-0.4
WB0				IAmb	IAmb	08 48 23.5	
	comp=Z,28nm,0.8s						
WRAB	Tennant Creek	25.10	163	P	P	08 48 15.6	-0.5
WRAB				IAmb	IAmb	08 48 26.4	
	comp=Z,26nm,0.7s						
WRA	Warramunga Arr	25.10	163	P	P	08 48 15.3	-0.8
	comp=Z,19nm,0.9s,baz=342,slow=10,SNR=21						
WRA	Warramunga Arr	25.10	163	P	P	08 48 16.4	+0.2
WB2	Warramunga Arr	25.11	163	P	P	08 48 16.4	+0.2
WR0	Warramunga Arr	25.18	162	P	P	08 48 16.6	-0.2
WR0				IAmb	IAmb	08 48 25.9	
	comp=Z,22nm,0.9s						
MASI	Maura Aman, Be	25.49	254	P	P	08 48 21.4	+1.6
	comp=Z,111nm,1.1s						
IPM	Ipoh	25.60	272	P	P	08 48 22.0	+1.3
IPM				IAmb	IAmb	08 48 26.3	
	comp=Z,27nm,1.2s						
KULM	Kulim	25.98	274	P	P	08 48 26.3	+2.1
KULM				IAmb	IAmb	08 48 30.7	
	comp=Z,23nm,1.1s						
PSA00	Pilbara Seismi	26.44	194	P	P	08 48 27.2	-1.0
PSA00				IAmb	IAmb	08 48 38.2	
	comp=Z,32nm,0.9s						
AS31	Alice Springs	28.54	166	P	P	08 48 47.8	+0.7
ASAR	Alice Springs	28.54	166	P	P	08 48 46.0	-1.0
	comp=Z,2.9nm,0.7s,baz=335,slow=6.2,SNR=14						
ASAR				PcP	PcP	08 51 57.9	-0.1
	comp=Z,1.6nm,0.8s,baz=346,slow=1.9,SNR=4.2						
ASAR				S	S	08 53 35.1	+3.0
	comp=Z,0.5nm,1.0s,baz=286,slow=38,SNR=1.6						
ASAR	Alice Springs	28.54	166	P	P	08 48 48.2	+1.2
NJ2	Nanjing	28.70	346	eP	P	08 48 51.2	+2.9
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JNU	Nakatsue	29.08	7	P	P	08 48 52.7	+1.0
	comp=Z,6.7nm,0.8s,baz=140,slow=5.1,SNR=5.6						
JNU	Nakatsue	29.08	7	P	P	08 48 52.2	+0.5
CMAR	Chiang Mai Arr	30.62	300	P	P	08 49 04.8	-0.8
	comp=Z,2.9nm,0.4s,baz=114,slow=7.5,SNR=16						
CMAR	Chiang Mai Arr	30.62	300	P	P	08 49 05.5	-0.1
CHTO	Chiang Mai	30.77	300		P	08 49 06.3	-0.6
PZH	PanZhiHua	32.61	315	P	P	08 49 24.5	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LYN	LuoYang	33.00	338	eP	P	08 49 26.4	+0.2
LYN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIA	Tai'an	33.09	346 ⇓	P	P	08 49 27.1	+0.1
TIA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KSAR	Wonju Array Be	33.14	2	P	P	08 49 27.7	+0.3
KSRS	Korea Array	33.15	2	P	P	08 49 28.3	+0.8
	comp=Z,2.5nm,0.6s,baz=177,slow=9.7,SNR=12						
KSRS				PcP	PcP	08 52 10.7	+0.9
	comp=Z,0.4nm,0.3s,baz=202,slow=4.4,SNR=4.4						
XAN	Xi'an	34.02	333	P	P	08 49 34.2	-1.0
XAN				pP	pP	08 49 44.8	-1.6
XAN				pmax	pmax		
	comp=Z,40nm,1.0s						
FORT	Forrest	34.77	178	P	P	08 49 40.7	-0.9
HNS	HongShan	34.86	343 ⇓	P	P	08 49 42.3	0.0
HNS				pmax	pmax		
	comp=Z,20nm,1.0s						
BJT	Baijiatuau	36.94	347	P	P	08 49 59.3	-0.8
BJT				IAmb	IAmb	08 50 02.1	
	comp=Z,16nm,0.9s						
EIDS	Eidsvold	37.71	142	P	P	08 50 07.8	+1.0
BBOO	Buckleboo	37.83	167	P	P	08 50 07.1	-0.6
BBOO				IAmb	IAmb	08 50 10.0	
	comp=Z,9.5nm,0.8s						
LZH	Lanzhou	38.12	329	eP	P	08 50 09.2	-1.1
LZH				pP	pP	08 50 21.9	+0.2
LZH				sP	sP	08 50 26.1	-0.5
LZH				PP	PnPn	08 51 40.8	+0.9
LZH				pmax	pmax		
	comp=Z,38nm,1.3s						
STKA	Stephens Creek	38.54	159	P	P	08 50 13.7	-0.1
	comp=Z,20nm,0.9s,baz=330,slow=8.9,SNR=15						
STKA	Stephens Creek	38.54	159	P	P	08 50 14.2	+0.4
HHC	Hu-ho-hao-te	38.98	342	eP	P	08 50 18.3	+0.8
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
SHL	Shillong	39.59	306	P	P	08 50 21.5	-1.4
MDJ	Mudanjiang	40.37	3	P	P	08 50 33.7	+4.9
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
XLT	XiLinHaoTe	40.67	348	eP	P	08 50 31.6	+0.2
XLT				pmax	pmax		
	comp=Z,26nm,0.9s						
XLT				pmax	pmax		
	comp=Z,1μm,8.2s						
ARMA	Armidale	41.84	147	P	P	08 50 41.9	+0.6
ARMA				IAmb	IAmb	08 50 42.9	
	comp=Z,14nm,1.1s						
ASAJ	Asahikawa	42.19	17	P	P	08 50 44.8	+1.0
	comp=Z,7.1nm,0.9s,baz=221,slow=19,SNR=1.6						
GOMU	GeErMu	43.33	321	P	P	08 50 54.1	+0.5
GOMU				PP	PP	08 52 30.4	-4.5
GOMU				PcP	PcP	08 52 42.9	+1.0
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,390nm,8.0s						
CAN	Canberra	44.51	154	P	P	08 51 05.2	+2.5
TOO	Toolangi	45.05	159	P	P	08 51 08.2	+1.2
TOO				IAmb	IAmb	08 51 19.1	
	comp=Z,22nm,1.2s						
ULN	Ulaanbaatar	46.70	342	P	P	08 51 20.6	+0.6
ULN				IAmb	IAmb	08 51 22.1	
	comp=Z,12nm,1.1s						
SONM	Songino Array	46.88	341	P	P	08 51 21.2	-0.1
	comp=Z,5.2nm,0.9s,baz=164,slow=8.8,SNR=14						
WMQ	Urumqi	52.35	325	eP	P	08 52 04.8	+1.8
MK31	Makanchi Array	57.18	325	P	P	08 52 37.2	-0.6
MKAR	Makanchi Array	57.18	325	P	P	08 52 36.6	-1.3
	comp=Z,3.1nm,0.5s,baz=124,slow=8.3,SNR=18						
MKAR				ScP	ScP	08 57 32.7	+4.3
	comp=Z,0.8nm,0.7s,baz=120,slow=4.3,SNR=3.8						
MKAR	Makanchi Array	57.18	325	P	P	08 52 37.2	-0.6
MAKZ	Makanchi	57.37	325	P	P	08 52 38.6	-0.6
MAKZ				IAmb	IAmb	08 52 41.1	
	comp=Z,5.5nm,0.7s						
TARG	Taragay, Kyrgy	57.41	318	P	P	08 52 39.7	-0.3
NIL	Nilore	57.63	308	P	P	08 52 40.6	-0.8
KSH	Kashi	57.72	315	P	P	08 52 43.1	+1.2
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YAK	Yakutsk	57.78	2	P	P	08 52 41.8	+0.1
KDJ	Kajisay	58.00	318	P	P	08 52 43.1	-0.8
KDJ				IAmb	IAmb	08 52 47.3	
	comp=Z,6.9nm,0.8s						
ZAA0	Zalesovo Array	60.19	333	P	P	08 52 58.4	-0.2
ZAA0				IAmb	IAmb	08 53 18.4	
	comp=Z,3.1nm,0.7s						
ZALV	Zalesovo Beam	60.19	333	P	P	08 52 56.7	-1.9
	comp=Z,1.9nm,0.4s,baz=141,slow=7.7,SNR=6.3						
KBL	Kabul	61.23	307	P	P	08 53 05.2	-1.1
KBL				IAmb	IAmb	08 53 05.6	
	comp=Z,7.5nm,0.8s						
KURBB	Kurchatov Arra	61.36	327	P	P	08 53 05.0	-1.6
	comp=Z,13nm,0.9s,baz=124,slow=6.3,SNR=46						
KURK	Kurchatov	61.36	327	P	P	08 53 05.7	-0.9
BTK	Batken	61.60	314	P	P	08 53 08.1	-0.4
BTK				IAmb	IAmb	08 53 16.6	
	comp=Z,7.9nm,1.1s						
GAR	Garm	61.61	312	P	P	08 53 07.6	-1.1
KK31	Karatay Array	62.89	317	P	P	08 53 16.8	-0.3
KK31				IAmb	IAmb	08 53 17.6	
	comp=Z,5.2nm,0.9s						
KKAR	Karatay Array	62.89	317	P	P	08 53 16.9	-0.2
KKAR	Karatay Array	62.89	317	P	P	08 53 16.8	-0.3
KKAR				IAmb	IAmb	08 53 17.6	
	comp=Z,5.2nm,0.9s						
BRVK	Borovoye	67.01	327	P	P	08 53 42.8	-0.8
NRIK	Noril'sk	70.00	346	P	P	08 54 02.3	+0.3
	comp=Z,15nm,0.9s,baz=126,slow=6.0,SNR=12						
NRIK	Noril'sk	70.00	346	P	P	08 54 02.8	+0.8
GEYT	Alibeck	70.60	309	P	P	08 54 05.7	-0.6
	comp=Z,1.7nm,0.4s,baz=347,slow=5.9,SNR=3.8						
GEYT	Alibeck	70.60	309	P	P	08 54 05.3	-1.0
GEYT				IAmb	IAmb	08 54 07.2	
	comp=Z,5.5nm,0.9s						
GYA0B	ALIBECK ARRAY	70.60	309	P	P	08 54 05.9	-0.4
GYA0B				IAmb	IAmb	08 54 07.2	
	comp=Z,6.8nm,0.9s						
CASY	Casey	71.24	187	P	P	08 54 10.3	+0.8
CASY				IAmb	IAmb	08 54 26.3	
	comp=Z,8.9nm,1.0s						
ABKAR	Akbulak array	71.80	321	P	P	08 54 12.9	-0.3
ABKAR	Akbulak array	71.80	321	P	P	08 54 11.9	-1.4
SOCY	Socotra	72.24	281	P	P	08 54 14.2	-2.4
SOCY				IAmb	IAmb	08 54 15.8	
	comp=Z,9.8nm,1.0s						
AKTO	Aktyubinsk	73.30	322	P	P	08 54 20.7	-1.5
	comp=Z,3.0nm,0.6s,baz=93,slow=7.2,SNR=8.4						
ARU	Arti	74.56	328	P	P	08 54 28.0	-1.4
	comp=Z,2.6nm,0.2s,baz=114,slow=3.8,SNR=5.0						
ARU	Arti	74.56	328	P	P	08 54 28.0	-1.4
RDOG	Red Dog Mine	78.90	21	P	P	08 54 53.3	-0.4
TTA	Tatalina	80.53	27	P	P	08 55 04.1	+1.4
TTA				IAmb	IAmb	08 55 06.5	
	comp=Z,14nm,1.4s						
J20K	Nowinta River	81.55	26	P	P	08 55 09.5	+1.5
J20K				IAmb	IAmb	08 55 10.9	
	comp=Z,10.0nm,1.1s						
IMAR	Indian Mountai	81.97	24	P	P	08 55 11.9	+1.7
VNDA	Vanda	83.86	173	P	P	08 55 19.7	0.0
	comp=Z,3.3nm,0.9s,baz=300,slow=6.2,SNR=11						
VNDA	Vanda	83.86	173	P	P	08 55 20.0	+0.3
VNDA				IAmb	IAmb	08 55 20.7	
	comp=Z,5.3nm,1.1s						
TOLK	Toolik Lake Re	83.86	21	P	P	08 55 22.1	+2.1
TOLK				IAmb	IAmb	08 55 44.8	
	comp=Z,11nm,1.1s						
ILAR	Eielson Array	84.73	25	P	P	08 55 24.7	+0.2
	comp=Z,0.6nm,0.7s,baz=250,slow=6.1,SNR=5.1						
KLMR	Klimovskoe	85.01	331	eP	P	08 55 24.0	-1.9
KLMR				AMP		08 55 28.3	
	comp=Z,48nm,1.2s						
BMAR	Burnt Mountain	85.70	23	P	P	08 55 30.6	+1.3
BCAR	Beaver Creek A	87.01	27	P	P	08 55 37.0	+1.2
KMBO	Kilima Mbogo	89.52	269	P	P	08 55 48.1	-1.0
	comp=Z,1.7nm,0.5s,baz=41,slow=11,SNR=5.3						
KMBO	Kilima Mbogo	89.52	269	P	P	08 55 48.1	-1.0
KMBO				IAmb	IAmb	08 55 49.4	
	comp=Z,5.1nm,1.1s						
BRTR	Keskin Array B	89.72	310	P	P	08 55 48.8	-0.5
	comp=Z,1.1nm,0.7s,baz=52,slow=15,SNR=4.3						
INK	Inuvik	89.78	21	P	P	08 55 50.1	+1.4
ARCES	ARCESS Array B	90.03	340	P	P	08 55 47.9	-2.1
	comp=Z,2.8nm,0.8s,baz=57,slow=6.6,SNR=6.3						
FINES	FINESS Array B	91.44	332	P	P	08 55 54.4	-2.2
	comp=Z,4.3nm,0.8s,baz=71,slow=6.0,SNR=8.4						
AKASG	Malin Array Be	91.54	321	P	P	08 55 55.9	-1.4
	comp=Z,1.9nm,0.7s,baz=70,slow=4.8,SNR=5.6						
QSPA	South Pole Qui	94.06	180	P	P	08 56 09.0	+0.2
BURAR	Bucovina Array	94.66	318	P	P	08 56 11.6	-0.3
BUR08	Bucovina Ar. S	94.66	318	P	P	08 56 11.8	-0.2
CRVS	Cervenica-Dubn	96.82	320	ePDIFF	P	08 56 22.1	+0.5
NB2	NORSAR Subarra	98.39	334	P	P	08 56 27.2	-1.3
	comp=Z,3.4nm,1.1s,baz=69,slow=4.4						
NB2	NORSAR Subarra	98.39	334	P	P	08 56 27.2	-1.3
	baz=69,slow=4.4						
NOA	NORSAR Array B	98.39	334	P	P	08 56 26.1	-2.3
	comp=Z,1.7nm,0.8s,baz=68,slow=4.6,SNR=5.4						
YKA	Yellowknife Ar	99.12	24	P	Pdif	08 56 32.0	+0.3
	comp=Z,0.3nm,0.9s,baz=292,slow=4.3,SNR=2.4						
GERES	GERESS Array B	101.73	322	P	Pdif	08 56 42.8	-0.9
	comp=Z,0.4nm,0.5s,baz=38,slow=5.0,SNR=3.7						
TXAR	Lajitas Array	121.36	52	PKP	PKiKP	09 01 44.7	0.0
	comp=Z,0.8nm,0.8s,baz=270,slow=0.9,SNR=4.6						
TXAR	Lajitas Array	121.36	52		PKPdf	09 01 44.4	-0.2
TORD	Torodi Ar. Bea	122.75	288	PKP	PKPdf	09 01 46.5	-1.0
	comp=Z,0.9nm,0.7s,baz=32,slow=2.7,SNR=3.1						
CPUP	Villa Florida	157.62	170	PKPab	PKPab	09 03 19.8	+0.2
	comp=Z,1.4nm,0.7s,baz=220,slow=5.6,SNR=3.7						
CPUP	Villa Florida	157.62	170	PKPdf	PKPdf	09 02 45.6	-2.0
CPUP					PKPab	09 03 19.5	-0.1

*BJI **05** 08:52:28.6±0.0, 0.°95S×127.°36E, h72km, mb5.3/76, mB5.7/19, Ms4.9/13, Ms7 4.6/13*

*MOS **05** 08:52:32.2±0.9, 0.°37S×126.°90E, h58km, mb5.2/42, Error ellipse: s-maj=9.9km s-min=4.6km az=117.7*

*KLM **05** 08:52:34, 0.°53S×127.°04E, h54km, mb5.2*

*NEIC **05** 08:52:35.0±1.9, 0.°42S±0.°05×126.°91E±0.°06, h58km±4km, mb5.1/99, Error ellipse: s-maj=9.0km s-min=7.1km az=95.0*

*DJA **05** 08:52:35.8±0.1, 0°S±2°×12°7E±°, h68km±2km, M5.5/67, mb5.2/67, mB6.0/22, MLv5.4/19, Mw(mB)5.6/22, MwMwp6.3/3, Mwp6.3/3*

*IDC **05** 08:52:35.6±0.9, 0.°42S×126.°92E, h75km±7km, mb4.7/41, mb1 4.7/45, mb1mx4.5/57, mbtmp5.0/45, MS3.9/1, Ms1 3.9/1, ms1mx3.4/75, Error ellipse: s-maj=10.4km s-min=6.4km az=63.0*

ISC 05 08:52:35.2±0.5**, 0.°41S**±0.°03×**126.°93E**±0.°04**, h70**km±3km**, n477,** σ**1.§18**/519**, mb5.1**/146**, 55C-51D, Fault plane solution: NP1:**φs17.99147°**,** δ74.72359°**,** λ-86.13591°. **NP2:**φs183.61301°**,** δ15.74625°**,** λ-103.86006°. **Principal axes:** T Plg29.6213°**,** Azm104.8492°**;** N Plg3.7274°**,** Azm196.9719°**;** P Plg60.0977°**,** Azm293.4765°**; Fault plane solution: NP1:**φs23.44594°**,** δ73.81645°**,** λ-54.54340°. **NP2:**φs134.81989°**,** δ38.53043°**,** λ-153.42133°. **Principal axes:** T Plg20.8592°**,** Azm87.4089°**;** N Plg33.8554°**,** Azm192.2194°**;** P Plg48.6108°**,** Azm331.7904°**; Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.62	112	P	Pn	08 52 48.8	-0.5
LBMI				S	Sn	08 52 59.1	-0.6
TNTI	Ternate	1.25	21	Pn	Pn	08 52 57.5	+0.5
TNTI	Ternate	1.25	21	P	Pn	08 52 57.4	+0.4
TNTI	Ternate	1.25	21	P	Pn	08 52 57.7	+0.7
SANI	Sanana	1.88	210	P	Pn	08 53 04.3	-1.0
SANI	Sanana	1.88	210	P	Pn	08 53 04.9	-0.4
KMSI	Cibinong	3.10	288	P	Pn	08 53 22.0	+0.1
AAI	Ambon	3.50	159	P	Pn	08 53 27.9	+0.6
MSAI	Masohi	3.54	146	P	Pn	08 53 29.0	+1.1
LUWI	Luwuk	4.20	261	Pn	Pn	08 53 36.3	-0.6
LUWI	Luwuk	4.20	261	P	Pn	08 53 36.2	-0.6
LUWI	Luwuk	4.20	261	P	Pn	08 53 36.7	-0.2
SWI	Sorong	4.36	96	P	Pn	08 53 40.0	+1.0
SIJI	Sorong	4.37	96	P	Pn	08 53 40.4	+1.2
	52nm,0.3s,baz=293,slow=9.3,SNR=85						
SIJI				S	Sn	08 54 30.8	+2.0
	20nm,0.3s,baz=15,slow=23,SNR=6.6						
SIJI				LR	LR	08 56 00.1	
	comp=Z,1μm,21.1s,baz=325,slow=47						
MRSI	Marisa	5.06	280	P	Pn	08 53 47.5	-1.1
	9.2nm20μm1μm,0.6s						
APSI	Ampana	5.30	265	P	Pn	08 53 51.8	-0.1
	11nm20μm1μm,0.8s						
FAKI	Fak Fak	5.88	115	Pn	Pn	08 54 00.5	+0.7
FAKI	Fak Fak	5.88	115	P	Pn	08 54 00.9	+1.1
TOLI2	Tolitoli	6.33	284	Pn	Pn	08 54 06.4	+0.4
TOLI2	Tolitoli	6.33	284	P	Pn	08 54 07.2	+1.3
BBSI	Bau Bau	6.66	221	P	Pn	08 54 13.0	+2.5
	0.3nm633nm80nm,1.0s						
GSPH	General Santos	6.75	343⇑	eP	Pn	08 54 10.6	-1.2
MPSI	Mapaga	7.07	276	P	Pn	08 54 17.7	+1.6
	1.3nm233nm,0.8s						
DAV	Davao City (W)	7.55	350	P	Pn	08 54 23.5	+0.8
	133nm,0.3s,baz=171,slow=4.7,SNR=4.1						
DAV				S	Sn	08 55 46.6	-0.2
	54nm,0.3s,baz=306,slow=8.7,SNR=1.3						
DAV	Davao City (W)	7.55	350		Pn	08 54 23.7	+1.0
DAV	Davao City (W)	7.55	350	P	Pn	08 54 24.1	+1.4
TTSI	Tana Toraja	7.57	250	P	Pn	08 54 23.1	+0.1
	2.5nm8μm690nm,0.8s						
BNSI	Bone	7.88	240	P	Pn	08 54 27.8	+0.6
	1.4nm5μm309nm,0.6s						
SPSI	Sidrap Palu	7.97	244	P	Pn	08 54 29.4	+0.9
	32μm2μm,0.5s						
BKSI	Bulukumba	8.37	234	P	Pn	08 54 35.4	+1.6
	5μm421nm,0.6s						
BUKP	Musuan	8.44	347⇑	iP	Pn	08 54 34.2	-0.6
KAPI	Kappang	8.50	237	P	Pn	08 54 36.9	+1.2
	133nm,0.3s,baz=63,slow=5.5,SNR=267						
KAPI				S	Sn	08 56 06.7	-3.4
	25nm,0.3s,baz=299,slow=23,SNR=8.8						
KAPI	Kappang	8.50	237c	iP	Pn	08 54 36.4	+0.7
KAPI				pmax	pmax		
	comp=Z,408nm,0.5s						
KAPI	Kappang	8.50	237	P	Pn	08 54 37.8	+2.1
BSSI	Bau Bau, Buton	8.59	228	P	Pn	08 54 38.9	+2.0
	comp=Z,3μmcomp=Z,232nm,0.7s						
SAUI	Saumlaki	8.70	150	Pn	Pn	08 54 38.2	-0.2
SAUI	Saumlaki	8.70	150	P	Pn	08 54 38.5	+0.1
	comp=Z,361nm,0.8s						
BAKI	Biak	9.21	95	P	Pn	08 54 49.0	+3.5
MMRI	Maumere	9.41	210	Pn	Pn	08 54 50.7	+2.5
MMRI	Maumere	9.41	210	P	Pn	08 54 51.2	+3.0
MMRI	Maumere	9.41	210	P	Pn	08 54 50.5	+2.3
SRPI	Serui, Papua	9.43	99	P	Pn	08 54 50.1	+1.7
SMKI	Samarinda	9.72	270	P	Pn	08 54 53.7	+1.4
BKB	Balikpapan	10.06	265		Pn	08 54 57.7	+0.6
BKB	Balikpapan	10.06	265	P	Pn	08 54 58.2	+1.1
BATI	Baumata	10.26	198	P	Pn	08 55 01.0	+1.2
	comp=Z,9.2nm,0.3s,baz=120,slow=1.0,SNR=7.8						
BATI	Baumata	10.26	198	P	Pn	08 55 02.9	+3.1
	comp=Z,60nm,0.9s						
I39PW	PALAU INFRASON	10.96	44	i		10 00 00.0	
	baz=221,slow=314,SNR=0.7						
BASI	Baing, Sumba	11.61	213	P	Pn	08 55 21.9	+3.7
	comp=Z,93nm,0.9s						
WBSI	Waikabubak, Su	11.85	219	P	Pn	08 55 24.1	+2.6

comp=Z,129nm,0.8s
MTKI Muara Teweh, K 12.04 267 P Pn 08 55 24.1 0.0
PLAI Plampang 12.37 227 P Pn 08 55 32.5 +4.0
comp=Z,47nm,0.9s
BBKI Banjar Baru 12.45 256 P Pn 08 55 31.2 +1.5
comp=Z,6µmcomp=Z,59nm,0.6s
KKM Kota Kinabalu 12.46 301 Pn Pn 08 55 28.6 -1.4
KKM Kota Kinabalu 12.46 301 P Pn 08 55 30.3 +0.3
MTN Manton Dam 13.04 162 P Pn 08 55 35.6 -2.0
baz=13,SNR=7.0
MTN Manton Dam 13.04 162 Pn Pn 08 55 35.6 -2.0
KDU Kakadu 13.38 156 P Pn 08 55 38.7 -3.5
baz=13,SNR=42
SRBI Singaraja 13.94 237 P Pn 08 55 51.7 +2.1
comp=Z,56nm,1.1s
KMMI Kalianget 14.51 243 P P 08 56 00.5 -1.3
comp=Z,71nm,1.1s
JAGI Jajag, Banyuwa 15.04 237 P P 08 56 07.7 0.0
comp=Z,156nm,1.1s
JAGI Jajag, Banyuwa 15.04 237 P Pn 08 56 05.6 +1.7
KNRA Kununurra 15.28 173 P Pn 08 56 05.8 -1.2
baz=15,SNR=50
KNRA Kununurra 15.28 173 Pn 08 56 05.7 -1.2
KNRA IAmb IAmb 08 56 07.4
comp=Z,187nm,1.1s
KNRA Kununurra 15.28 173 P Pn 08 56 06.2 -0.8
STKI Sintang 15.46 272 P Pn 08 56 09.4 +0.2
comp=Z,24nm,0.9s
GMJI Gumukmas 15.54 239 P P 08 56 13.8 +0.6
comp=Z,83nm,1.0s
TGY Tagaytay City 15.59 338 P Pn 08 56 11.5 +0.5
comp=Z,59nm,0.3s,baz=181,slow=3.0,SNR=9.0
KSM Kuching 16.72 276 P 08 56 26.0 -0.3
KSM Kuching 16.72 276 P P 08 56 27.0 +0.6
KSM Kuching 16.72 276 P P 08 56 27.3 +0.9
PWJI Pagerwojo 16.86 243 P P 08 56 29.5 +1.6
comp=Z,130nm,1.2s
FITZ Fitzroy Crossi 17.63 184 P Pn 08 56 35.3 -0.9
comp=Z,1.0nm,0.3s,baz=25,slow=9.4,SNR=15
FITZ ScP **ScP 09 04 40.0 -1.3**
comp=Z,0.5nm,0.3s,baz=330,slow=1.8,SNR=11
FITZ Fitzroy Crossi 17.63 184 P Pn 08 56 33.9 -2.3
SMRI Semarang 17.71 248 P Pn 08 56 39.0 +1.6
SMRI IAmb IAmb 08 56 43.2
comp=Z,189nm,1.3s
SMRI Semarang 17.71 248 P Pn 08 56 41.3 +3.9
comp=Z,80nm,1.4s
KPJI Karang Pucung 19.22 249 P Pn 08 56 56.2 +0.8
comp=Z,100nm,0.7s
LEM Lembang 20.29 251 P Pn 08 57 08.0 -0.3
comp=Z,65nm,0.7s,baz=36,slow=14,SNR=5.0
WB0 Warramunga Arr 20.59 160 P P 08 57 07.9 -0.8
WB0 IAmb IAmb 08 57 11.3
comp=Z,90nm,1.1s
WRAB Tennant Creek 20.72 160*ce*P **P 08 57 09.5 -0.6**
WRAB pmax pmax
comp=Z,58nm,1.0s
WRAB Tennant Creek 20.72 160 P P 08 57 09.3 -0.8
WRAB IAmb IAmb 08 57 12.7
comp=Z,43nm,0.8s
WRAB Tennant Creek 20.72 160 P P 08 57 10.1 0.0
WRA Warramunga Arr 20.73 160 P P 08 57 09.7 -0.6
comp=Z,50nm,0.9s,baz=342,slow=12,SNR=70
WRA S **S 09 00 56.5 -1.4**
comp=Z,6.8nm,0.8s,baz=342,slow=17,SNR=5.0
WRA ScP **ScP 09 04 47.4 -0.9**
comp=Z,4.0nm,0.5s,baz=332,slow=2.4,SNR=19
WRA Warramunga Arr 20.73 160 P P 08 57 08.9 -1.3
WB2 Warramunga Ar 20.73 160 P P 08 57 09.9 -0.3
WB2 IAmb IAmb 08 57 12.8
comp=Z,49nm,0.8s
WR0 Warramunga Ar 20.81 159 P P 08 57 10.6 -0.5
PPBI Pangkal Pinang 20.86 265 P Pn 08 57 14.1 -0.7
comp=Z,10µmcomp=Z,21nm,0.7s
CBJI Citeko 20.90 253 P Pn 08 57 15.3 0.0
COEN Coen 20.98 131 P P 08 57 12.6 -0.3
COEN IAmb IAmb 08 57 15.0
comp=Z,75nm,0.7s
COEN Coen 20.98 131 P P 08 57 13.7 +0.8
DBJI Dramaga 21.03 253 P P 08 57 16.9 +3.3
comp=Z,60µmcomp=Z,42nm,0.5s
PMG Port Moresby 22.03 115 P P 08 57 25.0 +0.8
comp=Z,50nm,0.8s,baz=298,slow=5.5,SNR=16
PMG Port Moresby 22.03 115*ce*P **P 08 57 25.7 +1.5**
PMG pmax pmax
comp=Z,126nm,1.7s
PMG Port Moresby 22.03 115 P P 08 57 24.6 +0.4
PMG IAmb IAmb 08 57 27.1
comp=Z,73nm,1.1s
PMG Port Moresby 22.03 115 P P 08 57 26.0 +1.8
PMG Port Moresby 22.03 115 P P 08 57 25.8 +1.5
DLV T Lat 22.04 304 P P 08 57 22.4 -2.1
DLV IAmb IAmb 08 57 27.4
comp=Z,35nm,0.8s
DLV T Lat 22.04 304 P P 08 57 24.4 -0.1
CGJI Cibinong 22.06 253 P P 08 57 26.4 +1.9
comp=Z,3µmcomp=Z,67nm,0.7s
PSA00 Pilbara Seismi 22.14 198 P P 08 57 26.9 +1.6
BLSI Bandar Lampung 22.20 257 P P 08 57 29.1 +3.0
KLI Kotabumi 22.48 258 P P 08 57 31.7 +2.6
LWLI Liwa 23.29 258 P P 08 57 39.2 +1.8
comp=Z,146nm,0.7s
QIS Mount Isa 23.55 149 P P 08 57 40.2 +0.6
baz=24,SNR=66
QIS Mount Isa 23.55 149 P P 08 57 40.4 +0.8
TWG Pinlang 23.78 347 P P 08 57 40.1 -1.5
AS31 Alice Springs 24.09 164 P P 08 57 44.8 +0.3
ASAR Alice Springs 24.09 164 P P 08 57 44.6 +0.2
comp=Z,20nm,0.5s,baz=343,slow=12,SNR=220
ASAR PcP **PcP 09 01 24.1 -0.3**
comp=Z,2.8nm,0.5s,baz=355,slow=2.0,SNR=7.1
ASAR S **S 09 01 56.7 -0.6**
comp=Z,5.9nm,0.8s,baz=353,slow=22,SNR=2.9
ASAR ScP **ScP 09 04 55.9 -1.0**
comp=Z,4.6nm,0.5s,baz=344,slow=2.7,SNR=24
ASAR Alice Springs 24.09 164 P P 08 57 45.4 +0.9
YULB Yu-li 24.28 347 P P 08 57 44.5 -1.6
YULB IAmb IAmb 08 57 45.6
comp=Z,60nm,0.7s
TPUB Ta-pu 24.35 346 P P 08 57 46.2 -0.5
TPUB Ta-pu 24.35 346 P P 08 57 46.8 +0.1
WRKA Warakurna 24.52 177 P P 08 57 48.4 +0.1
baz=25,SNR=85
WRKA Warakurna 24.52 177 P P 08 57 49.3 +1.0
MTSU Mount Surprise 24.55 137 P P 08 57 48.3 -0.4
baz=24,SNR=12
MTSU Mount Surprise 24.55 137 P P 08 57 49.6 +1.0
SSLB Suanglung 24.74 347 P P 08 57 50.1 -0.2
MASI Maura Aman, Be 24.82 263 P P 08 57 53.4 +2.2
comp=Z,141nm,0.8s
YOJ Yonaguni jima 25.01 352 P P 08 57 53.5 +0.8
YOJ pmax pmax
comp=Z,131nm,0.8s
YOJ Yonaguni jima 25.01 352 P P 08 57 53.5 +0.8
YOJ Yonaguni jima 25.01 352 P P 08 57 54.4 +1.7
KRVT Keravat (AS076 25.37 99 P P 08 57 56.4 +0.2
comp=Z,145nm,0.7s,baz=258,slow=7.5,SNR=6.7
RABL Rabaul 25.49 99 P P 08 57 58.1 +0.8
RABL Rabaul 25.49 99 P P 08 57 58.9 +1.6
YHNB Yeheng 25.50 348 P P 08 57 57.8 +0.5
KRJI Kerinci 25.51 266 P P 08 57 59.5 +1.9
comp=Z,123nm,0.7s
QIZ Qiongzhong 25.58 320 P P 08 57 59.0 +1.0
QIZ S **S 09 02 22.7 +1.7**
QIZ pmax pmax
comp=Z,21nm,0.8s
QIZ Qiongzhong 25.58 320 P P 08 57 59.6 +1.6
BKNI Bangkinang 25.89 272 P P 08 58 03.6 +2.7
comp=Z,53nm,0.7s
UBPT Khong Chiam 26.32 307 P P 08 58 05.3 +0.6
UBPT IAmb IAmb 08 58 07.0
comp=Z,31nm,0.9s
IPM Ipoh 26.33 281 P P 08 58 05.3 +0.4
IPM Ipoh 26.33 281 P P 08 58 05.0 +0.2
IPM Ipoh 26.33 281 P P 08 58 05.6 +0.8
QZH Quanzhou 26.46 343⇑*i*P **P 08 58 06.9 +1.1**
QZH pmax pmax
comp=Z,47nm,0.7s
PPI Padang Panjang 26.53 270 P P 08 58 06.8 +0.2
JOW Kunigami 27.11 3 P P 08 58 12.3 +0.6
comp=Z,100nm,0.8s,baz=200,slow=8.4,SNR=13
JOW Kunigami 27.11 3 P P 08 58 12.5 +0.8
JOW Kunigami 27.11 3 P P 08 58 12.6 +0.9
CTA Charters Tower 27.21 137 P P 08 58 12.8 +0.1
comp=Z,7.9nm,0.6s,baz=316,slow=11,SNR=11
CTA Charters Tower 27.21 137 P P 08 58 13.7 +1.0
PSI Prapat 28.17 277 P P 08 58 21.2 -0.3
comp=Z,5.7nm,0.4s,baz=331,slow=16,SNR=7.3
OOD Oodnadatta 28.50 164 P P 08 58 25.0 +0.9
GSI Gunungsitoli 29.40 273 P P 08 58 32.7 +0.4
GSI IAmb IAmb 08 58 33.1
comp=Z,21nm,0.5s
GSI Gunungsitoli 29.40 273 P P 08 58 32.5 +0.2
comp=Z,5µmcomp=Z,32nm,0.7s
FORT Forrest 30.23 178 P P 08 58 39.7 +0.4
baz=30,SNR=12
FORT Forrest 30.23 178 P P 08 58 40.1 +0.8
FORT IAmb IAmb 08 58 40.9
comp=Z,45nm,0.7s
INKA Innaminka 30.24 155 P P 08 58 40.6 +1.1
QLP Quilpie 30.90 149 P P 08 58 45.4 +0.1
baz=31,SNR=12
QLP Quilpie 30.90 149 P P 08 58 45.7 +0.3
JCJ Chichijima 31.04 27 P P 08 58 45.2 -1.4
comp=Z,23nm,0.5s,baz=256,slow=22,SNR=1.3
LCRK Leigh Creek 31.75 161 P P 08 58 54.2 +1.5
KLBR Kellerberrin 32.21 195 P P 08 58 57.8 +1.0
baz=32,SNR=5.1
RK1H Rockhampton Ha 32.34 137 P P 08 58 59.1 +1.1
WHN Wuhan 33.02 340⇓P **P 08 59 05.8 +1.9**
WHN pmax pmax
comp=Z,290nm,1.4s
GYA Guiyang 33.09 325⇑P **P 08 59 05.6 +0.9**
GYA pmax pmax
comp=Z,15nm,1.1s
NJ2 Nanjing 33.17 347 *e*P **P 08 59 07.1 +1.9**
NJ2 pmax pmax
comp=Z,23nm,0.5s
CMAR Chiang Mai Arr 33.28 306 P P 08 59 06.2 -0.1
comp=Z,2.8nm,0.4s,baz=133,slow=6.3,SNR=18
CMAR PcP **PcP 09 01 48.1 +0.7**
comp=Z,3.5nm,0.6s,baz=178,slow=2.5,SNR=9.5
CMAR ScP **ScP 09 05 26.2 +0.4**
comp=Z,3.3nm,0.2s,baz=187,slow=3.0,SNR=17
CMAR Chiang Mai Arr 33.28 306 P P 08 59 06.9 +0.5
CMAR Chiang Mai Arr 33.28 306 P P 08 59 06.9 +0.5
BBOO Buckleboo 33.36 166 P P 08 59 07.0 +0.2
baz=34,SNR=47
BBOO Buckleboo 33.36 166 P P 08 59 06.8 0.0
BBOO IAmb IAmb 08 59 07.7
comp=Z,29nm,0.7s
BBOO Buckleboo 33.36 166 P P 08 59 07.3 +0.4
CHTO Chiang Mai 33.47 306 P P 08 59 08.5 +0.6
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 33.47 306 P P 08 59 08.5 +0.6
CHTO Chiang Mai 33.47 306 P P 08 59 08.6 +0.6
JNU Nakatsue 33.56 6 P P 08 59 07.5 -1.0
comp=Z,13nm,0.9s,baz=100,slow=3.9,SNR=6.8
JNU Nakatsue 33.56 6 P P 08 59 08.3 -0.3
JNU IAmb IAmb 08 59 23.2
comp=Z,19nm,1.0s
JNU Nakatsue 33.56 6 P P 08 59 08.7 +0.1
WHYH Whyalla 33.97 164 P P 08 59 12.4 +0.3
EIDS Eidsvold 34.06 139 P P 08 59 13.3 +0.2
baz=34,SNR=3.6
EIDS Eidsvold 34.06 139 P P 08 59 13.1 0.0
HNR Honiara 34.06 106 P P 08 59 13.4 +0.2
comp=Z,114nm,0.6s,baz=324,slow=19,SNR=1.9
HNR Honiara 34.06 106 P P 08 59 12.8 -0.4
STKA Stephens Creek 34.24 157 P P 08 59 14.8 +0.4
comp=Z,46nm,0.8s,baz=329,slow=9.1,SNR=75
STKA Stephens Creek 34.24 157 P P 08 59 15.0 +0.5
baz=34,SNR=57
STKA Stephens Creek 34.24 157*ce*P **P 08 59 14.6 +0.1**
STKA Stephens Creek 34.24 157 P P 08 59 14.5 0.0
STKA Stephens Creek 34.24 157 P P 08 59 15.2 +0.7
KMI Kunming 34.52 319⇑P **P 08 59 19.5 +2.2**
KMI pmax pmax
comp=Z,24nm,0.9s
HTT Hallett 34.73 162 P P 08 59 19.4 +0.6
baz=35,SNR=18
HTT Hallett 34.73 162 P P 08 59 20.0 +1.2
ENH Enshi 34.73 333 P P 08 59 19.1 +0.2
ENH Enshi 34.73 333⇑P **P 08 59 19.8 +1.0**
JHS Saijyo 35.70 9 P P 08 59 27.8 +0.8
JHS IAmb IAmb 08 59 53.3
comp=Z,21nm,1.3s
CMSA Cobar Meteorol 35.70 152 P P 08 59 27.7 +0.7
baz=36,SNR=8.0
CMSA Cobar Meteorol 35.70 152 P P 08 59 27.7 +0.7
PZH PanZhiHua 36.12 320 P P 08 59 31.6 +0.7
PZH pmax pmax
comp=Z,20nm,1.0s
TJN Taejon 36.60 1*ce*P **P 08 59 34.7 +0.1**
INU Inuyama 36.80 14 P P 08 59 36.1 -0.3
INU IAmb IAmb 08 59 38.8
comp=Z,14nm,0.7s
INU Inuyama 36.80 14 P P 08 59 36.2 -0.2
LYN LuoYang 37.32 340⇓*i*P **P 08 59 42.1 +1.3**
LYN pmax pmax
comp=Z,40nm,0.8s
TIA Tai'an 37.56 347⇓P **P 08 59 43.0 +0.2**
TIA pmax pmax
comp=Z,23nm,0.8s
KSAR Wonju Array Be 37.67 1 P P 08 59 43.9 +0.2
KSAR Wonju Array Be 37.67 1 P P 08 59 43.9 +0.2
KSRS Korea Array 37.68 1 P P 08 59 44.0 +0.2
comp=Z,9.2nm,0.5s,baz=178,slow=10.0,SNR=49
KSRS ScP **ScP 09 05 41.8 +0.5**
comp=Z,1.6nm,0.8s,baz=189,slow=4.0,SNR=6.5
KS19 Wonju Array Si 37.73 1 P P 08 59 44.2 0.0
KS19 IAmb IAmb 08 59 44.9
comp=Z,14nm,0.9s
ARMA Armidale 37.97 144 P P 08 59 48.1 +1.6
baz=38,SNR=29
ARMA Armidale 37.97 144 P P 08 59 47.8 +1.2
ARMA IAmb IAmb 08 59 48.6
comp=Z,20nm,0.5s
ARMA Armidale 37.97 144 P P 08 59 48.1 +1.6
CD2 Chengdu 38.13 327 P P 08 59 48.3 +0.5
CD2 pmax pmax
comp=Z,40nm,0.9s
XAN Xi'an 38.21 335 P P 08 59 48.7 +0.3
XAN pP pP 09 00 06.9 +1.8
XAN sP sP 09 00 16.5 +3.5
XAN S **S 09 05 38.3 +1.3**
XAN pmax pmax
comp=Z,160nm,0.6s
XAN LR LR
comp=Z,690nm,15.8s
XAN LR LR
comp=Z,480nm,16.8s
XAN LR LR
comp=Z,690nm,15.5s
XAN Xi'an 38.21 335⇓P **P 08 59 48.9 +0.6**
XAN pP pP 08 59 53.2 -12
MJAR Matsushiro Arr 38.23 15 P P 08 59 47.9 -0.6
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 38.23 15 P P 08 59 47.9 -0.6
MAJO Matsushiro 38.23 15 P P 08 59 47.0 -1.4
MAJO pmax pmax
comp=Z,15nm,0.9s
MAJO Matsushiro 38.23 15 P P 08 59 47.0 -1.4
MAJO IAmb IAmb 08 59 58.3
comp=Z,15nm,0.9s
MJB9 Matsu-Tunnel 38.23 15 P P 08 59 47.8 -0.7
MJB9 IAmb IAmb 08 59 58.3
comp=Z,14nm,0.9s
ARPS Mount Arapiles 38.73 161 P P 08 59 53.7 +1.1
baz=39,SNR=40
ARPS Mount Arapiles 38.73 161 P P 08 59 53.9 +1.2
HNS HongShan 39.28 345⇓P **P 08 59 57.7 +0.5**
HNS pmax pmax
comp=Z,32nm,1.0s
MGCD Mangrove Creek 39.77 148 P P 09 00 03.2 +1.8
baz=40,SNR=12
BRAT Ballarat 40.16 159 P P 09 00 06.5 +2.0
JMM Marumori 40.18 17 P P 09 00 04.5 -0.2
JMM IAmb IAmb 09 00 08.7
comp=Z,30nm,0.7s
TIY Taiyuan 40.22 342⇓P **P 09 00 06.1 +0.9**
TIY pmax pmax
comp=Z,57nm,0.7s
CAN Canberra 40.37 152 P P 09 00 07.5 +1.1
CAN pmax pmax
comp=Z,20nm,0.7s
CAN Canberra 40.37 152 P P 09 00 07.5 +1.1
CAN IAmb IAmb 09 00 08.4
comp=Z,20nm,0.7s
CNB Canberra Magne 40.54 151 P P 09 00 07.9 +0.1
baz=41,SNR=6.7
TOO Toolangi 40.76 157 P P 09 00 10.2 +0.7
baz=41,SNR=15
TOO Toolangi 40.76 157 P P 09 00 11.6 +2.1
TOO pmax pmax
comp=Z,23nm,1.2s
TOO Toolangi 40.76 157 P P 09 00 11.6 +2.1
TOO IAmb IAmb 09 00 27.7
comp=Z,23nm,1.2s
BJT Baijiatuan 41.42 347 P P 09 00 15.4 +0.6
BJT pmax pmax
comp=Z,29nm,0.7s
BJT Baijiatuan 41.42 347 P P 09 00 15.4 +0.6
BJT IAmb IAmb 09 00 18.5
comp=Z,29nm,0.7s
BJI Beijing 41.44 348 P P 09 00 15.0 0.0
BJI pmax pmax
comp=Z,37nm,0.6s
LZH Lanzhou 42.18 332⇓P **P 09 00 23.2 +1.8**
LZH pP pP 09 00 39.7 +1.8
LZH sP sP 09 00 48.0 +2.3
LZH PP **PP 09 02 04.6 +4.3**
LZH PcP **PcP 09 02 15.3 +0.7**
LZH ScP **ScP 09 05 59.9 +0.7**
LZH pmax pmax
comp=Z,180nm,1.3s
LZH LR LR
comp=Z,720nm,15.0s
LZH LR LR
comp=Z,1µm,15.2s
LZH LR LR
comp=Z,1µm,16.5s
SHL Shillong 42.57 310 P P 09 00 25.5 +0.8
SHL pmax pmax
comp=Z,79nm,0.6s
SHL Shillong 42.57 310 P P 09 00 25.5 +0.8
HHC Hu-ho-hao-te 43.37 343 *e*P **P 09 00 31.8 +0.9**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,440nm,7.9s
CN2 Changchun 44.03 358 *e*P **P 09 00 35.0 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
USA0B Ussuriysk Arra 44.64 5 P P 09 00 40.7 -0.1
USA0B pmax pmax
comp=Z,10.0nm,0.9s
USA0B Ussuriysk Arra 44.64 5 P P 09 00 40.7 -0.1
USRK Ussuriysk Ar. 44.64 5 P P 09 00 40.4 -0.4
comp=Z,6.5nm,0.6s,baz=179,slow=5.8,SNR=8.0
USRK Ussuriysk Ar. 44.64 5 P P 09 00 40.7 -0.1
USRK Ussuriysk Ar. 44.64 5 P P 09 00 40.7 -0.1
MDJ Mudanjiang 44.89 3 P P 09 00 42.4 -0.4
MDJ IAmb IAmb 09 00 44.8
comp=Z,29nm,1.0s
MDJ Mudanjiang 44.89 3 P P 09 00 42.7 -0.1
MDJ pP pP 09 00 57.7 -2.4
MDJ pmax pmax
comp=Z,33nm,1.0s
MDJ Mudanjiang 44.89 3 P P 09 00 43.2 +0.4
MDJ Mudanjiang 44.89 3 P P 09 00 43.2 +0.4
XLT XiLinHaoTe 45.16 349 *e*P **P 09 00 44.9 -0.2**
XLT pP pP 09 01 02.1 -0.2
XLT sP sP 09 01 10.7 +0.5
XLT pmax pmax
comp=Z,21nm,0.8s
LSA Lhasa 45.38 314 P P 09 00 48.7 +1.2
LSA pmax pmax
comp=Z,18nm,0.7s
LSA Lhasa 45.38 314 P P 09 00 48.7 +1.2
LSA IAmb IAmb 09 00 50.1
comp=Z,18nm,0.7s
BNX BinXian 45.95 0⇑P **P 09 00 50.5 -0.7**
BNX pmax pmax
comp=Z,22nm,0.6s
BNX pmax pmax
comp=Z,600nm,6.6s
ASAJ Asahikawa 46.48 16 P P 09 00 55.5 +0.1
comp=Z,4.4nm,0.4s,baz=249,slow=28,SNR=6.7
TAPN Taplejung 46.69 309 *e*P **P 09 00 58.6 +0.9**
comp=Z,92nm,0.5s
ODAN Odare 46.70 309 *e*P **P 09 00 59.3 +1.6**
comp=Z,52nm,0.4s
PALK Pallekele 46.73 280 P P 09 00 57.8 0.0
comp=Z,8.8nm,0.7s,baz=176,slow=8.0,SNR=7.1
PALK Pallekele 46.73 280 P P 09 00 57.1 -0.8
GTA Gaotai 46.76 331⇓P **P 09 00 59.2 +1.4**
GTA pP pP 09 01 16.0 +1.5
GTA sP sP 09 01 21.8 -0.4
GTA pmax pmax
comp=Z,59nm,0.9s
GOMU GeErMu 47.08 324 P P 09 01 02.4 +1.8
GOMU PcP **PcP 09 02 32.5 +0.8**
GOMU PP **PP 09 02 53.0 +0.9**
GOMU S **S 09 07 50.6 +2.6**
GOMU pmax pmax
comp=Z,20nm,1.1s
GOMU LR LR
comp=Z,360nm,15.9s
GOMU LR LR
comp=Z,200nm,12.9s
GOMU LR LR
comp=Z,310nm,15.9s
JIRN Jiri 48.02 309 *e*P **P 09 01 08.9 +0.8**
comp=Z,122nm,0.5s
GUN Gumba 48.38 309 *e*P **P 09 01 11.6 +0.7**
comp=Z,185nm,0.4s
PKI Pulchoki 48.59 308 *e*P **P 09 01 12.7 +0.3**
comp=Z,46nm,0.4s
PKIN Phulchoki 48.60 308 *e*P **P 09 01 13.1 +0.6**
comp=Z,42nm,0.4s
KKN Kakani 48.79 309 *e*P **P 09 01 14.4 +0.5**
comp=Z,57nm,0.4s
DMN Daman 48.85 308 *e*P **P 09 01 15.3 +1.0**
comp=Z,153nm,0.8s
YSS Yuzh-Sakhalins 49.16 14 *e*P **P 09 01 13.2 -2.8**
GKN Gorkha 49.40 308 *e*P **P 09 01 19.0 +0.6**
KLR Kul'dur 49.62 4 P P 09 01 19.2 -0.3
comp=Z,7.2nm,0.8s,baz=211,slow=3.4,SNR=16
KLR ScP **ScP 09 06 28.6 -0.9**
comp=Z,1.3nm,0.9s,baz=252,slow=0.6,SNR=4.8
HIA Hailar 49.87 354⇓*i*P **P 09 01 21.1 -0.3**
HIA pmax pmax
comp=Z,12nm,1.6s
KOLN Koldanda 50.11 308 *e*P **P 09 01 24.8 +0.9**
comp=Z,477nm,0.7s
DANN Dangsing 50.24 308 *e*P **P 09 01 25.8 +0.8**
comp=Z,576nm,0.6s
PYUN Piuthan 50.74 308 *e*P **P 09 01 29.8 +1.2**
comp=Z,600nm,0.6s
HYBB Hyderabad (bro 50.80 293 *e*P **P 09 01 29.6 +0.6**
HYBB *e*pP **pP 09 01 44.2 -1.7**
HYBB *e*sP **pwP 09 01 51.3 +1.4**
HYBB *e*PP **PP 09 03 25.9 +0.1**
HYBB *e*ScP **ScP 09 06 36.8 +1.4**
HYBB *e*S **S 09 08 41.2 +1.2**
ULN Ulaanbaatar 51.09 343 P P 09 01 31.6 +0.7
ULN pmax pmax
comp=Z,33nm,1.2s
ULN Ulaanbaatar 51.09 343 P P 09 01 31.6 +0.7
ULN IAmb IAmb 09 01 32.6
comp=Z,33nm,1.1s
SONM Songino Array 51.26 342 P P 09 01 32.6 +0.4
comp=Z,14nm,0.6s,baz=158,slow=7.7,SNR=58
SONM ScP **ScP 09 06 35.7 -1.2**
comp=Z,1.3nm,0.7s,baz=168,slow=4.8,SNR=6.1
SONM Songino Array 51.26 342 P P 09 01 32.5 +0.4
SONM IAmb IAmb 09 01 36.8
comp=Z,16nm,0.8s
MSVF Nonsavu 53.11 112⇑*e*P **P 09 01 47.3 +1.1**
MSVF pmax pmax
comp=Z,30nm,0.9s
ZAK Zakamensk 54.48 342 *e*P **P 09 01 55.0 -0.7**
ZAK pmax pmax
comp=Z,11nm,1.0s
WMQ Urumqi 56.23 327 *e*P **P 09 02 10.1 +1.7**
WMQ pP pP 09 02 25.0 -0.6
WMQ sP sP 09 02 36.7 +3.5
WMQ S **S 09 09 54.7 +1.7**
WMQ pmax pmax
comp=Z,46nm,1.1s
MOY Mondy 56.32 341 *e*P **P 09 02 09.4 +0.5**
MOY pmax pmax

comp=Z,35nm,1.7s
WHZ Wether Hill Ro 57.86 147 P P 09 02 19.4 -0.4
WHZ IAmb IAmb 09 02 22.8
comp=Z,21nm,1.2s
LBZ Lake Benmore 58.19 145 P P 09 02 22.7 +0.5
LBZ IAmb IAmb 09 02 23.2
comp=Z,17nm,0.8s
TUWZ Tuamarina 58.85 140 P P 09 02 26.2 -0.5
BOD Bodaibo 58.96 352 *eP* **P 09 02 26.3 -0.9**
BOD pmax pmax
comp=Z,15nm,0.9s
KHZ Kahutara 59.11 141 P P 09 02 28.5 0.0
PEA0B Petropavlovsk- 59.18 21 P P 09 02 29.2 +0.4
PEA0B pmax pmax
comp=Z,10.0nm,0.7s
PEA0B Petropavlovsk- 59.18 21 P P 09 02 29.2 +0.4
PEA0B IAmb IAmb 09 02 31.4
comp=Z,10nm,0.7s
PETK Petropavlovsk- 59.18 21 P P 09 02 29.0 +0.2
comp=Z,5.0nm,0.5s,baz=187,slow=4.7,SNR=33
PETK Petropavlovsk- 59.18 21 P P 09 02 29.4 +0.6
PETK Petropavlovsk- 59.18 21 P P 09 02 29.4 +0.6
SNZO South Karori 59.28 140 P P 09 02 29.2 -0.4
BKZ Black Stump Fm 59.43 137 P P 09 02 30.9 0.0
PLWZ Palliser 59.77 140 P P 09 02 32.4 -0.8
NIL Nilore 60.64 310 P P 09 02 39.8 +0.5
NIL pmax pmax
comp=Z,52nm,1.4s
NIL Nilore 60.64 310 P P 09 02 39.8 +0.5
SHLS Shalkode 60.66 322 *eP* **P 09 02 36.7 -2.6**
SHLS pmax pmax
comp=Z,10.0nm,0.6s
SHLS Shalkode 60.66 322 *eP* **P 09 02 36.8 -2.6**
comp=Z,9,7nm,0.6s,baz=322
UZB Uzunbulak 60.93 322 *eP* **P 09 02 40.2 -1.0**
UZB pmax pmax
comp=Z,15nm,0.8s
UZB Uzunbulak 60.93 322 *eP* **P 09 02 40.2 -1.0**
comp=Z,15nm,0.8s,baz=322
MK31 Makanchi Array 61.07 327 P P 09 02 42.6 +0.7
MK31 pmax pmax
comp=Z,54nm,0.6s
MK31 Makanchi Array 61.07 327 P P 09 02 42.6 +0.7
MKAR Makanchi Array 61.07 327 P P 09 02 42.5 +0.6
comp=Z,68nm,0.5s,baz=115,slow=8.0,SNR=295
MKAR ScP **ScP 09 07 19.3 -0.6**
comp=Z,3.8nm,0.8s,baz=129,slow=5.4,SNR=8.2
MKAR Makanchi Array 61.07 327 P P 09 02 42.8 +0.9
MKAR Makanchi Array 61.07 327 P P 09 02 42.8 +0.9
KSH Kashi 61.13 317 P P 09 02 44.5 +1.9
KSH sP sP 09 03 12.7 +5.2
KSH PcP **PcP 09 03 25.6 +0.7**
KSH pmax pmax
comp=Z,29nm,0.8s
KSH LR LR
comp=Z,560nm,18.9s
KSH LR LR
comp=Z,630nm,18.9s
KSH LR LR
comp=Z,780nm,16.6s
MAKZ Makanchi 61.25 326 P P 09 02 43.4 +0.3
MAKZ pmax pmax
comp=Z,67nm,0.6s
MAKZ Makanchi 61.25 326 P P 09 02 43.4 +0.3
MAKZ Makanchi 61.25 326 ⇓P **P 09 02 43.8 +0.7**
MAKZ ⇓pP pP 09 02 46.3 -15
SATY Saty 61.27 321 *eP* **P 09 02 42.8 -0.7**
SATY Saty 61.27 321 *eP* **P 09 02 42.9 -0.6**
baz=321
KPKS Kokpek 61.31 322 *eP* **P 09 02 43.1 -0.5**
KPKS pmax pmax
comp=Z,18nm,0.7s
KPKS Kokpek 61.31 322 *eP* **P 09 02 43.2 -0.5**
comp=Z,18nm,0.7s,baz=322
MDOK Medeo 62.18 321 P P 09 02 50.5 +0.9
MDOK Medeo 62.18 321 *eP* **P 09 02 49.5 -0.1**
baz=321
TNSS Tian-Shan 62.18 321 *eP* **P 09 02 50.0 +0.1**
TNSS Tian-Shan 62.18 321 *eP* **P 09 02 50.1 +0.1**
baz=321
ARXS Arharly 62.23 322 *eP* **P 09 02 49.9 +0.1**
ULHL Ulahol 62.24 320 P P 09 02 51.3 +1.2
SNR=15
AAA Alma-Ata 62.29 321 *eP* **P 09 02 50.4 +0.2**
AAA Alma-Ata 62.29 321 *eP* **P 09 02 50.5 +0.2**
baz=321
TDK Taldyqorghan 62.29 323 *eP* **P 09 02 50.5 +0.3**
TDK Taldyqorghan 62.29 323 *eP* **P 09 02 50.5 +0.3**
baz=323
YAK Yakutsk 62.31 1 P P 09 02 49.7 -0.1
comp=Z,45nm,0.5s,baz=345,slow=0.8,SNR=14
YAK Yakutsk 62.31 1 *d iP* **P 09 02 49.6 -0.3**
YAK *e**PP **pP 09 03 05.7 -2.4**
YAK *eS* **S 09 11 10.6 0.0**
YAK pmax pmax
comp=Z,60nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.7s
YAK pmax pmax
comp=E,2.0nm,0.6s
YAK smax smax
comp=E,44nm,2.7s
YAK Yakutsk 62.31 1 P P 09 02 50.2 +0.4
BOOM Boomskoye usch 62.56 320 P P 09 02 53.1 +0.9
BOOM pmax pmax
comp=Z,22nm,1.0s
BOOM Boomskoye usch 62.56 320 P P 09 02 53.1 +0.9
BOOM IAmb IAmb 09 02 56.5
comp=Z,22nm,1.0s
CHKK Chushkaly 62.56 321 *eP* **P 09 02 52.0 0.0**
CHKK Chushkaly 62.56 321 *eP* **P 09 02 52.1 0.0**
baz=321
MA2 Magadan 62.65 13 P P 09 02 52.8 +0.6
comp=Z,9.2nm,0.6s,baz=184,slow=6.4,SNR=11
MA2 Magadan 62.65 13⇑ *eP* **P 09 02 53.0 +0.8**
MA2 pmax pmax
comp=Z,6.0nm,0.8s
MA2 Magadan 62.65 13 P P 09 02 53.6 +1.4
MA2 IAmb IAmb 09 03 15.4
comp=Z,14nm,0.8s
TKM2 Tokmak 2 62.99 320 P P 09 02 56.1 +1.0
SNR=45
TKM2 Tokmak 2 62.99 320 P P 09 02 55.9 +0.8
KUU Kurty 62.99 321 *eP* **P 09 02 54.3 -0.5**
KUU Kurty 62.99 321 *eP* **P 09 02 54.4 -0.5**
baz=321
KBK Karagaybulak 63.28 319 P P 09 02 58.3 +1.3
SNR=14
UCH Uchtor 63.36 319 P P 09 02 59.4 +1.5
SNR=56
AAK Ala-Archa 63.57 319 P P 09 02 59.8 +0.9
SNR=19
AAK Ala-Archa 63.57 319 P P 09 02 59.7 +0.9
comp=Z,20nm,0.8s,baz=128,slow=5.0,SNR=20
AAK Ala-Archa 63.57 319 *d iP* **P 09 02 59.6 +0.8**
AAK pmax pmax
comp=Z,19nm,0.9s
AAK Ala-Archa 63.57 319 P P 09 02 59.7 +0.8
AAK IAmb IAmb 09 03 03.4
comp=Z,19nm,0.8s
AAK Ala-Archa 63.57 319 ⇓P **P 09 02 60.0 +1.1**
AAK pP pP 09 03 03.1 -13
AAK sP pwP 09 03 11.7 -8.5
USP Ospenovka 63.86 320 P P 09 03 01.5 +0.9
SNR=35
SGDS Sogindy 63.86 320 *eP* **P 09 02 59.7 -0.9**
SGDS pmax pmax
comp=Z,6.0nm,0.5s
SGDS Sogindy 63.86 320 *eP* **P 09 02 59.8 -0.9**
comp=Z,5.7nm,0.5s,baz=320
AML Almayashu 63.86 318 P P 09 03 02.4 +1.4
SNR=60
EKS2 Erkin-Say 64.05 319 P P 09 03 03.4 +1.4
SNR=27
KBL Kabul 64.22 309 P P 09 03 03.7 +0.3
KBL pmax pmax
comp=Z,27nm,0.8s
KBL Kabul 64.22 309 P P 09 03 03.7 +0.3
KBL IAmb IAmb 09 03 04.7
comp=Z,27nm,0.8s
SEM Semipalatinsk 64.30 329 *eP* **P 09 03 02.4 -1.1**
SEM Semipalatinsk 64.30 329 *eP* **P 09 03 02.5 -1.1**
baz=329
ZAA0 Zalesovo Array 64.35 334 P P 09 03 04.6 +1.1
ZAA0 IAmb IAmb 09 03 07.7
comp=Z,22nm,0.9s
ZALV Zalesovo Beam 64.35 334 P P 09 03 02.8 -0.7
comp=Z,13nm,0.5s,baz=130,slow=5.0,SNR=17
GAR Garm 64.89 314 P P 09 03 08.1 +0.6
BTK Batken 64.95 315 P P 09 03 08.0 +0.2
BTK pmax pmax
comp=Z,26nm,0.8s
BTK Batken 64.95 315 P P 09 03 08.0 +0.2
BTK IAmb IAmb 09 03 18.1
comp=Z,26nm,0.8s
BTLS Baital 64.98 321 *eP* **P 09 03 07.4 -0.4**
BTLS pmax pmax
comp=Z,13nm,1.0s
BTLS Baital 64.98 321 *eP* **P 09 03 07.5 -0.4**
comp=Z,13nm,1.0s,baz=321
KURBB Kurchatov Arra 65.32 328 P P 09 03 10.0 +0.1
comp=Z,48nm,0.6s,baz=129,slow=6.2,SNR=291
KURK Kurchatov 65.33 329 *d iP* **P 09 03 10.0 +0.1**
KURK pmax pmax
comp=Z,60nm,0.8s
KURK Kurchatov 65.33 329 P P 09 03 10.4 +0.4
KURK Kurchatov 65.33 329 ⇓P **P 09 03 10.3 +0.4**
KURK pP pP 09 03 13.4 -14
CHGR Chuyangaron 65.59 313 P P 09 03 12.7 +0.6
DZA Taraz 65.77 318 *eP* **P 09 03 12.8 -0.2**
DZA pmax pmax
comp=Z,13nm,0.7s
DZA Taraz 65.77 318 *eP* **P 09 03 12.8 -0.2**
comp=Z,13nm,0.7s,baz=318
SEY Seymchan 66.00 12 P P 09 03 14.6 +0.6
comp=Z,4.8nm,0.9s,baz=214,slow=4.4,SNR=13
SEY Seymchan 66.00 12⇑ *eP* **P 09 03 15.2 +1.2**
SEY pmax pmax
comp=Z,4.0nm,0.8s
IUG Iuzhnay 66.33 317 *eP* **P 09 03 16.4 -0.3**
IUG Iuzhnay 66.33 317 *eP* **P 09 03 16.5 -0.3**
baz=317
KK31 Karatay Array 66.40 318 *i P* **P 09 03 17.3 +0.3**
KK31 Karatay Array 66.40 318 P P 09 03 17.4 +0.4
KK31 IAmb IAmb 09 03 21.0
comp=Z,29nm,0.8s
KKAR Karatay Array 66.40 318 P P 09 03 17.9 +0.8
KKAR Karatay Array 66.40 318 P P 09 03 17.9 +0.8
CASY Casey 66.76 187 P P 09 03 19.8 +1.0
CASY IAmb IAmb 09 03 39.5
comp=Z,17nm,1.4s
DRV Dumont d'Urvil 66.77 174 P P 09 03 18.7 -0.2
DRV pP pP 09 03 21.7 -15
OTUK Ortayu 67.54 324 P P 09 03 24.3 +0.1
BRZS Berezniki 68.17 326 *eP* **P 09 03 27.8 -0.3**
BRZS pmax pmax
comp=Z,13nm,0.7s
BRZS Berezniki 68.17 326 *eP* **P 09 03 27.8 -0.3**
comp=Z,13nm,0.7s,baz=326
WSAR Wadi Sarin 70.28 295 P P 09 03 43.3 +1.6
comp=Z,10nm,0.6s,baz=134,slow=6.4,SNR=8.5
BRVK Borovoye 70.96 328 *d iP* **P 09 03 45.0 -0.2**
BRVK pmax pmax
comp=Z,21nm,0.9s
BRVK Borovoye 70.96 328 P P 09 03 45.1 0.0
BRVK IAmb IAmb 09 03 50.1
comp=Z,28nm,0.7s
BRVK Borovoye 70.96 328 ⇓P **P 09 03 45.2 0.0**
BRVK pP pP 09 03 49.0 -14
TIXI Tiksi 71.95 1 P P 09 03 50.2 -0.5
comp=Z,18nm,0.4s,baz=275,slow=23,SNR=42
TIXI Tiksi 71.95 1 *ceP* **P 09 03 50.1 -0.6**
TIXI pmax pmax
comp=Z,21nm,0.6s
TIXI Tiksi 71.95 1 P P 09 03 50.2 -0.5
TIXI IAmb IAmb 09 03 51.5
comp=Z,25nm,0.6s
TIXI Tiksi 71.95 1 ⇓P **P 09 03 50.4 -0.4**
UOSS Minazif 72.74 296 P P 09 03 55.3 -1.1
UOSS IAmb IAmb 09 04 05.0
comp=Z,12nm,0.9s
SOCY Socotra 73.42 283 P P 09 04 00.1 -0.6
SOCY IAmb IAmb 09 04 01.0
comp=Z,30nm,1.3s
GEYT Alibeck 73.65 310 P P 09 04 00.9 -0.7
comp=Z,11nm,0.6s,baz=354,slow=4.3,SNR=3.5
GEYT Alibeck 73.65 310 P P 09 04 01.9 +0.3
GEYT IAmb IAmb 09 04 06.1
comp=Z,12nm,0.8s
GYA0B ALIBECK ARRAY 73.65 310 P P 09 04 01.9 +0.4
GYA0B IAmb IAmb 09 04 06.1
comp=Z,14nm,0.7s
NRIK Noril'sk 74.47 346 P P 09 04 05.1 -0.6
comp=Z,8.4nm,0.6s,baz=129,slow=5.7,SNR=14
NRIK Noril'sk 74.47 346 *d iP* **P 09 04 05.6 0.0**
AB31 Akbulak array 75.47 321 *i P* **P 09 04 11.1 -0.7**
ABKAR Akbulak array 75.47 321 P P 09 04 11.6 -0.2
ABKAR Akbulak array 75.47 321 P P 09 04 11.6 -0.2
ABKAR IAmb IAmb 09 04 16.3
comp=Z,17nm,0.7s
AKTO Aktyubinsk 77.02 322 P P 09 04 20.4 -0.2
comp=Z,15nm,0.6s,baz=102,slow=7.5,SNR=29
SVE Sverdlovsk 77.57 329 *eP* **P 09 04 23.3 -0.3**
SVE pmax pmax
comp=Z,23nm,0.8s
GAMB Gambell 78.08 23 P P 09 04 25.7 -0.5
GAMB Gambell 78.08 23 P P 09 04 27.2 +1.0
baz=244
ARU Arti 78.52 328 P P 09 04 27.7 -1.1
comp=Z,4.2nm,0.4s,baz=160,slow=2.8,SNR=19
ARU Arti 78.52 328 *c iP* **P 09 04 27.7 -1.1**
ARU *PP **pP 09 04 44.5 -2.5**
ARU S S **09 14 20.6 +1.0**
ARU SS **SS 09 19 20.0 -4.4**
ARU pmax pmax
comp=Z,15nm,0.8s
VNDA Vanda 79.33 173 P P 09 04 31.9 -1.0
comp=Z,2.9nm,0.6s,baz=315,slow=5.8,SNR=17
VNDA Vanda 79.33 173 P P 09 04 32.5 -0.3
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 79.33 173 P P 09 04 32.5 -0.3
MAW Mawson 79.97 200 P P 09 04 35.9 -0.6
MAW pmax pmax
comp=Z,3.0nm,1.2s
MAW Mawson 79.97 200 P P 09 04 35.9 -0.6
SBA Scott Base 80.24 172 P P 09 04 38.0 +0.2
SBA pmax pmax
comp=Z,7.0nm,1.4s
SBA Scott Base 80.24 172 P P 09 04 38.0 +0.2
VOI Vohitsoka 80.69 248 P P 09 04 41.9 +0.5
ANM Nome 80.94 24 P P 09 04 43.1 +1.4
baz=250
RDOG Red Dog Mine 83.05 21 P P 09 04 53.9 +1.2
RDOG Red Dog Mine 83.05 21 P P 09 04 53.7 +0.9
baz=251
KIRV Kirov 83.84 329 P P 09 04 56.7 -0.2
comp=Z,19nm,0.5s,baz=124,slow=3.6,SNR=10
KIRV Kirov 83.84 329 *d iP* **P 09 04 56.6 -0.3**
TTA Tatalina 84.48 27 P P 09 05 01.3 +1.0
baz=258
GCSA Galena City Sc 84.49 25 P P 09 05 01.4 +1.3
baz=257
N19K Bonanza Creek 84.79 29 P P 09 05 03.3 +1.4
baz=260
M19K Big River Lodg 85.03 28 P P 09 05 04.3 +1.3
baz=260
ZEI Tsey 85.14 313 P P 09 05 03.9 -0.3
ZEI pmax pmax
comp=Z,11nm,0.9s
KDAK Kodiak Island 85.27 32 P P 09 05 05.4 +1.2
KDAK pmax pmax
comp=Z,34nm,1.2s
KDAK Kodiak Island 85.27 32 P P 09 05 05.3 +1.2
J20K Nowinta River 85.54 26 P P 09 05 07.1 +1.7
baz=260
KBZ Khabaz 85.95 314 P P 09 05 07.3 -0.6
comp=Z,2.6nm,0.7s,baz=101,slow=6.6,SNR=7.1
IMAR Indian Mountai 86.02 24 P P 09 05 08.2 +0.5
NEY Neytrino 86.04 313⇑ *eP* **P 09 05 08.6 0.0**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 86.12 314 *eP* **P 09 05 06.5 -2.4**
KIV pmax pmax
comp=Z,6.0nm,0.9s
PRGR Permogore 86.21 332 *eP* **P 09 05 06.9 -1.9**
PRGR pmax pmax
comp=Z,40nm,1.5s
GURO Guroymak-BITLI 86.25 308 P P 09 05 09.5 -0.2
GURO IAmb IAmb 09 05 11.4
comp=Z,12nm,1.1s
CAST Castle Rocks 86.32 26 P P 09 05 10.7 +1.4
baz=262
COLD Coldfoot 87.61 23 P P 09 05 16.7 +1.2
baz=263
TOLK Toolik Lake Re 88.00 21 P P 09 05 17.4 0.0
TOLK Toolik Lake Re 88.00 21 P P 09 05 18.3 +0.9
baz=264
H24K Noodor Dome 88.39 24 P P 09 05 20.0 +0.7
baz=266
IL31 88.73 25 P P 09 05 21.3 +0.5
ILAR Eielson Array 88.73 25 P P 09 05 19.5 -1.3
comp=Z,0.6nm,0.7s,baz=239,slow=5.2,SNR=4.1
KLMR Klimovskoe 89.08 331 *eP* **P 09 05 19.4 -3.1**
KLMR *e* 09 08 51.0
KLMR pmax pmax
comp=Z,7.0nm,0.8s
KLMR Klimovskoe 89.08 331 *eP* **P 09 05 19.5 -3.1**
KLMR AMP 09 05 21.5
comp=Z,7.0nm,0.8s
KLMR *e*PP **PP 09 08 51.0 -2.3**
QSPA South Pole Qui 89.53 180 P P 09 05 25.1 +0.4
QSPA IAmb IAmb 09 05 25.2
comp=Z,4.9nm,0.7s
RIDG Independent Ri 89.57 26 P P 09 05 25.2 +0.3
baz=268
J26L Joseph Creek 90.15 26 P P 09 05 27.9 +0.2
baz=269
OBN Obninsk 90.53 325 P P 09 05 28.1 -1.4
comp=Z,3.3nm,0.4s,baz=106,slow=7.4,SNR=3.5
OBN Obninsk 90.53 325 *de* **P 09 05 27.9 -1.5**
OBN *e* 09 09 04.5
OBN pmax pmax
comp=Z,11nm,0.9s
L27K Beaver Creek, 90.93 27 P P 09 05 31.7 +0.5
baz=271
BCAR Beaver Creek A 90.95 27 P P 09 05 32.0 +0.7
EGAK Eagle 91.19 25 P P 09 05 33.1 +0.8
APA Apatity 91.72 337 ⇓*iP* P 09 05 41.8 +7.1
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,500nm,17.0s
DAWY Dawson 91.98 26 P P 09 05 36.1 +0.1
DAWY Dawson 91.98 26 P P 09 05 36.7 +0.6
baz=273
BRTR Keskin Array B 92.79 310 P P 09 05 39.0 -1.5
comp=Z,1.2nm,0.9s,baz=167,slow=5.8,SNR=4.8
BRTR PP **PP 09 09 22.6 -0.8**
comp=Z,0.7nm,0.5s,baz=108,slow=6.7,SNR=4.1
BRTR Keskin Array B 92.79 310 P P 09 05 39.0 -1.5
M30M Minto, Yukon 93.26 27 P P 09 05 42.3 +0.3
baz=275
INK Inuvik 93.91 22 P P 09 05 44.2 -0.6
INK pmax pmax
comp=Z,3.0nm,1.2s
INK Inuvik 93.91 22 P P 09 05 44.2 -0.6
INK Inuvik 93.91 22 P P 09 05 44.9 +0.2
baz=279
ARCES ARCESS Array B 94.37 340 P P 09 05 45.3 -1.6
comp=Z,3.8nm,0.6s,baz=85,slow=6.4,SNR=35
ARCES ARCESS Array B 94.37 340 P P 09 05 45.8 -1.1
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 94.37 340 P P 09 05 45.8 -1.1
ARCES IAmb IAmb 09 05 45.9
comp=Z,4.3nm,0.7s
SPB2 Spitsbergen Ar 94.55 349 P P 09 05 46.4 -1.2
SPITS Spitsbergen Ar 94.55 349 P P 09 05 46.4 -1.2
comp=Z,5.2nm,0.7s,baz=119,slow=5.1,SNR=12
AKASG Malin Array Be 95.20 321 P P 09 05 49.4 -1.7
comp=Z,0.3nm,0.4s,baz=69,slow=5.1,SNR=2.3
FINES FINESS Array B 95.54 332 P P 09 05 50.3 -2.1
comp=Z,1.1nm,0.5s,baz=59,slow=4.9,SNR=6.6
C36M Paulatuk 97.02 20 P P 09 05 58.8 -0.1
baz=288
BURAR Bucovina Array 98.19 318 P P 09 06 03.9 -1.0
BURAR IAmb IAmb 09 06 05.4
comp=Z,3.6nm,0.7s
BUR08 Bucovina Ar. S 98.20 318 P P 09 06 04.7 -0.2
BUR08 IAmb IAmb 09 06 05.1
comp=Z,3.4nm,0.7s
NB2 NORSAR Subarra 102.55 333 P Pdif 09 06 21.7 -2.2
comp=Z,1.2nm,0.7s,baz=69,slow=4.4
NOA NORSAR Array B 102.55 333 Pdiff **Pdif 09 06 21.6 -2.2**
comp=Z,0.9nm,0.6s,baz=69,slow=4.6,SNR=6.5
YKA Yellowknife Ar 103.15 25 Pdiff **Pdif 09 06 26.1 -0.3**
comp=Z,0.1nm,0.5s,baz=297,slow=4.2,SNR=2.5
YKA PKiKP **PKiKP 09 10 45.4 -0.4**
comp=Z,0.3nm,0.6s,baz=299,slow=1.6,SNR=7.7
YKA PKKPbc **PKKPbc 09 22 21.1 -3.5**
comp=Z,0.2nm,0.5s,baz=115,slow=3.0,SNR=3.8
TXAR Lajitas Array 123.90 54 PKhKP PKPpre 09 11 17.0
comp=Z,0.2nm,0.6s,baz=289,slow=31,SNR=2.1
TXAR PKP **PKPdf 09 11 26.1 -0.1**
comp=Z,0.3nm,0.6s,baz=256,slow=2.7,SNR=4.6
TOA0 Torodi Ar. Sit 124.30 286 PKPdf 09 11 26.9 -0.3
TORD Torodi Ar. Bea 124.30 286 PKP **PKPdf 09 11 26.9 -0.3**
comp=Z,2.7nm,0.5s,baz=69,slow=1.8,SNR=35
TORD SKP **SKPdf 09 14 56.0 -0.7**
comp=Z,1.2nm,0.6s,baz=42,slow=1.5,SNR=4.7
TORD PKKPbc **PKKPab 09 21 10.8 -0.3**
comp=Z,0.9nm,0.6s,baz=228,slow=2.9,SNR=7.3
SCHQ Schefferville 124.59 10 PKP **PKPdf 09 11 26.3 -0.3**
comp=Z,2.0nm,0.7s,baz=37,slow=5.1,SNR=1.7
DBIC Dimbokro 131.50 279 PKP **PKPdf 09 11 40.7 -0.2**
comp=Z,3.4nm,0.6s,baz=113,slow=2.4,SNR=5.2
DBIC SKPbc **SKPbc 09 15 00.0 -0.3**
comp=Z,11nm,0.7s,baz=91,slow=3.5,SNR=13
PLCA Paso Flores 136.07 161 PKP **PKPdf 09 11 49.2 +0.2**
comp=Z,1.0nm,0.6s,baz=237,slow=2.3,SNR=8.2
PLCA SKP **SKPbc 09 15 15.8 +0.8**
comp=Z,2.6nm,0.6s,baz=220,slow=3.5,SNR=12
PLCA Paso Flores 136.07 161 PKiKP **PKPdf 09 11 49.5 +0.5**
PLCA Paso Flores 136.07 161 PKPdf 09 11 49.5 +0.5
CO02 Combarbal 144.25 153 PKPbc 09 12 02.8 +0.4
CO03 El Pedregal 144.70 153 PKPab 09 12 03.6 -0.1
LCO Las Campanas 146.24 151 PKP2 **PKPbc 09 12 09.0 +0.1**
LCO Las Campanas 146.24 151 PKPbc 09 12 09.0 +0.1
GO03 Copiap 147.65 151 PKPbc 09 12 13.3 +0.7
AC02 Maricunga 148.81 151 PKPdf **PKPdf 09 12 09.6 -2.7**
AC02 **PKiKP 09 12 17.2 -0.5**
MCRA Macar, Loja 152.73 100 PKPdf **PKPdf 09 12 16.1 -2.0**
MCRA **PKPbc 09 12 23.4 -1.9**
CPUP Villa Florida 153.10 172 PKPbc **PKPbc 09 12 25.6 -0.1**
comp=Z,3.9nm,0.6s,baz=163,slow=1.7,SNR=12
CPUP Villa Florida 153.10 172 PKPdf **PKPdf 09 12 19.2 +0.9**
CPUP **PKPbc 09 12 24.3 -1.4**
BANI BANI 155.35 43 PKPdf 09 12 19.8 -2.0
BANI PKPbc PKPbc 09 12 28.8
BANI PKPab **PKPab 09 12 45.5 -1.7**

IDC 05 08:58:44.4±2.7, 53°61N×87°13E, h0km, mb1 3.1/2, mb1mx2.9/57, mbtmp3.1/2, ML2.8/2 Error ellipse: s-maj=24.2km s-min=14.8km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**285**	*i*			09 07 07.6	
	baz=105,slow=325,SNR=6.5							
ZALV	**Zalesovo Beam**	**1.41**	**285**	Pg	Pn	Pn	08 59 09.4	-1.9
	2.1nm,0.3s,baz=105,slow=17,SNR=14							
ZALV				Lg	Lg	Lg	08 59 29.2	
	3.1nm,0.3s,baz=113,slow=28,SNR=12							
KURBB	**Kurchatov Arra**	**6.08**	**244**	Pn	Pn	Pn	09 00 16.7	+1.2
	0.1nm,0.3s,baz=57,slow=14,SNR=6.5							
KURBB				Sn	Sn	Sn	09 01 25.4	-0.3
	0.0nm,0.3s,baz=76,slow=23,SNR=1.6							
MKAR	**Makanchi Array**	**7.50**	**206**	Pn	Pn	Pn	09 00 36.0	+1.1
	0.4nm,0.3s,baz=26,slow=13,SNR=7.3							
MKAR				Sn	Sn	Sn	09 02 00.5	-0.2
	0.1nm,0.3s,baz=24,slow=28,SNR=3.4							

IDC 05 09:00:21.5±2.5, 54°26N×86°06E, h0km, mb1 3.1/2, mb1mx3.0/57, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=18.4km s-min=11.2km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.79**	**248**	*i*			09 05 20.0	
	baz=67,slow=329,SNR=2.9							
ZALV	**Zalesovo Beam**	**0.79**	**248**	Pg	Pg	Pg	09 00 35.5	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	1.0nm,0.3s,baz=64,slow=17,SNR=3.3						
ZALV				Lg	Lg	09 00 48.0	
	6.4nm,0.3s,baz=67,slow=28,SNR=11						
KURBB	Kurchatov Arra	5.87	235	Pn	Pn	09 01 50.3	+0.6
	0.1nm,0.3s,baz=52,slow=14,SNR=9.4						
KURBB				Sn	Sn	09 02 57.3	-0.2
	baz=82,slow=38,SNR=1.1						
MKAR	Makanchi Array	7.85	199	Pn	Pn	09 02 17.8	+1.0
	0.4nm,0.3s,baz=21,slow=12,SNR=7.5						

*IDC **05** 09:07:44.4±1.7, 3°.63N×125°.58E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/57, mbtmp3.4/5, Error ellipse: s-maj=120.0km s-min=21.4km az=69.0*

ISC 05 09:07:49.6±2.0**, 3°.6N**±0°.4×**125°.7E**±0°.9**, h35km, n6, σ1s.42**/5**, mb3.5**/5**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.57	180	P	P	09 12 35.8	-0.5
	2.2nm,1.0s,baz=349,slow=8.3						
WRA	Warramunga Arr	24.92	160	P	P	09 13 09.2	-0.4
	0.9nm,0.9s,baz=339,slow=11,SNR=7.8						
ASAR	Alice Springs	28.28	164	P	P	09 13 40.6	+0.7
	0.4nm,0.8s,baz=338,slow=7.2,SNR=4.7						
POO	Poona	52.74	290	eP	P	09 17 13.0	+11
MKAR	Makanchi Array	57.04	326	P	P	09 17 33.4	+1.2
	0.2nm,0.4s,baz=133,slow=6.4,SNR=1.5						
KURBB	Kurchatov Arra	61.26	328	P	P	09 17 59.9	-1.3
	0.3nm,0.5s,baz=120,slow=6.8,SNR=4.1						

IDC 05 09:08:45.1±1.8**, 3°.45N**×**125°.75E, h0km, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.3**/57**, mbtmp3.6**/5**, Error ellipse: s-maj=201.8km s-min=21.9km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.73	160	P	P	09 14 07.3	-1.2
	0.7nm,0.7s,baz=339,slow=10,SNR=2.3						
ASAR	Alice Springs	28.10	164	P	P	09 14 39.1	+0.3
	0.4nm,0.9s,baz=347,slow=7.4,SNR=1.9						
STKA	Stephens Creek	38.23	158	P	P	09 16 07.7	+0.7
	1.5nm,0.9s,baz=322,slow=11,SNR=1.6						
MKAR	Makanchi Array	57.23	326	P	P	09 18 34.1	-0.2
	0.5nm,0.4s,baz=116,slow=8.5,SNR=5.4						
KURBB	Kurchatov Arra	61.45	328	P	P	09 19 03.4	0.0
	0.3nm,0.5s,baz=131,slow=4.9,SNR=4.1						

IDC 05 09:11:10.3±2.4**, 3°.77N**×**125°.80E, h0km, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.1**/58**, mbtmp3.3**/3**, Error ellipse: s-maj=206.2km s-min=30.0km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.02	161	P	P	09 16 36.1	-0.2
	0.4nm,0.7s,baz=339,slow=11,SNR=4.6						
ASAR	Alice Springs	28.39	164	P	P	09 17 06.7	0.0
	0.2nm,0.7s,baz=346,slow=8.7,SNR=1.5						
MKAR	Makanchi Array	56.99	326	P	P	09 20 58.0	+0.1
	0.2nm,0.4s,baz=126,slow=7.4,SNR=2.4						

*IDC **05** 09:12:04.8±1.5, 3°.95N×126°.25E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/58, mbtmp3.6/6, MS3.9/1, Ms1 3.9/1, ms1mx3.2/66, Error ellipse: s-maj=114.9km s-min=19.8km az=71.0*

ISC 05 09:12:06.3±1.4**, 4°.0N**±0°.2×**126°.1E**±0°.7**, h10km, n8, σ1s.09**/7**, mb3.8**/6**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	Tagbilaran	6.11	339	eP	Pb	09 13 51.8	-1.1
FITZ	Fitzroy Crossi	21.93	181	P	P	09 16 59.2	-0.9
	1.5nm,0.8s,baz=358,slow=12,SNR=1.6						
WRA	Warramunga Arr	25.10	161	P	P	09 17 30.9	-0.6
	2.4nm,0.9s,baz=342,slow=10,SNR=2.3						
ASAR	Alice Springs	28.50	165	P	P	09 18 02.1	+0.1
	0.2nm,0.5s,baz=341,slow=7.3,SNR=1.5						
MJAR	Matsushiro Arr	34.28	17	LR	LR	09 33 03.7	
	comp=Z,204nm,19.8s,baz=40,slow=37						
SONM	Songino Array	46.88	342	P	P	09 20 37.2	+0.4
	0.4nm,0.5s,baz=163,slow=6.4,SNR=1.6						
MKAR	Makanchi Array	57.01	325	P	P	09 21 53.8	+1.5
	0.5nm,0.6s,baz=130,slow=7.1,SNR=5.1						
KURBB	Kurchatov Arra	61.20	328	P	P	09 22 21.7	+0.4
	1.2nm,0.8s,baz=123,slow=6.4,SNR=7.8						

*IDC **05** 09:14:02.8±1.3, 4°.16N×126°.58E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.4/56, mbtmp3.6/7, Error ellipse: s-maj=99.0km s-min=18.7km az=70.0*

ISC 05 09:14:09.2±1.2**, 4°.0N**±0°.2×**126°.3E**±0°.6**, h45km, n7, σ0s.42**/7**, mb3.5**/7**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.98	182	P	P	09 18 59.5	0.0
	3.6nm,1.2s,baz=350,slow=6.1,SNR=2.3						
WRA	Warramunga Arr	25.09	162	P	P	09 19 30.4	+0.6
	0.7nm,0.6s,baz=344,slow=10,SNR=3.8						
ASAR	Alice Springs	28.50	165	P	P	09 20 00.6	+0.1
	0.5nm,0.6s,baz=342,slow=6.3,SNR=5.7						
STKA	Stephens Creek	38.55	159	P	P	09 21 27.5	-0.2
	2.3nm,0.9s,baz=4.4,slow=5.8,SNR=3.0						
SONM	Songino Array	46.89	342	P	P	09 22 35.0	-0.2
	0.2nm,0.4s,baz=148,slow=8.5,SNR=1.6						
MKAR	Makanchi Array	57.06	325	P	P	09 23 51.4	+0.5
	0.3nm,0.7s,baz=131,slow=8.0,SNR=1.8						
KURBB	Kurchatov Arra	61.26	327	P	P	09 24 19.5	-0.2
	0.4nm,0.5s,baz=119,slow=7.1,SNR=3.8						

*IDC **05** 09:16:46.1±1.9, 32°.93S×179°.23W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/37, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=47.6km s-min=38.3km az=48.0*
*NEIC **05** 09:16:50.3±1.1, 32°.86S±0°.08×179°.5W±0°.2, h10km±1km, mb4.3/12, Error ellipse: s-maj=24.1km s-min=13.1km az=77.0*
*WEL **05** 09:17:00.0±0.8, 34°S±11°×17°9W±2°5, h138km±29km, M4.2/12, mB4.6/7, ML4.6/13, MLv4.4/12, Mw(mB)3.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=112.5*

ISC 05 09:16:49.0±0.7**, 33°.10S**±0°.03×**179°.60W**±0°.08**, h10km, n78, σ2s.56**/86**, mb4.2**/8**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.09	21	P	Pg	09 18 06.5	-0.8
GLKZ				S	Sg	09 18 58.7	-1.6
MXZ	Matakaoa Point	4.77	200	P	Pn	09 18 04.9	+4.0
MXZ				S	Sn	09 18 55.7	-0.4
WMGZ	Waiomatatini S	4.98	198	P	Pn	09 18 08.9	+5.2
WMGZ				S	Sn	09 19 01.4	+0.1
HAZ	Te Kaha	5.11	204	P	Pn	09 18 11.1	+5.6
HAZ				S	Sn	09 19 05.2	+0.6
PUZ	Puketiti	5.26	199	P	Pn	09 18 11.9	+4.3
PUZ				S	Sn	09 19 06.3	-2.0
RUGZ	Raukumara Rang	5.33	204	P	Pn	09 18 13.4	+4.6
RUGZ				S	Sn	09 19 07.8	-2.5
MWZ	Matawai	5.72	203	P	Pn	09 18 17.9	+3.9
MWZ				S	Sn	09 19 17.7	-2.0
URZ	Urewera	5.80	207	Pn	Pn	09 18 19.0	+3.9
	5.8nm,0.3s,baz=308,slow=2.0,SNR=6.9						
URZ	Urewera	5.80	207		Pn	09 18 18.7	+3.7
URZ	Urewera	5.80	207	P	Pn	09 18 18.8	+3.7
URZ				S	Sn	09 19 18.6	-3.0
MUGZ	Murupara	6.12	208	P	Pn	09 18 23.1	+3.6
MUGZ				S	Sn	09 19 29.2	-0.4
RTZ	Ruatahuna	6.16	206	P	Pn	09 18 23.2	+3.1
RTZ				S	Sn	09 19 28.1	-2.5
PRRZ	Plateau Road	6.29	210	P	Pn	09 18 26.3	+4.5
KNZ	Kokohu	6.31	200	P	Pn	09 18 24.1	+2.1
KNZ				S	Sn	09 19 27.7	-6.3
ALRZ	Allen Road	6.37	210	P	Pn	09 18 26.7	+3.9
MHGZ	Mahia Peninsul	6.37	198	P	Pn	09 18 25.8	+3.0
MHGZ				S	Sn	09 19 28.9	-6.7
RAHZ	Arahi	6.39	204	P	Pn	09 18 26.5	+3.3
RAHZ				S	Sn	09 19 32.6	-3.7
MTHZ	Maungataniwha	6.42	206	P	Pn	09 18 27.2	+3.5
MTHZ				S	Sn	09 19 35.1	-1.9
WHHZ	Waihua	6.49	202	P	Pn	09 18 25.9	+1.3
WHHZ				S	Sn	09 19 35.7	-2.9
MRHZ	Matea Rd	6.57	208	P	Pn	09 18 29.0	+3.3
NMHZ	Naumai	6.65	205	P	Pn	09 18 29.8	+3.0
NMHZ				S	Sn	09 19 40.0	-2.7
ARHZ	Aropaoanui	6.74	203	P	Pn	09 18 30.5	+2.6
ARHZ				S	Sn	09 19 40.6	-4.0
BKZ	Black Stump Fm	6.83	206	P	Pn	09 18 31.5	+2.3
BKZ				S	Sn	09 19 43.3	-3.7
RITZ	Rihia Road	6.92	211	P	Pn	09 18 34.6	+4.1
MCHZ	McNeill Hill	7.00	204	P	Pn	09 18 33.8	+2.2
MCHZ				S	Sn	09 19 48.5	-2.6
KWHZ	Kaweka Forest	7.08	206	P	Pn	09 18 34.2	+1.6
NTVZ	North Tongarir	7.10	211	P	Pn	09 18 36.5	+3.4
TMVZ	Te Maari	7.10	211	P	Pn	09 18 36.3	+3.2
ETVZ	East Tongariro	7.12	211	P	Pn	09 18 36.6	+3.4
WTVZ	West Tongariro	7.15	212	P	Pn	09 18 37.9	+4.2
NNVZ	North Ngauruho	7.15	211	P	Pn	09 18 37.9	+4.1
OTVZ	Oturere	7.16	211	P	Pn	09 18 37.3	+3.5
SNVZ	South Ngauruho	7.19	211	P	Pn	09 18 37.7	+3.4
NGZ	Ngauruhoe	7.20	211	P	Pn	09 18 38.8	+4.4
TUVZ	Tukino	7.25	211	P	Pn	09 18 38.7	+3.7
KAHZ	Kahuranaki	7.26	202	P	Pn	09 18 36.7	+1.6
BHHZ	Black Hill Sta	7.27	208	P	Pn	09 18 37.1	+1.8
FWVZ	Far West T-bar	7.28	211	P	Pn	09 18 39.3	+3.6
KRHZ	Kereru	7.29	205	P	Pn	09 18 36.5	+1.0
WNVZ	Wahianoa	7.32	211	P	Pn	09 18 38.7	+2.6
MOVZ	Moawhango	7.33	209	P	Pn	09 18 38.9	+2.8
MTVZ	Mangateitei	7.43	211	P	Pn	09 18 40.5	+3.0
PXZ	Pawanui	7.48	201	P	Pn	09 18 38.8	+0.8
PNHZ	Pukenui	7.59	205	P	Pn	09 18 40.1	+0.5
WPHZ	Waipukurau	7.64	203	P	Pn	09 18 41.8	+1.5
PRHZ	Porangahau	7.76	202	P	Pn	09 18 42.1	+0.2
TSZ	Takapari Road	7.80	206	P	Pn	09 18 42.8	+0.2
DVHZ	Dannevirke	7.95	204	P	Pn	09 18 44.6	+0.1
ANWZ	Angora Road	7.99	202	P	Pn	09 18 45.2	+0.2
POWZ	Post Office Ro	8.17	206	P	Pn	09 18 48.6	+1.0
PRWZ	Pori Road	8.24	204	P	Pn	09 18 49.4	+0.9
BFZ	Birch Farm	8.26	203	P	Pn	09 18 48.7	-0.1
TIWZ	Tintock	8.47	204	P	Pn	09 18 51.1	-0.6
MRZ	Mangatainoka R	8.47	206	P	Pn	09 18 50.8	-0.9
HOWZ	Holdsworth Sta	8.70	205	P	Pn	09 18 53.8	-1.2
TMWZ	Te Maipa	8.76	203	P	Pn	09 18 55.0	-0.7
KIW	Kapiti Island	8.90	208	P	Pn	09 18 56.7	-0.9
MTW	Mount Morrison	8.94	205	P	Pn	09 18 56.3	-1.8
DZM	Mont Dzumac	16.53	308	Pn	Pn	09 20 40.0	-1.0
DZM				IAmb	IAmb	09 21 01.9	
	comp=Z,20nm,1.1s						
LIFNC	LIFOU	16.96	313	Pn	Pn	09 20 46.2	-0.2
AFI	Afiamalu	20.39	22	P	P	09 21 23.9	-2.2
CTA	Charters Tower	33.02	284	P	P	09 23 25.5	+1.0
	comp=Z,5.0nm,0.9s,baz=125,slow=10,SNR=3.3						
AS31	Alice Springs	41.69	271	P	P	09 24 39.8	+1.7
ASAR	Alice Springs	41.69	271	P	P	09 24 39.1	+1.1
	comp=Z,0.9nm,0.8s,baz=111,slow=7.5,SNR=11						
ASAR				PcP	PcP	09 26 32.6	-2.1
	comp=Z,0.3nm,0.5s,baz=126,slow=3.7,SNR=2.1						
WR0	Warramunga Arr	42.75	276	P	P	09 24 47.7	+1.0
WR0				IAmb	IAmb	09 25 05.1	
	comp=Z,7.8nm,1.5s						
WB2	Warramunga Arr	42.91	276	P	P	09 24 49.1	+1.1
WB2				IAmb	IAmb	09 25 01.0	
	comp=Z,5.4nm,1.1s						
WRAB	Tennant Creek	42.92	276	P	P	09 24 49.1	+1.0
WRAB				IAmb	IAmb	09 25 10.6	
	comp=Z,7.0nm,1.4s						
WRA	Warramunga Arr	42.92	276	P	P	09 24 49.0	+0.9
	comp=Z,0.5nm,0.3s,baz=118,slow=7.7,SNR=18						
WRA	Warramunga Arr	42.92	276	P	P	09 24 48.4	+0.2
WB0	Warramunga Arr	42.96	276	P	P	09 24 49.6	+1.1
FITZ	Fitzroy Crossi	51.06	273	P	P	09 25 51.8	+0.1
FITZ				IAmb	IAmb	09 26 19.6	
	comp=Z,7.8nm,1.5s						
NWAO	Narrogin (SRO)	52.21	252	P	P	09 26 01.6	+1.4
QSPA	South Pole Qui	57.02	180	P	P	09 26 38.1	+3.4
QSPA				IAmb	IAmb	09 26 38.7	
	comp=Z,3.3nm,0.7s						
H03N3	Juan Fernandez	80.31	124	T	T	10 57 52.1	
	baz=239,slow=72,SNR=6.2						
H03N2	Juan Fernandez	80.32	124	T	T	10 57 49.7	
	baz=239,slow=72,SNR=4.1						
H03N1	Juan Fernandez	80.33	124	T	T	10 57 51.1	
	baz=239,slow=72,SNR=8.2						
FINES	FINESS Array B	147.16	337	PKPbc	PKPbc	09 36 30.8	-0.7
	comp=Z,0.4nm,0.4s,baz=56,slow=3.7,SNR=3.5						
TORD	Torodi Ar. Bea	160.10	184	PKPab	PKPab	09 37 27.7	-1.1
	comp=Z,0.4nm,0.6s,baz=162,slow=5.8,SNR=6.8						

IDC 05 09:26:25.1±2.9**, 3°.92N**×**125°.97E, h0km, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.2**/42**, mbtmp3.2**/3**, Error ellipse: s-maj=279.1km s-min=30.5km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.10	161	P	P	09 31 51.8	+0.1
	0.2nm,0.4s,baz=340,slow=11,SNR=2.6						
ASAR	Alice Springs	28.49	165	P	P	09 32 22.0	-0.3
	0.2nm,0.7s,baz=343,slow=7.3,SNR=1.5						
MKAR	Makanchi Array	56.97	326	P	P	09 36 12.5	+0.1
	0.2nm,0.5s,baz=127,slow=7.8,SNR=2.0						

*NNC **05** 09:29:36.4±3.9, 53°.53N×88°.15E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=28.5km s-min=15.2km az=66.0, Suspected Mining explosion.*
*IDC **05** 09:29:41.3±3.5, 53°.61N×87°.81E, h0km, mb1 2.7/1, mb1mx2.7/54, mbtmp2.7/1, ML2.7/1, Error ellipse: s-maj=28.8km s-min=15.3km az=63.0*

ISC 05 09:29:36.0±4.0**, 53°.7N**±0°.1×**88°.1E**±0°.2**, h0km, n8, σ1s.00**/9**, 7C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.97	279	i		09 42 15.4	
	baz=98,slow=321						
ZAA0	Zalesovo Array	1.97	279	⇑Pg	Pg	09 30 13.2	-0.6
	0.5nm,0.3s						
ZAA0				⇑Lg	Lg	09 30 40.4	
	6.0nm,0.7s						
ZALV	Zalesovo Beam	1.97	279	Pg	Pb	09 30 13.0	+0.2
	2.5nm,0.3s,baz=102,slow=16,SNR=14						
ZALV				Lg	Lg	09 30 39.1	
	4.0nm,0.3s,baz=101,slow=27,SNR=7.1						
KURK	Kurchatov	6.55	247	⇑Sn	Sn	09 32 28.7	0.0
	1.4nm,0.6s						
KURK				⇑Lg	Lg	09 33 02.7	
	4.7nm,1.0s						
KURBB	Kurchatov Arra	6.64	246	⇓Pn	Pn	09 31 15.7	+0.9
	2.6nm,0.8s						
KURBB				⇑Sn	Sn	09 32 30.4	-0.6
	2.8nm,0.5s						
KURBB				⇓Lg	Lg	09 33 07.5	
	7.5nm,0.9s						
MK31	Makanchi Array	7.83	211	⇓Pn	Pn	09 31 30.7	-0.5
	2.1nm,1.3s,baz=27,slow=12,SNR=6.8						
MK31				⇑Sn	Sn	09 32 59.1	-1.4
	0.4nm,0.5s						
MK31				⇓Lg	Lg	09 33 41.4	
	3.0nm,0.9s,baz=32,slow=31						
MKAR	Makanchi Array	7.83	211	Pn	Pn	09 31 36.2	+5.1
	0.1nm,0.3s,baz=30,slow=15,SNR=5.9						
MKAR				Sn	Sn	09 33 01.8	+1.3
	0.1nm,0.3s,baz=32,slow=22,SNR=2.3						
MKAR				Lg	Lg	09 33 43.4	
	0.1nm,0.3s,baz=29,slow=31,SNR=5.7						
MAKZ	Makanchi	7.92	212	⇓Sn	Sn	09 33 03.3	+0.7
	0.9nm,0.7s						
MAKZ				⇑Lg	Lg	09 33 46.8	
	3.2nm,1.2s						

*BGR **05** 09:33:40.7±0.0, 52°.33N×153°.85E, h33km, mb4.9*
*KRSC **05** 09:34:23.6±1.5, 52°.23N×153°.51E, h501km±31km, ML5.5*
*MOS **05** 09:34:25.7±0.8, 52°.53N×153°.00E, h471km, mb4.6/77, Error ellipse: s-maj=6.1km s-min=4.2km az=74.4*
*BJI **05** 09:34:25.4±0.0, 52°.44N×153°.10E, h478km, mb4.5/46, mB4.7/17*
*SKHL **05** 09:34:26.7±0.6, 52°.40N×153°.10E, h487km±12km, mb5.8/14, mbv5.5/3, msh5.3/5, msha5.6/10*
*NEIC **05** 09:34:27.4±1.6, 52°.57N±0°.09×153°.0E±0°.1, h470km±6km, mb4.5/365, Error ellipse: s-maj=14.1km s-min=11.8km az=141.0*
*IDC **05** 09:34:27.6±0.6, 52°.55N×152°.92E, h477km±6km, mb4.0/38, mb1 4.1/46, mb1mx4.0/60, mbtmp4.9/46, Error ellipse: s-maj=7.9km s-min=5.8km az=149.0*

ISC 05 09:34:26.5±0.4**, 52°.45N**±0°.04×**153°.13E**±0°.04**, h472km**±3km**, h471km:pP-P, n1036, σ1s.22**/1089**, mb4.5**/305**, 35C-44D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	2.23	93	PN	P	09 35 30.1	-0.1
MIPR	Malaya Ipel'ka	2.23	93	eP	P	09 35 30.1	-0.1
PAU	Pauzhetka	2.48	112	PN	P	09 35 31.6	-0.1
PAU	Pauzhetka	2.48	112	eP	P	09 35 31.6	-0.1
PAU	Pauzhetka	2.48	112	eP	P	09 35 32.0	+0.3
PAU				AMB	AMB	09 35 32.5	
	4µm,0.5s						
PAU				eS	S	09 36 22.5	-2.3
PAU				A	A	09 36 27.6	
	6µm,0.5s						
PAU				A	A	09 36 27.6	
	2µm,0.5s						
PAU				A	A	09 36 28.0	
	1µm,2.0s						
PAU				A	A	09 36 28.0	
	770nm,2.0s						
APC	Apacha	2.50	77	PN	P	09 35 31.3	-0.4
APC	Apacha	2.50	77	eP	P	09 35 31.3	-0.4
SKR	Severo-Kuril's	2.57	132	PN	P	09 35 31.5	-0.8
SKR				S	S	09 36 24.0	-1.8
SKR	Severo-Kuril's	2.57	132	eP	P	09 35 31.5	-0.8
SKR				eS	S	09 36 24.0	-1.8
SKR	Severo-Kuril's	2.57	132	i P	P	09 35 31.5	-0.8
SKR				AMB	AMB	09 35 32.3	
	1µm,0.8s						
SKR				eS	S	09 36 23.7	-2.1
SKR				A	A	09 36 25.7	
	720nm,0.9s						
SKR				A	A	09 36 25.7	
	630nm,0.9s						
PEA0B	Petropavlovsk-	2.85	75	d iPN	P	09 35 33.8	-0.3
PEA0B	Petropavlovsk-	2.85	75		P	09 35 33.9	-0.2
PETK	Petropavlovsk-	2.85	75	P	P	09 35 33.2	-0.9
	48nm,0.3s,baz=224,slow=3.0,SNR=232						
PETK				S	S	09 36 28.6	-0.7
	2.8nm,0.3s,baz=265,slow=10.0,SNR=1.5						
PETK	Petropavlovsk-	2.85	75		P	09 35 33.0	-1.1
ASAK	Asacha	2.92	89	PN	P	09 35 34.8	+0.1
ASAK				S	S	09 36 31.3	+1.0
ASAK	Asacha	2.92	89	eP	P	09 35 34.8	+0.1
ASAK				eS	S	09 36 31.3	+1.0
GRL	Gorelyy	3.03	86	PN	P	09 35 35.7	+0.2
GRL				S	S	09 36 33.0	+1.3
GRL	Gorelyy	3.03	86	eP	P	09 35 35.7	+0.2
GRL				eS	S	09 36 33.0	+1.3
KRMR	Karymshinskiy	3.07	81	PN	P	09 35 35.5	-0.1
KRMR	Karymshinskiy	3.07	81	eP	P	09 35 35.5	-0.1
MTVR	Mutnovka	3.09	87	PN	P	09 35 36.3	+0.3
MTVR	Mutnovka	3.09	87	eP	P	09 35 36.3	+0.3
KDTR	Khodutka, Kamc	3.12	100	PN	P	09 35 34.9	-1.1
KDTR				S	S	09 36 28.5	-4.1
KDTR	Khodutka, Kamc	3.12	100	eP	P	09 35 34.9	-1.1
KDTR				eS	S	09 36 28.5	-4.1
GNL	Ganaly	3.16	65	PN	P	09 35 36.2	-0.2
GNL	Ganaly	3.16	65	eP	P	09 35 36.2	-0.2
RUS	Russkaya	3.30	88	PN	P	09 35 36.7	-0.6
RUS				S	S	09 36 31.4	-3.6
RUS	Russkaya	3.30	88	eP	P	09 35 36.7	-0.6
RUS				eS	S	09 36 31.4	-3.6
PET	Petropavlovsk	3.41	78	⇓iPN	P	09 35 38.0	-0.1
PET				i S	S	09 36 34.3	-2.3
PET				pmax	pmax		
	comp=Z,1µm,1.0s						
PET				smax	smax		
	comp=E,1µm,0.9s						
PET				smax	smax		
	comp=N,1µm,0.8s						
PET				MLR	MLR		
	comp=Z,300nm,12.0s						
PET				MLR	MLR		
	comp=Z,700nm,18.0s						
PET	Petropavlovsk	3.41	78		P	09 35 38.0	-0.1
PET	Petropavlovsk	3.41	78	P	P	09 35 38.3	+0.2
PET	Petropavlovsk	3.41	78	eP	P	09 35 38.3	+0.2
PET				eS	S	09 36 34.6	-2.0
PET	Petropavlovsk	3.41	78	eP	P	09 35 38.1	-0.1
PET				AMB	AMB	09 35 38.8	
	comp=Z,1µm,1.0s						
PET				eS	S	09 36 34.3	-2.3
PET				A	A	09 36 37.8	
	comp=Z,1µm,0.8s						
PET				A	A	09 36 37.8	
	comp=Z,1µm,0.8s						
KOK	Koryaka	3.44	74	PN	P	09 35 39.3	+0.8
KOK	Koryaka	3.44	74	eP	P	09 35 39.3	+0.8
AVH	Avacha	3.50	74	PN	P	09 35 39.4	+0.5
AVH	Avacha	3.50	74	eP	P	09 35 39.4	+0.5
KRER	Koryakskii	3.51	74	PN	P	09 35 39.5	+0.3
KRER				S	S	09 36 37.6	-0.9
KRER	Koryakskii	3.51	74	eP	P	09 35 39.5	+0.3
KRER				eS	S	09 36 37.6	-0.9
SMAR	Somma	3.54	74	PN	P	09 35 40.1	+0.7
SMAR				S	S	09 36 37.5	-1.3
SMAR	Somma	3.54	74	eP	P	09 35 40.1	+0.7
SMAR				eS	S	09 36 37.5	-1.3
UGLR	Uglovaya	3.54	75	PN	P	09 35 40.0	+0.7
UGLR				S	S	09 36 38.2	-0.5
UGLR	Uglovaya	3.54	75	eP	P	09 35 40.0	+0.7
UGLR				eS	S	09 36 38.2	-0.5
SDLR	Sedlovina	3.59	74	PN	P	09 35 39.8	+0.1
SDLR				S	S	09 36 37.9	-1.5
SDLR	Sedlovina	3.59	74	eP	P	09 35 39.8	+0.1
SDLR				eS	S	09 36 37.9	-1.5
NLC	Nalytchevo	3.84	77	eS	S	09 36 40.8	-2.1
KII	Karymskiy	4.12	65	PN	P	09 35 44.7	+0.7
KII	Karymskiy	4.12	65	eP	P	09 35 44.7	+0.7
SPN	Mys Shipunski	4.24	78	PN	P	09 35 43.5	-1.4
SPN				S	S	09 36 42.6	-6.4
SPN	Mys Shipunski	4.24	78	eP	P	09 35 43.5	-1.4
SPN				eS	S	09 36 42.6	-6.4
ESO	Esso	4.78	41	PN	P	09 35 51.0	+1.2
ESO	Esso	4.78	41	eP	P	09 35 51.0	+1.2
TUMR	Tumrok	5.03	53	PN	P	09 35 52.9	+0.7
TUMR				S	S	09 37 00.4	-1.9
TUMR	Tumrok	5.03	53	eP	P	09 35 53.3	+1.1
TUMD	Tumrok D	5.12	54	eP	P	09 35 52.9	0.0
TUMD				eS	S	09 37 00.4	-3.2
KMNR	Kamenistaya	5.34	49	PN	P	09 35 56.2	+1.1
KMNR	Kamenistaya	5.34	49	eP	P	09 35 56.2	+1.1
KOZ	Kozyrevsk	5.36	45	PN	P	09 35 56.3	+1.1
KOZ	Kozyrevsk	5.36	45	eP	P	09 35 56.3	+1.1
KPT	Kopyto	5.46	47	PN	P	09 35 57.4	+1.2
KPT	Kopyto	5.46	47	eP	P	09 35 57.4	+1.2
KIRR	Kirishev	5.50	47	PN	P	09 35 57.9	+1.2
KIRR	Kirishev	5.50	47	eP	P	09 35 57.9	+1.2
MKZ	Mys Kozlova	5.55	64	PN	P	09 35 56.3	-0.7
MKZ	Mys Kozlova	5.55	64	eP	P	09 35 56.3	-0.7
MKZ				eS	S	09 37 03.9	-7.2
BZWR	Bezymyannyi-We	5.58	48	PN	P	09 35 58.7	+1.2
BZWR	Bezymyannyi-We	5.58	48	eP	P	09 35 58.7	+1.2
KRSR	Krestovskiy	5.76	46	PN	P	09 36 00.5	+1.3
KRSR	Krestovskiy	5.76	46	eP	P	09 36 00.5	+1.3
KLY	Klyuchi	5.86	46	PN	P	09 36 01.1	+1.1
KLY	Klyuchi	5.86	46	eP	P	09 36 01.1	+1.1
OKH	Okha	6.25	284	dePN	P	09 35 54.4	-10
OKH	Okha	6.25	284	eP	P	09 36 03.7	-0.3
OKH				AMB	AMB	09 36 04.4	
	comp=Z,120nm,0.3s						
OKH				eS	S	09 37 22.1	-1.7
OKH				A	A	09 37 26.8	
	comp=Z,170nm,0.6s						
OKH				A	A	09 37 26.8	
	comp=Z,110nm,0.6s						
OKH				A	A	09 37 27.3	
	comp=Z,800nm,3.8s						
OKH				A	A	09 37 27.3	
	comp=Z,2µm,3.8s						
BDR	Baidarnaya	6.26	46	PN	P	09 36 04.4	+0.3
BDR	Baidarnaya	6.26	46	eP	P	09 36 04.4	+0.3
SRKR	Sorokina	6.30	45	PN	P	09 36 05.1	+0.6
SRKR	Sorokina	6.30	45	eP	P	09 36 05.1	+0.6
SMKR	Semkarok	6.38	46	PN	P	09 36 05.3	0.0
SMKR	Semkarok	6.38	46	eP	P	09 36 05.3	0.0
TYV	Tymovskoe	6.71	260	ePN	P	09 36 10.6	+2.0
TYV				eS	S	09 37 33.5	+1.1

TYV pmax pmax
comp=Z,600nm,1.7s
TYV pmax pmax
comp=Z,342nm,0.7s
TYV smax smax
comp=N,122nm,1.1s
TYV smax smax
comp=N,1μm,2.8s
TYV smax smax
comp=E,200nm,2.8s
TYV Tymovskoe 6.71 260 *e*P **P 09 36 10.2 +1.6**
TYV AMB AMB 09 36 10.9
comp=E,600nm,1.7s
TYV AMB AMB 09 36 11.0
comp=E,350nm,0.7s
TYV *e*S **S 09 37 30.3 -2.1**
TYV A A 09 37 34.9
comp=E,1μm,2.6s
TYV A A 09 37 34.9
comp=E,200nm,2.6s
TYV A A 09 37 35.1
comp=E,120nm,1.1s
KBG Krutoberegovo 6.77 52 PN **P 09 36 06.8 -2.4**
KBG Krutoberegovo 6.77 52 *e*P **P 09 36 06.8 -2.4**
KBG Krutoberegovo 6.77 52 *e*P **P 09 36 09.4 +0.2**
KBG AMB AMB 09 36 09.9
comp=E,770nm,0.4s
KBG *e*S **S 09 37 30.1 -3.4**
KBG A A 09 37 32.3
comp=E,2μm,0.6s
KBG A A 09 37 32.3
comp=E,3μm,0.6s
KBTR Krutoberegovo 6.80 53 PN **P 09 36 07.0 -2.5**
KBTR Krutoberegovo 6.80 53 *e*P **P 09 36 07.0 -2.5**
MA2 Magadan 7.27 350 P **P 09 36 14.4 +0.2**
comp=E,3.7nm,0.3s,baz=137,slow=8.3,SNR=23
MA2 S **S 09 37 41.9 -0.9**
comp=E,0.3nm,0.3s,baz=208,slow=23,SNR=28
MA2 Magadan 7.27 350 *c i*PN **P 09 36 14.4 +0.2**
MA2 pmax pmax
comp=Z,20nm,0.7s
MA2 Magadan 7.27 350 P **P 09 36 14.6 +0.4**
NKL Nikolayevsk 7.58 280 *e*P **P 09 36 16.9 -0.7**
NKL AMB AMB 09 36 21.5
comp=Z,90nm,0.5s
PALN Palana 7.69 27 PN **P 09 36 18.9 +0.3**
PALN Palana 7.69 27 *e*P **P 09 36 18.9 +0.3**
UGL Uglegorsk 7.78 249 *e*PN **P 09 36 21.6 +1.8**
UGL *e*S **S 09 37 54.4 +1.5**
UGL pmax pmax
comp=Z,922nm,0.8s
UGL pmax pmax
comp=E,305nm,0.5s
UGL pmax pmax
comp=N,450nm,0.6s
UGL smax smax
comp=E,215nm,1.3s
UGL smax smax
comp=N,71nm,1.2s
UGL Uglegorsk 7.78 249 *e*P **P 09 36 21.7 +1.9**
UGL AMB AMB 09 36 22.5
comp=N,920nm,0.8s
UGL *e*S **S 09 37 50.7 -2.2**
UGL A A 09 37 57.0
comp=N,70nm,1.3s
UGL A A 09 37 57.0
comp=N,220nm,1.3s
KUR Kuril'sk 8.01 208 *e*PN P 09 36 15.8 -6.5
KUR S **S 09 37 56.3 -1.1**
KUR pmax pmax
comp=Z,231nm,0.5s
KUR pmax pmax
comp=N,69nm,0.4s
KUR pmax pmax
comp=E,59nm,0.5s
KUR smax smax
comp=N,95nm,0.6s
KUR smax smax
comp=E,63nm,0.5s
KUR Kuril'sk 8.01 208 *e*P **P 09 36 21.6 -0.7**
KUR AMB AMB 09 36 26.1
comp=E,310nm,0.5s
KUR *e*S **S 09 37 53.9 -3.5**
KUR A A 09 38 00.3
comp=E,100nm,0.6s
KUR A A 09 38 00.3
comp=E,60nm,0.6s
BKI Bering 8.09 65 PN **P 09 36 23.6 +0.7**
BKI Bering 8.09 65 *e*P **P 09 36 23.6 +0.7**
YSS Yuzh-Sakhalins 8.68 235 *α i*PN **P 09 36 30.9 +1.5**
YSS *e*S **S 09 38 11.0 +0.6**
YSS pmax pmax
comp=Z,220nm,0.7s
YSS pmax pmax
comp=N,110nm,6.0s
YSS pmax pmax
comp=E,100nm,0.6s
YSS pmax pmax
comp=Z,400nm,2.0s
YSS smax smax
comp=N,300nm,2.3s
YSS smax smax
comp=E,300nm,4.4s
YSS smax smax
comp=N,40nm,1.4s
YSS smax smax
comp=E,40nm,1.3s
YSS Yuzh-Sakhalins 8.68 235 **P 09 36 30.8 +1.5**
YSS Yuzh-Sakhalins 8.68 235 P **P 09 36 31.1 +1.7**
YSS Yuzh-Sakhalins 8.68 235 *i* P **P 09 36 30.0 +0.6**
YSS AMB AMB 09 36 31.5
comp=E,220nm,0.7s
YSS AMB AMB 09 36 32.3
comp=E,400nm,2.0s
YSS *e*S **S 09 38 07.8 -2.6**
YSS A A 09 38 14.8
comp=E,300nm,2.3s
YSS A A 09 38 14.8
comp=E,300nm,2.3s
YSS A A 09 38 14.9
comp=E,40nm,1.4s
YSS A A 09 38 14.9
comp=E,40nm,1.4s
OSSR Ossora 8.81 35 PN **P 09 36 31.7 +1.2**
OSSR Ossora 8.81 35 *e*P **P 09 36 31.7 +1.2**
SHO Shikotan 9.55 209 *d i*PN **P 09 36 34.6 -4.2**
SHO pmax pmax
comp=N,414nm,0.4s
SHO pmax pmax
comp=E,227nm,0.4s
SHO pmax pmax
comp=Z,1μm,0.4s
SHO Shikotan 9.55 209 *i* P **P 09 36 37.2 -1.6**
SHO AMB AMB 09 36 38.7
comp=Z,1μm,0.4s
SHO *i* S **S 09 38 23.0 -4.6**
YUK Yuzh-Kuril'sk 9.71 213 ⇑ *i*PN **P 09 36 38.6 -1.9**
YUK *i* S **S 09 38 28.0 -2.6**
YUK pmax pmax
comp=N,85nm,0.3s
YUK pmax pmax
comp=E,218nm,0.3s
YUK pmax pmax
comp=Z,668nm,0.3s
YUK pmax pmax
comp=Z,655nm,1.8s
YUK smax smax
comp=E,854nm,1.9s
YUK smax smax
comp=N,887nm,2.0s
YUK Yuzh-Kuril'sk 9.71 213 *i* P **P 09 36 40.2 -0.2**
YUK AMB AMB 09 36 42.0
comp=N,670nm,0.3s
YUK AMB AMB 09 36 46.4
comp=N,660nm,1.8s
YUK *i* S **S 09 38 30.4 -0.2**
YUK A A 09 38 31.3
comp=N,890nm,2.0s
YUK A A 09 38 31.3
comp=N,850nm,2.0s
RUSJ Misakicho 9.86 215 *d i*PN **P 09 36 41.7 -0.4**
RUSJ S **S 09 38 30.8 -2.8**
GLVR Golovnino 10.08 213 *e*PN **P 09 36 43.4 -1.1**
GLVR S **S 09 38 37.9 -0.2**
GLVR pmax pmax
comp=N,143nm,0.4s
GLVR pmax pmax
comp=E,87nm,0.4s
GLVR pmax pmax
comp=Z,297nm,0.4s
GLVR Golovnino 10.08 213 *e*P **P 09 36 43.4 -1.1**
GLVR AMB AMB 09 36 47.0
comp=Z,300nm,0.4s
GLVR *e*S **S 09 38 37.9 -0.2**
NMR Nemuro--Hokkai 10.35 212 *e*PN **P 09 36 43.5 -3.8**
NMR Nemuro--Hokkai 10.35 212 *e*P **P 09 36 44.1 -3.2**
SEY Seymchan 10.52 358 P **P 09 36 50.0 +1.2**
comp=Z,8.5nm,0.3s,baz=172,slow=9.2,SNR=236
SEY S **S 09 38 47.9 +1.6**
baz=91,slow=23,SNR=11
TILK Tilichiki 10.76 37 PN **P 09 36 52.5 +1.1**
TILK Tilichiki 10.76 37 *e*P **P 09 36 52.5 +1.1**
JKA Kamikawa-asahi 10.88 224 P **P 09 36 53.5 +0.4**
JKA Kamikawa-asahi 10.88 224 *e*P **P 09 36 53.5 +0.4**
ASAJ Asahikawa 10.88 224 P **P 09 36 53.6 +0.5**
comp=Z,3.9nm,0.3s,baz=61,slow=8.3,SNR=47
ASAJ S **S 09 38 54.5 +0.6**
comp=Z,0.4nm,0.3s,baz=169,slow=34,SNR=2.0
AKK Akkeshi 10.95 214 *e*P **P 09 36 52.0 -1.8**
KMSK Kamenskaya 12.24 30 PN **P 09 37 08.0 +0.7**
KMSK Kamenskaya 12.24 30 *e*P **P 09 37 08.0 +0.7**
JEW Eniwo 12.41 224 P **P 09 37 08.1 -1.4**
ERM Erimo 12.43 217 *ce*PN **P 09 37 08.1 -1.6**
ERM pmax pmax
comp=Z,266nm,1.0s
ERM Erimo 12.43 217 P **P 09 37 08.3 -1.4**
ERM Erimo 12.43 217 P **P 09 37 08.7 -1.0**
SHEM Shemya Is, Ala 12.75 80 P **P 09 37 14.6 +1.6**
comp=Z,32nm,0.3s,baz=2.2,slow=3.7,SNR=36
SMY Shemya 12.75 80 PN **P 09 37 14.7 +1.7**
SMY Shemya 12.75 80 P **P 09 37 14.7 +1.7**
TEY Ternei 13.17 242 ⇓ *i*PN **P 09 37 19.5 +2.0**
TEY pmax pmax
comp=E,30nm,1.1s
TEY pmax pmax
comp=N,30nm,1.0s
TEY pmax pmax
comp=Z,50nm,1.1s
TEY Ternei 13.17 242 *i* P **P 09 37 19.0 +1.5**
KLR Kul'dur 13.88 265 P **P 09 37 25.1 0.0**
comp=Z,0.5nm,0.3s,baz=77,slow=10,SNR=19
KLR S **S 09 39 52.9 +0.4**
comp=Z,0.1nm,0.3s,baz=120,slow=20,SNR=13
KLR Kul'dur 13.88 265 ⇓ *e*P **P 09 37 25.4 +0.3**
KLR pmax pmax
comp=Z,8.0nm,1.0s
KLR Kul'dur 13.88 265 *e*P **P 09 37 25.4 +0.3**
JTM Tenmabayashi 14.28 220 P **P 09 37 28.4 -1.1**
ZEA Zeya 15.57 285 *e*P **P 09 37 41.7 -1.2**
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=N,20nm,0.4s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA Zeya 15.57 285 *e*P **P 09 37 41.7 -1.2**
YAK Yakutsk 15.82 317 P **P 09 37 43.7 -1.7**
comp=Z,1.1nm,0.3s,baz=137,slow=2.1,SNR=15
YAK S **S 09 40 24.6 -5.1**
comp=Z,0.2nm,0.3s,baz=151,slow=2.1,SNR=1.9
YAK Yakutsk 15.82 317 *d i*P **P 09 37 43.7 -1.7**
YAK *e*S **S 09 40 27.6 -2.0**
YAK pmax pmax
comp=Z,89nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,16nm,0.7s
YAK smax smax
comp=E,71nm,1.6s
YAK smax smax
comp=N,37nm,1.0s
YAK Yakutsk 15.82 317 P **P 09 37 44.2 -1.2**
USRK Ussuriysk Ar. 16.25 248 P **P 09 37 50.6 +0.3**
baz=56,slow=13,SNR=9.9
BILL Bilibino 16.88 17 *d i*P **P 09 37 54.9 -1.6**
BILL pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 16.88 17 P **P 09 37 55.8 -0.7**
BILL Bilibino 16.88 17 *e*P **P 09 37 55.2 -1.3**
JMM Marumori 16.94 215 P **P 09 37 57.1 -0.4**
MDJ Mudanjiang 17.39 253 P **P 09 38 06.6 +4.5**
MDJ S **S 09 40 56.5 -2.6**
MDJ pmax pmax
comp=Z,49nm,0.6s
MDJ pmax pmax
comp=Z,230nm,10.1s
JSD Sado 17.76 222 P **P 09 38 05.6 -0.2**
BNX BinXian 18.07 258 ⇑ P **P 09 38 08.3 -0.4**
BNX pmax pmax
comp=Z,35nm,0.6s
BNX pmax pmax
comp=Z,380nm,5.9s
KIWB Kanaga Island 18.20 80 P **P 09 38 10.1 +0.3**
JYT Yasato 18.62 215 P **P 09 38 14.4 +0.5**
MJB9 Matsu-Tunnel 19.07 219 P **P 09 38 17.8 -0.3**
MAJO Matsushiro 19.07 219 P **P 09 38 17.7 -0.4**
MAJO pmax pmax
comp=Z,105nm,0.6s
MAJO Matsushiro 19.07 219 P **P 09 38 17.7 -0.4**
MJAR Matsushiro Arr 19.07 219 P **P 09 38 18.8 +0.6**
comp=Z,2.8nm,0.3s,baz=40,slow=7.1,SNR=121
MJAR Matsushiro Arr 19.07 219 P **P 09 38 18.5 +0.4**
MJAR pmax pmax
comp=Z,48nm,0.6s
MJAR Matsushiro Arr 19.07 219 P **P 09 38 18.5 +0.4**
ATKA Atka Island 19.89 78 P **P 09 38 27.7 +2.4**
comp=Z,117nm,2.0s
JGF Kuroka 20.23 220 P **P 09 38 29.0 +0.3**
INU Inuyama 20.58 220 P **P 09 38 31.8 0.0**
INU Inuyama 20.58 220 P **P 09 38 33.3 +1.5**
HIA Hailar 21.20 275 *d i*P **P 09 38 36.8 -0.6**
HIA pmax pmax
comp=Z,58nm,0.9s
HIA Hailar 21.20 275 P **P 09 38 36.9 -0.4**
GAMB Gambell 21.45 44 P **P 09 38 39.8 +0.5**
GAMB IAmb IAmb 09 38 42.2
comp=Z,15nm,0.7s
GAMB Gambell 21.45 44 P **P 09 38 39.6 +0.3**
baz=255,SNR=17
SPIA Saint Paul Isl 21.45 63 P **P 09 38 40.5 +1.1**
baz=274
TIXI Tiksi 22.05 340 P **P 09 38 44.5 -0.2**
comp=Z,13nm,0.4s,baz=90,slow=20,SNR=71
TIXI Tiksi 22.05 340 *d i*P **P 09 38 44.4 -0.3**
TIXI pmax pmax
comp=Z,34nm,1.0s
TIXI Tiksi 22.05 340 P **P 09 38 44.5 -0.2**
TIXI Tiksi 22.05 340 *e*P **P 09 38 44.4 -0.3**
JHS Saijyo 22.53 227 P **P 09 38 50.7 +1.2**
JHS IAmb IAmb 09 38 55.5
comp=Z,13nm,0.9s
BOD Bodaibo 22.76 299 *e*P **P 09 38 50.0 -1.2**
BOD pmax pmax
comp=Z,33nm,0.9s
KS19 Wonju Array Si 23.13 240 P **P 09 38 54.4 -0.5**
KS19 IAmb IAmb 09 38 60.0
comp=Z,12nm,1.1s
KSRS Korea Array 23.13 240 P **P 09 38 55.6 +0.8**
comp=Z,4.6nm,0.7s,baz=44,slow=9.8,SNR=15
KSRS PcP **PcP 09 42 26.6 +0.1**
comp=Z,2.2nm,0.7s,baz=325,slow=1.6,SNR=8.5
TNA Tin City 23.49 41 P **P 09 38 58.8 +1.2**
TNA IAmb IAmb 09 38 59.5
comp=Z,25nm,1.0s
TNA Tin City 23.49 41 P **P 09 38 58.5 +0.9**
baz=255,SNR=25
ANM Nome 24.32 44 P **P 09 39 06.3 +1.2**
ANM pmax pmax
comp=Z,14nm,0.8s
ANM Nome 24.32 44 P **P 09 39 06.3 +1.2**
ANM IAmb IAmb 09 39 07.3
comp=Z,14nm,0.8s
ANM Nome 24.32 44 P **P 09 39 06.3 +1.2**
baz=260,SNR=21
JTU Tsushima 24.66 233 P **P 09 39 09.2 +0.7**
JNU Nakatsue 25.11 228 P **P 09 39 11.2 -1.3**
comp=Z,4.8nm,0.7s,baz=5.1,slow=21,SNR=2.8
JNU Nakatsue 25.11 228 P **P 09 39 13.1 +0.5**
JNU IAmb IAmb 09 39 33.4
comp=Z,20nm,1.3s
FALS False Pass 25.56 67 P **P 09 39 17.7 +1.5**
FALS False Pass 25.56 67 P **P 09 39 17.2 +1.0**
baz=283
XLT XiLinHaoTe 25.90 266 *e*P **P 09 39 19.2 -0.2**
XLT pmax pmax
comp=Z,21nm,0.7s
XLT pmax pmax
comp=Z,180nm,8.0s
RDOG Red Dog Mine 26.05 36 P **P 09 39 20.8 +0.4**
RDOG IAmb IAmb 09 39 21.8
comp=Z,16nm,0.9s
RDOG Red Dog Mine 26.05 36 P **P 09 39 21.0 +0.6**
baz=256
JCJ Chichijima 26.62 202 P **P 09 39 27.3 +1.4**
SDPT Sand Point 27.10 65 P **P 09 39 29.4 -0.4**
SDPT Sand Point 27.10 65 P **P 09 39 30.0 +0.3**
baz=284
GCSA Galena City Sc 27.98 44 P **P 09 39 37.7 +0.4**
baz=268,SNR=17
TTA Tatalina 28.36 48 P **P 09 39 41.8 +0.9**
TTA pmax pmax
comp=Z,23nm,0.6s
TTA Tatalina 28.36 48 P **P 09 39 41.8 +0.9**
TTA Tatalina 28.36 48 P **P 09 39 41.8 +0.9**
baz=273,SNR=17
SVW2 Sparrevohn 28.70 52 P **P 09 39 44.6 +0.9**
SVW2 IAmb IAmb 09 39 46.8
comp=Z,13nm,0.8s
L19K White Mountain 28.95 50 P **P 09 39 47.0 +1.1**
L19K White Mountain 28.95 50 P **P 09 39 46.8 +0.9**
baz=275
A21K Barrow 28.99 31 P **P 09 39 46.4 +0.3**
baz=257
P18K Big Mountain, 29.10 56 P **P 09 39 48.5 +1.2**
P18K Big Mountain, 29.10 56 P **P 09 39 48.1 +0.8**
baz=280
J20K Nowinta River 29.16 46 P **P 09 39 48.6 +0.9**
M19K Big River Lodg 29.19 50 P **P 09 39 49.5 +1.5**
M19K IAmb IAmb 09 40 03.2
comp=Z,14nm,0.6s
M19K Big River Lodg 29.19 50 P **P 09 39 49.1 +1.1**
baz=276
K20K Telida 29.23 47 P **P 09 39 48.7 +0.4**
K20K IAmb IAmb 09 39 50.4
comp=Z,14nm,0.8s
K20K Telida 29.23 47 P **P 09 39 49.4 +1.1**
baz=274,SNR=9.7
N19K Bonanza Creek 29.26 53 P **P 09 39 50.5 +1.7**
N19K IAmb IAmb 09 39 51.3
comp=Z,21nm,0.8s
N19K Bonanza Creek 29.26 53 P **P 09 39 50.2 +1.4**
baz=278,SNR=5.1
IMAR Indian Mountai 29.32 42 P **P 09 39 49.9 +0.8**
L20K Farewell, AK 29.37 49 P **P 09 39 50.7 +1.1**
baz=275
O19K Port Alsworth 29.43 54 P **P 09 39 51.4 +1.4**
O19K IAmb IAmb 09 39 55.7
comp=Z,12nm,0.7s
O19K Port Alsworth 29.43 54 P **P 09 39 51.0 +0.9**
baz=279
ULN Ulaanbaatar 29.47 280 *d i*P **P 09 39 50.7 -0.2**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 29.47 280 P **P 09 39 51.1 +0.2**
ULN Ulaanbaatar 29.47 280 *e*P **P 09 39 50.7 -0.2**
CHIR Chirikof Islan 29.65 63 P **P 09 39 53.4 +1.4**
baz=286
H21K Melozitna Rive 29.71 43 P **P 09 39 53.3 +0.8**
H21K IAmb IAmb 09 39 54.2
comp=Z,19nm,0.8s
H21K Melozitna Rive 29.71 43 P **P 09 39 53.3 +0.8**
baz=270,SNR=17
SONM Songino Array 29.89 280 P **P 09 39 54.3 -0.1**
comp=Z,1.6nm,0.3s,baz=64,slow=8.5,SNR=19
SONM pP **pP 09 41 16.4 +0.8**
comp=Z,0.9nm,0.7s,baz=64,slow=9.9,SNR=2.6
SONM PcP **PcP 09 42 42.6 -0.2**
comp=Z,3.8nm,0.8s,baz=61,slow=1.2,SNR=12
SONM ScP **ScP 09 45 39.4 0.0**
comp=Z,1.4nm,0.8s,baz=82,slow=2.3,SNR=7.1
SONM Songino Array 29.89 280 P **P 09 39 54.0 -0.4**
CHUM Lake Minchumin 29.98 46 P **P 09 39 56.2 +1.4**
baz=274,SNR=16
Q19K Cape Douglas, 29.98 56 P **P 09 39 56.3 +1.3**
Q19K Cape Douglas, 29.98 56 P **P 09 39 55.8 +0.8**
baz=282
TIA Tai'an 30.05 252 ⇑ P **P 09 39 56.0 +0.2**
TIA pmax pmax
comp=Z,10.0nm,0.8s
I21K Tanana 30.06 44 P **P 09 39 56.7 +1.2**
I21K IAmb IAmb 09 39 57.8
comp=Z,27nm,1.1s
I21K Tanana 30.06 44 P **P 09 39 56.6 +1.1**
baz=272,SNR=11
PPLA Purkeypile 30.11 48 P **P 09 39 58.0 +1.8**
PPLA IAmb IAmb 09 39 58.4
comp=Z,14nm,0.7s
PPLA Purkeypile 30.11 48 P **P 09 39 57.5 +1.3**
baz=276
CAST Castle Rocks 30.11 47 P **P 09 39 57.0 +1.0**
CAST IAmb IAmb 09 39 58.4
comp=Z,24nm,0.8s
CAST Castle Rocks 30.11 47 P **P 09 39 57.5 +1.4**
baz=275,SNR=16
O20K Slope Mountain 30.29 54 P **P 09 39 58.6 +1.0**
baz=280
SPCR Spurr Chakacha 30.31 52 P **P 09 39 59.3 +1.5**
baz=279,SNR=6.2
HHC Hu-ho-hao-te 30.38 264 *e*P **P 09 39 58.2 -0.6**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,220nm,5.4s
BPAW Bear Paw Mtn. 30.55 46 P **P 09 40 01.0 +1.2**
BPAW IAmb IAmb 09 40 04.5
comp=Z,16nm,0.7s
BPAW Bear Paw Mtn. 30.55 46 P **P 09 40 00.8 +1.0**
baz=275,SNR=9.1
OHAK Old Harbor 30.55 59 P **P 09 40 00.5 +0.7**
OHAK Old Harbor 30.55 59 P **P 09 40 00.1 +0.3**
baz=285
MLY Manley 30.59 44 P **P 09 40 01.4 +1.2**
MLY IAmb IAmb 09 40 02.4
comp=Z,19nm,1.1s
MLY Manley 30.59 44 P **P 09 40 01.4 +1.2**
baz=273
KTH Kantishna Hill 30.62 47 P **P 09 40 01.8 +1.3**
KTH IAmb IAmb 09 40 02.9
comp=Z,28nm,0.9s
ZAK Zakamensk 30.66 286 *e*P **P 09 40 01.2 +0.1**
ZAK pmax pmax
comp=Z,31nm,1.3s
COLD Coldfoot 30.76 39 P **P 09 40 02.4 +0.8**
COLD Coldfoot 30.76 39 P **P 09 40 02.3 +0.8**
baz=270,SNR=50
KDAK Kodiak Island 30.78 58 P **P 09 40 01.9 +0.1**
comp=Z,25nm,0.5s,baz=294,slow=4.2,SNR=61
KDAK Kodiak Island 30.78 58 P **P 09 40 02.1 +0.3**
KDAK Kodiak Island 30.78 58 P **P 09 40 02.2 +0.4**
baz=284
TRF Thorofare Moun 30.91 47 P **P 09 40 04.0 +0.9**
TRF Thorofare Moun 30.91 47 P **P 09 40 04.1 +1.0**
baz=276,SNR=16
TOLK Toolik Lake Re 31.02 37 P **P 09 40 04.5 +0.6**
TOLK IAmb IAmb 09 40 05.5
comp=Z,28nm,1.0s
TOLK Toolik Lake Re 31.02 37 P **P 09 40 04.5 +0.6**
baz=268,SNR=26
CUT Chulitna 31.05 49 P **P 09 40 04.3 +0.2**
CUT Chulitna 31.05 49 P **P 09 40 04.8 +0.7**
baz=278,SNR=11
CNPM China Poot 31.08 55 P **P 09 40 04.6 +0.2**
I23K Minto, Yukon-K 31.17 44 P **P 09 40 06.1 +1.1**
I23K Minto, Yukon-K 31.17 44 P **P 09 40 06.2 +1.1**
baz=274,SNR=20
BRLK Bradley Lake 31.20 54 P **P 09 40 05.8 +0.3**
BRLK IAmb IAmb 09 40 10.3
comp=Z,27nm,0.8s
BWN Browne 31.21 45 P **P 09 40 07.2 +1.8**
M22K Willow 31.22 50 P **P 09 40 06.0 +0.5**
M22K IAmb IAmb 09 40 06.4
comp=Z,20nm,0.9s
M22K Willow 31.22 50 P **P 09 40 05.1 -0.4**
baz=279
BRSE Bradley Lake S 31.28 54 P **P 09 40 06.0 -0.1**
baz=282

NEA2 **Nenana** 31.34 45 P **P** 09 40 07.3 +0.8
NEA2 IAmb IAmb 09 40 08.5
comp=Z,34nm,1.1s
NEA2 **Nenana** 31.34 45 P **P** 09 40 07.4 +0.8
baz=276,SNR=13
MCK **McKinley** 31.49 46 P **P** 09 40 08.4 +0.5
MCK pmax pmax
comp=Z,28nm,0.9s
MCK **McKinley** 31.49 46 P **P** 09 40 08.4 +0.5
MCK IAmb IAmb 09 40 09.7
comp=Z,28nm,0.9s
MCK **McKinley** 31.49 46 P **P** 09 40 08.7 +0.8
baz=277,SNR=13
MOY **Mondy** 31.49 290 *e*P **P** 09 40 08.6 +0.4
MOY pmax pmax
comp=Z,48nm,1.3s
RC01 **Rabbit Creek A** 31.51 51 P **P** 09 40 08.8 +0.7
RC01 IAmb IAmb 09 40 09.8
comp=Z,17nm,0.6s
RC01 **Rabbit Creek A** 31.51 51 P **P** 09 40 08.7 +0.6
baz=281
RND **Reindeer** 31.56 47 P **P** 09 40 09.0 +0.4
RND pmax pmax
comp=Z,38nm,1.1s
RND **Reindeer** 31.56 47 P **P** 09 40 09.0 +0.4
RND IAmb IAmb 09 40 09.9
comp=Z,38nm,1.1s
O22K **Cooper Landing** 31.63 52 P **P** 09 40 09.5 +0.4
O22K **Cooper Landing** 31.63 52 P **P** 09 40 09.4 +0.4
baz=282,SNR=9.6
JOW **Kunigami** 31.64 226 P **P** 09 40 09.5 -0.2
comp=Z,6.4nm,0.3s,baz=99,slow=12,SNR=12
JOW **Kunigami** 31.64 226 P **P** 09 40 09.9 +0.2
MDM **Murphy Dome** 31.66 44 P **P** 09 40 10.4 +1.0
MDM IAmb IAmb 09 40 12.0
comp=Z,18nm,0.9s
PMR **Palmer** 31.71 50 P **P** 09 40 11.2 +1.5
PMR pmax pmax
comp=Z,16nm,1.2s
PMR **Palmer** 31.71 50 P **P** 09 40 11.2 +1.5
PMR IAmb IAmb 09 40 37.0
comp=Z,16nm,1.2s
PMR **Palmer** 31.71 50 P **P** 09 40 10.9 +1.2
baz=280
H24K **Noodor Dome** 31.74 42 P **P** 09 40 11.1 +1.2
H24K IAmb IAmb 09 40 12.5
comp=Z,20nm,0.9s
H24K **Noodor Dome** 31.74 42 P **P** 09 40 11.2 +1.2
baz=275,SNR=19
WRH **Wood River Hil** 31.77 45 P **P** 09 40 11.3 +1.1
GHO **Glory Hole Cre** 31.77 50 P **P** 09 40 11.4 +1.0
TCOL **CIGO, UAF Yank** 31.83 44 P **P** 09 40 11.9 +1.2
TCOL **CIGO, UAF Yank** 31.83 44 P **P** 09 40 11.9 +1.2
baz=276,SNR=23
COLA **College** 31.83 44 *c i*P **P** 09 40 11.7 +1.0
COLA pmax pmax
comp=Z,37nm,0.9s
COLA **College** 31.83 44 P **P** 09 40 11.8 +1.1
COLA **College** 31.83 44 P **P** 09 40 12.0 +1.2
baz=276
SEW **Seward** 31.84 53 P **P** 09 40 11.6 +0.7
SEW **Seward** 31.84 53 P **P** 09 40 11.3 +0.4
baz=283,SNR=5.9
CCB **Clear Creek Bu** 31.88 44 P **P** 09 40 12.0 +0.9
POKR **Poker Plat Res** 31.98 43 P **P** 09 40 13.4 +1.3
POKR **Poker Plat Res** 31.98 43 P **P** 09 40 13.2 +1.1
baz=276,SNR=12
SML **Sawmill** 32.05 50 P **P** 09 40 13.8 +1.0
SML **Sawmill** 32.05 50 P **P** 09 40 13.7 +1.0
baz=281,SNR=20
KNK **Knik Glacier** 32.06 51 P **P** 09 40 13.6 +0.9
KNK **Knik Glacier** 32.06 51 P **P** 09 40 13.7 +0.9
baz=281,SNR=22
NJ2 **Nanjing** 32.10 244 *e*P **P** 09 40 14.2 +0.7
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
WAT6 **Susitna Watana** 32.19 48 P **P** 09 40 14.3 +0.3
baz=280,SNR=6.7
PWL **Port Wells** 32.23 52 P **P** 09 40 14.8 +0.5
PWL **Port Wells** 32.23 52 P **P** 09 40 14.5 +0.2
baz=282,SNR=6.4
IL31 32.25 44 P **P** 09 40 14.2 -0.1
IL31 IAmb IAmb 09 40 15.9
comp=Z,32nm,1.0s
ILAR **Eielson Array** 32.25 44 P **P** 09 40 15.1 +0.7
comp=Z,17nm,0.7s,baz=282,slow=12,SNR=231
ILAR ScP **ScP** 09 45 45.8 -1.2
comp=Z,0.8nm,0.8s,baz=277,slow=2.5,SNR=4.2
ILAR **Eielson Array** 32.25 44 P **P** 09 40 14.8 +0.4
ILAR **Eielson Array** 32.25 44 P **P** 09 40 14.8 +0.4
HDA **Harding Lake** 32.27 45 P **P** 09 40 14.8 +0.3
HDA IAmb IAmb 09 40 15.7
comp=Z,18nm,0.8s
HDA **Harding Lake** 32.27 45 P **P** 09 40 14.6 +0.1
baz=278,SNR=22
DHY **Denali Highway** 32.27 47 P **P** 09 40 15.0 +0.2
DHY IAmb IAmb 09 40 16.2
comp=Z,23nm,0.8s
DHY **Denali Highway** 32.27 47 P **P** 09 40 15.3 +0.5
baz=279,SNR=13
SCM **Sheep Creek Mo** 32.51 50 P **P** 09 40 17.7 +1.0
SCM pmax pmax
comp=Z,45nm,0.8s
SCM **Sheep Creek Mo** 32.51 50 P **P** 09 40 17.7 +1.0
SCM **Sheep Creek Mo** 32.51 50 P **P** 09 40 17.6 +1.0
baz=281,SNR=7.7
GLI **Glacier Island** 32.81 51 P **P** 09 40 19.2 0.0
baz=283
J25K **Salcha River,** 32.92 44 P **P** 09 40 19.6 -0.5
J25K IAmb IAmb 09 40 21.7
comp=Z,18nm,0.9s
J25K **Salcha River,** 32.92 44 P **P** 09 40 19.7 -0.5
baz=279,SNR=16
M24K **Tolsona, Glenn** 32.99 49 P **P** 09 40 21.6 +0.9
M24K **Tolsona, Glenn** 32.99 49 P **P** 09 40 21.4 +0.6
baz=282
PAX **Paxson** 33.15 47 P **P** 09 40 22.2 +0.1
PAX pmax pmax
comp=Z,8.0nm,0.8s
PAX **Paxson** 33.15 47 P **P** 09 40 22.2 +0.1
PAX **Paxson** 33.15 47 P **P** 09 40 22.5 +0.3
baz=281
KLU **Klutina** 33.23 50 P **P** 09 40 23.7 +0.8
KLU IAmb IAmb 09 40 24.9
comp=Z,27nm,1.0s
KLU **Klutina** 33.23 50 P **P** 09 40 23.7 +0.8
baz=283,SNR=9.7
RIDG **Independent Ri** 33.28 46 P **P** 09 40 23.1 -0.2
RIDG IAmb IAmb 09 40 24.3
comp=Z,29nm,0.8s
RIDG **Independent Ri** 33.28 46 P **P** 09 40 23.1 -0.2
baz=280,SNR=14
DIV **Divide** 33.39 51 P **P** 09 40 25.0 +0.8
DIV IAmb IAmb 09 40 26.1
comp=Z,26nm,0.8s
HARP **HAARP** 33.40 48 P **P** 09 40 25.2 +1.0
baz=282
EYAK **Cordova Ski Ar** 33.53 52 P **P** 09 40 26.2 +0.9
baz=284
SCRK **Sand Creek** 33.62 45 P **P** 09 40 25.8 -0.3
SCRK **Sand Creek** 33.62 45 P **P** 09 40 26.1 0.0
baz=281,SNR=39
DOT **Dot Lake** 33.64 46 P **P** 09 40 26.0 -0.3
J26L **Joseph Creek** 33.71 44 P **P** 09 40 26.6 -0.3
baz=280,SNR=12
N25K **Chitina, Valde** 33.83 49 P **P** 09 40 29.1 +1.2
N25K IAmb IAmb 09 40 29.8
comp=Z,18nm,0.7s
N25K **Chitina, Valde** 33.83 49 P **P** 09 40 29.2 +1.3
baz=284,SNR=6.0
LYN **LuoYang** 33.93 254 ⇑P **P** 09 40 29.7 +0.7
LYN S **S** 09 45 19.2 -0.2
LYN pmax pmax
comp=Z,10.0nm,0.5s
MENT **Mentasta** 33.94 47 IAmb IAmb 09 40 32.3
comp=Z,13nm,0.8s
BMRM **Bremner River** 33.98 51 P **P** 09 40 30.3 +1.2
BMRM **Bremner River** 33.98 51 P **P** 09 40 30.4 +1.3
baz=285
NRIK **Noril'sk** 33.99 325 P **P** 09 40 28.6 -0.5
comp=Z,7.8nm,0.4s,baz=98,slow=9.1,SNR=22
NRIK PcP **PcP** 09 42 53.3 -0.3
comp=Z,4.0nm,0.6s,baz=124,slow=4.9,SNR=1.6
NRIK **Noril'sk** 33.99 325 *d i*P **P** 09 40 28.5 -0.5
NRIK pmax pmax
comp=Z,21nm,1.0s
NRIK **Noril'sk** 33.99 325 P **P** 09 40 28.7 -0.3
NRIK IAmb IAmb 09 40 30.7
comp=Z,17nm,1.0s
L26K **Log Cabin Wild** 34.08 47 IAmb IAmb 09 40 32.5
comp=Z,10nm,0.7s
L26K **Log Cabin Wild** 34.08 47 P **P** 09 40 30.9 +0.9
baz=282,SNR=9.4
GLB **Gilahina Butte** 34.23 50 P **P** 09 40 32.8 +1.5
GLB IAmb IAmb 09 40 36.1
comp=Z,9.3nm,0.6s
VRDI **Verde Repeater** 34.45 50 P **P** 09 40 34.7 +1.4
VRDI IAmb IAmb 09 40 35.5
comp=Z,17nm,0.8s
EGAK **Eagle** 34.67 43 P **P** 09 40 35.1 +0.2
EGAK **Eagle** 34.67 43 P **P** 09 40 35.2 +0.2
baz=282,SNR=34
L27K **Beaver Creek,** 34.75 46 P **P** 09 40 37.1 +1.5
L27K **Beaver Creek,** 34.75 46 P **P** 09 40 37.4 +1.7
baz=284,SNR=56
BCAR **Beaver Creek A** 34.77 46 P **P** 09 40 37.4 +1.6
BGLC **Bering Glacier** 34.83 52 P **P** 09 40 38.1 +1.9
baz=287
M27K **Edge Creek, AK** 34.90 48 P **P** 09 40 39.0 +2.1
M27K **Edge Creek, AK** 34.90 48 P **P** 09 40 39.0 +2.1
baz=285,SNR=29
WAX **Waxell Ridge** 34.95 51 P **P** 09 40 38.9 +1.6
ISLE **Juniper Island** 35.15 51 P **P** 09 40 40.5 +1.4
ISLE IAmb IAmb 09 40 41.3
comp=Z,27nm,1.0s
BARN **Barnard Glacie** 35.34 50 P **P** 09 40 42.0 +1.3
BVCY **Beaver Creek** 35.34 47 P **P** 09 40 42.2 +1.7
baz=285,SNR=16
YAH **Yahtse** 35.50 51 P **P** 09 40 43.9 +1.8
DAWY **Dawson** 35.58 44 IAmb IAmb 09 40 43.9
comp=Z,7.0nm,0.5s
DAWY **Dawson** 35.58 44 P **P** 09 40 43.2 +0.6
baz=284,SNR=8.5
YUK3 **Moose Creek** 35.69 48 P **P** 09 40 45.0 +1.3
baz=286,SNR=6.7
I29M **Ogilvie Camp,** 35.74 42 P **P** 09 40 45.1 +1.3
I29M **Ogilvie Camp,** 35.74 42 P **P** 09 40 44.8 +1.0
baz=283,SNR=24
TABL **Table Mountain** 35.76 51 P **P** 09 40 45.7 +1.4
EPYK **Eagle Plains** 36.15 40 P **P** 09 40 48.5 +1.3
EPYK IAmb IAmb 09 40 49.3
comp=Z,22nm,0.9s
EPYK **Eagle Plains** 36.15 40 P **P** 09 40 48.3 +1.1
baz=283
PCA **Pinnacle** 36.28 51 P **P** 09 40 50.1 +1.7
XAN **Xi'an** 36.39 257 P P 09 40 39.7 -10
XAN pmax pmax
comp=Z,6.0nm,1.0s
BCPM **Bancas Point** 36.63 51 P **P** 09 40 52.5 +1.3
BCPM IAmb IAmb 09 41 07.9
comp=Z,24nm,0.9s
YUK4 **Talbot Arm** 36.65 49 P **P** 09 40 53.0 +1.4
baz=288,SNR=5.7
PNL **Peninsula** 36.83 51 P **P** 09 40 54.2 +1.2
baz=290
YUK6 **Outpost Mounta** 36.91 49 P **P** 09 40 55.5 +1.6
baz=289
INK **Inuvik** 36.94 36 P **P** 09 40 54.5 +0.9
comp=Z,16nm,0.3s,baz=279,slow=6.2,SNR=208
INK ScP **ScP** 09 46 03.9 +0.1
comp=Z,2.1nm,0.8s,baz=64,slow=23,SNR=4.9
INK **Inuvik** 36.94 36 P **P** 09 40 54.5 +0.9
INK pmax pmax
comp=Z,22nm,0.4s
INK **Inuvik** 36.94 36 P **P** 09 40 54.5 +0.9
INK **Inuvik** 36.94 36 P **P** 09 40 54.5 +0.9
baz=283,SNR=31
M30M **Minto, Yukon** 37.11 46 P **P** 09 40 57.2 +2.0
M30M IAmb IAmb 09 40 58.3
comp=Z,20nm,0.9s
M30M **Minto, Yukon** 37.11 46 P **P** 09 40 57.4 +2.2
baz=288,SNR=17
HYT **Haines Junctio** 37.34 49 P **P** 09 40 59.4 +2.1
HYT **Haines Junctio** 37.34 49 P **P** 09 40 59.4 +2.1
baz=290,SNR=18
N31M **Braeburn, Yuko** 37.91 48 P **P** 09 41 04.2 +2.4
N31M **Braeburn, Yuko** 37.91 48 P **P** 09 41 04.2 +2.4
baz=290,SNR=15
LZH **Lanzhou** 38.08 265 ⇑P **P** 09 41 03.9 +0.2
LZH pmax pmax
comp=Z,17nm,1.3s
M31M **Drury Creek, Y** 38.29 46 P **P** 09 41 06.9 +2.0
M31M IAmb IAmb 09 41 07.8
comp=Z,12nm,0.8s
M31M **Drury Creek, Y** 38.29 46 P **P** 09 41 06.9 +2.0
baz=290,SNR=9.5
GTA **Gaotai** 38.43 272 ⇓P **P** 09 41 07.1 +0.6
GTA pmax pmax
comp=Z,14nm,1.0s
WHY **Whitehorse** 38.61 49 P **P** 09 41 09.7 +2.0
WHY IAmb IAmb 09 41 10.6
comp=Z,19nm,0.7s
WHY **Whitehorse** 38.61 49 P **P** 09 41 09.7 +2.0
baz=292,SNR=8.9
ENH **Enshi** 38.75 253 P **P** 09 41 08.5 -0.6
ENH IAmb IAmb 09 41 09.6
comp=Z,24nm,0.8s
A36M **Sachs Harbour** 38.80 29 P **P** 09 41 09.8 +0.9
A36M IAmb IAmb 09 41 10.6
comp=Z,23nm,0.8s
A36M **Sachs Harbour** 38.80 29 P **P** 09 41 09.8 +0.9
baz=285,SNR=28
SKAG **Skagway** 38.84 51 P **P** 09 41 10.6 +1.2
baz=293
ZAA0 **Zalesovo Array** 39.50 300 P **P** 09 41 13.8 -1.0
ZAA0 IAmb IAmb 09 41 15.0
comp=Z,16nm,1.0s
ZALV **Zalesovo Beam** 39.50 300 P **P** 09 41 14.1 -0.7
comp=Z,10nm,0.5s,baz=61,slow=7.0,SNR=54
ZALV PcP **PcP** 09 43 10.2 -0.7
comp=Z,5.1nm,0.7s,baz=43,slow=2.6,SNR=7.2
P33M **Teslin, Yukon** 39.73 49 P **P** 09 41 18.6 +1.9
P33M IAmb IAmb 09 41 19.5
comp=Z,12nm,0.8s
P33M **Teslin, Yukon** 39.73 49 P **P** 09 41 18.4 +1.8
baz=293,SNR=7.3
JIS **Juneau Island** 39.76 52 P **P** 09 41 19.2 +2.4
C36M **Paulatuk** 39.95 33 P **P** 09 41 18.7 +0.5
C36M **Paulatuk** 39.95 33 P **P** 09 41 18.7 +0.5
baz=289,SNR=18
TGTN **Hyland Airport** 41.23 45 P **P** 09 41 30.3 +1.6
baz=295,SNR=14
CD2 **Chengdu** 41.69 259 P **P** 09 41 32.6 -0.1
CD2 pmax pmax
comp=Z,20nm,0.8s
DLBC **Dease Lake** 41.77 50 P **P** 09 41 35.3 +2.3
DLBC IAmb IAmb 09 41 36.2
comp=Z,12nm,0.7s
WMQ **Urumqi** 43.13 286 *e*P **P** 09 41 44.9 +1.0
WMQ pmax pmax
comp=Z,49nm,0.7s
WMQ pmax pmax
comp=Z,160nm,3.9s
GOMU **GeErMu** 43.53 272 P **P** 09 41 47.4 -0.1
GOMU PcP **PcP** 09 43 25.4 +0.3
GOMU PP **PP** 09 43 38.8 +0.1
GOMU S **S** 09 47 46.0 +4.6
GOMU pmax pmax
comp=Z,8.0nm,0.7s
GOMU pmax pmax
comp=Z,42nm,5.8s
EUNU **Eureka** 43.55 13 P **P** 09 41 46.8 +0.1
KURK **Kurchatov** 44.41 299 P **P** 09 41 53.4 -0.3
KURK pmax pmax
comp=Z,84nm,0.4s
KURK **Kurchatov** 44.41 299 P **P** 09 41 53.4 -0.3
KURK **Kurchatov** 44.41 299 P **P** 09 41 53.7 0.0
KURK **Kurchatov** 44.41 299 *e*P **P** 09 41 53.4 -0.3
KURBB **Kurchatov Arra** 44.51 299 P **P** 09 41 54.6 +0.2
comp=Z,38nm,0.5s,baz=59,slow=7.1,SNR=309
KURBB PcP **PcP** 09 43 26.5 -1.2
comp=Z,5.6nm,0.7s,baz=62,slow=3.3,SNR=7.4
KURBB **Kurchatov Arra** 44.51 299 P **P** 09 41 54.2 -0.2
MK31 **Makanchi Array** 44.55 292 P **P** 09 41 54.7 -0.2
MK31 pmax pmax
comp=Z,31nm,1.3s
MK31 **Makanchi Array** 44.55 292 P **P** 09 41 54.7 -0.2
MK31 IAmb IAmb 09 41 55.7
comp=Z,31nm,1.2s
MKAR **Makanchi Array** 44.55 292 P **P** 09 41 54.8 -0.2
comp=Z,15nm,0.6s,baz=58,slow=6.6,SNR=145
MKAR PcP **PcP** 09 43 26.8 -1.2
comp=Z,1.1nm,0.5s,baz=56,slow=3.4,SNR=2.0
MKAR ScP **ScP** 09 46 33.8 -0.6
comp=Z,0.8nm,0.6s,baz=57,slow=4.5,SNR=3.7
MKAR **Makanchi Array** 44.55 292 P **P** 09 41 54.5 -0.4
MKAR **Makanchi Array** 44.55 292 *e*P **P** 09 41 54.9 0.0
MAKZ **Makanchi** 44.72 293 P **P** 09 41 55.8 -0.4
MAKZ **Makanchi** 44.72 293 P **P** 09 41 55.9 -0.4
MAKZ IAmb IAmb 09 41 56.9
comp=Z,19nm,0.8s
RES **Resolute Bay** 45.45 20 P **P** 09 42 01.7 +0.3
comp=Z,3.5nm,0.5s,baz=330,slow=4.2,SNR=32
RES ScP **ScP** 09 46 38.5 +0.9
comp=Z,1.4nm,0.7s,baz=314,slow=4.1,SNR=4.3
RES **Resolute Bay** 45.45 20 P **P** 09 42 01.8 +0.4
PZH **PanZhiHua** 46.11 256 P **P** 09 42 07.2 -0.1
PZH pmax pmax
comp=Z,10.0nm,0.8s
YKA **Yellowknife Ar** 46.44 40 P **P** 09 42 09.8 +0.7
comp=Z,17nm,0.7s,baz=303,slow=7.1,SNR=302
YKA PcP **PcP** 09 43 33.9 -0.4
comp=Z,0.4nm,0.5s,baz=312,slow=3.6,SNR=2.9
YKA ScP **ScP** 09 46 42.6 +0.6
comp=Z,2.2nm,0.8s,baz=302,slow=4.0,SNR=13
KMI **Kunming** 46.55 254 ⇑P **P** 09 42 11.4 +0.6
KMI pmax pmax
comp=Z,12nm,0.8s
KBS **Kingsbay** 46.87 350 *e*P **P** 09 42 11.7 -0.4
SPA0 **Spitsbergen Ar** 47.01 349 *e*P **P** 09 42 12.7 -0.6
SPITS **Spitsbergen Ar** 47.01 349 P **P** 09 42 12.7 -0.6
SPITS pmax pmax
comp=Z,15nm,1.1s
HOPEN **Hopen** 47.16 345 *e*P **P** 09 42 13.2 -1.2
BRVK **Borovoye** 47.43 306 *d i*P **P** 09 42 16.4 -0.3
BRVK pmax pmax
comp=Z,45nm,0.7s
BRVK **Borovoye** 47.43 306 P **P** 09 42 16.7 -0.1
BRVK **Borovoye** 47.43 306 P **P** 09 42 16.5 -0.2
BRVK **Borovoye** 47.43 306 *e*P **P** 09 42 16.4 -0.3
HSPB **Hornsund (broa** 48.09 348 *e*P **P** 09 42 20.9 -0.5
PDGK **Podgornoye** 48.20 290 P **P** 09 42 22.5 -0.4
OTUK **Ortayu** 49.18 299 P **P** 09 42 29.9 -0.1
SVE **Sverdlovsk** 49.76 314 *e*P **P** 09 42 34.1 0.0
SVE pmax pmax
comp=Z,45nm,0.9s
CLRS **Cowichan Lake** 49.87 59 P **P** 09 42 35.5 +0.5
CLRS IAmb IAmb 09 43 02.5
comp=Z,21nm,1.5s
LLLB **Lillooet** 49.94 56 P **P** 09 42 37.1 +1.5
LLLB IAmb IAmb 09 42 38.1
comp=Z,17nm,1.1s
TARG **Taragay, Kyrgy** 50.17 289 P **P** 09 42 38.1 +0.2
TARG PcP **PcP** 09 43 49.0 +0.1
LSA **Lhasa** 50.21 268 P **P** 09 42 39.6 +1.2
LSA pmax pmax
comp=Z,12nm,0.9s
LSA **Lhasa** 50.21 268 P **P** 09 42 39.6 +1.2
LSA **Lhasa** 50.21 268 *e*P **P** 09 42 38.5 +0.1
KDJ **Kajisay** 50.28 290 P **P** 09 42 38.8 +0.4
KDJ pmax pmax
comp=Z,24nm,0.6s
KDJ **Kajisay** 50.28 290 P **P** 09 42 38.8 +0.4
KDJ IAmb IAmb 09 42 39.2
comp=Z,24nm,0.6s
B04A **Port Angeles** 50.66 59 P **P** 09 42 42.6 +1.7
B04A IAmb IAmb 09 42 47.1
comp=Z,46nm,1.4s
TKM2 **Tokmak 2** 50.68 292 P **P** 09 42 41.6 +0.3
SNR=21
TKM2 **Tokmak 2** 50.68 292 *i* P **P** 09 42 41.1 -0.2
TKM2 pmax pmax
comp=Z,12nm,0.6s
ULHL **Ulahol** 50.74 291 P **P** 09 42 42.3 +0.5
SNR=11
BOOM **Boomskoye usch** 50.76 291 P **P** 09 42 42.7 +0.8
BOOM pmax pmax
comp=Z,16nm,0.8s
BOOM **Boomskoye usch** 50.76 291 P **P** 09 42 42.7 +0.8
BOOM IAmb IAmb 09 42 43.4
comp=Z,16nm,0.8s
NLWA **Neilton Lookou** 50.88 60 P **P** 09 42 44.4 +1.8
NLWA IAmb IAmb 09 42 55.2
comp=Z,25nm,1.2s
ARU **Arti** 50.91 314 P **P** 09 42 42.0 -0.6
comp=Z,15nm,0.5s,baz=35,slow=3.9
ARU **Arti** 50.91 314 *c i*P **P** 09 42 42.0 -0.6
ARU 09 43 48.8
ARU 09 44 40.4
ARU S **S** 09 49 24.3 +1.6
ARU SS **SS** 09 53 03.6 -0.8
ARU pmax pmax
comp=Z,56nm,0.7s
ARU **Arti** 50.91 314 P **P** 09 42 41.8 -0.7
DAG **Danmarks Havn** 50.95 358 *i* P **P** 09 42 41.0 -1.5
DAG IAmb IAmb 09 42 41.7
comp=Z,3.3nm,0.8s
USP **Ospenovka** 51.08 293 P **P** 09 42 44.5 +0.4
SNR=10
CHMS **Chumysh** 51.11 293 P **P** 09 42 44.5 +0.2
SNR=6.9
WISH **Wishkah** 51.11 61 P **P** 09 42 46.4 +2.3
D03D **Eldon** 51.21 60 P **P** 09 42 46.5 +1.7
baz=309
KBK **Karagaybulak** 51.22 292 P **P** 09 42 45.5 +0.3
SNR=9.1
B05A **Bryant** 51.28 59 P **P** 09 42 46.8 +1.4
baz=309,SNR=5.3
B06A **Marblemount** 51.44 58 P **P** 09 42 47.6 +1.2
B06A IAmb IAmb 09 42 48.4
comp=Z,44nm,1.4s
AAK **Ala-Archa** 51.48 292 P **P** 09 42 47.5 +0.4
SNR=23
AAK **Ala-Archa** 51.48 292 *d i*P **P** 09 42 47.3 +0.1
AAK pmax pmax
comp=Z,24nm,0.8s
AAK **Ala-Archa** 51.48 292 P **P** 09 42 47.5 +0.4
AAK **Ala-Archa** 51.48 292 *e*P **P** 09 42 47.3 +0.1
AAK **Ala-Archa** 51.48 292 *i* P **P** 09 42 47.5 +0.4
SNR=30
LVZ **Lovozero** 51.57 335 *de*P **P** 09 42 45.9 -1.3
LVZ pmax pmax
comp=Z,39nm,1.7s
LVZ **Lovozero** 51.57 335 P **P** 09 42 46.3 -0.9
LVZ IAmb IAmb 09 42 47.2
comp=Z,36nm,1.1s
EKS2 **Erkin-Say** 51.87 293 P **P** 09 42 50.5 +0.6
SNR=21
HAMF **Hammerfest** 51.98 341 *e*P **P** 09 42 48.9 -1.2
KEV **Kevo** 51.99 339 P **P** 09 42 49.4 -0.8
KEV pmax pmax
comp=Z,30nm,1.3s
KEV **Kevo** 51.99 339 P **P** 09 42 49.4 -0.8
KEV IAmb IAmb 09 43 04.3
comp=Z,30nm,1.3s
E04D **Cinebar** 52.10 60 P **P** 09 42 53.7 +2.4
E04D IAmb IAmb 09 42 53.9
comp=Z,15nm,0.7s
E04D **Cinebar** 52.10 60 P **P** 09 42 53.2 +1.9
baz=310
AML **Almayashu** 52.26 292 P **P** 09 42 53.7 +0.6
SNR=10
AML **Almayashu** 52.26 292 *i* P **P** 09 42 53.7 +0.6
SNR=10
HEBO **Mount Hebo** 52.32 62 P **P** 09 42 55.4 +2.4
EDM **Edmonton** 52.47 49 P **P** 09 42 54.9 +1.0
EDM pmax pmax
comp=Z,22nm,0.6s
EDM **Edmonton** 52.47 49 P **P** 09 42 54.9 +1.0
EDM IAmb IAmb 09 42 55.8
comp=Z,22nm,0.6s
ARA0 **ARCESS Array S** 52.49 339 ⇓*i*P **P** 09 42 53.0 -0.8
ARCES **ARCESS Array B** 52.49 339 P **P** 09 42 53.0 -0.8
comp=Z,8.6nm,0.5s,baz=36,slow=7.7,SNR=97
ARCES PcP **PcP** 09 43 56.1 -0.6
comp=Z,1.1nm,0.5s,baz=28,slow=4.1,SNR=1.6
ARCES **ARCESS Array B** 52.49 339 P **P** 09 42 53.0 -0.8
ARCES pmax pmax
comp=Z,16nm,1.0s
ARCES **ARCESS Array B** 52.49 339 P **P** 09 42 53.0 -0.8
ARCES IAmb IAmb 09 42 54.0
comp=Z,16nm,0.9s
F04A **Amboy** 52.58 61 P **P** 09 42 56.2 +1.4
F04A IAmb IAmb 09 42 57.1
comp=Z,16nm,0.6s
PRGR **Permogore** 52.63 325 *e*P **P** 09 42 53.2 -1.7
PRGR pmax pmax

comp=Z,30nm,0.6s
B08A Colville Reser 52.65 57 P P 09 42 56.5 +1.2
B08A IAmb IAmb 09 42 57.5
comp=Z,15nm,0.8s
KSH Kashi 52.67 288 P P 09 42 59.5 +3.8
KSH PcS **PcS** **09 47 59.5 +2.0**
KSH pmax pmax
comp=Z,15nm,0.9s
SHL Shillong 52.74 264 P P 09 42 56.7 +0.2
SHL pmax pmax
comp=Z,45nm,0.9s
SHL Shillong 52.74 264 P P 09 42 56.7 +0.2
F05D White Salmon 53.12 61 P P 09 43 00.3 +1.5
baz=311
KIRV Kirov 53.30 321 *d i* P **P 09 42 59.1 -0.6**
H04D Lebanon 53.32 63 P P 09 43 02.2 +2.1
baz=311
HOOD Mount Hood Mea 53.39 61 IAmb IAmb 09 43 03.5
comp=Z,28nm,0.8s
KTK1 Kautokeino 53.40 340 *e* P **P 09 42 59.5 -0.8**
BUCK Buck Mountain 53.40 63 P P 09 43 03.6 +2.8
BUCK IAmb IAmb 09 43 03.8
comp=Z,22nm,1.1s
KK31 Karatay Array 53.41 295 *e* P **P 09 43 00.3 -0.5**
KK31 Karatay Array 53.41 295 P P 09 43 00.9 +0.1
KKAR Karatay Array 53.41 295 P P 09 43 00.8 0.0
KKAR pmax pmax
comp=Z,11nm,0.7s
KKAR Karatay Array 53.41 295 P P 09 43 00.8 0.0
DBG Daneborg 53.45 358 *i* P **P 09 42 58.0 -2.6**
DBG IAmb IAmb 09 42 59.3
comp=Z,1.7nm,0.8s
JETT Jettan, Norway 53.52 341 *e* P **P 09 43 01.5 +0.2**
I03D Drain, OR 53.53 64 P P 09 43 03.5 +1.9
baz=311
E07A Sunnyside 53.54 59 P P 09 43 03.1 +1.4
C09A Chrisman Ranch 53.55 57 P P 09 43 02.5 +0.7
J01E Myrtle Point 53.56 65 P P 09 43 04.2 +2.3
baz=311
G05D Wamic, OR 53.62 61 P P 09 43 03.8 +1.5
baz=311
CHTO Chiang Mai 53.65 253 P P 09 43 03.4 +0.6
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO Chiang Mai 53.65 253 P P 09 43 03.4 +0.6
CHTO IAmb IAmb 09 43 04.3
comp=Z,15nm,0.8s
SGSI Sangihe 53.71 215 P P 09 43 03.8 +0.5
comp=Z,17µmcomp=Z,1µm,0.6s
TRO Tromso 53.75 342 *e* P **P 09 43 02.0 -0.7**
NEW Newport 53.83 56 P P 09 43 05.0 +1.2
baz=311,SNR=6.1
CMAR Chiang Mai Arr 53.92 252 P P 09 43 05.9 +1.1
comp=Z,8.5nm,0.7s,baz=24,slow=6.8,SNR=36
CMAR PcP **PcP** **09 44 02.8 -0.2**
comp=Z,2.5nm,0.3s,baz=10,slow=3.3,SNR=14
CMAR Chiang Mai Arr 53.92 252 *i* P **P 09 43 05.6 +0.8**
CMAR pmax pmax
comp=Z,10.0nm,0.8s
DLV T Lat 53.93 238 P P 09 43 05.9 +0.9
F07A Phinny Hill Vi 53.93 60 IAmb IAmb 09 43 07.1
comp=Z,20nm,0.6s
I04A Tendick Farm, 53.98 63 P P 09 43 06.5 +1.6
baz=312
K02D Willamette Mer 54.01 65 P P 09 43 06.9 +1.7
baz=312
I05D Terrebonne, OR 54.20 62 P P 09 43 08.0 +1.5
baz=312
L02E Cave Junction 54.40 65 P P 09 43 09.7 +1.8
baz=312
E09A Wood Farm, Sta 54.46 58 IAmb IAmb 09 43 10.4
comp=Z,16nm,0.8s
J04D Umpqua Nationa 54.51 63 P P 09 43 11.1 +2.3
baz=312,SNR=9.0
ODAN Odare 54.54 269 *e* P **P 09 43 09.6 +0.2**
comp=Z,28nm,0.5s
JIRN Jiri 54.70 271 *e* P **P 09 43 10.9 +0.3**
comp=Z,19nm,0.4s
GUN Gumba 54.71 271 *e* P **P 09 43 10.7 +0.1**
comp=Z,44nm,0.5s
PINE Pine Mountain 54.77 62 P P 09 43 13.2 +2.5
PINE IAmb IAmb 09 43 14.1
comp=Z,19nm,0.9s
G08A Pilot Rock 54.84 60 P P 09 43 11.8 +0.7
AB31 Akbulak array 54.89 307 *i* P **P 09 43 10.8 -0.3**
ABKAR Akbulak array 54.89 307 P P 09 43 11.0 -0.1
WALA Waterton Lakes 54.91 53 P P 09 43 13.1 +1.6
WALA IAmb IAmb 09 43 13.5
comp=Z,12nm,0.7s
J05D Fort Rock, OR 54.95 63 P P 09 43 14.6 +2.7
baz=312,SNR=18
RAMN Ramite 54.96 270 *e* P **P 09 43 12.6 +0.3**
comp=Z,162nm,0.4s
AKTO Aktyubinsk 55.03 309 P P 09 43 11.6 -0.5
comp=Z,12nm,0.5s,baz=68,slow=9.0,SNR=50
L04D Klamath Falls 55.08 64 IAmb IAmb 09 43 16.6
comp=Z,37nm,1.1s
L04D Klamath Falls 55.08 64 P P 09 43 15.1 +2.3
baz=312,SNR=8.6
KKN Kakani 55.16 271 *e* P **P 09 43 14.1 +0.4**
PKI Pulchoki 55.24 271 *e* P **P 09 43 14.5 +0.1**
PKIN Phulchoki 55.24 271 *e* P **P 09 43 14.2 -0.1**
BTK Batken 55.26 292 IAmb IAmb 09 43 15.1
comp=Z,32nm,0.9s
KLMR Klimovskoe 55.28 327 *e* P **P 09 43 11.9 -1.8**
KLMR *e* 09 45 22.9
KLMR pmax pmax
comp=Z,21nm,0.6s
KLMR Klimovskoe 55.28 327 *e* P **P 09 43 11.9 -1.8**
KLMR AMP 09 43 13.8
comp=Z,21nm,0.6s
KLMR *e* PP **PP** **09 45 23.0 -0.2**
M02C Callahan 55.33 65 P P 09 43 17.0 +2.5
baz=313
I07A Izee 55.35 61 P P 09 43 16.3 +1.6
DMN Daman 55.40 271 *e* P **P 09 43 15.8 +0.4**
GKN Gorkha 55.40 272 *e* P **P 09 43 15.5 +0.2**
K05A Summer Lake 55.51 63 P P 09 43 18.6 +2.7
K05A IAmb IAmb 09 43 19.6
comp=Z,22nm,1.0s
M04C Macdoel 55.63 65 IAmb IAmb 09 43 20.1
comp=Z,30nm,1.4s
M04C Macdoel 55.63 65 P P 09 43 19.0 +2.3
baz=313
DANN Dangsing 55.69 273 *e* P **P 09 43 17.7 +0.3**
N02D Trinity Center 55.69 66 P P 09 43 19.4 +2.4
baz=313
STEI Steigen 55.90 342 *e* P **P 09 43 16.7 -1.2**
LOF Lofoten 56.04 343 *e* P **P 09 43 18.1 -0.7**
O02D Mt. Diablo Mer 56.19 67 P P 09 43 22.6 +2.1
baz=313
KOLN Koldanda 56.20 273 *e* P **P 09 43 21.1 +0.2**
GAR Garm 56.27 292 P P 09 43 21.0 -0.1
PYUN Piuthan 56.34 273 *e* P **P 09 43 21.9 0.0**
FAUS Fauske 56.37 342 *||i* P **P 09 43 20.3 -0.9**
MOD Modoc Plateau 56.39 63 P P 09 43 24.1 +2.1
J08A Circle Bar Ran 56.40 61 P P 09 43 24.3 +2.4
J08A IAmb IAmb 09 43 25.1
comp=Z,20nm,1.1s
MSO Missoula 56.40 55 P P 09 43 22.7 +0.8
MSO IAmb IAmb 09 43 24.1
comp=Z,17nm,1.1s
MSO Missoula 56.40 55 P P 09 43 23.3 +1.4
baz=313,SNR=9.3
FFC Flin Flon 56.44 42 P P 09 43 22.6 +0.7
FFC pmax pmax
comp=Z,11nm,0.8s
FFC Flin Flon 56.44 42 P P 09 43 22.6 +0.7
PLID Pearl Lake 56.53 58 P P 09 43 24.4 +1.5
PLID IAmb IAmb 09 43 25.3
comp=Z,19nm,0.8s
FCC Fort Churchill 56.54 35 P P 09 43 22.5 +0.1
FCC pmax pmax
comp=Z,11nm,0.5s
FCC Fort Churchill 56.54 35 P P 09 43 22.5 +0.1
FCC IAmb IAmb 09 43 22.8
comp=Z,11nm,0.5s
O03E Paynes Creek 56.66 66 P P 09 43 25.5 +1.8
O03E IAmb IAmb 09 43 26.2
comp=Z,22nm,1.3s
O03E Paynes Creek 56.66 66 P P 09 43 25.3 +1.6
baz=314,SNR=5.3
WVOR Wild Horse Val 56.94 62 P P 09 43 27.7 +2.0
WVOR pmax pmax
comp=Z,12nm,1.0s
WVOR Wild Horse Val 56.94 62 P P 09 43 27.7 +2.0
CHGR Chuyangaron 57.16 292 P P 09 43 27.1 -0.1
HRY Holter Researc 57.53 54 P P 09 43 31.7 +2.0
KONS Konsvik 57.56 342 *e* P **P 09 43 29.1 -0.3**
MOR8 Moi Rana 57.60 341 *||i* P **P 09 43 27.4 -2.3**
VALR Valaam 57.61 331 *d i* P **P 09 43 29.1 -0.7**
VALR pmax pmax
comp=Z,25nm,0.9s
EGMT Eagleton 57.64 52 P P 09 43 31.8 +1.4
EGMT IAmb IAmb 09 43 32.5
comp=Z,23nm,1.4s
EGMT Eagleton 57.64 52 P P 09 43 31.2 +0.8
baz=314
DLMT Dillon 58.09 56 IAmb IAmb 09 43 36.2
comp=Z,19nm,1.1s
NIL Nilore 58.27 285 P P 09 43 34.7 -0.1
NIL pmax pmax
comp=Z,66nm,0.9s
NIL Nilore 58.27 285 P P 09 43 34.7 -0.1
MPK Martis Peak 58.33 66 IAmb IAmb 09 43 38.4
comp=Z,29nm,1.3s
HLID Hailey 58.40 59 P P 09 43 37.5 +1.8
HLID Hailey 58.40 59 P P 09 43 37.3 +1.6
baz=314,SNR=7.1
PAHR Pah Rah Range 58.41 65 P P 09 43 37.4 +1.6
BOZ Bozeman (W) 58.41 55 P P 09 43 37.5 +1.8
BOZ pmax pmax
comp=Z,11nm,0.7s
BOZ Bozeman (W) 58.41 55 P P 09 43 37.5 +1.8
BOZ IAmb IAmb 09 43 38.2
comp=Z,11nm,0.7s
BOZ Bozeman (W) 58.41 55 P P 09 43 37.4 +1.6
baz=315,SNR=17
EMB Emerald Bay 58.52 66 P P 09 43 38.5 +1.9
VCNR Virginia City 58.55 65 P P 09 43 38.7 +1.9
PNTR Pine Nut 58.72 65 P P 09 43 40.1 +2.1
FIA1 FINESS Array S 58.91 333 P P 09 43 37.7 -0.9
FIA1 IAmb IAmb 09 43 38.8
comp=Z,20nm,0.9s
FINES FINESS Array B 58.91 333 P P 09 43 37.9 -0.7
comp=Z,20nm,0.7s,baz=36,slow=6.9,SNR=58
FINES PcP **PcP** **09 44 20.5 -1.4**
comp=Z,2.3nm,0.5s,baz=32,slow=2.8,SNR=5.4
FINES FINESS Array B 58.91 333 P P 09 43 37.8 -0.8
YERR Yerington 58.99 65 P P 09 43 41.8 +2.0
YERR IAmb IAmb 09 43 42.7
comp=Z,15nm,0.8s
CMB Columbia Colle 59.01 67 P P 09 43 41.0 +1.2
CMB pmax pmax
comp=Z,17nm,1.4s
CMB Columbia Colle 59.01 67 P P 09 43 41.0 +1.2
QLMT Earthquake Lak 59.05 56 P P 09 43 42.0 +1.8
YHH Holmes Hill 59.37 55 IAmb IAmb 09 43 45.0
comp=Z,10nm,0.7s
YMR Madison River 59.40 56 IAmb IAmb 09 43 45.2
comp=Z,11nm,0.7s
NSS Namsos 59.54 342 *e* P **P 09 43 42.0 -0.7**
KVN Kaiserville 59.58 65 IAmb IAmb 09 43 46.7
comp=Z,13nm,1.0s
LKWY Lake 59.76 55 P P 09 43 47.9 +3.0
LKWY pmax pmax
comp=Z,8.0nm,0.7s
LKWY Lake 59.76 55 P P 09 43 47.9 +3.0
H17A Grant Village 59.79 56 P P 09 43 48.0 +2.9
baz=316,SNR=8.2
NVAR Mina Array Bea 59.90 65 P P 09 43 48.0 +2.1
comp=Z,7.7nm,0.8s,baz=301,slow=6.7,SNR=50
NVAR pP **pP** **09 45 23.6 +1.4**
comp=Z,1.4nm,1.0s,baz=306,slow=7.7,SNR=3.6
NVAR Mina Array Bea 59.90 65 P P 09 43 47.4 +1.5
LHV Little Huntoon 59.92 65 P P 09 43 48.1 +2.4
LHV IAmb IAmb 09 43 49.4
comp=Z,13nm,1.0s
RLMT Red Lodge 59.92 54 P P 09 43 48.3 +2.3
RLMT IAmb IAmb 09 43 49.4
comp=Z,10.0nm,0.8s
RLMT Red Lodge 59.92 54 P P 09 43 47.8 +1.8
baz=316,SNR=5.4
ELK Elko 59.94 61 P P 09 43 47.6 +1.4
ELK pmax pmax
comp=Z,3.0nm,0.6s
ELK Elko 59.94 61 P P 09 43 47.5 +1.4
DGMT Dagmar 59.94 49 P P 09 43 46.8 +0.9
DGMT IAmb IAmb 09 43 47.7
comp=Z,20nm,0.9s
DGMT Dagmar 59.94 49 P P 09 43 46.7 +0.9
baz=317
NV11 Mina Array Sit 59.98 65 P P 09 43 48.3 +1.9
MDPB Devils Postpil 60.03 66 P P 09 43 48.4 +1.5
KBL Kabul 60.10 289 P P 09 43 46.3 -1.1
KBL pmax pmax
comp=Z,22nm,0.8s
KBL Kabul 60.10 289 P P 09 43 46.2 -1.1
KBL IAmb IAmb 09 43 47.0
comp=Z,22nm,0.8s
TPAW Teton Pass 60.24 56 IAmb IAmb 09 43 51.6
comp=Z,11nm,0.8s
SBUM Sibu 60.28 229 P P 09 43 50.5 +2.1
SBUM IAmb IAmb 09 43 51.5
comp=Z,11nm,0.9s
LAO LASA Array 60.28 51 IAmb IAmb 09 43 50.7
comp=Z,22nm,1.1s
LAO LASA Array 60.28 51 P P 09 43 49.1 +1.0
baz=316
SNOW Snow King Moun 60.36 56 P P 09 43 51.3 +2.4
REDW Red Top Meadow 60.38 57 P P 09 43 51.2 +2.1
MEF Metsahovi 60.39 333 *e* P **P 09 43 47.8 -0.8**
RAF Rauma 60.41 335 *e* P **P 09 43 47.8 -0.9**
DY2G Dye2 60.49 9 *i* P **P 09 43 47.9 -1.5**
DY2G IAmb IAmb 09 43 49.9
comp=Z,5.8nm,0.6s
OBN Obninsk 60.66 324 *de* P **P 09 43 49.2 -1.1**
OBN pmax pmax
comp=Z,36nm,1.7s
VSU Vasula 61.19 331 *d i* P **P 09 43 53.1 -0.7**
VSU pmax pmax
comp=Z,49nm,0.9s
VSU Vasula 61.19 331 *e* P **P 09 43 53.5 -0.3**
HWUT Hardware Ranch 61.27 58 P P 09 43 57.0 +2.1
HWUT IAmb IAmb 09 43 57.4
comp=Z,10nm,0.6s
VES Vestal, Richgr 61.30 68 P P 09 43 56.1 +1.1
baz=316
CWC Cottonwood Cre 61.44 67 P P 09 43 57.4 +1.3
baz=316
GRAC Grapevine Rang 61.44 66 P P 09 43 57.8 +1.9
GRAC IAmb IAmb 09 43 59.1
comp=Z,9.3nm,0.7s
GRAC Grapevine Rang 61.44 66 P P 09 43 58.1 +2.1
baz=316,SNR=7.4
R11A Troy Canyon, C 61.46 63 P P 09 43 57.6 +1.4
baz=316,SNR=7.3
BW06 Boulder Array 61.47 56 P P 09 43 57.6 +1.3
BW06 IAmb IAmb 09 43 58.5
comp=Z,14nm,1.1s
BW06 Boulder Array 61.47 56 P P 09 43 57.6 +1.3
baz=317,SNR=6.2
PD31 Pinedale Array 61.47 56 P P 09 43 57.6 +1.3
PD31 IAmb IAmb 09 43 58.5
comp=Z,10.0nm,0.9s
PDAR Pinedale Array 61.47 56 P P 09 43 57.6 +1.3
comp=Z,9.2nm,0.8s,baz=331,slow=1.9,SNR=80
PDAR pP **pP** **09 45 35.6 +2.5**
comp=Z,0.6nm,0.7s,baz=285,slow=1.8,SNR=2.6
PDAR Pinedale Array 61.47 56 P P 09 43 56.9 +0.6
SRIT Nakonsritamara 61.49 245 P P 09 43 58.0 +1.5
AAL Aland 61.59 335 *e* P **P 09 43 55.0 -1.4**
DUG Dugway, Tooele 61.63 60 IAmb IAmb 09 44 00.2
comp=Z,9.6nm,0.8s
DUG Dugway, Tooele 61.63 60 P P 09 43 59.1 +1.9
baz=316,SNR=9.0
ISA Isabella, Lake 61.78 67 P P 09 43 59.3 +1.1
baz=316
MTSE Matsula 61.82 333 *e* P **P 09 43 57.7 -0.3**
S11A Rachel 61.88 64 IAmb IAmb 09 44 01.9
comp=Z,16nm,0.7s
MPMC Manual Prospec 62.05 67 P P 09 44 01.7 +1.6
baz=316,SNR=5.8
TPNV Topopah Spring 62.10 65 P P 09 44 02.2 +1.8
TPNV pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 62.10 65 P P 09 44 02.2 +1.8
TPNV Topopah Spring 62.10 65 P P 09 44 02.1 +1.7
baz=316,SNR=12
FURC Furnace Creek, 62.10 66 P P 09 44 02.2 +2.0
baz=316,SNR=17
MOL Molde 62.16 343 *e* P **P 09 44 00.1 +0.1**
ULM Lac du Bonnet 62.26 43 P P 09 44 00.9 -0.1
comp=Z,2.5nm,0.5s,baz=344,slow=7.2,SNR=3.8
PSUT Pine Spring 62.27 62 P P 09 44 03.1 +1.5
LRMC Laurel Mtn Rad 62.35 67 P P 09 44 03.4 +1.3
baz=317
DOMB Dombas 62.36 342 *e* P **P 09 44 00.6 -0.9**
CCAC Calif City Air 62.40 68 IAmb IAmb 09 44 05.1
comp=Z,14nm,0.8s
GWY Greenwater Val 62.41 66 IAmb IAmb 09 44 05.0
comp=Z,9.8nm,0.8s
UPP Uppsala 62.46 336 *e* P **P 09 44 01.2 -0.9**
QSM Queen of Sheba 62.46 66 IAmb IAmb 09 44 05.4
comp=Z,12nm,1.1s
EDW2 Edwards Air Fo 62.61 68 P P 09 44 05.3 +1.7
baz=317,SNR=5.5
AKN Aaknes 62.62 343 *e* P **P 09 44 02.9 -0.3**
NC303 NORSAR Array S 62.65 340 P P 09 44 02.9 -0.5
NC303 IAmb IAmb 09 44 03.5
comp=Z,15nm,0.7s
NC405 NORSAR Array S 62.68 340 P P 09 44 03.0 -0.6
NC204 NORSAR Array S 62.73 341 P P 09 44 02.9 -1.0
NB201 NORSAR Array S 62.82 340 P P 09 44 03.4 -1.1
SHOC Shoshone, Teco 62.84 66 P P 09 44 06.7 +1.7
baz=317
NB2 NORSAR Subarra 62.85 340 P P 09 44 04.2 -0.5
comp=Z,7.6nm,0.6s,baz=26,slow=6.5
NB2 NORSAR Subarra 62.85 340 P P 09 44 04.2 -0.5
baz=26,slow=6.5
NOA NORSAR Array B 62.85 340 P P 09 44 04.0 -0.6
comp=Z,12nm,0.7s,baz=25,slow=6.5,SNR=56
DECC Green Verdugo 62.87 68 P P 09 44 06.7 +1.4
baz=317
NBO00 NORSAR Array S 62.95 340 P P 09 44 04.9 -0.4
NBO00 IAmb IAmb 09 44 05.7
comp=Z,22nm,0.8s
GSC Goldstone, Bar 62.98 67 P P 09 44 07.8 +1.7
baz=317,SNR=5.3
NC602 NORSAR Array S 63.06 340 P P 09 44 05.2 -0.8
NC602 IAmb IAmb 09 44 07.3
comp=Z,14nm,0.9s
NC602 NORSAR Array S 63.06 340 *eP* **P 09 44 05.1 -0.8**
RDMU Red Mountain 63.06 58 IAmb IAmb 09 44 09.3
comp=Z,17nm,1.1s
K22A Casper 63.08 54 P P 09 44 07.6 +0.9
K22A Casper 63.08 54 P P 09 44 07.7 +0.9
baz=318
TMUT Trail Mountain 63.13 60 P P 09 44 08.2 +0.9
TMUT IAmb IAmb 09 44 09.8
comp=Z,12nm,0.7s
MSU Marysvale 63.19 61 P P 09 44 09.4 +1.9
MSU Marysvale 63.19 61 P P 09 44 09.4 +1.9
RSSD Black Hills 63.21 52 P P 09 44 08.7 +1.1
RSSD pmax pmax
comp=Z,15nm,1.0s
RSSD Black Hills 63.21 52 P P 09 44 08.7 +1.1
RSSD IAmb IAmb 09 44 09.5
comp=Z,15nm,0.9s
RSSD Black Hills 63.21 52 P P 09 44 08.4 +0.8
baz=318
CCUT Cedar City 63.25 63 P P 09 44 09.8 +1.9
BFSC Mount Baldy Ra 63.27 68 P P 09 44 09.5 +1.5
baz=317
SZCU Shurtz Canyon 63.37 62 P P 09 44 10.0 +1.4
TUQ Turquoise Moun 63.37 66 P P 09 44 10.4 +1.8
baz=317,SNR=9.7
HEC Hector,Ludlow 63.59 67 P P 09 44 11.5 +1.5
baz=317
SRU San Rafael Swe 63.63 60 P P 09 44 11.8 +1.5
SRU pmax pmax
comp=Z,10.0nm,0.7s
SRU San Rafael Swe 63.63 60 P P 09 44 11.8 +1.5
SRU IAmb IAmb 09 44 12.8
comp=Z,9.8nm,0.7s
KULM Kulim 63.66 242 P P 09 44 11.6 +1.0
KULM IAmb IAmb 09 44 12.3
comp=Z,12nm,0.6s
BBRC Big Bear Solar 63.67 68 P P 09 44 12.2 +1.5
baz=317,SNR=6.6
HYA Hoyanger 63.70 343 *eP* **P 09 44 09.8 -0.3**
LCMT Little Creek M 63.70 63 P P 09 44 12.6 +1.9
SKAR Skarslia 63.76 342 *eP* **P 09 44 10.3 -0.3**
AGMN Agassiz Nation 63.76 44 P P 09 44 10.5 -0.3
AGMN Agassiz Nation 63.76 44 P P 09 44 11.2 +0.4
baz=321
GEYT Alibeck 63.78 299 P P 09 44 11.4 +0.3
comp=Z,14nm,0.6s,baz=68,slow=4.0,SNR=12
GEYT Alibeck 63.78 299 P P 09 44 11.6 +0.4
GEYT IAmb IAmb 09 44 11.9
comp=Z,14nm,0.6s
GYA0B ALIBECK ARRAY 63.78 299 P P 09 44 11.4 +0.3
GYA0B IAmb IAmb 09 44 12.3
comp=Z,18nm,0.8s
ELS Elsinore Mount 63.83 68 IAmb IAmb 09 44 13.8
comp=Z,7.1nm,0.7s
IIGN Ignalina 63.95 329 *eP* **P 09 44 11.1 -0.7**
MURC Murrieta 63.99 68 P P 09 44 13.8 +1.3
baz=317
GMRC Granite Mounta 64.00 66 P P 09 44 14.3 +1.7
baz=317,SNR=7.8
SUE Sulen 64.06 344 *eP* **P 09 44 11.7 -0.7**
O20A White River Ci 64.07 57 IAmb IAmb 09 44 15.2
comp=Z,14nm,0.7s
O20A White River Ci 64.07 57 P P 09 44 14.2 +1.1
baz=318,SNR=9.8
MNK Minsk 64.13 328 *i* P **P 09 44 11.3 -1.6**
MNK *i* 09 44 41.3
MNK *i* *PP **pP** **09 45 50.2 -0.1**
MNK *i* 09 46 39.9
MNK *i* PPP PPP 09 48 20.8
MNK *i* S **S** **09 52 10.7 -1.2**
MNK *i* 09 53 17.2
MNK *i* SS **SS** **09 56 32.0 +1.3**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,31nm,0.9s
MNK MLR MLR
comp=E,34nm,20.0s
MNK MLR MLR
comp=N,411nm,20.0s
MNK MLR MLR
comp=Z,242nm,20.0s
MNK Minsk 64.13 328 *i* P **P 09 44 11.3 -1.6**
comp=E,2.0nm,0.9s
MNK *i* P **P 09 44 11.3 -1.6**
comp=N,16nm,0.9s
MNK *i* P **P 09 44 11.3 -1.6**
comp=Z,31nm,0.9s,baz=34
MNK *i* PcP **PcP** **09 44 41.3 -1.9**
MNK *i* pP **pP** **09 45 50.3 -0.1**
MNK *i* sP sP 09 46 27.2 -14
MNK *i* PP **PP** **09 46 39.9 -0.9**
MNK *i* PPP PPP 09 48 20.8
MNK *i* S **S** **09 52 10.8 -1.2**
MNK *i* sS **sS** **09 55 08.2 +2.4**
MNK *i* SS **SS** **09 56 32.1 +1.3**
MNK *i* SSS SSS 09 59 50.4
MNK *i* LRM MLR 10 14 00.7
comp=E,34nm,20.0s
MNK *i* LRM MLR 10 14 04.6
comp=N,411nm,20.0s
MNK *i* LRM MLR 10 15 23.0
comp=Z,242nm,20.0s
IPM Ipoh 64.14 241 IAmb IAmb 09 44 14.7
comp=Z,15nm,0.7s
NACGM Naroch 64.14 329 *eP* **P 09 44 12.9 -0.2**
BELC Belle Mtn. Jos 64.38 67 P P 09 44 16.2 +1.1
baz=318
PFO Pinyon Flats O 64.40 68 P P 09 44 15.7 +0.4
comp=Z,3.5nm,0.7s,baz=296,slow=2.6,SNR=6.0
PFO Pinyon Flats O 64.40 68 *||e* P **P 09 44 13.1 -2.2**
PFO pmax pmax
comp=Z,6.0nm,0.7s
PFO Pinyon Flats O 64.40 68 IAmb IAmb 09 44 17.1
comp=Z,3.8nm,0.7s
PFO Pinyon Flats O 64.40 68 P P 09 44 16.0 +0.7
baz=318
TPFO Pinon Flats 64.41 68 P P 09 44 16.4 +1.1
baz=318
KONO Kongsberg 64.45 340 *de* P **P 09 44 14.5 -0.4**
KONO pmax pmax
comp=Z,31nm,2.5s

KONO Kongsberg 64.45 340 eP P 09 44 14.6 -0.4
PABE Paberze 64.50 331 P P 09 44 15.2 -0.1
PABE Paberze 64.50 331 eP P 09 44 14.6 -0.7
ASK Askoy 64.52 343 eP P 09 44 15.1 -0.2
BER Bergen 64.59 343 eP P 09 44 15.6 -0.1
N23A Red Feather La 64.67 55 P P 09 44 17.7 +0.6
baz=319
IRM Iron Mountain 64.75 66 P P 09 44 19.1 +1.8
baz=318,SNR=5.2
ODD1 Odda 64.79 342 eP P 09 44 16.9 -0.2
PV23 Carpenter Ridg 64.91 59 IAmb IAmb 09 44 20.9
comp=Z,13nm,0.7s
BC3 Big Chuckawall 64.94 67 P P 09 44 19.9 +1.3
baz=318
MONP2 Monument Peak 64.95 68 P P 09 44 20.1 +1.2
baz=318
PV11 David Mesa, Pa 65.10 59 IAmb IAmb 09 44 22.6
comp=Z,14nm,1.1s
PDMCI Parker Dam,Lak 65.20 66 P P 09 44 21.6 +1.5
baz=318,SNR=6.2
PV13 Radium Mtn., P 65.23 59 P P 09 44 22.1 +1.5
PV13 IAmb IAmb 09 44 22.9
comp=Z,8.8nm,0.7s
SWSC Sam W. Stewart 65.27 68 P P 09 44 21.8 +1.3
baz=318
PV15 Paradox Valley 65.27 59 P P 09 44 22.1 +1.3
PV15 IAmb IAmb 09 44 23.0
comp=Z,12nm,0.7s
BLS5 Blasjo 65.28 342 eP P 09 44 20.0 -0.2
IKP In-Ko-Pah, Jac 65.31 68 P P 09 44 22.4 +1.4
baz=318
BLYC Blythe 65.39 66 IAmb IAmb 09 44 24.1
comp=Z,11nm,1.0s
YUH Yuha Desert 65.42 68 P P 09 44 22.9 +1.4
YUH IAmb IAmb 09 44 23.4
comp=Z,5.3nm,0.7s
SMCO Snowmass 65.43 57 P P 09 44 23.1 +1.0
SMCO IAmb IAmb 09 44 24.2
comp=Z,6.6nm,0.7s
ISCO Idaho Springs 65.66 56 P P 09 44 24.4 +1.1
baz=319,SNR=5.2
KMY Karmoy 65.70 343 eP P 09 44 22.9 +0.1
GLA Glamis 65.74 67 P P 09 44 25.5 +1.9
baz=318
WUAZ Wupatki 65.83 63 P P 09 44 25.9 +1.7
WUAZ Wupatki 65.83 63 P P 09 44 26.0 +1.8
baz=318,SNR=6.3
HOMB Homborsund 65.94 340 eP P 09 44 23.8 -0.5
Y14A Wickenburg 66.10 65 P P 09 44 27.0 +1.1
Y14A IAmb IAmb 09 44 28.5
comp=Z,7.9nm,0.6s
MVCO Mesa Verde 66.11 60 P P 09 44 27.3 +1.2
MVCO Mesa Verde 66.11 60 P P 09 44 27.5 +1.4
baz=319
SNART Snartemo 66.14 341 ⇓iP P 09 44 25.5 -0.1
KLNR Kaliningrad 66.38 332⇑eP P 09 44 26.4 -0.7
KLNR pmax pmax
comp=Z,48nm,0.8s
OGNE Ogallala 66.58 53 P P 09 44 29.6 +0.8
baz=320
S22A 4UR Ranch, Cre 66.58 58 P P 09 44 30.7 +1.6
baz=319,SNR=6.5
X16A Lo Mia Camp, P 66.61 64 IAmb IAmb 09 44 32.2
comp=Z,7.2nm,0.7s
AKASG Malin Array Be 66.84 325 P P 09 44 29.0 -1.1
comp=Z,5.1nm,0.4s,baz=33,slow=6.4,SNR=29
AKBB Malin Array Si 66.84 325d iP P 09 44 28.7 -1.4
AKBB Malin Array Si 66.84 325 P P 09 44 28.8 -1.3
AKBB IAmb IAmb 09 44 29.8
comp=Z,20nm,1.2s
KIV Kislovodsk 66.88 313 eP P 09 44 30.1 -0.5
KIV pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 66.88 313 P P 09 44 30.8 +0.2
KIV IAmb IAmb 09 44 32.6
comp=Z,11nm,0.5s
KIV Kislovodsk 66.88 313 eP P 09 44 30.4 -0.2
KBZ Khabaz 66.97 312 P P 09 44 31.2 +0.3
comp=Z,12nm,0.6s,baz=75,slow=4.3,SNR=40
KBZ Khabaz 66.97 312d iP P 09 44 31.0 +0.1
KBZ pmax pmax
comp=Z,14nm,0.7s
KBZ Khabaz 66.97 312 eP P 09 44 31.0 +0.1
ECSD EROS Data Cent 66.97 48 P P 09 44 31.3 +0.2
ECSD IAmb IAmb 09 44 32.1
comp=Z,10nm,0.7s
ECSD EROS Data Cent 66.97 48 P P 09 44 31.3 +0.2
baz=322,SNR=14
ZEI Tsey 67.24 311 eP P 09 44 31.4 -1.6
ZEI pmax pmax
comp=Z,4.0nm,0.6s
SDCO Great Sand Dun 67.27 57 P P 09 44 34.5 +1.2
baz=320
X18A Snowflake 67.34 63 P P 09 44 35.4 +1.7
BSD Bornholm Skovb 67.35 335 eP P 09 44 32.5 -0.7
BSD Bornholm Skovb 67.35 335 iP P 09 44 31.7 -1.4
BSD IAmb IAmb 09 44 32.6
comp=Z,12nm,0.6s
SPMN Marine on St. 67.48 44 P P 09 44 34.1 0.0
baz=323
ONI Oni 67.60 311 IAmb IAmb 09 44 36.5
comp=Z,11nm,0.8s
214A Organ Pipe Nat 67.69 66 IAmb IAmb 09 44 38.4
comp=Z,8.7nm,1.1s
214A Organ Pipe Nat 67.69 66 P P 09 44 37.3 +1.6
baz=319,SNR=5.5
MTN Manton Dam 67.74 203 P P 09 44 37.2 +1.2
MTN IAmb IAmb 09 44 38.0
comp=Z,6.9nm,0.7s
SCHQ Schefferville 68.06 24 P P 09 44 37.0 -0.6
comp=Z,3.5nm,0.5s,baz=345,slow=5.5,SNR=10
BGNE Belgrade 68.08 50 P P 09 44 38.8 +0.8
baz=322
T25A Trinidad 68.29 57 P P 09 44 40.2 +0.7
baz=320
AKH Akhalkalaki 68.51 310 ⇑P P 09 44 40.5 -0.2
TUC Tucson 68.55 65 P P 09 44 42.6 +1.6
TUC pmax pmax
comp=Z,2.0nm,0.8s
TUC Tucson 68.55 65 P P 09 44 42.6 +1.6
TUC Tucson 68.55 65 P P 09 44 42.6 +1.6
baz=320
GSI Gunungsitoli 68.65 242 P P 09 44 42.3 +0.6
GSI Gunungsitoli 68.65 242 P P 09 44 42.2 +0.5
comp=Z,3|rmcomp=Z,23nm,0.7s
ANMO Albuquerque 68.90 60 P P 09 44 44.6 +1.4
comp=Z,1.6nm,0.7s,baz=325,slow=6.9,SNR=12
ANMO Albuquerque 68.90 60⇑eP P 09 44 40.7 -2.5
ANMO pmax pmax
comp=Z,16nm,3.9s
ANMO Albuquerque 68.90 60 P P 09 44 44.7 +1.4
ANMO Albuquerque 68.90 60 P P 09 44 44.9 +1.6
baz=320
GNI Garni 68.90 309deP P 09 44 43.6 +0.5
GNI pmax pmax
comp=Z,23nm,1.4s
BSEG Bad Segeberg 69.55 338 eP P 09 44 46.5 0.0
comp=Z,14nm,0.8s,baz=23,slow=5.9
121A Cookes Peak, D 70.03 63 P P 09 44 51.8 +1.8
baz=320
319A Douglas 70.09 64 P P 09 44 51.5 +1.2
319A IAmb IAmb 09 44 53.1
comp=Z,9.4nm,0.8s
OJC Ojcow 70.35 330 eP P 09 44 51.3 -0.1
OJC Ojcow 70.35 330 P P 09 44 51.3 -0.1
OJC pmax pmax
comp=Z,20nm,1.0s
OJC Ojcow 70.35 330 P P 09 44 51.3 -0.1
OJC IAmb IAmb 09 44 52.2
comp=Z,20nm,1.0s
KSU1 Kansas State U 70.62 51 P P 09 44 53.4 +0.2
baz=323
FLTG Flechtingen 70.80 336 eP P 09 44 53.4 -0.6
comp=Z,12nm,0.7s,baz=23,slow=5.9
KSP Ksiaz 70.82 333 eP P 09 44 54.1 -0.1
BUR08 Bucovina Ar. S 70.84 326 P P 09 44 53.9 -0.6
BUR08 IAmb IAmb 09 44 54.9
comp=Z,8.9nm,0.8s
BURAR Bucovina Array 70.86 326 ⇑P P 09 44 54.3 -0.3
BURAR Bucovina Array 70.86 326 P P 09 44 53.6 -1.0
BURAR IAmb IAmb 09 44 54.8
comp=Z,8.3nm,0.8s
NRDL Niedersach Rie 70.92 337 eP P 09 44 54.3 -0.3
comp=Z,10nm,1.0s,baz=23,slow=5.9
CRVS Cervenica-Dubn 70.99 329 eP P 09 44 55.1 -0.1
CRVS Cervenica-Dubn 70.99 329 eP P 09 44 55.1 -0.1

KOPT Kop Dagi 71.00 311 P P 09 44 57.0 +1.2
KOPT IAmb IAmb 09 44 58.6
comp=Z,12nm,0.7s
OSTC Ostas 71.10 333 eP P 09 44 55.9 0.0
CHVC Chvalec 71.12 333 eP P 09 44 55.5 -0.5
ASSE Asse, Remlinge 71.12 337 eP P 09 44 55.8 -0.1
comp=Z,4.7nm,0.8s,baz=23,slow=5.9
GEVA Gevas 71.16 309 P P 09 44 57.2 +0.6
GEVA IAmb IAmb 09 44 57.9
comp=Z,14nm,1.5s
UPC Upice 71.20 333 eP P 09 44 56.3 -0.1
UPC Upice 71.20 333 eP P 09 44 56.3 -0.1
DPC Dobruska-Polom 71.25 332 eP P 09 44 56.7 -0.1
DPC Dobruska-Polom 71.25 332 eP P 09 44 56.7 -0.1
CLL Collm 71.29 335⇓iP P 09 44 56.4 -0.5
CLL pmax pmax
comp=Z,19nm,0.6s
CLL Collm 71.29 335 P P 09 44 56.5 -0.5
CLL IAmb IAmb 09 44 57.1
comp=Z,17nm,0.7s
CLL Collm 71.29 335⇓iP P 09 44 56.4 -0.5
comp=Z,19nm,0.6s
CLL Collm 71.29 335 eP P 09 44 56.4 -0.5
comp=Z,19nm,0.6s,baz=23,slow=5.9
TESR Tescani 71.30 324 ⇑P P 09 44 56.6 -0.5
TRPA Tarpa 71.32 328 ⇑P P 09 44 57.2 +0.1
TRPA Tarpa 71.32 328 P P 09 44 56.9 -0.2
KRLC Kraliky 71.37 332 eP P 09 44 57.1 -0.4
KRLC Kraliky 71.37 332 eP P 09 44 57.1 -0.4
LANS Liptovska Anna 71.40 330 eP P 09 44 58.5 +0.8
LANS pmax pmax
comp=Z,15nm,0.8s
LANS Liptovska Anna 71.40 330 eP P 09 44 58.5 +0.8
MORC Moravsky Berou 71.42 331 ⇓P P 09 44 58.0 +0.2
MORC Moravsky Berou 71.42 331 P P 09 44 57.8 0.0
MORC pmax pmax
comp=Z,20nm,0.8s
MORC Moravsky Berou 71.42 331 P P 09 44 57.8 0.0
MORC IAmb IAmb 09 44 58.7
comp=Z,20nm,0.8s
MORC Moravsky Berou 71.42 331 eP P 09 44 57.7 0.0
CLZ Clausthal 71.46 337 eP P 09 44 57.4 -0.6
comp=Z,22nm,1.0s,baz=23,slow=5.9
FBE Freiberg 71.55 334 eP P 09 44 58.2 -0.2
comp=Z,12nm,1.1s,baz=23,slow=5.9
MSTX Muleshoe 71.59 58 P P 09 45 00.2 +1.0
baz=322
P38A Dawn 71.64 48 P P 09 44 59.3 +0.1
P38A IAmb IAmb 09 45 00.2
comp=Z,9.8nm,0.9s
IZAB Izabela 71.83 329 eP P 09 45 00.5 +0.3
IZAB pmax pmax
comp=Z,6.0nm,0.8s
PLOR Plostina 71.86 324 ⇓P P 09 45 00.1 -0.3
MNTX Cornudas Mount 71.97 61 P P 09 45 02.7 +1.5
MNTX Cornudas Mount 71.97 61 P P 09 45 02.8 +1.5
baz=321,SNR=9.5
COVR Voineasa-Covas 72.03 324 ⇑P P 09 45 01.8 +0.4
PRU Pruhonice 72.08 333 eP P 09 45 01.2 -0.4
PRU Pruhonice 72.08 333 eP P 09 45 01.2 -0.4
VRAC Vranov 72.11 332 ⇑P P 09 45 02.3 +0.5
VRAC Vranov 72.11 332 eP P 09 45 02.0 +0.2
VYHS Vyhne 72.17 330 eP P 09 45 02.4 +0.2
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 72.17 330 eP P 09 45 02.4 +0.2
JAVC Velka Javorina 72.20 331 eP P 09 45 03.0 +0.6
DOPR Dopca 72.22 325 ⇑P P 09 45 02.3 -0.2
MOX Moxa 72.25 335 eP P 09 45 02.4 -0.3
comp=Z,6.3nm,0.7s,baz=23,slow=5.9
WERD Werda 72.26 335 eP P 09 45 02.5 -0.1
comp=Z,7.4nm,1.0s,baz=23,slow=5.9
PLN Plauen 72.26 335 eP P 09 45 02.5 -0.1
comp=Z,7.8nm,0.7s,baz=23,slow=5.9
GUNZ Gunzen 72.33 335 eP P 09 45 02.9 -0.2
comp=Z,8.3nm,0.8s,baz=23,slow=5.9
PSZ Piszkesteto 72.35 329 P P 09 45 03.8 +0.5
PSZ pmax pmax
comp=Z,15nm,1.1s
PSZ Piszkesteto 72.35 329 P P 09 45 03.8 +0.5
PSZ IAmb IAmb 09 45 04.5
comp=Z,15nm,1.1s
PSZ Piszkesteto 72.35 329 P P 09 45 01.8 -1.5
HARR Harsova 72.38 322 ⇑P P 09 45 02.9 -0.5
WERN Wernitzgruen 72.39 335 eP P 09 45 03.5 +0.1
comp=Z,14nm,0.8s,baz=23,slow=5.9
P40A Paris 72.39 47 P P 09 45 03.8 +0.2
P40A IAmb IAmb 09 45 04.5
comp=Z,7.2nm,0.7s
KRUC Moravsky 72.39 332 eP P 09 45 03.5 +0.1
NKC Novy Kostel 72.42 335 eP P 09 45 03.4 -0.2
NKC Novy Kostel 72.42 335 eP P 09 45 03.4 -0.2
DRGR 72.43 327 ⇑P P 09 45 03.5 -0.3
MLR Muntele Rosu 72.43 324 ⇓P P 09 45 04.4 +0.6
MLR Muntele Rosu 72.43 324 IAmb IAmb 09 45 05.2
comp=Z,11nm,0.6s
TREC Trest 72.44 332 eP P 09 44 56.6 -7.1
UBBA Unterbreizbach 72.50 336 eP P 09 45 03.6 -0.2
comp=Z,5.1nm,0.7s,baz=23,slow=5.9
PBCC Pribram 72.50 334 eP P 09 45 03.7 -0.4
KASTN Kahler Asten 72.52 338 eP P 09 45 04.1 -0.1
comp=Z,8.2nm,0.7s,baz=23,slow=5.9
ISR Istrita 72.53 323 ⇑P P 09 45 04.2 -0.2
SMOL Smolenice 72.58 331 eP P 09 45 05.5 +1.0
SMOL pmax pmax
comp=Z,7.0nm,0.7s
SMOL Smolenice 72.58 331 eP P 09 45 05.5 +1.0
MANZ Manzenberg 72.73 335 eP P 09 45 05.2 -0.2
comp=Z,1.5nm,0.7s,baz=23,slow=5.9
VOIR 72.80 325 ⇑P P 09 45 06.1 +0.2
ROTZ Rotzenmuhle 72.91 335 eP P 09 45 06.4 0.0
comp=Z,2.6nm,0.9s,baz=23,slow=5.9
ARR Arges 73.00 325 ⇑P P 09 45 07.2 +0.1
WMOK Wichita Mounta 73.02 55 P P 09 45 08.3 +0.9
baz=323
MARD Mardin 73.03 310 P P 09 45 08.2 +0.7
KHC Kasperske Hory 73.12 334 eP P 09 45 07.8 +0.1
KHC Kasperske Hory 73.12 334 IAmb IAmb 09 45 08.8
comp=Z,12nm,0.7s
KHC Kasperske Hory 73.12 334 eP P 09 45 07.8 +0.1
ILGA Ilgaz 73.14 316 P P 09 45 09.2 +1.0
CKRC Cesky Krumlov 73.20 333 eP P 09 45 07.9 -0.2
GRF Grafenberg Arr 73.23 335 eP P 09 45 08.5 +0.3
comp=Z,19nm,0.6s,baz=23,slow=5.9
WET Wettzell 73.30 334 eP P 09 45 09.0 +0.3
comp=Z,15nm,0.6s,baz=23,slow=5.9
GEC2 GERESS Array S 73.35 333 eP P 09 45 08.8 -0.2
comp=Z,7.9nm,0.7s,baz=23,slow=5.9
GERES GERESS Array B 73.35 333 P P 09 45 09.0 -0.1
comp=Z,4.7nm,0.6s,baz=33,slow=5.1,SNR=18
GERES GERESS Array B 73.35 333 P P 09 45 09.0 -0.1
CSKK Cskako 73.36 330 P P 09 45 09.2 +0.2
TNS Taunus Mts 73.42 337 eP P 09 45 09.4 0.0
comp=Z,16nm,0.7s,baz=23,slow=5.9
AHRW Bad Neuenahr-A 73.44 338 eP P 09 45 09.4 0.0
comp=Z,27nm,1.4s,baz=23,slow=5.9
TUL1 Leonard 73.56 52 P P 09 45 10.7 +0.4
TUL1 IAmb IAmb 09 45 11.8
comp=Z,7.7nm,0.7s
TUL1 Leonard 73.56 52 P P 09 45 10.9 +0.5
baz=324
CONA Conrad Observa 73.57 332 eP P 09 45 10.8 +0.5
comp=Z,12nm,0.6s,SNR=7.2
PALK Pallekele 73.57 260 P P 09 45 10.1 -0.7
comp=Z,10nm,0.8s,baz=127,slow=4.8,SNR=7.4
PALK Pallekele 73.57 260deP P 09 45 10.4 -0.4
PALK pmax pmax
comp=Z,12nm,0.9s
PALK Pallekele 73.57 260 P P 09 45 10.1 -0.7
PALK IAmb IAmb 09 45 11.4
comp=Z,12nm,1.0s
SOP Sopron 73.58 331 P P 09 45 10.8 +0.5
BTNL Ternell 73.61 339 dP P 09 45 10.4 -0.1
MEM Membach 73.62 339 dP P 09 45 10.3 -0.1
comp=Z,12nm,0.9s
GZR Gura Zlata 73.63 326 ⇑P P 09 45 10.3 -0.4
RONA Rosalia, Austr 73.64 331 iP P 09 45 11.3 +0.6
comp=Z,12nm,1.0s,SNR=5.1
WB0 Warramunga Arr 73.74 198 P P 09 45 12.5 +1.0
BSTI Sart Tilman 73.74 339 dP P 09 45 11.4 +0.3
MPLH Magyarpolny 73.75 330 P P 09 45 11.0 -0.3
BZS Buzias 73.82 327 ⇑P P 09 45 11.3 -0.4
SHME Shamm 73.83 292 P P 09 45 11.6 -0.5
BANOM Banah 73.84 291 P P 09 45 11.9 -0.2

SFIN Lafayette 73.85 44 P P 09 45 12.1 +0.2
baz=327
WR0 Warramunga Arr 73.90 198 P P 09 45 13.1 +0.8
WRAB Tennant Creek 73.91 198⇑eP P 09 45 09.7 -2.7
WRAB pmax pmax
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 73.91 198 P P 09 45 13.3 +0.9
WB2 Warramunga Arr 73.92 198 P P 09 45 13.7 +1.2
WB2 IAmb IAmb 09 45 14.7
comp=Z,6.8nm,0.8s
WRA Warramunga Arr 73.92 198 P P 09 45 13.3 +0.9
comp=Z,4.8nm,0.7s,baz=15,slow=6.0,SNR=41
WRA Warramunga Arr 73.92 198 P P 09 45 13.0 +0.6
CCM Cathedral Cave 73.95 48 P P 09 45 12.9 +0.3
baz=325
BCLA Clavier 73.95 339 dP P 09 45 12.2 -0.1
comp=Z,9.1nm,0.7s
MOA Molln 74.09 333 iP P 09 45 13.2 0.0
comp=Z,6.7nm,0.7s
HHAR Hobbs 74.14 51 P P 09 45 13.8 0.0
BMRD Maredsous 74.18 340 dP P 09 45 13.0 -0.6
HERR Herculane 74.20 326 ⇑P P 09 45 13.1 -0.7
FITZ Fitzroy Crossi 74.20 207 P P 09 45 15.4 +1.4
RCHB Rochefort 74.22 339 dP P 09 45 13.8 -0.1
BR131 Keskin Array S 74.27 316d iP P 09 45 14.0 -0.5
BR131 Keskin Array S 74.27 316 P P 09 45 14.1 -0.5
BR131 IAmb IAmb 09 45 15.2
comp=Z,12nm,0.8s
BRTR Keskin Array B 74.27 316 P P 09 45 14.2 -0.3
comp=Z,5.4nm,0.7s,baz=50,slow=3.9,SNR=26
BRTR Keskin Array B 74.27 316 P P 09 45 14.5 -0.1
ARSA Arzberg 74.28 331 iP P 09 45 14.5 +0.2
comp=Z,7.7nm,0.8s
MSFE Esma-Masafi 74.36 291 P P 09 45 14.7 -0.5
FVM French Village 74.38 47 P P 09 45 14.5 -0.5
FVM pmax pmax
comp=Z,6.0nm,0.6s
FVM French Village 74.38 47 P P 09 45 14.5 -0.5
FVM IAmb IAmb 09 45 15.7
comp=Z,5.6nm,0.6s
DOU Dourbes 74.41 340 dP P 09 45 14.1 -0.9
ANTO Ankara 74.51 316 P P 09 45 15.9 +0.1
ANTO Ankara 74.51 316 P P 09 45 15.9 +0.1
KOVH Kovagotottos 74.54 329 P P 09 45 15.0 -0.8
WSAR Wadi Sarin 74.57 288 P P 09 45 16.2 -0.1
comp=Z,7.7nm,1.0s,baz=112,slow=13,SNR=6.4
STU Stuttgart 74.59 336 P P 09 45 15.8 -0.2
STU pmax pmax
comp=Z,20nm,0.9s
STU Stuttgart 74.59 336 P P 09 45 15.8 -0.2
STU IAmb IAmb 09 45 16.6
comp=Z,20nm,0.9s
U40A Yellville 74.60 50 P P 09 45 16.3 0.0
U40A IAmb IAmb 09 45 16.7
comp=Z,10nm,0.6s
U40A Yellville 74.60 50 P P 09 45 16.2 -0.1
baz=325,SNR=7.7
UOSS Minazif 74.65 291 P P 09 45 16.2 -0.6
UOSS Minazif 74.65 291 P P 09 45 16.0 -0.8
UOSS Minazif 74.65 291 P P 09 45 16.2 -0.6
MDUB Mudurnu 74.67 318 P P 09 45 16.9 +0.2
TX31 Lajitas Ar. Si 74.73 62 P P 09 45 18.7 +1.4
TX31 IAmb IAmb 09 45 19.6
comp=Z,13nm,0.7s
TX32 Lajitas Array 74.73 62 P P 09 45 18.2 +1.0
TXAR Lajitas Array 74.73 62 P P 09 45 19.1 +1.8
comp=Z,3.9nm,0.6s,baz=299,slow=4.9,SNR=87
TXAR pP pP 09 47 00.2 +1.5
comp=Z,0.7nm,0.7s,baz=305,slow=4.4,SNR=3.9
TXAR Lajitas Array 74.73 62 P P 09 45 18.4 +1.1
TXAR Lajitas Array 74.73 62 P P 09 45 18.4 +1.1
O48B Farmland 74.77 42 P P 09 45 17.0 -0.1
baz=328
HATD Hatta, Dubai 74.78 291 iP P 09 45 17.1 -0.4
SNR=7.2
FRGS Fruska Gora 74.83 328 ⇑P P 09 45 16.2 -1.3
ASHO Ashiyiah 74.94 291 P P 09 45 17.7 -0.7
ASHO Ashiyiah 74.94 291 P P 09 45 17.9 -0.5
SOKA Soboth 74.94 332 iP P 09 45 18.1 0.0
comp=Z,14nm,0.8s,SNR=9.4
PERS Pernice 74.95 331 iP P 09 45 18.1 0.0
SMDO Samad 75.04 288 P P 09 45 18.3 -0.8
KBA Koelnbreinsper 75.06 333 iP P 09 45 19.5 +0.6
comp=Z,34nm,0.6s
HOQ Hoqain 75.07 289 P P 09 45 18.7 -0.4
SOHO SOHO 75.09 290 P P 09 45 18.5 -0.7
SOHO SOHO 75.09 290 iP P 09 45 19.0 -0.2
SNR=8.2
W39A Magazine 75.10 51 P P 09 45 19.5 +0.4
baz=325
FAQ Al Faqs, Dubai 75.15 291 P P 09 45 18.9 -0.7
BFO Black Forest 75.21 337 P P 09 45 19.1 -0.5
BFO pmax pmax
comp=Z,12nm,0.8s
BFO Black Forest 75.21 337 P P 09 45 19.1 -0.5
BFO IAmb IAmb 09 45 20.1
comp=Z,12nm,0.8s
BFO Black Forest 75.21 337 eP P 09 45 19.3 -0.3
comp=Z,14nm,0.8s,baz=23,slow=5.9
OBKA Obir 75.23 332 eP P 09 45 19.7 -0.1
comp=Z,8.8nm,0.6s,SNR=6.8
WATA Walderalm 75.31 334 iP P 09 45 20.5 +0.2
comp=Z,9.9nm,0.5s
WTTA Wattenberg 75.36 334 iP P 09 45 21.0 +0.4
comp=Z,23nm,0.8s,SNR=7.6
RETA Reutte 75.38 335 iP P 09 45 20.6 +0.1
comp=Z,5.1nm,0.6s
MYKA Terra Mystica 75.38 332 iP P 09 45 20.1 -0.4
comp=Z,5.5nm,0.5s
ASUD Al Ashush, Dub 75.40 291 P P 09 45 20.7 -0.2
MOTA Moosalm 75.42 334 iP P 09 45 20.9 0.0
comp=Z,24nm,1.0s,SNR=6.8
SQTA Sankt Quirin 75.51 334 iP P 09 45 21.8 +0.4
comp=Z,14nm,0.7s,SNR=5.2
HPIG 75.52 65 P P 09 45 22.8 +1.0
BOVS Bovan 75.54 326 ⇑P P 09 45 20.2 -1.2
JMDO Jabal Madar 75.54 288 P P 09 45 21.3 -0.5
P49A Miami Univ. Ec 75.56 43 P P 09 45 21.3 -0.3
baz=328
ABTA Abfaltersbach 75.59 333 iP P 09 45 21.9 +0.1
comp=Z,9.5nm,0.6s,SNR=6.7
ALNE Al Ain 75.60 291 iP P 09 45 21.8 -0.3
SNR=7.3
ECH Echery 75.60 337 P P 09 45 21.1 -0.7
ECH pmax pmax
comp=Z,14nm,0.9s
ECH Echery 75.60 337 P P 09 45 21.1 -0.7
ECH IAmb IAmb 09 45 22.3
comp=Z,14nm,0.9s
LJU Ljubljana 75.66 332 iP P 09 45 21.4 -0.7
ACSO Alum Creek Sta 75.67 41 P P 09 45 22.2 0.0
baz=329
DIVS Divibare 75.71 327 P P 09 45 21.7 -0.7
DIVS IAmb IAmb 09 45 22.5
comp=Z,18nm,0.9s
ARQ Araqi 75.71 290 P P 09 45 22.3 -0.5
DAVA Damuels 75.80 335 iP P 09 45 23.0 0.0
comp=Z,16nm,1.1s
FETA Feichten 75.82 334 iP P 09 45 23.3 +0.2
comp=Z,11nm,0.7s,SNR=6.6
W41B Gary Mavity, V 75.84 50 P P 09 45 23.3 +0.1
baz=325
WHTX Lake Whitney, 75.88 56 P P 09 45 24.0 +0.5
baz=324
JCT Junction City 75.88 58 P P 09 45 24.4 +0.8
JCT pmax pmax
comp=Z,3.0nm,0.7s
JCT Junction City 75.88 58 P P 09 45 24.4 +0.8
VTS Vitosha 75.89 324 ⇑P P 09 45 23.5 -0.1
VTS Vitosha 75.89 324 P P 09 45 22.9 -0.7
VTS pmax pmax
comp=Z,20nm,0.8s
VTS Vitosha 75.89 324 P P 09 45 22.9 -0.7
VTS IAmb IAmb 09 45 24.2
comp=Z,20nm,0.8s
JAVS Javornik 75.93 332 iP P 09 45 22.6 -1.1
X40A Basin Creek Fa 76.13 51 P P 09 45 25.2 +0.3
baz=325
SKDS Skadanscina 76.26 332 iP P 09 45 24.4 -1.1
CTI Castel Tesino 76.47 334 P P 09 45 25.8 -0.9
CTI pmax pmax
comp=Z,13nm,1.0s
CTI Castel Tesino 76.47 334 P P 09 45 25.8 -0.9
CTI IAmb IAmb 09 45 26.6
comp=Z,13nm,1.0s

TUE	Stuetta	76.69	335	P	P	09 45 27.8	-0.2
MHTO	MHTO	76.69	287	P	P	09 45 28.0	-0.2
SHMA	Al-Shehemyia	76.89	295	P	P	09 45 28.6	-0.6
UMZA	Um Al Zommool	76.98	290	P	P	09 45 28.7	-1.0
WVT	Waverly	77.08	47	P	P	09 45 30.0	-0.1
	baz=327						
TEOL	Teolo	77.10	333	P	P	09 45 29.7	-0.3
SALO	Salr	77.17	334	P	P	09 45 30.2	-0.3
SENIN	Lac Senin/Sane	77.30	337	P	P	09 45 31.6	+0.2
MANT	Manisa	77.43	319	P	P	09 45 32.0	-0.2
MANT				IAmb	IAmb	09 45 32.5	
	comp=Z,19nm,0.9s						
PDG	Podgorica	77.44	327	⇑P	P	09 45 31.2	-0.7
PDG	Podgorica	77.44	327	P	P	09 45 31.0	-0.8
PDG				IAmb	IAmb	09 45 31.7	
	comp=Z,28nm,1.0s						
AS31	Alice Springs	77.63	198	P	P	09 45 34.5	+1.4
ASAR	Alice Springs	77.63	198	P	P	09 45 34.6	+1.6
	comp=Z,6.6nm,0.5s,baz=11,slow=5.2,SNR=174						
ASAR	Alice Springs	77.63	198	P	P	09 45 34.5	+1.4
ASAR	Alice Springs	77.63	198	P	P	09 45 34.5	+1.4
MZR	Muzera	77.72	292	P	P	09 45 33.2	-0.5
MZR	Muzera	77.72	292	*i* P	P	09 45 33.2	-0.5
	SNR=10						
FNA	Florina	78.17	325	P	P	09 45 35.0	-1.0
FNA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FNA	Florina	78.17	325	P	P	09 45 35.0	-1.0
FNA				IAmb	IAmb	09 45 35.8	
	comp=Z,9.2nm,0.8s						
LIT	Litokhoron	78.37	324	P	P	09 45 35.7	-1.3
LIT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LIT	Litokhoron	78.37	324	P	P	09 45 35.7	-1.3
LIT				IAmb	IAmb	09 45 36.2	
	comp=Z,6.7nm,0.7s						
CSS	Mathiatis	78.39	313	P	P	09 45 36.3	-0.9
CSS				IAmb	IAmb	09 45 37.7	
	comp=Z,17nm,0.8s						
MURB	Monte Urbino	78.78	332	P	P	09 45 39.7	+0.5
AKAS	Kas	78.92	317	P	P	09 45 39.2	-1.0
AKAS				IAmb	IAmb	09 45 40.7	
	comp=Z,11nm,0.7s						
SSB	Saint Sauveur	78.97	338	P	P	09 45 39.9	-0.3
SSB				pmax	pmax		
	comp=Z,13nm,0.7s						
SSB	Saint Sauveur	78.97	338	P	P	09 45 39.9	-0.3
SSB				IAmb	IAmb	09 45 41.2	
	comp=Z,13nm,0.7s						
NRCA	Norcia	79.00	331	P	P	09 45 40.6	+0.1
SCTE	Santa Cesarea	79.81	326	P	P	09 45 43.5	-1.1
MATE	Matera	79.88	328	⇑P	P	09 45 44.5	-0.5
LRAL	Lakeview Retre	80.04	48	P	P	09 45 45.5	-0.5
	baz=328						
SHAO	Shalim	80.38	287	*i* P	P	09 45 48.0	0.0
	SNR=7.2						
ITM	Ithomi	81.15	323	P	P	09 45 50.0	-1.8
ITM				IAmb	IAmb	09 45 50.7	
	comp=Z,12nm,0.7s						
GOGA	Godfrey	81.28	45	P	P	09 45 52.2	-0.3
	baz=329						
RAYN	Ar Rayn	81.73	298	P	P	09 45 54.2	-0.8
RAYN				pmax	pmax		
	comp=Z,15nm,0.9s						
RAYN	Ar Rayn	81.73	298	P	P	09 45 54.2	-0.8
RAYN				IAmb	IAmb	09 45 55.6	
	comp=Z,15nm,0.8s						
RAYN	Ar Rayn	81.73	298	*i* P	P	09 45 54.5	-0.5
	SNR=13						
STKA	Stephens Creek	84.57	190	P	P	09 46 09.7	+0.9
	comp=Z,3.2nm,0.9s,baz=36,slow=5.7,SNR=4.7						
ESDC	Sonseca Array	86.12	342	P	P	09 46 15.6	-0.9
	comp=Z,2.0nm,0.6s,baz=357,slow=3.9,SNR=12						
ESDC	Sonseca Array	86.12	342	P	P	09 46 15.5	-0.9
KEST	Kesra	86.67	331	P	P	09 46 19.1	-0.1
	comp=Z,5.0nm,0.5s,baz=298,slow=2.7,SNR=10						
TORD	Torodi Ar. Bea	110.18	330	PP	PP	09 52 36.3	-10
	comp=Z,0.9nm,0.9s,baz=22,slow=7.3,SNR=1.8						
LPAZ	La Paz	131.48	58	SKPbc	SKPbc	09 55 24.9	-1.2
	comp=Z,2.6nm,0.8s,baz=13,slow=13,SNR=10						
SIV	San Ignacio	134.70	50	SKPbc	SKPbc	09 55 35.6	-0.5
	comp=Z,3.6nm,0.7s,baz=310,slow=2.1,SNR=20						
PLCA	Paso Flores	148.26	86	PKPbc	PKPbc	09 53 18.7	+0.5
	comp=Z,3.4nm,0.7s,baz=275,slow=4.0,SNR=12						

IDC 05 09:35:07.8±2.2, 3°.47N×122°.63E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/47, mbtmp3.4/3, Error ellipse: s-maj=350.8km s-min=29.2km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.95	154	P	P	09 40 42.7	+0.5
	0.2nm,0.3s,baz=334,slow=9.5,SNR=8.6						
ASAR	Alice Springs	29.12	158	P	P	09 41 09.9	-0.7
	0.1nm,0.3s,baz=335,slow=7.6,SNR=1.9						
MKAR	Makanchi Array	55.50	327	P	P	09 44 44.6	-0.1
	0.3nm,0.4s,baz=134,slow=8.6,SNR=0.9						

IDC 05 09:43:07.2±2.2, 3°.99N×126°.24E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/42, mbtmp3.5/4, Error ellipse: s-maj=198.8km s-min=28.4km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.08	162	P	P	09 48 33.5	-0.3
	1.1nm,0.8s,baz=340,slow=10,SNR=3.4						
ASAR	Alice Springs	28.49	165	P	P	09 49 04.4	0.0
	0.2nm,0.8s,baz=342,slow=9.1,SNR=1.5						
STKA	Stephens Creek	38.55	159	P	P	09 50 31.8	0.0
	1.6nm,0.8s,baz=344,slow=9.9,SNR=2.8						
MKAR	Makanchi Array	57.06	325	P	P	09 52 55.3	0.0
	0.3nm,0.5s,baz=122,slow=7.6,SNR=3.2						

IDC 05 09:48:55.8±2.2, 4°.27N×126°.46E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.1/60, mbtmp3.2/4, Error ellipse: s-maj=213.7km s-min=25.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.27	162	P	P	09 54 23.6	-0.4
	0.7nm,1.0s,baz=341,slow=10,SNR=2.4						
ASAR	Alice Springs	28.70	166	P	P	09 54 55.1	+0.3
	0.6nm,1.1s,baz=348,slow=12,SNR=1.6						
MKAR	Makanchi Array	56.96	325	P	P	09 58 42.2	-0.9
	0.1nm,0.4s,baz=118,slow=8.3,SNR=2.0						
KURBB	Kurchatov Arra	61.14	327	P	P	09 59 12.8	+0.9
	0.1nm,0.4s,baz=134,slow=5.5,SNR=1.8						

IDC 05 09:59:21.7±327.0, 54°.75N×40°.48E, h0km, Error ellipse: s-maj=146.7km s-min=55.6km az=141.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	2.70	318	*i*		10 16 30.0	
	baz=136,slow=342,SNR=0.5						
I31KZ	AKTYUBINSK INF	11.53	105	*i*		11 13 00.0	
	baz=298,slow=327,SNR=1.4						
I46RU	ZALESOVO INFRA	25.54	73	*i*		12 35 00.0	
	baz=292,slow=323,SNR=1.0						

*IDC **05** 10:00:48.0±0.9, 3°.83N×125°.71E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/50, mbtmp3.7/9, ML4.1/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/69, Error ellipse: s-maj=71.5km s-min=15.2km az=67.0*

*NEIC **05** 10:00:53±2.3, 4°.05N±0°.09×126°.3E±0°.1, h35km±2km, mb4.0/14, Error ellipse: s-maj=22.2km s-min=7.2km az=232.0*

*DJA **05** 10:00:54.5±0.5, 4°N±4°×12°7E±°, h10km, M4.1/6, mb4.4/1, mB4.7/1, MLv3.9/6, Mw(mB)3.9/1*

ISC 05 10:00:54.2±0.8, 4°.07N±0°.10×126°.56E±0°.10, h50km, n33, σ1§67/29, mb3.9/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	Sangihe	1.10	250	P	Pn	10 01 15.5	+2.2
TNTI	Ternate	3.37	166	Pn	Pn	10 01 41.9	-2.6
TNTI	Ternate	3.37	166	P	Pn	10 01 44.9	+0.4
LBMI	Labuha	4.77	169	P	Pn	10 02 04.0	+0.3
GTOI	Gorontalo	4.92	226	P	Pn	10 02 08.4	+2.7
SANI	Sanana	6.11	185	P	Pn	10 02 22.4	+0.4
TOLI2	Tolitoli	6.48	243	Pn	Pn	10 02 23.9	-3.1
SIJI	Sorong	6.80	136	Pn	Pn	10 02 35.3	+3.8
	3.4nm,0.3s,baz=334,slow=21,SNR=5.0						
SIJI				Sn	Sn	10 03 50.9	+3.3
	0.7nm,0.3s,baz=195,slow=20,SNR=1.2						
KAPI	Kappang	11.30	217	LR	LR	10 08 04.9	
	comp=Z,100nm,18.4s,baz=170,slow=41						
MTN	Manton Dam	17.41	165	P	P	10 04 53.0	-1.4
MTN				IAmb	IAmb	10 05 10.0	
	comp=Z,13nm,1.4s						
KNRA	Kununurra	19.74	174	P	P	10 05 18.6	-1.4
KNRA				IAmb	IAmb	10 05 34.4	
	comp=Z,20nm,1.4s						
FITZ	Fitzroy Crossi	22.05	182	P	P	10 05 42.3	-2.6
	comp=Z,1.1nm,0.8s,baz=6.9,slow=7.3						
FITZ	Fitzroy Crossi	22.05	182	IAmb	IAmb	10 06 06.5	
	comp=Z,3.4nm,0.9s						
WB0	Warramunga Arr	24.91	162	P	P	10 06 14.0	+1.2
WB0				IAmb	IAmb	10 06 20.0	
	comp=Z,3.8nm,0.6s						
WRAB	Tennant Creek	25.05	162	P	P	10 06 13.1	-1.0
WRAB				IAmb	IAmb	10 06 27.8	
	comp=Z,6.8nm,1.0s						
WRA	Warramunga Arr	25.06	163	P	P	10 06 13.7	-0.5
	comp=Z,1.5nm,0.4s,baz=336,slow=11,SNR=21						
WB2	Warramunga Arr	25.06	162	P	P	10 06 13.8	-0.4
WR0	Warramunga Arr	25.13	162	P	P	10 06 14.9	+0.1
WR0				IAmb	IAmb	10 06 27.4	
	comp=Z,5.8nm,1.1s						
PSA00	Pilbara Seismi	26.32	194	P	P	10 06 24.3	-1.2
AS31	Alice Springs	28.48	166	P	P	10 06 45.5	+0.5
ASAR	Alice Springs	28.48	166	P	P	10 06 45.9	+0.9
	comp=Z,0.4nm,0.6s,baz=346,slow=6.3,SNR=8.2						
ASAR	Alice Springs	28.48	166	P	P	10 06 45.3	+0.4
STKA	Stephens Creek	38.51	159	P	P	10 08 13.2	+1.3
	comp=Z,0.9nm,0.3s,baz=344,slow=12,SNR=2.6						
STKA	Stephens Creek	38.51	159	P	P	10 08 11.1	-0.7
STKA				IAmb	IAmb	10 08 28.7	
	comp=Z,2.3nm,1.5s						
SONM	Songino Array	46.92	341	P	P	10 09 21.6	+1.6
	comp=Z,0.5nm,0.7s,baz=169,slow=9.6,SNR=3.8						
SONM	Songino Array	46.92	341	IAmb	IAmb	10 09 24.8	
	comp=Z,0.5nm,0.7s						
MK31	Makanchi Array	57.18	325	P	P	10 10 34.8	-1.4
MK31				IAmb	IAmb	10 10 38.8	
	comp=Z,1.4nm,1.2s						
MKAR	Makanchi Array	57.18	325	P	P	10 10 35.1	-1.1
	comp=Z,0.4nm,0.4s,baz=117,slow=7.2,SNR=11						
ZALV	Zalesovo Beam	60.21	333	P	P	10 10 55.9	-1.2
	comp=Z,0.2nm,0.3s,baz=117,slow=8.9,SNR=1.2						
KURBB	Kurchatov Arra	61.36	327	P	P	10 11 03.2	-1.8
	comp=Z,0.5nm,0.5s,baz=126,slow=6.2,SNR=7.1						
KURK	Kurchatov	61.37	327	P	P	10 11 03.2	-1.8
ABKAR	Akbulak array	71.78	321	P	P	10 12 12.2	+0.7
AKASG	Malin Array Be	91.52	321	LR	LR	10 59 17.0	
	comp=Z,106nm,18.6s,baz=252,slow=38						

IDC 05 10:04:53.0±2.5, 3°.88N×125°.74E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.0/44, mbtmp3.2/3, Error ellipse: s-maj=229.3km s-min=30.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.13	161	P	P	10 10 20.1	+0.1
	0.5nm,0.7s,baz=343,slow=10,SNR=3.2						
ASAR	Alice Springs	28.51	164	P	P	10 10 50.2	-0.2
	0.1nm,0.6s,baz=342,slow=8.0,SNR=1.4						
MKAR	Makanchi Array	56.87	326	P	P	10 14 39.6	-0.1
	0.1nm,0.3s,baz=136,slow=7.7,SNR=2.0						

IDC 05 10:07:42.2±2.1, 3°.98N×126°.04E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.1/43, mbtmp3.2/4, Error ellipse: s-maj=117.0km s-min=27.6km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.94	181	P	P	10 12 37.0	-0.6
	0.9nm,0.7s,baz=16,slow=18						
WRA	Warramunga Arr	25.13	161	P	P	10 13 08.8	-0.4
	0.6nm,0.6s,baz=341,slow=11,SNR=8.9						
ASAR	Alice Springs	28.53	165	P	P	10 13 40.7	+1.0
	0.2nm,0.5s,baz=340,slow=8.1,SNR=1.8						
MKAR	Makanchi Array	56.96	325	P	P	10 17 29.5	0.0
	0.1nm,0.5s,baz=139,slow=7.7,SNR=1.5						

IDC 05 10:12:14.5±48.0, 15°.65S×173°.69W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, Error ellipse: s-maj=914.5km s-min=189.1km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.67	240	P	P	10 20 21.2	-0.1
	1.0nm,0.7s,baz=63,slow=6.8,SNR=3.0						
WRA	Warramunga Arr	49.52	257	P	P	10 21 07.2	-0.2
	0.3nm,0.4s,baz=93,slow=7.2,SNR=10						
ASAR	Alice Springs	49.77	252	P	P	10 21 09.2	0.0
	2.9nm,0.5s,baz=88,slow=8.2,SNR=61						

*IDC **05** 10:27:26.0±16.0, 38°.79N×20°.45E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.2/41, mbtmp3.6/3, Error ellipse: s-maj=449.7km s-min=51.5km az=7.0*

*IASPEI **05** 10:27:28.2±0.8, 38°.78N±0°.02×20°.65E±0°.03, h10km±4km, mb3.6/3, Error ellipse: s-maj=4.2km s-min=3.0km az=97.4, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

*ATH **05** 10:27:28.3, 38°.79N×20°.66E, h10km±1km, ML3.2/9, Error ellipse: s-maj=2.0km s-min=1.1km az=300.0*

*THE **05** 10:27:29.0, 38°.77N×20°.65E, h6km±1km, ML3.3/10, Error ellipse: s-maj=1.4km s-min=0.7km az=242.0*

ISC 05 10:27:28.2±0.7, 38°.78N±0°.02×20°.65E±0°.03, h9km±4km, n67, σ1§09/87, mb3.6/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD2	Lefkada island	0.01	26	P	Pg	10 27 29.7	-0.1
LKD2				S	Sg	10 27 30.9	0.0
LKD2				AML	AML	10 27 31.2	
LKD2				AML	AML	10 27 31.2	
LKD2	Lefkada island	0.01	26	P	Pg	10 27 29.7	-0.1
TSLK	Tsoukalades, L	0.04	1	P	Pg	10 27 30.1	+0.1
TSLK				S	Sg	10 27 31.4	+0.2
TSLK	Tsoukalades, L	0.04	1	P	Pg	10 27 30.0	+0.1
TSLK				S	Sg	10 27 31.2	0.0
	151µm,0.3s						
NYDR	Nydri-Lefkada	0.08	153	P	Pg	10 27 30.7	+0.4
NYDR	Nydri-Lefkada	0.08	153	P	Pg	10 27 30.7	+0.4
NYDR				S	Sg	10 27 32.4	+0.6
	46µm,0.4s						
DRAG	Dragano-Lefkad	0.12	212	P	Pg	10 27 31.3	+0.5
DRAG				S	Sg	10 27 33.6	+0.9
DRAG	Dragano-Lefkad	0.12	212	P	Pg	10 27 31.2	+0.3
DRAG				S	Sg	10 27 33.5	+0.7
	54µm,0.2s						
EVGI	Lefkada island	0.16	179	P	Pg	10 27 32.3	+0.6
EVGI				S	Sg	10 27 35.4	+1.5
EVGI	Lefkada island	0.16	179	P	Pg	10 27 32.2	+0.6
EVGI				S	Sg	10 27 35.4	+1.5
	9µm,0.2s						
FSK	Fiskardo	0.33	193	P	Pg	10 27 35.6	+0.8
FSK				S	Sg	10 27 40.6	+1.5
FSK				AML	AML	10 27 41.9	
	comp=N,18130µm,0.2s						
FSK				AML	AML	10 27 41.9	
	comp=E,13904µm,0.2s						
FSK	Fiskardo	0.33	193	P	Pg	10 27 35.5	+0.8
FSK				S	Sg	10 27 40.6	+1.5
	comp=E,8µm,0.2s						
KEF4	Livadi, Kephal	0.55	199	P	Pg	10 27 38.9	-0.1
KEF4	Livadi, Kephal	0.55	199	P	Pg	10 27 38.8	-0.1
KEF4				S	Sb	10 27 47.6	-0.5
	comp=E,15µm,0.2s						
DMLN	Damoulianata-K	0.59	202	P	Pg	10 27 39.4	-0.1
DMLN	Damoulianata-K	0.59	202	P	Pg	10 27 39.3	-0.2
VLS	Valsamata	0.61	185	P	Pg	10 27 39.7	-0.2
VLS				S	Sb	10 27 49.3	-0.3
VLS				AML	AML	10 27 54.4	
	comp=N,4025µm,0.2s						
VLS				AML	AML	10 27 57.0	
	comp=E,3632µm,0.4s						
VLS	Valsamata	0.61	185	P	Pg	10 27 39.5	-0.4
ARGA	Argostoli. Kep	0.62	193	P	Pb	10 27 41.0	-0.2
KEF3	Kipouria, Keph	0.63	203	P	Pg	10 27 39.5	-0.8
KEF3	Kipouria, Keph	0.63	203	P	Pg	10 27 39.5	-0.8
KEF3				S	Sg	10 27 49.5	+1.0
	comp=E,5µm,0.2s						
PSDA	Pessada-Kefalo	0.67	185	P	Pg	10 27 40.8	-0.3
PSDA	Pessada-Kefalo	0.67	185	P	Pg	10 27 40.7	-0.4
PSDA				S	Sb	10 27 51.5	+0.1
IGT	Igoumenitsa	0.79	342	P	Pg	10 27 42.6	-0.8
IGT				AML	AML	10 28 01.1	
	comp=N,2342µm,0.3s						
IGT				AML	AML	10 28 01.2	
	comp=E,1929µm,0.3s						
IGT	Igoumenitsa	0.79	342	P	Pg	10 27 43.1	-0.3
EVR	Evrytania	0.91	81	P	Pg	10 27 46.1	+0.4
EVR				AML	AML	10 28 10.2	
	comp=E,2094µm,0.5s						
EVR				AML	AML	10 28 10.2	
	comp=N,2032µm,0.6s						
EVR	Evrytania	0.91	81	P	Pg	10 27 46.1	+0.4
EVR				S	Sn	10 28 00.6	-0.1
	comp=N,1µm,0.6s						
RLS	Riolos of Patr	0.96	138	P	Pg	10 27 46.7	-0.1
RLS				AML	AML	10 28 11.7	
	comp=E,1925µm,0.6s						
RLS				AML	AML	10 28 12.6	
	comp=N,2655µm,0.6s						
RLS	Riolos of Patr	0.96	138	P	Pg	10 27 46.6	-0.1
UPR	University Cam	1.02	119	P	Pn	10 27 48.6	-0.1
UPR				S	Sn	10 28 02.9	-0.2
EFP	Efpalio	1.04	110	P	Pg	10 27 47.8	-0.4
EFP				AML	AML	10 28 11.4	
	comp=N,2829µm,0.5s						
EFP				AML	AML	10 28 19.8	
	comp=E,2873µm,0.6s						
EFP	Efpalio	1.04	110	P	Pg	10 27 48.2	0.0
EFP				S	Sn	10 28 04.1	+0.4
	comp=E,1µm,0.6s						
KASA	Kassiopi	1.11	330	P	Pb	10 27 49.7	+0.1
KEK	Kerkira	1.14	325	P	Pg	10 27 50.1	0.0
KEK				AML	AML	10 28 11.8	
	comp=E,1681µm,0.5s						
KEK				AML	AML	10 28 15.9	
	comp=N,2080µm,0.6s						
KEK	Kerkira	1.14	325	P	Pg	10 27 50.0	-0.1
KEK				S	Sn	10 28 08.3	+2.1
	comp=N,955nm,0.7s						
LAKA	Lakka	1.17	117	P	Pb	10 27 50.0	-0.7
LAKA	Lakka	1.17	117	P	Pb	10 27 50.0	-0.7
DRO	Drossia	1.17	135	P	Pb	10 27 50.0	-0.6
DRO				AML	AML	10 28 14.9	
	comp=N,2567µm,0.5s						
DRO				AML	AML	10 28 16.7	
	comp=E,3226µm,0.4s						
DRO	Drossia	1.17	135	P	Pb	10 27 50.0	-0.6
MAKR	Makrakomi, Fth	1.18	78	P	Pg	10 27 51.0	+0.2
MAKR	Makrakomi, Fth	1.18	78	P	Pn	10 27 51.3	+0.4
SRN	Sarande	1.21	335	P	Pg	10 27 52.5	+1.1
ALIK	Aliki, Aigiali	1.26	114	P	Pn	10 27 51.7	-0.2
KPRO	Kipourio	1.29	25	P	Pg	10 27 53.6	+0.6
THL	Klokotos Trika	1.31	53	P	Pb	10 27 53.3	+0.2
AGG	Agios Georgios	1.33	79	P	Pg	10 27 54.0	+0.3
KLV	Kalavryta, Ach	1.39	122	P	Pn	10 27 53.3	-0.5
OHR	Ohrid	2.33	3	*i* Pn	Pb	10 28 09.9	-0.5
VAY	Valandovo	2.93	30	*i* Pn	Pg	10 28 27.7	+3.4
STIP	Stip	3.14	21	*i* Pn	Pb	10 28 21.7	-2.5
DRME	Dracevica, Mon	3.58	342	*e*Pn	Pn	10 28 24.2	+0.3
PDG	Podgorica	3.80	344	*e*Pn	Pn	10 28 26.2	-0.7
HCY	Herceg Novi	4.01	337	*e*Pn	Pn	10 28 28.6	-1.3
TREB	Trebinje	4.30	337	*e*Pn	Pn	10 28 32.2	-1.6
BRY	Bratogost	4.42	339	*e*Pn	Pn	10 28 34.1	-1.4
UPM	Unac-Piva	4.61	344	*e*Pn	Pn	10 28 38.8	+0.6
BBLS	Lazići	5.17	350	*e*Pn	Pn	10 28 50.4	+4.6
DIVS	Divibare	5.33	355	*e*Pn	Pn	10 28 47.9	-0.2
CRES	Cresnjev	8.02	333	*e*Pn	Pn	10 29 23.5	-1.4
CEY	Cerknica	8.34	328	*e*Pn	Pn	10 29 28.9	-0.4
SKDS	Skadanscina	8.36	326	*e*Pn	Pn	10 29 27.5	-2.1
SOKA	Soboth	8.91	334	*e*Pn	Pn	10 29 36.1	-1.0
	comp=E,4.5nm,0.8s						
OBKA	Obir	8.93	332	*e*Pn	Pn	10 29 37.9	+0.5
	comp=E,2.5nm,0.6s						
OBKA				*e*Sn	Sn	10 31 15.5	-2.8
	comp=E,2.9nm,0.6s						
MOTA	Moosalm	11.04	324	*e*Pn	Pn	10 30 07.1	+0.7
	comp=E,7.6nm,1.0s						
MOTA				*i* Sn	Sn	10 32 12.7	+2.7
	comp=E,1.9nm,0.5s						
MKAR	Makanchi Array	44.90	59	P	P	10 35 43.3	+0.2
	comp=E,0.5nm,0.6s,baz=285,slow=7.6,SNR=6.7						
ZALV	Zalesovo Beam	45.21	49	P	P	10 35 45.2	-0.2
	comp=E,1.4nm,0.6s,baz=274,slow=8.3,SNR=7.7						
YKA	Yellowknife Ar	72.86	340	P	P	10 38 55.9	-1.2
	comp=E,0.2nm,0.7s,baz=32,slow=4.9,SNR=2.5						

*NEIC **05** 10:28:41.9±1.3, 24°.48S±0°.05×179°.6W±0°.2, h449km±11km, mb4.1/15, Error ellipse: s-maj=25.8km s-min=6.0km az=99.0*

*IDC **05** 10:28:44.6±1.9, 24°.62S×179°.82W, h475km±21km, mb3.1/8, mb1 3.3/10, mb1mx3.1/37, mbtmp4.0/10, Error ellipse: s-maj=20.2km s-min=17.9km az=93.0*

ISC 05 10:28:41.6±0.6, 24°.43S±0°.08×179°.6W±0°.1, h450km, n31, σ1§26/33, mb3.9/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.03	341	P	P	10 30 33.0	+6.1
	7.0nm,0.3s,baz=257,slow=23,SNR=4.4						
MSVF	Nonsavu	7.03	341	P	P	10 30 27.0	+0.2
AFI	Afiamalu	12.79	36	P	P	10 31 30.2	+0.9
	4.1nm,0.3s,baz=295,slow=12,SNR=8.4						
AFI				S	S	10 33 43.4	-4.2
	0.1nm,0.3s,baz=149,slow=20,SNR=1.2						
URZ	Urewera	14.07	191	P	P	10 31 42.7	+0.1
	0.9nm,0.3s,baz=57,slow=11,SNR=1.8						
URZ				S	S	10 34 10.6	-1.7
	0.3nm,0.3s,baz=317,slow=16,SNR=2.0						
URZ	Urewera	14.07	191	P	P	10 31 41.6	-1.0
BHW	Baring Head	17.55	194	P	P	10 32 19.4	-0.2
QRZ	Quartz Range	17.64	200	P	P	10 32 21.3	+0.9
KHZ	Kahutara	18.82	196	P	P	10 32 32.0	0.0
LTZ	Lake Taylor	19.50	198	P	P	10 32 38.0	-0.4
RPZ	Rata Peaks	20.72	200	P	P	10 32 47.5	-1.8
	7.5nm,0.4s,baz=64,slow=1.7,SNR=11						
CTA	Charters Tower	31.87	271	P	P	10 34 28.4	0.0
	2.5nm,0.4s,baz=90,slow=6.1,SNR=1.9						
CTAO	Charters Tower	31.87	271	P	P	10 34 29.6	+1.2
CTAO				IAmb	IAmb	10 34 57.3	
	comp=Z,14nm,1.2s						
BBOO	Buckleboo	39.60	247	P	P	10 35 32.1	-0.7
BBOO				IAmb	IAmb	10 35 43.6	
	comp=Z,32nm,1.4s						
AS31	Alice Springs	42.34	261	P	P	10 35 56.0	+1.1
ASAR	Alice Springs	42.34	261	P	P	10 35 54.1	-0.8
	comp=Z,0.2nm,0.5s,baz=100,slow=6.3,SNR=7.4						
WR0	Warramunga Arr	42.58	267	P	P	10 35 55.9	-0.9
WR0				IAmb	IAmb	10 36 07.0	
	comp=Z,8.3nm,1.4s						
WB2	Warramunga Arr	42.75	267	P	P	10 35 57.5	-0.7
WB2				IAmb	IAmb	10 36 12.4	
	comp=Z,10nm,1.4s						
WRAB	Tennant Creek	42.76	267	P	P	10 35 57.5	-0.7
WRAB				IAmb	IAmb	10 36 08.9	
	comp=Z,7.1nm,1.4s						
WB0	Warramunga Arr	42.76	267	P	P	10 35 57.3	-0.9
WB0				IAmb	IAmb	10 36 02.5	
	comp=Z,6.6nm,1.3s						
WRA	Warramunga Arr	42.76	267	P	P	10 35 57.0	-1.2
	comp=Z,0.9nm,0.4s,baz=98,slow=8.2,SNR=27						
WRA				ScP	ScP	10 40 45.6	-1.9
	comp=Z,0.5nm,1.0s,baz=102,slow=4.1,SNR=2.3						
KNRA	Kununurra	49.08	270	P	P	10 36 47.0	+0.3
KNRA				IAmb	IAmb	10 37 12.8	
	comp=Z,16nm,1.4s						
FITZ	Fitzroy Crossi	51.18	266	P	P	10 37 01.3	-0.9
	comp=Z,0.9nm,0.6s,baz=90,slow=6.1,SNR=2.2						
FITZ	Fitzroy Crossi	51.18	266	P	P	10 37 02.4	+0.2
PSA00	Pilbara Seismi	55.45	260	P	P	10 37 31.9	-0.9
PSA00				IAmb	IAmb	10 37 43.0	
	comp=Z,16nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	65.65	180	P	P	10 38 41.1	+1.2
	comp=Z,1.9nm,1.0s,baz=104,slow=0.9,SNR=6.6						
QSPA	South Pole Qui	65.65	180	P	P	10 38 40.7	+0.7
QSPA				IAmb	IAmb	10 38 56.4	
	comp=Z,8.4nm,1.5s						
NVAR	Mina Array Bea	84.86	44	P	P	10 40 29.9	+1.9
	comp=Z,0.9nm,1.1s,baz=234,slow=3.1,SNR=2.2						
TXAR	Lajitas Array	90.38	58	P	P	10 40 55.3	+1.1
	comp=Z,0.4nm,0.8s,baz=214,slow=6.4,SNR=6.0						
ARCES	ARCESS Array B	132.48	348	PKP	PKPdf	10 47 02.2	-1.0
	comp=Z,2.8nm,1.1s,baz=68,slow=2.4,SNR=3.6						
AKASG	Malin Array Be	145.63	327	PKPbc	PKPdf	10 47 27.9	+0.4
	comp=Z,0.4nm,0.3s,baz=42,slow=4.6,SNR=2.7						
CLL	Collm	151.47	343	i PKPbc	PKPbc	10 47 43.8	+0.3
	comp=Z,5.0nm,0.8s						

IDC 05 10:32:21.2±2.0**, 1°.96N×127°.15E, h0km, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.4**/47**, mbtmp3.4**/4**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.6**/35**, Error ellipse: s-maj=187.5km s-min=22.7km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.98	184	LR	LR	10 45 43.8	
	comp=Z,78nm,19.4s,baz=132,slow=40						
WRA	Warramunga Arr	22.88	162	P	P	10 37 26.8	+0.2
	0.6nm,0.4s,baz=341,slow=11,SNR=9.3						
ASAR	Alice Springs	26.30	166	P	P	10 37 58.6	-0.2
	0.2nm,0.5s,baz=352,slow=7.9,SNR=5.3						
MKAR	Makanchi Array	59.24	326	P	P	10 42 24.2	-0.3
	0.3nm,0.3s,baz=118,slow=8.2,SNR=5.1						
KURBB	Kurchatov Arra	63.45	328	P	P	10 42 53.1	+0.3
	0.2nm,0.5s,baz=132,slow=5.4,SNR=2.4						

IDC 05 10:38:46.6±2.5**, 3°.97N×126°.71E, h0km, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/38**, mbtmp3.3**/3**, Error ellipse: s-maj=206.6km s-min=29.8km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.91	163	P	P	10 44 11.8	+0.2
	0.4nm,0.7s,baz=342,slow=10,SNR=7.1						
ASAR	Alice Springs	28.35	166	P	P	10 44 42.1	-0.4
	1.1nm,1.1s,baz=349,slow=9.6,SNR=2.9						
MKAR	Makanchi Array	57.35	325	P	P	10 48 36.7	0.0
	0.1nm,0.4s,baz=117,slow=8.3,SNR=2.5						

IDC 05 10:53:08.5±2.9**, 1°.40N×127°.37E, h0km, mb3.1**/3**, mb1 3.3**/3**, mb1mx3.2**/33**, mbtmp3.1**/3**, Error ellipse: s-maj=245.0km s-min=29.4km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.28	162	P	P	10 58 08.6	+1.0
	0.3nm,0.7s,baz=343,slow=11,SNR=2.3						
ASAR	Alice Springs	25.71	166	P	P	10 58 39.9	-0.8
	0.3nm,0.7s,baz=344,slow=9.8,SNR=4.3						
MKAR	Makanchi Array	59.83	326	P	P	11 03 16.0	+0.1
	0.1nm,0.5s,baz=120,slow=6.3,SNR=2.0						

*SSNC **05** 10:54:22.5±1.3, 19°.86N×76°.87W, h3km±7km, MD3.0, ML2.7, MW3.0*
*JSN **05** 10:54:25.3±0.3, 16°.69N×76°.40W, h2km±6km, MD3.6*
ISC 05 10:54:19.7±1.0**, 19°.85N**±0°.04×**76°.89W**±0°.04**, h10km, n10, σ2s.09**/17**, 1C, Cuba region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	0.24	333	eP	Pg	10 54 27.6	+2.9
LMGC				eS	Sg	10 54 31.0	+3.0
LMGC				IAML		10 54 31.1	
	comp=E,28µm,0.1s						
LMGC				IAML		10 54 31.2	
	comp=N,16µm,0.1s						
RCC	Rio Carpintero	1.13	82	⇑iP	Pb	10 54 40.9	-0.5
RCC				eS	Sg	10 54 54.8	-1.4
RCC				IAML		10 54 58.2	
	comp=N,97nm,0.2s						
RCC				IAML		10 54 59.0	
	comp=E,103nm,0.1s						
HLGC	Holguin	1.29	37	eP	Pn	10 54 43.8	-0.1
HLGC				eS	Sb	10 55 00.1	-0.8
HLGC				IAML		10 55 02.4	
	comp=E,140nm,0.2s						
HLGC				IAML		10 55 02.7	
	comp=N,145nm,0.3s						
CCCC	Cccc	1.58	329	eP	Pn	10 54 46.1	-1.6
CCCC				eS	Sn	10 55 03.4	-4.9
CCCC				IAML		10 55 07.0	
	comp=E,30nm,0.2s						
CCCC				IAML		10 55 09.9	
	comp=N,28nm,0.4s						
GTBY	Guantanamo Bay	1.67	87	eP	Pn	10 54 48.9	-0.1
GTBY				eS	Sn	10 55 09.0	-1.5
STH	Stony Hill	1.76	178	i P	Pn	10 54 50.6	+0.2
CMJ	Castle Mountai	1.77	164	i P	Pn	10 54 50.8	+0.4
GWJ	Greenwich	1.77	175	i P	Pn	10 54 50.6	+0.1
MCJ	Malvern	2.06	202	i P	Pn	10 54 55.1	+0.6
MCJ				i S	Sn	10 55 17.3	-2.9
MASC	Masc	2.52	82	eP	Pn	10 55 02.3	+1.7
MASC				eS	Sn	10 55 31.0	-0.5
MASC				IAML		10 55 41.0	
	comp=E,14nm,0.2s						
MASC				IAML		10 55 42.2	
	comp=N,16nm,0.1s						

*SOME **05** 10:56:46.3, 43°.65N×69°.70E*
*NNC **05** 10:56:48.0±1.9, 43°.69N×69°.88E, h0km, mb3.6, mpv3.0, Error ellipse: s-maj=9.9km s-min=6.5km az=123.0, Suspected Mining explosion.*
*KRNET **05** 10:56:54.0±0.1, 43°.35N×69°.56E, mb2.6*
ISC 05 10:56:51.3±3.0**, 43°.63N**±0°.08×**69°.9E**±0°.1**, h0km, n12, σ1s.37**/18**, 9C-3D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.68	140	⇑P	Pg	10 57 01.7	-2.7
	1.1nm,0.5s,baz=323,slow=16,SNR=30						
KK31				⇓S	Sg	10 57 13.1	-0.2
	8.6nm,0.4s,baz=324,slow=32,SNR=105						
TRKS	Terek-Say	2.29	156	⇑iP	Pb	10 57 35.0	+1.5
	baz=47						
TRKS				⇑iS	Sb	10 58 04.0	+1.6
	baz=47						
ARK	Arkit	2.37	140	⇓iP	Pb	10 57 36.1	+1.1
	baz=30						
ARK				⇓iS	Sg	10 58 07.3	-0.2
	baz=30						
EKS2	Erkin-Say	2.99	108	⇑iP	Pb	10 57 46.9	+1.4
	baz=1.0						
EKS2				⇑iS	Sg	10 58 27.0	-0.3
	baz=1.0						
BTLS	Baital	3.29	63	Pg	Pb	10 57 51.1	+0.6
	6.4nm,0.5s						
BTLS				Lg	Lg	10 58 37.7	
	4.6nm,0.7s						
CHMS	Chumysh	3.59	98	⇑iP	Pb	10 57 56.4	+0.8
	baz=94						
CHMS				⇑iS	Sb	10 58 42.3	+2.6
	baz=94						
UCH	Uchtor	3.66	111	⇑eP	Pb	10 57 56.6	-0.5
	baz=5.0						
UCH				⇑iS	Sb	10 58 42.5	+0.3
	baz=5.0						
KRBS	Karabastau	4.18	87	Pg	Pb	10 58 05.5	-0.3
	2.1nm,0.6s						
KRBS				Lg	Lg	10 59 02.3	
	7.6nm,0.8s						
DGS	Degeres	4.29	93	Pg	Pb	10 58 07.6	+0.1
	2.4nm,0.4s						
DGS				Lg	Lg	10 59 05.5	
	6.9nm,1.0s						
KTBS	Karatobe	4.91	87	Pg	Pb	10 58 19.1	+0.9
	1.5nm,0.7s						
KTBS				Lg	Lg	10 59 26.3	
	12nm,1.2s						
CHKK	Chushkaly	5.13	85	Pg	Pb	10 58 23.5	+1.6
	0.7nm,0.1s						
CHKK				Lg	Lg	10 59 33.4	
	6.3nm,0.5s						
TNSS	Tian-Shan	5.17	94	Pg	Pb	10 58 23.9	+1.1
TNSS				Lg	Lg	10 59 33.9	
	2.9nm,0.8s						

*MAN **05** 11:00:20.6, 3°.77N×126°.59E, h1km, mb5.5, ML4.5, MS4.8, Hypocentre not reviewed by the ISC*
*DJA **05** 11:00:22.4±0.6, 4°N±3°×12°7E±°, h15km±3km, M4.6/27, mB5.1/12, mb4.6/27, MLv4.9/13, Mw(mB)4.4/12*
*NEIC **05** 11:00:25.9±2.0, 4°.03N±0°.06×126°.49E±0°.08, h47km±6km, mb4.7/52, Error ellipse: s-maj=11.7km s-min=8.6km az=73.0*
*IDC **05** 11:00:26.8±2.0, 4°.05N×126°.45E, h55km±18km, mb4.1/26, mb1 4.1/28, mb1mx3.9/58, mbtmp4.3/28, ML4.3/2, MS3.9/27, Ms1 3.9/27, ms1mx3.6/81, Error ellipse: s-maj=19.5km s-min=10.2km az=78.0*
ISC 05 11:00:25.4±0.3**, 3°.99N**±0°.04×**126°.59E**±0°.06**, h45km, n155, σ1s.91**/141**, mb4.6**/58**, MS4.0**/33**, 3C-5D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.10	254	P	Pn	11 00 45.5	+1.1
GSPH	General Santos	2.65	322	⇓iP	Pn	11 01 05.3	-0.4
GSPH				i S	Sn	11 01 37.4	+0.6
DAV	Davao City (W)	3.23	342	P	Pn	11 01 15.3	+1.8
	30nm,0.3s,baz=137,slow=5.7,SNR=1.6						
DAV				S	Sn	11 01 54.7	+4.0
	61nm,0.3s,baz=259,slow=21,SNR=1.7						
DAV	Davao City (W)	3.23	342	Pn	Pn	11 01 12.3	-1.3
TNTI	Ternate	3.29	166		Pn	11 01 14.4	0.0
TNTI	Ternate	3.29	166	P	Pn	11 01 17.3	+2.9
TNTI	Ternate	3.29	166	P	Pn	11 01 18.3	+3.9
CTBH	Cotabato--PC H	3.97	324	⇑eP	Pn	11 01 27.3	+3.5
BIPH	Bislig	4.18	357	⇑eP	Pn	11 01 29.5	+2.9
BIPH				eS	Sn	11 02 27.1	+13
KMSI	Cibinong	4.28	218	P	Pn	11 01 30.6	+2.6
LBMI	Labuha	4.68	169	P	Pn	11 01 36.7	+3.1
CGP	Cagayan de Oro	4.82	337	⇓eP	Pn	11 01 39.8	+4.3
CGP				eS	Sn	11 02 38.9	+8.8
GTOI	Gorontalo	4.88	227	P	Pn	11 01 38.9	+2.5
	0.2nm578nm54nm,1.1s						
SANI	Sanana	6.03	186	P	Pn	11 01 53.3	+1.3
	0.3nm1µm32nm,1.0s						
SANI	Sanana	6.03	186	P	Pn	11 01 57.2	+5.2
TBP	Tagbilaran	6.28	335	⇑eP	Pn	11 01 56.5	+0.9
LUWI	Luwuk	6.29	217		Pn	11 01 56.1	+0.6
LUWI	Luwuk	6.29	217	P	Pn	11 02 02.4	+6.8
	1.7nm6µm489nm,1.1s						
LUWI	Luwuk	6.29	217	P	Pn	11 02 05.8	+10
TOLI2	Tolitoli	6.47	244	Pn	Pn	11 01 57.9	-0.2
SWI	Sorong	6.71	136	P	Pn	11 02 01.9	+0.5
	0.3nm74nm,1.1s						
SIJI	Sorong	6.72	136	P	Pn	11 02 03.4	+1.9
	5.6nm,0.3s,baz=72,slow=4.5,SNR=10						
SIJI				S	Sn	11 03 18.8	+2.0
	2.4nm,0.3s,baz=175,slow=22,SNR=1.3						
SIJI				LR	LR	11 05 07.8	
	comp=Z,1µm,18.2s,baz=334,slow=41						
LLP	Lapu-Lapu	6.81	338	eP	Pn	11 02 07.5	+4.8
LLP				eS	Sn	11 03 42.6	+24
APSI	Ampana	6.93	226	P	Pn	11 02 08.1	+3.6
	0.7nm1µm130nm,0.7s						
MPSI	Mapaga	7.61	242	P	Pn	11 02 15.5	+1.8
	0.2nm30nm,0.8s						
TTSI	Tana Toraja	9.72	224	P	Pn	11 02 47.6	+4.8
	758nm73nm,1.0s						
SPSI	Sidrap Palu	10.43	221	P	Pn	11 02 59.1	+6.6
	650nm13nm,1.0s						
KKM	Kota Kinabalu	10.54	282	Pn	Pn	11 02 52.4	-1.6
BNSI	Bone	10.55	218	P	Pn	11 02 59.6	+5.5
	22nm,1.0s						
LQP	Lukban	11.23	334	⇓eP	Pn	11 03 13.9	+10
KAPI	Kappang	11.25	217	P	Pn	11 03 08.0	+4.3
	1.0nm,0.3s,baz=85,slow=3.6,SNR=4.1						
KAPI				LR	LR	11 07 58.8	
	comp=Z,543nm,20.3s,baz=34,slow=40						
KAPI	Kappang	11.25	217	Pn	Pn	11 03 05.1	+1.4
MMRI	Maumere	13.27	199	Pn	Pn	11 03 29.2	-2.0
BBKI	Banjar Baru	13.88	238	P	P	11 03 46.0	-0.8
	1µm48nm,1.7s						
BATI	Baumata	14.40	192	P	P	11 03 51.8	-0.7
	2.8nm,0.3s,baz=266,slow=23,SNR=1.8						
SBUM	Sibu	14.43	264	Pn	Pn	11 03 45.8	-1.2
WBSI	Waikabubak, Su	15.32	208	P	P	11 04 04.0	+1.2
	81nm,0.8s						
PLAI	Plampang	15.47	215	P	P	11 04 04.4	0.0
	57nm,1.1s						
KSM	Kuching	16.45	262	Pn	Pn	11 04 11.9	-1.4
KSM				IAmb	IAmb	11 04 24.0	
	comp=Z,70nm,1.3s						
SRBI	Singaraja	16.51	223	P	P	11 04 17.7	+1.7
	comp=Z,23nm,1.2s						
KMMI	Kalianget	16.70	229	P	P	11 04 18.7	+0.6
	comp=Z,25nm,1.0s						
MTN	Manton Dam	17.32	165	Pn	Pn	11 04 22.8	-1.3
KNRA	Kununurra	19.65	174	P	P	11 04 48.6	-2.0
KNRA				IAmb	IAmb	11 05 14.4	
	comp=Z,32nm,0.8s						
YULB	Yu-li	19.96	346	P	P	11 04 50.3	-3.6
TPUB	Ta-pu	20.05	344	P	P	11 04 52.8	-2.0
SSLB	Suanglung	20.42	345	P	P	11 04 57.9	-1.1
KPJI	Karang Pucung	20.90	237	P	Pn	11 05 06.0	-1.2
	comp=Z,37nm,0.9s						
YHNB	Yeheng	21.17	347	P	P	11 05 06.1	-0.9
YHNB				IAmb	IAmb	11 05 24.8	
	comp=Z,57nm,1.5s						
LEM	Lembang	21.77	241	P	P	11 05 13.8	+0.1
	comp=Z,15nm,0.7s,baz=29,slow=22,SNR=1.5						
LEM				LR	LR	11 14 13.2	
	comp=Z,267nm,21.9s,baz=42,slow=38						
FITZ	Fitzroy Crossi	21.96	182	P	P	11 05 17.5	+2.1
	comp=Z,3.5nm,0.5s,baz=1.5,slow=9.5,SNR=21						
FITZ				S	S	11 09 14.2	-1.5
	comp=Z,1.9nm,0.9s,baz=322,slow=12,SNR=3.2						
FITZ	Fitzroy Crossi	21.96	182	P	P	11 05 17.6	+2.1
FITZ				IAmb	IAmb	11 05 36.7	
	comp=Z,20nm,1.1s						
QIZ	Qiongzhong	22.16	314	P	P	11 05 20.2	+2.5
QIZ				S	S	11 09 24.2	+4.8
QIZ				pmax	pmax		
	comp=Z,16nm,1.5s						
QIZ				LR	LR		
	comp=N,210nm,20.4s						
QIZ				LR	LR		
	comp=E,270nm,22.3s						
QIZ				LR	LR		
	comp=Z,360nm,23.6s						
JOW	Kunigami	22.77	4	P	P	11 05 24.3	+0.1
	comp=Z,8.6nm,0.8s,baz=137,slow=16,SNR=2.7						
JOW				LR	LR	11 14 58.9	
	comp=Z,70nm,19.1s,baz=157,slow=38						
JOW	Kunigami	22.77	4	IAmb	IAmb	11 05 45.8	
	comp=Z,51nm,1.5s						
UBPT	Khong Chiam	23.62	300	P	P	11 05 32.4	-0.2
UBPT				IAmb	IAmb	11 05 33.4	
	comp=Z,44nm,1.3s						
PMG	Port Moresby	24.44	123	LR	LR	11 16 27.0	
	comp=Z,184nm,18.9s,baz=309,slow=39						
WB0	Warramunga Arr	24.82	162	P	P	11 05 44.9	+1.3
WB0				IAmb	IAmb	11 05 53.8	
	comp=Z,27nm,0.9s						
WRAB	Tennant Creek	24.96	162	P	P	11 05 44.2	-0.7
WRAB				IAmb	IAmb	11 05 55.3	
	comp=Z,25nm,0.8s						
WRA	Warramunga Arr	24.97	163	P	P	11 05 46.5	+1.6
	comp=Z,8.7nm,0.8s,baz=333,slow=11,SNR=48						
WRA				S	S	11 10 10.0	+4.2
	comp=Z,1.2nm,1.0s,baz=319,slow=20,SNR=3.4						
WRA	Warramunga Arr	24.97	163	P	P	11 05 43.9	-1.0
WB2	Warramunga Arr	24.97	162	P	P	11 05 45.6	+0.6
WR0	Warramunga Arr	25.05	162	P	P	11 05 45.1	-0.5
WR0				IAmb	IAmb	11 05 56.1	
	comp=Z,25nm,0.9s						
IPM	Ipoh	25.50	272	P	P	11 05 50.0	+0.1
IPM				IAmb	IAmb	11 05 57.4	
	comp=Z,27nm,1.2s						
BKNI	Bangkinang	25.79	263	P	P	11 05 54.8	+2.4
	comp=Z,3µmcomp=Z,115nm,0.5s						
MBWA	Marble Bar	25.88	195	P	P	11 05 50.9	-2.3
MBWA				IAmb	IAmb	11 06 04.1	
	comp=Z,14nm,1.0s						
KULM	Kulim	25.89	274	P	P	11 05 52.2	-1.1
KULM				IAmb	IAmb	11 06 01.1	
	comp=Z,22nm,1.2s						
PSA00	Pilbara Seismi	26.25	194	P	P	11 05 57.9	+1.4
PSA00				IAmb	IAmb	11 06 13.6	
	comp=Z,18nm,0.9s						
KRVT	Keravat (AS076	26.72	108	LR	LR	11 14 40.2	
	comp=Z,368nm,20.5s,baz=116,slow=32						
MNSI	Mandailing Nat	27.17	264	P	P	11 06 09.8	+4.9
	comp=Z,29nm,1.1s						
PSI	Prapat	27.64	268	P	P	11 06 09.0	-0.3
	comp=Z,8.5nm,1.0s,baz=130,slow=23,SNR=1.6						
AS31	Alice Springs	28.39	166	P	P	11 06 13.8	-2.0
ASAR	Alice Springs	28.39	166	P	P	11 06 16.7	+0.9
	comp=Z,0.8nm,0.6s,baz=348,slow=7.6,SNR=16						
ASAR				S	S	11 11 11.3	+11
	comp=Z,1.8nm,1.0s,baz=346,slow=19,SNR=5.6						
ASAR				ScP	ScP	11 13 06.5	+1.2
	comp=Z,0.9nm,1.0s,baz=340,slow=2.5,SNR=4.5						
ASAR	Alice Springs	28.39	166	P	P	11 06 14.7	-1.0
NJ2	Nanjing	28.85	346	eP	P	11 06 20.2	+0.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GSI	Gunungsitoli	29.10	266	P	P	11 06 20.0	-2.2
GSI				IAmb	IAmb	11 06 23.2	
	comp=Z,22nm,1.0s						
JNU	Nakatsue	29.26	7	P	P	11 06 19.7	-3.7
	comp=Z,5.0nm,0.9s,baz=327,slow=21,SNR=2.9						
JNU	Nakatsue	29.26	7	P	P	11 06 20.5	-2.9
CMAR	Chiang Mai Arr	30.62	300	P	P	11 06 35.7	+0.1
	comp=Z,1.2nm,0.4s,baz=119,slow=7.6,SNR=11						
CMAR				LR	LR	11 18 51.5	
	comp=Z,102nm,20.9s,baz=45,slow=36						
CMAR	Chiang Mai Arr	30.62	300	P	P	11 06 34.5	-1.1
ENH	Enshi	30.74	330	P	P	11 06 35.4	-1.1
ENH				IAmb	IAmb	11 06 36.4	
	comp=Z,17nm,1.0s						
CTA	Charters Tower	30.75	142	LR	LR	11 21 12.0	
	comp=Z,153nm,19.6s,baz=243,slow=40						
CHTO	Chiang Mai	30.77	301	P	P	11 06 35.2	-1.7
PZH	PanZhiHua	32.66	316	P	P	11 06 55.6	+2.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,4.9s						
LYN	LuoYang	33.12	338	⇓P	P	11 06 56.8	-0.5
LYN				pP	pP	11 07 04.8	-3.7
LYN				LR	LR		
	comp=N,130nm,17.7s						
LYN				LR	LR		
	comp=E,110nm,17.2s						
LYN				LR	LR		
	comp=Z,210nm,24.5s						
KSRS	Korea Array	33.33	2	P	P	11 06 59.1	+0.1
	comp=Z,2.2nm,0.8s,baz=176,slow=10,SNR=9.1						
KSRS				LR	LR	11 22 00.0	
	comp=Z,45nm,19.2s,baz=195,slow=39						
XAN	Xi'an	34.13	333	P	P	11 07 03.3	-2.8
XAN				pP	pP	11 07 13.5	-3.9
XAN				sP	pwP	11 07 18.0	-2.9
XAN				pmax	pmax		
	comp=Z,31nm,0.9s						
XAN				pmax	pmax		
	comp=Z,43nm,5.3s						
CD2	Chengdu	34.35	324	eP	P	11 07 07.6	-0.6
CD2				LR	LR		
	comp=N,20nm,28.4s						
CD2				LR	LR		
	comp=E,210nm,20.8s						
CD2				LR	LR		
	comp=Z,350nm,21.0s						
HNS	HongShan	34.99	343	⇓P	P	11 07 13.0	-0.5
HNS				S	S	11 12 43.9	+1.5
HNS				pmax	pmax		
	comp=Z,15nm,1.1s						
HNS				LR	LR		
	comp=N,340nm,18.2s						
HNS				LR	LR		
	comp=Z,350nm,21.6s						
BJI	Beijing	37.11	347	P	P	11 07 31.3	-0.2
BJI				pmax	pmax		
	comp=Z,13nm,0.8s						
BJI				pmax	pmax		
	comp=Z,96nm,6.3s						
BBOO	Buckleboo	37.68	167	P	P	11 07 37.5	+1.0
LZH	Lanzhou	38.21	330	eP	P	11 07 41.2	0.0
LZH				pP	pP	11 07 50.8	-1.8
LZH				sP	pwP	11 07 55.3	-0.7
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,82nm,5.6s						
LZH				LR	LR		
	comp=N,280nm,14.7s						
LZH				LR	LR		
	comp=E,270nm,14.3s						
LZH				LR	LR		
	comp=Z,350nm,16.8s						
STKA	Stephens Creek	38.42	159	P	P	11 07 43.8	+1.1
	comp=Z,5.2nm,0.7s,baz=343,slow=6.3,SNR=8.7						
STKA	Stephens Creek	38.42	159	P	P	11 07 40.6	-2.1
HHC	Hu-ho-hao-te	39.11	342	eP	P	11 07 49.3	+0.7
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC				LR	LR		
	comp=N,250nm,17.8s						
HHC				LR	LR		
	comp=E,190nm,16.5s						
HHC				LR	LR		
	comp=Z,240nm,17.8s						
SHL	Shillong	39.61	306	P	P	11 07 52.2	-0.9
SHL				IAmb	IAmb	11 07 53.2	
	comp=Z,13nm,0.8s						
USRK	Ussuriysk Ar.	40.33	6	P	P	11 07 59.2	+0.7
	comp=Z,2.3nm,0.7s,baz=187,slow=10,SNR=2.7						
USRK	Ussuriysk Ar.	40.33	6	P	P	11 07 55.5	-3.1
ARMA	Armidale	41.76	147	P	P	11 08 10.6	0.0
GOMU	GeErMu	43.40	322	P	P	11 08 24.9	+0.7
GOMU				pP	pP	11 08 28.3	-7.4
GOMU				sP	pwP	11 08 30.4	-8.7
GOMU				PP	PP	11 10 07.0	+1.3
GOMU				PcP	PcP	11 10 12.8	+0.7
GOMU				S	S	11 14 55.4	+5.8
GOMU				sS	sS	11 15 02.3	-7.8
GOMU				SS	SS	11 18 11.9	+7.2
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,67nm,6.4s						
GOMU				LR	LR		
	comp=N,160nm,17.1s						
GOMU				LR	LR		
	comp=E,89nm,15.7s						
GOMU				LR	LR		
	comp=Z,96nm,16.0s						
KLR	Kul'dur	45.29	5	LR	LR	11 29 16.6	
	comp=Z,61nm,18.6s,baz=19,slow=38						
HIA	Hailar	45.49	354	P	P	11 08 40.9	+0.6
HIA				IAmb	IAmb	11 08 46.0	
	comp=Z,14nm,1.1s						
ULN	Ulaanbaatar	46.83	342	P	P	11 08 51.0	0.0
SONM	Songino Array	47.01	341	P	P	11 08 52.0	-0.4
	comp=Z,1.9nm,0.7s,baz=159,slow=8.0,SNR=14						
SONM				PP	PP	11 10 40.3	-3.1
	comp=Z,1.5nm,0.9s,baz=149,slow=3.4,SNR=4.2						
SONM				LR	LR	11 32 46.3	
	comp=Z,159nm,18.6s,baz=126,slow=41						
SONM	Songino Array	47.01	341	P	P	11 08 51.7	-0.7
WMQ	Urumqi	52.44	325	eP	P	11 09 38.7	+5.1
WMQ				pP	pP	11 09 43.9	-1.5
WMQ				sP	pwP	11 09 48.9	-0.1
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
WMQ				LR	LR		
	comp=N,320nm,17.3s						
WMQ				LR	LR		
	comp=E,290nm,12.5s						
WMQ				LR	LR		
	comp=Z,270nm,20.1s						
PEA0B	Petropavlovsk-	55.25	22	P	P	11 09 55.4	+1.5
PETK	Petropavlovsk-	55.25	22	P	P	11 09 54.7	+0.8
	comp=Z,1.9nm,0.7s,baz=141,slow=3.1,SNR=5.3						
PETK	Petropavlovsk-	55.25	22	P	P	11 09 56.0	+2.1
MK31	Makanchi Array	57.27	325	P	P	11 10 07.5	-1.0
MKAR	Makanchi Array	57.27	325	P	P	11 10 07.5	-1.0
	comp=Z,1.4nm,0.5s,baz=118,slow=6.5,SNR=14						
MKAR				LR	LR	11 36 35.4	
	comp=Z,229nm,18.1s,baz=140,slow=38						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	Makanchi Array	57.27	325	P	P	11 10 07.1	-1.4
MAKZ	Makanchi	57.45	325	P	P	11 10 08.8	-1.0
MAKZ				IAmb	IAmb	11 10 11.0	
	comp=Z,4.4nm,0.9s						
NIL	Nilore	57.66	308	P	P	11 10 11.3	-0.2
YAK	Yakutsk	57.96	2	P	P	11 10 12.4	-0.6
	comp=Z,12nm,0.4s,baz=254,slow=2.6,SNR=2.0						
KDJ	Kajisay	58.06	318	P	P	11 10 13.6	-0.8
KDJ				IAmb	IAmb	11 10 17.5	
	comp=Z,8.5nm,1.5s						
AAK	Ala-Archa	60.08	318	LR	LR	11 37 46.2	
	comp=Z,108nm,21.2s,baz=94,slow=37						
ZAA0	Zalesovo Array	60.30	333	P	P	11 10 26.5	-2.9
ZALV	Zalesovo Beam	60.30	333	LR	LR	11 38 14.0	
	comp=Z,98nm,19.1s,baz=145,slow=38						
KURBB	Kurchatov Arra	61.45	327	P	P	11 10 36.0	-1.3
	comp=Z,5.3nm,0.9s,baz=126,slow=6.0,SNR=30						
KURK	Kurchatov	61.45	327	P	P	11 10 36.0	-1.2
BTK	Batken	61.64	314	P	P	11 10 39.0	+0.1
GAR	Garm	61.65	313	P	P	11 10 37.8	-1.2
URZ	Urewera	62.82	137	LR	LR	11 37 29.0	
	comp=Z,138nm,20.4s,baz=211,slow=35						
KK31	Karatay Array	62.95	317	P	P	11 10 47.6	+0.1
KK31				IAmb	IAmb	11 10 49.3	
	comp=Z,5.8nm,1.1s						
KKAR	Karatay Array	62.95	317	P	P	11 10 47.2	-0.3
BRVK	Borovoye	67.10	327	P	P	11 11 13.7	-0.6
BRVK				IAmb	IAmb	11 11 25.8	
	comp=Z,6.3nm,0.9s						
TIXI	Tiksi	67.59	1	P	P	11 11 16.5	-0.4
	comp=Z,1.8nm,0.3s,baz=90,slow=23,SNR=9.2						
TIXI	Tiksi	67.59	1	P	P	11 11 16.5	-0.4
TIXI				IAmb	IAmb	11 11 17.4	
	comp=Z,6.9nm,1.1s						
WSAR	Wadi Sarin	68.19	293	LR	LR	11 42 48.2	
	comp=Z,18nm,20.2s,baz=134,slow=37						
NRIK	Noril'sk	70.15	346	P	P	11 11 32.8	-0.1
	comp=Z,8.2nm,1.0s,baz=137,slow=5.8,SNR=15						
NRIK				LR	LR	11 44 54.4	
	comp=Z,106nm,20.0s,baz=167,slow=38						
NRIK	Noril'sk	70.15	346	P	P	11 11 33.1	+0.2
ABKAR	Akbulak array	71.86	321	P	P	11 11 42.4	-1.3
AKTO	Aktyubinsk	73.37	322	P	P	11 11 51.5	-1.1
	comp=Z,2.6nm,0.9s,baz=96,slow=6.8,SNR=7.8						
AKTO				LR	LR	11 46 48.4	
	comp=Z,136nm,20.4s,baz=101,slow=38						
ARU	Arti	74.65	328	P	P	11 11 58.8	-1.1
	comp=Z,0.9nm,0.4s,baz=225,slow=0.9,SNR=4.4						
ARU				LR	LR	11 47 04.2	
	comp=Z,81nm,19.7s,baz=86,slow=38						
OPO	Ambohidratompo	81.25	251	P	P	11 12 36.4	-1.2
	comp=Z,2.8nm,0.9s,baz=100,slow=7.2,SNR=2.3						
KDAK	Kodiak Island	81.75	32	LR	LR	11 43 13.9	
	comp=Z,91nm,22.0s,baz=260,slow=31						
VNDA	Vanda	83.70	173	P	P	11 12 50.1	+1.2
	comp=Z,0.9nm,0.9s,baz=315,slow=8.4,SNR=5.3						
VNDA	Vanda	83.70	173	IAmb	IAmb	11 13 03.3	
	comp=Z,7.9nm,1.4s						
COLD	Coldfoot	83.71	23	P	P	11 12 49.7	+0.4
COLD				IAmb	IAmb	11 13 14.2	
	comp=Z,10nm,1.3s						
ILAR	Eielson Array	84.93	25	P	P	11 12 55.2	-0.3
	comp=Z,0.8nm,0.8s,baz=230,slow=4.2,SNR=6.6						
KLMR	Klimovskoe	85.11	331	*e*P	P	11 12 53.7	-2.7
KLMR				AMP		11 12 57.9	
	comp=Z,34nm,1.2s						
PPT	Papeete	85.33	108	LR	LR	11 44 50.1	
	comp=Z,74nm,19.4s,baz=98,slow=31						
ARCES	ARCESS Array B	90.16	340	P	P	11 13 19.8	-0.8
	comp=Z,3.9nm,1.0s,baz=37,slow=2.3,SNR=4.9						
ARCES				LR	LR	11 59 19.3	
	comp=Z,54nm,18.6s,baz=94,slow=39						
SPITS	Spitsbergen Ar	90.20	349	LR	LR	11 58 57.8	
	comp=Z,116nm,20.0s,baz=252,slow=39						
FINES	FINESS Array B	91.54	332	P	P	11 13 26.6	-0.5
	comp=Z,1.7nm,0.8s,baz=72,slow=4.5,SNR=4.9						
AKASG	Malin Array Be	91.61	321	P	P	11 13 25.4	-2.2
	comp=Z,0.8nm,0.5s,baz=70,slow=4.7,SNR=2.8						
DLBC	Dease Lake	93.60	31	LR	LR	11 49 11.9	
	comp=Z,94nm,21.6s,baz=252,slow=31						
BURAR	Bucovina Array	94.72	318	P	P	11 13 40.1	-2.1
BURAR				IAmb	IAmb	11 13 44.6	
	comp=Z,3.6nm,1.1s						
NOA	NORSAR Array B	98.50	334	P	P	11 13 58.6	-0.4
	comp=Z,1.8nm,1.1s,baz=67,slow=4.7,SNR=2.8						
NOA				LR	LR	12 03 51.8	
	comp=Z,66nm,18.7s,baz=70,slow=39						
LSZ	Lusaka	99.13	255	LR	LR	11 55 11.8	
	comp=Z,63nm,18.5s,baz=128,slow=33						
YKA	Yellowknife Ar	99.33	24	P	Pdif	11 14 02.7	+0.1
	comp=Z,0.3nm,0.9s,baz=300,slow=4.7,SNR=3.7						
JMIC	Jan Mayen	99.58	346	LR	LR	12 03 33.7	
	comp=Z,52nm,19.4s,baz=216,slow=38						
TXAR	Lajitas Array	121.55	52	PKP	PKiKP	11 19 15.9	+0.8
	comp=Z,0.3nm,0.8s,baz=302,slow=2.0,SNR=3.6						
TXAR	Lajitas Array	121.55	52		PKPdf	11 19 14.4	-0.6
TORD	Torodi Ar. Bea	122.71	288	PKP	PKPdf	11 19 16.4	-1.0
	comp=Z,0.7nm,1.0s,baz=349,slow=0.7,SNR=2.4						

*IDC **05** 11:09:27.6±3.5, 53˚79N×90˚99E, h0^{km}, mb1 3.7/3, mb1mx3.1/68, mbtmp3.7/3, ML2.9/3, Error ellipse: s-maj=30.4km s-min=25.1km az=54.0*
*NNC **05** 11:09:27.6±3.9, 53˚75N×90˚86E, h0^{km}, mb4.0, mpv3.7, Error ellipse: s-maj=27.9km s-min=21.1km az=67.0, Suspected Mining explosion.*
ISC 05 11:09:27.1±4.0**, 53˚7N**±0˚1×**91˚0E**±0˚2**, h0^{km}, n12, σ1^{s}43**/14**, 9C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.68	276	*i*		11 33 50.4	
	baz=91,slow=329,SNR=8.5						
ZAA0	Zalesovo Array	3.68	276	⇑Pg	Pb	11 10 30.9	-2.0
	5.2nm,0.8s						
ZAA0				⇓Lg	Lg	11 11 21.1	
	21nm,0.8s						
ZALV	Zalesovo Beam	3.68	276	Pn	Pn	11 10 26.4	+1.3
	1.6nm,0.3s,baz=94,slow=15,SNR=31						
ZALV				Lg	Lg	11 11 21.5	
	4.2nm,0.3s,baz=87,slow=25,SNR=7.3						
ZALV	Zalesovo Beam	3.68	276	P	Pn	11 10 26.5	+1.3
KURK	Kurchatov	8.18	253	⇑Pn	Pn	11 11 26.6	-0.4
	6.5nm,0.8s						
KURK				⇓Sn	Sn	11 13 02.8	+2.7
	17nm,1.0s						
KURK				⇑Lg	Lg	11 13 44.5	
	33nm,0.9s						
KURBB	Kurchatov Arra	8.27	253	Pn	Pn	11 11 28.4	+0.2
	0.2nm,0.3s,baz=64,slow=14,SNR=9.8						
KURBB				Sn	Sn	11 13 02.0	-0.3
	0.1nm,0.3s,baz=67,slow=25,SNR=9.2						
KURBB				Lg	Lg	11 13 51.2	
	0.2nm,0.3s,baz=43,slow=54,SNR=7.2						
KURBB	Kurchatov Arra	8.27	253	⇑Pn	Pn	11 11 29.8	+1.5
	7.5nm,0.8s						
KURBB				⇓Sn	Sn	11 13 02.8	+0.5
	64nm,0.8s						
KURBB				⇑Lg	Lg	11 13 45.3	
	91nm,0.9s						
MK31	Makanchi Array	8.89	222	⇑Pn	Pn	11 11 37.3	+0.5
	2.0nm,0.7s,baz=39,slow=13,SNR=6.3						
MK31				⇑Sn	Sn	11 13 17.0	-0.6
	3.3nm,0.6s						
MK31				⇑Lg	Lg	11 14 12.1	
	32nm,1.2s,baz=36,slow=31,SNR=5.1						
MKAR	Makanchi Array	8.89	222	Pn	Pn	11 11 38.5	+1.7
	0.2nm,0.3s,baz=43,slow=13,SNR=5.4						
MKAR				Sn	Sn	11 13 18.2	+0.6
	0.3nm,0.3s,baz=36,slow=20,SNR=3.6						
MKAR				Lg	Lg	11 14 06.2	
	0.2nm,0.3s,baz=38,slow=26,SNR=3.9						
MAKZ	Makanchi	9.01	224	⇓Sn	Sn	11 13 19.5	-0.9
	8.6nm,0.8s						
MAKZ				⇑Lg	Lg	11 14 11.0	
	28nm,1.1s						
SONM	Songino Array	11.37	115	Lg	Lg	11 15 21.8	
	0.5nm,0.3s,baz=305,slow=28,SNR=11						
I34MN	SONGINO INFRAS	11.39	115	*i*		12 19 20.0	
	baz=306,slow=323,SNR=1.1						

*ISN **05** 11:11:32.1±1.1, 35˚06N×46˚04E, h9^{km}±14^{km}, ML3.0*
*TEH **05** 11:11:34.1, 35˚10N×46˚42E, h5^{km}, ML3.1*
ISC 05 11:11:32.6±1.5**, 35˚10N**±0˚03×**46˚23E**±0˚04**, h9^{km}**±12^{km}**, n20, σ1^{s}24**/26**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.41	162	*e*Pg	Pg	11 11 41.4	+0.6
IDHR				*e*Sg	Sb	11 11 48.7	-0.1
IDHR				*e*		11 11 50.8	
	comp=Z,25μm,0.3s						
IGHG	Ghaleghazi	0.81	160	*e*Pg	Pb	11 11 50.2	+1.1
IGHG				*e*Sg	Sb	11 12 01.9	+1.6
IGHG				*e*		11 12 05.5	
	comp=Z,17μm,0.6s						
KER	Kermanshah	1.03	133	*e*Pg	Pg	11 11 51.6	-0.7
KCHF	Cheshme Sefid,	1.06	141	*e*Pg	Pg	11 11 52.6	-0.3
KCHF				*e*Sg	Sn	11 12 07.6	-1.2
KCHF				*e*		11 12 12.3	
	comp=Z,14μm,0.3s						
IBZA	Bozab	1.48	115	*e*Pn	Pn	11 11 58.7	-1.0
IBZA				*e*		11 12 29.5	
	comp=Z,4μm,0.8s						
IKRK	Kirkuk	1.58	282	*e*Pn	Pn	11 12 00.5	-0.3
IKRK				*e*Sn	Sn	11 12 20.0	-1.4
IKRK				AML	AML	11 12 32.9	
	comp=E,255nm,0.7s						
IKRK				AML	AML	11 12 34.2	
	comp=N,204nm,0.5s						
MAHB	Mahabad	1.72	346	*e*		11 12 35.3	
	comp=Z,2μm,0.5s						
MAHB				*e*Pn	Pn	11 12 04.8	+1.9
IBDR	Badra	2.00	187	*e*Pn	Pn	11 12 07.0	+0.4
IBDR				*e*Sn	Sn	11 12 32.0	+0.3
IBDR				AML	AML	11 12 44.8	
	comp=E,169nm,0.4s						
IBDR				AML	AML	11 12 48.3	
	comp=N,145nm,0.7s						
IKFM	Kafar-mosalman	2.06	139	*e*Pn	Pb	11 12 10.4	+0.2
IKFM				*e*		11 12 50.7	
	comp=Z,4μm,0.6s						
IDOB	Doab	2.07	129	*e*Pn	Pb	11 12 10.4	-0.1
HSAM	Samen	2.14	114	*e*Pn	Pb	11 12 10.0	-1.8
HSAM				*e*		11 12 51.0	
	comp=Z,531nm,0.5s						
BHD	Baghdad	2.38	221	*e*Pn	Pn	11 12 11.0	-0.9
BHD				*e*Sn	Sn	11 12 40.0	-1.2
BHD				AML	AML	11 12 47.9	
	comp=E,212nm,0.5s						
HAGD	Aghdareh	2.40	96	*e*Pn	Pb	11 12 14.4	-1.8
HAGD				*e*		11 12 56.8	
	comp=Z,792nm,0.5s						
IAZR	Azarshahr	2.58	356	*e*Pn	Pb	11 12 18.7	-0.6
IAZR				*e*		11 13 10.3	
	comp=Z,1μm,0.6s						
IBST	Bostanabad	2.65	11	*e*Pn	Pb	11 12 19.3	-1.2
IBST				*e*		11 13 07.3	
	comp=Z,347nm,0.6s						
QABG	Abgarm-Qazvin	2.80	76	*e*Pn	Pn	11 12 19.0	+1.1
QABG				*e*		11 13 12.4	
	comp=N,331nm,0.9s						
IRAZ	Razeghan	3.04	83	*e*	Sg	11 13 21.8	+12
	comp=Z,573nm,0.7s						
IHRS	Heris	3.28	11	*e*Pn	Pn	11 12 26.8	+2.3
JIR1	Jirandeh	3.31	60	*e*Pn	Pn	11 12 26.3	+1.4
RAFI	Al-Rafai	3.37	182	*e*Pn	Pn	11 12 26.0	+0.6
RAFI				*e*Sn	Sn	11 13 06.5	+1.0
RAFI				AML	AML	11 13 13.1	
	comp=E,98nm,0.4s						

*KRNET **05** 11:22:07.2±0.1, 41˚11N×70˚12E, h12^{km}, mb2.7*
ISC 05 11:22:07.9±2.0**, 41˚09N**±0˚04×**70˚17E**±0˚09**, h8^{km}**±15^{km}**, n6, σ0^{s}52**/11**, 10C-2D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.85	59	⇑*e*P	Pg	11 22 24.0	-0.3
	baz=65						
TRKS				⇑*i*S	Sb	11 22 36.3	-0.4
	baz=65						
BTK	Batken	1.14	154	⇑*i*P	Pg	11 22 29.7	-0.1
	baz=53						
BTK				⇑*i*S	Sn	11 22 46.2	0.0
	baz=53						
ARK	Arkit	1.52	62	⇑*i*P	Pg	11 22 36.6	-0.5
	baz=63						
ARK				⇑*i*S	Sg	11 22 57.9	+1.0
	baz=63						
KK31	Karatay Array	2.03	7	⇑Pg	Pg	11 22 46.6	-0.2
	1.6nm,0.4s,baz=188,slow=16,SNR=12						
KK31				⇑Lg	Lg	11 23 16.3	
	6.2nm,0.6s,baz=191,slow=27,SNR=7.8						
DRK	Karamyk	2.03	142	⇑*i*P	Pb	11 22 45.5	+0.2
	baz=41						
DRK				⇑*i*S	Sg	11 23 13.2	-0.1
	baz=41						
OHH	Osh	2.06	105	⇓*i*P	Pb	11 22 46.0	+0.3
	baz=5.0						
OHH				⇓*i*S	Sg	11 23 14.2	0.0
	baz=5.0						

*IDC **05** 11:25:05.6±1.0, 21˚04S×67˚37W, h177^{km}±10^{km}, mb3.1/4, mb1 3.4/8, mb1mx3.3/32, mbtmp3.6/8, Error ellipse: s-maj=24.7km s-min=11.2km az=106.0*
*GUC **05** 11:25:07.2±0.7, 21˚04S×67˚66W, h199^{km}±8^{km}, ML3.8*
*SCB **05** 11:25:08.9±3.6, 21˚00S×67˚56W, h54^{km}±44^{km}, ML3.2/9, MW3.3, Error ellipse: s-maj=12.9km s-min=8.0km az=1.0*
ISC 05 11:25:06.4±0.8**, 21˚05S**±0˚04×**67˚59W**±0˚06**, h186^{km}**±7^{km}**, n44, σ1^{s}38**/64**, mb3.3**/4**, 4C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	1.71	244	*e*P	Pn	11 25 42.4	+1.2
PB09				*i* S	Sn	11 26 09.5	+1.5
PB09	IPOC Station P	1.71	244	P	Pn	11 25 42.1	+1.0
PB09				S	Sn	11 26 04.7	-3.4
PB09				IAML		11 26 10.7	
	63nm,0.3s						
PB09				IAML		11 26 10.8	
	53nm,0.3s						
PB08	IPOC Station P	1.73	301	⇑*i*P	Pn	11 25 42.3	+0.8
PB08				*i* S	Sn	11 26 09.2	+0.5
PB08				IAML		11 26 11.7	
	comp=E,319nm,0.6s						
PB08	IPOC Station P	1.73	301	P	Pn	11 25 42.4	+0.8
PB08				IAML		11 26 10.5	
	comp=E,164nm,0.9s						
PB01	IPOC Station P	1.77	270	*e*P	Pn	11 25 41.9	+0.2
PB01				*i* S	Sn	11 26 08.4	-0.6
PB01				IAML		11 26 10.8	
	comp=N,397nm,0.2s						
PB01	IPOC Station P	1.77	270	P	Pn	11 25 42.3	+0.6
PB01				IAML		11 26 10.5	
	comp=N,201nm,0.2s						
MOCB	Mochara	1.83	96	P	Pn	11 25 42.8	+0.2
MOCB				IAML		11 26 10.4	
	comp=N,190nm,0.8s						
LVC	Limon Verde	1.98	218	P	Pn	11 25 44.8	+0.7
	comp=N,3.1nm,0.3s,baz=4.0,slow=6.1,SNR=82						
LVC				S	Sn	11 26 14.1	+0.7
	comp=N,15nm,0.3s,baz=207,slow=18,SNR=44						
LVC	Limon Verde	1.98	218	*e*P	Pn	11 25 44.7	+0.7
LVC				*i* S	Sn	11 26 13.0	-0.4
LVC	Limon Verde	1.98	218	P	Pn	11 25 44.6	+0.5
GO01	Chusmiza	2.04	312	⇑*i*P	Pn	11 25 45.4	+0.4
GO01				*i* S	Sn	11 26 15.2	+0.4
PB02	IPOC Station P	2.17	263	*e*P	Pn	11 25 46.3	+0.4
PB02				*i* S	Sn	11 26 15.8	-0.7
PB02				IAML		11 26 19.0	
	comp=E,364nm,0.1s						
PB02	IPOC Station P	2.17	263	P	Pn	11 25 46.6	+0.7
YJA	Yavi	2.23	120	P	Pn	11 25 47.2	+0.3
YJA				IAML		11 26 20.4	
	comp=E,40nm,0.4s						
PB07	IPOC Station P	2.25	252	*e*P	Pn	11 25 47.1	+0.4
PB07				*i* S	Sn	11 26 17.2	-0.9
PB07				IAML		11 26 18.1	
	comp=N,254nm,0.4s						
PB07	IPOC Station P	2.25	252	P	Pn	11 25 47.3	+0.5
HMBC	Humberstone	2.29	289	⇑*i*P	Pn	11 25 46.9	-0.3
HMBC				*i* S	Sn	11 26 17.5	-1.4
HMBC				IAML		11 26 20.1	
	comp=N,538nm,0.5s						
PB11	IPOC Station P	2.33	303	*i* P	Pn	11 25 47.7	+0.1
PB11				*i* S	Sn	11 26 19.0	-0.8
PB11	IPOC Station P	2.33	303	P	Pn	11 25 47.8	+0.1
PB11				S	Sn	11 26 16.7	-3.1
PB11				IAML		11 26 21.0	
	comp=N,842nm,0.2s						
PATCX	Punta Patache	2.41	275	*e*P	Pn	11 25 48.6	+0.1
PATCX				*i* S	Sn	11 26 20.1	-1.1
PATCX				IAML		11 26 22.3	
	comp=N,350nm,0.2s						
PB06	IPOC Station P	2.47	228	*e*P	Pn	11 25 49.9	+0.6
PB06				*i* S	Sn	11 26 22.6	-0.2
PB06				IAML		11 26 23.8	
	comp=E,200nm,0.2s						
PB06	IPOC Station P	2.47	228	P	Pn	11 25 50.0	+0.7
TA01	Diego Aracena	2.47	281	*e*P	Pn	11 25 48.9	-0.3
TA01				*i* S	Sn	11 26 20.5	-2.0
TA01				IAML		11 26 23.4	
	comp=E,242nm,0.3s						
TA02	Huaiquique	2.51	288	*i* S	Sn	11 26 21.6	-1.5
PB04	IPOC Station P	2.70	241	P	Pn	11 25 52.5	+0.5
PB15	IPOC Station P	2.77	219	*e*P	Pn	11 25 53.7	+0.9
PB15				*i* S	Sn	11 26 28.9	-0.1
PB15	IPOC Station P	2.77	219	P	Pn	11 25 53.5	+0.7
PB15				IAML		11 26 32.4	
	comp=E,610nm,0.2s						
PB16	IPOC Station P	3.25	326	P	Pn	11 26 00.1	+1.0
PB16				IAML		11 26 42.9	
	comp=E,100nm,0.6s						
PB12	IPOC Station P	3.54	313	*e*P	Pn	11 26 00.7	-1.4
PB12				*i* S	Sn	11 26 42.0	-3.7
PB10	IPOC Station P	3.68	228	⇑*e*P	Pn	11 26 03.6	-0.1
PB10				*i* S	Sn	11 26 44.8	-3.8
PB10	IPOC Station P	3.68	228	P	Pn	11 26 03.5	-0.1
BBOE	La Paz, Chanca	4.24	355	P	Pn	11 26 12.9	+1.6
PB14	IPOC Station P	4.40	216	*i* S	Sn	11 27 02.5	-3.0
GO02	Mina Guanaco	4.49	204	*e*P	Pn	11 26 14.0	-0.2
GO02				*i* S	Sn	11 27 04.4	-3.1
BBOD	La Paz, Gloria	4.50	348	P	Pn	11 26 15.9	+1.3
LPAZ	La Paz	4.77	354	P	Pn	11 26 18.8	+0.6
	comp=E,9.2nm,0.3s,baz=152,slow=6.8,SNR=117						
LPAZ				S	Sn	11 27 13.2	-1.2
	baz=31,slow=19,SNR=1.2						
LPAZ	La Paz	4.77	354	P	Pn	11 26 18.9	+0.7
SIV	San Ignacio	7.97	52	P	Pn	11 26 56.3	-3.1
	comp=E,1.3nm,0.3s,baz=244,slow=9.3,SNR=21						
SIV				S	Sn	11 28 19.5	-10
	comp=E,0.2nm,0.3s,baz=159,slow=2.9,SNR=4.1						
PLCA	Paso Flores	19.78	187	P	P	11 29 23.0	+0.6
	comp=E,0.1nm,0.3s,baz=22,slow=7.0,SNR=3.7						
TXAR	Lajitas Array	60.98	324	P	P	11 35 01.2	+0.9
	comp=E,0.2nm,0.7s,baz=165,slow=7.5,SNR=2.0						
PDAR	Pinedale Array	74.35	329	P	P	11 36 24.6	+0.8
	comp=E,0.2nm,0.6s,baz=123,slow=6.6,SNR=2.3						
TORD	Torodi Ar. Bea	76.05	70	P	P	11 36 32.7	-1.0
	comp=E,0.4nm,0.3s,baz=256,slow=6.0,SNR=6.0						
YKA	Yellowknife Ar	91.18	340	P	P	11 37 50.1	+0.5
	comp=E,0.5nm,0.5s,baz=132,slow=4.6,SNR=20						
MKAR	Makanchi Array	144.55	36	PKP	PKPab	11 44 20.1	+0.6
	comp=E,0.4nm,0.3s,baz=312,slow=3.6,SNR=6.2						

*IDC **05** 11:26:38.4±0.8, 23˚51S×111˚50W, h0^{km}, mb3.8/7, mb1 4.1/8, mb1mx4.0/32, mbtmp3.8/8, ML3.8/1, MS3.8/18, Ms1 3.8/18, ms1mx3.5/54, Error ellipse: s-maj=30.2km s-min=22.1km az=68.0*
*NEIC **05** 11:26:40.8±2.4, 23˚73S±0˚08×111˚45W±0˚09, h10^{km}±1^{km}, mb4.5/24, Error ellipse: s-maj=14.8km s-min=12.5km az=304.0*
ISC 05 11:26:40.3±0.6**, 23˚67S**±0˚09×**111˚4W**±0˚1**, h10^{km}, n66, σ1^{s}09**/41**, mb4.3**/17**, MS3.8**/18**, Easter Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA02	Isla de Pascua	3.91	153	Pn	Pn	11 27 40.7	+0.3
RPN	Rapa Nui	3.92	152	Pn	Pn	11 27 40.8	+0.3
	5.2nm,0.3s,baz=143,slow=23,SNR=17						
RPN				Sn	Sn	11 28 26.1	-0.5
	2.8nm,0.3s,baz=150,slow=6.6,SNR=0.8						
PTCN	Pitcairn Islan	17.10	261	Pn	Pn	11 30 38.8	-0.7
H03N2	Juan Fernandez	30.03	116	T	T	12 04 36.8	
	baz=285,slow=75,SNR=38						
H03N3	Juan Fernandez	30.04	116	T	T	12 04 39.9	
	baz=285,slow=75,SNR=55						
H03N1	Juan Fernandez	30.05	116	T	T	12 04 38.0	
	baz=285,slow=75,SNR=64						
NNA	Nana	34.79	77	LR	LR	11 43 45.1	
	comp=Z,201nm,20.7s,baz=224,slow=30						
GO05	Huala	36.00	117	P	P	11 33 40.2	-1.4
VA05	Santo Domingo	36.11	115	P	P	11 33 43.1	+0.5
BO01	Tunca	36.62	116	P	P	11 33 46.1	-0.8
BO01				IAmb	IAmb	11 34 03.7	
	comp=Z,14nm,1.4s						
LL07	Hotel Espejo d	36.63	131	P	P	11 33 45.1	-1.8
MT09	Talagante	36.64	115	P	P	11 33 45.6	-1.7
MT09				IAmb	IAmb	11 34 02.7	
	comp=Z,7.4nm,0.9s						
LCO	Las Campanas	36.73	107	P	P	11 33 48.0	-0.2
LCO				IAmb	IAmb	11 34 05.7	
	comp=Z,11nm,1.1s						
CO03	El Pedregal	36.73	110	P	P	11 33 47.6	-0.4
CO03				IAmb	IAmb	11 33 56.9	
	comp=Z,21nm,1.5s						
PLCA	Paso Flores	38.14	126	LR	LR	11 45 29.2	
	comp=Z,152nm,19.8s,baz=274,slow=30						
PB11	IPOC Station P	38.88	93	P	P	11 34 06.2	-0.2
PB11				IAmb	IAmb	11 34 27.8	
	comp=Z,25nm,1.4s						
LVC	Limon Verde	38.98	97	LR	LR	11 46 03.4	
	comp=Z,108nm,18.6s,baz=262,slow=30						
LVC	Limon Verde	38.98	97	P	P	11 34 05.7	-1.7
PB08	IPOC Station P	39.25	93	P	P	11 34 06.8	-2.9
PB08				IAmb	IAmb	11 34 11.4	
	comp=Z,9.4nm,1.3s						
GO01	Chusmiza	39.32	93	P	P	11 34 09.3	-1.1
LPAZ	La Paz	41.20	88	P	P	11 34 26.5	+0.4
	comp=Z,2.9nm,1.0s,baz=255,slow=6.1,SNR=6.9						
LPAZ				LR	LR	11 47 33.5	
	comp=Z,123nm,19.8s,baz=272,slow=30						
LPAZ	La Paz	41.20	88	P	P	11 34 27.8	+1.7
RAR	Rarotonga	44.62	263	LR	LR	11 48 56.7	
	comp=Z,99nm,19.3s,baz=118,slow=30						
ROSC	El Rosal	45.93	57	LR	LR	11 51 12.4	
	comp=Z,103nm,18.8s,baz=86,slow=32						
ROSC	El Rosal	45.93	57	P	P	11 35 05.5	+1.4
LPIG	La Paz	47.49	1	LR	LR	11 50 23.0	
	comp=Z,70nm,21.2s,baz=284,slow=30						
SIV	San Ignacio	47.76	90	P	P	11 35 18.6	+0.6
	comp=Z,2.2nm,0.8s,baz=253,slow=10,SNR=9.7						
SIV				LR	LR	11 52 49.8	
	comp=Z,60nm,18.8s,baz=280,slow=33						
CPUP	Villa Florida	48.78	105	LR	LR	11 52 29.6	
	comp=Z,43nm,18.0s,baz=245,slow=32						
PMSA	Palmer Station	51.18	156	P	P	11 35 44.7	+1.4
SDV	Santo Domingo	51.32	56	LR	LR	11 54 53.7	
	comp=Z,75nm,18.6s,baz=240,slow=33						
TX31	Lajitas Ar. Si	53.22	8	P	P	11 35 59.0	0.0
TX32	Lajitas Array	53.22	8	P	P	11 35 58.9	-0.1
TXAR	Lajitas Array	53.22	8	P	P	11 35 57.4	-1.5
	comp=Z,0.2nm,0.8s,baz=189,slow=10,SNR=2.1						
TXAR	Lajitas Array	53.22	8	P	P	11 35 59.4	+0.4
121A	Cookes Peak, D	55.99	4	P	P	11 36 19.8	+0.6
121A				IAmb	IAmb	11 36 25.7	
	comp=Z,5.0nm,1.0s						
AFI	Afiamalu	57.63	268	LR	LR	11 55 29.9	
	comp=Z,79nm,21.9s,baz=80,slow=30						
ANMO	Albuquerque	58.48	5	LR	LR	11 57 06.2	
	comp=Z,77nm,18.3s,baz=262,slow=31						
QSM	Queen of Sheba	59.53	355	P	P	11 36 45.6	+1.8
QSM				IAmb	IAmb	11 36 49.5	
	comp=Z,2.6nm,1.0s						
BDFB	Brasilia	59.82	95	LR	LR	12 00 14.3	
	comp=Z,70nm,20.5s,baz=165,slow=34						
CCUT	Cedar City	60.92	358	P	P	11 36 53.7	+0.2
CCUT				IAmb	IAmb	11 37 10.5	
	comp=Z,3.2nm,1.2s						
URZ	Urewera	61.62	238	LR	LR	11 57 36.0	
	comp=Z,70nm,20.5s,baz=208,slow=30						
NVAR	Mina Array Bea	62.10	354	P	P	11 37 00.1	-1.5
	comp=Z,0.8nm,0.8s,baz=191,slow=7.9,SNR=5.2						
RDMU	Red Mountain	63.93	2	P	P	11 37 14.1	+0.5
RDMU				IAmb	IAmb	11 37 19.3	
	comp=Z,2.9nm,0.9s						
MDP	Montagnes des	63.99	71	LR	LR	12 02 13.7	
	comp=Z,112nm,19.0s,baz=226,slow=33						
YBH	Yreka Blue Hor	65.90	351	LR	LR	12 01 27.4	
	comp=Z,49nm,18.6s,baz=282,slow=32						
PD31	Pinedale Array	66.12	1	P	P	11 37 28.4	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDAR	Pinedale Array	66.12	1	P	P	11 37 25.7	-2.2
	comp=Z,0.6nm,0.6s,baz=171,slow=6.3,SNR=5.6						
PDAR	Pinedale Array	66.12	1	P	P	11 37 27.8	-0.1
VNDA	Vanda	66.37	194	P	P	11 37 29.7	+0.9
	comp=Z,1.0nm,0.9s,baz=44,slow=1.4,SNR=4.5						
VNDA	Vanda	66.37	194	IAmb	IAmb	11 37 34.9	
	comp=Z,5.0nm,1.5s						
SNAA	Sanae	73.36	162	LR	LR	12 08 15.1	
	comp=Z,48nm,18.3s,baz=181,slow=34						
DZM	Mont Dzumac	74.62	252	LR	LR	12 02 47.0	
	comp=Z,93nm,19.5s,baz=44,slow=29						
YKA	Yellowknife Ar	85.90	359	P	P	11 39 19.8	-0.1
	comp=Z,1.2nm,1.0s,baz=176,slow=4.8,SNR=11						
H11S2	WAKE ISLAND Hy	90.18	290	T	T	13 19 07.9	
	baz=115,slow=75,SNR=84						
H11S1	WAKE ISLAND Hy	90.19	290	T	T	13 19 14.8	
	baz=115,slow=75,SNR=47						
H11S3	WAKE ISLAND Hy	90.20	290	T	T	13 19 12.1	
	baz=115,slow=75,SNR=48						
H11N3	WAKE ISLAND Hy	90.52	291	T	T	13 19 33.5	
	baz=116,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	90.53	291	T	T	13 19 40.2	
	baz=116,slow=75,SNR=4.6						
H11N2	WAKE ISLAND Hy	90.54	291	T	T	13 19 40.8	
	baz=116,slow=75,SNR=40						
AKASG	Malin Array Be	139.35	38	PKP	PKPdf	11 46 07.9	+0.4
	comp=Z,24nm,0.3s,baz=274,slow=2.2,SNR=2.0						
SONM	Songino Array	141.55	318	PKP	PKPdf	11 46 12.4	+0.6
	comp=Z,0.3nm,0.7s,baz=294,slow=1.4,SNR=2.8						
BRTR	Keskin Array B	146.47	53	PKPbc	PKPdf	11 46 20.4	-0.2
	comp=Z,0.6nm,0.4s,baz=306,slow=36,SNR=2.0						
ZALV	Zalesovo Beam	147.39	342	PKPbc	PKPdf	11 46 21.5	0.0
	comp=Z,0.8nm,0.6s,baz=53,slow=5.6,SNR=2.0						
KBZ	Khabaz	150.91	40	PKPbc	PKPbc	11 46 33.2	0.0
	comp=Z,3.9nm,1.0s,baz=297,slow=0.8,SNR=6.6						
CMAR	Chiang Mai Arr	151.25	265	PKPbc	PKPbc	11 46 33.9	-0.9
	comp=Z,1.3nm,0.7s,baz=43,slow=0.5,SNR=7.3						
MKAR	Makanchi Array	154.43	338	PKPbc	PKPbc	11 46 40.8	-0.2
	comp=Z,1.3nm,0.8s,baz=20,slow=2.8,SNR=9.8						

*NOU **05** 11:30:48.4, 20°07S×168°54E, h0km, MLv3.6/10, Loyalty Islands*
*IDC **05** 11:30:49.2±5.5, 20°06S×168°43E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.6/27, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=131.4km s-min=34.2km az=118.0*
ISC 05 11:30:50.1±1.8**, 20°1S**±0°1×**168°5E**±0°2**, h10**km**, n11,** σ1s**10**/12**, mb3.7**/3**, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	1.35	240	P	Pn	11 31 13.5	-1.5
MARNC	Mare, Loyalty	1.44	197	P	Pn	11 31 14.7	-1.6
YATNC	Mamie plateau,	2.45	217	P	Pn	11 31 28.9	-1.3
PINNC	Pines Island,	2.68	201	P	Pn	11 31 33.8	+0.4
DZM	Mont Dzumac	2.73	224	Pn	Pn	11 31 34.0	-0.2
	3.4nm,0.3s,baz=102,slow=11,SNR=25						
DZM				Sn	Sn	11 32 07.3	-0.1
	22nm,0.3s,baz=325,slow=23,SNR=14						
DZM	Mont Dzumac	2.73	224	P	Pn	11 31 34.6	+0.4
OUENC	Ouen Island, N	2.77	213	P	Pn	11 31 35.7	+1.1
NOUC	Port Laguerre	2.85	225	P	Pn	11 31 36.9	+1.2
WRA	Warramunga Arr	32.05	264	P	P	11 37 16.9	-0.4
	0.4nm,0.7s,baz=91,slow=8.4,SNR=4.7						
ASAR	Alice Springs	32.24	257	P	P	11 37 20.0	+1.0
	0.8nm,0.7s,baz=86,slow=9.0,SNR=13						
SONM	Songino Array	87.48	323	P	P	11 43 38.2	+0.1
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.5						

*TIR **05** 11:31:07.7, 40°32N×19°39E, h9km±1km, Md3.1*
*ATH **05** 11:31:07.9, 40°24N×19°25E, h24km±3km, ML3.0/5, Error ellipse: s-maj=3.1km s-min=2.1km az=80.0*
*PDG **05** 11:31:08.4±0.4, 40°35N×19°32E, h9km, ML3.0/13, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*THE **05** 11:31:09.2, 40°25N×19°36E, h0km±2km, ML2.9/9, Error ellipse: s-maj=2.8km s-min=0.9km az=265.0*
ISC 05 11:31:06.5±1.1**, 40°31N**±0°02×**19°21E**±0°02**, h7**km±9km**, n69,** σ1s**33**/114**, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.27	53	P	Pg	11 31 11.8	0.0
	baz=23						
VLO				S	Sg	11 31 14.6	-0.8
	baz=23						
VLO	Vlora	0.27	53	P	Pg	11 31 11.8	0.0
	baz=28						
VLO				S	Sg	11 31 14.6	-0.8
	baz=28						
SCTE	Santa Cesarea	0.62	248	P	Pb	11 31 21.0	+1.4
SCTE	Santa Cesarea	0.62	248	P	Pn	11 31 22.5	+0.9
	baz=252						
SCTE				S	Sn	11 31 33.7	+2.0
	baz=252						
SRN	Sarande	0.74	125	P	Pg	11 31 20.6	-0.1
SRN				S	Sg	11 31 29.8	-0.5
	720nm,0.4s						
SRN	Sarande	0.74	125	P	Pg	11 31 20.6	-0.1
	baz=131						
SRN				S	Sn	11 31 33.3	-1.4
	baz=131						
SRN	Sarande	0.74	125	P	Pg	11 31 20.6	-0.1
	baz=132						
KEK	Kerkira	0.74	143	P	Pg	11 31 20.4	-0.4
KEK				AML	AML	11 31 37.9	
	comp=N,1516μm,0.3s						
KEK				AML	AML	11 31 39.5	
	comp=E,1285μm,0.3s						
KEK	Kerkira	0.74	143	P	Pg	11 31 21.1	+0.3
KEK				S	Sg	11 31 30.2	-0.3
	comp=E,708nm,0.4s						
TIR	Tirane	1.15	25	P	Pn	11 31 30.4	+1.4
TIR				S	Sn	11 31 47.9	+3.0
TIR	Tirane	1.15	25	P	Pn	11 31 30.4	+1.4
TIR				S	Sn	11 31 47.6	+2.6
	comp=E,328nm,0.5s						
TIR	Tirane	1.15	25	*i* Pn	Pn	11 31 31.4	+2.4
TIR	Tirane	1.15	25	P	Pn	11 31 30.3	+1.3
	baz=19						
IGT	Igoumenitsa	1.16	132	P	Pn	11 31 29.1	+0.1
IGT				AML	AML	11 31 49.1	
	comp=N,1066μm,0.5s						
IGT				AML	AML	11 31 50.4	
	comp=E,1262μm,0.5s						
IGT	Igoumenitsa	1.16	132	P	Pn	11 31 29.4	+0.4
KBN	Korca	1.24	75	P	Pb	11 31 29.7	-0.5
	baz=73						
NEST	Nestorio	1.41	85	P	Pg	11 31 33.5	+0.1
NEST				AML	AML	11 31 55.0	
	comp=N,915μm,0.6s						
NEST				AML	AML	11 32 01.8	
	comp=E,752μm,0.5s						
NEST	Nestorio	1.41	85	P	Pg	11 31 33.4	-0.1
NEST				S	Sg	11 31 52.9	+1.2
	comp=E,322nm,0.5s						
JAN	Janina	1.42	117	P	Pb	11 31 33.1	-0.1
JAN				AML	AML	11 31 54.6	
	comp=N,1342μm,0.4s						
JAN				AML	AML	11 31 56.5	
	comp=E,1761μm,0.5s						
JAN	Janina	1.42	117	P	Pn	11 31 32.7	+0.1
JAN				S	Sg	11 31 51.5	-0.5
	comp=E,780nm,0.4s						
OHR	Ohrid	1.45	56	*i* Pn	Pg	11 31 35.1	+0.8
OHR				*e*Sg	Sg	11 31 54.5	+1.5
ULC	Ulcinj	1.66	1	*e*Pn	Pb	11 31 37.5	+0.2
ULC				*i* Sn	Sg	11 32 01.7	+2.0
PHP	Peshkopia	1.66	34	P	Pg	11 31 38.1	-0.3
	baz=29						
PHP				S	Sg	11 31 59.4	-0.4
	baz=29						
KPRO	Kipourio	1.69	101	P	Pb	11 31 38.2	+0.4
KPRO				AML	AML	11 32 06.8	
	comp=N,859μm,0.7s						
KPRO				AML	AML	11 32 10.8	
	comp=E,904μm,0.6s						
KPRO	Kipourio	1.69	101	P	Pb	11 31 38.3	+0.4
KPRO				S	Sg	11 32 00.5	-0.1
	comp=E,442nm,0.6s						
NOCI	Noci	1.71	287	P	Pn	11 31 38.2	+1.6
FNA	Florina	1.72	73	P	Pb	11 31 37.9	-0.4
FNA	Florina	1.72	73	P	Pb	11 31 38.0	-0.4
FNA	Florina	1.72	73	P	Pb	11 31 37.9	-0.4
	baz=72						
TSLK	Tsoukalades, L	1.85	143	P	Pn	11 31 39.7	+1.2
TSLK	Tsoukalades, L	1.85	143	P	Pn	11 31 39.8	+1.2
TSLK				S	Sb	11 32 04.2	+0.2
	comp=E,408nm,0.5s						
DRME	Dracevica, Mon	1.88	359	*e*Pn	Pb	11 31 41.3	+0.2
DRME				*i* Sn	Sg	11 32 07.1	+0.3
KZN	Kozani	1.96	89	P	Pb	11 31 42.4	0.0
KZN				S	Sb	11 32 07.0	0.0
	comp=E,185nm,0.5s						
BUM	Brajici-Budva	2.01	353	*e*Pn	Pb	11 31 43.1	-0.2
BUM				*i* Sn	Sg	11 32 10.5	-0.4
TTG	Podgorica	2.12	1	*e*Pn	Pb	11 31 44.6	-0.6
TTG				*i* Sn	Sb	11 32 13.0	+1.3
BCI	Bajram Curri	2.16	17	P	Pg	11 31 47.6	-0.1
	baz=13						
TIP	Timpagrande	2.20	240	P	Pn	11 31 45.8	+2.3
HCY	Herceg Novi	2.21	346	*e*Pn	Pb	11 31 46.1	-0.6
HCY				*i* Sn	Sb	11 32 15.6	+1.4
CEME	Cevo	2.25	354	*e*Pn	Pb	11 31 46.5	-0.9
CEME				*i* Sn	Sb	11 32 16.3	+0.8
THL	Klokotos Trika	2.28	108	P	Pb	11 31 46.4	-1.5
THL				S	Sb	11 32 14.3	-1.9
	comp=E,105nm,0.7s						
PVY	Plav	2.35	14	*e*Pn	Pn	11 31 47.5	+1.9
PVY				*i* Sn	Sb	11 32 18.1	-0.4
EVR	Evrytania	2.44	124	P	Pn	11 31 48.0	+1.2
NKME	Niksic	2.47	356	*e*Pn	Pn	11 31 49.4	+2.3
NKME				*i* Sn	Sb	11 32 21.5	-0.2
DBRK	Dubrovnik	2.49	342	*e*Pn	Pn	11 31 47.2	-0.2
DBRK				Sn	Sn	11 32 16.6	-1.4
LIT	Litokhoron	2.52	94	P	Pn	11 31 49.2	+1.4
KOME	Kolasin	2.55	5	*e*Pn	Pn	11 31 50.4	+2.1
KOME				*i* Sn	Sb	11 32 23.1	-1.1
MAKR	Makrakomi, Fth	2.60	119	P	Pn	11 31 50.9	+2.0
IVA	Berane	2.61	11	*e*Pn	Pn	11 31 51.2	+2.1
IVA				*i* Sn	Sb	11 32 23.8	-2.2
BRY	Bratogost	2.64	349	*e*Pn	Pn	11 31 52.0	+2.4
BRY				*i* Sn	Sb	11 32 26.0	-0.8
STIP	Stip	2.64	57	*i* Pn	Pb	11 31 52.8	-1.3
AGG	Agios Georgios	2.73	117	P	Pn	11 31 52.5	+1.8
VAY	Valandovo	2.74	67	*i* Pn	Pg	11 31 58.3	-0.7
STON	Ston	2.80	337	*e*Pn	Pn	11 31 51.3	-0.3
STON				Sn	Sn	11 32 24.2	-1.4
UPM	Unac-Piva	2.90	356	*e*Pn	Pn	11 31 55.5	+2.3
UPM				*e*Sn	Sb	11 32 32.1	-2.3
LSTV	Lastovo	3.01	325	*e*Pn	Pn	11 31 54.7	+0.1
LSTV				Sn	Sn	11 32 28.7	-2.2
PLE	Pljevlja	3.02	2	*e*Pn	Pn	11 31 57.0	+2.2
PLE				*i* Sn	Sn	11 32 34.7	+3.4
MAKA	Makarska	3.40	332	*e*Pn	Pn	11 32 01.0	+1.1
MAKA				Sn	Sn	11 32 39.3	-1.1
HVAR	Hvar	3.54	325	*e*Pn	Pn	11 32 01.8	+0.1
HVAR				Sn	Sn	11 32 42.0	-1.8
RICI	Ricice	3.54	335	*e*Pn	Pn	11 32 02.7	+0.9
RICI				Sn	Sn	11 32 42.8	-1.2
KIJV	Kijevo	4.24	331	*e*Pn	Pn	11 32 12.8	+1.3
KIJV				Sn	Sn	11 33 00.0	-1.2
ZIRJ	Zirje	4.27	323	*e*Pn	Pn	11 32 12.5	+0.7
ZIRJ				Sn	Sn	11 32 59.8	-2.1
MORI	Morici	4.41	325	*e*Pn	Pn	11 32 14.8	+1.0
MORI				Sn	Sn	11 33 04.4	-0.9
DUGI	Dugi Otok	4.80	321	*e*Pn	Pn	11 32 20.2	+1.1
DUGI				Sn	Sn	11 33 13.7	-1.4
VIRC	Vir	5.04	324	*e*Pn	Pn	11 32 23.3	+1.0
VIRC				Sn	Sn	11 33 19.6	-1.2
PLIT	Plitvice	5.28	331	*e*Pn	Pn	11 32 26.3	+0.6
PLIT				Sn	Sn	11 33 25.3	-1.5
NVLJ	Novalja	5.33	324	*e*Pn	Pn	11 32 26.4	+0.1
NVLJ				Sn	Sn	11 33 25.9	-2.1
A250A	Rusevo Krmpots	5.73	328	*e*Pn	Pn	11 32 32.1	+0.2
A250A				Sn	Sn	11 33 35.4	-2.5
SMRN	Sveta Marina	6.02	323	*e*Pn	Pn	11 32 36.7	+0.9
SMRN				Sn	Sn	11 33 42.7	-2.2
BRJN	Brijuni	6.11	321	*e*Pn	Pn	11 32 37.7	+0.6
BRJN				Sn	Sn	11 33 45.3	-1.9

*DNK **05** 11:34:33.8±2.4, 56°13N×11°49E, h0km, ML2.5, Explosion*
*BER **05** 11:34:34.9±1.4, 56°18N×11°33E, h0km±7km, ML1.5, ML2.4(UPP)*
*IDC **05** 11:34:39.9±2.8, 56°60N×11°44E, h0km, mb1 3.3/3, mb1mx3.0/43, mbtmp3.1/3, ML2.0/3, Error ellipse: s-maj=33.3km s-min=21.2km az=85.0*
UPP 05 11:34:31.4±1.6**, 56°05N**×**11°33E, h0**km**, ML2.4, 1D, Suspected explosion, Denmark**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COP	Copenhagen	0.72	120	*i* P	Pb	11 34 47.2	+0.4
COP				*e*P	Pn	11 34 49.1	+0.3
COP				*e*S	Sn	11 34 59.6	-0.9
COP				IAML		11 35 47.5	
	comp=Z,1μm,0.9s						
COP	Copenhagen	0.72	120	*e*P	Pn	11 34 49.1	+0.3
COP				*e*S	Sn	11 34 59.6	-0.9
LLD	Lille Linde	0.88	145	*i* P	Pn	11 34 50.8	-0.2
FABU	Falkenberg	1.23	38	*i* P	Pg	11 34 54.1	-0.8
FABU				*i* S	Sg	11 35 09.8	-1.0
FABU				IAML		11 35 21.4	
	comp=Z,52nm,0.8s						
MUD	Monsted U'grnd	1.27	290	*i* P	Pn	11 34 58.5	+2.1
MUD				*e*P	Pb	11 34 58.6	+2.4
MUD				*e*S	Sg	11 35 12.4	+0.2
MUD	Monsted U'grnd	1.27	290	*e*P	Pn	11 34 58.6	+2.2
MUD				*e*S	Sg	11 35 12.4	+0.2
ONAU	Onsala	1.39	13	*i* P	Pn	11 34 57.5	-0.5
ONAU				*i* S	Sg	11 35 15.7	-0.3
OVD	Ostervraa, Den	1.42	335	*i* P	Pb	11 35 00.0	+1.4
DEL	Delary	1.48	72	*i* P	Pn	11 34 58.5	-0.7
DEL				*i* S	Sg	11 35 19.0	0.0
DEL				IAML		11 35 29.9	
	comp=Z,21nm,0.8s						
GOET	G??ttrup	1.53	311	*i* P	Pg	11 35 01.4	+0.7
BORU	Boraas	1.78	26	P	Pn	11 35 03.4	0.0
BORU				*i* P	Pb	11 35 03.4	-1.4
BORU				*i* S	Sn	11 35 14.5	-12
BORU	Boraas	1.78	26	P	Pn	11 35 03.4	0.0
BORU	Boraas	1.78	26	P	Pn	11 35 03.4	0.0
TJOU	Tjoern	2.00	5	*i* P	Pn	11 35 06.4	+0.1
TJOU				P	Pb	11 35 06.5	-2.0
TJOU				*i* S	Sb	11 35 33.4	-0.5
TJOU	Tjoern	2.00	5	P	Pn	11 35 06.5	+0.2
TJOU	Tjoern	2.00	5	P	Pn	11 35 06.5	+0.2
VXJU	Vaexsjoe	2.19	65	S	Sb	11 35 39.0	-0.4
VXJU	Vaexsjoe	2.19	65	S	Sb	11 35 39.0	-0.4
VXJU	Vaexsjoe	2.19	65	S	Sb	11 35 39.0	-0.4
BSD	Bornholm Skovb	2.24	113	*i* P	Pn	11 35 10.2	+0.5
BSD				*e*P	Pb	11 35 12.3	-0.4
BSD				*e*S	Sb	11 35 40.2	-0.8
BSD	Bornholm Skovb	2.24	113	*e*P	Pb	11 35 12.3	-0.4
BSD				*e*S	Sb	11 35 40.2	-0.8
VANU	Vaenersborg	2.48	9	P	Pn	11 35 13.4	+0.3
VANU				S	Sn	11 35 45.3	+1.3
VANU	Vaenersborg	2.48	9	P	Pn	11 35 13.4	+0.3
VANU				S	Sn	11 35 45.3	+1.3
VANU	Vaenersborg	2.48	9	P	Pn	11 35 13.4	+0.3
VANU				S	Sn	11 35 45.3	+1.3
BLEU	Blekinge	2.52	82	P	Pn	11 35 13.7	+0.2
BLEU				*i* P	Pb	11 35 14.6	-2.9
BLEU				*i* S	Sn	11 35 42.9	-2.0
BLEU				IAML		11 35 52.6	
	comp=Z,2.7nm,0.7s						
BLEU	Blekinge	2.52	82	P	Pn	11 35 13.7	+0.2
BLEU	Blekinge	2.52	82	P	Pn	11 35 13.7	+0.2
HOMB	Homborsund	2.71	327	*i* P	Pn	11 35 12.0	-4.1
HOMB				*e*P	Pb	11 35 15.9	-4.7
HOMB				*e*S	Sn	11 35 46.5	-3.0
HOMB				IAML		11 35 51.4	
	comp=Z,4.8nm,0.9s						
HOMB	Homborsund	2.71	327	*e*P	Pn	11 35 15.9	-0.2
HOMB				*e*S	Sn	11 35 46.5	-3.0
HOMB				IAML		11 35 51.4	
	comp=Z,4.8nm,0.9s						
STRU	Stroemstad	3.00	359	⇓*i*P	Pn	11 35 20.4	+0.3
STRU				P	Pb	11 35 20.6	-5.0
STRU				*e*P	Pb	11 35 20.7	-4.8
STRU				*e*S	Sn	11 35 53.8	-2.8
STRU				*i* S	Sb	11 36 02.2	-0.4
STRU				IAML		11 36 04.3	
	comp=Z,4.8nm,0.5s						
STRU	Stroemstad	3.00	359	P	Pn	11 35 20.6	+0.5
STRU				*e*P	Pb	11 35 20.7	-4.8
STRU				*e*S	Sn	11 35 53.8	-2.8
STRU	Stroemstad	3.00	359	P	Pn	11 35 20.6	+0.5
SNART	Snartemo	3.21	317	*i* P	Pn	11 35 23.1	+0.1
FINU	Finntorp	3.42	10	P	Pn	11 35 25.8	-0.2
FINU	Finntorp	3.42	10	P	Pn	11 35 25.8	-0.2
FINU	Finntorp	3.42	10	P	Pn	11 35 25.8	-0.2
KONO	Kongsberg	3.73	346	*e*P	Pn	11 35 30.1	-0.1
KONO				*e*S	Sn	11 36 11.1	-3.6
KONO				IAML		11 36 33.6	
	comp=Z,2.8nm,0.3s						
KONO	Kongsberg	3.73	346	*e*P	Pn	11 35 30.1	-0.1
KONO				*e*S	Sn	11 36 11.1	-3.6
KONO				IAML		11 36 33.6	
	comp=Z,2.8nm,0.3s						
OSL	Oslo	3.91	356	*e*P	Pn	11 35 32.6	0.0
OSL	Oslo	3.91	356	*e*P	Pn	11 35 32.6	0.0
HFS	Hagfors	4.29	16	Pn	Pn	11 35 37.2	-0.6
	comp=Z,0.1nm,0.3s,baz=242,slow=28,SNR=5.0						
HFS				Sn	Sn	11 36 19.0	-9.4
	comp=Z,0.4nm,0.3s,baz=53,slow=24,SNR=4.1						
HFS				Lg	Lg	11 36 38.7	
	comp=Z,0.4nm,0.3s,baz=113,slow=3.9,SNR=2.1						
NC602	NORSAR Array S	4.70	1	*e*P	Pn	11 35 43.4	-0.1
NC602				*e*S	Sn	11 36 33.7	-5.0
NC602				IAML		11 36 38.5	
	comp=Z,1.3nm,0.6s						
NC602	NORSAR Array S	4.70	1	*e*P	Pn	11 35 43.4	-0.1
NC602				*e*S	Sn	11 36 33.7	-5.0
NC602				IAML		11 36 38.5	
	comp=Z,1.3nm,0.6s						
NAO01	NORSAR Array S	4.82	357	*e*P	Pn	11 35 44.7	-0.4
NAO01				*e*S	Sn	11 36 36.1	-5.4
NAO01				IAML		11 36 39.1	
	comp=Z,1.5nm,0.6s						
NAO01	NORSAR Array S	4.82	357	*e*P	Pn	11 35 44.7	-0.4
NAO01				*e*S	Sn	11 36 36.1	-5.4
NAO01				IAML		11 36 39.1	
	comp=Z,1.5nm,0.6s						
SKAR	Skarslia	4.91	342	*e*P	Pn	11 35 45.9	-0.5
SKAR				*e*S	Sn	11 36 39.1	-4.8
SKAR				IAML		11 36 49.2	
	comp=Z,1.5nm,0.8s						
SKAR	Skarslia	4.91	342	*e*P	Pn	11 35 45.9	-0.5
SKAR				*e*S	Sn	11 36 39.1	-4.8
SKAR				IAML		11 36 49.2	
	comp=Z,1.5nm,0.8s						
NBO00	NORSAR Array S	5.01	357	*e*P	Pn	11 35 47.0	-0.7
NBO00	NORSAR Array S	5.01	357	*e*P	Pn	11 35 47.0	-0.7
NOA	NORSAR Array B	5.01	359	Pn	Pn	11 35 47.4	-0.4
	comp=Z,0.0nm,0.3s,baz=184,slow=13,SNR=8.5						
NOA				Lg	Lg	11 37 00.2	
	comp=Z,0.1nm,0.3s,baz=238,slow=7.0,SNR=5.2						
NB201	NORSAR Array S	5.02	360	*e*P	Pn	11 35 47.5	-0.4
NB201				*e*S	Sn	11 36 40.9	-5.5
NB201				IAML		11 36 49.1	
	comp=Z,1.1nm,0.8s						
NB201	NORSAR Array S	5.02	360	*e*P	Pn	11 35 47.5	-0.4
NB201				*e*S	Sn	11 36 40.9	-5.5
NB201				IAML		11 36 49.1	
	comp=Z,1.1nm,0.8s						
DOMB	Dombas	6.12	350	*e*P	Pn	11 36 02.5	-0.5
DOMB				*e*S	Sn	11 37 07.4	-6.4
DOMB				IAML		11 37 16.1	
	comp=Z,5.6nm,0.1s						
DOMB	Dombas	6.12	350	*e*P	Pn	11 36 02.5	-0.5
DOMB				*e*S	Sn	11 37 07.4	-6.4
DOMB				IAML		11 37 16.1	
	comp=Z,5.6nm,0.1s						
FINES	FINESS Array B	9.37	49	Pn	Pn	11 36 47.1	-0.4
	baz=245,slow=15,SNR=1.1						
ARCES	ARCESS Array B	14.94	20	Pn	Pn	11 37 59.0	-4.5
	baz=208,slow=14,SNR=1.8						

*DNK **05** 11:34:55.6±0.5, 57°32N×13°75E, h0km, ML1.9(UPP), Explosion*
UPP 05 11:34:55.3±0.1**, 57°32N**×**13°77E, h1**km±2km**, ML1.9, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GNOU	Gnosjoe	0.04	195	P	Pg	11 34 56.1	+0.1
GNOU				S	Sg	11 34 56.5	+0.1
GNOU	Gnosjoe	0.04	195	P	Pg	11 34 56.1	+0.1
GNOU				S	Sg	11 34 56.5	+0.1
BORU	Boraas	0.62	300	P	Pg	11 35 06.9	-0.4
BORU	Boraas	0.62	300	P	Pg	11 35 06.9	-0.4
FABU	Falkenberg	0.66	241	P	Pg	11 35 07.7	-0.2
FABU	Falkenberg	0.66	241	P	Pg	11 35 07.7	-0.2
VXJU	Vaexsjoe	0.75	122	P	Pg	11 35 09.3	-0.4
VXJU				S	Sg	11 35 19.6	+0.2
VXJU	Vaexsjoe	0.75	122	P	Pg	11 35 09.3	-0.4
VXJU				S	Sg	11 35 19.6	+0.2
VXJU	Vaexsjoe	0.75	122	P	Pg	11 35 09.3	-0.4
VXJU	Vaexsjoe	0.75	122	P	Pg	11 35 09.3	-0.4
VXJU	Vaexsjoe	0.75	122	P	Pg	11 35 09.3	-0.4
FKPU	Falk	0.84	358	P	Pg	11 35 11.0	-0.3
FKPU	Falk	0.84	358	P	Pg	11 35 11.0	-0.3
LNKU	Linkoeping	1.29	45	P	Pg	11 35 19.2	-0.9
LNKU	Linkoeping	1.29	45	P	Pg	11 35 19.2	-0.9
VSTU	Vaestervik	1.53	76	P	Pn	11 35 23.3	-0.3
VSTU				S	Sb	11 35 44.2	0.0
VSTU	Vaestervik	1.53	76	P	Pn	11 35 23.3	-0.3
VSTU				S	Sb	11 35 44.2	0.0
ASKU	Askersund	1.67	19	P	Pn	11 35 26.0	+0.3
ASKU	Askersund	1.67	19	P	Pn	11 35 25.9	+0.3
ASKU	Askersund	1.67	19	P	Pn	11 35 26.0	+0.3
ASKU	Askersund	1.67	19	P	Pn	11 35 26.0	+0.3
ASKU	Askersund	1.67	19	P	Pn	11 35 25.9	+0.3

*SOME **05** 11:39:17.9, 44°87N×77°12E, h10km*
NNC 05 11:39:18.4±0.3**, 43°42N**×**77°65E, h0**km**, mb1.8, mpv2.3, 5C-1D, Error ellipse: s-maj=3.4km s-min=1.4km az=160.0, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDOK	Medeo	0.50	240	⇑P	Pg	11 39 28.2	+0.2
	1.4nm,0.9s						
MDOK				⇑S	Sg	11 39 35.4	+0.9
	1.0nm,0.5s						
KNDC	Almaty	0.53	249	⇑P	Pg	11 39 28.8	+0.2
	17nm,0.3s						
KNDC				⇑S	Sg	11 39 36.4	+0.9
	13nm,0.3s						
CHKK	Chushkaly	0.65	313	*e*P	Pn	11 39 37.1	+2.2
	2.2nm,0.1s						
CHKK				*e*S	Sn	11 39 50.9	+5.1
	13nm,0.1s						
KPKS	Kokpek	0.76	86	*e*P	Pn	11 39 51.0	+15
	1.5nm,0.1s						
KPKS				*e*S	Sn	11 40 14.7	+26
	4.6nm,0.2s						
KTBS	Karatobe	0.76	293	*e*P	Pn	11 39 40.1	+3.7
	1.3nm,0.1s						
KTBS				*e*S	Sn	11 39 56.4	+7.7
	6.2nm,0.2s						
ARXS	Arharly	0.81	9	*e*P	Pg	11 39 33.5	-0.4
	1.1nm,0.1s						
ARXS				*e*S	Sg	11 39 44.6	+0.2
	6.9nm,0.1s						
ARXS	Arharly	0.81	9	P	Pg	11 39 33.5	-0.4
	1.1nm,0.1s						
ARXS				S	Sg	11 39 44.6	+0.2
	7.5nm,0.3s						
BLB	Baldybastay	0.91	41	*e*P	Pn	11 39 40.8	+2.2
	2.9nm,0.2s						
BLB				*e*S	Sn	11 39 57.3	+4.8
	3.7nm,0.1s						
KUU	Kurty	1.06	297	*e*P	Pg	11 39 38.8	0.0
	1.4nm,0.1s						
KUU				*e*S	Sb	11 39 53.7	-0.4
	8.5nm,0.2s						
KUU	Kurty	1.06	297	P	Pg	11 39 38.8	0.0
	1.4nm,0.1s						
KUU				S	Sb	11 39 53.7	-0.4
	8.5nm,0.2s						
PDGK	Podgornoye	1.35	93	⇑P	Pg	11 39 43.7	-0.5
	1.9nm,1.1s						
PDGK				⇓S	Sb	11 40 02.2	-0.3
	0.7nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBS	Karabastau	1.46	282	eP	Pn	11 39 46.1	+0.1
	0.3nm,0.1s						
KRBS				eS	Sn	11 40 06.7	+0.8
	3.5nm,0.2s						
KRBS	Karabastau	1.46	282	P	Pn	11 39 46.1	+0.1
	0.4nm,0.2s						
KRBS				S	Sn	11 40 06.7	+0.7
	3.5nm,0.2s						
TDK	Taldyqorghan	1.68	19	eP	Pn	11 39 35.2	-14
	54nm,0.2s						
TDK				eS	Sn	11 39 47.7	-24
	37nm,0.5s						
KAPS	Kapalarasan	2.24	33	eP	Pn	11 39 47.8	-8.9
	1.4nm,0.2s						
KAPS				eS	Sn	11 40 09.4	-16
	6.6nm,0.2s						

*DDA **05** 11:41:05.8±0.0, 38°.58N×40°.70E, h7^{km}±3^{km}, ML2.0*
*ISK **05** 11:41:06.2, 38°.55N×40°.74E, h14^{km}, ML2.5/5*
ISC 05 11:41:06.1±1.1**, 38°.57N**±0°.03×**40°.74E**±0°.03**, h12**^{km}±9^{km}**, n13, σ0^{s}.57**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HANI	Diyarbakir_Han	0.31	239	P	Pg	11 41 11.9	-0.5
HANI				i AML	AML	11 41 16.0	
	comp=E,251nm,0.4s						
HANI				S	Sg	11 41 16.6	0.0
BNGB	Bingl	0.42	354	PG	Pb	11 41 15.2	-0.3
BNGB				SG	Sb	11 41 22.2	+0.3
SLHN	Bingol, Solhan	0.44	30	P	Pg	11 41 14.8	-0.1
SLHN				S	Sb	11 41 23.1	+0.5
SVAN	Silvan-Diyarba	0.56	139	PG	Pb	11 41 17.6	-0.2
SVAN				SG	Sb	11 41 25.3	-0.4
SVAN	Silvan-Diyarba	0.56	139	P	Pg	11 41 17.3	+0.4
SVAN				S	Sb	11 41 25.6	-0.1
MUSM	Mu-Merkez	0.62	76	P	Pg	11 41 17.9	-0.4
MUSM				S	Sb	11 41 27.7	-0.1
KOVA	Elazig, Kovanc	0.74	281	P	Pg	11 41 20.0	-0.3
KOVA				S	Sn	11 41 32.6	-1.1
DYBB	Diyarbakir	0.78	217	PG	Pb	11 41 21.3	-0.3
DYBB				SG	Sb	11 41 32.5	+0.4
BTMN	Batman	0.80	148	P	Pb	11 41 22.1	+0.1
BTMN				S	Sb	11 41 33.7	+0.9
BTMN				i AML	AML	11 41 34.0	
	comp=E,55nm,0.6s						
MAZI	Mazidag	1.14	192	PN	Pb	11 41 27.5	-0.2
SVRC	Sivrice-ELAZID	1.14	261	PN	Pn	11 41 28.6	+0.6
SVRC				SN	Sn	11 41 44.4	+0.7
MARD	Mardin	1.26	178	P	Pn	11 41 29.0	-0.6
MARD				S	Sb	11 41 46.0	-0.1
MARD				i AML	AML	11 41 47.0	
	comp=E,93nm,0.5s						
ELZG	Elazig	1.38	267	P	Pg	11 41 32.1	-0.4
ELZG				S	Sg	11 41 51.9	+1.4
ELZG				i AML	AML	11 42 00.0	
	comp=E,26nm,0.7s						

*IDC **05** 11:44:34.6±3.1, 6°.13S×146°.20E, h102^{km}±28^{km}, mb3.5/7, mb1 3.7/10, mb1mx3.4/36, mbtmp3.9/10, Error ellipse: s-maj=28.4km s-min=20.2km az=114.0*
ISC 05 11:44:34.4±0.8**, 6°.09S**±0°.09×**146°.2E**±0°.2**, h100**^{km}**, n13, σ0^{s}.77**/13**, mb3.7**/7**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.44	164	P	Pn	11 45 27.1	+1.0
	12nm,0.3s,baz=26,slow=4.4,SNR=36						
PMG				S	Sn	11 46 05.0	-1.1
	6.9nm,0.3s,baz=1.3,slow=8.2,SNR=4.8						
CTA	Charters Tower	13.92	180	P	Pn	11 47 47.9	+0.6
	0.1nm,0.3s,baz=256,slow=14,SNR=1.9						
WRA	Warramunga Arr	17.94	219	P	P	11 48 36.4	-0.4
	0.2nm,0.3s,baz=41,slow=11,SNR=12						
ASAR	Alice Springs	21.09	213	P	P	11 49 11.4	+0.4
	1.2nm,0.7s,baz=38,slow=10,SNR=14						
FITZ	Fitzroy Crossi	23.32	237	P	P	11 49 33.5	-0.4
	5.5nm,0.8s,baz=41,slow=7.3,SNR=15						
STKA	Stephens Creek	26.01	189	P	P	11 49 57.9	-0.2
	1.7nm,0.7s,baz=3.8,slow=8.7,SNR=5.0						
PETK	Petropavlovsk-	59.77	8	P	P	11 54 29.6	+0.8
	2.0nm,0.9s,baz=154,slow=6.4,SNR=5.3						
VNDA	Vanda	71.88	176	P	P	11 55 45.7	-0.4
	0.5nm,0.6s,baz=284,slow=9.1,SNR=4.6						
MKAR	Makanchi Array	77.04	321	P	P	11 56 17.1	+0.5
	0.2nm,0.4s,baz=108,slow=7.8,SNR=2.2						
ILAR	Eielson Array	85.88	23	P	P	11 57 01.5	-1.3
	0.8nm,0.6s,baz=248,slow=4.9,SNR=11						
TORD	Torodi Ar. Bea	144.31	284	PKP	PKPbc	12 03 59.3	+0.9
	1.0nm,0.4s,baz=64,slow=3.0,SNR=20						
SIV	San Ignacio	145.24	129	PKPbc	PKPab	12 04 01.5	+0.1
	1.8nm,0.6s,baz=212,slow=2.9,SNR=8.4						
DBIC	Dimbokro	151.21	273	PKPbc	PKPbc	12 04 16.8	-0.4
	1.9nm,0.5s,baz=82,slow=4.5,SNR=5.7						

*IDC **05** 11:55:06.2±1.6, 16°.29S×72°.55W, h113^{km}±16^{km}, mb3.4/4, mb1 3.6/8, mb1mx3.4/26, mbtmp3.9/8, Error ellipse: s-maj=24.4km s-min=13.0km az=28.0*
*VAO **05** 11:55:07.3±0.8, 16°.04S×72°.48W, h87^{km}, mb4.1*
ISC 05 11:55:04.5±0.8**, 16°.28S**±0°.06×**72°.49W**±0°.08**, h76**^{km}**, n35, σ2^{s}.07**/38**, mb3.6**/4**, 3D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	2.92	136	eP	Pn	11 55 50.2	+1.6
AP01				i S	Sn	11 56 24.1	+1.4
AP01				IAML		11 56 26.5	
	comp=N,2µm,0.3s						
PB12	IPOC Station P	3.10	139	⇓i P	Pn	11 55 52.0	+0.7
PB12				i S	Sn	11 56 27.2	-0.1
PB12				IAML		11 56 28.8	
	comp=N,458nm,0.7s						
LPAZ	La Paz	4.18	91	P	Pn	11 56 11.1	+4.7
	comp=N,4.1nm,0.3s,baz=263,slow=9.2,SNR=60						
LPAZ				S	Sn	11 56 59.5	+5.1
	comp=N,1.6nm,0.3s,baz=63,slow=24,SNR=2.5						
PB11	IPOC Station P	4.38	143	⇓i P	Pn	11 56 08.9	+0.2
PB11				i S	Sn	11 56 57.7	-1.0
GO01	Chusmiza	4.60	138	⇓i P	Pn	11 56 13.1	+1.1
GO01				i S	Sn	11 57 04.5	+0.1
NNA	Nana	6.00	315	P	Pn	11 56 31.4	+0.6
	comp=N,5.1nm,0.3s,baz=132,slow=14,SNR=4.3						
NNA				S	Sn	11 57 40.3	+2.0
	comp=N,5.3nm,0.3s,baz=245,slow=18,SNR=1.8						
LVC	Limon Verde	7.14	152	P	Pn	11 56 47.0	+0.4
	comp=N,19nm,0.3s,baz=324,slow=11,SNR=178						
LVC				S	Sn	11 58 03.7	-2.8
	comp=N,3.6nm,0.3s,baz=211,slow=22,SNR=2.6						
CZSB	Cruzeiro do Su	8.50	359	eP	Pn	11 57 04.3	-0.6
ETMB	Extrema	8.87	44	eP	Pn	11 57 08.8	-1.1
SIV	San Ignacio	10.97	90	P	Pn	11 57 39.2	+0.6
	comp=N,0.2nm,0.3s,baz=238,slow=14,SNR=1.8						
SIV				S	Sn	11 59 33.1	-6.6
	comp=N,0.2nm,0.3s,baz=356,slow=20,SNR=1.2						
PTLB	Pontes e Lacer	12.87	88	eP	Pn	11 58 06.7	+2.3
SALV	Santo Antonio	16.14	91	eP	P	11 58 48.5	-0.3
CLDB	Colider	17.09	74	eP	Pn	11 58 58.6	0.0
H03N1	Juan Fernandez	18.05	198	T	T	12 17 33.9	
	baz=22,slow=73,SNR=155						
H03N2	Juan Fernandez	18.05	198	T	T	12 17 30.6	
	baz=22,slow=73,SNR=136						
H03N3	Juan Fernandez	18.06	198	T	T	12 17 32.7	
	baz=22,slow=73,SNR=137						
NPGB	Novo Progresso	19.11	63	eP	P	11 59 21.8	+0.3
ITQB	Itaqui	19.74	135	eP	Pn	11 59 31.5	+1.2
PCMB	Pacaembu	20.75	108	eP	Pn	11 59 40.5	-1.9
ITAB	Concordia	21.79	123	eP	P	11 59 51.7	+1.4
BOAV	Boa Vista	22.00	34	eP	P	11 59 51.3	-1.3
CPSB	Cacapava Do Su	22.39	132	eP	P	11 59 59.4	+2.7
FRTB	Fartura	22.66	112	eP	P	12 00 01.8	+2.1
PLTB	Pedras Altas	23.07	135	eP	P	12 00 07.0	+3.3
BDFB	Brasilia	23.54	92	P	P	12 00 06.7	-1.6
	comp=N,2.7nm,0.5s,baz=195,slow=12,SNR=4.0						
BDFB	Brasilia	23.54	92	eP	P	12 00 07.1	-1.2
PEXB	Peixe	23.80	83	eP	P	12 00 10.4	-0.2
PLCA	Paso Flores	24.42	176	P	P	12 00 15.3	-0.7
	comp=N,1.3nm,0.8s,baz=354,slow=10,SNR=4.5						
MCPB	Macapa, AP	25.61	54	eP	P	12 00 27.6	+0.6
MC01	Montes Claros	27.36	95	eP	P	12 00 45.4	+2.6
VAS01	Vassouras-RJ	28.03	107	eP	P	12 00 49.4	+0.7
GUA01	Guaratinga, BA	31.33	95	eP	P	12 01 19.9	+1.9
NBAN	Anadia - AL	35.85	84	eP	P	12 01 57.5	+0.2
TORD	Torodi Ar. Bea	78.93	73	P	P	12 06 57.9	-2.4
	comp=N,0.7nm,0.6s,baz=245,slow=4.6,SNR=5.9						
YKA	Yellowknife Ar	85.18	342	P	P	12 07 29.8	-2.2
	comp=N,0.1nm,0.7s,baz=139,slow=5.5,SNR=2.8						

*IDC **05** 12:12:01.4±0.4, 38°.89N×67°.08E, h0^{km}, mb4.7/35, mb1 4.8/43, mb1mx4.7/49, mbtmp4.7/43, ML4.4/8, MS4.3/66, Ms1 4.3/66, ms1mx4.2/90, Error ellipse: s-maj=10.4km s-min=7.4km az=161.0*
*NNC **05** 12:12:02.6±0.9, 39°.31N×66°.80E, h0^{km}, mb5.5, mpv5.2, Error ellipse: s-maj=11.5km s-min=5.5km az=162.0*
*BJI **05** 12:12:03.0±0.0, 39°.28N×67°.17E, h12^{km}, mb4.7/63, mB4.9/44, ML4.6/2, Ms4.7/61, Ms7 4.6/57*
*MOS **05** 12:12:04.2±1.1, 39°.15N×67°.15E, h26^{km}, mb5.1/70, MS4.5/23, Error ellipse: s-maj=4.0km s-min=3.3km az=59.6*
MOS Felt (III-IV) at Samarkand, (II-III) at Navoi, Karshi, (II) at Termez.
*NEIC **05** 12:12:05.9, 39°.14N×67°.09E, h26^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}3.43; $M_{\theta\theta}$-1.91; $M_{\phi\phi}$-1.52; $M_{r\theta}$1.34; $M_{\theta\phi}$-2.99; $M_{\phi r}$-0.22; Fault plane solution: $M_0$4.43000×10^{16} NP1:ϕ_s205.51000°, δ43.47000°, λ57.54000°. NP2:ϕ_s66.74000°, δ54.51000°, λ116.97000°. Principal axes: T 3.9434, Plg67.0000°, Azm34.0000°; N 0.8524, Plg22.0000°, Azm230.0000°; P -4.7958, Plg6.0000°, Azm138.0000°;*
*GCMT **05** 12:12:05.2±0.2, 39°.05N±0°.02×66°.85E±0°.02, h23^{km}±1^{km}, MW4.9/80, Moment Tensor Solution. s53,c61; s80,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.77±.15; $M_{\theta\theta}$-0.46±.12; $M_{\phi\phi}$-1.32±.11; $M_{r\theta}$0.40±.22; $M_{\theta\phi}$-2.39±.09; $M_{\phi r}$-1.19±.19; Best double couple: $M_0$3.08800×10^{16} NP1:ϕ_s74.00000°, δ51.00000°, λ146.00000°. NP2: ϕ_s187.00000°, δ64.00000°, λ44.00000°. Principal axes: T 2.7730, Plg49.0000°, Azm47.0000°; N 0.6250, Plg40.0000°, Azm212.0000°; P -3.4030, Plg8.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **05** 12:12:06.2±1.5, 39°.11N±0°.05×67°.10E±0°.07, h24^{km}±3^{km}, mb5.0/197, Mwr5.0/25 Error ellipse: s-maj=8.0km s-min=7.5km az=188.0*
*BGR **05** 12:12:13.6±0.0, 39°.31N×65°.88E, h10^{km}, mb4.5, Ms4.3*
*SOME **05** 12:12:17.4, 39°.32N×67°.57E, h0^{km}, MS4.4*
*ISU **05** 12:12:20.4, 39°.07N×67°.02E, h11^{km}, Hypocentre not reviewed by the ISC*
ISC 05 12:12:04.4±0.4**, 39°.11N**±0°.02×**67°.05E**±0°.02**, h17**^{km}±2^{km}**, h17**^{km}**:pP-P, n822, σ1^{s}.72**/864**, mb4.9**/232**, MS4.4**/98**, 45C-42D, Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAM	Samarkand	0.56	356	P		12 12 17.0	
PKMR	Pachkamar	0.77	222	P		12 12 19.4	
PKMR				S		12 12 30.3	
BXML	Bakhmal	0.95	53	P		12 12 21.0	
DZI	Dzhizak	1.17	30	P		12 12 28.1	
CHGR	Chuyangaron	1.71	105	PN	Pn	12 12 34.0	+0.5
CHGR	Chuyangaron	1.71	105	Pn	Pn	12 12 34.0	+0.5
GAR	Garm	2.55	91		Pn	12 12 47.2	+2.2
NZBK	Nazarbek	2.64	36	P		12 12 49.8	
TAS	Tashkent	2.80	37	PN	Pb	12 12 50.8	-3.2
TAS	Tashkent	2.80	37		Pb	12 12 50.8	-3.2
TAS	Tashkent	2.80	37	P		12 12 50.8	
TGS	TashGRES	2.98	39	P		12 12 51.8	
BTK	Batken	3.06	71	PN	Pn	12 12 54.4	+2.3
BTK	Batken	3.06	71		Pn	12 12 54.4	+2.3
BTK	Batken	3.06	71	P		12 12 54.4	
TMD	Tamdy-Bulak	3.21	326	P		12 12 56.2	
DZN	Dzhankel'dy	3.33	303	P		12 12 57.6	
CHRV	Charvak	3.36	40	P		12 12 58.4	
CHMI	Chimion	3.64	70	P		12 13 02.4	
DRK	Karamyk	3.71	83		Pn	12 12 59.9	-1.2
SHAK	Shakhimardan	3.72	75	P		12 13 03.7	
CHM	Chimkent	3.75	30	eP	Pg	12 13 21.3	+5.2
	796nm,0.5s						
CHM				eS	Sg	12 14 07.7	+3.0
	10µm,0.6s						
IUG	Iuzhnay	3.79	36	ePN	Pn	12 13 01.8	-0.3
IUG				i		12 13 13.2	
IUG	Iuzhnay	3.79	36	eP	Pg	12 13 21.3	+4.3
	21µm,0.6s						
IUG				eS	Sg	12 14 07.1	+1.1
	5µm,1.1s						
IUG	Iuzhnay	3.79	36	ePn	Pn	12 13 01.8	-0.3
	baz=36						
IUG				i Pg	Pg	12 13 13.3	-3.7
	baz=36						
FRG	Fergana	3.86	69	P		12 13 05.2	
NAM	Namangan	4.01	61	P		12 13 07.1	
BRLS	Borolday	4.45	27	ePN	Pn	12 13 07.5	-3.5
BRLS	Borolday	4.45	27	eP	Pg	12 13 27.1	-2.4
	67nm,0.5s						
BRLS				eS	Sb	12 14 17.9	+2.5
	946nm,0.9s						
BRLS	Borolday	4.45	27	ePn	Pn	12 13 07.6	-3.5
	baz=28						
KK31	Karatay Array	4.77	32	PN	Pn	12 13 16.6	+1.1
KK31	Karatay Array	4.77	32		Pn	12 13 16.6	+1.1
KK31	Karatay Array	4.77	32	Pn	Pn	12 13 16.6	+1.1
	35nm,0.3s,baz=220,slow=14,SNR=587						
KK31				Pg	Pb	12 13 30.1	+2.6
	376nm,0.7s,baz=218,slow=17,SNR=12						
KK31				⇓Lg	Lg	12 14 33.8	
	596nm,0.5s,baz=212,slow=28,SNR=6.3						
KKAR	Karatay Array	4.77	32	PN	Pn	12 13 16.7	+1.2
KKAR	Karatay Array	4.77	32	Pn	Pn	12 13 16.6	+1.1
KKAR	Karatay Array	4.77	32	Pn	Pn	12 13 16.7	+1.2
KBL	Kabul	4.83	160	PN	Pn	12 13 18.9	+2.3
KBL	Kabul	4.83	160	Pn	Pn	12 13 18.9	+2.3
KBL	Kabul	4.83	160	P	Pn	12 13 19.4	+2.8
	SNR=44						
KBL				S	Sn	12 14 15.5	+3.2
DZA	Taraz	4.98	39	ePN	Pn	12 13 17.9	-0.4
DZA				e		12 13 34.6	
DZA	Taraz	4.98	39	eP	Pg	12 13 43.2	+3.5
	457nm,0.2s						
DZA				eS	Sg	12 14 45.1	+1.0
	2µm,1.0s						
DZA	Taraz	4.98	39	ePn	Pn	12 13 17.9	-0.4
	baz=39						
DZA				ePg	Pg	12 13 34.6	-5.0
	baz=39						
AML	Almayashu	5.89	57	P	Pn	12 13 32.7	+1.6
	SNR=138						
AML	Almayashu	5.89	57	P	Pn	12 13 32.8	+1.6
AML	Almayashu	5.89	57	P	Pn	12 13 30.1	-1.1
MRKS	Merke	5.92	50	eP	Pg	12 14 00.4	+2.7
	129nm,0.4s						
MRKS				eS	Sg	12 15 14.8	+0.4
	545nm,0.8s						
HRA	Herat	6.09	221	Pn	Pn	12 13 34.2	+0.4
EKS2	Erkin-Say	6.21	53	P	Pn	12 13 37.6	+2.2
	SNR=42						
UCH	Uchtor	6.47	59	P	Pn	12 13 42.6	+3.3
	SNR=59						
CEP	Cherat	6.57	142	⇓P	Pn	12 13 41.8	+1.4
AAK	Ala-Archa	6.65	56	P	Pn	12 13 43.3	+1.9
	SNR=214						
AAK	Ala-Archa	6.65	56	Pn	Pn	12 13 43.8	+2.4
	44nm,0.3s,baz=238,slow=6.0,SNR=204						
AAK				Sn	Sn	12 15 00.8	+3.9
	34nm,0.3s,baz=121,slow=17,SNR=1.8						
AAK				Lg	Lg	12 15 32.7	
	23nm,0.3s,baz=198,slow=12,SNR=4.2						
AAK	Ala-Archa	6.65	56c	i PN	Pn	12 13 42.6	+1.1
AAK	Ala-Archa	6.65	56	Pn	Pn	12 13 42.5	+1.1
AAK	Ala-Archa	6.65	56	P	Pn	12 13 43.4	+1.9
AAK	Ala-Archa	6.65	56	P	Pn	12 13 42.6	+1.1
FRU1	Bishkek	6.83	55	PN	Pn	12 13 45.2	+1.5
FRU1	Bishkek	6.83	55		Pn	12 13 45.2	+1.5
KSH	Kashi	6.93	84	Pn	Pn	12 13 41.9	-3.4
KSH				Sn	Sn	12 14 54.6	-9.3
KSH				smax	smax		
	comp=N,520nm,1.0s						
KSH				smax	smax		
	comp=E,710nm,1.1s						
KSH				LR	LR		
	comp=N,9µm,5.3s						
KSH				LR	LR		
	comp=E,7µm,5.1s						
KSH				LR	LR		
	comp=Z,7µm,9.1s						
KBK	Karagaybulak	6.96	57	P	Pn	12 13 48.1	+2.5
	SNR=108						
USP	Ospenovka	6.99	51	P	Pn	12 13 47.2	+1.2
	SNR=39						
CHMS	Chumysh	7.00	54	P	Pn	12 13 47.7	+1.6
	SNR=51						
CHMS	Chumysh	7.00	54	i PN	Pn	12 13 47.1	+1.0
CHMS				pmax	pmax		
	comp=Z,41nm,0.4s						
CHMS	Chumysh	7.00	54	⇑Pn	Pn	12 13 47.1	+1.0
	comp=Z,128nm,0.8s						
CHMS				⇑Sn	Sn	12 15 06.3	+1.0
	comp=Z,338nm,1.1s						
CHMS				⇑Lg	Lg	12 15 47.2	
	comp=Z,216nm,0.6s						
GEYT	Alibeck	7.10	263	Pn	Pn	12 13 47.0	-0.5
	comp=Z,6.4nm,0.3s,baz=89,slow=15,SNR=13						
GEYT				Sn	Sn	12 15 06.1	-1.7
	comp=Z,122nm,0.3s,baz=117,slow=22,SNR=4.8						
GEYT	Alibeck	7.10	263		Pn	12 13 51.0	+3.4
GYA0	ALIBECK ARRAY	7.10	263	PN	Pn	12 13 47.4	-0.1
GYA0B	ALIBECK ARRAY	7.10	263		Pn	12 13 50.5	+3.0
GYA0B	ALIBECK ARRAY	7.10	263	⇑Pn	Pn	12 13 47.5	0.0
GYA0B				⇓Sn	Sn	12 15 04.4	-3.4
SGDS	Sogindy	7.17	50	ePN	Pn	12 13 47.1	-1.3
SGDS				pmax	pmax		
	comp=Z,16nm,0.8s						
SGDS	Sogindy	7.17	50	eP	Pg	12 14 21.3	-0.3
	comp=Z,63nm,0.5s						
SGDS				eS	Sg	12 15 50.2	-4.1
	comp=Z,264nm,0.9s						
SGDS	Sogindy	7.17	50	ePn	Pn	12 13 47.2	-1.3
	comp=Z,16nm,0.8s,baz=51						
THW	Thamme Wali	7.36	147	P	Pn	12 13 52.1	+0.9
NIL	Nilore	7.40	136	P	Pn	12 13 52.5	+0.9
NIL	Nilore	7.40	136	Pn	Pn	12 13 52.5	+0.9
NIL	Nilore	7.40	136	P	Pn	12 13 53.3	+1.7
CHCP	Chirah Chowk	7.40	135	P	Pn	12 13 52.4	+0.8
TKM2	Tokmak 2	7.50	57	P	Pn	12 13 55.3	+2.1
	SNR=75						
TKM2	Tokmak 2	7.50	57	i P	Pn	12 13 54.6	+1.4
TKM2				pmax	pmax		
	comp=Z,40nm,0.4s						
TKM2	Tokmak 2	7.50	57	⇓Pn	Pn	12 13 54.6	+1.4
	comp=Z,40nm,0.4s						
TKM2				⇓Lg	Lg	12 16 03.9	
	comp=Z,494nm,1.0s						
BOOM	Boomskoye usch	7.54	61	P	Pn	12 13 54.6	+0.9
BOOM	Boomskoye usch	7.54	61		Pn	12 13 54.6	+0.9
ULHL	Ulahol	7.66	63	P	Pn	12 13 57.9	+2.6
	SNR=7.4						
KST	Kastek	7.79	57	eP		12 14 32.4	
	comp=Z,46nm,0.6s						
KST				eS		12 16 09.3	
	comp=Z,452nm,1.1s						
BTLS	Baital	7.88	39	eP	Pn	12 13 57.3	-0.9
BTLS				pmax	pmax		
	comp=Z,16nm,1.0s						
BTLS	Baital	7.88	39	eP		12 14 37.4	
	comp=Z,49nm,0.4s						
BTLS				eS		12 16 17.5	
	comp=Z,211nm,0.9s						
BTLS	Baital	7.88	39	ePn	Pn	12 13 57.4	-0.9
	comp=Z,16nm,1.0s,baz=39						
KDJ	Kajisay	8.28	65	P	Pn	12 14 05.2	+1.4
KDJ	Kajisay	8.28	65	Pn	Pn	12 14 05.2	+1.4
KUU	Kurty	8.45	53	eP	Pn	12 14 05.4	-0.6
KUU	Kurty	8.45	53	ePn	Pn	12 14 05.5	-0.6
	baz=53						
KUU				ePg		12 14 37.6	
	baz=53						
AAA	Alma-Ata	8.49	58	eP	Pn	12 14 07.6	+1.0
AAA	Alma-Ata	8.49	58	ePn	Pn	12 14 07.7	+1.0
	baz=58						
KNDC	Almaty	8.53	58	P	Pn	12 14 07.4	+0.2
KNDC	Almaty	8.53	58	⇑Pn	Pn	12 14 08.8	+1.7
	comp=Z,201nm,0.8s						
KNDC				⇓Lg	Lg	12 16 38.2	
	comp=Z,874nm,1.1s						
MDOK	Medeo	8.56	59	eP	Pn	12 14 07.3	-0.3
MDOK	Medeo	8.56	59	ePn	Pn	12 14 07.4	-0.3
	baz=59						
MDOK				eLg	Lg	12 16 34.4	
	baz=59						
MDOK	Medeo	8.56	59	⇑Pn	Pn	12 14 08.8	+1.2
	comp=Z,183nm,0.8s						
MDOK				⇓Lg	Lg	12 16 35.6	
	comp=Z,374nm,1.0s						
TARG	Taragay, Kyrgy	8.61	69		Pn	12 14 09.1	+0.5
CHKK	Chushkaly	8.84	54	eP	Pn	12 14 10.8	-0.5
CHKK	Chushkaly	8.84	54	ePn	Pn	12 14 10.8	-0.5
	baz=55						
JMU	Jammu	9.01	133	eP	Pn	12 14 13.9	+0.2
JMU				eS	Sn	12 15 49.9	-4.9
SATY	Saty	9.44	62	eP	Pn	12 14 19.0	-0.6
SATY	Saty	9.44	62	ePn	Pn	12 14 19.1	-0.6
	baz=62						
ARXS	Arharly	9.54	54	eP	Pn	12 14 21.6	+0.6
THN	Thein Dam	9.69	131	eP	Pn	12 14 23.3	+0.3
THN				eS	Sn	12 16 06.5	-5.0
KPKS	Kokpek	9.78	60	eP	Pn	12 14 24.2	0.0
KPKS	Kokpek	9.78	60	ePn	Pn	12 14 24.3	0.0
	baz=60						
OTUK	Ortayu	9.90	21	P	Pn	12 14 26.6	+0.8
OTUK	Ortayu	9.90	21	⇑Pn	Pn	12 14 25.8	0.0
	comp=Z,54nm,0.7s						
OTUK				⇑Lg	Lg	12 17 15.5	
	comp=Z,331nm,0.9s						
SHLS	Shalkode	10.20	63	eP	Pn	12 14 32.7	+2.6
SHLS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SHLS	Shalkode	10.20	63	ePn	Pn	12 14 32.7	+2.6
	comp=Z,6.2nm,0.6s,baz=64						
PDGK	Podgornoye	10.28	62	P	Pn	12 14 32.0	+0.9
PDGK	Podgornoye	10.28	62	⇓Pn	Pn	12 14 32.1	+0.9
	comp=Z,105nm,0.8s						
PDGK				⇓Lg	Lg	12 17 30.6	
	comp=Z,133nm,1.1s						
BHK	Bhakra	10.84	132	eP	Pn	12 14 38.1	-0.7
BHK				eS	Sn	12 16 33.9	-5.8
AB31	Akbulak array	11.34	336	eP	Pn	12 14 44.6	-1.0
AB31				e		12 16 48.0	
AB31	Akbulak array	11.34	336	⇓Pn	Pn	12 14 42.4	-3.2
	comp=Z,16nm,0.3s,baz=153,slow=12,SNR=1156						
AB31				⇑Sn	Sn	12 16 47.3	-4.6
	comp=Z,170nm,0.8s,baz=164,slow=24,SNR=6.6						
AB31				⇓Lg	Lg	12 17 53.3	
	comp=Z,302nm,0.8s,baz=141,slow=31,SNR=4.2						
ABKAR	Akbulak array	11.34	336		Pn	12 14 44.1	-1.4
SMLA	Simla	11.49	131	eP	Pn	12 14 45.8	-1.8
SMLA				IAmb	IAmb	12 15 01.0	
	comp=Z,173nm,0.7s						
SMLA				eS	Sn	12 16 49.7	-5.8
SMLA				IAML		12 16 56.2	
	comp=N,326nm,0.4s						
BRZS	Berezniki	11.58	18	eP	Pn	12 14 47.9	-0.9
BRZS	Berezniki	11.58	18	ePn	Pn	12 14 47.9	-0.9
	baz=18						
DDI	Dehra Dun	12.60	131	eP	Pn	12 15 05.0	+2.1
DDI				IAmb	IAmb	12 15 12.1	
	comp=Z,261nm,0.8s						
DDI				eS	Sn	12 17 15.1	-7.7
DDI				IAML		12 17 21.2	
	comp=N,271nm,0.3s						
AKTO	Aktyubinsk	13.00	333	Pn	Pn	12 15 07.7	-0.5
	comp=N,2.3nm,0.3s,baz=148,slow=15,SNR=63						
AKTO				Sn	Sn	12 17 22.9	-9.4
	comp=N,2.6nm,0.3s,baz=128,slow=21,SNR=1.9						
AKTO				Lg	Lg	12 18 58.6	
	comp=N,1.4nm,0.3s,baz=108,slow=18,SNR=2.2						
AKTO				LR	LR	12 20 42.3	
	comp=N,2µm,18.8s,baz=148,slow=39						
AKTO	Aktyubinsk	13.00	333	⇓Pn	Pn	12 15 06.4	-1.8
	comp=N,75nm,0.9s						
AKTO				⇓Sn	Sn	12 17 28.6	-3.7
	comp=N,129nm,0.9s						
AKTO				⇓Lg	Lg	12 18 46.7	
	comp=N,411nm,1.1s						
MAKZ	Makanchi	13.35	50	P	Pn	12 15 12.3	-0.8
MAKZ	Makanchi	13.35	50	Pn	Pn	12 15 12.2	-0.8

MAKZ Makanchi 13.35 50 ⇑Pn Pn 12 15 11.9 -1.2
comp=N,46nm,0.9s
MAKZ ⇑Lg Lg 12 19 05.9
comp=N,85nm,1.0s
NDI New Delhi 13.39 138 *e*P Pn 12 15 11.1 -2.5
NDI *e*S Sn 12 17 27.9 -14
NDI *e*S S 12 17 32.0 -34
KUDL Kundal 13.46 142 *e*P Pn 12 15 11.6 -3.0
KUDL *e*S Sn 12 17 32.5 -11
AYAN Aya Nagar 13.50 139 *e*P Pn 12 15 12.0 -3.2
AYAN *e*S Sn 12 17 34.7 -10
MK31 Makanchi Array 13.54 51 *de*P Pn 12 15 15.0 -0.5
MK31 pmax pmax
comp=Z,61nm,0.9s
MK31 Makanchi Array 13.54 51 Pn Pn 12 15 14.6 -1.0
MK31 Makanchi Array 13.54 51 ⇑Pn Pn 12 15 14.8 -0.8
comp=Z,61nm,0.9s,baz=240,slow=12,SNR=226
MK31 ⇓Lg Lg 12 19 11.0
comp=Z,98nm,0.9s
MKAR Makanchi Array 13.54 51 Pn Pn 12 15 14.5 -1.1
comp=Z,1.9nm,0.3s,baz=242,slow=12,SNR=158
MKAR Lg Lg 12 19 09.5
comp=Z,1.0nm,0.3s,baz=245,slow=26,SNR=2.4
MKAR LR LR 12 20 51.1
comp=Z,2μm,19.1s,baz=250,slow=39
MKAR Makanchi Array 13.54 51 *i* P Pn 12 15 15.0 -0.5
MKAR pmax pmax
comp=Z,30nm,0.8s
MKAR Makanchi Array 13.54 51 Pn 12 15 14.7 -0.9
SONA Sohna 13.67 139 *e*P Pn 12 15 15.2 -2.3
SONA *e*S Sn 12 17 38.9 -10
KURBB Kurchatov Arra 14.08 31 Pn Pn 12 15 21.5 -1.4
comp=Z,0.3nm,0.3s,baz=228,slow=12,SNR=43
KURBB Lg Lg 12 19 35.0
comp=Z,0.6nm,0.3s,baz=351,slow=24,SNR=7.1
KURBB LR LR 12 21 35.4
comp=Z,1μm,19.3s,baz=195,slow=40
KURBB Kurchatov Arra 14.08 31 P Pn 12 15 22.0 -0.9
KURBB Kurchatov Arra 14.08 31 ⇑Pn Pn 12 15 21.5 -1.4
comp=Z,75nm,1.3s
KURBB ⇑Lg Lg 12 19 27.0
comp=Z,433nm,1.1s
AJM Ajmer 14.12 151 *e*P Pn 12 15 21.6 -2.0
AJM *e*S Sn 12 17 48.8 -11
BRVK Borovoye 14.13 8 *ce*P Pn 12 15 21.4 -2.2
BRVK pmax pmax
comp=Z,63nm,0.8s
BRVK Borovoye 14.13 8 Pn 12 15 21.2 -2.4
BRVK Borovoye 14.13 8 P Pn 12 15 21.7 -1.8
BRVK S Sn 12 17 54.4 -5.4
BRVK Borovoye 14.13 8 ⇑Pn Pn 12 15 21.0 -2.6
comp=Z,256nm,1.0s
BRVK ⇑Sn Sn 12 17 56.7 -3.1
comp=Z,76nm,0.6s
BRVK ⇑Lg Lg 12 19 24.8
comp=Z,268nm,1.2s
KURK Kurchatov 14.19 31 ⇑*e*P Pn 12 15 23.6 -0.8
KURK pmax pmax
comp=Z,17nm,1.3s
KURK Kurchatov 14.19 31 Pn 12 15 23.7 -0.6
KURK Kurchatov 14.19 31 P Pn 12 15 23.3 -1.0
KURK S Sn 12 17 57.8 -3.5
KURK Kurchatov 14.19 31 ⇑Pn Pn 12 15 23.0 -1.4
comp=Z,54nm,0.8s
KURK ⇓Lg Lg 12 19 32.5
comp=Z,379nm,1.4s
LKRN Lenkeran, Azer 14.23 274 P P 12 15 29.9 -2.5
PTH Pithoragarh 14.46 127 *e*P Pn 12 15 26.7 -1.7
LGTI Lohaghat 14.54 128 *e*P Pn 12 15 25.4 -4.0
LGTI *e*S Sn 12 17 57.0 -13
SEM Semipalatinsk 14.65 35 *e*P Pn 12 15 28.4 -2.6
SEM Semipalatinsk 14.65 35 *e*Pn Pn 12 15 28.4 -2.6
baz=35
MAK Makhachkala 15.24 291 *e*P Pn 12 15 38.5 -0.1
MAK *e*S Sn 12 18 27.4 +0.5
MAK pmax pmax
comp=Z,32nm,0.3s
MAK MLR MLR
comp=Z,3μm,16.0s
SEKA Sheki 15.32 284 P P 12 15 43.6 -0.9
ZSN Zaisan 15.40 51 *e*P Pn 12 15 39.5 -1.3
ZSN Zaisan 15.40 51 *e*Pn Pn 12 15 39.5 -1.3
baz=52
MNGR Mingechevir, A 15.40 283 P P 12 15 47.5 +2.2
BANOM Banah 15.95 218 P Pn 12 15 46.5 -1.6
GANJ Ganja 15.98 282 P P 12 15 52.8 +0.9
WMQ Urumqi 16.17 66 *e*P Pn 12 15 49.4 -1.4
WMQ pP P 12 15 54.1 +0.2
WMQ sP sP 12 16 03.5 +2.1
WMQ S Sn 12 18 47.0 -2.7
WMQ SS S 12 19 09.1 +6.4
WMQ pmax pmax
comp=Z,37nm,0.9s
WMQ pmax pmax
comp=Z,300nm,3.7s
WMQ LR LR
comp=Z,2μm,14.9s
WMQ LR LR
comp=Z,2μm,16.9s
WMQ LR LR
comp=Z,1μm,16.9s
JHNI Jhansi 16.70 141 *e*P Pn 12 15 55.0 -2.6
JHNI *e*S Sn 12 18 49.4 -13
NAX Nakhchivan 16.72 277 P P 12 16 03.5 +3.4
ASHO Ashiyiah 17.12 216 P P 12 16 05.7 +1.1
PYUN Piuthan 17.21 125 *e*P Pn 12 15 59.8 -4.4
comp=Z,389nm,0.8s
GNI Garni 17.21 281 P P 12 16 07.5 +1.8
baz=282,slow=3.3,SNR=11
GNI LR LR 12 24 18.7
comp=Z,863nm,18.4s,baz=88,slow=43
GNI Garni 17.21 281 *ce*P P 12 16 08.4 +2.8
GNI pmax pmax
comp=Z,32nm,0.9s
GNI Garni 17.21 281 Pn 12 16 04.9 +0.8
GNI IAmb IAmb 12 16 55.8
comp=Z,89nm,0.9s
GNI Garni 17.21 281 P P 12 16 06.0 +0.4
GNI P P 12 16 06.0 +0.4
GNI Garni 17.21 281 P P 12 16 07.4 +1.8
FAQ Al Faqa, Dubai 17.29 217 P Pn 12 16 05.4 +0.5
WSAR Wadi Sarin 17.37 207 P Pn 12 16 06.5 +0.5
comp=Z,0.8nm,0.3s,baz=72,slow=8.8,SNR=2.7
WSAR LR LR 12 24 15.5
comp=Z,325nm,21.6s,baz=89,slow=43
ASUD Al Ashush, Dub 17.52 218 P P 12 16 10.6 +1.7
DANN Dangsing 17.54 123 *e*P Pn 12 16 05.6 -2.7
KOLN Koldanda 17.82 124 *e*P Pn 12 16 08.4 -3.4
WBK Wadi Bani Khal 17.84 205 P P 12 16 13.5 +1.0
WBK P P 12 16 13.5 +1.0
ZEI Tsey 17.85 289 *e*P P 12 16 12.5 -0.2
ZEI pmax pmax
comp=Z,30nm,0.7s
BHPL Bhopal 18.12 148 *e*P Pn 12 16 12.4 -2.9
BHPL IAmb IAmb 12 16 22.9
comp=Z,80nm,0.9s
BHPL *e*S Sn 12 19 22.1 -15
NCK Nalchik 18.14 292 *ce*P P 12 16 16.6 +1.0
NCK pmax pmax
comp=Z,44nm,0.4s
ONI Oni 18.17 289 P P 12 16 19.3 +3.2
ONI pmax pmax
comp=Z,87nm,0.9s
ONI Oni 18.17 289 P P 12 16 19.3 +3.2
ONI IAmb IAmb 12 16 28.5
comp=Z,87nm,0.9s
ARU Arti 18.22 345 P Pn 12 16 15.0 -1.2
comp=Z,0.0nm,0.3s,baz=176,slow=7.3,SNR=25
ARU S Sn 12 19 30.6 -8.4
comp=Z,0.0nm,0.3s,baz=355,slow=22,SNR=10
ARU Lg Lg 12 21 48.9
comp=Z,0.0nm,0.3s,baz=239,slow=17,SNR=1.6
ARU LR LR 12 24 10.0
comp=Z,694nm,21.9s,baz=153,slow=40
ARU Arti 18.22 345 *c i* P Pn 12 16 14.9 -1.2
ARU S Sn 12 19 33.1 -5.9
ARU pmax pmax
comp=Z,27nm,0.9s
ARU MLR MLR
comp=Z,2μm,15.0s
ARU Arti 18.22 345 P Pn 12 16 15.0 -1.2
ARU IAmb IAmb 12 16 28.0
comp=Z,91nm,0.8s
SVE Sverdlovsk 18.22 349 *e*P P 12 16 15.9 -0.5
SVE *e*S Sn 12 19 30.2 -9.0
SVE pmax pmax
comp=Z,94nm,0.9s
SVE MLR MLR
comp=Z,4μm,15.0s
VLK Valmikinagar 18.31 125 *e*P Pn 12 16 16.3 -1.3
GKN Gorkha 18.34 122 *e*P Pn 12 16 16.1 -2.0
comp=Z,118nm,0.4s
BSY Bisya 18.35 210 P Pn 12 16 19.3 +1.2
SNR=8.5
JMDO Jabal Madar 18.36 207 P Pn 12 16 19.0 +0.9
SNR=6.8
KARS Kars 18.45 282 P P 12 16 19.2 0.0
KARS pmax pmax
comp=Z,120nm,1.0s
KARS Kars 18.45 282 P P 12 16 19.2 0.0
KARS IAmb IAmb 12 16 34.6
comp=Z,120nm,1.0s
ALBI Allahabad 18.55 134 *e*P P 12 16 17.4 -2.9
ALBI *e*S Sn 12 19 31.2 -16
KBZ Khabaz 18.66 292 P P 12 16 21.2 -0.2
comp=Z,0.6nm,0.3s,baz=137,slow=9.3,SNR=19
KBZ S Sn 12 19 42.2 -7.8
comp=Z,0.8nm,0.3s,baz=243,slow=21,SNR=2.1
KBZ LR LR 12 25 40.0
comp=Z,2μm,18.1s,baz=86,slow=44
KBZ Khabaz 18.66 292 *ce*P P 12 16 20.7 -0.7
KBZ pmax pmax
comp=Z,29nm,0.8s
GEVA Gevas 18.73 275 P P 12 16 21.9 -0.5
GOF Gofitskoye 18.75 296 ⇑*e*P Pn 12 16 29.8 +7.0
GOF *e*S Sn 12 19 49.3 -2.7
GOF pmax pmax
comp=Z,95nm,0.9s
GOF smax smax
comp=E,82nm,1.1s
GOF smax smax
comp=N,105nm,0.9s
KVAR Kislovodsk Arr 18.84 293 P Pn 12 16 24.9 +0.9
baz=259,slow=22,SNR=2.5
KVAR S Sn 12 19 45.9 -8.4
baz=197,slow=11,SNR=4.0
KVAR LR LR 12 25 40.5
comp=N,1μm,18.8s,baz=289,slow=43
KIV Kislovodsk 18.84 293 *e*P Pn 12 16 25.3 +1.3
KIV *e*S S 12 19 57.5 +0.3
KIV pmax pmax
comp=Z,102nm,1.0s
KIV MLR MLR
comp=Z,1μm,14.0s
KIV Kislovodsk 18.84 293 P Pn 12 16 24.4 +0.3
KIV IAmb IAmb 12 16 33.4
comp=Z,76nm,0.7s
KIV Kislovodsk 18.84 293 P Pn 12 16 23.9 -0.1
SHMA Al-Shehemyia 18.90 230 P P 12 16 24.8 +0.7
KKN Kakani 18.91 121 *e*P P 12 16 23.4 -1.1
comp=Z,181nm,0.6s
DMN Daman 18.91 122 *e*P P 12 16 23.1 -1.4
PKIN Phulchoki 19.13 121 *e*P P 12 16 26.2 -0.7
comp=Z,113nm,0.3s
PKI Pulchoki 19.14 121 *e*P P 12 16 26.9 -0.2
comp=Z,116nm,0.5s
ZAA0 Zalesovo Array 19.14 33 P P 12 16 26.1 -0.4
ZAA0 IAmb IAmb 12 16 37.2
comp=Z,79nm,0.7s
ZALV Zalesovo Beam 19.14 33 P Pn 12 16 26.8 -0.7
comp=Z,4.9nm,0.3s,baz=225,slow=12,SNR=99
ZALV LR LR 12 24 16.9
comp=Z,1μm,18.0s,baz=224,slow=38
ZALV Zalesovo Beam 19.14 33 *i* P P 12 16 26.1 -0.5
ZALV pmax pmax
comp=Z,71nm,0.9s
ZALV Zalesovo Beam 19.14 33 P P 12 16 26.0 -0.5
GUN Gumba 19.23 120 *e*P P 12 16 27.8 -0.3
comp=Z,137nm,0.3s
UMZA Um Al Zommool 19.23 215 P P 12 16 27.8 0.0
JBP Jabalpur 19.34 142 *e*P P 12 16 28.5 -0.4
JBP *ex* P 12 16 28.5 -0.4
JBP IAmb IAmb 12 16 38.1
comp=Z,70nm,0.9s
GURO Guroymak-BITLI 19.48 276 P P 12 16 31.3 +0.7
JIRN Jiri 19.60 120 *e*P P 12 16 30.8 -1.4
comp=Z,75nm,0.3s
TRNA Turayna 19.61 228 P Pn 12 16 33.1 -0.1
TRNA S S 12 20 11.7 -0.8
MHTO MHTO 19.68 206 P P 12 16 32.7 0.0
SNR=6.1
MHTO P P 12 16 32.7 0.0
SNR=6.1
MARD Mardin 20.70 273 P Pn 12 16 45.8 -0.3
MARD IAmb IAmb 12 16 54.0
comp=Z,46nm,0.8s
TAPN Taplejung 20.84 118 *e*P P 12 16 45.7 +0.1
comp=Z,126nm,0.4s
ODAN Odare 20.93 120 *e*P P 12 16 47.2 +0.7
SOC Sochi 20.96 291 *e*P P 12 16 45.0 -1.4
SOC *e*S S 12 20 38.3 -0.9
SOC pmax pmax
comp=Z,22nm,0.7s
SOC MLR MLR
comp=Z,1μm,18.0s
BLSP Bilaspur 21.28 138 *e*P P 12 16 55.5 +5.4
POO Poona 21.34 162 *e*P P 12 16 52.0 +1.2
VRH Novokhopyorsk 21.44 313 *e*P P 12 16 51.8 +0.3
VRH *e*S S 12 20 43.1 -5.6
VRH pmax pmax
comp=Z,120nm,0.8s
VRH smax smax
comp=N,540nm,9.4s
VRH MLR MLR
comp=Z,2μm,13.0s
LSA Lhasa 21.94 108 P P 12 16 58.0 +0.4
LSA pmax pmax
comp=Z,37nm,0.8s
LSA Lhasa 21.94 108 P P 12 16 58.0 +0.4
LSA IAmb IAmb 12 17 22.2
comp=Z,37nm,0.8s
BOK Bokaro 22.10 128 IAmb IAmb 12 17 08.0
comp=Z,107nm,0.8s
GOMU GeErMu 22.14 89 P P 12 16 59.2 -0.4
GOMU pP pP 12 17 02.7 -2.2
GOMU sP sP 12 17 04.7 -2.5
GOMU S S 12 21 03.3 +0.1
GOMU sS pS 12 21 10.0 -1.0
GOMU pmax pmax
comp=Z,12nm,0.9s
GOMU pmax pmax
comp=Z,140nm,4.3s
GOMU LR LR
comp=Z,690nm,19.1s
GOMU LR LR
comp=Z,390nm,17.7s
GOMU LR LR
comp=Z,320nm,18.0s
KIRV Kirov 22.55 336 P P 12 17 04.3 +1.1
comp=Z,28nm,0.6s,baz=270,slow=2.0,SNR=11
KIRV LR LR 12 26 14.9
comp=Z,875nm,19.4s,baz=142,slow=38
KIRV Kirov 22.55 336 *de*P P 12 17 04.2 +0.9
ANN Anapa 22.67 294 *e*P P 12 17 04.3 -0.4
ANN *e**PP **sP** 12 17 10.1 -2.0
ANN *e* 12 17 28.5
ANN *e*S S 12 21 14.2 +2.1
ANN pmax pmax
comp=Z,24nm,0.8s
ANN MLR MLR
comp=N,1μm,16.0s
ANN MLR MLR
comp=Z,2μm,16.0s
ANN MLR MLR
comp=E,1μm,16.0s
VORD Divnogorie 22.77 310 *e*P P 12 17 06.7 +1.0
VORD pmax pmax
comp=Z,20nm,0.6s
VSR Storozhevoye 22.93 311 *e*P P 12 17 07.2 -0.2
VSR *e*S S 12 21 11.7 -4.9
VSR pmax pmax
comp=Z,70nm,1.0s
VSR smax smax
comp=N,160nm,11.3s
VSR MLR MLR
comp=Z,1μm,12.0s
VORR Voronezh 23.07 312 *e*P P 12 17 09.5 +0.6
VORR pmax pmax
comp=Z,80nm,0.4s
DOK Doka 23.30 212 P P 12 17 10.1 -1.3
SNR=20
DOK S S 12 21 19.9 -3.3
LPSR Galich'ya Gora 23.59 314 *e*P P 12 17 15.8 +1.7
LPSR *e*S S 12 21 20.2 -7.3
LPSR pmax pmax
comp=Z,160nm,0.8s
LPSR smax smax
comp=N,220nm,9.2s
LPSR MLR MLR
comp=Z,1μm,13.0s
HYBB Hyderabad (bro 23.83 152 *e*P P 12 17 16.7 +0.1
HYBB *ep*P sP 12 17 24.1 -0.1
HYBB *e*S S 12 21 32.8 +1.0
RAYN Ar Rayn 24.00 236 P P 12 17 18.8 +0.5
RAYN pmax pmax
comp=Z,34nm,1.0s
RAYN Ar Rayn 24.00 236 P P 12 17 18.8 +0.5
RAYN IAmb IAmb 12 17 27.5
comp=Z,34nm,0.9s
RAYN Ar Rayn 24.00 236 P P 12 17 18.4 +0.1
RAYN S S 12 21 33.4 -1.2
WHFO Wadi Hawf 24.07 212 P P 12 17 17.5 -1.4
SNR=7.0
RBK Rabkut 24.27 211 P P 12 17 21.3 +0.5
SNR=12
ABTO Aybut 24.77 213 P P 12 17 24.1 -1.3
SNR=15
SHL Shillong 24.86 116 P P 12 17 25.5 -0.7
SHL pmax pmax
comp=Z,60nm,0.8s
SHL Shillong 24.86 116 P P 12 17 25.5 -0.7
SHL Shillong 24.86 116 P P 12 17 25.5 -0.7
SNR=20
SIM Simferopol' 25.03 294 *e*P P 12 17 29.6 +2.1
SIM *e*S S 12 21 53.0 +2.2
SIM pmax pmax
comp=Z,52nm,0.8s
BZK Bozkurt 25.19 287 P P 12 17 29.4 +0.5
ILGA Ilgaz 25.49 285 P P 12 17 32.5 +0.6
ILGA IAmb IAmb 12 17 43.0
comp=Z,51nm,1.0s
MOS Moscow 25.66 320 *e*P P 12 17 35.1 +2.1
MOS *e* 12 18 13.2
MOS *e*SS 12 23 21.5
MOS pmax pmax
comp=Z,34nm,0.7s
MOS MLR MLR
comp=Z,2μm,14.0s
BR131 Keskin Array S 25.73 282 *de*P P 12 17 35.8 +1.7
BR131 Keskin Array S 25.73 282 P P 12 17 36.0 +1.9
BR131 IAmb IAmb 12 17 45.9
comp=Z,43nm,0.9s
BRTR Keskin Array B 25.73 282 P P 12 17 35.4 +1.3
comp=Z,5.8nm,0.8s,baz=98,slow=9.2,SNR=16
OBN Obninsk 25.91 318 P P 12 17 36.9 +1.6
comp=Z,2.9nm,0.3s,baz=141,slow=23,SNR=6.0
OBN LR LR 12 30 36.2
comp=Z,337nm,18.8s,baz=106,slow=43
OBN Obninsk 25.91 318 *d i* P P 12 17 37.3 +2.0
OBN *i* 12 17 44.8
OBN *e*S S 12 22 04.3 -0.2
OBN pmax pmax
comp=Z,75nm,2.5s
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 25.91 318 P P 12 17 37.2 +1.9
PRGR Permogore 26.12 337 *e*P P 12 17 36.5 -0.6
PRGR pmax pmax
comp=Z,26nm,0.8s
ANTO Ankara 26.35 283 P P 12 17 41.6 +2.0
ANTO Ankara 26.35 283 P P 12 17 41.6 +2.0
MOY Mondy 26.68 51 *e*P P 12 17 43.5 +1.0
MOY pmax pmax
comp=Z,29nm,1.6s
CSS Mathiatis 27.14 272 P P 12 17 48.1 +1.5
MDUB Mudurnu 27.46 284 P P 12 17 50.1 +0.5
KLMR Klimovskoe 27.68 331 *e*P P 12 17 50.5 -0.6
KLMR *e*S S 12 22 34.4 +2.3
KLMR pmax pmax
comp=Z,19nm,1.0s
KLMR MLR MLR
comp=Z,1μm,12.0s
KLMR Klimovskoe 27.68 331 *e*P P 12 17 50.5 -0.6
KLMR AMP 12 17 59.6
comp=Z,19nm,1.0s
KLMR *e*S S 12 22 34.5 +2.3
KLMR *e*S S 12 22 34.5 +2.3
KLMR LQ LQ 12 26 25.6
KLMR LQ LQ 12 26 25.6
KLMR LR LR 12 28 49.9
KLMR AMP 12 29 12.6
comp=Z,1μm,12.2s
ZAK Zakamensk 27.82 54 *e*P P 12 17 52.5 -0.2
ZAK pmax pmax
comp=Z,17nm,1.3s
EIL Elat 27.99 260 P P 12 17 54.0 -0.3
comp=Z,6.4nm,0.7s,baz=158,slow=0.8,SNR=6.1
BORA Eskisehir 28.13 283 P P 12 17 56.6 +1.1
AKASG Malin Array Be 28.87 306 P P 12 18 02.6 +0.7
comp=Z,8.3nm,0.8s,baz=83,slow=7.1,SNR=28
AKASG LR LR 12 32 18.9
comp=Z,410nm,18.7s,baz=138,slow=42
AKASG Malin Array Be 28.87 306 P P 12 18 03.1 +1.2
AKBB Malin Array Si 28.87 306 ⇓*e*P P 12 18 02.6 +0.7
AKBB Malin Array Si 28.87 306 P P 12 18 02.5 +0.5
AKBB IAmb IAmb 12 18 39.9
comp=Z,19nm,0.9s
LZH Lanzhou 29.18 84 ⇑P P 12 18 06.3 +1.2
LZH pP sP 12 18 13.0 +0.1
LZH sP pP 12 18 15.4 +4.8
LZH *e*S S 12 22 59.9 +3.1
LZH sS sS 12 23 05.3 -0.9
LZH SS SnSn 12 24 25.0 +3.4
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,140nm,5.0s
LZH LR LR
comp=Z,1μm,13.0s
LZH LR LR
comp=Z,1μm,12.8s
LZH LR LR
comp=Z,2μm,15.2s
SOCY Socotra 29.22 207 P P 12 18 03.0 -2.4
SOCY IAmb IAmb 12 18 12.4
comp=Z,23nm,1.0s
SONM Songino Array 29.59 60 P P 12 18 08.7 +0.3
comp=Z,4.2nm,0.7s,baz=273,slow=10,SNR=22
SONM LR LR 12 31 02.9
comp=Z,1μm,18.4s,baz=283,slow=38
SONM Songino Array 29.59 60 P P 12 18 08.4 0.0
SONM pmax pmax
comp=Z,9.0nm,1.3s
SONM Songino Array 29.59 60 P P 12 18 08.4 0.0
AKAS Kas 29.64 276 P P 12 18 09.4 +0.4
AKAS IAmb IAmb 12 18 17.1
comp=Z,24nm,0.6s
ULN Ulaanbaatar 30.03 60 *ce*P P 12 18 12.4 0.0
ULN pmax pmax
comp=Z,26nm,1.0s
ULN Ulaanbaatar 30.03 60 P P 12 18 12.2 -0.2
ULN IAmb IAmb 12 18 14.4
comp=Z,23nm,0.9s
PLOR Plostina 30.29 296 ⇓P P 12 18 17.6 +3.0
MNK Minsk 30.44 313 *i* P P 12 18 14.0 -1.7
MNK *i* 12 19 12.7
MNK *i* S S 12 23 14.7 -1.0
MNK *i* SS ScP 12 24 58.9 +2.5
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK MLR MLR
comp=E,108nm,16.0s
MNK MLR MLR
comp=N,320nm,16.0s
MNK MLR MLR
comp=Z,805nm,16.0s
MNK Minsk 30.44 313 *i* P P 12 18 14.0 -1.7
comp=E,2.0nm,0.7s
MNK *i* P P 12 18 14.0 -1.7
comp=N,12nm,0.7s
MNK *i* P P 12 18 14.0 -1.7
comp=Z,8.0nm,0.7s,baz=104

MNK *i* PP **PnPn** **12 19 12.7 -1.6**
MNK *i* S **S** **12 23 14.8 -1.0**
MNK *i* SS **ScP** **12 24 58.9 +2.5**
MNK *i* LR LR 12 31 25.6
MNK *i* LRM MLR 12 33 09.8
comp=E,108nm,15.6s
MNK *i* LRM MLR 12 33 13.0
comp=N,320nm,15.6s
MNK *i* LRM MLR 12 33 19.6
comp=Z,805nm,15.6s
MLR Muntele Rosu 30.80 295 ⇓P **P** **12 18 22.5 +3.3**
MLR Muntele Rosu 30.80 295 P **P** **12 18 20.9 +1.7**
comp=Z,7.6nm,0.8s,baz=72,slow=3.2,SNR=11
MLR LR LR 12 35 02.0
comp=Z,522nm,18.7s,baz=162,slow=45
MLR Muntele Rosu 30.80 295 P **P** **12 18 21.1 +1.9**
MLR lAmb lAmb 12 18 47.0
comp=Z,22nm,1.0s
CD2 Chengdu 31.00 94 P **P** **12 18 21.4 +0.4**
CD2 sP *s*P 12 18 28.9 +0.1
CD2 S **S** **12 23 24.5 -0.6**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,70nm,5.9s
CD2 LR LR
comp=Z,500nm,15.5s
CD2 LR LR
comp=Z,560nm,14.5s
NACGM Naroch 31.16 314 *e*P **P** **12 18 23.8 +1.7**
BURAR Bucovina Array 31.25 300 ⇓P **P** **12 18 25.4 +2.2**
BURAR Bucovina Array 31.25 300 P **P** **12 18 24.1 +1.0**
ALN Alexandroupoli 31.26 287 P **P** **12 18 23.2 +0.1**
ALN pmax pmax
comp=Z,5.0nm,0.8s
ALN Alexandroupoli 31.26 287 P **P** **12 18 23.2 +0.1**
BUR08 Bucovina Ar. S 31.27 300 P **P** **12 18 23.2 -0.1**
VALR Valaam 31.44 327*d* *i*P **P** **12 18 25.1 +0.6**
VALR pmax pmax
comp=Z,23nm,0.9s
PZH PanZhiHua 31.57 103 P **P** **12 18 28.7 +2.6**
PZH S **S** **12 23 36.9 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.7s
PZH LR LR
comp=Z,1μm,19.6s
PZH LR LR
comp=Z,2μm,20.2s
PZH LR LR
comp=Z,2μm,18.2s
RDO Rodhopi 31.59 287 P **P** **12 18 26.5 +0.4**
ARR Arges 31.73 295 ⇓P **P** **12 18 30.2 +2.9**
KARP Karpathos 31.74 276 P **P** **12 18 28.9 +1.4**
VSU Vasula 32.19 320*ce*P **P** **12 18 32.2 +1.1**
VSU pmax pmax
comp=Z,49nm,0.8s
NRIK Noril'sk 32.22 13 P **P** **12 18 32.9 +1.6**
comp=Z,25nm,0.8s,baz=208,slow=6.5,SNR=25
NRIK LR LR 12 33 44.7
comp=Z,907nm,19.3s,baz=207,slow=40
NRIK Noril'sk 32.22 13*c* *i*P **P** **12 18 32.1 +0.8**
NRIK pmax pmax
comp=Z,37nm,1.0s
NRIK Noril'sk 32.22 13 P **P** **12 18 31.7 +0.4**
VTS Vitosha 33.04 290 P **P** **12 18 39.3 +0.3**
VTS pmax pmax
comp=Z,5.0nm,0.8s
VTS Vitosha 33.04 290 P **P** **12 18 39.3 +0.3**
TRPA Tarpa 33.05 301 ⇑P **P** **12 18 41.7 +2.9**
TRPA Tarpa 33.05 301 P **P** **12 18 41.1 +2.3**
KMI Kunming 33.07 104 ⇑P P 12 18 45.7 +6.3
KMI pP sP 12 18 50.6 +3.3
KMI S **S** **12 23 58.1 +0.3**
KMI pmax pmax
comp=Z,9.0nm,1.2s
KMI LR LR
comp=Z,460nm,17.9s
KMI LR LR
comp=Z,710nm,15.6s
KMI LR LR
comp=Z,990nm,18.5s
UZH Uzhgorod 33.21 301 *e*P **P** **12 18 42.4 +2.2**
UZH *e* 12 18 47.6
UZH *i* 12 18 55.8
UZH *e*S **S** **12 23 59.2 0.0**
UZH MLR MLR
comp=N,60nm,18.0s
UZH MLR MLR
comp=E,170nm,18.0s
UZH MLR MLR
comp=Z,900nm,18.0s
BLKB Belogradchik 33.30 292 ⇓P **P** **12 18 43.3 +2.2**
FIA1 FINESS Array S 33.56 325 P **P** **12 18 43.9 +0.9**
FIA1 lAmb lAmb 12 18 53.2
comp=Z,11nm,0.8s
FINES FINESS Array B 33.56 325 P **P** **12 18 44.1 +1.0**
comp=Z,6.1nm,0.8s,baz=110,slow=11,SNR=16
FINES LR LR 12 33 47.3
comp=Z,685nm,21.9s,baz=106,slow=39
FINES FINESS Array B 33.56 325*ce*P **P** **12 18 44.0 +0.9**
FINES pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 33.56 325 P **P** **12 18 43.7 +0.6**
IDI Anoyia 33.58 277 ⇓P **P** **12 18 45.2 +1.5**
IDI Anoyia 33.58 277 P **P** **12 18 44.0 +0.4**
IDI lAmb lAmb 12 18 57.6
comp=Z,12nm,0.8s
CRVS Cervenica-Dubn 33.76 302 *e*P **P** **12 18 47.5 +2.5**
CRVS Cervenica-Dubn 33.76 302 *e*P **P** **12 18 47.5 +2.5**
XAN Xi'an 33.79 85 P **P** **12 18 44.8 -0.6**
XAN pP sP 12 18 54.0 +0.7
XAN sP pP 12 18 59.2 +8.2
XAN PP **PnPn** **12 19 57.9 +0.1**
XAN S **S** **12 24 05.9 -2.6**
XAN sS sS 12 24 20.4 +2.5
XAN SS **SnSn** **12 26 08.8 -4.6**
XAN pmax pmax
comp=Z,14nm,0.9s
XAN pmax pmax
comp=Z,110nm,5.0s
XAN LR LR
comp=Z,600nm,13.6s
XAN LR LR
comp=Z,850nm,15.6s
XAN LR LR
comp=Z,1μm,17.0s
HHC Hu-ho-hao-te 33.88 73 *e*P **P** **12 18 47.6 +1.3**
HHC S **S** **12 24 08.7 -1.3**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,130nm,6.1s
HHC LR LR
comp=Z,680nm,15.9s
HHC LR LR
comp=Z,790nm,14.1s
HHC LR LR
comp=Z,930nm,15.9s
PALK Pallekele 34.00 155 P **P** **12 18 45.6 -1.8**
comp=Z,4.0nm,0.8s,baz=127,slow=6.1,SNR=3.8
PALK LR LR 12 33 29.4
comp=Z,1μm,18.9s,baz=93,slow=38
PALK Pallekele 34.00 155 P **P** **12 18 46.5 -0.9**
APA Apatity 34.03 338 ⇑*i*P P 12 18 54.3 +7.2
APA pmax pmax
comp=Z,7.0nm,0.7s
APA MLR MLR
comp=Z,2μm,11.0s
LIT Litokhoron 34.07 286 P **P** **12 18 46.8 -1.0**
LIT pmax pmax
comp=Z,4.0nm,0.9s
LIT Litokhoron 34.07 286 P **P** **12 18 46.8 -1.0**
CHTO Chiang Mai 34.20 117 P P 12 18 55.6 +6.5
CMAR Chiang Mai Arr 34.45 118 P **P** **12 18 50.1 -1.2**
comp=Z,3.6nm,0.9s,baz=298,slow=7.9,SNR=25
CMAR LR LR 12 36 36.8
comp=Z,462nm,19.8s,baz=300,slow=43
CMAR Chiang Mai Arr 34.45 118*ce*P **P** **12 18 51.2 0.0**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 34.45 118 P **P** **12 18 50.9 -0.3**
FNA Florina 34.75 288 P **P** **12 18 54.5 +0.8**
FNA pmax pmax
comp=Z,11nm,0.9s
FNA Florina 34.75 288 P **P** **12 18 54.5 +0.8**
PSZ Piszkesteto 34.84 300 P **P** **12 18 55.0 +0.6**
PSZ pmax pmax
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 34.84 300 P **P** **12 18 55.0 +0.6**
PSZ Piszkesteto 34.84 300 P **P** **12 18 56.3 +1.9**
OJC Ojcow 34.84 304 P **P** **12 18 54.2 -0.1**
OJC pmax pmax
comp=Z,12nm,0.7s
OJC Ojcow 34.84 304 P **P** **12 18 54.2 -0.1**
OJC lAmb lAmb 12 19 03.6
comp=Z,12nm,0.7s
ATD Arta Tunnel 34.89 225 LR LR 12 36 27.6
comp=Z,470nm,18.6s,baz=24,slow=42
DIVS Divibare 35.16 294 P **P** **12 18 58.3 +1.1**
DIVS lAmb lAmb 12 19 25.4
comp=Z,11nm,0.8s
ITM Ithomi 35.26 281 P **P** **12 18 58.5 +0.3**
GYA Guiyang 35.35 99 ⇑P **P** **12 18 56.2 -2.9**
GYA pmax pmax
comp=Z,12nm,0.9s
GYA LR LR
comp=Z,610nm,20.8s
BOD Bodaibo 35.42 42 *e*P **P** **12 18 59.0 -0.2**
BOD pmax pmax
comp=Z,33nm,1.1s
VYHS Vyhne 35.51 301 *e*P **P** **12 19 02.6 +2.5**
VYHS Vyhne 35.51 301 *e*P **P** **12 19 02.6 +2.5**
ENH Enshi 35.73 91 P **P** **12 19 01.6 -0.6**
ENH lAmb lAmb 12 19 16.6
comp=Z,12nm,0.9s
MORH Mrgy, Hungar 35.83 297 P **P** **12 19 04.3 +1.4**
OKC Ostrava-Krasne 35.91 304 AMS AMS 12 37 30.0
comp=Z,300nm,18.5s
PDG Podgorica 35.97 291 P **P** **12 19 04.5 +0.4**
KEK Kerkira 36.18 286 P **P** **12 19 06.8 +0.9**
KOVH Kovagotottos 36.22 297 P **P** **12 19 08.3 +2.1**
JAVC Velka Javorina 36.26 302 *e*P **P** **12 19 09.1 +2.5**
MORC Moravsky Berou 36.30 304 P **P** **12 19 06.9 -0.1**
MORC pmax pmax
comp=Z,11nm,1.4s
MORC Moravsky Berou 36.30 304 P **P** **12 19 06.9 -0.1**
MORC Moravsky Berou 36.30 304 *e*P **P** **12 19 09.0 +2.1**
LYN LuoYang 36.35 83 ⇑P **P** **12 19 09.0 +1.5**
LYN pP sP 12 19 15.1 -0.2
LYN S **S** **12 24 48.4 +0.6**
LYN SS **SnSn** **12 27 13.6 -1.8**
LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN LR LR
comp=Z,310nm,13.1s
LYN LR LR
comp=Z,380nm,14.9s
LYN LR LR
comp=Z,450nm,16.3s
XLT XiLinHaoTe 36.60 66 *e*P **P** **12 19 11.0 +1.4**
XLT pP sP 12 19 16.6 -0.9
XLT S **S** **12 24 58.9 +7.3**
XLT sS sS 12 25 06.2 +5.0
XLT pmax pmax
comp=Z,7.0nm,1.2s
XLT pmax pmax
comp=Z,120nm,7.0s
XLT LR LR
comp=Z,1μm,19.7s
XLT LR LR
comp=Z,1μm,18.9s
KRLC Kraliky 36.78 304 *e*P **P** **12 19 12.7 +1.7**
KRLC MLR MLR
comp=Z,400nm,12.7s
KRLC Kraliky 36.78 304 *e*P **P** **12 19 12.7 +1.7**
KRLC AMS AMS 12 37 00.0
comp=Z,400nm,12.7s
VRAC Vranov 36.94 303 LR LR 12 35 38.1
comp=Z,248nm,19.8s,baz=77,slow=38
VRAC Vranov 36.94 303 *e*P **P** **12 19 14.5 +2.1**
DPC Dobruska-Polom 37.07 305 *e*P **P** **12 19 15.4 +2.0**
DPC MLR MLR
comp=Z,600nm,15.2s
DPC Dobruska-Polom 37.07 305 *e*P **P** **12 19 15.4 +2.0**
DPC AMS AMS 12 37 10.0
comp=Z,600nm,15.2s
KRUC Moravsky 37.09 302 *e*P **P** **12 19 15.9 +2.3**
OSTC Ostas 37.13 305 AMS AMS 12 37 00.0
comp=Z,800nm,12.9s
HNS HongShan 37.13 77 ⇑P **P** **12 19 15.1 +1.1**
HNS S **S** **12 24 58.0 -1.6**
HNS pmax pmax
comp=Z,13nm,1.0s
HNS LR LR
comp=Z,540nm,15.5s
HNS LR LR
comp=Z,720nm,16.9s
CHVC Chvalec 37.23 305 *e*P **P** **12 19 16.9 +2.1**
UPC Upice 37.26 305 *e*P **P** **12 19 16.8 +1.8**
UPC MLR MLR
comp=Z,900nm,14.9s
UPC Upice 37.26 305 *e*P **P** **12 19 16.8 +1.8**
UPC AMS AMS 12 37 10.0
comp=Z,900nm,14.9s
RONA Rosalia, Austr 37.27 300 *i*P **P** **12 19 16.9 +1.7**
comp=Z,5.5nm,0.7s
BJI Beijing 37.49 73 P **P** **12 19 18.2 +1.1**
BJI S **S** **12 25 08.4 +3.3**
BJI pmax pmax
comp=Z,15nm,0.7s
BJI pmax pmax
comp=Z,77nm,8.8s
BJI LR LR
comp=Z,150nm,16.7s
BJI LR LR
comp=Z,360nm,17.8s
BJT Baijiatuau 37.49 73 P **P** **12 19 17.0 -0.1**
BJT pmax pmax
comp=Z,15nm,0.7s
BJT Baijiatuau 37.49 73 P **P** **12 19 17.0 -0.1**
BJT lAmb lAmb 12 20 11.8
comp=Z,15nm,0.7s
ARA0 ARCESS Array S 37.54 337 *e*P **P** **12 19 17.8 +0.6**
ARCES ARCESS Array B 37.54 337 P **P** **12 19 19.2 +2.0**
comp=Z,3.7nm,0.9s,baz=107,slow=4.2,SNR=6.1
ARCES PP **PnPn** **12 20 45.3 +1.7**
comp=Z,10nm,0.9s,baz=115,slow=12,SNR=2.9
ARCES LR LR 12 36 07.1
comp=Z,367nm,18.5s,baz=119,slow=38
CONA Conrad Observa 37.54 301 *e*P **P** **12 19 19.3 +1.8**
comp=Z,12nm,1.2s,SNR=7.9
TREC Trest 37.67 303 AMS AMS 12 39 30.0
comp=Z,300nm,15.8s
GROS Grobnik 37.96 298 *e*P **P** **12 19 22.3 +1.2**
KTK1 Kautokeino 37.97 336 *e*P **P** **12 19 22.0 +1.2**
PVCC Panska Ves 38.18 305 AMS AMS 12 37 30.0
comp=Z,800nm,13.1s
PERS Pernice 38.20 299 *e*P **P** **12 19 24.5 +1.4**
PRU Pruhonice 38.23 304 *e*P P 12 19 32.0 +8.8
PRU MLR MLR
comp=Z,700nm,14.8s
PRU Pruhonice 38.23 304 *e*pP **pP** **12 19 32.0 +3.3**
PRU AMS AMS 12 37 50.0
comp=Z,700nm,14.8s
SOKA Soboth 38.25 299 *e*P **P** **12 19 25.9 +2.4**
comp=Z,12nm,1.0s,SNR=7.0
HIA Hailar 38.41 57 P **P** **12 19 25.6 +0.8**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 38.41 57 P **P** **12 19 25.6 +0.8**
BRG Berggiesshubel 38.55 306 *i*P **P** **12 19 27.9 +2.0**
BRG Amp 12 19 29.3
comp=Z,13nm,0.9s
BRG *ex* x 12 19 33.6
BRG Amp 12 19 35.1
comp=Z,8.9nm,0.6s
BRG *ex* x 12 21 04.7
BRG Amp 12 21 05.4
comp=Z,6.8nm,0.8s
BRG Amp 12 37 46.0
comp=N,0.3nm,18.1s
BRG Amp 12 37 58.0
comp=Z,0.9nm,13.1s
BRG Amp 12 38 02.0
comp=E,0.8nm,13.7s
BRG Berggiesshubel 38.55 306 *i*P **P** **12 19 27.9 +2.0**
BRG *e* 12 19 33.6
BRG *e* 12 21 04.6
BRG pmax pmax
comp=Z,13nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,0.6s
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG MLR MLR
comp=N,290nm,18.1s
BRG MLR MLR
comp=Z,920nm,13.1s
BRG MLR MLR
comp=E,780nm,13.7s
BRG Berggiesshubel 38.55 306 *e*P **P** **12 19 27.6 +1.7**
comp=E,13nm,0.9s,baz=84,slow=8.3
TIP Timpagrande 38.59 287 P **P** **12 19 27.2 +0.8**
MOA Moiln 38.62 301 *e*P **P** **12 19 28.6 +2.1**
comp=E,4.9nm,0.7s
HAMF Hammerfest 38.65 338 *e*P **P** **12 19 28.7 +2.2**
SGRT San Giovanni R 38.67 291 P **P** **12 19 26.7 -0.4**
GEC2 GERESS Array S 38.88 302 P **P** **12 19 28.6 -0.2**
GERES GERESS Array B 38.88 302 P **P** **12 19 30.4 +1.6**
comp=E,1.5nm,0.7s,baz=67,slow=3.5,SNR=8.0
GERES PP **PnPn** **12 21 03.2 +3.1**
comp=E,1.2nm,0.7s,baz=53,slow=5.0,SNR=2.1
GERES GERESS Array B 38.88 302 P **P** **12 19 28.8 0.0**
GERES GERESS Array B 38.88 302 P **P** **12 19 28.8 0.0**
FBE Freiberg 38.92 306 *e*P **P** **12 19 30.7 +1.6**
comp=E,16nm,0.9s,baz=84,slow=8.3
KHC Kasperske Hory 38.93 303*ce*P **P** **12 19 31.0 +1.8**
KHC pmax pmax
comp=Z,14nm,1.0s
KHC Kasperske Hory 38.93 303 P **P** **12 19 30.7 +1.6**
KHC Kasperske Hory 38.93 303 *e*P **P** **12 19 31.6 +2.4**
KHC *ex* x 12 20 06.0
KHC *e*PP **PnPn** **12 21 03.0 +2.4**
KHC AMS AMS 12 38 00.0
comp=Z,400nm,9.2s
HFS Hagfors 39.07 320 LR LR 12 38 28.3
comp=Z,1μm,18.1s,baz=106,slow=40
JETT Jettan, Norway 39.11 336 *e*P **P** **12 19 32.7 +2.3**
CLL Collm 39.12 306 *i*P **P** **12 19 31.6 +1.0**
CLL *e**PP **sP** **12 19 37.0 -1.3**
CLL *e*S **S** **12 25 34.0 +4.6**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 39.12 306 P **P** **12 19 31.6 +1.0**
CLL Collm 39.12 306 *i*P **P** **12 19 31.6 +1.0**
comp=Z,10.0nm,0.8s
CLL *e*pP **sP** **12 19 37.0 -1.3**
CLL *e*sP **pP** **12 19 40.0 +3.9**
CLL *e*PP **PnPn** **12 21 03.0 +0.2**
CLL *i* sPP 12 21 09.5
CLL *ex* x 12 21 19.0
CLL *e*PPPP 12 21 32.0
CLL *e*S **S** **12 25 34.0 +4.6**
CLL Lmax 12 39 00.0
CLL Collm 39.12 306 *e*P **P** **12 19 31.7 +1.0**
comp=Z,9.8nm,0.8s,baz=84,slow=8.3
MYKA Terra Mystica 39.20 299 *e*P **P** **12 19 33.7 +2.2**
comp=Z,9.9nm,1.1s
TRI Trieste 39.27 297 P **P** **12 19 32.4 +0.4**
TRI pmax pmax
comp=Z,9.0nm,0.6s
TRI Trieste 39.27 297 P **P** **12 19 32.4 +0.4**
KBA Koelnbreinsper 39.34 300 *e*P **P** **12 19 33.9 +1.2**
comp=Z,13nm,1.1s
TIA Tai'an 39.35 78 ⇓P **P** **12 19 33.2 +0.4**
TIA pmax pmax
comp=Z,17nm,1.0s
TIA pmax pmax
comp=Z,85nm,3.8s
TIA LR LR
comp=Z,280nm,11.8s
TIA LR LR
comp=Z,530nm,16.8s
TIA LR LR
comp=Z,750nm,18.5s
ROBS Robic 39.35 298 *i*P **P** **12 19 33.7 +1.0**
WHN Wuhan 39.39 88 ⇓P **P** **12 19 34.1 +0.9**
WHN S **S** **12 25 37.5 +3.6**
WHN LR LR
comp=Z,960nm,13.5s
WHN LR LR
comp=Z,830nm,12.5s
WHN LR LR
comp=Z,1μm,17.6s
NKC Novy Kostel 39.55 305 AMS AMS 12 38 40.0
comp=Z,1μm,15.8s
TRO Tromso 39.61 336 *e*P **P** **12 19 35.1 +0.6**
PLN Plauen 39.72 305 *e*P **P** **12 19 37.1 +1.5**
comp=Z,5.7nm,0.9s,baz=84,slow=8.3
ROTZ Rotzenmuhle 39.75 304 *e*P **P** **12 19 37.7 +1.7**
comp=Z,2.9nm,1.8s,baz=84,slow=8.3
NEUB Neuenburg 39.90 306 *e*P **P** **12 19 38.6 +1.5**
comp=Z,27nm,1.4s,baz=84,slow=8.3
ABTA Abfaltersbach 39.95 299 *i*P **P** **12 19 39.1 +1.3**
comp=Z,4.6nm,0.8s
MOR8 Moi Rana 40.00 330 *e*P **P** **12 19 37.1 -0.7**
FAUS Fauske 40.03 332 *e*P **P** **12 19 39.3 +1.3**
MOX Moxa 40.05 305 *e*L L 12 39 03.2
comp=Z,608nm,18.0s
FLTG Flechtingen 40.15 308 *e*P **P** **12 19 40.0 +0.8**
comp=Z,26nm,0.9s,baz=84,slow=8.3
NC405 NORSAR Array S 40.17 322 P **P** **12 19 40.1 +0.8**
NC602 NORSAR Array S 40.21 321 P **P** **12 19 40.4 +0.8**
STEI Steigen 40.23 333 *e*P **P** **12 19 39.8 +0.2**
NRCA Norcia 40.31 293 P **P** **12 19 42.6 +1.8**
NC303 NORSAR Array S 40.35 322 P **P** **12 19 41.2 +0.4**
NC303 lAmb lAmb 12 19 42.9
comp=Z,16nm,0.8s
NB201 NORSAR Array S 40.37 322 P **P** **12 19 41.6 +0.7**
NB201 lAmb lAmb 12 20 03.9
comp=Z,38nm,1.2s
GRF Grafenberg Arr 40.40 304 *e*P **P** **12 19 43.6 +2.3**
comp=Z,23nm,1.0s,baz=84,slow=8.3
GRF *e*L L 12 39 45.4
comp=Z,340nm,21.4s
NB2 NORSAR Subarra 40.40 322 P **P** **12 19 41.3 0.0**
comp=Z,5.5nm,0.8s,baz=99,slow=8.6
NB2 NORSAR Subarra 40.40 322 P **P** **12 19 41.3 0.0**
baz=99,slow=8.6
NOA NORSAR Array B 40.40 322 P **P** **12 19 41.3 0.0**
comp=Z,8.0nm,0.8s,baz=97,slow=8.2,SNR=31
NOA PP **PP** **12 21 11.9 -2.2**
comp=Z,3.7nm,0.8s,baz=96,slow=8.2,SNR=3.9
NOA LR LR 12 37 39.9
comp=Z,777nm,18.2s,baz=100,slow=38
WTTA Wattenberg 40.46 300 *i*P **P** **12 19 43.5 +1.4**
comp=Z,10nm,1.0s
WATA Walderalm 40.49 300 *i*P **P** **12 19 43.4 +1.1**
comp=Z,8.1nm,0.8s
NAO01 NORSAR Array S 40.54 321 P **P** **12 19 42.8 +0.4**
NAO01 lAmb lAmb 12 19 44.1
comp=Z,35nm,1.2s
STOK Stokkvaagen 40.60 330 *e*P **P** **12 19 44.5 +1.8**
KONS Konsvik 40.60 330 *e*P **P** **12 19 43.8 +1.0**
NBO00 NORSAR Array S 40.61 322 P **P** **12 19 43.3 +0.3**
NSS Namsos 40.62 327 *e*P **P** **12 19 43.9 +1.0**
NC204 NORSAR Array S 40.65 322 P **P** **12 19 44.0 +0.6**
NC204 lAmb lAmb 12 19 45.3
comp=Z,39nm,1.1s
CTI Castel Tesino 40.66 298 P **P** **12 19 43.1 -0.6**
CTI pmax pmax
comp=Z,10.0nm,0.9s
CTI Castel Tesino 40.66 298 P **P** **12 19 43.1 -0.6**
CLZ Clausthal 40.72 307 *e*P **P** **12 19 45.6 +1.6**
comp=Z,12nm,1.4s,baz=84,slow=8.3
TEOL Teolo 40.78 297 P **P** **12 19 44.2 -0.4**
TEOL lAmb lAmb 12 19 55.0
comp=Z,28nm,0.8s
MOTA Moosalm 40.81 300 *i*P **P** **12 19 45.9 +1.0**
comp=Z,13nm,0.9s,SNR=5.6
NRDL Niedersach Rie 40.83 308 *e*P **P** **12 19 46.4 +1.7**
comp=Z,13nm,1.0s,baz=84,slow=8.3
VAE Valguarnera 40.86 285 LR LR 12 42 23.2
comp=Z,97nm,18.6s,baz=70,slow=44
LOF Lofoten 40.90 333 *e*P **P** **12 19 46.6 +1.5**
RETA Reutte 41.01 301 *e*P **P** **12 19 47.7 +1.2**
comp=Z,5.8nm,0.7s
KONO Kongsberg 41.08 319*ce*P **P** **12 19 47.7 +0.9**
KONO pmax pmax
comp=Z,36nm,2.5s
KONO Kongsberg 41.08 319 P **P** **12 19 47.9 +1.1**
FETA Feichten 41.11 300 *i*P **P** **12 19 48.6 +1.1**
comp=Z,8.6nm,1.0s

RETH Rethem/Aller, 41.26 309 eP P 12 19 49.7 +1.3
comp=Z,10nm,0.9s,baz=84,slow=8.3
UBR Ueberruh 41.41 301 eP P 12 19 50.8 +0.9
comp=Z,22nm,1.2s,baz=84,slow=8.3
OSSC Osservatorio P 41.48 295 P P 12 19 52.4 +2.1
SALO Salr 41.52 298 P P 12 19 52.8 +2.1
SALO IAmb IAmb 12 19 53.9
comp=Z,21nm,0.8s
DAVA Damuels 41.64 301 eP P 12 19 52.5 +0.7
comp=Z,15nm,0.9s,SNR=5.2
CLTB Caltabellotta 41.73 285 P P 12 19 51.9 -0.6
CLTB IAmb IAmb 12 20 26.8
comp=Z,31nm,1.2s
DAVOX Davos/Dischmat 41.73 300 LR LR 12 40 32.0
comp=Z,348nm,18.7s,baz=85,slow=41
SKAR Skarslia 41.79 321 eP P 12 19 54.1 +1.5
BJO1 Bjornoya 41.84 343 eP P 12 19 53.1 +0.3
QIZ Qiongzhong 41.95 106 P P 12 19 57.0 +2.5
QIZ S S 12 26 13.3 +0.9
QIZ LR LR
comp=Z,370nm,25.1s
QIZ LR LR
comp=Z,350nm,23.9s
QIZ LR LR
comp=Z,630nm,17.9s
TUE Stuetta 42.15 299 P P 12 19 56.9 +0.9
NJ2 Nanjing 42.24 83 eP P 12 19 58.2 +1.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 LR LR
comp=Z,340nm,15.2s
NJ2 LR LR
comp=Z,460nm,16.1s
NJ2 LR LR
comp=Z,640nm,17.5s
MOL Molde 42.29 324 eP P 12 19 58.0 +1.3
BFO Black Forest 42.48 302 P P 12 20 00.0 +1.5
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 42.48 302 P P 12 20 00.0 +1.5
AKN Aaknes 42.52 323 eP P 12 19 57.7 -0.8
ODD1 Odda 42.59 320 eP P 12 20 00.3 +1.1
BLS5 Blasjo 42.67 319 eP P 12 20 01.2 +1.4
ZEA Zeya 42.69 49 eP P 12 20 01.1 +1.1
ZEA eS S 12 26 26.4 +3.9
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA smax smax
comp=E,100nm,14.5s
ZEA MLR MLR
comp=E,500nm,12.0s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
HYA Hoyanger 42.85 321 eP P 12 20 02.0 +0.8
AHRW Bad Neuenahr-A 42.93 306 eP P 12 20 03.9 +1.9
comp=Z,13nm,0.9s,baz=84,slow=8.3
CN2 Changchun 43.24 64 eP P 12 20 04.7 +0.1
CN2 eS S 12 26 28.3 -2.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,900nm,15.0s
ASK Askoy 43.31 320 eP P 12 20 06.1 +1.1
BTNL Ternell 43.52 306 dP P 12 20 09.0 +2.1
comp=Z,10nm,0.9s
SENIN Lac Senin/Sane 43.56 300 P P 12 20 07.7 +0.2
SENIN IAmb IAmb 12 20 09.6
comp=Z,17nm,0.8s
MEM Membach 43.59 306 dP P 12 20 09.8 +2.4
comp=Z,9.7nm,0.9s
WLF Walferdange 43.66 305 P P 12 20 09.0 +1.1
WLF pmax pmax
comp=Z,13nm,0.8s
WLF Walferdange 43.66 305 P P 12 20 09.0 +1.1
WLF Walferdange 43.66 305 eP P 12 20 10.0 +2.0
comp=Z,16nm,0.9s,baz=84,slow=8.3
YAK Yakutsk 43.72 37 P P 12 20 08.7 +0.4
comp=Z,38nm,0.6s,baz=98,slow=1.0,SNR=28
YAK LR LR 12 39 43.8
comp=Z,963nm,19.3s,baz=268,slow=38
YAK Yakutsk 43.72 37 eP P 12 20 07.8 -0.5
YAK e*PP pP 12 20 12.9 -1.1
YAK e 12 21 49.6
YAK ePPP PPP 12 22 22.9
YAK eS S 12 26 37.5 +0.1
YAK e*SS sS 12 26 54.4 +7.6
YAK eSS SS 12 29 50.5 -2.2
YAK eSSS SSS 12 30 30.6
YAK pmax pmax
comp=Z,94nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,21nm,1.0s
YAK pmax pmax
comp=Z,199nm,5.2s
YAK pmax pmax
comp=N,52nm,3.8s
YAK pmax pmax
comp=E,35nm,2.3s
YAK smax smax
comp=E,67nm,4.1s
YAK smax smax
comp=N,62nm,3.8s
YAK MLR MLR
comp=Z,448nm,15.0s
YAK MLR MLR
comp=N,177nm,15.0s
YAK MLR MLR
comp=E,782nm,16.0s
YAK Yakutsk 43.72 37 P P 12 20 08.3 0.0
HSPB Hornsund (broa 43.81 345 eP P 12 20 09.3 +0.5
BCLA Clavier 44.07 306 dP P 12 20 12.6 +1.4
BNX BinXian 44.11 61 ||P P 12 20 12.5 +0.8
BNX pmax pmax
comp=E,22nm,1.1s
BNX pmax pmax
comp=E,290nm,6.3s
SPB2 Spitsbergen Ar 44.23 347 P P 12 20 13.2 +1.0
SPB2 IAmb IAmb 12 20 49.5
comp=Z,18nm,0.9s
SPA0 Spitsbergen Ar 44.24 347 eP P 12 20 14.2 +1.9
SPITS Spitsbergen Ar 44.24 347 LR LR 12 40 39.6
comp=Z,270nm,19.4s,baz=174,slow=39
SPITS Spitsbergen Ar 44.24 347 P P 12 20 13.9 +1.6
SPITS pmax pmax
comp=Z,21nm,1.2s
BNI Bardonecchia 44.29 298 P P 12 20 14.2 +0.9
BNI pmax pmax
comp=Z,62nm,2.0s
BNI Bardonecchia 44.29 298 P P 12 20 14.2 +0.9
BNI IAmb IAmb 12 20 56.4
comp=Z,62nm,2.0s
BMRD Maredsous 44.42 306 dP P 12 20 15.3 +1.2
DOU Dourbes 44.57 306 dP P 12 20 16.0 +0.8
TIXI Tiksi 44.58 23 P P 12 20 15.0 +0.1
comp=Z,28nm,0.8s,baz=90,slow=23,SNR=104
TIXI LR LR 12 40 43.5
comp=Z,542nm,18.2s,baz=188,slow=38
TIXI Tiksi 44.58 23 deP P 12 20 15.3 +0.3
TIXI pmax pmax
comp=Z,38nm,1.0s
TIXI Tiksi 44.58 23 P P 12 20 15.1 +0.1
KEST Kesra 45.29 285 P P 12 20 22.7 +1.5
comp=Z,37nm,0.9s,baz=328,slow=2.9,SNR=16
KEST LR LR 12 44 11.3
comp=Z,91nm,18.6s,baz=350,slow=42
KEST Kesra 45.29 285 P P 12 20 22.9 +1.7
KBS Kingsbay 45.37 347 P P 12 20 22.8 +1.5
KBS pmax pmax
comp=Z,15nm,0.8s
KBS Kingsbay 45.37 347 P P 12 20 22.8 +1.5
KBS IAmb IAmb 12 20 30.7
comp=Z,15nm,0.8s
KBS Kingsbay 45.37 347 eP P 12 20 22.7 +1.4
DLV T Lat 45.58 115 P P 12 20 30.2 +6.3
SSB Saint Sauveur 45.69 299 P P 12 20 25.9 +1.6
SSB pmax pmax
comp=Z,19nm,0.8s
SSB Saint Sauveur 45.69 299 P P 12 20 25.9 +1.6
SSB IAmb IAmb 12 20 27.3
comp=Z,19nm,0.8s
LODK Lodwar 45.72 227 P P 12 20 25.0 +0.2
MDJ Mudanjiang 45.90 62 P P 12 20 26.0 +0.1
MDJ sP sP 12 20 35.0 +1.1
MDJ pmax pmax
comp=Z,7.0nm,0.9s
MDJ pmax pmax
comp=Z,110nm,3.8s
MDJ LR LR
comp=Z,370nm,14.7s
MDJ LR LR
comp=Z,630nm,14.4s
MDJ LR LR
comp=Z,790nm,12.9s
KLR Kul'dur 46.18 55 LR LR 12 41 41.8
comp=Z,604nm,18.4s,baz=282,slow=38
KLR Kul'dur 46.18 55 ceP P 12 20 27.8 -0.2
KLR pmax pmax
comp=Z,18nm,1.3s
IPM Ipoh 46.22 129 P P 12 20 27.6 -1.1
IPM IAmb IAmb 12 20 37.6
comp=Z,19nm,0.8s
PSI Prapat 46.34 133 P P 12 20 29.4 -0.3
comp=Z,1.4nm,0.4s,baz=307,slow=23,SNR=2.2
PSI LR LR 12 41 31.3
comp=Z,492nm,20.4s,baz=302,slow=38
CLF Chambon-Foret 46.52 303 P P 12 20 31.4 +0.8
GSI Gunungsitoli 46.83 136 P P 12 20 33.1 -0.4
GSI IAmb IAmb 12 20 42.7
comp=Z,22nm,0.9s
GSI Gunungsitoli 46.83 136 P P 12 20 40.1 +6.6
KS19 Wonju Array Si 46.96 72 P P 12 20 34.1 -0.1
KS19 IAmb IAmb 12 21 15.6
comp=Z,22nm,1.2s
KSAR Wonju Array Be 46.99 72 P P 12 20 34.4 -0.1
KSAR Wonju Array Be 46.99 72 P P 12 20 34.4 -0.1
TJN Taejon 47.01 73 ||eP P 12 20 33.7 -0.9
KSRS Korea Array 47.02 72 P P 12 20 34.0 -0.7
comp=Z,8.8nm,0.9s,baz=281,slow=6.3,SNR=28
KSRS LR LR 12 43 00.4
comp=Z,543nm,18.1s,baz=285,slow=40
KSRS Korea Array 47.02 72 P P 12 20 34.0 -0.7
MSHR Mys Shultsa 47.59 64 deP P 12 20 37.4 -1.7
MSHR pmax pmax
comp=Z,40nm,1.9s
USRK Ussuriysk Ar. 47.66 62 P P 12 20 39.9 +0.3
comp=Z,3.2nm,0.6s,baz=293,slow=8.0,SNR=7.1
USRK LR LR 12 42 54.0
comp=Z,400nm,18.6s,baz=271,slow=39
USRK Ussuriysk Ar. 47.66 62 P P 12 20 39.0 -0.7
USRK Ussuriysk Ar. 47.66 62 P P 12 20 39.0 -0.7
VLA Vladivostok 47.92 63 ||eP P 12 20 42.0 +0.3
VLA pmax pmax
comp=Z,29nm,0.9s
EKA Eskdalemuir Ar 48.23 314 LR LR 12 44 01.6
comp=Z,565nm,18.5s,baz=94,slow=40
ESK Eskdalemuir 48.26 314 P P 12 20 44.9 +0.8
ESK pmax pmax
comp=Z,24nm,0.9s
ESK Eskdalemuir 48.26 314 P P 12 20 44.9 +0.8
ESK IAmb IAmb 12 20 53.4
comp=Z,24nm,0.9s
KMBO Kilima Mbogo 48.49 222 P P 12 20 45.8 -0.9
comp=Z,1.3nm,0.3s,baz=2.3,slow=7.2,SNR=5.4
KMBO LR LR 12 42 48.8
comp=Z,167nm,19.3s,baz=84,slow=38
KMBO Kilima Mbogo 48.49 222 P P 12 20 46.6 0.0
JMIC Jan Mayen 48.91 335 LR LR 12 43 04.5
comp=Z,133nm,18.4s,baz=76,slow=38
KIBK Kibwezi 49.13 220 P P 12 20 51.6 +0.3
KIBK IAmb IAmb 12 20 53.5
comp=Z,9.4nm,0.9s
BKNI Bangkinang 49.57 133 P P 12 21 02.1 +7.5
NOR Nord 50.66 349 i P P 12 21 01.6 -0.5
NOR IAmb IAmb 12 22 26.5
comp=Z,2.5nm,0.7s
JNU Nakatsue 50.98 76 P P 12 21 05.4 +0.2
JNU IAmb IAmb 12 21 06.8
comp=Z,17nm,0.9s
JNU Nakatsue 50.98 76 P P 12 21 06.1 +0.9
DAG Danmarks Havn 51.33 343 i P P 12 21 07.0 -0.2
DAG IAmb IAmb 12 21 35.6
comp=Z,0.0nm,0.5s
MBAR Mbarara 51.66 229 P P 12 21 10.7 0.0
comp=Z,3.9nm,0.2s,baz=23,slow=9.8,SNR=8.2
MBAR LR LR 12 45 20.2
comp=Z,340nm,18.9s,baz=20,slow=39
MBAR Mbarara 51.66 229 P P 12 21 10.6 0.0
MBAR pmax pmax
comp=Z,6.0nm,0.8s
MBAR Mbarara 51.66 229 P P 12 21 10.6 0.0
JOW Kunigami 51.93 84 LR LR 12 47 48.7
comp=Z,220nm,18.4s,baz=296,slow=41
DBG Daneborg 52.07 340 i P P 12 21 11.4 -1.3
TYV Tymovskoe 52.52 51 eP P 12 21 16.7 +0.3
TYV pmax pmax
comp=Z,9.0nm,1.4s
ESDC Sonseca Array 53.49 295 P P 12 21 24.9 +1.0
comp=Z,6.4nm,0.9s,baz=59,slow=7.6,SNR=29
ESDC Sonseca Array 53.49 295 P P 12 21 25.2 +1.3
YSS Yuzh-Sakhalins 53.89 55 eP P 12 21 26.4 -0.2
YSS e*SP sP 12 21 36.5 +1.9
YSS eS S 12 28 55.0 -5.9
YSS pmax pmax
comp=Z,30nm,0.8s
YSS pmax pmax
comp=Z,200nm,5.1s
YSS MLR MLR
comp=E,500nm,15.0s
YSS MLR MLR
comp=Z,700nm,15.0s
YSS Yuzh-Sakhalins 53.89 55 P P 12 21 27.4 +0.8
YSS Yuzh-Sakhalins 53.89 55 P P 12 21 27.8 +1.2
SEY Seymchan 54.01 34 LR LR 12 46 14.2
comp=Z,730nm,18.1s,baz=318,slow=38
SEY Seymchan 54.01 34 ||eP P 12 21 27.9 +0.7
SEY pmax pmax
comp=Z,11nm,1.0s
MA2 Magadan 54.26 39 LR LR 12 46 23.9
comp=Z,386nm,18.4s,baz=292,slow=38
MA2 Magadan 54.26 39 ||eP P 12 21 28.8 -0.3
MA2 pmax pmax
comp=Z,26nm,1.3s
MA2 Magadan 54.26 39 P P 12 21 28.9 -0.3
MA2 IAmb IAmb 12 21 38.3
comp=Z,18nm,0.9s
MA2 Magadan 54.26 39 P P 12 21 28.7 -0.3
PBRG Braganca 54.57 298 eP P 12 21 38.3 +6.6
comp=Z,19nm,1.3s
BORG Borgarnes 54.76 328 LR LR 12 44 57.5
comp=Z,321nm,18.4s,baz=73,slow=36
MJB9 Matsu-Tunnel 54.91 69 P P 12 21 32.8 -1.4
MJB9 IAmb IAmb 12 21 40.4
comp=Z,20nm,1.1s
MAJO Matsushiro 54.91 69 P P 12 21 32.8 -1.4
MAJO pmax pmax
comp=Z,20nm,1.1s
MAJO Matsushiro 54.91 69 P P 12 21 32.8 -1.4
MAJO IAmb IAmb 12 21 40.4
comp=Z,20nm,1.1s
MJAR Matsushiro Arr 54.92 69 P P 12 21 34.3 0.0
comp=Z,6.1nm,0.9s,baz=236,slow=14,SNR=8.6
MJAR LR LR 12 46 58.9
comp=Z,320nm,18.6s,baz=308,slow=38
MJAR Matsushiro Arr 54.92 69 P P 12 21 34.1 -0.1
MJAR pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 54.92 69 P P 12 21 34.1 -0.1
SBUM Sibu 54.93 120 P P 12 21 34.3 -0.1
MVO Moncorvo 55.03 298 eP P 12 21 37.2 +2.2
comp=Z,28nm,1.1s
POLO Lamas de Olo 55.47 298 eP P 12 21 40.3 +2.0
comp=Z,27nm,1.3s
PGAV Gavieira, Arco 55.55 299 eP P 12 21 40.9 +2.1
comp=Z,55nm,1.8s
MTE Manteigas 55.70 297 eP P 12 21 41.9 +2.0
comp=Z,29nm,1.2s
MTE Manteigas 55.70 297 P P 12 21 42.3 +2.4
PVIS Viseu 55.81 297 eP P 12 21 42.8 +2.1
comp=Z,31nm,1.2s
PMRV Marv??o 56.01 296 eP P 12 21 44.4 +2.4
comp=Z,34nm,1.8s
ERM Erimo 56.07 61 P P 12 21 41.7 -0.7
ERM pmax pmax
comp=Z,111nm,1.4s
ERM Erimo 56.07 61 P P 12 21 41.7 -0.7
JMM Marumori 56.20 66 P P 12 21 43.2 -0.2
PBAR Barrancos 56.30 294 eP P 12 21 46.3 +2.2
comp=Z,33nm,1.5s
COI Coimbra 56.38 297 eP P 12 21 47.3 +2.6
comp=Z,84nm,1.2s
COI Coimbra 56.38 297 P P 12 21 44.5 -0.2
COI pmax pmax
comp=Z,48nm,0.8s
COI Coimbra 56.38 297 P P 12 21 44.5 -0.2
PESTR Estremoz 56.39 295 eP P 12 21 46.9 +2.1
comp=Z,30nm,1.2s
JYT Yasato 56.49 68 P P 12 21 44.6 -0.8
EVO Evora 56.83 295 eP P 12 21 49.4 +1.5
comp=Z,30nm,1.4s
PSBE So Bento 56.95 297 eP P 12 21 51.0 +2.2
comp=Z,86nm,0.9s
PVAQ Vaqueiros 57.12 294 eP P 12 21 58.2 +8.2
comp=Z,58nm,1.6s
JHJ Hachijo jima 2 57.63 72 LR LR 12 49 07.7
comp=Z,434nm,18.0s,baz=312,slow=39
BILL Bilibino 57.64 26 di P P 12 21 53.7 +0.6
BILL i 12 21 59.8
BILL pmax pmax
comp=Z,15nm,1.3s
BILL MLR MLR
comp=Z,369nm,15.0s
BILL Bilibino 57.64 26 P P 12 21 54.2 +1.1
BILL IAmb IAmb 12 22 04.1
comp=Z,12nm,0.9s
LEM Lembang 59.16 131 LR LR 12 49 49.4
comp=Z,121nm,18.4s,baz=336,slow=38
ICESG Greenland Ices 59.59 337 i P P 12 22 07.6 +0.4
ICESG IAmb IAmb 12 23 09.0
comp=Z,5.2nm,0.8s
EUNU Eureka 60.15 355 P P 12 22 12.4 +1.9
EUNU IAmb IAmb 12 22 22.4
comp=Z,12nm,0.9s
PETK Petropavlovsk- 60.27 44 P P 12 22 10.7 -0.9
comp=Z,13nm,1.1s,baz=246,slow=11,SNR=4.1
PETK LR LR 12 49 40.3
comp=Z,210nm,19.1s,baz=301,slow=37
PETK Petropavlovsk- 60.27 44 P P 12 22 12.9 +1.3
DAV Davao City (W) 61.32 105 LR LR 12 52 22.7
comp=Z,185nm,19.6s,baz=342,slow=40
MPSI Mapaga 61.74 115 P P 12 22 22.2 +0.1
comp=Z,23nm,1.0s
JCJ Chichijima 62.45 76 LR LR 12 51 32.8
comp=Z,139nm,19.2s,baz=132,slow=38
TOA0 Torodi Ar. Sit 62.74 265 P P 12 22 28.3 -0.5
TOA0 IAmb IAmb 12 22 30.0
comp=Z,14nm,0.8s
TORD Torodi Ar. Bea 62.74 265 P P 12 22 28.2 -0.6
comp=Z,12nm,0.6s,baz=49,slow=6.3,SNR=91
TORD Torodi Ar. Bea 62.74 265 P P 12 22 28.3 -0.6
TORD IAmb IAmb 12 22 30.0
comp=Z,10nm,0.8s
ILULI Ilulissat 62.88 339 i P P 12 22 29.2 +0.2
ILULI IAmb IAmb 12 22 50.2
comp=Z,76nm,0.5s
MRSI Marisa 63.09 113 P P 12 22 31.2 +0.1
comp=Z,40nm,0.8s
APSI Ampana 63.85 115 P P 12 22 36.7 +0.5
comp=Z,26nm,0.9s
SFJD Kangerlussuaq 64.17 337 LR LR 12 52 47.5
comp=Z,205nm,18.5s,baz=129,slow=38
LSZ Lusaka 65.16 222 LR LR 12 53 10.2
comp=Z,35nm,20.9s,baz=26,slow=38
KAPI Kappang 65.48 119 LR LR 12 55 11.2
comp=Z,137nm,19.3s,baz=298,slow=40
RES Resolute Bay 65.85 355 LR LR 12 55 09.7
comp=Z,309nm,18.4s,baz=52,slow=39
RES Resolute Bay 65.85 355 P P 12 22 49.9 +1.6
RES pmax pmax
comp=Z,5.0nm,1.0s
RES Resolute Bay 65.85 355 P P 12 22 49.9 +1.6
BKSI Bulukumba 65.95 119 P P 12 22 50.3 +0.5
comp=Z,27nm,1.2s
KOWA Kowa 66.37 270 P P 12 22 52.1 -0.5
RDOG Red Dog Mine 66.79 18 P P 12 22 54.7 +0.2
TNA Tin City 67.32 22 P P 12 22 57.3 -0.5
TNA Tin City 67.32 22 P P 12 22 58.2 +0.4
baz=316
GAMB Gambell 67.44 24 P P 12 22 59.6 +1.0
GAMB IAmb IAmb 12 23 07.9
comp=Z,8.6nm,1.0s
GAMB Gambell 67.44 24 P P 12 22 59.1 +0.5
baz=314
SANI Sanana 67.74 112 P P 12 23 04.8 +3.6
comp=Z,21nm,0.8s
ANM Nome 68.79 22 P P 12 23 08.3 +1.2
ANM pmax pmax
comp=Z,10.0nm,0.9s
ANM Nome 68.79 22 P P 12 23 08.3 +1.2
ANM IAmb IAmb 12 23 17.0
comp=Z,9.6nm,0.9s
ANM Nome 68.79 22 P P 12 23 07.4 +0.3
baz=319
A36M Sachs Harbour 68.86 4 P P 12 23 08.0 +0.6
A36M Sachs Harbour 68.86 4 P P 12 23 07.9 +0.5
baz=350,SNR=44
SHEM Shemya Is, Ala 68.90 39 LR LR 12 55 21.9
comp=Z,191nm,18.4s,baz=298,slow=38
TOLK Toolik Lake Re 69.15 14 P P 12 23 10.1 +0.7
TOLK Toolik Lake Re 69.15 14 P P 12 23 09.9 +0.5
baz=330
COLD Coldfoot 70.27 14 P P 12 23 16.9 +0.8
COLD Coldfoot 70.27 14 P P 12 23 16.9 +0.8
baz=330,SNR=42
IMAR Indian Mountai 70.60 16 P P 12 23 18.2 0.0
GCSA Galena City Sc 70.90 18 P P 12 23 20.4 +0.3
baz=325,SNR=9.9
H21K Melozitna Rive 71.08 16 P P 12 23 21.9 +0.7
H21K IAmb IAmb 12 23 23.5
comp=Z,16nm,1.1s
H21K Melozitna Rive 71.08 16 P P 12 23 21.4 +0.2
baz=328,SNR=12
BMAR Burnt Mountain 71.10 12 P P 12 23 22.5 +1.1
C36M Paulatuk 71.54 4 P P 12 23 24.3 +0.4
C36M Paulatuk 71.54 4 P P 12 23 23.7 -0.2
baz=351,SNR=23
I21K Tanana 71.67 16 P P 12 23 25.3 +0.5
I21K IAmb IAmb 12 23 33.4
comp=Z,32nm,1.5s
I21K Tanana 71.67 16 P P 12 23 25.2 +0.5
baz=329,SNR=6.9
DBIC Dimbokro 71.79 264 P P 12 23 26.3 +0.1
comp=Z,10nm,0.8s,baz=74,slow=7.2,SNR=12
DBIC LR LR 12 59 19.5
comp=Z,187nm,19.0s,baz=48,slow=40
DBIC Dimbokro 71.79 264 P P 12 23 26.2 0.0
DBIC pmax pmax
comp=Z,13nm,0.9s
DBIC Dimbokro 71.79 264 P P 12 23 26.2 0.0
DBIC IAmb IAmb 12 23 27.3
comp=Z,13nm,0.9s
INK Inuvik 71.79 8 LR LR 13 00 34.2
comp=Z,199nm,18.2s,baz=343,slow=40
INK Inuvik 71.79 8 P P 12 23 26.1 +0.7
INK pmax pmax
comp=Z,25nm,0.9s
INK Inuvik 71.79 8 P P 12 23 26.1 +0.7
INK Inuvik 71.79 8 P P 12 23 26.0 +0.6
baz=343,SNR=32
KIC Kosan Boka 71.89 263 eP P 12 23 27.0 +0.1
comp=Z,25nm,0.7s
BATI Baumata 71.89 120 LR LR 13 01 09.0
comp=Z,296nm,18.0s,baz=282,slow=41
TIC Toumodi 71.93 264 eP P 12 23 27.1 0.0
H24K Noodor Dome 71.94 14 P P 12 23 27.4 +1.0
H24K IAmb IAmb 12 23 29.3
comp=Z,11nm,0.9s
H24K Noodor Dome 71.94 14 P P 12 23 27.0 +0.6
baz=332,SNR=7.9
J20K Nowinta River 72.04 18 P P 12 23 27.9 +1.0
J20K IAmb IAmb 12 23 34.6
comp=Z,13nm,0.8s
MLY Manley 72.07 16 P P 12 23 27.5 +0.3
MLY IAmb IAmb 12 23 34.7
comp=Z,9.3nm,0.9s
MLY Manley 72.07 16 P P 12 23 27.2 0.0
baz=330
LIC Lamto 72.20 263 eP P 12 23 29.3 +0.6

comp=Z,27nm,0.8s
I23K Minto, Yukon-K 72.25 15 P **P** **12 23 29.4 +1.2**
I23K IAmb IAmb 12 23 37.3
comp=Z,28nm,1.2s
I23K Minto, Yukon-K 72.25 15 P **P** **12 23 29.0 +0.8**
baz=331,SNR=13
TTA Tatalina 72.63 19 P **P** **12 23 31.4 +0.8**
TTA pmax pmax
comp=Z,32nm,1.6s
TTA Tatalina 72.63 19 P **P** **12 23 31.4 +0.8**
TTA IAmb IAmb 12 23 39.6
comp=Z,32nm,1.6s
TTA Tatalina 72.63 19 P **P** **12 23 30.5 0.0**
baz=326
MDM Murphy Dome 72.65 15 P **P** **12 23 31.2 +0.6**
MDM IAmb IAmb 12 23 38.4
comp=Z,10.0nm,0.9s
SPIA Saint Paul Isl 72.66 29 P **P** **12 23 30.6 -0.2**
baz=317
POKR Poker Plat Res 72.67 15 P **P** **12 23 31.4 +0.6**
POKR IAmb IAmb 12 23 33.5
comp=Z,21nm,0.8s
POKR Poker Plat Res 72.67 15 P **P** **12 23 31.2 +0.5**
baz=332
CHUM Lake Minchumin 72.71 17 P **P** **12 23 31.3 +0.4**
baz=329,SNR=12
K20K Telida 72.75 18 P **P** **12 23 31.8 +0.5**
K20K IAmb IAmb 12 23 38.9
comp=Z,12nm,0.8s
K20K Telida 72.75 18 P **P** **12 23 31.3 0.0**
baz=328
TCOL CIGO, UAF Yank 72.80 15 P **P** **12 23 32.5 +1.0**
TCOL CIGO, UAF Yank 72.80 15 P **P** **12 23 32.0 +0.5**
baz=332,SNR=9.9
COLA College 72.80 15|| *e*P **P** **12 23 32.3 +0.9**
COLA pmax pmax
comp=Z,29nm,0.9s
COLA College 72.80 15 P **P** **12 23 31.9 +0.5**
COLA College 72.80 15 P **P** **12 23 31.6 +0.1**
baz=332
NEA2 Nenana 72.80 15 P **P** **12 23 32.1 +0.6**
NEA2 IAmb IAmb 12 23 38.4
comp=Z,16nm,0.7s
NEA2 Nenana 72.80 15 P **P** **12 23 31.6 +0.1**
baz=331,SNR=14
BPAW Bear Paw Mtn. 72.82 16 P **P** **12 23 31.9 +0.3**
BPAW IAmb IAmb 12 23 39.8
comp=Z,22nm,1.1s
BPAW Bear Paw Mtn. 72.82 16 P **P** **12 23 31.4 -0.3**
baz=330,SNR=7.7
CCB Clear Creek Bu 73.01 15 P **P** **12 23 33.6 +0.9**
CCB IAmb IAmb 12 23 42.5
comp=Z,13nm,1.2s
IL31 73.08 14 P **P** **12 23 33.6 +0.5**
IL31 IAmb IAmb 12 23 40.1
comp=Z,12nm,0.9s
ILAR Eielson Array 73.08 14 P **P** **12 23 33.2 0.0**
comp=Z,7.0nm,0.9s,baz=331,slow=4.3,SNR=63
ILAR LR LR 12 58 41.1
comp=Z,228nm,21.9s,baz=350,slow=38
ILAR Eielson Array 73.08 14 P **P** **12 23 33.1 -0.1**
ILAR Eielson Array 73.08 14 P **P** **12 23 33.1 -0.1**
BWN Browne 73.09 16 P **P** **12 23 34.1 +0.9**
CAST Castle Rocks 73.16 17 P **P** **12 23 34.5 +0.8**
CAST IAmb IAmb 12 23 41.8
comp=Z,24nm,0.9s
CAST Castle Rocks 73.16 17 P **P** **12 23 34.0 +0.3**
baz=329,SNR=11
EPYK Eagle Plains 73.26 10 P **P** **12 23 34.7 +0.5**
EPYK IAmb IAmb 12 23 36.4
comp=Z,14nm,1.1s
EPYK Eagle Plains 73.26 10 P **P** **12 23 34.4 +0.1**
baz=341
KTH Kantishna Hill 73.31 17 P **P** **12 23 35.1 +0.5**
HDA Harding Lake 73.39 15 P **P** **12 23 34.9 -0.1**
HDA IAmb IAmb 12 23 36.2
comp=Z,11nm,1.0s
HDA Harding Lake 73.39 15 P **P** **12 23 34.9 -0.1**
baz=333,SNR=7.2
J25K Salcha River, 73.51 14 P **P** **12 23 35.9 +0.1**
J25K IAmb IAmb 12 23 43.4
comp=Z,10.0nm,0.8s
J25K Salcha River, 73.51 14 P **P** **12 23 35.8 +0.1**
baz=334,SNR=12
L20K Farewell, AK 73.54 18 P **P** **12 23 36.3 +0.3**
baz=328
TRF Thorofare Moun 73.54 17 P **P** **12 23 37.6 +1.4**
TRF IAmb IAmb 12 23 56.9
comp=Z,12nm,1.1s
TRF Thorofare Moun 73.54 17 P **P** **12 23 36.1 0.0**
baz=330
L19K White Mountain 73.55 19 P **P** **12 23 36.6 +0.6**
L19K IAmb IAmb 12 23 45.0
comp=Z,18nm,1.1s
L19K White Mountain 73.55 19 P **P** **12 23 36.3 +0.3**
baz=327
MCK McKinley 73.59 16 P **P** **12 23 36.5 +0.3**
MCK pmax pmax
comp=Z,20nm,1.4s
MCK McKinley 73.59 16 P **P** **12 23 36.5 +0.3**
MCK IAmb IAmb 12 23 59.5
comp=Z,20nm,1.4s
MCK McKinley 73.59 16 P **P** **12 23 36.7 +0.5**
baz=332
PPLA Purkeypile 73.59 18 P **P** **12 23 37.3 +0.9**
PPLA IAmb IAmb 12 23 46.0
comp=Z,24nm,1.2s
PPLA Purkeypile 73.59 18 P **P** **12 23 36.5 +0.1**
baz=329
RND Reindeer 73.89 16 P **P** **12 23 38.3 +0.2**
RND pmax pmax
comp=Z,29nm,1.4s
RND Reindeer 73.89 16 P **P** **12 23 38.2 +0.2**
RND IAmb IAmb 12 23 45.8
comp=Z,29nm,1.4s
M19K Big River Lodg 73.90 19 P **P** **12 23 39.1 +1.0**
baz=328
J26L Joseph Creek 73.94 13 P **P** **12 23 38.5 +0.1**
baz=336,SNR=15
I29M Ogilvie Camp, 74.00 11 P **P** **12 23 38.8 +0.2**
I29M Ogilvie Camp, 74.00 11 P **P** **12 23 38.6 0.0**
baz=340,SNR=17
EGAK Eagle 74.10 12 P **P** **12 23 39.9 +0.7**
EGAK Eagle 74.10 12 P **P** **12 23 39.5 +0.3**
baz=338
SVW2 Sparrevohn 74.27 20 P **P** **12 23 41.7 +1.5**
SVW2 IAmb IAmb 12 24 51.1
comp=Z,44nm,1.7s
SCRK Sand Creek 74.35 14 P **P** **12 23 41.5 +0.7**
SCRK IAmb IAmb 12 23 43.2
comp=Z,14nm,0.8s
SCRK Sand Creek 74.35 14 P **P** **12 23 41.0 +0.2**
baz=335,SNR=16
RIDG Independent Ri 74.40 14 P **P** **12 23 41.4 +0.4**
baz=335
CUT Chulitna 74.46 17 P **P** **12 23 42.0 +0.7**
CUT Chulitna 74.46 17 P **P** **12 23 41.1 -0.1**
baz=331
DHY Denali Highway 74.50 15 P **P** **12 23 42.1 +0.4**
DHY Denali Highway 74.50 15 P **P** **12 23 41.9 +0.2**
baz=333
DOT Dot Lake 74.63 14 P **P** **12 23 42.3 0.0**
DOT IAmb IAmb 12 23 44.3
comp=Z,9.8nm,0.8s
LBTB Lobatse 74.64 219 LR LR 13 00 06.4
comp=Z,262nm,18.2s,baz=18,slow=39
LBTB Lobatse 74.64 219 P **P** **12 23 43.3 +0.4**
LBTB pmax pmax
comp=Z,48nm,1.8s
LBTB Lobatse 74.64 219 P **P** **12 23 43.3 +0.4**
LBTB IAmb IAmb 12 24 49.0
comp=Z,48nm,1.8s
N19K Bonanza Creek 74.80 20 P **P** **12 23 44.5 +1.1**
N19K IAmb IAmb 12 23 52.7
comp=Z,14nm,0.8s
N19K Bonanza Creek 74.80 20 P **P** **12 23 44.0 +0.6**
baz=328
WAT6 Susitna Watana 74.86 16 P **P** **12 23 43.8 0.0**
baz=333
J29M Klondike Camp 74.87 11 P **P** **12 23 44.4 +0.7**
baz=340
PAX Paxson 74.98 15 P **P** **12 23 44.3 -0.1**
PAX pmax pmax
comp=Z,10.0nm,0.8s
PAX Paxson 74.98 15 P **P** **12 23 44.3 -0.1**
PAX IAmb IAmb 12 23 46.2
comp=Z,10nm,0.8s
PAX Paxson 74.98 15 P **P** **12 23 44.4 -0.1**
baz=334,SNR=6.9
SPCR Spurr Chakacha 75.05 18 P **P** **12 23 45.9 +1.1**
baz=329
DAWY Dawson 75.05 12 P **P** **12 23 45.5 +0.8**
DAWY IAmb IAmb 12 23 47.1
comp=Z,14nm,0.9s
DAWY Dawson 75.05 12 P **P** **12 23 45.0 +0.2**
baz=339,SNR=12
M22K Willow 75.07 17 P **P** **12 23 44.9 +0.2**
M22K Willow 75.07 17 P **P** **12 23 45.3 +0.6**
baz=331
GHO Glory Hole Cre 75.32 17 P **P** **12 23 47.5 +1.1**
L26K Log Cabin Wild 75.34 14 P **P** **12 23 47.8 +1.4**
L26K Log Cabin Wild 75.34 14 P **P** **12 23 47.1 +0.7**
baz=336
O19K Port Alsworth 75.37 20 P **P** **12 23 47.1 +0.5**
baz=328
SML Sawmill 75.42 17 P **P** **12 23 47.6 +0.7**
baz=332,SNR=7.5
PMR Palmer 75.44 17 P **P** **12 23 47.6 +0.7**
PMR pmax pmax
comp=Z,40nm,1.3s
PMR Palmer 75.44 17 P **P** **12 23 47.5 +0.7**
PMR Palmer 75.44 17 P **P** **12 23 47.5 +0.7**
baz=332
HARP HAARP 75.56 15 P **P** **12 23 48.9 +1.3**
baz=335,SNR=8.8
L27K Beaver Creek, 75.58 13 P **P** **12 23 47.6 -0.2**
L27K IAmb IAmb 12 23 56.4
comp=Z,16nm,1.3s
L27K Beaver Creek, 75.58 13 P **P** **12 23 48.7 +0.9**
baz=337
BCAR Beaver Creek A 75.58 13 P **P** **12 23 48.3 +0.5**
M24K Tolsona, Glenn 75.62 15 P **P** **12 23 49.5 +1.4**
M24K Tolsona, Glenn 75.62 15 P **P** **12 23 49.0 +0.9**
baz=334,SNR=7.0
SCM Sheep Creek Mo 75.62 16 P **P** **12 23 48.9 +0.8**
SCM pmax pmax
comp=Z,24nm,0.8s
SCM Sheep Creek Mo 75.62 16 P **P** **12 23 48.9 +0.8**
SCM Sheep Creek Mo 75.62 16 P **P** **12 23 48.5 +0.4**
baz=333
RC01 Rabbit Creek A 75.74 17 P **P** **12 23 48.8 +0.1**
RC01 Rabbit Creek A 75.74 17 P **P** **12 23 48.6 -0.1**
baz=331
KNK Knik Glacier 75.75 17 P **P** **12 23 49.1 +0.4**
KNK Knik Glacier 75.75 17 P **P** **12 23 49.2 +0.4**
baz=332
O20K Slope Mountain 75.91 19 P **P** **12 23 50.0 +0.3**
baz=329
M27K Edge Creek, AK 76.22 13 P **P** **12 23 52.4 +0.8**
M27K IAmb IAmb 12 24 00.4
comp=Z,27nm,1.1s
M27K Edge Creek, AK 76.22 13 P **P** **12 23 52.5 +0.9**
baz=337,SNR=10
KLU Klutina 76.22 16 P **P** **12 23 53.1 +1.6**
KLU Klutina 76.22 16 P **P** **12 23 52.0 +0.5**
baz=334,SNR=6.5
PWL Port Wells 76.27 17 P **P** **12 23 52.2 +0.5**
baz=332
NIKH Nikolski High 76.31 31 P **P** **12 23 52.8 +0.7**
baz=318
BVCY Beaver Creek 76.35 13 P **P** **12 23 53.2 +1.0**
baz=338
N25K Chitina, Valde 76.39 15 P **P** **12 23 52.4 -0.1**
N25K IAmb IAmb 12 24 02.3
comp=Z,18nm,1.1s
GLI Glacier Island 76.52 16 P **P** **12 23 53.8 +0.6**
baz=333
DIV Divide 76.58 16 P **P** **12 23 54.9 +1.3**
DIV IAmb IAmb 12 24 01.1
comp=Z,22nm,0.8s
M30M Minto, Yukon 76.86 11 P **P** **12 23 56.0 +0.9**
M30M IAmb IAmb 12 24 03.9
comp=Z,11nm,0.9s
M30M Minto, Yukon 76.86 11 P **P** **12 23 55.5 +0.4**
baz=341
BMRM Bremner River 76.97 15 P **P** **12 23 57.6 +1.8**
BMRM Bremner River 76.97 15 P **P** **12 23 56.4 +0.6**
baz=335
YUK3 Moose Creek 77.01 13 P **P** **12 23 56.3 +0.1**
baz=338,SNR=5.6
EYAK Cordova Ski Ar 77.11 16 P **P** **12 23 57.2 +0.8**
baz=334
M31M Drury Creek, Y 77.56 10 P **P** **12 24 00.1 +1.1**
M31M IAmb IAmb 12 24 09.3
comp=Z,14nm,0.8s
M31M Drury Creek, Y 77.56 10 P **P** **12 24 00.1 +1.1**
baz=343,SNR=8.4
YUK4 Talbot Arm 77.73 12 P **P** **12 24 00.6 +0.4**
baz=340
BOSA Boshof 77.84 217 P **P** **12 23 59.4 -1.6**
comp=Z,7.1nm,0.9s,baz=22,slow=4.5,SNR=8.2
BOSA LR LR 13 02 02.0
comp=Z,102nm,18.2s,baz=18,slow=39
KDAK Kodiak Island 77.90 20 LR LR 13 01 20.9
comp=Z,172nm,18.5s,baz=360,slow=38
KDAK Kodiak Island 77.90 20 P **P** **12 24 01.4 +0.5**
baz=330
PSA00 Pilbara Seismi 77.99 131 P **P** **12 24 01.5 -0.3**
N31M Braeburn, Yuko 78.05 11 P **P** **12 24 03.5 +1.8**
N31M IAmb IAmb 12 24 13.1
comp=Z,25nm,0.9s
N31M Braeburn, Yuko 78.05 11 P **P** **12 24 02.8 +1.1**
baz=342
YUK6 Outpost Mounta 78.15 12 P **P** **12 24 03.5 +0.9**
baz=340
OHAK Old Harbor 78.19 21 P **P** **12 24 03.0 +0.5**
baz=329
HYT Haines Junctio 78.41 12 P **P** **12 24 05.6 +1.7**
HYT Haines Junctio 78.41 12 P **P** **12 24 04.6 +0.8**
baz=341
SCHQ Schefferville 78.44 335 P **P** **12 24 04.6 +0.7**
comp=Z,9.4nm,0.8s,baz=176,slow=1.8,SNR=8.1
SCHQ Schefferville 78.44 335 IAmb IAmb 12 24 13.5
comp=Z,13nm,0.8s
YKA Yellowknife Ar 78.73 1 P **P** **12 24 05.8 +0.4**
comp=Z,16nm,0.9s,baz=352,slow=5.9,SNR=172
TGTN Hyland Airport 78.94 7 P **P** **12 24 07.5 +0.9**
baz=348
KNRA Kununurra 79.26 120 P **P** **12 24 08.6 -0.3**
KNRA IAmb IAmb 12 24 23.0
comp=Z,14nm,0.8s
P33M Teslin, Yukon 79.69 10 P **P** **12 24 11.1 +0.3**
P33M IAmb IAmb 12 24 20.3
comp=Z,12nm,0.8s
P33M Teslin, Yukon 79.69 10 P **P** **12 24 10.7 -0.1**
baz=344
FCC Fort Churchill 81.22 350 P **P** **12 24 20.1 +1.2**
FCC pmax pmax
comp=Z,13nm,0.9s
FCC Fort Churchill 81.22 350 P **P** **12 24 20.1 +1.2**
FCC IAmb IAmb 12 24 29.0
comp=Z,13nm,0.8s
DLBC Dease Lake 81.77 9 LR LR 13 04 59.2
comp=Z,95nm,19.2s,baz=334,slow=39
DLBC Dease Lake 81.77 9 P **P** **12 24 21.7 -0.3**
DLBC IAmb IAmb 12 24 32.6
comp=Z,10nm,0.7s
SUR Sutherland 83.08 218 LR LR 13 05 00.8
comp=Z,162nm,19.2s,baz=351,slow=38
GBN Guysborough 84.01 326 P **P** **12 24 34.3 +0.6**
WB0 Warramunga Arr 85.93 119 P **P** **12 24 42.8 -0.9**
WB0 IAmb IAmb 12 24 43.9
comp=Z,13nm,0.8s
WRA Warramunga Arr 86.02 120 P **P** **12 24 42.4 -1.7**
comp=Z,13nm,0.7s,baz=321,slow=4.9,SNR=132
WRA LR LR 13 08 36.9
comp=Z,46nm,19.3s,baz=22,slow=40
WRA Warramunga Arr 86.02 120 *i* P **P** **12 24 42.4 -1.7**
WRA pmax pmax
comp=Z,14nm,0.7s
WRA Warramunga Arr 86.02 120 P **P** **12 24 43.0 -1.1**
WRAB Tennant Creek 86.02 120 *ce*P **P** **12 24 43.4 -0.7**
WRAB pmax pmax
comp=Z,26nm,1.0s
WRAB Tennant Creek 86.02 120 P **P** **12 24 42.9 -1.1**
WB2 Warramunga Arr 86.02 120 P **P** **12 24 42.9 -1.2**
FFC Flin Flon 86.06 354 P **P** **12 24 44.8 +1.0**
FFC pmax pmax
comp=Z,34nm,1.7s
FFC Flin Flon 86.06 354 P **P** **12 24 44.8 +1.0**
WR0 Warramunga Arr 86.16 119 P **P** **12 24 44.1 -0.7**
WR0 IAmb IAmb 12 24 45.0
comp=Z,13nm,0.8s
EDM Edmonton 88.04 0 P **P** **12 24 53.8 +0.2**
EDM pmax pmax
comp=Z,21nm,0.8s
EDM Edmonton 88.04 0 P **P** **12 24 53.8 +0.2**
BBB Bella Bella 88.12 9 LR LR 13 10 23.5
comp=Z,117nm,18.1s,baz=182,slow=40
AS31 Alice Springs 88.31 122 P **P** **12 24 54.1 -1.1**
ASAR Alice Springs 88.31 122 P **P** **12 24 54.0 -1.1**
comp=Z,11nm,0.9s,baz=317,slow=4.6,SNR=69
ASAR Alice Springs 88.31 122 P **P** **12 24 54.3 -0.8**
ULM Lac du Bonnet 89.75 349 P **P** **12 25 02.1 +0.4**
comp=Z,4.8nm,0.7s,baz=0.8,slow=6.5,SNR=7.5
ULM LR LR 13 07 59.2
comp=Z,118nm,19.2s,baz=338,slow=37
ULM Lac du Bonnet 89.75 349 P **P** **12 25 02.0 +0.4**
ULM pmax pmax
comp=Z,14nm,1.1s
ULM Lac du Bonnet 89.75 349 P **P** **12 25 01.9 +0.3**
ULM IAmb IAmb 12 25 11.0
comp=Z,14nm,1.1s
LLLB Lillooet 90.31 6 P **P** **12 25 05.5 +1.3**
LLLB IAmb IAmb 12 25 15.5
comp=Z,8.9nm,0.9s
EYMN Ely 91.24 346 P **P** **12 25 07.9 -0.7**
baz=16
F04D Rainier, OR 94.71 7 P **P** **12 25 24.6 0.0**
baz=352
BOZ Bozeman (W) 95.66 359 P **P** **12 25 29.0 -0.2**
baz=1.0
RLMT Red Lodge 96.08 357 P **P** **12 25 31.2 0.0**
baz=2.8
ECSD EROS Data Cent 96.22 348 P **P** **12 25 31.9 +0.3**
ECSD IAmb IAmb 12 25 33.5
comp=Z,5.9nm,0.8s
ECSD EROS Data Cent 96.22 348 P **P** **12 25 31.9 +0.3**
baz=13
K02D Willamette Mer 97.99 8 P Pdif 12 25 40.4 +0.7
baz=352
PDAR Pinedale Array 98.44 357 P Pdif 12 25 43.0 +1.0
comp=Z,0.3nm,0.7s,baz=29,slow=2.1,SNR=2.3
PDAR LR LR 13 15 32.8
comp=Z,72nm,18.1s,baz=10.0,slow=39
YBH Yreka Blue Hor 99.05 7 LR LR 13 16 48.0
comp=Z,178nm,18.7s,baz=356,slow=39
IRM Iron Mountain 107.07 2 P **PKiKP** **12 30 29.4 -0.2**
baz=358
PFO Pinyon Flats O 107.57 3 P **PKiKP** **12 30 29.7 -0.9**
baz=357
TPFO Pinon Flats 107.57 3 P **PKiKP** **12 30 30.0 -0.7**
baz=357
SYO Syowa Base 109.71 190↑ *e*X **Pdif** **12 26 27.0 -3.7**
SIV San Ignacio 129.34 282 PKP **PKPdf** **12 31 11.9 -0.4**
comp=Z,2.9nm,0.9s,baz=139,slow=3.5,SNR=8.8
CPUP Villa Florida 132.17 268 PKP **PKPdf** **12 31 17.4 0.0**
comp=Z,2.9nm,0.9s,baz=86,slow=3.0,SNR=3.5
CO01 Juntas del Tor 143.82 271 PKPbc 12 31 37.3 +0.6
GO04 Tololo Observa 144.45 271 **PKPab** **12 31 38.6 +0.3**
CO03 El Pedregal 144.66 270 **PKPab** **12 31 38.9 -0.1**
VA03 San Esteban 145.33 267 **PKPbc** **12 31 40.9 -0.3**
BO02 Sierra Bellavi 146.25 264 **PKPbc** **12 31 43.9 -0.1**
MT01 Popeta 146.28 266 **PKPbc** **12 31 43.8 -0.2**
BO01 Tunca 146.34 265 **PKPbc** **12 31 44.2 0.0**
PLCA Paso Flores 147.67 253 PKPbc **PKPdf** **12 31 46.1 +1.1**
comp=Z,12nm,1.0s,baz=110,slow=2.6,SNR=18
PLCA Paso Flores 147.67 253 **PKPbc** **12 31 48.6 +0.8**
LC01 Cunco 148.27 257 **PKPbc** **12 31 48.8 -0.6**
LC01 PKPab **pPKPbc** **12 31 54.4 -1.1**
LL02 Futaleuf 149.01 249 **PKPbc** **12 31 50.7 -0.4**
LL04 Puerto Octay 149.09 254 **PKPbc** **12 31 50.2 -1.1**
LL04 PKPab **pPKPbc** **12 31 56.6 -0.9**
AY01 Puyuhuapi 149.70 247 **PKPbc** **12 31 52.5 -0.3**
AY01 **pPKPbc** **12 31 57.5 -1.3**

RSNC ***05*** *12:20:56.0±1.0, 4°.15N×76°.26W, h142km±4km, ML3.2, Mw3.7*
IDC ***05*** *12:20:59.1±1.8, 4°.24N×75°.84W, h194km±23km, mb2.8/2, mb1 3.2/3, mb1mx2.9/38, mbtmp3.4/3, Error ellipse: s-maj=50.7km s-min=28.3km az=115.0*
ISC 05 12:20:54.9±0.8, **4°.16N**±0°.03×**76°.27W**±0°.04, **h148**km±6km, **n36**, σ1**s35**/65, **3C-3D**, **Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.19**	**203**↑	*e*P		**Pn**	**12 21 14.9**	**-0.2**
YOTC				*e*S		**Sn**	**12 21 29.2**	**-1.2**
YOTC				*i*			12 21 34.0	
	comp=Z,230nm,0.1s							
PLMC	**San Jos del P**	**0.74**	**359**	*e*P		**Pn**	**12 21 17.8**	**+0.2**
PLMC				*e*S		**Sn**	**12 21 35.1**	**+0.2**
PLMC				*i*			12 21 39.1	
	comp=Z,1μm,0.3s							
ANIL	**Santa Ana**	**0.93**	**69**↑	*i*P		**Pn**	**12 21 18.9**	**-0.3**
ANIL				*e*S		**Sn**	**12 21 37.1**	**-0.6**
ANIL				*i*			12 21 39.0	
	comp=Z,637nm,0.4s							
ORTC	**Ortega, Tolima**	**1.05**	**104**↑	*i*P		**Pn**	**12 21 19.7**	**-0.2**
ORTC				*e*S		**Sn**	**12 21 37.5**	**-1.5**
ORTC				*i*			12 21 39.4	
	comp=Z,182nm,0.2s							
MARP	**Paez Belalcaza**	**1.34**	**166**	*e*P		**Pn**	**12 21 23.6**	**+0.5**
MARP				*e*S		**Sn**	**12 21 44.1**	**-0.4**
MARP				*i*			12 21 45.3	
	comp=Z,97nm,0.3s							
PIZC	**Pizarro, Choco**	**1.35**	**306**	*e*P		**Pn**	**12 21 24.4**	**+1.7**
PIZC				*e*S		**Sn**	**12 21 46.2**	**+2.2**
PIZC				*i*			12 21 52.7	
	comp=Z,119nm,0.3s							
GUY2C	**Guyana, Caldas**	**1.39**	**40**	*e*P		**Pn**	**12 21 24.1**	**+0.4**
GUY2C				*e*S		**Sn**	**12 21 46.0**	**+0.3**
GUY2C				*i*			12 21 51.3	
	comp=Z,285nm,0.6s							
POPC	**Popayan, Colom**	**1.66**	**194**	*e*P		**Pn**	**12 21 25.8**	**-0.5**
POPC				*e*S		**Sn**	**12 21 48.1**	**-2.3**
POPC				*i*			12 21 50.4	
	comp=Z,135nm,0.2s							
BETC	**Betania**	**1.69**	**151**	*e*P		**Pn**	**12 21 26.2**	**-0.2**
BETC				*e*S		**Sn**	**12 21 49.2**	**-1.4**
BETC				*i*			12 21 51.1	
	comp=Z,146nm,0.3s							
CBOC	**Ciudad Bolivar**	**1.71**	**9**	*e*P		**Pn**	**12 21 27.3**	**+0.4**
CBOC				*e*S		**Sn**	**12 21 51.4**	**0.0**
CBOC				*i*			12 21 53.7	
	comp=Z,126nm,0.4s							
PCON	**Cinco Dias**	**1.82**	**184**↓	*e*P		**Pn**	**12 21 29.3**	**+0.8**
PCON				*e*S		**Sn**	**12 21 54.5**	**+0.3**
PCON				*i*			12 22 02.3	
	comp=Z,128nm,0.4s							
NORC	**Norcasia**	**1.97**	**45**↓	*e*P		**Pn**	**12 21 29.8**	**+0.2**
NORC				*e*S		**Sn**	**12 21 55.9**	**-0.5**
NORC				*i*			12 22 03.6	
	comp=Z,36nm,0.5s							
SOTA	**Rioblanco**	**2.04**	**190**	*e*P		**Pn**	**12 21 31.3**	**+0.4**
SOTA				*e*S		**Sn**	**12 21 58.6**	**+0.1**
SOTA				*i*			12 22 00.7	
	comp=Z,161nm,0.7s							
ROSC	**El Rosal**	**2.06**	**71**	P		**Pn**	**12 21 32.6**	**+1.6**
	comp=Z,17nm,0.3s,baz=302,slow=15,SNR=11							
ROSC				S		**Sn**	**12 22 01.1**	**+2.4**
	comp=Z,17nm,0.3s,baz=201,slow=22,SNR=25							
ROSC	**El Rosal**	**2.06**	**71**	*e*P		**Pn**	**12 21 32.6**	**+1.6**
ROSC				*e*S		**Sn**	**12 22 00.9**	**+2.3**
ROSC				*i*			12 22 03.5	
	comp=Z,93nm,0.7s							
GARC	**Garzon, Huila**	**2.11**	**158**	*e*P		**Pn**	**12 21 30.9**	**-0.6**
GARC				*e*S		**Sn**	**12 21 57.9**	**-1.6**
GARC				*i*			12 22 10.6	
	comp=Z,79nm,0.3s							
HELC	**Santa Helena**	**2.15**	**20**↓	*e*P		**Pn**	**12 21 32.2**	**+0.2**
HELC				*e*S		**Sn**	**12 22 01.2**	**+0.6**
HELC				*i*			12 22 04.5	
	comp=Z,55nm,0.5s							
GR1C	**Gorgona, Isla**	**2.21**	**239**	*e*P		**Pn**	**12 21 32.0**	**-0.4**
GR1C				*e*S		**Sn**	**12 21 59.9**	**-1.4**
GR1C				*i*			12 22 12.1	
	comp=Z,679nm,0.5s							
SOLC	**Bahia Solano**	**2.35**	**331**	*e*P		**Pn**	**12 21 35.2**	**+1.1**
SOLC				*e*S		**Sn**	**12 22 00.3**	**-4.0**
SOLC				*i*			12 22 07.5	
	comp=Z,69nm,0.4s							
VILC	**Villavicencio,**	**2.57**	**91**	*e*P		**Pn**	**12 21 38.1**	**+1.2**
VILC				*e*S		**Sn**	**12 22 10.2**	**+0.9**
VILC				*i*			12 22 13.3	

	comp=Z,4µm,0.4s						
CHIC	Chingaza	2.57	79	eP	Pn	12 21 38.1	+0.9
CHIC				eS	Sn	12 22 10.2	+0.4
CHIC				i		12 22 13.2	
	comp=Z,20nm,0.3s						
SPBC	San Pablo de B	2.65	56	eP	Pn	12 21 38.4	+0.6
SPBC				i		12 22 09.7	
	comp=Z,22nm,0.1s						
SPBC				eS	Sn	12 22 10.4	-0.5
CRUC	La Cruz	2.66	195	eP	Pn	12 21 38.8	+0.4
PTBC	PUERTO BERRIO,	2.98	37	eP	Pn	12 21 41.5	-0.4
PTBC				eS	Sn	12 22 16.1	-2.2
PTBC				i		12 22 18.6	
	comp=Z,25nm,0.2s						
PTAC	Punta Ardita,	3.34	333	eP	Pn	12 21 47.3	+0.8
PTAC				eS	Sn	12 22 25.6	-1.0
PTAC				i		12 22 27.1	
	comp=Z,537nm,0.2s						
ZARC	Zaragoza, Cauc	3.60	23	eP	Pn	12 21 50.0	0.0
ZARC				eS	Sn	12 22 31.1	-1.5
ZARC				i		12 22 36.1	
	comp=Z,1µm,1.3s						
RUSC	La Rusia	3.61	61	eP	Pn	12 21 51.2	+0.6
RUSC				eS	Sn	12 22 34.4	+0.9
RUSC				i		12 22 44.1	
	comp=Z,5.8nm,0.4s						
UREC	San Jos de Ur	3.64	12	eP	Pn	12 21 50.7	+0.2
TULM	Tulcn-Chalpat	3.74	204	eP	Pn	12 21 53.5	+1.2
TULM				i		12 21 59.1	
	comp=Z,13nm,0.4s						
TULM				eS	Sn	12 22 30.5	-6.1
BARC	Barichara	3.91	52	eP	Pn	12 21 53.9	-0.3
BARC				eS	Sn	12 22 38.4	-1.8
BARC				i		12 22 40.6	
	comp=Z,18nm,0.4s						
PAMC	Pamplona, Colo	4.75	48	eP	Pn	12 22 05.8	+0.2
PAMC				eS	Sn	12 22 56.8	-3.6
PAMC				i		12 23 04.1	
	comp=Z,10nm,0.2s						
SDV	Santo Domingo	7.31	50	P	Pn	12 22 38.9	-0.4
	comp=Z,1.0nm,0.3s,baz=233,slow=7.5,SNR=3.5						
SDV				S	Sn	12 23 57.4	-3.8
	comp=Z,1.9nm,0.3s,baz=270,slow=23,SNR=9.0						
NVAR	Mina Array Bea	51.21	318	P	P	12 29 45.2	+1.6
	comp=Z,0.3nm,0.6s,baz=125,slow=7.9,SNR=3.1						
YKA	Yellowknife Ar	64.72	341	P	P	12 31 16.3	-0.6
	comp=Z,0.2nm,0.6s,baz=135,slow=6.3,SNR=5.0						
ASAR	Alice Springs	145.02	234	PKPbc	PKPbc	12 40 14.3	-0.9
	comp=Z,0.2nm,0.4s,baz=121,slow=4.1,SNR=7.1						
WRA	Warramunga Arr	146.31	240	PKPbc	PKPdf	12 40 18.4	+0.6
	comp=Z,0.3nm,0.9s,baz=107,slow=2.6,SNR=1.9						

*IDC **05** 12:24:48.5±2.4, 9°.38N×104°.01W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/45, mbtmp3.7/9, ML2.4/1, MS3.5/16, Ms1 3.5/16, ms1mx3.3/64, Error ellipse: s-maj=99.0km s-min=27.7km az=58.0*

*NEIC **05** 12:24:50.9±1.1, 9°.40N±0°.04×104°.0W±0°.3, h10km±2km, mb4.6/20, Error ellipse: s-maj=43.5km s-min=7.1km az=265.0*

ISC 05 12:24:50.0±1.7, **9°.4N**±0°.2×**104°.1W**±0°.3, **h10km, n44,** σ**0.83**/29, **mb4.4**/16, **MS3.4**/13, **Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	11.77	48	LR	LR	12 30 57.3	
	comp=Z,263nm,20.2s,baz=230,slow=32						
LPIG	La Paz	15.83	339	LR	LR	12 32 41.5	
	comp=Z,240nm,18.1s,baz=164,slow=30						
TX31	Lajitas Ar. Si	19.87	1	P	P	12 29 21.3	-0.3
TX31				IAmb	IAmb	12 29 43.4	
	comp=Z,33nm,1.6s						
TX32	Lajitas Array	19.87	1	P	P	12 29 21.4	-0.2
TXAR	Lajitas Array	19.87	1	P	Pn	12 29 22.9	-0.3
	comp=Z,0.0nm,0.3s,baz=184,slow=11,SNR=6.6						
TXAR				LR	LR	12 35 39.3	
	comp=Z,96nm,19.7s,baz=183,slow=33						
MNTX	Cornudas Mount	22.26	357	P	P	12 29 46.8	-0.5
319A	Douglas	22.44	348	P	P	12 29 48.6	-0.7
319A				IAmb	IAmb	12 30 29.9	
	comp=Z,35nm,2.0s						
TUC	Tucson	23.67	346	P	P	12 30 01.3	-0.6
237A	Washetta, Mont	23.79	18	P	P	12 30 03.4	+0.5
237A				IAmb	IAmb	12 30 25.7	
	comp=Z,9.1nm,0.8s						
ANMO	Albuquerque	25.56	355	P	P	12 30 17.3	-2.1
	comp=Z,0.9nm,0.7s,baz=217,slow=24,SNR=2.4						
X16A	Lo Mia Camp, P	25.84	346	P	P	12 30 21.9	-0.1
PFO	Pinyon Flats O	26.70	336	P	P	12 30 28.4	-1.2
	comp=Z,2.1nm,0.9s,baz=257,slow=7.0,SNR=2.9						
PFO				LR	LR	12 38 31.3	
	comp=Z,132nm,21.9s,baz=144,slow=31						
WUAZ	Wupatki	26.88	347	P	P	12 30 29.9	-1.4
WUAZ				IAmb	IAmb	12 31 22.2	
	comp=Z,5.2nm,1.2s						
ROSC	El Rosal	29.84	97	LR	LR	12 40 24.1	
	comp=Z,79nm,21.0s,baz=256,slow=31						
NVAR	Mina Array Bea	31.65	338	P	P	12 31 14.8	+1.0
	comp=Z,0.5nm,0.8s,baz=164,slow=6.0,SNR=3.5						
NVAR				LR	LR	12 41 39.6	
	comp=Z,65nm,19.2s,baz=194,slow=32						
ELK	Elko	32.80	344	LR	LR	12 43 45.1	
	comp=Z,51nm,19.0s,baz=202,slow=35						
SDV	Santo Domingo	32.99	88	LR	LR	12 43 25.3	
	comp=Z,51nm,20.5s,baz=304,slow=34						
PDAR	Pinedale Array	33.62	353	P	P	12 31 30.6	-0.3
	comp=Z,0.7nm,0.8s,baz=153,slow=10.0,SNR=4.7						
PDAR	Pinedale Array	33.62	353	P	P	12 31 30.8	-0.2
NNA	Nana	34.37	128	LR	LR	12 42 26.7	
	comp=Z,76nm,20.9s,baz=296,slow=31						
YBH	Yreka Blue Hor	36.20	336	LR	LR	12 44 11.2	
	comp=Z,68nm,18.0s,baz=347,slow=32						
RPN	Rapa Nui	36.63	188	LR	LR	12 41 56.6	
	comp=Z,17nm,21.6s,baz=283,slow=28						
LPAZ	La Paz	43.74	125	P	P	12 32 56.3	-0.3
	comp=Z,0.4nm,0.4s,baz=20,slow=12,SNR=1.1						
LPAZ				LR	LR	12 50 02.6	
	comp=Z,30nm,18.9s,baz=350,slow=35						
EDM	Edmonton	44.38	352	P	P	12 33 00.3	-0.2
EDM				IAmb	IAmb	12 33 11.5	
	comp=Z,8.6nm,1.1s						
LVC	Limon Verde	46.85	133	LR	LR	12 49 32.4	
	comp=Z,39nm,18.5s,baz=336,slow=32						
H03N2	Juan Fernandez	48.81	152	T	T	13 26 57.3	
	baz=329,slow=77,SNR=11						
H03N1	Juan Fernandez	48.83	152	T	T	13 26 59.8	
	baz=329,slow=77,SNR=20						
H03N3	Juan Fernandez	48.83	152	T	T	13 26 59.0	
	baz=329,slow=77,SNR=20						
SIV	San Ignacio	49.45	120	LR	LR	12 52 48.5	
	comp=Z,126nm,19.7s,baz=300,slow=34						
YKA	Yellowknife Ar	53.59	354	P	P	12 34 11.1	+0.1
	comp=Z,0.6nm,0.7s,baz=165,slow=7.4,SNR=12						
PLCA	Paso Flores	58.65	151	LR	LR	12 54 52.8	
	comp=Z,80nm,18.0s,baz=329,slow=31						
DOT	Dot Lake	61.19	341	P	P	12 35 05.5	+0.8
DOT				IAmb	IAmb	12 36 27.6	
	comp=Z,14nm,1.8s						
O22K	Cooper Landing	61.19	336	P	P	12 35 04.3	-0.4
INK	Inuvik	62.00	348	P	P	12 35 10.2	+0.2
	comp=Z,1.8nm,0.8s,baz=144,slow=7.9,SNR=7.7						
INK	Inuvik	62.00	348	P	P	12 35 10.8	+0.7
INK				IAmb	IAmb	12 36 48.2	
	comp=Z,13nm,1.8s						
IL31		62.86	341	P	P	12 35 16.4	+0.6
ILAR	Eielson Array	62.86	341	P	P	12 35 16.3	+0.4
	comp=Z,2.0nm,0.9s,baz=150,slow=5.1,SNR=15						
NEA2	Nenana	63.47	340	P	P	12 35 20.8	+0.9
NEA2				IAmb	IAmb	12 35 34.6	
	comp=Z,17nm,1.6s						
A36M	Sachs Harbour	63.91	353	P	P	12 35 23.6	+1.0
A36M				IAmb	IAmb	12 35 30.9	
	comp=Z,3.2nm,0.9s						
K20K	Telida	64.53	338	P	P	12 35 27.9	+1.0
J20K	Nowinta River	65.00	338	P	P	12 35 30.9	+0.9
TOLK	Toolik Lake Re	66.19	343	P	P	12 35 36.4	-1.2
TOLK				IAmb	IAmb	12 38 02.6	
	comp=Z,20nm,1.9s						
SFJD	Kangerlussuaq	67.69	20	P	P	12 35 47.6	+0.5
NOA	NORSAR Array B	93.66	26	LR	LR	13 21 08.1	
	comp=Z,16nm,18.9s,baz=300,slow=36						

IDC 05 12:27:27.8±433.0**, 57°.73N×29°.65E, h0km, Error ellipse: s-maj=102.1km s-min=51.0km az=153.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	4.24	101	i		12 56 20.0	
	baz=286,slow=320,SNR=1.3						
I37NO	I37NO	12.38	341	i		13 41 50.0	
	baz=151,slow=331,SNR=0.9						
I31KZ	AKTYUBINSK INF	18.10	102	i		14 16 50.0	
	baz=302,slow=330,SNR=2.0						

*DSN **05** 12:33:37.1±5.5, 27°.44N×61°.64E, h10km, ML3.8/6, Error ellipse: s-maj=59.9km s-min=45.3km az=54.0*

*OMAN **05** 12:34:22.9±0.7, 26°.13N×58°.31E, h43km±347km, ml2.9/12, Error ellipse: s-maj=22.0km s-min=13.8km az=316.0*

ISC 05 12:34:06.5±3.3, **26°.3N**±0°.1×**58°.9E**±0°.1, **h10km, n20,** σ**2.00**/30, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	Banah	2.35	262	P	Pg	12 34 51.5	0.0
	SNR=13						
BANOM				S	Sn	12 35 08.1	-6.1
BANOM	Banah	2.35	262	P	Pg	12 34 51.2	-0.4
SHME	Shamm	2.47	266	P	Pg	12 34 53.8	-0.2
	SNR=7.9						
SHME	Shamm	2.47	266	P	Pg	12 34 54.3	+0.3
MASF	Masafi	2.61	251	P	Pb	12 34 55.5	+2.0
MASF				S	Sn	12 35 17.0	-3.7
UOSS	Minazif	2.75	242	P	Pb	12 34 57.2	+1.4
UOSS				S	Sn	12 35 25.0	+0.9
UOSS	Minazif	2.75	242	P	Pb	12 34 57.1	+1.2
BIDO	Bidbid	2.81	194	P	Pg	12 35 01.5	+1.0
BIDO				S	Sb	12 35 32.2	+0.8
HATD	Hatta, Dubai	2.87	241	P	Pb	12 34 59.8	+2.0
HATD				S	Sn	12 35 27.3	+0.3
ASHO	Ashiyiah	3.00	239	P	Pb	12 35 01.5	+1.4
ASHO	Ashiyiah	3.00	239	P	Pb	12 35 01.1	+1.0
SOHO	SOHO	3.00	226	P	Pb	12 35 01.8	+1.7
SOHO				S	Sn	12 35 33.0	+2.8
SOHO	SOHO	3.00	226	P	Pb	12 35 01.3	+1.2
HOQ	Hoqain	3.03	208	P	Pg	12 35 03.4	-1.2
	SNR=43						
HOQ				S	Sb	12 35 35.9	-1.7
	SNR=7.1						
SMDO	Samad	3.28	194	P	Pg	12 35 09.4	0.0
FAQ	Al Faqa, Dubai	3.34	244	P	Pb	12 35 08.3	+2.5
ASUD	Al Ashush, Dub	3.60	244	P	Pb	12 35 12.1	+1.8
ARQ	Araqi	3.62	217	P	Pg	12 35 14.0	-1.9
	SNR=27						
ARQ				S	Sb	12 35 55.9	+1.3
WBK	Wadi Bani Khal	3.64	179	P	Pg	12 35 14.9	-1.3
	SNR=39						
WBK				S	Sb	12 35 54.0	-1.1
BSY	Bisya	3.82	204	P	Pg	12 35 17.1	-2.7
BSY				S	Sb	12 36 01.1	+0.5

*NOU **05** 12:40:06.8, 12°.59S×165°.99E, h0km, mb4.7/12, Santa Cruz Islands*

*IDC **05** 12:40:29.1±1.0, 14°.23S×166°.38E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/37, mbtmp4.0/11, ML2.6/1, MS3.5/9, Ms1 3.5/9, ms1mx3.1/64, Error ellipse: s-maj=27.6km s-min=23.1km az=116.0*

*NEIC **05** 12:40:34.2±1.8, 14°.23S±0°.08×166°.49E±0°.04, h35km±2km, mb4.3/17, Error ellipse: s-maj=13.7km s-min=5.1km az=336.0*

ISC 05 12:40:33.7±0.6, **14°.29S**±0°.07×**166°.46E**±0°.09, **h35km, n52,** σ**1.02**/44, **mb4.1**/17, **MS3.5**/6, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	3.80	154	P	Pn	12 41 31.7	+2.0
KOUNC	Koumac, New Ca	6.56	198		Pn	12 42 07.9	+0.1
MARNC	Mare, Loyalty	7.31	168	Pn	Pn	12 42 17.0	-0.9
YATNC	Mamie plateau,	7.74	177	P	Pn	12 42 23.9	0.0
DZM	Mont Dzumac	7.74	180	Pn	Pn	12 42 23.3	-0.8
	4.5nm,0.3s,baz=201,slow=17,SNR=30						
DZM				Sn	Sn	12 43 49.6	-0.9
	baz=300,slow=18,SNR=0.9						
DZM				LR	LR	12 45 06.4	
	comp=Z,310nm,19.8s,baz=21,slow=36						
DZM	Mont Dzumac	7.74	180	ePn	Pn	12 42 23.4	-0.6
	18nm,0.3s						
DZM				eSn	Sn	12 43 49.6	-0.9
	27nm,0.6s						
DZM				eLR	LR	12 43 55.4	
	comp=Z,322nm,23.6s						
DZM	Mont Dzumac	7.74	180		Pn	12 42 23.7	-0.3
DZM	Mont Dzumac	7.74	180	P	Pn	12 42 23.5	-0.6
NOUC	Port Laguerre	7.77	181	P	Pn	12 42 24.2	-0.2
ONTNC	Ouen Toro	7.97	180	Pn	Pn	12 42 25.4	-1.7
ONTNC	Ouen Toro	7.97	180	P	Pn	12 42 27.4	+0.2
HNR	Honiara	8.00	306	Pn	Pn	12 42 25.8	-1.7
OUENC	Ouen Island, N	8.09	178	Pn	Pn	12 42 28.9	+0.1
OUENC	Ouen Island, N	8.09	178	P	Pn	12 42 29.6	+0.8
PINNC	Pines Island,	8.33	174	Pn	Pn	12 42 31.0	-1.1
PINNC	Pines Island,	8.33	174	P	Pn	12 42 33.2	+1.2
MSVF	Nonsavu	11.65	109	LR	LR	12 46 46.5	
	comp=Z,334nm,19.2s,baz=262,slow=32						
MSVF	Nonsavu	11.65	109	Pn	Pn	12 43 15.0	-2.7
KRVT	Keravat (AS076	17.35	303	LR	LR	12 50 50.6	
	comp=Z,42nm,18.9s,baz=240,slow=36						
EIDS	Eidsvold	18.17	230	P	P	12 44 43.3	-0.1
PMG	Port Moresby	19.50	282	P	P	12 44 56.1	-2.0
	0.6nm,0.3s,baz=317,slow=18,SNR=1.9						
PMG	Port Moresby	19.50	282	IAmb	IAmb	12 45 13.1	
	comp=Z,20nm,1.2s						
CTA	Charters Tower	20.14	251	LR	LR	12 52 13.9	
	comp=Z,130nm,18.4s,baz=78,slow=35						
AFI	Afiamalu	21.11	92	LR	LR	12 51 20.3	
	comp=Z,100nm,21.2s,baz=240,slow=31						
URZ	Urewera	25.67	160	P	P	12 46 01.4	+1.1
	comp=Z,12nm,1.1s,baz=335,slow=6.7,SNR=1.9						
URZ	Urewera	25.67	160	IAmb	IAmb	12 46 04.0	
	comp=Z,37nm,1.5s						
BKZ	Black Stump Fm	26.31	162	P	P	12 46 06.9	+0.7
BKZ				IAmb	IAmb	12 46 07.5	
	comp=Z,20nm,1.3s						
STKA	Stephens Creek	28.69	228	P	P	12 46 28.4	+0.7
	comp=Z,1.5nm,0.7s,baz=30,slow=7.9,SNR=3.5						
STKA	Stephens Creek	28.69	228	IAmb	IAmb	12 46 29.1	
	comp=Z,1.2nm,1.2s						
RPZ	Rata Peaks	29.59	173	LR	LR	12 57 25.5	
	comp=Z,90nm,18.6s,baz=24,slow=34						
WR0	Warramunga Arr	30.99	255	P	P	12 46 48.2	+0.1
WR0				IAmb	IAmb	12 46 56.9	
	comp=Z,3.6nm,1.1s						
WB0	Warramunga Arr	31.11	255	P	P	12 46 48.9	-0.3
WB0				IAmb	IAmb	12 47 05.1	
	comp=Z,7.2nm,1.3s						
WB2	Warramunga Arr	31.17	255	P	P	12 46 49.6	-0.1
WB2				IAmb	IAmb	12 47 16.9	
	comp=Z,9.3nm,1.4s						
WRAB	Tennant Creek	31.17	255	P	P	12 46 49.7	0.0
WRAB				IAmb	IAmb	12 47 18.3	
	comp=Z,4.9nm,1.2s						
WRA	Warramunga Arr	31.18	255	P	P	12 46 49.0	-0.8
	comp=Z,1.3nm,0.7s,baz=85,slow=9.4,SNR=16						
WRA				LR	LR	12 58 57.9	
	comp=Z,108nm,18.2s,baz=19,slow=36						
AS31	Alice Springs	32.10	248	P	P	12 46 57.8	-0.1
ASAR	Alice Springs	32.11	248	P	P	12 46 57.6	-0.3
	comp=Z,0.9nm,0.6s,baz=75,slow=9.5,SNR=18						
BBOO	Buckleboo	33.24	231	P	P	12 47 08.1	+0.4
KNRA	Kununurra	36.42	263	P	P	12 47 35.8	+0.5
FORT	Forrest	38.86	238	P	P	12 47 56.1	+0.3
FITZ	Fitzroy Crossi	39.33	259	LR	LR	13 04 06.6	
	comp=Z,104nm,18.4s,baz=347,slow=36						
FITZ	Fitzroy Crossi	39.33	259	P	P	12 47 59.8	-0.1
FITZ				IAmb	IAmb	12 48 01.4	
	comp=Z,4.2nm,0.8s						
VNDA	Vanda	63.28	181	P	P	12 50 59.6	+1.2
VNDA				IAmb	IAmb	12 51 01.8	
	comp=Z,1.5nm,0.9s						
SBA	Scott Base	63.57	180	P	P	12 51 01.2	+0.9
SBA				IAmb	IAmb	12 51 10.0	
	comp=Z,3.3nm,1.0s						
CMAR	Chiang Mai Arr	74.06	294	P	P	12 52 07.9	+1.2
	comp=Z,0.6nm,0.8s,baz=161,slow=3.8,SNR=1.6						
QSPA	South Pole Qui	75.73	180	LR	LR	13 23 32.9	
	comp=Z,80nm,20.1s,baz=288,slow=34						
SONM	Songino Array	81.68	324	P	P	12 52 48.9	+0.3
	comp=Z,0.2nm,0.5s,baz=283,slow=26,SNR=2.0						
ILAR	Eielson Array	86.35	18	P	P	12 53 11.1	-0.8
	comp=Z,0.8nm,0.7s,baz=232,slow=4.5,SNR=4.4						
MKAR	Makanchi Array	96.35	317	P	P	12 53 60.0	+1.0
	comp=Z,0.3nm,0.7s,baz=100,slow=7.5,SNR=2.6						
YKA	Yellowknife Ar	97.52	27	P	P	12 54 03.6	-0.2
	comp=Z,0.2nm,0.7s,baz=256,slow=4.4,SNR=2.1						
ARCES	ARCESS Array B	119.63	345	PKP	PKiKP	12 59 21.0	+1.6
	comp=Z,1.0nm,0.5s,baz=64,slow=2.8,SNR=9.6						
FINES	FINESS Array B	125.03	338	PKP	PKiKP	12 59 32.0	+1.8
	comp=Z,0.6nm,0.6s,baz=354,slow=34,SNR=2.0						

*IDC **05** 12:47:09.6±4.9, 44°.34N×129°.92W, h0km, mb2.8/2, mb1 3.4/7, mb1mx3.3/47, mbtmp3.1/7, ML3.0/4, Error ellipse: s-maj=67.6km s-min=30.2km az=72.0*

*NEIC **05** 12:47:12.7±1.4, 44°.43N±0°.09×129°.64W±0°.05, h10km±2km, ML3.6/37, Error ellipse: s-maj=15.8km s-min=4.5km az=163.0*

*ANF **05** 12:47:17.0±2.7, 44°.52N×129°.02W, h0km, ML3.7/2, Error ellipse: s-maj=30.5km s-min=6.7km az=58.0*

ISC 05 12:47:12.8±1.9, **44°.48N**±0°.09×**129°.5W**±0°.1, **h13km, n64,** σ**1.44**/59, **Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02E	Swisshome, OR	4.11	93	Pn	Pn	12 48 15.3	0.0
I02E				IAML		12 50 44.3	
	comp=E,61nm,3.6s						
I02E	Swisshome, OR	4.11	93	P	Pn	12 48 15.2	0.0
	baz=278						
I02E				S	Sn	12 49 02.3	-0.8
	baz=278						
HEBO	Mount Hebo	4.18	78	Pn	Pn	12 48 16.7	+0.3
J01E	Myrtle Point	4.27	106	Pn	Pn	12 48 17.0	-0.4
J01E				IAML		12 49 47.8	
	comp=E,43nm,3.5s						
J01E	Myrtle Point	4.27	106	S	Sn	12 49 06.4	-0.7
	baz=292						
COR	Corvallis	4.46	86	Pn	Pn	12 48 21.1	+1.0
COR				IAML		12 49 21.1	
	comp=E,55nm,2.9s						
G03D	McMinnville, O	4.52	79	Pn	Pn	12 48 21.7	+0.8
G03D				IAML		12 49 54.8	
	comp=N,51nm,4.4s						
G03D	McMinnville, O	4.52	79	P	Pn	12 48 21.3	+0.4
	baz=262,SNR=37						
K02D	Willamette Mer	4.63	111	S	Sn	12 49 14.5	-1.6
	baz=297						
E03A	Lebam	4.68	62		Pn	12 48 24.1	+1.0
E03A				IAML		12 49 47.8	
	comp=N,37nm,2.4s						
E03A				IAML		12 50 14.0	
	comp=E,42nm,2.8s						
BUCK	Buck Mountain	4.71	91	Pn	Pn	12 48 25.1	+1.4
BUCK				IAML		12 49 52.4	
	comp=E,48nm,4.8s						
BUCK				IAML		12 50 50.0	
	comp=N,40nm,4.8s						
DBO	Dodson Butte	4.76	104	Pn	Pn	12 48 23.6	-0.7
WISH	Wishkah	4.82	55	Pn	Pn	12 48 26.8	+1.8
H04D	Lebanon	4.87	87		Pn	12 48 26.9	+1.2
H04D				IAML		12 49 42.0	
	comp=E,39nm,3.9s						
H04D				IAML		12 51 35.4	
	comp=N,37nm,3.1s						
H04D	Lebanon	4.87	87	P	Pn	12 48 26.6	+0.9
	baz=272						
F04D	Rainier, OR	4.88	69	P	Pn	12 48 26.7	+0.8
	baz=252						
C03A	Quillayute Air	4.89	43	Pn	Pn	12 48 27.5	+1.5
NLWA	Neilton Lookou	4.91	52	Pn	Pn	12 48 27.3	+1.0
NLWA				IAML		12 49 04.8	
	comp=N,38nm,4.6s						
NLWA				IAML		12 49 06.6	
	comp=N,35nm,4.4s						
HUMO	Hull Mountain	5.14	109	Pn	Pn	12 48 29.9	+0.4
F04A	Amboy	5.24	71		Pn	12 48 32.1	+1.3
F04A				IAML		12 51 20.7	
	comp=E,24nm,3.9s						
F04A				IAML		12 51 38.7	
	comp=N,22nm,4.0s						
H04A	Detroit Lake	5.26	85		Pn	12 48 32.0	+0.9
OZB	Mount Ozzard	5.27	30	Pn	Pn	12 48 32.9	+1.6
E04D	Cinebar	5.32	65		Pn	12 48 32.7	+0.7
E04D	Cinebar	5.32	65	P	Pn	12 48 32.3	+0.4
	baz=248,SNR=10						
D03D	Eldon	5.43	54	P	Pn	12 48 34.2	+0.8
	baz=236,SNR=27						
D04E	Lakebay	5.45	58	P	Pn	12 48 34.5	+0.9
	baz=241,SNR=18						
B04A	Port Angeles	5.50	47	Pn	Pn	12 48 35.8	+1.3
J04D	Umpqua Nationa	5.51	100		Pn	12 48 36.2	+1.4
HOOD	Mount Hood Mea	5.67	79		Pn	12 48 38.5	+1.6
YBH	Yreka Blue Hor	5.71	116	Pn	Pn	12 48 40.2	+2.9
	comp=N,0.1nm,0.3s,baz=291,slow=14,SNR=2.5						
YBH	Yreka Blue Hor	5.71	116		Pn	12 48 39.0	+1.7
CLRS	Cowichan Lake	5.72	39		Pn	12 48 38.4	+1.0
I05D	Terrebonne, OR	5.88	89	P	Pn	12 48 40.3	+0.7
	baz=275						
F05D	White Salmon	5.88	73		Pn	12 48 41.5	+1.8
G05D	Wamic, OR	5.90	80	P	Pn	12 48 41.2	+1.3
	baz=265,SNR=10.0						
PGC	Sidney	5.92	43		Pn	12 48 41.1	+1.0
D05A	Enumclaw	5.93	60		Pn	12 48 42.8	+2.5
PINE	Pine Mountain	6.23	93	Pn	Pn	12 48 46.1	+1.5
B05A	Bryant	6.39	51	P	Pn	12 48 48.3	+1.7
	baz=234,SNR=34						
K05A	Summer Lake	6.52	103	Pn	Pn	12 48 49.6	+1.0
LTY	Liberty	6.79	63		Pn	12 48 53.1	+1.0
B06A	Marblemount	6.87	51		Pn	12 48 55.0	+1.8
HAWA	Hanford	7.30	71	Pn	Pn	12 48 58.9	-0.1
G08A	Pilot Rock	7.56	80		Pn	12 49 02.4	-0.4
E08A	Dider Farm, El	7.64	71	Pn	Pn	12 49 05.6	+1.9
LLLB	Lillooet	8.02	37		Pn	12 49 09.6	+0.5
B08A	Colville Reser	8.05	58		Pn	12 49 10.6	+1.2
C09A	Chrisman Ranch	8.50	63	Pn	Pn	12 49 17.1	+1.5
BMO	Blue Mountains	8.73	83	Pn	Pn	12 49 20.4	+1.6
NEW	Newport	9.38	62	Pn	Pn	12 49 31.9	+4.3
	comp=N,0.2nm,0.3s,baz=273,slow=17,SNR=2.4						
NVAR	Mina Array Bea	10.37	122	Pn	Pn	12 49 44.3	+2.8
	comp=N,0.2nm,0.3s,baz=291,slow=15,SNR=6.1						
MSO	Missoula	11.17	72	Pn	Pn	12 49 53.7	+1.4
ELK	Elko	11.18	105	Pn	Pn	12 49 55.3	+2.7
	comp=N,0.1nm,0.3s,baz=296,slow=10,SNR=3.0						
ELK	Elko	11.18	105		Pn	12 49 53.1	+0.6
DLBC	Dease Lake	13.98	359	Pn	Pn	12 50 29.4	-1.1
PDAR	Pinedale Array	14.58	90	Pn	P	12 50 45.0	-0.4
	baz=298,slow=13,SNR=2.5						
YKA	Yellowknife Ar	20.02	20	P	Pn	12 51 46.0	-0.8
	comp=N,0.1nm,0.6s,baz=216,slow=10,SNR=2.1						
TXAR	Lajitas Array	25.48	118	P	P	12 52 40.9	+0.1
	comp=N,0.4nm,0.9s,baz=289,slow=8.5,SNR=3.7						
H11N3	WAKE ISLAND Hy	57.68	266	T	T	13 59 11.1	
	baz=49,slow=75,SNR=209						
H11N2	WAKE ISLAND Hy	57.69	266	T	T	13 59 11.1	
	baz=49,slow=75,SNR=157						
H11N1	WAKE ISLAND Hy	57.70	266	T	T	13 59 12.7	
	baz=49,slow=75,SNR=80						
H11S1	WAKE ISLAND Hy	58.62	265	T	T	14 00 18.6	
	baz=48,slow=75,SNR=24						
H11S2	WAKE ISLAND Hy	58.63	265	T	T	14 00 19.1	
	baz=48,slow=75,SNR=24						
H11S3	WAKE ISLAND Hy	58.64	265	T	T	14 00 19.9	
	baz=48,slow=75,SNR=16						

IDC 05 12:54:51.5±4.8**, 7°.55N×136°.34E, h0km, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/44**, mbtmp3.5**/3**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.5**/47**, Error ellipse: s-maj=225.0km s-min=30.0km az=75.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	19.59	126	LR	LR	13 05 31.5	
	comp=Z,92nm,18.8s,baz=119,slow=33						
WRA	Warramunga Arr	27.39	184	P	P	13 00 39.6	+0.8
	0.6nm,0.5s,baz=3.9,slow=10,SNR=14						
ASAR	Alice Springs	31.12	184	P	P	13 01 10.9	-1.0
	0.3nm,0.5s,baz=14,slow=13,SNR=5.1						
H11S3	WAKE ISLAND Hy	31.45	67	T	T	13 33 15.0	
	baz=253,slow=75,SNR=35						
H11S1	WAKE ISLAND Hy	31.47	67	T	T	13 33 16.1	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=253,slow=75,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**31.47**	**67**	T	T	13 33 16.7	
	baz=253,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**31.99**	**65**	T	T	13 33 59.7	
	baz=261						
H11N2	**WAKE ISLAND Hy**	**32.00**	**65**	T	T	13 34 00.2	
	baz=261						
H11N3	**WAKE ISLAND Hy**	**32.01**	**65**	T	T	13 33 57.5	
	baz=261						
MKAR	**Makanchi Array**	**60.34**	**320**	P	P	13 05 02.3	-0.1
	0.2nm,0.6s,baz=116,slow=7.9,SNR=3.7						

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*IDC **05** 13:03:44.3±2.3, 55.54N×167.76W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.5/47, mbtmp3.6/7, ML3.3/2, Error ellipse: s-maj=39.2km s-min=31.2km az=176.0*
*AEIC **05** 13:03:45±2.8, 56.38N±0.03×167.78W±0.06, h10km±1km, Error ellipse: s-maj=7.3km s-min=4.0km az=47.0*
*NEIC **05** 13:03:48.4±1.8, 56.39N±0.05×167.85W±0.07, h10km±1km, mb4.1/4, ML3.7/23(AEIC), Error ellipse: s-maj=9.6km s-min=6.4km az=24.0*
ISC 05 13:03:48.2±0.7**, 56.37N**±0.05×**167.79W**±0.06**, h10km, n50,** σ**1.36**/54**, mb3.5**/5**, Pribilof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPIA	**Saint Paul Isl**	**1.58**	**302**		**Pn**	**13 04 15.7**	**-0.5**
SPIA	**Saint Paul Isl**	**1.58**	**302**		**Sb**	**13 04 37.0**	**-0.4**
AKGG	**Akutan Green G**	**2.41**	**154**		**Pn**	**13 04 28.1**	**+0.5**
AKGG					**Sb**	**13 05 00.3**	**-1.0**
MTBL	**Makushin Table**	**2.49**	**165**		**Pn**	**13 04 29.7**	**+0.9**
AKBBA	**Akutan Broad B**	**2.51**	**154**		**Pn**	**13 04 28.2**	**-0.9**
MSW	**Makushin Switc**	**2.53**	**166**		**Pn**	**13 04 28.9**	**-0.4**
MSW					**Sb**	**13 05 04.3**	**-0.5**
AKSA	**Akutan Strait**	**2.54**	**151**		**Pn**	**13 04 30.1**	**+0.7**
UNV	**Unalaska Valle**	**2.63**	**163**		**Pn**	**13 04 30.4**	**-0.4**
UNV					**Sn**	**13 05 04.4**	**+1.7**
WESE	**West Dahl East**	**2.64**	**135**		**Pn**	**13 04 31.1**	**+0.3**
SSLN	**Shishaldin Nor**	**2.66**	**124**		**Pn**	**13 04 31.0**	**-0.1**
FALS	**False Pass**	**2.91**	**120**		**Pn**	**13 04 34.8**	**+0.3**
BLHA	**Black Hill**	**3.28**	**99**		**Pn**	**13 04 39.8**	**+0.1**
NIKH	**Nikolski High**	**3.46**	**191**		**Pn**	**13 04 43.3**	**+1.2**
SDPT	**Sand Point**	**4.25**	**101**		**Pn**	**13 04 52.7**	**-0.2**
VNFG	**Fog Glacier, M**	**4.59**	**88**		**Pn**	**13 04 59.0**	**+1.3**
VNHG	**Veniaminof 1**	**4.81**	**88**		**Pn**	**13 05 01.5**	**+0.8**
ANPB	**Aniakchak Plen**	**5.28**	**81**		**Pn**	**13 05 07.9**	**+0.8**
KOFP	**Korovin Flat P**	**5.52**	**225**		**Pn**	**13 05 12.2**	**+1.8**
ATKA	**Atka Island**	**5.61**	**225**		**Pn**	**13 05 13.2**	**+1.6**
P18K	**Big Mountain,**	**7.35**	**60**	Pn	**Pn**	**13 05 35.7**	**+0.2**
O18K	**Koktuh Hills**	**7.52**	**57**	Pn	**Pn**	**13 05 38.6**	**+0.8**
GAMB	**Gambell**	**7.68**	**347**		**Pn**	**13 05 39.7**	**-0.3**
SVW2	**Sparrevohn**	**7.92**	**48**	Pn	**Pn**	**13 05 43.8**	**+0.5**
OHAK	**Old Harbor**	**8.01**	**78**	Pn	**Pn**	**13 05 46.5**	**+1.9**
N19K	**Bonanza Creek**	**8.25**	**52**	Pn	**Pn**	**13 05 49.4**	**+1.5**
ANM	**Nome**	**8.31**	**7**	Pn	**Pn**	**13 05 49.0**	**+0.4**
KDAK	**Kodiak Island**	**8.41**	**74**	Pn	**Pn**	**13 05 52.2**	**+2.3**
	1.8nm,0.3s,baz=223,slow=3.3,SNR=18						
KDAK				Sn	**Sn**	**13 07 29.0**	**+4.2**
	0.3nm,0.3s,baz=138,slow=17,SNR=1.4						
L19K	**White Mountain**	**8.81**	**43**	Pn	**Pn**	**13 05 56.2**	**+0.6**
M19K	**Big River Lodg**	**8.84**	**46**	Pn	**Pn**	**13 05 56.2**	**+0.3**
TTA	**Tatalina**	**8.87**	**37**	Pn	**Pn**	**13 05 56.5**	**+0.1**
TNA	**Tin City**	**9.22**	**360**		**Pn**	**13 06 00.8**	**-0.3**
K20K	**Telida**	**9.81**	**39**		**Pn**	**13 06 09.6**	**+0.3**
J20K	**Nowinta River**	**10.33**	**35**		**Pn**	**13 06 16.7**	**+0.4**
CAST	**Castle Rocks**	**10.57**	**42**	Pn	**Pn**	**13 06 20.2**	**+0.6**
H21K	**Melozitna Rive**	**11.78**	**32**	Pn	**Pn**	**13 06 36.9**	**+0.8**
BWN	**Browne**	**11.95**	**42**	Pn	**Pn**	**13 06 39.8**	**+1.4**
MLY	**Manley**	**12.01**	**37**	Pn	**Pn**	**13 06 39.3**	**+0.1**
ILAR	**Eielson Array**	**13.22**	**42**	Pn	**Pn**	**13 06 59.4**	**+3.6**
	0.0nm,0.3s,baz=240,slow=14,SNR=6.4						
BARN	**Barnard Glacie**	**14.31**	**60**	P	**P**	**13 07 17.0**	**-1.1**
M27K	**Edge Creek, AK**	**14.44**	**55**	P	**P**	**13 07 17.5**	**-2.0**
N31M	**Braeburn, Yuko**	**17.18**	**59**	Pn	**Pn**	**13 07 47.9**	**-0.2**
N31M				IAmb	IAmb	13 07 51.4	
	comp=Z,24nm,1.5s						
INK	**Inuvik**	**19.56**	**39**	P	**Pn**	**13 08 19.0**	**+2.0**
	comp=Z,0.9nm,0.4s,baz=231,slow=6.5,SNR=11						
INK	**Inuvik**	**19.56**	**39**		**Pn**	**13 08 16.9**	**-0.2**
YKA	**Yellowknife Ar**	**27.04**	**55**	P	**P**	**13 09 31.1**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=276,slow=9.8,SNR=14						
YKA	**Yellowknife Ar**	**27.04**	**55**	P	**P**	**13 09 29.9**	**-0.3**
EUNU	**Eureka**	**33.62**	**18**	P	**P**	**13 10 27.6**	**-0.7**
EUNU				IAmb	IAmb	13 10 46.3	
	comp=Z,3.1nm,1.3s						
TULEG	**Thule**	**38.05**	**22**	P	**P**	**13 11 04.4**	**-1.7**
PDAR	**Pinedale Array**	**38.94**	**85**	P	**P**	**13 11 12.8**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=311,slow=5.8,SNR=2.3						
TXAR	**Lajitas Array**	**51.90**	**93**	P	**P**	**13 12 54.3**	**-2.7**
	comp=Z,0.5nm,0.8s,baz=286,slow=6.5,SNR=5.2						
AKASG	**Malin Array Be**	**72.37**	**349**	P	**P**	**13 15 16.7**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=9.4,slow=5.1,SNR=1.8						

DJA 05 13:05:46.0±0.4**, 9°S**±6°×**10°9E**±°**, h68km**±10km**, M3.9**/13**, mb4.3**/3**, mB4.9**/1**, MLv3.7**/13**, Mw(mB)4.1**/1**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.95**	**323**	P	Pn	13 06 04.1	+0.4
CMJI				S	Sn	13 06 17.5	+0.6
KPJI	**Karang Pucung**	**1.20**	**355**	P	Pn	13 06 07.7	+0.7
YOGI	**Yogyakarta**	**1.44**	**60**	P	Pn	13 06 10.4	+0.2
YOGI				S	Sn	13 06 29.0	+0.6
UGM	**Wanagama**	**1.60**	**67**	P	Pn	13 06 12.4	+0.1
UGM				S	Sn	13 06 32.3	+0.1
SMRI	**Semarang**	**2.04**	**43**	P	Pn	13 06 18.6	+0.5
PCJI	**Pacitan**	**2.15**	**81**	P	Pn	13 06 20.3	+0.6
CNJI	**Cibinong**	**2.25**	**303**	P	Pn	13 06 20.7	-0.2
PWJI	**Pagerwojo**	**2.79**	**80**	P	Pn	13 06 28.4	0.0
UWJI	**Ujung Watu**	**2.84**	**42**	P	Pn	13 06 28.4	-0.6
GRJI	**Gresik**	**3.78**	**65**	P	Pn	13 06 42.0	+0.1
CGJI	**Cibinong**	**3.82**	**300**	P	Pn	13 06 42.5	+0.1
GMJI	**Gumukmas**	**4.38**	**87**	P	Pn	13 06 50.5	+0.5
JAGI	**Jajag, Banyuwa**	**5.07**	**90**	P	Pn	13 06 59.5	0.0
	0.2nm1μm31nm,0.7s						
SRBI	**Singaraja**	**6.13**	**86**	P	Pn	13 07 14.5	+0.4
	0.2nm26nm,0.6s						

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*IDC **05** 13:12:52.9±2.0, 6.47S×128.98E, h0km, mb4.1/1, mb1 3.6/3, mb1mx3.4/22, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=123.4km s-min=30.6km az=67.0*
*NEIC **05** 13:13:08.4±1.4, 6.8S±0.2×129.8E±0.2, h153km±14km, mb4.3/2, Error ellipse: s-maj=31.9km s-min=21.6km az=55.0*
ISC 05 13:13:08.2±1.0**, 6.9S**±0.1×**129.7E**±0.1**, h150km, n16,** σ**1.89**/18**, mb4.0**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**126**	Pn	**Pn**	**13 13 42.8**	**+0.5**
MTN	**Manton Dam**	**6.11**	**167**		**Pn**	**13 14 38.5**	**+2.1**
KNRA	**Kununurra**	**8.82**	**186**		**Pn**	**13 15 14.1**	**+1.5**
FITZ	**Fitzroy Crossi**	**11.87**	**199**	Pn	**Pn**	**13 15 53.9**	**+1.0**
WB0	**Warramunga Arr**	**13.61**	**161**	Pn	**Pn**	**13 16 15.6**	**+0.3**
WRAB	**Tennant Creek**	**13.75**	**161**	Pn	**Pn**	**13 16 17.1**	**+0.1**
WRA	**Warramunga Arr**	**13.76**	**162**	Pn	**Pn**	**13 16 16.8**	**-0.3**
	0.3nm,0.3s,baz=338,slow=13,SNR=24						
WRA				Sn	**Sn**	**13 18 44.3**	**-5.3**
	0.5nm,0.3s,baz=344,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**13.76**	**162**	Pn	**Pn**	**13 16 17.4**	**+0.2**
WB2	**Warramunga Arr**	**13.76**	**161**	Pn	**Pn**	**13 16 17.6**	**+0.5**
WR0	**Warramunga Arr**	**13.84**	**161**	Pn	**Pn**	**13 16 18.1**	**0.0**
COEN	**Coen**	**14.97**	**119**		**Pn**	**13 16 33.1**	**+0.7**
ASAR	**Alice Springs**	**17.19**	**167**	P	**Pn**	**13 17 02.2**	**+2.7**
	0.1nm,0.3s,baz=340,slow=9.9,SNR=4.7						
ASAR				S	**S**	**13 20 11.6**	**+1.3**
	0.2nm,0.3s,baz=329,slow=13,SNR=4.8						
MK31	**Makanchi Array**	**67.96**	**327**	P	**P**	**13 23 48.9**	**-2.1**
MK31				IAmb	IAmb	13 23 49.3	
	comp=Z,3.7nm,1.5s						
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**13 23 49.1**	**-1.9**
	comp=Z,1.2nm,0.6s,baz=121,slow=7.7,SNR=16						
KK31	**Karatay Array**	**73.06**	**319**	P	**P**	**13 24 22.4**	**+0.4**
KK31				IAmb	IAmb	13 24 26.4	
	comp=Z,7.2nm,0.5s						
KKAR	**Karatay Array**	**73.06**	**319**	P	**P**	**13 24 21.9**	**-0.1**

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*IDC **05** 13:24:14.3±1.1, 12.50N×44.34W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.7/57, mbtmp4.0/6, ML3.9/1, MS3.3/5, Ms1 3.3/5, ms1mx2.8/80, Error ellipse: s-maj=39.1km s-min=23.8km az=146.0*
*NEIC **05** 13:24:16.6±1.3, 12.5N±0.1×44.4W±0.1, h10km±1km, mb4.4/6, Error ellipse: s-maj=26.8km s-min=19.7km az=143.0*
ISC 05 13:24:16.6±0.9**, 12.5N**±0.1×**44.3W**±0.1**, h15km, n24,** σ**0.74**/14**, mb4.2**/8**, MS3.5**/4**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**10.99**	**229**	Pn	**Pn**	**13 26 53.3**	**-0.1**
	0.9nm,0.3s,baz=38,slow=13,SNR=16						
MDP				Sn	Sn	13 28 46.2	-10
	0.2nm,0.3s,baz=8.9,slow=20,SNR=2.3						
MDP				LR	LR	13 30 30.4	
	comp=Z,66nm,20.4s,baz=82,slow=34						
SDV	**Santo Domingo**	**26.09**	**265**	LR	LR	13 39 26.4	
	comp=Z,44nm,20.0s,baz=54,slow=35						
H10N3	**ASCENSION HYDR**	**35.85**	**123**	T	T	14 09 14.9	
	baz=303						
H10N2	**ASCENSION HYDR**	**35.85**	**123**	T	T	14 08 48.7	
	baz=303,slow=74						
H10N1	**ASCENSION HYDR**	**35.87**	**123**	T	T	14 08 46.6	
	baz=303,slow=74						
H10S3	**ASCENSION HYDR**	**36.35**	**124**	T	T	14 09 37.5	
	baz=277						
H10S2	**ASCENSION HYDR**	**36.37**	**124**	T	T	14 09 38.9	
	baz=303						
LPAZ	**La Paz**	**37.01**	**220**	P	**P**	**13 31 27.1**	**+0.5**
	0.5nm,0.4s,baz=16,slow=7.1,SNR=3.6						
MDT	**Midelt**	**41.56**	**54**	P	**P**	**13 32 04.7**	**+0.7**
	16nm,0.8s,baz=262,slow=7.5,SNR=10						
TKL	**Tuckaleechee C**	**42.39**	**310**	LR	LR	13 48 28.8	
	comp=Z,65nm,18.3s,baz=60,slow=34						
TORD	**Torodi Ar. Bea**	**44.83**	**84**	P	**P**	**13 32 29.5**	**-1.1**
	1.0nm,0.9s,baz=274,slow=8.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**44.83**	**84**	IAmb	IAmb	13 32 30.9	
	comp=Z,3.1nm,1.3s						
SCHQ	**Schefferville**	**45.83**	**342**	P	**P**	**13 32 37.9**	**+0.1**
SCHQ				IAmb	IAmb	13 32 49.0	
	comp=Z,5.9nm,1.1s						
X40A	**Basin Creek Fa**	**49.06**	**305**	P	**P**	**13 33 02.5**	**-0.8**
MGMO	**Mountain Grove**	**49.34**	**309**	P	**P**	**13 33 04.4**	**-1.0**
MGMO				IAmb	IAmb	13 33 11.9	
	comp=Z,9.6nm,1.1s						
ANMO	**Albuquerque**	**60.18**	**303**	LR	LR	13 59 46.3	
	comp=Z,31nm,18.9s,baz=55,slow=35						
LENM	**Lemitar**	**60.53**	**302**	P	**P**	**13 34 26.9**	**+0.1**
YKA	**Yellowknife Ar**	**69.95**	**332**	P	**P**	**13 35 26.4**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=107,slow=6.7,SNR=5.9						
A36M	**Sachs Harbour**	**75.43**	**341**	P	**P**	**13 36 00.4**	**+0.9**
A36M				IAmb	IAmb	13 36 01.2	
	comp=Z,3.9nm,0.9s						
BOSA	**Boshof**	**78.61**	**123**	LR	LR	14 05 56.8	
	comp=Z,23nm,18.4s,baz=196,slow=32						
BCAR	**Beaver Creek A**	**82.36**	**333**	P	**P**	**13 36 38.6**	**+0.8**
ILAR	**Eielson Array**	**84.11**	**335**	P	**P**	**13 36 47.3**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=66,slow=4.1,SNR=5.2						
ILAR	**Eielson Array**	**84.11**	**335**	P	**P**	**13 36 46.9**	**+0.1**
IMAR	**Indian Mountai**	**86.41**	**337**	P	**P**	**13 36 58.4**	**+0.2**

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*DNK **05** 13:29:20.5±1.8, 51.51N×15.24E, h0km±107km, ML1.9*
*IDC **05** 13:29:20.7±0.8, 51.47N×15.88E, h0km, mb3.5/5, mb1 3.5/13, mb1mx3.4/49, mbtmp3.4/13, ML3.2/8, Error ellipse: s-maj=12.3km s-min=9.4km az=72.0*
*IPEC **05** 13:29:20.7±0.4, 51.50N×16.22E, h0km±1km, ML3.0/3, Error ellipse: s-maj=2.6km s-min=1.2km az=31.0*
*BGR **05** 13:29:22.1±0.2, 51.46N×16.11E, h1km, ML3.3/25, Error ellipse: s-maj=3.3km s-min=2.2km az=32.0*
*VIE **05** 13:29:22.8±0.6, 51.37N×15.98E, h0km, mb2.8/7, ml3.2/6, Error ellipse: s-maj=6.8km s-min=2.5km az=54.0 78 km WNW of Wroclaw Suspected Mining induced.*
*UPP **05** 13:29:24.5±3.4, 51.71N×15.47E, h0km, ML2.0, Suspected explosion*
ISC 05 13:29:20.0±0.5**, 51.51N**±0.02×**16.10E**±0.02**, h0km, n95,** σ**1.52**/193**, mb3.6**/5**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**170**	*i* Pg	**Pg**	**13 29 33.8**	**+0.9**
KSP				*e*Sg	**Sg**	**13 29 42.4**	**+0.8**
KSP	**Ksiaz**	**0.68**	**170**	*e*Pg	**Pg**	**13 29 33.9**	**+0.9**
KSP				*e*Sg	**Sg**	**13 29 42.2**	**+0.5**
CHVC	**Chvalec**	**0.92**	**182**	*e*PG	**Pb**	**13 29 38.4**	**-0.4**
CHVC				*e*SG	**Sg**	**13 29 49.4**	**-0.1**
	comp=Z,111nm,0.5s						
OSTC	**Ostas**	**0.95**	**176**	*e*PG	**Pb**	**13 29 39.0**	**-0.4**
OSTC				*e*SG	**Sg**	**13 29 51.4**	**+0.8**
	comp=Z,140nm,0.5s						
UPC	**Upice**	**1.00**	**183**	*e*PG	**Pb**	**13 29 39.8**	**-0.4**
UPC				*e*SG	**Sg**	**13 29 52.2**	**0.0**
	comp=Z,239nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG	**Pg**	**13 29 42.5**	**+0.2**
DPC				*e*SG	**Sg**	**13 29 57.3**	**-0.2**
	comp=Z,90nm,0.5s						
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*Pg	**Pg**	**13 29 42.7**	**+0.4**
DPC				*e*Sg	**Sg**	**13 29 57.2**	**-0.2**
PVCC	**Panska Ves**	**1.38**	**225**	*e*PG	**Pb**	**13 29 46.8**	**+0.2**
PVCC				*e*SG	**Sn**	**13 30 05.6**	**+0.2**
	comp=Z,314nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**225**	*e*Pn	**Pb**	**13 29 47.0**	**+0.4**
PVCC				*e*Pg	**Pn**	**13 29 47.6**	**+1.1**
PVCC				*e*Sg	**Sn**	**13 30 06.0**	**+0.7**
KRLC	**Kraliky**	**1.50**	**163**	*e*PG	**Pn**	**13 29 48.2**	**0.0**
KRLC				*e*SG	**Sg**	**13 30 07.1**	**-0.9**
	comp=Z,146nm,0.8s						
BRG	**Berggiesshubel**	**1.50**	**246**	Pn	**Pn**	**13 29 48.1**	**-0.1**
BRG				Pg	**Pg**	**13 29 49.5**	**+0.8**
BRG				Sg	**Sn**	**13 30 10.0**	**+1.6**
BRG				Amp		13 30 11.2	
	comp=Z,214nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**246**	*e*Pn	**Pn**	**13 29 48.1**	**-0.1**
BRG				*e*Pg	**Pg**	**13 29 49.7**	**+1.0**
BRG				*e*Sg	**Sn**	**13 30 10.0**	**+1.6**
RUE	**Ruedersdorf**	**1.73**	**305**	*e*P	**Pn**	**13 29 50.9**	**-0.4**
RUE				*e*S	**Sg**	**13 30 16.9**	**+1.2**
RUE				IAML		13 30 24.7	
	comp=Z,100nm,0.5s						
RUE	**Ruedersdorf**	**1.73**	**305**	*e*Pn	**Pn**	**13 29 51.7**	**+0.4**
RUE				*e*Sg	**Sg**	**13 30 18.2**	**+2.5**
PRU	**Pruhonice**	**1.81**	**214**	*e*PG	**Pb**	**13 29 54.2**	**+0.1**
PRU				*e*SG	**Sg**	**13 30 18.3**	**0.0**
	comp=Z,72nm,0.6s						
PRU	**Pruhonice**	**1.81**	**214**	*e*Pn	**Pn**	**13 29 52.6**	**+0.1**
PRU				*e*Pg	**Pg**	**13 29 54.6**	**-0.1**
PRU				*e*Sg	**Sg**	**13 30 18.3**	**0.0**
FBE	**Freiberg**	**1.82**	**252**	*e*Pn	**Pb**	**13 29 54.3**	**+0.1**
FBE				*e*Pg	**Pg**	**13 29 55.5**	**+0.5**
FBE				*e*Sg	**Sg**	**13 30 19.6**	**+1.1**
GKP	**Gorka Klasztor**	**1.90**	**21**	*e*P	Pg	13 30 02.5	+6.1
GKP				*e*S	**Sg**	**13 30 27.2**	**+6.3**
CLL	**Collm**	**1.95**	**265**	*e*Pn	**Pn**	**13 29 54.0**	**-0.3**
CLL				*e*Pg	**Pg**	**13 29 58.0**	**+0.6**
CLL				*i* x	x	13 30 00.0	
CLL				*i* x	x	13 30 01.7	
CLL				*i* x	x	13 30 12.1	
CLL				*i* Sg	**Sg**	**13 30 23.2**	**+0.6**
	comp=Z,87nm,0.5s						
CLL	**Collm**	**1.95**	**265**	*e*Pn	**Pn**	**13 29 54.5**	**+0.2**
CLL				*e*Pg	**Pg**	**13 29 57.5**	**+0.1**
CLL				*e*Sg	**Sg**	**13 30 24.1**	**+1.4**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**13 29 54.4**	**-0.1**
	baz=334						
MORC				*e*Sg	**Sn**	**13 30 20.6**	**+0.8**
	comp=Z,84nm,0.7s,baz=334						
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**13 29 54.6**	**+0.1**
MORC				*e*Sn	**Sn**	**13 30 17.8**	**-2.0**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pb**	**13 29 59.9**	**+0.7**
OKC				*e*SG	**Sb**	**13 30 26.5**	**+0.5**
	comp=Z,137nm,0.8s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*Pg	**Pg**	**13 30 00.2**	**-0.4**
OKC				*e*Sg	**Sb**	**13 30 26.7**	**+0.7**
VRAC	**Vranov**	**2.22**	**172**	Pn	**Pn**	**13 29 58.6**	**+0.4**
	comp=Z,6.7nm,0.3s,baz=330,slow=14,SNR=15						
VRAC				Sn	**Sb**	**13 30 29.6**	**+0.5**
	comp=Z,4.7nm,0.3s,baz=262,slow=19,SNR=4.0						
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**13 29 58.5**	**+0.4**
	baz=354						
VRAC				*e*Sg	**Sb**	**13 30 29.8**	**+0.7**
	comp=Z,74nm,0.6s,baz=354						
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**13 29 58.4**	**+0.3**
VRAC				*e*Sg	**Sb**	**13 30 30.0**	**+0.9**
TREC	**Trest**	**2.25**	**190**	*e*PN	**Pn**	**13 29 59.8**	**+1.3**
TREC				*e*PG	**Pg**	**13 30 02.4**	**-0.7**
TREC				*e*SG	**Sg**	**13 30 31.6**	**-0.6**
	comp=Z,55nm,0.6s						
TREC	**Trest**	**2.25**	**190**	*e*Pn	**Pn**	**13 29 59.5**	**+1.0**
TREC				*e*Pg	**Pg**	**13 30 03.1**	**0.0**
TREC				*e*Sg	**Sg**	**13 30 32.0**	**-0.2**
PBCC	**Pribram**	**2.26**	**217**	*e*PG	**Pb**	**13 30 02.4**	**+0.7**
PBCC				*e*SG	**Sg**	**13 30 32.8**	**+0.1**
LNIZ	**Loecknitz**	**2.30**	**331**	*e*Pn	**Pn**	**13 29 59.1**	**-0.1**
LNIZ				*e*Sn	**Sn**	**13 30 28.5**	**+0.4**
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn	**Pn**	**13 30 01.9**	**+0.6**
	baz=358						
KRUC	**Moravsky**	**2.46**	**175**	*e*Pg	**Pb**	**13 30 05.3**	**+0.3**
	baz=358						
KRUC				*e*Sg	**Sb**	**13 30 37.1**	**+1.3**
	comp=Z,76nm,0.8s,baz=358						
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn	**Pn**	**13 30 02.4**	**+1.1**
KRUC				*e*Pg	**Pb**	**13 30 05.8**	**+0.8**
KRUC				*e*Sg	**Sg**	**13 30 39.2**	**+0.3**
TANN	**Tannenbergstha**	**2.55**	**246**	*e*Pn	**Pn**	**13 30 03.6**	**+0.9**
TANN				*e*Pg	**Pg**	**13 30 09.3**	**+0.5**
TANN				*e*Sg	**Sg**	**13 30 41.7**	**-0.1**
WERD	**Werda**	**2.62**	**248**	*e*Pn	**Pn**	**13 30 04.6**	**+1.0**
WERD				*e*Pg	**Pg**	**13 30 10.2**	**-0.1**
WERD				*e*Sn	**Sn**	**13 30 34.5**	**-1.7**
WERD				*e*Sg	**Sg**	**13 30 44.7**	**+0.4**
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**13 30 05.1**	**+1.2**
NKC				*e*PG	**Pg**	**13 30 10.1**	**-0.5**
NKC				*e*SG	**Sg**	**13 30 46.3**	**+1.4**
	comp=Z,132nm,0.4s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*Pn	**Pn**	**13 30 04.8**	**+0.9**
NKC				*e*Pg	**Pg**	**13 30 11.9**	**+1.3**
NKC				*e*Sg	**Sg**	**13 30 47.2**	**+2.3**
GUNZ	**Gunzen**	**2.65**	**246**	*e*Pn	**Pn**	**13 30 05.3**	**+1.4**
GUNZ				*e*Pg	**Pg**	**13 30 11.9**	**+1.3**
GUNZ				*e*Sg	**Sg**	**13 30 44.6**	**-0.4**
WERN	**Wernitzgruen**	**2.66**	**244**	*e*Pn	**Pn**	**13 30 05.6**	**+1.5**
WERN				*e*Pg	**Pg**	**13 30 12.1**	**+1.3**
WERN				*e*Sg	**Sg**	**13 30 44.8**	**-0.5**
OJC	**Ojcow**	**2.67**	**117**	*e*Pn	**Pn**	**13 30 02.9**	**-1.4**
OJC				*e*Pg	**Pg**	**13 30 11.6**	**+0.4**
OJC				*e*Sn	**Sn**	**13 30 33.6**	**-3.7**
OJC				*e*Sg	**Sg**	**13 30 46.7**	**+0.9**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**13 30 11.6**	**+0.4**
OJC				*e*Sn	**Sn**	**13 30 34.6**	**-2.8**
OJC				*e*Sg	**Sg**	**13 30 46.9**	**+1.1**
PLN	**Plauen**	**2.69**	**249**	*e*Pn	**Pn**	**13 30 05.4**	**+0.9**
PLN				*e*Pg	**Pg**	**13 30 11.8**	**+0.2**
PLN				*e*Sg	**Sg**	**13 30 46.8**	**+0.4**
NEUB	**Neuenburg**	**2.73**	**265**	*e*Pg	**Pg**	**13 30 12.9**	**+0.6**
NEUB				*e*Sg	**Sg**	**13 30 50.2**	**+2.6**
JAVC	**Velka Javorina**	**2.84**	**159**	*e*PN	**Pn**	**13 30 07.0**	**+0.4**
JAVC	**Velka Javorina**	**2.84**	**159**	*e*Pn	**Pn**	**13 30 08.5**	**+1.9**
JAVC				*e*Pg	**Pg**	**13 30 16.6**	**+2.2**
JAVC				*e*Sg	**Sg**	**13 30 53.1**	**+2.0**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	**Pn**	**13 30 07.9**	**+0.8**
KHC				*e*PG	**Pb**	**13 30 13.6**	**+1.4**
KHC				*e*SN	**Sn**	**13 30 42.7**	**+0.3**
KHC				*e*SG	**Sg**	**13 30 51.9**	**-0.5**
	comp=Z,52nm,0.6s						
KHC	**Kasperske Hory**	**2.88**	**215**	*e*Pn	**Pn**	**13 30 08.0**	**+0.8**
KHC				*e*Pg	**Pg**	**13 30 13.8**	**-1.3**
KHC				*e*Sn	**Sn**	**13 30 42.7**	**+0.3**
KHC				*e*Sg	**Sg**	**13 30 51.5**	**-0.8**
CKRC	**Cesky Krumlov**	**2.93**	**204**	*e*PN	**Pn**	**13 30 09.0**	**+1.3**
CKRC				*e*PG	**Pb**	**13 30 14.6**	**+1.6**
CKRC				*e*SG	**Sg**	**13 30 53.2**	**-0.8**
CKRC	**Cesky Krumlov**	**2.93**	**204**	*e*Pn	**Pn**	**13 30 09.1**	**+1.3**
CKRC				*e*Pg	**Pg**	**13 30 15.0**	**-1.1**
CKRC				*e*Sg	**Sg**	**13 30 52.1**	**-1.9**
MOX	**Moxa**	**2.96**	**255**	*e*Pg	**Pg**	**13 30 16.8**	**+0.1**
MOX				*e*Sg	**Sg**	**13 30 55.4**	**+0.4**
SMOL	**Smolenice**	**3.12**	**164**	*e*SG	**Sg**	**13 31 00.8**	**+0.8**
FLTG	**Flechtingen**	**3.12**	**287**	*e*Pn	**Pn**	**13 30 11.8**	**+1.4**
FLTG				*e*Pg	**Pg**	**13 30 21.0**	**+1.2**
FLTG				*e*Sg	**Sg**	**13 31 00.6**	**+0.4**
WET	**Wettzell**	**3.14**	**222**	*e*Pn	**Pn**	**13 30 11.3**	**+0.6**
LANS	**Liptovska Anna**	**3.20**	**136**	*e*PN	**Pn**	**13 30 12.2**	**+0.7**
LANS				*e*PG	**Pg**	**13 30 24.1**	**+2.9**
LANS				*e*SG	**Sg**	**13 31 03.5**	**+0.9**
ZST	**Bratislava**	**3.38**	**169**	*e*SG	**Sg**	**13 31 06.9**	**-1.5**
NIE	**Niedzica**	**3.40**	**126**	*e*P	**Pg**	**13 30 25.6**	**+0.4**
NIE				*e*S	**Sg**	**13 31 10.5**	**+1.3**
VYHS	**Vyhne**	**3.49**	**149**	*e*PN	**Pn**	**13 30 15.5**	**-0.1**
VYHS				*e*PG	**Pg**	**13 30 27.1**	**+0.2**
VYHS				*e*SG	**Sg**	**13 31 12.6**	**+0.4**
CONA	**Conrad Observa**	**3.59**	**183**	*i* Pn	**Pn**	**13 30 17.8**	**+0.9**
	comp=Z,1.7nm,0.3s,SNR=4.6						
CONA				Pg	**Pg**	**13 30 28.3**	**-0.4**
	comp=Z,8.0nm,0.4s						
CONA				*e*Sn	**Sn**	**13 31 02.0**	**+2.0**
	comp=Z,9.6nm,0.4s						
GRF	**Grafenberg Arr**	**3.60**	**242**	*e*Pg	**Pg**	**13 30 31.1**	**+2.1**
GRF				*e*Sg	**Sg**	**13 31 16.3**	**+0.7**
BSD	**Bornholm Skovb**	**3.68**	**349**	*e*P	**Pn**	**13 30 18.3**	**+0.2**
BSD				*e*S	**Sn**	**13 31 00.9**	**-1.3**
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**13 30 17.6**	**-0.5**
BSD				*i* S	**Sn**	**13 30 59.7**	**-2.4**
BSD				IAML		13 31 02.4	
	comp=Z,1.5nm,0.1s						
RONA	**Rosalia, Austr**	**3.81**	**178**	*e*Pn	**Pn**	**13 30 21.2**	**+1.2**
MOA	**Molln**	**3.85**	**199**	*e*Pn	**Pn**	**13 30 20.1**	**-0.4**
	comp=Z,5.6nm,0.5s,SNR=6.6						
MOA				Sg	**Sg**	**13 31 26.1**	**+2.4**
	comp=Z,20nm,0.5s						
BIOA	**Bad Ischl, Aus**	**4.14**	**204**	*e*Pn	**Pn**	**13 30 25.5**	**+1.0**
	comp=Z,2.2nm,0.2s						
ARSA	**Arzberg**	**4.28**	**185**	*e*Pn	**Pn**	**13 30 28.7**	**+2.3**
	comp=Z,1.0nm,0.2s						
ARSA				Pg	**Pg**	**13 30 44.0**	**+2.1**
	comp=Z,4.5nm,0.4s						
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PG	**Pg**	**13 30 43.6**	**+0.9**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PN	**Pn**	**13 30 33.0**	**+0.5**
KOLS				*e*PG	**Pg**	**13 30 54.2**	**+3.7**
KBA	**Koelnbreinsper**	**4.79**	**203**	*e*Pn	**Pn**	**13 30 34.4**	**+0.9**
	comp=Z,3.5nm,0.5s,SNR=7.0						
BLEU	**Blekinge**	**4.81**	**358**	*i* P	**Pn**	**13 30 33.3**	**-0.3**
BLEU				*i* P	**Sn**	**13 31 26.2**	**-3.8**
DEL	**Delary**	**5.14**	**346**	*e*P	**Pn**	**13 30 37.3**	**-0.9**
DEL				*e*S	**Sn**	**13 31 34.7**	**-3.5**
DEL				IAML		13 31 37.6	
	comp=Z,4.2nm,0.4s						
DEL	**Delary**	**5.14**	**346**	*i* P	**Pn**	**13 30 37.0**	**-1.2**
DEL				P	**Pn**	**13 30 37.5**	**-0.7**
DEL				*i* S	**Sn**	**13 31 33.9**	**-4.3**
DEL				S	**Sn**	**13 31 34.3**	**-3.9**
DEL				IAML		13 31 37.9	
	comp=Z,0.6nm,0.2s						
DEL	**Delary**	**5.14**	**346**	P	**Pn**	**13 30 37.5**	**-0.7**
DEL				S	**Sn**	**13 31 34.3**	**-3.9**
TRPA	**Tarpa**	**5.36**	**127**	P	**Pb**	**13 30 54.6**	**+0.1**
FABU	**Falkenberg**	**5.85**	**342**	P	**Pn**	**13 30 47.3**	**-0.6**
FABU	**Falkenberg**	**5.85**	**342**	P	**Pn**	**13 30 47.3**	**-0.6**
GNOU	**Gnosjoe**	**5.95**	**348**	P	**Pn**	**13 30 48.2**	**-1.1**
GNOU	**Gnosjoe**	**5.95**	**348**	P	**Pn**	**13 30 48.2**	**-1.1**
DAVOX	**Davos/Dischmat**	**6.25**	**223**	Pn	**Pn**	**13 30 51.0**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=0.0,slow=20,SNR=1.5						
DAVOX				Lg	Lg	13 32 35.7	
	comp=Z,0.6nm,0.3s,baz=28,slow=18,SNR=3.2						
FKPU	**Falk**	**6.81**	**349**	P	**Pn**	**13 31 01.3**	**+0.3**
FKPU	**Falk**	**6.81**	**349**	P	**Pn**	**13 31 01.3**	**+0.3**
VIKU	**Vikbolandet**	**7.02**	**3**	*e*P	**Pn**	**13 31 04.0**	**+0.1**
VIKU				IAML		13 32 28.6	
	comp=Z,2.0nm,0.5s						
IDID	**Didziasalis**	**7.41**	**55**	*e*P	**Pn**	**13 31 12.4**	**+3.1**
AKASG	**Malin Array Be**	**8.30**	**90**	Pn	**Pn**	**13 31 20.6**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=280,slow=12,SNR=7.7						
AKASG				Sn	**Sn**	**13 32 51.1**	**-4.7**
	baz=260,slow=12,SNR=0.9						
AKASG				Lg	Lg	13 33 48.2	
	comp=Z,0.4nm,0.3s,baz=325,slow=6.3,SNR=1.1						
MTSE	**Matsula**	**8.46**	**28**	*e*	Sn	13 32 39.9	-20
HFS	**Hagfors**	**8.75**	**352**	Pn	**Pn**	**13 31 25.1**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=2.0						
HFS				Sn	**Sn**	**13 33 03.0**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=62,slow=19,SNR=1.5						
NOA	**NORSAR Array B**	**9.93**	**346**	Pn	**Pn**	**13 31 41.5**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=105,slow=17,SNR=2.3						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**13 32 00.8**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=203,slow=11,SNR=4.9						
FINES				Sn	Sn	13 33 59.9	-11

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.3nm,0.3s,baz=203,slow=19,SNR=2.5						
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn	**Pn**	**13 32 10.9**	**-2.6**
	baz=99,slow=14,SNR=4.3						
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**P**	**13 33 35.0**	**-3.7**
	baz=198,slow=10,SNR=13						
ARU	**Arti**	**25.14**	**62**	P	**P**	**13 34 50.3**	**+3.9**
	comp=Z,0.4nm,0.3s,baz=280,slow=15,SNR=3.4						
AKTO	**Aktyubinsk**	**26.16**	**76**	P	**P**	**13 34 56.5**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=282,slow=10.0,SNR=2.4						
MKAR	**Makanchi Array**	**42.22**	**69**	P	**P**	**13 37 16.1**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=316,slow=9.1,SNR=2.1						
YKA	**Yellowknife Ar**	**59.86**	**336**	P	**P**	**13 39 28.1**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=28,slow=6.6,SNR=6.7						
PDAR	**Pinedale Array**	**74.94**	**322**	P	**P**	**13 41 04.1**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=76,slow=6.3,SNR=2.3						

*IDC **05** 13:32:15.1±2.0,23.°61S×179.°30E,h513km±22km, mb3.2/10,mb1 3.4/12,mb1mx3.2/31,mbtmp4.1/12,Error ellipse: s-maj=23.9km s-min=14.1km az=155.0*
*NEIC **05** 13:32:15.4±1.6,23.°7S±0.°1×179.°5E±0.°1,h516km±8km, mb4.3/26,Error ellipse: s-maj=18.5km s-min=14.2km az=143.0*
ISC 05 13:32:17.7±0.4**,23.°74S**±0.°08×**179.°42E**±0.°08**,h548**km**,n58,** σ**1.s36**/61**,mb4.0**/20**,1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**10.76**	**280**	P	**P**	**13 34 42.9**	**-0.5**
NIUE	**Niue**	**10.96**	**67**	P	**P**	**13 34 45.7**	**+0.2**
PINNC	**Pines Island,**	**11.07**	**273**	P	**P**	**13 34 47.3**	**+0.7**
AFI	**Afiamalu**	**12.84**	**42**	P	**P**	**13 35 02.4**	**-2.8**
	1.2nm,0.3s,baz=246,slow=18,SNR=2.4						
AFI	**Afiamalu**	**12.84**	**42**	P	**P**	**13 35 01.9**	**-3.2**
URZ	**Urewera**	**14.61**	**187**	P	**P**	**13 35 21.1**	**-1.8**
	2.5nm,0.3s,baz=274,slow=2.6,SNR=14						
URZ				S	**S**	**13 37 50.7**	**-4.9**
	0.4nm,0.3s,baz=245,slow=23,SNR=2.3						
URZ	**Urewera**	**14.61**	**187**	P	**P**	**13 35 21.8**	**-1.2**
BKZ	**Black Stump Fm**	**15.58**	**188**	P	**P**	**13 35 31.3**	**-1.7**
BFZ	**Birch Farm**	**17.10**	**188**	P	**P**	**13 35 46.5**	**-0.8**
MSWZ	**Moikau Station**	**17.97**	**190**	P	**P**	**13 35 54.4**	**-0.8**
TUWZ	**Tuamarina**	**18.22**	**193**	P	**P**	**13 35 57.2**	**-0.3**
KHZ	**Kahutara**	**19.25**	**193**	P	**P**	**13 36 07.1**	**+0.2**
KHZ				IAmb	IAmb	13 36 10.0	
	comp=Z,9.8nm,0.8s						
LTZ	**Lake Taylor**	**19.89**	**196**	P	**P**	**13 36 12.5**	**-0.2**
LTZ				IAmb	IAmb	13 36 15.6	
	comp=Z,9.8nm,0.7s						
OXZ	**Oxford**	**20.46**	**196**	P	**P**	**13 36 17.4**	**-0.4**
OXZ				IAmb	IAmb	13 36 17.9	
	comp=Z,12nm,0.8s						
MQZ	**McQueen's Vall**	**20.68**	**194**	P	**P**	**13 36 19.7**	**0.0**
MQZ				IAmb	IAmb	13 36 43.0	
	comp=Z,12nm,1.1s						
RPZ	**Rata Peaks**	**21.08**	**197**	P	**P**	**13 36 23.0**	**-0.4**
	comp=Z,2.5nm,0.4s,baz=359,slow=15,SNR=2.4						
EIDS	**Eidsvold**	**25.81**	**261**	P	**P**	**13 37 06.4**	**+0.7**
EIDS				IAmb	IAmb	13 37 19.1	
	comp=Z,31nm,1.4s						
CAN	**Canberra**	**28.76**	**239**	P	**P**	**13 37 32.6**	**+1.1**
PPT	**Papeete**	**29.62**	**84**	P	**P**	**13 37 39.2**	**0.0**
	comp=Z,7.0nm,0.4s,baz=231,slow=22,SNR=1.4						
PPTF	**Pamatai, Papee**	**29.62**	**84**	P	**P**	**13 37 39.2**	**0.0**
CTAO	**Charters Tower**	**30.94**	**270**	P	**P**	**13 37 50.2**	**-0.3**
CTAO				IAmb	IAmb	13 38 13.3	
	comp=Z,14nm,1.2s						
TAU	**Tasmania Unive**	**32.66**	**226**	P	**P**	**13 38 05.6**	**+0.8**
STKA	**Stephens Creek**	**34.29**	**248**	P	**P**	**13 38 18.6**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=89,slow=9.5,SNR=4.3						
BBOO	**Buckleboo**	**39.02**	**247**	P	**P**	**13 38 57.1**	**-0.4**
BBOO				IAmb	IAmb	13 39 25.2	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**41.53**	**261**	P	**P**	**13 39 17.3**	**-0.5**
ASAR	**Alice Springs**	**41.53**	**261**	P	**P**	**13 39 17.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=92,slow=7.1,SNR=14						
ASAR				PcP	**PcP**	**13 41 02.5**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=99,slow=3.7,SNR=4.8						
WR0	**Warramunga Arr**	**41.70**	**266**	P	**P**	**13 39 18.0**	**-1.1**
WR0				IAmb	IAmb	13 39 32.5	
	comp=Z,9.0nm,1.4s						
WB2	**Warramunga Arr**	**41.87**	**266**	P	**P**	**13 39 19.7**	**-0.9**
WB2				IAmb	IAmb	13 39 41.7	
	comp=Z,9.2nm,1.5s						
WB0	**Warramunga Arr**	**41.88**	**266**	P	**P**	**13 39 19.5**	**-1.0**
WB0				IAmb	IAmb	13 39 39.9	
	comp=Z,6.1nm,1.2s						
WRAB	**Tennant Creek**	**41.88**	**266**	P	**P**	**13 39 19.5**	**-1.1**
WRA	**Warramunga Arr**	**41.88**	**266**	P	**P**	**13 39 18.6**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=90,slow=5.8,SNR=66						
WRA				PcP	**PcP**	**13 41 03.9**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=101,slow=6.9,SNR=1.4						
WRA				ScP	**ScP**	**13 44 05.2**	**+3.4**
	comp=Z,0.2nm,0.7s,baz=92,slow=3.7,SNR=1.2						
WRA	**Warramunga Arr**	**41.88**	**266**	P	**P**	**13 39 19.6**	**-1.1**
FORT	**Forrest**	**45.87**	**249**	P	**P**	**13 39 50.5**	**-0.8**
KNRA	**Kununurra**	**48.15**	**270**	P	**P**	**13 40 08.1**	**-0.6**
KNRA				IAmb	IAmb	13 40 33.7	
	comp=Z,9.6nm,1.1s						
KHU	**Kahuku**	**49.18**	**32**	P	**P**	**13 40 16.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.31**	**266**	P	**P**	**13 40 25.1**	**+0.6**
QSPA	**South Pole Qui**	**66.34**	**180**	P	**P**	**13 42 14.2**	**+2.2**
QSPA				IAmb	IAmb	13 42 16.4	
	comp=Z,6.2nm,1.4s						
MAW	**Mawson**	**77.71**	**201**	P	**P**	**13 43 19.1**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=250,slow=9.7,SNR=1.9						
MAW	**Mawson**	**77.71**	**201**	P	**P**	**13 43 19.3**	**+1.6**
PETK	**Petropavlovsk-**	**78.82**	**347**	P	**P**	**13 43 23.9**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=182,slow=4.5,SNR=3.6						
UBPT	**Khong Chiam**	**81.97**	**291**	P	**P**	**13 43 41.4**	**+0.4**
UBPT				IAmb	IAmb	13 43 43.5	
	comp=Z,9.5nm,1.5s						
SNAA	**Sanae**	**84.83**	**179**	P	**P**	**13 43 55.1**	**+0.8**
SNAA				IAmb	IAmb	13 44 03.8	
	comp=Z,11nm,1.2s						
NVAR	**Mina Array Bea**	**85.01**	**44**	P	**P**	**13 43 57.5**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=233,slow=8.5,SNR=4.2						
NVAR	**Mina Array Bea**	**85.01**	**44**	P	**P**	**13 43 55.6**	**-0.3**
KVN	**Kaiserville**	**85.50**	**44**	P	**P**	**13 44 00.0**	**+1.9**
RSO	**Redoubt South**	**86.92**	**13**	P	**P**	**13 44 03.2**	**-1.1**
TXAR	**Lajitas Array**	**90.80**	**58**	P	**P**	**13 44 25.4**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=205,slow=5.1,SNR=6.0						
PDAR	**Pinedale Array**	**92.95**	**44**	P	**P**	**13 44 31.7**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=225,slow=6.2,SNR=2.2						
MKAR	**Makanchi Array**	**111.65**	**313**	PKiKP	**PKiKP**	**13 49 48.6**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=101,slow=1.2,SNR=2.0						
BANI	**BANI**	**115.24**	**80**		**PKiKP**	**13 49 58.1**	**+0.2**
SPITS	**Spitsbergen Ar**	**124.92**	**356**	PKP	**PKPdf**	**13 50 13.8**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=63,slow=7.0,SNR=4.6						
ARCES	**ARCESS Array B**	**131.62**	**348**	PKP	**PKPdf**	**13 50 27.8**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=352,slow=2.0,SNR=5.9						
FINES	**FINESS Array B**	**138.12**	**341**	PKP	**PKPdf**	**13 50 38.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=32,slow=8.4,SNR=1.7						
NOA	**NORSAR Array B**	**141.84**	**351**	PKhKP	PKPpre	13 50 42.6	
	comp=Z,0.6nm,0.7s,baz=15,slow=4.7,SNR=3.4						
AKASG	**Malin Array Be**	**144.55**	**327**	PKP	**PKPdf**	**13 50 51.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=44,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**147.06**	**307**	PKPbc	**PKPbc**	**13 50 59.2**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=164,slow=4.2,SNR=2.2						
CLL	**Collm**	**150.55**	**343**⇓	*i*PKPbc	**PKiKP**	**13 51 08.0**	**0.0**
	comp=Z,7.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**169.24**	**192**	PKPab	**PKPab**	**13 52 39.8**	**+0.9**
	comp=Z,0.9nm,1.2s,baz=152,slow=6.5,SNR=2.2						

*CNRM **05** 13:37:28.5,35.°40N×3.°88W,h0km,ml2.5*
ISC 05 13:37:29.3±1.6**,35.°38N**±0.°04×**3.°90W**±0.°04**,h20**km±5km**,n7,** σ**1.s06**/14**,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.75**	**102**	P	**Pn**	**13 37 45.0**	**0.0**
GOG				S	**Sb**	**13 37 54.3**	**+0.5**
SMIR	**Smir Dam**	**1.25**	**285**	P	**Pg**	**13 37 53.8**	**+0.4**
SMIR				S	**Sn**	**13 38 09.0**	**+1.1**
TAF	**Taforalt**	**1.34**	**114**	P	**Pb**	**13 37 53.9**	**0.0**
TAF				S	**Sb**	**13 38 10.4**	**-0.3**
EMAL	**Malaga-Limoner**	**1.45**	**343**	P	**Pb**	**13 37 55.4**	**-0.2**
EMAL				S	**Sn**	**13 38 11.2**	**-1.6**
JBK	**JBK**	**1.51**	**133**	P	**Pg**	**13 37 58.1**	**-0.4**
JBK				S	**Sn**	**13 38 16.0**	**+1.3**
MD31	**MD31**	**2.60**	**196**	P	**Pb**	**13 38 13.7**	**-1.7**
MD31				S	**Sb**	**13 38 46.3**	**-0.8**
MDT	**Midelt**	**2.62**	**193**	P	**Pn**	**13 38 11.6**	**+0.9**
MDT				S	**Sb**	**13 38 48.4**	**+0.8**

*IDC **05** 13:45:14.3±1.6,52.°48N×164.°89W,h0km,mb3.8/9, mb1 4.0/11,mb1mx3.7/58,mbtmp3.8/11,ML3.5/2,MS3.9/2, Ms1 3.9/2,ms1mx2.6/95,Error ellipse: s-maj=33.5km s-min=20.8km az=20.0*
*NEIC **05** 13:45:15.1±2.2,52.°2N±0.°1×164.°9W±0.°1,h22km±12km, mb3.9/13,ML3.8(AEIC),Error ellipse: s-maj=15.7km s-min=8.8km az=162.0*
*AEIC **05** 13:45:16±2.6,52.°17N±0.°09×164.°99W±0.°07,h27km±7km, Error ellipse: s-maj=13.1km s-min=5.9km az=185.0*
ISC 05 13:45:18.4±0.9**,52.°4N**±0.°1×**164.°91W**±0.°07**,h35**km**,n87,** σ**1.s32**/80**,mb3.8**/9**,South of Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**1.76**	**328**		**Pn**	**13 45 46.0**	**-0.3**
AKSA	**Akutan Strait**	**1.83**	**345**		**Pn**	**13 45 47.2**	**-0.1**
AKBBA	**Akutan Broad B**	**1.84**	**341**		**Pn**	**13 45 47.0**	**-0.4**
MSW	**Makushin Switc**	**1.91**	**325**		**Pn**	**13 45 48.4**	**-0.1**
MTBL	**Makushin Table**	**1.92**	**327**		**Pn**	**13 45 48.9**	**+0.2**
AKGG	**Akutan Green G**	**1.94**	**341**		**Pn**	**13 45 49.4**	**+0.6**
OKFG	**Magazine Ridge**	**2.10**	**301**		**Pn**	**13 45 50.2**	**-0.7**
WESE	**West Dahl East**	**2.11**	**5**		**Pn**	**13 45 51.9**	**+0.6**
NIKH	**Nikolski High**	**2.48**	**286**		**Pn**	**13 45 54.5**	**-1.7**
SSLN	**Shishaldin Nor**	**2.50**	**12**		**Pn**	**13 45 58.0**	**+1.3**
FALS	**False Pass**	**2.64**	**19**		**Pn**	**13 45 59.1**	**+0.6**
SDPT	**Sand Point**	**3.97**	**40**		**Pn**	**13 46 17.7**	**+1.0**
VNHG	**Veniaminof 1**	**5.12**	**39**		**Pn**	**13 46 34.1**	**+1.5**
KOFP	**Korovin Flat P**	**5.64**	**273**		**Pn**	**13 46 39.2**	**-0.4**
ATKA	**Atka Island**	**5.70**	**272**		**Pn**	**13 46 39.4**	**-1.0**
SPIA	**Saint Paul Isl**	**5.72**	**329**	Pn	**Pn**	**13 46 41.8**	**+1.1**
CHIR	**Chirikof Islan**	**6.46**	**54**		**Pn**	**13 46 50.3**	**-0.6**
GSTD	**Great Sitkin T**	**6.91**	**272**		**Pn**	**13 46 55.9**	**-1.2**
ADK	**Adak**	**7.27**	**271**		**Pn**	**13 47 00.7**	**-1.2**
SII	**Sitkinak Islan**	**7.53**	**52**		**Pn**	**13 47 04.9**	**-0.6**
KIWB	**Kanaga Island**	**7.56**	**271**	Pn	**Pn**	**13 47 05.3**	**-0.7**
OHAK	**Old Harbor**	**8.29**	**50**	Pn	**Pn**	**13 47 14.8**	**-1.1**
P18K	**Big Mountain,**	**8.89**	**34**	Pn	**Pn**	**13 47 25.5**	**+1.3**
KDAK	**Kodiak Island**	**8.90**	**48**	Pn	**Pn**	**13 47 23.3**	**-1.0**
	1.1nm,0.3s,baz=245,slow=3.5,SNR=43						
KDAK				Sn	**Sn**	**13 48 57.2**	**-6.1**
	0.5nm,0.3s,baz=346,slow=21,SNR=6.4						
KDAK	**Kodiak Island**	**8.90**	**48**		**Pn**	**13 47 23.0**	**-1.3**
Q19K	**Cape Douglas,**	**9.14**	**40**	Pn	**Pn**	**13 47 28.4**	**+0.8**
O18K	**Koktuh Hills**	**9.24**	**32**	Pn	**Pn**	**13 47 30.8**	**+1.8**
SVW2	**Sparrevohn**	**10.13**	**27**	Pn	**Pn**	**13 47 42.5**	**+1.4**
CNPM	**China Poot**	**10.48**	**41**	Pn	**Pn**	**13 47 46.5**	**+0.5**
BRLK	**Bradley Lake**	**10.77**	**41**	Pn	**Pn**	**13 47 49.3**	**-0.5**
M19K	**Big River Lodg**	**11.12**	**27**	Pn	**Pn**	**13 47 55.8**	**+1.1**
SEW	**Seward**	**11.55**	**42**	Pn	**Pn**	**13 48 00.1**	**-0.4**
GAMB	**Gambell**	**11.98**	**345**	Pn	**Pn**	**13 48 08.4**	**+2.1**
RC01	**Rabbit Creek A**	**12.04**	**38**	Pn	**Pn**	**13 48 06.2**	**-1.0**
PWL	**Port Wells**	**12.44**	**40**	Pn	**Pn**	**13 48 11.3**	**-1.4**
KNK	**Knik Glacier**	**12.73**	**38**	Pn	**Pn**	**13 48 15.8**	**-0.8**
CUT	**Chulitna**	**12.75**	**32**	Pn	**Pn**	**13 48 16.6**	**-0.2**
GLI	**Glacier Island**	**12.95**	**42**	Pn	**Pn**	**13 48 18.7**	**-1.0**
FID	**Port Fidalgo**	**13.14**	**43**	Pn	**Pn**	**13 48 20.2**	**-2.0**
EYAK	**Cordova Ski Ar**	**13.35**	**45**	Pn	**Pn**	**13 48 23.9**	**-1.1**
SCM	**Sheep Creek Mo**	**13.41**	**38**	Pn	**Pn**	**13 48 24.2**	**-1.8**
TRF	**Thorofare Moun**	**13.51**	**29**	Pn	**Pn**	**13 48 27.5**	**+0.1**
DIV	**Divide**	**13.63**	**42**	Pn	**Pn**	**13 48 27.7**	**-1.3**
KLU	**Klutina**	**13.76**	**41**		**Pn**	**13 48 29.0**	**-1.8**
RND	**Reindeer**	**13.92**	**31**	Pn	**Pn**	**13 48 32.4**	**-0.5**
M24K	**Tolsona, Glenn**	**14.01**	**39**	Pn	**Pn**	**13 48 32.3**	**-1.9**
BMRM	**Bremner River**	**14.04**	**44**	Pn	**Pn**	**13 48 33.2**	**-1.4**
BERG	**Berg Lake**	**14.18**	**47**	Pn	**Pn**	**13 48 35.4**	**-1.0**
DHY	**Denali Highway**	**14.18**	**34**	Pn	**Pn**	**13 48 33.7**	**-2.8**
N25K	**Chitina, Valde**	**14.36**	**42**	Pn	**Pn**	**13 48 37.9**	**-1.1**
WAX	**Waxell Ridge**	**14.58**	**48**	Pn	**Pn**	**13 48 41.1**	**-0.8**
GLB	**Gilahina Butte**	**14.61**	**43**	Pn	**Pn**	**13 48 40.7**	**-1.5**
VRDI	**Verde Repeater**	**14.66**	**44**	Pn	**Pn**	**13 48 42.1**	**-1.0**
PAX	**Paxson**	**14.79**	**37**	Pn	**Pn**	**13 48 43.6**	**-1.1**
ISLE	**Juniper Island**	**14.88**	**48**	Pn	**Pn**	**13 48 45.9**	**-0.1**
I23K	**Minto, Yukon-K**	**15.07**	**26**	Pn	**Pn**	**13 48 48.0**	**-0.4**
CCB	**Clear Creek Bu**	**15.13**	**29**	Pn	**Pn**	**13 48 48.9**	**-0.3**
CCB				IAmb	IAmb	13 49 34.0	
	comp=Z,19nm,1.9s						
HDA	**Harding Lake**	**15.22**	**31**		**Pn**	**13 48 48.8**	**-1.6**
HDA				IAmb	IAmb	13 48 52.5	
	comp=Z,5.3nm,0.6s						
MENT	**Mentasta**	**15.42**	**38**	Pn	**Pn**	**13 48 51.3**	**-1.8**
MENT				IAmb	IAmb	13 49 36.8	
	comp=Z,7.5nm,1.2s						
RIDG	**Independent Ri**	**15.48**	**35**	Pn	**Pn**	**13 48 52.7**	**-1.2**
ILAR	**Eielson Array**	**15.50**	**30**	Pn	**Pn**	**13 48 51.1**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=218,slow=13,SNR=4.3						
M27K	**Edge Creek, AK**	**15.85**	**42**	Pn	**Pn**	**13 48 58.0**	**-0.8**
M27K				IAmb	IAmb	13 49 07.0	
	comp=Z,7.7nm,0.9s						
J25K	**Salcha River,**	**15.87**	**32**	Pn	**Pn**	**13 48 58.2**	**-0.6**
J25K				IAmb	IAmb	13 49 16.8	
	comp=Z,14nm,1.6s						
H24K	**Noodor Dome**	**16.00**	**26**	Pn	**Pn**	**13 49 00.5**	**0.0**
H24K				IAmb	IAmb	13 49 06.9	
	comp=Z,23nm,2.0s						
L27K	**Beaver Creek,**	**16.22**	**40**	Pn	**Pn**	**13 49 02.8**	**-0.5**
BCAR	**Beaver Creek A**	**16.24**	**40**	Pn	**Pn**	**13 49 02.9**	**-0.6**
COLD	**Coldfoot**	**16.56**	**20**	P	**P**	**13 49 10.0**	**+0.3**
DAWY	**Dawson**	**17.67**	**39**		**Pn**	**13 49 20.9**	**-0.6**
DAWY				IAmb	IAmb	13 49 28.8	
	comp=Z,6.3nm,0.8s						
EPYK	**Eagle Plains**	**19.81**	**34**	Pn	**Pn**	**13 49 48.3**	**+1.0**
INK	**Inuvik**	**21.88**	**31**	P	**P**	**13 50 07.4**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=204,slow=16,SNR=4.2						
SEY	**Seymchan**	**24.69**	**312**	P	**P**	**13 50 36.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=95,slow=12,SNR=4.3						
YKA	**Yellowknife Ar**	**28.18**	**49**	P	**P**	**13 51 08.3**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=266,slow=7.6,SNR=13						
YKA	**Yellowknife Ar**	**28.18**	**49**	P	**P**	**13 51 07.2**	**+0.2**
TIXI	**Tiksi**	**34.15**	**329**	LR	LR	14 05 21.4	
	comp=Z,40nm,20.6s,baz=359,slow=35						
NVAR	**Mina Array Bea**	**34.93**	**95**	P	**P**	**13 52 08.1**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=290,slow=9.7,SNR=5.7						
PDAR	**Pinedale Array**	**37.71**	**82**	P	**P**	**13 52 31.5**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=296,slow=5.1,SNR=9.5						
H11N2	**WAKE ISLAND Hy**	**39.27**	**225**	T	T	14 36 25.9	
	baz=25,slow=76,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**39.28**	**225**	T	T	14 36 25.8	
	baz=25,slow=76,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**39.29**	**225**	T	T	14 36 21.8	
	baz=25,slow=76,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**40.44**	**224**	T	T	14 37 45.9	
	baz=21						
H11S2	**WAKE ISLAND Hy**	**40.45**	**224**	T	T	14 37 56.7	
	baz=21						
H11S3	**WAKE ISLAND Hy**	**40.46**	**224**	T	T	14 37 57.7	
	baz=21						
ULM	**Lac du Bonnet**	**41.71**	**64**	P	**P**	**13 53 03.7**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=306,slow=4.9,SNR=3.0						
SPITS	**Spitsbergen Ar**	**49.71**	**360**	P	**P**	**13 54 07.3**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=42,slow=12,SNR=1.8						
TXAR	**Lajitas Array**	**50.01**	**92**	P	**P**	**13 54 09.8**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=300,slow=5.6,SNR=38						
MKAR	**Makanchi Array**	**65.75**	**316**	P	**P**	**13 55 59.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=45,slow=4.5,SNR=3.6						
DZM	**Mont Dzumac**	**78.23**	**207**	LR	LR	14 23 38.6	
	comp=Z,433nm,21.5s,baz=244,slow=29						

*IDC **05** 13:49:51.2±1.6,6.°32S×128.°69E,h332km±18km,mb3.4/5, mb1 3.5/10,mb1mx3.2/37,mbtmp4.2/10,Error ellipse: s-maj=29.8km s-min=14.8km az=85.0*
*NEIC **05** 13:49:51.4±1.5,6.°30S±0.°08×128.°6E±0.°1,h340km±10km, mb4.0/7,Error ellipse: s-maj=16.8km s-min=10.5km az=67.0*
ISC 05 13:49:50.5±0.6**,6.°32S**±0.°06×**128.°65E**±0.°08**,h334**km**,n26,** σ**1.s60**/30**,mb3.8**/7**,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.11**	**122**	Pn	**Pn**	**13 50 51.8**	**+2.1**
SIJI	**Sorong**	**6.01**	**26**	P	**Pn**	**13 51 21.9**	**+0.9**
	2.6nm,0.3s,baz=150,slow=20,SNR=19						
SIJI				S	**S**	**13 52 31.6**	**-2.7**
	4.4nm,0.3s,baz=239,slow=23,SNR=10						
BATI	**Baumata**	**6.26**	**232**	P	**Pn**	**13 51 23.9**	**0.0**
	18nm,0.3s,baz=99,slow=3.2,SNR=19						
BATI				S	**S**	**13 52 35.9**	**-3.7**
	4.5nm,0.3s,baz=3.6,slow=16,SNR=8.9						
MTN	**Manton Dam**	**6.93**	**159**	Pn	**Pn**	**13 51 32.6**	**+0.9**
KNRA	**Kununurra**	**9.30**	**179**	Pn	**Pn**	**13 52 00.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**12.07**	**194**	P	**Pn**	**13 52 32.7**	**-0.6**
	0.8nm,0.3s,baz=23,slow=9.5,SNR=40						
FITZ				S	**S**	**13 54 49.2**	**+1.6**
	0.2nm,0.3s,baz=293,slow=15,SNR=1.6						
WB0	**Warramunga Arr**	**14.49**	**158**	P	**P**	**13 53 01.2**	**+0.9**
WRAB	**Tennant Creek**	**14.62**	**158**	P	**P**	**13 53 02.6**	**+0.8**
WRA	**Warramunga Arr**	**14.63**	**158**	P	**P**	**13 53 02.8**	**+1.0**
	1.1nm,0.3s,baz=338,slow=12,SNR=57						
WRA				S	**S**	**13 55 38.6**	**-2.0**
	0.1nm,0.3s,baz=335,slow=20,SNR=2.1						
WB2	**Warramunga Arr**	**14.63**	**158**	P	**P**	**13 53 02.9**	**+1.0**
WR0	**Warramunga Arr**	**14.72**	**158**	P	**P**	**13 53 03.8**	**+0.9**
COEN	**Coen**	**16.18**	**119**	P	**Pn**	**13 53 20.9**	**-0.7**
COEN				IAmb	IAmb	13 53 45.5	
	comp=Z,13nm,1.3s						
AS31	**Alice Springs**	**17.97**	**164**	P	**P**	**13 53 39.2**	**+1.1**
AS31				IAmb	IAmb	13 53 40.5	
	comp=Z,3.7nm,0.5s						
ASAR	**Alice Springs**	**17.97**	**164**	P	**P**	**13 53 39.3**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=346,slow=12,SNR=210						
ASAR				S	**S**	**13 56 44.5**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=216,slow=25,SNR=4.4						
CMAR	**Chiang Mai Arr**	**38.27**	**311**	P	**P**	**13 56 43.0**	**+3.0**
	comp=Z,1.4nm,0.3s,baz=142,slow=7.1,SNR=5.4						
USA0B	**Ussuriysk Arra**	**50.38**	**3**	P	**P**	**13 58 14.3**	**-0.2**
USA0B				IAmb	IAmb	13 58 24.2	
	comp=Z,6.1nm,0.7s						
BFZ	**Birch Farm**	**54.49**	**136**	P	**P**	**13 58 42.9**	**-1.8**
MK31	**Makanchi Array**	**66.93**	**327**	P	**P**	**14 00 08.7**	**+1.0**
MKAR	**Makanchi Array**	**66.93**	**327**	P	**P**	**14 00 08.7**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=127,slow=7.6,SNR=7.2						
MKAR	**Makanchi Array**	**66.93**	**327**	P	**P**	**14 00 08.5**	**+0.8**
ZAA0	**Zalesovo Array**	**70.39**	**334**	P	**P**	**14 00 27.8**	**-1.0**
ZAA0				IAmb	IAmb	14 00 35.9	
	comp=Z,4.3nm,1.4s						
ZALV	**Zalesovo Beam**	**70.39**	**334**	P	**P**	**14 00 28.0**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=132,slow=9.2,SNR=2.1						
MAW	**Mawson**	**75.09**	**201**	P	**P**	**14 00 57.7**	**+1.7**
	comp=Z,1.8nm,0.9s,baz=72,slow=20,SNR=1.3						
MAW	**Mawson**	**75.09**	**201**	IAmb	IAmb	14 01 13.3	
	comp=Z,1.8nm,1.4s						
GEYT	**Alibeck**	**78.75**	**311**	P	**P**	**14 01 17.2**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=76,slow=14,SNR=1.9						
ABKAR	**Akbulak array**	**81.15**	**322**	P	**P**	**14 01 27.8**	**-1.5**

*DJA **05** 14:07:43.8±0.3,8.°S±4.°×12.°4E±.°,h169km±4km,M4.2/13, mb4.5/7,mB4.8/5,MLv4.2/13,Mw(mB)4.0/5*
*IDC **05** 14:07:43.8±1.0,8.°11S×123.°92E,h159km±10km,mb3.7/11, mb1 3.9/16,mb1mx3.7/36,mbtmp4.2/16,MS3.6/2, Ms1 3.6/2,ms1mx2.6/67,Error ellipse: s-maj=20.6km s-min=10.7km az=72.0*
*NEIC **05** 14:07:44.6±2.3,8.°12S±0.°07×123.°93E±0.°08,h163km±7km, mb4.5/13,Error ellipse: s-maj=13.3km s-min=7.8km az=46.0*
ISC 05 14:07:42.7±0.4**,8.°22S**±0.°04×**124.°01E**±0.°06**,h150**km**,n86,** σ**2.s09**/87**,mb4.1**/19**,1C,Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.81**	**257**	Pn	**Pn**	**14 08 17.7**	**+2.1**
MMRI	**Maumere**	**1.81**	**257**	P	**Pn**	**14 08 18.0**	**+2.4**
MMRI	**Maumere**	**1.81**	**257**	P	**Pn**	**14 08 18.5**	**+2.9**
BATI	**Baumata**	**2.01**	**190**	P	**Pn**	**14 08 21.1**	**+3.1**
	220nm,0.3s,baz=18,slow=3.6,SNR=188						
BATI				S	**Sn**	**14 08 49.2**	**+4.0**
	174nm,0.3s,baz=266,slow=23,SNR=9.6						
BATI	**Baumata**	**2.01**	**190**	P	**Pn**	**14 08 21.4**	**+3.4**
BBSI	**Bau Bau**	**3.07**	**332**	P	**Pn**	**14 08 33.1**	**+2.1**
BASI	**Baing, Sumba**	**3.93**	**239**	P	**Pn**	**14 08 42.5**	**+0.4**
BSSI	**Bau Bau, Buton**	**4.06**	**300**	P	**Pn**	**14 08 45.0**	**+1.2**
WBSI	**Waikabubak, Su**	**4.78**	**252**	P	**Pn**	**14 08 52.6**	**-0.7**
BKSI	**Bulukumba**	**4.82**	**306**	P	**Pn**	**14 08 54.9**	**+1.1**
KAPI	**Kappang**	**5.30**	**307**	P	**Pn**	**14 09 00.6**	**+0.5**
	1.4nm,0.3s,baz=89,slow=17,SNR=1.7						
BNSI	**Bone**	**5.43**	**314**	P	**Pn**	**14 09 03.7**	**+1.9**
	0.1nm29nm,0.8s						
PLAI	**Plampang**	**6.20**	**264**	P	**Pn**	**14 09 12.3**	**+0.2**
	0.4nm1μm45nm,0.8s						
PLAI	**Plampang**	**6.20**	**264**	P	**Pn**	**14 09 13.1**	**+1.0**
SAUI	**Saumlaki**	**7.22**	**89**	P	**Pn**	**14 09 28.0**	**+2.3**
	0.7nm158nm,0.8s						
MTN	**Manton Dam**	**8.37**	**124**	Pn	**Pn**	**14 09 43.2**	**+2.1**
MTN	**Manton Dam**	**8.37**	**124**	P	**Pn**	**14 09 43.5**	**+2.3**
KNRA	**Kununurra**	**8.75**	**148**	Pn	**Pn**	**14 09 46.8**	**+0.6**
KNRA	**Kununurra**	**8.75**	**148**	P	**Pn**	**14 09 47.1**	**+1.0**
KDU	**Kakadu**	**9.43**	**119**	P	**Pn**	**14 09 56.5**	**+1.3**
JAGI	**Jajag, Banyuwa**	**9.76**	**268**	P	**Pn**	**14 10 02.5**	**+2.8**
	35nm,1.4s						
FITZ	**Fitzroy Crossi**	**9.95**	**171**	P	**Pn**	**14 10 01.2**	**-0.8**
	2.3nm,0.3s,baz=6.1,slow=9.4,SNR=99						
FITZ				S	**Sn**	**14 11 46.1**	**-6.2**
	9.2nm,0.3s,baz=272,slow=11,SNR=18						
FITZ	**Fitzroy Crossi**	**9.95**	**171**	Pn	**Pn**	**14 10 01.4**	**-0.7**
SIJI	**Sorong**	**10.27**	**45**	P	**Pn**	**14 10 06.9**	**+0.5**
	1.2nm,0.3s,baz=163,slow=14,SNR=5.7						
PCJI	**Pacitan**	**12.71**	**269**	P	**Pn**	**14 10 36.3**	**-1.9**
UGM	**Wanagama**	**13.36**	**270**	Pn	**Pn**	**14 10 42.9**	**-3.8**
UGM	**Wanagama**	**13.36**	**270**	P	**P**	**14 10 50.4**	**-0.5**
	96nm,2.4s						
PSA00	**Pilbara Seismi**	**13.87**	**196**	P	**P**	**14 10 58.0**	**+1.5**
WB0	**Warramunga Arr**	**15.26**	**140**	Pn	**Pn**	**14 11 10.7**	**+0.2**
WB0				IAmb	IAmb	14 11 15.5	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**15.36**	**140**	P	**Pn**	**14 11 12.1**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=316,slow=12,SNR=110						
WRA				S	**Sn**	**14 13 54.2**	**-8.4**
	comp=Z,1.3nm,0.3s,baz=314,slow=24,SNR=8.6						
WRA	**Warramunga Arr**	**15.36**	**140**	Pn	**Pn**	**14 11 11.4**	**-0.2**
WRAB	**Tennant Creek**	**15.36**	**140**	Pn	**Pn**	**14 11 12.0**	**+0.4**
WRAB				IAmb	IAmb	14 11 16.2	
	comp=Z,19nm,0.6s						
WRAB	**Tennant Creek**	**15.36**	**140**	P	**Pn**	**14 11 12.1**	**+0.4**
WB2	**Warramunga Arr**	**15.37**	**140**	Pn	**Pn**	**14 11 11.9**	**+0.1**
WB2				IAmb	IAmb	14 11 16.6	
	comp=Z,17nm,0.7s						
WR0	**Warramunga Arr**	**15.50**	**140**	P	**Pn**	**14 11 13.7**	**+0.3**
WR0				IAmb	IAmb	14 11 17.8	
	comp=Z,23nm,0.5s						
GIRL	**Giralia**	**17.15**	**212**		**Pn**	**14 11 34.4**	**+0.9**
GIRL	**Giralia**	**17.15**	**212**	P	**Pn**	**14 11 34.3**	**+0.8**
WRKA	**Warakurna**	**17.22**	**167**	P	**Pn**	**14 11 35.8**	**+1.5**
AS31	**Alice Springs**	**18.05**	**149**	P	**Pn**	**14 11 45.1**	**+0.8**
AS31				IAmb	IAmb	14 11 48.7	
	comp=Z,6.3nm,0.5s						
ASAR	**Alice Springs**	**18.05**	**149**	P	**Pn**	**14 11 45.1**	**+0.9**
	comp=Z,2.5nm,0.3s,baz=330,slow=12,SNR=294						
ASAR				S	**S**	**14 14 57.7**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=305,slow=13,SNR=1.3						
MEEK	**Meekatharra**	**19.02**	**195**	P	**Pn**	**14 11 54.5**	**-1.1**
QIS	**Mount Isa**	**19.43**	**131**	P	**Pn**	**14 12 00.6**	**+0.1**
COEN	**Coen**	**19.64**	**109**	P	**Pn**	**14 12 02.3**	**-0.7**
MORW	**Morawa**	**22.06**	**199**	P	**P**	**14 12 25.6**	**0.0**
MORW				IAmb	IAmb	14 12 26.6	
	comp=Z,14nm,0.8s						
MTSU	**Mount Surprise**	**22.07**	**119**	P	**P**	**14 12 28.1**	**+2.3**
OOD	**Oodnadatta**	**22.38**	**152**	P	**P**	**14 12 30.2**	**+1.4**
FORT	**Forrest**	**22.76**	**171**	P	**P**	**14 12 33.1**	**+0.8**
FORT	**Forrest**	**22.76**	**171**	P	**P**	**14 12 33.1**	**+0.8**
BLDU	**Ballidu**	**23.31**	**196**	P	**P**	**14 12 37.8**	**+0.5**
MULG	**Mulgathing**	**23.88**	**158**	P	**P**	**14 12 44.2**	**+1.6**
KLBR	**Kellerberrin**	**23.98**	**193**	P	**P**	**14 12 44.3**	**+0.9**
CTA	**Charters Tower**	**24.54**	**121**	P	**P**	**14 12 51.8**	**+3.0**
	comp=Z,4.3nm,0.9s,baz=278,slow=16,SNR=2.0						
MUN	**Mundaring**	**24.73**	**196**	P	**P**	**14 12 50.8**	**+0.5**
INKA	**Innaminka**	**25.05**	**143**	P	**P**	**14 12 55.3**	**+2.1**
LCRK	**Leigh Creek**	**25.80**	**151**	P	**P**	**14 13 01.4**	**+1.4**
BBOO	**Buckleboo**	**26.90**	**157**	P	**P**	**14 13 10.8**	**+1.0**
BBOO	**Buckleboo**	**26.90**	**157**	P	**P**	**14 13 11.2**	**+1.4**
NAPP	**Napperby**	**28.08**	**154**	P	**P**	**14 13 22.4**	**+2.1**
HTT	**Hallett**	**28.63**	**153**	P	**P**	**14 13 27.3**	**+2.1**
STKA	**Stephens Creek**	**28.67**	**148**	P	**P**	**14 13 27.0**	**+1.5**
	comp=Z,3.5nm,0.7s,baz=324,slow=8.7,SNR=9.5						
STKA	**Stephens Creek**	**28.67**	**148**	P	**P**	**14 13 27.1**	**+1.6**
STKA	**Stephens Creek**	**28.67**	**148**	P	**P**	**14 13 27.3**	**+1.8**
CMSA	**Cobar Meteorol**	**30.76**	**142**	P	**P**	**14 13 46.8**	**+2.8**
ARPS	**Mount Arapiles**	**32.72**	**153**	P	**P**	**14 14 03.4**	**+2.3**
CMAR	**Chiang Mai Arr**	**36.26**	**317**	P	**P**	**14 14 31.9**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=147,slow=6.9,SNR=8.8						
JCJ	**Chichijima**	**39.27**	**26**	LR	LR	14 28 56.8	
	comp=Z,163nm,21.6s,baz=138,slow=32						
NJ2	**Nanjing**	**40.34**	**353**	*e*P	P	14 15 00.0	-5.7
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PZH	PanZhiHua	40.73	329	P	P	14 15 03.0	-6.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,5.5s						
XAN	Xi'an	44.40	342	P	P	14 15 37.2	-1.3
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN				pmax	pmax		
	comp=Z,110nm,4.6s						
KSRS	Korea Array	45.58	4	P	P	14 15 46.1	-1.6
	comp=Z,0.8nm,0.8s,baz=164,slow=10,SNR=4.4						
LZH	Lanzhou	47.98	338	⇑P	P	14 16 02.2	-4.5
LZH				pP	pP	14 16 38.8	-0.6
LZH				sP	sP	14 16 57.9	+2.2
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,96nm,6.0s						
HHC	Hu-ho-hao-te	50.15	348	*e*P	P	14 16 18.4	-4.6
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
GTA	Gaotai	52.43	336	*e*P	P	14 16 39.8	-0.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
USRK	Ussuriysk Ar.	52.67	7	P	P	14 16 41.2	-0.3
	comp=Z,4.1nm,0.7s,baz=190,slow=7.7,SNR=9.3						
USRK				PcP	PcP	14 17 48.9	-0.5
	comp=Z,1.8nm,0.6s,baz=164,slow=17,SNR=2.5						
USRK				LR	LR	14 41 45.5	
	comp=Z,27nm,18.9s,baz=188,slow=39						
SONM	Songino Array	57.95	346	P	P	14 17 18.1	-1.3
	comp=Z,2.1nm,0.8s,baz=163,slow=9.5,SNR=13						
WMQ	Urumqi	61.36	331	*e*P	P	14 17 37.0	-5.8
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
MKAR	Makanchi Array	66.14	330	P	P	14 18 13.1	-0.9
	comp=Z,1.0nm,0.5s,baz=131,slow=7.4,SNR=28						
PETK	Petropavlovsk-	67.46	21	P	P	14 18 22.2	+0.1
	comp=Z,1.3nm,0.6s,baz=90,slow=1.5,SNR=5.0						
ZALV	Zalesovo Beam	70.19	337	P	P	14 18 36.9	-2.1
	comp=Z,0.5nm,0.4s,baz=144,slow=6.4,SNR=3.3						
MAW	Mawson	71.69	201	P	P	14 18 48.3	+0.4
	comp=Z,2.0nm,0.8s,baz=101,slow=8.7,SNR=2.5						
MAW	Mawson	71.69	201	P	P	14 18 46.8	-1.1
VNDA	Vanda	72.02	172	P	P	14 18 50.4	+0.6
	comp=Z,1.0nm,0.6s,baz=327,slow=6.0,SNR=5.1						
VNDA	Vanda	72.02	172	P	P	14 18 50.1	+0.3
VNDA				IAmb	IAmb	14 19 16.7	
	comp=Z,3.6nm,1.4s						
PDAR	Pinedale Array	121.93	44	PKP	PKPdf	14 26 19.0	-0.8
	comp=Z,0.2nm,0.7s,baz=207,slow=3.7,SNR=1.3						
TORD	Torodi Ar. Bea	123.20	280	PKP	PKPdf	14 26 22.3	-0.4
	comp=Z,0.3nm,0.6s,baz=64,slow=3.4,SNR=2.2						
CPUP	Villa Florida	145.63	178	PKPbc	PKPdf	14 27 04.0	0.0
	comp=Z,2.2nm,0.6s,baz=98,slow=2.6,SNR=4.7						

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*MOS **05** 14:10:31.9±0.8, 4.°17S×152.°92E, h41km, mb5.3/44, Error ellipse: s-maj=10.1km s-min=6.1km az=95.6*

*BJI **05** 14:10:33.0±0.0, 4.°03S×153.°19E, h57km, mb4.8/57, mB5.0/32, Ms4.5/10, Ms7 4.1/11*

*IDC **05** 14:10:33.9±1.1, 4.°28S×152.°88E, h52km±9km, mb4.5/23, mb1 4.6/26, mb1mx4.5/33, mbtmp4.8/26, MS3.7/37, Ms1 3.7/37, ms1mx3.6/51, Error ellipse: s-maj=12.2km s-min=9.8km az=81.0*

*NEIC **05** 14:10:33.4±1.5, 4.°23S±0.°07×152.°87E±0.°05, h40km±4km, mb5.0/180, Error ellipse: s-maj=10.0km s-min=7.1km az=185.0*

*DJA **05** 14:10:36.1±0.4, 4°S±3°×15°3E±°, h59km±4km, M5.0/36, mb5.0/36, mB5.3/12, MLv5.5/3, Mw(mB)4.7/12, MwMwp4.2/1, Mwp4.7/1*

ISC 05 14:10:33.8±0.5**, 4.°26S**±0.°04×**152.°84E**±0.°04**, h49**km±3km**, h50**km**:pP-P, n718,** σ1**.**01/736**, mb5.0**/171**, MS3.8**/42**, 24C-11D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.68	276		Pn	14 10 48.2	+0.9
RABL				Sn	Sn	14 10 57.3	+0.2
RABL	Rabaul	0.68	276	P	Pn	14 10 48.4	+1.1
KRVT	Keravat (AS076	0.82	267	P	Pn	14 10 49.9	+0.8
	2μm,0.3s,baz=181,slow=2.9,SNR=2021						
KRVT				S	Sn	14 10 59.3	-0.9
	6μm,0.3s,baz=272,slow=18,SNR=15						
MANU	Manus Island	5.89	292		Pn	14 11 59.1	+0.5
PMG	Port Moresby	7.61	228	P	Pn	14 12 24.4	+2.2
	6.0nm,0.3s,baz=61,slow=10,SNR=22						
PMG				S	Sn	14 13 48.9	+1.7
	13nm,0.3s,baz=124,slow=22,SNR=10						
PMG	Port Moresby	7.61	228	*ce*P	Pn	14 12 27.3	+5.1
PMG				pmax	pmax		
	comp=Z,32nm,0.8s						
PMG	Port Moresby	7.61	228	P	Pn	14 12 26.9	+4.7
HNR	Honiara	8.72	126	P	Pn	14 12 38.9	+1.4
	comp=Z,34nm,0.3s,baz=247,slow=1.5,SNR=11						
HNR				S	Sn	14 14 15.4	+1.0
	comp=Z,18nm,0.3s,baz=274,slow=20,SNR=2.0						
HNR	Honiara	8.72	126		Pn	14 12 38.4	+0.9
HNR	Honiara	8.72	126	P	Pn	14 12 41.7	+4.3
PATS	Pohnpei	12.30	26	Pn	Pn	14 13 27.1	+0.7
COEN	Coen	13.55	224	Pn	Pn	14 13 45.7	+2.1
COEN	Coen	13.55	224	P	Pn	14 13 47.0	+3.4
MTSU	Mount Surprise	16.11	211	P	Pn	14 14 17.2	0.0
	baz=16,SNR=9.7						
MTSU	Mount Surprise	16.11	211	P	P	14 14 23.0	+3.3
BAKI	Biak	16.99	280	P	Pn	14 14 26.2	-2.0
	comp=Z,1μmcomp=Z,51nm,0.8s						
CTA	Charters Tower	16.99	202	P	P	14 14 29.8	+0.3
	comp=Z,0.5nm,0.3s,baz=21,slow=11,SNR=6.3						
CTA				LR	LR	14 20 26.9	
	comp=Z,213nm,20.9s,baz=26,slow=35						
KOUNC	Koumac, New Ca	19.65	146	P	P	14 14 58.8	+0.2
KOUNC	Koumac, New Ca	19.65	146	P	Pn	14 15 00.1	-0.3
	comp=Z,71nm,0.9s						
QIS	Mount Isa	20.70	217	P	P	14 15 10.8	+0.8
	baz=21,SNR=22						
QIS	Mount Isa	20.70	217	P	P	14 15 11.2	+1.2
EIDS	Eidsvold	21.06	184	P	P	14 15 17.4	+3.6
	baz=21,SNR=3.5						
EIDS	Eidsvold	21.06	184	P	P	14 15 13.8	0.0
LIFNC	LIFOU	21.58	141	P	P	14 15 19.6	+0.1
SAUI	Saumlaki	21.73	259	P	P	14 15 21.6	+0.5
KDU	Kakadu	21.80	246	P	P	14 15 21.8	-0.1
	baz=22,SNR=55						
KDU	Kakadu	21.80	246	P	P	14 15 22.3	+0.4
SIJI	Sorong	21.81	278	P	P	14 15 22.4	+0.4
	comp=Z,24nm,0.9s,baz=57,slow=4.2,SNR=6.9						
SWI	Sorong	21.82	278	P	P	14 15 20.5	-1.6
	comp=Z,1μmcomp=Z,128nm,1.0s						
DZM	Mont Dzumac	22.07	145	P	P	14 15 23.8	-1.0
	comp=Z,19nm,0.6s,baz=236,slow=8.0,SNR=18						
DZM	Mont Dzumac	22.07	145	*e*P	P	14 15 27.9	+3.0
	comp=Z,169nm,0.9s						
DZM				*e*LR	LR	14 20 42.0	
	comp=Z,871nm,22.6s						
DZM	Mont Dzumac	22.07	145	P	P	14 15 24.6	-0.2
DZM				IAmb	IAmb	14 15 47.2	
	comp=Z,75nm,0.8s						
DZM	Mont Dzumac	22.07	145	P	P	14 15 25.9	+1.0
RMQ	Roma	22.44	190	P	P	14 15 29.6	+0.9
	baz=23,SNR=4.4						
OUENC	Ouen Island, N	22.57	144	P	P	14 15 29.4	-0.7
MTN	Manton Dam	23.08	247	P	P	14 15 34.9	-0.6
	baz=23,SNR=18						
MTN	Manton Dam	23.08	247	P	P	14 15 34.9	-0.6
MTN				IAmb	IAmb	14 15 36.9	
	comp=Z,46nm,0.9s						
MTN	Manton Dam	23.08	247	P	P	14 15 36.3	+0.8
QLP	Quilpie	23.68	199	P	P	14 15 41.2	+0.2
	baz=24,SNR=12						
QLP	Quilpie	23.68	199	P	P	14 15 42.1	+1.1
WB0	Warramunga Arr	23.68	228	P	P	14 15 41.1	-0.1
WR0	Warramunga Arr	23.70	227	P	P	14 15 40.9	-0.5
WRAB	Tennant Creek	23.82	228	*ce*P	P	14 15 43.1	+0.6
WRAB				pmax	pmax		
	comp=Z,87nm,0.7s						
WRAB	Tennant Creek	23.82	228	P	P	14 15 42.0	-0.4
WRAB	Tennant Creek	23.82	228	P	P	14 15 42.8	+0.3
WB2	Warramunga Arr	23.82	228	P	P	14 15 42.1	-0.4
WRA	Warramunga Arr	23.83	228	P	P	14 15 42.4	-0.2
	comp=Z,60nm,0.4s,baz=44,slow=9.2,SNR=21						
WRA				PcP	PcP	14 19 25.1	+0.2
	comp=Z,11nm,0.6s,baz=55,slow=2.3,SNR=8.4						
WRA				S	S	14 19 51.5	-3.8
	comp=Z,5.9nm,0.8s,baz=54,slow=14,SNR=5.8						
WRA				ScP	ScP	14 22 58.7	-0.7
	comp=Z,2.1nm,0.8s,baz=51,slow=3.0,SNR=5.3						
WRA				LR	LR	14 25 23.5	
	comp=Z,249nm,18.9s,baz=82,slow=37						
WRA				PKiKP	PKiKP	14 27 06.9	-1.5
	comp=Z,0.3nm,0.5s,baz=345,slow=0.9,SNR=5.7						
WRA	Warramunga Arr	23.83	228	P	P	14 15 42.3	-0.3
AAI	Ambon	24.59	270	P	P	14 15 50.4	+0.8
	comp=Z,27nm,0.8s						
LBMI	Labuha	25.57	277	P	P	14 15 59.8	+1.3
	comp=Z,733nmcomp=Z,66nm,1.1s						
INKA	Innaminka	26.04	205	P	P	14 16 04.7	+2.1
ARMA	Armidale	26.04	182	P	P	14 16 04.9	+2.2
	baz=26,SNR=5.6						
ARMA	Armidale	26.04	182	P	P	14 16 04.0	+1.3
ARMA	Armidale	26.04	182	P	P	14 16 05.0	+2.3
KNRA	Kununurra	26.25	243	P	P	14 16 05.0	+0.4
	baz=26,SNR=36						
KNRA	Kununurra	26.25	243	P	P	14 16 04.3	-0.3
KNRA	Kununurra	26.25	243	P	P	14 16 05.0	+0.4
AS31	Alice Springs	26.57	222	P	P	14 16 07.0	-0.5
ASAR	Alice Springs	26.58	222	P	P	14 16 07.2	-0.3
	comp=Z,15nm,0.4s,baz=52,slow=9.0,SNR=23						
ASAR				PcP	PcP	14 19 30.3	-0.8
	comp=Z,6.5nm,0.8s,baz=56,slow=2.8,SNR=8.0						
ASAR				S	S	14 20 36.2	-2.7
	comp=Z,1.5nm,0.5s,baz=52,slow=13,SNR=3.8						
ASAR				ScP	ScP	14 23 05.8	-1.4
	comp=Z,1.9nm,0.8s,baz=62,slow=2.8,SNR=5.9						
ASAR				LR	LR	14 26 58.0	
	comp=Z,110nm,18.9s,baz=48,slow=37						
ASAR				PKiKP	PKiKP	14 27 08.1	-1.8
	comp=Z,0.2nm,0.6s,baz=25,slow=1.5,SNR=5.0						
ASAR	Alice Springs	26.58	222	P	P	14 16 06.9	-0.6
ASAR					PcP	14 19 31.2	+0.1
SANI	Sanana	26.90	274	P	P	14 16 13.9	+3.4
	comp=Z,36nm,0.7s						
SANI	Sanana	26.90	274	P	P	14 16 08.4	-2.1
CMSA	Cobar Meteorol	27.95	193	P	P	14 16 19.7	0.0
	baz=28,SNR=14						
CMSA	Cobar Meteorol	27.95	193	P	P	14 16 20.0	+0.3
OOD	Oodnadatta	28.55	213	P	P	14 16 25.9	+0.9
STKA	Stephens Creek	29.43	200	P	P	14 16 32.1	-0.7
	comp=Z,7.0nm,0.5s,baz=28,slow=13,SNR=14						
STKA				ScP	ScP	14 23 15.0	-0.8
	comp=Z,5.4nm,1.0s,baz=30,slow=8.6,SNR=4.1						
STKA				LR	LR	14 28 27.8	
	comp=Z,187nm,19.4s,baz=25,slow=36						
STKA	Stephens Creek	29.43	200	P	P	14 16 32.5	-0.3
	baz=30,SNR=6.9						
STKA	Stephens Creek	29.43	200	P	P	14 16 32.2	-0.7
STKA	Stephens Creek	29.43	200	P	P	14 16 32.9	0.0
DAV	Davao City (W)	29.45	292	LR	LR	14 26 46.7	
	comp=Z,74nm,20.8s,baz=164,slow=33						
LCRK	Leigh Creek	29.48	206	P	P	14 16 33.8	+0.5
BATI	Baumata	29.53	257	P	P	14 16 35.2	+1.2
	comp=Z,13nm,0.3s,baz=319,slow=9.3,SNR=3.6						
FITZ	Fitzroy Crossi	29.95	241	P	P	14 16 36.8	-0.8
	comp=Z,23nm,0.4s,baz=56,slow=7.0,SNR=27						
FITZ				LR	LR	14 28 40.0	
	comp=Z,108nm,20.9s,baz=35,slow=36						
FITZ	Fitzroy Crossi	29.95	241	P	P	14 16 36.9	-0.8
	baz=30,SNR=32						
FITZ	Fitzroy Crossi	29.95	241	IAmb	IAmb	14 16 37.8	
	comp=Z,37nm,0.8s						
MMRI	Maumere	30.71	260	P	P	14 16 43.5	-0.9
	comp=Z,21nm,0.7s						
CAN	Canberra	31.11	186	P	P	14 16 47.6	-0.1
CAN				pmax	pmax		
	comp=Z,18nm,1.1s						
CAN	Canberra	31.11	186	P	P	14 16 47.6	-0.1
WRKA	Warakurna	31.36	226	P	P	14 16 49.6	-0.4
	baz=31,SNR=4.7						
MULG	Mulgathing	31.38	212	P	P	14 16 49.7	-0.4
HTT	Hallett	31.79	202	P	P	14 16 53.8	0.0
	baz=32,SNR=7.6						
HTT	Hallett	31.79	202	P	P	14 16 56.1	+2.3
	comp=Z,26nm,2.2s						
NAPP	Napperby	31.88	204	P	P	14 16 56.8	+2.4
	comp=Z,9.2nm,0.7s						
BBOO	Buckleboo	32.45	207	P	P	14 16 58.3	-1.1
BBOO				IAmb	IAmb	14 17 05.1	
	comp=Z,16nm,0.9s						
BBOO	Buckleboo	32.45	207	P	P	14 17 00.0	+0.5
MPSI	Mapaga	33.23	277	P	P	14 17 07.7	+1.2
	comp=Z,15nm,0.9s						
WBSI	Waikabubak, Su	33.62	259	P	P	14 17 09.3	-0.7
	comp=Z,45nm,0.6s						
ARPS	Mount Arapiles	33.90	196	P	P	14 17 12.5	+0.5
	baz=34,SNR=7.3						
ARPS	Mount Arapiles	33.90	196	P	P	14 17 12.6	+0.6
	comp=Z,28nm,0.9s						
PLAI	Plampang	35.12	261	P	P	14 17 22.6	-0.3
FORT	Forrest	35.23	219	P	P	14 17 23.1	-0.5
	baz=35,SNR=14						
FORT	Forrest	35.23	219	P	P	14 17 22.7	-0.9
FORT	Forrest	35.23	219	P	P	14 17 23.8	+0.2
AFI	Afiamalu	36.18	108	LR	LR	14 30 04.6	
	comp=Z,221nm,18.2s,baz=290,slow=32						
MBWA	Marble Bar	36.28	240	P	P	14 17 32.0	-0.7
MBWA				pP	pP	14 17 41.6	-3.8
PSA00	Pilbara Seismi	36.34	239	P	P	14 17 32.1	-1.2
PSA00	Pilbara Seismi	36.34	239	P	P	14 17 32.8	-0.5
IGBI	Denpasar	37.71	261	P	P	14 17 44.1	-0.9
	comp=Z,2μmcomp=Z,57nm,0.8s						
MOO	Moorlands	38.35	187	P	P	14 17 52.1	+2.1
	baz=38,SNR=4.0						
MOO	Moorlands	38.35	187	P	P	14 17 52.3	+2.3
TAU	Tasmania Unive	38.80	186	P	P	14 17 55.4	+1.7
JOW	Kunigami	38.99	324	LR	LR	14 30 59.1	
	comp=Z,101nm,21.6s,baz=78,slow=31						
JOW	Kunigami	38.99	324	P	P	14 17 57.3	+1.7
JOW				IAmb	IAmb	14 18 21.4	
	comp=Z,20nm,0.8s						
MEEK	Meekatharra	39.56	232	P	P	14 17 60.0	-0.5
	baz=40,SNR=23						
MEEK	Meekatharra	39.56	232	P	P	14 18 00.2	-0.3
URZ	Urewera	40.43	150	P	P	14 18 08.0	+0.6
	comp=Z,8.8nm,0.8s,baz=288,slow=4.0,SNR=3.0						
URZ				PcP	PcP	14 20 07.5	-2.1
	comp=Z,20nm,0.8s,baz=340,slow=4.6,SNR=6.8						
URZ	Urewera	40.43	150	P	P	14 18 08.7	+1.3
QRZ	Quartz Range	40.48	157	P	P	14 18 10.5	+2.7
BKZ	Black Stump Fm	40.84	152	P	P	14 18 11.7	+0.9
PBKI	Pangkalan Bun	41.12	271	P	P	14 18 21.2	+7.7
SBUM	Sibu	41.14	279	P	P	14 18 14.5	+0.9
THZ	Tophouse	41.43	157	P	P	14 18 15.8	+0.2
THZ				IAmb	IAmb	14 18 29.0	
	comp=Z,36nm,0.9s						
JSU	Suzuyama	41.48	331	P	P	14 18 16.3	+0.2
TUWZ	Tuamarina	41.56	156	P	P	14 18 16.9	+0.3
GIRL	Giralia	41.57	240	P	P	14 18 17.6	+0.6
	baz=42,SNR=7.5						
GIRL	Giralia	41.57	240	P	P	14 18 17.0	0.0
GIRL	Giralia	41.57	240	P	P	14 18 16.1	-0.9
TPUB	Ta-pu	41.69	313	P	P	14 18 18.3	+0.3
SSLB	Suanglung	41.75	313	P	P	14 18 19.3	+0.8
BSWZ	Blackbirch Sta	41.77	156	P	P	14 18 18.7	+0.3
SNZO	South Karori	41.77	155	P	P	14 18 18.5	+0.1
SNZO				IAmb	IAmb	14 18 41.6	
	comp=Z,38nm,0.9s						
SNZO	South Karori	41.77	155	P	P	14 18 19.6	+1.2
FOZ	Fox Glacier	41.90	161	P	P	14 18 20.5	+1.2
FOZ				IAmb	IAmb	14 18 22.1	
	comp=Z,30nm,0.9s						
BHW	Baring Head	41.92	155	P	P	14 18 19.9	+0.3
BFZ	Birch Farm	41.93	153	P	P	14 18 19.9	+0.2
BFZ				IAmb	IAmb	14 18 39.5	
	comp=Z,50nm,1.2s						
CMWZ	Cape Campbell	41.94	156	P	P	14 18 19.7	0.0
YHNB	Yeheng	41.99	315	P	P	14 18 20.4	-0.1
YHNB				IAmb	IAmb	14 18 31.4	
	comp=Z,22nm,0.9s						
LTZ	Lake Taylor	42.07	159	P	P	14 18 21.1	+0.2
LTZ				IAmb	IAmb	14 18 35.4	
	comp=Z,35nm,0.8s						
MSWZ	Moikau Station	42.09	155	P	P	14 18 20.4	-0.7
PLWZ	Palliser	42.22	155	P	P	14 18 22.5	+0.4
KHZ	Kahutara	42.23	157	P	P	14 18 21.9	-0.2
KHZ				IAmb	IAmb	14 18 23.0	
	comp=Z,41nm,1.3s						
KHZ	Kahutara	42.23	157	P	P	14 18 22.2	+0.1
OXZ	Oxford	42.46	159	P	P	14 18 24.1	+0.1
OXZ				IAmb	IAmb	14 18 24.7	
	comp=Z,24nm,1.0s						
RPZ	Rata Peaks	42.46	160	P	P	14 18 24.0	0.0
RPZ				IAmb	IAmb	14 18 29.3	
	comp=Z,39nm,0.8s						
RPZ	Rata Peaks	42.46	160	P	P	14 18 25.6	+1.6
JNU	Nakatsue	42.61	332	P	P	14 18 25.8	+0.5
	comp=Z,19nm,0.8s,baz=130,slow=5.7,SNR=14						
JNU	Nakatsue	42.61	332	P	P	14 18 25.5	+0.2
JNU				IAmb	IAmb	14 18 27.3	
	comp=Z,18nm,0.8s						
KLBR	Kellerberrin	42.70	226	P	P	14 18 25.4	-0.8
	baz=43,SNR=11						
KLBR	Kellerberrin	42.70	226	P	P	14 18 26.0	-0.2
MORW	Morawa	42.72	231	P	P	14 18 25.8	-0.5
	baz=43,SNR=4.7						
MORW	Morawa	42.72	231	P	P	14 18 25.6	-0.7
MORW				IAmb	IAmb	14 18 26.5	
	comp=Z,39nm,0.8s						
LBZ	Lake Benmore	42.78	162	P	P	14 18 27.2	+0.6
LBZ				IAmb	IAmb	14 18 42.8	
	comp=Z,25nm,1.0s						
WKZ	Wanaka	42.83	163	P	P	14 18 27.2	+0.2
MJAR	Matsushiro Arr	42.83	343	P	P	14 18 26.5	-0.6
	comp=Z,2.7nm,0.6s,baz=121,slow=16,SNR=2.4						
MJAR				PcP	PcP	14 20 16.7	-0.9
	comp=Z,4.2nm,0.8s,baz=189,slow=14,SNR=5.2						
MJAR	Matsushiro Arr	42.83	343	P	P	14 18 27.1	0.0
MJB9	Matsu-Tunnel	42.84	343	P	P	14 18 27.0	-0.1
DCZ	Deep Cove	42.91	165	P	P	14 18 27.6	+0.1
DCZ				IAmb	IAmb	14 18 43.0	
	comp=Z,30nm,1.1s						
BLDU	Ballidu	42.97	228	P	P	14 18 27.5	-0.8
	baz=43,SNR=8.8						
BLDU	Ballidu	42.97	228	P	P	14 18 28.0	-0.3
MQZ	McQueen's Vall	43.01	159	P	P	14 18 28.6	+0.2
MQZ				IAmb	IAmb	14 18 42.6	
	comp=Z,16nm,0.7s						
MLZ	Mavora Lakes	43.07	164	P	P	14 18 29.4	+0.5
MLZ				IAmb	IAmb	14 18 44.5	
	comp=Z,29nm,0.9s						
ODZ	Otahua Downs	43.51	162	P	P	14 18 32.2	-0.2
ODZ	Otahua Downs	43.51	162	P	P	14 18 32.9	+0.4
MUN	Mundaring	44.03	227	P	P	14 18 35.8	-1.0
	baz=44,SNR=3.9						
MUN	Mundaring	44.03	227	P	P	14 18 37.3	+0.5
RKGY	Rocky Gully	44.90	223	P	P	14 18 42.4	-1.4
	baz=45,SNR=6.5						
RKGY	Rocky Gully	44.90	223	P	P	14 18 44.8	+1.0
	comp=Z,70nm,0.7s						
LEM	Lembang	45.07	265	LR	LR	14 39 47.3	
	comp=Z,36nm,21.3s,baz=174,slow=39						
CNJI	Cibinong	45.56	264	P	P	14 18 49.5	+0.2
	comp=Z,76nm,1.1s						
JTM	Tenmabayashi	46.11	348	P	P	14 18 53.6	+0.5
TJN	Taejon	46.92	332	*ce*P	P	14 19 01.1	+1.5
TJN	Taejon	46.92	332	P	P	14 19 00.4	+0.8
KSRS	Korea Array	47.54	333	P	P	14 19 05.3	+0.9
	comp=Z,6.3nm,1.0s,baz=152,slow=9.5,SNR=22						
KSRS				PcP	PcP	14 20 34.0	+0.2
	comp=Z,1.5nm,0.6s,baz=156,slow=3.7,SNR=5.2						
KSRS				ScP	ScP	14 24 24.2	+0.2
	comp=Z,0.3nm,0.5s,baz=141,slow=4.2,SNR=2.8						
KSRS				LR	LR	14 38 46.7	
	comp=Z,47nm,18.5s,baz=125,slow=36						
KSAR	Wonju Array Be	47.55	333	P	P	14 19 04.5	0.0
KSAR	Wonju Array Be	47.55	333	P	P	14 19 04.5	0.0
KS19	Wonju Array Si	47.61	333	P	P	14 19 04.8	-0.1
KS19				IAmb	IAmb	14 19 30.6	
	comp=Z,14nm,1.1s						
INCN	Inchon	48.16	332	P	P	14 19 09.9	+0.7
INCN				pmax	pmax		
	comp=Z,57nm,1.0s						
INCN	Inchon	48.16	332	P	P	14 19 09.9	+0.7
INCN	Inchon	48.16	332	P	P	14 19 11.3	+2.1
NJ2	Nanjing	48.46	321	*e*P	P	14 19 14.0	+2.4
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
RAR	Rarotonga	48.96	114	LR	LR	14 37 00.7	
	comp=Z,79nm,21.2s,baz=288,slow=32						
JKA	Kamikawa-asahi	49.03	350	P	P	14 19 17.2	+1.4
JKA				IAmb	IAmb	14 19 18.0	
	comp=Z,23nm,0.9s						
ASAJ	Asahikawa	49.03	350	LR	LR	14 37 06.8	
	comp=Z,48nm,21.3s,baz=188,slow=32						
ASAJ	Asahikawa	49.03	350	P	P	14 19 17.2	+1.4
ASAJ				pmax	pmax		
	comp=Z,23nm,0.9s						
WHN	Wuhan	50.50	316	⇑P	P	14 19 29.3	+2.1
USA0B	Ussuriysk Arra	51.76	341	P	P	14 19 36.7	+0.4
USA0B				pmax	pmax		
	comp=Z,11nm,0.9s						
USA0B	Ussuriysk Arra	51.76	341	P	P	14 19 36.7	+0.4
USRK	Ussuriysk Ar.	51.76	341	P	P	14 19 37.4	+1.1
	comp=Z,8.2nm,0.8s,baz=178,slow=9.4,SNR=13						
USRK				PcP	PcP	14 20 48.2	-0.9
	comp=Z,1.1nm,0.5s,baz=224,slow=1.1,SNR=1.2						
USRK	Ussuriysk Ar.	51.76	341	P	P	14 19 36.9	+0.6
YSS	Yuzh-Sakhalins	51.77	351	⇑*e*P	P	14 19 37.3	+0.9
YSS				*e*		14 20 49.7	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS	Yuzh-Sakhalins	51.77	351	P	P	14 19 36.6	+0.2
YSS				IAmb	IAmb	14 19 38.1	
	comp=Z,29nm,1.3s						
YSS	Yuzh-Sakhalins	51.77	351	P	P	14 19 37.3	+0.9
TIA	Tai'an	52.31	323	⇑P	P	14 19 41.6	+0.9
TIA				pmax	pmax		
	comp=Z,13nm,1.0s						
MDJ	Mudanjiang	52.93	339	P	P	14 19 46.1	+1.0
MDJ				pmax	pmax		
	comp=Z,12nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,120nm,3.6s						
KULM	Kulim	52.99	280	P	P	14 19 46.3	+0.3
ENH	Enshi	53.82	313	P	P	14 19 52.0	+0.1
ENH	Enshi	53.82	313	P	P	14 19 55.9	+3.9
CN2	Changchun	53.83	336	*e*P	P	14 19 52.4	+0.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PSI	Prapat	54.33	276	LR	LR	14 44 42.2	
	comp=Z,40nm,21.8s,baz=92,slow=38						
HNS	HongShan	54.55	323	⇓P	P	14 19 58.0	+1.0
HNS				pmax	pmax		
	comp=Z,27nm,1.3s						
OPA	Opana	54.58	60	P	P	14 19 57.5	0.0
OPA				pmax	pmax		
	comp=Z,61nm,1.1s						
OPA	Opana	54.58	60	P	P	14 19 57.5	0.0
BNX	BinXian	54.69	338	⇑P	P	14 19 58.4	+0.5
BNX				pmax	pmax		
	comp=Z,69nm,0.9s						
BNX				pmax	pmax		
	comp=Z,340nm,6.1s						
TYV	Tymovskoe	55.60	352	*e*P	P	14 20 05.2	+0.8
TYV				pmax	pmax		
	comp=Z,16nm,0.8s						
TYV				pmax	pmax		
	comp=Z,500nm,4.2s						
XAN	Xi'an	56.26	316	P	P	14 20 08.0	-1.5
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,140nm,5.3s						
XAN				LR	LR		
	comp=Z,140nm,16.7s						
XAN				LR	LR		
	comp=Z,140nm,15.3s						
XAN				LR	LR		
	comp=Z,150nm,16.7s						
KLR	Kul'dur	56.34	344	*ce*P	P	14 20 10.5	+0.8
KLR				pmax	pmax		
	comp=Z,38nm,1.3s						
PET	Petropavlovsk	57.28	4	P	P	14 20 17.1	+0.9
PEA0B	Petropavlovsk-	57.30	3	*ce*P	P	14 20 18.3	+1.8
PEA0B	Petropavlovsk-	57.30	3	P	P	14 20 17.5	+1.1
PETK	Petropavlovsk-	57.30	3	P	P	14 20 16.9	+0.5
	comp=Z,16nm,0.5s,baz=165,slow=6.7,SNR=55						
PETK				PcP	PcP	14 21 09.8	-0.4
	comp=Z,6.3nm,0.7s,baz=182,slow=5.8,SNR=3.7						
PETK				LR	LR	14 41 18.7	
	comp=Z,61nm,21.5s,baz=181,slow=32						
PETK	Petropavlovsk-	57.30	3	P	P	14 20 17.1	+0.7
PETK	Petropavlovsk-	57.30	3	P	P	14 20 17.1	+0.7
CMAR	Chiang Mai Arr	57.69	295	P	P	14 20 21.2	+1.3

comp=Z,5,4nm,0.9s,baz=117,slow=5.4,SNR=19
CMAR LR LR 14 43 03.5
comp=Z,27nm,21.3s,baz=155,slow=34
CMAR PKPPKP **P'P'df** **14 50 05.7 -0.5**
comp=Z,0.4nm,0.3s,baz=248,slow=4.8,SNR=1.4
CMAR Chiang Mai Arr 57.69 295 *ce*P **P** **14 20 22.5 +2.7**
CMAR pmax pmax
comp=Z,5,0nm,0.9s
CMAR Chiang Mai Arr 57.69 295 P **P** **14 20 19.3 -0.6**
PZH PanZhiHua 58.10 305 P **P** **14 20 24.0 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,6.5s
XLT XiLinHaoTe 58.23 329 *e*P **P** **14 20 24.0 +0.7**
XLT pmax pmax
comp=Z,22nm,0.9s
XLT pmax pmax
comp=Z,75nm,4.4s
CD2 Chengdu 58.42 310 P **P** **14 20 26.6 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 LR LR
comp=Z,200nm,18.8s
CD2 LR LR
comp=Z,120nm,24.9s
HHC Hu-ho-hao-te 58.64 324 *e*P **P** **14 20 29.1 +2.9**
HHC pmax pmax
comp=Z,23nm,1.1s
HHC pmax pmax
comp=Z,94nm,5.7s
TBI Tubuai 58.74 115 *e*LR LR 14 37 41.9
comp=Z,243nm,30.5s
SHEM Shemya Is, Ala 59.56 15 LR LR 14 43 01.4
comp=Z,125nm,19.6s,baz=284,slow=33
SMY Shemya 59.56 15 P **P** **14 20 33.0 +0.9**
SMY pmax pmax
comp=Z,132nm,1.1s
SMY Shemya 59.56 15 P **P** **14 20 33.0 +0.9**
HIA Hailar 60.56 336 P **P** **14 20 39.9 +0.7**
HIA pmax pmax
comp=Z,12nm,1.1s
HIA Hailar 60.56 336 P **P** **14 20 39.9 +0.7**
HIA IAmb IAmb 14 20 40.9
comp=Z,12nm,1.1s
LZH Lanzhou 60.88 316 *e*P **P** **14 20 42.8 +1.0**
LZH pP pP 14 20 58.2 +2.4
LZH sP sP 14 21 01.0 -0.5
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,110nm,6.2s
LZH LR LR
comp=Z,220nm,15.3s
LZH LR LR
comp=Z,200nm,14.9s
LZH LR LR
comp=Z,200nm,17.6s
KIWB Kanaga Island 61.46 21 P **P** **14 20 46.0 +0.9**
ZEA Zeya 61.64 343 *e*P **P** **14 20 46.9 +0.5**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.7s
ADK Adak 61.65 21 P **P** **14 20 46.9 +0.5**
ADK pmax pmax
comp=Z,48nm,1.3s
ADK Adak 61.65 21 P **P** **14 20 46.9 +0.5**
DRV Dumont d'Urvil 62.93 186 ⇑P **P** **14 20 55.4 +0.7**
DRV pP **pP** **14 21 08.6 -0.2**
MA2 Magadan 63.66 359 LR LR 14 48 26.4
comp=Z,39nm,19.3s,baz=171,slow=36
MA2 Magadan 63.66 359 *ce*P **P** **14 21 00.2 +0.5**
MA2 pmax pmax
comp=Z,28nm,0.7s
MA2 Magadan 63.66 359 P **P** **14 20 59.9 +0.2**
MA2 Magadan 63.66 359 ⇑P **P** **14 21 00.3 +0.5**
MA2 ⇓pP **pP** **14 21 15.1 +1.4**
GTA Gaotai 65.29 317 ⇑P **P** **14 21 12.8 +1.8**
GTA pP pP 14 21 25.2 +0.1
GTA sP sP 14 21 30.2 -0.5
GTA pmax pmax
comp=Z,9.0nm,1.3s
ULN Ulaanbaatar 65.56 328 *ce*P **P** **14 21 14.0 +1.4**
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN Ulaanbaatar 65.56 328 P **P** **14 21 13.2 +0.6**
SONM Songino Array 65.89 328 P **P** **14 21 15.4 +0.7**
comp=Z,1.3nm,0.4s,baz=142,slow=5.3,SNR=15
SONM PKP2bc **P'P'bc** **14 49 54.0 -0.9**
comp=Z,1.0nm,0.7s,baz=289,slow=2.2,SNR=6.0
SONM LR LR 14 50 40.5
comp=Z,48nm,18.1s,baz=166,slow=36
SONM Songino Array 65.89 328 P **P** **14 21 15.1 +0.4**
SEY Seymchan 67.01 360 LR LR 14 50 06.9
comp=Z,34nm,19.2s,baz=33,slow=35
SEY Seymchan 67.01 360 *ce*P **P** **14 21 21.9 +0.6**
SEY pmax pmax
comp=Z,20nm,1.7s
UNV Unalaska Valle 67.12 25 P **P** **14 21 21.7 -0.4**
GOMU GeErMu 67.44 312 P **P** **14 21 26.0 +1.0**
GOMU PcP **PcP** **14 21 53.1 +0.9**
GOMU PP **PP** **14 23 55.4 +1.2**
GOMU pmax pmax
comp=Z,2.0nm,0.8s
GOMU pmax pmax
comp=Z,85nm,5.8s
YAK Yakutsk 68.46 349 *d i*P **P** **14 21 30.6 +0.2**
YAK *e**PP **pP** **14 21 42.7 -1.9**
YAK *e* 14 21 55.4
YAK *e* 14 24 00.3
YAK *e*PPP PPP 14 25 40.6
YAK *e*S **S** **14 30 30.4 +2.1**
YAK *e**SS **sS** **14 30 50.4 -1.3**
YAK *e* 14 31 27.5
YAK *e*SS **SS** **14 34 58.2 +5.2**
YAK pmax pmax
comp=Z,31nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.3s
YAK pmax pmax
comp=Z,126nm,4.1s
YAK pmax pmax
comp=N,53nm,4.3s
YAK pmax pmax
comp=E,58nm,3.8s
YAK smax smax
comp=E,79nm,5.1s
YAK smax smax
comp=N,61nm,5.1s
CASY Casey 68.54 197 P **P** **14 21 30.7 -0.2**
CASY IAmb IAmb 14 21 31.3
comp=Z,11nm,0.8s
ZAK Zakamensk 69.06 329 *e*P **P** **14 21 34.2 -0.4**
ZAK pmax pmax
comp=Z,12nm,1.2s
BOD Bodaibo 69.31 339 *e*P **P** **14 21 35.5 -0.3**
BOD pmax pmax
comp=Z,11nm,1.1s
ODAN Odare 70.31 300 *e*P **P** **14 21 44.3 +1.4**
comp=Z,21nm,0.6s
MOY Mondy 70.98 329 *e*P **P** **14 21 46.7 +0.4**
GUN Gumba 71.88 301 *e*P **P** **14 21 53.5 +0.9**
PKI Pulchoki 72.20 301 *e*P **P** **14 21 55.3 +0.9**
PKIN Phulchoki 72.21 301 *e*P **P** **14 21 55.2 +0.8**
comp=Z,9.9nm,0.4s
KKN Kakani 72.36 301 *e*P **P** **14 21 56.6 +1.3**
DMN Daman 72.47 301 *e*P **P** **14 21 57.5 +1.5**
comp=Z,24nm,0.7s
BILL Bilibino 72.75 5 *c i*P **P** **14 21 57.0 +0.5**
BILL *i* 14 22 10.1
BILL *i* 14 24 36.7
BILL pmax pmax
comp=Z,27nm,0.7s
BILL Bilibino 72.75 5 P **P** **14 21 56.9 +0.5**
BILL IAmb IAmb 14 21 58.2
comp=Z,28nm,0.8s
GAMB Gambell 72.86 16 P **P** **14 21 57.3 +0.2**
GAMB IAmb IAmb 14 21 58.9
comp=Z,13nm,1.0s
GAMB Gambell 72.86 16 P **P** **14 21 57.8 +0.7**
baz=217,SNR=8.9
PALK Pallekele 72.89 279 LR LR 14 55 46.9
comp=Z,22nm,18.1s,baz=207,slow=37
VNDA Vanda 73.36 178 P **P** **14 22 00.2 +0.2**
comp=Z,2.4nm,0.6s,baz=240,slow=4.0,SNR=8.1
VNDA Vanda 73.36 178 P **P** **14 22 00.5 +0.5**
VNDA pmax pmax
comp=Z,54nm,0.5s
VNDA Vanda 73.36 178 P **P** **14 22 00.5 +0.5**
KOLN Koldanda 73.80 300 *e*P **P** **14 22 04.8 +1.0**
comp=Z,19nm,0.6s
DANN Dangsing 73.80 301 *e*P **P** **14 22 04.8 +0.9**
comp=Z,14nm,0.6s
SBA Scott Base 73.91 177 P **P** **14 22 03.6 +0.4**
SBA pmax pmax
comp=Z,14nm,1.1s
SBA Scott Base 73.91 177 P **P** **14 22 03.6 +0.4**
SBA IAmb IAmb 14 22 07.7
comp=Z,14nm,1.1s
SII Sitkinak Islan 74.27 27 P **P** **14 22 05.8 +0.2**
PYUN Piuthan 74.40 301 *e*P **P** **14 22 08.2 +0.9**
comp=Z,24nm,0.8s
OHAK Old Harbor 75.05 27 P **P** **14 22 10.1 0.0**
OHAK IAmb IAmb 14 22 32.1
comp=Z,37nm,1.2s
OHAK Old Harbor 75.05 27 P **P** **14 22 10.4 +0.3**
baz=236
ANM Nome 75.25 17 P **P** **14 22 11.6 +0.4**
ANM pmax pmax
comp=Z,11nm,0.9s
ANM Nome 75.25 17 P **P** **14 22 11.6 +0.4**
ANM Nome 75.25 17 P **P** **14 22 11.7 +0.6**
baz=223,SNR=10
TNA Tin City 75.27 16 P **P** **14 22 11.7 +0.5**
TNA Tin City 75.27 16 P **P** **14 22 11.4 +0.2**
baz=221,SNR=5.9
WMQ Urumqi 75.38 317 *e*P **P** **14 22 13.9 +1.5**
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ pmax pmax
comp=Z,110nm,4.5s
WMQ LR LR
comp=Z,100nm,20.9s
P18K Big Mountain, 75.45 25 P **P** **14 22 12.5 +0.1**
P18K IAmb IAmb 14 22 15.8
comp=Z,15nm,1.1s
P18K Big Mountain, 75.45 25 P **P** **14 22 13.2 +0.7**
baz=234
KDAK Kodiak Island 75.68 27 LR LR 14 48 42.9
comp=Z,93nm,21.6s,baz=259,slow=30
KDAK Kodiak Island 75.68 27 P **P** **14 22 14.0 +0.3**
KDAK pmax pmax
comp=Z,22nm,1.2s
KDAK Kodiak Island 75.68 27 P **P** **14 22 13.9 +0.3**
KDAK IAmb IAmb 14 22 33.7
comp=Z,22nm,1.2s
KDAK Kodiak Island 75.68 27 P **P** **14 22 14.6 +0.9**
baz=237
Q19K Cape Douglas, 75.85 25 P **P** **14 22 14.4 -0.3**
Q19K Cape Douglas, 75.85 25 P **P** **14 22 14.5 -0.2**
baz=236
O19K Port Alsworth 76.29 24 P **P** **14 22 16.9 -0.2**
baz=235
SVW2 Sparrevohn 76.31 23 P **P** **14 22 17.1 -0.2**
HYBB Hyderabad (bro 76.36 289 *e*P **P** **14 22 18.2 -0.3**
HYBB *ep*P **PcP** **14 22 30.8 +0.6**
HYBB *e*S **S** **14 32 01.4 +0.9**
N19K Bonanza Creek 76.58 24 P **P** **14 22 17.9 -1.0**
N19K Bonanza Creek 76.58 24 P **P** **14 22 19.1 +0.2**
baz=235
O20K Slope Mountain 76.93 25 P **P** **14 22 21.3 +0.4**
baz=236
RSO Redoubt South 77.08 24 P **P** **14 22 21.0 -0.9**
HOM Homer 77.11 25 P **P** **14 22 22.2 +0.4**
baz=237
CNPM China Poot 77.21 26 P **P** **14 22 22.4 0.0**
L19K White Mountain 77.24 22 P **P** **14 22 22.9 +0.4**
L19K IAmb IAmb 14 22 24.4
comp=Z,17nm,0.8s
L19K White Mountain 77.24 22 P **P** **14 22 23.4 +0.9**
baz=234
M19K Big River Lodg 77.25 23 P **P** **14 22 23.4 +0.9**
M19K Big River Lodg 77.25 23 P **P** **14 22 23.5 +0.9**
baz=234
TTA Tatalina 77.26 21 P **P** **14 22 23.0 +0.3**
TTA pmax pmax
comp=Z,8.0nm,0.8s
TTA Tatalina 77.26 21 P **P** **14 22 23.0 +0.3**
TTA Tatalina 77.26 21 P **P** **14 22 23.3 +0.6**
baz=233
TIXI Tiksi 77.37 352 *ce*P **P** **14 22 23.0 0.0**
TIXI pmax pmax
comp=Z,6.0nm,1.3s
TIXI Tiksi 77.37 352 P **P** **14 22 22.4 -0.6**
BRLK Bradley Lake 77.49 26 P **P** **14 22 23.6 -0.4**
BRSE Bradley Lake S 77.54 26 P **P** **14 22 24.4 +0.1**
baz=236
L20K Farewell, AK 77.78 22 P **P** **14 22 26.1 +0.5**
baz=235
GCSA Galena City Sc 78.07 20 P **P** **14 22 27.6 +0.6**
baz=232,SNR=13
K20K Telida 78.22 22 P **P** **14 22 28.6 +0.7**
K20K IAmb IAmb 14 22 29.9
comp=Z,16nm,0.9s
K20K Telida 78.22 22 P **P** **14 22 28.8 +0.8**
baz=234,SNR=11
SEW Seward 78.28 26 P **P** **14 22 28.2 -0.1**
SEW IAmb IAmb 14 22 31.3
comp=Z,29nm,1.0s
SEW Seward 78.28 26 P **P** **14 22 28.4 +0.1**
baz=239
O22K Cooper Landing 78.36 25 P **P** **14 22 29.1 +0.4**
baz=239
RDOG Red Dog Mine 78.45 16 P **P** **14 22 30.2 +1.0**
baz=225
PPLA Purkeypile 78.66 22 P **P** **14 22 30.2 -0.3**
PPLA IAmb IAmb 14 22 56.7
comp=Z,20nm,1.5s
J20K Nowinta River 78.67 21 P **P** **14 22 31.3 +0.9**
J20K IAmb IAmb 14 22 32.4
comp=Z,20nm,0.8s
J20K Nowinta River 78.67 21 P **P** **14 22 31.8 +1.4**
baz=234
RC01 Rabbit Creek A 78.67 25 P **P** **14 22 29.7 -0.7**
RC01 Rabbit Creek A 78.67 25 P **P** **14 22 30.9 +0.5**
baz=239
M22K Willow 78.86 24 P **P** **14 22 31.6 +0.2**
baz=238
CAST Castle Rocks 78.99 22 P **P** **14 22 31.8 -0.4**
CAST IAmb IAmb 14 22 33.3
comp=Z,17nm,0.7s
CAST Castle Rocks 78.99 22 P **P** **14 22 31.8 -0.4**
baz=236,SNR=14
CUT Chulitna 79.14 23 P **P** **14 22 32.5 -0.5**
CUT IAmb IAmb 14 22 34.6
comp=Z,17nm,0.8s
CUT Chulitna 79.14 23 P **P** **14 22 32.7 -0.2**
baz=238
PWL Port Wells 79.14 25 P **P** **14 22 32.6 -0.4**
PWL Port Wells 79.14 25 P **P** **14 22 33.2 +0.1**
baz=240
CHUM Lake Minchumin 79.17 22 P **P** **14 22 33.5 +0.4**
baz=236,SNR=25
PMR Palmer 79.18 24 P **P** **14 22 32.8 -0.4**
PMR pmax pmax
comp=Z,14nm,0.8s
PMR Palmer 79.18 24 P **P** **14 22 32.8 -0.4**
PMR IAmb IAmb 14 22 33.4
comp=Z,14nm,0.8s
PMR Palmer 79.18 24 P **P** **14 22 33.0 -0.2**
baz=239
Q23K Middleton Isla 79.33 27 P **P** **14 22 36.1 +2.1**
baz=242
KNK Knik Glacier 79.37 25 P **P** **14 22 33.8 -0.5**
KNK Knik Glacier 79.37 25 P **P** **14 22 34.2 -0.1**
baz=240
KTH Kantishna Hill 79.50 22 P **P** **14 22 34.2 -0.8**
KTH IAmb IAmb 14 22 35.2
comp=Z,16nm,0.8s
SML Sawmill 79.62 24 P **P** **14 22 35.5 -0.2**
SML Sawmill 79.62 24 P **P** **14 22 35.7 0.0**
baz=240,SNR=8.7
GLI Glacier Island 79.68 26 P **P** **14 22 35.6 -0.4**
GLI IAmb IAmb 14 22 36.9
comp=Z,20nm,0.8s
GLI Glacier Island 79.68 26 P **P** **14 22 36.0 0.0**
baz=241
TRF Thorofare Moun 79.69 22 P **P** **14 22 35.4 -0.8**
TRF IAmb IAmb 14 22 38.3
comp=Z,13nm,0.7s
TRF Thorofare Moun 79.69 22 P **P** **14 22 35.3 -0.9**
baz=238,SNR=9.4
BPAW Bear Paw Mtn. 79.77 22 P **P** **14 22 35.6 -0.8**
BPAW Bear Paw Mtn. 79.77 22 P **P** **14 22 35.5 -1.0**
baz=237
IMAR Indian Mountai 79.86 20 P **P** **14 22 37.4 +0.5**
FID Port Fidalgo 79.89 26 P **P** **14 22 37.1 0.0**
FID IAmb IAmb 14 22 38.4
comp=Z,41nm,1.4s
MK31 Makanchi Array 79.95 319 *c i*P **P** **14 22 38.3 +0.5**
MK31 Makanchi Array 79.95 319 P **P** **14 22 37.9 +0.1**
MKAR Makanchi Array 79.95 319 P **P** **14 22 37.8 0.0**
comp=Z,1.3nm,0.5s,baz=92,slow=8.1,SNR=27
MKAR PKiKP **PKiKP** **14 28 06.4 -1.6**
comp=Z,0.2nm,0.4s,baz=79,slow=3.1,SNR=3.5
MKAR PKKPbc **PKKPbc** **14 41 22.8 -2.2**
comp=Z,0.8nm,0.8s,baz=312,slow=2.2,SNR=9.4
MKAR PKPPKP **P'P'df** **14 49 29.6 +2.9**
comp=Z,0.5nm,0.8s,baz=270,slow=2.4,SNR=4.7
MKAR LR LR 14 57 38.5
comp=Z,43nm,20.4s,baz=86,slow=35
MKAR Makanchi Array 79.95 319 *i*P **P** **14 22 38.5 +0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 79.95 319 P **P** **14 22 37.7 -0.1**
H21K Melozitna Rive 79.99 20 P **P** **14 22 38.0 +0.4**
H21K IAmb IAmb 14 22 39.2
comp=Z,13nm,0.9s
H21K Melozitna Rive 79.99 20 P **P** **14 22 38.1 +0.5**
baz=235,SNR=12
I21K Tanana 80.01 21 P **P** **14 22 38.3 +0.7**
I21K IAmb IAmb 14 22 39.9
comp=Z,28nm,0.9s
I21K Tanana 80.01 21 P **P** **14 22 38.3 +0.7**
baz=236,SNR=20
SCM Sheep Creek Mo 80.05 25 P **P** **14 22 38.1 0.0**
SCM pmax pmax
comp=Z,19nm,0.9s
SCM Sheep Creek Mo 80.05 25 P **P** **14 22 38.1 0.0**
SCM IAmb IAmb 14 22 39.2
comp=Z,19nm,0.9s
SCM Sheep Creek Mo 80.05 25 P **P** **14 22 37.9 -0.1**
baz=241
EYAK Cordova Ski Ar 80.11 26 P **P** **14 22 38.1 -0.1**
EYAK IAmb IAmb 14 22 39.0
comp=Z,20nm,1.0s
EYAK Cordova Ski Ar 80.11 26 P **P** **14 22 38.2 -0.1**
baz=243
MAKZ Makanchi 80.16 319 P **P** **14 22 38.4 -0.5**
MAKZ pmax pmax
comp=Z,13nm,1.3s
MAKZ Makanchi 80.16 319 P **P** **14 22 38.4 -0.5**
RND Reindeer 80.22 23 P **P** **14 22 38.1 -0.8**
RND pmax pmax
comp=Z,27nm,0.7s
RND Reindeer 80.22 23 P **P** **14 22 38.1 -0.8**
WAT6 Susitna Watana 80.24 24 P **P** **14 22 38.4 -0.7**
baz=241,SNR=7.2
MCK McKinley 80.35 23 P **P** **14 22 38.9 -0.7**
MCK pmax pmax
comp=Z,37nm,0.8s
MCK McKinley 80.35 23 P **P** **14 22 38.9 -0.7**
MCK McKinley 80.35 23 P **P** **14 22 38.5 -1.1**
baz=239,SNR=18
MLY Manley 80.37 21 P **P** **14 22 39.6 -0.1**
MLY Manley 80.37 21 P **P** **14 22 39.5 -0.1**
baz=237
DIV Divide 80.37 26 P **P** **14 22 39.9 +0.1**
DIV IAmb IAmb 14 22 41.0
comp=Z,17nm,0.9s
KLU Klutina 80.47 25 P **P** **14 22 40.6 +0.3**
KLU IAmb IAmb 14 22 41.9
comp=Z,31nm,1.1s
KLU Klutina 80.47 25 P **P** **14 22 40.8 +0.4**
baz=242
DHY Denali Highway 80.63 23 P **P** **14 22 41.0 -0.3**
DHY IAmb IAmb 14 22 43.6
comp=Z,15nm,0.8s
DHY Denali Highway 80.63 23 P **P** **14 22 41.1 -0.2**
baz=241,SNR=10
M24K Tolsona, Glenn 80.66 25 P **P** **14 22 41.8 +0.5**
M24K Tolsona, Glenn 80.66 25 P **P** **14 22 41.4 +0.1**
baz=242,SNR=7.9
ZAA0 Zalesovo Array 80.73 326 P **P** **14 22 40.9 -0.9**
ZALV Zalesovo Beam 80.73 326 P **P** **14 22 40.7 -1.1**
comp=Z,1.1nm,0.4s,baz=101,slow=6.5,SNR=6.8
ZALV LR LR 15 00 00.0
comp=Z,22nm,18.8s,baz=92,slow=37
ZALV Zalesovo Beam 80.73 326 *i*P **P** **14 22 41.4 -0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
NEA2 Nenana 80.74 22 P **P** **14 22 41.0 -0.6**
NEA2 IAmb IAmb 14 22 41.7
comp=Z,22nm,0.7s
NEA2 Nenana 80.74 22 P **P** **14 22 40.6 -1.0**
baz=239,SNR=11
BMRM Bremner River 80.81 26 P **P** **14 22 42.6 +0.5**
BMRM IAmb IAmb 14 23 01.1
comp=Z,20nm,1.1s
BMRM Bremner River 80.81 26 P **P** **14 22 41.6 -0.5**
baz=244
I23K Minto, Yukon-K 80.93 21 P **P** **14 22 42.3 -0.3**
I23K Minto, Yukon-K 80.93 21 P **P** **14 22 42.1 -0.4**
baz=239,SNR=9.7
BGLC Bering Glacier 81.03 27 P **P** **14 22 43.3 +0.2**
baz=245
WRH Wood River Hil 81.05 22 P **P** **14 22 42.3 -0.9**
WRH IAmb IAmb 14 22 43.3
comp=Z,17nm,1.0s
N25K Chitina, Valde 81.09 25 P **P** **14 22 44.0 +0.4**
N25K IAmb IAmb 14 22 45.1
comp=Z,24nm,1.2s
N25K Chitina, Valde 81.09 25 P **P** **14 22 44.0 +0.4**
baz=244
HARP HAARP 81.21 25 P **P** **14 22 44.5 +0.3**
baz=243
MDM Murphy Dome 81.24 22 P **P** **14 22 44.3 0.0**
CCB Clear Creek Bu 81.24 22 P **P** **14 22 43.1 -1.1**
CCB IAmb IAmb 14 22 44.1
comp=Z,16nm,0.8s
TCOL CIGO, UAF Yank 81.33 22 P **P** **14 22 43.7 -1.0**
TCOL CIGO, UAF Yank 81.33 22 P **P** **14 22 43.6 -1.2**
baz=240,SNR=10
COLA College 81.34 22 *de*P **P** **14 22 43.4 -1.3**
COLA pmax pmax
comp=Z,23nm,0.8s
COLA College 81.34 22 P **P** **14 22 43.6 -1.1**
COLA College 81.34 22 P **P** **14 22 43.8 -1.0**
baz=240
PAX Paxson 81.35 24 P **P** **14 22 44.6 -0.4**
PAX pmax pmax
comp=Z,9.0nm,1.1s
PAX Paxson 81.35 24 P **P** **14 22 44.6 -0.4**
PAX Paxson 81.35 24 P **P** **14 22 44.4 -0.6**
baz=243
GLB Gilahina Butte 81.36 26 P **P** **14 22 45.0 0.0**
GLB IAmb IAmb 14 22 46.2
comp=Z,28nm,1.0s
WAX Waxell Ridge 81.36 27 P **P** **14 22 45.0 -0.1**
VRDI Verde Repeater 81.42 26 P **P** **14 22 45.6 0.0**
VRDI IAmb IAmb 14 22 46.6
comp=Z,14nm,0.8s
HDA Harding Lake 81.45 22 P **P** **14 22 44.3 -1.0**
HDA Harding Lake 81.45 22 P **P** **14 22 44.1 -1.3**
baz=241,SNR=6.1
POKR Poker Plat Res 81.61 22 P **P** **14 22 45.5 -0.8**
POKR Poker Plat Res 81.61 22 P **P** **14 22 45.1 -1.1**
baz=240
IL31 81.65 22 P **P** **14 22 45.0 -1.4**
IL31 IAmb IAmb 14 22 46.1
comp=Z,16nm,0.8s
ILAR Eielson Array 81.65 22 P **P** **14 22 45.0 -1.4**
comp=Z,14nm,0.7s,baz=244,slow=5.9,SNR=153
ILAR PKiKP **PKiKP** **14 28 08.9 -1.1**
comp=Z,0.5nm,0.6s,baz=250,slow=3.1,SNR=6.6
ILAR PKKPbc **PKKPbc** **14 41 17.6 -4.3**
comp=Z,0.5nm,0.9s,baz=98,slow=1.4,SNR=4.1
ILAR LR LR 14 54 20.3
comp=Z,48nm,19.4s,baz=198,slow=32
ISLE Juniper Island 81.65 27 P **P** **14 22 46.6 -0.1**
ISLE IAmb IAmb 14 22 50.7
comp=Z,19nm,0.9s
COLD Coldfoot 81.74 19 P **P** **14 22 47.4 +0.5**
COLD Coldfoot 81.74 19 P **P** **14 22 47.5 +0.7**

baz=238,SNR=9.3
H24K **Noodor Dome** **81.81** **21** P **P** **14 22 46.5 -0.8**
H24K IAmb IAmb 14 22 48.5
comp=Z,9.8nm,0.7s
H24K **Noodor Dome** **81.81** **21** P **P** **14 22 47.6 +0.3**
baz=240,SNR=13
YAH **Yahtse** **81.83** **27** P **P** **14 22 48.2 +0.5**
YAH IAmb IAmb 14 22 50.1
comp=Z,36nm,1.2s
RIDG **Independent Ri** **81.95** **23** P **P** **14 22 47.8 -0.3**
RIDG IAmb IAmb 14 22 49.0
comp=Z,11nm,0.8s
RIDG **Independent Ri** **81.95** **23** P **P** **14 22 47.8 -0.3**
baz=243,SNR=9.2
MENT **Mentasta** **82.05** **24** P **P** **14 22 48.7 +0.1**
MENT IAmb IAmb 14 22 49.8
comp=Z,9.5nm,0.8s
TABL **Table Mountain** **82.13** **27** P **P** **14 22 49.6 +0.3**
TABL IAmb IAmb 14 22 50.5
comp=Z,26nm,0.8s
BARN **Barnard Glacie** **82.14** **27** P **P** **14 22 49.9 +0.5**
BARN IAmb IAmb 14 22 50.8
comp=Z,19nm,0.7s
J25K **Salcha River,** **82.15** **23** P **P** **14 22 48.7 -0.4**
J25K **Salcha River,** **82.15** **23** P **P** **14 22 48.8 -0.4**
baz=242,SNR=34
DOT **Dot Lake** **82.22** **24** P **P** **14 22 49.3 -0.2**
L26K **Log Cabin Wild** **82.24** **24** P **P** **14 22 49.8 +0.2**
L26K IAmb IAmb 14 22 50.8
comp=Z,14nm,0.8s
L26K **Log Cabin Wild** **82.24** **24** P **P** **14 22 49.9 +0.2**
baz=244,SNR=9.1
KDJ **Kajisay** **82.28** **313** P **P** **14 22 51.3 +0.8**
KDJ pmax pmax
comp=Z,7.0nm,0.9s
KDJ **Kajisay** **82.28** **313** P **P** **14 22 51.3 +0.8**
SCRK **Sand Creek** **82.40** **23** P **P** **14 22 50.2 -0.3**
SCRK IAmb IAmb 14 22 50.9
comp=Z,10nm,0.8s
SCRK **Sand Creek** **82.40** **23** P **P** **14 22 50.2 -0.3**
baz=244,SNR=11
M27K **Edge Creek, AK** **82.58** **25** P **P** **14 22 51.8 +0.2**
M27K **Edge Creek, AK** **82.58** **25** P **P** **14 22 52.3 +0.7**
baz=246,SNR=11
KSH **Kashi** **82.62** **311** P **P** **14 22 55.1 +2.9**
KSH pmax pmax
comp=Z,5.0nm,0.9s
PNL **Peninsula** **82.65** **28** P **P** **14 22 52.0 +0.2**
baz=248
TOLK **Toolik Lake Re** **82.69** **18** P **P** **14 22 52.0 +0.2**
TOLK IAmb IAmb 14 22 53.5
comp=Z,15nm,0.8s
TOLK **Toolik Lake Re** **82.69** **18** P **P** **14 22 52.2 +0.3**
baz=238
J26L **Joseph Creek** **82.79** **23** P **P** **14 22 52.6 0.0**
baz=244,SNR=14
L27K **Beaver Creek,** **82.88** **25** P **P** **14 22 53.4 +0.4**
L27K IAmb IAmb 14 22 54.5
comp=Z,12nm,0.8s
L27K **Beaver Creek,** **82.88** **25** P **P** **14 22 53.1 +0.2**
baz=246,SNR=8.8
BCAR **Beaver Creek A** **82.90** **25** P **P** **14 22 53.3 +0.2**
YUK3 **Moose Creek** **82.96** **26** P **P** **14 22 53.9 +0.3**
baz=247,SNR=6.0
BVCY **Beaver Creek** **83.03** **25** P **P** **14 22 54.3 +0.6**
baz=247,SNR=7.3
BOOM **Boomskoye usch** **83.25** **313** P **P** **14 22 54.8 -0.7**
BOOM pmax pmax
comp=Z,5.0nm,0.8s
BOOM **Boomskoye usch** **83.25** **313** P **P** **14 22 54.8 -0.7**
KURK **Kurchatov** **83.37** **322** *ce*P **P** **14 22 56.4 +0.7**
KURK pmax pmax
comp=Z,18nm,1.3s
KURK **Kurchatov** **83.37** **322** P **P** **14 22 55.6 0.0**
KURK IAmb IAmb 14 22 57.7
comp=Z,15nm,1.1s
YUK6 **Outpost Mounta** **83.59** **27** P **P** **14 22 57.2 +0.3**
baz=249
TKM2 **Tokmak 2** **83.59** **314** P **P** **14 22 57.9 +0.6**
SNR=11
YUK4 **Talbot Arm** **83.60** **27** P **P** **14 22 58.0 +1.1**
baz=249,SNR=5.6
NIL **Nilore** **83.71** **304** P **P** **14 22 57.9 0.0**
NIL pmax pmax
comp=Z,13nm,0.8s
NIL **Nilore** **83.71** **304** P **P** **14 22 57.9 0.0**
NIL IAmb IAmb 14 23 01.1
comp=Z,13nm,0.8s
BMAR **Burnt Mountain** **83.73** **20** P **P** **14 22 57.8 +0.5**
EGAK **Eagle** **83.85** **23** P **P** **14 22 57.8 0.0**
EGAK IAmb IAmb 14 22 59.1
comp=Z,15nm,0.9s
EGAK **Eagle** **83.85** **23** P **P** **14 22 58.1 +0.2**
baz=246,SNR=11
HYT **Haines Junctio** **83.94** **28** P **P** **14 22 59.2 +0.6**
HYT **Haines Junctio** **83.94** **28** P **P** **14 22 59.2 +0.6**
baz=250,SNR=11
KBK **Karagaybulak** **84.00** **314** P **P** **14 22 59.1 -0.3**
SNR=6.3
CHMS **Chumysh** **84.21** **314** P **P** **14 23 01.4 +1.2**
SNR=6.9
UCH **Uchtor** **84.24** **313** P **P** **14 23 02.1 +1.2**
SNR=12
DAWY **Dawson** **84.28** **24** P **P** **14 23 00.6 +0.5**
DAWY IAmb IAmb 14 23 02.5
comp=Z,11nm,1.0s
DAWY **Dawson** **84.28** **24** P **P** **14 23 00.6 +0.5**
baz=248,SNR=11
AAK **Ala-Archa** **84.33** **313** P **P** **14 23 02.4 +1.4**
SNR=12
AAK **Ala-Archa** **84.33** **313** LR LR 15 00 45.7
comp=Z,34nm,21.2s,baz=92,slow=36
AAK **Ala-Archa** **84.33** **313** *ce*P **P** **14 23 02.2 +1.2**
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK **Ala-Archa** **84.33** **313** P **P** **14 23 01.7 +0.7**
AAK IAmb IAmb 14 23 03.9
comp=Z,8.1nm,0.8s
USP **Ospenovka** **84.45** **314** P **P** **14 23 02.6 +1.2**
SNR=13
SKAG **Skagway** **84.53** **29** P **P** **14 23 01.3 -0.1**
SKAG IAmb IAmb 14 23 08.1
comp=Z,24nm,1.4s
SKAG **Skagway** **84.53** **29** P **P** **14 23 01.7 +0.3**
baz=252
AML **Almayashu** **84.82** **313** P **P** **14 23 05.5 +1.7**
SNR=28
M30M **Minto, Yukon** **84.85** **26** P **P** **14 23 03.4 +0.3**
M30M **Minto, Yukon** **84.85** **26** P **P** **14 23 03.3 +0.3**
baz=250
EKS2 **Erkin-Say** **84.85** **313** P **P** **14 23 05.1 +1.5**
SNR=14
N31M **Braeburn, Yuko** **84.95** **27** P **P** **14 23 03.4 -0.1**
N31M IAmb IAmb 14 23 06.2
comp=Z,14nm,0.8s
N31M **Braeburn, Yuko** **84.95** **27** P **P** **14 23 04.3 +0.7**
baz=252
I29M **Ogilvie Camp,** **85.19** **23** P **P** **14 23 04.6 -0.1**
I29M IAmb IAmb 14 23 05.6
comp=Z,20nm,1.2s
I29M **Ogilvie Camp,** **85.19** **23** P **P** **14 23 04.8 +0.1**
baz=249
NRIK **Noril'sk** **85.47** **341** P **P** **14 23 05.5 -0.4**
comp=Z,4.9nm,0.5s,baz=121,slow=6.5,SNR=6.8
NRIK **Noril'sk** **85.47** **341** *ce*P **P** **14 23 06.3 +0.4**
NRIK **Noril'sk** **85.47** **341** P **P** **14 23 05.3 -0.7**
NRIK IAmb IAmb 14 23 07.4
comp=Z,6.1nm,0.7s
M31M **Drury Creek, Y** **85.80** **27** P **P** **14 23 07.4 -0.3**
M31M IAmb IAmb 14 23 08.9
comp=Z,13nm,1.1s
M31M **Drury Creek, Y** **85.80** **27** P **P** **14 23 07.9 +0.1**
baz=253
P33M **Teslin, Yukon** **85.96** **29** P **P** **14 23 08.0 -0.6**
P33M IAmb IAmb 14 23 09.8
comp=Z,9.9nm,1.2s
P33M **Teslin, Yukon** **85.96** **29** P **P** **14 23 09.0 +0.4**
baz=254
MAW **Mawson** **86.08** **203** P **P** **14 23 08.5 -0.5**
comp=Z,11nm,0.6s,baz=96,slow=5.7,SNR=42
MAW LR LR 14 58 34.6
comp=Z,72nm,19.7s,baz=82,slow=34
MAW **Mawson** **86.08** **203** P **P** **14 23 08.8 -0.2**
baz=86,SNR=12
MAW **Mawson** **86.08** **203** P **P** **14 23 08.3 -0.7**
EPYK **Eagle Plains** **86.16** **22** P **P** **14 23 09.5 0.0**
EPYK **Eagle Plains** **86.16** **22** P **P** **14 23 09.2 -0.2**
baz=250
BTK **Batken** **86.62** **310** P **P** **14 23 12.0 -0.4**
BTK pmax pmax
comp=Z,9.0nm,0.9s
BTK **Batken** **86.62** **310** P **P** **14 23 11.9 -0.4**
BTK IAmb IAmb 14 23 13.9
comp=Z,9.2nm,0.9s
GAR **Garm** **86.86** **309** P **P** **14 23 13.2 -0.4**
GAR IAmb IAmb 14 23 15.0
comp=Z,18nm,1.2s
DLBC **Dease Lake** **86.90** **31** LR LR 14 54 19.1
comp=Z,91nm,21.6s,baz=282,slow=30
DLBC **Dease Lake** **86.90** **31** P **P** **14 23 13.8 +0.5**
KKAR **Karatay Array** **87.29** **313** P **P** **14 23 15.6 +0.1**
KKAR **Karatay Array** **87.29** **313** P **P** **14 23 15.6 +0.1**
INK **Inuvik** **87.94** **21** LR LR 14 57 47.3
comp=Z,53nm,21.6s,baz=223,slow=32
INK **Inuvik** **87.94** **21** P **P** **14 23 17.5 -0.5**
INK pmax pmax
comp=Z,30nm,1.3s
INK **Inuvik** **87.94** **21** P **P** **14 23 17.5 -0.5**
INK **Inuvik** **87.94** **21** P **P** **14 23 17.3 -0.6**
baz=253
J01E **Myrtle Point** **87.95** **47** P **P** **14 23 18.0 -0.5**
baz=262
TGTN **Hyland Airport** **88.43** **28** P **P** **14 23 21.1 +0.5**
baz=258
YBH **Yreka Blue Hor** **88.67** **48** LR LR 14 59 08.4
comp=Z,40nm,18.4s,baz=322,slow=33
BRVK **Borovoye** **88.91** **323** *ce*P **P** **14 23 22.3 -0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK **Borovoye** **88.91** **323** P **P** **14 23 22.1 -0.8**
BRVK IAmb IAmb 14 23 23.7
comp=Z,11nm,1.0s
H04D **Lebanon** **88.98** **45** P **P** **14 23 24.1 +0.7**
baz=263
I04A **Tendick Farm,** **89.13** **46** P **P** **14 23 24.4 +0.1**
baz=263
J04D **Cosuna Nationa** **89.28** **47** P **P** **14 23 25.3 +0.1**
baz=264
K04D **Chiloquin, OR** **89.47** **47** P **P** **14 23 26.1 +0.1**
baz=264
B05A **Bryant** **89.86** **42** P **P** **14 23 28.2 +0.8**
baz=264
J05D **Fort Rock, OR** **89.92** **47** P **P** **14 23 28.4 +0.3**
baz=264
I05D **Terrebonne, OR** **89.95** **46** P **P** **14 23 28.6 +0.5**
baz=264
PINE **Pine Mountain** **90.19** **46** P **P** **14 23 28.9 -0.5**
PINE IAmb IAmb 14 23 30.1
comp=Z,15nm,1.2s
I07A **Izee** **91.25** **46** P **P** **14 23 33.8 -0.4**
I07A IAmb IAmb 14 23 35.5
comp=Z,12nm,1.4s
C36M **Paulatuk** **91.51** **21** P **P** **14 23 33.9 -0.7**
C36M **Paulatuk** **91.51** **21** P **P** **14 23 34.3 -0.4**
baz=262
A36M **Sachs Harbour** **91.52** **18** P **P** **14 23 34.1 -0.6**
A36M **Sachs Harbour** **91.52** **18** P **P** **14 23 34.5 -0.1**
baz=261
NVAR **Mina Array Bea** **91.72** **52** P **P** **14 23 36.7 +0.1**
comp=Z,1.3nm,0.8s,baz=246,slow=6.4,SNR=8.6
NVAR LR LR 15 01 13.6
comp=Z,57nm,18.0s,baz=242,slow=33
EDW2 **Edwards Air Fo** **91.72** **55** P **P** **14 23 36.0 -0.5**
baz=266
G08A **Pilot Rock** **91.73** **45** P **P** **14 23 35.7 -0.7**
G08A IAmb IAmb 14 23 37.0
comp=Z,9.4nm,1.3s
LRMC **Laurel Mtn Rad** **92.02** **55** P **P** **14 23 37.9 0.0**
baz=266
MPMC **Manual Prospec** **92.21** **54** P **P** **14 23 38.5 -0.5**
baz=266
GRAC **Grapevine Rang** **92.37** **53** P **P** **14 23 39.7 +0.2**
baz=266
FURC **Furnace Creek,** **92.74** **54** P **P** **14 23 40.8 -0.3**
baz=267
BMO **Blue Mountains** **92.87** **45** P **P** **14 23 40.9 -0.8**
BMO pmax pmax
comp=Z,6.0nm,1.3s
BMO **Blue Mountains** **92.87** **45** P **P** **14 23 40.9 -0.8**
BMO IAmb IAmb 14 23 42.4
comp=Z,6.2nm,1.2s
PFO **Pinyon Flats O** **92.91** **57** LR LR 14 56 38.6
comp=Z,76nm,21.9s,baz=276,slow=30
TPFO **Pinon Flats** **92.92** **57** P **P** **14 23 41.9 -0.2**
baz=267
F10A **Beach Ranch, E** **92.98** **44** P **P** **14 23 41.4 -0.8**
F10A IAmb IAmb 14 23 42.8
comp=Z,4.7nm,0.9s
NEW **Newport** **93.17** **42** P **P** **14 23 42.7 -0.2**
baz=267
TPNV **Topopah Spring** **93.26** **53** P **P** **14 23 42.8 -0.9**
baz=267
BELC **Belle Mtn. Jos** **93.32** **56** P **P** **14 23 43.3 -0.7**
baz=267
SWSC **Sam W. Stewart** **93.43** **57** P **P** **14 23 44.3 -0.1**
baz=267
TUQ **Turquoise Moun** **93.45** **55** P **P** **14 23 44.4 -0.2**
baz=267
GMRC **Granite Mounta** **93.63** **56** P **P** **14 23 45.2 -0.2**
baz=267
BC3 **Big Chuckawall** **93.75** **57** P **P** **14 23 45.8 -0.2**
baz=267
PLID **Pearl Lake** **93.81** **45** P **P** **14 23 44.8 -1.3**
R11A **Troy Canyon, C** **93.85** **52** P **P** **14 23 46.0 -0.4**
baz=268
ELK **Elko** **94.21** **50** LR LR 15 00 14.0
comp=Z,52nm,20.4s,baz=247,slow=32
HLID **Hailey** **94.90** **47** P **P** **14 23 51.1 0.0**
baz=269
YKA **Yellowknife Ar** **94.93** **28** P **P** **14 23 50.1 -0.5**
comp=Z,3.6nm,0.7s,baz=273,slow=4.9,SNR=70
YKA PKiKP **PKiKP** **14 28 31.9 -0.2**
comp=Z,0.6nm,0.5s,baz=268,slow=1.4,SNR=14
YKA PKKPbc **PKKPdf** **14 40 45.4 -3.1**
comp=Z,0.9nm,0.7s,baz=87,slow=2.8,SNR=13
YKA **Yellowknife Ar** **94.93** **28** *i* P **P** **14 23 50.5 -0.1**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA **Yellowknife Ar** **94.93** **28** P **P** **14 23 49.7 -0.9**
RPN **Rapa Nui** **95.02** **118** LR LR 14 59 45.0
comp=Z,31nm,19.8s,baz=218,slow=31
ABKAR **Akbulak array** **95.09** **319** P **P** **14 23 49.7 -1.9**
EDM **Edmonton** **95.67** **37** P **P** **14 23 53.5 -0.7**
EDM pmax pmax
comp=Z,8.0nm,0.8s
EDM **Edmonton** **95.67** **37** P **P** **14 23 53.5 -0.7**
EDM IAmb IAmb 14 23 54.9
comp=Z,8.4nm,0.8s
ARU **Arti** **95.90** **326** LR LR 15 07 55.7
comp=Z,37nm,21.2s,baz=90,slow=36
ARU **Arti** **95.90** **326** *ci* P **P** **14 23 53.8 -1.3**
ARU *PP **pP** **14 24 07.8 -2.1**
ARU 14 27 47.8
ARU S **SKSac** **14 34 25.9 -1.4**
ARU SS **SS** **14 41 40.9 +0.5**
ARU pmax pmax
comp=Z,6.0nm,1.1s
AKTO **Aktyubinsk** **96.34** **320** LR LR 15 09 20.2
comp=Z,25nm,18.6s,baz=67,slow=37
LPIG **La Paz** **97.97** **66** LR LR 14 59 40.8
comp=Z,54nm,20.9s,baz=8.0,slow=30
PDAR **Pinedale Array** **98.46** **48** P **P** **14 24 05.4 -1.9**
comp=Z,1.2nm,0.9s,baz=225,slow=1.9,SNR=7.2
PDAR LR LR 15 01 06.4
comp=Z,50nm,21.3s,baz=310,slow=31
RLMT **Red Lodge** **98.57** **45** P **P** **14 24 07.0 -0.8**
baz=273
DGMT **Dagmar** **101.77** **41** P **Pdif** **14 24 21.5 -0.2**
baz=277
TXAR **Lajitas Array** **103.83** **61** PKKP **PKKPdf** **14 40 37.5 +5.9**
comp=Z,1.0nm,0.9s,baz=114,slow=6.0,SNR=6.6
ARCES **ARCESS Array B** **106.37** **343** PKiKP **PKiKP** **14 28 52.6 0.0**
comp=Z,2.7nm,1.0s,baz=98,slow=2.5,SNR=7.9
ARCES PKKPbc **PKKPbc** **14 40 11.7 -4.5**
comp=Z,2.5nm,0.9s,baz=252,slow=1.2,SNR=11
ECSD **EROS Data Cent** **107.73** **45** P **PKiKP** **14 28 55.6 -0.3**
baz=281
EYMN **Ely** **110.18** **40** P **PKiKP** **14 29 00.1 -0.3**
baz=287
FINES **FINESS Array B** **110.58** **336** PKiKP **PKiKP** **14 28 59.9 -0.8**
comp=Z,1.6nm,0.7s,baz=71,slow=3.2,SNR=6.9
W39A **Magazine** **111.49** **54** P **PKiKP** **14 29 02.2 -0.9**
baz=280
U40A **Yellville** **112.02** **53** P **PKiKP** **14 29 03.7 -0.5**
baz=281
JFWS **Jewell Farm** **112.44** **45** P **PKiKP** **14 29 04.2 -0.5**
baz=286
W41B **Gary Mavity, V** **112.73** **54** P **PKiKP** **14 29 04.8 -0.7**
baz=281
AKASG **Malin Array Be** **114.08** **325** PKiKP PKPdf 14 29 06.5 -1.1
comp=Z,2.3nm,0.4s,baz=56,slow=2.3,SNR=15
AKASG PKKPbc **PKKPbc** **14 39 47.6 -2.9**
comp=Z,1.4nm,0.6s,baz=264,slow=3.8,SNR=7.6
BRTR **Keskin Array B** **114.98** **312** PKP **PKiKP** **14 29 08.8 -1.1**
comp=Z,1.0nm,0.4s,baz=158,slow=4.0,SNR=4.7
OXF **Oxford** **115.15** **54** P **PKiKP** **14 29 08.8 -1.4**
baz=283
NB2 **NORSAR Subarra** **116.42** **340** PKPdf **PKPdf** **14 29 11.2 -0.7**
comp=Z,1.0nm,0.5s,baz=42,slow=1.8
NOA **NORSAR Array B** **116.42** **340** PKP **PKPdf** **14 29 11.0 -0.9**
comp=Z,1.5nm,0.6s,baz=45,slow=1.9,SNR=12
CSS **Mathiatis** **116.46** **307** **PKPdf** **14 29 11.6 -1.1**
P49A **Miami Univ. Ec** **117.42** **47** P **PKiKP** **14 29 14.7 +0.2**
baz=289
BUR08 **Bucovina Ar. S** **117.79** **323** **PKPdf** **14 29 14.7 -0.4**
BURAR **Bucovina Array** **117.79** **323** **PKPdf** **14 29 14.9 -0.1**
ACSO **Alum Creek Sta** **118.45** **46** P **PKPdf** **14 29 16.3 -0.1**
baz=290
P52A **Corning** **119.27** **46** P **PKPdf** **14 29 17.4 -0.6**
baz=291
M53A **WI Miller and** **119.64** **44** P **PKPdf** **14 29 18.0 -0.7**
baz=293
O53A **New Philadelph** **119.71** **46** P **PKPdf** **14 29 18.3 -0.5**
baz=292
BOSA **Boshof** **119.98** **234** PKP **PKPdf** **14 29 19.3 -0.6**
comp=Z,5.4nm,0.6s,baz=134,slow=2.8,SNR=14
PLCA **Paso Flores** **120.18** **143** PKP **PKPdf** **14 29 19.4 -0.4**
comp=Z,2.2nm,0.6s,baz=157,slow=6.8,SNR=4.6
SCHQ **Schefferville** **120.28** **25** PKP **PKPdf** **14 29 19.0 -0.5**
comp=Z,5.1nm,0.6s,baz=288,slow=3.6,SNR=10
N54A **Moraine State** **120.30** **44** P **PKPdf** **14 29 19.5 -0.5**
baz=293
M54A **Oil Creek Stat** **120.31** **44** P **PKPdf** **14 29 19.5 -0.5**
baz=294
LC01 **Cunco** **120.45** **140** PKPdf **PKPdf** **14 29 20.0 -0.3**
MORC **Moravsky Berou** **121.05** **328** PKiKP **PKiKP** **14 29 21.2 -0.1**
MORC **Moravsky Berou** **121.05** **328** **PKiKP** **14 29 21.2 -0.1**
MORC **Moravsky Berou** **121.05** **328** *e*PKP **PKiKP** **14 29 21.6 +0.3**
VTS **Vitosha** **121.27** **318** PKiKP **PKPdf** **14 29 21.3 -0.6**
VTS **Vitosha** **121.27** **318** **PKPdf** **14 29 21.3 -0.6**
KRLC **Kraliky** **121.27** **328** *e*PKiKP **PKPdf** **14 29 21.3 -0.3**
KRLC **Kraliky** **121.27** **328** *e*PKPDF **PKPdf** **14 29 21.3 -0.3**
CHVC **Chvalec** **121.34** **329** *e*PKPDF **PKiKP** **14 29 22.0 +0.2**
DPC **Dobruska-Polom** **121.35** **329** *e*PKiKP **PKiKP** **14 29 21.9 +0.1**
DPC **Dobruska-Polom** **121.35** **329** *e*PKPDF **PKiKP** **14 29 21.9 +0.1**
KMSC **Kings Mountain** **121.38** **51** P **PKPdf** **14 29 21.7 -0.5**
baz=289
UPC **Upice** **121.41** **329** *e*PKiKP **PKPdf** **14 29 21.8 0.0**
UPC **Upice** **121.41** **329** *e*PKPDF **PKPdf** **14 29 21.8 0.0**
JAVC **Velka Javorina** **121.50** **327** *e*PKP **PKiKP** **14 29 23.5 +1.3**
O56A **Blue Knob Stat** **121.57** **45** P **PKPdf** **14 29 21.8 -0.7**
baz=294
VRAC **Vranov** **121.82** **328** *e*PKP **PKiKP** **14 29 23.4 +0.6**
BSEG **Bad Segeberg** **121.84** **335** *e*PKPdf **PKiKP** **14 29 22.9 +0.3**
baz=48,slow=2.0
SSPA **Standing Stone** **121.89** **44** **PKPdf** **14 29 22.7 -0.3**
SSPA **Standing Stone** **121.89** **44** P **PKPdf** **14 29 22.3 -0.7**
baz=295
KRUC **Moravsky** **122.07** **328** *e*PKP **PKiKP** **14 29 23.4 +0.2**
PVCC **Panska Ves** **122.13** **330** *e*PKiKP **PKiKP** **14 29 23.5 +0.2**
PVCC **Panska Ves** **122.13** **330** *e*PKPDF **PKiKP** **14 29 23.5 +0.2**
BRG **Berggiesshubel** **122.22** **331** *i* PKP **PKiKP** **14 29 23.9 +0.4**
BRG Amp 14 29 25.1
comp=Z,7.6nm,0.8s
BRG **Berggiesshubel** **122.22** **331** *i* PKiKP **PKiKP** **14 29 23.9 +0.4**
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG **Berggiesshubel** **122.22** **331** *e*PKPdf **PKiKP** **14 29 23.7 +0.2**
baz=48,slow=2.0
LONY **Lake Ozonia** **122.24** **38** P **PKPdf** **14 29 22.8 -0.8**
baz=300
CLL **Collm** **122.40** **331** *i* PKiKP **PKPdf** **14 29 23.6 0.0**
CLL pmax pmax
comp=Z,13nm,0.8s
CLL **Collm** **122.40** **331** PKPdf **PKPdf** **14 29 23.6 0.0**
CLL **Collm** **122.40** **331** *i* PKPdf **PKPdf** **14 29 23.6 0.0**
comp=Z,13nm,0.8s
CLL *i* x x 14 29 26.3
comp=Z,7.0nm,0.7s
CLL **Collm** **122.40** **331** *e*PKPdf **PKiKP** **14 29 23.7 -0.1**
baz=48,slow=2.0
PRU **Pruhonice** **122.48** **329** *e*PKiKP **PKiKP** **14 29 24.0 0.0**
PRU **Pruhonice** **122.48** **329** *e*PKPDF **PKiKP** **14 29 24.0 0.0**
FBE **Freiberg** **122.48** **331** *e*PKPdf **PKiKP** **14 29 24.4 +0.4**
baz=48,slow=2.0
BINY **Binghamton** **122.50** **42** P **PKPdf** **14 29 23.9 -0.3**
baz=297
FLTG **Flechtingen** **122.54** **333** *e*PKPdf **PKiKP** **14 29 24.1 +0.1**
baz=48,slow=2.0
DIVS **Divibare** **122.67** **321** PKPdf **PKPdf** **14 29 24.3 -0.2**
RONA **Rosalia, Austr** **122.92** **326** *e*P **PKiKP** **14 29 24.9 -0.1**
comp=Z,4.4nm,0.6s
NHSC **New Hope** **122.93** **53** P **PKPdf** **14 29 24.6 -0.5**
baz=288
NRDL **Niedersach Rie** **122.93** **334** *e*PKPdf **PKiKP** **14 29 25.2 +0.5**
baz=48,slow=2.0
PBCC **Pribram** **122.94** **329** *e*PKPDF **PKiKP** **14 29 24.9 -0.1**
IDI **Anoyia** **122.97** **310** PKPdf **PKPdf** **14 29 25.2 -0.1**
CONA **Conrad Observa** **123.02** **327** *e*P **PKPdf** **14 29 25.1 +0.1**
comp=Z,5.1nm,0.6s,SNR=5.9
RETH **Rethem/Aller,** **123.09** **334** *e*PKPdf **PKiKP** **14 29 25.4 +0.3**
baz=48,slow=2.0
N59A **State Game Lan** **123.22** **43** P **PKPdf** **14 29 25.2 -0.3**
baz=297
TANN **Tannenbergstha** **123.24** **331** *e*PKPdf **PKiKP** **14 29 25.5 -0.1**
baz=48,slow=2.0
CBN **Corbin Frederi** **123.24** **46** P **PKPdf** **14 29 25.1 -0.5**
baz=294
CLZ **Clausthal** **123.27** **333** *e*PKPdf **PKiKP** **14 29 26.0 +0.4**
baz=48,slow=2.0
WERD **Werda** **123.30** **331** *e*PKPdf **PKPdf** **14 29 25.5 0.0**
baz=48,slow=2.0
CKRC **Cesky Krumlov** **123.32** **328** *e*PKPDF **PKiKP** **14 29 25.8 +0.1**
FNA **Florina** **123.33** **317** PKiKP **PKPdf** **14 29 24.9 -0.9**
FNA **Florina** **123.33** **317** **PKPdf** **14 29 24.9 -0.9**
GUNZ **Gunzen** **123.34** **331** *e*PKPdf **PKiKP** **14 29 25.9 +0.1**
baz=48,slow=2.0
PLN **Plauen** **123.34** **331** *e*PKPdf **PKiKP** **14 29 25.6 -0.1**
baz=48,slow=2.0
NKC **Novy Kostel** **123.37** **331** *e*PKiKP **PKiKP** **14 29 26.1 +0.3**
NKC **Novy Kostel** **123.37** **331** *e*PKPDF **PKiKP** **14 29 26.1 +0.3**
WERN **Wernitzgruen** **123.37** **331** *e*PKPdf **PKiKP** **14 29 25.9 +0.1**
baz=48,slow=2.0
AGG **Agios Georgios** **123.43** **315** PKiKP **PKPdf** **14 29 24.9 -1.2**
AGG **Agios Georgios** **123.43** **315** **PKPdf** **14 29 24.9 -1.2**
MOX **Moxa** **123.50** **331** *e*PKPdf **PKiKP** **14 29 25.9 -0.1**
baz=48,slow=2.0
KHC **Kasperske Hory** **123.50** **329** *e*PKiKP **PKiKP** **14 29 26.2 +0.1**
KHC **Kasperske Hory** **123.50** **329** **PKPdf** **14 29 25.9 0.0**
KHC **Kasperske Hory** **123.50** **329** *e*PKPDF **PKiKP** **14 29 26.2 +0.1**
MANZ **Manzenberg** **123.69** **331** *e*PKPdf **PKiKP** **14 29 26.6 +0.1**
baz=48,slow=2.0
ROTZ **Rotzenmuhle** **123.79** **330** *e*PKPdf **PKiKP** **14 29 26.5 -0.1**
baz=48,slow=2.0
WET **Wettzell** **123.85** **329** *e*PKPdf **PKiKP** **14 29 26.7 -0.1**
baz=48,slow=2.0
MOA **Molln** **123.93** **328** *e*P **PKPdf** **14 29 26.4 -0.3**
comp=Z,2.0nm,0.7s
PDG **Podgorica** **123.96** **320** **PKPdf** **14 29 25.9 -0.9**
LBNH **Lisbon** **124.07** **38** P **PKiKP** **14 29 27.9 +0.5**
baz=302
IBBN **Ibbenburen** **124.08** **335** *e*PKPdf **PKiKP** **14 29 27.2 +0.1**
baz=48,slow=2.0
SOKA **Soboth** **124.21** **326** *e*P **PKPdf** **14 29 27.1 -0.3**
comp=Z,5.6nm,0.9s
GRF **Grafenberg Arr** **124.32** **331** *e*PKPdf **PKPdf** **14 29 27.4 0.0**
baz=48,slow=2.0
PAL **Palisades** **124.43** **42** P **PKPdf** **14 29 27.5 -0.3**
baz=298
L61B **Northampton** **124.53** **40** P **PKPdf** **14 29 27.6 -0.4**
baz=300
OBKA **Obir** **124.58** **326** *e*P **PKPdf** **14 29 27.7 -0.4**
comp=Z,2.7nm,0.8s
KASTN **Kahler Asten** **124.59** **334** *e*PKPdf **PKiKP** **14 29 28.2 0.0**
baz=48,slow=2.0
VNDS **Vrh nad Dolski** **124.74** **326** *i* PKPdf **PKPdf** **14 29 28.4 +0.1**
KBA **Koelnbreinsper** **124.90** **327** *i* P **PKPdf** **14 29 28.0 -0.8**
comp=Z,6.7nm,1.1s
BUG **Bochum--Univer** **124.92** **334** *e*PKPdf **PKiKP** **14 29 28.6 -0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=48,slow=2.0						
MYKA	Terra Mystica	125.01	327	eP	PKPdf	14 29 28.2	-0.7
	comp=Z,3.9nm,0.8s						
PKME	Peaks-Kenny Pk	125.07	35	P	PKPdf	14 29 28.5	-0.4
	baz=305						
CEY	Cerknica	125.11	325	i PKPdf	PKiKP	14 29 29.2	-0.1
TNS	Taunus Mts	125.27	333	ePKPdf	PKiKP	14 29 29.6	0.0
	baz=48,slow=2.0						
FUR	Furstenfeldbru	125.30	329	ePKPdf	PKiKP	14 29 30.7	+1.0
	baz=48,slow=2.0						
SKDS	Skadanscina	125.45	325	i PKPdf	PKPdf	14 29 29.5	-0.3
TRI	Trieste	125.50	326	PKIKP	PKPdf	14 29 29.3	-0.4
TRI	Trieste	125.50	326		PKPdf	14 29 29.3	-0.4
ABTA	Abfaltersbach	125.55	327	eP	PKPdf	14 29 29.7	-0.3
	comp=Z,6.1nm,0.6s						
AHRW	Bad Neuenahr-A	125.66	334	ePKPdf	PKiKP	14 29 30.2	-0.1
	baz=48,slow=2.0						
WATA	Walderalm	125.68	328	i P	PKPdf	14 29 30.3	+0.1
	comp=Z,5.6nm,0.6s						
WTTA	Wattenberg	125.69	328	i P	PKiKP	14 29 30.6	-0.1
	comp=Z,8.6nm,0.5s,SNR=5.3						
MOTA	Moosalm	125.92	329	i P	PKPdf	14 29 30.6	-0.1
	comp=Z,8.9nm,0.5s						
STU	Stuttgart	125.92	331	ePKPdf	PKPdf	14 29 31.1	+0.2
	baz=48,slow=2.0						
SQTA	Sankt Quirin	125.94	328	i P	PKiKP	14 29 31.0	-0.1
	comp=Z,7.7nm,0.5s						
RETA	Reutte	126.00	329	i P	PKPdf	14 29 30.9	+0.1
	comp=Z,2.3nm,0.5s						
GO04	Tololo Observa	126.02	132		PKPdf	14 29 31.4	-0.1
BTNL	Ternell	126.03	334	dPKP	PKiKP	14 29 31.2	+0.1
MEM	Membach	126.07	334	dPKP	PKiKP	14 29 31.1	0.0
UBR	Ueberruh	126.21	330	ePKPdf	PKPdf	14 29 31.2	0.0
	baz=48,slow=2.0						
FETA	Feichten	126.32	329	eP	PKiKP	14 29 31.8	-0.1
	comp=Z,6.5nm,0.6s,SNR=6.7						
BCLA	Clavier	126.51	335	dPKP	PKiKP	14 29 31.8	-0.2
SGRT	San Giovanni R	126.55	321		PKPdf	14 29 31.9	-0.2
DAVA	Damuels	126.58	329	i P	PKiKP	14 29 32.3	-0.2
	comp=Z,12nm,0.8s						
BGES	Gesves	126.63	335	dPKP	PKiKP	14 29 32.2	-0.1
BFO	Black Forest	126.64	331	ePKPdf	PKPdf	14 29 31.6	-0.3
	baz=48,slow=2.0						
WLF	Walferdange	126.70	334	ePKPdf	PKiKP	14 29 33.0	+0.6
	baz=48,slow=2.0						
WLF	Walferdange	126.70	334	dPKP	PKiKP	14 29 33.4	+1.0
BMRD	Maredsous	126.83	335	dPKP	PKiKP	14 29 32.6	-0.1
DOU	Dourbes	127.06	335	dPKP	PKiKP	14 29 33.4	+0.3
TIP	Timpagrande	127.22	317		PKPdf	14 29 33.2	-0.1
TUE	Stuetta	127.40	329		PKPdf	14 29 32.9	-0.8
NRCA	Norcia	127.57	323		PKPdf	14 29 33.5	-0.4
ZCCA	Zocca	127.89	326		PKiKP	14 29 35.1	+0.1
POPC	Popayan, Colom	130.55	90	eP	PKPpre	14 29 29.7	
SOTA	Rioblanco	130.59	91	eP	PKiKP	14 29 43.2	+1.3
YOTC	Yotoco, Valle	130.95	88	eP	PKPdf	14 29 41.4	+0.2
MARP	Paez Belalcaza	131.28	90	eP	PKPdf	14 29 42.2	+0.2
CBOC	Ciudad Bolivar	131.32	86	eP	PKPdf	14 29 40.3	-1.7
GUY2C	Guyana, Caldas	131.96	87	eP	PKPdf	14 29 43.2	-0.3
ORTC	Ortega, Tolima	132.04	89	eP	PKPdf	14 29 43.2	0.0
ZARC	Zaragoza, Cauc	132.46	84	eP	PKPdf	14 29 43.9	0.0
ROSC	El Rosal	132.99	87	PKP	PKiKP	14 29 46.4	-0.2
	comp=Z,17nm,0.6s,baz=322,slow=13,SNR=4.6						
SPBC	San Pablo de B	133.25	86	eP	PKPdf	14 29 41.3	-4.2
CHIC	Chingaza	133.57	88	eP	PKPdf	14 29 44.2	-2.3
KEST	Kesra	134.04	318	PKP	PKPdf	14 29 45.3	-1.1
	comp=Z,4.3nm,0.8s,baz=63,slow=13,SNR=2.8						
CRJC	Cerrejon, Guaj	134.23	79	eP	PKPdf	14 29 47.1	-0.2
RUSC	La Rusia	134.24	86	eP	PKPdf	14 29 47.1	-0.8
PAMC	Pamplona, Colo	134.60	84	eP	PKPdf	14 29 49.0	+0.5
LPAZ	La Paz	134.63	118	PKP	PKPdf	14 29 48.7	0.0
	comp=Z,16nm,0.7s,baz=259,slow=1.3,SNR=37						
LPAZ				SKP	SKPdf	14 33 20.2	+0.2
	comp=Z,2.6nm,0.6s,baz=242,slow=5.4,SNR=4.6						
LPAZ	La Paz	134.63	118	eP	PKiKP	14 29 50.0	-0.1
SDV	Santo Domingo	136.59	82	PKP	PKPdf	14 29 51.7	-0.1
	baz=297,slow=2.3						
SDV	Santo Domingo	136.59	82	eP	PKPdf	14 29 51.9	0.0
CPUP	Villa Florida	137.83	138	PKP	PKPdf	14 29 53.8	+0.1
	comp=Z,6.7nm,0.8s,baz=198,slow=2.5,SNR=11						
ESDC	Sonseca Array	138.97	332	PKP	PKPdf	14 29 55.4	0.0
	comp=Z,0.7nm,0.5s,baz=9.5,slow=2.6,SNR=5.7						
SJG	San Juan	139.46	67	eP	PKPpre	14 29 49.0	
SIV	San Ignacio	140.88	122	PKhKP	PKPpre	14 29 51.1	
	comp=Z,3.7nm,0.5s,baz=235,slow=3.9,SNR=5.8						
SIV				SKPbc	SKPbc	14 33 32.7	+0.4
	comp=Z,2.1nm,0.7s,baz=254,slow=4.9,SNR=6.1						
H07S1	FLORES T-PHASE	144.85	5	ePKP	PKPdf	14 30 06.0	+0.1
PGRA	Graciosa	145.38	1	ePKP	PKPab	14 30 08.2	+1.4
PMAN	Manadas	145.78	1	ePKP	PKPab	14 30 09.5	+1.2
PICO	Pico	145.90	2	ePKP	PKPdf	14 30 06.5	-1.2
BART	Pico Bartolome	146.59	357	ePKP	PKPab	14 30 11.5	0.0
CMLA	Cha da Macela	146.62	358	ePKP	PKPdf	14 30 04.9	-4.0
TOA0	Torodi Ar. Sit	150.18	289		PKPbc	14 30 19.5	-0.9
TORD	Torodi Ar. Bea	150.18	289	PKPbc	PKPbc	14 30 19.6	-0.8
	comp=Z,42nm,0.7s,baz=70,slow=1.8,SNR=160						
BDFB	Brasilia	151.41	134	PKP	PKPdf	14 30 18.3	+1.0
	comp=Z,6.6nm,0.8s,baz=296,slow=1.9,SNR=6.8						
BDFB				PKPbc	PKiKP	14 30 23.7	-0.2
	comp=Z,66nm,0.7s,baz=240,slow=1.6,SNR=78						
MDP	Montagnes des	154.59	87	PKPbc	PKiKP	14 30 30.7	+0.3
	comp=Z,5.3nm,0.5s,baz=2.1,slow=4.2,SNR=1.5						
KIC	Kosan Boka	157.58	276	eP	PKPab	14 30 57.5	-0.5
	comp=Z,26nm,0.6s						
DBIC	Dimbokro	157.67	277	PKPab	PKPab	14 30 58.0	-0.3
	comp=Z,13nm,0.7s,baz=104,slow=3.8,SNR=11						
TIC	Toumodi	157.84	277	eP	PKPab	14 30 58.5	-0.6
LIC	Lamto	157.88	276	eP	PKPab	14 30 59.6	+0.3
	comp=Z,20nm,0.7s						

PRU 05 14:30:22.0±0.0, 51°.46N×16°.19E, h0km, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHVC	Chvalec	0.88	186	ePG	Pg	14 30 38.4	-0.4
CHVC				eSG	Sg	14 30 49.8	-0.3
OSTC	Ostas	0.91	179	eSG	Sg	14 30 51.5	+0.5
	comp=Z,3.4nm,0.6s						
UPC	Upice	0.96	187	eSG	Sg	14 30 52.7	-0.1
	comp=Z,4.4nm,0.5s						
UPC	Upice	0.96	187	e	Sg	14 30 52.7	-0.1
DPC	Dobruska-Polom	1.11	176	ePG	Pg	14 30 42.7	-0.6
DPC				eSG	Sg	14 30 57.5	-0.3
	comp=Z,1.4nm,0.6s						
DPC	Dobruska-Polom	1.11	176	e	Sg	14 30 57.5	-0.3
KRLC	Kraliky	1.44	165	ePG	Pn	14 30 48.4	-0.9
KRLC				eSG	Sg	14 31 07.8	-0.3
	comp=Z,3.5nm,0.9s						
KRLC	Kraliky	1.44	165	e	Pn	14 30 48.4	-0.9

ATH 05 14:36:53.4, 40°.25N×19°.32E, h13km±9km, ML1.7/2, Error ellipse: s-maj=9.5km s-min=1.5km az=189.0

TIR 05 14:36:51.5, 40°.35N×19°.34E, h15km±1km, Md2.4, Ml2.0, Albania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.16	46	P	Pg	14 36 55.6	0.0
	baz=45						
VLO				S	Sb	14 36 59.1	-0.4
	baz=45						
VLO				AMP			
	comp=E,13nm,0.2s,baz=45						
SRN	Sarande	0.69	133	P	Pb	14 37 05.7	+0.4
	baz=132						
SRN				S	Sb	14 37 15.8	+1.2
	baz=132						
SRN				AMP			
	comp=N,0.3nm,0.4s,baz=132						
SCTE	Santa Cesarea	0.73	247	P	Pb	14 37 05.9	0.0
SCTE				S	Sb	14 37 16.5	+0.9
SCTE				AML	AML	14 37 17.8	
	comp=E,141μm,0.4s						
SCTE				AML	AML	14 37 18.8	
	comp=N,148μm,0.4s						
SCTE	Santa Cesarea	0.73	247	P	Pb	14 37 06.2	+0.3
	baz=248						
SCTE				S	Sb	14 37 16.7	+1.0
	baz=248						
SCTE				AMP			
	comp=E,0.3nm,0.4s,baz=248						
KEK	Kerkira	0.73	151	P	Pg	14 37 05.8	+0.1
KEK				S	Sg	14 37 14.1	-1.2
KEK				AML	AML	14 37 17.1	
	comp=E,154μm,0.5s						
KEK				AML	AML	14 37 21.5	
	comp=N,165μm,0.4s						
IGT	Igoumenitsa	1.12	137	P	Pg	14 37 13.9	+0.7
IGT	Igoumenitsa	1.12	137	P	Pg	14 37 13.3	+0.2
	baz=136						
IGT				S	Sn	14 37 29.2	+1.4
	baz=136						
NEST	Nestorio	1.30	87	P	Pg	14 37 18.5	+1.8
FNA	Florina	1.61	74	P	Pg	14 37 22.4	0.0
	baz=73						
FNA				S	Sg	14 37 44.7	+1.4
	baz=73						
NOCI	Noci	1.79	285	P	Pg	14 37 26.3	+0.5
NOCI	Noci	1.79	285	P	Pg	14 37 26.4	+0.6
	baz=285						

ROM 05 14:37:58.6±0.1, 43°.334N±0°.004×13°.244E±0°.006, h7km, ML1.2/3, 2C, Error ellipse: s-maj=0.5km s-min=0.1km az=100.0, Central Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CING	Cingoli	0.05	319	P	Pg	14 38 00.3	0.0
CING				S	Sg	14 38 01.4	-0.1
CING				AML	AML		
	comp=E,2395μm,1.0s						
CING				AML	AML		
	comp=N,2550μm,0.2s						
TRE1	Treia	0.06	115	P	Pg	14 38 01.1	+0.9
EL6	Elcito	0.10	267	⇑P	Pg	14 38 01.4	+0.5
EL6				S	Sg	14 38 03.7	+1.0
MMUR	Monte Murano	0.21	301	P	Pg	14 38 03.2	+0.4
MMUR				S	Sg	14 38 07.5	+1.8
SNTG	Esanatoglia	0.23	250	P	Pg	14 38 03.8	+0.5
SNTG				S	Sg	14 38 07.8	+1.4
SNTG				AML	AML		
	comp=E,70μm,0.8s						
SNTG				AML	AML		
	comp=N,137μm,0.5s						
CSP1	Cessapalombo	0.24	187	⇑P	Pg	14 38 04.1	+0.6
CSP1				S	Sg	14 38 08.4	+1.7
ARVD	Arcevia	0.28	307	P	Pg	14 38 04.4	+0.4
ARVD				S	Sb	14 38 09.5	-1.3
ARVD				AML	AML		
	comp=E,46μm,0.3s						
ARVD				AML	AML		
	comp=N,58μm,0.2s						
FDMO	Fiordimonte	0.32	201	P	Pg	14 38 05.3	+0.5
FDMO				S	Sb	14 38 11.2	-0.8
FDMO				AML	AML		
	comp=N,86μm,0.1s						
FDMO				AML	AML		
	comp=E,77μm,0.2s						
AOI	Ancona	0.34	50	P	Pb	14 38 06.4	-0.6
AOI				S	Sb	14 38 11.8	-0.8
ATVO	AVT- Monte Val	0.61	275	P	Pg	14 38 10.8	+0.4
ATVO				S	Sb	14 38 20.6	0.0

IDC 05 14:46:13.6±2.1, 4°.24N×126°.71E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/35, mbtmp3.3/4, Error ellipse: s-maj=113.0km s-min=27.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.22	183	P	P	14 51 12.1	+0.2
	0.4nm,0.5s,baz=9.5,slow=6.1,SNR=1.1						
WRA	Warramunga Arr	25.18	163	P	P	14 51 41.2	+0.3
	0.5nm,0.7s,baz=343,slow=11,SNR=11						
ASAR	Alice Springs	28.61	166	P	P	14 52 11.2	-0.7
	0.3nm,0.8s,baz=340,slow=6.9,SNR=5.1						
MKAR	Makanchi Array	57.13	325	P	P	14 56 02.1	+0.1
	0.2nm,0.6s,baz=126,slow=5.7,SNR=2.7						

NEIC 05 15:01:22.2±1.5, 4°.07N±0°.10×125°.97E±0°.06, h139km±9km, mb4.2/24, Error ellipse: s-maj=15.3km s-min=7.1km az=202.0

DJA 05 15:01:23.6±1.1, 4°N±10°×12°6E±°, h137km±8km, M4.1/7, mb4.2/3, mB5.3/1, MLv4.1/7, Mw(mB)4.7/1

IDC 05 15:01:26.3±2.0, 3°.98N×125°.82E, h190km±20km, mb3.4/11, mb1 3.5/13, mb1mx3.2/59, mbtmp4.0/13, Error ellipse: s-maj=37.0km s-min=10.0km az=76.0

ISC 05 15:01:21.7±0.6, 4°.05N±0°.06×126°.02E±0°.09, h150km, n46, σ1s32/39, mb4.0/18, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.61	233	P	Pn	15 01 43.5	-0.2
SGSI				S	Sn	15 01 59.6	-0.8
GSPH	General Santos	2.29	332	⇑iP	Pn	15 02 01.5	+1.1
GSPH				iS	Sn	15 02 30.3	+0.2
DAV	Davao City (W)	3.03	352	P	Pn	15 02 17.2	+7.7
	42nm,0.3s,baz=333,slow=2.3,SNR=1.7						
DAV				S	Sn	15 02 51.3	+4.8
	30nm,0.3s,baz=148,slow=7.0,SNR=1.4						
TNTI	Ternate	3.53	158		Pn	15 02 16.4	+0.5
TNTI	Ternate	3.53	158	P	Pn	15 02 15.4	-0.5
GTOI	Gorontalo	4.54	222	P	Pn	15 02 28.5	-0.5
LBMI	Labuha	4.89	162	P	Pn	15 02 33.8	+0.1
TOLI2	Tolitoli	5.99	241	Pn	Pn	15 02 48.1	-0.3
LUWI	Luwuk	6.01	213	Pn	Pn	15 02 49.2	+0.5
SANI	Sanana	6.06	180	P	Pn	15 02 46.4	-2.9
SBUM	Sibu	13.87	264	P	P	15 04 37.5	+2.0
BATI	Baumata	14.36	189	P	P	15 04 39.9	-1.1
	1.3nm,0.3s,baz=202,slow=1.9,SNR=1.8						
KSM	Kuching	15.90	261	P	P	15 04 59.4	+1.3
KNRA	Kununurra	19.79	172	P	Pn	15 05 40.9	-2.8
KNRA				IAmb	IAmb	15 05 59.7	
	comp=Z,9.5nm,1.1s						
TPUB	Ta-pu	19.83	345	P	Pn	15 05 40.6	-3.5
TPUB				IAmb	IAmb	15 05 49.5	
	comp=Z,33nm,1.5s						
FITZ	Fitzroy Crossi	22.02	181	P	P	15 06 04.0	-0.2
	comp=Z,3.1nm,0.3s,baz=2.6,slow=8.7,SNR=40						
FITZ	Fitzroy Crossi	22.02	181	IAmb	IAmb	15 06 06.0	
	comp=Z,3.8nm,0.5s						
COEN	Coen	24.70	137	P	P	15 06 30.6	+1.5
COEN				IAmb	IAmb	15 06 58.2	
	comp=Z,15nm,1.2s						
WB0	Warramunga Arr	25.06	161	P	P	15 06 34.5	+2.2
WB0				IAmb	IAmb	15 06 35.0	
	comp=Z,6.9nm,0.3s						
WRAB	Tennant Creek	25.20	161	P	P	15 06 35.7	+2.0
WRAB				IAmb	IAmb	15 06 38.0	
	comp=Z,8.3nm,1.4s						
WRA	Warramunga Arr	25.21	161	P	P	15 06 35.1	+1.4
	comp=Z,1.6nm,0.4s,baz=339,slow=10,SNR=40						
WRA	Warramunga Arr	25.21	161	IAmb	IAmb	15 06 36.5	
	comp=Z,0.2nm,1.1s						
WB2	Warramunga Arr	25.21	161	P	P	15 06 35.5	+1.8
WR0	Warramunga Arr	25.29	161	P	P	15 06 36.5	+2.0
WR0				IAmb	IAmb	15 06 40.2	
	comp=Z,6.2nm,1.3s						
PSA00	Pilbara Seismi	26.18	193	P	P	15 06 42.1	-0.3
PSA00				IAmb	IAmb	15 07 09.7	
	comp=Z,18nm,1.3s						
ASAR	Alice Springs	28.60	165	P	P	15 07 04.5	+0.5
	comp=Z,0.2nm,0.5s,baz=342,slow=7.2,SNR=6.6						
NWAO	Narrogin (SRO)	37.71	192	P	P	15 08 23.2	+0.3
BBOO	Buckleboo	37.88	166	P	P	15 08 25.2	+1.0
STKA	Stephens Creek	38.68	159	P	P	15 08 31.9	+0.9
	comp=Z,1.0nm,0.4s,baz=350,slow=11,SNR=7.6						
ASAJ	Asahikawa	42.49	18	P	P	15 09 03.7	+1.6
	comp=Z,4.8nm,1.0s,baz=283,slow=30,SNR=5.6						
JKA	Kamikawa-asahi	42.50	18	P	P	15 09 03.7	+1.6
SONM	Songino Array	46.77	342	P	P	15 09 36.5	+0.4
	comp=Z,0.5nm,0.6s,baz=145,slow=5.3,SNR=3.7						
MK31	Makanchi Array	56.89	325	P	P	15 10 51.3	+0.3
MKAR	Makanchi Array	56.89	325	P	P	15 10 51.1	+0.2
	comp=Z,0.4nm,0.4s,baz=120,slow=7.4,SNR=17						
MKAR				PcP	PcP	15 11 45.4	+0.6
	comp=Z,1.3nm,0.5s,baz=118,slow=3.7,SNR=15						
MAKZ	Makanchi	57.07	325	P	P	15 10 52.9	+0.6
MAKZ				IAmb	IAmb	15 11 02.2	
	comp=Z,2.4nm,1.4s						
ZALV	Zalesovo Beam	59.98	333	P	P	15 11 11.1	-1.1
	comp=Z,0.3nm,0.3s,baz=129,slow=4.6,SNR=2.5						
KURBB	Kurchatov Arra	61.09	328	P	P	15 11 19.9	+0.1
	comp=Z,0.5nm,0.4s,baz=127,slow=6.0,SNR=9.6						
KURK	Kurchatov	61.09	328	P	P	15 11 19.8	0.0
KURK				IAmb	IAmb	15 11 20.3	
	comp=Z,1.9nm,0.6s						
TIXI	Tiksi	67.53	1	P	P	15 12 01.3	0.0
	comp=Z,0.7nm,0.3s,baz=270,slow=22,SNR=3.8						
TIXI	Tiksi	67.53	1	P	P	15 12 02.5	+1.2
TIXI				IAmb	IAmb	15 12 08.5	
	comp=Z,4.6nm,1.4s						
NRIK	Noril'sk	69.95	346	P	P	15 12 16.9	+0.5
	comp=Z,0.9nm,0.3s,baz=107,slow=5.1,SNR=4.3						
NRIK	Noril'sk	69.95	346	P	P	15 12 17.8	+1.4
NRIK				IAmb	IAmb	15 12 18.3	
	comp=Z,2.4nm,0.6s						
ABKAR	Akbulak array	71.45	321	P	P	15 12 25.1	-0.8
OBL	Observatory Le	78.01	71	P	P	15 13 05.5	+1.1
SPB2	Spitsbergen Ar	90.03	349	P	P	15 14 05.7	+1.8
TORD	Torodi Ar. Bea	122.15	288	PKP	PKiKP	15 19 59.7	-0.2
	comp=Z,0.8nm,1.1s,baz=35,slow=2.7,SNR=2.1						

IDC 05 15:05:57.1±3.4, 20°.17S×168°.90E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.7/41, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=110.8km s-min=31.4km az=138.0

NOU 05 15:05:59.8, 20°.13S×168°.58E, h0km, MLv3.6/12, Loyalty Islands

ISC 05 15:06:01.9±1.3, 20°.2S±0°.1×168°.7E±0°.1, h25km, n15, σ1s11/16, mb3.8/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.45	205	P	Pn	15 06 25.6	-1.0
LIFNC	LIFOU	1.48	245	P	Pn	15 06 24.5	-2.5
YATNC	Mamie plateau,	2.52	221	P	Pn	15 06 40.0	-1.4
PINNC	Pines Island,	2.70	205	P	Pn	15 06 44.6	+0.8
DZM	Mont Dzumac	2.83	227	Pn	Pn	15 06 45.1	-0.5
	2.3nm,0.3s,baz=113,slow=12,SNR=62						
DZM				Sn	Sn	15 07 18.4	-0.5
	4.7nm,0.3s,baz=77,slow=21,SNR=5.1						
DZM	Mont Dzumac	2.83	227	P	Pn	15 06 45.3	-0.3
OUENC	Ouen Island, N	2.83	217	P	Pn	15 06 46.2	+0.6
NOUC	Port Laguerre	2.94	228	P	Pn	15 06 47.8	+0.7
ONTNC	Ouen Toro	2.98	224	P	Pn	15 06 47.7	0.0
KOUNC	Koumac, New Ca	4.14	264	P	Pn	15 07 04.6	+1.0
WRA	Warramunga Arr	32.23	264	P	P	15 12 28.6	+0.1
	0.3nm,0.7s,baz=90,slow=7.8,SNR=1.7						
ASAR	Alice Springs	32.40	257	P	P	15 12 30.8	+0.7
	0.9nm,0.6s,baz=86,slow=9.0,SNR=21						
FITZ	Fitzroy Crossi	40.63	265	P	P	15 13 41.3	+1.1
	1.0nm,0.7s,baz=104,slow=7.1,SNR=1.7						
SONM	Songino Array	87.64	323	P	P	15 18 48.6	+0.4
	0.3nm,0.6s,baz=131,slow=4.0,SNR=2.0						
ILAR	Eielson Array	91.26	17	P	P	15 19 03.3	-1.4
	0.4nm,0.9s,baz=214,slow=4.4,SNR=2.4						

IDC 05 15:09:13.0±238.0, 53°.36N×101°.25E, h0km, Error ellipse: s-maj=127.4km s-min=85.9km az=4.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I34MN	SONGINO INFRAS	6.46	147	i		15 51 30.0	
	baz=329,slow=328,SNR=1.3						
I46RU	ZALESOVO INFRA	9.78	280	i		16 11 00.0	
	baz=86,slow=318,SNR=4.6						
I45RU	USSURIYSK INFR	22.07	102	i		17 25 00.0	
	baz=306,slow=323,SNR=2.3						
I31KZ	AKTYUBINSK INF	26.54	281	i		17 52 10.0	
	baz=64,slow=342,SNR=0.8						
I30JP	ISUMI INFRASON	32.73	108	i		18 25 40.0	
	baz=318,slow=324,SNR=1.4						
I43RU	DUBNA INFRASON	35.66	302	i		18 47 30.0	
	baz=70,slow=335,SNR=0.8						

NEIC 05 15:12:18.9±1.4, 4°.20N±0°.05×126°.76E±0°.07, h35km±2km, mb4.1/14, Error ellipse: s-maj=13.1km s-min=6.3km az=126.0

DJA 05 15:12:18.1±1.9, 4°N±14°×12°7E±°, h12km±6km, M4.0/2, mb3.9/1, mB4.1/1, MLv4.1/2, Mw(mB)3.1/1

IDC 05 15:12:19.6±2.0, 4°.29N×126°.88E, h58km±22km, mb3.4/8, mb1 3.6/10, mb1mx3.4/62, mbtmp3.8/10, ML4.1/2, MS3.1/8, Ms1 3.2/8, ms1mx2.8/42, Error ellipse: s-maj=61.2km s-min=11.3km az=66.0

ISC 05 15:12:17.7±0.7, 4°.19N±0°.06×126°.75E±0°.08, h35km, n37, σ1s23/32, mb3.9/13, MS3.2/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.31	248	P	Pn	15 12 39.4	-0.2
SGSI				S	Sn	15 12 55.4	-0.5
GSPH	General Santos	2.60	317	eP	Pn	15 12 59.5	+2.2
DAV	Davao City (W)	3.08	338	P	Pn	15 13 05.6	+1.7
	57nm,0.3s,baz=20,slow=1.0,SNR=1.9						
DAV				S	Sn	15 13 41.5	+1.8
	21nm,0.3s,baz=100,slow=15,SNR=1.1						
TNTI	Ternate	3.45	170	Pn	Pn	15 13 10.3	+1.3
GTOI	Gorontalo	5.14	227	P	Pn	15 13 34.4	+2.2
TOLI2	Tolitoli	6.70	243	Pn	Pn	15 13 55.4	+1.8
SIJI	Sorong	6.76	138	P	Pn	15 13 55.3	+0.8
	1.4nm,0.3s,baz=200,slow=23,SNR=1.9						
SIJI				LR	LR	15 16 28.8	
	comp=Z,121nm,20.8s,baz=308,slow=37						
KAPI	Kappang	11.51	217	LR	LR	15 19 30.6	
	comp=Z,52nm,20.7s,baz=43,slow=37						
MTN	Manton Dam	17.48	166	P	Pn	15 16 16.1	-2.8
MTN				IAmb	IAmb	15 16 38.5	
	comp=Z,14nm,1.1s						
KNRA	Kununurra	19.84	174	P	Pn	15 16 47.0	-0.5
KNRA				IAmb	IAmb	15 16 59.6	
	comp=Z,8.2nm,0.9s						
FITZ	Fitzroy Crossi	22.18	183	P	P	15 17 11.9	+1.0
	comp=Z,0.7nm,0.5s,baz=346,slow=5.1,SNR=6.4						
JOW	Kunigami	22.56	4	LR	LR	15 25 00.0	
	comp=Z,34nm,21.8s,baz=352,slow=34						
WB0	Warramunga Arr	24.97	163	P	P	15 17 38.8	+0.6
WB0				IAmb	IAmb	15 17 52.2	
	comp=Z,7.3nm,1.1s						
WRAB	Tennant Creek	25.11	163	P	P	15 17 39.9	+0.4
WRAB				IAmb	IAmb	15 17 49.2	
	comp=Z,7.5nm,0.8s						
WRA	Warramunga Arr	25.12	163	P	P	15 17 39.4	-0.2
	comp=Z,1.5nm,0.7s,baz=346,slow=10,SNR=17						
WRA	Warramunga Arr	25.12	163	P	P	15 17 39.5	-0.1
WB2	Warramunga Arr	25.12	163	P	P	15 17 39.5	0.0
WR0	Warramunga Arr	25.20	163	P	P	15 17 40.8	+0.6
WR0				IAmb	IAmb	15 17 49.9	
	comp=Z,5.6nm,0.9s						
KRVT	Keravat (AS076	26.63	108	LR	LR	15 26 52.6	
	comp=Z,52nm,20.7s,baz=89,slow=33						
AS31	Alice Springs	28.56	166	P	P	15 18 10.8	+0.3
ASAR	Alice Springs	28.56	166	P	P	15 18 10.8	+0.3
	comp=Z,0.2nm,0.5s,baz=346,slow=6.8,SNR=9.9						
CMAR	Chiang Mai Arr	30.65	300	P	P	15 18 28.5	-0.7
	comp=Z,0.3nm,0.3s,baz=112,slow=6.9,SNR=1.3						
CMAR				LR	LR	15 31 07.0	
	comp=Z,14nm,21.7s,baz=85,slow=37						
CTA	Charters Tower	30.82	142	LR	LR	15 33 28.3	
	comp=Z,73nm,18.3s,baz=34,slow=41						
BBOO	Buckleboo	37.85	167	P	P	15 19 31.9	+0.7
STKA	Stephens Creek	38.55	160	P	P	15 19 38.1	+1.0
	comp=Z,1.9nm,0.7s,baz=5.7,slow=10,SNR=2.4						
STKA	Stephens Creek	38.55	160	P	P	15 19 38.3	+1.1
STKA				IAmb	IAmb	15 19 58.0	
	comp=Z,2.5nm,1.4s						
SONM	Songino Array	46.87	341	P	P	15 20 41.8	-2.8
	comp=Z,1.2nm,1.2s,baz=134,slow=4.2,SNR=1.6						
MK31	Makanchi Array	57.19	325	P	P	15 22 01.3	0.0
MKAR	Makanchi Array	57.19	325	P	P	15 22 01.4	+0.1
	comp=Z,0.4nm,0.4s,baz=118,slow=7.4,SNR=11						
MKAR	Makanchi Array	57.19	325	P	P	15 22 01.1	-0.2
MAKZ	Makanchi	57.37	325	P	P	15 22 03.2	+0.6
MAKZ				IAmb	IAmb	15 22 25.9	
	comp=Z,1.3nm,0.9s						
KDJ	Kajisay	58.01	318	P	P	15 22 07.2	-0.2
KDJ				IAmb	IAmb	15 22 11.6	
	comp=Z,1.7nm,1.0s						
AAK	Ala-Archa	60.03	318	LR	LR	15 51 43.1	
	comp=Z,34nm,19.0s,baz=64,slow=39						
KURBB	Kurchatov Arra	61.36	327	P	P	15 22 29.3	-0.7
	comp=Z,0.6nm,0.4s,baz=120,slow=5.5,SNR=2.3						
KURK	Kurchatov	61.36	327	P	P	15 22 29.3	-0.7
KURK	Kurchatov	61.36	327	IAmb	IAmb	15 22 30.3	
	comp=Z,2.2nm,0.8s						
AKTO	Aktyubinsk	73.31	322	LR	LR	15 57 28.6	
	comp=Z,34nm,18.1s,baz=15,slow=37						

*DJA **05** 15:14:08.8±1.6, 4°N±12°×12°7E±°, h22km±5km, M4.2/6, mb4.1/6, mB4.7/1, MLv4.2/4, Mw(mB)3.9/1*
*IDC **05** 15:14:09.2±7.9, 3°97N×126°25E, h33km±63km, mb3.6/12, mb1 3.7/13, mb1mx3.5/58, mbtmp3.8/13, ML3.9/1, Error ellipse: s-maj=40.1km s-min=16.2km az=72.0*
*NEIC **05** 15:14:10.1±1.7, 4°11N±0°04×126°60E±0°09, h35km±1km, mb4.2/22, Error ellipse: s-maj=15.0km s-min=6.5km az=82.0*
ISC 05 15:14:10.4±0.5, **4°09N**±0°05×**126°57E**±0°07, **h45**km, **n48**, σ**1s16**/50, **mb4.0**/21, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.12	249	P	Pn	15 14 30.5	+0.9
GSPH	General Santos	2.56	321	eP	Pn	15 14 50.0	+0.5
DAV	Davao City (W)	3.12	342	Pn	Pn	15 14 57.0	-0.1
TNTI	Ternate	3.39	166	Pn	Pn	15 15 01.1	+0.3
TNTI	Ternate	3.39	166	P	Pn	15 15 02.7	+1.9
LBMI	Labuha	4.79	169	P	Pn	15 15 21.0	+1.0
GTOI	Gorontalo	4.95	226	P	Pn	15 15 23.3	+1.1
	9.0nm,1.2s						
MRSI	Marisa	5.86	232	P	Pn	15 15 37.7	+3.0
	35nm,0.6s						
SANI	Sanana	6.13	185	P	Pn	15 15 38.0	-0.4
	12nm,0.6s						
TOLI2	Tolitoli	6.50	243	Pn	Pn	15 15 44.5	+1.0
SWI	Sorong	6.79	136	P	Pn	15 15 46.1	-1.5
	25nm,0.9s						
SIJI	Sorong	6.80	136	Pn	Pn	15 15 47.9	+0.2
	2.4nm,0.3s,baz=139,slow=23,SNR=4.2						
SIJI				Sn	Sn	15 17 02.7	-1.3
	0.4nm,0.3s,baz=199,slow=22,SNR=1.7						
KKM	Kota Kinabalu	10.50	281	Pn	Pn	15 16 38.5	+0.1
TWG	Pinlang	19.36	345	P	P	15 18 30.8	-1.6
KNRA	Kununurra	19.76	174		P	15 18 37.1	+0.3
KNRA				IAmb	IAmb	15 18 43.1	
	comp=Z,9.9nm,1.1s						
YULB	Yu-li	19.85	346	P	P	15 18 35.1	-2.6
YULB				IAmb	IAmb	15 18 41.9	
	comp=Z,18nm,1.4s						
TPUB	Ta-pu	19.94	344	P	P	15 18 37.5	-1.2
TPUB				IAmb	IAmb	15 18 53.2	
	comp=Z,25nm,1.5s						
YHNB	Yeheng	21.06	347	P	P	15 18 53.2	+2.3
FITZ	Fitzroy Crossi	22.07	182	P	P	15 19 01.1	-0.6
	comp=Z,1.2nm,0.6s,baz=219,slow=24,SNR=2.2						
PMBI	Palembang	22.87	253	P	P	15 19 10.6	+0.3
UBPT	Khong Chiam	23.55	300	P	P	15 19 17.3	+0.3
UBPT				IAmb	IAmb	15 19 19.1	
	comp=Z,7.3nm,1.2s						
WB0	Warramunga Arr	24.93	162	P	P	15 19 29.3	-0.2
WB0				IAmb	IAmb	15 19 33.2	
	comp=Z,4.2nm,0.7s						
WRAB	Tennant Creek	25.07	163	P	P	15 19 31.1	+0.3
WRAB				IAmb	IAmb	15 19 40.3	
	comp=Z,6.3nm,0.8s						
WRA	Warramunga Arr	25.07	163	P	P	15 19 30.4	-0.5
	comp=Z,2.1nm,0.8s,baz=332,slow=11,SNR=6.2						
WB2	Warramunga Arr	25.08	163	P	P	15 19 30.8	-0.1
WB2				IAmb	IAmb	15 19 40.3	
	comp=Z,6.9nm,0.8s						
WR0	Warramunga Arr	25.15	162	P	P	15 19 32.0	+0.4
WR0				IAmb	IAmb	15 19 41.0	
	comp=Z,8.4nm,1.1s						
AS31	Alice Springs	28.50	166	P	P	15 20 01.9	+0.2
ASAR	Alice Springs	28.50	166	P	P	15 20 00.3	-1.4
	comp=Z,0.2nm,0.6s,baz=343,slow=6.8,SNR=1.5						
ASAR				PcP	PcP	15 23 12.7	-0.1
	comp=Z,0.4nm,0.9s,baz=336,slow=2.0,SNR=2.3						
CMAR	Chiang Mai Arr	30.55	300	P	P	15 20 17.4	-2.6
	comp=Z,0.2nm,0.4s,baz=112,slow=6.0,SNR=1.8						
KSRS	Korea Array	33.23	2	P	P	15 20 44.8	+1.7
	comp=Z,0.5nm,0.5s,baz=181,slow=9.2,SNR=1.7						
BBOO	Buckleboo	37.79	167	P	P	15 21 21.4	-1.0
NWAO	Narrogin (SRO)	37.87	193	P	P	15 21 22.0	-1.0
STKA	Stephens Creek	38.52	159	P	P	15 21 29.6	+1.0
	comp=Z,0.9nm,0.4s,baz=345,slow=22,SNR=2.2						
STKA	Stephens Creek	38.52	159	P	P	15 21 29.4	+0.9
SONM	Songino Array	46.91	341	P	P	15 22 37.4	+0.8
	comp=Z,0.7nm,0.6s,baz=157,slow=8.4,SNR=6.7						
PETK	Petropavlovsk-	55.16	22	P	P	15 23 39.6	+1.4
	comp=Z,1.6nm,0.9s,baz=218,slow=9.4,SNR=1.7						
MK31	Makanchi Array	57.17	325	P	P	15 23 52.4	-0.4
MKAR	Makanchi Array	57.17	325	P	P	15 23 52.6	-0.2
	comp=Z,0.5nm,0.4s,baz=122,slow=7.5,SNR=10						
MKAR				PcP	PcP	15 24 47.2	+0.2
	comp=Z,0.5nm,0.5s,baz=133,slow=3.4,SNR=4.3						
MKAR	Makanchi Array	57.17	325	P	P	15 23 52.3	-0.5
MAKZ	Makanchi	57.36	325	P	P	15 23 53.6	-0.4
MAKZ				IAmb	IAmb	15 23 55.7	
	comp=Z,1.5nm,1.1s						
KDJ	Kajisay	57.97	318	P	P	15 23 58.7	0.0
KDJ				IAmb	IAmb	15 24 00.4	
	comp=Z,1.6nm,1.0s						
ZALV	Zalesovo Beam	60.20	333	P	P	15 24 12.6	-1.0
	comp=Z,0.4nm,0.3s,baz=128,slow=9.3,SNR=2.4						
KURBB	Kurchatov Arra	61.35	327	P	P	15 24 21.3	-0.2
	comp=Z,0.9nm,0.7s,baz=129,slow=6.6,SNR=4.6						
KURK	Kurchatov	61.35	327	P	P	15 24 21.3	-0.2
KURK	Kurchatov	61.35	327	IAmb	IAmb	15 24 22.1	
	comp=Z,1.3nm,0.8s						
SMY	Shemya	62.23	30	P	P	15 24 29.1	+1.7
TIXI	Tiksi	67.48	1	P	P	15 25 01.3	+0.1
TIXI				IAmb	IAmb	15 25 06.6	
	comp=Z,3.5nm,1.4s						
ARCES	ARCESS Array B	90.06	340	P	P	15 27 03.7	-1.4
	comp=Z,1.1nm,0.8s,baz=91,slow=5.4,SNR=1.4						

NEIC 05 15:43:06.5±1.0, **37°03N**±0°01×**97°74W**±0°01, **h9**km±1km, **Error ellipse: s-maj=2.1km s-min=1.7km az=186.0, Kansas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T35A	Sooner Cattle	0.99	96		Pg	15 43 25.1	-0.4
T35A				Sg	Sg	15 43 38.0	-0.3
U32A	Winter Ranch,	1.21	238	Pn	Pg	15 43 29.7	0.0
R32A	Long Quarter,	1.59	331		Pb	15 43 35.5	-0.6
FNO	Franklin	1.79	171	Pn	Pn	15 43 38.0	+0.3
TUL1	Leonard	1.93	125		Pn	15 43 40.7	+1.2
W35A	Tecumseh	2.00	159		Pn	15 43 41.5	+0.9
KSU1	Kansas State U	2.25	23		Pn	15 43 44.7	+0.8
X34A	Smith Ranch, M	2.43	182	IAmb_Lg		15 44 22.7	
	comp=Z,16nm,0.9s						
X37A	Clayton	3.10	141	Pn	Pn	15 43 56.7	+1.0
HHAR	Hobbs	3.14	103	Pn	Pn	15 43 57.5	+1.3
HHAR				IAmb_Lg		15 44 53.5	
	comp=Z,24nm,1.0s						
S39A	Bolivar	3.58	78	Pn	Pn	15 44 02.1	-0.1
S39A				IAmb_Lg		15 45 01.9	
	comp=Z,15nm,0.7s						
MIAR	Mount Ida	4.20	125	IAmb_Lg		15 45 19.9	
	comp=Z,17nm,0.8s						
P38A	Dawn	4.20	51	IAmb_Lg		15 45 28.4	
	comp=Z,14nm,1.1s						
MGMO	Mountain Grove	4.37	87	IAmb_Lg		15 45 27.7	
	comp=Z,13nm,0.8s						
Z38A	Mt. Pleasant	4.39	148	IAmb_Lg		15 45 34.9	
	comp=Z,14nm,0.8s						
R40A	Maddies Statio	4.52	72	IAmb_Lg		15 45 39.6	
	comp=Z,8.9nm,0.8s						
FCAR	Ozark Folk Cen	4.67	102	IAmb_Lg		15 45 47.2	
	comp=Z,13nm,0.8s						
P40A	Paris	5.12	59	IAmb_Lg		15 45 53.5	
	comp=Z,9.1nm,0.8s						
T25A	Trinidad	5.34	273	IAmb_Lg		15 46 11.2	
	comp=Z,12nm,0.9s						
LCAR	Lake Charles	5.39	98	IAmb_Lg		15 45 57.2	
	comp=Z,12nm,0.7s						
FVM	French Village	5.89	79	IAmb_Lg		15 46 17.2	
	comp=Z,9.2nm,0.7s						
Q24A	Divide	6.16	290	IAmb_Lg		15 46 30.0	
	comp=Z,6.8nm,0.9s						
JCT	Junction City	6.76	195	IAmb_Lg		15 46 53.8	
	comp=Z,7.6nm,0.8s						
N23A	Red Feather La	7.46	304	IAmb_Lg		15 47 10.6	
	comp=Z,7.8nm,0.8s						

*IDC **05** 15:50:54.9±3.2, 22°55N×11°76W, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.2/42, mbtmp3.5/3, ML3.4/2, MS3.5/1, Ms1 3.4/1, ms1mx2.5/37, Error ellipse: s-maj=119.3km s-min=46.5km az=76.0*
ISC 05 15:50:57.3±1.6, **22°6N**±0°2×**11°4W**±0°2, **h10**km, **n9**, σ**1s40**/9, **Mauritania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	15.59	125	Pn	P	15 54 40.8	-0.9
	0.1nm,0.3s,baz=312,slow=12,SNR=4.6						
TORD				Sn	Sn	15 57 30.9	+0.6
	0.1nm,0.3s,baz=312,slow=17,SNR=1.7						
TIC	Toumodi	17.02	158	eP	P	15 54 59.0	+1.5
DBIC	Dimbokro	17.05	157	P	Pn	15 54 54.0	-2.0
	0.2nm,0.3s,baz=346,slow=14,SNR=1.5						
DBIC				S	Sn	15 57 53.5	-12
	0.1nm,0.3s,baz=273,slow=8.0,SNR=1.2						
KIC	Kosan Boka	17.38	157	eP	P	15 55 02.2	+0.7
	7.3nm,0.5s						
LIC	Lamto	17.41	158	eP	P	15 55 03.7	+2.0
	8.0nm,0.5s						
BDFB	Brasilia	52.27	227	LR	LR	16 21 03.4	
	comp=Z,44nm,18.6s,baz=350,slow=35						
MKAR	Makanchi Array	76.28	45	P	P	16 02 46.6	+0.1
	0.2nm,0.7s,baz=287,slow=5.7,SNR=2.7						
WRA	Warramunga Arr	147.99	92	PKPbc	PKPbc	16 10 43.9	+0.1
	0.3nm,0.7s,baz=295,slow=2.4,SNR=2.4						
ASAR	Alice Springs	148.11	99	PKPbc	PKPbc	16 10 43.9	-0.2
	0.2nm,0.5s,baz=284,slow=2.0,SNR=8.0						

*DJA **05** 15:59:15.0±2.7, 4°N±15°×12°7E±1°5, h19km±7km, M4.0/5, mb4.0/1, MLv3.9/5*
*IDC **05** 15:59:27.8±3.2, 3°67N×125°64E, h128km±37km, mb2.9/5, mb1 3.1/6, mb1mx3.0/39, mbtmp3.4/6, MS2.5/1, Ms1 2.5/1, ms1mx2.1/17, Error ellipse: s-maj=95.9km s-min=16.8km az=73.0*
ISC 05 15:59:25.9±0.9, **3°48N**±0°07×**125°2E**±0°3, **h100**km, **n9**, σ**2s31**/9, **mb3.2**/5, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.36	56	P	Pn	15 59 38.3	-2.5
KMSI	Cibinong	3.15	203	P	Pn	16 00 24.9	+11
DAV	Davao City (W)	3.58	6	P	Pn	16 00 19.6	+0.1
	57nm,0.3s,baz=218,slow=2.4,SNR=2.3						
DAV				S	Sn	16 01 05.6	+4.6
	72nm,0.3s,baz=186,slow=0.7,SNR=2.0						
DAV				LR	LR	16 01 33.0	
	comp=Z,65nm,18.2s,baz=134,slow=37						
SANI	Sanana	5.55	172	P	Pn	16 00 46.3	+0.2
FITZ	Fitzroy Crossi	21.45	179	P	P	16 04 06.9	+0.7
	1.1nm,1.0s,baz=0.0,slow=6.1,SNR=1.2						
WRA	Warramunga Arr	24.94	159	P	P	16 04 39.6	-0.5
	0.6nm,0.7s,baz=342,slow=10,SNR=7.6						
ASAR	Alice Springs	28.28	163	P	P	16 05 10.9	+0.8
	0.2nm,0.8s,baz=337,slow=7.2,SNR=1.2						
SONM	Songino Array	47.07	343	P	P	16 07 46.1	-1.6
	0.2nm,0.5s,baz=150,slow=7.2,SNR=2.4						
MKAR	Makanchi Array	56.91	326	P	P	16 09 00.1	-0.5
	0.2nm,0.4s,baz=124,slow=7.9,SNR=5.5						

*DJA **05** 16:12:22.7±2.5, 5°N±20°×12°7E±°, h10km, M4.4/4, mb4.0/4, mB4.6/1, MLv4.6/2, Mw(mB)3.8/1*
*IDC **05** 16:12:25.7±1.1, 4°12N×126°68E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.6/35, mbtmp3.6/8, ML3.2/1, MS4.4/1, Ms1 4.4/1, ms1mx2.9/49, Error ellipse: s-maj=70.4km s-min=17.0km az=66.0*
*NEIC **05** 16:12:31.7±1.9, 4°0N±0°1×126°4E±0°3, h35km±2km, mb3.9/14, Error ellipse: s-maj=50.4km s-min=9.7km az=72.0*
ISC 05 16:12:31.6±0.7, **4°13N**±0°08×**126°73E**±0°09, **h45**km, **n28**, σ**1s35**/28, **mb3.9**/12, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.28	250	P	Pn	16 12 52.0	-1.1
DAV	Davao City (W)	3.14	339	Pn	Pn	16 13 18.9	+0.3
TNTI	Ternate	3.40	169	Pn	Pn	16 13 20.0	-2.2
TNTI	Ternate	3.40	169	P	Pn	16 13 22.8	+0.6
LBMI	Labuha	4.80	171	P	Pn	16 13 42.9	+1.4
	16nm,0.9s						
GTOI	Gorontalo	5.09	227	P	Pn	16 13 46.1	+0.7
	4.4nm,0.6s						
MRSI	Marisa	6.01	233	P	Pn	16 13 59.4	+1.3
	443nm20nm,0.5s						
SANI	Sanana	6.18	187	P	Pn	16 14 01.2	+0.7
SIJI	Sorong	6.72	138	Pn	Pn	16 14 05.7	-2.2
	0.5nm,0.3s,baz=124,slow=23,SNR=1.9						
SIJI				Sn	Sn	16 15 25.7	+2.5
	0.4nm,0.3s,baz=306,slow=23,SNR=1.4						
SIJI				LR	LR	16 15 53.5	
	comp=Z,24nm,20.3s,baz=70,slow=31						
MTN	Manton Dam	17.42	166	Pn	Pn	16 16 28.5	-3.1
MTN				IAmb	IAmb	16 16 52.1	
	comp=Z,10nm,1.1s						
KNRA	Kununurra	19.78	174	Pn	P	16 16 58.3	0.0
KNRA				IAmb	IAmb	16 17 22.4	
	comp=Z,5.8nm,1.0s						
TPUB	Ta-pu	19.95	343	P	P	16 16 59.3	-0.8
FITZ	Fitzroy Crossi	22.12	183	P	P	16 17 23.8	+0.4
	comp=Z,1.4nm,1.0s,baz=319,slow=21,SNR=1.7						
FITZ	Fitzroy Crossi	22.12	183	P	P	16 17 21.6	-1.8
FITZ				IAmb	IAmb	16 17 31.6	
	comp=Z,7.9nm,1.5s						
WB0	Warramunga Arr	24.91	163	P	P	16 17 50.5	-0.2
WRAB	Tennant Creek	25.06	163	P	P	16 17 52.0	0.0
WRAB				IAmb	IAmb	16 18 05.4	
	comp=Z,6.2nm,1.1s						
WRA	Warramunga Arr	25.07	163	P	P	16 17 52.2	+0.1
	comp=Z,1.0nm,0.9s,baz=335,slow=11,SNR=10.0						
WRA	Warramunga Arr	25.07	163	IAmb	IAmb	16 17 57.7	
	comp=Z,0.5nm,1.5s						
WB2	Warramunga Arr	25.07	163	P	P	16 17 52.3	+0.2
WB2				IAmb	IAmb	16 17 56.0	
	comp=Z,8.0nm,1.2s						
WR0	Warramunga Arr	25.14	162	P	P	16 17 52.8	0.0
WR0				IAmb	IAmb	16 18 00.6	
	comp=Z,4.7nm,1.2s						
ASAR	Alice Springs	28.50	166	P	P	16 18 23.1	+0.1
	comp=Z,0.1nm,0.3s,baz=341,slow=7.1,SNR=1.5						
STKA	Stephens Creek	38.50	159	P	P	16 19 49.0	-0.7
	comp=Z,1.5nm,0.8s,baz=344,slow=7.4,SNR=1.9						
STKA	Stephens Creek	38.50	159	P	P	16 19 50.3	+0.6
SONM	Songino Array	46.92	341	P	P	16 20 58.2	+0.3
	comp=Z,0.3nm,0.5s,baz=157,slow=8.2,SNR=2.5						
MK31	Makanchi Array	57.23	325	P	P	16 22 13.6	-0.9
MK31				IAmb	IAmb	16 22 35.9	
	comp=Z,1.2nm,1.4s						
MKAR	Makanchi Array	57.23	325	P	P	16 22 13.6	-0.8
	comp=Z,0.4nm,0.4s,baz=117,slow=7.5,SNR=10						
MAKZ	Makanchi	57.42	325	P	P	16 22 15.2	-0.6
MAKZ				IAmb	IAmb	16 22 40.6	
	comp=Z,2.1nm,1.3s						
ARCES	ARCESS Array B	90.07	340	P	P	16 25 29.1	+2.6
	comp=Z,1.5nm,0.8s,baz=74,slow=6.7,SNR=3.6						
ARCES				LR	LR	17 11 03.7	
	comp=Z,182nm,18.3s,baz=71,slow=39						

*SNET **05** 16:19:49.9±0.9, 13°47N×90°82W, h19km±4km, ML2.9*
*GCG **05** 16:19:50.5±1.3, 13°80N×91°07W, h59km±35km, MD3.4*
ISC 05 16:19:46.4±2.3, **13°6N**±0°1×**90°97W**±0°07, **h9**km±11km, **n12**, σ**0s80**/24, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.83	9	eP	Pn	16 20 05.1	+0.6
FUG				eS	Sn	16 20 17.2	+0.1
PCG	Pacaya	0.84	25	eP	Pn	16 20 05.1	+0.3
PCG				eS	Sn	16 20 18.0	+0.5
NBG	Las Nubes	1.14	32	eP	Pn	16 20 10.4	+1.6
NBG				eS	Sn	16 20 25.5	+0.8
NUBE	Las Nubes	1.19	76	eP	Pg	16 20 09.5	+0.2
NUBE				eS	Sn	16 20 25.0	-0.9
NUBE				IAML		16 20 26.7	
	comp=Z,106nm,0.2s						
LOAL	Lomas de Alarc	1.22	72	eP	Pg	16 20 10.6	+0.8
LOAL				eS	Sn	16 20 26.4	-0.1
SLOZ	Alcaldia de Sa	1.22	71	eP	Pg	16 20 10.5	+0.6
SLOZ				eS	Sn	16 20 26.4	-0.1
STG3	Santiaguito 3,	1.23	332	eP	Pb	16 20 10.2	+0.3
STG3				eS	Sb	16 20 23.8	-2.2
CEVE	Cerro Verde	1.33	81	eP	Pg	16 20 11.8	-0.1
CEVE				eS	Sg	16 20 28.9	-0.3
CEVE				IAML		16 20 31.9	
	comp=Z,601nm,0.2s						
SBLS	San Blas	1.33	80	eP	Pg	16 20 11.9	0.0
SBLS				eS	Sg	16 20 29.2	-0.1
SNJE	San Jose	1.35	79	eP	Pg	16 20 12.1	-0.3
SNJE				eS	Sg	16 20 30.0	0.0
MTO3	Montecristo	1.75	64	eP	Pb	16 20 18.7	-0.1
MTO3				eS	Sg	16 20 41.3	-1.3
LFRS	El Faro	1.86	90	eP	Pn	16 20 19.3	+0.7
LFRS				eS	Sn	16 20 42.0	-0.3

*MOS **05** 16:21:00.7±1.0, 19°97N×122°09E, h14km, mb5.3/36, MS4.4/12, Error ellipse: s-maj=6.6km s-min=3.8km az=108.8*
*MAN **05** 16:21:01.7, 20°05N×122°23E, h19km, mb5.5, ML4.5, MS4.8, Hypocentre not reviewed by the ISC*
MAN INTENSITY II - UYUGAN AND BASCO BATANES.
*BJI **05** 16:21:03.0±0.0, 20°27N×121°99E, h6km, mb4.6/73, mB5.0/53, ML4.8/2, Ms4.9/83, Ms7 4.6/76*
*NEIC **05** 16:21:03.7±1.8, 20°07N±0°07×122°00E±0°06, h17km±3km, mb5.1/196, Error ellipse: s-maj=10.1km s-min=7.5km az=151.0*
*GCMT **05** 16:21:04.7±0.2, 20°00N±0°01×121°91E±0°01, h15km, MW5.0/123, Moment Tensor Solution. s53,c65; s123,c192; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.18±.09; $M_{\theta\theta}$2.60±.08; $M_{\phi\phi}$-2.78±.09; $M_{r\theta}$1.34±.26; $M_{\theta\phi}$-3.00±.07; $M_{\phi r}$-1.49±.28; Best double couple: $M_0$4.48900×10^{16} NP1:ϕ_s67.00000°, δ66.00000°, λ172.00000°. NP2:ϕ_s160.00000°, δ83.00000°, λ24.00000°. Principal axes: T 4.6940, Plg22.0000°, Azm26.0000°; N -0.4130, Plg65.0000°, Azm176.0000°; P -4.2830, Plg11.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **05** 16:21:05.1±1.5, 19°96N×122°16E, h33km±11km, mb4.6/33, mb1 4.7/39, mb1mx4.7/45, mbtmp4.9/39, ML4.8/5, MS4.3/61, Ms1 4.3/61, ms1mx4.2/74 Error ellipse: s-maj=12.4km s-min=7.8km az=80.0*
ISC 05 16:21:04.5±0.5, **20°08N**±0°03×**122°11E**±0°03, **h25**km±3km, **h25**km**:pP-P**, **n806**, σ**1s69**/815, **mb5.0**/225, **MS4.4**/82, **33C-33D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBP	Basco	0.38	339	⇑iP	Pb	16 21 12.0	-0.8
BBP				iS	Sn	16 21 21.7	+0.7
APYP	Conner	2.36	200	⇑eP	Pn	16 21 39.6	-2.1
SIPP	Brgy, Tapao	2.66	216	⇓eP	Pn	16 21 46.0	+0.2
SIPP				eS	Sb	16 22 30.6	+6.9
TWG	Pinlang	2.89	341		Pn	16 21 47.0	-2.0
YULB	Yu-li	3.38	347		Pn	16 21 54.7	-1.0
TPUB	Ta-pu	3.48	337		Pn	16 21 57.2	0.0
TPUB	Ta-pu	3.48	337	P	Pn	16 21 59.5	+2.3
SSLB	Suanglung	3.84	344	Pn	Pn	16 22 03.5	+1.4
SSLB	Suanglung	3.84	344	P	Pn	16 22 03.6	+1.5
NACB	Ninganchiao	4.10	353		Pn	16 22 04.6	-1.0
YOJ	Yonaguni jima	4.44	11	P	Pn	16 22 10.7	+0.4
YOJ	Yonaguni jima	4.44	11	Pn	Pn	16 22 10.7	+0.4
YOJ	Yonaguni jima	4.44	11	P	Pn	16 22 11.8	+1.5
PCPH	Palayan	4.60	192	⇓eP	Pn	16 22 12.1	-0.5
YHNB	Yeheng	4.61	352	Pn	Pn	16 22 13.4	+0.6
YHNB	Yeheng	4.61	352	P	Pn	16 22 14.9	+2.1
TATO	Taipei	4.90	353		Pn	16 22 18.0	+1.3
JMJ	Miyako jima 2	5.55	31	P	Pn	16 22 26.1	+0.5
KNMB	Chin-men Tao	5.56	322	Pn	Pn	16 22 24.9	-0.8
JCNP	Jose Panganiba	5.79	174	⇓iP	Pn	16 22 27.8	-1.1
QZH	Quanzhou	5.83	327	⇑iPn	Pn	16 22 28.8	-0.6
QZH				Sn	Sn	16 23 34.2	-1.2
QZH				LR	LR		
	comp=N,5µm,15.7s						
QZH				LR	LR		
	comp=E,3µm,17.9s						
QZH				LR	LR		
	comp=Z,3µm,10.9s						
LQP	Lukban	5.96	185	eP	Pn	16 22 30.9	-0.6
TGY	Tagaytay City	6.05	191	Pn	Pn	16 22 31.8	-0.8
	58nm,0.3s,baz=248,slow=5.4,SNR=1.6						
GQP	Guinayangan	6.15	177	⇑eP	Pn	16 22 33.3	-0.6
GQP				eS	Sn	16 23 40.8	-2.7
LUBP	Lubang	6.56	196	⇑eP	Pn	16 22 42.0	+2.5
PGP	Puerto Galera	6.64	190	⇓eP	Pn	16 22 49.0	+8.4
HKPS	Hong Kong Po S	7.75	288	Pn	Pn	16 22 53.4	-2.4
MCO	Taipa Grande	8.24	286	P	Pn	16 23 04.0	+1.5
RCP	Roxas	8.50	176	⇑eP	Pn	16 23 05.2	-0.9
JOW	Kunigami	8.78	39	Pn	Pn	16 23 09.9	0.0
	34nm,0.3s,baz=237,slow=10,SNR=72						
JOW				Sn	Sn	16 24 46.3	-1.9
	baz=134,slow=27,SNR=0.6						
JOW				LR	LR	16 25 08.7	
	comp=Z,366nm,21.8s,baz=229,slow=28						
JOW	Kunigami	8.78	39	Pn	Pn	16 23 09.6	-0.4
JOW	Kunigami	8.78	39	P	Pn	16 23 10.7	+0.7
CNOP	Candoni, Negro	10.21	177	⇑eP	Pn	16 23 31.4	+1.8
TBP	Tagbilaran	10.47	170	eP	Pn	16 23 33.0	-0.2
SSE	Sheshan	11.00	356	P	Pn	16 23 42.2	+1.9
SSE				S	Sn	16 25 47.1	+4.6
SSE				pmax	pmax		
	comp=Z,25nm,0.7s						
SSE				LR	LR		
	comp=N,560nm,14.2s						
SSE				LR	LR		
	comp=E,1µm,14.1s						
QIZ	Qiongzhong	11.61	267	Pn	Pn	16 23 46.5	-2.3
QIZ	Qiongzhong	11.61	267	P	Pn	16 23 46.8	-2.0
QIZ				S	Sn	16 25 58.6	+0.9
QIZ				LR	LR		
	comp=N,4µm,15.1s						
QIZ				LR	LR		
	comp=E,1µm,18.3s						
QIZ				LR	LR		
	comp=Z,2µm,16.3s						
QIZ	Qiongzhong	11.61	267	P	Pn	16 23 47.3	-1.5
NJ2	Nanjing	12.27	347	eP	Pn	16 23 58.4	+0.7
NJ2				pP	P	16 24 02.0	-7.8
NJ2				sP		16 24 06.5	
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
NJ2				LR	LR		
	comp=N,1µm,12.3s						
NJ2				LR	LR		
	comp=E,3µm,14.2s						
NJ2				LR	LR		
	comp=Z,2µm,12.8s						
WHN	Wuhan	12.55	328	⇑P	Pn	16 24 00.5	-1.1
WHN				S	Sn	16 26 15.0	-5.6
WHN				LR	LR		
	comp=N,6µm,10.7s						
WHN				LR	LR		
	comp=E,8µm,11.0s						
WHN				LR	LR		
	comp=Z,6µm,13.4s						
CTBH	Cotabato--PC H	12.95	171	⇓eP	Pn	16 24 11.8	+4.7
DAV	Davao City (W)	13.37	165	Pn	Pn	16 24 09.8	-3.0
	baz=31,slow=18,SNR=1.1						
DAV				LR	LR	16 29 50.3	
	comp=Z,2µm,18.9s,baz=356,slow=40						
JSU	Suzuyama	13.62	32	Pn	Pn	16 24 15.1	-1.2
KKM	Kota Kinabalu	15.09	203	Pn	Pn	16 24 36.3	0.0
KKM				IAmb	IAmb	16 24 46.4	
	comp=Z,72nm,1.0s						
KKM	Kota Kinabalu	15.09	203	P	P	16 24 39.5	-1.8
JNU	Nakatsue	15.16	29	Pn	Pn	16 24 37.2	+0.1
	comp=Z,1.3nm,0.3s,baz=220,slow=5.1,SNR=22						
JNU	Nakatsue	15.16	29	Pn	Pn	16 24 37.0	-0.1
JNU	Nakatsue	15.16	29	P	Pn	16 24 37.9	+0.8
ENH	Enshi	15.27	314	Pn	Pn	16 24 37.4	-1.2
DLV	T Lat	15.39	240		Pn	16 24 38.3	-2.0
DLV	T Lat	15.39	240	P	Pn	16 24 38.8	-1.5
GYA	Guiyang	15.54	297	⇑iP	Pn	16 24 42.0	-0.2
GYA				S	Sn	16 27 32.1	-1.7
GYA				pmax	pmax		
	comp=Z,45nm,1.0s						
GYA				LR	LR		
	comp=Z,3µm,14.2s						
GYA				LR	LR		
	comp=Z,1µm,16.2s						
GYA				LR	LR		
	comp=Z,2µm,17.1s						
JTU	Tsushima	15.77	23	Pn	Pn	16 24 43.5	-1.5

SPMM Sapulut 16.24 201 P P 16 24 55.0 +0.9
UBPT Khong Chiam 16.56 256 Pn Pn 16 24 54.0 -1.1
TIA Tai'an 16.65 346 ⇓P P 16 25 02.7 +4.2
TIA S Sn 16 28 05.0 +4.5
TIA pmax pmax
comp=Z,13nm,0.9s
TIA pmax pmax
comp=Z,270nm,8.6s
TIA LR LR
comp=N,870nm,17.7s
TIA LR LR
comp=E,3μm,18.4s
TIA LR LR
comp=Z,2μm,12.6s
LYN LuoYang 16.75 331 *e*P **P 16 24 59.8 +0.2**
LYN sP pP 16 25 04.2 -1.4
LYN pmax pmax
comp=Z,20nm,0.6s
LYN pmax pmax
comp=Z,220nm,6.1s
LYN LR LR
comp=Z,2μm,16.1s
LYN LR LR
comp=Z,3μm,16.2s
LYN LR LR
comp=Z,1μm,14.9s
TJN Taejon 16.87 15 *de*P **P 16 25 00.8 -0.1**
TJN Taejon 16.87 15 Pn **Pn 16 24 59.5 +0.5**
TJN Taejon 16.87 15 P **P 16 25 01.2 +0.3**
JMN Monobe 17.15 35 Pn **Pn 16 25 01.6 -1.0**
JHS Saijyo 17.75 31 P **P 16 25 13.1 +2.4**
INCN Inchon 17.78 12 P **P 16 25 14.2 +3.2**
KSAR Wonju Array Be 18.01 15 P **P 16 25 15.1 +1.6**
KSAR Wonju Array Be 18.01 15 P **P 16 25 15.1 +1.6**
KSRS Korea Array 18.03 15 P **P 16 25 15.4 +1.7**
comp=Z,1.1nm,0.3s,baz=196,slow=12,SNR=84
KSRS LR LR 16 32 58.5
comp=Z,2μm,18.2s,baz=205,slow=39
KS19 Wonju Array Si 18.07 15 P **P 16 25 14.8 +0.7**
XAN Xi'an 18.17 323 P **P 16 25 16.5 +1.1**
XAN pP pP 16 25 21.1 -0.7
XAN sP sP 16 25 23.6 -1.3
XAN pmax pmax
comp=Z,23nm,1.0s
XAN pmax pmax
comp=Z,910nm,7.7s
XAN LR LR
comp=Z,3μm,11.3s
XAN LR LR
comp=Z,2μm,12.0s
XAN LR LR
comp=Z,2μm,11.9s
KMI Kunming 18.57 289 ⇑P **Pn 16 25 23.4 +3.1**
KMI pP sP 16 25 29.7 +0.5
KMI sP pwP 16 25 32.8 +3.8
KMI S **Sn 16 28 39.7 -7.7**
KMI SS **SnSn 16 29 09.2 +7.9**
KMI pmax pmax
comp=Z,16nm,1.2s
KMI pmax pmax
comp=Z,670nm,5.3s
KMI LR LR
comp=Z,4μm,14.8s
KMI LR LR
comp=Z,1μm,14.8s
KMI LR LR
comp=Z,1μm,13.9s
DL2 Dalian 18.76 359 P **Pn 16 25 24.3 +2.0**
DL2 S **S 16 28 56.5 +2.8**
DL2 pmax pmax
comp=Z,50nm,1.2s
DL2 pmax pmax
comp=Z,550nm,7.6s
DL2 LR LR
comp=Z,1μm,18.2s
DL2 LR LR
comp=Z,3μm,16.7s
DL2 LR LR
comp=Z,2μm,17.2s
TOLI2 Tolitoli 18.90 184 P **P 16 25 23.3 -0.1**
TOLI2 Tolitoli 18.90 184 P **Pn 16 25 27.8 +3.7**
GTOI Gorontalo 19.35 177 P **P 16 25 25.3 -3.0**
comp=Z,488nmcomp=Z,34nm,1.0s
KMSI Cibinong 19.48 174 P **Pn 16 25 33.6 +2.6**
TIY Taiyuan 19.48 336 ⇓P **Pn 16 25 31.7 +0.7**
TIY PP **PnPn 16 25 43.7 -0.9**
TIY S **Sn 16 29 11.5 +2.5**
TIY pmax pmax
comp=Z,47nm,0.7s
TIY pmax pmax
comp=Z,460nm,5.3s
TIY LR LR
comp=Z,3μm,14.8s
TIY LR LR
comp=Z,6μm,14.5s
TIY LR LR
comp=Z,1μm,15.5s
MRSI Marisa 19.49 181 P **P 16 25 29.9 +0.1**
comp=Z,886nmcomp=Z,41nm,0.6s
JCJ Chichijima 19.66 65 P **Pn 16 25 33.0 -0.3**
comp=Z,5.1nm,0.3s,baz=268,slow=7.7,SNR=4.5
JCJ Chichijima 19.66 65 Pn 16 25 34.3 +1.0
JCJ Chichijima 19.66 65 P **Pn 16 25 35.5 +2.2**
CD2 Chengdu 19.73 307 ⇓*i*P **Pn 16 25 34.1 0.0**
CD2 pP pwP 16 25 39.9 +0.9
CD2 PP **PnPn 16 25 52.6 +4.5**
CD2 S **S 16 29 08.7 -5.1**
CD2 sS Sn 16 29 17.0 +1.8
CD2 SS **SnSn 16 29 38.7 +9.0**
CD2 pmax pmax
comp=Z,70nm,0.7s
CD2 pmax pmax
comp=Z,110nm,3.0s
CD2 LR LR
comp=Z,250nm,21.6s
CD2 LR LR
comp=Z,2μm,12.8s
CD2 LR LR
comp=Z,1μm,14.0s
MPSI Mapaga 19.74 187 P **P 16 25 31.1 -1.5**
comp=Z,461nmcomp=Z,25nm,0.8s
PZH PanZhiHua 19.76 293 P **Pn 16 25 35.4 +0.9**
PZH pP **pwP 16 25 40.5 -1.4**
PZH S **S 16 29 13.8 -0.7**
PZH SS **SnSn 16 29 34.6 +4.2**
PZH pmax pmax
comp=Z,50nm,1.1s
PZH pmax pmax
comp=Z,630nm,7.1s
PZH LR LR
comp=Z,2μm,13.9s
PZH LR LR
comp=Z,1μm,13.1s
PZH LR LR
comp=Z,2μm,13.9s
TNTI Ternate 19.87 164 P **Pn 16 25 39.3 +3.5**
SBUM Sibu 20.01 210 P **P 16 25 34.6 -1.0**
SBUM IAmb IAmb 16 25 43.2
comp=Z,84nm,1.1s
SBUM Sibu 20.01 210 P **P 16 25 35.0 -0.6**
INU Inuyama 20.09 38 Pn **Pn** 16 25 39.8 +1.5
INU IAmb IAmb 16 25 44.7
comp=Z,126nm,0.9s
INU Inuyama 20.09 38 P Pn 16 25 40.9 +2.6
JHJ Hachijo jima 2 20.41 47 P Pn 16 25 41.5 -0.5
comp=Z,31nm,0.4s,baz=237,slow=17,SNR=1.3
JHJ LR LR 16 32 12.2
comp=Z,891nm,22.0s,baz=252,slow=33
BJT Baijiatuau 20.51 347 P **P 16 25 40.5 -0.4**
BJT pmax pmax
comp=Z,55nm,1.1s
BJT Baijiatuau 20.51 347 P 16 25 40.5 -0.4
BJI Beijing 20.53 347 P Pn 16 25 43.7 +0.4
BJI pmax pmax
comp=Z,20nm,0.7s
APSI Ampana 20.87 181 P Pn 16 25 46.7 -0.7
comp=Z,824nmcomp=Z,108nm,1.2s
LUWI Luwuk 21.00 178 P **P 16 25 47.1 +0.7**
LUWI Luwuk 21.00 178 P **P 16 25 47.9 +1.6**
comp=Z,2μmcomp=Z,171nm,1.1s
LUWI Luwuk 21.00 178 P **P 16 25 49.1 +2.8**
LBMI Labuha 21.26 165 P **P 16 25 48.0 -1.1**
comp=Z,755nmcomp=Z,50nm,1.1s
MJAR Matsushiro Arr 21.62 37 P **P 16 25 54.4 +1.5**
comp=Z,36nm,0.9s,baz=239,slow=9.5,SNR=39
MJAR Matsushiro Arr 21.62 37 P **P 16 25 54.4 +1.5**
MJAR pmax pmax
comp=Z,57nm,1.1s
MJAR Matsushiro Arr 21.62 37 P **P 16 25 54.4 +1.5**
MJAR IAmb IAmb 16 25 58.3
comp=Z,57nm,1.1s
KSM Kuching 21.80 213 P **P 16 25 54.0 -0.9**
KSM IAmb IAmb 16 26 04.3
comp=Z,79nm,0.9s
KSM Kuching 21.80 213 P **P 16 25 55.0 +0.1**
KSM Kuching 21.80 213 P **P 16 25 56.5 +1.6**
CHTO Chiang Mai 21.88 271 P **P 16 25 55.8 0.0**
CHTO pmax pmax
comp=Z,90nm,1.4s
CHTO Chiang Mai 21.88 271 P **P 16 25 55.8 0.0**
CHTO IAmb IAmb 16 26 05.5
comp=Z,90nm,1.4s
CHTO Chiang Mai 21.88 271 P **P 16 25 57.3 +1.5**
CM31 Chiang Mai Arr 21.93 270 P **P 16 25 55.6 -0.6**
CMAR Chiang Mai Arr 21.93 270 P **P 16 25 57.7 +1.4**
comp=Z,18nm,0.9s,baz=72,slow=9.0,SNR=80
CMAR PcP **PcP 16 29 55.4 +0.3**
comp=Z,1.7nm,0.8s,baz=71,slow=1.0,SNR=5.9
CMAR ScP **ScP 16 33 29.9 -0.9**
comp=Z,1.0nm,0.9s,baz=88,slow=2.9,SNR=5.0
CMAR LR LR 16 34 11.7
comp=Z,403nm,21.8s,baz=90,slow=36
CMAR Chiang Mai Arr 21.93 270 P **P 16 25 56.0 -0.3**
MTKI Muara Teweh, K 22.06 200 P **P 16 25 56.0 -1.7**
comp=Z,1μmcomp=Z,52nm,0.7s
SANI Sanana 22.32 170 P **P 16 25 59.1 -1.4**
comp=Z,51nm,1.2s
SANI Sanana 22.32 170 P **P 16 26 05.5 +5.0**
STKI Sintang 22.45 209 P **P 16 26 00.0 -1.9**
comp=Z,2μmcomp=Z,23nm,1.3s
HHC Hu-ho-hao-te 22.57 339 *e*P **P 16 26 06.5 +3.4**
HHC S **S 16 30 08.4 -0.8**
HHC pmax pmax
comp=Z,37nm,1.1s
HHC pmax pmax
comp=Z,300nm,5.5s
HHC LR LR
comp=Z,2μm,14.0s
HHC LR LR
comp=Z,2μm,13.3s
HHC LR LR
comp=Z,2μm,14.6s
LZH Lanzhou 22.61 319 P **P 16 26 06.2 +2.6**
LZH pP sP 16 26 11.2 -2.0
LZH sP pP 16 26 13.4 +3.2
LZH PP **PnPn 16 26 34.9 +7.4**
LZH S **S 16 30 09.3 -0.7**
LZH sS pS 16 30 15.9 -2.2
LZH pmax pmax
comp=Z,100nm,1.2s
LZH pmax pmax
comp=Z,480nm,4.6s
LZH LR LR
comp=Z,2μm,11.9s
LZH LR LR
comp=Z,2μm,12.5s
LZH LR LR
comp=Z,2μm,14.7s
SWI Sorong 22.67 156 P **P 16 26 04.1 -0.1**
comp=Z,56nm,1.1s
SIJI Sorong 22.68 156 P **P 16 26 04.1 -0.2**
comp=Z,28nm,0.8s,baz=321,slow=4.3,SNR=7.8
SIJI LR LR 16 37 14.9
comp=Z,275nm,18.1s,baz=322,slow=43
BTO Baotou 22.92 336 *e*P **P 16 26 06.8 +0.1**
BTO S **S 16 30 20.0 +4.7**
TTSI Tana Toraja 23.09 186 P **P 16 26 08.6 0.0**
comp=Z,562nmcomp=Z,44nm,1.2s
MSHR Mys Shultsa 23.69 17 *i*P **P 16 26 12.7 -1.6**
CN2 Changchun 23.81 6 *e*P **P 16 26 13.8 -1.6**
CN2 *es*P pP 16 26 18.7 -3.3
CN2 *e*S **S 16 30 26.2 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,2μm,18.0s
SPSI Sidrap Palu 24.01 186 P **P 16 26 16.1 -1.4**
comp=Z,47nm,1.1s
JMM Marumori 24.03 39 P **P 16 26 18.5 +1.0**
XLT XiLinHaoTe 24.28 349 *e*P **P 16 26 19.4 -0.5**
XLT pP pP 16 26 24.5 -2.0
XLT sP sP 16 26 27.2 -2.1
XLT S **S 16 30 37.1 -0.2**
XLT sS pS 16 30 43.5 -1.4
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,310nm,9.2s
XLT LR LR
comp=Z,2μm,14.4s
XLT LR LR
comp=Z,970nm,16.1s
AAI Ambon 24.37 165 P **P 16 26 20.7 -0.1**
comp=Z,3μmcomp=Z,41nm,0.9s
VLA Vladivostok 24.39 18 *i*P **P 16 26 22.9 +2.1**
BNSI Bone 24.41 185 P **P 16 26 19.5 -1.7**
comp=Z,545nmcomp=Z,29nm,0.9s
BBKI Banjar Baru 24.46 198 P **P 16 26 20.9 -0.8**
comp=Z,47nm,0.7s
KAPI Kappang 25.05 186 P **P 16 26 25.3 -1.6**
comp=Z,62nm,1.0s,baz=127,slow=4.8,SNR=10
KAPI LR LR 16 36 43.9
comp=Z,477nm,21.7s,baz=353,slow=38
KAPI Kappang 25.05 186 P **P 16 26 25.2 -1.8**
KAPI IAmb IAmb 16 26 33.9
comp=Z,73nm,1.0s
KAPI Kappang 25.05 186 P **P 16 26 31.3 +4.3**
MDJ Mudanjiang 25.24 13 P **P 16 26 29.1 +0.6**
MDJ IAmb IAmb 16 26 44.3
comp=Z,29nm,1.0s
MDJ Mudanjiang 25.24 13 P **P 16 26 29.5 +1.0**
MDJ S **S 16 30 59.8 +7.2**
MDJ pmax pmax
comp=Z,13nm,0.9s
MDJ pmax pmax
comp=Z,270nm,10.2s
MDJ LR LR
comp=Z,2μm,18.5s
MDJ LR LR
comp=Z,3μm,16.4s
MDJ LR LR
comp=Z,3μm,13.7s
MDJ Mudanjiang 25.24 13 P **P 16 26 30.6 +2.1**
BKSI Bulukumba 25.32 185 P **P 16 26 35.5 +6.1**
BBSI Bau Bau 25.41 179 P **P** 16 26 38.5 +8.2
USA0B Ussuriysk Arra 25.42 17 P **P 16 26 32.5 +2.4**
USA0B pmax pmax
comp=Z,36nm,1.0s
USA0B Ussuriysk Arra 25.42 17 P **P 16 26 32.5 +2.4**
USA0B IAmb IAmb 16 26 44.8
comp=Z,36nm,1.0s
USRK Ussuriysk Ar. 25.42 17 P **P 16 26 32.4 +2.3**
comp=Z,16nm,0.8s,baz=205,slow=9.3,SNR=28
USRK LR LR 16 37 20.0
comp=Z,902nm,18.0s,baz=182,slow=38
USRK Ussuriysk Ar. 25.42 17 P **P 16 26 31.2 +1.1**
MYKOM Kota Tinggi 25.48 227 P **P 16 26 29.9 -1.0**
MYKOM IAmb IAmb 16 26 40.0
comp=Z,25nm,0.7s
MYKOM Kota Tinggi 25.48 227 P **P 16 26 32.0 +1.1**
KULM Kulim 25.53 238 P **P 16 26 30.4 -1.0**
KULM IAmb IAmb 16 26 41.1
comp=Z,58nm,1.0s
KULM Kulim 25.53 238 P **P 16 26 32.0 +0.6**
TPRI Tanjung Pinang 25.67 224 P **P** 16 26 41.9 +9.3
IPM Ipoh 25.73 236 P **P 16 26 33.0 -0.2**
IPM IAmb IAmb 16 26 39.5
comp=Z,40nm,0.8s
IPM Ipoh 25.73 236 P **P 16 26 34.0 +0.7**
IPM Ipoh 25.73 236 P **P 16 26 33.9 +0.7**
BNX BinXian 25.96 8 ⇓P **P 16 26 35.9 +0.9**
BNX pmax pmax
comp=Z,16nm,0.7s
BNX pmax pmax
comp=Z,310nm,4.3s
DSRI Dabo 26.70 222 P **P 16 26 41.6 -0.4**
comp=Z,53nm,0.9s
PPBI Pangkal Pinang 27.10 217 P **P 16 26 45.3 -0.3**
comp=Z,3μmcomp=Z,28nm,1.2s
GTA Gaotai 27.18 320 ⇓P **P 16 26 47.1 +0.8**
GTA pP pP 16 26 53.4 +0.5
GTA sP sP 16 26 58.8 +3.1
GTA S **S 16 31 26.4 +2.8**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,150nm,8.8s
GTA LR LR
comp=Z,970nm,16.3s
GTA LR LR
comp=Z,940nm,16.3s
GTA LR LR
comp=Z,850nm,17.5s
KMMI Kalianget 28.13 197 P **P 16 26 52.6 -2.2**
comp=Z,55nm,1.2s
PSI Prapat 28.41 236 P **P 16 26 58.1 +0.7**
comp=Z,7.8nm,0.8s,baz=33,slow=5.7,SNR=9.7
PSI PcP **PcP 16 30 08.7 -1.0**
comp=Z,2.3nm,0.4s,baz=319,slow=3.5,SNR=4.4
PSI LR LR 16 37 42.2
comp=Z,414nm,20.1s,baz=54,slow=35
RPSI Rantau Prapat 28.48 236 P **P 16 26 58.1 +0.2**
MMRI Maumere 28.54 180 P **P 16 26 58.9 +0.5**
MMRI IAmb IAmb 16 27 24.6
comp=Z,26nm,0.8s
TBJI Tambak Boyo 28.58 202 P P 16 27 09.7 +11
GOMU GeErMu 28.80 310 P **P 16 27 03.0 +2.0**
GOMU pP pP 16 27 07.9 0.0
GOMU sP sP 16 27 09.7 -1.0
GOMU S S 16 31 40.1 -10
GOMU pmax pmax
comp=Z,10.0nm,1.2s
GOMU LR LR
comp=Z,2μm,15.3s
GOMU LR LR
comp=Z,580nm,17.5s
GOMU LR LR
comp=Z,990nm,21.0s
BLJI Banyuglugur 28.90 198 P **P 16 27 01.2 -0.4**
comp=Z,35nm,1.2s
PLAI Plampang 29.05 189 P P 16 27 09.6 +6.7
PLAI Plampang 29.05 189 P P 16 27 07.4 +4.5
MNSI Mandailing Nat 29.21 232 P P 16 27 13.6 +9.1
ASAJ Asahikawa 29.43 31 P **P 16 27 08.1 +2.0**
comp=Z,15nm,0.7s,baz=169,slow=6.4,SNR=5.0
ASAJ LR LR 16 38 33.2
comp=Z,791nm,19.7s,baz=218,slow=36
ASAJ Asahikawa 29.43 31 P **P 16 27 08.1 +2.0**
ASAJ pmax pmax
comp=Z,39nm,1.0s
JKA Kamikawa-asahi 29.43 31 P **P 16 27 08.1 +2.0**
JKA Kamikawa-asahi 29.43 31 IAmb IAmb 16 27 23.6
comp=Z,39nm,1.0s
JAGI Jajag, Banyuwa 29.44 196 P P 16 27 13.7 +7.3
JAGI Jajag, Banyuwa 29.44 196 P **P 16 27 10.6 +4.2**
PWJI Pagerwojo 29.71 201 P **P 16 27 08.6 -0.2**
comp=Z,72nm,1.1s
KLR Kul'dur 30.09 13 LR LR 16 40 25.4
comp=Z,1μm,18.8s,baz=196,slow=38
KLR Kul'dur 30.09 13 *d*/*i*P **P 16 27 12.7 +0.8**
KLR pmax pmax
comp=Z,10.0nm,0.8s
BATI Baumata 30.14 177 LR LR 16 39 30.3
comp=Z,354nm,21.2s,baz=16,slow=37
BATI Baumata 30.14 177 P **P 16 27 12.0 -0.6**
comp=Z,22nm,0.8s
KPJI Karang Pucung 30.17 207 P P 16 27 23.5 +11
MASI Maura Aman, Be 30.22 222 P **P 16 27 13.8 +0.4**
comp=Z,1μmcomp=Z,109nm,1.2s
ULN Ulaanbaatar 30.28 340 *de*P **P 16 27 14.1 +0.3**
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 30.28 340 P **P 16 27 12.7 -1.1**
LEM Lembang 30.31 210 P **P 16 27 14.7 +0.4**
comp=Z,12nm,0.4s,baz=138,slow=19,SNR=3.7
LEM LR LR 16 40 48.6
comp=Z,608nm,19.0s,baz=47,slow=39
GSI Gunungsitoli 30.39 235 P **P 16 27 13.2 -1.8**
GSI IAmb IAmb 16 27 20.8
comp=Z,19nm,0.8s
GSI Gunungsitoli 30.39 235 P **P 16 27 13.6 -1.3**
comp=Z,34nm,0.9s
GSI Gunungsitoli 30.39 235 P **P 16 27 14.4 -0.5**
SONM Songino Array 30.47 339 P **P 16 27 16.6 +1.1**
comp=Z,3.5nm,0.4s,baz=156,slow=9.7,SNR=21
SONM PcP **PcP 16 30 12.6 -1.8**
comp=Z,0.5nm,0.5s,baz=168,slow=2.9,SNR=4.5
SONM ScP **ScP 16 33 54.9 -0.5**
comp=Z,1.1nm,0.8s,baz=156,slow=3.4,SNR=5.7
SONM LR LR 16 40 30.7
comp=Z,1μm,19.2s,baz=150,slow=38
SONM Songino Array 30.47 339 P **P 16 27 14.6 -0.9**
LWLI Liwa 30.61 217 P **P 16 27 17.0 0.0**
comp=Z,4μmcomp=Z,76nm,0.8s
KASI Kota Agung 30.78 216 P **P 16 27 17.8 -0.5**
comp=Z,48nm,0.8s
SISI Saibi 31.02 229 P P 16 27 29.4 +9.0
CGJI Cibinong 31.06 213 P P 16 27 26.9 +6.1
YSS Yuzh-Sakhalins 31.66 27 ⇑*eP* **P 16 27 28.9 +3.2**
YSS *e**PP **sP 16 27 34.3 -0.7**
YSS *e* 16 28 46.0
YSS *e*S **S 16 32 37.1 +3.6**
YSS *e*SS **SS 16 34 49.0 -0.5**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,100nm,4.0s
YSS MLR MLR
comp=Z,800nm,15.0s
YSS MLR MLR
comp=N,400nm,17.0s
YSS Yuzh-Sakhalins 31.66 27 P **P 16 27 27.4 +1.7**
YSS Yuzh-Sakhalins 31.66 27 P **P 16 27 28.9 +3.2**
KUR Kuril'sk 32.89 34 ⇑*eP* **P 16 27 36.8 +0.3**
KUR pmax pmax
comp=Z,143nm,1.1s
ZAK Zakamensk 33.72 338 *eP* **P 16 27 43.4 -0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
ZEA Zeya 33.83 5 *eP* **P 16 27 44.9 +0.3**
ZEA *e*S **S 16 33 03.2 -3.9**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA smax smax
comp=N,100nm,14.8s
ZEA MLR MLR
comp=N,600nm,15.0s
ZEA MLR MLR
comp=Z,600nm,16.0s
GUN Gumba 33.91 290 *eP* **P 16 27 47.5 +1.4**
comp=Z,67nm,0.7s
KDU Kakadu 34.12 162 P **P 16 27 48.9 +1.3**
PKIN Phulchoki 34.31 290 *eP* **P 16 27 50.1 +0.6**
KKN Kakani 34.43 290 *eP* **P 16 27 51.3 +0.8**
DMN Daman 34.57 290 *eP* **P 16 27 52.6 +0.9**
comp=Z,16nm,0.6s
TYV Tymovskoe 34.73 23 *eP* P 16 28 01.7 +9.2
TYV pmax pmax
comp=Z,9.0nm,0.9s
TYV pmax pmax
comp=Z,300nm,5.4s
GKN Gorkha 35.01 290 *eP* **P 16 27 56.0 +0.6**
comp=Z,7.6nm,0.4s
MOY Mondy 35.59 337 *eP* **P 16 28 00.4 +0.3**
MOY pmax pmax
comp=Z,17nm,2.1s
DANN Dangsing 35.81 291 *eP* **P 16 28 03.3 +0.8**
comp=Z,31nm,0.7s
KOLN Koldanda 35.91 290 *eP* **P 16 28 04.2 +1.0**
KNRA Kununurra 36.13 169 P P **P 16 28 02.4 -2.5**
KNRA IAmb IAmb 16 28 13.0
comp=Z,13nm,0.7s
KNRA Kununurra 36.13 169 P **P 16 28 07.8 +2.9**
PYUN Piuthan 36.47 290 *eP* **P 16 28 09.0 +1.0**
comp=Z,19nm,0.8s
WMQ Urumqi 37.17 317 *eP* **P 16 28 16.9 +3.3**
WMQ pmax pmax
comp=Z,21nm,1.3s

WMQ pmax pmax
comp=Z,190nm,4.3s
WMQ LR LR
comp=Z,910nm,18.1s
WMQ LR LR
comp=Z,530nm,18.1s
WMQ LR LR
comp=Z,290nm,19.1s
KRVT Keravat (AS076 38.10 126 P **P 16 28 19.2 -2.5**
comp=Z,19nm,0.6s,baz=180,slow=20,SNR=2.1
KRVT LR LR 16 40 49.2
comp=Z,408nm,21.1s,baz=103,slow=31
FITZ Fitzroy Crossi 38.10 175 P **P 16 28 19.5 -2.0**
comp=Z,2.9nm,0.6s,baz=348,slow=7.5,SNR=10
FITZ Fitzroy Crossi 38.10 175 P **P 16 28 19.6 -2.0**
RABL Rabaul 38.13 126 P **P 16 28 21.9 -0.1**
BOD Bodaibo 38.15 353 *eP* **P 16 28 20.6 -1.0**
BOD pmax pmax
comp=Z,11nm,1.8s
PMG Port Moresby 38.30 138 ScP **ScP 16 34 23.3 -0.2**
comp=Z,6.3nm,0.6s,baz=350,slow=6.1,SNR=2.3
PMG LR LR 16 42 25.5
comp=Z,204nm,21.5s,baz=318,slow=34
COEN Coen 39.67 147 P **P 16 28 36.6 +1.8**
SKR Severo-Kuril's 40.62 33 *eP* P 16 28 56.1 +14
SKR *eS* **S 16 34 57.1 +6.7**
SKR MLR MLR
comp=Z,200nm,14.0s
ZSN Zaisan 40.66 321 *eP* **P 16 28 42.5 -0.2**
ZSN Zaisan 40.66 321 *eP* **P 16 28 42.6 -0.2**
baz=321
HYBB Hyderabad (bro 41.25 274 *eP* **P 16 28 46.7 -1.3**
HYBB ⇓*es*P **pP 16 28 54.3 -0.8**
HYBB *eS* **S 16 35 00.2 -0.5**
WB0 Warramunga Arr 41.39 162 P **P 16 28 45.9 -3.1**
PSA00 Pilbara Seismi 41.46 183 P **P 16 28 47.2 -2.3**
PSA00 IAmb IAmb 16 28 54.4
comp=Z,23nm,0.8s
PSA00 Pilbara Seismi 41.46 183 P **P 16 28 52.4 +2.9**
WRAB Tennant Creek 41.54 162 *deP* **P 16 28 47.3 -2.9**
WRAB pmax pmax
comp=Z,82nm,1.0s
WRAB Tennant Creek 41.54 162 P **P 16 28 47.2 -2.9**
WRA Warramunga Arr 41.54 163 P **P 16 28 47.2 -3.0**
comp=Z,54nm,1.1s,baz=344,slow=8.8,SNR=72
WRA PcP **PcP 16 30 46.2 -1.3**
comp=Z,1.8nm,0.8s,baz=349,slow=3.3,SNR=2.2
WRA ScP **ScP 16 34 34.6 -1.5**
comp=Z,1.1nm,1.0s,baz=342,slow=3.8,SNR=4.0
WRA S **S 16 34 57.0 -7.8**
comp=Z,3.5nm,1.1s,baz=339,slow=16,SNR=11
WRA LR LR 16 46 41.9
comp=Z,184nm,18.5s,baz=44,slow=37
WRA Warramunga Arr 41.54 163 P **P 16 28 47.7 -2.5**
WB2 Warramunga Arr 41.55 162 P **P 16 28 47.3 -3.0**
WR0 Warramunga Arr 41.62 162 P **P 16 28 47.8 -3.0**
MK31 Makanchi Array 41.92 319 *ceP* **P 16 28 54.0 +0.8**
MK31 pmax pmax
comp=Z,13nm,0.6s
MK31 Makanchi Array 41.92 319 P **P 16 28 53.9 +0.8**
MK31 IAmb IAmb 16 29 07.3
comp=Z,18nm,0.7s
MKAR Makanchi Array 41.92 319 P **P 16 28 54.0 +0.9**
comp=Z,15nm,0.6s,baz=114,slow=9.5,SNR=212
MKAR PcP **PcP 16 30 47.6 -0.7**
comp=Z,2.9nm,0.7s,baz=144,slow=1.8,SNR=2.7
MKAR ScP **ScP 16 34 34.9 -2.4**
comp=Z,0.5nm,0.6s,baz=108,slow=6.4,SNR=4.5
MKAR LR LR 16 47 09.5
comp=Z,511nm,18.4s,baz=108,slow=37
H11N1 WAKE ISLAND Hy 42.01 83 T T 17 14 02.5
baz=278,slow=75,SNR=285
H11S3 WAKE ISLAND Hy 42.01 84 T T 17 14 02.6
baz=280,slow=75,SNR=745
H11N2 WAKE ISLAND Hy 42.02 83 T T 17 14 10.7
baz=278,slow=75,SNR=247
H11S1 WAKE ISLAND Hy 42.02 84 T T 17 14 05.0
baz=280,slow=75,SNR=875
H11N3 WAKE ISLAND Hy 42.03 83 T T 17 14 12.4
baz=278,slow=75,SNR=198
H11S2 WAKE ISLAND Hy 42.03 84 T T 17 14 03.9
baz=280,slow=75,SNR=696
PALK Pallekele 42.07 258 LR LR 16 45 10.0
comp=Z,125nm,20.4s,baz=174,slow=34
PALK Pallekele 42.07 258 P **P 16 28 54.9 +0.2**
PALK pmax pmax
comp=Z,15nm,1.4s
PALK Pallekele 42.07 258 P **P 16 28 54.9 +0.2**
MAKZ Makanchi 42.12 319 P **P 16 28 54.1 -0.6**
MAKZ pmax pmax
comp=Z,17nm,0.8s
MAKZ Makanchi 42.12 319 P **P 16 28 54.1 -0.6**
YAK Yakutsk 42.24 5 *eP* **P 16 28 52.3 -3.1**
YAK *e**PP **sP 16 29 03.2 -1.7**
YAK *e*PPP PPP 16 31 08.4
YAK *eS* **S 16 35 11.4 -2.8**
YAK *eSS* **SS 16 38 18.2 -4.5**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=Z,77nm,3.9s
YAK pmax pmax
comp=N,23nm,2.5s
YAK pmax pmax
comp=E,19nm,2.8s
YAK smax smax
comp=E,68nm,4.1s
YAK smax smax
comp=N,34nm,3.7s
YAK MLR MLR
comp=Z,781nm,19.0s
YAK MLR MLR
comp=N,429nm,17.0s
YAK MLR MLR
comp=E,244nm,16.0s
SHLS Shalkode 42.39 313 *eP* **P 16 28 55.1 -2.0**
SHLS Shalkode 42.39 313 *eP* **P 16 28 55.1 -2.0**
baz=313
PDGK Podgornoye 42.43 313 P **P 16 28 58.4 +1.0**
UZB Uzynbulak 42.69 312 *eP* **P 16 29 00.0 +0.4**
UZB Uzynbulak 42.69 312 *eP* **P 16 29 00.0 +0.4**
baz=312
PEA0B Petropavlovsk- 42.85 31 *ceP* **P 16 29 02.6 +2.1**
PETK Petropavlovsk- 42.85 31 P **P 16 29 00.5 0.0**
comp=E,4.4nm,0.4s,baz=224,slow=12,SNR=4.4
PETK LR LR 16 47 36.5
comp=E,450nm,20.3s,baz=236,slow=37
KPKS Kokpek 43.03 313 *eP* **P 16 29 02.6 +0.4**
KPKS Kokpek 43.03 313 *eP* **P 16 29 02.6 +0.4**
baz=313
SATY Saty 43.09 312 *eP* **P 16 29 03.5 +0.7**
SATY Saty 43.09 312 *eP* **P 16 29 03.5 +0.7**
baz=312
TDK Taldyqorghan 43.73 315 *eP* **P 16 29 08.6 +0.9**
TDK pmax pmax
comp=Z,22nm,0.8s
TDK Taldyqorghan 43.73 315 *eP* **P 16 29 08.7 +0.9**
comp=Z,22nm,0.8s,baz=315
QIS Mount Isa 43.87 156 P **P 16 29 12.1 +3.0**
KSH Kashi 43.93 307 P P 16 29 14.8 +5.2
KSH pP sP 16 29 22.2 +2.8
KSH S S 16 35 49.4 +9.5
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH pmax pmax
comp=Z,120nm,8.3s
KSH LR LR
comp=Z,1μm,16.3s
KSH LR LR
comp=Z,640nm,17.5s
KSH LR LR
comp=Z,970nm,16.7s
MDOK Medeo 44.07 312 P **P 16 29 12.0 +1.3**
MDOK Medeo 44.07 312 *eP* **P 16 29 11.3 +0.5**
baz=312
ZAA0 Zalesovo Array 44.16 329 P **P 16 29 10.3 -0.8**
ZAA0 IAmb IAmb 16 29 21.7
comp=Z,36nm,1.2s
ZALV Zalesovo Beam 44.16 329 P **P 16 29 11.1 0.0**
comp=Z,17nm,0.6s,baz=112,slow=7.6,SNR=78
ZALV PcP **PP 16 30 52.9 -1.2**
comp=Z,1.7nm,0.5s,baz=120,slow=3.4,SNR=1.2
ZALV S **S 16 35 45.0 +2.4**
comp=Z,0.4nm,0.5s,baz=121,slow=19,SNR=2.4
ZALV Zalesovo Beam 44.16 329 P **P 16 29 10.2 -0.9**
AAA Alma-Ata 44.18 312 *eP* **P 16 29 12.3 +0.8**
baz=312
CHKK Chushkaly 44.32 313 *eP* **P 16 29 13.2 +0.7**
CHKK Chushkaly 44.32 313 *eP* **P 16 29 13.3 +0.7**
baz=313
ULHL Ulahol 44.39 310 P **P 16 29 15.6 +2.3**
SNR=11
MA2 Magadan 44.47 20 LR LR 16 47 46.4
comp=Z,922nm,21.1s,baz=210,slow=36
MA2 Magadan 44.47 20⇑ *eP* **P 16 29 14.7 +1.2**
MA2 pmax pmax
comp=Z,7.0nm,0.9s
MA2 Magadan 44.47 20 P **P 16 29 16.4 +2.9**
BOOM Boomskoye usch 44.67 311 P **P 16 29 16.7 +1.2**
BOOM pmax pmax
comp=Z,9.0nm,1.0s
BOOM Boomskoye usch 44.67 311 P **P 16 29 16.7 +1.2**
SEM Semipalatinsk 44.74 323 *eP* **P 16 29 15.1 -0.9**
SEM Semipalatinsk 44.74 323 *eP* **P 16 29 15.2 -0.9**
baz=323
KUU Kurty 44.78 313 *eP* **P 16 29 16.5 +0.3**
KUU pmax pmax
comp=Z,9.0nm,0.5s
KUU Kurty 44.78 313 *eP* **P 16 29 16.6 +0.3**
comp=Z,9.3nm,0.5s,baz=313
AS31 Alice Springs 44.98 165 P **P 16 29 15.8 -2.1**
AS31 IAmb IAmb 16 29 24.3
comp=Z,11nm,0.7s
ASAR Alice Springs 44.98 165 P **P 16 29 15.5 -2.5**
comp=Z,18nm,0.7s,baz=346,slow=6.8,SNR=115
ASAR PcP **PcP 16 30 57.6 -1.3**
comp=Z,1.5nm,0.8s,baz=344,slow=4.1,SNR=1.2
ASAR ScP **ScP 16 34 48.7 -1.2**
comp=Z,1.7nm,1.0s,baz=346,slow=4.1,SNR=4.8
ASAR S **S 16 35 52.0 -3.1**
comp=Z,2.1nm,1.0s,baz=352,slow=20,SNR=8.8
ASAR Alice Springs 44.98 165 P **P 16 29 15.3 -2.6**
PCHI Peechi 45.02 265 *eP* **P 16 29 16.9 -1.6**
PCHI *eS* **S 16 35 56.9 +0.8**
TKM2 Tokmak 2 45.03 311 P **P 16 29 20.6 +2.2**
SNR=11
NIL Nilore 45.24 298 P **P 16 29 19.4 -0.7**
NIL pmax pmax
comp=Z,50nm,1.1s
NIL Nilore 45.24 298 P **P 16 29 19.4 -0.7**
WRKA Warakurna 45.25 172 P **P 16 29 23.0 +2.9**
KBK Karagaybulak 45.42 311 P **P 16 29 23.9 +2.4**
SNR=15
UCH Uchtor 45.62 310 P **P 16 29 26.2 +2.7**
SNR=15
CHMS Chumysh 45.65 311 P **P 16 29 25.0 +1.8**
SNR=8.3
AAK Ala-Archa 45.74 310 P **P 16 29 26.2 +2.2**
SNR=8.7
AAK Ala-Archa 45.74 310 *d iP* **P 16 29 26.1 +2.1**
AAK pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 45.74 310 P **P 16 29 25.1 +1.0**
KURK Kurchatov 45.81 322 *deP* **P 16 29 25.1 +0.9**
KURK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 45.81 322 P **P 16 29 24.2 -0.1**
KURK IAmb IAmb 16 29 38.4
comp=Z,25nm,1.0s
KURBB Kurchatov Arra 45.82 322 P **P 16 29 24.7 +0.4**
SGDS Sogindy 45.85 312 *eP* **P 16 29 24.7 -0.1**
SGDS Sogindy 45.85 312 *eP* **P 16 29 24.7 -0.1**
baz=312
USP Ospenovka 45.89 311 P **P 16 29 26.8 +1.7**
SNR=6.2
AML Almayashu 46.20 310 P **P 16 29 30.2 +2.3**
SNR=15
EKS2 Erkin-Say 46.26 310 P **P 16 29 30.2 +2.1**
SNR=9.0
MEEK Meekatharra 46.57 184 P **P 16 29 32.9 +2.5**
BTLS Baital 46.68 314 *eP* **P 16 29 31.4 +0.3**
BTLS Baital 46.68 314 *eP* **P 16 29 31.5 +0.3**
baz=314
HNR Honiara 47.40 125 LR LR 16 45 52.1
comp=Z,211nm,20.5s,baz=317,slow=31
SEY Seymchan 47.55 18 LR LR 16 50 54.4
comp=Z,508nm,18.7s,baz=231,slow=38
SEY Seymchan 47.55 18⇓ *eP* **P 16 29 38.7 +1.0**
SEY pmax pmax
comp=Z,2.0nm,0.8s
BTK Batken 47.94 306 P **P 16 29 42.5 +1.3**
BTK pmax pmax
comp=Z,25nm,1.3s
BTK Batken 47.94 306 P **P 16 29 42.5 +1.3**
BTK IAmb IAmb 16 29 51.9
comp=Z,25nm,1.3s
DZA Taraz 48.06 310 *eP* **P 16 29 42.3 +0.2**
DZA pmax pmax
comp=Z,5.0nm,0.7s
DZA Taraz 48.06 310 *eP* **P 16 29 42.3 +0.2**
comp=Z,4.8nm,0.7s,baz=310
GAR Garm 48.17 305 P **P 16 29 43.6 +0.6**
KK31 Karatay Array 48.70 310 *i* P **P 16 29 48.1 +1.2**
KK31 Karatay Array 48.70 310 P **P 16 29 47.2 +0.3**
KK31 IAmb IAmb 16 30 06.2
comp=Z,15nm,1.1s
KKAR Karatay Array 48.70 310 P **P 16 29 47.4 +0.5**
KKAR pmax pmax
comp=Z,15nm,1.1s
KKAR Karatay Array 48.70 310 P **P 16 29 47.4 +0.5**
KKAR IAmb IAmb 16 30 06.2
comp=Z,15nm,1.1s
OTUK Ortayu 48.73 317 P **P 16 29 48.1 +1.0**
KBL Kabul 48.78 299 P **P 16 29 46.7 -1.2**
KBL pmax pmax
comp=Z,24nm,0.8s
KBL Kabul 48.78 299 P **P 16 29 46.7 -1.2**
KBL IAmb IAmb 16 30 02.6
comp=Z,24nm,0.8s
IUG Iuzhnay 48.87 309 *eP* **P 16 29 48.9 +0.6**
IUG Iuzhnay 48.87 309 *eP* **P 16 29 48.9 +0.6**
baz=309
CHGR Chuyangaron 49.02 304 P **P 16 29 50.4 +0.8**
CHGR IAmb IAmb 16 30 11.2
comp=Z,22nm,0.8s
BRZS Berezniki 49.05 320 *eP* **P 16 29 50.1 +0.6**
BRZS pmax pmax
comp=Z,9.0nm,0.9s
BRZS Berezniki 49.05 320 *eP* **P 16 29 50.2 +0.6**
comp=Z,8.6nm,0.9s,baz=320
MORW Morawa 49.22 187 P **P 16 29 49.6 -1.3**
MORW IAmb IAmb 16 29 56.7
comp=Z,22nm,0.8s
MORW Morawa 49.22 187 P **P 16 29 53.9 +3.0**
OOD Oodnadatta 49.38 164 P **P 16 29 54.6 +2.5**
FORT Forrest 50.89 173 P **P 16 30 02.9 -0.7**
FORT Forrest 50.89 173 P **P 16 30 06.5 +2.9**
QLP Quilpie 51.11 154 P **P 16 30 08.7 +3.4**
MULG Mulgathing 51.38 167 P **P 16 30 09.9 +2.7**
SHEM Shemya Is, Ala 51.47 38 LR LR 16 51 36.5
comp=Z,132nm,21.8s,baz=309,slow=36
BRVK Borovoye 51.48 323 P **P 16 30 08.3 +0.5**
BRVK pmax pmax
comp=Z,21nm,0.9s
BRVK Borovoye 51.48 323 P **P 16 30 08.3 +0.5**
BRVK IAmb IAmb 16 30 22.2
comp=Z,21nm,0.9s
KLBR Kellerberrin 51.55 185 P **P 16 30 11.6 +3.1**
TIXI Tiksi 51.72 3 LR LR 16 54 56.7
comp=Z,1μm,18.6s,baz=181,slow=39
TIXI Tiksi 51.72 3 *deP* **P 16 30 08.1 -1.2**
TIXI pmax pmax
comp=Z,15nm,1.3s
TIXI Tiksi 51.72 3 P **P 16 30 07.7 -1.6**
TIXI IAmb IAmb 16 30 18.0
comp=Z,20nm,1.0s
LCRK Leigh Creek 52.58 162 P **P 16 30 19.4 +3.2**
RMQ Roma 53.02 150 P **P 16 30 24.0 +4.4**
NRIK Noril'sk 53.57 346 P **P 16 30 22.4 -0.6**
comp=Z,9.4nm,0.7s,baz=125,slow=7.3,SNR=29
NRIK LR LR 16 55 36.0
comp=Z,444nm,18.2s,baz=148,slow=39
NRIK Noril'sk 53.57 346 *d iP* **P 16 30 22.2 -0.8**
NRIK pmax pmax
comp=Z,12nm,0.8s
NRIK Noril'sk 53.57 346 P **P 16 30 21.6 -1.4**
NRIK IAmb IAmb 16 30 34.1
comp=Z,25nm,0.8s
BBOO Buckleboo 54.26 166 P **P 16 30 26.9 -1.6**
BBOO IAmb IAmb 16 30 34.3
comp=Z,32nm,1.0s
STKA Stephens Creek 54.94 160 P **P 16 30 32.8 -0.7**
comp=Z,8.3nm,0.9s,baz=328,slow=9.3,SNR=11
STKA Stephens Creek 54.94 160⇑ *eP* **P 16 30 33.2 -0.2**
STKA Stephens Creek 54.94 160 P **P 16 30 32.5 -0.9**
STKA Stephens Creek 54.94 160 P **P 16 30 35.8 +2.4**
BILL Bilibino 55.26 19 *i* P **P 16 30 35.0 -0.3**
BILL *i* 16 31 37.1
BILL *i* S **S 16 38 09.7 -7.5**
BILL pmax pmax
comp=Z,10.0nm,0.8s
BILL MLR MLR
comp=Z,385nm,17.0s
BILL Bilibino 55.26 19 P **P 16 30 35.3 0.0**
BILL IAmb IAmb 16 30 53.1
comp=Z,23nm,1.1s
HTT Hallett 55.58 163 P **P 16 30 41.9 +3.8**
CMSA Cobar Meteorol 56.09 156 P **P 16 30 45.9 +4.1**
AB31 Akbulak array 56.95 316 *i* P **P 16 30 47.7 0.0**
ABKAR Akbulak array 56.95 316 P **P 16 30 47.6 -0.1**
ABKAR Akbulak array 56.95 316 P **P 16 30 47.9 +0.2**
ABKAR IAmb IAmb 16 30 51.8
comp=Z,13nm,0.9s
GEYT Alibeck 57.66 303 P **P 16 30 53.8 +0.7**
comp=Z,12nm,0.8s,baz=85,slow=7.1,SNR=12
GEYT Alibeck 57.66 303 P **P 16 30 54.0 +0.9**
GYA0B ALIBECK ARRAY 57.66 303 P **P 16 30 53.2 +0.2**
GYA0B IAmb IAmb 16 31 03.1
comp=Z,32nm,1.0s
SVE Sverdlovsk 57.86 325 *eP* **P 16 30 55.0 +0.9**
SVE pmax pmax
comp=Z,54nm,1.1s
AKTO Aktyubinsk 58.33 317 P **P 16 30 57.7 +0.3**
WSAR Wadi Sarin 58.67 286 LR LR 16 58 50.0
comp=Z,89nm,18.1s,baz=108,slow=39
ARU Arti 58.91 324 *c iP* **P 16 31 01.0 -0.3**
ARU pmax pmax
comp=Z,20nm,0.6s
ARU Arti 58.91 324 P **P 16 31 00.8 -0.6**
DZM Mont Dzumac 60.26 132 LR LR 16 52 48.6
comp=Z,366nm,21.8s,baz=254,slow=32
DZM Mont Dzumac 60.26 132 *eLR* LR 16 49 00.5
comp=Z,625nm,22.8s
CNB Canberra Magne 60.86 155 P P 16 31 20.2 +5.1
SPIA Saint Paul Isl 61.25 35 P **P 16 31 21.0 +3.7**
TOO Toolangi 61.43 159 P **P 16 31 18.5 -0.3**
TOO pmax pmax
comp=Z,35nm,1.1s
TOO Toolangi 61.43 159 P **P 16 31 18.5 -0.3**
TOO Toolangi 61.43 159 P P 16 31 23.7 +4.9
GEXS Deakin Univers 61.61 160 P P 16 31 25.3 +5.4
GAMB Gambell 61.68 27 P **P 16 31 20.9 +0.8**
GAMB IAmb IAmb 16 31 41.5
comp=Z,11nm,1.1s
GAMB Gambell 61.68 27 P **P 16 31 21.6 +1.5**
baz=258
TNA Tin City 63.62 26 P **P 16 31 34.1 +1.1**
TNA Tin City 63.62 26 P **P 16 31 34.4 +1.4**
baz=260
KIRV Kirov 64.07 326 LR LR 17 00 39.0
comp=Z,278nm,18.3s,baz=94,slow=37
KIRV Kirov 64.07 326 *deP* **P 16 31 36.0 -0.1**
ANM Nome 64.54 27 P **P 16 31 40.6 +1.4**
ANM pmax pmax
comp=Z,8.0nm,0.9s
ANM Nome 64.54 27 P **P 16 31 40.6 +1.4**
ANM Nome 64.54 27 P **P 16 31 40.6 +1.4**
baz=263
BELG Belogornoye 64.92 319 *c iP* **P 16 31 41.0 -0.8**
BELG pmax pmax
comp=Z,5.0nm,0.9s
MAK Makhachkala 65.48 309 *eP* **P 16 31 41.1 -4.5**
MAK *e* 16 34 08.0
MAK *eS* **S 16 40 21.4 -7.6**
MAK *eSS* **SS 16 44 42.7 +0.2**
MAK pmax pmax
comp=Z,93nm,1.1s
MAK MLR MLR
comp=Z,324nm,16.0s
SOCY Socotra 65.54 275 P **P 16 31 44.0 -2.6**
SOCY IAmb IAmb 16 32 09.4
comp=Z,15nm,1.1s
RDOG Red Dog Mine 65.93 23 P **P 16 31 48.5 +0.3**
RDOG IAmb IAmb 16 31 50.0
comp=Z,9.9nm,0.7s
RDOG Red Dog Mine 65.93 23 P **P 16 31 49.3 +1.2**
baz=264
PRGR Permogore 66.12 329 *eP* **P 16 31 47.2 -2.2**
PRGR pmax pmax
comp=Z,9.0nm,1.4s
MSVF Nonsavu 66.52 121 LR LR 16 55 36.7
comp=Z,252nm,22.0s,baz=306,slow=31
SDPT Sand Point 66.60 37 P **P 16 31 52.7 +0.1**
GROC Groznyy 66.70 309 *eP* **P 16 31 52.2 -1.3**
GROC *e* 16 32 21.0
GROC pmax pmax
comp=Z,20nm,0.6s
GNI Garni 67.86 306⇓ *eP* **P 16 32 00.7 -0.5**
GNI pmax pmax
comp=Z,4.0nm,0.9s
ZEI Tsey 68.13 309 *eP* **P 16 32 02.3 -0.6**
ZEI pmax pmax
comp=Z,30nm,0.9s
GCSA Galena City Sc 68.20 27 P **P 16 32 03.5 +1.0**
baz=271
NCK Nalchik 68.26 310⇓ *eP* **P 16 32 02.8 -0.6**
NCK pmax pmax
comp=Z,6.0nm,0.7s
GOF Gofitskoye 68.46 312⇑ *eP* P 16 32 11.3 +6.7
GOF pmax pmax
comp=Z,25nm,0.9s
TTA Tatalina 68.64 29 P **P 16 32 06.4 +0.9**
TTA pmax pmax
comp=Z,28nm,1.5s
TTA Tatalina 68.64 29 P **P 16 32 06.4 +0.9**
TTA IAmb IAmb 16 32 21.2
comp=Z,28nm,1.5s
TTA Tatalina 68.64 29 P **P 16 32 06.6 +1.1**
baz=272,SNR=6.5
VRH Novokhopyorsk 68.65 318 *eP* **P 16 32 05.1 -0.5**
VRH pmax pmax
comp=Z,70nm,0.8s
KBZ Khabaz 68.73 310 P **P 16 32 07.0 +0.8**
comp=Z,23nm,0.9s,baz=137,slow=5.2,SNR=30
KBZ LR LR 17 06 23.2
comp=Z,133nm,18.2s,baz=72,slow=40
KIV Kislovodsk 68.86 310 *eP* **P 16 32 07.6 +0.4**
KIV *e* 16 34 39.8
KIV *eS* **S 16 41 11.3 +1.4**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV pmax pmax
comp=Z,19nm,4.1s
KIV MLR MLR
comp=Z,148nm,17.0s
KIV Kislovodsk 68.86 310 P **P 16 32 07.8 +0.6**
NEY Neytrino 68.93 310⇓ *eP* **P 16 32 09.1 +1.3**
NEY pmax pmax
comp=Z,3.0nm,0.7s
SVW2 Sparrevohn 68.93 31 P **P 16 32 08.7 +1.5**
SVW2 IAmb IAmb 16 32 24.9
comp=Z,23nm,1.2s
KLMR Klimovskoe 69.08 329 *eP* **P 16 32 06.3 -1.8**
KLMR *e* 16 34 39.4
KLMR pmax pmax
comp=Z,44nm,1.2s
KLMR Klimovskoe 69.08 329 *eP* **P 16 32 06.4 -1.7**
KLMR AMP 16 32 17.7
comp=Z,44nm,1.2s
KLMR *e*PP **PP 16 34 39.4 -1.2**
KLMR LQ LQ 16 58 25.0
KLMR LQ LQ 16 58 25.0
KLMR LR LR 17 02 44.0
O18K Koktuh Hills 69.20 32 P **P 16 32 10.6 +1.6**
O18K Koktuh Hills 69.20 32 P **P 16 32 10.2 +1.2**
baz=274
L19K White Mountain 69.21 30 P **P 16 32 10.5 +1.5**
L19K IAmb IAmb 16 32 27.2
comp=Z,22nm,1.1s
L19K White Mountain 69.21 30 P **P 16 32 10.0 +1.0**
baz=274
P18K Big Mountain, 69.22 33 P **P 16 32 10.0 +0.9**
P18K Big Mountain, 69.22 33 P **P 16 32 10.4 +1.3**
baz=274
CHIR Chirikof Islan 69.32 37 P **P 16 32 11.0 +1.3**

baz=276
J20K Nowinta River 69.41 28 P P 16 32 11.3 +1.2
J20K IAmb IAmb 16 32 12.5
comp=Z,13nm,0.7s
J20K Nowinta River 69.41 28 P P 16 32 11.5 +1.4
baz=274,SNR=14
M19K Big River Lodg 69.45 30 P P 16 32 11.5 +1.1
M19K IAmb IAmb 16 32 32.4
comp=Z,11nm,0.9s
M19K Big River Lodg 69.45 30 P P 16 32 11.7 +1.3
baz=274
IMAR Indian Mountai 69.47 26 P P 16 32 11.5 +1.0
N19K Bonanza Creek 69.48 31 P P 16 32 12.0 +1.2
baz=275
K20K Telida 69.49 29 P P 16 32 12.2 +1.5
K20K IAmb IAmb 16 32 22.1
comp=Z,8.0nm,0.8s
K20K Telida 69.49 29 P P 16 32 12.1 +1.4
baz=274,SNR=7.3
O19K Port Alsworth 69.62 32 P P 16 32 12.9 +1.4
O19K Port Alsworth 69.62 32 P P 16 32 12.8 +1.4
baz=275
L20K Farewell, AK 69.64 30 P P 16 32 13.0 +1.4
baz=274
H21K Melozitna Rive 69.88 26 P P 16 32 14.2 +1.3
H21K Melozitna Rive 69.88 26 P P 16 32 14.3 +1.3
baz=274
VORR Voronezh 70.16 319 *eP* **P 16 32 14.5 -0.4**
VORR pmax pmax
comp=Z,60nm,0.5s
VORD Divnogorie 70.20 318 *eP* **P 16 32 14.7 -0.5**
VORD pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 70.21 320 *eP* **P 16 32 14.8 -0.4**
LPSR pmax pmax
comp=Z,40nm,0.7s
CHUM Lake Minchumin 70.23 28 P P 16 32 16.4 +1.2
baz=275,SNR=6.4
VSR Storozhevoye 70.24 318 *eP* **P 16 32 14.5 -1.0**
VSR pmax pmax
comp=Z,20nm,0.6s
I21K Tanana 70.26 27 P P 16 32 16.9 +1.6
I21K IAmb IAmb 16 32 21.6
comp=Z,12nm,1.0s
I21K Tanana 70.26 27 P P 16 32 16.8 +1.4
baz=275,SNR=8.2
RSO Redoubt South 70.37 32 P P 16 32 17.3 +0.9
CAST Castle Rocks 70.38 28 P P 16 32 17.1 +1.0
CAST IAmb IAmb 16 32 18.5
comp=Z,18nm,0.7s
CAST Castle Rocks 70.38 28 P P 16 32 17.2 +1.0
baz=276,SNR=18
PPLA Purkeypile 70.38 29 P P 16 32 17.1 +0.7
PPLA IAmb IAmb 16 32 36.4
comp=Z,14nm,0.9s
PPLA Purkeypile 70.38 29 P P 16 32 17.0 +0.7
baz=276
RAYN Ar Rayn 70.41 289 P P 16 32 16.8 -0.3
RAYN pmax pmax
comp=Z,20nm,1.1s
RAYN Ar Rayn 70.41 289 P P 16 32 16.8 -0.3
RAYN IAmb IAmb 16 32 37.1
comp=Z,20nm,1.1s
OHAK Old Harbor 70.45 35 P P 16 32 17.1 +0.4
SPCR Spurr Chakacha 70.55 31 P P 16 32 17.7 +0.4
baz=276
MOS Moscow 70.57 323 *eP* **P 16 32 15.2 -2.2**
MOS *eS* **S 16 41 26.8 -2.6**
MOS pmax pmax
comp=Z,36nm,1.0s
LVZ Lovozero 70.62 336 P P 16 32 18.0 +0.4
LVZ pmax pmax
comp=Z,30nm,1.2s
LVZ Lovozero 70.62 336 P P 16 32 18.0 +0.4
LVZ IAmb IAmb 16 32 37.0
comp=Z,30nm,1.2s
KDAK Kodiak Island 70.76 34 LR LR 17 04 26.5
comp=Z,114nm,20.0s,baz=277,slow=37
KDAK Kodiak Island 70.76 34 P P 16 32 19.1 +0.6
KDAK pmax pmax
comp=Z,67nm,1.4s
KDAK Kodiak Island 70.76 34 P P 16 32 19.1 +0.6
KDAK Kodiak Island 70.76 34 P P 16 32 19.4 +0.9
baz=277
COLD Coldfoot 70.78 24 P P 16 32 19.3 +0.8
COLD Coldfoot 70.78 24 P P 16 32 19.6 +1.1
baz=276
BPAW Bear Paw Mtn. 70.79 28 P P 16 32 19.7 +1.0
BPAW IAmb IAmb 16 32 37.3
comp=Z,13nm,1.0s
BPAW Bear Paw Mtn. 70.79 28 P P 16 32 19.5 +0.8
baz=276
TOLK Toolik Lake Re 70.87 23 P P 16 32 20.0 +0.9
TOLK IAmb IAmb 16 32 47.2
comp=Z,17nm,1.2s
TOLK Toolik Lake Re 70.87 23 P P 16 32 20.0 +0.9
baz=276
KTH Kantishna Hill 70.88 28 P P 16 32 19.9 +0.6
KTH IAmb IAmb 16 32 30.7
comp=Z,9.0nm,0.8s
SOC Sochi 71.04 310 *eP* **P 16 32 18.9 -1.6**
SOC *e* 16 34 55.0
SOC *e*PPP PPP 16 36 36.6
SOC *e*S **S 16 41 34.0 -1.3**
SOC *e*SS **SS 16 46 06.5 -1.9**
SOC pmax pmax
comp=Z,16nm,0.7s
SOC MLR MLR
comp=Z,147nm,16.0s
APA Apatity 71.13 336 ⇓*i*P **P 16 32 19.6 -1.0**
APA pmax pmax
comp=Z,10.0nm,0.7s
APA MLR MLR
comp=Z,400nm,15.0s
TRF Thorofare Moun 71.18 28 P P 16 32 22.0 +0.8
TRF Thorofare Moun 71.18 28 P P 16 32 21.8 +0.6
baz=277
CNPM China Poot 71.24 33 P P 16 32 21.9 +0.4
OBN Obninsk 71.25 323 ⇓*i*P **P 16 32 21.2 -0.3**
OBN *e* 16 32 27.8
OBN *e* 16 35 01.8
OBN *e*S **S 16 41 38.0 +0.7**
OBN pmax pmax
comp=Z,19nm,0.6s
CUT Chulitna 71.32 29 P P 16 32 22.4 +0.5
CUT IAmb IAmb 16 32 29.8
comp=Z,20nm,0.8s
CUT Chulitna 71.32 29 P P 16 32 22.4 +0.5
baz=278
I23K Minto, Yukon-K 71.36 26 P P 16 32 23.1 +1.0
I23K IAmb IAmb 16 32 25.6
comp=Z,7.9nm,0.8s
I23K Minto, Yukon-K 71.36 26 P P 16 32 22.7 +0.7
baz=278
BWN Browne 71.45 28 P P 16 32 23.7 +1.1
BWN IAmb IAmb 16 32 30.2
comp=Z,20nm,0.9s
M22K Willow 71.48 30 P P 16 32 23.2 +0.4
baz=278
NEA2 Nenana 71.56 27 P P 16 32 23.9 +0.6
NEA2 Nenana 71.56 27 P P 16 32 24.2 +1.0
baz=278,SNR=12
MCK McKinley 71.74 28 P P 16 32 24.5 +0.1
MCK pmax pmax
comp=Z,30nm,1.2s
MCK McKinley 71.74 28 P P 16 32 24.5 +0.1
MCK IAmb IAmb 16 32 47.8
comp=Z,30nm,1.2s
MCK McKinley 71.74 28 P P 16 32 24.9 +0.5
baz=278,SNR=6.3
RND Reindeer 71.82 28 P P 16 32 24.7 -0.3
RND pmax pmax
comp=Z,23nm,0.7s
RND Reindeer 71.82 28 P P 16 32 24.7 -0.3
O22K Cooper Landing 71.85 31 P P 16 32 25.4 +0.4
O22K Cooper Landing 71.85 31 P P 16 32 25.6 +0.6
baz=279
MDM Murphy Dome 71.86 27 P P 16 32 25.4 +0.3
MDM IAmb IAmb 16 32 48.4
comp=Z,37nm,1.4s
H24K Noodor Dome 71.88 26 P P 16 32 25.7 +0.5
H24K IAmb IAmb 16 32 49.2
comp=Z,16nm,1.3s
H24K Noodor Dome 71.88 26 P P 16 32 26.2 +1.0
baz=279
PMR Palmer 71.97 30 P P 16 32 26.0 +0.3
PMR pmax pmax
comp=Z,11nm,0.8s
PMR Palmer 71.97 30 P P 16 32 26.0 +0.3
PMR IAmb IAmb 16 32 27.0
comp=Z,11nm,0.8s
PMR Palmer 71.97 30 P P 16 32 25.8 +0.1
baz=279
WRH Wood River Hil 72.00 27 P P 16 32 26.0 +0.1
WRH IAmb IAmb 16 32 27.5
comp=Z,9.3nm,0.7s
COLA College 72.04 27⇑ *eP* **P 16 32 26.9 +0.8**
COLA pmax pmax
comp=Z,3.0nm,0.9s
SEW Seward 72.04 32 P P 16 32 26.5 +0.3
SEW IAmb IAmb 16 32 38.6
comp=Z,14nm,0.9s
CCB Clear Creek Bu 72.09 27 P P 16 32 26.5 +0.1
POKR Poker Plat Res 72.17 26 P P 16 32 26.9 -0.1
POKR IAmb IAmb 16 32 36.3
comp=Z,12nm,0.8s
POKR Poker Plat Res 72.17 26 P P 16 32 28.0 +1.0
baz=279
SML Sawmill 72.31 30 P P 16 32 27.9 0.0
SML Sawmill 72.31 30 P P 16 32 27.9 0.0
baz=280
KNK Knik Glacier 72.32 30 P P 16 32 28.0 +0.1
KNK Knik Glacier 72.32 30 P P 16 32 28.2 +0.3
baz=280
ANN Anapa 72.43 312 *eP* **P 16 32 27.7 -1.1**
ANN *e**PP **pP 16 32 34.1 -2.0**
ANN *e* 16 32 41.8
ANN *e*S **S 16 41 52.1 +0.8**
ANN pmax pmax
comp=Z,75nm,1.1s
ANN MLR MLR
comp=Z,150nm,12.0s
WAT6 Susitna Watana 72.46 29 P P 16 32 29.2 +0.3
baz=280,SNR=7.0
IL31 72.46 27 P P 16 32 28.0 -0.6
ILAR Eielson Array 72.46 27 P P 16 32 27.9 -0.8
comp=Z,2.3nm,0.5s,baz=268,slow=4.9,SNR=39
ILAR LR LR 17 07 50.6
comp=Z,87nm,18.2s,baz=306,slow=39
ILAR Eielson Array 72.46 27 P P 16 32 27.6 -1.1
PWL Port Wells 72.47 31 P P 16 32 28.6 -0.2
PWL IAmb IAmb 16 32 29.6
comp=Z,22nm,0.8s
PWL Port Wells 72.47 31 P P 16 32 28.9 +0.2
baz=280
HDA Harding Lake 72.50 27 P P 16 32 28.2 -0.7
HDA Harding Lake 72.50 27 P P 16 32 28.5 -0.4
baz=280
DHY Denali Highway 72.54 29 P P 16 32 29.1 -0.2
DHY Denali Highway 72.54 29 P P 16 32 29.5 +0.2
baz=280
SCM Sheep Creek Mo 72.78 30 P P 16 32 30.7 0.0
SCM pmax pmax
comp=Z,26nm,0.7s
SCM Sheep Creek Mo 72.78 30 P P 16 32 30.7 0.0
SCM Sheep Creek Mo 72.78 30 P P 16 32 31.1 +0.4
baz=280
BMAR Burnt Mountain 72.91 24 P P 16 32 32.5 +1.1
GLI Glacier Island 73.06 31 P P 16 32 32.4 +0.1
GLI IAmb IAmb 16 32 50.1
comp=Z,22nm,0.8s
GLI Glacier Island 73.06 31 P P 16 32 32.7 +0.4
baz=281
KEV Kevo 73.09 339 P P 16 32 31.8 -0.5
KEV pmax pmax
comp=Z,41nm,1.5s
KEV Kevo 73.09 339 P P 16 32 31.8 -0.5
KEV IAmb IAmb 16 32 58.2
comp=Z,41nm,1.5s
J25K Salcha River, 73.13 27 P P 16 32 31.6 -1.1
J25K Salcha River, 73.13 27 P P 16 32 31.9 -0.8
baz=281
VALR Valaam 73.17 330*c i*P **P 16 32 32.4 -0.5**
VALR pmax pmax
comp=Z,20nm,0.9s
M24K Tolsona, Glenn 73.26 29 P P 16 32 34.4 +0.9
M24K Tolsona, Glenn 73.26 29 P P 16 32 34.4 +0.9
baz=281
FID Port Fidalgo 73.38 31 P P 16 32 34.5 +0.3
PAX Paxson 73.41 28 P P 16 32 34.6 +0.2
PAX pmax pmax
comp=Z,9.0nm,1.2s
PAX Paxson 73.41 28 P P 16 32 34.6 +0.2
PAX Paxson 73.41 28 P P 16 32 34.8 +0.3
baz=282
KLU Klutina 73.50 30 P P 16 32 35.5 +0.5
KLU IAmb IAmb 16 32 36.2
comp=Z,9.3nm,0.6s
KLU Klutina 73.50 30 P P 16 32 35.5 +0.5
baz=282
RIDG Independent Ri 73.53 28 P P 16 32 34.4 -0.7
RIDG IAmb IAmb 16 32 52.4
comp=Z,16nm,1.2s
RIDG Independent Ri 73.53 28 P P 16 32 34.9 -0.2
baz=282
DIV Divide 73.64 30 P P 16 32 35.8 0.0
DIV IAmb IAmb 16 32 37.6
comp=Z,12nm,0.7s
ARA0 ARCESS Array S 73.65 339 *eP* **P 16 32 35.4 -0.3**
ARCES ARCESS Array B 73.65 339 P **P 16 32 35.3 -0.3**
comp=Z,5.5nm,0.6s,baz=72,slow=7.8,SNR=29
ARCES ARCESS Array B 73.65 339 P **P 16 32 35.1 -0.5**
ARCES IAmb IAmb 16 32 43.4
comp=Z,32nm,1.4s
SPB2 Spitsbergen Ar 73.65 348 P **P 16 32 34.9 -0.6**
SPB2 IAmb IAmb 16 32 47.5
comp=Z,42nm,1.4s
SPA0 Spitsbergen Ar 73.65 348 *eP* **P 16 32 34.9 -0.7**
SPITS Spitsbergen Ar 73.65 348 LR LR 17 09 16.9
comp=Z,394nm,18.4s,baz=234,slow=39
SPITS Spitsbergen Ar 73.65 348 P **P 16 32 34.8 -0.7**
SPITS pmax pmax
comp=Z,30nm,1.2s
HARP HAARP 73.67 29 P **P 16 32 36.6 +0.8**
baz=282
SCRK Sand Creek 73.85 27 P P 16 32 37.0 -0.1
SCRK Sand Creek 73.85 27 P P 16 32 37.0 -0.1
baz=283,SNR=6.4
DOT Dot Lake 73.89 28 P P 16 32 37.4 +0.3
J26L Joseph Creek 73.92 27 P P 16 32 37.2 -0.2
baz=283,SNR=9.0
HAMF Hammerfest 73.98 340 *eP* **P 16 32 37.9 +0.4**
N25K Chitina, Valde 74.09 30 P P 16 32 39.1 +0.6
N25K Chitina, Valde 74.09 30 P P 16 32 38.9 +0.4
baz=283
MENT Mentasta 74.20 28 P P 16 32 39.0 0.0
MENT IAmb IAmb 16 32 46.0
comp=Z,24nm,1.4s
KBS Kingsbay 74.20 349 P P 16 32 38.1 -0.6
KBS Kingsbay 74.20 349 P P 16 32 38.1 -0.6
BMRM Bremner River 74.23 30 P P 16 32 39.4 +0.1
BMRM IAmb IAmb 16 32 55.8
comp=Z,19nm,1.0s
BMRM Bremner River 74.23 30 P P 16 32 40.0 +0.8
baz=283
RAGM Ragged Mountai 74.33 31 P P 16 32 40.5 +0.7
L26K Log Cabin Wild 74.34 28 P P 16 32 40.5 +0.7
L26K Log Cabin Wild 74.34 28 P P 16 32 40.6 +0.7
baz=283
GLB Gilahina Butte 74.50 30 P P 16 32 40.6 -0.2
GLB IAmb IAmb 16 32 58.9
comp=Z,34nm,1.2s
KTK1 Kautokeino 74.56 338 *eP* **P 16 32 40.3 -0.7**
VRDI Verde Repeater 74.72 30 P P 16 32 42.3 +0.1
VRDI IAmb IAmb 16 33 00.1
comp=Z,16nm,1.2s
EGAK Eagle 74.86 26 P P 16 32 43.1 +0.4
EGAK IAmb IAmb 16 32 43.7
comp=Z,9.0nm,0.7s
EGAK Eagle 74.86 26 P P 16 32 42.8 +0.1
baz=285,SNR=12
L27K Beaver Creek, 75.01 28 P P 16 32 44.6 +0.9
L27K Beaver Creek, 75.01 28 P P 16 32 44.7 +1.0
baz=285,SNR=5.6
BCAR Beaver Creek A 75.03 28 P P 16 32 44.9 +1.1
M27K Edge Creek, AK 75.16 29 P P 16 32 45.5 +0.7
M27K Edge Creek, AK 75.16 29 P P 16 32 45.2 +0.5
baz=285
WAX Waxell Ridge 75.19 31 P P 16 32 45.5 +0.6
JETT Jettan, Norway 75.37 339 *eP* **P 16 32 45.8 +0.1**
FIA1 FINESS Array S 75.41 330 P **P 16 32 45.5 -0.5**
FIA1 IAmb IAmb 16 32 55.0
comp=Z,18nm,0.8s
FINES FINESS Array B 75.41 330 P **P 16 32 45.6 -0.4**
comp=Z,12nm,0.8s,baz=91,slow=7.6,SNR=36
FINES LR LR 17 08 14.2
comp=Z,311nm,19.5s,baz=74,slow=38
FINES FINESS Array B 75.41 330 P **P 16 32 45.4 -0.5**
BARN Barnard Glacie 75.60 30 P **P 16 32 48.1 +0.7**
BARN IAmb IAmb 16 32 59.6
comp=Z,26nm,1.3s
BVCY Beaver Creek 75.61 28 P P 16 32 48.2 +1.1
baz=286
DAWY Dawson 75.79 27 P P 16 32 48.7 +0.5
DAWY IAmb IAmb 16 32 49.5
comp=Z,8.2nm,0.7s
DAWY Dawson 75.79 27 P P 16 32 48.6 +0.5
baz=287,SNR=8.0
I29M Ogilvie Camp, 75.86 25 P P 16 32 49.3 +0.8
baz=287
VSU Vasula 75.87 327*ce*P **P 16 32 48.1 -0.5**
VSU pmax pmax
comp=Z,45nm,0.9s
VSU Vasula 75.87 327 *eP* **P 16 32 48.7 +0.1**
YUK3 Moose Creek 75.96 29 P P 16 32 50.1 +0.6
baz=286
TABL Table Mountain 76.01 30 P P 16 32 50.7 +1.0
TABL IAmb IAmb 16 32 59.9
comp=Z,27nm,1.1s
ATD Arta Tunnel 76.15 277 LR LR 17 05 01.7
comp=Z,58nm,21.7s,baz=126,slow=35
J29M Klondike Camp 76.17 26 P P 16 32 51.2 +0.8
baz=288
EPYK Eagle Plains 76.17 24 P P 16 32 50.1 -0.2
EPYK IAmb IAmb 16 33 09.0
comp=Z,10nm,0.8s
EPYK Eagle Plains 76.17 24 P P 16 32 50.2 -0.2
baz=288,SNR=9.6
MNK Minsk 76.30 323 *i* P **P 16 32 52.8 +1.7**
MNK *i* 16 35 43.7
MNK *i* S **S 16 42 37.9 +3.7**
MNK *i* SS **SS 16 47 32.6 +4.7**
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,38nm,0.8s
MNK MLR MLR
comp=E,45nm,18.0s
MNK MLR MLR
comp=Z,145nm,18.0s
MNK MLR MLR
comp=N,250nm,18.0s
MNK Minsk 76.30 323 *i* P **P 16 32 52.8 +1.7**
comp=E,2.0nm,0.8s
MNK *i* P **P 16 32 52.8 +1.7**
comp=N,10.0nm,0.8s
MNK *i* P **P 16 32 52.8 +1.7**
comp=Z,38nm,0.8s,baz=75
MNK *i* PP **PP 16 35 43.8 +1.4**
MNK *i* PPP PPP 16 37 16.2
MNK *i* S **S 16 42 38.0 +3.7**
MNK *i* S **S 16 42 38.0 +3.7**
MNK *i* SS **SS 16 47 32.6 +4.7**
MNK *i* LQ LQ 17 01 26.6
MNK *i* LR LR 17 03 48.6
MNK *i* LRM MLR 17 06 34.9
comp=E,45nm,17.7s
MNK *i* LRM MLR 17 08 41.0
comp=Z,145nm,17.6s
MNK *i* LRM MLR 17 09 14.7
comp=N,250nm,17.9s
BRTR Keskin Array B 76.31 307 P **P 16 32 50.9 -0.9**
comp=N,2.4nm,0.8s,baz=174,slow=2.7,SNR=5.1
BRTR Keskin Array B 76.31 307 P **P 16 32 51.2 -0.5**
BRTR Keskin Array B 76.31 307 P **P 16 32 51.2 -0.5**
NOR Nord 76.49 354 *i* P **P 16 32 49.5 -2.3**
NOR IAmb IAmb 16 32 50.7
comp=Z,1.8nm,0.7s
AKASG Malin Array Be 76.50 319 P **P 16 32 51.5 -0.8**
comp=Z,10nm,0.9s,baz=61,slow=5.7,SNR=26
AKASG LR LR 17 06 35.8
comp=Z,172nm,18.2s,baz=73,slow=36
AKASG Malin Array Be 76.50 319 P **P 16 32 51.6 -0.8**
AKASG pmax pmax
comp=Z,18nm,1.0s
AKASG Malin Array Be 76.50 319 P **P 16 32 51.6 -0.8**
AKASG IAmb IAmb 16 33 01.1
comp=Z,18nm,1.0s
AKBB Malin Array Si 76.50 319 P **P 16 32 51.5 -0.9**
AKBB pmax pmax
comp=Z,16nm,0.9s
AKBB Malin Array Si 76.50 319 P **P 16 32 51.5 -0.9**
AKBB IAmb IAmb 16 33 01.0
comp=Z,16nm,0.9s
MEF Metsahovi 76.54 329 *eP* **P 16 32 52.3 -0.1**
MMAI Mount Meron Ar 76.67 300 LR LR 17 11 18.2
comp=Z,155nm,19.9s,baz=222,slow=39
INK Inuvik 76.69 22 P **P 16 32 52.4 -0.7**
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 76.69 22 P **P 16 32 52.4 -0.7**
INK Inuvik 76.69 22 P **P 16 32 53.0 -0.1**
baz=291
IDID Didziasalis 76.72 324 *eP* **P 16 32 53.7 +0.3**
NACGM Naroch 76.80 324 *eP* **P 16 32 54.5 +0.5**
WRMHI West Rim 76.87 74 P **P 16 32 53.8 -1.4**
UWE Uwekahuna 76.87 74 P **P 16 32 54.6 -0.7**
NPH North Pit 76.89 74 P **P 16 32 54.1 -1.2**
YUK4 Talbot Arm 76.92 29 P **P 16 32 55.7 +0.9**
baz=288
IIGN Ignalina 76.99 324 *eP* **P 16 32 55.2 +0.1**
MTSE Matsula 77.27 328 *eP* **P 16 32 56.6 +0.1**
M30M Minto, Yukon 77.36 28 P **P 16 32 57.9 +0.8**
M30M IAmb IAmb 16 33 11.3
comp=Z,23nm,1.4s
M30M Minto, Yukon 77.36 28 P **P 16 32 57.8 +0.8**
baz=289
RAF Rauma 77.53 331 *eP* **P 16 32 57.5 -0.4**
HYT Haines Junctio 77.61 30 P **P 16 32 59.2 +0.6**
HYT IAmb IAmb 16 33 17.5
comp=Z,33nm,1.4s
HYT Haines Junctio 77.61 30 P **P 16 32 59.4 +0.8**
baz=289
URZ Urewera 77.65 139 LR LR 17 02 36.1
comp=Z,90nm,21.6s,baz=31,slow=32
STEI Steigen 77.70 338 *eP* **P 16 32 58.2 -0.5**
RPZ Rata Peaks 77.73 146 LR LR 17 03 26.7
comp=Z,127nm,21.9s,baz=317,slow=33
SORM Soroca 77.75 317⇑P **P 16 32 59.0 -0.4**
A36M Sachs Harbour 77.77 17 P **P 16 32 58.5 -0.5**
A36M IAmb IAmb 16 33 07.1
comp=Z,17nm,0.8s
A36M Sachs Harbour 77.77 17 P **P 16 32 59.5 +0.4**
baz=298
CSS Mathiatis 77.81 303 P **P 16 32 59.4 -0.7**
FAUS Fauske 77.90 338 *eP* **P 16 32 59.1 -0.8**
PABE Paberze 78.17 325 P **P 16 33 01.3 -0.3**
PABE Paberze 78.17 325 *eP* **P 16 33 01.6 0.0**
N31M Braeburn, Yuko 78.18 29 P **P 16 33 02.5 +0.9**
baz=290
LOF Lofoten 78.21 339 *eP* **P 16 33 00.4 -1.2**
SLIT Slitere, Latvi 78.37 327 *eP* **P 16 33 01.6 -1.1**
M31M Drury Creek, Y 78.54 28 P **P 16 33 03.9 +0.3**
M31M Drury Creek, Y 78.54 28 P **P 16 33 04.2 +0.5**
baz=291
MOR8 Moi Rana 78.69 337 *eP* **P 16 33 03.6 -0.8**
CFR Carcaliu 78.74 314 ⇓P **P 16 33 06.2 +1.2**
WHY Whitehorse 78.88 29 P **P 16 33 06.3 +0.7**
baz=291
EUNU Eureka 78.90 5 P **P 16 33 04.9 -0.5**
SUW Suwalki 79.08 324 P **P 16 33 05.9 -0.8**
SUW pmax pmax
comp=Z,59nm,0.9s
SUW Suwalki 79.08 324 P **P 16 33 05.9 -0.8**
SUW Suwalki 79.08 324 *eP* **P 16 33 06.3 -0.3**
STOK Stokkvaagen 79.15 337 *eP* **P 16 33 06.8 0.0**
TESR Tescani 79.33 316⇑P **P 16 33 08.4 +0.1**
C36M Paulatuk 79.37 19 P **P 16 33 07.9 0.0**
baz=299
VRI Vrincioaia 79.48 315⇑P **P 16 33 10.0 +0.9**
PLOR Plostina 79.53 315⇑P **P 16 33 10.2 +0.7**
BISRR Bisoca 79.59 315 P **P 16 33 10.2 +0.5**
UPP Uppsala 79.86 330 *eP* **P 16 33 09.9 -0.9**
BURAR Bucovina Array 79.92 317 ⇓P **P 16 33 11.7 +0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BURAR	**Bucovina Array**	**79.92**	**317**	P	**P**	**16 33 10.9**	**-0.7**
BUR08	**Bucovina Ar. S**	**79.92**	**317**	P	**P**	**16 33 11.1**	**-0.5**
LVV	**L'vov**	**79.95**	**319**	*e*P	**P**	**16 33 11.7**	**+0.2**
SIT	**Sitka**	**79.97**	**33**	P	**P**	**16 33 12.5**	**+1.1**
SIT				pmax	pmax		
	comp=Z,47nm,1.0s						
SIT	**Sitka**	**79.97**	**33**	P	**P**	**16 33 12.5**	**+1.1**
P33M	**Teslin, Yukon**	**80.00**	**29**	P	**P**	**16 33 12.0**	**+0.4**
OZUR		**80.03**	**315**	P	**P**	**16 33 12.7**	**+0.6**
MLR	**Muntele Rosu**	**80.12**	**315**	⇑P	**P**	**16 33 13.0**	**+0.3**
MLR	**Muntele Rosu**	**80.12**	**315**	LR	LR	17 10 40.7	
	comp=Z,247nm,19.8s,baz=52,slow=37						
MLR	**Muntele Rosu**	**80.12**	**315**	P	**P**	**16 33 12.7**	**0.0**
MLR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MLR	**Muntele Rosu**	**80.12**	**315**	P	**P**	**16 33 12.7**	**0.0**
NSS	**Namsos**	**80.34**	**336**	*e*P	**P**	**16 33 13.8**	**+0.5**
DAG	**Danmarks Havn**	**80.53**	**352**	*i* P	**P**	**16 33 12.0**	**-2.1**
DAG				IAmb	IAmb	16 33 20.8	
	comp=Z,5.9nm,0.8s						
VOIR		**80.73**	**315**	P	**P**	**16 33 16.1**	**+0.2**
VIKU	**Vikbolandet**	**80.83**	**329**	*e*P	**P**	**16 33 15.4**	**-0.6**
TRPA	**Tarpa**	**81.44**	**318**	P	**P**	**16 33 18.4**	**-1.2**
TGTN	**Hyland Airport**	**81.47**	**27**	P	**P**	**16 33 20.1**	**+0.6**
	baz=297						
HFS	**Hagfors**	**81.55**	**331**	LR	LR	17 12 29.6	
	comp=Z,492nm,18.1s,baz=62,slow=38						
CRAG	**Craig**	**81.71**	**34**	P	**P**	**16 33 21.8**	**+1.0**
CRVS	**Cervenica-Dubn**	**81.84**	**319**	*e*P	**P**	**16 33 22.8**	**+1.1**
CRVS	**Cervenica-Dubn**	**81.84**	**319**	*e*P	**P**	**16 33 22.8**	**+1.1**
NC405	**NORSAR Array S**	**81.99**	**333**	P	**P**	**16 33 21.3**	**-0.9**
DLBC	**Dease Lake**	**82.03**	**30**	LR	LR	17 11 27.1	
	comp=Z,166nm,20.1s,baz=317,slow=37						
DLBC	**Dease Lake**	**82.03**	**30**	P	**P**	**16 33 23.6**	**+1.1**
DLBC				IAmb	IAmb	16 33 41.6	
	comp=Z,26nm,1.4s						
NC303	**NORSAR Array S**	**82.09**	**333**	P	**P**	**16 33 21.8**	**-0.9**
NC303				IAmb	IAmb	16 33 29.4	
	comp=Z,18nm,1.1s						
NB2	**NORSAR Subarra**	**82.24**	**333**	P	**P**	**16 33 22.1**	**-1.4**
	comp=Z,10nm,1.0s,baz=62,slow=5.3						
NB2	**NORSAR Subarra**	**82.24**	**333**	P	**P**	**16 33 22.1**	**-1.4**
	baz=62,slow=5.3						
NOA	**NORSAR Array B**	**82.24**	**333**	P	**P**	**16 33 22.4**	**-1.2**
	comp=Z,3.1nm,0.7s,baz=62,slow=4.9,SNR=16						
NOA				LR	LR	17 15 04.2	
	comp=Z,295nm,18.8s,baz=50,slow=39						
GZR	**Gura Zlata**	**82.25**	**315**	⇓P	**P**	**16 33 24.0**	**0.0**
NC204	**NORSAR Array S**	**82.32**	**333**	P	**P**	**16 33 23.2**	**-0.8**
OJC	**Ojcow**	**82.36**	**321**	P	**P**	**16 33 23.3**	**-1.0**
OJC				pmax	pmax		
	comp=Z,19nm,0.9s						
OJC	**Ojcow**	**82.36**	**321**	P	**P**	**16 33 23.3**	**-1.0**
OJC				IAmb	IAmb	16 33 44.0	
	comp=Z,19nm,0.9s						
RES	**Resolute Bay**	**82.55**	**9**	LR	LR	17 14 45.9	
	comp=Z,158nm,19.1s,baz=296,slow=39						
RES	**Resolute Bay**	**82.55**	**9**	P	**P**	**16 33 24.5**	**-0.3**
RES				pmax	pmax		
	comp=Z,9.0nm,1.1s						
RES	**Resolute Bay**	**82.55**	**9**	P	**P**	**16 33 24.5**	**-0.3**
DOMB	**Dombas**	**82.67**	**334**	*e*P	**P**	**16 33 24.9**	**-0.9**
HERR	**Herculane**	**82.67**	**315**	⇑P	**P**	**16 33 26.1**	**+0.1**
DBG	**Daneborg**	**82.76**	**350**	*i* P	**P**	**16 33 24.4**	**-1.6**
DBG				IAmb	IAmb	16 33 25.0	
	comp=Z,4.6nm,0.6s						
OPO	**Ambohidratompo**	**82.88**	**247**	P	**P**	**16 33 27.9**	**+0.1**
	comp=Z,6.6nm,0.8s,baz=55,slow=3.0,SNR=8.9						
VTS	**Vitosha**	**82.92**	**313**	⇑P	**P**	**16 33 28.4**	**+0.8**
VTS	**Vitosha**	**82.92**	**313**	P	**P**	**16 33 27.2**	**-0.4**
VTS				pmax	pmax		
	comp=Z,15nm,1.0s						
VTS	**Vitosha**	**82.92**	**313**	P	**P**	**16 33 27.1**	**-0.4**
VTS				IAmb	IAmb	16 33 46.0	
	comp=Z,15nm,1.0s						
BLKB	**Belogradchik**	**82.95**	**314**	⇑P	**P**	**16 33 27.9**	**+0.3**
LANS	**Liptovska Anna**	**82.97**	**320**	*e*P	**P**	**16 33 28.4**	**+0.8**
LANS	**Liptovska Anna**	**82.97**	**320**	*e*P	**P**	**16 33 28.4**	**+0.8**
JMIC	**Jan Mayen**	**82.99**	**345**	LR	LR	17 14 22.0	
	comp=Z,305nm,18.8s,baz=42,slow=38						
ABPO	**Ambohimpanom**	**83.03**	**247**	P	**P**	**16 33 28.2**	**-0.3**
ABPO				pmax	pmax		
	comp=Z,17nm,1.2s						
ABPO	**Ambohimpanom**	**83.03**	**247**	P	**P**	**16 33 28.2**	**-0.3**
ABPO				IAmb	IAmb	16 33 36.3	
	comp=Z,17nm,1.1s						
DEL	**Delary**	**83.07**	**328**	*e*P	**P**	**16 33 27.8**	**-0.1**
BSD	**Bornholm Skovb**	**83.12**	**326**	*e*P	**P**	**16 33 28.1**	**-0.1**
TULEG	**Thule**	**83.36**	**3**	P	**P**	**16 33 28.5**	**-0.5**
TULEG	**Thule**	**83.36**	**3**	*i* P	**P**	**16 33 27.2**	**-1.8**
TULEG				IAmb	IAmb	16 33 28.7	
	comp=Z,4.9nm,0.6s						
VYHS	**Vyhne**	**83.61**	**319**	*e*P	**P**	**16 33 31.4**	**+0.5**
VYHS	**Vyhne**	**83.61**	**319**	*e*P	**P**	**16 33 31.4**	**+0.5**
MORC	**Moravsky Berou**	**83.88**	**321**	⇑P	**P**	**16 33 31.8**	**-0.4**
MORC	**Moravsky Berou**	**83.88**	**321**	P	**P**	**16 33 31.1**	**-1.2**
MORC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MORC	**Moravsky Berou**	**83.88**	**321**	P	**P**	**16 33 31.1**	**-1.2**
MORC	**Moravsky Berou**	**83.88**	**321**	*e*P	**P**	**16 33 31.7**	**-0.6**
JAVC	**Velka Javorina**	**84.17**	**320**	*e*P	**P**	**16 33 34.8**	**+1.0**
KRLC	**Kraliky**	**84.20**	**321**	*e*P	**P**	**16 33 32.1**	**-1.8**
KRLC	**Kraliky**	**84.20**	**321**	*e*P	**P**	**16 33 32.1**	**-1.8**
IDI	**Anoyia**	**84.28**	**305**	⇓P	**P**	**16 33 34.2**	**-0.5**
IDI	**Anoyia**	**84.28**	**305**	P	**P**	**16 33 34.3**	**-0.3**
IDI				IAmb	IAmb	16 33 56.4	
	comp=Z,6.4nm,0.8s						
OSTC	**Ostas**	**84.33**	**322**	*e*P	**P**	**16 33 37.3**	**+2.8**
LIT	**Litokhoron**	**84.34**	**311**	P	**P**	**16 33 34.5**	**-0.3**
LIT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LIT	**Litokhoron**	**84.34**	**311**	P	**P**	**16 33 34.5**	**-0.3**
LIT				IAmb	IAmb	16 33 49.8	
	comp=Z,7.5nm,0.9s						
DPC	**Dobruska-Polom**	**84.36**	**322**	*e*P	**P**	**16 33 34.0**	**-0.7**
DPC	**Dobruska-Polom**	**84.36**	**322**	*e*P	**P**	**16 33 34.0**	**-0.7**
CSKK	**Cskako**	**84.41**	**318**	P	**P**	**16 33 34.5**	**-0.5**
CHVC	**Chvalec**	**84.42**	**322**	*e*P	**P**	**16 33 34.8**	**-0.1**
UPC	**Upice**	**84.47**	**322**	*e*P	**P**	**16 33 34.9**	**-0.3**
UPC	**Upice**	**84.47**	**322**	*e*P	**P**	**16 33 34.9**	**-0.3**
FOO	**Floro**	**84.53**	**335**	*e*P	**P**	**16 33 36.2**	**+1.0**
VOI	**Vohitsoka**	**84.57**	**244**	P	**P**	**16 33 36.0**	**-0.3**
DIVS	**Divibare**	**84.57**	**315**	P	**P**	**16 33 35.6**	**-0.3**
VRAC	**Vranov**	**84.63**	**321**	⇓P	**P**	**16 33 36.8**	**+0.7**
VRAC	**Vranov**	**84.63**	**321**	LR	LR	17 12 19.5	
	comp=Z,231nm,18.7s,baz=66,slow=36						
VRAC	**Vranov**	**84.63**	**321**	*e*P	**P**	**16 33 36.0**	**-0.1**
KRUC	**Moravsky**	**84.86**	**321**	*e*P	**P**	**16 33 34.5**	**-2.7**
MPLH	**Magyarpolny**	**84.94**	**318**	P	**P**	**16 33 37.4**	**-0.2**
SUE	**Sulen**	**84.94**	**334**	*e*P	**P**	**16 33 37.9**	**+0.7**
KOVH	**Kovagotottos**	**85.02**	**317**	P	**P**	**16 33 37.7**	**-0.4**
BER	**Bergen**	**85.07**	**334**	*e*P	**P**	**16 33 38.6**	**+0.7**
ASK	**Askoy**	**85.07**	**334**	*e*P	**P**	**16 33 37.9**	**-0.1**
KIBK	**Kibwezi**	**85.22**	**266**	P	**P**	**16 33 38.2**	**-1.6**
KIBK				IAmb	IAmb	16 33 57.3	
	comp=Z,12nm,1.1s						
RONA	**Rosalia, Austr**	**85.49**	**319**	*e*P	**P**	**16 33 42.5**	**+2.1**
	comp=Z,3.5nm,1.2s						
BRG	**Berggiesshubel**	**85.50**	**323**	*e*P	**P**	**16 33 40.5**	**+0.2**
BRG				Amp		16 33 42.0	
	comp=Z,3.6nm,0.6s						
BRG				Amp		17 12 51.0	
	comp=Z,0.2nm,14.3s						
BRG				Amp		17 12 56.0	
	comp=E,0.3nm,13.0s						
BRG				Amp		17 12 56.0	
	comp=N,0.4nm,14.8s						
BRG	**Berggiesshubel**	**85.50**	**323**	*e*P	**P**	**16 33 40.5**	**+0.2**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRG				MLR	MLR		
	comp=Z,190nm,14.3s						
BRG				MLR	MLR		
	comp=E,270nm,13.0s						
BRG				MLR	MLR		
	comp=N,380nm,14.8s						
KMBO	**Kilima Mbogo**	**85.55**	**267**	P	**P**	**16 33 41.8**	**+0.2**
	comp=N,4.2nm,0.9s,baz=72,slow=7.3,SNR=7.9						
KMBO				LR	LR	17 13 16.9	
	comp=N,52nm,18.1s,baz=94,slow=37						
CONA	**Conrad Observa**	**85.66**	**320**	*e*P	**P**	**16 33 41.3**	**0.0**
	comp=N,2.6nm,0.9s						
KMY	**Karmoy**	**85.74**	**333**	*e*P	**P**	**16 33 42.6**	**+1.3**
LODK	**Lodwar**	**85.79**	**272**	P	**P**	**16 33 40.0**	**-2.6**
BBB	**Bella Bella**	**85.80**	**36**	LR	LR	17 16 04.7	
	comp=N,68nm,18.1s,baz=94,slow=38						
ITM	**Ithomi**	**85.83**	**308**	P	**P**	**16 33 40.7**	**-1.6**
ITM				IAmb	IAmb	16 33 56.9	
	comp=Z,17nm,0.9s						
CLL	**Collm**	**85.84**	**324**	*e*P	**P**	**16 33 42.0**	**0.0**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CLL	**Collm**	**85.84**	**324**	*e*P	**P**	**16 33 42.0**	**0.0**
	comp=Z,10.0nm,1.3s						
CLL				*i* x	x	16 33 57.2	
	comp=Z,19nm,1.4s						
CLL				*e*PP	**PP**	**16 37 00.0**	**-1.1**
CLL				*e*PPP	PPP	16 38 55.0	
CLL				*e*S	**S**	**16 44 12.0**	**-1.6**
CLL				*e*SS	SS	16 50 06.0	+16
CLL				LmH		17 14 00.0	
	comp=N,400nm,19.6s						
CLL				LmH		17 14 00.0	
	comp=E,200nm,21.0s						
CKRC	**Cesky Krumlov**	**86.20**	**321**	*e*P	**P**	**16 33 43.4**	**-0.5**
YKA	**Yellowknife Ar**	**86.40**	**23**	P	**P**	**16 33 44.3**	**-0.2**
	comp=E,8.2nm,0.6s,baz=309,slow=4.6,SNR=126						
YKA				PKKPbc	**PKKPdf**	**16 51 37.8**	**+2.7**
	comp=E,0.2nm,0.5s,baz=131,slow=2.7,SNR=5.5						
YKA				LR	LR	17 15 39.8	
	comp=E,135nm,19.4s,baz=302,slow=38						
YKA	**Yellowknife Ar**	**86.40**	**23**	P	**P**	**16 33 44.0**	**-0.5**
KHC	**Kasperske Hory**	**86.49**	**321**	*e*P	**P**	**16 33 43.7**	**-1.7**
KHC	**Kasperske Hory**	**86.49**	**321**	*e*P	**P**	**16 33 43.7**	**-1.7**
KHC				*e*x	x	16 34 37.5	
CASY	**Casey**	**86.54**	**185**	P	**P**	**16 33 46.1**	**+1.2**
GERES	**GERESS Array B**	**86.55**	**321**	P	**P**	**16 33 44.9**	**-0.8**
	comp=E,1.6nm,0.6s,baz=104,slow=5.6,SNR=11						
NKC	**Novy Kostel**	**86.64**	**323**	*e*P	**P**	**16 33 45.1**	**-0.9**
NKC	**Novy Kostel**	**86.64**	**323**	*e*P	**P**	**16 33 45.1**	**-0.9**
MOA	**Molln**	**86.66**	**320**	*e*P	**P**	**16 33 46.0**	**-0.2**
	comp=E,2.5nm,0.6s						
RAR	**Rarotonga**	**86.69**	**114**	LR	LR	17 05 56.4	
	comp=E,64nm,21.0s,baz=286,slow=31						
SOKA	**Soboth**	**86.70**	**319**	*e*P	**P**	**16 33 45.6**	**-0.9**
	comp=E,2.1nm,0.6s						
OBKA	**Obir**	**87.08**	**319**	*e*P	**P**	**16 33 47.7**	**-0.7**
	comp=E,2.1nm,0.8s						
KBA	**Koelnbreinsper**	**87.56**	**320**	*e*P	**P**	**16 33 50.7**	**-0.1**
	comp=E,1.3nm,0.5s						
ABTA	**Abfaltersbach**	**88.22**	**320**	*e*P	**P**	**16 33 52.1**	**-1.7**
	comp=E,2.5nm,0.6s						
FETA	**Feichten**	**89.17**	**320**	*e*P	**P**	**16 33 56.7**	**-1.6**
	comp=E,2.3nm,0.8s						
DAVOX	**Davos/Dischmat**	**89.79**	**320**	LR	LR	17 17 00.2	
	comp=E,231nm,18.6s,baz=80,slow=37						
MURB	**Monte Urbino**	**89.83**	**317**	P	**P**	**16 34 01.1**	**-0.3**
WLF	**Walferdange**	**90.45**	**324**	P	**P**	**16 34 03.6**	**-0.5**
WLF				pmax	pmax		
	comp=Z,15nm,1.1s						
WLF	**Walferdange**	**90.45**	**324**	P	**P**	**16 34 03.6**	**-0.5**
WLF				IAmb	IAmb	16 34 21.1	
	comp=Z,15nm,1.1s						
WLF	**Walferdange**	**90.45**	**324**	*d*PcP	**P**	**16 34 03.9**	**-0.2**
BMRD	**Maredsous**	**90.85**	**325**	*d*PcP	**P**	**16 34 05.3**	**-0.7**
BORG	**Borgarnes**	**90.89**	**345**	LR	LR	17 17 51.3	
	comp=Z,196nm,20.5s,baz=29,slow=37						
VAE	**Valguarnera**	**91.17**	**311**	LR	LR	17 23 34.7	
	comp=Z,96nm,18.0s,baz=121,slow=41						
MBAR	**Mbarara**	**91.49**	**270**	LR	LR	17 17 35.5	
	comp=Z,68nm,18.1s,baz=42,slow=37						
EKA	**Eskdalemuir Ar**	**91.72**	**332**	LR	LR	17 18 47.4	
	comp=Z,373nm,18.4s,baz=46,slow=38						
DY2G	**Dye2**	**93.26**	**355**	*i* P	**P**	**16 34 15.4**	**-1.6**
DY2G				IAmb	IAmb	16 34 16.5	
	comp=Z,12nm,0.6s						
I05D	**Terrebonne, OR**	**93.65**	**40**	P	**P**	**16 34 19.4**	**+0.3**
	baz=303						
J04D	**Umpqua Nationa**	**93.77**	**41**	P	**P**	**16 34 20.0**	**+0.1**
	baz=302						
NEW	**Newport**	**93.86**	**35**	LR	LR	17 17 51.8	
	comp=Z,72nm,20.1s,baz=348,slow=36						
NEW	**Newport**	**93.86**	**35**	P	**P**	**16 34 20.1**	**+0.1**
	baz=306						
YBH	**Yreka Blue Hor**	**94.18**	**43**	LR	LR	17 09 44.7	
	comp=Z,55nm,21.5s,baz=331,slow=31						
L04D	**Klamath Falls**	**94.19**	**42**	P	**P**	**16 34 21.8**	**+0.1**
	baz=302						
J05D	**Fort Rock, OR**	**94.28**	**41**	P	**P**	**16 34 22.4**	**+0.2**
	baz=303						
PPT	**Papeete**	**94.36**	**107**	LR	LR	17 06 26.1	
	comp=Z,99nm,21.7s,baz=312,slow=29						
PPT2	**Papeete2**	**94.37**	**107**	*e*LR	LR	17 04 46.4	
	comp=Z,258nm,26.0s						
M04C	**Macdoel**	**94.71**	**42**	P	**P**	**16 34 24.3**	**+0.2**
	baz=302						
FRB	**Frobisher Bay**	**96.03**	**5**	LR	LR	17 19 38.2	
	comp=Z,143nm,21.6s,baz=356,slow=36						
TBI	**Tubuai**	**96.36**	**112**	*e*LR	LR	17 05 43.1	
	comp=Z,210nm,32.0s						
MAW	**Mawson**	**97.53**	**199**	P	**P**	**16 34 34.9**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=315,slow=5.7,SNR=1.6						
NVAR	**Mina Array Bea**	**98.81**	**44**	P	**P**	**16 34 42.6**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=280,slow=4.4,SNR=5.4						
NVAR				LR	LR	17 16 29.4	
	comp=Z,54nm,18.7s,baz=278,slow=34						
TAOE	**Nuku Hiva Isla**	**100.22**	**96**	*e*LR	LR	17 07 27.6	
	comp=Z,227nm,25.7s						
EDW2	**Edwards Air Fo**	**101.00**	**47**	P	**Pdif**	**16 34 51.9**	**-0.5**
	baz=304						
TPFO	**Pinon Flats**	**102.77**	**47**	P	**Pdif**	**16 35 00.3**	**-0.2**
	baz=305						
TXAR	**Lajitas Array**	**113.96**	**43**	PKP	**PKiKP**	**16 39 41.7**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=218,slow=0.8,SNR=10						
TXAR				PKKPab	**PKKPab**	**16 50 30.7**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=134,slow=6.4,SNR=3.9						
SJG	**San Juan**	**141.19**	**13**	⇓*e*P	**PKiKP**	**16 40 40.9**	**+4.4**
SJCC	**San Jacinto, C**	**145.69**	**31**	*e*P	**PKPdf**	**16 40 40.9**	**-1.0**
CRJC	**Cerrejon, Guaj**	**145.75**	**27**	*e*P	**PKPdf**	**16 40 40.9**	**-1.1**
LL6C	**La Loma 6 Bece**	**146.72**	**28**	*e*P	**PKPdf**	**16 40 43.8**	**+0.2**
UREC	**San Jos de Ur**	**147.34**	**34**	*e*P	**PKPdf**	**16 40 43.8**	**-0.9**
DBBC	**Dabeiba**	**147.59**	**36**	*e*P	**PKPdf**	**16 40 46.7**	**+1.5**
ZARC	**Zaragoza, Cauc**	**147.91**	**33**	*e*P	**PKPdf**	**16 40 43.8**	**-1.8**
OCAC	**Ocana**	**148.02**	**30**	*e*P	**PKPdf**	**16 40 45.7**	**-0.2**
SDV	**Santo Domingo**	**148.60**	**25**		**PKPdf**	**16 40 45.8**	**-1.1**
SDV				PKPbc	**PKPbc**	**16 40 49.4**	**-1.1**
SDV	**Santo Domingo**	**148.60**	**25**	*e*P	**PKPdf**	**16 40 46.7**	**-0.3**
HELC	**Santa Helena**	**148.65**	**35**	*e*P	**PKPbc**	**16 40 49.6**	**-1.4**
CBOC	**Ciudad Bolivar**	**148.66**	**37**	*e*P	**PKPdf**	**16 40 48.6**	**+1.6**
PTBC	**PUERTO BERRIO,**	**148.93**	**33**	*e*P	**PKPdf**	**16 40 48.6**	**+1.4**
PAMC	**Pamplona, Colo**	**149.10**	**30**	*e*P	**PKPbc**	**16 40 50.5**	**-1.7**
PLMC	**San Jos del P**	**149.28**	**38**	*e*P	**PKPbc**	**16 40 52.5**	**+0.3**
BARC	**Barichara**	**149.52**	**31**	*e*P	**PKPbc**	**16 40 51.5**	**-1.5**
NORC	**Norcasia**	**149.53**	**35**	*e*P	**PKPdf**	**16 40 50.5**	**+2.3**
GUY2C	**Guyana, Caldas**	**149.54**	**36**	*e*P	**PKPbc**	**16 40 52.5**	**-0.9**
SPBC	**San Pablo de B**	**149.88**	**34**	*e*P	**PKPbc**	**16 40 52.5**	**-1.2**
YOTC	**Yotoco, Valle**	**149.99**	**39**	*e*P	**PKPbc**	**16 40 52.5**	**-1.5**
ANIL	**Santa Ana**	**150.12**	**37**	*e*P	**PKPbc**	**16 40 53.4**	**-1.1**
RUSC	**La Rusia**	**150.17**	**32**	*e*P	**PKPdf**	**16 40 52.5**	**+2.6**
ROSC	**El Rosal**	**150.43**	**35**	PKPbc	**PKPbc**	**16 40 54.7**	**-0.7**
	comp=Z,28nm,0.6s,baz=318,slow=9.7,SNR=6.6						
ROSC	**El Rosal**	**150.43**	**35**		**PKPbc**	**16 40 54.5**	**-0.8**
ORTC	**Ortega, Tolima**	**150.69**	**37**	⇑*e*P	**PKPbc**	**16 40 54.4**	**-1.2**
ELOV	**Elorza**	**150.77**	**24**	*e*P	**PKPbc**	**16 40 55.4**	**-0.3**
CHIC	**Chingaza**	**150.92**	**34**	*e*P	**PKPbc**	**16 40 54.4**	**-2.2**
POPC	**Popayan, Colom**	**150.92**	**41**	*e*P	**PKPbc**	**16 40 56.3**	**0.0**
MARP	**Paez Belalcaza**	**151.13**	**40**	*e*P	**PKPbc**	**16 40 54.4**	**-2.5**
PCON	**Cinco Dias**	**151.26**	**41**	*e*P	**PKPbc**	**16 40 57.3**	**-0.3**
SOTA	**Rioblanco**	**151.28**	**42**	*e*P	**PKPbc**	**16 40 57.3**	**-0.2**
VILC	**Villavicencio,**	**151.38**	**35**	*e*P	**PKPbc**	**16 40 55.4**	**-1.9**
BETC	**Betania**	**151.56**	**39**	*e*P	**PKiKP**	**16 40 58.3**	**+0.2**
GARC	**Garzon, Huila**	**151.93**	**40**	*e*P	**PKPdf**	**16 40 54.4**	**+2.2**

DJA 05 16:23:14.9±0.6**, 1°N**±7°×**12°2E**±°**, h47**km±8km**, M2.2**/6**, MLv2.2**/6**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.31**	**195**	P	Pn	16 23 25.0	+1.1
MRSI				S	Sn	16 23 33.5	+3.3
GTOI	**Gorontalo**	**1.00**	**98**	P	Pn	16 23 31.3	-1.3
APSI	**Ampana**	**1.72**	**192**	P	Pn	16 23 42.3	-0.1
LUWI	**Luwuk**	**1.96**	**157**	P	Pn	16 23 45.5	-0.2
MPSI	**Mapaga**	**2.17**	**258**	P	Pn	16 23 49.2	+0.7

*NEIC **05** 16:35:01.8±2.3, 11°60S±0°09×166°1E±0°1, h35km±2km, mb4.6/20, Error ellipse: s-maj=17.8km s-min=15.3km az=62.0*

*IDC **05** 16:35:05.4±4.3, 11°77S×165°90E, h60km±31km, mb4.0/8, mb1 4.1/10, mb1mx3.6/47, mbtmp4.3/10, ML3.9/2, MS3.7/4, Ms1 3.7/4, ms1mx3.0/60, Error ellipse: s-maj=41.0km s-min=19.9km az=48.0*

ISC 05 16:35:02.3±1.1**, 11°7S**±0°1×**166°1E**±0°1**, h37**km**, n38,** σ**1s13**/37**, mb4.5**/15**, MS4.1**/4**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.46**	**290**	P	**Pn**	**16 36 36.1**	**+1.4**
	5.2nm,0.3s,baz=43,slow=9.1,SNR=2.1						
HNR				S	**Sn**	**16 37 46.3**	**-0.9**
	7.9nm,0.3s,baz=140,slow=11,SNR=1.8						
HNR	**Honiara**	**6.46**	**290**		**Pn**	**16 36 34.9**	**+0.1**
KOUNC	**Koumac, New Ca**	**8.95**	**191**	Pn	**Pn**	**16 37 11.1**	**+2.1**
DZM	**Mont Dzumac**	**10.30**	**178**	P	**Pn**	**16 37 29.5**	**+1.9**
	0.6nm,0.3s,baz=294,slow=9.3,SNR=14						
DZM				S	**Sn**	**16 39 18.7**	**-3.2**
	0.1nm,0.3s,baz=159,slow=16,SNR=1.0						
DZM				LR	LR	16 41 08.4	
	comp=Z,232nm,19.4s,baz=44,slow=35						
CTA	**Charters Tower**	**20.80**	**244**	P	**P**	**16 39 41.5**	**+1.0**
	4.3nm,0.5s,baz=59,slow=9.8,SNR=7.4						
CTAO	**Charters Tower**	**20.80**	**244**	Pn	Pn	16 39 42.3	-0.8
CTAO				IAmb	IAmb	16 39 50.6	
	comp=Z,22nm,1.3s						
COEN	**Coen**	**22.45**	**262**	P	**P**	**16 39 59.9**	**+1.5**
ARMA	**Armidale**	**22.94**	**214**	P	**P**	**16 40 04.5**	**+1.0**
BKZ	**Black Stump Fm**	**28.86**	**163**	P	**P**	**16 40 57.0**	**-0.3**
BKZ				IAmb	IAmb	16 41 16.9	
	comp=Z,25nm,1.3s						
THZ	**Tophouse**	**30.52**	**170**	P	**P**	**16 41 12.9**	**+0.8**
PLWZ	**Palliser**	**30.80**	**167**	P	**P**	**16 41 14.4**	**-0.1**
WR0	**Warramunga Arr**	**31.40**	**251**	P	**P**	**16 41 18.9**	**-1.1**
WR0				IAmb	IAmb	16 41 32.0	
	comp=Z,8.1nm,1.3s						
WB0	**Warramunga Arr**	**31.50**	**251**	P	**P**	**16 41 20.0**	**-0.9**
WB0				IAmb	IAmb	16 41 21.0	
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**31.57**	**251**	P	**P**	**16 41 20.4**	**-1.1**
WRAB				IAmb	IAmb	16 41 21.4	
	comp=Z,9.1nm,1.2s						
WB2	**Warramunga Arr**	**31.57**	**251**	P	**P**	**16 41 20.6**	**-1.0**
WB2				IAmb	IAmb	16 41 21.5	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**31.58**	**251**	P	**P**	**16 41 20.6**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=84,slow=9.2,SNR=31						
WRA				PcP	**PcP**	**16 44 12.6**	**-1.1**
	comp=Z,0.6nm,1.0s,baz=80,slow=2.3,SNR=2.6						
WRA	**Warramunga Arr**	**31.58**	**251**	P	**P**	**16 41 20.5**	**-1.2**
TOO	**Toolangi**	**31.68**	**212**	P	**P**	**16 41 22.5**	**+0.1**
TOO				IAmb	IAmb	16 41 37.5	
	comp=Z,17nm,1.4s						
RPZ	**Rata Peaks**	**32.17**	**173**	P	**P**	**16 41 27.2**	**+0.8**
	comp=Z,5.6nm,0.8s,baz=23,slow=5.8,SNR=2.6						
RPZ	**Rata Peaks**	**32.17**	**173**	P	**P**	**16 41 27.4**	**+0.9**
RPZ				IAmb	IAmb	16 41 27.6	
	comp=Z,10nm,0.9s						
AS31	**Alice Springs**	**32.80**	**244**	P	**P**	**16 41 30.9**	**-1.4**
ASAR	**Alice Springs**	**32.80**	**244**	P	**P**	**16 41 30.9**	**-1.5**
	comp=Z,4.6nm,0.7s,baz=70,slow=9.6,SNR=78						
ASAR				PcP	**PcP**	**16 44 16.2**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=76,slow=2.3,SNR=5.3						
MTN	**Manton Dam**	**34.16**	**264**	P	**P**	**16 41 44.5**	**+0.2**
KNRA	**Kununurra**	**36.45**	**259**	P	**P**	**16 42 03.1**	**-0.8**
KNRA				IAmb	IAmb	16 42 03.6	
	comp=Z,8.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.54**	**256**	P	**P**	**16 42 29.1**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=85,slow=6.2,SNR=10						
BATI	**Baumata**	**41.66**	**268**	P	**P**	**16 42 47.5**	**-0.1**
	comp=Z,13nm,0.8s,baz=126,slow=3.3,SNR=5.1						
PSA00	**Pilbara Seismi**	**45.23**	**251**	P	**P**	**16 43 16.5**	**+0.2**
PSA00				IAmb	IAmb	16 43 17.2	
	comp=Z,5.4nm,1.1s						
MBWA	**Marble Bar**	**45.31**	**252**	P	**P**	**16 43 16.4**	**-0.5**
CASY	**Casey**	**65.88**	**201**	P	**P**	**16 45 43.5**	**-0.4**
SBA	**Scott Base**	**66.13**	**180**	P	**P**	**16 45 46.2**	**+0.9**
KLR	**Kul'dur**	**67.81**	**336**	LR	LR	17 17 28.3	
	comp=Z,21nm,18.1s,baz=248,slow=38						
CMAR	**Chiang Mai Arr**	**72.69**	**294**	P	**P**	**16 46 26.8**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=123,slow=5.1,SNR=4.6						
QSPA	**South Pole Qui**	**78.29**	**180**	P	**P**	**16 46 57.6**	**-0.7**
LPIG	**La Paz**	**88.98**	**65**	LR	LR	17 22 38.6	
	comp=Z,59nm,18.4s,baz=325,slow=32						
ELK	**Elko**	**89.14**	**48**	LR	LR	17 22 49.3	
	comp=Z,77nm,18.8s,baz=335,slow=32						
MKAR	**Makanchi Array**	**94.24**	**317**	P	**P**	**16 48 17.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=93,slow=6.3,SNR=5.6						
USHA	**Ushuaia**	**99.45**	**151**	LR	LR	17 24 29.1	
	comp=Z,772nm,19.6s,baz=172,slow=30						
BOSA	**Boshof**	**124.86**	**223**	PKP	**PKPdf**	**16 53 59.3**	**+0.1**
	comp=Z,2.6nm,1.0s,baz=153,slow=6.8,SNR=1.4						

*NEIC **05** 16:39:48.1±2.1, 17°94S±0°09×168°1E±0°1, h35km±1km, mb4.4/4, Error ellipse: s-maj=23.9km s-min=13.8km az=104.0*

*NOU **05** 16:39:49.1, 17°98S×167°95E, h36km, MLv4.5/16, Vanuatu Islands*

*IDC **05** 16:39:53.6±6.2, 18°36S×168°14E, h104km±65km, mb3.4/4, mb1 3.6/5, mb1mx3.4/37, mbtmp3.9/5, ML4.5/1, Error ellipse: s-maj=76.9km s-min=36.4km az=144.0*

ISC 05 16:39:49.0±0.8**, 18°04S**±0°07×**167°99E**±0°10**, h50**km**, n28,** σ**1s22**/28**, mb3.9**/5**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.36**	**31**	P	**Pn**	**16 39 59.2**	**+0.4**
RTV	**Rentapao**	**0.48**	**59**	P	**Pn**	**16 40 01.0**	**+1.0**
LIFNC	**LIFOU**	**2.81**	**194**	Pn	**Pn**	**16 40 30.3**	**-1.2**
LIFNC	**LIFOU**	**2.81**	**194**	P	**Pn**	**16 40 30.9**	**-0.6**
MARNC	**Mare, Loyalty**	**3.42**	**179**	Pn	**Pn**	**16 40 39.4**	**-0.5**
MARNC	**Mare, Loyalty**	**3.42**	**179**	P	**Pn**	**16 40 39.7**	**-0.2**
YATNC	**Mamie plateau,**	**4.13**	**194**	P	**Pn**	**16 40 50.3**	**+0.7**
DZM	**Mont Dzumac**	**4.27**	**200**	P	**Pn**	**16 40 53.1**	**+1.6**
	29nm,0.3s,baz=70,slow=10,SNR=675						
DZM				S	**Sn**	**16 41 40.1**	**0.0**
	25nm,0.3s,baz=121,slow=23,SNR=11						
DZM	**Mont Dzumac**	**4.27**	**200**		**Pn**	**16 40 52.6**	**+1.0**
DZM	**Mont Dzumac**	**4.27**	**200**	P	**Pn**	**16 40 52.7**	**+1.2**
KOUNC	**Koumac, New Ca**	**4.30**	**234**		**Pn**	**16 40 52.4**	**+0.5**
KOUNC	**Koumac, New Ca**	**4.30**	**234**	P	**Pn**	**16 40 52.5**	**+0.6**
NOUC	**Port Laguerre**	**4.34**	**201**	P	**Pn**	**16 40 54.0**	**+1.5**
ONTNC	**Ouen Toro**	**4.48**	**199**		**Pn**	**16 40 56.0**	**+1.5**
ONTNC	**Ouen Toro**	**4.48**	**199**	P	**Pn**	**16 40 56.2**	**+1.8**
OUENC	**Ouen Island, N**	**4.49**	**194**	Pn	**Pn**	**16 40 55.9**	**+1.4**
OUENC	**Ouen Island, N**	**4.49**	**194**	P	**Pn**	**16 40 54.7**	**+0.2**
PINNC	**Pines Island,**	**4.58**	**186**	Pn	**Pn**	**16 40 57.1**	**+1.4**
PINNC	**Pines Island,**	**4.58**	**186**	P	**Pn**	**16 40 57.4**	**+1.7**
STKA	**Stephens Creek**	**27.52**	**235**	P	**P**	**16 45 28.3**	**-2.7**
	1.2nm,0.8s,baz=54,slow=14,SNR=1.8						
STKA	**Stephens Creek**	**27.52**	**235**	P	**P**	**16 45 32.6**	**+1.6**
ASAR	**Alice Springs**	**32.29**	**254**	P	**P**	**16 46 13.6**	**+0.2**
	0.6nm,0.7s,baz=81,slow=8.5,SNR=13						
BELA	**Belgrano 2**	**83.39**	**175**	P	**P**	**16 52 10.7**	**+0.2**
BELA				IAmb	IAmb	16 52 33.4	
	comp=Z,9.4nm,1.5s						
BRLK	**Bradley Lake**	**84.42**	**20**	P	**P**	**16 52 16.1**	**+0.3**
SONM	**Songino Array**	**85.56**	**324**	P	**P**	**16 52 22.3**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=108,slow=4.7,SNR=4.5						
SONM	**Songino Array**	**85.56**	**324**	IAmb	IAmb	16 52 23.4	
	comp=Z,1.3nm,1.1s						
ILAR	**Eielson Array**	**89.45**	**18**	P	**P**	**16 52 38.3**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=217,slow=4.4,SNR=2.1						
ARCES	**ARCESS Array B**	**123.61**	**345**	PKP	**PKiKP**	**16 58 40.0**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=35,slow=3.3,SNR=4.3						

*DJA **05** 16:41:03.8±1.4, 5°S±15°×13°0E±1°6, h555km±17km, M4.5/6, mb4.3/1, MLv4.6/6*

*IDC **05** 16:41:42.1±0.8, 2°91S×129°89E, h0km, mb3.9/8, mb1 4.0/12, mb1mx3.8/46, mbtmp3.9/12, ML3.8/4, Error ellipse: s-maj=29.2km s-min=15.4km az=83.0*

*NEIC **05** 16:41:45.5±2.1, 2°93S±0°07×129°89E±0°09, h24km±5km, mb4.0/14, Error ellipse: s-maj=12.6km s-min=9.5km az=92.0*

ISC 05 16:41:45.0±0.6**, 2°85S**±0°04×**130°00E**±0°08**, h25**km**, n49,** σ**1s90**/48**, mb4.0**/11**, Seram**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.66**	**183**	P	**Pb**	**16 42 15.8**	**+0.9**
AAI	**Ambon**	**1.98**	**245**	P	**Pn**	**16 42 17.7**	**+0.7**
SIJI	**Sorong**	**2.34**	**33**	Pn	**Pb**	**16 42 24.4**	**-2.2**
	47nm,0.3s,baz=226,slow=22,SNR=437						
SIJI				Sn	**Sb**	**16 42 53.8**	**-1.4**
	32nm,0.3s,baz=314,slow=22,SNR=9.9						
SWI	**Sorong**	**2.35**	**33**	P	**Pn**	**16 42 24.2**	**+2.2**
LBMI	**Labuha**	**3.33**	**311**	P	**Pn**	**16 42 34.9**	**-0.6**
SANI	**Sanana**	**4.08**	**281**	P	**Pn**	**16 42 44.7**	**-1.2**
TNTI	**Ternate**	**4.46**	**324**	Pn	**Pn**	**16 42 51.2**	**+0.2**
LUWI	**Luwuk**	**7.44**	**284**	Pn	**Pn**	**16 43 30.0**	**-2.1**
LUWI	**Luwuk**	**7.44**	**284**	P	**Pn**	**16 43 30.2**	**-1.9**
BATI	**Baumata**	**9.64**	**220**	Pn	**Pn**	**16 44 02.5**	**+0.2**
	0.6nm,0.3s,baz=2.3,slow=12,SNR=2.1						
BATI	**Baumata**	**9.64**	**220**	P	Pn	16 44 10.4	+8.1
MTN	**Manton Dam**	**9.99**	**174**		**Pn**	**16 44 07.1**	**+0.1**
MTN	**Manton Dam**	**9.99**	**174**	P	**Pn**	**16 44 07.9**	**+0.8**
TOLI2	**Tolitoli**	**10.02**	**293**	Pn	**Pn**	**16 44 06.5**	**-0.9**
TOLI2	**Tolitoli**	**10.02**	**293**	P	**Pn**	**16 44 06.5**	**-0.9**
KDU	**Kakadu**	**10.07**	**166**	P	**Pn**	**16 44 08.7**	**+0.5**
KNRA	**Kununurra**	**12.80**	**185**		**Pn**	**16 44 44.9**	**-0.6**
KNRA	**Kununurra**	**12.80**	**185**	P	**Pn**	**16 44 45.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**15.74**	**195**	Pn	**Pn**	**16 45 24.0**	**-1.2**
	0.2nm,0.3s,baz=85,slow=9.8,SNR=4.8						
FITZ	**Fitzroy Crossi**	**15.74**	**195**	IAmb	IAmb	16 45 30.1	
	comp=Z,7.2nm,1.1s						
COEN	**Coen**	**17.06**	**131**	P	**P**	**16 45 47.8**	**+4.1**
	comp=Z,20nm,1.6s						
WB0	**Warramunga Arr**	**17.35**	**166**	Pn	**Pn**	**16 45 43.0**	**-2.6**
WB0				IAmb	IAmb	16 46 05.4	
	comp=Z,19nm,1.4s						
WRAB	**Tennant Creek**	**17.50**	**166**	Pn	**Pn**	**16 45 44.9**	**-2.6**
WRAB	**Tennant Creek**	**17.50**	**166**	P	**Pn**	**16 45 47.6**	**+0.1**
WRA	**Warramunga Arr**	**17.51**	**166**	P	**Pn**	**16 45 45.9**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=348,slow=12,SNR=20						
WRA				S	**Sn**	**16 48 53.1**	**-8.8**
	comp=Z,0.1nm,0.3s,baz=345,slow=24,SNR=2.8						
WRA	**Warramunga Arr**	**17.51**	**166**	IAmb	IAmb	16 45 49.9	
	comp=Z,0.6nm,1.5s						
WB2	**Warramunga Arr**	**17.51**	**166**	Pn	**Pn**	**16 45 45.8**	**-1.8**
WR0	**Warramunga Arr**	**17.57**	**166**	Pn	**Pn**	**16 45 46.8**	**-1.6**
WR0				IAmb	IAmb	16 46 12.8	
	comp=Z,8.0nm,1.2s						
QIS	**Mount Isa**	**19.94**	**153**	P	**Pn**	**16 46 17.1**	**+0.1**
AS31	**Alice Springs**	**21.03**	**170**	P	**P**	**16 46 27.7**	**+0.5**
ASAR	**Alice Springs**	**21.03**	**170**	P	**P**	**16 46 27.8**	**+0.6**
	comp=Z,14nm,0.7s,baz=348,slow=10,SNR=197						
ASAR				S	**S**	**16 50 17.4**	**-2.9**
	comp=Z,1.2nm,0.8s,baz=350,slow=20,SNR=4.9						
PSA00	**Pilbara Seismi**	**21.06**	**207**	P	**P**	**16 46 27.1**	**-0.4**
PSA00				IAmb	IAmb	16 46 48.9	
	comp=Z,8.8nm,1.4s						
WRKA	**Warakurna**	**22.12**	**184**	P	**P**	**16 46 38.9**	**+0.1**
OOD	**Oodnadatta**	**25.39**	**168**	P	**P**	**16 47 12.2**	**+1.7**
STKA	**Stephens Creek**	**30.87**	**161**	P	**P**	**16 48 00.4**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=347,slow=7.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	**37.19**	**306**	P	**P**	**16 48 54.8**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=134,slow=8.5,SNR=4.5						
SONM	**Songino Array**	**54.54**	**341**	P	**P**	**16 51 12.5**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=149,slow=7.8,SNR=2.5						
SONM	**Songino Array**	**54.54**	**341**	IAmb	IAmb	16 51 22.3	
	comp=Z,2.1nm,1.3s						
MK31	**Makanchi Array**	**64.80**	**326**	P	**P**	**16 52 22.2**	**+0.5**
MK31				IAmb	IAmb	16 52 23.2	
	comp=Z,2.0nm,1.4s						
MKAR	**Makanchi Array**	**64.80**	**326**	P	**P**	**16 52 22.5**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=115,slow=7.4,SNR=7.4						
MKAR	**Makanchi Array**	**64.80**	**326**	P	**P**	**16 52 22.0**	**+0.3**
MAKZ	**Makanchi**	**64.98**	**326**	P	**P**	**16 52 22.9**	**+0.1**
ZALV	**Zalesovo Beam**	**67.90**	**333**	P	**P**	**16 52 42.3**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=79,slow=7.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**67.90**	**333**	P	**P**	**16 52 41.5**	**+0.2**
KURBB	**Kurchatov Arra**	**69.01**	**328**	P	**P**	**16 52 49.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=128,slow=5.9,SNR=24						
KURK	**Kurchatov**	**69.01**	**328**	P	**P**	**16 52 48.7**	**+0.3**
TIXI	**Tiksi**	**74.37**	**360**	P	**P**	**16 53 21.1**	**+0.9**
TIXI				IAmb	IAmb	16 53 25.9	
	comp=Z,2.6nm,1.2s						
VNDA	**Vanda**	**76.54**	**173**	P	**P**	**16 53 33.1**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=323,slow=8.4,SNR=1.8						
ABKAR	**Akbulak array**	**79.29**	**321**	P	**P**	**16 53 48.1**	**-0.3**

DJA 05 16:42:52.3±1.2**, 9˚S**±15˚×**11˚9E**±˚**, h161**km±13km**, M3.0**/7**, mb3.6**/1**, mB4.4**/1**, MLv2.6**/7**, Mw(mB)3.5**/1**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.78**	**250**	P	Pn	16 43 17.3	+0.8
WBSI	**Waikabubak, Su**	**1.38**	**141**	P	Pn	16 43 21.4	-0.1
BASI	**Baing, Sumba**	**2.62**	**129**	P	Pn	16 43 35.6	+0.2
BASI	**Baing, Sumba**	**2.62**	**129**	P	Pn	16 43 35.5	+0.2

THE 05 17:04:03.2, 38˚80N×20˚65E, h6km±1km**, ML0.8**/5**, Error ellipse: s-maj=1.7km s-min=0.6km az=69.0, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.01**	**141**	P	Pg	17 04 04.0	-0.3
LKD2				S	Sg	17 04 04.9	-0.2
	842nm,0.1s						
TSLK	**Tsoukalades, L**	**0.03**	**11**	P	Pg	17 04 04.3	-0.1
TSLK				S	Sg	17 04 05.6	+0.4
	268nm,0.2s						
NYDR	**Nydri-Lefkada**	**0.09**	**155**	P	Pg	17 04 05.0	-0.2
NYDR				S	Sg	17 04 06.8	+0.2
	35nm,0.3s						
DRAG	**Dragano-Lefkad**	**0.13**	**207**	P	Pg	17 04 05.4	-0.5
DRAG				S	Sg	17 04 07.7	+0.1
	80nm,0.1s						
EVGI	**Lefkada island**	**0.18**	**178**	P	Pg	17 04 06.6	-0.1
EVGI				S	Sg	17 04 09.6	+0.5
	62nm,0.1s						
FSK	**Fiskardo**	**0.34**	**191**	P	Pg	17 04 09.9	0.0
FSK				S	Sg	17 04 15.4	+1.0

ATH 05 17:05:02.8, 38˚68N×22˚85E, h14km±3km**, ML1.4**/4**, Error ellipse: s-maj=4.3km s-min=1.2km az=52.0, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.12**	**104**	P	Pg	17 05 05.8	-0.3
LKR				S	Sg	17 05 08.4	0.0
LKR				AML	AML	17 05 08.4	
	comp=N,732µm,0.2s						
LKR				AML	AML	17 05 08.9	
	comp=E,1418µm,0.1s						
ATAL	**Atalanti**	**0.13**	**85**	P	Pg	17 05 06.0	-0.3
ATAL				S	Sg	17 05 08.9	+0.2
ATAL				AML	AML	17 05 09.4	
	comp=E,329µm,0.1s						
ATAL				AML	AML	17 05 09.4	
	comp=N,307µm,0.1s						
AGG	**Agios Georgios**	**0.53**	**310**	P	Pg	17 05 12.9	-0.5
AGG				S	Sg	17 05 20.9	+0.5
AGG				AML	AML	17 05 21.1	
	comp=N,60µm,0.4s						
AGG				AML	AML	17 05 22.0	
	comp=E,56µm,0.4s						
VIL2	**Platees**	**0.57**	**145**	P	Pb	17 05 15.1	+0.5
VIL2				AML	AML	17 05 29.9	
	comp=E,128µm,0.5s						
VIL2				AML	AML	17 05 31.9	
	comp=N,76µm,0.4s						
XOR	**Xorichti**	**0.73**	**21**	P	Pb	17 05 17.4	-0.1
EFP	**Efpalio**	**0.79**	**251**	P	Pg	17 05 16.9	-1.1
EFP				S	Sg	17 05 28.4	+0.1
KLV	**Kalavryta, Ach**	**0.84**	**221**	P	Pb	17 05 19.4	+0.1
DION	**Dionisos Attik**	**1.04**	**125**	P	Pb	17 05 21.5	-1.2

IDC 05 17:10:20.9±50.0**, 14˚94S×162˚95E, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.4**/32**, mbtmp3.6**/3**, Error ellipse: s-maj=826.5km s-min=100.8km az=64.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**25.76**	**225**	P	P	17 15 53.3	-0.2
	1.1nm,0.5s,baz=42,slow=9.3,SNR=5.6						
WRA	**Warramunga Arr**	**27.72**	**256**	P	P	17 16 11.2	0.0
	0.2nm,0.4s,baz=86,slow=9.1,SNR=2.9						
ASAR	**Alice Springs**	**28.70**	**248**	P	P	17 16 20.2	+0.1
	0.4nm,0.5s,baz=74,slow=9.8,SNR=20						

IDC 05 17:24:51.6±1.5**, 8˚55N×123˚38E, h0**km**, mb3.5**/5**, mb1 3.6**/5**, mb1mx3.4**/51**, mbtmp3.5**/5**, 2D, Error ellipse: s-maj=171.2km s-min=21.7km az=66.0, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.58**	**147**	eP	Pg	17 25 30.7	+8.9
CTBH				i S	Sg	17 26 00.6	+18
KCP	**Kidapawan**	**2.29**	**132**	⇓iP	Pn	17 25 22.1	-8.5
KCP				i S	Sn	17 25 46.4	-13
GSPH	**General Santos**	**2.90**	**147**	⇓iP	Pn	17 25 25.4	-14
WRA	**Warramunga Arr**	**30.30**	**159**	P	P	17 31 05.5	+0.7
	0.5nm,1.0s,baz=338,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**33.63**	**162**	P	P	17 31 33.4	-0.7
	0.3nm,0.9s,baz=337,slow=7.6,SNR=1.8						
SONM	**Songino Array**	**41.72**	**343**	P	P	17 32 42.3	-0.1
	0.2nm,0.5s,baz=146,slow=8.3,SNR=2.0						
MKAR	**Makanchi Array**	**51.72**	**325**	P	P	17 34 01.6	+0.9
	0.7nm,0.4s,baz=116,slow=6.8,SNR=20						
KURBB	**Kurchatov Arra**	**55.91**	**327**	P	P	17 34 30.2	-1.0
	0.8nm,0.6s,baz=126,slow=5.9,SNR=13						

*NEIC **05** 17:28:10.5±1.3, 18˚4N±0˚3×68˚86W±0˚09, h132km±9km, Error ellipse: s-maj=48.8km s-min=7.4km az=191.0*
*RSPR **05** 17:28:10.4, 18˚15N×68˚93W, h123km±4km, MD3.2/13*
*OSPL **05** 17:28:11.2±2.9, 18˚75N×68˚82W, h154km±26km, ML2.6*
ISC 05 17:28:10.9±1.6**, 18˚5N**±0˚1×**68˚80W**±0˚03**, h135**km±11km**, n40, σ1˚01**/54**, 10C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.40**	**84**	⇑eP	**Pn**	**17 28 29.8**	**-0.2**
PCDR	**Punta Cana, DR**	**0.40**	**84**	eS	**Sn**	**17 28 44.9**	**+0.5**
PCDR	**Punta Cana, DR**	**0.40**	**84**		**Pn**	**17 28 29.8**	**-0.2**
PCDR					**Sn**	**17 28 44.9**	**+0.5**
DR12	**Loma Pena Alta**	**0.64**	**300**	⇑eP	**Pn**	**17 28 30.8**	**-0.6**
DR12				eS	**Sn**	**17 28 47.0**	**+0.1**
DR12	**Loma Pena Alta**	**0.64**	**300**		**Pn**	**17 28 30.6**	**-0.9**
DR12				Sn	**Sn**	**17 28 46.0**	**-1.0**
IDE	**Isla Desecheo**	**1.26**	**94**	⇑eP	**Pn**	**17 28 36.4**	**-0.3**
IDE	**Isla Desecheo**	**1.26**	**94**	eS	**Sn**	**17 28 56.7**	**+0.3**
BANI	**BANI**	**1.48**	**267**	⇑eP	**Pn**	**17 28 39.9**	**+0.7**
BANI				eS	**Sn**	**17 29 03.5**	**+2.6**
BANI	**BANI**	**1.48**	**267**	Pn	**Pn**	**17 28 37.6**	**-1.7**
BANI	**BANI**	**1.48**	**267**	i P	**Pn**	**17 28 39.8**	**+0.5**
BANI				eS	**Sn**	**17 29 03.2**	**+2.3**
BANI				IAML		17 29 08.8	
	comp=Z,47nm,0.3s						
AGPR	**Aguadilla, PR**	**1.60**	**90**	⇑eP	**Pn**	**17 28 41.7**	**+1.3**
AGPR	**Aguadilla, PR**	**1.60**	**90**	eS	**Sn**	**17 29 03.8**	**+0.8**
AGPR	**Aguadilla, PR**	**1.60**	**90**		**Pn**	**17 28 41.7**	**+1.3**
AGPR					**Sn**	**17 29 03.8**	**+0.8**
AGPR	**Aguadilla, PR**	**1.60**	**90**	i P	**Pn**	**17 28 41.7**	**+1.3**
LSP	**Las Mesas**	**1.65**	**100**	⇑eP	**Pn**	**17 28 41.4**	**+0.4**
LSP	**Las Mesas**	**1.65**	**100**	eS	**Sn**	**17 29 04.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.67**	**106**	⇑eP	**Pn**	**17 28 40.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.67**	**106**	eS	**Sn**	**17 29 04.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.67**	**106**		**Pn**	**17 28 40.9**	**-0.3**
CRPR					**Sn**	**17 29 04.1**	**-0.3**
MLPR	**Magueyes Islan**	**1.74**	**106**	⇑eP	**Pn**	**17 28 41.1**	**-0.9**
MLPR	**Magueyes Islan**	**1.74**	**106**	eS	**Sn**	**17 29 05.3**	**-0.5**
MLPR	**Magueyes Islan**	**1.74**	**106**		**Pn**	**17 28 41.1**	**-0.9**
MLPR					**Sn**	**17 29 05.3**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.89**	**105**	eS	**Sn**	**17 29 09.3**	**+0.4**
AOPR	**Arecibo Observ**	**1.94**	**93**	⇓eP	**Pn**	**17 28 45.2**	**+0.7**
AOPR	**Arecibo Observ**	**1.94**	**93**	eS	**Sn**	**17 29 08.9**	**-1.2**
AOPR	**Arecibo Observ**	**1.94**	**93**		**Pn**	**17 28 45.2**	**+0.7**
AOPR					**Sn**	**17 29 08.9**	**-1.2**
UUPR	**Utuado, UPR, P**	**1.98**	**96**	⇑eP	**Pn**	**17 28 46.3**	**+1.4**
UUPR	**Utuado, UPR, P**	**1.98**	**96**	eS	**Sn**	**17 29 10.9**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.98**	**96**		**Pn**	**17 28 46.3**	**+1.4**
UUPR					**Sn**	**17 29 10.9**	**-0.1**
SC01	**Santiago de lo**	**2.06**	**298**	Pn	**Pn**	**17 28 44.5**	**-1.4**
SC01				IAML		17 29 20.4	
	comp=E,92nm,0.6s						
CELP	**Cerrillos**	**2.14**	**100**	⇑eP	**Pn**	**17 28 46.7**	**-0.2**
CELP	**Cerrillos**	**2.14**	**100**	eS	**Sn**	**17 29 14.9**	**+0.5**
CELP	**Cerrillos**	**2.14**	**100**		**Pn**	**17 28 46.7**	**-0.2**
CELP					**Sn**	**17 29 14.9**	**+0.5**
EMPR	**Esperanza - Ma**	**2.15**	**89**	⇓eP	**Pn**	**17 28 47.4**	**+0.5**
EMPR	**Esperanza - Ma**	**2.15**	**89**	eS	**Sn**	**17 29 12.9**	**-1.7**
EMPR	**Esperanza - Ma**	**2.15**	**89**		**Pn**	**17 28 47.4**	**+0.5**
EMPR					**Sn**	**17 29 12.9**	**-1.7**
LOBA2	**Hotel Casa Bon**	**2.22**	**260**	i P	**Pn**	**17 28 47.2**	**-0.5**
LOBA2				IAML		17 29 02.3	
	comp=Z,27nm,4.0s						
LOBA2				eS	**Sn**	**17 29 13.8**	**-2.3**
SDDR	**Presa de Saban**	**2.42**	**283**		**Pn**	**17 28 50.6**	**+0.3**
SDDR				Sn	**Sn**	**17 29 21.5**	**+0.9**
SDDR				IAML		17 29 26.4	
	comp=Z,74nm,0.8s						
SDDR				IAML		17 29 28.2	
	comp=Z,52nm,1.0s						
SJG	**San Juan**	**2.54**	**98**	Pn	**Pn**	**17 28 51.6**	**-0.2**
SJG				IAML		17 29 21.4	
	comp=Z,46nm,0.2s						
LONE2	**Loma La Sidra**	**2.54**	**272**	i P	**Pn**	**17 28 52.4**	**+0.4**
LONE2				IAML		17 29 30.5	
	comp=Z,23nm,2.0s						

*IDC **05** 17:29:50.7±7.5, 7˚20S×12˚54W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/56, mbtmp3.9/3, ML2.9/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/71, Error ellipse: s-maj=476.8km s-min=119.2km az=129.0*
*NEIC **05** 17:29:52.4±1.0, 7˚14S±0˚07×12˚65W±0˚09, h10km±1km, mb4.3/9, Error ellipse: s-maj=19.1km s-min=6.9km az=126.0*
ISC 05 17:29:53.1±0.8**, 7˚1S**±0˚1×**12˚67W**±0˚10**, h19**km**, n20, σ0˚91**/14**, mb4.1**/6**, MS3.5**/3**, Ascension Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**1.85**	**245**	Pn	**Pn**	**17 30 24.3**	**+0.4**
ASCN				Sn	**Sn**	**17 30 44.9**	**-1.9**
H10N1	**ASCENSION HYDR**	**1.93**	**249**	T	T	17 32 27.8	
	baz=69,slow=74						
H10N2	**ASCENSION HYDR**	**1.93**	**249**	T	T	17 32 34.3	
	baz=69,slow=74						
H10N3	**ASCENSION HYDR**	**1.94**	**249**	T	T	17 32 33.3	
	baz=69,slow=74						
SHEL	**Horse Pasture**	**11.08**	**143**	Pn	**Pn**	**17 32 30.4**	**-0.3**
DBIC	**Dimbokro**	**15.78**	**30**	Pn	**Pn**	**17 33 34.3**	**-0.1**
	0.0nm,0.3s,baz=231,slow=14,SNR=1.9						
DBIC				LR	LR	17 37 42.6	
	comp=Z,111nm,21.1s,baz=48,slow=30						
DBIC	**Dimbokro**	**15.78**	**30**	IAmb	IAmb	17 33 43.8	
	comp=Z,41nm,1.6s						
RCBR	**Riachuelo**	**23.12**	**272**	P	**P**	**17 34 59.0**	**+0.7**
RCBR				IAmb	IAmb	17 35 09.9	
	comp=Z,18nm,1.1s						
KOWA	**Kowa**	**23.15**	**22**	P	**P**	**17 34 58.8**	**+0.3**
KOWA				IAmb	IAmb	17 35 13.8	
	comp=Z,7.0nm,1.1s						
TOA0	**Torodi Ar. Sit**	**24.70**	**35**	P	**P**	**17 35 11.6**	**-1.6**
TOA0				IAmb	IAmb	17 35 50.4	
	comp=Z,9.6nm,1.4s						
TORD	**Torodi Ar. Bea**	**24.70**	**35**	P	**P**	**17 35 13.5**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=214,slow=11,SNR=16						
TORD	**Torodi Ar. Bea**	**24.70**	**35**	P	**P**	**17 35 13.0**	**-0.2**
PMOZ	**Porto Moniz, M**	**39.97**	**354**	P	**P**	**17 37 26.6**	**-0.1**
SUR	**Sutherland**	**39.99**	**133**	LR	LR	17 49 37.1	
	comp=Z,79nm,20.6s,baz=316,slow=30						
LSZ	**Lusaka**	**40.83**	**105**	LR	LR	17 52 58.8	
	comp=Z,73nm,21.4s,baz=158,slow=34						
PLTB	**Pedras Altas**	**45.31**	**232**	P	**P**	**17 38 11.2**	**+1.1**
ESDC	**Sonseca Array**	**47.27**	**9**	P	**P**	**17 38 24.7**	**-0.6**
ESDC				IAmb	IAmb	17 38 50.9	
	comp=Z,3.1nm,1.6s						
AKASG	**Malin Array Be**	**68.01**	**27**	P	**P**	**17 40 51.6**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=227,slow=6.9,SNR=4.3						
AKBB	**Malin Array Si**	**68.01**	**27**	P	**P**	**17 40 51.1**	**+0.1**
LPIG	**La Paz**	**99.83**	**293**	LR	LR	18 25 39.0	
	comp=Z,70nm,19.5s,baz=332,slow=34						

*SNET **05** 17:31:11.4±0.8, 13˚12N×89˚37W, h47km±8km, ML4.2*
*UCR **05** 17:31:11.5±0.8, 13˚13N×89˚37W, h48km±9km, ML4.1*
*IDC **05** 17:31:12.6±2.4, 13˚79N×88˚82W, h68km±34km, mb3.3/4, mb1 3.6/7, mb1mx3.4/51, mbtmp3.7/7, ML3.2/3, Error ellipse: s-maj=63.1km s-min=16.5km az=38.0*
*INET **05** 17:31:12.6±0.6, 13˚07N×89˚24W, h19km±5km, MW3.7*
*GCG **05** 17:31:27.0±3.5, 15˚13N×90˚35W, h82km±54km, MD3.8*
ISC 05 17:31:10.2±1.1**, 13˚10N**±0˚08×**89˚41W**±0˚05**, h60**km±8km**, n64, σ1˚34**/83**, mb4.0**/3**, 3C-6D, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.39**	**12**	⇓iP	**Pn**	**17 31 21.4**	**+0.3**
LALI	**Alcalda de L**	**0.39**	**12**	⇓iP	**Pn**	**17 31 21.4**	**+0.3**
LALI	**Alcalda de L**	**0.39**	**12**	eP	**Pn**	**17 31 21.4**	**+0.3**
LALI				eS	**Sn**	**17 31 28.4**	**-0.7**
SNET	**Serv Nac Est T**	**0.60**	**16**	eP	**Pn**	**17 31 23.6**	**+0.2**
SNET	**Serv Nac Est T**	**0.60**	**16**	eP	**Pn**	**17 31 23.6**	**+0.2**
LFRS	**El Faro**	**0.62**	**33**	eP	**Pn**	**17 31 23.8**	**+0.2**
LFRS	**El Faro**	**0.62**	**33**	eP	**Pn**	**17 31 23.8**	**+0.2**
UEES	**Universidad Ev**	**0.63**	**15**	eP	**Pn**	**17 31 24.1**	**+0.4**
UEES				IAML		17 31 36.8	
	comp=Z,8µm,0.2s						
UEES	**Universidad Ev**	**0.63**	**15**	eP	**Pn**	**17 31 24.1**	**+0.4**
UEES				IAML		17 31 36.8	
	comp=Z,8µm,0.2s						
SJTE	**Alcalda de S**	**0.64**	**37**	eP	**Pn**	**17 31 23.9**	**+0.1**
SJTE				eS	**Sn**	**17 31 34.0**	**+0.2**
SJTE	**Alcalda de S**	**0.64**	**37**	eP	**Pn**	**17 31 23.9**	**+0.1**
SJTE				eS	**Sn**	**17 31 34.0**	**+0.2**
BOQS	**Boqueron**	**0.64**	**11**	⇓iP	**Pn**	**17 31 24.5**	**+0.5**
BOQS	**Boqueron**	**0.64**	**11**	⇓iP	**Pn**	**17 31 24.5**	**+0.5**
LFU	**La Fuente**	**0.70**	**24**	⇑iP	**Pn**	**17 31 25.3**	**+0.7**
LFU	**La Fuente**	**0.70**	**24**	⇑iP	**Pn**	**17 31 25.3**	**+0.7**
COEG	**Centro de Oper**	**0.73**	**45**	eP	**Pn**	**17 31 24.9**	**+0.1**
COEG				eS	**Sn**	**17 31 35.5**	**-0.1**
COEG				IAML		17 31 41.8	
	comp=Z,5µm,0.4s						
COEG	**Centro de Oper**	**0.73**	**45**	eP	**Pn**	**17 31 24.9**	**+0.1**
COEG				eS	**Sn**	**17 31 35.5**	**-0.1**
COEG				IAML		17 31 41.8	
	comp=Z,5µm,0.4s						
SNVI	**San Vicente**	**0.75**	**47**	eP	**Pn**	**17 31 25.4**	**+0.1**
SNVI	**San Vicente**	**0.75**	**47**	eP	**Pn**	**17 31 25.4**	**+0.1**
CEVE	**Cerro Verde**	**0.75**	**344**	eP	**Pn**	**17 31 26.1**	**+0.8**
CEVE				eS	**Sn**	**17 31 37.7**	**+1.3**
CEVE				IAML		17 31 38.9	
	comp=Z,16µm,0.3s						
CEVE	**Cerro Verde**	**0.75**	**344**	eP	**Pn**	**17 31 26.1**	**+0.8**
CEVE				eS	**Sn**	**17 31 37.7**	**+1.3**
CEVE				IAML		17 31 38.9	
	comp=Z,16µm,0.3s						
PAVA	**Las Pavas**	**0.76**	**37**	eP	**Pn**	**17 31 25.8**	**+0.5**
PAVA				eS	**Sn**	**17 31 36.9**	**+0.5**
PAVA				IAML		17 31 39.2	
	comp=Z,9µm,0.3s						
PAVA	**Las Pavas**	**0.76**	**37**	eP	**Pn**	**17 31 25.8**	**+0.5**
PAVA				eS	**Sn**	**17 31 36.9**	**+0.5**
PAVA				IAML		17 31 39.2	
	comp=Z,9µm,0.3s						
PAVA	**Las Pavas**	**0.76**	**37**	eP	**Pn**	**17 31 25.9**	**+0.6**
SBLS	**San Blas**	**0.76**	**344**	⇓eP	**Pn**	**17 31 26.2**	**+0.8**
SBLS	**San Blas**	**0.76**	**344**	⇓eP	**Pn**	**17 31 26.2**	**+0.8**
SNJE	**San Jose**	**0.79**	**346**	eP	**Pn**	**17 31 26.3**	**+0.6**
SNJE	**San Jose**	**0.79**	**346**	eP	**Pn**	**17 31 26.3**	**+0.6**
RTR	**El Retiro**	**0.82**	**344**	eP	**Pn**	**17 31 27.1**	**+0.9**
RTR	**El Retiro**	**0.82**	**344**	eP	**Pn**	**17 31 27.1**	**+0.9**
NUBE	**Las Nubes**	**0.87**	**335**	eP	**Pn**	**17 31 27.4**	**+0.6**
NUBE				eS	**Sn**	**17 31 39.7**	**+0.7**
NUBE				IAML		17 31 42.7	
	comp=Z,2µm,0.3s						
NUBE	**Las Nubes**	**0.87**	**335**	eP	**Pn**	**17 31 27.4**	**+0.6**
NUBE				eS	**Sn**	**17 31 39.7**	**+0.7**
NUBE				IAML		17 31 42.7	
	comp=Z,2µm,0.3s						
SCLA	**Alcaldia de Sa**	**0.89**	**48**	eP	**Pn**	**17 31 27.5**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.89**	**48**	eP	**Pn**	**17 31 27.5**	**+0.6**
COEB	**Comit de Eme**	**0.94**	**65**	eP	**Pn**	**17 31 27.8**	**+0.3**
COEB				eS	**Sn**	**17 31 40.9**	**+0.5**
COEB				IAML		17 31 43.2	
	comp=Z,9µm,0.3s						
COEB	**Comit de Eme**	**0.94**	**65**	eP	**Pn**	**17 31 27.8**	**+0.3**
COEB				eS	**Sn**	**17 31 40.9**	**+0.5**
COEB				IAML		17 31 43.2	
	comp=Z,9µm,0.3s						
PQSS	**Presa 15 de Se**	**0.97**	**58**	eP	**Pn**	**17 31 28.3**	**+0.4**
PQSS				IAML		17 31 43.5	
	comp=Z,3µm,0.2s						
PQSS	**Presa 15 de Se**	**0.97**	**58**	eP	**Pn**	**17 31 28.3**	**+0.4**
PQSS				IAML		17 31 43.5	
	comp=Z,3µm,0.2s						
SLOZ	**Alcaldia de Sa**	**0.99**	**338**	eP	**Pn**	**17 31 29.3**	**+1.2**
LCY	**Lacayo**	**1.13**	**73**	eP	**Pn**	**17 31 31.0**	**+0.9**
LCY	**Lacayo**	**1.13**	**73**	eP	**Pn**	**17 31 31.0**	**+0.9**
JUCU	**Jucuar¡n**	**1.14**	**82**	eP	**Pn**	**17 31 30.4**	**+0.3**
JUCU				IAML		17 31 48.0	
	comp=Z,6µm,0.3s						
JUCU	**Jucuar¡n**	**1.14**	**82**	eP	**Pn**	**17 31 30.4**	**+0.3**
JUCU				IAML		17 31 48.0	
	comp=Z,6µm,0.3s						
MTO3	**Montecristo**	**1.29**	**2**	eP	**Pn**	**17 31 33.1**	**+0.8**
MTO3	**Montecristo**	**1.29**	**2**	eP	**Pn**	**17 31 33.1**	**+0.8**
ESQI	**Esquipulas**	**1.45**	**2**	⇑iP	**Pn**	**17 31 35.6**	**+1.3**
ESQI				eS	**Sn**	**17 31 54.2**	**+1.8**
LCND	**La Caada**	**1.49**	**82**	eP	**Pn**	**17 31 35.7**	**+1.0**
LCND				eS	**Sn**	**17 31 54.1**	**+0.9**
LCND				IAML		17 31 56.5	
	comp=Z,4µm,0.4s						
LCND	**La Caada**	**1.49**	**82**	eP	**Pn**	**17 31 35.7**	**+1.0**
LCND				eS	**Sn**	**17 31 54.1**	**+0.9**
LCND				IAML		17 31 56.5	
	comp=Z,4µm,0.4s						
NBG	**Las Nubes**	**1.74**	**328**	eP	**Pn**	**17 31 41.2**	**+2.9**
NBG				eS	**Sn**	**17 31 54.7**	**-4.9**
CSGN	**Cosiguina Volc**	**1.81**	**94**	eS	**Sn**	**17 32 00.5**	**-0.4**
FUG	**Fuego 3**	**1.93**	**314**	eP	**Pn**	**17 31 43.4**	**+2.5**
FUG				eS	**Sn**	**17 31 58.5**	**-5.7**
MRL	**Marmol**	**1.98**	**352**	eP	**Pn**	**17 31 44.1**	**+2.4**
MRL				eS	Sn	17 31 54.3	-11
TGUH	**Tegucigalpa,Un**	**2.28**	**65**	eP	**Pn**	**17 31 46.2**	**+0.6**
STG3	**Santiaguito 3,**	**2.64**	**308**	eP	**Pn**	**17 31 53.3**	**+2.7**
STG3				eS	Sn	17 32 07.0	-15
COPN	**Copaltepe**	**2.90**	**108**	eP	**Pn**	**17 31 53.9**	**0.0**
JTS	**Las Juntas de**	**5.18**	**122**	P	**Pn**	**17 32 27.7**	**+2.5**
	comp=Z,1.6nm,0.3s,baz=14,slow=21,SNR=2.8						
JTS				S	**Sn**	**17 33 24.8**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=16,slow=22,SNR=1.1						
CMIG	**Matias Romero**	**6.61**	**308**	P	**Pn**	**17 32 47.1**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=358,slow=4.7,SNR=2.5						
CMIG				S	**Sn**	**17 34 00.5**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=141,slow=23,SNR=2.2						
SDV	**Santo Domingo**	**18.90**	**101**	P	**P**	**17 35 25.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=81,slow=19,SNR=7.6						
TXAR	**Lajitas Array**	**20.88**	**323**	P	**P**	**17 35 49.2**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=138,slow=10,SNR=9.8						
PDAR	**Pinedale Array**	**34.32**	**333**	P	**P**	**17 37 49.0**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=146,slow=9.8,SNR=1.8						
SCHQ	**Schefferville**	**45.23**	**18**	P	P	17 39 14.9	-6.4
	comp=Z,3.6nm,0.9s,baz=225,slow=11,SNR=2.4						
YKA	**Yellowknife Ar**	**52.50**	**346**	P	**P**	**17 40 15.0**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=143,slow=7.7,SNR=24						
WRA	**Warramunga Arr**	**137.61**	**255**	PKP	**PKiKP**	**17 50 31.2**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=74,slow=1.0,SNR=1.9						
CMAR	**Chiang Mai Arr**	**147.58**	**345**	PKPbc	**PKPdf**	**17 50 46.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=5.7,slow=4.5,SNR=2.3						

*IDC **05** 17:34:13.6±4.2, 12˚95N×144˚45E, h18km±26km, mb4.0/24, mb1 4.1/27, mb1mx4.0/64, mbtmp4.2/27, ML5.0/2, MS4.1/59, Ms1 4.1/59, ms1mx4.0/81, Error ellipse: s-maj=18.8km s-min=11.3km az=78.0*
*DJA **05** 17:34:15.0±1.7, 13˚N±4˚×14˚4E±˚, h23km±14km, M4.8/23, mB5.2/11, mb4.8/23, MLv5.0/1, Mw(mB)4.6/11*
*BJI **05** 17:34:17.8±0.0, 12˚90N×144˚30E, h40km, mb4.5/48, mB4.9/27, Ms4.5/39, Ms7 4.4/39*
*NEIC **05** 17:34:17.6±1.9, 12˚90N±0˚06×144˚36E±0˚07, h55km±6km, mb4.9/122, Error ellipse: s-maj=11.6km s-min=5.9km az=134.0*
*GCMT **05** 17:34:17.5±0.2, 12˚74N±0˚01×144˚06E±0˚01, h12km, MW4.9/107, Moment Tensor Solution. s37,c49; s107,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.70±.07; $M_{\theta\theta}$1.32±.06; $M_{\phi\phi}$-2.01±.07; $M_{r\theta}$0.03±.20;*

Mθφ-2.03±.06; Mφr-1.49±.18; Best double couple: M0 2.98800×10^16 NP1:φs71.00000°,δ60.00000°, λ176.00000°. NP2:φs163.00000°,δ87.00000°,λ30.00000°. Principal axes: T 2.5630, Plg23.0000°, Azm31.0000°; N 0.8580, Plg60.0000°, Azm168.0000°; P -3.4130, Plg18.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 05 17:34:15.4±0.3, 12°.84N±0°.05×144°.35E±0°.05, h35km, n247, σ1s.48/205, mb4.8/104, MS4.2/75, 2C-6D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.91	34		Pn	17 34 32.5	+0.9
GUMO				Sn	Sn	17 34 46.5	+3.0
PATS	Pohnpei	14.99	112		Pn	17 37 44.4	-0.5
MANU	Manus Island	15.08	168		Pn	17 37 47.0	+1.0
SRPI	Serui, Papua	16.68	209	P	Pn	17 38 07.9	+1.4
	4μm42nm,0.6s						
RABL	Rabaul	18.61	155	P	P	17 38 28.1	-1.9
RABL				IAmb	IAmb	17 38 41.6	
	comp=Z,61nm,1.1s						
KRVT	Keravat (AS076	18.66	155	P	P	17 38 32.2	+1.7
	comp=Z,0.6nm,0.3s,baz=342,slow=18,SNR=2.8						
KRVT				LR	LR	17 43 53.7	
	comp=Z,430nm,21.9s,baz=122,slow=31						
SIJI	Sorong	18.81	225	P	P	17 38 34.9	+2.8
	baz=62,slow=12,SNR=1.9						
SWI	Sorong	18.81	225	P	P	17 38 31.7	-0.4
	comp=Z,989nmcomp=Z,47nm,1.3s						
DAV	Davao City (W)	19.34	255	P	P	17 38 40.4	+2.4
	comp=Z,42nm,0.3s,baz=90,slow=5.1,SNR=1.7						
DAV				LR	LR	17 44 55.7	
	comp=Z,372nm,21.7s,baz=76,slow=33						
JOW	Kunigami	20.52	315	P	P	17 38 52.5	+1.8
	comp=Z,13nm,0.6s,baz=181,slow=6.3,SNR=4.4						
JOW				LR	LR	17 45 01.6	
	comp=Z,775nm,21.9s,baz=118,slow=32						
JOW	Kunigami	20.52	315		P	17 38 49.6	-1.1
JOW				IAmb	IAmb	17 39 01.2	
	comp=Z,58nm,0.9s						
JHJ2	Mitsune	20.61	349	P	P	17 38 51.4	-0.2
JHJ	Hachijo jima 2	20.62	349	LR	LR	17 46 26.1	
	comp=Z,719nm,18.4s,baz=164,slow=36						
TNTI	Ternate	20.66	236	P	P	17 38 54.9	+2.6
TNTI				IAmb	IAmb	17 39 07.7	
	comp=Z,51nm,1.1s						
LBMI	Labuha	21.41	233	P	P	17 38 58.9	-1.5
	comp=Z,738nmcomp=Z,45nm,1.1s						
MSAI	Masohi	22.20	225	P	P	17 39 10.9	+2.0
	comp=Z,175nmcomp=Z,15nm,1.3s						
H11S3	WAKE ISLAND Hy	22.23	72	T	T	18 02 10.7	
	baz=258,slow=75						
H11S1	WAKE ISLAND Hy	22.24	72	T	T	18 02 09.6	
	baz=258,slow=75						
H11S2	WAKE ISLAND Hy	22.24	73	T	T	18 02 10.3	
	baz=258,slow=75						
PMG	Port Moresby	22.27	173	P	P	17 39 12.5	+2.9
	comp=Z,8.6nm,0.9s,baz=299,slow=10,SNR=2.1						
PMG				LR	LR	17 46 36.1	
	comp=Z,381nm,20.3s,baz=355,slow=33						
PMG	Port Moresby	22.27	173	P	P	17 39 09.2	-0.4
PMG				IAmb	IAmb	17 39 33.3	
	comp=Z,30nm,0.9s						
JSU	Suzuyama	22.56	328	P	P	17 39 12.3	-0.3
JSU				IAmb	IAmb	17 39 23.2	
	comp=Z,35nm,0.9s						
H11N1	WAKE ISLAND Hy	22.68	70	T	T	18 02 52.0	
	baz=253,slow=75						
H11N2	WAKE ISLAND Hy	22.69	69	T	T	18 02 53.8	
	baz=253,slow=75						
H11N3	WAKE ISLAND Hy	22.70	70	T	T	18 02 51.9	
	baz=253,slow=75						
TGY	Tagaytay City	22.80	276	P	P	17 39 17.3	+1.9
	comp=Z,242nm,0.3s,baz=152,slow=13,SNR=3.3						
JMN	Monobe	22.88	337	P	P	17 39 13.5	-2.5
AAI	Ambon	22.95	225	P	P	17 39 16.0	-0.9
	comp=Z,114nm,1.2s						
INU	Inuyama	23.38	345	P	P	17 39 20.4	-0.5
INU				IAmb	IAmb	17 39 31.6	
	comp=Z,30nm,1.1s						
JGF	Kuroka	23.53	346	P	P	17 39 22.3	-0.2
KMSI	Cibinong	23.58	240	P	P	17 39 22.8	-0.3
	comp=Z,156nm,1.1s						
JYT	Yasato	23.59	352	P	P	17 39 22.1	-0.9
JYT				IAmb	IAmb	17 39 33.5	
	comp=Z,29nm,0.8s						
JNU	Nakatsue	23.65	331	P	P	17 39 23.6	-0.1
	comp=Z,6.4nm,0.6s,baz=110,slow=2.4,SNR=11						
JNU	Nakatsue	23.65	331	P	P	17 39 23.7	+0.1
MJAR	Matsushiro Arr	24.24	348	P	P	17 39 29.5	+0.4
	comp=Z,3.5nm,0.6s,baz=94,slow=3.6,SNR=7.2						
MJAR				LR	LR	17 48 15.1	
	comp=Z,368nm,18.4s,baz=160,slow=35						
MJAR	Matsushiro Arr	24.24	348	P	P	17 39 29.1	0.0
MJAR				IAmb	IAmb	17 39 40.0	
	comp=Z,41nm,1.4s						
MAJO	Matsushiro	24.24	348	P	P	17 39 26.8	-2.3
MAJO				IAmb	IAmb	17 39 39.7	
	comp=Z,59nm,1.2s						
TWG	Pinlang	24.25	297	P	P	17 39 26.8	-2.5
MJB9	Matsu-Tunnel	24.25	348	P	P	17 39 26.6	-2.5
MJB9				IAmb	IAmb	17 39 39.6	
	comp=Z,58nm,1.2s						
YULB	Yu-li	24.26	299	P	P	17 39 28.3	-1.1
YULB				IAmb	IAmb	17 39 51.5	
	comp=Z,51nm,1.1s						
JHS	Saijyo	24.30	337	P	P	17 39 30.3	+0.7
JHS				IAmb	IAmb	17 39 39.1	
	comp=Z,79nm,1.4s						
NACB	Ninganchiao	24.30	301	P	P	17 39 29.9	+0.1
NACB				IAmb	IAmb	17 39 46.8	
	comp=Z,39nm,1.3s						
GTOI	Gorontalo	24.37	242	P	P	17 39 29.6	-0.9
	comp=Z,243nmcomp=Z,18nm,1.2s						
SAUI	Saumlaki	24.41	213	P	P	17 39 30.8	0.0
YHNB	Yeheng	24.69	302	P	P	17 39 30.6	-2.8
YHNB				IAmb	IAmb	17 39 42.2	
	comp=Z,28nm,1.1s						
SSLB	Suanglung	24.69	299	P	P	17 39 30.9	-2.5
SSLB				IAmb	IAmb	17 39 42.6	
	comp=Z,82nm,1.1s						
TPUB	Ta-pu	24.80	298	P	P	17 39 32.1	-2.2
TPUB				IAmb	IAmb	17 39 56.9	
	comp=Z,67nm,1.4s						
JMM	Marumori	25.13	353	P	P	17 39 34.7	-2.4
JMM				IAmb	IAmb	17 39 53.7	
	comp=Z,61nm,1.1s						
MRSI	Marisa	25.38	243	P	P	17 39 39.5	-0.1
	comp=Z,2μmcomp=Z,194nm,1.3s						
LUWI	Luwuk	25.46	239	P	P	17 39 39.7	-0.7
JTU	Tsushima	25.50	330		P	17 39 38.0	-2.5
JTU				IAmb	IAmb	17 39 54.6	
	comp=Z,72nm,1.2s						
JSD	Sado	25.68	349	P	P	17 39 41.4	-0.7
TOLI2	Tolitoli	26.09	245	P	P	17 39 43.6	-2.5
TOLI2				IAmb	IAmb	17 40 01.1	
	comp=Z,24nm,1.0s						
APSI	Ampana	26.34	240	P	P	17 39 46.7	-1.6
	comp=Z,804nmcomp=Z,87nm,1.2s						
COEN	Coen	26.64	183	P	P	17 39 49.7	-1.3
COEN				IAmb	IAmb	17 40 02.1	
	comp=Z,18nm,0.8s						
HNR	Honiara	27.01	144	LR	LR	17 50 41.2	
	comp=Z,491nm,18.8s,baz=318,slow=36						
MPSI	Mapaga	27.23	245	P	P	17 39 54.5	-1.9
	comp=Z,12nm,1.2s						
TJN	Taejon	27.98	330		P	17 40 00.0	-2.8
KSRS	Korea Array	28.58	332	P	P	17 40 09.2	+1.0
	comp=Z,1.2nm,0.6s,baz=146,slow=11,SNR=6.9						
KSRS				ScP	ScP	17 47 00.8	+3.1
	comp=Z,2.1nm,1.1s,baz=132,slow=1.9,SNR=7.0						
KSRS				LR	LR	17 50 59.5	
	comp=Z,152nm,18.1s,baz=130,slow=35						
KSAR	Wonju Array Be	28.59	332	P	P	17 40 07.3	-0.9
KS19	Wonju Array Si	28.64	332	P	P	17 40 06.2	-2.6
MTN	Manton Dam	28.68	208	P	P	17 40 08.8	-0.4
KAPI	Kappang	30.19	236	P	P	17 40 22.1	-0.6
KAPI				IAmb	IAmb	17 40 31.4	
	comp=Z,28nm,1.2s						
NJ2	Nanjing	30.21	313	*e*P	P	17 40 23.0	+0.3
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,450nm,13.7s						
NJ2				LR	LR		
	comp=Z,560nm,16.6s						
NJ2				LR	LR		
	comp=Z,340nm,14.2s						
MMRI	Maumere	30.62	227	P	P	17 40 27.2	+0.7
MMRI				IAmb	IAmb	17 40 42.2	
	comp=Z,25nm,1.0s						
ASAJ	Asahikawa	31.21	358	LR	LR	17 55 20.4	
	comp=Z,179nm,19.2s,baz=177,slow=41						
KNRA	Kununurra	32.25	209	P	P	17 40 40.9	+0.1
KNRA				IAmb	IAmb	17 41 02.3	
	comp=Z,24nm,1.1s						
CTA	Charters Tower	32.77	177	LR	LR	17 52 34.8	
	comp=Z,261nm,21.4s,baz=3.0,slow=34						
WHN	Wuhan	32.82	307	⇓P	P	17 40 53.8	+8.1
WHN				LR	LR		
	comp=Z,500nm,11.4s						
WHN				LR	LR		
	comp=Z,590nm,10.0s						
WHN				LR	LR		
	comp=Z,2μm,22.8s						
WHN				LR	LR		
	comp=Z,2μm,22.8s						
USA0B	Ussuriysk Arra	33.01	344	P	P	17 40 45.0	-2.1
SBUM	Sibu	33.42	255	P	P	17 40 49.5	-1.7
QIZ	Qiongzhong	33.70	285	P	P	17 40 51.1	-2.5
QIZ				S	S	17 46 13.2	-1.5
QIZ				LR	LR		
	comp=N,340nm,21.1s						
QIZ				LR	LR		
	comp=E,500nm,21.9s						
QIZ				LR	LR		
	comp=Z,730nm,19.1s						
WB0	Warramunga Arr	33.85	197	P	P	17 40 55.6	+0.9
WB0				IAmb	IAmb	17 41 03.3	
	comp=Z,23nm,1.2s						
WR0	Warramunga Arr	33.99	197	P	P	17 40 55.1	-0.8
WR0				IAmb	IAmb	17 41 04.5	
	comp=Z,21nm,1.2s						
WRAB	Tennant Creek	34.02	197	P	P	17 40 56.2	0.0
WRAB				IAmb	IAmb	17 40 58.9	
	comp=Z,19nm,1.1s						
WRAB	Tennant Creek	34.02	197	P	P	17 40 58.3	+2.2
WRAB				pP	pP	17 41 04.6	-1.0
WB2	Warramunga Arr	34.02	197	P	P	17 40 56.5	+0.3
WB2				IAmb	IAmb	17 40 59.1	
	comp=Z,20nm,1.1s						
WRA	Warramunga Arr	34.03	197	P	P	17 40 57.6	+1.3
	comp=Z,7.8nm,0.9s,baz=19,slow=9.5,SNR=24						
WRA				PcP	PcP	17 43 36.2	+2.5
	comp=Z,1.4nm,0.8s,baz=17,slow=3.5,SNR=4.0						
WRA				LR	LR	17 55 17.9	
	comp=Z,270nm,18.0s,baz=28,slow=37						
WRA	Warramunga Arr	34.03	197	P	P	17 40 56.3	0.0
MDJ	Mudanjiang	34.10	341	P	P	17 40 55.5	-1.1
MDJ				IAmb	IAmb	17 41 16.6	
	comp=Z,19nm,1.6s						
CN2	Changchun	34.88	336	*e*P	P	17 41 03.6	+0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
DLV	T Lat	35.02	273	P	P	17 41 04.7	-0.5
DLV				IAmb	IAmb	17 41 14.1	
	comp=Z,16nm,1.2s						
KSM	Kuching	35.55	254	P	P	17 41 09.2	-0.3
KSM				IAmb	IAmb	17 41 26.2	
	comp=Z,12nm,1.3s						
BNX	BinXian	35.81	340	⇓P	P	17 41 14.2	+2.8
BNX				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,250nm,4.3s						
FITZ	Fitzroy Crossi	35.85	211	P	P	17 41 12.0	-0.1
HNS	HongShan	36.04	318	⇓P	P	17 41 14.4	+0.9
HNS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LYN	LuoYang	36.08	312	⇑P	P	17 41 22.4	+8.6
LYN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LYN				LR	LR		
	comp=Z,360nm,15.6s						
LYN				LR	LR		
	comp=Z,240nm,17.7s						
LYN				LR	LR		
	comp=Z,240nm,22.0s						
ENH	Enshi	36.57	304	P	P	17 41 17.4	-0.8
ENH				IAmb	IAmb	17 41 43.5	
	comp=Z,21nm,1.1s						
ENH	Enshi	36.57	304	P	P	17 41 19.0	+0.8
ENH				pP	pP	17 41 26.7	-0.6
JAGI	Jajag, Banyuwa	36.71	236	P	P	17 41 17.7	-1.8
BJT	Baijiatuau	36.71	323	P	P	17 41 18.4	-0.9
BJT				IAmb	IAmb	17 41 28.6	
	comp=Z,24nm,1.1s						
AS31	Alice Springs	37.69	196	P	P	17 41 28.4	+0.7
ASAR	Alice Springs	37.69	196	P	P	17 41 29.2	+1.6
	comp=Z,3.8nm,1.0s,baz=15,slow=5.4,SNR=23						
ASAR				PcP	PcP	17 43 46.5	+1.9
	comp=Z,2.5nm,1.0s,baz=15,slow=3.8,SNR=3.1						
ASAR				LR	LR	17 56 25.0	
	comp=Z,329nm,21.7s,baz=23,slow=35						
ASAR	Alice Springs	37.69	196	P	P	17 41 28.3	+0.6
KLR	Kul'dur	37.75	346	P	P	17 41 27.8	-0.1
	comp=Z,0.5nm,0.3s,baz=140,slow=7.9,SNR=3.1						
KLR				LR	LR	17 56 40.5	
	comp=Z,226nm,18.7s,baz=156,slow=36						
UBPT	Khong Chiam	37.76	278	P	P	17 41 27.6	-0.7
UBPT				IAmb	IAmb	17 42 35.1	
	comp=Z,32nm,2.0s						
GYA	Guiyang	37.84	297	⇓P	P	17 41 40.8	+12
GYA				pmax	pmax		
	comp=Z,13nm,1.9s						
XAN	Xi'an	38.47	309	P	P	17 41 41.3	+7.1
XAN				pP	pP	17 41 46.0	+2.7
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,58nm,4.3s						
XAN				LR	LR		
	comp=Z,220nm,14.4s						
XAN				LR	LR		
	comp=Z,430nm,16.1s						
XAN				LR	LR		
	comp=Z,760nm,17.7s						
XLT	XiLinHaoTe	39.33	327	*e*P	P	17 41 46.1	+4.8
XLT				pP	sP	17 42 00.9	+5.6
XLT				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,120nm,4.3s						
XLT				LR	LR		
	comp=Z,36nm,15.9s						
XLT				LR	LR		
	comp=Z,260nm,15.6s						
XLT				LR	LR		
	comp=Z,360nm,15.5s						
HHC	Hu-ho-hao-te	40.02	320	*e*P	P	17 41 46.5	-0.6
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,5.7s						
HHC				LR	LR		
	comp=Z,480nm,16.5s						
HHC				LR	LR		
	comp=Z,410nm,17.1s						
HHC				LR	LR		
	comp=Z,510nm,16.5s						
FUNA	Funafuti	40.61	120	P	P	17 41 51.3	-0.9
DZM	Mont Dzumac	40.91	148	LR	LR	17 58 48.8	
	comp=Z,458nm,18.2s,baz=10,slow=36						
DZM	Mont Dzumac	40.91	148	*e*LR	LR	17 53 16.6	
	comp=Z,481nm,25.1s						
DZM	Mont Dzumac	40.91	148	P	P	17 41 54.8	+0.2
DZM				IAmb	IAmb	17 43 17.0	
	comp=Z,31nm,1.2s						
KMI	Kunming	41.04	294	⇑P	P	17 41 57.6	+1.7
KMI				pP	pP	17 42 05.7	+0.4
KMI				sP	sP	17 42 09.5	+0.3
KMI				pmax	pmax		
	comp=Z,11nm,1.4s						
KMI				pmax	pmax		
	comp=Z,60nm,5.0s						
KMI				LR	LR		
	comp=Z,190nm,25.9s						
KMI				LR	LR		
	comp=Z,300nm,25.1s						
KMI				LR	LR		
	comp=Z,500nm,22.7s						
LEM	Lembang	41.39	244	LR	LR	17 58 46.4	
	comp=Z,124nm,21.3s,baz=50,slow=36						
CD2	Chengdu	41.46	302	P	P	17 41 59.0	-0.1
CD2				pP	pwP	17 42 15.6	+2.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2				pmax	pmax		
	comp=Z,70nm,6.5s						
CD2				LR	LR		
	comp=Z,50nm,17.9s						
CD2				LR	LR		
	comp=Z,330nm,22.2s						
CD2				LR	LR		
	comp=Z,360nm,22.4s						
PETK	Petropavlovsk-	41.56	12	LR	LR	17 56 59.9	
	comp=Z,308nm,21.7s,baz=191,slow=33						
MYKOM	Kota Tinggi	41.57	258	P	P	17 42 00.3	+0.2
MYKOM				IAmb	IAmb	17 42 09.8	
	comp=Z,24nm,1.0s						
HIA	Hailar	41.61	336	P	P	17 41 59.9	-0.1
PINNC	Pines Island,	41.88	147	P	P	17 42 01.8	-0.6
PZH	PanZhiHua	42.16	295	P	P	17 42 08.6	+3.6
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
PZH				LR	LR		
	comp=Z,680nm,20.1s						
PZH				LR	LR		
	comp=Z,760nm,21.0s						
PZH				LR	LR		
	comp=Z,1μm,22.0s						
LZH	Lanzhou	43.10	310	*e*P	P	17 42 17.0	+4.5
LZH				pP	pwP	17 42 32.1	+5.5
LZH				sP	sP	17 42 36.4	+11
LZH				pmax	pmax		
	comp=Z,38nm,1.3s						
LZH				pmax	pmax		
	comp=Z,160nm,5.5s						
LZH				LR	LR		
	comp=Z,430nm,14.0s						
LZH				LR	LR		
	comp=Z,330nm,13.8s						
LZH				LR	LR		
	comp=Z,570nm,16.6s						
IPM	Ipoh	43.57	263	P	P	17 42 14.1	-2.3
ARMA	Armidale	43.57	171	P	P	17 42 16.4	+0.2
ARMA				IAmb	IAmb	17 42 25.4	
	comp=Z,37nm,1.6s						
KULM	Kulim	43.74	264	P	P	17 42 16.2	-1.6
KULM				IAmb	IAmb	17 42 27.2	
	comp=Z,28nm,1.1s						
CM31	Chiang Mai Arr	43.99	283	P	P	17 42 18.3	-1.4
CM31				IAmb	IAmb	17 42 28.7	
	comp=Z,27nm,1.4s						
CMAR	Chiang Mai Arr	43.99	283	P	P	17 42 20.1	+0.4
	comp=Z,2.5nm,0.8s,baz=85,slow=6.3,SNR=13						
CMAR				LR	LR	17 58 33.8	
	comp=Z,280nm,21.8s,baz=90,slow=33						
CMAR	Chiang Mai Arr	43.99	283	P	P	17 42 18.6	-1.2
CHTO	Chiang Mai	43.99	284	P	P	17 42 18.2	-1.6
SRIT	Nakonsritamara	44.12	269	P	P	17 42 20.4	-0.5
SRIT				IAmb	IAmb	17 42 38.0	
	comp=Z,22nm,1.0s						
STKA	Stephens Creek	44.53	183	P	P	17 42 25.1	+1.3
	comp=Z,4.3nm,0.8s,baz=327,slow=11,SNR=3.8						
STKA				LR	LR	18 01 27.1	
	comp=Z,179nm,20.9s,baz=12,slow=37						
STKA	Stephens Creek	44.53	183	P	P	17 42 24.0	+0.2
JOHN	Johnston Islan	44.69	79	P	P	17 42 24.2	-1.2
MSVF	Nonsavu	45.05	132	LR	LR	18 00 46.9	
	comp=Z,136nm,18.9s,baz=307,slow=35						
BBOO	Buckleboo	46.07	190	P	P	17 42 37.3	+1.3
SHEM	Shemya Is, Ala	46.36	25	LR	LR	17 57 35.3	
	comp=Z,270nm,20.2s,baz=321,slow=30						
ULN	Ulaanbaatar	46.71	326	P	P	17 42 40.9	-0.2
MA2	Magadan	46.90	4	LR	LR	18 01 39.5	
	comp=Z,116nm,19.4s,baz=198,slow=35						
MA2	Magadan	46.90	4	P	P	17 42 41.6	-0.6
SONM	Songino Array	47.06	326	P	P	17 42 44.3	+0.5
	comp=Z,1.4nm,0.6s,baz=146,slow=8.4,SNR=8.5						
SONM				LR	LR	18 01 17.5	
	comp=Z,186nm,21.7s,baz=144,slow=34						
SONM	Songino Array	47.06	326	P	P	17 42 43.2	-0.5
GTA	Gaotai	47.30	312	*e*P	P	17 42 46.9	+1.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,77nm,7.2s						
GTA				LR	LR		
	comp=Z,250nm,19.5s						
GTA				LR	LR		
	comp=Z,350nm,17.9s						
GTA				LR	LR		
	comp=Z,370nm,17.5s						
GSI	Gunungsitoli	47.71	260	P	P	17 42 48.0	-1.2
MORW	Morawa	49.83	213	P	P	17 43 06.1	+1.0
ADK	Adak	49.97	31	P	P	17 43 06.4	+0.5
GOMU	GeErMu	50.07	307	P	P	17 43 10.5	+3.0
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,100nm,4.8s						
GOMU				LR	LR		
	comp=Z,230nm,17.9s						
GOMU				LR	LR		
	comp=Z,160nm,19.0s						
GOMU				LR	LR		
	comp=Z,200nm,18.6s						
TOO	Toolangi	50.15	179	P	P	17 43 08.1	+0.6
YAK	Yakutsk	50.25	351	P	P	17 43 09.1	+1.3
	comp=Z,1.3nm,0.4s,baz=7.3,slow=1.4,SNR=2.5						
YAK				LR	LR	18 04 12.2	
	comp=Z,255nm,18.8s,baz=128,slow=36						
YAK	Yakutsk	50.25	351	P	P	17 43 07.6	-0.2
YAK				IAmb	IAmb	17 43 28.1	
	comp=Z,13nm,0.8s						
YAK	Yakutsk	50.25	351	P	P	17 43 10.0	+2.2
SEY	Seymchan	50.35	5	P	P	17 43 09.0	+0.4
	comp=Z,1.0nm,0.9s,baz=126,slow=22,SNR=2.6						
SEY				LR	LR	18 03 50.7	
	comp=Z,123nm,20.9s,baz=165,slow=35						
PBA	Port Blair	50.37	275	P	P	17 43 09.1	-0.5
OUZ	Omahuta	55.25	151	P	P	17 43 44.4	-0.8
SPIA	Saint Paul Isl	56.08	28	P	P	17 43 50.0	-0.8
UNV	Unalaska Valle	56.23	33	P	P	17 43 50.6	-1.4
BILL	Bilibino	56.99	10	P	P	17 43 58.0	+0.9
HLK	Haleakala	57.16	74	P	P	17 43 59.5	0.0
WMQ	Urumqi	57.29	314	*e*P	P	17 43 59.8	0.0
WMQ				pP	sP	17 44 15.9	+3.0
WMQ				PP	PP	17 46 11.3	+4.1
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				LR	LR		
	comp=Z,470nm,21.3s						
WMQ				LR	LR		
	comp=Z,230nm,20.9s						
WMQ				LR	LR		
	comp=Z,230nm,20.9s						
URZ	Urewera	59.37	150	LR	LR	18 08 20.7	
	comp=Z,113nm,19.4s,baz=31,slow=34						
URZ	Urewera	59.37	150	P	P	17 44 13.4	-0.8
MXZ	Matakaoa Point	59.41	149	P	P	17 44 13.5	-1.0
TIXI	Tiksi	59.53	354	LR	LR	18 10 00.4	
	comp=Z,85nm,21.9s,baz=180,slow=36						
LTZ	Lake Taylor	60.98	157	P	P	17 44 24.9	-0.4
LTZ				IAmb	IAmb	17 44 40.2	
	comp=Z,26nm,1.4s						
RPZ	Rata Peaks	61.33	158	LR	LR	18 09 15.4	
	comp=Z,155nm,19.2s,baz=321,slow=34						
RPZ	Rata Peaks	61.33	158	P	P	17 44 27.1	-0.4
OXZ	Oxford	61.36	157	P	P	17 44 28.3	+0.6
OXZ				IAmb	IAmb	17 44 37.1	
	comp=Z,14nm,0.8s						
MK31	Makanchi Array	61.68	316	P	P	17 44 29.0	-1.0
MKAR	Makanchi Array	61.68	316	P	P	17 44 30.1	0.0
	comp=Z,0.8nm,0.6s,baz=93,slow=7.8,SNR=11						
MKAR				LR	LR	18 12 05.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,266nm,20.1s,baz=96,slow=37						
MKAR	Makanchi Array	61.68	316	P	P	17 44 28.7	-1.3
MLZ	Mavora Lakes	61.79	161	P	P	17 44 31.5	+0.9
MAKZ	Makanchi	61.89	316	P	P	17 44 30.0	-1.4
MAKZ				IAmb	IAmb	17 44 41.7	
	comp=Z,5.5nm,0.9s						
MAKZ	Makanchi	61.89	316	P	P	17 44 31.9	+0.5
MAKZ				pP	pP	17 44 41.3	-0.5
MQZ	McQueen's Vall	61.92	157	P	P	17 44 32.0	+0.5
MQZ				IAmb	IAmb	17 44 41.8	
	comp=Z,20nm,1.1s						
ZAA0	Zalesovo Array	61.94	325	P	P	17 44 29.5	-2.0
ZALV	Zalesovo Beam	61.94	325	P	P	17 44 32.0	+0.5
	comp=Z,0.8nm,0.6s,baz=98,slow=6.5,SNR=4.2						
ZALV				LR	LR	18 12 25.6	
	comp=Z,189nm,18.9s,baz=106,slow=37						
ZALV	Zalesovo Beam	61.94	325	P	P	17 44 30.4	-1.2
PALK	Pallekele	62.78	272	LR	LR	18 11 06.5	
	comp=Z,129nm,19.1s,baz=187,slow=35						
RAR	Rarotonga	64.47	121	LR	LR	18 08 59.6	
	comp=Z,149nm,21.4s,baz=318,slow=32						
KDJ	Kajisay	64.59	311	P	P	17 44 48.3	-1.3
KURK	Kurchatov	64.83	320	P	P	17 44 50.1	-0.6
KURK				IAmb	IAmb	17 45 00.3	
	comp=Z,16nm,1.2s						
KURK	Kurchatov	64.83	320	⇓P	P	17 44 50.4	-0.3
KURK				⇓pP	pP	17 44 59.5	-1.5
KURK				sP	pwP	17 45 04.1	+1.1
KURBB	Kurchatov Arra	64.87	320	P	P	17 44 50.6	-0.4
	comp=Z,2.1nm,0.5s,baz=104,slow=7.0,SNR=24						
KDAK	Kodiak Island	64.98	32	LR	LR	18 09 12.6	
	comp=Z,76nm,21.5s,baz=264,slow=32						
KSH	Kashi	65.29	308	P	P	17 45 05.7	+12
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOOM	Boomskoye usch	65.54	311	P	P	17 44 55.2	-0.6
K20K	Telida	66.03	26	P	P	17 44 56.5	-1.9
K20K				IAmb	IAmb	17 46 21.0	
	comp=Z,28nm,1.9s						
CNPM	China Poot	66.14	30	P	P	17 44 57.9	-1.2
J20K	Nowinta River	66.28	25	P	P	17 44 58.9	-1.1
J20K				IAmb	IAmb	17 47 11.2	
	comp=Z,33nm,1.9s						
BRLK	Bradley Lake	66.37	30	P	P	17 44 59.3	-1.3
AAK	Ala-Archa	66.62	311	P	P	17 45 02.5	-0.2
	comp=Z,0.8nm,0.7s,baz=258,slow=9.7,SNR=2.3						
AAK	Ala-Archa	66.62	311	P	P	17 45 00.7	-2.0
NIL	Nilore	67.33	301	P	P	17 45 05.9	-1.4
NIL				IAmb	IAmb	17 45 26.5	
	comp=Z,15nm,0.9s						
CUT	Chulitna	67.39	27		P	17 45 05.2	-1.7
PWL	Port Wells	67.88	29	P	P	17 45 09.1	-1.1
PWL				IAmb	IAmb	17 47 11.0	
	comp=Z,24nm,1.2s						
DHY	Denali Highway	68.85	27	P	P	17 45 14.9	-1.4
DHY				IAmb	IAmb	17 46 28.2	
	comp=Z,29nm,1.9s						
WRH	Wood River Hil	68.89	25	P	P	17 45 15.4	-0.9
WRH				IAmb	IAmb	17 46 45.6	
	comp=Z,22nm,1.7s						
ILAR	Eielson Array	69.46	25	P	P	17 45 18.3	-1.6
	comp=Z,0.6nm,0.7s,baz=250,slow=5.4,SNR=5.9						
ILAR				LR	LR	18 14 16.7	
	comp=Z,139nm,20.3s,baz=238,slow=35						
KK31	Karatay Array	69.56	311	P	P	17 45 19.6	-1.4
KKAR	Karatay Array	69.56	311	P	P	17 45 20.5	-0.5
KKAR	Karatay Array	69.56	311	P	P	17 45 20.1	-0.9
KKAR				IAmb	IAmb	17 45 30.1	
	comp=Z,4.4nm,0.9s						
GAR	Garm	69.67	307	P	P	17 45 21.3	-0.5
GAR				IAmb	IAmb	17 45 48.7	
	comp=Z,19nm,1.2s						
BRVK	Borovoye	70.27	322	P	P	17 45 24.7	-0.3
BRVK	Borovoye	70.27	322	P	P	17 45 26.6	+1.6
BRVK				pP	pP	17 45 34.0	-1.3
DOT	Dot Lake	70.43	27	P	P	17 45 25.9	0.0
CHGR	Chuyangaron	70.58	307	P	P	17 45 25.8	-1.6
CHGR				IAmb	IAmb	17 45 37.0	
	comp=Z,38nm,1.5s						
PPT	Papeete	71.88	113	LR	LR	18 09 45.9	
	comp=Z,158nm,20.8s,baz=311,slow=30						
PPT2	Papeete2	71.89	113	eS	S	17 54 53.3	-1.2
	comp=Z,97nm,23.8s						
PPT2	Papeete2	71.89	113	eLR	LR	18 07 25.3	
	comp=Z,511nm,25.8s,baz=287						
TBI	Tubuai	74.05	119	eLR	LR	18 08 17.1	
	comp=Z,335nm,32.2s						
INK	Inuvik	75.25	22	LR	LR	18 16 29.7	
	comp=Z,64nm,21.7s,baz=234,slow=34						
ABKAR	Akbulak array	76.76	318	P	P	17 46 02.0	-1.3
ABKAR	Akbulak array	76.76	318	P	P	17 46 01.8	-1.5
ABKAR				IAmb	IAmb	17 46 12.1	
	comp=Z,5.4nm,0.8s						
DLBC	Dease Lake	76.89	33	LR	LR	18 16 38.1	
	comp=Z,92nm,19.4s,baz=264,slow=33						
ARU	Arti	77.09	325	P	P	17 46 04.6	-0.5
	comp=Z,0.2nm,0.2s,baz=63,slow=2.3,SNR=1.6						
AKTO	Aktyubinsk	77.90	319	P	P	17 46 09.4	-0.3
	comp=Z,0.6nm,0.5s,baz=67,slow=12,SNR=1.9						
TAOE	Nuku Hiva Isla	78.03	102	eLR	LR	18 10 19.9	
	comp=Z,356nm,30.5s						
BBB	Bella Bella	78.48	39	LR	LR	18 14 13.7	
	comp=Z,201nm,21.0s,baz=12,slow=31						
GEYT	Alibeck	79.29	307	P	P	17 46 19.0	+1.3
	comp=Z,1.6nm,0.5s,baz=69,slow=18,SNR=2.0						
GEYT				LR	LR	18 22 39.1	
	comp=Z,158nm,21.9s,baz=112,slow=37						
WSAR	Wadi Sarin	81.16	292	LR	LR	18 22 17.0	
	comp=Z,35nm,21.9s,baz=92,slow=36						
KIRV	Kirov	81.71	328	LR	LR	18 24 45.4	
	comp=Z,103nm,18.6s,baz=75,slow=37						
YKA	Yellowknife Ar	83.76	27	P	P	17 46 41.1	+0.4
	comp=Z,0.8nm,0.4s,baz=118,slow=37,SNR=7.8						
YKA				LR	LR	18 24 35.4	
	comp=Z,177nm,19.5s,baz=346,slow=36						
PINE	Pine Mountain	84.60	46	P	P	17 46 46.3	+0.6
PINE				IAmb	IAmb	17 46 56.4	
	comp=Z,17nm,1.4s						
SPITS	Spitsbergen Ar	84.71	351	LR	LR	18 26 15.1	
	comp=Z,92nm,18.2s,baz=260,slow=37						
RES	Resolute Bay	85.40	13	LR	LR	18 25 34.1	
	comp=Z,73nm,20.9s,baz=274,slow=36						
ARCES	ARCESS Array B	87.64	342	LR	LR	18 29 06.7	
	comp=Z,90nm,20.5s,baz=64,slow=38						
PLID	Pearl Lake	87.71	44	P	P	17 47 01.1	0.0
PLID				IAmb	IAmb	17 47 10.5	
	comp=Z,7.3nm,1.4s						
KVN	Kaiserville	87.78	51	P	P	17 47 02.0	+0.6
KVN				IAmb	IAmb	17 47 12.1	
	comp=Z,12nm,1.5s						
NVAR	Mina Array Bea	87.79	51	P	P	17 47 03.4	+1.8
	comp=Z,1.0nm,0.6s,baz=266,slow=5.9,SNR=7.5						
NVAR	Mina Array Bea	87.79	51	P	P	17 46 59.3	-2.2
MFID	Camas Ranch	88.29	46	P	P	17 47 03.1	-0.6
MFID				IAmb	IAmb	17 47 14.2	
	comp=Z,17nm,1.3s						
LCH	Last Change Ra	88.60	52	P	P	17 47 04.2	-1.1
LCH				IAmb	IAmb	17 47 35.1	
	comp=Z,11nm,1.7s						
GNI	Garni	89.02	311	LR	LR	18 31 03.8	
	comp=Z,50nm,19.0s,baz=43,slow=38						
KBZ	Khabaz	89.33	315	P	P	17 47 10.5	+2.2
	comp=Z,0.9nm,0.7s,baz=105,slow=5.0,SNR=2.8						
KBZ				LR	LR	18 30 24.3	
	comp=Z,152nm,21.0s,baz=65,slow=38						
KVAR	Kislovodsk Arr	89.40	315	LR	LR	18 29 50.0	
	comp=Z,94nm,20.9s,baz=261,slow=37						
OBN	Obninsk	89.45	327	LR	LR	18 29 57.0	
	comp=Z,54nm,18.6s,baz=360,slow=37						
ELK	Elko	89.45	48	P	P	17 47 06.5	-2.9
ELK				IAmb	IAmb	17 47 21.5	
	comp=Z,4.8nm,1.0s						
TPNV	Topopah Spring	89.75	52	P	P	17 47 09.2	-1.5
R11A	Troy Canyon, C	89.87	51	P	P	17 47 10.3	-1.0
R11A				IAmb	IAmb	17 47 46.2	
	comp=Z,6.2nm,1.4s						
FINES	FINESS Array B	91.63	335	P	P	17 47 16.6	-2.1
	comp=Z,0.4nm,0.4s,baz=70,slow=4.5,SNR=5.7						
FINES				LR	LR	18 30 30.2	
	comp=Z,101nm,18.9s,baz=53,slow=37						
JMIC	Jan Mayen	94.35	351	LR	LR	18 31 24.6	
	comp=Z,40nm,18.1s,baz=338,slow=36						
AKASG	Malin Array Be	95.33	325	LR	LR	18 33 59.6	
	comp=Z,206nm,18.4s,baz=60,slow=38						
BRTR	Keskin Array B	97.21	313	LR	LR	18 35 24.1	
	comp=Z,130nm,20.7s,baz=48,slow=38						
HFS	Hagfors	97.29	337	LR	LR	18 33 43.5	
	comp=Z,112nm,19.8s,baz=43,slow=37						
NOA	NORSAR Array B	97.57	339	LR	LR	18 34 45.1	
	comp=Z,57nm,20.0s,baz=55,slow=37						
MMAI	Mount Meron Ar	98.41	307	LR	LR	18 37 14.6	
	comp=Z,68nm,20.2s,baz=190,slow=38						
ATD	Arta Tunnel	98.44	284	LR	LR	18 30 16.0	
	comp=Z,23nm,19.7s,baz=62,slow=34						
SFJD	Kangerlussuaq	99.64	6	LR	LR	18 28 34.6	
	comp=Z,86nm,21.8s,baz=12,slow=33						
MLR	Muntele Rosu	99.75	321	LR	LR	18 36 31.9	
	comp=Z,154nm,18.6s,baz=53,slow=38						
EIL	Elat	99.97	304	LR	LR	18 37 40.9	
	comp=Z,59nm,20.3s,baz=42,slow=38						
TORD	Torodi Ar. Bea	134.86	304	PKP	PKPdf	17 53 32.3	+0.7
	comp=Z,0.6nm,0.7s,baz=90,slow=1.5,SNR=3.4						
PLCA	Paso Flores	138.71	139	PKP	PKPdf	17 53 38.3	+0.1
	comp=Z,1.1nm,0.8s,baz=267,slow=3.9,SNR=1.7						
DBIC	Dimbokro	143.78	301	PKP	PKPbc	17 53 47.6	+2.1
	comp=Z,2.2nm,0.6s,baz=19,slow=2.3,SNR=1.8						
LVC	Limon Verde	146.93	112	PKPbc	PKPdf	17 53 55.0	+1.4
	comp=Z,1.4nm,0.5s,baz=68,slow=21,SNR=1.8						
LPAZ	La Paz	148.40	100	PKPbc	PKPdf	17 53 58.7	+2.2
	comp=Z,3.5nm,0.8s,baz=293,slow=1.2,SNR=9.5						
LPAZ	La Paz	148.40	100		PKPdf	17 53 58.1	+1.7
CPUP	Villa Florida	155.61	127	PKPab	PKPab	17 54 31.8	-0.5
	comp=Z,1.2nm,0.5s,baz=158,slow=5.4,SNR=2.2						

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*JMA **05** 17:35:14.7±0.5, 43.°97N×148.°16E, h0km, M3.7*
*SKHL **05** 17:35:16.9±0.6, 44.°70N×148.°00E, h24km±2km, mb4.2/4*
ISC 05 17:35:13.2±2.4**, 44.°55N**±0.°08×**148.°0E**±0.°1**, h6**km±14km**,**
n13, σ**1.°58**/21**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.69	351	*i* P	Pg	17 35 26.6	0.0
KUR				AMB	AMB	17 35 27.0	
	170nm,0.3s						
KUR				*i* S	Sg	17 35 36.0	+0.4
KUR				A	A	17 35 40.5	
	200nm,0.2s						
KUR				A	A	17 35 40.5	
	240nm,0.2s						
SHO	Shikotan	1.09	232	*i* P	Pg	17 35 35.4	+1.3
SHO				AMB	AMB	17 35 36.8	
	20nm,0.4s						
SHO				*i* S	Sn	17 35 51.0	+0.6
SHO				A	A	17 35 53.8	
	230nm,0.3s						
SHO				A	A	17 35 53.8	
	140nm,0.3s						
YUK	Yuzh-Kuril'sk	1.63	252	*e*P	Pg	17 35 44.3	-0.2
YUK				AMB	AMB	17 35 48.2	
	130nm,0.3s						
YUK				*e*S	Sb	17 36 04.8	+0.3
YUK				A	A	17 36 07.3	
	130nm,0.3s						
YUK				A	A	17 36 07.3	
	70nm,0.3s						
GLVR	Golovnino	1.97	247	*e*P	Pb	17 35 49.5	0.0
GLVR				AMB	AMB	17 35 52.8	
	30nm,0.2s						
GLVR				*e*S	Sb	17 36 15.5	+1.2
GLVR				A	A	17 36 19.3	
	110nm,0.2s						
GLVR				A	A	17 36 19.3	
	170nm,0.2s						
NEM2	Nemuro 2	2.02	235	P	Pb	17 35 48.2	-2.2
NEM2				*e*S	Sn	17 36 12.8	-0.6
NMR	Nemuro--Hokkai	2.03	235	*e*P	Pn	17 35 48.0	+0.1
NMR				*e*S	Sn	17 36 12.8	-0.8
JRA	Rausu	2.17	255	P	Pb	17 35 53.3	+0.5
JNSB	Nemuroshibetsu	2.30	251	P	Pb	17 35 54.9	-0.2
JKHN	Kushirohamanak	2.53	236	P	Pn	17 35 55.6	+0.7
JNK	Nakash	2.56	249	P	Pb	17 35 57.8	-1.8
JNK				*e*S	Sn	17 36 28.4	+1.6
JAK	Akkeshi	2.86	238	P	Pn	17 36 00.4	+1.0
JAR	Ashorobuto	3.31	249	P	Pb	17 36 09.1	-3.3
JAR				*e*S	Sb	17 36 49.9	-3.0
JNBK	Urakawa-nobuka	4.45	241	P	Pn	17 36 23.6	+2.3

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*NOU **05** 17:38:06.3, 12.°73S×165.°86E, h0km, mb4.4/7, Santa Cruz Islands*
*NEIC **05** 17:38:24.0±1.8, 13.°79S±0.°06×165.°9E±0.°1, h44km±11km, mb4.5/6, Error ellipse: s-maj=20.7km s-min=8.3km az=88.0*
*IDC **05** 17:38:24.1±3.0, 13.°87S×165.°68E, h48km±27km, mb3.6/5, mb1 3.8/7, mb1mx3.6/37, mbtmp4.0/7, ML4.2/2, Error ellipse: s-maj=35.5km s-min=17.9km az=64.0*
ISC 05 17:38:22.3±0.9**, 13.°77S**±0.°08×**165.°8E**±0.°1**, h31**km**, n23,**
σ**1.°43**/24**, mb4.1**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOUNC	Koumac, New Ca	6.90	192	Pn	Pn	17 40 02.7	+1.3
KOUNC	Koumac, New Ca	6.90	192	P	Pn	17 40 02.7	+1.3
HNR	Honiara	7.20	306	P	Pn	17 40 06.8	+1.4
	5.3nm,0.3s,baz=263,slow=4.3,SNR=1.3						
HNR				S	Sn	17 41 25.8	-0.4
	3.8nm,0.3s,baz=302,slow=5.5,SNR=2.3						
HNR	Honiara	7.20	306	Pn	Pn	17 40 07.5	+2.0
MARNC	Mare, Loyalty	7.95	165	Pn	Pn	17 40 15.6	-0.2
DZM	Mont Dzumac	8.28	176	P	Pn	17 40 20.9	+0.6
	2.1nm,0.3s,baz=297,slow=17,SNR=19						
DZM				S	Sn	17 41 51.6	-1.2
	0.7nm,0.3s,baz=69,slow=20,SNR=1.6						
DZM	Mont Dzumac	8.28	176	P	Pn	17 40 20.7	+0.4
NOUC	Port Laguerre	8.30	177	P	Pn	17 40 22.1	+1.6
ONTNC	Ouen Toro	8.51	176	Pn	Pn	17 40 22.6	-0.9
OUENC	Ouen Island, N	8.65	174	Pn	Pn	17 40 26.8	+1.4
OUENC	Ouen Island, N	8.65	174	P	Pn	17 40 28.0	+2.6
PINNC	Pines Island,	8.93	170	Pn	Pn	17 40 31.5	+2.3
PATS	Pohnpei	21.79	340	P	P	17 43 10.1	-1.7
WRA	Warramunga Arr	30.72	254	P	P	17 44 33.0	-1.8
	0.3nm,0.6s,baz=86,slow=10.0,SNR=1.3						
ASAR	Alice Springs	31.73	247	P	P	17 44 42.5	-1.3
	0.3nm,0.5s,baz=74,slow=9.6,SNR=1.9						
GAMB	Gambell	79.22	10	P	P	17 50 24.7	+0.8
GAMB				IAmb	IAmb	17 50 27.1	
	comp=Z,2.7nm,1.0s						
P18K	Big Mountain,	79.43	19	P	P	17 50 24.4	-0.8
SONM	Songino Array	80.90	324	P	P	17 50 33.7	+0.1
	comp=Z,0.9nm,1.1s,baz=132,slow=4.3,SNR=3.7						
SONM	Songino Array	80.90	324	IAmb	IAmb	17 50 35.4	
	comp=Z,1.1nm,1.0s						
J20K	Nowinta River	83.50	16	P	P	17 50 48.7	+2.1
J20K				IAmb	IAmb	17 50 58.2	
	comp=Z,6.9nm,1.4s						
RND	Reindeer	84.48	19	P	P	17 50 51.5	-0.2
RND				IAmb	IAmb	17 51 05.1	
	comp=Z,12nm,1.5s						
ILAR	Eielson Array	86.06	18	P	P	17 50 59.5	-0.1
	comp=Z,1.1nm,0.6s,baz=237,slow=5.2,SNR=10						
MKAR	Makanchi Array	95.55	317	P	P	17 51 43.9	-0.6
	comp=Z,0.5nm,0.7s,baz=100,slow=6.1,SNR=3.5						

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*CNRM **05** 17:39:01.8, 35.°71N×3.°55W, h25km, ml3.8*
*IDC **05** 17:39:01.1±0.8, 35.°68N×3.°47W, h0km, mb3.7/9, mb1 3.8/12, mb1mx3.6/58, mbtmp3.7/12, ML3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx2.6/91, Error ellipse: s-maj=28.4km s-min=15.9km az=103.0*
*NEIC **05** 17:39:02.1±2.5, 35.°72N±0.°07×3.°74W±0.°06, h10km±1km, mb4.2/21, Error ellipse: s-maj=14.0km s-min=6.2km az=148.0*
*LDG **05** 17:39:02.1±0.5, 35.°43N×3.°59W, h10km, Ml3.4/4, Error ellipse: s-maj=10.8km s-min=4.2km az=167.0*
*INMG **05** 17:39:03.4±1.6, 35.°59N×3.°61W, h22km±8km, ML3.4, Error ellipse: s-maj=6.0km s-min=3.5km az=144.0*
*SFS **05** 17:39:03.0, 35.°50N×3.°60W, h22km, ML3.7, ALBORAN SUR*
*MDD **05** 17:39:03.1±0.3, 35.°54N×3.°61W, h22km, mb_Lg3.7/26, Error ellipse: s-maj=2.7km s-min=1.7km az=167.0*
ISC 05 17:39:03.6±1.0**, 35.°63N**±0.°02×**3.°59W**±0.°02**, h23**km±9km**,**
n156, σ**2.°15**/241**, mb4.1**/14**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.50	215	P	Pb	17 39 13.1	-0.6
PALE				S	Sb	17 39 21.0	+0.3
PALE	Palemas	0.50	215	P	Pb	17 39 12.9	-0.9
PALE				S	Sb	17 39 20.7	+0.1
EALB	Alboran	0.55	55	Pg	Pb	17 39 13.9	-0.6
EALB				Sg	Sb	17 39 22.3	+0.4
EALB				*i* Vmb_Lg		17 39 23.2	
EMEL	Melilla	0.61	122	Pg	Pb	17 39 15.2	-0.4
EMEL				Sg	Sb	17 39 23.2	-0.5
GOG	Mont Gurugu	0.63	130	P	Pb	17 39 15.4	-0.6
GOG	Mont Gurugu	0.63	130	P	Pb	17 39 15.4	-0.6
GOG				S	Sb	17 39 24.3	-0.2
PVLZ	Peæn de	0.74	232	P	Pb	17 39 17.8	+0.1
PVLZ				S	Sb	17 39 26.9	-0.5
AKLM	AKL	1.14	192	P	Pn	17 39 23.8	-0.4
AKLM				S	Sn	17 39 39.6	+0.5
ELGU	Los Guajares,	1.24	359	Pn	Pn	17 39 24.3	-1.2
ELGU				Sn	Sb	17 39 40.9	-0.9
ELGU				*i* Vmb_Lg		17 39 42.0	
TAF	Taforalt	1.26	130	P	Pn	17 39 25.3	-0.5
TAF	Taforalt	1.26	130	P	Pn	17 39 25.0	-0.8
TAF				S	Sn	17 39 41.1	-0.9
EMAL	Malaga-Limoner	1.32	329	P	Pn	17 39 24.3	-2.3
EMAL				S	Sn	17 39 40.1	-3.4
EMIJ	Mijas	1.34	315	Pn	Pn	17 39 24.4	-2.5
EMIJ				Sn	Sn	17 39 41.2	-2.7
EMIJ				*i* Vmb_Lg		17 39 46.1	
EBER	Berja	1.39	24	Pn	Pn	17 39 25.9	-1.8
EBER				Sn	Sn	17 39 43.7	-1.6
EBER				*i* Vmb_Lg		17 39 45.7	
SMIR	Smir Dam	1.46	273	P	Pn	17 39 26.0	-2.5
ECEU	Ceuta	1.48	281	Pn	Pn	17 39 26.5	-2.3
ECEU				Sn	Sn	17 39 44.1	-3.3
CHEFC	Chefchaouen	1.52	251	P	Pn	17 39 29.2	-0.2
CHEFC	Chefchaouen	1.52	251	P	Pn	17 39 29.3	-0.1
EGOR	Sierra Gorda,	1.54	344	Pn	Pn	17 39 28.6	-1.1
EGOR				Sn	Sn	17 39 48.1	-1.0
EGOR				*i* Vmb_Lg		17 39 52.6	
JBK	JBK	1.54	147	P	Pn	17 39 29.1	-0.7
JBK	JBK	1.54	147	P	Pn	17 39 28.9	-0.9
JBK				S	Sn	17 39 48.0	-1.1
EQUE	Quentar	1.58	4	Pn	Pn	17 39 29.5	-0.8
EQUE				Sn	Sn	17 39 49.5	-0.5
EQUE				*i* Vmb_Lg		17 39 58.5	
EJIF	Jimena Fronter	1.73	299	Pn	Pn	17 39 31.2	-1.0
EJIF				Sn	Sn	17 39 51.3	-2.4
ENIJ	Nijar	1.74	39	Pn	Pn	17 39 30.2	-2.2
ENIJ				Sn	Sn	17 39 50.9	-3.1
ENIJ				*i* Vmb_Lg		17 39 52.3	
LIJA	Lijar	1.94	311	P	Pn	17 39 35.8	+0.5
LIJA				S	Sn	17 39 59.0	0.0
SICH	Sidi Chahed	2.08	224	S	Sn	17 39 47.0	-15
CNIL	Conil	2.13	291	P	Pn	17 39 38.0	+0.3
LCRM	LCR	2.20	209	P	Pn	17 39 40.0	+1.1
LCRM	LCR	2.20	209	P	Pn	17 39 39.2	+0.4
LCRM				S	Sb	17 40 09.8	+0.1
ESPR	Espera	2.21	305	Pn	Pn	17 39 39.0	+0.2
ESPR				Sn	Sn	17 40 03.5	-1.9
ESPR				*i* Vmb_Lg		17 40 12.9	
TLOR	Lorca, Murcia	2.53	36	Pn	Pn	17 39 43.1	-0.2
TLOR				Sn	Sn	17 40 12.3	-1.2
EADA	Adamuz	2.66	343	Pn	Pn	17 39 44.9	-0.1
EADA				Sn	Sn	17 40 15.4	-1.0
EADA				*i* Vmb_Lg		17 40 24.0	
EZAR	Zarzadilla de	2.71	34	Pn	Pn	17 39 45.1	-0.6
EZAR				Sn	Sn	17 40 16.7	-1.2
ECAB	El Cabril	2.85	330	Pn	Pn	17 39 47.3	-0.3
ECAB				Sn	Sn	17 40 19.2	-2.1
ECAB				*i* Vmb_Lg		17 40 30.6	
CART	Cartagena	2.85	46	P	Pn	17 39 46.4	-1.2
CART				S	Sn	17 40 16.4	-4.9
CART	Cartagena	2.85	46	P	Pn	17 39 45.5	-2.2
CART				S	Sn	17 40 16.6	-4.7
CZD	Col de Zad	2.86	205	P	Pn	17 39 47.6	-0.4
TDRA	Tendrara	2.89	153	P	Pn	17 39 48.1	-0.2
MD31	MD31	2.92	200	P	Pn	17 39 49.2	+0.5
ARNO	Arenosillo	2.93	301	P	Pn	17 39 48.0	-0.7
ARNO				S	Sn	17 40 20.9	-2.3
MDT	Midelt	2.93	197	Pn	Pn	17 39 49.5	+0.6
	1.8nm,0.3s,baz=208,slow=9.3,SNR=19						
MDT				Pg	Pb	17 39 56.7	+1.5
	5.3nm,0.3s,baz=202,slow=8.4,SNR=17						
MDT				Sn	Sn	17 40 25.1	+1.7
	9.4nm,0.3s,baz=37,slow=5.8,SNR=5.2						
MDT				Lg	Lg	17 40 32.3	
	8.3nm,0.3s,baz=280,slow=22,SNR=5.5						
MDT	Midelt	2.93	197	P	Pn	17 39 49.3	+0.5
MDT	Midelt	2.93	197	P	Pn	17 39 49.4	+0.5
EMIN	Mina Concepcio	3.27	312	Pn	Pn	17 39 52.3	-1.1
EMIN				Sn	Sn	17 40 28.8	-2.8
EMIN				*i* Vmb_Lg		17 40 31.4	
ETOB	Tobarra	3.42	28	Pn	Pn	17 39 56.4	+0.8
ETOB				Sn	Sn	17 40 34.0	-1.5
ETOB				*i* Vmb_Lg		17 40 46.9	
EGRO	El Granado	3.67	302	Pn	Pn	17 39 57.9	-0.9
EGRO				Sn	Sn	17 40 38.1	-3.3
EGRO				*i* Vmb_Lg		17 40 42.4	
PBAR	Barrancos	3.76	314	*e*Pn	Pn	17 39 59.0	-1.1
PBAR				*e*Sn	Sn	17 40 40.8	-2.8
PBAR				A	A	17 40 48.6	
	43nm,0.4s						
PVAQ	Vaqueiros	3.77	299	*e*Pn	Pn	17 39 59.2	-1.0
PVAQ				*e*Sn	Sn	17 40 40.7	-3.2
PVAQ				A	A	17 40 49.1	
	50nm,0.4s						
PVAQ	Vaqueiros	3.77	299		Pn	17 39 58.0	-2.2
PVAQ				Sn	Sn	17 40 40.6	-3.2
PVAQ	Vaqueiros	3.77	299	P	Pn	17 39 59.2	-1.0
PVAQ	Vaqueiros	3.77	299	P	Pn	17 39 59.2	-1.0
PVAQ				S	Sn	17 40 40.9	-3.0
PBDV	Barranco-do-Ve	3.85	296	*e*Pn	Pn	17 40 00.5	-1.0
PBDV				*e*Sn	Sn	17 40 44.1	-2.0
PBDV				A	A	17 40 48.5	
	39nm,0.8s						
AVE	Averroes	3.92	235	P	Pn	17 40 03.3	+0.9
AVE				S	Sn	17 40 46.0	-1.8
PAB	San Pablo	3.96	351		Pn	17 40 02.9	+0.1
PAB				Sn	Sn	17 40 44.3	-4.4
PAB	San Pablo	3.96	351	Pn	Pn	17 40 03.1	+0.2
PAB				Sn	Sn	17 40 46.0	-2.6
PAB				*i* Vmb_Lg		17 41 05.6	
PAB	San Pablo	3.96	351	P	Pn	17 40 03.0	+0.1
FIGM	Figuig	3.99	150	P	Pn	17 40 03.3	-0.1
ESDC	Sonseca Array	4.05	356	Pn	Pn	17 40 04.5	+0.4
	3.9nm,0.3s,baz=179,slow=12,SNR=108						
ESDC				Sn	Sn	17 40 48.4	-2.5
	3.4nm,0.3s,baz=173,slow=22,SNR=8.6						
ESDC				Lg	Lg	17 41 04.2	
	7.3nm,0.3s,baz=180,slow=28,SNR=9.4						
ESDC				LR	LR	17 41 54.0	
	comp=Z,192nm,18.8s,baz=250,slow=43						
ESDC	Sonseca Array	4.05	356		Pn	17 40 03.5	-0.6
ESDC	Sonseca Array	4.05	356	Pn	Pn	17 40 04.5	+0.4
ESDC				Sn	Sn	17 40 49.3	-1.6
ESDC				*i* Vmb_Lg		17 41 08.6	
ESBB	Sonseca Array	4.05	356		Pn	17 40 04.3	+0.1
ESBB				Sn	Sn	17 40 48.1	-2.8
PCVE	Castro Verde	4.10	300	*e*Pn	Pn	17 40 03.8	-1.0
PCVE				*e*Sn	Sn	17 40 50.0	-2.1
PCVE				A	A	17 40 59.4	
	41nm,0.6s						
EBAD	Badajoz	4.15	320	Pn	Pn	17 40 04.5	-0.9
EBAD				Sn	Sn	17 40 50.7	-2.6
EBAD				*i* Vmb_Lg		17 40 52.5	
PBEJ	Beja	4.18	306	*e*Pn	Pn	17 40 05.5	-0.5
PBEJ				*e*Sn	Sn	17 40 51.8	-2.3
PBEJ				A	A	17 41 01.7	
	37nm,0.7s						
MORF	Marmelete	4.41	294	*e*Pn	Pn	17 40 08.9	-0.2
MORF				*e*Sn	Sn	17 40 59.5	-0.3
MORF				A	A	17 41 00.6	
	26nm,0.4s						
PFVI	Vila Bisbo	4.49	291	*e*Pn	Pn	17 40 11.8	+1.7
PFVI				*e*Sn	Sn	17 40 59.0	-2.6
PFVI				A	A	17 41 04.2	
	42nm,0.4s						
PFVI	Vila Bisbo	4.49	291	Pn	Pn	17 40 09.1	-1.0
PFVI				Sn	Sn	17 40 58.5	-3.1
PFVI	Vila Bisbo	4.49	291	P	Pn	17 40 10.3	+0.2
PESTR	Estremoz	4.54	317	*e*Pn	Pn	17 40 10.8	-0.1
PESTR				*e*Sn	Sn	17 41 00.2	-2.8
PESTR				A	A	17 41 34.5	
	35nm,0.7s						

PESTR	Estremoz	4.54	317		Pn	17 40 10.3	-0.6
PESTR				Sn	Sn	17 40 57.5	-5.5
PESTR	Estremoz	4.54	317	P	Pn	17 40 10.1	-0.8
PESTR	Estremoz	4.54	317	P	Pn	17 40 10.1	-0.8
PTEO	Sao Teotonio	4.55	296	ePn	Pn	17 40 11.2	+0.2
PTEO				eSn	Sn	17 41 00.6	-2.6
PTEO				A	A	17 41 26.9	
	36nm,0.5s						
EVO	Evora	4.57	311	P	Pn	17 40 10.5	-0.8
EVO				S	Sn	17 41 00.0	-3.7
EVO	Evora	4.57	311	ePn	Pn	17 40 10.5	-0.8
EVO				eSn	Sn	17 41 00.9	-2.8
EVO				A	A	17 41 03.5	
	61nm,0.5s						
PNCL	Nicolau / Gran	4.67	303	ePn	Pn	17 40 11.8	-0.9
PNCL				eSn	Sn	17 41 03.6	-2.5
PNCL				A	A	17 41 06.2	
	27nm,0.8s						
UCM	Universidad Co	4.68	3	P	Pn	17 40 13.1	+0.3
UCM				S	Sn	17 41 04.6	-1.7
EPLA	Plasencia	4.85	337	Pn	Pn	17 40 15.1	0.0
EPLA				Sn	Sn	17 41 08.3	-2.2
EPLA				Sg	Sb	17 41 30.8	+5.1
EPLA				i Vmb_Lg		17 41 36.1	
PMRV	Marv??o	4.85	323	ePn	Pn	17 40 15.0	-0.1
PMRV				eSn	Sn	17 41 08.0	-2.6
PMRV				A	A	17 41 20.9	
	38nm,0.6s						
GUD	Guadarrama	5.03	355	Pn	Pn	17 40 17.3	-0.4
GUD				Sn	Sn	17 41 13.4	-1.7
GUD				Sg	Sb	17 41 36.2	+5.4
GUD				i Vmb_Lg		17 41 50.8	
PMTG	Montargil	5.04	314	ePn	Pn	17 40 17.3	-0.5
PMTG				eSn	Sn	17 41 11.8	-3.5
PMTG				A	A	17 41 32.3	
	31nm,0.4s						
PCBR	Castelo Branco	5.21	325	ePn	Pn	17 40 20.6	+0.5
PCBR				eSn	Sn	17 41 16.8	-2.7
PCBR				A	A	17 41 18.6	
	58nm,0.5s						
PACT	Alcochete	5.23	308	ePn	Pn	17 40 20.1	-0.2
PACT				eSn	Sn	17 41 17.9	-2.0
PACT				A	A	17 41 40.0	
	58nm,0.5s						
ETOR	Torete	5.32	13	Pn	Pn	17 40 21.5	-0.2
ETOR				Sn	Sn	17 41 19.7	-2.6
ETOR				Sg	Sb	17 41 45.3	+6.0
ETOR				i Vmb_Lg		17 41 52.3	
EMOS	Mosqueruela	5.33	27	Pn	Pn	17 40 22.0	+0.1
EMOS				Sn	Sn	17 41 19.4	-3.2
PMAFR	Mafra	5.62	308	ePn	Pn	17 40 27.4	+1.6
PMAFR				eSn	Sn	17 41 26.4	-3.2
PMAFR				A	A	17 41 28.1	
	76nm,0.5s						
PSBE	So Bento	5.67	315	ePn	Pn	17 40 26.4	0.0
PSBE				eSn	Sn	17 41 27.0	-3.8
PSBE				A	A	17 42 12.3	
	29nm,0.5s						
OUK	Oukaimeden	5.68	220	P	Pn	17 40 25.4	-1.4
MTE	Manteigas	5.70	328	ePn	Pn	17 40 26.8	0.0
MTE				eSn	Sn	17 41 27.2	-4.3
MTE				A	A	17 42 02.6	
	61nm,0.5s						
MTE	Manteigas	5.70	328		Pn	17 40 25.0	-1.8
MTE				Sn	Sn	17 41 25.5	-5.9
PCAS	Casmilo, Conde	5.88	320	ePn	Pn	17 40 29.6	+0.3
PCAS				eSn	Sn	17 41 31.6	-4.4
PCAS				A	A	17 42 14.1	
	37nm,0.6s						
COI	Coimbra	5.95	322	ePn	Pn	17 40 30.2	0.0
COI				eSn	Sn	17 41 34.2	-3.5
COI				A	A	17 41 38.0	
	82nm,0.6s						
COI	Coimbra	5.95	322		Pn	17 40 29.2	-1.1
PVIS	Viseu	6.11	328	ePn	Pn	17 40 32.4	0.0
PVIS				eSn	Sn	17 41 37.3	-4.3
PVIS				A	A	17 41 41.5	
	35nm,0.5s						
ERTA	Horta de San J	6.15	29	Pn	Pn	17 40 32.6	-0.4
ERTA				Sn	Sn	17 41 38.7	-3.8
MVO	Moncorvo	6.15	335	ePn	Pn	17 40 33.0	0.0
MVO				eSn	Sn	17 41 39.7	-3.0
MVO				A	A	17 42 15.6	
	34nm,0.6s						
TTIG	Tnine Tigouga,	6.50	220	P	Pn	17 40 36.6	-1.3
PVRL	Vila Real	6.50	331	ePn	Pn	17 40 38.2	+0.4
PVRL				eSn	Sn	17 41 48.9	-2.4
PVRL				A	A	17 41 54.2	
	32nm,0.8s						
ETOS	Mallorca	6.54	49	Pn	Pn	17 40 38.2	-0.2
ETOS				Sn	Sn	17 41 47.0	-5.2
POLO	Lamas de Olo	6.62	331	ePn	Pn	17 40 39.5	+0.1
POLO				eSn	Sn	17 41 51.6	-2.6
POLO				A	A	17 41 53.4	
	11nm,0.5s						
PBRG	Braganca	6.64	339	ePn	Pn	17 40 39.5	-0.2
PBRG				A	A	17 42 35.2	
	16nm,0.6s						
EPOB	Poblet	6.79	31	Pn	Pn	17 40 41.0	-0.8
EPOB				Sn	Sn	17 41 55.1	-3.2
PCAB	Cabril	6.99	332	eSn	Sn	17 41 59.6	-3.8
PCAB				A	A	17 42 04.0	
	27nm,0.8s						
ELOB	Lobios	7.14	332	Pn	Pn	17 40 46.9	+0.2
ELOB				Sn	Sn	17 42 01.6	-5.5
PGAV	Gavieira, Arco	7.31	331	ePn	Pn	17 40 49.6	+0.7
PGAV				eSn	Sn	17 42 07.6	-3.6
PGAV				A	A	17 42 10.5	
	23nm,0.8s						
EORO	Oroz-Betelu	7.46	13	Pn	Pn	17 40 51.4	+0.4
EORO				Sn	Sn	17 42 11.9	-3.1
EORO				i Vmb_Lg		17 43 07.8	
ELAN	Lanestosa	7.59	1	Pn	Pn	17 40 53.0	+0.2
ELAN				Sn	Sn	17 42 12.9	-5.2
ELAN				i Vmb_Lg		17 43 26.4	
ETSF	Etsaut	7.63	17	ePn	Pn	17 40 54.4	+1.1
ETSF	Etsaut	7.63	17	eP	Pn	17 40 58.5	+5.2
ETSF				eSn	Sn	17 42 18.3	-0.8
	3.8nm,0.5s						
SJPF	Ste Jean	7.70	13	ePn	Pn	17 40 55.2	+1.0
SJPF	Ste Jean	7.70	13	eP	Pn	17 40 59.6	+5.4
SJPF				eSn	Sn	17 42 14.0	-6.6
	4.9nm,0.4s						
EALK	Alkurruntz	7.75	11	Pn	Pn	17 40 55.7	+0.7
EALK				Sn	Sn	17 42 17.1	-5.0
EARI	Arriondas	7.76	351	Pn	Pn	17 40 55.0	-0.1
EARI				Sn	Sn	17 42 17.1	-5.3
EARI				i Vmb_Lg		17 43 14.5	
EAGO	Agolada(Pontev	7.97	335	Pn	Pn	17 40 57.3	-0.6
EAGO				Sn	Sn	17 42 22.9	-4.5
EAGO				i Vmb_Lg		17 43 18.7	
EPF	Esparros	7.99	21	ePn	Pn	17 40 59.2	+0.9
EPF	Esparros	7.99	21	eP	Pn	17 41 03.8	+5.5
EPF				eSn	Sn	17 42 26.8	-1.2
	4.1nm,0.5s						
KEST	Kesra	10.52	86	Pn	Pn	17 41 35.7	+2.7
TCF	Toulx Ste Croi	11.51	21	ePn	Pn	17 41 46.4	0.0
SMF	Signal de Mont	12.34	25	ePn	Pn	17 41 56.8	-1.0
GRR	Gorron	12.91	8	ePn	Pn	17 42 05.3	-0.2
FLN	La Foliniere	13.32	9	ePn	Pn	17 42 10.1	-1.0
FLN				eSn	Sn	17 44 30.4	-8.0
	0.9nm,0.3s						
TIP	Timpagrande	16.55	72		P	17 42 58.4	+1.9
CLL	Collm	19.69	32	P	Pn	17 43 32.0	-0.5
EKA	Eskdalemuir Ar	19.71	1	P	Pn	17 43 32.3	-0.4
	baz=180,slow=10.0,SNR=4.4						
EKA	Eskdalemuir Ar	19.71	1	P	Pn	17 43 32.3	-0.4
DIVS	Divibare	19.93	58	P	P	17 43 33.4	-0.3
ITM	Ithomi	20.58	78	P	Pn	17 43 42.7	-0.4
ITM				IAmb	IAmb	17 43 46.1	
	comp=Z,8.7nm,1.2s						
AGG	Agios Georgios	20.86	73	P	P	17 43 44.5	+0.6
AGG				IAmb	IAmb	17 43 49.0	
	comp=Z,11nm,1.4s						
TOA0	Torodi Ar. Sit	22.89	167	P	P	17 44 06.9	+1.3
TOA0				IAmb	IAmb	17 44 12.7	
	comp=Z,7.7nm,1.1s						
TORD	Torodi Ar. Bea	22.89	167	P	P	17 44 07.0	+1.4
	comp=Z,1.8nm,0.8s,baz=345,slow=10,SNR=5.1						
TORD	Torodi Ar. Bea	22.89	167	P	P	17 44 06.5	+0.9
TORD				IAmb	IAmb	17 44 12.7	
	comp=Z,5.3nm,1.1s						
IDI	Anoyia	23.17	82	P	P	17 44 09.6	+1.1
IDI				IAmb	IAmb	17 44 19.7	
	comp=Z,7.6nm,1.2s						
RDO	Rodhopi	23.42	68	P	P	17 44 11.5	+0.6
NC602	NORSAR Array S	26.93	16	P	P	17 44 41.0	-1.9
NBO00	NORSAR Array S	27.03	15	P	P	17 44 41.8	-2.0
NOA	NORSAR Array B	27.13	16	P	P	17 44 45.2	+0.5
	comp=Z,0.6nm,0.8s,baz=205,slow=8.5,SNR=2.9						
NOA				LR	LR	17 57 00.9	
	comp=Z,22nm,20.5s,baz=285,slow=40						
NC204	NORSAR Array S	27.25	15	P	P	17 44 44.8	-0.9
NC405	NORSAR Array S	27.31	16	P	P	17 44 45.8	-0.4
NC303	NORSAR Array S	27.33	16	P	P	17 44 45.5	-1.0
MDUB	Mudurnu	27.70	69	P	P	17 44 51.9	+1.8
ARU	Arti	46.08	43	P	P	17 47 24.9	-0.6
	comp=Z,0.9nm,0.7s,baz=262,slow=6.2,SNR=3.3						
ARU	Arti	46.08	43	P	P	17 47 24.9	-0.6
ARU	Arti	46.08	43	IAmb	IAmb	17 47 26.5	
	comp=Z,2.6nm,0.7s						
KURBB	Kurchatov Arra	58.79	48	P	P	17 49 00.2	+0.5
	comp=Z,1.4nm,0.7s,baz=292,slow=7.3,SNR=9.9						
KURK	Kurchatov	58.81	47	P	P	17 49 00.2	+0.4
KURK				IAmb	IAmb	17 49 11.8	
	comp=Z,2.2nm,0.9s						
FCC	Fort Churchill	60.58	323	P	P	17 49 11.2	-0.7
FCC				IAmb	IAmb	17 49 16.6	
	comp=Z,2.5nm,1.2s						
ZALV	Zalesovo Beam	61.24	42	P	P	17 49 16.9	+0.4
	comp=Z,0.4nm,0.5s,baz=287,slow=9.9,SNR=2.3						
MAKZ	Makanchi	62.30	51	P	P	17 49 23.8	-0.1
MK31	Makanchi Array	62.51	51	P	P	17 49 25.5	+0.3
MK31				IAmb	IAmb	17 49 26.5	
	comp=Z,1.4nm,0.8s						
MKAR	Makanchi Array	62.51	51	P	P	17 49 25.8	+0.6
	comp=Z,1.7nm,0.6s,baz=287,slow=5.7,SNR=20						
MKAR	Makanchi Array	62.51	51	P	P	17 49 25.9	+0.6
YKA	Yellowknife Ar	67.79	332	P	P	17 49 59.7	+0.6
	comp=Z,0.9nm,0.6s,baz=60,slow=6.4,SNR=13						
YKA	Yellowknife Ar	67.79	332	P	P	17 49 59.7	+0.6
ILAR	Eielson Array	75.87	345	P	P	17 50 49.0	+1.3
	comp=Z,0.2nm,0.5s,baz=17,slow=7.0,SNR=2.0						
TXAR	Lajitas Array	80.90	299	P	P	17 51 18.3	+2.0
	comp=Z,0.1nm,0.4s,baz=58,slow=9.0,SNR=1.5						
USRK	Ussuriysk Ar.	90.89	30	LR	LR	18 35 23.6	
	comp=Z,96nm,19.4s,baz=158,slow=37						

*IDC **05** 17:39:38.6±9.2, 12.°63N×143.°98E, h134km±85km, mb3.3/13, mb1 3.4/13, mb1mx3.3/47, mbtmp3.7/13, Error ellipse: s-maj=36.7km s-min=15.5km az=85.0*

ISC 05 17:39:35.3±0.9**, 12.°6N**±0.°1×**144.°0E**±0.°2**, h100**km**, n20, σ0.s89**/14**, mb3.5**/12**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	20.43	316	P	P	17 44 05.1	+0.4
	5.0nm,0.5s,baz=149,slow=14,SNR=1.4						
H11S3	WAKE ISLAND Hy	22.60	72	T	T	18 07 19.8	
	baz=258,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	22.61	72	T	T	18 07 19.3	
	baz=258,slow=75,SNR=19						
H11S2	WAKE ISLAND Hy	22.61	72	T	T	18 07 20.7	
	baz=258,slow=75,SNR=15						
H11N1	WAKE ISLAND Hy	23.06	69	T	T	18 07 55.3	
	baz=255,slow=75,SNR=33						
H11N2	WAKE ISLAND Hy	23.07	69	T	T	18 08 00.4	
	baz=255,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy	23.08	69	T	T	18 07 59.9	
	baz=255,slow=75,SNR=31						
JNU	Nakatsue	23.66	332	P	P	17 44 36.6	-1.2
	7.9nm,1.0s,baz=144,slow=14,SNR=2.5						
KSRS	Korea Array	28.60	333	P	P	17 45 22.8	+0.7
	1.0nm,0.8s,baz=142,slow=9.4,SNR=3.0						
WRA	Warramunga Arr	33.74	197	P	P	17 46 07.1	-0.4
	2.2nm,0.8s,baz=18,slow=9.6,SNR=6.3						
ASAR	Alice Springs	37.41	195	P	P	17 46 38.8	-0.1
	0.4nm,0.6s,baz=21,slow=11,SNR=8.0						
KLR	Kul'dur	37.87	347	P	P	17 46 42.6	+0.2
	0.5nm,0.4s,baz=135,slow=18,SNR=4.2						
CMAR	Chiang Mai Arr	43.72	284	P	P	17 47 31.1	+0.2
	1.0nm,0.7s,baz=74,slow=6.2,SNR=4.4						
SONM	Songino Array	47.03	326	P	P	17 47 57.3	+0.4
	0.3nm,0.6s,baz=138,slow=9.1,SNR=4.9						
MKAR	Makanchi Array	61.60	317	P	P	17 49 41.2	-1.1
	0.2nm,0.6s,baz=104,slow=8.6,SNR=1.9						
KURBB	Kurchatov Arra	64.81	320	P	P	17 50 02.2	-1.2
	0.4nm,0.5s,baz=106,slow=6.6,SNR=4.2						
ILAR	Eielson Array	69.78	25	P	P	17 50 33.8	-0.8
	0.4nm,0.7s,baz=251,slow=6.4,SNR=2.8						
YKA	Yellowknife Ar	84.08	27	P	P	17 51 54.5	-0.3
	0.1nm,0.6s,baz=281,slow=4.8,SNR=2.4						
NVAR	Mina Array Bea	88.17	51	P	P	17 52 16.2	+0.5
	0.2nm,0.4s,baz=248,slow=3.8,SNR=2.3						
LPAZ	La Paz	148.69	101	PKPbc	PKPdf	17 59 10.4	+1.6
	0.8nm,0.5s,baz=45,slow=1.4,SNR=1.5						

*PNSN **05** 18:06:36.4, 48.°40N×122.°84W, h52km, MD3.6, Fault plane solution: NP1:φs80.00000°, δ65.00000°, λ160.00000°.*

*PGC **05** 18:06:36.0±0.0, 48.°41N×122.°87W, h55km, ML3.1/33, 36km east of Victoria, Bc Washington*

*SEA **05** 18:06:36.4±1.5, 48.°40N±0.°02×122.°84W±0.°03, h52km±3km, ML3.5/150, ML3.3/92(NEIC), Error ellipse: s-maj=3.3km s-min=1.7km az=57.0*

*ANF **05** 18:06:36.2±0.9, 48.°38N×122.°87W, h50km±11km, ML3.5/11, Error ellipse: s-maj=8.3km s-min=4.5km az=126.0*

*NEIC **05** 18:06:36.0±1.1, 48.°43N±0.°02×122.°87W±0.°04, h55km±3km, Error ellipse: s-maj=3.4km s-min=3.2km az=94.0*

ISC 05 18:06:35.8±1.1**, 48.°41N**±0.°02×**122.°88W**±0.°02**, h54**km±5km**, n241, σ0.s83**/299**, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWFH	University of	0.17	327		Pn	18 06 44.5	+0.1
UWFH					Sn	18 06 50.8	+0.2
ERW	Mount Erie	0.17	74		Pn	18 06 44.4	-0.1
ERW					Sn	18 06 50.9	+0.1
MCW	Mount Constitu	0.28	6		Pn	18 06 45.2	-0.1
MCW	Mount Constitu	0.28	6	P	Pn	18 06 45.2	-0.1
VGZ	Gonzales	0.30	272		Pn	18 06 45.2	-0.1
VGZ	Gonzales	0.30	272	P	Pn	18 06 45.2	-0.1
VGZ				S	Sn	18 06 52.0	-0.1
A04D	Lummi Island	0.33	20		Pn	18 06 45.6	0.0
A04D					Sn	18 06 52.9	+0.2
A04D	Lummi Island	0.33	20	P	Pn	18 06 45.7	0.0
	baz=195,SNR=175						
A04D				S	Sn	18 06 52.6	-0.1
	baz=195						
SQM	Sequim	0.35	199		Pn	18 06 46.0	+0.2
SQM					Sn	18 06 54.6	+1.7
BLN	Blyn Mountain	0.40	189		Pn	18 06 46.3	-0.1
BLN	Blyn Mountain	0.40	189	P	Pn	18 06 46.3	-0.1
BLN				S	Sn	18 06 54.1	+0.2
SNB	Saturna Island	0.42	332		Pn	18 06 46.8	+0.3
SNB					Sn	18 06 55.3	+1.1
SNB	Saturna Island	0.42	332	P	Pn	18 06 46.8	+0.3
SNB				S	Sn	18 06 54.4	+0.2
B011	North Saanich	0.45	303		Pn	18 06 46.8	0.0
B011	North Saanich	0.45	303	P	Pn	18 06 46.8	0.0
B011				S	Sn	18 06 54.9	+0.2
B009	North Saanich	0.45	303	P	Pn	18 06 46.8	0.0
B009				S	Sn	18 06 55.0	+0.3
PA01	PA01 North	0.45	303	P	Pn	18 06 46.8	0.0
PA01				S	Sn	18 06 55.0	+0.3
B010	North Saanich	0.45	303	P	Pn	18 06 46.8	0.0
B010				S	Sn	18 06 54.9	+0.2
PGC	Sidney	0.45	303		Pn	18 06 46.9	0.0
PGC					Sn	18 06 55.0	+0.3
PGC	Sidney	0.45	303	IAML		18 06 55.9	
	comp=E,5µm,0.3s						
PGC	Sidney	0.45	303	P	Pn	18 06 46.7	-0.1
PGC				S	Sn	18 06 54.9	+0.2
SWID	South Whidbey	0.51	142		Pn	18 06 47.6	+0.2
CMW	Cultus Mountai	0.51	88		Pn	18 06 47.2	-0.3
CMW	Cultus Mountai	0.51	88	P	Pn	18 06 47.2	-0.3
B05A	Bryant	0.54	105		Pn	18 06 47.5	-0.3
B05A					Sn	18 06 56.1	-0.4
B05A	Bryant	0.54	105	P	Pn	18 06 47.6	-0.3
	baz=285,SNR=515						
B05A				S	Sn	18 06 56.1	-0.4
	baz=285						
B04A	Port Angeles	0.55	230		Pn	18 06 47.6	-0.2
B04A				Sn	Sn	18 06 57.1	+0.5
B04A				IAML		18 06 58.4	
	comp=E,2µm,0.5s						
B04A	Port Angeles	0.55	230		Pn	18 06 47.8	-0.1
STW	Striped Peak	0.59	244		Pn	18 06 48.5	+0.1
STW	Striped Peak	0.59	244	P	Pn	18 06 48.5	+0.1
STW				S	Sn	18 06 58.2	+0.7
EVCC	Everett Colleg	0.60	131		Pn	18 06 49.0	+0.5
JCW	Jim Creek	0.67	108	P	Pn	18 06 49.4	0.0
GOBB	Galiano Island	0.69	323	P	Pn	18 06 49.9	+0.3
GOBB				S	Sn	18 07 00.9	+1.4
C04A	Brinnon	0.69	185		Pn	18 06 49.8	+0.2
LYNC	Lynnwood City	0.70	146		Pn	18 06 50.2	+0.4
EVGW	Everett Gatewa	0.73	138		Pn	18 06 50.5	+0.3
SCCW	Shoreline CC	0.74	152		Pn	18 06 51.0	+0.7
SCCW					Sn	18 07 03.5	+2.7
MBW	Mount Baker	0.75	59		Pn	18 06 50.8	+0.2
MBW	Mount Baker	0.75	59	P	Pn	18 06 50.8	+0.2
HDW	Hoodsport	0.77	189		Pn	18 06 50.9	+0.1
HDW	Hoodsport	0.77	189	P	Pn	18 06 50.9	+0.1
HDW				S	Sn	18 07 02.9	+1.4
A05A	Maple Falls	0.79	41	P	Pn	18 06 51.3	+0.3
A05A				S	Sn	18 07 02.6	+0.6
OSD	Olympics--Snow	0.81	224		Pn	18 06 52.0	+0.7
OSD	Olympics--Snow	0.81	224	P	Pn	18 06 52.0	+0.7
VDB	Vedder Mountai	0.81	39		Pn	18 06 51.3	+0.2
VDB	Vedder Mountai	0.81	39	P	Pn	18 06 51.3	+0.2
NOWS	NOAA--Sand Poi	0.83	150		Pn	18 06 52.5	+1.1
GNW	Green Mountain	0.84	178		Pn	18 06 51.9	+0.3
GNW	Green Mountain	0.84	178	P	Pn	18 06 51.9	+0.3
GNW				S	Sn	18 07 04.2	+1.1
GMW	Gold Mountain	0.86	176		Pn	18 06 52.2	+0.3
D03D	Eldon	0.88	189		Pn	18 06 52.6	+0.4
D03D	Eldon	0.88	189	P	Pn	18 06 52.5	+0.4
	baz=11,SNR=249						
D03D				S	Sn	18 07 05.0	+0.9
	baz=11						
OBC	Olympics--Boni	0.88	246		Pn	18 06 52.9	+0.6
OBC	Olympics--Boni	0.88	246	P	Pn	18 06 52.8	+0.6
ALKI	Alki Wastewate	0.89	159		Pn	18 06 53.5	+1.3
HNBB	Haney	0.91	13	P	Pn	18 06 52.6	+0.2
HNBB				S	Sn	18 07 04.9	+0.3
RPW	Rockport	0.91	87		Pn	18 06 52.6	0.0
RPW	Rockport	0.91	87	P	Pn	18 06 52.6	0.0
P403	Sandy Floe Qua	0.91	248		Pn	18 06 52.8	+0.4
SHUK	Shuksan-Mt. Ba	0.91	60		Pn	18 06 53.0	+0.3
B926	Mesachie Lake	0.93	297		Pn	18 06 52.7	0.0
B926	Mesachie Lake	0.93	297	P	Pn	18 06 52.7	0.0
B926				S	Sn	18 07 05.4	+0.2
CLRS	Cowichan Lake	0.93	297		Pn	18 06 52.6	-0.1
CLRS				Sn	Sn	18 07 05.2	0.0
CLRS				IAML		18 07 05.9	
	comp=N,608nm,0.3s						
CLRS				IAML		18 07 06.0	
	comp=E,606nm,0.5s						
CLRS	Cowichan Lake	0.93	297	P	Pn	18 06 52.7	0.0
CLRS				S	Sn	18 07 05.1	0.0
B06A	Marblemount	0.94	83		Pn	18 06 52.9	+0.1
B06A				Sn	Sn	18 07 05.0	-0.3
B06A	Marblemount	0.94	83	P	Pn	18 06 52.8	+0.1
B06A				S	Sn	18 07 05.1	-0.1
SP2	Seward Park 2	0.95	153		Pn	18 06 54.0	+1.1
HTW	Haystack Looko	0.96	129		Pn	18 06 53.0	-0.2
OTR	Olympics--Tyee	1.03	252		Pn	18 06 54.8	+0.7
PFB	Port Renfrew	1.05	280		Pn	18 06 54.4	0.0
PFB	Port Renfrew	1.05	280	P	Pn	18 06 54.2	-0.2
PFB				S	Sn	18 07 07.8	-0.3
C05A	Tolt Reservoir	1.07	131		Pn	18 06 54.5	-0.1
C05A	Tolt Reservoir	1.07	131	P	Pn	18 06 54.5	-0.1
C05A				S	Sn	18 07 09.2	+0.6
OLQ	Olympics--Lake	1.09	215		Pn	18 06 55.2	+0.4
NLLB	Nanaimo Lost L	1.10	319		Pn	18 06 55.5	+0.4
NLLB	Nanaimo Lost L	1.10	319	P	Pn	18 06 55.3	+0.3
NLLB				S	Sn	18 07 11.0	+1.8
SMW	South Mountain	1.13	196	P	Pn	18 06 56.3	+0.8
OCP	Olym-Cheeka Pk	1.17	265	P	Pn	18 06 55.9	0.0
GPW	Glacier Peak	1.20	103		Pn	18 06 56.7	+0.1
GPW	Glacier Peak	1.20	103	P	Pn	18 06 56.7	+0.1
NLWA	Neilton Lookou	1.21	214		Pn	18 06 56.9	+0.3
NLWA	Neilton Lookou	1.21	214	Sn	Sn	18 07 10.8	-1.2
C03A	Quillayute Air	1.22	249		Pn	18 06 56.9	+0.3
C03A				Sn	Sn	18 07 12.6	+0.6
C03A				IAML		18 07 13.9	
	comp=N,443nm,0.6s						
C03A				IAML		18 07 20.2	
	comp=E,370nm,0.9s						
RATT	Rattlesnake La	1.22	143		Pn	18 06 56.9	+0.3
D04E	Lakebay	1.23	177		Pn	18 06 57.8	+1.1
D04E	Lakebay	1.23	177	P	Pn	18 06 57.2	+0.4
	baz=358,SNR=25						
D04E				S	Sn	18 07 14.0	+1.7
	baz=358						
GHNB	Nanoose	1.27	316	P	Pn	18 06 57.6	+0.4
GHNB				S	Sn	18 07 14.5	+1.2
MGB	Mount Grey	1.34	297		Pn	18 06 58.6	+0.3
MGB	Mount Grey	1.34	297	P	Pn	18 06 58.2	-0.2
MGB				S	Sn	18 07 15.8	+0.6
D05A	Enumclaw	1.36	153		Pn	18 06 59.4	+0.9
D05A				Sn	Sn	18 07 16.8	+1.4
D05A				IAML		18 07 24.1	
	comp=N,266nm,0.6s						
D05A	Enumclaw	1.36	153	P	Pn	18 06 59.5	+0.9
D05A				S	Sn	18 07 17.0	+1.6
SHB	Sechelt	1.36	332		Pn	18 06 58.9	+0.3
SHB	Sechelt	1.36	332	P	Pn	18 06 58.9	+0.3
SHB				S	Sn	18 07 16.4	+0.8
GSM	Grass Mountain	1.41	148		Pn	18 06 59.8	+0.5
C06D	Leavenworth	1.41	109		Pn	18 07 00.0	+0.8
C06D	Leavenworth	1.41	109	P	Pn	18 06 59.8	+0.5
	baz=291,SNR=34						
C06D				S	Sn	18 07 17.3	+0.5
	baz=291						
WISH	Wishkah	1.42	205		Pn	18 06 59.8	+0.5
WISH				Sn	Sn	18 07 17.1	+0.2
WISH	Wishkah	1.42	205	P	Pn	18 06 59.8	+0.5
WISH				S	Sn	18 07 17.9	+0.9
GHW	Garrison Hill	1.43	163		Pn	18 06 59.6	+0.3
CPW	Capitol Peak	1.44	187	P	Pn	18 07 00.1	+0.4
B017	Montesano	1.48	198		Pn	18 07 00.7	+0.6
B941	Kapowsin	1.49	162		Pn	18 07 00.3	+0.1
B927	Port Alberni	1.51	303		Pn	18 07 02.5	+2.0
B927	Port Alberni	1.51	303	P	Pn	18 07 01.2	+0.7
B927				S	Sn	18 07 19.6	+0.5
B928	Bamfield	1.56	287		Pn	18 07 01.5	+0.4
B928	Bamfield	1.56	287	P	Pn	18 07 01.2	+0.1
B928				S	Sn	18 07 19.7	-0.4
BFSB	Bamfield	1.56	287	P	Pn	18 07 01.3	+0.2
BFSB				S	Sn	18 07 19.7	-0.5
RVC	Mount Rainier-	1.59	157		Pn	18 07 02.1	+0.5
TXB	Texada	1.65	322	P	Pn	18 07 03.0	+0.6
OBSR	Observation Ro	1.67	154		Pn	18 07 03.5	+0.5
FMW	Mount Fremont	1.69	151		Pn	18 07 03.5	+0.4
FMW	Mount Fremont	1.69	151	P	Pn	18 07 03.5	+0.4
WSLR	Whistler	1.72	359		Pn	18 07 04.6	+1.1
WSLR	Whistler	1.72	359	P	Pn	18 07 04.3	+0.8
WSLR				S	Sn	18 07 25.6	+1.2
NLW	Nelson Butte	1.73	100		Pn	18 07 03.8	+0.1
REMR	Mount Rainier-	1.74	156		Pn	18 07 04.3	+0.5
RCM	Mount Rainier-	1.75	153		Pn	18 07 04.8	+0.6
LON	Longmire	1.81	156		Pn	18 07 05.2	+0.6
OZB	Mount Ozzard	1.82	289		Pn	18 07 04.9	+0.2
OZB				Sn	Sn	18 07 26.0	-0.7
OZB				IAML		18 07 26.6	
	comp=N,441nm,0.3s						
OZB				IAML		18 07 27.3	
	comp=E,393nm,0.3s						
OZB	Mount Ozzard	1.82	289	P	Pn	18 07 04.5	-0.3
OZB				S	Sn	18 07 26.0	-0.7
B019	Raymond	1.83	197		Pn	18 07 05.3	+0.5
B012	Ucluelet	1.84	287	P	Pn	18 07 05.5	+0.5
B012				S	Sn	18 07 26.0	-1.1
E04D	Cinebar	1.86	173		Pn	18 07 05.8	+0.5
E04D				Sn	Sn	18 07 28.5	+0.9
E04D				IAML		18 07 29.5	
	comp=N,271nm,0.2s						
E04D				IAML		18 07 31.5	
	comp=E,292nm,0.2s						
E04D	Cinebar	1.86	173	P	Pn	18 07 06.0	+0.7
	baz=354,SNR=66						
E04D				S	Sn	18 07 28.4	+0.7
	baz=354						
LTY	Liberty	1.88	127		Pn	18 07 05.9	+0.2

LTY				Sn	Sn	18 07 27.7	-0.6
LTY				IAML		18 07 44.9	
	comp=N,155nm,0.7s						
LTY	Liberty	1.88	127	P	Pn	18 07 06.4	+0.8
ETW	Entiat	1.89	114		Pn	18 07 06.2	+0.4
E03A	Lebam	1.92	194		Pn	18 07 06.3	+0.2
E03A				Sn	Sn	18 07 27.4	-1.6
E03A	Lebam	1.92	194	P	Pn	18 07 06.2	+0.1
E03A				S	Sn	18 07 28.1	-1.0
BMW	Boistfort Moun	1.95	187		Pn	18 07 06.9	+0.3
TBM	Table Mountain	1.97	128		Pn	18 07 08.0	+1.1
BTB	Buttle Lake	2.04	302	P	Pn	18 07 08.4	+0.5
MWAB	Mount Washingt	2.08	311	P	Pn	18 07 08.9	+0.5
WTV	Waterville	2.09	109		Pn	18 07 09.4	+1.0
TDL	Tradedollar La	2.10	167		Pn	18 07 09.4	+0.6
DHW2	Dyer Hill 2	2.12	100		Pn	18 07 09.8	+0.8
ERK	Elk Rock	2.13	170		Pn	18 07 09.7	+0.6
TOFB	Tofino	2.14	292	P	Pn	18 07 09.2	+0.2
TOFB				S	Sn	18 07 33.1	-1.3
B201	Coldwater, Mou	2.15	169		Pn	18 07 09.9	+0.7
EBG	Ellensburg	2.16	133		Pn	18 07 10.4	+0.9
NAC	Naches	2.17	140		Pn	18 07 10.4	+0.7
JRO	Jston Ridge Ob	2.18	168		Pn	18 07 10.5	+0.7
STD	Studebaker Rid	2.21	168		Pn	18 07 11.1	+0.8
SOSW	Source of Smit	2.22	167		Pn	18 07 11.3	+1.0
FL2	Flat Top 2	2.24	171		Pn	18 07 11.3	+0.7
VALT	Mount Saint He	2.24	168		Pn	18 07 11.7	+1.0
BOLM	Sugar Bowl	2.24	167		Pn	18 07 11.8	+1.1
SEPW	September Lobe	2.26	168		Pn	18 07 12.0	+1.1
SHW	Mount Saint He	2.26	169		Pn	18 07 11.9	+1.0
RVW	Rose Valley	2.26	178		Pn	18 07 11.6	+0.8
ESD	East Dome	2.27	167		Pn	18 07 11.8	+0.9
HSR	South Ridge	2.28	168		Pn	18 07 12.4	+1.2
LLLB	Lillooet	2.30	16	Pn	Pn	18 07 11.4	+0.1
LLLB				Sn	Sn	18 07 37.8	-0.6
LLLB				IAML		18 07 41.1	
	comp=N,212nm,0.6s						
LLLB				IAML		18 07 54.1	
	comp=E,222nm,0.7s						
LLLB	Lillooet	2.30	16	P	Pn	18 07 11.9	+0.6
B023	Clatskanie	2.30	183		Pn	18 07 12.0	+0.8
CBB	Campbell River	2.30	316		Pn	18 07 10.9	-0.4
CBB	Campbell River	2.30	316	P	Pn	18 07 12.2	+0.9
JLK	June Lake	2.31	167		Pn	18 07 12.5	+0.9
F04D	Rainier, OR	2.33	182	S	Sn	18 07 39.5	+0.5
	baz=2.9						
PNT	Penticton	2.34	66		Pn	18 07 12.6	+0.7
PNT	Penticton	2.34	66	P	Pn	18 07 12.6	+0.7
CDFW	Cedar Flats	2.36	166		Pn	18 07 13.4	+1.3
B08A	Colville Reser	2.36	90	Pn	Pn	18 07 10.8	-1.4
B08A				IAML		18 07 56.0	
	comp=N,88nm,0.8s						
B08A	Colville Reser	2.36	90	P	Pn	18 07 12.3	+0.1
B08A				S	Sn	18 07 50.3	+10
MTMW	Mount Mitchell	2.42	169		Pn	18 07 14.3	+1.2
GDR	Gold River	2.49	305		Pn	18 07 15.2	+1.4
GDR	Gold River	2.49	305	P	Pn	18 07 15.2	+1.4
F04A	Amboy	2.50	173		Pn	18 07 14.4	+0.4
F04A				Sn	Sn	18 07 43.1	-0.1
F04A				IAML		18 07 45.6	
	comp=E,219nm,0.4s						
F04A				IAML		18 07 46.5	
	comp=N,200nm,0.2s						
F05D	White Salmon	2.70	158		Pn	18 07 16.7	-0.2
F05D				IAML		18 08 06.3	
	comp=E,146nm,0.5s						
F05D				IAML		18 08 06.8	
	comp=N,135nm,0.4s						
F05D	White Salmon	2.70	158	P	Pn	18 07 17.1	+0.3
	baz=340						
FHE	Frenchman Hill	2.71	121		Pn	18 07 16.8	-0.1
E07A	Sunnyside	2.76	131		Pn	18 07 17.7	+0.1
E07A				IAML		18 08 11.9	
	comp=N,126nm,0.5s						
E07A				IAML		18 08 19.3	
	comp=E,126nm,0.5s						
MDW	Midway	2.77	129		Pn	18 07 18.1	+0.3
KMOR	Kings Mountain	2.80	189		Pn	18 07 18.2	0.0
WPO	West Portland	2.83	179		Pn	18 07 13.5	-5.2
NCRB	Newcastle Ridg	2.88	315	P	Pn	18 07 20.7	+1.3
SNIWA	Snively Ranch	2.92	130		Pn	18 07 20.2	+0.3
GBL	Gable Mountain	2.94	127		Pn	18 07 19.9	-0.1
OD2	Odessa Site #2	2.98	108		Pn	18 07 20.4	-0.2
WOSB	Woss	2.99	307	P	Pn	18 07 21.8	+1.0
D08A	Wollman Farm,	2.99	115	Pn	Pn	18 07 20.4	-0.4
HAWA	Hanford	3.04	130	Pn	Pn	18 07 21.0	-0.4
C09A	Chrisman Ranch	3.15	99		Pn	18 07 22.4	-0.5
C09A				IAML		18 08 18.2	
	comp=E,129nm,0.3s						
C09A	Chrisman Ranch	3.15	99	P	Pn	18 07 22.9	+0.1
REDWA	Red Mountain	3.15	131		Pn	18 07 20.4	-2.5
HOOD	Mount Hood Mea	3.20	164		Pn	18 07 23.4	-0.4
TDH	Tom, Dick, Har	3.21	166		Pn	18 07 25.0	+1.1
G03D	McMinnville, O	3.21	185	Pn	Pn	18 07 24.4	+0.7
G03D				IAML		18 08 02.6	
	comp=E,121nm,0.7s						
G03D				IAML		18 08 03.3	
	comp=N,112nm,0.6s						
G03D	McMinnville, O	3.21	185	S	Sn	18 08 00.7	+0.1
	baz=5.1						
F07A	Phinny Hill Vi	3.22	140	Pn	Pn	18 07 23.9	0.0
F07A				IAML		18 08 21.7	
	comp=N,82nm,0.6s						
F07A				IAML		18 08 34.8	
	comp=E,69nm,0.6s						
E08A	Dider Farm, El	3.22	125	Pn	Pn	18 07 22.5	-1.4
HEBO	Mount Hebo	3.25	191	Pn	Pn	18 07 24.1	-0.3
HEBO				IAML		18 08 42.6	
	comp=N,111nm,2.1s						
MAYB	Maynard	3.44	307	P	Pn	18 07 28.5	+1.4
PACB	Port Alice, BC	3.63	306	P	Pn	18 07 30.7	+1.2
E09A	Wood Farm, Sta	3.73	119		Pn	18 07 29.6	-1.2
PHC	Port Hardy	3.75	310	P	Pn	18 07 32.5	+1.3
H04A	Detroit Lake	3.75	172	Pn	Pn	18 07 31.5	+0.2
H04A				IAML		18 08 14.9	
	comp=E,76nm,0.2s						
H04A				IAML		18 08 15.9	
	comp=N,74nm,0.3s						
COR	Corvallis	3.83	185	Pn	Pn	18 07 30.6	-1.7
COR				IAML		18 08 17.0	
	comp=N,44nm,1.8s						
COR				IAML		18 08 45.7	
	comp=N,43nm,2.5s						
NEW	Newport	3.84	90	Pn	Pn	18 07 31.7	-0.7
NEW				IAML		18 08 39.7	
	comp=N,27nm,1.0s						
NEW	Newport	3.84	90	P	Pn	18 07 32.7	+0.3
	baz=274						
H04D	Lebanon	3.88	179	Pn	Pn	18 07 31.7	-1.3
H04D				IAML		18 08 17.8	
	comp=N,44nm,0.4s						
H04D	Lebanon	3.88	179	S	Sn	18 08 16.6	-0.7
	baz=359						
HOLB	Holberg	4.09	305	Pn	Pn	18 07 35.8	0.0
HOLB				IAML		18 09 17.4	
	comp=E,48nm,0.8s						
G08A	Pilot Rock	4.12	138	Pn	Pn	18 07 35.4	-0.8
SLEB	Sale Mountain	4.13	46	P	Pn	18 07 37.0	+0.4
I05D	Terrebonne, OR	4.21	165	P	Pn	18 07 37.7	+0.3
	baz=346,SNR=6.9						
I05D				S	Sn	18 08 25.7	+0.4
	baz=346						
BUCK	Buck Mountain	4.21	181	Pn	Pn	18 07 35.6	-2.0
BUCK				IAML		18 08 38.7	
	comp=N,49nm,4.7s						
BUCK				IAML		18 08 57.6	
	comp=E,46nm,3.4s						
BLBC	Blue River	4.33	31	P	Pn	18 07 40.1	+0.9
I02E	Swisshome, OR	4.35	189	Pn	Pn	18 07 38.9	-0.5
I02E				IAML		18 08 27.3	
	comp=N,52nm,3.8s						
I02E	Swisshome, OR	4.35	189	S	Sn	18 08 27.9	-0.9
	baz=8.9						
MOON	Moon Mountain	4.44	169		Pn	18 07 42.2	+1.7
F10A	Beach Ranch, E	4.56	120		Pn	18 07 40.9	-1.4
F10A				IAML		18 09 15.0	
	comp=N,33nm,0.6s						
F10A				IAML		18 09 20.8	
	comp=E,30nm,0.6s						
UBRB	Upper Baezaeko	4.56	351	P	Pn	18 07 43.4	+1.1
MNB	Mounoet Dainar	4.77	36	P	Pn	18 07 46.6	+1.3
PINE	Pine Mountain	4.81	163		Pn	18 07 46.5	+0.6
PINE				IAML		18 08 27.4	
	comp=N,18nm,4.7s						
PINE				IAML		18 08 55.1	
	comp=E,22nm,4.3s						
I07A	Izee	4.92	150	Pn	Pn	18 07 48.4	+1.1
I07A				IAML		18 09 16.9	
	comp=E,12nm,4.5s						
I07A				IAML		18 09 37.1	
	comp=N,15nm,4.5s						
BBB	Bella Bella	5.05	320	Pn	Pn	18 07 49.2	+0.3
J04D	Umpqua Nationa	5.19	174	Pn	Pn	18 07 51.9	+0.8
BMO	Blue Mountains	5.23	131	Pn	Pn	18 07 50.9	-0.6
BMO				IAML		18 10 07.7	
	comp=N,12nm,5.0s						
DBO	Dodson Butte	5.29	183	Pn	Pn	18 07 53.5	+1.1
DBO				IAML		18 09 10.9	
	comp=E,25nm,3.2s						
J01E	Myrtle Point	5.30	188	Pn	Pn	18 07 52.4	+0.1
J01E	Myrtle Point	5.30	188	S	Sn	18 08 49.9	-2.1
	baz=7.9						
BSMT	Bassoo Peak	5.45	93	P	Pn	18 07 55.3	+0.8
K02D	Willamette Mer	5.74	186	S	Sn	18 09 00.5	-2.5
	baz=5.5						
PLID	Pearl Lake	5.78	123	Pn	Pn	18 07 58.2	-0.9
JTMT	Jette	5.80	93	Pn	Pn	18 07 59.1	-0.3
JTMT	Jette	5.80	93	P	Pn	18 07 59.9	+0.6
HUMO	Hull Mountain	5.80	181	Pn	Pn	18 08 00.4	+1.1
WALA	Waterton Lakes	5.97	80	Pn	Pn	18 08 02.7	+1.0
L04D	Klamath Falls	6.20	176	Pn	Pn	18 08 06.6	+1.7
MSO	Missoula	6.25	101	Pn	Pn	18 08 06.1	+0.7
MSO	Missoula	6.25	101	S	Sn	18 09 14.0	-1.4
	baz=288						
HG4B	Hotspring	6.59	309	Pn	Pn	18 08 10.0	0.0
M04C	Macdoel	6.66	173	Pn	Pn	18 08 09.5	-1.7
WVOR	Wild Horse Val	6.68	152	Pn	Pn	18 08 09.8	-1.5
LRM	Limekiln Ridge	7.57	106	Pn	Pn	18 08 23.7	0.0
HLID	Hailey	7.63	126	Pn	Pn	18 08 22.8	-1.6
DLMT	Dillon	7.67	110	Pn	Pn	18 08 22.0	-3.1
BCYI	Bear Canyon	7.73	118	Pn	Pn	18 08 23.6	-2.3
BOZ	Bozeman (W)	8.19	106	Pn	Pn	18 08 28.5	-3.5
YHH	Holmes Hill	9.04	109	Pn	Pn	18 08 43.2	-0.6

*CNRM **05** 18:08:53.8, 35°.71N×3°.53W, h26km, ml2.6*
*SFS **05** 18:08:54.0, 35°.68N×3°.62W, h13km, ML2.5, ALBORAN SUR*
*MDD **05** 18:08:54.6±0.5, 35°.68N×3°.62W, h13km±7km, mb_Lg2.5/12, Error ellipse: s-maj=6.8km s-min=2.5km az=162.0*
*INMG **05** 18:08:55.0±1.7, 35°.70N×3°.60W, h15km±7km, ML2.2, Error ellipse: s-maj=3.8km s-min=3.5km az=126.0*
ISC 05 18:08:54.3±1.2, **35°.67N**±0°.02×**3°.58W**±0°.03, **h26**km±12km, **n37, σ0s.97**/73, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.52	59	Pg	Pb	18 09 04.3	-0.6
EALB				Sg	Sb	18 09 12.4	+0.3
EALB				*i* Vmb_Lg		18 09 15.6	
PALE	Palemas	0.54	213	P	Pn	18 09 05.5	-0.9
PALE				S	Sb	18 09 12.9	+0.3
EMEL	Melilla	0.63	126	Pg	Pn	18 09 06.8	-0.7
EMEL				Sg	Sn	18 09 15.6	-1.2
GOG	Mont Gurugu	0.66	133	P	Pn	18 09 07.1	-1.0
GOG				S	Sn	18 09 15.6	-1.9
ELGU	Los Guajares,	1.19	358	Pn	Pn	18 09 15.0	-0.4
ELGU				Sn	Sn	18 09 30.2	-0.6
ELGU				*i* Vmb_Lg		18 09 33.7	
EMAL	Malaga-Limoner	1.28	328	P	Pn	18 09 15.9	-0.7
EMAL				S	Sn	18 09 31.8	-1.1
TAF	Taforalt	1.28	131	P	Pn	18 09 16.8	+0.2
TAF				S	Sn	18 09 32.0	-1.1
EMIJ	Mijas	1.31	313	Pn	Pn	18 09 16.2	-0.7
EMIJ				Sn	Sn	18 09 32.4	-1.2
EMIJ				*i* Vmb_Lg		18 09 33.0	
EBER	Berja	1.34	24	Pn	Pn	18 09 17.6	0.0
EBER				Sn	Sn	18 09 35.2	+0.5
EBER				*i* Vmb_Lg		18 09 38.0	
EGOR	Sierra Gorda,	1.50	344	Pn	Pn	18 09 19.9	+0.3
EGOR				Sn	Sn	18 09 37.6	-0.7
EQUE	Quentar	1.53	4	Pn	Pn	18 09 20.7	+0.6
EQUE				Sn	Sn	18 09 39.1	-0.1
EQUE				*i* Vmb_Lg		18 09 50.6	
CHEFC	Chefchaouen	1.54	249	P	Pn	18 09 20.9	+0.7
CHEFC				S	Sn	18 09 30.6	-8.9
JBK	JBK	1.57	148	P	Pn	18 09 20.8	0.0
JBK				S	Sn	18 09 40.5	+0.1
ENIJ	Nijar	1.71	40	Pn	Pn	18 09 24.1	+1.6
ENIJ				Sn	Sn	18 09 43.2	-0.2
ENIJ				*i* Vmb_Lg		18 09 43.4	
EJIF	Jimena Fronter	1.71	298	Pn	Pn	18 09 22.5	0.0
EJIF				Sn	Sn	18 09 43.1	-0.5
ESPR	Espera	2.19	304	Pn	Pn	18 09 28.3	-0.7
ESPR				Sn	Sn	18 09 53.9	-1.4
ESPR				*i* Vmb_Lg		18 10 03.5	
EADA	Adamuz	2.61	343	Pn	Pn	18 09 35.2	+0.3
EADA				Sn	Sn	18 10 03.9	-1.9
EADA				*i* Vmb_Lg		18 10 15.1	
ECAB	El Cabril	2.81	329	Pn	Pn	18 09 39.2	+1.5
ECAB				Sn	Sn	18 10 09.7	-1.0
ECAB				*i* Vmb_Lg		18 10 23.2	
MD31	MD31	2.96	200	P	Pn	18 09 41.1	+1.4
MD31				S	Sn	18 10 15.9	+1.4
MDT	Midelt	2.98	197	P	Pn	18 09 40.5	+0.5
MDT				S	Sn	18 10 16.3	+1.5
EMIN	Mina Concepcio	3.24	311	Pn	Pn	18 09 43.5	0.0
EMIN				Sn	Sn	18 10 20.8	-0.5
EMIN				*i* Vmb_Lg		18 10 23.3	
ETOB	Tobarra	3.38	28	Pn	Pn	18 09 46.8	+1.3
ETOB				Sn	Sn	18 10 25.4	+0.6
EGRO	El Granado	3.65	302	Pn	Pn	18 09 49.1	+0.1
EGRO				Sn	Sn	18 10 29.6	-1.6
PBAR	Barrancos	3.73	313	*e*Pn	Pn	18 09 50.9	+0.7
PBAR				*e*Sn	Sn	18 10 32.5	-0.7
PBAR				A	A	18 10 34.7	
	3.1nm,0.2s						
PVAQ	Vaqueiros	3.75	299	*e*Pn	Pn	18 09 51.2	+0.7
PVAQ				*e*Sn	Sn	18 10 33.0	-0.8
PVAQ				A	A	18 10 41.1	
	4.5nm,0.4s						
PVAQ	Vaqueiros	3.75	299	P	Pn	18 09 51.3	+0.8
PVAQ				S	Sn	18 10 33.3	-0.5
PBDV	Barranco-do-Ve	3.84	295	*e*Pn	Pn	18 09 52.4	+0.7
PBDV				*e*Sn	Sn	18 10 35.9	-0.1
PBDV				A	A	18 10 37.2	
	4.9nm,0.7s						
PAB	San Pablo	3.91	351	Pn	Pn	18 09 54.2	+1.4
PAB				Sn	Sn	18 10 37.1	-0.8
ESDC	Sonseca Array	4.01	356	Pn	Pn	18 09 54.9	+0.9
ESDC				Sn	Sn	18 10 39.7	-0.4
PCVE	Castro Verde	4.08	300	*e*Pn	Pn	18 09 57.2	+2.2
PCVE				*e*Sn	Sn	18 10 42.8	+0.9
PCVE				A	A	18 10 43.4	
	3.5nm,0.4s						
EBAD	Badajoz	4.12	319	Pn	Pn	18 09 56.0	+0.5
EBAD				Sn	Sn	18 10 41.2	-1.7
EBAD				*i* Vmb_Lg		18 10 45.7	
PESTR	Estremoz	4.51	316	*e*Pn	Pn	18 10 02.2	+1.2
PESTR				*e*Sn	Sn	18 10 52.0	-0.6
PESTR	Estremoz	4.51	316	P	Pn	18 10 00.7	-0.3
PESTR				S	Sn	18 10 52.1	-0.5
EVO	Evora	4.55	310	*e*Pn	Pn	18 10 02.2	+0.8
EVO				*e*Sn	Sn	18 10 52.5	-0.9
EVO				A	A	18 10 55.2	
	3.7nm,0.5s						
PNCL	Nicolau / Gran	4.65	303	*e*Pn	Pn	18 10 03.6	+0.8
PNCL				*e*Sn	Sn	18 10 55.6	-0.4
PMRV	Marv??o	4.82	322	*e*Pn	Pn	18 10 06.6	+1.4
PMRV				*e*Sn	Sn	18 11 00.1	0.0
PMRV				A	A	18 11 12.3	
	2.3nm,0.5s						
PMTG	Montargil	5.01	314	*e*Pn	Pn	18 10 09.1	+1.2
PMTG				*e*Sn	Sn	18 11 03.8	-1.1

*IDC **05** 18:09:40.3±0.5, 0°.86N×146°.24E, h0km, mb4.3/20, mb1 4.5/22, mb1mx4.4/42, mbtmp4.4/22, ML4.2/2, MS3.8/50, Ms1 3.8/50, ms1mx3.8/66, Error ellipse: s-maj=17.6km s-min=12.1km az=92.0*
*BJI **05** 18:09:40.1±0.0, 0°.95N×146°.48E, h17km, mb4.6/48, mB4.9/29, Ms4.4/8, Ms7 4.2/9*
*NEIC **05** 18:09:41.0±2.2, 0°.73N±0°.08×146°.07E±0°.09, h6km±3km, mb4.9/101, Error ellipse: s-maj=12.6km s-min=10.7km az=66.0*
*DJA **05** 18:09:44.8±1.6, 1°N±9°×14°6E±°, h31km±14km, M4.7/14, mB4.9/4, mb4.8/14, MLv4.9/2, Mw(mB)4.2/4*
*GCMT **05** 18:09:44.0±0.3, 0°.91N±0°.02×146°.10E±0°.02, h12km, MW4.8/86, Moment Tensor Solution. s11,c12; s86,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.17±.08; $M_{\theta\theta}$-0.86±.06; $M_{\phi\phi}$0.69±.08; $M_{r\theta}$0.01±.21; $M_{\theta\phi}$1.46±.06; $M_{\phi r}$0.42±.19; Best double couple: $M_0$1.71000×10^{16} NP1:ϕ_s77.00000°, δ76.00000°, λ6.00000°. NP2: ϕ_s345.00000°, δ85.00000°, λ166.00000°. Principal axes: T 1.6590, Plg14.0000°, Azm300.0000°; N 0.1020, Plg75.0000°, Azm145.0000°; P -1.7620, Plg6.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 18:09:42.2±0.3, **0°.76N**±0°.06×**146°.18E**±0°.06, **h10**km, **n232, σ1s.39**/160, **mb4.9**/90, **MS3.9**/53, **1C-4D, Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.02	157		Pn	18 10 28.6	-1.6
KRVT	Keravat (AS076	7.71	131	Pn	Pn	18 11 35.2	+0.5
	16nm,0.3s,baz=265,slow=11,SNR=24						
KRVT				LR	LR	18 14 18.3	
	comp=Z,2μm,20.2s,baz=78,slow=36						
RABL	Rabaul	7.74	129	Pn	Pn	18 11 35.3	+0.1
PMG	Port Moresby	10.14	174	LR	LR	18 15 55.5	
	comp=Z,968nm,18.7s,baz=330,slow=37						
PMG	Port Moresby	10.14	174	Pn	Pn	18 12 05.7	-2.4
BAKI	Biak	10.25	259	P	Pn	18 12 11.0	+1.5
	60nm,1.0s						
COEN	Coen	14.92	191		Pn	18 13 11.8	-1.6
COEN	Coen	14.92	191	P	P	18 13 22.3	+3.2
SIJI	Sorong	15.00	264	Pn	Pn	18 13 15.0	+0.6
	0.2nm,0.3s,baz=70,slow=11,SNR=7.8						
HNR	Honiara	17.04	127	LR	LR	18 20 10.3	
	comp=Z,664nm,20.0s,baz=292,slow=37						
HNR	Honiara	17.04	127	P	Pn	18 13 40.5	-0.4
SAUI	Saumlaki	17.19	239	P	Pn	18 13 38.6	-4.0
SAUI	Saumlaki	17.19	239	P	Pn	18 13 44.5	+1.8
AAI	Ambon	18.50	256	P	P	18 13 59.6	+0.8
	30nm,0.9s						
TNTI	Ternate	18.81	270	P	P	18 13 59.0	-3.1
MTSU	Mount Surprise	18.86	185	P	Pn	18 14 08.2	+4.9
KDU	Kakadu	19.06	225	P	P	18 14 05.7	+0.8
MTN	Manton Dam	20.13	227	P	P	18 14 13.7	-2.9
MTN	Manton Dam	20.13	227	P	P	18 14 17.9	+1.3
SANI	Sanana	20.38	262	P	P	18 14 20.1	+0.8
CTA	Charters Tower	20.71	180	P	P	18 14 24.3	+1.4
	10nm,1.0s,baz=353,slow=14,SNR=5.7						
CTA				LR	LR	18 21 50.2	
	comp=Z,284nm,21.7s,baz=4.5,slow=35						
CTA	Charters Tower	20.71	180	P	Pn	18 14 30.5	+5.2
DAV	Davao City (W)	21.48	288	P	P	18 14 31.8	+0.6
	103nm,0.3s,baz=90,slow=4.0,SNR=5.7						
DAV				LR	LR	18 22 29.7	
	comp=Z,323nm,18.1s,baz=115,slow=36						
DAV	Davao City (W)	21.48	288	P	P	18 14 26.8	-4.4
QIS	Mount Isa	22.14	197	P	P	18 14 39.2	+0.9
KMSI	Cibinong	22.19	270	P	P	18 14 41.4	+2.5
	75nm,0.6s						
KWAJ	Kwajalein Atol	22.79	69	P	P	18 14 45.4	+0.1
GTOI	Gorontalo	23.16	270	P	P	18 14 50.7	+1.5
	290nm30nm,0.8s						
WB0	Warramunga Arr	23.44	209	P	P	18 14 49.9	-2.1
WB0				IAmb	IAmb	18 15 19.2	
	comp=Z,28nm,1.1s						
LUWI	Luwuk	23.47	266		P	18 14 48.7	-3.6
WR0	Warramunga Arr	23.54	208	P	P	18 14 51.0	-1.8
WR0				IAmb	IAmb	18 14 54.2	
	comp=Z,27nm,0.7s						
WRAB	Tennant Creek	23.61	209	P	P	18 14 52.2	-1.3
WRAB				IAmb	IAmb	18 14 54.8	
	comp=Z,37nm,0.7s						
WRAB	Tennant Creek	23.61	209	P	P	18 14 53.3	-0.2
WB2	Warramunga Arr	23.61	209	P	P	18 14 52.9	-0.7
WB2				IAmb	IAmb	18 14 55.0	
	comp=Z,30nm,0.6s						
WRA	Warramunga Arr	23.62	209	P	P	18 14 53.0	-0.7
	comp=Z,21nm,0.6s,baz=32,slow=11,SNR=37						
WRA				LR	LR	18 24 27.4	
	comp=Z,461nm,19.3s,baz=21,slow=37						
WRA	Warramunga Arr	23.62	209	P	P	18 14 51.9	-1.8
KNRA	Kununurra	23.72	226	P	P	18 14 52.7	-2.0
KNRA				IAmb	IAmb	18 15 20.8	
	comp=Z,36nm,0.8s						
KNRA	Kununurra	23.72	226	P	P	18 14 54.0	-0.7
MRSI	Marisa	24.23	269	P	P	18 14 59.6	0.0
	comp=Z,24nm,1.2s						
BBSI	Bau Bau	24.38	255	P	P	18 15 01.1	+0.2
	comp=Z,97nmcomp=Z,9.2nm,1.1s						
APSI	Ampana	24.58	266	P	P	18 15 02.2	-0.6
	comp=Z,51nm,1.0s						
BATI	Baumata	24.91	243	P	P	18 15 07.0	+1.2
	comp=Z,15nm,0.7s,baz=100,slow=11,SNR=6.7						
TOLI2	Tolitoli	25.39	271	P	P	18 15 09.1	-1.0
TOLI2				IAmb	IAmb	18 15 37.6	
	comp=Z,20nm,0.9s						
JCJ	Chichijima	26.47	352	LR	LR	18 23 55.0	
	comp=Z,107nm,21.5s,baz=146,slow=32						
H11S3	WAKE ISLAND Hy	26.76	48	T	T	18 43 45.5	
	baz=232						
H11S2	WAKE ISLAND Hy	26.77	48	T	T	18 44 16.3	
	baz=232,slow=74						
H11S1	WAKE ISLAND Hy	26.78	48	T	T	18 43 39.6	
	baz=232,slow=74						
KAPI	Kappang	27.01	257	LR	LR	18 26 32.6	
	comp=Z,110nm,19.9s,baz=82,slow=37						
KAPI	Kappang	27.01	257	P	P	18 15 23.7	-1.0
KAPI				IAmb	IAmb	18 15 30.0	
	comp=Z,24nm,1.1s						
AS31	Alice Springs	27.05	205	P	P	18 15 23.4	-1.5
ASAR	Alice Springs	27.05	205	P	P	18 15 25.6	+0.6
	comp=Z,9.5nm,0.7s,baz=27,slow=12,SNR=50						
ASAR				LR	LR	18 26 45.6	
	comp=Z,530nm,18.2s,baz=32,slow=38						
ASAR	Alice Springs	27.05	205	P	P	18 15 24.8	-0.2
QLP	Quilpie	27.24	184	P	P	18 15 28.6	+1.9
FITZ	Fitzroy Crossi	27.55	226	P	P	18 15 29.2	-0.4
	comp=Z,5.8nm,0.6s,baz=41,slow=8.7,SNR=45						
FITZ				LR	LR	18 26 41.4	
	comp=Z,223nm,20.4s,baz=52,slow=37						
FITZ	Fitzroy Crossi	27.55	226	P	P	18 15 28.9	-0.7
FITZ				IAmb	IAmb	18 15 58.6	
	comp=Z,18nm,0.9s						
FITZ	Fitzroy Crossi	27.55	226	P	P	18 15 30.2	+0.6
INKA	Innaminka	28.81	190	P	P	18 15 43.8	+3.2
DZM	Mont Dzumac	30.10	140	LR	LR	18 26 34.2	
	comp=Z,262nm,19.5s,baz=7.5,slow=34						
DZM	Mont Dzumac	30.10	140	*e*LR	LR	18 23 42.2	
	comp=Z,429nm,25.9s						
OOD	Oodnadatta	30.12	199	P	P	18 15 52.7	+0.4
JOW	Kunigami	31.12	328	LR	LR	18 26 35.3	
	comp=Z,106nm,19.0s,baz=182,slow=33						
LCRK	Leigh Creek	31.94	193	P	P	18 16 10.3	+2.0
STKA	Stephens Creek	32.74	187	P	P	18 16 15.1	-0.3
	comp=Z,3.2nm,0.7s,baz=13,slow=9.4,SNR=6.7						
STKA				LR	LR	18 31 09.5	
	comp=Z,301nm,18.5s,baz=12,slow=39						
STKA	Stephens Creek	32.74	187		P	18 16 13.4	-1.9
STKA	Stephens Creek	32.74	187	P	P	18 16 16.6	+1.2
MULG	Mulgathing	32.95	200	P	P	18 16 16.7	-0.5
YULB	Yu-li	33.01	315	P	P	18 16 15.0	-2.8
YULB				IAmb	IAmb	18 16 26.6	
	comp=Z,12nm,0.9s						
TPUB	Ta-pu	33.42	314	P	P	18 16 18.5	-2.9
TPUB				IAmb	IAmb	18 16 29.3	
	comp=Z,10nm,0.9s						
SSLB	Suanglung	33.50	315	P	P	18 16 18.9	-3.2
YHNB	Yeheng	33.77	317	P	P	18 16 21.6	-2.9
TATO	Taipei	33.90	317	P	P	18 16 25.4	-0.1
PSA00	Pilbara Seismi	33.97	228	P	P	18 16 22.5	-3.7
PSA00				IAmb	IAmb	18 16 55.1	
	comp=Z,18nm,1.1s						
PSA00	Pilbara Seismi	33.97	228	P	P	18 16 24.1	-2.1
PSA00				IAmb	IAmb	18 16 44.1	
	comp=Z,21nm,1.9s						
SBUM	Sibu	33.98	273	P	P	18 16 24.5	-1.9
SBUM				IAmb	IAmb	18 16 28.3	
	comp=Z,23nm,1.7s						
BBOO	Buckleboo	34.73	195	P	P	18 16 30.5	-2.1

BBOO IAmb IAmb 18 16 40.5
comp=Z,22nm,1.0s
JNU Nakatsue 35.26 337 P P 18 16 35.6 -1.7
JNU IAmb IAmb 18 17 03.3
comp=Z,23nm,1.3s
FORT Forrest 35.78 207 P P 18 16 39.1 -2.6
KSM Kuching 35.87 271 P P 18 16 35.9 -6.8
KSM IAmb IAmb 18 16 51.7
comp=Z,21nm,1.2s
KSM Kuching 35.87 271 P **P** **18 16 43.8 +1.1**
MJAR Matsushiro Arr 36.37 349 LR LR 18 30 26.2
comp=Z,48nm,19.6s,baz=160,slow=34
GIRL Giralia 38.84 231 P **P** **18 17 06.2 -1.6**
DLV T Lat 39.01 288 P **P** **18 17 08.0 -1.5**
DLV T Lat 39.01 288 P **P** **18 17 09.7 +0.1**
QIZ Qiongzhong 39.98 299 P **P** **18 17 16.7 -0.7**
QIZ IAmb IAmb 18 17 26.5
comp=Z,20nm,0.9s
KSRS Korea Array 40.21 337 P **P** **18 17 17.9 -1.1**
comp=Z,1.1nm,0.8s,baz=154,slow=10,SNR=6.3
NJ2 Nanjing 40.42 323 *eP* **P** **18 17 21.1 +0.3**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
MORW Morawa 41.35 222 P P 18 17 26.1 -2.5
MORW IAmb IAmb 18 17 55.6
comp=Z,43nm,1.4s
JEW Eniwo 42.11 355 P **P** **18 17 35.5 +0.9**
UBPT Khong Chiam 42.70 292 P **P** **18 17 39.6 -0.1**
USRK Ussuriysk Ar. 45.06 346 P **P** **18 17 57.8 -0.5**
comp=Z,1.9nm,0.8s,baz=150,slow=6.1,SNR=2.9
KULM Kulim 45.67 277 P **P** **18 18 02.2 -1.5**
KULM IAmb IAmb 18 18 04.5
comp=Z,29nm,1.5s
MDJ Mudanjiang 46.09 344 P P 18 18 14.7 +8.3
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,150nm,3.7s
HNS HongShan 46.60 325 ⇑P P 18 18 17.6 +7.0
HNS pmax pmax
comp=Z,7.0nm,1.0s
PSI Prapat 47.27 273 LR LR 18 37 30.1
comp=Z,83nm,21.3s,baz=86,slow=35
NIUE Niue 47.38 117 P **P** **18 18 16.4 -0.6**
BNX BinXian 47.75 342 ⇓P **P** **18 18 18.3 -1.1**
BNX pmax pmax
comp=Z,19nm,1.1s
BNX pmax pmax
comp=Z,290nm,4.4s
QRZ Quartz Range 47.82 153 P **P** **18 18 20.4 +0.3**
XAN Xi'an 48.07 317 P **P** **18 18 21.4 -0.8**
XAN sP sP 18 18 28.9 +4.2
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,120nm,5.5s
URZ Urewera 48.16 147 LR LR 18 37 21.3
comp=Z,94nm,18.2s,baz=28,slow=34
KMI Kunming 48.42 304 ⇓P **P** **18 18 26.3 +1.0**
KMI pmax pmax
comp=Z,7.0nm,1.1s
KMI LR LR
comp=Z,180nm,26.9s
BKZ Black Stump Fm 48.49 148 P **P** **18 18 25.0 -0.3**
GSI Gunungsitoli 48.59 271 P **P** **18 18 24.7 -1.8**
GSI Gunungsitoli 48.59 271 P **P** **18 18 25.5 -1.0**
THZ Tophouse 48.74 153 P **P** **18 18 27.6 +0.3**
TUWZ Tuamarina 48.95 152 P **P** **18 18 28.9 +0.1**
KHZ Kahutara 49.55 153 P **P** **18 18 32.5 -0.8**
RPZ Rata Peaks 49.55 156 P **P** **18 18 34.8 +1.4**
comp=Z,7.6nm,0.8s,baz=344,slow=8.8
RPZ LR LR 18 38 16.4
comp=Z,79nm,20.6s,baz=315,slow=35
RPZ Rata Peaks 49.55 156 P **P** **18 18 34.4 +1.0**
RPZ IAmb IAmb 18 18 43.1
comp=Z,20nm,0.9s
MSWZ Moikau Station 49.56 151 P **P** **18 18 33.5 0.0**
CM31 Chiang Mai Arr 49.56 294 P **P** **18 18 32.2 -1.7**
CM31 IAmb IAmb 18 18 44.0
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 49.56 294 P **P** **18 18 34.9 +0.9**
comp=Z,5.2nm,0.9s,baz=116,slow=5.8,SNR=25
CMAR LR LR 18 37 48.6
comp=Z,58nm,21.6s,baz=95,slow=34
CMAR Chiang Mai Arr 49.56 294 P **P** **18 18 33.5 -0.5**
DCZ Deep Cove 49.63 161 P **P** **18 18 33.3 -0.6**
OXZ Oxford 49.63 155 P **P** **18 18 33.8 -0.2**
OXZ IAmb IAmb 18 18 59.7
comp=Z,9.5nm,0.9s
CHTO Chiang Mai 49.66 294 P P 18 18 32.5 -2.1
CHTO IAmb IAmb 18 18 37.1
comp=Z,11nm,1.2s
CHTO Chiang Mai 49.66 294 P **P** **18 18 35.7 +1.1**
PLWZ Palliser 49.68 151 P **P** **18 18 33.1 -1.3**
PZH PanZhiHua 49.79 305 P **P** **18 18 35.0 -0.6**
PZH S **S** **18 25 48.3 +2.9**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.5s
PZH LR LR
comp=Z,350nm,20.8s
PZH LR LR
comp=Z,390nm,22.0s
PZH LR LR
comp=Z,430nm,22.0s
KLR Kul'dur 49.86 348 LR LR 18 39 20.1
comp=Z,25nm,19.2s,baz=158,slow=36
CD2 Chengdu 50.12 311 P **P** **18 18 38.5 +0.5**
CD2 S **S** **18 25 50.2 +0.4**
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,90nm,5.7s
CD2 LR LR
comp=Z,220nm,20.6s
CD2 LR LR
comp=Z,200nm,22.1s
HHC Hu-ho-hao-te 50.74 326 *eP* **P** **18 18 44.3 +1.7**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.1s
LZH Lanzhou 52.67 317 *eP* **P** **18 18 57.2 0.0**
LZH pP sP 18 19 02.6 +3.0
LZH sP pP 18 19 04.9 +6.0
LZH PP **PP** **18 20 56.4 0.0**
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,86nm,6.5s
LZH LR LR
comp=Z,150nm,14.8s
LZH LR LR
comp=Z,160nm,15.3s
LZH LR LR
comp=Z,190nm,17.6s
PETK Petropavlovsk- 53.05 9 P P 18 18 57.8 -1.6
comp=Z,6.5nm,0.9s,baz=181,slow=7.2,SNR=5.3
PETK LR LR 18 37 43.6
comp=Z,98nm,21.4s,baz=195,slow=32
SHEM Shemya Is, Ala 56.79 20 LR LR 18 40 28.4
comp=Z,167nm,18.8s,baz=318,slow=33
RAR Rarotonga 57.11 116 LR LR 18 40 04.5
comp=Z,104nm,21.9s,baz=290,slow=32
GTA Gaotai 57.12 318 ⇓P **P** **18 19 29.4 +0.1**
GTA sP sP 18 19 36.9 +5.1
GTA pmax pmax
comp=Z,6.0nm,1.4s
SHL Shillong 57.81 300 P P 18 19 31.3 -3.2
SHL IAmb IAmb 18 19 35.2
comp=Z,12nm,0.9s
ULN Ulaanbaatar 57.86 330 P P 18 19 32.4 -1.9
HON Honolulu 58.10 65 P **P** **18 19 36.0 -0.3**
SONM Songino Array 58.17 330 P **P** **18 19 35.8 -0.7**
comp=Z,1.9nm,0.9s,baz=150,slow=7.3,SNR=12
SONM LR LR 18 43 40.2
comp=Z,58nm,21.5s,baz=342,slow=35
SONM Songino Array 58.17 330 P P 18 19 34.6 -1.9
MA2 Magadan 58.77 3 LR LR 18 42 32.2
comp=Z,47nm,21.1s,baz=180,slow=34
GOMU GeErMu 59.16 313 P P 18 19 41.1 -2.8
GOMU pP pP 18 19 46.0 +0.3
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,93nm,10.1s
TAPN Taplejung 61.89 301 *eP* **P** **18 20 02.1 -0.6**
ODAN Odare 62.04 300 *eP* **P** **18 20 03.5 -0.2**
SEY Seymchan 62.20 3 LR LR 18 43 34.7
comp=Z,60nm,20.5s,baz=270,slow=33
YAK Yakutsk 62.38 351 LR LR 18 46 16.8
comp=Z,34nm,19.5s,baz=252,slow=35
JIRN Jiri 63.28 301 *eP* **P** **18 20 12.0 0.0**
GUN Gumba 63.60 301 *eP* **P** **18 20 14.3 +0.1**
comp=Z,68nm,1.0s
PKI Pulchoki 63.93 300 *eP* **P** **18 20 15.7 -0.6**
PKIN Phulchoki 63.94 300 *eP* **P** **18 20 15.8 -0.5**
KKN Kakani 64.09 301 *eP* **P** **18 20 17.1 -0.1**
DMN Daman 64.20 300 *eP* **P** **18 20 18.0 0.0**
GKN Gorkha 64.69 301 *eP* **P** **18 20 20.8 -0.3**
DANN Dangsing 65.53 301 *eP* **P** **18 20 26.4 -0.3**
comp=Z,38nm,0.8s
KOLN Koldanda 65.53 300 *eP* **P** **18 20 26.5 -0.1**
comp=Z,46nm,0.9s
PALK Pallekele 65.58 278 LR LR 18 46 56.2
comp=Z,42nm,21.9s,baz=225,slow=34
PPT Papeete 65.76 110 LR LR 18 47 03.1
comp=Z,43nm,18.2s,baz=317,slow=34
PPT2 Papeete2 65.77 110 *e*LR LR 18 40 07.9
comp=Z,143nm,26.0s
PYUN Piuthan 66.13 300 *eP* **P** **18 20 30.0 -0.5**
comp=Z,55nm,0.9s
TBI Tubuai 66.89 116 *e*LR LR 18 40 51.4
comp=Z,219nm,24.8s
WMQ Urumqi 67.21 318 *eP* **P** **18 20 37.7 +0.8**
WMQ pmax pmax
comp=Z,17nm,0.7s
BILL Bilibino 68.57 8 P **P** **18 20 47.1 +2.2**
BILL IAmb IAmb 18 20 54.9
comp=Z,8.3nm,1.3s
GAMB Gambell 70.05 18 P **P** **18 20 53.3 -0.7**
GAMB IAmb IAmb 18 21 03.0
comp=Z,10nm,1.3s
TIXI Tiksi 71.65 354 P **P** **18 21 05.0 +1.3**
MK31 Makanchi Array 71.83 320 P **P** **18 21 04.2 -1.1**
MKAR Makanchi Array 71.83 320 P **P** **18 21 04.5 -0.8**
comp=Z,1.9nm,0.8s,baz=95,slow=7.5,SNR=21
MKAR LR LR 18 51 19.2
comp=Z,60nm,20.5s,baz=71,slow=35
MKAR Makanchi Array 71.83 320 P **P** **18 21 04.0 -1.4**
MAKZ Makanchi 72.03 319 P **P** **18 21 05.5 -1.1**
MAKZ IAmb IAmb 18 21 07.0
comp=Z,17nm,1.7s
ANM Nome 72.65 20 P **P** **18 21 09.0 -0.9**
ZALV Zalesovo Beam 72.91 327 P **P** **18 21 10.1 -1.5**
comp=Z,0.7nm,0.6s,baz=79,slow=7.7,SNR=4.4
ZALV LR LR 18 53 00.9
comp=Z,42nm,20.8s,baz=102,slow=36
KDJ Kajisay 74.02 314 P **P** **18 21 18.2 -0.4**
KSH Kashi 74.32 311 P **P** **18 21 22.1 +1.7**
KSH pP sP 18 21 26.6 +3.7
KSH sP pwP 18 21 29.9 +1.8
KSH pmax pmax
comp=Z,6.0nm,1.0s
KDAK Kodiak Island 74.41 29 P **P** **18 21 19.4 -0.8**
comp=Z,6.2nm,0.7s,baz=243,slow=4.5,SNR=2.4
KDAK LR LR 18 47 50.3
comp=Z,103nm,21.7s,baz=265,slow=31
SVW2 Sparrevohn 74.51 25 P **P** **18 21 20.6 -0.2**
SVW2 IAmb IAmb 18 21 31.1
comp=Z,30nm,1.5s
BOOM Boomskoye usch 75.00 314 P **P** **18 21 23.5 -0.8**
TTA Tatalina 75.21 24 P **P** **18 21 24.6 -0.3**
TTA IAmb IAmb 18 21 34.7
comp=Z,13nm,1.4s
KURK Kurchatov 75.36 323 P P 18 21 24.0 -1.9
KURK IAmb IAmb 18 21 25.9
comp=Z,18nm,1.6s
NIL Nilore 75.40 305 P **P** **18 21 25.9 -0.7**
RDOG Red Dog Mine 75.58 18 P **P** **18 21 26.6 -0.3**
RDOG IAmb IAmb 18 21 36.8
comp=Z,10nm,0.8s
AAK Ala-Archa 76.07 314 LR LR 18 55 32.5
comp=Z,67nm,20.5s,baz=104,slow=36
AAK Ala-Archa 76.07 314 P P 18 21 28.1 -2.3
K20K Telida 76.19 24 P **P** **18 21 29.7 -0.7**
K20K IAmb IAmb 18 21 40.1
comp=Z,25nm,1.6s
J20K Nowinta River 76.53 23 P **P** **18 21 31.8 -0.6**
J20K IAmb IAmb 18 21 42.7
comp=Z,18nm,1.3s
CAST Castle Rocks 77.02 24 P **P** **18 21 34.0 -1.2**
M22K Willow 77.16 26 P **P** **18 21 35.3 -0.7**
KTH Kantishna Hill 77.55 24 P **P** **18 21 36.8 -1.4**
H21K Melozitna Rive 77.72 22 P **P** **18 21 37.7 -1.3**
H21K IAmb IAmb 18 21 49.6
comp=Z,12nm,1.2s
BTK Batken 78.32 311 P **P** **18 21 42.0 -1.0**
RND Reindeer 78.34 25 P **P** **18 21 41.2 -1.4**
RND IAmb IAmb 18 21 51.1
comp=Z,14nm,1.0s
MCK McKinley 78.43 24 P P 18 21 41.6 -1.5
MCK IAmb IAmb 18 21 51.8
comp=Z,26nm,1.4s
GAR Garm 78.55 310 P **P** **18 21 43.1 -1.3**
GAR IAmb IAmb 18 21 45.2
comp=Z,18nm,1.3s
VNDA Vanda 78.66 177 P **P** **18 21 43.7 -0.3**
comp=Z,1.3nm,0.9s,baz=312,slow=6.3,SNR=5.9
VNDA LR LR 18 57 03.0
comp=Z,50nm,18.5s,baz=342,slow=36
VNDA Vanda 78.66 177 IAmb IAmb 18 21 49.5
comp=Z,8.9nm,1.6s
I23K Minto, Yukon-K 78.81 23 P **P** **18 21 44.5 -0.6**
I23K IAmb IAmb 18 21 59.6
comp=Z,13nm,1.4s
DHY Denali Highway 78.84 25 P **P** **18 21 44.4 -1.1**
DHY IAmb IAmb 18 21 54.8
comp=Z,11nm,0.8s
DIV Divide 78.88 27 P **P** **18 21 45.4 -0.3**
DIV IAmb IAmb 18 21 54.7
comp=Z,16nm,0.9s
KKAR Karatay Array 79.03 314 P P 18 21 44.5 -2.3
WRH Wood River Hil 79.05 24 P P 18 21 44.7 -1.7
WRH IAmb IAmb 18 22 00.6
comp=Z,11nm,1.2s
CCB Clear Creek Bu 79.23 24 P P 18 21 45.3 -2.1
CCB IAmb IAmb 18 21 54.5
comp=Z,25nm,1.7s
COLD Coldfoot 79.34 21 P **P** **18 21 47.1 -0.9**
CHGR Chuyangaron 79.40 309 P P 18 21 46.4 -2.6
CHGR IAmb IAmb 18 21 58.0
comp=Z,15nm,0.8s
H24K Noodor Dome 79.65 22 P **P** **18 21 48.8 -0.9**
IL31 79.65 24 P P 18 21 46.8 -2.8
ILAR Eielson Array 79.65 24 P P 18 21 47.3 -2.4
comp=Z,2.3nm,0.6s,baz=251,slow=5.3,SNR=25
ILAR LR LR 18 54 49.2
comp=Z,79nm,18.9s,baz=260,slow=34
ILAR Eielson Array 79.65 24 P P 18 21 46.8 -2.8
TOLK Toolik Lake Re 80.14 20 P **P** **18 21 51.7 -0.6**
TOLK IAmb IAmb 18 22 06.8
comp=Z,24nm,1.6s
J25K Salcha River, 80.20 24 P P 18 21 51.1 -1.7
J25K IAmb IAmb 18 22 01.4
comp=Z,22nm,1.4s
DOT Dot Lake 80.44 25 P **P** **18 21 53.7 -0.4**
DOT IAmb IAmb 18 22 02.7
comp=Z,22nm,1.4s
L26K Log Cabin Wild 80.56 26 P **P** **18 21 54.0 -0.6**
L26K IAmb IAmb 18 22 03.6
comp=Z,19nm,1.4s
BRVK Borovoye 80.94 324 P P 18 21 53.9 -3.0
BRVK IAmb IAmb 18 22 21.8
comp=Z,21nm,1.8s
L27K Beaver Creek, 81.23 26 P **P** **18 21 57.5 -0.8**
BCAR Beaver Creek A 81.25 26 P **P** **18 21 57.5 -1.0**
DAWY Dawson 82.54 25 P **P** **18 22 03.9 -1.3**
DAWY IAmb IAmb 18 22 15.1
comp=Z,16nm,1.4s
HRA Herat 84.56 304 P P 18 22 13.3 -3.2
INK Inuvik 85.71 22 P **P** **18 22 20.1 -1.0**
comp=Z,2.3nm,1.0s,baz=258,slow=4.5,SNR=3.2
INK LR LR 19 01 20.7
comp=Z,64nm,18.2s,baz=262,slow=36
INK Inuvik 85.71 22 P **P** **18 22 20.0 -1.0**
INK IAmb IAmb 18 22 30.2
comp=Z,11nm,1.2s
DLBC Dease Lake 86.10 32 LR LR 18 54 28.3
comp=Z,91nm,19.6s,baz=180,slow=31
WSAR Wadi Sarin 87.45 293 LR LR 19 01 29.6
comp=Z,26nm,21.7s,baz=82,slow=36
ARU Arti 88.05 326 LR LR 19 01 31.2
comp=Z,70nm,21.9s,baz=83,slow=35
MAW Mawson 88.13 202 LR LR 18 57 28.2
comp=Z,89nm,21.4s,baz=69,slow=32
AKTO Aktyubinsk 88.25 320 LR LR 19 01 50.5
comp=Z,41nm,21.1s,baz=50,slow=36
YBH Yreka Blue Hor 90.34 48 LR LR 18 55 10.6
comp=Z,86nm,20.7s,baz=288,slow=30
QSPA South Pole Qui 90.68 180 LR LR 19 04 24.0
comp=Z,70nm,18.4s,baz=5.5,slow=36
KIRV Kirov 92.89 329 LR LR 19 07 35.6
comp=Z,59nm,20.3s,baz=63,slow=37
YKA Yellowknife Ar 93.60 27 P **P** **18 22 57.8 -0.7**
comp=Z,0.6nm,0.8s,baz=277,slow=5.2,SNR=8.9
YKA LR LR 18 59 19.1
comp=Z,91nm,20.8s,baz=316,slow=32
NVAR Mina Array Bea 93.87 52 P **P** **18 23 01.1 +0.4**
comp=Z,0.5nm,0.7s,baz=256,slow=7.0,SNR=2.7
NVAR LR LR 18 58 09.2
comp=Z,50nm,19.8s,baz=241,slow=31
BMO Blue Mountains 94.10 45 P **P** **18 23 01.3 -0.1**
PFO Pinyon Flats O 95.72 56 LR LR 19 00 47.8
comp=Z,70nm,18.6s,baz=1.5,slow=32
ELK Elko 96.02 49 LR LR 18 59 12.9
comp=Z,75nm,20.7s,baz=259,slow=31
HLID Hailey 96.31 46 P **P** **18 23 11.1 -0.5**
HLID IAmb IAmb 18 23 20.4
comp=Z,4.3nm,1.1s
SYO Syowa Base 96.61 200 ⇓*eP* **P** **18 23 10.6 -1.5**
RES Resolute Bay 96.66 14 LR LR 19 02 59.7
comp=Z,62nm,20.1s,baz=16,slow=33
SPITS Spitsbergen Ar 96.84 351 LR LR 19 09 30.7
comp=Z,40nm,18.1s,baz=335,slow=37
PDAR Pinedale Array 99.94 46 LR LR 19 02 48.6
comp=Z,43nm,19.2s,baz=359,slow=32
SDV Santo Domingo 142.10 75 PKP **PKPdf** **18 29 14.0 -2.1**
comp=Z,1.7nm,0.6s,baz=308,slow=12,SNR=1.8
TORD Torodi Ar. Bea 142.17 293 PKhKP PKPpre 18 29 10.5
comp=Z,0.2nm,0.7s,baz=98,slow=3.8,SNR=1.7
LPAZ La Paz 142.83 116 PKP **PKPdf** **18 29 17.7 -0.2**
comp=Z,0.6nm,0.5s,baz=293,slow=7.7,SNR=2.0
CPUP Villa Florida 145.96 140 PKPbc **PKPdf** **18 29 22.7 +0.4**
comp=Z,1.8nm,0.8s,baz=180,slow=5.1,SNR=3.8
CPUP Villa Florida 145.96 140 **PKPdf** **18 29 22.1 -0.2**
SIV San Ignacio 149.16 121 PKPbc **PKPdf** **18 29 32.0 +4.1**
comp=Z,0.8nm,0.4s,baz=245,slow=6.0,SNR=2.4
DBIC Dimbokro 150.16 285 PKPbc **PKPdf** **18 29 34.5 +4.9**
comp=Z,5.5nm,1.0s,baz=85,slow=1.1,SNR=2.0
DBIC PKPab **sPKPbc** **18 29 41.1 +3.9**
comp=Z,8.3nm,1.0s,baz=81,slow=5.8,SNR=3.1

*RSPR **05** 18:13:52.7, 19°.37N×64°.88W, h14km±6km, MD3.6/14*
*NEIC **05** 18:13:52.4±1.6, 19°.23N±0°.03×64°.90W±0°.05, h22km±8km,*
Error ellipse: s-maj=6.5km s-min=4.8km az=89.0
ISC 05 18:13:50.4±1.3, 19°.34N±0°.07×64°.89W±0°.03, h23km, n74,
σ1§81/90, 10C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.95**	**164**	*eP*		**Pn**	**18 14 09.0**	**+0.5**
TBVI	**Tortola**	**0.95**	**164**	*eS*		**Sn**	**18 14 21.2**	**-0.1**
STVI	**Saint Thomas**	**0.99**	**184**	⇓*eP*		**Pb**	**18 14 09.1**	**+0.2**
STVI	**Saint Thomas**	**0.99**	**184**	*eS*		**Sb**	**18 14 20.6**	**-0.9**
STVI	**Saint Thomas**	**0.99**	**184**			**Pb**	**18 14 09.1**	**+0.2**
STVI						**Sb**	**18 14 20.6**	**-0.9**
CUPR	**Culebra, Puert**	**1.09**	**200**	⇓*eP*		**Pn**	**18 14 10.4**	**0.0**
CUPR	**Culebra, Puert**	**1.09**	**200**	*eS*		**Sb**	**18 14 23.0**	**-1.5**
CUPR	**Culebra, Puert**	**1.09**	**200**			**Pn**	**18 14 10.4**	**0.0**
CUPR						**Sb**	**18 14 23.0**	**-1.5**
CBYP	**Canovanas**	**1.40**	**221**	⇑*eP*		**Pn**	**18 14 14.9**	**+0.2**
CBYP	**Canovanas**	**1.40**	**221**			**Pn**	**18 14 14.9**	**+0.2**
CDVI	**St. Croix**	**1.58**	**176**	⇑*eP*		**Pb**	**18 14 18.3**	**-0.8**
CDVI	**St. Croix**	**1.58**	**176**			**Pb**	**18 14 18.3**	**-0.8**
CDVI						**Sb**	**18 14 38.0**	**-0.7**
CDVI	**St. Croix**	**1.58**	**176**	*eP*		**Pb**	**18 14 19.5**	**+0.5**
CDVI				*eS*		**Sb**	**18 14 38.7**	**0.0**
SJG	**San Juan**	**1.71**	**225**			**Pn**	**18 14 19.1**	**+0.3**
SJG					IAML		18 14 41.8	
	518nm,0.7s							
SJG					IAML		18 14 42.0	
	541nm,0.5s							
EMPR	**Esperanza - Ma**	**1.77**	**241**	⇑*eP*		**Pn**	**18 14 20.3**	**+0.6**
EMPR	**Esperanza - Ma**	**1.77**	**241**	*eS*		**Sn**	**18 14 42.1**	**+0.5**
EMPR	**Esperanza - Ma**	**1.77**	**241**			**Pn**	**18 14 20.3**	**+0.6**
EMPR						**Sn**	**18 14 42.1**	**+0.5**
IGPR	**InterUniversit**	**1.79**	**220**	⇑*eP*		**Pn**	**18 14 21.0**	**+1.0**
IGPR	**InterUniversit**	**1.79**	**220**	*eS*		**Sn**	**18 14 41.5**	**-0.5**
IGPR	**InterUniversit**	**1.79**	**220**			**Sn**	**18 14 41.5**	**-0.5**
AOPR	**Arecibo Observ**	**2.02**	**241**	⇑*eP*		**Pn**	**18 14 24.2**	**+1.0**
AOPR	**Arecibo Observ**	**2.02**	**241**	*eS*		**Sn**	**18 14 48.5**	**+0.7**
AOPR	**Arecibo Observ**	**2.02**	**241**			**Pn**	**18 14 24.2**	**+1.0**
AOPR						**Sn**	**18 14 48.5**	**+0.7**
AOPR	**Arecibo Observ**	**2.02**	**241**	*eP*		**Pn**	**18 14 24.2**	**+1.0**
AOPR				*eS*		**Sn**	**18 14 49.6**	**+1.8**
CELP	**Cerrillos**	**2.04**	**232**	⇓*eP*		**Pn**	**18 14 24.4**	**+1.1**
CELP	**Cerrillos**	**2.04**	**232**	*eS*		**Sn**	**18 14 49.4**	**+1.2**
CELP	**Cerrillos**	**2.04**	**232**			**Pn**	**18 14 24.4**	**+1.1**
CELP						**Sn**	**18 14 49.4**	**+1.2**
UUPR	**Utuado, UPR, P**	**2.04**	**238**	⇑*eP*		**Pn**	**18 14 24.5**	**+1.1**
UUPR	**Utuado, UPR, P**	**2.04**	**238**	*eS*		**Sn**	**18 14 49.3**	**+1.0**
UUPR	**Utuado, UPR, P**	**2.04**	**238**			**Pn**	**18 14 24.5**	**+1.1**
UUPR						**Sn**	**18 14 49.3**	**+1.0**
OBIP	**Obispado Ponce**	**2.08**	**232**	⇑*eP*		**Pn**	**18 14 24.5**	**+0.6**
OBIP	**Obispado Ponce**	**2.08**	**232**	*eS*		**Sn**	**18 14 50.1**	**+1.1**
OBIP	**Obispado Ponce**	**2.08**	**232**			**Pn**	**18 14 24.5**	**+0.6**
OBIP						**Sn**	**18 14 50.1**	**+1.1**
SMRT	**St. Maarten**	**2.15**	**126**			**Pb**	**18 14 26.7**	**-1.9**
SMRT					IAML		18 15 00.9	
	comp=E,575nm,0.3s							
SMRT					IAML		18 15 04.0	
	comp=N,593nm,0.4s							
SMRT	**St. Maarten**	**2.15**	**126**	*eP*		**Pb**	**18 14 28.3**	**-0.3**
SMRT				*eS*		**Sb**	**18 14 56.2**	**+1.3**
AGPR	**Aguadilla, PR**	**2.28**	**248**	⇑*eP*		**Pn**	**18 14 27.9**	**+1.3**
AGPR	**Aguadilla, PR**	**2.28**	**248**	*eS*		**Sn**	**18 14 54.6**	**+0.6**
AGPR	**Aguadilla, PR**	**2.28**	**248**			**Pn**	**18 14 27.9**	**+1.3**
AGPR						**Sn**	**18 14 54.6**	**+0.6**
MLPR	**Magueyes Islan**	**2.46**	**237**	⇓*eP*		**Pn**	**18 14 30.3**	**+1.2**
MLPR	**Magueyes Islan**	**2.46**	**237**	*eS*		**Sn**	**18 14 59.2**	**+0.8**
MLPR	**Magueyes Islan**	**2.46**	**237**			**Pn**	**18 14 30.3**	**+1.2**
MLPR						**Sn**	**18 14 59.2**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.49**	**238**	⇑*eP*		**Pn**	**18 14 30.9**	**+1.3**
CRPR	**Cabo Rojo, PR**	**2.49**	**238**	*eS*		**Sn**	**18 14 59.9**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.49**	**238**			**Pn**	**18 14 30.9**	**+1.3**
CRPR						**Sn**	**18 14 59.9**	**+0.7**
SEUS	**St. Eustatius**	**2.58**	**135**	Pn		**Pn**	**18 14 29.8**	**-1.0**
SEUS					IAML		18 15 15.2	
	comp=E,418nm,0.1s							
SEUS					IAML		18 15 21.4	
	comp=N,671nm,0.1s							
IDE	**Isla Desecheo**	**2.63**	**249**	⇓*eP*		**Pn**	**18 14 32.4**	**+0.9**
IDE	**Isla Desecheo**	**2.63**	**249**	*eS*		**Sn**	**18 15 03.3**	**+0.6**
ANWB	**Willy Bob**	**3.38**	**119**	Pn		**Pn**	**18 14 42.5**	**+0.7**
ANWB	**Willy Bob**	**3.38**	**119**	*eP*		**Pn**	**18 14 44.5**	**+2.6**
ANWB				*eS*		**Sn**	**18 15 23.4**	**+2.1**
MBFL	**Flemmings, Mon**	**3.62**	**135**	*eP*		**Pb**	**18 14 50.4**	**-3.4**
MBFL	**Flemmings, Mon**	**3.62**	**135**	*eS*		**Sb**	**18 15 35.6**	**-1.9**
MLYT	**Lee's Yard**	**3.66**	**135**	*eP*		**Pn**	**18 14 48.8**	**+3.1**
MLYT	**Lee's Yard**	**3.66**	**135**	*eS*		**Sb**	**18 15 35.9**	**-2.5**
ANBD	**Bethesda, Anti**	**3.75**	**127**	*eP*		**Pn**	**18 14 48.4**	**+1.5**
ANBD				*eS*		**Sn**	**18 15 31.5**	**+1.2**
GDHS	**Morne Mazeau,**	**4.26**	**135**	Pn		**Pn**	**18 14 56.4**	**+2.4**
DR12	**Loma Pena Alta**	**4.28**	**263**			**Pn**	**18 14 55.8**	**+1.5**
ABD	**La Joyeuse, An**	**4.32**	**131**	Pn		**Pn**	**18 14 56.4**	**+1.7**
ABD	**La Joyeuse, An**	**4.32**	**131**	*eP*		**Pn**	**18 14 56.0**	**+1.3**
ABD	**La Joyeuse, An**	**4.32**	**131**	*eS*		**Sb**	**18 15 50.5**	**-6.8**
CBE	**Ff, Capester**	**4.51**	**136**	Pn		**Pn**	**18 15 00.9**	**+3.4**
CBE	**Ff, Capester**	**4.51**	**136**	*eP*		**Pn**	**18 15 01.2**	**+3.7**
CBE	**Ff, Capester**	**4.51**	**136**	*eS*		**Sn**	**18 15 55.0**	**+5.7**
TDBA	**Terre de Bas,**	**4.66**	**138**	Pn		**Pn**	**18 14 59.5**	**+0.1**
GDSD	**La Dsirade Is**	**4.73**	**129**	Pn		**Pn**	**18 15 00.9**	**+0.5**
MAGL	**Barre de l'ile**	**4.82**	**134**	Pn		**Pn**	**18 15 03.3**	**+1.7**
MAGL	**Barre de l'ile**	**4.82**	**134**	*eP*		**Pn**	**18 15 05.8**	**+4.2**
MAGL	**Barre de l'ile**	**4.82**	**134**	*eS*		**Sn**	**18 16 01.4**	**+4.6**
DSLB	**Salisbury**	**5.10**	**139**	*eP*		**Pn**	**18 15 07.9**	**+2.3**
DSLB	**Salisbury**	**5.10**	**139**	*eS*		**Sn**	**18 16 05.1**	**+1.3**
BANI	**BANI**	**5.26**	**261**	Pn		**Pn**	**18 15 10.4**	**+2.6**
SDDR	**Presa de Saban**	**6.06**	**268**			**Pn**	**18 15 21.1**	**+2.4**
GRTK	**Grand Turk**	**6.24**	**291**	Pn		**Pn**	**18 15 20.7**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIRV	Birongo	8.91	189	Pn	Pn	18 15 55.6	-2.3
SDV	Santo Domingo	11.79	209	Pn	Pn	18 16 38.9	+1.4

IDC 05 18:25:05.8±2.5, 4°.08N×126°.29E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/43, mbtmp3.2/3, 1C, Error ellipse: s-maj=211.2km s-min=29.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCP	Roxas	8.22	335⇑	eP	Pn	18 27 05.2	-1.3
WRA	Warramunga Arr	25.14	162	P	P	18 30 32.6	-0.2
	0.3nm,0.4s,baz=341,slow=11,SNR=5.5						
ASAR	Alice Springs	28.56	165	P	P	18 31 03.7	+0.1
	0.5nm,1.1s,baz=347,slow=8.2,SNR=1.4						
MKAR	Makanchi Array	57.02	325	P	P	18 34 53.6	+0.1
	0.1nm,0.4s,baz=124,slow=7.8,SNR=1.9						

TUL 05 18:26:19±1.1, 36°.348N±0°.010×97°.38W±0°.01, h6km±7km, ML2.4, mb_Lg2.3/10(NEIC), Error ellipse: s-maj=1.7km s-min=0.6km az=219.0

NEIC 05 18:26:19.0±1.1, 36°.34N±0°.01×97°.39W±0°.02, h8km±7km, Error ellipse: s-maj=1.9km s-min=1.5km az=65.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T35A	Sooner Cattle	0.91	51	Pg	Pg	18 26 36.1	-0.4
FNO	Franklin	1.08	180	Pg	Pg	18 26 39.4	-0.4
W35A	Tecumseh	1.26	160		Pn	18 26 42.0	-0.9
U32A	Winter Ranch,	1.30	272		Pn	18 26 42.8	-0.7
TUL1	Leonard	1.37	108	Pn	Pn	18 26 43.3	-1.1
TUL1				IAmb_Lg		18 27 01.6	
	comp=Z,11nm,1.1s						
X34A	Smith Ranch, M	1.78	192	Pn	Pn	18 26 49.8	-0.2
X34A				IAmb_Lg		18 27 14.3	
	comp=Z,14nm,1.3s						
WMOK	Wichita Mounta	1.96	216	Pn	Pn	18 26 52.8	+0.2
X37A	Clayton	2.41	136	Pn	Pn	18 26 60.0	+1.3
X37A				IAmb_Lg		18 27 37.1	
	comp=Z,8.4nm,0.9s						
HHAR	Hobbs	2.79	90	Pn	Pn	18 27 04.6	+0.7
W39A	Magazine	3.15	110	Pn	Pn	18 27 08.8	-0.1
S39A	Bolivar	3.52	66		Pn	18 27 15.5	+1.4
U40A	Yellville	3.66	88	Pn	Pn	18 27 16.9	+0.9
X40A	Basin Creek Fa	4.16	115	Pn	Pn	18 27 22.2	-0.5
WHAR	Wooly Hollow	4.28	103	Pn	Pn	18 27 24.3	-0.1
FCAR	Ozark Folk Cen	4.29	95	Pn	Pn	18 27 25.0	+0.4
W41B	Gary Mavity, V	4.34	104	Pn	Pn	18 27 24.7	-0.6
P38A	Dawn	4.47	42	Pn	Pn	18 27 27.0	-0.1
R40A	Maddies Statio	4.52	63	Pn	Pn	18 27 27.9	+0.1
CCM	Cathedral Cave	5.20	69	Pn	Pn	18 27 36.1	-0.9
PHWY	Pilot Hill	8.01	311	IAmb_Lg		18 30 45.7	
	comp=Z,16nm,1.0s						

IDC 05 18:43:11.3±938.0, 52°.40N×32°.72E, h0km, Error ellipse: s-maj=380.7km s-min=105.5km az=34.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	5.06	29	*i*		19 11 50.0	
	baz=212,slow=333,SNR=2.2						
I31KZ	AKTYUBINSK INF	15.90	87	*i*		20 18 50.0	
	baz=286,slow=328,SNR=1.3						
I46RU	ZALESOVO INFRA	30.69	66	*i*		21 55 10.0	
	baz=289,slow=330,SNR=0.5						

IDC 05 18:53:56.3±912.0, 52°.65N×32°.90E, h0km, Error ellipse: s-maj=368.7km s-min=99.7km az=34.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	4.79	30	*i*		19 22 00.0	
	baz=213,slow=330,SNR=1.5						
I31KZ	AKTYUBINSK INF	15.78	88	*i*		20 29 30.0	
	baz=287,slow=328,SNR=1.3						
I46RU	ZALESOVO INFRA	30.49	66	*i*		22 03 40.0	
	baz=292,slow=325,SNR=1.6						

NEIC 05 19:11:18.8±3.0, 22°.75S±0°.05×68°.11W±0°.09, h109km±7km, mb4.2/6, ML4.0(GUC), Error ellipse: s-maj=12.9km s-min=7.2km az=103.0

IDC 05 19:11:19.7±1.2, 22°.68S×68°.01W, h104km±14km, mb3.9/4, mb1 3.9/7, mb1mx3.5/40, mbtmp4.2/7, Error ellipse: s-maj=34.0km s-min=22.7km az=136.0

VAO 05 19:11:19.0±0.5, 22°.83S×68°.79W, h160km, mb4.0

GUC 05 19:11:21.3±0.8, 22°.68S×68°.26W, h108km±4km, ML4.0

ISC 05 19:11:19.3±0.6, 22°.68S±0°.03×68°.35W±0°.06, h127km±6km, n95, σ1s63/124, mb4.3/4, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	0.52	278	P	Pn	19 11 39.1	+0.4
	563nm,0.3s,baz=96,slow=8.7,SNR=6068						
LVC				S	Sn	19 11 51.0	-2.2
	409nm,0.3s,baz=210,slow=22,SNR=86						
LVC				LR	LR	19 12 12.4	
	comp=Z,141nm,21.1s,baz=182,slow=63						
LVC	Limon Verde	0.52	278		Pn	19 11 39.1	+0.4
LVC				Sn	Sn	19 11 52.5	-0.7
LVC	Limon Verde	0.52	278	eP	Pn	19 11 38.5	-0.2
LVC				eS	Sn	19 11 52.5	-0.7
PB06	IPOC Station P	1.13	268		Pn	19 11 44.8	+1.3
PB06				Sn	Sn	19 12 03.0	+1.3
PB06	IPOC Station P	1.13	268	eP	Pn	19 11 44.5	+1.0
PB06				eS	Sn	19 12 02.8	+1.1
PB06				IAML		19 12 06.2	
	comp=N,3μm,0.2s						
PB15	IPOC Station P	1.16	243		Pn	19 11 45.4	+1.5
PB15					Sn	19 12 04.9	+2.5
PB15	IPOC Station P	1.16	243⇑	eP	Pn	19 11 45.4	+1.5
PB15				eS	Sn	19 12 03.8	+1.4
PB09	IPOC Station P	1.21	317		Pn	19 11 45.1	+0.9
PB09				Sn	Sn	19 12 04.3	+1.2
PB09	IPOC Station P	1.21	317⇓	eP	Pn	19 11 45.4	+1.2
PB09				eS	Sn	19 12 04.1	+0.9
PB09				IAML		19 12 05.3	
	comp=E,1μm,0.5s						
PB04	IPOC Station P	1.70	281		Pn	19 11 50.6	+0.9
PB04				Sn	Sn	19 12 14.3	+1.4
PB04	IPOC Station P	1.70	281	eP	Pn	19 11 50.6	+0.9
PB04				*i* S	Sn	19 12 14.2	+1.3
PB04				IAML		19 12 19.6	
	comp=N,2μm,0.2s						
PB07	IPOC Station P	1.71	303		Pn	19 11 50.5	+0.6
PB07				Sn	Sn	19 12 13.6	+0.4
PB07	IPOC Station P	1.71	303	eP	Pn	19 11 51.0	+1.1
PB07				eS	Sn	19 12 13.7	+0.5
PB07				IAML		19 12 15.6	
	comp=E,2μm,0.2s						
PB01	IPOC Station P	1.94	327		Pn	19 11 53.6	+1.0
PB01				Sn	Sn	19 12 18.6	+0.7
PB01	IPOC Station P	1.94	327	eP	Pn	19 11 53.8	+1.2
PB01				eS	Sn	19 12 18.5	+0.5
PB01				IAML		19 12 22.4	
	comp=E,817nm,0.2s						
PB02	IPOC Station P	1.97	313		Pn	19 11 53.4	+0.4
PB02				Sn	Sn	19 12 18.4	-0.3
PB02	IPOC Station P	1.97	313⇑	eP	Pn	19 11 54.2	+1.2
PB02				eS	Sn	19 12 19.8	+1.1
PB02				IAML		19 12 23.1	
	comp=E,1μm,0.5s						
PB10	IPOC Station P	2.19	247	Pn	Pn	19 11 56.6	+1.0
PB10	IPOC Station P	2.19	247⇑	eP	Pn	19 11 56.8	+1.2
PB10				eS	Sn	19 12 24.6	+1.2
PB10				IAML		19 12 34.1	
	comp=E,483nm,0.4s						
PATCX	Punta Patache	2.50	317		Pn	19 12 00.1	+0.6
PATCX				Sn	Sn	19 12 28.7	-1.6
PATCX	Punta Patache	2.50	317	eP	Pn	19 12 00.1	+0.6
PATCX				eS	Sn	19 12 29.6	-0.7
PATCX				IAML		19 12 36.6	
	comp=N,712nm,0.5s						
PB08	IPOC Station P	2.64	343		Pn	19 12 00.6	-1.0
PB08				Sn	Sn	19 12 33.8	-0.2
PB08	IPOC Station P	2.64	343	eP	Pn	19 12 02.8	+1.3
PB08				eS	Sn	19 12 35.6	+1.6
PB08				IAML		19 12 38.4	
	comp=E,377nm,0.3s						
PB14	IPOC Station P	2.70	224	Pn	Pn	19 12 03.5	+1.2
PB14				Sn	Sn	19 12 33.9	-1.5
TA01	Diego Aracena	2.71	321	Pn	Pn	19 12 02.9	+0.8
TA01				Sn	Sn	19 12 34.8	-0.3
TA01	Diego Aracena	2.71	321⇑	eP	Pn	19 12 02.9	+0.8
TA01				eS	Sn	19 12 35.4	+0.4
TA01				IAML		19 12 42.9	
	comp=E,429nm,0.6s						
GO02	Mina Guanaco	2.72	204		Pn	19 12 03.9	+1.4
GO02	Mina Guanaco	2.72	204⇑	eP	Pn	19 12 04.2	+1.6
GO02				eS	Sn	19 12 37.2	+1.4
GO02				IAML		19 12 39.9	
	comp=N,764nm,0.1s						
GO02				IAML		19 12 42.6	
	comp=E,856nm,0.4s						
HMBC	Humberstone	2.79	329	eP	Pn	19 12 03.6	+0.3
HMBC				eS	Sn	19 12 35.3	-1.7
HMBC				IAML		19 12 44.4	
	comp=N,474nm,0.4s						
TA02	Huaiquique	2.92	325		Pn	19 12 06.4	+1.6
TA02				Sn	Sn	19 12 40.1	+0.3
GO01	Chusmiza	3.10	345		Pn	19 12 08.9	+1.2
GO01	Chusmiza	3.10	345	eP	Pn	19 12 09.0	+1.4
GO01				eS	Sn	19 12 45.6	+0.7
GO01				IAML		19 12 52.3	
	comp=E,394nm,0.1s						
PB11	IPOC Station P	3.15	337		Pn	19 12 08.3	+0.3
PB11	IPOC Station P	3.15	337	eP	Pn	19 12 08.5	+0.5
PB11				eS	Sn	19 12 46.3	+0.7
PB11				IAML		19 12 53.2	
	comp=E,269nm,0.2s						
AC01	Pan de Azucar	4.02	210	Pn	Pn	19 12 19.5	+0.3
AC01	Pan de Azucar	4.02	210	eP	Pn	19 12 19.6	+0.4
AC01				eS	Sn	19 13 05.0	-0.7
AC02	Maricunga	4.20	190	Pn	Pn	19 12 23.8	+1.7
PB12	IPOC Station P	4.45	335	Pn	Pn	19 12 25.7	+0.5
PB16	IPOC Station P	4.46	346	Pn	Pn	19 12 26.5	+0.8
AP01	Chacalluta	4.68	336	Pn	Pn	19 12 30.6	+2.5
AC06	Mina Casimiro	5.00	201		Pn	19 12 31.0	-1.4
GO03	Copiap	5.18	199		Pn	19 12 34.2	-0.6
AC04	Llanos de Chal	6.03	204	Pn	Pn	19 12 44.2	-2.0
LPAZ	La Paz	6.36	2	P	Pn	19 12 53.0	+1.7
	comp=E,1.8nm,0.3s,baz=192,slow=8.0,SNR=44						
LPAZ				S	Sn	19 13 58.7	-4.4
	comp=E,0.4nm,0.3s,baz=222,slow=11,SNR=1.6						
LPAZ	La Paz	6.36	2	Pn	Pn	19 12 52.6	+1.3
LPAZ	La Paz	6.36	2	eP	Pn	19 12 53.1	+1.7
LCO	Las Campanas	6.65	198		Pn	19 12 52.5	-2.3
CO01	Juntas del Tor	7.43	192	Pn	Pn	19 13 04.2	-1.2
GO04	Tololo Observa	7.78	196	Pn	Pn	19 13 07.4	-2.6
CO06	Fray Jorge	8.49	200	Pn	Pn	19 13 14.7	-4.6
CO02	Combarbal	8.81	195	Pn	Pn	19 13 19.9	-4.0
SIV	San Ignacio	9.56	47	P	Pn	19 13 30.8	-3.1
	comp=E,15nm,0.3s,baz=233,slow=12,SNR=176						
SIV				S	Sn	19 15 09.3	-10
	comp=E,0.7nm,0.3s,baz=129,slow=20,SNR=1.5						
ROC1	El Roble	10.52	192	Pn	Pn	19 13 48.2	+1.3
VA01	Torpederas	10.71	195	Pn	Pn	19 13 49.1	-0.1
MT02	Curacav	10.82	193	Pn	Pn	19 13 45.2	-5.5
AQDB	Aquidauana	11.97	82	Pn	Pn	19 14 05.5	-0.5
AQDB	Aquidauana	11.97	82	eP	Pn	19 14 09.4	+3.4
BO02	Sierra Bellavi	12.26	189	Pn	Pn	19 14 07.5	-2.2
PP1B	Ponte de Pedra	13.62	71	eP	Pn	19 14 30.2	+2.8
PTGB	Pitanga	15.05	101	eP	Pn	19 14 47.5	+1.9
ITAB	Concordia	15.39	110	eP	Pn	19 14 50.4	+0.7
CPSB	Cacapava Do Su	15.39	123	eP	Pn	19 14 49.9	+0.2
PDRB	Porto dos Gac	15.62	47	eP	Pn	19 14 54.0	+1.3
PCMB	Pacaembu	15.87	89	eP	P	19 14 58.6	+1.8
PLTB	Pedras Altas	15.92	128	Pn	Pn	19 14 50.8	-5.4
PLTB				IAmb	IAmb	19 15 06.5	
	comp=Z,20nm,1.5s						
LC01	Cunco	16.45	190	Pn	Pn	19 14 58.3	-4.4
CLDB	Colider	16.79	48	eP	Pn	19 15 08.8	+1.8
ITRB	Iturama	17.04	83	eP	Pn	19 15 11.0	+1.0
FRTB	Fartura	17.31	96	eP	Pn	19 15 14.5	+1.2
PLCA	Paso Flores	18.09	185	P	Pn	19 15 24.7	+2.1
	comp=Z,0.2nm,0.3s,baz=352,slow=13,SNR=3.8						
PLCA	Paso Flores	18.09	185	P	P	19 15 19.7	-1.6
PLCA				IAmb	IAmb	19 15 20.5	
	comp=Z,12nm,1.6s						
PLCA	Paso Flores	18.09	185	eP	P	19 15 16.1	-5.2
BB19B	Bebedouro	18.47	89	eP	P	19 15 26.4	+0.8
PET01	Itanhaem-SP	19.39	99	eP	P	19 15 36.0	+0.4
IPMB	Ipameri, GO	19.45	80	eP	P	19 15 36.5	+0.3
VAO	Valinhos	19.71	95	eP	P	19 15 39.1	+0.1
BDFB	Brasilia	20.43	74	P	P	19 15 46.2	-0.6
	comp=Z,1.7nm,0.4s,baz=194,slow=8.3,SNR=2.3						
BDFB	Brasilia	20.43	74	eP	P	19 15 47.7	+0.8
PARB	Paraibuna	20.93	96	eP	P	19 15 53.0	+0.8
PEXB	Peixe	21.80	65	eP	P	19 16 00.5	-0.9
AY01	Puyuhuapi	21.97	188	P	P	19 16 01.0	-1.9
AY01				IAmb	IAmb	19 16 25.4	
	comp=Z,22nm,1.4s						
VAS01	Vassouras-RJ	23.01	94	eP	P	19 16 13.0	-0.4
DIAM	Diamantina, MG	23.51	84	eP	P	19 16 17.7	-0.5
JANB	Januaria	23.95	76	eP	P	19 16 21.7	-0.4
PRPB	Parauapebas	24.27	50	eP	P	19 16 24.5	-0.4
SDBA	SAO DESIDERIO	24.54	69	eP	P	19 16 27.8	+0.3
MALB	Monte Alegre	24.81	35	eP	P	19 16 29.5	-0.4
OTAV	Otavalo	24.81	335	eP	P	19 16 26.0	-4.3
BOAV	Boa Vista	26.07	18	eP	P	19 16 39.5	-1.7
DBIC	Dimbokro	68.58	73	P	P	19 22 09.9	+1.0
	comp=Z,6.1nm,0.8s,baz=249,slow=7.2,SNR=6.2						
TORD	Torodi Ar. Bea	77.27	70	P	P	19 23 01.3	+1.2
	comp=Z,2.6nm,0.5s,baz=253,slow=5.4,SNR=55						
TORD	Torodi Ar. Bea	77.27	70	P	P	19 23 01.4	+1.2
TORD				IAmb	IAmb	19 23 02.9	
	comp=Z,7.9nm,1.4s						
YKA	Yellowknife Ar	92.47	340	P	P	19 24 18.1	+2.8
	comp=Z,0.3nm,0.5s,baz=132,slow=4.8,SNR=6.3						
WRA	Warramunga Arr	132.19	209	PKP	PKiKP	19 30 22.2	+2.1
	comp=Z,0.2nm,0.5s,baz=146,slow=1.6,SNR=1.6						
MKAR	Makanchi Array	146.26	37	PKPbc	PKiKP	19 30 47.7	-0.3
	comp=Z,0.6nm,0.8s,baz=314,slow=4.1,SNR=7.9						

TUL 05 19:12:14.3±1.1, 35°.94N±0°.01×96°.752W±0°.008, h4km±3km, ML3.0, mb_Lg2.6/37(NEIC), Error ellipse: s-maj=1.7km s-min=0.7km az=194.0

ANF 05 19:12:14.6±0.2, 35°.97N×96°.74W, h4km, ML3.0/8, Error ellipse: s-maj=2.4km s-min=1.9km az=23.0

NEIC 05 19:12:14.5±1.1, 35°.96N±0°.01×96°.76W±0°.01, h8km±2km, Error ellipse: s-maj=1.8km s-min=1.6km az=161.0

ISC 05 19:12:14.4±1.2, 35°.95N±0°.03×96°.76W±0°.02, h3km±14km, n41, σ0s67/41, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.46	230	Pg	Pg	19 12 23.4	+0.2
OK005				Sg	Sg	19 12 30.1	+1.0
OK001	Jones High Sch	0.58	228	Pg	Pg	19 12 25.3	-0.2
OK001				Sg	Sg	19 12 33.9	+0.9
TUL1	Leonard	0.79	92		Pg	19 12 29.4	-0.2
TUL1				Sg	Sg	19 12 39.7	0.0
TUL1	Leonard	0.79	92	P	Pg	19 12 29.3	-0.2
	baz=272						
TUL1				S	Sg	19 12 39.7	0.0
	baz=272						
W35A	Tecumseh	0.80	187	Pg	Pg	19 12 29.3	-0.4
W35A				Sg	Sg	19 12 40.1	0.0
FNO	Franklin	0.86	217		Pg	19 12 30.7	-0.3
FNO				Sg	Sg	19 12 42.4	+0.1
T35A	Sooner Cattle	0.99	12		Pg	19 12 33.2	-0.2
T35A				Sg	Sg	19 12 46.3	+0.2
T35B	Sooner Cattle	0.99	12	P	Pg	19 12 33.2	-0.1
	baz=191						
T35B				S	Sg	19 12 46.4	+0.2
	baz=191						
X34A	Smith Ranch, M	1.61	214	Pn	Pn	19 12 43.6	-0.1
X37A	Clayton	1.77	140	Pn	Pn	19 12 46.0	+0.1
X37A	Clayton	1.77	140	P	Pb	19 12 46.5	-1.0
	baz=320						
X37A				Sb	Sg	19 13 11.2	0.0
	baz=320						
U32A	Winter Ranch,	1.87	284		Pn	19 12 47.6	+0.2
U32A	Winter Ranch,	1.87	284	P	Pb	19 12 47.9	-1.3
	baz=103						
U32A				Sb	Sg	19 13 14.0	-0.4
	baz=103						
WMOK	Wichita Mounta	2.05	234	Pn	Pn	19 12 50.4	+0.6
WMOK	Wichita Mounta	2.05	234	P	Pn	19 12 50.4	+0.6
	baz=54						
HHAR	Hobbs	2.31	81		Pn	19 12 53.3	0.0
HHAR	Hobbs	2.31	81	Sb	Sb	19 13 26.7	+1.1
	baz=262						
W39A	Magazine	2.54	106		Pn	19 12 56.6	+0.1
W39A				IAmb_Lg		19 13 39.5	
	comp=Z,29nm,0.8s						
W39A	Magazine	2.54	106	P	Pn	19 12 57.1	+0.6
	baz=288						
Z35A	Perchaven, San	2.64	189	IAmb_Lg		19 13 43.1	
	comp=Z,19nm,0.9s						
MIAR	Mount Ida	2.96	117	IAmb_Lg		19 13 56.1	
	comp=Z,17nm,0.8s						
Z38A	Mt. Pleasant	3.05	151	IAmb_Lg		19 13 51.4	
	comp=Z,22nm,0.8s						
KSU1	Kansas State U	3.15	2	IAmb_Lg		19 13 58.2	
	comp=Z,14nm,0.8s						
U40A	Yellville	3.19	81		Pn	19 13 04.8	-0.7
S39A	Bolivar	3.26	57		Pn	19 13 06.8	+0.4
S39A	Bolivar	3.26	57	P	Pb	19 13 14.4	+1.4
	baz=238						
X40A	Basin Creek Fa	3.53	113	Pn	Pn	19 13 09.7	-0.4
WHAR	Wooly Hollow	3.70	99		Pn	19 13 12.1	-0.4
WHAR				IAmb_Lg		19 14 21.4	
	comp=Z,14nm,0.9s						
CBKS	Cedar Bluff	3.72	321	Pn	Pn	19 13 12.8	+0.1
W41B	Gary Mavity, V	3.76	101	Pn	Pn	19 13 13.6	+0.3
W41B				IAmb_Lg		19 14 22.5	
	comp=Z,16nm,1.1s						
W41B	Gary Mavity, V	3.76	101	P	Pn	19 13 13.6	+0.3
	baz=283						
FCAR	Ozark Folk Cen	3.76	90		Pn	19 13 13.4	+0.1
FCAR				IAmb_Lg		19 14 16.1	
	comp=Z,11nm,0.8s						
MGMO	Mountain Grove	3.81	70		Pn	19 13 11.7	-2.3
AMTX	Amarillo	4.16	257	IAmb_Lg		19 14 33.5	
	comp=Z,12nm,0.7s						
R40A	Maddies Statio	4.28	56	Pn	Pn	19 13 19.9	-0.6
R40A				IAmb_Lg		19 14 30.7	
	comp=Z,16nm,0.8s						
P38A	Dawn	4.47	34	Pn	Pn	19 13 22.5	-0.6
P40A	Paris	5.17	45	IAmb_Lg		19 15 06.0	
	comp=Z,14nm,0.8s						
FVM	French Village	5.46	66	IAmb_Lg		19 15 10.6	
	comp=Z,12nm,0.8s						
JCT	Junction City	6.02	206	IAmb_Lg		19 15 39.5	
	comp=Z,6.9nm,0.7s						
SIUC	Southern Illin	6.30	72	IAmb_Lg		19 15 35.2	
	comp=Z,14nm,0.7s						
Q24A	Divide	7.32	297	IAmb_Lg		19 16 09.2	
	comp=Z,10nm,1.1s						

IDC 05 20:00:15.4±1.8, 4°.10N×126°.43E, h0km, mb3.2/5, mb1 3.4/5, mb1mx3.2/56, mbtmp3.3/5, Error ellipse: s-maj=124.7km s-min=21.7km az=70.0

DJA 05 20:00:17.6±1.7, 4°N±12°×12°7E±°, h17km±6km, M3.9/11, mb3.8/6, mB4.7/1, MLv3.9/11, Mw(mB)3.9/1

ISC 05 20:00:19.9±1.4, 4°.2N±0°.1×126°.8E±0°.1, h36km, n12, σ1s11/12, mb3.3/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	Sangihe	1.37	248	P	Pn	20 00 41.2	-1.3
LBMI	Labuha	4.87	172	P	Pn	20 01 31.1	+0.5
GTOI	Gorontalo	5.19	227	P	Pn	20 01 35.5	+0.5
	0.0nm4.6nm,1.2s						
MRSI	Marisa	6.11	233	P	Pn	20 01 48.3	+0.6
	0.1nm12nm,1.2s						
SANI	Sanana	6.27	187	P	Pn	20 01 49.9	0.0
	0.0nm9.4nm,1.0s						
SWI	Sorong	6.73	138	P	Pn	20 01 56.0	-0.2
	0.1nm14nm,1.0s						
MSAI	Masohi	7.80	164	P	Pn	20 02 09.6	-1.4
FITZ	Fitzroy Crossi	22.20	183	P	P	20 05 11.2	-2.0
	0.5nm,0.4s,baz=6.8,slow=11,SNR=1.1						
WRA	Warramunga Arr	25.12	163	P	P	20 05 42.0	+0.4
	0.3nm,0.4s,baz=343,slow=11,SNR=2.8						
ASAR	Alice Springs	28.56	166	P	P	20 06 14.1	+1.5
	0.1nm,0.4s,baz=343,slow=11,SNR=1.4						
MKAR	Makanchi Array	57.20	325	P	P	20 10 03.6	+0.2
	0.1nm,0.3s,baz=116,slow=7.3,SNR=5.2						
KURBB	Kurchatov Arra	61.37	327	P	P	20 10 32.4	+0.3
	0.3nm,0.6s,baz=128,slow=6.3,SNR=5.1						

NEIC 05 20:10:45.2±2.0, 14°.64S±0°.06×166°.86E±0°.09, h10km±5km, mb4.7/35, Error ellipse: s-maj=13.6km s-min=5.1km az=59.0

NOU 05 20:10:47.2, 14°.59S×166°.82E, h13km, MLv5.1/11, Vanuatu Islands

IDC 05 20:10:48.2±2.4, 14°.58S×166°.71E, h25km±13km, mb4.1/14, mb1 4.2/15, mb1mx4.1/38, mbtmp4.2/15, ML4.0/1, MS3.6/13, Ms1 3.6/13, ms1mx3.2/62, Error ellipse: s-maj=24.4km s-min=17.1km az=104.0

ISC 05 20:10:45.0±0.4, 14°.62S±0°.06×166°.82E±0°.08, h10km, n83, σ1s33/77, mb4.6/32, MS3.5/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	3.35	157	P	Pn	20 11 40.2	+2.7
LIFNC	LIFOU	6.13	176	Pn	Pn	20 12 16.7	+1.0
KOUNC	Koumac, New Ca	6.37	202		Pn	20 12 20.4	+1.4
KOUNC	Koumac, New Ca	6.37	202	P	Pn	20 12 21.3	+2.3
MARNC	Mare, Loyalty	6.92	171	Pn	Pn	20 12 27.3	+0.9
YATNC	Mamie plateau,	7.40	180	P	Pn	20 12 35.3	+2.2
DZM	Mont Dzumac	7.42	183	Pn	Pn	20 12 34.4	+1.0
	2.4nm,0.3s,baz=21,slow=3.9,SNR=26						
DZM				Sn	Sn	20 13 56.5	-1.3
	baz=133,slow=21,SNR=1.2						
DZM				LR	LR	20 15 17.1	
	comp=Z,425nm,19.4s,baz=25,slow=36						
DZM	Mont Dzumac	7.42	183	ePn	Pn	20 12 34.9	+1.4
	21nm,0.3s						
DZM				eSn	Sn	20 13 56.9	-0.9
	30nm,0.6s						
DZM				eLR	LR	20 14 17.4	
	comp=Z,481nm,24.1s						
DZM	Mont Dzumac	7.42	183	P	Pn	20 12 35.4	+1.9
NOUC	Port Laguerre	7.45	184	P	Pn	20 12 36.4	+2.5
ONTNC	Ouen Toro	7.65	183	Pn	Pn	20 12 36.6	0.0
ONTNC	Ouen Toro	7.65	183	P	Pn	20 12 39.0	+2.4
OUENC	Ouen Island, N	7.75	180	Pn	Pn	20 12 38.3	+0.3
OUENC	Ouen Island, N	7.75	180	P	Pn	20 12 40.8	+2.8
PINNC	Pines Island,	7.97	176	Pn	Pn	20 12 42.0	+1.1
HNR	Honiara	8.48	307	Pn	Pn	20 12 49.0	+1.0
EIDS	Eidsvold	18.23	232	Pn	Pn	20 14 56.0	-2.3
PMG	Port Moresby	19.92	283	LR	LR	20 21 40.4	
	comp=Z,123nm,19.3s,baz=48,slow=33						
CTA	Charters Tower	20.36	252	P	P	20 15 22.9	+1.0
	11nm,1.0s,baz=76,slow=11,SNR=3.5						
CTA				LR	LR	20 22 13.1	
	comp=Z,109nm,19.4s,baz=91,slow=34						
NIUE	Niue	22.68	104	P	P	20 15 45.1	-1.7
URZ	Urewera	25.24	161	P	P	20 16 14.7	+3.5
	11nm,0.9s,baz=344,slow=16,SNR=3.4						
URZ				LR	LR	20 23 48.6	
	comp=Z,65nm,20.2s,baz=30,slow=31						
URZ	Urewera	25.24	161	P	P	20 16 09.3	-1.9
URZ				IAmb	IAmb	20 16 18.0	
	comp=Z,26nm,1.2s						
BKZ	Black Stump Fm	25.89	163	P	P	20 16 18.0	+0.8
BKZ				IAmb	IAmb	20 16 24.8	
	comp=Z,36nm,1.4s						
THZ	Tophouse	27.55	170	P	P	20 16 34.8	+2.6
THZ				IAmb	IAmb	20 16 57.2	
	comp=Z,24nm,1.4s						
KHZ	Kahutara	28.30	169	P	P	20 16 38.6	-0.1
KHZ				IAmb	IAmb	20 17 11.0	
	comp=Z,36nm,1.6s						
STKA	Stephens Creek	28.73	229	P	P	20 16 43.5	+0.7
	comp=Z,3.1nm,0.7s,baz=42,slow=12,SNR=2.8						
STKA				LR	LR	20 27 51.2	
	comp=Z,87nm,18.6s,baz=38,slow=36						
RPZ	Rata Peaks	29.22	174	LR	LR	20 26 21.5	
	comp=Z,84nm,20.2s,baz=8.5,slow=32						
WR0	Warramunga Arr	31.25	256	P	P	20 17 04.5	-0.6
WR0				IAmb	IAmb	20 17 26.8	
	comp=Z,9.7nm,1.4s						
WB0	Warramunga Arr	31.37	256	P	P	20 17 03.7	-2.6
WB0				IAmb	IAmb	20 17 11.4	
	comp=Z,6.9nm,1.1s						
WB2	Warramunga Arr	31.42	256	P	P	20 17 05.2	-1.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2				IAmb	IAmb	20 17 17.5	
	comp=Z,20nm,1.8s						
WRAB	**Tennant Creek**	**31.42**	**256**	P	**P**	**20 17 05.1**	**-1.6**
WRAB				IAmb	IAmb	20 17 38.6	
	comp=Z,16nm,1.6s						
WRA	**Warramunga Arr**	**31.43**	**256**	P	**P**	**20 17 05.3**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=86,slow=8.8,SNR=4.9						
WRA				LR	LR	20 29 08.1	
	comp=Z,113nm,18.1s,baz=236,slow=35						
WRA	**Warramunga Arr**	**31.43**	**256**	IAmb	IAmb	20 17 08.3	
	comp=Z,0.5nm,1.4s						
AS31	**Alice Springs**	**32.31**	**249**	P	**P**	**20 17 13.8**	**-0.7**
ASAR	**Alice Springs**	**32.31**	**249**	P	**P**	**20 17 13.5**	**-1.0**
	comp=Z,2.5nm,1.1s,baz=72,slow=9.9,SNR=14						
ASAR				LR	LR	20 29 51.1	
	comp=Z,76nm,19.2s,baz=142,slow=36						
BBOO	**Buckleboo**	**33.30**	**232**	P	**P**	**20 17 22.5**	**-0.5**
KNRA	**Kununurra**	**36.72**	**263**	P	**P**	**20 17 50.9**	**-1.8**
KNRA				IAmb	IAmb	20 18 21.6	
	comp=Z,42nm,1.8s						
JOHN	**Johnston Islan**	**38.93**	**38**	P	**P**	**20 18 10.1**	**-1.2**
FORT	**Forrest**	**38.98**	**239**	P	**P**	**20 18 11.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.61**	**259**	LR	LR	20 33 58.0	
	comp=Z,73nm,19.3s,baz=81,slow=35						
FITZ	**Fitzroy Crossi**	**39.61**	**259**	P	**P**	**20 18 16.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**48.43**	**239**	P	**P**	**20 19 26.3**	**-1.5**
MORW	**Morawa**	**48.92**	**244**	P	**P**	**20 19 30.3**	**-1.4**
VNDA	**Vanda**	**62.96**	**181**	P	**P**	**20 21 12.3**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=10,slow=6.4,SNR=6.7						
VNDA	**Vanda**	**62.96**	**181**	P	**P**	**20 21 11.9**	**+0.5**
SBA	**Scott Base**	**63.24**	**180**	P	**P**	**20 21 13.5**	**+0.3**
SBA				IAmb	IAmb	20 21 45.7	
	comp=Z,8.8nm,1.4s						
USRK	**Ussuriysk Ar.**	**66.60**	**333**	P	**P**	**20 21 37.3**	**+1.8**
	comp=Z,2.8nm,0.8s,baz=106,slow=9.2,SNR=3.4						
USRK	**Ussuriysk Ar.**	**66.60**	**333**	P	**P**	**20 21 36.5**	**+1.0**
PETK	**Petropavlovsk-**	**67.91**	**354**	P	**P**	**20 21 44.6**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=151,slow=9.5,SNR=3.7						
ENH	**Enshi**	**70.97**	**310**	P	**P**	**20 22 02.5**	**-0.6**
ENH				IAmb	IAmb	20 22 04.0	
	comp=Z,5.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**74.51**	**294**	P	**P**	**20 22 25.1**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=130,slow=4.5,SNR=10						
SEY	**Seymchan**	**78.13**	**353**	P	**P**	**20 22 44.3**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=157,slow=13						
KDAK	**Kodiak Island**	**79.52**	**21**	LR	LR	20 54 52.9	
	comp=Z,31nm,18.2s,baz=161,slow=33						
GAMB	**Gambell**	**79.89**	**10**	P	**P**	**20 22 54.1**	**+0.5**
GAMB				IAmb	IAmb	20 22 55.2	
	comp=Z,6.9nm,0.8s						
ANM	**Nome**	**81.75**	**12**	P	**P**	**20 23 04.4**	**+0.9**
ANM				IAmb	IAmb	20 23 05.7	
	comp=Z,6.8nm,1.0s						
ULN	**Ulaanbaatar**	**81.80**	**324**	P	**P**	**20 23 04.8**	**+0.5**
YAK	**Yakutsk**	**81.81**	**343**	P	**P**	**20 23 03.6**	**-0.3**
YAK				IAmb	IAmb	20 23 09.9	
	comp=Z,9.0nm,0.8s						
SONM	**Songino Array**	**82.16**	**324**	P	**P**	**20 23 07.0**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=171,slow=8.4,SNR=5.3						
TNA	**Tin City**	**82.18**	**10**	P	**P**	**20 23 05.1**	**-0.6**
SHL	**Shillong**	**83.14**	**299**	P	**P**	**20 23 12.0**	**+0.1**
SHL				IAmb	IAmb	20 23 13.4	
	comp=Z,7.3nm,1.0s						
CAST	**Castle Rocks**	**84.02**	**17**	P	**P**	**20 23 14.9**	**-0.5**
CAST				IAmb	IAmb	20 23 15.9	
	comp=Z,6.3nm,0.8s						
I21K	**Tanana**	**85.41**	**16**	P	**P**	**20 23 23.0**	**+0.7**
H21K	**Melozitna Rive**	**85.56**	**16**	P	**P**	**20 23 23.8**	**+0.7**
H21K				IAmb	IAmb	20 23 24.7	
	comp=Z,6.2nm,1.1s						
IMAR	**Indian Mountai**	**85.58**	**15**	P	**P**	**20 23 23.4**	**+0.3**
RUBR	**Rubicon Trail**	**86.41**	**48**	P	**P**	**20 23 27.0**	**-1.2**
ILAR	**Eielson Array**	**86.56**	**18**	P	**P**	**20 23 27.4**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=241,slow=5.1,SNR=19						
PFO	**Pinyon Flats O**	**87.28**	**54**	LR	LR	20 55 27.0	
	comp=Z,53nm,19.0s,baz=64,slow=31						
COLD	**Coldfoot**	**87.44**	**15**	P	**P**	**20 23 31.9**	**-0.4**
COLD				IAmb	IAmb	20 23 36.0	
	comp=Z,3.7nm,1.0s						
ELK	**Elko**	**90.54**	**48**	LR	LR	20 56 59.4	
	comp=Z,36nm,19.9s,baz=259,slow=31						
ANMO	**Albuquerque**	**95.60**	**55**	LR	LR	21 03 23.7	
	comp=Z,37nm,18.4s,baz=8.0,slow=33						
MK31	**Makanchi Array**	**96.83**	**316**	P	**P**	**20 24 16.1**	**-0.2**
MK31				IAmb	IAmb	20 24 17.4	
	comp=Z,1.3nm,0.9s						
MKAR	**Makanchi Array**	**96.83**	**316**	P	**P**	**20 24 16.8**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=101,slow=5.9,SNR=11						
ZALV	**Zalesovo Beam**	**97.05**	**324**	P	**P**	**20 24 15.0**	**-2.1**
	comp=Z,0.8nm,0.7s,baz=105,slow=4.9,SNR=4.4						
YKA	**Yellowknife Ar**	**97.65**	**27**	P	**P**	**20 24 19.1**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=255,slow=5.0,SNR=8.8						
ARCES	**ARCESS Array B**	**120.04**	**345**	PKP	**PKPdf**	**20 29 35.3**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=66,slow=1.5,SNR=11						
FINES	**FINESS Array B**	**125.47**	**338**	PKP	**PKPdf**	**20 29 45.5**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=64,slow=3.2,SNR=3.8						
AKASG	**Malin Array Be**	**130.41**	**326**	PKP	**PKiKP**	**20 29 56.6**	**0.0**
	comp=Z,0.2nm,0.4s,baz=51,slow=2.0,SNR=1.3						
AKASG				SKP		20 33 29.4	
	comp=Z,0.9nm,0.6s,baz=45,slow=4.4,SNR=8.9						
NB2	**NORSAR Subarra**	**130.41**	**345**	PKPdf	**PKPdf**	**20 29 55.1**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**130.41**	**345**	PKP	**PKPdf**	**20 29 55.8**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=38,slow=2.1,SNR=4.9						
NOA				SKP		20 33 29.5	
	comp=Z,0.8nm,0.8s,baz=32,slow=2.9,SNR=4.4						
GERES	**GERESS Array B**	**139.35**	**333**	PKP	**PKPdf**	**20 30 13.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=11,slow=2.0,SNR=2.6						
KEST	**Kesra**	**150.85**	**320**	PKPbc	**PKPbc**	**20 30 38.7**	**+0.3**
	comp=Z,4.8nm,0.8s,baz=31,slow=5.9,SNR=2.7						
ESDC	**Sonseca Array**	**153.77**	**344**	PKPbc	**PKiKP**	**20 30 45.3**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=52,slow=2.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**165.49**	**266**	PKPab	**PKPab**	**20 31 50.0**	**+0.7**
	comp=Z,0.6nm,1.0s,baz=48,slow=2.1,SNR=2.7						

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*IDC **05** 20:15:13.7±10.0, 18°.68S×178°.29W, h469km±114km, mb3.2/5, mb1 3.4/5, mb1mx3.1/35, mbtmp4.0/5, Error ellipse: s-maj=67.7km s-min=43.0km az=144.0*
*NEIC **05** 20:15:20.7±1.0, 18°.8S±0°.2×178°.4W±0°.2, h556km±12km, mb4.1/16, Error ellipse: s-maj=32.3km s-min=23.5km az=151.0*
ISC 05 20:15:24.5±1.0**, 18°.8S**±0°.2×**178°.6W**±0°.2**, h600km, n23, σ1s08**/26**, mb4.0**/13**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARMA	**Armidale**	**29.35**	**241**	P	**P**	**20 20 40.5**	**-0.3**
ARMA				IAmb	IAmb	20 20 59.1	
	comp=Z,9.1nm,1.2s						
TOO	**Toolangi**	**36.47**	**232**	P	**P**	**20 21 40.6**	**+0.1**
COEN	**Coen**	**36.97**	**272**	P	**P**	**20 21 43.7**	**-1.2**
STKA	**Stephens Creek**	**38.06**	**242**	P	**P**	**20 21 53.9**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=83,slow=11,SNR=8.6						
STKA	**Stephens Creek**	**38.06**	**242**	P	**P**	**20 21 53.0**	**-0.5**
BBOO	**Buckleboo**	**42.83**	**242**	P	**P**	**20 22 31.8**	**+0.4**
WR0	**Warramunga Arr**	**44.13**	**260**	P	**P**	**20 22 41.1**	**-0.5**
WR0				IAmb	IAmb	20 22 44.5	
	comp=Z,3.8nm,1.1s						
WB0	**Warramunga Arr**	**44.30**	**261**	P	**P**	**20 22 42.4**	**-0.5**
WB0				IAmb	IAmb	20 22 43.5	
	comp=Z,3.4nm,1.1s						
WB2	**Warramunga Arr**	**44.31**	**260**	P	**P**	**20 22 42.4**	**-0.5**
WB2				IAmb	IAmb	20 23 05.2	
	comp=Z,9.0nm,1.6s						
WB2				PcP	**PcP**	**20 24 13.4**	**-0.3**
WRAB	**Tennant Creek**	**44.32**	**260**	P	**P**	**20 22 42.3**	**-0.7**
WRA	**Warramunga Arr**	**44.33**	**260**	P	**P**	**20 22 42.5**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=96,slow=6.8,SNR=26						
WRA	**Warramunga Arr**	**44.33**	**260**	P	**P**	**20 22 41.9**	**-1.2**
AS31	**Alice Springs**	**44.40**	**255**	P	**P**	**20 22 44.0**	**+0.4**
ASAR	**Alice Springs**	**44.40**	**255**	P	**P**	**20 22 44.2**	**+0.6**
	comp=Z,4.3nm,0.4s,baz=90,slow=8.8,SNR=115						
ASAR				PcP	**PcP**	**20 24 16.3**	**+2.2**
	comp=Z,0.5nm,0.9s,baz=106,slow=3.6,SNR=2.3						
ASAR	**Alice Springs**	**44.40**	**255**	P	**P**	**20 22 43.3**	**-0.3**
MTN	**Manton Dam**	**48.63**	**269**	P	**P**	**20 23 15.5**	**0.0**
MTN				IAmb	IAmb	20 23 18.9	
	comp=Z,18nm,1.5s						
FORT	**Forrest**	**49.48**	**245**	P	**P**	**20 23 22.4**	**+0.9**
KNRA	**Kununurra**	**50.25**	**265**	P	**P**	**20 23 29.0**	**+1.6**
KNRA				IAmb	IAmb	20 23 50.0	
	comp=Z,21nm,1.5s						
FITZ	**Fitzroy Crossi**	**52.73**	**261**	P	**P**	**20 23 46.4**	**+1.2**
FITZ				IAmb	IAmb	20 23 58.1	
	comp=Z,8.9nm,1.4s						
FITZ				PcP	**PcP**	**20 24 42.0**	**-2.7**
QSPA	**South Pole Qui**	**71.22**	**180**	P	**P**	**20 25 43.6**	**-0.3**
QSPA				IAmb	IAmb	20 25 53.6	
	comp=Z,11nm,1.6s						
SEY	**Seymchan**	**84.65**	**347**	P	**P**	**20 26 56.3**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=162,slow=3.2,SNR=10						
TXAR	**Lajitas Array**	**86.62**	**58**	P	**P**	**20 27 05.0**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=215,slow=7.7,SNR=3.6						
ARCES	**ARCESS Array B**	**127.20**	**350**	PKP	**PKiKP**	**20 33 23.1**	**+1.4**
	comp=Z,3.6nm,1.1s,baz=46,slow=2.6,SNR=4.1						

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*DJA **05** 20:40:05.0±0.8, 4°S±8°×12°9E±°, h10km, M3.2/6, MLv3.2/6*
*IDC **05** 20:40:17.1±1.1, 2°.93S×129°.85E, h0km, mb3.7/4, mb1 4.0/7, mb1mx3.6/41, mbtmp3.8/7, ML3.8/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/71, Error ellipse: s-maj=38.9km s-min=20.0km az=77.0*
ISC 05 20:40:20.1±0.8**, 3°.09S**±0°.07×**130°.1E**±0°.2**, h25km, n9, σ2s54**/10**, mb3.6**/3**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.51**	**29**	Pn	**Pn**	**20 40 59.2**	**-0.2**
	64nm,0.3s,baz=278,slow=19,SNR=28						
SIJI				Sn	**Sn**	**20 41 28.6**	**-0.6**
	21nm,0.3s,baz=180,slow=20,SNR=9.6						
SWI	**Sorong**	**2.51**	**29**	P	**Pn**	**20 40 59.6**	**+0.2**
KAPI	**Kappang**	**10.45**	**259**	LR	LR	20 47 24.7	
	comp=Z,36nm,18.9s,baz=72,slow=42						
FITZ	**Fitzroy Crossi**	**15.54**	**196**	Pn	**Pn**	**20 43 58.8**	**+1.2**
	0.1nm,0.3s,baz=21,slow=13,SNR=4.3						
WRA	**Warramunga Arr**	**17.27**	**166**	P	**P**	**20 44 21.4**	**+0.3**
	0.4nm,0.3s,baz=348,slow=12,SNR=13						
WRA				S	**Sn**	**20 47 25.6**	**-5.6**
	0.1nm,0.3s,baz=353,slow=21,SNR=1.2						
ASAR	**Alice Springs**	**20.80**	**170**	P	Pn	20 45 02.2	0.0
	8.3nm,0.7s,baz=350,slow=11,SNR=28						
ASAR				PcP	**PcP**	**20 49 09.9**	**+1.5**
	0.4nm,0.8s,baz=5.0,slow=2.1,SNR=4.1						
STKA	**Stephens Creek**	**30.63**	**160**	P	**P**	**20 46 35.1**	**+2.7**
	1.4nm,0.8s,baz=319,slow=13,SNR=1.5						
CMAR	**Chiang Mai Arr**	**37.38**	**306**	P	**P**	**20 47 29.9**	**-1.2**
	0.2nm,0.5s,baz=130,slow=8.4,SNR=1.9						
MKAR	**Makanchi Array**	**65.02**	**326**	P	**P**	**20 50 57.4**	**-0.8**
	0.2nm,0.4s,baz=112,slow=8.0,SNR=5.9						

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*IDC **05** 20:41:17.0±1.4, 2°.93S×129°.72E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.6/41, mbtmp3.8/6, ML3.5/3, MS3.2/3, Ms1 3.2/3, ms1mx2.6/75, Error ellipse: s-maj=42.0km s-min=23.6km az=80.0*
ISC 05 20:41:20.0±1.0**, 3°.14S**±0°.08×**129°.9E**±0°.2**, h35km, n8, σ1s02**/7**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.62**	**31**	Pn	**Pn**	**20 42 00.1**	**+0.3**
	18nm,0.3s,baz=193,slow=18,SNR=1.4						
SIJI				Sn	**Sn**	**20 42 29.6**	**-0.7**
	8.4nm,0.3s,baz=198,slow=23,SNR=1.9						
SIJI				LR	LR	20 43 21.7	
	comp=Z,206nm,18.9s,baz=168,slow=49						
BATI	**Baumata**	**9.38**	**221**	LR	LR	20 47 21.6	
	comp=Z,143nm,18.5s,baz=60,slow=39						
FITZ	**Fitzroy Crossi**	**15.45**	**195**	Pn	**P**	**20 44 59.4**	**-0.2**
	0.1nm,0.3s,baz=25,slow=15,SNR=2.1						
WRA	**Warramunga Arr**	**17.25**	**166**	P	**P**	**20 45 20.9**	**+1.4**
	0.1nm,0.3s,baz=349,slow=12,SNR=1.8						
WRA				S	**Sn**	**20 48 28.1**	**-1.2**
	0.1nm,0.3s,baz=354,slow=24,SNR=1.7						
ASAR	**Alice Springs**	**20.77**	**170**	P	Pn	20 46 03.0	+2.3
	9.7nm,0.8s,baz=348,slow=11,SNR=9.1						
STKA	**Stephens Creek**	**30.63**	**160**	LR	LR	21 03 38.4	
	comp=Z,75nm,18.1s,baz=206,slow=43						
CMAR	**Chiang Mai Arr**	**37.30**	**306**	P	**P**	**20 48 28.7**	**-0.4**
	0.4nm,0.6s,baz=134,slow=7.6,SNR=2.6						
MKAR	**Makanchi Array**	**64.99**	**326**	P	**P**	**20 51 56.8**	**+0.4**
	0.2nm,0.5s,baz=126,slow=5.1,SNR=2.2						

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*IDC **05** 21:10:03.4±3.2, 37°.93N×139°.51E, h156km±25km, mb3.2/4, mb1 3.3/6, mb1mx3.0/50, mbtmp3.7/6, Error ellipse: s-maj=50.8km s-min=21.9km az=67.0*
*JMA **05** 21:10:05.0±0.1, 37°.92N×139°.25E, h155km±1km, M3.0*
ISC 05 21:10:04.3±0.9**, 37°.88N**±0°.05×**139°.31E**±0°.07**, h162km**±6km**, n23, σ1s05**/29**, mb3.5**/4**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.06**	**171**	P	**Pn**	**21 10 25.5**	**-0.3**
JFY	**Yanaizu**	**0.57**	**146**	P	**Pn**	**21 10 27.7**	**+0.4**
JAW	**Awa shima**	**0.58**	**356**	P	**Pn**	**21 10 27.1**	**-0.2**
JIZZ	**Izumozaki**	**0.58**	**234**	P	**Pn**	**21 10 27.5**	**+0.1**
JYS	**Shirataka**	**0.69**	**60**	P	**Pn**	**21 10 28.4**	**+0.4**
JYA	**Atsumi**	**0.78**	**24**	P	**Pn**	**21 10 28.7**	**+0.1**
JYA				S	**Sn**	**21 10 46.9**	**-0.4**
JSD	**Sado**	**0.84**	**281**	P	**Pn**	**21 10 28.6**	**-0.3**
JSD				S	**Sn**	**21 10 46.3**	**-1.5**
JFT	**Otama**	**0.89**	**113**	P	**Pn**	**21 10 29.9**	**+0.5**
JYK	**Kaneyama**	**1.33**	**38**	P	**Pn**	**21 10 33.2**	**+0.2**
JAG	**Ashikaga**	**1.45**	**175**	P	**Pn**	**21 10 35.2**	**+0.9**
MAT	**Matsushiro**	**1.59**	**214**	P	**Pn**	**21 10 36.4**	**+0.6**
MAT				S	**Sn**	**21 11 00.3**	**+0.4**
MJAR	**Matsushiro Arr**	**1.59**	**214**	P	**Pn**	**21 10 36.3**	**+0.5**
	1.4nm,0.3s,baz=34,slow=8.4,SNR=44						
MJAR				S	**Sn**	**21 11 00.7**	**+0.8**
	0.3nm,0.3s,baz=32,slow=18,SNR=6.2						
JSZ	**Suzu**	**1.60**	**255**	P	**Pn**	**21 10 35.8**	**+0.1**
JSZ				S	**Sn**	**21 10 59.6**	**-0.3**
JMK	**Ichinoseki**	**1.85**	**54**	P	**Pn**	**21 10 38.7**	**+0.3**
JRY	**Ryogami san**	**1.88**	**190**	P	**Pn**	**21 10 40.0**	**+1.1**
JHG	**Hegura jima**	**1.89**	**270**	P	**Pn**	**21 10 38.6**	**-0.2**
JOM	**Ohasama**	**2.23**	**44**	P	**Pn**	**21 10 43.7**	**+1.0**
JHJ	**Hachijo jima 2**	**4.76**	**175**	P	**Pn**	**21 11 13.7**	**-1.1**
	12nm,0.3s,baz=260,slow=22,SNR=1.0						
JHJ				S	**Sn**	**21 12 07.8**	**-2.0**
	12nm,0.3s,baz=341,slow=23,SNR=6.3						
KSRS	**Korea Array**	**9.04**	**271**	P	**Pn**	**21 12 14.9**	**+3.6**
	0.2nm,0.3s,baz=86,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**42.25**	**301**	P	**P**	**21 17 40.6**	**-0.8**
	0.4nm,0.9s,baz=84,slow=7.2,SNR=2.2						
WRA	**Warramunga Arr**	**57.70**	**186**	P	**P**	**21 19 38.4**	**+0.4**
	0.3nm,0.4s,baz=0.2,slow=7.3,SNR=6.4						
ARCES	**ARCESS Array B**	**62.61**	**339**	P	**P**	**21 20 10.7**	**-0.2**
	2.0nm,0.9s,baz=58,slow=8.6,SNR=1.7						
FINES	**FINESS Array B**	**67.28**	**331**	P	**P**	**21 20 41.1**	**+0.1**
	0.2nm,0.2s,baz=39,slow=9.0,SNR=5.7						

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*WEL **05** 21:27:03.2±0.6, 32°S±11°×17°9W±2°8, h33km, M4.4/4, mB5.1/3, ML4.8/18, MLv4.4/4, Mw(mB)4.4/3, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0*
*IDC **05** 21:27:05.6±9.0, 32°.60S×179°.02W, h86km±82km, mb3.4/2, mb1 3.7/3, mb1mx3.4/32, mbtmp3.9/3, ML4.2/1, Error ellipse: s-maj=69.9km s-min=45.0km az=4.0*
ISC 05 21:27:02.8±1.1**, 32°.31S**±0°.10×**179°.0W**±0°.2**, h61km, n39, σ1s26**/57**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.17**	**17**	P	**Pn**	**21 27 50.0**	**-0.3**
GLKZ				S	**Sn**	**21 28 28.1**	**+1.2**
MXZ	**Matakaoa Point**	**5.69**	**202**	P	**Pn**	**21 28 25.4**	**+0.7**
MXZ				S	**Sn**	**21 29 29.9**	**+1.2**
WMGZ	**Waiomatatini S**	**5.90**	**200**	P	**Pn**	**21 28 29.5**	**+1.9**
WMGZ				S	**Sn**	**21 29 34.7**	**+1.0**
HAZ	**Te Kaha**	**6.05**	**205**	P	**Pn**	**21 28 30.0**	**+0.4**
HAZ				S	**Sn**	**21 29 39.8**	**+2.4**
PKGZ	**Pakihiroa**	**6.06**	**203**	P	**Pn**	**21 28 29.1**	**-0.8**
PKGZ				P	**Sn**	**21 29 37.7**	**-0.2**
PUZ	**Puketiti**	**6.18**	**201**	P	**Pn**	**21 28 31.3**	**-0.1**
PUZ				S	**Sn**	**21 29 41.1**	**+0.4**
RUGZ	**Raukumara Rang**	**6.27**	**205**	S	**Sn**	**21 29 42.3**	**-0.8**
TWGZ	**Tauwhareparae**	**6.36**	**202**	P	**Pn**	**21 28 34.4**	**+0.5**
TWGZ				S	**Sn**	**21 29 46.3**	**+1.1**
CNGZ	**Carnagh Statio**	**6.57**	**200**	P	**Pn**	**21 28 36.8**	**0.0**
TKGZ	**Te Karaka**	**6.64**	**202**	P	**Pn**	**21 28 39.0**	**+1.3**
TKGZ				S	**Sn**	**21 29 51.9**	**0.0**
MWZ	**Matawai**	**6.65**	**204**	P	**Pn**	**21 28 39.1**	**+1.1**
MWZ				S	**Sn**	**21 29 52.2**	**-0.1**
URZ	**Urewera**	**6.74**	**207**	P	**Pn**	**21 28 38.5**	**-0.6**
	4.6nm,0.3s,baz=17,slow=19,SNR=49						
URZ				S	**Sn**	**21 29 50.7**	**-3.7**
	0.7nm,0.3s,baz=150,slow=20,SNR=1.7						
URZ	**Urewera**	**6.74**	**207**	P	**Pn**	**21 28 38.8**	**-0.3**
URZ				S	**Sn**	**21 29 54.3**	**-0.1**
RAGZ	**Rawiri**	**6.84**	**204**	P	**Pn**	**21 28 42.1**	**+1.7**
RIGZ	**Rimuhau**	**6.91**	**202**	P	**Pn**	**21 28 43.2**	**+1.7**
RIGZ				S	**Sn**	**21 29 58.2**	**-0.4**
MUGZ	**Murupara**	**7.06**	**208**	P	**Pn**	**21 28 44.7**	**+1.2**
MUGZ				S	**Sn**	**21 30 02.4**	**0.0**
PRGZ	**Paritu Road**	**7.07**	**200**	P	**Pn**	**21 28 45.1**	**+1.4**
PRGZ				S	**Sn**	**21 30 00.6**	**-2.0**
RTZ	**Ruatahuna**	**7.10**	**206**	P	**Pn**	**21 28 43.0**	**-1.1**
MHGZ	**Mahia Peninsul**	**7.28**	**199**	P	**Pn**	**21 28 46.8**	**+0.4**
RAHZ	**Arahi**	**7.33**	**205**	P	**Pn**	**21 28 48.0**	**+0.9**
RAHZ				S	**Sn**	**21 30 10.7**	**+1.9**
MTHZ	**Maungataniwha**	**7.36**	**206**	P	**Pn**	**21 28 48.9**	**+1.3**
MTHZ				S	**Sn**	**21 30 09.5**	**-0.2**
NMHZ	**Naumai**	**7.59**	**206**	P	**Pn**	**21 28 51.8**	**+1.0**
NMHZ				S	**Sn**	**21 30 17.1**	**+1.8**
ARHZ	**Aropaoanui**	**7.67**	**204**	P	**Pn**	**21 28 52.0**	**+0.2**
ARHZ				S	**Sn**	**21 30 16.6**	**-0.6**
BKZ	**Black Stump Fm**	**7.76**	**207**	P	**Pn**	**21 28 53.7**	**+0.5**
MCHZ	**McNeill Hill**	**7.93**	**205**	P	**Pn**	**21 28 55.9**	**+0.5**
KWHZ	**Kaweka Forest**	**8.02**	**206**	P	**Pn**	**21 28 56.4**	**-0.2**
NTVZ	**North Tongarir**	**8.04**	**211**	P	**Pn**	**21 28 58.1**	**+1.0**
TMVZ	**Te Maari**	**8.05**	**211**	P	**Pn**	**21 28 58.2**	**+1.1**
OTVZ	**Oturere**	**8.10**	**211**	P	**Pn**	**21 28 58.7**	**+0.8**
KAHZ	**Kahuranaki**	**8.19**	**203**	P	**Pn**	**21 28 58.1**	**-0.8**
BHHZ	**Black Hill Sta**	**8.21**	**208**	P	**Pn**	**21 28 58.7**	**-0.6**
FWVZ	**Far West T-bar**	**8.23**	**211**	P	**Pn**	**21 29 00.7**	**+1.0**
PRHZ	**Porangahau**	**8.69**	**203**	P	**Pn**	**21 29 04.0**	**-1.8**
TSZ	**Takapari Road**	**8.74**	**206**	P	**Pn**	**21 29 02.5**	**-4.1**
ASAR	**Alice Springs**	**42.20**	**269**	P	**P**	**21 34 50.5**	**+0.5**
	0.6nm,0.8s,baz=112,slow=7.3,SNR=5.4						
WRA	**Warramunga Arr**	**43.37**	**275**	P	**P**	**21 34 59.1**	**-0.3**
	0.5nm,0.3s,baz=115,slow=7.7,SNR=13						
FINES	**FINESS Array B**	**146.62**	**338**	PKPbc	**PKPbc**	**21 46 36.5**	**-0.2**
	0.8nm,0.4s,baz=41,slow=4.0,SNR=15						
NOA	**NORSAR Array B**	**150.49**	**350**	PKPbc	**PKiKP**	**21 46 47.5**	**-0.1**
	0.6nm,0.9s,baz=16,slow=4.1,SNR=3.5						
AKASG	**Malin Array Be**	**152.26**	**320**	PKPbc	**PKPbc**	**21 46 50.2**	**-1.0**
	0.2nm,0.4s,baz=65,slow=1.8,SNR=1.3						

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*IDC **05** 21:32:49.8±1.0, 0°.32S×122°.35E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.7/38, mbtmp3.7/8, ML4.0/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/55, Error ellipse: s-maj=37.5km s-min=18.2km az=62.0*
*DJA **05** 21:32:52.1±0.2, 0°S±2°×12°2E±°, h10km, M4.1/16, mb4.4/6, mB4.3/2, MLv4.0/16, Mw(mB)3.4/2*
*NEIC **05** 21:32:52.3±0.9, 0°.31S±0°.07×122°.08E±0°.10, h10km±1km, mb4.2/13, Error ellipse: s-maj=20.2km s-min=4.4km az=54.0*
ISC 05 21:32:51.9±0.6**, 0°.34S**±0°.04×**122°.07E**±0°.04**, h10km, n37, σ1s03**/40**, mb4.0**/12**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.71**	**216**	P	**Pg**	**21 33 04.9**	**-0.7**
MRSI	**Marisa**	**0.82**	**351**	P	**Pg**	**21 33 07.2**	**-0.5**
MRSI				S	**Sg**	**21 33 18.1**	**-0.2**
LUWI	**Luwuk**	**0.99**	**135**		**Pg**	**21 33 10.4**	**-0.7**
LUWI				Sn	**Sn**	**21 33 26.5**	**+0.5**
LUWI	**Luwuk**	**0.99**	**135**	P	**Pg**	**21 33 10.7**	**-0.3**
GTOI	**Gorontalo**	**1.35**	**44**	P	**Pn**	**21 33 15.2**	**-1.6**
TOLI2	**Tolitoli**	**1.93**	**318**		**Pn**	**21 33 24.8**	**0.0**
TOLI2				Sn	**Sn**	**21 33 48.9**	**-0.2**
KMSI	**Cibinong**	**2.12**	**65**	P	**Pn**	**21 33 28.3**	**+0.9**
MPSI	**Mapaga**	**2.27**	**287**	P	**Pn**	**21 33 27.8**	**-1.6**
TTSI	**Tana Toraja**	**3.51**	**220**	P	**Pn**	**21 33 48.4**	**+1.9**
SPSI	**Sidrap Palu**	**4.27**	**212**	P	**Pn**	**21 33 58.0**	**+1.0**
SANI	**Sanana**	**4.28**	**114**	P	**Pn**	**21 33 56.4**	**-0.7**
BNSI	**Bone**	**4.49**	**206**	P	**Pn**	**21 34 01.1**	**+1.1**
BBSI	**Bau Bau**	**5.14**	**174**	P	**Pn**	**21 34 09.9**	**+0.9**
	0.1nm140nm14nm,0.7s						
KAPI	**Kappang**	**5.19**	**206**	Pn	**Pn**	**21 34 10.2**	**+0.5**
	10nm,0.3s,baz=16,slow=9.7,SNR=19						
KAPI				Sn	**Sn**	**21 35 08.0**	**-1.6**
	4.3nm,0.3s,baz=223,slow=24,SNR=10						
KAPI				LR	LR	21 36 29.0	
	comp=Z,101nm,19.6s,baz=6.5,slow=41						
BKSI	**Bulukumba**	**5.32**	**201**	P	**Pn**	**21 34 12.3**	**+0.9**
	0.2nm21nm,0.6s						
LBMI	**Labuha**	**5.44**	**93**	P	**Pn**	**21 34 14.3**	**+1.2**
	0.2nm36nm,0.7s						
BSSI	**Bau Bau, Buton**	**5.98**	**195**	P	**Pn**	**21 34 21.0**	**+0.5**
MMRI	**Maumere**	**8.25**	**179**	Pn	**Pn**	**21 34 52.0**	**+0.3**
SIJI	**Sorong**	**9.21**	**93**	Pn	Pn	21 34 59.4	-5.6
	0.7nm,0.3s,baz=253,slow=19,SNR=1.7						
SIJI				Sn	Sn	21 36 33.0	-16
	0.7nm,0.3s,baz=202,slow=22,SNR=1.3						
SIJI				LR	LR	21 39 16.5	
	comp=Z,22nm,18.3s,baz=358,slow=43						
UBPT	**Khong Chiam**	**22.58**	**314**	P	**P**	**21 37 54.4**	**+1.7**
UBPT				IAmb	IAmb	21 37 55.7	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**22.78**	**149**	P	**P**	**21 37 53.6**	**-1.1**
WB0				IAmb	IAmb	21 38 04.5	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**22.89**	**149**	P	**P**	**21 37 54.2**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=333,slow=10.0,SNR=6.3						
TPUB	**Ta-pu**	**23.54**	**357**	P	**P**	**21 38 03.7**	**+1.3**
YULB	**Yu-li**	**23.60**	**358**	P	**P**	**21 38 03.4**	**+0.3**
YULB				IAmb	IAmb	21 38 07.4	
	comp=Z,5.3nm,0.9s						
GSI	**Gunungsitoli**	**24.54**	**274**	P	**P**	**21 38 13.0**	**+1.0**
AS31	**Alice Springs**	**25.88**	**154**	P	**P**	**21 38 22.4**	**-1.7**
ASAR	**Alice Springs**	**25.88**	**154**	P	**P**	**21 38 22.8**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=347,slow=16,SNR=7.2						
CMAR	**Chiang Mai Arr**	**29.41**	**311**	P	**P**	**21 38 57.4**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=134,slow=8.9,SNR=5.0						
SONM	**Songino Array**	**49.88**	**346**	P	**P**	**21 41 46.0**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=158,slow=9.1,SNR=2.9						
SONM	**Songino Array**	**49.88**	**346**	P	**P**	**21 41 46.4**	**+0.7**
MK31	**Makanchi Array**	**58.41**	**329**	P	**P**	**21 42 47.4**	**-0.4**
MKAR	**Makanchi Array**	**58.41**	**329**	P	**P**	**21 42 47.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=127,slow=8.8,SNR=11						
MAKZ	**Makanchi**	**58.58**	**329**	P	**P**	**21 42 48.8**	**-0.2**
MAKZ				IAmb	IAmb	21 42 51.6	
	comp=Z,1.9nm,1.1s						
KBL	**Kabul**	**60.45**	**311**	P	**P**	**21 43 01.8**	**-0.5**
KURK	**Kurchatov**	**62.80**	**331**	P	**P**	**21 43 17.5**	**-0.1**
KURK				IAmb	IAmb	21 43 18.5	
	comp=Z,2.4nm,0.9s						
VNDA	**Vanda**	**80.05**	**172**	P	**P**	**21 45 00.9**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=301,slow=3.8,SNR=3.2						
QSPA	**South Pole Qui**	**89.60**	**180**	P	**P**	**21 45 49.3**	**-0.4**
QSPA				IAmb	IAmb	21 46 16.3	
	comp=Z,1.1nm,1.2s						

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*IDC **05** 21:37:30.6±1.5, 6°.01S×146°.84E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.5/41, mbtmp3.4/6, ML3.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/34, Error ellipse: s-maj=42.0km s-min=24.0km az=100.0*
ISC 05 21:37:40.1±1.3**, 6°.2S**±0°.1×**146°.8E**±0°.2**, h78km, n8, σ1s89**/8**, mb3.5**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.21**	**173**	Pn	**Pn**	**21 38 26.6**	**-1.7**
	2.6nm,0.3s,baz=9.5,slow=12,SNR=2.3						
PMG				Sn	**Sn**	**21 39 08.3**	**+2.8**
	6.4nm,0.3s,baz=14,slow=16,SNR=1.8						
SIJI	**Sorong**	**16.35**	**288**	LR	LR	21 48 36.4	
	comp=Z,36nm,21.9s,baz=224,slow=41						
WRA	**Warramunga Arr**	**18.24**	**220**	P	**Pn**	**21 41 46.3**	**-1.8**
	0.1nm,0.3s,baz=45,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**21.33**	**214**	P	**P**	**21 42 21.3**	**+0.4**
	0.3nm,0.8s,baz=45,slow=10,SNR=2.5						
FITZ	**Fitzroy Crossi**	**23.77**	**238**	P	**P**	**21 42 45.3**	**-0.4**
	0.6nm,0.5s,baz=49,slow=7.6,SNR=1.8						
CMAR	**Chiang Mai Arr**	**53.14**	**298**	P	**P**	**21 46 51.9**	**+1.5**
	0.3nm,0.3s,baz=118,slow=5.6,SNR=4.2						
ILAR	**Eielson Array**	**85.75**	**23**	P	**P**	**21 50 09.7**	**-0.6**
	0.7nm,0.8s,baz=254,slow=5.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**144.92**	**284**	PKP	**PKPdf**	**21 57 10.2**	**+0.9**
	1.1nm,0.8s,baz=70,slow=3.2,SNR=6.2						

IDC 05 21:38:13.8±2.1**, 6°.43S×151°.65E, h0km, mb3.5**/3**, mb1 3.9**/4**, mb1mx3.5**/44**, mbtmp3.7**/4**, ML4.2**/1**, Error**

ellipse: s-maj=93.5km s-min=20.3km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.15**	**10**	Pn	Pb	21 38 52.3	-1.3
	80nm,0.3s,baz=177,slow=17,SNR=16						
KRVT				Sn	Sn	21 39 19.0	+0.8
	94nm,0.3s,baz=225,slow=18,SNR=14						
WRA	**Warramunga Arr**	**21.51**	**230**	P	P	21 43 05.0	+0.4
	0.9nm,0.5s,baz=54,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**24.18**	**223**	P	P	21 43 32.5	+0.4
	1.1nm,0.6s,baz=58,slow=9.4,SNR=7.0						
ILAR	**Eielson Array**	**84.10**	**22**	P	P	21 50 45.4	-0.8
	0.2nm,0.5s,baz=260,slow=4.6,SNR=1.6						
TORD	**Torodi Ar. Bea**	**149.67**	**285**	PKPbc	PKPbc	21 58 05.5	-1.1
	0.4nm,0.8s,baz=70,slow=1.7,SNR=1.9						

*IDC **05** 21:41:28.6±1.5, 14°12S×166°64E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/47, mbtmp3.8/8, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/60, Error ellipse: s-maj=47.3km s-min=26.9km az=117.0*

ISC 05 21:41:34.7±1.1, **14°24S**±0°09×**166°7E**±0°2, **h43**km, **n9**, σ**1s26**/10, **mb3.6**/7, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.79**	**182**	Pn	**Pn**	**21 43 27.0**	**+1.4**
	0.6nm,0.3s,baz=70,slow=10,SNR=7.7						
DZM				Sn	**Sn**	**21 44 51.4**	**-1.1**
	baz=310,slow=22,SNR=1.2						
STKA	**Stephens Creek**	**28.88**	**228**	P	**P**	**21 47 29.6**	**+0.1**
	0.8nm,0.3s,baz=42,slow=8.0,SNR=4.6						
STKA				LR	LR	21 58 45.9	
	comp=Z,74nm,18.3s,baz=37,slow=36						
WRA	**Warramunga Arr**	**31.39**	**255**	P	**P**	**21 47 51.0**	**-0.9**
	0.5nm,0.8s,baz=83,slow=8.5,SNR=3.3						
ASAR	**Alice Springs**	**32.31**	**248**	P	**P**	**21 47 58.4**	**-1.6**
	0.4nm,0.5s,baz=76,slow=8.9,SNR=4.9						
CMAR	**Chiang Mai Arr**	**74.23**	**294**	P	**P**	**21 53 09.2**	**+1.5**
	0.3nm,0.4s,baz=107,slow=5.2,SNR=4.4						
SONM	**Songino Array**	**81.77**	**324**	P	**P**	**21 53 49.5**	**+0.4**
	0.4nm,0.8s,baz=140,slow=5.1,SNR=2.0						
ILAR	**Eielson Array**	**86.25**	**18**	P	**P**	**21 54 09.9**	**-1.4**
	0.5nm,0.8s,baz=232,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**96.46**	**317**	P	**P**	**21 55 00.0**	**+0.5**
	0.4nm,0.7s,baz=105,slow=3.3,SNR=4.6						
ARCES	**ARCESS Array B**	**119.64**	**345**	PKP	**PKiKP**	**22 00 19.0**	**-0.4**
	2.3nm,0.9s,baz=46,slow=2.6,SNR=7.9						

*IDC **05** 21:52:47.2±1.0, 29°58S×177°10W, h0km, mb4.3/5, mb1 4.5/6, mb1mx3.9/41, mbtmp4.4/6, ML4.2/1, MS3.5/4, Ms1 3.5/4, ms1mx2.9/60, Error ellipse: s-maj=29.6km s-min=27.8km az=25.0*

*NEIC **05** 21:52:53.6±1.2, 29°87S±0°07×177°3W±0°1, h35km±1km, mb4.6/19, Error ellipse: s-maj=18.1km s-min=10.0km az=60.0*

ISC 05 21:52:53.0±0.7, **29°92S**±0°07×**177°3W**±0°1, **h35**km, **n52**, σ**1s15**/50, **mb4.5**/12, **MS3.2**/5, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.84**	**322**	Pn	**Pn**	**21 53 07.6**	**-0.8**
RAO				Sn	**Sn**	**21 53 20.5**	**+1.0**
URZ	**Urewera**	**9.51**	**208**	Pn	**Pn**	**21 55 05.6**	**-1.8**
	0.5nm,0.3s,baz=324,slow=16,SNR=1.2						
URZ				Sn	**Sn**	**21 56 51.5**	**-1.6**
	1.8nm,0.3s,baz=328,slow=17,SNR=2.9						
URZ	**Urewera**	**9.51**	**208**		**Pn**	**21 55 05.3**	**-2.1**
BKZ	**Black Stump Fm**	**10.54**	**207**	Pn	**Pn**	**21 55 20.3**	**-1.2**
PINNC	**Pines Island,**	**15.47**	**294**	Pn	**Pn**	**21 56 27.0**	**-1.6**
PINNC				IAmb	IAmb	21 56 34.1	
	comp=Z,114nm,1.2s						
DZM	**Mont Dzumac**	**16.54**	**294**	LR	LR	22 01 57.6	
	comp=Z,240nm,21.6s,baz=106,slow=33						
DZM	**Mont Dzumac**	**16.54**	**294**	*e*LR	LR	22 00 11.4	
	comp=Z,243nm,23.0s						
RPZ	**Rata Peaks**	**16.59**	**211**	Pn	**P**	**21 56 45.3**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=75,slow=20,SNR=3.0						
TBI	**Tubuai**	**25.71**	**82**	*e*LR	LR	22 04 37.4	
	comp=Z,102nm,26.8s						
ARMA	**Armidale**	**26.81**	**261**	P	**P**	**21 58 31.4**	**+1.3**
PPT2	**Papeete2**	**28.12**	**70**	*e*LR	LR	22 05 51.8	
	comp=Z,74nm,24.5s						
PPT	**Papeete**	**28.14**	**70**	LR	LR	22 06 32.7	
	comp=Z,33nm,20.7s,baz=293,slow=30						
EIDS	**Eidsvold**	**28.30**	**272**	P	**P**	**21 58 44.4**	**+1.0**
EIDS				IAmb	IAmb	21 58 56.3	
	comp=Z,12nm,1.1s						
CTA	**Charters Tower**	**34.31**	**278**	P	**P**	**21 59 37.9**	**+1.6**
	comp=Z,3.4nm,0.5s,baz=97,slow=9.5,SNR=6.1						
CTA				LR	LR	22 11 50.1	
	comp=Z,136nm,19.0s,baz=76,slow=33						
CTAO	**Charters Tower**	**34.31**	**278**	P	**P**	**21 59 37.5**	**+1.2**
CTAO				IAmb	IAmb	21 59 47.6	
	comp=Z,26nm,1.4s						
STKA	**Stephens Creek**	**35.16**	**256**	P	**P**	**21 59 46.2**	**+2.6**
	comp=Z,7.6nm,0.9s,baz=107,slow=9.8,SNR=6.9						
STKA	**Stephens Creek**	**35.16**	**256**	P	**P**	**21 59 44.5**	**+0.9**
STKA				IAmb	IAmb	21 59 53.0	
	comp=Z,4.5nm,1.4s						
BBOO	**Buckleboo**	**39.66**	**254**	P	**P**	**22 00 21.9**	**+0.2**
BBOO				IAmb	IAmb	22 00 23.6	
	comp=Z,17nm,1.1s						
AS31	**Alice Springs**	**43.72**	**266**	P	**P**	**22 00 55.7**	**+0.6**
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**22 00 55.4**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=102,slow=6.7,SNR=15						
ASAR				PcP	**PcP**	**22 02 44.0**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=124,slow=4.3,SNR=3.1						
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**22 00 55.5**	**+0.4**
WR0	**Warramunga Arr**	**44.49**	**271**	P	**P**	**22 01 00.9**	**-0.3**
WR0				IAmb	IAmb	22 01 07.6	
	comp=Z,6.0nm,1.0s						
WRA	**Warramunga Arr**	**44.67**	**271**	P	**P**	**22 01 02.5**	**-0.2**
	comp=Z,3.7nm,0.5s,baz=111,slow=6.8,SNR=70						
WRA	**Warramunga Arr**	**44.67**	**271**	P	**P**	**22 01 02.7**	**0.0**
WB0	**Warramunga Arr**	**44.69**	**272**	P	**P**	**22 01 02.6**	**-0.2**
WB0				IAmb	IAmb	22 01 09.1	
	comp=Z,7.8nm,0.8s						
VNDA	**Vanda**	**48.63**	**186**	P	**P**	**22 01 33.6**	**+0.7**
MTN	**Manton Dam**	**50.49**	**278**	P	**P**	**22 01 47.3**	**-0.5**
MTN				IAmb	IAmb	22 02 08.4	
	comp=Z,8.3nm,1.2s						
KNRA	**Kununurra**	**51.26**	**274**	P	**P**	**22 01 53.9**	**+0.2**
KNRA				IAmb	IAmb	22 01 59.5	
	comp=Z,4.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.95**	**269**	LR	LR	22 24 29.5	
	comp=Z,33nm,18.3s,baz=130,slow=36						
FITZ	**Fitzroy Crossi**	**52.95**	**269**	P	**P**	**22 02 06.5**	**+0.3**
FITZ				IAmb	IAmb	22 02 08.7	
	comp=Z,6.2nm,1.2s						
CASY	**Casey**	**55.84**	**208**	P	**P**	**22 02 27.6**	**+1.1**
MORW	**Morawa**	**57.23**	**253**	P	**P**	**22 02 36.9**	**-0.2**
QSPA	**South Pole Qui**	**60.19**	**180**	P	**P**	**22 02 59.3**	**+2.2**
	comp=Z,2.1nm,0.7s,baz=38,slow=1.0,SNR=10						
QSPA	**South Pole Qui**	**60.19**	**180**	P	**P**	**22 02 58.8**	**+1.6**
QSPA				IAmb	IAmb	22 03 11.5	
	comp=Z,3.8nm,0.8s						
PEA0B	**Petropavlovsk-**	**85.50**	**345**	P	**P**	**22 05 27.3**	**+0.5**
PETK	**Petropavlovsk-**	**85.50**	**345**	P	**P**	**22 05 27.0**	**+0.2**
GSI	**Gunungsitoli**	**86.39**	**274**	P	**P**	**22 05 33.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**87.09**	**326**	P	**P**	**22 05 35.1**	**+0.3**
MKAR	**Makanchi Array**	**117.91**	**310**	PKP	**PKPdf**	**22 11 34.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=81,slow=0.2,SNR=5.7						
MKAR	**Makanchi Array**	**117.91**	**310**		**PKPdf**	**22 11 34.8**	**-0.8**
ARCES	**ARCESS Array B**	**138.24**	**348**	PKP	**PKiKP**	**22 12 14.7**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=35,slow=3.6,SNR=4.9						
ARCES	**ARCESS Array B**	**138.24**	**348**		**PKiKP**	**22 12 14.5**	**-1.1**
FINES	**FINESS Array B**	**144.89**	**341**	PKP	**PKPab**	**22 12 23.8**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=50,slow=3.8,SNR=33						
KBZ	**Khabaz**	**145.33**	**305**	PKPbc	**PKPdf**	**22 12 26.4**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=163,slow=3.2,SNR=5.7						
NC303	**NORSAR Array S**	**148.16**	**352**		**PKPbc**	**22 12 33.8**	**-0.6**
NB2	**NORSAR Subarra**	**148.36**	**352**	PKP	**PKPbc**	**22 12 33.8**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**148.36**	**352**	PKPbc	**PKPbc**	**22 12 34.0**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=14,slow=4.3,SNR=8.4						
AKASG	**Malin Array Be**	**151.27**	**324**	PKPbc	**PKPbc**	**22 12 40.9**	**-1.5**
	comp=Z,2.3nm,0.5s,baz=45,slow=2.6,SNR=12						
AKASG				PKPab	**sPKPdf**	**22 12 49.5**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=43,slow=4.0,SNR=4.8						
AKASG	**Malin Array Be**	**151.27**	**324**		**PKPbc**	**22 12 41.2**	**-1.2**
AKBB	**Malin Array Si**	**151.27**	**324**		**PKPbc**	**22 12 41.7**	**-0.7**
BRTR	**Keskin Array B**	**152.88**	**299**	PKPab	**PKPab**	**22 12 56.0**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=124,slow=3.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**163.28**	**177**	PKPab	**PKPab**	**22 13 43.1**	**+0.2**
	comp=Z,1.0nm,1.1s,baz=179,slow=5.8,SNR=2.5						

RSNC 05 22:16:11.0±0.9, **10°02N**×**73°85W**, **h18**km±2km, **ML3.5**, **Mw3.6**, **4C-3D**, **Fault plane solution: NP1:**φs78.00000°, δ28.00000°, λ-180.00000°., **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL5C	**La Loma 5 El P**	**0.30**	**155**	⇓*i*P	Pg	22 16 17.2	-0.4
LL5C				*i*		22 16 21.7	
	comp=Z,7μm,0.1s						
LL5C				*e*S	Sb	22 16 22.4	0.0
LL1C	**La Loma 1 Cana**	**0.56**	**148**	⇓*i*P	Pb	22 16 20.7	-1.5
LL1C				*e*S	Sg	22 16 27.4	-2.3
LL1C				*i*		22 16 27.6	
	comp=Z,6μm,0.5s						
LL6C	**La Loma 6 Bece**	**0.64**	**116**	⇓*i*P	Pb	22 16 22.7	-0.9
LL6C				*e*S	Sb	22 16 31.0	-1.1
LL6C				*i*		22 16 32.0	
	comp=Z,2μm,0.3s						
CVALL	**Valledupar, Ce**	**0.76**	**50**	⇑*i*P	Pb	22 16 25.5	-0.1
CVALL				*e*S	Sg	22 16 36.8	+0.8
CVALL				*i*		22 16 38.0	
	comp=Z,4μm,0.2s						
SMRC	**Santa Marta, M**	**1.19**	**342**	*e*P	Pn	22 16 32.0	-0.8
SMRC				*e*S	Sb	22 16 47.3	-0.9
SMRC				*i*		22 16 50.3	
	comp=Z,446nm,0.2s						
SJCC	**San Jacinto, C**	**1.31**	**265**	*e*P	Pn	22 16 33.7	-0.8
SJCC				*e*S	Sn	22 16 51.2	-0.3
SJCC				*i*		22 16 56.5	
	comp=Z,348nm,0.7s						
CRJC	**Cerrejon, Guaj**	**1.38**	**44**	⇑*i*P	Pn	22 16 34.0	-1.4
CRJC				*e*S	Sn	22 16 52.5	-0.7
CRJC				*i*		22 16 56.7	
	comp=Z,1μm,0.1s						
OCAC	**Ocana**	**1.85**	**163**	*e*P	Pn	22 16 39.7	-2.3
OCAC				*e*S	Sn	22 17 02.9	-2.1
OCAC				*i*		22 17 07.5	
	comp=Z,1μm,0.4s						
MOTC	**Monteria, Cord**	**2.17**	**235**	*e*P	Pn	22 16 45.5	-0.8
MOTC				*e*S	Sn	22 17 11.9	-0.9
URIC	**Uribia, Colomb**	**2.47**	**47**	*e*P	Pn	22 16 49.2	-1.2
URIC				*e*S	Sn	22 17 19.2	-0.9
URIC				*i*		22 17 33.3	
	comp=Z,260nm,0.2s						
ZARC	**Zaragoza, Cauc**	**2.70**	**202**	*e*P	Pn	22 16 52.1	-1.5
ZARC				*e*S	Sn	22 17 24.8	-1.0
ZARC				*i*		22 17 36.7	
	comp=Z,285nm,0.4s						
UREC	**San Jos de Ur**	**2.80**	**216**	*e*P	Pn	22 16 54.2	-0.7
UREC				*e*S	Sn	22 17 27.1	-1.2
UREC				*i*		22 17 28.8	
	comp=Z,140nm,0.2s						
PAMC	**Pamplona, Colo**	**2.90**	**157**	*e*P	Pn	22 16 55.6	-1.0
PAMC				*e*S	Sn	22 17 30.8	-0.6
PAMC				*i*		22 17 48.0	
	comp=Z,122nm,0.3s						
SDV	**Santo Domingo**	**3.37**	**109**	⇑*i*P	Pn	22 17 02.4	-0.5
SDV				*e*S	Sn	22 17 42.7	+0.1
SDV				*i*		22 18 07.3	
	comp=Z,61nm,0.5s						
SOCV	**Socops**	**3.43**	**120**	⇑*i*P	Pn	22 17 03.0	-0.5
SOCV				*e*S	Sb	22 17 55.3	+2.8
BARC	**Barichara**	**3.47**	**169**	*e*P	Pn	22 17 02.5	-1.9
BARC				*e*S	Sn	22 17 44.2	-0.9
BARC				*i*		22 18 07.2	
	comp=Z,76nm,0.4s						
PTBC	**PUERTO BERRIO,**	**3.51**	**190**	*e*P	Pn	22 17 03.7	-1.0
PTBC				*e*S	Sn	22 17 45.2	-0.7
PTBC				*i*		22 18 00.1	
	comp=Z,198nm,0.6s						
DBBC	**Dabeiba**	**3.79**	**218**	*e*P	Pn	22 17 06.4	-2.1
DBBC				*e*S	Sn	22 17 50.4	-2.4
DBBC				*i*		22 18 05.6	
	comp=Z,136nm,0.6s						
TAMC	**Tame, Arauca**	**4.11**	**150**	*e*P	Pn	22 17 11.0	-1.9
TAMC				*e*S	Sn	22 17 57.9	-2.7
HELC	**Santa Helena**	**4.15**	**204**	*e*P	Pn	22 17 14.8	+1.0
HELC				*e*S	Sn	22 18 04.4	+2.3
HELC				*i*		22 18 21.2	
	comp=Z,50nm,0.7s						
RUSC	**La Rusia**	**4.17**	**169**	*e*P	Pn	22 17 13.0	-1.3
RUSC				*e*S	Sn	22 18 02.6	-0.2
RUSC				*i*		22 18 25.1	
	comp=Z,34nm,0.6s						
SPBC	**San Pablo de B**	**4.35**	**183**	*e*P	Pn	22 17 16.3	0.0
SPBC				*e*S	Sn	22 18 06.1	-0.5
SPBC				*i*		22 18 26.7	
	comp=Z,41nm,0.4s						
NORC	**Norcasia**	**4.54**	**193**	*e*P	Pn	22 17 17.9	-1.0
NORC				*e*S	Sn	22 18 10.8	-0.6
NORC				*i*		22 18 21.9	
	comp=Z,36nm,0.5s						
GUY2C	**Guyana, Caldas**	**5.00**	**198**	*e*P	Pn	22 17 25.1	-0.5
GUY2C				*e*S	Sn	22 18 21.9	-1.2
GUY2C				*i*		22 18 52.3	
	comp=Z,34nm,0.7s						
CHIC	**Chingaza**	**5.36**	**179**	*e*P	Pn	22 17 31.8	+1.3
CHIC				*e*S	Sn	22 18 35.7	+3.7
ANIL	**Santa Ana**	**5.71**	**196**	*e*P	Pn	22 17 37.0	+1.8
ANIL				*e*S	Sn	22 18 48.4	+8.0
ANIL				*i*		22 18 56.5	
	comp=Z,30nm,0.3s						
ORTC	**Ortega, Tolima**	**6.23**	**193**	*e*P	Pn	22 17 43.7	+1.6
ORTC				*e*S	Sn	22 18 58.6	+5.7
ORTC				*i*		22 19 19.6	
	comp=Z,16nm,0.6s						

*IDC **05** 22:32:15.9±0.6, 69°20N×53°41W, h0km, mb3.7/19, mb1 3.9/22, mb1mx3.8/44, mbtmp3.8/22, ML3.2/3, MS3.4/19, Ms1 3.5/19, ms1mx3.1/90, Error ellipse: s-maj=17.6km s-min=12.3km az=160.0*

*DNK **05** 22:32:16.3±4.3, 69°10N×53°95W, h0km±20km, ML2.9*

*OTT **05** 22:32:17.3±0.2, 69°10N×53°80W, h18km, ML3.7/4, Western Greenland. 456km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone.*

*NEIC **05** 22:32:17.8±2.7, 69°16N±0°06×53°6W±0°1, h14km±4km, mb4.5/29, Error ellipse: s-maj=9.0km s-min=5.5km az=178.0*

ISC 05 22:32:17.0±1.6, **69°13N**±0°04×**53°70W**±0°04, **h12**km±10km, **n97**, σ**1s89**/97, **mb4.1**/28, **MS3.4**/17, **Western Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILULI	**Ilulissat**	**0.93**	**84**		**Pg**	**22 32 34.9**	**0.0**
ILULI				Sg	**Sn**	**22 32 47.5**	**-1.4**
ILULI	**Ilulissat**	**0.93**	**84**	*i* P	**Pb**	**22 32 34.7**	**-0.2**
ILULI				*i* S	**Sb**	**22 32 47.3**	**0.0**
ILULI				IAML		22 32 54.9	
	comp=Z,2μm,0.4s						
ILULI	**Ilulissat**	**0.93**	**84**	PG	**Pg**	**22 32 34.9**	**0.0**
ILULI				SG	**Sn**	**22 32 47.8**	**-1.2**
ILULI				Trac		22 32 54.7	
	comp=Z,1μm,0.3s						
NUUG	**Nuugaatsiaq**	**2.43**	**4**	*i* P	**Pn**	**22 32 55.7**	**-0.5**
NUUG				IAML		22 33 38.5	
	comp=Z,186nm,0.4s						
SFJD	**Kangerlussuaq**	**2.44**	**150**	Pn	**Pn**	**22 32 56.4**	**-0.1**
	comp=Z,10nm,0.3s,baz=336,slow=16,SNR=84						
SFJD				Sn	**Sn**	**22 33 23.8**	**-2.3**
	comp=Z,146nm,0.3s,baz=48,slow=13,SNR=19						
SFJD	**Kangerlussuaq**	**2.44**	**150**		**Pn**	**22 32 56.6**	**+0.2**
SFJD				Sn	**Sn**	**22 33 25.2**	**-0.9**
SFJD	**Kangerlussuaq**	**2.44**	**150**	*i* P	**Pn**	**22 32 56.7**	**+0.3**
SFJD				IAML		22 33 28.8	
	comp=Z,197nm,0.3s						
SFJD	**Kangerlussuaq**	**2.44**	**150**	PN	**Pn**	**22 32 56.6**	**+0.2**
SFJD				SN	**Sn**	**22 33 24.3**	**-1.8**
SFJD				Trac		22 33 33.0	
	comp=Z,35nm,0.2s						
UPNV	**Upernavik**	**3.76**	**349**	*i* P	**Pn**	**22 33 15.0**	**+0.4**
UPNV				IAML		22 33 58.2	
	comp=Z,242nm,0.3s						
UPNV				*i* S	**Sn**	**22 33 58.3**	**-0.3**
DY2G	**Dye2**	**3.88**	**130**	*i* P	**Pn**	**22 33 16.9**	**+0.4**
ICESG	**Greenland Ices**	**5.03**	**84**	*i* P	**Pn**	**22 33 32.9**	**+0.5**
ICESG				*e*S	**Sn**	**22 34 30.7**	**+0.2**
ICESG				IAML		22 34 56.4	
	comp=Z,140nm,0.3s						
CLRN	**Clyde River**	**5.33**	**292**	PN	**Pn**	**22 33 35.0**	**-1.1**
CLRN				Trac		22 34 36.8	
	comp=Z,27nm,0.2s						
ISOG	**Isortoq, Green**	**6.72**	**115**	*i* P	**Pn**	**22 33 54.6**	**-0.6**
ISOG				*e*S	**Sn**	**22 35 09.8**	**-1.7**
ISOG				IAML		22 35 37.9	
	comp=Z,22nm,0.4s						
ANGG	**Ammassalik, Gr**	**7.12**	**112**		**Pn**	**22 33 59.8**	**-0.9**
ANGG	**Ammassalik, Gr**	**7.12**	**112**	*i* P	**Pn**	**22 34 00.4**	**-0.3**
ANGG				*i*		22 34 04.6	
ANGG				IAML		22 35 21.5	
	comp=Z,28nm,0.3s						
FRB	**Frobisher Bay**	**8.02**	**235**	Pn	**Pn**	**22 34 11.0**	**-2.0**
	comp=Z,3.2nm,0.3s,baz=28,slow=12,SNR=54						
FRB				Sn	**Sn**	**22 35 36.2**	**-7.2**
	comp=Z,2.1nm,0.3s,baz=262,slow=16,SNR=1.7						
FRB				LR	LR	22 37 20.1	
	comp=Z,233nm,18.1s,baz=70,slow=37						
FRB	**Frobisher Bay**	**8.02**	**235**	PN	**Pn**	**22 34 10.8**	**-2.1**
FRB				SN	**Sn**	**22 35 35.5**	**-7.9**
FRB				Trac		22 35 49.1	
	comp=Z,90nm,1.1s						
SOEG	**Soedalen**	**8.18**	**86**	*e*P	**Pn**	**22 34 15.1**	**-0.1**
SOEG				IAML		22 36 44.4	
	comp=Z,54nm,0.4s						
IVI	**Ivigtut**	**8.29**	**161**	Pn	**Pn**	**22 34 17.7**	**+1.0**
IVI	**Ivigtut**	**8.29**	**161**	*e*P	**Pn**	**22 34 18.5**	**+1.8**
TULEG	**Thule**	**8.64**	**336**	Pn	**Pn**	**22 34 20.2**	**-1.3**
TULEG	**Thule**	**8.64**	**336**	*e*P	**Pn**	**22 34 20.7**	**-0.7**
TULEG				IAML		22 35 57.4	
	comp=Z,9.3nm,0.3s						
NRS	**Narsarsuaq**	**8.72**	**153**	Pn	**Pn**	**22 34 22.0**	**-0.7**
SCO	**Scoresbysund**	**10.98**	**68**		**Pn**	**22 34 51.1**	**-2.5**
SCO	**Scoresbysund**	**10.98**	**68**	*i* P	**Pn**	**22 34 51.0**	**-2.5**
SCO				IAML		22 37 00.1	
	comp=Z,5.7nm,0.4s						
DBG	**Daneborg**	**11.57**	**48**	*e*P	**Pn**	**22 34 59.4**	**-2.1**
DBG				IAML		22 37 39.9	
	comp=Z,2.8nm,0.4s						
DAG	**Danmarks Havn**	**12.56**	**37**	*i* P	**Pn**	**22 35 11.3**	**-3.7**
DAG				*i* S	**Sn**	**22 37 27.1**	**-7.5**
DAG				IAML		22 37 35.0	
	comp=Z,4.9nm,0.4s						
EUNU	**Eureka**	**13.64**	**337**		**Pn**	**22 35 28.7**	**-1.1**
RES	**Resolute Bay**	**13.67**	**312**	Pn	**Pn**	**22 35 29.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=76,slow=13,SNR=2.4						
RES				Sn	Sn	22 37 50.9	-11
	comp=Z,0.3nm,0.3s,baz=61,slow=18,SNR=2.0						
RES				LR	LR	22 41 07.9	
	comp=Z,98nm,18.3s,baz=96,slow=39						
RES	**Resolute Bay**	**13.67**	**312**	Pn	**Pn**	**22 35 29.2**	**-1.0**
NOR	**Nord**	**15.09**	**20**	*e*P	Pn	22 35 42.0	-7.5
NOR				IAML		22 38 31.6	
	comp=Z,4.1nm,0.4s						
SCHQ	**Schefferville**	**15.56**	**209**	Pn	**Pn**	**22 35 55.4**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=353,slow=7.1,SNR=9.5						
SCHQ				Sn	**Sn**	**22 38 43.4**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=263,slow=14,SNR=1.2						
SCHQ	**Schefferville**	**15.56**	**209**	Pn	**Pn**	**22 35 55.0**	**-0.8**
SCHQ				IAmb	IAmb	22 36 02.9	
	comp=Z,47nm,2.0s						
KBS	**Kingsbay**	**19.17**	**32**	P	**P**	**22 36 38.8**	**-0.9**
KBS				IAmb	IAmb	22 36 45.6	
	comp=Z,31nm,1.2s						
FCC	**Fort Churchill**	**20.11**	**259**	P	**P**	**22 36 48.6**	**-1.5**
SPITS	**Spitsbergen Ar**	**20.16**	**34**	P	**P**	**22 36 49.9**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=301,slow=12,SNR=9.0						
YKA	**Yellowknife Ar**	**24.80**	**285**	P	**P**	**22 37 40.4**	**+2.1**
	comp=Z,0.9nm,1.1s,baz=44,slow=10,SNR=5.1						
WVL	**Waterville**	**25.95**	**207**	P	**P**	**22 37 49.3**	**+0.5**
ARCES	**ARCESS Array B**	**26.16**	**52**	P	**P**	**22 37 50.0**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=296,slow=6.2,SNR=9.5						
ARCES	**ARCESS Array B**	**26.16**	**52**	P	**P**	**22 37 51.8**	**+1.2**
ARCES				IAmb	IAmb	22 38 24.0	
	comp=Z,31nm,1.7s						
H62A	**Milan**	**26.20**	**209**	P	**P**	**22 37 51.5**	**+0.5**
EKA	**Eskdalemuir Ar**	**26.32**	**96**	P	**P**	**22 37 51.8**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=318,slow=9.5,SNR=1.8						
EKA				LR	LR	22 47 19.6	
	comp=Z,86nm,21.8s,baz=327,slow=34						
INK	**Inuvik**	**27.10**	**307**	LR	LR	22 47 53.2	
	comp=Z,83nm,18.7s,baz=116,slow=34						
NOA	**NORSAR Array B**	**27.19**	**75**	LR	LR	22 48 07.6	
	comp=Z,40nm,18.2s,baz=290,slow=35						
ULM	**Lac du Bonnet**	**27.59**	**249**	P	**P**	**22 38 05.3**	**+1.8**
	comp=Z,1.8nm,0.5s,baz=42,slow=9.7,SNR=2.5						
ULM	**Lac du Bonnet**	**27.59**	**249**	P	**P**	**22 38 03.5**	**0.0**
ULM				IAmb	IAmb	22 38 11.1	
	comp=Z,19nm,1.7s						
HFS	**Hagfors**	**28.70**	**74**	LR	LR	22 49 02.8	
	comp=Z,58nm,18.2s,baz=307,slow=35						
FINES	**FINESS Array B**	**31.86**	**64**	P	**P**	**22 38 41.7**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=323,slow=7.6,SNR=13						
FINES				LR	LR	22 50 40.1	
	comp=Z,57nm,18.7s,baz=332,slow=35						
ILAR	**Eielson Array**	**33.39**	**309**	P	**P**	**22 38 55.1**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=32,slow=8.8,SNR=2.6						
SML	**Sawmill**	**36.11**	**307**	P	**P**	**22 39 19.8**	**+1.7**
T50A	**Nancy**	**36.37**	**224**	P	**P**	**22 39 21.6**	**+1.1**
OSTC	**Ostas**	**37.11**	**83**	*e*P	**P**	**22 39 30.4**	**+3.7**
DPC	**Dobruska-Polom**	**37.32**	**83**	*e*P	**P**	**22 39 29.3**	**+0.8**
KHC	**Kasperske Hory**	**37.36**	**87**	*e*P	**P**	**22 39 30.5**	**+1.6**
KRLC	**Kraliky**	**37.71**	**83**	*e*P	**P**	**22 39 33.1**	**+1.2**
DAVOX	**Davos/Dischmat**	**38.02**	**92**	LR	LR	22 55 52.0	
	comp=Z,53nm,19.7s,baz=308,slow=37						
VRAC	**Vranov**	**38.28**	**84**	LR	LR	22 55 23.4	
	comp=Z,38nm,18.3s,baz=327,slow=36						
PDAR	**Pinedale Array**	**38.77**	**257**	P	**P**	**22 39 42.5**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=55,slow=8.1,SNR=6.1						
PDAR				LR	LR	22 56 05.1	
	comp=Z,70nm,20.1s,baz=32,slow=37						
PDAR	**Pinedale Array**	**38.77**	**257**	P	**P**	**22 39 40.4**	**-0.7**
PLID	**Pearl Lake**	**39.02**	**265**	P	**P**	**22 39 43.9**	**+0.8**
CTI	**Castel Tesino**	**39.28**	**91**	P	**P**	**22 39 46.0**	**+0.9**
ESDC	**Sonseca Array**	**39.43**	**112**	P	**P**	**22 39 47.9**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=330,slow=9.2,SNR=4.0						
HHAR	**Hobbs**	**39.55**	**235**	P	**P**	**22 39 46.9**	**-0.5**
TEOL	**Teolo**	**39.88**	**92**	P	**P**	**22 39 50.7**	**+0.6**
TEOL				IAmb	IAmb	22 39 57.4	
	comp=Z,8.4nm,0.8s						
ZCCA	**Zocca**	**40.51**	**93**	P	**P**	**22 39 56.8**	**+1.5**
KDAK	**Kodiak Island**	**40.65**	**306**	LR	LR	22 57 08.1	
	comp=Z,45nm,18.2s,baz=66,slow=37						
AKASG	**Malin Array Be**	**41.53**	**72**	P	**P**	**22 40 03.6**	**0.0**
	comp=Z,0.9nm,0.4s,baz=331,slow=8.7,SNR=5.0						
AKASG				LR	LR	22 55 24.1	
	comp=Z,42nm,19.2s,baz=344,slow=34						
MURB	**Monte Urbino**	**42.01**	**93**	P	**P**	**22 40 09.1**	**+1.5**
MURB				IAmb	IAmb	22 40 13.4	
	comp=Z,9.6nm,1.1s						
T25A	**Trinidad**	**42.05**	**247**	P	**P**	**22 40 09.0**	**+0.8**
T25A				IAmb	IAmb	22 40 22.8	
	comp=Z,15nm,1.6s						
ELK	**Elko**	**42.55**	**261**	LR	LR	22 58 10.9	
	comp=Z,97nm,18.3s,baz=50,slow=36						
NRCA	**Norcia**	**42.59**	**92**	P	**P**	**22 40 13.7**	**+1.2**
NRCA				IAmb	IAmb	22 40 17.9	
	comp=Z,7.9nm,1.3s						
BUR08	**Bucovina Ar. S**	**42.74**	**78**	P	**P**	**22 40 14.9**	**+1.3**
BUR08				IAmb	IAmb	22 41 28.7	
	comp=Z,13nm,1.9s						
BURAR	**Bucovina Array**	**42.77**	**78**	P	**P**	**22 40 15.2**	**+1.3**
YBH	**Yreka Blue Hor**	**44.34**	**269**	LR	LR	23 00 03.4	
	comp=Z,54nm,18.8s,baz=18,slow=38						
MLR	**Muntele Rosu**	**44.86**	**79**	LR	LR	23 00 09.2	
	comp=Z,56nm,18.9s,baz=332,slow=37						
ARU	**Arti**	**45.50**	**46**	P	**P**	**22 40 37.1**	**+1.6**
ARU				IAmb	IAmb	22 42 11.6	
	comp=Z,9.0nm,1.6s						
NVAR	**Mina Array Bea**	**45.69**	**263**	P	**P**	**22 40 39.7**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=34,slow=5.5,SNR=2.6						
NVAR				LR	LR	23 00 10.8	
	comp=Z,92nm,18.6s,baz=84,slow=37						
TIP	**Timpagrande**	**47.11**	**91**	P	**P**	**22 40 49.9**	**+1.4**
TIP				IAmb	IAmb	22 41 17.1	
	comp=Z,9.2nm,1.5s						
FNA	**Florina**	**47.35**	**86**	P	**P**	**22 40 51.1**	**+0.8**
FNA				IAmb	IAmb	22 40 55.3	
	comp=Z,5.2nm,1.0s						
TXAR	**Lajitas Array**	**48.98**	**242**	P	**P**	**22 41 05.3**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=45,slow=6.5,SNR=2.4						
TXAR	**Lajitas Array**	**48.98**	**242**	P	**P**	**22 41 04.2**	**+1.1**

KBZ	Khabaz	52.18	66	P	P	22 41 27.2	+0.4
	comp=Z,0.3nm,0.5s,baz=34,slow=15,SNR=1.8						
ABKAR	Akbulak array	52.33	49	P	P	22 41 29.0	+1.1
BRTR	Keskin Array B	52.62	76	P	P	22 41 29.5	-0.8
	comp=Z,0.6nm,0.5s,baz=317,slow=2.3,SNR=3.9						
ZALV	Zalesovo Beam	53.53	29	P	P	22 41 36.6	-0.1
	comp=Z,0.9nm,0.7s,baz=324,slow=15,SNR=3.7						
KARS	Kars	55.02	67	P	P	22 41 48.6	+0.7
LPIG	La Paz	55.99	247	LR	LR	23 08 52.7	
	comp=Z,103nm,18.4s,baz=25,slow=39						
GNI	Garni	55.99	66	LR	LR	23 05 35.6	
	comp=Z,30nm,18.4s,baz=353,slow=36						
CMIG	Matias Romero	57.95	228	LR	LR	23 08 46.0	
	comp=Z,38nm,19.7s,baz=110,slow=38						
MAKZ	Makanchi	59.84	34	P	P	22 42 22.2	+0.5
MK31	Makanchi Array	59.91	33	P	P	22 42 22.1	-0.1
MKAR	Makanchi Array	59.91	33	P	P	22 42 22.5	+0.3
	comp=Z,1.0nm,0.8s,baz=347,slow=5.0,SNR=10						
AAK	Ala-Archa	62.19	41	P	P	22 42 38.9	+1.0
AAK				IAmb	IAmb	22 44 33.1	
	comp=Z,3.1nm,1.1s						
SONM	Songino Array	62.43	15	P	P	22 42 39.2	-0.1
	comp=Z,0.5nm,0.5s,baz=350,slow=7.3,SNR=3.7						
ULN	Ulaanbaatar	62.46	14	P	P	22 42 40.2	+0.6
ULN				IAmb	IAmb	22 42 49.6	
	comp=Z,3.4nm,0.9s						
TORD	Torodi Ar. Bea	65.84	119	P	P	22 43 01.6	-0.3
	comp=Z,0.3nm,0.5s,baz=342,slow=6.1,SNR=8.3						
LPAZ	La Paz	85.81	194	P	P	22 44 57.4	+0.8
	comp=Z,0.8nm,0.4s,baz=120,slow=14,SNR=2.3						

*NEIC **05** 22:34:06.4±1.9, 1°25N±0°06×122°65E±0°06, h10km±1km, mb4.6/40, Error ellipse: s-maj=10.8km s-min=9.0km az=49.0*
*DJA **05** 22:34:06.2±0.3, 1°N±3°×12°3E±°, h10km, M4.5/20, mB5.0/10, mb4.8/16, MLv4.8/20, Mw(mB)4.3/10*
*IDC **05** 22:34:10.8±2.1, 1°16N×122°70E, h53km±20km, mb4.0/13, mb1 4.2/18, mb1mx3.9/47, mbtmp4.4/18, ML4.5/5, MS3.3/15, Ms1 3.3/15, ms1mx3.0/74, Error ellipse: s-maj=21.2km s-min=11.4km az=72.0*
ISC 05 22:34:09.0±0.4**, 1°29N**±0°05×**122°75E**±0°05**, h35km, n117, σ1s31**/114**, mb4.5**/36**, MS3.2**/10**, 2C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	Gorontalo	0.70	158	P	Pn	22 34 18.9	-3.5
MRSI	Marisa	1.14	225	P	Pn	22 34 27.5	-0.9
KMSI	Cibinong	1.42	120	P	Pn	22 34 33.2	+0.9
TOLI2	Tolitoli	1.97	265		Pn	22 34 38.5	-1.4
TOLI2				Sn	Sn	22 35 01.5	-2.0
TOLI2	Tolitoli	1.97	265	P	Pn	22 34 40.7	+0.8
LUWI	Luwuk	2.31	179		Pn	22 34 46.0	+1.4
LUWI	Luwuk	2.31	179	P	Pn	22 34 46.4	+1.8
LUWI	Luwuk	2.31	179	P	Pn	22 34 46.6	+2.0
APSI	Ampana	2.44	207	P	Pn	22 34 47.1	+0.7
MPSI	Mapaga	3.00	252	P	Pn	22 34 54.2	+0.1
SANI	Sanana	4.63	136	P	Pn	22 35 16.3	-0.2
SANI	Sanana	4.63	136	P	Pn	22 35 16.4	-0.1
LBMI	Labuha	5.12	112	P	Pn	22 35 23.8	+0.5
	0.5nm749nm62nm,0.8s						
TTSI	Tana Toraja	5.21	214	P	Pn	22 35 25.8	+1.4
	1.1nm3μm348nm,0.8s						
GSPH	General Santos	5.25	25	⇑eP	Pn	22 35 26.1	+0.9
SPSI	Sidrap Palu	6.01	210	P	Pn	22 35 37.3	+1.9
	0.6nm2μm135nm,0.5s						
BNSI	Bone	6.24	205	P	Pn	22 35 40.3	+1.7
	0.9nm2μm301nm,0.7s						
DAV	Davao City (W)	6.40	26	P	Pn	22 35 43.7	+2.9
	66nm,0.3s,baz=216,slow=3.1,SNR=7.6						
DAV				LR	LR	22 38 25.9	
	comp=Z,270nm,19.1s,baz=116,slow=39						
DAV	Davao City (W)	6.40	26		Pn	22 35 42.4	+1.5
BBSI	Bau Bau	6.73	182	P	Pn	22 35 48.1	+2.7
	0.1nm211nm20nm,0.6s						
KAPI	Kappang	6.94	206	P	Pn	22 35 50.0	+1.8
	7.1nm,0.3s,baz=358,slow=6.2,SNR=20						
KAPI				S	Sn	22 37 10.0	+4.0
	baz=52,slow=22,SNR=1.3						
KAPI				LR	LR	22 39 00.1	
	comp=Z,399nm,18.6s,baz=36,slow=42						
KAPI	Kappang	6.94	206		Pn	22 35 47.3	-0.9
KAPI	Kappang	6.94	206	P	Pn	22 35 50.4	+2.2
BKSI	Bulukumba	7.07	202	P	Pn	22 35 51.6	+1.6
	0.3nm743nm85nm,0.7s						
MSAI	Masohi	7.70	127	P	Pn	22 36 00.9	+2.2
	0.1nm782nm20nm,0.9s						
BSSI	Bau Bau, Buton	7.72	197	P	Pn	22 36 01.1	+2.2
	0.3nm746nm70nm,0.9s						
KKM	Kota Kinabalu	8.05	306		Pn	22 36 04.3	+0.7
KKM	Kota Kinabalu	8.05	306	P	Pn	22 36 04.8	+1.2
SIJI	Sorong	8.78	104	P	Pn	22 36 15.4	+1.8
	0.9nm,0.3s,baz=127,slow=23,SNR=2.1						
MMRI	Maumere	9.87	183	Pn	Pn	22 36 29.8	+1.3
SBUM	Sibu	10.59	276	Pn	Pn	22 36 37.5	-0.8
PLAI	Plampang	11.20	206	P	Pn	22 36 48.0	+1.3
BATI	Baumata	11.45	175	P	Pn	22 36 49.4	-0.8
	1.3nm,0.3s,baz=0.0,slow=20,SNR=1.4						
BATI				LR	LR	22 41 15.5	
	comp=Z,350nm,19.6s,baz=338,slow=38						
MTN	Manton Dam	16.32	150	P	Pn	22 37 57.6	+2.1
LEM	Lembang	17.12	242	LR	LR	22 45 17.6	
	comp=Z,63nm,18.7s,baz=188,slow=39						
KNRA	Kununurra	17.87	161	P	Pn	22 38 15.9	+0.9
KNRA	Kununurra	17.87	161	P	Pn	22 38 15.5	+0.5
CGJI	Cibinong	18.75	245	P	P	22 38 25.9	+0.9
	18nm,1.1s						
KLSI		18.96	252	P	P	22 38 27.6	+0.2
	5.3nm,0.8s						
FITZ	Fitzroy Crossi	19.47	172	P	P	22 38 31.8	-1.1
	1.6nm,0.3s,baz=6.1,slow=8.1,SNR=27						
FITZ				LR	LR	22 46 47.9	
	comp=Z,48nm,19.5s,baz=338,slow=39						
FITZ	Fitzroy Crossi	19.47	172	P	P	22 38 32.1	-0.8
BKNI	Bangkinang	21.73	268	P	P	22 38 57.1	-0.4
TPUB	Ta-pu	21.98	355	P	P	22 39 01.1	+1.0
TPUB				IAmb	IAmb	22 39 08.4	
	comp=Z,19nm,0.8s						
SSLB	Suanglung	22.43	356	P	P	22 39 05.2	+0.2
SSLB				IAmb	IAmb	22 39 26.8	
	comp=Z,16nm,0.9s						
PSA00	Pilbara Seismi	22.90	187	P	P	22 39 07.8	-2.0
PSA00	Pilbara Seismi	22.90	187	P	P	22 39 07.5	-2.3
PSA00	Pilbara Seismi	22.90	187	P	P	22 39 09.5	-0.3
WB0	Warramunga Arr	23.84	152	P	P	22 39 17.7	-1.4
WB0				IAmb	IAmb	22 39 19.2	
	comp=Z,18nm,0.9s						
RPSI	Rantau Prapat	23.85	274	P	P	22 39 18.4	-0.9
PSI	Prapat	23.86	274	P	P	22 39 18.4	-1.1
	comp=Z,4.2nm,0.4s,baz=87,slow=4.9,SNR=9.6						
WRAB	Tennant Creek	23.96	152	P	P	22 39 18.9	-1.4
WRA	Warramunga Arr	23.97	152	P	P	22 39 18.6	-1.7
	comp=Z,9.3nm,0.6s,baz=334,slow=9.9,SNR=73						
WRA				PcP	PcP	22 43 00.3	-1.9
	comp=Z,0.6nm,0.8s,baz=349,slow=1.8,SNR=2.2						
WRA				LR	LR	22 49 20.7	
	comp=Z,70nm,18.1s,baz=253,slow=38						
WRA	Warramunga Arr	23.97	152	P	P	22 39 18.2	-2.1
GSI	Gunungsitoli	25.17	270	P	P	22 39 30.9	-0.5
GSI				IAmb	IAmb	22 39 31.5	
	comp=Z,15nm,0.7s						
GSI	Gunungsitoli	25.17	270	P	P	22 39 31.1	-0.2
	comp=Z,22nm,0.9s						
GIRL	Giralia	25.19	199	P	P	22 39 29.9	-1.5
COEN	Coen	25.28	127	P	P	22 39 31.5	-0.8
COEN				IAmb	IAmb	22 39 48.6	
	comp=Z,20nm,1.3s						
COEN	Coen	25.28	127	P	P	22 39 31.6	-0.8
JOW	Kunigami	25.95	11	LR	LR	22 52 37.6	
	comp=Z,50nm,18.1s,baz=338,slow=42						
PMG	Port Moresby	26.53	114	P	P	22 39 43.8	+0.1
	comp=Z,5.9nm,0.3s,baz=277,slow=8.1,SNR=3.6						
AS31	Alice Springs	27.07	157	P	P	22 39 47.4	-1.1
ASAR	Alice Springs	27.07	157	P	P	22 39 47.4	-1.1
	comp=Z,1.9nm,0.7s,baz=334,slow=7.7,SNR=21						
ASAR				PcP	PcP	22 43 08.4	-0.7
	comp=Z,0.5nm,0.3s,baz=344,slow=2.1,SNR=4.8						
ASAR				LR	LR	22 51 20.1	
	comp=Z,82nm,18.7s,baz=331,slow=38						
ASAR	Alice Springs	27.07	157	P	P	22 39 48.1	-0.4
ASAR					PcP	22 43 08.5	-0.7
QIS	Mount Isa	27.27	144	P	P	22 39 50.0	-0.3
MEEK	Meekatharra	28.05	188	P	P	22 39 55.7	-1.5
	comp=Z,16nm,1.8s						
MORW	Morawa	30.86	191	P	P	22 40 20.1	-1.9
CTA	Charters Tower	31.34	134	P	P	22 40 24.7	-1.8
	comp=Z,14nm,1.7s						
PZH	PanZhiHua	32.20	323	P	P	22 40 47.0	+13
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,80nm,5.0s						
BLDU	Ballidu	32.24	190	P	P	22 40 32.2	-2.0
FORT	Forrest	32.29	171	P	P	22 40 33.5	-1.0
FORT	Forrest	32.29	171	P	P	22 40 33.9	-0.7
	comp=Z,35nm,1.9s						
MULG	Mulgathing	33.19	162	P	P	22 40 41.7	-0.8
JMN	Monobe	33.92	17	P	P	22 40 48.6	-0.2
JMN				IAmb	IAmb	22 40 52.7	
	comp=Z,24nm,1.2s						
JHJ	Hachijo jima 2	35.48	25	LR	LR	22 54 43.7	
	comp=Z,30nm,20.8s,baz=254,slow=35						
BBOO	Buckleboo	36.17	161	P	P	22 41 06.8	-1.4
KSRS	Korea Array	36.30	7	P	P	22 41 10.4	+1.1
	comp=Z,1.0nm,0.7s,baz=187,slow=9.2,SNR=6.2						
KSRS				LR	LR	22 58 48.9	
	comp=Z,30nm,18.3s,baz=185,slow=41						
STKA	Stephens Creek	37.51	153	P	P	22 41 18.9	-0.7
	comp=Z,9.5nm,0.7s,baz=324,slow=8.6,SNR=12						
STKA	Stephens Creek	37.51	153	P	P	22 41 18.5	-1.2
MJAR	Matsushiro Arr	37.89	20	LR	LR	22 55 01.2	
	comp=Z,45nm,20.5s,baz=204,slow=33						
SHL	Shillong	38.31	312	P	P	22 41 26.9	+0.2
SHL				IAmb	IAmb	22 41 40.2	
	comp=Z,6.7nm,0.9s						
ARMA	Armidale	41.84	141	P	P	22 41 56.4	+0.5
ARMA				IAmb	IAmb	22 42 03.7	
	comp=Z,7.6nm,1.1s						
PALK	Pallekele	42.33	279	LR	LR	23 00 54.4	
	comp=Z,48nm,18.4s,baz=200,slow=38						
GOMU	GeErMu	43.32	326	P	P	22 42 21.8	+14
GOMU				pP	pwP	22 42 25.3	+3.4
GOMU				sP	sP	22 42 27.4	+6.3
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,53nm,6.9s						
GTA	Gaotai	43.33	334	⇑P	P	22 42 10.3	+2.4
GTA				sP	sP	22 42 21.1	+0.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CAN	Canberra	43.91	149	P	P	22 42 13.0	+0.4
CAN				IAmb	IAmb	22 42 41.2	
	comp=Z,33nm,1.4s						
TOO	Toolangi	44.02	154	P	P	22 42 13.6	+0.2
TOO				IAmb	IAmb	22 42 24.9	
	comp=Z,22nm,1.4s						
KLR	Kul'dur	48.38	8	LR	LR	23 02 16.2	
	comp=Z,32nm,21.9s,baz=196,slow=35						
SONM	Songino Array	48.48	345	P	P	22 42 49.6	+1.2
	comp=Z,1.4nm,0.8s,baz=160,slow=9.2,SNR=6.5						
MK31	Makanchi Array	57.39	328	P	P	22 43 54.4	+0.4
MKAR	Makanchi Array	57.39	328	P	P	22 43 55.1	+1.1
	comp=Z,0.6nm,0.4s,baz=126,slow=8.4,SNR=16						
MAKZ	Makanchi	57.57	328	P	P	22 43 55.9	+0.7
KDJ	Kajisay	57.62	321	P	P	22 43 56.3	+0.3
KDJ				IAmb	IAmb	22 44 12.0	
	comp=Z,2.8nm,0.8s						
DRK	Karamyk	59.89	316	P	P	22 44 12.5	+0.5
DRK				IAmb	IAmb	22 44 28.8	
	comp=Z,2.7nm,0.7s						
KBL	Kabul	59.93	310	P	P	22 44 12.2	+0.1
KBL				IAmb	IAmb	22 44 24.3	
	comp=Z,4.5nm,0.8s						
GAR	Garm	60.73	315	P	P	22 44 17.6	+0.2
GAR				IAmb	IAmb	22 44 30.8	
	comp=Z,6.4nm,0.8s						
ZALV	Zalesovo Beam	61.05	335	P	P	22 44 19.8	+0.7
	comp=Z,0.4nm,0.4s,baz=126,slow=7.3,SNR=2.0						
ZALV				LR	LR	23 10 51.7	
	comp=Z,16nm,21.2s,baz=109,slow=36						
MLZ	Mavora Lakes	61.36	145	P	P	22 44 21.9	+0.5
QRZ	Quartz Range	61.62	139	P	P	22 44 24.0	+0.8
KURK	Kurchatov	61.74	330	P	P	22 44 24.3	+0.5
KURK				IAmb	IAmb	22 44 49.2	
	comp=Z,4.3nm,1.0s						
LBZ	Lake Benmore	62.01	143	P	P	22 44 25.6	-0.2
RPZ	Rata Peaks	62.17	142	P	P	22 44 26.9	-0.1
	comp=Z,11nm,0.8s,baz=359,slow=7.1,SNR=8.8						
RPZ	Rata Peaks	62.17	142	P	P	22 44 27.1	+0.2
KK31	Karatay Array	62.38	319	P	P	22 44 28.4	0.0
KK31				IAmb	IAmb	22 44 41.7	
	comp=Z,2.3nm,1.0s						
BKZ	Black Stump Fm	63.54	136	P	P	22 44 36.0	-0.2
TIXI	Tiksi	70.36	2	P	P	22 45 19.0	+0.2
	comp=Z,0.7nm,0.5s,baz=90,slow=22,SNR=4.7						
TIXI	Tiksi	70.36	2	P	P	22 45 19.2	+0.3
TIXI				IAmb	IAmb	22 45 30.1	
	comp=Z,2.7nm,1.0s						
ABKAR	Akbulak array	71.57	322	P	P	22 45 27.3	+0.7
RAYN	Ar Rayn	77.79	294	P	P	22 46 02.4	-1.0
VNDA	Vanda	81.55	172	P	P	22 46 22.0	-0.5
	comp=Z,5.0nm,0.9s,baz=319,slow=6.5,SNR=23						
VNDA	Vanda	81.55	172	P	P	22 46 22.3	-0.2
VNDA				IAmb	IAmb	22 46 22.9	
	comp=Z,5.6nm,0.9s						
SBA	Scott Base	82.50	171	P	P	22 46 28.2	+0.7
SBA				IAmb	IAmb	22 46 28.5	
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	92.08	331	P	P	22 47 13.8	-0.5
	comp=Z,0.6nm,0.7s,baz=90,slow=3.3,SNR=1.5						
FINES				LR	LR	23 31 18.1	
	comp=Z,37nm,18.5s,baz=23,slow=37						
TORD	Torodi Ar. Bea	119.82	286	PKP	PKPdf	22 52 54.5	-2.2
	comp=Z,0.3nm,0.8s,baz=75,slow=1.2,SNR=1.7						
TXAR	Lajitas Array	126.23	52	PKP	PKPdf	22 53 08.6	-0.2
	comp=Z,0.2nm,0.7s,baz=22,slow=0.8,SNR=3.5						
CPUP	Villa Florida	155.10	180	PKPab	PKPab	22 54 22.1	-1.5
	comp=Z,1.5nm,0.8s,baz=227,slow=18,SNR=3.2						
LPAZ	La Paz	161.64	145	PKPab	PKPab	22 54 52.9	-0.1
	comp=Z,0.4nm,0.4s,baz=120,slow=2.5,SNR=4.0						
BDFB	Brasilia	163.07	212	PKPab	PKPab	22 54 57.5	-1.0
	comp=Z,1.0nm,0.4s,baz=142,slow=9.2,SNR=3.1						

*NEIC **05** 22:42:46.5±1.1, 24°6S±0°1×180°0E±0°2, h511km±17km, mb4.3/18, Error ellipse: s-maj=26.2km s-min=9.3km az=131.0*
*IDC **05** 22:43:07.0±31.0, 24°34S×178°22E, h650km±293km, mb3.1/3, mb1 3.3/3, mb1mx2.9/36, mbtmp4.2/3, Error ellipse: s-maj=267.4km s-min=106.3km az=75.0*
ISC 05 22:42:45.9±0.9**, 24°5S**±0°2×**179°9E**±0°1**, h500km, n25, σ0s67**/26**, mb4.1**/11**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	10.91	62	P	P	22 45 12.8	-0.2
KHZ	Kahutara	18.60	195	P	P	22 46 32.0	+0.5
KHZ				IAmb	IAmb	22 46 56.1	
	comp=Z,14nm,1.4s						
LTZ	Lake Taylor	19.26	197	P	P	22 46 37.8	+0.1
LTZ				IAmb	IAmb	22 46 59.3	
	comp=Z,17nm,1.4s						
EIDS	Eidsvold	26.10	262	P	P	22 47 40.0	+0.8
EIDS				IAmb	IAmb	22 47 40.9	
	comp=Z,12nm,1.1s						
TOO	Toolangi	32.02	238	P	P	22 48 30.8	+0.2
STKA	Stephens Creek	34.39	249	P	P	22 48 51.6	+0.9
	comp=Z,2.3nm,0.5s,baz=92,slow=13,SNR=6.0						
STKA	Stephens Creek	34.39	249	P	P	22 48 50.5	-0.2
COEN	Coen	36.11	280	P	P	22 49 05.8	+0.6
COEN				IAmb	IAmb	22 49 14.9	
	comp=Z,17nm,1.2s						
BBOO	Buckleboo	39.10	248	P	P	22 49 29.6	0.0
AS31	Alice Springs	41.82	261	P	P	22 49 51.8	+0.2
ASAR	Alice Springs	41.83	261	P	P	22 49 52.0	+0.4
	comp=Z,1.1nm,0.5s,baz=97,slow=7.3,SNR=19						
ASAR				PcP	PcP	22 51 36.0	-0.1
	comp=Z,0.2nm,0.5s,baz=93,slow=4.8,SNR=2.5						
ASAR	Alice Springs	41.83	261	P	P	22 49 51.1	-0.5
WR0	Warramunga Arr	42.07	267	P	P	22 49 53.0	-0.5
WR0				IAmb	IAmb	22 50 11.5	
	comp=Z,9.2nm,1.4s						
WRAB	Tennant Creek	42.25	267	P	P	22 49 54.5	-0.5
WRAB				IAmb	IAmb	22 49 55.0	
	comp=Z,3.2nm,0.5s						
WRA	Warramunga Arr	42.26	267	P	P	22 49 54.7	-0.3
	comp=Z,2.8nm,0.5s,baz=99,slow=7.9,SNR=69						
WRA	Warramunga Arr	42.26	267	P	P	22 49 54.5	-0.5
FORT	Forrest	45.99	250	P	P	22 50 23.2	-0.6
KNRA	Kununurra	48.57	270	P	P	22 50 43.3	-0.1
KNRA				IAmb	IAmb	22 50 44.0	
	comp=Z,6.6nm,0.8s						
FITZ	Fitzroy Crossi	50.67	266	P	P	22 50 58.9	0.0
PSA00	Pilbara Seismi	54.94	260	P	P	22 51 28.6	-0.9
PSA00	Pilbara Seismi	54.94	260	P	P	22 51 28.5	-0.9
PSA00				IAmb	IAmb	22 51 42.5	
	comp=Z,27nm,1.2s						
MORW	Morawa	56.56	250	P	P	22 51 39.7	-0.9
MORW				IAmb	IAmb	22 51 52.5	
	comp=Z,42nm,1.4s						
QSPA	South Pole Qui	65.56	180	P	P	22 52 39.2	-0.2
QSPA				IAmb	IAmb	22 52 54.8	
	comp=Z,4.4nm,1.4s						
KKM	Kota Kinabalu	68.98	287	P	P	22 53 00.7	-0.5
BRTR	Keskin Array B	147.86	306	PKPbc	PKiKP	23 01 38.0	+2.0
	comp=Z,0.8nm,0.5s,baz=160,slow=2.1,SNR=3.5						

*NEIC **05** 22:54:43.7±2.8, 20°4S±0°1×174°5W±0°1, h10km±1km, mb4.8/44, Error ellipse: s-maj=19.2km s-min=16.7km az=167.0*
*IDC **05** 22:54:50.3±3.4, 20°28S×174°77W, h62km±29km, mb4.0/19, mb1 4.2/21, mb1mx4.1/39, mbtmp4.3/21, ML4.8/3, MS3.6/31, Ms1 3.6/31, ms1mx3.5/63, Error ellipse: s-maj=20.2km s-min=13.3km az=125.0*
ISC 05 22:54:42.6±0.3**, 20°34S**±0°09×**174°43W**±0°06**, h10km, n162, σ1s34**/128**, mb4.7**/36**, MS3.7**/32**, 6C-9D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	4.43	74		Pn	22 55 50.5	+0.7
NIUE					Sn	22 56 36.4	-5.1
AFI	Afiamalu	6.88	22	P	Pn	22 56 30.1	+6.5
	114nm,0.3s,baz=342,slow=0.4,SNR=1.1						
AFI				S	Sn	22 57 30.7	-11
	181nm,0.3s,baz=20,slow=0.3,SNR=1.8						
MSVF	Nonsavu	7.57	289	P	Pn	22 56 43.2	+10
	11nm,0.3s,baz=130,slow=14,SNR=15						
RAR	Rarotonga	13.74	96	P	Pn	22 57 57.1	-0.5
	7.1nm,0.3s,baz=257,slow=7.9,SNR=16						
RAR				S	Sn	23 00 16.5	-14
	0.9nm,0.3s,baz=264,slow=10,SNR=1.7						
RAR				LR	LR	23 02 16.8	
	comp=Z,171nm,18.9s,baz=299,slow=32						
RAR	Rarotonga	13.74	96		Pn	22 57 57.8	+0.3
MARNC	Mare, Loyalty	16.43	263		P	22 58 35.4	-0.7
PINNC	Pines Island,	17.02	259		Pn	22 58 41.7	+0.9
PINNC				IAmb	IAmb	22 59 05.7	
	comp=Z,149nm,1.3s						
DZM	Mont Dzumac	17.91	261	P	Pn	22 58 52.4	+0.3
	comp=Z,0.5nm,0.3s,baz=96,slow=13,SNR=2.7						
DZM				LR	LR	23 04 59.4	
	comp=Z,366nm,18.5s,baz=54,slow=35						
DZM	Mont Dzumac	17.91	261	eLR	LR	23 03 31.6	
	comp=Z,624nm,25.6s						
DZM	Mont Dzumac	17.91	261		P	22 58 53.2	+0.5
URZ	Urewera	19.31	200	P	Pn	22 59 08.9	+0.1
	comp=Z,2.2nm,0.3s,baz=266,slow=2.6,SNR=9.8						
KOUNC	Koumac, New Ca	19.94	266	P	Pn	22 59 17.6	+1.1
KOUNC				IAmb	IAmb	22 59 33.7	
	comp=Z,27nm,0.8s						
TUWZ	Tuamarina	23.23	203	P	P	22 59 48.5	-1.4
TBI	Tubuai	23.36	102	eS	S	23 04 02.6	-1.9
	comp=Z,150nm,30.2s						
TBI				eLR	LR	23 05 33.7	
	comp=Z,378nm,26.8s						
TBI	Tubuai	23.36	102	eT	T	23 23 51.5	
	comp=Z,12nm,0.3s						
PAE	Paea	23.64	88	eT	T	23 24 07.2	
	comp=Z,4.5nm,0.3s						
PPT2	Papeete2	23.66	88	eS	S	23 04 05.2	-4.3
	comp=Z,171nm,28.0s						
PPT2				eLR	LR	23 05 36.8	
	comp=Z,456nm,26.0s						
PPT	Papeete	23.66	88	LR	LR	23 06 41.9	
	comp=Z,99nm,20.6s,baz=250,slow=30						
TVO	Taravao	23.93	88	eT	T	23 24 28.4	
	comp=Z,0.2nm,0.2s						
RPZ	Rata Peaks	26.28	204	P	P	23 00 20.0	+1.8
	comp=Z,6.4nm,0.4s,baz=260,slow=1.4,SNR=8.4						
RPZ	Rata Peaks	26.28	204	P	P	23 00 20.1	+2.0
RPZ				IAmb	IAmb	23 00 33.8	
	comp=Z,12nm,0.7s						
ARMA	Armidale	32.16	245	P	P	23 01 10.5	-0.2
ARMA				IAmb	IAmb	23 01 11.6	
	comp=Z,16nm,1.2s						
TAOE	Nuku Hiva Isla	35.01	76	eLR	LR	23 10 45.7	
	comp=Z,237nm,27.5s						
TAOE	Nuku Hiva Isla	35.01	76	eT	T	23 38 14.3	
	comp=Z,28nm,0.2s						
KRVT	Keravat (AS076	36.31	292	LR	LR	23 16 50.6	
	comp=Z,78nm,18.2s,baz=255,slow=37						
RKT	Rikitea	36.69	102	eT	T	23 40 28.6	
	comp=Z,7.4nm,0.3s						
CTA	Charters Tower	36.83	263	LR	LR	23 15 15.5	
	comp=Z,152nm,18.4s,baz=82,slow=34						
PMG	Port Moresby	38.58	281	LR	LR	23 14 50.4	
	comp=Z,96nm,20.5s,baz=166,slow=31						
STKA	Stephens Creek	40.88	245	P	P	23 02 23.6	-1.4
	comp=Z,7.1nm,0.9s,baz=85,slow=12,SNR=6.8						
STKA	Stephens Creek	40.88	245	P	P	23 02 23.6	-1.4
COEN	Coen	40.91	272	P	P	23 02 24.1	-1.4
COEN				IAmb	IAmb	23 02 29.2	
	comp=Z,12nm,1.0s						
AS31	Alice Springs	47.81	256	P	P	23 03 17.6	-3.0
ASAR	Alice Springs	47.81	256	P	P	23 03 18.7	-2.0
	comp=Z,5.2nm,0.9s,baz=87,slow=8.4,SNR=28						
ASAR				PcP	PcP	23 04 48.8	-0.8
	comp=Z,1.0nm,0.6s,baz=103,slow=3.3,SNR=4.9						
ASAR				LR	LR	23 22 13.6	
	comp=Z,80nm,19.3s,baz=140,slow=35						
WB0	Warramunga Arr	47.91	261	P	P	23 03 19.4	-2.1
WB0				IAmb	IAmb	23 03 20.5	
	comp=Z,7.6nm,1.1s						
WRAB	Tennant Creek	47.92	261	P	P	23 03 19.5	-2.1
WRAB				IAmb	IAmb	23 03 48.6	
	comp=Z,7.7nm,0.9s						
WRA	Warramunga Arr	47.93	261	P	P	23 03 19.6	-2.0
	comp=Z,1.5nm,0.3s,baz=94,slow=7.6,SNR=80						
WRA				PcP	PcP	23 04 49.3	-0.7
	comp=Z,1.4nm,0.8s,baz=99,slow=4.3,SNR=3.1						
WRA				LR	LR	23 22 32.3	
	comp=Z,87nm,18.1s,baz=110,slow=35						
WRA	Warramunga Arr	47.93	261	P	P	23 03 18.4	-3.2
MTN	Manton Dam	52.51	269	P	P	23 03 53.9	-2.4
KNRA	Kununurra	54.01	265	P	P	23 04 05.6	-1.8
KNRA				IAmb	IAmb	23 04 11.5	
	comp=Z,10nm,0.8s						
FITZ	Fitzroy Crossi	56.36	261	LR	LR	23 27 45.6	
	comp=Z,89nm,18.3s,baz=116,slow=35						
VNDA	Vanda	58.39	186	P	P	23 04 39.6	+1.8
	comp=Z,2.1nm,0.9s,baz=1.0,slow=6.8,SNR=9.5						
VNDA	Vanda	58.39	186	P	P	23 04 37.1	-0.7
PSA00	Pilbara Seismi	60.96	256	P	P	23 04 53.3	-3.1
PSA00	Pilbara Seismi	60.96	256	P	P	23 04 54.5	-1.9
PSA00				IAmb	IAmb	23 05 21.4	
	comp=Z,24nm,1.3s						
MORW	Morawa	62.98	247	P	P	23 05 07.6	-2.3
KAPI	Kappang	65.61	274	LR	LR	23 33 49.7	
	comp=Z,21nm,19.1s,baz=82,slow=36						
QSPA	South Pole Qui	69.73	180	P	P	23 05 54.5	+1.9
MJAR	Matsushiro Arr	72.11	322	P	P	23 06 06.7	-0.7
	comp=Z,6.7nm,0.9s,baz=183,slow=4.6,SNR=6.3						
JOW	Kunigami	72.66	308	LR	LR	23 32 12.6	
	comp=Z,28nm,20.6s,baz=322,slow=31						
JMN	Monobe	72.91	317	P	P	23 06 13.0	+0.9
SHEM	Shemya Is, Ala	73.44	353	LR	LR	23 31 33.0	
	comp=Z,38nm,21.8s,baz=146,slow=30						
JHS	Saijyo	74.20	317	P	P	23 06 20.4	+0.6
ASAJ	Asahikawa	75.23	329	LR	LR	23 35 09.2	
	comp=Z,32nm,20.6s,baz=148,slow=32						
LEM	Lembang	76.39	268	LR	LR	23 38 47.8	
	comp=Z,26nm,21.5s,baz=156,slow=35						
LPIG	La Paz	76.47	58	LR	LR	23 32 33.6	
	comp=Z,44nm,19.3s,baz=190,slow=30						
PETK	Petropavlovsk-	77.02	343	P	P	23 06 35.2	-0.3
	comp=Z,2.7nm,0.8s,baz=170,slow=10,SNR=3.1						
PETK				LR	LR	23 33 39.1	
	comp=Z,54nm,21.7s,baz=100,slow=30						
YBH	Yreka Blue Hor	78.11	37	LR	LR	23 33 52.1	
	comp=Z,44nm,18.4s,baz=270,slow=30						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	78.64	42	P	P	23 06 47.0	+1.8
	comp=Z,3.7nm,1.0s,baz=222,slow=8.5,SNR=13						
NV11	Mina Array Sit	78.74	42	P	P	23 06 47.7	+2.1
NV11				IAmb	IAmb	23 06 49.4	
	comp=Z,7.5nm,1.3s						
KSRS	Korea Array	79.02	317	P	P	23 06 47.0	+0.2
	comp=Z,1.9nm,0.7s,baz=140,slow=6.4,SNR=13						
BELA	Belgrano 2	79.27	172	P	P	23 06 49.1	+1.3
BELA				IAmb	IAmb	23 06 53.3	
	comp=Z,13nm,1.3s						
SHPR	Sheep Range	79.53	45	P	P	23 06 52.2	+2.2
USRK	Ussuriysk Ar.	80.75	324	P	P	23 06 56.2	+0.1
	comp=Z,1.2nm,0.6s,baz=123,slow=5.3,SNR=2.7						
USRK				LR	LR	23 40 08.3	
	comp=Z,31nm,18.3s,baz=152,slow=34						
X16A	Lo Mia Camp, P	80.91	48	P	P	23 06 59.7	+2.2
G08A	Pilot Rock	82.49	36	P	P	23 07 06.9	+1.4
G08A				IAmb	IAmb	23 07 22.3	
	comp=Z,7.6nm,1.4s						
BBB	Bella Bella	82.72	27	LR	LR	23 39 35.4	
	comp=Z,33nm,19.4s,baz=278,slow=32						
MAW	Mawson	82.83	199	P	P	23 07 07.2	+0.4
	comp=Z,6.3nm,1.2s,baz=90,slow=6.0,SNR=4.2						
MAW	Mawson	82.83	199	P	P	23 07 07.9	+1.0
H03S2	Juan Fernandez	83.31	123	T	T	00 39 26.7	
	baz=248						
H03S1	Juan Fernandez	83.32	123	T	T	00 39 26.1	
	baz=248						
H03S3	Juan Fernandez	83.33	123	T	T	00 39 26.5	
	baz=248						
H03N2	Juan Fernandez	83.44	123	T	T	00 39 22.1	
	baz=257,slow=71,SNR=277						
H03N3	Juan Fernandez	83.44	123	T	T	00 39 29.2	
	baz=257,slow=71,SNR=145						
H03N1	Juan Fernandez	83.45	123	T	T	00 39 42.3	
	baz=257,slow=71,SNR=140						
PLID	Pearl Lake	84.02	37	P	P	23 07 15.2	+1.6
PLID				IAmb	IAmb	23 07 16.3	
	comp=Z,9.1nm,1.5s						
HLID	Hailey	84.05	39	P	P	23 07 15.8	+2.1
HLID				IAmb	IAmb	23 07 16.8	
	comp=Z,4.3nm,1.4s						
KLR	Kul'dur	84.13	328	LR	LR	23 37 53.6	
	comp=Z,50nm,20.2s,baz=132,slow=31						
TXAR	Lajitas Array	84.17	56	P	P	23 07 16.3	+1.8
	comp=Z,0.9nm,1.0s,baz=207,slow=4.2,SNR=5.8						
TXAR				LR	LR	23 38 23.1	
	comp=Z,26nm,19.5s,baz=206,slow=31						
GHO	Glory Hole Cre	84.33	12	P	P	23 07 15.3	+0.7
MA2	Magadan	84.56	343	LR	LR	23 41 11.9	
	comp=Z,48nm,20.3s,baz=116,slow=33						
SCM	Sheep Creek Mo	84.70	13	P	P	23 07 17.1	+0.7
SCM				IAmb	IAmb	23 07 25.9	
	comp=Z,13nm,1.3s						
ANMO	Albuquerque	84.72	50	P	P	23 07 18.2	+0.9
	comp=Z,2.9nm,0.9s,baz=226,slow=5.3,SNR=6.2						
ANMO				LR	LR	23 41 51.2	
	comp=Z,34nm,18.8s,baz=242,slow=33						
ANMO	Albuquerque	84.72	50	P	P	23 07 19.0	+1.7
ANMO				IAmb	IAmb	23 07 20.9	
	comp=Z,9.1nm,1.3s						
K20K	Telida	84.94	9	P	P	23 07 18.7	+1.3
K20K				IAmb	IAmb	23 07 19.7	
	comp=Z,9.9nm,1.4s						
N25K	Chitina, Valde	85.08	14	P	P	23 07 19.5	+1.2
N25K				IAmb	IAmb	23 07 35.3	
	comp=Z,7.3nm,1.4s						
TRF	Thorofare Moun	85.63	11	P	P	23 07 21.4	+0.2
J20K	Nowinta River	85.70	9	P	P	23 07 22.1	+0.9
J20K				IAmb	IAmb	23 07 23.9	
	comp=Z,9.5nm,1.2s						
RND	Reindeer	85.84	11	P	P	23 07 23.1	+1.0
CMIG	Matias Romero	86.45	70	LR	LR	23 36 44.5	
	comp=Z,26nm,20.9s,baz=180,slow=29						
PDAR	Pinedale Array	86.58	42	P	P	23 07 27.6	+1.2
	comp=Z,0.5nm,0.5s,baz=212,slow=5.3,SNR=5.0						
PDAR	Pinedale Array	86.58	42	P	P	23 07 27.2	+0.8
PLCA	Paso Flores	86.94	132	LR	LR	23 38 32.6	
	comp=Z,34nm,19.9s,baz=188,slow=30						
WRH	Wood River Hil	86.96	11	P	P	23 07 28.8	+1.4
L27K	Beaver Creek,	86.99	14	P	P	23 07 28.9	+1.2
BCAR	Beaver Creek A	87.00	14	P	P	23 07 29.0	+1.2
DOT	Dot Lake	87.01	13	P	P	23 07 28.9	+1.2
DOT				IAmb	IAmb	23 07 43.0	
	comp=Z,4.7nm,1.0s						
P33M	Teslin, Yukon	87.08	19	P	P	23 07 29.6	+1.4
P33M				IAmb	IAmb	23 07 35.2	
	comp=Z,8.5nm,1.3s						
ILAR	Eielson Array	87.45	11	P	P	23 07 30.4	+0.5
	comp=Z,1.6nm,1.0s,baz=229,slow=5.0,SNR=8.8						
PSI	Prapat	87.81	274	LR	LR	23 47 58.1	
	comp=Z,25nm,18.5s,baz=62,slow=36						
BJT	Baijiatuau	88.15	314	P	P	23 07 34.6	+0.9
ENH	Enshi	88.74	303	P	P	23 07 36.2	-0.6
ENH				IAmb	IAmb	23 07 39.4	
	comp=Z,10nm,1.2s						
NNA	Nana	92.87	104	LR	LR	23 42 11.7	
	comp=Z,25nm,18.3s,baz=251,slow=30						
CMAR	Chiang Mai Arr	93.22	288	P	P	23 07 57.6	-0.3
	comp=Z,0.9nm,0.3s,baz=119,slow=3.2,SNR=6.5						
CMAR				LR	LR	23 51 09.1	
	comp=Z,9.8nm,18.5s,baz=185,slow=36						
YAK	Yakutsk	93.24	337	LR	LR	23 46 36.6	
	comp=Z,20nm,20.7s,baz=98,slow=33						
INK	Inuvik	93.27	14	P	P	23 07 57.2	+0.4
	comp=Z,1.4nm,0.9s,baz=192,slow=5.3,SNR=3.1						
YKA	Yellowknife Ar	94.99	24	P	P	23 08 05.7	+0.8
	comp=Z,0.9nm,0.7s,baz=236,slow=4.5,SNR=15						
SONM	Songino Array	97.84	318	P	P	23 08 18.0	-0.5
	comp=Z,0.3nm,0.8s,baz=100,slow=1.7,SNR=3.5						
LPAZ	La Paz	99.02	111	LR	LR	23 44 42.4	
	comp=Z,30nm,19.1s,baz=274,slow=30						
TIXI	Tiksi	99.47	344	LR	LR	23 46 21.8	
	comp=Z,50nm,21.8s,baz=341,slow=31						
ZALV	Zalesovo Beam	112.46	321	PKiKP	PKiKP	23 13 18.1	-0.7
	comp=Z,0.5nm,0.5s,baz=103,slow=4.6,SNR=1.9						
MKAR	Makanchi Array	113.52	313	PKiKP	PKiKP	23 13 20.3	-0.8
	comp=Z,0.2nm,0.4s,baz=26,slow=0.9,SNR=9.0						
ARCES	ARCESS Array B	129.32	351	PKP	PKPdf	23 13 50.3	-0.4
	comp=Z,1.8nm,0.8s,baz=24,slow=0.3,SNR=9.0						
FINES	FINESS Array B	136.49	346	PKhKP	PKPpre	23 13 54.5	
	comp=Z,1.1nm,0.9s,baz=48,slow=2.1,SNR=1.4						
FINES				PKP	PKPdf	23 14 04.0	-0.3
	comp=Z,1.5nm,0.9s,baz=12,slow=3.2,SNR=5.3						
AKASG	Malin Array Be	144.41	334	PKP	PKPab	23 14 16.8	-0.3
	comp=Z,6.1nm,1.1s,baz=36,slow=4.2,SNR=17						
LODK	Lodwar	146.45	244	PKPbc	PKPdf	23 14 24.2	+0.5
SORM	Soroca	146.73	332	⇓P	PKPbc	23 14 25.2	+0.5
MBAR	Mbarara	147.74	233	PKPbc	PKPbc	23 14 28.5	-0.3
BNN	Bunyan	148.06	312	PKPbc	PKPbc	23 14 29.0	+0.1
BUR08	Bucovina Ar. S	148.45	334	PKPbc	PKPbc	23 14 30.2	+0.6
BURAR	Bucovina Array	148.47	334	⇑P	PKiKP	23 14 31.7	+0.4
BURAR	Bucovina Array	148.47	334	PKPdf	PKPdf	23 14 26.2	+0.2
CLL	Collm	148.54	351	PKPdf	PKPdf	23 14 27.2	+1.3
CLL	Collm	148.54	351	*i* PKPbc	PKPbc	23 14 29.9	+0.4
	comp=Z,5.0nm,0.8s						
CLL				*i* x	x	23 14 41.7	
	comp=Z,12nm,1.2s						
VLDR	Vladesti	148.54	329	⇑P	PKPbc	23 14 30.1	+0.4
TLCR		148.65	328	⇓P	PKPbc	23 14 30.9	+0.9
OSTC	Ostas	148.69	347	*e*PKP	PKPbc	23 14 30.9	+0.9
OSTC				*e*x	x	23 14 43.2	
CHVC	Chvalec	148.69	347	*e*PKP	PKiKP	23 14 33.5	+2.0
CHVC				*e*x	x	23 14 46.5	
GHRR		148.70	330	⇓P	PKPbc	23 14 31.8	+1.6
TESR	Tescani	148.71	331	⇓P	PKPbc	23 14 30.5	+0.3
DPC	Dobruska-Polom	148.86	347	*e*PKP	PKPbc	23 14 31.0	+0.5
CFR	Carcaliu	149.00	328	⇓P	PKPbc	23 14 31.3	+0.4
KRLC	Kraliky	149.01	346	*e*PKP	PKPbc	23 14 31.7	+0.8
PVCC	Panska Ves	149.04	349	*e*PKP	PKPbc	23 14 32.2	+1.3
TRPA	Tarpa	149.07	338	⇑P	PKPbc	23 14 31.4	+0.5
TPGR	Topolog	149.08	327	⇓P	PKPbc	23 14 32.5	+1.3
MORC	Moravsky Berou	149.11	345	⇓P	PKPbc	23 14 31.9	+0.8
MORC	Moravsky Berou	149.11	345	*e*PKP	PKPbc	23 14 31.7	+0.6
BRTR	Keskin Array B	149.15	315	PKPbc	PKPbc	23 14 31.8	+0.1
	comp=Z,1.7nm,0.6s,baz=145,slow=3.0,SNR=7.3						
VRI	Vrincioaia	149.16	331	⇑P	PKPbc	23 14 31.6	+0.2
HARR	Harsova	149.44	328	⇑P	PKPbc	23 14 32.9	+0.9
PRU	Pruhonice	149.56	349	*e*PKP	PKPbc	23 14 33.1	+0.9
PRU				*e*x	x	23 14 47.4	
ANTO	Ankara	149.63	316	PKPbc	PKPbc	23 14 32.9	+0.1
DOPR	Dopca	149.69	332	⇓P	PKPbc	23 14 33.8	+1.1
NEHR	Nehoiu	149.69	330	⇓P	PKPbc	23 14 32.1	-0.6
MLR	Muntele Rosu	149.81	331	⇑P	PKPbc	23 14 33.9	+0.8
MLR	Muntele Rosu	149.81	331	PKPbc	PKPbc	23 14 33.1	0.0
JAVC	Velka Javorina	149.93	344	*e*PKP	PKiKP	23 14 35.1	+1.0
KRUC	Moravsky	150.05	346	*e*PKP	PKPbc	23 14 34.1	+0.7
MDUB	Mudurnu	150.32	318	PKPbc	PKPbc	23 14 34.0	-0.5
KHC	Kasperske Hory	150.56	349	PKPbc	PKPbc	23 14 35.4	+0.7
KHC	Kasperske Hory	150.56	349	*e*PKP	PKPbc	23 14 35.2	+0.5
KHC				*e*x	x	23 14 50.7	
CKRC	Cesky Krumlov	150.72	348	*e*PKP	PKPbc	23 14 35.4	+0.3
CKRC				*e*x	x	23 14 50.7	
GERES	GERESS Array B	150.81	349	PKPbc	PKPbc	23 14 35.4	+0.1
	comp=Z,1.4nm,0.7s,baz=33,slow=3.2,SNR=9.4						
CONA	Conrad Observa	151.24	346	*e*P	PKPbc	23 14 37.3	+1.0
	comp=Z,4.1nm,0.8s						
RONA	Rosalia, Austr	151.35	345	*e*P	PKPbc	23 14 37.3	+0.7
	comp=Z,2.8nm,0.5s						
CSS	Mathiatis	151.53	307	PKPbc	PKPbc	23 14 35.8	-1.6
SOKA	Soboth	152.61	346	*e*P	PKPbc	23 14 39.4	-0.2
	comp=Z,2.7nm,1.2s						
MOTA	Moosalm	152.68	352	*e*P	PKPbc	23 14 39.9	+0.1
	comp=Z,5.9nm,1.6s						
WTTA	Wattenberg	152.69	351	*e*P	PKPbc	23 14 40.3	+0.5
	comp=Z,2.7nm,0.5s						
ABTA	Abfaltersbach	153.05	349	*e*P	PKPbc	23 14 40.3	-0.2
	comp=Z,2.6nm,0.6s						
FETA	Feichten	153.05	352	*e*P	PKPbc	23 14 40.9	+0.3
	comp=Z,5.5nm,1.1s						
TORD	Torodi Ar. Bea	171.95	152	PKPab	PKPab	23 16 15.5	+0.6
	comp=Z,1.1nm,0.9s,baz=214,slow=4.3,SNR=4.5						

*SFS **05** 22:57:59.0, 35.°50N×3.°80W, ML3.0, ALBORAN SUR*
*CNRM **05** 22:57:59.0, 35.°50N×3.°81W, h17km, ml3.1*
*MDD **05** 22:57:59.0±0.4, 35.°52N×3.°81W, h0km, mb_Lg3.0/17, Error ellipse: s-maj=3.4km s-min=2.3km az=177.0*
*INMG **05** 22:58:00.7±1.9, 35.°45N×3.°73W, h16km±12km, ML2.5, Error ellipse: s-maj=7.1km s-min=5.2km az=133.0*
ISC 05 22:57:58.8±1.0**, 35.°46N**±0.°02×**3.°79W**±0.°02**, h17**km±9km**,**
n72, σ**1.s42**/120**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.28	207	P	Pb	22 58 05.3	0.0
PALE	Palemas	0.28	207	P	Pb	22 58 05.6	+0.3
PALE				S	Sb	22 58 10.0	+0.3
PVLZ	Peæn de	0.51	236	P	Pg	22 58 08.9	-0.1
PVLZ				S	Sb	22 58 16.3	-0.1
GOG	Mont Gurugu	0.69	110	P	Pg	22 58 13.0	+0.6
GOG				S	Sn	22 58 24.0	-0.1
GOG	Mont Gurugu	0.69	110	P	Pb	22 58 12.2	-0.1
GOG				S	Sg	22 58 22.3	+0.8
EMEL	Melilla	0.70	103	Pg	Pb	22 58 12.3	-0.1
EMEL				Sg	Sg	22 58 21.7	-0.1
EALB	Alboran	0.78	52	Pg	Pb	22 58 13.7	-0.1
EALB				Sg	Sb	22 58 24.0	0.0
EALB				*i* Vmb_Lg		22 58 24.5	
TAF	Taforalt	1.30	120	P	Pb	22 58 23.0	+0.2
TAF	Taforalt	1.30	120	P	Pn	22 58 22.0	-0.1
TAF				S	Sg	22 58 40.4	-0.4
SMIR	Smir Dam	1.32	280	P	Pn	22 58 22.0	-0.4
SMIR	Smir Dam	1.32	280	P	Pn	22 58 20.9	-1.5
SMIR				S	Sb	22 58 40.3	+0.6
CHEFC	Chefchaouen	1.32	255	P	Pb	22 58 23.0	-0.1
CHEFC	Chefchaouen	1.32	255	P	Pn	22 58 22.2	-0.3
CHEFC				S	Sb	22 58 40.0	+0.2
EMIJ	Mijas	1.36	324	Pg	Pn	22 58 22.2	-0.8
EMIJ				Sg	Sn	22 58 39.1	-1.5
EMIJ				*i* Vmb_Lg		22 58 45.7	
ECEU	Ceuta	1.37	289	Pg	Pn	22 58 21.4	-1.7
ECEU				Sg	Sn	22 58 37.3	-3.4
ECEU				*i* Vmb_Lg		22 58 39.9	
EMAL	Malaga-Limoner	1.40	338	P	Pn	22 58 23.7	+0.2
EMAL				S	Sn	22 58 40.8	-0.6
ELGU	Los Guajares,	1.41	5	Pg	Pn	22 58 22.6	-1.1
ELGU				Sg	Sn	22 58 39.8	-2.1
ELGU				*i* Vmb_Lg		22 58 44.1	
JBK	JBK	1.51	138	P	Pn	22 58 25.0	-0.2
JBK	JBK	1.51	138	P	Pn	22 58 24.4	-0.7
JBK				S	Sn	22 58 43.0	-1.5
EBER	Berja	1.60	27	Pn	Pn	22 58 25.6	-1.0
EBER				Sn	Sn	22 58 46.3	-0.6
EBER				*i* Vmb_Lg		22 58 48.5	
EGOR	Sierra Gorda,	1.67	351	Pn	Pn	22 58 28.0	+0.7
EGOR				Sn	Sb	22 58 49.8	0.0
EGOR				*i* Vmb_Lg		22 58 59.8	
EJIF	Jimena Fronter	1.69	306	Pn	Pn	22 58 28.5	+1.1
EQUE	Quentar	1.76	9	Pn	Pb	22 58 30.0	-0.7
EQUE				Sn	Sn	22 58 50.8	+0.2
EQUE				*i* Vmb_Lg		22 59 02.9	
SICH	Sidi Chahed	1.85	223	P	Pb	22 58 32.2	0.0
SICH				S	Sb	22 58 55.2	+0.2
LIJA	Lijar	1.95	318	P	Pg	22 58 36.0	-0.2
ENIJ	Nijar	1.97	40	Pn	Pn	22 58 30.4	-1.0
ENIJ				Sn	Sn	22 58 52.7	-3.1
ENIJ				*i* Vmb_Lg		22 58 55.5	
LCRM	LCR	1.98	207	P	Pb	22 58 34.0	-0.5
LCRM	LCR	1.98	207	P	Pn	22 58 32.6	+0.9
LCRM				S	Sg	22 59 01.2	-1.5
ESPR	Espera	2.19	311	Pn	Pn	22 58 35.5	+1.2
ESPR				Sn	Sb	22 59 04.6	0.0
ESPR				*i* Vmb_Lg		22 59 15.6	
CZD	Col de Zad	2.64	204	P	Pn	22 58 42.2	+1.4
CZD				S	Sn	22 59 14.3	+1.7
MD31	MD31	2.71	198	P	Pn	22 58 42.8	+1.2
MD31				S	Sn	22 59 14.3	+0.2
MDT	Midelt	2.73	195	P	Pn	22 58 42.5	+0.7
MDT	Midelt	2.73	195	P	Pn	22 58 42.8	+0.9
TLOR	Lorca, Murcia	2.76	37	Pn	Pn	22 58 41.6	-0.7
TLOR				Sn	Sn	22 59 14.3	-1.0
EADA	Adamuz	2.77	347	Pn	Pn	22 58 43.7	+1.3
EADA				Sn	Sn	22 59 15.0	-0.5
EADA				Sg	Sb	22 59 22.1	+0.6
EADA				*i* Vmb_Lg		22 59 30.5	
ECAB	El Cabril	2.92	334	Pn	Pn	22 58 45.7	+1.3
ECAB				Sn	Sn	22 59 19.6	+0.5
ECAB				Sg	Sb	22 59 27.1	+1.3
ECAB				*i* Vmb_Lg		22 59 41.3	
CART	Cartagena	3.08	46	P	Pn	22 58 45.7	-1.0
EMIN	Mina Concepcio	3.27	316	Pn	Pn	22 58 50.0	+0.8
EMIN				Sn	Sn	22 59 27.5	-0.2
EGRO	El Granado	3.63	306	Pn	Pn	22 58 54.4	+0.3
EGRO				Sn	Sn	22 59 34.4	-2.1
EGRO				*i* Vmb_Lg		22 59 42.6	
ETOB	Tobarra	3.65	29	Pn	Pn	22 58 55.8	+1.4
ETOB				Sn	Sn	22 59 39.1	+2.0
ETOB				*i* Vmb_Lg		22 59 41.9	
AVE	Averroes	3.70	235	P	Pb	22 59 02.0	-1.6
AVE				S	Sn	22 59 35.8	-2.4
PVAQ	Vaqueiros	3.71	303	*e*Pn	Pn	22 58 56.3	+1.0
PVAQ				*e*Sn	Sn	22 59 38.1	-0.6
PVAQ				A	A	22 59 50.2	
	9.5nm,0.4s						
PVAQ	Vaqueiros	3.71	303	P	Pn	22 58 56.0	+0.6
PBAR	Barrancos	3.76	317	*e*Pn	Pn	22 58 58.1	+2.1
PBAR				*e*Sn	Sn	22 59 40.1	+0.3
PBAR				A	A	22 59 43.6	
	6.8nm,0.2s						
PBDV	Barranco-do-Ve	3.79	299	*e*Pn	Pn	22 58 57.9	+1.5
PBDV				*e*Sn	Sn	22 59 40.9	+0.4
PBDV				A	A	22 59 45.5	
	7.7nm,0.4s						
PCVE	Castro Verde	4.05	304	*e*Pn	Pn	22 59 01.6	+1.6
PCVE				*e*Sn	Sn	22 59 47.6	+0.6
PCVE				A	A	22 59 54.5	
	5.2nm,0.5s						
PAB	San Pablo	4.10	354	Pn	Pn	22 59 01.8	+1.1
PAB				Sn	Sn	22 59 45.9	-2.4
PBEJ	Beja	4.16	309	*e*Pn	Pn	22 59 03.5	+2.1
PBEJ				*e*Sn	Sn	22 59 50.5	+0.9
PBEJ				A	A	22 59 59.3	
	4.2nm,0.3s						
EBAD	Badajoz	4.18	323	Pn	Pn	22 59 02.7	+1.0
EBAD				Sn	Sn	22 59 48.6	-1.5
EBAD				*i* Vmb_Lg		22 59 54.8	
ESDC	Sonseca Array	4.21	358	Pn	Pn	22 59 03.8	+1.6
ESDC				Sn	Sn	22 59 48.9	-1.9
MORF	Marmelete	4.33	297	*e*Sn	Sn	22 59 52.3	-1.7
PFVI	Vila Bisbo	4.40	294	*e*Sn	Sn	22 59 53.9	-1.7
PTEO	Sao Teotonio	4.49	299	*e*Pn	Pn	22 59 08.3	+2.3
PTEO				*e*Sn	Sn	22 59 57.2	-0.5
PTEO				A	A	23 00 00.8	
	10nm,0.5s						
PESTR	Estremoz	4.56	319	*e*Pn	Pn	22 59 09.5	+2.6
PESTR				*e*Sn	Sn	22 59 59.4	-0.1
PESTR				A	A	23 00 06.3	
	3.7nm,0.4s						
PESTR	Estremoz	4.56	319	P	Pn	22 59 10.1	+3.1
EVO	Evora	4.56	313	P	Pn	22 59 08.1	+1.1
EVO				S	Sn	22 59 57.4	-2.2
EVO	Evora	4.56	313	*e*Pn	Pn	22 59 09.1	+2.1
EVO				*e*Sn	Sn	22 59 59.9	+0.3
EVO				A	A	23 00 14.2	
	8.5nm,0.4s						
PNCL	Nicolau / Gran	4.63	306	*e*Pn	Pn	22 59 09.8	+1.8
PNCL				*e*Sn	Sn	23 00 00.4	-0.9
PNCL				A	A	23 00 03.5	
	3.7nm,0.2s						
ECHE	Chera	4.69	28	Pn	Pn	22 59 10.1	+1.3
UCM	Universidad Co	4.86	5	P	Pn	22 59 13.3	+2.3
UCM				S	Sn	23 00 07.6	+0.8
PMRV	Marv??o	4.89	325	*e*Pn	Pn	22 59 14.2	+2.7
PMRV				*e*Sn	Sn	23 00 07.0	-0.6
PMRV				A	A	23 00 35.2	
	4.2nm,0.4s						
EPLA	Plasencia	4.94	339	Pn	Pn	22 59 13.8	+1.6
PMTG	Montargil	5.05	317	*e*Pn	Pn	22 59 16.4	+2.7
PMTG				*e*Sn	Sn	23 00 11.0	-0.5
PMTG				A	A	23 00 26.0	
	3.7nm,0.5s						
GUD	Guadarrama	5.18	357	Pn	Pn	22 59 17.1	+1.5
GUD				*i* Vmb_Lg		23 00 50.3	
OUZM	OUZ	5.18	210	P	Pn	22 59 17.2	+1.6
PCBR	Castelo Branco	5.26	327	*e*Pn	Pn	22 59 18.9	+2.3
ETOR	Torete	5.52	14	Pn	Pn	22 59 20.4	+0.1
PSBE	So Bento	5.68	317	*e*Pn	Pn	22 59 25.1	+2.8
PVIS	Viseu	6.16	330	*e*Pn	Pn	22 59 31.9	+2.9
MVO	Moncorvo	6.24	337	*e*Pn	Pn	22 59 32.5	+2.4
POLO	Lamas de Olo	6.69	333	*e*Pn	Pn	22 59 38.2	+1.9
PBRG	Braganca	6.74	341	*e*Pn	Pn	22 59 40.5	+3.5

*BGR **05** 23:26:55.1±0.0, 21.°08S×177.°06W, h33km*
*IDC **05** 23:27:58.8±1.1, 21.°23S×179.°16W, h598km±13km, mb3.7/26, mb1 3.9/29, mb1mx3.8/43, mbtmp4.7/29, Error ellipse: s-maj=10.4km s-min=9.5km az=112.0*
*NEIC **05** 23:27:58.4±1.9, 21.°22S±0.°10×179.°03W±0.°10, h590km±6km, mb4.7/59, Error ellipse: s-maj=16.8km s-min=9.4km az=138.0*
*NOU **05** 23:27:59.5, 21.°26S×178.°95W, h622km, mb4.6/53, Fiji Islands Region*
ISC 05 23:27:58.8±0.3**, 21.°27S**±0.°05×**179.°05W**±0.°06**, h602**km**,**
n303, σ**1.s34**/353**, mb4.6**/60**, 10C-19D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.46	322	P	P	23 29 30.6	+2.7
	136nm,0.3s,baz=150,slow=6.4,SNR=48						
MSVF	Nonsavu	4.46	322	P	P	23 29 30.9	+3.0
RIZ	Raoul Island	8.00	173	P	P	23 29 56.9	-1.2
RAO	Raoul Island	8.01	173	P	P	23 29 59.3	+1.2
GLKZ	Green Lake	8.02	173	P	P	23 29 58.4	+0.2
GLKZ				S	S	23 31 35.3	-0.9
NIUE	Niue	8.85	77	P	P	23 30 07.3	+1.0
NIUE	Niue	8.85	77	P	P	23 30 07.3	+1.0
AFI	Afiamalu	10.08	45	P	P	23 30 17.6	-1.0
	11nm,0.3s,baz=36,slow=2.9,SNR=9.2						
AFI				S	S	23 32 08.8	-4.5
	7.3nm,0.3s,baz=213,slow=23,SNR=8.5						
AFI	Afiamalu	10.08	45	P	P	23 30 18.0	-0.6
MARNC	Mare, Loyalty	12.04	267	P	P	23 30 38.3	+0.3
PINNC	Pines Island,	12.60	261	P	P	23 30 44.6	+1.1
DZM	Mont Dzumac	13.51	264	P	P	23 30 53.0	+0.1
	1.3nm,0.3s,baz=90,slow=18,SNR=9.8						
DZM	Mont Dzumac	13.51	264	P	P	23 30 52.6	-0.2
DZM	Mont Dzumac	13.51	264	P	P	23 30 53.7	+0.8
OUZ	Omahuta	15.32	203	P	P	23 31 12.1	+2.5
OUZ	Omahuta	15.32	203	P	P	23 31 11.1	+1.5
KOUNC	Koumac, New Ca	15.59	270	P	P	23 31 14.1	+1.8
KOUNC				IAmb	IAmb	23 31 15.8	
	comp=Z,38nm,0.8s						
KOUNC	Koumac, New Ca	15.59	270	P	P	23 31 13.4	+1.1
GRZ	Great Barrier	15.68	197	P	P	23 31 14.7	+1.8
KUZ	Kuaotunu	16.08	195	P	P	23 31 19.3	+2.8
MXZ	Matakaoa Point	16.39	187	P	P	23 31 19.5	+0.1
MXZ				IAmb	IAmb	23 31 30.5	
	comp=Z,74nm,1.4s						
MXZ	Matakaoa Point	16.39	187	P	P	23 31 20.5	+1.1
MXZ				S	S	23 34 04.4	+1.6
MYRZ	Mayor Island	16.47	193	P	P	23 31 23.4	+3.2
HAZ	Te Kaha	16.65	189	P	P	23 31 22.2	+0.4
HAZ				S	S	23 34 01.0	-6.1
PKGZ	Pakihiroa	16.74	188	P	P	23 31 23.1	+0.4
RUGZ	Raukumara Rang	16.87	189	P	P	23 31 23.7	-0.2
RUGZ				S	S	23 34 07.6	-3.3
PUZ	Puketiti	16.90	187	P	P	23 31 24.6	+0.4
PUZ				S	S	23 34 08.5	-2.8
TWGZ	Tauwhareparae	17.04	188	P	P	23 31 27.0	+1.5
TWGZ				S	S	23 34 08.8	-4.7
TOZ	Tahuroa Road	17.07	195	P	P	23 31 28.4	+2.8
URZ	Urewera	17.25	190	P	P	23 31 25.7	-1.6
	comp=Z,22nm,0.3s,baz=241,slow=3.1,SNR=80						
URZ	Urewera	17.25	190	P	P	23 31 25.9	-1.4
URZ	Urewera	17.25	190	P	P	23 31 25.6	-1.6
URZ				S	S	23 34 11.0	-5.7
URZ	Urewera	17.25	190	P	P	23 31 27.8	+0.5
MWZ	Matawai	17.26	189	P	P	23 31 26.9	-0.5
MWZ				S	S	23 34 12.4	-4.6
CNGZ	Carnagh Statio	17.32	187	P	P	23 31 28.3	+0.5
CNGZ				S	S	23 34 16.3	-1.5
TKGZ	Te Karaka	17.32	188	P	P	23 31 28.3	+0.5
RAGZ	Rawiri	17.43	189	P	P	23 31 29.7	+0.6
RTZ	Ruatahuna	17.62	190	P	P	23 31 29.7	-1.1
RTZ				S	S	23 34 20.2	-2.7
PRGZ	Paritu Road	17.79	188	P	P	23 31 34.3	+2.1
RAHZ	Arahi	17.90	190	P	P	23 31 34.0	+0.8
RAHZ				S	S	23 34 31.3	+4.0
HIZ	Hauiti	17.97	196	P	P	23 31 37.1	+3.3
HIZ	Hauiti	17.97	196	P	P	23 31 35.4	+1.6
RITZ	Rihia Road	18.18	193	P	P	23 31 36.6	+0.8
BKZ	Black Stump Fm	18.24	191	P	P	23 31 35.3	-1.0
BKZ				IAmb	IAmb	23 31 36.9	
	comp=Z,15nm,1.0s						
BKZ	Black Stump Fm	18.24	191	P	P	23 31 35.5	-0.8
BKZ				S	S	23 34 28.2	-4.7
NTVZ	North Tongarir	18.34	193	P	P	23 31 38.7	+1.3
TMVZ	Te Maari	18.35	193	P	P	23 31 37.5	+0.1
TWVZ	Taurewa	18.36	194	P	P	23 31 38.6	+1.1
ETVZ	East Tongariro	18.36	193	P	P	23 31 37.6	+0.1
NNVZ	North Ngauruho	18.38	193	P	P	23 31 39.3	+1.5
OTVZ	Oturere	18.40	193	P	P	23 31 38.0	+0.1
OTVZ				S	S	23 34 42.0	+6.3
NGZ	Ngauruhoe	18.43	193	P	P	23 31 38.6	+0.5
SNVZ	South Ngauruho	18.43	193	P	P	23 31 38.5	+0.3
MCHZ	McNeill Hill	18.48	190	P	P	23 31 38.3	-0.2
TUVZ	Tukino	18.50	193	P	P	23 31 38.7	-0.1
KWHZ	Kaweka Forest	18.50	191	P	P	23 31 38.1	-0.6
KWHZ				S	S	23 34 32.3	-4.9
FWVZ	Far West T-bar	18.51	193	P	P	23 31 38.8	-0.2
VRZ	Vera Road	18.57	195	P	P	23 31 41.8	+2.6
WNVZ	Wahianoa	18.57	193	P	P	23 31 39.3	-0.2
PKVZ	Pokaka	18.59	194	P	P	23 31 40.2	+0.7
MOVZ	Moawhango	18.62	193	P	P	23 31 39.6	-0.1
BHHZ	Black Hill Sta	18.63	192	P	P	23 31 39.1	-0.8
BHHZ				S	S	23 34 33.8	-5.4
KRHZ	Kereru	18.73	191	P	P	23 31 40.1	-0.7
KRHZ				S	S	23 34 36.3	-4.3
KAHZ	Kahuranaki	18.79	190	P	P	23 31 41.5	+0.2
KAHZ				S	S	23 34 40.9	-0.8
NEZ	North Egmont	18.88	197	P	P	23 31 46.1	+4.0
PXZ	Pawanui	19.02	190	P	P	23 31 43.6	+0.2
TSZ	Takapari Road	19.20	192	P	P	23 31 44.5	-0.5
DVHZ	Dannevirke	19.40	191	P	P	23 31 47.3	+0.5
KNTN	Kanton	19.72	22	P	P	23 31 49.9	-0.2
BFZ	Birch Farm	19.76	191	P	P	23 31 50.0	-0.1
BFZ	Birch Farm	19.76	191	P	P	23 31 50.0	-0.1
SNZO	South Karori	20.66	193	P	P	23 31 57.1	-1.1
SNZO	South Karori	20.66	193	P	P	23 31 57.6	-0.5
BHW	Baring Head	20.72	193	P	P	23 31 58.0	-0.7
QRZ	Quartz Range	20.76	198	P	P	23 32 00.3	+1.2
TUWZ	Tuamarina	20.95	195	P	P	23 31 59.8	-1.0
KHZ	Kahutara	21.98	195	P	P	23 32 09.4	-0.5
MQZ	McQueen's Vall	23.41	195	P	P	23 32 21.6	-1.0
MQZ				IAmb	IAmb	23 32 23.8	

comp=Z,9.3nm,0.8s
RPZ Rata Peaks 23.85 198 P P 23 32 26.4 -0.2
comp=Z,8.1nm,0.3s,baz=36,slow=4.8,SNR=15
RPZ Rata Peaks 23.85 198 P P 23 32 26.1 -0.4
FOZ Fox Glacier 24.06 200 P P 23 32 28.3 -0.1
FOZ IAmb IAmb 23 32 31.8
comp=Z,21nm,0.6s
ODZ Otahua Downs 25.18 197 P P 23 32 39.3 +1.0
MLZ Mavora Lakes 26.25 201 P P 23 32 48.1 +0.4
WHZ Wether Hill Ro 26.77 200 P P 23 32 52.6 +0.5
EIDS Eidsvold 27.70 256 P P 23 33 00.6 0.0
EIDS IAmb IAmb 23 33 02.0
comp=Z,9.5nm,0.6s
EIDS Eidsvold 27.70 256 P P 23 33 01.0 +0.4
ARMA Armidale 27.85 245 P P 23 33 02.7 +0.7
ARMA IAmb IAmb 23 33 05.3
comp=Z,8.4nm,1.1s
ARMA Armidale 27.85 245 P P 23 33 03.8 +1.8
RMQ Roma 29.84 254 P P 23 33 20.3 +1.2
CTA Charters Tower 32.44 266 P P 23 33 41.7 +0.3
comp=Z,24nm,0.4s,baz=94,slow=12,SNR=16
CTA Charters Tower 32.44 266 P P 23 33 42.0 +0.6
QLP Quilpie 33.89 254 P P 23 33 54.0 +0.6
PMG Port Moresby 34.57 285 P P 23 33 59.3 +0.1
MTSU Mount Surprise 34.58 269 P P 23 33 59.7 +0.4
TOO Toolangi 34.65 234 P P 23 34 00.9 +1.3
TOO IAmb IAmb 23 34 10.5
comp=Z,12nm,1.2s
TOO Toolangi 34.65 234 P P 23 34 01.1 +1.5
STKA Stephens Creek 36.57 245 P P 23 34 15.2 -0.2
comp=Z,3.5nm,0.5s,baz=81,slow=12,SNR=6.6
STKA Stephens Creek 36.57 245 P P 23 34 16.6 +1.1
COEN Coen 36.66 275 P P 23 34 17.2 +0.7
COEN IAmb IAmb 23 34 17.6
comp=Z,19nm,0.9s
COEN Coen 36.66 275 P P 23 34 16.9 +0.5
QIS Mount Isa 38.55 263 P P 23 34 31.4 -0.3
HTT Hallett 39.00 243 P P 23 34 36.0 +0.8
LCRK Leigh Creek 39.33 248 P P 23 34 38.6 +0.8
NAPP Napperby 39.61 243 P P 23 34 41.2 +1.2
OOD Oodnadatta 41.50 252 P P 23 34 56.1 +1.0
MULG Mulgathing 42.92 248 P P 23 35 06.1 0.0
WR0 Warramunga Arr 43.34 263 P P 23 35 09.0 -0.5
WR0 IAmb IAmb 23 35 10.2
comp=Z,9.8nm,0.5s
AS31 Alice Springs 43.39 258 P P 23 35 09.9 0.0
ASAR Alice Springs 43.39 258 P P 23 35 09.9 0.0
comp=Z,16nm,0.5s,baz=94,slow=8.0,SNR=198
ASAR ScP ScP 23 39 40.7 +1.3
comp=Z,1.9nm,0.6s,baz=100,slow=4.2,SNR=11
ASAR S S 23 40 52.2 -3.4
comp=Z,3.7nm,0.7s,baz=93,slow=16,SNR=19
ASAR ScS ScS 23 44 02.0 -1.0
comp=Z,0.2nm,0.4s,baz=97,slow=7.7,SNR=5.3
ASAR Alice Springs 43.39 258 P P 23 35 10.1 +0.2
WB0 Warramunga Arr 43.51 263 P P 23 35 10.4 -0.5
WB0 IAmb IAmb 23 35 11.1
comp=Z,22nm,0.5s
WB2 Warramunga Arr 43.51 263 P P 23 35 10.4 -0.5
WB2 IAmb IAmb 23 35 11.3
comp=Z,28nm,0.9s
WRAB Tennant Creek 43.52 263 P P 23 35 10.0 -0.9
WRAB IAmb IAmb 23 35 10.8
comp=Z,20nm,0.8s
WRAB Tennant Creek 43.52 263 P P 23 35 10.3 -0.6
WRA Warramunga Arr 43.52 263 P P 23 35 10.4 -0.6
comp=Z,7.1nm,0.3s,baz=97,slow=7.6,SNR=392
WRA ScP ScP 23 39 41.1 +1.1
comp=Z,0.8nm,0.7s,baz=98,slow=3.6,SNR=4.7
WRA S S 23 40 52.0 -5.7
comp=Z,0.9nm,0.7s,baz=99,slow=13,SNR=6.3
WRA ScS ScS 23 44 03.6 -0.3
comp=Z,0.4nm,1.0s,baz=102,slow=5.7,SNR=1.8
WRA Warramunga Arr 43.52 263 P P 23 35 09.9 -1.1
KDU Kakadu 46.99 272 P P 23 35 37.1 -0.2
FORT Forrest 48.09 247 P P 23 35 45.2 -0.1
FORT IAmb IAmb 23 35 55.2
comp=Z,31nm,0.9s
FORT Forrest 48.09 247 P P 23 35 45.2 -0.1
MTN Manton Dam 48.19 272 P P 23 35 45.7 -0.6
MTN IAmb IAmb 23 35 46.4
comp=Z,26nm,0.7s
MTN Manton Dam 48.19 272 P P 23 35 45.9 -0.4
WRKA Warakurna 48.31 255 P P 23 35 47.2 0.0
KNRA Kununurra 49.63 267 P P 23 35 56.6 -0.3
KNRA IAmb IAmb 23 35 57.2
comp=Z,18nm,0.6s
KNRA Kununurra 49.63 267 P P 23 35 56.9 0.0
SIJI Sorong 52.49 286 P P 23 36 17.3 -0.3
comp=Z,86nm,0.7s,baz=98,slow=6.9
PSA00 Pilbara Seismi 56.54 258 P P 23 36 45.1 -0.6
PSA00 Pilbara Seismi 56.54 258 P P 23 36 45.4 -0.3
MEEK Meekatharra 56.74 251 P P 23 36 46.6 -0.5
KLBR Kellerberrin 56.84 245 P P 23 36 47.6 0.0
SBA Scott Base 57.04 184 P P 23 36 51.3 +3.2
VNDA Vanda 57.06 185 P P 23 36 49.9 +1.6
comp=Z,5.3nm,0.5s,baz=359,slow=6.8,SNR=50
VNDA Vanda 57.06 185 P P 23 36 49.5 +1.2
MORW Morawa 58.63 248 P P 23 36 59.2 -0.5
JCJ Chichijima 60.99 320 P P 23 37 14.2 -1.1
comp=Z,48nm,0.4s,baz=290,slow=19,SNR=6.7
JCJ Chichijima 60.99 320 P P 23 37 14.2 -1.1
JCJ Chichijima 60.99 320 P P 23 37 15.2 -0.1
KAPI Kappang 61.38 276 P P 23 37 18.0 -0.1
comp=Z,3.7nm,0.5s,baz=94,slow=9.4,SNR=1.9
GIRL Giralia 61.40 255 P P 23 37 19.2 +1.1
PLAI Plampang 61.90 271 P P 23 37 21.1 -0.4
TOLI2 Tolitoli 62.81 283 P P 23 37 25.8 -1.5
TOLI2 IAmb IAmb 23 37 29.2
comp=Z,12nm,0.6s
TOLI2 Tolitoli 62.81 283 P P 23 37 26.9 -0.4
RPN Rapa Nui 63.15 110 P P 23 37 29.1 -0.2
comp=Z,171nm,1.3s,baz=252,slow=6.4,SNR=1.8
JHJ Hachijo jima 2 66.85 323 P P 23 37 51.8 -0.5
comp=Z,47nm,0.4s,baz=67,slow=19,SNR=1.4
UGM Wanagama 68.97 270 P P 23 38 05.2 -0.4
KKM Kota Kinabalu 69.01 286 P P 23 38 06.1 +0.2
KKM IAmb IAmb 23 38 06.8
comp=Z,14nm,0.9s
JOW Kunigami 69.92 311 P P 23 38 11.4 +0.5
comp=Z,6.3nm,0.3s,baz=128,slow=12,SNR=8.2
JOW Kunigami 69.92 311 P P 23 38 11.5 +0.5
JOW IAmb IAmb 23 38 12.4
comp=Z,17nm,0.9s
JOW Kunigami 69.92 311 P P 23 38 11.4 +0.5
JGF Kuroka 70.03 323 P P 23 38 11.7 +0.2
MJAR Matsushiro Arr 70.25 325 P P 23 38 12.2 -0.5
comp=Z,2.9nm,0.4s,baz=184,slow=14,SNR=9.4
JSD Sado 71.34 326 P P 23 38 20.0 +1.1
JSD IAmb IAmb 23 38 20.3
comp=Z,53nm,1.3s
JTM Tenmabayashi 72.02 329 P P 23 38 23.4 +0.6
JHS Saijyo 72.06 320 P P 23 38 23.8 +0.6
JHS IAmb IAmb 23 38 24.7
comp=Z,21nm,0.7s
JNU Nakatsue 72.17 317 P P 23 38 23.2 -0.7
comp=Z,4.8nm,0.6s,baz=86,slow=6.9,SNR=4.5
KSM Kuching 72.55 279 P P 23 38 26.8 +0.3
KSM IAmb IAmb 23 38 27.7
comp=Z,12nm,0.9s
KIWB Kanaga Island 72.83 1 P P 23 38 27.3 +0.1
ADK Adak 72.87 2 P P 23 38 27.3 -0.2
ADK Adak 72.87 2 P P 23 38 27.2 -0.2
TWG Pinlang 72.97 303 P P 23 38 27.3 -1.4
ATKA Atka Island 73.28 3 P P 23 38 29.5 -0.3
TPUB Ta-pu 73.58 304 P P 23 38 30.7 -1.5
TPUB Ta-pu 73.58 304 P P 23 38 31.2 -1.0
SSLB Suanglung 73.58 304 P P 23 38 31.1 -1.1
SSLB IAmb IAmb 23 38 31.8
comp=Z,17nm,0.6s
SSLB Suanglung 73.58 304 P P 23 38 31.3 -0.9
ASAJ Asahikawa 73.94 332 P P 23 38 34.9 +1.2
comp=Z,15nm,0.8s,baz=199,slow=12,SNR=4.4
UNV Unalaska Valle 75.59 8 P P 23 38 41.6 -1.0
UNV IAmb IAmb 23 38 45.4
comp=Z,69nm,1.4s
PETK Petropavlovsk- 76.77 346 P P 23 38 48.9 -0.3
comp=Z,6.8nm,0.6s,baz=134,slow=6.4,SNR=12
KSRS Korea Array 76.82 319 P P 23 38 50.6 +0.9
comp=Z,1.4nm,0.7s,baz=142,slow=6.2,SNR=5.9
SDPT Sand Point 77.94 11 P P 23 38 54.2 -1.2
SDPT IAmb IAmb 23 39 04.0
comp=Z,47nm,1.2s
BELA Belgrano 2 78.92 173 P P 23 39 01.3 +0.8
BELA IAmb IAmb 23 39 02.1
comp=Z,14nm,0.8s
USRK Ussuriysk Ar. 79.05 326 P P 23 39 01.8 +0.1
comp=Z,4.4nm,0.6s,baz=110,slow=5.1,SNR=12
CHIR Chirikof Islan 79.33 13 P P 23 39 03.2 +0.4
NJ2 Nanjing 79.62 310 *e*P P 23 39 07.1 +2.2
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
MAW Mawson 80.51 200 P P 23 39 09.5 +0.6
comp=Z,2.3nm,0.6s,baz=140,slow=11,SNR=2.5
YBH Yreka Blue Hor 81.51 39 P P 23 39 15.3 +0.7
comp=Z,0.9nm,0.5s,baz=271,slow=14,SNR=1.9
KDAK Kodiak Island 81.80 14 P P 23 39 16.2 +0.8
comp=Z,6.5nm,0.8s,baz=332,slow=23,SNR=1.9
IPM Ipoh 82.26 278 P P 23 39 19.3 +0.4
IPM IAmb IAmb 23 39 20.2
comp=Z,16nm,0.7s
KLR Kul'dur 82.69 330 P P 23 39 20.9 +0.7
comp=Z,2.9nm,0.7s,baz=100,slow=3.4,SNR=8.2
KULM Kulim 82.91 278 P P 23 39 22.9 +0.8
KULM IAmb IAmb 23 39 23.2
comp=Z,6.2nm,0.6s
H04A Detroit Lake 83.63 37 P P 23 39 26.1 +1.0
SVW2 Sparrevohn 84.24 11 P P 23 39 27.0 -0.7
GSI Gunungsitoli 84.29 274 P P 23 39 30.1 +1.1
L19K White Mountain 85.38 11 P P 23 39 33.9 +0.7
SEY Seymchan 86.91 347 P P 23 39 40.0 -0.3
comp=Z,4.9nm,0.6s,baz=179,slow=23,SNR=9.2
TROLL Troll, Antarti 86.96 180 P P 23 39 40.9 +0.1
TNA Tin City 86.98 5 P P 23 39 41.1 +0.6
VNA3 Neumayer Olymp 87.44 177 P P 23 39 42.6 -0.3
XAN Xi'an 87.82 308 P P 23 39 46.2 +0.9
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN pmax pmax
comp=Z,60nm,5.0s
TXAR Lajitas Array 88.30 58 P P 23 39 48.5 +0.8
comp=Z,0.7nm,0.8s,baz=218,slow=5.7,SNR=9.9
HHC Hu-ho-hao-te 89.19 315 *e*P P 23 39 51.4 -0.2
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,170nm,5.7s
IL31 89.28 13 P P 23 39 51.1 -0.2
IL31 IAmb IAmb 23 39 51.2
comp=Z,2.2nm,0.5s
ILAR Eielson Array 89.28 13 P P 23 39 50.8 -0.6
comp=Z,2.1nm,0.6s,baz=215,slow=5.2,SNR=26
CMAR Chiang Mai Arr 89.45 290 P P 23 39 53.3 +0.1
comp=Z,2.2nm,0.4s,baz=132,slow=3.3,SNR=21
PLCA Paso Flores 89.45 134 P P 23 39 54.4 +1.4
comp=Z,2.4nm,0.6s,baz=249,slow=5.9,SNR=12
CHTO Chiang Mai 89.58 290 P P 23 39 54.4 +0.6
CHTO IAmb IAmb 23 39 55.5
comp=Z,4.6nm,0.6s
PDAR Pinedale Array 90.20 44 P P 23 39 57.1 +0.7
comp=Z,0.3nm,0.5s,baz=195,slow=4.9,SNR=4.3
PZH PanZhiHua 90.20 298 P P 23 39 57.3 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,5.1s
LZH Lanzhou 92.46 308 ⇓P P 23 40 14.5 +7.6
LZH pP pwP 23 42 19.4 -0.8
LZH sP sP 23 43 15.3 -0.2
LZH pmax pmax
comp=Z,19nm,1.4s
SONM Songino Array 95.69 319 P P 23 40 21.3 +0.1
comp=Z,0.4nm,0.3s,baz=98,slow=5.4,SNR=2.2
YKA Yellowknife Ar 97.62 25 P Pdif 23 40 29.2 -0.1
comp=Z,0.3nm,0.7s,baz=237,slow=4.5,SNR=3.5
YKA PKKPbc PKKPbc 23 57 02.1 -2.6
comp=Z,0.1nm,0.5s,baz=43,slow=2.5,SNR=4.9
MKAR Makanchi Array 111.01 313 Pdiff Pdif 23 41 29.8 +0.5
comp=Z,0.3nm,0.7s,baz=90,slow=2.9,SNR=2.5
MKAR PKiKP PKiKP 23 45 23.2 -1.4
comp=Z,0.4nm,0.4s,baz=182,slow=0.6,SNR=11
MKAR PKKPbc PKKPbc 23 56 24.1 -0.2
comp=Z,0.4nm,0.6s,baz=274,slow=3.4,SNR=5.7
KURK Kurchatov 113.89 317 PKiKP 23 45 28.5 -1.5
KURBB Kurchatov Arra 113.94 317 PKiKP PKiKP 23 45 28.9 -1.2
comp=Z,0.4nm,0.4s,baz=99,slow=1.9,SNR=8.8
KURBB SKP SKPdf 23 48 07.7 -1.5
comp=Z,0.4nm,0.7s,baz=101,slow=2.3,SNR=5.6
ARCES ARCESS Array B 129.49 349 SKPbc SKPab 23 48 25.6 -0.3
comp=Z,3.8nm,0.7s,baz=60,slow=5.3,SNR=7.4
FINES FINESS Array B 136.22 343 PKhKP PKPpre 23 45 59.7
comp=Z,0.7nm,0.5s,baz=76,slow=2.4,SNR=5.6
FINES PKP PKPdf 23 46 12.9 +0.7
comp=Z,1.1nm,0.4s,baz=63,slow=0.5,SNR=14
FINES SKPbc SKPbc 23 48 48.0 -0.6
comp=Z,3.3nm,0.7s,baz=48,slow=2.8,SNR=8.4
NB2 NORSAR Subarra 139.62 352 PKP PKPpre 23 46 10.6
comp=Z,0.5nm,0.4s,baz=18,slow=4.1
NOA NORSAR Array B 139.62 352 PKhKP PKPpre 23 46 10.1
comp=Z,0.2nm,0.4s,baz=46,slow=4.9,SNR=12
AKASG Malin Array Be 143.20 330 PKhKP PKPpre 23 46 22.5
comp=Z,12nm,0.4s,baz=44,slow=4.3,SNR=104
AKASG SKPbc SKPbc 23 49 06.7 -0.8
comp=Z,0.2nm,0.3s,baz=58,slow=2.4,SNR=4.7
SUW Suwalki 143.20 338 PKPab 23 46 22.8 -0.4
SORM Soroca 145.33 327 ⇓P PKPbc 23 46 29.6 -0.6
BNN Bunyan 145.35 308 PKPdf 23 46 30.1 +0.7
MILM Milestii Mici 145.88 325 ⇑P PKPbc 23 46 31.5 -0.3
BRTR Keskin Array B 146.61 311 PKPbc PKPbc 23 46 33.7 -0.6
comp=Z,2.5nm,0.5s,baz=142,slow=2.2,SNR=17
BSEG Bad Segeberg 146.62 350 *e*PKPbc PKPbc 23 46 33.8 +0.3
baz=16,slow=2.5
TLCR 146.94 323 ⇓P PKPbc 23 46 34.8 0.0
BUR08 Bucovina Ar. S 147.22 329 PKPbc PKPbc 23 46 35.4 -0.2
KOLS Kolonicke sedl 147.57 333 *e*PKP PKiKP 23 46 38.7 +0.9
RETH Rethem/Aller, 147.93 350 *e*PKPbc PKPbc 23 46 37.1 +0.1
baz=16,slow=2.5
CRVS Cervenica-Dubn 147.93 334 *e*PKP PKPbc 23 46 37.6 +0.4
CRVS *e* 23 46 42.6
FLTG Flechtingen 147.99 348 *e*PKPbc PKPbc 23 46 37.0 -0.2
baz=16,slow=2.5
FLTG *e*PKPab PKPab 23 46 41.9 -0.3
baz=15,slow=4.3
NRDL Niedersach Rie 148.04 349 *e*PKPbc PKPbc 23 46 37.5 +0.2
baz=16,slow=2.5
TRPA Tarpa 148.08 332 ⇑P PKPbc 23 46 37.2 -0.4
MLR Muntele Rosu 148.32 326 PKPbc PKPbc 23 46 37.0 -1.4
OSTC Ostas 148.40 341⇑*e*PKP PKPbc 23 46 38.8 +0.5
OSTC *e*PKPAB PKPab 23 46 44.2 +0.2
CHVC Chvalec 148.42 342⇑*e*PKP PKPbc 23 46 38.6 +0.2
CHVC *e*PKPAB PKPab 23 46 43.8 -0.3
CSS Mathiatis 148.50 303 PKPbc 23 46 38.8 -0.3
UPC Upice 148.50 341 *e*PKPAB PKPab 23 46 44.8 +0.4
LANS Liptovska Anna 148.51 336 *e*PKP PKiKP 23 46 39.9 +0.2
DPC Dobruska-Polom 148.55 341⇑*e*PKP PKPbc 23 46 39.1 +0.4
DPC *e*PKPAB PKPab 23 46 45.4 +0.8
CLL Collm 148.57 345 PKPbc PKPbc 23 46 39.0 +0.3
CLL Collm 148.57 345⇓*i*PKPbc PKPbc 23 46 38.7 0.0
comp=Z,6.0nm,0.6s
CLL *i* PKiKP PKiKP 23 46 40.6 +0.9
CLL *i* PKPab PKPab 23 46 44.3 -0.3
comp=Z,6.0nm,0.6s
CLL Collm 148.57 345 *e*PKPbc PKPbc 23 46 38.8 +0.1
baz=16,slow=2.5
CLL *e*PKPab PKPab 23 46 44.6 0.0
baz=15,slow=4.3
CLZ Clausthal 148.62 349 *e*PKPbc PKPbc 23 46 39.2 +0.4
baz=16,slow=2.5
KRLC Kraliky 148.65 340⇑*e*PKP PKPbc 23 46 38.9 -0.1
KRLC *e*PKPAB PKPab 23 46 45.3 +0.2
MORC Moravsky Berou 148.66 339 ⇓P PKPbc 23 46 38.6 -0.4
MORC Moravsky Berou 148.66 339 PKPbc PKPbc 23 46 38.2 -0.8
MORC Moravsky Berou 148.66 339 *e*PKP PKPbc 23 46 38.3 -0.8
MORC *e* 23 46 45.6
BRG Berggiesshubel 148.74 344 *e*PKP PKPbc 23 46 39.6 +0.5
BRG Amp 23 46 40.7
comp=Z,4.4nm,0.7s
BRG Berggiesshubel 148.74 344 *e*PKPbc PKPbc 23 46 39.5 +0.3
baz=16,slow=2.5
BRG *e*PKPab PKPab 23 46 45.6 +0.3
baz=15,slow=4.3
FBE Freiberg 148.85 345 *e*PKPbc PKiKP 23 46 40.0 -0.3
baz=16,slow=2.5
FBE *e*PKPab PKPab 23 46 46.2 +0.4
baz=15,slow=4.3
VYHS Vyhne 149.29 336 *e*PKP PKPbc 23 46 40.7 +0.2
VYHS *e* 23 46 47.8
VRAC Vranov 149.38 340 *e*PKP PKPbc 23 46 40.8 +0.1
VRAC *e* 23 46 48.7
KOLL Kolacno 149.38 337 *e*PKP PKPbc 23 46 41.0 +0.3
KOLL *e* 23 46 48.9
PRU Pruhonice 149.39 343⇑*e*PKP PKPbc 23 46 40.6 -0.1
PRU *e*PKPAB PKPab 23 46 48.5 +0.4
JAVC Velka Javorina 149.40 338 *e*PKP PKiKP 23 46 42.1 +0.5
JAVC *e* 23 46 49.5
TANN Tannenbergstha 149.53 345 *e*PKPbc PKPbc 23 46 41.4 +0.3
baz=16,slow=2.5
PLN Plauen 149.54 346 *e*PKPbc PKPbc 23 46 41.3 +0.2
baz=16,slow=2.5
WERD Werda 149.54 346 *e*PKPbc PKPbc 23 46 41.4 +0.3
baz=16,slow=2.5
KASTN Kahler Asten 149.56 351 *e*PKPbc PKPbc 23 46 41.3 +0.2
baz=16,slow=2.5
GUNZ Gunzen 149.61 346 *e*PKPbc PKiKP 23 46 41.7 -0.2
baz=16,slow=2.5
GUNZ *e*PKPab PKPab 23 46 49.4 +0.4
baz=15,slow=4.3
KRUC Moravsky 149.66 340 *e*PKP PKPbc 23 46 41.4 0.0
KRUC *e* 23 46 49.7
WERN Wernitzgruen 149.67 345 *e*PKPab PKPab 23 46 49.8 +0.5
baz=15,slow=4.3
NKC Novy Kostel 149.70 345 *e*PKPAB PKPab 23 46 48.9 -0.5
SMOL Smolenice 149.78 338 *e*PKP PKPab 23 46 50.7 +0.9
GZR Gura Zlata 150.00 328 ⇓P PKPbc 23 46 42.2 -0.2
MANZ Manzenberg 150.01 346 *e*PKPbc PKPbc 23 46 42.5 +0.3
baz=16,slow=2.5
BZS Buzias 150.39 330 ⇓P PKPbc 23 46 43.1 -0.1
KHC Kasperske Hory 150.43 343⇑*e*PKP PKPbc 23 46 42.5 -0.7
KHC *e*PKPAB PKPab 23 46 53.1 +0.6
MEM Membach 150.45 353 *d*PKiKP PKPbc 23 46 43.4 +0.2
BTNL Ternell 150.46 353 *d*PKiKP PKPbc 23 46 43.0 -0.2
GRF Grafenberg Arr 150.49 346 *e*PKPab PKPab 23 46 53.2 +0.5
baz=15,slow=4.3
ELL Elmali 150.50 308 PKPbc 23 46 43.5 -0.4
TNS Taunus Mts 150.51 350 *e*PKPbc PKPbc 23 46 43.6 +0.2
baz=16,slow=2.5
CKRC Cesky Krumlov 150.51 342⇑*e*PKP PKPbc 23 46 42.8 -0.6
CKRC *e*PKPAB PKPab 23 46 52.6 -0.2
BSTI Sart Tilman 150.52 354 *d*PKiKP PKPbc 23 46 43.4 +0.1
HERR Herculane 150.54 328 ⇓P PKPbc 23 46 43.4 -0.1
GERES GERESS Array B 150.66 343 PKPbc PKPbc 23 46 43.8 -0.1
comp=Z,2.0nm,0.5s,baz=66,slow=3.2,SNR=13
GERES PKPab PKPab 23 46 53.3 -0.3
comp=Z,0.8nm,0.6s,baz=4.1,slow=1.4,SNR=3.2
BCLA Clavier 150.71 354 *d*PKPab PKPab 23 46 53.1 -0.4
BGES Gesves 150.76 355 *d*PKiKP PKPbc 23 46 44.0 +0.1
BGES *d*PKPab PKPab 23 46 53.2 -0.6
CONA Conrad Observa 150.82 339 *e*P PKPbc 23 46 44.5 +0.2
comp=Z,3.8nm,0.6s
CONA *e*P PKPab 23 46 55.1 +0.8
comp=Z,3.8nm,0.6s
RONA Rosalia, Austr 150.87 338 *e*P PKPbc 23 46 44.4 +0.1
comp=Z,4.7nm,0.5s,SNR=11
RONA *e*P PKPab 23 46 55.2 +0.8
comp=Z,3.4nm,0.6s
BMRD Maredsous 150.87 355 *d*PKiKP PKPbc 23 46 44.1 -0.1
DOU Dourbes 151.09 355 *d*PKiKP PKPbc 23 46 44.7 +0.1
DOU *d*PKPab PKPab 23 46 54.8 -0.3
ALN Alexandroupoli 151.11 318 PKPbc PKPbc 23 46 43.6 -1.3
BLKB Belogradchik 151.30 326 ⇑P PKPbc 23 46 45.0 -0.4
WLF Walferdange 151.37 353 *e*PKPbc PKiKP 23 46 45.6 0.0
baz=16,slow=2.5
WLF *e*PKPab PKPab 23 46 56.7 +0.4
baz=15,slow=4.3
WLF Walferdange 151.37 353 *d*PKiKP PKiKP 23 46 45.7 +0.1
WLF *d*PKPab PKPab 23 46 56.1 -0.3
VTS Vitosha 151.69 324 PKPbc PKPbc 23 46 45.8 -0.6
BIOA Bad Ischl, Aus 151.72 342 *e*P PKPab 23 46 58.8 +0.8
comp=Z,3.0nm,0.6s
RJOB Jochberg 151.92 343 *e*PKPab PKPab 23 46 59.7 +0.9
baz=15,slow=4.3
DIVS Divibare 152.29 330 PKPbc PKPbc 23 46 46.9 -0.8
BFO Black Forest 152.36 349 PKPab PKPab 23 46 59.8 -0.9
BFO Black Forest 152.36 349 *e*PKPab PKPab 23 47 00.5 -0.2
baz=15,slow=4.3
KBA Koelnbreinsper 152.36 342 *i* P PKPab 23 47 01.7 +0.8
comp=Z,2.1nm,0.6s
WATA Walderalm 152.61 344 *e*P PKPbc 23 46 48.0 -0.3
comp=Z,0.9nm,0.4s
WTTA Wattenberg 152.66 344 *e*P PKPbc 23 46 48.1 -0.3
comp=Z,1.7nm,0.4s,SNR=6.4
WTTA *e*P PKPab 23 47 02.6 +0.4
comp=Z,4.2nm,0.6s
MYKA Terra Mystica 152.67 341 *i* P PKPab 23 47 01.7 -0.4
comp=Z,3.9nm,0.8s
MOTA Moosalm 152.72 345 *e*P PKPbc 23 46 48.3 -0.2
comp=Z,1.7nm,0.6s
MOTA *e*P PKPab 23 47 02.1 -0.3
comp=Z,1.6nm,0.5s
SQTA Sankt Quirin 152.81 345 *e*P PKPbc 23 46 48.6 -0.1
comp=Z,4.3nm,0.9s
ABTA Abfaltersbach 152.90 342 *e*P PKPbc 23 46 48.1 -0.7
comp=Z,3.3nm,0.6s,SNR=4.5
GBAS Gorenja Brezov 153.03 339 *i* PKPdf PKPbc 23 46 48.5 -0.5
DAVA Damuels 153.06 347 *e*P PKPab 23 47 04.0 +0.2
comp=Z,1.9nm,0.5s
BOJS Bojanci 153.13 337 *i* PKPdf PKPbc 23 46 49.2 -0.1
BOJS *i* PKPab PKPab 23 47 03.6 -0.4
FNA Florina 153.95 323 PKPbc PKPbc 23 46 50.6 -0.6
FNA PKPab PKPab 23 47 07.3 -0.5
AGG Agios Georgios 154.51 319 PKPbc PKiKP 23 46 50.6 -1.9
BNI Bardonecchia 155.82 350 PKPab PKPab 23 47 15.7 0.0
ITM Ithomi 155.87 316 PKPdf PKPdf 23 46 44.2 -1.1
ITM PKPab 23 47 15.6 -0.6
MSSA Maissana 155.95 345 PKPab PKPab 23 47 15.0 -1.2
NRCA Norcia 156.21 337 PKPab 23 47 17.4 0.0
ESDC Sonseca Array 161.18 12 PKPab PKPab 23 47 37.6 -1.5
comp=Z,1.0nm,0.9s,baz=346,slow=4.6,SNR=3.8
KEST Kesra 163.82 335 PKPab PKPab 23 47 51.1 +0.1
comp=Z,2.9nm,0.7s,baz=277,slow=2.4,SNR=6.8
DBIC Dimbokro 164.43 158 PKPab PKPab 23 47 55.3 +1.4
comp=Z,3.5nm,0.7s,baz=199,slow=2.1,SNR=5.4
TORD Torodi Ar. Bea 171.89 185 PKP PKPdf 23 46 59.2 -1.0
comp=Z,0.6nm,0.8s,baz=240,slow=1.2,SNR=3.3
TORD PKPab PKPab 23 48 26.7 -0.1
comp=Z,0.9nm,0.5s,baz=165,slow=3.7,SNR=9.1

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*IDC **05** 23:32:06.3±1.0, 50.°73N×173.°07W, h0km, mb4.0/14, mb1 4.2/16, mb1mx3.9/67, mbtmp4.0/16, ML3.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/95, Error ellipse: s-maj=30.8km s-min=14.3km az=4.0*

*NEIC **05** 23:32:09.1±1.9, 50.°87N±0.°07×173.°02W±0.°08, h10km±1km, mb4.2/77, ML3.7/26(AEIC), Error ellipse: s-maj=12.3km s-min=8.7km az=177.0*

*AEIC **05** 23:32:13±2.1, 50.°84N±0.°09×172.°99W±0.°03, h8km±4km, Error ellipse: s-maj=12.6km s-min=2.5km az=172.0*

ISC 05 23:32:08.1±0.6, **50.°82N**±0.°09×**173.°07W**±0.°05, **h10**km, **n142**, σ1**§21**/136, **mb4.2**/31, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.56**	**333**		**Pn**	**23 32 36.0**	**+0.2**
ATKA					**Sn**	**23 32 55.2**	**-0.8**
KOFP	**Korovin Flat P**	**1.59**	**337**		**Pn**	**23 32 37.1**	**+0.7**
KOKL	**Mount Kliuchef**	**1.67**	**335**		**Pn**	**23 32 38.2**	**+0.8**
GSMY	**Great Sitkin M**	**2.24**	**304**		**Pn**	**23 32 46.0**	**+0.8**
GSCK	**Great Sitkin C**	**2.28**	**303**		**Pn**	**23 32 46.5**	**+0.8**
GSTD	**Great Sitkin T**	**2.29**	**304**		**Pn**	**23 32 46.9**	**+0.9**
GSTD					**Sn**	**23 33 12.7**	**-1.6**
ETKA	**Kagalaska Isla**	**2.34**	**298**		**Pn**	**23 32 47.4**	**+0.7**
ADAG	**Mount Adagdak**	**2.50**	**299**		**Pn**	**23 32 50.4**	**+1.6**
ADK	**Adak**	**2.51**	**297**	Pn	**Pn**	**23 32 49.7**	**+0.8**
ADK	**Adak**	**2.51**	**297**		**Sn**	**23 33 17.3**	**-2.2**
KIWB	**Kanaga Island**	**2.76**	**294**	Pn	**Pn**	**23 32 53.5**	**+1.0**
KIMD	**Kanaga Island**	**2.78**	**291**		**Pn**	**23 32 53.8**	**+1.1**
KIKV	**Kanaga Island**	**2.78**	**294**		**Pn**	**23 32 54.0**	**+1.3**
KICM	**Kanaga Island**	**2.81**	**295**		**Pn**	**23 32 54.5**	**+1.4**
TAPA	**Tanaga Point A**	**3.14**	**290**		**Pn**	**23 32 59.2**	**+1.5**
TAFP	**Tanaga Falls P**	**3.27**	**291**		**Pn**	**23 33 01.2**	**+1.8**
TASE	**Tanaga Southea**	**3.28**	**290**		**Pn**	**23 33 01.4**	**+1.8**
NIKH	**Nikolski High**	**3.38**	**49**	Pn	**Pn**	**23 33 01.0**	**0.0**
GAEA	**Gareloi East**	**3.69**	**287**		**Pn**	**23 33 06.9**	**+1.6**
GALAA	**Gareloi Lava P**	**3.70**	**287**		**Pn**	**23 33 06.8**	**+1.4**
MSW	**Makushin Switc**	**4.94**	**49**		**Pn**	**23 33 22.9**	**+0.5**
UNV	**Unalaska Valle**	**5.04**	**50**	Pn	**Pn**	**23 33 24.4**	**+0.7**
SMY	**Shemya**	**8.19**	**288**	Pn	**Pn**	**23 34 09.1**	**+2.2**
SDPT	**Sand Point**	**8.83**	**54**	Pn	**Pn**	**23 34 16.2**	**+0.6**
CHIR	**Chirikof Islan**	**11.56**	**58**	Pn	**Pn**	**23 34 51.4**	**-1.6**
GAMB	**Gambell**	**13.01**	**3**	Pn	**Pn**	**23 35 12.9**	**+0.1**
OHAK	**Old Harbor**	**13.25**	**53**	Pn	**Pn**	**23 35 12.7**	**-3.4**
Q19K	**Cape Douglas,**	**13.78**	**46**	Pn	**Pn**	**23 35 21.9**	**-1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SVW2	Sparrevohn	14.16	37	Pn	Pn	23 35 29.1	+0.6
N19K	Bonanza Creek	14.41	39	Pn	Pn	23 35 33.2	+1.2
TNA	Tin City	15.02	8	Pn	Pn	23 35 41.9	+1.7
CNPM	China Poot	15.15	46	Pn	Pn	23 35 40.2	-1.7
BRLK	Bradley Lake	15.41	46	Pn	Pn	23 35 43.3	-2.2
K20K	Telida	16.17	32	Pn	Pn	23 35 54.0	-1.2
SEW	Seward	16.21	46	Pn	Pn	23 35 53.1	-2.6
SEW				IAmb	IAmb	23 36 11.2	
	comp=Z,20nm,1.2s						
J20K	Nowinta River	16.71	30	Pn	Pn	23 35 59.9	-2.1
PWL	Port Wells	17.03	44	Pn	Pn	23 36 02.2	-4.0
PWL				IAmb	IAmb	23 36 05.7	
	comp=Z,24nm,1.5s						
KNK	Knik Glacier	17.22	43	Pn	Pn	23 36 06.8	-1.8
KTH	Kantishna Hill	17.39	34		P	23 36 11.7	-0.3
SML	Sawmill	17.46	41	Pn	Pn	23 36 09.6	-1.9
SML				IAmb	IAmb	23 36 30.4	
	comp=Z,16nm,1.2s						
TRF	Thorofare Moun	17.55	35		P	23 36 13.8	-0.1
BPAW	Bear Paw Mtn.	17.70	33		P	23 36 15.4	+0.1
BPAW				IAmb	IAmb	23 36 32.9	
	comp=Z,6.7nm,0.7s						
SCM	Sheep Creek Mo	17.89	42	Pn	Pn	23 36 15.8	-1.1
SCM				IAmb	IAmb	23 36 33.3	
	comp=Z,13nm,0.8s						
RND	Reindeer	18.06	37		Pn	23 36 18.0	-1.0
I21K	Tanana	18.08	29	P	P	23 36 20.5	+1.1
PETK	Petropavlovsk-	18.11	289	P	Pn	23 36 17.9	-1.6
	comp=Z,0.3nm,0.3s,baz=117,slow=12,SNR=1.7						
H21K	Melozitna Rive	18.16	27	P	P	23 36 20.7	+0.3
DHY	Denali Highway	18.46	39	P	Pn	23 36 22.6	-1.4
M24K	Tolsona, Glenn	18.50	42	P	P	23 36 23.4	-0.9
M24K				IAmb	IAmb	23 36 40.0	
	comp=Z,19nm,1.1s						
RAGM	Ragged Mountai	18.54	48	P	Pn	23 36 26.7	+2.0
RAGM				IAmb	IAmb	23 36 28.6	
	comp=Z,27nm,1.0s						
NEA2	Nenana	18.66	33	P	P	23 36 26.1	+0.2
BMRM	Bremner River	18.76	46	P	P	23 36 27.4	+0.4
BMRM				IAmb	IAmb	23 36 31.4	
	comp=Z,21nm,1.3s						
I23K	Minto, Yukon-K	18.90	32	P	P	23 36 28.9	+0.4
I23K				IAmb	IAmb	23 36 52.3	
	comp=Z,10nm,1.2s						
WRH	Wood River Hil	18.94	34	P	P	23 36 29.4	+0.5
N25K	Chitina, Valde	18.99	44	P	P	23 36 28.8	-0.8
N25K				IAmb	IAmb	23 36 55.4	
	comp=Z,16nm,1.4s						
CCB	Clear Creek Bu	19.14	34	P	P	23 36 29.3	-1.8
MDM	Murphy Dome	19.17	33	P	P	23 36 31.1	-0.3
GLB	Gilahina Butte	19.28	45	P	P	23 36 31.8	-1.0
HDA	Harding Lake	19.32	35	P	P	23 36 33.4	+0.3
VRDI	Verde Repeater	19.37	46	P	P	23 36 33.2	-0.8
VRDI				IAmb	IAmb	23 36 58.2	
	comp=Z,7.8nm,0.9s						
WAX	Waxell Ridge	19.42	49	P	Pn	23 36 35.3	-0.1
WAX				IAmb	IAmb	23 36 41.7	
	comp=Z,20nm,0.9s						
IL31		19.54	34	P	P	23 36 34.7	-0.6
ILAR	Eielson Array	19.54	34	P	P	23 36 35.4	0.0
	comp=Z,0.5nm,0.3s,baz=232,slow=9.1,SNR=26						
ILAR	Eielson Array	19.54	34	P	P	23 36 35.1	-0.3
RIDG	Independent Ri	19.78	38	P	P	23 36 38.0	-0.2
RIDG				IAmb	IAmb	23 36 54.9	
	comp=Z,8.1nm,1.1s						
H24K	Noodor Dome	19.81	31	P	Pn	23 36 39.7	-0.4
H24K				IAmb	IAmb	23 36 56.1	
	comp=Z,8.5nm,0.9s						
YAH	Yahtse	19.92	49	P	P	23 36 38.8	-1.2
J25K	Salcha River,	20.00	36	P	P	23 36 39.6	-1.0
J25K				IAmb	IAmb	23 36 56.1	
	comp=Z,9.0nm,0.5s						
BILL	Bilibino	20.02	337	P	P	23 36 41.4	+0.7
BILL				IAmb	IAmb	23 36 42.5	
	comp=Z,13nm,1.0s						
DOT	Dot Lake	20.05	39	P	P	23 36 40.3	-0.8
DOT				IAmb	IAmb	23 37 05.5	
	comp=Z,10nm,1.3s						
BARN	Barnard Glacie	20.15	47	P	Pn	23 36 44.4	+0.1
BARN				IAmb	IAmb	23 37 03.4	
	comp=Z,16nm,1.2s						
SCRK	Sand Creek	20.23	38	P	P	23 36 42.5	-0.6
SCRK				IAmb	IAmb	23 36 50.0	
	comp=Z,8.4nm,1.0s						
L27K	Beaver Creek,	20.73	42	P	P	23 36 49.2	+0.6
BCAR	Beaver Creek A	20.75	42	P	P	23 36 49.6	+0.9
TOLK	Toolik Lake Re	21.18	24	P	P	23 36 54.2	+0.9
TOLK				IAmb	IAmb	23 36 55.2	
	comp=Z,13nm,0.7s						
BMAR	Burnt Mountain	21.82	30	P	P	23 37 02.7	+2.5
HYT	Haines Junctio	22.07	49	P	P	23 37 04.4	+1.4
HYT				IAmb	IAmb	23 37 21.8	
	comp=Z,6.1nm,0.8s						
SEY	Seymchan	22.11	316	P	P	23 37 03.1	-0.2
	comp=Z,1.1nm,0.3s,baz=91,slow=7.6,SNR=4.2						
I29M	Ogilvie Camp,	23.03	38	P	P	23 37 12.8	-0.2
I29M				IAmb	IAmb	23 37 30.4	
	comp=Z,7.7nm,0.9s						
EPYK	Eagle Plains	24.02	36	P	P	23 37 22.5	-0.3
EPYK				IAmb	IAmb	23 37 51.9	
	comp=Z,5.9nm,0.9s						
DLBC	Dease Lake	25.66	56	P	P	23 37 45.6	+7.7
	comp=Z,5.1nm,0.5s,baz=242,slow=6.3,SNR=8.9						
INK	Inuvik	25.91	33	P	P	23 37 41.3	+1.5
	comp=Z,2.8nm,0.4s,baz=239,slow=8.6,SNR=8.3						
INK	Inuvik	25.91	33	P	P	23 37 40.4	+0.6
INK				IAmb	IAmb	23 37 48.5	
	comp=Z,5.3nm,0.7s						
C36M	Paulatuk	29.49	33	P	P	23 38 12.7	+0.8
C36M				IAmb	IAmb	23 38 29.3	
	comp=Z,2.4nm,1.0s						
A36M	Sachs Harbour	29.86	28	P	P	23 38 16.5	+1.3
A36M				IAmb	IAmb	23 38 32.2	
	comp=Z,3.6nm,0.9s						
TIXI	Tiksi	32.91	330	P	P	23 38 41.6	-0.4
YKA	Yellowknife Ar	32.99	47	P	P	23 38 43.8	+1.0
	comp=Z,0.6nm,0.6s,baz=270,slow=8.0,SNR=16						
YKA				PcP	PcP	23 41 25.2	-1.2
	comp=Z,1.1nm,0.7s,baz=284,slow=2.9,SNR=10						
H04A	Detroit Lake	34.18	80	P	P	23 38 55.2	+1.8
B08A	Colville Reser	34.28	73	P	P	23 38 55.0	+0.7
B08A				IAmb	IAmb	23 38 55.8	
	comp=Z,2.8nm,0.8s						
KLR	Kul'dur	34.80	289	P	P	23 38 59.8	+1.1
	comp=Z,2.5nm,0.5s,baz=72,slow=7.3,SNR=17						
H11N2	WAKE ISLAND Hy	34.83	214	T	T	00 17 09.7	
	baz=20						
H11N3	WAKE ISLAND Hy	34.84	214	T	T	00 17 02.6	
	baz=20						
H11N1	WAKE ISLAND Hy	34.85	214	T	T	00 17 28.3	
	baz=20						
YBH	Yreka Blue Hor	35.35	85	LR	LR	23 51 57.0	
	comp=Z,33nm,18.1s,baz=24,slow=34						
NEW	Newport	35.66	72	P	P	23 39 06.5	+0.4
	comp=Z,2.5nm,0.5s,baz=316,slow=8.1,SNR=5.1						
NEW	Newport	35.66	72	P	P	23 39 06.5	+0.4
NEW				IAmb	IAmb	23 39 07.1	
	comp=Z,3.6nm,0.8s						
K05A	Summer Lake	35.98	82	P	P	23 39 11.1	+2.0
H11S1	WAKE ISLAND Hy	36.03	214	T	T	00 18 18.3	
	baz=19						
H11S2	WAKE ISLAND Hy	36.05	214	T	T	00 18 22.9	
	baz=19						
H11S3	WAKE ISLAND Hy	36.05	214	T	T	00 18 20.9	
	baz=19						
I07A	Izee	36.15	79	P	P	23 39 11.8	+1.3
I07A				IAmb	IAmb	23 39 12.5	
	comp=Z,5.2nm,1.0s						
J08A	Circle Bar Ran	37.16	80	IAmb	IAmb	23 39 20.7	
	comp=Z,3.6nm,0.6s						
J08A				P	P	23 39 20.7	+1.6
WVOR	Wild Horse Val	37.55	81	P	P	23 39 23.4	+1.0
WVOR				IAmb	IAmb	23 39 24.2	
	comp=Z,4.2nm,0.9s						
RES	Resolute Bay	38.75	25	P	P	23 39 33.1	+1.1
MCMT	McKenzie Canyo	39.88	74	P	P	23 39 42.3	+0.2
YHH	Holmes Hill	41.12	73	P	P	23 39 52.9	+0.5
YHH				IAmb	IAmb	23 39 53.2	
	comp=Z,3.9nm,1.1s						
HVU	Hansel Valley	41.56	78	P	P	23 39 57.0	+1.1
HVU				IAmb	IAmb	23 39 57.3	
	comp=Z,2.6nm,0.7s						
R11A	Troy Canyon, C	41.77	84	P	P	23 39 58.0	+0.3
TPNV	Topopah Spring	42.20	87	P	P	23 40 01.6	+0.5
PD31	Pinedale Array	43.00	75	P	P	23 40 07.8	+0.2
PD31				IAmb	IAmb	23 40 08.5	
	comp=Z,5.1nm,1.1s						
PDAR	Pinedale Array	43.00	75	P	P	23 40 07.9	+0.2
	comp=Z,1.8nm,0.5s,baz=320,slow=3.3,SNR=19						
PDAR	Pinedale Array	43.00	75	P	P	23 40 07.8	+0.1
P18A	Preston Nutter	44.37	79	P	P	23 40 19.6	+0.8
P18A				IAmb	IAmb	23 40 20.3	
	comp=Z,4.2nm,0.7s						
O20A	White River Ci	45.31	77	P	P	23 40 26.1	-0.1
PV01	Paradox Valley	46.31	80	P	P	23 40 34.0	-0.1
SONM	Songino Array	50.09	300	P	P	23 41 03.8	+0.6
	comp=Z,0.7nm,0.4s,baz=44,slow=8.8,SNR=2.7						
ECSD	EROS Data Cent	50.19	67	P	P	23 41 02.3	-1.5
ECSD				IAmb	IAmb	23 41 10.0	
	comp=Z,3.2nm,1.3s						
I42A	Draeger Farm,	54.49	62	P	P	23 41 34.7	-1.0
TX31	Lajitas Ar. Si	55.13	85	P	P	23 41 40.4	-0.2
TX32	Lajitas Array	55.13	85	P	P	23 41 40.3	-0.3
TX32				IAmb	IAmb	23 41 41.1	
	comp=Z,1.6nm,1.0s						
TXAR	Lajitas Array	55.13	85	P	P	23 41 40.0	-0.6
	comp=Z,1.1nm,0.8s,baz=297,slow=5.1,SNR=12						
TXAR				PcP	PcP	23 42 41.5	-0.4
	comp=Z,0.7nm,0.6s,baz=279,slow=2.0,SNR=5.7						
TXAR	Lajitas Array	55.13	85	P	P	23 41 40.4	-0.2
E46A	Sault Ste Mari	55.44	57	P	P	23 41 42.3	-0.2
ARCES	ARCESS Array B	59.19	353	P	P	23 42 07.8	-0.9
	comp=Z,3.8nm,1.0s,baz=14,slow=7.0,SNR=6.7						
ARCES	ARCESS Array B	59.19	353	P	P	23 42 08.7	+0.1
L56A	Greenwood	61.87	57	P	P	23 42 26.7	-0.7
KURK	Kurchatov	61.96	317	P	P	23 42 28.7	+0.9
KURBB	Kurchatov Arra	62.07	317	P	P	23 42 28.7	+0.1
	comp=Z,1.1nm,0.7s,baz=47,slow=6.7,SNR=13						
J58A	Remsen	62.21	55	P	P	23 42 29.8	+0.2
SSPA	Standing Stone	62.75	58	P	P	23 42 33.2	-0.1
MKAR	Makanchi Array	63.16	312	P	P	23 42 36.1	+0.2
	comp=Z,0.3nm,0.4s,baz=51,slow=6.3,SNR=7.9						
G62A	West of Eustis	63.28	51	P	P	23 42 36.8	+0.1
LMN	Caledonia Moun	65.54	47	P	P	23 42 51.3	-0.2
FINES	FINESS Array B	67.04	350	P	P	23 42 59.6	-1.2
	comp=Z,0.7nm,0.8s,baz=1.4,slow=5.8,SNR=1.6						
AAK	Ala-Archa	69.94	313	P	P	23 43 20.7	+1.2
	comp=Z,1.0nm,0.4s,baz=196,slow=4.8,SNR=8.2						
AAK	Ala-Archa	69.94	313	P	P	23 43 20.6	+1.2
AAK				IAmb	IAmb	23 43 35.7	
	comp=Z,2.5nm,0.8s						
AKASG	Malin Array Be	77.09	346	P	P	23 43 57.8	-3.4
	comp=Z,0.2nm,0.3s,baz=19,slow=5.9,SNR=2.5						
DAVOX	Davos/Dischmat	82.75	358	LR	LR	00 21 52.2	
	comp=Z,8.8nm,19.6s,baz=283,slow=36						
BNI	Bardonecchia	84.51	0	P	P	23 44 43.7	+2.6
FITZ	Fitzroy Crossi	87.07	237	P	P	23 44 53.1	-0.7
	comp=Z,1.1nm,0.7s,baz=11,slow=10,SNR=2.4						
TORD	Torodi Ar. Bea	116.14	6	PKP	PKiKP	23 50 50.1	-1.6
	comp=Z,0.2nm,0.6s,baz=15,slow=3.6,SNR=1.3						
LBTB	Lobatse	150.50	324	PKPbc	PKPbc	23 51 60.0	0.0

IDC 05 23:39:57.5±1.5**, 3°.19N**×**124°.40E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.3**/51**, mbtmp3.7**/4**, Error ellipse: s-maj=210.9km s-min=19.8km az=63.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.97	157	P	P	23 45 22.6	-0.4
	1.1nm,0.6s,baz=336,slow=11,SNR=8.1						
ASAR	Alice Springs	28.25	161	P	P	23 45 52.1	-0.5
	0.4nm,0.7s,baz=342,slow=10,SNR=2.1						
STKA	Stephens Creek	38.51	156	P	P	23 47 22.4	+0.7
	1.1nm,0.4s,baz=315,slow=13,SNR=2.1						
MKAR	Makanchi Array	56.70	327	P	P	23 49 43.4	+0.5
	0.4nm,0.4s,baz=110,slow=6.9,SNR=12						
KURBB	Kurchatov Arra	60.96	328	P	P	23 50 11.9	-0.6
	baz=127,slow=6.2						

IDC ***05*** *23:46:00.5±0.9, 13°.92S×166°.67E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.0/38, mbtmp4.1/10, ML3.7/1, MS3.4/7, Ms1 3.4/7, ms1mx2.9/63, Error ellipse: s-maj=33.0km s-min=21.8km az=124.0*
NEIC ***05*** *23:46:07.4±1.4, 14°.0S±0°.1×166°.7E±0°.1, h39km±7km, mb4.2/12, Error ellipse: s-maj=20.4km s-min=11.9km az=53.0*
ISC 05 23:46:06.2±0.7**, 14°.04S**±0°.08×**166°.7E**±0°.1**, h35**km**, n41, σ1s.57**/45**, mb4.2**/14**, MS3.4**/6**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIFNC	LIFOU	6.72	175	Pn	Pn	23 47 42.6	+0.2
KOUNC	Koumac, New Ca	6.86	199	Pn	Pn	23 47 45.8	+1.5
MARNC	Mare, Loyalty	7.51	170	Pn	Pn	23 47 55.5	+2.2
DZM	Mont Dzumac	7.99	182	Pn	Pn	23 48 00.4	+0.5
	1.0nm,0.3s,baz=198,slow=20,SNR=2.2						
DZM				Sn	Sn	23 49 24.9	-4.3
	baz=49,slow=22,SNR=0.8						
DZM				LR	LR	23 50 56.3	
	comp=Z,272nm,18.4s,baz=100,slow=36						
ONTNC	Ouen Toro	8.22	181	Pn	Pn	23 48 05.0	+1.9
OUENC	Ouen Island, N	8.33	179	Pn	Pn	23 48 07.1	+2.5
PINNC	Pines Island,	8.56	175	Pn	Pn	23 48 10.9	+3.3
PMG	Port Moresby	19.65	281	P	P	23 50 32.7	+0.6
STKA	Stephens Creek	29.01	228	P	P	23 52 02.5	-0.3
	4.1nm,0.4s,baz=51,slow=9.6,SNR=14						
STKA				LR	LR	00 02 29.7	
	comp=Z,81nm,18.0s,baz=29,slow=34						
STKA	Stephens Creek	29.01	228	P	P	23 52 04.2	+1.4
LTZ	Lake Taylor	29.04	171	P	P	23 52 03.3	+0.2
LTZ				IAmb	IAmb	23 52 03.5	
	comp=Z,5.4nm,0.7s						
RPZ	Rata Peaks	29.81	174	LR	LR	00 02 10.3	
	comp=Z,53nm,18.4s,baz=350,slow=32						
WR0	Warramunga Arr	31.25	255	P	P	23 52 21.3	-1.6
WB0	Warramunga Arr	31.37	255	P	P	23 52 23.6	-0.3
WB0				IAmb	IAmb	23 52 33.0	
	comp=Z,8.6nm,1.5s						
WB2	Warramunga Arr	31.43	255	P	P	23 52 24.6	+0.2
WB2				IAmb	IAmb	23 52 25.5	
	comp=Z,5.6nm,1.1s						
WRA	Warramunga Arr	31.44	255	P	P	23 52 23.7	-0.8
	comp=Z,0.8nm,0.6s,baz=85,slow=9.4,SNR=17						
WRA				PcP	PcP	23 55 17.1	-0.4
	comp=Z,0.7nm,1.0s,baz=71,slow=4.4,SNR=2.7						
WRA				ScP	ScP	23 59 03.0	+4.9
	comp=Z,0.2nm,0.8s,baz=85,slow=3.0,SNR=1.3						
WRA				LR	LR	00 03 54.5	
	comp=Z,50nm,18.9s,baz=256,slow=34						
WRA	Warramunga Arr	31.44	255	P	P	23 52 24.4	-0.1
AS31	Alice Springs	32.38	248	P	P	23 52 32.5	-0.3
ASAR	Alice Springs	32.38	248	P	P	23 52 32.4	-0.5
	comp=Z,2.0nm,0.5s,baz=74,slow=9.4,SNR=35						
ASAR				PcP	PcP	23 55 18.9	-1.2
	comp=Z,0.2nm,0.6s,baz=98,slow=1.9,SNR=1.5						
ASAR				ScP	ScP	23 59 05.6	+4.2
	comp=Z,0.2nm,0.4s,baz=60,slow=5.5,SNR=2.2						
ASAR				LR	LR	00 05 09.1	
	comp=Z,61nm,18.5s,baz=132,slow=35						
ASAR	Alice Springs	32.38	248	P	P	23 52 32.2	-0.6
BBOO	Buckleboo	33.55	231	P	P	23 52 43.8	+0.9
FITZ	Fitzroy Crossi	39.58	259	P	P	23 53 34.4	-0.1
	comp=Z,1.9nm,0.9s,baz=94,slow=5.2,SNR=4.4						
FITZ				LR	LR	00 09 42.7	
	comp=Z,59nm,19.7s,baz=125,slow=36						
FITZ	Fitzroy Crossi	39.58	259	P	P	23 53 34.1	-0.3
VNDA	Vanda	63.53	181	P	P	23 56 33.0	+0.4
	comp=Z,0.6nm,0.6s,baz=19,slow=5.5,SNR=3.0						
VNDA	Vanda	63.53	181	P	P	23 56 33.0	+0.4
VNDA				IAmb	IAmb	23 56 34.7	
	comp=Z,1.9nm,1.1s						
SBA	Scott Base	63.82	180	P	P	23 56 35.1	+0.6
SBA				IAmb	IAmb	23 56 52.0	
	comp=Z,2.1nm,1.1s						
CMAR	Chiang Mai Arr	74.14	294	P	P	23 57 39.2	-0.4
	comp=Z,1.0nm,0.3s,baz=140,slow=4.7,SNR=5.5						
MA2	Magadan	74.48	352	LR	LR	00 26 60.0	
	comp=Z,33nm,18.8s,baz=5.5,slow=33						
QSPA	South Pole Qui	75.98	180	P	P	23 57 48.9	-0.7
QSPA				IAmb	IAmb	23 57 51.5	
	comp=Z,3.0nm,0.8s						
ILAR	Eielson Array	86.06	18	P	P	23 58 41.6	-1.2
	comp=Z,0.4nm,0.7s,baz=247,slow=4.8,SNR=3.6						
MKAR	Makanchi Array	96.31	317	P	P	23 59 30.3	-0.9
	comp=Z,0.8nm,0.8s,baz=97,slow=5.7,SNR=9.8						
ZALV	Zalesovo Beam	96.50	324	P	P	23 59 31.3	-0.6
	comp=Z,0.3nm,0.3s,baz=27,slow=0.3,SNR=3.8						
ARCES	ARCESS Array B	119.44	345	PKP	PKPdf	00 04 51.0	-0.5
	comp=Z,0.9nm,0.5s,baz=75,slow=1.7,SNR=25						
ARCES	ARCESS Array B	119.44	345		PKPdf	00 04 51.1	-0.4
FINES	FINESS Array B	124.87	338	PKP	PKPdf	00 05 01.4	-0.7
	comp=Z,0.4nm,0.3s,baz=32,slow=1.3,SNR=9.0						
NB2	NORSAR Subarra	129.81	345	PKPdf	PKPdf	00 05 11.9	+0.3
	comp=Z,0.9nm,0.8s,baz=31,slow=1.9						
NOA	NORSAR Array B	129.81	345	PKP	PKPdf	00 05 11.4	-0.2
	comp=Z,0.5nm,0.7s,baz=34,slow=2.0,SNR=4.0						
KEST	Kesra	150.31	321	PKPbc	PKPbc	00 05 54.8	+0.4
	comp=Z,4.5nm,0.8s,baz=195,slow=5.1,SNR=6.7						
KEST	Kesra	150.31	321		PKPbc	00 05 54.9	+0.6
ESDC	Sonseca Array	153.17	344	PKPbc	PKPbc	00 06 00.2	-0.5
	comp=Z,0.5nm,0.7s,baz=9.3,slow=3.3,SNR=3.0						
TORD	Torodi Ar. Bea	165.37	268	PKP	PKPdf	00 06 07.2	-0.7
	comp=Z,0.5nm,0.9s,baz=84,slow=0.6,SNR=2.5						
TORD				PKPab	PKPab	00 07 05.9	-0.1
	comp=Z,0.8nm,1.0s,baz=115,slow=8.3,SNR=3.5						

UCR ***05*** *23:48:30.9±1.3, 9°.95N×85°.77W, h24km±3km, MW3.9*
INET ***05*** *23:48:33.6±1.7, 10°.03N×85°.59W, h18km±6km, MW3.3*
ISC 05 23:48:30.1±1.9**, 9°.93N**±0°.04×**85°.79W**±0°.07**, h21**km±2km**, n39, σ0s.85**/46**, 2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAJU	San Juanillo,	0.16	28	eP	Pb	23 48 35.4	-0.6
SAJU				eS	Sb	23 48 39.0	-1.1
INDI	Punta indio, G	0.28	102	eP	Pb	23 48 37.7	+1.0
INDI				eS	Sb	23 48 43.0	+1.9
DUNO	Dulce Nombre,	0.33	62	eP	Pb	23 48 38.0	+0.8
GUAI	GUAI	0.44	38	⇓iP	Pb	23 48 39.6	+0.6
GUAI				iS	Sn	23 48 46.4	-2.1
ORTG	Ortega, Santa	0.54	37	eP	Pb	23 48 41.2	+0.2
CAO2	Cobano, Puntar	0.71	109	eP	Pb	23 48 43.9	+0.1
CAO2				eS	Sb	23 48 53.9	+0.7
HZTE	Horizontes, Gu	0.80	13	eP	Pb	23 48 45.5	+0.1
HZTE	Horizontes, Gu	0.80	13	eS	Sb	23 48 56.7	+0.8
LAFE	Finca La Fe, P	0.87	98	eP	Pb	23 48 45.6	-0.9
LAFE	Finca La Fe, P	0.87	98	eP	Pb	23 48 45.6	-0.9
LAFE				eS	Sb	23 48 56.8	-1.0
JTS	Las Juntas de	0.90	66	eP	Pb	23 48 46.5	-0.5
JTS	Las Juntas de	0.90	66	eP	Pb	23 48 46.7	-0.3
LAPC	Finca la Perla	0.91	23	iP	Pb	23 48 46.9	-0.3
GBS3	Finca Las Img	0.91	21	iP	Pb	23 48 47.0	-0.3
LIM1	Limonal	0.93	34	iP	Pb	23 48 47.5	-0.1
CUI	Cuipilapa	0.95	40	iP	Pb	23 48 47.6	-0.3
CUI				iS	Sb	23 48 59.7	-0.4
GB1A	Borinquen Arri	0.96	23	iP	Pb	23 48 47.8	-0.4
ACAL	Aguas Claras	1.02	46	iP	Pb	23 48 48.8	-0.4
BUAI	Buenos Aires	1.04	25	iP	Pb	23 48 49.2	-0.3
VMAR	Armenia, Volca	1.10	37	eP	Pb	23 48 50.2	-0.2
PTEN	Parque Tenorio	1.11	45	⇓iP	Pb	23 48 50.3	-0.4
JACO	JACO, Garabito	1.14	103	eP	Pb	23 48 50.2	-0.9
CASO	Castillo	1.15	64	iP	Pb	23 48 51.1	-0.2
ARE1	Arenal 1	1.18	63	eP	Pb	23 48 51.6	-0.2
SRA1	San Ramn	1.29	83	eP	Pn	23 48 52.9	-0.3
HDC	Heredia	1.65	87	eP	Pn	23 48 58.9	+0.9
HDC3	Heredia 3	1.65	87	eP	Pn	23 48 59.1	+1.0
LCR2	La Lucha 2	1.76	96	eP	Pn	23 48 59.9	+0.2
RIMA	Rio Macho	1.90	95	eP	Pn	23 49 01.9	+0.4
RIMA	Rio Macho	1.90	95	eP	Pn	23 49 02.0	+0.4
CDM	Cerro de Muert	2.03	100	eP	Pn	23 49 03.5	0.0
CDM	Cerro de Muert	2.03	100	eP	Pn	23 49 04.2	+0.7
ACON	Acoyapa	2.12	16	eP	Pn	23 49 05.4	+1.1
PEZE	Perez Zeledon,	2.15	104	eP	Pn	23 49 05.4	+0.6
PEZE	Perez Zeledon,	2.15	104	eP	Pn	23 49 05.0	+0.1
SRBA	San Rafael, Bu	2.49	106	eP	Pn	23 49 09.7	+0.1
RIOS	Rincon, Osa	2.55	118	eP	Pn	23 49 11.9	+1.6
RIOS				eS	Sn	23 49 40.1	-0.7
PIRO	Carate, Puerto	2.85	122	eP	Pn	23 49 15.9	+1.4
PIRO	Carate, Puerto	2.85	122	eP	Pn	23 49 16.2	+1.7

CNRM ***05*** *23:53:54.3, 35°.50N×3°.78W, h22km, ml2.3*
MDD ***05*** *23:53:56.0±1.0, 35°.58N×3°.76W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=8.5km s-min=4.5km az=45.0*
SFS ***05*** *23:53:56.0, 35°.57N×3°.76W, ML2.5, ALBORAN SUR*
ISC 05 23:53:55.3±1.7**, 35°.46N**±0°.03×**3°.75W**±0°.03**, h19**km±4km**, n19, σ1s.49**/33**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.28	213	P	Pb	23 54 01.1	-0.7
PALE				S	Sb	23 54 05.6	-0.4
GOG	Mont Gurugu	0.66	111	P	Pb	23 54 08.1	-0.1
GOG				S	Sg	23 54 17.8	+0.5
EMEL	Melilla	0.67	103	Pg	Pn	23 54 09.4	-0.3
EMEL				Sg	Sg	23 54 18.0	+0.5
TAF	Taforalt	1.27	120	P	Pn	23 54 16.8	-1.3
TAF				S	Sb	23 54 35.1	+0.5
CHEFC	Chefchaouen	1.35	255	P	Pn	23 54 18.8	-0.3
CHEFC				S	Sn	23 54 33.5	-3.0
EMIJ	Mijas	1.38	323	Pg	Pn	23 54 19.9	+0.4
EMIJ				Sg	Sn	23 54 36.0	-1.3
EMIJ				i Vmb_Lg		23 54 43.3	
ELGU	Los Guajares,	1.41	4	Pg	Pn	23 54 20.2	+0.2
ELGU				Sg	Sn	23 54 36.4	-1.7
ELGU				i Vmb_Lg		23 54 44.1	
EMAL	Malaga-Limoner	1.41	337	P	Pn	23 54 20.0	+0.1
EMAL				S	Sn	23 54 38.3	+0.3
JBK	JBK	1.48	139	P	Pn	23 54 20.1	-1.0
JBK				S	Sn	23 54 38.1	-1.9
EBER	Berja	1.60	26	Pg	Pn	23 54 23.0	+0.3
EBER				Sg	Sb	23 54 43.7	-0.5
EBER				i Vmb_Lg		23 54 46.8	
MD31	MD31	2.71	198	P	Pn	23 54 38.5	+0.6
MD31				S	Sn	23 55 10.0	-0.3
MDT	Midelt	2.73	195	P	Pn	23 54 38.5	+0.4
MDT				S	Sn	23 55 13.2	+2.6
ETOB	Tobarra	3.64	28	Pn	Pn	23 54 51.9	+1.3
ETOB				Sn	Sn	23 55 32.4	-0.6
ETOB				i Vmb_Lg		23 56 44.6	
PVAQ	Vaqueiros	3.74	302	ePn	Pn	23 54 55.3	+3.4
PVAQ				eSn	Sn	23 55 34.7	-0.8
PBAR	Barrancos	3.78	317	eSn	Sn	23 55 33.6	-2.9
PBAR				A	A	23 55 39.4	
	1.9nm,0.8s						
PBDV	Barranco-do-Ve	3.82	299	eSn	Sn	23 55 35.7	-1.6
PCVE	Castro Verde	4.08	303	eSn	Sn	23 55 42.1	-1.7
PESTR	Estremoz	4.58	319	eSn	Sn	23 55 54.5	-1.7
PNCL	Nicolau / Gran	4.66	306	eSn	Sn	23 55 55.9	-2.2

IDC 05 23:55:40.1±1.9**, 2°.61N**×**126°.56E, h0**km**, mb3.4**/4**, mb1 3.7**/4**, mb1mx3.3**/34**, mbtmp3.5**/4**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.4**/41**, Error ellipse: s-maj=120.9km s-min=23.6km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.60	182	P	P	00 00 21.6	+0.7
	0.6nm,0.3s,baz=348,slow=9.0,SNR=2.0						
WRA	Warramunga Arr	23.68	162	P	P	00 00 53.3	-0.4
	0.6nm,0.4s,baz=340,slow=11,SNR=16						
ASAR	Alice Springs	27.08	165	P	P	00 01 25.1	+0.4
	0.3nm,0.3s,baz=346,slow=11,SNR=5.5						
HNR	Honiara	35.35	110	LR	LR	00 17 48.6	
	comp=Z,119nm,18.5s,baz=164,slow=38						
MKAR	Makanchi Array	58.37	326	P	P	00 05 37.0	-0.3
	0.2nm,0.4s,baz=119,slow=7.7,SNR=7.7						

WEL 06 00:06:06.7±1.4**, 31°S**±19°×**17°9E**±4°6**, h151**km±65km**, M4.5**/4**, mB4.7**/1**, ML4.7**/7**, MLv4.5**/4**, Mw(mB)4.0**/1**, Error ellipse: s-maj=0.1km s-min=0.0km az=112.1, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.28	54	P	Pn	00 06 55.2	-2.5
GLKZ				S	Sn	00 07 38.4	+1.3
MXZ	Matakaoa Point	6.35	185	P	Pn	00 07 40.5	+2.5
MXZ				S	Sn	00 08 50.0	+0.5
WMGZ	Waiomatatini S	6.60	184	P	Pn	00 07 43.6	+2.3
WMGZ				S	Sn	00 08 57.2	+1.8
MWZ	Matawai	7.20	190	P	Pn	00 07 51.0	+1.7
MWZ				S	Sn	00 09 12.9	+3.0
CNGZ	Carnagh Statio	7.27	185	P	Pn	00 07 47.7	-2.6
CNGZ				S	Sn	00 09 09.6	-2.0
MUGZ	Murupara	7.47	194	P	Pn	00 07 54.9	+2.0
RTZ	Ruatahuna	7.56	192	P	Pn	00 07 54.9	+0.7

RTZ				S	Sn	00 09 19.4	+0.7
MTHZ	**Maungataniwha**	**7.82**	**193**	P	Pn	00 07 57.2	-0.4
MTHZ				S	Sn	00 09 25.8	+1.0
RAHZ	**Arahi**	**7.84**	**191**	P	Pn	00 07 58.6	+0.8
RAHZ				S	Sn	00 09 25.6	+0.4
BKZ	**Black Stump Fm**	**8.19**	**194**	P	Pn	00 08 02.3	-0.2
BKZ				S	Sn	00 09 33.5	-0.3
KWHZ	**Kaweka Forest**	**8.45**	**194**	P	Pn	00 08 05.2	-0.9
KWHZ				S	Sn	00 09 38.9	-1.2
KRHZ	**Kereru**	**8.67**	**194**	P	Pn	00 08 07.3	-1.7
KRHZ				S	Sn	00 09 42.5	-2.8
KAHZ	**Kahuranaki**	**8.73**	**191**	P	Pn	00 08 08.5	-1.2
PXZ	**Pawanui**	**8.96**	**191**	P	Pn	00 08 09.5	-3.2
PXZ				S	Sn	00 09 47.4	-4.8
PNHZ	**Pukenui**	**8.97**	**194**	P	Pn	00 08 10.2	-2.7
PNHZ				S	Sn	00 09 49.6	-2.9
TSZ	**Takapari Road**	**9.16**	**195**	P	Pn	00 08 12.6	-2.9
TSZ				S	Sn	00 09 53.0	-4.1
PRHZ	**Porangahau**	**9.23**	**192**	P	Pn	00 08 13.7	-2.7
PRHZ				S	Sn	00 09 54.6	-4.1
BFZ	**Birch Farm**	**9.70**	**193**	P	Pn	00 08 18.8	-3.8
BFZ				S	Sn	00 10 03.3	-6.7
MRZ	**Mangatainoka R**	**9.82**	**196**	P	Pn	00 08 19.6	-4.6
MRZ				S	Sn	00 10 06.2	-6.7
TIWZ	**Tintock**	**9.86**	**194**	P	Pn	00 08 20.8	-4.0
TIWZ				S	Sn	00 10 09.0	-5.1

GUC 06 00:06:09.3±0.8**, 34°.76S×72°.74W, h32**km±4km**, ML3.5, 11C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.70**	**68**	⇓iP	Pn	00 06 22.2	-0.7
BO03				i S	Sb	00 06 31.6	-0.8
BO03				IAML		00 06 32.7	
	comp=E,5μm,0.3s						
GO05	**Huala**	**0.71**	**111**	⇓iP	Pn	00 06 22.5	-0.7
GO05				i S	Sb	00 06 31.6	-1.4
GO05				IAML		00 06 34.2	
	comp=E,5μm,0.2s						
BO01	**Tunca**	**1.42**	**76**	⇑iP	Pn	00 06 33.0	+0.1
BO01				i S	Sn	00 06 51.3	+0.9
BO01				IAML		00 06 53.1	
	comp=N,727nm,0.7s						
VA05	**Santo Domingo**	**1.44**	**41**	⇑iP	Pn	00 06 32.8	-0.3
VA05				i S	Sn	00 06 51.1	+0.2
VA05				IAML		00 06 58.6	
	comp=N,2μm,0.4s						
ML02	**Panimavida**	**1.48**	**133**	⇑iP	Pb	00 06 35.2	-1.0
ML02				i S	Sb	00 06 54.2	-0.4
ML02				IAML		00 06 55.2	
	comp=E,2μm,0.5s						
MT01	**Popeta**	**1.52**	**55**	⇑iP	Pn	00 06 33.8	-0.5
MT01				i S	Sn	00 06 52.9	-0.1
MT01				IAML		00 06 57.3	
	comp=N,594nm,0.3s						
BO02	**Sierra Bellavi**	**1.62**	**92**	⇑iP	Pn	00 06 36.4	+0.8
BO02				i S	Sn	00 06 56.6	+1.2
BO02				IAML		00 06 58.5	
	comp=N,2μm,0.3s						
MT09	**Talagante**	**1.75**	**57**	⇑iP	Pn	00 06 37.4	-0.1
MT09				IAML		00 07 09.2	
	comp=N,920nm,0.4s						
BO04	**La Punta**	**1.93**	**67**	⇑iP	Pn	00 06 40.4	+0.6
BO04				i S	Sn	00 07 04.8	+1.9
BO04				IAML		00 07 11.3	
	comp=E,465nm,0.3s						
MT02	**Curacav**	**2.00**	**42**	⇑iP	Pn	00 06 40.5	-0.4
MT02				IAML		00 07 16.4	
	comp=N,167nm,0.4s						
BI05	**Punta Hualpn**	**2.02**	**190**	eP	Pn	00 06 42.2	+1.1
MT05	**Renca**	**2.15**	**51**	eP	Pn	00 06 43.4	+0.4
MT05				IAML		00 07 21.6	
	comp=N,662nm,0.5s						
MT03	**Universidad Ad**	**2.24**	**56**	eP	Pn	00 06 44.6	+0.3
MT03				IAML		00 07 17.8	
	comp=E,726nm,0.3s						
LMEL	**Las Melosas**	**2.29**	**67**	⇓iP	Pn	00 06 46.0	+1.0
LMEL				i S	Sn	00 07 14.2	+2.0
LMEL				IAML		00 07 20.4	
	comp=N,477nm,0.3s						
ROCH	**El Roble**	**2.29**	**39**	eP	Pb	00 06 45.2	-4.9
ROCH				eP	Pn	00 06 43.2	-1.9
ROCH				i S	Sb	00 07 21.2	+3.1
ROCH				IAML		00 07 31.2	
	comp=N,441nm,0.5s						
FCH	**Farellones**	**2.49**	**56**	⇑iP	Pn	00 06 48.1	+0.2
FCH				IAML		00 07 30.6	
	comp=E,227nm,0.6s						
VA06	**Catapilco**	**2.50**	**29**	eP	Pn	00 06 47.4	-0.3
VA06				IAML		00 07 36.6	
	comp=E,401nm,0.5s						
VA03	**San Esteban**	**2.70**	**43**	⇑iP	Pn	00 06 51.2	+0.6
VA03				IAML		00 07 34.2	
	comp=N,341nm,0.5s						
CO02	**Combarbal**	**3.83**	**23**	eP	Pn	00 07 06.2	0.0
CO06	**Fray Jorge**	**4.18**	**13**	⇑iP	Pn	00 07 10.0	-0.8
CO06				i S	Sn	00 07 54.2	-4.3
GO04	**Tololo Observa**	**4.86**	**20**	eP	Pn	00 07 20.3	-0.1

*CNRM **06** 00:22:02.5, 35°.48N×3°.79W, h22km, ml2.7*
*MDD **06** 00:22:03.4±0.5, 35°.42N×3°.80W, h10km, mb_Lg2.7/14, Error ellipse: s-maj=4.4km s-min=3.2km az=175.0*
*SFS **06** 00:22:03.0, 35°.41N×3°.80W, h10km, ML2.7, ALBORAN SUR*
*INMG **06** 00:22:04.1±1.5, 35°.52N×3°.73W, h18km±9km, ML2.2, Error ellipse: s-maj=4.3km s-min=4.0km az=44.0*
ISC 06 00:22:01.4±1.2**, 35°.47N**±0°.02×**3°.80W**±0°.02**, h9**km±10km**, n44, σ1§23**/75**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.27**	**206**	S	**Sg**	**00 22 08.8**	**-1.8**
PALE	**Palemas**	**0.27**	**206**	P	**Pb**	**00 22 09.0**	**+0.4**
PALE				S	**Sb**	**00 22 13.5**	**+0.2**
PVLZ	**Peæn de**	**0.51**	**235**	P	**Pg**	**00 22 11.6**	**+0.3**
PVLZ				S	**Sb**	**00 22 19.2**	**-0.7**
GOG	**Mont Gurugu**	**0.70**	**110**	P	**Pn**	**00 22 17.0**	**-0.6**
GOG				S	**Sb**	**00 22 26.0**	**+0.5**
GOG	**Mont Gurugu**	**0.70**	**110**	P	**Pn**	**00 22 17.3**	**-0.2**
GOG				S	**Sb**	**00 22 25.8**	**+0.2**
EMEL	**Melilla**	**0.70**	**103**	Pg	**Pb**	**00 22 16.5**	**+0.7**
EMEL				Sg	**Sb**	**00 22 25.9**	**+0.2**
TAF	**Taforalt**	**1.30**	**119**	P	**Pn**	**00 22 24.9**	**-1.0**
TAF				S	**Sb**	**00 22 41.5**	**-1.6**
SMIR	**Smir Dam**	**1.31**	**280**	P	**Pn**	**00 22 24.5**	**-1.4**
SMIR				S	**Sb**	**00 22 42.5**	**-0.6**
CHEFC	**Chefchaouen**	**1.31**	**255**	P	**Pb**	**00 22 26.4**	**+0.1**
CHEFC	**Chefchaouen**	**1.31**	**255**	P	**Pb**	**00 22 26.6**	**+0.3**
CHEFC				S	**Sg**	**00 22 44.1**	**+0.4**
EMIJ	**Mijas**	**1.35**	**324**	Pn	**Pn**	**00 22 26.8**	**+0.2**
EMIJ				Sn	**Sb**	**00 22 44.6**	**+0.2**
EMIJ				i Vmb_Lg		00 22 51.6	
ECEU	**Ceuta**	**1.36**	**289**	Pn	**Pn**	**00 22 25.4**	**-1.1**
ECEU				Sn	**Sb**	**00 22 42.3**	**-2.2**
ECEU				i Vmb_Lg		00 22 43.1	
EMAL	**Malaga-Limoner**	**1.39**	**339**	P	**Pb**	**00 22 28.1**	**+0.5**
EMAL				S	**Sn**	**00 22 44.0**	**-1.5**
ELGU	**Los Guajares,**	**1.41**	**6**	Pn	**Pn**	**00 22 26.3**	**-1.0**
ELGU				Sn	**Sn**	**00 22 44.3**	**-1.8**
ELGU				i Vmb_Lg		00 22 48.0	
JBK	**JBK**	**1.51**	**138**	P	**Pn**	**00 22 28.0**	**-0.9**
JBK	**JBK**	**1.51**	**138**	P	**Pn**	**00 22 27.8**	**-1.0**
JBK				S	**Sn**	**00 22 48.8**	**+0.1**
EBER	**Berja**	**1.61**	**27**	Pn	**Pn**	**00 22 29.4**	**-0.7**
EBER				Sn	**Sn**	**00 22 51.2**	**+0.1**
EBER				i Vmb_Lg		00 22 53.1	
EGOR	**Sierra Gorda,**	**1.66**	**351**	Pn	**Pb**	**00 22 32.1**	**-0.2**
EGOR				Sn	**Sn**	**00 22 53.0**	**+0.6**
EGOR				i Vmb_Lg		00 23 03.4	
EJIF	**Jimena Fronter**	**1.68**	**306**	Pn	**Pg**	**00 22 34.1**	**+0.5**
ENIJ	**Nijar**	**1.98**	**40**	Pn	**Pn**	**00 22 34.0**	**-1.1**
ENIJ				Sn	**Sn**	**00 22 57.5**	**-2.5**
ENIJ				i Vmb_Lg		00 22 58.2	
LCRM	**LCR**	**1.98**	**207**	P	**Pb**	**00 22 37.0**	**-0.7**
LCRM	**LCR**	**1.98**	**207**	P	**Pn**	**00 22 35.8**	**+0.6**
LCRM				S	**Sb**	**00 23 03.5**	**+1.0**
MD31	**MD31**	**2.71**	**197**	P	**Pn**	**00 22 46.2**	**+0.9**
MD31				S	**Sn**	**00 23 19.3**	**+1.1**
MDT	**Midelt**	**2.73**	**195**	P	**Pn**	**00 22 46.2**	**+0.7**
MDT				S	**Sn**	**00 23 19.1**	**+0.5**
EADA	**Adamuz**	**2.77**	**347**	Pn	**Pn**	**00 22 47.1**	**+1.1**
EADA				Sn	**Sn**	**00 23 20.3**	**+0.7**
EADA				i Vmb_Lg		00 23 26.1	
ECAB	**El Cabril**	**2.91**	**334**	Pn	**Pn**	**00 22 50.9**	**+3.0**
ECAB				Sn	**Sn**	**00 23 23.9**	**+0.8**
ECAB				i Vmb_Lg		00 23 42.3	
EMIN	**Mina Concepcio**	**3.26**	**316**	Pn	**Pn**	**00 22 53.5**	**+0.8**
EMIN				Sn	**Sn**	**00 23 31.8**	**+0.1**
EMIN				i Vmb_Lg		00 23 41.6	
EGRO	**El Granado**	**3.62**	**306**	Pn	**Pn**	**00 22 56.6**	**-1.0**
EGRO				Sn	**Sn**	**00 23 39.0**	**-1.5**
EGRO				i Vmb_Lg		00 23 41.7	
ETOB	**Tobarra**	**3.65**	**29**	Pn	**Pn**	**00 23 00.8**	**+2.7**
ETOB				Sn	**Sn**	**00 23 41.7**	**+0.4**
ETOB				i Vmb_Lg		00 23 43.2	
PVAQ	**Vaqueiros**	**3.71**	**303**	ePn	**Pn**	**00 22 59.6**	**+0.7**
PVAQ				eSn	**Sn**	**00 23 41.2**	**-1.4**
PVAQ				A	A	00 23 41.9	
	5.4nm,0.4s						
PVAQ	**Vaqueiros**	**3.71**	**303**	P	**Pn**	**00 22 59.5**	**+0.7**
PBAR	**Barrancos**	**3.75**	**317**	ePn	**Pn**	**00 23 00.4**	**+0.9**
PBAR				eSn	**Sn**	**00 23 42.3**	**-1.5**
PBAR				A	A	00 24 01.2	
	1.8nm,0.8s						
PBDV	**Barranco-do-Ve**	**3.78**	**299**	ePn	**Pn**	**00 23 00.9**	**+1.0**
PBDV				eSn	**Sn**	**00 23 42.9**	**-1.6**
PBDV				A	A	00 23 47.6	
	3.3nm,0.8s						
PAB	**San Pablo**	**4.10**	**354**	Pn	**Pn**	**00 23 05.9**	**+1.6**
PAB				i Vmb_Lg		00 24 15.3	
EBAD	**Badajoz**	**4.17**	**323**	Pn	**Pn**	**00 23 06.1**	**+0.9**
EBAD				Sn	**Sn**	**00 23 52.8**	**-1.3**
EBAD				i Vmb_Lg		00 24 06.1	
PTEO	**Sao Teotonio**	**4.48**	**299**	eSn	**Sn**	**00 24 00.9**	**-0.8**
PESTR	**Estremoz**	**4.55**	**319**	ePn	**Pn**	**00 23 11.3**	**+0.8**
PESTR				eSn	**Sn**	**00 24 01.8**	**-1.7**
PESTR				A	A	00 24 14.6	
	2.3nm,0.7s						
PESTR	**Estremoz**	**4.55**	**319**	P	**Pn**	**00 23 10.8**	**+0.3**
PNCL	**Nicolau / Gran**	**4.63**	**306**	ePn	**Pn**	**00 23 13.0**	**+1.5**
PNCL				eSn	**Sn**	**00 24 04.0**	**-1.3**
PNCL				A	A	00 24 10.4	
	2.9nm,0.9s						
PMRV	**Marv??o**	**4.88**	**325**	ePn	**Pn**	**00 23 16.3**	**+1.3**
PMRV				eSn	**Sn**	**00 24 09.7**	**-1.9**
PMRV				A	A	00 24 20.9	
	2.0nm,0.7s						
PMTG	**Montargil**	**5.04**	**317**	ePn	**Pn**	**00 23 18.7**	**+1.5**
OUZM	**OUZ**	**5.18**	**210**	P	**Pn**	**00 23 20.5**	**+1.3**
PACT	**Alcochete**	**5.20**	**311**	ePn	**Pn**	**00 23 22.9**	**+3.5**
PSBE	**So Bento**	**5.67**	**317**	ePn	**Pn**	**00 23 27.2**	**+1.4**

*NEIC **06** 00:29:57.1±1.1, 9°.61N±0°.10×126°.3E±0°.1, h105km±8km, mb4.1/17, Error ellipse: s-maj=21.2km s-min=13.6km az=75.0*
*MAN **06** 00:29:59.7, 9°.33N×125°.93E, h88km, mb4.7, ML3.6, MS3.5, Hypocentre not reviewed by the ISC*
*IDC **06** 00:29:59.5±3.5, 9°.41N×125°.93E, h126km±29km, mb3.5/7, mb1 3.7/8, mb1mx3.3/48, mbtmp3.9/8, Error ellipse: s-maj=67.2km s-min=19.8km az=71.0*
ISC 06 00:29:57.8±1.0**, 9°.47N**±0°.07×**126°.06E**±0°.07**, h116**km±9km**, n46, σ1§25**/49**, mb3.9**/13**, 6C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.31**	**167**	⇑iP	**Pn**	**00 30 22.4**	**-0.4**
BIPH				i S	**Sn**	**00 30 40.9**	**-0.8**
TBP	**Tagbilaran**	**2.17**	**276**	⇑iP	**Pn**	**00 30 33.1**	**-0.1**
TBP				eS	**Sn**	**00 30 58.2**	**-2.2**
LLP	**Lapu-Lapu**	**2.23**	**293**	⇑iP	**Pn**	**00 30 34.5**	**+0.5**
LLP				i S	**Sn**	**00 31 01.6**	**0.0**
DAV	**Davao City (W)**	**2.43**	**191**	P	**Pn**	**00 30 37.7**	**+1.2**
	113nm,0.3s,baz=244,slow=3.4,SNR=6.1						
DAV				S	**Sn**	**00 31 07.5**	**+1.2**
	77nm,0.3s,baz=273,slow=21,SNR=8.6						
DAV	**Davao City (W)**	**2.43**	**191**	Pn	**Pn**	**00 30 37.3**	**+0.7**
SNPH	**Sibulan**	**2.79**	**268**	⇑eP	**Pn**	**00 30 41.2**	**0.0**
DCPH	**Dipolog City**	**2.81**	**252**	⇓eP	**Pn**	**00 30 42.7**	**+1.2**
DCPH				eS	**Sn**	**00 31 12.9**	**-2.2**
CTBH	**Cotabato--PC H**	**2.86**	**219**	⇑eP	**Pn**	**00 30 41.9**	**-0.3**
CTBH				i S	**Sn**	**00 31 13.6**	**-2.7**
RCP	**Roxas**	**3.86**	**303**	⇑eP	**Pn**	**00 30 56.5**	**+1.0**
TNTI	**Ternate**	**8.73**	**171**	Pn	**Pn**	**00 32 01.8**	**+0.5**
TOLI2	**Tolitoli**	**9.82**	**213**	Pn	**Pn**	**00 32 18.4**	**+2.4**
FAKI	**Fak Fak**	**13.76**	**153**	P	**P**	**00 33 12.1**	**-0.7**
SBUM	**Sibu**	**15.42**	**244**		**P**	**00 33 33.4**	**+2.2**
SBUM				IAmb	IAmb	00 33 34.4	
	comp=Z,15nm,1.1s						
BATI	**Baumata**	**19.69**	**187**	P	**P**	**00 34 19.6**	**+1.5**
	comp=Z,9.4nm,0.3s,baz=351,slow=19,SNR=6.9						
FITZ	**Fitzroy Crossi**	**27.39**	**181**	P	**P**	**00 35 31.9**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=145,slow=16,SNR=2.7						
FITZ	**Fitzroy Crossi**	**27.39**	**181**	P	**P**	**00 35 32.5**	**0.0**
FITZ				IAmb	IAmb	00 35 33.6	
	comp=Z,6.2nm,1.3s						
MJAR	**Matsushiro Arr**	**29.12**	**20**	P	**P**	**00 35 45.7**	**-2.1**
MJAR				IAmb	IAmb	00 35 55.7	
	comp=Z,2.4nm,1.0s						
WB0	**Warramunga Arr**	**30.19**	**164**	P	**P**	**00 35 57.3**	**0.0**
WB0				IAmb	IAmb	00 36 08.0	
	comp=Z,8.2nm,1.4s						
WRA	**Warramunga Arr**	**30.34**	**164**	P	**P**	**00 35 58.5**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=347,slow=8.0,SNR=7.9						
WRA				PcP	**PcP**	**00 38 56.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=340,slow=2.7,SNR=2.8						
WRA				S	**S**	**00 40 46.3**	**-4.4**
	comp=Z,1.0nm,0.6s,baz=342,slow=10,SNR=5.9						
WRA	**Warramunga Arr**	**30.34**	**164**	P	**P**	**00 35 58.6**	**-0.1**
WB2	**Warramunga Arr**	**30.34**	**164**	P	**P**	**00 35 59.0**	**+0.2**
WB2				IAmb	IAmb	00 36 23.7	
	comp=Z,7.5nm,1.4s						
WR0	**Warramunga Arr**	**30.41**	**164**	P	**P**	**00 35 58.9**	**-0.5**
WR0				IAmb	IAmb	00 36 03.2	
	comp=Z,5.7nm,1.3s						
PSA00	**Pilbara Seismi**	**31.44**	**191**	P	**P**	**00 36 07.8**	**-0.6**
AS31	**Alice Springs**	**33.81**	**167**	P	**P**	**00 36 29.0**	**-0.1**
ASAR	**Alice Springs**	**33.81**	**167**	P	**P**	**00 36 29.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=352,slow=6.6,SNR=7.9						
ASAR				PcP	**PcP**	**00 39 05.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=340,slow=2.4,SNR=4.7						
ASAR	**Alice Springs**	**33.81**	**167**	P	**P**	**00 36 29.7**	**+0.6**
FORT	**Forrest**	**40.06**	**177**	P	**P**	**00 37 22.1**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**40.36**	**73**	T	T	01 20 47.6	
	baz=262,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**40.37**	**73**	T	T	01 20 47.3	
	baz=262,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**40.37**	**73**	T	T	01 20 48.6	
	baz=262,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**40.71**	**71**	T	T	01 21 17.5	
	baz=265,slow=74,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**40.72**	**71**	T	T	01 21 19.6	
	baz=265,slow=74,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	**40.73**	**71**	T	T	01 21 22.2	
	baz=265,slow=74,SNR=10.0						
BBOO	**Buckleboo**	**43.11**	**168**	P	**P**	**00 37 47.5**	**+0.8**
STKA	**Stephens Creek**	**43.72**	**161**	P	**P**	**00 37 52.5**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=345,slow=7.3,SNR=6.1						
STKA	**Stephens Creek**	**43.72**	**161**	P	**P**	**00 37 52.7**	**+1.1**
ARMA	**Armidale**	**46.65**	**149**	P	**P**	**00 38 16.0**	**+1.0**
ARMA				IAmb	IAmb	00 38 30.1	
	comp=Z,13nm,1.3s						
TOO	**Toolangi**	**50.21**	**160**	P	**P**	**00 38 42.5**	**+0.5**
MK31	**Makanchi Array**	**52.54**	**323**	P	**P**	**00 38 59.5**	**+0.2**
MKAR	**Makanchi Array**	**52.54**	**323**	P	**P**	**00 38 59.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=117,slow=8.3,SNR=4.8						
RAYN	**Ar Rayn**	**77.67**	**292**	P	**P**	**00 41 42.0**	**-0.2**
RAYN				IAmb	IAmb	00 41 43.0	
	comp=Z,1.3nm,0.7s						
VNDA	**Vanda**	**89.16**	**173**	P	**P**	**00 42 40.5**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=319,slow=6.1,SNR=11						
VNDA	**Vanda**	**89.16**	**173**	P	**P**	**00 42 40.7**	**+0.9**
VNDA				IAmb	IAmb	00 42 41.2	
	comp=Z,1.4nm,0.7s						
YKA	**Yellowknife Ar**	**94.57**	**24**	P	**P**	**00 43 06.3**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=299,slow=4.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**120.36**	**291**	PKP	**PKPdf**	**00 48 36.1**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=67,slow=1.9,SNR=4.1						
PLCA	**Paso Flores**	**145.55**	**157**	PKPbc	**PKPdf**	**00 49 22.9**	**0.0**
	comp=Z,0.9nm,0.7s,baz=225,slow=2.9,SNR=1.6						

*SJA **06** 00:30:49.5±0.8, 20°.16S×70°.54W, h31km±1km, ML3.9, MW4.0*
*GUC **06** 00:30:51.9±0.7, 20°.14S×70°.50W, h33km±3km, ML3.8*
*NEIC **06** 00:30:51.3±2.6, 20°.18S±0°.03×70°.54W±0°.04, h25km±6km, mb4.0/5, ML3.8(GUC), Error ellipse: s-maj=5.7km s-min=3.4km az=49.0*
*IDC **06** 00:30:56.1±3.1, 20°.22S×70°.42W, h71km±26km, mb3.6/5, mb1 3.8/7, mb1mx3.5/25, mbtmp4.0/7, MS2.9/4, Ms1 2.9/4, ms1mx2.7/54, Error ellipse: s-maj=42.2km s-min=23.1km az=99.0*
ISC 06 00:30:48.9±1.2**, 20°.14S**±0°.02×**70°.64W**±0°.04**, h16**km±7km**, n89, σ1§27**/124**, mb4.0**/4**, 2C-7D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.50**	**106**		**Pb**	**00 30 59.6**	**+0.4**
TA02				Sg	**Sg**	**00 31 05.5**	**+0.1**
TA02	**Huaiquique**	**0.50**	**106**	⇓iP	**Pb**	**00 30 59.6**	**+0.4**
TA02				i S	**Sg**	**00 31 05.4**	**-0.1**
TA02				IAML		00 31 07.5	
	comp=E,21μm,0.1s						
TA02	**Huaiquique**	**0.50**	**106**	eP	**Pg**	**00 30 59.0**	**+0.2**
TA02				eP	**Pn**	**00 31 01.0**	**-0.3**
TA02				eS	**Sb**	**00 31 06.5**	**+0.3**
TA02				IAML		00 31 07.5	
	comp=Z,6μm,0.1s						
TA01	**Diego Aracena**	**0.61**	**135**		**Pb**	**00 31 01.4**	**+0.3**
TA01				Sg	**Sg**	**00 31 08.9**	**-0.1**
TA01	**Diego Aracena**	**0.61**	**135**	⇓iP	**Pb**	**00 31 01.6**	**+0.5**
TA01				i S	**Sg**	**00 31 08.4**	**-0.5**
TA01				IAML		00 31 09.9	
	comp=E,8μm,0.4s						
TA01	**Diego Aracena**	**0.61**	**135**	eP	**Pg**	**00 31 01.0**	**+0.1**
TA01				eS	**Sb**	**00 31 09.6**	**+0.2**
TA01				IAML		00 31 13.3	
	comp=Z,4μm,0.3s						
HMBC	**Humberstone**	**0.72**	**102**	⇓iP	**Pb**	**00 31 03.0**	**-0.1**
HMBC				i S	**Sg**	**00 31 11.5**	**-1.1**
PATCX	**Punta Patache**	**0.82**	**146**		**Pg**	**00 31 05.1**	**+0.2**
PATCX				Sg	**Sb**	**00 31 15.1**	**-0.6**
PATCX	**Punta Patache**	**0.82**	**146**	i P	**Pg**	**00 31 05.1**	**+0.2**
PATCX				i S	**Sb**	**00 31 15.3**	**-0.4**
PATCX				IAML		00 31 19.7	
	comp=E,4μm,0.2s						
PATCX	**Punta Patache**	**0.82**	**146**	eP	**Pb**	**00 31 04.9**	**+0.1**
PATCX				eP	**Pg**	**00 31 05.0**	**+0.2**
PATCX				eP	**Pg**	**00 31 05.1**	**+0.2**
PATCX				eP	**Pg**	**00 31 05.1**	**+0.2**
PATCX				eP	**Pg**	**00 31 05.1**	**+0.2**
PATCX				eS	**Sg**	**00 31 15.9**	**+0.1**
PATCX				IAML		00 31 19.4	
	comp=Z,4μm,0.3s						
PB11	**IPOC Station P**	**1.00**	**68**		**Pb**	**00 31 07.3**	**-0.5**
PB11	**IPOC Station P**	**1.00**	**68**	⇓iP	**Pb**	**00 31 07.4**	**-0.5**
PB11				i S	**Sb**	**00 31 18.4**	**-2.5**
PB11				IAML		00 31 20.1	
	comp=N,5μm,0.3s						
PB11	**IPOC Station P**	**1.00**	**68**	eP	**Pb**	**00 31 07.4**	**-0.5**
PB11				eS	**Sb**	**00 31 20.4**	**-0.4**
PB11				eS	**Sn**	**00 31 23.5**	**+1.3**
PB11				IAML		00 31 23.5	
	comp=Z,2μm,0.4s						
PB02	**IPOC Station P**	**1.37**	**150**		**Pn**	**00 31 13.7**	**+0.3**
PB02	**IPOC Station P**	**1.37**	**150**	⇓iP	**Pn**	**00 31 13.7**	**+0.3**
PB02				i S	**Sn**	**00 31 31.0**	**-0.3**
PB02				IAML		00 31 35.7	
	comp=E,9μm,0.3s						
PB02	**IPOC Station P**	**1.37**	**150**	eP	**Pn**	**00 31 13.7**	**+0.3**
PB02				eS	**Sb**	**00 31 32.1**	**+0.6**
PB02				IAML		00 31 37.0	
	comp=Z,8μm,0.4s						
PB08	**IPOC Station P**	**1.40**	**91**	Pn	**Pn**	**00 31 13.8**	**-0.3**
PB08	**IPOC Station P**	**1.40**	**91**	⇓iP	**Pn**	**00 31 13.8**	**-0.3**
PB08				i S	**Sn**	**00 31 30.7**	**-1.6**
PB08	**IPOC Station P**	**1.40**	**91**	eP	**Pn**	**00 31 13.9**	**-0.1**
PB08				eS	**Sn**	**00 31 31.4**	**-0.9**
PB01	**IPOC Station P**	**1.41**	**130**	Pn	**Pn**	**00 31 13.8**	**-0.1**
PB01	**IPOC Station P**	**1.41**	**130**	⇓iP	**Pn**	**00 31 13.9**	**-0.1**
PB01				IAML		00 31 35.1	
	comp=E,5μm,0.3s						
PB01	**IPOC Station P**	**1.41**	**130**	eP	**Pn**	**00 31 13.9**	**-0.1**
PB01				eS	**Sn**	**00 31 31.9**	**-0.3**
PB01				eS	**Sb**	**00 31 33.6**	**+1.0**
PB01				IAML		00 31 36.0	
	comp=Z,3μm,0.3s						
GO01	**Chusmiza**	**1.44**	**71**	Pn	**Pn**	**00 31 14.6**	**-0.1**
GO01	**Chusmiza**	**1.44**	**71**	i P	**Pn**	**00 31 14.7**	**0.0**
GO01				i S	**Sn**	**00 31 32.5**	**-1.0**
GO01				IAML		00 31 33.1	
	comp=N,5μm,0.3s						
GO01	**Chusmiza**	**1.44**	**71**	eP	**Pn**	**00 31 14.8**	**+0.1**
GO01				eS	**Sn**	**00 31 32.9**	**-0.6**
PB12	**IPOC Station P**	**1.54**	**11**	Pn	**Pn**	**00 31 16.7**	**+0.9**
PB12	**IPOC Station P**	**1.54**	**11**	⇑iP	**Pn**	**00 31 16.6**	**+0.9**
PB12				i S	**Sb**	**00 31 36.7**	**+0.2**
PB12				IAML		00 31 39.9	
	comp=E,1μm,0.8s						
PB12	**IPOC Station P**	**1.54**	**11**	eP	**Pn**	**00 31 13.4**	**-2.4**
PB12				eP	**Pb**	**00 31 16.0**	**-1.1**
PB12				eS	**Sb**	**00 31 37.6**	**+1.2**
PB12				IAML		00 31 39.0	
	comp=Z,1μm,0.6s						
PB07	**IPOC Station P**	**1.73**	**156**		**Pn**	**00 31 19.2**	**+0.7**
PB07	**IPOC Station P**	**1.73**	**156**	i P	**Pn**	**00 31 19.2**	**+0.7**
PB07				i S	**Sn**	**00 31 40.4**	**0.0**
PB07				IAML		00 31 45.9	
	comp=N,2μm,0.5s						
PB07	**IPOC Station P**	**1.73**	**156**	eP	**Pn**	**00 31 19.0**	**+0.5**
PB07				eS	**Sb**	**00 31 41.7**	**-0.4**
PB07				IAML		00 31 45.6	
	comp=Z,2μm,0.4s						
AP01	**Chacalluta**	**1.78**	**9**		**Pb**	**00 31 21.3**	**+0.2**
AP01	**Chacalluta**	**1.78**	**9**	eP	**Pb**	**00 31 21.6**	**+0.5**
AP01				i S	**Sb**	**00 31 43.9**	**+0.7**
AP01				IAML		00 31 54.9	
	comp=E,3μm,0.6s						
AP01	**Chacalluta**	**1.78**	**9**	eP	**Pb**	**00 31 22.0**	**+0.9**
AP01				IAML		00 31 50.8	
	comp=Z,2μm,0.8s						
PB16	**IPOC Station P**	**2.08**	**31**		**Pn**	**00 31 25.0**	**+1.3**
PB16	**IPOC Station P**	**2.08**	**31**	eP	**Pn**	**00 31 25.0**	**+1.3**
PB16				i S	**Sb**	**00 31 52.2**	**-0.4**
PB16				IAML		00 31 56.5	
	comp=N,563nm,0.4s						
PB16	**IPOC Station P**	**2.08**	**31**	eP	**Pn**	**00 31 20.4**	**-3.3**
PB16				eP	**Pn**	**00 31 25.0**	**+1.3**
PB16				eS	**Sb**	**00 31 52.6**	**0.0**
PB16				IAML		00 32 01.9	
	comp=Z,480nm,0.5s						
PB09	**IPOC Station P**	**2.11**	**142**		**Pb**	**00 31 25.7**	**-1.1**
PB09	**IPOC Station P**	**2.11**	**142**	⇑iP	**Pb**	**00 31 25.7**	**-1.1**
PB09				i S	**Sb**	**00 31 51.6**	**-1.2**
PB09				IAML		00 31 60.0	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**2.11**	**142**	eP	**Pn**	**00 31 25.0**	**+1.4**
PB09				eP	**Pb**	**00 31 25.8**	**-1.1**
PB09				eS	**Sn**	**00 31 49.4**	**-0.2**
PB09				IAML		00 31 58.9	
	comp=Z,2μm,0.4s						
PB04	**IPOC Station P**	**2.23**	**168**		**Pn**	**00 31 25.3**	**-0.1**
PB04	**IPOC Station P**	**2.23**	**168**	eP	**Pn**	**00 31 25.7**	**+0.3**
PB04				IAML		00 32 09.4	
	comp=N,1μm,0.8s						
PB04	**IPOC Station P**	**2.23**	**168**	eP	**Pn**	**00 31 25.0**	**-0.4**
PB04				eP	**Pn**	**00 31 25.8**	**+0.3**
PB04				eS	**Sn**	**00 31 53.9**	**+1.1**
PB04				IAML		00 32 05.7	
	comp=Z,920nm,0.7s						
PB06	**IPOC Station P**	**2.75**	**159**		**Pn**	**00 31 32.6**	**+0.2**
PB06	**IPOC Station P**	**2.75**	**159**	eP	**Pn**	**00 31 32.7**	**+0.2**
PB06				IAML		00 32 19.9	
	comp=E,551nm,0.6s						
PB06	**IPOC Station P**	**2.75**	**159**	eP	**Pn**	**00 31 32.9**	**+0.5**
PB06				eP	**Pn**	**00 31 33.0**	**+0.5**
PB06				eS	**Sn**	**00 32 06.9**	**+1.5**
PB06				IAML		00 32 27.9	
	comp=Z,436nm,0.6s						
LVC	**Limon Verde**	**2.94**	**147**	P	**Pn**	**00 31 37.5**	**+2.1**
	comp=Z,34nm,0.3s,baz=360,slow=6.8,SNR=288						
LVC				S	**Sn**	**00 32 13.3**	**+2.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,67nm,0.3s,baz=252,slow=20,SNR=14						
LVC				LR	LR	00 32 56.2	
	comp=Z,192nm,20.1s,baz=319,slow=43						
LVC	Limon Verde	2.94	147	Pn	Pn	00 31 37.2	+1.8
LVC	Limon Verde	2.94	147	eP	Pn	00 31 37.0	+1.7
LVC				eS	Sn	00 32 13.4	+2.9
LVC				eS	Sb	00 32 15.9	-1.2
LVC				IAML		00 32 23.2	
	comp=Z,206nm,0.7s						
PB15	IPOC Station P	3.25	161		Pn	00 31 39.2	-0.1
PB15	IPOC Station P	3.25	161	eP	Pn	00 31 40.3	+0.9
PB15				eS	Sn	00 32 13.4	-4.4
PB15				eS	Sb	00 32 16.4	-9.3
PB15				eS		00 32 20.4	
PB15				IAML		00 32 31.5	
	comp=Z,641nm,0.5s						
PB10	IPOC Station P	3.36	179	Pn	Pn	00 31 39.3	-1.5
PB10	IPOC Station P	3.36	179	eP	Pn	00 31 41.1	+0.3
PB10				eS	Sn	00 32 13.4	-7.0
PB10				eS	Sb	00 32 31.9	+3.1
PB14	IPOC Station P	4.47	177	Pn	Pn	00 31 55.1	-1.3
LPAZ	La Paz	4.51	32	P	Pn	00 32 02.8	+5.7
	comp=Z,2.2nm,0.3s,baz=209,slow=7.2,SNR=36						
LPAZ				LR	LR	00 34 00.1	
	comp=Z,132nm,18.4s,baz=236,slow=41						
LPAZ	La Paz	4.51	32	Pn	Pn	00 32 03.0	+5.9
GO02	Mina Guanaco	5.10	169	Pn	Pn	00 32 05.2	+0.3
GO02	Mina Guanaco	5.10	169	eP	Pn	00 32 05.6	+0.7
GO02				eS	Sn	00 33 03.1	-0.5
AC01	Pan de Azucar	5.99	180	Pn	Pn	00 32 15.2	-1.6
AC02	Maricunga	6.81	169	Pn	Pn	00 32 28.6	0.0
AC02	Maricunga	6.81	169	eS	Sn	00 33 46.5	+0.4
AC06	Mina Casimiro	7.20	178	Pn	Pn	00 32 32.7	-0.7
AC04	Llanos de Chal	8.04	183	eP	Pn	00 32 45.0	-0.1
LCO	Las Campanas	8.84	180	Pn	Pn	00 32 56.9	+0.6
CO01	Juntas del Tor	9.81	177	Pn	Pn	00 33 11.0	+1.4
SIV	San Ignacio	9.99	67	P	Pn	00 33 11.6	-0.2
	comp=Z,1.5nm,0.3s,baz=260,slow=8.5,SNR=30						
SIV				S	Sn	00 34 52.3	-11
	comp=Z,0.2nm,0.3s,baz=272,slow=19,SNR=1.0						
SIV				LR	LR	00 37 49.8	
	comp=Z,67nm,20.7s,baz=261,slow=42						
CO06	Fray Jorge	10.53	185	Pn	Pn	00 33 20.6	+1.4
CPUP	Villa Florida	13.70	119	LR	LR	00 40 10.1	
	comp=Z,61nm,20.9s,baz=278,slow=41						
H03N1	Juan Fernandez	15.16	207	T	T	00 49 58.3	
	baz=33,slow=72,SNR=229						
H03N2	Juan Fernandez	15.17	207	T	T	00 49 58.8	
	baz=33,slow=72,SNR=149						
H03N3	Juan Fernandez	15.18	207	T	T	00 49 57.1	
	baz=33,slow=72,SNR=163						
PLCA	Paso Flores	20.53	180	P	Pn	00 35 28.8	-0.1
	comp=Z,0.7nm,0.6s,baz=354,slow=16,SNR=1.5						
PLCA	Paso Flores	20.53	180	P	Pn	00 35 31.7	+2.8
PLCA				IAmb	IAmb	00 35 43.0	
	comp=Z,6.2nm,1.4s						
BDFB	Brasilia	21.98	82	P	P	00 35 43.8	+1.2
	comp=Z,0.8nm,0.3s,baz=258,slow=12,SNR=3.5						
BDFB	Brasilia	21.98	82	P	P	00 35 44.4	+1.9
MDP	Montagnes des	30.69	37	P	P	00 37 02.9	-0.2
	comp=Z,10nm,0.9s,baz=195,slow=12,SNR=1.9						
TORD	Torodi Ar. Bea	78.44	71	P	P	00 42 47.9	-1.6
	comp=Z,1.5nm,0.8s,baz=251,slow=6.7,SNR=6.9						
TORD	Torodi Ar. Bea	78.44	71	P	P	00 42 47.4	-2.1
TORD				IAmb	IAmb	00 42 48.7	
	comp=Z,2.7nm,1.1s						
YKA	Yellowknife Ar	89.37	341	P	P	00 43 44.5	+0.3
	comp=Z,0.4nm,0.6s,baz=141,slow=4.6,SNR=9.9						
H11S2	WAKE ISLAND Hy	126.09	279	T	T	03 09 13.2	
	baz=102,slow=74,SNR=31						
H11S1	WAKE ISLAND Hy	126.10	279	T	T	03 09 13.8	
	baz=102,slow=74,SNR=18						
H11S3	WAKE ISLAND Hy	126.11	279	T	T	03 09 13.3	
	baz=102,slow=74,SNR=23						
H11N3	WAKE ISLAND Hy	126.14	280	T	T	03 09 16.7	
	baz=102,slow=74,SNR=19						
H11N2	WAKE ISLAND Hy	126.15	280	T	T	03 09 15.2	
	baz=102,slow=74,SNR=19						
H11N1	WAKE ISLAND Hy	126.16	280	T	T	03 09 14.8	
	baz=102,slow=74,SNR=7.0						
MAKZ	Makanchi	145.26	34	PKPbc	PKPdf	00 50 26.2	+0.3
MK31	Makanchi Array	145.44	33	PKPbc	PKPab	00 50 26.6	+0.3
MKAR	Makanchi Array	145.44	33	PKPbc	PKPdf	00 50 26.4	+0.2
	comp=Z,1.1nm,0.5s,baz=327,slow=4.3,SNR=19						
GSI	Gunungsitoli	158.02	147	PKPdf	PKPdf	00 50 47.6	+1.6

*SSNC **06** 00:41:37.2±0.9, 19.°53N×78.°01W, h14km±7km, MD3.0, ML2.5, MW2.8*
*JSN **06** 00:41:39.0±0.3, 19.°45N×77.°81W, h10km±3km, MD4.0*
ISC 06 00:41:35.9±3.5**, 19.°50N**±0.°04×**77.°91W**±0.°09**, h14**km±27km**, n8,** σ**0.s91**/14**, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMGC	Las Mercedes	1.02	57	eP	Pb	00 41 55.2	-0.2
LMGC				eS	Sb	00 42 08.3	-0.5
LMGC				IAML		00 42 11.3	
	comp=E,217nm,0.2s						
LMGC				IAML		00 42 11.8	
	comp=N,186nm,0.2s						
CVJ	Coleyville	1.32	164	iP	Pb	00 42 00.8	+0.3
MTDJ	Mount Denham	1.32	164	eP	Pn	00 42 00.1	0.0
MTDJ				eS	Sb	00 42 15.6	-1.7
MCJ	Malvern	1.58	172	iP	Pn	00 42 04.8	+1.1
MCJ				iP	Pb	00 42 05.0	-0.1
MCJ				iS	Sn	00 42 24.1	+0.1
CCCC	Cccc	1.70	5	eP	Pn	00 42 04.7	-0.5
CCCC				eS	Sn	00 42 27.4	+0.7
CCCC				IAML		00 42 29.7	
	comp=E,65nm,0.5s						
CCCC				IAML		00 42 35.7	
	comp=N,46nm,0.4s						
STH	Stony Hill	1.76	143	iP	Pn	00 42 06.8	+0.7
HLGC	Holguin	2.22	51	eP	Pn	00 42 13.7	+1.3
HLGC				IAML		00 42 48.6	
	comp=E,22nm,0.5s						
HLGC				IAML		00 42 56.2	
	comp=N,18nm,0.4s						
GTBY	Guantanamo Bay	2.67	80	eP	Pn	00 42 19.2	+0.6
GTBY				eS	Sn	00 42 50.2	-0.6

*TUL **06** 00:53:16.2±0.4, 36.°72N±0.°01×98.°64W±0.°01, h7km±4km, ML2.8, mb_Lg2.3/10(NEIC), Error ellipse: s-maj=2.1km s-min=0.7km az=151.0*
NEIC 06 00:53:16.9±0.4**, 36.°71N**±0.°01×**98.°64W**±0.°01**, h6**km±4km**, Error ellipse: s-maj=2.1km s-min=1.4km az=137.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.44	221	Pg	Pg	00 53 25.1	-0.3
U32A				Sg	Sg	00 53 31.4	+0.2
R32A	Long Quarter,	1.71	358	Pn	Pn	00 53 47.0	-0.2
T35A	Sooner Cattle	1.72	83	Pn	Pn	00 53 47.3	-0.2
FNO	Franklin	1.77	145	Pn	Pn	00 53 48.2	+0.1
WMOK	Wichita Mounta	1.97	183	Pn	Pn	00 53 50.7	-0.2
W35A	Tecumseh	2.12	137	Pn	Pn	00 53 52.4	-0.5
X34A	Smith Ranch, M	2.21	162	IAmb_Lg		00 54 28.3	
	comp=Z,19nm,0.7s						
T25A	Trinidad	4.64	277	Pn	Pn	00 54 26.1	-1.6
T25A				IAmb_Lg		00 55 44.9	
	comp=Z,6.9nm,0.9s						

*IDC **06** 00:58:42.4±6.4, 21.°66S×179.°22W, h692km±86km, mb2.5/4, mb1 3.0/5, mb1mx2.7/25, mbtmp3.7/5, Error ellipse: s-maj=48.6km s-min=30.9km az=4.0*
ISC 06 00:58:35.4±1.0**, 21.°4S**±0.°2×**179.°1W**±0.°2**, h602**km**, n8,** σ**1.s80**/8**, mb3.2**/4**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	17.09	190	P	P	01 02 03.6	+1.2
	1.0nm,0.3s,baz=293,slow=5.1,SNR=1.9						
URZ				S	S	01 04 49.6	-1.3
	0.2nm,0.3s,baz=41,slow=20,SNR=1.9						
ASAR	Alice Springs	43.31	258	P	P	01 05 46.9	+0.9
	0.9nm,0.8s,baz=98,slow=7.6,SNR=9.4						
WRA	Warramunga Arr	43.46	263	P	P	01 05 47.4	+0.3
	0.2nm,0.5s,baz=97,slow=7.8,SNR=8.7						
NVAR	Mina Array Bea	82.40	44	P	P	01 09 56.9	+0.9
	0.3nm,0.6s,baz=244,slow=7.9,SNR=0.3						
TXAR	Lajitas Array	88.42	58	P	P	01 10 25.4	+0.5
	0.6nm,0.9s,baz=213,slow=4.5,SNR=5.7						
ARCES	ARCESS Array B	129.63	349	PKP	PKPdf	01 16 35.7	-0.6
	2.4nm,1.0s,baz=58,slow=2.4,SNR=5.2						
NOA	NORSAR Array B	139.76	352	PKP	PKPdf	01 16 52.1	-3.3
	1.1nm,1.0s,baz=49,slow=4.8,SNR=3.5						
AKASG	Malin Array Be	143.30	330	PKP	PKPab	01 16 59.0	-1.3
	0.6nm,0.5s,baz=46,slow=3.5,SNR=4.1						

IDC 06 01:22:11.9±2.2**, 4.°40N**×**126.°86E, h0**km**, mb3.3**/4**, mb1 3.5**/4**, mb1mx3.3**/40**, mbtmp3.3**/4**, Error ellipse: s-maj=125.8km s-min=27.0km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.39	183	P	P	01 27 12.6	+0.5
	0.7nm,0.5s,baz=0.0,slow=10,SNR=2.1						
WRA	Warramunga Arr	25.28	163	P	P	01 27 39.0	-1.3
	0.3nm,0.6s,baz=341,slow=11,SNR=9.2						
ASAR	Alice Springs	28.73	166	P	P	01 28 12.6	+1.3
	0.2nm,0.5s,baz=341,slow=11,SNR=2.5						
MKAR	Makanchi Array	57.08	325	P	P	01 32 00.1	0.0
	0.3nm,0.6s,baz=120,slow=7.2,SNR=3.8						

*NEIC **06** 01:29:41.2±1.9, 4.°19N±0.°08×126.°7E±0.°1, h35km±2km, mb4.3/17, Error ellipse: s-maj=18.9km s-min=11.4km az=241.0*
*IDC **06** 01:29:43.3±0.8, 3.°35N×126.°62E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/50, mbtmp4.0/10, ML3.7/1, MS3.3/5, Ms1 3.3/5, ms1mx2.8/73, Error ellipse: s-maj=45.9km s-min=14.3km az=70.0*
*DJA **06** 01:29:45.8±0.9, 4°N±6°×12°7E±°, h21km±8km, M4.3/9, mb4.3/8, mB5.6/2, MLv4.3/9, Mw(mB)5.1/2*
ISC 06 01:29:48.8±0.8**, 3.°54N**±0.°09×**127.°00E**±0.°10**, h35**km**, n46,** σ**2.s06**/31**, mb4.2**/16**, MS3.3**/5**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	Sangihe	1.47	276	P	Pn	01 30 15.6	+2.7
TNTI	Ternate	2.78	172	Pn	Pn	01 30 31.2	+0.4
GTOI	Gorontalo	4.92	234	P	Pn	01 31 00.9	+0.6
	0.0nm8.9nm,0.8s						
MRSI	Marisa	5.90	239	P	Pn	01 31 16.4	+2.6
	0.2nm38nm,0.8s						
SWI	Sorong	6.11	136	P	Pn	01 31 17.1	+0.4
	0.1nm36nm,0.8s						
SIJI	Sorong	6.12	136	Pn	Pn	01 31 17.2	+0.4
	1.9nm,0.3s,baz=257,slow=1.7,SNR=6.7						
SIJI				Sn	Sn	01 32 30.0	+4.4
	0.7nm,0.3s,baz=161,slow=20,SNR=2.1						
LUWI	Luwuk	6.21	223	Pn	Pn	01 31 14.2	-3.9
TOLI2	Tolitoli	6.66	249	Pn	Pn	01 31 16.9	-7.4
APSI	Ampana	6.94	230	P	Pn	01 31 31.6	+3.5
	0.1nm360nm39nm,0.8s						
FAKI	Fak Fak	8.29	141	Pn	Pn	01 31 47.7	+1.0
SBUM	Sibu	14.80	266	Pn	Pn	01 33 04.7	-11
KNRA	Kununurra	19.18	175	P	P	01 34 07.5	-2.0
KNRA				IAmb	IAmb	01 34 14.5	
	comp=Z,10nm,0.9s						
SSLB	Suanglung	20.96	344		P	01 34 15.4	-14
SSLB				IAmb	IAmb	01 34 32.1	
	comp=Z,10nm,0.7s						
FITZ	Fitzroy Crossi	21.55	184	P	P	01 34 35.9	+0.6
	comp=Z,2.4nm,0.8s,baz=26,slow=9.7,SNR=7.4						
FITZ	Fitzroy Crossi	21.55	184	P	P	01 34 33.1	-2.1
COEN	Coen	23.66	138	P	P	01 34 58.3	+1.0
WB0	Warramunga Arr	24.28	163	P	P	01 35 01.6	-1.5
WRAB	Tennant Creek	24.42	163	P	P	01 35 02.6	-1.8
WRAB				IAmb	IAmb	01 35 07.7	
	comp=Z,22nm,1.1s						
WRA	Warramunga Arr	24.43	163	P	P	01 35 02.5	-1.9
	comp=Z,7.1nm,0.7s,baz=340,slow=11,SNR=27						
WRA				PcP	PcP	01 38 44.9	+1.9
	comp=Z,0.2nm,0.5s,baz=339,slow=1.2,SNR=1.8						
WRA	Warramunga Arr	24.43	163	P	P	01 35 02.0	-2.4
WB2	Warramunga Arr	24.43	163	P	P	01 35 02.8	-1.7
WB2				IAmb	IAmb	01 35 07.8	
	comp=Z,22nm,1.1s						
WR0	Warramunga Arr	24.50	163	P	P	01 35 03.1	-2.0
WR0				IAmb	IAmb	01 35 08.5	
	comp=Z,12nm,1.1s						
AS31	Alice Springs	27.87	166	P	P	01 35 33.9	-1.6
ASAR	Alice Springs	27.87	166	P	P	01 35 33.9	-1.6
	comp=Z,1.0nm,0.5s,baz=344,slow=6.5,SNR=18						
ASAR				PcP	PcP	01 38 53.4	+2.4
	comp=Z,0.4nm,0.6s,baz=356,slow=2.3,SNR=4.3						
ASAR	Alice Springs	27.87	166	P	P	01 35 34.9	-0.6
KSRS	Korea Array	33.76	1	P	P	01 36 29.6	+2.4
	comp=Z,0.8nm,0.5s,baz=179,slow=9.4,SNR=2.8						
KSRS				LR	LR	01 49 46.6	
	comp=Z,28nm,22.0s,baz=25,slow=35						
MJAR	Matsushiro Arr	34.42	16	LR	LR	01 50 41.8	
	comp=Z,31nm,20.6s,baz=185,slow=36						
BBOO	Buckleboo	37.16	167	P	P	01 36 55.1	-1.4
STKA	Stephens Creek	37.86	160	P	P	01 37 00.5	-2.0
	comp=Z,6.5nm,0.9s,baz=333,slow=8.1,SNR=7.0						
STKA	Stephens Creek	37.86	160	P	P	01 37 02.1	-0.3
STKA				IAmb	IAmb	01 37 11.5	
	comp=Z,2.7nm,1.1s						
H11S3	WAKE ISLAND Hy	41.56	66	T	T	02 22 01.5	
	baz=253,slow=75,SNR=6.0						
H11S1	WAKE ISLAND Hy	41.58	66	T	T	02 22 01.9	
	baz=253,slow=75,SNR=4.4						
H11S2	WAKE ISLAND Hy	41.58	66	T	T	02 22 03.1	
	baz=253,slow=75,SNR=6.1						
ASAJ	Asahikawa	42.69	17	LR	LR	01 54 16.8	
	comp=Z,42nm,21.5s,baz=160,slow=34						
KLR	Kul'dur	45.70	4	P	P	01 38 06.1	-0.3
	comp=Z,0.5nm,0.5s,baz=162,slow=9.6,SNR=2.0						
SONM	Songino Array	47.56	341	P	P	01 38 20.6	-0.5
	comp=Z,0.7nm,0.5s,baz=150,slow=7.5,SNR=5.5						
SONM	Songino Array	47.56	341	P	P	01 38 05.3	-16
PETK	Petropavlovsk-	55.50	22	P	P	01 39 22.2	+1.9
	comp=Z,2.3nm,0.8s,baz=215,slow=7.0,SNR=2.3						
MKAR	Makanchi Array	57.86	325	P	P	01 39 35.3	-1.9
	comp=Z,1.2nm,0.5s,baz=119,slow=8.0,SNR=15						
MAKZ	Makanchi	58.05	325	P	P	01 39 24.0	-14
MAKZ				IAmb	IAmb	01 39 46.8	
	comp=Z,3.3nm,1.2s						
ZALV	Zalesovo Beam	60.88	333	P	P	01 39 59.1	+1.3
	comp=Z,0.4nm,0.4s,baz=126,slow=7.3,SNR=2.2						
KURK	Kurchatov	62.04	327	P	P	01 39 53.3	-12
KK31	Karatay Array	63.55	317	P	P	01 40 01.9	-14
KK31				IAmb	IAmb	01 40 20.7	
	comp=Z,1.9nm,1.1s						
KKAR	Karatay Array	63.55	317	P	P	01 40 02.1	-14
KKAR				IAmb	IAmb	01 40 20.7	
	comp=Z,1.9nm,1.1s						
MLR	Muntele Rosu	95.22	316	LR	LR	02 31 40.0	
	comp=Z,12nm,18.5s,baz=238,slow=39						
NOA	NORSAR Array B	99.07	334	LR	LR	02 31 15.8	
	comp=Z,24nm,21.5s,baz=305,slow=37						

*NEIC **06** 01:33:13.3±1.5, 54.°39N±0.°08×161.°51W±0.°08, h24km±14km, Error ellipse: s-maj=12.2km s-min=5.2km az=159.0*
AEIC 06 01:33:13±1.6**, 54.°40N**±0.°08×**161.°49W**±0.°07**, h26**km±8km**, ML3.2, mb3.5**/3(NEIC)**, Error ellipse: s-maj=11.9km s-min=3.7km az=155.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAG	Hague Volcano	0.95	346		Pb	01 33 30.8	0.0
PS4A	Pavlof South-4	0.97	348		Pn	01 33 31.0	0.0
PS4A					Sn	01 33 44.6	+0.7
PVV	Pavlof Volcano	0.99	350		Pn	01 33 31.3	+0.1
BALA	Baldy Mountain	1.09	317		Pb	01 33 33.4	+0.2
SDPT	Sand Point	1.11	31		Pn	01 33 33.1	+0.2
SDPT					Sb	01 33 47.9	+0.2
FALS	False Pass	1.21	293		Pn	01 33 34.1	-0.1
FALS	False Pass	1.21	293		Sn	01 33 49.7	0.0
BLHA	Black Hill	1.34	346		Pb	01 33 37.3	-0.2
SSLN	Shishaldin Nor	1.51	287		Pb	01 33 39.9	-0.5
WESE	West Dahl East	1.81	273		Pn	01 33 43.5	+1.0
UNV	Unalaska Valle	3.00	261	Pn	Pn	01 33 59.4	+0.5
CHIR	Chirikof Islan	3.66	65	Pn	Pn	01 34 08.9	+1.0
KDAK	Kodiak Island	6.03	52	Pn	Pn	01 34 40.8	+0.4
SVW2	Sparrevohn	7.42	23	Pn	Pn	01 35 01.2	+1.7
N19K	Bonanza Creek	7.44	27	Pn	Pn	01 35 02.3	+2.3
M19K	Big River Lodg	8.40	24	Pn	Pn	01 35 15.4	+2.4
L19K	White Mountain	8.54	21	Pn	Pn	01 35 16.5	+1.6
PWL	Port Wells	9.56	42	Pn	Pn	01 35 29.4	+0.5
J20K	Nowinta River	10.49	18	Pn	Pn	01 35 42.8	+1.3
SCM	Sheep Creek Mo	10.54	39	Pn	Pn	01 35 41.0	-1.3
RAGM	Ragged Mountai	10.86	50	Pn	Pn	01 35 46.9	+0.3
KLU	Klutina	10.88	43	Pn	Pn	01 35 46.9	-0.1
DHY	Denali Highway	11.35	34	Pn	Pn	01 35 53.8	+0.5
TNA	Tin City	11.64	347	Pn	Pn	01 35 59.8	+2.6
GLB	Gilahina Butte	11.72	46	Pn	Pn	01 35 59.5	+1.1
I21K	Tanana	11.80	20	Pn	Pn	01 36 02.5	+3.0
H21K	Melozitna Rive	12.08	17	Pn	Pn	01 36 03.3	+0.1
YAH	Yahtse	12.18	53	Pn	Pn	01 36 04.8	-0.1
TABL	Table Mountain	12.49	53	Pn	Pn	01 36 09.9	+0.8
ILAR	Eielson Array	12.72	29	Pn	Pn	01 36 10.2	-1.7
L27K	Beaver Creek,	13.34	42	Pn	Pn	01 36 22.0	+1.5
BCAR	Beaver Creek A	13.36	42	Pn	Pn	01 36 20.8	0.0
EGAK	Eagle	14.55	36	Pn	Pn	01 36 38.7	+1.8
TOLK	Toolik Lake Re	15.32	17	P	P	01 36 52.1	+0.2
TOLK				IAmb	IAmb	01 37 04.3	
	comp=Z,7.0nm,1.5s						
WHY	Whitehorse	15.53	55	P	P	01 36 54.0	-0.2
WHY				IAmb	IAmb	01 37 06.3	
	comp=Z,12nm,1.4s						
INK	Inuvik	19.07	32	P	P	01 37 33.1	0.0
INK				IAmb	IAmb	01 37 58.3	
	comp=Z,0.2nm,0.8s						

*IDC **06** 01:34:16.3±0.5, 69.°15N×53.°66W, h0km, mb4.3/32, mb1 4.5/36, mb1mx4.3/57, mbtmp4.4/36, ML3.6/4, MS3.7/51, Ms1 3.7/51, ms1mx3.6/91, Error ellipse: s-maj=13.2km s-min=9.1km az=174.0*
*MOS **06** 01:34:17.8±0.9, 69.°38N×53.°29W, h10km, mb4.8/41, MS4.2/8, Error ellipse: s-maj=19.1km s-min=8.0km az=68.9*
*NEIC **06** 01:34:17.9±1.8, 69.°16N±0.°06×53.°6W±0.°1, h10km±1km, mb4.7/214, Error ellipse: s-maj=10.9km s-min=6.3km az=357.0*
*OTT **06** 01:34:17.4±0.1, 69.°17N×53.°83W, h18km, ML4.0/3, Western Greenland. 457km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone.*
*DNK **06** 01:34:18.1±3.1, 69.°19N×53.°76W, h11km±9km, ML3.9, MW4.2, Probable volcanic*
*BGR **06** 01:34:37.9±0.0, 69.°42N×47.°65W, h10km, mb5.0, Ms3.7*
ISC 06 01:34:17.7±0.6**, 69.°07N**±0.°03×**53.°56W**±0.°03**, h11**km±3km**, n602,** σ**1.s52**/544**, mb4.7**/218**, MS3.8**/56**, 37C-28D, Western Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILULI	Ilulissat	0.89	80		Pg	01 34 34.9	+0.1
ILULI				Sg	Sb	01 34 47.2	+0.4
ILULI	Ilulissat	0.89	80	iS	Sb	01 34 47.8	+1.0
ILULI				IAML		01 34 56.3	
	comp=Z,3µm,1.3s						
ILULI	Ilulissat	0.89	80	PG	Pb	01 34 35.0	0.0
ILULI				SG	Sn	01 34 48.2	-0.6
ILULI				Trac		01 34 53.7	
	comp=Z,1µm,0.2s						
SFJD	Kangerlussuaq	2.36	151	Pn	Pn	01 34 56.9	+0.7
	comp=Z,28nm,0.3s,baz=338,slow=15,SNR=213						
SFJD				Sn	Sb	01 35 28.0	-1.2
	comp=Z,394nm,0.3s,baz=41,slow=13,SNR=26						
SFJD	Kangerlussuaq	2.36	151	⇑ iP	Pn	01 34 56.9	+0.7
SFJD				iS	Sb	01 35 27.9	-1.3
SFJD				IAML		01 35 33.0	
	comp=Z,1µm,0.7s						
SFJD	Kangerlussuaq	2.36	151	PN	Pn	01 34 56.8	+0.6
SFJD				SN	Sn	01 35 26.1	+1.0
SFJD				Trac		01 35 32.2	
	comp=Z,141nm,0.5s						
NUUG	Nuugaatsiaq	2.48	3	⇓ iP	Pn	01 34 56.0	-1.8
NUUG				iS	Sn	01 35 25.5	-2.6
NUUG				IAML		01 35 43.4	
	comp=Z,975nm,1.0s						
UPNV	Upernavik	3.82	348	⇓ iP	Pn	01 35 15.3	-1.0
UPNV				iS	Sn	01 35 56.5	-4.6
UPNV				IAML		01 35 58.0	
	comp=Z,854nm,0.4s						
ISOG	Isortoq, Green	6.65	115	⇑ iP	Pn	01 35 55.4	+0.4
ISOG				iS	Sn	01 37 09.1	-1.6
ISOG				IAML		01 37 59.9	
	comp=Z,420nm,0.8s						
ANGG	Ammassalik, Gr	7.05	112		Pn	01 36 00.7	+0.1
ANGG	Ammassalik, Gr	7.05	112	iP	Pn	01 36 00.3	-0.3
ANGG				iS	Sn	01 37 16.2	-4.3
ANGG				IAML		01 37 58.5	
	comp=Z,426nm,1.4s						
FRB	Frobisher Bay	8.03	235	Pn	Pn	01 36 11.3	-2.7
	comp=Z,4.2nm,0.3s,baz=36,slow=12,SNR=62						
FRB				Sn	Sn	01 37 36.5	-7.9
	comp=Z,5.9nm,0.3s,baz=92,slow=20,SNR=2.3						
FRB				LR	LR	01 39 20.8	
	comp=Z,614nm,18.4s,baz=40,slow=38						
FRB	Frobisher Bay	8.03	235	PN	Pn	01 36 11.6	-2.4
FRB				SN	Sn	01 37 37.5	-7.0
FRB				Trac		01 38 01.2	
	comp=Z,87nm,0.8s						
SOEG	Soedalen	8.13	86	iP	Pn	01 36 13.9	-1.5
SOEG				iS	Sn	01 37 41.1	-5.9
SOEG				IAML		01 38 32.9	
	comp=Z,342nm,1.0s						
IVI	Ivigtut	8.22	161	Pn	Pn	01 36 17.2	+0.7
IVI	Ivigtut	8.22	161	iP	Pn	01 36 17.8	+1.2
IVI				iS	Sn	01 37 44.9	-4.3
IVI				IAML		01 38 40.4	
	comp=Z,152nm,0.9s						
NRS	Narsarsuaq	8.64	153	Pn	Pn	01 36 22.0	-0.4
NRS	Narsarsuaq	8.64	153	iP	Pn	01 36 22.1	-0.4
NRS				iS	Sn	01 37 54.7	-5.1
NRS				IAML		01 38 54.1	
	comp=Z,401nm,5.8s						
TULEG	Thule	8.71	336		Pn	01 36 20.6	-2.7
TULEG	Thule	8.71	336	⇓ iP	Pn	01 36 20.6	-2.7
TULEG				iS	Sn	01 37 50.5	-11
SCO	Scoresbysund	10.95	68	Pn	Pn	01 36 50.9	-3.0
SCO	Scoresbysund	10.95	68	⇑ iP	Pn	01 36 51.7	-2.3
SCO				iS	Sn	01 38 45.5	-11
SCO				IAML		01 40 06.5	
	comp=Z,170nm,1.2s						
DBG	Daneborg	11.57	48	iP	Pn	01 36 59.0	-3.3
DBG				iS	Sn	01 38 59.1	-12
DBG				IAML		01 40 28.2	
	comp=Z,138nm,1.7s						
DAG	Danmarks Havn	12.58	37	iP	Pn	01 37 12.4	-3.7
DAG				iS	Sn	01 39 19.2	-17
DAG				IAML		01 40 57.6	
	comp=Z,106nm,1.1s						
BORG	Borgarnes	13.25	94	LR	LR	01 41 43.9	
	comp=Z,494nm,18.4s,baz=296,slow=34						
EUNU	Eureka	13.71	337		Pn	01 37 28.2	-3.4
EUNU	Eureka	13.71	337	PN	Pn	01 37 28.0	-3.6
EUNU				SN	Sn	01 39 48.4	-15
EUNU				Trac		01 40 22.6	
	comp=Z,2µm,4.8s						
RES	Resolute Bay	13.75	312	Pn	Pn	01 37 29.4	-2.7
	comp=Z,0.9nm,0.3s,baz=76,slow=6.8,SNR=23						
RES				Sn	Sn	01 39 49.8	-15
	comp=Z,0.6nm,0.3s,baz=79,slow=4.0,SNR=2.4						
RES				LR	LR	01 42 37.4	
	comp=Z,206nm,19.7s,baz=124,slow=37						
RES	Resolute Bay	13.75	312	PN	Pn	01 37 27.2	-4.9
RES				SN	Sn	01 39 49.0	-15
RES				Trac		01 40 46.0	
	comp=Z,497nm,4.3s						
NOR	Nord	15.13	20	IAmb	IAmb	01 37 55.9	
	comp=Z,30nm,0.8s						
NOR				iS	Sn	01 40 16.9	-21
NOR				IAML		01 40 45.3	
	comp=Z,28nm,0.8s						
JMIC	Jan Mayen	15.23	62	LR	LR	01 43 22.3	
	comp=Z,384nm,18.8s,baz=309,slow=36						
SCHQ	Schefferville	15.53	210	Pn	Pn	01 37 54.6	-1.7
	comp=Z,0.6nm,0.3s,baz=12,slow=16,SNR=11						
SCHQ				Sn	Sn	01 40 44.3	-3.8
	comp=Z,0.2nm,0.3s,baz=62,slow=19,SNR=2.3						
SCHQ				LR	LR	01 43 09.1	
	comp=Z,104nm,21.4s,baz=288,slow=34						
SCHQ	Schefferville	15.53	210	Pn	Pn	01 37 55.1	-1.1
KBS	Kingsbay	19.19	32	⇓ eP	P	01 38 38.0	-2.8
KBS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KBS	Kingsbay	19.19	32	P	P	01 38 38.1	-2.7

KBS Kingsbay 19.19 32 *i* P **P 01 38 37.6 -3.2**
FCC Fort Churchill 20.15 259 P **P 01 38 49.5 -1.9**
SPA0 Spitsbergen Ar 20.18 34 *eP* Pn 01 38 53.4 -0.1
SPITS Spitsbergen Ar 20.18 34 P **P 01 38 51.4 -0.2**
comp=Z,11nm,0.9s,baz=198,slow=18,SNR=3.7
SPB2 Spitsbergen Ar 20.18 34 P Pn 01 38 52.9 -0.7
SPB2 IAmb IAmb 01 39 08.0
comp=Z,36nm,1.2s
A36M Sachs Harbour 22.77 310 P **P 01 39 19.3 -0.2**
A36M IAmb IAmb 01 39 33.9
comp=Z,22nm,0.8s
A36M Sachs Harbour 22.77 310 P **P 01 39 18.9 -0.6**
baz=62,SNR=14
LOF Lofoten 23.42 60 *eP* **P 01 39 25.2 -0.8**
LATQ La Tuque 23.77 214 P **P 01 39 30.6 +0.9**
LATQ IAmb IAmb 01 39 33.7
comp=Z,22nm,0.9s
C36M Paulatuk 23.79 304 P **P 01 39 30.9 +1.2**
C36M Paulatuk 23.79 304 P **P 01 39 29.6 -0.1**
baz=57
STEI Steigen 24.06 60 *eP* **P 01 39 32.5 +0.3**
VLDQ Val d'Or 24.11 222 P **P 01 39 33.8 +0.9**
VLDQ IAmb IAmb 01 39 49.3
comp=Z,15nm,0.9s
TRO Tromso 24.21 54 *eP* **P 01 39 33.6 0.0**
FAUS Fauske 24.39 61 *eP* **P 01 39 36.5 +1.2**
F64A Sherman 24.45 206 P **P 01 39 38.2 +2.1**
F64A IAmb IAmb 01 40 03.5
comp=Z,31nm,1.3s
FOO Floro 24.61 78 *eP* **P 01 39 38.4 +1.0**
JETT Jettan, Norway 24.69 54 *eP* **P 01 39 38.6 +0.6**
MOR8 Moi Rana 24.85 64 *eP* **P 01 39 40.9 +1.4**
YKA Yellowknife Ar 24.86 285 P **P 01 39 38.1 -1.6**
comp=Z,1.7nm,0.9s,baz=45,slow=9.2,SNR=17
YKA LR LR 01 49 18.8
comp=Z,428nm,18.5s,baz=88,slow=36
YKA Yellowknife Ar 24.86 285 *ceP* **P 01 39 40.2 +0.5**
YKA pmax pmax
comp=Z,3.0nm,0.9s
SUE Sulen 24.88 80 *eP* **P 01 39 40.8 +1.0**
AKN Aaknes 24.91 76 *eP* **P 01 39 41.1 +1.0**
HAMF Hammerfest 25.00 50 *eP* **P 01 39 41.6 +0.7**
NSS Namsos 25.06 68 *eP* **P 01 39 41.6 +0.2**
PKME Peaks-Kenny Pk 25.18 207 P **P 01 39 43.8 +1.1**
PKME Peaks-Kenny Pk 25.18 207 P **P 01 39 44.4 +1.8**
baz=13
TRQ Mont Tremblant 25.24 216 IAmb IAmb 01 39 48.5
comp=Z,16nm,1.0s
HYA Hoyanger 25.31 78 *eP* **P 01 39 44.9 +1.2**
TBLU Trondheim 25.32 72 *eP* **P 01 39 43.8 0.0**
DOMB Dombas 25.72 75 *eP* **P 01 39 48.0 +0.6**
KTK1 Kautokeino 25.82 54 *eP* **P 01 39 48.4 +0.1**
FFC Flin Flon 26.04 261 P **P 01 39 51.0 +0.6**
FFC IAmb IAmb 01 39 54.3
comp=Z,18nm,0.8s
ARA0 ARCESS Array S 26.16 52 *eP* **P 01 39 51.9 +0.6**
ARCES ARCESS Array B 26.16 52 P **P 01 39 51.2 -0.2**
comp=Z,20nm,0.7s,baz=307,slow=8.3,SNR=26
ARCES LR LR 01 49 24.7
comp=Z,66nm,19.4s,baz=308,slow=35
ARCES ARCESS Array B 26.16 52 IAmb IAmb 01 39 55.0
comp=Z,20nm,0.8s
EKA Eskdalemuir Ar 26.27 96 P **P 01 39 53.0 +0.6**
comp=Z,3.4nm,0.7s,baz=319,slow=8.8,SNR=9.4
EKA LR LR 01 48 58.6
comp=Z,244nm,22.0s,baz=347,slow=34
KEV Kevo 26.44 50 P **P 01 39 54.1 +0.3**
KEV IAmb IAmb 01 39 54.8
comp=Z,19nm,0.9s
LBNH Lisbon 26.63 210 P **P 01 39 56.7 +0.9**
baz=14
LONY Lake Ozonia 26.78 215 P **P 01 39 58.7 +1.5**
LONY Lake Ozonia 26.78 215 P **P 01 39 58.6 +1.5**
baz=16
NB2 NORSAR Subarra 27.16 75 P **P 01 40 00.2 -0.3**
comp=Z,5.4nm,1.1s,baz=310,slow=7.9
NB2 NORSAR Subarra 27.16 75 P **P 01 40 00.2 -0.3**
baz=310,slow=7.9
NOA NORSAR Array B 27.16 75 P **P 01 40 00.1 -0.3**
comp=Z,2.6nm,1.1s,baz=309,slow=7.9,SNR=6.6
NOA LR LR 01 49 35.1
comp=Z,144nm,21.9s,baz=315,slow=34
INK Inuvik 27.18 307 P **P 01 39 60.0 -0.5**
comp=Z,1.1nm,0.7s,baz=33,slow=13,SNR=9.6
INK LR LR 01 50 29.3
comp=Z,204nm,20.8s,baz=43,slow=36
INK Inuvik 27.18 307 IAmb IAmb 01 40 28.1
comp=Z,14nm,1.2s
INK Inuvik 27.18 307 P **P 01 40 00.1 -0.4**
baz=51
KONO Kongsberg 27.58 78⇓ *eP* **P 01 40 05.1 +0.8**
KONO pmax pmax
comp=Z,24nm,1.6s
KONO Kongsberg 27.58 78 ⇓P **P 01 40 05.0 +0.8**
ULM Lac du Bonnet 27.62 249 P **P 01 40 04.4 -0.2**
comp=Z,12nm,0.8s,baz=28,slow=8.2,SNR=17
ULM LR LR 01 51 04.1
comp=Z,240nm,18.7s,baz=75,slow=36
ULM Lac du Bonnet 27.62 249⇑ *eP* **P 01 40 05.1 +0.5**
ULM Lac du Bonnet 27.62 249 P **P 01 40 04.0 -0.6**
ULM IAmb IAmb 01 40 07.1
comp=Z,12nm,0.8s
SADO Sadowa 27.65 222 LR LR 01 51 13.6
comp=Z,152nm,19.8s,baz=8.0,slow=37
B35A Bob, Littlefor 28.54 244 P **P 01 40 14.6 +1.7**
HFS Hagfors 28.66 74 P **P 01 40 13.6 -0.2**
comp=Z,1.6nm,0.8s,baz=261,slow=5.7,SNR=4.5
HFS LR LR 01 51 03.4
comp=Z,137nm,18.5s,baz=294,slow=35
AGMN Agassiz Nation 29.30 247 P **P 01 40 20.7 +1.1**
AGMN IAmb IAmb 01 40 22.6
comp=Z,9.4nm,0.8s
AGMN Agassiz Nation 29.30 247 P **P 01 40 19.9 +0.3**
baz=29
APA Apatity 29.65 51⇓ *iP* **P 01 40 22.2 -0.3**
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,200nm,14.0s
LVZ Lovozero 29.76 50⇑ *eP* **P 01 40 24.6 +1.0**
LVZ pmax pmax
comp=Z,15nm,1.2s
ERPA Erie 30.35 221 P **P 01 40 30.8 +1.8**
baz=18
I29M Ogilvie Camp, 30.56 305 P **P 01 40 31.2 +0.6**
I29M IAmb IAmb 01 40 34.7
comp=Z,8.4nm,0.8s
I29M Ogilvie Camp, 30.56 305 P **P 01 40 30.6 -0.1**
baz=45,SNR=5.8
D32A Dogwood Acres, 30.69 247 P **P 01 40 32.0 +0.1**
VIKU Vikbolandet 30.91 74 *eP* **P 01 40 34.6 +0.9**
M53A WI Miller and 31.16 221 P **P 01 40 37.7 +1.6**
baz=18
TOLK Toolik Lake Re 31.29 315 P **P 01 40 36.2 -0.8**
baz=43
N54A Moraine State 31.45 220 P **P 01 40 40.1 +1.5**
baz=18
M31M Drury Creek, Y 31.66 298 P **P 01 40 39.5 -0.8**
baz=42
O56A Blue Knob Stat 31.79 218 P **P 01 40 43.6 +1.9**
baz=16
EGAK Eagle 31.82 306 IAmb IAmb 01 40 45.9
comp=Z,12nm,1.1s
EGAK Eagle 31.82 306 P **P 01 40 41.1 -0.6**
baz=43
DAWY Dawson 31.83 304 IAmb IAmb 01 40 46.8
comp=Z,13nm,0.9s
DAWY Dawson 31.83 304 P **P 01 40 41.8 0.0**
baz=43,SNR=6.7
FIA1 FINESS Array S 31.84 64 P **P 01 40 41.6 -0.2**
FINES FINESS Array B 31.84 64 P **P 01 40 41.5 -0.3**
comp=Z,9.4nm,1.0s,baz=342,slow=8.7,SNR=18
FINES LR LR 01 52 28.2
comp=Z,174nm,19.1s,baz=345,slow=34
FINES FINESS Array B 31.84 64 P **P 01 40 42.0 +0.2**
DGMT Dagmar 31.98 256 P **P 01 40 44.2 +0.9**
baz=31
M30M Minto, Yukon 32.14 300 P **P 01 40 44.0 -0.6**
baz=42
BSEG Bad Segeberg 32.20 85 *eP* **P 01 40 46.2 +1.1**
comp=Z,18nm,0.9s,baz=327,slow=8.7
MEF Metsahovi 32.22 66 *eP* **P 01 40 46.3 +1.1**
COLD Coldfoot 32.49 314 P **P 01 40 47.9 +0.3**
COLD Coldfoot 32.49 314 P **P 01 40 46.9 -0.6**
baz=42
IBBN Ibbenburen 32.60 89 *eP* **P 01 40 50.0 +1.4**
comp=Z,26nm,0.9s,baz=327,slow=8.7
N31M Braeburn, Yuko 32.64 298 P **P 01 40 49.4 +0.5**
baz=41
MCWV Mont Chateau 32.66 219 P **P 01 40 51.0 +1.7**
baz=17
J26L Joseph Creek 32.73 307 P **P 01 40 48.6 -1.1**
baz=42
RETH Rethem/Aller, 32.82 87 *eP* **P 01 40 51.7 +1.2**
comp=Z,29nm,1.0s,baz=327,slow=8.7
ACSO Alum Creek Sta 32.86 224 P **P 01 40 51.9 +0.8**
ACSO IAmb IAmb 01 40 54.2
comp=Z,13nm,0.9s
ACSO Alum Creek Sta 32.86 224 P **P 01 40 53.2 +2.2**
baz=19
H24K Noodor Dome 32.93 311 P **P 01 40 53.1 +1.7**
H24K IAmb IAmb 01 40 55.8
comp=Z,8.3nm,1.2s
H24K Noodor Dome 32.93 311 P **P 01 40 52.0 +0.6**
baz=41,SNR=5.5
DLBC Dease Lake 33.08 290 LR LR 01 54 25.5
comp=Z,142nm,21.0s,baz=68,slow=37
BUG Bochum--Univer 33.13 90 *eP* **P 01 40 54.2 +1.0**
comp=Z,32nm,1.1s,baz=327,slow=8.7
J25K Salcha River, 33.16 308 P **P 01 40 54.8 +1.3**
J25K Salcha River, 33.16 308 P **P 01 40 53.4 -0.1**
baz=41
MTSE Matsula 33.17 69 *eP* **P 01 40 54.4 +0.9**
BSTI Sart Tilman 33.22 93 *dp*P pP 01 40 56.7 -0.8
SCRK Sand Creek 33.24 306 P **P 01 40 54.8 +0.5**
SCRK IAmb IAmb 01 40 59.5
comp=Z,8.3nm,1.3s
SCRK Sand Creek 33.24 306 P **P 01 40 54.2 -0.1**
baz=41
O49A Covington 33.25 226 IAmb IAmb 01 40 58.1
comp=Z,7.2nm,0.7s
NRDL Niedersach Rie 33.29 87 *eP* **P 01 40 55.8 +1.3**
comp=Z,12nm,0.9s,baz=327,slow=8.7
BCAR Beaver Creek A 33.29 304 P **P 01 40 55.8 +1.1**
L27K Beaver Creek, 33.30 304 P **P 01 40 56.2 +1.4**
L27K IAmb IAmb 01 41 00.4
comp=Z,11nm,1.1s
L27K Beaver Creek, 33.30 304 P **P 01 40 54.7 0.0**
baz=41,SNR=5.1
MEM Membach 33.36 93 *dP* **P 01 40 56.5 +1.2**
H23K Yukon River 33.38 312 IAmb IAmb 01 41 00.8
comp=Z,18nm,1.2s
L40A Anamosa 33.42 236 IAmb IAmb 01 41 01.0
comp=Z,14nm,0.9s
BTNL Ternell 33.42 92 *dP* **P 01 40 57.4 +1.5**
comp=Z,7.4nm,1.3s
VALR Valaam 33.43 61 *deP* **P 01 40 56.2 +0.4**
VALR pmax pmax
comp=Z,19nm,1.0s
IL31 33.46 309 P **P 01 40 57.3 +1.3**
IL31 IAmb IAmb 01 41 00.7
comp=Z,17nm,1.4s
ILAR Eielson Array 33.46 309 P **P 01 40 57.0 +0.9**
comp=Z,3.1nm,0.8s,baz=36,slow=7.8,SNR=19
ILAR LR LR 01 54 39.8
comp=Z,105nm,18.1s,baz=21,slow=37
ILAR Eielson Array 33.46 309 P **P 01 40 57.7 +1.6**
BVCY Beaver Creek 33.51 303 P **P 01 40 55.7 -0.8**
baz=40
DOT Dot Lake 33.52 306 P **P 01 40 57.1 +0.6**
DOT IAmb IAmb 01 41 01.9
comp=Z,18nm,1.2s
ECSD EROS Data Cent 33.57 243 P **P 01 40 58.2 +1.0**
ECSD IAmb IAmb 01 41 02.3
comp=Z,11nm,1.0s
ECSD EROS Data Cent 33.57 243 P **P 01 40 57.7 +0.5**
baz=26,SNR=7.0
P51A Williamsport 33.59 224 IAmb IAmb 01 41 00.3
comp=Z,10nm,0.8s
COLA College 33.65 310⇑ *eP* **P 01 41 01.5 +3.8**
COLA pmax pmax
comp=Z,11nm,1.1s
RIDG Independent Ri 33.67 307 IAmb IAmb 01 41 03.2
comp=Z,14nm,1.0s
RIDG Independent Ri 33.67 307 P **P 01 40 57.8 -0.2**
baz=40
MDM Murphy Dome 33.69 310 IAmb IAmb 01 41 03.5
comp=Z,21nm,1.4s
KASTN Kahler Asten 33.74 90 *eP* **P 01 40 60.0 +1.4**
comp=Z,20nm,1.1s,baz=327,slow=8.7
HDA Harding Lake 33.76 309 IAmb IAmb 01 41 03.3
comp=Z,16nm,1.0s
HDA Harding Lake 33.76 309 P **P 01 40 58.9 +0.3**
baz=40,SNR=10
L26K Log Cabin Wild 33.78 305 IAmb IAmb 01 41 04.5
comp=Z,23nm,1.4s
L26K Log Cabin Wild 33.78 305 P **P 01 40 59.6 +0.7**
baz=40
ASSE Asse, Remlinge 33.79 87 *eP* **P 01 41 00.2 +1.3**
comp=Z,16nm,1.1s,baz=327,slow=8.7
AHRW Bad Neuenahr-A 33.80 92 *eP* **P 01 41 00.2 +1.1**
comp=Z,38nm,1.4s,baz=327,slow=8.7
SFIN Lafayette 33.80 229 IAmb IAmb 01 41 03.1
comp=Z,12nm,0.8s
SFIN Lafayette 33.80 229 P **P 01 41 00.9 +1.7**
baz=21
CCB Clear Creek Bu 33.81 310 IAmb IAmb 01 41 02.9
comp=Z,8.3nm,1.0s
FLTG Flechtingen 33.83 86 *eP* **P 01 40 59.6 +0.3**
comp=Z,14nm,0.9s,baz=327,slow=8.7
I23K Minto, Yukon-K 33.85 311 P **P 01 41 00.3 +0.8**
baz=40,SNR=5.5
M27K Edge Creek, AK 33.86 303 P **P 01 41 00.2 +0.6**
baz=40
YUK6 Outpost Mounta 33.86 299 P **P 01 41 00.6 +0.8**
baz=40
YUK3 Moose Creek 33.87 302 P **P 01 41 01.1 +1.2**
baz=40
CLZ Clausthal 33.91 87 *eP* **P 01 41 01.4 +1.2**
comp=Z,37nm,1.5s,baz=327,slow=8.7
GTTG Gottingen 34.01 88 *eP* **P 01 41 02.6 +1.7**
comp=Z,20nm,1.2s,baz=327,slow=8.7
WLF Walferdange 34.20 93 *eP* **P 01 41 04.0 +1.4**
comp=Z,11nm,1.0s,baz=327,slow=8.7
WLF Walferdange 34.20 93 *dP* **P 01 41 03.6 +1.0**
NEA2 Nenana 34.20 310 P **P 01 41 03.0 +0.4**
NEA2 IAmb IAmb 01 41 07.0
comp=Z,14nm,1.4s
P48A Milroy 34.21 227 IAmb IAmb 01 41 05.8
comp=Z,12nm,0.8s
EGMT Eagleton 34.32 262 P **P 01 41 04.1 +0.3**
EGMT IAmb IAmb 01 41 09.2
comp=Z,13nm,0.9s
EGMT Eagleton 34.32 262 P **P 01 41 04.6 +0.8**
baz=32,SNR=5.5
VSU Vasula 34.33 67⇓ *eP* **P 01 41 03.6 0.0**
VSU pmax pmax
comp=Z,61nm,1.4s
VSU Vasula 34.33 67 *eP* **P 01 41 03.9 +0.2**
H21K Melozitna Rive 34.38 314 P **P 01 41 05.1 +1.1**
baz=39,SNR=6.2
PAX Paxson 34.45 306 P **P 01 41 05.7 +1.0**
PAX IAmb IAmb 01 41 10.0
comp=Z,12nm,1.2s
PAX Paxson 34.45 306 P **P 01 41 05.7 +1.0**
baz=39,SNR=5.2
PUL Pulkovo 34.48 63⇑ *eP* **P 01 41 05.7 +0.8**
PUL pmax pmax
comp=Z,54nm,0.6s
I21K Tanana 34.53 313 P **P 01 41 06.0 +0.7**
baz=39
TNS Taus Mts 34.56 91 *eP* **P 01 41 07.1 +1.3**
comp=Z,25nm,1.1s,baz=327,slow=8.7
RUE Ruedersdorf 34.61 83 *eP* **P 01 41 07.2 +1.1**
RUE Ruedersdorf 34.61 83 *eP* **P 01 41 07.3 +1.2**
comp=Z,54nm,1.2s,baz=327,slow=8.7
MCK McKinley 34.84 309 P **P 01 41 08.8 +0.8**
baz=39
RDOG Red Dog Mine 34.91 322 P **P 01 41 09.3 +0.7**
baz=36
DHY Denali Highway 34.91 307 P **P 01 41 09.9 +1.1**
baz=39
R50A Paris 35.04 225 IAmb IAmb 01 41 13.1
comp=Z,11nm,0.7s
RND Reindeer 35.07 309 IAmb IAmb 01 41 13.5
comp=Z,8.4nm,0.8s
L34A Svendsen Farm, 35.09 242 P **P 01 41 10.3 -0.1**
BPAW Bear Paw Mtn. 35.11 311 P **P 01 41 11.6 +1.2**
baz=38
N25K Chitina, Valde 35.25 304 IAmb IAmb 01 41 16.9
comp=Z,15nm,1.0s
N25K Chitina, Valde 35.25 304 P **P 01 41 12.6 +0.9**
baz=38
CLL Collm 35.30 85⇓ *iP* **P 01 41 12.7 +0.7**
CLL pmax pmax
comp=Z,27nm,1.1s
CLL Collm 35.30 85 P **P 01 41 11.8 -0.2**
CLL Collm 35.30 85⇓ *iP* **P 01 41 12.7 +0.7**
comp=Z,27nm,1.1s
CLL *eS* **S 01 46 48.0 +2.6**
CLL LmH 01 54 00.0
comp=Z,100nm,20.9s
CLL Collm 35.30 85 *eP* **P 01 41 12.9 +0.9**
comp=Z,26nm,1.1s,baz=327,slow=8.7
MOX Moxa 35.34 87 *eP* **P 01 41 13.6 +1.1**
comp=Z,21nm,1.0s,baz=327,slow=8.7
MOX *eL* L 01 56 18.4
comp=Z,157nm,20.3s
WAT6 Susitna Watana 35.40 307 P **P 01 41 11.3 -1.7**
baz=38,SNR=5.6
TRF Thorofare Moun 35.44 310 P **P 01 41 15.2 +1.9**
TRF IAmb IAmb 01 41 18.8
comp=Z,13nm,1.2s
TRF Thorofare Moun 35.44 310 P **P 01 41 14.0 +0.7**
baz=38
CHUM Lake Minchumin 35.65 311 P **P 01 41 15.7 +0.8**
baz=38
PLN Plauen 35.67 87 *eP* **P 01 41 16.4 +1.1**
comp=Z,22nm,1.0s,baz=327,slow=8.7
RSSD Black Hills 35.70 252 P **P 01 41 17.2 +1.3**
RSSD IAmb IAmb 01 41 21.6
comp=Z,19nm,1.1s
RSSD Black Hills 35.70 252 P **P 01 41 17.8 +1.9**
baz=28
Q44A Meyer Farm, Va 35.71 231 P **P 01 41 16.4 +0.8**
Q44A IAmb IAmb 01 41 19.2
comp=Z,12nm,0.7s
FBE Freiberg 35.74 85 *eP* **P 01 41 17.1 +1.2**
comp=Z,38nm,1.0s,baz=327,slow=8.7
WERD Werda 35.76 87 *eP* **P 01 41 17.0 +0.9**
comp=Z,22nm,1.2s,baz=327,slow=8.7
BMRM Bremner River 35.76 303 P **P 01 41 17.1 +1.0**
baz=38
ECH Echery 35.77 94 IAmb IAmb 01 41 19.6
comp=Z,11nm,1.0s
GUNZ Gunzen 35.83 87 *eP* **P 01 41 17.9 +1.1**
comp=Z,18nm,1.1s,baz=327,slow=8.7
TANN Tannenbergstha 35.84 87 *eP* **P 01 41 17.8 +1.0**
comp=Z,16nm,1.1s,baz=327,slow=8.7
J20K Nowinta River 35.90 313 IAmb IAmb 01 41 22.4
comp=Z,9.0nm,1.1s
J20K Nowinta River 35.90 313 P **P 01 41 17.9 +0.8**
baz=37
WERN Wernitzgruen 35.91 87 *eP* **P 01 41 18.6 +1.2**
comp=Z,23nm,1.1s,baz=327,slow=8.7
CAST Castle Rocks 35.95 311 P **P 01 41 18.4 +0.8**
baz=37
NKC Novy Kostel 35.98 87 *eP* **P 01 41 19.6 +1.6**
NKC MLR MLR
comp=Z,400nm,20.4s
NKC Novy Kostel 35.98 87 *eP* **P 01 41 19.6 +1.6**
NKC AMS AMS 01 56 10.0
comp=Z,400nm,20.4s
BRG Berggiesshubel 35.99 85 *eP* **P 01 41 19.2 +1.2**
BRG Amp 01 41 21.3
comp=Z,12nm,1.0s
BRG Berggiesshubel 35.99 85 *eP* **P 01 41 19.2 +1.2**
BRG pmax pmax
comp=Z,12nm,1.0s
BRG Berggiesshubel 35.99 85 *eP* **P 01 41 18.9 +0.9**
comp=Z,12nm,1.0s,baz=327,slow=8.7
GRF Grafenberg Arr 35.99 89 *eP* **P 01 41 19.7 +1.7**
comp=Z,35nm,1.1s,baz=327,slow=8.7
GRF *eL* L 01 55 32.0
comp=Z,131nm,21.6s
GRFO Grafenberg 35.99 89 P **P 01 41 19.0 +0.9**
STU Stuttgart 36.04 91 *eP* **P 01 41 20.1 +1.7**
comp=Z,105nm,1.1s,baz=327,slow=8.7
MANZ Manzenberg 36.07 87 *eP* **P 01 41 19.7 +1.0**
comp=Z,5.6nm,1.6s,baz=327,slow=8.7
BFO Black Forest 36.10 93 P **P 01 41 19.4 +0.4**
BFO IAmb IAmb 01 41 23.5
comp=Z,17nm,1.5s
BFO Black Forest 36.10 93 *eP* **P 01 41 20.3 +1.3**
comp=Z,14nm,1.4s,baz=327,slow=8.7
SML Sawmill 36.19 307 P **P 01 41 20.6 +0.9**
baz=37,SNR=8.5
ROTZ Rotzenmuhle 36.29 88 *eP* **P 01 41 21.8 +1.2**
comp=Z,5.3nm,1.2s,baz=327,slow=8.7
T50A Nancy 36.37 224 IAmb IAmb 01 41 25.1
comp=Z,10nm,0.7s
PPLA Purkeypile 36.40 310 P **P 01 41 21.6 0.0**
baz=37
KLMR Klimovskoe 36.45 55 *eP* **P 01 41 19.5 -2.3**
KLMR *e* 01 42 40.3
KLMR *e* 01 43 44.8
KLMR pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 36.45 55 *eP* **P 01 41 19.6 -2.3**
KLMR AMP 01 41 22.3
comp=Z,9.0nm,0.9s
KLMR *e*PP **PnPn 01 42 40.4 -3.6**
KLMR *e*PcP **PcP 01 43 44.9 -0.5**
PVCC Panska Ves 36.50 85 *eP* **P 01 41 23.7 +1.3**
PVCC Panska Ves 36.50 85 *eP* **P 01 41 23.7 +1.3**
K20K Telida 36.54 312 IAmb IAmb 01 41 27.2
comp=Z,11nm,1.1s
K20K Telida 36.54 312 P **P 01 41 21.5 -1.1**
baz=36,SNR=6.2
IIGN Ignalina 36.63 70 *eP* **P 01 41 24.6 +1.2**
NEW Newport 36.76 269 LR LR 01 56 47.6
comp=Z,226nm,19.6s,baz=34,slow=37
MSO Missoula 36.83 265 P **P 01 41 24.8 -0.6**
MSO Missoula 36.83 265 P **P 01 41 26.4 +1.0**
baz=31
IDID Didziasalis 36.84 70 *eP* **P 01 41 26.2 +1.0**
KSP Ksiaz 36.85 83 *eP* **P 01 41 26.6 +1.2**
PRU Pruhonice 36.94 85 *eP* **P 01 41 28.1 +2.0**
PRU MLR MLR
comp=Z,300nm,7.1s
PRU Pruhonice 36.94 85 *eP* **P 01 41 28.1 +2.0**
PRU AMS AMS 01 57 50.0
comp=Z,300nm,7.1s
CHVC Chvalec 36.98 83 *eP* **P 01 41 27.7 +1.2**
CHVC AMS AMS 01 57 50.0
comp=Z,200nm,10.0s
UPC Upice 37.03 83 *eP* **P 01 41 28.1 +1.2**
UPC MLR MLR
comp=Z,300nm,20.0s
UPC Upice 37.03 83 *eP* **P 01 41 28.1 +1.2**
UPC AMS AMS 01 58 00.0
comp=Z,300nm,20.0s
WET Wettzell 37.05 88 *eP* **P 01 41 28.5 +1.4**
comp=Z,12nm,1.2s,baz=327,slow=8.7
OSTC Ostas 37.06 83 *eP* **P 01 41 28.1 +0.9**
OSTC AMS AMS 01 58 20.0
comp=Z,500nm,7.1s
RC01 Rabbit Creek A 37.17 307 P **P 01 41 27.6 -0.3**
baz=36
NACGM Naroch 37.19 70 *eP* **P 01 41 29.1 +0.9**
L20K Farewell, AK 37.20 311 P **P 01 41 28.3 +0.1**
baz=36
DPC Dobruska-Polom 37.27 83 *eP* **P 01 41 30.5 +1.5**
DPC MLR MLR
comp=Z,300nm,20.0s
DPC Dobruska-Polom 37.27 83 *eP* **P 01 41 30.5 +1.5**
DPC AMS AMS 01 58 10.0
comp=Z,300nm,20.0s
UBR Ueberruh 37.29 91 *eP* **P 01 41 31.1 +1.9**
comp=Z,26nm,0.9s,baz=327,slow=8.7
KHC Kasperske Hory 37.31 87 *diP* **P 01 41 30.9 +1.6**
KHC pmax pmax
comp=Z,59nm,1.1s
KHC Kasperske Hory 37.31 87 *eP* **P 01 41 31.0 +1.6**
KHC *ex* x 01 41 44.5
KHC AMS AMS 01 56 50.0
comp=Z,300nm,23.4s
TKL Tuckaleechee C 37.40 222 LR LR 01 56 38.4
comp=Z,180nm,19.2s,baz=18,slow=36
SENIN Lac Senin/Sane 37.40 95 IAmb IAmb 01 41 33.6
comp=Z,22nm,1.4s
TTA Tatalina 37.40 313 P **P 01 41 30.3 +0.3**
baz=35
BBB Bella Bella 37.41 282 LR LR 01 58 25.4
comp=Z,57nm,18.7s,baz=46,slow=39
DAVA Damuels 37.54 92 *eP* **P 01 41 33.3 +1.9**
comp=Z,13nm,1.2s
YHL Hebgen Lake 37.55 260 IAmb IAmb 01 41 37.6
comp=Z,14nm,1.0s

PRGR Permogore 37.57 51 *e*P P 01 41 29.6 -1.7
PRGR pmax pmax
comp=Z,28nm,1.2s
GERES GERESS Array B 37.59 87 P P 01 41 32.9 +1.1
comp=Z,4.2nm,0.9s,baz=304,slow=7.0,SNR=16
DLMT Dillon 37.61 262 P P 01 41 33.3 +1.3
DLMT IAmb IAmb 01 41 38.2
comp=Z,22nm,1.2s
KRLC Kraliky 37.67 83 *e*P P 01 41 33.9 +1.6
KRLC MLR MLR
comp=Z,300nm,7.4s
KRLC Kraliky 37.67 83 *e*P P 01 41 33.9 +1.6
KRLC AMS AMS 01 58 40.0
comp=Z,300nm,7.4s
RETA Reutte 37.69 91 *e*P P 01 41 34.1 +1.5
RETA *e*P P 01 41 34.1 +1.5
comp=Z,13nm,1.6s
L19K White Mountain 37.71 311 P P 01 41 32.7 +0.2
baz=35
H17A Grant Village 37.73 259 IAmb IAmb 01 41 40.9
comp=Z,11nm,1.1s
H17A Grant Village 37.73 259 P P 01 41 36.0 +2.8
baz=29,SNR=8.1
KSU1 Kansas State U 37.77 240 P P 01 41 34.5 +1.2
baz=23
CPCT Cooper Cave 37.78 223 P P 01 41 33.8 +0.4
CPCT IAmb IAmb 01 41 37.5
comp=Z,11nm,1.0s
CKRC Cesky Krumlov 37.83 87 *e*P P 01 41 34.9 +1.2
CKRC AMS AMS 01 57 10.0
comp=Z,300nm,8.5s
OGNE Ogallala 37.85 248 P P 01 41 35.0 +1.0
baz=26
K22A Casper 37.85 254 IAmb IAmb 01 41 38.7
comp=Z,11nm,0.8s
K22A Casper 37.85 254 P P 01 41 34.8 +0.7
baz=28
TREC Trest 37.86 85 *e*P P 01 41 35.9 +2.0
TREC MLR MLR
comp=Z,300nm,6.5s
TREC Trest 37.86 85 *e*P P 01 41 35.9 +2.0
TREC AMS AMS 01 58 20.0
comp=Z,300nm,6.5s
MNK Minsk 37.89 70 *i*P P 01 41 33.3 -0.7
MNK *i* 01 42 59.0
MNK *i* 01 43 50.4
MNK *i*S S 01 47 25.1 +0.3
MNK *i*SSS SSS 01 50 27.1
MNK pmax pmax
comp=N,8.0nm,1.0s
MNK pmax pmax
comp=Z,12nm,1.0s
MNK MLR MLR
comp=Z,223nm,18.0s
MNK MLR MLR
comp=N,111nm,18.0s
MNK MLR MLR
comp=E,24nm,18.0s
MNK Minsk 37.89 70 *i*P P 01 41 33.4 -0.7
MNK *i*P P 01 41 33.4 -0.7
comp=N,8.0nm,1.0s
MNK *i*P P 01 41 33.4 -0.7
comp=Z,12nm,1.0s,baz=145
MNK *i*PP PP 01 42 59.1 -1.2
MNK *i*PPP PPP 01 43 16.9
MNK *i*S S 01 47 25.1 +0.3
MNK *i*SS SS 01 50 10.4 -0.2
MNK *i*SSS SSS 01 50 27.2
MNK *i*LQ LQ 01 52 16.7
MNK *i*LR LR 01 54 21.6
MNK *i*LRM MLR 01 56 33.5
comp=Z,223nm,17.7s
MNK *i*LRM MLR 01 56 35.4
comp=N,111nm,17.7s
MNK *i*LRM MLR 01 56 40.0
comp=E,24nm,17.7s
MOTA Moosalm 37.93 91 *e*P P 01 41 36.6 +1.9
comp=E,18nm,1.1s,SNR=9.4
DAVOX Davos/Dischmat 37.97 92 P P 01 41 36.8 +1.7
comp=E,3.6nm,0.8s,baz=349,slow=9.5,SNR=5.8
DAVOX LR LR 01 58 00.4
comp=E,130nm,18.3s,baz=277,slow=38
TUE Stuetta 38.04 93 P P 01 41 35.6 -0.1
TUE IAmb IAmb 01 41 41.2
comp=Z,23nm,1.2s
FLWY Flagg Ranch 38.05 259 P P 01 41 38.0 +2.2
FETA Feichten 38.07 91 *e*P P 01 41 38.1 +2.2
comp=Z,6.4nm,1.2s
SQTA Sankt Quirin 38.07 91 *e*P P 01 41 37.8 +1.9
comp=Z,13nm,1.1s,SNR=5.5
TNA Tin City 38.10 322 P P 01 41 35.6 -0.1
TNA IAmb IAmb 01 41 40.6
comp=Z,12nm,1.0s
TNA Tin City 38.10 322 P P 01 41 35.5 -0.2
baz=32,SNR=12
WATA Walderalm 38.11 90 *e*P P 01 41 38.2 +2.0
comp=Z,20nm,1.0s
MORC Moravsky Berou 38.19 83 ⇑P P 01 41 37.0 +0.3
MORC Moravsky Berou 38.19 83 IAmb IAmb 01 41 40.4
comp=Z,21nm,1.0s
MORC Moravsky Berou 38.19 83 *e*P P 01 41 37.8 +1.1
WTTA Wattenberg 38.19 90 *e*P P 01 41 38.9 +2.0
comp=Z,18nm,1.3s
RJOB Jochberg 38.20 89 *e*P P 01 41 38.5 +1.6
comp=Z,16nm,1.0s,baz=327,slow=8.7
VRAC Vranov 38.24 84 ⇑P P 01 41 38.8 +1.6
VRAC Vranov 38.24 84 P P 01 41 38.4 +1.2
comp=Z,14nm,0.9s,baz=330,slow=10.0,SNR=17
VRAC LR LR 01 59 40.5
comp=Z,115nm,18.1s,baz=338,slow=40
VRAC Vranov 38.24 84 *e*P P 01 41 38.3 +1.2
MGMO Mountain Grove 38.26 234 P P 01 41 38.6 +1.2
SWET Sewanee 38.35 225 IAmb IAmb 01 41 42.6
comp=Z,18nm,1.0s
KRUC Moravsky 38.38 84 *e*P P 01 41 39.2 +0.9
BIOA Bad Ischl, Aus 38.55 88 *e*P P 01 41 41.6 +1.9
comp=Z,6.7nm,1.0s,SNR=6.7
MOA Molln 38.64 87 *e*P P 01 41 42.0 +1.5
comp=Z,8.5nm,1.3s,SNR=6.4
BW06 Boulder Array 38.80 257 P P 01 41 43.5 +1.3
baz=28
PDAR Pinedale Array 38.80 257 P P 01 41 43.4 +1.2
comp=Z,6.4nm,0.8s,baz=39,slow=5.5,SNR=36
PDAR LR LR 01 57 54.1
comp=Z,210nm,18.2s,baz=30,slow=37
ABTA Abfaltersbach 38.94 90 *e*P P 01 41 45.5 +2.3
comp=Z,17nm,1.6s
KBA Koelnbreinsper 38.96 89 *e*P P 01 41 45.3 +1.8
comp=Z,25nm,1.0s,SNR=16
JAVC Velka Javorina 39.00 83 *e*P P 01 41 45.7 +2.1
CONA Conrad Observa 39.14 86 *e*P P 01 41 44.9 +0.1
comp=Z,5.8nm,1.3s
U40A Yellville 39.17 234 P P 01 41 46.0 +0.9
baz=21
SMOL Smolenice 39.21 84 *e*P P 01 41 47.0 +1.7
SMOL pmax pmax
comp=Z,10.0nm,1.0s
SMOL Smolenice 39.21 84 *e*P P 01 41 47.0 +1.7
N23A Red Feather La 39.21 252 P P 01 41 48.0 +2.3
baz=26,SNR=12
CTI Castel Tesino 39.23 91 P P 01 41 46.6 +1.0
NRIK Noril'sk 39.35 21 P P 01 41 46.2 0.0
comp=Z,8.7nm,0.9s,baz=11,slow=5.0,SNR=9.6
NRIK Noril'sk 39.35 21 *d*P P 01 41 46.3 0.0
NRIK pmax pmax
comp=Z,12nm,1.0s
NRIK Noril'sk 39.35 21 P P 01 41 46.0 -0.3
ESDC Sonseca Array 39.36 112 P P 01 41 48.0 +1.3
comp=Z,6.0nm,1.1s,baz=333,slow=7.8,SNR=13
ESDC LR LR 01 55 44.8
comp=Z,69nm,18.3s,baz=334,slow=33
LANS Liptovska Anna 39.40 82 *e*P P 01 41 48.8 +1.9
LANS pmax pmax
comp=Z,12nm,0.9s
LANS Liptovska Anna 39.40 82 *e*P P 01 41 48.8 +1.9
MYKA Terra Mystica 39.45 89 *e*P P 01 41 49.0 +1.6
comp=Z,18nm,1.3s
NIE Niedzica 39.47 81 *e*P P 01 41 49.9 +2.4
RONA Rosalia, Austr 39.49 86 *i*P P 01 41 49.3 +1.6
comp=Z,9.7nm,1.0s,SNR=8.6
TIXI Tiksi 39.51 359 P P 01 41 48.2 +0.7
comp=Z,3.4nm,0.9s,baz=270,slow=22,SNR=5.3
TIXI Tiksi 39.51 359⇓ *e*P P 01 41 48.4 +0.9
TIXI pmax pmax
comp=Z,8.0nm,1.3s
TIXI Tiksi 39.51 359 P P 01 41 47.9 +0.4

SOP Sopron 39.60 85 P P 01 41 51.0 +2.5
VYHS Vyhne 39.73 83 *e*P P 01 41 51.0 +1.4
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 39.73 83 *e*P P 01 41 51.0 +1.4
ROBS Robic 39.73 89 *i*P P 01 41 50.5 +0.9
KSCO Kaye Shedlock' 39.79 247 P P 01 41 51.0 +0.7
baz=25
HLID Hailey 39.82 262 P P 01 41 50.4 -0.3
baz=29
OBKA Obir 39.88 88 *e*P P 01 41 52.0 +1.0
comp=Z,21nm,1.4s,SNR=17
SOKA Soboth 39.91 88 *e*P P 01 41 52.4 +1.2
comp=Z,12nm,1.1s,SNR=10
OXF Oxford 39.93 229 P P 01 41 51.1 -0.3
baz=19
Z51A Franklin 39.97 223 IAmb IAmb 01 41 56.7
comp=Z,17nm,1.1s
IZAB Izabela 39.98 82 *e*P P 01 41 53.1 +1.4
WHAR Wooly Hollow 40.00 233 P P 01 41 52.4 +0.5
WHAR IAmb IAmb 01 41 56.3
comp=Z,13nm,1.0s
MOZS Mozjanca 40.02 89 *i*P P 01 41 53.4 +1.2
MOS Moscow 40.05 61 *e*P P 01 41 52.2 0.0
ISCO Idaho Springs 40.08 251 P P 01 41 53.2 +0.3
baz=26
W41B Gary Mavity, V 40.10 233 IAmb IAmb 01 41 57.4
comp=Z,20nm,1.0s
W41B Gary Mavity, V 40.10 233 P P 01 41 52.8 0.0
baz=20,SNR=7.5
EGYH Egyhazaskeszo 40.10 85 P P 01 41 54.0 +1.3
SRO Srobarova 40.12 84 *e*P P 01 41 54.5 +1.7
SRO pmax pmax
comp=Z,11nm,0.9s
SRO Srobarova 40.12 84 *e*P P 01 41 54.5 +1.7
CRNS Crni Vrh 40.14 89 *i*P P 01 41 53.9 +0.8
OBN Obninsk 40.24 63 P P 01 41 53.6 -0.1
comp=Z,3.1nm,0.4s,baz=302,slow=9.6,SNR=6.5
OBN Obninsk 40.24 63 *de*P P 01 41 53.9 +0.2
OBN *i* *PP pP 01 41 56.3 -0.8
OBN *e**SP sP 01 42 01.7 +3.2
OBN 01 43 58.0
OBN S S 01 48 02.0 +1.9
OBN SS SS 01 50 53.0 -4.7
OBN *e*SSS SSS 01 51 21.4
OBN pmax pmax
comp=Z,52nm,1.7s
OBN MLR MLR
comp=Z,57nm,16.0s
TRI Trieste 40.28 90 IAmb IAmb 01 41 57.6
comp=Z,13nm,1.0s
CRVS Cervenica-Dubn 40.31 80 *e*P P 01 41 55.5 +1.0
CRVS pmax pmax
comp=Z,43nm,1.6s
CRVS Cervenica-Dubn 40.31 80 *e*P P 01 41 55.5 +1.0
MPLH Magyarpolny 40.39 85 P P 01 41 57.6 +2.6
LVV L'vov 40.45 77 *e*P P 01 41 56.3 +0.8
BILL Bilibino 40.45 338⇑ *e*P P 01 41 55.6 +0.2
BILL *e**PP pP 01 41 58.3 -0.5
BILL *SP sP 01 42 00.0 -0.2
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,84nm,23.0s
CSKK Cskako 40.48 84 P P 01 41 56.9 +1.1
W39A Magazine 40.52 234 P P 01 41 58.1 +1.8
baz=21
HWUT Hardware Ranch 40.53 258 P P 01 41 57.7 +1.2
PSZ Piszkesteto 40.59 82 ⇑P P 01 41 58.3 +1.5
PSZ Piszkesteto 40.59 82 IAmb IAmb 01 42 00.9
comp=Z,27nm,1.0s
PSZ Piszkesteto 40.59 82 P P 01 41 58.1 +1.3
Q24A Divide 40.67 250 P P 01 41 59.1 +1.2
baz=25
O20A White River Ci 40.67 254 IAmb IAmb 01 42 02.7
comp=Z,14nm,0.8s
O20A White River Ci 40.67 254 P P 01 41 58.5 +0.8
baz=20,SNR=11
GOLS Golise 40.69 88 *i*P P 01 41 58.3 +0.7
LRAL Lakeview Retre 40.70 225 P P 01 41 58.7 +1.0
baz=17
KDAK Kodiak Island 40.73 306 LR LR 01 58 56.5
comp=Z,87nm,18.2s,baz=68,slow=36
UZH Uzhgorod 40.84 80 *e*P P 01 41 57.3 -1.4
UZH *i* 01 41 59.0
X40A Basin Creek Fa 40.91 233 P P 01 42 00.3 +0.8
baz=20
MIAR Mount Ida 41.07 234 P P 01 42 01.3 +0.5
baz=20
CCAR Cane Creek 41.14 231 P P 01 42 02.9 +1.5
CCAR IAmb IAmb 01 42 05.5
comp=Z,17nm,0.7s
KIRV Kirov 41.17 51 P P 01 42 01.1 -0.3
comp=Z,16nm,0.6s,baz=346,slow=6.8,SNR=4.2
OSSC Osservatorio P 41.27 94 IAmb IAmb 01 42 06.0
comp=Z,27nm,1.4s
TRPA Tarpa 41.35 80 P P 01 42 03.2 +0.2
JLU Jordanelle 41.38 257 IAmb IAmb 01 42 08.4
comp=Z,10nm,0.9s
AKASG Malin Array Be 41.50 72 P P 01 42 04.0 -0.2
comp=Z,1.1nm,0.4s,baz=333,slow=9.1,SNR=13
AKASG PcP PcP 01 44 01.1 -0.3
comp=Z,1.3nm,0.8s,baz=323,slow=3.0,SNR=5.0
AKASG LR LR 01 58 33.0
comp=Z,87nm,18.4s,baz=324,slow=35
AKBB Malin Array Si 41.50 72⇓ *e*P P 01 42 03.8 -0.4
KOVH Kovagotottos 41.51 85 P P 01 42 04.0 -0.3
LTVH Ltavrtes, Hu 41.76 81 P P 01 42 08.9 +2.6
CASP Castiglione de 41.77 95 P P 01 42 06.5 0.0
CASP IAmb IAmb 01 42 08.2
comp=Z,19nm,0.9s
MURB Monte Urbino 41.95 93 P P 01 42 08.9 +0.8
Z41A Richland Creek 42.05 232 IAmb IAmb 01 42 12.7
comp=Z,16nm,0.7s
Z41A Richland Creek 42.05 232 P P 01 42 10.0 +1.1
baz=20
T25A Trinidad 42.07 248 P P 01 42 10.7 +1.4
baz=24
P17A Butcher Ranch, 42.13 256 IAmb IAmb 01 42 14.5
comp=Z,15nm,1.1s
DUG Dugway, Tooele 42.22 258 P P 01 42 12.1 +1.8
baz=27,SNR=7.6
LATE Laterza 42.26 94 P P 01 42 10.9 +0.4
PV07 Paradox Valley 42.33 253 IAmb IAmb 01 42 16.7
comp=Z,11nm,1.1s
S22A 4UR Ranch, Cre 42.34 251 P P 01 42 13.0 +1.4
baz=25
VBMS Vicksburg 42.40 229 P P 01 42 13.4 +1.8
baz=18
TMUT Trail Mountain 42.45 256 IAmb IAmb 01 42 17.7
comp=Z,11nm,0.9s
J05D Fort Rock, OR 42.51 269 P P 01 42 13.4 +0.7
baz=29
ELK Elko 42.59 261 LR LR 02 00 10.1
comp=Z,253nm,18.2s,baz=44,slow=36
ELK Elko 42.59 261 P P 01 42 13.4 0.0
PV13 Radium Mtn., P 42.64 253 IAmb IAmb 01 42 18.9
comp=Z,12nm,1.0s
BUR08 Bucovina Ar. S 42.70 78 P P 01 42 12.6 -1.5
BURAR Bucovina Array 42.73 78 ⇓P P 01 42 15.0 +0.6
Q16A Castle Valley 42.78 256 IAmb IAmb 01 42 20.1
comp=Z,14nm,1.1s
J04D Umppqua Nationa 42.86 270 P P 01 42 16.6 +1.0
baz=29
FRGS Fruska Gora 42.92 85 ⇑P P 01 42 16.8 +1.0
LPSR Galich'ya Gora 43.11 63 *e*P P 01 42 17.4 +0.2
LPSR pmax pmax
comp=Z,30nm,0.8s
BZS Buzias 43.17 83 ⇑P P 01 42 18.9 +1.0
SORM Soroca 43.38 75 ⇑P P 01 42 19.8 +0.3
TCRU Three Creeks R 43.50 257 P P 01 42 21.7 +0.8
TCRU IAmb IAmb 01 42 30.2
comp=Z,13nm,0.9s
342A Flagon Creek P 43.69 231 P P 01 42 22.6 +0.5
GZR Gura Zlata 43.78 82 ⇑P P 01 42 24.3 +1.5
VORR Voronezh 43.99 64 *e*P P 01 42 24.8 +0.4
VORR pmax pmax
comp=Z,20nm,0.5s
PSUT Pine Spring 44.06 258 IAmb IAmb 01 42 31.6
comp=Z,12nm,1.0s
HERR Herculane 44.09 82 ⇑P P 01 42 26.5 +1.2
TESR Tescani 44.18 78 ⇓P P 01 42 27.2 +1.2
VSR Storozhevoye 44.37 64 *e*P P 01 42 27.0 -0.4
VSR pmax pmax
comp=Z,20nm,1.0s

YBH Yreka Blue Hor 44.39 269 LR LR 02 01 59.9
comp=Z,93nm,21.0s,baz=5.0,slow=38
SGRT San Giovanni R 44.42 91 P P 01 42 28.4 +0.3
ARR Arges 44.46 80 ⇓P P 01 42 29.4 +1.1
VOIR 44.55 80 ⇑P P 01 42 30.2 +1.2
WHTX Lake Whitney, 44.60 237 P P 01 42 30.6 +1.1
baz=20
SZCU Shurtz Canyon 44.63 257 IAmb IAmb 01 42 35.2
comp=Z,8.0nm,0.9s
PAOL Paolisi 44.64 92 IAmb IAmb 01 42 32.5
comp=Z,18nm,1.2s
ABTX Abilene, Hawle 44.68 240 IAmb IAmb 01 42 35.0
comp=Z,15nm,1.0s
ABTX Abilene, Hawle 44.68 240 P P 01 42 31.8 +1.7
baz=21
ANMO Albuquerque 44.75 249 LR LR 02 01 27.5
comp=Z,183nm,19.5s,baz=36,slow=36
ANMO Albuquerque 44.75 249⇑ *e*P P 01 42 33.2 +2.3
ANMO pmax pmax
comp=Z,10.0nm,1.7s
ANMO Albuquerque 44.75 249 P P 01 42 32.3 +1.4
ANMO Albuquerque 44.75 249 P P 01 42 32.3 +1.4
baz=24
PLOR Plostina 44.75 78 ⇑P P 01 42 32.2 +1.6
CCUT Cedar City 44.77 257 IAmb IAmb 01 42 37.0
comp=Z,10nm,1.0s
MLR Muntele Rosu 44.82 79 ⇓P P 01 42 31.9 +0.7
MLR Muntele Rosu 44.82 79 LR LR 02 01 49.2
comp=Z,147nm,18.5s,baz=288,slow=37
MLR Muntele Rosu 44.82 79 P P 01 42 30.5 -0.7
MLR IAmb IAmb 01 42 35.7
comp=Z,11nm,1.2s
R11A Troy Canyon, C 44.84 260 P P 01 42 33.2 +1.7
baz=26,SNR=6.5
PAHR Pah Rah Range 44.98 265 IAmb IAmb 01 42 37.7
comp=Z,8.5nm,1.2s
PDG Podgorica 45.09 87 ⇑P P 01 42 33.9 +0.7
PDG Podgorica 45.09 87 IAmb IAmb 01 42 37.0
comp=Z,7.6nm,1.0s
VRH Novokhopyorsk 45.20 62 *e*P P 01 42 34.1 +0.1
VRH pmax pmax
comp=Z,10.0nm,0.8s
BLKB Belogradchik 45.28 83 ⇑P P 01 42 35.8 +1.0
U15A North Rim 45.40 256 IAmb IAmb 01 42 41.2
comp=Z,6.6nm,0.9s
ARU Arti 45.51 46 *c i*P P 01 42 37.3 +0.9
ARU 01 44 21.7
ARU PPP PPP 01 44 58.5
ARU S S 01 49 21.4 +3.9
ARU pmax pmax
comp=Z,21nm,1.1s
ARU Arti 45.51 46 P P 01 42 36.4 +0.1
SVE Sverdlovsk 45.68 44 *e*P P 01 42 38.6 +0.8
SVE pmax pmax
comp=Z,12nm,1.4s
W18A Petrified Fore 45.70 252 P P 01 42 39.1 +0.6
baz=24
NVAR Mina Array Bea 45.73 263 P P 01 42 39.4 +0.8
comp=Z,1.3nm,0.8s,baz=25,slow=4.1,SNR=7.6
NVAR LR LR 02 02 19.2
comp=Z,360nm,18.4s,baz=6.5,slow=37
CFR Carcaliu 45.86 77 ⇑P P 01 42 39.7 +0.5
WUAZ Wupatki 45.91 254 P P 01 42 41.5 +1.5
WUAZ IAmb IAmb 01 42 45.1
comp=Z,16nm,1.2s
WUAZ Wupatki 45.91 254 P P 01 42 41.1 +1.1
baz=25
BELG Belogornoye 45.99 57 LR LR 02 00 53.5
comp=Z,99nm,19.3s,baz=296,slow=35
BELG Belogornoye 45.99 57 *c i*P P 01 42 40.2 0.0
BELG pmax pmax
comp=Z,5.0nm,1.4s
HKT Hockley 46.03 234⇑ *e*P P 01 42 44.8 +4.1
HKT pmax pmax
comp=Z,5.0nm,1.2s
SKO Skopje 46.28 85 *i*P P 01 42 43.6 +1.0
TPNV Topopah Spring 46.32 260 P P 01 42 44.2 +1.0
baz=26,SNR=5.7
VTS Vitosha 46.35 83 P P 01 42 43.6 +0.1
VTS IAmb IAmb 01 42 46.9
comp=Z,7.2nm,1.1s
JCT Junction City 46.73 239 P P 01 42 48.3 +1.9
baz=21
STIP Stip 46.79 85 *i*P P 01 42 46.8 +0.1
OHR Ohrid 46.80 86 *i*P P 01 42 48.3 +1.5
X16A Lo Mia Camp, P 46.92 253 IAmb IAmb 01 42 53.4
comp=Z,8.9nm,1.0s
SEY Seymchan 46.99 344⇑ *e*P P 01 42 48.3 +0.3
SEY pmax pmax
comp=Z,6.0nm,1.3s
KBN Korca 47.23 87 P P 01 42 45.8 -4.4
VAY Valandovo 47.26 85 *i*P P 01 42 50.8 +0.5
FNA Florina 47.30 86 P P 01 42 51.0 +0.3
MNTX Cornudas Mount 47.37 246 P P 01 42 53.4 +2.1
baz=22
121A Cookes Peak, D 47.40 249 IAmb IAmb 01 42 56.9
comp=Z,10nm,1.1s
121A Cookes Peak, D 47.40 249 P P 01 42 53.4 +1.7
baz=23
CWC Cottonwood Cre 47.43 261 P P 01 42 53.0 +1.1
baz=26
KEST Kesra 47.49 101 P P 01 42 53.4 +1.1
comp=Z,25nm,1.2s,baz=349,slow=5.2,SNR=5.7
KEST LR LR 02 02 47.6
comp=Z,125nm,18.4s,baz=300,slow=36
KNT Kendrikon 47.51 85 P P 01 42 53.1 +0.8
GRG Griva 47.52 85 P P 01 42 53.8 +1.4
MPMC Manual Prospec 47.56 261 P P 01 42 54.9 +1.9
baz=26,SNR=5.1
VAE Valguarnera 47.73 95 LR LR 02 03 13.4
comp=Z,117nm,18.2s,baz=324,slow=36
SRS Serrai 47.80 84 P P 01 42 53.1 -1.5
Y14A Wickenburg 47.90 255 IAmb IAmb 01 43 00.2
comp=Z,5.8nm,1.0s
PDMCI Parker Dam,Lak 47.96 256 P P 01 42 58.0 +2.2
baz=25
GSC Goldstone, Bar 48.00 259 P P 01 42 58.8 +2.6
baz=25
KPRO Kipourio 48.03 87 P P 01 42 55.7 -0.7
IGT Igoumenitsa 48.03 88 P P 01 42 57.8 +1.5
GMRC Granite Mounta 48.06 258 P P 01 42 59.4 +2.6
baz=25
HORT Hortiatis 48.08 85 P P 01 42 58.0 +1.2
KOKK Kokkinochori, 48.21 84 P P 01 42 56.7 -1.0
ISA Isabella, Lake 48.26 261 P P 01 43 00.8 +2.6
baz=26
LIT Litokhoron 48.30 86 P P 01 42 59.2 +0.7
VES Vestal, Richgr 48.32 262 P P 01 43 00.6 +2.0
baz=26
IRM Iron Mountain 48.45 257 P P 01 43 01.5 +1.9
baz=25
BLYC Blythe 48.60 256 P P 01 43 01.5 +0.7
BLYC IAmb IAmb 01 43 06.1
comp=Z,8.4nm,1.1s
TUC Tucson 48.62 252 P P 01 43 03.2 +2.2
baz=24
OUR Ouranopolis 48.63 84 P P 01 42 58.5 -2.4
THAS Thassos island 48.65 83 P P 01 43 00.6 -0.5
EDW2 Edwards Air Fo 48.80 260 P P 01 43 04.4 +2.1
baz=25
ALN Alexandroupoli 48.87 82 IAmb IAmb 01 43 06.8
comp=Z,11nm,1.2s
BELC Belle Mtn. Jos 48.89 258 P P 01 43 05.7 +2.5
baz=25
TX31 Lajitas Ar. Si 49.00 243 IAmb IAmb 01 43 08.8
comp=Z,12nm,0.9s
TXAR Lajitas Array 49.00 243 P P 01 43 05.0 +1.0
comp=Z,2.1nm,0.8s,baz=52,slow=6.2,SNR=22
TXAR LR LR 02 04 09.9
comp=Z,210nm,19.2s,baz=21,slow=37
TXAR Lajitas Array 49.00 243 P P 01 43 03.9 -0.1
BC3 Big Chuckawall 49.01 257 P P 01 43 07.0 +2.9
baz=25
FSK Fiskardo 49.06 88 P P 01 43 05.6 +1.3
EVR Evrytania 49.11 87 P P 01 43 05.8 +1.1
DMLN Damoulianata-K 49.19 89 P P 01 43 02.2 -3.1
KEF4 Livadi, Kephal 49.19 89 P P 01 43 05.0 -0.3
AGG Agios Georgios 49.20 86 P P 01 43 05.5 +0.1
XOR Xorichti 49.20 85 P P 01 43 04.8 -0.6
KEF3 Kipouria, Keph 49.22 89 P P 01 43 07.0 +1.6
VLS Valsamata 49.33 88 P P 01 43 07.9 +1.6
PFO Pinyon Flats O 49.40 258 LR LR 02 03 10.7
comp=Z,139nm,19.8s,baz=20,slow=35
PFO Pinyon Flats O 49.40 258 P P 01 43 09.5 +2.4
baz=25
TPFO Pinon Flats 49.40 258 P P 01 43 10.0 +2.8

baz=25
EFP Efpalio 49.58 87 P P 01 43 09.5 +1.3
MURC Murrieta 49.67 259 P P 01 43 11.7 +2.7
baz=25
RLS Riolos of Patr 49.75 88 P P 01 43 11.6 +2.1
LAKA Lakka 49.77 87 P P 01 43 10.2 +0.5
SWSC Sam W. Stewart 49.77 257 P P 01 43 12.6 +2.8
baz=24
LTHK Lithakia 49.83 89 P P 01 43 11.2 +1.1
DRO Drossia 49.93 88 P P 01 43 11.3 +0.4
KLV Kalavryta, Ach 50.00 87 P P 01 43 10.9 -0.7
MONP2 Monument Peak 50.04 258 P P 01 43 14.7 +2.6
baz=24,SNR=5.6
IKP In-Ko-Pah, Jac 50.15 257 P P 01 43 14.3 +1.6
baz=24
KYMI Kymi, Euboea I 50.18 85 P P 01 43 14.0 +1.2
LTK Loutraki 50.31 86 P P 01 43 07.6 -6.3
DION Dionisos Attik 50.61 85 P P 01 43 16.5 +0.4
ITM Ithomi 50.69 88 P P 01 43 15.9 -0.8
AKTO Aktyubinsk 50.73 50 LR LR 02 04 10.8
comp=Z,55nm,20.2s,baz=349,slow=35
PYL PYLOS 50.88 88 P P 01 43 16.0 -2.1
KRND KRANIDI 50.95 87 P P 01 43 18.2 -0.4
BRVK Borovoye 51.44 40 *ce* P P 01 43 23.1 +1.0
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 51.44 40 P P 01 43 22.6 +0.5
VLI Veliai 51.47 87 P P 01 43 22.1 -0.4
SJG San Juan 51.55 195 LR LR 02 08 03.3
comp=Z,18nm,18.1s,baz=348,slow=39
KIV Kislovodsk 51.88 66 *e* P P 01 43 27.0 +1.3
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,27nm,17.0s
KIV Kislovodsk 51.88 66 P P 01 43 25.8 +0.1
KIV IAmb IAmb 01 43 27.8
comp=Z,9.6nm,1.1s
KVAR Kislovodsk Arr 51.88 66 LR LR 02 05 36.1
comp=Z,46nm,18.2s,baz=300,slow=36
KTHR Kythira 51.90 87 P P 01 43 25.9 +0.1
KTHA Kythira Island 51.92 87 P P 01 43 26.3 +0.3
KBZ Khabaz 52.15 66 P P 01 43 28.6 +1.1
comp=Z,3.5nm,0.8s,baz=318,slow=9.0,SNR=8.1
KBZ Khabaz 52.15 66 *e* P P 01 43 29.3 +1.8
KBZ pmax pmax
comp=Z,8.0nm,1.0s
ABKAR Akbulak array 52.33 49 P P 01 43 28.8 +0.1
ANKY Antikythira Is 52.36 87 P P 01 43 30.5 +1.3
NEY Neytrino 52.52 66 *e* P P 01 43 32.7 +2.2
NEY pmax pmax
comp=Z,2.0nm,0.9s
BR131 Keskin Array S 52.58 76 *d i* P P 01 43 32.1 +1.1
BRTR Keskin Array B 52.58 76 P P 01 43 32.3 +1.3
comp=Z,3.0nm,0.8s,baz=346,slow=4.4,SNR=20
BRTR LR LR 02 06 19.9
comp=Z,116nm,20.0s,baz=326,slow=37
BRTR Keskin Array B 52.58 76 *ce* P P 01 43 32.7 +1.7
BRTR pmax pmax
comp=Z,3.0nm,0.8s
NCK Nalchik 52.59 65 *e* P P 01 43 32.7 +1.9
NCK pmax pmax
comp=Z,23nm,1.3s
ZEI Tsey 53.32 66 *e* P P 01 43 34.9 -1.6
ZEI pmax pmax
comp=Z,8.0nm,1.3s
IDI Anoyia 53.45 86 IAmb IAmb 01 43 40.0
comp=Z,13nm,1.3s
GVDS Gavdos 53.56 87 P P 01 43 37.9 -0.1
ZALV Zalesovo Beam 53.56 29 P P 01 43 37.5 -0.3
comp=Z,4.2nm,0.8s,baz=336,slow=7.5,SNR=18
ZALV LR LR 02 10 03.7
comp=Z,34nm,19.1s,baz=352,slow=40
ZALV Zalesovo Beam 53.56 29 *i* P P 01 43 37.7 -0.1
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZKR Zakros 54.08 85 P P 01 43 41.5 -0.3
KURK Kurchatov 55.46 35 *ce* P P 01 43 51.8 +0.2
KURK pmax pmax
comp=Z,7.0nm,1.3s
KURK Kurchatov 55.46 35 P P 01 43 51.3 -0.3
KURK IAmb IAmb 01 43 52.5
comp=Z,5.0nm,0.9s
GNI Garni 55.97 66 LR LR 02 08 17.6
comp=Z,86nm,18.9s,baz=336,slow=36
GNI Garni 55.97 66 *ce* P P 01 43 58.8 +3.1
GNI pmax pmax
comp=Z,6.0nm,1.3s
GNI Garni 55.97 66 P P 01 43 56.9 +1.2
GNI IAmb IAmb 01 43 58.9
comp=Z,5.6nm,1.1s
PETK Petropavlovsk- 55.98 338 LR LR 02 09 20.2
comp=Z,36nm,20.3s,baz=44,slow=38
LPIG La Paz 56.02 247 LR LR 02 07 49.4
comp=Z,117nm,20.6s,baz=22,slow=36
CMIG Matias Romero 57.95 228 LR LR 02 12 25.3
comp=Z,33nm,18.8s,baz=34,slow=40
ZAK Zakamensk 59.64 17 *e* P P 01 44 21.4 +0.2
ZAK pmax pmax
comp=Z,7.0nm,1.1s
MAKZ Makanchi 59.86 34 P P 01 44 21.7 -0.9
MAKZ IAmb IAmb 01 44 23.7
comp=Z,10nm,1.1s
MK31 Makanchi Array 59.94 34 *de* P P 01 44 22.8 -0.4
MK31 Makanchi Array 59.94 34 IAmb IAmb 01 44 24.1
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 59.94 34 P P 01 44 23.1 -0.2
comp=Z,3.3nm,0.8s,baz=347,slow=5.6,SNR=32
MKAR LR LR 02 12 56.7
comp=Z,63nm,20.5s,baz=354,slow=39
MKAR Makanchi Array 59.94 34 *ce* P P 01 44 23.3 +0.1
MKAR pmax pmax
comp=Z,3.0nm,0.8s
SDV Santo Domingo 61.15 199 LR LR 02 10 16.6
comp=Z,30nm,19.1s,baz=8.0,slow=35
USP Ospenovka 61.60 41 P P 01 44 35.3 +0.7
SNR=6.0
HIA Hailar 61.87 5 *e* P P 01 44 36.8 +0.5
HIA pmax pmax
comp=Z,6.0nm,1.0s
CHMS Chumysh 61.92 41 P P 01 44 38.0 +1.3
SNR=7.8
KLR Kul'dur 61.95 356 *e* P P 01 44 36.8 0.0
KLR pmax pmax
comp=Z,7.0nm,1.7s
TKM2 Tokmak 2 62.19 40 P P 01 44 39.9 +1.2
SNR=10
AAK Ala-Archa 62.20 41 P P 01 44 40.2 +1.4
SNR=11
AAK Ala-Archa 62.20 41 *d i* P P 01 44 39.9 +1.1
AAK pmax pmax
comp=Z,16nm,1.3s
AAK Ala-Archa 62.20 41 P P 01 44 39.4 +0.6
GEYT Alibeck 62.20 56 P P 01 44 40.1 +1.4
comp=Z,2.9nm,0.7s,baz=44,slow=15,SNR=6.0
GEYT LR LR 02 12 43.2
comp=Z,72nm,19.9s,baz=342,slow=37
SONM Songino Array 62.47 15 P P 01 44 41.2 +0.7
comp=Z,4.1nm,0.9s,baz=335,slow=6.3,SNR=21
SONM Songino Array 62.47 15 IAmb IAmb 01 44 42.3
comp=Z,7.6nm,1.0s
AML Almayashu 62.49 42 P P 01 44 42.4 +1.4
SNR=7.0
ULN Ulaanbaatar 62.50 15 *de* P P 01 44 41.7 +1.0
ULN pmax pmax
comp=Z,25nm,1.3s
ULN Ulaanbaatar 62.50 15 P P 01 44 41.1 +0.4
UCH Uchtor 62.59 41 P P 01 44 43.4 +1.7
SNR=6.7
BOOM Boomskoye usch 62.67 40 IAmb IAmb 01 44 44.2
comp=Z,6.8nm,0.9s
KDJ Kajisay 63.30 39 P P 01 44 46.1 0.0
KDJ IAmb IAmb 01 44 49.4
comp=Z,4.6nm,0.8s
WMQ Urumqi 63.83 30 *e* P P 01 44 52.6 +3.1
WMQ pmax pmax
comp=Z,15nm,1.3s
KSH Kashi 65.51 41 P P 01 45 04.0 +3.4
KSH sP sP 01 45 11.0 +5.5
KSH pmax pmax
comp=Z,15nm,0.8s
TORD Torodi Ar. Bea 65.77 119 P P 01 45 01.7 -0.6
comp=Z,1.6nm,0.9s,baz=347,slow=4.2,SNR=5.9
TORD LR LR 02 11 32.2
comp=Z,30nm,19.2s,baz=251,slow=34
TORD Torodi Ar. Bea 65.77 119 P P 01 45 02.7 +0.4
TORD IAmb IAmb 01 45 03.8
comp=Z,5.0nm,1.4s
USRK Ussuriysk Ar. 66.97 356 P P 01 45 08.6 -1.1
comp=Z,1.4nm,0.6s,baz=357,slow=7.2,SNR=6.4
USRK Ussuriysk Ar. 66.97 356 P P 01 45 09.0 -0.7
HHC Hu-ho-hao-te 69.84 12 *e* P P 01 45 28.1 +0.3
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.8s
DBIC Dimbokro 69.93 127 LR LR 02 12 32.7
comp=Z,89nm,19.6s,baz=346,slow=33
GTA Gaotai 70.04 22 *e* P P 01 45 29.9 +0.8
GTA pP sP 01 45 36.0 +1.9
GTA pmax pmax
comp=Z,7.0nm,0.8s
NIL Nilore 70.42 45 P P 01 45 30.9 -0.5
RAYN Ar Rayn 71.43 73 P P 01 45 37.4 -0.3
RAYN IAmb IAmb 01 45 41.1
comp=Z,4.7nm,1.1s
GOMU GeErMu 72.46 26 P P 01 45 44.5 +0.4
GOMU pP sP 01 45 48.8 -0.3
GOMU sP pP 01 45 50.2 +2.4
GOMU pmax pmax
comp=Z,3.0nm,0.9s
GOMU pmax pmax
comp=Z,51nm,5.1s
KSRS Korea Array 73.78 359 P P 01 45 50.4 -1.0
comp=Z,0.6nm,0.4s,baz=1.6,slow=8.5,SNR=1.3
LZH Lanzhou 73.82 19 *e* P P 01 45 52.9 +1.0
LZH pP pP 01 45 55.7 +0.1
LZH sP sP 01 45 58.5 +1.6
LZH pmax pmax
comp=Z,16nm,1.3s
WSAR Wadi Sarin 76.03 61 LR LR 02 22 34.7
comp=Z,27nm,18.4s,baz=56,slow=38
CD2 Chengdu 78.92 20 P P 01 46 20.7 -0.1
CD2 pmax pmax
comp=Z,20nm,0.5s
NJ2 Nanjing 79.02 7 *e* P P 01 46 20.5 -0.7
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NNA Nana 82.51 203 LR LR 02 24 01.1
comp=Z,15nm,20.6s,baz=44,slow=36
PZH PanZhiHua 83.01 22 P P 01 46 42.6 -0.1
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,80nm,5.3s
CHTO Chiang Mai 90.16 26 P P 01 47 16.9 -0.8
CHTO IAmb IAmb 01 47 19.8
comp=Z,4.7nm,0.8s

IDC 06 01:39:50.2±1.9, 16°.86S×178°.14W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.8/42, mbtmp3.8/6, Error ellipse: s-maj=121.6km s-min=23.9km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.08	258	P	P	01 48 08.9	+0.4
	0.6nm,0.5s,baz=96,slow=7.7,SNR=6.8						
ASAR	Alice Springs	45.33	253	P	P	01 48 10.7	+0.3
	3.0nm,0.5s,baz=86,slow=8.9,SNR=23						
FITZ	Fitzroy Crossi	53.46	260	P	P	01 49 11.2	-1.4
	1.2nm,0.9s,baz=122,slow=9.5,SNR=2.5						
ILAR	Eielson Array	84.82	13	P	P	01 52 25.8	-0.4
	0.2nm,0.4s,baz=219,slow=5.7,SNR=7.2						
TXAR	Lajitas Array	85.22	58	P	P	01 52 29.4	+0.2
	0.4nm,0.7s,baz=233,slow=6.1,SNR=5.9						
PDAR	Pinedale Array	86.42	43	P	P	01 52 35.1	+0.1
	0.2nm,0.5s,baz=229,slow=2.0,SNR=2.3						

*IDC **06** 01:52:14.5±3.5, 54°.30N×160°.79W, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.4/51, mbtmp3.4/6, ML3.4/3, Error ellipse: s-maj=79.9km s-min=26.1km az=162.0*
*NEIC **06** 01:52:20.4±2.2, 54°.51N±0°.08×160°.52W±0°.09, h22km±11km, mb3.8/4, ML3.3(AEIC), Error ellipse: s-maj=12.2km s-min=5.5km az=151.0*
*AEIC **06** 01:52:21±2.5, 54°.50N±0°.07×160°.59W±0°.08, h33km±8km, Error ellipse: s-maj=10.2km s-min=5.3km az=155.0*

ISC 06 01:52:17.7±1.1, 54°.44N±0°.09×160°.44W±0°.05, h13km, n87, σ1°64/91, mb3.6/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	0.91	359		Pn	01 52 36.6	+0.5
SDPT					Sn	01 52 48.6	-0.6
SDPT	Sand Point	0.91	359	P	Pn	01 52 36.7	+0.6
	baz=185						
SDPT				S	Sn	01 52 48.8	-0.3
	baz=185						
PVV	Pavlof Volcano	1.22	321		Pg	01 52 40.9	-0.2
HAG	Hague Volcano	1.22	317		Pg	01 52 41.1	-0.1
PS4A	Pavlof South-4	1.22	318		Pg	01 52 41.0	-0.2
BALA	Baldy Mountain	1.55	300		Pb	01 52 46.2	-0.1
BLHA	Black Hill	1.57	324		Pb	01 52 46.5	-0.1
BLHA	Black Hill	1.57	324	P	Pb	01 52 46.5	-0.1
	baz=144						
FALS	False Pass	1.78	285		Pn	01 52 48.7	+0.6
FALS	False Pass	1.78	285		Sn	01 53 10.1	-0.5
FALS	False Pass	1.78	285	P	Pn	01 52 48.6	+0.5
	baz=101						
FALS				S	Sn	01 53 10.1	-0.5
	baz=101						
VNFG	Fog Glacier, M	1.92	15		Pb	01 52 52.8	+0.2
VNFG	Fog Glacier, M	1.92	15	P	Pb	01 52 52.8	+0.2
	baz=199						
VNHG	Veniaminof 1	1.93	22		Pn	01 52 52.6	+2.4
SSLN	Shishaldin Nor	2.10	282		Pn	01 52 54.1	+1.5
SSLN					Sn	01 53 19.1	+0.5
WESE	West Dahl East	2.42	272		Pn	01 52 58.2	+1.1
CHIR	Chirikof Islan	3.09	61	Pn	Pn	01 53 08.0	+1.8
AKSA	Akutan Strait	3.10	266		Pn	01 53 07.3	+1.0
UNV	Unalaska Valle	3.62	263	Pn	Pn	01 53 13.8	+0.4
UNV	Unalaska Valle	3.62	263	P	Pn	01 53 14.0	+0.6
	baz=77						
SII	Sitkinak Islan	4.14	57	Pn	Pn	01 53 22.4	+1.9
OHAK	Old Harbor	4.90	52	Pn	Pn	01 53 32.1	+1.2
KDAK	Kodiak Island	5.52	50	Pn	Pn	01 53 40.3	+0.8
	1.6nm,0.3s,baz=237,slow=9.6,SNR=41						
KDAK				Sn	Sn	01 54 40.3	-2.5
	0.8nm,0.3s,baz=220,slow=17,SNR=1.2						
KDAK	Kodiak Island	5.52	50		Pn	01 53 40.1	+0.6
P18K	Big Mountain,	5.72	28	Pn	Pn	01 53 44.3	+2.0
Q19K	Cape Douglas,	5.85	37	Pn	Pn	01 53 46.2	+2.2
P19K	Oil Pt	6.53	34	Pn	Pn	01 53 55.4	+1.9
N19K	Bonanza Creek	7.14	24	Pn	Pn	01 54 04.8	+3.0
CNPM	China Poot	7.15	41	Pn	Pn	01 54 03.5	+1.5
SVW2	Sparrevohn	7.16	19	Pn	Pn	01 54 04.2	+2.2
BRLK	Bradley Lake	7.45	40	Pn	Pn	01 54 06.3	+0.4
M19K	Big River Lodg	8.13	21	Pn	Pn	01 54 18.9	+3.5
SEW	Seward	8.22	42	Pn	Pn	01 54 18.0	+1.6
L19K	White Mountain	8.30	18	Pn	Pn	01 54 19.3	+1.7
RC01	Rabbit Creek A	8.77	36	Pn	Pn	01 54 26.8	+2.8
PWL	Port Wells	9.12	40	Pn	Pn	01 54 29.9	+1.0
KNK	Knik Glacier	9.44	37	Pn	Pn	01 54 35.0	+1.7
PPLA	Purkeypile	9.49	23	Pn	Pn	01 54 37.4	+3.3
GHO	Glory Hole Cre	9.53	35	Pn	Pn	01 54 36.6	+2.0
GLI	Glacier Island	9.62	43	Pn	Pn	01 54 36.0	+0.3
SML	Sawmill	9.76	36	Pn	Pn	01 54 37.6	0.0
FID	Port Fidalgo	9.79	44	Pn	Pn	01 54 37.8	-0.2
EYAK	Cordova Ski Ar	9.98	46	Pn	Pn	01 54 41.9	+1.2
SCM	Sheep Creek Mo	10.13	38	Pn	Pn	01 54 43.5	+0.8
J20K	Nowinta River	10.27	16	Pn	Pn	01 54 46.8	+2.2
DIV	Divide	10.29	43	Pn	Pn	01 54 46.0	+1.1
RAGM	Ragged Mountai	10.36	49	Pn	Pn	01 54 46.8	+0.8
TRF	Thorofare Moun	10.43	26	Pn	Pn	01 54 47.4	+0.5
KLU	Klutina	10.44	42	Pn	Pn	01 54 47.3	+0.4
HMT	Hamilton	10.52	49	Pn	Pn	01 54 50.6	+2.5
SUCK	Suckling Hills	10.62	51	Pn	Pn	01 54 51.8	+2.3
BMRM	Bremner River	10.68	46	Pn	Pn	01 54 49.4	-0.9
M24K	Tolsona, Glenn	10.72	39	Pn	Pn	01 54 52.5	+1.7
RND	Reindeer	10.78	29	Pn	Pn	01 54 51.9	+0.3
BERG	Berg Lake	10.80	50	Pn	Pn	01 54 53.0	+1.2
DHY	Denali Highway	10.97	33	Pn	Pn	01 54 55.4	+1.1
N25K	Chitina, Valde	11.02	43	Pn	Pn	01 54 56.2	+1.2
WAX	Waxell Ridge	11.20	50	Pn	Pn	01 54 58.6	+1.2
GLB	Gilahina Butte	11.26	45	Pn	Pn	01 54 59.4	+1.3
VRDI	Verde Repeater	11.30	46	Pn	Pn	01 54 59.4	+0.6
ISLE	Juniper Island	11.50	50	Pn	Pn	01 55 02.5	+1.0
PAX	Paxson	11.53	36	Pn	Pn	01 55 02.5	+0.6
I21K	Tanana	11.57	18	Pn	Pn	01 55 04.0	+1.7
YAH	Yahtse	11.67	52	Pn	Pn	01 55 05.5	+1.5
H21K	Melozitna Rive	11.87	16	Pn	Pn	01 55 10.7	+4.3
TABL	Table Mountain	11.98	52	Pn	Pn	01 55 10.7	+2.6
RIDG	Independent Ri	12.25	34	Pn	Pn	01 55 12.1	+0.3
PCA	Pinnacle	12.27	54	Pn	Pn	01 55 14.3	+2.3
ILAR	Eielson Array	12.39	28	Pn	Pn	01 55 10.1	-3.4
	0.1nm,0.3s,baz=216,slow=13,SNR=1.9						
DOT	Dot Lake	12.46	36	Pn	Pn	01 55 16.0	+1.6
M27K	Edge Creek, AK	12.51	43	Pn	Pn	01 55 18.7	+3.3
SCRK	Sand Creek	12.70	35	Pn	Pn	01 55 17.0	-0.8
J25K	Salcha River,	12.70	31	Pn	Pn	01 55 16.3	-1.5
L27K	Beaver Creek,	12.91	41	Pn	Pn	01 55 20.6	0.0
BCAR	Beaver Creek A	12.93	41	Pn	Pn	01 55 20.9	0.0
EGAK	Eagle	14.15	35	Pn	Pn	01 55 37.5	-0.1
SKAG	Skagway	14.54	60	Pn	Pn	01 55 40.6	-2.3
JIS	Juneau Island	14.90	65	Pn	Pn	01 55 50.2	+2.5
BMAR	Burnt Mountain	15.06	24	P	Pn	01 55 53.5	+3.5
P33M	Teslin, Yukon	15.91	58	P	Pn	01 56 05.1	+3.9
EPYK	Eagle Plains	16.59	35	Pn	Pn	01 56 10.7	+1.0
EPYK				IAmb	IAmb	01 56 22.8	
	comp=Z,12nm,1.4s						
INK	Inuvik	18.71	32	P	P	01 56 34.7	-0.8
	comp=Z,0.2nm,0.3s,baz=220,slow=11,SNR=7.0						
INK	Inuvik	18.71	32	P	P	01 56 35.0	-0.5
C36M	Paulatuk	22.22	34	P	P	01 57 12.8	-0.6
C36M				IAmb	IAmb	01 57 25.0	
	comp=Z,4.6nm,1.2s						
YKA	Yellowknife Ar	24.79	53	P	P	01 57 40.5	+1.7
	comp=Z,0.4nm,0.6s,baz=268,slow=9.1,SNR=14						
SONM	Songino Array	54.69	304	P	P	02 01 44.6	-1.7
	comp=Z,0.8nm,0.8s,baz=39,slow=7.4,SNR=3.1						
MKAR	Makanchi Array	66.06	318	P	P	02 03 02.3	-1.6
	comp=Z,0.2nm,0.5s,baz=40,slow=3.9,SNR=3.7						

*IDC **06** 01:59:11.2±3.5, 56°.10N×157°.90W, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.3/70, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=70.5km s-min=27.2km az=163.0*
*NEIC **06** 01:59:17.7±2.2, 57°.05N±0°.04×158°.06W±0°.09, h16km±5km, Error ellipse: s-maj=7.0km s-min=5.6km az=114.0*
*AEIC **06** 01:59:17±2.6, 57°.04N±0°.03×157°.98W±0°.04, h9km±6km, ML3.4, mb3.7/2(NEIC), ML3.5/34(NEIC), Error ellipse: s-maj=4.8km s-min=3.3km az=195.0*

ISC 06 01:59:17.1±1.4, 57°.07N±0°.06×158°.00W±0°.04, h10km±10km, n78, σ1°08/87, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.16	229		Pg	01 59 21.3	+0.7
VNHG	Veniaminof 1	1.07	218		Pg	01 59 36.5	-1.1
VNFG	Fog Glacier, M	1.17	228		Pb	01 59 38.7	-0.7
VNFG	Fog Glacier, M	1.17	228	P	Pb	01 59 38.7	-0.7
	baz=45						
CHIR	Chirikof Islan	1.82	132		Pn	01 59 48.1	-0.3
CHIR					Sb	02 00 11.7	-1.5
CHIR				IAML		02 00 15.3	
	comp=N,689nm,0.8s						
CHIR	Chirikof Islan	1.82	132	P	Pn	01 59 47.9	-0.5
	baz=314						
CHIR				S	Sb	02 00 12.9	-0.3
	baz=314						
SII	Sitkinak Islan	2.16	102	Pn	Pn	01 59 53.9	+0.8
SII				Sn	Sb	02 00 23.6	+0.5
SII	Sitkinak Islan	2.16	102	P	Pb	01 59 54.7	-1.5
	baz=286						
SII				S	Sb	02 00 23.0	0.0
	baz=286						
SDPT	Sand Point	2.21	220	Pn	Pn	01 59 53.5	-0.2
SDPT				Sn	Sb	02 00 22.7	-1.8
SDPT				IAML		02 00 30.2	
	comp=E,343nm,0.8s						
SDPT				IAML		02 00 31.7	
	comp=N,258nm,0.5s						
SDPT	Sand Point	2.21	220	P	Pn	01 59 54.4	+0.6
	baz=37						
SDPT				S	Sb	02 00 23.5	-1.0
	baz=37						
OHAK	Old Harbor	2.57	85	Pn	Pn	01 59 57.9	-0.8
OHAK				Sn	Sn	02 00 31.6	+1.6
OHAK	Old Harbor	2.57	85	P	Pn	01 59 58.8	+0.1
	baz=269						
OHAK				S	Sb	02 00 32.4	-2.4
	baz=269						
P18K	Big Mountain,	2.75	31	Pn	Pn	02 00 00.7	-0.5
Q19K	Cape Douglas,	2.97	49	Pn	Pn	02 00 05.5	+1.2
Q19K				IAML		02 01 11.5	
	comp=N,223nm,0.9s						
Q19K				IAML		02 01 27.8	
	comp=E,245nm,1.0s						
KDAK	Kodiak Island	3.01	74	Pn	Pn	02 00 05.3	+0.5
	comp=E,4.0nm,0.3s,baz=278,slow=9.9,SNR=73						
KDAK				Sn	Sb	02 00 45.1	-2.5
	comp=E,4.3nm,0.3s,baz=227,slow=23,SNR=2.6						
KDAK	Kodiak Island	3.01	74		Pn	02 00 04.5	-0.3
KDAK	Kodiak Island	3.01	74	Pn	Pn	02 00 04.2	-0.6
KDAK				IAML		02 00 55.0	
	comp=E,68nm,1.5s						
KDAK				IAML		02 00 58.4	
	comp=E,72nm,2.2s						
O18K	Koktuh Hills	3.15	27	Pn	Pn	02 00 05.9	-0.8
O18K				IAML		02 01 04.2	
	comp=N,113nm,0.7s						
O18K				IAML		02 01 11.7	
	comp=E,92nm,1.5s						
P19K	Oil Pt	3.61	42	Pn	Pn	02 00 12.0	-1.0
P19K				IAML		02 01 15.7	
	comp=E,142nm,0.7s						
P19K				IAML		02 01 18.8	
	comp=N,125nm,0.8s						
Q19K	Port Alsworth	3.68	30	Pn	Pn	02 00 14.0	+0.1
N19K	Bonanza Creek	4.17	24		Pn	02 00 21.0	+0.2
N19K				IAML		02 01 46.7	
	comp=N,63nm,0.8s						
N19K				IAML		02 01 47.7	
	comp=E,72nm,0.9s						
N19K	Bonanza Creek	4.17	24	P	Pn	02 00 21.2	+0.4
	baz=208						
SVW2	Sparrevohn	4.23	16		Pn	02 00 21.5	0.0
SVW2				IAML		02 01 48.0	
	comp=N,48nm,0.9s						
SVW2				IAML		02 01 50.1	
	comp=E,60nm,1.0s						
RED	Redoubt Volcan	4.32	37		Pn	02 00 23.3	+0.4
CNPM	China Poot	4.33	53	Pn	Pn	02 00 21.9	-1.0
CNPM				IAML		02 02 23.2	
	comp=E,38nm,3.4s						
CNPM				IAML		02 03 11.9	
	comp=N,40nm,3.0s						
RSO	Redoubt South	4.36	37	Pn	Pn	02 00 23.8	+0.3
BRLK	Bradley Lake	4.61	51	Pn	Pn	02 00 28.6	+1.8
BRLK				IAML		02 02 02.1	
	comp=N,29nm,3.1s						
M19K	Big River Lodg	5.18	19		Pn	02 00 34.9	+0.3
M19K				IAML		02 02 11.8	
	comp=N,30nm,0.8s						
M19K	Big River Lodg	5.18	19	P	Pn	02 00 34.9	+0.3
	baz=203						
L19K	White Mountain	5.37	16		Pn	02 00 36.9	-0.3
L19K	White Mountain	5.37	16	P	Pn	02 00 36.8	-0.3
	baz=199						
L20K	Farewell, AK	5.81	19		Pn	02 00 43.7	+0.5
L20K	Farewell, AK	5.81	19	P	Pn	02 00 43.7	+0.5
	baz=203						
TTA	Tatalina	5.96	9	Pn	Pn	02 00 44.4	-1.0
PWL	Port Wells	6.28	49	Pn	Pn	02 00 49.3	-0.3
PPLA	Purkeypile	6.53	24		Pn	02 00 54.1	+0.9
PPLA	Purkeypile	6.53	24	P	Pn	02 00 54.4	+1.2
	baz=209						
K20K	Telida	6.60	16	Pn	Pn	02 00 53.7	-0.4
GHO	Glory Hole Cre	6.61	41	Pn	Pn	02 00 55.6	+1.5
SPIA	Saint Paul Isl	6.67	276	Pn	Pn	02 00 56.5	+1.5
FID	Port Fidalgo	7.01	53	Pn	Pn	02 00 59.2	-0.5
CAST	Castle Rocks	7.01	22	Pn	Pn	02 00 59.8	0.0
SCM	Sheep Creek Mo	7.23	44	Pn	Pn	02 01 04.2	+1.4
J20K	Nowinta River	7.38	13	Pn	Pn	02 01 04.3	-0.4
CHUM	Lake Minchumin	7.39	20		Pn	02 01 05.1	+0.3
CHUM	Lake Minchumin	7.39	20	P	Pn	02 01 05.1	+0.3
	baz=205						
KTH	Kantishna Hill	7.39	25	Pn	Pn	02 01 05.0	+0.1
TRF	Thorofare Moun	7.46	28	Pn	Pn	02 01 08.4	+2.5
KLU	Klutina	7.60	49	Pn	Pn	02 01 06.8	-1.0
RND	Reindeer	7.81	32	Pn	Pn	02 01 13.0	+2.4

BPAW	Bear Paw Mtn.	7.85	23	Pn	Pn	02 01 11.9	+0.7
BMRM	Bremner River	7.93	55	Pn	Pn	02 01 13.6	+1.2
DHY	Denali Highway	8.02	37	Pn	Pn	02 01 15.5	+1.8
MCK	McKinley	8.04	30	Pn	Pn	02 01 15.4	+1.6
BERG	Berg Lake	8.15	60	Pn	Pn	02 01 16.6	+1.3
ANM	Nome	8.33	338	Pn	Pn	02 01 18.5	+0.7
VRDI	Verde Repeater	8.55	55	Pn	Pn	02 01 22.7	+1.8
I21K	Tanana	8.64	17	Pn	Pn	02 01 21.7	-0.2
ISLE	Juniper Island	8.85	60	Pn	Pn	02 01 26.1	+1.0
WRH	Wood River Hil	8.86	29	Pn	Pn	02 01 25.2	+0.3
H21K	Melozitna Rive	8.97	14	Pn	Pn	02 01 25.5	-1.0
I23K	Minto, Yukon-K	9.11	24	Pn	Pn	02 01 30.8	+2.4
IMAR	Indian Mountai	9.17	11	Pn	Pn	02 01 28.8	-0.4
RIDG	Independent Ri	9.31	39	Pn	Pn	02 01 31.7	+0.4
ILAR	Eielson Array	9.41	30	Pn	Pn	02 01 33.2	+0.6
	comp=N,0.1nm,0.3s,baz=211,slow=13,SNR=6.8						
ILAR				Lg	Lg	02 04 25.1	
	comp=N,0.0nm,0.3s,baz=229,slow=26,SNR=4.4						
ILAR	Eielson Array	9.41	30	Pn	Pn	02 01 33.6	+1.0
H23K	Yukon River	9.66	21	Pn	Pn	02 01 35.8	-0.2
J25K	Salcha River,	9.74	34	Pn	Pn	02 01 38.2	+1.1
TNA	Tin City	9.75	335	Pn	Pn	02 01 39.0	+1.9
BCAR	Beaver Creek A	10.07	47	Pn	Pn	02 01 41.0	-0.6
BMAR	Burnt Mountain	12.09	25	Pn	Pn	02 02 10.8	+1.6
TOLK	Toolik Lake Re	12.21	15	Pn	Pn	02 02 12.6	+1.7
KIWB	Kanaga Island	12.29	253	Pn	Pn	02 02 12.8	+0.8
INK	Inuvik	15.75	35	Pn	P	02 03 01.6	-1.1
	comp=N,0.1nm,0.3s,baz=231,slow=9.6,SNR=5.2						
INK	Inuvik	15.75	35	Pn	Pn	02 02 58.9	+0.2
INK				IAmb	IAmb	02 03 16.9	
	comp=Z,3.9nm,1.2s						
HOLB	Holberg	18.65	97		Pn	02 03 36.1	+1.0
HOLB				IAmb	IAmb	02 03 56.0	
	comp=Z,11nm,1.2s						
YKA	Yellowknife Ar	22.15	58	P	P	02 04 12.5	-0.2
	comp=Z,1.3nm,0.8s,baz=274,slow=9.9,SNR=15						
SONM	Songino Array	54.34	304	P	P	02 08 43.8	+0.3
	comp=Z,0.7nm,0.7s,baz=46,slow=6.2,SNR=3.4						

IDC ***06*** *02:02:54.5±0.6, 1°.44S×138°.46E, h0^{km}, mb4.2/19, mb1 4.5/21, mb1mx4.3/52, mbtmp4.3/21, ML4.7/2, MS3.7/26, Ms1 3.7/26, ms1mx3.5/57, Error ellipse: s-maj=23.5km s-min=10.1km az=87.0*

DJA ***06*** *02:02:57.0±0.5, 1°S±6°×13°8E±°, h10^{km}, M4.8/22, mB5.3/7, mb4.8/22, MLv4.8/6, Mw(mB)4.7/7*

NEIC ***06*** *02:02:59.4±2.4, 1°.43S±0°.07×138°.59E±0°.06, h31^{km}±4^{km}, mb4.7/29, Error ellipse: s-maj=11.7km s-min=6.3km az=135.0*

ISC 06 02:02:59.9±0.4**, 1°.51S**±0°.05×**138°.53E**±0°.06**, h35^{km}, n112,** σ**1s.69**/106**, mb4.6**/35**, MS3.6**/23**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	1.96	123	P	Pn	02 03 28.6	-2.1
SRPI	Serui, Papua	2.31	261	P	Pn	02 03 35.4	-0.1
BAKI	Biak	2.44	277	P	Pn	02 03 35.0	-2.3
FAKI	Fak Fak	6.43	257	Pn	Pn	02 04 31.3	-0.8
FAKI	Fak Fak	6.43	257	P	Pn	02 04 31.5	-0.6
	0.3nm4μm67nm,0.8s						
SIJI	Sorong	7.29	275	Pn	Pn	02 04 46.5	+2.5
	1.2nm,0.3s,baz=84,slow=19,SNR=2.1						
SIJI				Sn	Sn	02 06 10.2	+4.7
	1.2nm,0.3s,baz=157,slow=21,SNR=5.7						
MSAI	Masohi	9.76	259	P	Pn	02 05 18.6	+0.7
PMG	Port Moresby	11.63	133	Pn	Pn	02 05 47.8	+4.3
	baz=311,slow=11,SNR=2.2						
PMG				LR	LR	02 11 34.4	
	comp=Z,379nm,18.3s,baz=334,slow=44						
KDU	Kakadu	12.62	208	P	Pn	02 05 55.4	-1.6
COEN	Coen	13.19	160	Pn	Pn	02 06 03.7	-1.2
MTN	Manton Dam	13.43	213	Pn	Pn	02 06 07.0	-1.1
MTN	Manton Dam	13.43	213	P	Pn	02 06 07.4	-0.7
KNRA	Kununurra	17.05	214	Pn	Pn	02 06 54.6	-1.2
KNRA				IAmb	IAmb	02 06 57.5	
	comp=Z,64nm,0.6s						
KNRA	Kununurra	17.05	214	P	Pn	02 06 55.4	-0.4
BATI	Baumata	17.11	239	P	Pn	02 06 56.1	-0.4
	comp=Z,1.5nm,0.3s,baz=88,slow=17,SNR=2.8						
BATI	Baumata	17.11	239	P	Pn	02 06 55.8	-0.8
	comp=Z,59nm,0.8s						
MTSU	Mount Surprise	17.47	161	P	P	02 07 02.9	+1.0
TOLI2	Tolitoli	17.93	278	Pn	Pn	02 07 04.8	-1.9
WB0	Warramunga Arr	18.59	192	P	P	02 07 14.0	-0.2
WB0				IAmb	IAmb	02 07 16.8	
	comp=Z,43nm,0.8s						
BNSI	Bone	18.62	261	P	Pn	02 07 15.0	0.0
	comp=Z,805nmcomp=Z,40nm,1.2s						
WR0	Warramunga Arr	18.74	192	P	P	02 07 15.8	-0.1
WR0				IAmb	IAmb	02 07 21.5	
	comp=Z,31nm,0.6s						
WRAB	Tennant Creek	18.76	192	P	P	02 07 15.9	-0.1
WRAB	Tennant Creek	18.76	192	P	P	02 07 16.5	+0.4
WB2	Warramunga Arr	18.77	192	P	P	02 07 15.9	-0.3
WB2				IAmb	IAmb	02 07 24.2	
	comp=Z,47nm,0.6s						
WRA	Warramunga Arr	18.77	192	P	P	02 07 16.0	-0.2
	comp=Z,3.4nm,0.3s,baz=15,slow=12,SNR=80						
WRA				S	Sn	02 10 38.5	-7.4
	comp=Z,0.9nm,0.3s,baz=10,slow=22,SNR=5.5						
WRA				LR	LR	02 15 23.9	
	comp=Z,373nm,20.3s,baz=11,slow=40						
WRA	Warramunga Arr	18.77	192	P	P	02 07 14.9	-1.4
QIS	Mount Isa	18.96	177	P	P	02 07 17.8	-0.5
KAPI	Kappang	19.06	259	P	Pn	02 07 21.5	+1.1
	comp=Z,1.8nm,0.3s,baz=94,slow=15,SNR=1.3						
KAPI				LR	LR	02 15 14.4	
	comp=Z,109nm,18.9s,baz=85,slow=39						
CTA	Charters Tower	19.95	158	P	P	02 07 30.4	+1.3
	comp=Z,18nm,0.7s,baz=343,slow=10,SNR=19						
CTA				LR	LR	02 17 01.2	
	comp=Z,239nm,18.7s,baz=342,slow=42						
CTA	Charters Tower	19.95	158	P	Pn	02 07 31.5	+0.5
FITZ	Fitzroy Crossi	20.78	217	P	P	02 07 38.5	+0.4
	comp=Z,11nm,0.7s,baz=54,slow=9.8,SNR=22						
FITZ				S	S	02 11 23.7	-4.6
	comp=Z,23nm,0.8s,baz=97,slow=15,SNR=9.1						
FITZ				LR	LR	02 17 37.1	
	comp=Z,256nm,18.9s,baz=40,slow=42						
FITZ	Fitzroy Crossi	20.78	217	P	P	02 07 38.9	+0.8
PLAI	Plampang	21.89	250	P	P	02 07 51.8	+1.6
	comp=Z,39nm,0.8s						
AS31	Alice Springs	22.47	191	P	P	02 07 56.8	+0.5
AS31				IAmb	IAmb	02 08 10.2	
	comp=Z,15nm,0.7s						
ASAR	Alice Springs	22.47	191	P	P	02 07 56.9	+0.6
	comp=Z,40nm,0.8s,baz=23,slow=11,SNR=308						
ASAR				S	S	02 12 04.2	+3.2
	comp=Z,12nm,0.9s,baz=9.7,slow=19,SNR=15						
ASAR				LR	LR	02 17 38.4	
	comp=Z,345nm,18.8s,baz=20,slow=39						
BBKI	Banjar Baru	23.74	265	P	P	02 08 10.7	+1.5
	comp=Z,63nm,1.0s						
KMMI	Kalianget	25.09	257	P	P	02 08 22.7	+1.1
	comp=Z,3μmcomp=Z,66nm,1.2s						
WRKA	Warakurna	25.39	202	P	P	02 08 25.3	+1.1
QLP	Quilpie	25.52	168	P	P	02 08 26.8	+1.5
OOD	Oodnadatta	26.27	186	P	P	02 08 34.2	+2.1
EIDS	Eidsvold	26.63	154	P	P	02 08 36.4	+1.0
EIDS				IAmb	IAmb	02 08 49.6	
	comp=Z,28nm,0.8s						
EIDS	Eidsvold	26.63	154	P	P	02 08 36.8	+1.4
RMQ	Roma	26.71	159	P	P	02 08 39.7	+3.6
	comp=Z,20nm,0.8s						
PSA00	Pilbara Seismi	27.00	221	P	P	02 08 38.8	+0.1
PSA00	Pilbara Seismi	27.00	221	P	P	02 08 38.9	+0.1
PSA00				IAmb	IAmb	02 08 43.4	
	comp=Z,33nm,0.7s						
PSA00	Pilbara Seismi	27.00	221	P	P	02 08 40.7	+2.0
JOW	Kunigami	29.86	341	LR	LR	02 18 00.6	
	comp=Z,140nm,21.2s,baz=337,slow=30						
STKA	Stephens Creek	30.34	175	P	P	02 09 08.3	-0.1
	comp=Z,5.0nm,0.6s,baz=338,slow=10,SNR=8.9						
STKA				LR	LR	02 22 36.6	
	comp=Z,418nm,19.3s,baz=7.2,slow=39						
STKA	Stephens Creek	30.34	175	P	P	02 09 07.8	-0.6
CMSA	Cobar Meteorol	30.62	168	P	P	02 09 12.6	+1.7
FORT	Forrest	30.75	198	P	P	02 09 12.9	+0.8
LEM	Lembang	31.26	259	LR	LR	02 24 01.2	
	comp=Z,126nm,18.2s,baz=40,slow=41						
MDSI	Maura Dua	34.42	264	P	P	02 09 44.2	-0.2
	comp=Z,10nm,1.2s						
JHJ	Hachijo jima 2	34.47	2	LR	LR	02 20 19.1	
	comp=Z,94nm,21.0s,baz=216,slow=30						
MORW	Morawa	34.79	216	P	P	02 09 47.9	+0.5
ARPS	Mount Arapiles	35.22	175	P	P	02 09 54.1	+3.2
KLBR	Kellerberrin	35.78	211	P	P	02 09 56.8	+0.9
JHS	Saijyo	36.67	353	P	P	02 10 03.4	-0.1
MJAR	Matsushiro Arr	37.86	360	LR	LR	02 23 23.6	
	comp=Z,81nm,19.9s,baz=154,slow=32						
IPM	Ipoh	37.94	279	P	P	02 10 13.3	-1.3
IPM				IAmb	IAmb	02 10 25.5	
	comp=Z,11nm,0.9s						
NJ2	Nanjing	38.23	332	*e*P	P	02 10 18.3	+1.6
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
PSI	Prapat	39.82	276	P	P	02 10 29.1	-1.4
	comp=Z,7.4nm,0.6s,baz=100,slow=2.9,SNR=13						
KSRS	Korea Array	40.00	347	P	P	02 10 29.2	-2.1
	comp=Z,0.7nm,0.4s,baz=172,slow=11,SNR=4.2						
KSRS				LR	LR	02 24 58.1	
	comp=Z,44nm,20.1s,baz=150,slow=33						
CMAR	Chiang Mai Arr	43.69	299	P	P	02 11 01.1	-0.8
	comp=Z,6.4nm,0.3s,baz=106,slow=8.9,SNR=29						
PZH	PanZhiHua	45.11	311	P	P	02 11 14.6	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,5.5s						
ASAJ	Asahikawa	45.57	4	LR	LR	02 30 08.6	
	comp=Z,40nm,18.5s,baz=118,slow=36						
USRK	Ussuriysk Ar.	45.88	353	P	P	02 11 17.2	-1.7
	comp=Z,0.7nm,0.6s,baz=172,slow=12,SNR=1.7						
USRK				LR	LR	02 26 59.1	
	comp=Z,107nm,20.4s,baz=157,slow=32						
USRK	Ussuriysk Ar.	45.88	353	P	P	02 11 17.6	-1.4
HHC	Hu-ho-hao-te	48.79	333	*e*P	P	02 11 45.0	+3.2
LZH	Lanzhou	49.42	323	*e*P	P	02 11 46.3	-0.5
LZH	Lanzhou	49.42	323	*e*P	P	02 11 47.5	+0.7
LZH				pP	pP	02 11 53.4	-3.6
LZH				sP	pwP	02 11 56.6	-0.4
LZH				pP	sP	02 11 57.0	-4.0
LZH				sP	sP	02 12 01.2	+0.2
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				LR	LR		
	comp=N,150nm,14.6s						
LZH				LR	LR		
	comp=E,150nm,14.3s						
LZH				LR	LR		
	comp=Z,180nm,16.4s						
KLR	Kul'dur	50.88	354	P	P	02 11 55.4	-2.0
	comp=Z,1.4nm,0.6s,baz=171,slow=7.7,SNR=4.4						
KLR				LR	LR	02 30 14.6	
	comp=Z,71nm,21.5s,baz=166,slow=32						
BKZ	Black Stump Fm	51.01	142	P	P	02 11 59.8	+1.2
BKZ				IAmb	IAmb	02 12 20.8	
	comp=Z,17nm,1.2s						
SONM	Songino Array	56.57	335	P	P	02 12 38.5	-0.7
	comp=Z,0.4nm,0.5s,baz=132,slow=8.6,SNR=5.0						
SONM				LR	LR	02 37 26.3	
	comp=Z,77nm,19.4s,baz=335,slow=37						
PETK	Petropavlovsk-	56.75	14	LR	LR	02 36 47.2	
	comp=Z,14nm,19.3s,baz=203,slow=36						
MA2	Magadan	61.67	7	LR	LR	02 38 26.4	
	comp=Z,32nm,19.6s,baz=118,slow=35						
HYBB	Hyderabad (bro	61.98	291	*e*P	P	02 13 17.5	+0.4
HYBB				*e*pP	pP	02 13 26.2	-1.5
HYBB				*e*PcP	PcP	02 13 56.6	-0.9
HYBB				*e*PP	PP	02 15 34.7	+0.9
HYBB				*e*S	S	02 21 39.7	+0.1
WMQ	Urumqi	63.97	321	*e*P	P	02 13 31.8	+2.0
CASY	Casey	67.60	192	P	P	02 13 53.6	+0.9
MK31	Makanchi Array	68.74	322	P	P	02 13 59.5	-0.7
MKAR	Makanchi Array	68.74	322	P	P	02 14 00.8	+0.5
	comp=Z,1.1nm,0.6s,baz=105,slow=8.0,SNR=5.5						
MAKZ	Makanchi	68.94	322	P	P	02 14 00.7	-0.8
KSH	Kashi	70.14	313	P	P	02 14 13.8	+4.6
KSH				pP	sP	02 14 23.6	-0.5
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	Zalesovo Beam	70.82	330	P	P	02 14 13.2	+0.3
	comp=Z,0.6nm,0.5s,baz=104,slow=6.1,SNR=2.0						
ZALV				LR	LR	02 44 11.4	
	comp=Z,22nm,21.4s,baz=78,slow=35						
KURK	Kurchatov	72.64	325	P	P	02 14 24.6	+0.8
KURK				IAmb	IAmb	02 14 34.6	
	comp=Z,9.8nm,1.4s						
KURBB	Kurchatov Arra	72.65	325	P	P	02 14 23.2	-0.8
	comp=Z,1.1nm,0.8s,baz=128,slow=4.7,SNR=7.2						
KBL	Kabul	74.07	306	P	P	02 14 33.1	+0.1
KBL				IAmb	IAmb	02 14 45.2	
	comp=Z,4.4nm,0.6s						
GAR	Garm	74.17	311	P	P	02 14 31.5	-1.9
GAR				IAmb	IAmb	02 14 42.7	
	comp=Z,7.9nm,0.9s						
VNDA	Vanda	76.98	175	P	P	02 14 49.2	+0.7
	comp=Z,1.7nm,0.7s,baz=324,slow=7.4,SNR=13						
VNDA				LR	LR	02 49 05.7	
	comp=Z,208nm,18.3s,baz=341,slow=36						
VNDA	Vanda	76.98	175	P	P	02 14 49.6	+1.0
BVAR	Borovoye Array	78.23	325	P	P	02 14 55.4	-0.6
	comp=Z,2.5nm,0.7s						
BRVK	Borovoye	78.30	325	P	P	02 14 54.6	-1.7
BRVK				IAmb	IAmb	02 15 08.2	
	comp=Z,5.4nm,0.8s						
NRIK	Noril'sk	78.53	344	P	P	02 14 55.6	-1.7
	comp=Z,1.1nm,0.3s,baz=153,slow=7.2,SNR=1.9						
KDAK	Kodiak Island	80.17	30	LR	LR	02 47 10.9	
	comp=Z,103nm,21.1s,baz=241,slow=33						
WSAR	Wadi Sarin	81.31	294	LR	LR	02 55 05.3	
	comp=Z,9.7nm,18.0s,baz=138,slow=38						
MAW	Mawson	83.16	202	LR	LR	02 50 38.3	
	comp=Z,98nm,18.1s,baz=102,slow=34						
GEYT	Alibeck	83.36	308	P	P	02 15 24.7	+0.9
	comp=Z,0.5nm,0.3s,baz=308,slow=51,SNR=2.2						
GYA0B	ALIBECK ARRAY	83.36	308	P	P	02 15 20.7	-3.1
GYA0B				IAmb	IAmb	02 15 47.8	
	comp=Z,4.5nm,0.7s						
ABKAR	Akbulak array	83.69	320	P	P	02 15 23.4	-1.7
ILAR	Eielson Array	84.83	25	P	P	02 15 29.0	-1.6
	comp=Z,0.5nm,0.8s,baz=261,slow=4.6,SNR=3.5						
ILAR				LR	LR	02 54 44.0	
	comp=Z,31nm,18.3s,baz=136,slow=37						
ILAR	Eielson Array	84.83	25	P	P	02 15 29.3	-1.3
TOLK	Toolik Lake Re	84.87	20	P	P	02 15 31.3	+0.4
TOLK				IAmb	IAmb	02 15 36.1	
	comp=Z,7.4nm,1.4s						
QSPA	South Pole Qui	88.42	180	LR	LR	02 54 34.7	
	comp=Z,72nm,21.1s,baz=36,slow=35						
QSPA	South Pole Qui	88.42	180	P	P	02 15 48.3	-0.1
SPITS	Spitsbergen Ar	97.78	350	LR	LR	03 01 30.1	
	comp=Z,44nm,19.8s,baz=17,slow=36						
YKA	Yellowknife Ar	99.09	27	P	Pdif	02 16 37.5	+0.3
	comp=Z,0.4nm,1.0s,baz=286,slow=3.4,SNR=3.6						
TORD	Torodi Ar. Bea	135.74	287	PKP	PKiKP	02 22 19.0	-0.5
	comp=Z,0.4nm,0.7s,baz=62,slow=2.0,SNR=4.2						
TORD	Torodi Ar. Bea	135.74	287		PKPdf	02 22 16.0	-1.9
LPAZ	La Paz	148.29	125	PKPbc	PKiKP	02 22 45.4	-0.6
	comp=Z,3.7nm,0.8s,baz=208,slow=2.6,SNR=14						
LPAZ	La Paz	148.29	125		PKPdf	02 22 41.7	+0.8
CPUP	Villa Florida	148.37	152	PKPbc	PKiKP	02 22 44.2	-0.9
	comp=Z,3.5nm,0.8s,baz=236,slow=5.6,SNR=8.8						
CPUP	Villa Florida	148.37	152	PKPbc	PKPdf	02 22 41.0	+1.0

IDC ***06*** *02:04:48.8±1.9, 20°.33S×168°.97E, h0^{km}, mb4.1/5, mb1 4.4/6, mb1mx4.0/38, mbtmp4.1/6, ML3.6/1, MS3.7/7, Ms1 3.7/7, ms1mx3.1/56, Error ellipse: s-maj=84.8km s-min=24.8km az=149.0*

NOU ***06*** *02:04:51.4, 19°.97S×168°.41E, h0^{km}, MLv4.6/14, Vanuatu Islands*

ISC 06 02:04:53.4±0.8**, 20°.08S**±0°.07×**168°.6E**±0°.1**, h25^{km}, n30,** σ**1s.64**/25**, mb4.2**/4**, MS3.7**/6**, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIFNC	LIFOU	1.44	241	P	Pn	02 05 15.6	-2.3
MARNC	Mare, Loyalty	1.48	200	P	Pb	02 05 18.6	-1.7
RTV	Rentapao	2.28	356	P	Pn	02 05 28.7	-0.8
DVP	Devils Point	2.38	351	P	Pn	02 05 29.4	-1.4
YATNC	Mamie plateau,	2.52	219	P	Pn	02 05 32.0	-0.8
DZM	Mont Dzumac	2.81	225	Pn	Pn	02 05 36.9	0.0
	8.1nm,0.3s,baz=42,slow=18,SNR=41						
DZM				Sn	Sn	02 06 09.2	-0.8
	33nm,0.3s,baz=358,slow=13,SNR=8.2						
DZM	Mont Dzumac	2.81	225	*e*Pn	Pn	02 05 37.1	+0.2
	194nm,0.5s						
DZM				*e*Sn	Sn	02 06 05.8	-4.3
	697nm,0.5s						
DZM	Mont Dzumac	2.81	225	P	Pn	02 05 37.5	+0.6
OUENC	Ouen Island, N	2.83	215	P	Pn	02 05 38.2	+1.1
NOUC	Port Laguerre	2.93	226	P	Pn	02 05 39.5	+1.1
ONTNC	Ouen Toro	2.97	222	P	Pn	02 05 40.1	+1.1
KOUNC	Koumac, New Ca	4.06	263	P	Pn	02 05 53.8	-0.2
MSVF	Nonsavu	9.26	77	LR	LR	02 10 05.0	
	comp=Z,492nm,19.6s,baz=360,slow=35						
CTA	Charters Tower	20.97	266	P	P	02 09 38.6	+3.7
	6.4nm,0.8s,baz=97,slow=13,SNR=3.4						
ASAR	Alice Springs	32.33	257	P	P	02 11 21.4	+0.5
	5.4nm,0.8s,baz=86,slow=8.5,SNR=10						
FITZ	Fitzroy Crossi	40.55	265	LR	LR	02 29 25.8	
	comp=Z,98nm,18.4s,baz=86,slow=36						
BATI	Baumata	44.34	276	LR	LR	02 31 02.7	
	comp=Z,95nm,20.3s,baz=141,slow=35						
ASAJ	Asahikawa	68.18	340	LR	LR	02 43 12.0	
	comp=Z,32nm,19.0s,baz=138,slow=34						
SONM	Songino Array	87.52	323	P	P	02 17 40.4	+1.2
	0.7nm,0.7s,baz=152,slow=6.5,SNR=4.3						
NVAR	Mina Array Bea	89.82	49	P	P	02 17 48.8	-1.5
	1.7nm,1.1s,baz=233,slow=7.1,SNR=6.3						
ILAR	Eielson Array	91.22	17	P	P	02 17 54.8	-1.2
	0.9nm,0.8s,baz=234,slow=5.7,SNR=4.4						
ELK	Elko	92.94	48	LR	LR	02 54 10.1	
	comp=Z,28nm,18.7s,baz=256,slow=32						
NEW	Newport	94.82	40	LR	LR	02 55 42.9	
	comp=Z,59nm,18.9s,baz=276,slow=32						
PDAR	Pinedale Array	97.64	47	LR	LR	03 02 37.7	
	comp=Z,31nm,18.3s,baz=7.0,slow=36						
ARCES	ARCESS Array B	125.72	345	PKP	PKiKP	02 23 54.1	+1.5
	2.3nm,0.9s,baz=57,slow=3.3,SNR=2.0						
GERES	GERESS Array B	144.93	331	PKPbc	PKPdf	02 24 29.1	+0.6
	0.5nm,0.7s,baz=88,slow=3.0,SNR=2.2						
MOA	Molln	145.37	329	*e*P	PKPab	02 24 30.4	+1.2
	2.6nm,0.7s						
SOKA	Soboth	145.79	327	*e*P	PKPbc	02 24 31.3	+0.8
	1.6nm,0.7s						
SQTA	Sankt Quirin	147.26	331	*e*P	PKPbc	02 24 35.8	+0.9
	6.5nm,1.5s						
FETA	Feichten	147.63	331	*e*P	PKPbc	02 24 35.8	-0.1
	3.0nm,0.9s						

MOS ***06*** *02:06:05.2±1.2, 31°.97N×71°.89E, h28^{km}, mb4.2/8, Error ellipse: s-maj=13.3km s-min=5.4km az=87.9*

NEIC ***06*** *02:06:07.2±1.9, 31°.91N±0°.09×71°.90E±0°.08, h30^{km}±5^{km}, mb4.1/15, Error ellipse: s-maj=14.5km s-min=8.4km az=153.0*

IDC ***06*** *02:06:07.6±0.8, 31°.94N×71°.85E, h35^{km}±5^{km}, mb3.7/13, mb1 3.9/17, mb1mx3.6/64, mbtmp4.0/17, ML4.0/4, MS3.2/3, Ms1 3.2/3, ms1mx2.6/87, Error ellipse: s-maj=19.3km s-min=15.9km az=58.0*

NNC ***06*** *02:06:18.7±2.8, 32°.71N×71°.85E, h98^{km}±20^{km}, mb3.8, Error ellipse: s-maj=25.1km s-min=15.2km az=53.0*

ISC 06 02:06:07.0±0.4**, 32°.00N**±0°.04×**71°.89E**±0°.05**, h35^{km}, n125,** σ**2s.38**/139**, mb4.0**/26**, 15C-9D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARP	Sargodha	0.67	96	P	Pn	02 06 22.0	+1.9
THW	Thamme Wali	0.80	351	P	Pn	02 06 24.2	+2.3
CEP	Cherat	1.82	1	P	Pn	02 06 39.1	+3.1
NIL	Nilore	2.01	35	P	Pn	02 06 41.8	+3.3
NIL	Nilore	2.01	35		Pn	02 06 41.8	+3.3
CHCP	Chirah Chowk	2.02	35	P	Pn	02 06 41.7	+3.0
THN	Thein Dam	3.28	81	*e*PN	Pn	02 07 00.0	+4.1
THN				*e*SN	Sn	02 07 37.5	+3.9
KBL	Kabul	3.48	318	P	Pn	02 07 02.5	+3.6
KBL	Kabul	3.48	318	Pn	Pn	02 07 02.5	+3.6
SMLA	Simla	4.59	99	*e*P	Pn	02 07 16.8	+2.8
SMLA				*e*S	Sn	02 08 07.5	+1.4
SMLA				IAML		02 08 09.7	
	comp=N,352nm,0.4s						
NDI	New Delhi	5.67	124	*e*P	Pn	02 07 31.5	+2.7
NDI				*e*S	Sn	02 08 32.0	-0.7
CHGR	Chuyangaron	7.01	342	P	Pn	02 07 48.7	+1.5
CHGR	Chuyangaron	7.01	342	Pn	Pn	02 07 48.7	+1.5
GAR	Garm	7.10	350		Pn	02 07 51.7	+3.2
DRK	Karamyk	7.47	359	Pn	Pn	02 07 57.0	+3.3
BTK	Batken	8.09	354	P	Pn	02 08 05.1	+3.0
BTK	Batken	8.09	354	Pn	Pn	02 08 05.0	+3.0
KSH	Kashi	8.21	23	P	Pn	02 08 01.6	-2.1
KSH				pP		02 08 04.5	
KSH				S	Sn	02 09 24.7	-11
KSH				pmax	pmax		
	comp=Z,86nm,0.5s						
KSH				smax	smax		
	comp=N,110nm,0.4s						
KSH				smax	smax		
	comp=E,80nm,0.7s						
KSH				LR	LR		
	comp=N,220nm,9.3s						
KSH				LR	LR		
	comp=E,100nm,6.5s						
KSH				LR	LR		
	comp=Z,180nm,6.9s						
BHPL	Bhopal	10.01	149	*e*P	Pn	02 08 29.2	+0.8
BHPL				*e*S	Sn	02 10 12.9	-6.5
BHPL				IAML		02 10 18.2	
	comp=E,36nm,0.2s						
AML	Almayashu	10.22	8	P	Pn	02 08 33.4	+1.9
	SNR=32						
PYUN	Piuthan	10.38	109	*e*P	Pn	02 08 33.7	+0.1
	comp=E,63nm,0.3s						
UCH	Uchtor	10.42	11	P	Pn	02 08 36.1	+1.7
	SNR=26						
EKS2	Erkin-Say	10.75	8	P	Pn	02 08 41.0	+2.4
	SNR=12						
ULHL	Ulahol	10.80	18	P	Pn	02 08 41.3	+2.0
	SNR=18						
TARG	Taragay, Kyrgy	10.80	24	Pn	Pn	02 08 41.7	+2.2
AAK	Ala-Archa	10.82	10	P	Pn	02 08 43.0	+3.4
	SNR=19						
AAK	Ala-Archa	10.82	10	Pn	Pn	02 08 41.2	+1.6
	comp=E,3.3nm,0.3s,baz=165,slow=4.4,SNR=44						
AAK				Sn	Sn	02 10 35.6	-3.9
	comp=E,0.5nm,0.3s,baz=357,slow=23,SNR=3.8						
AAK				LR	LR	02 12 42.8	
	comp=E,41nm,19.2s,baz=144,slow=36						
AAK	Ala-Archa	10.82	10	*d i*P	Pn	02 08 42.7	+3.1
AAK				pmax	pmax		
	comp=Z,14nm,0.8s						
AAK	Ala-Archa	10.82	10	Pn	Pn	02 08 41.6	+2.1
DANN	Dangsing	10.90	106	*e*P	Pn	02 08 40.9	+0.1
	comp=Z,52nm,0.3s						
BOOM	Boomskoye usch	10.96	16	P	Pn	02 08 43.0	+1.5
BOOM	Boomskoye usch	10.96	16	Pn	Pn	02 08 43.0	+1.5
KDJ	Kajisay	10.96	21	P	Pn	02 08 42.4	+0.9
KDJ	Kajisay	10.96	21	Pn	Pn	02 08 42.4	+0.9
KOLN	Koldanda	11.00	110	*e*P	Pn	02 08 42.6	+0.4
	comp=Z,50nm,0.3s						
KK31	Karatay Array	11.14	355	P	Pn	02 08 44.1	+0.3
KK31	Karatay Array	11.14	355		Pn	02 08 44.1	+0.3
KK31	Karatay Array	11.14	355	P	Pn	02 08 44.5	+0.7
	comp=Z,27nm,0.8s,baz=181,slow=12,SNR=186						
KK31				⇓S	Sn	02 10 42.5	-4.6
	comp=Z,12nm,0.8s,baz=182,slow=22,SNR=6.2						
KKAR	Karatay Array	11.14	355	P	Pn	02 08 44.5	+0.7
KKAR	Karatay Array	11.14	355	Pn	Pn	02 08 44.5	+0.7
CHMS	Chumysh	11.21	11	P	Pn	02 08 47.1	+2.3
	SNR=6.5						
CHMS	Chumysh	11.21	11	⇑P	Pn	02 08 46.7	+1.9
	comp=Z,8.6nm,0.8s						
CHMS				⇑S	Sn	02 10 42.5	-6.4
	comp=Z,3.7nm,0.6s						
TKM2	Tokmak 2	11.29	14	P	Pn	02 08 47.9	+1.8
	SNR=16						
TKM2	Tokmak 2	11.29	14	*i* P	Pn	02 08 47.6	+1.5
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TKM2	Tokmak 2	11.29	14	⇓P	Pn	02 08 47.6	+1.5
	comp=Z,5.9nm,0.5s						
TKM2				⇓S	Sn	02 10 45.3	-5.8
	comp=Z,8.3nm,0.8s						
JBP	Jabalpur	11.35	139	*e*P	Pn	02 08 45.5	-1.2
JBP				*e*x	x	02 08 45.5	
JBP				*e*S	Sn	02 10 47.8	-4.5
USP	Ospenovka	11.44	10	P	Pn	02 08 49.1	+1.2
	SNR=7.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**11.75**	**107**	eP	**Pn**	**02 08 51.3**	**-1.0**
	comp=Z,56nm,0.3s						
DMN	**Daman**	**12.28**	**107**	eP	**Pn**	**02 08 58.4**	**-1.3**
	comp=Z,32nm,0.4s						
KKN	**Kakani**	**12.35**	**106**	eP	**Pn**	**02 08 59.5**	**-1.1**
	comp=Z,15nm,0.2s						
PKIN	**Phulchoki**	**12.53**	**107**	eP	**Pn**	**02 09 01.8**	**-1.3**
	comp=Z,47nm,0.4s						
PKI	**Pulchoki**	**12.54**	**107**	eP	**Pn**	**02 09 01.9**	**-1.5**
	comp=Z,34nm,0.3s						
GUN	**Gumba**	**12.80**	**105**	eP	**Pn**	**02 09 04.9**	**-1.9**
	comp=Z,56nm,0.3s						
PDGK	**Podgornoye**	**12.81**	**26**	P	**Pn**	**02 09 07.3**	**+0.6**
PDGK	**Podgornoye**	**12.81**	**26**	P	**Pn**	**02 09 07.3**	**+0.6**
PDGK				S	**Sn**	**02 11 26.2**	**-1.8**
JIRN	**Jiri**	**13.15**	**106**	eP	**Pn**	**02 09 10.2**	**-1.4**
	comp=Z,46nm,0.3s						
ODAN	**Odare**	**14.45**	**107**	eP	**Pn**	**02 09 26.7**	**-2.5**
	comp=Z,28nm,0.4s						
TAPN	**Taplejung**	**14.51**	**105**	eP	**Pn**	**02 09 27.5**	**-2.7**
	comp=Z,19nm,0.3s						
WSAR	**Wadi Sarin**	**14.62**	**237**	Pn	**Pn**	**02 09 30.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=84,slow=19,SNR=1.7						
WSAR				Sn	Sn	02 11 58.4	-14
	comp=Z,0.3nm,0.3s,baz=222,slow=19,SNR=5.7						
MAKZ	**Makanchi**	**16.70**	**25**	P	**Pn**	**02 09 58.1**	**-0.1**
MAKZ	**Makanchi**	**16.70**	**25**	Pn	**Pn**	**02 09 57.7**	**-0.5**
MAKZ				IAmb	IAmb	02 10 02.2	
	comp=Z,5.9nm,0.9s						
MAKZ	**Makanchi**	**16.70**	**25**	⇑P	**Pn**	**02 09 58.2**	**-0.1**
	comp=Z,9.2nm,1.1s						
MK31	**Makanchi Array**	**16.80**	**25**	⇑eP	**P**	**02 10 00.7**	**-0.7**
MK31	**Makanchi Array**	**16.80**	**25**	Pn	**Pn**	**02 09 59.6**	**+0.1**
MK31	**Makanchi Array**	**16.80**	**25**	⇑P	**Pn**	**02 10 00.3**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=179,slow=8.7,SNR=23						
MKAR	**Makanchi Array**	**16.80**	**25**	Pn	**Pn**	**02 09 59.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=206,slow=12,SNR=26						
MKAR				Sn	**Sn**	**02 12 57.3**	**-7.7**
	comp=Z,0.1nm,0.3s,baz=210,slow=27,SNR=1.9						
MKAR	**Makanchi Array**	**16.80**	**25**	ceP	**P**	**02 10 00.9**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WMQ	**Urumqi**	**17.14**	**42**	eP	**P**	**02 10 05.6**	**+0.4**
WMQ				sP	sP	02 10 17.3	-1.6
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
KURBB	**Kurchatov Arra**	**19.25**	**13**	P	**P**	**02 10 28.4**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=205,slow=10,SNR=40						
KURBB	**Kurchatov Arra**	**19.25**	**13**	⇑P	**P**	**02 10 27.0**	**-1.2**
	comp=Z,13nm,0.6s						
KURK	**Kurchatov**	**19.36**	**13**	⇓eP	**P**	**02 10 29.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KURK	**Kurchatov**	**19.36**	**13**		**P**	**02 10 29.1**	**-0.3**
KURK				IAmb	IAmb	02 10 32.5	
	comp=Z,8.8nm,0.8s						
KURK	**Kurchatov**	**19.36**	**13**	⇓P	**P**	**02 10 29.2**	**-0.2**
	comp=Z,8.8nm,0.8s						
AB31	**Akbulak array**	**19.43**	**336**	iP	**P**	**02 10 30.9**	**+0.6**
AB31	**Akbulak array**	**19.43**	**336**	⇑P	**P**	**02 10 30.9**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=139,slow=9.3,SNR=34						
AB31				⇑S	**S**	**02 13 57.6**	**-10**
	comp=Z,0.9nm,0.6s,baz=153,slow=23,SNR=4.1						
ABKAR	**Akbulak array**	**19.43**	**336**	P	**P**	**02 10 30.6**	**+0.4**
BRVK	**Borovoye**	**21.08**	**357**	⇓eP	**P**	**02 10 48.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**21.08**	**357**	P	**P**	**02 10 48.2**	**+0.1**
BRVK				IAmb	IAmb	02 10 49.6	
	comp=Z,4.2nm,0.7s						
BRVK	**Borovoye**	**21.08**	**357**	⇑P	**P**	**02 10 47.7**	**-0.4**
AKTO	**Aktyubinsk**	**21.11**	**335**	P	**P**	**02 10 50.0**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=149,slow=11,SNR=6.3						
AKTO	**Aktyubinsk**	**21.11**	**335**	⇑P	**P**	**02 10 48.9**	**+0.4**
	comp=Z,3.9nm,1.1s						
AKTO				⇑S	**S**	**02 14 33.7**	**-7.6**
	comp=Z,1.2nm,0.8s						
ZAA0	**Zalesovo Array**	**23.82**	**19**	P	**P**	**02 11 16.5**	**-0.1**
ZAA0				IAmb	IAmb	02 11 35.4	
	comp=Z,5.5nm,0.9s						
ZAA0	**Zalesovo Array**	**23.82**	**19**	⇓P	**P**	**02 11 16.4**	**-0.1**
	comp=Z,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**23.82**	**19**	P	**P**	**02 11 16.9**	**+0.4**
	comp=Z,3.6nm,0.5s,baz=217,slow=10,SNR=16						
ZALV	**Zalesovo Beam**	**23.82**	**19**	iP	**P**	**02 11 16.8**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZEI	**Tsey**	**24.60**	**304**	eP	**P**	**02 11 19.9**	**-4.2**
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RAYN	**Ar Rayn**	**24.78**	**257**	P	**P**	**02 11 26.7**	**+1.0**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RAYN	**Ar Rayn**	**24.78**	**257**	P	**P**	**02 11 26.7**	**+1.0**
RAYN				IAmb	IAmb	02 11 29.3	
	comp=Z,2.6nm,0.9s						
KBZ	**Khabaz**	**25.58**	**306**	P	**P**	**02 11 33.0**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=76,slow=12,SNR=2.4						
KIV	**Kislovodsk**	**25.79**	**306**	eP	**P**	**02 11 34.4**	**-0.4**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ARU	**Arti**	**26.13**	**343**	LR	LR	02 23 04.3	
	comp=Z,78nm,18.3s,baz=186,slow=39						
ARU	**Arti**	**26.13**	**343**	d iP	P	02 11 48.2	+11
ARU						02 12 31.8	
ARU						02 15 07.5	
ARU				SS		02 17 37.2	
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SONM	**Songino Array**	**30.53**	**49**	pP	pP	02 12 30.0	+2.8
	comp=Z,0.7nm,0.8s,baz=241,slow=9.7,SNR=3.3						
KIRV	**Kirov**	**30.63**	**337**	⇑eP	**P**	**02 12 19.7**	**+2.1**
HHC	**Hu-ho-hao-te**	**32.90**	**63**	eP	**P**	**02 12 41.4**	**+3.5**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.5s						
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,82nm,5.8s						
BURAR	**Bucovina Array**	**38.48**	**308**	P	**P**	**02 13 26.7**	**+0.9**
DGAR	**Diego Garcia**	**39.19**	**179**	⇑eP	**P**	**02 13 27.3**	**-4.5**
DGAR				pmax	pmax		
	comp=Z,35nm,1.3s						
HIA	**Hailar**	**39.48**	**50**	⇑eP	**P**	**02 13 34.0**	**0.0**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**41.66**	**329**	P	**P**	**02 13 53.2**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=107,slow=9.5,SNR=3.7						
FINES				pP	**pP**	**02 14 04.0**	**+1.8**
	comp=Z,2.9nm,0.7s,baz=107,slow=10,SNR=6.5						
FINES	**FINESS Array B**	**41.66**	**329**	P	**P**	**02 13 52.9**	**+1.1**
ARCES	**ARCESS Array B**	**45.59**	**339**	P	**P**	**02 14 25.3**	**+2.0**
	comp=Z,3.0nm,1.1s,baz=118,slow=7.6,SNR=4.6						
ARCES				pP	**pP**	**02 14 34.6**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=111,slow=7.8,SNR=3.2						
ARCES	**ARCESS Array B**	**45.59**	**339**	P	**P**	**02 14 24.3**	**+1.0**
ARCES				IAmb	IAmb	02 14 36.2	
	comp=Z,4.2nm,0.8s						
NB2	**NORSAR Subarra**	**48.45**	**325**	P	**P**	**02 14 46.4**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**48.45**	**325**	P	**P**	**02 14 47.1**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=99,slow=7.7,SNR=1.9						
NOA				pP	**pP**	**02 14 56.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=99,slow=7.7,SNR=4.4						
SENIN	**Lac Senin/Sane**	**50.73**	**306**	P	**P**	**02 15 04.3**	**+0.7**
SENIN				IAmb	IAmb	02 15 09.9	
	comp=Z,2.9nm,1.0s						
SPITS	**Spitsbergen Ar**	**52.03**	**348**	P	**P**	**02 15 14.1**	**+1.5**
	comp=Z,4.1nm,0.9s,baz=134,slow=10,SNR=1.7						
SPITS				pP	**pP**	**02 15 25.1**	**+1.9**
	comp=Z,5.2nm,0.9s,baz=127,slow=9.3,SNR=1.9						
OPO	**Ambohidratompo**	**55.58**	**209**	LR	LR	02 37 54.7	
	comp=Z,34nm,18.2s,baz=149,slow=34						
ESDC	**Sonseca Array**	**60.29**	**300**	P	**P**	**02 16 12.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=74,slow=7.0,SNR=6.1						
TOA0	**Torodi Ar. Sit**	**66.44**	**271**	P	**P**	**02 16 53.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**66.44**	**271**	P	**P**	**02 16 53.2**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=50,slow=5.6,SNR=56						
TORD				pP	**pP**	**02 17 03.8**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=46,slow=5.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**66.44**	**271**	P	**P**	**02 16 53.2**	**+0.1**
KOWA	**Kowa**	**70.63**	**275**	P	**P**	**02 17 19.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**71.64**	**126**	P	**P**	**02 17 26.1**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=315,slow=5.7,SNR=1.4						
TOLK	**Toolik Lake Re**	**75.09**	**15**	P	**P**	**02 17 45.9**	**+1.0**
TOLK				IAmb	IAmb	02 18 05.2	
	comp=Z,5.9nm,1.4s						
IMAR	**Indian Mountai**	**76.23**	**18**	P	**P**	**02 17 52.4**	**+0.9**
BMAR	**Burnt Mountain**	**77.14**	**14**	P	**P**	**02 17 57.2**	**+0.6**
INK	**Inuvik**	**78.22**	**9**	pP	pP	02 18 13.6	+0.1
	comp=Z,0.8nm,0.5s,baz=326,slow=5.6,SNR=2.6						
WB0	**Warramunga Arr**	**78.92**	**122**	P	**P**	**02 18 07.8**	**+0.6**
WRA	**Warramunga Arr**	**79.00**	**122**	P	**P**	**02 18 08.4**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=322,slow=4.9,SNR=11						
WRA	**Warramunga Arr**	**79.00**	**122**	P	**P**	**02 18 08.1**	**+0.5**
WB2	**Warramunga Arr**	**79.00**	**122**	P	**P**	**02 18 07.9**	**+0.3**
WB2				IAmb	IAmb	02 18 08.9	
	comp=Z,2.6nm,0.8s						
ASAR	**Alice Springs**	**81.08**	**125**	P	**P**	**02 18 19.5**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=308,slow=5.4,SNR=13						
ASAR	**Alice Springs**	**81.08**	**125**	P	**P**	**02 18 19.8**	**+1.0**
ASAR	**Alice Springs**	**81.08**	**125**	P	**P**	**02 18 19.8**	**+1.0**
YKA	**Yellowknife Ar**	**85.69**	**3**	P	**P**	**02 18 42.0**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=350,slow=5.2,SNR=4.7						
YKA				pP	**pP**	**02 18 53.3**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=348,slow=5.2,SNR=9.4						

*IDC **06** 02:26:18.0±1.3, 15°.08S×168°.29E, h0km, mb4.1/7, mb1 4.3/8, mb1mx3.8/47, mbtmp4.0/8, ML3.5/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/60, Error ellipse: s-maj=41.7km s-min=22.0km az=133.0*

*NEIC **06** 02:26:22.1±2.2, 15°.01S±0°.10×168°.4E±0°.2, h21km±6km, mb4.4/13, Error ellipse: s-maj=22.7km s-min=14.2km az=81.0*

ISC 06 02:26:23.0±0.8**, 15°.04S**±0°.09×**168°.3E**±0°.2**, h27km, n26, σ1s.33**/25**, mb4.2**/12**, MS3.4**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.79**	**190**	Pn	**Pn**	**02 27 49.4**	**+2.2**
KOUNC	**Koumac, New Ca**	**6.68**	**214**	Pn	**Pn**	**02 28 00.8**	**+1.5**
DZM	**Mont Dzumac**	**7.21**	**194**	Pn	**Pn**	**02 28 05.0**	**-1.8**
	0.9nm,0.3s,baz=210,slow=9.8,SNR=6.6						
DZM				Sn	**Sn**	**02 29 25.8**	**-2.0**
	baz=194,slow=22,SNR=1.0						
DZM	**Mont Dzumac**	**7.21**	**194**		**Pn**	**02 28 05.3**	**-1.5**
CTA	**Charters Tower**	**21.59**	**253**	LR	LR	02 38 22.3	
	comp=Z,87nm,18.4s,baz=82,slow=34						
URZ	**Urewera**	**24.41**	**163**	P	**P**	**02 31 41.2**	**+2.0**
STKA	**Stephens Creek**	**29.55**	**231**	P	**P**	**02 32 26.3**	**+0.8**
WR0	**Warramunga Arr**	**32.52**	**256**	P	**P**	**02 32 51.0**	**-0.8**
WR0				IAmb	IAmb	02 33 12.8	
	comp=Z,5.5nm,1.2s						
WB0	**Warramunga Arr**	**32.64**	**257**	P	**P**	**02 32 51.8**	**-1.2**
WB0				IAmb	IAmb	02 33 00.4	
	comp=Z,6.1nm,1.1s						
WB2	**Warramunga Arr**	**32.69**	**256**	P	**P**	**02 32 53.2**	**-0.2**
WB2				IAmb	IAmb	02 33 00.4	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**32.70**	**256**	P	**P**	**02 32 51.4**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=83,slow=7.8,SNR=6.6						
WRA				LR	LR	02 45 08.9	
	comp=Z,67nm,18.7s,baz=78,slow=35						
WRA	**Warramunga Arr**	**32.70**	**256**	P	**P**	**02 32 53.0**	**-0.5**
AS31	**Alice Springs**	**33.48**	**250**	P	**P**	**02 32 59.7**	**-0.6**
AS31				IAmb	IAmb	02 33 08.0	
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**33.48**	**250**	P	**P**	**02 32 58.9**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=72,slow=9.7,SNR=25						
ASAR	**Alice Springs**	**33.48**	**250**	P	**P**	**02 33 00.2**	**-0.1**
BBOO	**Buckleboo**	**34.17**	**233**	P	**P**	**02 33 07.5**	**+1.3**
KNRA	**Kununurra**	**38.08**	**264**	P	**P**	**02 33 38.9**	**-0.8**
KNRA				IAmb	IAmb	02 33 47.0	
	comp=Z,7.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.92**	**260**	P	**P**	**02 34 03.2**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=81,slow=7.7,SNR=9.7						
FITZ				LR	LR	02 50 23.3	
	comp=Z,53nm,18.3s,baz=118,slow=35						
FITZ	**Fitzroy Crossi**	**40.92**	**260**	P	**P**	**02 34 03.3**	**-0.2**
QSPA	**South Pole Qui**	**74.99**	**180**	P	**P**	**02 38 02.1**	**+0.2**
SONM	**Songino Array**	**83.33**	**323**	P	**P**	**02 38 47.7**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=104,slow=4.6,SNR=4.8						
SONM	**Songino Array**	**83.33**	**323**	P	**P**	**02 38 48.6**	**+1.0**
SONM				IAmb	IAmb	02 38 56.7	
	comp=Z,2.6nm,1.2s						
CAST	**Castle Rocks**	**84.00**	**17**	P	**P**	**02 38 49.5**	**-1.0**
CAST				IAmb	IAmb	02 38 50.2	
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**86.52**	**18**	P	**P**	**02 39 01.2**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=233,slow=5.0,SNR=10						
NVAR	**Mina Array Bea**	**86.73**	**49**	P	**P**	**02 39 05.3**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=235,slow=7.6,SNR=5.2						
MKAR	**Makanchi Array**	**98.10**	**316**	P	Pdif	02 39 57.4	0.0
	comp=Z,1.3nm,0.7s,baz=98,slow=6.3,SNR=14						

*IDC **06** 02:26:26.8±16.0, 23°.24S×176°.41W, h192km±156km, mb3.5/8, mb1 3.8/8, mb1mx3.4/46, mbtmp4.0/8, Error ellipse: s-maj=99.8km s-min=34.7km az=167.0*

ISC 06 02:26:27.6±1.8**, 23°.3S**±0°.6×**176°.4W**±0°.3**, h200km, n9, σ0s.96**/9**, mb3.7**/8**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.82**	**268**	P	**P**	**02 32 59.8**	**+0.1**
	3.6nm,0.7s,baz=100,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**45.42**	**259**	P	**P**	**02 34 26.4**	**-0.3**
	0.8nm,0.8s,baz=104,slow=7.1,SNR=1.8						
WRA	**Warramunga Arr**	**45.78**	**264**	P	**P**	**02 34 28.4**	**-1.1**
	1.2nm,0.5s,baz=102,slow=8.3,SNR=17						
FITZ	**Fitzroy Crossi**	**54.20**	**264**	P	**P**	**02 35 33.1**	**+0.2**
	1.8nm,0.8s,baz=123,slow=6.9,SNR=3.0						
NVAR	**Mina Array Bea**	**82.03**	**42**	P	**P**	**02 38 26.4**	**+0.7**
	0.4nm,0.7s,baz=212,slow=6.4,SNR=4.7						
USRK	**Ussuriysk Ar.**	**82.11**	**325**	P	**P**	**02 38 25.2**	**-0.4**
	1.7nm,0.5s,baz=123,slow=5.3,SNR=4.9						
TXAR	**Lajitas Array**	**87.30**	**57**	P	**P**	**02 38 51.8**	**-0.3**
	0.3nm,0.9s,baz=217,slow=6.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**92.46**	**289**	P	**P**	**02 39 17.3**	**+1.1**
	1.1nm,0.3s,baz=130,slow=3.7,SNR=7.6						
AKASG	**Malin Array Be**	**146.18**	**330**	PKPbc	**PKPdf**	**02 45 41.2**	**-1.5**
	1.4nm,0.6s,baz=43,slow=3.9,SNR=2.7						

*IDC **06** 02:46:49.5±1.9, 30°.04S×176°.95W, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/39, mbtmp4.1/6, ML3.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/60, Error ellipse: s-maj=54.3km s-min=29.6km az=135.0*

*NEIC **06** 02:46:56.1±2.6, 29°.86S±0°.06×177°.2W±0°.2, h35km±2km, mb4.3/7, Error ellipse: s-maj=25.7km s-min=8.6km az=74.0*

ISC 06 02:46:54.6±1.1**, 29°.87S**±0°.09×**177°.3W**±0°.2**, h24km, n25, σ1s.21**/24**, mb4.3**/8**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**317**	Pn	**Pn**	**02 47 10.8**	**-0.2**
URZ	**Urewera**	**9.58**	**208**	Pn	**Pn**	**02 49 08.9**	**-2.1**
	0.3nm,0.3s,baz=63,slow=16,SNR=1.9						
URZ				Sn	**Sn**	**02 50 56.8**	**-1.0**
	1.2nm,0.3s,baz=18,slow=22,SNR=9.5						
URZ	**Urewera**	**9.58**	**208**		**Pn**	**02 49 10.7**	**-0.3**
THZ	**Tophouse**	**14.29**	**211**	Pn	**Pn**	**02 50 15.2**	**-0.1**
LTZ	**Lake Taylor**	**15.39**	**210**	Pn	**Pn**	**02 50 29.4**	**-0.8**
LTZ				IAmb	IAmb	02 50 30.5	
	comp=Z,7.0nm,1.0s						
DZM	**Mont Dzumac**	**16.58**	**294**	LR	LR	02 56 18.3	
	comp=Z,162nm,20.2s,baz=210,slow=34						
CTA	**Charters Tower**	**34.36**	**278**	P	**P**	**02 53 41.4**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=85,slow=11,SNR=1.6						
STKA	**Stephens Creek**	**35.23**	**256**	P	**P**	**02 53 48.0**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=114,slow=10.0,SNR=3.7						
ASAR	**Alice Springs**	**43.79**	**266**	P	**P**	**02 54 58.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=104,slow=7.0,SNR=7.3						
ASAR	**Alice Springs**	**43.79**	**266**	P	**P**	**02 54 59.6**	**+1.0**
WR0	**Warramunga Arr**	**44.55**	**271**	P	**P**	**02 55 04.2**	**-0.6**
WR0				IAmb	IAmb	02 55 08.7	
	comp=Z,8.3nm,1.3s						
WB2	**Warramunga Arr**	**44.72**	**271**	P	**P**	**02 55 05.9**	**-0.2**
WRA	**Warramunga Arr**	**44.73**	**271**	P	**P**	**02 55 06.5**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=111,slow=7.1,SNR=16						
WRA	**Warramunga Arr**	**44.73**	**271**	P	**P**	**02 55 06.1**	**-0.1**
WB0	**Warramunga Arr**	**44.75**	**271**	P	**P**	**02 55 05.2**	**-1.2**
WB0				IAmb	IAmb	02 55 07.1	
	comp=Z,3.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.02**	**269**	P	**P**	**02 56 10.2**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=97,slow=9.4,SNR=2.9						
FITZ	**Fitzroy Crossi**	**53.02**	**269**	P	**P**	**02 56 10.0**	**+0.2**
FITZ				IAmb	IAmb	02 56 32.4	
	comp=Z,5.9nm,1.2s						
QSPA	**South Pole Qui**	**60.23**	**180**	P	**P**	**02 57 03.0**	**+2.3**
QSPA				IAmb	IAmb	02 57 27.1	
	comp=Z,1.8nm,0.8s						
EUNU	**Eureka**	**119.36**	**12**		**PKPdf**	**03 05 39.2**	**-1.6**
FINES	**FINESS Array B**	**144.87**	**341**	PKPbc	PKPbc	03 06 26.9	-1.1
	comp=Z,2.4nm,0.6s,baz=33,slow=3.3,SNR=9.7						
FINES	**FINESS Array B**	**144.87**	**341**		PKPbc	03 06 27.1	-0.9
NB2	**NORSAR Subarra**	**148.32**	**352**	PKP	**PKPbc**	**03 06 37.4**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**148.32**	**352**	PKPbc	**PKPbc**	**03 06 37.0**	**-1.1**
	comp=Z,1.4nm,1.0s,baz=14,slow=4.2,SNR=3.6						
AKASG	**Malin Array Be**	**151.27**	**324**	PKPbc	**PKPbc**	**03 06 45.0**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=45,slow=2.8,SNR=4.5						
CLL	**Collm**	**157.26**	**343**	ePKPdf	**PKPdf**	**03 06 50.0**	**+2.0**
CLL				iPKPab	**PKPab**	**03 07 17.0**	**-2.0**

*IDC **06** 02:50:04.8±2.0, 6°.39S×151°.52E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/44, mbtmp3.8/5, ML4.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/58, Error ellipse: s-maj=85.2km s-min=18.7km az=120.0*

ISC 06 02:50:08.1±1.9**, 6°.3S**±0°.2×**151°.6E**±0°.5**, h30km, n7, σ1s.07**/7**, mb3.6**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.05**	**12**	Pn	**Pb**	**02 50 43.8**	**-1.0**
	108nm,0.3s,baz=268,slow=3.3,SNR=28						
KRVT				Sn	**Sb**	**02 51 11.2**	**+1.3**
	185nm,0.3s,baz=311,slow=19,SNR=14						
WRA	**Warramunga Arr**	**21.56**	**229**	P	**P**	**02 54 55.5**	**+0.1**
	1.7nm,0.5s,baz=54,slow=11,SNR=26						
ASAR	**Alice Springs**	**24.23**	**223**	P	**P**	**02 55 23.8**	**+1.1**
	3.1nm,0.8s,baz=52,slow=9.5,SNR=22						
FITZ	**Fitzroy Crossi**	**27.90**	**243**	P	**P**	**02 55 55.1**	**-0.6**
	0.7nm,0.8s,baz=48,slow=9.4,SNR=1.6						
JHJ	**Hachijo jima 2**	**40.81**	**345**	LR	LR	03 12 13.2	
	comp=Z,59nm,20.5s,baz=153,slow=32						
ILAR	**Eielson Array**	**84.01**	**22**	P	**P**	**03 02 35.5**	**+0.1**
	0.2nm,0.5s,baz=245,slow=5.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**149.61**	**285**	PKPbc	**PKiKP**	**03 09 56.7**	**-0.2**
	0.5nm,0.7s,baz=85,slow=3.0,SNR=5.7						

*OTT **06** 02:52:55.9±0.3, 69°.19N×53°.84W, h18km, ML3.2/3, Western Greenland. 457km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone.*

*DNK **06** 02:52:55.6±1.6, 69°.13N×53°.81W, h11km±6km, ML3.0*

ISC 06 02:52:52.4±1.1**, 69°.19N**±0°.05×**53°.73W**±0°.06**, h10km, n10, σ3s.15**/18**, Western Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILULI	**Ilulissat**	**0.94**	**87**	iP	**Pn**	**02 53 13.4**	**+1.9**
ILULI				iS	**Sn**	**02 53 25.2**	**+0.3**
ILULI				IAML		02 53 39.7	
	comp=Z,388nm,0.3s						
ILULI	**Ilulissat**	**0.94**	**87**	PG	**Pn**	**02 53 13.4**	**+1.9**
ILULI				SG	**Sn**	**02 53 26.9**	**+1.9**
ILULI				Trac		02 53 38.8	
	comp=Z,268nm,0.3s						
SFJD	**Kangerlussuaq**	**2.49**	**151**	iP	**Pn**	**02 53 35.0**	**+2.1**
SFJD				iS	**Sn**	**02 54 05.0**	**+1.7**
SFJD				IAML		02 54 19.4	
	comp=Z,194nm,0.7s						
SFJD	**Kangerlussuaq**	**2.49**	**151**	PN	**Pn**	**02 53 35.2**	**+2.4**
SFJD				SN	**Sn**	**02 54 05.2**	**+2.0**
SFJD				Trac		02 54 19.5	
	comp=Z,32nm,0.7s						
UPNV	**Upernavik**	**3.70**	**349**	iP	**Pn**	**02 53 53.0**	**+3.6**
UPNV				iS	**Sn**	**02 54 34.4**	**+1.4**
UPNV				IAML		02 54 44.5	
	comp=Z,66nm,0.4s						
DY2G	**Dye2**	**3.93**	**130**	iP	**Pn**	**02 53 55.6**	**+2.8**
DY2G				iS	**Sn**	**02 54 38.5**	**-0.5**
DY2G				IAML		02 55 03.2	
	comp=Z,62nm,0.6s						
CLRN	**Clyde River**	**5.30**	**291**	SN	**Sn**	**02 55 10.7**	**-1.7**
ISOG	**Isortoq, Green**	**6.75**	**116**	iS	**Sn**	**02 55 45.2**	**-3.0**
ISOG				IAML		02 56 31.1	
	comp=Z,58nm,0.7s						
FRB	**Frobisher Bay**	**8.04**	**234**	PN	**Pn**	**02 54 50.8**	**+1.7**
FRB				SN	**Sn**	**02 56 15.6**	**-4.2**
FRB				Trac		02 56 27.0	
	comp=Z,8.1nm,0.6s						
SCO	**Scoresbysund**	**10.96**	**68**	iP	**Pn**	**02 55 30.0**	**+1.0**
SCO				iS	**Sn**	**02 57 23.4**	**-8.0**

*MAN **06** 02:54:12.0, 4°.15N×125°.87E, h69km, mb5.2, ML4.1, MS4.2, Hypocentre not reviewed by the ISC*

*NEIC **06** 02:54:39.6±2.5, 4°.54N±0°.07×124°.3E±0°.1, h170km±8km, mb4.2/14, Error ellipse: s-maj=18.3km s-min=10.2km az=97.0*

*IDC **06** 02:54:45.4±1.8, 4°.78N×125°.32E, h232km±20km, mb3.3/7, mb1 3.5/8, mb1mx3.2/48, mbtmp3.9/8, Error ellipse: s-maj=38.1km s-min=13.4km az=69.0*

ISC 06 02:54:41.8±0.8**, 4°.52N**±0°.08×**124°.3E**±0°.1**, h200km, n27, σ1s.90**/26**, mb4.0**/13**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.83**	**27**	P	**Pn**	**02 55 29.3**	**-0.2**
	111nm,0.3s,baz=80,slow=22,SNR=4.1						
DAV	**Davao City (W)**	**2.83**	**27**		**Pn**	**02 55 26.2**	**-3.3**
TOLI2	**Tolitoli**	**4.88**	**226**	Pn	**Pn**	**02 55 51.4**	**-3.3**
LUWI	**Luwuk**	**5.73**	**195**	Pn	**Pn**	**02 56 04.9**	**-0.7**
MTN	**Manton Dam**	**18.54**	**159**	P	**P**	**02 58 40.3**	**-3.3**
KNRA	**Kununurra**	**20.55**	**168**	P	**P**	**02 59 04.1**	**-1.0**
KNRA				IAmb	IAmb	02 59 13.7	
	comp=Z,6.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.52**	**177**	P	**P**	**02 59 27.9**	**+3.1**
	comp=Z,1.6nm,0.3s,baz=3.7,slow=11						
FITZ	**Fitzroy Crossi**	**22.52**	**177**	P	**P**	**02 59 25.9**	**+1.1**
FITZ				IAmb	IAmb	02 59 37.4	
	comp=Z,5.3nm,1.3s						
WB0	**Warramunga Arr**	**26.10**	**158**	P	**P**	**02 59 58.2**	**+0.9**
WB0				IAmb	IAmb	03 00 08.7	
	comp=Z,5.1nm,0.8s						
WRAB	**Tennant Creek**	**26.24**	**158**	P	**P**	**02 59 59.5**	**+0.9**
WRAB				IAmb	IAmb	03 00 20.6	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**26.24**	**158**	P	**P**	**02 59 58.0**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=339,slow=10,SNR=25						
WRA	**Warramunga Arr**	**26.24**	**158**	P	**P**	**02 59 57.9**	**-0.7**
WB2	**Warramunga Arr**	**26.25**	**158**	P	**P**	**02 59 59.0**	**+0.3**
PSA00	**Pilbara Seismi**	**26.30**	**189**	P	**P**	**03 00 03.1**	**+4.0**
WR0	**Warramunga Arr**	**26.33**	**158**	P	**P**	**02 59 58.6**	**-0.8**
WR0				IAmb	IAmb	03 00 10.0	
	comp=Z,8.3nm,1.4s						
CMAR	**Chiang Mai Arr**	**28.38**	**301**	P	P	03 00 26.4	+8.7
	comp=Z,2.1nm,0.3s,baz=118,slow=7.2,SNR=4.1						
ASAR	**Alice Springs**	**29.54**	**162**	P	**P**	**03 00 27.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=348,slow=7.5,SNR=7.9						
STKA	**Stephens Creek**	**39.77**	**157**	P	**P**	**03 01 55.8**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=354,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**39.77**	**157**	P	**P**	**03 01 55.5**	**+0.2**
MKAR	**Makanchi Array**	**55.54**	**326**	P	**P**	**03 03 58.0**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=122,slow=8.0,SNR=6.5						
MKAR	**Makanchi Array**	**55.54**	**326**	P	**P**	**03 03 57.9**	**+1.7**
IMAR	**Indian Mountai**	**82.61**	**24**	P	**P**	**03 06 42.2**	**-0.1**
BRLK	**Bradley Lake**	**83.50**	**30**	P	**P**	**03 06 45.7**	**-1.4**
BPAW	**Bear Paw Mtn.**	**83.64**	**26**	P	**P**	**03 06 48.0**	**+0.3**
BPAW				IAmb	IAmb	03 07 03.9	
	comp=Z,5.4nm,1.3s						
COLD	**Coldfoot**	**84.11**	**23**	P	**P**	**03 06 51.6**	**+1.7**
COLD				IAmb	IAmb	03 07 11.7	
	comp=Z,3.5nm,1.5s						
RND	**Reindeer**	**84.57**	**27**	P	**P**	**03 06 51.2**	**-1.2**
RND				IAmb	IAmb	03 07 08.8	
	comp=Z,8.4nm,1.4s						
ILAR	**Eielson Array**	**85.44**	**25**	P	**P**	**03 06 54.0**	**-2.5**
	comp=Z,0.2nm,0.5s,baz=257,slow=5.2,SNR=10						

*IDC **06** 03:17:46.7±1.0, 35°.76N×3°.56W, h0km, mb3.5/4, mb1 3.7/8, mb1mx3.5/41, mbtmp3.4/8, ML3.6/4, Error ellipse: s-maj=32.6km s-min=12.9km az=96.0*

*CNRM **06** 03:17:47.2, 35°.69N×3°.56W, h16km, ml3.7*

*SFS **06** 03:17:47.0, 35.60N×3.60W, ML3.5, ALBORAN SUR*
*LDG **06** 03:17:47.6±0.4, 35.45N×3.60W, h10km, Ml3.1/4, Error ellipse: s-maj=8.4km s-min=2.6km az=164.0*
*MDD **06** 03:17:47.1±0.4, 35.64N×3.60W, h0km, mb_Lg3.5/23, Error ellipse: s-maj=3.5km s-min=2.4km az=1.0*
*INMG **06** 03:17:48.6±1.5, 35.74N×3.73W, h0km, ML3.2, Error ellipse: s-maj=3.8km s-min=3.0km az=171.0*
ISC 06 03:17:47.7±1.1**, 35.69N**±0.02×**3.59W**±0.02**, h12**km±8km**, n105, σ1.88**/181**, mb3.7**/4**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.52**	**61**	Pg	**Pb**	**03 17 59.0**	**+0.3**
EALB				Sg	**Sb**	**03 18 07.2**	**+1.0**
EALB				*i* Vmb_Lg		03 18 09.1	
PALE	**Palemas**	**0.55**	**211**	P	**Pg**	**03 17 58.3**	**-0.1**
PALE				S	**Sb**	**03 18 07.0**	**0.0**
PALE	**Palemas**	**0.55**	**211**	P	**Pb**	**03 17 59.2**	**0.0**
EMEL	**Melilla**	**0.65**	**126**	Pg	**Pg**	**03 18 00.5**	**+0.2**
EMEL				Sg	**Sg**	**03 18 08.2**	**-0.6**
GOG	**Mont Gurugu**	**0.67**	**133**	P	**Pg**	**03 18 00.5**	**-0.3**
GOG	**Mont Gurugu**	**0.67**	**133**	P	**Pg**	**03 18 00.6**	**-0.2**
GOG				S	**Sg**	**03 18 09.1**	**-0.5**
PVLZ	**Peæn de**	**0.77**	**229**	P	**Pb**	**03 18 02.7**	**-0.3**
PVLZ				S	**Sg**	**03 18 12.3**	**-0.4**
ELGU	**Los Guajares,**	**1.18**	**359**	Pg	**Pb**	**03 18 08.5**	**-1.6**
ELGU				Sg	**Sb**	**03 18 24.5**	**-0.8**
ELGU				*i* Vmb_Lg		03 18 28.3	
EMAL	**Malaga-Limoner**	**1.27**	**328**	P	**Pn**	**03 18 09.5**	**-1.7**
EMAL				S	**Sb**	**03 18 25.2**	**-2.6**
EMIJ	**Mijas**	**1.30**	**313**	Pg	**Pn**	**03 18 09.4**	**-2.2**
EMIJ				Sg	**Sb**	**03 18 26.5**	**-2.2**
EMIJ				*i* Vmb_Lg		03 18 29.4	
TAF	**Taforalt**	**1.30**	**132**	P	**Pn**	**03 18 10.5**	**-1.2**
TAF	**Taforalt**	**1.30**	**132**	P	**Pn**	**03 18 10.1**	**-1.6**
TAF				S	**Sb**	**03 18 25.4**	**-3.2**
EBER	**Berja**	**1.34**	**25**	Pn	**Pn**	**03 18 11.0**	**-1.3**
EBER				Sn	**Sb**	**03 18 29.4**	**-0.6**
EBER				*i* Vmb_Lg		03 18 31.3	
ECEU	**Ceuta**	**1.47**	**279**	Pn	**Pn**	**03 18 12.1**	**-1.8**
ECEU				Sn	**Sn**	**03 18 26.5**	**-6.5**
ECEU				*i* Vmb_Lg		03 18 32.3	
EGOR	**Sierra Gorda,**	**1.48**	**344**	Pn	**Pn**	**03 18 12.9**	**-1.4**
EGOR				Sn	**Sb**	**03 18 33.8**	**-0.3**
EGOR				*i* Vmb_Lg		03 18 38.4	
EQUE	**Quentar**	**1.52**	**5**	Pn	**Pn**	**03 18 14.8**	**0.0**
EQUE				Sn	**Sb**	**03 18 35.2**	**0.0**
EQUE				*i* Vmb_Lg		03 18 42.6	
CHEFC	**Chefchaouen**	**1.54**	**249**	P	**Pn**	**03 18 14.2**	**-0.8**
CHEFC	**Chefchaouen**	**1.54**	**249**	P	**Pn**	**03 18 14.4**	**-0.6**
CHEFC				S	**Sn**	**03 18 32.6**	**-2.4**
JBK	**JBK**	**1.59**	**148**	P	**Pn**	**03 18 14.3**	**-1.5**
JBK	**JBK**	**1.59**	**148**	P	**Pn**	**03 18 14.4**	**-1.4**
JBK				S	**Sn**	**03 18 33.2**	**-3.1**
EJIF	**Jimena Fronter**	**1.70**	**297**	Pn	**Pn**	**03 18 15.9**	**-1.3**
EJIF				Sn	**Sn**	**03 18 38.0**	**-0.9**
ENIJ	**Nijar**	**1.70**	**41**	Pn	**Pn**	**03 18 15.6**	**-1.6**
ENIJ				*i* Vmb_Lg		03 18 37.1	
ENIJ				Sn	**Sn**	**03 18 38.0**	**-0.9**
LIJA	**Lijar**	**1.90**	**310**	P	**Pb**	**03 18 21.5**	**-0.9**
LIJA				S	**Sg**	**03 18 49.0**	**0.0**
CNIL	**Conil**	**2.11**	**290**	P	**Pn**	**03 18 24.0**	**+1.2**
ESPR	**Espera**	**2.18**	**304**	Pn	**Pn**	**03 18 24.4**	**+0.7**
ESPR				Sn	**Sb**	**03 18 52.5**	**-1.4**
ESPR				*i* Vmb_Lg		03 18 58.0	
LCRM	**LCR**	**2.25**	**208**	P	**Pn**	**03 18 24.5**	**-0.4**
LCRM	**LCR**	**2.25**	**208**	P	**Pn**	**03 18 24.8**	**-0.1**
LCRM				S	**Sb**	**03 18 56.0**	**-0.1**
EADA	**Adamuz**	**2.60**	**343**	Pn	**Pn**	**03 18 29.9**	**+0.4**
EADA				Sn	**Sn**	**03 19 02.8**	**+1.7**
EADA				*i* Vmb_Lg		03 19 09.1	
ECAB	**El Cabril**	**2.80**	**329**	Pn	**Pn**	**03 18 32.7**	**+0.4**
ECAB				Sn	**Sn**	**03 19 05.3**	**-0.7**
ECAB				*i* Vmb_Lg		03 19 15.8	
CART	**Cartagena**	**2.82**	**47**	P	**Pn**	**03 18 31.2**	**-1.3**
CART				S	**Sn**	**03 19 01.3**	**-5.1**
CART	**Cartagena**	**2.82**	**47**	P	**Pn**	**03 18 31.1**	**-1.4**
CART				S	**Sn**	**03 19 03.2**	**-3.2**
ARNO	**Arenosillo**	**2.90**	**300**	S	**Sn**	**03 19 08.4**	**0.0**
MD31	**MD31**	**2.97**	**199**	P	**Pn**	**03 18 34.4**	**-0.3**
MD31				S	**Sn**	**03 19 11.7**	**+1.4**
MDT	**Midelt**	**2.98**	**197**	Pn	**Pn**	**03 18 34.6**	**-0.3**
	1.5nm,0.3s,baz=31,slow=19,SNR=23						
MDT				Sn	**Sn**	**03 19 11.0**	**+0.3**
	7.6nm,0.3s,baz=345,slow=20,SNR=5.0						
MDT				Lg	Lg	03 19 25.4	
	8.1nm,0.3s,baz=30,slow=20,SNR=9.1						
MDT	**Midelt**	**2.98**	**197**	P	**Pn**	**03 18 34.4**	**-0.6**
MDT	**Midelt**	**2.98**	**197**	P	**Pn**	**03 18 34.4**	**-0.6**
MDT				S	**Sn**	**03 19 11.7**	**+1.0**
EMIN	**Mina Concepcio**	**3.23**	**311**	Pn	**Pn**	**03 18 37.5**	**-0.7**
EMIN				Sn	**Sn**	**03 19 15.5**	**-1.1**
EMIN				*i* Vmb_Lg		03 19 16.8	
ETOB	**Tobarra**	**3.38**	**28**	Pn	**Pn**	**03 18 41.3**	**+1.1**
ETOB				*i* Vmb_Lg		03 18 43.1	
EGRO	**El Granado**	**3.63**	**302**	Pn	**Pn**	**03 18 42.9**	**-0.8**
EGRO				Sn	**Sn**	**03 19 25.7**	**-0.7**
EGRO				*i* Vmb_Lg		03 19 27.6	
PBAR	**Barrancos**	**3.71**	**313**	*e*Pn	**Pn**	**03 18 44.1**	**-0.7**
PBAR				*e*Sn	**Sn**	**03 19 25.9**	**-2.6**
PBAR				A	A	03 19 28.4	
	35nm,0.4s						
PVAQ	**Vaqueiros**	**3.74**	**299**	*e*Pn	**Pn**	**03 18 44.3**	**-0.9**
PVAQ				*e*Sn	**Sn**	**03 19 26.1**	**-3.0**
PVAQ				A	A	03 19 31.0	
	38nm,0.6s						
PVAQ	**Vaqueiros**	**3.74**	**299**	P	**Pn**	**03 18 44.3**	**-0.9**
PVAQ	**Vaqueiros**	**3.74**	**299**	P	**Pn**	**03 18 44.3**	**-0.9**
PVAQ				S	**Sn**	**03 19 29.0**	**-0.1**
PBDV	**Barranco-do-Ve**	**3.83**	**295**	*e*Pn	**Pn**	**03 18 45.6**	**-0.8**
PBDV				*e*Sn	**Sn**	**03 19 29.1**	**-2.2**
PBDV				A	A	03 19 33.2	
	27nm,0.7s						
PAB	**San Pablo**	**3.90**	**351**	Pn	**Pn**	**03 18 47.9**	**+0.4**
PAB				Sn	**Sn**	**03 19 34.5**	**+1.3**
PAB				*i* Vmb_Lg		03 20 03.7	
PAB	**San Pablo**	**3.90**	**351**	P	**Pn**	**03 18 48.3**	**+0.8**
AVE	**Averroes**	**3.95**	**234**	P	**Pn**	**03 18 48.1**	**-0.1**
AVE				S	**Sn**	**03 19 30.2**	**-4.2**
AVE	**Averroes**	**3.95**	**234**	P	**Pn**	**03 18 47.4**	**-0.7**
AVE				S	**Sn**	**03 19 31.9**	**-2.5**
ESDC	**Sonseca Array**	**3.99**	**356**	Pn	**Pn**	**03 18 49.7**	**+1.0**
	2.2nm,0.3s,baz=178,slow=12,SNR=87						
ESDC				Sn	**Sn**	**03 19 34.7**	**-0.8**
	1.8nm,0.3s,baz=175,slow=20,SNR=5.7						
ESDC				Lg	Lg	03 19 50.5	
	4.1nm,0.3s,baz=180,slow=28,SNR=9.2						
ESDC	**Sonseca Array**	**3.99**	**356**	Pn	**Pn**	**03 18 49.6**	**+0.8**
ESDC				Sn	**Sn**	**03 19 35.9**	**+0.4**
ESDC				*i* Vmb_Lg		03 20 04.7	
FIGM	**Figuig**	**4.04**	**151**	P	**Pn**	**03 18 49.6**	**+0.2**
FIGM				S	**Sn**	**03 19 34.5**	**-2.2**
PCVE	**Castro Verde**	**4.07**	**300**	*e*Pn	**Pn**	**03 18 48.8**	**-0.9**
PCVE				*e*Sn	**Sn**	**03 19 34.6**	**-2.6**
PCVE				A	A	03 19 40.3	
	30nm,0.4s						
EBAD	**Badajoz**	**4.11**	**319**	Pn	**Pn**	**03 18 49.9**	**-0.3**
EBAD				Sn	**Sn**	**03 19 37.2**	**-0.9**
EBAD				*i* Vmb_Lg		03 19 39.0	
GOLM	**Goulmima**	**4.13**	**196**	P	**Pn**	**03 18 52.1**	**+1.5**
PBEJ	**Beja**	**4.15**	**306**	*e*Pn	**Pn**	**03 18 50.6**	**-0.2**
PBEJ				*e*Sn	**Sn**	**03 19 36.5**	**-2.7**
PBEJ				A	A	03 19 46.9	
	19nm,0.6s						
MORF	**Marmelete**	**4.38**	**293**	*e*Pn	**Pn**	**03 18 53.6**	**-0.5**
MORF				*e*Sn	**Sn**	**03 19 42.1**	**-3.0**
MORF				A	A	03 19 50.9	
	17nm,0.3s						
ECHE	**Chera**	**4.42**	**27**	Pn	**Pn**	**03 18 50.0**	**-4.6**
PFVI	**Vila Bisbo**	**4.46**	**290**	*e*Pn	**Pn**	**03 18 56.0**	**+0.9**
PFVI				*e*Sn	**Sn**	**03 19 44.3**	**-2.6**
PFVI				A	A	03 19 51.9	
	26nm,0.7s						
PESTR	**Estremoz**	**4.50**	**316**	*e*Pn	**Pn**	**03 18 55.6**	**-0.1**
PESTR				*e*Sn	**Sn**	**03 19 45.3**	**-2.6**
PESTR				A	A	03 20 18.1	
	23nm,0.5s						
PESTR	**Estremoz**	**4.50**	**316**	P	**Pn**	**03 18 55.3**	**-0.4**
PESTR	**Estremoz**	**4.50**	**316**	P	**Pn**	**03 18 55.3**	**-0.4**
PTEO	**Sao Teotonio**	**4.53**	**296**	*e*Pn	**Pn**	**03 18 56.4**	**+0.4**
PTEO				*e*Sn	**Sn**	**03 19 46.6**	**-1.9**
PTEO				A	A	03 19 58.6	
	26nm,0.4s						
EVO	**Evora**	**4.53**	**310**	P	**Pn**	**03 18 55.8**	**-0.3**
EVO				S	**Sn**	**03 19 44.4**	**-4.4**
EVO	**Evora**	**4.53**	**310**	*e*Pn	**Pn**	**03 18 56.0**	**-0.1**
EVO				*e*Sn	**Sn**	**03 19 45.4**	**-3.3**
EVO				A	A	03 19 48.7	
	34nm,0.4s						
UCM	**Universidad Co**	**4.62**	**3**	P	**Pn**	**03 18 58.2**	**+0.9**
UCM				S	**Sn**	**03 19 48.1**	**-2.8**
PNCL	**Nicolau / Gran**	**4.64**	**303**	*e*Pn	**Pn**	**03 18 57.0**	**-0.5**
PNCL				*e*Sn	**Sn**	**03 19 48.4**	**-2.9**
PNCL				A	A	03 19 51.0	
	17nm,0.6s						
EPLA	**Plasencia**	**4.79**	**337**	Pn	**Pn**	**03 19 00.3**	**+0.5**
EPLA				Sn	**Sn**	**03 19 55.1**	**0.0**
EPLA				*i* Vmb_Lg		03 20 21.0	
SRHM	**Skhour des Reh**	**4.80**	**229**	P	**Pn**	**03 19 03.2**	**+3.4**
PMRV	**Marv??o**	**4.80**	**322**	*e*Pn	**Pn**	**03 19 00.1**	**+0.3**
PMRV				*e*Sn	**Sn**	**03 19 53.0**	**-2.4**
PMRV				A	A	03 20 05.9	
	26nm,0.5s						
GUD	**Guadarrama**	**4.97**	**355**	Pn	**Pn**	**03 19 02.3**	**+0.1**
GUD				Sn	**Sn**	**03 19 59.1**	**-0.6**
GUD				*i* Vmb_Lg		03 20 31.8	
PMTG	**Montargil**	**5.00**	**314**	*e*Pn	**Pn**	**03 19 02.2**	**-0.3**
PMTG				*e*Sn	**Sn**	**03 19 57.0**	**-3.2**
PMTG				A	A	03 20 17.3	
	17nm,0.4s						
TZRR	**Tazzarine**	**5.16**	**199**	P	**Pn**	**03 19 05.7**	**+0.9**
PCBR	**Castelo Branco**	**5.17**	**325**	*e*Pn	**Pn**	**03 19 05.1**	**+0.3**
PCBR				*e*Sn	**Sn**	**03 20 01.9**	**-2.4**
PCBR				A	A	03 20 03.8	
	38nm,0.5s						
PACT	**Alcochete**	**5.19**	**308**	*e*Pn	**Pn**	**03 19 05.4**	**+0.3**
PACT				*e*Sn	**Sn**	**03 20 02.1**	**-2.8**
PACT				A	A	03 20 15.5	
	39nm,0.6s						
ETOR	**Torete**	**5.27**	**13**	Pn	**Pn**	**03 19 07.7**	**+1.5**
ETOR				Sn	**Sn**	**03 20 08.8**	**+1.9**
ETOR				*i* Vmb_Lg		03 20 43.1	
LIS	**Lisbon**	**5.37**	**306**	*e*Pn	**Pn**	**03 19 08.8**	**+1.2**
LIS				*e*Sn	**Sn**	**03 20 08.0**	**-1.3**
PMST	**Lisbon--Monsan**	**5.40**	**306**	*e*Pn	**Pn**	**03 19 08.0**	**0.0**
PMST				*e*Sn	**Sn**	**03 20 07.5**	**-2.6**
PMST				A	A	03 20 37.0	
	31nm,0.4s						
PMAFR	**Mafra**	**5.59**	**307**	*e*Pn	**Pn**	**03 19 10.6**	**0.0**
PMAFR				*e*Sn	**Sn**	**03 20 11.5**	**-3.2**
PMAFR				A	A	03 20 13.2	
	51nm,0.4s						
PSBE	**So Bento**	**5.63**	**314**	*e*Pn	**Pn**	**03 19 11.4**	**+0.2**
PSBE				*e*Sn	**Sn**	**03 20 12.5**	**-3.2**
PSBE				A	A	03 20 18.7	
	19nm,0.4s						
MTE	**Manteigas**	**5.65**	**328**	*e*Pn	**Pn**	**03 19 11.9**	**+0.5**
MTE				*e*Sn	**Sn**	**03 20 13.4**	**-2.8**
MTE				A	A	03 20 48.0	
	34nm,0.5s						
OUK	**Oukaimeden**	**5.72**	**220**	P	**Pn**	**03 19 12.9**	**+0.2**
PCAS	**Casmilo, Conde**	**5.84**	**320**	*e*Pn	**Pn**	**03 19 14.2**	**+0.2**
PCAS				*e*Sn	**Sn**	**03 20 16.9**	**-3.9**
PCAS				A	A	03 20 59.9	
	21nm,0.7s						
COI	**Coimbra**	**5.91**	**321**	*e*Pn	**Pn**	**03 19 15.3**	**+0.4**
COI				*e*Sn	**Sn**	**03 20 19.1**	**-3.4**
COI				A	A	03 20 26.3	
	31nm,0.5s						
PVIS	**Viseu**	**6.06**	**327**	*e*Pn	**Pn**	**03 19 17.8**	**+0.7**
PVIS				*e*Sn	**Sn**	**03 20 22.6**	**-3.7**
PVIS				A	A	03 20 26.6	
	18nm,0.5s						
MVO	**Moncorvo**	**6.10**	**335**	*e*Pn	**Pn**	**03 19 18.4**	**+0.7**
MVO				*e*Sn	**Sn**	**03 20 23.9**	**-3.5**
MVO				A	A	03 21 00.8	
	20nm,0.6s						
PVRL	**Vila Real**	**6.45**	**331**	*e*Pn	**Pn**	**03 19 23.1**	**+0.6**
PVRL				*e*Sn	**Sn**	**03 20 31.7**	**-4.3**
PVRL				A	A	03 20 41.3	
	19nm,0.5s						
TTIG	**Tnine Tigouga,**	**6.54**	**220**	P	**Pn**	**03 19 24.9**	**+1.1**
POLO	**Lamas de Olo**	**6.56**	**331**	*e*Pn	**Pn**	**03 19 24.6**	**+0.5**
POLO				*e*Sn	**Sn**	**03 20 34.4**	**-4.5**
POLO				A	A	03 20 39.1	
	6.2nm,0.6s						
PBRG	**Braganca**	**6.59**	**339**	*e*Pn	**Pn**	**03 19 24.8**	**+0.5**
PBRG				*e*Sn	**Sn**	**03 20 36.8**	**-2.6**
PBRG				A	A	03 21 20.6	
	14nm,0.6s						
PTO	**Porto**	**6.72**	**326**	*e*Pn	**Pn**	**03 19 26.4**	**+0.4**
PTO				*e*Sn	**Sn**	**03 20 37.5**	**-4.9**
PTO				A	A	03 20 40.7	
	20nm,0.7s						
PCAB	**Cabril**	**6.94**	**331**	*e*Pn	**Pn**	**03 19 30.3**	**+1.1**
PCAB				*e*Sn	**Sn**	**03 20 44.7**	**-3.4**
PCAB				A	A	03 20 48.5	
	14nm,0.7s						
PGAV	**Gavieira, Arco**	**7.25**	**331**	*e*Pn	**Pn**	**03 19 34.1**	**+0.5**
PGAV				*e*Sn	**Sn**	**03 20 52.5**	**-3.4**
PGAV				A	A	03 20 58.0	
	13nm,0.7s						
ETSF	**Etsaut**	**7.58**	**17**	*e*Pn	**Pn**	**03 19 39.3**	**+1.3**
ETSF				*e*Sn	**Sn**	**03 21 02.2**	**-1.6**
	1.3nm,0.4s						
SJPF	**Ste Jean**	**7.64**	**13**	*e*Pn	**Pn**	**03 19 40.3**	**+1.5**
SJPF				*e*Sn	**Sn**	**03 21 03.7**	**-1.5**
	4.7nm,0.5s						
EPF	**Esparros**	**7.94**	**21**	*e*Pn	**Pn**	**03 19 43.6**	**+0.7**
EPF				*e*Sn	**Sn**	**03 21 10.5**	**-2.2**
	2.3nm,0.5s						
MTLF	**Montolieu**	**8.86**	**29**	*e*Pn	**Pn**	**03 19 55.9**	**+0.4**
LASF	**Ste Croix**	**10.14**	**32**	*e*Pn	**Pn**	**03 20 13.4**	**+0.3**
CAF	**Calviac**	**10.19**	**23**	*e*Pn	**Pn**	**03 20 14.1**	**+0.4**
CAF				*e*Sn	**Sn**	**03 22 04.1**	**-3.7**
	0.3nm,0.2s						
PGF	**Pioggiola**	**11.94**	**51**	*e*Pn	**Pn**	**03 20 39.2**	**+1.5**
GERES	**GERESS Array B**	**18.29**	**39**	P	**P**	**03 22 02.8**	**+1.4**
	0.1nm,0.3s,baz=231,slow=6.2,SNR=1.7						
EKA	**Eskdalemuir Ar**	**19.65**	**1**	P	**P**	**03 22 16.6**	**+0.5**
	baz=183,slow=11,SNR=1.4						
TORD	**Torodi Ar. Bea**	**22.94**	**167**	P	**P**	**03 22 53.4**	**+1.6**
	1.5nm,0.9s,baz=351,slow=9.0,SNR=7.1						
MKAR	**Makanchi Array**	**62.48**	**51**	P	**P**	**03 28 11.0**	**+0.2**
	1.2nm,0.7s,baz=285,slow=6.4,SNR=13						
YKA	**Yellowknife Ar**	**67.74**	**332**	P	**P**	**03 28 44.7**	**0.0**
	0.5nm,0.6s,baz=60,slow=6.4,SNR=12						
TXAR	**Lajitas Array**	**80.87**	**299**	P	**P**	**03 30 04.2**	**+2.3**
	0.1nm,0.5s,baz=69,slow=4.9,SNR=1.5						

IDC 06 03:26:33.4±2.1**, 4.20N**×**126.93E, h0**km**, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.2**/48**, mbtmp3.4**/4**, Error ellipse: s-maj=120.8km s-min=25.8km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.20**	**183**	P	P	03 31 31.2	-0.2
	0.5nm,0.4s,baz=1.5,slow=8.8,SNR=5.3						
WRA	**Warramunga Arr**	**25.07**	**163**	P	P	03 31 59.9	+0.1
	0.6nm,0.6s,baz=344,slow=9.7,SNR=8.0						
ASAR	**Alice Springs**	**28.52**	**167**	P	P	03 32 30.9	0.0
	0.2nm,0.4s,baz=338,slow=6.4,SNR=4.5						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	03 36 22.9	-0.1
	0.3nm,0.5s,baz=111,slow=8.2,SNR=4.7						

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*IDC **06** 03:33:22.8±0.6, 10.27S×161.61E, h57km±4km, mb4.0/20, mb1 4.2/22, mb1mx4.0/41, mbtmp4.3/22, MS3.4/8, Ms1 3.4/8, ms1mx3.0/61, Error ellipse: s-maj=17.0km s-min=11.6km az=96.0*
*NEIC **06** 03:33:25.9±1.2, 10.3S±0.1×161.5E±0.1, h77km±6km, mb4.6/32, Error ellipse: s-maj=19.0km s-min=11.6km az=224.0*
ISC 06 03:33:23.1±0.4**, 10.28S**±0.06×**161.64E**±0.07**, h61**km**, n81, σ1.06**/91**, mb4.5**/36**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.86**	**297**	P	**Pn**	**03 33 53.3**	**+0.6**
	754nm,0.3s,baz=178,slow=7.8,SNR=145						
HNR				S	**Sn**	**03 34 16.9**	**+1.6**
	2μm,0.3s,baz=154,slow=23,SNR=27						
HNR				LR	LR	03 34 47.6	
	comp=Z,543nm,21.5s,baz=55,slow=46						
HNR	**Honiara**	**1.86**	**297**		**Pn**	**03 33 53.3**	**+0.6**
HNR				Sn	**Sn**	**03 34 17.4**	**+2.2**
KRVT	**Keravat (AS076**	**11.22**	**301**	LR	LR	03 40 32.5	
	comp=Z,133nm,19.9s,baz=240,slow=38						
DZM	**Mont Dzumac**	**12.60**	**159**	P	**Pn**	**03 36 21.3**	**+1.5**
	2.3nm,0.3s,baz=32,slow=8.5,SNR=65						
DZM				S	**Sn**	**03 38 36.5**	**-2.0**
	1.8nm,0.3s,baz=292,slow=19,SNR=5.8						
DZM				LR	LR	03 40 30.2	
	comp=Z,116nm,19.9s,baz=4.0,slow=34						
DZM	**Mont Dzumac**	**12.60**	**159**	*e*P	**Pn**	**03 36 22.0**	**+2.2**
	13nm,0.2s						
DZM				*e*LR	LR	03 39 27.0	
	comp=Z,333nm,26.1s						
DZM	**Mont Dzumac**	**12.60**	**159**		**Pn**	**03 36 22.5**	**+2.7**
PMG	**Port Moresby**	**14.29**	**272**	LR	LR	03 41 57.9	
	comp=Z,122nm,18.0s,baz=37,slow=36						
PMG	**Port Moresby**	**14.29**	**272**		**P**	**03 36 48.8**	**+0.8**
CTA	**Charters Tower**	**17.75**	**235**	P	**Pn**	**03 37 25.8**	**-0.4**
	0.7nm,0.3s,baz=60,slow=11,SNR=9.3						
CTA				LR	LR	03 42 54.7	
	comp=Z,104nm,19.6s,baz=78,slow=32						
WR0	**Warramunga Arr**	**27.83**	**247**	P	**P**	**03 39 06.1**	**-0.9**
WB0	**Warramunga Arr**	**27.91**	**247**	P	**P**	**03 39 07.5**	**-0.3**
WB0				IAmb	IAmb	03 39 08.2	
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**28.00**	**247**	P	**P**	**03 39 08.2**	**-0.4**
WRA	**Warramunga Arr**	**28.01**	**247**	P	**P**	**03 39 08.1**	**-0.5**
	comp=Z,7.4nm,0.8s,baz=75,slow=8.9,SNR=62						
WRA				pP	**pP**	**03 39 23.8**	**+0.6**
	comp=Z,5.5nm,0.6s,baz=75,slow=9.1,SNR=13						
WRA				PcP	**PcP**	**03 42 21.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=67,slow=2.8,SNR=2.2						
WRA				LR	LR	03 48 50.6	
	comp=Z,54nm,21.7s,baz=63,slow=33						
WRA	**Warramunga Arr**	**28.01**	**247**	P	**P**	**03 39 06.7**	**-2.0**
STKA	**Stephens Creek**	**28.39**	**218**	P	**P**	**03 39 12.4**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=47,slow=17,SNR=1.2						
STKA				LR	LR	03 49 28.5	
	comp=Z,120nm,18.8s,baz=25,slow=34						
STKA	**Stephens Creek**	**28.39**	**218**	P	**P**	**03 39 12.3**	**+0.5**
ASAR	**Alice Springs**	**29.60**	**240**	P	**P**	**03 39 21.8**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=66,slow=10,SNR=10						
ASAR				LR	LR	03 50 40.6	
	comp=Z,131nm,18.9s,baz=94,slow=35						
MTN	**Manton Dam**	**29.98**	**262**	P	**P**	**03 39 25.8**	**-0.4**
MTN				IAmb	IAmb	03 39 26.3	
	comp=Z,7.9nm,0.9s						
URZ	**Urewera**	**31.13**	**156**	LR	LR	03 50 50.9	
	comp=Z,83nm,18.4s,baz=31,slow=34						
KNRA	**Kununurra**	**32.45**	**257**	P	**P**	**03 39 47.8**	**-0.2**
SANI	**Sanana**	**36.34**	**281**	P	**P**	**03 40 20.7**	**-0.9**
	comp=Z,15nm,1.1s						
BLJI	**Banyuglugur**	**47.48**	**269**	P	P	03 42 00.8	+8.3
MJAR	**Matsushiro Arr**	**51.52**	**336**	P	**P**	**03 42 22.5**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=288,slow=35,SNR=2.6						
MJAR	**Matsushiro Arr**	**51.52**	**336**	P	**P**	**03 42 21.6**	**-1.3**
JNU	**Nakatsue**	**52.17**	**327**	P	**P**	**03 42 27.4**	**-0.4**
	comp=Z,5.0nm,0.8s,baz=29,slow=3.6,SNR=4.1						
CGJI	**Cibinong**	**55.40**	**269**	P	**P**	**03 42 49.4**	**-2.3**
	comp=Z,36nm,0.7s						
KSRS	**Korea Array**	**57.03**	**328**	P	**P**	**03 43 02.6**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=144,slow=6.9,SNR=8.4						
KSRS				pP	**pP**	**03 43 18.8**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=143,slow=7.5,SNR=3.4						
USA0B	**Ussuriysk Arra**	**60.52**	**336**	P	**P**	**03 43 27.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**60.52**	**336**	P	**P**	**03 43 27.4**	**+0.5**
	comp=Z,5.9nm,0.7s,baz=145,slow=6.6,SNR=16						
USRK				pP	**pP**	**03 43 43.6**	**+0.8**
	comp=Z,6.5nm,0.7s,baz=143,slow=6.5,SNR=8.6						
KLR	**Kul'dur**	**64.82**	**339**	P	**P**	**03 43 55.9**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=170,slow=2.9,SNR=8.5						
KLR				pP	**pP**	**03 44 11.6**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=162,slow=3.7,SNR=4.3						
VNDA	**Vanda**	**67.23**	**180**	P	**P**	**03 44 11.6**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=342,slow=7.9,SNR=5.1						
VNDA	**Vanda**	**67.23**	**180**	P	**P**	**03 44 11.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**68.11**	**295**	P	**P**	**03 44 17.1**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=135,slow=5.7,SNR=4.1						
CMAR	**Chiang Mai Arr**	**68.11**	**295**	P	**P**	**03 44 16.1**	**-1.1**
SEY	**Seymchan**	**73.34**	**356**	P	**P**	**03 44 48.3**	**+0.3**
	comp=Z,0.9nm,0.2s,baz=181,slow=22,SNR=6.6						
ULN	**Ulaanbaatar**	**75.34**	**325**	P	**P**	**03 45 00.3**	**+0.1**
ULN				IAmb	IAmb	03 45 23.6	
	comp=Z,10.0nm,1.2s						
SONM	**Songino Array**	**75.70**	**325**	P	**P**	**03 45 02.3**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=139,slow=5.9,SNR=8.5						
SONM				pP	**pP**	**03 45 18.2**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=145,slow=6.7,SNR=5.5						
SONM	**Songino Array**	**75.70**	**325**	P	**P**	**03 45 02.2**	**0.0**
SONM				IAmb	IAmb	03 45 03.0	
	comp=Z,3.9nm,0.7s						
YAK	**Yakutsk**	**76.27**	**345**	P	**P**	**03 45 05.2**	**+0.2**
	comp=Z,5.9nm,0.3s,baz=274,slow=0.5,SNR=1.5						
YAK	**Yakutsk**	**76.27**	**345**	P	**P**	**03 45 05.1**	**+0.2**
BILL	**Bilibino**	**78.19**	**2**	P	**P**	**03 45 16.4**	**+0.8**
BILL				IAmb	IAmb	03 45 17.3	
	comp=Z,9.2nm,1.1s						
SVW2	**Sparrevohn**	**78.70**	**20**	P	**P**	**03 45 19.9**	**+1.3**
M19K	**Big River Lodg**	**79.68**	**20**	P	**P**	**03 45 25.1**	**+1.2**
M19K				IAmb	IAmb	03 45 27.3	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**79.72**	**180**	P	**P**	**03 45 25.0**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=200,slow=0.5,SNR=9.5						
QSPA				pP	**pP**	**03 45 40.1**	**-1.2**
	comp=Z,3.7nm,0.8s,baz=326,slow=1.1,SNR=4.8						
QSPA	**South Pole Qui**	**79.72**	**180**	P	**P**	**03 45 25.1**	**+0.7**
QSPA				IAmb	IAmb	03 45 39.9	
	comp=Z,5.7nm,0.9s						
L19K	**White Mountain**	**79.73**	**19**	P	**P**	**03 45 25.3**	**+1.1**
L19K				IAmb	IAmb	03 45 27.0	
	comp=Z,6.4nm,0.8s						
TTA	**Tatalina**	**79.91**	**18**	P	**P**	**03 45 26.4**	**+1.2**
TTA				IAmb	IAmb	03 45 28.2	
	comp=Z,5.9nm,1.0s						
M22K	**Willow**	**81.03**	**21**	P	**P**	**03 45 31.2**	**+0.1**
CAST	**Castle Rocks**	**81.51**	**19**	P	**P**	**03 45 34.2**	**+0.5**
RDOG	**Red Dog Mine**	**82.12**	**13**	P	**P**	**03 45 37.9**	**+1.2**
RND	**Reindeer**	**82.57**	**20**	P	**P**	**03 45 40.2**	**+0.9**
RND				IAmb	IAmb	03 45 40.9	
	comp=Z,12nm,1.2s						
MCK	**McKinley**	**82.76**	**20**	P	**P**	**03 45 41.0**	**+0.8**
I21K	**Tanana**	**82.77**	**18**	P	**P**	**03 45 41.4**	**+1.2**
I21K				IAmb	IAmb	03 45 42.7	
	comp=Z,12nm,1.2s						
NEA2	**Nenana**	**83.28**	**19**	P	**P**	**03 45 43.3**	**+0.4**
CCB	**Clear Creek Bu**	**83.73**	**20**	P	**P**	**03 45 45.5**	**+0.4**
MDM	**Murphy Dome**	**83.79**	**19**	P	**P**	**03 45 46.5**	**+0.9**
MAW	**Mawson**	**83.90**	**202**	P	**P**	**03 45 47.1**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=154,slow=5.4,SNR=3.5						
MAW				pP	**pP**	**03 46 01.2**	**-2.0**
	comp=Z,7.8nm,0.7s,baz=122,slow=5.4,SNR=8.4						
H23K	**Yukon River**	**83.95**	**18**	P	**P**	**03 45 46.8**	**+0.5**
H23K				IAmb	IAmb	03 45 48.5	
	comp=Z,4.8nm,0.8s						
IL31		**84.11**	**20**	P	**P**	**03 45 47.3**	**+0.3**
IL31				IAmb	IAmb	03 45 49.2	
	comp=Z,6.8nm,1.3s						
ILAR	**Eielson Array**	**84.11**	**20**	P	**P**	**03 45 47.0**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=242,slow=5.1,SNR=28						
ILAR				pP	**pP**	**03 46 03.4**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=249,slow=5.1,SNR=6.1						
ILAR	**Eielson Array**	**84.11**	**20**	P	**P**	**03 45 47.6**	**+0.5**
DOT	**Dot Lake**	**84.39**	**21**	P	**P**	**03 45 49.9**	**+1.2**
DOT				IAmb	IAmb	03 45 50.8	
	comp=Z,5.3nm,0.8s						
J25K	**Salcha River,**	**84.52**	**20**	P	**P**	**03 45 50.5**	**+1.2**
SCRK	**Sand Creek**	**84.62**	**21**	P	**P**	**03 45 50.9**	**+1.0**
EGAK	**Eagle**	**86.09**	**21**	P	**P**	**03 45 58.3**	**+1.3**
EGAK				IAmb	IAmb	03 45 59.8	
	comp=Z,8.1nm,1.1s						
DAWY	**Dawson**	**86.34**	**22**	P	**P**	**03 45 59.2**	**+0.9**
DAWY				IAmb	IAmb	03 46 01.4	
	comp=Z,4.3nm,1.1s						
EPYK	**Eagle Plains**	**88.50**	**21**	P	**P**	**03 46 10.1**	**+1.4**
NVAR	**Mina Array Bea**	**88.64**	**51**	P	**P**	**03 46 11.3**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=237,slow=6.7,SNR=4.7						
NVAR	**Mina Array Bea**	**88.64**	**51**	P	**P**	**03 46 10.7**	**+0.5**
MK31	**Makanchi Array**	**90.22**	**318**	P	**P**	**03 46 16.1**	**-1.0**
MKAR	**Makanchi Array**	**90.22**	**318**	P	**P**	**03 46 16.1**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=100,slow=3.5,SNR=8.1						
MKAR				pP	**pP**	**03 46 31.7**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=96,slow=6.6,SNR=4.3						
MKAR	**Makanchi Array**	**90.22**	**318**	P	**P**	**03 46 15.8**	**-1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PRN	Pahroc Range	90.92	52	P	P	03 46 19.6	-1.1
PDAR	Pinedale Array	96.02	48	P	P	03 46 43.9	-0.4
	comp=Z,0.2nm,0.5s,baz=160,slow=24,SNR=2.2						
PDAR	Pinedale Array	96.02	48	P	P	03 46 43.7	-0.5
YKA	Yellowknife Ar	96.16	28	P	P	03 46 44.4	+0.3
	comp=Z,1.3nm,0.8s,baz=260,slow=4.6,SNR=18						
YKA				pP	pP	03 46 60.0	-1.2
	comp=Z,0.5nm,0.7s,baz=257,slow=4.6,SNR=4.9						
YKA	Yellowknife Ar	96.16	28	P	P	03 46 44.5	+0.4
ARCES	ARCESS Array B	114.55	344	PKP	PKiKP	03 51 55.1	-0.7
	comp=Z,1.8nm,0.9s,baz=81,slow=1.6,SNR=17						
KEST	Kesra	144.29	320	PKP	PKPab	03 52 50.5	-0.4
	comp=Z,4.1nm,1.0s,baz=338,slow=4.5,SNR=5.7						
ESDC	Sonseca Array	148.04	339	PKPbc	PKPdf	03 53 01.1	+2.0
	comp=Z,0.4nm,0.8s,baz=7.7,slow=3.7,SNR=5.3						
ESDC	Sonseca Array	148.04	339		PKPbc	03 53 01.3	-1.0

*IPEC **06** 03:43:17.8±0.2, 50.°08N×18.°49E, h2km±2km, ML2.5/2, Error ellipse: s-maj=1.8km s-min=1.1km az=163.0*
*VIE **06** 03:43:17.1±0.3, 50.°13N×18.°44E, h0km, mb2.4/3, ml2.8/3, Error ellipse: s-maj=3.2km s-min=2.6km az=136.0 36 km NNE of Ostrava Suspected Mining induced.*
*PRU **06** 03:43:18.2±0.0, 50.°04N×18.°41E, h0km*
ISC 06 03:43:17.5±0.8, **50.°03N**±0.°03×**18.°39E**±0.°02, **h0km, n31, σ1.°03**/61, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.13	292	ePG	Pg	03 43 22.3	+2.3
RAC				eSG	Sg	03 43 25.5	+3.8
OKC	Ostrava-Krasne	0.25	218	ePG	Pb	03 43 24.4	+2.2
OKC				eSG	Sb	03 43 28.7	+3.2
	comp=Z,503nm,1.1s						
MORC	Moravsky Berou	0.60	245	ePg	Pb	03 43 30.5	-0.4
	baz=64						
MORC				eSg	Sb	03 43 39.4	-0.6
	baz=64						
OJC	Ojcow	0.93	78	ePg	Pg	03 43 34.2	-1.0
OJC				eSg	Sg	03 43 47.4	+0.1
KRLC	Kraliky	1.03	273	ePG	Pg	03 43 37.4	+0.1
KRLC				eSG	Sb	03 43 52.0	-0.4
	comp=Z,150nm,0.3s						
LANS	Liptovska Anna	1.13	141	ePG	Pb	03 43 39.8	-0.1
LANS				eSG	Sn	03 43 55.8	-1.1
LANS				eLG	Lg	03 44 00.5	
JAVC	Velka Javorina	1.27	202	ePg	Pn	03 43 42.8	+0.3
	baz=23						
DPC	Dobruska-Polom	1.36	284	ePG	Pb	03 43 43.8	-0.1
DPC				eSG	Sn	03 44 03.0	+0.4
	comp=Z,87nm,0.4s						
VRAC	Vranov	1.37	239	ePg	Pb	03 43 44.3	+0.3
	baz=57						
VRAC				eSg	Sn	03 44 03.1	+0.3
	42nm,0.2s,baz=57						
NIE	Niedzica	1.39	116	ePb	Pb	03 43 44.1	-0.2
NIE				ePg	Pn	03 43 44.6	+0.5
NIE				eSg	Sn	03 44 03.6	+0.5
OSTC	Ostas	1.49	291	ePG	Pn	03 43 45.5	0.0
OSTC				eSG	Sn	03 44 06.5	+0.9
KSP	Ksiaz	1.56	302	ePg	Pn	03 43 46.2	-0.3
KSP				eSg	Sg	03 44 07.9	+0.2
VYHS	Vyhne	1.57	169	ePG	Pn	03 43 46.6	0.0
VYHS				eSG	Sg	03 44 08.7	+0.8
CHVC	Chvalec	1.59	291	ePG	Pb	03 43 47.5	-0.3
CHVC				eSG	Sg	03 44 09.5	+0.8
UPC	Upice	1.59	288	ePG	Pb	03 43 47.4	-0.4
UPC				eSG	Sg	03 44 09.1	+0.4
	comp=Z,33nm,0.3s						
KRUC	Moravsky	1.62	234	ePn	Pg	03 43 48.4	-0.1
	baz=53						
KRUC				eSg	Sg	03 44 10.8	+1.3
	34nm,0.2s,baz=53						
SMOL	Smolenice	1.65	203	ePG	Pn	03 43 48.0	+0.4
SMOL				eSG	Sb	03 44 09.9	0.0
STHS	Stebnicka Huta	1.96	107	ePG	Pb	03 43 53.8	-0.2
TREC	Trest	2.02	250	ePG	Pb	03 43 55.1	0.0
TREC				eSG	Sg	03 44 22.0	-0.4
KECS	Kecovo	2.07	138	ePN	Pn	03 43 53.2	-0.3
KECS				ePG	Pg	03 43 59.5	+2.3
CRVS	Cervenica-Dubn	2.30	118	ePG	Pb	03 44 00.0	+0.1
PRU	Pruhonice	2.48	270	ePN	Pn	03 43 58.5	-0.6
PRU				ePG	Pb	03 44 02.5	-0.4
PRU				eSG	Sg	03 44 36.6	-0.5
	comp=Z,16nm,0.4s						
PVCC	Panska Ves	2.50	283	ePN	Pn	03 43 59.9	+0.5
PVCC				ePG	Pg	03 44 05.0	-0.3
PVCC				eSG	Sg	03 44 38.8	+1.1
	comp=Z,43nm,0.3s						
CONA	Conrad Observa	2.68	219	ePn	Pn	03 44 02.1	+0.1
	0.7nm,0.3s						
CONA				Sn	Sn	03 44 35.8	+0.5
	3.6nm,0.3s						
KOLS	Kolonicke sedl	2.76	112	ePG	Pg	03 44 10.1	-0.3
CKRC	Cesky Krumlov	2.92	247	ePG	Pg	03 44 12.5	-1.0
CKRC				eSG	Sg	03 44 50.7	-0.7
	comp=Z,20nm,0.7s						
BRG	Berggiesshubel	2.96	288	Pg	Pg	03 44 12.9	-1.3
BRG				Sg	Sg	03 44 52.3	-0.2
BRG				Amp		03 44 55.5	
	comp=Z,14nm,0.6s						
KHC	Kasperske Hory	3.26	256	ePN	Pn	03 44 10.0	+0.2
KHC				ePG	Pg	03 44 18.7	-1.2
KHC				eSG	Sg	03 45 01.7	-0.3
	comp=Z,17nm,0.5s						
MOA	Molln	3.49	233	Sg	Sg	03 45 09.7	+0.3
	comp=Z,18nm,0.8s						
CLL	Collm	3.65	292	ePg	Pg	03 44 27.0	-0.5
CLL				eSg	Sg	03 45 15.0	+0.2
	comp=Z,11nm,0.8s						
NKC	Novy Kostel	3.83	275	ePG	Pg	03 44 28.8	-1.9
NKC				eSG	Sg	03 45 21.4	+1.1

IDC 06 03:49:21.9±1.9, **3.°57N**×**127.°32E, h0km, mb3.5**/5, **mb1 3.7**/5, **mb1mx3.4**/34, **mbtmp3.5**/5, **MS4.0**/2, **Ms1 3.9**/2, **ms1mx2.8**/43, **Error ellipse: s-maj=109.2km s-min=26.3km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.60	184	P	P	03 54 15.1	+1.5
	1.1nm,0.9s,baz=13,slow=12,SNR=2.4						
PMG	Port Moresby	23.60	123	LR	LR	04 06 19.6	
	comp=Z,227nm,19.0s,baz=290,slow=43						
WRA	Warramunga Arr	24.36	164	P	P	03 54 41.4	-0.5
	1.6nm,0.9s,baz=342,slow=11,SNR=16						
ASAR	Alice Springs	27.82	167	P	P	03 55 12.7	-0.5
	0.2nm,0.5s,baz=343,slow=8.8,SNR=2.2						
STKA	Stephens Creek	37.78	160	P	P	03 56 40.5	+0.5
	1.5nm,0.6s,baz=354,slow=9.2,SNR=3.3						
STKA				LR	LR	04 14 48.6	
	comp=Z,279nm,20.3s,baz=348,slow=40						
MKAR	Makanchi Array	58.02	325	P	P	03 59 16.3	-0.5
	0.2nm,0.5s,baz=112,slow=7.2,SNR=3.6						

*IDC **06** 03:52:54.4±0.7, 3.°39S×131.°38E, h0km, mb4.2/13, mb1 4.3/16, mb1mx4.1/31, mbtmp4.3/16, ML3.9/3, MS3.7/16, Ms1 3.7/16, ms1mx3.3/67, Error ellipse: s-maj=24.3km s-min=13.8km az=73.0*
*DJA **06** 03:52:57.5±1.0, 3°S±2°×13°1E±°, h32km±13km, M4.3/14, mB4.9/7, mb4.4/14, MLv4.4/9, Mw(mB)4.2/7*
*NEIC **06** 03:52:57.5±1.8, 3.°47S±0.°06×131.°31E±0.°05, h23km±5km, mb4.5/28, Error ellipse: s-maj=8.4km s-min=7.3km az=182.0*
ISC 06 03:52:56.7±0.4, **3.°59S**±0.°04×**131.°30E**±0.°05, **h24km, n98, σ1.°99**/89, **mb4.4**/24, **MS3.7**/15, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.16	55		Pn	03 53 17.3	-0.1
FAKI				Sn	Sn	03 53 31.7	-0.8
FAKI	Fak Fak	1.16	55	P	Pn	03 53 17.5	+0.1
FAKI				S	Sn	03 53 31.4	-1.1
FAKI	Fak Fak	1.16	55	P	Pb	03 53 17.9	-0.1
MSAI	Masohi	2.38	276	P	Pn	03 53 35.0	+0.8
SIJI	Sorong	2.70	359	Pn	Pn	03 53 37.2	-1.4
	20nm,0.3s,baz=204,slow=20,SNR=34						
SIJI				Sn	Sn	03 54 07.7	-2.9
	99nm,0.3s,baz=274,slow=23,SNR=4.7						
SIJI				LR	LR	03 54 50.4	
	comp=Z,559nm,20.9s,baz=142,slow=46						
SWI	Sorong	2.71	359	P	Pn	03 53 37.4	-1.3
SWI				S	Sn	03 54 08.0	-2.7
AAI	Ambon	3.10	268	P	Pn	03 53 44.8	+0.7
LBMI	Labuha	4.79	308	P	Pn	03 54 06.9	-0.6
SANI	Sanana	5.52	286	P	Pn	03 54 16.6	-0.8
	0.5nm79nm,0.9s						
TNTI	Ternate	5.85	318	Pn	Pn	03 54 22.4	+0.5
TNTI	Ternate	5.85	318	P	Pn	03 54 21.1	-0.8
	0.2nm40nm,1.1s						
BBSI	Bau Bau	8.90	257	P	Pn	03 55 04.8	+0.9
	256nm20nm,1.1s						
KDU	Kakadu	9.12	173	P	Pn	03 55 07.2	+0.4
MTN	Manton Dam	9.20	181	Pn	Pn	03 55 08.7	+0.7
MTN	Manton Dam	9.20	181	P	Pn	03 55 08.8	+0.8
GTOI	Gorontalo	9.29	297	P	Pn	03 55 10.6	+1.4
	234nm23nm,0.8s						
APSI	Ampana	10.00	285	P	Pn	03 55 17.3	-1.7
	550nm47nm,0.7s						
BATI	Baumata	10.03	229	Pn	Pn	03 55 22.8	+3.3
	8.0nm,0.3s,baz=100,slow=11,SNR=9.4						
BATI	Baumata	10.03	229	P	Pn	03 55 21.0	+1.5
	55nm,1.2s						
MRSI	Marisa	10.19	293	P	Pn	03 55 20.8	-0.7
	686nm32nm,0.8s						
SPSI	Sidrap Palu	11.51	268	P	Pn	03 55 40.8	+1.1
	22nm,1.6s						
KAPI	Kappang	11.60	263	Pn	Pn	03 55 44.5	+3.6
	0.1nm,0.3s,baz=70,slow=19,SNR=1.3						
KAPI	Kappang	11.60	263		Pn	03 55 42.9	+2.0
MPSI	Mapaga	12.04	289	P	Pn	03 55 47.1	+0.1
	618nm9.4nm,1.0s						
KNRA	Kununurra	12.27	192	Pn	Pn	03 55 48.3	-1.8
FITZ	Fitzroy Crossi	15.45	201	Pn	Pn	03 56 29.6	-3.7
	0.4nm,0.3s,baz=32,slow=16,SNR=24						
FITZ				Sn	Sn	03 59 16.8	-7.0
	0.6nm,0.3s,baz=78,slow=20,SNR=1.7						
FITZ	Fitzroy Crossi	15.45	201		Pn	03 56 29.5	-3.7
COEN	Coen	15.61	132	P	Pn	03 56 34.8	-0.5
MANU	Manus Island	16.12	85	P	Pn	03 56 41.3	-0.6
WB0	Warramunga Arr	16.36	170		Pn	03 56 41.7	-3.3
BBKI	Banjar Baru	16.43	270	P	P	03 56 54.2	+5.8
WRAB	Tennant Creek	16.52	170	P	Pn	03 56 47.3	+0.4
WRA	Warramunga Arr	16.52	170	Pn	Pn	03 56 44.4	-2.7
	0.5nm,0.3s,baz=350,slow=11,SNR=25						
WRA				Sn	Sn	03 59 41.3	-8.6
	0.6nm,0.3s,baz=353,slow=24,SNR=5.3						
WRA	Warramunga Arr	16.52	170	P	Pn	03 56 44.1	-2.9
WB2	Warramunga Arr	16.53	170	P	Pn	03 56 45.8	-1.3
WB2				IAmb	IAmb	03 57 18.8	
	comp=Z,30nm,1.4s						
WR0	Warramunga Arr	16.58	169	P	Pn	03 56 47.2	-0.5
KKM	Kota Kinabalu	17.85	302	P	Pn	03 57 02.1	-1.6
KKM				IAmb	IAmb	03 57 07.3	
	comp=Z,52nm,1.2s						
QIS	Mount Isa	18.71	155	P	P	03 57 14.3	+0.7
SBUM	Sibu	19.99	287	P	Pn	03 57 28.9	-0.6
AS31	Alice Springs	20.12	173		Pn	03 57 30.7	-0.2
ASAR	Alice Springs	20.12	173	P	Pn	03 57 31.3	+0.3
	comp=Z,8.1nm,0.8s,baz=352,slow=8.3,SNR=34						
ASAR				S	S	04 01 13.3	-0.8
	comp=Z,1.7nm,1.0s,baz=354,slow=23,SNR=4.0						
ASAR	Alice Springs	20.12	173	Pn	Pn	03 57 32.0	+1.0
KRVT	Keravat (AS076	20.69	93	P	P	03 57 36.5	+1.2
	comp=Z,35nm,0.6s,baz=293,slow=15,SNR=1.6						
PSA00	Pilbara Seismi	21.06	211	P	P	03 57 38.6	-0.6
PSA00				IAmb	IAmb	03 57 45.2	
	comp=Z,18nm,1.5s						
WRKA	Warakurna	21.52	187	P	P	03 57 45.4	+1.2
CTA	Charters Tower	21.95	140	P	P	03 57 50.3	+1.5
	comp=Z,5.0nm,0.9s,baz=358,slow=7.5,SNR=4.1						
OOD	Oodnadatta	24.43	171	P	P	03 58 15.4	+1.8
SSLB	Suanglung	29.02	340	P	P	03 58 54.2	-0.8
STKA	Stephens Creek	29.76	162	P	P	03 59 03.9	+2.4
	comp=Z,2.4nm,0.6s,baz=342,slow=12,SNR=4.5						
STKA	Stephens Creek	29.76	162	P	P	03 59 02.7	+1.2
JCJ	Chichijima	32.26	18	LR	LR	04 10 41.1	
	comp=Z,131nm,19.5s,baz=166,slow=33						
PSI	Prapat	32.98	281	LR	LR	04 15 03.0	
	comp=Z,134nm,18.9s,baz=118,slow=40						
JHJ	Hachijo jima 2	37.38	12	LR	LR	04 13 43.4	
	comp=Z,180nm,18.3s,baz=246,slow=34						
CMAR	Chiang Mai Arr	38.67	306	P	P	04 00 19.8	+0.9
	comp=Z,1.6nm,0.3s,baz=131,slow=7.1,SNR=17						
CMAR	Chiang Mai Arr	38.67	306	P	P	04 00 19.4	+0.5
CHTO	Chiang Mai	38.86	306	P	P	04 00 20.1	-0.3
CHTO				IAmb	IAmb	04 00 22.3	
	comp=Z,8.7nm,1.1s						
KSRS	Korea Array	40.95	356	P	P	04 00 37.2	-0.2
	comp=Z,1.0nm,0.6s,baz=168,slow=8.0,SNR=5.6						
KSRS				LR	LR	04 17 46.2	
	comp=Z,97nm,19.3s,baz=190,slow=37						
TIA	Tai'an	41.75	343	P	P	04 00 43.8	-0.3
TIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
XAN	Xi'an	42.97	332	P	P	04 00 53.9	-0.2
XAN				pP	pP	04 01 02.2	+1.1
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BJT	Baijiatuau	45.56	344	P	P	04 01 14.4	-0.3
LZH	Lanzhou	47.08	329	eP	P	04 01 27.9	+1.0
LZH				pP	pP	04 01 31.5	-2.6
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
USRK	Ussuriysk Ar.	47.57	1	P	P	04 01 30.7	+0.3
	comp=Z,0.9nm,0.5s,baz=91,slow=15,SNR=2.8						
SHL	Shillong	47.95	309	P	P	04 01 32.6	-1.3
PALK	Pallekele	51.63	282	LR	LR	04 26 34.2	
	comp=Z,109nm,19.2s,baz=208,slow=39						
GTA	Gaotai	51.68	329	eP	P	04 02 02.8	+0.8
GTA				sP	sP	04 02 10.7	-1.3
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	Ulaanbaatar	55.47	340	P	P	04 02 26.9	-2.8
ULN				IAmb	IAmb	04 02 31.6	
	comp=Z,5.6nm,1.1s						
SONM	Songino Array	55.67	340	P	P	04 02 31.0	-0.1
	comp=Z,1.1nm,0.5s,baz=158,slow=4.3,SNR=6.0						
SONM	Songino Array	55.67	340	P	P	04 02 31.0	-0.1
SONM				IAmb	IAmb	04 02 33.0	
	comp=Z,7.8nm,1.4s						
PETK	Petropavlovsk-	60.70	18	LR	LR	04 25 39.1	
	comp=Z,53nm,21.6s,baz=218,slow=32						
MK31	Makanchi Array	66.13	325		P	04 03 42.6	+0.5
MK31				IAmb	IAmb	04 03 44.3	
	comp=Z,5.8nm,1.2s						
MKAR	Makanchi Array	66.13	325	P	P	04 03 43.0	+0.9
	comp=Z,3.0nm,0.8s,baz=118,slow=7.7,SNR=27						
MAKZ	Makanchi	66.32	325		P	04 03 43.6	+0.3
KDJ	Kajisay	66.82	319		P	04 03 46.4	-0.4
KDJ				IAmb	IAmb	04 03 48.8	
	comp=Z,4.2nm,1.1s						
BOOM	Boomskoye usch	67.80	319	P	P	04 03 53.2	+0.1
BOOM				IAmb	IAmb	04 04 11.4	
	comp=Z,5.0nm,1.1s						
SEY	Seymchan	68.24	10	LR	LR	04 34 31.3	
	comp=Z,39nm,18.3s,baz=21,slow=37						
ZAA0	Zalesovo Array	69.14	333	P	P	04 04 00.3	-0.6
ZAA0				IAmb	IAmb	04 04 01.6	
	comp=Z,5.2nm,0.9s						
ZALV	Zalesovo Beam	69.14	333	P	P	04 04 00.8	0.0
	comp=Z,2.4nm,0.6s,baz=112,slow=8.3,SNR=12						
ZALV	Zalesovo Beam	69.14	333	P	P	04 03 59.5	-1.4
GAR	Garm	70.23	314	P	P	04 04 08.0	-0.1
KURK	Kurchatov	70.32	328	P	P	04 04 08.6	+0.4
KK31	Karatay Array	71.67	318	P	P	04 04 16.6	-0.1
KK31				IAmb	IAmb	04 04 18.4	
	comp=Z,3.7nm,1.1s						
KKAR	Karatay Array	71.67	318	P	P	04 04 16.3	-0.3
KKAR				IAmb	IAmb	04 04 18.4	
	comp=Z,3.7nm,1.1s						
KKAR	Karatay Array	71.67	318	P	P	04 04 16.5	-0.2
WSAR	Wadi Sarin	75.58	295	LR	LR	04 41 27.2	
	comp=Z,22nm,19.5s,baz=121,slow=38						
VNDA	Vanda	75.66	173	P	P	04 04 43.3	+3.9
	comp=Z,1.0nm,0.8s,baz=318,slow=4.9,SNR=4.6						
VNDA	Vanda	75.66	173	P	P	04 04 42.1	+2.6
VNDA				IAmb	IAmb	04 05 15.8	
	comp=Z,5.9nm,1.3s						
NRIK	Noril'sk	78.59	346	P	P	04 04 56.9	+0.9
	comp=Z,2.3nm,0.4s,baz=128,slow=6.5,SNR=5.6						
NRIK				LR	LR	04 40 41.9	
	comp=Z,92nm,21.1s,baz=98,slow=37						
NRIK	Noril'sk	78.59	346	P	P	04 04 56.5	+0.6
NRIK				IAmb	IAmb	04 04 57.4	
	comp=Z,5.9nm,0.9s						
AKTO	Aktyubinsk	82.19	322	LR	LR	04 44 56.2	
	comp=Z,29nm,19.2s,baz=103,slow=38						
ARU	Arti	83.52	328	LR	LR	04 44 23.2	
	comp=Z,36nm,18.8s,baz=185,slow=37						
ILAR	Eielson Array	89.73	25	P	P	04 05 53.0	+0.4
	comp=Z,0.3nm,0.8s,baz=282,slow=5.3,SNR=1.6						
ILAR	Eielson Array	89.73	25	P	P	04 05 51.8	-0.9
KMBO	Kilima Mbogo	93.97	269	LR	LR	04 46 26.6	
	comp=Z,43nm,18.2s,baz=92,slow=34						
MMAI	Mount Meron Ar	96.88	303	LR	LR	04 58 57.3	
	comp=Z,16nm,18.1s,baz=230,slow=41						
EIL	Elat	97.28	299	LR	LR	04 55 51.0	
	comp=Z,28nm,20.8s,baz=80,slow=39						
SPITS	Spitsbergen Ar	98.48	349	LR	LR	04 53 11.2	
	comp=Z,47nm,21.3s,baz=265,slow=37						
TORD	Torodi Ar. Bea	129.33	284	PKP	PKiKP	04 12 04.9	0.0
	comp=Z,0.5nm,0.7s,baz=85,slow=1.2,SNR=2.8						
TORD	Torodi Ar. Bea	129.33	284		PKPdf	04 12 04.5	+0.3

*IDC **06** 04:22:11.5±2.3, 51.°94N×177.°89W, h0km, mb3.3/7, mb1 3.7/7, mb1mx3.5/40, mbtmp3.3/7, MS3.4/2, Ms1 3.4/2, ms1mx2.6/40, Error ellipse: s-maj=56.2km s-min=32.8km az=9.0*
*NEIC **06** 04:22:51.4±0.7, 52.°8N±0.°8×174.°6W±0.°3, h219km±28km, Error ellipse: s-maj=116.8km s-min=19.7km az=170.0*
*AEIC **06** 04:22:52±0.3, 52.°5N±0.°5×174.°6W±0.°1, h229km±8km, ML3.0, Error ellipse: s-maj=75.4km s-min=11.0km az=176.0*
ISC 06 04:22:51.1±0.9, **53.°0N**±0.°2×**174.°6W**±0.°1, **h209km, n18, σ0.°70**/19, **mb3.0**/6, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.83	162		Pn	04 23 21.3	+0.6
GSTR	Great Sitkin T	1.26	225	Pn	Pn	04 23 24.2	+0.6
GSTR				Sn	S	04 23 49.8	+1.1
GSMY	Great Sitkin M	1.29	223		Pn	04 23 24.1	+0.2
GSTD	Great Sitkin T	1.32	225		Pn	04 23 24.5	+0.3
GSCK	Great Sitkin C	1.36	224		Pn	04 23 24.8	+0.4
ADK	Adak	1.68	230	Pn	Pn	04 23 26.9	-0.3
ADK				Sn	S	04 23 53.8	-1.0
KIWB	Kanaga Island	1.92	235	Pn	Pn	04 23 29.2	-0.3
KIWB				Sn	S	04 24 00.3	+1.3
KIMD	Kanaga Island	2.02	234		Pn	04 23 29.9	-0.5
TAFP	Tanaga Falls P	2.33	243		Pn	04 23 33.6	-0.1
TASE	Tanaga Southea	2.39	242		Pn	04 23 34.6	+0.3
ILAR	Eielson Array	18.37	39	P	P	04 26 51.1	+1.2
	0.6nm,0.5s,baz=241,slow=10,SNR=9.4						
INK	Inuvik	24.65	36	P	P	04 27 52.2	+0.1
	0.6nm,0.9s,baz=56,slow=9.1,SNR=1.3						
YKA	Yellowknife Ar	32.24	49	P	P	04 28 59.1	-0.3
	0.2nm,0.5s,baz=278,slow=8.8,SNR=7.4						
NVAR	Mina Array Bea	40.85	88	P	P	04 30 12.2	-0.4
	0.2nm,0.5s,baz=308,slow=10,SNR=1.9						
PDAR	Pinedale Array	43.40	76	P	P	04 30 32.7	-0.3
	0.4nm,0.6s,baz=322,slow=5.7,SNR=2.9						
TXAR	Lajitas Array	55.91	85	P	P	04 32 06.6	-0.7
	0.3nm,0.6s,baz=304,slow=4.0,SNR=3.9						
TXAR				LR	LR	04 55 20.8	
	comp=Z,37nm,21.0s,baz=290,slow=34						
ARCES	ARCESS Array B	56.90	352	LR	LR	04 57 26.7	
	comp=Z,30nm,20.4s,baz=62,slow=37						
MKAR	Makanchi Array	61.01	310	P	P	04 32 20.4	-22
	0.1nm,0.6s,baz=22,slow=4.7,SNR=1.8						

*IDC **06** 04:31:27.0±7.4, 0.°77N×99.°14E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/39, mbtmp3.7/3, Error ellipse: s-maj=355.7km s-min=27.7km az=54.0*
*DJA **06** 04:31:48.9±0.6, 1°N±3°×10°0E±°, h158km±6km, M3.1/7, MLv3.1/7*
ISC 06 04:31:48.2±1.1, **1.°12N**±0.°10×**99.°6E**±0.°1, **h177km**±9km, **n11, σ0.°84**/10, **mb3.4**/3, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	0.33	190	P	Pn	04 32 12.9	+0.9
MNSI				S	Sn	04 32 29.4	-0.9
GSI	Gunungsitoli	2.07	275	P	Pn	04 32 26.6	+0.8
GSI				S	Sn	04 32 53.9	-1.0
SISI	Saibi	2.49	193	P	Pn	04 32 31.2	+0.6
KCSI	Kotacane, Aceh	3.03	322	P	Pn	04 32 37.2	+0.1
PPSI	Pulau Pagai	3.87	175	P	Pn	04 32 47.8	+0.2
H08S2	Diego Garcia H	28.44	252	T	T	05 04 58.6	
	baz=80						
H08S3	Diego Garcia H	28.44	252	T	T	05 04 58.1	
	baz=80						
H08S1	Diego Carcia H	28.46	252	T	T	05 04 59.8	
	baz=80						
WRA	Warramunga Arr	39.94	123	P	P	04 39 05.2	-0.4
	0.6nm,0.6s,baz=300,slow=9.1,SNR=11						
MKAR	Makanchi Array	47.95	344	P	P	04 40 09.3	+0.5
	0.2nm,0.3s,baz=158,slow=8.3,SNR=8.1						
ZALV	Zalesovo Beam	54.06	349	P	P	04 40 54.2	0.0
	0.5nm,0.5s,baz=160,slow=6.0,SNR=4.0						

*SKHL **06** 04:42:34.1±0.2, 44.°60N×149.°70E, h54km±3km, mb5.0/5*
*JMA **06** 04:42:34.0±1.0, 44.°81N×149.°50E, h30km, M4.5*
*MOS **06** 04:42:35.0±1.0, 44.°56N×149.°46E, h52km, mb4.5/9, Error ellipse: s-maj=9.0km s-min=8.4km az=144.1*
*NEIC **06** 04:42:38.1±1.5, 44.°4N±0.°1×149.°6E±0.°1, h69km±8km, mb4.4/17, Error ellipse: s-maj=18.0km s-min=3.4km az=144.0*
*IDC **06** 04:42:39.7±2.5, 44.°59N×149.°37E, h74km±22km, mb3.6/16, mb1 3.7/22, mb1mx3.7/39, mbtmp3.9/22, MS3.1/7, Ms1 3.1/7, ms1mx2.7/86, Error ellipse: s-maj=19.3km s-min=14.5km az=141.0*
ISC 06 04:42:36.2±1.4, **44.°52N**±0.°06×**149.°48E**±0.°07, **h48km**±12km, **n112, σ1.°34**/117, **mb4.2**/29, **MS3.2**/3, **3C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.35	303	d iPN	Pn	04 42 56.9	-1.8
KUR				eS	Sn	04 43 13.2	-2.2
KUR				pmax	pmax		
	comp=N,447nm,0.4s						
KUR				pmax	pmax		
	comp=Z,1µm,0.4s						
KUR				pmax	pmax		
	comp=E,869nm,0.3s						
KUR				smax	smax		
	comp=E,2µm,0.5s						
KUR				smax	smax		
	comp=N,1µm,0.3s						
KUR	Kuril'sk	1.35	303	i P	Pn	04 42 56.9	-1.8
KUR				AMB	AMB	04 42 57.7	
	comp=N,1µm,0.5s						
KUR				eS	Sn	04 43 13.9	-1.5
KUR				A	A	04 43 16.6	
	comp=N,1µm,0.5s						
KUR				A	A	04 43 16.6	
	comp=N,2µm,0.5s						
SHO	Shikotan	2.01	252	ePN	Pn	04 43 06.3	-1.4
SHO				i S	Sn	04 43 29.6	-2.0
SHO				pmax	pmax		
	comp=N,61nm,0.3s						
SHO				pmax	pmax		
	comp=E,51nm,0.3s						
SHO				pmax	pmax		
	comp=Z,70nm,0.3s						
SHO				smax	smax		
	comp=N,371nm,0.4s						
SHO				smax	smax		
	comp=E,661nm,0.4s						
SHO	Shikotan	2.01	252	eP	Pn	04 43 06.7	-1.0
SHO				AMB	AMB	04 43 09.8	
	comp=E,100nm,0.4s						
SHO				i S	Sn	04 43 31.3	-0.3
SHO				A	A	04 43 34.6	
	comp=E,410nm,0.5s						
SHO				A	A	04 43 34.6	
	comp=E,860nm,0.5s						
YUK	Yuzh-Kuril'sk	2.64	261	ePN	Pn	04 43 15.2	-1.1
YUK				i S	Sn	04 43 47.4	+0.3
YUK				pmax	pmax		
	comp=Z,443nm,0.2s						
YUK				pmax	pmax		
	comp=N,178nm,0.1s						
YUK				smax	smax		
	comp=E,465nm,0.4s						
YUK				smax	smax		

comp=N,937nm,0.3s
YUK Yuzh-Kuril'sk 2.64 261 *e*P **Pn 04 43 16.4 +0.1**
YUK AMB AMB 04 43 19.8
comp=N,540nm,0.4s
YUK *i* S **Sn 04 43 46.7 -0.4**
YUK A A 04 43 53.4
comp=N,1µm,0.5s
YUK A A 04 43 53.4
comp=N,1µm,0.5s
NEM2 Nemuro 2 2.93 248 P **Pn 04 43 19.3 -1.0**
NEM2 *e*S **Sn 04 43 53.4 -0.8**
NMR Nemuro--Hokkai 2.94 248 *e*PN **Pn 04 43 19.3 -1.1**
NMR *i* S **Sn 04 43 54.1 -0.3**
NMR Nemuro--Hokkai 2.94 248 *e*P **Pn 04 43 19.3 -1.1**
NMR *i* S **Sn 04 43 54.1 -0.3**
GLVR Golovnino 2.95 256 PN **Pn 04 43 21.5 +0.9**
GLVR *e*S **Sn 04 43 56.1 +1.3**
GLVR pmax pmax
comp=Z,308nm,0.3s
GLVR pmax pmax
comp=N,67nm,0.2s
GLVR pmax pmax
comp=E,123nm,0.2s
GLVR smax smax
comp=E,267nm,0.2s
GLVR smax smax
comp=N,916nm,0.3s
GLVR Golovnino 2.95 256 *e*P **Pn 04 43 21.5 +0.9**
GLVR AMB AMB 04 43 24.0
comp=N,310nm,0.3s
GLVR *e*S **Sn 04 43 56.1 +1.3**
GLVR A A 04 43 58.9
comp=N,920nm,0.3s
GLVR A A 04 43 58.9
comp=N,270nm,0.3s
RUSJ Misakicho 3.06 264 *e*PN **Pn 04 43 23.7 +1.6**
RUSJ *e*S **Sn 04 44 00.8 +3.3**
JRA Rausu 3.18 261 P **Pn 04 43 24.0 +0.3**
JNK Nakash 3.55 257 P **Pn 04 43 29.4 +0.6**
JNK *e*S **Sn 04 44 10.3 +0.7**
AKK Akkeshi 3.68 248 *e*P **Pn 04 43 31.1 +0.6**
AKK *e*S **Sn 04 44 12.3 -0.3**
JAK Akkeshi 3.78 248 P **Pn 04 43 31.6 -0.3**
JAK *e*S **Sn 04 44 14.4 -0.7**
JTKR Abashiri--Toko 4.04 264 P **Pn 04 43 37.1 +1.6**
JAR Ashorobuto 4.30 256 P **Pn 04 43 40.6 +1.5**
JAR *e*S **Sn 04 44 30.7 +2.8**
JOB Onbets 4.40 250 P **Pn 04 43 40.6 +0.2**
JCH Churui 4.83 249 P **Pn 04 43 46.3 -0.1**
JKK2 Kamakawa 2 4.88 265 P **Pn 04 43 49.1 +2.0**
JKA Kamikawa-asahi 4.95 268 **Pn 04 43 50.2 +2.3**
JKA Kamikawa-asahi 4.95 268 *e*P **Pn 04 43 50.3 +2.3**
ASAJ Asahikawa 4.95 268 P **Pn 04 43 50.2 +2.2**
comp=N,4.6nm,0.3s,baz=67,slow=18,SNR=9.8
ASAJ LR LR 04 45 55.2
comp=N,251nm,18.9s,baz=100,slow=40
ERM Erimo 5.25 244*c i*PN **Pn 04 43 53.4 +1.3**
ERM Erimo 5.25 244 **Pn 04 43 53.3 +1.3**
YSS Yuzh-Sakhalins 5.30 300 *e*PN **Pn 04 43 53.0 +0.2**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 5.30 300 *e*P **Pn 04 43 52.7 -0.1**
YSS AMB AMB 04 43 55.2
comp=Z,20nm,0.3s
JNBK Urakawa-nobuka 5.38 248 P **Pn 04 43 53.9 0.0**
JEW Eniwo 6.06 257 **Pn 04 44 05.6 +2.4**
JKB Kayabe 6.71 250 P **Pn 04 44 11.6 -0.5**
JKB *e*S **Sn 04 45 23.3 -3.8**
SKR Severo-Kuril's 7.63 34⇑*e*PN Pn 04 44 13.2 -11
TYV Tymovskoe 7.84 327 *e*P **Pn 04 44 27.0 -0.6**
PETK Petropavlovsk- 10.16 29 P **Pn 04 45 02.5 +3.2**
comp=Z,0.5nm,0.3s,baz=200,slow=17,SNR=5.9
PETK Petropavlovsk- 10.16 29 PN **Pn 04 45 01.1 +1.8**
PETK Petropavlovsk- 10.16 29 **Pn 04 45 01.1 +1.8**
PET Petropavlovsk 10.44 32 *e*P **Pn 04 45 01.1 -2.0**
MJAR Matsushiro Arr 11.69 231 LR LR 04 49 45.0
comp=Z,55nm,21.6s,baz=56,slow=36
USRK Ussuriysk Ar. 12.53 275 P **Pn 04 45 32.8 +1.2**
baz=84,slow=16,SNR=6.3
KLR Kul'dur 13.01 298 P **Pn 04 45 41.9 +3.7**
comp=Z,0.1nm,0.3s,baz=103,slow=16,SNR=5.6
KLR LR LR 04 50 58.2
comp=Z,43nm,19.4s,baz=227,slow=39
KLR Kul'dur 13.01 298 *e*P **Pn 04 45 40.9 +2.7**
ZEA Zeya 17.16 310 *e*P **Pn 04 46 28.0 -4.4**
KSRS Korea Array 17.71 254 P **P 04 46 39.4 -0.2**
comp=Z,0.3nm,0.3s,baz=68,slow=13,SNR=4.5
KSRS LR LR 04 53 44.3
comp=Z,43nm,18.5s,baz=65,slow=38
SEY Seymchan 18.53 4 P **P 04 46 47.8 -0.6**
comp=Z,0.1nm,0.3s,baz=183,slow=12,SNR=6.6
YAK Yakutsk 21.01 334 P **P 04 47 17.1 +1.8**
comp=Z,7.3nm,0.4s,baz=160,slow=18,SNR=5.2
H11N2 WAKE ISLAND Hy 28.66 144 T T 05 19 13.2
baz=334,slow=75,SNR=132
H11N1 WAKE ISLAND Hy 28.67 144 T T 05 19 16.6
baz=334,slow=75,SNR=123
H11N3 WAKE ISLAND Hy 28.68 144 T T 05 19 14.5
baz=334,slow=75,SNR=137
H11S1 WAKE ISLAND Hy 29.67 145 T T 05 20 37.1
baz=335,slow=76,SNR=145
H11S3 WAKE ISLAND Hy 29.68 145 T T 05 20 38.2
baz=335,slow=76,SNR=96
H11S2 WAKE ISLAND Hy 29.69 145 T T 05 20 38.3
baz=335,slow=76,SNR=100
KDAK Kodiak Island 37.49 48 LR LR 05 04 59.9
comp=Z,27nm,20.9s,baz=183,slow=36
ILAR Eielson Array 39.88 37 P **P 04 50 05.3 +0.6**
comp=Z,0.5nm,0.6s,baz=268,slow=8.1,SNR=7.9
ILAR Eielson Array 39.88 37 P **P 04 50 05.6 +0.8**
ZALV Zalesovo Beam 41.88 307 PcP **PcP 04 52 16.3 0.0**
comp=Z,0.7nm,0.4s,baz=64,slow=3.4,SNR=2.6
PZH PanZhiHua 42.16 261 P **P 04 50 23.1 -1.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,6.5s
INK Inuvik 44.89 31 P **P 04 50 46.5 +1.1**
comp=Z,0.5nm,0.4s,baz=285,slow=4.9,SNR=6.3
INK Inuvik 44.89 31 P **P 04 50 46.8 +1.4**
INK IAmb IAmb 04 51 15.8
comp=Z,5.9nm,1.4s
MK31 Makanchi Array 45.71 298*d i*P **P 04 50 52.4 +0.1**
MK31 Makanchi Array 45.71 298 P **P 04 50 52.8 +0.5**
MKAR Makanchi Array 45.71 298 P **P 04 50 52.6 +0.3**
comp=Z,2.0nm,0.6s,baz=74,slow=8.1,SNR=20
MKAR PcP **PcP 04 52 28.9 -0.6**
comp=Z,0.5nm,0.7s,baz=72,slow=4.7,SNR=3.4
MKAR Makanchi Array 45.71 298 P **P 04 50 52.3 0.0**
MAKZ Makanchi 45.91 298 P **P 04 50 53.7 -0.1**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 45.91 298 P **P 04 50 53.7 -0.1**
MAKZ IAmb IAmb 04 50 54.7
comp=Z,2.8nm,0.8s
KDJ Kajisay 51.04 294 P **P 04 51 34.6 +1.0**
KDJ pmax pmax
comp=Z,3.0nm,0.5s
KDJ Kajisay 51.04 294 P **P 04 51 34.6 +1.0**
KDJ IAmb IAmb 04 51 34.7
comp=Z,2.7nm,0.5s
BOOM Boomskoye usch 51.67 295 P **P 04 51 38.3 0.0**
BOOM pmax pmax
comp=Z,3.0nm,0.6s
BOOM Boomskoye usch 51.67 295 P **P 04 51 38.3 0.0**
BOOM IAmb IAmb 04 51 39.6
comp=Z,2.5nm,0.6s
RES Resolute Bay 53.75 17 P **P 04 51 53.1 +0.2**
RES pmax pmax
comp=Z,1.0nm,0.8s
RES Resolute Bay 53.75 17 P **P 04 51 53.1 +0.2**
YKA Yellowknife Ar 54.23 35 P **P 04 51 57.4 +0.9**
comp=Z,0.4nm,0.6s,baz=299,slow=7.0,SNR=8.3
YKA PcP **PcP 04 53 00.6 +0.3**
comp=Z,0.1nm,0.7s,baz=301,slow=6.4,SNR=0.7
YKA Yellowknife Ar 54.23 35 P **P 04 51 57.1 +0.5**
YKA Yellowknife Ar 54.23 35 P **P 04 51 57.1 +0.5**
ARU Arti 54.93 317 LR LR 05 19 41.3
comp=Z,30nm,18.1s,baz=196,slow=40
GAR Garm 57.13 294 P **P 04 52 18.4 +0.5**
ABKAR Akbulak array 57.88 309 P **P 04 52 23.4 +0.5**
CHGR Chuyangaron 58.07 295 P **P 04 52 24.3 -0.2**
ARCES ARCESS Array B 59.10 340 P **P 04 52 29.8 -1.3**
comp=Z,0.8nm,0.7s,baz=40,slow=7.1,SNR=1.1
FCC Fort Churchill 64.51 31 P **P 04 53 06.4 -1.1**
FCC pmax pmax
comp=Z,4.0nm,1.4s
FCC Fort Churchill 64.51 31 P **P 04 53 06.4 -1.1**
FINES FINESS Array B 64.94 334 P **P 04 53 09.1 -1.3**
comp=Z,0.7nm,0.4s,baz=35,slow=7.0,SNR=8.4
FINES FINESS Array B 64.94 334 *i* P **P 04 53 08.8 -1.5**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 64.94 334 P **P 04 53 09.0 -1.3**
WB0 Warramunga Arr 65.44 196 P **P 04 53 14.9 +0.9**
WB0 IAmb IAmb 04 53 52.5
comp=Z,9.9nm,1.5s
WB2 Warramunga Arr 65.62 196 P **P 04 53 13.6 -1.5**
WB2 IAmb IAmb 04 53 14.9
comp=Z,7.6nm,1.3s
WRA Warramunga Arr 65.62 196 P **P 04 53 16.1 +0.9**
comp=Z,0.6nm,0.6s,baz=18,slow=6.9,SNR=4.0
PDAR Pinedale Array 68.13 51 P **P 04 53 32.1 +0.8**
comp=Z,0.2nm,0.6s,baz=267,slow=4.5,SNR=1.8
TCRU Three Creeks R 69.18 56 P **P 04 53 36.4 -1.6**
TCRU IAmb IAmb 04 53 43.2
comp=Z,4.5nm,0.5s
ASAR Alice Springs 69.33 195 P **P 04 53 39.5 +0.9**
comp=Z,0.5nm,0.7s,baz=15,slow=5.4,SNR=6.2
TMUT Trail Mountain 69.46 55 P **P 04 53 39.2 -0.5**
TMUT IAmb IAmb 04 53 42.5
comp=Z,2.3nm,0.4s
NB2 NORSAR Subarra 69.48 340 P **P 04 53 38.4 -0.7**
comp=Z,1.0nm,0.8s,baz=30,slow=6.2
NOA NORSAR Array B 69.48 340 P **P 04 53 38.5 -0.7**
comp=Z,0.9nm,0.5s,baz=32,slow=6.6,SNR=10.0
PFO Pinyon Flats O 69.96 62 LR LR 05 18 30.5
comp=Z,16nm,21.2s,baz=4.5,slow=31
KIV Kislovodsk 70.49 313 *e*P **P 04 53 44.2 -1.5**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 70.49 313 *e*P **P 04 53 44.2 -1.5**
KBZ Khabaz 70.53 313 P **P 04 53 46.7 +0.9**
comp=Z,4.0nm,0.8s,baz=22,slow=2.8,SNR=11
ONI Oni 71.02 311 P **P 04 53 48.7 -0.2**
ONI pmax pmax
comp=Z,3.0nm,0.8s
ONI Oni 71.02 311 P **P 04 53 48.7 -0.2**
ONI IAmb IAmb 04 53 51.4
comp=Z,2.8nm,0.8s
AKASG Malin Array Be 71.94 325 P **P 04 53 54.0 -0.1**
comp=Z,2.3nm,0.6s,baz=36,slow=6.1,SNR=11
AKBB Malin Array Si 71.94 325⇑*e*P **P 04 53 53.9 -0.3**
CLL Collm 77.39 334 *i* P **P 04 54 25.7 0.0**
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 77.39 334 *i* P **P 04 54 25.7 0.0**
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 78.21 315 P **P 04 54 31.3 +0.5**
comp=Z,0.8nm,0.6s,baz=121,slow=3.8,SNR=2.4
GERES GERESS Array B 79.29 332 P **P 04 54 37.3 +0.9**
comp=Z,0.5nm,0.4s,baz=40,slow=7.8,SNR=3.1
HDIL Hopedale 80.22 41 P **P 04 54 41.6 +0.2**
TXAR Lajitas Array 80.83 58 P **P 04 54 45.6 +0.6**
comp=Z,0.5nm,0.6s,baz=293,slow=3.6,SNR=8.6
TXAR Lajitas Array 80.83 58 P **P 04 54 44.7 -0.3**
TXAR Lajitas Array 80.83 58 P **P 04 54 44.7 -0.3**
H03N2 Juan Fernandez 141.29 90 T T 07 40 00.1
baz=303
H03N3 Juan Fernandez 141.30 90 T T 07 39 59.0
baz=303
H03N1 Juan Fernandez 141.30 90 T T 07 40 00.1
baz=303
PLCA Paso Flores 150.51 97 PKPbc **PKiKP 05 02 22.6 -0.3**
comp=Z,1.3nm,1.0s,baz=32,slow=14,SNR=1.4

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*CNRM **06** 04:53:32.9, 35.°66N×3.°43W, h17km, ml2.1*
*INMG **06** 04:53:33.8±1.3, 35.°67N×3.°60W, h19km±10km, ML1.8, Error ellipse: s-maj=8.0km s-min=3.6km az=85.0*
*MDD **06** 04:53:34.0±0.6, 35.°66N×3.°56W, h23km±2km, mb_Lg2.5/9, Error ellipse: s-maj=6.0km s-min=3.9km az=15.0*
*SFS **06** 04:53:34.0, 35.°66N×3.°56W, h23km, ML2.5, ALBORAN SUR*
ISC 06 04:53:33.9±1.0**, 35.°69N**±0.°03×**3.°55W**±0.°03**, h31**km±11km**, n24,** σ1s**09**/44**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.48**	**59**	Pg	**Pb**	**04 53 43.7**	**-0.5**
EALB				Sg	**Sn**	**04 53 51.5**	**-0.5**
EALB				*i* Vmb_Lg		04 53 52.6	
PALE	**Palemas**	**0.57**	**214**	P	**Pb**	**04 53 44.3**	**-1.3**
PALE				S	**Sn**	**04 53 53.8**	**-0.4**
EMEL	**Melilla**	**0.62**	**129**	Pg	**Pb**	**04 53 45.6**	**-0.8**
EMEL				Sg	**Sb**	**04 53 54.2**	**-0.7**
ELGU	**Los Guajares,**	**1.17**	**357**	Pn	**Pn**	**04 53 53.7**	**-0.5**
ELGU				Sg	**Sn**	**04 54 11.0**	**+1.8**
ELGU				*i* Vmb_Lg		04 54 12.5	
TAF	**Taforalt**	**1.28**	**133**	P	**Pn**	**04 53 55.7**	**+0.1**
TAF				S	**Sn**	**04 54 12.0**	**+0.2**
EMAL	**Malaga-Limoner**	**1.28**	**327**	P	Pn	04 53 48.5	-7.2
EMAL				S	**Sn**	**04 54 11.1**	**-0.6**
EBER	**Berja**	**1.31**	**24**	Sg	**Sb**	**04 54 15.7**	**+1.0**
EMIJ	**Mijas**	**1.32**	**312**	Pn	**Pn**	**04 53 54.7**	**-1.4**
EMIJ				Sn	**Sn**	**04 54 12.1**	**-0.6**
EMIJ				*i* Vmb_Lg		04 54 16.9	
EGOR	**Sierra Gorda,**	**1.48**	**342**	Pn	**Pn**	**04 53 58.4**	**-0.1**
EGOR				*i* Vmb_Lg		04 54 06.4	
EGOR				Sn	**Sn**	**04 54 17.2**	**+0.3**
SMIR	**Smir Dam**	**1.49**	**270**	P	**Pb**	**04 53 60.0**	**-1.0**
SMIR				S	**Sb**	**04 54 21.8**	**+2.3**
CHEFC	**Chefchaouen**	**1.58**	**249**	P	**Pn**	**04 53 59.9**	**+0.2**
CHEFC				S	**Sb**	**04 54 24.7**	**+2.7**
JBK	**JBK**	**1.58**	**149**	P	**Pn**	**04 53 59.6**	**-0.3**
JBK				S	**Sn**	**04 54 17.9**	**-1.5**
EADA	**Adamuz**	**2.60**	**342**	Pn	**Pn**	**04 54 14.6**	**+0.8**
EADA				Sn	**Sn**	**04 54 44.5**	**+0.1**
EADA				*i* Vmb_Lg		04 55 15.0	
ECAB	**El Cabril**	**2.81**	**328**	Pn	**Pn**	**04 54 17.2**	**+0.6**
ECAB				Sn	**Sn**	**04 54 48.7**	**-0.8**
ECAB				*i* Vmb_Lg		04 54 53.1	
ECAB				Sg	**Sb**	**04 54 58.5**	**+1.1**
MD31	**MD31**	**2.99**	**200**	P	**Pn**	**04 54 20.6**	**+1.4**
MD31				S	**Sn**	**04 54 55.6**	**+1.5**
EMIN	**Mina Concepcio**	**3.25**	**310**	*i* Vmb_Lg		04 54 21.8	
EMIN				Pn	**Pn**	**04 54 22.5**	**-0.3**
EMIN				Sn	**Sn**	**04 54 59.8**	**-0.6**
ETOB	**Tobarra**	**3.35**	**28**	Pn	**Pn**	**04 54 25.1**	**+0.9**
ETOB				*i* Vmb_Lg		04 56 08.6	
EGRO	**El Granado**	**3.66**	**301**	Sn	**Sn**	**04 55 08.9**	**-1.5**
PBAR	**Barrancos**	**3.73**	**313**	*e*Pn	**Pn**	**04 54 29.3**	**-0.1**
PBAR				*e*Sn	**Sn**	**04 55 11.3**	**-0.9**
PBAR				A	A	04 55 15.5	
	1.1nm,0.6s						
PVAQ	**Vaqueiros**	**3.77**	**298**	*e*Pn	**Pn**	**04 54 29.5**	**-0.3**
PVAQ				*e*Sn	**Sn**	**04 55 12.7**	**-0.3**
PBDV	**Barranco-do-Ve**	**3.85**	**295**	*e*Pn	**Pn**	**04 54 31.0**	**0.0**
PBDV				*e*Sn	**Sn**	**04 55 13.8**	**-1.5**
PCVE	**Castro Verde**	**4.09**	**300**	*e*Pn	**Pn**	**04 54 34.0**	**-0.3**
PCVE				*e*Sn	**Sn**	**04 55 20.1**	**-1.0**
EBAD	**Badajoz**	**4.12**	**319**	Pn	**Pn**	**04 54 34.5**	**-0.1**
EBAD				Sn	**Sn**	**04 55 20.1**	**-1.7**
EBAD				*i* Vmb_Lg		04 56 36.5	
PMRV	**Marv??o**	**4.82**	**322**	*e*Pn	**Pn**	**04 54 46.0**	**+1.7**

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*ISK **06** 05:02:32.5, 35.°59N×23.°13E, h76km, ML3.2/14*
*THE **06** 05:02:32.6, 35.°41N×22.°92E, h15km±1km, ML2.9/10, Error ellipse: s-maj=1.9km s-min=0.7km az=51.0*
*ATH **06** 05:02:33.5, 35.°52N×23.°10E, h43km±2km, ML3.1/4, Error ellipse: s-maj=7.3km s-min=1.7km az=55.0*
*IDC **06** 05:02:43.5±5.4, 36.°06N×23.°38E, h116km±55km, mb3.0/3, mb1 3.1/4, mb1mx2.9/46, mbtmp3.4/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/31, Error ellipse: s-maj=71.6km s-min=26.5km az=140.0*
ISC 06 05:02:34.2±1.2**, 35.°52N**±0.°06×**23.°06E**±0.°07**, h52**km±9km**, n42,** σ1s**15**/55**, mb3.2**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.39**	**29**	P	**Pn**	**05 02 43.5**	**-0.9**
ANKY				S	**Sn**	**05 02 51.1**	**-0.6**
ANKY				AML	AML	05 02 52.4	
	comp=N,8430µm,0.4s						
ANKY				AML	AML	05 02 53.4	
	comp=E,5711µm,0.6s						
ANKY	**Antikythira Is**	**0.39**	**29**	P	**Pn**	**05 02 43.5**	**-0.9**
ANKY				S	**Sn**	**05 02 51.6**	**-0.1**
	comp=E,4µm,0.5s						
RODP	**Rodopos**	**0.57**	**86**	P	**Pn**	**05 02 46.2**	**-0.2**
RODP				S	**Sn**	**05 02 56.0**	**+0.9**
	comp=E,472nm,0.4s						
RODP	**Rodopos**	**0.57**	**86**	PG	**Pn**	**05 02 46.1**	**-0.3**
RODP				SG	**Sn**	**05 02 56.3**	**+1.2**
KTHA	**Kythira Island**	**0.73**	**360**	P	**Pn**	**05 02 48.6**	**+0.2**
KTHA				S	**Sn**	**05 02 59.2**	**+0.4**
KTHA				AML	AML	05 03 03.5	
	comp=N,2176µm,0.6s						
KTHA				AML	AML	05 03 04.1	
	comp=E,4667µm,0.3s						
KTHA	**Kythira Island**	**0.73**	**360**	P	**Pn**	**05 02 48.7**	**+0.2**
KTHA				S	**Sn**	**05 03 00.6**	**+1.8**
	comp=E,2µm,0.5s						
KTHR	**Kythira**	**0.74**	**356**	P	**Pn**	**05 02 48.5**	**0.0**
KTHR	**Kythira**	**0.74**	**356**	P	**Pn**	**05 02 48.3**	**-0.2**
KTHR				S	**Sn**	**05 03 01.1**	**+2.2**
	comp=E,2µm,0.4s						
IMMV	**Iera Moni Meta**	**0.75**	**95**	PG	**Pn**	**05 02 48.6**	**-0.1**
IMMV				SG	**Sn**	**05 03 00.3**	**+1.1**
CHAN	**Chania**	**0.80**	**90**	P	**Pn**	**05 02 49.9**	**+0.6**
CHAN				AML	AML	05 03 06.8	
	comp=E,3600µm,0.7s						
CHAN				AML	AML	05 03 07.0	
	comp=N,2878µm,0.7s						
GVDS	**Gavdos**	**1.08**	**129**	P	**Pn**	**05 02 52.4**	**-0.6**
GVDS				S	**Sn**	**05 03 07.8**	**+0.8**
	comp=N,432nm,0.6s						
GVD	**Gavdhos**	**1.08**	**129**	P	**Pn**	**05 02 52.6**	**-0.5**
GVD				AML	AML	05 03 16.5	
	comp=E,796µm,0.4s						
GVD				AML	AML	05 03 20.6	
	comp=N,1225µm,0.5s						
GVD	**Gavdhos**	**1.08**	**129**	P	**Pn**	**05 02 52.7**	**-0.3**
GVD				S	**Sn**	**05 03 08.8**	**+1.8**
	comp=N,592nm,0.4s						
GVD	**Gavdhos**	**1.08**	**129**	PN	**Pn**	**05 02 52.7**	**-0.3**
GVD				SN	**Sn**	**05 03 08.4**	**+1.4**
PRNS	**Prines Rethymn**	**1.19**	**97**	P	**Pn**	**05 02 54.5**	**+0.1**
PRNS				S	**Sn**	**05 03 11.3**	**+1.8**
	comp=N,202nm,0.5s						
VLI	**Veliai**	**1.20**	**355**	P	**Pn**	**05 02 55.8**	**+1.2**
VLI	**Veliai**	**1.20**	**355**	P	**Pn**	**05 02 55.8**	**+1.2**
VLI				S	**Sn**	**05 03 13.5**	**+3.7**
	comp=N,860nm,0.5s						
IDI	**Anoyia**	**1.51**	**98**	P	**Pn**	**05 02 59.5**	**+0.5**
IDI	**Anoyia**	**1.51**	**98**	P	**Pn**	**05 02 59.7**	**+0.8**
IDI				S	**Sn**	**05 03 20.4**	**+2.9**
	comp=N,235nm,0.5s						
PYL	**PYLOS**	**1.74**	**322**	P	**Pn**	**05 03 00.8**	**-1.2**
PYL				S	**Sn**	**05 03 23.7**	**+0.7**
	comp=N,140nm,0.6s						
ITM	**Ithomi**	**1.89**	**331**	P	**Pn**	**05 03 04.8**	**+0.7**
THR9	**Santorini-Faro**	**2.04**	**65**	P	**Pn**	**05 03 06.7**	**+0.6**
THR5	**Thira Island,**	**2.06**	**64**	P	**Pn**	**05 03 06.5**	**+0.2**
SNT5	**Nea Kammeni, S**	**2.09**	**64**	P	**Pn**	**05 03 06.7**	**0.0**
THR3	**Thira Island,**	**2.09**	**64**	P	**Pn**	**05 03 07.0**	**+0.2**
APE	**Apeiranthos**	**2.52**	**52**	PN	**Pn**	**05 03 11.7**	**-1.0**
ZKR	**Zakros**	**2.61**	**98**	PN	**Pn**	**05 03 13.7**	**-0.2**
KARP	**Karpathos**	**3.34**	**88**	PN	**Pn**	**05 03 23.6**	**-0.4**
AGG	**Agios Georgios**	**3.54**	**351**	PN	**Pn**	**05 03 26.7**	**0.0**
CHOS	**Chios island**	**3.73**	**39**	PN	**Pn**	**05 03 28.1**	**-1.2**
DAT	**Datca**	**3.85**	**70**	PN	**Pn**	**05 03 30.3**	**-0.7**
URLA	**Izmir**	**4.00**	**44**	PN	**Pn**	**05 03 32.1**	**-0.9**
SIGR	**SIGRI**	**4.30**	**30**	PN	**Pn**	**05 03 36.2**	**-0.9**
TURN	**Turunc**	**4.38**	**72**	PN	**Pn**	**05 03 37.5**	**-0.6**
YER	**Yerkesik**	**4.51**	**68**	PN	**Pn**	**05 03 39.2**	**-0.8**
OUR	**Ouranopolis**	**4.86**	**8**	PN	**Pn**	**05 03 43.9**	**-0.8**
HORT	**Hortiatis**	**5.07**	**0**	PN	**Pn**	**05 03 46.7**	**-0.9**
BRTR	**Keskin Array B**	**9.38**	**60**	P	**Pn**	**05 04 49.1**	**+2.3**
	comp=N,0.1nm,0.3s,baz=246,slow=14,SNR=2.7						
GERES	**GERESS Array B**	**14.99**	**335**	LR	LR	05 12 14.0	
	comp=N,36nm,18.5s,slow=39						
TORD	**Torodi Ar. Bea**	**29.46**	**226**	P	P	05 08 41.4	+8.1
	comp=N,0.4nm,0.9s,baz=36,slow=10,SNR=1.6						
MKAR	**Makanchi Array**	**45.01**	**57**	P	**P**	**05 10 43.1**	**-1.4**
	comp=N,0.5nm,0.5s,baz=277,slow=8.1,SNR=8.8						
YKA	**Yellowknife Ar**	**76.56**	**341**	P	**P**	**05 14 18.1**	**-0.5**
	comp=N,0.2nm,0.7s,baz=34,slow=5.2,SNR=3.2						

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*NEIC **06** 05:10:49.7±0.5, 51.°7N±0.°3×177.°79W±0.°06, h69km±11km, Error ellipse: s-maj=42.7km s-min=4.2km az=176.0*
*AEIC **06** 05:10:49±0.9, 51.°7N±0.°3×177.°76W±0.°08, h66km±6km, ML3.4, Error ellipse: s-maj=40.6km s-min=5.7km az=174.0*
*IDC **06** 05:10:54.2±10.0, 51.°85N×177.°23W, h96km±48km, mb3.0/4, mb1 3.5/5, mb1mx3.1/52, mbtmp3.5/5, Error ellipse: s-maj=108.0km s-min=61.9km az=94.0*
ISC 06 05:10:49.1±1.1**, 51.°8N**±0.°2×**177.°82W**±0.°07**, h74**km±7km**, n32,** σ1s**31**/27**, mb3.4**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPA	**Tanaga Point A**	**0.01**	**26**		**Pn**	**05 11 00.0**	**+0.1**
TASE	**Tanaga Southea**	**0.14**	**283**		**Pn**	**05 11 00.6**	**+0.5**
TAFP	**Tanaga Falls P**	**0.14**	**314**		**Pn**	**05 11 00.3**	**+0.3**
KIMD	**Kanaga Island**	**0.37**	**96**		**Pn**	**05 11 00.9**	**-0.3**
KICM	**Kanaga Island**	**0.41**	**73**		**Pn**	**05 11 01.9**	**+0.5**
KIKV	**Kanaga Island**	**0.41**	**79**		**Pn**	**05 11 01.8**	**+0.2**
KIWB	**Kanaga Island**	**0.42**	**83**		**Pn**	**05 11 01.7**	**+0.1**
KIWB					**Sn**	**05 11 11.1**	**+0.2**
GAEA	**Gareloi East**	**0.57**	**268**		**Pn**	**05 11 03.6**	**+0.5**
GALAA	**Gareloi Lava P**	**0.59**	**266**		**Pn**	**05 11 03.6**	**+0.4**
ADK	**Adak**	**0.71**	**83**		**Pn**	**05 11 04.3**	**-0.1**
GSCK	**Great Sitkin C**	**1.05**	**78**		**Pn**	**05 11 08.9**	**+0.5**
GSTD	**Great Sitkin T**	**1.07**	**76**		**Pn**	**05 11 09.0**	**+0.3**
GSTD					**Sn**	**05 11 23.9**	**+0.5**
GSMY	**Great Sitkin M**	**1.12**	**77**		**Pn**	**05 11 09.7**	**+0.4**
GSTR	**Great Sitkin T**	**1.13**	**74**		**Pn**	**05 11 10.4**	**+0.9**
ATKA	**Atka Island**	**2.28**	**78**		**Pn**	**05 11 25.5**	**+1.0**
NIKH	**Nikolski High**	**5.62**	**74**	Pn	**Pn**	**05 12 13.2**	**+3.2**
UNV	**Unalaska Valle**	**7.16**	**69**	Pn	**Pn**	**05 12 33.9**	**+3.0**
SDPT	**Sand Point**	**10.90**	**64**	Pn	**Pn**	**05 13 21.8**	**-0.2**
KDAK	**Kodiak Island**	**15.68**	**58**	P	**Pn**	**05 14 23.2**	**-2.1**
	0.7nm,0.3s,baz=296,slow=6.4,SNR=13						
KDAK				S	**Sn**	**05 17 15.5**	**-2.5**
	0.2nm,0.3s,baz=199,slow=18,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**34.18**	**206**	T	T	05 54 00.6	
	baz=18,slow=76,SNR=249						
H11N3	**WAKE ISLAND Hy**	**34.19**	**206**	T	T	05 54 01.3	
	baz=18,slow=76,SNR=241						
H11N1	**WAKE ISLAND Hy**	**34.20**	**206**	T	T	05 54 01.4	
	baz=18,slow=76,SNR=196						
YKA	**Yellowknife Ar**	**34.49**	**47**	P	**P**	**05 17 30.7**	**+1.2**
	0.2nm,0.5s,baz=287,slow=9.6,SNR=7.5						
YKA				ScP	**ScP**	**05 23 39.5**	**-1.6**
	0.1nm,0.6s,baz=294,slow=3.5,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**35.40**	**206**	T	T	05 55 12.1	
	baz=17,slow=76,SNR=250						
H11S2	**WAKE ISLAND Hy**	**35.41**	**206**	T	T	05 55 14.7	
	baz=17,slow=76,SNR=108						
H11S3	**WAKE ISLAND Hy**	**35.41**	**206**	T	T	05 55 14.8	
	baz=17,slow=76,SNR=92						
NVAR	**Mina Array Bea**	**42.90**	**84**	P	**P**	**05 18 41.2**	**+0.9**
	0.2nm,0.6s,baz=289,slow=8.5,SNR=2.2						
PDAR	**Pinedale Array**	**45.60**	**73**	P	**P**	**05 19 00.8**	**-1.1**
	0.3nm,0.4s,baz=317,slow=3.8,SNR=5.1						
TXAR	**Lajitas Array**	**57.99**	**82**	P	**P**	**05 20 33.9**	**-0.1**
	0.3nm,0.5s,baz=306,slow=6.1,SNR=12						
H03N2	**Juan Fernandez**	**120.67**	**106**	T	T	07 41 30.2	
	baz=317,slow=77						
H03N1	**Juan Fernandez**	**120.69**	**106**	T	T	07 41 31.6	
	baz=317,slow=77						
H03N3	**Juan Fernandez**	**120.69**	**106**	T	T	07 41 33.2	
	baz=317,slow=77						

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*IDC **06** 05:12:45.1±2.6, 63.°70N×149.°07W, h0km, mb3.1/1, mb1 3.5/4, mb1mx3.2/44, mbtmp3.1/4, ML3.4/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/31, Error ellipse: s-maj=30.6km s-min=17.5km az=91.0*
*AEIC **06** 05:12:49±1.5, 63.°92N±0.°02×148.°97W±0.°05, h0km±2km, ML2.6, ML2.8/86(NEIC), Error ellipse: s-maj=4.0km s-min=3.0km az=100.0*
*NEIC **06** 05:12:49.2±1.4, 63.°92N±0.°02×148.°95W±0.°04, h1km±10km, Error ellipse: s-maj=2.8km s-min=2.4km az=94.0*
ISC 06 05:12:49.1±1.0**, 63.°93N**±0.°02×**148.°95W**±0.°03**, h12**km±8km**,**

n82, σ1s54/69, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCK	McKinley	0.20	178		Pg	05 12 53.3	-0.1
MCK					Sg	05 12 55.9	-0.5
MCK	McKinley	0.20	178	IAML		05 12 59.2	
	comp=N,522nm,0.8s						
BWN	Browne	0.33	317		Pg	05 12 55.6	-0.2
BWN	Browne	0.33	317	IAML		05 13 04.1	
	comp=E,721nm,1.1s						
RND	Reindeer	0.53	175		Pg	05 12 59.5	+0.2
RND					Sg	05 13 05.4	-0.9
WRH	Wood River Hil	0.66	34		Pg	05 13 02.0	+0.1
NEA2	Nenana	0.67	356		Pg	05 13 02.3	+0.2
TRF	Thorofare Moun	0.77	232		Pg	05 13 03.7	-0.2
TRF					Sb	05 13 16.2	+1.3
CCB	Clear Creek Bu	0.88	34		Pg	05 13 05.8	-0.2
BPAW	Bear Paw Mtn.	0.91	282		Pg	05 13 06.6	-0.1
KTH	Kantishna Hill	0.95	248		Pg	05 13 07.1	-0.4
KTH	Kantishna Hill	0.95	248	IAML		05 13 25.7	
	comp=N,274nm,1.2s						
KTH				IAML		05 13 32.8	
	comp=E,260nm,1.0s						
HDA	Harding Lake	1.00	60		Pg	05 13 08.8	+0.4
HDA	Harding Lake	1.00	60	IAML		05 13 26.9	
	comp=E,222nm,0.9s						
TCOL	CIGO, UAF Yank	1.06	26		Pg	05 13 09.4	0.0
COLA	College	1.06	26		Pg	05 13 09.4	-0.1
MDM	Murphy Dome	1.08	16		Pg	05 13 10.0	+0.1
MDM	Murphy Dome	1.08	16	IAML		05 13 32.6	
	comp=N,166nm,0.9s						
MDM				IAML		05 13 35.0	
	comp=E,203nm,0.8s						
DHY	Denali Highway	1.11	140		Pg	05 13 10.2	-0.2
PS08	TAPS Pump Stn8	1.12	56		Pg	05 13 10.2	-0.3
IL31		1.23	46		Pg	05 13 12.3	-0.4
ILAR	Eielson Array	1.23	46	Pg	Pg	05 13 12.3	-0.4
	comp=E,17nm,0.3s,baz=227,slow=17,SNR=329						
ILAR				Lg	Lg	05 13 29.7	
	comp=E,8.5nm,0.3s,baz=216,slow=30,SNR=4.9						
ILAR	Eielson Array	1.23	46	Pg	Pg	05 13 12.5	-0.3
I23K	Minto, Yukon-K	1.24	352		Pg	05 13 13.0	+0.2
I23K	Minto, Yukon-K	1.24	352	IAML		05 13 33.5	
	comp=E,220nm,0.9s						
I23K				IAML		05 13 35.6	
	comp=N,243nm,0.7s						
POKR	Poker Plat Res	1.36	28		Pg	05 13 15.2	0.0
POKR	Poker Plat Res	1.36	28	IAML		05 13 41.9	
	comp=E,139nm,0.9s						
POKR				IAML		05 13 46.8	
	comp=N,155nm,1.0s						
PS07	TAPS Pump Stn7	1.42	11		Pn	05 13 15.9	+1.3
WAT6	Susitna Watana	1.46	157		Pn	05 13 16.2	+0.9
CAST	Castle Rocks	1.49	251		Pn	05 13 16.3	+0.6
CHUM	Lake Minchumin	1.49	270		Pn	05 13 16.1	+0.5
PS10	TAPS Pump St10	1.51	108		Pb	05 13 17.8	+0.8
CUT	Chulitna	1.64	202		Pg	05 13 20.2	-0.3
J25K	Salcha River,	1.71	65		Pn	05 13 19.3	+0.6
J25K	Salcha River,	1.71	65	IAML		05 13 57.8	
	comp=E,82nm,0.9s						
PPLA	Purkeypile	1.79	236		Pn	05 13 21.5	+1.6
I21K	Tanana	1.82	315		Pn	05 13 21.1	+1.0
I21K	Tanana	1.82	315	IAML		05 13 60.0	
	comp=N,129nm,0.9s						
I21K				IAML		05 14 00.2	
	comp=E,94nm,0.9s						
RIDG	Independent Ri	1.83	94		Pb	05 13 23.0	+0.5
RIDG	Independent Ri	1.83	94	IAML		05 14 03.3	
	comp=E,133nm,1.0s						
RIDG				IAML		05 14 09.1	
	comp=N,108nm,1.1s						
PAX	Paxson	1.84	120		Pb	05 13 23.1	+0.5
H23K	Yukon River	1.92	353		Pn	05 13 22.9	+1.3
H23K				IAML		05 13 58.2	
	comp=N,50nm,1.1s						
H23K				IAML		05 14 10.0	
	comp=E,81nm,1.1s						
H24K	Noodor Dome	1.97	13		Pn	05 13 23.4	+1.1
H24K	Noodor Dome	1.97	13	IAML		05 14 09.0	
	comp=N,54nm,1.6s						
SML	Sawmill	2.15	172		Pn	05 13 26.7	+2.0
SML	Sawmill	2.15	172	IAML		05 14 27.3	
	comp=E,84nm,1.1s						
GHO	Glory Hole Cre	2.16	180		Pn	05 13 26.7	+1.7
GHO				IAML		05 14 08.6	
	comp=E,89nm,1.0s						
GHO				IAML		05 14 12.1	
	comp=N,74nm,1.0s						
DOT	Dot Lake	2.19	95		Pb	05 13 29.5	+0.9
SCRK	Sand Creek	2.19	86		Pb	05 13 29.3	+0.6
SCRK	Sand Creek	2.19	86	IAML		05 14 13.0	
	comp=E,40nm,1.3s						
SCRK				IAML		05 14 15.7	
	comp=N,77nm,1.2s						
M24K	Tolsona, Glenn	2.22	144		Pb	05 13 28.9	-0.2
SCM	Sheep Creek Mo	2.23	160		Pn	05 13 27.9	+2.0
M22K	Willow	2.25	194		Pn	05 13 26.7	+0.7
J20K	Nowinta River	2.30	279		Pn	05 13 27.2	+0.5
J20K	Nowinta River	2.30	279	IAML		05 14 09.7	
	comp=N,53nm,1.0s						
J20K				IAML		05 14 18.1	
	comp=E,55nm,0.9s						
HARP	HAARP	2.31	130		Pb	05 13 30.9	+0.4
PMR	Palmer	2.35	182		Pn	05 13 28.0	+0.6
PMR				IAML		05 14 09.1	
	comp=N,60nm,1.5s						
PMR				IAML		05 14 16.1	
	comp=E,42nm,1.0s						
K20K	Telida	2.36	258	Pn	Pn	05 13 29.4	+1.9
K20K				IAML		05 14 11.5	
	comp=E,60nm,0.9s						
K20K				IAML		05 14 18.1	
	comp=N,52nm,1.1s						
H21K	Melozitna Rive	2.40	318		Pn	05 13 29.5	+1.4
H21K	Melozitna Rive	2.40	318	IAML		05 14 10.6	
	comp=E,46nm,0.8s						
H21K				IAML		05 14 10.9	
	comp=N,52nm,0.9s						
KNK	Knik Glacier	2.54	175		Pn	05 13 30.9	+0.9
KNK				IAML		05 14 14.5	
	comp=N,51nm,0.9s						
MENT	Mentasta	2.55	111		Pn	05 13 32.9	+2.7
L26K	Log Cabin Wild	2.67	107	Pn	Pn	05 13 34.3	+2.4
L26K				IAML		05 14 25.2	
	comp=N,54nm,1.0s						
KLU	Klutina	2.81	149		Pn	05 13 37.4	+3.5
KLU				IAML		05 14 21.8	
	comp=E,50nm,0.9s						
RC01	Rabbit Creek A	2.87	188		Pn	05 13 38.3	+3.7
RC01				IAML		05 14 26.9	
	comp=N,32nm,1.0s						
RC01				IAML		05 14 32.4	
	comp=E,34nm,1.6s						
IMAR	Indian Mountai	2.90	317	Pn	Pn	05 13 36.6	+1.6
N25K	Chitina, Valde	3.07	137	Pn	Pn	05 13 41.4	+4.0
N25K				IAML		05 14 37.3	
	comp=N,19nm,3.0s						
N25K				IAML		05 14 37.5	
	comp=E,21nm,1.4s						
PWL	Port Wells	3.09	174		Pn	05 13 39.9	+2.2
PWL				IAML		05 14 39.9	
	comp=E,40nm,1.0s						
PWL				IAML		05 14 49.6	
	comp=N,40nm,1.3s						
L27K	Beaver Creek,	3.31	102	Pn	Pn	05 13 42.1	+1.4
L27K				IAML		05 14 46.0	
	comp=E,19nm,1.3s						
L27K				IAML		05 14 52.5	
	comp=N,21nm,1.5s						
BCAR	Beaver Creek A	3.33	102	Pn	Pn	05 13 42.5	+1.6
TTA	Tatalina	3.33	256	Pn	Pn	05 13 41.6	+0.7
COLD	Coldfoot	3.35	352	Pn	Pn	05 13 42.8	+1.6
BMRM	Bremner River	3.59	144		Pn	05 13 45.8	+1.2
BMAR	Burnt Mountain	3.95	25	Pn	Pn	05 13 50.6	+1.1
N19K	Bonanza Creek	4.05	222	Pn	Pn	05 13 54.1	+3.2
N19K				IAML		05 15 16.3	
	comp=N,19nm,1.1s						
DAWY	Dawson	4.21	84	Pn	Pn	05 13 55.5	+2.4
TOLK	Toolik Lake Re	4.74	357	Pn	Pn	05 14 03.5	+3.2
INK	Inuvik	7.63	48	Pn	Pn	05 14 40.7	+0.8
	comp=N,0.2nm,0.3s,baz=236,slow=16,SNR=9.1						
INK				Lg	Lg	05 16 52.3	
	comp=N,0.0nm,0.3s,baz=180,slow=26,SNR=1.8						
DLBC	Dease Lake	10.64	112	Pn	Pn	05 15 17.8	-3.3
	comp=N,0.2nm,0.3s,baz=136,slow=23,SNR=2.0						
YKA	Yellowknife Ar	15.44	80	Pn	Pn	05 16 24.8	-1.5
	comp=N,0.0nm,0.3s,baz=288,slow=13,SNR=1.7						
PDAR	Pinedale Array	30.86	114	LR	LR	05 31 43.6	
	comp=N,45nm,18.2s,baz=45,slow=37						
TXAR	Lajitas Array	44.87	118	P	P	05 21 00.6	-2.6
	comp=N,0.2nm,0.7s,baz=336,slow=4.2,SNR=2.2						

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*IDC **06** 05:14:02.0±2.5, 7°.12S×129°.71E, h101km±23km, mb3.9/3, mb1 4.0/7, mb1mx3.5/36, mbtmp4.2/7, Error ellipse: s-maj=41.9km s-min=18.0km az=76.0*
*NEIC **06** 05:14:04.3±2.8, 7°.01S±0°.08×129°.78E±0°.10, h125km±9km, mb4.1/6, Error ellipse: s-maj=14.0km s-min=11.3km az=77.0*
*DJA **06** 05:14:04.1±0.4, 7°S±3°×13°0E±°, h159km±9km, M4.4/7, mb4.5/5, mB5.0/4, MLv4.4/7, Mw(mB)4.3/4*
ISC 06 05:14:04.2±0.6, **7°.10S**±0°.06×**129°.93E**±0°.06, **h150**km, **n38**, σ**2s23**/40, **mb4.1**/6, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.62	123		Pn	05 14 36.4	+1.3
SAUI	Saumlaki	1.62	123	P	Pn	05 14 36.6	+1.5
SAUI				S	Sn	05 15 00.8	+2.1
MSAI	Masohi	3.86	345	P	Pn	05 15 03.7	+1.0
FAKI	Fak Fak	4.75	29		Pn	05 15 13.8	-0.7
FAKI	Fak Fak	4.75	29	P	Pn	05 15 13.5	-0.9
MTN	Manton Dam	5.83	168		Pn	05 15 29.5	+0.8
SIJI	Sorong	6.33	12	P	Pn	05 15 34.5	-0.9
	6.9nm,0.3s,baz=222,slow=22,SNR=22						
SIJI				S	Sn	05 16 42.0	-4.9
	7.1nm,0.3s,baz=216,slow=22,SNR=8.3						
BATI	Baumata	6.92	243	P	Pn	05 15 44.2	+1.0
	40nm,0.3s,baz=43,slow=2.5,SNR=14						
BATI				S	Sn	05 16 59.6	-1.3
	17nm,0.3s,baz=89,slow=23,SNR=9.6						
BATI	Baumata	6.92	243	P	Pn	05 15 43.6	+0.3
	0.3nm895nm56nm,0.4s						
BAKI	Biak	8.51	47	P	Pn	05 16 05.4	+0.9
KNRA	Kununurra	8.60	188		Pn	05 16 04.8	-0.8
BKSI	Bulukumba	9.90	280	P	Pn	05 16 27.7	+4.7
KAPI	Kappang	10.33	281	Pn	Pn	05 16 20.7	-7.9
FITZ	Fitzroy Crossi	11.70	201	P	Pn	05 16 44.4	-2.3
	2.4nm,0.3s,baz=22,slow=11,SNR=72						
FITZ				S	Sn	05 18 45.5	-11
	2.6nm,0.3s,baz=75,slow=14,SNR=7.3						
FITZ	Fitzroy Crossi	11.70	201	Pn	Pn	05 16 44.7	-2.0
WB0	Warramunga Arr	13.32	161		Pn	05 17 05.9	-1.7
WRAB	Tennant Creek	13.46	162	Pn	Pn	05 17 07.8	-1.6
WRA	Warramunga Arr	13.47	162	P	Pn	05 17 07.8	-1.7
	1.3nm,0.3s,baz=337,slow=9.6,SNR=41						
WRA				S	Sn	05 19 29.4	-9.2
	2.2nm,0.3s,baz=335,slow=22,SNR=9.6						
WRA	Warramunga Arr	13.47	162	Pn	Pn	05 17 06.6	-2.9
WB2	Warramunga Arr	13.47	162	P	Pn	05 17 08.0	-1.5
WR0	Warramunga Arr	13.55	161	Pn	Pn	05 17 09.0	-1.4
COEN	Coen	14.70	119	Pn	P	05 17 27.7	+0.5
AS31	Alice Springs	16.91	167		Pn	05 17 53.5	+1.4
ASAR	Alice Springs	16.91	167	P	Pn	05 17 53.4	+1.3
	0.5nm,0.3s,baz=346,slow=8.6,SNR=22						
ASAR				S	S	05 20 52.4	-7.9
	0.7nm,0.3s,baz=318,slow=17,SNR=7.0						
ASAR	Alice Springs	16.91	167		Pn	05 17 54.6	+2.5
PSA00	Pilbara Seismi	17.38	213		Pn	05 17 58.0	+0.3
PSA00				IAmb	IAmb	05 18 04.9	
	comp=Z,8.0nm,0.6s						
CMAR	Chiang Mai Arr	39.74	310	P	P	05 21 24.2	+1.8
	comp=Z,0.9nm,0.3s,baz=144,slow=7.8,SNR=6.5						
MK31	Makanchi Array	68.27	327	P	P	05 24 50.8	+1.8
MK31				IAmb	IAmb	05 24 52.1	
	comp=Z,2.4nm,0.7s						
MKAR	Makanchi Array	68.27	327	P	P	05 24 51.6	+2.7
	comp=Z,3.6nm,0.5s,baz=118,slow=8.2,SNR=46						
MKAR	Makanchi Array	68.27	327	P	P	05 24 51.1	+2.2
MAKZ	Makanchi	68.45	327	P	P	05 24 51.0	+1.0
ZALV	Zalesovo Beam	71.64	334	P	P	05 25 10.1	+0.8
	comp=Z,0.4nm,0.3s,baz=117,slow=5.2,SNR=4.1						
KURK	Kurchatov	72.56	329	P	P	05 25 16.7	+1.9
KURK				IAmb	IAmb	05 25 17.4	
	comp=Z,2.4nm,0.5s						
KKAR	Karatay Array	73.37	319	P	P	05 25 20.3	+0.5
KKAR	Karatay Array	73.37	319	P	P	05 25 21.8	+2.0
KKAR				IAmb	IAmb	05 25 22.7	
	comp=Z,1.9nm,1.2s						
TORD	Torodi Ar. Bea	128.76	281	PKP	PKiKP	05 32 57.6	+2.1
	comp=Z,0.4nm,0.7s,baz=78,slow=1.1,SNR=2.6						
CPUP	Villa Florida	146.03	168	PKPbc	PKiKP	05 33 30.6	+0.2
	comp=Z,0.5nm,0.4s,baz=348,slow=7.1,SNR=3.3						
LPAZ	La Paz	150.69	143	PKPbc	PKPab	05 33 44.5	-3.2
	comp=Z,1.0nm,0.4s,baz=46,slow=3.3,SNR=19						

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*VAO **06** 05:48:26.7±1.7, 24°.86S×68°.37W, h176km, mb3.8*
*GUC **06** 05:48:28.6±0.6, 24°.55S×68°.14W, h187km±7km, ML3.9*
*IDC **06** 05:48:28.5±1.9, 24°.52S×67°.51W, h121km±18km, mb3.5/3, mb1 3.5/8, mb1mx3.4/27, mbtmp3.8/8, Error ellipse: s-maj=25.8km s-min=19.0km az=34.0*
ISC 06 05:48:29.3±0.9, **24°.52S**±0°.04×**68°.0W**±0°.1, **h157**km±13km, **n42**, σ**1s09**/58, **5C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO02	Mina Guanaco	1.61	246	⇑iP	Pn	05 49 01.1	+0.2
GO02				iS	Sn	05 49 25.6	+0.5
GO02				IAML		05 49 27.3	
	comp=E,1μm,0.4s						
PB15	IPOC Station P	1.90	313	⇓iP	Pn	05 49 04.4	+0.5
PB15				iS	Sn	05 49 31.5	+0.9
PB15				IAML		05 49 36.0	
	comp=E,2μm,0.3s						
LVC	Limon Verde	2.09	335	P	Pn	05 49 06.6	+0.3
	comp=E,16nm,0.3s,baz=143,slow=9.8,SNR=151						
LVC				S	Sn	05 49 35.3	+0.5
	comp=E,80nm,0.3s,baz=110,slow=23,SNR=21						
LVC	Limon Verde	2.09	335	eP	Pn	05 49 06.4	+0.1
LVC				iS	Sn	05 49 34.3	-0.5
LVC	Limon Verde	2.09	335	eP	Pn	05 49 06.7	+0.3
PB06	IPOC Station P	2.33	320	⇓iP	Pn	05 49 09.6	+0.7
PB06				iS	Sn	05 49 40.0	+0.5
PB06				IAML		05 49 43.7	
	comp=N,368nm,0.3s						
AC02	Maricunga	2.53	204	⇑iP	Pn	05 49 11.7	0.0
AC02				IAML		05 49 55.4	
	comp=N,126nm,0.1s						
PB10	IPOC Station P	2.57	292	eP	Pn	05 49 12.7	+1.0
PB10				IAML		05 49 53.6	
	comp=N,269nm,0.3s						
AC01	Pan de Azucar	2.88	235	⇑iP	Pn	05 49 14.8	-0.6
AC01				iS	Sn	05 49 49.8	-1.5
PB09	IPOC Station P	2.96	336	⇓iP	Pn	05 49 17.6	+1.0
PB09				iS	Sn	05 49 54.0	+0.9
PB04	IPOC Station P	2.96	317	⇓iP	Pn	05 49 17.0	+0.3
PB04				iS	Sn	05 49 52.5	-0.8
PB04				IAML		05 50 00.8	
	comp=E,238nm,0.4s						
PB07	IPOC Station P	3.29	327	⇓iP	Pn	05 49 21.0	+0.1
PB07				iS	Sn	05 50 00.7	-0.1
AC06	Mina Casimiro	3.55	217	⇓iP	Pn	05 49 23.1	-0.8
AC06				iS	Sn	05 50 04.9	-1.6
PB02	IPOC Station P	3.65	330	⇓iP	Pn	05 49 25.3	0.0
PB02				iS	Sn	05 50 08.1	-0.8
GO03	Copiap	3.68	213	⇑iP	Pn	05 49 24.5	-1.1
GO03				iS	Sn	05 50 07.8	-1.7
PB01	IPOC Station P	3.73	338	eP	Pn	05 49 26.1	-0.3
PB01				iS	Sn	05 50 10.3	-0.5
TA01	Diego Aracena	4.44	332	eP	Pn	05 49 34.2	-1.3
TA01				iS	Sn	05 50 25.5	-1.5
PB08	IPOC Station P	4.50	346	⇑iP	Pn	05 49 36.8	+0.2
PB08				iS	Sn	05 50 29.8	+0.8
HMBC	Humberstone	4.58	337	eP	Pn	05 49 36.2	-1.3
HMBC				iS	Sn	05 50 28.6	-2.1
AC04	Llanos de Chal	4.61	217	⇓iP	Pn	05 49 35.6	-2.0
AC04				iS	Sn	05 50 28.6	-2.5
GO01	Chusmiza	4.96	346	eP	Pn	05 49 42.5	-0.3
GO01				iS	Sn	05 50 38.4	-1.7
LPAZ	La Paz	8.19	359	P	Pn	05 50 26.2	+0.4
	comp=E,1.0nm,0.3s,baz=159,slow=7.1,SNR=30						
LPAZ				S	Sn	05 51 55.5	-2.1
	comp=E,0.0nm,0.3s,baz=255,slow=22,SNR=1.7						
LPAZ	La Paz	8.19	359	eP	Pn	05 50 25.7	-0.1
CPUP	Villa Florida	9.78	103	P	Pn	05 50 40.4	-5.9
	comp=E,0.1nm,0.3s,baz=192,slow=17,SNR=1.8						
SIV	San Ignacio	10.67	39	P	Pn	05 50 53.2	-4.9
	comp=E,1.9nm,0.3s,baz=233,slow=13,SNR=23						
VILB	Vilhena	13.65	34	eP	P	05 51 38.6	-1.5
PLCA	Paso Flores	16.31	187	P	Pn	05 52 09.9	+0.5
	comp=E,0.1nm,0.3s,baz=257,slow=7.5,SNR=3.2						
PDRB	Porto dos Gac	16.68	42	eP	P	05 52 13.9	+0.1
BB19B	Bebedouro	18.25	83	eP	P	05 52 30.7	-0.2
IPMB	Ipameri, GO	19.52	74	eP	P	05 52 43.9	-0.8
BDFB	Brasilia	20.70	68	P	P	05 52 55.8	-1.6
	comp=E,1.0nm,0.5s,baz=246,slow=10,SNR=6.0						
BDFB	Brasilia	20.70	68	eP	P	05 52 56.3	-1.1
NPGB	Novo Progresso	21.16	37	eP	P	05 53 02.7	+0.5
PEXB	Peixe	22.34	60	eP	P	05 53 13.8	-0.7
MACA	Manacapuru-AM	22.37	19	eP	P	05 53 14.9	+0.3
JANB	Januaria	24.13	71	eP	P	05 53 29.6	-1.3
SMTB	Santa Maria do	24.91	55	eP	P	05 53 38.3	+0.4
SDBA	SAO DESIDERIO	24.92	65	eP	P	05 53 38.5	+0.4
SJMB	Sao Joao De Ma	25.54	82	eP	P	05 53 42.3	-1.2
TORD	Torodi Ar. Bea	77.58	69	P	P	06 00 09.8	+1.4
	comp=E,1.5nm,0.6s,baz=258,slow=5.6,SNR=14						
YKA	Yellowknife Ar	94.31	340	P	P	06 01 33.9	+3.6
	comp=E,0.1nm,0.6s,baz=134,slow=4.5,SNR=2.2						
WRA	Warramunga Arr	130.76	208	PKP	PKiKP	06 07 25.9	+2.5
	comp=E,0.1nm,0.4s,baz=153,slow=1.8,SNR=1.8						

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*JMA **06** 05:53:03.5±0.1, 24°.86N×122°.32E, h26km, M2.4*
*TAP **06** 05:53:03.4, 24°.89N×122°.32E, h5km, ML2.7, D*
ISC 06 05:53:02.9±1.0, **24°.88N**±0°.03×**122°.33E**±0°.02, **h12**km±8km, **n53**, σ**0s53**/101, **1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.34	293	iP	Pg	05 53 09.4	-0.2
	baz=292						
TWB1				iS	Sg	05 53 13.6	-0.6
	baz=292						
EGS		0.36	265	eP	Pg	05 53 09.8	-0.4
	baz=262						
EGS				S	Sg	05 53 13.3	-1.7
	baz=262						
SXI1	Grass Mountain	0.46	298	⇑P	Pg	05 53 12.1	+0.1
	baz=297						
SXI1				S	Sg	05 53 18.2	0.0
	baz=297						
TIPB	Shuangxi	0.47	281	P	Pg	05 53 12.5	+0.5
	baz=280						
TIPB				S	Sg	05 53 18.4	+0.2
	baz=280						
TWC	Suao	0.51	238	iP	Pg	05 53 12.5	-0.4
	baz=236						
TWC				S	Sb	05 53 21.0	-0.2
	baz=236						
NWF	Wu-fen Shan	0.53	291	iP	Pg	05 53 13.6	+0.2
	baz=290						
NWF				iS	Sg	05 53 20.9	+0.5
	baz=290						
WFSB	Wu-fen Shan	0.53	291	P	Pg	05 53 13.5	+0.1
	baz=290						
WFSB				S	Sg	05 53 21.0	+0.6
	baz=290						
ILA	Ilan	0.54	258	P	Pg	05 53 13.5	0.0
	baz=256						
ILA				eS	Sg	05 53 21.0	+0.4
	baz=256						
TNOU	National Taiwa	0.57	298	P	Pg	05 53 14.5	+0.4
	baz=298						
TNOU				S	Sg	05 53 22.6	+0.9
	baz=298						
NDS	Dongshan	0.61	246	eP	Pg	05 53 15.3	+0.6
	baz=245						
NDS				eS	Sb	05 53 24.3	+0.3
	baz=245						
TWE	Neicheng	0.62	255	P	Pg	05 53 14.5	-0.5
	baz=253						
TWE				S	Sg	05 53 23.8	+0.6
	baz=253						
EWUT	Wuta	0.66	229	eP	Pb	05 53 16.4	0.0
	baz=228						
EWUT				eS	Sb	05 53 25.4	-0.1
	baz=228						
FUSB	Fushanzhiwuyua	0.68	260	P	Pg	05 53 16.4	+0.2
	baz=259						
FUSB				S	Sg	05 53 25.8	+0.6
	baz=259						
TWA	Mucha	0.68	279	P	Pg	05 53 16.0	-0.2
	baz=277						
TWA				S	Sg	05 53 25.8	+0.6
	baz=277						
ENA	Nanau	0.70	230	iP	Pg	05 53 16.5	0.0
	baz=228						
ENA				iS	Sb	05 53 26.7	+0.2
	baz=228						
JYNG	Yonagunijimaku	0.70	127	P	Pg	05 53 16.4	-0.1
JYNG				eS	Sb	05 53 27.0	+0.3
ENTT	Nioudou	0.73	251	S	Sb	05 53 27.7	+0.1
	baz=249						
NHDH	Xindian Distri	0.73	277	eP	Pb	05 53 17.8	+0.2
	baz=276						
NHDH				eS	Sg	05 53 27.4	+0.6
	baz=276						
YM01	YM01	0.74	291	P	Pg	05 53 17.3	+0.1
	baz=290						
YM01				S	Sg	05 53 27.2	+0.3
	baz=290						
YOJ	Yonaguni jima	0.75	124	P	Pg	05 53 17.4	+0.1
YOJ				S	Sg	05 53 27.9	+0.8
NWLT	Wulai	0.76	262	eP	Pg	05 53 18.1	+0.5
	baz=261						
NWLT				eS	Sg	05 53 27.9	+0.4
	baz=261						
TWY	Chenhua	0.77	301	P	Pg	05 53 18.3	+0.5
	baz=300						
TWY				S	Sb	05 53 29.1	+0.4
	baz=300						
NDT	Datong Townshi	0.79	250	P	Pb	05 53 18.7	+0.2
	baz=248						
NDT				S	Sb	05 53 29.1	-0.2
	baz=248						
ANP	Anpu	0.80	293	eP	Pg	05 53 18.3	0.0
	baz=292						
ANP				eS	Sg	05 53 28.3	-0.4
	baz=292						
LATG	Datong	0.81	245	P	Pg	05 53 18.6	+0.1
	baz=244						
LATG				S	Sb	05 53 29.8	0.0
	baz=244						
NTST	Danshui	0.85	290	eS	Sg	05 53 31.1	+0.7
	baz=289						
YHNB	Yeheng	0.89	257	P	Pb	05 53 19.9	-0.4
	baz=255						
YHNB				S	Sg	05 53 32.5	+0.7
	baz=255						
NSK	Sanguang	0.91	257	iP	Pb	05 53 20.1	-0.4
	baz=256						
NSK				S	Sn	05 53 33.6	-0.9
	baz=256						
ETL	Fush Village	0.96	222	eP	Pb	05 53 20.1	-1.5
	baz=221						
ETL				eS	Sg	05 53 34.8	+0.8
	baz=221						
NACB	Ninganchiao	0.97	224	P	Pb	05 53 20.7	-0.9
	baz=222						
NACB				S	Sb	05 53 33.5	-0.9
	baz=222						
NNSB	Datong	0.97	243	P	Pb	05 53 21.6	-0.2
	baz=241						
NNSB				S	Sb	05 53 34.3	-0.2
	baz=241						
NNS	Nan Shan	0.97	243	P	Pb	05 53 21.6	-0.1
	baz=242						
NNS				S	Sg	05 53 34.8	+0.4
	baz=242						
ETLH	Xiulin Townshi	1.02	229	P	Pb	05 53 22.6	0.0
	baz=228						
ETLH				S	Sb	05 53 35.8	-0.1
	baz=228						
TWD	Chiawan	1.04	220	eP	Pg	05 53 24.0	+1.1
	baz=218						
TWD				eS	Sn	05 53 37.2	-0.4
	baz=218						
NCU	National Centr	1.04	275	eS	Sg	05 53 36.7	+0.2
	baz=274						
NFF	Wufeng Townshi	1.13	258	eP	Pb	05 53 24.3	-0.1
	baz=256						
NFF				eS	Sn	05 53 40.0	0.0
	baz=256						

FUSS	Fushou	1.17	238	eP	Pn	05 53 23.7	-1.6
	baz=236						
FUSS				eS	Sn	05 53 40.9	-0.4
	baz=236						
WHF	Hehuan Shan	1.21	233	i P	Pn	05 53 25.9	-0.2
	baz=232						
WHF				S	Sb	05 53 41.9	0.0
	baz=232						
TWT	Tachien	1.22	240	P	Pg	05 53 27.2	+0.8
	baz=238						
TWT				eS	Sn	05 53 42.3	-0.1
	baz=238						
NSTT	Nanjuang	1.23	259	eP	Pg	05 53 27.6	+1.0
	baz=257						
NSTT				eS	Sg	05 53 43.1	+0.5
	baz=257						
CHGB	Renai	1.33	232	P	Pb	05 53 28.4	+0.5
	baz=231						
CHGB				eS	Sg	05 53 45.9	+0.1
	baz=231						
WHP	Taichung City	1.39	245	eP	Pb	05 53 29.4	+0.5
	baz=244						
WHP				eS	Sg	05 53 47.8	0.0
	baz=244						
OWD	Renai	1.40	229	eP	Pb	05 53 29.1	+0.1
	baz=228						
OWD				eS	Sb	05 53 47.4	+0.6
	baz=228						
WUSB	Renai	1.41	232	P	Pb	05 53 29.6	+0.4
	baz=230						
WUSB				eS	Sg	05 53 48.3	-0.1
	baz=230						
WCS	Beigang Elemen	1.53	238	eP	Pg	05 53 32.4	+0.1
	baz=237						
WCS				eS	Sb	05 53 51.3	+0.8
	baz=237						
VWDT	VWDT	1.56	224	eP	Pb	05 53 32.0	+0.3
	baz=223						
VWDT				eS	Sb	05 53 51.7	+0.4
	baz=223						
HGSD	Ruisui	1.61	211	eP	Pn	05 53 31.6	+0.5
	baz=210						
HGSD				eS	Sb	05 53 52.9	+0.1
	baz=210						
EHY	Hungye	1.65	214	eP	Pn	05 53 32.5	+0.8
	baz=213						
EHY				eS	Sb	05 53 54.0	+0.1
	baz=213						
TYC	Yuchr	1.66	234	eP	Pb	05 53 32.6	-0.7
	baz=233						
TYC				eS	Sb	05 53 53.3	-0.8
	baz=233						
JKRS	Kuro-shima	1.66	112	P	Pn	05 53 31.3	-0.5
JKRS				eS	Sn	05 53 52.5	-0.5
SSLB	Suanglung	1.66	229	eP	Pb	05 53 33.6	+0.2
	baz=228						
SSLB				eS	Sb	05 53 53.7	-0.6
	baz=228						
JIJ	Ishigaki jima	1.73	107	P	Pn	05 53 32.8	+0.1
YULB	Yu-li	1.75	213	eP	Pb	05 53 35.0	0.0
	baz=212						

*NEIC **06** 06:05:30.1±2.4, 51.°4N±0.°2×179.°78E±0.°08, h57km±10km, mb3.8/34, ML3.1(AEIC), Error ellipse: s-maj=22.6km s-min=7.0km az=177.0*
*AEIC **06** 06:05:31±4.8, 51.°3N±0.°2×179.°96W±0.°08, h23km±6km, Error ellipse: s-maj=22.5km s-min=6.5km az=171.0*
*IDC **06** 06:05:32.0±2.7, 51.°76N×179.°72E, h70km±20km, mb3.4/10, mb1 3.8/12, mb1mx3.5/54, mbtmp3.8/12, Error ellipse: s-maj=43.7km s-min=14.4km az=5.0*
ISC 06 06:05:28.4±1.3**, 51.°3N**±0.°2×**179.°68E**±0.°05**, h52km, n73, σ1.s37**/70**, mb3.8**/15**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	Gareloi Southw	1.01	64		Pn	06 05 46.4	+0.1
GASW					Sn	06 05 58.1	-1.5
GALAA	Gareloi Lava P	1.05	66		Pn	06 05 47.2	+0.4
TASE	Tanaga Southea	1.51	70		Pn	06 05 53.8	+0.8
TAFP	Tanaga Falls P	1.56	68		Pn	06 05 54.0	+0.3
TAFP					Sn	06 06 13.0	+0.2
TAPA	Tanaga Point A	1.64	72		Pn	06 05 55.3	+0.6
KIMD	Kanaga Island	1.97	76		Pn	06 06 00.0	+0.7
KIKV	Kanaga Island	2.04	73		Pn	06 06 01.1	+0.9
KIWB	Kanaga Island	2.04	74		Pn	06 06 01.0	+0.8
ADK	Adak	2.33	75	Pn	Pn	06 06 05.1	+0.9
GSCK	Great Sitkin C	2.67	74		Pn	06 06 10.6	+1.7
GSTD	Great Sitkin T	2.70	73		Pn	06 06 11.0	+1.7
GSMY	Great Sitkin M	2.75	73		Pn	06 06 10.9	+1.0
GSTR	Great Sitkin T	2.76	72	Pn	Pn	06 06 12.0	+1.9
SHEM	Shemya Is, Ala	3.72	294	P	Pn	06 06 24.5	+1.4
	16nm,0.3s,baz=78,slow=3.3,SNR=5.8						
SHEM				S	Sn	06 07 07.8	+2.2
	12nm,0.3s,baz=242,slow=23,SNR=1.4						
SMY	Shemya	3.72	294	Pn	Pn	06 06 25.2	+2.1
SPIA	Saint Paul Isl	8.30	41	Pn	Pn	06 07 29.0	+3.1
UNV	Unalaska Valle	8.78	68	Pn	Pn	06 07 34.4	+2.0
SVW2	Sparrevohn	16.77	45		P	06 09 22.2	+1.4
SVW2				IAmb	IAmb	06 09 41.1	
	comp=Z,9.1nm,1.4s						
OHAK	Old Harbor	16.78	59	Pn	Pn	06 09 19.2	-0.2
N19K	Bonanza Creek	17.14	46		P	06 09 26.7	+1.6
N19K				IAmb	IAmb	06 09 31.4	
	comp=Z,12nm,1.4s						
KDAK	Kodiak Island	17.25	57	P	Pn	06 09 23.0	-2.2
	comp=Z,0.5nm,0.3s,baz=267,slow=4.0,SNR=10						
KDAK	Kodiak Island	17.25	57	Pn	Pn	06 09 23.6	-1.6
L19K	White Mountain	17.55	42		P	06 09 31.4	+1.9
RSO	Redoubt South	17.82	49	Pn	Pn	06 09 31.1	-1.4
K20K	Telida	18.41	39		P	06 09 40.5	+1.6
K20K				IAmb	IAmb	06 09 43.4	
	comp=Z,10nm,1.5s						
J20K	Nowinta River	18.79	37	P	P	06 09 44.6	+1.5
PPLA	Purkeypile	18.97	42	P	Pn	06 09 47.2	+0.9
PPLA				IAmb	IAmb	06 10 08.4	
	comp=Z,6.0nm,1.1s						
CAST	Castle Rocks	19.24	40	P	P	06 09 49.8	+1.8
SEW	Seward	19.31	51	P	P	06 09 50.1	+1.4
KTH	Kantishna Hill	19.77	41	P	P	06 09 55.3	+1.5
KTH				IAmb	IAmb	06 09 57.7	
	comp=Z,6.1nm,0.7s						
IMAR	Indian Mountai	19.91	33	P	P	06 09 57.4	+2.1
BPAW	Bear Paw Mtn.	19.98	39	P	P	06 09 57.3	+1.3
BPAW				IAmb	IAmb	06 10 10.2	
	comp=Z,5.3nm,1.2s						
TRF	Thorofare Moun	19.98	41	P	P	06 09 57.3	+1.0
TRF				IAmb	IAmb	06 10 03.5	
	comp=Z,13nm,1.5s						
H21K	Melozitna Rive	20.06	34	P	P	06 09 57.3	+0.4
H21K				IAmb	IAmb	06 10 03.3	
	comp=Z,4.8nm,0.8s						
I21K	Tanana	20.11	36	P	P	06 09 59.3	+1.9
I21K				IAmb	IAmb	06 10 04.3	
	comp=Z,7.4nm,1.1s						
RND	Reindeer	20.57	42	P	P	06 10 04.5	+2.0
RND				IAmb	IAmb	06 10 19.4	
	comp=Z,6.2nm,1.3s						
SCM	Sheep Creek Mo	20.74	47	P	P	06 10 04.9	+0.5
DHY	Denali Highway	21.08	43	P	P	06 10 09.3	+1.2
DHY				IAmb	IAmb	06 10 10.2	
	comp=Z,8.3nm,1.2s						
WRH	Wood River Hil	21.28	40	P	P	06 10 10.5	+0.4
H23K	Yukon River	21.31	35	P	P	06 10 13.5	+3.2
MDM	Murphy Dome	21.42	38	P	P	06 10 12.4	+0.8
MDM				IAmb	IAmb	06 10 15.2	
	comp=Z,2.8nm,0.6s						
ILAR	Eielson Array	21.87	39	P	P	06 10 15.2	-1.2
	comp=Z,0.4nm,0.6s,baz=238,slow=7.8,SNR=9.2						
H24K	Noodor Dome	21.93	36	P	P	06 10 19.4	+2.5
H24K				IAmb	IAmb	06 10 22.8	
	comp=Z,3.3nm,0.8s						
N25K	Chitina, Valde	21.95	48	P	P	06 10 18.2	+0.8
J25K	Salcha River,	22.43	40	P	P	06 10 22.3	-0.1
DOT	Dot Lake	22.68	43	P	P	06 10 25.6	+0.5
TOLK	Toolik Lake Re	22.76	29	P	P	06 10 26.4	+0.5
SCRK	Sand Creek	22.80	42	P	P	06 10 26.0	-0.5
L27K	Beaver Creek,	23.52	45	P	P	06 10 34.2	+0.8
L27K				IAmb	IAmb	06 10 36.7	
	comp=Z,3.4nm,1.0s						
BCAR	Beaver Creek A	23.54	45	P	P	06 10 34.2	+0.7
BMAR	Burnt Mountain	23.80	34	P	P	06 10 36.7	+0.7
EGAK	Eagle	24.20	41	P	P	06 10 40.8	+1.2
DAWY	Dawson	24.79	43	P	P	06 10 45.7	+0.7
DAWY				IAmb	IAmb	06 10 49.7	
	comp=Z,2.1nm,0.7s						
INK	Inuvik	28.04	35	P	P	06 11 12.3	-1.8
	comp=Z,1.5nm,1.1s,baz=246,slow=6.6,SNR=5.7						
H11N2	WAKE ISLAND Hy	33.11	202	T	T	06 47 00.8	
	baz=19,slow=75,SNR=18						
H11N3	WAKE ISLAND Hy	33.12	202	T	T	06 47 00.8	
	baz=19,slow=75,SNR=16						
H11N1	WAKE ISLAND Hy	33.13	202	T	T	06 47 02.5	
	baz=19,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	34.34	202	T	T	06 48 36.3	
	baz=19,slow=76,SNR=15						
H11S2	WAKE ISLAND Hy	34.35	202	T	T	06 48 35.3	
	baz=19,slow=76,SNR=8.9						
H11S3	WAKE ISLAND Hy	34.35	202	T	T	06 48 34.6	
	baz=19,slow=76,SNR=6.4						
YKA	Yellowknife Ar	35.95	46	P	P	06 12 23.4	0.0
	comp=Z,1.4nm,0.5s,baz=280,slow=8.0,SNR=35						
YKA				ScP	ScP	06 18 29.1	-1.5
	comp=Z,0.1nm,0.5s,baz=282,slow=2.6,SNR=3.6						
YKA	Yellowknife Ar	35.95	46	P	P	06 12 22.8	-0.6
NVAR	Mina Array Bea	44.50	82	P	P	06 13 36.4	+1.6
	comp=Z,0.6nm,0.7s,baz=298,slow=5.7,SNR=5.5						
PD31	Pinedale Array	47.23	71	P	P	06 13 56.9	+0.7
PD31				IAmb	IAmb	06 13 57.5	
	comp=Z,1.7nm,0.8s						
PDAR	Pinedale Array	47.23	71	P	P	06 13 56.9	+0.7
	comp=Z,1.6nm,0.7s,baz=296,slow=4.2,SNR=16						
PDAR	Pinedale Array	47.23	71	P	P	06 13 56.1	-0.1
ARCES	ARCESS Array B	57.96	350	P	P	06 15 13.7	-1.1
	comp=Z,2.8nm,0.9s,baz=22,slow=9.7,SNR=2.1						
MKAR	Makanchi Array	59.31	308	P	P	06 15 24.0	-0.5
	comp=Z,0.5nm,0.5s,baz=52,slow=6.2,SNR=4.3						
TXAR	Lajitas Array	59.60	80	P	P	06 15 27.4	+0.5
	comp=Z,0.3nm,0.7s,baz=308,slow=5.6,SNR=5.9						
NB2	NORSAR Subarra	67.59	354	P	P	06 16 18.4	-0.6
	comp=Z,0.9nm,0.6s,baz=8.1,slow=6.2						
NOA	NORSAR Array B	67.59	354	P	P	06 16 18.3	-0.6
	comp=Z,0.8nm,0.6s,baz=8.0,slow=6.4,SNR=5.3						
AKASG	Malin Array Be	75.28	341	P	P	06 17 04.0	-1.4
	comp=Z,0.3nm,0.3s,baz=18,slow=5.7,SNR=3.1						
AKASG	Malin Array Be	75.28	341	IAmb	IAmb	06 17 31.6	
	comp=Z,1.9nm,1.4s						

*IDC **06** 06:12:03.7±1.9, 3.°48S×131.°38E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/40, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=126.2km s-min=23.8km az=84.0*
*DJA **06** 06:12:07.3±0.3, 4°S±4°×13°1E±°, h74km±13km, M3.9/6, mb4.3/2, MLv3.7/6*
ISC 06 06:12:05.9±0.9**, 3.°74S**±0.°06×**131.°33E**±0.°08**, h35km, n9, σ2.s65**/15**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.22	49	P	Pn	06 12 27.8	+1.2
FAKI				S	Sn	06 12 42.7	+0.8
MSAI	Masohi	2.43	279	P	Pn	06 12 44.3	+1.2
SIJI	Sorong	2.85	359	Pn	Pn	06 12 47.5	-1.4
	6.3nm,0.3s,baz=50,slow=22,SNR=29						
SIJI				Sn	Sn	06 13 18.9	-3.1
	14nm,0.3s,baz=121,slow=22,SNR=10.0						
SWI	Sorong	2.85	359	P	Pn	06 12 47.7	-1.3
SWI				S	Sn	06 13 20.0	-2.2
FITZ	Fitzroy Crossi	15.32	201	Pn	Pn	06 15 39.3	-0.4
	0.5nm,0.3s,baz=28,slow=10,SNR=30						
FITZ				Sn	Sn	06 18 26.6	-1.8
	0.2nm,0.3s,baz=180,slow=5.2,SNR=1.9						
WRA	Warramunga Arr	16.37	170	Pn	Pn	06 15 52.8	-0.4
	0.4nm,0.3s,baz=350,slow=14,SNR=38						
WRA				Sn	Sn	06 18 48.4	-5.6
	0.4nm,0.3s,baz=352,slow=23,SNR=6.2						
ASAR	Alice Springs	19.97	173	P	Pn	06 16 40.3	+3.1
	1.9nm,0.4s,baz=351,slow=10,SNR=35						
ASAR				S	S	06 20 15.4	-2.8
	0.3nm,0.5s,baz=355,slow=28,SNR=4.7						
MKAR	Makanchi Array	66.27	325	P	P	06 22 52.8	+2.1
	0.3nm,0.4s,baz=122,slow=8.1,SNR=4.7						
TORD	Torodi Ar. Bea	129.40	284	PKP	PKiKP	06 31 15.0	+2.4
	0.3nm,0.9s,baz=93,slow=2.9,SNR=1.5						

*NNC **06** 06:14:38.2±1.1, 54.°22N×86.°66E, h0km, mb2.7, mpv2.7, Error ellipse: s-maj=10.3km s-min=5.0km az=7.0, Suspected Mining explosion.*
*IDC **06** 06:14:41.2±3.0, 54.°14N×86.°50E, h0km, mb1 3.3/1, mb1mx2.9/55, mbtmp3.3/1, ML3.3/1, Error ellipse: s-maj=22.4km s-min=12.3km az=58.0*
ISC 06 06:14:40.6±4.8**, 54.°6N**±0.°3×**83.°7E**±0.°1**, h0km, n6, σ0.s92**/9**, 3C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.93	136	i		06 20 10.0	
	baz=81,slow=326,SNR=6.8						
ZAA0	Zalesovo Array	0.93	136	⇑P	Pb	06 14 59.3	-0.2
	0.3nm,0.3s						
ZAA0				⇓S	Sn	06 15 15.0	+0.2
	12nm,1.3s						
ZALV	Zalesovo Beam	0.93	136	Pg	Pb	06 14 59.4	-0.1
	1.9nm,0.3s,baz=77,slow=16,SNR=18						
ZALV				Lg	Lg	06 15 15.3	
	4.9nm,0.3s,baz=76,slow=27,SNR=17						
MK31	Makanchi Array	7.89	187	Pn	Pn	06 16 36.0	-0.4
	0.3nm,0.3s,baz=28,slow=12,SNR=19						
MK31				Sn	Sn	06 18 06.1	-0.2
	0.5nm,0.5s,baz=25,slow=28,SNR=3.8						
MK31				⇑Lg	Lg	06 18 48.5	
	2.6nm,1.0s,baz=24,slow=28,SNR=5.5						
MKAR	Makanchi Array	7.89	187	Pn	Pn	06 16 37.7	+1.3
	0.5nm,0.3s,baz=24,slow=13,SNR=9.3						
MKAR				Sn	Sn	06 18 05.2	-1.1
	0.2nm,0.3s,baz=25,slow=27,SNR=6.2						
MKAR				Lg	Lg	06 18 47.4	
	0.1nm,0.3s,baz=20,slow=26,SNR=2.8						
MAKZ	Makanchi	7.90	189	⇓Pn	Pn	06 16 36.0	-0.5
	2.4nm,1.4s						
MAKZ				⇓Sn	Sn	06 18 07.8	+1.2
	1.9nm,1.0s						
MAKZ				⇑Lg	Lg	06 18 50.0	
	2.5nm,1.3s						

*OSPL **06** 06:16:08.1±1.2, 20.°45N×73.°27W, h31km±45km, ML2.0*
SSNC 06 06:16:08.9±1.2**, 19.°64N×73.°42W, h9km**±8km**, MD3.1, ML1.6, MW3.4, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	Masc	0.93	305	eP	Pg	06 16 24.5	-2.3
MASC				eS	Sg	06 16 36.8	-2.1
MASC				IAML		06 16 40.0	
	comp=N,20nm,0.2s						
MASC				IAML		06 16 40.0	
	comp=E,18nm,0.1s						
GTBY	Guantanamo Bay	1.62	280	eP	Pn	06 16 35.1	-2.5
GTBY				eS	Sn	06 16 55.0	-3.7
GTBY	Guantanamo Bay	1.62	280	i P	Pn	06 16 35.2	-2.4
GTBY				eS	Sn	06 16 54.7	-4.0
GTBY				IAML		06 16 54.9	
	comp=Z,8.2nm,1.6s						
MOAC	Moa	1.77	305	eP	Pn	06 16 36.6	-3.1
MOAC				eS	Sn	06 16 57.8	-4.5
MOAC				IAML		06 16 59.0	
	comp=N,3.4nm,0.1s						
MOAC				IAML		06 16 59.4	
	comp=E,2.6nm,0.2s						
SDDR	Presa de Saban	2.12	108	eP	Pn	06 16 42.3	-2.3
SDDR	Presa de Saban	2.12	108	i P	Pn	06 16 42.8	-1.8
SDDR				eS	Sn	06 17 07.8	-3.2
SDDR				IAML		06 17 19.9	
	comp=Z,13nm,4.1s						
LONE2	Loma La Sidra	2.13	120	i P	Pn	06 16 45.7	+0.9
LONE2				eS	Sb	06 17 13.2	-1.3
LONE2				IAML		06 17 23.3	
	comp=Z,15nm,6.1s						
RCC	Rio Carpintero	2.17	280	eP	Pn	06 16 42.9	-2.4
RCC				eS	Sn	06 17 08.8	-3.5
RCC				IAML		06 17 09.9	
	comp=E,5.8nm,0.1s						
RCC				IAML		06 17 10.2	
	comp=N,3.7nm,0.2s						
LMGC	Las Mercedes	3.40	278	eP	Pn	06 17 00.1	-2.1
LMGC				eS	Sn	06 17 37.1	-5.6
LMGC				IAML		06 17 38.5	
	comp=N,2.8nm,0.1s						
LMGC				IAML		06 17 38.6	
	comp=E,2.0nm,0.1s						
CCCC	Cccc	4.36	292	eP	Pn	06 17 07.7	-7.7
CCCC				eS	Sn	06 17 53.0	-13

*IDC **06** 06:19:21.7±1.3, 38.°85N×20.°53E, h0km, mb3.7/9, mb1 3.8/14, mb1mx3.7/50, mbtmp3.7/14, ML3.7/5, Error ellipse: s-maj=22.8km s-min=16.5km az=146.0*
*IASPEI **06** 06:19:22.6±0.8, 38.°79N±0.°02×20.°65E±0.°03, h10km±4km, mb3.7/9, Error ellipse: s-maj=3.8km s-min=2.7km az=96.1, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*ATH **06** 06:19:22.5, 38.°79N×20.°67E, h9km±1km, ML3.5/10, Error ellipse: s-maj=1.4km s-min=0.8km az=279.0*
*THE **06** 06:19:23.0, 38.°79N×20.°63E, h8km±1km, ML3.5/11, Error ellipse: s-maj=1.5km s-min=0.6km az=99.0*
*PDG **06** 06:19:23.0±0.2, 38.°86N×20.°37E, h11km, ML3.6/13, Error ellipse: s-maj=0.7km s-min=0.3km az=90.0*
ISC 06 06:19:22.9±0.7**, 38.°79N**±0.°02×**20.°63E**±0.°02**, h9km**±3km**, n105, σ1.s15**/142**, mb3.7**/9**, 1C-3D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	Lefkada island	0.02	99	P	Pg	06 19 24.1	-0.5
LKD2				S	Sg	06 19 25.1	-0.7
LKD2				AML	AML	06 19 25.4	
LKD2				AML	AML	06 19 25.6	
LKD2	Lefkada island	0.02	99	P	Pg	06 19 24.2	-0.4
LKD2				S	Sg	06 19 25.1	-0.7
TSLK	Tsoukalades, L	0.04	31	P	Pg	06 19 24.1	-0.6
TSLK				S	Sg	06 19 25.6	-0.4
TSLK				AML	AML	06 19 25.9	
TSLK				AML	AML	06 19 25.9	
TSLK	Tsoukalades, L	0.04	31	P	Pg	06 19 24.4	-0.3
TSLK				S	Sg	06 19 25.8	-0.2
	277μm,0.4s						
NYDR	Nydri-Lefkada	0.10	146	P	Pg	06 19 25.1	-0.2
NYDR				S	Sg	06 19 26.9	-0.1
NYDR	Nydri-Lefkada	0.10	146	P	Pg	06 19 25.1	-0.2
NYDR				S	Sg	06 19 27.2	+0.2
	74μm,0.5s						
DRAG	Dragano-Lefkad	0.12	202	P	Pg	06 19 25.8	+0.1
DRAG				S	Sg	06 19 27.9	+0.4
DRAG	Dragano-Lefkad	0.12	202	P	Pg	06 19 25.6	0.0
DRAG				S	Sg	06 19 28.2	+0.6
	56μm,0.3s						
EVGI	Lefkada island	0.17	173	P	Pg	06 19 26.6	+0.1
EVGI				S	Sg	06 19 30.1	+1.1
	87μm,0.4s						
FSK	Fiskardo	0.34	189	P	Pg	06 19 29.9	+0.4
FSK				S	Sb	06 19 35.5	-0.9
	12μm,0.3s						
KEF4	Livadi, Kephal	0.56	197	P	Pg	06 19 33.2	-0.5
DMLN	Damoulianata-K	0.59	200	P	Pg	06 19 33.7	-0.5
DMLN	Damoulianata-K	0.59	200	P	Pg	06 19 33.9	-0.4
DMLN				S	Sb	06 19 43.3	-0.4
	5μm,0.5s						
VLS	Valsamata	0.61	183	P	Pg	06 19 33.9	-0.8
VLS				S	Sg	06 19 43.4	+0.6
VLS				AML	AML	06 19 47.9	
	comp=E,11696μm,0.3s						
VLS				AML	AML	06 19 48.5	
	comp=N,7423μm,0.3s						
VLS	Valsamata	0.61	183	P	Pg	06 19 34.0	-0.8
VLS				S	Sb	06 19 44.1	-0.4
	comp=N,5μm,0.4s						
KEF3	Kipouria, Keph	0.63	201	P	Pg	06 19 33.9	-1.1
KEF3	Kipouria, Keph	0.63	201	P	Pg	06 19 33.9	-1.1
KEF3				S	Sg	06 19 43.9	+0.7
PSDA	Pessada-Kefalo	0.68	183	P	Pg	06 19 35.1	-0.8
PSDA				S	Sg	06 19 45.3	+0.5
	comp=N,968nm,0.3s						
IGT	Igoumenitsa	0.78	343	P	Pg	06 19 36.9	-0.9
IGT				S	Sg	06 19 48.0	+0.1
IGT				AML	AML	06 19 55.4	
	comp=E,5427μm,0.3s						
IGT				AML	AML	06 19 55.6	
	comp=N,4213μm,0.4s						
IGT	Igoumenitsa	0.78	343	P	Pg	06 19 37.0	-0.8
IGT				S	Sb	06 19 49.5	+0.4
	comp=N,2μm,0.3s						
JAN	Janina	0.88	11	P	Pg	06 19 39.4	-0.4
JAN				S	Sb	06 19 51.9	-0.3
JAN				AML	AML	06 19 58.4	
	comp=N,2714μm,0.9s						
JAN				AML	AML	06 20 00.0	
	comp=E,5088μm,0.7s						
JAN	Janina	0.88	11	P	Pg	06 19 39.5	-0.3
JAN				S	Sb	06 19 53.5	+1.3
	comp=E,2μm,0.5s						
EVR	Evrytania	0.93	82	P	Pg	06 19 39.9	-0.8
EVR				S	Sg	06 19 51.6	-1.2
EVR				AML	AML	06 19 60.0	
	comp=N,2538μm,0.7s						
EVR				AML	AML	06 20 03.1	
	comp=E,1903μm,0.4s						
EVR	Evrytania	0.93	82	P	Pg	06 19 39.9	-0.8
EVR				S	Sb	06 19 54.4	+0.8
	comp=E,1μm,0.6s						
RLS	Riolos of Patr	0.98	138	P	Pg	06 19 40.7	-1.1
RLS				S	Sg	06 19 54.3	-0.3
RLS				AML	AML	06 20 07.0	
	comp=N,4918μm,0.8s						
RLS				AML	AML	06 20 08.1	
	comp=E,4034μm,0.8s						
EFP	Efpalio	1.06	110	P	Pg	06 19 42.1	-1.2
EFP				S	Sg	06 19 55.9	-1.2
EFP				AML	AML	06 20 07.9	
	comp=N,3720μm,0.4s						
EFP				AML	AML	06 20 10.3	
	comp=E,4410μm,0.6s						
KASA	Kassiopi	1.09	331	P	Pn	06 19 44.3	-0.1
KEK	Kerkira	1.12	325	P	Pg	06 19 43.9	-0.6
MAKR	Makrakomi, Fth	1.19	79	P	Pg	06 19 45.0	-0.8
LAKA	Lakka	1.19	117	P	Pg	06 19 44.2	-1.6
DRO	Drossia	1.19	134	P	Pg	06 19 44.2	-1.5
THL	Klokotos Trika	1.32	54	P	Pn	06 19 47.4	-0.1
THL				S	Sg	06 20 05.4	0.0
THL				AML	AML	06 20 12.6	
	comp=N,1787μm,0.6s						
THL				AML	AML	06 20 12.8	
	comp=E,2099μm,0.6s						
AGG	Agios Georgios	1.35	80	P	Pn	06 19 47.7	-0.1
AGG	Agios Georgios	1.35	80	P	Pn	06 19 48.1	+0.3
AGG				AML	AML	06 20 13.9	
	comp=E,2458μm,0.5s						
AGG				AML	AML	06 20 18.2	
	comp=N,2854μm,0.6s						
KLV	Kalavryta, Ach	1.41	122	P	Pn	06 19 47.5	-1.1
ITM	Ithomi	1.91	147	P	Pb	06 19 57.9	+0.1
ITM	Ithomi	1.91	147	P	Pb	06 19 57.7	-0.1
FNA	Florina	2.07	16	eP	Pn	06 19 59.3	+1.5
OHR	Ohrid	2.32	3	i Pn	Pb	06 20 05.0	+0.1
GRG	Griva	2.56	32	eP	Pn	06 20 06.4	+2.0
HORT	Hortiatis	2.62	46	eP	Pn	06 20 07.2	+1.8
VAY	Valandovo	2.93	30	i Pn	Pb	06 20 15.6	+0.3
OUR	Ouranopolis	3.01	58	eP	Pn	06 20 12.0	+1.3
STIP	Stip	3.13	22	i Pn	Pn	06 20 14.9	+2.6
ULC	Ulcinj	3.34	342	ePn	Pn	06 20 14.9	-0.3
ULC				i Sn	Sn	06 20 54.3	-0.7
DRME	Dracevica, Mon	3.56	342	ePn	Pn	06 20 18.5	+0.2
DRME	Dracevica, Mon	3.56	342	ePn	Pn	06 20 17.9	-0.4
DRME				i Sn	Sn	06 20 59.7	-0.8
KKB	Krupnik	3.60	31	P	Pn	06 20 21.2	+2.4
MMB	Musomiste	3.67	39	P	Pb	06 20 24.8	-3.0
BUM	Brajici-Budva	3.75	340	ePn	Pn	06 20 20.3	-0.5
BUM				i Sn	Sn	06 21 03.8	-1.3
PDG	Podgorica	3.78	344	ePn	Pn	06 20 21.5	+0.3
TTG	Podgorica	3.78	344	ePn	Pn	06 20 21.1	-0.1
TTG				i Sn	Sn	06 21 05.0	-0.8
PVY	Plav	3.83	353	ePn	Pn	06 20 22.1	0.0
PVY				i Sn	Sn	06 21 07.0	-0.3
CEME	Cevo	3.97	341	⇓i Pn	Pn	06 20 23.6	-0.3
CEME				eSn	Sn	06 21 09.3	-1.3
HCY	Herceg Novi	4.00	337	ePn	Pn	06 20 23.3	-0.9
HCY	Herceg Novi	4.00	337	ePn	Pn	06 20 23.7	-0.5

HCY				*i* Sn	**Sn**	**06 21 09.7**	**-1.4**
RODP	**Rodopos**	**4.08**	**141**	*e*P	**Pn**	**06 20 28.1**	**+2.7**
SIGR	**SIGRI**	**4.09**	**82**	*e*P	**Pn**	**06 20 27.4**	**+1.9**
IVA	**Berane**	**4.11**	**352**	*e*Pn	**Pn**	**06 20 26.1**	**+0.2**
IVA				*i* Sn	**Sn**	**06 21 13.7**	**-0.5**
KOME	**Kolasin**	**4.14**	**349**	⇓*i*Pn	**Pn**	**06 20 26.2**	**-0.1**
KOME				*i* Sn	**Sn**	**06 21 13.9**	**-0.9**
NKME	**Niksic**	**4.17**	**343**	*e*Pn	**Pn**	**06 20 26.4**	**-0.2**
NKME				*i* Sn	**Sn**	**06 21 14.2**	**-1.3**
NKY	**Niksic**	**4.20**	**343**	⇓*i*Pn	**Pn**	**06 20 26.8**	**-0.4**
NKY				*i* Sn	**Sn**	**06 21 15.0**	**-1.4**
IMMV	**Iera Moni Meta**	**4.27**	**140**	*e*P	**Pn**	**06 20 30.9**	**+2.9**
CHOS	**Chios island**	**4.27**	**94**	*e*P	**Pn**	**06 20 30.1**	**+2.1**
TREB	**Trebinje**	**4.29**	**337**	*e*Pn	**Pn**	**06 20 27.3**	**-0.9**
VTS	**Vitosha**	**4.30**	**27**	P	**Pn**	**06 20 31.5**	**+2.9**
BRY	**Bratogost**	**4.40**	**340**	*e*Pn	**Pn**	**06 20 29.1**	**-0.8**
BRY	**Bratogost**	**4.40**	**340**	⇑*i*Pn	**Pn**	**06 20 29.4**	**-0.5**
BRY				*i* Sn	**Sn**	**06 21 19.4**	**-1.9**
UPM	**Unac-Piva**	**4.60**	**344**	*e*Pn	**Pn**	**06 20 32.6**	**0.0**
UPM	**Unac-Piva**	**4.60**	**344**	*e*Pn	**Pn**	**06 20 32.3**	**-0.3**
UPM				*i* Sn	**Sn**	**06 21 24.4**	**-1.8**
STON	**Ston**	**4.64**	**332**	*e*Pn	**Pn**	**06 20 32.0**	**-1.0**
URLA	**Izmir**	**4.70**	**93**	*e*P	**Pn**	**06 20 35.9**	**+2.1**
GVD	**Gavdhos**	**4.82**	**144**	*e*P	**Pn**	**06 20 39.0**	**+3.4**
IDI	**Anoyia**	**4.88**	**134**	*e*P	**Pn**	**06 20 38.9**	**+2.4**
RUDO	**Rudo**	**4.91**	**349**	*e*Pn	**Pn**	**06 20 38.2**	**+1.4**
MPEP	**Malo Peshtene**	**5.13**	**26**	P	**Pg**	**06 21 03.3**	**+2.2**
BBLS	**Lazići**	**5.15**	**350**	*e*Pn	Pn	06 20 46.7	+6.5
DIVS	**Divibare**	**5.32**	**355**	*e*Pn	**Pn**	**06 20 42.2**	**-0.3**
ZKR	**Zakros**	**5.79**	**128**	*e*P	**Pn**	**06 20 50.5**	**+1.7**
MGRS	**Mrkonjic Grad**	**6.22**	**336**	*e*Pn	**Pn**	**06 20 54.9**	**+0.2**
BLY	**Banja Luka**	**6.49**	**338**	*e*Pn	**Pn**	**06 20 59.8**	**+1.4**
MLR	**Muntele Rosu**	**7.77**	**29**	Pn	**Pn**	**06 21 18.7**	**+2.5**
	comp=N,0.1nm,0.3s,baz=102,slow=22,SNR=2.0						
MLR				Sn	**Sn**	**06 22 45.1**	**+0.9**
	comp=N,0.3nm,0.3s,baz=279,slow=19,SNR=1.1						
CRES	**Cresnjev**	**8.00**	**333**	*e*Pn	**Pn**	**06 21 18.3**	**-0.9**
CEY	**Cerknica**	**8.32**	**328**	*e*Pn	**Pn**	**06 21 23.1**	**-0.6**
SKDS	**Skadanscina**	**8.35**	**326**	*e*Pn	**Pn**	**06 21 21.8**	**-2.1**
SOKA	**Soboth**	**8.89**	**334**	*e*Pn	**Pn**	**06 21 30.4**	**-1.0**
OBKA	**Obir**	**8.92**	**332**	*i* Pn	**Pn**	**06 21 33.4**	**+1.6**
	comp=N,4.3nm,0.4s						
OBKA				*i* Sn	**Sn**	**06 23 13.8**	**+1.5**
	comp=N,11nm,0.7s						
RONA	**Rosalia, Austr**	**9.45**	**342**	*e*Pn	**Pn**	**06 21 38.5**	**-0.5**
	comp=N,2.4nm,0.5s						
KBA	**Koelnbreinsper**	**9.85**	**330**	*i* Pn	**Pn**	**06 21 45.6**	**+0.9**
	comp=N,3.0nm,0.6s						
BRTR	**Keskin Array B**	**10.13**	**81**	Pn	Pn	06 21 56.8	+8.3
	comp=N,0.2nm,0.3s,baz=256,slow=12,SNR=2.6						
MOA	**Molln**	**10.17**	**335**	*i* Pn	**Pn**	**06 21 49.0**	**+0.1**
	comp=N,3.6nm,0.6s						
GERES	**GERESS Array B**	**11.22**	**336**	Pn	**Pn**	**06 22 02.5**	**-0.9**
	comp=N,0.3nm,0.3s,baz=160,slow=12,SNR=3.4						
DAVOX	**Davos/Dischmat**	**11.22**	**319**	Pn	**Pn**	**06 22 03.4**	**-0.1**
	comp=N,0.4nm,0.3s,baz=341,slow=20,SNR=2.0						
KBZ	**Khabaz**	**17.44**	**66**	P	**P**	**06 23 28.5**	**+1.1**
	comp=N,0.1nm,0.3s,baz=262,slow=14,SNR=2.7						
ESDC	**Sonseca Array**	**19.06**	**280**	P	**P**	**06 23 44.2**	**-1.2**
	comp=N,0.2nm,0.3s,baz=98,slow=10,SNR=2.2						
FINES	**FINESS Array B**	**22.93**	**7**	P	**P**	**06 24 27.3**	**+0.5**
	comp=N,1.9nm,0.8s,baz=200,slow=12,SNR=2.1						
EKA	**Eskdalemuir Ar**	**22.98**	**324**	P	**P**	**06 24 26.9**	**-0.6**
	comp=N,8.4nm,1.0s,baz=122,slow=11,SNR=5.7						
NB2	**NORSAR Subarra**	**23.03**	**348**	P	**P**	**06 24 29.5**	**+1.5**
	comp=Z,2.1nm,0.9s,baz=159,slow=10						
NOA	**NORSAR Array B**	**23.03**	**348**	P	**P**	**06 24 26.5**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=159,slow=9.8,SNR=5.6						
BELG	**Belogornoye**	**23.11**	**45**	P	**P**	**06 24 29.6**	**+0.9**
	comp=Z,3.2nm,0.7s,baz=157,slow=16,SNR=1.7						
TORD	**Torodi Ar. Bea**	**30.56**	**218**	P	**P**	**06 25 37.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=30,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**44.91**	**59**	P	**P**	**06 27 37.3**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=267,slow=6.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**45.22**	**49**	P	**P**	**06 27 38.9**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=279,slow=8.8,SNR=3.8						
SCHQ	**Schefferville**	**58.07**	**317**	P	**P**	**06 29 16.2**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=224,slow=15,SNR=2.0						
YKA	**Yellowknife Ar**	**72.84**	**340**	P	**P**	**06 30 52.0**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=34,slow=4.9,SNR=3.2						

IDC 06 06:23:16.6±3.6**, 54°.36N×87°.12E, h0km, mb1 2.6**/1**, mb1mx2.6**/53**, mbtmp2.6**/1**, ML2.6**/1**, Error ellipse: s-maj=29.2km s-min=17.2km az=61.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**254**	*i*		06 31 15.0	
	baz=74,slow=326,SNR=7.3						
ZALV	**Zalesovo Beam**	**1.42**	**254**	Pg	Pn	06 23 41.6	-2.0
	1.1nm,0.3s,baz=73,slow=17,SNR=12						
ZALV				Lg	Lg	06 24 02.1	
	0.8nm,0.3s,baz=72,slow=28,SNR=12						
MKAR	**Makanchi Array**	**8.17**	**204**	Pn	Pn	06 25 18.3	+1.9
	0.1nm,0.3s,baz=24,slow=14,SNR=3.0						
MKAR				Sn	Sn	06 26 48.6	-0.8
	0.0nm,0.3s,baz=27,slow=29,SNR=3.3						

IDC 06 06:28:04.2±0.9**, 46°.90N×154°.85E, h0km, mb3.5**/8**, mb1 3.7**/8**, mb1mx3.5**/43**, mbtmp3.5**/8**, MS2.5**/1**, Ms1 2.5**/1**, ms1mx2.2**/78**, Error ellipse: s-maj=31.7km s-min=23.7km az=114.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.48**	**15**	LR	LR	06 33 09.4	
	comp=Z,33nm,18.6s,baz=191,slow=47						
INK	**Inuvik**	**40.88**	**33**	P	P	06 35 48.4	+1.1
	0.2nm,0.4s,baz=246,slow=12,SNR=1.1						
ZALV	**Zalesovo Beam**	**43.48**	**306**	P	P	06 36 07.4	-1.3
	0.8nm,0.5s,baz=62,slow=6.9,SNR=1.9						
MKAR	**Makanchi Array**	**47.92**	**298**	P	P	06 36 44.4	+0.3
	0.4nm,0.6s,baz=70,slow=9.3,SNR=3.7						
YKA	**Yellowknife Ar**	**50.09**	**37**	P	P	06 37 00.5	+0.1
	0.1nm,0.4s,baz=294,slow=6.8,SNR=1.9						
FINES	**FINESS Array B**	**64.40**	**335**	P	P	06 38 41.7	+0.2
	0.4nm,0.4s,baz=61,slow=8.6,SNR=4.7						
WRA	**Warramunga Arr**	**69.06**	**201**	P	P	06 39 10.8	-0.8
	0.6nm,0.8s,baz=23,slow=7.5,SNR=3.1						
ASAR	**Alice Springs**	**72.75**	**200**	P	P	06 39 34.9	+0.9
	0.5nm,0.5s,baz=15,slow=5.8,SNR=10						
TXAR	**Lajitas Array**	**76.38**	**62**	P	P	06 39 54.0	-1.4
	0.2nm,0.6s,baz=255,slow=5.5,SNR=2.5						

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*IDC **06** 06:31:45.3±0.6, 39°.14N×144°.48E, h0km, mb4.1/20, mb1 4.3/28, mb1mx4.2/49, mbtmp4.1/28, ML3.6/7, MS3.2/6, Ms1 3.2/6, ms1mx2.9/92, Error ellipse: s-maj=16.2km s-min=12.7km az=130.0*

*NIED **06** 06:31:49.0, 39°.32N×144°.28E, h49km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.05; $M_{\theta\theta}$0.14; $M_{\phi\phi}$1.90; $M_{r\theta}$-0.48; $M_{\theta\phi}$-0.02; $M_{\phi r}$2.23; Fault plane solution: $M_0$3.02000×10^{15} NP1: ϕ_s171.00000°, δ70.00000°, λ-95.00000°. NP2: ϕ_s6.00000°, δ21.00000°, λ-76.00000°.*

*JMA **06** 06:31:48.9±0.2, 39°.32N×144°.28E, h49km, M4.3*

*NEIC **06** 06:31:49.8±2.7, 39°.16N±0°.03×144°.3E±0°.1, h27km±5km, mb4.5/46, Error ellipse: s-maj=15.0km s-min=2.8km az=102.0*

ISC 06 06:31:48.4±0.5**, 39°.22N**±0°.04×**144°.37E**±0°.06**, h19km, n101, σ1s.98**/97**, mb4.5**/40**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.00**	**281**	P	**Pn**	**06 32 20.2**	**-1.0**
MIYJ				S	**Sn**	**06 32 43.2**	**-2.5**
JTH	**Tanohata**	**2.06**	**291**	P	**Pn**	**06 32 20.8**	**-1.2**
JTH				S	**Sn**	**06 32 44.9**	**-2.2**
OFUJ	**Ofunato**	**2.10**	**267**	P	**Pn**	**06 32 21.6**	**-0.9**
OFUJ				S	**Sn**	**06 32 46.1**	**-2.0**
JOM	**Ohasama**	**2.40**	**277**	P	**Pn**	**06 32 26.0**	**-0.6**
JOM				*e*S	**Sn**	**06 32 52.8**	**-2.6**
JMK	**Ichinoseki**	**2.46**	**265**	P	**Pn**	**06 32 26.9**	**-0.6**
JMK				S	**Sn**	**06 32 55.6**	**-1.4**
JANG	**Nango**	**2.48**	**299**	P	**Pn**	**06 32 26.0**	**-1.7**
JANG				*e*S	**Sn**	**06 32 53.5**	**-3.9**
ERM	**Erimo**	**2.94**	**342**	Pn	**Pn**	**06 32 33.8**	**-0.2**
JTM	**Tenmabayashi**	**2.97**	**303**	Pn	**Pn**	**06 32 34.0**	**-0.5**
JMM	**Marumori**	**3.11**	**245**		**Pn**	**06 32 35.1**	**-1.3**
JYK	**Kaneyama**	**3.13**	**266**	P	**Pn**	**06 32 36.6**	**-0.1**
JYK				*e*S	**Sn**	**06 33 12.9**	**-0.7**
JNBK	**Urakawa-nobuka**	**3.29**	**339**	P	**Pn**	**06 32 38.4**	**-0.5**
JNBK				S	**Sn**	**06 33 14.6**	**-2.8**
JOT	**Ohata**	**3.33**	**311**	P	**Pn**	**06 32 38.6**	**-0.8**
JOT				*e*S	**Sn**	**06 33 14.7**	**-3.7**
JCH	**Churui**	**3.47**	**348**	P	**Pn**	**06 32 40.2**	**-1.2**
JCH				S	**Sn**	**06 33 16.3**	**-5.6**
JFT	**Otama**	**3.59**	**243**	P	**Pn**	**06 32 42.9**	**-0.2**
JFT				S	**Sn**	**06 33 23.4**	**-1.6**
JAK	**Akkeshi**	**3.78**	**4**	P	**Pn**	**06 32 43.4**	**-2.2**
JAK				S	**Sn**	**06 33 24.3**	**-5.1**
JEW	**Eniwo**	**4.23**	**330**	Pn	**Pn**	**06 32 52.6**	**+0.8**
JEW					**Sn**	**06 33 38.0**	**-2.7**
NEM2	**Nemuro 2**	**4.27**	**14**	P	**Pn**	**06 32 49.2**	**-3.1**
NEM2				S	Sn	06 33 34.2	-7.3
JYT	**Yasato**	**4.46**	**229**		**Pn**	**06 32 53.9**	**-1.1**
JTKR	**Abashiri--Toko**	**4.76**	**356**	P	**Pn**	**06 32 57.3**	**-1.7**
JTKR				S	**Sn**	**06 33 48.2**	**-5.4**
JSD	**Sado**	**4.92**	**258**	Pn	**Pn**	**06 33 01.0**	**-0.4**
JHR	**Hokuryu**	**4.93**	**337**	P	**Pn**	**06 33 02.4**	**+1.0**
JHR				*e*S	**Sn**	**06 33 56.6**	**-1.3**
JKA	**Kamikawa-asahi**	**5.06**	**345**		**Pn**	**06 33 02.2**	**-1.1**
ASAJ	**Asahikawa**	**5.07**	**345**	Pn	**Pn**	**06 33 02.2**	**-1.1**
	5.0nm,0.3s,baz=199,slow=6.3,SNR=8.9						
ASAJ				Sn	**Sn**	**06 33 57.6**	**-3.6**
	3.1nm,0.3s,baz=33,slow=22,SNR=4.4						
BSO1	**Boso 1**	**5.31**	**212**	P	**Pn**	**06 33 04.2**	**-1.9**
BSO1				S	**Sn**	**06 34 03.0**	**-3.4**
JRY	**Ryogami san**	**5.39**	**235**	P	**Pn**	**06 33 07.0**	**-0.8**
JRY				S	**Sn**	**06 34 05.5**	**-3.8**
MJAR	**Matsushiro Arr**	**5.56**	**243**	Pn	**Pn**	**06 33 10.2**	**+0.1**
	2.4nm,0.3s,baz=113,slow=11,SNR=48						
MJAR				Sn	**Sn**	**06 34 09.0**	**-4.4**
	baz=320,slow=49,SNR=1.3						
MJAR				LR	LR	06 35 37.5	
	comp=Z,412nm,18.7s,baz=64,slow=41						
MJAR	**Matsushiro Arr**	**5.56**	**243**		**Pn**	**06 33 10.5**	**+0.4**
MAJO	**Matsushiro**	**5.56**	**243**		**Pn**	**06 33 10.1**	**0.0**
MJB9	**Matsu-Tunnel**	**5.56**	**243**		**Pn**	**06 33 10.6**	**+0.5**
JGF	**Kuroka**	**6.65**	**239**		**Pn**	**06 33 25.1**	**+0.1**
JHJ	**Hachijo jima 2**	**7.13**	**213**	Pn	**Pn**	**06 33 28.9**	**-2.7**
	5.2nm,0.3s,baz=220,slow=20,SNR=1.4						
JHJ				Sn	**Sn**	**06 34 44.5**	**-7.6**
	15nm,0.3s,baz=80,slow=21,SNR=6.0						
USRK	**Ussuriysk Ar.**	**10.50**	**302**	Pn	**Pn**	**06 34 19.7**	**+1.9**
	baz=101,slow=13,SNR=9.4						
USRK				LR	LR	06 38 02.5	
	comp=Z,146nm,21.4s,baz=134,slow=36						
USRK	**Ussuriysk Ar.**	**10.50**	**302**		**Pn**	**06 34 18.2**	**+0.4**
JNU	**Nakatsue**	**12.48**	**245**	Pn	**Pn**	**06 34 46.4**	**+1.4**
	0.2nm,0.3s,baz=286,slow=23,SNR=2.5						
KSRS	**Korea Array**	**13.03**	**267**	Pn	**Pn**	**06 34 54.2**	**+1.7**
	0.3nm,0.3s,baz=87,slow=13,SNR=13						
KSRS				LR	LR	06 39 27.8	
	comp=Z,83nm,20.6s,baz=85,slow=35						
KLR	**Kul'dur**	**13.47**	**322**	Pn	**Pn**	**06 35 01.1**	**+2.7**
	0.1nm,0.3s,baz=122,slow=13,SNR=2.5						
KLR				LR	LR	06 40 01.0	
	comp=Z,70nm,20.8s,baz=141,slow=36						
PETK	**Petropavlovsk-**	**16.64**	**29**	Pn	**Pn**	**06 35 38.2**	**-2.1**
	0.1nm,0.3s,baz=202,slow=19,SNR=2.2						
PETK				LR	LR	06 42 20.7	
	comp=Z,26nm,21.9s,baz=221,slow=38						
PETK	**Petropavlovsk-**	**16.64**	**29**	P	**Pn**	**06 35 41.7**	**+1.4**
MA2	**Magadan**	**20.77**	**9**	P	**P**	**06 36 28.2**	**+0.2**
	8.8nm,0.6s,baz=191,slow=16,SNR=8.4						
MA2	**Magadan**	**20.77**	**9**	P	**P**	**06 36 27.0**	**-1.0**
MA2				IAmb	IAmb	06 36 29.2	
	comp=Z,14nm,0.9s						
SEY	**Seymchan**	**24.23**	**9**	P	**P**	**06 37 04.3**	**+0.6**
	comp=Z,9.4nm,0.9s,baz=192,slow=7.4,SNR=22						
YAK	**Yakutsk**	**24.54**	**343**	P	**P**	**06 37 06.7**	**+0.2**
	comp=Z,9.3nm,0.4s,baz=20,slow=5.9,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**27.48**	**129**	T	T	07 06 11.8	
	baz=321,slow=76,SNR=3.1						
H11N1	**WAKE ISLAND Hy**	**27.48**	**129**	T	T	07 06 11.1	
	baz=321,slow=76,SNR=2.5						
H11N3	**WAKE ISLAND Hy**	**27.49**	**129**	T	T	07 06 15.0	
	baz=321,slow=76,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**28.30**	**130**	T	T	07 07 50.8	
	baz=342,slow=76,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**28.30**	**131**	T	T	07 07 41.4	
	baz=342,slow=76,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**28.31**	**130**	T	T	07 07 43.4	
	baz=342,slow=76,SNR=6.2						
SONM	**Songino Array**	**28.60**	**300**	P	**P**	**06 37 45.6**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=77,slow=9.0,SNR=2.2						
SONM				LR	LR	06 49 44.5	
	comp=Z,88nm,19.2s,baz=336,slow=38						
ZAA0	**Zalesovo Array**	**42.21**	**311**	P	**P**	**06 39 38.6**	**-1.2**
ZALV	**Zalesovo Beam**	**42.21**	**311**	P	**P**	**06 39 40.3**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=91,slow=7.7,SNR=8.1						
ZALV				PcP	**PcP**	**06 41 34.0**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=74,slow=3.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**42.21**	**311**	P	**P**	**06 39 39.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**44.30**	**255**	P	**P**	**06 39 58.8**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=99,slow=38,SNR=1.6						
MK31	**Makanchi Array**	**44.96**	**301**	P	**P**	**06 40 01.6**	**-0.6**
MKAR	**Makanchi Array**	**44.96**	**301**	P	**P**	**06 40 02.3**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=84,slow=9.0,SNR=8.2						
MAKZ	**Makanchi**	**45.17**	**301**	P	**P**	**06 40 02.5**	**-1.2**
H23K	**Yukon River**	**45.29**	**32**	IAmb	IAmb	06 40 06.9	
	comp=Z,4.7nm,0.9s						
MDM	**Murphy Dome**	**45.82**	**33**	IAmb	IAmb	06 40 11.0	
	comp=Z,6.0nm,0.9s						
HDA	**Harding Lake**	**46.38**	**34**	IAmb	IAmb	06 40 13.7	
	comp=Z,5.8nm,0.8s						
IL31		**46.40**	**33**	IAmb	IAmb	06 40 14.0	
	comp=Z,4.1nm,0.8s						
ILAR	**Eielson Array**	**46.40**	**33**	P	**P**	**06 40 13.3**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=264,slow=6.8,SNR=33						
KURK	**Kurchatov**	**46.45**	**307**	P	**P**	**06 40 13.1**	**-0.7**
L26K	**Log Cabin Wild**	**48.07**	**36**	IAmb	IAmb	06 40 28.3	
	comp=Z,5.3nm,0.8s						
L27K	**Beaver Creek,**	**48.75**	**36**	P	**P**	**06 40 31.9**	**+0.4**
BCAR	**Beaver Creek A**	**48.77**	**36**	P	**P**	**06 40 33.2**	**+1.5**
EGAK	**Eagle**	**48.84**	**33**	P	**P**	**06 40 31.4**	**-0.7**
EPYK	**Eagle Plains**	**50.46**	**31**	IAmb	IAmb	06 40 46.8	
	comp=Z,9.0nm,1.1s						
INK	**Inuvik**	**51.37**	**28**	P	**P**	**06 40 51.7**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=300,slow=6.8,SNR=13						
INK	**Inuvik**	**51.37**	**28**	P	**P**	**06 40 52.3**	**+1.1**
INK				IAmb	IAmb	06 40 52.5	
	comp=Z,3.3nm,0.8s						
A36M	**Sachs Harbour**	**53.35**	**23**	IAmb	IAmb	06 41 08.7	
	comp=Z,5.1nm,0.9s						
ABKAR	**Akbulak array**	**58.31**	**310**	IAmb	IAmb	06 41 53.9	
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**59.60**	**191**	P	**P**	**06 41 49.8**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=9.1,slow=7.0,SNR=18						
RES	**Resolute Bay**	**59.89**	**15**	P	**P**	**06 41 52.1**	**-0.2**
YKA	**Yellowknife Ar**	**60.74**	**31**	P	**P**	**06 41 58.6**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=302,slow=6.6,SNR=30						
ASAR	**Alice Springs**	**63.32**	**191**	P	**P**	**06 42 15.6**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=10,slow=6.9,SNR=10						
PINE	**Pine Mountain**	**67.15**	**52**	P	**P**	**06 42 42.0**	**+0.9**
FINES	**FINESS Array B**	**67.95**	**333**	P	**P**	**06 42 45.8**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=56,slow=7.1,SNR=9.0						
FFC	**Flin Flon**	**70.60**	**34**	P	**P**	**06 43 01.8**	**-0.2**
FFC				IAmb	IAmb	06 43 03.2	
	comp=Z,5.9nm,0.9s						
KBZ	**Khabaz**	**71.22**	**311**	P	**P**	**06 43 07.1**	**+1.0**
	comp=Z,3.6nm,0.9s,baz=346,slow=1.1,SNR=7.3						
KVN	**Kaiserville**	**71.59**	**54**	P	**P**	**06 43 09.3**	**+0.7**
KVN				IAmb	IAmb	06 43 10.3	
	comp=Z,7.2nm,1.2s						
NVAR	**Mina Array Bea**	**71.82**	**55**	P	**P**	**06 43 10.4**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=292,slow=5.7,SNR=11						
H17A	**Grant Village**	**72.88**	**46**	IAmb	IAmb	06 43 19.8	
	comp=Z,7.2nm,1.1s						
NC204	**NORSAR Array S**	**72.98**	**339**	P	**P**	**06 43 16.6**	**+0.2**
NB2	**NORSAR Subarra**	**73.05**	**338**	P	**P**	**06 43 16.7**	**0.0**
	comp=Z,1.3nm,0.7s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**73.05**	**338**	P	**P**	**06 43 17.1**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=37,slow=6.0,SNR=9.6						
HVU	**Hansel Valley**	**73.22**	**50**	P	**P**	**06 43 19.6**	**+1.4**
AKASG	**Malin Array Be**	**73.97**	**323**	P	**P**	**06 43 22.3**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=45,slow=5.9,SNR=8.8						
DUG	**Dugway, Tooele**	**74.17**	**51**	IAmb	IAmb	06 43 25.7	
	comp=Z,6.7nm,1.1s						
QSM	**Queen of Sheba**	**74.20**	**56**	IAmb	IAmb	06 43 26.5	
	comp=Z,7.2nm,1.3s						
PDAR	**Pinedale Array**	**74.47**	**47**	P	**P**	**06 43 25.8**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=245,slow=2.2,SNR=13						
CCUT	**Cedar City**	**75.46**	**53**	IAmb	IAmb	06 43 33.5	
	comp=Z,3.8nm,1.0s						
RDMU	**Red Mountain**	**75.86**	**49**	IAmb	IAmb	06 43 35.4	
	comp=Z,7.3nm,0.9s						
P17A	**Butcher Ranch,**	**75.86**	**50**	IAmb	IAmb	06 43 35.5	
	comp=Z,3.5nm,0.8s						
LCMT	**Little Creek M**	**75.87**	**54**	IAmb	IAmb	06 43 35.7	
	comp=Z,3.0nm,0.9s						
SRU	**San Rafael Swe**	**76.22**	**51**	IAmb	IAmb	06 43 37.2	
	comp=Z,6.5nm,0.8s						
PV11	**David Mesa, Pa**	**77.73**	**50**	IAmb	IAmb	06 43 45.5	
	comp=Z,5.2nm,0.8s						
BRTR	**Keskin Array B**	**79.11**	**313**	P	**P**	**06 43 52.3**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=307,slow=37,SNR=2.9						
MNTX	**Cornudas Mount**	**84.25**	**53**	IAmb	IAmb	06 44 20.2	
	comp=Z,6.6nm,1.4s						
TX32	**Lajitas Array**	**86.95**	**54**	IAmb	IAmb	06 44 33.3	
	comp=Z,6.3nm,1.4s						
TXAR	**Lajitas Array**	**86.95**	**54**	P	**P**	**06 44 32.5**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=296,slow=4.0,SNR=8.0						
SIV	**San Ignacio**	**147.90**	**51**	PKPbc	**PKPbc**	**06 51 32.4**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=281,slow=2.4,SNR=12						

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*IDC **06** 06:35:40.7±0.7, 39°.10N×144°.45E, h0km, mb3.7/15, mb1 4.0/20, mb1mx3.9/44, mbtmp3.8/20, ML3.3/5, Error ellipse: s-maj=20.7km s-min=15.5km az=124.0*

*JMA **06** 06:35:44.8±0.2, 39°.34N×144°.28E, h49km, M4.0*

*NIED **06** 06:35:44.9, 39°.34N×144°.28E, h49km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-6.49; $M_{\theta\theta}$0.85; $M_{\phi\phi}$5.64; $M_{r\theta}$-1.32; $M_{\theta\phi}$-0.15; $M_{\phi r}$4.10; Fault plane solution: $M_0$7.43000×10^{14} NP1: ϕ_s170.00000°, δ63.00000°, λ-97.00000°. NP2: ϕ_s4.00000°, δ28.00000°, λ-77.00000°.*

*NEIC **06** 06:35:45.4±2.1, 39°.20N±0°.07×144°.22E±0°.07, h29km±5km, mb4.2/6 Error ellipse: s-maj=10.8km s-min=5.4km az=146.0*

ISC 06 06:35:46.8±0.7**, 39°.25N**±0°.05×**144°.29E**±0°.07**, h50km, n52, σ2s.53**/61**, mb3.8**/17**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.94**	**280**	P	**Pn**	**06 36 16.0**	**-1.3**
MIYJ				S	**Sn**	**06 36 38.6**	**-1.9**
JTH	**Tanohata**	**1.99**	**291**	P	**Pn**	**06 36 16.4**	**-1.6**
JTH				S	**Sn**	**06 36 40.4**	**-1.4**
OFUJ	**Ofunato**	**2.04**	**266**	P	**Pn**	**06 36 17.5**	**-1.2**
OFUJ				S	**Sn**	**06 36 41.9**	**-1.1**
JOM	**Ohasama**	**2.33**	**276**	P	**Pn**	**06 36 21.9**	**-0.8**
JOM				S	**Sn**	**06 36 48.8**	**-1.3**
JMK	**Ichinoseki**	**2.41**	**264**	P	**Pn**	**06 36 22.8**	**-0.9**
JMK				*e*S	**Sn**	**06 36 50.5**	**-1.4**
JANG	**Nango**	**2.41**	**299**	P	**Pn**	**06 36 21.9**	**-1.8**
JANG				*e*S	**Sn**	**06 36 49.2**	**-2.9**
ERM	**Erimo**	**2.89**	**343**	Pn	**Pn**	**06 36 29.4**	**-0.9**
ERM					**Sn**	**06 37 00.9**	**-2.9**
JTM	**Tenmabayashi**	**2.91**	**303**	Pn	**Pn**	**06 36 30.2**	**-0.3**
JTM					**Sn**	**06 37 04.8**	**+0.5**
JMM	**Marumori**	**3.07**	**244**		**Pn**	**06 36 30.8**	**-1.9**
JYK	**Kaneyama**	**3.08**	**265**	P	**Pn**	**06 36 32.3**	**-0.6**
JNBK	**Urakawa-nobuka**	**3.24**	**339**	P	**Pn**	**06 36 34.3**	**-0.8**
JNBK				*e*S	**Sn**	**06 37 10.1**	**-2.3**
JOT	**Ohata**	**3.26**	**312**	*e*S	**Sn**	**06 37 10.6**	**-2.4**
JCH	**Churui**	**3.43**	**349**	P	**Pn**	**06 36 35.2**	**-2.5**
JCH				S	**Sn**	**06 37 12.1**	**-5.0**
JFT	**Otama**	**3.56**	**242**	P	**Pn**	**06 36 38.7**	**-0.8**
JFT				S	**Sn**	**06 37 18.2**	**-2.0**
JAK	**Akkeshi**	**3.75**	**5**	P	**Pn**	**06 36 39.1**	**-3.0**
JAK				*e*S	**Sn**	**06 37 20.3**	**-4.7**
JEW	**Eniwo**	**4.18**	**330**		**Sn**	**06 37 35.3**	**-0.1**
NEM2	**Nemuro 2**	**4.25**	**14**	P	**Pn**	**06 36 45.0**	**-4.0**
NEM2				S	**Sn**	**06 37 30.3**	**-7.0**
JYT	**Yasato**	**4.43**	**228**		**Pn**	**06 36 48.5**	**-3.0**
JTKR	**Abashiri--Toko**	**4.72**	**357**	P	**Pn**	**06 36 53.2**	**-2.2**
JTKR				S	**Sn**	**06 37 44.2**	**-4.6**
JSD	**Sado**	**4.87**	**257**	Pn	**Pn**	**06 36 55.2**	**-2.3**
ASAJ	**Asahikawa**	**5.02**	**346**	Pn	**Pn**	**06 36 58.4**	**-1.1**
	1.5nm,0.3s,baz=31,slow=31,SNR=1.9						
ASAJ				Sn	**Sn**	**06 37 52.1**	**-4.1**
	1.7nm,0.3s,baz=57,slow=30,SNR=1.8						
JRY	**Ryogami san**	**5.36**	**235**	P	**Pn**	**06 37 02.7**	**-1.5**
JRY				*e*S	**Sn**	**06 38 00.9**	**-3.7**
MAJO	**Matsushiro**	**5.52**	**243**		**Pn**	**06 37 05.1**	**-1.3**
MJAR	**Matsushiro Arr**	**5.52**	**243**	Pn	**Pn**	**06 37 06.2**	**-0.2**
	1.3nm,0.3s,baz=107,slow=10,SNR=13						
MJAR	**Matsushiro Arr**	**5.52**	**243**		**Pn**	**06 37 02.5**	**-3.8**
MJB9	**Matsu-Tunnel**	**5.52**	**243**		**Pn**	**06 37 05.2**	**-1.2**
JGF	**Kuroka**	**6.61**	**239**	Pn	**Pn**	**06 37 22.4**	**+1.0**
JHJ	**Hachijo jima 2**	**7.12**	**212**	Pn	**Pn**	**06 37 25.5**	**-2.8**
	3.8nm,0.3s,baz=76,slow=21,SNR=1.4						
JHJ				Sn	**Sn**	**06 38 40.6**	**-7.3**
	6.7nm,0.3s,baz=64,slow=22,SNR=1.4						
USRK	**Ussuriysk Ar.**	**10.43**	**302**	Pn	**Pn**	**06 38 14.9**	**+1.3**
	baz=104,slow=11,SNR=4.1						
KSRS	**Korea Array**	**12.97**	**267**	Pn	**Pn**	**06 38 49.9**	**+1.6**
	0.1nm,0.3s,baz=84,slow=14,SNR=2.3						
MA2	**Magadan**	**20.75**	**9**	P	Pn	06 40 24.2	-1.8
	2.7nm,0.2s,baz=196,slow=22,SNR=1.7						
SEY	**Seymchan**	**24.21**	**9**	P	**P**	**06 41 00.4**	**+2.0**
	3.3nm,0.7s,baz=78,slow=0.4,SNR=16						
ZALV	**Zalesovo Beam**	**42.14**	**311**	P	**P**	**06 43 36.1**	**+2.1**
	0.8nm,0.4s,baz=98,slow=8.2,SNR=3.7						
MKAR	**Makanchi Array**	**44.90**	**301**	P	P	06 43 58.6	+2.2
	0.5nm,0.9s,baz=78,slow=12,SNR=3.7						
ILAR	**Eielson Array**	**46.40**	**33**	P	**P**	**06 44 09.2**	**+1.2**
	1.2nm,0.7s,baz=258,slow=7.0,SNR=9.2						
INK	**Inuvik**	**51.37**	**28**	P	**P**	**06 44 47.4**	**+1.5**
	0.6nm,0.6s,baz=293,slow=5.4,SNR=5.8						
INK	**Inuvik**	**51.37**	**28**	IAmb	IAmb	06 44 54.1	
	comp=Z,0.5nm,0.9s						
WB0	**Warramunga Arr**	**59.44**	**191**	P	**P**	**06 45 44.0**	**-0.3**
WB0				IAmb	IAmb	06 46 00.8	
	comp=Z,1.8nm,1.1s						
WR0	**Warramunga Arr**	**59.60**	**191**	P	**P**	**06 45 45.5**	**0.0**
WRAB	**Tennant Creek**	**59.60**	**191**	P	**P**	**06 45 46.0**	**+0.5**
WRAB				IAmb	IAmb	06 45 47.0	
	comp=Z,5.4nm,1.4s						
WRA	**Warramunga Arr**	**59.62**	**191**	P	**P**	**06 45 45.3**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=8.4,slow=6.9,SNR=7.3						
WRA	**Warramunga Arr**	**59.62**	**191**	IAmb	IAmb	06 45 48.8	
	comp=Z,0.3nm,1.4s						
RES	**Resolute Bay**	**59.88**	**15**	P	P	06 45 48.7	+1.9
RES				IAmb	IAmb	06 45 49.3	
	comp=Z,3.2nm,0.8s						
YKA	**Yellowknife Ar**	**60.74**	**31**	P	**P**	**06 45 54.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=302,slow=6.8,SNR=8.9						
ASAR	**Alice Springs**	**63.34**	**191**	P	**P**	**06 46 10.2**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=7.0,slow=8.4,SNR=3.1						
FINES	**FINESS Array B**	**67.89**	**333**	P	**P**	**06 46 41.6**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=46,slow=8.0,SNR=5.8						
NVAR	**Mina Array Bea**	**71.85**	**55**	P	P	06 47 06.5	+1.8
	comp=Z,0.5nm,0.7s,baz=306,slow=6.9,SNR=4.6						
NOA	**NORSAR Array B**	**73.00**	**338**	P	**P**	**06 47 11.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=38,slow=5.9,SNR=3.1						
AKASG	**Malin Array Be**	**73.91**	**323**	P	P	06 47 18.7	+2.4
	comp=Z,0.2nm,0.3s,baz=54,slow=6.5,SNR=1.0						
PDAR	**Pinedale Array**	**74.50**	**47**	P	P	06 47 21.9	+1.7
	comp=Z,0.4nm,0.6s,baz=267,slow=3.0,SNR=5.1						
TXAR	**Lajitas Array**	**86.98**	**54**	P	**P**	**06 48 28.2**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=305,slow=3.2,SNR=2.8						
SIV	**San Ignacio**	**147.92**	**51**	PKPbc	**PKPab**	**06 55 27.0**	**-2.5**
	comp=Z,1.5nm,0.7s,baz=29,slow=2.5,SNR=7.1						

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*IDC **06** 06:54:47.4±0.4, 14°.15S×166°.78E, h0km, mb5.1/35, mb1 5.1/38, mb1mx5.0/43, mbtmp5.1/38, ML3.6/2, Error ellipse: s-maj=12.2km s-min=11.0km az=116.0*

*BJI **06** 06:54:50.8±0.0, 13°.62S×166°.99E, h20km, mb5.3/72, mB5.7/46*

*MOS **06** 06:54:51.6±1.1, 14°.10S×166°.59E, h34km, mb5.8/55, MS6.3/6, Error ellipse: s-maj=9.0km s-min=6.5km az=132.4*

*NEIC **06** 06:54:53.4±2.1, 14°.15S±0°.07×166°.70E±0°.08, h35km±1km, mb5.4/262, Mww5.8, Error ellipse: s-maj=12.7km s-min=10.8km az=64.0*

*NEIC **06** 06:54:55, 14°.22S×166°.66E, h24km, Moment Tensor Solution. Duration: 2s.2 Moment tensor: Scale 10^{17}Nm; M_{rr}5.77; $M_{\theta\theta}$-0.46; $M_{\phi\phi}$-5.31; $M_{r\theta}$1.25; $M_{\theta\phi}$1.33; $M_{\phi r}$-0.22; Fault plane solution: $M_0$5.85000×10^{17} NP1: ϕ_s356.00000°, δ43.00000°, λ106.00000°. NP2: ϕ_s155.00000°, δ49.00000°, λ76.00000°. Principal axes: T 6.0130, Plg79.0000°, Azm359.0000°; N -0.3387,*

Plg11.0000°, Azm165.0000°; P -5.6744, Plg3.0000°, Azm255.0000°;

*NOU **06** 06:54:55.8, 14.°29S×166.°47E, h32km, ML5.3/91, Vanuatu Islands*

ISC 06 06:54:52.9±0.4**, 14.°14S**±0.°04×**166.°71E**±0.°04**, h34**km±1km**, h34km:pP-P, n942,** σ1.s**53**/868**, mb5.4**/249**, 98C-43D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	3.84	158	P	Pn	06 55 52.5	+2.9
RTV	Rentapao	3.99	156	P	Pn	06 55 54.1	+2.4
LIFNC	LIFOU	6.62	176		Pn	06 56 27.2	-0.7
KOUNC	Koumac, New Ca	6.78	200		Pn	06 56 29.0	-1.1
KOUNC	Koumac, New Ca	6.78	200	⇓P	Pn	06 56 28.8	-1.3
KOUNC	Koumac, New Ca	6.78	200	P	Pn	06 56 30.6	+0.5
MARNC	Mare, Loyalty	7.41	170		Pn	06 56 38.6	-0.1
MARNC	Mare, Loyalty	7.41	170	⇑P	Pn	06 56 39.8	+1.1
MARNC	Mare, Loyalty	7.41	170	P	Pn	06 56 41.8	+3.1
DZM	Mont Dzumac	7.89	182	Pn	Pn	06 56 44.4	-1.0
	6.4nm,0.3s,baz=2.0,slow=21,SNR=40						
DZM				Sn	Sn	06 58 12.3	-1.3
	10nm,0.3s,baz=316,slow=23,SNR=1.8						
DZM	Mont Dzumac	7.89	182	*e*Pn	Pn	06 56 44.6	-0.8
	270nm,0.5s						
DZM				*e*Sn	Sn	06 58 11.7	-2.0
	493nm,0.8s						
DZM				*e*LR	LR	06 58 37.0	
	comp=Z,34µm,24.6s						
DZM	Mont Dzumac	7.89	182		Pn	06 56 44.7	-0.8
DZM	Mont Dzumac	7.89	182	⇑P	Pn	06 56 44.5	-1.0
NOUC	Port Laguerre	7.93	183	P	Pn	06 56 45.5	-0.3
HNR	Honiara	8.11	305	Pn	Pn	06 56 48.3	0.0
	97nm,0.3s,baz=195,slow=6.6,SNR=22						
HNR				Sn	Sn	06 58 14.7	-4.2
	25nm,0.3s,baz=230,slow=18,SNR=0.9						
HNR	Honiara	8.11	305	P	Pn	06 56 47.5	-0.8
HNR	Honiara	8.11	305		Pn	06 56 47.5	-0.8
HNR	Honiara	8.11	305	⇑P	Pn	06 56 48.4	0.0
HNR	Honiara	8.11	305	P	Pn	06 56 49.1	+0.7
ONTNC	Ouen Toro	8.13	182		Pn	06 56 48.4	-0.1
OUENC	Ouen Island, N	8.23	179		Pn	06 56 50.5	+0.4
PINNC	Pines Island,	8.46	175		Pn	06 56 54.0	+1.0
MSVF	Nonsavu	11.48	110	Pn	Pn	06 57 42.0	+7.4
	3.4nm,0.3s,baz=295,slow=6.5,SNR=5.3						
MSVF	Nonsavu	11.48	110	P	Pn	06 57 36.2	+1.6
MSVF	Nonsavu	11.48	110	Pn	Pn	06 57 36.2	+1.6
MSVF	Nonsavu	11.48	110	P	Pn	06 57 40.9	+6.3
FUNA	Funafuti	13.45	67		Pn	06 57 58.8	-2.7
FUNA	Funafuti	13.45	67	P	P	06 58 08.7	-1.7
NFK	Norfolk Island	14.87	176	P	Pn	06 58 21.2	+0.3
	baz=15						
RK1H	Rockhampton Ha	17.88	237	P	P	06 58 59.8	+0.2
EIDS	Eidsvold	18.45	230	P	Pn	06 59 06.4	+0.3
	baz=19,SNR=10						
EIDS	Eidsvold	18.45	230		Pn	06 59 06.2	+0.1
EIDS	Eidsvold	18.45	230	⇓P	P	06 59 05.4	-0.4
EIDS	Eidsvold	18.45	230	P	Pn	06 59 06.7	+0.6
LHI	Lord Howe Isla	18.67	201	P	Pn	06 59 14.6	+6.0
	baz=19						
PMG	Port Moresby	19.70	282	P	P	06 59 20.3	+0.6
	1.1nm,0.3s,baz=91,slow=10,SNR=14						
PMG	Port Moresby	19.70	282	*ce*P	Pn	06 59 20.6	-0.7
PMG				pmax	pmax		
	comp=Z,393nm,2.5s						
PMG	Port Moresby	19.70	282	P	P	06 59 18.4	-1.2
PMG				IAmb	IAmb	06 59 44.8	
	comp=Z,208nm,1.2s						
PMG	Port Moresby	19.70	282	⇓P	Pn	06 59 21.1	-0.2
PMG	Port Moresby	19.70	282	P	Pn	06 59 22.0	+0.7
CTA	Charters Tower	20.42	250	P	P	06 59 27.8	+0.4
	comp=Z,88nm,1.1s,baz=74,slow=12,SNR=31						
CTA	Charters Tower	20.42	250	P	P	06 59 28.3	+0.9
RMQ	Roma	20.81	231	P	P	06 59 32.8	+1.2
	baz=21,SNR=31						
RMQ	Roma	20.81	231	P	Pn	06 59 33.6	-0.5
AFI	Afiamalu	20.87	92	P	Pn	06 59 34.1	-1.0
	comp=Z,66nm,0.9s,baz=302,slow=11,SNR=6.8						
AFI	Afiamalu	20.87	92	P	Pn	06 59 35.7	+0.7
AFI				pmax	pmax		
	comp=Z,252nm,1.2s						
AFI	Afiamalu	20.87	92	P	Pn	06 59 35.7	+0.6
AFI				IAmb	IAmb	06 59 42.4	
	comp=Z,252nm,1.1s						
AFI	Afiamalu	20.87	92	⇓P	Pn	06 59 37.6	+2.6
AFI	Afiamalu	20.87	92	⇓S	Sn	07 03 31.1	+1.1
AFI	Afiamalu	20.87	92	P	Pn	06 59 38.1	+3.0
ARMA	Armidale	21.34	218	P	P	06 59 37.9	+0.6
	baz=22,SNR=18						
ARMA	Armidale	21.34	218	P	P	06 59 37.4	0.0
ARMA				IAmb	IAmb	06 59 48.8	
	comp=Z,157nm,1.2s						
ARMA	Armidale	21.34	218	⇓P	P	06 59 37.8	+0.4
ARMA	Armidale	21.34	218	P	P	06 59 38.1	+0.7
MTSU	Mount Surprise	21.87	257	P	P	06 59 43.4	+0.3
	baz=22,SNR=18						
MTSU	Mount Surprise	21.87	257	P	P	06 59 43.6	+0.5
OUZ	Omahuta	21.89	165	P	P	06 59 45.1	+2.1
OUZ				IAmb	IAmb	06 59 49.0	
	comp=Z,181nm,1.0s						
OUZ	Omahuta	21.89	165	⇑P	P	06 59 45.9	+2.9
PATS	Pohnpei	22.45	338	P	P	06 59 49.7	+0.5
	baz=23						
PATS	Pohnpei	22.45	338	P	P	06 59 49.0	-0.2
PATS	Pohnpei	22.45	338	P	P	06 59 52.9	+3.7
COEN	Coen	22.83	268	P	P	06 59 52.9	-0.4
COEN				IAmb	IAmb	07 00 07.8	
	comp=Z,106nm,1.1s						
COEN	Coen	22.83	268	⇑P	P	06 59 53.5	+0.1
COEN	Coen	22.83	268	P	P	06 59 53.4	+0.1
MGCD	Mangrove Creek	23.70	214	P	P	07 00 02.5	+0.7
	baz=24,SNR=6.9						
MGCD	Mangrove Creek	23.70	214	P	P	07 00 02.6	+0.8
KNTN	Kanton	24.11	64	P	P	07 00 08.3	+2.5
KNTN				IAmb	IAmb	07 00 10.3	
	comp=Z,156nm,1.3s						
KNTN	Kanton	24.11	64	P	P	07 00 12.7	+6.9
RIV	Riverview	24.15	213	P	P	07 00 06.6	+0.7
	baz=24,SNR=3.5						
RIV	Riverview	24.15	213	⇓P	P	07 00 10.1	+4.1
SYDH	Sydney Hard Ro	24.32	214	P	P	07 00 08.8	+1.3
	comp=Z,100nm,0.9s						
QLP	Quilpie	24.39	236	P	P	07 00 08.6	+0.3
	baz=24,SNR=16						
QLP	Quilpie	24.39	236	⇑P	P	07 00 07.6	-0.6
QLP	Quilpie	24.39	236	P	P	07 00 08.7	+0.4
HIZ	Hauiti	25.32	165	P	P	07 00 17.7	+1.1
HIZ				IAmb	IAmb	07 00 24.5	
	comp=Z,146nm,0.9s						
HIZ	Hauiti	25.32	165	P	P	07 00 22.3	+5.7
TLZ	Tolley Road	25.33	164	P	P	07 00 21.5	+4.8
OMRZ	Omania	25.36	162	P	P	07 00 24.6	+7.6
HAZ	Te Kaha	25.50	159	P	P	07 00 19.4	+1.2
MXZ	Matakaoa Point	25.51	158	P	P	07 00 21.4	+3.2
RUGZ	Raukumara Rang	25.65	160	P	P	07 00 22.1	+2.4
URZ	Urewera	25.73	161	P	P	07 00 19.1	-1.2
	comp=Z,6.8nm,0.4s,baz=311,slow=4.1,SNR=5.8						
URZ	Urewera	25.73	161	P	P	07 00 19.5	-0.8
URZ				IAmb	IAmb	07 00 27.4	
	comp=Z,98nm,1.0s						
URZ	Urewera	25.73	161	⇑P	P	07 00 21.5	+1.2
URZ	Urewera	25.73	161	P	P	07 00 20.2	-0.1
PRRZ	Plateau Road	25.73	162	P	P	07 00 24.8	+4.5
WMGZ	Waiomatatini S	25.77	158	P	P	07 00 21.8	+1.1
RATZ	Rangitukua	25.90	164	P	P	07 00 28.1	+6.2
CMSA	Cobar Meteorol	25.90	225	P	P	07 00 21.6	-0.3
	baz=26,SNR=15						
CMSA	Cobar Meteorol	25.90	225	P	P	07 00 22.7	+0.8
MWZ	Matawai	25.93	160	P	P	07 00 25.9	+3.7
TWGZ	Tauwhareparae	25.94	159	P	P	07 00 21.9	-0.4
PUZ	Puketiti	25.94	159	P	P	07 00 20.9	-1.3
RTZ	Ruatahuna	26.02	161	P	P	07 00 21.2	-1.8
MRHZ	Matea Rd	26.05	163	P	P	07 00 27.6	+4.3
WTVZ	West Tongariro	26.08	164	P	P	07 00 26.4	+2.8
NGZ	Ngauruhoe	26.14	164	P	P	07 00 27.4	+3.2
OTVZ	Oturere	26.15	164	P	P	07 00 24.6	+0.4
MTHZ	Maungataniwha	26.19	162	P	P	07 00 23.7	-0.8
CNB	Canberra Magne	26.24	213	P	P	07 00 25.6	+0.6
	baz=26,SNR=6.8						
CNB	Canberra Magne	26.24	213	P	P	07 00 25.7	+0.7
TUVZ	Tukino	26.24	164	P	P	07 00 27.1	+2.0
WNVZ	Wahianoa	26.28	164	P	P	07 00 28.4	+2.9
RAHZ	Arahi	26.32	162	P	P	07 00 26.8	+1.1
BKZ	Black Stump Fm	26.38	163	P	P	07 00 25.5	-0.7
BKZ	Black Stump Fm	26.38	163	P	P	07 00 24.8	-1.4
BKZ	Black Stump Fm	26.38	163	P	P	07 00 27.1	+0.9
MOVZ	Moawhango	26.40	164	P	P	07 00 27.3	+0.9
NMHZ	Naumai	26.41	162	P	P	07 00 26.6	+0.1
CAN	Canberra	26.44	214	P	P	07 00 25.9	-0.9
CAN				pmax	pmax		
	comp=Z,97nm,1.4s						
CAN	Canberra	26.44	214	P	P	07 00 25.9	-0.9
CAN				IAmb	IAmb	07 00 55.6	
	comp=Z,97nm,1.4s						
CAN	Canberra	26.44	214	P	P	07 00 30.7	+3.9
BHHZ	Black Hill Sta	26.56	164	P	P	07 00 27.6	-0.2
KWHZ	Kaweka Forest	26.60	163	P	P	07 00 28.7	+0.5
ARHZ	Aropaoanui	26.62	162	P	P	07 00 32.2	+3.9
QIS	Mount Isa	26.62	252	P	P	07 00 28.1	-0.5
	baz=27,SNR=8.4						
QIS	Mount Isa	26.62	252	P	P	07 00 26.9	-1.7
MCHZ	McNeill Hill	26.70	163	P	P	07 00 29.8	+0.8
KRHZ	Kereru	26.79	163	P	P	07 00 30.5	+0.6
PNHZ	Pukenui	26.99	164	P	P	07 00 32.2	+0.5
TSZ	Takapari Road	27.07	164	P	P	07 00 31.4	-1.0
QRZ	Quartz Range	27.07	170	IAmb	IAmb	07 00 37.3	
	comp=Z,304nm,1.8s						
QRZ	Quartz Range	27.07	170	P	P	07 00 35.8	+3.5
KAHZ	Kahuranaki	27.07	163	P	P	07 00 32.1	-0.4
DVHZ	Dannevirke	27.34	164	P	P	07 00 38.8	+4.0
PRHZ	Porangahau	27.44	163	P	P	07 00 36.7	+1.0
INKA	Innaminka	27.69	237	P	P	07 00 39.5	+1.4
HOWZ	Holdsworth Sta	27.74	166	P	P	07 00 37.8	-0.6
CAW	Cannon Point	27.84	166	P	P	07 00 39.2	0.0
THZ	Tophouse	28.04	170	P	P	07 00 40.0	-1.1
THZ				IAmb	IAmb	07 00 54.1	
	comp=Z,32nm,0.7s						
BSWZ	Blackbirch Sta	28.17	169	P	P	07 00 43.4	+1.2
MSWZ	Moikau Station	28.17	166	P	P	07 00 39.5	-2.7
MSWZ	Moikau Station	28.17	166	P	P	07 00 41.3	-0.9
PLWZ	Palliser	28.32	166	P	P	07 00 44.2	+0.7
KHZ	Kahutara	28.79	169	⇓P	P	07 00 46.8	-0.8
LTZ	Lake Taylor	28.94	172	P	P	07 00 48.2	-0.9
LTZ				IAmb	IAmb	07 00 53.0	
	comp=Z,79nm,1.0s						
STKA	Stephens Creek	28.97	228	P	P	07 00 48.8	-0.6
	comp=Z,23nm,0.7s,baz=39,slow=7.1,SNR=36						
STKA	Stephens Creek	28.97	228	P	P	07 00 49.4	0.0
	baz=29,SNR=33						
STKA	Stephens Creek	28.97	228	*d i*P	P	07 00 49.2	-0.2
STKA	Stephens Creek	28.97	228	P	P	07 00 49.3	-0.2
STKA	Stephens Creek	28.97	228	P	P	07 00 49.9	+0.4
FOZ	Fox Glacier	29.41	175	P	P	07 00 52.4	-0.8
FOZ				IAmb	IAmb	07 00 59.4	
	comp=Z,83nm,0.9s						
OXZ	Oxford	29.44	172	P	P	07 00 52.1	-1.4
OXZ				IAmb	IAmb	07 00 59.5	
	comp=Z,46nm,0.7s						
RPZ	Rata Peaks	29.71	174	P	P	07 00 56.2	+0.4
	comp=Z,30nm,0.7s,baz=326,slow=4.2,SNR=16						
RPZ	Rata Peaks	29.71	174	P	P	07 00 56.6	+0.7
RPZ				IAmb	IAmb	07 01 07.8	
	comp=Z,55nm,0.9s						
TOO	Toolangi	30.01	215	P	P	07 00 59.0	+0.4
	baz=30,SNR=3.9						
TOO	Toolangi	30.01	215	P	P	07 00 58.0	-0.6
TOO				pmax	pmax		
	comp=Z,45nm,1.1s						
TOO	Toolangi	30.01	215	P	P	07 00 58.0	-0.6
TOO				IAmb	IAmb	07 01 09.6	
	comp=Z,45nm,1.1s						
TOO	Toolangi	30.01	215	⇓P	P	07 00 59.4	+0.7
TOO	Toolangi	30.01	215	P	P	07 00 59.5	+0.9
LBZ	Lake Benmore	30.29	175	IAmb	IAmb	07 01 06.2	
	comp=Z,63nm,1.3s						
LCRK	Leigh Creek	30.83	233	P	P	07 01 06.4	+0.4
BRAT	Ballarat	30.88	217	P	P	07 01 07.3	+1.0
ODZ	Otahua Downs	30.98	175	P	P	07 01 06.7	-0.4
ODZ				IAmb	IAmb	07 01 11.3	
	comp=Z,48nm,1.2s						
MLZ	Mavora Lakes	31.15	178	P	P	07 01 07.8	-0.8
MLZ				IAmb	IAmb	07 01 13.8	
	comp=Z,47nm,1.0s						
DCZ	Deep Cove	31.22	179	P	P	07 01 10.9	+1.7
DCZ				IAmb	IAmb	07 01 17.5	
	comp=Z,89nm,1.0s						
GLAD	Gladstone	31.32	208	P	P	07 01 11.5	+1.4
WB0	Warramunga Arr	31.38	255	IAmb	IAmb	07 01 23.5	
	comp=Z,34nm,0.8s						
WC3	Warramunga Arr	31.42	255	P	P	07 01 08.7	-2.5
	baz=32						
WRAB	Tennant Creek	31.44	255	*ce*P	P	07 01 09.3	-2.1
WRAB				pmax	pmax		
	comp=Z,39nm,1.3s						
WRAB	Tennant Creek	31.44	255	P	P	07 01 09.4	-2.0
WRAB				IAmb	IAmb	07 01 22.4	
	comp=Z,46nm,1.3s						
WRAB	Tennant Creek	31.44	255	⇓P	P	07 01 09.3	-2.1
WRAB	Tennant Creek	31.44	255	P	P	07 01 10.1	-1.3
WRAB	Tennant Creek	31.44	255	P	P	07 01 09.4	-2.0
WRA	Warramunga Arr	31.45	255	P	P	07 01 09.7	-1.8
	comp=Z,14nm,0.9s,baz=84,slow=8.8,SNR=52						
ARPS	Mount Arapiles	31.64	220	P	P	07 01 12.7	-0.3
WHZ	Wether Hill Ro	31.67	178	IAmb	IAmb	07 01 17.8	
	comp=Z,43nm,1.1s						
HTT	Hallett	31.70	228	P	P	07 01 13.5	-0.1
	baz=32,SNR=12						
HTT	Hallett	31.70	228	⇓P	P	07 01 13.5	-0.1
HTT	Hallett	31.70	228	P	P	07 01 13.7	+0.1
OOD	Oodnadatta	31.89	240	P	P	07 01 17.2	+1.9
CORO	Coronation Par	32.09	208	P	P	07 01 18.1	+1.3
NAPP	Napperby	32.14	229	P	P	07 01 19.0	+1.6
ASAR	Alice Springs	32.38	248	P	P	07 01 17.8	-1.9
	comp=Z,9.9nm,0.7s,baz=73,slow=9.5,SNR=65						
ASAR	Alice Springs	32.38	248	P	P	07 01 18.8	-0.9
ASAR	Alice Springs	32.38	248	P	P	07 01 18.8	-0.9
WHYH	Whyalla	32.49	230	P	P	07 01 20.9	+0.4
	comp=Z,57nm,1.0s						
RAR	Rarotonga	32.65	107	P	P	07 01 23.8	+1.8
	comp=Z,22nm,0.9s,baz=274,slow=11,SNR=3.2						
RAR	Rarotonga	32.65	107	P	P	07 01 23.9	+1.8
RAR				pmax	pmax		
	comp=Z,172nm,1.6s						
TWOA	Tennyson Woods	32.78	226	P	P	07 01 26.5	+3.5
MOO	Moorlands	32.86	207	P	P	07 01 24.1	+0.5
	baz=33,SNR=8.1						
MOO	Moorlands	32.86	207	P	P	07 01 24.7	+1.1
TAU	Tasmania Unive	33.18	206	P	P	07 01 27.5	+1.2
KDU	Kakadu	33.32	268	P	P	07 01 27.4	-0.5
	baz=33,SNR=6.4						
KDU	Kakadu	33.32	268	⇑P	P	07 01 27.5	-0.5
KDU	Kakadu	33.32	268	P	P	07 01 27.4	-0.5
BBOO	Buckleboo	33.52	231	P	P	07 01 29.3	-0.2
	baz=34,SNR=34						
BBOO	Buckleboo	33.52	231	P	P	07 01 29.5	0.0
MULG	Mulgathing	34.07	236	P	P	07 01 33.4	-0.9
MTN	Manton Dam	34.60	268	P	P	07 01 38.7	-0.3
	baz=35,SNR=7.5						
MTN	Manton Dam	34.60	268	IAmb	IAmb	07 01 52.4	
	comp=Z,48nm,0.8s						
MTN	Manton Dam	34.60	268	P	P	07 01 39.2	+0.1
KNRA	Kununurra	36.67	263	P	P	07 01 55.8	-1.0
	baz=37,SNR=8.8						
KNRA	Kununurra	36.67	263	P	P	07 01 55.4	-1.4
KNRA	Kununurra	36.67	263	P	P	07 02 00.1	+3.3
SIJI	Sorong	37.45	288	P	P	07 02 04.1	+0.6
	comp=Z,3.1nm,0.3s,baz=71,slow=9.1,SNR=4.5						
BNDI	Bandanaira	37.50	281	P	P	07 02 05.3	+1.4
WRKA	Warakurna	37.66	247	P	P	07 02 03.7	-1.5
	baz=38,SNR=19						
WRKA	Warakurna	37.66	247	⇓P	P	07 02 03.6	-1.6
WRKA	Warakurna	37.66	247	P	P	07 02 03.9	-1.3
FORT	Forrest	39.14	238	P	P	07 02 17.1	-0.4
	baz=39,SNR=22						
FORT	Forrest	39.14	238	P	P	07 02 16.7	-0.8
FORT	Forrest	39.14	238	⇑P	P	07 02 16.0	-1.5
FORT	Forrest	39.14	238	P	P	07 02 17.1	-0.4
FITZ	Fitzroy Crossi	39.59	259	P	P	07 02 20.1	-1.3
	comp=Z,12nm,0.9s,baz=96,slow=5.4,SNR=22						
SANI	Sanana	41.98	283	⇑P	P	07 02 42.5	+1.2
SANI	Sanana	41.98	283	P	P	07 02 41.7	+0.5
	comp=Z,1µmcomp=Z,62nm,0.8s						
SANI	Sanana	41.98	283	P	P	07 02 44.8	+3.6
PAE	Paea	42.12	101	*e*P	P	07 02 44.7	+2.4
	comp=Z,12nm,1.1s						
PPT2	Papeete2	42.12	101	*e*P	P	07 02 45.2	+2.8
	comp=Z,47nm,1.2s						
PPT	Papeete	42.12	101	P	P	07 02 42.1	-0.3
	comp=Z,32nm,0.9s,baz=56,slow=21,SNR=1.5						
BATI	Baumata	42.22	270	P	P	07 02 43.9	+0.7
	comp=Z,49nm,0.6s,baz=1.7,slow=1.4,SNR=8.0						
BATI	Baumata	42.22	270	P	P	07 02 43.4	+0.2
	comp=Z,2µmcomp=Z,1µmcomp=Z,163nm,1.0s						
PMOR	Pomariorio Ree	43.88	97	*e*P	P	07 02 58.9	+2.3
	comp=Z,160nm,1.1s						
MMRI	Maumere	43.89	272	P	P	07 02 56.9	+0.2
	comp=Z,2µmcomp=Z,4µmcomp=Z,199nm,1.1s						
MMRI	Maumere	43.89	272	P	P	07 02 57.8	+1.1
VAH	Vaihoa	44.12	97	*e*P	P	07 03 01.2	+2.7
	comp=Z,72nm,0.9s						
PSA00	Pilbara Seismi	45.08	254	P	P	07 03 05.0	-1.1
PSA00	Pilbara Seismi	45.08	254	IAmb	IAmb	07 03 20.4	
	comp=Z,46nm,1.1s						
PSA00	Pilbara Seismi	45.08	254	P	P	07 03 08.3	+2.2
MBWA	Marble Bar	45.18	254	⇑P	P	07 03 06.4	-0.6
MBWA				pP	pwP	07 03 18.4	-1.3
BASI	Baing, Sumba	45.21	270	P	P	07 03 18.9	+12
GTOI	Gorontalo	45.68	285	P	P	07 03 12.9	+1.9
	comp=Z,399nmcomp=Z,21nm,1.0s						
APSI	Ampana	46.45	282	P	P	07 03 17.5	+0.5
	comp=Z,805nmcomp=Z,80nm,0.9s						
WBSI	Waikabubak, Su	46.46	270	P	P	07 03 17.4	+0.2
	comp=Z,2µmcomp=Z,139nm,0.9s						
MEEK	Meekatharra	46.52	247	P	P	07 03 16.9	-0.6
	baz=47,SNR=27						
MEEK	Meekatharra	46.52	247	P	P	07 03 17.0	-0.5
MRSI	Marisa	46.63	284	P	P	07 03 32.4	+14
BKSI	Bulukumba	46.67	276	P	P	07 03 19.1	+0.4
	comp=Z,666nmcomp=Z,28nm,1.5s						
BNSI	Bone	46.92	277	P	P	07 03 21.1	+0.4
	comp=Z,1µmcomp=Z,49nm,1.0s						
KAPI	Kappang	47.10	276	P	P	07 03 22.6	+0.5
	comp=Z,17nm,0.8s,baz=70,slow=5.9,SNR=6.5						
KAPI	Kappang	47.10	276	P	P	07 03 21.8	-0.3
KAPI				pmax	pmax		
	comp=Z,80nm,1.2s						
KAPI	Kappang	47.10	276	P	P	07 03 21.8	-0.3
KAPI				IAmb	IAmb	07 03 46.4	
	comp=Z,80nm,1.2s						
KAPI	Kappang	47.10	276	⇑P	P	07 03 23.8	+1.7
KAPI	Kappang	47.10	276	P	P	07 03 26.1	+4.0
KAPI	Kappang	47.10	276	⇑P	P	07 03 23.9	+1.8
SPSI	Sidrap Palu	47.36	278	P	P	07 03 24.5	+0.4
	comp=Z,797nmcomp=Z,28nm,1.0s						
JCJ	Chichijima	47.41	330	P	P	07 03 24.8	+0.5
	comp=Z,48nm,0.5s,baz=167,slow=5.5,SNR=5.1						
KLBR	Kellerberrin	47.92	240	P	P	07 03 27.4	-0.9
	baz=48,SNR=12						
KLBR	Kellerberrin	47.92	240	P	P	07 03 28.0	-0.3
TOLI2	Tolitoli	47.94	285	P	P	07 03 27.6	-1.1
TOLI2				IAmb	IAmb	07 03 46.2	
	comp=Z,35nm,1.1s						
TOLI2	Tolitoli	47.94	285	P	P	07 03 29.9	+1.3
PLAI	Plampang	48.18	271	P	P	07 03 30.8	+0.3
	comp=Z,2µmcomp=Z,2µmcomp=Z,171nm,1.0s						
PLAI	Plampang	48.18	271	P	P	07 03 30.9	+0.4
MPSI	Mapaga	48.51	283	P	P	07 03 33.6	+0.5
	comp=Z,40nm,0.9s						
MORW	Morawa	49.04	244	P	P	07 03 36.4	-0.6
	baz=49,SNR=8.8						
MORW	Morawa	49.04	244	P	P	07 03 35.9	-1.1
MORW	Morawa	49.04	244	⇓P	P	07 03 36.5	-0.4
MORW	Morawa	49.04	244	P	P	07 03 36.4	-0.6
RKGY	Rocky Gully	49.12	236	P	P	07 03 39.8	+2.3
MUN	Mundaring	49.28	240	P	P	07 03 38.5	-0.3
	baz=49,SNR=6.8						
MUN	Mundaring	49.28	240	P	P	07 03 37.0	-1.8
GIRL	Giralia	50.30	252	P	P	07 03 46.7	+0.1
	baz=50,SNR=4.6						
DNP	Denpasar	50.70	270	P	P	07 03 50.1	+0.4
	comp=Z,23µmcomp=Z,636nm,0.9s						
IGBI	Denpasar	50.73	270	P	P	07 03 50.3	+0.3
	comp=Z,5µmcomp=Z,428nm,0.9s						
SRBI	Singaraja	50.81	271	P	P	07 03 50.9	+0.3
	comp=Z,2µmcomp=Z,108nm,1.6s						
JAGI	Jajag, Banyuwa	51.76	270	P	P	07 03 58.1	+0.3
	comp=Z,2µmcomp=Z,166nm,0.9s						
JAGI	Jajag, Banyuwa	51.76	270	P	P	07 03 58.0	+0.3
ABJI	Asem Bagus	51.82	271	P	P	07 03 58.5	+0.4
	comp=Z,3µmcomp=Z,189nm,0.9s						
BBKI	Banjar Baru	52.23	277	P	P	07 04 01.7	+0.5
GMJI	Gumukmas	52.49	270	P	P	07 04 03.5	+0.4
	comp=Z,1µmcomp=Z,89nm,1.0s						
KKM	Kota Kinabalu	53.96	288	P	P	07 04 14.3	+0.2
KKM	Kota Kinabalu	53.96	288	⇓P	P	07 04 15.1	+1.0
KKM	Kota Kinabalu	53.96	288	P	P	07 04 18.5	+4.4
PCJI	Pacitan	54.70	270	P	P	07 04 19.8	+0.4
	comp=Z,2µmcomp=Z,219nm,1.0s						
UGM	Wanagama	55.39	270	P	P	07 04 24.8	+0.4
	comp=Z,139nm,1.2s						
UGM	Wanagama	55.39	270	P	P	07 04 24.0	-0.4
DRV	Dumont d'Urvil	55.40	193	⇓P	P	07 04 23.1	-0.4
YOGI	Yogyakarta	55.63	270	P	P	07 04 26.5	+0.4
	comp=Z,2µmcomp=Z,202nm,0.9s						
STKI	Sintang	56.43	280	P	P	07 04 32.4	+0.6
SBUM	Sibu	56.45	283	P	P	07 04 32.6	+0.7
SBUM				IAmb	IAmb	07 04 47.4	
	comp=Z,25nm,1.1s						
INU	Inuyama	56.70	331	P	P	07 04 32.8	-0.5
INU	Inuyama	56.70	331	P	P	07 04 34.4	+1.2
INU	Inuyama	56.70	331	⇑P	P	07 04 32.9	-0.3
INU				pP	pP	07 04 37.3	-5.1
JGF	Kuroka	56.74	331	⇑P	P	07 04 34.0	+0.3
JMN	Monobe	56.97	327	⇑P	P	07 04 36.0	+0.7
KPJI	Karang Pucung	57.05	270	P	P	07 04 36.7	+0.5
	comp=Z,107nm,1.0s						
MJAR	Matsushiro Arr	57.14	333	P	P	07 04 35.9	-0.5
	comp=Z,59nm,1.1s,baz=116,slow=4.1,SNR=25						
MJAR	Matsushiro Arr	57.14	333	IAmb	IAmb	07 04 39.8	
	comp=Z,64nm,1.1s						
MAJO	Matsushiro	57.14	333	P	P	07 04 35.9	-0.5
MAJO				pmax	pmax		
	comp=Z,138nm,1.4s						
MAJO	Matsushiro	57.14	333	P	P	07 04 35.9	-0.5
MAJO	Matsushiro	57.14	333	⇑P	P	07 04 35.8	-0.5
MAJO				pP	pwP	07 04 54.2	+4.2
KSM	Kuching	57.97	281	P	P	07 04 42.3	-0.4
KSM				IAmb	IAmb	07 04 56.1	
	comp=Z,45nm,1.1s						
KSM	Kuching	57.97	281	P	P	07 04 45.9	+3.2
	comp=Z,37nm,1.0s						
YULB	Yu-li	58.01	310	IAmb	IAmb	07 05 02.5	
	comp=Z,34nm,0.9s						
JNU	Nakatsue	58.13	325	⇑P	P	07 04 43.5	+0.1
JNU	Nakatsue	58.13	325	P	P	07 04 44.5	+1.0
NACB	Ninganchiao	58.24	310	IAmb	IAmb	07 05 00.1	
	comp=Z,71nm,1.2s						
JHS	Saijyo	58.35	328	P	P	07 04 44.5	-0.5
JHS	Saijyo	58.35	328	⇑P	P	07 04 45.2	+0.3
JSD	Sado	58.36	334	P	P	07 04 45.1	+0.2
JSD	Sado	58.36	334	⇑P	P	07 04 45.2	+0.3
LEM	Lembang	58.44	271	P	P	07 04 47.1	+0.9
	comp=Z,27nm,0.5s,baz=116,slow=7.6,SNR=7.7						
TPUB	Ta-pu	58.45	309	P	P	07 04 47.8	+1.9
	comp=Z,40nm,1.1s						
SSLB	Suanglung	58.49	310	IAmb	IAmb	07 04 52.4	
	comp=Z,55nm,1.3s						
SSLB	Suanglung	58.49	310	P	P	07 04 48.3	+2.1
YHNB	Yeheng	58.69	311	P	P	07 04 50.8	+3.2
TATO	Taipei	58.79	311	⇓P	P	07 04 49.2	+1.1
TATO				pP	sP	07 05 03.1	+1.5
CNJI	Cibinong	58.81	270	P	P	07 04 49.0	+0.5
	comp=Z,1µmcomp=Z,116nm,1.0s						
JTM	Tenmabayashi	59.60	338	⇑P	P	07 04 54.6	+1.2
CGJI	Cibinong	60.35	270	P	P	07 04 59.7	+0.5
	comp=Z,3µmcomp=Z,73nm,0.8s						
QZH	Quanzhou	60.92	309	⇑*i*P	P	07 05 03.3	+0.5
QZH				pmax	pmax		
	comp=Z,33nm,1.6s						
QZH				pmax	pmax		
	comp=Z,720nm,6.4s						
KASI	Kota Agung	61.75	271	P	P	07 05 09.3	+0.6
	comp=Z,1µmcomp=Z,71nm,1.0s						
JKA	Kamikawa-asahi	62.01	341	P	P	07 05 09.7	0.0
ASAJ	Asahikawa	62.01	341	P	P	07 05 09.7	-0.1
ASAJ				pmax	pmax		
	comp=Z,266nm,1.6s						
MDSI	Maura Dua	62.29	272	P	P	07 05 12.9	+0.6
	comp=Z,2µmcomp=Z,860nmcomp=Z,20nm,0.9s						
TJN	Taejon	62.48	325	*c i*P	P	07 05 12.8	-0.3
TJN	Taejon	62.48	325	P	P	07 05 15.1	+2.0
SSE	Sheshan	62.73	316	⇑P	P	07 05 16.1	+1.3

DSRI **Dabo** 62.91 277 P **P** 07 05 17.1 +0.7
comp=Z,15nm,0.8s
KSRS **Korea Array** 62.95 326 P **P** 07 05 16.5 +0.3
comp=Z,7.6nm,0.6s,baz=140,slow=7.1,SNR=24
KS19 **Wonju Array Si** 63.02 326 IAmb IAmb 07 05 20.0
comp=Z,42nm,1.1s
VNDA **Vanda** 63.43 181 P **P** 07 05 19.2 +0.3
comp=Z,15nm,0.7s,baz=1.4,slow=6.8,SNR=19
VNDA **Vanda** 63.43 181 P **P** 07 05 18.2 -0.7
VNDA pmax pmax
comp=Z,143nm,1.9s
VNDA **Vanda** 63.43 181 P **P** 07 05 18.2 -0.7
INCN **Inchon** 63.68 325 P **P** 07 05 24.9 +3.8
comp=Z,70nm,2.0s
INCN **Inchon** 63.68 325 ⇑P **P** 07 05 20.9 -0.1
INCN pP **sP** 07 05 33.0 -1.5
SBA **Scott Base** 63.72 180 P **P** 07 05 20.9 +0.1
SBA pmax pmax
comp=Z,68nm,1.0s
SBA **Scott Base** 63.72 180 P **P** 07 05 20.9 +0.1
SBA **Scott Base** 63.72 180 ⇓P **P** 07 05 21.6 +0.8
CASY **Casey** 63.87 202 ⇑P **P** 07 05 23.6 +1.7
GZH **Guangzhou** 64.00 305 P **P** 07 05 25.9 +2.5
MASI **Maura Aman, Be** 64.49 273 P **P** 07 05 27.6 +0.7
comp=Z,81nm,0.8s
YSS **Yuzh-Sakhalins** 64.50 342 *e*P **P** 07 05 26.0 -0.2
YSS pmax pmax
comp=Z,1μm,3.7s
YSS pmax pmax
comp=Z,90nm,1.4s
YSS **Yuzh-Sakhalins** 64.50 342 P **P** 07 05 26.9 +0.7
YSS **Yuzh-Sakhalins** 64.50 342 P **P** 07 05 28.7 +2.5
YSS **Yuzh-Sakhalins** 64.50 342 ⇑P **P** 07 05 26.9 +0.7
NJ2 **Nanjing** 64.88 316 ⇑P **P** 07 05 29.2 +0.2
NJ2 pP **pP** 07 05 35.8 -2.6
NJ2 sP **pwP** 07 05 41.9 -0.7
NJ2 pmax pmax
comp=Z,34nm,1.0s
TEY **Ternei** 64.92 337⇓ *e*P **P** 07 05 29.8 +0.8
TEY pmax pmax
comp=N,10.0nm,2.0s
TEY pmax pmax
comp=Z,20nm,1.8s
TEY pmax pmax
comp=E,10.0nm,2.0s
TEY pmax pmax
comp=Z,200nm,2.1s
TEY pmax pmax
comp=N,100nm,2.1s
TEY pmax pmax
comp=E,100nm,2.1s
QIZ **Qiongzhong** 64.98 299 P **P** 07 05 31.4 +1.5
QIZ S **S** 07 14 15.3 +5.4
QIZ pmax pmax
comp=E,440nm,11.9s
QIZ **Qiongzhong** 64.98 299 P **P** 07 05 32.1 +2.1
QIZ pP **pP** 07 05 39.0 -0.3
MSHR **Mys Shultsa** 65.21 332 *ce*P **P** 07 05 31.8 +0.9
MSHR pmax pmax
comp=Z,79nm,2.5s
VLA **Vladivostok** 65.31 333 *i* P **P** 07 05 30.7 -0.8
VLA pmax pmax
comp=Z,60nm,1.2s
CCD **Concordia, Ant** 65.37 191 ⇑P **P** 07 05 31.8 -0.2
CCD pP **pwP** 07 05 44.8 0.0
USRK **Ussuriysk Ar.** 66.12 333 P **P** 07 05 38.0 +1.2
comp=Z,48nm,1.0s,baz=134,slow=5.5,SNR=52
UGL **Uglegorsk** 66.62 343 *e*P **P** 07 05 40.7 +0.9
UGL pmax pmax
comp=Z,90nm,0.9s
PPI **Padang Panjang** 66.94 276 P P 07 05 52.9 +10
WHN **Wuhan** 67.15 312 ⇑P **P** 07 05 43.5 -0.1
WHN pmax pmax
comp=Z,430nm,2.1s
UBPT **Khong Chiam** 67.24 293 P **P** 07 05 44.9 +0.4
PET **Petropavlovsk** 67.25 355 *e*P **P** 07 05 43.2 -0.6
PET *e*S **S** 07 14 37.0 +0.8
PET pmax pmax
comp=Z,700nm,12.1s
PET pmax pmax
comp=Z,71nm,1.3s
PET pmax pmax
comp=Z,600nm,11.2s
PET **Petropavlovsk** 67.25 355 P **P** 07 05 42.9 -0.8
PET **Petropavlovsk** 67.25 355 P **P** 07 05 47.3 +3.5
comp=Z,166nm,1.0s
PET **Petropavlovsk** 67.25 355 ⇑P **P** 07 05 43.4 -0.3
PET pP **pP** 07 05 54.3 +1.0
ADK **Adak** 67.31 11 ⇓P P 07 05 49.6 +5.4
PEA0B **Petropavlovsk-** 67.42 354 *ce*P **P** 07 05 44.6 -0.3
PETK **Petropavlovsk-** 67.42 354 P **P** 07 05 44.8 -0.1
comp=Z,17nm,0.8s,baz=141,slow=7.6,SNR=16
GULI **GuiLin** 67.45 305 ⇑P **P** 07 05 47.5 +1.8
DL2 **Dalian** 67.51 323 P **P** 07 05 47.8 +2.1
DL2 pmax pmax
comp=Z,81nm,0.7s
MDJ **Mudanjiang** 67.51 332 P **P** 07 05 46.8 +1.2
MDJ pmax pmax
comp=Z,57nm,2.0s
MDJ pmax pmax
comp=Z,930nm,8.3s
MDJ **Mudanjiang** 67.51 332 P **P** 07 05 49.7 +4.1
MDJ **Mudanjiang** 67.51 332 ⇑P **P** 07 05 46.2 +0.6
MDJ pP **pwP** 07 06 01.0 +1.6
IPM **Ipoh** 67.70 281 P **P** 07 05 47.5 -0.1
IPM IAmb IAmb 07 06 18.6
comp=Z,77nm,1.5s
IPM **Ipoh** 67.70 281 P **P** 07 05 49.5 +1.9
comp=Z,31nm,1.2s
MNSI **Mandailing Nat** 68.06 277 P **P** 07 05 48.7 -1.1
comp=Z,3μmcomp=Z,33nm,0.8s
TYV **Tymovskoe** 68.06 344 *e*P **P** 07 05 50.1 +1.1
TYV *e*S **S** 07 14 46.4 +0.3
TYV pmax pmax
comp=Z,31nm,1.5s
TYV pmax pmax
comp=Z,600nm,3.0s
TYV smax smax
comp=N,500nm,6.5s
TYV smax smax
comp=E,1μm,6.5s
TYV MLR MLR
comp=N,29μm,19.0s
TYV MLR MLR
comp=Z,30μm,19.0s
SNY **Shenyang** 68.42 327 ⇓P **P** 07 05 52.0 +0.6
SNY pmax pmax
comp=Z,18nm,1.5s
TIA **Tai'an** 68.54 319 P **P** 07 05 52.0 -0.3
TIA pmax pmax
comp=Z,13nm,0.9s
CN2 **Changchun** 68.87 329 *e*P **P** 07 05 54.2 0.0
CN2 *e*S **S** 07 14 57.8 +1.9
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,700nm,10.3s
BNX **BinXian** 69.37 332 ⇓P **P** 07 05 57.3 +0.1
BNX pmax pmax
comp=Z,210nm,1.8s
BNX pmax pmax
comp=Z,1μm,7.4s
GRNR **Gornyy** 69.86 340⇑ *i*P **P** 07 06 01.3 +1.1
GRNR pmax pmax
comp=Z,50nm,1.3s
GRNR MLR MLR
comp=E,8μm,20.0s
GRNR MLR MLR
comp=N,15μm,19.0s
GRNR MLR MLR
comp=Z,17μm,20.0s
GSI **Gunungsitoli** 70.13 277 P **P** 07 06 01.8 -0.8
GSI IAmb IAmb 07 06 06.0
comp=Z,39nm,1.0s
GSI **Gunungsitoli** 70.13 277 P **P** 07 06 02.5 -0.1
comp=Z,36nm,0.7s
GSI **Gunungsitoli** 70.13 277 P **P** 07 06 04.2 +1.6
KLR **Kul'dur** 70.25 336 *c i*P **P** 07 06 03.3 +0.7
KLR pmax pmax
comp=Z,152nm,1.6s
ENH **Enshi** 70.58 310 ⇑P **P** 07 06 04.1 -0.9
NKL **Nikolayevsk** 70.66 344 *e*P **P** 07 06 00.7 -4.2
NKL *e*S **S** 07 15 14.5 -2.0
NKL pmax pmax
comp=N,1.0nm,1.0s
NKL pmax pmax
comp=Z,74nm,1.3s
NKL pmax pmax
comp=E,7.0nm,1.1s
NKL MLR MLR
comp=E,62nm,12.0s
NKL MLR MLR
comp=N,1.0nm,13.0s
NKL MLR MLR
comp=Z,10μm,19.0s
LYN **LuoYang** 70.68 315 ⇑P **P** 07 06 06.2 +0.7
LYN pmax pmax
comp=Z,70nm,1.1s
HNS **HongShan** 70.81 318 ⇑P **P** 07 06 06.8 +0.6
HNS pmax pmax
comp=Z,71nm,1.8s
GYA **Guiyang** 70.94 305⇓ *i*P **P** 07 06 10.3 +2.9
GYA pP pwP 07 06 19.6 -1.4
GYA pmax pmax
comp=Z,25nm,1.0s
GYA pmax pmax
comp=Z,760nm,7.2s
BJT **Baijiatuau** 71.46 321 IAmb IAmb 07 06 14.1
comp=Z,71nm,1.1s
BJT **Baijiatuau** 71.46 321 ⇑P **P** 07 06 10.7 +0.6
BJI **Beijing** 71.47 321 P **P** 07 06 10.4 +0.2
BJI pmax pmax
comp=Z,57nm,1.6s
BJI pmax pmax
comp=Z,630nm,6.9s
TIY **Taiyuan** 72.46 318 *e*P **P** 07 06 17.5 +1.2
TIY pmax pmax
comp=Z,72nm,1.2s
XAN **Xi'an** 72.89 313 P **P** 07 06 19.2 +0.3
XAN pP pwP 07 06 30.8 -1.8
XAN pmax pmax
comp=Z,19nm,1.5s
XAN pmax pmax
comp=Z,800nm,8.7s
KMI **Kunming** 73.54 302 ⇓P **P** 07 06 24.7 +1.6
KMI pP pwP 07 06 35.3 -1.6
KMI sP PcP 07 06 39.2 +0.1
KMI pmax pmax
comp=Z,51nm,1.2s
KMI pmax pmax
comp=Z,560nm,7.0s
XLT **XiLinHaoTe** 73.91 324⇑ *i*P **P** 07 06 25.3 +0.5
XLT pP pP 07 06 35.6 +1.4
XLT sP PcP 07 06 39.7 -0.4
XLT S **SKiKP** 07 15 52.0 +0.8
XLT pmax pmax
comp=Z,110nm,1.4s
XLT pmax pmax
comp=Z,740nm,7.0s
CMAR **Chiang Mai Arr** 74.22 294 P **P** 07 06 27.9 +0.9
comp=Z,25nm,1.1s,baz=120,slow=4.3,SNR=35
CHTO **Chiang Mai** 74.34 294 P **P** 07 06 27.8 +0.1
CHTO pmax pmax
comp=Z,35nm,1.2s
CHTO **Chiang Mai** 74.34 294 P **P** 07 06 27.8 +0.1
CHTO IAmb IAmb 07 06 31.8
comp=Z,35nm,1.1s
CHTO **Chiang Mai** 74.34 294 P **P** 07 06 28.7 +1.0
MA2 **Magadan** 74.59 352 P **P** 07 06 27.4 -0.9
comp=Z,16nm,0.8s,baz=163,slow=4.8,SNR=20
MA2 **Magadan** 74.59 352 *c i*P **P** 07 06 27.1 -1.1
MA2 pmax pmax
comp=Z,86nm,1.4s
MA2 **Magadan** 74.59 352 P **P** 07 06 27.3 -0.9
HHC **Hu-ho-hao-te** 74.79 320 *e*P **P** 07 06 30.8 +0.8
HHC sP PcP 07 06 47.3 +3.4
HHC pmax pmax
comp=Z,79nm,1.8s
HHC pmax pmax
comp=Z,550nm,5.9s
PZH **PanZhiHua** 74.93 303 P **P** 07 06 31.3 +0.2
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,540nm,8.0s
CD2 **Chengdu** 75.22 308 P **P** 07 06 33.2 +0.6
CD2 pP PcP 07 06 44.4 -1.6
CD2 sP sP 07 06 48.9 +2.6
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,570nm,7.3s
ZEA **Zeya** 75.54 337 *e*P **P** 07 06 35.0 +1.1
ZEA *e* 07 06 48.6
ZEA *e*S **S** 07 16 16.5 +4.4
ZEA pmax pmax
comp=E,200nm,4.0s
ZEA pmax pmax
comp=N,200nm,2.1s
ZEA pmax pmax
comp=Z,400nm,2.1s
ZEA pmax pmax
comp=N,40nm,1.1s
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA smax smax
comp=E,900nm,12.9s
BTO **Baotou** 75.63 319 *e*P **P** 07 06 35.6 +0.8
BTO LR LR
comp=N,49μm,12.2s
BTO LR LR
comp=E,27μm,15.5s
BTO **Baotou** 75.63 319 *e*P **P** 07 06 36.2 +1.4
QSPA **South Pole Qui** 75.88 180 P **P** 07 06 34.9 -1.0
QSPA IAmb IAmb 07 06 54.3
comp=Z,43nm,0.8s
QSPA **South Pole Qui** 75.88 180 ⇓P **P** 07 06 35.6 -0.3
LZH **Lanzhou** 77.53 312 ⇑P **P** 07 06 47.2 +1.5
LZH pP sP 07 06 58.8 -0.7
LZH sP pwP 07 07 03.5 +4.1
LZH pmax pmax
comp=Z,92nm,1.3s
SEY **Seymchan** 77.64 353 P **P** 07 06 45.3 -0.2
comp=Z,59nm,1.1s,baz=157,slow=6.1,SNR=54
SEY **Seymchan** 77.64 353 *i* P **P** 07 06 45.2 -0.2
SEY pmax pmax
comp=Z,111nm,1.4s
OHAK **Old Harbor** 78.43 21 IAmb IAmb 07 07 16.5
comp=Z,86nm,1.3s
OHAK **Old Harbor** 78.43 21 P **P** 07 06 49.4 -0.6
baz=220
KDAK **Kodiak Island** 79.11 21 P **P** 07 06 53.3 -0.4
comp=Z,18nm,0.9s,baz=214,slow=3.3,SNR=7.9
KDAK **Kodiak Island** 79.11 21 P **P** 07 06 53.1 -0.6
KDAK pmax pmax
comp=Z,47nm,1.1s
KDAK **Kodiak Island** 79.11 21 P **P** 07 06 53.1 -0.6
KDAK IAmb IAmb 07 07 20.8
comp=Z,47nm,1.1s
KDAK **Kodiak Island** 79.11 21 ⇓P **P** 07 06 56.8 +3.1
KDAK **Kodiak Island** 79.11 21 P **P** 07 06 53.1 -0.6
baz=220
GAMB **Gambell** 79.44 10 IAmb IAmb 07 06 58.2
comp=Z,66nm,1.7s
GAMB **Gambell** 79.44 10 P **P** 07 06 54.8 -0.5
baz=201
P18K **Big Mountain,** 79.50 19 IAmb IAmb 07 07 20.0
comp=Z,36nm,0.9s
P18K **Big Mountain,** 79.50 19 P **P** 07 06 55.2 -0.7
baz=218
Q19K **Cape Douglas,** 79.64 20 P **P** 07 06 55.9 -0.7
baz=219
CIT **Chita** 80.30 330 *e*P **P** 07 07 00.6 +0.2
CIT *e* 07 07 13.8
CIT pmax pmax
comp=Z,298nm,2.0s
O19K **Port Alsworth** 80.42 19 IAmb IAmb 07 07 04.6
comp=Z,44nm,1.4s
O19K **Port Alsworth** 80.42 19 P **P** 07 06 59.7 -1.0
baz=218
N19K **Bonanza Creek** 80.86 18 P **P** 07 07 03.4 +0.1
N19K **Bonanza Creek** 80.86 18 P **P** 07 07 03.2 -0.1
baz=218
HOM **Homer** 80.86 20 P **P** 07 07 03.1 0.0
baz=221
O20K **Slope Mountain** 80.86 19 P **P** 07 07 03.1 -0.1
baz=220
BRLK **Bradley Lake** 81.19 20 IAmb IAmb 07 09 22.1
comp=Z,104nm,1.8s
BRSE **Bradley Lake S** 81.22 20 P **P** 07 07 04.6 -0.5
baz=222
ANM **Nome** 81.30 12 IAmb IAmb 07 07 08.8
comp=Z,60nm,1.5s
ANM **Nome** 81.30 12 P **P** 07 07 05.2 -0.3
baz=208
YAK **Yakutsk** 81.31 343 *e*P **P** 07 07 04.4 -1.1
YAK pmax pmax
comp=Z,84nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=N,28nm,1.1s
YAK **Yakutsk** 81.31 343 P **P** 07 07 05.5 0.0
ULN **Ulaanbaatar** 81.34 324 *ce*P **P** 07 07 06.6 +0.4
ULN pmax pmax
comp=Z,162nm,1.7s
ULN **Ulaanbaatar** 81.34 324 P **P** 07 07 07.0 +0.7
ULN **Ulaanbaatar** 81.34 324 ⇑P **P** 07 07 06.6 +0.4
SONM **Songino Array** 81.70 324 P **P** 07 07 08.8 +0.6
comp=Z,14nm,0.9s,baz=147,slow=6.5,SNR=22
TNA **Tin City** 81.72 10 IAmb IAmb 07 07 10.6
comp=Z,68nm,1.7s
TNA **Tin City** 81.72 10 P **P** 07 07 06.9 -0.7
baz=205
M19K **Big River Lodg** 81.75 17 IAmb IAmb 07 07 13.7
comp=Z,35nm,1.4s
M19K **Big River Lodg** 81.75 17 P **P** 07 07 06.9 -0.9
baz=218
L19K **White Mountain** 81.83 17 P **P** 07 07 07.8 -0.5
L19K **White Mountain** 81.83 17 P **P** 07 07 07.4 -0.9
baz=218
CAPN **Captain Cook N** 81.86 19 P **P** 07 07 08.8 +0.4
baz=221
GTA **Gaotai** 81.87 314 ⇑P **P** 07 07 10.0 +0.8
GTA pP pP 07 07 17.0 -1.8
GTA sP sP 07 07 22.6 -0.4
GTA pmax pmax
comp=Z,46nm,2.0s
BILL **Bilibino** 81.96 360 *d i*P **P** 07 07 07.8 -1.0
BILL *e**PP **pP** 07 07 19.1 +0.5
BILL *e**SP **sP** 07 07 26.2 +3.9
BILL PPP PPP 07 12 04.0
BILL *i* S **S** 07 17 20.3 +0.2
BILL SSS SSS 07 26 04.0
BILL pmax pmax
comp=Z,94nm,1.3s
BILL MLR MLR
comp=Z,9μm,18.0s
TTA **Tatalina** 82.11 16 P **P** 07 07 09.8 0.0
TTA pmax pmax
comp=Z,9.0nm,1.0s
TTA **Tatalina** 82.11 16 P **P** 07 07 09.8 0.0
TTA **Tatalina** 82.11 16 P **P** 07 07 09.7 -0.2
baz=216
O22K **Cooper Landing** 82.12 20 P **P** 07 07 09.4 -0.4
baz=222
MAW **Mawson** 82.22 202 P **P** 07 07 11.5 +1.1
comp=Z,14nm,0.8s,baz=90,slow=6.4,SNR=6.5
MAW **Mawson** 82.22 202 P **P** 07 07 10.6 +0.2
baz=82,SNR=6.4
MAW **Mawson** 82.22 202 P **P** 07 07 11.5 +1.1
MAW pmax pmax
comp=Z,6.0nm,1.1s
L20K **Farewell, AK** 82.35 17 P **P** 07 07 09.7 -1.3
baz=218,SNR=21
Q23K **Middleton Isla** 82.54 22 P **P** 07 07 11.4 -0.6
baz=226
RC01 **Rabbit Creek A** 82.56 20 P **P** 07 07 11.3 -0.8
baz=222
SHL **Shillong** 82.81 299 P **P** 07 07 14.0 -0.5
SHL pmax pmax
comp=Z,147nm,1.4s
SHL **Shillong** 82.81 299 P **P** 07 07 14.0 -0.5
PWL **Port Wells** 82.86 20 P **P** 07 07 12.2 -1.5
baz=224,SNR=5.7
M22K **Willow** 82.93 19 P **P** 07 07 12.7 -1.2
baz=222
K20K **Telida** 82.98 17 IAmb IAmb 07 07 18.7
comp=Z,57nm,1.6s
K20K **Telida** 82.98 17 P **P** 07 07 12.9 -1.4
baz=218
PMR **Palmer** 83.13 20 IAmb IAmb 07 07 18.5
comp=Z,80nm,1.5s
PMR **Palmer** 83.13 20 P **P** 07 07 13.6 -1.5
baz=223,SNR=5.5
PPLA **Purkeypile** 83.17 18 IAmb IAmb 07 07 18.7
comp=Z,50nm,1.6s
PPLA **Purkeypile** 83.17 18 P **P** 07 07 14.3 -1.1
baz=220
KNK **Knik Glacier** 83.22 20 IAmb IAmb 07 07 20.5
comp=Z,43nm,1.2s
KNK **Knik Glacier** 83.22 20 P **P** 07 07 14.0 -1.6
baz=224
GLI **Glacier Island** 83.30 21 P **P** 07 07 14.8 -1.2
baz=225
GHO **Glory Hole Cre** 83.33 20 IAmb IAmb 07 07 20.4
comp=Z,64nm,1.3s
GCSA **Galena City Sc** 83.36 15 P **P** 07 07 14.9 -1.2
baz=216
CUT **Chulitna** 83.37 19 IAmb IAmb 07 07 41.9
comp=Z,35nm,0.9s
CUT **Chulitna** 83.37 19 P **P** 07 07 14.9 -1.3
baz=222
FID **Port Fidalgo** 83.42 21 IAmb IAmb 07 07 38.0
comp=Z,30nm,1.0s
EYAK **Cordova Ski Ar** 83.54 22 P **P** 07 07 14.7 -2.4
baz=226
SML **Sawmill** 83.55 20 IAmb IAmb 07 07 22.7
comp=Z,47nm,1.2s
SML **Sawmill** 83.55 20 P **P** 07 07 15.1 -2.2
baz=224,SNR=9.2
CAST **Castle Rocks** 83.60 17 IAmb IAmb 07 07 20.8
comp=Z,32nm,1.1s
CAST **Castle Rocks** 83.60 17 P **P** 07 07 15.6 -1.9
baz=220,SNR=22
J20K **Nowinta River** 83.61 16 IAmb IAmb 07 07 21.7
comp=Z,19nm,1.1s
BOD **Bodaibo** 83.72 335 *e*P **P** 07 07 17.5 -0.6
BOD pmax pmax
comp=Z,101nm,1.8s
CHUM **Lake Minchumin** 83.89 17 P **P** 07 07 17.0 -1.9
baz=220,SNR=10
SCM **Sheep Creek Mo** 83.90 20 P **P** 07 07 17.7 -1.4
baz=225,SNR=5.0
DIV **Divide** 83.93 21 IAmb IAmb 07 07 45.8
comp=Z,21nm,0.9s
KTH **Kantishna Hill** 84.04 18 IAmb IAmb 07 07 40.5
comp=Z,32nm,1.0s
KLU **Klutina** 84.13 21 IAmb IAmb 07 07 55.8
comp=Z,38nm,1.2s
KLU **Klutina** 84.13 21 P **P** 07 07 18.9 -1.4
baz=226
TRF **Thorofare Moun** 84.15 18 IAmb IAmb 07 07 23.1
comp=Z,38nm,1.1s
TRF **Thorofare Moun** 84.15 18 P **P** 07 07 18.8 -1.6
baz=222,SNR=13
GOMU **GeErMu** 84.20 309 P **P** 07 07 22.4 +0.8
GOMU pP PcP 07 07 27.7 +2.3
GOMU sP pP 07 07 30.6 -0.7
GOMU pmax pmax
comp=Z,16nm,1.8s
GOMU pmax pmax
comp=Z,250nm,6.3s
BMRM **Bremner River** 84.23 22 P **P** 07 07 19.0 -1.8
baz=227
WAT6 **Susitna Watana** 84.30 19 P **P** 07 07 18.9 -2.4
baz=224,SNR=14
BPAW **Bear Paw Mtn.** 84.43 17 IAmb IAmb 07 07 24.1
comp=Z,67nm,1.9s
BPAW **Bear Paw Mtn.** 84.43 17 P **P** 07 07 19.9 -1.8
baz=221
M24K **Tolsona, Glenn** 84.48 20 IAmb IAmb 07 08 02.6
comp=Z,50nm,1.1s
M24K **Tolsona, Glenn** 84.48 20 P **P** 07 07 21.3 -0.8
baz=226
N25K **Chitina, Valde** 84.67 21 IAmb IAmb 07 07 27.3
comp=Z,39nm,1.4s
N25K **Chitina, Valde** 84.67 21 P **P** 07 07 22.9 -0.1
baz=227
O02D **Mt. Diablo Mer** 84.72 46 IAmb IAmb 07 07 28.6
comp=Z,23nm,1.2s
O02D **Mt. Diablo Mer** 84.72 46 P **P** 07 07 22.6 -1.2
baz=247
ZAK **Zakamensk** 84.76 325 *e*P **P** 07 07 23.5 -0.3
ZAK pmax pmax
comp=Z,131nm,1.4s
ZAK pmax pmax
comp=Z,33nm,1.4s

MCK	McKinley	84.77	18	IAmb	IAmb	07 07 45.8	
	comp=Z,46nm,1.0s						
MCK	McKinley	84.77	18	P	P	07 07 22.6	-0.8
	baz=223,SNR=16						
DHY	Denali Highway	84.77	19	IAmb	IAmb	07 08 10.6	
	comp=Z,35nm,1.3s						
LSA	Lhasa	84.79	302	IAmb	IAmb	07 07 29.1	
	comp=Z,43nm,1.2s						
LSA	Lhasa	84.79	302	P	P	07 07 25.4	+0.5
LSA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
VRDI	Verde Repeater	84.82	22	IAmb	IAmb	07 07 27.9	
	comp=Z,29nm,1.4s						
RDOG	Red Dog Mine	84.86	11	IAmb	IAmb	07 07 27.0	
	comp=Z,68nm,1.5s						
RDOG	Red Dog Mine	84.86	11	P	P	07 07 22.9	-0.8
	baz=210						
I21K	Tanana	84.98	16	P	P	07 07 23.8	-0.6
	baz=220						
N02D	Trinity Center	85.09	46	IAmb	IAmb	07 08 09.6	
	comp=Z,49nm,1.4s						
N02D	Trinity Center	85.09	46	P	P	07 07 24.4	-1.3
	baz=247						
H21K	Melozitna Rive	85.13	16	P	P	07 07 24.7	-0.5
	baz=219						
IRK	Irkutsk	85.15	327	eP	P	07 07 23.2	-2.4
IRK				pmax	pmax		
	comp=Z,150nm,2.0s						
M02C	Callahan	85.15	45	P	P	07 07 24.7	-1.3
	baz=246						
TABL	Table Mountain	85.16	23	IAmb	IAmb	07 07 52.2	
	comp=Z,28nm,0.8s						
BCW	Bitter Crk WRg	85.24	52	IAmb	IAmb	07 07 43.7	
	comp=Z,22nm,1.1s						
NEA2	Nenana	85.36	18	P	P	07 07 25.2	-1.1
	baz=223,SNR=15						
BARN	Barnard Glacie	85.37	22	IAmb	IAmb	07 07 31.5	
	comp=Z,40nm,1.2s						
YBH	Yreka Blue Hor	85.39	45	P	P	07 07 26.3	-0.8
	comp=Z,14nm,1.1s,baz=249,slow=2.9,SNR=7.4						
YBH	Yreka Blue Hor	85.39	45	P	P	07 07 27.5	+0.4
YBH				pmax	pmax		
	comp=Z,18nm,1.2s						
YBH	Yreka Blue Hor	85.39	45	P	P	07 07 27.5	+0.4
YBH				IAmb	IAmb	07 07 32.2	
	comp=Z,18nm,1.1s						
O03E	Paynes Creek	85.46	47	IAmb	IAmb	07 07 32.7	
	comp=Z,24nm,1.2s						
O03E	Paynes Creek	85.46	47	P	P	07 07 25.8	-1.7
	baz=247						
WRH	Wood River Hil	85.56	18	IAmb	IAmb	07 07 56.5	
	comp=Z,22nm,1.0s						
HUMO	Hull Mountain	85.57	44	P	P	07 07 28.9	+1.0
HUMO				IAmb	IAmb	07 07 33.6	
	comp=Z,22nm,1.2s						
HUMO	Hull Mountain	85.57	44	⇑P	P	07 07 29.6	+1.7
CRAG	Craig	85.69	30	P	P	07 07 27.6	-0.5
	baz=238						
I23K	Minto, Yukon-K	85.69	17	IAmb	IAmb	07 08 00.8	
	comp=Z,14nm,0.9s						
I23K	Minto, Yukon-K	85.69	17	P	P	07 07 27.0	-0.9
	baz=222						
L04D	Klamath Falls	85.86	45	IAmb	IAmb	07 07 34.9	
	comp=Z,32nm,1.3s						
L04D	Klamath Falls	85.86	45	P	P	07 07 28.0	-1.5
	baz=247						
HDA	Harding Lake	85.86	18	P	P	07 07 27.9	-0.9
	baz=225,SNR=35						
TCOL	CIGO, UAF Yank	85.92	18	P	P	07 07 27.5	-1.6
	baz=224,SNR=5.6						
COLA	College	85.92	18	*i* P	P	07 07 27.7	-1.4
COLA				pmax	pmax		
	comp=Z,86nm,2.1s						
COLA	College	85.92	18	P	P	07 07 28.5	-0.6
COLA	College	85.92	18	⇓P	P	07 07 28.1	-1.0
COLA				⇑P	PcP	07 07 28.2	-3.6
COLA	College	85.92	18	P	P	07 07 27.5	-1.6
	baz=224						
M04C	Macdoel	86.01	45	IAmb	IAmb	07 08 25.6	
	comp=Z,49nm,1.7s						
M04C	Macdoel	86.01	45	P	P	07 07 28.8	-1.5
	baz=247						
RIDG	Independent Ri	86.05	19	P	P	07 07 29.0	-0.9
	baz=227						
L26K	Log Cabin Wild	86.06	20	P	P	07 07 28.4	-1.5
	baz=228,SNR=7.4						
M27K	Edge Creek, AK	86.13	21	IAmb	IAmb	07 07 36.6	
	comp=Z,16nm,1.1s						
M27K	Edge Creek, AK	86.13	21	P	P	07 07 29.6	-0.8
	baz=230						
ILAR	Eielson Array	86.14	18	P	P	07 07 28.6	-1.6
	comp=Z,5.5nm,0.6s,baz=235,slow=5.0,SNR=64						
ILAR				PKKPbc	PKKPdf	07 25 27.6	+1.9
	comp=Z,2.3nm,1.1s,baz=300,slow=1.5,SNR=6.8						
ISA	Isabella, Lake	86.22	52	P	P	07 07 29.6	-1.7
	baz=250,SNR=6.3						
POKR	Poker Plat Res	86.22	18	P	P	07 07 28.6	-2.1
	baz=224						
DOT	Dot Lake	86.25	20	IAmb	IAmb	07 08 00.2	
	comp=Z,16nm,0.9s						
YUK3	Moose Creek	86.27	22	P	P	07 07 29.7	-1.5
	baz=231						
EDW2	Edwards Air Fo	86.32	53	P	P	07 07 30.1	-1.7
	baz=250,SNR=6.8						
BEKR	Beckworth	86.32	47	IAmb	IAmb	07 08 07.8	
	comp=Z,33nm,1.7s						
BFSC	Mount Baldy Ra	86.36	54	P	P	07 07 30.4	-1.8
	baz=250						
J04D	Umpqua Nationa	86.39	44	IAmb	IAmb	07 07 37.0	
	comp=Z,35nm,1.2s						
J04D	Umpqua Nationa	86.39	44	P	P	07 07 30.9	-1.3
	baz=247						
I04A	Tendick Farm,	86.41	43	P	P	07 07 30.9	-1.2
	baz=247						
G03D	McMinnville, O	86.42	42	P	P	07 07 30.9	-1.1
	baz=246						
J25K	Salcha River,	86.49	19	IAmb	IAmb	07 08 01.4	
	comp=Z,21nm,0.8s						
J25K	Salcha River,	86.49	19	P	P	07 07 31.3	-0.8
	baz=226,SNR=16						
SCRK	Sand Creek	86.49	20	IAmb	IAmb	07 08 01.7	
	comp=Z,17nm,0.8s						
SCRK	Sand Creek	86.49	20	P	P	07 07 31.4	-0.8
	baz=228,SNR=9.2						
MURC	Murrieta	86.51	54	P	P	07 07 30.8	-2.0
	baz=251						
BVCY	Beaver Creek	86.53	22	P	P	07 07 31.3	-0.9
	baz=230						
YUK6	Outpost Mounta	86.55	24	P	P	07 07 31.5	-1.1
	baz=233						
PNTR	Pine Nut	86.58	48	IAmb	IAmb	07 07 57.3	
	comp=Z,16nm,1.1s						
L27K	Beaver Creek,	86.61	21	P	P	07 07 31.8	-0.8
	baz=230						
H24K	Noodor Dome	86.61	17	IAmb	IAmb	07 07 36.8	
	comp=Z,41nm,1.8s						
H24K	Noodor Dome	86.61	17	P	P	07 07 32.3	-0.2
	baz=224						
BAR	Barrett	86.62	55	IAmb	IAmb	07 07 51.5	
	comp=Z,25nm,1.6s						
YUK4	Talbot Arm	86.68	23	P	P	07 07 33.5	+0.3
	baz=233						
LRMC	Laurel Mtn Rad	86.76	52	P	P	07 07 32.3	-1.9
	baz=250						
E03A	Lebam	86.77	40	IAmb	IAmb	07 07 57.5	
	comp=Z,27nm,1.1s						
CWC	Cottonwood Cre	86.78	51	P	P	07 07 33.1	-1.2
	baz=250						
HYT	Haines Junctio	86.81	24	P	P	07 07 34.0	+0.3
	baz=234						
MONP2	Monument Peak	86.89	55	P	P	07 07 34.4	-0.6
	baz=251,SNR=10						
H04A	Detroit Lake	86.91	43	P	P	07 07 34.1	-0.4
H04A				IAmb	IAmb	07 07 37.6	
	comp=Z,19nm,1.2s						
BBRC	Big Bear Solar	86.94	54	P	P	07 07 35.3	+0.1
	baz=251						
J26L	Joseph Creek	86.98	19	P	P	07 07 35.6	+1.2
	baz=228						
J05D	Fort Rock, OR	87.00	44	P	P	07 07 35.2	+0.1
	baz=248						
COLD	Coldfoot	87.01	15	IAmb	IAmb	07 07 37.9	
	comp=Z,47nm,1.3s						
COLD	Coldfoot	87.01	15	P	P	07 07 34.6	+0.2
	baz=222						
K05A	Summer Lake	87.02	45	IAmb	IAmb	07 07 39.1	
	comp=Z,20nm,1.1s						
ODAN	Odare	87.05	298	eP	P	07 07 36.2	+0.4
IKP	In-Ko-Pah, Jac	87.06	55	P	P	07 07 35.4	-0.2
	baz=251						
LHV	Little Huntoon	87.09	50	IAmb	IAmb	07 08 03.9	
	comp=Z,16nm,0.7s						
PFO	Pinyon Flats O	87.09	54	*i* P	P	07 07 35.8	0.0
PFO				pmax	pmax		
	comp=Z,50nm,4.8s						
PFO	Pinyon Flats O	87.09	54	P	P	07 07 35.8	0.0
PFO	Pinyon Flats O	87.09	54	P	P	07 07 35.3	-0.4
	baz=251						
TPFO	Pinon Flats	87.10	54	P	P	07 07 35.3	-0.5
	baz=251						
MPMC	Manual Prospec	87.10	52	P	P	07 07 35.2	-0.7
	baz=250,SNR=7.3						
RYN	Ryan	87.21	49	IAmb	IAmb	07 08 12.2	
	comp=Z,35nm,1.6s						
NVAR	Mina Array Bea	87.30	49	P	P	07 07 37.8	+1.0
	comp=Z,4.9nm,1.0s,baz=230,slow=6.9,SNR=13						
NVAR				PKPPKP	P'P'df	07 33 36.9	+3.0
	comp=Z,0.2nm,0.4s,baz=90,slow=3.6,SNR=4.3						
I05D	Terrebonne, OR	87.33	43	P	P	07 07 36.8	+0.3
	baz=247						
GSC	Goldstone, Bar	87.38	53	P	P	07 07 37.1	+0.1
	baz=251						
PINE	Pine Mountain	87.39	44	IAmb	IAmb	07 07 41.5	
	comp=Z,15nm,1.1s						
E04D	Cinebar	87.40	41	P	P	07 07 36.9	+0.1
	baz=246						
SWSC	Sam W. Stewart	87.40	55	P	P	07 07 36.7	-0.4
	baz=251,SNR=9.6						
D03D	Eldon	87.47	40	P	P	07 07 37.6	+0.5
	baz=246						
GRAC	Grapevine Rang	87.51	51	IAmb	IAmb	07 08 17.2	
	comp=Z,16nm,0.7s						
D04E	Lakebay	87.53	40	P	P	07 07 37.9	+0.6
	baz=246						
BELC	Belle Mtn. Jos	87.58	54	P	P	07 07 37.6	-0.6
	baz=251,SNR=8.6						
HEC	Hector,Ludlow	87.59	53	P	P	07 07 37.9	-0.2
	baz=251						
FURC	Furnace Creek,	87.72	52	P	P	07 07 38.4	-0.1
	baz=251						
F05D	White Salmon	87.85	42	IAmb	IAmb	07 08 36.9	
	comp=Z,53nm,1.9s						
BC3	Big Chuckawall	87.90	55	P	P	07 07 39.5	-0.1
	baz=252,SNR=5.9						
PALK	Pallekele	87.91	278	*i* P	P	07 07 41.2	+1.2
PALK				pmax	pmax		
	comp=Z,55nm,1.3s						
EGAK	Eagle	87.95	20	IAmb	IAmb	07 08 08.2	
	comp=Z,15nm,1.1s						
EGAK	Eagle	87.95	20	P	P	07 07 40.5	+1.6
	baz=230						
SHOC	Shoshone, Teco	87.98	52	P	P	07 07 40.0	+0.2
	baz=251						
DAWY	Dawson	88.09	21	IAmb	IAmb	07 08 27.4	
	comp=Z,17nm,1.4s						
DAWY	Dawson	88.09	21	P	P	07 07 41.0	+1.2
	baz=232						
GMRC	Granite Mounta	88.10	54	P	P	07 07 40.7	+0.1
	baz=251						
M30M	Minto, Yukon	88.12	23	P	P	07 07 41.4	+1.4
	baz=234						
GLA	Glamis	88.21	55	IAmb	IAmb	07 07 43.7	
	comp=Z,13nm,0.9s						
GLA	Glamis	88.21	55	P	P	07 07 40.9	-0.2
	baz=252						
TOLK	Toolik Lake Re	88.23	15	P	P	07 07 41.1	+0.8
	baz=222						
JIRN	Jiri	88.30	299	eP	P	07 07 42.2	+0.2
IRM	Iron Mountain	88.31	54	P	P	07 07 41.4	0.0
	baz=252,SNR=9.8						
TPNV	Topopah Spring	88.34	51	P	P	07 07 41.8	+0.1
	baz=251						
B05A	Bryant	88.38	39	P	P	07 07 42.2	+0.8
	baz=247						
WVOR	Wild Horse Val	88.46	46	IAmb	IAmb	07 08 25.7	
	comp=Z,49nm,1.9s						
WVOR	Wild Horse Val	88.46	46	⇓P	P	07 07 43.4	+1.3
GUN	Gumba	88.64	299	eP	P	07 07 43.7	+0.1
LTY	Liberty	88.87	41	IAmb	IAmb	07 08 05.2	
	comp=Z,16nm,1.4s						
J08A	Circle Bar Ran	88.90	45	IAmb	IAmb	07 07 48.9	
	comp=Z,22nm,1.1s						
PKI	Pulchoki	88.94	299	eP	P	07 07 44.6	-0.4
S11A	Rachel	88.94	51	IAmb	IAmb	07 08 44.3	
	comp=Z,23nm,1.4s						
PKIN	Phulchoki	88.95	299	eP	P	07 07 44.8	-0.1
SHPR	Sheep Range	89.03	52	IAmb	IAmb	07 07 50.2	
	comp=Z,14nm,1.2s						
SYO	Syowa Base	89.11	197	⇑ePcP	PcP	07 07 45.4	-0.6
SYO	Syowa Base	89.11	197	⇓epP	pP	07 07 55.5	+0.9
KKN	Kakani	89.11	299	eP	P	07 07 45.6	0.0
PDMCI	Parker Dam,Lak	89.14	54	P	P	07 07 45.0	-0.3
	baz=252,SNR=7.3						
DMN	Daman	89.21	299	eP	P	07 07 46.3	+0.2
	comp=Z,169nm,1.1s						
G08A	Pilot Rock	89.25	43	IAmb	IAmb	07 07 49.9	
	comp=Z,13nm,1.1s						
I29M	Ogilvie Camp,	89.26	20	IAmb	IAmb	07 08 33.3	
	comp=Z,30nm,1.7s						
I29M	Ogilvie Camp,	89.26	20	P	P	07 07 45.6	+0.4
	baz=233						
R11A	Troy Canyon, C	89.29	50	P	P	07 07 45.4	-0.8
	baz=251,SNR=11						
TIXI	Tiksi	89.29	349	P	P	07 07 44.0	-1.1
TIXI				pmax	pmax		
	comp=Z,16nm,0.9s						
TIXI	Tiksi	89.29	349	P	P	07 07 44.0	-1.1
TIXI				IAmb	IAmb	07 07 49.8	
	comp=Z,16nm,0.9s						
PRN	Pahroc Range	89.39	51	IAmb	IAmb	07 07 51.3	
	comp=Z,28nm,1.2s						
214A	Organ Pipe Nat	89.51	57	P	P	07 07 46.9	-0.3
	baz=253						
B08A	Colville Reser	90.12	40	IAmb	IAmb	07 08 28.6	
	comp=Z,22nm,1.4s						
BMO	Blue Mountains	90.20	44	IAmb	IAmb	07 08 19.9	
	comp=Z,17nm,1.4s						
ELK	Elko	90.30	48	P	P	07 07 51.5	+0.6
	comp=Z,6.4nm,1.0s,baz=220,slow=4.2,SNR=12						
EPYK	Eagle Plains	90.39	20	IAmb	IAmb	07 08 29.9	
	comp=Z,22nm,1.4s						
EPYK	Eagle Plains	90.39	20	P	P	07 07 51.2	+0.7
	baz=234						
DANN	Dangsing	90.56	299	eP	P	07 07 51.7	-0.8
	comp=Z,146nm,1.3s						
F10A	Beach Ranch, E	90.63	43	IAmb	IAmb	07 08 21.8	
	comp=Z,16nm,1.1s						
LCMT	Little Creek M	90.65	52	IAmb	IAmb	07 07 56.4	
	comp=Z,14nm,1.1s						
SZCU	Shurtz Canyon	90.94	52	IAmb	IAmb	07 08 29.6	
	comp=Z,26nm,1.8s						
KNB	Kanab	90.97	52	IAmb	IAmb	07 08 43.7	
	comp=Z,22nm,1.4s						
PYUN	Piuthan	91.15	299	eP	P	07 07 54.2	-0.9
	comp=Z,45nm,1.0s						
U15A	North Rim	91.21	53	IAmb	IAmb	07 08 00.0	
	comp=Z,15nm,1.2s						
TUC	Tucson	91.26	57	P	P	07 07 54.7	-0.7
TUC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TUC	Tucson	91.26	57	P	P	07 07 54.7	-0.7
TUC	Tucson	91.26	57	P	P	07 07 55.3	0.0
	baz=254						
NEW	Newport	91.47	40	P	P	07 07 56.8	+0.9
	comp=Z,4.2nm,1.0s,baz=254,slow=4.4,SNR=5.2						
NEW	Newport	91.47	40	P	P	07 07 56.2	+0.2
	baz=250						
PKCU	Pink Cliffs	91.48	52	IAmb	IAmb	07 09 00.2	
	comp=Z,30nm,1.6s						
WUAZ	Wupatki	91.67	54	P	P	07 07 57.2	-0.1
	baz=254,SNR=6.7						
HLID	Hailey	91.76	46	P	P	07 07 57.5	0.0
	baz=252						
DUG	Dugway, Tooele	91.90	49	P	P	07 07 58.0	-0.2
	baz=253						
WMQ	Urumqi	91.93	315	eP	P	07 07 59.7	+1.5
WMQ				pmax	pmax		
	comp=Z,87nm,1.5s						
319A	Douglas	92.25	58	IAmb	IAmb	07 08 04.0	
	comp=Z,14nm,1.0s						
INK	Inuvik	92.51	19	PKKPbc	PKKPbc	07 25 14.5	-1.9
	comp=Z,0.6nm,0.4s,baz=38,slow=4.1,SNR=7.0						
INK	Inuvik	92.51	19	P	P	07 08 00.7	+0.6
	baz=237						
TROLL	Troll, Antarti	93.40	185	P	P	07 08 03.4	-1.2
DLMT	Dillon	93.53	44	IAmb	IAmb	07 08 44.4	
	comp=Z,24nm,1.8s						
P18A	Preston Nutter	93.64	50	IAmb	IAmb	07 08 14.9	
	comp=Z,20nm,1.8s						
SNAA	Sanae	94.10	183	P	P	07 08 06.8	-0.9
SNAA	Sanae	94.10	183	*ce*P	P	07 08 06.6	-1.2
SNAA				pmax	pmax		
	comp=Z,38nm,1.0s						
BOZ	Bozeman (W)	94.25	44	P	P	07 08 08.8	-0.2
	baz=254						
PV23	Carpenter Ridg	94.27	52	IAmb	IAmb	07 08 13.1	
	comp=Z,9.8nm,1.0s						
PV07	Paradox Valley	94.54	52	IAmb	IAmb	07 08 14.8	
	comp=Z,13nm,1.4s						
VNA3	Neumayer Olymp	94.79	181	P	P	07 08 09.3	-1.5
PDAR	Pinedale Array	94.95	47	P	P	07 08 11.9	-0.4
	comp=Z,0.4nm,0.6s,baz=259,slow=6.8,SNR=2.6						
VNA2	Neumayer--Watz	95.05	182	P	P	07 08 11.2	-0.9
	baz=176,slow=4.0						
ANMO	Albuquerque	95.42	55	*i* P	P	07 08 14.6	0.0
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ANMO	Albuquerque	95.42	55	P	P	07 08 11.5	-3.1
ANMO	Albuquerque	95.42	55	P	P	07 08 14.2	-0.4
	baz=257						
MNTX	Cornudas Mount	95.55	59	P	P	07 08 14.7	-0.4
	baz=257						
S22A	4UR Ranch, Cre	95.77	53	P	P	07 08 16.1	-0.2
	baz=257						
MK31	Makanchi Array	96.41	317	*c i*P	P	07 08 17.0	-1.6
MKAR	Makanchi Array	96.41	317	P	P	07 08 18.1	-0.5
	comp=Z,17nm,0.9s,baz=101,slow=6.5,SNR=47						
MKAR				PKKPbc	PKKPbc	07 25 00.3	-5.0
	comp=Z,0.8nm,0.7s,baz=299,slow=1.5,SNR=2.4						
TXAR	Lajitas Array	96.47	61	P	P	07 08 19.0	-0.4
	comp=Z,1.2nm,1.0s,baz=237,slow=4.3,SNR=6.6						
ZALV	Zalesovo Beam	96.60	324	P	P	07 08 18.2	-1.1
	comp=Z,13nm,0.8s,baz=101,slow=6.2,SNR=22						
MAKZ	Makanchi	96.62	316	P	P	07 08 18.7	-0.8
MAKZ				pmax	pmax		
	comp=Z,37nm,1.2s						
MAKZ	Makanchi	96.62	316	P	P	07 08 18.7	-0.8
A36M	Sachs Harbour	96.77	17	IAmb	IAmb	07 08 40.6	
	comp=Z,9.3nm,0.9s						
A36M	Sachs Harbour	96.77	17	P	P	07 08 19.8	+0.2
	baz=245						
SDCO	Great Sand Dun	96.80	53	P	P	07 08 20.1	-0.8
	baz=258						
YKA	Yellowknife Ar	97.28	27	P	P	07 08 21.1	-1.0
	comp=Z,0.6nm,0.4s,baz=258,slow=4.8,SNR=19						
SHLS	Shalkode	97.55	312	eP	P	07 08 21.1	-2.9
SHLS				pmax	pmax		
	comp=Z,11nm,1.2s						
SHLS	Shalkode	97.55	312	eP	P	07 08 21.2	-2.9
	comp=Z,11nm,1.2s,baz=313						
UZB	Uzynbulak	97.86	312	eP	P	07 08 24.2	-1.2
UZB				pmax	pmax		
	comp=Z,17nm,1.8s						
UZB	Uzynbulak	97.86	312	eP	P	07 08 24.3	-1.2
	comp=Z,17nm,1.8s,baz=312						
KPKS	Kokpek	98.17	313	eP	P	07 08 25.4	-1.3
KPKS				pmax	pmax		
	comp=Z,37nm,2.5s						
KPKS	Kokpek	98.17	313	eP	P	07 08 25.5	-1.3
	comp=Z,37nm,2.5s,baz=313						
SEM	Semipalatinsk	98.53	320	eP	P	07 08 25.9	-2.4
SEM	Semipalatinsk	98.53	320	eP	P	07 08 26.0	-2.4
	baz=320						
TDK	Taldyqorghan	98.67	314	eP	P	07 08 27.9	-0.9
TDK	Taldyqorghan	98.67	314	eP	P	07 08 28.0	-0.9
	baz=314						
MDOK	Medeo	99.28	312	eP	Pdif	07 08 30.2	-1.6
MDOK				pmax	pmax		
	comp=Z,11nm,0.8s						
MDOK	Medeo	99.28	312	eP	Pdif	07 08 30.2	-1.6
	comp=Z,11nm,0.8s,baz=312						
TNSS	Tian-Shan	99.33	312	eP	Pdif	07 08 30.7	-1.6
TNSS	Tian-Shan	99.33	312	eP	Pdif	07 08 30.7	-1.6
	baz=312						
NRIK	Noril'sk	99.33	339	P	Pdif	07 08 29.8	-1.4
	comp=Z,15nm,0.9s,baz=104,slow=4.7,SNR=20						
NRIK	Noril'sk	99.33	339	*ce*P	Pdif	07 08 30.1	-1.1
NRIK				pmax	pmax		
	comp=Z,22nm,1.1s						
KSH	Kashi	99.41	308	P	Pdif	07 08 33.7	+1.3
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHKK	Chushkaly	99.45	313	eP	Pdif	07 08 30.9	-1.5
CHKK	Chushkaly	99.45	313	eP	Pdif	07 08 30.9	-1.5
	baz=313						
KURK	Kurchatov	99.61	320	*ce*P	Pdif	07 08 31.8	-1.0
KURK				pmax	pmax		
	comp=Z,15nm,1.6s						
KURK	Kurchatov	99.61	320	Pdif	Pdif	07 08 30.9	-1.9
KURBB	Kurchatov Arra	99.64	320	PKKPbc	PKKPbc	07 24 52.8	-3.6
	comp=Z,0.7nm,0.7s,baz=287,slow=3.3,SNR=4.3						
KUU	Kurty	99.92	313	eP	Pdif	07 08 32.7	-1.8
KUU				pmax	pmax		
	comp=Z,28nm,2.0s						
KUU	Kurty	99.92	313	eP	Pdif	07 08 32.7	-1.8
	comp=Z,28nm,2.0s,baz=313						
SGDS	Sogindy	101.07	312	eP	Pdif	07 08 37.2	-2.4
SGDS	Sogindy	101.07	312	eP	Pdif	07 08 37.2	-2.4
	baz=312						
BTLS	Baital	101.72	314	eP	Pdif	07 08 40.7	-1.7
BTLS	Baital	101.72	314	eP	Pdif	07 08 40.8	-1.7
	baz=314						
SVE	Sverdlovsk	110.52	326	ePKIKP	PKiKP	07 13 18.3	-3.3
AB31	Akbulak array	111.52	318	*i* PKIKP	PKiKP	07 13 21.9	-1.9
ARU	Arti	111.70	325	*i* PKIKP	PKiKP	07 13 22.7	-1.2
ARU						07 14 09.2	
ARU				PPP	PPP	07 16 23.9	
ARU						07 20 32.1	
ARU				SP	SP	07 23 36.6	+2.4
ARU				SS	SS	07 29 46.1	+6.4
SPA0	Spitsbergen Ar	114.29	354	ePKPdf	PKPdf	07 13 27.1	-1.2
PRGR	Permogore	116.90	333	ePKIKP	PKPdf	07 13 31.4	-2.3
PRGR				pmax	pmax		
	comp=Z,18nm,1.4s						
DAG	Danmarks Havn	117.30	1	*i* P	PKPdf	07 13 32.0	-2.1
LPAZ	La Paz	117.96	117	PKP	PKPdf	07 13 36.6	-1.3
	comp=Z,1.5nm,0.7s,baz=79,slow=3.7,SNR=9.2						
APA	Apatity	118.66	341	⇓*i*PKIKP	PKPdf	07 13 35.1	-1.8
APA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
APA				MLR	MLR		
	comp=Z,20µm,23.0s						
BELG	Belogornoye	118.74	322	PKP	PKPdf	07 13 37.0	-0.5
	comp=Z,75nm,1.1s,baz=56,slow=2.9,SNR=15						
BELG	Belogornoye	118.74	322	*i* PKIKP	PKPdf	07 13 36.0	-1.5
HAMF	Hammerfest	119.16	347	ePKPdf	PKPdf	07 13 36.3	-1.5
ARA0	ARCESS Array S	119.55	345	ePKPdf	PKPdf	07 13 37.5	-1.1
ARCES	ARCESS Array B	119.55	345	PKP	PKPdf	07 13 37.5	-1.2
	comp=Z,9.3nm,0.5s,baz=73,slow=1.9,SNR=129						
DBG	Daneborg	119.72	2	*i* P	PKPdf	07 13 36.9	-1.9
KLMR	Klimovskoe	119.92	333	ePKIKP	PKPdf	07 13 36.9	-2.6
KLMR				pmax	pmax		
	comp=Z,26nm,1.1s						
KLMR	Klimovskoe	119.92	333	ePKPdf	PKPdf	07 13 36.9	-2.6
KLMR				AMP		07 13 42.2	
	comp=Z,26nm,1.1s						
KTK1	Kautokeino	120.49	346	ePKPdf	PKPdf	07 13 38.6	-1.8
JETT	Jettan, Norway	120.72	347	ePKPdf	PKiKP	07 13 41.0	0.0
MAK	Makhachkala	120.82	312	eP	Pdif	07 10 06.2	-1.1
MAK				*i*		07 13 38.9	
MAK				*e*		07 20 34.2	
MAK				eSS	SS	07 31 38.4	-1.2
MAK				eSSS	SSS	07 36 05.5	
MAK				pmax	pmax		
	comp=Z,37nm,0.3s						
TRO	Tromso	120.98	347	ePKPdf	PKPdf	07 13 40.2	-1.1
CPUP	Villa Florida	121.25	133	PKP	PKPdf	07 13 41.5	-1.6
	comp=Z,3.6nm,0.9s,baz=205,slow=3.7,SNR=5.5						
CPUP	Villa Florida	121.25	133	PKIKP	PKPdf	07 13 40.9	-2.3
CPUP	Villa Florida	121.25	133		PKPdf	07 13 40.9	-2.3
GROC	Groznyy	122.01	312	*i* PKIKP	PKPdf	07 13 43.9	-0.2
GROC				*e*		07 15 20.2	
GROC				pmax	pmax		
	comp=Z,23nm,0.6s						
SCHQ	Schefferville	122.11	33	PKP	PKPdf	07 13 42.0	-2.0
	comp=Z,3.5nm,0.6s,baz=248,slow=4.6,SNR=8.1						
ICESG	Greenland Ices	122.59	11	*i* P	PKPdf	07 13 43.4	-1.5
VRH	Novokhopyorsk	122.59	322	ePKIKP	PKPdf	07 13 43.8	-1.1
VRH				pmax	pmax		
	comp=Z,70nm,1.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOS	**Moscow**	**123.10**	**328**	*i* PKIKP	**PKPdf**	**07 13 42.6**	**-3.2**
STEI	**Steigen**	**123.15**	**348**	*e*PKPdf	**PKPdf**	**07 13 44.8**	**-0.7**
DY2G	**Dye2**	**123.30**	**15**	*i* P	**PKPdf**	**07 13 44.2**	**-2.0**
GNI	**Garni**	**123.34**	**309**	*i* PKIKP	**PKiKP**	**07 13 47.8**	**+0.6**
SCO	**Scoresbysund**	**123.43**	**3**	PKIKP	**PKPdf**	**07 13 45.4**	**-0.6**
SCO	**Scoresbysund**	**123.43**	**3**		**PKPdf**	**07 13 45.4**	**-0.6**
SCO	**Scoresbysund**	**123.43**	**3**	*i* P	**PKPdf**	**07 13 44.2**	**-1.8**
ZEI	**Tsey**	**123.45**	**312**	*i* PKIKP	**PKPdf**	**07 13 46.2**	**-1.0**
ZEI				pmax	pmax		
	comp=Z,18nm,1.1s						
BOSA	**Boshof**	**123.46**	**221**	PKP	**PKPdf**	**07 13 47.5**	**-0.1**
	comp=Z,9.0nm,1.1s,baz=157,slow=7.3,SNR=3.4						
FAUS	**Fauske**	**123.60**	**347**	*e*PKPdf	**PKPdf**	**07 13 45.3**	**-1.1**
SDV	**Santo Domingo**	**123.68**	**89**	PKPdf	**PKPdf**	**07 13 46.5**	**-1.9**
LPSR	**Galich'ya Gora**	**123.70**	**325**	*e*PKIKP	**PKPdf**	**07 13 46.3**	**-0.7**
LPSR				pmax	pmax		
	comp=Z,50nm,1.1s						
PKME	**Peaks-Kenny Pk**	**123.71**	**45**	P	**PKPdf**	**07 13 46.4**	**-0.9**
	baz=285						
RAYN	**Ar Rayn**	**123.90**	**289**	⇑PKIKP	**PKiKP**	**07 13 48.8**	**+0.2**
RAYN	**Ar Rayn**	**123.90**	**289**	PKPdf	**PKPdf**	**07 13 47.8**	**-0.5**
VORR	**Voronezh**	**123.90**	**323**	*e*PKIKP	**PKPdf**	**07 13 46.5**	**-0.9**
VORR				pmax	pmax		
	comp=Z,110nm,0.4s						
OBN	**Obninsk**	**123.92**	**328**	⇓*i*PKIKP	**PKiKP**	**07 13 47.6**	**0.0**
OBN				SS	SS	07 32 24.0	+6.1
OBN				pmax	pmax		
	comp=Z,29nm,0.7s						
KBZ	**Khabaz**	**123.96**	**313**	PKP	**PKiKP**	**07 13 48.2**	**+0.1**
	comp=Z,6.7nm,1.1s,baz=160,slow=4.0,SNR=9.7						
KBZ	**Khabaz**	**123.96**	**313**	*i* PKIKP	**PKiKP**	**07 13 48.9**	**+0.8**
AKH	**Akhalkalaki**	**124.04**	**311**	⇑P	**PKiKP**	**07 13 49.3**	**+0.7**
KIV	**Kislovodsk**	**124.05**	**314**	*i* PKIKP	**PKPdf**	**07 13 46.7**	**-1.4**
KIV				*e*		07 15 30.3	
KIV				*e*SS	SS	07 32 18.5	-2.3
KIV				pmax	pmax		
	comp=Z,22nm,1.1s						
VSR	**Storozhevoye**	**124.09**	**323**	*e*PKIKP	**PKPdf**	**07 13 46.8**	**-1.0**
VSR				pmax	pmax		
	comp=Z,50nm,1.4s						
SHA1	**Shidzhatmaz**	**124.12**	**313**	*i* PKIKP	**PKPdf**	**07 13 48.1**	**-0.4**
NEY	**Neytrino**	**124.19**	**313**	*i* PKIKP	**PKiKP**	**07 13 49.0**	**+0.2**
CHVG	**Ch'k'valeri**	**124.77**	**312**	⇑P	**PKiKP**	**07 13 51.1**	**+1.3**
CHVG	**Ch'k'valeri**	**124.77**	**312**	⇑PKIKP	**PKiKP**	**07 13 51.1**	**+1.3**
MOR8	**Moi Rana**	**124.80**	**347**	*e*PKPdf	**PKPdf**	**07 13 46.8**	**-2.0**
KONS	**Konsvik**	**124.81**	**347**	*e*PKPdf	**PKPdf**	**07 13 48.2**	**-0.5**
FINES	**FINESS Array B**	**124.98**	**338**	PKP	**PKPdf**	**07 13 48.2**	**-1.0**
	comp=Z,18nm,0.9s,baz=94,slow=2.3,SNR=16						
BATM	**Batumi**	**125.31**	**311**	⇑P	**PKiKP**	**07 13 51.1**	**+0.2**
BATM	**Batumi**	**125.31**	**311**	⇑PKIKP	**PKiKP**	**07 13 51.1**	**+0.2**
AQDB	**Aquidauana**	**125.95**	**129**	PKPdf	**PKPdf**	**07 13 50.8**	**-1.6**
SOC	**Sochi**	**126.22**	**314**	*i* PKIKP	**PKPdf**	**07 13 51.1**	**-1.1**
SOC				*e*PPP	PPP	07 18 23.8	
SOC				*e*		07 20 51.4	
SOC				*e*PS	PS	07 25 44.7	-5.6
SOC				*e*SS	SS	07 32 48.9	+1.0
SOC				pmax	pmax		
	comp=Z,12nm,0.7s						
SOC				MLR	MLR		
	comp=Z,9μm,22.0s						
KIBK	**Kibwezi**	**126.56**	**256**	PKPdf	**PKPdf**	**07 13 48.7**	**-5.1**
NSS	**Namsos**	**126.75**	**347**	*e*PKPdf	**PKPdf**	**07 13 51.1**	**-1.4**
ANN	**Anapa**	**127.42**	**316**	*i* PKIKP	**PKPdf**	**07 13 52.7**	**-1.7**
ANN				pmax	pmax		
	comp=Z,35nm,1.4s						
NRS	**Narsarsuaq**	**127.64**	**19**	*i* P	**PKPdf**	**07 13 52.6**	**-1.7**
KMBO	**Kilima Mbogo**	**127.71**	**257**	PKP	**PKPdf**	**07 13 56.1**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=108,slow=2.2,SNR=8.1						
NACGM	**Naroch**	**128.82**	**331**	*e*PKP	**PKiKP**	**07 13 57.1**	**-0.3**
SJG	**San Juan**	**129.20**	**78**	PKIKP	**PKPdf**	**07 13 56.4**	**-2.1**
SJG	**San Juan**	**129.20**	**78**		**PKPdf**	**07 13 56.4**	**-2.1**
PDPR	**Patillas Dam,**	**129.32**	**78**		**PKPdf**	**07 13 56.6**	**-2.1**
MOL	**Molde**	**129.42**	**348**	*e*PKPdf	**PKiKP**	**07 13 58.1**	**-0.3**
DOMB	**Dombas**	**129.56**	**347**	*e*PKPdf	**PKPdf**	**07 13 57.4**	**-0.7**
AKN	**Aaknes**	**129.89**	**348**	*e*PKPdf	**PKiKP**	**07 13 59.0**	**-0.4**
NB2	**NORSAR Subarra**	**129.92**	**345**	PKPdf	**PKPdf**	**07 13 58.0**	**-0.7**
	comp=Z,36nm,1.7s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**129.92**	**345**	PKPdf	**PKPdf**	**07 13 58.0**	**-0.7**
	baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.92**	**345**	PKP	**PKPdf**	**07 13 58.1**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=32,slow=2.0,SNR=19						
NOA				SKPbc	SKPbc	07 17 21.1	+2.3
	comp=Z,9.0nm,1.0s,baz=31,slow=3.1,SNR=9.7						
AKASG	**Malin Array Be**	**129.95**	**326**	PKP	**PKPdf**	**07 13 58.5**	**-0.5**
	comp=Z,3.8nm,0.6s,baz=56,slow=2.3,SNR=24						
HFS	**Hagfors**	**130.00**	**343**	SKPbc	SKPbc	07 17 21.5	+2.4
	comp=Z,8.6nm,1.0s,baz=64,slow=6.8,SNR=5.6						
NC602	**NORSAR Array S**	**130.09**	**344**	*e*PKPdf	**PKPdf**	**07 13 58.2**	**-0.8**
FOO	**Floro**	**130.81**	**349**	*e*PKPdf	**PKiKP**	**07 14 01.1**	**0.0**
SKAR	**Skarslia**	**130.94**	**346**	*e*PKPdf	**PKPdf**	**07 14 00.8**	**+0.1**
OSL	**Oslo**	**130.99**	**344**	*e*PKPdf	**PKiKP**	**07 14 01.4**	**-0.2**
BRTR	**Keskin Array B**	**131.72**	**311**	PKP	**PKPdf**	**07 14 03.4**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=161,slow=1.6,SNR=7.2						
BRTR				PP	**PP**	**07 16 24.1**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=75,slow=5.2,SNR=4.4						
BRTR				SKPbc	**SKPab**	**07 17 30.6**	**+3.6**
	comp=Z,2.9nm,1.0s,baz=126,slow=2.0,SNR=5.0						
BRTR	**Keskin Array B**	**131.72**	**311**	PKIKP	**PKPdf**	**07 13 59.8**	**-3.2**
BRTR	**Keskin Array B**	**131.72**	**311**	PKPdf	**PKPdf**	**07 13 59.8**	**-3.2**
SORM	**Soroca**	**131.75**	**323**	⇑P	**PKPdf**	**07 14 02.9**	**+0.4**
SORM	**Soroca**	**131.75**	**323**	⇑PKIKP	**PKPdf**	**07 14 02.9**	**+0.4**
ASK	**Askoy**	**131.80**	**348**	*e*PKPdf	**PKPdf**	**07 14 02.7**	**+0.4**
BER	**Bergen**	**131.86**	**348**	*e*PKPdf	**PKPdf**	**07 14 02.6**	**+0.2**
ODD1	**Odda**	**132.01**	**347**	*e*PKPdf	**PKPdf**	**07 14 01.8**	**-0.9**
BLS5	**Blasjo**	**132.49**	**346**	*e*PKPdf	**PKPdf**	**07 14 03.3**	**-0.3**
KMY	**Karmoy**	**132.95**	**347**	*e*PKPdf	**PKPdf**	**07 14 04.7**	**+0.3**
HOMB	**Homborsund**	**133.01**	**344**	*e*PKPdf	**PKPdf**	**07 14 03.4**	**-1.1**
TPGR	**Topolog**	**133.29**	**319**	⇑P	**PKPdf**	**07 14 06.0**	**+0.4**
CFR	**Carcaliu**	**133.32**	**320**	⇑P	**PKiKP**	**07 14 07.6**	**+0.8**
CFR	**Carcaliu**	**133.32**	**320**	⇑PKIKP	**PKiKP**	**07 14 07.6**	**+0.8**
BURAR	**Bucovina Array**	**133.82**	**324**	⇑P	**PKiKP**	**07 14 09.0**	**+1.1**
BURAR	**Bucovina Array**	**133.82**	**324**	⇑PKIKP	**PKiKP**	**07 14 09.0**	**+1.1**
BURAR	**Bucovina Array**	**133.82**	**324**	PKPdf	**PKPdf**	**07 14 06.6**	**0.0**
VRI	**Vrincioaia**	**133.85**	**321**	⇑P	**PKiKP**	**07 14 08.2**	**+0.3**
VRI	**Vrincioaia**	**133.85**	**321**	⇑PKIKP	**PKiKP**	**07 14 08.2**	**+0.3**
NEHR	**Nehoiu**	**134.34**	**321**	⇑P	**PKiKP**	**07 14 10.9**	**+2.0**
MLR	**Muntele Rosu**	**134.51**	**321**	⇑P	**PKPdf**	**07 14 08.1**	**+0.1**
MLR	**Muntele Rosu**	**134.51**	**321**	PKIKP	**PKPdf**	**07 14 08.1**	**+0.1**
MLR	**Muntele Rosu**	**134.51**	**321**	PKPdf	**PKPdf**	**07 14 08.1**	**+0.1**
KOLS	**Kolonicke sedl**	**134.66**	**327**	*e*PKIKP	**PKiKP**	**07 14 09.5**	**+0.1**
KOLS	**Kolonicke sedl**	**134.66**	**327**	*e*PKP	**PKiKP**	**07 14 09.5**	**+0.1**
BDFB	**Brasilia**	**134.68**	**129**	PKP	**PKPdf**	**07 14 07.0**	**-2.1**
	comp=Z,7.5nm,0.8s,baz=197,slow=4.5,SNR=4.2						
BDFB	**Brasilia**	**134.68**	**129**	PKIKP	**PKPdf**	**07 14 08.6**	**-0.5**
BDFB	**Brasilia**	**134.68**	**129**	PKPdf	**PKPdf**	**07 14 08.6**	**-0.5**
UZH	**Uzhgorod**	**134.83**	**327**	*e*PKIKP	**PKPdf**	**07 14 02.2**	**-6.1**
UZH				*e*		07 14 09.6	
UZH				*i*		07 14 13.3	
TRPA	**Tarpa**	**135.00**	**326**	⇑P	**PKiKP**	**07 14 12.2**	**+2.1**
TRPA	**Tarpa**	**135.00**	**326**	PKP	**PKiKP**	**07 14 10.2**	**0.0**
VOIR		**135.08**	**322**	⇑P	**PKiKP**	**07 14 12.5**	**+2.0**
VOIR		**135.08**	**322**	⇑PKIKP	**PKiKP**	**07 14 12.5**	**+2.0**
CRVS	**Cervenica-Dubn**	**135.10**	**328**	*e*PKIKP	**PKPdf**	**07 14 09.2**	**+0.3**
CRVS	**Cervenica-Dubn**	**135.10**	**328**	*e*PKP	**PKPdf**	**07 14 09.2**	**+0.3**
ARR	**Arges**	**135.37**	**322**	⇑P	**PKiKP**	**07 14 10.3**	**-0.7**
LANS	**Liptovska Anna**	**135.95**	**329**	*e*PKIKP	**PKiKP**	**07 14 13.5**	**+1.4**
LANS	**Liptovska Anna**	**135.95**	**329**	*e*PKP	**PKiKP**	**07 14 13.5**	**+1.4**
DEV	**Deva**	**136.10**	**323**	⇑P	**PKiKP**	**07 14 14.4**	**+1.9**
DEV	**Deva**	**136.10**	**323**	⇑PKIKP	**PKiKP**	**07 14 14.4**	**+1.9**
GZR	**Gura Zlata**	**136.45**	**323**	⇑P	**PKPdf**	**07 14 11.6**	**+0.1**
GZR	**Gura Zlata**	**136.45**	**323**	⇑PKIKP	**PKPdf**	**07 14 11.6**	**+0.1**
MORC	**Moravsky Berou**	**136.46**	**331**	⇑P	**PKPdf**	**07 14 11.0**	**-0.4**
MORC	**Moravsky Berou**	**136.46**	**331**	⇑PKIKP	**PKPdf**	**07 14 11.0**	**-0.4**
MORC	**Moravsky Berou**	**136.46**	**331**	*e*PKP	**PKPdf**	**07 14 10.4**	**-1.0**
OSTC	**Ostas**	**136.51**	**333**	*e*PKPDF	**PKPdf**	**07 14 12.2**	**+0.8**
PSZ	**Piszkesteto**	**136.53**	**328**	⇑P	**PKPdf**	**07 14 11.9**	**+0.3**
PSZ	**Piszkesteto**	**136.53**	**328**	⇑PKIKP	**PKPdf**	**07 14 11.9**	**+0.3**
PSZ	**Piszkesteto**	**136.53**	**328**	PKP	**PKPdf**	**07 14 11.3**	**-0.3**
PSZ	**Piszkesteto**	**136.53**	**328**	PKP	**PKiKP**	**07 14 12.8**	**-0.6**
CHVC	**Chvalec**	**136.56**	**333**	*e*PKPDF	**PKPdf**	**07 14 11.8**	**+0.3**
SIRR	**Siria**	**136.59**	**325**	⇑P	**PKPdf**	**07 14 12.2**	**+0.5**
KRLC	**Kraliky**	**136.60**	**332**	*e*PKIKP	**PKPdf**	**07 14 12.4**	**+0.7**
KRLC	**Kraliky**	**136.60**	**332**	*e*PKPDF	**PKPdf**	**07 14 12.4**	**+0.7**
DPC	**Dobruska-Polom**	**136.61**	**333**	*e*PKIKP	**PKiKP**	**07 14 12.6**	**-0.8**
DPC	**Dobruska-Polom**	**136.61**	**333**	*e*PKPDF	**PKiKP**	**07 14 12.6**	**-0.8**
BZS	**Buzias**	**137.00**	**324**	⇑P	**PKPdf**	**07 14 11.5**	**-0.9**
BZS	**Buzias**	**137.00**	**324**	⇑PKIKP	**PKPdf**	**07 14 11.5**	**-0.9**
JAVC	**Velka Javorina**	**137.03**	**330**	*e*PKP	**PKPdf**	**07 14 12.1**	**-0.4**
VRAC	**Vranov**	**137.23**	**331**	*e*PKP	**PKPdf**	**07 14 12.0**	**-0.8**
BRG	**Berggiesshubel**	**137.25**	**335**	*e*PKP	**PKPdf**	**07 14 12.4**	**-0.4**
BRG				Amp		07 14 20.8	
	comp=Z,16nm,1.0s						
BRG	**Berggiesshubel**	**137.25**	**335**	*e*PKIKP	**PKPdf**	**07 14 12.3**	**-0.4**
BRG				pmax	pmax		
	comp=Z,16nm,1.0s						
BRG	**Berggiesshubel**	**137.25**	**335**	*e*PKPdf	**PKPdf**	**07 14 12.3**	**-0.4**
	baz=33,slow=2.1						
CLL	**Collm**	**137.30**	**336**	*e*PKIKP	**PKiKP**	**07 14 14.0**	**-0.7**
CLL	**Collm**	**137.30**	**336**	*e*PKPdf	**PKiKP**	**07 14 14.0**	**-0.7**
CLL				*e*PKiKP	**PKPdf**	**07 14 16.0**	**+3.2**
CLL				*e*x	x	07 14 18.0	
CLL				*e*pPKPdf	**sPKPdf**	**07 14 26.0**	**-0.6**
CLL				*e*PP	**PP**	**07 16 58.0**	**+0.6**
CLL				*e*SKPdf	**SKPdf**	**07 17 46.0**	**+0.6**
CLL				*e*PKSab	**PKSab**	**07 17 57.0**	**+2.7**
CLL	**Collm**	**137.30**	**336**	*e*PKPdf	**PKPdf**	**07 14 12.1**	**-0.7**
	baz=33,slow=2.1						
MDVR	**Moldovita**	**137.42**	**323**	⇑P	**PKiKP**	**07 14 15.5**	**+0.3**
NRDL	**Niedersach Rie**	**137.43**	**339**	*e*PKPdf	**PKPdf**	**07 14 12.8**	**-0.1**
	baz=33,slow=2.1						
FBE	**Freiberg**	**137.46**	**335**	*e*PKPdf	**PKPdf**	**07 14 12.8**	**-0.3**
	baz=33,slow=2.1						
BLKB	**Belogradchik**	**137.48**	**321**	⇑P	PKPpre	07 14 04.5	
KRUC	**Moravsky**	**137.49**	**331**	*e*PKP	**PKPdf**	**07 14 13.1**	**-0.2**
PRU	**Pruhonice**	**137.66**	**333**	*e*PKIKP	**PKiKP**	**07 14 15.8**	**+0.3**
PRU	**Pruhonice**	**137.66**	**333**	*e*PKPDF	**PKiKP**	**07 14 15.8**	**+0.3**
VTS	**Vitosha**	**137.66**	**319**	⇑P	**PKiKP**	**07 14 17.5**	**+1.6**
VTS	**Vitosha**	**137.66**	**319**	⇑PKIKP	**PKiKP**	**07 14 17.5**	**+1.6**
VTS	**Vitosha**	**137.66**	**319**	PKPdf	**PKPdf**	**07 14 11.8**	**-2.2**
CLZ	**Clausthal**	**137.87**	**338**	*e*PKPdf	**PKPdf**	**07 14 13.9**	**0.0**
	baz=33,slow=2.1						
BOVS	**Bovan**	**138.07**	**321**	⇑P	**PKPdf**	**07 14 13.2**	**-1.3**
TANN	**Tannenbergstha**	**138.21**	**335**	*e*PKPdf	**PKPdf**	**07 14 14.1**	**-0.5**
	baz=33,slow=2.1						
WERD	**Werda**	**138.25**	**335**	*e*PKPdf	**PKPdf**	**07 14 14.1**	**-0.6**
	baz=33,slow=2.1						
FRGS	**Fruska Gora**	**138.29**	**324**	⇑P	**PKPdf**	**07 14 14.0**	**-0.9**
GUNZ	**Gunzen**	**138.30**	**335**	*e*PKPdf	**PKPdf**	**07 14 15.1**	**+0.3**
	baz=33,slow=2.1						
WERN	**Wernitzgruen**	**138.34**	**335**	*e*PKPdf	**PKPdf**	**07 14 14.7**	**-0.1**
	baz=33,slow=2.1						
RONA	**Rosalia, Austr**	**138.49**	**330**	*e*P	PKPpre	07 14 09.8	
	comp=Z,1.6nm,0.7s						
CONA	**Conrad Observa**	**138.54**	**330**	*e*P	PKPpre	07 14 10.2	
	comp=Z,3.7nm,1.2s						
CKRC	**Cesky Krumlov**	**138.62**	**332**	*e*PKPDF	**PKiKP**	**07 14 19.4**	**+1.9**
KOVH	**Kovagotottos**	**138.65**	**327**	PKP	PKPpre	07 14 11.0	
KOVH	**Kovagotottos**	**138.65**	**327**	PKP	**PKPdf**	**07 14 15.8**	**+0.3**
KHC	**Kasperske Hory**	**138.72**	**333**	*e*PKIKP	**PKPdf**	**07 14 15.9**	**+0.3**
KHC	**Kasperske Hory**	**138.72**	**333**	*e*PKPDF	**PKPdf**	**07 14 15.9**	**+0.3**
ROTZ	**Rotzenmuhle**	**138.81**	**335**	*e*PKPdf	**PKPdf**	**07 14 16.4**	**+0.7**
	baz=33,slow=2.1						
UBBA	**Unterbreizbach**	**138.84**	**338**	*e*PKPdf	**PKPdf**	**07 14 15.3**	**-0.2**
	baz=33,slow=2.1						
GERES	**GERESS Array B**	**138.88**	**333**	PKP	**PKPdf**	**07 14 15.8**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=43,slow=1.9,SNR=5.3						
WET	**Wettzell**	**139.01**	**334**	*e*PKPdf	**PKPdf**	**07 14 15.7**	**-0.4**
	baz=33,slow=2.1						
KASTN	**Kahler Asten**	**139.09**	**339**	*e*PKPdf	**PKPdf**	**07 14 15.7**	**-0.4**
	baz=33,slow=2.1						
GRF	**Grafenberg Arr**	**139.27**	**336**	*e*PKPdf	**PKiKP**	**07 14 18.0**	**-0.8**
	baz=33,slow=2.1						
GRF				*e*PP	**PP**	**07 17 11.5**	**+1.9**
	baz=38,slow=5.5						
GRF				*e*SKPbc	**SKiKP**	**07 17 53.2**	**+0.6**
	baz=51,slow=2.4						
MOA	**Molln**	**139.35**	**331**	*e*P	PKPpre	07 14 12.6	
	comp=Z,1.3nm,0.5s						
IDI	**Anoyia**	**139.77**	**308**	⇑P	**PKPdf**	**07 14 18.5**	**+0.5**
SOKA	**Soboth**	**139.82**	**330**	*e*P	PKPpre	07 14 11.8	
	comp=Z,2.8nm,1.0s,SNR=6.6						
SOKA				*e*P	**PKPdf**	**07 14 17.6**	**-0.2**
	comp=Z,15nm,1.2s						
TNS	**Taunus Mts**	**139.90**	**338**	*e*PKPdf	**PKPdf**	**07 14 17.1**	**-0.6**
	baz=33,slow=2.1						
AGG	**Agios Georgios**	**140.04**	**315**	PKIKP	**PKPdf**	**07 14 17.1**	**-1.2**
AGG	**Agios Georgios**	**140.04**	**315**	PKPdf	**PKPdf**	**07 14 17.1**	**-1.2**
RJOB	**Jochberg**	**140.11**	**332**	*e*PKPdf	**PKPdf**	**07 14 19.0**	**+0.8**
	baz=33,slow=2.1						
OBKA	**Obir**	**140.18**	**330**	*e*P	**PKPdf**	**07 14 14.4**	**-4.0**
	comp=Z,0.7nm,0.5s						
PDG	**Podgorica**	**140.23**	**321**	⇑P	**PKPdf**	**07 14 18.3**	**-0.2**
KBA	**Koelnbreinsper**	**140.34**	**331**	*e*P	**PKPdf**	**07 14 15.5**	**-3.3**
	comp=Z,8.2nm,1.4s,SNR=5.7						
KBA				*e*P	**PKiKP**	**07 14 20.6**	**-0.7**
	comp=Z,34nm,1.3s						
BTNL	**Ternell**	**140.38**	**341**	*d*PKP	**PKiKP**	**07 14 20.3**	**-0.8**
MEM	**Membach**	**140.40**	**341**	*d*PKP	**PKiKP**	**07 14 20.9**	**-0.2**
BCLA	**Clavier**	**140.78**	**341**	*d*PKP	**PKiKP**	**07 14 21.3**	**-0.6**
BGES	**Gesves**	**140.88**	**341**	*d*PKP	**PKiKP**	**07 14 21.2**	**-0.8**
WATA	**Walderalm**	**140.95**	**333**	*e*P	**PKPdf**	**07 14 16.8**	**-3.0**
	comp=Z,3.6nm,0.5s						
WATA				*e*P	**PKiKP**	**07 14 22.5**	**0.0**
	comp=Z,27nm,1.4s						
ABTA	**Abfaltersbach**	**140.97**	**332**	*e*P	**PKPdf**	**07 14 13.7**	**-6.1**
	comp=Z,9.7nm,1.0s						
WTTA	**Wattenberg**	**140.98**	**333**	*e*P	**PKPdf**	**07 14 15.9**	**-4.0**
	comp=Z,6.8nm,1.0s						
WTTA				*e*P	**PKiKP**	**07 14 20.4**	**-2.2**
	comp=Z,40nm,1.6s						
SNF	**Seneffe**	**141.02**	**342**	*d*PKP	**PKiKP**	**07 14 22.1**	**-0.2**
RCHB	**Rochefort**	**141.04**	**341**	*d*PKPdf	**PKPdf**	**07 14 19.8**	**+0.2**
RCHB				*d*PKiKP	**PKiKP**	**07 14 22.1**	**-0.3**
BMRD	**Maredsous**	**141.05**	**342**	*d*PKPdf	**PKPdf**	**07 14 19.7**	**0.0**
BMRD				*d*PKiKP	**PKiKP**	**07 14 22.1**	**-0.3**
TRI	**Trieste**	**141.13**	**329**	PKIKP	**PKPdf**	**07 14 20.9**	**+0.9**
TRI	**Trieste**	**141.13**	**329**	PKPdf	**PKPdf**	**07 14 20.9**	**+0.9**
MOTA	**Moosalm**	**141.15**	**333**	*e*P	**PKPdf**	**07 14 16.6**	**-3.6**
	comp=Z,11nm,1.1s,SNR=6.1						
MOTA				*e*P	**PKiKP**	**07 14 22.3**	**-0.6**
	comp=Z,23nm,0.9s						
WLF	**Walferdange**	**141.16**	**340**	*e*PKPdf	**PKPdf**	**07 14 20.0**	**+0.1**
	baz=33,slow=2.1						
WLF	**Walferdange**	**141.16**	**340**	*d*PKP	**PKiKP**	**07 14 22.2**	**-0.4**
RETA	**Reutte**	**141.19**	**334**	*e*P	**PKPdf**	**07 14 16.3**	**-3.8**
	comp=Z,1.6nm,0.6s						
SQTA	**Sankt Quirin**	**141.20**	**333**	*e*P	**PKPdf**	**07 14 16.6**	**-3.7**
	comp=Z,15nm,1.3s						
SQTA				*e*P	**PKiKP**	**07 14 22.6**	**-0.4**
	comp=Z,26nm,1.1s						
DOU	**Dourbes**	**141.29**	**342**	*d*PKPdf	**PKPdf**	**07 14 20.2**	**0.0**
FETA	**Feichten**	**141.56**	**333**	*e*P	**PKPdf**	**07 14 15.7**	**-5.2**
	comp=Z,3.9nm,1.0s,SNR=9.2						
DAVA	**Damuels**	**141.72**	**334**	*e*P	**PKPdf**	**07 14 16.0**	**-5.3**
	comp=Z,5.8nm,1.1s						
TIP	**Timpagrande**	**143.65**	**319**	⇑P	PKPbc	07 14 23.0	+0.8
TIP	**Timpagrande**	**143.65**	**319**	PKPdf	PKPbc	07 14 22.0	-0.3
CASP	**Castiglione de**	**144.68**	**329**	PKPdf	**PKPab**	**07 14 24.4**	**-0.7**
CEL	**Celeste**	**144.73**	**318**		**PKPab**	**07 14 23.5**	**-2.0**
BNI	**Bardonecchia**	**144.84**	**335**	PKIKP	**PKPab**	**07 14 25.4**	**-0.4**
BNI	**Bardonecchia**	**144.84**	**335**	PKPdf	**PKPab**	**07 14 25.4**	**-0.4**
CLTB	**Caltabellotta**	**146.84**	**320**		**PKPdf**	**07 14 30.1**	**-0.2**
KEST	**Kesra**	**150.41**	**321**	PKPbc	**PKPbc**	**07 14 40.9**	**-0.6**
	comp=Z,55nm,0.8s,baz=106,slow=1.4,SNR=17						
CMAH	**Djebel Manchou**	**150.95**	**324**	P	**PKPbc**	**07 14 42.1**	**-0.6**
ABSA	**Djebel Ababsia**	**151.16**	**324**	P	**PKPbc**	**07 14 43.5**	**+0.2**
CKFL	**Kef-Lekhel**	**151.50**	**325**	P	**PKPbc**	**07 14 44.1**	**0.0**
PBRG	**Braganca**	**151.86**	**350**	*e*PKPbc	**PKPbc**	**07 14 44.1**	**-0.5**
DFRA	**Djebel Bou Aff**	**151.86**	**326**	P	**PKiKP**	**07 14 45.7**	**+0.4**
PGAV	**Gavieira, Arco**	**151.94**	**352**	*e*PKPbc	**PKiKP**	**07 14 45.2**	**0.0**
PCAB	**Cabril**	**152.15**	**352**	*e*PKPbc	**PKPbc**	**07 14 43.3**	**-2.0**
POLO	**Lamas de Olo**	**152.45**	**351**	*e*PKPbc	**PKPbc**	**07 14 44.9**	**-1.1**
MVO	**Moncorvo**	**152.53**	**350**	*e*PKPbc	**PKPbc**	**07 14 46.0**	**-0.2**
PVIS	**Viseu**	**153.11**	**351**	*e*PKPbc	**PKPbc**	**07 14 45.6**	**-1.9**
ESDC	**Sonseca Array**	**153.28**	**344**	PKP	**PKPdf**	**07 14 40.0**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=359,slow=3.2,SNR=7.4						
ESDC				PKPbc	**PKPbc**	**07 14 47.6**	**-0.3**
	comp=Z,5.1nm,0.9s,baz=0.1,slow=2.4,SNR=14						
MTE	**Manteigas**	**153.36**	**350**	*e*PKPbc	**PKPbc**	**07 14 48.0**	**0.0**
PAB	**San Pablo**	**153.50**	**344**	⇑PKIKP	**PKPdf**	**07 14 44.4**	**+3.7**
PMRV	**Marv??o**	**154.28**	**349**	*e*PKPbc	**PKPbc**	**07 14 49.8**	**-0.2**
TOA0	**Torodi Ar. Sit**	**165.40**	**268**		**PKPdf**	**07 14 53.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**165.40**	**268**	PKP	**PKPdf**	**07 14 53.4**	**-1.6**
	comp=Z,4.8nm,1.0s,baz=90,slow=1.4,SNR=16						
TORD				PKPab	**PKPab**	**07 15 52.6**	**-0.5**
	comp=Z,9.7nm,1.1s,baz=74,slow=3.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**165.40**	**268**		**PKPdf**	**07 14 53.8**	**-1.2**
KIC	**Kosan Boka**	**168.58**	**228**	*e*PKIKP	**PKPdf**	**07 14 56.4**	**-1.0**
	comp=Z,25nm,1.2s						
LIC	**Lamto**	**168.69**	**227**	*e*PKIKP	**PKPdf**	**07 14 56.2**	**-1.2**
	comp=Z,55nm,1.8s						
DBIC	**Dimbokro**	**168.87**	**229**	PKP	**PKPdf**	**07 14 56.2**	**-1.3**
	comp=Z,12nm,1.1s,baz=321,slow=6.5,SNR=4.3						
TIC	**Toumodi**	**168.97**	**228**	*e*PKIKP	**PKPdf**	**07 14 55.9**	**-1.7**

*IDC **06** 06:57:07.3±0.6, 14.°00S×166.°71E, h0^{km}, mb4.6/19, mb1 4.7/20, mb1mx4.4/48, mbtmp4.6/20, Error ellipse: s-maj=26.3km s-min=16.3km az=92.0*

ISC 06 06:57:13.4±0.6**, 14.°03S**±0.°09×**166.°7E**±0.°2**, h43^{km}, n30, σ0^{s}93**/30**, mb4.5**/19**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.00**	**182**	Pn	**Pn**	**06 59 07.1**	**-0.1**
	baz=235,slow=22,SNR=0.5						
URZ	**Urewera**	**25.84**	**161**	P	**P**	**07 02 41.6**	**+0.7**
	8.7nm,0.6s,baz=121,slow=9.5,SNR=1.9						
STKA	**Stephens Creek**	**29.02**	**228**	P	**P**	**07 03 09.1**	**-0.4**
	7.1nm,0.6s,baz=46,slow=9.9,SNR=4.9						
RPZ	**Rata Peaks**	**29.82**	**174**	P	**P**	**07 03 17.5**	**+1.1**
	8.5nm,0.6s,baz=303,slow=21,SNR=2.1						
WRA	**Warramunga Arr**	**31.45**	**255**	P	**P**	**07 03 30.5**	**-0.6**
	3.2nm,0.9s,baz=84,slow=7.9,SNR=1.4						
ASAR	**Alice Springs**	**32.40**	**248**	P	**P**	**07 03 37.9**	**-1.5**
	2.4nm,0.6s,baz=74,slow=8.9,SNR=1.1						
MJAR	**Matsushiro Arr**	**57.03**	**333**	P	**P**	**07 06 54.9**	**-0.2**
	4.2nm,0.4s,baz=114,slow=3.6,SNR=3.1						
KSRS	**Korea Array**	**62.85**	**326**	P	**P**	**07 07 35.9**	**+0.9**
	2.0nm,0.6s,baz=137,slow=7.0,SNR=3.2						
USRK	**Ussuriysk Ar.**	**66.01**	**333**	P	**P**	**07 07 57.0**	**+1.5**
	13nm,1.0s,baz=141,slow=6.4,SNR=5.0						
PETK	**Petropavlovsk-**	**67.31**	**354**	P	**P**	**07 08 04.3**	**+0.6**
	5.3nm,0.8s,baz=166,slow=6.1,SNR=4.6						
KLR	**Kul'dur**	**70.14**	**336**	P	**P**	**07 08 22.3**	**+1.0**
	2.4nm,0.6s,baz=165,slow=5.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**74.15**	**294**	P	**P**	**07 08 47.2**	**+1.2**
	2.2nm,0.3s,baz=130,slow=5.0,SNR=1.6						
SEY	**Seymchan**	**77.53**	**353**	P	**P**	**07 09 04.5**	**+0.3**
	6.2nm,0.9s,baz=171,slow=23,SNR=3.5						
SONM	**Songino Array**	**81.60**	**324**	P	**P**	**07 09 27.9**	**+0.9**
	3.2nm,0.8s,baz=127,slow=4.3,SNR=3.3						
MAW	**Mawson**	**82.31**	**202**	P	**P**	**07 09 31.4**	**+1.1**
	2.5nm,0.6s,baz=70,slow=11,SNR=1.7						
YBH	**Yreka Blue Hor**	**85.33**	**45**	P	**P**	**07 09 47.4**	**+1.2**
	2.1nm,0.8s,baz=312,slow=19,SNR=2.1						
ILAR	**Eielson Array**	**86.04**	**18**	P	**P**	**07 09 47.4**	**-1.7**
	1.4nm,0.6s,baz=236,slow=5.2,SNR=2.1						
MKAR	**Makanchi Array**	**96.31**	**317**	P	**P**	**07 10 37.7**	**+0.2**
	2.4nm,0.7s,baz=87,slow=6.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**96.50**	**324**	P	**P**	**07 10 37.3**	**-0.9**
	4.7nm,0.9s,baz=115,slow=6.7,SNR=4.2						
YKA	**Yellowknife Ar**	**97.19**	**27**	P	**P**	**07 10 39.9**	**-1.2**
	0.3nm,0.6s,baz=255,slow=4.4,SNR=1.5						
ARCES	**ARCESS Array B**	**119.44**	**345**	PKP	**PKPdf**	**07 15 56.7**	**-1.0**
	5.0nm,0.6s,baz=66,slow=1.7,SNR=13						
FINES	**FINESS Array B**	**124.87**	**338**	PKP	**PKPdf**	**07 16 07.8**	**-0.6**
	4.9nm,0.9s,baz=349,slow=1.3,SNR=6.4						
NB2	**NORSAR Subarra**	**129.81**	**345**	PKPdf	**PKPdf**	**07 16 17.1**	**-0.8**
	comp=Z,15nm,1.7s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**129.81**	**345**	PKPdf	**PKPdf**	**07 16 17.1**	**-0.8**
	baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.81**	**345**	PKP	**PKPdf**	**07 16 17.4**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=34,slow=2.0,SNR=4.6						
AKASG	**Malin Array Be**	**129.84**	**326**	PKP	**PKPdf**	**07 16 17.6**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=51,slow=2.2,SNR=3.2						
BDFB	**Brasilia**	**134.76**	**129**	PKP	**PKPdf**	**07 16 27.7**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=79,slow=4.1,SNR=3.3						
KEST	**Kesra**	**150.31**	**321**	PKPbc	**PKiKP**	**07 17 00.8**	**-0.6**
	comp=Z,18nm,0.9s,baz=189,slow=2.5,SNR=3.9						
ESDC	**Sonseca Array**	**153.16**	**344**	PKPbc	**PKiKP**	**07 17 06.8**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=353,slow=3.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**165.38**	**268**	PKP	**PKPdf**	**07 17 13.9**	**-0.3**
	comp=Z,2.6nm,1.1s,baz=174,slow=1.3,SNR=1.4						

*IDC **06** 06:58:42.7±0.3, 14.°21S×166.°78E, h0^{km}, mb5.9/42, mb1 5.8/45, mb1mx5.7/50, mbtmp5.9/45, ML3.9/2, MS6.6/30, Ms1 6.6/30, ms1mx6.6/38, Error ellipse: s-maj=10.1km s-min=9.6km az=93.0*

*BJI **06** 06:58:46.1±0.0, 13.°63S×166.°64E, h20^{km}, mb6.1/82, mB6.7/71, Ms6.6/94, Ms7 6.4/88*

*MOS **06** 06:58:46.6±1.1, 14.°05S×166.°56E, h33^{km}, mb6.5/68, MS6.3/38, Error ellipse: s-maj=10.1km s-min=6.3km az=130.2*

*NEIC **06** 06:58:48.2±2.5, 14.°07S±0.°07×166.°62E±0.°07, h24^{km}±1^{km}, mb6.0/424, Ms_20 6.8/402, Mwb6.6/68, Mwc6.7/133, Mww6.7, Error ellipse: s-maj=12.1km s-min=11.1km az=51.0*

*NEIC **06** 06:58:49.7, 14.°10S×166.°59E, h24^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}8.03; $M_{\theta\theta}$0.31; $M_{\phi\phi}$-8.33; $M_{r\theta}$0.97; $M_{\theta\phi}$2.98; $M_{\phi r}$-0.00; Fault plane solution: $M_0$8.76000×10^{18} NP1:ϕ_s350.32000°, δ44.54000°, λ100.89000°. NP2:ϕ_s155.21000°, δ46.47000°, λ79.47000°. Principal axes: T 8.1578, Plg82.0000°, Azm350.0000°; N 1.1076, Plg8.0000°, Azm163.0000°; P -9.2654, Plg1.0000°, Azm253.0000°;*

*NOU **06** 06:58:50.8, 14.°08S×166.°60E, h29^{km}, ML6.6/141, Vanuatu Islands*

*GCMT **06** 06:58:54.2±0.0, 14.°06S×166.°59E, h32^{km}, MW6.7/172, Moment Tensor Solution. s172,c456; s169,c754; Duration: 5^{s}3 Moment tensor: Scale 10^{19}Nm; M_{rr}1.23±.00; $M_{\theta\theta}$-0.01±.00; $M_{\phi\phi}$-1.22±.00; $M_{r\theta}$0.27±.01; $M_{\theta\phi}$0.29±.00; $M_{\phi r}$-0.09±.01; Best double couple: $M_0$1.29100×10^{19} NP1:ϕ_s358.00000°, δ43.00000°, λ107.00000°. NP2:ϕ_s156.00000°, δ49.00000°, λ75.00000°. Principal axes: T 1.2880, Plg78.0000°, Azm3.0000°; N 0.0090, Plg11.0000°, Azm166.0000°; P -1.2940, Plg3.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **06** 06:58:55, 14.°11S×166.°26E, h40^{km}, Moment Tensor Solution. Duration: 10^{s}0 Moment tensor: Scale 10^{19}Nm; M_{rr}1.40; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-1.38; $M_{r\theta}$0.07; $M_{\theta\phi}$0.29; $M_{\phi r}$0.13; Fault plane solution: $M_0$1.43000×10^{19} NP1: ϕ_s164.00000°, δ43.00000°, λ84.00000°. NP2: ϕ_s353.00000°, δ47.00000°, λ96.00000°. Principal axes: T 1.4066, Plg85.0000°, Azm320.0000°; N 0.0396, Plg4.0000°, Azm169.0000°; P -1.4462, Plg2.0000°, Azm79.0000°;*

*NEIC **06** 06:59:06.3, 14.°15S×166.°28E, h40^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}1.54; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-1.41; $M_{r\theta}$0.26; $M_{\theta\phi}$0.26; $M_{\phi r}$-0.23; Fault plane solution: $M_0$1.54000×10^{19} NP1:ϕ_s161.77000°, δ50.62000°, λ80.93000°. NP2:ϕ_s355.89000°, δ40.24000°, λ100.87000°. Principal axes: T 1.5886, Plg81.0000°, Azm25.0000°; N -0.1037, Plg7.0000°, Azm168.0000°; P -1.4849, Plg5.0000°, Azm258.0000°;*

ISC 06 06:58:48.2±0.3**, 14.°05S**±0.°03×**166.°74E**±0.°03**, h33^{km}**±1^{km}**, h33^{km}:pP-P, n2247, σ2^{s}36**/2218**, mb6.0**/396**, MS6.8**/323**, 177C-56D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.91**	**159**	P	**Pn**	**06 59 50.6**	**+4.6**
RTV	**Rentapao**	**4.06**	**157**	P	**Pn**	**06 59 51.3**	**+3.3**
LIFNC	**LIFOU**	**6.71**	**176**	Pn	**Pn**	**07 00 26.2**	**+1.8**
LIFNC	**LIFOU**	**6.71**	**176**	P	Pn	07 00 29.3	+4.9
KOUNC	**Koumac, New Ca**	**6.87**	**200**	Pn	**Pn**	**07 00 27.7**	**+1.0**
KOUNC	**Koumac, New Ca**	**6.87**	**200**	⇓P	**Pn**	**07 00 27.8**	**+1.1**
KOUNC	**Koumac, New Ca**	**6.87**	**200**	P	**Pn**	**07 00 26.4**	**-0.3**
MARNC	**Mare, Loyalty**	**7.49**	**171**	Pn	**Pn**	**07 00 33.9**	**-1.2**
MARNC	**Mare, Loyalty**	**7.49**	**171**	⇓P	**Pn**	**07 00 37.5**	**+2.3**
MARNC	**Mare, Loyalty**	**7.49**	**171**	P	**Pn**	**07 00 38.5**	**+3.3**
DZM	**Mont Dzumac**	**7.98**	**182**	Pn	**Pn**	**07 00 39.1**	**-2.9**
	15nm,0.3s,baz=30,slow=17,SNR=6.7						
DZM				Sn	**Sn**	**07 02 08.0**	**-3.2**
	baz=353,slow=20,SNR=1.4						
DZM	**Mont Dzumac**	**7.98**	**182**	*e*Pn	**Pn**	**07 00 37.9**	**-4.1**
	1μm,0.4s						
DZM				*e*Sn	Sn	07 02 01.8	-9.4
	3μm,0.8s						
DZM				*e*LR	LR	07 02 28.5	
	comp=Z,462μm,25.7s						
DZM				*e*ScP	**ScP**	**07 10 45.6**	**-2.1**
	128nm,1.4s						
DZM	**Mont Dzumac**	**7.98**	**182**	⇑P	**Pn**	**07 00 45.4**	**+3.4**
DZM				⇑S	Sn	07 02 21.4	+10
HNR	**Honiara**	**8.08**	**304**	Pn	**Pn**	**07 00 41.7**	**-1.5**
	46nm,0.3s,baz=249,slow=4.3,SNR=9.1						
HNR				Sn	**Sn**	**07 02 16.2**	**+2.6**
	92nm,0.3s,baz=166,slow=14,SNR=1.0						
HNR				LR	LR	07 03 37.3	
	comp=Z,446μm,21.2s,baz=146,slow=36						
HNR	**Honiara**	**8.08**	**304**	P	**Pn**	**07 00 43.0**	**-0.2**

HNR Honiara 8.08 304 Pn 07 00 43.0 -0.2
HNR Honiara 8.08 304 ⇓P Pn 07 00 43.8 +0.5
HNR Honiara 8.08 304 P Pn 07 00 43.1 -0.2
ONTNC Ouen Toro 8.21 182 Pn Pn 07 00 45.7 +0.6
OUENC Ouen Island, N 8.32 179 Pn Pn 07 00 47.2 +0.6
PINNC Pines Island, 8.54 176 Pn 07 00 50.7 +1.1
MSVF Nonsavu 11.48 110 Pn Pn 07 01 36.1 +6.0
6.7nm,0.3s,baz=255,slow=8.5,SNR=22
MSVF LR LR 07 05 07.4
comp=Z,897µm,18.4s,baz=288,slow=34
MSVF Nonsavu 11.48 110 P Pn 07 01 33.6 +3.6
MSVF Nonsavu 11.48 110 Pn Pn 07 01 33.6 +3.6
MSVF Nonsavu 11.48 110 ⇑P Pn 07 01 36.6 +6.6
MSVF Nonsavu 11.48 110 P Pn 07 01 34.9 +4.9
FUNA Funafuti 13.40 67 Pn Pn 07 01 56.9 +0.8
FUNA Funafuti 13.40 67 ⇓P Pn 07 01 57.0 +0.8
FUNA Funafuti 13.40 67 P Pn 07 01 58.9 +2.8
NFK Norfolk Island 14.96 176 P Pn 07 02 17.4 0.0
baz=15,SNR=5.4
NFK Norfolk Island 14.96 176 ⇑P Pn 07 02 19.1 +1.7
NFK Norfolk Island 14.96 176 P Pn 07 02 19.0 +1.7
RABL Rabaul 17.39 303 P Pn 07 02 48.5 -0.1
RABL IAmb IAmb 07 03 22.2
comp=Z,2µm,1.8s
RABL Rabaul 17.39 303 P P 07 02 51.0 +1.4
KRVT Keravat (AS076 17.44 302 P P 07 02 56.6 +6.5
baz=86,slow=9.1,SNR=6.3
KRVT LR LR 07 09 53.2
comp=Z,221µm,21.1s,baz=265,slow=38
RK1H Rockhampton Ha 17.95 236 P P 07 02 57.2 +1.5
comp=Z,364nm,0.7s
EIDS Eidsvold 18.52 230 P Pn 07 03 02.2 -0.1
baz=18,SNR=15
EIDS Eidsvold 18.52 230 Pn 07 03 02.2 -0.1
EIDS IAmb IAmb 07 03 14.4
comp=Z,2µm,1.7s
EIDS Eidsvold 18.52 230 P Pn 07 03 03.5 +1.2
LHI Lord Howe Isla 18.76 201 P P 07 03 03.4 -1.1
baz=19,SNR=4.2
LHI Lord Howe Isla 18.76 201 P 07 03 04.8 +0.4
LHI IAmb IAmb 07 03 19.6
comp=Z,2µm,1.8s
LHI Lord Howe Isla 18.76 201 P Pn 07 03 08.2 +3.1
PMG Port Moresby 19.71 281 P P 07 03 15.3 +0.2
comp=Z,2.6nm,0.3s,baz=107,slow=6.7,SNR=21
PMG ScP ScP 07 11 11.0 +3.8
comp=Z,1.0nm,0.3s,baz=2.1,slow=3.7,SNR=5.3
PMG Port Moresby 19.71 281 *i* P P 07 03 15.4 +0.3
PMG pmax pmax
comp=Z,807nm,1.1s
PMG MLR MLR
comp=Z,334µm,16.0s
PMG Port Moresby 19.71 281 P 07 03 15.8 +0.7
PMG IAmb IAmb 07 03 21.5
comp=Z,699nm,1.0s
PMG Port Moresby 19.71 281 ⇑P Pn 07 03 16.2 -0.5
PMG Port Moresby 19.71 281 P Pn 07 03 17.0 +0.3
CTA Charters Tower 20.47 250 P P 07 03 22.2 -1.1
comp=Z,179nm,1.1s,baz=74,slow=12,SNR=21
CTA ScP ScP 07 11 13.2 +4.3
comp=Z,26nm,0.9s,baz=270,slow=3.1,SNR=3.4
CTA Charters Tower 20.47 250 P Pn 07 03 25.8 +0.2
RAO Raoul Island 20.75 139 P Pn 07 03 30.7 +1.9
AFI Afiamalu 20.85 92 P P 07 03 27.1 -0.4
comp=Z,27nm,0.7s,baz=342,slow=2.6,SNR=25
AFI LR LR 07 09 48.9
comp=Z,172µm,18.4s,baz=256,slow=32
AFI ScP ScP 07 11 13.5 +3.5
comp=Z,52nm,0.8s,baz=155,slow=20,SNR=3.6
AFI Afiamalu 20.85 92 P Pn 07 03 30.1 -0.1
AFI pmax pmax
comp=Z,923nm,1.1s
AFI Afiamalu 20.85 92 Pn 07 03 30.1 -0.1
AFI IAmb IAmb 07 03 38.8
comp=Z,923nm,1.1s
AFI Afiamalu 20.85 92 P Pn 07 03 32.9 +2.7
RMQ Roma 20.88 231 P P 07 03 28.1 +0.3
baz=21,SNR=19
RMQ Roma 20.88 231 P Pn 07 03 30.3 -0.1
ARMA Armidale 21.43 218 P P 07 03 34.3 +0.7
baz=21,SNR=12
ARMA Armidale 21.43 218 P P 07 03 34.5 +0.9
ARMA IAmb IAmb 07 03 39.6
comp=Z,553nm,1.2s
ARMA Armidale 21.43 218 ⇓S P 07 03 34.5 +0.9
ARMA Armidale 21.43 218 P P 07 03 34.8 +1.2
MTSU Mount Surprise 21.91 256 P P 07 03 37.4 -1.5
baz=22,SNR=15
MTSU Mount Surprise 21.91 256 P P 07 03 42.0 +3.1
OUZ Omahuta 21.97 165 P P 07 03 40.0 +0.8
OUZ IAmb IAmb 07 03 47.0
comp=Z,1µm,1.4s
OUZ Omahuta 21.97 165 ⇑P P 07 03 38.3 -1.0
PATS Pohnpei 22.37 338 P P 07 03 45.0 +1.3
baz=22,SNR=22
PATS Pohnpei 22.37 338 P P 07 03 43.3 -0.4
PATS Pohnpei 22.37 338 P P 07 03 48.0 +4.2
MANU Manus Island 22.56 300 P P 07 03 45.7 -0.1
MANU Manus Island 22.56 300 ⇑P P 07 03 47.3 +1.5
COEN Coen 22.86 267 P P 07 03 48.5 -0.5
COEN IAmb IAmb 07 03 55.1
comp=Z,644nm,1.1s
COEN Coen 22.86 267 ⇓P P 07 03 48.5 -0.5
COEN Coen 22.86 267 P P 07 03 51.0 +2.0
NIUE Niue 22.91 106 P P 07 03 51.3 +1.8
baz=23,SNR=10.0
NIUE Niue 22.91 106 P P 07 03 50.5 +1.0
NIUE Niue 22.91 106 ⇑S P 07 03 51.5 +2.1
NIUE Niue 22.91 106 P P 07 03 55.1 +5.6
NTLH Newcastle Hard 23.23 214 P P 07 03 56.7 +4.1
comp=Z,343nm,0.8s
MGCD Mangrove Creek 23.79 214 P P 07 03 57.6 -0.4
baz=24,SNR=35
MGCD Mangrove Creek 23.79 214 P P 07 03 58.7 +0.7
KNTN Kanton 24.05 64 P P 07 04 02.9 +2.3
KNTN IAmb IAmb 07 04 08.6
comp=Z,1µm,1.2s
KNTN Kanton 24.05 64 ⇑P P 07 04 02.5 +1.9
KNTN Kanton 24.05 64 P P 07 04 04.3 +3.7
comp=Z,890nm,1.4s
RIV Riverview 24.24 213 P P 07 04 03.1 +1.0
baz=24,SNR=14
RIV Riverview 24.24 213 ⇑P P 07 04 03.7 +1.6
SYDH Sydney Hard Ro 24.41 214 P P 07 04 04.8 +1.1
comp=Z,198nm,0.8s
QLP Quilpie 24.46 236 P P 07 04 03.5 -0.8
baz=24,SNR=27
QLP Quilpie 24.46 236 ⇑P P 07 04 02.7 -1.5
QLP Quilpie 24.46 236 P P 07 04 06.6 +2.3
TOZ Tahuroa Road 24.84 163 P P 07 04 07.9 +0.4
TGRZ Tauranga 25.06 162 P P 07 04 09.4 -0.1
KMRZ Kaimai 25.07 163 P P 07 04 11.2 +1.4
OPRZ Ohinepanea 25.25 162 P P 07 04 12.4 +1.0
HIZ Hauiti 25.40 165 IAmb IAmb 07 04 19.1
comp=Z,679nm,1.0s
HIZ Hauiti 25.40 165 P P 07 04 16.8 +4.1
OMRZ Omania 25.44 162 P P 07 04 16.9 +3.9
HAZ Te Kaha 25.57 159 P P 07 04 16.3 +2.1
MXZ Matakaoa Point 25.58 158 P P 07 04 15.5 +1.2
MXZ IAmb IAmb 07 04 22.3
comp=Z,647nm,1.4s
MXZ Matakaoa Point 25.58 158 P P 07 04 16.6 +2.3
RUGZ Raukumara Rang 25.72 160 P P 07 04 16.0 +0.3
PKGZ Pakihiroa 25.79 159 P P 07 04 20.2 +3.9
URZ Urewera 25.81 161 P P 07 04 14.3 -2.0
comp=Z,7.0nm,0.4s,baz=9.7,slow=4.7,SNR=15
URZ LR LR 07 13 20.3
comp=Z,140µm,19.8s,baz=344,slow=34
URZ Urewera 25.81 161 P P 07 04 16.4 +0.1
URZ IAmb IAmb 07 05 00.6
comp=Z,1µm,1.5s
URZ Urewera 25.81 161 ⇑P P 07 04 15.1 -1.2
URZ Urewera 25.81 161 P P 07 04 15.3 -1.0
URZ Urewera 25.81 161 P P 07 04 20.1 +3.8
PRRZ Plateau Road 25.81 162 P P 07 04 18.5 +2.1
WMGZ Waiomatatini S 25.85 158 P P 07 04 19.0 +2.3
VRZ Vera Road 25.96 166 P P 07 04 22.5 +4.8
CMSA Cobar Meteorol 25.98 224 P P 07 04 18.9 +0.9
baz=26,SNR=14
CMSA Cobar Meteorol 25.98 224 P P 07 04 18.6 +0.6
MWZ Matawai 26.01 160 P P 07 04 18.2 -0.1
TWGZ Tauwhareparae 26.02 159 P P 07 04 20.5 +2.2
PUZ Puketiti 26.02 159 P P 07 04 18.4 +0.1
RAGZ Rawiri 26.12 161 P P 07 04 20.7 +1.4
MRHZ Matea Rd 26.13 163 P P 07 04 20.7 +1.4
NTVZ North Tongarir 26.17 164 P P 07 04 22.3 +2.5
TMVZ Te Maari 26.19 164 P P 07 04 22.2 +2.3
TKGZ Te Karaka 26.21 160 P P 07 04 22.4 +2.4
NGZ Ngauruhoe 26.22 164 P P 07 04 20.2 0.0
OTVZ Oturere 26.23 164 P P 07 04 23.8 +3.5
PKVZ Pokaka 26.26 165 P P 07 04 25.7 +5.2
MTHZ Maungataniwha 26.27 162 P P 07 04 19.7 -0.9
FWVZ Far West T-bar 26.28 164 P P 07 04 24.4 +3.5
TUVZ Tukino 26.32 164 P P 07 04 21.0 -0.2
CNB Canberra Magne 26.32 213 P P 07 04 22.0 +0.9
baz=26,SNR=21
CNB Canberra Magne 26.32 213 P P 07 04 22.3 +1.1
WNVZ Wahianoa 26.36 164 P P 07 04 21.6 0.0
CNGZ Carnagh Statio 26.37 159 P P 07 04 24.0 +2.6
RAHZ Arahi 26.40 162 P P 07 04 21.7 -0.1
MMPI Merauke 26.42 279 P P 07 04 22.4 +0.3
RIGZ Rimuhau 26.42 160 P P 07 04 19.9 -2.1
BKZ Black Stump Fm 26.46 163 IAmb IAmb 07 04 27.9
comp=Z,577nm,1.5s
BKZ Black Stump Fm 26.46 163 P P 07 04 20.1 -2.2
BKZ Black Stump Fm 26.46 163 P P 07 04 25.0 +2.7
NMHZ Naumai 26.48 162 P P 07 04 21.5 -1.1
CAN Canberra 26.52 214 P P 07 04 25.2 +2.2
WHHZ Waihua 26.59 162 P P 07 04 24.4 +0.9
WAZ Wanganui 26.61 166 P P 07 04 25.4 +1.8
BHHZ Black Hill Sta 26.64 164 P P 07 04 21.8 -2.1
QIS Mount Isa 26.67 252 P P 07 04 24.0 -0.4
baz=26,SNR=14
QIS Mount Isa 26.67 252 P P 07 04 24.2 -0.2
KWHZ Kaweka Forest 26.68 163 P P 07 04 24.5 +0.3
KNZ Kokohu 26.68 161 P P 07 04 26.7 +2.5
MHGZ Mahia Peninsul 26.88 161 P P 07 04 28.7 +2.7
CKHZ Cape Kidnapper 27.08 162 P P 07 04 28.8 +1.0
TSZ Takapari Road 27.14 164 P P 07 04 25.5 -3.0
KAHZ Kahuranaki 27.15 163 P P 07 04 26.7 -1.8
QRZ Quartz Range 27.15 170 IAmb IAmb 07 04 33.1
comp=Z,989nm,1.5s
QRZ Quartz Range 27.15 170 P P 07 04 28.8 +0.4
WPHZ Waipukurau 27.28 164 P P 07 04 33.2 +3.6
PXZ Pawanui 27.36 163 P P 07 04 30.2 -0.2
PRWZ Pori Road 27.61 165 P P 07 04 34.3 +1.7
MRZ Mangatainoka R 27.61 165 P P 07 04 34.8 +2.2
INKA Inninnka 27.76 236 P P 07 04 36.2 +2.1
BFZ Birch Farm 27.80 164 IAmb IAmb 07 04 41.2
comp=Z,613nm,1.7s
BFZ IAMs_20 IAMs_20 07 14 56.5
comp=Z,177µm,21.0s
BFZ Birch Farm 27.80 164 P P 07 04 37.8 +3.5
SNZO South Karori 28.03 167 P P 07 04 37.3 +1.0
SNZO South Karori 28.03 167 IAMs_20 IAMs_20 07 15 42.3
comp=Z,172µm,19.0s
SNZO South Karori 28.03 167 P P 07 04 37.4 +1.1
GENI Genyem 28.60 291 P P 07 04 43.9 +2.2
comp=Z,72µmcomp=Z,12µmcomp=Z,166nm,1.8s
GENI Genyem 28.60 291 P P 07 04 42.6 +0.9
KHZ Kahutara 28.87 170 IAmb IAmb 07 05 20.6
comp=Z,316nm,1.3s
KHZ Kahutara 28.87 170 ⇑P P 07 04 41.0 -2.7
LTZ Lake Taylor 29.02 172 IAmb IAmb 07 04 51.8
comp=Z,369nm,1.2s
STKA Stephens Creek 29.05 228 P P 07 04 43.6 -1.9
comp=Z,103nm,0.6s,baz=56,slow=9.0,SNR=18
STKA PcP PcP 07 07 53.5 +0.1
comp=Z,82nm,1.1s,baz=88,slow=2.8,SNR=3.5
STKA ScP ScP 07 11 35.5 +2.8
comp=Z,23nm,0.9s,baz=72,slow=0.3,SNR=5.2
STKA PKiKP PKiKP 07 15 29.0 +1.4
comp=Z,3.0nm,0.6s,baz=356,slow=4.1,SNR=4.4
STKA Stephens Creek 29.05 228 P P 07 04 43.5 -2.1
baz=29,SNR=39
STKA Stephens Creek 29.05 228 *i* P P 07 04 45.7 +0.2
STKA Stephens Creek 29.05 228 P P 07 04 45.4 -0.1
FOZ Fox Glacier 29.50 175 IAmb IAmb 07 04 54.2
comp=Z,600nm,1.2s
OXZ Oxford 29.53 172 IAmb IAmb 07 04 51.9
comp=Z,379nm,1.2s
RPZ Rata Peaks 29.79 174 P P 07 04 50.0 -1.9
comp=Z,116nm,0.8s,baz=352,slow=3.8,SNR=30
RPZ LR LR 07 15 44.1
comp=Z,60µm,21.4s,baz=354,slow=34
RPZ Rata Peaks 29.79 174 IAmb IAmb 07 04 55.5
comp=Z,584nm,1.3s
MQZ McQueen's Vall 29.98 171 IAmb IAmb 07 04 58.1
comp=Z,342nm,1.2s
TOO Toolangi 30.09 215 P P 07 04 55.1 +0.4
baz=30,SNR=19
TOO Toolangi 30.09 215 IAmb IAmb 07 04 59.8
comp=Z,693nm,1.9s
TOO Toolangi 30.09 215 ⇓P P 07 04 55.2 +0.4
TOO Toolangi 30.09 215 P P 07 04 56.1 +1.3
LBZ Lake Benmore 30.38 175 IAmb IAmb 07 05 00.5
comp=Z,246nm,1.1s
LCRK Leigh Creek 30.90 233 P P 07 05 02.6 +0.6
BRAT Ballarat 30.97 217 P P 07 05 04.8 +2.4
comp=Z,66nm,0.9s
ODZ Otahua Downs 31.07 175 IAmb IAmb 07 05 06.2
comp=Z,511nm,1.5s
ODZ Otahua Downs 31.07 175 ⇑P P 07 05 03.0 -0.2
GEXS Deakin Univers 31.21 215 P P 07 05 09.2 +4.7
comp=Z,130nm,1.0s
MLZ Mavora Lakes 31.23 178 IAmb IAmb 07 05 13.1
comp=Z,174nm,0.9s
GLAD Gladstone 31.41 208 P P 07 05 08.6 +2.3
comp=Z,269nm,0.9s
WRAB Tennant Creek 31.48 255*d* *i*P P 07 05 05.8 -1.4
WRAB pmax pmax
comp=Z,193nm,1.3s
WRAB MLR MLR
comp=Z,73µm,17.0s
WRAB Tennant Creek 31.48 255 ⇑P P 07 05 04.5 -2.7
WRAB Tennant Creek 31.48 255 P P 07 05 08.0 +0.8
WRA Warramunga Arr 31.49 255 P P 07 05 04.8 -2.5
comp=Z,68nm,0.9s,baz=86,slow=9.0,SNR=22
WRA PcP PcP 07 08 01.2 +1.2
comp=Z,38nm,1.0s,baz=75,slow=3.0,SNR=7.3
WRA ScP ScP 07 11 45.5 +4.6
comp=Z,13nm,1.0s,baz=81,slow=3.7,SNR=5.1
WRA PKiKP PKiKP 07 15 27.0 -2.5
comp=Z,8.0nm,0.9s,baz=0.2,slow=0.5,SNR=11
WRA P3KPbc 07 36 44.4
comp=Z,4.3nm,1.1s,baz=266,slow=2.7,SNR=9.5
WRA Warramunga Arr 31.49 255 P P 07 05 04.8 -2.5
WRA 07 08 01.2
WRA pmax pmax
comp=Z,99nm,2.0s
ARPS Mount Arapiles 31.72 220 P P 07 05 07.5 -1.5
baz=32,SNR=8.4
ARPS Mount Arapiles 31.72 220 P P 07 05 12.2 +3.1
WHZ Wether Hill Ro 31.75 178 IAmb IAmb 07 05 14.1
comp=Z,335nm,1.3s
HTT Hallett 31.78 228 P P 07 05 07.8 -1.9
baz=32,SNR=43
HTT Hallett 31.78 228 ⇓P P 07 05 09.0 -0.7
HTT Hallett 31.78 228 P P 07 05 11.3 +1.6
OOD Oodnadatta 31.95 240 P P 07 05 13.0 +1.8
CORO Coronation Par 32.18 208 P P 07 05 15.9 +2.9
comp=Z,182nm,0.8s
NAPP Napperby 32.22 229 P P 07 05 14.9 +1.4
comp=Z,225nm,0.8s
PTPS Port Pirie 32.32 229 P P 07 05 18.7 +4.3
comp=Z,336nm,0.7s
AS31 Alice Springs 32.44 248 P P 07 05 12.9 -2.7
ASAR Alice Springs 32.44 248 P P 07 05 12.8 -2.8
comp=Z,110nm,0.7s,baz=72,slow=6.8,SNR=37
ASAR PcP PcP 07 08 04.0 +1.4
comp=Z,15nm,0.6s,baz=79,slow=4.8,SNR=4.5
ASAR ScP ScP 07 11 49.5 +5.4
comp=Z,26nm,0.8s,baz=88,slow=3.7,SNR=10.0
ASAR PKiKP PKiKP 07 15 27.5 -2.6
comp=Z,2.8nm,0.6s,baz=100,slow=1.5,SNR=6.9
ASAR LR LR 07 18 12.5
comp=Z,95µm,18.5s,baz=64,slow=36
ASAR Alice Springs 32.44 248 ScP ScP 07 11 46.8 +2.7
WHYH Whyalla 32.56 230 P P 07 05 17.4 +0.9
comp=Z,413nm,0.9s
RAR Rarotonga 32.66 107 P P 07 05 19.5 +2.1
comp=Z,96nm,0.8s,baz=307,slow=2.4,SNR=10
RAR LR LR 07 15 59.6
comp=Z,120µm,21.2s,baz=286,slow=32
RAR Rarotonga 32.66 107 P P 07 05 19.7 +2.2
RAR pmax pmax
comp=Z,355nm,1.3s
RAR Rarotonga 32.66 107 P P 07 05 19.7 +2.2
RAR IAmb IAmb 07 05 26.3
comp=Z,355nm,1.2s
RAR Rarotonga 32.66 107 ⇓P P 07 05 20.4 +3.0
RAR Rarotonga 32.66 107 P P 07 05 21.7 +4.3
GHSS Government Hou 32.78 226 P P 07 05 20.9 +2.5
TWOA Tennyson Woods 32.86 226 P P 07 05 21.4 +2.3
comp=Z,113nm,0.7s
BAKI Biak 32.87 290 P P 07 05 22.3 +2.9
comp=Z,13µmcomp=Z,277nm,1.3s
MOO Moorlands 32.95 207 P P 07 05 21.0 +1.3
baz=33,SNR=28
MOO Moorlands 32.95 207 P P 07 05 21.3 +1.6
TAU Tasmania Unive 33.27 206 P P 07 05 21.8 -0.7
TAU pmax pmax
comp=Z,1µm,1.9s
TAU Tasmania Unive 33.27 206 P P 07 05 21.8 -0.7
TAU Tasmania Unive 33.27 206 ⇑P P 07 05 23.3 +0.8
TAU Tasmania Unive 33.27 206 P P 07 05 25.1 +2.6
KDU Kakadu 33.34 268 P P 07 05 21.6 -1.9
baz=33,SNR=45
KDU Kakadu 33.34 268 ⇓P P 07 05 22.0 -1.6
KDU Kakadu 33.34 268 P P 07 05 25.1 +1.6
BBOO Buckleboo 33.59 231 P P 07 05 23.4 -2.2
baz=33,SNR=30
BBOO Buckleboo 33.59 231 P P 07 05 23.6 -1.9
BBOO Buckleboo 33.59 231 P P 07 05 26.4 +0.9
MULG Mulgathing 34.14 236 P P 07 05 30.0 -0.3
MTN Manton Dam 34.63 268 P P 07 05 34.1 -0.6
baz=34,SNR=16
MTN Manton Dam 34.63 268 P P 07 05 34.3 -0.4
MTN Manton Dam 34.63 268 ⇓P P 07 05 34.5 -0.2
MTN Manton Dam 34.63 268 P P 07 05 36.8 +2.1
SAUI Saumlaki 35.27 276 IAMs_20 IAMs_20 07 18 56.1
comp=Z,108µm,19.0s
FAKI Fak Fak 35.80 285 P P 07 05 45.1 +0.3
FAKI IAmb IAmb 07 06 03.6
comp=Z,226nm,1.2s
FAKI IAMs_20 IAMs_20 07 20 07.5
comp=Z,148µm,22.0s
FAKI Fak Fak 35.80 285 ⇑P P 07 05 44.2 -0.6
FAKI Fak Fak 35.80 285 P P 07 05 46.4 +1.6
comp=Z,55µmcomp=Z,8µmcomp=Z,173nm,1.0s
FAKI Fak Fak 35.80 285 P P 07 05 49.3 +4.5
KNRA Kununurra 36.71 263 P P 07 05 51.3 -1.2
baz=36,SNR=40
KNRA Kununurra 36.71 263 P P 07 05 51.7 -0.8
KNRA Kununurra 36.71 263 P P 07 05 54.2 +1.7
SIJI Sorong 37.45 287 P P 07 05 59.1 +0.2
comp=Z,60nm,0.8s,baz=87,slow=7.5,SNR=16
SIJI LR LR 07 21 53.1
comp=Z,117µm,20.8s,baz=130,slow=37
SWI Sorong 37.45 287 P P 07 06 02.1 +3.2
BNDI Bandanaira 37.51 281 ⇓P P 07 06 00.9 +1.5
BNDI Bandanaira 37.51 281 P P 07 06 02.4 +3.0
WRKA Warakurna 37.71 247 P P 07 05 57.5 -3.5
baz=38,SNR=22
WRKA Warakurna 37.71 247 ⇓P P 07 05 57.9 -3.2
WRKA Warakurna 37.71 247 P P 07 06 01.7 +0.6
JOHN Johnston Islan 38.54 38 IAMs_20 IAMs_20 07 18 30.1
comp=Z,100µm,21.0s
XMAS Kiritimati 38.94 69 P P 07 06 11.9 +0.5
XMAS Kiritimati 38.94 69 ⇑P P 07 06 13.6 +2.2
XMAS Kiritimati 38.94 69 P P 07 06 15.7 +4.3
FORT Forrest 39.20 238 P P 07 06 10.7 -2.7
baz=39,SNR=21
FORT Forrest 39.20 238 ⇓P P 07 06 10.9 -2.6
FORT Forrest 39.20 238 P P 07 06 15.5 +2.1
AAI Ambon 39.38 281 P P 07 06 14.4 -0.7
comp=Z,57µmcomp=Z,14µmcomp=Z,220nm,0.8s
FITZ Fitzroy Crossi 39.63 259 P P 07 06 15.8 -1.4
comp=Z,123nm,0.8s,baz=99,slow=8.3,SNR=42
FITZ PKiKP PKiKP 07 15 36.4 +0.6
comp=Z,5.0nm,0.9s,baz=93,slow=20,SNR=1.8
LBMI Labuha 41.03 286 P P 07 06 31.3 +2.5
comp=Z,39µmcomp=Z,13µmcomp=Z,552nm,1.5s
TNTI Ternate 41.67 287 P P 07 06 33.4 -0.7
comp=Z,31µmcomp=Z,10µmcomp=Z,214nm,1.3s
TNTI Ternate 41.67 287 P P 07 06 36.4 +2.3
SANI Sanana 41.98 283 ⇑P P 07 06 38.1 +1.4
SANI Sanana 41.98 283 P P 07 06 38.6 +2.0
comp=Z,52µmcomp=Z,18µmcomp=Z,395nm,1.5s
SANI Sanana 41.98 283 P P 07 06 40.0 +3.4
PAE Paea 42.11 101 *eP* P 07 06 38.2 +0.6
comp=Z,113nm,1.1s
PPT2 Papeete2 42.12 101 *eP* P 07 06 38.7 +1.0
comp=Z,452nm,1.2s
PPT2 *e*ScP ScP 07 12 18.5 -1.9
comp=Z,58nm,1.3s
PPT2 *e*S S 07 12 56.2 +0.6
comp=Z,49µm,28.0s
PPT2 *e*LQ LQ 07 16 34.3
comp=Z,194µm,28.8s
PPT2 *e*LR LR 07 18 19.8
comp=Z,142µm,24.5s,baz=259
PPT Papeete 42.12 101 P P 07 06 40.9 +3.2
comp=Z,173nm,0.7s,baz=274,slow=3.0,SNR=17
PPTF Pamatai, Papee 42.12 101 P P 07 06 39.1 +1.2
PPTF IAmb IAmb 07 06 50.9
comp=Z,691nm,1.2s
PPTF Pamatai, Papee 42.12 101 ⇓P P 07 06 41.0 +3.2
PPTF Pamatai, Papee 42.12 101 P P 07 06 42.2 +4.4
BATI Baumata 42.24 270 P P 07 06 38.3 -0.4
comp=Z,507nm,0.9s,baz=112,slow=4.0,SNR=23
BATI Baumata 42.24 270 P P 07 06 40.5 +1.7
comp=Z,35µmcomp=Z,15µmcomp=Z,381nm,0.9s
TBI Tubuai 42.37 109 *eP* P 07 06 40.8 +1.1
comp=Z,667nm,0.9s
TBI *e*S S 07 13 00.6 +1.5
comp=Z,42µm,29.2s
TBI *e*LQ LQ 07 16 39.8
comp=Z,166µm,27.2s
TBI *e*LR LR 07 18 29.0
comp=Z,202µm,24.5s,baz=282
PMOR Pomariorio Ree 43.87 97 *eP* P 07 06 53.2 +1.3
comp=Z,2µm,1.2s
MMRI Maumere 43.91 272 ⇑P P 07 06 52.8 +0.5
MMRI Maumere 43.91 272 P P 07 06 54.3 +2.1
comp=Z,51µmcomp=Z,17µmcomp=Z,446nm,1.1s
MMRI Maumere 43.91 272 P P 07 06 55.7 +3.5
VAH Vaihoa 44.11 97 *eP* P 07 06 54.9 +1.1
comp=Z,904nm,1.1s
BBSI Bau Bau 44.28 277 P P 07 06 56.4 +1.2
comp=Z,1µmcomp=Z,47nm,1.8s
KMSI Cibinong 44.75 285 P P 07 07 01.5 +2.5
comp=Z,903nmcomp=Z,6µmcomp=Z,736nm,0.8s
PSA00 Pilbara Seismi 45.13 254 P P 07 07 00.1 -1.8
PSA00 IAmb IAmb 07 07 05.5
comp=Z,220nm,1.2s
PSA00 Pilbara Seismi 45.13 254 P P 07 07 05.2 +3.3
BASI Baing, Sumba 45.23 269 P P 07 07 05.1 +2.3
comp=Z,33µmcomp=Z,16µmcomp=Z,757nm,1.4s
LUWI Luwuk 45.35 283 P P 07 07 03.0 -0.7
LUWI Luwuk 45.35 283 P P 07 07 05.3 +1.6
comp=Z,55µmcomp=Z,12µmcomp=Z,358nm,1.0s
LUWI Luwuk 45.35 283 P P 07 07 05.3 +1.6
GTOI Gorontalo 45.68 285 P P 07 07 09.4 +3.0
comp=Z,16µmcomp=Z,4µmcomp=Z,139nm,0.8s
DAV Davao City (W) 45.92 295 P P 07 07 09.0 +0.8
comp=Z,236nm,0.4s,baz=80,slow=8.0,SNR=1.6
DAV LR LR 07 24 11.6
comp=Z,21µm,18.9s,baz=108,slow=33
BSSI Bau Bau, Buton 46.13 275 P P 07 07 12.8 +2.9
APSI Ampana 46.46 282 P P 07 07 14.1 +1.6
comp=Z,33µmcomp=Z,6µmcomp=Z,254nm,1.2s
WBSI Waikabubak, Su 46.48 270 P P 07 07 15.0 +2.3
comp=Z,46µmcomp=Z,11µmcomp=Z,505nm,1.0s
MEEK Meekatharra 46.57 247 P P 07 07 10.7 -2.5
baz=46,SNR=16
MEEK Meekatharra 46.57 247 P P 07 07 14.2 +0.9
MRSI Marisa 46.63 284 P P 07 07 16.1 +2.3
comp=Z,47µmcomp=Z,6µmcomp=Z,147nm,1.3s
BKSI Bulukumba 46.68 276 P P 07 07 17.2 +3.0
BNSI Bone 46.93 277 P P 07 07 19.1 +2.9
KAPI Kappang 47.12 276 P P 07 07 17.8 +0.2
comp=Z,34nm,0.7s,baz=96,slow=7.1,SNR=18
KAPI Kappang 47.12 276*c* *i*P P 07 07 17.9 +0.2
KAPI pmax pmax
comp=Z,611nm,1.8s
KAPI MLR MLR
comp=Z,28µm,20.0s
KAPI Kappang 47.12 276 P P 07 07 17.5 -0.1
KAPI Kappang 47.12 276 P P 07 07 20.9 +3.2
KAPI P P 07 07 20.9 +3.2
KAPI Kappang 47.12 276 ⇑P P 07 07 19.5 +1.8
KAPI Kappang 47.12 276 P P 07 07 19.7 +2.1
JCJ Chichijima 47.34 330 P P 07 07 20.0 +0.9

comp=Z,250nm,0.7s,baz=156,slow=3.2,SNR=21
JCJ LR LR 07 26 31.4
comp=Z,24µm,20.6s,baz=156,slow=35
JCJ Chichijima 47.34 330 P **P** **07 07 18.4 -0.7**
JCJ Chichijima 47.34 330 P **P** **07 07 21.3 +2.2**
SPSI Sidrap Palu 47.37 278 P **P** **07 07 22.0 +2.4**
comp=Z,46µmcomp=Z,7µmcomp=Z,122nm,1.6s
TTSI Tana Toraja 47.57 279 P **P** **07 07 22.7 +1.5**
comp=Z,42µmcomp=Z,9µmcomp=Z,125nm,2.4s
TOLI2 Tolitoli 47.94 285 IAmb IAmb 07 07 42.8
comp=Z,143nm,1.0s
TOLI2 Tolitoli 47.94 285 P **P** **07 07 24.7 +0.7**
KLBR Kellerberrin 47.99 240 P **P** **07 07 21.6 -2.5**
baz=48,SNR=35
KLBR Kellerberrin 47.99 240 P **P** **07 07 25.2 +1.0**
comp=Z,298nm,0.7s
PLAI Plampang 48.20 271 P **P** **07 07 27.5 +1.5**
comp=Z,52µmcomp=Z,19µmcomp=Z,669nm,1.2s
PLAI Plampang 48.20 271 P **P** **07 07 27.0 +1.0**
MPSI Mapaga 48.51 283 P **P** **07 07 28.3 -0.2**
comp=Z,47µmcomp=Z,7µmcomp=Z,224nm,1.0s
BLDU Ballidu 48.72 242 P **P** **07 07 30.0 +0.2**
baz=48,SNR=9.4
BLDU Ballidu 48.72 242 P **P** **07 07 32.1 +2.2**
MORW Morawa 49.10 244 P **P** **07 07 32.0 -0.8**
baz=49,SNR=43
MORW Morawa 49.10 244 P **P** **07 07 30.2 -2.6**
MORW IAmb IAmb 07 07 50.0
comp=Z,233nm,0.9s
MORW Morawa 49.10 244 ⇓P **P** **07 07 31.2 -1.6**
MORW Morawa 49.10 244 P **P** **07 07 35.6 +2.8**
RKGY Rocky Gully 49.19 236 P **P** **07 07 34.0 +0.6**
baz=49,SNR=6.5
RKGY Rocky Gully 49.19 236 P **P** **07 07 36.4 +3.0**
comp=Z,308nm,1.3s
MUN Mundaring 49.35 240 P **P** **07 07 34.5 -0.2**
baz=49,SNR=26
MUN Mundaring 49.35 240 P **P** **07 07 36.8 +2.1**
MTKN Mount Kenneth 49.71 240 P **P** **07 07 39.7 +2.3**
AIN Ainahou 49.89 49 IAmb IAmb 07 07 43.3
comp=Z,295nm,1.1s
MLOA Mauna Loa Obse 49.90 49 IAmb IAmb 07 08 00.2
comp=Z,426nm,1.4s
HLP Hilina Pali 49.95 49 P **P** **07 07 40.6 +1.2**
HLP IAmb IAmb 07 08 52.9
comp=Z,383nm,1.3s
HMH Humu'ula Sheep 50.01 49 P **P** **07 07 42.5 +2.4**
POHA Pohakuloa 50.07 49 P **P** **07 07 42.3 +1.8**
POHA IAmb IAmb 07 08 12.0
comp=Z,376nm,1.3s
POHA Pohakuloa 50.07 49 IAMs_20 IAMs_20 07 24 00.2
comp=Z,99µm,20.0s
POHA Pohakuloa 50.07 49 ⇓P **P** **07 07 43.5 +3.0**
POHA Pohakuloa 50.07 49 P **P** **07 07 45.0 +4.5**
HPAH Hawaii Prepara 50.13 48 IAmb IAmb 07 08 00.8
comp=Z,218nm,1.0s
HLK Haleakala 50.20 47 IAmb IAmb 07 07 47.1
comp=Z,212nm,0.9s
GIRL Giralia 50.35 252 P **P** **07 07 42.9 +0.6**
baz=50,SNR=14
GIRL Giralia 50.35 252 ⇑P **P** **07 07 44.6 +2.3**
GIRL Giralia 50.35 252 P **P** **07 07 45.0 +2.6**
DNP Denpasar 50.72 270 P **P** **07 07 47.2 +1.9**
comp=Z,49µmcomp=Z,42µmcomp=Z,2µm,0.8s
IGBI Denpasar 50.75 270 P **P** **07 07 47.2 +1.7**
comp=Z,27µmcomp=Z,19µmcomp=Z,1µm,0.9s
SRBI Singaraja 50.83 271 P **P** **07 07 48.8 +2.7**
comp=Z,50µmcomp=Z,19µmcomp=Z,451nm,1.8s
JAGI Jajag, Banyuwa 51.78 270 IAmb IAmb 07 08 05.0
comp=Z,295nm,0.9s
JAGI Jajag, Banyuwa 51.78 270 ⇑P **P** **07 07 51.8 -1.5**
JAGI Jajag, Banyuwa 51.78 270 P **P** **07 07 54.6 +1.3**
comp=Z,44µmcomp=Z,13µmcomp=Z,386nm,1.1s
JAGI Jajag, Banyuwa 51.78 270 P **P** **07 07 55.2 +1.9**
ABJI Asem Bagus 51.84 271 P **P** **07 07 55.9 +2.2**
comp=Z,51µmcomp=Z,24µmcomp=Z,539nm,2.3s
TAOE Nuku Hiva Isla 52.23 90 *e*P **P** **07 07 57.9 +1.2**
comp=Z,655nm,1.2s
TAOE *e*S **S** **07 15 20.6 +0.7**
TAOE comp=Z,38µm,33.8s *e*LR LR 07 23 05.0
comp=Z,147µm,22.6s,baz=260
TAOE Nuku Hiva Isla 52.23 90 P **P** **07 07 59.8 +3.1**
TAOE IAmb IAmb 07 08 16.6
comp=Z,421nm,1.3s
TAOE Nuku Hiva Isla 52.23 90 ⇑P P 07 08 01.6 +4.9
TAOE Nuku Hiva Isla 52.23 90 P **P** **07 08 00.3 +3.6**
BBKI Banjar Baru 52.24 277 P **P** **07 07 58.4 +1.7**
comp=Z,30µmcomp=Z,11µmcomp=Z,209nm,1.7s
KMMI Kalianget 52.25 272 P **P** **07 07 59.5 +2.8**
comp=Z,50µmcomp=Z,14µmcomp=Z,212nm,1.5s
BLJI Banyuglugur 52.47 271 P **P** **07 08 00.6 +2.2**
comp=Z,28µmcomp=Z,8µmcomp=Z,306nm,1.9s
GMJI Gumukmas 52.51 270 P **P** **07 08 01.0 +2.3**
comp=Z,38µmcomp=Z,9µmcomp=Z,290nm,1.3s
SPMM Sapulut 53.23 287 P **P** **07 08 06.0 +1.9**
TGY Tagaytay City 53.27 300 P **P** **07 08 05.6 +1.4**
comp=Z,131nm,0.3s,baz=152,slow=3.0,SNR=5.4
JHJ2 Mitsune 53.48 332 P **P** **07 08 08.5 +3.1**
JHJ Hachijo jima 2 53.51 332 P **P** **07 08 06.6 +0.9**
comp=Z,411nm,0.8s
KKM Kota Kinabalu 53.96 288 P **P** **07 08 09.2 -0.2**
KKM Kota Kinabalu 53.96 288 ⇑P **P** **07 08 09.1 -0.3**
KKM Kota Kinabalu 53.96 288 P **P** **07 08 13.2 +3.8**
PWJI Pagerwojo 54.15 270 P **P** **07 08 13.1 +2.4**
comp=Z,172nm,1.1s
PCJI Pacitan 54.73 270 P **P** **07 08 17.2 +2.3**
comp=Z,43µmcomp=Z,14µmcomp=Z,566nm,1.1s
JOW Kunigami 55.20 317 ⇑P **P** **07 08 18.7 +0.6**
JOW Kunigami 55.20 317 P **P** **07 08 20.5 +2.4**
UWJI Ujung Watu 55.31 272 P **P** **07 08 19.6 +0.4**
comp=Z,13µmcomp=Z,237nm,2.0s
UGM Wanagama 55.41 270 P **P** **07 08 21.5 +1.5**
comp=Z,47µmcomp=Z,14µmcomp=Z,642nm,1.3s
UGM Wanagama 55.41 270 P **P** **07 08 23.3 +3.3**
PBKI Pangkalan Bun 55.50 276 P **P** **07 08 22.4 +1.9**
comp=Z,53µmcomp=Z,9µmcomp=Z,293nm,1.1s
YOGI Yogyakarta 55.66 270 P **P** **07 08 23.2 +1.5**
comp=Z,26µmcomp=Z,9µmcomp=Z,511nm,1.1s
SMRI Semarang 55.67 271 P **P** **07 08 21.1 -0.7**
comp=Z,60µmcomp=Z,28µmcomp=Z,551nm,1.3s
SMRI Semarang 55.67 271 P **P** **07 08 24.0 +2.2**
JYT Yasato 55.90 270 ⇓P **P** **07 08 23.8 +0.5**
STKI Sintang 55.44 280 P **P** **07 08 27.1 -0.2**
comp=Z,30µmcomp=Z,14µmcomp=Z,150nm,2.1s
SBUM Sibu 56.45 283 IAmb IAmb 07 08 47.2
comp=Z,140nm,1.1s
SBUM Sibu 56.45 283 ⇑P **P** **07 08 27.9 +0.5**
SBUM Sibu 56.45 283 P **P** **07 08 30.0 +2.7**
INU Inuyama 56.63 331 ⇑P **P** **07 08 27.8 -0.3**
INU Inuyama 56.63 331 P **P** **07 08 29.3 +1.1**
JGF Kuroka 56.68 331 IAmb IAmb 07 08 33.0
comp=Z,165nm,0.8s
JGF Kuroka 56.68 331 ⇑P **P** **07 08 27.5 -1.1**
JMN Monobe 56.90 327 ⇑P **P** **07 08 30.4 +0.3**
MJAR Matsushiro Arr 57.07 333 P **P** **07 08 30.4 -0.8**
comp=Z,302nm,1.0s,baz=184,slow=20,SNR=60
MAJO Matsushiro 57.07 333 P **P** **07 08 31.1 -0.2**
MAJO pmax pmax
comp=Z,565nm,1.1s
MAJO Matsushiro 57.07 333 P **P** **07 08 31.1 -0.2**
JMM Marumori 57.10 336 ⇑P **P** **07 08 31.3 -0.1**
JSU Suzuyama 57.13 323 ⇑P **P** **07 08 31.9 0.0**
YOJ Yonaguni jima 57.33 312 ⇑P **P** **07 08 34.4 +1.0**
YOJ Yonaguni jima 57.33 312 P **P** **07 08 35.7 +2.4**
CMJI Cimerak 57.45 270 P **P** **07 08 36.4 +2.0**
comp=Z,24µmcomp=Z,5µmcomp=Z,175nm,0.8s
JCJI Jatiwangi 57.90 271 P **P** **07 08 39.0 +1.5**
comp=Z,24µmcomp=Z,415nm,0.8s
KSM Kuching 57.97 281 P **P** **07 08 37.9 -0.2**
KSM IAmb IAmb 07 09 00.1
comp=Z,264nm,1.3s
KSM Kuching 57.97 281 ⇑P **P** **07 08 37.7 -0.4**
KSM Kuching 57.97 281 P **P** **07 08 41.0 +2.9**
KSM Kuching 57.97 281 P **P** **07 08 40.7 +2.6**
JNU Nakatsue 58.07 325 P **P** **07 08 38.6 +0.2**
comp=Z,331nm,0.9s
JNU Nakatsue 58.07 325 ⇑P **P** **07 08 37.9 -0.6**
JNU Nakatsue 58.07 325 P **P** **07 08 39.6 +1.2**
JHS Saijyo 58.28 328 ⇑P **P** **07 08 39.3 -0.6**
JSD Sado 58.30 334 P **P** **07 08 39.2 -0.7**
JSD Sado 58.30 334 ⇑P **P** **07 08 39.6 -0.2**
TPUB Ta-pu 58.42 309 P **P** **07 08 42.6 +1.6**
SSLB Suanglung 58.45 310 P **P** **07 08 42.9 +1.6**
LEM Lembang 58.46 271 P **P** **07 08 41.5 -0.2**
comp=Z,181nm,0.7s,baz=86,slow=4.3,SNR=28
LEM LR LR 07 33 45.6
comp=Z,23µm,21.8s,baz=89,slow=36
YHNB Yeheng 58.65 311 P **P** **07 08 44.4 +1.7**
TATO Taipei 58.75 311 P **P** **07 08 43.1 -0.1**
TATO Taipei 58.75 311 P **P** **07 08 40.4 -2.8**
TATO P **P** **07 08 40.4 -2.8**
CNJI Cibinong 58.83 270 P **P** **07 08 46.2 +2.1**
comp=Z,39µmcomp=Z,9µmcomp=Z,423nm,1.2s
CBJI Citeko 59.29 271 P **P** **07 08 48.0 +0.7**
comp=Z,41µmcomp=Z,662nm,0.9s
DBJI Dramaga 59.36 271 P **P** **07 08 49.4 +1.6**
comp=Z,18µmcomp=Z,375nm,2.0s
SKJI Sukabumi 59.45 270 P **P** **07 08 48.5 +0.1**
comp=Z,3µmcomp=Z,311nm,0.8s
JTM Tenmabayashi 59.52 338 ⇑P **P** **07 08 47.8 -0.5**
XMI Christmas Isla 59.63 266 P **P** **07 08 52.4 +2.8**
XMIS Christmas Isla 59.66 266 P **P** **07 08 50.0 +0.2**
XMIS Christmas Isla 59.66 266 P **P** **07 08 51.4 +1.6**
ERM Erimo 59.87 340 P **P** **07 08 52.8 +2.1**
ERM pmax pmax
comp=Z,138nm,0.8s
ERM Erimo 59.87 340 P **P** **07 08 52.8 +2.1**
ERM IAmb IAmb 07 08 58.0
comp=Z,138nm,0.8s
ERM Erimo 59.87 340 IAMs_20 IAMs_20 07 30 11.2
comp=Z,68µm,22.0s
ERM Erimo 59.87 340 ⇑P **P** **07 08 50.7 0.0**
ERM Erimo 59.87 340 P **P** **07 08 53.7 +3.0**
JTU Tsushima 59.94 325 ⇑P **P** **07 08 49.6 -1.7**
CGJI Cibinong 60.37 270 P **P** **07 08 54.9 +0.2**
comp=Z,39µmcomp=Z,12µmcomp=Z,479nm,1.2s
YUK Yuzh-Kuril'sk 60.86 343 *e*P **P** **07 08 58.8 +1.4**
YUK *e* 07 09 41.8
YUK *e* 07 11 13.0
YUK *e*PPP PPP 07 12 36.2
YUK *e*S **S** **07 17 15.4 +2.5**
YUK *e* 07 18 48.3
YUK *e*SS **SS** **07 21 16.1 +3.3**
YUK pmax pmax
comp=Z,855nm,1.5s
YUK pmax pmax
comp=N,397nm,1.3s
YUK pmax pmax
comp=Z,615nm,1.5s
YUK pmax pmax
comp=E,461nm,1.8s
YUK MLR MLR
comp=E,4µm,15.0s
YUK MLR MLR
comp=N,14µm,16.0s
YUK MLR MLR
comp=Z,18µm,16.0s
QZH Quanzhou 60.88 309 ⇑*i*P **P** **07 08 57.8 -0.1**
QZH S **S** **07 17 14.3 +0.5**
QZH pmax pmax
comp=Z,250nm,1.7s
QZH pmax pmax
comp=Z,10µm,9.6s
QZH LR LR
comp=Z,6µm,17.1s
QZH LR LR
comp=Z,11µm,18.5s
QZH LR LR
comp=Z,14µm,19.9s
PPBI Pangkal Pinang 60.98 275 P **P** **07 09 00.6 +1.7**
comp=Z,47µmcomp=Z,21µmcomp=Z,109nm,1.5s
JEW Eniwo 61.19 339 ⇑P **P** **07 08 59.9 +0.2**
KUR Kuril'sk 61.44 345 *e*P **P** **07 09 00.7 -0.5**
KUR S **S** **07 17 20.5 +0.4**
KUR pmax pmax
comp=Z,1µm,1.5s
KUR MLR MLR
comp=E,12µm,15.0s
KUR MLR MLR
comp=N,33µm,16.0s
KUR MLR MLR
comp=Z,35µm,16.0s
KLSI 61.73 272 P **P** **07 09 05.6 +1.7**
comp=Z,14µmcomp=Z,2µmcomp=Z,36nm,1.1s
KASI Kota Agung 61.77 271 P **P** **07 09 04.4 +0.2**
comp=Z,36µmcomp=Z,9µmcomp=Z,389nm,1.0s
ASAJ Asahikawa 61.93 341 P **P** **07 09 05.3 +0.6**
comp=Z,68nm,0.5s,baz=228,slow=4.7,SNR=25
ASAJ LR LR 07 32 10.5
comp=Z,61µm,21.1s,baz=184,slow=32
LWLI Liwa 62.31 272 P **P** **07 09 10.1 +2.1**
comp=Z,13µmcomp=Z,379nm,1.0s
MDSI Maura Dua 62.31 272 P **P** **07 09 07.4 -0.4**
comp=Z,24µmcomp=Z,4µmcomp=Z,141nm,2.2s
TJN Taejon 62.42 325*ce*P **P** **07 09 07.3 -0.8**
TJN Taejon 62.42 325 P **P** **07 09 09.4 +1.3**
SSE Sheshan 62.68 316 P **P** **07 09 12.7 +2.8**
SSE S **S** **07 17 38.4 +2.1**
SSE pmax pmax
comp=Z,140nm,1.5s
SSE LR LR
comp=Z,6µm,21.3s
SSE LR LR
comp=Z,7µm,21.6s
KSRS Korea Array 62.89 326 P **P** **07 09 11.6 +0.5**
comp=Z,59nm,0.8s,baz=140,slow=7.2,SNR=40
KSRS PKiKP **PKiKP** **07 16 02.5 +2.2**
comp=Z,1.5nm,0.8s,baz=247,slow=1.7,SNR=3.1
KSRS PKPPKP 07 38 11.8
comp=Z,0.3nm,0.3s,baz=302,slow=3.9,SNR=4.2
HKC Hong Kong Obse 62.91 304 ⇑P **P** **07 09 15.0 +3.4**
DSRI Dabo 62.92 277 P **P** **07 09 13.7 +1.8**
comp=Z,28µmcomp=Z,5µmcomp=Z,89nm,2.0s
KS19 Wonju Array Si 62.96 326 IAmb IAmb 07 09 15.3
comp=Z,256nm,1.2s
DLV T Lat 63.24 291 IAmb IAmb 07 09 18.6
comp=Z,377nm,1.7s
DLV T Lat 63.24 291 P **P** **07 09 17.7 +3.5**
comp=Z,118nm,2.2s
MCO Taipa Grande 63.32 304 P **P** **07 09 18.0 +3.6**
TPRI Tanjung Pinang 63.35 278 P **P** **07 09 15.7 +1.0**
VNDA Vanda 63.52 181 P **P** **07 09 13.8 -1.0**
comp=Z,54nm,0.9s,baz=355,slow=7.2,SNR=16
VNDA LR LR 07 34 55.1
comp=Z,9µm,18.9s,baz=50,slow=34
VNDA PKP2bc 07 38 13.1
comp=Z,2.1nm,1.0s,baz=157,slow=5.5,SNR=3.5
VNDA Vanda 63.52 181 P **P** **07 09 13.7 -1.2**
VNDA pmax pmax
comp=Z,460nm,1.6s
VNDA Vanda 63.52 181 P **P** **07 09 13.7 -1.2**
MNAI Manna 63.53 272 P **P** **07 09 16.6 +0.7**
INCN Inchon 63.62 325 P **P** **07 09 17.1 +1.0**
INCN pmax pmax
comp=Z,1µm,1.7s
INCN Inchon 63.62 325 P **P** **07 09 17.1 +1.0**
INCN Inchon 63.62 325 P **P** **07 09 19.2 +3.1**
SBA Scott Base 63.81 180 P **P** **07 09 16.7 0.0**
SBA pmax pmax
comp=Z,403nm,1.0s
SBA Scott Base 63.81 180 P **P** **07 09 16.7 0.0**
CASY Casey 63.96 202 P **P** **07 09 17.0 -0.8**
CASY Casey 63.96 202 ⇑P **P** **07 09 16.6 -1.3**
GZH Guangzhou 63.97 305 P **P** **07 09 19.1 +0.5**
GZH sP **pwP** **07 09 31.7 -0.1**
GZH PP **PP** **07 11 38.0 -1.7**
GZH S **S** **07 17 53.1 +0.4**
GZH LR LR
comp=Z,12µm,24.6s
GZH LR LR
comp=Z,16µm,23.5s
MYKOM Kota Tinggi 64.24 279 P **P** **07 09 24.0 +3.4**
YSS Yuzh-Sakhalins 64.43 342*de*P **P** **07 09 17.5 -3.6**
YSS *e*SP **sP** **07 09 34.3 +0.5**
YSS *e* 07 09 50.6
YSS *e*S **S** **07 17 54.0 -3.5**
YSS *e* 07 19 12.0
YSS *e*SSS SSS 07 25 04.0
YSS pmax pmax
comp=Z,310nm,1.1s
YSS pmax pmax
comp=Z,11µm,6.0s
YSS pmax pmax
comp=N,4µm,4.8s
YSS smax smax
comp=N,6µm,12.9s
YSS smax smax
comp=E,5µm,8.5s
YSS Yuzh-Sakhalins 64.43 342 P **P** **07 09 21.1 0.0**
YSS IAMs_20 IAMs_20 07 34 01.9
comp=Z,59µm,20.0s
YSS Yuzh-Sakhalins 64.43 342 ⇑P **P** **07 09 21.4 +0.3**
YSS Yuzh-Sakhalins 64.43 342 P **P** **07 09 23.6 +2.5**
MASI Maura Aman, Be 64.51 273 P **P** **07 09 24.9 +2.5**
comp=Z,10µmcomp=Z,279nm,0.8s
HJU Haeju 64.52 325 P **P** **07 09 21.9 0.0**
HJU pP **pP** **07 09 31.9 +0.6**
HJU S **S** **07 18 01.6 +2.5**
HJU AmB
comp=Z,3µm,3.2s
HJU AMS AMS
comp=N,488nm,0.8s
HJU AMS AMS
comp=E,14µm,22.9s
HJU AMS AMS
comp=Z,13µm,21.1s
NJ2 Nanjing 64.83 316 ⇓P **P** **07 09 24.7 +0.6**
NJ2 pP **pP** **07 09 34.4 +1.2**
NJ2 sP **pwP** **07 09 40.2 +2.8**
NJ2 PcP **PcP** **07 09 56.5 -0.8**
NJ2 S **S** **07 18 01.2 -1.9**
NJ2 sS **pS** **07 18 10.3 -3.7**
NJ2 ScS **SKSac** **07 19 14.7 -1.8**
NJ2 pmax pmax
comp=Z,300nm,1.0s
NJ2 pmax pmax
comp=Z,9µm,6.3s
NJ2 LR LR
comp=Z,16µm,18.6s
NJ2 LR LR
comp=Z,13µm,19.0s
NJ2 LR LR
comp=Z,20µm,19.8s
TEY Ternei 64.85 337 ⇓*i*P **P** **07 09 25.6 +1.7**
TEY *e*S **S** **07 18 01.1 -1.7**
TEY pmax pmax
comp=N,80nm,1.6s
TEY pmax pmax
comp=Z,220nm,1.6s
TEY pmax pmax
comp=E,80nm,1.7s
TEY pmax pmax
comp=Z,2µm,2.1s
TEY pmax pmax
comp=E,700nm,2.2s
TEY pmax pmax
comp=N,1µm,2.3s
TEY smax smax
comp=N,4µm,16.2s
TEY smax smax
comp=E,4µm,14.5s
HHU Hamhung 64.91 328 P **P** **07 09 24.7 +0.3**
HHU pP **pP** **07 09 34.9 +1.1**
HHU S **S** **07 18 03.5 -0.3**
HHU AmB
comp=Z,6µm,3.1s
HHU AMS AMS
comp=N,467nm,18.0s
HHU AMS AMS
comp=E,556nm,21.5s
HHU AMS AMS
comp=Z,45nm,1.7s
QIZ Qiongzhong 64.96 299 IAmb IAmb 07 09 33.4
comp=Z,330nm,1.7s
QIZ Qiongzhong 64.96 299 P **P** **07 09 26.6 +1.4**
QIZ S **S** **07 18 04.4 -0.7**
QIZ pmax pmax
comp=Z,130nm,2.3s
QIZ pmax pmax
comp=Z,8µm,12.8s
QIZ LR LR
comp=Z,9µm,23.9s
QIZ LR LR
comp=Z,10µm,28.7s
QIZ LR LR
comp=Z,19µm,29.5s
QIZ Qiongzhong 64.96 299 P **P** **07 09 29.2 +4.0**
SKR Severo-Kuril's 65.12 353 *e*P **P** **07 09 26.0 +0.4**
SKR *e*S **S** **07 18 08.1 +2.2**
SKR pmax pmax
comp=Z,221nm,1.2s
SKR pmax pmax
comp=Z,5µm,15.8s
SKR pmax pmax
comp=Z,5µm,17.9s
SKR smax smax
comp=N,4µm,18.3s
SKR smax smax
comp=E,5µm,13.7s
SKR MLR MLR
comp=Z,12µm,17.0s
SKR MLR MLR
comp=Z,12µm,17.0s
MSHR Mys Shultsa 65.15 332*ce*P **P** **07 09 26.8 +0.9**
MSHR pmax pmax
comp=Z,255nm,1.1s
MSHR MLR MLR
comp=Z,10µm,19.0s
PYAG Pyongyang 65.22 326 P **P** **07 09 26.9 +0.5**
PYAG sP **sP** **07 09 39.2 0.0**
PYAG S **S** **07 18 09.6 +2.0**
PYAG AmB
comp=Z,4µm,2.3s
PYAG AMS AMS
comp=N,537nm,7.8s
PYAG AMS AMS
comp=E,515nm,7.5s
PYAG AMS AMS
comp=Z,174nm,2.5s
VLA Vladivostok 65.24 333 ⇓*i*P **P** **07 09 27.0 +0.5**
VLA pmax pmax
comp=Z,1µm,1.8s
VLA MLR MLR
comp=Z,20µm,20.0s
KRJI Kerinci 65.52 274 P **P** **07 09 30.1 +1.0**
comp=Z,39µmcomp=Z,305nm,1.8s
USA0B Ussuriysk Arra 66.05 333 *i*P **P** **07 09 31.7 0.0**
USRK Ussuriysk Ar. 66.05 333 P **P** **07 09 32.5 +0.8**
comp=Z,428nm,1.1s,baz=141,slow=5.9,SNR=38
USRK PKPPKP **P'P'df** **07 38 06.4 +2.0**
comp=Z,1.6nm,0.7s,baz=252,slow=3.8,SNR=8.4
JRMM Jerantut 66.15 281 P **P** **07 09 34.0 +1.0**
UGL Uglegorsk 66.54 343*c*P **P** **07 09 34.8 +0.1**
UGL *e*S **S** **07 18 24.9 +1.6**
UGL pmax pmax
comp=Z,340nm,0.9s
UGL pmax pmax
comp=E,2µm,5.0s
UGL pmax pmax
comp=N,6µm,7.0s
UGL pmax pmax
comp=Z,10µm,6.0s
UGL smax smax
comp=N,11µm,9.0s
UGL smax smax
comp=E,7µm,9.0s
BKNI Bangkinang 66.54 277 ⇑P **P** **07 09 35.0 -0.5**
BKNI Bangkinang 66.54 277 P **P** **07 09 37.4 +1.8**
comp=E,53µmcomp=E,12µmcomp=E,384nm,1.1s
BKNI Bangkinang 66.54 277 P **P** **07 09 39.9 +4.3**
SUJ Sinuiju 66.66 326 P **P** **07 09 37.1 +1.4**
SUJ pP **pP** **07 09 46.3 +1.2**
SUJ S **S** **07 18 25.9 +0.8**
SUJ AmB
comp=Z,5µm,4.0s
SUJ AMS AMS
comp=N,11µm,9.7s
SUJ AMS AMS
comp=E,12µm,10.5s
SUJ AMS AMS
comp=Z,21µm,17.9s
PPSI Pulau Pagai 66.76 273 P **P** **07 09 36.3 -0.6**
comp=Z,41µmcomp=Z,13µmcomp=Z,442nm,1.3s
SHEM Shemya Is, Ala 66.81 5 P **P** **07 09 38.7 +2.3**
comp=Z,71nm,0.4s,baz=16,slow=4.0,SNR=8.1
WHN Wuhan 67.11 312 ⇑P **P** **07 09 38.6 -0.2**
WHN sP **pwP** **07 09 54.8 +2.7**
WHN PP **PP** **07 12 12.0 +4.9**
WHN S **S** **07 18 30.8 -0.1**
WHN pmax pmax
comp=Z,4µm,2.2s
WHN pmax pmax
comp=Z,10µm,4.4s
WHN LR LR
comp=Z,26µm,16.9s

WHN LR LR
comp=Z,15µm,16.4s
WHN LR LR
comp=Z,45µm,21.6s
PET Petropavlovsk 67.16 355 *ce*P **P 07 09 37.3 -1.3**
PET *i* S **S 07 18 31.0 +0.4**
PET *e* 07 19 28.3
PET *e*SS **SS 07 22 51.0 +0.3**
PET pmax pmax
comp=Z,244nm,1.5s
PET pmax pmax
comp=Z,15µm,15.5s
PET pmax pmax
comp=Z,11µm,15.3s
PET smax smax
comp=N,8µm,19.2s
PET smax smax
comp=N,6µm,13.9s
PET smax smax
comp=E,5µm,11.9s
PET smax smax
comp=E,6µm,13.1s
PET MLR MLR
comp=Z,24µm,19.0s
PET MLR MLR
comp=Z,20µm,19.0s
PET Petropavlovsk 67.16 355 P **P 07 09 38.3 -0.3**
PET IAMs_20 IAMs_20 07 33 46.6
comp=Z,44µm,22.0s
PET Petropavlovsk 67.16 355 ⇑P **P 07 09 37.4 -1.2**
PET Petropavlovsk 67.16 355 P **P 07 09 40.9 +2.3**
comp=Z,527nm,0.8s
ADK Adak 67.22 11 P **P 07 09 39.7 +0.7**
ADK pmax pmax
comp=Z,492nm,1.3s
ADK Adak 67.22 11 P **P 07 09 39.7 +0.7**
ADK Adak 67.22 11 IAMs_20 IAMs_20 07 33 15.0
comp=Z,62µm,20.0s
ADK Adak 67.22 11 ⇑P **P 07 09 37.8 -1.2**
ADK Adak 67.22 11 P **P 07 09 42.5 +3.5**
UBPT Khong Chiam 67.23 293 IAmb IAmb 07 09 45.4
comp=Z,342nm,1.8s
UBPT Khong Chiam 67.23 293 ⇑P **P 07 09 40.0 +0.2**
UBPT ⇑P **P 07 09 41.1 +1.3**
PEA0B Petropavlovsk- 67.34 354 *ce*P **P 07 09 39.5 -0.2**
PETK Petropavlovsk- 67.34 354 P **P 07 09 40.0 +0.3**
comp=Z,126nm,0.9s,baz=171,slow=10,SNR=32
PETK PKP2bc 07 38 05.6
comp=Z,9.1nm,0.9s,baz=62,slow=7.0,SNR=9.7
GULI GuiLin 67.42 305 ⇑P **P 07 09 42.3 +1.5**
GULI S **S 07 18 39.4 +4.6**
GULI pmax pmax
comp=Z,360nm,1.9s
GULI LR LR
comp=Z,12µm,20.6s
GULI LR LR
comp=Z,14µm,21.7s
GULI LR LR
comp=Z,24µm,24.9s
MDJ Mudanjiang 67.44 332 P **P 07 09 41.4 +0.8**
MDJ pP pwP 07 09 52.2 -1.0
MDJ sP sP 07 09 56.6 +3.3
MDJ S **S 07 18 39.6 +5.2**
MDJ pmax pmax
comp=Z,92nm,1.8s
MDJ pmax pmax
comp=Z,13µm,10.9s
MDJ LR LR
comp=Z,13µm,21.8s
MDJ LR LR
comp=Z,8µm,20.9s
MDJ LR LR
comp=Z,12µm,19.7s
MDJ Mudanjiang 67.44 332 P **P 07 09 41.2 +0.6**
DL2 Dalian 67.45 323 ⇓*i*P **P 07 09 41.3 +0.6**
DL2 S **S 07 18 37.6 +2.9**
DL2 pmax pmax
comp=Z,490nm,1.0s
DL2 pmax pmax
comp=Z,8µm,9.2s
DL2 LR LR
comp=Z,20µm,18.4s
DL2 LR LR
comp=Z,21µm,26.5s
DL2 LR LR
comp=Z,34µm,24.5s
IPM Ipoh 67.71 281 P **P 07 09 42.6 -0.4**
IPM Ipoh 67.71 281 P **P 07 09 44.0 +1.0**
IPM Ipoh 67.71 281 P **P 07 09 44.2 +1.2**
TYV Tymovskoe 67.98 344 *e*P **P 07 09 44.8 +1.0**
TYV *e*S **S 07 18 45.3 +4.7**
TYV pmax pmax
comp=Z,8µm,6.1s
TYV smax smax
comp=N,6µm,10.3s
TYV smax smax
comp=E,6µm,10.3s
TYV MLR MLR
comp=Z,30µm,18.0s
TYV MLR MLR
comp=N,18µm,18.0s
TYV MLR MLR
comp=E,15µm,18.0s
SISI Saibi 68.00 274 P **P 07 09 47.8 +3.0**
comp=E,28µmcomp=E,6µmcomp=E,115nm,1.2s
ATKA Atka Island 68.02 13 ⇑P **P 07 09 42.7 -1.3**
ATKA Atka Island 68.02 13 P **P 07 09 46.7 +2.7**
MNSI Mandailing Nat 68.07 277 P **P 07 09 45.6 +0.4**
comp=E,38µmcomp=E,9µmcomp=E,218nm,1.1s
KULM Kulim 68.31 282 IAmb IAmb 07 09 50.7
comp=Z,242nm,1.3s
KULM Kulim 68.31 282 P **P 07 09 50.0 +3.3**
SNY Shenyang 68.36 327 ⇑P **P 07 09 47.3 +0.9**
SNY S **S 07 18 49.4 +4.0**
SNY pmax pmax
comp=Z,83nm,1.6s
SNY pmax pmax
comp=Z,12µm,9.8s
SNY LR LR
comp=Z,21µm,17.5s
SNY LR LR
comp=Z,16µm,17.0s
SNY LR LR
comp=Z,35µm,21.3s
TIA Tai'an 68.49 319 ⇓P **P 07 09 47.2 -0.2**
TIA PP **PP 07 12 17.0 -2.0**
TIA S **S 07 18 47.8 +0.5**
TIA pmax pmax
comp=Z,39nm,1.1s
TIA pmax pmax
comp=Z,1µm,3.0s
TIA LR LR
comp=Z,12µm,17.1s
TIA LR LR
comp=Z,9µm,15.7s
TIA LR LR
comp=Z,21µm,16.4s
CN2 Changchun 68.80 329 *e*P **P 07 09 48.2 -0.9**
CN2 *e*S **S 07 18 53.3 +2.6**
CN2 pmax pmax
comp=Z,40nm,1.7s
CN2 pmax pmax
comp=Z,9µm,9.0s
CN2 LR LR
comp=Z,14µm,18.0s
CN2 LR LR
comp=Z,10µm,18.0s
CN2 LR LR
comp=Z,15µm,19.2s
PSI Prapat 69.25 278 P **P 07 09 52.3 -0.4**
comp=Z,70nm,0.9s,baz=95,slow=1.1,SNR=24
BNX BinXian 69.30 332 ⇓P **P 07 09 52.1 -0.1**
BNX pP **pP 07 10 02.5 +0.9**
BNX sP **sP 07 10 06.0 +1.0**
BNX PP **PP 07 12 25.1 -0.7**
BNX S **S 07 18 52.3 -4.2**
BNX sS **pS 07 19 07.5 -0.2**
BNX pmax pmax
comp=Z,300nm,1.4s
BNX pmax pmax
comp=Z,12µm,4.6s
BNX LR LR
comp=Z,33µm,22.5s
BNX LR LR
comp=Z,26µm,20.1s
BNX LR LR
comp=Z,54µm,26.8s
GRNR Gornyy 69.78 340 ⇓*i*P **P 07 09 56.3 +1.2**
GRNR *e*S **S 07 19 08.3 +6.3**
GRNR pmax pmax
comp=N,20nm,0.9s
GRNR pmax pmax
comp=E,8.0nm,0.9s
GRNR pmax pmax
comp=Z,50nm,1.3s
GRNR smax smax
comp=E,2.0nm,0.8s
GRNR MLR MLR
comp=N,3µm,18.0s
GRNR MLR MLR
comp=E,6µm,18.0s
GRNR MLR MLR
comp=Z,9µm,17.0s
TSI Tuntungan 69.78 279 P **P 07 09 58.9 +3.0**
comp=Z,40µmcomp=Z,10µmcomp=Z,318nm,1.0s
NIKH Nikolski High 69.98 15 P **P 07 09 52.7 -3.6**
baz=205
NIKH S **S 07 18 57.3 -6.9**
baz=205
GSI Gunungsitoli 70.14 277 P **P 07 09 57.1 -1.0**
GSI Gunungsitoli 70.14 277 ⇑P **P 07 09 56.6 -1.5**
GSI Gunungsitoli 70.14 277 P **P 07 09 59.2 +1.1**
comp=Z,51µmcomp=Z,11µmcomp=Z,252nm,1.9s
GSI Gunungsitoli 70.14 277 P **P 07 10 00.4 +2.3**
KLR Kul'dur 70.18 336 P **P 07 09 58.2 +0.6**
comp=Z,156nm,1.1s,baz=132,slow=6.1,SNR=35
KLR PKP2bc 07 37 57.7
comp=Z,1.6nm,0.8s,baz=314,slow=4.7,SNR=5.8
KLR Kul'dur 70.18 336 *ce*P **P 07 09 57.3 -0.3**
KLR pmax pmax
comp=Z,642nm,1.6s
KLR MLR MLR
comp=Z,13µm,19.0s
KCSI Kotacane, Aceh 70.55 279 P **P 07 10 01.8 +1.2**
comp=Z,52µmcomp=Z,6µmcomp=Z,136nm,0.8s
LYN LuoYang 70.64 315 ⇑P **P 07 09 59.8 -0.8**
LYN pmax pmax
comp=Z,600nm,2.1s
LYN pmax pmax
comp=Z,14µm,10.2s
HNS HongShan 70.75 318 ⇑P **P 07 10 01.3 0.0**
HNS PP **PP 07 12 38.3 -0.2**
HNS S **S 07 19 15.9 +2.1**
HNS SKS **SKSac 07 20 00.1 -1.1**
HNS SS **SS 07 23 40.6 -6.2**
HNS pmax pmax
comp=Z,10µm,6.4s
HNS LR LR
comp=Z,12µm,16.6s
HNS LR LR
comp=Z,21µm,17.4s
HNS LR LR
comp=Z,23µm,17.7s
GYA Guiyang 70.91 305 ⇓*i*P **P 07 10 02.7 +0.1**
GYA sP pwP 07 10 18.9 +2.9
GYA PP **PP 07 12 44.5 +4.3**
GYA S **S 07 19 16.4 +0.1**
GYA pmax pmax
comp=Z,230nm,1.8s
GYA pmax pmax
comp=Z,10µm,13.2s
GYA LR LR
comp=Z,12µm,20.0s
GYA LR LR
comp=Z,13µm,20.1s
GYA LR LR
comp=Z,24µm,20.4s
UNV Unalaska Valle 71.39 16 IAmb IAmb 07 10 08.6
comp=Z,103nm,1.0s
UNV Unalaska Valle 71.39 16 P **P 07 10 01.2 -3.5**
baz=208
UNV S **S 07 19 13.0 -7.5**
baz=208
BJI Beijing 71.42 321 P **P 07 10 04.6 -0.6**
BJI S **S 07 19 25.1 +3.7**
BJI pmax pmax
comp=Z,360nm,1.5s
BJI pmax pmax
comp=Z,10µm,10.4s
BJI LR LR
comp=Z,23µm,22.4s
BJI LR LR
comp=Z,12µm,23.1s
BJI LR LR
comp=Z,34µm,22.1s
TIY Taiyuan 72.41 317 *e*P **P 07 10 11.7 +0.3**
TIY pP **pP 07 10 15.4 -5.2**
TIY sP **PcP 07 10 28.0 -1.2**
TIY S **S 07 19 36.3 +3.1**
TIY ScS **SKSac 07 20 12.8 -1.1**
TIY SS **SS 07 24 10.0 -2.4**
TIY pmax pmax
comp=Z,580nm,1.4s
TIY pmax pmax
comp=Z,9µm,3.5s
TIY LR LR
comp=Z,13µm,19.2s
TIY LR LR
comp=Z,8µm,17.9s
TIY LR LR
comp=Z,21µm,16.5s
XAN Xi'an 72.85 313 P **P 07 10 13.7 -0.4**
XAN PP **PP 07 12 56.0 -0.7**
XAN S **S 07 19 37.9 -0.4**
XAN SS **SS 07 24 21.2 +2.0**
XAN pmax pmax
comp=Z,38nm,1.7s
XAN pmax pmax
comp=Z,11µm,11.3s
XAN LR LR
comp=Z,12µm,19.2s
XAN LR LR
comp=Z,22µm,20.5s
XAN LR LR
comp=Z,34µm,20.5s
FALS False Pass 73.15 17 P **P 07 10 13.0 -2.2**
baz=210
FALS S **S 07 19 33.4 -7.2**
baz=210
FALS False Pass 73.15 17 P **P 07 10 18.0 +2.8**
comp=Z,122nm,1.3s
SPIA Saint Paul Isl 73.50 13 P **P 07 10 14.1 -3.1**
baz=203,SNR=5.8
KMI Kunming 73.51 302 ⇑P **P 07 10 18.5 +0.1**
KMI sP sP 07 10 29.7 -1.5
KMI PP **PP 07 13 06.3 +3.6**
KMI S **S 07 19 46.5 +0.1**
KMI pmax pmax
comp=Z,380nm,1.6s
KMI pmax pmax
comp=Z,9µm,10.9s
KMI LR LR
comp=Z,6µm,19.9s
KMI LR LR
comp=Z,13µm,18.5s
KMI LR LR
comp=Z,21µm,21.9s
XLT XiLinHaoTe 73.86 324 ⇑*i*P **P 07 10 19.5 -0.3**
XLT pP pP 07 10 27.1 -2.2
XLT sP pwP 07 10 30.6 -1.8
XLT PcP **PcP 07 10 36.3 +1.1**
XLT S **S 07 19 53.7 +4.4**
XLT sS sS 07 20 03.4 -1.4
XLT SS **SS 07 24 28.3 -6.0**
XLT pmax pmax
comp=Z,480nm,1.3s
XLT pmax pmax
comp=Z,10µm,10.8s
XLT LR LR
comp=Z,19µm,20.4s
XLT LR LR
comp=Z,16µm,22.6s
CM31 Chiang Mai Arr 74.20 294 IAmb IAmb 07 10 43.5
comp=Z,228nm,1.1s
CMAR Chiang Mai Arr 74.20 294 P **P 07 10 23.4 +1.1**
comp=Z,66nm,0.8s,baz=126,slow=4.3,SNR=37
CMAR PKPPKP 07 37 51.1
comp=Z,2.2nm,0.3s,baz=268,slow=3.4,SNR=4.0
CHTO Chiang Mai 74.33 294 P **P 07 10 23.2 +0.2**
CHTO pmax pmax
comp=Z,252nm,1.2s
CHTO Chiang Mai 74.33 294 P **P 07 10 23.2 +0.2**
CHTO IAmb IAmb 07 10 27.5
comp=Z,252nm,1.2s
CHTO Chiang Mai 74.33 294 P **P 07 10 23.2 +0.2**
CHTO Chiang Mai 74.33 294 ⇑P **P 07 10 22.0 -1.0**
CHTO ⇓P **P 07 10 23.8 +0.8**
CHTO Chiang Mai 74.33 294 P **P 07 10 24.9 +1.9**
SDPT Sand Point 74.46 19 IAmb IAmb 07 10 26.4
comp=Z,212nm,1.3s
SDPT Sand Point 74.46 19 P **P 07 10 20.3 -2.6**
baz=213
MA2 Magadan 74.50 352 P **P 07 10 22.4 -0.8**
comp=Z,57nm,0.9s,baz=165,slow=6.3,SNR=41
MA2 LR LR 07 38 11.2
comp=Z,53µm,21.9s,baz=184,slow=32
MA2 Magadan 74.50 352 *ce*P **P 07 10 22.0 -1.1**
MA2 pmax pmax
comp=Z,454nm,1.9s
MA2 MLR MLR
comp=Z,30µm,19.0s
MA2 Magadan 74.50 352 P **P 07 10 22.1 -1.0**
MA2 IAMs_20 IAMs_20 07 37 03.7
comp=Z,63µm,22.0s
MA2 Magadan 74.50 352 ⇑P **P 07 10 20.8 -2.3**
MA2 ⇑P **P 07 10 24.5 +1.4**
MA2 Magadan 74.50 352 P **P 07 10 23.4 +0.3**
HHC Hu-ho-hao-te 74.74 320 *e*P **P 07 10 25.5 +0.5**
HHC PP **PP 07 13 14.7 +2.0**
HHC S **S 07 20 04.7 +5.3**
HHC pmax pmax
comp=Z,500nm,1.4s
HHC pmax pmax
comp=Z,11µm,8.4s
HHC LR LR
comp=Z,20µm,18.0s
HHC LR LR
comp=Z,8µm,19.6s
HHC LR LR
comp=Z,27µm,17.7s
PZH PanZhiHua 74.90 303 P **P 07 10 26.5 +0.2**
PZH pP **sP 07 10 38.2 -1.0**
PZH PP **PP 07 13 16.2 +1.9**
PZH S **S 07 20 00.4 -1.4**
PZH ScS **ScS 07 20 36.0 -0.5**
PZH SS **SS 07 24 52.9 +2.1**
PZH pmax pmax
comp=Z,170nm,1.1s
PZH pmax pmax
comp=Z,7µm,11.5s
PZH LR LR
comp=Z,11µm,19.6s
PZH LR LR
comp=Z,10µm,20.6s
PZH LR LR
comp=Z,19µm,21.6s
CD2 Chengdu 75.19 308 ⇓*i*P **P 07 10 28.4 +0.6**
CD2 pP pP 07 10 37.1 +0.1
CD2 sP sP 07 10 39.2 -1.5
CD2 PcP **pwP 07 10 40.7 -0.5**
CD2 PP **PP 07 13 17.0 +0.4**
CD2 S **S 07 20 06.1 +1.4**
CD2 SS **SS 07 24 57.1 +2.1**
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,10µm,9.6s
CD2 LR LR
comp=Z,2µm,32.4s
CD2 LR LR
comp=Z,20µm,19.2s
CD2 LR LR
comp=Z,15µm,19.8s
ZEA Zeya 75.47 337 *e*P **P 07 10 29.8 +1.0**
ZEA *e*S **S 07 20 12.0 +5.2**
ZEA *e* 07 25 03.1
ZEA pmax pmax
comp=E,40nm,0.6s
ZEA pmax pmax
comp=N,130nm,1.1s
ZEA pmax pmax
comp=Z,230nm,0.9s
ZEA pmax pmax
comp=E,2µm,7.8s
ZEA pmax pmax
comp=N,2µm,5.8s
ZEA pmax pmax
comp=Z,5µm,7.6s
ZEA smax smax
comp=E,4µm,11.2s
ZEA smax smax
comp=N,7µm,9.4s
ZEA MLR MLR
comp=N,5µm,18.0s
ZEA MLR MLR
comp=E,5µm,18.0s
ZEA MLR MLR
comp=Z,7µm,19.0s
QSPA South Pole Qui 75.97 180 LR LR 07 43 08.4
comp=Z,13µm,18.2s,baz=29,slow=35
QSPA South Pole Qui 75.97 180 P **P 07 10 30.4 -1.4**
QSPA South Pole Qui 75.97 180 ⇑P **P 07 10 30.2 -1.6**
QSPA ⇑P **P 07 10 30.3 -1.6**
QSPA ⇑P **P 07 10 32.4 +0.6**
CHIR Chirikof Islan 76.44 21 P **P 07 10 31.6 -2.7**
baz=218
CHIR S **S 07 20 16.4 -0.9**
baz=218
LZH Lanzhou 77.48 312 ⇑P **P 07 10 41.7 +0.8**
LZH pP sP 07 10 53.9 +0.2
LZH S **S 07 20 32.6 +2.7**
LZH pmax pmax
comp=Z,800nm,1.3s
LZH pmax pmax
comp=Z,11µm,7.2s
LZH LR LR
comp=Z,15µm,15.2s
LZH LR LR
comp=Z,13µm,15.5s
LZH LR LR
comp=Z,20µm,18.4s
SII Sitkinak Islan 77.52 21 IAmb IAmb 07 10 44.9
comp=Z,171nm,1.0s
SII IAMs_20 IAMs_20 07 39 34.9
comp=Z,52µm,20.0s
SII Sitkinak Islan 77.52 21 P **P 07 10 38.0 -2.4**
baz=219
SII S **S 07 20 25.1 -4.1**
baz=219
SII Sitkinak Islan 77.52 21 P **P 07 10 43.4 +3.0**
SEY Seymchan 77.55 353 P **P 07 10 40.4 0.0**
comp=Z,129nm,1.0s,baz=156,slow=6.1,SNR=31
SEY PKPPKP 07 37 40.4
comp=Z,3.2nm,0.9s,baz=359,slow=2.9,SNR=4.7
SEY LR LR 07 40 23.4
comp=Z,55µm,21.9s,baz=169,slow=32
SEY Seymchan 77.55 353 *ce*P **P 07 10 39.8 -0.6**
SEY pmax pmax
comp=Z,515nm,1.7s
SEY MLR MLR
comp=Z,20µm,20.0s
PBA Port Blair 77.66 285 *e*P **P 07 10 44.7 +2.6**
PBA IAmb IAmb 07 11 09.0
comp=Z,528nm,1.8s
PBA Port Blair 77.66 285 P **P 07 10 45.2 +3.2**
SNR=20
DGPR DIGLIPUR 77.94 287 *e*P **P 07 10 44.0 +0.5**
DGPR IAmb IAmb 07 10 53.5
comp=Z,207nm,0.8s
OHAK Old Harbor 78.34 21 IAmb IAmb 07 10 49.1
comp=Z,177nm,1.1s
OHAK Old Harbor 78.34 21 P **P 07 10 42.9 -2.0**
baz=220
OHAK S **S 07 20 36.2 -1.6**
baz=220
KDAK Kodiak Island 79.02 21 P **P 07 10 49.5 +0.8**
comp=Z,57nm,1.0s,baz=256,slow=5.3,SNR=22
KDAK LR LR 07 39 51.9
comp=Z,75µm,20.9s,baz=242,slow=31
KDAK Kodiak Island 79.02 21 P **P 07 10 49.4 +0.8**
KDAK pmax pmax
comp=Z,86nm,1.1s
KDAK Kodiak Island 79.02 21 P **P 07 10 49.4 +0.8**
KDAK Kodiak Island 79.02 21 P **P 07 10 48.3 -0.3**
baz=220
KDAK S **S 07 20 45.4 +0.3**
baz=220
GAMB Gambell 79.35 10 IAmb IAmb 07 10 55.2

	comp=Z,189nm,1.3s						
GAMB				IAMs_20	IAMs_20	07 42 12.6	
	comp=Z,36µm,20.0s						
GAMB	Gambell	79.35	10	P	P	07 10 47.3	-2.9
	baz=201,SNR=58						
GAMB				S	S	07 20 49.4	+1.0
	baz=201						
P18K	Big Mountain,	79.41	19	IAmb	IAmb	07 11 36.3	
	comp=Z,157nm,1.1s						
P18K				IAMs_20	IAMs_20	07 39 04.8	
	comp=Z,54µm,21.0s						
P18K	Big Mountain,	79.41	19	P	P	07 10 47.7	-3.1
	baz=218						
P18K				S	S	07 20 41.2	-8.1
	baz=218						
Q19K	Cape Douglas,	79.55	20	IAmb	IAmb	07 10 56.0	
	comp=Z,379nm,1.2s						
Q19K	Cape Douglas,	79.55	20	P	P	07 10 49.8	-1.8
	baz=219						
Q19K				S	S	07 20 45.6	-5.2
	baz=219						
CIT	Chita	80.23	330	eP	P	07 10 55.0	-0.4
CIT				e		07 11 08.8	
CIT				eS	S	07 21 03.4	+5.1
CIT				pmax	pmax		
	comp=Z,2µm,1.6s						
P19K	Oil Pt	80.24	19	IAmb	IAmb	07 11 00.1	
	comp=Z,106nm,0.9s						
O19K	Port Alsworth	80.33	19	IAmb	IAmb	07 11 30.9	
	comp=Z,255nm,1.6s						
O19K				IAMs_20	IAMs_20	07 39 22.1	
	comp=Z,54µm,22.0s						
O19K	Port Alsworth	80.33	19	P	P	07 10 52.6	-3.0
	baz=218,SNR=11						
O19K				S	S	07 20 53.3	-5.5
	baz=218						
N19K	Bonanza Creek	80.76	18	P	P	07 10 56.3	-1.9
	baz=218						
N19K				S	S	07 20 57.5	-6.2
	baz=218						
HOM	Homer	80.77	20	IAMs_20	IAMs_20	07 41 35.7	
	comp=Z,52µm,20.0s						
HOM	Homer	80.77	20	P	P	07 10 57.3	-0.7
	baz=221						
HOM				S	S	07 20 58.4	-5.1
	baz=221						
O20K	Slope Mountain	80.77	19	P	P	07 10 57.0	-1.2
	baz=220						
O20K				S	S	07 20 56.6	-7.1
	baz=220						
CNPM	China Poot	80.80	20	IAmb	IAmb	07 11 28.5	
	comp=Z,165nm,1.2s						
MOKO	MOKOCHONG	80.82	300	eP	P	07 10 59.2	-0.1
MOKO				IAmb	IAmb	07 11 03.2	
	comp=Z,495nm,0.9s						
AIS	Amsterdam Isla	80.88	233	IAMs_20	IAMs_20	07 43 01.9	
	comp=Z,32µm,20.0s						
DIBR	DIBRUGARH	80.89	301	eP	P	07 11 00.6	+1.1
DIBR				IAmb	IAmb	07 11 04.5	
	comp=Z,6µm,1.9s						
KOHI	KOHIMA	80.95	299	eP	P	07 10 59.6	-0.4
KOHI				IAmb	IAmb	07 11 03.5	
	comp=Z,3µm,2.1s						
BRLK	Bradley Lake	81.10	20	IAmb	IAmb	07 11 04.0	
	comp=Z,92nm,0.9s						
BRSE	Bradley Lake S	81.13	20	P	P	07 10 58.6	-1.5
	baz=222						
BRSE				S	S	07 21 04.8	-2.5
	baz=222						
ANM	Nome	81.21	12	IAmb	IAmb	07 11 05.8	
	comp=Z,251nm,1.4s						
ANM				IAMs_20	IAMs_20	07 42 03.0	
	comp=Z,41µm,20.0s						
ANM	Nome	81.21	12	P	P	07 10 59.0	-1.4
	baz=207,SNR=52						
ANM				S	S	07 21 08.8	+0.8
	baz=207						
YAK	Yakutsk	81.24	343	P	P	07 11 00.2	-0.3
	comp=Z,191nm,0.9s,baz=123,slow=1.6,SNR=42						
YAK	Yakutsk	81.24	343	eP	P	07 10 59.5	-1.0
YAK				e*PP	pP	07 11 09.9	-0.1
YAK				e		07 14 04.2	
YAK				eS	S	07 21 06.3	-1.9
YAK				e*SS	SKSac	07 21 16.3	-0.6
YAK				pmax	pmax		
	comp=Z,58nm,0.9s						
YAK				pmax	pmax		
	comp=N,24nm,1.3s						
YAK				pmax	pmax		
	comp=E,22nm,1.5s						
YAK				pmax	pmax		
	comp=Z,138nm,1.5s						
YAK				pmax	pmax		
	comp=E,90nm,1.4s						
YAK				pmax	pmax		
	comp=N,346nm,2.2s						
YAK				smax	smax		
	comp=N,318nm,3.4s						
YAK				smax	smax		
	comp=E,627nm,2.8s						
YAK				MLR	MLR		
	comp=Z,51µm,19.0s						
YAK				MLR	MLR		
	comp=E,18µm,19.0s						
YAK				MLR	MLR		
	comp=N,20µm,16.0s						
YAK	Yakutsk	81.24	343	P	P	07 11 00.4	-0.1
YAK				IAMs_20	IAMs_20	07 50 13.4	
	comp=Z,44µm,18.0s						
ULN	Ulaanbaatar	81.29	324	ceP	P	07 11 00.6	-0.7
ULN				pmax	pmax		
	comp=Z,669nm,1.1s						
ULN				MLR	MLR		
	comp=Z,16µm,18.0s						
ULN	Ulaanbaatar	81.29	324	P	P	07 11 01.8	+0.5
ULN	Ulaanbaatar	81.29	324	P	P	07 11 02.7	+1.4
ULN				P	P	07 11 02.7	+1.4
TNA	Tin City	81.63	10	IAmb	IAmb	07 11 06.4	
	comp=Z,161nm,1.3s						
TNA	Tin City	81.63	10	P	P	07 11 00.9	-1.6
	baz=205,SNR=49						
TNA				S	S	07 21 10.1	-2.1
	baz=205						
SONM	Songino Array	81.65	324	P	P	07 11 03.4	+0.2
	comp=Z,104nm,0.9s,baz=145,slow=5.9,SNR=40						
SONM				PKKP	PKKPdf	07 29 30.6	+2.2
	comp=Z,1.2nm,0.7s,baz=256,slow=5.8,SNR=2.8						
SONM				PKPPKP		07 37 41.7	
	comp=Z,1.0nm,0.8s,baz=97,slow=7.6,SNR=4.4						
M19K	Big River Lodg	81.65	17	P	P	07 11 01.6	-1.1
	baz=218						
M19K				S	S	07 21 10.3	-2.4
	baz=218						
L19K	White Mountain	81.74	17	P	P	07 11 03.7	+0.5
L19K				IAmb	IAmb	07 11 08.3	
	comp=Z,356nm,1.9s						
L19K				IAMs_20	IAMs_20	07 42 55.3	
	comp=Z,55µm,20.0s						
L19K	White Mountain	81.74	17	P	P	07 11 00.7	-2.6
	baz=218,SNR=27						
L19K				S	S	07 21 11.6	-2.0
	baz=218						
SPCR	Spurr Chakacha	81.76	19	P	P	07 11 00.2	-3.2
	baz=220,SNR=9.5						
SPCR				S	S	07 21 09.0	-4.9
	baz=220						
CAPN	Captain Cook N	81.77	19	P	P	07 11 02.9	-0.4
	baz=221						
CAPN				S	S	07 21 11.8	-2.0
	baz=221						
ITAN	ITANAGAR	81.77	301	eP	P	07 11 05.2	+1.0
ITAN				IAmb	IAmb	07 11 09.1	
	comp=Z,842nm,1.1s						
GTA	Gaotai	81.83	314	⇓P	P	07 11 05.3	+0.9
GTA				pP	sP	07 11 17.3	0.0
GTA				PP	PP	07 14 13.6	+1.5
GTA				S	S	07 21 16.7	+1.0
GTA				pmax	pmax		
	comp=Z,87nm,1.4s						
GTA				pmax	pmax		
	comp=Z,10µm,10.8s						
GTA				LR	LR		
	comp=Z,7µm,19.9s						
GTA				LR	LR		
	comp=Z,11µm,18.7s						
GTA				LR	LR		
	comp=Z,16µm,18.7s						

SEW	Seward	81.84	21	P	P	07 11 01.9	-1.7
	baz=223						
SEW				S	S	07 21 12.1	-2.4
	baz=223						
BILL	Bilibino	81.87	360	deP	P	07 11 02.8	-0.9
BILL				i *PP	pP	07 11 14.0	+0.8
BILL				e*SP	pwP	07 11 20.4	+3.5
BILL				e		07 14 13.6	
BILL				i S	S	07 21 10.2	-4.4
BILL				PPS	PPS	07 22 23.0	
BILL				i SS	SS	07 26 34.8	+1.0
BILL				pmax	pmax		
	comp=Z,531nm,1.8s						
BILL				MLR	MLR		
	comp=Z,9µm,18.0s						
BILL	Bilibino	81.87	360	P	P	07 11 02.9	-0.9
TTA	Tatalina	82.02	16	P	P	07 11 03.2	-1.5
	baz=216,SNR=30						
TTA				S	S	07 21 15.8	-0.8
	baz=216						
O22K	Cooper Landing	82.02	20	IAMs_20	IAMs_20	07 44 25.1	
	comp=Z,47µm,20.0s						
O22K	Cooper Landing	82.02	20	P	P	07 11 02.6	-2.1
	baz=222						
O22K				S	S	07 21 12.2	-4.3
	baz=222						
L20K	Farewell, AK	82.26	17	P	P	07 11 04.7	-1.2
	baz=218,SNR=66						
L20K				S	S	07 21 17.0	-1.9
	baz=218						
MAW	Mawson	82.31	202	P	P	07 11 04.4	-1.9
	comp=Z,64nm,1.0s,baz=121,slow=6.2,SNR=16						
MAW				LR	LR	07 42 18.4	
	comp=Z,36µm,21.4s,baz=98,slow=32						
MAW	Mawson	82.31	202	P	P	07 11 06.4	+0.1
	baz=82,SNR=24						
MAW	Mawson	82.31	202	P	P	07 11 05.5	-0.7
MAW				pmax	pmax		
	comp=Z,33nm,1.2s						
MAW	Mawson	82.31	202	P	P	07 11 05.5	-0.7
Q23K	Middleton Isla	82.45	22	IAMs_20	IAMs_20	07 45 55.5	
	comp=Z,36µm,19.0s						
Q23K	Middleton Isla	82.45	22	P	P	07 11 04.8	-2.1
	baz=226						
RC01	Rabbit Creek A	82.47	20	IAmb	IAmb	07 11 33.7	
	comp=Z,143nm,1.1s						
RC01				IAMs_20	IAMs_20	07 41 20.8	
	comp=Z,55µm,21.0s						
RC01	Rabbit Creek A	82.47	20	P	P	07 11 03.6	-3.4
	baz=222,SNR=9.1						
RC01				S	S	07 21 17.2	-3.9
	baz=222						
PWL	Port Wells	82.77	20	IAMs_20	IAMs_20	07 46 28.8	
	comp=Z,30µm,19.0s						
PWL	Port Wells	82.77	20	P	P	07 11 06.8	-1.8
	baz=224,SNR=26						
PWL				S	S	07 21 19.7	-4.5
	baz=224						
AGT	Agartala	82.79	297	eP	P	07 11 11.1	+1.6
AGT				IAmb	IAmb	07 11 15.0	
	comp=Z,5µm,2.3s						
SHL	Shillong	82.79	299	eP	P	07 11 09.9	+0.1
SHL				IAmb	IAmb	07 11 14.4	
	comp=Z,82nm,1.0s						
SHL	Shillong	82.79	299	P	P	07 11 10.2	+0.5
	SNR=134						
M22K	Willow	82.84	19	P	P	07 11 06.4	-2.5
	baz=222,SNR=14						
M22K				S	S	07 21 21.8	-2.9
	baz=222						
K20K	Telida	82.89	17	IAmb	IAmb	07 11 38.6	
	comp=Z,96nm,1.2s						
K20K				IAMs_20	IAMs_20	07 42 41.8	
	comp=Z,43µm,20.0s						
K20K	Telida	82.89	17	P	P	07 11 07.2	-2.0
	baz=218,SNR=13						
K20K				S	S	07 21 23.9	-1.5
	baz=218						
PMR	Palmer	83.04	20	IAmb	IAmb	07 11 56.3	
	comp=Z,260nm,1.4s						
PMR	Palmer	83.04	20	P	P	07 11 07.4	-2.5
	baz=223,SNR=28						
PMR				S	S	07 21 22.0	-4.8
	baz=223						
PPLA	Purkeypile	83.07	18	IAmb	IAmb	07 12 19.6	
	comp=Z,181nm,1.8s						
PPLA	Purkeypile	83.07	18	P	P	07 11 06.7	-3.6
	baz=220,SNR=8.6						
PPLA				S	S	07 21 22.1	-5.3
	baz=220						
KNK	Knik Glacier	83.13	20	IAmb	IAmb	07 11 17.1	
	comp=Z,189nm,1.2s						
KNK				IAMs_20	IAMs_20	07 44 59.3	
	comp=Z,35µm,20.0s						
KNK	Knik Glacier	83.13	20	P	P	07 11 07.9	-2.6
	baz=224,SNR=35						
KNK				S	S	07 21 24.2	-3.6
	baz=224						
GUWA	GUWAHATI	83.16	299	eP	P	07 11 11.3	-0.1
GUWA				IAmb	IAmb	07 11 15.4	
	comp=Z,650nm,1.3s						
GLI	Glacier Island	83.21	21	IAmb	IAmb	07 11 48.4	
	comp=Z,236nm,1.2s						
GLI				IAMs_20	IAMs_20	07 45 07.4	
	comp=Z,34µm,20.0s						
GLI	Glacier Island	83.21	21	P	P	07 11 08.8	-2.1
	baz=225,SNR=12						
GLI				S	S	07 21 25.5	-3.1
	baz=225						
GHO	Glory Hole Cre	83.24	20	IAmb	IAmb	07 11 48.4	
	comp=Z,294nm,1.4s						
GHO				IAMs_20	IAMs_20	07 46 04.1	
	comp=Z,52µm,19.0s						
GCSA	Galena City Sc	83.27	15	P	P	07 11 08.3	-2.8
	baz=216,SNR=27						
GCSA				S	S	07 21 27.6	-1.4
	baz=216						
CUT	Chulitna	83.28	19	IAMs_20	IAMs_20	07 41 40.2	
	comp=Z,53µm,21.0s						
CUT	Chulitna	83.28	19	P	P	07 11 08.4	-2.8
	baz=222,SNR=14						
CUT				S	S	07 21 25.0	-4.2
	baz=222						
FID	Port Fidalgo	83.33	21	IAMs_20	IAMs_20	07 44 28.1	
	comp=Z,34µm,20.0s						
EYAK	Cordova Ski Ar	83.44	22	IAmb	IAmb	07 11 59.2	
	comp=Z,323nm,1.7s						
EYAK	Cordova Ski Ar	83.44	22	P	P	07 11 09.5	-2.6
	baz=226,SNR=8.4						
EYAK				S	S	07 21 29.5	-1.5
	baz=226						
SML	Sawmill	83.46	20	IAMs_20	IAMs_20	07 45 30.9	
	comp=Z,34µm,19.0s						
SML	Sawmill	83.46	20	P	P	07 11 10.4	-1.8
	baz=224,SNR=24						
SML				S	S	07 21 27.7	-3.5
	baz=224						
KAIM	Kayak Island	83.50	22	IAMs_20	IAMs_20	07 44 37.3	
	comp=Z,53µm,19.0s						
KAIM	Kayak Island	83.50	22	P	P	07 11 11.6	-0.8
	baz=227						
CAST	Castle Rocks	83.51	17	IAmb	IAmb	07 11 15.4	
	comp=Z,139nm,0.9s						
CAST				IAMs_20	IAMs_20	07 42 07.0	
	comp=Z,45µm,21.0s						
CAST	Castle Rocks	83.51	17	P	P	07 11 10.0	-2.3
	baz=220,SNR=72						
J20K	Nowinta River	83.52	16	IAmb	IAmb	07 11 16.5	
	comp=Z,92nm,1.2s						
J20K				IAMs_20	IAMs_20	07 47 12.3	
	comp=Z,44µm,19.0s						
BOD	Bodaibo	83.64	335	eP	P	07 11 12.1	-1.1
BOD				pmax	pmax		
	comp=Z,462nm,1.6s						
PAF	Port-aux-Franc	83.66	221	P	P	07 11 13.1	-0.5
PAF				pmax	pmax		
	comp=Z,1µm,1.2s						
PAF	Port-aux-Franc	83.66	221	P	P	07 11 13.1	-0.5
RAGM	Ragged Mountai	83.72	22	IAmb	IAmb	07 11 59.2	
	comp=Z,141nm,1.2s						
CHUM	Lake Minchumin	83.80	17	P	P	07 11 11.8	-2.0
	baz=220,SNR=32						
CHUM				S	S	07 21 32.1	-2.3
	baz=220						
SCM	Sheep Creek Mo	83.81	20	P	P	07 11 11.3	-2.7
	baz=225,SNR=18						
SCM				S	S	07 21 32.2	-2.6
	baz=225						

DIV	Divide	83.84	21	IAmb	IAmb	07 11 22.3	
	comp=Z,72nm,0.7s						
KCPM	Cahto Peak	83.88	47	IAmb	IAmb	07 11 21.7	
	comp=Z,132nm,1.1s						
HOPS	Hopland Field	83.97	47	IAmb	IAmb	07 11 43.3	
	comp=Z,220nm,1.5s						
KMRM	Mail Ridge	84.01	46	IAmb	IAmb	07 11 22.0	
	comp=Z,98nm,1.0s						
JCC	Jacoby Creek,	84.03	46	IAMs_20	IAMs_20	07 41 18.2	
	comp=Z,29µm,20.0s						
KLU	Klutina	84.04	21	IAmb	IAmb	07 11 26.6	
	comp=Z,103nm,1.1s						
KLU				IAMs_20	IAMs_20	07 45 42.5	
	comp=Z,43µm,19.0s						
KLU	Klutina	84.04	21	P	P	07 11 13.1	-2.2
	baz=226,SNR=18						
KLU				S	S	07 21 35.2	-2.0
	baz=226						
BGLC	Bering Glacier	84.05	23	P	P	07 11 13.0	-2.2
	baz=228						
TRF	Thorofare Moun	84.06	18	IAmb	IAmb	07 11 49.3	
	comp=Z,147nm,1.0s						
TRF	Thorofare Moun	84.06	18	P	P	07 11 12.8	-2.6
	baz=222,SNR=26						
TRF				S	S	07 21 33.4	-4.0
	baz=222						
GDXM	Geysers	84.09	48	IAmb	IAmb	07 12 01.2	
	comp=Z,98nm,1.4s						
BMRM	Bremner River	84.14	22	IAMs_20	IAMs_20	07 46 42.2	
	comp=Z,28µm,19.0s						
BMRM	Bremner River	84.14	22	P	P	07 11 13.8	-2.0
	baz=227						
BMRM				S	S	07 21 34.8	-3.3
	baz=227						
GOMU	GeErMu	84.16	309	P	P	07 11 16.8	0.0
GOMU				pP	pP	07 11 23.8	-2.4
GOMU				sP	pwP	07 11 26.1	-4.3
GOMU				PP	PP	07 14 30.8	-0.8
GOMU				S	S	07 21 40.5	+0.5
GOMU				sS	sS	07 21 55.2	-0.6
GOMU				pmax	pmax		
	comp=Z,59nm,1.5s						
GOMU				LR	LR		
	comp=Z,6µm,17.0s						
GOMU				LR	LR		
	comp=Z,7µm,21.2s						
GOMU				LR	LR		
	comp=Z,7µm,20.7s						
WAT6	Susitna Watana	84.21	19	P	P	07 11 13.3	-2.8
	baz=224,SNR=63						
WAT6				S	S	07 21 35.1	-3.9
	baz=224						
SNH	Sunshine Point	84.26	23	IAMs_20	IAMs_20	07 44 42.4	
	comp=Z,35µm,20.0s						
SAO	San Andreas Ge	84.30	50	IAmb	IAmb	07 11 45.0	
	comp=Z,79nm,1.2s						
BPAW	Bear Paw Mtn.	84.34	17	IAmb	IAmb	07 11 18.9	
	comp=Z,114nm,1.2s						
BPAW				IAMs_20	IAMs_20	07 43 16.1	
	comp=Z,40µm,20.0s						
BPAW	Bear Paw Mtn.	84.34	17	P	P	07 11 13.7	-2.9
	baz=221,SNR=37						
BPAW				S	S	07 21 36.7	-3.3
	baz=221						
M24K	Tolsona, Glenn	84.39	20	P	P	07 11 15.9	-1.0
	baz=226,SNR=15						
M24K				S	S	07 21 38.7	-1.8
	baz=226						
WAX	Waxell Ridge	84.43	23	IAMs_20	IAMs_20	07 44 47.9	
	comp=Z,54µm,20.0s						
SNCC	San Nicolas Is	84.49	54	IAmb	IAmb	07 11 46.2	
	comp=Z,126nm,1.1s						
SNCC	San Nicolas Is	84.49	54	P	P	07 11 16.2	-1.9
	baz=249						
SNCC				S	S	07 21 40.2	-2.5
	baz=249						
BBGB	Big Mountain B	84.53	50	IAmb	IAmb	07 11 29.9	
	comp=Z,106nm,0.9s						
DHUB	DHUBRI	84.55	298	eP	P	07 11 18.5	0.0
DHUB				IAmb	IAmb	07 11 22.6	
	comp=Z,853nm,1.3s						
N25K	Chitina, Valde	84.58	21	IAmb	IAmb	07 11 22.4	
	comp=Z,87nm,1.1s						
N25K	Chitina, Valde	84.58	21	P	P	07 11 16.0	-1.9
	baz=227,SNR=26						
N25K				S	S	07 21 41.5	-1.1
	baz=227						
O02D	Mt. Diablo Mer	84.64	46	IAmb	IAmb	07 11 29.2	
	comp=Z,80nm,0.9s						
O02D	Mt. Diablo Mer	84.64	46	P	P	07 11 17.8	-1.0
	baz=247,SNR=31						
O02D				S	S	07 21 42.7	-1.3
	baz=247						
MCK	McKinley	84.67	18	P	P	07 11 16.2	-2.1
	baz=223,SNR=71						
MCK				S	S	07 21 40.1	-3.1
	baz=223						
DHY	Denali Highway	84.68	19	IAmb	IAmb	07 11 48.5	
	comp=Z,219nm,1.4s						
DHY	Denali Highway	84.68	19	P	P	07 11 16.3	-2.3
	baz=224,SNR=30						
DHY				S	S	07 21 42.0	-1.7
	baz=224						
ZAK	Zakamensk	84.70	325	eP	P	07 11 17.6	-1.3
ZAK				e		07 21 42.2	
ZAK				pmax	pmax		
	comp=Z,813nm,1.4s						
DIB	Dawson Inlet,	84.71	32	IAmb	IAmb	07 11 24.5	
	comp=Z,153nm,1.4s						
ISLE	Juniper Island	84.72	23	IAmb	IAmb	07 11 53.1	
	comp=Z,173nm,1.3s						
ISLE				IAMs_20	IAMs_20	07 44 37.7	
	comp=Z,43µm,20.0s						
VRDI	Verde Repeater	84.73	22	IAmb	IAmb	07 11 49.5	
	comp=Z,145nm,1.4s						
GLB	Gilahina Butte	84.75	22	IAmb	IAmb	07 11 49.4	
	comp=Z,110nm,1.3s						
GLB				IAMs_20	IAMs_20	07 46 22.1	
	comp=Z,27µm,19.0s						
LSA	Lhasa	84.76	302	P	P	07 11 20.5	+0.4
LSA				pmax	pmax		
	comp=Z,5µm,10.0s						
LSA				LR	LR		
	comp=Z,5µm,24.6s						
LSA				LR	LR		
	comp=Z,7µm,26.7s						
LSA				LR	LR		
	comp=Z,5µm,23.5s						
LSA	Lhasa	84.76	302	P	P	07 11 21.9	+1.8
SBC	Santa Barbara	84.76	53	P	P	07 11 16.6	-2.8
	baz=249						
RDOG	Red Dog Mine	84.77	11	IAmb	IAmb	07 11 22.7	
	comp=Z,232nm,1.3s						
RDOG				IAMs_20	IAMs_20	07 44 03.9	
	comp=Z,31µm,20.0s						
RDOG	Red Dog Mine	84.77	11	P	P	07 11 17.5	-1.2
	baz=210,SNR=15						
RDOG				S	S	07 21 44.2	+0.1
	baz=210						
YAH	Yahtse	84.79	23	IAmb	IAmb	07 11 50.2	
	comp=Z,110nm,1.2s						
YAH				IAMs_20	IAMs_20	07 48 22.3	
	comp=Z,41µm,18.0s						
BWN	Browne	84.84	18	IAMs_20	IAMs_20	07 42 28.7	
	comp=Z,50µm,22.0s						
SMMC	Simmler	84.86	52	P	P	07 11 18.4	-1.5
	baz=249						
SMMC				S	S	07 21 42.9	-3.4
	baz=249						
L02E	Cave Junction	84.87	44	IAmb	IAmb	07 12 06.4	
	comp=Z,181nm,1.9s						
L02E				IAMs_20	IAMs_20	07 42 15.3	
	comp=Z,37µm,20.0s						
L02E	Cave Junction	84.87	44	P	P	07 11 18.1	-1.7
	baz=246						
L02E				S	S	07 21 44.8	-1.3
	baz=246						
I21K	Tanana	84.89	16	IAMs_20	IAMs_20	07 43 34.5	
	comp=Z,48µm,20.0s						
I21K	Tanana	84.89	16	P	P	07 11 17.6	-1.8
	baz=220,SNR=91						
I21K				S	S	07 21 42.5	-2.8
	baz=220						
HARP	HAARP	84.93	20	P	P	07 11 18.1	-1.6
	baz=227,SNR=9.6						
HARP				S	S	07 21 44.4	-1.5
	baz=227						
N02D	Trinity Center	85.01	46	IAmb	IAmb	07 11 43.9	

comp=Z,86nm,1.2s
N02D IAMs_20 IAMs_20 07 42 11.2
comp=Z,42µm,20.0s
N02D Trinity Center 85.01 46 P P 07 11 18.5 -2.1
baz=247,SNR=13
N02D S S **07 21 44.8 -2.9**
baz=247
H21K Melozitna Rive 85.04 16 IAmb IAmb 07 11 24.1
comp=Z,215nm,1.2s
H21K Melozitna Rive 85.04 16 P P 07 11 17.7 -2.4
baz=219,SNR=65
H21K S **S 07 21 46.6 -0.2**
baz=219
K02D Willamette Mer 85.05 44 P P 07 11 19.7 -1.1
baz=246
K02D S **S 07 21 45.6 -2.4**
baz=246
J01E Myrtle Point 85.06 43 IAMs_20 IAMs_20 07 43 07.2
comp=Z,43µm,19.0s
J01E Myrtle Point 85.06 43 P P 07 11 19.1 -1.6
baz=246
J01E S **S 07 21 44.5 -3.3**
baz=246
TABL Table Mountain 85.07 23 IAmb IAmb 07 11 27.9
comp=Z,104nm,0.8s
TABL IAMs_20 IAMs_20 07 48 12.8
comp=Z,33µm,18.0s
M02C Callahan 85.07 45 IAmb IAmb 07 12 02.3
comp=Z,189nm,1.8s
M02C IAMs_20 IAMs_20 07 41 23.8
comp=Z,32µm,21.0s
M02C Callahan 85.07 45 P P 07 11 18.6 -2.4
baz=247,SNR=21
M02C S **S 07 21 45.7 -2.6**
baz=247
IRK Irkutsk 85.09 327 *e*P **P 07 11 18.4 -2.3**
IRK *e*S **S 07 21 48.9 +1.1**
IRK pmax pmax
comp=Z,831nm,1.6s
SCI2 San Clemente I 85.17 54 P P 07 11 17.9 -3.6
baz=250
BCW Bitter Crk WRg 85.17 52 IAmb IAmb 07 11 28.3
comp=Z,74nm,0.9s
PCA Pinnacle 85.19 24 IAmb IAmb 07 11 52.0
comp=Z,138nm,1.0s
PAX Paxson 85.22 20 IAmb IAmb 07 11 51.9
comp=Z,200nm,1.9s
PAX Paxson 85.22 20 P P 07 11 18.4 -2.8
baz=226,SNR=7.7
PAX S **S 07 21 45.8 -3.1**
baz=226
PNL Peninsula 85.27 24 P P 07 11 20.4 -1.0
baz=232
PNL S **S 07 21 45.5 -3.8**
baz=232
NEA2 Nenana 85.27 18 IAMs_20 IAMs_20 07 42 28.6
comp=Z,41µm,22.0s
NEA2 Nenana 85.27 18 P P 07 11 18.6 -2.7
baz=223,SNR=62
NEA2 S **S 07 21 44.3 -4.8**
baz=223
BARN Barnard Glacie 85.28 22 IAmb IAmb 07 11 29.1
comp=Z,95nm,0.9s
BARN IAMs_20 IAMs_20 07 45 25.2
comp=Z,41µm,19.0s
YBH Yreka Blue Hor 85.31 45 P P 07 11 23.1 +1.0
comp=Z,40nm,1.0s,baz=197,slow=2.0,SNR=21
YBH Yreka Blue Hor 85.31 45 IAMs_20 IAMs_20 07 41 52.0
comp=Z,29µm,21.0s
BCPM Bancas Point 85.35 24 IAMs_20 IAMs_20 07 48 11.2
comp=Z,30µm,19.0s
O03E Paynes Creek 85.38 47 IAmb IAmb 07 11 50.1
comp=Z,224nm,1.4s
O03E IAMs_20 IAMs_20 07 41 13.0
comp=Z,40µm,20.0s
O03E Paynes Creek 85.38 47 P P 07 11 20.4 -2.1
baz=247,SNR=13
O03E S **S 07 21 46.1 -5.3**
baz=247
CIS Catalina Islan 85.41 54 P P 07 11 21.9 -0.9
baz=250
CIS S **S 07 21 50.2 -1.7**
baz=250
SIT Sitka 85.45 28 P P 07 11 20.0 -2.3
baz=236
SIT S **S 07 21 49.8 -1.3**
baz=236
WRH Wood River Hil 85.47 18 IAmb IAmb 07 11 50.6
comp=Z,187nm,1.1s
WRH IAMs_20 IAMs_20 07 42 48.0
comp=Z,58µm,22.0s
HUMO Hull Mountain 85.49 44 IAMs_20 IAMs_20 07 42 52.7
comp=Z,34µm,20.0s
I02E Swisshome, OR 85.50 43 IAMs_20 IAMs_20 07 43 56.9
comp=Z,31µm,19.0s
I02E Swisshome, OR 85.50 43 P P 07 11 22.7 -0.2
baz=246
I02E S **S 07 21 50.6 -1.6**
baz=246
OSI Osito Audit: C 85.59 53 P P 07 11 22.0 -1.6
baz=250
I23K Minto, Yukon-K 85.59 17 IAmb IAmb 07 11 54.9
comp=Z,73nm,1.1s
I23K IAMs_20 IAMs_20 07 45 35.2
comp=Z,48µm,20.0s
I23K Minto, Yukon-K 85.59 17 P P 07 11 21.1 -1.8
baz=222,SNR=18
I23K S **S 07 21 47.1 -5.1**
baz=222
CRAG Craig 85.60 30 P P 07 11 22.4 -0.6
baz=238
CRAG S **S 07 21 52.2 -0.4**
baz=238
FMP Fort Macarthur 85.61 54 P P 07 11 21.5 -2.2
baz=250
I03D Drain, OR 85.66 43 P P 07 11 22.4 -1.3
baz=246
I03D S **S 07 21 49.2 -4.6**
baz=246
CCB Clear Creek Bu 85.68 18 IAMs_20 IAMs_20 07 43 38.5
comp=Z,53µm,21.0s
VOG Valley Oaks Go 85.68 51 P P 07 11 21.8 -2.1
baz=249
ARVC Arvin 85.69 52 P P 07 11 22.4 -1.6
baz=250,SNR=10
ARVC S **S 07 21 49.8 -4.6**
baz=250
VES Vestal, Richgr 85.74 52 P P 07 11 21.8 -2.5
baz=249
VES S **S 07 21 48.4 -6.5**
baz=249
DECC Green Verdugo 85.77 53 P P 07 11 22.2 -2.3
baz=250
HDA Harding Lake 85.77 18 P P 07 11 22.2 -1.6
baz=225,SNR=79
HDA S **S 07 21 47.9 -6.1**
baz=225
HDA S **S 07 21 47.9 -6.1**
baz=225
L04D Klamath Falls 85.78 45 IAmb IAmb 07 11 47.2
comp=Z,118nm,1.2s
L04D Klamath Falls 85.78 45 P P 07 11 22.0 -2.5
baz=247,SNR=10
L04D S **S 07 21 50.3 -5.0**
baz=247
MDM Murphy Dome 85.78 18 IAMs_20 IAMs_20 07 42 56.2
comp=Z,34µm,22.0s
TCOL CIGO, UAF Yank 85.83 18 IAMs_20 IAMs_20 07 42 58.5
comp=Z,42µm,22.0s
TCOL CIGO, UAF Yank 85.83 18 P P 07 11 21.9 -2.1
baz=224,SNR=38
TCOL S **S 07 21 48.2 -6.3**
baz=224
COLA College 85.83 18 *i* P **P 07 11 23.5 -0.5**
COLA pmax pmax
comp=Z,200nm,1.2s
COLA MLR MLR
comp=Z,18µm,18.0s
COLA College 85.83 18 P **P 07 11 25.2 +1.2**
COLA College 85.83 18 IAMs_20 IAMs_20 07 42 58.5
comp=Z,40µm,22.0s
COLA College 85.83 18 P P 07 11 21.5 -2.5
baz=224
COLA S **S 07 21 48.2 -6.3**
baz=224
PASC Pasadena Art C 85.86 53 IAMs_20 IAMs_20 07 44 24.1
comp=Z,41µm,19.0s
M04C Macdoel 85.93 45 IAmb IAmb 07 11 31.2
comp=Z,89nm,1.3s
M04C Macdoel 85.93 45 P P 07 11 24.2 -1.1
baz=247,SNR=10
M04C S **S 07 21 51.6 -5.2**
baz=247
RIDG Independent Ri 85.96 19 IAmb IAmb 07 12 04.1
comp=Z,116nm,1.2s
RIDG IAMs_20 IAMs_20 07 42 51.1
comp=Z,41µm,22.0s
RIDG Independent Ri 85.96 19 P P 07 11 22.9 -1.9
baz=227,SNR=18
RIDG S **S 07 21 51.7 -4.4**
baz=227
L26K Log Cabin Wild 85.97 20 IAMs_20 IAMs_20 07 43 26.5
comp=Z,39µm,21.0s
L26K Log Cabin Wild 85.97 20 P P 07 11 23.5 -1.3
baz=228,SNR=23
L26K S **S 07 21 51.2 -4.9**
baz=228
M27K Edge Creek, AK 86.04 21 IAMs_20 IAMs_20 07 47 04.4
comp=Z,32µm,20.0s
M27K Edge Creek, AK 86.04 21 P P 07 11 24.9 -0.4
baz=230
M27K S **S 07 21 52.1 -5.0**
baz=230
H23K Yukon River 86.05 17 IAMs_20 IAMs_20 07 44 20.1
comp=Z,36µm,20.0s
ILAR Eielson Array 86.05 18 P P 07 11 23.6 -1.5
comp=Z,29nm,0.7s,baz=234,slow=5.7,SNR=32
ILAR PKiKP **PKiKP 07 16 33.2 -0.3**
comp=Z,1.0nm,0.7s,baz=283,slow=2.8,SNR=1.8
ILAR PKKP **PKKPdf 07 29 22.3 +1.0**
comp=Z,6.5nm,1.0s,baz=329,slow=1.5,SNR=11
ILAR PKPPKP **P'P'df 07 37 32.0 +3.2**
comp=Z,2.4nm,1.1s,baz=12,slow=3.6,SNR=4.7
ILAR LR LR 07 44 41.9
comp=Z,66µm,20.6s,baz=239,slow=32
BUCK Buck Mountain 86.11 43 IAmb IAmb 07 11 51.7
comp=Z,97nm,1.2s
POKR Poker Plat Res 86.13 18 IAmb IAmb 07 11 52.7
comp=Z,78nm,0.9s
POKR IAMs_20 IAMs_20 07 44 02.4
comp=Z,38µm,21.0s
POKR Poker Plat Res 86.13 18 P P 07 11 23.1 -2.4
baz=224,SNR=12
POKR S **S 07 21 50.8 -6.7**
baz=224
GTK Tadong 86.14 299 *e*P **P 07 11 27.1 +0.4**
GTK IAmb IAmb 07 11 31.1
comp=Z,2µm,1.9s
ISA Isabella, Lake 86.14 52 P P 07 11 24.9 -1.4
baz=250,SNR=25
YUK3 Moose Creek 86.18 22 P P 07 11 24.2 -1.9
baz=231,SNR=24
YUK3 S **S 07 21 52.8 -5.8**
baz=231
TJX Tijuana 86.19 55 IAmb IAmb 07 11 31.1
comp=Z,193nm,1.2s
EDW2 Edwards Air Fo 86.25 53 P P 07 11 25.2 -1.7
baz=250,SNR=42
MPK Martis Peak 86.27 48 IAmb IAmb 07 11 49.3
comp=Z,188nm,1.4s
ELS Elsinore Mount 86.27 54 IAmb IAmb 07 11 55.1
comp=Z,152nm,1.8s
109C Camp Elliot, M 86.28 55 P P 07 11 24.2 -2.8
baz=251,SNR=8.3
109C S **S 07 21 56.1 -4.2**
baz=251
BFSC Mount Baldy Ra 86.29 54 P P 07 11 25.1 -2.1
baz=250,SNR=34
J04D Umpqua Nationa 86.31 44 IAmb IAmb 07 11 35.5
comp=Z,58nm,0.7s
J04D IAMs_20 IAMs_20 07 43 39.4
comp=Z,34µm,20.0s
J04D Umpqua Nationa 86.31 44 P P 07 11 25.5 -1.7
baz=247,SNR=13
K04D Chiloquin, OR 86.31 45 P P 07 11 26.3 -0.8
baz=247
I04A Tendick Farm, 86.33 43 P P 07 11 25.8 -1.2
baz=247,SNR=8.2
G03D McMinnville, O 86.33 42 IAmb IAmb 07 11 58.7
comp=Z,257nm,1.7s
G03D IAMs_20 IAMs_20 07 47 44.8
comp=Z,31µm,19.0s
G03D McMinnville, O 86.33 42 P P 07 11 25.3 -1.6
baz=246,SNR=6.4
H04D Lebanon 86.40 43 IAmb IAmb 07 12 08.1
comp=Z,138nm,1.4s
H04D Lebanon 86.40 43 P P 07 11 26.7 -0.6
baz=246
J25K Sha River, 86.40 19 IAmb IAmb 07 11 56.5
comp=Z,132nm,1.1s
J25K Salcha River, 86.40 19 P P 07 11 26.1 -0.8
baz=226,SNR=29
J25K S **S 07 21 53.8 -6.5**
baz=226
SCRK Sand Creek 86.40 20 IAmb IAmb 07 11 58.0
comp=Z,76nm,1.0s
SCRK IAMs_20 IAMs_20 07 43 04.7
comp=Z,31µm,22.0s
SCRK Sand Creek 86.40 20 P P 07 11 26.1 -0.9
baz=228,SNR=23
SCRK S **S 07 21 55.5 -5.0**
baz=228
OMMB Old Mammoth Mi 86.42 50 IAmb IAmb 07 12 01.0
comp=Z,114nm,1.5s
MURC Murrieta 86.44 54 P P 07 11 26.4 -1.5
baz=251,SNR=10.0
BVCY Beaver Creek 86.44 22 P P 07 11 25.5 -1.7
baz=230,SNR=10
BVCY S **S 07 21 54.6 -6.1**
baz=230
YUK6 Outpost Mounta 86.46 24 P P 07 11 24.9 -2.6
baz=233
YUK6 S **S 07 21 54.1 -7.2**
baz=233
WRAK Wrangell Islan 86.47 29 IAmb IAmb 07 13 13.7
comp=Z,48nm,0.7s
WRAK Wrangell Islan 86.47 29 IAMs_20 IAMs_20 07 42 36.4
comp=Z,29µm,20.0s
WRAK Wrangell Islan 86.47 29 P P 07 11 26.4 -1.0
baz=238
WRAK S **S 07 21 55.4 -5.7**
baz=238
BBB Bella Bella 86.51 34 LR LR 07 42 26.7
comp=Z,49µm,20.8s,baz=250,slow=30
PNTR Pine Nut 86.51 48 IAmb IAmb 07 11 50.5
comp=Z,272nm,1.8s
BESE Bessie Mountai 86.52 27 IAmb IAmb 07 11 58.4
comp=Z,117nm,1.4s
L27K Beaver Creek, 86.52 21 IAMs_20 IAMs_20 07 46 27.9
comp=Z,26µm,20.0s
L27K Beaver Creek, 86.52 21 P P 07 11 25.9 -1.7
baz=230,SNR=19
L27K S **S 07 21 58.4 -3.1**
baz=230
H24K Noodor Dome 86.52 17 IAMs_20 IAMs_20 07 46 49.7
comp=Z,43µm,20.0s
H24K Noodor Dome 86.52 17 P P 07 11 25.0 -2.5
baz=224,SNR=18
H24K S **S 07 21 58.4 -3.1**
baz=224
BWNR Bhubaneshwar 86.54 292 *e*P **P 07 11 29.4 +0.9**
MLAC Mammoth, Mammo 86.55 50 P **P 07 11 27.5 -1.1**
baz=250
TKX Tecate 86.57 55 IAmb IAmb 07 12 04.2
comp=Z,126nm,1.9s
MOY Mondy 86.59 325 *e*P **P 07 11 27.8 -0.4**
MOY pmax pmax
comp=Z,510nm,2.7s
YUK4 Talbot Arm 86.59 23 P P 07 11 27.3 -0.9
baz=233,SNR=10
YUK4 S **S 07 21 55.3 -7.4**
baz=233
LRMC Laurel Mtn Rad 86.69 52 P P 07 11 26.8 -2.4
baz=250,SNR=22
E03A Lebam 86.69 40 IAmb IAmb 07 11 34.7
comp=Z,149nm,1.3s
CWC Cottonwood Cre 86.71 51 P P 07 11 27.2 -2.1
baz=250
HYT Haines Junctio 86.72 24 P P 07 11 26.3 -2.4
baz=234,SNR=11
YERR Yerington 86.73 49 IAmb IAmb 07 11 51.3
comp=Z,123nm,1.7s
WISH Wishkah 86.80 40 IAmb IAmb 07 12 16.2
comp=Z,201nm,1.4s
TIN Tinemaha, Big 86.81 51 P P 07 11 27.0 -2.7
baz=250
SKAG Skagway 86.81 26 P P 07 11 27.6 -1.3
baz=236
MONP2 Monument Peak 86.82 55 P P 07 11 28.0 -2.0
baz=251,SNR=36
H04A Detroit Lake 86.83 43 IAmb IAmb 07 11 59.4
comp=Z,263nm,2.0s
NLWA Neilton Lookou 86.85 40 IAMs_20 IAMs_20 07 41 44.2
comp=Z,46µm,21.0s
F04D Rainier, OR 86.85 41 P P 07 11 28.9 -0.6
baz=246
BBRC Big Bear Solar 86.87 54 P P 07 11 27.7 -2.5
baz=251,SNR=15
PAHR Pah Rah Range 86.89 48 IAmb IAmb 07 11 35.9
comp=Z,78nm,1.2s
J26L Joseph Creek 86.89 19 P P 07 11 28.5 -0.9
baz=228,SNR=13
J05D Fort Rock, OR 86.92 44 P P 07 11 28.7 -1.4
baz=248,SNR=43
COLD Coldfoot 86.92 15 IAmb IAmb 07 11 33.7
comp=Z,166nm,1.4s
COLD Coldfoot 86.92 15 P P 07 11 28.3 -1.0
baz=222,SNR=42
K05A Summer Lake 86.94 45 IAmb IAmb 07 11 36.4
comp=Z,87nm,1.1s
IKP In-Ko-Pah, Jac 86.99 55 P P 07 11 29.9 -0.7
baz=251,SNR=15
LHV Little Huntoon 87.02 50 IAmb IAmb 07 12 07.6
comp=Z,106nm,1.3s
RRX Edison Barstow 87.02 53 P P 07 11 28.7 -1.9
baz=251
PFO Pinyon Flats O 87.02 54 P P 07 11 31.6 +0.7
comp=Z,25nm,0.8s,baz=263,slow=3.3,SNR=26
PFO LR LR 07 42 56.5
comp=Z,73µm,20.0s,baz=262,slow=30
PFO Pinyon Flats O 87.02 54 *i* P **P 07 11 29.1 -1.7**
PFO pmax pmax
comp=Z,51nm,1.0s
PFO MLR MLR
comp=Z,72µm,17.0s
PFO Pinyon Flats O 87.02 54 P P 07 11 30.3 -0.5
PFO Pinyon Flats O 87.02 54 P P 07 11 29.2 -1.6
baz=251,SNR=19
TPFO Pinon Flats 87.03 54 P P 07 11 29.5 -1.3
baz=251,SNR=18
MPMC Manual Prospec 87.03 52 P P 07 11 29.3 -1.6
baz=250,SNR=23
MOD Modoc Plateau 87.03 46 IAmb IAmb 07 11 52.7
comp=Z,118nm,1.6s
MOD IAMs_20 IAMs_20 07 41 56.7
comp=Z,37µm,21.0s
RYN Ryan 87.13 49 IAmb IAmb 07 12 04.4
comp=Z,81nm,1.4s
F04A Amboy 87.17 41 IAmb IAmb 07 11 36.8
comp=Z,82nm,1.1s
NVAR Mina Array Bea 87.22 49 P P 07 11 33.4 +1.6
comp=Z,17nm,0.8s,baz=231,slow=7.8,SNR=26
NVAR PKiKP **PKiKP 07 16 37.3 +0.8**
comp=Z,1.0nm,0.8s,baz=204,slow=2.0,SNR=1.0
NVAR PKKP **PKKPbc 07 29 24.5 +0.3**
comp=Z,1.6nm,0.6s,baz=87,slow=2.0,SNR=7.2
NVAR PKPPKP **P'P'df 07 37 31.6 +2.2**
comp=Z,4.1nm,0.8s,baz=72,slow=2.9,SNR=12
NVAR LR LR 07 43 18.6
comp=Z,111µm,20.2s,baz=284,slow=31
I05D Terrebonne, OR 87.25 43 P P 07 11 30.6 -1.0
baz=248,SNR=10
GSC Goldstone, Bar 87.30 53 IAmb IAmb 07 12 00.3
comp=Z,98nm,1.5s
GSC Goldstone, Bar 87.30 53 P P 07 11 30.0 -2.1
baz=251,SNR=13
E04D Cinebar 87.32 41 IAmb IAmb 07 12 18.5
comp=Z,160nm,1.4s
E04D Cinebar 87.32 41 P P 07 11 31.2 -0.6
baz=246
NV11 Mina Array Sit 87.33 49 IAmb IAmb 07 12 05.5
comp=Z,153nm,1.4s
SWSC Sam W. Stewart 87.33 55 P P 07 11 31.5 -0.6
baz=252,SNR=46
B04A Port Angeles 87.35 39 IAmb IAmb 07 12 02.8
comp=Z,152nm,1.7s
D03D Eldon 87.39 40 P P 07 11 32.1 0.0
baz=246,SNR=9.2
HOOD Mount Hood Mea 87.42 42 IAmb IAmb 07 11 57.7
comp=Z,78nm,1.2s
GRAC Grapevine Rang 87.44 51 IAmb IAmb 07 11 38.6
comp=Z,59nm,1.0s
GRAC Grapevine Rang 87.44 51 P P 07 11 30.9 -1.7
baz=250,SNR=8.3
D04E Lakebay 87.44 40 P P 07 11 31.1 -1.2
baz=246
BOK Bokaro 87.44 295 *e*P **P 07 11 33.3 +0.4**
BOK IAmb IAmb 07 11 37.4
comp=Z,88nm,1.0s
BELC Belle Mtn. Jos 87.51 54 P P 07 11 31.3 -1.9
baz=251,SNR=40
HEC Hector,Ludlow 87.52 53 P P 07 11 30.7 -2.4
baz=251,SNR=27
CPBX Cerro Prieto 87.57 56 IAmb IAmb 07 12 05.1
comp=Z,312nm,2.0s
KVN Kaiserville 87.59 49 IAmb IAmb 07 12 06.5
comp=Z,102nm,1.5s
G05D Wamic, OR 87.61 42 P P 07 11 31.5 -1.8
baz=247,SNR=7.4
PGC Sidney 87.62 39 IAmb IAmb 07 12 13.8
comp=Z,94nm,1.4s
FURC Furnace Creek, 87.64 52 P P 07 11 32.5 -1.1
baz=251,SNR=35
WHY Whitehorse 87.67 25 P P 07 11 29.7 -3.6
baz=236
GWY Greenwater Val 87.70 52 IAmb IAmb 07 12 02.0
comp=Z,87nm,1.5s
F05D White Salmon 87.77 42 IAmb IAmb 07 12 14.6
comp=Z,84nm,1.4s
F05D White Salmon 87.77 42 P P 07 11 31.6 -2.4
baz=247
N31M Braeburn, Yuko 87.79 24 IAMs_20 IAMs_20 07 50 07.7
comp=Z,27µm,19.0s
N31M Braeburn, Yuko 87.79 24 P P 07 11 32.8 -0.9
baz=235,SNR=12
BC3 Big Chuckawall 87.83 55 P P 07 11 32.8 -1.9
baz=252,SNR=35
EGAK Eagle 87.86 20 IAMs_20 IAMs_20 07 47 10.2
comp=Z,32µm,19.0s
EGAK Eagle 87.86 20 P P 07 11 32.6 -1.3
baz=230
SHOC Shoshone, Teco 87.91 52 P P 07 11 33.1 -1.7
baz=251,SNR=13
PALK Pallekele 87.92 278 P P 07 11 36.1 +0.6
comp=Z,86nm,1.0s,baz=200,slow=4.0,SNR=8.1
PALK PKiKP **PKiKP 07 16 38.6 +0.5**
comp=Z,4.7nm,0.8s,baz=271,slow=9.5,SNR=1.6
PALK Pallekele 87.92 278 *e*P **P 07 11 35.5 0.0**
PALK pmax pmax
comp=Z,608nm,1.7s
PALK MLR MLR
comp=Z,18µm,19.0s
PALK Pallekele 87.92 278 P **P 07 11 35.9 +0.5**
PALK Pallekele 87.92 278 P **P 07 11 35.4 -0.1**
PALK P **P 07 11 35.4 -0.1**
D05A Enumclaw 87.94 40 IAmb IAmb 07 12 16.8
comp=Z,189nm,1.3s
DAWY Dawson 88.00 21 P P 07 11 32.1 -2.6
baz=232,SNR=15
GMRC Granite Mounta 88.03 54 P P 07 11 32.6 -3.0
baz=252,SNR=28
TUQ Turquoise Moun 88.03 53 P P 07 11 34.2 -1.4
baz=251
M30M Minto, Yukon 88.03 23 IAMs_20 IAMs_20 07 49 20.1
comp=Z,32µm,19.0s
M30M Minto, Yukon 88.03 23 P P 07 11 32.6 -2.3
baz=234,SNR=13
A04D Lummi Island 88.10 39 P P 07 11 34.3 -1.1
baz=246,SNR=9.8
TOLK Toolik Lake Re 88.13 15 IAmb IAmb 07 11 39.4
comp=Z,178nm,1.4s
TOLK Toolik Lake Re 88.13 15 P P 07 11 34.4 -0.9
baz=222,SNR=36
TOLK S **S 07 22 18.4 +1.6**
baz=222
GLA Glamis 88.14 55 IAmb IAmb 07 11 43.1
comp=Z,84nm,0.9s
GLA Glamis 88.14 55 P P 07 11 35.4 -0.7
baz=252,SNR=20
IRM Iron Mountain 88.23 54 P P 07 11 35.0 -1.5
baz=252,SNR=38
TPNV Topopah Spring 88.27 51 IAMs_20 IAMs_20 07 43 04.8
comp=Z,31µm,20.0s
TPNV Topopah Spring 88.27 51 P P 07 11 35.1 -1.6

baz=251,SNR=14
P33M Teslin, Yukon 88.28 26 IAMs_20 IAMs_20 07 50 17.0
comp=Z,33µm,19.0s
P33M Teslin, Yukon 88.28 26 P **P** **07 11 32.9 -3.2**
baz=238
B05A Bryant 88.29 39 P **P** **07 11 35.2 -1.1**
baz=247,SNR=6.7
I07A Izee 88.38 44 IAmb IAmb 07 12 18.0
comp=Z,213nm,1.9s
RAGD RAYAGADA 88.38 290 *e*P **P** **07 11 37.7 +0.2**
WVOR Wild Horse Val 88.38 46 IAmb IAmb 07 12 18.1
comp=Z,181nm,1.7s
WVOR IAMs_20 IAMs_20 07 45 38.4
comp=Z,33µm,20.0s
BLYC Blythe 88.60 55 IAmb IAmb 07 11 44.5
comp=Z,74nm,1.1s
J29M Klondike Camp 88.64 21 P **P** **07 11 36.8 -0.9**
baz=233,SNR=6.8
A21K Barrow 88.71 11 P **P** **07 11 37.2 -0.6**
baz=216
A21K S **S** **07 22 20.5 -1.5**
baz=216
M31M Drury Creek, Y 88.74 24 IAMs_20 IAMs_20 07 51 05.8
comp=Z,38µm,18.0s
M31M Drury Creek, Y 88.74 24 P **P** **07 11 35.7 -2.5**
baz=236
F07A Phinny Hill Vi 88.76 42 IAmb IAmb 07 12 19.4
comp=Z,72nm,1.4s
B06A Marblemount 88.77 39 IAmb IAmb 07 12 18.9
comp=Z,110nm,1.6s
LTY Liberty 88.79 41 IAmb IAmb 07 12 11.5
comp=Z,122nm,1.6s
J08A Circle Bar Ran 88.82 45 IAmb IAmb 07 11 45.0
comp=Z,87nm,1.1s
NEE2 Needles Airpor 88.84 54 P **P** **07 11 38.1 -1.2**
baz=252,SNR=13
NEE2 S **S** **07 22 28.0 +3.2**
baz=252
S11A Rachel 88.87 51 IAmb IAmb 07 12 30.2
comp=Z,158nm,1.5s
C06D Leavenworth 88.90 40 P **P** **07 11 36.6 -2.7**
baz=248
SHPR Sheep Range 88.95 52 IAmb IAmb 07 11 46.3
comp=Z,70nm,1.1s
PDMCI Parker Dam,Lak 89.07 54 P **P** **07 11 39.4 -0.9**
baz=252,SNR=37
I29M Ogilvie Camp, 89.17 20 IAmb IAmb 07 12 09.6
comp=Z,60nm,1.1s
I29M IAMs_20 IAMs_20 07 49 49.9
comp=Z,36µm,19.0s
I29M Ogilvie Camp, 89.17 20 P **P** **07 11 37.3 -2.9**
baz=233,SNR=25
G08A Pilot Rock 89.17 43 IAmb IAmb 07 11 46.6
comp=Z,68nm,1.1s
HAWA Hanford 89.20 42 IAmb IAmb 07 12 12.5
comp=Z,312nm,2.0s
SYO Syowa Base 89.20 197‖ *e*P **P** **07 11 39.2 -1.1**
SYO Syowa Base 89.20 197‖ *i*PcP **PcP** **07 11 42.0 +0.2**
SYO Syowa Base 89.20 197‖ *e*pP pP 07 11 49.4 -0.6
TIXI Tiksi 89.21 349 IAMs_20 IAMs_20 07 47 45.9
comp=Z,26µm,22.0s
R11A Troy Canyon, C 89.21 50 P **P** **07 11 39.8 -1.4**
baz=252,SNR=12
PRN Pahroc Range 89.32 51 IAmb IAmb 07 12 05.5
comp=Z,110nm,1.2s
LLLB Lillooet 89.34 37 IAmb IAmb 07 12 13.1
comp=Z,213nm,1.9s
214A Organ Pipe Nat 89.44 57 P **P** **07 11 41.5 -0.8**
baz=253
214A S **S** **07 22 31.9 +1.3**
baz=253
E08A Dider Farm, El 89.54 42 IAmb IAmb 07 12 24.1
comp=Z,202nm,1.6s
SLBS Sierra La Lagu 89.59 66 P **P** **07 11 43.5 +0.4**
SLBS Sierra La Lagu 89.59 66 IAMs_20 IAMs_20 07 41 44.9
comp=Z,30µm,22.0s
MDRS Chennai 89.79 283 *e*P **P** **07 11 44.4 +0.3**
MDRS IAmb IAmb 07 11 48.6
comp=Z,423nm,1.7s
D08A Wollman Farm, 89.83 41 IAmb IAmb 07 12 16.6
comp=Z,166nm,1.7s
B08A Colville Reser 90.04 40 IAmb IAmb 07 12 17.0
comp=Z,219nm,1.9s
BMO Blue Mountains 90.12 44 IAmb IAmb 07 12 41.5
comp=Z,95nm,1.4s
BMO IAMs_20 IAMs_20 07 44 43.2
comp=Z,31µm,20.0s
E09A Wood Farm, Sta 90.14 42 IAmb IAmb 07 12 41.5
comp=Z,132nm,1.6s
ELK Elko 90.22 48 P **P** **07 11 47.2 +1.3**
comp=Z,25nm,1.0s,baz=257,slow=3.4,SNR=17
ELK LR LR 07 43 57.2
comp=Z,58µm,21.9s,baz=250,slow=30
EPYK Eagle Plains 90.30 20 IAMs_20 IAMs_20 07 45 16.7
comp=Z,39µm,22.0s
EPYK Eagle Plains 90.30 20 P **P** **07 11 43.9 -1.5**
baz=234,SNR=9.1
BLSP Bilaspur 90.33 293 *e*P **P** **07 11 46.2 -0.3**
C09A Chrisman Ranch 90.50 41 IAmb IAmb 07 12 19.4
comp=Z,130nm,1.8s
F10A Beach Ranch, E 90.55 43 IAmb IAmb 07 12 19.6
comp=Z,115nm,1.2s
LCMT Little Creek M 90.57 52 IAmb IAmb 07 11 57.1
comp=Z,92nm,1.1s
CCUT Cedar City 90.64 51 IAmb IAmb 07 11 57.2
comp=Z,64nm,1.2s
MFID Camas Ranch 90.66 45 IAmb IAmb 07 12 35.2
comp=Z,161nm,1.9s
MFID IAMs_20 IAMs_20 07 45 27.5
comp=Z,24µm,20.0s
SZCU Shurtz Canyon 90.86 52 IAmb IAmb 07 12 50.1
comp=Z,154nm,1.8s
TGTN Hyland Airport 90.87 26 P **P** **07 11 47.7 -0.5**
baz=242
KNB Kanab 90.90 52 IAmb IAmb 07 12 18.7
comp=Z,129nm,1.4s
PLID Pearl Lake 91.07 44 IAmb IAmb 07 12 44.9
comp=Z,90nm,1.5s
U15A North Rim 91.14 53 IAmb IAmb 07 12 00.2
comp=Z,104nm,1.1s
TUC Tucson 91.19 57 P **P** **07 11 51.1 +0.6**
TUC pmax pmax
comp=Z,63nm,1.3s
TUC Tucson 91.19 57 P **P** **07 11 51.1 +0.6**
TUC IAmb IAmb 07 11 55.2
comp=Z,63nm,1.2s
TUC Tucson 91.19 57 IAMs_20 IAMs_20 07 48 49.7
comp=Z,39µm,19.0s
TUC Tucson 91.19 57 P **P** **07 11 49.6 -0.9**
baz=254
X16A Lo Mia Camp, P 91.24 55 IAmb IAmb 07 12 00.6
comp=Z,47nm,0.9s
SALM Salem 91.38 282 *e*P **P** **07 11 52.6 +1.0**
NEW Newport 91.39 40 IAmb IAmb 07 12 22.4
comp=Z,177nm,2.0s
NEW Newport 91.39 40 IAMs_20 IAMs_20 07 52 31.4
comp=Z,26µm,18.0s
NEW Newport 91.39 40 P **P** **07 11 49.9 -1.0**
baz=250,SNR=11
WUAZ Wupatki 91.60 54 IAmb IAmb 07 12 02.1
comp=Z,45nm,0.9s
WUAZ Wupatki 91.60 54 P **P** **07 11 51.5 -0.9**
baz=254
TCRU Three Creeks R 91.64 51 IAmb IAmb 07 12 03.1
comp=Z,34nm,0.8s
HLID Hailey 91.68 46 IAmb IAmb 07 12 23.2
comp=Z,88nm,1.8s
HLID IAMs_20 IAMs_20 07 46 20.6
comp=Z,40µm,20.0s
HLID Hailey 91.68 46 P **P** **07 11 51.8 -0.7**
baz=252,SNR=16
KOD Kodaikanal 91.74 280 *e*P **P** **07 11 54.4 +0.8**
DUG Dugway, Tooele 91.82 49 P **P** **07 11 52.5 -0.8**
baz=253,SNR=17
BGU Big Grassy Mou 91.88 48 IAmb IAmb 07 12 41.3
comp=Z,65nm,1.5s
WMQ Urumqi 91.89 315 P **P** **07 11 54.0 +0.6**
WMQ sP sP 07 12 07.3 +0.9
WMQ PP **PP** **07 15 35.5 +2.4**
WMQ SKS **SKSac** **07 22 25.1 +1.1**
WMQ S **ScS** **07 22 54.2 -0.9**
WMQ pmax pmax
comp=Z,330nm,1.3s
WMQ pmax pmax
comp=Z,6µm,5.3s
WMQ LR LR
comp=Z,9µm,19.9s
WMQ LR LR
comp=Z,17µm,21.9s
WMQ LR LR
comp=Z,19µm,24.9s
319A Douglas 92.18 58 IAmb IAmb 07 12 02.3
comp=Z,58nm,0.9s
HVU Hansel Valley 92.31 48 IAmb IAmb 07 12 57.5
comp=Z,93nm,1.4s
DGAR Diego Garcia 92.35 262 P **P** **07 11 54.3 -1.8**
DGAR pmax pmax
comp=Z,789nm,1.8s
DGAR Diego Garcia 92.35 262 P **P** **07 11 54.2 -1.8**
INK Inuvik 92.42 19 P **P** **07 11 55.9 +0.8**
comp=Z,3.6nm,1.0s,baz=257,slow=5.9,SNR=2.8
INK PKiKP **PKiKP** **07 16 45.0 +1.0**
comp=Z,4.4nm,0.9s,baz=137,slow=3.8,SNR=5.1
INK PKKP **PKKPdf** **07 29 07.5 -2.5**
comp=Z,8.4nm,0.9s,baz=60,slow=4.6,SNR=9.8
INK PKPPKP 07 37 17.3
comp=Z,5.4nm,1.1s,baz=78,slow=2.0,SNR=5.5
INK LR LR 07 48 39.9
comp=Z,54µm,20.5s,baz=220,slow=32
INK Inuvik 92.42 19 P **P** **07 11 53.4 -1.7**
baz=237
HYB Hyderabad 92.43 287 *e*P **P** **07 11 56.5 +0.1**
HYB IAmb IAmb 07 11 59.7
comp=Z,494nm,1.7s
HYBB Hyderabad (bro 92.43 287 *e*P **P** **07 11 56.0 -0.5**
HYB *e*PcP **PcP** **07 11 57.1 -0.1**
HYB *e*pP **pP** **07 12 04.3 -1.5**
HYB *e*sP **sP** **07 12 07.3 -2.1**
HYB *e*PP **PP** **07 15 37.0 -0.9**
HYB *e*SKSac **SKSac** **07 22 28.0 -0.1**
HYB *e*SKKSac **SKKSac** **07 22 44.1 -1.6**
HYB *e*ScS **ScS** **07 23 00.2 -0.5**
HYB *e*PS PS 07 24 12.4 -1.0
HYB IVMs_BB IVMs_BB 07 24 28.3
comp=Z,2µm,15.1s
PMSA Palmer Station 92.58 161 LR LR 07 48 06.9
comp=Z,16µm,20.8s,baz=228,slow=32
PMSA Palmer Station 92.58 161 *e*P **P** **07 11 56.8 +0.7**
Q16A Castle Valley 92.68 51 IAmb IAmb 07 12 07.4
comp=Z,68nm,1.4s
TMUT Trail Mountain 92.76 50 IAmb IAmb 07 12 29.7
comp=Z,112nm,1.9s
W18A Petrified Fore 92.78 55 P **P** **07 11 57.6 -0.3**
baz=255
MSO Missoula 92.98 43 IAMs_20 IAMs_20 07 52 59.8
comp=Z,27µm,18.0s
MSO Missoula 92.98 43 P **P** **07 11 58.1 -0.3**
baz=253,SNR=7.4
HWUT Hardware Ranch 93.13 48 IAMs_20 IAMs_20 07 45 17.2
comp=Z,35µm,22.0s
DLMT Dillon 93.45 44 IAMs_20 IAMs_20 07 47 51.4
comp=Z,30µm,20.0s
TROLL Troll, Antarti 93.49 185 P **P** **07 11 58.8 -1.6**
WALA Waterton Lakes 93.66 40 IAmb IAmb 07 13 15.1
comp=Z,83nm,1.6s
121A Cookes Peak, D 93.70 58 P **P** **07 12 02.5 +0.3**
baz=256
121A Cookes Peak, D 93.70 58 P **P** **07 12 00.8 -1.4**
baz=256
KAAM Kaadhehdhoo 93.75 270 P **P** **07 12 01.2 -1.4**
LGTI Lohaghat 93.79 299 *e*P **P** **07 12 02.4 0.0**
PTH Pithoragarh 93.84 299 *e*P **P** **07 12 02.4 -0.5**
FXWY Fox Creek 94.06 46 IAMs_20 IAMs_20 07 47 17.6
comp=Z,47µm,21.0s
REDW Red Top Meadow 94.11 46 IAmb IAmb 07 12 55.7
comp=Z,102nm,1.8s
BOZ Bozeman (W) 94.17 44 IAmb IAmb 07 12 55.0
comp=Z,96nm,1.9s
BOZ IAMs_20 IAMs_20 07 48 13.4
comp=Z,32µm,20.0s
BOZ Bozeman (W) 94.17 44 P **P** **07 12 03.8 -0.2**
baz=254,SNR=11
SNAA Sanae 94.19 183 P **P** **07 12 01.5 -2.1**
SNAA Sanae 94.19 183 LR LR 07 53 29.1
comp=Z,26µm,18.8s,baz=178,slow=35
SNAA Sanae 94.19 183 *ce*P **P** **07 12 00.9 -2.7**
SNAA pmax pmax
comp=Z,350nm,1.3s
SNAA MLR MLR
comp=Z,23µm,18.0s
SNAA Sanae 94.19 183 P **P** **07 12 01.8 -1.8**
SNAA IAMs_20 IAMs_20 07 52 58.3
comp=Z,29µm,20.0s
PV23 Carpenter Ridg 94.19 52 IAmb IAmb 07 12 11.0
comp=Z,40nm,0.8s
MVCO Mesa Verde 94.28 53 P **P** **07 12 02.7 -2.1**
baz=256
H17A Grant Village 94.57 46 P **P** **07 12 06.6 +0.6**
H17A Grant Village 94.57 46 P **P** **07 12 05.6 -0.4**
baz=255,SNR=5.5
KIDD KIDD Seismic O 94.57 59 P **P** **07 12 03.2 -2.8**
baz=256
PV15 Paradox Valley 94.57 52 P **P** **07 12 06.4 +0.3**
AKL Akola 94.61 290 *e*P **P** **07 12 05.2 -1.2**
Y22A Socorro 94.70 56 P **P** **07 12 05.5 -1.2**
baz=256
Y22D IRIS PASSCAL I 94.77 56 IAmb IAmb 07 12 19.5
comp=Z,72nm,1.3s
Y22D IAMs_20 IAMs_20 07 49 38.4
comp=Z,42µm,19.0s
Y22D IRIS PASSCAL I 94.77 56 P **P** **07 12 04.8 -2.2**
baz=256
Y22D IRIS PASSCAL I 94.77 56 P **P** **07 12 04.6 -2.4**
baz=256
BHPL Bhopal 94.81 293 *e*P **P** **07 12 06.4 -0.9**
BHPL IAmb IAmb 07 12 11.8
comp=Z,25nm,0.7s
ZSN Zaisan 94.82 318 *e*S **SKSac** **07 22 36.2 -3.7**
baz=318
BW06 Boulder Array 94.87 47 IAMs_20 IAMs_20 07 49 16.2
comp=Z,34µm,20.0s
BW06 Boulder Array 94.87 47 P **P** **07 12 04.0 -3.3**
baz=256
PDAR Pinedale Array 94.87 47 P **P** **07 12 07.3 -0.1**
comp=Z,2.2nm,0.7s,baz=232,slow=3.9,SNR=7.3
PDAR PKKPbc **PKKPbc** **07 29 01.4 -3.6**
comp=Z,2.1nm,0.7s,baz=93,slow=5.4,SNR=9.5
PDAR PKPPKP 07 37 15.3
comp=Z,3.1nm,1.2s,baz=228,slow=2.3,SNR=4.6
VNA3 Neumayer Olymp 94.88 181 P **P** **07 12 02.8 -3.8**
HMDM Hanimaadhoo 95.05 276 P **P** **07 12 12.0 +3.5**
SNR=6.4
VNA2 Neumayer--Watz 95.14 182 P **P** **07 12 04.5 -3.3**
baz=190,slow=3.0
O20A White River Ci 95.19 50 P **P** **07 12 08.5 -0.3**
baz=256
EDM Edmonton 95.20 36 IAmb IAmb 07 12 39.4
comp=Z,74nm,1.7s
ANMO Albuquerque 95.35 55 LR LR 07 47 27.7
comp=Z,43µm,20.6s,baz=270,slow=31
ANMO Albuquerque 95.35 55 *i* P **P** **07 12 06.2 -3.5**
ANMO pmax pmax
comp=Z,28nm,1.2s
ANMO Albuquerque 95.35 55 IAMs_20 IAMs_20 07 47 36.6
comp=Z,39µm,20.0s
ANMO Albuquerque 95.35 55 P P 07 12 04.1 -5.6
baz=257
ANMO Albuquerque 95.35 55 P **P** **07 12 06.6 -3.1**
baz=257
VNA1 Neumayer--Stat 95.44 182 P **P** **07 12 07.0 -2.1**
MNTX Cornudas Mount 95.49 59 P P 07 12 04.3 -5.9
baz=257
MNTX Cornudas Mount 95.49 59 P **P** **07 12 08.6 -1.6**
baz=257
RLMT Red Lodge 95.66 45 IAMs_20 IAMs_20 07 48 10.8
comp=Z,37µm,20.0s
RLMT Red Lodge 95.66 45 P **P** **07 12 10.7 -0.2**
baz=256
S22A 4UR Ranch, Cre 95.70 53 P **P** **07 12 10.9 -0.5**
baz=257
SMCO Snowmass 95.91 51 IAMs_20 IAMs_20 07 46 41.2
comp=Z,27µm,22.0s
C36M Paulatuk 95.93 19 IAMs_20 IAMs_20 07 48 47.5
comp=Z,32µm,22.0s
C36M Paulatuk 95.93 19 P **P** **07 12 09.3 -1.9**
baz=246
EGMT Eagleton 96.04 42 P **P** **07 12 14.3 +1.9**
EGMT IAmb IAmb 07 13 04.2
comp=Z,78nm,1.9s
EGMT IAMs_20 IAMs_20 07 51 29.7
comp=Z,20µm,19.0s
EGMT Eagleton 96.04 42 P **P** **07 12 10.3 -2.1**
baz=256
RWWY Rawlins 96.31 49 IAMs_20 IAMs_20 07 47 14.4
comp=Z,47µm,22.0s
MK31 Makanchi Array 96.36 317 *i* P **P** **07 12 12.9 -0.9**
MK31 pmax pmax
comp=Z,199nm,0.9s
MKAR Makanchi Array 96.36 317 P **P** **07 12 12.3 -1.5**
comp=Z,97nm,0.8s,baz=101,slow=6.3,SNR=66
MKAR PP **PP** **07 16 06.0 -1.9**
comp=Z,10nm,1.0s,baz=114,slow=5.2,SNR=5.3
MKAR PKiKP **PKiKP** **07 16 51.6 +0.1**
comp=Z,4.3nm,0.6s,baz=169,slow=6.8,SNR=12
MKAR PKKPbc **PKKPbc** **07 29 00.4 -0.4**
comp=Z,5.9nm,1.0s,baz=291,slow=4.8,SNR=4.7
MKAR PKPPKP **P'P'df** **07 37 12.7 +1.1**
comp=Z,1.3nm,1.0s,baz=270,slow=1.4,SNR=6.0
TX31 Lajitas Ar. Si 96.41 61 IAmb IAmb 07 16 10.4
comp=Z,171nm,1.6s
TX31 Lajitas Ar. Si 96.41 61 P **P** **07 12 14.4 -0.1**
baz=258
TX32 Lajitas Array 96.41 61 IAmb IAmb 07 16 10.4
comp=Z,58nm,1.6s
TXAR Lajitas Array 96.41 61 P **P** **07 12 15.0 +0.5**
comp=Z,7.3nm,0.9s,baz=232,slow=4.4,SNR=17
TXAR PP **PP** **07 16 08.9 +0.1**
comp=Z,48nm,1.2s,baz=236,slow=6.4,SNR=22
TXAR PKKPbc **PKKPbc** **07 28 58.8 -1.3**
comp=Z,1.4nm,0.8s,baz=110,slow=5.0,SNR=6.5
TXAR PKPPKP 07 37 13.0
comp=Z,1.9nm,1.1s,baz=127,slow=3.3,SNR=4.9
TXAR LR LR 07 47 09.6
comp=Z,33µm,21.8s,baz=262,slow=30
ZALV Zalesovo Beam 96.54 324 P **P** **07 12 12.6 -1.7**
comp=Z,103nm,0.8s,baz=114,slow=4.6,SNR=42
ZALV PKiKP **PKiKP** **07 16 52.3 +0.8**
comp=Z,2.9nm,0.6s,baz=118,slow=1.4,SNR=2.2
ZALV PKKPbc **PKKPbc** **07 28 59.4 -1.2**
comp=Z,1.5nm,0.5s,baz=316,slow=4.0,SNR=3.4
MAKZ Makanchi 96.57 316 P **P** **07 12 12.4 -2.3**
MAKZ Makanchi 96.57 316 P **P** **07 12 12.6 -2.2**
A36M Sachs Harbour 96.68 17 IAmb IAmb 07 12 17.0
comp=Z,42nm,0.9s
A36M IAMs_20 IAMs_20 07 49 46.1
comp=Z,33µm,22.0s
A36M Sachs Harbour 96.68 17 P **P** **07 12 13.7 -0.9**
baz=245
KUDL Kundal 96.71 297 *e*P **P** **07 12 13.9 -1.9**
SDCO Great Sand Dun 96.72 53 P **P** **07 12 14.8 -1.2**
baz=258
SDCO Great Sand Dun 96.72 53 P **P** **07 12 15.8 -0.2**
baz=258
SMLA Simla 96.77 300 *e*P **P** **07 12 15.1 -0.8**
SMLA IAmb IAmb 07 12 18.6
comp=Z,289nm,1.7s
K22A Casper 97.02 48 P **P** **07 12 13.9 -3.2**
baz=258
K22A Casper 97.02 48 P **P** **07 12 14.7 -2.3**
baz=258
N23A Red Feather La 97.06 50 P **P** **07 12 17.0 -0.5**
baz=258
ISCO Idaho Springs 97.08 51 P Pdif 07 12 17.9 +0.2
baz=258
ISCO Idaho Springs 97.08 51 P Pdif 07 12 18.1 +0.4
baz=258
YKA Yellowknife Ar 97.19 27 P **P** **07 12 14.2 -2.9**
comp=Z,7.9nm,0.7s,baz=256,slow=4.6,SNR=28
YKA PKiKP **PKiKP** **07 16 50.7 -1.8**
comp=Z,2.0nm,0.9s,baz=262,slow=1.3,SNR=12
YKA PKKPbc **PKKPbc** **07 28 55.7 -3.3**
comp=Z,3.9nm,0.8s,baz=67,slow=2.5,SNR=12
YKA PKPPKP 07 37 07.5
comp=Z,0.6nm,0.8s,baz=55,slow=2.1,SNR=5.2
Q24A Divide 97.25 52 P **P** **07 12 17.5 -0.9**
baz=258
T25A Trinidad 97.44 54 P **P** **07 12 18.3 -0.8**
baz=258
SHLS Shalkode 97.51 313 *e*P **P** **07 12 16.2 -3.0**
SHLS *e* 07 16 12.7
SHLS *e*S **SKSac** **07 22 50.7 -3.7**
SHLS *e*PS PS 07 25 04.2 -4.4
SHLS pmax pmax
comp=Z,170nm,3.0s
SHLS Shalkode 97.51 313 *e*P **P** **07 12 16.2 -3.0**
comp=Z,170nm,3.0s,baz=313
SHLS *e*PP **PP** **07 16 12.7 -4.2**
baz=313
SHLS *e*S **SKSac** **07 22 50.7 -3.7**
baz=313
SHLS *e*PS PS 07 25 04.3 -4.4
baz=313
PDGK Podgornoye 97.52 313 P **P** **07 12 17.1 -2.2**
UZB Uzunbulak 97.82 312 *i* P **P** **07 12 18.5 -2.1**
UZB *e* 07 16 16.4
UZB *e*S **SKSac** **07 22 53.3 -2.8**
UZB pmax pmax
comp=Z,152nm,2.9s
UZB Uzunbulak 97.82 312 *i* P **P** **07 12 18.5 -2.1**
comp=Z,152nm,2.9s,baz=312
UZB *e*PP **PP** **07 16 16.5 -2.9**
baz=312
UZB *e*S **SKSac** **07 22 53.3 -2.8**
baz=312
LAO LASA Array 98.08 44 IAMs_20 IAMs_20 07 50 54.8
comp=Z,31µm,20.0s
LAO LASA Array 98.08 44 P **P** **07 12 20.8 -0.8**
baz=258
LAO LASA Array 98.08 44 P **P** **07 12 20.1 -1.5**
baz=258
MSTX Muleshoe 98.11 57 IAmb IAmb 07 16 23.9
comp=Z,82nm,1.4s
MSTX Muleshoe 98.11 57 P **P** **07 12 21.8 -0.3**
baz=259
MSTX Muleshoe 98.11 57 P **P** **07 12 20.3 -1.8**
baz=259
KPKS Kokpek 98.13 313 *e*P **P** **07 12 19.7 -2.2**
KPKS *e*S **SKSac** **07 22 54.6 -2.9**
KPKS pmax pmax
comp=Z,147nm,2.7s
KPKS Kokpek 98.13 313 *e*P **P** **07 12 19.8 -2.2**
comp=Z,147nm,2.7s,baz=313
KPKS *e*S **SKSac** **07 22 54.6 -2.9**
baz=313
SATY Saty 98.24 312 *e*P **P** **07 12 20.8 -1.7**
SATY pmax pmax
comp=Z,113nm,2.6s
SATY Saty 98.24 312 *e*P **P** **07 12 20.9 -1.7**
comp=Z,113nm,2.6s,baz=312
UNM Universidad Na 98.32 72 IAMs_20 IAMs_20 07 51 34.5
comp=Z,35µm,18.0s
TARG Taragay, Kyrgy 98.42 311 IAmb IAmb 07 12 27.1
comp=Z,79nm,1.7s
SEM Semipalatinsk 98.47 320 *e*P **P** **07 12 20.6 -2.9**
SEM pmax pmax
comp=Z,79nm,1.9s
SEM MLR MLR
comp=Z,4µm,18.0s
SEM Semipalatinsk 98.47 320 *e*P **P** **07 12 20.6 -2.9**
comp=Z,79nm,1.9s,baz=320
SEM *e*LR LR 07 57 23.8
comp=Z,4µm,18.0s,baz=320
TDK Taldyqorghan 98.62 314 *e*P **P** **07 12 22.0 -2.0**
TDK *e* 07 16 24.5
TDK *e*S **SKSac** **07 22 57.2 -2.5**
TDK pmax pmax
comp=Z,238nm,2.0s
TDK MLR MLR
comp=Z,9µm,20.0s
TDK Taldyqorghan 98.62 314 *e*P **P** **07 12 22.0 -2.0**
comp=Z,238nm,2.0s,baz=314
TDK *e*PP **PP** **07 16 24.5 -0.8**
baz=314
TDK *e*S **SKSac** **07 22 57.2 -2.5**
baz=314
TDK LR LR 07 55 44.1
comp=Z,9µm,20.5s,baz=314
ARXS Arharly 98.88 313 *e*P **P** **07 12 24.8 -0.5**
RSSD Black Hills 99.09 47 IAMs_20 IAMs_20 07 55 36.9
comp=Z,25µm,19.0s
RSSD Black Hills 99.09 47 P **Pdif** **07 12 24.6 -1.8**
baz=259
RSSD Black Hills 99.09 47 Pdiff **Pdif** **07 12 25.6 -0.8**
baz=259
KSCO Kaye Shedlock' 99.19 52 P **Pdif** **07 12 26.4 -0.5**
baz=259
KSCO Kaye Shedlock' 99.19 52 Pdiff **Pdif** **07 12 25.7 -1.1**
baz=259
MDOK Medeo 99.24 312 *e*P **Pdif** **07 12 24.8 -2.2**
MDOK *e*S **SKSac** **07 22 59.8 -3.4**
MDOK pmax pmax
comp=Z,47nm,1.1s

MDOK MLR MLR
comp=Z,4µm,20.0s
MDOK Medeo 99.24 312 *e*P **Pdif 07 12 24.8 -2.2**
comp=Z,47nm,1.1s,baz=312
MDOK *e*S **SKSac 07 22 59.8 -3.4**
baz=312
MDOK LR LR 07 57 14.2
comp=Z,4µm,19.8s,baz=312
NRIK Noril'sk 99.26 339 P **Pdif 07 12 24.9 -1.3**
comp=Z,71nm,1.0s,baz=101,slow=4.7,SNR=24
NRIK PKKPbc **PKKPbc 07 28 50.6 -2.9**
comp=Z,1.6nm,0.2s,baz=32,slow=2.3,SNR=2.1
NRIK LR LR 07 54 40.2
comp=Z,28µm,21.8s,baz=99,slow=34
NRIK Noril'sk 99.26 339*ce*P **Pdif 07 12 24.7 -1.6**
NRIK pmax pmax
comp=Z,142nm,1.1s
NRIK Noril'sk 99.26 339 IAmb IAmb 07 12 28.6
comp=Z,116nm,1.1s
TNSS Tian-Shan 99.29 312 *e*P **Pdif 07 12 25.1 -2.4**
TNSS pmax pmax
comp=Z,50nm,1.9s
TNSS Tian-Shan 99.29 312 *e*P **Pdif 07 12 25.2 -2.4**
comp=Z,50nm,1.9s,baz=312
AAA Alma-Ata 99.34 312 *e*P **Pdif 07 12 25.6 -1.8**
AAA *e*S **SKSac 07 23 00.2 -3.3**
AAA Alma-Ata 99.34 312 *e*P **Pdif 07 12 25.6 -1.8**
baz=312
AAA *e*S **SKSac 07 23 00.3 -3.3**
baz=312
KSH Kashi 99.38 308 P **Pdif 07 12 30.6 +2.9**
KSH sP sP 07 12 45.6 +4.9
KSH PP **PP 07 16 33.1 +1.8**
KSH SKS **SKSac 07 23 05.3 +1.3**
KSH S **ScS 07 23 56.0 -1.9**
KSH pmax pmax
comp=Z,26nm,1.6s
KSH LR LR
comp=Z,9µm,17.9s
KSH LR LR
comp=Z,8µm,19.9s
KSH LR LR
comp=Z,16µm,18.6s
CHKK Chushkaly 99.41 313 *e*P **Pdif 07 12 24.9 -2.6**
CHKK pmax pmax
comp=Z,41nm,0.8s
CHKK Chushkaly 99.41 313 *e*P **Pdif 07 12 25.0 -2.6**
comp=Z,40nm,0.8s,baz=313
KURK Kurchatov 99.55 320*c i*P **Pdif 07 12 25.4 -2.6**
KURK pmax pmax
comp=Z,81nm,1.4s
KURK Kurchatov 99.55 320 **Pdif 07 12 26.9 -1.1**
KURK IAmb IAmb 07 12 30.3
comp=Z,103nm,1.4s
KURK Kurchatov 99.55 320 IAMs_20 IAMs_20 08 03 15.7
comp=Z,20µm,19.0s
KURK Kurchatov 99.55 320 P **Pdif 07 12 25.6 -2.4**
KURK P **Pdif 07 12 25.6 -2.4**
KURBB Kurchatov Arra 99.59 320 P **Pdif 07 12 26.5 -1.6**
comp=Z,14nm,0.8s,baz=94,slow=5.4,SNR=4.7
KURBB PKiKP **PKiKP 07 16 57.1 0.0**
comp=Z,6.7nm,0.7s,baz=116,slow=1.8,SNR=9.9
KURBB PKKPbc **PKKPbc 07 28 50.6 -1.3**
comp=Z,3.2nm,0.9s,baz=287,slow=3.2,SNR=6.9
ULHL Ulahol 99.66 311 P **Pdif 07 12 31.9 +2.9**
SNR=16
DGMT Dagmar 99.76 42 P **Pdif 07 12 27.8 -1.2**
baz=260
DGMT Dagmar 99.76 42 Pdiff **Pdif 07 12 27.9 -1.2**
baz=260
KUU Kurty 99.88 313 *e*P **Pdif 07 12 27.0 -2.6**
KUU *e* 07 16 32.6
KUU *e*S **SKSac 07 23 02.8 -3.2**
KUU pmax pmax
comp=Z,221nm,2.2s
KUU MLR MLR
comp=Z,6µm,20.0s
KUU Kurty 99.88 313 *e*P **Pdif 07 12 27.1 -2.6**
comp=Z,221nm,2.2s,baz=313
KUU *e*PP **PP 07 16 32.7 -2.2**
baz=313
KUU *e*S **SKSac 07 23 02.9 -3.2**
baz=313
KUU LR LR 07 58 38.6
comp=Z,6µm,19.7s,baz=313
833A Chaparral WMA, 99.88 63 P **Pdif 07 12 31.0 +1.0**
baz=259
833A Chaparral WMA, 99.88 63 Pdiff **Pdif 07 12 29.2 -0.8**
baz=259
JCT Junction City 99.93 61 IAMs_20 IAMs_20 07 49 54.3
comp=Z,36µm,21.0s
JCT Junction City 99.93 61 P **Pdif 07 12 29.0 -1.3**
baz=260
JCT Junction City 99.93 61 Pdiff **Pdif 07 12 29.4 -0.8**
baz=260
OGNE Ogallala 99.98 50 P **Pdif 07 12 29.9 -0.4**
baz=260
OGNE Ogallala 99.98 50 Pdiff **Pdif 07 12 28.9 -1.4**
baz=260
TKM2 Tokmak 2 100.25 312 P **Pdif 07 12 36.3 +4.7**
SNR=8.2
TKM2 Tokmak 2 100.25 312 *i*P **Pdif 07 12 31.9 +0.3**
TKM2 pmax pmax
comp=Z,14nm,1.3s
ABTX Abilene, Hawle 100.44 59 P **Pdif 07 12 31.5 -1.0**
baz=260
ABTX Abilene, Hawle 100.44 59 Pdiff **Pdif 07 12 31.6 -0.8**
baz=260
NIL Nilore 100.50 302 P **Pdif 07 12 31.0 -1.7**
CHMS Chumysh 100.87 312 *i*P **Pdif 07 12 35.3 +1.2**
CHMS pmax pmax
comp=Z,18nm,1.0s
UCH Uchtor 100.92 311 P **Pdif 07 12 38.0 +3.1**
SNR=12
AAK Ala-Archa 101.00 311 P **Pdif 07 12 37.5 +2.6**
SNR=5.2
AAK Ala-Archa 101.00 311 P **Pdif 07 12 35.2 +0.3**
comp=Z,4.4nm,0.8s,baz=91,slow=6.9,SNR=1.9
AAK Ala-Archa 101.00 311 P **Pdif 07 12 31.9 -3.0**
AAK Ala-Archa 101.00 311 *i* Pdiff **Pdif 07 12 34.4 -0.5**
SNR=5.7
SGDS Sogindy 101.03 312 *e*P **Pdif 07 12 33.6 -1.2**
SGDS *e*S **SKSac 07 23 10.2 -1.6**
SGDS pmax pmax
comp=Z,60nm,2.7s
SGDS Sogindy 101.03 312 *e*P **Pdif 07 12 33.6 -1.2**
comp=Z,60nm,2.7s,baz=312
SGDS *e*S **SKSac 07 23 10.3 -1.6**
baz=312
KVTX Kingsville 101.05 64 P **Pdif 07 12 36.6 +1.4**
baz=260
USP Ospenovka 101.09 312 P **Pdif 07 12 37.0 +1.9**
SNR=11
735A Kenedy 101.35 63 P **Pdif 07 12 35.9 -0.6**
baz=260
CBKS Cedar Bluff 101.38 53 P **Pdif 07 12 36.3 -0.2**
baz=261
CBKS Cedar Bluff 101.38 53 Pdiff **Pdif 07 12 33.7 -2.8**
baz=261
WMOK Wichita Mounta 101.50 57 IAMs_20 IAMs_20 07 49 44.6
comp=Z,27µm,21.0s
WMOK Wichita Mounta 101.50 57 P **Pdif 07 12 35.7 -1.4**
baz=261
WMOK Wichita Mounta 101.50 57 Pdiff **Pdif 07 12 34.6 -2.5**
baz=261
AML Almayashu 101.51 311 P **Pdif 07 12 39.4 +1.9**
SNR=10
AML Almayashu 101.51 311 P **Pdif 07 12 35.5 -1.9**
AML Almayashu 101.51 311 *i* Pdiff **Pdif 07 12 37.0 -0.5**
SNR=6.7
U32A Winter Ranch, 101.58 55 P **Pdif 07 12 37.9 +0.4**
baz=261
BTLS Baital 101.68 314 *e*P **Pdif 07 12 35.8 -1.8**
baz=314
E28A Huff 101.81 45 P **Pdif 07 12 38.2 0.0**
baz=262
435B Jarrell 101.86 61 IAMs_20 IAMs_20 07 50 40.5
comp=Z,36µm,21.0s
435B Jarrell 101.86 61 P **Pdif 07 12 38.0 -0.8**
baz=261
435B Jarrell 101.86 61 Pdiff **Pdif 07 12 36.2 -2.5**
baz=261
R32A Long Quarter, 102.11 53 P **Pdif 07 12 38.9 -0.9**
baz=262
WHTX Lake Whitney, 102.16 60 P **Pdif 07 12 39.5 -0.5**
baz=261
WHTX Lake Whitney, 102.16 60 Pdiff **Pdif 07 12 38.3 -1.8**
baz=261
Z35A Perchaven, San 102.54 59 P **Pdif 07 12 39.4 -2.3**
baz=261
K31A O'Neill 102.66 49 P **Pdif 07 12 40.6 -1.4**
baz=263
MDND Maddock 102.71 44 P **Pdif 07 12 38.4 -3.8**
baz=263
MDND Maddock 102.71 44 Pdiff **Pdif 07 12 42.3 +0.2**
baz=263
SUSD Miller 102.74 47 P **Pdif 07 12 37.2 -5.2**
baz=263
SUSD Miller 102.74 47 Pdiff **Pdif 07 12 40.1 -2.3**
baz=263
BGNE Belgrade 102.95 50 P **Pdif 07 12 41.3 -2.1**
baz=263
BGNE Belgrade 102.95 50 Pdiff **Pdif 07 12 42.0 -1.4**
baz=263
BRZS Berezniki 103.21 319*e*P **Pdif 07 12 42.7 -1.6**
BRZS *i* 07 17 02.3
BRZS Berezniki 103.21 319*e*Pdif **Pdif 07 12 42.8 -1.6**
baz=319
BRZS *e*PKiKP **PKiKP 07 17 02.4 -1.3**
baz=319
HKT Hockley 103.23 62 IAMs_20 IAMs_20 07 55 26.7
comp=Z,31µm,19.0s
HKT Hockley 103.23 62 P **Pdif 07 12 43.9 -0.8**
baz=261
OTUK Ortayu 103.25 317 P **Pdif 07 12 42.3 -2.2**
DZA Taraz 103.34 311*e*P **Pdif 07 12 44.4 -0.7**
DZA *i* S **Sdif 07 24 29.6 -1.1**
DZA Taraz 103.34 311*e*Pdif **Pdif 07 12 44.5 -0.7**
baz=311
DZA *i* Sdif Sdif 07 24 29.6 -1.0
baz=311
N33B J Bar K, Exete 103.39 51 P **Pdif 07 12 46.0 +0.7**
baz=263
237A Washetta, Mont 103.55 60 P **Pdif 07 12 47.2 +1.0**
baz=262
T35B Sooner Cattle 103.64 55 P **Pdif 07 12 48.5 +2.0**
baz=263
KSU1 Kansas State U 103.83 53 P **Pdif 07 12 46.6 -0.7**
baz=263
KSU1 Kansas State U 103.83 53 Pdiff **Pdif 07 12 45.6 -1.7**
baz=263
EFI East Falkland 103.89 153 IAMs_20 IAMs_20 07 50 37.1
comp=Z,21µm,22.0s
KK31 Karatay Array 103.97 311*i* P **Pdif 07 12 48.9 +1.0**
PLCA Paso Flores 103.99 139 Pdiff **Pdif 07 12 49.6 +1.4**
comp=Z,2.7nm,1.0s,baz=147,slow=19,SNR=3.4
PLCA PKiKP **PKiKP 07 17 07.1 +1.5**
comp=Z,1.9nm,1.0s,baz=207,slow=13,SNR=1.9
PLCA PKKPbc **PKKPbc 07 28 38.4 -0.2**
comp=Z,4.6nm,1.0s,baz=66,slow=6.9,SNR=4.9
TUL1 Leonard 104.08 56 IAMs_20 IAMs_20 07 52 12.0
comp=Z,37µm,21.0s
TUL1 Leonard 104.08 56 P **Pdif 07 12 46.8 -1.7**
baz=263
TUL1 Leonard 104.08 56 Pdiff **Pdif 07 12 48.8 +0.3**
baz=263
IUG luzhnay 104.21 310*e*P **Pdif 07 12 47.3 -1.8**
IUG *i* 07 17 04.4
IUG luzhnay 104.21 310*e*Pdif **Pdif 07 12 47.4 -1.8**
baz=310
IUG *e*PKiKP **PKiKP 07 17 04.5 -1.5**
baz=310
X37A Clayton 104.26 57 P **Pdif 07 12 46.2 -3.1**
baz=263
L34A Svendsen Farm, 104.33 50 P **Pdif 07 12 50.2 +0.7**
baz=264
ECSD EROS Data Cent 104.34 48 IAMs_20 IAMs_20 07 59 56.9
comp=Z,24µm,18.0s
ECSD EROS Data Cent 104.34 48 P **Pdif 07 12 50.2 +0.7**
baz=264
ECSD EROS Data Cent 104.34 48 Pdiff **Pdif 07 12 48.2 -1.3**
baz=264
D32B Dogwood Acres, 104.38 44 P **Pdif 07 12 49.0 -0.5**
baz=265
Z38A Mt. Pleasant 104.41 59 P **Pdif 07 12 47.3 -2.7**
baz=262
BRLS Boroldoy 104.45 311*e*P **Pdif 07 12 48.5 -1.5**
BRLS *i* 07 17 04.7
BRLS Boroldoy 104.45 311*e*Pdif **Pdif 07 12 48.6 -1.5**
baz=311
BRLS *e*PKiKP **PKiKP 07 17 04.8 -1.4**
baz=311
NATX Nacogdoches 104.48 60 IAMs_20 IAMs_20 07 52 23.9
comp=Z,35µm,21.0s
NATX Nacogdoches 104.48 60 P **Pdif 07 12 50.9 +0.5**
baz=262
NATX Nacogdoches 104.48 60 Pdiff **Pdif 07 12 51.6 +1.2**
baz=262
F33A 5 Mile Ranch, 104.77 46 P **Pdif 07 12 52.1 +0.8**
baz=265
N35A Tabor 104.77 51 P **Pdif 07 12 49.4 -2.1**
baz=264
BVAR Borovoye Array 104.90 322 Pdiff **Pdif 07 12 52.3 +0.6**
BVAR PKiKP **PKiKP 07 17 06.8 +0.2**
BVAR PKKPbc **PKKPbc 07 28 35.6 -0.7**
BRVK Borovoye 104.96 322 P **Pdif 07 12 50.4 -1.6**
BRVK Borovoye 104.96 322 IAMs_20 IAMs_20 07 57 41.8
comp=Z,24µm,22.0s
AGMN Agassiz Nation 105.25 43 IAMs_20 IAMs_20 07 54 25.6
comp=Z,29µm,20.0s
AGMN Agassiz Nation 105.25 43 P **Pdif 07 12 47.0 -6.4**
baz=266
AGMN P **PKiKP 07 17 08.9 +1.4**
baz=266
AGMN Agassiz Nation 105.25 43 PKiKP **PKiKP 07 17 07.4 -0.1**
baz=266
ULM Lac du Bonnet 105.38 41 PKiKP **PKiKP 07 17 08.2 +0.6**
comp=Z,5.3nm,0.8s,baz=313,slow=3.2,SNR=4.6
441A DeRidder 105.60 62 P **Pdif 07 12 54.6 -0.7**
baz=263
HHAR Hobbs 105.62 56 P **Pdif 07 12 54.7 -0.7**
baz=264
W39A Magazine 105.63 57 IAMs_20 IAMs_20 07 52 37.9
comp=Z,32µm,22.0s
W39A Magazine 105.63 57 P **Pdif 07 12 54.7 -0.7**
baz=264
W39A Magazine 105.63 57 PKiKP **PKiKP 07 17 08.1 -0.5**
baz=264
RES Resolute Bay 105.67 16 Pdiff **Pdif 07 12 56.4 +1.8**
RES PKiKP **PKiKP 07 17 06.7 -0.8**
comp=Z,3.4nm,0.7s,baz=90,slow=0.1,SNR=8.1
MIAR Mount Ida 105.72 58 IAMs_20 IAMs_20 07 57 06.5
comp=Z,26µm,19.0s
MIAR Mount Ida 105.72 58 P **Pdif 07 12 57.2 +1.3**
baz=264
MIAR Mount Ida 105.72 58 PKiKP **PKiKP 07 17 09.0 +0.2**
baz=264
Z41A Richland Creek 106.22 59 P **Pdif 07 12 59.9 +1.9**
baz=264
Z41A P **Pdif 07 12 59.9 +1.9**
baz=264
Z41A Richland Creek 106.22 59 PKiKP **PKiKP 07 17 09.9 +0.2**
baz=264
S39A Bolivar 106.25 54 P **Pdif 07 12 55.9 -2.2**
baz=265
P38A Dawn 106.26 52 P **Pdif 07 12 56.7 -1.4**
baz=265
X40A Basin Creek Fa 106.33 58 IAMs_20 IAMs_20 07 57 32.5
comp=Z,26µm,19.0s
X40A Basin Creek Fa 106.33 58 P **Pdif 07 12 49.0 -9.5**
baz=264
X40A P **Pdif 07 12 49.0 -9.5**
baz=264
X40A Basin Creek Fa 106.33 58 PKiKP **PKiKP 07 17 12.8 +2.9**
baz=264
342B Flagon Creek P 106.41 61 P **Pdif 07 12 58.4 -0.5**
baz=263
U40A Yellville 106.50 56 P **Pdif 07 12 59.5 +0.2**
baz=265
U40A P **Pdif 07 12 59.5 +0.2**
baz=265
U40A Yellville 106.50 56 PKiKP **PKiKP 07 17 13.8 +3.6**
baz=265
N38A Joes South For 106.58 51 P **Pdif 07 12 59.7 +0.2**
baz=266
SNET Serv Nac Est T 106.59 80 IAMs_20 IAMs_20 07 50 28.8
comp=Z,24µm,21.0s
SCIA State Center 106.68 50 P **Pdif 07 12 57.1 -2.8**
baz=266
SCIA State Center 106.68 50 Pdiff **Pdif 07 12 58.5 -1.4**
baz=266
I37B Waseca 106.68 48 P **Pdif 07 12 57.5 -2.4**
baz=266
B35A Bob, Littlefor 106.68 43 P **Pdif 07 13 00.8 +1.0**
baz=268
F36A Milaca 106.70 46 P **Pdif 07 12 53.4 -6.5**
baz=267
W41B Gary Mavity, V 106.88 57 P **Pdif 07 12 57.8 -3.1**
baz=265
W41B Gary Mavity, V 106.88 57 PKiKP **PKiKP 07 17 14.5 +3.6**
baz=265
K38A Parkersburg 107.05 49 P **Pdif 07 12 57.8 -3.8**
baz=266
R40A Maddies Statio 107.13 54 P **Pdif 07 13 01.5 -0.5**
baz=266
SPMN Marine on St. 107.17 47 P **Pdif 07 13 02.6 +0.6**
baz=267
SPMN Marine on St. 107.17 47 PKiKP **PKiKP 07 17 12.3 +1.2**
baz=267
143A Socs Landing, 107.33 60 P **Pdif 07 13 04.2 +1.2**
baz=264
P40A Paris 107.39 53 P **Pdif 07 13 05.7 +2.5**
baz=266
344A Westbrook Farm 107.77 61 P **Pdif 07 13 07.8 +2.8**
baz=264
545B Wilberts Farm, 107.83 63 P **Pdif 07 13 07.1 +1.8**
baz=264
LCAR Lake Charles 107.84 56 P **Pdif 07 13 03.9 -1.3**
baz=265
PEL Peldehue 107.89 132 IAMs_20 IAMs_20 07 52 06.9
comp=Z,26µm,22.0s
CCM Cathedral Cave 107.92 54 P **Pdif 07 12 56.6 -8.9**
baz=266
CCM Cathedral Cave 107.92 54 Pdiff **Pdif 07 13 01.9 -3.6**
baz=266
VBMS Vicksburg 108.03 60 IAMs_20 IAMs_20 07 56 34.9
comp=Z,20µm,20.0s
VBMS Vicksburg 108.03 60 P **Pdif 07 13 05.2 -1.0**
baz=264
E38A The Farm, Brul 108.09 45 P **Pdif 07 13 06.6 +0.5**
baz=269
EYMN Ely 108.16 44 IAMs_20 IAMs_20 07 58 05.6
comp=Z,28µm,20.0s
EYMN Ely 108.16 44 P **Pdif 07 13 06.3 -0.1**
baz=269
EYMN Ely 108.16 44 Pdiff **Pdif 07 13 06.2 -0.1**
baz=269
L40A Anamosa 108.17 50 P **Pdif 07 13 03.6 -3.0**
baz=267
N41A Harden Midland 108.38 51 P **Pdif 07 13 00.2 -7.2**
baz=267
PBMO Poplar Bluff 108.48 56 P **Pdif 07 13 07.1 -0.9**
baz=266
TGUH Tegucigalpa,Un 108.52 80 IAMs_20 IAMs_20 07 51 29.1
comp=Z,20µm,22.0s
FVM French Village 108.56 54 P **Pdif 07 13 07.9 -0.5**
baz=266
I40A Norwalk 108.68 48 P **Pdif 07 13 05.9 -2.9**
baz=268
ALE Alert 108.82 6 IAMs_20 IAMs_20 08 03 28.2
comp=Z,19µm,20.0s
346A Big Creek Wild 108.85 61 P **Pdif 07 13 08.5 -1.3**
baz=265
JFWS Jewell Farm 108.92 49 P **Pdif 07 13 05.4 -4.5**
baz=268
JFWS Jewell Farm 108.92 49 Pdiff **Pdif 07 13 08.8 -1.1**
baz=268
Y45A Yeager Farm, C 108.99 59 P **Pdif 07 13 06.9 -3.4**
baz=266
G40A Rib Lake 109.01 47 P **Pdif 07 13 10.8 +0.5**
baz=269
OXF Oxford 109.15 58 IAMs_20 IAMs_20 08 01 32.2
comp=Z,25µm,19.0s
OXF Oxford 109.15 58 P **Pdif 07 13 10.9 -0.1**
baz=266
OXF Oxford 109.15 58 Pdiff **Pdif 07 13 09.8 -1.2**
baz=266
LNXT Lenox 109.19 56 P **Pdif 07 13 10.1 -1.1**
baz=266
146A Union 109.30 60 P **Pdif 07 13 13.5 +1.8**
baz=265
L42A Oliver, Polo 109.33 50 P **Pdif 07 13 13.1 +1.4**
baz=268
P43A Skaggs, Pawnee 109.35 53 P **Pdif 07 13 05.2 -6.6**
baz=268
W45A Hickory Valley 109.38 57 P **Pdif 07 13 11.8 -0.2**
baz=266
S44A Carbondale 109.47 55 P **Pdif 07 13 12.3 -0.1**
baz=267
HDIL Hopedale 109.56 52 P **Pdif 07 13 12.6 -0.1**
baz=268
HDIL Hopedale 109.56 52 Pdiff **Pdif 07 13 11.7 -1.1**
baz=268
Q44A Meyer Farm, Va 109.71 53 P **Pdif 07 13 13.4 -0.1**
baz=268
COWI Conover 109.76 46 IAMs_20 IAMs_20 07 57 15.1
comp=Z,31µm,20.0s
COWI Conover 109.76 46 P **Pdif 07 13 13.9 +0.4**
baz=270
BOAB BOACO BROADBAND 109.77 82 IAMs_20 IAMs_20 07 56 46.3
comp=Z,24µm,19.0s
I42A Draeger Farm, 109.91 48 P **Pdif 07 13 15.1 +0.9**
baz=270
T45B Paducah 109.92 55 P **Pdif 07 13 11.9 -2.5**
baz=266
JTS Las Juntas de 110.05 84 IAMs_20 IAMs_20 07 52 58.7
comp=Z,26µm,20.0s
D41A Chassel 110.15 45 P **Pdif 07 13 13.3 -1.9**
baz=271
Z47A Carrollton 110.17 60 P **Pdif 07 13 18.0 +2.3**
baz=266
O44A Mansfield 110.18 52 P **Pdif 07 13 16.1 +0.6**
baz=268
PLAL Pickwick Lake 110.27 58 IAMs_20 IAMs_20 08 02 26.0
comp=Z,18µm,18.0s
K43A Burlington 110.33 49 P **Pdif 07 13 13.2 -3.0**
baz=270
OLIL Olney 110.42 54 P **Pdif 07 13 18.6 +1.9**
baz=268
F42A Maple Grove Fa 110.46 46 P **Pdif 07 13 18.5 +1.8**
baz=271
M44A Midewin, Midew 110.53 51 P **Pdif 07 13 19.4 +2.4**
baz=269
WVT Waverly 110.53 56 IAMs_20 IAMs_20 08 00 42.7
comp=Z,30µm,18.0s
WVT Waverly 110.53 56 P **Pdif 07 13 18.2 +1.0**
baz=267
WVT Waverly 110.53 56 Pdiff **Pdif 07 13 16.3 -0.9**
baz=267
L44A Lake County Fo 110.63 50 P **Pdif 07 13 18.8 +1.3**
baz=270
L44A Lake County Fo 110.63 50 Pdiff **Pdif 07 13 17.0 -0.5**
baz=270
H43A Windswept, Lux 110.74 48 P **Pdif 07 13 18.5 +0.7**
baz=271
HDC Heredia 110.81 85 IAMs_20 IAMs_20 07 53 05.8
comp=Z,24µm,20.0s
BRAL Brewton 110.89 62 IAMs_20 IAMs_20 07 57 19.6
comp=Z,19µm,21.0s
BRAL Brewton 110.89 62 P **Pdif 07 13 22.6 +3.7**
baz=266
BRAL Brewton 110.89 62 Pdiff **Pdif 07 13 18.7 -0.2**
baz=266
LRAL Lakeview Retre 111.06 60 IAMs_20 IAMs_20 07 56 22.9
comp=Z,26µm,21.0s
LRAL Lakeview Retre 111.06 60 P **Pdif 07 13 19.2 -0.4**
baz=267
LRAL Lakeview Retre 111.06 60 Pdiff **Pdif 07 13 19.5 0.0**
baz=267
X48A Hartselle 111.09 58 P **Pdif 07 13 13.7 -6.0**
baz=267
VOI Vohitsoka 111.12 240 IAMs_20 IAMs_20 07 58 35.5
comp=Z,22µm,20.0s
P46A Rosedale 111.14 53 P **Pdif 07 13 18.5 -1.2**
baz=269
T47A Sharon Grove 111.15 56 P **Pdif 07 13 20.7 +0.8**
baz=268
SFIN Lafayette 111.23 52 P **Pdif 07 13 15.3 -4.9**
baz=269
SFIN Lafayette 111.23 52 Pdiff **Pdif 07 13 19.8 -0.4**
baz=269
E43A Lone Tree Farm 111.24 45 P **Pdif 07 13 21.3 +1.2**
baz=272
V48A Smith Brothers 111.33 57 P **Pdif 07 13 21.5 +0.8**
baz=268
Y49A Blount Mountai 111.59 59 P **Pdif 07 13 22.5 +0.5**
baz=267
250A Grady 111.61 61 P **Pdif 07 13 24.9 +2.9**
baz=267
L46A Eue Claire 111.84 50 P **Pdif 07 13 21.6 -1.3**
baz=271
L46A P **Pdif 07 13 21.6 -1.3**
baz=271

WSAR **Wadi Sarin** 111.84 290 PKiKP **PKiKP** 07 17 22.0 +1.4
comp=Z,4.2nm,0.7s,baz=158,slow=7.7,SNR=2.1
I45A **Fountain** 111.85 48 P **Pdif** 07 13 20.6 -2.2
baz=272
I45A P **Pdif** 07 13 20.6 -2.2
baz=272
ABPO **Ambohimpanom** 111.97 243 IAMs_20 IAMs_20 08 00 03.5
comp=Z,21µm,19.0s
451A **Vernon** 111.97 62 P **Pdif** 07 13 21.8 -1.8
baz=266
OPO **Ambohidratompo** 112.18 243 PKiKP **PKiKP** 07 17 21.6 0.0
comp=Z,11nm,0.7s,baz=115,slow=3.5,SNR=15
U49A **Red Boiling Sp** 112.20 56 P **Pdif** 07 13 27.1 +2.5
baz=269
G45A **Suttons Bay** 112.23 47 P **Pdif** 07 13 21.8 -2.7
baz=272
G45A P **Pdif** 07 13 21.8 -2.7
baz=272
N47A **Urbana** 112.30 51 P **Pdif** 07 13 23.8 -1.1
baz=271
N47A P **Pdif** 07 13 23.8 -1.1
baz=271
P48A **Milroy** 112.51 53 P **Pdif** 07 13 23.3 -2.6
baz=270
P48A P **Pdif** 07 13 23.3 -2.6
baz=270
W50A **Signal Mountai** 112.55 58 P **Pdif** 07 13 27.7 +1.5
baz=268
Z51A **Franklin** 112.60 60 P **Pdif** 07 13 26.7 +0.3
baz=268
AKTO **Aktyubinsk** 112.62 319 Pdiff **Pdif** 07 13 24.9 -1.3
comp=Z,2.6nm,0.7s,baz=61,slow=4.3,SNR=6.4
AKTO PKiKP **PKiKP** 07 17 19.3 -2.0
comp=Z,16nm,0.6s,baz=105,slow=4.5,SNR=14
AKTO SKP 07 20 58.0
comp=Z,6.1nm,0.8s,baz=61,slow=9.9,SNR=2.3
AKTO PKKPbc **PKKPbc** 07 28 14.5 +2.9
comp=Z,1.0nm,0.4s,baz=218,slow=5.0,SNR=3.0
R49A **Shelbyville** 112.71 54 P **Pdif** 07 13 27.4 +0.6
baz=270
R49A P **Pdif** 07 13 27.4 +0.6
baz=270
O48B **Farmland** 112.72 52 P **Pdif** 07 13 23.6 -3.2
baz=271
O48B **Farmland** 112.72 52 Pdiff **Pdif** 07 13 26.5 -0.3
baz=271
352A **Blakely** 112.72 62 P **Pdif** 07 13 28.1 +1.1
baz=267
J47A **Sunmer** 112.90 49 P **Pdif** 07 13 30.1 +2.6
baz=272
J47A P **Pdif** 07 13 30.1 +2.6
baz=272
X51A **Calhoun** 112.90 58 P **Pdif** 07 13 21.7 -6.0
baz=268
X51A P **Pdif** 07 13 21.7 -6.0
baz=268
152A **Waverly Hall** 112.95 60 P **Pdif** 07 13 30.9 +2.9
baz=268
T50A **Nancy** 112.97 56 P **Pdif** 07 13 29.9 +1.9
baz=270
T50A P **Pdif** 07 13 29.9 +1.9
baz=270
GLMI **Grayling** 112.97 47 IAMs_20 IAMs_20 07 58 16.3
comp=Z,29µm,20.0s
GLMI **Grayling** 112.97 47 P **Pdif** 07 13 27.0 -0.9
baz=273
P49A **Miami Univ. Ec** 113.06 53 P **Pdif** 07 13 28.0 -0.3
baz=271
P49A **Miami Univ. Ec** 113.06 53 Pdiff **Pdif** 07 13 28.9 +0.5
baz=271
553A **Crawfordville** 113.08 63 P **Pdif** 07 13 30.4 +1.8
baz=267
E46A **Sault Ste Mari** 113.10 45 P **Pdif** 07 13 30.1 +1.8
baz=274
GEYT **Alibeck** 113.12 305 PKiKP **PKiKP** 07 17 22.0 -0.7
comp=Z,12nm,0.8s,baz=235,slow=4.2,SNR=9.4
L48A **N Adams** 113.23 50 P **Pdif** 07 13 30.7 +1.6
baz=272
L48A P **Pdif** 07 13 30.7 +1.6
baz=272
V51A **Loudon** 113.34 57 P **Pdif** 07 13 31.3 +1.6
baz=269
O49A **Covington** 113.34 52 P **Pdif** 07 13 30.3 +0.7
baz=271
O49A P **Pdif** 07 13 30.3 +0.7
baz=271
R50A **Paris** 113.37 54 P **Pdif** 07 13 31.4 +1.6
baz=270
R50A P **Pdif** 07 13 31.4 +1.6
baz=270
N49A **Columbus Grove** 113.44 51 P **Pdif** 07 13 33.2 +3.2
baz=272
N49A P **Pdif** 07 13 33.2 +3.2
baz=272
Y52A **Lilburn** 113.54 59 P **Pdif** 07 13 22.0 -8.6
baz=269
Y52A P **Pdif** 07 13 22.0 -8.6
baz=269
W52A **Murphy** 113.68 58 P **Pdif** 07 13 31.1 -0.2
baz=269
AAM **Ann Arbor** 113.79 50 P **Pdif** 07 13 31.8 +0.2
baz=273
AAM **Ann Arbor** 113.79 50 Pdiff **Pdif** 07 13 31.3 -0.2
baz=273
TKL **Tuckaleechee C** 113.81 57 P **Pdif** 07 13 31.5 -0.3
baz=270
SOHO **SOHO** 113.84 290 *i* PKPdf **PKiKP** 07 17 23.4 -0.9
SNR=13
TIGA **Tifton** 113.86 62 P **Pdif** 07 13 31.9 -0.2
baz=268
TIGA **Tifton** 113.86 62 Pdiff **Pdif** 07 13 31.5 -0.5
baz=268
V52A **Sevierville** 113.96 57 P **Pdif** 07 13 33.5 +1.1
baz=270
S51A **Beattyville** 113.96 55 P **Pdif** 07 13 30.1 -2.3
baz=270
S51A P **Pdif** 07 13 30.1 -2.3
baz=270
KBS **Kingsbay** 113.98 355 IAMs_20 IAMs_20 08 00 09.2
comp=Z,19µm,22.0s
KBS **Kingsbay** 113.98 355 *e*PKPdf **PKiKP** 07 17 24.6 +1.5
TZTN **Tazewell** 114.00 56 P **Pdif** 07 13 34.0 +1.4
baz=270
TZTN **Tazewell** 114.00 56 Pdiff **Pdif** 07 13 32.9 +0.3
baz=270
GOGA **Godfrey** 114.03 60 IAMs_20 IAMs_20 08 00 32.6
comp=Z,26µm,20.0s
GOGA **Godfrey** 114.03 60 P **Pdif** 07 13 32.7 -0.1
baz=269
GOGA **Godfrey** 114.03 60 Pdiff **Pdif** 07 13 34.6 +1.8
baz=269
OTAV **Otavalo** 114.10 96 IAMs_20 IAMs_20 07 54 31.7
comp=Z,25µm,22.0s
Q51A **Peebles** 114.13 53 P **Pdif** 07 13 33.5 +0.4
baz=271
Q51A P **Pdif** 07 13 33.5 +0.4
baz=271
SPA0 **Spitsbergen Ar** 114.21 354 *e*Pdif **Pdif** 07 13 32.5 -0.1
SPA0 *e*PKPdf PKPdf 07 17 22.4 -1.1
SPA0 *e*PP **PP** 07 18 19.2 +0.3
SPA0 *e*SP SP 07 27 53.9 +2.3
SPA0 IVMs_BB IVMs_BB 08 07 28.3
comp=Z,5µm,18.4s
SPITS **Spitsbergen Ar** 114.21 354 PKP PKPdf 07 17 22.2 -1.3
comp=Z,29nm,0.8s,baz=117,slow=4.8,SNR=17
SPITS SKP 07 21 00.0
comp=Z,5.3nm,0.8s,baz=93,slow=6.2,SNR=1.8
SPITS PKKPbc **PKKPbc** 07 28 04.0 -2.9
comp=Z,14nm,0.9s,baz=190,slow=4.2,SNR=9.9
UOSS **Minazif** 114.22 291 *i* PKPdf PKPdf 07 17 24.2 -0.9
SNR=7.3
HATD **Hatta, Dubai** 114.27 291 *i* PKPdf PKPdf 07 17 24.6 -0.5
SNR=13
M50A **Fremont** 114.29 51 P **Pdif** 07 13 36.5 +2.8
baz=273
M50A P **Pdif** 07 13 36.5 +2.8
baz=273
MSFE **Esma-Masafi** 114.29 292 *i* PKPdf PKPdf 07 17 25.2 0.0
SNR=12
154A **Montrose** 114.31 60 P **Pdif** 07 13 32.5 -1.6
baz=268
I49A **Point Hope** 114.31 48 P **Pdif** 07 13 33.7 -0.1
baz=274
I49A P **Pdif** 07 13 33.7 -0.1
baz=274
ASHO **Ashiyiah** 114.33 291 *i* PKPdf PKPdf 07 17 25.1 -0.2
SNR=15
P51A **Williamsport** 114.34 53 P **Pdif** 07 13 36.0 +1.9
baz=272
P51A P **Pdif** 07 13 36.0 +1.9
baz=272
ACSO **Alum Creek Sta** 114.38 52 P **Pdif** 07 13 30.6 -3.6
baz=272
HOPEN **Hopen** 114.42 351 *e*Pdif **Pdif** 07 13 35.1 +1.6
HOPEN *e*PP **PP** 07 18 19.9 -0.4
HOPEN *e*SP SP 07 27 57.5 +4.0
HOPEN *e*SS **SS** 07 34 20.2 +10
HOPEN IVMs_BB IVMs_BB 08 01 26.8
comp=Z,5µm,23.5s
LVC **Limon Verde** 114.45 123 PKKPbc PKKPbc 07 28 04.8 -0.4
comp=Z,4.6nm,0.8s,baz=14,slow=5.2,SNR=4.4
CASEE **Lake Jocassee** 114.50 58 P **Pdif** 07 13 30.3 -4.5
baz=270
K50A **Casco** 114.53 49 P **Pdif** 07 13 30.9 -3.9
baz=274
K50A P **Pdif** 07 13 30.9 -3.9
baz=274
ALNE **Al Ain** 114.55 290 *i* PKPdf **PKiKP** 07 17 26.1 +0.4
SNR=5.4
V53A **Saluda** 114.59 57 P **Pdif** 07 13 36.4 +1.1
baz=270
V53A P **Pdif** 07 13 36.4 +1.1
baz=270
656A **Willston** 114.68 64 P **Pdif** 07 13 29.8 -6.0
baz=267
NAZ **Nazwa, Dubai** 114.71 291 *i* PKPdf **PKiKP** 07 17 26.9 +1.0
SNR=8.8
N51A **Ashland** 114.81 51 P **Pdif** 07 13 32.8 -3.3
baz=273
N51A P **Pdif** 07 13 32.8 -3.3
baz=273
255A **Hazlehurst** 114.83 61 P **Pdif** 07 13 36.5 +0.2
baz=268
Q52A **Bidwell** 114.97 53 P **Pdif** 07 13 34.0 -2.8
baz=272
Q52A P **Pdif** 07 13 34.0 -2.8
baz=272
ASUD **Al Ashush, Dub** 114.98 291 *i* PKPdf **PKiKP** 07 17 27.1 +0.6
SNR=9.4
456A **Hilliard** 115.18 62 P **Pdif** 07 13 41.8 +3.9
baz=268
R53A **Hurricane** 115.24 54 P **Pdif** 07 13 38.7 +0.6
baz=272
R53A P **Pdif** 07 13 38.7 +0.6
baz=272
O52A **Adamsville** 115.26 52 P **Pdif** 07 13 40.8 +2.7
baz=273
O52A P **Pdif** 07 13 40.8 +2.7
baz=273
HSPB **Hornsund (broa** 115.31 353 *e*Pdif **Pdif** 07 13 37.6 +0.1
HSPB IVmBBB 07 13 41.3
comp=Z,431nm,2.0s
HSPB *e*PKPdf **PKiKP** 07 17 25.0 -0.6
HSPB *e*PP **PP** 07 18 30.6 +4.1
HSPB *e*SP SP 07 28 02.0 +0.4
HSPB *e*SS **SS** 07 34 25.5 +3.9
HSPB IVMs_BB IVMs_BB 08 06 01.8
comp=Z,4µm,17.7s
U54A **Nelsons Funny** 115.39 56 P **Pdif** 07 13 39.3 +0.5
baz=271
U54A P **Pdif** 07 13 39.3 +0.5
baz=271
PAULI **Pauline** 115.41 58 P **Pdif** 07 13 38.6 -0.3
baz=270
M52A **Chesterland** 115.55 51 P **Pdif** 07 13 42.0 +2.6
baz=274
M52A P **Pdif** 07 13 42.0 +2.6
baz=274
HAW **Hawthorne Fire** 115.58 60 P **Pdif** 07 13 38.4 -1.2
baz=270
DWPF **Disney Wildern** 115.59 65 P **Pdif** 07 13 39.4 -0.4
baz=267
P53A **Whipple** 115.64 53 **PKiKP** 07 17 27.4 +0.1
P53A **Whipple** 115.64 53 P **Pdif** 07 13 41.2 +1.4
baz=273
P53A P **Pdif** 07 13 41.2 +1.4
baz=273
S54A **Dingess, Beckl** 115.76 55 P **Pdif** 07 13 33.7 -6.8
baz=272
S54A P **Pdif** 07 13 33.7 -6.8
baz=272
KMSC **Kings Mountain** 115.81 58 P **Pdif** 07 13 44.6 +3.9
baz=271
JSC **Jenkinsville** 115.87 59 P **Pdif** 07 13 41.3 +0.3
baz=270
V55A **Taylorsville** 115.89 57 P **Pdif** 07 13 44.7 +3.7
baz=271
V55A P **Pdif** 07 13 44.7 +3.7
baz=271
061Z **Ochoppi** 115.93 68 P **Pdif** 07 13 43.7 +2.3
baz=266
N53A **Lisbon** 115.98 51 P **Pdif** 07 13 44.9 +3.6
baz=274
N53A P **Pdif** 07 13 44.9 +3.6
baz=274
257A **Skidaway Islan** 116.06 61 P **Pdif** 07 13 43.0 +1.2
baz=269
M53A **WI Miller and** 116.06 51 IAMs_20 IAMs_20 08 00 09.4
comp=Z,28µm,21.0s
Q54A **Coxs Mills** 116.09 53 P **Pdif** 07 13 42.7 +0.9
baz=273
Q54A P **Pdif** 07 13 42.7 +0.9
baz=273
O54A **Avella** 116.37 52 P **Pdif** 07 13 45.0 +1.9
baz=274
O54A P **Pdif** 07 13 45.0 +1.9
baz=274
ALLY **Alegheny Colle** 116.44 50 P **Pdif** 07 13 41.9 -1.5
baz=275
060A **Indiantown** 116.48 67 P **Pdif** 07 13 46.2 +2.4
baz=267
BLA **Blacksburg** 116.49 55 P **Pdif** 07 13 42.0 -1.7
baz=272
ERPA **Erie** 116.52 50 P **Pdif** 07 13 43.0 -0.7
baz=275
BIRD **Birdtown, Kers** 116.53 58 P Pdif 07 13 25.9 -18
baz=271
MZR **Muzera** 116.54 289 *i* PKPdf **PKPdf** 07 17 28.6 -0.9
SNR=9.2
U56A **King** 116.55 56 P **Pdif** 07 13 45.7 +1.7
baz=272
U56A P **Pdif** 07 13 45.7 +1.7
baz=272
Y57A **Sumter** 116.59 59 P **Pdif** 07 13 45.0 +0.8
baz=271
Y57A P **Pdif** 07 13 45.0 +0.8
baz=271
N54A **Moraine State** 116.61 51 P **Pdif** 07 13 42.0 -2.1
baz=274
R55A **Marlinton** 116.68 54 P **Pdif** 07 13 45.9 +1.3
baz=273
R55A P **Pdif** 07 13 45.9 +1.3
baz=273
NHSC **New Hope** 116.78 60 IAMs_20 IAMs_20 08 02 26.5
comp=Z,21µm,20.0s
NHSC **New Hope** 116.78 60 P **Pdif** 07 13 37.0 -8.0
baz=270
M54A **Oil Creek Stat** 116.81 50 IAMs_20 IAMs_20 08 00 21.3
comp=Z,25µm,20.0s
M54A **Oil Creek Stat** 116.81 50 P **Pdif** 07 13 43.1 -2.0
baz=275
MCWV **Mont Chateau** 116.82 53 P **Pdif** 07 13 44.5 -0.6
baz=274
PRGR **Permogore** 116.83 333 *e*PKIKP **PKPdf** 07 17 28.0 -0.9
PRGR pmax pmax
comp=Z,156nm,1.1s
W57A **Gilead** 116.90 58 P **Pdif** 07 13 47.0 +1.5
baz=272
W57A P **Pdif** 07 13 47.0 +1.5
baz=272
BJO1 **Bjornoya** 116.94 351 *e*Pdif **Pdif** 07 13 41.4 -3.4
BJO1 IVmBBB 07 13 43.5
comp=Z,1µm,2.9s
BJO1 *e*PKPdf **PKPdf** 07 17 28.4 -0.4
BJO1 *e*SP SP 07 28 17.4 +1.0
BJO1 IVMs_BB IVMs_BB 08 07 40.4
comp=Z,5µm,17.8s
Y58A **Scranton** 117.20 59 P **Pdif** 07 13 49.9 +3.0
baz=271
Y58A P **Pdif** 07 13 49.9 +3.0
baz=271
DAG **Danmarks Havn** 117.21 1 *i* P **PKPdf** 07 17 25.5 -3.8
DAG IVMs_BB IVMs_BB 08 00 58.4
comp=Z,6µm,25.6s
Q56A **Snyder Ridge,** 117.37 53 P **Pdif** 07 13 49.6 +2.1
baz=274
Q56A P **Pdif** 07 13 49.6 +2.1
baz=274
J54A **Appleton** 117.40 48 P **Pdif** 07 13 37.7 -10
baz=277
J54A P **Pdif** 07 13 37.7 -10
baz=277
T57A **Hurt** 117.43 55 P **Pdif** 07 13 50.8 +2.9
baz=273
T57A P **Pdif** 07 13 50.8 +2.9
baz=273
GARC **Garzon, Huila** 117.45 95 *e*P **PKPdf** 07 17 31.5 -0.4
X58A **Rowland** 117.46 58 P **Pdif** 07 13 46.6 -1.3
baz=272
X58A P **Pdif** 07 13 46.6 -1.3
baz=272
M55A **Ridgway** 117.49 50 P **Pdif** 07 13 50.5 +2.5
baz=276
M55A P **Pdif** 07 13 50.5 +2.5
baz=276
WVNY **West Valley, N** 117.52 49 P **Pdif** 07 13 51.3 +3.1
baz=276
V58A **Windy Hill, Pi** 117.60 57 P **Pdif** 07 13 50.6 +2.0
baz=272
V58A P **Pdif** 07 13 50.6 +2.0
baz=272
S57A **Dark Hollow, R** 117.63 55 P **Pdif** 07 13 48.4 -0.4
baz=274
S57A P **Pdif** 07 13 48.4 -0.4
baz=274
O56A **Blue Knob Stat** 117.75 52 P **Pdif** 07 13 50.7 +1.4
baz=275
NUUG **Nuugaatsiaq** 117.76 13 *i* P **PKPdf** 07 17 30.2 -0.3
CBOC **Ciudad Bolivar** 117.81 91 *e*P **PKiKP** 07 17 32.9 +0.4
Y59A **Loris** 117.86 59 P **Pdif** 07 13 52.6 +2.8
baz=272
Y59A P **Pdif** 07 13 52.6 +2.8
baz=272
LPAZ **La Paz** 117.98 117 PKP **PKPdf** 07 17 31.7 -1.6
comp=Z,1.8nm,0.5s,baz=30,slow=7.1,SNR=15
LPAZ PKKPbc **PKKPbc** 07 27 51.5 -1.4
comp=Z,4.9nm,0.8s,baz=359,slow=3.0,SNR=9.5
J55A **Hilton** 118.00 48 P **Pdif** 07 13 50.1 -0.1
baz=277
J55A P **Pdif** 07 13 50.1 -0.1
baz=277
LVZ **Lovozero** 118.00 341 PKIKP **PKPdf** 07 17 30.7 -0.4
LVZ MLR MLR
comp=Z,37µm,22.0s
LVZ **Lovozero** 118.00 341 PKPdf **PKPdf** 07 17 30.7 -0.4
SSPA **Standing Stone** 118.23 51 P **Pdif** 07 13 36.1 -15
baz=276
P57A **Homestead Farm** 118.24 53 P **Pdif** 07 13 53.3 +2.0
baz=275
P57A P **Pdif** 07 13 53.3 +2.0
baz=275
L56A **Greenwood** 118.32 50 P **Pdif** 07 13 52.4 +0.7
baz=277
L56A P **Pdif** 07 13 52.4 +0.7
baz=277
Y60A **Bolivia** 118.40 59 P **Pdif** 07 13 58.6 +6.4
baz=272
Y60A P **Pdif** 07 13 58.6 +6.4
baz=272
R58B **Mineral** 118.47 54 P **Pdif** 07 13 53.1 +0.7
baz=274
R58B P **Pdif** 07 13 53.1 +0.7
baz=274
APA **Apatity** 118.58 341 *i* PKIKP **PKPdf** 07 17 31.9 -0.2
APA *i* 07 24 20.0
APA *i* PS **PS** 07 28 35.0 -1.8
APA *i* PPS PPS 07 29 53.0
APA pmax pmax
comp=Z,80nm,1.0s
APA MLR MLR
comp=Z,36µm,21.0s
CNNC **Cliffs of the** 118.62 57 P **Pdif** 07 13 55.8 +2.7
baz=273
U59A **Littleton** 118.64 56 P **Pdif** 07 13 58.2 +4.9
baz=273
U59A P **Pdif** 07 13 58.2 +4.9
baz=273
BELG **Belogornoye** 118.68 322 PKP **PKPdf** 07 17 30.7 -2.0
comp=Z,173nm,0.8s,baz=161,slow=1.8,SNR=18
BELG SKP 07 21 11.6
comp=Z,65nm,0.9s,baz=143,slow=1.9,SNR=5.1
BELG **Belogornoye** 118.68 322 *i* PKIKP **PKPdf** 07 17 31.0 -1.8
J56A **Wolcott** 118.69 48 P **Pdif** 07 13 55.5 +2.3
baz=278
J56A P **Pdif** 07 13 55.5 +2.3
baz=278
M57A **Sunshine Farm,** 118.73 50 P **Pdif** 07 14 00.4 +6.9
baz=277
M57A P **Pdif** 07 14 00.4 +6.9
baz=277
T59A **Double "B" Far** 118.79 55 P **Pdif** 07 13 57.5 +3.6
baz=274
T59A P **Pdif** 07 13 57.5 +3.6
baz=274
CBN **Corbin Frederi** 118.85 54 P **Pdif** 07 13 58.1 +4.0
baz=275
KEV **Kevo** 118.94 345 IAMs_20 IAMs_20 08 06 18.8
comp=Z,25µm,22.0s
K57A **Scipio Center** 119.01 49 P **Pdif** 07 13 57.5 +2.8
baz=278
HAMF **Hammerfest** 119.08 347 *e*Pdif **Pdif** 07 13 56.9 +2.5
HAMF *e*PKPdf **PKiKP** 07 17 33.9 +0.8
HAMF *e*PP **PP** 07 18 51.4 -1.6
HAMF *e*SP SP 07 28 37.9 +2.0
HAMF IVMs_BB IVMs_BB 08 06 43.8
comp=Z,6µm,21.5s
N58A **Sunbury** 119.10 51 P **Pdif** 07 13 55.0 -0.2
baz=277
N58A P **Pdif** 07 13 55.0 -0.2
baz=277
SDMD **Soldier's Deli** 119.15 53 P **Pdif** 07 13 54.5 -0.9
baz=276
ROSC **El Rosal** 119.22 92 PKP **PKPdf** 07 17 35.0 -0.5
comp=Z,8.1nm,0.5s,baz=129,slow=8.2,SNR=5.6
T60A **Surry** 119.44 55 P **Pdif** 07 13 58.4 +1.6
baz=274
T60A P **Pdif** 07 13 58.4 +1.6
baz=274
WCNY **West Carthage** 119.45 47 P **Pdif** 07 13 55.6 -1.0
baz=279
ARA0 **ARCESS Array S** 119.47 345 *e*Pdif **Pdif** 07 13 57.8 +1.6
ARA0 IVmB_BB 07 13 59.0
comp=Z,643nm,2.9s
ARA0 *e*PKPdf **PKPdf** 07 17 31.9 -2.0
ARA0 *e*PP **PP** 07 18 56.0 +0.3
ARA0 *e*SP SP 07 28 36.9 -2.6
ARA0 IVMs_BB IVMs_BB 08 17 42.2
comp=Z,5µm,16.2s
ARCES **ARCESS Array B** 119.47 345 PKhKP PKPpre 07 17 30.7
comp=Z,68nm,0.7s,baz=77,slow=1.9,SNR=49
ARCES SKP 07 21 09.9
comp=Z,6.6nm,0.8s,baz=2.4,slow=2.2,SNR=3.7
ARCES PKKPbc **PKKPab** 07 27 46.0 -0.9
comp=Z,1.5nm,0.7s,baz=129,slow=1.7,SNR=3.9
BINY **Binghamton** 119.47 49 P **Pdif** 07 13 59.2 +2.4
baz=278
DBG **Daneborg** 119.63 2 *i* P **PKPdf** 07 17 33.2 -0.8
DBG IVMs_BB IVMs_BB 08 02 27.5
comp=Z,8µm,23.8s
V61A **Roper** 119.66 57 P **Pdif** 07 13 59.6 +1.9
baz=274
V61A P **Pdif** 07 13 59.6 +1.9
baz=274
ITQB **Itaqui** 119.69 137 PKPdf **PKPdf** 07 17 35.3 -0.2
KSPA **Keystone Colle** 119.72 50 P **Pdif** 07 14 02.3 +4.4
baz=278
CHIC **Chingaza** 119.75 93 *e*P **PKPdf** 07 17 35.7 -0.8
N59A **State Game Lan** 119.80 51 IAMs_20 IAMs_20 08 05 33.3
comp=Z,26µm,20.0s
N59A **State Game Lan** 119.80 51 P **Pdif** 07 14 00.8 +2.4
baz=277
J58A **Remsen** 119.81 48 P **Pdif** 07 14 00.1 +1.8
baz=279
J58A P **Pdif** 07 14 00.1 +1.8
baz=279
KLMR **Klimovskoe** 119.85 333 *e*PKIKP **PKPdf** 07 17 34.0 -0.8
KLMR *e* 07 18 56.6
KLMR *e*PS **SP** 07 28 41.3 -2.0
KLMR *e*SS **SS** 07 35 20.0 -1.2
KLMR pmax pmax
comp=Z,252nm,1.2s
KLMR MLR MLR
comp=Z,18µm,22.0s

KLMR Klimovskoe 119.85 333 ePKPdf PKPdf 07 17 34.0 -0.8
KLMR AMP 07 17 40.3
comp=Z,252nm,1.2s
KLMR ePP PP 07 18 56.7 -1.8
KLMR eSKP 07 21 12.0
KLMR ePKKPbc PKKPab 07 27 44.1 -1.3
KLMR ePKKP PKKPdf 07 28 17.2 -1.2
KLMR ePS SP 07 28 41.4 -1.9
KLMR ePS SP 07 28 41.4 -1.9
KLMR eSKKPbc SKKPbc 07 31 27.8 -5.8
KLMR eSS SS 07 35 20.0 -1.2
KLMR eSS SS 07 35 20.0 -1.2
KLMR LQ LQ 07 57 50.5
KLMR LQ LQ 07 57 50.5
KLMR LR LR 08 04 39.1
KLMR AMP 08 06 53.5
comp=Z,18µm,22.2s
ILULI Ilulissat 119.93 15 IAMs_20 IAMs_20 08 09 18.4
comp=Z,20µm,20.0s
ILULI Ilulissat 119.93 15 i P PKPdf 07 17 33.2 -1.5
GEDE Greenville 120.03 52 P Pdif 07 14 06.0 +6.7
baz=277
LONY Lake Ozonia 120.10 46 IAMs_20 IAMs_20 08 03 18.8
comp=Z,19µm,21.0s
BMNY Brushton-Moira 120.11 46 P Pdif 07 14 00.3 +0.7
baz=280
L59A Walton 120.17 49 P Pdif 07 14 01.8 +1.8
baz=279
L59A P Pdif 07 14 01.8 +1.8
baz=279
S61A Accomac 120.23 54 P Pdif 07 14 03.5 +3.2
baz=276
S61A P Pdif 07 14 03.5 +3.2
baz=276
PLTB Pedras Altas 120.25 140 PKiKP 07 17 36.7 0.0
PLTB Pedras Altas 120.25 140 eP PKiKP 07 17 37.2 +0.6
TUPA Temple Univers 120.33 52 P Pdif 07 13 50.3 -10
baz=277
J59A Piesco 120.36 48 P Pdif 07 14 00.8 0.0
baz=280
J59A P Pdif 07 14 00.8 0.0
baz=280
MIDE Milford 120.38 53 P Pdif 07 13 57.8 -3.1
baz=276
KTK1 Kautokeino 120.41 346 ePdif Pdif 07 14 00.8 +0.4
KTK1 e 07 17 32.6
KTK1 ePKPdf PKiKP 07 17 36.8 +1.1
KTK1 ePP PP 07 19 02.6 +0.6
KTK1 eSP SP 07 28 48.4 +0.6
KTK1 eSS SS 07 35 27.5 -0.4
KTK1 IVMs_BB IVMs_BB 08 11 52.6
comp=Z,5µm,21.1s
R61A Willards 120.43 54 P Pdif 07 14 01.6 +0.4
baz=276
R61A P Pdif 07 14 01.6 +0.4
baz=276
NCB Newcomb 120.47 47 PKPdf 07 17 35.7 -0.8
NCB Newcomb 120.47 47 P Pdif 07 13 59.3 -1.9
baz=280
HCNY Howe Caverns 120.56 49 P Pdif 07 14 04.6 +3.0
baz=279
JETT Jettan, Norway 120.64 347 ePKPdf PKPdf 07 17 35.0 -1.2
JETT eSP SP 07 28 52.2 +2.2
ODNJ Ogdensburg 120.65 50 P Pdif 07 14 03.4 +1.4
baz=278
PANJ Princeton 120.67 51 P Pdif 07 14 05.7 +3.6
baz=278
P61A Hammonton 120.70 52 P Pdif 07 13 56.0 -6.2
baz=277
P61A P Pdif 07 13 56.0 -6.2
baz=277
BRNJ Basking Ridge 120.74 51 P Pdif 07 14 03.2 +0.8
baz=278
FRNY Flat Rock 120.76 46 P Pdif 07 14 02.6 +0.1
baz=281
MAK Makhachkala 120.78 312 eP Pdif 07 14 03.7 +1.2
MAK i 07 17 35.8
MAK e 07 19 02.4
MAK ePPP PPP 07 21 37.8
MAK e 07 24 34.7
MAK ePS SP 07 28 45.1 -7.8
MAK eSS SKKSdf 07 35 28.7 +2.1
MAK pmax pmax
comp=Z,232nm,0.9s
NPNY Mohonk Preserv 120.89 50 P Pdif 07 14 06.6 +3.5
baz=279
TRO Tromso 120.90 347 ePdif Pdif 07 14 01.1 -1.4
TRO ePKPdf PKPdf 07 17 34.9 -1.6
TRO ePP PP 07 19 02.8 -2.6
TRO eSP SP 07 28 53.9 +1.8
TRO eSS SS 07 35 40.7 +6.7
TRO IVMs_BB IVMs_BB 08 15 13.1
comp=Z,6µm,19.5s
TBTG Tabatinga, AM 120.98 104 eP PKiKP 07 17 39.1 +0.6
BRNY Black Rk. Fore 121.04 50 P Pdif 07 13 59.5 -4.3
baz=279
PAL Palisades 121.18 50 P Pdif 07 14 00.3 -4.1
baz=279
FOR Fordham 121.22 51 P Pdif 07 14 05.8 +1.3
baz=279
CPSB Cacapava Do Su 121.27 139 eP PKiKP 07 17 39.4 +0.7
CPUP Villa Florida 121.29 133 PKP PKPdf 07 17 36.3 -2.4
comp=Z,11nm,1.0s,baz=263,slow=2.0,SNR=9.6
CPUP SKP 07 21 17.2
comp=Z,6.9nm,1.0s,baz=317,slow=1.3,SNR=4.1
CPUP PKKPbc PKKPbc 07 27 39.2 -1.0
comp=Z,9.2nm,0.9s,baz=52,slow=3.0,SNR=13
CPUP Villa Florida 121.29 133 eP PKiKP 07 17 38.8 0.0
MCVT Middlebury Col 121.35 47 P Pdif 07 14 02.2 -2.9
baz=281
N62A Caumsett State 121.52 50 P Pdif 07 14 12.0 +6.0
baz=279
N62A P Pdif 07 14 12.0 +6.0
baz=279
SFJD Kangerlussuaq 121.67 16 PKKPbc PKKPbc 07 27 37.2 -2.5
comp=Z,8.3nm,0.8s,baz=109,slow=4.9,SNR=4.0
SFJD Kangerlussuaq 121.67 16 IAMs_20 IAMs_20 08 09 39.5
comp=Z,27µm,20.0s
SFJD Kangerlussuaq 121.67 16 i P PKPdf 07 17 36.5 -1.6
J61A Chester 121.78 48 P Pdif 07 14 08.6 +1.6
baz=281
J61A P Pdif 07 14 08.6 +1.6
baz=281
L61B Northampton 121.85 49 P Pdif 07 13 54.1 -13
baz=280
GROC Groznyy 121.97 312 i PKIKP PKPdf 07 17 39.2 -0.2
GROC e 07 19 14.5
GROC e 07 24 37.4
GROC ePS SP 07 29 05.8 +2.3
GROC pmax pmax
comp=Z,116nm,1.0s
SCHQ Schefferville 122.02 33 PKP PKPdf 07 17 36.8 -2.4
comp=Z,7.3nm,0.7s,baz=306,slow=2.4,SNR=6.0
SCHQ PKKPbc PKKPab 07 27 36.6 +0.4
comp=Z,5.2nm,0.5s,baz=57,slow=3.2,SNR=7.9
SCHQ Schefferville 122.02 33 PKPdf PKPdf 07 17 38.1 -1.1
LBNH Lisbon 122.04 46 IAMs_20 IAMs_20 08 07 10.1
comp=Z,18µm,20.0s
LBNH Lisbon 122.04 46 P Pdif 07 14 00.9 -7.3
baz=282
K62A Royalston 122.14 48 P Pdif 07 14 10.0 +1.4
baz=281
K62A P Pdif 07 14 10.0 +1.4
baz=281
ETMB Extrema 122.37 111 eP PKiKP 07 17 41.8 +0.6
M63A Gales Ferry 122.50 50 P Pdif 07 14 11.0 +0.8
baz=280
M63A P Pdif 07 14 11.0 +0.8
baz=280
H62A Milan 122.51 46 P Pdif 07 14 11.7 +1.5
baz=283
H62A P Pdif 07 14 11.7 +1.5
baz=283
I62A Tamworth 122.53 47 P Pdif 07 14 12.1 +1.7
baz=282
I62A P Pdif 07 14 12.1 +1.7
baz=282
MOPA Mopani 122.54 230 i P PKPdf 07 17 39.6 -1.5
MOPA Mopani 122.54 230 i P PKPdf 07 17 39.6 -1.5
VRH Novokhopyorsk 122.54 322 i PKIKP PKPdf 07 17 37.6 -2.6
VRH e 07 19 14.7
VRH ePS PS 07 29 08.3 -4.5
VRH pmax pmax
comp=Z,130nm,0.7s
HRV Adam Dziewonsk 122.66 48 P Pdif 07 14 16.4 +5.5
baz=281
G62A West of Eustis 122.79 45 P Pdif 07 14 10.8 -0.7
baz=284
G62A P Pdif 07 14 10.8 -0.7
baz=284
F62A Pittston Farm, 123.01 44 P Pdif 07 14 17.1 +4.6
baz=285
F62A P Pdif 07 14 17.1 +4.6
baz=285
JMIC Jan Mayen 123.02 358 ePKPdf PKPdf 07 17 39.2 -1.4
JMIC ePS PS 07 29 17.0 +0.8
I63A Otisfield 123.03 46 P Pdif 07 14 15.5 +3.0
baz=283
I63A P Pdif 07 14 15.5 +3.0
baz=283
UNH University of 123.04 48 P Pdif 07 14 16.1 +3.5
baz=282
MOS Moscow 123.04 328 i PKIKP PKPdf 07 17 40.9 -0.1
MOS e 07 19 19.8
MOS e 07 24 47.0
MOS ePS PKKPdf 07 29 05.9 +54
MOS ePPS PPS 07 30 43.0
MOS pmax pmax
comp=Z,187nm,1.0s
STEI Steigen 123.07 348 ePdif Pdif 07 14 14.6 +2.4
STEI e 07 17 38.8
STEI ePKPdf PKiKP 07 17 41.7 +0.7
STEI ePP PP 07 19 18.7 -1.4
STEI eSP SP 07 29 16.1 +4.7
STEI IVMs_BB IVMs_BB 08 04 42.2
comp=Z,4µm,25.1s
VALR Valaam 123.16 336 i PKIKP PKPdf 07 17 40.1 -1.0
VALR MLR MLR
comp=Z,16µm,21.0s
DY2G Dye2 123.21 15 i P PKPdf 07 17 38.5 -2.9
LOF Lofoten 123.24 348 ePdif Pdif 07 14 11.2 -1.8
LOF ePKPdf PKiKP 07 17 41.7 +0.4
LOF ePP PP 07 19 20.9 -0.4
LOF eSP SP 07 29 13.7 +0.8
L64A Middleborough 123.29 49 P Pdif 07 14 18.2 +4.4
baz=282
L64A P Pdif 07 14 18.2 +4.4
baz=282
D62A Allapoint, All 123.30 43 P Pdif 07 14 21.9 +8.2
baz=286
D62A P Pdif 07 14 21.9 +8.2
baz=286
GNI Garni 123.30 309 PKP PKPdf 07 17 42.5 +0.2
comp=Z,43nm,0.7s,baz=173,slow=0.3,SNR=24
GNI Garni 123.30 309 PKPdf PKPdf 07 17 41.7 -0.7
SCO Scoresbysund 123.34 3 IAMs_20 IAMs_20 08 10 18.6
comp=Z,20µm,19.0s
SCO Scoresbysund 123.34 3 i P PKPdf 07 17 39.5 -1.7
SCO IVMs_BB IVMs_BB 08 09 56.2
comp=Z,9µm,20.8s
ZEI Tsey 123.41 312 i PKIKP PKPdf 07 17 41.3 -1.2
ZEI pmax pmax
comp=Z,116nm,1.3s
SUR Sutherland 123.47 215 PKP PKiKP 07 17 43.5 +0.2
comp=Z,49nm,1.0s
SUR Sutherland 123.47 215 IAMs_20 IAMs_20 08 01 13.3
comp=Z,22µm,21.0s
GOF Gofitskoye 123.49 315⇑i PKIKP PKiKP 07 17 43.9 +1.4
GOF pmax pmax
comp=Z,134nm,1.0s
FAUS Fauske 123.52 347 ePdif Pdif 07 14 14.0 -0.2
FAUS ePKPdf PKPdf 07 17 39.4 -2.2
FAUS ePP PP 07 19 21.6 -1.5
FAUS eSP SP 07 29 16.6 +1.2
FAUS eSS SS 07 36 10.4 +3.0
FAUS IVMs_BB IVMs_BB 08 06 10.1
comp=Z,5µm,20.3s
BOSA Boshof 123.55 221 PKP PKiKP 07 17 43.7 +0.4
comp=Z,40nm,0.9s,baz=112,slow=2.2,SNR=25
BOSA Boshof 123.55 221 PKIKP PKPdf 07 17 42.3 -0.8
BOSA Boshof 123.55 221 PKPdf PKPdf 07 17 42.3 -0.8
BOSA Boshof 123.55 221 i P PKPdf 07 17 41.7 -1.4
BOSA Boshof 123.55 221 i P PKPdf 07 17 41.7 -1.4
WVL Waterville 123.55 46 P Pdif 07 14 19.9 +5.1
baz=284
PKME Peaks-Kenny Pk 123.63 45 PKPdf 07 17 42.7 +0.2
PKME IAMs_20 IAMs_20 08 11 35.9
comp=Z,22µm,19.0s
PKME Peaks-Kenny Pk 123.63 45 P Pdif 07 14 14.5 -0.6
baz=285
F63A Nahmakanta, Br 123.64 44 P Pdif 07 14 17.7 +2.5
baz=285
F63A P Pdif 07 14 17.7 +2.5
baz=285
LPSR Galich'ya Gora 123.64 325 i PKIKP PKPdf 07 17 41.1 -1.2
LPSR pmax pmax
comp=Z,380nm,1.2s
SDV Santo Domingo 123.65 89 PKKPbc PKKPbc 07 27 31.3 +0.4
comp=Z,2.5nm,0.7s,baz=30,slow=3.6,SNR=4.6
SDV Santo Domingo 123.65 89 PKPdf PKPdf 07 17 41.8 -1.9
SDV Santo Domingo 123.65 89 IAMs_20 IAMs_20 08 01 26.1
comp=Z,21µm,20.0s
SDV Santo Domingo 123.65 89 eP PKPdf 07 17 43.7 0.0
VORR Voronezh 123.84 324 ePKIKP PKPdf 07 17 41.9 -0.8
VORR pmax pmax
comp=Z,618nm,1.2s
OBN Obninsk 123.86 328 ⇑P PKiKP 07 17 45.0 +2.1
OBN Obninsk 123.86 328 PKP PKiKP 07 17 43.2 +0.3
comp=Z,32nm,0.7s,baz=14,slow=0.8,SNR=22
OBN Obninsk 123.86 328⇑i PKIKP PKiKP 07 17 43.1 +0.3
OBN i 07 19 27.2
OBN 07 24 55.0
OBN i PS PS 07 29 11.1 -13
OBN i PPS PPS 07 30 49.3
OBN i SS SS 07 36 12.7 +0.1
OBN i SSS SSS 07 40 46.0
OBN pmax pmax
comp=Z,132nm,1.0s
OBN Obninsk 123.86 328 PKPdf PKiKP 07 17 43.6 +0.7
OBN IAMs_20 IAMs_20 08 14 09.1
comp=Z,20µm,20.0s
RAYN Ar Rayn 123.89 289 PKIKP PKPdf 07 17 42.4 -1.4
RAYN Ar Rayn 123.89 289 PKPdf PKPdf 07 17 42.4 -1.4
RAYN Ar Rayn 123.89 289 i PKPdf PKPdf 07 17 42.9 -0.9
SNR=25
E63A Oxbow 123.90 43 P Pdif 07 14 19.2 +2.9
baz=286
E63A P Pdif 07 14 19.2 +2.9
baz=286
KBZ Khabaz 123.91 313 PKP PKiKP 07 17 44.5 +1.1
comp=Z,24nm,0.8s,baz=116,slow=2.7,SNR=29
KBZ Khabaz 123.91 313 i PKIKP PKiKP 07 17 43.5 +0.1
AKH Akhalkalaki 124.00 311 ⇑P PKiKP 07 17 45.3 +1.4
KVAR Kislovodsk Arr 124.00 314 PKP PKiKP 07 17 45.2 +1.5
comp=Z,12nm,0.7s,baz=86,slow=22,SNR=13
KIV Kislovodsk 124.01 314 ⇑P PKiKP 07 17 46.2 +2.5
KIV Kislovodsk 124.01 314 i P Pdif 07 14 15.8 -1.3
KIV i 07 17 42.1
KIV e 07 19 26.4
KIV ePS PS 07 29 24.9 -1.5
KIV eSS SS 07 36 15.6 -0.1
KIV pmax pmax
comp=Z,94nm,1.1s
KIV Kislovodsk 124.01 314 i PKPdf PKPdf 07 17 42.8 -0.6
SNR=14
VSR Storozhevoye 124.04 323 i PKIKP PKPdf 07 17 40.4 -2.7
VSR e 07 19 24.2
VSR pmax pmax
comp=Z,120nm,0.8s
VORD Divnogorie 124.06 323 ePKIKP PKPdf 07 17 40.5 -2.6
VORD pmax pmax
comp=Z,90nm,0.8s
F64A Sherman 124.11 44 P Pdif 07 14 18.1 +0.8
baz=286
F64A P Pdif 07 14 18.1 +0.8
baz=286
SIV San Ignacio 124.11 121 PKKPbc PKKPbc 07 27 28.5 -0.7
comp=Z,6.6nm,1.1s,baz=70,slow=5.9,SNR=8.7
NEY Neytrino 124.15 313 i PKIKP PKPdf 07 17 43.2 -0.7
ITAB Concordia 124.26 137 eP PKiKP 07 17 45.6 +0.9
PUL Pulkovo 124.32 335 i PKIKP PKPdf 07 17 42.6 -0.8
SDDR Presa de Saban 124.36 76 IAMs_20 IAMs_20 08 01 48.5
comp=Z,15µm,22.0s
MOR8 Moi Rana 124.72 347 ePdif Pdif 07 14 20.3 +0.7
MOR8 IVmB_BB 07 14 21.6
comp=Z,401nm,2.8s
MOR8 e 07 17 41.8
MOR8 ePKPdf PKiKP 07 17 44.3 -0.1
MOR8 ePP PP 07 19 31.2 0.0
MOR8 eSP SP 07 29 29.5 +3.6
MOR8 eSS SS 07 36 21.1 -1.5
MOR8 IVMs_BB IVMs_BB 08 05 52.7
comp=Z,5µm,24.9s
KONS Konsvik 124.73 347 ePKPdf PKPdf 07 17 41.6 -2.3
G65A Princeton 124.82 44 P Pdif 07 14 21.6 +1.1
baz=286
G65A P Pdif 07 14 21.6 +1.1
baz=286
STOK Stokkvaagen 124.89 347 ePKPdf PKiKP 07 17 45.9 +1.3
FINES FINESS Array B 124.91 338 PKP PKPdf 07 17 43.1 -1.4
comp=Z,71nm,0.8s,baz=101,slow=2.4,SNR=43
EMMW East Machias 125.03 45 P Pdif 07 14 12.6 -8.8
baz=286
TER01 Tubaro-SC 125.27 141 eP PKiKP 07 17 47.2 +0.6
BATM Batumi 125.27 311 ⇑P PKiKP 07 17 46.8 +0.6
BATM Batumi 125.27 311 ⇑PKIKP PKiKP 07 17 46.8 +0.6
ATD Arta Tunnel 125.33 274 PKP PKiKP 07 17 48.1 +1.0
comp=Z,51nm,0.9s,baz=67,slow=2.2,SNR=3.6
ATD Arta Tunnel 125.33 274⇓eP PKiKP 07 17 47.3 +0.2
ISOG Isortoq, Green 125.69 13 i P PKPdf 07 17 43.1 -2.7
LBTB Lobatse 125.74 225 PKIKP PKPdf 07 17 46.2 -1.2
LBTB Lobatse 125.74 225 PKPdf PKPdf 07 17 46.1 -1.2
LBTB Lobatse 125.74 225 i P PKPdf 07 17 46.4 -1.0
LBTB Lobatse 125.74 225 i P PKPdf 07 17 46.4 -1.0
ANGG Ammassalik, Gr 125.91 12 PKPdf 07 17 45.8 -0.5
ANGG Ammassalik, Gr 125.91 12 i P PKPdf 07 17 44.5 -1.8
PTGB Pitanga 125.98 135 eP PKPdf 07 17 48.0 +0.2
AQDB Aquidauana 125.99 129 PKPdf PKPdf 07 17 45.9 -2.0
AQDB Aquidauana 125.99 129 eP PKPdf 07 17 47.5 -0.4
PTLB Pontes e Lacer 126.00 121 eP PKPdf 07 17 46.4 -1.5
SOC Sochi 126.18 314 i PKIKP PKPdf 07 17 45.2 -2.3
SOC e 07 19 39.5
SOC ePPP PPP 07 22 20.6
SOC e 07 24 48.2
SOC ePS PS 07 29 43.4 -1.9
SOC eSSS SSS 07 41 22.4
SOC pmax pmax
comp=Z,84nm,1.3s
SOC MLR MLR
comp=Z,10µm,22.0s
VILB Vilhena 126.32 118 eP PKPdf 07 17 48.3 -0.4
MEF Metsahovi 126.34 338 eP PKiKP 07 17 49.1 +1.4
MATP Matopo 126.53 231 i P PKPdf 07 17 47.9 -1.2
MATP Matopo 126.53 231 i P PKPdf 07 17 47.9 -1.2
VSU Vasula 126.58 335 i PKIKP PKPdf 07 17 46.7 -1.0
VSU MLR MLR
comp=Z,40µm,21.0s
VSU Vasula 126.58 335 eP PKPdf 07 17 46.9 -0.8
KIBK Kibwezi 126.61 256 PKPdf PKPdf 07 17 48.2 -1.1
BLWY Bulawayo 126.61 231 i P PKPdf 07 17 47.9 -1.3
BLWY Bulawayo 126.61 231 i P PKPdf 07 17 47.9 -1.3
IVI Ivigtut 126.61 20 PKPdf 07 17 47.7 0.0
IVI Ivigtut 126.61 20 i P PKPdf 07 17 46.1 -1.6
NSS Namsos 126.67 347 ePKPdf PKPdf 07 17 48.0 +0.3
NSS ePP PP 07 19 44.5 +0.4
RAF Rauma 126.70 340 eP PKPdf 07 17 46.9 -1.0
KTUT Trabzon 126.83 311 ⇑P PKiKP 07 17 51.8 +2.5
TEND Ethiopian Broa 127.15 274 eP PKiKP 07 17 51.2 +0.5
TEND eS SKiKP 07 21 13.8 -11
ANN Anapa 127.38 316 i PKIKP PKPdf 07 17 49.3 -0.4
ANN e 07 19 47.6
ANN ePS PS 07 29 53.1 -2.6
ANN pmax pmax
comp=Z,90nm,1.2s
NRS Narsarsuaq 127.55 19 i P PKPdf 07 17 48.8 -0.7
MTSE Matsula 127.58 337 eP PKiKP 07 17 51.2 +1.0
TIJ01 Guaruva-PR 127.61 138 eP PKiKP 07 17 51.8 +0.3
KMBO Kilima Mbogo 127.75 257 PKP PKiKP 07 17 52.4 +0.1
comp=Z,41nm,1.2s,baz=82,slow=2.7,SNR=32
KMBO SKP 07 21 25.8
comp=Z,8.3nm,1.0s,baz=42,slow=3.6,SNR=3.9
KMBO Kilima Mbogo 127.75 257 IAMs_20 IAMs_20 08 10 00.8
comp=Z,14µm,21.0s
KMBO Kilima Mbogo 127.75 257 eP PKPdf 07 17 51.2 -0.5
KMBO Kilima Mbogo 127.75 257 i PKPdf PKPdf 07 17 51.7 0.0
SNR=12
AAL Aland 127.92 340 eP PKiKP 07 17 51.5 +0.7
ANKE Ethiopia-Afar 128.02 271⇓eP PKiKP 07 17 53.5 +0.6
ANKE Ethiopia-Afar 128.02 271⇓eP PKiKP 07 17 53.5 +0.6
TBLU Trondheim 128.15 347 ePdif Pdif 07 14 34.1 -0.9
TBLU ePKPdf PKPdf 07 17 49.2 -1.4
TBLU ePP PP 07 19 51.5 -2.4
PP1B Ponte de Pedra 128.28 126 eP PKiKP 07 17 53.1 +0.2
MNK Minsk 128.48 331 i PKIKP PKiKP 07 17 53.4 +1.3
MNK i 07 19 59.6
MNK i PPP PPP 07 22 45.1
MNK i 07 25 02.3
MNK i PS PS 07 30 06.7 +1.9
MNK i SS SS 07 37 14.4 +4.2
MNK i SSS SSS 07 42 00.0
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,102nm,0.9s
MNK pmax pmax
comp=N,16nm,0.7s
MNK MLR MLR
comp=N,6µm,21.0s
MNK MLR MLR
comp=Z,12µm,21.0s
MNK MLR MLR
comp=E,2µm,21.0s
MNK Minsk 128.48 331 i PKP PKiKP 07 17 53.4 +1.3
comp=E,6.0nm,0.9s
MNK i PKP PKiKP 07 17 53.4 +1.3
comp=N,16nm,0.7s
MNK i PKP PKiKP 07 17 53.4 +1.3
comp=Z,102nm,0.9s,baz=54
MNK i PP PP 07 19 59.7 +3.2
MNK i SKP 07 21 22.8
MNK i PKS 07 21 29.9
MNK i PPP PPP 07 22 45.1
MNK i SKS SKSdf 07 25 02.4 +1.7
MNK i PS PS 07 30 06.8 +2.0
MNK i SS SS 07 37 14.5 +4.2
MNK i SSS SSS 07 42 00.0
MNK i LR LR 08 08 36.9
MNK i LRM MLR 08 14 44.3
comp=N,6µm,20.6s
MNK i LRM MLR 08 14 44.3
comp=Z,12µm,20.6s
MNK i LRM MLR 08 14 49.5
comp=E,2µm,20.6s
IDID Didziasalis 128.53 332 eP PKiKP 07 17 53.4 +1.2
PCMB Pacaembu 128.56 133 eP PKPdf 07 17 53.1 +0.4
SALV Santo Antonio 128.58 124 eP PKPdf 07 17 53.1 +0.3
FRTB Fartura 128.59 136 eP PKPdf 07 17 53.1 +0.3
IIGN Ignalina 128.74 332 eP PKiKP 07 17 54.3 +1.6
NACGM Naroch 128.76 332 ePKP PKiKP 07 17 54.0 +1.3
DILA Dilla 128.79 267⇓eP PKiKP 07 17 54.2 0.0
DILA Dilla 128.79 267 eP PKiKP 07 17 56.3 +2.1
AAE Adis Abeba 128.86 270 eP PKiKP 07 17 55.8 +1.3
AAE eS SKiKP 07 21 23.0 -5.2
AAE Adis Abeba 128.86 270 eP PKPpre 07 17 47.8
AAE eS SKiKP 07 21 13.5 -15
FURI Furi 128.92 270 IAMs_20 IAMs_20 08 09 43.0
comp=Z,18µm,21.0s
FURI Furi 128.92 270⇓eP PKiKP 07 17 55.0 +0.4
FURI eS SKiKP 07 21 23.8 -4.6
FURI Furi 128.92 270 eP PKPpre 07 17 48.6
UPP Uppsala 128.94 341 eP PKPdf 07 17 52.4 +0.2
BORG Borgarnes 129.06 4 IAMs_20 IAMs_20 08 07 23.2
comp=Z,17µm,22.0s
BORG Borgarnes 129.06 4 i P PKiKP 07 17 53.5 +0.5
SJG San Juan 129.16 78 PKIKP PKPdf 07 17 51.6 -2.3
SJG San Juan 129.16 78 PKPdf 07 17 51.6 -2.3
MOL Molde 129.34 348 ePdif Pdif 07 14 43.2 +3.0
MOL ePKPdf PKPdf 07 17 51.8 -1.1
MOL ePP PP 07 20 04.1 +2.4
MOL eSP SP 07 30 07.0 +0.7
PET01 Itanhaem-SP 129.45 139 eP PKPdf 07 17 53.9 -0.4
DOMB Dombas 129.48 347 ePdif Pdif 07 14 43.9 +2.9
DOMB IVmB_BB 07 15 13.3
comp=Z,816nm,3.3s
DOMB ePKPdf PKPdf 07 17 49.1 -4.2
DOMB ePP PP 07 20 05.1 +2.3
DOMB ePKSdf PKSdf 07 21 31.2 +1.7
DOMB eSP SP 07 30 11.1 +3.4
DOMB eSS SS 07 37 28.1 +6.1
SIM Simferopol' 129.53 317 PKIKP PKiKP 07 17 55.3 +0.7
SIM pmax pmax
comp=Z,58nm,0.6s

PABE Paberze 129.64 333 IAMs_20 IAMs_20 08 13 40.9
comp=Z,28µm,22.0s
PABE Paberze 129.64 333 *e*P **PKPdf 07 17 53.7 0.0**
LSZ Lusaka 129.70 236 PKIKP **PKPdf 07 17 54.6 -0.6**
LSZ Lusaka 129.70 236 **PKPdf 07 17 54.5 -0.6**
LSZ Lusaka 129.70 236 IAMs_20 IAMs_20 08 13 21.0
comp=Z,17µm,20.0s
AKN Aaknes 129.81 348 *e*PKPdf **PKPdf 07 17 53.2 -0.7**
AKN IVmB_BB 07 17 56.6
comp=Z,2µm,2.6s
AKN *e*PP **PP 07 20 08.2 +3.4**
AKN *e*SKSac **SKSac 07 25 00.9 +0.7**
AKN IVMs_BB IVMs_BB 08 15 36.4
comp=Z,6µm,23.8s
BBSR BB Station 129.83 59 IAMs_20 IAMs_20 08 12 27.1
comp=Z,16µm,19.0s
NB2 NORSAR Subarra129.84 345 PKPdf **PKPdf 07 17 52.4 -1.6**
comp=Z,145nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra129.84 345 PKPdf **PKPdf 07 17 52.4 -1.6**
baz=31,slow=1.9
NOA NORSAR Array B 129.84 345 PKP **PKPdf 07 17 52.5 -1.6**
comp=Z,31nm,0.8s,baz=33,slow=2.0,SNR=25
NOA SKPbc SKPbc 07 21 14.9 +0.8
comp=Z,14nm,0.9s,baz=31,slow=4.2,SNR=11
AKASG Malin Array Be 129.89 326 PKP **PKPdf 07 17 53.6 -0.7**
comp=Z,16nm,0.6s,baz=53,slow=2.3,SNR=30
AKASG PP **PP 07 20 05.1 -0.7**
comp=Z,9.5nm,0.9s,baz=50,slow=6.5,SNR=6.4
AKASG SKPbc SKPbc 07 21 18.4 +4.0
comp=Z,2.6nm,0.7s,baz=84,slow=36,SNR=3.7
HFS Hagfors 129.93 343 PKP **PKPdf 07 17 52.6 -1.5**
comp=Z,24nm,0.8s,baz=163,slow=6.2,SNR=17
HFS SKPbc SKPbc 07 21 16.0 +1.7
comp=Z,24nm,1.0s,baz=90,slow=3.0,SNR=7.3
PDRB Porto dos Gac 129.93 118 *e*P **PKiKP 07 17 56.6 +0.3**
MACA Manacapuru-AM 129.97 106 *e*P **PKiKP 07 17 56.1 -0.3**
NC602 NORSAR Array S 130.01 344 *e*PKPdf **PKPdf 07 17 52.6 -1.6**
NC602 *e*PP **PP 07 20 07.8 +1.7**
PBUR Paburge 130.16 335 *e*P **PKiKP 07 17 56.7 +1.3**
VIKU Vikbolandet 130.30 340 *e*P **PKiKP 07 17 55.5 -0.1**
ITRB Iturama 130.43 132 *e*P **PKiKP 07 17 56.9 -0.3**
VAO Valinhos 130.56 138 *e*P **PKiKP 07 17 57.5 0.0**
RCLB Rio Claro- Sao 130.59 137 *e*P **PKPdf 07 17 56.4 -0.3**
BZK Bozkurt 130.68 314 ⇑P **PKiKP 07 17 58.4 +1.5**
FOO Floro 130.72 349 *e*Pdif **Pdif 07 14 49.1 +2.7**
FOO *e*PKPdf **PKPdf 07 17 54.5 -1.1**
FOO *e*PP **PP 07 20 12.8 +2.2**
FOO *e*SP SP 07 30 21.3 +3.1
FOO IVMs_BB IVMs_BB 08 16 08.3
comp=Z,5µm,23.0s
BB19B Bebedouro 130.83 135 *e*P **PKPdf 07 17 56.6 -0.5**
SKAR Skarslia 130.86 346 *e*Pdif **Pdif 07 14 47.9 +0.8**
SKAR *e*PKPdf **PKiKP 07 17 56.8 -0.1**
SKAR *e*PP **PP 07 20 14.1 +2.4**
SKAR *e*SP SP 07 30 22.6 +3.0
SKAR *e*SS **SS 07 37 44.4 +5.4**
LODK Lodwar 130.89 262 IAMs_20 IAMs_20 08 12 20.2
comp=Z,15µm,20.0s
LODK Lodwar 130.89 262‖ *e*P **PKiKP 07 17 59.6 +1.3**
LODK Lodwar 130.89 262 *e*P **PKPdf 07 17 55.5 -1.9**
HYA Hoyanger 130.89 348 *e*PKPdf **PKPdf 07 17 54.3 -1.6**
HYA *e*PP **PP 07 20 14.0 +2.3**
HYA *e*SKPdf **SKPdf 07 21 26.8 -2.1**
OSL Oslo 130.91 344 *e*PKPdf **PKPdf 07 17 55.8 -0.2**
OSL *e*PP **PP 07 20 12.8 +0.9**
ASF Jabal al Asfar 130.93 300 PKP **PKPdf 07 17 56.8 -0.2**
comp=Z,33nm,0.8s,baz=230,slow=0.7,SNR=8.5
ASF SKPbc **SKPab 07 21 22.5 +3.3**
comp=Z,34nm,1.2s,baz=79,slow=1.1,SNR=3.8
SUW Suwalki 130.96 332 *e*PKPdf **PKiKP 07 17 57.5 +0.4**
SUW *e*PP **PP 07 20 14.5 +1.9**
SUW *e*L L 08 14 47.9
comp=Z,31µm,21.9s
SUW Suwalki 130.96 332 *e*P **PKiKP 07 17 57.4 +0.2**
CLDB Colider 131.09 118 *e*P **PKPdf 07 17 57.7 0.0**
PARB Paraibuna 131.18 139 *e*P **PKPdf 07 17 58.0 +0.2**
SUE Sulen 131.28 348 *e*PKPdf **PKPdf 07 17 56.7 +0.1**
SUE *e*PP **PP 07 20 16.3 +2.1**
SUE *e*SS SS 07 37 51.9 +8.1
KONO Kongsberg 131.45 345 *e*PKPdf **PKPdf 07 17 55.5 -1.5**
KONO *e*PP **PP 07 20 16.9 +1.5**
BRTR Keskin Array B 131.68 311 PKP **PKiKP 07 17 59.8 +0.5**
comp=Z,12nm,0.8s,baz=148,slow=8.5,SNR=14
BRTR PP **PP 07 20 18.8 +0.6**
comp=Z,8.3nm,1.0s,baz=80,slow=1.4,SNR=4.4
BRTR SKPbc **SKPab 07 21 26.3 +4.1**
comp=Z,20nm,0.8s,baz=101,slow=2.1,SNR=9.5
SORM Soroca 131.69 323‖ ⇑P **PKiKP 07 17 59.7 +0.9**
SORM Soroca 131.69 323 ⇑P **SKPbc 07 21 23.2 +2.1**
SORM Soroca 131.69 323‖ ⇑PKIKP **PKiKP 07 17 59.7 +0.9**
ASK Askoy 131.72 348 *e*PKPdf **PKPdf 07 17 56.9 -0.5**
ASK *e*PP **PP 07 20 17.6 +0.5**
ASK *e*SP SP 07 30 29.3 +2.4
BER Bergen 131.78 348 *e*Pdif **Pdif 07 14 52.1 +1.0**
BER *e*PKPdf **PKiKP 07 17 58.8 +0.2**
BER *e*pPKPdf **sPKPdf 07 18 09.0 -1.7**
BER *e*PP **PP 07 20 20.2 +2.7**
BER IVmB_BB 07 21 31.5
comp=Z,2µm,2.0s
BER *e*SKSdf **SKSdf 07 25 08.0 +1.6**
BER *e*SP **SP 07 30 27.0 -0.4**
BER IVMsBB 08 16 35.2
comp=Z,4µm,20.5s
BOAV Boa Vista 131.92 100 *e*P **PKPdf 07 17 59.6 +0.3**
ODD1 Odda 131.93 347 *e*PKPdf **PKPdf 07 17 56.8 -1.2**
ODD1 *e*PP **PP 07 20 20.5 +2.0**
MMAI Mount Meron Ar 132.01 302 PKP **PKiKP 07 18 00.1 +0.1**
comp=Z,4.3nm,0.4s,baz=177,slow=16,SNR=15
MMAI SKPbc **SKPab 07 21 28.0 +4.2**
comp=Z,1.1nm,0.2s,baz=160,slow=35,SNR=1.7
MILM Milestii Mici 132.02 322 ⇑P **PKiKP 07 18 00.9 +1.4**
MILM Milestii Mici 132.02 322 ⇑P **SKPbc 07 21 20.5 -1.8**
MILM Milestii Mici 132.02 322 ⇑PKIKP **PKiKP 07 18 00.9 +1.4**
BLS5 Blasjo 132.41 346 *e*PKPdf **PKPdf 07 17 54.9 -4.0**
BLS5 *e*PP **PP 07 20 24.4 +2.8**
BLS5 *e*SKPdf **SKPdf 07 21 30.9 -1.0**
BLS5 *e*SP SKKPbc 07 30 35.3 -15
MAN01 Angra dos Reis 132.57 140 *e*P **PKiKP 07 18 01.5 0.0**
DEL Delary 132.84 340 *e*P **PKiKP 07 18 01.6 +0.8**
KMY Karmoy 132.87 347 *e*PKPdf **PKPdf 07 17 59.8 +0.1**
KMY *e*PP **PP 07 20 21.2 -3.2**
HOMB Homborsund 132.93 344 *e*PKPdf **PKiKP 07 18 00.8 -0.2**
HOMB *e*PP **PP 07 20 27.2 +2.3**
HOMB *e*SP SP 07 30 40.7 +3.3
HOMB IVMs_BB IVMs_BB 08 10 39.8
comp=Z,7µm,25.1s
EIL Elat 132.97 298 PKP **PKiKP 07 18 01.8 -0.1**
comp=Z,63nm,0.9s,baz=127,slow=2.7,SNR=24
EIL SKPbc **SKPab 07 21 29.5 +1.6**
comp=Z,11nm,1.0s,baz=125,slow=4.0,SNR=2.2
VLDR Vladesti 132.99 321 ⇑P **PKiKP 07 18 03.1 +1.6**
IPMB Ipameri, GO 133.08 132 *e*P **PKPdf 07 18 01.8 +0.3**
LVV L'vov 133.15 327 *e*PKIKP **PKPdf 07 17 59.1 -1.4**
LVV *i* 07 20 21.5
LVV *e*SS SS 07 38 02.4 -5.2
LVV MLR MLR
comp=Z,20µm,23.0s
SNART Snartemo 133.20 345 *e*PKPdf **PKPdf 07 18 00.4 +0.1**
SNART *e*PP **PP 07 20 28.1 +1.5**
SNART *e*SKPdf **SKiKP 07 21 34.3 -1.0**
TPGR Topolog 133.24 320 ⇑P **PKiKP 07 18 05.7 +3.6**
TPGR Topolog 133.24 320 ⇑P **SKPbc 07 21 29.3 +2.6**
NPGB Novo Progresso 133.26 114 *e*P **PKPdf 07 18 02.3 +0.5**
CFR Carcaliu 133.27 320 ⇑P **PKPdf 07 18 00.9 0.0**
CFR Carcaliu 133.27 320 ⇑PKIKP **PKPdf 07 18 00.9 0.0**
OVD Ostervraa, Den 133.29 343 *i* P **PKiKP 07 18 02.1 +0.4**
OVD IVMs_BB IVMs_BB 08 13 36.0
comp=Z,7µm,24.0s
VAS01 Vassouras-RJ 133.32 140 *e*P **PKPdf 07 18 01.5 -0.3**
IZVR Izvoarele 133.32 321 ⇑P **PKiKP 07 18 04.8 +2.6**
BSCB Bom Sucesso 133.41 138 *e*P **PKPdf 07 18 02.0 0.0**
TIRR Tirgusor 133.43 319 ⇑P **PKiKP 07 18 03.0 +0.6**
TIRR Tirgusor 133.43 319 ⇑P **SKPbc 07 21 32.4 +5.2**
TIRR Tirgusor 133.43 319 ⇑PKIKP **PKiKP 07 18 03.0 +0.6**
TESR Tescani 133.52 322 ⇑P **PKiKP 07 18 05.0 +2.4**
TESR Tescani 133.52 322 ⇑P **SKPbc 07 21 30.0 +2.5**
BSD Bornholm Skovb 133.55 338 *e*P **PKiKP 07 18 03.2 +0.9**
BSD Bornholm Skovb 133.55 338 *i* P **PKiKP 07 18 01.8 -0.6**
BSD IVMs_BB IVMs_BB 08 18 23.6
comp=Z,5µm,19.3s
TLBR Topalu 133.62 319 ⇑P **PKiKP 07 18 06.4 +3.6**
HARR Harsova 133.63 320 ⇑P **PKiKP 07 18 05.5 +2.7**
HARR Harsova 133.63 320 ⇑P **SKPbc 07 21 33.1 +5.2**
HARR Harsova 133.63 320 ⇑PKIKP **PKiKP 07 18 05.5 +2.7**
FDF Fort de France 133.68 83 IAMs_20 IAMs_20 08 06 08.0
comp=Z,14µm,22.0s
BUR01 Bucovina Ar. S 133.76 324 ⇑P **PKiKP 07 18 05.7 +2.6**
BURAR Bucovina Array 133.76 324 ⇑P **PKiKP 07 18 03.2 0.0**
BURAR Bucovina Array 133.76 324 ⇑PKIKP **PKiKP 07 18 03.2 0.0**
VRI Vrincioaia 133.80 322 ⇑P **PKPdf 07 18 02.2 +0.3**
VRI Vrincioaia 133.80 322 ⇑PKIKP **PKPdf 07 18 02.2 +0.3**
PLOR Plostina 133.85 322 ⇑P **PKiKP 07 18 05.5 +2.2**
PLOR Plostina 133.85 322 ⇑PKIKP **PKiKP 07 18 05.5 +2.2**
COP Copenhagen 133.96 340 *i* P **PKiKP 07 18 03.8 +0.7**
COP IVMs_BB IVMs_BB 08 16 57.0
comp=Z,49µm,20.5s
GKP Gorka Klasztor 134.04 335 *e*PKPdf **PKiKP 07 18 04.4 +1.1**
GKP *e*L L 08 17 49.1
comp=Z,32µm,21.3s
GKP Gorka Klasztor 134.04 335 *e*P **PKiKP 07 18 05.3 +1.9**
MBAR Mbarara 134.07 255 IAMs_20 IAMs_20 08 11 55.0
comp=Z,20µm,21.0s
MBAR Mbarara 134.07 255 *e*P **PKPdf 07 18 04.3 +0.7**
MBAR *e*S **SKPab 07 21 33.0 -0.3**
MBAR Mbarara 134.07 255 *e*P **PKPdf 07 17 59.4 -4.2**
MBAR *e*S **SKPab 07 21 33.0 -0.3**
ITTB Itaituba 134.07 110 *e*P **PKPdf 07 18 03.6 +0.3**
DUB01 Friburgo-RJ 134.13 141 *e*P **PKiKP 07 18 04.2 -0.5**
OZUR 134.24 322 ⇑P **PKiKP 07 18 06.6 +2.5**
NEHR Nehoiu 134.28 321 ⇑P **PKiKP 07 18 05.2 +1.0**
ISR Istrita 134.28 321 ⇑P **PKiKP 07 18 03.6 -0.6**
ISR Istrita 134.28 321 ⇑P **SKPbc 07 21 34.6 +4.4**
ISR Istrita 134.28 321 ⇑PKIKP **PKiKP 07 18 03.6 -0.6**
SNDB Serra Nova Dou 134.29 123 *e*P **PKPdf 07 18 03.6 -0.1**
MLR Muntele Rosu 134.46 321 ⇑P **PKiKP 07 18 05.9 +1.2**
MLR Muntele Rosu 134.46 321 ⇑P **SKPbc 07 21 32.7 +1.9**
MLR Muntele Rosu 134.46 321 PKP **PKiKP 07 18 04.3 -0.4**
comp=Z,56nm,1.1s,baz=294,slow=0.6,SNR=12
MLR SKPbc **SKPab 07 21 34.2 +0.2**
comp=Z,36nm,1.1s,baz=232,slow=19,SNR=4.3
MLR Muntele Rosu 134.46 321 ⇑PKIKP **PKiKP 07 18 05.9 +1.2**
MLR Muntele Rosu 134.46 321 IAMs_20 IAMs_20 08 21 39.1
comp=Z,14µm,20.0s
DOPR Dopca 134.55 322 ⇑P **SKPbc 07 21 35.0 +4.0**
RGN Rugen 134.56 339 IAMs_20 IAMs_20 08 19 04.9
comp=Z,25µm,20.0s
ISP Isparta 134.60 310 IAMs_20 IAMs_20 08 24 46.5
comp=Z,13µm,21.0s
KOLS Kolonicke sedl 134.60 327 *e*PKIKP **PKiKP 07 18 05.9 +1.2**
KOLS *e* 07 20 37.0
KOLS Kolonicke sedl 134.60 327 *e*PKP **PKiKP 07 18 05.9 +1.2**
KOLS *e*PP **PP 07 20 37.0 +0.9**
KOLS *e* 07 21 36.7
SECR 134.62 321 ⇑P **PKPdf 07 18 03.0 -0.4**
SECR 134.62 321 ⇑P **SKPbc 07 21 35.9 +4.7**
BMR Baia Mare 134.69 325 ⇑P **PKiKP 07 18 06.5 +1.6**
BMR Baia Mare 134.69 325 ⇑PKIKP **PKiKP 07 18 06.5 +1.6**
BDFB Brasilia 134.72 129 PKhKP PKPpre 07 18 01.4
comp=Z,10nm,0.8s,baz=206,slow=3.1,SNR=6.4
BDFB SKPbc **SKPab 07 21 35.6 -0.4**
comp=Z,13nm,1.0s,baz=309,slow=5.4,SNR=4.0
BDFB Brasilia 134.72 129 *e*P **PKPdf 07 18 04.2 -0.4**
CAM01 Campos-RJ 134.75 142 *e*P **PKPdf 07 18 05.0 +0.6**
UZH Uzhgorod 134.77 327 *i* PKIKP **PKPdf 07 17 57.0 -6.6**
UZH *i* 07 18 07.7
UZH *e*PPP PPP 07 23 37.6
UZH MLR MLR
comp=N,3µm,20.0s
UZH MLR MLR
comp=E,3µm,20.0s
UZH MLR MLR
comp=Z,4µm,20.0s
TRPA Tarpa 134.94 326 ⇑P **PKPdf 07 18 04.3 +0.4**
TRPA Tarpa 134.94 326 ⇑P **SKPbc 07 21 34.8 +2.7**
TRPA Tarpa 134.94 326 PKP 07 21 37.2
OJC Ojcow 135.02 330 *e*PKPdf **PKiKP 07 18 05.5 0.0**
OJC *e*PP **PP 07 20 42.4 +3.8**
OJC *e*SP SP 07 30 56.6 +0.7
OJC *e*SS **SS 07 38 36.4 +6.3**
OJC *e*L L 08 17 23.1
comp=Z,22µm,22.7s
VOIR 135.03 322 ⇑P **PKiKP 07 18 06.7 +0.9**
VOIR 135.03 322 ⇑PKIKP **PKiKP 07 18 06.7 +0.9**
CRVS Cervenica-Dubn 135.04 328 *e*PKIKP **PKiKP 07 18 06.5 +0.9**
CRVS *e* 07 20 42.3
CRVS *e* 07 32 38.6
CRVS *e*SS SS 07 38 36.8 +6.3
CRVS Cervenica-Dubn 135.04 328 *e*PKP **PKiKP 07 18 06.5 +0.9**
CRVS *e*PP **PP 07 20 42.3 +3.4**
CRVS *e* 07 21 35.1
CRVS *e* 07 32 38.6
CRVS *e*SS SS 07 38 36.8 +6.3
BBGH Gun Hill 135.05 85 IAMs_20 IAMs_20 08 10 15.2
comp=Z,23µm,22.0s
BIGH Upper Bighouse 135.09 353 *e*P PKPdf 07 17 49.7 -14
BIGH IAMs_20 IAMs_20 08 19 36.9
comp=Z,13µm,20.1s
TSUM Tsumeb 135.11 223 IAMs_20 IAMs_20 08 12 57.2
comp=Z,21µm,20.0s
NIE Niedzica 135.30 329 *e*PKPdf **PKiKP 07 18 07.3 +1.1**
NIE *e*PP **PP 07 20 45.4 +4.9**
NIE *e*SS SS 07 38 38.9 +5.3
NIE *e*L L 08 17 20.7
comp=Z,18µm,23.1s
ARR Arges 135.31 322 ⇑P **PKiKP 07 18 08.3 +2.0**
HUMR Humele 135.54 321 ⇑P **PKiKP 07 18 07.4 +0.7**
LINV Loch Inver, As 135.57 354 *e*P PKPpre 07 17 50.0
SZH Strazhica 135.57 319 P PKPpre 07 17 53.7
COPA Copaceanca 135.60 320 ⇑P **PKiKP 07 18 07.7 +0.9**
DRGR 135.64 325 ⇑P **PKPdf 07 18 06.1 +0.7**
DRGR 135.64 325 ⇑P **SKPbc 07 21 35.2 +0.7**
DRGR 135.64 325 ⇑PKIKP **PKPdf 07 18 06.1 +0.7**
LEWI Lewis, Hebride 135.73 355 *e*P PKPpre 07 17 48.6
LTVH Ltavrtes, Hu 135.73 326 ⇑P **PKiKP 07 18 08.8 +1.8**
LTVH Ltavrtes, Hu 135.73 326 PKP 07 21 38.0
LOT Lotru 135.78 323 ⇑P **PKiKP 07 18 07.2 -0.1**
KECS Kecovo 135.81 328 *e*PKIKP **PKiKP 07 18 07.5 +0.3**
KECS Kecovo 135.81 328 *e*PKP **PKiKP 07 18 07.5 +0.3**
KECS *e* 07 21 38.8
LANS Liptovska Anna 135.89 329 *e*PKIKP **PKiKP 07 18 08.8 +1.4**
LANS *e* 07 20 47.9
LANS Liptovska Anna 135.89 329 *e*PKP **PKiKP 07 18 08.8 +1.4**
LANS *e*PP **PP 07 20 47.9 +3.7**
RUE Ruedersdorf 136.01 336 *e*P **PKiKP 07 18 08.7 +1.3**
DEV Deva 136.05 324 ⇑P **PKiKP 07 18 07.0 -0.7**
DEV Deva 136.05 324 ⇑PKIKP **PKiKP 07 18 07.0 -0.7**
DIAM Diamantina, MG 136.05 136 *e*P **PKPdf 07 18 06.6 -0.5**
OKC Ostrava-Krasne 136.06 331 AMS AMS 08 22 40.0
comp=Z,18µm,18.8s
IZAB Izabela 136.15 329 *e*PKIKP **PKiKP 07 18 08.8 +0.9**
IZAB *e* 07 20 48.8
KSP Ksiaz 136.20 333 *e*PKPdf **PKiKP 07 18 08.1 +0.2**
KSP *e*PP **PP 07 20 49.5 +3.5**
KSP *e*SS SS 07 38 48.9 +4.8
KSP *e*L L 08 18 09.0
comp=Z,36µm,22.3s
ALF01 Guarapari-ES 136.24 141 *e*P **PKiKP 07 18 08.8 -0.1**
MORC Moravsky Berou 136.39 331 *e*PKP **PKPdf 07 18 05.3 -1.4**
MORC *e*PP **PP 07 20 50.7 +3.4**
MORC *e* 07 32 59.9
GZR Gura Zlata 136.40 323 ⇑P **PKPdf 07 18 07.1 +0.3**
GZR Gura Zlata 136.40 323 ⇑P **SKPbc 07 21 37.2 +0.4**
GZR Gura Zlata 136.40 323 ⇑PKIKP **PKPdf 07 18 07.1 +0.3**
MALB Monte Alegre 136.41 108 *e*P **PKiKP 07 18 09.6 +0.2**
KPL Plockton 136.41 354 *e*P PKPpre 07 17 48.6
DRUM Mains of Drumt 136.44 351 *e*P PKPpre 07 17 58.9
DRUM IAMs_20 IAMs_20 08 23 59.7
comp=Z,14µm,19.9s
OSTC Ostas 136.44 333 *e*PKPpre PKPpre 07 17 54.9
OSTC *e*PKPDF **PKiKP 07 18 10.3 +1.9**
OSTC *e*SKP 07 21 40.8
OSTC AMS AMS 08 18 00.0
comp=Z,35µm,21.9s
PSZ Piszkesteto 136.47 328 ⇑P **PKiKP 07 18 07.9 -0.7**
PSZ Piszkesteto 136.47 328 ⇑P **SKPbc 07 21 39.4 +2.4**
PSZ Piszkesteto 136.47 328 ⇑PKIKP **PKiKP 07 18 07.9 -0.7**
PSZ Piszkesteto 136.47 328 IAMs_20 IAMs_20 08 26 04.8
comp=Z,19µm,19.0s
PSZ Piszkesteto 136.47 328 PKP 07 21 40.3
CHVC Chvalec 136.49 333 *e*PKPpre PKPpre 07 17 55.7
CHVC *e*PKPDF **PKiKP 07 18 09.7 +1.2**
CHVC *e*SKP 07 21 40.9
CHVC AMS AMS 08 18 00.0
comp=Z,30µm,21.9s
YER Yerkesik 136.51 310 P **PKPdf 07 18 06.1 -1.2**
SIRR Siria 136.53 325 ⇑P PKPpre 07 17 55.9
SIRR Siria 136.53 325 ⇑P **SKPbc 07 21 39.7 +2.5**
KRLC Kraliky 136.53 332 *e*PKIKP **PKiKP 07 18 09.3 +0.6**
KRLC MLR MLR
comp=Z,22µm,22.6s
KRLC Kraliky 136.53 332 *e*PKPDF **PKiKP 07 18 09.3 +0.6**
KRLC *e*SKP 07 21 40.6
KRLC AMS AMS 08 17 20.0
comp=Z,22µm,22.6s
DPC Dobruska-Polom 136.54 333 *e*PKHKP PKPpre 07 17 55.4
DPC *e* 07 18 11.1
DPC MLR MLR
comp=Z,34µm,21.9s
DPC Dobruska-Polom 136.54 333 *e*PKPpre PKPpre 07 17 55.4
DPC *e*PKPDF **PKiKP 07 18 11.1 +2.4**
DPC *e*SKP 07 21 40.6
DPC *ex* x 07 21 46.0
DPC AMS AMS 08 17 50.0
comp=Z,34µm,21.9s
SRE Strehaia 136.55 322 ⇑P **PKiKP 07 18 10.3 +1.5**
SRE Strehaia 136.55 322 ⇑PKIKP **PKiKP 07 18 10.3 +1.5**
UPC Upice 136.57 333 *e*PKIKP **PKiKP 07 18 09.4 +0.7**
UPC MLR MLR
comp=Z,34µm,22.0s
UPC Upice 136.57 333 *e*PKPDF **PKiKP 07 18 09.4 +0.7**
UPC AMS AMS 08 18 00.0
comp=Z,34µm,22.0s
ALN Alexandroupoli 136.60 316 PKIKP **PKPdf 07 18 06.2 -1.0**
ALN Alexandroupoli 136.60 316 PKPdf **PKPdf 07 18 06.2 -1.0**
PEXB Peixe 136.63 125 *e*P **PKiKP 07 18 09.8 0.0**
VYHS Vyhne 136.63 329 *e*PKIKP **PKiKP 07 18 08.9 0.0**
VYHS *e* 07 20 52.4
VYHS Vyhne 136.63 329 *e*PKP **PKiKP 07 18 08.9 0.0**
VYHS *e*PP **PP 07 20 52.4 +3.5**
VYHS *e* 07 21 39.9
KOLL Kolacno 136.79 329 *e*PKP **PKiKP 07 18 09.3 +0.1**
KOLL *e* 07 21 40.5
RDO Rodhopi 136.83 316 P PKPpre 07 17 55.8
EZN Ezine 136.87 314 P **PKiKP 07 18 09.0 -0.6**
HERR Herculane 136.89 323 ⇑P PKPdf 07 17 56.3 -11
HERR Herculane 136.89 323 ⇑P **SKPbc 07 21 40.5 +2.2**
MPEP Malo Peshtene 136.91 320 P PKPpre 07 18 03.5
BZS Buzias 136.94 324 ⇑P **PKiKP 07 18 08.8 -0.8**
BZS Buzias 136.94 324 ⇑PKIKP **PKiKP 07 18 08.8 -0.8**
JAVC Velka Javorina 136.96 330 *e*PKP **PKPdf 07 18 07.9 +0.1**
JAVC *e*PP **PP 07 20 55.4 +4.5**
JAVC *e* 07 33 06.2
INVG Invergeldie, C 137.12 352 *e*P PKPpre 07 17 58.6
INVG IAMs_20 IAMs_20 08 17 02.6
comp=Z,15µm,22.4s
PRK Paraskevi 137.16 313 P PKPpre 07 17 57.8
VRAC Vranov 137.16 331 ⇑P **PKiKP 07 18 10.3 +0.4**
VRAC Vranov 137.16 331 PKP **PKiKP 07 18 09.3 -0.6**
comp=Z,26nm,0.9s,baz=102,slow=1.2,SNR=13
VRAC SKPbc **SKiKP 07 21 42.0 -1.7**
comp=Z,21nm,1.1s,baz=106,slow=5.7,SNR=3.7
VRAC Vranov 137.16 331 ⇑PKIKP **PKiKP 07 18 10.3 +0.4**
VRAC Vranov 137.16 331 *e*PKP **PKPdf 07 18 07.7 -0.4**
VRAC *e*PP **PP 07 20 55.2 +3.1**
VRAC *e* 07 33 06.2
PVCC Panska Ves 137.18 334 *e*PKIKP **PKPdf 07 18 08.7 +0.7**
PVCC MLR MLR
comp=Z,17µm,23.0s
PVCC Panska Ves 137.18 334 *e*PKPDF **PKPdf 07 18 08.7 +0.7**
PVCC AMS AMS 08 18 20.0
comp=Z,17µm,23.0s
DAT Datca 137.18 309 P **PKPdf 07 18 09.3 +0.7**
BRG Berggiesshubel 137.18 335 PP PP 07 20 58.0 +5.9
BRG SKP 07 21 41.5
BRG Amp 07 21 44.0
comp=Z,126nm,1.3s
BRG Berggiesshubel 137.18 335 *e*PKHKP PKPpre 07 17 49.0
BRG *e* 07 18 11.0
BRG 07 20 58.0
BRG *e* 07 33 07.0
BRG pmax pmax
comp=Z,19nm,1.2s
BRG pmax pmax
comp=Z,202nm,1.5s
BRG pmax pmax
comp=Z,126nm,1.3s
CLL Collm 137.23 336 *e*PKIKP **PKiKP 07 18 10.0 +0.1**
CLL *e* 07 20 53.0
CLL pmax pmax
comp=Z,97nm,1.7s
CLL MLR MLR
comp=Z,21µm,21.0s
CLL Collm 137.23 336 IAMs_20 IAMs_20 08 20 06.4
comp=Z,20µm,20.0s
CLL Collm 137.23 336 *e*Pdif **Pdif 07 15 16.0 +0.5**
CLL *ex* x 07 17 00.0
CLL *e*PKPpre PKPpre 07 17 58.0
CLL *e*PKPdf **PKiKP 07 18 10.0 +0.1**
comp=Z,97nm,1.7s
CLL *i* PKiKP **PKPdf 07 18 11.7 +3.6**
comp=Z,132nm,1.2s
CLL *e*PP **PP 07 20 53.0 +0.7**
CLL *e*SKPdf **SKiKP 07 21 42.0 -1.8**
CLL *e*PKSdf PKSdf 07 21 48.0 +3.9
CLL *i* pSKPdf 07 21 52.1
comp=Z,79nm,1.2s
CLL *e*Sdif Sdif 07 29 10.0 -2.9
CLL *e*PPS PPS 07 32 58.0
CLL *e*SS SS 07 39 08.0 +12
CLL *e*PSS PSS 07 39 42.0
CLL *e*(PSPS) 07 40 18.0
CLL *e*SSS SSS 07 44 00.0
CLL *ex* x 07 45 04.0
CLL Lm MLR 08 19 00.0
comp=N,20µm,21.2s
CLL Lm MLR 08 19 00.0
comp=E,5µm,20.7s
CLL Lm MLR 08 19 00.0
comp=Z,21µm,21.0s
CLL Lmax 08 22 00.0
BODT Bodrum 137.26 310 P PKPdf 07 17 59.1 -10
SMOL Smolenice 137.31 330 *e*PKIKP **PKiKP 07 18 10.8 +0.6**
SMOL *e* 07 20 57.0
SMOL Smolenice 137.31 330 *e*PKP **PKiKP 07 18 10.8 +0.6**
SMOL *e*PP **PP 07 20 56.9 +3.8**
SRO Srobarova 137.35 329 *e*PP PP 07 20 58.1 +4.8
MDVR Moldovita 137.36 323 ⇑P **PKiKP 07 18 10.4 -0.1**
MDVR Moldovita 137.36 323 ⇑P 07 21 41.0
SMG Samos 137.37 311 P **PKiKP 07 18 10.0 -0.7**
KRUC Moravsky 137.43 331 *e*PKP **PKPdf 07 18 07.2 -1.3**
KRUC *e*PP **PP 07 20 57.0 +3.3**
KRUC *e* 07 33 05.7
BLKB Belogradchik 137.43 321 ⇑P PKPpre 07 17 58.4
LAWE Loch Awe, Argy 137.45 354 *e*P PKPpre 07 17 47.9
SIGR SIGRI 137.46 314 P PKPpre 07 17 55.4
EDI Edinburgh 137.50 352 *e*P PKPpre 07 17 51.1
EDI IAMs_20 IAMs_20 08 20 42.6
comp=Z,17µm,21.0s
KAVA Kavala 137.58 317 P PKPpre 07 17 55.5
PRU Pruhonice 137.59 333 *e*PKIKP **PKiKP 07 18 11.0 +0.3**
PRU MLR MLR
comp=Z,18µm,21.3s
PRU Pruhonice 137.59 333 *e*PKPDF **PKiKP 07 18 11.0 +0.3**
PRU *e*SKP 07 21 42.0
PRU AMS AMS 08 20 20.0
comp=Z,18µm,21.3s
VTS Vitosha 137.61 319 ⇑P PKPpre 07 17 59.4
VTS Vitosha 137.61 319 ⇑PKHKP PKPpre 07 17 59.4
LIA Limnos Island 137.63 315 P **PKiKP 07 18 10.3 -0.8**
CSKK Cskako 137.67 328 PKP 07 21 45.7
TREC Trest 137.68 332 AMS AMS 08 19 20.0
comp=Z,32µm,22.4s
ZST Bratislava 137.69 330 *e*PKIKP **PKiKP 07 18 11.9 +0.9**
ZST *e* 07 20 57.5
ZST *e*SS SS 07 39 01.7 -0.2
ZST Bratislava 137.69 330 *e*PKP **PKiKP 07 18 11.9 +0.9**
ZST *e*PP **PP 07 20 57.5 +2.1**
ZST *e* 07 33 20.0
ZST *e*SS SS 07 39 01.7 -0.2
NVR Nevrokopi 137.84 317 P **PKPdf 07 18 08.2 -1.4**
KARP Karpathos 137.91 308 P PKPpre 07 17 59.4
KOKK Kokkinochori, 138.01 317 P PKPpre 07 17 56.6
BOVS Bovan 138.01 322 ⇑P **PKiKP 07 18 11.7 -0.1**
PBCC Pribram 138.05 334 *e*PKPDF **PKiKP 07 18 11.8 +0.1**
EKA Eskdalemuir Ar 138.07 351 SKPbc **SKiKP 07 21 44.1 -1.2**
comp=Z,19nm,0.9s,baz=359,slow=3.0,SNR=2.6
ESK Eskdalemuir 138.09 351 *e*P PKPpre 07 17 52.1

ESK IAMs_20 IAMs_20 08 25 37.7
comp=Z,18µm,18.6s
ESK Eskdalemuir 138.09 351 IAMs_20 IAMs_20 08 25 42.9
comp=Z,18µm,19.0s
SRS Serrai 138.14 317 P PKPpre 07 18 05.4
MPLH Magyarpolny 138.17 328 PKP 07 21 43.1
MORH Mrgy, Hungar 138.22 327 *e*P PKPpre 07 17 59.4
FRGS Fruska Gora 138.23 325 ⇑P PKPpre 07 18 03.5
FRGS Fruska Gora 138.23 325 ⇑P 07 21 45.5
FRGS Fruska Gora 138.23 325 *e*P PKPdf 07 17 53.3 -17
OUR Ouranopolis 138.25 316 P PKPpre 07 18 01.8
NKC Novy Kostel 138.28 335 *e*PKIKP **PKiKP 07 18 14.6 +2.4**
NKC MLR MLR
comp=Z,21µm,23.3s
NKC Novy Kostel 138.28 335 *e*PKPDF **PKiKP 07 18 14.6 +2.4**
NKC *e*SKP 07 21 46.0
NKC AMS AMS 08 18 10.0
comp=Z,21µm,23.3s
MOX Moxa 138.29 336 *e*L L 08 21 35.5
comp=Z,19µm,20.9s
NEWG New Galloway 138.42 352 *e*P PKPpre 07 17 58.6
RONA Rosalia, Austr 138.43 330 *e*P **PKPdf 07 18 10.7 +0.2**
comp=Z,115nm,1.4s
RONA *e*P **PP 07 21 01.2 +1.2**
comp=Z,131nm,1.9s
RONA *e*S **SKPab 07 21 49.7 -1.6**
comp=Z,24nm,0.8s
SOH Sokhos 138.44 317 P **PKPdf 07 18 07.1 -3.6**
CONA Conrad Observa 138.48 330 *e*P **PKiKP 07 18 13.2 +0.5**
comp=Z,124nm,1.0s
CONA *e*P **PP 07 21 00.9 +0.6**
comp=Z,53nm,1.5s
CONA S **SKiKP 07 21 47.8 +1.2**
comp=Z,23nm,0.9s
GDLE Glaisdale, N Y 138.55 349 *e*P PKPpre 07 17 55.7
GDLE IAMs_20 IAMs_20 08 20 28.1
comp=Z,25µm,21.7s
CKRC Cesky Krumlov 138.56 332 *e*PKPpre PKPpre 07 17 52.9
CKRC *e*PKPDF **PKPdf 07 18 07.0 -3.7**
CKRC AMS AMS 08 16 10.0
comp=Z,20µm,23.1s
KOVH Kovagotottos 138.59 327 PKP 07 21 44.9
PLG Polygyros 138.59 316 P PKPpre 07 18 02.7
PAIG Paliouri 138.65 316 P PKPpre 07 18 02.8
KHC Kasperske Hory 138.65 333 *e*PKHKP PKPpre 07 17 53.0
KHC *e* 07 18 09.6
KHC MLR MLR
comp=Z,22µm,19.0s
KHC Kasperske Hory 138.65 333 *e*PKPpre PKPpre 07 17 53.0
KHC *e*PKPDF **PKPdf 07 18 09.6 -1.3**
KHC *e*SKP 07 21 45.2
KHC AMS AMS 08 24 40.0
comp=Z,22µm,19.0s
CLGH Cloghs, Cushen 138.68 354 *e*P PKPpre 07 18 01.1
CLGH IAMs_20 IAMs_20 08 18 43.6
comp=Z,16µm,22.0s
VAY Valandovo 138.70 318 *i* P PKPpre 07 18 00.5
VAY *e*S SKPbc 07 21 02.7 -41
GAL1 Galloway 138.73 353 *e*P PKPpre 07 17 54.3
STIP Stip 138.76 319 *i* P PKPpre 07 17 58.4
TEKS Tekeris 138.76 324 *e*P PKPpre 07 18 03.5
DIVS Divibare 138.76 323 *e*P PKPpre 07 17 59.3
KESW Keswick, Cumbr 138.78 351 *e*P PKPpre 07 17 49.7
KESW IAMs_20 IAMs_20 08 19 28.8
comp=Z,17µm,21.2s
ZKR Zakros 138.78 308 P **PKPdf 07 18 10.1 -1.4**
THE Thessaloniki 138.79 317 P **PKPdf 07 18 08.3 -3.0**
GERES GERESS Array B 138.81 333 PKP **PKPdf 07 18 12.2 +0.9**
comp=Z,17nm,0.8s,baz=354,slow=2.0,SNR=9.2
GERES SKPbc **SKiKP 07 21 46.9 -0.4**
comp=Z,19nm,1.0s,baz=337,slow=2.2,SNR=6.9
KYMI Kymi, Euboea I 138.95 314 P **PKPdf 07 18 09.5 -2.2**
THR9 Santorini-Faro 138.98 310 P PKPpre 07 18 03.9
MCPB Macapa, AP 139.01 107 *e*P **PKiKP 07 18 13.9 -0.9**
BEHE Becsehely 139.03 328 *e*P **PKPdf 07 18 10.0 -1.6**
ARSA Arzberg 139.12 330 *e*P **PKPdf 07 18 11.6 -0.2**
comp=Z,80nm,1.4s
ARSA *e*PP **PP 07 21 04.1 -0.1**
comp=Z,54nm,1.8s
ARSA Arzberg 139.12 330 *e*P PKPpre 07 18 02.6
GRA1 Grafenberg Arr 139.20 336 IAMs_20 IAMs_20 08 21 22.6
comp=Z,18µm,20.0s
GRF Grafenberg Arr 139.20 336 *e*PKPdf **PKPdf 07 18 09.5 -2.3**
baz=38,slow=1.6
GRF *e*PP **PP 07 21 07.1 +2.5**
baz=42,slow=6.0
GRF *e*SKPbc **SKPab 07 21 53.6 -1.0**
GRF *e*SKKP 07 30 32.9
baz=209,slow=4.7
GRF *e*L L 08 21 32.8
comp=Z,19µm,20.4s
GRFO Grafenberg 139.20 336 IAMs_20 IAMs_20 08 21 21.7
comp=Z,19µm,20.0s
XOR Xorichti 139.24 315 P PKPpre 07 17 59.4
NEO Neokhori 139.25 315 P PKPpre 07 18 02.2
MOA Molln 139.29 331 *e*P **PKiKP 07 18 15.1 +0.8**
comp=Z,53nm,0.9s
MOA *e*PP **PP 07 21 04.7 -0.6**
comp=Z,16nm,1.2s
MOA *e*S **SKPab 07 21 56.9 +1.9**
comp=Z,80nm,1.5s
IOMK Kirk Michael 139.31 352 *e*P PKPpre 07 18 01.4
DION Dionisos Attik 139.31 313 P **PKPdf 07 18 09.0 -3.4**
PTL Penteli 139.37 313 P PKPpre 07 17 59.8
LMK Market Rasen 139.38 348 *e*P PKPpre 07 17 52.1
RUDO Rudo 139.41 323 *e*P PKPpre 07 18 02.5
WIM Isle of Man 139.43 352 *e*P PKPpre 07 17 55.4
VLY Voula,Athens 139.50 313 P PKPpre 07 18 00.3
IVA Berane 139.54 322 *e*PKP PKPpre 07 18 06.8
A052A Srbac 139.54 326 *e*P PKPpre 07 18 00.3
MHLO Agia Marina, M 139.55 311 P **PKPdf 07 18 13.3 +0.5**
PLE Pljevlja 139.57 323 *e*PKP PKPpre 07 18 06.1
ATAL Atalanti 139.67 314 P PKPpre 07 18 00.8
BIOA Bad Ischl, Aus 139.69 332 *e*P **PKPdf 07 18 14.0 +1.2**
comp=Z,102nm,1.7s
BIOA *e*PP **PP 07 21 07.5 -0.3**
comp=Z,27nm,1.3s
BIOA Bad Ischl, Aus 139.69 332 P PKPpre 07 18 03.0
comp=Z,1.2nm,0.4s
LBWR Ladybower, Pea 139.69 349 *e*P PKPpre 07 18 01.1
LBWR IAMs_20 IAMs_20 08 21 01.9
comp=Z,22µm,21.1s
LKR Lokris 139.71 314 P **PKPdf 07 18 13.9 +0.9**
VILL Villia 139.71 313 P PKPpre 07 18 00.3
IDI Anoyia 139.73 309 ⇑P 07 21 52.3
IDI Anoyia 139.73 309 P PKPdf 07 17 58.5 -15
KZN Kozani 139.74 317 P **PKPdf 07 18 09.9 -3.3**
FNA Florina 139.75 318 P **PKPdf 07 18 10.3 -2.9**
SOKA Soboth 139.76 330 *e*PP PP 07 21 09.0 +0.7
comp=Z,34nm,1.7s
SOKA S **SKiKP 07 21 51.6 +2.3**
comp=Z,40nm,1.3s
KOME Kolasin 139.78 322 *e*PKP PKPpre 07 18 07.5
GUA01 Guaratinga, BA 139.83 138 *e*P **PKPdf 07 18 15.0 +1.1**
WACR West Acre 139.86 347 *e*P PKPpre 07 17 55.7
ZAG Zagreb 139.87 328 *e*P **PKPdf 07 18 12.0 -1.1**
UPM Unac-Piva 139.93 323 *e*P PKPpre 07 18 05.1
BLY Banja Luka 139.94 326 *e*P PKPpre 07 18 02.1
THL Klokotos Trika 139.95 316 P PKPpre 07 18 00.1
LTK Loutraki 140.02 313 P PKPpre 07 18 04.9
STNC Stoke 140.07 350 *e*P PKPpre 07 18 00.3
STNC IAMs_20 IAMs_20 08 22 41.4
comp=Z,24µm,21.5s
OBKA Obir 140.11 330 *e*P **PKPdf 07 18 14.5 +0.9**
comp=Z,29nm,1.6s
OBKA *e*PP **PP 07 21 10.4 -0.1**
comp=Z,68nm,1.6s
OBKA Obir 140.11 330 *e*P PKPpre 07 18 02.3
WPS Cemaes, Angles 140.13 352 *e*P PKPpre 07 17 54.3
CRES Cresnjev 140.14 328 *e*P PKPpre 07 18 04.6
NKME Niksic 140.16 322 *e*PKP PKPpre 07 18 07.1
PDG Podgorica 140.18 322 ⇑P **PKPdf 07 18 10.4 -3.4**
PDG Podgorica 140.18 322 IAMs_20 IAMs_20 08 23 46.2
comp=Z,15µm,21.0s
PDG Podgorica 140.18 322 *e*P PKPpre 07 18 06.1
TTG Podgorica 140.18 322 *e*PKP PKPpre 07 18 08.1
PDKS Podkum 140.21 329 *e*PP PP 07 21 14.2 +3.2
MGRS Mrkonjic Grad 140.21 326 *e*P PKPpre 07 18 07.0
THAL Thalero 140.22 314 P PKPpre 07 18 02.1
WLF1 Llynfaes 140.23 352 *e*P PKPpre 07 17 55.4
WLF1 IAMs_20 IAMs_20 08 21 18.7
comp=Z,36µm,20.8s
CWF Charnwood Fore 140.25 349 *e*P PKPpre 07 18 02.8
KBA Koelnbreinsper 140.28 331 *e*P **PKPdf 07 18 14.7 +0.7**
comp=Z,141nm,0.9s
KBA *e*PP **PP 07 21 10.7 -0.8**
comp=Z,53nm,1.5s
KBA *e*S **SKPab 07 21 55.4 -4.2**
comp=Z,66nm,1.4s
YRC Rhoscolyn 140.29 352 *e*P PKPpre 07 18 05.3
BTNL Ternell 140.30 341 *d*PKP PKPpre 07 18 05.9
CEME Cevo 140.31 322 *e*PKP PKPpre 07 18 08.0
MEM Membach 140.32 341 *d*PKP PKPpre 07 18 04.5
BRY Piatogost 140.32 323 *e*P PKPpre 07 18 04.5
IMMV Iera Moni Meta 140.35 309 P PKPpre 07 18 03.6
DRME Dracevica, Mon 140.36 321 *e*P PKPpre 07 18 03.0
DRME Dracevica, Mon 140.36 321 *e*PKP PKPpre 07 18 08.4
ELMS Elmsett, Ipswi 140.37 346 *e*P PKPpre 07 17 57.5
ELMS IAMs_20 IAMs_20 08 20 36.7
comp=Z,15µm,20.5s
EVR Evrytania 140.40 315 P PKPpre 07 18 01.2
TIR Tirane 140.41 320 ⇑P PKPpre 07 18 07.8
TIR Tirane 140.41 320 ⇑PKHKP PKPpre 07 18 07.8
FOEL Foel Wylfa 140.44 350 *e*P PKPpre 07 17 52.5
FOEL IAMs_20 IAMs_20 08 20 46.2
comp=Z,25µm,21.5s
ULC Ulcinj 140.45 321 *e*PKP PKPpre 07 18 08.6
LJU Ljubljana 140.45 329 *e*P PKPpre 07 18 02.8
LJU Ljubljana 140.45 329 *e* **PKPdf 07 18 15.2 +1.1**
LJU *e*PP **PP 07 21 15.7 +3.2**
LJU *e* 07 21 53.4
BOJS Bojanci 140.46 328 *e*PKPdf PKPpre 07 18 09.0
BOJS *e* 07 18 15.9
BOJS *e* 07 33 21.4
MYKA Terra Mystica 140.46 331 *e*P **PKPdf 07 18 14.2 -0.1**
comp=Z,61nm,0.9s
MYKA *e*PP **PP 07 21 12.6 +0.1**
comp=Z,25nm,1.3s
BUM Brajici-Budva 140.47 322 *e*PKP PKPpre 07 18 08.5
RODP Rodopos 140.48 310 P PKPpre 07 18 06.4
BSTI Sart Tilman 140.48 341 *d*PKP PKPpre 07 18 08.8
GVDS Gavdos 140.50 308 P **PKPdf 07 18 11.6 -3.0**
GVD Gavdhos 140.51 308 P PKPpre 07 18 03.7
BHOU Houvegnez 140.54 341 *d*PKP PKPpre 07 18 08.6
TREB Trebinje 140.55 323 *e*P PKPpre 07 18 06.3
LLW Llanuwchllyn 140.55 351 *e*P PKPpre 07 18 01.4
EFP Efpalio 140.57 315 P PKPpre 07 18 04.3
GBAS Gorenja Brezov 140.57 329 *e*PKPdf PKPpre 07 18 08.6
GBAS *e*PP **PP 07 21 16.2 +2.9**
LAKA Lakka 140.61 314 P PKPpre 07 18 08.0
VLI Veliai 140.61 312 P PKPpre 07 18 03.6
HCY Herceg Novi 140.62 322 *e*P PKPpre 07 18 07.5
HCY Herceg Novi 140.62 322 *e*PKP PKPpre 07 18 08.8
JAN Janina 140.68 317 P PKPpre 07 18 07.7
BCLA Clavier 140.71 341 *d*PKP **PKPdf 07 18 11.7 -2.8**
KTHA Kythira Island 140.72 311 P PKPpre 07 18 04.1
STU Stuttgart 140.74 336 IAMs_20 IAMs_20 08 22 57.2
comp=Z,12µm,21.0s
HLM1 Long Mynd 140.74 350 *e*P PKPpre 07 17 60.0
HLM1 IAMs_20 IAMs_20 08 21 58.1
comp=Z,19µm,23.0s
KTHR Kythira 140.76 311 P PKPpre 07 18 04.6
BGES Gesves 140.81 341 *d*PKiKP **PKiKP 07 18 16.3 -1.0**
STON Ston 140.83 323 *e*P PKPpre 07 18 05.5
WATA Walderalm 140.88 333 *e*P **PKPdf 07 18 11.3 -3.8**
comp=Z,12nm,1.2s,SNR=7.3
WATA *e*PP **PP 07 21 14.6 -0.5**
comp=Z,69nm,1.9s
WATA *e*S **SKiKP 07 21 50.9 -0.8**
comp=Z,45nm,1.6s
ABTA Abfaltersbach 140.91 332 *e*P **PKPdf 07 18 14.3 -0.8**
comp=Z,221nm,1.2s
ABTA *e*PP **PP 07 21 14.3 -1.0**
comp=Z,2µm,5.4s
ABTA S **SKiKP 07 21 56.5 +4.8**
comp=Z,43nm,1.6s
CMC01 Camacan, BA 140.91 137 *e*P **PKPdf 07 18 16.9 +1.0**
WTTA Wattenberg 140.91 333 *e*P PKPpre 07 18 11.3
comp=Z,30nm,1.2s,SNR=13
WTTA *e*P **PKiKP 07 18 17.7 -0.2**
comp=Z,286nm,1.7s
WTTA *e*PP **PP 07 21 14.6 -0.8**
comp=Z,2µm,4.3s
WTTA *e*S **SKPab 07 21 57.4 -5.1**
comp=Z,47nm,1.4s
DRO Drossia 140.93 314 P PKPpre 07 18 11.0
SNF Seneffe 140.94 342 *d*PKP **PKPdf 07 18 11.8 -3.1**
RCHB Rochefort 140.96 341 *d*PKP PKPpre 07 18 10.6
BMRD Maredsous 140.98 342 *d*PKP PKPpre 07 18 11.0
RIY Rijeka 140.98 329 *e*P PKPpre 07 18 04.5
SKDS Skadanscina 141.06 329 *e*P PKPpre 07 18 06.3
MOTA Moosalm 141.08 333 *e*P PKPpre 07 18 11.2
comp=Z,14nm,0.9s
MOTA *e*P **PKiKP 07 18 20.1 +1.9**
comp=Z,84nm,0.9s
MOTA *e*PP **PP 07 21 15.4 -0.9**
comp=Z,30nm,1.3s
MOTA *e*S **SKiKP 07 21 52.0 0.0**
comp=Z,56nm,0.9s
WLF Walferdange 141.09 340 *dx* x 07 17 58.9
WLF *d*PKP PKPpre 07 18 11.2
RETA Reutte 141.12 334 *e*P PKPpre 07 18 11.3
comp=Z,14nm,1.1s,SNR=6.0
RETA *e*P **PKiKP 07 18 18.7 +0.6**
comp=Z,129nm,2.0s
RETA *e*PP **PP 07 21 16.6 +0.1**
comp=Z,28nm,1.3s
RETA *e*S **SKiKP 07 21 55.4 +3.3**
comp=Z,40nm,1.0s
SQTA Sankt Quirin 141.13 333 P PKPpre 07 18 08.9
comp=Z,163nm,1.0s,SNR=5.9
SQTA *e*PP **PP 07 21 18.8 +2.1**
comp=Z,53nm,1.8s
SQTA S **SKiKP 07 21 53.2 +1.1**
comp=Z,36nm,1.2s
ITM Ithomi 141.13 313 P PKPpre 07 18 04.9
ELSH Elham, Standar 141.21 346 *e*P PKPpre 07 18 01.8
ELSH IAMs_20 IAMs_20 08 24 22.4
comp=Z,17µm,21.3s
DOU Dourbes 141.21 342 *d*PKP **PKPdf 07 18 13.2 -2.2**
DOU *d*PKiKP **PKiKP 07 18 17.4 -0.8**
LKD2 Lefkada island 141.25 316 P PKPpre 07 18 04.8
NYDR Nydri-Lefkada 141.26 316 P PKPpre 07 18 10.7
MCH1 Michaelchurch 141.26 350 *e*P PKPpre 07 18 03.9
MCH1 IAMs_20 IAMs_20 08 22 12.3
comp=Z,22µm,21.9s
STRD Stroud 141.33 349 *e*P PKPpre 07 18 05.7
STRD IAMs_20 IAMs_20 08 21 37.1
comp=Z,24µm,22.1s
KEK Kerkira 141.34 318 P PKPpre 07 18 07.8
MONM Monmouth 141.38 350 *e*P PKPpre 07 17 60.0
MONM IAMs_20 IAMs_20 08 22 27.0
comp=Z,17µm,20.6s
PYL PYLOS 141.39 313 P PKPpre 07 18 02.7
BFO Black Forest 141.43 337 PKIKP **PKPdf 07 18 12.9 -3.0**
BFO Black Forest 141.43 337 PKPdf **PKPdf 07 18 12.9 -3.0**
FSK Fiskardo 141.48 315 P PKPpre 07 18 06.2
FETA Feichten 141.50 333 *e*P **PKPdf 07 18 13.3 -2.9**
comp=Z,206nm,1.0s
FETA *e*PP **PP 07 21 18.4 -0.5**
comp=Z,50nm,1.7s
FETA S **SKiKP 07 21 53.3 +0.4**
comp=Z,88nm,1.2s
OLDB Oldbury-Upon-S 141.51 349 *e*P PKPpre 07 18 08.9
OLDB IAMs_20 IAMs_20 08 25 18.4
comp=Z,14µm,19.0s
SWN1 Swindon 141.51 348 *e*P PKPpre 07 18 00.7
RSBS Rosebush, Pemb 141.58 352 *e*P PKPpre 07 18 06.8
VLS Valsamata 141.60 315 P PKPpre 07 18 08.6
PSDA Pessada-Kefalo 141.63 315 P PKPpre 07 18 08.3
DAVA Damuels 141.65 334 *e*PP PP 07 21 19.4 -0.4
comp=Z,53nm,2.1s
DAVA S **SKiKP 07 21 56.5 +3.3**
comp=Z,35nm,1.3s
LTHK Lithakia 141.65 314 P PKPpre 07 18 12.2
HMNX Herstmonceux 141.66 346 *e*P PKPpre 07 18 08.2
HMNX IAMs_20 IAMs_20 08 21 40.1
comp=Z,19µm,22.8s
KEF4 Livadi, Kephal 141.67 315 P PKPpre 07 18 12.0
KEF3 Kipouria, Keph 141.75 315 P PKPpre 07 18 11.1
TMAB Tom-Au,PA,Br 141.81 113 *e*P **PKiKP 07 18 19.8 -0.7**
DAVOX Davos/Dischmat 142.05 334 SKPbc **SKiKP 07 21 57.2 +3.1**
HTL Hartland 142.47 351 *e*P PKPpre 07 18 06.0
HTL IAMs_20 IAMs_20 08 24 06.0
comp=Z,21µm,21.6s
MATE Matera 142.77 321 ⇑P PKPpre 07 18 12.6
MATE Matera 142.77 321 ⇑P 07 21 52.3
DYA Yadsworthy 142.93 350 *e*P PKPpre 07 18 09.2
DYA IAMs_20 IAMs_20 08 25 07.6
comp=Z,8µm,20.4s
CCA1 Carnmenellis 143.37 351 *e*P PKPab 07 18 13.2 -2.1
CCA1 IAMs_20 IAMs_20 08 22 16.3
comp=Z,19µm,19.9s
SENIN Lac Senin/Sane 143.44 336 IAMs_20 IAMs_20 08 24 00.9
comp=Z,15µm,21.0s
AQU L'Aquila 143.59 326 IAMs_20 IAMs_20 08 25 30.2
comp=Z,19µm,20.0s
AQU L'Aquila 143.59 326 *e*P PKPab 07 18 15.4 -1.1
NBPN Ponto Novo - B 143.59 131 *e*P **PKPdf 07 18 22.5 +1.8**
TIP Timpagrande 143.60 319 ⇑P PKPab 07 18 15.0 -1.7
CLF Chambon-Foret 143.76 342 IAMs_20 IAMs_20 08 27 36.9
comp=Z,19µm,20.0s
JSA Saint Aubin 143.79 348 *e*P PKPab 07 18 15.3 -1.6
JSA IAMs_20 IAMs_20 08 21 31.0
comp=Z,22µm,21.9s
CEL Celeste 144.68 318 **PKPab 07 18 20.3 -0.4**
CEL IAMs_20 IAMs_20 08 26 53.8
comp=Z,13µm,20.0s
BNI Bardonecchia 144.77 335 PKIKP **PKPab 07 18 20.0 -0.9**
BNI Bardonecchia 144.77 335 PKPdf **PKPab 07 18 20.0 -0.9**
BNI IAMs_20 IAMs_20 08 25 59.9
comp=Z,23µm,21.0s
ROSB Rosrio 145.08 117 *e*P **PKPdf 07 18 24.1 +0.8**
SSB Saint Sauveur 145.41 338 IAMs_20 IAMs_20 08 32 50.7
comp=Z,11µm,19.0s
NBPS Pedro II - PI 146.57 121 *e*P **PKPbc 07 18 27.6 +0.2**
CLTB Caltabellotta 146.79 320 PKPdf **PKPdf 07 18 26.0 +0.3**
CLTB IAMs_20 IAMs_20 08 26 38.5
comp=Z,20µm,22.0s
NBAN Anadia - AL 147.19 135 *e*P **PKPdf 07 18 27.6 +0.7**
NBPB Pedra_Branca-C 147.43 125 *e*P **PKPdf 07 18 27.1 -0.2**
VSL Villasalto 147.76 326 PKPdf **PKPdf 07 18 27.2 +0.1**
NBMO Morrinhos-CE 148.34 121 *e*P **PKPdf 07 18 30.3 +1.5**
NBRF Rio Formoso - 148.68 135 *e*P **PKPbc 07 18 31.4 -1.7**
NBCL Cascavel-CE 149.24 124 *e*P **PKPdf 07 18 31.4 +1.1**
SHEL Horse Pasture 149.27 194 PKP2 **PKPbc 07 18 33.9 -0.7**
SHEL Horse Pasture 149.27 194 **PKPbc 07 18 33.9 -0.7**
MAHO Mahon 150.00 332 PKP **PKPdf 07 18 30.5 -0.2**
MAHO Mahon 150.00 332 PP PP 07 22 05.2 -3.9
RCBR Riachuelo 150.09 130 PKPbc **PKPbc 07 18 34.9 -1.8**
comp=Z,38nm,0.7s,baz=6.6,slow=4.3,SNR=21
RCBR Riachuelo 150.09 130 IAMs_20 IAMs_20 08 27 20.0
comp=Z,11µm,19.0s
RCBR Riachuelo 150.09 130 *e*P **PKPdf 07 18 33.0 +1.4**
NBPV Pedro Velho 150.14 132 *e*P **PKPdf 07 18 32.8 +1.1**
H07S1 FLORES T-PHASE 150.23 29 *e*PKP **PKiKP 07 18 37.8 +0.7**
KEST Kesra 150.36 321 PKPbc **PKPbc 07 18 35.4 -1.4**
comp=Z,365nm,0.8s,baz=217,slow=1.2,SNR=25
CMAH Djebel Manchou 150.89 324 P **PKPdf 07 18 34.3 +2.0**
ABSA Djebel Ababsia 151.10 324 P **PKPdf 07 18 33.7 +1.0**
CKFL Kef-Lekhel 151.44 325 P **PKPdf 07 18 35.9 +2.7**
PBRG Braganca 151.77 350 *e*PKPdf **PKPdf 07 18 34.9 +1.4**
PBRG Braganca 151.77 350 *e*PP PP 07 22 22.5 +3.5
DFRA Djebel Bou Aff 151.80 326 P **PKPdf 07 18 36.8 +3.0**
PGAV Gavieira, Arco 151.85 352 *e*PKPdf **PKPdf 07 18 33.3 -0.3**
PGAV Gavieira, Arco 151.85 352 *e*PP PP 07 22 23.2 +3.8
PGAV Gavieira, Arco 151.85 352 *e*LQ LQ 08 02 58.1
PGAV *e*LR LR 08 11 45.8
comp=Z,16µm,18.0s
PGRA Graciosa 151.93 25 *e*PKP **PKPdf 07 18 35.9 +2.2**
CALA Caldeira 152.01 26 *e*PKP **PKPdf 07 18 37.0 +3.0**
PCAB Cabril 152.07 352 *e*PKPdf **PKPdf 07 18 35.6 +1.7**
PCAB Cabril 152.07 352 *e*PP PP 07 22 22.9 +2.3
ROSA Rosais 152.09 26 *e*PKP **PKPdf 07 18 35.4 +1.4**
PICO Pico 152.19 26 *e*PKP **PKiKP 07 18 43.4 +2.2**
PCAN Candelaria 152.20 26 *e*PKP **PKiKP 07 18 42.1 +0.9**
PMAN Manadas 152.22 25 *e*PKP **PKiKP 07 18 43.3 +2.1**
PPNO Prainha do Nor 152.29 26 *e*PKP **PKiKP 07 18 42.2 +0.8**
SET Setif 152.32 326 P **PKPbc 07 18 40.0 -1.3**
POLO Lamas de Olo 152.37 351 *e*PKPdf **PKPdf 07 18 35.2 +0.8**
POLO Lamas de Olo 152.37 351 *e*PP PP 07 22 25.8 +3.4
PID Ribeirinha 152.37 26 *e*PKP **PKiKP 07 18 43.2 +1.7**
UCM Universidad Co 152.41 343 PKP **PKPdf 07 18 33.9 -0.5**
UCM Universidad Co 152.41 343 PP PP 07 22 18.4 -4.3
MVO Moncorvo 152.45 350 *e*PKPdf **PKPdf 07 18 35.3 +0.8**
MVO Moncorvo 152.45 350 *e*PP PP 07 22 26.1 +3.3
MVO Moncorvo 152.45 350 *e*LQ LQ 08 02 32.3
MVO *e*LR LR 08 12 22.2
comp=Z,20µm,20.0s
PVRL Vila Real 152.45 351 *e*PKPdf **PKPdf 07 18 36.3 +1.8**
PVIS Viseu 153.02 351 *e*PKPdf **PKPdf 07 18 37.1 +1.7**
PVIS Viseu 153.02 351 *e*PP PP 07 22 29.3 +3.2
ESDC Sonseca Array 153.20 344 PKP **PKPdf 07 18 34.9 -0.8**
comp=Z,8.8nm,1.1s,baz=5.0,slow=2.0,SNR=12
ESDC PKPbc **PKPbc 07 18 41.9 -1.2**
comp=Z,49nm,1.0s,baz=4.7,slow=2.8,SNR=17
ESDC PP **PP 07 22 24.3 -2.9**
comp=Z,7.6nm,1.0s,baz=19,slow=7.3,SNR=5.2
MTE Manteigas 153.28 350 *e*PKPdf **PKPdf 07 18 35.7 0.0**
MTE Manteigas 153.28 350 *e*PP PP 07 22 31.1 +3.6
MTE Manteigas 153.28 350 *e*LQ LQ 08 03 54.0
MTE Manteigas 153.28 350 *e*LR LR 08 14 13.5
comp=Z,20µm,20.0s
PAB San Pablo 153.42 344 ⇑PKIKP **PKPdf 07 18 37.9 +1.9**
PAB San Pablo 153.42 344 IAMs_20 IAMs_20 08 29 36.6
comp=Z,18µm,21.0s
COI Coimbra 153.60 352 *e*PKPdf **PKPdf 07 18 35.4 -0.7**
COI Coimbra 153.60 352 *e*PP PP 07 22 30.1 +0.9
PCAS Casmilo, Conde 153.76 352 *e*PKPdf **PKPdf 07 18 36.0 -0.4**
PCAS Casmilo, Conde 153.76 352 *e*PP PP 07 22 32.3 +2.1
PCBR Castelo Branco 153.81 350 *e*PKPdf **PKPdf 07 18 38.4 +2.0**
PCBR Castelo Branco 153.81 350 *e*PP PP 07 22 33.6 +3.2
PSET Sete Cidades 153.86 23 *e*PKP **PKPdf 07 18 39.8 +3.2**
PDA Ponta Delgada 153.95 23 *e*PKP **PKPdf 07 18 39.3 +2.6**
PCALD Caldeiras da R 153.97 22 *e*PKP **PKPdf 07 18 39.8 +3.1**
CMLA Cha da Macela 153.99 23 *e*PKP **PKPdf 07 18 39.6 +2.8**
CMLA Cha da Macela 153.99 23 IAMs_20 IAMs_20 08 23 54.0
comp=Z,17µm,20.0s
BART Pico Bartolome 154.11 22 *e*PKP **PKPdf 07 18 40.9 +3.9**
CART Cartagena 154.14 337 PKP **PKPdf 07 18 35.3 -1.6**
CART Cartagena 154.14 337 PP PP 07 22 34.8 +2.3
CART Cartagena 154.14 337 IAMs_20 IAMs_20 08 42 48.9
comp=Z,11µm,20.0s
PMRV Marv??o 154.20 350 *e*PKPdf **PKPdf 07 18 36.0 -1.0**
PMRV Marv??o 154.20 350 *e*PP PP 07 22 36.1 +3.4
PMRV Marv??o 154.20 350 *e*LQ LQ 08 04 04.3
PMRV Marv??o 154.20 350 *e*LR LR 08 14 34.5
comp=Z,16µm,22.0s
PSBE So Bento 154.33 352 *e*PKPdf **PKPdf 07 18 38.6 +1.4**
PSBE So Bento 154.33 352 *e*PP PP 07 22 36.5 +3.1
PMTG Montargil 154.69 351 *e*PKPdf **PKPdf 07 18 36.6 -1.1**
PMTG Montargil 154.69 351 *e*PP PP 07 22 35.5 +0.2
PESTR Estremoz 154.78 350 *e*PKPdf **PKPdf 07 18 37.0 -0.8**
PESTR Estremoz 154.78 350 *e*PP PP 07 22 37.0 +1.1
PSMA Santa Maria 154.81 23 *e*PKP **PKPdf 07 18 40.6 +2.7**
PSMN Pico do Norte, 154.83 23 *e*PKP **PKPdf 07 18 40.3 +2.3**
PMAFR Mafra 154.95 353 *e*PKPdf **PKPdf 07 18 37.9 -0.2**
PMAFR Mafra 154.95 353 *e*PP PP 07 22 40.1 +3.3
PACT Alcochete 155.07 352 *e*PKPdf **PKPdf 07 18 38.9 +0.7**
PACT Alcochete 155.07 352 *e*PP PP 07 22 42.2 +4.8
PMST Lisbon--Monsan 155.15 352 *e*PKPdf **PKPdf 07 18 40.5 +2.2**
PMST Lisbon--Monsan 155.15 352 *e*PP PP 07 22 40.8 +2.9
LIS Lisbon 155.16 352 *e*PKPdf **PKPdf 07 18 39.0 +0.7**
LIS *e*PP **PP 07 22 40.9 +3.0**
LIS IAMs_20 IAMs_20 08 28 53.3
comp=Z,23µm,14.2s
LIS Lisbon 155.16 352 *e*PKPdf **PKPdf 07 18 39.0 +0.7**
LIS Lisbon 155.16 352 *e*PP PP 07 22 41.8 +3.8
LIS Lisbon 155.16 352 *e*PKIKP **PKPdf 07 18 39.0 +0.7**
LIS *e* 07 22 40.9
EVO Evora 155.18 350 PKP **PKPdf 07 18 35.6 -2.8**
EVO Evora 155.18 350 PP PP 07 22 35.6 -2.5
EVO Evora 155.18 350 *e*PKPdf **PKPdf 07 18 38.3 -0.1**
EVO Evora 155.18 350 *e*PP PP 07 22 40.0 +1.9
PBAR Barrancos 155.35 348 *e*PKPdf **PKPdf 07 18 39.0 +0.4**
PBAR Barrancos 155.35 348 *e*PP PP 07 22 40.4 +1.3
PBEJ Beja 155.65 350 *e*PKPdf **PKPdf 07 18 39.7 +0.7**
PNCL Nicolau / Gran 155.67 351 *e*PKPdf **PKPdf 07 18 39.0 0.0**
PNCL Nicolau / Gran 155.67 351 *e*PP PP 07 22 44.1 +3.3
EMAL Malaga-Limoner 156.04 342 PKP **PKPdf 07 18 35.7 -3.9**
EMAL Malaga-Limoner 156.04 342 PP PP 07 22 34.3 -8.7
PCVE Castro Verde 156.06 350 *e*PKPdf **PKPdf 07 18 41.0 +1.4**
PCVE Castro Verde 156.06 350 *e*PP PP 07 22 45.9 +2.9
PVAQ Vaqueiros 156.22 349 *e*PKPdf **PKPdf 07 18 40.0 +0.2**
PVAQ Vaqueiros 156.22 349 *e*PP PP 07 22 47.5 +3.6
PVAQ Vaqueiros 156.22 349 *e*LQ LQ 08 05 40.5
PVAQ *e*LR LR 08 13 08.3
comp=Z,23µm,20.0s
PTEO Sao Teotonio 156.25 351 *e*PKPdf **PKPdf 07 18 42.6 +2.8**
ARNO Arenosillo 156.32 347 PKP **PKPdf 07 18 37.3 -2.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARNO	Arenosillo	156.32	347	PP	PP	07 22 41.5	-3.0
PBDV	Barranco-do-Ve	156.42	349	ePKPdf	PKPdf	07 18 38.9	-1.2
PBDV	Barranco-do-Ve	156.42	349	ePP	PP	07 22 48.6	+3.5
MORF	Marmelete	156.48	351	ePKPdf	PKPdf	07 18 40.8	+0.6
MORF				ePP	PP	07 22 48.3	+3.0
MORF				IAMs_20	IAMs_20	08 39 15.4	
	comp=Z,15μm,17.6s						
MORF	Marmelete	156.48	351	ePKPdf	PKPdf	07 18 41.2	+1.0
MORF	Marmelete	156.48	351	ePP	PP	07 22 50.1	+4.7
MORF	Marmelete	156.48	351	ePKIKP	PKPdf	07 18 40.8	+0.6
MORF				e		07 22 48.3	
PFVI	Vila Bisbo	156.68	351	ePKPdf	PKPdf	07 18 41.3	+0.9
PFVI	Vila Bisbo	156.68	351	ePP	PP	07 22 50.3	+3.9
SFS	San Fernando	156.80	345	PKP	PKPdf	07 18 39.9	-0.7
SFS	San Fernando	156.80	345	PP	PP	07 22 50.2	+3.1
PVLZ	Peæn de	157.47	341	PKP	PKPdf	07 18 37.9	-3.5
PVLZ	Peæn de	157.47	341	PP	PP	07 22 39.9	-11
JBK	JBK	157.60	336	P	PKPdf	07 18 45.0	+3.0
ASCN	Ascension	158.13	177	IAMs_20	IAMs_20	08 45 32.3	
	comp=Z,12μm,20.0s						
FIGM	Figuig	158.92	331	P	PKPdf	07 18 47.0	+3.5
LCRM	LCR	159.01	340	P	PKPdf	07 18 47.0	+3.4
CZD	Col de Zad	159.67	340	P	PKPdf	07 18 48.0	+3.4
MDT	Midelt	159.72	339	P	PKPdf	07 18 47.0	+2.7
ZHG	ZHG	159.78	344	P	PKPdf	07 18 47.0	+2.6
AVE	Averroes	160.11	345	PKP	PKPdf	07 18 41.8	-2.8
AVE	Averroes	160.11	345	PP	PP	07 23 08.9	+3.6
GOLM	Goulmima	160.85	338	P	PKPdf	07 18 49.0	+3.3
PMPST	Porto Santo, M	160.85	8	ePKPdf	PKPdf	07 18 47.7	+2.2
PMPST	Porto Santo, M	160.85	8	ePP	PP	07 23 12.1	+2.9
PMOZ	Porto Moniz, M	160.97	10	ePKPdf	PKPdf	07 18 47.9	+2.1
PMOZ	Porto Moniz, M	160.97	10	ePP	PP	07 23 13.4	+3.4
PMOZ	Porto Moniz, M	160.97	10	eLQ	LQ	08 07 12.8	
PMOZ				eLR	LR	08 15 03.2	
	comp=Z,20μm,20.0s						
SRHM	Skhour des Reh	161.02	346	P	PKPdf	07 18 50.0	+4.2
PMAR	Madeira	161.12	10	ePKPdf	PKPdf	07 18 48.3	+2.3
PMAR	Madeira	161.12	10	ePP	PP	07 23 14.1	+3.3
TZRR	Tazzarine	161.90	338	P	PKPdf	07 18 49.0	+2.2
OUZM	OUZ	162.19	341	P	PKPdf	07 18 50.0	+2.8
OUK	Oukaimeden	162.22	345	P	PKPdf	07 18 50.0	+2.6
ZGR	Zagora	162.52	337	P	PKPdf	07 18 50.0	+2.5
TTIG	Tnine Tigouga,	162.99	346	P	PKPdf	07 18 50.0	+2.0
TOA0	Torodi Ar. Sit	165.43	268		PKPdf	07 18 48.2	-2.1
TORD	Torodi Ar. Bea	165.43	268	PKP	PKPdf	07 18 48.6	-1.8
	comp=Z,111nm,1.1s,baz=113,slow=1.3,SNR=37						
TORD				PKPab	PKPab	07 19 48.5	0.0
	comp=Z,84nm,1.1s,baz=91,slow=3.2,SNR=12						
TORD				PP	PP	07 23 35.4	-0.5
	comp=Z,6.0nm,1.0s,baz=127,slow=3.2,SNR=2.7						
TORD	Torodi Ar. Bea	165.43	268		PKPdf	07 18 48.9	-1.4
KIC	Kosan Boka	168.66	228	ePKIKP	PKPdf	07 18 50.1	-2.7
	comp=Z,133nm,1.2s						
KIC	Kosan Boka	168.66	228	ePKP1	PP	07 23 50.8	-0.5
	comp=Z,48nm,1.3s						
LIC	Lamto	168.77	227	ePKIKP	PKPdf	07 18 50.6	-2.3
	comp=Z,100nm,1.4s						
LIC	Lamto	168.77	227	ePKP1	PP	07 23 50.7	-1.1
	comp=Z,116nm,1.6s						
DBIC	Dimbokro	168.95	229	PKP	PKPdf	07 18 50.0	-3.0
	comp=Z,66nm,1.3s,baz=144,slow=1.4,SNR=14						
DBIC				PKPab	PKPab	07 20 02.6	-1.4
	comp=Z,17nm,1.0s,baz=317,slow=3.0,SNR=1.7						
DBIC	Dimbokro	168.95	229	⇑PKIKP	PKPdf	07 18 51.6	-1.4
DBIC	Dimbokro	168.95	229		PKPdf	07 18 51.0	-2.0
TIC	Toumodi	169.05	229	ePKIKP	PKPdf	07 18 50.3	-2.8
TIC	Toumodi	169.05	229	ePKP1	PP	07 23 52.1	-1.2
KOWA	Kowa	171.02	274	P	PKPdf	07 18 54.8	+0.7

*GII **06** 07:01:32.9±0.0, 33.°60N×35.°59E, h1km, MD1.8/7, Mm2.0/5*
*GRAL **06** 07:01:32.4±0.3, 33.°66N×35.°51E, h5km±2km, MD2.9*
ISC 06 07:01:32.5±0.9**, 33.°69N**±0.°03×**35.°60E**±0.°05**, h10**km±6km**, n18,** σ**0.s61**/33**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DQRL	Deir Qamar	0.03	299	eP	Pg	07 01 33.9	-0.5
DQRL				eS	Sg	07 01 35.0	-0.7
QRWL	Qaraoun	0.16	154	eP	Pg	07 01 35.7	-0.3
QRWL				eS	Sg	07 01 38.2	-0.3
BEYL	Beirut	0.20	334	eP	Pg	07 01 36.3	-0.4
BHL	Bhannes	0.22	12	eP	Pb	07 01 37.3	+0.2
BHL				eS	Sb	07 01 41.2	+1.0
SHBL	Chebaa	0.36	161	eP	Pg	07 01 39.1	-0.7
SHBL				eS	Sg	07 01 44.0	-0.6
NATI	Neve Ativ	0.44	165	Pg	Pg	07 01 40.7	-0.5
NATI				Sg	Sg	07 01 48.0	+0.9
GEM	Giv'at Ha'Em	0.48	174	Pg	Pg	07 01 41.3	-0.6
GEM				Sg	Sg	07 01 48.7	+0.4
HWQ	Hawqa	0.65	26	eP	Pb	07 01 45.3	-0.8
MMC7	Mount Meron ar	0.69	195	Pg	Pg	07 01 45.9	0.0
MMC7				Sg	Sb	07 01 56.2	-0.2
MMA0B	Mount Meron ar	0.69	194	Pg	Pg	07 01 46.0	0.0
MMA0B				Sg	Sb	07 01 56.3	-0.2
HNTI	Hanita	0.70	210	Pg	Pb	07 01 46.6	-0.3
HNTI				Sg	Sg	07 01 55.8	+0.5
BLGI	Bet Lehem HaGe	1.02	200	Pg	Pb	07 01 51.9	-0.3
BLGI				Sg	Sb	07 02 05.6	0.0
OFRI	`Ofer	1.19	206	Pg	Pn	07 01 54.8	-0.5
OFRI				Sg	Sn	07 02 11.0	-0.5
MMLI	Mount Malkishu	1.26	187	Pg	Pb	07 01 56.3	-0.1
MMLI				Sg	Sn	07 02 12.9	-0.4
HMDT	Nahal Hemdat	1.44	182	Pn	Pb	07 01 58.7	-0.7
HMDT				Sn	Sb	07 02 18.3	+0.5
SLTI	Sal'it	1.52	198	Pn	Pb	07 02 00.6	-0.3
SLTI				Sn	Sb	07 02 20.9	+0.7
DSI	Dead Sea	2.12	185	Pn	Pn	07 02 08.8	+0.7
DSI				Sn	Sn	07 02 35.2	+0.6
PRNI	Paran	3.37	189	Pn	Pn	07 02 26.7	+1.4

*IDC **06** 07:17:46.5±0.9, 14.°87S×168.°33E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.0/41, mbtmp4.3/10, ML3.9/1, Error ellipse: s-maj=33.0km s-min=21.4km az=131.0*
*NEIC **06** 07:17:52.7±0.8, 14.°8S±0.°1×168.°3E±0.°1, h35km±8km, mb4.4/13, Error ellipse: s-maj=19.4km s-min=12.6km az=135.0*
ISC 06 07:17:52.4±0.8**, 14.°91S**±0.°09×**168.°2E**±0.°1**, h35**km**, n27,** σ**1.s09**/27**, mb4.3**/14**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.33	193	Pn	Pn	07 19 35.5	-1.6
	1.9nm,0.3s,baz=118,slow=21,SNR=18						
DZM				Sn	Sn	07 20 56.0	-3.1
	baz=291,slow=21,SNR=1.0						
DZM	Mont Dzumac	7.33	193		Pn	07 19 37.2	+0.1
ONTNC	Ouen Toro	7.55	193	Pn	Pn	07 19 41.5	+1.4
OUENC	Ouen Island, N	7.59	190	Pn	Pn	07 19 41.8	+1.2
PINNC	Pines Island,	7.70	186	Pn	Pn	07 19 43.6	+1.5
EIDS	Eidsvold	19.16	234	P	P	07 22 14.1	+1.1
EIDS				IAmb	IAmb	07 22 42.3	
	comp=Z,17nm,1.4s						
CTA	Charters Tower	21.59	253	P	P	07 22 40.1	+0.7
	comp=Z,4.2nm,0.8s,baz=84,slow=13,SNR=2.5						
BKZ	Black Stump Fm	25.23	165	P	P	07 23 15.3	+0.2
BKZ				IAmb	IAmb	07 23 31.9	
	comp=Z,15nm,1.2s						
STKA	Stephens Creek	29.60	231	P	P	07 23 54.9	+0.5
	comp=Z,1.7nm,0.5s,baz=29,slow=10,SNR=4.4						
WR0	Warramunga Arr	32.51	256	P	P	07 24 20.2	0.0
WR0				IAmb	IAmb	07 24 30.5	
	comp=Z,6.6nm,1.2s						
WB0	Warramunga Arr	32.64	257	P	P	07 24 20.9	-0.4
WB0				IAmb	IAmb	07 24 28.7	
	comp=Z,9.6nm,1.1s						
WB2	Warramunga Arr	32.69	256	P	P	07 24 21.6	-0.1
WRAB	Tennant Creek	32.69	256	P	P	07 24 21.4	-0.4
WRAB				IAmb	IAmb	07 24 31.9	
	comp=Z,6.0nm,1.2s						
WRA	Warramunga Arr	32.70	256	P	P	07 24 21.2	-0.7
	comp=Z,1.9nm,0.9s,baz=83,slow=8.3,SNR=11						
AS31	Alice Springs	33.49	250	P	P	07 24 28.3	-0.5
ASAR	Alice Springs	33.49	250	P	P	07 24 28.4	-0.4
	comp=Z,3.4nm,0.4s,baz=76,slow=9.3,SNR=63						
BBOO	Buckleboo	34.22	233	P	P	07 24 35.2	+0.3
FITZ	Fitzroy Crossi	40.91	259	P	P	07 25 32.4	+0.7
FITZ				IAmb	IAmb	07 25 40.4	
	comp=Z,4.7nm,0.9s						
PSA00	Pilbara Seismi	46.30	254	P	P	07 26 15.8	+0.7
SBA	Scott Base	62.96	180	P	P	07 28 16.8	+1.7
QSPA	South Pole Qui	75.12	180	P	P	07 29 30.2	-0.6
	comp=Z,3.6nm,1.0s,baz=198,slow=0.8,SNR=9.7						
SONM	Songino Array	83.20	323	P	P	07 30 14.7	-0.5
	comp=Z,1.9nm,0.8s,baz=130,slow=2.3,SNR=4.4						
SONM	Songino Array	83.20	323	IAmb	IAmb	07 30 17.3	
	comp=Z,5.9nm,1.1s						
ILAR	Eielson Array	86.41	18	P	P	07 30 29.1	-1.7
	comp=Z,1.4nm,0.9s,baz=233,slow=5.2,SNR=5.4						
NVAR	Mina Array Bea	86.67	49	P	P	07 30 33.6	+0.6
	comp=Z,1.3nm,0.8s,baz=224,slow=5.0,SNR=4.2						
MKAR	Makanchi Array	97.98	316	P	P	07 31 24.8	-0.2
	comp=Z,2.4nm,0.7s,baz=94,slow=5.7,SNR=5.0						
ARCES	ARCESS Array B	120.66	346	PKP	PKPdf	07 36 39.5	-0.5
	comp=Z,4.1nm,1.1s,baz=38,slow=1.6,SNR=6.1						

*IDC **06** 07:24:09.9±2.1, 39.°34N×78.°10E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.1/68, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=26.4km s-min=23.9km az=116.0*
*SOME **06** 07:24:11.5, 39.°45N×78.°20E, h5km*
*NNC **06** 07:24:14.2±3.9, 39.°51N×78.°11E, h2km±17km, mb4.0, mpv3.6, Error ellipse: s-maj=28.0km s-min=19.9km az=144.0*
ISC 06 07:24:15.4±1.0**, 39.°44N**±0.°05×**78.°21E**±0.°04**, h15**km**, n43,** σ**3.s10**/72**, 7C-12D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.73	273	Pn	Pg	07 24 48.7	+0.1
KSH				Sn	Sg	07 25 17.3	+6.2
KSH				pmax	pmax		
	comp=Z,450nm,0.5s						
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,1μm,0.8s						
ULHL	Ulahol	3.17	333	P	Pb	07 25 10.3	-1.3
	SNR=18						
SATY	Saty	3.62	2	eP	Pb	07 25 19.8	+0.7
	comp=E,61nm,0.4s						
SATY				eS	Sg	07 26 09.1	-2.5
	comp=E,87nm,0.5s						
TNSS	Tian-Shan	3.72	346	eP	Pb	07 25 21.0	+0.1
	comp=E,38nm,0.4s						
TNSS				eS	Sb	07 26 11.0	+5.0
	comp=E,75nm,0.7s						
IZV	Izvestkoviy	3.79	342	eP	Pb	07 25 22.4	+0.4
	comp=E,46nm,0.6s						
IZV				eS	Sg	07 26 13.3	-3.7
	comp=E,303nm,0.7s						
MDOK	Medeo	3.82	347	eP	Pb	07 25 22.6	0.0
	comp=E,24nm,0.6s						
MDOK				eS	Sb	07 26 13.9	+5.2
	comp=E,150nm,0.8s						
MDOK	Medeo	3.82	347	⇓Pg	Pb	07 25 22.9	+0.3
	comp=E,39nm,0.5s						
MDOK				⇑Lg	Lg	07 26 14.0	
	comp=E,176nm,0.6s						
SHLS	Shalkode	3.83	14	eP	Pb	07 25 24.4	+1.6
	comp=E,43nm,0.5s						
SHLS				eS	Sg	07 26 16.8	-1.7
	comp=E,101nm,0.7s						
KOTS	Kotyrbulak	3.88	348	eP	Pb	07 25 24.5	+0.9
	comp=E,18nm,0.3s						
KOTS				eS	Sg	07 26 17.4	-2.6
	comp=E,185nm,0.4s						
KNDC	Almaty	3.89	347	⇓Pg	Pb	07 25 24.2	+0.5
	comp=E,40nm,0.3s						
KNDC				⇓Lg	Lg	07 26 17.0	
	comp=E,813nm,0.8s						
MTBS	Maitube	3.92	341	eP	Pb	07 25 24.2	-0.1
	comp=E,20nm,0.4s						
MTBS				eS	Sb	07 26 16.6	+5.1
	comp=E,133nm,0.7s						
UCH	Uchtor	3.95	316	P	Pb	07 25 23.6	-1.4
	SNR=12						
KST	Kastek	3.98	336	eP	Pb	07 25 24.8	-0.4
	comp=E,17nm,0.3s						
KST				eS	Sb	07 26 17.9	+4.7
	comp=E,65nm,0.3s						
TKM2	Tokmak 2	4.00	331	P	Pb	07 25 24.7	-0.9
	SNR=8.1						
TKM2	Tokmak 2	4.00	331	⇑Pn	Pn	07 25 16.7	+0.4
	comp=E,2.0nm,0.6s						
TKM2				⇑Pg	Pb	07 25 24.4	-1.2
	comp=E,9.7nm,0.5s						
TKM2				⇓Lg	Lg	07 26 18.7	
	comp=E,36nm,0.5s						
PDGK	Podgornoye	4.00	14	⇑Pn	Pn	07 25 17.0	+0.7
	comp=E,2.3nm,0.4s						
PDGK				⇓Pg	Pb	07 25 25.5	-0.2
	comp=E,11nm,0.4s						
PDGK				⇓Lg	Lg	07 26 17.6	
	comp=E,79nm,0.9s						
KPKS	Kokpek	4.04	5	eP	Pb	07 25 26.3	0.0
	comp=E,22nm,0.3s						
KPKS				eS	Sb	07 26 19.9	+5.0
	comp=E,88nm,0.5s						
KURS	Kuram	4.04	360	eP	Pb	07 25 26.5	+0.1
	comp=E,22nm,0.5s						
KURS				eS	Sb	07 26 20.2	+5.1
	comp=E,50nm,1.0s						
KBK	Karagaybulak	4.05	324	P	Pb	07 25 26.2	-0.3
	SNR=14						
DGS	Degeres	4.22	335	eP	Pb	07 25 29.5	+0.2
	comp=E,23nm,0.6s						
DGS				eS	Sb	07 26 25.6	+5.5
	comp=E,94nm,0.6s						
AAK	Ala-Archa	4.25	320	P	Pb	07 25 29.3	-0.7
	SNR=9.2						
AAK	Ala-Archa	4.25	320	Pn	Pn	07 25 19.4	-0.4
	comp=E,0.4nm,0.3s,baz=135,slow=11,SNR=2.0						
AAK				Pg	Pb	07 25 29.1	-0.9
	comp=E,4.4nm,0.3s,baz=138,slow=12,SNR=20						
AAK				Lg	Lg	07 26 24.8	
	comp=E,7.0nm,0.3s,baz=26,slow=19,SNR=16						
KTMS	Ketmen	4.32	21	eP	Pb	07 25 30.8	-0.2
	comp=E,9.4nm,0.6s						
KTMS				eS	Sb	07 26 27.7	+4.7
	comp=E,28nm,0.6s						
AML	Almayashu	4.35	310	P	Pn	07 25 22.4	+1.1
	SNR=6.9						
CHMS	Chumysh	4.41	325	⇓Pg	Pb	07 25 32.8	+0.2
	comp=E,6.6nm,0.6s						
CHMS				⇓Lg	Lg	07 26 30.1	
	comp=E,92nm,1.1s						
KTBS	Karatobe	4.42	346	eP	Pb	07 25 33.3	+0.6
	comp=E,8.2nm,0.6s						
KTBS				eS	Sb	07 26 32.1	+6.3
	comp=E,60nm,0.7s						
CHKK	Chushkaly	4.50	349	eP	Pb	07 25 35.0	+0.8
	comp=E,11nm,0.5s						
CHKK				eS	Sg	07 26 35.2	-4.7
	comp=E,61nm,0.2s						
KRBS	Karabastau	4.66	337	eP	Pb	07 25 36.8	0.0
	comp=E,12nm,0.4s						
KRBS				eS	Sb	07 26 38.4	+5.7
	comp=E,68nm,0.8s						
BLB	Baldybastay	4.66	2	eP	Pb	07 25 38.1	+1.2
	comp=E,40nm,0.3s						
BLB				eS	Sb	07 26 40.4	+7.6
	comp=E,32nm,0.4s						
KUU	Kurty	4.66	343	eP	Pb	07 25 37.1	+0.2
	comp=E,12nm,0.7s						
KUU				eS	Sb	07 26 38.3	+5.5
	comp=E,50nm,0.8s						
USP	Ospenovka	4.73	325	P	Pb	07 25 39.4	+1.3
	SNR=11						
ARXS	Arharly	4.78	357	eP	Pb	07 25 40.1	+1.2
	comp=E,22nm,0.8s						
ARXS				eS	Sg	07 26 44.0	-4.7
	comp=E,47nm,0.5s						
SGDS	Sogindy	4.83	327	eP	Pb	07 25 39.5	-0.1
	comp=E,10.0nm,0.5s						
SGDS				eS	Sb	07 26 43.0	+5.4
	comp=E,35nm,1.0s						
MRKS	Merke	5.01	313	eP	Pb	07 25 43.5	+0.8
	comp=E,3.4nm,0.4s						
MRKS				eS	Sg	07 26 50.0	-6.1
	comp=E,34nm,0.7s						
DJR	Jarkent	5.03	13	eP	Pb	07 25 43.9	+0.8
	comp=E,5.8nm,0.7s						
DJR				eS	Sb	07 26 50.2	+6.8
	comp=E,21nm,1.0s						
KK31	Karatay Array	6.85	305	⇓Pg	Pb	07 26 14.2	+0.1
	comp=E,1.7nm,0.5s,baz=129,slow=15						
KK31				⇓Lg	Lg	07 27 44.7	
	comp=E,14nm,0.8s,baz=123,slow=27,SNR=4.5						
MAKZ	Makanchi	7.86	19	⇓Pn	Pn	07 26 10.4	+1.2
	comp=E,2.9nm,0.9s						
MAKZ				⇑Sn	Sn	07 27 36.7	-1.2
	comp=E,1.2nm,0.5s						
MAKZ				⇓Lg	Lg	07 28 20.4	
	comp=E,5.5nm,0.9s						
MK31	Makanchi Array	7.93	21	Pn	Pn	07 26 09.6	-0.6
	comp=E,0.2nm,0.2s,baz=195,slow=12,SNR=35						
MK31				⇑Sn	Sn	07 27 38.8	-0.8
	comp=E,2.1nm,0.6s						
MK31				⇑Lg	Lg	07 28 22.9	
	comp=E,9.0nm,0.9s,baz=197,slow=28,SNR=3.6						
MKAR	Makanchi Array	7.93	21	Pn	Pn	07 26 09.8	-0.3
	comp=E,0.4nm,0.3s,baz=201,slow=12,SNR=15						
MKAR				Sn	Sn	07 27 37.8	-1.8
	comp=E,0.5nm,0.3s,baz=196,slow=25,SNR=2.2						
MKAR				Lg	Lg	07 28 26.1	
	comp=E,0.4nm,0.3s,baz=208,slow=28,SNR=2.7						
WMQ	Urumqi	8.34	55	ePn	Pn	07 26 17.7	+1.9
WMQ				Sn	Sn	07 27 54.4	+4.6
WMQ				smax	smax		
	comp=N,39nm,0.9s						
WMQ				smax	smax		
	comp=E,38nm,0.7s						
GOMU	GeErMu	13.52	99	P	Pn	07 27 25.9	-1.1
GOMU				pP	P	07 27 29.5	-6.7
GOMU				sP		07 27 30.6	
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	Torodi Ar. Bea	71.40	272	P	P	07 35 31.5	-3.7
	comp=Z,0.3nm,0.6s,baz=42,slow=5.3,SNR=1.9						
YKA	Yellowknife Ar	77.89	6	P	P	07 36 09.4	-2.6
	comp=Z,0.2nm,0.6s,baz=344,slow=5.5,SNR=2.9						

*IDC **06** 07:28:20.9±1.4, 1.°39S×16.°01W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.7/62, mbtmp4.2/5, MS5.3/2, Ms1 5.3/2, ms1mx4.5/82, Error ellipse: s-maj=43.2km s-min=27.8km az=147.0*
ISC 06 07:28:22.7±1.1**, 1.°4S**±0.°2×**16.°0W**±0.°2**, h12**km**, n14,** σ**0.s37**/6**, mb4.2**/5**, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	6.56	167	T	T	07 36 38.6	
	baz=348,slow=74,SNR=49						
H10N3	ASCENSION HYDR	6.57	167	T	T	07 36 40.8	
	baz=348,slow=74,SNR=48						
H10N1	ASCENSION HYDR	6.58	167	T	T	07 36 42.3	
	baz=348,slow=74,SNR=67						
H10S3	ASCENSION HYDR	7.62	170	T	T	07 37 58.7	
	baz=351,slow=74,SNR=8.1						
H10S2	ASCENSION HYDR	7.63	170	T	T	07 38 01.7	
	baz=229,slow=74,SNR=4.7						
TORD	Torodi Ar. Bea	22.75	50	P	P	07 33 25.1	+0.1
	7.6nm,1.1s,baz=233,slow=9.6,SNR=7.9						
BDFB	Brasilia	34.59	244	P	P	07 35 12.0	+0.1
	2.4nm,0.8s,baz=63,slow=8.7,SNR=3.3						
MDP	Montagnes des	37.16	280	LR	LR	07 47 04.6	
	comp=Z,2μm,20.8s,baz=287,slow=30						
MBAR	Mbarara	46.74	90	P	P	07 36 52.4	-0.1
	2.6nm,0.2s,baz=226,slow=4.0,SNR=1.4						
BOSA	Boshof	47.76	128	P	P	07 37 00.3	+0.2
	2.5nm,0.7s,baz=277,slow=9.3,SNR=4.8						
AKASG	Malin Array Be	64.60	30	P	P	07 39 00.0	+0.1
	0.2nm,0.3s,baz=234,slow=5.9,SNR=1.4						
OBN	Obninsk	70.78	29	LR	LR	08 14 22.4	
	comp=Z,4μm,19.4s,baz=54,slow=39						
ASAR	Alice Springs	141.57	132	PKhKP	PKPpre	07 47 50.0	
	1.1nm,1.0s,baz=236,slow=1.0,SNR=5.0						
WRA	Warramunga Arr	144.01	128	PKP	PKPdf	07 47 58.7	-0.6
	0.6nm,0.7s,baz=221,slow=2.3,SNR=5.0						

*IDC **06** 07:28:19.1±1.3, 13.°71S×166.°87E, h0km, mb4.2/7, mb1 4.2/8, mb1mx3.8/43, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=41.5km s-min=26.6km az=115.0*
ISC 06 07:28:24.3±1.1**, 13.°84S**±0.°10×**166.°9E**±0.°2**, h35**km**, n9,** σ**1.s37**/10**, mb4.2**/7**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.20	183	Pn	Pn	07 30 22.1	+1.2
	1.5nm,0.3s,baz=103,slow=22,SNR=1.8						
DZM				Sn	Sn	07 31 50.3	-2.1
	0.8nm,0.3s,baz=335,slow=18,SNR=1.7						
STKA	Stephens Creek	29.32	228	P	P	07 34 23.9	+0.2
	3.9nm,0.6s,baz=41,slow=9.4,SNR=4.3						
WRA	Warramunga Arr	31.72	254	P	P	07 34 45.0	-0.2
	0.8nm,0.9s,baz=86,slow=9.0,SNR=3.3						
ASAR	Alice Springs	32.68	248	P	P	07 34 52.8	-0.8
	1.6nm,0.6s,baz=74,slow=9.2,SNR=32						
QSPA	South Pole Qui	76.18	180	P	P	07 40 09.8	+1.0
	2.8nm,0.9s,baz=229,slow=2.6,SNR=2.9						
ILAR	Eielson Array	85.79	18	P	P	07 40 57.8	-1.9
	0.3nm,0.8s,baz=234,slow=5.0,SNR=1.6						
MKAR	Makanchi Array	96.33	317	P	P	07 41 49.7	+0.2
	0.9nm,0.7s,baz=92,slow=6.1,SNR=8.9						
ZALV	Zalesovo Beam	96.48	324	P	P	07 41 50.4	+0.5
	1.1nm,0.7s,baz=108,slow=4.7,SNR=4.4						
ARCES	ARCESS Array B	119.31	345	PKP	PKiKP	07 47 10.6	+1.2
	1.9nm,0.8s,baz=46,slow=3.9,SNR=1.5						

WEL 06 07:29:01.4±0.5**, 35°S**±4°×**18°0W**±°**, h135**km±15km**, M3.7**/31**, mB4.3**/12**, ML4.4**/42**, MLv4.1**/31**, Mw(mB)3.5**/12**, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0, East of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.65	217	P	Pn	07 29 42.9	-0.7
MXZ				S	Sn	07 30 16.6	+0.4
PKGZ	Pakihiroa	3.01	216	P	Pn	07 29 48.8	+0.4
PKGZ				S	Sn	07 30 24.9	+0.1
HAZ	Te Kaha	3.06	221	P	Pn	07 29 49.6	+0.6
HAZ				S	Sn	07 30 28.0	+2.3
PUZ	Puketiti	3.08	212	P	Pn	07 29 49.8	+0.5
RUGZ	Raukumara Rang	3.27	219	P	Pn	07 29 52.0	+0.2
TWGZ	Tauwhareparae	3.29	214	P	Pn	07 29 52.7	+0.6
CNGZ	Carnagh Statio	3.46	208	P	Pn	07 29 55.6	+1.6
TKGZ	Te Karaka	3.57	213	P	Pn	07 29 55.8	+0.2
TKGZ				S	Sn	07 30 37.4	-0.1
MWZ	Matawai	3.63	217	P	Pn	07 29 56.5	0.0
MWZ				S	Sn	07 30 39.2	+0.1
URZ	Urewera	3.79	221	P	Pn	07 29 58.4	-0.1
URZ				S	Sn	07 30 42.6	-0.1
RAGZ	Rawiri	3.81	216	P	Pn	07 29 58.8	0.0
RAGZ				S	Sn	07 30 44.1	+0.7
PRGZ	Paritu Road	3.96	208	P	Pn	07 30 01.1	+0.4
SNGZ	Shannon Statio	4.08	215	P	Pn	07 30 03.4	+1.1
MKRZ	Makatiti	4.08	228	P	Pn	07 30 04.3	+1.9
TARZ	Mount Tarawera	4.12	227	P	Pn	07 30 04.6	+1.7
RTZ	Ruatahuna	4.12	219	P	Pn	07 30 02.3	-0.6
MUGZ	Murupara	4.13	222	P	Pn	07 30 02.8	-0.2
MUGZ				S	Sn	07 30 49.4	-1.5
KARZ	Kaharoa	4.14	231	P	Pn	07 30 04.5	+1.4
MHGZ	Mahia Peninsul	4.15	207	P	Pn	07 30 03.6	+0.3
RRRZ	Republican Roa	4.18	225	P	Pn	07 30 04.3	+0.6
RAHZ	Arahi	4.30	216	P	Pn	07 30 06.2	+0.9
RAHZ				S	Sn	07 30 55.8	+0.9
WHHZ	Waihua	4.36	213	P	Pn	07 30 05.2	-0.8
WHHZ				S	Sn	07 30 57.2	+0.8
MTHZ	Maungataniwha	4.37	218	P	Pn	07 30 07.0	+0.7
MTHZ				S	Sn	07 30 57.4	+0.8
MKAZ	Moumakai	4.46	247	P	Pn	07 30 06.1	-1.3
TOZ	Tahuroa Road	4.48	238	P	Pn	07 30 08.7	+1.1
TOZ				S	Sn	07 30 59.8	+0.7
NMHZ	Naumai	4.58	216	P	Pn	07 30 09.9	+0.9
NMHZ				S	Sn	07 31 02.5	+0.9
MRHZ	Matea Rd	4.58	221	P	Pn	07 30 08.1	-0.9
MRHZ				S	Sn	07 31 00.5	-1.1
ARHZ	Aropaoanui	4.62	214	P	Pn	07 30 09.4	-0.1
ARHZ				S	Sn	07 31 01.3	-1.1
TLZ	Tolley Road	4.77	232	P	Pn	07 30 13.7	+2.1
BKZ	Black Stump Fm	4.79	218	P	Pn	07 30 11.0	-0.7
BKZ				S	Sn	07 31 05.5	-1.0
MCHZ	McNeill Hill	4.91	215	P	Pn	07 30 13.3	0.0
RATZ	Rangitukua	4.97	225	P	Pn	07 30 14.8	+0.7
KWHZ	Kaweka Forest	5.02	217	P	Pn	07 30 14.8	-0.1
KATZ	Kakaramea	5.08	225	P	Pn	07 30 16.8	+1.1
KAHZ	Kahuranaki	5.11	211	P	Pn	07 30 15.0	-1.0
KAHZ				S	Sn	07 31 15.5	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TMVZ	Te Maari	5.17	224	P	Pn	07 30 16.9	-0.1
NTVZ	North Tongarir	5.18	224	P	Pn	07 30 17.1	+0.1
ETVZ	East Tongariro	5.18	224	P	Pn	07 30 17.1	-0.1
KRVZ	Karewarewa	5.19	224	P	Pn	07 30 17.6	+0.3
KRHZ	Kereru	5.22	216	P	Pn	07 30 16.9	-0.5
KRHZ				S	Sn	07 31 15.1	-1.7
OTVZ	Oturere	5.23	224	P	Pn	07 30 17.6	-0.2
NNVZ	North Ngauruho	5.24	224	P	Pn	07 30 18.1	+0.3
WTVZ	West Tongariro	5.24	224	P	Pn	07 30 18.1	+0.2
BHHZ	Black Hill Sta	5.25	219	P	Pn	07 30 17.8	-0.1
SNVZ	South Ngauruho	5.26	224	P	Pn	07 30 18.4	+0.3
NGZ	Ngauruhoe	5.27	224	P	Pn	07 30 19.2	+0.8
TUVZ	Tukino	5.31	223	P	Pn	07 30 18.1	-0.7
HIZ	Hauiti	5.32	233	P	Pn	07 30 20.0	+1.2
MOVZ	Moawhango	5.35	221	P	Pn	07 30 18.5	-0.8
MOVZ				S	Sn	07 31 18.2	-1.8
FWVZ	Far West T-bar	5.35	224	P	Pn	07 30 20.8	+1.3
WNVZ	Wahianoa	5.38	223	P	Pn	07 30 19.3	-0.5
PKVZ	Pokaka	5.50	224	P	Pn	07 30 23.6	+2.3
PNHZ	Pukenui	5.51	215	P	Pn	07 30 20.7	-0.7
PNHZ				S	Sn	07 31 21.2	-2.6
PRHZ	Porangahau	5.61	210	P	Pn	07 30 21.3	-1.4
PRHZ				S	Sn	07 31 26.3	+0.2
TSZ	Takapari Road	5.74	216	P	Pn	07 30 22.5	-2.0
WAZ	Wanganui	6.02	223	P	Pn	07 30 28.8	+0.7
GLKZ	Green Lake	6.36	14	P	Pn	07 30 28.6	-4.2
GLKZ				S	Sn	07 31 43.7	-0.4
MRZ	Mangatainoka R	6.39	214	P	Pn	07 30 31.4	-1.8
KIW	Kapiti Island	6.87	217	P	Pn	07 30 38.3	-1.2
CTZ	Chatham Island	8.60	165	P	Pn	07 31 07.0	+4.2
CTZ				S	Sn	07 32 36.5	-1.7

IDC 06 07:33:42.3±2.8**, 13°.97S×167°.15E, h0km, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.2**/41**, mbtmp3.4**/3**, ML3.1**/1**, Error ellipse: s-maj=61.4km s-min=50.7km az=104.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.08	185	Pn	Pn	07 35 41.4	+0.3
	0.3nm,0.3s,baz=123,slow=17,SNR=1.7						
DZM				Sn	Sn	07 37 06.6	-6.7
	0.1nm,0.3s,baz=250,slow=7.4,SNR=2.1						
WRA	Warramunga Arr	31.90	255	P	P	07 40 10.4	+0.6
	0.5nm,0.9s,baz=100,slow=8.2,SNR=1.5						
ASAR	Alice Springs	32.84	248	P	P	07 40 17.2	-0.8
	0.3nm,0.9s,baz=74,slow=9.8,SNR=1.9						
ARCES	ARCESS Array B	119.50	345	PKP	PKPdf	07 52 33.1	-0.3
	2.1nm,0.9s,baz=74,slow=3.9,SNR=1.7						

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*IDC **06** 07:39:17.6±1.9, 51°.20N×151°.07E, h454km±20km, mb3.0/10, mb1 3.2/13, mb1mx2.9/47, mbtmp3.8/13, Error ellipse: s-maj=26.0km s-min=17.3km az=117.0*
*KRSC **06** 07:39:20.2±0.8, 50°.28N×154°.02E, h545km±8km, ML4.1*
ISC 06 07:39:20.6±0.8**, 51°.0N**±0°.1×**152°.2E**±0°.1**, h500km, n30, σ2s.49**/35**, mb3.3**/10**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	3.77	76	P	P	07 40 36.2	-0.8
KDTR				S	S	07 41 34.6	-4.8
ASAK	Asacha	3.80	67	P	P	07 40 37.6	+0.3
PETK	Petropavlovsk-	3.98	56	P	P	07 40 37.3	-1.4
	0.7nm,0.3s,baz=178,slow=3.0,SNR=6.9						
KRMR	Karymshinskiy	4.09	62	P	P	07 40 39.2	-0.3
RUS	Russkaya	4.17	68	P	P	07 40 39.7	-0.5
RUS				S	S	07 41 41.7	-3.7
DALK	Dalny	4.52	61	P	P	07 40 43.7	+0.6
DALK				S	S	07 41 48.7	-2.0
KOK	Koryaka	4.57	58	P	P	07 40 44.3	+0.6
KOK				S	S	07 41 49.9	-1.8
AVH	Avacha	4.61	58	P	P	07 40 45.2	+1.2
UGLR	Uglovaya	4.63	59	P	P	07 40 45.5	+1.3
KRER	Koryakskii	4.63	58	P	P	07 40 45.8	+1.4
SMAR	Somma	4.64	59	P	P	07 40 44.9	+0.4
SDLR	Sedlovina	4.70	59	P	P	07 40 45.2	+0.4
SPN	Mys Shipunski	5.26	64	P	P	07 40 48.8	-0.9
SPN				S	S	07 41 57.1	-5.6
TUMR	Tumrok	6.40	45	P	P	07 41 02.4	+1.7
TUMD	Tumrok D	6.47	47	P	P	07 41 02.2	+0.9
MKZ	Mys Kozlova	6.78	55	P	P	07 41 03.5	-0.8
MKZ				S	S	07 42 23.9	-5.4
KBTR	Krutoberegovo	8.17	47	P	P	07 41 19.3	+0.9
KBTR				S	S	07 42 52.0	-3.4
MA2	Magadan	8.60	355	P	P	07 41 17.1	-5.8
	0.7nm,0.3s,baz=168,slow=8.7,SNR=4.8						
ASAJ	Asahikawa	9.47	227	P	P	07 41 29.9	-2.5
	0.5nm,0.3s,baz=168,slow=20,SNR=2.2						
SEY	Seymchan	11.93	0	P	P	07 41 54.3	-3.7
	0.1nm,0.3s,baz=197,slow=18,SNR=2.2						
ILAR	Eielson Array	33.68	42	P	P	07 45 21.4	+2.5
	1.1nm,1.1s,baz=273,slow=8.0,SNR=4.9						
INK	Inuvik	38.42	35	P	P	07 46 00.4	+2.4
	1.7nm,0.5s,baz=291,slow=9.3,SNR=18						
YKA	Yellowknife Ar	47.90	39	P	P	07 47 14.7	+2.5
	0.5nm,0.4s,baz=303,slow=6.9,SNR=21						
ARCES	ARCESS Array B	53.61	339	P	P	07 47 51.1	-2.7
	1.8nm,0.9s,baz=31,slow=7.4,SNR=1.4						
FINES	FINESS Array B	59.92	333	P	P	07 48 35.3	-1.9
	0.9nm,0.8s,baz=27,slow=6.5,SNR=1.3						
PDAR	Pinedale Array	62.75	55	P	P	07 49 00.6	+4.2
	0.3nm,0.4s,baz=353,slow=1.9,SNR=7.0						
SCHQ	Schefferville	69.59	23	P	P	07 49 39.1	+0.6
	1.0nm,0.4s,baz=265,slow=11,SNR=1.6						
WRA	Warramunga Arr	72.39	198	P	P	07 49 55.7	+0.3
	0.3nm,0.5s,baz=12,slow=6.2,SNR=5.7						
TXAR	Lajitas Array	75.92	61	P	P	07 50 19.9	+4.3
	0.2nm,0.4s,baz=306,slow=5.4,SNR=6.8						
ASAR	Alice Springs	76.10	197	P	P	07 50 17.7	+1.3
	0.6nm,1.1s,baz=7.5,slow=6.1,SNR=2.5						

IDC 06 07:40:08.4±2.1**, 14°.02S×166°.83E, h0km, mb3.3**/3**, mb1 3.7**/4**, mb1mx3.5**/30**, mbtmp3.5**/4**, ML3.3**/1**, Error ellipse: s-maj=56.3km s-min=36.8km az=122.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.02	183	Pn	Pn	07 42 06.2	-0.2
	0.4nm,0.3s,baz=133,slow=22,SNR=7.2						
DZM				Sn	Sn	07 43 31.0	-6.9
	0.3nm,0.3s,baz=168,slow=21,SNR=1.0						
WRA	Warramunga Arr	31.59	255	P	P	07 46 32.0	-1.2
	0.2nm,0.6s,baz=84,slow=7.4,SNR=1.7						
ASAR	Alice Springs	32.53	248	P	P	07 46 42.6	+1.2
	0.2nm,0.7s,baz=76,slow=8.7,SNR=1.9						
ILAR	Eielson Array	85.99	18	P	P	07 52 50.3	0.0
	0.4nm,0.7s,baz=243,slow=4.0,SNR=2.8						

IDC 06 07:48:20.8±15.0**, 14°.16S×166°.78E, h0km, mb3.8**/3**, mb1 4.0**/4**, mb1mx3.7**/26**, mbtmp3.8**/4**, ML2.9**/1**, Error ellipse: s-maj=258.1km s-min=41.5km az=63.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.88	182	Pn	Pn	07 50 16.3	-0.5
	0.2nm,0.3s,baz=113,slow=17,SNR=2.2						
DZM				Sn	Sn	07 51 46.7	0.0
	0.1nm,0.3s,baz=93,slow=15,SNR=1.8						
STKA	Stephens Creek	29.01	228	P	P	07 54 23.4	+0.9
	1.5nm,0.5s,baz=47,slow=8.0,SNR=5.8						
WRA	Warramunga Arr	31.51	255	P	P	07 54 44.9	+0.1
	0.6nm,0.8s,baz=84,slow=9.0,SNR=3.2						
ASAR	Alice Springs	32.44	248	P	P	07 54 52.3	-0.7
	0.4nm,0.6s,baz=75,slow=9.1,SNR=9.1						

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*IDC **06** 07:54:42.0±1.3, 35°.60N×3°.36W, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/54, mbtmp3.3/5, ML3.4/2, Error ellipse: s-maj=42.9km s-min=15.7km az=103.0*
*INMG **06** 07:54:43.8±1.3, 35°.65N×3°.69W, h0km, ML2.9, Error ellipse: s-maj=3.7km s-min=2.4km az=27.0*
*CNRM **06** 07:54:44.0, 35°.73N×3°.60W, h25km, ml3.3*
*IGIL **06** 07:54:44.8, 35°.55N×3°.63W, h20km, ML2.5*
*MDD **06** 07:54:44.8±0.4, 35°.55N×3°.63W, h23km, mb_Lg3.3/26, Error ellipse: s-maj=3.5km s-min=2.1km az=170.0*
*SFS **06** 07:54:44.0, 35°.50N×3°.60W, h23km, ML3.2, ALBORAN*
SUR
ISC 06 07:54:44.2±0.8**, 35°.61N**±0°.02×**3°.61W**±0°.02**, h21km**±3km**, n86, σ1s.73**/150**, mb3.2**/3**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.47	215	P	Pn	07 55 03.1	+7.3
PALE	Palemas	0.47	215	P	Pn	07 54 55.0	-0.8
PALE				S	Sn	07 55 03.5	0.0
EALB	Alboran	0.57	54	Pg	Pb	07 54 55.1	-0.5
EALB				Sg	Sb	07 55 04.1	+0.7
EALB				*i* Vmb_Lg		07 55 05.4	
EMEL	Melilla	0.61	120	Pg	Pn	07 54 56.9	-0.7
EMEL				Sg	Sb	07 55 05.4	+1.0
PVLZ	Peæn de	0.71	233	P	Pb	07 54 57.9	0.0
PVLZ				S	Sb	07 55 08.2	+0.9
TAF	Taforalt	1.26	129	P	Pb	07 55 06.8	-0.4
TAF				S	Sb	07 55 24.3	+1.4
ELGU	Los Guajares,	1.26	359	Pn	Pn	07 55 04.8	-1.8
ELGU				Sn	Sn	07 55 21.0	-1.9
ELGU				*i* Vmb_Lg		07 55 24.8	
EMAL	Malaga-Limoner	1.33	330	P	Pn	07 55 05.8	-1.7
EMAL				S	Sn	07 55 21.9	-2.7
EMIJ	Mijas	1.34	316	Pn	Pn	07 55 05.8	-1.9
EMIJ				Sn	Sn	07 55 23.7	-1.3
EMIJ				*i* Vmb_Lg		07 55 27.5	
EBER	Berja	1.41	24	Pn	Pn	07 55 07.3	-1.5
EBER				Sn	Sn	07 55 26.0	-0.8
EBER				*i* Vmb_Lg		07 55 27.5	
SMIR	Smir Dam	1.45	273	P	Pn	07 55 07.4	-1.7
SMIR				S	Sn	07 55 27.3	-0.2
ECEU	Ceuta	1.47	282	Pn	Pn	07 55 08.1	-1.3
ECEU				Sn	Sn	07 55 26.5	-1.5
ECEU				*i* Vmb_Lg		07 55 29.3	
CHEFC	Chefchaouen	1.50	251	P	Pb	07 55 11.0	-0.4
CHEFC	Chefchaouen	1.50	251	P	Pb	07 55 11.1	-0.3
CHEFC				S	Sn	07 55 28.9	-0.1
JBK	JBK	1.53	146	P	Pn	07 55 10.5	+0.1
JBK	JBK	1.53	146	P	Pn	07 55 10.6	+0.2
JBK				S	Sn	07 55 30.0	+0.2
EGOR	Sierra Gorda,	1.56	345	Pn	Pn	07 55 10.4	-0.4
EGOR				Sn	Sn	07 55 30.1	-0.2
EGOR				*i* Vmb_Lg		07 55 36.3	
EQUE	Quentar	1.60	5	Pn	Pn	07 55 10.8	-0.5
EQUE				Pg	Pb	07 55 12.5	-0.6
EQUE				Sn	Sn	07 55 31.5	+0.1
EQUE				*i* Vmb_Lg		07 55 33.6	
ENIJ	Nijar	1.77	39	Pn	Pn	07 55 13.9	+0.3
ENIJ				Sn	Sn	07 55 34.4	-1.1
ENIJ				*i* Vmb_Lg		07 55 38.4	
LIJA	Lijar	1.95	312	P	Pn	07 55 17.0	+0.9
LCRM	LCR	2.18	209	P	Pb	07 55 26.0	+3.0
LCRM	LCR	2.18	209	P	Pb	07 55 21.6	-1.3
LCRM				S	Sb	07 55 52.9	+3.3
ESPR	Espera	2.21	305	Pn	Pn	07 55 18.9	-0.8
ESPR				Pg	Pb	07 55 22.4	-1.1
ESPR				Sn	Sn	07 55 46.3	0.0
ESPR				Sg	Sb	07 55 51.3	+0.9
ESPR				*i* Vmb_Lg		07 55 56.1	
EADA	Adamuz	2.67	343	Pn	Pn	07 55 26.1	+0.1
EADA				Pg	Pb	07 55 30.7	-0.6
EADA				Sn	Sn	07 55 57.4	-0.4
EADA				*i* Vmb_Lg		07 56 05.2	
EADA				Sg	Sb	07 56 06.0	+2.3
CZD	Col de Zad	2.83	205	P	Pb	07 55 32.0	-2.1
CZD	Col de Zad	2.83	205	P	Pn	07 55 30.7	+2.3
CZD				S	Sb	07 56 05.5	-3.0
ECAB	El Cabril	2.86	330	Pn	Pn	07 55 28.0	-0.6
ECAB				Pg	Pb	07 55 33.4	-1.1
ECAB				Sn	Sn	07 56 01.9	-0.5
ECAB				Sg	Sb	07 56 09.7	+0.6
ECAB				*i* Vmb_Lg		07 56 13.3	
CART	Cartagena	2.88	46	P	Pn	07 55 28.2	-0.6
CART				S	Sn	07 55 57.5	-5.3
CART	Cartagena	2.88	46	P	Pn	07 55 28.2	-0.6
CART				S	Sn	07 55 59.5	-3.3
MD31	MD31	2.90	200	P	Pn	07 55 31.6	+2.5
MD31				S	Sb	07 56 07.4	-2.8
MDT	Midelt	2.91	197	Pn	Pn	07 55 30.9	+1.6
	1.4nm,0.3s,baz=34,slow=18,SNR=22						
MDT				Sn	Sn	07 56 06.0	+2.4
	3.6nm,0.3s,baz=55,slow=9.1,SNR=2.9						
MDT				Lg	Lg	07 56 16.0	
	3.5nm,0.3s,baz=46,slow=13,SNR=4.1						
MDT	Midelt	2.91	197	P	Pb	07 55 33.2	-2.1
MDT	Midelt	2.91	197	P	Pb	07 55 33.2	-2.1
MDT				S	Sb	07 56 07.7	-2.8
EMIN	Mina Concepcio	3.27	312	Pn	Pn	07 55 33.5	-0.8
EMIN				Sn	Sn	07 56 11.7	-0.9
EMIN				*i* Vmb_Lg		07 56 16.2	
ZHG	ZHG	3.31	230	P	Pn	07 55 36.0	+1.2
ZHG	ZHG	3.31	230	P	Pn	07 55 35.5	+0.8
ETOB	Tobarra	3.45	28	Pn	Pn	07 55 37.8	+1.1
ETOB				Sn	Sn	07 56 15.6	-1.4
ETOB				*i* Vmb_Lg		07 56 19.8	
EGRO	El Granado	3.67	303	Pn	Pn	07 55 38.9	-0.7
EGRO				Sn	Sn	07 56 19.6	-2.6
EGRO				*i* Vmb_Lg		07 56 23.1	
PBAR	Barrancos	3.76	314	*e*Pn	Pn	07 55 40.5	-0.4
PBAR				*e*Sn	Sn	07 56 22.7	-1.8
PBAR				A	A	07 56 31.4	
	15nm,0.3s						
PVAQ	Vaqueiros	3.77	300	*e*Pn	Pn	07 55 40.5	-0.5
PVAQ				*e*Sn	Sn	07 56 23.1	-1.6
PVAQ				A	A	07 56 29.8	
	16nm,0.4s						
PVAQ	Vaqueiros	3.77	300	P	Pn	07 55 40.8	-0.2
PBDV	Barranco-do-Ve	3.85	296	*e*Pn	Pn	07 55 41.9	-0.3
PBDV				*e*Sn	Sn	07 56 25.7	-1.1
PBDV				A	A	07 56 38.2	
	16nm,0.7s						
FIGM	Figuig	3.98	150	P	Pn	07 55 46.8	+2.8
PAB	San Pablo	3.98	352	Pn	Pn	07 55 44.1	+0.2
PAB				Sn	Sn	07 56 28.4	-1.6
PAB				Sg	Sb	07 56 42.1	+0.9
PAB				*i* Vmb_Lg		07 56 52.0	
ESDC	Sonseca Array	4.07	356	Pn	Pn	07 55 45.9	+0.6
	2.2nm,0.3s,baz=180,slow=12,SNR=66						
ESDC				Sn	Sn	07 56 29.2	-3.1
	0.9nm,0.3s,baz=171,slow=16,SNR=5.4						
ESDC				Lg	Lg	07 56 47.8	
	2.5nm,0.3s,baz=168,slow=28,SNR=9.9						
ESDC	Sonseca Array	4.07	356	Sn	Sn	07 56 30.4	-1.9
ESDC				Sg	Sb	07 56 47.1	+3.1
ESDC				*i* Vmb_Lg		07 56 53.6	
PCVE	Castro Verde	4.10	301	*e*Pn	Pn	07 55 45.2	-0.4
PCVE				*e*Sn	Sn	07 56 33.3	+0.4
PCVE				A	A	07 56 35.8	
	20nm,1.0s						
EBAD	Badajoz	4.16	320	Pn	Pn	07 55 45.7	-0.6
EBAD				Sn	Sn	07 56 31.9	-2.4
EBAD				*i* Vmb_Lg		07 56 38.2	
PBEJ	Beja	4.18	306	*e*Pn	Pn	07 55 46.9	+0.1
PBEJ				*e*Sn	Sn	07 56 33.9	-1.1
PBEJ				A	A	07 56 40.7	
	12nm,0.4s						
MORF	Marmelete	4.41	294	*e*P	Pn	07 55 49.0	-0.8
MORF				*e*S	Sn	07 56 36.1	-4.5
MORF				IAML		07 56 38.9	
	comp=N,10.0nm,0.2s						
MORF	Marmelete	4.41	294	*e*Pn	Pn	07 55 49.6	-0.2
MORF				*e*Sn	Sn	07 56 39.5	-1.0
MORF				A	A	07 56 50.3	
	comp=N,11nm,0.4s						
PFVI	Vila Bisbo	4.48	291	*e*Pn	Pn	07 55 51.6	+0.8
PFVI				A	A	07 56 54.0	
	comp=N,16nm,0.8s						
ECHE	Chera	4.50	27	Pn	Pn	07 55 52.0	+0.9
ECHE				*i* Vmb_Lg		07 56 19.4	
PESTR	Estremoz	4.55	317	*e*Pn	Pn	07 55 51.8	0.0
PESTR				*e*Sn	Sn	07 56 42.7	-1.3
PESTR				A	A	07 56 56.6	
	comp=N,8.6nm,0.4s						
PESTR	Estremoz	4.55	317	P	Pn	07 55 51.7	-0.1
PTEO	Sao Teotonio	4.55	297	*e*Pn	Pn	07 55 52.3	+0.5
PTEO				*e*Sn	Sn	07 56 43.7	-0.3
PTEO				A	A	07 56 57.8	
	comp=N,15nm,1.1s						
EVO	Evora	4.58	311	P	Pn	07 55 52.0	-0.1
EVO				S	Sn	07 56 38.0	-6.7
EVO	Evora	4.58	311	*e*Pn	Pn	07 55 52.3	+0.2
PNCL	Nicolau / Gran	4.67	304	*e*Pn	Pn	07 55 53.1	-0.3
PNCL				*e*Sn	Sn	07 56 45.6	-1.4
PNCL				A	A	07 56 51.2	
	comp=N,9.1nm,0.4s						
PMRV	Marv??o	4.86	323	*e*Pn	Pn	07 55 56.5	+0.5
PMRV				*e*Sn	Sn	07 56 49.3	-2.3
PMRV				A	A	07 57 17.9	
	comp=N,8.1nm,0.5s						
EPLA	Plasencia	4.86	337	Pn	Pn	07 55 56.7	+0.6
EPLA				Sn	Sn	07 56 49.0	-2.8
EPLA				*i* Vmb_Lg		07 57 12.0	
GUD	Guadarrama	5.05	355	Pn	Pn	07 55 58.9	+0.1
GUD				Sn	Sn	07 56 54.0	-2.4
GUD				Sg	Sb	07 57 16.4	+4.3
GUD				*i* Vmb_Lg		07 57 29.5	
PMTG	Montargil	5.05	315	*e*Pn	Pn	07 55 58.5	-0.1
PMTG				*e*Sn	Sn	07 56 55.3	-1.0
PMTG				A	A	07 57 00.9	
	comp=N,9.1nm,0.4s						
PCBR	Castelo Branco	5.22	325	*e*Pn	Pn	07 56 01.4	+0.4
PACT	Alcochete	5.23	309	*e*Pn	Pn	07 56 01.7	+0.6
PACT				*e*Sn	Sn	07 57 00.6	-0.2
ETOR	Torete	5.35	13	Pn	Pn	07 56 04.1	+1.3
ETOR				Pg	Pb	07 56 16.4	-0.5
ETOR				Sn	Sn	07 57 00.9	-2.8
ETOR				Sg	Sb	07 57 24.2	+3.5
ETOR				*i* Vmb_Lg		07 57 26.8	
EMOS	Mosqueruela	5.36	27	Sn	Sn	07 57 01.2	-2.9
EMOS				*i* Vmb_Lg		07 57 05.9	
OUZM	OUZ	5.38	210	P	Pn	07 56 05.7	+2.4
PMAFR	Mafra	5.63	308	*e*Pn	Pn	07 56 06.9	+0.3
PMAFR				*e*Sn	Sn	07 57 11.0	+0.5
PSBE	So Bento	5.67	315	*e*Pn	Pn	07 56 07.8	+0.5
MTE	Manteigas	5.71	328	*e*Pn	Pn	07 56 08.7	+1.0
PCAS	Casmilo, Conde	5.89	320	*e*Pn	Pn	07 56 10.4	+0.2
PCAS				*e*Sn	Sn	07 57 15.7	-1.3
PVIS	Viseu	6.12	328	*e*Pn	Pn	07 56 14.1	+0.7
MVO	Moncorvo	6.17	335	*e*Pn	Pn	07 56 14.5	+0.5
TTIG	Tnine Tigouga,	6.47	220	P	Pn	07 56 17.1	-1.3
PVRL	Vila Real	6.51	332	*e*Pn	Pn	07 56 19.7	+0.9
POLO	Lamas de Olo	6.63	332	*e*Pn	Pn	07 56 21.3	+0.9
POLO				*e*Sn	Sn	07 57 34.2	-1.1
POLO				A	A	07 57 41.9	
	comp=N,3.3nm,0.7s						
PBRG	Braganca	6.66	339	*e*Pn	Pn	07 56 21.2	+0.5
PCAB	Cabril	7.01	332	*e*Pn	Pn	07 56 26.4	+0.9
ELOB	Lobios	7.15	332	Pn	Pn	07 56 28.4	+0.7
ELOB				Sn	Sn	07 57 42.3	-6.0
ELOB				*i* Vmb_Lg		07 57 50.3	
PGAV	Gavieira, Arco	7.32	332	*e*Pn	Pn	07 56 30.9	+1.0
EARI	Arriondas	7.78	351	Pn	Pn	07 56 37.0	+0.8
EARI				*i* Vmb_Lg		08 00 00.2	
CLL	Collm	19.72	32	*e*P	P	07 59 12.0	-0.1
TORD	Torodi Ar. Bea	22.87	167	P	P	07 59 47.1	+0.9
	comp=N,0.5nm,0.9s,baz=341,slow=10,SNR=2.9						
MKAR	Makanchi Array	62.53	51	P	P	08 05 05.8	-0.4
	comp=N,0.2nm,0.5s,baz=305,slow=5.0,SNR=4.1						
YKA	Yellowknife Ar	67.80	332	P	P	08 05 42.5	+2.4
	comp=N,0.1nm,0.6s,baz=60,slow=6.5,SNR=5.1						

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*IDC **06** 07:57:30.5±0.3, 14°.14S×166°.77E, h0km, mb5.1/29, mb1 5.2/33, mb1mx5.1/37, mbtmp5.1/33, ML2.9/1, MS5.6/43, Ms1 5.6/43, ms1mx5.5/63, Error ellipse: s-maj=13.0km s-min=11.5km az=52.0*
*BJI **06** 07:57:34.9±0.0, 13°.76S×167°.21E, h34km, mb5.3/74, mB5.9/8, Ms5.8/26, Ms7 5.5/26*
*MOS **06** 07:57:36.0±1.2, 14°.16S×166°.63E, h42km, mb5.8/49, MS5.7/5, Error ellipse: s-maj=11.0km s-min=7.4km az=44.2*
*NEIC **06** 07:57:37.6±2.4, 14°.20S±0°.06×166°.64E±0°.07, h35km±1km, mb5.5/257, Mww5.9, Error ellipse: s-maj=12.6km s-min=9.8km az=58.0*
*GCMT **06** 07:57:38.6±0.2, 14°.15S±0°.01×166°.51E±0°.01, h26km, MW6.0/145, Moment Tensor Solution. s97,c138; s145,c328; Duration: 2s.3 Moment tensor: Scale 10^{18} Nm; M_{rr}1.03±.03; $M_{\theta\theta}$-0.08±.02; $M_{\phi\phi}$-0.94±.02; $M_{r\theta}$0.33±.04; $M_{\theta\phi}$0.19±.01; $M_{\phi r}$-0.36±.03; Best double couple: $M_0$1.11800×10^{18} NP1:ϕ_s359.00000°, δ35.00000°, λ109.00000°. NP2:ϕ_s156.00000°, δ58.00000°, λ77.00000°. Principal axes: T 1.1650, Plg74.0000°, Azm31.0000°; N -0.0920, Plg11.0000°, Azm163.0000°; P -1.0700, Plg12.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NOU **06** 07:57:39.0, 14°.22S×166°.53E, h38km, mb5.5/99, Vanuatu Islands*
*NEIC **06** 07:57:39, 14°.25S×166°.28E, h22km, Moment Tensor Solution. Duration: 2s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}8.65; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$-8.08; $M_{r\theta}$1.96; $M_{\theta\phi}$2.42; $M_{\phi r}$-3.79; Fault plane solution: $M_0$9.71000×10^{17} NP1: ϕ_s348.00000°, δ32.00000°, λ98.00000°. NP2: ϕ_s159.00000°, δ58.00000°, λ85.00000°. Principal axes: T 9.6684, Plg76.0000°, Azm53.0000°; N 0.0831, Plg4.0000°, Azm162.0000°; P -9.7515, Plg13.0000°, Azm253.0000°;*
ISC 06 07:57:36.0±0.3**, 14°.22S**±0°.04×**166°.67E**±0°.04**, h30km**±2km**, h31km:pP-P, n901, σ1s.79**/854**, mb5.5**/237**, MS5.6**/54**, 64C-25D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVP	Devils Point	3.78	157	P	Pn	07 58 36.4	+4.2
RTV	Rentapao	3.94	155	P	Pn	07 58 38.9	+4.5
LIFNC	LIFOU	6.55	175	Pn	Pn	07 59 11.3	+1.1
LIFNC	LIFOU	6.55	175	P	Pn	07 59 10.9	+0.7
KOUNC	Koumac, New Ca	6.70	200	Pn	Pn	07 59 12.9	+0.6
KOUNC	Koumac, New Ca	6.70	200	P	Pn	07 59 13.2	+0.9
MARNC	Mare, Loyalty	7.34	170	Pn	Pn	07 59 23.4	+2.3
MARNC	Mare, Loyalty	7.34	170	P	Pn	07 59 24.0	+2.9
YATNC	Mamie plateau,	7.80	178	P	Pn	07 59 28.6	+1.1
DZM	Mont Dzumac	7.81	182	Pn	Pn	07 59 27.2	-0.5
	18nm,0.3s,baz=1.5,slow=6.5,SNR=83						
DZM				Sn	Sn	08 00 55.3	0.0
	16nm,0.3s,baz=301,slow=23,SNR=3.2						
DZM	Mont Dzumac	7.81	182	*e*Pn	Pn	07 59 27.9	+0.1
	461nm,0.5s						
DZM				*e*Sn	Sn	08 00 55.8	+0.5
	818nm,0.7s						
DZM				*e*LR	LR	08 01 24.5	
	comp=Z,77μm,24.5s						
DZM	Mont Dzumac	7.81	182	Pn	Pn	07 59 28.5	+0.7
ONTNC	Ouen Toro	8.05	181	Pn	Pn	07 59 32.0	+1.1
HNR	Honiara	8.12	305	Pn	Pn	07 59 31.5	-0.3
	107nm,0.3s,baz=160,slow=4.3,SNR=25						
HNR				Sn	Sn	08 01 01.4	-1.3
	69nm,0.3s,baz=156,slow=22,SNR=2.3						
HNR				LR	LR	08 02 31.8	
	comp=Z,37μm,20.5s,baz=144,slow=37						
HNR	Honiara	8.12	305	P	Pn	07 59 32.1	+0.2
HNR						08 01 01.4	
HNR	Honiara	8.12	305		Pn	07 59 32.1	+0.2
HNR	Honiara	8.12	305	P	Pn	07 59 32.0	+0.2
OUENC	Ouen Island, N	8.16	179	Pn	Pn	07 59 33.5	+1.2
PINNC	Pines Island,	8.38	175		Pn	07 59 37.1	+1.7
MSVF	Nonsavu	11.49	109	Pn	Pn	08 00 23.7	+5.5
	6.5nm,0.3s,baz=189,slow=22,SNR=4.3						
MSVF				LR	LR	08 03 46.5	
	comp=Z,67μm,18.7s,baz=289,slow=33						
MSVF	Nonsavu	11.49	109	P	Pn	08 00 24.4	+6.2
FUNA	Funafuti	13.52	67	Pn	Pn	08 00 48.1	+2.3
FUNA	Funafuti	13.52	67	P	Pn	08 00 50.6	+4.7
KRVT	Keravat (AS076	17.47	303	P	Pn	08 01 36.7	-0.9
	21nm,0.3s,baz=1.8,slow=4.1,SNR=1.6						
RK1H	Rockhampton Ha	17.81	237	P	P	08 01 42.0	-0.2
EIDS	Eidsvold	18.37	230	P	Pn	08 01 51.2	+2.6
	baz=18,SNR=12						
EIDS	Eidsvold	18.37	230		Pn	08 01 49.4	+0.9
EIDS				IAmb	IAmb	08 02 10.5	
	comp=Z,801nm,1.9s						
EIDS	Eidsvold	18.37	230	P	Pn	08 01 51.1	+2.6
LHI	Lord Howe Isla	18.58	201		Pn	08 01 51.6	+0.6
PMG	Port Moresby	19.68	282	P	P	08 02 02.7	-0.1
	comp=Z,1.1nm,0.3s,baz=93,slow=9.2,SNR=28						
PMG				LR	LR	08 08 35.6	
	comp=Z,24μm,18.1s,baz=60,slow=34						
PMG	Port Moresby	19.68	282	*d i*P	Pn	08 02 04.5	+0.1
PMG				pmax	pmax		
	comp=Z,484nm,1.7s						
PMG	Port Moresby	19.68	282		Pn	08 02 04.9	+0.5

PMG IAmb IAmb 08 02 07.6
comp=Z,556nm,1.5s
PMG Port Moresby 19.68 282 P **Pn** **08 02 04.7 +0.3**
PMG Port Moresby 19.68 282 P **Pn** **08 02 04.9 +0.5**
CTA Charters Tower 20.35 250 P Pn 08 02 11.7 -0.6
comp=Z,320nm,0.6s,baz=79,slow=12,SNR=34
CTA LR LR 08 09 15.4
comp=Z,21µm,19.3s,baz=74,slow=34
CTA Charters Tower 20.35 250 P Pn 08 02 11.5 -0.8
baz=20
CTA Charters Tower 20.35 250 P Pn 08 02 12.2 -0.1
RMQ Roma 20.73 231 P Pn 08 02 16.3 -0.3
baz=21,SNR=80
RMQ Roma 20.73 231 P Pn 08 02 17.1 +0.5
AFI Afiamalu 20.91 92 P Pn 08 02 19.8 +0.8
comp=Z,200nm,1.1s,baz=254,slow=6.9,SNR=15
AFI LR LR 08 08 20.4
comp=Z,15µm,20.6s,baz=268,slow=31
AFI Afiamalu 20.91 92 P Pn 08 02 19.2 +0.2
AFI pmax pmax
comp=Z,282nm,1.0s
AFI Afiamalu 20.91 92 P Pn 08 02 19.2 +0.2
AFI IAmb IAmb 08 02 26.3
comp=Z,282nm,1.0s
AFI Afiamalu 20.91 92 P Pn 08 02 20.9 +1.9
comp=Z,299nm,1.1s
ARMA Armidale 21.25 218 P **P** **08 02 21.6 +1.7**
baz=21,SNR=14
ARMA Armidale 21.25 218 P **P** **08 02 20.8 +0.9**
ARMA IAmb IAmb 08 02 24.5
comp=Z,365nm,1.8s
ARMA Armidale 21.25 218 P **P** **08 02 22.1 +2.2**
MTSU Mount Surprise 21.81 257 P **P** **08 02 27.0 +1.1**
baz=22,SNR=28
MTSU Mount Surprise 21.81 257 P **P** **08 02 27.6 +1.7**
OUZ Omahuta 21.82 165 P **P** **08 02 26.9 +1.1**
OUZ IAmb IAmb 08 02 33.1
comp=Z,262nm,1.0s
PATS Pohnpei 22.50 338 P **P** **08 02 34.9 +1.6**
baz=22,SNR=3.8
PATS Pohnpei 22.50 338 P **P** **08 02 36.5 +3.2**
PATS Pohnpei 22.50 338 P **P** **08 02 35.7 +2.5**
MANU Manus Island 22.58 301 P **P** **08 02 35.6 +1.4**
MANU IAmb IAmb 08 02 59.7
comp=Z,278nm,1.6s
COEN Coen 22.79 268 P **P** **08 02 36.8 +0.5**
COEN IAmb IAmb 08 02 40.9
comp=Z,189nm,1.4s
COEN Coen 22.79 268 P **P** **08 02 38.0 +1.7**
NIUE Niue 22.93 105 P **P** **08 02 42.9 +5.1**
baz=23,SNR=4.8
NIUE Niue 22.93 105 P **P** **08 02 42.4 +4.6**
NIUE Niue 22.93 105 P **P** **08 02 42.8 +5.0**
MGCD Mangrove Creek 23.61 214 P **P** **08 02 46.4 +1.9**
baz=24,SNR=7.3
MGCD Mangrove Creek 23.61 214 P **P** **08 02 46.4 +1.9**
RIV Riverview 24.06 213 P **P** **08 02 50.5 +1.8**
baz=24,SNR=3.6
KNTN Kanton 24.18 64 P **P** **08 02 52.1 +2.2**
KNTN IAmb IAmb 08 02 56.5
comp=Z,430nm,1.9s
KNTN Kanton 24.18 64 P **P** **08 02 54.3 +4.4**
SYDH Sydney Hard Ro 24.23 214 P **P** **08 02 52.7 +2.5**
comp=Z,61nm,0.9s
QLP Quilpie 24.31 236 P **P** **08 02 52.2 +1.2**
baz=24,SNR=12
QLP Quilpie 24.31 236 P **P** **08 02 51.7 +0.7**
KMRZ Kaimai 24.93 162 P **P** **08 03 00.0 +3.4**
OMRZ Omania 25.30 162 P **P** **08 03 05.1 +5.2**
HAZ Te Kaha 25.44 159 P **P** **08 03 02.8 +1.6**
MXZ Matakaoa Point 25.45 158 P **P** **08 03 04.9 +3.7**
MXZ IAmb IAmb 08 03 08.4
comp=Z,113nm,0.9s
MXZ Matakaoa Point 25.45 158 P **P** **08 03 04.8 +3.6**
RUGZ Raukumara Rang 25.59 160 P **P** **08 03 04.0 +1.3**
PRRZ Plateau Road 25.67 162 P **P** **08 03 05.4 +2.2**
URZ Urewera 25.67 161 P **P** **08 03 03.1 -0.1**
comp=Z,146nm,0.9s,baz=268,slow=3.0,SNR=12
URZ LR LR 08 12 01.7
comp=Z,16µm,18.6s,baz=340,slow=34
URZ Urewera 25.67 161 P **P** **08 03 04.2 +0.9**
URZ IAmb IAmb 08 03 11.4
comp=Z,215nm,1.0s
URZ Urewera 25.67 161 P **P** **08 03 02.2 -1.1**
WMGZ Waiomatatini S 25.72 158 P **P** **08 03 05.7 +2.0**
MUGZ Murupara 25.77 162 P **P** **08 03 05.8 +1.7**
CMSA Cobar Meteorol 25.82 225 P **P** **08 03 05.6 +1.0**
baz=26,SNR=50
CMSA Cobar Meteorol 25.82 225 P **P** **08 03 06.8 +2.2**
RATZ Rangitukua 25.84 164 P **P** **08 03 11.2 +6.4**
MWZ Matawai 25.88 160 P **P** **08 03 08.1 +2.9**
TWGZ Tauwhareparae 25.89 159 P **P** **08 03 07.0 +1.8**
PUZ Puketiti 25.89 159 P **P** **08 03 07.1 +1.8**
RTZ Ruatahuna 25.96 161 P **P** **08 03 06.5 +0.5**
MRHZ Matea Rd 25.99 162 P **P** **08 03 08.3 +2.1**
WTVZ West Tongariro 26.02 164 P **P** **08 03 10.1 +3.5**
TKGZ Te Karaka 26.08 160 P **P** **08 03 06.2 -0.7**
NGZ Ngauruhoe 26.08 164 P **P** **08 03 10.7 +3.5**
OTVZ Oturere 26.09 164 P **P** **08 03 10.6 +3.4**
MTHZ Maungataniwha 26.13 162 P **P** **08 03 08.1 +0.6**
CNB Canberra Magne 26.15 213 P **P** **08 03 09.4 +1.7**
baz=26,SNR=7.4
CNB Canberra Magne 26.15 213 P **P** **08 03 09.9 +2.2**
TRVZ Turoa 26.18 164 P **P** **08 03 09.8 +1.7**
RIGZ Rimuhau 26.29 160 P **P** **08 03 09.3 +0.4**
BKZ Black Stump Fm 26.32 163 IAmb IAmb 08 03 17.4
comp=Z,117nm,1.2s
BKZ Black Stump Fm 26.32 163 P **P** **08 03 09.2 +0.1**
BKZ Black Stump Fm 26.32 163 P **P** **08 03 09.7 +0.5**
MOVZ Moawhango 26.34 164 P **P** **08 03 13.9 +4.6**
NMHZ Naumai 26.35 162 P **P** **08 03 10.5 +1.1**
WHHZ Waihua 26.46 161 P **P** **08 03 13.2 +2.8**
BHHZ Black Hill Sta 26.50 164 P **P** **08 03 11.9 +1.1**
KWHZ Kaweka Forest 26.54 163 P **P** **08 03 12.2 +1.0**
ARHZ Aropaoanui 26.56 162 P **P** **08 03 14.2 +2.9**
QIS Mount Isa 26.56 252 P **P** **08 03 11.6 +0.1**
baz=26,SNR=30
QIS Mount Isa 26.56 252 P **P** **08 03 12.4 +0.8**
MCHZ McNeill Hill 26.64 162 P **P** **08 03 12.3 +0.4**
PNHZ Pukenui 26.93 164 P **P** **08 03 15.0 +0.4**
QRZ Quartz Range 27.00 170 IAmb IAmb 08 03 33.6
comp=Z,106nm,1.3s
QRZ Quartz Range 27.00 170 P **P** **08 03 18.0 +2.8**
TSZ Takapari Road 27.00 164 P **P** **08 03 14.6 -0.7**
KAHZ Kahuranaki 27.01 162 P **P** **08 03 15.4 0.0**
NNZ Nelson 27.53 169 P **P** **08 03 22.9 +3.0**
INKA Innaminka 27.61 237 P **P** **08 03 22.2 +1.3**
BFZ Birch Farm 27.66 164 P **P** **08 03 21.6 +0.4**
BFZ Birch Farm 27.66 164 P **P** **08 03 21.0 -0.2**
TUWZ Tuamarina 27.84 168 P **P** **08 03 23.8 +1.0**
THZ Tophouse 27.97 170 P **P** **08 03 25.2 +1.1**
BSWZ Blackbirch Sta 28.10 168 P **P** **08 03 27.4 +2.3**
MSWZ Moikau Station 28.11 166 P **P** **08 03 24.1 -1.0**
PLWZ Palliser 28.26 166 P **P** **08 03 26.4 -0.1**
LTZ Lake Taylor 28.87 171 IAmb IAmb 08 03 40.8
comp=Z,66nm,0.7s
STKA Stephens Creek 28.89 228 P **P** **08 03 32.7 +0.5**
comp=Z,30nm,0.5s,baz=45,slow=8.3,SNR=95
STKA LR LR 08 15 15.5
comp=Z,42µm,18.0s,baz=54,slow=37
STKA Stephens Creek 28.89 228 P **P** **08 03 32.8 +0.5**
baz=29,SNR=56
STKA Stephens Creek 28.89 228 *d* iP **P** **08 03 32.9 +0.7**
STKA Stephens Creek 28.89 228 P **P** **08 03 32.8 +0.5**
FOZ Fox Glacier 29.34 175 P **P** **08 03 37.8 +1.7**
FOZ IAmb IAmb 08 03 43.7
comp=Z,130nm,0.9s
OXZ Oxford 29.37 172 IAmb IAmb 08 03 42.8
comp=Z,72nm,0.8s
RPZ Rata Peaks 29.64 174 P **P** **08 03 38.4 -0.3**
comp=Z,56nm,0.8s,baz=356,slow=4.0,SNR=10
RPZ LR LR 08 15 23.9
comp=Z,16µm,18.4s,baz=350,slow=36
RPZ Rata Peaks 29.64 174 IAmb IAmb 08 03 45.5
comp=Z,86nm,0.8s
MQZ McQueen's Vall 29.83 171 IAmb IAmb 08 03 49.6
comp=Z,99nm,1.2s
TOO Toolangi 29.92 215 P **P** **08 03 43.2 +1.8**
baz=30,SNR=5.0
TOO Toolangi 29.92 215 IAmb IAmb 08 03 56.7
comp=Z,86nm,1.5s
TOO Toolangi 29.92 215 P **P** **08 03 43.0 +1.6**
LBZ Lake Benmore 30.22 175 IAmb IAmb 08 03 50.5
comp=Z,37nm,0.6s

LCRK Leigh Creek 30.75 234 P **P** **08 03 49.8 +1.0**
ODZ Otahua Downs 30.91 175 P **P** **08 03 50.6 +0.7**
ODZ IAmb IAmb 08 04 00.8
comp=Z,48nm,1.0s
MLZ Mavora Lakes 31.07 178 P **P** **08 03 51.4 0.0**
MLZ IAmb IAmb 08 04 06.9
comp=Z,114nm,1.4s
DCZ Deep Cove 31.15 179 IAmb IAmb 08 03 59.3
comp=Z,121nm,1.0s
GLAD Gladstone 31.23 208 P **P** **08 03 54.3 +1.4**
WB0 Warramunga Arr 31.32 255 IAmb IAmb 08 03 54.7
comp=Z,41nm,0.8s
WC3 Warramunga Arr 31.36 255 P **P** **08 03 53.0 -1.3**
baz=31
WB2 Warramunga Arr 31.38 255 P **P** **08 03 53.8 -0.6**
WB2 IAmb IAmb 08 03 55.9
comp=Z,155nm,1.9s
WRAB Tennant Creek 31.38 255 *ce* P **P** **08 03 53.1 -1.4**
WRAB pmax pmax
comp=Z,76nm,1.7s
WRAB Tennant Creek 31.38 255 P **P** **08 03 52.8 -1.6**
WRAB IAmb IAmb 08 03 55.9
comp=Z,169nm,1.9s
WRAB Tennant Creek 31.38 255 P **P** **08 03 54.2 -0.2**
WRAB Tennant Creek 31.38 255 ⇓P **P** **08 03 53.0 -1.4**
WRAB pP **pP** **08 04 03.0 +0.7**
WRA Warramunga Arr 31.39 255 P **P** **08 03 53.5 -1.0**
comp=Z,12nm,0.6s,baz=87,slow=9.1,SNR=123
WRA ScP **ScP** **08 10 30.9 +1.9**
comp=Z,3.4nm,1.2s,baz=86,slow=3.7,SNR=2.5
WRA PKiKP **PKiKP** **08 14 15.4 -2.2**
comp=Z,0.7nm,0.6s,baz=337,slow=0.4,SNR=8.2
WRA LR LR 08 16 06.8
comp=Z,21µm,18.3s,baz=64,slow=36
ARPS Mount Arapiles 31.55 220 P **P** **08 03 57.0 +1.3**
HTT Hallett 31.62 228 P **P** **08 03 57.6 +1.2**
baz=32,SNR=9.1
HTT Hallett 31.62 228 P **P** **08 03 57.3 +0.9**
OOD Oodnadatta 31.81 240 P **P** **08 03 59.4 +1.3**
CORO Coronation Par 32.00 208 P **P** **08 04 01.2 +1.6**
NAPP Napperby 32.06 229 P **P** **08 04 01.9 +1.7**
ASAR Alice Springs 32.31 248 P **P** **08 04 01.3 -1.3**
comp=Z,11nm,0.6s,baz=75,slow=9.3,SNR=160
ASAR ScP **ScP** **08 10 34.6 +2.5**
comp=Z,4.0nm,1.1s,baz=104,slow=3.9,SNR=2.5
ASAR PKiKP **PKiKP** **08 14 16.1 -2.2**
comp=Z,0.4nm,0.6s,baz=92,slow=2.8,SNR=1.1
ASAR LR LR 08 16 32.1
comp=Z,17µm,19.2s,baz=66,slow=35
ASAR Alice Springs 32.31 248 P **P** **08 04 01.4 -1.2**
ASPA Alice Springs 32.32 248 P **P** **08 04 02.1 -0.6**
baz=32
WHYH Whyalla 32.41 230 P **P** **08 04 04.7 +1.4**
comp=Z,46nm,0.8s
H11S2 WAKE ISLAND Hy 32.50 0 T T 08 38 21.7
baz=184,slow=76,SNR=6.9
H11S3 WAKE ISLAND Hy 32.51 0 T T 08 38 28.6
baz=184,slow=76,SNR=4.2
H11S1 WAKE ISLAND Hy 32.52 0 T T 08 38 29.5
baz=184,slow=76,SNR=6.7
RAR Rarotonga 32.67 107 P **P** **08 04 04.9 -0.8**
comp=Z,38nm,1.0s,baz=252,slow=9.2,SNR=3.6
RAR LR LR 08 14 25.4
comp=Z,10µm,21.8s,baz=300,slow=31
RAR Rarotonga 32.67 107 P **P** **08 04 04.9 -0.8**
RAR pmax pmax
comp=Z,257nm,1.5s
RAR Rarotonga 32.67 107 IAmb IAmb 08 04 09.9
comp=Z,257nm,1.5s
TWOA Tennyson Woods 32.70 226 P **P** **08 04 07.5 +1.7**
MOO Moorlands 32.77 207 P **P** **08 04 08.6 +2.3**
baz=33,SNR=4.6
MOO Moorlands 32.77 207 P **P** **08 04 08.1 +1.8**
TAU Tasmania Unive 33.09 206 P **P** **08 04 11.6 +2.5**
KDU Kakadu 33.27 268 P **P** **08 04 11.6 +0.5**
baz=33,SNR=16
KDU Kakadu 33.27 268 P **P** **08 04 11.8 +0.7**
BBOO Buckleboo 33.44 231 P **P** **08 04 12.4 +0.1**
baz=33,SNR=54
BBOO Buckleboo 33.44 231 P **P** **08 04 12.4 +0.1**
BBOO Buckleboo 33.44 231 P **P** **08 04 13.6 +1.3**
H11N1 WAKE ISLAND Hy 33.72 0 T T 08 39 59.9
baz=184,slow=76,SNR=8.9
H11N3 WAKE ISLAND Hy 33.72 0 T T 08 40 07.8
baz=184,slow=76,SNR=7.5
H11N2 WAKE ISLAND Hy 33.74 0 T T 08 40 08.5
baz=184,slow=76,SNR=7.6
MULG Mulgathing 33.99 236 P **P** **08 04 17.9 +0.7**
MTN Manton Dam 34.55 268 P **P** **08 04 23.9 +1.7**
baz=34,SNR=4.9
MTN Manton Dam 34.55 268 IAmb IAmb 08 04 33.0
comp=Z,173nm,1.7s
MTN Manton Dam 34.55 268 P **P** **08 04 22.8 +0.6**
FAKI Fak Fak 35.77 285 P **P** **08 04 31.3 -1.4**
FAKI IAmb IAmb 08 05 13.2
comp=Z,123nm,1.7s
FAKI Fak Fak 35.77 285 P **P** **08 04 34.7 +2.0**
comp=Z,40nm,1.5s
FAKI Fak Fak 35.77 285 P **P** **08 04 34.6 +1.9**
KNRA Kununurra 36.62 263 P **P** **08 04 39.6 -0.3**
baz=36,SNR=16
KNRA Kununurra 36.62 263 P **P** **08 04 39.1 -0.8**
KNRA IAmb IAmb 08 04 50.6
comp=Z,108nm,1.1s
KNRA Kununurra 36.62 263 P **P** **08 04 39.9 0.0**
SIJI Sorong 37.43 288 P **P** **08 04 46.0 -0.9**
comp=Z,16nm,0.8s,baz=111,slow=9.4,SNR=4.4
SIJI LR LR 08 20 53.1
comp=Z,15µm,19.4s,baz=128,slow=37
SWI Sorong 37.44 288 P **P** **08 04 49.3 +2.4**
comp=Z,2µmcomp=Z,46nm,1.2s
BNDI Bandanaira 37.47 281 P **P** **08 04 49.3 +2.1**
WRKA Warakurna 37.59 247 P **P** **08 04 48.1 -0.1**
FORT Forrest 39.06 238 P **P** **08 05 01.1 +0.7**
baz=39,SNR=39
FORT Forrest 39.06 238 P **P** **08 05 00.6 +0.2**
FORT Forrest 39.06 238 P **P** **08 05 01.4 +1.0**
AAI Ambon 39.35 282 P **P** **08 05 05.4 +2.4**
comp=Z,78nm,0.9s
FITZ Fitzroy Crossi 39.54 259 LR LR 08 21 26.1
comp=Z,19µm,18.2s,baz=93,slow=36
LBMI Labuha 41.02 286 P **P** **08 05 19.2 +2.4**
comp=Z,4µmcomp=Z,148nm,1.5s
SANI Sanana 41.96 283 P **P** **08 05 24.6 +0.1**
comp=Z,4µmcomp=Z,94nm,0.8s
SANI Sanana 41.96 283 P **P** **08 05 25.8 +1.3**
PAE Paea 42.14 101 *eP* **P** **08 05 28.1 +2.1**
comp=Z,9.5nm,0.9s
PPT2 Papeete2 42.15 101 *eP* **P** **08 05 28.6 +2.4**
comp=Z,50nm,1.0s
PPT2 Papeete2 42.15 101 *e* LQ LQ 08 15 34.5
comp=Z,13µm,26.5s
PPT2 *e* LR LR 08 17 23.0
comp=Z,10µm,25.0s
PPT Papeete 42.15 101 P **P** **08 05 24.6 -1.5**
comp=Z,21nm,0.8s,baz=270,slow=17,SNR=1.9
PPT LR LR 08 20 16.0
comp=Z,5µm,18.6s,baz=290,slow=32
BATI Baumata 42.17 270 LR LR 08 22 54.9
comp=Z,12µm,19.5s,baz=114,slow=36
BATI Baumata 42.17 270 P **P** **08 05 28.1 +1.7**
comp=Z,3µmcomp=Z,148nm,1.1s
TBI Tubuai 42.38 109 *e* LQ LQ 08 15 33.3
comp=Z,11µm,29.8s
TBI *e* LR LR 08 17 29.9
comp=Z,10µm,23.2s
TVO Taravao 42.45 101 *eP* **P** **08 05 31.1 +2.5**
comp=Z,7.2nm,0.7s
MMRI Maumere 43.85 272 P **P** **08 05 39.9 0.0**
comp=Z,4µmcomp=Z,167nm,1.1s
MMRI Maumere 43.85 272 P **P** **08 05 40.6 +0.7**
PMOR Pomariorio Ree 43.92 97 *eP* **P** **08 05 42.6 +2.2**
comp=Z,167nm,0.9s
VAH Vaihoa 44.16 97 *eP* **P** **08 05 44.2 +1.9**
comp=Z,85nm,0.9s
BBSI Bau Bau 44.23 277 P P 08 05 56.8 +14
KMSI Cibinong 44.73 286 P **P** **08 05 48.4 +1.4**
comp=Z,6µmcomp=Z,152nm,0.7s
PSA00 Pilbara Seismi 45.02 254 P **P** **08 05 49.0 -0.2**
PSA00 IAmb IAmb 08 06 00.8
comp=Z,87nm,1.4s
PSA00 Pilbara Seismi 45.02 254 IAmb IAmb 08 06 00.9
comp=Z,66nm,1.4s
PSA00 Pilbara Seismi 45.02 254 P **P** **08 05 50.0 +0.8**
MBWA Marble Bar 45.12 254 P **P** **08 05 50.3 +0.4**
MBWA IAmb IAmb 08 06 01.5
comp=Z,115nm,1.1s
MBWA Marble Bar 45.12 254 P **P** **08 05 50.7 +0.8**
MBWA pP **pP** **08 05 58.3 +0.2**
MBWA pwP **sP** **08 06 00.9 -0.4**
BASI Baing, Sumba 45.17 270 P **P** **08 05 49.5 -0.9**
comp=Z,3µmcomp=Z,198nm,1.3s
LUWI Luwuk 45.32 283 P **P** **08 05 53.9 +2.2**
comp=Z,155nm,1.5s
LUWI Luwuk 45.32 283 P **P** **08 05 52.5 +0.8**
GTOI Gorontalo 45.66 285 P **P** **08 05 56.1 +1.8**
comp=Z,910nmcomp=Z,46nm,1.1s
BSSI Bau Bau, Buton 46.08 275 P **P** **08 05 58.7 +1.0**
comp=Z,2µmcomp=Z,70nm,1.6s
WBSI Waikabubak, Su 46.42 270 P **P** **08 06 00.1 -0.3**
comp=Z,140nm,1.0s
APSI Ampana 46.43 283 P **P** **08 06 01.8 +1.4**
comp=Z,2µmcomp=Z,108nm,1.3s
MEEK Meekatharra 46.45 247 P **P** **08 06 01.0 +0.6**
MRSI Marisa 46.61 284 P P 08 06 16.6 +15
BKSI Bulukumba 46.63 276 P **P** **08 06 03.9 +1.9**
comp=Z,2µmcomp=Z,37nm,1.1s
BNSI Bone 46.88 277 P **P** **08 06 05.1 +1.1**
comp=Z,133nm,1.4s
KAPI Kappang 47.07 276 *c i* P **P** **08 06 06.7 +1.3**
KAPI Kappang 47.07 276 P **P** **08 06 05.9 +0.5**
KAPI Kappang 47.07 276 P **P** **08 06 06.9 +1.5**
KAPI Kappang 47.07 276 P **P** **08 06 08.4 +3.0**
KAPI ⇓pP **pP** **08 06 13.0 -0.4**
SPSI Sidrap Palu 47.33 278 P **P** **08 06 07.5 +0.1**
comp=Z,3µmcomp=Z,71nm,1.7s
TTSI Tana Toraja 47.53 279 P **P** **08 06 11.3 +2.3**
comp=Z,2µmcomp=Z,37nm,1.1s
KLBR Kellerberrin 47.85 240 P **P** **08 06 11.6 +0.3**
baz=48,SNR=12
KLBR Kellerberrin 47.85 240 P **P** **08 06 11.3 0.0**
TOLI2 Tolitoli 47.91 285 P **P** **08 06 11.6 -0.4**
TOLI2 IAmb IAmb 08 06 18.5
comp=Z,107nm,1.5s
TOLI2 Tolitoli 47.91 285 P **P** **08 06 11.7 -0.3**
PLAI Plampang 48.13 271 P **P** **08 06 14.4 +0.7**
comp=Z,3µmcomp=Z,208nm,1.0s
PLAI Plampang 48.13 271 P **P** **08 06 14.2 +0.5**
MPSI Mapaga 48.49 283 P **P** **08 06 17.0 +0.6**
comp=Z,2µmcomp=Z,59nm,1.1s
MORW Morawa 48.96 244 P **P** **08 06 20.7 +0.8**
baz=49,SNR=8.0
MORW Morawa 48.96 244 P **P** **08 06 20.3 +0.4**
MORW Morawa 48.96 244 P **P** **08 06 20.7 +0.8**
MUN Mundaring 49.21 240 P **P** **08 06 22.3 +0.6**
baz=49,SNR=12
MUN Mundaring 49.21 240 P **P** **08 06 22.1 +0.4**
GIRL Giralia 50.23 252 P **P** **08 06 30.5 +0.8**
baz=50,SNR=3.8
IGBI Denpasar 50.69 270 P **P** **08 06 34.6 +1.4**
comp=Z,5µmcomp=Z,316nm,1.4s
SRBI Singaraja 50.77 271 P **P** **08 06 34.6 +0.8**
comp=Z,5µmcomp=Z,181nm,1.5s
JAGI Jajag, Banyuwa 51.72 270 P **P** **08 06 41.9 +0.9**
comp=Z,4µmcomp=Z,232nm,1.3s
JAGI Jajag, Banyuwa 51.72 270 P **P** **08 06 41.7 +0.7**
ABJI Asem Bagus 51.77 271 P **P** **08 06 43.7 +2.4**
comp=Z,5µmcomp=Z,342nm,1.4s
BBKI Banjar Baru 52.20 277 P **P** **08 06 46.0 +1.5**
comp=Z,84nm,1.3s
TAOE Nuku Hiva Isla 52.30 90 *e* LR LR 08 22 00.9
comp=Z,10µm,22.4s
BLJI Banyuglugur 52.41 271 P **P** **08 06 48.4 +2.4**
comp=Z,2µmcomp=Z,111nm,1.6s
GMJI Gumukmas 52.44 270 P P 08 07 00.0 +14
TGY Tagaytay City 53.29 300 LR LR 08 28 12.2
comp=Z,2µm,19.9s,baz=108,slow=34
JHJ Hachijo jima 2 53.62 332 LR LR 08 28 48.7
comp=Z,1µm,19.8s,baz=118,slow=35
KKM Kota Kinabalu 53.95 288 P **P** **08 06 58.0 +0.5**
KKM Kota Kinabalu 53.95 288 P **P** **08 06 58.7 +1.2**
PWJI Pagerwojo 54.09 270 P **P** **08 07 00.6 +2.2**
comp=Z,3µmcomp=Z,80nm,0.8s
JOW Kunigami 55.28 318 P **P** **08 07 06.0 -0.9**
comp=Z,31nm,0.9s,baz=130,slow=8.8,SNR=1.8
JOW LR LR 08 31 26.7
comp=Z,3µm,18.5s,baz=126,slow=37
JOW Kunigami 55.28 318 IAmb IAmb 08 07 14.9
comp=Z,431nm,2.0s
JOW Kunigami 55.28 318 P **P** **08 07 08.4 +1.6**
DRV Dumont d'Urvil 55.31 193 ⇓P **P** **08 07 07.2 +0.7**
DRV pP **pP** **08 07 11.9 -2.9**
UGM Wanagama 55.35 270 P **P** **08 07 08.9 +1.3**
JYT Yasato 56.06 334 P **P** **08 07 12.2 0.0**
STKI Sintang 56.40 280 P **P** **08 07 15.7 +0.5**
comp=Z,34nm,0.8s
SBUM Sibu 56.43 283 P **P** **08 07 16.6 +1.3**
SBUM IAmb IAmb 08 07 29.8
comp=Z,48nm,1.1s
INU Inuyama 56.74 331 P **P** **08 07 17.4 +0.3**
JGF Kuroka 56.79 332 P **P** **08 07 17.8 +0.3**
MJAR Matsushiro Arr 57.19 333 P **P** **08 07 19.3 -1.0**
comp=Z,40nm,0.9s,baz=183,slow=5.8,SNR=34
MJAR LR LR 08 28 43.1
comp=Z,2µm,21.4s,baz=113,slow=33
MJAR Matsushiro Arr 57.19 333 IAmb IAmb 08 07 22.4
comp=Z,26nm,0.8s
MAJO Matsushiro 57.19 333 P **P** **08 07 19.2 -1.1**
MAJO pmax pmax
comp=Z,53nm,0.8s
MAJO Matsushiro 57.19 333 P **P** **08 07 19.2 -1.1**
MAJO IAmb IAmb 08 07 22.7
comp=Z,53nm,0.8s
MAJO Matsushiro 57.19 333 P **P** **08 07 19.9 -0.4**
MAJO pP **pP** **08 07 22.5 -6.1**
MJB9 Matsu-Tunnel 57.19 333 IAmb IAmb 08 07 22.6
comp=Z,51nm,0.8s
KSM Kuching 57.94 281 IAmb IAmb 08 07 39.9
comp=Z,58nm,1.0s
KSM Kuching 57.94 281 P **P** **08 07 27.7 +1.7**
JNU Nakatsue 58.17 325 LR LR 08 31 09.6
comp=Z,2µm,19.8s,baz=150,slow=35
JNU Nakatsue 58.17 325 P **P** **08 07 27.6 +0.3**
NACB Ninganchiao 58.26 311 IAmb IAmb 08 07 35.3
comp=Z,77nm,1.1s
JHS Saijyo 58.39 328 P **P** **08 07 27.9 -0.8**
LEM Lembang 58.39 271 P **P** **08 07 29.5 +0.1**
comp=Z,40nm,0.7s,baz=115,slow=5.2,SNR=7.4
LEM LR LR 08 34 12.7
comp=Z,3µm,18.8s,baz=98,slow=38
TPUB Ta-pu 58.47 309 P **P** **08 07 30.3 +0.8**
SSLB Suanglung 58.51 310 P **P** **08 07 31.7 +1.9**
comp=Z,34nm,1.5s
YHNB Yeheng 58.71 311 P **P** **08 07 31.6 +0.4**
JTU Tsushima 60.03 325 IAmb IAmb 08 07 51.7
comp=Z,71nm,1.2s
QZH Quanzhou 60.93 309 ⇑ *i* P **P** **08 07 47.0 +0.6**
QZH S **S** **08 16 05.6 +2.8**
QZH LR LR
comp=Z,3µm,17.1s
QZH LR LR
comp=Z,740nm,16.6s
QZH LR LR
comp=Z,2µm,18.5s
ASAJ Asahikawa 62.07 341 LR LR 08 31 42.0
comp=Z,4µm,20.7s,baz=164,slow=33
TJN Taejon 62.52 325 *ce* P **P** **08 07 57.3 +0.4**
TJN Taejon 62.52 325 P **P** **08 07 57.1 +0.2**
KSRS Korea Array 62.99 326 P **P** **08 07 59.9 -0.1**
comp=Z,22nm,0.9s,baz=140,slow=6.9,SNR=55
KSRS LR LR 08 34 56.5
comp=Z,847nm,18.6s,baz=125,slow=36
KS19 Wonju Array Si 63.06 326 IAmb IAmb 08 08 02.7
comp=Z,51nm,1.1s
DLV T Lat 63.24 291 P **P** **08 08 03.4 +1.0**
VNDA Vanda 63.36 181 P **P** **08 08 01.8 -0.1**
comp=Z,6.8nm,0.5s,baz=356,slow=7.1,SNR=33
VNDA LR LR 08 31 51.3
comp=Z,2µm,20.5s,baz=42,slow=32
VNDA PKP2bc 08 37 03.5
comp=Z,2.0nm,1.1s,baz=239,slow=5.3,SNR=5.2
SBA Scott Base 63.64 180 P **P** **08 08 03.7 -0.1**
SBA pmax pmax
comp=Z,86nm,0.8s
SBA Scott Base 63.64 180 P **P** **08 08 03.7 -0.1**
SBA Scott Base 63.64 180 P **P** **08 08 04.9 +1.1**
SBA pP **pP** **08 08 11.0 -1.2**
SBA sP **pwP** **08 08 15.8 -0.6**
INCN Inchon 63.72 325 P **P** **08 08 05.2 +0.3**
INCN pmax pmax
comp=Z,204nm,1.7s
INCN Inchon 63.72 325 P **P** **08 08 05.2 +0.3**

INCN Inchon 63.72 325 P P 08 08 06.1 +1.2
CASY Casey 63.78 202 P P 08 08 05.2 +0.3
CASY IAmb IAmb 08 08 28.2
comp=Z,71nm,1.1s
GZH Guangzhou 64.01 305 P P 08 08 08.5 +1.5
YSS Yuzh-Sakhalins 64.56 342⇓eP P 08 08 10.8 +0.7
YSS pmax pmax
comp=Z,70nm,1.4s
YSS Yuzh-Sakhalins 64.56 342 P P 08 08 10.8 +0.7
YSS Yuzh-Sakhalins 64.56 342 P P 08 08 11.6 +1.4
YSS Yuzh-Sakhalins 64.56 342 P P 08 08 11.2 +1.0
YSS pP pP 08 08 14.9 -3.6
NJ2 Nanjing 64.91 316 ⇑P P 08 08 13.4 +0.7
NJ2 pP sP 08 08 24.4 +0.1
NJ2 sP pwP 08 08 29.1 +3.9
NJ2 PcP PcP 08 08 43.8 -2.0
NJ2 pmax pmax
comp=Z,27nm,1.0s
TEY Ternei 64.98 337⇑eP P 08 08 13.5 +0.6
TEY pmax pmax
comp=N,10.0nm,1.7s
TEY pmax pmax
comp=E,10.0nm,1.7s
TEY pmax pmax
comp=Z,30nm,1.7s
QIZ Qiongzhong 64.98 299 P P 08 08 20.1 +6.6
QIZ S S 08 16 59.2 +5.4
MSHR Mys Shultsa 65.26 332ceP P 08 08 15.8 +1.0
MSHR pmax pmax
comp=Z,78nm,2.5s
CCD Concordia, Ant 65.28 191 ⇑P P 08 08 15.5 +0.5
CCD ⇑pP pP 08 08 21.7 -1.8
VLA Vladivostok 65.36 333c iP P 08 08 16.5 +1.1
VLA pmax pmax
comp=Z,65nm,1.3s
USRK Ussuriysk Ar. 66.17 333 P P 08 08 20.2 -0.5
comp=Z,28nm,0.7s,baz=145,slow=6.1,SNR=53
USRK LR LR 08 37 15.1
comp=Z,2µm,19.1s,baz=128,slow=36
UGL Uglegorsk 66.68 343 eP P 08 08 25.0 +1.2
UGL eS S 08 17 18.4 +5.1
UGL pmax pmax
comp=Z,150nm,1.1s
UGL smax smax
comp=E,2µm,10.0s
UGL MLR MLR
comp=N,5µm,20.0s
UGL MLR MLR
comp=E,3µm,20.0s
UGL MLR MLR
comp=Z,4µm,17.0s
SHEM Shemya Is, Ala 66.98 5 LR LR 08 31 37.5
comp=Z,4µm,21.9s,baz=141,slow=31
WHN Wuhan 67.17 312 ⇑P P 08 08 27.4 +0.1
WHN pP sP 08 08 38.6 -0.3
WHN pmax pmax
comp=Z,470nm,2.1s
UBPT Khong Chiam 67.23 293 P P 08 08 28.3 +0.4
UBPT IAmb IAmb 08 09 09.6
comp=Z,41nm,1.5s
PET Petropavlovsk 67.32 355 eP P 08 08 25.1 -2.7
PET eS S 08 17 17.5 -3.4
PET pmax pmax
comp=Z,70nm,1.2s
PET Petropavlovsk 67.32 355 P P 08 08 27.4 -0.4
PET Petropavlovsk 67.32 355 P P 08 08 28.0 +0.2
GULI GuiLin 67.46 305 ⇑P P 08 08 31.5 +2.2
PEA0B Petropavlovsk- 67.49 354ceP P 08 08 28.9 0.0
PETK Petropavlovsk- 67.49 354 P P 08 08 28.6 -0.3
comp=Z,25nm,0.8s,baz=142,slow=7.5,SNR=26
PETK LR LR 08 32 25.4
comp=Z,4µm,21.9s,baz=134,slow=31
DL2 Dalian 67.54 323 P P 08 08 30.7 +1.2
DL2 pmax pmax
comp=Z,120nm,1.1s
MDJ Mudanjiang 67.56 332 P P 08 08 30.4 +0.9
MDJ pmax pmax
comp=Z,76nm,1.9s
MDJ Mudanjiang 67.56 332 P P 08 08 30.3 +0.8
IPM Ipoh 67.68 281 P P 08 08 30.0 -0.9
IPM IAmb IAmb 08 08 49.4
comp=Z,110nm,1.5s
IPM Ipoh 67.68 281 P P 08 08 31.6 +0.7
SNY Shenyang 68.46 327 ⇑P P 08 08 35.6 +0.4
SNY pmax pmax
comp=Z,34nm,1.4s
TIA Tai'an 68.57 319 P P 08 08 35.9 -0.2
TIA pmax pmax
comp=Z,17nm,1.0s
CN2 Changchun 68.91 329 eP P 08 08 38.1 +0.1
CN2 pmax pmax
comp=Z,20nm,1.2s
RPSI Rantau Prapat 69.17 278 P P 08 08 39.8 -0.5
PSI Prapat 69.20 279 P P 08 08 39.8 -0.8
comp=Z,11nm,0.9s,baz=116,slow=4.3,SNR=14
BNX BinXian 69.41 332 ⇑P P 08 08 41.0 -0.1
BNX pmax pmax
comp=Z,56nm,0.9s
GRNR Gornyy 69.91 340⇓iP P 08 08 44.8 +0.7
GRNR eS S 08 17 56.4 +4.5
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=E,10.0nm,1.1s
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR smax smax
comp=N,6.0nm,0.8s
GSI Gunungsitoli 70.09 277 P P 08 08 46.3 +0.3
GSI Gunungsitoli 70.09 277 P P 08 08 47.5 +1.5
NIKH Nikolski High 70.16 15 P P 08 08 47.6 +2.1
baz=205
KLR Kul'dur 70.31 337ceP P 08 08 46.9 +0.4
KLR pmax pmax
comp=Z,171nm,1.6s
ENH Enshi 70.59 310 IAmb IAmb 08 08 55.7
comp=Z,85nm,1.0s
ENH Enshi 70.59 310 P P 08 08 49.1 +0.4
LYN LuoYang 70.70 315⇑iP P 08 08 49.8 +0.6
LYN pP pP 08 09 00.2 +2.5
LYN pmax pmax
comp=Z,70nm,2.3s
LYN LR LR
comp=Z,2µm,16.7s
LYN LR LR
comp=Z,3µm,17.1s
LYN LR LR
comp=Z,3µm,17.5s
HNS HongShan 70.83 318 ⇑P P 08 08 50.6 +0.7
HNS pmax pmax
comp=Z,66nm,2.0s
GYA Guiyang 70.94 305 ⇓P P 08 08 52.2 +1.2
GYA pmax pmax
comp=Z,29nm,1.1s
BJT Baijiatuau 71.49 321 IAmb IAmb 08 08 56.7
comp=Z,92nm,1.2s
BJI Beijing 71.50 321 P P 08 08 54.6 +0.7
BJI pmax pmax
comp=Z,65nm,1.7s
UNV Unalaska Valle 71.57 16 P P 08 08 56.1 +2.1
baz=208
TIY Taiyuan 72.49 318 eP P 08 09 01.4 +1.4
TIY pmax pmax
comp=Z,78nm,0.9s
XAN Xi'an 72.92 313 P P 08 09 03.1 +0.5
XAN pP pP 08 09 13.7 +2.6
XAN pmax pmax
comp=Z,56nm,2.0s
KMI Kunming 73.54 302 ⇑P P 08 09 08.3 +1.6
KMI pP sP 08 09 18.9 +0.3
KMI sP PcP 08 09 24.5 +1.9
KMI pmax pmax
comp=Z,51nm,1.3s
SPIA Saint Paul Isl 73.67 13 P P 08 09 07.4 +0.9
baz=203
XLT XiLinHaoTe 73.95 324⇑iP P 08 09 09.7 +1.2
XLT pP pP 08 09 17.0 -0.1
XLT sP PcP 08 09 26.3 +2.5
XLT S SKiKP 08 18 32.4 -2.8
XLT SS SS 08 23 20.4 -3.7
XLT pmax pmax
comp=Z,110nm,1.5s
XLT LR LR
comp=Z,170nm,15.6s
XLT LR LR
comp=Z,1µm,20.2s
XLT LR LR
comp=Z,2µm,18.9s
CMAR Chiang Mai Arr 74.21 294 P P 08 09 10.0 -0.5
comp=Z,13nm,0.9s,baz=128,slow=4.4,SNR=22
CMAR PP PP 08 11 57.9 +1.3
comp=Z,2.7nm,0.5s,baz=116,slow=3.3,SNR=4.1
CMAR Chiang Mai Arr 74.21 294ceP P 08 09 11.8 +1.3
CMAR pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 74.34 294 P P 08 09 11.9 +0.7
CHTO pmax pmax
comp=Z,24nm,1.0s
CHTO Chiang Mai 74.34 294 P P 08 09 11.9 +0.7
CHTO Chiang Mai 74.34 294 P P 08 09 12.3 +1.1
MA2 Magadan 74.66 352 LR LR 08 38 14.2
comp=Z,5µm,20.8s,baz=188,slow=33
MA2 Magadan 74.66 352ceP P 08 09 11.5 -0.7
MA2 pmax pmax
comp=Z,166nm,2.5s
MA2 Magadan 74.66 352 P P 08 09 10.2 -1.9
MA2 IAmb IAmb 08 09 13.7
comp=Z,56nm,1.0s
MA2 Magadan 74.66 352 P P 08 09 11.5 -0.7
PZH PanZhiHua 74.93 303 P P 08 09 15.4 +0.7
PZH pP sP 08 09 26.3 -0.2
PZH S S 08 18 52.8 +2.3
PZH pmax pmax
comp=Z,30nm,1.2s
PZH LR LR
comp=Z,1µm,20.2s
PZH LR LR
comp=Z,2µm,18.8s
PZH LR LR
comp=Z,2µm,20.6s
CD2 Chengdu 75.24 308 P P 08 09 17.1 +0.9
CD2 pmax pmax
comp=Z,50nm,2.0s
HIA Hailar 75.56 330 IAmb IAmb 08 09 20.7
comp=Z,78nm,1.1s
ZEA Zeya 75.60 337 eP P 08 09 18.2 +0.5
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,40nm,0.9s
ZEA pmax pmax
comp=Z,80nm,0.9s
QSPA South Pole Qui 75.81 180 LR LR 08 38 02.4
comp=Z,3µm,21.6s,baz=46,slow=32
QSPA South Pole Qui 75.81 180 P P 08 09 18.2 -0.8
QSPA IAmb IAmb 08 09 22.9
comp=Z,112nm,1.2s
LZH Lanzhou 77.55 312 ⇑P P 08 09 31.0 +1.6
LZH pP sP 08 09 42.2 +1.1
LZH sP pwP 08 09 47.2 +5.0
LZH pmax pmax
comp=Z,86nm,1.3s
LZH LR LR
comp=Z,3µm,15.3s
LZH LR LR
comp=Z,3µm,15.1s
LZH LR LR
comp=Z,4µm,18.2s
PBA Port Blair 77.64 285 eP P 08 09 30.6 +0.5
SII Sitkinak Islan 77.69 21 P P 08 09 28.2 -1.4
baz=219
SEY Seymchan 77.71 353 LR LR 08 40 26.8
comp=Z,4µm,20.6s,baz=154,slow=33
SEY Seymchan 77.71 353ceP P 08 09 28.5 -0.9
SEY pmax pmax
comp=Z,115nm,1.3s
DGPR DIGLIPUR 77.92 287 eP P 08 09 32.4 +0.7
OHAK Old Harbor 78.52 21 P P 08 09 35.3 +1.3
baz=220
KDAK Kodiak Island 79.20 21 LR LR 08 39 04.4
comp=Z,6µm,20.4s,baz=211,slow=32
KDAK Kodiak Island 79.20 21 P P 08 09 37.0 -0.8
baz=220
GAMB Gambell 79.52 10 IAmb IAmb 08 09 41.2
comp=Z,26nm,0.9s
GAMB Gambell 79.52 10 P P 08 09 39.1 -0.3
baz=201,SNR=32
P18K Big Mountain, 79.58 19 IAmb IAmb 08 10 06.0
comp=Z,36nm,1.2s
P18K Big Mountain, 79.58 19 P P 08 09 37.6 -2.3
baz=218
Q19K Cape Douglas, 79.72 20 P P 08 09 39.5 -1.1
baz=219
O19K Port Alsworth 80.50 19 IAmb IAmb 08 09 47.2
comp=Z,97nm,1.8s
O19K Port Alsworth 80.50 19 P P 08 09 42.2 -2.5
baz=218
SVW2 Sparrevohn 80.84 18 IAmb IAmb 08 09 48.4
comp=Z,71nm,1.9s
MOKO MOKOCHONG 80.84 300 eP P 08 09 47.5 -0.1
MOKO IAmb IAmb 08 10 00.0
comp=Z,240nm,1.6s
DIBR DIBRUGARH 80.92 301 eP P 08 09 48.1 +0.3
N19K Bonanza Creek 80.94 18 P P 08 09 46.3 -1.0
baz=218
HOM Homer 80.94 20 P P 08 09 44.8 -2.3
baz=221
O20K Slope Mountain 80.95 19 P P 08 09 45.5 -1.8
baz=220
KOHI KOHIMA 80.97 299 eP P 08 09 48.2 -0.2
KOHI IAmb IAmb 08 09 55.6
comp=Z,45nm,0.9s
JORH JORHAT 81.21 300 eP P 08 09 49.0 -0.4
BRSE Bradley Lake S 81.31 20 P P 08 09 45.6 -3.5
baz=222
YAK Yakutsk 81.38 343 LR LR 08 47 19.5
comp=Z,3µm,18.0s,baz=140,slow=37
YAK Yakutsk 81.38 343 eP P 08 09 49.0 -0.4
YAK e*PP pP 08 10 00.2 +2.3
YAK eS S 08 20 03.9 +5.8
YAK pmax pmax
comp=Z,93nm,0.9s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=N,24nm,1.3s
YAK smax smax
comp=E,686nm,6.4s
YAK smax smax
comp=N,98nm,3.6s
YAK MLR MLR
comp=Z,6µm,17.0s
YAK MLR MLR
comp=E,2µm,14.0s
YAK MLR MLR
comp=N,3µm,20.0s
YAK Yakutsk 81.38 343 P P 08 09 49.2 -0.2
ULN Ulaanbaatar 81.38 324ceP P 08 09 49.8 -0.2
ULN pmax pmax
comp=Z,265nm,2.5s
ULN Ulaanbaatar 81.38 324 P P 08 09 50.5 +0.5
ANM Nome 81.39 12 IAmb IAmb 08 09 52.5
comp=Z,61nm,1.4s
ANM Nome 81.39 12 P P 08 09 48.7 -0.8
baz=207
SONM Songino Array 81.74 324 P P 08 09 51.0 -0.9
comp=Z,18nm,0.9s,baz=133,slow=4.5,SNR=43
SONM Songino Array 81.74 324 IAmb IAmb 08 09 54.5
comp=Z,122nm,1.4s
SILR SILCHAR 81.76 298 eP P 08 09 52.5 +0.2
ITAN ITANAGAR 81.80 301 eP P 08 09 53.0 +0.5
ITAN IAmb IAmb 08 10 13.7
comp=Z,181nm,1.3s
TNA Tin City 81.81 10 P P 08 09 51.2 -0.4
baz=205,SNR=19
M19K Big River Lodg 81.83 17 IAmb IAmb 08 10 27.6
comp=Z,33nm,1.2s
M19K Big River Lodg 81.83 17 P P 08 09 51.6 -0.3
baz=218
GTA Gaotai 81.89 314 ⇑P P 08 09 54.0 +1.1
GTA pP sP 08 10 05.4 +0.8
GTA sP pwP 08 10 10.7 +5.0
GTA pmax pmax
comp=Z,69nm,1.8s
L19K White Mountain 81.92 17 P P 08 09 52.9 +0.6
L19K White Mountain 81.92 17 P P 08 09 52.0 -0.3
baz=218
SPCR Spurr Chakacha 81.94 19 P P 08 09 50.4 -2.1
baz=220
SEW Seward 82.02 21 P P 08 09 50.2 -2.6
baz=223
BILL Bilibino 82.03 360d iP P 08 09 52.4 -0.4
BILL i *PP pP 08 10 03.3 +2.1
BILL e*SP pwP 08 10 12.2 +6.1
BILL i S S 08 20 04.3 -0.4
BILL pmax pmax
comp=Z,219nm,2.5s
BILL MLR MLR
comp=Z,1µm,18.0s
BILL Bilibino 82.03 360 P P 08 09 51.7 -1.1
BILL IAmb IAmb 08 09 54.5
comp=Z,62nm,0.7s
MAW Mawson 82.14 202 P P 08 09 53.3 -0.2
comp=Z,11nm,0.9s,baz=110,slow=6.6,SNR=8.5
MAW Mawson 82.14 202 P P 08 09 54.0 +0.5
baz=82,SNR=6.5
MAW Mawson 82.14 202 P P 08 09 53.3 -0.2
MAW pmax pmax
comp=Z,7.0nm,0.9s
MAW Mawson 82.14 202 P P 08 09 53.3 -0.2
TTA Tatalina 82.19 16 P P 08 09 53.8 0.0
TTA pmax pmax
comp=Z,20nm,1.2s
TTA Tatalina 82.19 16 P P 08 09 53.8 0.0
TTA Tatalina 82.19 16 P P 08 09 52.6 -1.2
baz=216
O22K Cooper Landing 82.20 20 P P 08 09 52.3 -1.5
baz=222
BELO BELONIA 82.43 296 eP P 08 09 56.1 +0.3
L20K Farewell, AK 82.43 17 P P 08 09 54.1 -0.9
baz=218
RC01 Rabbit Creek A 82.65 20 IAmb IAmb 08 09 58.3
comp=Z,74nm,1.3s
RC01 Rabbit Creek A 82.65 20 P P 08 09 55.5 -0.6
baz=222
AGT Agartala 82.81 297 eP P 08 09 59.2 +1.4
AGT IAmb IAmb 08 10 10.7
comp=Z,109nm,0.5s
SHL Shillong 82.81 299 eP P 08 09 58.6 +0.6
SHL IAmb IAmb 08 10 10.9
comp=Z,152nm,1.6s
PWL Port Wells 82.95 20 P P 08 09 56.5 -1.2
baz=224,SNR=11
M22K Willow 83.02 19 IAmb IAmb 08 10 22.1
comp=Z,78nm,1.1s
M22K Willow 83.02 19 P P 08 09 56.8 -1.2
baz=222
K20K Telida 83.07 17 IAmb IAmb 08 10 00.3
comp=Z,130nm,1.9s
K20K Telida 83.07 17 P P 08 09 57.7 -0.6
baz=218,SNR=14
GUWA GUWAHATI 83.18 299 eP P 08 09 57.0 -2.7
PMR Palmer 83.22 20 P P 08 09 58.0 -1.0
baz=223,SNR=6.9
PPLA Purkeypile 83.25 18 IAmb IAmb 08 09 59.5
comp=Z,111nm,2.0s
PPLA Purkeypile 83.25 18 P P 08 09 56.8 -2.6
baz=220
KNK Knik Glacier 83.31 20 P P 08 09 58.6 -1.0
baz=224
GLI Glacier Island 83.38 21 P P 08 09 59.0 -1.0
baz=225
GHO Glory Hole Cre 83.42 20 IAmb IAmb 08 10 27.7
comp=Z,68nm,1.2s
GCSA Galena City Sc 83.45 15 P P 08 10 00.1 0.0
baz=216,SNR=12
CUT Chulitna 83.46 19 P P 08 09 58.8 -1.5
baz=222
EYAK Cordova Ski Ar 83.62 22 P P 08 10 00.5 -0.7
baz=226
SML Sawmill 83.64 20 P P 08 10 00.5 -0.8
baz=224,SNR=6.8
KAIM Kayak Island 83.68 22 P P 08 10 00.8 -0.7
baz=227
CAST Castle Rocks 83.68 17 IAmb IAmb 08 10 02.8
comp=Z,59nm,1.0s
CAST Castle Rocks 83.68 17 P P 08 09 59.5 -2.0
baz=220,SNR=33
BOD Bodaibo 83.77 335 eP P 08 10 01.0 -1.0
BOD pmax pmax
comp=Z,121nm,1.8s
CHUM Lake Minchumin 83.97 17 P P 08 10 02.0 -0.9
baz=220,SNR=13
SCM Sheep Creek Mo 83.99 20 P P 08 10 01.8 -1.3
baz=225,SNR=7.8
DIV Divide 84.02 21 IAmb IAmb 08 10 05.3
comp=Z,55nm,1.4s
KTH Kantishna Hill 84.12 18 IAmb IAmb 08 10 04.9
comp=Z,51nm,1.2s
GOMU GeErMu 84.21 309 P P 08 10 06.3 +1.0
GOMU pP pP 08 10 16.6 +2.6
GOMU sP pwP 08 10 19.5 +1.7
GOMU PP PP 08 13 21.6 +1.4
GOMU S S 08 20 31.0 +2.0
GOMU sS sS 08 20 45.9 +3.0
GOMU SS SS 08 26 02.1 +3.1
GOMU pmax pmax
comp=Z,24nm,1.7s
GOMU LR LR
comp=Z,520nm,20.0s
GOMU LR LR
comp=Z,2µm,16.7s
GOMU LR LR
comp=Z,980nm,16.7s
KLU Klutina 84.22 21 IAmb IAmb 08 10 06.5
comp=Z,60nm,1.5s
KLU Klutina 84.22 21 P P 08 10 02.6 -1.7
baz=226
TRF Thorofare Moun 84.23 18 IAmb IAmb 08 10 17.6
comp=Z,54nm,1.3s
TRF Thorofare Moun 84.23 18 P P 08 10 02.7 -1.7
baz=222,SNR=14
BERG Berg Lake 84.26 22 IAmb IAmb 08 10 07.3
comp=Z,46nm,0.9s
BMRM Bremner River 84.32 22 IAmb IAmb 08 10 06.8
comp=Z,67nm,1.6s
BMRM Bremner River 84.32 22 P P 08 10 03.7 -1.1
baz=227
WAT6 Susitna Watana 84.39 19 P P 08 10 03.9 -1.3
baz=224,SNR=15
BPAW Bear Paw Mtn. 84.52 17 IAmb IAmb 08 10 06.9
comp=Z,55nm,1.4s
BPAW Bear Paw Mtn. 84.52 17 P P 08 10 04.0 -1.7
baz=221,SNR=12
M24K Tolsona, Glenn 84.56 20 P P 08 10 03.2 -2.8
baz=226
DHUB DHUBRI 84.57 298 eP P 08 10 07.2 +0.4
DHUB IAmb IAmb 08 10 08.9
comp=Z,112nm,1.2s
N25K Chitina, Valde 84.76 21 IAmb IAmb 08 10 09.3
comp=Z,99nm,1.8s
N25K Chitina, Valde 84.76 21 P P 08 10 05.3 -1.7
baz=227,SNR=7.0
LSA Lhasa 84.80 302 IAmb IAmb 08 10 11.6
comp=Z,36nm,1.1s
O02D Mt. Diablo Mer 84.80 47 IAmb IAmb 08 10 36.6
comp=Z,63nm,1.8s
ZAK Zakamensk 84.80 325 eP P 08 10 06.4 -1.1
ZAK pmax pmax
comp=Z,134nm,1.6s
ZAK pmax pmax
comp=Z,35nm,1.4s
MCK McKinley 84.85 18 P P 08 10 05.8 -1.6
baz=223,SNR=21
DHY Denali Highway 84.86 19 IAmb IAmb 08 10 44.1
comp=Z,62nm,1.4s
DHY Denali Highway 84.86 19 P P 08 10 06.8 -0.9
baz=224,SNR=8.5
VRDI Verde Repeater 84.91 22 IAmb IAmb 08 10 08.6
comp=Z,111nm,2.0s
GLB Gilahina Butte 84.92 22 IAmb IAmb 08 10 34.5
comp=Z,21nm,1.1s
RDOG Red Dog Mine 84.94 11 IAmb IAmb 08 10 10.6
comp=Z,59nm,1.2s
RDOG Red Dog Mine 84.94 11 P P 08 10 07.4 -0.3
baz=210,SNR=26
I21K Tanana 85.07 16 P P 08 10 08.0 -0.4
baz=220,SNR=54
IRK Irkutsk 85.19 327 eP P 08 10 06.7 -2.6
IRK pmax pmax
comp=Z,169nm,2.2s
H21K Melozitna Rive 85.22 16 P P 08 10 09.1 -0.1
baz=219,SNR=35
J01E Myrtle Point 85.22 43 P P 08 10 08.7 -1.0
baz=246
TABL Table Mountain 85.25 23 IAmb IAmb 08 10 30.0
comp=Z,26nm,0.8s
NEA2 Nenana 85.44 18 P P 08 10 08.7 -1.6

baz=223,SNR=19
BARN **Barnard Glacie** 85.45 23 IAmb IAmb 08 10 38.2
comp=Z,54nm,1.4s
YBH **Yreka Blue Hor** 85.47 45 LR LR 08 40 44.0
comp=Z,3µm,20.9s,baz=298,slow=30
SIT **Sitka** 85.62 28 P P 08 10 11.0 -0.3
baz=236
WRH **Wood River Hil** 85.65 18 IAmb IAmb 08 10 12.8
comp=Z,55nm,1.2s
I23K **Minto, Yukon-K** 85.77 17 IAmb IAmb 08 10 39.2
comp=Z,26nm,1.2s
I23K **Minto, Yukon-K** 85.77 17 P P 08 10 10.4 -1.5
baz=222,SNR=12
VES **Vestal, Richgr** 85.89 52 P P 08 10 12.2 -1.0
baz=249
HDA **Harding Lake** 85.95 18 P P 08 10 11.7 -1.1
baz=225,SNR=38
TCOL **CIGO, UAF Yank** 86.01 18 P P 08 10 11.3 -1.8
baz=224,SNR=20
COLA **College** 86.01 18 *c i* P P 08 10 11.7 -1.4
COLA pmax pmax
comp=Z,101nm,1.5s
COLA **College** 86.01 18 P P 08 10 12.4 -0.7
COLA **College** 86.01 18 P P 08 10 11.5 -1.6
baz=224
M04C **Macdoel** 86.09 45 P P 08 10 11.4 -2.8
baz=247
RIDG **Independent Ri** 86.14 20 P P 08 10 12.4 -1.5
baz=227,SNR=14
L26K **Log Cabin Wild** 86.15 20 IAmb IAmb 08 10 54.1
comp=Z,23nm,1.4s
L26K **Log Cabin Wild** 86.15 20 P P 08 10 12.5 -1.4
baz=228
GTK **Tadong** 86.16 299 *e* P P 08 10 15.6 +0.7
GTK IAmb IAmb 08 10 30.4
comp=Z,146nm,1.4s
M27K **Edge Creek, AK** 86.22 21 P P 08 10 13.7 -0.7
baz=230
ILAR **Eielson Array** 86.22 18 P P 08 10 12.1 -2.1
comp=Z,16nm,0.7s,baz=240,slow=4.9,SNR=65
ILAR PKiKP **PKiKP** 08 15 20.4 -1.6
comp=Z,0.8nm,0.6s,baz=271,slow=3.0,SNR=5.3
ILAR PKKP **PKKPdf** 08 28 09.4 +0.2
comp=Z,1.1nm,0.8s,baz=38,slow=4.6,SNR=7.5
ILAR LR LR 08 44 04.6
comp=Z,5µm,20.3s,baz=234,slow=32
ISA **Isabella, Lake** 86.30 52 P P 08 10 15.6 +0.3
baz=250
POKR **Poker Plat Res** 86.31 18 P P 08 10 11.8 -2.8
baz=224
YUK3 **Moose Creek** 86.36 22 P P 08 10 13.2 -2.0
baz=231
EDW2 **Edwards Air Fo** 86.40 53 P P 08 10 13.7 -2.1
baz=250
BFSC **Mount Baldy Ra** 86.44 54 P P 08 10 15.4 -0.7
baz=250
I04A **Tendick Farm,** 86.49 43 P P 08 10 16.1 0.0
baz=247
J25K **Salcha River,** 86.58 19 IAmb IAmb 08 10 35.9
comp=Z,19nm,0.8s
J25K **Salcha River,** 86.58 19 P P 08 10 14.3 -1.7
baz=226,SNR=25
SCRK **Sand Creek** 86.58 20 IAmb IAmb 08 10 20.2
comp=Z,18nm,0.9s
SCRK **Sand Creek** 86.58 20 P P 08 10 14.9 -1.2
baz=228,SNR=23
BVCY **Beaver Creek** 86.62 22 P P 08 10 16.2 0.0
baz=230
BBB **Bella Bella** 86.68 34 LR LR 08 41 28.4
comp=Z,4µm,20.8s,baz=251,slow=30
MOY **Mondy** 86.68 325 *e* P P 08 10 16.8 -0.1
MOY pmax pmax
comp=Z,129nm,2.7s
L27K **Beaver Creek,** 86.70 21 P P 08 10 17.2 +0.6
baz=230
H24K **Noodor Dome** 86.70 17 IAmb IAmb 08 11 41.8
comp=Z,34nm,1.7s
H24K **Noodor Dome** 86.70 17 P P 08 10 17.2 +0.6
baz=224
YUK4 **Talbot Arm** 86.77 23 P P 08 10 17.1 -0.1
baz=232
E03A **Lebam** 86.86 40 IAmb IAmb 08 10 44.0
comp=Z,41nm,1.3s
CWC **Cottonwood Cre** 86.86 51 P P 08 10 17.8 -0.4
baz=250
HYT **Haines Junctio** 86.90 24 P P 08 10 16.7 -1.0
baz=234
J26L **Joseph Creek** 87.07 19 P P 08 10 17.3 -1.1
baz=228,SNR=5.7
J05D **Fort Rock, OR** 87.08 44 P P 08 10 18.3 -0.8
baz=248
COLD **Coldfoot** 87.09 15 IAmb IAmb 08 10 22.9
comp=Z,30nm,1.0s
COLD **Coldfoot** 87.09 15 P P 08 10 18.0 -0.4
baz=222,SNR=44
K05A **Summer Lake** 87.10 45 IAmb IAmb 08 10 48.9
comp=Z,57nm,1.7s
RMX **La Rumorosa** 87.15 56 IAmb IAmb 08 13 41.1
comp=Z,32nm,0.6s
LHV **Little Huntoon** 87.17 50 IAmb IAmb 08 11 02.9
comp=Z,34nm,1.8s
PFO **Pinyon Flats O** 87.17 54 LR LR 08 41 47.6
comp=Z,8µm,19.9s,baz=308,slow=30
PFO **Pinyon Flats O** 87.17 54 *i* P P 08 10 17.5 -2.2
PFO pmax pmax
comp=Z,57nm,4.0s
PFO **Pinyon Flats O** 87.17 54 P P 08 10 19.9 +0.2
MPMC **Manual Prospec** 87.18 52 P P 08 10 19.3 -0.5
baz=250
RYN **Ryan** 87.29 49 IAmb IAmb 08 10 47.9
comp=Z,38nm,1.9s
YUH **Yuha Desert** 87.29 56 IAmb IAmb 08 13 38.9
comp=Z,20nm,0.7s
F04A **Amboy** 87.33 41 IAmb IAmb 08 10 46.6
comp=Z,22nm,1.2s
NVAR **Mina Array Bea** 87.38 49 P P 08 10 19.3 -1.4
comp=Z,5.0nm,1.0s,baz=229,slow=7.2,SNR=20
NVAR PKKPbc **PKKPbc** 08 28 11.5 -0.5
comp=Z,0.6nm,0.7s,baz=92,slow=2.5,SNR=3.9
NVAR PKPPKP **P'P'df** 08 36 17.7 +0.5
comp=Z,0.3nm,0.5s,baz=99,slow=5.8,SNR=4.2
NVAR LR LR 08 42 29.8
comp=Z,11µm,20.1s,baz=277,slow=31
I05D **Terrebonne, OR** 87.41 43 P P 08 10 20.5 0.0
baz=247
BOK **Bokaro** 87.45 295 *e* P P 08 10 21.5 +0.3
GSC **Goldstone, Bar** 87.46 53 IAmb IAmb 08 12 59.6
comp=Z,14nm,0.3s
PINE **Pine Mountain** 87.47 44 IAmb IAmb 08 11 18.4
comp=Z,22nm,1.4s
E04D **Cinebar** 87.49 41 P P 08 10 20.3 -0.4
baz=246
NV11 **Mina Array Sit** 87.49 49 IAmb IAmb 08 11 08.2
comp=Z,27nm,1.6s
D03D **Eldon** 87.56 40 P P 08 10 21.2 +0.2
baz=246
HOOD **Mount Hood Mea** 87.59 42 IAmb IAmb 08 11 17.2
comp=Z,78nm,1.9s
GRAC **Grapevine Rang** 87.59 51 P P 08 10 21.3 -0.3
baz=250
FURC **Furnace Creek,** 87.80 52 P P 08 10 22.5 +0.1
baz=251
PALK **Pallekele** 87.88 278 P P 08 10 23.4 0.0
comp=Z,6.7nm,0.8s,baz=195,slow=6.5,SNR=5.6
PALK LR LR 08 50 25.7
comp=Z,3µm,20.5s,baz=87,slow=36
PALK **Pallekele** 87.88 278 P P 08 10 23.9 +0.5
PALK pmax pmax
comp=Z,77nm,1.6s
PALK **Pallekele** 87.88 278 P P 08 10 23.9 +0.5
PALK IAmb IAmb 08 10 39.7
comp=Z,77nm,1.6s
EGAK **Eagle** 88.03 20 IAmb IAmb 08 10 24.9
comp=Z,17nm,1.0s
EGAK **Eagle** 88.03 20 P P 08 10 22.4 -0.6
baz=230
DAWY **Dawson** 88.18 21 P P 08 10 23.0 -0.7
baz=232
GMRC **Granite Mounta** 88.18 54 P P 08 10 23.7 -0.8
baz=251
M30M **Minto, Yukon** 88.21 23 P P 08 10 22.9 -1.0
baz=234
TOLK **Toolik Lake Re** 88.31 15 IAmb IAmb 08 10 27.4
comp=Z,68nm,1.6s
TOLK **Toolik Lake Re** 88.31 15 P P 08 10 24.3 +0.1
baz=222,SNR=10
TPNV **Topopah Spring** 88.42 51 P P 08 10 25.2 -0.5
baz=251

I07A **Izee** 88.54 44 IAmb IAmb 08 11 38.8
comp=Z,58nm,2.0s
WVOR **Wild Horse Val** 88.54 46 IAmb IAmb 08 11 19.8
comp=Z,28nm,1.4s
DLBC **Dease Lake** 88.77 28 LR LR 08 47 07.8
comp=Z,2µm,18.2s,baz=90,slow=34
LTY **Liberty** 88.96 41 IAmb IAmb 08 11 10.4
comp=Z,43nm,1.8s
J08A **Circle Bar Ran** 88.98 45 IAmb IAmb 08 10 34.3
comp=Z,16nm,1.0s
S11A **Rachel** 89.02 51 IAmb IAmb 08 11 54.9
comp=Z,47nm,1.7s
SYO **Syowa Base** 89.03 197 ǁ *i* P P 08 10 28.2 +0.5
SYO **Syowa Base** 89.03 197 ǁ *i* PcP PcP 08 10 29.7 +0.5
SYO **Syowa Base** 89.03 197 ǁ *e* pP pP 08 10 37.6 +1.1
113A **Mohawk Valley,** 89.06 56 IAmb IAmb 08 10 50.7
comp=Z,24nm,1.7s
SHPR **Sheep Range** 89.11 52 IAmb IAmb 08 10 57.8
comp=Z,43nm,1.8s
I29M **Ogilvie Camp,** 89.34 20 IAmb IAmb 08 11 02.5
comp=Z,35nm,1.6s
I29M **Ogilvie Camp,** 89.34 20 P P 08 10 29.7 +0.5
baz=233
R11A **Troy Canyon, C** 89.37 50 P P 08 10 30.8 +0.7
baz=251
PRN **Pahroc Range** 89.47 51 IAmb IAmb 08 11 30.5
comp=Z,18nm,1.1s
LPIG **La Paz** 89.51 65 LR LR 08 40 54.5
comp=Z,2µm,21.5s,baz=316,slow=29
214A **Organ Pipe Nat** 89.59 57 IAmb IAmb 08 11 12.4
comp=Z,25nm,1.6s
214A **Organ Pipe Nat** 89.59 57 P P 08 10 31.2 +0.1
baz=253
W13A **Hualapai Mount** 89.66 54 IAmb IAmb 08 10 55.3
comp=Z,33nm,1.9s
MDRS **Chennai** 89.76 283 *e* P P 08 10 33.4 +1.3
BMO **Blue Mountains** 90.29 44 IAmb IAmb 08 11 02.3
comp=Z,29nm,1.6s
ELK **Elko** 90.38 48 LR LR 08 42 48.8
comp=Z,6µm,21.8s,baz=254,slow=30
EPYK **Eagle Plains** 90.47 20 IAmb IAmb 08 11 03.2
comp=Z,21nm,1.1s
EPYK **Eagle Plains** 90.47 20 P P 08 10 35.5 +1.1
baz=234
F10A **Beach Ranch, E** 90.72 43 IAmb IAmb 08 11 31.8
comp=Z,47nm,1.7s
CCUT **Cedar City** 90.80 52 IAmb IAmb 08 11 06.9
comp=Z,22nm,1.7s
SZCU **Shurtz Canyon** 91.02 52 IAmb IAmb 08 13 21.3
comp=Z,27nm,1.9s
KNB **Kanab** 91.05 52 IAmb IAmb 08 11 45.1
comp=Z,44nm,1.8s
U15A **North Rim** 91.29 53 IAmb IAmb 08 11 09.1
comp=Z,34nm,1.6s
TUC **Tucson** 91.34 57 P P 08 10 37.3 -2.0
TUC pmax pmax
comp=Z,6.0nm,0.9s
TUC **Tucson** 91.34 57 P P 08 10 37.3 -2.0
TUC **Tucson** 91.34 57 P P 08 10 39.0 -0.3
baz=254
NEW **Newport** 91.56 40 IAmb IAmb 08 13 01.4
comp=Z,35nm,2.0s
NEW **Newport** 91.56 40 P P 08 10 39.2 -0.6
baz=250
WUAZ **Wupatki** 91.75 54 P P 08 10 40.9 -0.3
baz=254
HLID **Hailey** 91.84 46 P P 08 10 40.8 -0.7
baz=252
WMQ **Urumqi** 91.95 315 P P 08 10 42.8 +0.9
WMQ pP pP 08 10 53.4 +2.7
WMQ pmax pmax
comp=Z,56nm,1.5s
WMQ LR LR
comp=Z,3µm,19.3s
WMQ LR LR
comp=Z,2µm,20.9s
WMQ LR LR
comp=Z,3µm,20.9s
DUG **Dugway, Tooele** 91.98 49 P P 08 10 42.6 +0.4
baz=253
HYB **Hyderabad** 92.41 287 *e* P P 08 10 42.3 -2.2
HYBB **Hyderabad (bro** 92.42 287 *e* P P 08 10 44.0 -0.5
HYBB *es* P **pwP** 08 10 59.1 +2.0
HYBB *e* PP **PP** 08 14 23.7 -2.2
HYBB *e* SKSac **SKSac** 08 21 15.6 -0.9
HYBB *e* ScS **S** 08 21 47.2 +0.4
HVU **Hansel Valley** 92.47 48 IAmb IAmb 08 11 13.9
comp=Z,18nm,1.6s
INK **Inuvik** 92.59 19 LR LR 08 47 32.6
comp=Z,4µm,20.7s,baz=176,slow=32
INK **Inuvik** 92.59 19 IAmb IAmb 08 10 45.2
comp=Z,31nm,1.8s
INK **Inuvik** 92.59 19 P P 08 10 44.3 +0.2
baz=237
TROLL **Troll, Antarti** 93.32 185 P P 08 10 47.1 -0.7
DLMT **Dillon** 93.61 44 IAmb IAmb 08 11 17.9
comp=Z,21nm,1.8s
SNAA **Sanae** 94.02 183 P P 08 10 49.6 -1.4
SNAA **Sanae** 94.02 183 *c e* P P 08 10 49.8 -1.2
SNAA pmax pmax
comp=Z,44nm,1.3s
SNAA **Sanae** 94.02 183 P P 08 10 49.9 -1.0
PV23 **Carpenter Ridg** 94.35 52 IAmb IAmb 08 10 58.5
comp=Z,8.0nm,0.8s
VNA3 **Neumayer Olymp** 94.71 181 P P 08 10 53.5 -0.6
VNA2 **Neumayer--Watz** 94.97 182 P P 08 10 54.4 -0.9
baz=177,slow=4.0
BW06 **Boulder Array** 95.03 47 P P 08 10 56.2 0.0
baz=255
PDAR **Pinedale Array** 95.03 47 P P 08 10 54.8 -1.5
comp=Z,0.3nm,0.7s,baz=262,slow=6.1,SNR=1.9
PDAR PKKP **PKKPbc** 08 27 51.4 -1.3
comp=Z,0.7nm,0.7s,baz=83,slow=5.6,SNR=7.6
PDAR LR LR 08 48 09.4
comp=Z,3µm,19.1s,baz=44,slow=32
O20A **White River Ci** 95.34 50 P P 08 10 57.9 +0.2
baz=256
ANMO **Albuquerque** 95.50 55 *i* P P 08 10 56.0 -2.5
ANMO pmax pmax
comp=Z,2.0nm,1.1s
ANMO **Albuquerque** 95.50 55 P P 08 10 58.8 +0.3
ANMO **Albuquerque** 95.50 55 P P 08 10 57.7 -0.8
baz=257
MK31 **Makanchi Array** 96.43 317 *i* P P 08 11 02.1 -0.2
MK31 **Makanchi Array** 96.43 317 IAmb IAmb 08 11 04.3
comp=Z,34nm,1.2s
MKAR **Makanchi Array** 96.43 317 P P 08 11 01.6 -0.7
comp=Z,13nm,0.9s,baz=99,slow=5.8,SNR=61
MKAR PP PP 08 14 54.8 -1.8
comp=Z,5.0nm,1.1s,baz=93,slow=9.0,SNR=3.7
MKAR PKiKP **PKiKP** 08 15 39.4 -0.5
comp=Z,1.2nm,0.8s,baz=96,slow=1.4,SNR=1.5
MKAR PKKPbc **PKKPbc** 08 27 46.4 -2.4
comp=Z,0.6nm,0.5s,baz=266,slow=3.3,SNR=5.4
MKAR PKKP **PKKPdf** 08 27 50.8 +0.5
comp=Z,0.8nm,0.6s,baz=284,slow=3.9,SNR=6.2
MKAR **Makanchi Array** 96.43 317 *i* P P 08 11 02.2 -0.1
MKAR pmax pmax
comp=Z,13nm,0.9s
TX31 **Lajitas Ar. Si** 96.55 62 IAmb IAmb 08 11 43.1
comp=Z,26nm,1.6s
TXAR **Lajitas Array** 96.55 62 P P 08 11 02.5 -0.8
comp=Z,1.7nm,1.0s,baz=227,slow=4.8,SNR=4.7
TXAR PP PP 08 14 59.6 +1.6
comp=Z,2.7nm,1.1s,baz=238,slow=7.2,SNR=8.4
TXAR PKKPbc **PKKPbc** 08 27 46.4 -1.5
comp=Z,0.4nm,0.8s,baz=96,slow=3.2,SNR=3.9
ZAA0 **Zalesovo Array** 96.64 324 IAmb IAmb 08 11 15.5
comp=Z,48nm,1.6s
ZALV **Zalesovo Beam** 96.64 324 P P 08 11 01.3 -1.6
comp=Z,9.8nm,0.7s,baz=112,slow=4.6,SNR=35
MAKZ **Makanchi** 96.64 316 P P 08 11 02.6 -0.6
MAKZ pmax pmax
comp=Z,99nm,1.8s
MAKZ **Makanchi** 96.64 316 P P 08 11 02.6 -0.6
A36M **Sachs Harbour** 96.86 17 IAmb IAmb 08 11 05.2
comp=Z,41nm,1.6s
A36M **Sachs Harbour** 96.86 17 P P 08 11 03.0 -0.5
baz=245
YKA **Yellowknife Ar** 97.36 27 P P 08 11 04.2 -1.9
comp=Z,1.2nm,0.5s,baz=258,slow=4.6,SNR=33
YKA PKiKP **PKiKP** 08 15 40.5 -0.4
comp=Z,0.5nm,0.6s,baz=252,slow=1.3,SNR=10
YKA PKKPbc **PKKPbc** 08 27 45.4 -1.3
comp=Z,0.4nm,0.7s,baz=75,slow=2.2,SNR=4.1
SHLS **Shalkode** 97.57 312 *e* P P 08 11 05.3 -2.4
SHLS pmax pmax
comp=Z,31nm,2.7s
SHLS **Shalkode** 97.57 312 *e* P P 08 11 05.3 -2.4
comp=Z,31nm,2.7s,baz=312
KPKS **Kokpek** 98.19 313 *e* P P 08 11 09.0 -1.4
KPKS pmax pmax
comp=Z,22nm,1.9s
KPKS **Kokpek** 98.19 313 *e* P P 08 11 09.0 -1.4
comp=Z,22nm,1.9s,baz=313
SATY **Saty** 98.31 312 *e* P P 08 11 09.9 -1.1
SATY *e* 08 15 09.8
SATY pmax pmax
comp=Z,30nm,2.5s
SATY **Saty** 98.31 312 *e* P P 08 11 09.9 -1.1
comp=Z,30nm,2.5s,baz=312
SATY *e* PP PP 08 15 09.9 -1.4
baz=312
TDK **Taldyqorghan** 98.69 314 *e* P P 08 11 11.6 -0.9
TDK **Taldyqorghan** 98.69 314 *e* P P 08 11 11.6 -0.9
baz=314
MDOK **Medeo** 99.30 312 *e* P **Pdif** 08 11 13.9 -1.6
MDOK **Medeo** 99.30 312 *e* P **Pdif** 08 11 13.9 -1.6
baz=312
NRIK **Noril'sk** 99.39 339 P **Pdif** 08 11 13.2 -1.7
comp=Z,16nm,0.9s,baz=110,slow=4.7,SNR=6.9
NRIK PP **PP** 08 15 17.2 -1.4
comp=Z,1.6nm,0.4s,baz=109,slow=10,SNR=4.5
NRIK **Noril'sk** 99.39 339 *c e* P **Pdif** 08 11 13.3 -1.7
NRIK pmax pmax
comp=Z,34nm,1.3s
NRIK **Noril'sk** 99.39 339 IAmb IAmb 08 11 16.1
comp=Z,21nm,0.9s
KSH **Kashi** 99.42 308 P **Pdif** 08 11 18.0 +1.9
KSH sP pwP 08 11 33.8 +5.1
KSH PP **PP** 08 15 21.0 +1.1
KSH SKS **SKSac** 08 21 56.3 +3.6
KSH pmax pmax
comp=Z,7.0nm,1.5s
CHKK **Chushkaly** 99.47 313 *e* P **Pdif** 08 11 14.7 -1.3
CHKK **Chushkaly** 99.47 313 *e* P **Pdif** 08 11 14.8 -1.3
baz=313
KURK **Kurchatov** 99.64 320 *c e* P **Pdif** 08 11 15.2 -1.3
KURK pmax pmax
comp=Z,19nm,1.7s
KURBB **Kurchatov Arra** 99.67 320 P **Pdif** 08 11 15.2 -1.5
comp=Z,0.9nm,0.6s,baz=106,slow=3.3,SNR=12
KURBB PP **PP** 08 15 21.6 +0.4
comp=Z,2.6nm,0.9s,baz=97,slow=6.8,SNR=8.2
KURBB PKiKP **PKiKP** 08 15 45.1 -0.3
comp=Z,1.2nm,0.8s,baz=96,slow=3.2,SNR=1.8
KURBB PKKPbc **PKKPbc** 08 27 36.1 -3.7
comp=Z,0.6nm,0.6s,baz=279,slow=3.3,SNR=6.4
KURBB PKKP **PKKPdf** 08 27 43.7 -0.7
comp=Z,0.5nm,0.6s,baz=286,slow=3.3,SNR=6.1
KUU **Kurty** 99.94 313 *e* P **Pdif** 08 11 16.6 -1.5
KUU **Kurty** 99.94 313 *e* P **Pdif** 08 11 16.6 -1.5
baz=313
SGDS **Sogindy** 101.09 312 *e* P **Pdif** 08 11 22.0 -1.3
SGDS **Sogindy** 101.09 312 *e* P **Pdif** 08 11 22.1 -1.3
baz=312
BTLS **Baital** 101.75 314 *e* P **Pdif** 08 11 24.4 -1.7
BTLS pmax pmax
comp=Z,13nm,2.2s
BTLS **Baital** 101.75 314 *e* P **Pdif** 08 11 24.4 -1.7
comp=Z,14nm,2.2s,baz=314
BRZS **Berezniki** 103.29 319 *e* PP **PKiKP** 08 15 47.7 -4.3
baz=319
DZA **Taraz** 103.40 311 *e* PP **PKiKP** 08 15 48.7 -3.8
baz=311
ULM **Lac du Bonnet** 105.54 41 PKiKP **PKiKP** 08 15 54.9 -1.2
comp=Z,2.3nm,0.7s,baz=292,slow=1.8,SNR=3.7
ARU **Arti** 111.74 325 PKiKP **PKiKP** 08 16 06.3 -1.2
comp=Z,1.1nm,0.3s,baz=14,slow=1.0,SNR=2.1
ARU **Arti** 111.74 325 *i* PKIKP **PKiKP** 08 16 06.4 -1.2
ARU 08 16 46.9
ARU 08 23 15.8
AKTO **Aktyubinsk** 112.70 319 PKiKP **PKiKP** 08 16 09.2 -0.4
comp=Z,4.0nm,0.7s,baz=24,slow=1.7,SNR=12
AKTO SKP 08 19 46.3
comp=Z,1.0nm,0.6s,baz=56,slow=3.6,SNR=2.5
GEYT **Alibeck** 113.16 305 PKiKP **PKiKP** 08 16 11.0 +0.1
comp=Z,3.2nm,0.7s,baz=74,slow=11,SNR=2.8
SPITS **Spitsbergen Ar** 114.36 354 PKKPbc PKKPbc 08 26 51.4 -3.1
comp=Z,6.7nm,1.0s,baz=162,slow=5.7,SNR=5.2
PRGR **Permogore** 116.95 333 *e* PKIKP **PKPdf** 08 16 15.2 -2.1
PRGR pmax pmax
comp=Z,8.0nm,0.9s
DAG **Danmarks Havn** 117.38 1 *i* P **PKPdf** 08 16 15.0 -2.9
LPAZ **La Paz** 117.96 117 PKP **PKPdf** 08 16 19.6 -1.9
comp=Z,2.0nm,0.7s,baz=12,slow=6.1,SNR=9.1
LPAZ PKKPbc **PKKPbc** 08 26 41.4 +0.2
comp=Z,2.0nm,0.9s,baz=57,slow=5.4,SNR=8.1
APA **Apatity** 118.71 341 ǁ *i* PKIKP **PKiKP** 08 16 24.0 +3.4
APA pmax pmax
comp=Z,13nm,0.9s
APA MLR MLR
comp=Z,4µm,19.0s
BELG **Belogornoye** 118.77 322 PKP **PKPdf** 08 16 20.5 -0.6
comp=Z,21nm,0.6s,baz=327,slow=1.4,SNR=9.6
BELG SKP 08 19 57.5
comp=Z,18nm,1.0s,baz=213,slow=0.6,SNR=3.7
BELG **Belogornoye** 118.77 322 *i* PKIKP **PKPdf** 08 16 19.8 -1.3
ARCES **ARCESS Array B** 119.61 345 PKP **PKPdf** 08 16 21.3 -1.1
comp=Z,15nm,0.6s,baz=78,slow=1.6,SNR=65
ARCES PKKPbc **PKKPab** 08 26 32.4 -2.0
comp=Z,2.5nm,0.9s,baz=240,slow=2.3,SNR=9.7
ARCES **ARCESS Array B** 119.61 345 PKIKP **PKPdf** 08 16 20.7 -1.6
ARCES **ARCESS Array B** 119.61 345 PKPdf **PKPdf** 08 16 20.7 -1.6
DBG **Daneborg** 119.79 2 *i* P **PKPdf** 08 16 20.5 -2.0
KLMR **Klimovskoe** 119.97 333 *e* PKIKP **PKPdf** 08 16 19.8 -3.4
KLMR pmax pmax
comp=Z,25nm,0.9s
KLMR **Klimovskoe** 119.97 333 *e* PKPdf **PKPdf** 08 16 19.8 -3.4
KLMR AMP 08 16 27.6
comp=Z,25nm,0.9s
KLMR *e* 08 18 53.2
KLMR *e* SKP 08 19 57.3
ILULI **Ilulissat** 120.11 15 *i* P **PKPdf** 08 16 21.4 -1.8
MAK **Makhachkala** 120.84 312 *e* P **Pdif** 08 12 48.3 -2.7
MAK *i* 08 16 22.4
MAK *e* 08 23 18.7
MAK *e* PS **PS** 08 27 37.9 -8.3
MAK pmax pmax
comp=Z,39nm,0.3s
CPUP **Villa Florida** 121.23 133 PKP **PKPdf** 08 16 25.6 -1.1
comp=Z,4.6nm,0.9s,baz=259,slow=1.7,SNR=10
CPUP **Villa Florida** 121.23 133 PKIKP **PKPdf** 08 16 24.9 -1.8
CPUP **Villa Florida** 121.23 133 PKPdf **PKPdf** 08 16 24.9 -1.8
SFJD **Kangerlussuaq** 121.85 16 *i* P **PKPdf** 08 16 25.2 -1.4
GROC **Groznyy** 122.03 312 *i* PKIKP **PKPdf** 08 16 27.7 0.0
GROC *e* 08 18 01.0
GROC pmax pmax
comp=Z,50nm,1.3s
SCHQ **Schefferville** 122.19 33 PKP **PKPdf** 08 16 25.4 -2.2
comp=Z,3.9nm,0.6s,baz=303,slow=1.8,SNR=12
SCHQ PKKPbc **PKKPab** 08 26 22.8 -0.9
comp=Z,5.0nm,1.0s,baz=171,slow=5.9,SNR=3.6
ICESG **Greenland Ices** 122.67 11 *i* P **PKPdf** 08 16 26.7 -1.9
MOS **Moscow** 123.14 328 *i* PKIKP **PKPdf** 08 16 26.5 -2.9
MOS *e* 08 23 25.2
MOS pmax pmax
comp=Z,36nm,0.7s
GNI **Garni** 123.36 309 *i* PKIKP **PKPdf** 08 16 29.4 -1.2
BOSA **Boshof** 123.38 221 PKP **PKPdf** 08 16 30.8 -0.2
comp=Z,4.4nm,0.7s,baz=38,slow=2.6,SNR=5.2
DY2G **Dye2** 123.39 15 *i* P **PKPdf** 08 16 28.1 -1.9
ZEI **Tsey** 123.47 312 *i* PKIKP **PKiKP** 08 16 31.3 +0.3
ZEI pmax pmax
comp=Z,20nm,1.0s
SCO **Scoresbysund** 123.51 3 PKIKP **PKPdf** 08 16 28.7 -1.1
SCO **Scoresbysund** 123.51 3 PKPdf **PKPdf** 08 16 28.7 -1.1
SCO **Scoresbysund** 123.51 3 *i* P **PKPdf** 08 16 27.4 -2.3
SDV **Santo Domingo** 123.72 89 PKPdf **PKPdf** 08 16 27.7 -4.4
RAYN **Ar Rayn** 123.88 289 PKIKP **PKPdf** 08 16 31.4 -0.5
RAYN **Ar Rayn** 123.88 289 PKPdf **PKPdf** 08 16 31.4 -0.5
VORR **Voronezh** 123.93 323 *e* PKIKP **PKPdf** 08 16 29.6 -1.5
VORR pmax pmax
comp=Z,114nm,1.9s
OBN **Obninsk** 123.96 328 PKP **PKPdf** 08 16 30.5 -0.5
comp=Z,4.0nm,0.4s,baz=60,slow=3.1,SNR=1.8
OBN **Obninsk** 123.96 328 ǁ *i* PKIKP **PKPdf** 08 16 30.9 -0.1
OBN pmax pmax
comp=Z,25nm,0.7s
KBZ **Khabaz** 123.98 313 PKP **PKPdf** 08 16 30.6 -0.8
comp=Z,4.4nm,0.8s,baz=102,slow=4.1,SNR=12
KBZ PP **PP** 08 18 15.4 0.0

	comp=Z,2.1nm,0.7s,baz=126,slow=4.6,SNR=4.8						
KBZ	Khabaz	123.98	313	i PKIKP	PKiKP	08 16 31.8	+0.1
AKH	Akhalkalaki	124.05	311	⇑P	PKiKP	08 16 32.2	0.0
KIV	Kislovodsk	124.07	314	ePKIKP	PKPdf	08 16 29.9	-1.9
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
SHA1	Shidzhatmaz	124.15	313	i PKIKP	PKPdf	08 16 32.2	+0.1
NEY	Neytrino	124.21	313	i PKIKP	PKPdf	08 16 32.2	0.0
FINES	FINESS Array B	125.03	338	PKP	PKPdf	08 16 31.9	-1.0
	comp=Z,7.5nm,0.7s,baz=58,slow=4.7,SNR=19						
ISOG	Isortoq, Green	125.86	13	i P	PKPdf	08 16 32.5	-1.8
AQDB	Aquidauana	125.94	129	PKPdf	PKPdf	08 16 33.7	-2.2
SOC	Sochi	126.25	314	i PKIKP	PKPdf	08 16 33.4	-2.4
SOC				e		08 23 35.1	
SOC				ePS	PS	08 28 34.1	+0.1
SOC				eSS	SS	08 35 34.1	+2.1
SOC				eSSS	SSS	08 40 08.1	
SOC				pmax	pmax		
	comp=Z,16nm,1.1s						
MEF	Metsahovi	126.47	338	eP	PKPdf	08 16 35.4	-0.3
VSU	Vasula	126.71	335	eP	PKPdf	08 16 35.0	-1.1
IVI	Ivigtut	126.79	20	i P	PKPdf	08 16 34.5	-1.7
RAF	Rauma	126.84	340	eP	PKPdf	08 16 35.5	-0.9
ANN	Anapa	127.45	316	i PKIKP	PKPdf	08 16 36.3	-1.7
ANN				pmax	pmax		
	comp=Z,23nm,1.2s						
KMBO	Kilima Mbogo	127.65	257	PKP	PKPdf	08 16 39.2	-0.5
	comp=Z,1.4nm,0.7s,baz=147,slow=2.5,SNR=9.8						
MTSE	Matsula	127.70	337	eP	PKPdf	08 16 36.7	-1.4
AAL	Aland	128.05	340	eP	PKPdf	08 16 37.8	-0.8
MNK	Minsk	128.59	331	i PKIKP	PKPdf	08 16 35.1	-4.8
MNK				i PPP	PPP	08 21 27.4	
MNK				i SS	SS	08 35 55.5	-4.5
MNK				pmax	pmax		
	comp=N,15nm,0.6s						
MNK				pmax	pmax		
	comp=Z,20nm,0.6s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.6s						
MNK				MLR	MLR		
	comp=Z,968nm,19.0s						
MNK				MLR	MLR		
	comp=E,258nm,19.0s						
MNK				MLR	MLR		
	comp=N,2µm,19.0s						
MNK	Minsk	128.59	331	i PKP	PKPdf	08 16 35.1	-4.8
	comp=E,2.0nm,0.6s						
MNK				i PKP	PKPdf	08 16 35.1	-4.8
	comp=N,15nm,0.6s						
MNK				i PKP	PKPdf	08 16 35.1	-4.8
	comp=Z,20nm,0.6s,baz=54						
MNK				i PP	PP	08 18 40.8	-4.6
MNK				i PKS	PKSdf	08 20 12.9	-3.3
MNK				i PPP	PPP	08 21 27.4	
MNK				i SKS	SKSdf	08 24 10.7	+21
MNK				i SS	SS	08 35 55.6	-4.4
MNK				i SSS	SSS	08 40 15.6	
MNK				i LR	LR	09 08 28.4	
MNK				i LRM	MLR	09 13 15.9	
	comp=Z,968nm,19.4s						
MNK				i LRM	MLR	09 13 23.6	
	comp=E,258nm,19.4s						
MNK				i LRM	MLR	09 13 24.9	
	comp=N,2µm,19.4s						
IDID	Didziasalis	128.64	332	eP	PKPdf	08 16 39.6	-0.4
IIGN	Ignalina	128.86	332	eP	PKPdf	08 16 40.0	-0.4
NACGM	Naroch	128.87	331	ePKP	PKPdf	08 16 39.7	-0.7
SJG	San Juan	129.26	78	PKIKP	PKPdf	08 16 40.6	-1.6
SJG	San Juan	129.26	78		PKPdf	08 16 40.6	-1.6
GCPR	Guaynabo City	129.34	78		PKPdf	08 16 35.6	-6.8
PDPR	Patillas Dam,	129.37	78		PKPdf	08 16 41.2	-1.2
PABE	Paberze	129.76	333	eP	PKPdf	08 16 41.1	-0.9
NB2	NORSAR Subarra	129.98	345	PKPdf	PKPdf	08 16 41.4	-1.0
	comp=Z,88nm,2.0s,baz=31,slow=1.9						
NB2	NORSAR Subarra	129.98	345	PKPdf	PKPdf	08 16 41.4	-1.0
	baz=31,slow=1.9						
NOA	NORSAR Array B	129.98	345	PKP	PKPdf	08 16 41.8	-0.7
	comp=Z,5.2nm,0.7s,baz=32,slow=2.0,SNR=17						
NOA				SKPbc	SKPbc	08 20 05.9	+2.9
	comp=Z,1.8nm,0.6s,baz=32,slow=3.1,SNR=9.2						
AKASG	Malin Array Be	129.99	326	PKP	PKPdf	08 16 42.6	-0.1
	comp=Z,3.8nm,0.6s,baz=48,slow=2.1,SNR=31						
AKASG				PP	PP	08 18 53.5	-1.2
	comp=Z,0.8nm,0.7s,baz=48,slow=6.9,SNR=5.2						
AKASG				SKPbc	SKPbc	08 20 05.5	+2.3
	comp=Z,1.6nm,0.6s,baz=47,slow=5.4,SNR=4.1						
AKBB	Malin Array Si	129.99	326c	i PKIKP	PKPdf	08 16 41.7	-1.0
AKBB	Malin Array Si	129.99	326	PKPdf	PKPdf	08 16 40.3	-2.4
HFS	Hagfors	130.06	343	SKPbc	SKPbc	08 20 05.4	+2.2
	comp=Z,3.9nm,0.8s,baz=83,slow=4.9,SNR=4.5						
HFS				SKP		08 20 17.2	
	comp=Z,10nm,0.8s,baz=94,slow=4.8,SNR=7.9						
MQOL	MQOL	131.66	285	i P	PKiKP	08 16 52.2	+4.4
BRTR	Keskin Array B	131.74	311	PKP	PKPdf	08 16 46.5	-0.1
	comp=Z,2.8nm,0.9s,baz=48,slow=3.7,SNR=8.1						
BRTR				SKPbc	SKPab	08 20 13.3	+2.4
	comp=Z,1.9nm,0.6s,baz=132,slow=3.7,SNR=3.9						
BRTR				SKP		08 20 22.9	
	comp=Z,13nm,0.7s,baz=100,slow=3.9,SNR=16						
BRTR	Keskin Array B	131.74	311	PKIKP	PKPdf	08 16 45.3	-1.3
BRTR	Keskin Array B	131.74	311	PKPdf	PKPdf	08 16 45.3	-1.3
SORM	Soroca	131.79	323	⇑P	PKPdf	08 16 46.3	+0.1
SORM	Soroca	131.79	323	⇑PKIKP	PKPdf	08 16 46.3	+0.1
MMAI	Mount Meron Ar	132.04	302	SKPbc	SKPab	08 20 14.3	+1.9
	comp=Z,1.1nm,0.2s,baz=108,slow=4.7,SNR=4.2						
MMAI				SKP		08 20 27.3	
	comp=Z,1.2nm,0.3s,baz=89,slow=16,SNR=5.6						
DEL	Delary	132.97	340	eP	PKPdf	08 16 47.2	-0.9
TPGR	Topolog	133.32	319	⇑P	PKiKP	08 16 52.6	+2.2
CFR	Carcaliu	133.35	320	⇑P	PKPdf	08 16 48.5	-0.7
CFR	Carcaliu	133.35	320	⇑PKIKP	PKPdf	08 16 48.5	-0.7
HARR	Harsova	133.71	319	⇑P	PKiKP	08 16 51.7	+0.5
HARR	Harsova	133.71	319	⇑PKIKP	PKiKP	08 16 51.7	+0.5
BURAR	Bucovina Array	133.86	324	⇑P	PKiKP	08 16 51.5	0.0
BURAR	Bucovina Array	133.86	324	⇑PKIKP	PKiKP	08 16 51.5	0.0
BURAR	Bucovina Array	133.86	324	PKPdf	PKPdf	08 16 50.3	+0.1
VRI	Vrincioaia	133.88	321	⇑P	PKPdf	08 16 48.3	-2.0
VRI	Vrincioaia	133.88	321	⇑PKIKP	PKPdf	08 16 48.3	-2.0
MLR	Muntele Rosu	134.55	321	⇑P	PKPdf	08 16 48.5	-3.2
MLR	Muntele Rosu	134.55	321	SKPbc	SKPab	08 20 22.1	-0.8
	comp=Z,1.1nm,0.5s,baz=136,slow=9.4,SNR=1.5						
MLR	Muntele Rosu	134.55	321	⇑PKIKP	PKPdf	08 16 48.5	-3.2
BDFB	Brasilia	134.66	130	PKP	PKPdf	08 16 52.1	-0.6
	comp=Z,6.4nm,0.6s,baz=214,slow=2.4,SNR=15						
BDFB				SKPbc	SKPbc	08 20 21.2	+0.4
	comp=Z,1.0nm,0.4s,baz=158,slow=12,SNR=3.1						
BDFB				SKP		08 20 30.8	
	comp=Z,5.5nm,0.8s,baz=171,slow=3.8,SNR=5.4						
BDFB	Brasilia	134.66	130	PKIKP	PKPdf	08 16 46.1	-6.6
BDFB	Brasilia	134.66	130	PKPdf	PKPdf	08 16 46.1	-6.6
KOLS	Kolonicke sedl	134.70	327	ePKIKP	PKiKP	08 16 53.6	+0.5
KOLS	Kolonicke sedl	134.70	327	ePKP	PKiKP	08 16 53.6	+0.5
UZH	Uzhgorod	134.87	327	ePKIKP	PKiKP	08 16 55.5	+2.1
TRPA	Tarpa	135.04	326	⇑P	PKiKP	08 16 53.1	-0.7
TRPA	Tarpa	135.04	326	PKP	PKiKP	08 16 57.5	+3.7
VOIR		135.12	322	⇓P	PKPdf	08 16 52.9	+0.2
VOIR		135.12	322	⇓PKIKP	PKPdf	08 16 52.9	+0.2
CRVS	Cervenica-Dubn	135.14	328	ePKIKP	PKiKP	08 16 53.8	-0.2
CRVS				e		08 19 30.5	
CRVS	Cervenica-Dubn	135.14	328	ePKP	PKiKP	08 16 53.8	-0.2
CRVS				ePP	PP	08 19 30.5	+2.8
CRVS				e		08 20 32.8	
MESR	Meseseni	135.39	325	⇑P	PKPdf	08 16 50.2	-2.8
ARR	Arges	135.40	322	⇑P	PKiKP	08 16 54.4	-0.3
JAWL	J.Aulia	135.73	277	i P	PKPdf	08 16 52.9	-1.6
JAWL				i		08 16 54.5	
	baz=351,slow=16						
LANS	Liptovska Anna	136.00	329	ePKIKP	PKPdf	08 16 46.5	-7.6
GZR	Gura Zlata	136.49	323	⇑P	PKPdf	08 16 54.6	-0.6
GZR	Gura Zlata	136.49	323	⇑PKIKP	PKPdf	08 16 54.6	-0.6
MORC	Moravsky Berou	136.50	331	⇑P	PKPdf	08 16 54.7	-0.3
MORC	Moravsky Berou	136.50	331	⇑PKIKP	PKPdf	08 16 54.7	-0.3
MORC	Moravsky Berou	136.50	331	ePKP	PKPdf	08 16 55.0	-0.1
MORC				ePP	PP	08 19 36.9	+0.7
MORC				e		08 20 36.7	
OSTC	Ostas	136.56	333	ePKPDF	PKPdf	08 16 55.6	+0.5
PSZ	Piszkesteto	136.57	328	⇑P	PKPdf	08 16 54.5	-0.8
PSZ	Piszkesteto	136.57	328	⇑PKIKP	PKPdf	08 16 54.5	-0.8
PSZ	Piszkesteto	136.57	328	PKP	PKiKP	08 16 59.6	+2.6
CHVC	Chvalec	136.61	333	ePKPDF	PKiKP	08 16 58.0	+1.0
SIRR	Siria	136.63	325	⇓	PKiKP	08 16 59.5	+2.4
KRLC	Kraliky	136.65	332	ePKIKP	PKPdf	08 16 55.4	+0.1
KRLC	Kraliky	136.65	332	ePKPDF	PKPdf	08 16 55.4	+0.1
DPC	Dobruska-Polom	136.66	332	ePKIKP	PKPdf	08 16 55.8	+0.5
DPC	Dobruska-Polom	136.66	332	ePKPDF	PKPdf	08 16 55.8	+0.5
VYHS	Vyhne	136.74	329	ePKIKP	PKPdf	08 16 56.0	+0.5
VYHS				e		08 19 39.1	
VYHS	Vyhne	136.74	329	ePKP	PKPdf	08 16 56.0	+0.5
VYHS				ePP	PP	08 19 39.1	+1.4
VYHS				e		08 20 37.8	
HERR	Herculane	136.99	322	⇑P	PKPdf	08 16 54.1	-1.9
BZS	Buzias	137.03	324	⇑P	PKPdf	08 16 56.0	-0.1
BZS	Buzias	137.03	324	⇑PKIKP	PKPdf	08 16 56.0	-0.1
JAVC	Velka Javorina	137.07	330	ePKP	PKiKP	08 16 57.1	-0.9
JAVC				e		08 20 38.9	
VRAC	Vranov	137.27	331	PP	PP	08 19 40.7	-0.2
	comp=Z,2.0nm,0.4s,baz=51,slow=6.8,SNR=7.8						
VRAC				SKPbc	SKPbc	08 20 29.4	+1.8
	comp=Z,1.3nm,0.3s,baz=45,slow=6.9,SNR=1.7						
VRAC	Vranov	137.27	331	ePKP	PKPdf	08 16 56.5	0.0
VRAC				ePP	PP	08 19 42.1	+1.2
VRAC				e		08 20 39.0	
BRG	Berggiesshubel	137.30	335	ePKP	PKPdf	08 16 56.5	0.0
BRG				Amp		08 17 01.9	
	comp=Z,66nm,1.8s						
BRG				SKP		08 19 30.3	
BRG				Amp		08 19 32.9	
	comp=Z,14nm,1.4s						
BRG				Amp		08 25 58.0	
	comp=N,14nm,19.2s						
BRG				Amp		08 26 04.0	
	comp=Z,21nm,19.2s						
BRG				Amp		08 26 10.0	
	comp=E,7.3nm,18.4s						
BRG	Berggiesshubel	137.30	335	ePKIKP	PKPdf	08 16 56.4	0.0
BRG				pmax	pmax		
	comp=Z,66nm,1.8s						
BRG				pmax	pmax		
	comp=Z,14nm,1.4s						
BRG	Berggiesshubel	137.30	335	ePKPdf	PKPdf	08 16 57.2	+0.8
	baz=38,slow=1.8						
CLL	Collm	137.35	336	i PKIKP	PKPdf	08 16 55.6	-0.9
CLL				e		08 17 10.0	
CLL				pmax	pmax		
	comp=Z,43nm,1.9s						
CLL	Collm	137.35	336	ePKPpre	PKPpre	08 16 52.0	
CLL				i PKPdf	PKPdf	08 16 56.4	-0.1
	comp=Z,43nm,1.9s						
CLL				i PKiKP	PKiKP	08 16 59.4	+1.0
	comp=Z,46nm,1.7s						
CLL				i x	x	08 17 02.2	
CLL				esPKPdf	sPKPdf	08 17 10.0	+1.5
CLL				ePP	PP	08 19 40.0	-1.2
CLL				epPP		08 19 51.0	
CLL				eSKPdf	SKiKP	08 20 30.0	-2.5
	comp=Z,13nm,1.2s						
CLL				i PKSdf	PKSdf	08 20 33.3	+0.8
	comp=Z,11nm,1.0s						
CLL				i PKSab	PKSab	08 20 38.4	+0.3
	comp=Z,14nm,1.1s						
CLL				epSKPdf		08 20 42.0	
CLL				i sSKPdf		08 20 47.7	
CLL				i x	x	08 23 09.6	
MDVR	Moldovita	137.46	323	⇑P	PKPdf	08 16 49.3	-7.7
NRDL	Niedersach Rie	137.49	339	ePKPdf	PKPdf	08 16 57.5	+0.9
	baz=38,slow=1.8						
FBE	Freiberg	137.51	335	ePKPdf	PKiKP	08 16 57.9	-0.8
	baz=38,slow=1.8						
BLKB	Belogradchik	137.52	321	⇑P	PKPdf	08 16 56.5	-0.6
KRUC	Moravsky	137.54	331	ePKP	PKPdf	08 16 56.6	-0.3
KRUC				ePP	PP	08 19 44.2	+1.6
KRUC				e		08 20 39.8	
ASSE	Asse, Remlinge	137.58	338	ePKPdf	PKPdf	08 16 57.7	+0.8
	baz=38,slow=1.8						
VTS	Vitosha	137.69	319	⇓P	PKPdf	08 16 52.3	-5.3
VTS	Vitosha	137.69	319	⇓PKIKP	PKPdf	08 16 52.3	-5.3
VTS	Vitosha	137.69	319	PKPdf	PKPdf	08 16 56.1	-1.5
BOVS	Bovan	138.10	321	⇑P	PKPdf	08 16 56.9	-1.3
TANN	Tannenbergstha	138.26	335	ePKPdf	PKPdf	08 16 59.2	+0.9
	baz=38,slow=1.8						
MPLH	Magyarpolny	138.27	328	PKP	PKiKP	08 17 00.3	-0.1
WERD	Werda	138.30	335	ePKPdf	PKPdf	08 16 59.0	+0.6
	baz=38,slow=1.8						
GTTG	Gottingen	138.32	338	ePKPdf	PKPdf	08 16 59.2	+0.9
	baz=38,slow=1.8						
PLN	Plauen	138.33	336	ePKPdf	PKPdf	08 16 59.2	+0.8
	baz=38,slow=1.8						
GUNZ	Gunzen	138.35	335	ePKPdf	PKPdf	08 16 59.5	+1.0
	baz=38,slow=1.8						
WERN	Wernitzgruen	138.39	335	ePKPdf	PKiKP	08 16 59.6	-1.0
	baz=38,slow=1.8						
MOX	Moxa	138.42	336	ePKPdf	PKPdf	08 16 59.1	+0.6
	baz=38,slow=1.8						
IBBN	Ibbenburen	138.43	341	ePKPdf	PKPdf	08 16 59.1	+0.6
	baz=38,slow=1.8						
RONA	Rosalia, Austr	138.54	330	eP	PKiKP	08 17 00.6	-0.4
	comp=Z,18nm,1.2s						
CONA	Conrad Observa	138.59	330	eP	PKPdf	08 16 58.9	-0.1
	comp=Z,44nm,1.7s,SNR=12						
KOVH	Kovagotottos	138.69	327	PKP	PKPdf	08 16 56.1	-3.0
MANZ	Manzenberg	138.74	335	ePKPdf	PKPdf	08 16 59.9	+0.7
	baz=38,slow=1.8						
KHC	Kasperske Hory	138.77	333	ePKIKP	PKPdf	08 16 56.6	-2.7
KHC	Kasperske Hory	138.77	333	ePKPDF	PKPdf	08 16 56.6	-2.7
KHC				ex	x	08 19 34.0	
KHC				ex	x	08 20 43.0	
ROTZ	Rotzenmuhle	138.87	335	ePKPdf	PKPdf	08 17 00.1	+0.7
	baz=38,slow=1.8						
UBBA	Unterbreizbach	138.90	338	ePKPdf	PKPdf	08 17 00.1	+0.9
	baz=38,slow=1.8						
GERES	GERESS Array B	138.93	333	PKP	PKPdf	08 16 58.9	-0.8
	comp=Z,3.4nm,0.8s,baz=45,slow=0.6,SNR=6.3						
GERES				SKPbc	SKiKP	08 20 34.4	-1.5
	comp=Z,1.4nm,0.5s,baz=349,slow=1.5,SNR=3.7						
WET	Wettzell	139.06	334	ePKPdf	PKPdf	08 17 00.4	+0.7
	baz=38,slow=1.8						
KASTN	Kahler Asten	139.15	339	ePKPdf	PKPdf	08 17 00.6	+0.8
	baz=38,slow=1.8						
ARSA	Arzberg	139.22	330	eP	PKiKP	08 17 01.3	-1.1
	comp=Z,15nm,1.2s						
ARSA				eS	SKiKP	08 20 37.3	+0.7
	comp=Z,12nm,1.3s						
GRF	Grafenberg Arr	139.32	336	ePKPdf	PKPdf	08 17 00.9	+0.6
	baz=38,slow=1.8						
GRF				ePP	PP	08 19 54.9	+1.4
	baz=38,slow=5.7						
GRF				eSKPbc	SKiKP	08 20 37.2	+0.6
	baz=47,slow=2.2						
MOA	Molln	139.40	331	eP	PKPdf	08 17 01.5	+1.1
	comp=Z,4.6nm,0.7s						
IDI	Anoyia	139.78	308	⇑P	PKPdf	08 17 01.6	0.0
BIOA	Bad Ischl, Aus	139.80	332	eP	PKPdf	08 17 02.0	+0.8
	comp=Z,30nm,1.5s						
SOKA	Soboth	139.87	330	i P	PKPdf	08 16 56.6	-4.8
	comp=Z,18nm,1.0s,SNR=11						
SOKA				eS	SKiKP	08 20 38.7	+0.7
	comp=Z,12nm,1.3s						
AGG	Agios Georgios	140.06	315	PKIKP	PKPdf	08 16 59.0	-2.9
AGG	Agios Georgios	140.06	315	PKPdf	PKPdf	08 16 59.0	-2.9
RJOB	Jochberg	140.15	332	ePKPdf	PKPdf	08 17 01.9	+0.1
	baz=38,slow=1.8						
OBKA	Obir	140.22	330	P	PKPdf	08 17 00.6	-1.4
	comp=Z,21nm,1.6s						
PDG	Podgorica	140.26	321	⇑P	PKPdf	08 17 00.8	-1.3
KBA	Koelnbreinsper	140.39	331	eP	PKPdf	08 16 57.3	-5.1
	comp=Z,21nm,0.8s						
KBA				eS	SKPab	08 20 48.2	-0.4
	comp=Z,14nm,1.1s						
BTNL	Ternell	140.44	341	dPKPdf	PKPdf	08 17 02.8	+0.6
MEM	Membach	140.46	341	dPKPdf	PKPdf	08 17 02.6	+0.4
MYKA	Terra Mystica	140.57	331	eP	PKPdf	08 16 57.3	-5.4
	comp=Z,2.9nm,0.8s						
MYKA				i P	PKiKP	08 17 02.4	-2.8
	comp=Z,14nm,1.0s,SNR=5.5						
BGES	Gesves	140.94	341	dPKPdf	PKPdf	08 17 04.1	+1.0
WATA	Walderalm	141.00	333	eP	PKPdf	08 16 59.3	-4.2
	comp=Z,3.0nm,0.5s						
WATA				eS	SKPab	08 20 49.8	-1.5
	comp=Z,23nm,1.3s						
ABTA	Abfaltersbach	141.02	332	eP	PKPdf	08 16 58.6	-4.9
	comp=Z,8.1nm,1.3s						
ABTA				eP	PKiKP	08 17 04.8	-1.3
	comp=Z,24nm,0.9s						
ABTA				eS	SKiKP	08 20 40.8	+0.5
	comp=Z,11nm,1.0s						
WTTA	Wattenberg	141.03	333	i P	PKPdf	08 17 03.9	+0.3
	comp=Z,34nm,1.2s,SNR=9.9						
WTTA				eS	SKPab	08 20 50.1	-1.3
	comp=Z,29nm,1.3s						
RCHB	Rochefort	141.10	341	dPKiKP	PKiKP	08 17 06.2	+0.1
BMRD	Maredsous	141.11	341	dPKPdf	PKPdf	08 17 03.3	-0.1
MOTA	Moosalm	141.20	333	eP	PKPdf	08 16 58.2	-5.7
	comp=Z,9.3nm,1.0s						
MOTA				eP	PKiKP	08 17 04.9	-1.7
	comp=Z,32nm,1.7s						
MOTA				eS	SKPab	08 20 50.1	-2.0
	comp=Z,27nm,1.3s						
WLF	Walferdange	141.22	340	ePKPdf	PKPdf	08 17 04.7	+1.0
	baz=38,slow=1.8						
WLF	Walferdange	141.22	340	dPKP	PKiKP	08 17 05.9	-0.5
RETA	Reutte	141.24	334	eP	PKPdf	08 16 59.1	-4.7
	comp=Z,3.4nm,0.6s						
SQTA	Sankt Quirin	141.25	333	eP	PKPdf	08 17 05.2	+1.3
	comp=Z,21nm,0.8s						
DOU	Dourbes	141.35	341	dPKPdf	PKPdf	08 17 05.2	+1.3
FETA	Feichten	141.61	333	eP	PKPdf	08 16 59.5	-5.2
	comp=Z,5.7nm,1.0s						
FETA				i P	PKiKP	08 17 05.5	-2.0
	comp=Z,27nm,0.9s,SNR=7.0						
DAVA	Damuels	141.77	334	eP	PKPdf	08 16 59.2	-5.7
	comp=Z,28nm,1.4s						
DAVOX	Davos/Dischmat	142.17	334	SKPbc	SKiKP	08 20 44.3	+1.5
	comp=Z,7.2nm,1.0s,baz=277,slow=9.5,SNR=4.2						
TIP	Timpagrande	143.68	319	⇑P	PKPbc	08 17 06.1	+0.2
TIP	Timpagrande	143.68	319	PKPdf	PKPbc	08 17 05.7	-0.2
CASP	Castiglione de	144.72	329	PKPdf	PKPab	08 17 07.3	-1.5
CEL	Celeste	144.76	318		PKPbc	08 17 09.4	+0.1
BNI	Bardonecchia	144.89	335	PKIKP	PKPbc	08 17 09.6	0.0
BNI	Bardonecchia	144.89	335	PKPdf	PKPbc	08 17 09.6	0.0
SHEL	Horse Pasture	149.09	194	PKP2	PKPbc	08 17 22.8	+0.5
SHEL	Horse Pasture	149.09	194		PKPbc	08 17 22.8	+0.5
KEST	Kesra	150.45	321	PKPbc	PKPbc	08 17 24.0	-1.2
	comp=Z,48nm,0.8s,baz=312,slow=1.1,SNR=29						
CMAH	Djebel Manchou	150.99	324	P	PKPbc	08 17 26.3	-0.1
ABSA	Djebel Ababsia	151.20	323	P	PKiKP	08 17 27.6	+0.1
CKFL	Kef-Lekhel	151.54	325	P	PKiKP	08 17 28.3	+0.1
DFRA	Djebel Bou Aff	151.90	326	P	PKiKP	08 17 28.9	0.0
PBRG	Braganca	151.92	349	ePKPbc	PKPbc	08 17 27.9	-0.5
CTEI	Djebel Teioual	151.96	324	P	PKiKP	08 17 29.3	+0.2
PGAV	Gavieira, Arco	152.01	352	ePKPdf	PKPdf	08 17 22.7	+0.6
PGAV	Gavieira, Arco	152.01	352	ePKPbc	PKPbc	08 17 28.2	-0.4
PCAB	Cabril	152.22	351	ePKPbc	PKPbc	08 17 29.0	0.0
POLO	Lamas de Olo	152.52	351	ePKPbc	PKPbc	08 17 27.8	-2.0
MVO	Moncorvo	152.60	350	ePKPdf	PKPdf	08 17 22.6	-0.3
MVO	Moncorvo	152.60	350	ePKPbc	PKiKP	08 17 30.2	0.0
PVRL	Vila Real	152.60	351	ePKPbc	PKiKP	08 17 30.4	+0.3
PVIS	Viseu	153.18	351	ePKPbc	PKPbc	08 17 31.2	0.0
ESDC	Sonseca Array	153.34	344	PKP	PKPdf	08 17 23.4	-0.7
	comp=Z,3.6nm,1.1s,baz=346,slow=2.8,SNR=6.9						
ESDC				PKPbc	PKPbc	08 17 30.8	-0.8
	comp=Z,7.5nm,0.8s,baz=3.3,slow=2.1,SNR=20						
MTE	Manteigas	153.43	350	ePKPdf	PKPdf	08 17 24.8	+0.6
MTE	Manteigas	153.43	350	ePKPbc	PKiKP	08 17 32.2	+0.3
MTE	Manteigas	153.43	350	ePP	PP	08 21 21.6	+5.1
PAB	San Pablo	153.56	344	PKIKP	PKPdf	08 17 25.8	+1.4
PAB	San Pablo	153.56	344	PKPdf	PKPdf	08 17 25.8	+1.4
PCBR	Castelo Branco	153.96	350	ePKPdf	PKPdf	08 17 25.5	+0.7
PCBR	Castelo Branco	153.96	350	ePKPbc	PKiKP	08 17 33.1	+0.2
PMRV	Marv??o	154.35	349	ePKPdf	PKPdf	08 17 28.6	+3.2
PMRV	Marv??o	154.35	349	ePKPbc	PKiKP	08 17 34.0	+0.2
PESTR	Estremoz	154.93	349	ePKPab	PKPab	08 17 52.5	+2.3
PCVE	Castro Verde	156.21	350	ePKPab	PKPab	08 17 57.0	+1.3
TORD	Torodi Ar. Bea	165.36	268	PKP	PKPdf	08 17 37.2	-1.3
	comp=Z,5.8nm,0.9s,baz=75,slow=0.4,SNR=20						
TORD				PKPab	PKPab	08 18 35.8	-0.7
	comp=Z,7.2nm,1.0s,baz=98,slow=2.4,SNR=7.4						
TORD	Torodi Ar. Bea	165.36	268		PKPdf	08 17 36.1	-2.3
KIC	Kosan Boka	168.50	228	ePKIKP	PKPdf	08 17 40.0	-0.9
	comp=Z,44nm,1.6s						
KIC	Kosan Boka	168.50	228	ePKP1	PKPab	08 18 49.3	-0.8
	comp=Z,16nm,1.0s						
LIC	Lamto	168.61	227	ePKIKP	PKPdf	08 17 39.9	-1.1
	comp=Z,26nm,1.4s						
LIC	Lamto	168.61	227	ePKP1	PKPab	08 18 50.3	-0.3
	comp=Z,50nm,2.0s						
DBIC	Dimbokro	168.79	229	PKP	PKPdf	08 17 39.5	-1.6
	comp=Z,3.9nm,0.9s,baz=35,slow=3.8,SNR=4.0						
TIC	Toumodi	168.89	228	ePKIKP	PKPdf	08 17 40.6	-0.6
TIC	Toumodi	168.89	228	ePKP1	PKPab	08 18 50.2	-1.7

IDC ***06*** *08:00:01.9±0.5, 14.°11S×166.°81E, h0km, mb4.7/18, mb1 4.8/20, mb1mx4.7/36, mbtmp4.7/20, ML5.2/1, Error ellipse: s-maj=22.3km s-min=15.9km az=89.0*

NEIC ***06*** *08:00:09.1±2.6, 14.°07S±0.°05×166.°69E±0.°07, h35km±1km, mb5.1/43, Error ellipse: s-maj=12.3km s-min=7.5km az=107.0*

ISC 06 08:00:08.9±0.4**, 14.°12S**±0.°05×**166.°66E**±0.°08**, h43**km**, n148, σ2.s12**/158**, mb5.0**/35**, 1C-2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	6.64	175	Pn	Pn	08 01 43.7	-0.2
KOUNC	Koumac, New Ca	6.78	199	Pn	Pn	08 01 46.7	+0.9
MARNC	Mare, Loyalty	7.43	170	Pn	Pn	08 01 55.3	+0.5
DZM	Mont Dzumac	7.91	181	Pn	Pn	08 02 00.0	-1.4
	baz=321,slow=13,SNR=0.5						
DZM				Sn	Sn	08 03 26.5	-3.2
	8.7nm,0.3s,baz=326,slow=22,SNR=2.7						
DZM	Mont Dzumac	7.91	181	Pn	Pn	08 02 00.4	-1.0
HNR	Honiara	8.06	305	Pn	Pn	08 02 02.4	-1.0
	33nm,0.3s,baz=82,slow=11,SNR=1.6						
HNR				Sn	Sn	08 03 30.6	-2.7
	47nm,0.3s,baz=160,slow=18,SNR=1.8						
HNR	Honiara	8.06	305	Pn	Pn	08 02 03.7	+0.3
ONTNC	Ouen Toro	8.14	181	Pn	Pn	08 02 07.0	+2.5
OUENC	Ouen Island, N	8.25	179	Pn	Pn	08 02 08.1	+2.1
PINNC	Pines Island,	8.48	175	Pn	Pn	08 02 13.0	+3.9
EIDS	Eidsvold	18.42	230	P	Pn	08 04 23.0	+1.9
	baz=18,SNR=3.2						
EIDS	Eidsvold	18.42	230	Pn	Pn	08 04 23.1	+1.9
RMQ	Roma	20.78	231	P	Pn	08 04 49.6	+0.4
	baz=21,SNR=5.4						
AFI	Afiamalu	20.92	92	P	Pn	08 04 50.9	0.0
	92nm,1.2s,baz=294,slow=12,SNR=3.9						
AFI	Afiamalu	20.92	92	IAmb	IAmb	08 04 57.6	
	comp=Z,163nm,1.3s						
ARMA	Armidale	21.33	218	P	P	08 04 54.4	+2.0
ARMA				IAmb	IAmb	08 05 10.0	
	comp=Z,95nm,1.4s						
OUZ	Omahuta	21.92	165	P	P	08 05 01.1	+2.6
OUZ				IAmb	IAmb	08 05 04.2	
	comp=Z,60nm,0.9s						
COEN	Coen	22.79	268	P	P	08 05 10.5	+2.5
KUZ	Kuaotunu	23.94	162	P	P	08 05 21.8	+2.8
MKAZ	Moumakai	24.11	163	P	P	08 05 24.0	+3.4
TOZ	Tahuroa Road	24.79	163	P	P	08 05 27.9	+1.2
HIZ	Hauiti	25.35	165	P	P	08 05 35.8	+3.9
HIZ				IAmb	IAmb	08 05 39.8	
	comp=Z,72nm,0.8s						
HIZ	Hauiti	25.35	165	P	P	08 05 37.1	+5.2
HAZ	Te Kaha	25.53	159	P	P	08 05 34.6	+1.2
MXZ	Matakaoa Point	25.54	158	P	P	08 05 37.2	+3.7
MXZ				IAmb	IAmb	08 05 45.9	
	comp=Z,57nm,1.1s						
MXZ	Matakaoa Point	25.54	158	P	P	08 05 34.6	+1.1
URZ	Urewera	25.76	161	P	P	08 05 34.4	-1.2
	comp=Z,13nm,0.8s,baz=311,slow=10,SNR=2.2						
URZ	Urewera	25.76	161	P	P	08 05 35.7	+0.1
URZ				IAmb	IAmb	08 05 44.6	
	comp=Z,38nm,0.9s						
MWZ	Matawai	25.97	160	P	P	08 05 38.9	+1.4
TWGZ	Tauwhareparae	25.98	159	P	P	08 05 38.5	+1.0
PUZ	Puketiti	25.98	159	P	P	08 05 40.3	+2.8
TMVZ	Te Maari	26.14	164	P	P	08 05 44.7	+5.5
ETVZ	East Tongariro	26.16	164	P	P	08 05 45.8	+6.5
OTVZ	Oturere	26.18	164	P	P	08 05 43.3	+3.8
SNVZ	South Ngauruho	26.19	164	P	P	08 05 45.0	+5.3
MTHZ	Maungataniwha	26.22	162	P	P	08 05 39.8	0.0
WNVZ	Wahianoa	26.31	164	P	P	08 05 45.4	+4.6
RAHZ	Arahi	26.36	161	P	P	08 05 42.6	+1.6
RIGZ	Rimuhau	26.38	160	P	P	08 05 43.6	+2.4
BKZ	Black Stump Fm	26.41	163	P	P	08 05 41.5	+0.1
BKZ	Black Stump Fm	26.41	163	P	P	08 05 40.9	-0.6
NMHZ	Naumai	26.44	162	P	P	08 05 43.0	+1.2
BHHZ	Black Hill Sta	26.59	164	P	P	08 05 44.7	+1.6
KWHZ	Kaweka Forest	26.63	163	P	P	08 05 45.0	+1.5
MCHZ	McNeill Hill	26.73	163	P	P	08 05 44.3	0.0
KRHZ	Kereru	26.82	163	P	P	08 05 47.4	+2.2
PNHZ	Pukenui	27.02	164	P	P	08 05 50.5	+3.5
TSZ	Takapari Road	27.10	164	P	P	08 05 46.7	-1.0
KAHZ	Kahuranaki	27.10	163	P	P	08 05 48.8	+1.1

PXZ	**Pawanui**	**27.32**	**163**	P	**P**	**08 05 50.8**	**+1.3**
ANWZ	**Angora Road**	**27.61**	**164**	P	**P**	**08 05 55.4**	**+3.2**
MSWZ	**Moikau Station**	**28.20**	**166**	P	**P**	**08 05 55.8**	**-1.6**
PLWZ	**Palliser**	**28.35**	**166**	P	**P**	**08 05 57.3**	**-1.5**
STKA	**Stephens Creek**	**28.95**	**228**	P	**P**	**08 06 05.5**	**+1.3**
	comp=Z,24nm,0.6s,baz=47,slow=8.8,SNR=8.9						
STKA				PcP	**PcP**	**08 09 12.7**	**+0.2**
	comp=Z,6.9nm,0.9s,baz=43,slow=4.8,SNR=3.1						
STKA	**Stephens Creek**	**28.95**	**228**	P	**P**	**08 06 05.5**	**+1.3**
	baz=29,SNR=14						
STKA	**Stephens Creek**	**28.95**	**228**	P	**P**	**08 06 05.6**	**+1.4**
LTZ	**Lake Taylor**	**28.96**	**171**	P	**P**	**08 06 02.8**	**-1.5**
LTZ				IAmb	IAmb	08 06 08.7	
	comp=Z,26nm,0.7s						
FOZ	**Fox Glacier**	**29.43**	**175**	P	**P**	**08 06 07.5**	**-0.9**
FOZ				IAmb	IAmb	08 06 13.3	
	comp=Z,24nm,0.8s						
RPZ	**Rata Peaks**	**29.73**	**174**	P	**P**	**08 06 12.9**	**+1.9**
	comp=Z,20nm,0.7s,baz=296,slow=2.4,SNR=5.4						
RPZ	**Rata Peaks**	**29.73**	**174**	P	**P**	**08 06 13.0**	**+1.9**
RPZ				IAmb	IAmb	08 06 19.5	
	comp=Z,29nm,0.9s						
WRA	**Warramunga Arr**	**31.41**	**255**	P	**P**	**08 06 25.2**	**-1.0**
	comp=Z,5.8nm,0.8s,baz=84,slow=8.6,SNR=3.7						
WRA				ScP	**ScP**	**08 13 02.5**	**+3.6**
	comp=Z,1.0nm,1.0s,baz=82,slow=2.8,SNR=2.9						
WRA				PKiKP	**PKiKP**	**08 16 47.3**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=35,slow=1.0,SNR=2.2						
HTT	**Hallett**	**31.68**	**228**	P	**P**	**08 06 29.8**	**+1.4**
	baz=32,SNR=4.1						
ASAR	**Alice Springs**	**32.35**	**248**	P	**P**	**08 06 33.8**	**-0.6**
	comp=Z,6.1nm,0.6s,baz=77,slow=8.9,SNR=5.2						
ASAR				PcP	**PcP**	**08 09 21.0**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=72,slow=3.0,SNR=3.0						
ASAR				ScP	**ScP**	**08 13 06.2**	**+4.1**
	comp=Z,1.4nm,0.9s,baz=85,slow=3.5,SNR=3.7						
KDU	**Kakadu**	**33.27**	**268**	P	**P**	**08 06 43.5**	**+1.0**
	baz=33,SNR=4.0						
BBOO	**Buckleboo**	**33.49**	**231**	P	**P**	**08 06 45.6**	**+1.4**
	baz=34,SNR=7.5						
BBOO	**Buckleboo**	**33.49**	**231**	P	**P**	**08 06 45.7**	**+1.4**
H11N1	**WAKE ISLAND Hy**	**33.62**	**0**	T	T	08 43 32.0	
	baz=186						
H11N3	**WAKE ISLAND Hy**	**33.63**	**0**	T	T	08 43 30.1	
	baz=186						
H11N2	**WAKE ISLAND Hy**	**33.64**	**0**	T	T	08 43 31.2	
	baz=186						
MTN	**Manton Dam**	**34.55**	**268**	P	**P**	**08 06 56.2**	**+2.5**
	baz=35,SNR=3.5						
GUMO	**Guam**	**34.98**	**321**	P	**P**	**08 06 56.7**	**-0.6**
FORT	**Forrest**	**39.11**	**238**	P	**P**	**08 07 33.8**	**+1.6**
FITZ	**Fitzroy Crossi**	**39.55**	**259**	P	**P**	**08 07 37.2**	**+1.1**
PSA00	**Pilbara Seismi**	**45.04**	**254**	P	**P**	**08 08 20.9**	**+0.2**
MBWA	**Marble Bar**	**45.14**	**254**	P	**P**	**08 08 22.5**	**+1.0**
MBWA				IAmb	IAmb	08 08 37.3	
	comp=Z,24nm,0.9s						
MBWA	**Marble Bar**	**45.14**	**254**	P	**P**	**08 08 22.7**	**+1.2**
MBWA				pP	**pP**	**08 08 28.8**	**-3.3**
MEEK	**Meekatharra**	**46.48**	**247**	P	**P**	**08 08 32.8**	**+0.7**
	baz=46,SNR=6.8						
KLBR	**Kellerberrin**	**47.89**	**240**	P	**P**	**08 08 43.2**	**+0.2**
	baz=48,SNR=4.5						
NWAO	**Narrogin (SRO)**	**48.56**	**238**	P	**P**	**08 08 48.0**	**-0.1**
NWAO				IAmb	IAmb	08 08 59.1	
	comp=Z,28nm,0.9s						
MORW	**Morawa**	**49.00**	**244**	P	**P**	**08 08 52.3**	**+0.7**
	baz=49,SNR=3.8						
MORW	**Morawa**	**49.00**	**244**	P	**P**	**08 08 52.5**	**+0.9**
MUN	**Mundaring**	**49.25**	**240**	P	**P**	**08 08 53.8**	**+0.3**
	baz=49,SNR=4.2						
DRV	**Dumont d'Urvil**	**55.40**	**193**	⇓P	**P**	**08 09 38.5**	**+0.1**
DRV				pP	**pP**	**08 09 43.7**	**-6.2**
JMN	**Monobe**	**56.92**	**327**	P	**P**	**08 09 51.0**	**+1.1**
MJAR	**Matsushiro Arr**	**57.10**	**333**	P	**P**	**08 09 50.0**	**-1.0**
	comp=Z,5.1nm,0.5s,baz=180,slow=6.0,SNR=5.6						
MAJO	**Matsushiro**	**57.10**	**333**	P	**P**	**08 09 51.1**	**+0.1**
MAJO				IAmb	IAmb	08 10 00.8	
	comp=Z,17nm,0.9s						
MAJO	**Matsushiro**	**57.10**	**333**	P	**P**	**08 09 53.6**	**+2.6**
MAJO				pP	**pP**	**08 10 00.9**	**-1.2**
MJB9	**Matsu-Tunnel**	**57.10**	**333**	P	**P**	**08 09 52.5**	**+1.5**
MJB9				IAmb	IAmb	08 10 00.8	
	comp=Z,17nm,0.9s						
JNU	**Nakatsue**	**58.09**	**325**	P	**P**	**08 09 58.8**	**+0.7**
JNU				IAmb	IAmb	08 10 00.2	
	comp=Z,22nm,1.0s						
JTM	**Tenmabayashi**	**59.56**	**338**	P	**P**	**08 10 09.3**	**+1.3**
JKA	**Kamikawa-asahi**	**61.98**	**341**	P	**P**	**08 10 25.6**	**+1.2**
KSRS	**Korea Array**	**62.91**	**326**	P	**P**	**08 10 30.9**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=137,slow=6.7,SNR=2.8						
VNDA	**Vanda**	**63.45**	**181**	P	**P**	**08 10 32.1**	**-1.7**
	comp=Z,5.0nm,0.7s,baz=101,slow=22,SNR=25						
VNDA	**Vanda**	**63.45**	**181**	IAmb	IAmb	08 10 46.8	
	comp=Z,13nm,0.9s						
SBA	**Scott Base**	**63.74**	**180**	P	**P**	**08 10 36.8**	**+1.1**
SBA				pP	**pP**	**08 10 41.8**	**-5.5**
CASY	**Casey**	**63.87**	**202**	P	**P**	**08 10 37.0**	**+0.3**
CASY				IAmb	IAmb	08 10 43.0	
	comp=Z,18nm,1.1s						
CASY	**Casey**	**63.87**	**202**	P	**P**	**08 10 37.5**	**+0.8**
CASY				pP	**pP**	**08 10 42.6**	**-5.8**
CCD	**Concordia, Ant**	**65.38**	**191**	⇓P	**P**	**08 10 47.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**66.08**	**333**	P	**P**	**08 10 49.5**	**-1.9**
	comp=Z,2.3nm,0.8s,baz=123,slow=5.3,SNR=1.6						
PEA0B	**Petropavlovsk-**	**67.40**	**354**	P	**P**	**08 11 02.0**	**+2.4**
PETK	**Petropavlovsk-**	**67.40**	**354**	P	**P**	**08 10 59.4**	**-0.2**
	comp=Z,10nm,1.1s,baz=179,slow=10,SNR=3.6						
PETK	**Petropavlovsk-**	**67.40**	**354**	P	**P**	**08 11 00.4**	**+0.8**
MDJ	**Mudanjiang**	**67.47**	**332**	P	**P**	**08 10 59.5**	**-0.8**
MDJ	**Mudanjiang**	**67.47**	**332**	P	**P**	**08 11 01.7**	**+1.5**
MDJ				pP	**pP**	**08 11 04.5**	**-7.4**
CMAR	**Chiang Mai Arr**	**74.17**	**294**	P	**P**	**08 11 42.1**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=135,slow=4.6,SNR=2.9						
QSPA	**South Pole Qui**	**75.90**	**180**	P	**P**	**08 11 51.8**	**+0.9**
QSPA				IAmb	IAmb	08 11 55.5	
	comp=Z,24nm,1.0s						
OHAK	**Old Harbor**	**78.43**	**21**	P	**P**	**08 12 07.5**	**+2.7**
OHAK				IAmb	IAmb	08 12 30.5	
	comp=Z,35nm,1.3s						
KDAK	**Kodiak Island**	**79.11**	**21**	P	**P**	**08 12 11.1**	**+2.6**
KDAK				IAmb	IAmb	08 12 18.6	
	comp=Z,40nm,1.4s						
GAMB	**Gambell**	**79.43**	**10**	P	**P**	**08 12 11.7**	**+1.5**
SONM	**Songino Array**	**81.66**	**324**	P	**P**	**08 12 23.2**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=151,slow=6.4,SNR=4.1						
SONM	**Songino Array**	**81.66**	**324**	P	**P**	**08 12 23.8**	**+1.0**
SONM				IAmb	IAmb	08 12 26.5	
	comp=Z,22nm,1.4s						
BILL	**Bilibino**	**81.94**	**360**	P	**P**	**08 12 23.5**	**-0.1**
ILAR	**Eielson Array**	**86.14**	**18**	P	**P**	**08 12 44.3**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=240,slow=4.6,SNR=5.2						
ILAR				PKKP	**PKKPdf**	**08 30 40.4**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=306,slow=0.8,SNR=3.1						
SYO	**Syowa Base**	**89.11**	**197**	⇑*e*PcP	**PcP**	**08 13 02.2**	**+1.4**
HYBB	**Hyderabad (bro**	**92.38**	**287**	*e*P	**P**	**08 13 15.3**	**-0.3**
MK31	**Makanchi Array**	**96.36**	**317**	P	**P**	**08 13 33.2**	**0.0**
MK31				IAmb	IAmb	08 13 34.6	
	comp=Z,6.3nm,1.2s						
MKAR	**Makanchi Array**	**96.36**	**317**	P	**P**	**08 13 33.5**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=88,slow=5.7,SNR=4.5						
TXAR	**Lajitas Array**	**96.51**	**62**	P	**P**	**08 13 33.0**	**-1.3**
	comp=Z,0.4nm,1.0s,baz=255,slow=3.5,SNR=1.5						
ZAA0	**Zalesovo Array**	**96.56**	**324**	IAmb	IAmb	08 13 35.6	
	comp=Z,9.1nm,1.1s						
ZALV	**Zalesovo Beam**	**96.56**	**324**	P	**P**	**08 13 32.5**	**-1.4**
	comp=Z,3.7nm,0.8s,baz=101,slow=4.5,SNR=5.6						
YKA	**Yellowknife Ar**	**97.28**	**27**	P	**P**	**08 13 36.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=256,slow=4.8,SNR=5.4						
YKA				PKiKP	**PKiKP**	**08 18 11.2**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=253,slow=1.4,SNR=1.8						
YKA				PKKPbc	**PKKPbc**	**08 30 15.6**	**-2.6**
	comp=Z,0.1nm,0.6s,baz=75,slow=2.6,SNR=3.7						
NRIK	**Noril'sk**	**99.30**	**339**	P	**Pdif**	**08 13 45.7**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=105,slow=6.2,SNR=4.3						
NRIK	**Noril'sk**	**99.30**	**339**	P	**Pdif**	**08 13 44.6**	**-1.3**
NRIK				IAmb	IAmb	08 13 47.0	
	comp=Z,12nm,1.3s						
KURK	**Kurchatov**	**99.56**	**320**	P	**Pdif**	**08 13 48.5**	**+1.0**
KURBB	**Kurchatov Arra**	**99.60**	**320**	P	**Pdif**	**08 13 48.5**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=97,slow=4.0,SNR=2.5						
LPAZ	**La Paz**	**118.01**	**117**	PKP	**PKPdf**	**08 18 52.0**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=45,slow=2.9,SNR=2.8						
BELG	**Belogornoye**	**118.70**	**322**	PKP	**PKPdf**	**08 18 51.8**	**-0.3**
	comp=Z,4.7nm,0.5s,baz=45,slow=2.9,SNR=1.9						
BELG				SKP		08 22 28.1	
	comp=Z,7.7nm,0.9s,baz=280,slow=6.1,SNR=2.5						
ARCES	**ARCESS Array B**	**119.52**	**345**	PKP	**PKPdf**	**08 18 53.1**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=76,slow=1.9,SNR=17						
ARCES	**ARCESS Array B**	**119.52**	**345**	PKPdf	**PKPdf**	**08 18 53.4**	**+0.1**
CPUP	**Villa Florida**	**121.29**	**133**	PKP	**PKPdf**	**08 18 57.4**	**-0.6**
	comp=Z,5.3nm,1.1s,baz=268,slow=4.5,SNR=3.3						
FINES	**FINESS Array B**	**124.94**	**338**	PKP	**PKPdf**	**08 19 03.7**	**-0.2**
	comp=Z,5.3nm,0.8s,baz=91,slow=0.5,SNR=6.2						
NB2	**NORSAR Subarra**	**129.89**	**345**	PKPdf	**PKPdf**	**08 19 13.9**	**+0.5**
	comp=Z,29nm,2.0s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**129.89**	**345**	PKPdf	**PKPdf**	**08 19 13.9**	**+0.5**
	baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.89**	**345**	PKP	**PKPdf**	**08 19 13.0**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=32,slow=2.0,SNR=3.5						
NOA				SKPbc	SKPbc	08 22 35.5	+2.9
	comp=Z,2.7nm,0.9s,baz=32,slow=4.3,SNR=4.5						
AKASG	**Malin Array Be**	**129.91**	**326**	PKP	**PKPdf**	**08 19 13.7**	**0.0**
	comp=Z,0.5nm,0.3s,baz=58,slow=3.7,SNR=5.2						
AKASG				SKPbc	SKPbc	08 22 35.4	+2.6
	comp=Z,0.2nm,0.4s,baz=53,slow=4.0,SNR=1.2						
AKASG	**Malin Array Be**	**129.91**	**326**	PKPdf	**PKPdf**	**08 19 13.9**	**+0.3**
HFS	**Hagfors**	**129.97**	**343**	PKP	**PKPdf**	**08 19 13.4**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=29,slow=6.9,SNR=2.4						
HFS				SKPbc	SKPbc	08 22 36.1	+3.3
	comp=Z,3.0nm,0.9s,baz=54,slow=3.7,SNR=2.8						
BRTR	**Keskin Array B**	**131.67**	**311**	SKP		08 22 52.5	
	comp=Z,4.3nm,1.0s,baz=108,slow=1.8,SNR=6.1						
MLR	**Muntele Rosu**	**134.47**	**321**	PKP	**PKPdf**	**08 19 22.9**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=104,slow=1.9,SNR=3.5						
BDFB	**Brasilia**	**134.72**	**130**	PKP	**PKPdf**	**08 19 23.8**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=199,slow=2.7,SNR=4.6						
VRAC	**Vranov**	**137.19**	**331**	PKP	**PKPdf**	**08 19 26.9**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=27,slow=6.8,SNR=1.3						
VRAC				SKPab	**SKPab**	**08 23 08.5**	**+4.4**
	comp=Z,3.9nm,0.6s,baz=133,slow=1.4,SNR=2.3						
GERES	**GERESS Array B**	**138.84**	**333**	PKP	**PKPdf**	**08 19 30.3**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=7.4,slow=3.1,SNR=2.1						
GERES				SKPbc	**SKiKP**	**08 23 06.4**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=325,slow=2.9,SNR=1.7						
DAVOX	**Davos/Dischmat**	**142.08**	**334**	PKP	**PKPdf**	**08 19 35.1**	**-1.5**
	comp=Z,3.9nm,0.7s,baz=297,slow=4.5,SNR=1.5						
DAVOX				SKPbc	**SKiKP**	**08 23 15.3**	**+2.8**
	comp=Z,4.1nm,0.8s,baz=116,slow=1.9,SNR=4.3						
BNI	**Bardonecchia**	**144.80**	**335**	PKPdf	PKPbc	08 19 41.1	+0.7
KEST	**Kesra**	**150.37**	**321**	PKPbc	**PKPbc**	**08 19 56.4**	**+0.3**
	comp=Z,17nm,0.7s,baz=289,slow=3.7,SNR=5.7						
ESDC	**Sonseca Array**	**153.24**	**344**	PKPbc	**PKPbc**	**08 20 02.2**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=355,slow=2.5,SNR=4.6						
ESDC	**Sonseca Array**	**153.24**	**344**		**PKPdf**	**08 19 56.5**	**+1.4**
TORD	**Torodi Ar. Bea**	**165.36**	**268**	PKP	**PKPdf**	**08 20 10.4**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=111,slow=2.4,SNR=1.5						
TORD				PKPab	**PKPab**	**08 21 08.6**	**+1.0**
	comp=Z,3.3nm,1.0s,baz=100,slow=2.5,SNR=3.8						

IDC 06 08:12:36.4±1.5**, 14°.18S**×**166°.27E, h0**km**, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.3**/40**, mbtmp3.7**/3**, ML3.4**/1**, Error ellipse: s-maj=55.3km s-min=30.0km az=106.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.86**	**179**	Pn	Pn	08 14 32.9	+0.8
	0.5nm,0.3s,baz=103,slow=23,SNR=1.3						
DZM				Sn	Sn	08 16 00.4	-1.4
	0.1nm,0.3s,baz=304,slow=22,SNR=1.0						
ASAR	**Alice Springs**	**31.98**	**248**	P	P	08 19 04.4	-0.1
	0.3nm,0.6s,baz=72,slow=9.6,SNR=4.2						
ILAR	**Eielson Array**	**86.30**	**18**	P	P	08 25 19.4	-0.4
	0.6nm,0.7s,baz=240,slow=5.0,SNR=8.4						
ARCES	**ARCESS Array B**	**119.47**	**345**	PKP	PKiKP	08 31 27.9	+0.4
	1.5nm,0.9s,baz=29,slow=2.1,SNR=1.5						

IDC 06 08:14:13.7±3.2**, 54°.21N**×**87°.07E, h0**km**, mb1 2.8**/2**, mb1mx2.7**/66**, mbtmp2.8**/2**, ML2.4**/2**, Error ellipse: s-maj=28.3km s-min=18.9km az=61.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**260**	*i*		08 21 10.0	
	baz=78,slow=325,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.35**	**260**	Pg	Pg	08 14 38.5	-1.0
	0.7nm,0.3s,baz=76,slow=15,SNR=5.4						
ZALV				Lg	Lg	08 14 57.2	
	1.2nm,0.3s,baz=77,slow=30,SNR=2.6						
KURBB	**Kurchatov Arra**	**6.34**	**239**	Pn	Pn	08 15 49.1	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=4.8						
KURBB				Lg	Lg	08 17 34.5	
	0.0nm,0.3s,baz=58,slow=31,SNR=1.6						
MKAR	**Makanchi Array**	**8.03**	**204**	Pn	Pn	08 16 12.5	+1.0
	0.1nm,0.3s,baz=25,slow=15,SNR=1.1						

THE 06 08:15:15.7, 38°.80N×**20°.63E, h6**km±1km**, ML0.6**/4**, Error ellipse: s-maj=1.7km s-min=0.5km az=64.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.02**	**121**	P	Pg	08 15 16.5	-0.3
LKD2				S	Sg	08 15 17.5	-0.1
	298nm,0.1s						
TSLK	**Tsoukalades, L**	**0.03**	**35**	P	Pg	08 15 16.8	-0.1
TSLK				S	Sg	08 15 18.0	+0.3
	140nm,0.2s						
NYDR	**Nydri-Lefkada**	**0.10**	**150**	P	Pg	08 15 17.7	-0.1
NYDR				S	Sg	08 15 19.6	+0.3
	18nm,0.1s						
DRAG	**Dragano-Lefkad**	**0.12**	**202**	P	Pg	08 15 18.2	-0.1
DRAG				S	Sg	08 15 20.3	+0.3
EVGI	**Lefkada island**	**0.18**	**174**	P	Pg	08 15 19.6	+0.3
EVGI				S	Sg	08 15 22.3	+0.6
	32nm,0.1s						

THE 06 08:15:36.1, 38°.80N×**20°.64E, h7**km±1km**, ML0.9**/4**, Error ellipse: s-maj=1.5km s-min=0.6km az=66.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.02**	**138**	P	Pg	08 15 37.2	-0.2
LKD2				S	Sg	08 15 38.2	-0.1
	660nm,0.1s						
TSLK	**Tsoukalades, L**	**0.03**	**25**	P	Pg	08 15 37.3	-0.1
TSLK				S	Sg	08 15 38.7	+0.3
	175nm,0.2s						
NYDR	**Nydri-Lefkada**	**0.10**	**154**	P	Pg	08 15 38.2	-0.1
NYDR				S	Sg	08 15 40.0	+0.2
	35nm,0.1s						
DRAG	**Dragano-Lefkad**	**0.13**	**204**	P	Pg	08 15 38.7	-0.2
DRAG				S	Sg	08 15 40.9	+0.2
EVGI	**Lefkada island**	**0.18**	**177**	P	Pg	08 15 39.9	+0.1
EVGI				S	Sg	08 15 42.9	+0.7
	65nm,0.1s						

*IDC **06** 08:17:17.8±1.5, 8°.34S×121°.51E, h197km±16km, mb3.5/2, mb1 3.7/8, mb1mx3.2/57, mbtmp4.2/8, Error ellipse: s-maj=41.3km s-min=14.3km az=60.0*
*DJA **06** 08:17:18.2±0.5, 8°S±4°×12°2E±°, h175km±6km, M4.2/13, mb4.5/2, MLv4.0/13*
ISC 06 08:17:18.0±0.7**, 8°.43S**±0°.06×**121°.60E**±0°.07**, h200**km**, n36, σ1°.92**/38**, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.66**	**108**	P	**Pn**	**08 17 44.7**	**-1.1**
MMRI				S	**Sn**	**08 18 04.5**	**-2.8**
MMRI	**Maumere**	**0.66**	**108**	P	**Pn**	**08 17 45.1**	**-0.7**
BASI	**Baing, Sumba**	**2.04**	**209**	P	**Pn**	**08 17 54.5**	**-2.5**
WBSI	**Waikabubak, Su**	**2.49**	**241**	P	**Pn**	**08 17 59.1**	**-2.8**
BSSI	**Bau Bau, Buton**	**2.52**	**334**	P	**Pn**	**08 18 00.5**	**-1.8**
BATI	**Baumata**	**2.70**	**131**	P	**Pn**	**08 18 05.0**	**+0.9**
	50nm,0.3s,baz=157,slow=22,SNR=22						
BATI				S	**Sn**	**08 18 37.5**	**-2.8**
	40nm,0.3s,baz=146,slow=2.9,SNR=5.1						
BATI	**Baumata**	**2.70**	**131**	P	**Pn**	**08 18 05.1**	**+0.9**
BBSI	**Bau Bau**	**3.08**	**18**	P	**Pn**	**08 18 08.5**	**-0.2**
BKSI	**Bulukumba**	**3.42**	**335**	P	**Pn**	**08 18 11.3**	**-1.4**
PLAI	**Plampang**	**3.80**	**264**	P	**Pn**	**08 18 15.7**	**-1.7**
KAPI	**Kappang**	**3.86**	**332**	P	**Pn**	**08 18 16.9**	**-1.2**
	3.9nm,0.3s,baz=157,slow=9.0,SNR=19						
BNSI	**Bone**	**4.27**	**340**	P	**Pn**	**08 18 23.0**	**-0.2**
SPSI	**Sidrap Palu**	**4.79**	**338**	P	Pn	08 18 33.3	+3.4
TTSI	**Tana Toraja**	**5.64**	**342**	P	Pn	08 18 44.2	+3.6
IGBI	**Denpasar**	**6.39**	**266**	P	**Pn**	**08 18 48.7**	**-1.7**
JAGI	**Jajag, Banyuwa**	**7.37**	**269**	P	Pn	08 19 07.1	+4.0
	48nm,1.3s						
LUWI	**Luwuk**	**7.43**	**9**	P	**Pn**	**08 19 02.6**	**-1.4**
	43nm,0.8s						
MTN	**Manton Dam**	**10.35**	**116**	P	**Pn**	**08 19 41.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.38**	**158**	P	**Pn**	**08 19 42.5**	**+0.3**
	0.8nm,0.3s,baz=340,slow=11,SNR=15						
FITZ				S	**Sn**	**08 21 35.1**	**-3.1**
	0.9nm,0.3s,baz=142,slow=12,SNR=7.4						
KDU	**Kakadu**	**11.50**	**113**	P	**Pn**	**08 19 56.1**	**-0.5**
SWI	**Sorong**	**12.21**	**52**	P	**P**	**08 20 11.1**	**+1.0**
SIJI	**Sorong**	**12.21**	**53**	P	**Pn**	**08 20 05.4**	**-0.3**
	1.9nm,0.3s,baz=251,slow=7.6,SNR=5.1						
GIRL	**Giralia**	**15.80**	**206**	P	**Pn**	**08 20 53.9**	**+3.9**
WRA	**Warramunga Arr**	**16.82**	**134**	P	**P**	**08 21 02.6**	**+1.5**
	0.8nm,0.3s,baz=308,slow=12,SNR=26						
WRA				S	**S**	**08 24 02.2**	**-4.4**
	0.5nm,0.3s,baz=264,slow=18,SNR=8.1						
WRAB	**Tennant Creek**	**16.82**	**134**	P	**Pn**	**08 21 03.1**	**+0.8**
WRKA	**Warakurna**	**17.71**	**160**	P	**Pn**	**08 21 13.8**	**+1.1**
MEEK	**Meekatharra**	**18.33**	**189**	P	**Pn**	**08 21 19.7**	**-0.3**
ASAR	**Alice Springs**	**19.20**	**144**	P	**P**	**08 21 28.8**	**+1.9**
	0.8nm,0.3s,baz=330,slow=13,SNR=47						
ASAR				S	**S**	**08 24 53.2**	**-0.6**
	0.1nm,0.3s,baz=320,slow=21,SNR=8.5						
QIS	**Mount Isa**	**21.17**	**127**	P	**P**	**08 21 49.9**	**+1.9**
COEN	**Coen**	**21.86**	**106**	P	**P**	**08 21 56.2**	**+1.1**
OOD	**Oodnadatta**	**23.41**	**147**	P	**P**	**08 22 11.9**	**+2.7**
MULG	**Mulgathing**	**24.67**	**153**	P	**P**	**08 22 22.8**	**+2.2**
BBOO	**Buckleboo**	**27.71**	**153**	P	**P**	**08 22 49.8**	**+2.0**
STKA	**Stephens Creek**	**29.83**	**144**	P	**P**	**08 23 08.0**	**+1.4**
	1.4nm,0.3s,baz=332,slow=7.6,SNR=8.6						
STKA	**Stephens Creek**	**29.83**	**144**	P	**P**	**08 23 08.7**	**+2.1**
MKAR	**Makanchi Array**	**65.16**	**331**	P	**P**	**08 27 36.7**	**-1.0**
	0.3nm,0.4s,baz=147,slow=7.1,SNR=5.0						

*NNC **06** 08:18:07.1±0.9, 51°.93N×75°.54E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=10.3km s-min=5.3km az=24.0, Suspected Mining explosion.*
*IDC **06** 08:18:15.2±3.1, 51°.70N×75°.85E, h0km, mb1 2.6/3, mb1mx2.5/64, mbtmp2.6/3, ML2.1/3, Error ellipse: s-maj=26.9km s-min=20.1km az=94.0*
ISC 06 08:18:13.6±6.2**, 51°.7N**±0°.1×**75°.8E**±0°.4**, h0**km**, n11, σ0°.41**/6**, 3C-5D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.00**	**121**	Pn	**Pb**	**08 18 50.7**	**-0.1**
	0.4nm,0.3s,baz=305,slow=19,SNR=20						
KURBB				Lg	Lg	08 19 19.0	
	0.6nm,0.3s,baz=306,slow=31,SNR=14						
KURBB	**Kurchatov Arra**	**2.00**	**121**	⇑Pg	**Pn**	**08 18 49.3**	**+0.6**
	7.2nm,0.6s,baz=308,slow=17						
KURBB				⇓Lg	Lg	08 19 20.4	
	36nm,0.6s,baz=305,slow=28						
KURK	**Kurchatov**	**2.00**	**118**	⇑Pg	**Pn**	**08 18 48.4**	**-0.3**
	3.9nm,0.7s						
KURK				⇓Lg	Lg	08 19 19.0	
	7.1nm,0.6s						
BVA1	**Borovoye Array**	**3.60**	**294**	⇓Lg	Lg	08 19 53.2	
	6.9nm,0.6s						
BRVK	**Borovoye**	**3.67**	**294**	⇑Lg	Lg	08 19 55.2	
	5.3nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.90**	**64**	*i*		08 56 40.0	
	baz=252,slow=320,SNR=1.9						
ZALV	**Zalesovo Beam**	**5.90**	**64**	Pn	**Pn**	**08 19 42.2**	**+0.1**
	0.3nm,0.3s,baz=254,slow=14,SNR=3.6						
ZALV				Lg	Lg	08 21 23.9	
	0.2nm,0.3s,baz=258,slow=28,SNR=1.9						
MAKZ	**Makanchi**	**6.32**	**138**	⇓Lg	Lg	08 21 38.4	
	6.6nm,0.9s						
MK31	**Makanchi Array**	**6.47**	**137**	⇓Lg	Lg	08 21 40.9	
	3.8nm,0.7s,baz=324,slow=25,SNR=5.0						
MKAR	**Makanchi Array**	**6.47**	**137**	Pn	**Pn**	**08 19 49.9**	**-0.1**
	0.1nm,0.3s,baz=316,slow=14,SNR=2.5						
MKAR				Sn	**Sn**	**08 21 04.5**	**0.0**
	0.1nm,0.3s,baz=324,slow=27,SNR=3.0						
MKAR				Lg	Lg	08 21 37.1	
	0.4nm,0.3s,baz=319,slow=26,SNR=6.4						
AAK	**Ala-Archa**	**9.10**	**186**	Lg	Lg	08 22 55.4	
	0.3nm,0.3s,baz=91,slow=23,SNR=1.9						

IDC 06 08:27:06.7±4.1**, 14°.29S**×**166°.95E, h0**km**, mb3.3**/3**, mb1 3.6**/3**, mb1mx3.4**/33**, mbtmp3.3**/3**, Error ellipse: s-maj=221.0km s-min=35.3km az=144.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.63**	**255**	P	P	08 33 31.9	+0.1
	0.2nm,0.8s,baz=86,slow=9.4,SNR=1.2						
ASAR	**Alice Springs**	**32.54**	**248**	P	P	08 33 39.8	+0.1
	0.4nm,0.6s,baz=78,slow=9.2,SNR=10						
ILAR	**Eielson Array**	**86.21**	**18**	P	P	08 39 50.1	+0.4
	0.2nm,0.6s,baz=234,slow=8.8,SNR=1.8						
ARCES	**ARCESS Array B**	**119.75**	**345**	PKP	PKPdf	08 45 57.3	-1.0
	2.3nm,0.9s,baz=70,slow=3.0,SNR=1.9						

NOU 06 08:27:48.7, 19°.21S×**168°.78E, h67**km**, MLv4.1**/14**, Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.45**	**347**	P	Pn	08 28 13.2	+0.3
DVP	**Devils Point**	**1.58**	**339**	P	Pn	08 28 14.7	0.0
LIFNC	**LIFOU**	**2.13**	**223**	P	Pn	08 28 20.6	-1.4
MARNC	**Mare, Loyalty**	**2.37**	**197**	P	Pn	08 28 24.2	-1.1
YATNC	**Mamie plateau,**	**3.34**	**212**	P	Pn	08 28 37.2	-1.4
DZM	**Mont Dzumac**	**3.59**	**217**	P	Pn	08 28 42.7	+0.7
PINNC	**Pines Island,**	**3.61**	**200**	P	Pn	08 28 42.3	+0.1
OUENC	**Ouen Island, N**	**3.67**	**209**	P	Pn	08 28 43.3	+0.3
NOUC	**Port Laguerre**	**3.69**	**218**	P	Pn	08 28 43.9	+0.5
ONTNC	**Ouen Toro**	**3.77**	**215**	P	Pn	08 28 45.5	+1.1
KOUNC	**Koumac, New Ca**	**4.43**	**252**	P	Pn	08 28 53.9	+0.4

IDC 06 08:28:44.0±6.9**, 15°.82S**×**168°.15E, h0**km**, mb3.3**/2**, mb1 3.6**/2**, mb1mx3.4**/37**, mbtmp3.3**/2**, Error ellipse: s-maj=495.4km s-min=55.7km az=152.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.41**	**258**	P	P	08 35 16.2	+0.4
	0.3nm,0.7s,baz=84,slow=7.9,SNR=1.9						
ASAR	**Alice Springs**	**33.10**	**251**	P	P	08 35 21.5	-0.4
	0.3nm,0.7s,baz=75,slow=9.9,SNR=2.5						
ARCES	**ARCESS Array B**	**121.51**	**346**	PKP	PKPdf	08 47 38.7	-0.2
	3.9nm,1.1s,baz=68,slow=3.3,SNR=1.3						

IDC 06 08:30:10.4±2.6**, 53°.95N**×**86°.51E, h0**km**, mb1 2.8**/2**, mb1mx2.8**/49**, mbtmp2.8**/2**, ML2.5**/2**, Error ellipse: s-maj=20.4km s-min=12.6km az=66.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**271**	*i*		08 37 00.0	
	baz=89,slow=326,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.00**	**271**	Pg	Pg	08 30 28.6	-0.9
	0.4nm,0.3s,baz=88,slow=16,SNR=6.5						
ZALV				Lg	Lg	08 30 43.6	
	1.5nm,0.3s,baz=93,slow=29,SNR=15						
ZALV				Rg	Rg	08 30 49.0	
	2.9nm,0.8s,baz=97,slow=21,SNR=7.1						
KURBB	**Kurchatov Arra**	**5.92**	**239**	Pn	Pn	08 31 40.4	+1.1
	0.1nm,0.3s,baz=58,slow=14,SNR=6.0						
KURBB				Lg	Lg	08 33 18.2	
	baz=59,slow=23,SNR=1.1						
MKAR	**Makanchi Array**	**7.65**	**202**	Pn	Pn	08 32 03.8	+0.7
	0.1nm,0.3s,baz=23,slow=13,SNR=5.4						
MKAR				Lg	Lg	08 34 15.7	
	0.1nm,0.3s,baz=24,slow=29,SNR=2.6						

*VAO **06** 08:31:51.0±1.0, 17°.41S×69°.92W, h175km, mb3.6*
*IDC **06** 08:31:53.7±2.0, 17°.53S×69°.42W, h173km±13km, mb3.7/3, mb1 3.5/5, mb1mx3.2/32, mbtmp4.0/5, Error ellipse: s-maj=37.2km s-min=25.6km az=107.0*
ISC 06 08:31:51.3±1.2**, 17°.53S**±0°.08×**69°.6W**±0°.1**, h152**km**, n21,**

σ1^{s}40/22, mb4.0/3, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	1.87	49	P	Pn	08 32 28.4	+2.7
	40nm,0.3s,baz=232,slow=6.3,SNR=1371						
LPAZ	La Paz	1.87	49	eP	Pn	08 32 28.6	+2.8
LVC	Limon Verde	5.09	173	P	Pn	08 33 08.7	+2.3
	2.0nm,0.3s,baz=351,slow=13,SNR=24						
LVC				S	Sn	08 34 03.4	-1.5
	5.6nm,0.3s,baz=71,slow=21,SNR=12						
LVC	Limon Verde	5.09	173	eP	Pn	08 33 08.3	+1.9
SIV	San Ignacio	8.31	81	P	Pn	08 33 48.0	-1.0
	0.7nm,0.3s,baz=273,slow=8.9,SNR=9.8						
ETMB	Extrema	8.34	24	eP	Pn	08 33 49.4	0.0
VILB	Vilhena	10.14	65	eP	Pn	08 34 14.4	+1.0
SALV	Santo Antonio	13.42	85	eP	P	08 34 59.0	-0.9
AQDB	Aquidauana	13.47	105	eP	P	08 34 59.9	-0.6
PDRB	Porto dos Gac	13.77	66	eP	Pn	08 35 01.6	+1.2
CLDB	Colider	14.92	66	eP	P	08 35 16.7	0.0
NPGB	Novo Progresso	17.37	55	eP	P	08 35 44.1	+0.4
PCMB	Pacaembu	17.75	106	eP	Pn	08 35 49.7	+0.6
PTGB	Pitanga	17.84	117	eP	Pn	08 35 50.2	-0.1
ITTB	Itaituba	18.86	48	eP	P	08 35 59.3	-0.6
IPMB	Ipameri, GO	20.37	95	eP	P	08 36 18.2	+1.8
SMTB	Santa Maria do	23.07	71	eP	P	08 36 43.6	-0.2
JANB	Januaria	24.39	88	eP	P	08 36 55.3	-0.5
DBIC	Dimbokro	68.29	75	P	P	08 42 35.5	-0.9
	4.6nm,0.6s,baz=222,slow=5.5,SNR=6.1						
TORD	Torodi Ar. Bea	76.68	71	P	P	08 43 25.4	-0.7
	2.1nm,0.6s,baz=258,slow=5.1,SNR=15						
YKA	Yellowknife Ar	87.25	341	P	P	08 44 20.0	-0.2
	0.1nm,0.4s,baz=134,slow=4.8,SNR=5.2						

*IDC **06** 08:32:20.0±1.7, 0°.63N×125°.97E, h0^{km}, mb3.8/3, mb1 3.9/4, mb1mx3.6/42, mbtmp3.8/4, ML3.1/1, MS4.6/1, Ms1 4.6/1, ms1mx3.8/77, Error ellipse: s-maj=127.3km s-min=22.1km az=67.0*

*DJA **06** 08:32:26.7±0.4, 1°N±3°×12°7E±°, h35^{km}±8^{km}, M4.1/12, mb4.2/2, mB5.0/1, MLv4.0/12, Mw(mB)4.2/1*

ISC 06 08:32:25.3±1.1, 1°.0N±0°.1×126°.83E±0°.06, h35^{km}, n14, σ3^{s}06/15, mb3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	0.59	114	P	Pn	08 32 39.6	+2.5
TNTI				S	Sn	08 32 48.3	+2.8
LBMI	Labuha	1.77	158	P	Pn	08 32 55.6	+2.2
LBMI				S	Sn	08 33 17.4	+2.7
KMSI	Cibinong	2.88	261	P	Pn	08 33 10.7	+2.0
SANI	Sanana	3.15	195	P	Pn	08 33 14.4	+1.9
GTOI	Gorontalo	3.84	264	P	Pn	08 33 26.2	+4.3
LUWI	Luwuk	4.54	243	P	Pn	08 33 34.2	+2.6
APSI	Ampana	5.52	250	P	Pn	08 33 48.6	+3.5
	0.2nm34nm,0.5s						
MPSI	Mapaga	6.96	265	P	Pn	08 34 07.7	+2.8
BATI	Baumata	11.58	196	LR	LR	08 40 22.2	
	comp=Z,3μm,18.2s,baz=240,slow=44						
FITZ	Fitzroy Crossi	19.03	183	P	P	08 36 40.2	-4.2
	0.0nm,0.3s,baz=12,slow=9.3,SNR=2.0						
WRA	Warramunga Arr	22.09	161	P	P	08 37 16.3	-1.3
	1.0nm,0.4s,baz=335,slow=11,SNR=35						
KLI	Kotabumi	22.71	255	P	P	08 37 21.2	-3.1
ASAR	Alice Springs	25.48	165	P	P	08 37 48.6	-1.7
	0.7nm,0.5s,baz=342,slow=7.6,SNR=16						
MKAR	Makanchi Array	59.84	326	P	P	08 42 26.3	-1.0
	0.9nm,0.3s,baz=116,slow=7.7,SNR=24						

IDC 06 08:33:35.5±6.8, 31°.15S×178°.91W, h0^{km}, mb3.7/2, mb1 4.0/2, mb1mx3.7/32, mbtmp3.7/2, MS4.6/1, Ms1 4.6/1, ms1mx3.9/62, Error ellipse: s-maj=251.2km s-min=108.9km az=165.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.90	301	LR	LR	08 41 54.0	
	comp=Z,2μm,19.1s,baz=254,slow=31						
ASAR	Alice Springs	42.29	268	P	P	08 41 30.2	-0.9
	0.5nm,0.7s,baz=107,slow=7.9,SNR=2.3						
WRA	Warramunga Arr	43.35	273	P	P	08 41 40.1	+0.4
	0.5nm,0.3s,baz=114,slow=7.7,SNR=16						
ARCES	ARCESS Array B	139.15	347	PKP	PKPdf	08 53 02.9	-0.5
	1.1nm,0.8s,baz=52,slow=1.5,SNR=1.0						

*IDC **06** 08:34:01.1±1.1, 14°.06S×166°.79E, h0^{km}, mb4.0/13, mb1 4.1/15, mb1mx4.0/34, mbtmp4.0/15, ML4.0/2, Error ellipse: s-maj=32.7km s-min=20.2km az=122.0*

ISC 06 08:34:06.3±0.7, 14°.11S±0°.08×166°.7E±0°.1, h35^{km}, n18, σ0^{s}76/20, mb4.1/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.93	182	Pn	Pn	08 35 59.6	+0.4
	0.6nm,0.3s,baz=112,slow=21,SNR=1.7						
DZM				Sn	Sn	08 37 26.5	-1.2
	baz=142,slow=22,SNR=2.1						
HNR	Honiara	8.11	304	Pn	Pn	08 36 01.7	0.0
	7.9nm,0.3s,baz=132,slow=14,SNR=1.8						
HNR				Sn	Sn	08 37 31.2	-0.9
	3.0nm,0.3s,baz=220,slow=14,SNR=1.2						
STKA	Stephens Creek	29.01	228	P	P	08 40 03.1	0.0
	1.3nm,0.6s,baz=30,slow=6.5,SNR=3.9						
WRA	Warramunga Arr	31.48	255	P	P	08 40 24.1	-0.9
	0.4nm,0.8s,baz=84,slow=9.4,SNR=2.2						
ASAR	Alice Springs	32.42	248	P	P	08 40 33.1	-0.1
	0.4nm,0.6s,baz=75,slow=9.4,SNR=6.4						
FITZ	Fitzroy Crossi	39.63	259	P	P	08 41 36.0	+1.0
	1.3nm,0.8s,baz=118,slow=9.2,SNR=2.3						
MJAR	Matsushiro Arr	57.12	333	P	P	08 43 49.7	+0.3
	1.4nm,0.4s,baz=166,slow=6.4,SNR=4.1						
KSRS	Korea Array	62.94	326	P	P	08 44 29.7	+0.4
	0.7nm,0.5s,baz=141,slow=8.1,SNR=4.9						
USRK	Ussuriysk Ar.	66.10	333	P	P	08 44 48.4	-1.4
	3.0nm,0.8s,baz=143,slow=5.0,SNR=4.1						
PETK	Petropavlovsk-	67.39	354	P	P	08 44 57.1	-0.8
	2.6nm,0.8s,baz=173,slow=14,SNR=3.8						
CMAR	Chiang Mai Arr	74.23	294	P	P	08 45 41.0	+0.8
	1.3nm,0.4s,baz=129,slow=3.9,SNR=5.5						
SONM	Songino Array	81.69	324	P	P	08 46 21.9	+0.6
	1.3nm,1.0s,baz=134,slow=6.2,SNR=3.5						
ILAR	Eielson Array	86.10	18	P	P	08 46 43.3	+0.1
	0.9nm,0.7s,baz=240,slow=5.0,SNR=11						
MKAR	Makanchi Array	96.40	317	P	P	08 47 32.9	+1.1
	1.0nm,0.9s,baz=86,slow=6.4,SNR=6.5						
YKA	Yellowknife Ar	97.23	27	P	P	08 47 34.9	-0.2
	0.2nm,0.7s,baz=254,slow=5.0,SNR=2.2						
ARCES	ARCESS Array B	119.52	345	PKP	PKiKP	08 52 52.1	+0.3
	1.2nm,0.5s,baz=79,slow=1.9,SNR=13						
FINES	FINESS Array B	124.96	338	PKP	PKPdf	08 53 02.3	0.0
	1.8nm,0.8s,baz=232,slow=9.2,SNR=1.5						
NOA	NORSAR Array B	129.89	345	PKP	PKiKP	08 53 12.2	-0.5
	0.2nm,0.3s,baz=29,slow=4.2,SNR=1.7						

IDC 06 08:42:37.0±2.1, 13°.75S×168°.39E, h0^{km}, mb3.7/3, mb1 3.9/4, mb1mx3.6/26, mbtmp3.8/4, ML3.0/1, Error ellipse: s-maj=68.3km s-min=30.5km az=115.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.48	192	Pn	Pn	08 44 41.2	-0.1
	0.2nm,0.3s,baz=94,slow=20,SNR=1.5						
DZM				Sn	Sn	08 46 19.7	+1.8
	baz=74,slow=18,SNR=1.7						
STKA	Stephens Creek	30.45	229	P	P	08 48 52.0	+0.5
	1.5nm,0.6s,baz=50,slow=7.9,SNR=3.8						
ASAR	Alice Springs	34.04	248	P	P	08 49 22.5	-0.6
	0.3nm,0.5s,baz=77,slow=8.8,SNR=5.6						
ILAR	Eielson Array	85.26	18	P	P	08 55 15.4	+0.1
	0.4nm,0.7s,baz=218,slow=5.7,SNR=2.9						

DDA 06 08:44:20.9±0.0, 37°.54N×29°.19E, h7^{km}±4^{km}, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAVA	DENIZLI_Tavas	0.23	252	P	Pg	08 44 25.7	+0.3
TAVA				S	Sg	08 44 31.2	+2.6
TAVA				*i* AML	AML	08 44 35.0	
	comp=N,23nm,0.6s						
TAVA				*i* AML	AML	08 44 37.0	
	comp=E,29nm,1.0s						
GOLH	Golhisar	0.42	135	P	Pg	08 44 29.6	+0.5
GOLH				S	Sb	08 44 38.9	+1.5
GOLH				*i* AML	AML	08 44 40.0	
	comp=E,20nm,0.3s						
GOLH				*i* AML	AML	08 44 50.0	
	comp=N,19nm,0.9s						
PASA	Karahalli, USA	0.84	16	P	Pg	08 44 35.3	-1.8
PASA				S	Sb	08 44 50.0	+0.5
PASA				*i* AML	AML	08 44 52.0	
	comp=N,11nm,0.6s						
PASA				*i* AML	AML	08 44 53.0	
	comp=E,22nm,0.4s						
AYDN	Tasoluk	1.05	277	P	Pb	08 44 41.3	-0.1
AYDN				*i* AML	AML	08 44 56.0	
	comp=N,16nm,0.8s						
AYDN				*i* AML	AML	08 44 56.0	
	comp=E,20nm,0.8s						
AYDN				S	Sn	08 44 57.8	+0.8
MANT	Manisa	1.07	333	P	Pg	08 44 39.3	-2.2
MANT				*i* AML	AML	08 44 52.0	
	comp=N,17nm,1.4s						
MANT				*i* AML	AML	08 44 52.0	
	comp=E,7.0nm,1.4s						
MANT				S	Sn	08 44 57.4	-0.5

*ISK **06** 08:44:52.4, 37°.10N×27°.92E, h0^{km}, ML1.6/6, Suspected Mining explosion.*

ISC 06 08:44:52.8±1.1, 37°.10N±0°.05×27°.93E±0°.04, h0^{km}, n6, σ1^{s}02/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSB	Milas	0.23	327	PG	Pg	08 44 57.5	+0.2
MLSB				SG	Sg	08 45 01.1	+0.8
YER	Yerkesik	0.28	83	PG	Pg	08 44 57.9	-0.3
YER				SG	Sg	08 45 03.5	+1.6
TURN	Turunc	0.41	142	PG	Pg	08 45 00.9	+0.2
TURN				SG	Sg	08 45 07.1	+1.1
BODT	Bodrum	0.50	266	PG	Pg	08 45 02.3	-0.1
BODT				SG	Sg	08 45 09.7	+0.8
DALY	Dalyan (Mula)	0.64	116	PG	Pg	08 45 05.6	+0.5
DALY				SG	Sb	08 45 14.9	-1.5
CAME	Cameli-Denizli	1.11	98	PN	Pb	08 45 14.4	-0.5

*IDC **06** 08:51:16.4±1.0, 14°.33S×166°.74E, h0^{km}, mb3.9/7, mb1 4.0/8, mb1mx3.9/25, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=38.0km s-min=22.2km az=109.0*

ISC 06 08:51:20.8±0.8, 14°.32S±0°.09×166°.7E±0°.2, h28^{km}, n9, σ0^{s}67/10, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.71	182	Pn	Pn	08 53 11.6	+0.1
	0.3nm,0.3s,baz=152,slow=20,SNR=1.7						
DZM				Sn	Sn	08 54 38.4	+0.4
	baz=13,slow=20,SNR=1.5						
WRA	Warramunga Arr	31.40	255	P	P	08 57 39.2	-0.6
	0.5nm,0.7s,baz=85,slow=9.2,SNR=2.7						
ASAR	Alice Springs	32.32	248	P	P	08 57 47.4	-0.5
	0.6nm,0.7s,baz=73,slow=9.2,SNR=11						
VNDA	Vanda	63.26	181	P	P	09 01 46.0	-0.4
	0.9nm,1.1s,baz=356,slow=8.2,SNR=1.9						
PETK	Petropavlovsk-	67.60	354	P	P	09 02 15.3	+0.5
	1.7nm,0.8s,baz=179,slow=9.9,SNR=2.4						
ILAR	Eielson Array	86.31	18	P	P	09 03 59.3	-0.5
	1.0nm,0.7s,baz=240,slow=5.1,SNR=13						
MKAR	Makanchi Array	96.54	317	P	P	09 04 49.1	+1.1
	0.4nm,0.8s,baz=97,slow=7.8,SNR=3.8						
YKA	Yellowknife Ar	97.43	27	P	P	09 04 51.0	-0.6
	0.1nm,0.6s,baz=264,slow=5.2,SNR=2.5						
ARCES	ARCESS Array B	119.72	345	PKP	PKiKP	09 10 08.1	+0.3
	1.4nm,0.8s,baz=62,slow=2.1,SNR=1.3						

*IDC **06** 09:01:37.0±1.2, 14°.55S×166°.87E, h0^{km}, mb4.0/10, mb1 4.1/12, mb1mx3.9/34, mbtmp4.0/12, ML3.8/2, Error ellipse: s-maj=36.2km s-min=22.4km az=119.0*

ISC 06 09:01:41.6±1.9, 14°.5S±0°.2×166°.8E±0°.3, h35^{km}, n13, σ0^{s}94/6, mb4.0/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.51	182	Pn	Pn	09 03 28.6	-0.3
	0.2nm,0.3s,baz=343,slow=9.7,SNR=1.6						
HNR	Honiara	8.38	306	Pn	Pn	09 03 40.6	-0.1
	6.3nm,0.3s,baz=177,slow=17,SNR=1.5						
STKA	Stephens Creek	28.77	229	P	P	09 07 36.3	+0.1
	1.9nm,0.8s,baz=74,slow=7.4,SNR=2.2						
WRA	Warramunga Arr	31.42	256	P	P	09 08 00.2	+0.4
	0.5nm,0.9s,baz=88,slow=8.7,SNR=2.7						
ASAR	Alice Springs	32.31	249	P	P	09 08 09.2	+1.6
	0.4nm,0.8s,baz=78,slow=9.2,SNR=4.9						
KSRS	Korea Array	63.31	326	P	P	09 12 08.7	+1.6
	1.3nm,0.9s,baz=141,slow=4.8,SNR=4.0						
USRK	Ussuriysk Ar.	66.49	333	P	P	09 12 29.7	+2.0
	1.9nm,0.7s,baz=181,slow=7.6,SNR=4.1						
PETK	Petropavlovsk-	67.81	354	P	P	09 12 36.5	+0.6
	3.0nm,0.8s,baz=167,slow=7.0,SNR=4.2						
CMAR	Chiang Mai Arr	74.44	294	P	P	09 13 18.9	+2.1
	0.6nm,0.3s,baz=122,slow=3.3,SNR=4.7						
ILAR	Eielson Array	86.48	18	P	P	09 14 20.9	+0.5
	0.3nm,0.5s,baz=236,slow=5.2,SNR=6.7						
MKAR	Makanchi Array	96.73	316	P	P	09 15 07.7	-0.9
	0.7nm,0.9s,baz=105,slow=5.6,SNR=5.0						
YKA	Yellowknife Ar	97.58	27	P	Pdif	09 15 12.7	+0.7
	0.3nm,0.9s,baz=245,slow=5.0,SNR=3.6						
ARCES	ARCESS Array B	119.94	345	PKP	PKiKP	09 20 29.2	+1.3
	1.1nm,0.8s,baz=55,slow=1.9,SNR=14						

IDC 06 09:03:06.0±3.0, 56°.48S×26°.70W, h0^{km}, mb3.8/2, mb1 4.0/2, mb1mx3.7/31, mbtmp3.8/2, Error ellipse: s-maj=114.8km s-min=50.2km az=169.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	50.84	305	P	P	09 12 08.9	-0.1
	1.0nm,0.5s,baz=207,slow=4.5,SNR=5.2						
TORD	Torodi Ar. Bea	73.30	29	P	P	09 14 39.1	+0.1
	0.7nm,0.8s,baz=198,slow=6.1,SNR=7.1						
YKA	Yellowknife Ar	136.67	317	PKP	PKPdf	09 22 28.3	-0.3
	0.1nm,0.5s,baz=142,slow=1.7,SNR=4.9						
INK	Inuvik	146.31	320	PKPbc	PKPdf	09 22 45.9	+0.3
	0.8nm,0.6s,baz=87,slow=5.2,SNR=4.9						
ILAR	Eielson Array	150.60	311	PKPbc	PKPbc	09 22 57.9	-0.3
	0.7nm,0.8s,baz=76,slow=1.0,SNR=4.8						

*IDC **06** 09:02:59.4±1.9, 18°.55S×168°.35E, h0^{km}, mb4.2/4, mb1 4.4/5, mb1mx3.9/31, mbtmp4.2/5, ML3.6/1, Error ellipse: s-maj=58.6km s-min=30.9km az=139.0*

*NOU **06** 09:03:02.7, 18°.59S×168°.18E, h16^{km}, MLv4.8/8, Vanuatu Islands*

*NEIC **06** 09:03:06.9±1.1, 18°.85S±0°.09×168°.14E±0°.04, h35^{km}±2^{km}, mb4.4/13, Error ellipse: s-maj=14.6km s-min=6.9km az=354.0*

ISC 06 09:03:05.9±1.2, 18°.80S±0°.10×168°.2E±0°.1, h35^{km}, n36, σ1^{s}01/37, mb4.4/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTV	Rentapao	1.02	12	P	Pn	09 03 18.7	-5.0
DVP	Devils Point	1.07	360	P	Pn	09 03 19.7	-4.6
LIFNC	LIFOU	2.17	204	Pn	Pn	09 03 37.3	-2.1
LIFNC				Sn	Sn	09 04 03.8	-1.2
MARNC	Mare, Loyalty	2.67	183		Pn	09 03 45.4	-1.1
MARNC				Sn	Sn	09 04 16.9	-0.8
DZM	Mont Dzumac	3.65	206	Pn	Pn	09 04 00.2	+0.3
	4.6nm,0.3s,baz=289,slow=22,SNR=15						
DZM				Sn	Sn	09 04 41.2	-0.6
	9.9nm,0.3s,baz=292,slow=24,SNR=3.5						
DZM	Mont Dzumac	3.65	206		Pn	09 03 59.6	-0.4
DZM	Mont Dzumac	3.65	206	P	Pn	09 04 00.4	+0.5
NOUC	Port Laguerre	3.73	208	P	Pn	09 04 01.7	+0.7
OUENC	Ouen Island, N	3.82	199	Pn	Pn	09 04 02.5	+0.3
OUENC	Ouen Island, N	3.82	199	P	Pn	09 04 04.0	+1.8
ONTNC	Ouen Toro	3.85	205	Pn	Pn	09 04 02.7	0.0
ONTNC	Ouen Toro	3.85	205	P	Pn	09 04 04.1	+1.4
PINNC	Pines Island,	3.86	190	Pn	Pn	09 04 04.2	+1.4
KOUNC	Koumac, New Ca	4.08	244	Pn	Pn	09 04 06.2	+0.5
STKA	Stephens Creek	27.26	236	P	P	09 08 48.8	+1.9
	2.2nm,0.8s,baz=53,slow=8.5,SNR=3.4						
WR0	Warramunga Arr	31.74	262	P	P	09 09 26.0	-0.9
WB0	Warramunga Arr	31.89	263	P	P	09 09 27.7	-0.5
WB0				IAmb	IAmb	09 09 37.5	
	comp=Z,5.4nm,1.3s						
WB2	Warramunga Arr	31.92	262	P	P	09 09 27.9	-0.5
WB2				IAmb	IAmb	09 09 39.2	
	comp=Z,3.7nm,1.1s						
WRAB	Tennant Creek	31.92	262	P	P	09 09 27.9	-0.5
WRA	Warramunga Arr	31.93	262	P	P	09 09 27.8	-0.8
	comp=Z,0.5nm,0.5s,baz=92,slow=8.6,SNR=13						
WRA	Warramunga Arr	31.93	262	P	P	09 09 28.1	-0.5
BBOO	Buckleboo	31.98	238	P	P	09 09 29.2	+0.5
AS31	Alice Springs	32.28	255	P	P	09 09 31.9	+0.3
AS31				IAmb	IAmb	09 09 32.3	
	comp=Z,2.2nm,0.6s						
ASAR	Alice Springs	32.28	255	P	P	09 09 31.9	+0.3
	comp=Z,4.1nm,0.5s,baz=83,slow=8.7,SNR=43						
ASAR	Alice Springs	32.28	255	P	P	09 09 31.6	0.0
MTN	Manton Dam	36.10	274	P	P	09 10 04.2	-0.5
MTN				IAmb	IAmb	09 10 20.9	
	comp=Z,7.4nm,1.1s						
KNRA	Kununurra	37.74	268	P	P	09 10 17.7	-0.9
KNRA				IAmb	IAmb	09 10 25.6	
	comp=Z,11nm,1.3s						
FORT	Forrest	38.15	244	P	P	09 10 20.8	-1.1
FITZ	Fitzroy Crossi	40.30	264	P	P	09 10 40.5	+0.4
	comp=Z,5.8nm,0.7s,baz=112,slow=6.6,SNR=13						
FITZ	Fitzroy Crossi	40.30	264	P	P	09 10 39.5	-0.6
PSA00	Pilbara Seismi	45.33	258	P	P	09 11 20.8	0.0
SBA	Scott Base	59.09	180	P	P	09 13 03.0	+0.7
CASY	Casey	60.14	203	P	P	09 13 09.9	+0.3
CASY				IAmb	IAmb	09 13 13.0	
	comp=Z,5.7nm,1.2s						
QSPA	South Pole Qui	71.25	180	P	P	09 14 22.4	+0.9
QSPA				IAmb	IAmb	09 14 36.3	
	comp=Z,5.6nm,1.2s						
YKA	Yellowknife Ar	100.73	27	P	Pdif	09 16 47.9	-2.3
	comp=Z,0.1nm,0.6s,baz=256,slow=5.1,SNR=2.1						
ARCES	ARCESS Array B	124.39	345	PKP	PKPdf	09 21 59.1	-1.4
	comp=Z,0.7nm,0.3s,baz=71,slow=2.1,SNR=16						

*BJI **06** 09:03:57.9±0.0, 13°.64S×166°.98E, h30^{km}, mb5.0/47, mB5.5/17, Ms5.4/8, Ms7 5.1/9*

*NEIC **06** 09:03:59.6±1.7, 14°.05S±0°.07×166°.63E±0°.09, h35^{km}±3^{km}, mb4.9/79, Error ellipse: s-maj=12.9km s-min=10.0km az=73.0*

*IDC **06** 09:04:00.3±2.3, 14°.20S×166°.78E, h48^{km}±21^{km}, mb4.5/26, mb1 4.6/29, mb1mx4.5/36, mbtmp4.7/29, ML2.8/1, MS4.0/1, Ms1 4.0/1, ms1mx3.4/63, Error ellipse: s-maj=15.0km s-min=12.2km az=71.0*

ISC 06 09:03:59.6±0.3, 14°.19S±0°.05×166°.65E±0°.06, h43^{km}, n171, σ1^{s}55/181, mb4.9/78, 2C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIFNC	LIFOU	6.57	175	Pn	Pn	09 05 35.5	+1.7
KOUNC	Koumac, New Ca	6.71	199	Pn	Pn	09 05 35.3	-0.4
KOUNC				Sn	Sn	09 06 48.5	-2.5
DZM	Mont Dzumac	7.84	181	P	Pn	09 05 51.9	+0.7
	baz=132,slow=22,SNR=1.0						
DZM				S	Sn	09 07 19.4	+0.7
	4.3nm,0.3s,baz=35,slow=23,SNR=1.5						
DZM	Mont Dzumac	7.84	181	Pn	Pn	09 05 53.7	+2.4
HNR	Honiara	8.09	305	P	Pn	09 05 55.1	+0.5
	17nm,0.3s,baz=207,slow=3.1,SNR=7.4						
HNR				S	Sn	09 07 23.6	-1.2
	22nm,0.3s,baz=164,slow=22,SNR=2.2						
HNR				LR	LR	09 08 48.5	
	comp=Z,835nm,18.1s,baz=112,slow=35						
HNR	Honiara	8.09	305		Pn	09 05 50.4	-4.2
OUENC	Ouen Island, N	8.18	179	Pn	Pn	09 06 00.1	+4.2
EIDS	Eidsvold	18.37	230	P	Pn	09 08 12.1	+0.9
PMG	Port Moresby	19.66	282	P	Pn	09 08 26.8	0.0
	0.9nm,0.3s,baz=109,slow=13,SNR=3.8						
PMG	Port Moresby	19.66	282	P	P	09 08 21.6	-3.4
CTA	Charters Tower	20.34	250	P	Pn	09 08 35.5	+0.6
	7.2nm,0.8s,baz=97,slow=10,SNR=5.6						
CTAO	Charters Tower	20.34	250	P	P	09 08 32.9	+0.3
AFI	Afiamalu	20.93	92	P	P	09 08 38.5	-0.4
	23nm,1.0s,baz=248,slow=19,SNR=2.1						
AFI	Afiamalu	20.93	92	P	P	09 08 38.6	-0.4
AFI				IAmb	IAmb	09 08 47.6	
	comp=Z,31nm,0.7s						
ARMA	Armidale	21.26	218	P	P	09 08 43.9	+1.5
ARMA				IAmb	IAmb	09 08 45.9	
	comp=Z,48nm,1.4s						
OUZ	Omahuta	21.85	165	P	P	09 08 51.1	+2.5
OUZ				IAmb	IAmb	09 08 55.2	
	comp=Z,57nm,1.0s						
MANU	Manus Island	22.55	301	P	P	09 08 54.8	-1.6
MANU				IAmb	IAmb	09 08 59.9	
	comp=Z,36nm,1.0s						
COEN	Coen	22.77	268	P	P	09 08 58.6	0.0
NIUE	Niue	22.95	105	P	P	09 08 59.6	-0.9
KNTN	Kanton	24.18	64	P	P	09 09 11.9	-0.4
KNTN				IAmb	IAmb	09 09 35.9	
	comp=Z,52nm,1.0s						
URZ	Urewera	25.70	161	P	P	09 09 24.4	-1.4
	comp=Z,6.1nm,0.8s,baz=154,slow=18,SNR=2.4						
BKZ	Black Stump Fm	26.35	163	P	P	09 09 31.7	0.0
BKZ				IAmb	IAmb	09 09 39.6	
	comp=Z,19nm,0.8s						
STKA	Stephens Creek	28.89	228	P	P	09 09 56.2	+1.7
	comp=Z,19nm,0.6s,baz=44,slow=8.4,SNR=40						
STKA				PcP	PcP	09 13 03.6	+0.5
	comp=Z,5.6nm,0.7s,baz=67,slow=2.3,SNR=4.7						
STKA	Stephens Creek	28.89	228	P	P	09 09 54.6	+0.1
RPZ	Rata Peaks	29.66	174	P	P	09 10 01.8	+0.6
	comp=Z,19nm,0.8s,baz=335,slow=1.8,SNR=9.1						
WR0	Warramunga Arr	31.19	255	P	P	09 10 14.8	-0.3
WB0	Warramunga Arr	31.31	255	P	P	09 10 16.2	+0.1
WB0				IAmb	IAmb	09 10 16.8	
	comp=Z,11nm,0.7s						
WB2	Warramunga Arr	31.37	255	P	P	09 10 16.9	+0.3
WB2				IAmb	IAmb	09 10 17.3	
	comp=Z,17nm,1.1s						
WRAB	Tennant Creek	31.37	255	P	P	09 10 16.6	+0.1
WRAB	Tennant Creek	31.37	255	P	P	09 10 16.5	-0.1
WRAB				pP	pP	09 10 22.5	-4.3
WRA	Warramunga Arr	31.38	255	P	P	09 10 16.4	-0.3
	comp=Z,8.1nm,0.9s,baz=84,slow=8.8,SNR=27						
WRA				PcP	PcP	09 13 09.7	-0.1
	comp=Z,1.1nm,0.8s,baz=74,slow=3.6,SNR=2.6						
WRA				PKiKP	PKiKP	09 20 37.5	-2.0
	comp=Z,0.5nm,0.6s,baz=16,slow=0.6,SNR=7.1						
WRA	Warramunga Arr	31.38	255	P	P	09 10 16.1	-0.6
AS31	Alice Springs	32.31	248	P	P	09 10 25.2	+0.3
ASAR	Alice Springs	32.31	248	P	P	09 10 24.6	-0.2
	comp=Z,7.9nm,0.6s,baz=74,slow=9.4,SNR=36						
ASAR				PcP	PcP	09 13 10.4	-1.9
	comp=Z,1.3nm,0.8s,baz=95,slow=3.5,SNR=4.5						
ASAR				PKiKP	PKiKP	09 20 37.5	-2.6
	comp=Z,0.3nm,0.6s,baz=111,slow=1.7,SNR=4.4						
ASAR	Alice Springs	32.31	248	P	P	09 10 24.9	0.0
BBOO	Buckleboo	33.44	231	P	P	09 10 36.3	+1.7
KNRA	Kununurra	36.61	263	P	P	09 11 02.6	+0.6
KNRA				IAmb	IAmb	09 11 03.9	
	comp=Z,21nm,1.0s						
FORT	Forrest	39.06	238	P	P	09 11 24.0	+1.4
FITZ	Fitzroy Crossi	39.53	259	P	P	09 11 27.2	+0.6
	comp=Z,6.1nm,0.8s,baz=121,slow=7.6,SNR=9.2						
SANI	Sanana	41.94	283	P	P	09 11 47.4	+0.8
	comp=Z,26nm,0.8s						
BATI	Baumata	42.16	270	P	P	09 11 51.3	+2.8
	comp=Z,47nm,0.6s,baz=135,slow=4.3,SNR=6.4						
BATI	Baumata	42.16	270	P	P	09 11 50.1	+1.7
	comp=Z,40nm,0.8s						
PSA00	Pilbara Seismi	45.01	254	P	P	09 12 11.0	-0.3
MBWA	Marble Bar	45.11	254	P	P	09 12 13.1	+1.0
MBWA				IAmb	IAmb	09 12 14.0	
	comp=Z,17nm,0.8s						
MBWA	Marble Bar	45.11	254	P	P	09 12 13.3	+1.2
MBWA				pP	pP	09 12 19.9	-2.7
PLAI	Plampang	48.12	271	P	P	09 12 36.9	+1.2
	comp=Z,69nm,0.8s						
MPSI	Mapaga	48.47	283	P	P	09 12 39.5	+1.1
	comp=Z,19nm,0.8s						
MORW	Morawa	48.96	244	P	P	09 12 42.7	+0.6
MORW				IAmb	IAmb	09 12 45.3	
	comp=Z,15nm,0.9s						
IGBI	Denpasar	50.67	270	P	P	09 12 56.5	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,146nm,0.8s						
DRV	Dumont d'Urvil	55.33	193	P	P	09 13 29.3	+0.6
DRV				pP	pP	09 13 33.2	-7.0
JGF	Kuroka	56.76	332	IAmb	IAmb	09 13 43.0	
	comp=Z,9.1nm,1.0s						
JMN	Monobe	56.98	327	P	P	09 13 39.9	-1.1
MJAR	Matsushiro Arr	57.16	333	P	P	09 13 41.6	-0.5
	comp=Z,12nm,0.9s,baz=160,slow=3.9,SNR=18						
MJAR	Matsushiro Arr	57.16	333	P	P	09 13 41.0	-1.1
MJAR				IAmb	IAmb	09 13 43.4	
	comp=Z,9.2nm,0.9s						
MAJO	Matsushiro	57.16	333	P	P	09 13 40.7	-1.5
MAJO	Matsushiro	57.16	333	P	P	09 13 42.4	+0.2
MAJO				pP	pP	09 13 48.9	-4.3
MJB9	Matsu-Tunnel	57.16	333	P	P	09 13 40.5	-1.7
MJB9				IAmb	IAmb	09 13 43.1	
	comp=Z,16nm,0.9s						
JNU	Nakatsue	58.14	325	P	P	09 13 48.0	-1.2
JHS	Saijyo	58.36	328	P	P	09 13 49.2	-1.5
JHS				IAmb	IAmb	09 13 52.5	
	comp=Z,12nm,0.8s						
JSD	Sado	58.38	334	P	P	09 13 48.9	-1.9
JTM	Tenmabayashi	59.62	338	P	P	09 13 60.0	+0.7
CGJI	Cibinong	60.29	270	P	P	09 14 04.7	+0.3
	comp=Z,3μmcomp=Z,38nm,1.0s						
KSRS	Korea Array	62.96	326	P	P	09 14 22.9	+1.0
	comp=Z,4.4nm,0.8s,baz=137,slow=7.3,SNR=21						
KSAR	Wonju Array Be	62.97	326	P	P	09 14 20.8	-1.2
VNDA	Vanda	63.38	181	P	P	09 14 24.7	+0.5
	comp=Z,4.8nm,0.7s,baz=353,slow=8.1,SNR=12						
VNDA	Vanda	63.38	181	P	P	09 14 25.2	+1.1
VNDA				IAmb	IAmb	09 14 30.0	
	comp=Z,7.6nm,0.9s						
SBA	Scott Base	63.67	180	P	P	09 14 28.2	+2.2
SBA	Scott Base	63.67	180	⇓P	P	09 14 27.6	+1.6
SBA				pP	pP	09 14 31.1	-6.6
CASY	Casey	63.80	202	P	P	09 14 28.0	+1.0
YSS	Yuzh-Sakhalins	64.53	342	P	P	09 14 31.6	-0.5
YSS				IAmb	IAmb	09 14 36.6	
	comp=Z,18nm,1.1s						
NJ2	Nanjing	64.88	316	*e*P	P	09 14 35.6	+1.0
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
CCD	Concordia, Ant	65.31	191	⇑P	P	09 14 37.9	+0.7
CCD				pP	pP	09 14 45.0	-4.0
USA0B	Ussuriysk Arra	66.14	333	P	P	09 14 43.8	+1.2
USRK	Ussuriysk Ar.	66.14	333	P	P	09 14 44.1	+1.6
	comp=Z,18nm,1.0s,baz=145,slow=6.4,SNR=18						
USRK	Ussuriysk Ar.	66.14	333	P	P	09 14 43.2	+0.7
PEA0B	Petropavlovsk-	67.47	354	P	P	09 14 49.2	-1.6
PEA0B				IAmb	IAmb	09 14 52.0	
	comp=Z,12nm,0.9s						
PETK	Petropavlovsk-	67.47	354	P	P	09 14 51.5	+0.7
	comp=Z,5.2nm,0.7s,baz=179,slow=6.6,SNR=7.6						
PETK	Petropavlovsk-	67.47	354	P	P	09 14 49.9	-0.9
MDJ	Mudanjiang	67.53	332	P	P	09 14 50.9	-0.5
TIA	Tai'an	68.54	319	P	P	09 14 58.6	+0.6
TIA				pmax	pmax		
	comp=Z,12nm,0.7s						
CN2	Changchun	68.88	329	*e*P	P	09 15 00.6	+0.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX	BinXian	69.38	332	⇓P	P	09 15 03.5	+0.6
BNX				pmax	pmax		
	comp=Z,18nm,0.6s						
ENH	Enshi	70.56	310	P	P	09 15 10.9	+0.3
BJT	Baijiatuau	71.46	321	P	P	09 15 16.4	+0.6
BJT				IAmb	IAmb	09 15 17.9	
	comp=Z,8.8nm,0.8s						
BJI	Beijing	71.47	321	P	P	09 15 17.0	+1.2
BJI				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN	Xi'an	72.89	313	P	P	09 15 25.6	+1.1
XAN				pP	pP	09 15 36.6	+0.7
XAN				pmax	pmax		
	comp=Z,17nm,0.8s						
KMI	Kunming	73.51	302	⇑P	P	09 15 30.7	+2.1
KMI				sP	pwP	09 15 48.5	+3.3
KMI				pmax	pmax		
	comp=Z,26nm,0.8s						
XLT	XiLinHaoTe	73.92	324	⇓*i*P	P	09 15 31.9	+1.5
XLT				pP	pP	09 15 41.4	-0.5
XLT				sP	pwP	09 15 47.2	+0.2
XLT				pmax	pmax		
	comp=Z,20nm,1.2s						
XLT				pmax	pmax		
	comp=Z,910nm,11.1s						
CMAR	Chiang Mai Arr	74.18	294	P	P	09 15 34.7	+2.3
	comp=Z,8.1nm,0.8s,baz=122,slow=4.5,SNR=32						
CHTO	Chiang Mai	74.31	294	P	P	09 15 32.9	-0.3
CHTO				IAmb	IAmb	09 15 35.7	
	comp=Z,9.4nm,0.9s						
MA2	Magadan	74.63	352	P	P	09 15 33.4	-0.7
HHC	Hu-ho-hao-te	74.79	320	*e*P	P	09 15 37.1	+1.5
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,400nm,7.6s						
PZH	PanZhiHua	74.90	303	P	P	09 15 37.6	+1.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	Hailar	75.53	330	IAmb	IAmb	09 15 41.1	
	comp=Z,14nm,0.9s						
QSPA	South Pole Qui	75.83	180	P	P	09 15 41.9	+0.6
LZH	Lanzhou	77.52	312	*e*P	P	09 15 53.3	+2.0
LZH				pP	pP	09 16 04.9	+2.2
LZH				sP	pwP	09 16 11.6	+3.5
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				LR	LR		
	comp=Z,630nm,15.4s						
LZH				LR	LR		
	comp=Z,810nm,15.7s						
LZH				LR	LR		
	comp=Z,1μm,17.9s						
GAMB	Gambell	79.50	10	P	P	09 16 01.1	-0.2
YAK	Yakutsk	81.35	343	P	P	09 16 11.4	+0.2
ULN	Ulaanbaatar	81.35	324	P	P	09 16 12.9	+1.0
SONM	Songino Array	81.71	324	P	P	09 16 14.3	+0.6
	comp=Z,7.0nm,0.9s,baz=146,slow=6.1,SNR=19						
SONM	Songino Array	81.71	324	IAmb	IAmb	09 16 15.6	
	comp=Z,9.2nm,1.0s						
GTA	Gaotai	81.86	314	⇓P	P	09 16 16.7	+1.9
GTA				pP	pP	09 16 26.9	+0.6
GTA				pmax	pmax		
	comp=Z,19nm,1.0s						
BILL	Bilibino	82.01	360	P	P	09 16 14.5	-0.1
BILL				IAmb	IAmb	09 16 15.3	
	comp=Z,9.7nm,0.7s						
MAW	Mawson	82.15	202	P	P	09 16 16.3	+0.7
	comp=Z,7.3nm,1.0s,baz=136,slow=8.7,SNR=4.5						
MAW	Mawson	82.15	202	P	P	09 16 15.9	+0.3
SHL	Shillong	82.78	299	P	P	09 16 20.7	+0.8
CAST	Castle Rocks	83.66	17	P	P	09 16 22.7	-0.7
CAST				IAmb	IAmb	09 16 23.6	
	comp=Z,6.9nm,0.9s						
GOMU	GeErMu	84.19	309	P	P	09 16 29.4	+2.3
GOMU				PP	PP	09 19 44.2	+2.1
GOMU				S	S	09 26 54.1	+4.5
GOMU				sS	sS	09 27 09.7	+0.9
GOMU				SS	SS	09 32 22.6	+2.8
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GOMU				LR	LR		
	comp=Z,440nm,17.6s						
GOMU				LR	LR		
	comp=Z,130nm,19.1s						
GOMU				LR	LR		
	comp=Z,290nm,16.9s						
TRF	Thorofare Moun	84.22	18	IAmb	IAmb	09 16 29.1	
	comp=Z,7.1nm,0.9s						
WAX	Waxell Ridge	84.59	23	P	P	09 16 29.0	+0.8
RND	Reindeer	84.62	18	P	P	09 16 28.1	-0.2
RND				IAmb	IAmb	09 16 31.5	
	comp=Z,6.5nm,0.7s						
N25K	Chitina, Valde	84.74	21	P	P	09 16 29.1	+0.1
N25K				IAmb	IAmb	09 16 46.3	
	comp=Z,8.8nm,1.2s						
MCK	McKinley	84.83	18	IAmb	IAmb	09 16 32.5	
	comp=Z,6.9nm,1.0s						
I21K	Tanana	85.05	16	P	P	09 16 30.9	+0.6
I21K				IAmb	IAmb	09 16 34.4	
	comp=Z,9.1nm,0.9s						
H21K	Melozitna Rive	85.19	16	IAmb	IAmb	09 16 35.5	
	comp=Z,8.3nm,1.2s						
IMAR	Indian Mountai	85.21	15	P	P	09 16 31.9	+0.7
HDA	Harding Lake	85.93	18	IAmb	IAmb	09 16 58.1	
	comp=Z,6.6nm,0.7s						
MDM	Murphy Dome	85.94	18	IAmb	IAmb	09 17 01.9	
	comp=Z,9.6nm,1.4s						
TCOL	CIGO, UAF Yank	85.99	18	IAmb	IAmb	09 16 57.3	
	comp=Z,5.4nm,0.7s						
COLA	College	85.99	18	P	P	09 16 34.4	-0.6
COLA				IAmb	IAmb	09 16 57.3	
	comp=Z,5.4nm,0.8s						
ILAR	Eielson Array	86.20	18	P	P	09 16 34.7	-1.4
	comp=Z,2.8nm,0.6s,baz=238,slow=5.2,SNR=31						
J25K	Salcha River,	86.56	19	P	P	09 16 37.7	-0.3
BCAR	Beaver Creek A	86.69	21	P	P	09 16 38.0	-0.7
BELA	Belgrano 2	87.30	176	IAmb	IAmb	09 16 44.4	
	comp=Z,8.8nm,0.9s						
NVAR	Mina Array Bea	87.38	49	P	P	09 16 44.0	+1.3
	comp=Z,1.2nm,0.9s,baz=232,slow=8.2,SNR=8.0						
PALK	Pallekele	87.86	278	P	P	09 16 47.1	+1.7
	comp=Z,4.2nm,0.5s,baz=129,slow=6.5,SNR=2.3						
DAWY	Dawson	88.16	21	P	P	09 16 44.8	-0.9
DAWY				IAmb	IAmb	09 16 51.8	
	comp=Z,6.2nm,1.4s						
J08A	Circle Bar Ran	88.97	45	P	P	09 16 51.1	+1.0
J08A				IAmb	IAmb	09 16 53.8	
	comp=Z,5.2nm,1.1s						
TIXI	Tiksi	89.33	349	P	P	09 16 50.5	-0.4
TIXI				IAmb	IAmb	09 16 53.8	
	comp=Z,4.5nm,0.9s						
G08A	Pilot Rock	89.33	43	P	P	09 16 52.4	+0.7
G08A				IAmb	IAmb	09 16 54.3	
	comp=Z,5.4nm,1.3s						
MFID	Camas Ranch	90.81	45	P	P	09 16 59.5	+0.9
WMQ	Urumqi	91.93	315	*e*P	P	09 17 05.4	+1.7
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
TROLL	Troll, Antarti	93.34	185	P	P	09 17 09.6	-0.3
SNAA	Sanae	94.05	183	P	P	09 17 12.7	-0.4
VNA3	Neumayer Olymp	94.74	181	P	P	09 17 15.3	-0.9
VNA2	Neumayer--Watz	94.99	182	P	P	09 17 16.7	-0.6
	baz=159,slow=3.0						
MK31	Makanchi Array	96.40	317	P	P	09 17 24.0	-0.2
MK31				IAmb	IAmb	09 17 25.5	
	comp=Z,5.0nm,0.8s						
MKAR	Makanchi Array	96.40	317	P	P	09 17 24.7	+0.6
	comp=Z,5.9nm,0.8s,baz=101,slow=6.2,SNR=53						
MKAR	Makanchi Array	96.40	317	P	P	09 17 25.2	+1.0
TXAR	Lajitas Array	96.55	62	P	P	09 17 26.0	+0.6
	comp=Z,0.5nm,1.0s,baz=224,slow=5.2,SNR=4.3						
TXAR				PP	PP	09 21 20.4	+0.2
	comp=Z,1.0nm,1.0s,baz=224,slow=5.2,SNR=6.4						
ZALV	Zalesovo Beam	96.61	324	P	P	09 17 24.2	-0.6
	comp=Z,6.1nm,0.7s,baz=108,slow=4.3,SNR=28						
ZALV	Zalesovo Beam	96.61	324	P	P	09 17 23.9	-1.0
A36M	Sachs Harbour	96.83	17	IAmb	IAmb	09 17 27.1	
	comp=Z,2.9nm,0.9s						
YKA	Yellowknife Ar	97.35	27	P	P	09 17 26.5	-1.5
	comp=Z,0.5nm,0.8s,baz=259,slow=4.7,SNR=8.4						
NRIK	Noril'sk	99.36	339	P	Pdif	09 17 35.2	-1.6
	comp=Z,2.0nm,0.4s,baz=104,slow=4.0,SNR=5.0						
KURBB	Kurchatov Arra	99.64	320	P	Pdif	09 17 38.3	-0.3
	comp=Z,0.7nm,0.6s,baz=99,slow=3.9,SNR=6.0						
ARCES	ARCESS Array B	119.58	345	PKP	PKPdf	09 22 43.7	-0.5
	comp=Z,6.0nm,0.6s,baz=76,slow=1.6,SNR=28						
KLMR	Klimovskoe	119.94	333	*e*PKPdf	PKPdf	09 22 43.6	-1.5
KLMR				AMP		09 22 49.0	
	comp=Z,7.0nm,0.8s						
KLMR				*e*PP	PP	09 24 07.6	-1.8
KBZ	Khabaz	123.95	313	PKP	PKiKP	09 22 53.7	+0.1
	comp=Z,1.4nm,0.7s,baz=107,slow=5.7,SNR=4.5						
SIV	San Ignacio	124.11	121	PKP	PKPdf	09 22 53.3	-1.2
	comp=Z,0.6nm,0.6s,baz=242,slow=1.4,SNR=4.5						
FINES	FINESS Array B	125.00	338	PKP	PKPdf	09 22 54.3	-0.4
	comp=Z,3.2nm,0.6s,baz=23,slow=1.9,SNR=15						
NACGM	Naroch	128.84	331	*e*PKP	PKiKP	09 23 03.0	0.0
NB2	NORSAR Subarra	129.95	345	PKPdf	PKPdf	09 23 04.5	+0.2
	comp=Z,1.8nm,0.7s,baz=31,slow=1.9						
NOA	NORSAR Array B	129.95	345	PKP	PKPdf	09 23 04.3	-0.1
	comp=Z,2.5nm,0.7s,baz=32,slow=2.0,SNR=12						
AKASG	Malin Array Be	129.96	326	PKP	PKPdf	09 23 04.2	-0.4
	comp=Z,2.9nm,0.7s,baz=49,slow=2.4,SNR=8.7						
HFS	Hagfors	130.03	343	PKP	PKPdf	09 23 03.9	-0.5
	comp=Z,2.3nm,0.7s,baz=116,slow=3.4,SNR=3.9						
BRTR	Keskin Array B	131.71	311	PKP	PKPdf	09 23 08.2	-0.3
	comp=Z,1.1nm,0.7s,baz=123,slow=2.2,SNR=5.1						
CRVS	Cervenica-Dubn	135.11	328	*e*PKP	PKiKP	09 23 15.4	-0.5
BRG	Berggiesshubel	137.27	335	*e*PKP	PKiKP	09 23 20.6	+0.4
BRG				Amp		09 23 24.1	
	comp=Z,4.8nm,1.0s						
CLL	Collm	137.32	336	*i* PKPdf	PKiKP	09 23 21.1	+0.8
CLL				*e*PP	PP	09 26 05.0	+1.9
CLL				*e*SKPdf	SKiKP	09 26 52.0	-1.1
GERES	GERESS Array B	138.90	333	PKP	PKPdf	09 23 22.4	+0.9
	comp=Z,1.5nm,0.6s,baz=329,slow=1.6,SNR=7.4						
KEST	Kesra	150.42	321	PKPbc	PKiKP	09 23 47.7	-0.1
	comp=Z,26nm,0.8s,baz=103,slow=1.6,SNR=19						
PBRG	Braganca	151.90	349	*e*PKPbc	PKPbc	09 23 50.3	+0.1
PGAV	Gavieira, Arco	151.98	352	*e*PKPbc	PKiKP	09 23 50.8	0.0
POLO	Lamas de Olo	152.49	351	*e*PKPbc	PKPbc	09 23 51.8	+0.2
MVO	Moncorvo	152.57	350	*e*PKPbc	PKiKP	09 23 52.1	+0.1
ESDC	Sonseca Array	153.31	344	PKPbc	PKPbc	09 23 53.3	-0.2
	comp=Z,3.2nm,0.9s,baz=10.0,slow=2.9,SNR=14						
MTE	Manteigas	153.40	350	*e*PKPdf	PKPdf	09 23 46.1	+0.1
MTE	Manteigas	153.40	350	*e*PKPbc	PKiKP	09 23 53.9	+0.1
PMRV	Marv??o	154.32	349	*e*PKPbc	PKiKP	09 23 56.2	+0.6
TORD	Torodi Ar. Bea	165.34	268	PKP	PKPdf	09 23 60.0	-0.4
	comp=Z,2.0nm,0.8s,baz=94,slow=1.6,SNR=8.4						
TORD				PKPab	PKPab	09 24 59.0	+0.7
	comp=Z,4.4nm,1.0s,baz=111,slow=2.7,SNR=9.2						

*NEIC **06** 09:06:02.5±1.6, 14°.30S±0°.07×166°.9E±0°.1, h34^{km}±6^{km}, mb4.4/10, Error ellipse: s-maj=20.2km s-min=5.7km az=117.0*

*IDC **06** 09:06:06.4±4.8, 14°.34S×166°.64E, h69^{km}±42^{km}, mb4.0/11, mb1 4.2/12, mb1mx3.9/33, mbtmp4.3/12, ML4.2/1, Error ellipse: s-maj=27.8km s-min=23.9km az=117.0*

ISC 06 09:06:02.2±0.5**, 14°.25S**±0°.07×**166°.78E**±0°.09**, h35^{km}, n41, σ1^{s}06**/41**, mb4.3**/16**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	Koumac, New Ca	6.70	200	Pn	Pn	09 07 38.5	+0.4
MARNC	Mare, Loyalty	7.29	171	Pn	Pn	09 07 44.8	-1.4
DZM	Mont Dzumac	7.78	182	P	Pn	09 07 57.0	+3.9
	3.6nm,0.3s,baz=197,slow=21,SNR=1.7						
DZM				S	Sn	09 09 19.4	-0.7
	baz=129,slow=23,SNR=0.8						
HNR	Honiara	8.23	305	S	Sn	09 09 29.7	-1.2
	13nm,0.3s,baz=8.7,slow=19,SNR=2.4						
FUNA	Funafuti	13.43	66	Pn	Pn	09 09 09.3	-1.1
MSWZ	Moikau Station	28.05	166	P	P	09 11 49.8	-0.4
STKA	Stephens Creek	28.95	228	P	P	09 11 56.1	-2.3
	4.4nm,0.5s,baz=46,slow=9.1,SNR=4.9						
WB0	Warramunga Arr	31.42	255	P	P	09 12 20.8	+0.4
WB0				IAmb	IAmb	09 12 33.8	
	comp=Z,4.8nm,0.9s						
WRAB	Tennant Creek	31.48	255	P	P	09 12 21.3	+0.4
WRAB				IAmb	IAmb	09 12 30.8	
	comp=Z,2.3nm,0.8s						
WRA	Warramunga Arr	31.49	255	P	P	09 12 19.4	-1.5
	comp=Z,1.7nm,1.0s,baz=86,slow=9.3,SNR=1.9						
AS31	Alice Springs	32.41	248	P	P	09 12 29.0	0.0
ASAR	Alice Springs	32.41	248	P	P	09 12 28.9	-0.1
	comp=Z,2.4nm,0.7s,baz=76,slow=9.0,SNR=4.1						
ASAR	Alice Springs	32.41	248	P	P	09 12 27.8	-1.2
BBOO	Buckleboo	33.50	231	P	P	09 12 37.3	-1.2
MTN	Manton Dam	34.67	268	P	P	09 12 48.3	-0.4
MTN				IAmb	IAmb	09 13 00.8	
	comp=Z,7.7nm,1.0s						
FITZ	Fitzroy Crossi	39.64	259	P	P	09 13 30.8	-0.2
	comp=Z,2.2nm,0.7s,baz=114,slow=12,SNR=2.1						
FITZ	Fitzroy Crossi	39.64	259	P	P	09 13 31.3	+0.3
KSRS	Korea Array	63.08	326	P	P	09 16 27.4	+1.3
	comp=Z,1.9nm,1.0s,baz=140,slow=7.0,SNR=2.6						
VNDA	Vanda	63.33	181	P	P	09 16 27.8	+0.6
	comp=Z,1.3nm,0.8s,baz=338,slow=11,SNR=1.4						
VNDA	Vanda	63.33	181	P	P	09 16 26.5	-0.7
VNDA				IAmb	IAmb	09 16 39.8	
	comp=Z,2.9nm,0.9s						
SBA	Scott Base	63.61	180	P	P	09 16 28.6	-0.5
PETK	Petropavlovsk-	67.54	354	P	P	09 16 55.4	+0.7
	comp=Z,2.1nm,0.6s,baz=174,slow=5.9,SNR=6.8						
QSPA	South Pole Qui	75.77	180	P	P	09 17 45.9	+1.5
QSPA				IAmb	IAmb	09 17 54.6	
	comp=Z,8.0nm,1.2s						
ILAR	Eielson Array	86.22	18	P	P	09 18 39.9	+0.2
	comp=Z,2.6nm,0.6s,baz=238,slow=5.3,SNR=13						
ILAR	Eielson Array	86.22	18	P	P	09 18 39.2	-0.4
H23K	Yukon River	86.22	17	P	P	09 18 40.2	+0.5
H23K				IAmb	IAmb	09 18 48.5	
	comp=Z,4.0nm,1.3s						
MKAR	Makanchi Array	96.54	316	P	P	09 19 29.1	+0.8
	comp=Z,0.6nm,0.5s,baz=85,slow=6.8,SNR=4.3						
MKAR	Makanchi Array	96.54	316	P	P	09 19 29.7	+1.4
ZALV	Zalesovo Beam	96.73	324	P	P	09 19 28.2	-0.7
	comp=Z,0.8nm,0.5s,baz=97,slow=4.9,SNR=2.8						
YKA	Yellowknife Ar	97.34	27	P	P	09 19 31.6	+0.2
	comp=Z,0.3nm,0.4s,baz=258,slow=4.8,SNR=11						
YKA	Yellowknife Ar	97.34	27	P	Pdif	09 19 31.9	+0.4
LPAZ	La Paz	117.84	117	PKP	PKPdf	09 24 46.1	-0.6
	comp=Z,0.4nm,0.5s,baz=0.0,slow=0.0,SNR=2.0						
ARCES	ARCESS Array B	119.67	345	PKP	PKPdf	09 24 48.0	+0.1
	comp=Z,2.0nm,0.6s,baz=106,slow=2.1,SNR=5.2						
ARCES	ARCESS Array B	119.67	345		PKiKP	09 24 48.7	+0.7
SCHQ	Schefferville	122.16	33	PKP	PKPdf	09 24 52.1	-1.0
	comp=Z,2.0nm,0.7s,baz=254,slow=7.4,SNR=1.9						
SIV	San Ignacio	123.97	121	PKP	PKPdf	09 24 57.3	-0.5
	comp=Z,0.8nm,0.4s,baz=175,slow=1.7,SNR=5.0						
FINES	FINESS Array B	125.11	338	PKP	PKiKP	09 24 59.2	+0.4
	comp=Z,1.4nm,0.5s,baz=163,slow=1.5,SNR=2.3						
AKASG	Malin Array Be	130.08	326	PKP	PKiKP	09 25 09.5	+0.4
	comp=Z,0.3nm,0.4s,baz=81,slow=2.6,SNR=4.2						
KEST	Kesra	150.55	321	PKPbc	PKPbc	09 25 50.6	-0.2
	comp=Z,4.5nm,0.9s,baz=86,slow=2.5,SNR=1.8						
ESDC	Sonseca Array	153.40	344	PKPbc	PKPbc	09 25 57.2	+0.1
	comp=Z,0.4nm,0.5s,baz=349,slow=1.9,SNR=1.6						
TORD	Torodi Ar. Bea	165.47	267	PKP	PKPdf	09 26 04.1	+0.1
	comp=Z,0.3nm,0.6s,baz=44,slow=0.5,SNR=1.2						

*IDC **06** 09:26:36.7±0.8, 14°.25S×166°.78E, h0^{km}, mb4.4/15, mb1 4.5/18, mb1mx4.3/36, mbtmp4.4/18, ML3.2/2, Error ellipse: s-maj=24.6km s-min=16.5km az=108.0*

*NEIC **06** 09:26:40.5±1.5, 14°.20S±0°.09×166°.8E±0°.1, h20^{km}±5^{km}, mb4.5/24, Error ellipse: s-maj=20.1km s-min=11.1km az=68.0*

ISC 06 09:26:42.1±0.6**, 14°.19S**±0°.06×**166°.70E**±0°.09**, h35^{km}, n58, σ0^{s}83**/61**, mb4.5**/23**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	6.57	176	Pn	Pn	09 28 14.5	-1.8
KOUNC	Koumac, New Ca	6.73	200		Pn	09 28 18.1	-0.3
MARNC	Mare, Loyalty	7.36	170	Pn	Pn	09 28 26.4	-0.8
DZM	Mont Dzumac	7.84	182	Pn	Pn	09 28 32.8	-1.1
	2.0nm,0.3s,baz=320,slow=21,SNR=22						
DZM				Sn	Sn	09 30 02.3	+0.9
	baz=286,slow=22,SNR=0.6						
DZM	Mont Dzumac	7.84	182		Pn	09 28 33.4	-0.5
HNR	Honiara	8.13	305	Pn	Pn	09 28 38.5	+0.9
	22nm,0.3s,baz=205,slow=5.0,SNR=3.7						
HNR				Sn	Sn	09 30 06.9	-1.4
	6.1nm,0.3s,baz=314,slow=21,SNR=1.4						
HNR	Honiara	8.13	305		Pn	09 28 38.4	+0.7
OUENC	Ouen Island, N	8.18	179	Pn	Pn	09 28 39.1	+0.7
PINNC	Pines Island,	8.41	175	Pn	Pn	09 28 40.7	-0.8
EIDS	Eidsvold	18.41	230	P	P	09 30 53.4	-1.0
PMG	Port Moresby	19.70	282	P	Pn	09 31 10.5	+0.2
	0.7nm,0.3s,baz=101,slow=10,SNR=4.8						
PMG	Port Moresby	19.70	282	P	P	09 31 08.2	-0.5
PMG				IAmb	IAmb	09 31 12.3	
	comp=Z,48nm,1.1s						
CTA	Charters Tower	20.39	250	P	P	09 31 16.1	0.0
	comp=Z,11nm,1.0s,baz=80,slow=12,SNR=4.1						
CTAO	Charters Tower	20.39	250	P	P	09 31 16.5	+0.3
CTAO				IAmb	IAmb	09 31 19.3	
	comp=Z,25nm,1.2s						
ARMA	Armidale	21.29	218	P	P	09 31 26.2	+0.3
ARMA				IAmb	IAmb	09 31 29.4	
	comp=Z,20nm,1.2s						
COEN	Coen	22.82	268	P	P	09 31 43.5	+1.3
COEN				IAmb	IAmb	09 31 45.6	
	comp=Z,22nm,1.1s						
BKZ	Black Stump Fm	26.34	163	P	P	09 32 15.0	+0.2
STKA	Stephens Creek	28.93	228	P	P	09 32 36.0	-2.2
	comp=Z,12nm,0.7s,baz=33,slow=9.7,SNR=10						
WR0	Warramunga Arr	31.24	255	P	P	09 32 58.5	-0.2
WR0				IAmb	IAmb	09 32 59.4	
	comp=Z,7.8nm,1.1s						
WB0	Warramunga Arr	31.36	255	P	P	09 32 59.4	-0.3
WB0				IAmb	IAmb	09 33 00.3	
	comp=Z,8.8nm,0.8s						
WB2	Warramunga Arr	31.41	255	P	P	09 32 59.9	-0.3
WB2				IAmb	IAmb	09 33 00.9	
	comp=Z,13nm,1.2s						
WRAB	Tennant Creek	31.41	255	P	P	09 32 59.7	-0.6
WRAB				IAmb	IAmb	09 33 00.9	
	comp=Z,11nm,1.2s						
WRA	Warramunga Arr	31.42	255	P	P	09 32 59.9	-0.5
	comp=Z,5.1nm,0.9s,baz=84,slow=8.9,SNR=26						
WRA	Warramunga Arr	31.42	255	P	P	09 32 60.0	-0.4
AS31	Alice Springs	32.35	248	P	P	09 33 09.1	+0.6
ASAR	Alice Springs	32.35	248	P	P	09 33 08.1	-0.5
	comp=Z,3.5nm,0.7s,baz=73,slow=9.6,SNR=34						
ASAR	Alice Springs	32.35	248	P	P	09 33 08.0	-0.5
TAU	Tasmania Unive	33.13	206	P	P	09 33 13.9	-1.0
BBOO	Buckleboo	33.48	231	P	P	09 33 19.1	+0.9
MTN	Manton Dam	34.59	268	P	P	09 33 29.1	+1.1
KNRA	Kununurra	36.65	263	P	P	09 33 45.2	-0.5
FORT	Forrest	39.10	238	P	P	09 34 06.2	0.0
FITZ	Fitzroy Crossi	39.57	259	P	P	09 34 10.9	+0.6
SANI	Sanana	41.98	283	P	P	09 34 31.2	+1.0
	comp=Z,16nm,0.8s						
PSA00	Pilbara Seismi	45.05	254	P	P	09 34 54.2	-0.8
PSA00				IAmb	IAmb	09 34 54.4	
	comp=Z,4.3nm,1.2s						
MJAR	Matsushiro Arr	57.17	333	P	P	09 36 24.8	-0.9
	comp=Z,1.0nm,0.4s,baz=176,slow=5.7,SNR=4.6						
MJAR	Matsushiro Arr	57.17	333	P	P	09 36 24.1	-1.6
MJAR				IAmb	IAmb	09 36 27.0	
	comp=Z,3.2nm,1.0s						
KSRS	Korea Array	62.98	326	P	P	09 37 06.9	+1.5
	comp=Z,1.9nm,0.8s,baz=145,slow=7.0,SNR=7.2						
SBA	Scott Base	63.67	180	P	P	09 37 10.0	+0.6
USA0B	Ussuriysk Arra	66.16	333	P	P	09 37 26.4	+0.4
USRK	Ussuriysk Ar.	66.16	333	P	P	09 37 27.0	+0.9
	comp=Z,4.0nm,0.8s,baz=94,slow=7.6,SNR=6.2						
USRK	Ussuriysk Ar.	66.16	333	P	P	09 37 26.7	+0.7
PETK	Petropavlovsk-	67.47	354	P	P	09 37 34.1	-0.1
	comp=Z,0.8nm,0.4s,baz=177,slow=11,SNR=5.0						
CMAR	Chiang Mai Arr	74.22	294	P	P	09 38 17.9	+1.8
	comp=Z,3.0nm,0.3s,baz=120,slow=4.1,SNR=12						
QSPA	South Pole Qui	75.83	180	P	P	09 38 25.6	+1.0
	comp=Z,2.8nm,0.7s,baz=339,slow=1.7,SNR=4.5						
QSPA	South Pole Qui	75.83	180	P	P	09 38 25.5	+0.9
ULN	Ulaanbaatar	81.38	324	P	P	09 38 55.6	+0.2
ULN				IAmb	IAmb	09 38 58.0	
	comp=Z,5.1nm,0.9s						
SONM	Songino Array	81.74	324	P	P	09 38 57.7	+0.4
	comp=Z,1.8nm,0.9s,baz=147,slow=8.3,SNR=5.5						
SONM	Songino Array	81.74	324	P	P	09 38 57.1	-0.2
ILAR	Eielson Array	86.19	18	P	P	09 39 19.3	-0.1
	comp=Z,0.8nm,0.7s,baz=236,slow=5.2,SNR=9.2						
MKAR	Makanchi Array	96.43	317	P	P	09 40 08.8	+1.1
	comp=Z,1.7nm,0.9s,baz=96,slow=6.6,SNR=11						
MKAR	Makanchi Array	96.43	317	P	P	09 40 07.4	-0.4
ZALV	Zalesovo Beam	96.63	324	P	P	09 40 08.4	0.0
	comp=Z,1.0nm,0.6s,baz=114,slow=3.7,SNR=5.0						
YKA	Yellowknife Ar	97.33	27	P	P	09 40 10.9	-0.4
	comp=Z,0.2nm,0.8s,baz=255,slow=5.0,SNR=2.2						
ARCES	ARCESS Array B	119.59	345	PKP	PKiKP	09 45 27.9	+0.1
	comp=Z,0.6nm,0.3s,baz=77,slow=1.9,SNR=20						
ARCES	ARCESS Array B	119.59	345		PKiKP	09 45 28.1	+0.3
FINES	FINESS Array B	125.02	338	PKP	PKiKP	09 45 38.6	0.0
	comp=Z,0.6nm,0.5s,baz=29,slow=3.2,SNR=1.8						
TORD	Torodi Ar. Bea	165.39	268	PKP	PKPdf	09 46 43.6	-0.3
	comp=Z,0.8nm,1.0s,baz=132,slow=2.1,SNR=2.7						
TORD				PKPab	PKPab	09 47 42.7	+0.7
	comp=Z,1.2nm,1.0s,baz=101,slow=4.7,SNR=4.7						

*NNC **06** 09:30:02.0±3.5, 53°.50N×88°.03E, h0^{km}, mb3.4, mpv3.0, Error ellipse: s-maj=24.3km s-min=15.9km az=91.0, Suspected Mining explosion.*

*IDC **06** 09:30:03.5±2.9, 53°.57N×87°.87E, h0^{km}, mb1 2.9/2, mb1mx2.8/40, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=23.7km s-min=15.0km az=63.0*

ISC 06 09:30:03.8±3.3**, 53°.6N**±0°.1×**87°.8E**±0°.2**, h0^{km}, n8, σ1^{s}10**/11,

9C,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.79	282	*i*		09 42 00.0	
	baz=99,slow=329,SNR=2.7						
ZAA0	Zalesovo Array	1.79	282	⥣Pn	Pn	09 30 36.1	+0.2
	1.2nm,0.5s,baz=100,slow=16						
ZAA0				⥣Sn	Sg	09 31 03.1	+1.8
	4.0nm,0.7s,baz=99,slow=22						
ZALV	Zalesovo Beam	1.79	282	Pg	Pb	09 30 36.5	-0.9
	2.8nm,0.3s,baz=98,slow=16,SNR=20						
ZALV				Lg	Lg	09 31 03.2	
	3.6nm,0.3s,baz=105,slow=24,SNR=23						
KURK	Kurchatov	6.34	246	⥣Pn	Pn	09 31 39.2	+0.7
	2.3nm,0.8s						
KURK				⥣Sn	Sn	09 32 50.9	-0.7
	0.5nm,0.6s						
KURK				⥣Lg	Lg	09 33 25.5	
	3.2nm,0.9s						
KURBB	Kurchatov Arra	6.44	246	Pn	Pn	09 31 40.0	+0.2
	0.1nm,0.3s,baz=62,slow=14,SNR=5.8						
KURBB				Sn	Sn	09 32 52.7	-1.3
	0.0nm,0.3s,baz=63,slow=24,SNR=2.1						
KURBB				Lg	Lg	09 33 28.6	
	0.0nm,0.3s,baz=61,slow=32,SNR=6.6						
KURBB	Kurchatov Arra	6.44	246	⥣Pn	Pn	09 31 40.5	+0.7
	1.2nm,0.5s						
KURBB				⥣Sn	Sn	09 32 53.0	-1.0
	2.7nm,0.7s						
KURBB				⥣Lg	Lg	09 33 28.4	
	5.5nm,0.7s						
MK31	Makanchi Array	7.69	209	⥣Lg	Lg	09 34 06.7	
	1.4nm,0.7s,baz=36,slow=30,SNR=5.4						
MKAR	Makanchi Array	7.69	209	Pn	Pn	09 31 58.0	+1.0
	0.1nm,0.3s,baz=29,slow=15,SNR=5.6						
MKAR				Sn	Sn	09 33 24.1	-0.7
	0.1nm,0.3s,baz=40,slow=30,SNR=2.9						
MKAR				Lg	Lg	09 34 06.8	
	0.1nm,0.3s,baz=37,slow=31,SNR=7.5						

*IDC **06** 09:30:42.4±21.0, 22°.30S×178°.59W, h245km±177km, mb3.5/4, mb1 3.7/5, mb1mx3.3/29, mbtmp4.3/5, Error ellipse: s-maj=124.4km s-min=24.5km az=43.0*

ISC 06 09:31:02.5±2.2**, 23°.0S**±0°.1×**179°.0W**±0°.3**, h426**km**, n20,** σ**2.s15**/32**, mb3.6**/4**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	6.29	172	P	P	09 32 38.7	-0.1
GLKZ				S	S	09 33 58.1	+0.4
WCZ	Waipu Caves	14.12	203	P	P	09 34 06.8	+2.1
MXZ	Matakaoa Point	14.68	189	P	P	09 34 11.7	+1.0
WMGZ	Waiomatatini S	14.92	188	P	P	09 34 13.1	-0.2
WMGZ				S	S	09 36 52.8	+1.9
HAZ	Te Kaha	14.95	190	P	P	09 34 13.8	+0.2
HAZ				S	S	09 36 49.3	-2.2
PKGZ	Pakihiroa	15.04	189	P	P	09 34 12.3	-2.3
PKGZ				S	S	09 36 48.8	-4.5
RUGZ	Raukumara Rang	15.17	190	P	P	09 34 15.2	-0.9
RUGZ				S	S	09 36 54.9	-1.2
PUZ	Puketiti	15.19	188	P	P	09 34 14.0	-2.1
PUZ				S	S	09 36 51.6	-4.6
TWGZ	Tauwhareparae	15.33	189	P	P	09 34 15.7	-2.0
TWGZ				S	S	09 36 57.6	-1.5
MWZ	Matawai	15.56	190	P	P	09 34 19.9	-0.3
MWZ				S	S	09 37 05.0	+1.5
URZ	Urewera	15.56	192	P	P	09 34 18.0	-2.0
	13nm,0.3s,baz=342,slow=1.9,SNR=74						
URZ				S	S	09 37 06.3	+3.0
	1.6nm,0.3s,baz=49,slow=22,SNR=14						
URZ	Urewera	15.56	192	P	P	09 34 17.0	-3.0
URZ				S	S	09 37 03.2	-0.2
RAGZ	Rawiri	15.73	191	P	P	09 34 20.7	-1.4
RAGZ				S	S	09 37 08.0	+0.9
RIGZ	Rimuhau	15.88	189	P	P	09 34 21.9	-1.7
RIGZ				S	S	09 37 08.1	-1.8
RTZ	Ruatahuna	15.93	192	P	P	09 34 24.0	-0.1
RTZ				S	S	09 37 15.1	+4.3
RPZ	Rata Peaks	22.23	199	P	P	09 35 25.4	0.0
	12nm,0.5s,baz=28,slow=8.0,SNR=17						
ASAR	Alice Springs	43.13	259	P	P	09 38 22.9	-0.9
	1.0nm,0.8s,baz=95,slow=6.4,SNR=11						
WRA	Warramunga Arr	43.43	265	P	P	09 38 24.6	-1.6
	0.5nm,0.3s,baz=96,slow=8.3,SNR=40						
QSPA	South Pole Qui	67.06	180	P	P	09 41 13.9	+2.2
	2.0nm,1.0s,baz=18,slow=6.4,SNR=6.1						
AKASG	Malin Array Be	144.74	329	PKP	PKPbc	09 49 48.5	-1.0
	0.3nm,0.3s,baz=40,slow=3.1,SNR=5.9						

*NEIC **06** 09:31:03.3±0.9, 17°.34S±0°.09×175°.16W±0°.10, h241km±13km, mb4.3/19, Error ellipse: s-maj=16.8km s-min=7.1km az=131.0*

*IDC **06** 09:31:05.2±1.8, 17°.30S×175°.36W, h258km±19km, mb4.2/5, mb1 4.3/7, mb1mx3.6/31, mbtmp4.9/7, Error ellipse: s-maj=22.7km s-min=19.7km az=156.0*

*NOU **06** 09:31:45.2, 13°.98S×172°.22W, h253km, MLv2.5/4, Samoa Islands*

ISC 06 09:31:04.1±0.6**, 17°.2S**±0°.1×**175°.3W**±0°.1**, h250**km**, n34,** σ**0.s99**/38**, mb4.3**/14**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.73	47	P	Pn	09 32 18.7	+2.0
	27nm,0.3s,baz=248,slow=16,SNR=57						
AFI				S	S	09 33 12.2	-2.4
	72nm,0.3s,baz=34,slow=14,SNR=14						
AFI	Afiamalu	4.73	47		Pn	09 32 18.4	+1.6
AFI				Sn	S	09 33 12.4	-2.1
AFI	Afiamalu	4.73	47	P	Pn	09 32 19.0	+2.2
NIUE	Niue	5.44	111	Pn	Pn	09 32 19.4	-6.0
MSVF	Nonsavu	6.36	264	P	Pn	09 32 36.6	-0.3
	18nm,0.3s,baz=158,slow=16,SNR=7.3						
MSVF	Nonsavu	6.36	264		Pn	09 32 37.3	+0.4
URZ	Urewera	22.00	196	P	P	09 35 38.6	+0.6
	7.9nm,0.4s,baz=321,slow=14,SNR=2.5						
URZ				S	S	09 39 20.3	-2.1
	4.4nm,0.7s,baz=10,slow=13,SNR=2.4						
URZ	Urewera	22.00	196	P	P	09 35 39.0	+0.9
ARMA	Armidale	32.85	240	P	P	09 37 15.6	+0.7
ARMA				IAmb	IAmb	09 37 16.4	
	comp=Z,7.8nm,0.8s						
CTA	Charters Tower	36.48	259	P	P	09 37 45.8	-0.1
	comp=Z,5.6nm,0.9s,baz=83,slow=9.4,SNR=5.8						
CTAO	Charters Tower	36.48	259	P	P	09 37 46.1	+0.2
CTAO				IAmb	IAmb	09 37 47.4	
	comp=Z,24nm,1.5s						
COEN	Coen	40.07	269	P	P	09 38 16.5	+0.8
COEN				IAmb	IAmb	09 38 17.2	
	comp=Z,16nm,1.1s						
STKA	Stephens Creek	41.56	241	P	P	09 38 27.7	0.0
	comp=Z,9.7nm,0.7s,baz=77,slow=8.9,SNR=24						
BBOO	Buckleboo	46.33	241	P	P	09 39 05.2	-0.3
WR0	Warramunga Arr	47.48	258	P	P	09 39 13.8	-0.7
WB0	Warramunga Arr	47.63	259		P	09 39 15.2	-0.5
WB0				IAmb	IAmb	09 39 15.7	
	comp=Z,7.7nm,0.8s						
WB2	Warramunga Arr	47.66	258	P	P	09 39 15.2	-0.7
WB2				IAmb	IAmb	09 39 15.9	
	comp=Z,9.5nm,0.6s						
WRAB	Tennant Creek	47.66	258	P	P	09 39 15.3	-0.6
WRAB				IAmb	IAmb	09 39 15.9	
	comp=Z,7.7nm,0.6s						
WRA	Warramunga Arr	47.67	258	P	P	09 39 15.5	-0.6
	comp=Z,5.1nm,0.4s,baz=97,slow=7.1,SNR=98						
WRA				PcP	PcP	09 40 40.7	-0.7
	comp=Z,1.3nm,0.9s,baz=94,slow=3.4,SNR=3.2						
WRA	Warramunga Arr	47.67	258		P	09 39 15.2	-0.8
AS31	Alice Springs	47.83	253	P	P	09 39 17.1	-0.1
ASAR	Alice Springs	47.83	253	P	P	09 39 17.0	-0.2
	comp=Z,59nm,0.5s,baz=88,slow=8.6,SNR=334						
ASAR				PcP	PcP	09 40 40.9	-1.0
	comp=Z,0.9nm,0.5s,baz=99,slow=5.7,SNR=2.4						
ASAR	Alice Springs	47.83	253	P	P	09 39 17.3	+0.1
MTN	Manton Dam	51.78	267	P	P	09 39 46.7	-0.2
MTN				IAmb	IAmb	09 39 47.4	
	comp=Z,6.3nm,0.9s						
FORT	Forrest	52.98	244	P	P	09 39 54.9	-0.6
KNRA	Kununurra	53.51	263	P	P	09 39 59.5	0.0
KNRA				IAmb	IAmb	09 40 00.3	
	comp=Z,7.1nm,0.8s						
FITZ	Fitzroy Crossi	56.06	259	P	P	09 40 17.8	0.0
PSA00	Pilbara Seismi	60.95	255	P	P	09 40 51.1	-0.3
PSA00				IAmb	IAmb	09 40 51.6	
	comp=Z,2.8nm,0.7s						
PSA00	Pilbara Seismi	60.95	255	P	P	09 40 51.1	-0.3
PSA00				IAmb	IAmb	09 40 52.0	
	comp=Z,13nm,1.1s						
MBWA	Marble Bar	61.11	255	P	P	09 40 52.2	-0.4
MBWA				IAmb	IAmb	09 40 52.3	
	comp=Z,7.9nm,0.8s						
QSPA	South Pole Qui	72.84	180	P	P	09 42 05.4	-0.2
	baz=274,slow=4.5						
QSPA	South Pole Qui	72.84	180	P	P	09 42 06.0	+0.5
SNAA	Sanae	91.19	178	P	P	09 43 41.0	+0.5
BRTR	Keskin Array B	146.33	318	PKPbc	PKPbc	09 50 15.6	-0.3
	comp=Z,1.6nm,0.8s,baz=116,slow=3.4,SNR=5.2						

*IDC **06** 09:32:21.5±3.9, 14°.19S×166°.72E, h41km±34km, mb3.7/6, mb1 3.9/8, mb1mx3.7/30, mbtmp4.0/8, ML4.2/2, Error ellipse: s-maj=30.8km s-min=24.6km az=88.0*

ISC 06 09:32:21.9±1.1**, 14°.16S**±0°.09×**166°.6E**±0°.1**, h43**km**, n10,** σ**1.s25**/12**, mb3.8**/5**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.88	181	P	Pn	09 34 13.3	-0.7
	1.5nm,0.3s,baz=322,slow=20,SNR=2.2						
DZM				S	Sn	09 35 41.2	-0.8
	baz=290,slow=20,SNR=1.5						
HNR	Honiara	8.04	305	P	Pn	09 34 17.4	+1.2
	5.5nm,0.3s,baz=108,slow=13,SNR=2.3						
HNR				S	Sn	09 35 43.3	-2.6
	9.1nm,0.3s,baz=206,slow=15,SNR=1.8						
CTA	Charters Tower	20.33	250	P	P	09 36 55.7	+1.1
	4.3nm,0.5s,baz=89,slow=9.5,SNR=12						
STKA	Stephens Creek	28.89	228	P	P	09 38 17.9	+1.1
	0.7nm,0.4s,baz=60,slow=12,SNR=4.4						
WRA	Warramunga Arr	31.36	255	P	P	09 38 38.1	-0.7
	0.3nm,0.4s,baz=91,slow=8.9,SNR=5.4						
ASAR	Alice Springs	32.29	248	P	P	09 38 47.0	0.0
	0.8nm,0.5s,baz=74,slow=9.4,SNR=13						
ILAR	Eielson Array	86.18	18	P	P	09 44 57.4	-0.9
	0.5nm,0.6s,baz=246,slow=4.9,SNR=7.0						
MKAR	Makanchi Array	96.36	317	P	P	09 45 47.3	+1.0
	0.4nm,0.7s,baz=88,slow=6.6,SNR=3.9						
ARCES	ARCESS Array B	119.54	345	PKP	PKPdf	09 51 06.1	-0.3
	0.8nm,0.4s,baz=42,slow=1.5,SNR=13						
FINES	FINESS Array B	124.96	338	PKP	PKPdf	09 51 16.9	-0.1
	0.9nm,0.6s,baz=64,slow=3.2,SNR=5.1						

IDC 06 09:40:12.5±3.8**, 5°.82S**×**149°.97E, h0**km**, mb3.3**/3**, mb1 3.6**/4**, mb1mx3.2**/39**, mbtmp3.4**/4**, ML1.8**/1**, Error ellipse: s-maj=138.2km s-min=42.7km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.52	218	Pn	Pn	09 41 22.9	+0.7
	3.7nm,0.3s,baz=21,slow=11,SNR=8.6						
WRA	Warramunga Arr	20.68	226	P	P	09 44 54.0	-0.3
	0.5nm,0.7s,baz=52,slow=11,SNR=2.7						
ASAR	Alice Springs	23.53	219	P	P	09 45 24.5	-0.1
	0.3nm,0.6s,baz=56,slow=8.9,SNR=2.1						
FITZ	Fitzroy Crossi	26.70	241	P	P	09 45 53.3	-0.3
	0.8nm,0.4s,baz=72,slow=6.4,SNR=2.6						
TORD	Torodi Ar. Bea	147.90	285	PKPbc	PKPbc	10 00 00.2	-0.5
	0.4nm,0.8s,baz=55,slow=2.0,SNR=7.8						

*NEIC **06** 09:46:14±2.1, 13°.89S±0°.08×166°.72E±0°.04, h35km±2km, mb4.3/13, Error ellipse: s-maj=14.2km s-min=5.7km az=160.0*

*IDC **06** 09:46:15.6±3.8, 14°.11S×166°.52E, h41km±33km, mb3.9/12, mb1 4.1/14, mb1mx3.8/42, mbtmp4.2/14, ML4.3/2, Error ellipse: s-maj=24.6km s-min=19.8km az=57.0*

ISC 06 09:46:15.2±0.7**, 14°.01S**±0°.09×**166°.6E**±0°.1**, h43**km**, n40,** σ**1.s02**/39**, mb4.1**/16**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOUNC	Koumac, New Ca	6.86	198		Pn	09 47 52.7	-0.7
MARNC	Mare, Loyalty	7.55	170	Pn	Pn	09 48 01.6	-1.2
HNR	Honiara	7.94	304	P	Pn	09 48 09.7	+1.6
	9.6nm,0.3s,baz=184,slow=12,SNR=2.7						
HNR	Honiara	7.94	304	Pn	Pn	09 48 05.6	-2.5
DZM	Mont Dzumac	8.02	181	P	Pn	09 48 07.4	-1.8
	2.1nm,0.3s,baz=116,slow=22,SNR=24						
DZM	Mont Dzumac	8.02	181		Pn	09 48 08.4	-0.8
ONTNC	Ouen Toro	8.25	181	Pn	Pn	09 48 11.1	-1.3
OUENC	Ouen Island, N	8.36	178	Pn	Pn	09 48 14.0	0.0
PINNC	Pines Island,	8.59	175	Pn	Pn	09 48 16.1	-0.9
CTA	Charters Tower	20.35	250	P	P	09 50 47.9	-0.2
	4.2nm,0.9s,baz=83,slow=8.1,SNR=2.2						
CTAO	Charters Tower	20.35	250	P	P	09 50 48.7	+0.5
CTAO				IAmb	IAmb	09 51 04.5	
	comp=Z,15nm,1.1s						
ARMA	Armidale	21.37	218	P	P	09 50 59.6	+0.5
ARMA				IAmb	IAmb	09 51 03.1	
	comp=Z,12nm,1.3s						
URZ	Urewera	25.89	161	P	P	09 51 42.1	-0.9
	comp=Z,3.7nm,0.8s,baz=315,slow=8.6,SNR=1.7						
STKA	Stephens Creek	28.97	228	P	P	09 52 11.7	+0.9
	comp=Z,2.1nm,0.9s,baz=44,slow=8.9,SNR=4.4						
RPZ	Rata Peaks	29.85	173	P	P	09 52 18.4	-0.1
	comp=Z,8.9nm,0.9s,baz=326,slow=7.3,SNR=3.9						
WB0	Warramunga Arr	31.30	255	P	P	09 52 30.8	-0.7
WB0				IAmb	IAmb	09 52 45.8	
	comp=Z,4.4nm,1.1s						
WRAB	Tennant Creek	31.36	255	P	P	09 52 31.2	-0.8
WRA	Warramunga Arr	31.37	255	P	P	09 52 31.1	-1.0
	comp=Z,1.9nm,0.9s,baz=83,slow=9.0,SNR=8.1						
WRA	Warramunga Arr	31.37	255	P	P	09 52 31.0	-1.2
ASAR	Alice Springs	32.32	248	P	P	09 52 39.5	-1.1
	comp=Z,1.1nm,0.6s,baz=75,slow=9.5,SNR=18						
BBOO	Buckleboo	33.51	231	P	P	09 52 51.4	+0.7
MTN	Manton Dam	34.49	268	P	P	09 53 00.5	+1.1
MTN				IAmb	IAmb	09 53 01.9	
	comp=Z,4.2nm,0.9s						
KNRA	Kununurra	36.57	263	P	P	09 53 17.2	-0.1
FITZ	Fitzroy Crossi	39.51	258	P	P	09 53 41.6	-0.5
	comp=Z,4.2nm,0.8s,baz=76,slow=9.4,SNR=9.2						
FITZ	Fitzroy Crossi	39.51	258	P	P	09 53 42.4	+0.4
PSA00	Pilbara Seismi	45.00	253	P	P	09 54 27.0	+0.2
PSA00				IAmb	IAmb	09 54 28.7	
	comp=Z,10nm,1.3s						
VNDA	Vanda	63.56	181	P	P	09 56 41.6	+0.7
	comp=Z,1.2nm,0.9s,baz=25,slow=5.9,SNR=4.2						
SBA	Scott Base	63.85	180	P	P	09 56 44.6	+1.8
SBA				IAmb	IAmb	09 56 44.9	
	comp=Z,6.4nm,1.3s						
CMAR	Chiang Mai Arr	74.06	294	P	P	09 57 47.1	-0.2
	comp=Z,0.7nm,0.3s,baz=103,slow=4.0,SNR=0.7						
CMAR	Chiang Mai Arr	74.06	294	P	P	09 57 47.5	+0.3
QSPA	South Pole Qui	76.01	180	P	P	09 57 58.6	+0.8
QSPA				IAmb	IAmb	09 58 04.4	
	comp=Z,2.9nm,0.8s						
SONM	Songino Array	81.53	324	P	P	09 58 27.3	-1.1
I21K	Tanana	84.89	16	P	P	09 58 44.2	-0.8
ILAR	Eielson Array	86.05	18	P	P	09 58 52.0	+1.1
	comp=Z,1.5nm,0.8s,baz=235,slow=5.3,SNR=13						
ILAR	Eielson Array	86.05	18	P	P	09 58 50.1	-0.8
MKAR	Makanchi Array	96.23	317	P	P	09 59 40.3	+1.3
	comp=Z,0.5nm,0.9s,baz=156,slow=3.3,SNR=3.6						
MKAR	Makanchi Array	96.23	317	P	P	09 59 39.1	+0.1
YKA	Yellowknife Ar	97.22	27	P	Pdif	09 59 43.5	+0.5
	comp=Z,0.2nm,0.8s,baz=257,slow=4.5,SNR=2.1						
YKA	Yellowknife Ar	97.22	27	P	P	09 59 42.6	-0.3
ARCES	ARCESS Array B	119.40	345	PKP	PKiKP	10 05 00.4	+0.9
	comp=Z,2.6nm,0.8s,baz=64,slow=2.1,SNR=2.1						

*NEIC **06** 09:46:40.8±1.4, 14°.04S±0°.07×166°.9E±0°.2, h35km±1km, mb4.6/17, Error ellipse: s-maj=34.0km s-min=9.5km az=76.0*

*IDC **06** 09:46:42.8±3.6, 14°.10S×166°.68E, h52km±31km, mb4.1/15, mb1 4.2/17, mb1mx3.9/41, mbtmp4.3/17, ML4.4/2, Error ellipse: s-maj=25.9km s-min=16.4km az=82.0*

ISC 06 09:46:41.3±0.6**, 14°.08S**±0°.07×**166°.8E**±0°.1**, h43**km**, n43,** σ**1.s07**/44**, mb4.5**/23**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.95	182	P	Pn	09 48 36.5	+2.1
	2.7nm,0.3s,baz=339,slow=20,SNR=2.4						
DZM				S	Sn	09 49 59.8	-3.4
	baz=283,slow=15,SNR=1.7						
HNR	Honiara	8.10	304	P	Pn	09 48 37.2	+0.7
	12nm,0.3s,baz=333,slow=7.0,SNR=3.6						
URZ	Urewera	25.78	161	P	P	09 52 09.3	+1.2
	6.9nm,0.7s,baz=312,slow=15,SNR=1.1						
STKA	Stephens Creek	29.04	228	P	P	09 52 38.1	+0.6
	5.6nm,0.5s,baz=52,slow=8.6,SNR=15						
STKA	Stephens Creek	29.04	228	P	P	09 52 38.3	+0.8
WRA	Warramunga Arr	31.50	255	P	P	09 52 58.2	-1.2
	0.8nm,0.6s,baz=84,slow=8.6,SNR=2.9						
AS31	Alice Springs	32.44	248	P	P	09 53 06.2	-1.5
ASAR	Alice Springs	32.44	248	P	P	09 53 06.2	-1.5
	1.2nm,0.6s,baz=75,slow=9.5,SNR=9.1						
ASAR	Alice Springs	32.44	248	P	P	09 53 07.1	-0.6
BBOO	Buckleboo	33.58	231	P	P	09 53 18.2	+0.6
MJAR	Matsushiro Arr	57.10	333	P	P	09 56 22.8	-0.7
	2.2nm,0.5s,baz=185,slow=5.5,SNR=4.5						
MJAR	Matsushiro Arr	57.10	333	P	P	09 56 23.2	-0.2
MJAR				IAmb	IAmb	09 56 27.3	
	comp=Z,6.1nm,1.3s						
MAJO	Matsushiro	57.10	333	P	P	09 56 23.7	+0.2
MJB9	Matsu-Tunnel	57.11	333	P	P	09 56 23.8	+0.3
MJB9				IAmb	IAmb	09 56 28.3	
	comp=Z,3.5nm,0.7s						
KSRS	Korea Array	62.92	326	P	P	09 57 05.0	+1.7
	comp=Z,1.0nm,0.6s,baz=136,slow=7.6,SNR=7.1						
VNDA	Vanda	63.49	181	P	P	09 57 06.9	+0.3
	comp=Z,1.2nm,0.5s,baz=359,slow=7.2,SNR=8.6						
VNDA	Vanda	63.49	181	P	P	09 57 07.6	+1.0
SBA	Scott Base	63.78	180	P	P	09 57 08.9	+0.5
USRK	Ussuriysk Ar.	66.08	333	P	P	09 57 24.9	+1.1
	comp=Z,9.6nm,1.2s,baz=147,slow=8.0,SNR=5.8						
USRK	Ussuriysk Ar.	66.08	333	P	P	09 57 23.3	-0.6
PETK	Petropavlovsk-	67.37	354	P	P	09 57 32.5	+0.7
	comp=Z,2.5nm,0.7s,baz=168,slow=8.4,SNR=4.5						
PETK	Petropavlovsk-	67.37	354	P	P	09 57 31.7	-0.2
ENH	Enshi	70.56	309	P	P	09 57 52.5	+0.2
ENH				IAmb	IAmb	09 57 54.0	
	comp=Z,8.0nm,1.0s						
BJT	Baijiatuau	71.44	321	P	P	09 57 57.6	+0.4
BJT				IAmb	IAmb	09 58 15.9	
	comp=Z,8.2nm,1.2s						
CMAR	Chiang Mai Arr	74.22	294	P	P	09 58 15.4	+1.1
	comp=Z,1.1nm,0.3s,baz=111,slow=4.1,SNR=7.5						
CMAR	Chiang Mai Arr	74.22	294	P	P	09 58 13.5	-0.8
CHTO	Chiang Mai	74.35	294	P	P	09 58 14.9	-0.2
CHTO				IAmb	IAmb	09 58 23.4	
	comp=Z,2.7nm,0.5s						
MA2	Magadan	74.53	352	P	P	09 58 14.5	-0.7
MA2				IAmb	IAmb	09 58 16.8	
	comp=Z,6.3nm,1.3s						
HIA	Hailar	75.48	330	P	P	09 58 21.5	+0.6
QSPA	South Pole Qui	75.94	180	P	P	09 58 23.4	-0.1
QSPA				IAmb	IAmb	09 58 28.1	
	comp=Z,6.0nm,0.9s						
SONM	Songino Array	81.68	324	P	P	09 58 54.7	-0.5
	comp=Z,1.2nm,0.7s,baz=134,slow=6.4,SNR=5.2						
SONM	Songino Array	81.68	324	P	P	09 58 55.0	-0.3
BILL	Bilibino	81.90	360	P	P	09 58 55.1	-0.7
BILL				IAmb	IAmb	09 59 00.4	
	comp=Z,4.2nm,0.7s						
ILAR	Eielson Array	86.07	18	P	P	09 59 16.8	-0.3
	comp=Z,1.3nm,0.6s,baz=253,slow=5.0,SNR=7.4						
MK31	Makanchi Array	96.39	317	P	P	10 00 03.0	-2.8
MK31				IAmb	IAmb	10 00 07.5	
	comp=Z,3.0nm,1.1s						
MKAR	Makanchi Array	96.39	317	P	P	10 00 06.7	+0.9
	comp=Z,1.9nm,1.0s,baz=97,slow=5.6,SNR=7.5						
ZALV	Zalesovo Beam	96.57	324	P	P	10 00 05.9	-0.4
	comp=Z,1.4nm,0.7s,baz=135,slow=5.3,SNR=4.9						
YKA	Yellowknife Ar	97.21	27	P	P	10 00 08.2	-0.8
	comp=Z,0.3nm,0.7s,baz=260,slow=4.9,SNR=5.8						
ARCES	ARCESS Array B	119.50	345	PKP	PKPdf	10 05 25.9	+0.1
	comp=Z,2.4nm,0.5s,baz=86,slow=2.0,SNR=20						
FINES	FINESS Array B	124.94	338	PKP	PKPdf	10 05 36.7	+0.4
	comp=Z,0.8nm,0.5s,baz=129,slow=0.9,SNR=6.7						
NB2	NORSAR Subarra	129.87	345	PKPdf	PKPdf	10 05 46.4	+0.6
	comp=Z,0.6nm,0.7s,baz=31,slow=1.9						
KEST	Kesra	150.39	321	PKPbc	PKPbc	10 06 29.5	+0.9
	comp=Z,5.0nm,0.7s,baz=225,slow=1.4,SNR=2.5						
TORD	Torodi Ar. Bea	165.44	268	PKPab	PKPab	10 07 40.5	0.0
	comp=Z,1.1nm,1.0s,baz=101,slow=2.9,SNR=3.8						

*JMA **06** 09:46:53.8±0.1, 24°.11N×122°.21E, h48km±4km, M2.6*

*TAP **06** 09:46:54.7, 24°.22N×122°.21E, h49km, ML3.3, C*

ISC 06 09:46:53.5±1.3**, 24°.17N**±0°.02×**122°.25E**±0°.02**, h21**km±4km**, n62,** σ**0.s55**/120**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EHP	Heping Village	0.48	287	*e*P	Pn	09 47 05.5	+0.3
	baz=282						
EWUT	Wuta	0.51	303	*i* P	Pn	09 47 05.6	+0.1
	baz=308						
EWUT				*i* S	Sn	09 47 13.2	-0.4
	baz=308						
ENA	Nanau	0.53	299	*i* P	Pn	09 47 05.8	0.0
	baz=304						
ENA				S	Sn	09 47 13.9	-0.2
	baz=304						
ETL	Fush Village	0.57	269	*i* P	Pn	09 47 06.3	-0.1
	baz=264						
ETL				S	Sn	09 47 15.1	-0.1
	baz=264						
TWC	Suao	0.57	321	*i* P	Pn	09 47 06.0	-0.4
	baz=320						
TWC				*e*S	Sb	09 47 13.8	+1.2
	baz=320						
NACB	Ninganchiao	0.59	271	*i* P	Pn	09 47 06.4	-0.3
	baz=265						
NACB				*i* S	Sn	09 47 15.2	-0.6
	baz=265						
TWD	Chiawan	0.60	262	*i* P	Pn	09 47 06.6	-0.2
	baz=248						
TWD				*i* S	Sn	09 47 15.2	-0.6
	baz=248						
HWA	Hwalien	0.62	252	P	Pn	09 47 07.2	+0.3
	baz=246						
HWA				S	Sn	09 47 17.0	+0.8
	baz=246						
TEYL	Yanliau Villag	0.66	243	*i* P	Pn	09 47 07.8	+0.1
	baz=235						
TEYL				S	Sn	09 47 17.4	0.0
	baz=235						
NDS	Dongshan	0.67	314	P	Pn	09 47 07.7	0.0
	baz=314						
NDS				S	Sn	09 47 17.1	-0.5
	baz=314						
JYNG	Yonagunijimaku	0.70	66	P	Pn	09 47 08.2	+0.1
JYNG				S	Sn	09 47 18.3	0.0
ETLH	Xiulin Townshi	0.70	273	*i* P	Pn	09 47 07.9	-0.4
	baz=269						
ETLH				*e*S	Sn	09 47 17.6	-0.9
	baz=269						
ETM	Tongmen	0.72	254	*i* P	Pn	09 47 08.1	-0.3
	baz=249						
ETM				*i* S	Sn	09 47 18.0	-0.8
	baz=249						
EGS		0.73	337	P	Pn	09 47 08.7	+0.1
	baz=338						
EGS				S	Sn	09 47 18.5	-0.6
	baz=338						
ILA	Ilan	0.75	323	P	Pb	09 47 08.4	+0.6
	baz=322						
ILA				S	Sn	09 47 19.1	-0.5
	baz=322						
LATG	Datong	0.75	299	*i* P	Pn	09 47 08.8	-0.2
	baz=296						
LATG				S	Sn	09 47 19.6	-0.2
	baz=296						
YOJ	Yonaguni jima	0.76	67	P	Pn	09 47 09.0	+0.1
YOJ				*e*S	Sn	09 47 19.5	-0.2
TWE	Neicheng	0.76	316	*i* P	Pn	09 47 09.1	+0.1
	baz=315						
TWE				*i* S	Sn	09 47 19.4	-0.5
	baz=315						
ENTT	Nioudou	0.78	307	*i* P	Pn	09 47 09.2	0.0
	baz=305						
ENTT				S	Sn	09 47 19.9	-0.4
	baz=305						
NTC	Toucheng	0.78	331	P	Pn	09 47 09.2	-0.1
	baz=339						
NTC				S	Sb	09 47 19.4	+0.8
	baz=339						
TEGC	Jichi Village	0.79	235	P	Pn	09 47 09.5	+0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=224						
TEGC				S	**Sn**	**09 47 21.3**	**+0.7**
	baz=224						
NDT	**Datong Townshi**	**0.80**	**303**	*i* P	**Pn**	**09 47 09.6**	**+0.1**
	baz=295						
NDT				*i* S	**Sn**	**09 47 20.4**	**-0.3**
	baz=295						
ESL	**Shilin**	**0.82**	**245**	P	**Pn**	**09 47 09.6**	**-0.3**
	baz=241						
ESL				*e*S	**Sn**	**09 47 21.1**	**-0.3**
	baz=241						
NNSB	**Datong**	**0.83**	**288**	*i* P	**Pb**	**09 47 09.8**	**+0.5**
	baz=285						
NNSB				S	**Sn**	**09 47 21.4**	**-0.3**
	baz=285						
FUSB	**Fushanzhiwuyua**	**0.84**	**315**	P	**Pn**	**09 47 10.2**	**+0.1**
	baz=306						
FUSB				S	**Sn**	**09 47 21.6**	**-0.3**
	baz=306						
NNS	**Nan Shan**	**0.84**	**289**	*i* P	**Pb**	**09 47 09.9**	**+0.4**
	baz=286						
NNS				*e*S	**Sn**	**09 47 22.0**	**0.0**
	baz=286						
TWB1	**Santiao Chiao**	**0.87**	**344**	*i* P	**Pb**	**09 47 09.8**	**0.0**
	baz=345						
TWB1				*e*S	**Sb**	**09 47 20.4**	**-0.7**
	baz=345						
TIPB	**Shuangxi**	**0.89**	**335**	*i* P	**Pb**	**09 47 10.6**	**+0.4**
	baz=345						
TIPB				*e*S	**Sb**	**09 47 21.4**	**-0.2**
	baz=345						
WHF	**Hehuan Shan**	**0.90**	**269**	*i* P	**Pb**	**09 47 10.9**	**+0.3**
	baz=255						
WHF				*e*S	**Sn**	**09 47 23.1**	**-0.8**
	baz=255						
EGFH	**Guangfu**	**0.90**	**237**	*i* P	**Pn**	**09 47 11.0**	**+0.1**
	baz=227						
EGFH				*e*S	**Sn**	**09 47 22.9**	**-0.3**
	baz=227						
NWLT	**Wulai**	**0.91**	**312**	*i* P	**Pn**	**09 47 11.3**	**+0.2**
	baz=301						
NWLT				*e*S	**Sb**	**09 47 22.8**	**+0.6**
	baz=301						
FUSS	**Fushou**	**0.92**	**275**	*e*P	**Pb**	**09 47 10.1**	**-0.8**
	baz=272						
FUSS				*e*S	**Sb**	**09 47 23.0**	**+0.3**
	baz=272						
YHNB	**Yeheng**	**0.94**	**302**	*i* P	**Pn**	**09 47 11.5**	**0.0**
	baz=300						
YHNB				*e*S	**Sb**	**09 47 23.2**	**+0.1**
	baz=300						
NSK	**Sanguang**	**0.95**	**302**	*i* P	**Pb**	**09 47 11.6**	**+0.3**
	baz=300						
NSK				*e*S	**Sb**	**09 47 23.2**	**-0.3**
	baz=300						
TWT	**Tachien**	**0.98**	**275**	P	**Pn**	**09 47 13.2**	**+1.0**
	baz=267						
SXI1	**Grass Mountain**	**0.98**	**340**	P	**Pb**	**09 47 11.5**	**-0.4**
	baz=350						
SXI1				*e*S	**Sb**	**09 47 23.7**	**-0.7**
	baz=350						
CHGB	**Renai**	**0.99**	**264**	*i* P	**Pn**	**09 47 12.2**	**-0.1**
	baz=251						
CHGB				*e*S	**Sb**	**09 47 25.1**	**+0.5**
	baz=251						
NWF	**Wu-fen Shan**	**0.99**	**335**	P	**Pb**	**09 47 11.9**	**-0.1**
	baz=345						
NWF				*e*S	**Sb**	**09 47 23.7**	**-1.0**
	baz=345						
WFSB	**Wu-fen Shan**	**0.99**	**335**	P	**Pb**	**09 47 11.8**	**-0.2**
	baz=345						
WFSB				*e*S	**Sb**	**09 47 23.9**	**-0.7**
	baz=345						
TDCB	**Techi**	**1.00**	**275**	*i* P	**Pn**	**09 47 12.7**	**+0.3**
	baz=267						
OWD	**Renai**	**1.00**	**258**	*i* P	**Pb**	**09 47 12.4**	**+0.2**
	baz=255						
OWD				*e*S	**Sb**	**09 47 24.7**	**-0.3**
	baz=255						
TWA	**Mucha**	**1.01**	**323**	P	**Pb**	**09 47 12.5**	**+0.3**
	baz=322						
TWA				S	**Sn**	**09 47 26.1**	**+0.1**
	baz=322						
HGSD	**Ruisui**	**1.01**	**228**	P	**Pb**	**09 47 12.3**	**0.0**
	baz=220						
HGSD				*e*S	**Sn**	**09 47 25.6**	**-0.4**
	baz=220						
NHDH	**Xindian Distri**	**1.03**	**320**	P	**Pn**	**09 47 13.5**	**+0.8**
	baz=330						
NHDH				S	**Sn**	**09 47 26.8**	**+0.3**
	baz=330						
WUSB	**Renai**	**1.05**	**261**	*i* P	**Pn**	**09 47 13.1**	**+0.1**
	baz=251						
WUSB				*e*S	**Sn**	**09 47 26.9**	**-0.1**
	baz=251						
TNOU	**National Taiwa**	**1.07**	**336**	*e*P	**Pn**	**09 47 12.2**	**-1.0**
	baz=346						
TNOU				*e*S	**Sb**	**09 47 25.6**	**-1.2**
	baz=346						
EHY	**Hungye**	**1.07**	**232**	*i* P	**Pn**	**09 47 13.1**	**-0.2**
	baz=229						
EHY				S	**Sn**	**09 47 27.2**	**-0.3**
	baz=229						
VWDT	**VWDT**	**1.09**	**248**	*i* P	**Pb**	**09 47 13.9**	**+0.3**
	baz=236						
VWDT				*e*S	**Sn**	**09 47 27.6**	**-0.3**
	baz=236						
WPL	**Puli Township**	**1.19**	**263**	*i* P	**Pb**	**09 47 15.5**	**+0.2**
	baz=255						
WPL				*e*S	**Sb**	**09 47 30.0**	**-0.2**
	baz=255						
TWF1	**Yuli**	**1.19**	**227**	*i* P	**Pn**	**09 47 14.9**	**0.0**
	baz=237						
TWF1				*e*S	**Sb**	**09 47 29.5**	**-0.7**
	baz=237						
WHP	**Taichung City**	**1.19**	**276**	*i* P	**Pb**	**09 47 16.1**	**+0.7**
	baz=273						
WHP				*e*S	**Sn**	**09 47 32.7**	**+2.1**
	baz=273						
NSTT	**Nanjuang**	**1.23**	**292**	*i* P	**Pb**	**09 47 16.3**	**+0.4**
	baz=290						
NSTT				S	**Sn**	**09 47 31.2**	**-0.1**
	baz=290						
IRIF	**Iriomote-Funau**	**1.36**	**83**	P	**Pn**	**09 47 17.3**	**0.0**
IRIF				S	**Sn**	**09 47 34.7**	**0.0**
HATJ	**Hateruma jima**	**1.43**	**94**	P	**Pn**	**09 47 19.1**	**+0.9**
HATJ				S	**Sn**	**09 47 37.2**	**+0.9**
EDH	**Donghe**	**1.47**	**216**	*e*P	**Pn**	**09 47 18.2**	**-0.6**
	baz=208						
EDH				*e*S	**Sn**	**09 47 35.4**	**-1.9**
	baz=208						
ALS	**Alishan**	**1.47**	**244**	*e*P	**Pb**	**09 47 20.3**	**0.0**
	baz=234						
ALS				S	**Sn**	**09 47 38.0**	**+0.1**
	baz=234						
JKRS	**Kuro-shima**	**1.61**	**87**	P	**Pn**	**09 47 21.4**	**+0.7**
JKRS				*e*S	**Sn**	**09 47 41.4**	**+0.6**
CHN4	**Tsaushan**	**1.72**	**242**	*e*P	**Pb**	**09 47 24.3**	**-0.1**
	baz=231						
CHN4				*e*S	**Sb**	**09 47 45.7**	**+0.2**
	baz=231						
JIJ	**Ishigaki jima**	**1.74**	**83**	P	**Pn**	**09 47 22.4**	**-0.1**
JIJ				*e*S	**Sn**	**09 47 42.8**	**-1.3**
JISG	**Ishigakijimahi**	**1.93**	**77**	P	**Pn**	**09 47 24.8**	**-0.2**
JISG				S	**Sn**	**09 47 47.9**	**-0.8**
JTJ	**Tarama**	**2.29**	**78**	P	**Pn**	**09 47 30.4**	**+0.4**
JTJ				*e*S	**Sn**	**09 47 56.5**	**-1.0**
JIRB	**Irabujima**	**2.75**	**76**	P	**Pn**	**09 47 36.9**	**+0.6**

IDC 06 09:56:45.1±2.7**, 53°.71N**×**87°.01E, h0**km**, mb1 2.6**/2**, mb1mx2.5**/60**, mbtmp2.6**/2**, ML2.3**/2**, Error ellipse: s-maj=24.6km s-min=15.7km az=70.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**281**	*i*		10 04 50.0	
	baz=101,slow=325,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.32**	**281**	Pg	Pg	09 57 08.8	-1.6
	0.7nm,0.3s,baz=103,slow=16,SNR=6.8						
ZALV				Lg	Lg	09 57 27.7	
	1.3nm,0.3s,baz=99,slow=29,SNR=8.3						
ZALV				Rg	Rg	09 57 37.8	
	1.4nm,0.4s,baz=107,slow=24,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.06**	**243**	Pn	Pn	09 58 16.6	+0.7
	0.0nm,0.3s,baz=57,slow=13,SNR=2.3						
KURBB				Lg	Lg	09 59 58.2	
	0.0nm,0.3s,baz=62,slow=35,SNR=1.7						
MKAR	**Makanchi Array**	**7.55**	**205**	Pn	Pn	09 58 38.1	+1.6
	0.1nm,0.3s,baz=22,slow=12,SNR=4.6						
MKAR				Lg	Lg	10 00 44.6	
	0.1nm,0.3s,baz=23,slow=33,SNR=2.3						

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*BJI **06** 09:57:58.1±0.0, 4°.21N×94°.92E, h49km, mb4.6/31, mB5.0/15, Ms4.4/5, Ms7 4.1/6*
*DJA **06** 09:58:02.8±0.9, 4°N±4°×9°5E±1°0, h10km, M4.3/7, mb4.4/5, mB5.1/1, MLv4.2/7, Mw(mB)4.4/1*
*NEIC **06** 09:58:02.3±1.4, 4°.55N±0°.08×95°.07E±0°.09, h47km±3km, mb4.6/41, Error ellipse: s-maj=12.9km s-min=11.5km az=58.0*
*IDC **06** 09:58:03.3±3.4, 4°.63N×95°.12E, h59km±31km, mb3.9/21, mb1 4.0/22, mb1mx3.7/59, mbtmp4.2/22, ML3.6/1, Error ellipse: s-maj=30.7km s-min=13.4km az=47.0*
ISC 06 09:58:01.9±0.5**, 4°.59N**±0°.06×**95°.04E**±0°.06**, h48**km**, n103, σ1.45**/105**, mb4.5**/45**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.00**	**71**		**Pn**	**09 58 33.8**	**+0.5**
LHMI	**Lhok Sumawe**	**2.00**	**71**	P	**Pn**	**09 58 35.2**	**+1.9**
SNSI	**Sinabang, Aceh**	**2.51**	**149**	P	**Pn**	**09 58 39.7**	**-0.6**
KCSI	**Kotacane, Aceh**	**2.92**	**111**	P	**Pn**	**09 58 48.1**	**+2.2**
GSI	**Gunungsitoli**	**4.13**	**142**		**Pn**	**09 59 01.9**	**-0.6**
GSI	**Gunungsitoli**	**4.13**	**142**	P	**Pn**	**09 59 02.3**	**-0.1**
PSI	**Prapat**	**4.26**	**114**	P	**Pn**	**09 59 06.3**	**+2.0**
	3.5nm,0.3s,baz=300,slow=11,SNR=8.9						
PSI				S	**Sn**	**09 59 53.9**	**+1.0**
	3.9nm,0.3s,baz=276,slow=8.7,SNR=5.2						
KULM	**Kulim**	**5.63**	**83**	Pn	**Pn**	**09 59 23.3**	**+0.3**
KULM				Sn	**Sn**	**10 00 23.0**	**-3.6**
MNSI	**Mandailing Nat**	**5.89**	**130**	P	**Pn**	**09 59 29.7**	**+3.0**
IPM	**Ipoh**	**5.97**	**91**	Pn	**Pn**	**09 59 28.3**	**+0.6**
SRIT	**Nakonsritamara**	**6.03**	**48**	Pn	**Pn**	**09 59 29.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**14.31**	**15**	P	**P**	**10 01 27.7**	**-0.1**
	0.8nm,0.3s,baz=208,slow=11,SNR=36						
PALK	**Pallekele**	**14.51**	**281**	S	Sn	10 03 52.9	-11
	1.4nm,0.3s,baz=300,slow=8.4,SNR=5.8						
CHTO	**Chiang Mai**	**14.65**	**15**	Pn	**Pn**	**10 01 27.5**	**+1.3**
KSM	**Kuching**	**15.55**	**101**	Pn	**Pn**	**10 01 37.6**	**-0.5**
TNG	**Tangerang**	**15.76**	**133**	P	**P**	**10 01 43.3**	**-0.6**
KKM	**Kota Kinabalu**	**21.13**	**85**	P	**P**	**10 02 41.1**	**-1.9**
KKM				IAmb	IAmb	10 02 45.3	
	comp=Z,33nm,1.3s						
PZH	**PanZhiHua**	**22.72**	**16**	P	**P**	**10 03 00.0**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,170nm,6.9s						
MPSI	**Mapaga**	**25.18**	**99**	P	**P**	**10 03 28.9**	**+5.8**
H08S2	**Diego Garcia H**	**25.57**	**242**	T	T	10 30 28.6	
	baz=62,slow=75,SNR=4.9						
H08S3	**Diego Garcia H**	**25.57**	**242**	T	T	10 30 33.9	
	baz=62,slow=75,SNR=167						
H08S1	**Diego Carcia H**	**25.59**	**242**	T	T	10 30 26.9	
	baz=62,slow=75,SNR=184						
KAPI	**Kappang**	**26.46**	**111**	P	**P**	**10 03 35.7**	**+1.0**
	comp=Z,6.8nm,0.5s,baz=111,slow=5.0,SNR=2.7						
KAPI	**Kappang**	**26.46**	**111**	IAmb	IAmb	10 03 37.3	
	comp=Z,22nm,1.4s						
GOMU	**GeErMu**	**31.46**	**360**	P	**P**	**10 04 17.3**	**-2.1**
GOMU				PP	**PP**	**10 05 31.2**	**+0.1**
GOMU				PcP	**PcP**	**10 07 11.4**	**-0.4**
GOMU				S	**S**	**10 09 20.5**	**-3.8**
GOMU				sS	sS	10 09 47.6	+3.0
GOMU				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GOMU				pmax	pmax		
	comp=Z,130nm,5.4s						
GOMU				LR	LR		
	comp=Z,220nm,15.3s						
GOMU				LR	LR		
	comp=Z,110nm,14.0s						
GOMU				LR	LR		
	comp=Z,98nm,10.5s						
XAN	**Xi'an**	**32.02**	**22**	P	**P**	**10 04 22.8**	**-1.1**
XAN				pmax	pmax		
	comp=Z,17nm,0.7s						
LZH	**Lanzhou**	**32.38**	**13**	*e*P	P	10 04 33.0	+5.8
LZH				pP	sP	10 04 45.1	-0.2
LZH				sP	pP	10 04 51.6	+12
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				LR	LR		
	comp=Z,550nm,12.5s						
LZH				LR	LR		
	comp=Z,570nm,13.0s						
LZH				LR	LR		
	comp=Z,560nm,15.2s						
NJ2	**Nanjing**	**35.28**	**36**	*e*P	**P**	**10 04 54.3**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NIL	**Nilore**	**35.32**	**328**	P	**P**	**10 04 52.5**	**-0.1**
NIL				IAmb	IAmb	10 04 54.9	
	comp=Z,5.7nm,0.7s						
HNS	**HongShan**	**37.29**	**26**	⇑P	**P**	**10 05 10.1**	**+0.8**
HNS				pmax	pmax		
	comp=Z,33nm,0.8s						
FITZ	**Fitzroy Crossi**	**37.67**	**128**	P	**P**	**10 05 12.1**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=332,slow=12,SNR=1.8						
KSH	**Kashi**	**38.82**	**336**	P	**P**	**10 05 22.1**	**-0.3**
KSH				pP	pP	10 05 33.5	-1.0
KSH				PP	**PnPn**	**10 06 59.4**	**+4.8**
KSH				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC	**Hu-ho-hao-te**	**39.04**	**20**	*e*P	**P**	**10 05 27.2**	**+3.1**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,180nm,5.3s						
WMQ	**Urumqi**	**39.61**	**352**	*e*P	**P**	**10 05 31.8**	**+3.0**
MTN	**Manton Dam**	**39.82**	**116**	P	**P**	**10 05 28.9**	**-1.9**
MTN				IAmb	IAmb	10 05 37.5	
	comp=Z,16nm,1.5s						
TARG	**Taragay, Kyrgy**	**40.07**	**340**	P	**P**	**10 05 33.0**	**-0.1**
BJT	**Baijiatuau**	**40.10**	**25**	P	**P**	**10 05 33.6**	**+0.8**
BJT				IAmb	IAmb	10 05 34.9	
	comp=Z,12nm,1.0s						
BJI	**Beijing**	**40.12**	**25**	P	**P**	**10 05 34.2**	**+1.2**
BJI				pmax	pmax		
	comp=Z,11nm,0.9s						
DRK	**Karamyk**	**40.61**	**332**	P	**P**	**10 05 38.7**	**+1.2**
KDJ	**Kajisay**	**40.64**	**339**	P	**P**	**10 05 38.8**	**+1.3**
GAR	**Garm**	**40.95**	**330**	P	**P**	**10 05 40.4**	**+0.3**
ULHL	**Ulahol**	**41.07**	**339**	P	**P**	**10 05 42.6**	**+1.5**
	SNR=12						
CHGR	**Chuyangaron**	**41.27**	**329**	P	**P**	**10 05 42.5**	**-0.2**
BOOM	**Boomskoye usch**	**41.40**	**339**	P	**P**	**10 05 44.5**	**+0.8**
UCH	**Uchtor**	**41.71**	**337**	P	**P**	**10 05 48.1**	**+1.5**
	SNR=14						
TKM2	**Tokmak 2**	**41.90**	**339**	P	**P**	**10 05 48.7**	**+0.8**
	SNR=9.3						
KBK	**Karagaybulak**	**41.91**	**338**	P	**P**	**10 05 50.0**	**+2.1**
	SNR=10						
AML	**Almayashu**	**41.95**	**336**	P	**P**	**10 05 50.2**	**+1.7**
	SNR=19						
AAK	**Ala-Archa**	**42.06**	**337**	P	**P**	**10 05 51.9**	**+2.7**
	SNR=6.5						
AAK	**Ala-Archa**	**42.06**	**337**	P	**P**	**10 05 50.9**	**+1.7**
	comp=Z,6.2nm,0.7s,baz=150,slow=6.7,SNR=16						
AAK	**Ala-Archa**	**42.06**	**337**	P	**P**	**10 05 50.5**	**+1.4**
AAK				IAmb	IAmb	10 05 52.6	
	comp=Z,6.5nm,0.8s						
EKS2	**Erkin-Say**	**42.37**	**337**	P	**P**	**10 05 53.4**	**+1.8**
	SNR=5.3						
USP	**Ospenovka**	**42.60**	**338**	P	**P**	**10 05 54.7**	**+1.3**
	SNR=25						
MK31	**Makanchi Array**	**43.47**	**347**	P	**P**	**10 06 00.2**	**-0.1**
MKAR	**Makanchi Array**	**43.47**	**347**	P	**P**	**10 06 00.2**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=172,slow=7.3,SNR=34						
MKAR				PcP	**PcP**	**10 07 47.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=167,slow=3.1,SNR=1.5						
MKAR	**Makanchi Array**	**43.47**	**347**	P	**P**	**10 06 00.5**	**+0.1**
MAKZ	**Makanchi**	**43.56**	**347**	P	**P**	**10 06 01.0**	**0.0**
JNU	**Nakatsue**	**43.83**	**45**	P	**P**	**10 06 02.3**	**-1.2**
	comp=Z,4.5nm,0.8s,baz=211,slow=12,SNR=2.5						
JNU	**Nakatsue**	**43.83**	**45**	P	**P**	**10 06 02.6**	**-0.9**
JNU				IAmb	IAmb	10 06 16.4	
	comp=Z,14nm,1.1s						
KKAR	**Karatay Array**	**44.09**	**334**	P	**P**	**10 06 06.0**	**+0.7**
SONM	**Songino Array**	**44.18**	**11**	P	**P**	**10 06 05.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=201,slow=7.7,SNR=1.5						
SONM				PcP	**PcP**	**10 07 50.4**	**0.0**
	comp=Z,0.8nm,0.7s,baz=151,slow=3.3,SNR=2.4						
SONM	**Songino Array**	**44.18**	**11**	P	**P**	**10 06 05.9**	**-0.3**
KSRS	**Korea Array**	**44.41**	**38**	P	**P**	**10 06 07.5**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=220,slow=9.6,SNR=8.0						
WB0	**Warramunga Arr**	**45.63**	**123**	P	**P**	**10 06 18.1**	**+0.2**
WB0				IAmb	IAmb	10 06 18.6	
	comp=Z,4.4nm,0.7s						
WRA	**Warramunga Arr**	**45.67**	**124**	P	**P**	**10 06 18.6**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=303,slow=9.0,SNR=19						
WRA	**Warramunga Arr**	**45.67**	**124**	P	**P**	**10 06 17.9**	**-0.4**
WRAB	**Tennant Creek**	**45.67**	**124**	P	**P**	**10 06 18.7**	**+0.4**
WRAB				IAmb	IAmb	10 06 21.7	
	comp=Z,5.1nm,0.9s						
WB2	**Warramunga Arr**	**45.68**	**124**	P	**P**	**10 06 18.8**	**+0.4**
WB2				IAmb	IAmb	10 06 21.6	
	comp=Z,6.1nm,0.9s						
WR0	**Warramunga Arr**	**45.84**	**123**	P	**P**	**10 06 20.2**	**+0.6**
WR0				IAmb	IAmb	10 06 21.5	
	comp=Z,7.0nm,0.9s						
JHS	**Saijyo**	**46.40**	**44**	P	**P**	**10 06 24.4**	**+0.5**
JHS				IAmb	IAmb	10 06 33.0	
	comp=Z,13nm,1.2s						
ASAR	**Alice Springs**	**47.16**	**128**	P	**P**	**10 06 30.2**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=298,slow=7.9,SNR=9.0						
ASAR	**Alice Springs**	**47.16**	**128**	P	**P**	**10 06 29.6**	**-0.4**
GEYT	**Alibeck**	**47.25**	**320**	P	**P**	**10 06 31.8**	**+1.4**
	comp=Z,4.4nm,0.6s,baz=88,slow=15,SNR=5.8						
GEYT	**Alibeck**	**47.25**	**320**	P	**P**	**10 06 30.5**	**0.0**
GEYT				IAmb	IAmb	10 06 32.7	
	comp=Z,4.9nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**47.25**	**320**	P	**P**	**10 06 30.2**	**-0.2**
ZAA0	**Zalesovo Array**	**49.91**	**352**	P	**P**	**10 06 50.0**	**-0.6**
ZAA0				IAmb	IAmb	10 06 52.8	
	comp=Z,2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**49.91**	**352**	P	**P**	**10 06 50.6**	**0.0**
	comp=Z,2.3nm,0.5s,baz=184,slow=7.4,SNR=13						
ZALV	**Zalesovo Beam**	**49.91**	**352**	P	**P**	**10 06 50.4**	**-0.2**
BRVK	**Borovoye**	**52.43**	**341**	P	**P**	**10 07 09.8**	**+0.3**
ABKAR	**Akbulak array**	**53.53**	**332**	P	**P**	**10 07 18.2**	**+0.6**
ABKAR				IAmb	IAmb	10 07 37.6	
	comp=Z,5.8nm,0.9s						
AKTO	**Aktyubinsk**	**55.25**	**332**	P	**P**	**10 07 30.1**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=130,slow=8.5,SNR=6.8						
KBZ	**Khabaz**	**60.12**	**319**	P	**P**	**10 08 04.7**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=322,slow=23,SNR=5.0						
BRTR	**Keskin Array B**	**65.26**	**312**	P	**P**	**10 08 39.2**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=131,slow=7.0,SNR=5.9						
BRTR	**Keskin Array B**	**65.26**	**312**	P	**P**	**10 08 38.6**	**-0.4**
TIXI	**Tiksi**	**70.27**	**11**	P	**P**	**10 09 08.5**	**-1.2**
TIXI				IAmb	IAmb	10 09 09.1	
	comp=Z,4.5nm,0.8s						
AKASG	**Malin Array Be**	**71.28**	**322**	P	**P**	**10 09 14.8**	**-1.4**
	comp=Z,2.7nm,0.6s,baz=90,slow=5.1,SNR=10						
AKASG	**Malin Array Be**	**71.28**	**322**	P	**P**	**10 09 15.3**	**-1.0**
BURAR	**Bucovina Array**	**73.08**	**318**	P	**P**	**10 09 28.5**	**+1.3**
BUR08	**Bucovina Ar. S**	**73.09**	**318**	P	**P**	**10 09 27.0**	**-0.4**
LVZ	**Lovozero**	**74.94**	**340**	P	**P**	**10 09 37.6**	**0.0**
FIA1	**FINESS Array S**	**76.02**	**332**	P	**P**	**10 09 44.1**	**+0.3**
FIA1				IAmb	IAmb	10 10 07.8	
	comp=Z,9.4nm,1.1s						
FINES	**FINESS Array B**	**76.02**	**332**	P	**P**	**10 09 44.0**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=120,slow=7.2,SNR=12						
MORC	**Moravsky Berou**	**78.44**	**320**	P	**P**	**10 09 57.8**	**+0.1**
ARCES	**ARCESS Array B**	**78.64**	**340**	P	**P**	**10 09 58.7**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=95,slow=5.5,SNR=12						
ARCES	**ARCESS Array B**	**78.64**	**340**	P	**P**	**10 09 58.6**	**+0.2**
ARCES				IAmb	IAmb	10 10 22.9	
	comp=Z,11nm,1.4s						
GERES	**GERESS Array B**	**80.86**	**319**	P	**P**	**10 10 11.3**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=103,slow=5.9,SNR=3.8						
MURB	**Monte Urbino**	**81.43**	**313**	P	**P**	**10 10 15.0**	**+0.9**
MURB				IAmb	IAmb	10 10 16.9	
	comp=Z,8.4nm,1.0s						
HFS	**Hagfors**	**81.73**	**330**	P	**P**	**10 10 15.9**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=76,slow=6.1,SNR=1.4						
SPITS	**Spitsbergen Ar**	**83.22**	**348**	P	**P**	**10 10 22.2**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=114,slow=6.8,SNR=8.7						
DAVOX	**Davos/Dischmat**	**83.37**	**316**	P	**P**	**10 10 24.7**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=126,slow=1.8,SNR=7.4						
TNA	**Tin City**	**88.77**	**24**	P	**P**	**10 10 50.6**	**+0.4**
TNA				IAmb	IAmb	10 10 56.8	
	comp=Z,4.2nm,1.5s						
TXAR	**Lajitas Array**	**141.79**	**27**	PKP	**PKPdf**	**10 17 26.3**	**-2.8**
	comp=Z,0.2nm,0.6s,baz=147,slow=7.4,SNR=3.9						
TXAR	**Lajitas Array**	**141.79**	**27**	PKPdf	**PKPdf**	**10 17 26.9**	**-2.2**

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*IDC **06** 10:11:48.7±1.9, 35°.64N×0°.46E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/63, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=43.7km s-min=27.8km az=99.0*
*MDD **06** 10:11:53.5±0.8, 35°.54N×0°.11W, h0km, Mb4.2/14, M_mb3.5/12, Error ellipse: s-maj=7.5km s-min=3.7km az=167.0*
*CRAAG **06** 10:11:53.0, 35°.52N×0°.05W, Ml3.6*
*CNRM **06** 10:11:55.6, 35°.86N×0°.70W, h0km, ml2.6*
ISC 06 10:11:53.2±0.9**, 35°.56N**±0°.04×**0°.03W**±0°.04**, h16**km**, n33, σ1.56**/48**, 14C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.24**	**203**	P	**Pg**	**10 11 59.1**	**+0.4**
USTO	**Oran**	**0.46**	**293**	P	**Pg**	**10 12 04.5**	**+2.1**
OJGS	**Djebel Guires**	**0.64**	**94**	P	**Pn**	**10 12 08.6**	**+0.9**
EANR	**'Ain N'Sour**	**1.00**	**67**	P	**Pb**	**10 12 11.3**	**-0.9**
TAF	**Taforalt**	**2.09**	**250**	P	**Pn**	**10 12 27.9**	**+0.3**
CART	**Cartagena**	**2.17**	**339**	P	Pn	10 12 23.7	-5.0
CART				S	**Sn**	**10 12 50.3**	**-4.9**
CART	**Cartagena**	**2.17**	**339**	P	**Pn**	**10 12 27.5**	**-1.2**
CART				S	**Sn**	**10 12 50.7**	**-4.6**
ENIJ	**Nijar**	**2.25**	**309**	⇑*i*Vmb_V		10 12 28.8	
	706nm,SNR=2.1						
ENIJ				Pn	**Pn**	**10 12 29.8**	**-0.1**
ENIJ				Sn	**Sn**	**10 12 54.4**	**-2.9**
JBK	**JBK**	**2.41**	**240**	P	**Pn**	**10 12 32.9**	**+0.7**
EBER	**Berja**	**2.67**	**301**	Pn	**Pn**	**10 12 35.5**	**-0.3**
EBER				⇑*i*Vmb_V		10 12 38.3	
	684nm,SNR=1.1						
EBER				Sn	**Sn**	**10 13 07.1**	**-0.8**
EZAR	**Zarzadilla de**	**2.67**	**331**	Pn	**Pn**	**10 12 36.9**	**+1.2**
EZAR				Sn	**Sn**	**10 13 08.5**	**+0.7**
AFON	**Font Roja**	**3.13**	**353**	Pn	**Pn**	**10 12 41.8**	**-0.2**
AFON				⇑*i*Vmb_V		10 12 45.8	
	460nm,SNR=1.4						
AFON				Sn	**Sn**	**10 13 19.3**	**+0.2**
ELGU	**Los Guajares,**	**3.19**	**295**	Pn	**Pn**	**10 12 42.0**	**-0.7**
ELGU				⇑*i*Vmb_V		10 12 47.4	
	462nm,SNR=2.4						
ELGU				Sn	**Sn**	**10 13 20.9**	**+0.4**
ETOB	**Tobarra**	**3.31**	**339**	Pn	**Pn**	**10 12 46.0**	**+1.5**
ETOB				⇑*i*Vmb_V		10 12 53.5	
	423nm,SNR=1.1						
ETOB				Sn	**Sn**	**10 13 23.2**	**-0.3**
EGOR	**Sierra Gorda,**	**3.64**	**296**	Pn	**Pn**	**10 12 49.5**	**+0.4**
EGOR				⇑*i*Vmb_V		10 12 54.0	
	221nm,SNR=1.8						
EGOR				Sn	**Sn**	**10 13 31.9**	**+0.2**
EMIJ	**Mijas**	**3.97**	**286**	Pn	**Pn**	**10 12 52.5**	**-0.9**
EMIJ				⇑*i*Vmb_V		10 13 00.8	
	219nm,SNR=1.7						
EMIJ				Sn	**Sn**	**10 13 36.8**	**-2.9**
ECHE	**Chera**	**4.10**	**350**	Pn	**Pn**	**10 12 56.7**	**+1.5**
ECHE				⇑*i*Vmb_V		10 13 05.0	
	387nm,SNR=1.2						
ECHE				Sn	**Sn**	**10 13 42.7**	**-0.1**
EADA	**Adamuz**	**4.48**	**307**	Pn	**Pn**	**10 12 60.0**	**-0.5**
EADA				⇑*i*Vmb_V		10 13 02.1	
	107nm,SNR=1.2						
EADA				Sn	**Sn**	**10 13 53.7**	**+1.5**
MDT	**Midelt**	**4.67**	**235**	Pn	**Pn**	**10 13 03.9**	**+0.6**
	0.2nm,0.3s,baz=12,slow=9.3,SNR=2.7						
MDT				Pg	**Pb**	**10 13 14.5**	**-0.4**
	0.3nm,0.3s,baz=47,slow=21,SNR=2.2						
MDT				Lg	Lg	10 14 15.8	
	0.3nm,0.3s,baz=314,slow=19,SNR=1.9						
MDT	**Midelt**	**4.67**	**235**	P	**Pn**	**10 13 04.6**	**+1.4**
MD31	**MD31**	**4.75**	**237**	P	**Pn**	**10 13 06.1**	**+1.9**
EMOS	**Mosqueruela**	**4.81**	**356**	Pn	**Pn**	**10 13 07.1**	**+1.9**
EMOS				⇑*i*Vmb_V		10 13 12.9	
	257nm,SNR=1.0						
EMOS				Sn	**Sn**	**10 13 58.7**	**-2.0**
ECAB	**El Cabril**	**5.00**	**302**	Pn	**Pn**	**10 13 08.0**	**+0.4**
ECAB				⇑*i*Vmb_V		10 13 15.1	

	91nm,SNR=1.1						
ECAB				Sn	**Sn**	**10 14 04.8**	**-0.3**
ESDC	**Sonseca Array**	**5.16**	**324**	Pn	**Pn**	**10 13 11.7**	**+1.9**
	0.4nm,0.3s,baz=139,slow=14,SNR=14						
ESDC				Lg	Lg	10 14 22.2	
	0.4nm,0.3s,baz=140,slow=30,SNR=5.1						
PAB	**San Pablo**	**5.25**	**321**	Pn	**Pn**	**10 13 12.5**	**+1.4**
PAB				⇑*i*Vmb_V		10 13 20.8	
	118nm,SNR=1.3						
PAB				Sn	**Sn**	**10 14 09.7**	**-1.8**
ERTA	**Horta de San J**	**5.40**	**3**	Pn	**Pn**	**10 13 14.3**	**+1.2**
ERTA				⇑*i*Vmb_V		10 13 15.6	
	286nm,SNR=0.8						
ERTA				Sn	**Sn**	**10 14 14.7**	**-0.3**
EPOB	**Poblet**	**5.85**	**8**	Pn	**Pn**	**10 13 20.5**	**+1.1**
EPOB				⇑*i*Vmb_V		10 13 24.7	
	225nm,SNR=0.7						
PBAR	**Barrancos**	**6.20**	**297**	*e*Pn	**Pn**	**10 13 25.1**	**+1.1**
PVAQ	**Vaqueiros**	**6.46**	**289**	*e*Pn	**Pn**	**10 13 28.4**	**+0.8**
PNCL	**Nicolau / Gran**	**7.28**	**293**	*e*Pn	**Pn**	**10 13 39.1**	**+0.3**
MVO	**Moncorvo**	**7.84**	**318**	*e*Pn	**Pn**	**10 13 47.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**22.37**	**176**	P	**P**	**10 16 50.1**	**-0.6**
	0.3nm,0.6s,baz=346,slow=9.3,SNR=2.1						
FINES	**FINESS Array B**	**30.74**	**24**	P	P	10 18 02.3	-5.0
	6.9nm,1.2s,baz=229,slow=10,SNR=2.1						

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*AZER **06** 10:16:17.9±0.2, 37.°60N×49.°91E, h35km±2km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*TEH **06** 10:16:18.1, 37.°32N×50.°37E, h24km, ML3.1*
ISC 06 10:16:14.1±1.5**, 37.°53N**±0.°04×**50.°34E**±0.°04**, h10**km±12km**, n36,** σ1.s**78**/42**, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LHJ2	**Lahijan - Gila**	**0.43**	**211**	*e*Pg	**Pb**	**10 16 24.6**	**+0.9**
LHJ2				*e*Sg	**Sb**	**10 16 30.3**	**+0.1**
RST1	**Rasht - Gilan**	**0.64**	**242**	*e*Sg	**Sn**	**10 16 38.2**	**-1.2**
JIR1	**Jirandeh**	**0.93**	**208**	*e*Pg	**Pb**	**10 16 32.3**	**-0.1**
JIR1				*e*Sg	**Sg**	**10 16 43.9**	**-0.2**
CSN1	**Caspian**	**0.99**	**272**	*e*Pg	**Pn**	**10 16 38.0**	**+4.0**
QALM	**Alamut, Qazvin**	**1.13**	**167**	*e*Pg	**Pg**	**10 16 35.0**	**-0.8**
QALM				*e*		10 16 51.7	
	comp=Z,5μm,0.4s						
IGZV	**Ghazvin**	**1.15**	**185**	*e*Pg	**Pb**	**10 16 36.0**	**-0.2**
IGZV				*e*Sg	**Sg**	**10 16 49.9**	**-1.3**
IGZV				*e*		10 16 53.5	
	comp=Z,10μm,0.2s						
QCNT	**Qazvin**	**1.27**	**192**	*e*Pg	**Pg**	**10 16 38.7**	**+0.2**
ZNJK	**Zanjan**	**1.58**	**237**	*e*Pn	**Pg**	**10 16 44.2**	**-0.2**
THKV	**Tehran--Karaj**	**1.67**	**165**	*e*Pn	**Pn**	**10 16 42.1**	**-1.5**
CHTH	**Charan**	**1.74**	**158**	*e*Pn	**Pn**	**10 16 45.7**	**+1.1**
IMHD	**Mahdasht**	**1.86**	**172**	*e*Pn	**Pb**	**10 16 48.1**	**-0.2**
IMHD				*e*		10 17 16.9	
	comp=Z,4μm,0.3s						
QABG	**Abgarm-Qazvin**	**1.92**	**199**	*e*		10 17 15.3	
	comp=Z,2μm,0.2s						
LRK	**Lerik**	**1.93**	**306**	P	**Pn**	**10 16 47.2**	**+0.1**
LRK				S	**Sn**	**10 17 08.4**	**-3.0**
IPRN	**Peran**	**2.06**	**128**	*e*Pn	**Pb**	**10 16 50.8**	**-0.8**
IPRN				*e*		10 17 15.3	
	comp=Z,3μm,0.1s						
ISRB	**Sarab**	**2.14**	**279**	*e*Pn	**Pg**	**10 16 55.1**	**0.0**
ISRB				*e*		10 17 10.9	
	comp=Z,1μm,0.2s						
IRAZ	**Razeghan**	**2.15**	**189**	*e*Pn	**Pn**	**10 16 51.0**	**+0.8**
YRD	**Yardimli**	**2.15**	**311**	P	**Pn**	**10 16 50.4**	**+0.2**
YRD				S	**Sn**	**10 17 14.0**	**-3.1**
GLBA	**Clilabad**	**2.29**	**319**	P	**Pn**	**10 16 52.2**	**+0.2**
GLBA				S	**Sn**	**10 17 18.9**	**-1.3**
DAMV	**Damavand**	**2.31**	**145**	*e*Pn	**Pn**	**10 16 54.2**	**+1.7**
IDMV	**Damavand**	**2.38**	**145**	*e*Pn	**Pn**	**10 16 55.6**	**+2.1**
IDMV				*e*		10 16 57.3	
	comp=Z,520nm,0.4s						
IQOM	**Qom**	**2.75**	**167**	*e*Pn	**Pn**	**10 16 59.9**	**+1.4**
IQOM				*e*		10 17 46.4	
	comp=Z,1μm,0.3s						
IVRN	**Varamin**	**2.77**	**156**	*e*Pn	**Pn**	**10 17 00.5**	**+1.9**
IVRN				*e*		10 17 47.2	
	comp=Z,511nm,0.3s						
HAGD	**Aghdareh**	**2.87**	**200**	*e*Pn	**Pn**	**10 17 01.7**	**+1.5**
HAGD				*e*		10 17 15.1	
	comp=Z,393nm,0.3s						
ISHM	**Shahmirzad**	**2.94**	**125**	*e*Pn	**Pn**	**10 17 02.6**	**+1.5**
ISHM				*e*		10 17 42.9	
	comp=Z,1μm,0.3s						
IGLO	**Ghaloghah**	**2.98**	**109**	*e*		10 17 46.8	
	comp=Z,943nm,0.4s						
ASAO	**Ashtian**	**2.99**	**185**	*e*Pn	**Pn**	**10 17 03.3**	**+1.5**
GHVR	**GHOM**	**3.14**	**165**	*e*Pn	**Pn**	**10 17 06.2**	**+2.4**
PQL	**Pirkuli**	**3.52**	**338**	S	**Sn**	**10 17 51.5**	**+0.7**
ISFB	**Sefidab**	**3.53**	**153**	*e*Pn	**Pn**	**10 17 11.0**	**+1.9**
IANJ	**Anjilo**	**3.54**	**125**	*e*Pn	**Pn**	**10 17 11.6**	**+2.2**
SIZA	**Siyzn**	**3.71**	**343**	P	**Pn**	**10 17 14.6**	**+3.0**
SIZA				S	**Sn**	**10 17 56.1**	**+0.7**
KHMZ	**Khomeyn**	**3.80**	**185**	*e*Pn	**Pn**	**10 17 14.9**	**+2.0**
KRSH	**Karshahi**	**3.84**	**157**	*e*Pn	**Pn**	**10 17 15.2**	**+1.7**
XNQ	**Khinaliq**	**4.01**	**336**	P	**Pn**	**10 17 17.4**	**+1.6**
XNQ				S	**Sn**	**10 17 59.9**	**-3.1**
QSAR	**Qusar**	**4.29**	**339**	S	**Sn**	**10 18 07.8**	**-1.7**
ANAR	**Anarak**	**5.14**	**146**	*e*Pn	**Pn**	**10 17 34.0**	**+2.7**

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*NNC **06** 10:17:16.5±0.7, 51.°74N×75.°45E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=10.3km s-min=4.3km az=27.0, Suspected Mining explosion.*
*IDC **06** 10:17:16.1±3.6, 51.°73N×75.°10E, h0km, mb1 3.0/3, mb1mx2.9/54, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=38.6km s-min=27.3km az=69.0*
ISC 06 10:17:16.5±1.2**, 51.°6N**±0.°1×**75.°09E**±0.°09**, h0**km**, n12,** σ**0.s76**/13**, 10C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.39**	**114**	Pn	**Pn**	**10 17 55.7**	**-1.1**
	0.7nm,0.3s,baz=294,slow=18,SNR=102						
KURBB				Sn	**Sn**	**10 18 26.6**	**-0.1**
	0.8nm,0.3s,baz=300,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**2.39**	**114**	⇑Pg	**Pn**	**10 17 57.3**	**+0.5**
	5.0nm,0.5s,baz=300,slow=15						
KURBB				⇑Lg	Lg	10 18 29.0	
	40nm,0.6s,baz=301,slow=28						
KURK	**Kurchatov**	**2.40**	**111**	⇑Pg	**Pn**	**10 17 56.7**	**-0.2**
	2.8nm,0.5s						
KURK				⇑Lg	Lg	10 18 25.3	
	17nm,0.6s						
BVA1	**Borovoye Array**	**3.21**	**298**	⇑Pg	**Pg**	**10 18 18.2**	**+0.3**
	3.9nm,0.5s						
BVA1				⇑Lg	Lg	10 19 03.4	
	19nm,0.7s						
BRVK	**Borovoye**	**3.28**	**298**	⇑Pg	**Pg**	**10 18 18.6**	**-0.7**
	3.6nm,0.6s						
BRVK				⇓Lg	Lg	10 19 04.6	
	16nm,0.7s						
OTUK	**Ortayu**	**3.83**	**209**	Lg	Lg	10 19 23.5	
I46RU	**ZALESOVO INFRA**	**6.34**	**65**	*i*		10 52 20.0	
	baz=252,slow=322,SNR=2.8						
ZALV	**Zalesovo Beam**	**6.34**	**65**	Pn	**Pn**	**10 18 51.7**	**+0.6**
	0.6nm,0.3s,baz=256,slow=13,SNR=11						
MAKZ	**Makanchi**	**6.60**	**134**	⇓Pn	**Pn**	**10 18 55.4**	**+0.6**
	3.5nm,1.1s						
MAKZ				⇓Sn	**Sn**	**10 20 10.7**	**0.0**
	1.0nm,0.6s						
MAKZ				⇑Lg	Lg	10 20 41.7	
	7.4nm,0.9s						
MK31	**Makanchi Array**	**6.75**	**133**	⇑Pn	**Pn**	**10 18 57.7**	**+0.9**
	0.2nm,0.5s,baz=316,slow=11,SNR=5.7						
MK31				⇑Sn	**Sn**	**10 20 13.2**	**-1.2**
	0.7nm,0.6s,baz=32,slow=55,SNR=3.3						
MK31				⇓Lg	Lg	10 20 47.0	
	2.8nm,0.6s,baz=324,slow=28,SNR=8.2						
MKAR	**Makanchi Array**	**6.75**	**133**	Pn	**Pn**	**10 18 57.5**	**+0.7**
	0.1nm,0.3s,baz=316,slow=13,SNR=6.7						
MKAR				Sn	**Sn**	**10 20 14.6**	**+0.2**
	0.2nm,0.3s,baz=318,slow=21,SNR=6.2						
MKAR				Lg	Lg	10 20 47.3	
	0.4nm,0.3s,baz=321,slow=27,SNR=8.5						
AAK	**Ala-Archa**	**9.00**	**183**	Lg	Lg	10 22 02.5	
	0.2nm,0.3s,baz=25,slow=20,SNR=2.4						

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*BJI **06** 10:27:04.1±0.0, 17.°70S×174.°55W, h225km, mb4.8/38, mB5.0/20*
*NEIC **06** 10:27:04.9±1.5, 18.°02S±0.°09×175.°18W±0.°07, h214km±6km, mb4.8/198, Error ellipse: s-maj=12.8km s-min=10.2km az=184.0*
*IDC **06** 10:27:04.2±1.9, 18.°16S×175.°22W, h206km±17km, mb4.4/17, mb1 4.6/20, mb1mx4.6/25, mbtmp5.0/20, MS4.0/1, Ms1 4.0/1, ms1mx3.2/65, Error ellipse: s-maj=12.9km s-min=9.7km az=133.0*
*NOU **06** 10:27:05.8, 18.°18S×175.°04W, h230km, mb5.3/88, Tonga Islands*
*BGR **06** 10:27:12.9±0.0, 17.°37S×174.°41W, h257km*
ISC 06 10:27:06.4±0.5**, 18.°04S**±0.°05×**175.°21W**±0.°04**, h232**km±4km**, h232**km**:pP-P, n699,** σ1.s**11**/696**, mb5.0**/182**, 45C-31D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.11**	**102**	P	**Pn**	**10 28 22.1**	**-1.0**
	baz=5.0,SNR=25						
NIUE	**Niue**	**5.11**	**102**		**Pn**	**10 28 21.0**	**-2.1**
NIUE				Sn	**S**	**10 29 22.2**	**-1.7**
NIUE	**Niue**	**5.11**	**102**	P	**Pn**	**10 28 22.2**	**-0.8**
AFI	**Afiamalu**	**5.27**	**39**	P	**Pn**	**10 28 22.6**	**-2.5**
	129nm,0.3s,baz=235,slow=16,SNR=183						
AFI				S	**S**	**10 29 19.3**	**-8.2**
	377nm,0.3s,baz=45,slow=21,SNR=13						
AFI	**Afiamalu**	**5.27**	**39**	P	**Pn**	**10 28 22.9**	**-2.2**
AFI	**Afiamalu**	**5.27**	**39**	P	**Pn**	**10 28 23.1**	**-2.0**
MSVF	**Nonsavu**	**6.43**	**272**	P	**Pn**	**10 28 43.7**	**+4.0**
	15nm,0.3s,baz=110,slow=13,SNR=17						
MSVF				LR	LR	10 31 04.9	
	comp=Z,1μm,19.7s,baz=38,slow=38						
MSVF	**Nonsavu**	**6.43**	**272**	Pn	**Pn**	**10 28 38.2**	**-1.5**
FUNA	**Funafuti**	**10.91**	**329**		**Pn**	**10 29 34.1**	**-2.7**
FUNA	**Funafuti**	**10.91**	**329**	P	**P**	**10 29 40.6**	**-1.4**
RAR	**Rarotonga**	**14.88**	**105**	P	**Pn**	**10 30 25.4**	**-0.5**
	2.4nm,0.3s,baz=256,slow=7.5,SNR=12						
RAR	**Rarotonga**	**14.88**	**105**	P	**Pn**	**10 30 24.4**	**-1.6**
RAR	**Rarotonga**	**14.88**	**105**	P	**Pn**	**10 30 25.0**	**-0.9**
MARNC	**Mare, Loyalty**	**16.15**	**255**	P	**P**	**10 30 39.9**	**-0.1**
MARNC	**Mare, Loyalty**	**16.15**	**255**	P	**Pn**	**10 30 40.7**	**-0.4**
LIFNC	**LIFOU**	**16.78**	**258**	P	**P**	**10 30 45.9**	**-1.1**
LIFNC	**LIFOU**	**16.78**	**258**	P	**Pn**	**10 30 48.0**	**-0.6**
	424nm,0.8s						
YATNC	**Mamie plateau,**	**17.29**	**254**	P	**Pn**	**10 30 54.2**	**-0.3**
OUENC	**Ouen Island, N**	**17.40**	**253**	P	**P**	**10 30 54.0**	**+0.3**
OUENC	**Ouen Island, N**	**17.40**	**253**	P	**Pn**	**10 30 55.4**	**-0.4**
DZM	**Mont Dzumac**	**17.70**	**254**	P	**P**	**10 30 57.1**	**+0.1**
	2.0nm,0.3s,baz=81,slow=17,SNR=35						
DZM	**Mont Dzumac**	**17.70**	**254**	*e*P	**Pn**	**10 30 58.6**	**-0.9**
DZM	**Mont Dzumac**	**17.70**	**254**	P	**P**	**10 30 57.6**	**+0.5**
DZM	**Mont Dzumac**	**17.70**	**254**	P	**P**	**10 30 58.0**	**+0.9**
ONTNC	**Ouen Toro**	**17.73**	**253**	P	**P**	**10 30 57.3**	**0.0**
ONTNC	**Ouen Toro**	**17.73**	**253**	P	**Pn**	**10 30 58.5**	**-1.2**
NOUC	**Port Laguerre**	**17.83**	**254**	P	**P**	**10 30 59.4**	**+1.0**
KOUNC	**Koumac, New Ca**	**19.52**	**259**	P	**P**	**10 31 16.4**	**-0.1**
KOUNC	**Koumac, New Ca**	**19.52**	**259**	P	**P**	**10 31 16.5**	**-0.1**
OUZ	**Omahuta**	**19.80**	**208**	P	**P**	**10 31 19.4**	**0.0**
OUZ				IAmb	IAmb	10 31 23.5	
	comp=Z,51nm,0.7s						
URZ	**Urewera**	**21.24**	**197**	P	**P**	**10 31 31.8**	**-2.7**
	comp=Z,58nm,0.5s,baz=1.3,slow=0.8,SNR=46						
URZ				S	**S**	**10 35 11.4**	**-3.9**
	comp=Z,9.6nm,0.5s,baz=81,slow=16,SNR=7.5						
URZ	**Urewera**	**21.24**	**197**	P	**P**	**10 31 33.6**	**-0.9**
BKZ	**Black Stump Fm**	**22.25**	**197**	P	**P**	**10 31 42.7**	**-1.6**
BFZ	**Birch Farm**	**23.74**	**196**	P	**P**	**10 31 56.5**	**-1.1**
PAE	**Paea**	**24.39**	**93**	*e*P	**P**	**10 32 03.6**	**-0.2**
	comp=Z,16nm,1.2s						
PPT2	**Papeete2**	**24.40**	**93**	*e*P	**P**	**10 32 04.0**	**0.0**
	comp=Z,70nm,1.2s						
QRZ	**Quartz Range**	**25.04**	**202**	P	**P**	**10 32 09.1**	**-0.3**
HNR	**Honiara**	**25.58**	**286**	P	**P**	**10 32 15.9**	**+1.3**
	comp=Z,175nm,0.8s,baz=143,slow=1.8,SNR=13						
HNR	**Honiara**	**25.58**	**286**	P	**P**	**10 32 16.1**	**+1.5**
PMOR	**Pomariorio Ree**	**26.35**	**87**	*e*P	**P**	**10 32 21.6**	**+0.2**
	comp=Z,121nm,1.1s						
VAH	**Vaihoa**	**26.56**	**88**	*e*P	**P**	**10 32 23.6**	**+0.3**
	comp=Z,40nm,1.0s						
WHZ	**Wether Hill Ro**	**31.10**	**203**	P	**P**	**10 33 02.9**	**-0.3**
EIDS	**Eidsvold**	**32.10**	**251**	P	**P**	**10 33 11.4**	**-0.6**
	baz=32,SNR=15						
EIDS	**Eidsvold**	**32.10**	**251**	P	**P**	**10 33 10.9**	**-1.2**
EIDS				IAmb	IAmb	10 33 12.3	
	comp=Z,54nm,1.0s						
EIDS	**Eidsvold**	**32.10**	**251**	P	**P**	**10 33 11.9**	**-0.2**
RK1H	**Rockhampton Ha**	**32.47**	**255**	P	**P**	**10 33 15.4**	**+0.1**
ARMA	**Armidale**	**32.53**	**241**	P	**P**	**10 33 15.9**	**-0.1**
	baz=33,SNR=20						
ARMA	**Armidale**	**32.53**	**241**	P	**P**	**10 33 15.2**	**-0.8**
ARMA				IAmb	IAmb	10 33 16.8	
	comp=Z,39nm,1.0s						
ARMA	**Armidale**	**32.53**	**241**	P	**P**	**10 33 16.6**	**+0.6**
MGCD	**Mangrove Creek**	**33.74**	**237**	P	**P**	**10 33 26.2**	**-0.1**
RMQ	**Roma**	**34.30**	**249**	P	**P**	**10 33 31.3**	**+0.2**
	baz=34,SNR=34						
RMQ	**Roma**	**34.30**	**249**	P	**P**	**10 33 31.4**	**+0.2**
RABL	**Rabaul**	**34.76**	**289**	P	**P**	**10 33 32.6**	**-2.6**
RABL				IAmb	IAmb	10 33 50.8	
	comp=Z,33nm,0.6s						
CNB	**Canberra Magne**	**35.79**	**234**	P	**P**	**10 33 43.5**	**-0.3**
	baz=36,SNR=7.0						
CNB	**Canberra Magne**	**35.79**	**234**	P	**P**	**10 33 43.4**	**-0.4**
CAN	**Canberra**	**36.08**	**234**	P	**P**	**10 33 45.7**	**-0.5**
CTA	**Charters Tower**	**36.43**	**260**	P	**P**	**10 33 48.6**	**-0.7**
	baz=69,slow=9.5						
CTA	**Charters Tower**	**36.43**	**260**	P	**P**	**10 33 48.7**	**-0.7**
CTAO	**Charters Tower**	**36.43**	**260**	P	**P**	**10 33 48.1**	**-1.2**
CTAO				IAmb	IAmb	10 33 50.9	
	comp=Z,58nm,1.1s						
CTAO	**Charters Tower**	**36.43**	**260**	⇑P	**P**	**10 33 48.7**	**-0.7**
CTAO				pP	**pwP**	**10 34 40.5**	**+1.4**
PMG	**Port Moresby**	**37.49**	**278**	P	**P**	**10 33 58.0**	**-0.3**
PMG	**Port Moresby**	**37.49**	**278**	P	**P**	**10 33 59.6**	**+1.3**
	comp=Z,100nm,0.9s						
PMG	**Port Moresby**	**37.49**	**278**	⇓P	**P**	**10 33 59.6**	**+1.3**
PMG				pP	**pP**	**10 34 44.2**	**-1.0**
PMG				sP	**sP**	**10 35 13.0**	**+1.5**
CMSA	**Cobar Meteorol**	**37.75**	**242**	P	**P**	**10 33 59.5**	**-0.8**
	baz=38,SNR=47						
CMSA	**Cobar Meteorol**	**37.75**	**242**	P	**P**	**10 33 59.7**	**-0.6**
QLP	**Quilpie**	**38.34**	**250**	P	**P**	**10 34 04.6**	**-0.6**
	baz=38,SNR=47						
QLP	**Quilpie**	**38.34**	**250**	P	**P**	**10 34 04.8**	**-0.5**
MTSU	**Mount Surprise**	**38.42**	**263**	P	**P**	**10 34 05.2**	**-0.9**
	baz=38,SNR=32						
MTSU	**Mount Surprise**	**38.42**	**263**	P	**P**	**10 34 06.3**	**+0.2**
TOO	**Toolangi**	**39.48**	**232**	P	**P**	**10 34 13.6**	**-1.0**
	baz=40,SNR=5.7						
TOO	**Toolangi**	**39.48**	**232**	P	**P**	**10 34 13.9**	**-0.7**
TOO				IAmb	IAmb	10 34 14.5	
	comp=Z,20nm,0.8s						
TOO	**Toolangi**	**39.48**	**232**	P	**P**	**10 34 13.6**	**-1.0**
COEN	**Coen**	**40.15**	**270**	P	**P**	**10 34 19.4**	**-1.0**
COEN				IAmb	IAmb	10 34 21.8	
	comp=Z,53nm,0.8s						
COEN	**Coen**	**40.15**	**270**	P	**P**	**10 34 20.0**	**-0.4**
TAU	**Tasmania Unive**	**40.22**	**224**	P	**P**	**10 34 20.4**	**-0.1**
TAU				IAmb	IAmb	10 35 25.5	
	comp=Z,161nm,1.8s						
BRAT	**Ballarat**	**40.65**	**233**	P	**P**	**10 34 24.0**	**-0.1**
STKA	**Stephens Creek**	**41.25**	**242**	P	**P**	**10 34 28.6**	**-0.6**
	comp=Z,76nm,1.0s,baz=82,slow=8.5,SNR=63						
STKA	**Stephens Creek**	**41.25**	**242**	P	**P**	**10 34 28.7**	**-0.4**
	baz=41,SNR=44						
STKA	**Stephens Creek**	**41.25**	**242**	P	**P**	**10 34 29.1**	**0.0**
STKA				IAmb	IAmb	10 34 30.5	
	comp=Z,23nm,1.1s						
STKA	**Stephens Creek**	**41.25**	**242**	P	**P**	**10 34 29.1**	**0.0**
MCQ	**Macquarie Isla**	**41.45**	**203**	P	**P**	**10 34 31.3**	**+1.0**
INKA	**Innaminka**	**41.53**	**248**	P	**P**	**10 34 31.8**	**+0.4**
ARPS	**Mount Arapiles**	**42.05**	**235**	P	**P**	**10 34 34.7**	**-0.8**
	baz=42,SNR=5.9						
ARPS	**Mount Arapiles**	**42.05**	**235**	P	**P**	**10 34 35.0**	**-0.5**
QIS	**Mount Isa**	**42.62**	**259**	P	**P**	**10 34 38.9**	**-1.5**
	baz=43,SNR=12						
QIS	**Mount Isa**	**42.62**	**259**	P	**P**	**10 34 38.8**	**-1.5**
HTT	**Hallett**	**43.72**	**240**	P	**P**	**10 34 48.1**	**-0.8**
	baz=44,SNR=17						
HTT	**Hallett**	**43.72**	**240**	P	**P**	**10 34 48.3**	**-0.7**
LCRK	**Leigh Creek**	**43.95**	**245**	P	**P**	**10 34 50.5**	**-0.3**
TWOA	**Tennyson Woods**	**44.26**	**238**	P	**P**	**10 34 52.5**	**-0.7**
NAPP	**Napperby**	**44.32**	**241**	P	**P**	**10 34 54.1**	**+0.4**
PTPS	**Port Pirie**	**44.45**	**241**	P	**P**	**10 34 55.0**	**+0.3**
WHYH	**Whyalla**	**44.78**	**241**	P	**P**	**10 34 56.8**	**-0.5**
	comp=Z,110nm,0.9s						
OOD	**Oodnadatta**	**46.01**	**249**	P	**P**	**10 35 07.2**	**+0.2**
BBOO	**Buckleboo**	**46.02**	**242**	P	**P**	**10 35 06.1**	**-1.0**
	baz=46,SNR=27						
BBOO	**Buckleboo**	**46.02**	**242**	P	**P**	**10 35 06.3**	**-0.7**
BBOO	**Buckleboo**	**46.02**	**242**	P	**P**	**10 35 06.2**	**-0.8**
WR0	**Warramunga Arr**	**47.41**	**259**	P	**P**	**10 35 17.0**	**-1.0**
WR0				IAmb	IAmb	10 35 17.8	
	comp=Z,31nm,0.8s						
MULG	**Mulgathing**	**47.52**	**245**	P	**P**	**10 35 18.0**	**-0.7**
WB0	**Warramunga Arr**	**47.57**	**259**	P	**P**	**10 35 17.6**	**-1.7**
WB2	**Warramunga Arr**	**47.59**	**259**	P	**P**	**10 35 17.6**	**-1.8**
WRAB	**Tennant Creek**	**47.59**	**259**	P	**P**	**10 35 17.9**	**-1.5**
WRAB	**Tennant Creek**	**47.59**	**259**	P	**P**	**10 35 18.9**	**-0.5**
WRAB	**Tennant Creek**	**47.59**	**259**	P	**P**	**10 35 18.2**	**-1.2**
WRA	**Warramunga Arr**	**47.60**	**259**	P	**P**	**10 35 18.8**	**-0.7**
	comp=Z,70nm,0.5s,baz=98,slow=7.0,SNR=1434						
WRA				PcP	**PcP**	**10 36 45.9**	**+0.4**
	comp=Z,4.1nm,0.5s,baz=98,slow=3.5,SNR=3.3						
WRA				S	**S**	**10 41 52.3**	**-5.0**
	comp=Z,1.2nm,0.8s,baz=93,slow=13,SNR=4.5						
WRA	**Warramunga Arr**	**47.60**	**259**	P	**P**	**10 35 17.8**	**-1.7**
AS31	**Alice Springs**	**47.69**	**254**	P	**P**	**10 35 19.5**	**-0.7**
ASAR	**Alice Springs**	**47.69**	**254**	P	**P**	**10 35 19.3**	**-0.8**
	comp=Z,485nm,0.7s,baz=90,slow=8.2,SNR=5026						
ASAR				PcP	**PcP**	**10 36 45.9**	**+0.2**
	comp=Z,12nm,0.8s,baz=96,slow=4.7,SNR=3.1						
ASAR				S	**S**	**10 41 54.0**	**-4.3**
	comp=Z,1.6nm,0.8s,baz=95,slow=16,SNR=7.7						
ASAR	**Alice Springs**	**47.69**	**254**	P	**P**	**10 35 19.8**	**-0.4**
KDU	**Kakadu**	**50.60**	**268**	P	**P**	**10 35 41.6**	**-0.6**
	baz=51,SNR=102						
KDU	**Kakadu**	**50.60**	**268**	P	**P**	**10 35 41.7**	**-0.5**
MTN	**Manton Dam**	**51.84**	**268**	P	**P**	**10 35 49.8**	**-1.6**
	baz=52,SNR=35						
MTN	**Manton Dam**	**51.84**	**268**	P	**P**	**10 35 50.6**	**-0.8**
MTN	**Manton Dam**	**51.84**	**268**	P	**P**	**10 35 50.7**	**-0.7**
WRKA	**Warakurna**	**52.70**	**252**	P	**P**	**10 35 56.7**	**-0.9**
	baz=53,SNR=121						
WRKA	**Warakurna**	**52.70**	**252**	P	**P**	**10 35 57.1**	**-0.6**
FORT	**Forrest**	**52.71**	**245**	P	**P**	**10 35 56.4**	**-1.1**
	baz=53,SNR=18						
FORT	**Forrest**	**52.71**	**245**	P	**P**	**10 35 56.3**	**-1.3**
FORT	**Forrest**	**52.71**	**245**	P	**P**	**10 35 56.6**	**-1.0**
SAUI	**Saumlaki**	**52.91**	**274**	P	**P**	**10 35 57.7**	**-1.6**
SAUI	**Saumlaki**	**52.91**	**274**	P	**P**	**10 36 00.0**	**+0.7**
KNRA	**Kununurra**	**53.51**	**264**	P	**P**	**10 36 02.7**	**-0.9**
	baz=54,SNR=93						
KNRA	**Kununurra**	**53.51**	**264**	P	**P**	**10 36 02.4**	**-1.1**
KNRA	**Kununurra**	**53.51**	**264**	P	**P**	**10 36 02.9**	**-0.7**
SWI	**Sorong**	**55.25**	**282**	P	**P**	**10 36 16.0**	**-0.1**
	comp=Z,88nm,0.8s						
BNDI	**Bandanaira**	**55.27**	**277**	P	**P**	**10 36 16.8**	**+0.5**
	comp=Z,192nm,1.1s						
DRV	**Dumont d'Urvil**	**56.54**	**200**	P	**P**	**10 36 20.3**	**-4.1**
DRV				pP	**pP**	**10 37 13.7**	**-1.6**
MSAI	**Masohi**	**56.57**	**278**	P	**P**	**10 36 25.5**	**0.0**
	comp=Z,788nmcomp=Z,11nm,0.8s						
AAI	**Ambon**	**57.16**	**277**	P	**P**	**10 36 29.4**	**-0.2**
	comp=Z,80nm,0.5s						
LBMI	**Labuha**	**58.84**	**280**	P	**P**	**10 36 41.9**	**+0.6**
	comp=Z,804nmcomp=Z,50nm,1.1s						
TNTI	**Ternate**	**59.46**	**282**	P	**P**	**10 36 45.6**	**+0.1**
	comp=Z,59nm,1.1s						
BATI	**Baumata**	**59.58**	**269**	P	**P**	**10 36 47.2**	**+0.8**
	comp=Z,92nm,0.9s						
SANI	**Sanana**	**59.77**	**278**	P	**P**	**10 36 47.1**	**-0.6**
	comp=Z,809nmcomp=Z,92nm,1.1s						
SANI	**Sanana**	**59.77**	**278**	P	**P**	**10 36 47.4**	**-0.3**
SBA	**Scott Base**	**60.50**	**184**	P	**P**	**10 36 53.8**	**+2.3**
SBA	**Scott Base**	**60.50**	**184**	⇓P	**P**	**10 36 53.7**	**+2.2**
SBA				⇓pP	**pwP**	**10 37 50.6**	**+4.6**
VNDA	**Vanda**	**60.59**	**186**	P	**P**	**10 36 52.9**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=358,slow=7.0,SNR=19						
VNDA	**Vanda**	**60.59**	**186**	P	**P**	**10 36 53.5**	**+1.3**
PSA00	**Pilbara Seismi**	**60.82**	**255**	P	**P**	**10 36 54.0**	**-0.7**
PSA00	**Pilbara Seismi**	**60.82**	**255**	P	**P**	**10 36 53.8**	**-0.9**
PSA00				IAmb	IAmb	10 36 54.8	
	comp=Z,60nm,1.1s						
PSA00	**Pilbara Seismi**	**60.82**	**255**	P	**P**	**10 36 53.8**	**-0.9**
MBWA	**Marble Bar**	**60.99**	**255**	P	**P**	**10 36 54.8**	**-1.0**
MBWA	**Marble Bar**	**60.99**	**255**	⇓P	**P**	**10 36 54.9**	**-0.9**
MEEK	**Meekatharra**	**61.24**	**249**	P	**P**	**10 36 56.0**	**-1.4**
	baz=61,SNR=20						
MEEK	**Meekatharra**	**61.24**	**249**	P	**P**	**10 36 56.3**	**-1.1**
MMRI	**Maumere**	**61.35**	**270**	P	**P**	**10 36 58.0**	**-0.3**
MMRI	**Maumere**	**61.35**	**270**	P	**P**	**10 36 57.6**	**-0.7**
	comp=Z,2μmcomp=Z,154nm,0.8s						
MMRI	**Maumere**	**61.35**	**270**	P	**P**	**10 36 57.4**	**-0.9**
KLBR	**Kellerberrin**	**61.50**	**243**	P	**P**	**10 36 58.1**	**-1.0**
	baz=62,SNR=18						
KLBR	**Kellerberrin**	**61.50**	**243**	P	**P**	**10 36 58.0**	**-1.0**
BBSI	**Bau Bau**	**61.92**	**273**	P	**P**	**10 37 02.7**	**+0.6**
	comp=Z,217nmcomp=Z,8.6nm,1.0s						
BLDU	**Ballidu**	**62.48**	**244**	P	**P**	**10 37 04.4**	**-1.1**
	baz=62,SNR=10						
BASI	**Baing, Sumba**	**62.51**	**268**	P	**P**	**10 37 06.4**	**+0.4**
	comp=Z,137nm,1.0s						
MUN	**Mundaring**	**62.78**	**243**	P	**P**	**10 37 07.0**	**-0.5**
	baz=63,SNR=7.3						
MUN	**Mundaring**	**62.78**	**243**	P	**P**	**10 37 07.1**	**-0.5**
LUWI	**Luwuk**	**63.14**	**278**	P	**P**	**10 37 09.5**	**-0.6**
	comp=Z,152nm,1.4s						
LUWI	**Luwuk**	**63.14**	**278**	P	**P**	**10 37 10.8**	**+0.7**
MORW	**Morawa**	**63.22**	**246**	P	**P**	**10 37 09.4**	**-1.0**
	baz=63,SNR=7.5						
MORW	**Morawa**	**63.22**	**246**	P	**P**	**10 37 09.5**	**-1.0**
MORW	**Morawa**	**63.22**	**246**	P	**P**	**10 37 09.6**	**-0.9**
BSSI	**Bau Bau, Buton**	**63.71**	**272**	P	**P**	**10 37 13.4**	**-0.5**
	comp=Z,55nm,0.9s						
WBSI	**Waikabubak, Su**	**63.79**	**268**	P	**P**	**10 37 14.2**	**-0.2**
	comp=Z,1μmcomp=Z,107nm,1.1s						
APSI	**Ampana**	**64.24**	**278**	P	**P**	**10 37 18.7**	**+1.4**
	comp=Z,1μmcomp=Z,92nm,1.2s						
BKSI	**Bulukumba**	**64.30**	**273**	P	**P**	**10 37 16.9**	**-0.8**
	comp=Z,38nm,0.8s						
MRSI	**Marisa**	**64.43**	**279**	P	**P**	**10 37 18.5**	**-0.1**
	comp=Z,41nm,0.6s						
BNSI	**Bone**	**64.59**	**274**	P	**P**	**10 37 19.6**	**0.0**
	comp=Z,913nmcomp=Z,113nm,1.1s						
KAPI	**Kappang**	**64.74**	**273**	P	**P**	**10 37 20.4**	**-0.2**
KAPI	**Kappang**	**64.74**	**273**	P	**P**	**10 37 20.6**	**0.0**
SPSI	**Sidrap Palu**	**65.04**	**274**	P	**P**	**10 37 21.3**	**-1.2**
	comp=Z,66nm,0.9s						
TTSI	**Tana Toraja**	**65.28**	**275**	P	**P**	**10 37 23.9**	**-0.2**
	comp=Z,2μmcomp=Z,33nm,0.8s						
CCD	**Concordia, Ant**	**65.50**	**194**	P	**P**	**10 37 25.3**	**+0.4**
PLAI	**Plampang**	**65.54**	**268**	P	**P**	**10 37 25.2**	**-0.5**
	comp=Z,2μmcomp=Z,282nm,1.0s						
PLAI	**Plampang**	**65.54**	**268**	P	**P**	**10 37 25.5**	**-0.2**
TOLI2	**Tolitoli**	**65.74**	**280**	P	**P**	**10 37 26.6**	**-0.4**
TOLI2				IAmb	IAmb	10 37 27.8	
	comp=Z,26nm,0.9s						
TOLI2	**Tolitoli**	**65.74**	**280**	P	**P**	**10 37 27.3**	**+0.3**
GIRL	**Giralia**	**65.77**	**253**	P	**P**	**10 37 27.7**	**+0.7**
	baz=66,SNR=5.8						
GIRL	**Giralia**	**65.77**	**253**	P	**P**	**10 37 26.8**	**-0.2**
MPSI	**Mapaga**	**66.31**	**279**	P	**P**	**10 37 30.0**	**-0.6**
	comp=Z,729nmcomp=Z,69nm,1.0s						
JHJ2	**Mitsune**	**66.58**	**320**	P	**P**	**10 37 31.5**	**-0.4**
IGBI	**Denpasar**	**68.04**	**268**	P	**P**	**10 37 41.1**	**-0.4**
	comp=Z,2μmcomp=Z,221nm,1.0s						
SRBI	**Singaraja**	**68.18**	**268**	P	**P**	**10 37 41.8**	**-0.5**
	comp=Z,1μmcomp=Z,120nm,1.1s						
JYT	**Yasato**	**68.49**	**322**	P	**P**	**10 37 44.2**	**+0.4**
SMKI	**Samarinda**	**68.58**	**277**	P	**P**	**10 37 47.2**	**+2.4**
JAGI	**Jajag, Banyuwa**	**69.08**	**268**	P	**P**	**10 37 46.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**69.08**	**268**	P	**P**	**10 37 46.5**	**-1.4**
	comp=Z,2μmcomp=Z,188nm,1.0s						
JAGI	**Jajag, Banyuwa**	**69.08**	**268**	P	**P**	**10 37 46.9**	**-1.0**
ABJI	**Asem Bagus**	**69.19**	**268**	P	**P**	**10 37 48.4**	**-0.2**
	comp=Z,121nm,1.0s						
JMM	**Marumori**	**69.30**	**324**	P	**P**	**10 37 48.9**	**+0.2**
JMM				IAmb	IAmb	10 37 50.6	
	comp=Z,40nm,1.0s						
ADK	**Adak**	**69.63**	**359**	P	**P**	**10 37 51.5**	**+1.1**
KMMI	**Kalianget**	**69.66**	**269**	P	**P**	**10 37 50.4**	**-1.0**
	comp=Z,93nm,1.0s						
JGF	**Kuroka**	**69.75**	**320**	IAmb	IAmb	10 37 53.3	
	comp=Z,17nm,0.9s						
INU	**Inuyama**	**69.79**	**320**	IAmb	IAmb	10 37 53.8	
	comp=Z,51nm,1.4s						
INU	**Inuyama**	**69.79**	**320**	P	**P**	**10 37 52.7**	**+0.9**
INU	**Inuyama**	**69.79**	**320**	P	**P**	**10 37 53.3**	**+1.5**

GMJI	Gumukmas	69.81	268	P	P	10 37 51.5	-0.9
	comp=Z,92nm,0.9s						
BLJI	Banyuglugur	69.81	268	P	P	10 37 52.2	-0.2
	comp=Z,2µmcomp=Z,118nm,0.9s						
MJAR	Matsushiro Arr	69.87	321	P	P	10 37 52.7	+0.5
	comp=Z,25nm,0.7s,baz=185,slow=4.2,SNR=23						
MJAR	Matsushiro Arr	69.87	321	IAmb	IAmb	10 37 53.8	
	comp=Z,31nm,0.9s						
MJB9	Matsu-Tunnel	69.88	321	P	P	10 37 52.2	-0.1
MJB9				IAmb	IAmb	10 37 54.0	
	comp=Z,39nm,0.9s						
BBKI	Banjar Baru	69.88	273	P	P	10 37 53.6	+0.8
	comp=Z,2µmcomp=Z,78nm,0.9s						
MTKI	Muara Teweh, K	70.61	275	P	P	10 37 57.7	+0.5
	comp=Z,39nm,0.6s						
JSD	Sado	70.85	323	IAmb	IAmb	10 38 00.4	
	comp=Z,48nm,1.0s						
PWJI	Pagerwojo	71.44	267	P	P	10 38 02.0	-0.2
	comp=Z,120nm,0.8s						
KKM	Kota Kinabalu	71.74	283	P	P	10 38 04.6	+0.5
KKM				IAmb	IAmb	10 38 05.0	
	comp=Z,26nm,0.8s						
UNV	Unalaska Valle	71.98	5	P	P	10 38 04.7	+0.3
UNV	Unalaska Valle	71.98	5	P	P	10 38 04.9	+0.4
	baz=189						
PCJI	Pacitan	71.99	267	P	P	10 38 05.6	+0.2
	comp=Z,4µmcomp=Z,465nm,0.8s						
QSPA	South Pole Qui	72.02	180	P	P	10 38 05.7	+0.8
QSPA				IAmb	IAmb	10 38 06.5	
	comp=Z,13nm,0.8s						
JNU	Nakatsue	72.37	315	P	P	10 38 06.9	-0.4
JNU	Nakatsue	72.37	315	P	P	10 38 08.6	+1.3
UGM	Wanagama	72.69	267	P	P	10 38 09.5	-0.1
UGM	Wanagama	72.69	267	P	P	10 38 09.2	-0.4
	comp=Z,193nm,0.7s						
PBKI	Pangkalan Bun	73.12	273	P	P	10 38 13.1	+0.9
	comp=Z,6µmcomp=Z,206nm,1.0s						
FALS	False Pass	73.30	7	P	P	10 38 12.7	+0.5
	baz=192						
STKI	Sintang	74.17	275	P	P	10 38 19.2	+1.0
	comp=Z,10µmcomp=Z,76nm,0.9s						
SBUM	Sibu	74.24	278	P	P	10 38 18.8	+0.2
SBUM				IAmb	IAmb	10 38 20.6	
	comp=Z,20nm,0.8s						
KPJI	Karang Pucung	74.36	267	P	P	10 38 19.1	-0.2
	comp=Z,80nm,0.9s						
CIS	Catalina Islan	74.50	47	P	P	10 38 19.6	-0.1
	baz=236						
PEA0B	Petropavlovsk-	74.63	343	P	P	10 38 20.9	+1.0
PEA0B				IAmb	IAmb	10 38 22.2	
	comp=Z,70nm,1.4s						
PETK	Petropavlovsk-	74.63	343	P	P	10 38 20.4	+0.4
	comp=Z,8.2nm,0.6s,baz=120,slow=8.9,SNR=18						
CMJI	Cimerak	74.69	267	P	P	10 38 20.4	-0.8
	comp=Z,69nm,1.0s						
SSLB	Suanglung	74.88	302	P	P	10 38 22.6	+0.5
SSLB				IAmb	IAmb	10 38 24.3	
	comp=Z,31nm,0.9s						
YSS	Yuzh-Sakhalins	74.94	332	P	P	10 38 22.3	+0.5
YSS				IAmb	IAmb	10 38 24.6	
	comp=Z,52nm,1.0s						
YSS	Yuzh-Sakhalins	74.94	332	P	P	10 38 24.3	+2.5
ARVC	Arvin	75.19	45	P	P	10 38 24.2	+0.6
	baz=235						
VES	Vestal, Richgr	75.43	44	P	P	10 38 26.0	+1.0
	baz=235						
MONP2	Monument Peak	75.61	48	P	P	10 38 27.6	+1.2
	baz=237						
EDW2	Edwards Air Fo	75.62	46	P	P	10 38 26.9	+0.7
	baz=236						
IKP	In-Ko-Pah, Jac	75.70	48	P	P	10 38 27.9	+1.3
	baz=237						
O02D	Mt. Diablo Mer	75.71	39	IAmb	IAmb	10 38 29.7	
	comp=Z,10nm,0.8s						
O02D	Mt. Diablo Mer	75.71	39	P	P	10 38 28.1	+1.5
	baz=231						
KSM	Kuching	75.73	276	P	P	10 38 28.3	+1.2
KSM	Kuching	75.73	276	P	P	10 38 28.3	+1.2
ISA	Isabella, Lake	75.74	45	P	P	10 38 27.9	+1.1
	baz=235						
LEM	Lembang	75.76	267	P	P	10 38 27.8	+0.3
	comp=Z,1µmcomp=Z,130nm,0.9s						
CMB	Columbia Colle	75.88	42	P	P	10 38 26.1	-1.3
PFO	Pinyon Flats O	75.97	47	P	P	10 38 29.3	+1.0
	baz=237						
TPFO	Pinon Flats	75.97	47	P	P	10 38 29.2	+0.9
	baz=237						
SWSC	Sam W. Stewart	76.08	48	P	P	10 38 29.6	+1.0
	baz=237						
CNJI	Cibinong	76.08	267	P	P	10 38 27.9	-1.2
	comp=Z,111nm,0.9s						
N02D	Trinity Center	76.26	38	P	P	10 38 31.0	+1.3
	baz=231						
O03E	Paynes Creek	76.37	39	P	P	10 38 31.9	+1.6
	baz=232						
M02C	Callahan	76.44	38	P	P	10 38 31.6	+1.0
	baz=231						
CWC	Cottonwood Cre	76.44	44	P	P	10 38 32.0	+1.1
	baz=235						
L02E	Cave Junction	76.49	37	P	P	10 38 31.7	+0.9
	baz=230						
BELC	Belle Mtn. Jos	76.51	47	P	P	10 38 31.8	+0.6
	baz=237						
MPMC	Manual Prospec	76.62	45	P	P	10 38 32.6	+0.7
	baz=236						
MLAC	Mammoth, Mammo	76.63	43	P	P	10 38 32.8	+0.8
	baz=234						
DBJI	Dramaga	76.66	267	P	P	10 38 32.4	0.0
	comp=Z,84nm,1.0s						
GSC	Goldstone, Bar	76.66	46	IAmb	IAmb	10 39 35.2	
	comp=Z,17nm,1.7s						
GSC	Goldstone, Bar	76.66	46	P	P	10 38 33.1	+1.0
	baz=236						
HEC	Hector,Ludlow	76.72	46	P	P	10 38 33.5	+1.1
	baz=237						
KSRS	Korea Array	76.85	317	P	P	10 38 35.0	+2.1
	comp=Z,19nm,1.0s,baz=136,slow=6.3,SNR=59						
KSRS				PP	PP	10 41 31.1	+1.6
	comp=Z,0.5nm,0.6s,baz=121,slow=8.9,SNR=1.6						
KSAR	Wonju Array Be	76.87	317	P	P	10 38 34.5	+1.5
KS19	Wonju Array Si	76.92	317	P	P	10 38 33.8	+0.5
KS19				IAmb	IAmb	10 38 36.2	
	comp=Z,30nm,1.1s						
BEKR	Beckworth	76.99	40	IAmb	IAmb	10 38 36.2	
	comp=Z,18nm,1.6s						
PNTR	Pine Nut	77.00	41	IAmb	IAmb	10 38 36.6	
	comp=Z,20nm,1.5s						
YERR	Yerington	77.16	41	IAmb	IAmb	10 38 37.4	
	comp=Z,26nm,1.6s						
IRM	Iron Mountain	77.19	47	P	P	10 38 36.5	+1.6
	baz=238						
LHV	Little Huntoon	77.20	42	IAmb	IAmb	10 39 35.2	
	comp=Z,16nm,1.6s						
GRAC	Grapevine Rang	77.23	44	P	P	10 38 36.7	+1.6
	baz=236						
FURC	Furnace Creek,	77.27	45	P	P	10 38 36.8	+1.6
	baz=236						
M04C	Macdoel	77.27	38	P	P	10 38 37.0	+1.6
	baz=231						
L04D	Klamath Falls	77.28	37	P	P	10 38 37.1	+1.8
	baz=231						
RYN	Ryan	77.41	42	IAmb	IAmb	10 38 38.7	
	comp=Z,22nm,1.9s						
NVAR	Mina Array Bea	77.44	42	P	P	10 38 37.9	+1.5
	comp=Z,3.6nm,0.8s,baz=224,slow=8.7,SNR=26						
I02E	Swisshome, OR	77.61	35	P	P	10 38 38.4	+1.5
	baz=229						
I03D	Drain, OR	77.62	36	P	P	10 38 38.1	+1.1
	baz=230						
CGJI	Cibinong	77.65	267	P	P	10 38 36.9	-1.0
	comp=Z,129nm,0.8s						
INCN	Inchon	77.71	316	P	P	10 38 39.1	+1.4
INCN				IAmb	IAmb	10 38 40.7	
	comp=Z,47nm,1.1s						
INCN	Inchon	77.71	316	P	P	10 38 40.2	+2.5
KDAK	Kodiak Island	77.84	12	P	P	10 38 38.8	+0.9
KDAK	Kodiak Island	77.84	12	P	P	10 38 39.3	+1.4
	baz=202						
KVN	Kaiserville	77.92	42	P	P	10 38 39.2	+0.2
KVN				IAmb	IAmb	10 39 38.8	
	comp=Z,20nm,1.6s						
TPH	Tonopah	77.93	43	IAmb	IAmb	10 39 39.8	
	comp=Z,38nm,1.1s						
TPNV	Topopah Spring	77.94	45	P	P	10 38 40.8	+1.6
TPNV	Topopah Spring	77.94	45	P	P	10 38 39.7	+0.5
	baz=236						
PDMCI	Parker Dam,Lak	77.97	48	P	P	10 38 39.7	+0.5
	baz=238						
J04D	Umpqua Nationa	78.03	37	P	P	10 38 41.0	+1.5
	baz=231						
I04A	Tendick Farm,	78.21	36	P	P	10 38 41.3	+1.0
	baz=231						
MOD	Modoc Plateau	78.25	39	P	P	10 38 42.1	+1.3
HEBO	Mount Hebo	78.38	34	P	P	10 38 43.1	+1.8
K05A	Summer Lake	78.41	38	P	P	10 38 43.6	+2.0
K05A				IAmb	IAmb	10 39 42.9	
	comp=Z,14nm,1.1s						
USA0B	Ussuriysk Arra	78.47	324	P	P	10 38 42.1	+0.5
USA0B				IAmb	IAmb	10 38 44.7	
	comp=Z,19nm,1.1s						
USRK	Ussuriysk Ar.	78.47	324	P	P	10 38 43.6	+2.0
	comp=Z,4.4nm,0.7s,baz=116,slow=4.4,SNR=20						
USRK	Ussuriysk Ar.	78.47	324	P	P	10 38 42.7	+1.0
H04D	Lebanon	78.49	35	P	P	10 38 43.0	+1.2
	baz=230						
PPBI	Pangkal Pinang	78.55	271	P	P	10 38 43.6	+0.8
J05D	Fort Rock, OR	78.56	37	P	P	10 38 43.7	+1.3
	baz=232						
G03D	McMinnville, O	78.64	35	P	P	10 38 43.3	+0.7
	baz=230						
Q19K	Cape Douglas,	78.71	11	P	P	10 38 43.6	+0.9
	baz=201						
P18K	Big Mountain,	78.86	10	IAmb	IAmb	10 38 45.0	
	comp=Z,38nm,0.9s						
P18K	Big Mountain,	78.86	10	P	P	10 38 44.1	+0.5
	baz=199						
PINE	Pine Mountain	79.04	37	IAmb	IAmb	10 38 47.8	
	comp=Z,14nm,0.9s						
KASI	Kota Agung	79.10	268	P	P	10 38 44.8	-1.0
	comp=Z,1µmcomp=Z,137nm,0.9s						
KLSI		79.13	269	P	P	10 38 44.6	-1.4
	comp=Z,7.2nm,1.0s						
I05D	Terrebonne, OR	79.15	36	P	P	10 38 46.8	+1.3
	baz=231						
R11A	Troy Canyon, C	79.16	44	P	P	10 38 45.9	+0.1
	baz=237						
E03A	Lebam	79.35	33	IAmb	IAmb	10 38 50.0	
	comp=Z,22nm,1.0s						
TUC	Tucson	79.39	51	P	P	10 38 46.2	-0.8
TUC	Tucson	79.39	51	P	P	10 38 48.0	+0.9
	baz=241						
WVOR	Wild Horse Val	79.56	39	P	P	10 38 47.2	-0.6
HOOD	Mount Hood Mea	79.59	35	P	P	10 38 47.4	-0.6
HOOD				IAmb	IAmb	10 38 50.2	
	comp=Z,21nm,1.4s						
LWLI	Liwa	79.67	268	P	P	10 38 48.1	-0.9
	comp=Z,10µmcomp=Z,180nm,0.5s						
G05D	Wamic, OR	79.73	35	P	P	10 38 49.0	+0.5
	baz=231						
O19K	Port Alsworth	79.78	10	P	P	10 38 48.2	-0.1
O19K				IAmb	IAmb	10 38 50.0	
	comp=Z,38nm,1.0s						
O19K	Port Alsworth	79.78	10	P	P	10 38 48.7	+0.4
	baz=200						
E04D	Cinebar	79.88	34	P	P	10 38 49.8	+0.6
	baz=230						
X16A	Lo Mia Camp, P	79.95	49	P	P	10 38 49.2	-1.0
O20K	Slope Mountain	79.98	11	P	P	10 38 50.9	+1.4
	baz=202						
BRSE	Bradley Lake S	80.03	12	P	P	10 38 50.6	+0.8
	baz=204						
F05D	White Salmon	80.05	35	P	P	10 38 49.7	-0.5
F05D	White Salmon	80.05	35	P	P	10 38 51.2	+1.0
	baz=231						
MDJ	Mudanjiang	80.08	323	IAmb	IAmb	10 38 53.4	
	comp=Z,35nm,1.1s						
MDJ	Mudanjiang	80.08	323	P	P	10 38 52.8	+2.5
D04E	Lakebay	80.17	33	P	P	10 38 51.6	+0.9
	baz=230						
J08A	Circle Bar Ran	80.20	38	P	P	10 38 51.6	+0.4
J08A				IAmb	IAmb	10 38 53.6	
	comp=Z,12nm,1.1s						
D03D	Eldon	80.24	33	P	P	10 38 52.7	+1.5
	baz=230						
RSO	Redoubt South	80.31	11	P	P	10 38 51.8	+0.3
N19K	Bonanza Creek	80.33	10	P	P	10 38 52.6	+1.1
	baz=200						
U15A	North Rim	80.36	47	P	P	10 38 52.2	-0.3
NJ2	Nanjing	80.39	308	*e*P	P	10 38 54.5	+2.2
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
WUAZ	Wupatki	80.54	48	P	P	10 38 54.6	+1.3
	baz=240						
DSRI	Dabo	80.55	273	P	P	10 38 54.4	+0.8
	comp=Z,32nm,1.2s						
O22K	Cooper Landing	80.91	12	P	P	10 38 56.0	+1.6
	baz=204						
DLV	T Lat	80.96	286	P	P	10 38 57.7	+1.8
G08A	Pilot Rock	81.07	36	P	P	10 38 55.4	-0.4
G08A				IAmb	IAmb	10 38 58.2	
	comp=Z,10nm,0.9s						
A04D	Lummi Island	81.20	32	P	P	10 38 57.6	+1.5
	baz=230						
B05A	Bryant	81.22	33	P	P	10 38 57.7	+1.4
	baz=230						
E07A	Sunnyside	81.34	35	IAmb	IAmb	10 38 59.5	
	comp=Z,10nm,0.8s						
RC01	Rabbit Creek A	81.47	12	P	P	10 38 58.6	+1.3
	baz=204						
KSI	Kapahiang	81.47	269	P	P	10 38 58.0	-0.5
	comp=Z,51nm,0.4s						
PWL	Port Wells	81.55	13	P	P	10 38 58.3	+0.6
	baz=206						
L19K	White Mountain	81.56	9	P	P	10 38 59.1	+1.2
	baz=199						
GAMB	Gambell	81.59	2	IAmb	IAmb	10 39 00.6	
	comp=Z,24nm,1.4s						
GAMB	Gambell	81.59	2	P	P	10 38 59.4	+1.5
	baz=183,SNR=8.3						
BELA	Belgrano 2	81.64	172	P	P	10 38 57.9	-0.2
MFID	Camas Ranch	81.81	39	P	P	10 38 58.9	-0.8
GLI	Glacier Island	81.83	13	P	P	10 39 00.1	+0.8
	baz=207						
EYAK	Cordova Ski Ar	81.84	14	P	P	10 38 59.9	+0.6
	baz=208						
MYKOM	Kota Tinggi	81.94	275	P	P	10 39 01.3	+0.4
DUG	Dugway, Tooele	81.96	43	P	P	10 39 01.5	+0.9
	baz=238						
BNX	BinXian	81.99	323	⇓P	P	10 39 01.4	+1.0
BNX				pmax	pmax		
	comp=Z,76nm,1.1s						
BNX				pmax	pmax		
	comp=Z,200nm,7.6s						
M22K	Willow	82.00	12	IAmb	IAmb	10 39 01.5	
	comp=Z,39nm,0.9s						
M22K	Willow	82.00	12	P	P	10 39 00.5	+0.5
	baz=204						
CN2	Changchun	82.01	321	*e*P	P	10 39 02.3	+1.7
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
KNK	Knik Glacier	82.02	13	P	P	10 39 01.3	+1.0
	baz=206						
PMR	Palmer	82.05	12	P	P	10 39 00.9	+0.7
	baz=205						
TTA	Tatalina	82.10	9	P	P	10 39 01.6	+0.9
	baz=198						
D08A	Wollman Farm,	82.16	35	P	P	10 39 00.4	-0.8
D08A				IAmb	IAmb	10 39 03.2	
	comp=Z,9.4nm,0.9s						
MA2	Magadan	82.16	343	P	P	10 39 00.4	-0.5
MA2				IAmb	IAmb	10 39 02.5	
	comp=Z,31nm,1.4s						
MA2	Magadan	82.16	343	P	P	10 39 01.6	+0.6
DIV	Divide	82.35	14	IAmb	IAmb	10 39 03.7	
	comp=Z,24nm,0.8s						
SML	Sawmill	82.40	13	P	P	10 39 03.3	+1.1
	baz=206						
WRAK	Wrangell Islan	82.43	22	P	P	10 39 03.5	+1.1
	baz=221						
F10A	Beach Ranch, E	82.46	37	P	P	10 39 02.4	-0.6
F10A				IAmb	IAmb	10 39 04.8	
	comp=Z,12nm,0.9s						
BMRM	Bremner River	82.48	15	P	P	10 39 03.4	+0.7
	baz=209						
CUT	Chulitna	82.57	11	P	P	10 39 03.3	+0.3
	baz=204						
SCM	Sheep Creek Mo	82.64	13	IAmb	IAmb	10 39 05.2	
	comp=Z,33nm,0.9s						
SCM	Sheep Creek Mo	82.64	13	P	P	10 39 04.0	+0.6
	baz=207,SNR=5.4						
ANM	Nome	82.69	4	IAmb	IAmb	10 39 06.2	
	comp=Z,10nm,1.0s						
ANM	Nome	82.69	4	P	P	10 39 05.0	+1.4
	baz=189						
B08A	Colville Reser	82.72	34	P	P	10 39 04.5	+0.3
PNL	Peninsula	82.74	17	P	P	10 39 05.2	+1.2
	baz=214						
HLID	Hailey	82.75	40	P	P	10 39 06.0	+1.3
	baz=237						
K20K	Telida	82.80	9	P	P	10 39 04.9	+0.7
	baz=200						
LLLB	Lillooet	82.83	31	P	P	10 39 04.3	-0.4
LLLB				IAmb	IAmb	10 39 06.8	
	comp=Z,12nm,1.1s						
SRU	San Rafael Swe	82.92	45	IAmb	IAmb	10 41 03.5	
	comp=Z,8.4nm,0.6s						
C09A	Chrisman Ranch	82.95	35	IAmb	IAmb	10 40 06.7	
	comp=Z,13nm,1.2s						
N25K	Chitina, Valde	83.05	14	IAmb	IAmb	10 39 07.4	
	comp=Z,20nm,0.8s						
N25K	Chitina, Valde	83.05	14	P	P	10 39 06.6	+1.0
	baz=209,SNR=6.5						
M24K	Tolsona, Glenn	83.13	13	P	P	10 39 05.7	-0.3
	baz=208						
WHN	Wuhan	83.16	305	⇑P	P	10 39 08.8	+2.0
MNTX	Cornudas Mount	83.18	54	P	P	10 39 06.3	-0.6
	baz=244						
CAST	Castle Rocks	83.18	10	P	P	10 39 05.3	-0.9
CAST				IAmb	IAmb	10 39 06.6	
	comp=Z,14nm,1.2s						
CAST	Castle Rocks	83.18	10	P	P	10 39 06.0	-0.2
	baz=202						
WAT6	Susitna Watana	83.22	12	P	P	10 39 07.2	+0.6
	baz=206,SNR=7.0						
BARN	Barnard Glacie	83.29	16	IAmb	IAmb	10 39 09.1	
	comp=Z,13nm,0.8s						
P18A	Preston Nutter	83.37	45	IAmb	IAmb	10 40 45.6	
	comp=Z,13nm,1.4s						
TXAR	Lajitas Array	83.51	56	P	P	10 39 10.9	+2.2
	comp=Z,1.1nm,0.8s,baz=226,slow=7.5,SNR=12						
TRF	Thorofare Moun	83.52	11	P	P	10 39 08.3	+0.3
	baz=204,SNR=5.4						
TNA	Tin City	83.53	3	IAmb	IAmb	10 39 10.4	
	comp=Z,32nm,1.2s						
TNA	Tin City	83.53	3	P	P	10 39 08.9	+1.1
	baz=187,SNR=26						
CHUM	Lake Minchumin	83.57	10	P	P	10 39 08.5	+0.4
	baz=202						
TIA	Tai'an	83.61	311	P	P	10 39 10.5	+1.5
TIA				pmax	pmax		
	comp=Z,18nm,1.0s						
HARP	HAARP	83.61	14	P	P	10 39 09.2	+0.9
	baz=209						
PV13	Radium Mtn., P	83.62	47	IAmb	IAmb	10 40 10.7	
	comp=Z,20nm,1.7s						
PV23	Carpenter Ridg	83.63	46	IAmb	IAmb	10 39 11.8	
	comp=Z,11nm,0.8s						
PV11	David Mesa, Pa	83.65	46	IAmb	IAmb	10 39 13.0	
	comp=Z,10nm,1.1s						
GCSA	Galena City Sc	83.72	8	P	P	10 39 10.3	+1.6
	baz=197,SNR=6.1						
DHY	Denali Highway	83.74	12	P	P	10 39 09.7	+0.5
	baz=206						
RND	Reindeer	83.75	12	P	P	10 39 09.7	+0.6
RND				IAmb	IAmb	10 39 11.0	
	comp=Z,42nm,1.1s						
SKAG	Skagway	83.78	19	P	P	10 39 10.4	+1.1
	baz=218						
ANMO	Albuquerque	83.81	50	P	P	10 39 10.0	-0.2
ANMO	Albuquerque	83.81	50	P	P	10 39 10.7	+0.5
	baz=243						
NEW	Newport	83.85	35	P	P	10 39 10.6	+0.7
	baz=234						
BPAW	Bear Paw Mtn.	84.00	10	P	P	10 39 10.5	+0.2
	baz=203						
MCK	McKinley	84.03	11	P	P	10 39 10.7	+0.2
MCK				IAmb	IAmb	10 39 12.1	
	comp=Z,33nm,0.9s						
MCK	McKinley	84.03	11	P	P	10 39 11.1	+0.6
	baz=205,SNR=13						
PAX	Paxson	84.05	13	P	P	10 39 11.2	+0.5
	baz=208						
YUK6	Outpost Mounta	84.08	17	P	P	10 39 11.4	+0.4
	baz=215						
BKNI	Bangkinang	84.16	272	P	P	10 39 13.2	+0.9
	comp=Z,4µmcomp=Z,62nm,0.7s						
YUK3	Moose Creek	84.21	16	P	P	10 39 12.4	+0.8
	baz=213,SNR=5.3						
HYT	Haines Junctio	84.23	18	P	P	10 39 12.9	+1.2
	baz=216						
RDMU	Red Mountain	84.28	44	IAmb	IAmb	10 39 14.9	
	comp=Z,24nm,1.8s						
YUK4	Talbot Arm	84.33	17	P	P	10 39 13.8	+1.5
	baz=215						
M27K	Edge Creek, AK	84.35	15	IAmb	IAmb	10 39 14.8	
	comp=Z,27nm,1.0s						
M27K	Edge Creek, AK	84.35	15	P	P	10 39 13.3	+1.1
	baz=212						
AHID	Auburn Hatcher	84.39	42	IAmb	IAmb	10 40 33.1	
	comp=Z,28nm,1.9s						
L26K	Log Cabin Wild	84.57	14	P	P	10 39 14.4	+1.2
	baz=210						
BVCY	Beaver Creek	84.65	15	P	P	10 39 14.8	+1.2
	baz=212						
MAW	Mawson	84.75	199	P	P	10 39 14.5	+0.4
	comp=Z,16nm,0.7s,baz=140,slow=9.2,SNR=20						
MAW	Mawson	84.75	199	P	P	10 39 13.5	-0.7
	baz=85,SNR=11						
MAW	Mawson	84.75	199	P	P	10 39 14.2	+0.1
DLBC	Dease Lake	84.78	22	P	P	10 39 15.2	+0.8
DLBC				IAmb	IAmb	10 39 16.5	
	comp=Z,9.0nm,0.9s						
NEA2	Nenana	84.79	11	P	P	10 39 13.7	-0.5
NEA2				IAmb	IAmb	10 39 16.1	
	comp=Z,16nm,1.0s						
NEA2	Nenana	84.79	11	P	P	10 39 14.2	0.0
	baz=205,SNR=7.0						
S22A	4UR Ranch, Cre	84.82	48	IAmb	IAmb	10 40 17.4	
	comp=Z,14nm,1.4s						
S22A	4UR Ranch, Cre	84.82	48	P	P	10 39 16.3	+0.9
	baz=243						
I21K	Tanana	84.83	10	P	P	10 39 14.8	+0.4
I21K				IAmb	IAmb	10 39 16.2	
	comp=Z,21nm,1.0s						
I21K	Tanana	84.83	10	P	P	10 39 14.9	+0.5
	baz=202,SNR=8.2						
REDW	Red Top Meadow	84.85	41	P	P	10 39 15.1	-0.2
REDW				IAmb	IAmb	10 40 17.1	
	comp=Z,28nm,1.6s						
WRH	Wood River Hil	84.86	11	IAmb	IAmb	10 39 16.2	
	comp=Z,47nm,1.0s						
RIDG	Independent Ri	84.86	13	IAmb	IAmb	10 39 16.5	
	comp=Z,15nm,1.0s						
RIDG	Independent Ri	84.86	13	P	P	10 39 15.5	+0.8
	baz=209						
WHY	Whitehorse	84.87	19	P	P	10 39 15.8	+0.9
	baz=218						
L27K	Beaver Creek,	84.96	15	P	P	10 39 16.5	+1.4
	baz=212						
O20A	White River Ci	84.96	45	P	P	10 39 16.8	+0.9
	baz=241						
SNOW	Snow King Moun	84.96	41	IAmb	IAmb	10 40 17.8	
	comp=Z,34nm,1.7s						
HDA	Harding Lake	85.02	12	P	P	10 39 16.0	+0.6
	baz=207,SNR=14						
CCB	Clear Creek Bu	85.07	11	IAmb	IAmb	10 39 17.0	
	comp=Z,40nm,0.9s						
H21K	Melozitna Rive	85.15	9	P	P	10 39 16.9	+0.9
	baz=201,SNR=10						
P33M	Teslin, Yukon	85.17	20	P	P	10 39 17.2	+0.9
	baz=220						
I23K	Minto, Yukon-K	85.24	11	IAmb	IAmb	10 39 18.0	
	comp=Z,24nm,1.2s						
I23K	Minto, Yukon-K	85.24	11	P	P	10 39 16.8	+0.3
	baz=204,SNR=7.9						
SCRK	Sand Creek	85.26	13	P	P	10 39 17.6	+0.9
	baz=210						
N31M	Braeburn, Yuko	85.26	18	P	P	10 39 18.3	+1.6
	baz=217						
TCOL	CIGO, UAF Yank	85.27	11	P	P	10 39 16.8	+0.3
	baz=206,SNR=13						
COLA	College	85.27	11	P	P	10 39 17.1	+0.5
COLA	College	85.27	11	P	P	10 39 17.0	+0.5
	baz=206						
MDM	Murphy Dome	85.28	11	P	P	10 39 16.6	-0.1
MDM				IAmb	IAmb	10 39 18.0	
	comp=Z,43nm,1.2s						
IMAR	Indian Mountai	85.32	9	P	P	10 39 17.5	+0.7
IL31		85.36	12	P	P	10 39 17.1	+0.1
IL31				IAmb	IAmb	10 39 19.2	
	comp=Z,37nm,1.4s						

ILAR **Eielson Array** 85.36 12 P P 10 39 17.4 +0.4
comp=Z,7.6nm,0.6s,baz=221,slow=5.7,SNR=7.3
ILAR **Eielson Array** 85.36 12 P P 10 39 16.7 -0.3
BW06 **Boulder Array** 85.37 42 P P 10 39 18.4 +0.5
baz=240
PD31 **Pinedale Array** 85.37 42 P P 10 39 16.9 -1.0
PD31 IAmb IAmb 10 40 18.4
comp=Z,17nm,2.0s
PDAR **Pinedale Array** 85.37 42 P P 10 39 18.3 +0.4
comp=Z,1.0nm,0.7s,baz=206,slow=3.4,SNR=10
PDAR PKKPbc **PKKPbc** 10 57 20.6 -2.6
comp=Z,0.8nm,0.9s,baz=74,slow=3.9,SNR=4.6
PDAR **Pinedale Array** 85.37 42 P P 10 39 18.2 +0.2
IPM **Ipoh** 85.46 276 P P 10 39 19.5 +0.7
IPM **Ipoh** 85.46 276 P P 10 39 20.1 +1.3
BOZ **Bozeman (W)** 85.52 39 P P 10 39 19.1 +0.6
baz=239
J25K **Salcha River,** 85.52 12 P P 10 39 18.2 +0.2
J25K IAmb IAmb 10 39 19.8
comp=Z,17nm,0.8s
J25K **Salcha River,** 85.52 12 P P 10 39 18.9 +0.9
baz=208,SNR=7.4
POKR **Poker Plat Res** 85.57 11 P P 10 39 18.4 +0.3
POKR IAmb IAmb 10 39 19.5
comp=Z,41nm,1.1s
POKR **Poker Plat Res** 85.57 11 P P 10 39 18.3 +0.3
baz=206,SNR=5.4
MNSI **Mandailing Nat** 85.69 272 P P 10 39 19.5 -0.4
comp=Z,36nm,0.9s
SDCO **Great Sand Dun** 85.76 48 P P 10 39 20.4 +0.4
baz=243
J26L **Joseph Creek** 85.80 13 P P 10 39 20.8 +1.4
baz=210,SNR=8.2
M30M **Minto, Yukon** 85.85 17 P P 10 39 19.8 +0.2
M30M IAmb IAmb 10 39 21.5
comp=Z,12nm,0.8s
M30M **Minto, Yukon** 85.85 17 P P 10 39 20.6 +1.0
baz=216,SNR=6.2
HNS **HongShan** 85.87 311 ⇓P P 10 39 21.9 +1.7
HNS pmax pmax
comp=Z,32nm,1.3s
BJI **Beijing** 86.04 314 P P 10 39 22.4 +1.5
BJI pmax pmax
comp=Z,16nm,2.0s
WALA **Waterton Lakes** 86.06 35 P P 10 39 21.0 0.0
WALA IAmb IAmb 10 40 22.6
comp=Z,17nm,1.4s
KULM **Kulim** 86.07 277 P P 10 39 22.1 +0.3
LYN **LuoYang** 86.29 308 ⇓P P 10 39 23.9 +1.6
LYN pmax pmax
comp=Z,20nm,1.1s
DAWY **Dawson** 86.40 15 P P 10 39 22.9 +0.7
DAWY IAmb IAmb 10 39 24.5
comp=Z,16nm,0.8s
DAWY **Dawson** 86.40 15 P P 10 39 23.4 +1.2
baz=214,SNR=5.6
ENH **Enshi** 86.88 303 P P 10 39 26.1 +0.8
BILL **Bilibino** 86.89 353 P P 10 39 25.0 +0.6
BILL IAmb IAmb 10 39 26.3
comp=Z,28nm,1.1s
COLD **Coldfoot** 87.01 9 P P 10 39 25.3 +0.3
COLD IAmb IAmb 10 39 27.4
comp=Z,6.8nm,0.6s
COLD **Coldfoot** 87.01 9 P P 10 39 26.1 +1.1
baz=204,SNR=5.1
TSI **Tuntungan** 87.49 274 P P 10 39 29.8 +1.3
comp=Z,17μmcomp=Z,134nm,1.0s
TGTN **Hyland Airport** 87.64 21 P P 10 39 29.7 +1.5
baz=224
I29M **Ogilvie Camp,** 87.73 15 P P 10 39 29.7 +1.2
baz=215
GSI **Gunungsitoli** 87.75 272 P P 10 39 30.8 +1.0
GSI **Gunungsitoli** 87.75 272 P P 10 39 31.1 +1.3
comp=Z,3μmcomp=Z,135nm,1.2s
GSI **Gunungsitoli** 87.75 272 P P 10 39 31.9 +2.1
XLT **XiLinHaoTe** 87.88 318 ⇑*iP* P 10 39 31.4 +1.6
XLT pmax pmax
comp=Z,16nm,1.1s
XLT pmax pmax
comp=Z,86nm,4.0s
BMAR **Burnt Mountain** 88.16 11 P P 10 39 31.0 +0.5
KCSI **Kotacane, Aceh** 88.25 274 P P 10 39 32.2 0.0
comp=Z,50nm,1.1s
TOLK **Toolik Lake Re** 88.40 9 P P 10 39 32.3 +0.7
TOLK IAmb IAmb 10 39 33.2
comp=Z,7.2nm,0.8s
TOLK **Toolik Lake Re** 88.40 9 P P 10 39 32.7 +1.0
baz=204
EDM **Edmonton** 88.63 32 P P 10 39 34.0 +0.9
EDM IAmb IAmb 10 40 35.0
comp=Z,22nm,1.2s
XAN **Xi'an** 88.78 306 P P 10 39 36.0 +1.8
XAN pmax pmax
comp=Z,30nm,1.5s
EPYK **Eagle Plains** 88.94 15 P P 10 39 34.4 +0.2
EPYK **Eagle Plains** 88.94 15 P P 10 39 34.9 +0.7
baz=216
HHC **Hu-ho-hao-te** 89.56 313 *eP* P 10 39 40.2 +2.4
HHC pmax pmax
comp=Z,33nm,1.1s
HHC pmax pmax
comp=Z,270nm,5.4s
RSSD **Black Hills** 89.56 43 P P 10 39 38.9 +1.1
baz=244
SYO **Syowa Base** 89.68 192 ⇑*eP* P 10 39 37.4 -0.3
VNA3 **Neumayer Olymp** 90.39 175 P P 10 39 40.9 -0.2
KMI **Kunming** 90.61 296 ⇓P P 10 39 45.6 +2.4
KMI pmax pmax
comp=Z,17nm,1.8s
VNA2 **Neumayer--Watz** 90.86 176 P P 10 39 43.4 +0.1
baz=208,slow=4.0
INK **Inuvik** 91.23 14 P P 10 39 44.5 -0.2
INK IAmb IAmb 10 39 46.4
comp=Z,12nm,1.1s
INK **Inuvik** 91.23 14 P P 10 39 45.7 +1.0
baz=219
DGMT **Dagmar** 91.36 39 P P 10 39 47.4 +1.5
baz=244
CMAR **Chiang Mai Arr** 91.81 289 P P 10 39 50.5 +1.9
comp=Z,10nm,1.0s,baz=106,slow=2.8,SNR=43
CHTO **Chiang Mai** 91.92 289 P P 10 39 49.6 +0.6
CHTO **Chiang Mai** 91.92 289 P P 10 39 50.8 +1.7
PZH **PanZhiHua** 91.92 297 P P 10 39 50.6 +1.5
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,130nm,6.7s
YKA **Yellowknife Ar** 93.19 24 P P 10 39 54.6 +0.7
comp=Z,3.7nm,0.8s,baz=238,slow=4.4,SNR=56
YKA PKKPbc **PKKPdf** 10 57 00.0 -2.2
comp=Z,0.3nm,0.5s,baz=46,slow=2.3,SNR=12
YKA **Yellowknife Ar** 93.19 24 P P 10 39 54.0 0.0
LZH **Lanzhou** 93.40 307 ⇑P P 10 39 58.0 +2.3
LZH pP pwP 10 40 53.6 -1.3
LZH sP sP 10 41 12.0 -3.4
LZH pmax pmax
comp=Z,18nm,1.4s
ECSD **EROS Data Cent** 94.34 45 P P 10 40 00.7 +1.0
baz=249
C36M **Paulatuk** 94.36 16 P P 10 39 59.9 +0.8
baz=228
U40A **Yellville** 94.56 53 P P 10 40 00.7 -0.1
baz=251
ULN **Ulaanbaatar** 95.25 319 P P 10 40 04.0 +0.1
ULN IAmb IAmb 10 40 06.4
comp=Z,5.2nm,1.2s
SONM **Songino Array** 95.65 318 P P 10 40 06.6 +0.9
comp=Z,1.0nm,0.8s,baz=116,slow=3.4,SNR=4.8
SONM PP **PP** 10 44 00.2 -0.5
comp=Z,0.9nm,0.8s,baz=87,slow=6.3,SNR=4.3
A36M **Sachs Harbour** 95.86 14 P P 10 40 05.8 -0.1
A36M IAmb IAmb 10 40 08.7
comp=Z,12nm,0.8s
A36M **Sachs Harbour** 95.86 14 P P 10 40 06.8 +0.9
baz=227
AGMN **Agassiz Nation** 96.41 41 P P 10 40 08.1 -0.9
AGMN IAmb IAmb 10 41 10.7
comp=Z,11nm,1.4s
OXF **Oxford** 96.66 56 P P 10 40 10.7 +0.3
baz=253
TIXI **Tiksi** 97.07 345 P P 10 40 10.8 -0.6
TIXI IAmb IAmb 10 40 12.4
comp=Z,6.1nm,0.9s
GOMU **GeErMu** 100.41 305 P **Pdif** 10 40 26.1 -1.5
ZALV **Zalesovo Beam** 110.22 322 PKiKP **PKiKP** 10 45 09.9 -0.5
comp=Z,1.8nm,0.6s,baz=169,slow=1.1,SNR=9.6

ZALV PP **PP** 10 45 44.5 -4.2
comp=Z,4.3nm,1.1s,baz=86,slow=7.6,SNR=4.1
MKAR **Makanchi Array** 111.42 314 PKiKP **PKiKP** 10 45 12.1 -0.8
comp=Z,3.0nm,0.6s,baz=104,slow=0.3,SNR=38
MKAR PP **PP** 10 45 59.0 +1.5
comp=Z,0.8nm,1.1s,baz=76,slow=6.1,SNR=3.7
KURBB **Kurchatov Arra** 114.02 318 PKP PKPdf 10 45 17.1 -0.6
comp=Z,3.4nm,0.8s,baz=95,slow=1.9,SNR=31
KURBB PP **PP** 10 46 10.5 -5.2
comp=Z,1.3nm,0.9s,baz=88,slow=6.6,SNR=6.4
ULHL **Ulahol** 115.53 309 P **PKiKP** 10 45 21.7 +0.5
SNR=5.4
TKM2 **Tokmak 2** 116.02 309 P **PKPdf** 10 45 22.0 -0.1
SNR=8.6
UCH **Uchtor** 116.81 309 P **PKiKP** 10 45 24.6 +0.6
SNR=8.8
USP **Osperovka** 116.82 310 P **PKPdf** 10 45 23.5 0.0
SNR=6.8
AAK **Ala-Archa** 116.83 309 PKP **PKPdf** 10 45 23.1 -0.5
comp=Z,3.0nm,0.7s,baz=159,slow=6.2,SNR=9.2
AAK **Ala-Archa** 116.83 309 PKPdf **PKPdf** 10 45 23.3 -0.3
AML **Almayashu** 117.42 309 P **PKiKP** 10 45 25.5 +0.5
SNR=13
BVAR **Borovoye Array** 118.86 321 PKP **PKPdf** 10 45 27.0 0.0
comp=Z,5.5nm,0.6s
ARU **Arti** 124.63 327 PKP **PKPdf** 10 45 37.9 0.0
comp=Z,2.0nm,0.6s,baz=44,slow=1.8,SNR=2.7
AKTO **Aktyubinsk** 126.93 320 PKP **PKiKP** 10 45 43.1 +0.1
comp=Z,3.5nm,0.8s,baz=129,slow=3.3,SNR=7.8
ARCES **ARCESS Array B** 126.95 351 PKP **PKPdf** 10 45 42.2 +0.2
comp=Z,10nm,0.8s,baz=16,slow=1.2,SNR=48
ARCES **ARCESS Array B** 126.95 351 PKPdf **PKPdf** 10 45 41.9 -0.1
BOSA **Boshof** 129.58 204 PKP **PKPdf** 10 45 48.3 -0.2
comp=Z,2.6nm,0.8s,baz=27,slow=2.3,SNR=1.6
KLMR **Klimovskoe** 130.63 338 *e*PKPdf **PKPdf** 10 45 47.7 -1.5
KLMR AMP 10 45 50.3
comp=Z,11nm,1.1s
KLMR *e*SKPab **SKPbc** 10 48 51.4 +0.3
FINES **FINESS Array B** 134.10 346 PKhKP PKPpre 10 45 51.2
comp=Z,4.6nm,0.5s,baz=98,slow=3.3,SNR=6.9
FINES PKP **PKiKP** 10 45 57.3 +0.2
comp=Z,4.0nm,0.4s,baz=33,slow=2.7,SNR=17
NB2 **NORSAR Subarra** 136.81 355 PKP **PKiKP** 10 46 02.4 -0.3
comp=Z,0.7nm,0.7s,baz=10,slow=3.2
NOA **NORSAR Array B** 136.81 355 PKP **PKPdf** 10 46 00.8 0.0
comp=Z,3.0nm,0.9s,baz=13,slow=4.0,SNR=3.9
KBZ **Khabaz** 139.00 317 PKP **PKiKP** 10 46 07.6 0.0
comp=Z,2.0nm,0.8s,baz=124,slow=2.4,SNR=6.2
AKASG **Malin Array Be** 142.04 335 PKhKP PKPpre 10 46 05.5
comp=Z,3.2nm,0.4s,baz=40,slow=4.7,SNR=17
KMBO **Kilima Mbogo** 142.81 243 PKhKP PKPpre 10 46 10.5
comp=Z,4.2nm,0.7s,baz=80,slow=4.5,SNR=12
KMBO **Kilima Mbogo** 142.81 243 **PKPdf** 10 46 11.2 -2.3
BSEG **Bad Segeberg** 143.92 354 *e*PKPbc PKPbc 10 46 12.6 +0.3
baz=10.0,slow=2.8
SORM **Soroca** 144.37 333 ⇑P PKPbc 10 46 14.0 +0.2
RUE **Ruedersdorf** 144.91 350 *e*PKPbc **PKPdf** 10 46 16.1 +0.5
baz=10.0,slow=2.8
RETH **Rethem/Aller,** 145.19 355 *e*PKPbc **PKPab** 10 46 17.3 +0.8
baz=10.0,slow=2.8
NRDL **Niedersach Rie** 145.36 354 *e*PKPbc **PKPab** 10 46 17.6 +0.5
baz=10.0,slow=2.8
FLTG **Flechtingen** 145.41 353 *e*PKPbc **PKPab** 10 46 17.6 +0.2
baz=10.0,slow=2.8
BZK **Bozkurt** 145.53 320 ⇑P **PKPab** 10 46 18.3 +0.2
ASSE **Asse, Remlinge** 145.67 354 *e*PKPbc **PKPab** 10 46 18.7 +0.4
baz=10.0,slow=2.8
OJC **Ojcow** 145.71 343 *e*PKPbc **PKPab** 10 46 18.9 +0.2
IBBN **Ibbenburen** 145.72 357 *e*PKPbc **PKPab** 10 46 18.8 +0.3
baz=10.0,slow=2.8
VASR **Vaslui** 145.74 331 ⇑P **PKPab** 10 46 19.6 +0.7
CLZ **Clausthal** 145.98 354 *e*PKPbc **PKPab** 10 46 20.0 +0.3
baz=10.0,slow=2.8
KSP **Ksiaz** 146.01 347 *e*PKP **PKPab** 10 46 20.3 +0.6
KOLS **Kolonicke sedl** 146.08 339 *e*PKP **PKPab** 10 46 21.0 +0.9
BURAR **Bucovina Array** 146.09 335 ⇑P **PKPab** 10 46 20.8 +0.4
CLL **Collm** 146.17 351 ⇓*i*PKPbc **PKPab** 10 46 20.0 -0.3
comp=Z,52nm,0.8s
CLL *e*(pPKiKP) 10 47 22.0
CLL **Collm** 146.17 351 *e*PKPbc **PKPab** 10 46 20.2 -0.1
baz=10.0,slow=2.8
VLDR **Vladesti** 146.20 330 ⇑P **PKPab** 10 46 21.2 +0.5
NIE **Niedzica** 146.29 342 *e*PKP **PKiKP** 10 46 22.1 -0.5
OSTC **Ostas** 146.30 347 *e*PKP **PKPab** 10 46 21.1 +0.2
CHVC **Chvalec** 146.30 347 *e*PKP **PKPab** 10 46 21.0 +0.1
GTTG **Gottingen** 146.32 354 *e*PKPbc **PKPab** 10 46 20.6 -0.3
baz=10.0,slow=2.8
TLCR 146.32 329 ⇑P **PKPab** 10 46 21.1 0.0
TESR **Tescani** 146.35 332 ⇑P **PKPab** 10 46 21.1 -0.1
GHRR 146.35 331 ⇑P **PKiKP** 10 46 22.2 -0.5
SCTR **Scanteiesti** 146.37 330 ⇑P **PKPab** 10 46 21.8 +0.5
CRVS **Cervenica-Dubn** 146.38 340 *e*PKP **PKPab** 10 46 21.1 -0.2
UPC **Upice** 146.39 347 *e*PKP **PKPab** 10 46 21.3 +0.1
BRG **Berggiesshubel** 146.44 350 *e*PKP **PKPbc** 10 46 20.1 0.0
BRG Amp 10 46 22.1
comp=Z,30nm,0.8s
BRG **Berggiesshubel** 146.44 350 *e*PKPbc **PKPab** 10 46 21.1 -0.3
baz=10.0,slow=2.8
NEUB **Neuenburg** 146.44 352 *e*PKPbc **PKPab** 10 46 21.1 -0.3
baz=10.0,slow=2.8
DPC **Dobruska-Polom** 146.47 347 *e*PKP **PKPab** 10 46 21.7 +0.1
FBE **Freiberg** 146.49 350 *e*PKPbc **PKPab** 10 46 21.6 0.0
baz=10.0,slow=2.8
JURR **Jurilovca** 146.59 328 ⇑P **PKPab** 10 46 21.6 -0.6
BUG **Bochum--Univer** 146.62 357 *e*PKPbc **PKPab** 10 46 21.5 -0.6
baz=10.0,slow=2.8
KRLC **Kraliky** 146.62 346 *e*PKP **PKPab** 10 46 21.9 -0.3
KRLC *ex* x 10 46 23.5
PVCC **Panska Ves** 146.66 349 *e*PKP **PKPab** 10 46 22.1 -0.2
CFR **Carcaliu** 146.66 329 ⇑P **PKPab** 10 46 22.1 -0.3
TRPA **Tarpa** 146.68 338 ⇑P **PKPab** 10 46 22.0 -0.4
TRPA **Tarpa** 146.68 338 PKP **PKPdf** 10 46 19.2 +0.4
TRPA **Tarpa** 146.68 338 PKP **PKPbc** 10 46 21.5 +0.8
MORC **Moravsky Berou** 146.72 345 ⇑P **PKPbc** 10 46 20.9 -0.1
MORC **Moravsky Berou** 146.72 345 *e*PKP **PKPbc** 10 46 21.8 +0.9
TPGR **Topolog** 146.76 329 ⇑P **PKPab** 10 46 22.6 -0.3
LANS **Liptovska Anna** 146.77 342 *e*PKP **PKPab** 10 46 23.1 +0.3
KASTN **Kahler Asten** 146.78 356 *e*PKPbc **PKPbc** 10 46 21.8 +0.8
baz=10.0,slow=2.8
VRI **Vrincioaia** 146.81 332 ⇑P **PKPab** 10 46 22.3 -0.8
VRI ⇑P **PKPab** 10 46 22.4 -0.8
PLOR **Plostina** 146.86 332 ⇑P **PKPab** 10 46 22.5 -0.8
ARCR **ARCALIA** 146.86 335 ⇑P **PKPab** 10 46 22.8 -0.4
BRTR **Keskin Array B** 147.00 317 PKPbc **PKPbc** 10 46 22.8 +0.6
comp=Z,19nm,0.8s,baz=128,slow=3.1,SNR=45
MOX **Moxa** 147.01 352 *e*PKPbc **PKPbc** 10 46 22.6 +0.9
baz=10.0,slow=2.8
MOX *e*PKPab **PKiKP** 10 46 24.5 +0.6
baz=10,slow=4.1
UBBA **Unterbreizbach** 147.03 354 *e*PKPbc **PKPbc** 10 46 22.4 +0.9
baz=10.0,slow=2.8
TIRR **Tirgusor** 147.04 328 ⇑P **PKPab** 10 46 23.2 -0.8
COVR **Voineasa-Covas** 147.06 332 ⇑P **PKPbc** 10 46 22.9 +0.9
PLN **Plauen** 147.10 351 *e*PKPbc **PKPbc** 10 46 22.9 +1.0
baz=10.0,slow=2.8
PLN *e*PKPab **PKiKP** 10 46 25.0 +0.8
baz=10,slow=4.1
WERD **Werda** 147.11 351 *e*PKPbc **PKPbc** 10 46 22.9 +0.9
baz=10.0,slow=2.8
WERD *e*PKPab **PKiKP** 10 46 25.1 +0.9
baz=10,slow=4.1
HARR **Harsova** 147.12 329 ⇑P **PKPab** 10 46 23.5 -0.8
TANN **Tannenbergstha** 147.12 351 *e*PKPbc **PKPbc** 10 46 23.1 +1.1
baz=10.0,slow=2.8
TLBR **Topalu** 147.16 329 ⇑P **PKiKP** 10 46 23.6 -0.8
PRU **Pruhonice** 147.18 348 *e*PKP **PKiKP** 10 46 23.3 -1.0
GUNZ **Gunzen** 147.19 351 *e*PKPbc **PKiKP** 10 46 23.4 -0.9
baz=10.0,slow=2.8
GUNZ *e*PKPab **PKPab** 10 46 25.5 +1.0
baz=10,slow=4.1
WERN **Wernitzgruen** 147.26 351 *e*PKPbc **PKiKP** 10 46 23.7 -0.8
baz=10.0,slow=2.8
WERN *e*PKPab **PKPab** 10 46 26.0 +1.3
baz=10,slow=4.1
NKC **Novy Kostel** 147.30 351 *e*PKP **PKiKP** 10 46 23.8 -0.8
DOPR **Dopca** 147.33 333 ⇓P **PKiKP** 10 46 24.4 -0.4
VRAC **Vranov** 147.38 346 *e*PKP **PKPbc** 10 46 23.7 +1.0
MLR **Muntele Rosu** 147.45 332 ⇑P **PKPbc** 10 46 24.1 +0.9
ISR **Istrita** 147.46 331 ⇑P **PKiKP** 10 46 24.4 -0.7
CJR **Cluj-Napoca** 147.47 336 ⇑P **PKiKP** 10 46 24.7 -0.4
BTNL **Ternell** 147.51 358 *d*PKP **PKPbc** 10 46 23.7 +0.6
AHRW **Bad Neuenahr-A** 147.52 357 *e*PKPab **PKPab** 10 46 26.6 +1.0
baz=10.0,slow=4.1
BSTI **Sart Tilman** 147.53 359 *d*PKP **PKPbc** 10 46 23.8 +0.7
JAVC **Velka Javorina** 147.53 344 *e*PKP **PKiKP** 10 46 25.0 -0.1

KOLL **Kolacno** 147.59 343 *e*PKP **PKPbc** 10 46 24.2 +0.9
MANZ **Manzenberg** 147.59 351 *e*PKPbc **PKiKP** 10 46 24.4 -0.8
baz=10.0,slow=2.8
MANZ *e*PKPab **PKPab** 10 46 27.0 +0.9
baz=10,slow=4.1
KRUC **Moravsky** 147.66 346 *e*PKP **PKPbc** 10 46 24.1 +0.6
BCLA **Clavier** 147.69 359 *d*PKPdf **PKPdf** 10 46 20.2 -0.1
BCLA *dp*PKPdf **pPKPdf** 10 47 17.5 -1.6
DRGR 147.74 337 ⇑P **PKiKP** 10 46 25.1 -0.6
PSZ **Piszkesteto** 147.74 341 ⇑P **PKiKP** 10 46 25.2 -0.4
PSZ **Piszkesteto** 147.74 341 PKP **PKPbc** 10 46 24.3 +0.5
PSZ **Piszkesteto** 147.74 341 PKP **PKiKP** 10 46 25.1 -0.5
SECR 147.75 331 ⇑P **PKiKP** 10 46 24.9 -0.7
TNS **Taunus Mts** 147.76 356 *e*PKPbc **PKPbc** 10 46 24.6 +0.9
baz=10.0,slow=2.8
TNS *e*PKPab **PKPab** 10 46 27.7 +0.9
baz=10,slow=4.1
ROTZ **Rotzenmuhle** 147.79 351 *e*PKPbc **PKiKP** 10 46 24.9 -0.6
baz=10.0,slow=2.8
ROTZ *e*PKPab **PKPab** 10 46 28.0 +1.1
baz=10,slow=4.1
BMRD **Maredsous** 147.81 0 *d*PKP **PKPbc** 10 46 24.4 +0.6
VOIR 147.89 333 ⇑P **PKiKP** 10 46 26.0 0.0
GRF **Grafenberg Arr** 148.00 352 *e*PKPbc **PKiKP** 10 46 25.4 -0.6
baz=10.0,slow=2.8
GRF *e*PKPab **PKPab** 10 46 29.0 +1.3
baz=10,slow=4.1
GRF *ep*PKPbc **pPKPab** 10 47 30.0 +5.5
DOU **Dourbes** 148.02 0 *d*PKP **PKPbc** 10 46 25.2 +0.9
ARR **Arges** 148.13 333 ⇓P **PKPdf** 10 46 22.9 +1.5
KHC **Kasperske Hory** 148.18 349 *e*PKP **PKiKP** 10 46 26.0 -0.4
KHC *ex* x 10 46 30.2
WET **Wettzell** 148.29 350 *e*PKPab **PKPab** 10 46 30.0 +1.2
baz=10,slow=4.1
CKRC **Cesky Krumlov** 148.34 348 *e*PKP **PKiKP** 10 46 26.6 -0.1
LOT **Lotru** 148.43 334 ⇑P **PKPbc** 10 46 24.4 -1.3
GEC2 **GERESS Array S** 148.43 349 *e*PKPbc **PKiKP** 10 46 26.5 -0.5
baz=10.0,slow=2.8
GEC2 *e*PKPab **PKPab** 10 46 30.5 +1.0
baz=10,slow=4.1
GERES **GERESS Array B** 148.43 349 PKP **PKPdf** 10 46 22.1 +0.2
comp=Z,11nm,0.8s,baz=282,slow=5.9,SNR=24
GERES PKPbc **PKPbc** 10 46 26.2 +0.6
comp=Z,11nm,0.8s,baz=41,slow=3.1,SNR=31
WLF **Walferdange** 148.43 358 *e*PKPbc **PKiKP** 10 46 27.1 +0.2
baz=10.0,slow=2.8
WLF *e*PKPab **PKPab** 10 46 30.9 +1.5
baz=10,slow=4.1
WLF **Walferdange** 148.43 358 *d*PKP **PKiKP** 10 46 26.9 0.0
RAZG **Razgrad** 148.64 329 ⇑P **PKiKP** 10 46 27.2 -0.3
CONA **Conrad Observa** 148.84 346 *i* P **PKiKP** 10 46 27.9 0.0
comp=Z,26nm,0.9s,SNR=19
GZR **Gura Zlata** 148.88 335 ⇑P **PKiKP** 10 46 27.7 -0.4
SOP **Sopron** 148.90 345 PKP **PKPdf** 10 46 23.5 +1.0
EGYH **Egyhazaskeszo** 148.94 343 PKP **PKiKP** 10 46 28.6 +0.6
RONA **Rosalia, Austr** 148.95 345 *i* P **PKiKP** 10 46 28.2 +0.1
comp=Z,21nm,0.7s,SNR=11
MPLH **Magyarpolny** 149.11 343 PKP **PKiKP** 10 46 28.4 +0.1
MPLH **Magyarpolny** 149.11 343 PKP **PKiKP** 10 46 28.2 -0.2
STU **Stuttgart** 149.14 354 *e*PKPbc **PKiKP** 10 46 28.5 +0.1
baz=10.0,slow=2.8
BZS **Buzias** 149.14 337 ⇑P **PKiKP** 10 46 28.4 -0.1
MOA **Molln** 149.27 347 *i* P **PKiKP** 10 46 28.5 -0.2
comp=Z,17nm,1.2s,SNR=5.2
HERR **Herculane** 149.44 335 ⇑P **PKiKP** 10 46 29.1 0.0
FUR **Furstenfeldbru** 149.49 351 *e*PKPbc **PKiKP** 10 46 29.3 +0.2
baz=10.0,slow=2.8
FUR *e*PKPab **PKPab** 10 46 35.2 +1.4
baz=10,slow=4.1
BIOA **Bad Ischl, Aus** 149.55 348 *i* P **PKPbc** 10 46 28.9 +0.5
comp=Z,22nm,1.3s,SNR=5.6
ARSA **Arzberg** 149.56 346 *e*P **PKPbc** 10 46 28.6 +0.3
comp=Z,11nm,0.9s
DJES **Djerdap** 149.58 335 ⇑P **PKPbc** 10 46 28.7 +0.2
MORH **Mrgy, Hungar** 149.65 341 ⇓*i*P **PKPbc** 10 46 28.7 +0.1
BFO **Black Forest** 149.65 355 *e*PKPbc **PKiKP** 10 46 29.5 0.0
baz=10.0,slow=2.8
BFO *e*PKPab **PKPab** 10 46 35.3 +0.9
baz=10,slow=4.1
RJOB **Jochberg** 149.66 349 *e*PKPbc **PKiKP** 10 46 29.3 -0.2
baz=10.0,slow=2.8
RJOB *e*PKPab **PKPab** 10 46 35.8 +1.2
baz=10,slow=4.1
MDVR **Moldovita** 149.81 336 ⇑P **PKiKP** 10 46 30.1 +0.2
KOVH **Kovagotottos** 149.93 341 PKP **PKiKP** 10 46 29.9 -0.2
KOVH **Kovagotottos** 149.93 341 PKP **PKiKP** 10 46 29.8 -0.2
UBR **Ueberruh** 150.12 353 *e*PKPbc **PKiKP** 10 46 30.5 0.0
baz=10.0,slow=2.8
FRGS **Fruska Gora** 150.19 338 ⇑P **PKPbc** 10 46 30.1 +0.1
FRGS **Fruska Gora** 150.19 338 ⇓*i*P **PKPbc** 10 46 28.8 -1.2
KBA **Koelnbreinsper** 150.19 348 *i* P **PKPbc** 10 46 30.1 0.0
comp=Z,16nm,0.5s,SNR=13
SOKA **Soboth** 150.21 346 *i* P **PKPbc** 10 46 30.3 +0.3
comp=Z,25nm,1.2s,SNR=12
RETA **Reutte** 150.22 352 *i* P **PKiKP** 10 46 30.8 0.0
comp=Z,19nm,0.8s,SNR=9.9
WATA **Walderalm** 150.25 351 *e*P **PKPbc** 10 46 30.6 +0.4
comp=Z,16nm,0.5s,SNR=9.4
WTTA **Wattenberg** 150.31 351 *i* P **PKiKP** 10 46 31.2 +0.1
comp=Z,45nm,0.5s,SNR=17
MOTA **Moosalm** 150.32 351 *i* P **PKiKP** 10 46 30.9 -0.1
comp=Z,44nm,1.1s,SNR=10
BLKB **Belogradchik** 150.36 333 ⇓P **PKiKP** 10 46 31.2 +0.1
SQTA **Sankt Quirin** 150.42 351 *i* P **PKiKP** 10 46 31.3 +0.1
comp=Z,29nm,0.8s,SNR=8.9
OBKA **Obir** 150.48 346 *e*P **PKPbc** 10 46 30.8 +0.1
comp=Z,6.8nm,0.6s
DAVA **Damuels** 150.53 353 *i* P **PKiKP** 10 46 31.8 +0.3
comp=Z,62nm,1.1s,SNR=12
MYKA **Terra Mystica** 150.56 348 *i* P **PKPbc** 10 46 30.9 0.0
comp=Z,20nm,0.6s,SNR=8.0
ABTA **Abfaltersbach** 150.67 349 *e*P **PKPbc** 10 46 31.4 +0.3
comp=Z,39nm,0.6s
FETA **Feichten** 150.69 352 *i* P **PKiKP** 10 46 32.2 +0.4
comp=Z,42nm,1.0s,SNR=12
BOVS **Bovan** 150.76 334 ⇑P **PKPbc** 10 46 30.8 -0.5
TEKS **Tekeris** 150.82 338 *e*P **PKPbc** 10 46 30.8 -0.7
VNDS **Vrh nad Dolski** 150.83 346 *i* PKPbc **PKPbc** 10 46 31.8 +0.6
CRES **Cresnjev** 150.91 345 ⇓*i*P **PKPbc** 10 46 31.7 +0.1
VTS **Vitosha** 150.91 331 ⇑P **PKiKP** 10 46 32.9 +0.5
LJU **Ljubljana** 150.93 346 ⇓*i*P **PKiKP** 10 46 32.1 -0.1
LJU **Ljubljana** 150.93 346 *e*PKPdf **PKPdf** 10 46 26.5 +0.8
LJU *e*PKPbc **PKiKP** 10 46 32.2 +0.1
DIVS **Divibare** 151.04 337 ⇓*i*P **PKPbc** 10 46 31.9 -0.2
CEY **Cerknica** 151.24 346 ⇓*i*P **PKPbc** 10 46 32.4 0.0
BOJS **Bojanci** 151.26 345 *e*PKPdf **PKPdf** 10 46 26.9 +0.7
BOJS *e*PKPbc **PKiKP** 10 46 33.3 +0.4
BLY **Banja Luka** 151.42 341 ⇓*i*P **PKiKP** 10 46 33.1 -0.1
BBLS **Lazi?i** 151.46 338 ⇓*i*P **PKiKP** 10 46 33.6 +0.2
SKDS **Skadanscina** 151.51 346 ⇓*i*P **PKPbc** 10 46 33.1 +0.1
SKDS **Skadanscina** 151.51 346 *e*PKPbc **PKPbc** 10 46 33.2 +0.1
RIY **Rijeka** 151.62 346 *e*P **PKiKP** 10 46 33.6 0.0
RUDO **Rudo** 151.68 337 *e*P **PKPbc** 10 46 33.2 -0.3
MGRS **Mrkonjic Grad** 151.75 341 *e*P **PKPbc** 10 46 44.4 +1.1
BRY **Bratogost** 152.61 338 *e*P **PKPbc** 10 46 35.4 -0.3
PDG **Podgorica** 152.75 336 ⇑P **PKiKP** 10 46 36.5 +0.5
PDG **Podgorica** 152.75 336 ⇓*i*P **PKPbc** 10 46 35.8 0.0
TREB **Trebinje** 152.84 338 *e*P **PKPbc** 10 46 33.3 -2.7
STON **Ston** 152.93 339 ⇓*i*P **PKPbc** 10 46 35.5 -0.7
DRME **Dracevica, Mon** 152.98 336 ⇓*i*P **PKPbc** 10 46 36.4 0.0
HCY **Herceg Novi** 153.02 337 *e*P **PKPbc** 10 46 36.1 -0.3
ESDC **Sonseca Array** 157.14 18 PKP **PKPdf** 10 46 35.7 +1.0
comp=Z,1.3nm,1.0s,baz=332,slow=1.9,SNR=4.5
ESDC PKPab **PKPab** 10 47 07.8 +1.4
comp=Z,4.6nm,0.9s,baz=330,slow=3.8,SNR=15
TORD **Torodi Ar. Bea** 174.29 148 PKP **PKPdf** 10 46 48.0 -1.1
comp=Z,2.2nm,0.9s,baz=326,slow=1.9,SNR=9.4
TORD PKPab **PKPab** 10 48 23.4 +0.9
comp=Z,0.5nm,0.6s,baz=209,slow=3.2,SNR=2.4
TORD **Torodi Ar. Bea** 174.29 148 **PKPdf** 10 46 48.3 -0.8

*NNC **06** 10:28:46.7±0.5,54.7°N×83.6°E,h0km,mb2.9,mpv2.7,*
Error ellipse: s-maj=3.3km s-min=1.8km az=179.0
*IDC **06** 10:28:47.8±3.8,54.7°N×83.7°E,h0km,mb1 2.7/1,*
mb1mx2.6/45,mbtmp2.7/1,ML2.7/1, Error ellipse:
s-maj=26.1km s-min=14.2km az=152.0

ISC 06 10:28:47.1±4.5,54.8N±0.3×83.86E±0.1,h10km,n6,
σt138/10,6C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**147**	*i*		10 34 10.0	
	baz=318,slow=329,SNR=4.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZAA0	**Zalesovo Array**	**1.04**	**147**	⇑P	**Pg**	**10 29 06.4**	**-0.7**
	0.5nm,0.3s,baz=320,slow=14						
ZAA0				⇑S	**Sb**	**10 29 21.1**	**+0.2**
	4.4nm,0.7s,baz=319,slow=29						
ZALV	**Zalesovo Beam**	**1.04**	**147**	Pg	**Pg**	**10 29 06.5**	**-0.7**
	2.2nm,0.3s,baz=321,slow=18,SNR=22						
ZALV				Lg	Lg	10 29 21.8	
	7.3nm,0.3s,baz=321,slow=29,SNR=10						
KURK	**Kurchatov**	**5.20**	**220**	⇓Pn	**Pn**	**10 30 03.8**	**-1.1**
	0.5nm,0.4s						
KURK				⇑Pg	**Pb**	**10 30 20.2**	**+2.1**
	0.9nm,0.5s						
KURK				⇑Sn	**Sn**	**10 31 03.7**	**-1.2**
	1.1nm,0.6s						
KURK				⇑Lg	Lg	10 31 27.1	
	2.9nm,0.8s						
KURBB	**Kurchatov Arra**	**5.31**	**220**	⇓Pn	**Pn**	**10 30 05.4**	**-1.0**
	0.5nm,0.4s						
KURBB				⇑Pg	**Pb**	**10 30 21.6**	**+1.6**
	1.9nm,0.6s						
KURBB				⇓Sn	**Sn**	**10 31 06.5**	**-1.1**
	1.8nm,0.6s						
KURBB				⇓Lg	Lg	10 31 30.6	
	5.9nm,0.7s						
MKAR	**Makanchi Array**	**8.10**	**188**	Pn	**Pn**	**10 30 45.4**	**+0.6**
	0.1nm,0.3s,baz=10,slow=12,SNR=2.8						
MKAR				Lg	Lg	10 33 02.4	
	0.1nm,0.3s,baz=12,slow=31,SNR=2.9						

*FUNV **06** 10:31:19.2, 8°.56N×71°.07W, h5km, MW3.4*
ISC 06 10:31:18.7±1.3, **8°.60N**±0°.04×**71°.03W**±0°.03, **h10**km±10km, **n25**, σ**1s.27**/44, **1D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.36**	**152**	*e*S	**Sg**	**10 31 31.4**	**+0.7**
SDV	**Santo Domingo**	**0.48**	**54**	⇓*e*P	**Pg**	**10 31 28.0**	**-0.1**
SDV				*e*S	**Sg**	**10 31 34.4**	**-0.1**
SDV				*i*		10 31 35.6	
	comp=Z,798nm,0.2s						
CAPV	**Capacho**	**1.47**	**240**	*e*P	**Pn**	**10 31 45.7**	**+0.1**
CAPV				*e*S	**Sn**	**10 32 04.8**	**-0.2**
SANV	**Sanarito**	**1.72**	**59**	*e*P	**Pn**	**10 31 50.1**	**+1.2**
SANV				*e*S	**Sb**	**10 32 13.1**	**+0.8**
CURV	**Curarigua**	**1.75**	**37**	*e*S	**Sb**	**10 32 14.1**	**+1.0**
MCQV	**Machiques**	**2.07**	**314**	*e*S	**Sb**	**10 32 20.5**	**-1.8**
PAMC	**Pamplona, Colo**	**2.08**	**233**	*e*P	**Pn**	**10 31 55.4**	**+1.2**
PAMC				*e*S	**Sn**	**10 32 21.4**	**+1.0**
PAMC				*i*		10 32 27.3	
	comp=Z,124nm,0.2s						
OCAC	**Ocana**	**2.30**	**261**	*e*P	**Pb**	**10 31 59.5**	**-0.9**
OCAC				*e*S	**Sn**	**10 32 26.4**	**+1.1**
OCAC				*i*		10 32 32.8	
	comp=Z,346nm,0.3s						
DABV	**Dabajuro**	**2.34**	**9**	*e*P	**Pn**	**10 31 58.1**	**+0.8**
DABV				*e*S	**Sn**	**10 32 26.5**	**+0.4**
SIQV	**Siquisique**	**2.36**	**30**	*e*P	**Pn**	**10 31 58.3**	**+0.6**
SIQV				*e*S	**Sn**	**10 32 28.1**	**+1.4**
MAPV	**Macapo**	**2.81**	**64**	*e*P	**Pn**	**10 32 04.8**	**+0.9**
MAPV				*e*S	**Sn**	**10 32 39.0**	**+1.1**
BARC	**Barichara**	**2.93**	**227**	*e*P	**Pn**	**10 32 07.0**	**+1.4**
BARC				*e*S	**Sn**	**10 32 40.2**	**-0.8**
BARC				*i*		10 32 57.4	
	comp=Z,32nm,0.3s						
CRJC	**Cerrejon, Guaj**	**3.02**	**323**	*e*P	**Pn**	**10 32 06.4**	**-0.4**
CRJC				*e*S	**Sn**	**10 32 42.6**	**-0.5**
CRJC				*i*		10 32 51.8	
	comp=Z,44nm,0.2s						
RUSC	**La Rusia**	**3.38**	**217**	*e*P	**Pn**	**10 32 13.4**	**+1.3**
RUSC				*e*S	**Sn**	**10 32 54.6**	**+2.0**
RUSC				*i*		10 33 10.3	
	comp=Z,9.6nm,0.3s						
TURV	**Turiamo**	**3.64**	**59**	*e*P	**Pn**	**10 32 15.1**	**-0.1**
TURV				*e*S	**Sn**	**10 32 58.4**	**+0.2**
BENV	**Beln**	**3.64**	**68**	*e*P	**Pn**	**10 32 15.5**	**+0.2**
BENV				*e*S	**Sn**	**10 32 58.2**	**-0.2**
ZARC	**Zaragoza, Cauc**	**3.95**	**254**	*e*P	**Pn**	**10 32 21.7**	**+2.2**
ZARC				*e*S	**Sn**	**10 33 05.2**	**-0.8**
ZARC				*i*		10 33 26.3	
	comp=Z,13nm,0.2s						
PTBC	**PUERTO BERRIO,**	**3.97**	**239**	*e*P	**Pn**	**10 32 20.2**	**+0.3**
PTBC				*e*S	**Sn**	**10 33 04.5**	**-2.0**
PTBC				*i*		10 33 24.6	
	comp=Z,22nm,0.6s						
SPBC	**San Pablo de B**	**4.21**	**226**	*e*P	**Pn**	**10 32 24.6**	**+1.5**
SPBC				*e*S	**Sn**	**10 33 11.2**	**-1.4**
SPBC				*i*		10 33 36.6	
	comp=Z,14nm,0.4s						
UREC	**San Jos de Ur**	**4.54**	**260**	*e*P	**Pn**	**10 32 29.8**	**+2.2**
UREC				*e*S	**Sn**	**10 33 21.9**	**+1.3**
UREC				*i*		10 33 24.7	
	comp=Z,7.9nm,0.3s						
CACV	**CAICARA DEL OR**	**4.56**	**103**	*e*P	Pb	10 32 35.0	-3.9
CACV				*e*S	**Sb**	**10 33 31.3**	**-2.7**
MOTC	**Monteria, Cord**	**4.59**	**273**	*e*P	**Pn**	**10 32 29.1**	**+0.8**
MOTC				*e*S	**Sn**	**10 33 22.9**	**+1.1**
CHIC	**Chingaza**	**4.78**	**214**	*e*P	**Pn**	**10 32 31.0**	**-0.2**
BIRV	**Birongo**	**5.05**	**68**	*e*P	**Pn**	**10 32 34.5**	**-0.1**
BIRV				*e*S	**Sn**	**10 33 30.3**	**-2.7**
GUY2C	**Guyana, Caldas**	**5.46**	**232**	*e*P	**Pn**	**10 32 42.6**	**+1.9**

*ISK **06** 10:34:57.8, 38°.67N×43°.20E, h9km, ML2.7/7*
*DDA **06** 10:34:57.0±0.0, 38°.55N×43°.24E, h7km±3km, ML2.5*
ISC 06 10:34:58.2±1.0, **38°.64N**±0°.03×**43°.22E**±0°.03, **h19**km±3km, **n15**, σ**0s.61**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**107**	PG	**Pg**	**10 35 02.9**	**+0.2**
VANB				SG	**Sg**	**10 35 06.4**	**+0.7**
AKDM	**Akdamar-Van**	**0.36**	**211**	PG	**Pb**	**10 35 05.9**	**-0.3**
AKDM				SG	**Sb**	**10 35 12.2**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.42**	**294**	P	**Pg**	**10 35 06.7**	**-0.3**
ADCV				S	**Sb**	**10 35 13.9**	**+0.7**
ADCV				*i* AML	AML	10 35 14.0	
	comp=N,478nm,0.5s						
ADCV				*i* AML	AML	10 35 15.0	
	comp=E,327nm,0.2s						
MLAZ	**Malazgirt-MUS**	**0.72**	**314**	PG	**Pb**	**10 35 12.0**	**-0.3**
CLDR	**Caldiran**	**0.74**	**47**	PG	**Pb**	**10 35 12.3**	**-0.4**
CLDR				SG	**Sg**	**10 35 23.0**	**+0.1**
CLDR	**Caldiran**	**0.74**	**47**	P	**Pb**	**10 35 12.5**	**-0.2**
CLDR				S	**Sg**	**10 35 23.2**	**+0.3**
CLDR				*i* AML	AML	10 35 25.0	
	comp=E,326nm,0.4s						
CLDR				*i* AML	AML	10 35 25.0	
	comp=N,261nm,0.2s						
PERV	**Siirt/Pervari-**	**0.87**	**218**	P	**Pn**	**10 35 16.3**	**+0.7**
PERV				S	**Sb**	**10 35 25.2**	**-0.9**
BLIS	**Bitlis-Merkez**	**0.89**	**256**	P	**Pb**	**10 35 15.2**	**0.0**
BLIS				S	**Sb**	**10 35 27.0**	**+0.3**
BLIS				*i* AML	AML	10 35 28.0	
	comp=N,134nm,0.3s						
BLIS				*i* AML	AML	10 35 28.0	
	comp=E,146nm,0.3s						
GURO	**Guroymak-BITLI**	**0.93**	**265**	PG	**Pb**	**10 35 15.4**	**-0.4**
GURO				SG	**Sg**	**10 35 28.9**	**+0.1**
KOTA	**Agri, Merkez-K**	**1.16**	**360**	P	**Pn**	**10 35 18.6**	**-1.0**
KOTA				S	**Sn**	**10 35 36.1**	**+1.0**
MUSM	**Mu-Merkez**	**1.34**	**274**	P	**Pn**	**10 35 22.2**	**+0.2**
MUSM				S	**Sg**	**10 35 41.3**	**-0.3**
EATA	**Eleskirt**	**1.35**	**336**	P	**Pb**	**10 35 23.1**	**0.0**
EATA				S	**Sg**	**10 35 42.6**	**+0.6**
EATA				*i* AML	AML	10 35 44.0	
	comp=N,44nm,0.7s						
CUKT	**Cukurca**	**1.42**	**167**	PN	**Pg**	**10 35 24.9**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.66**	**254**	PN	**Pb**	**10 35 27.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.66**	**254**	P	**Pg**	**10 35 29.5**	**-0.7**
SVAN				S	**Sg**	**10 35 52.7**	**+0.9**

*JMA **06** 10:36:18.4±0.4, 23°.08N×121°.53E, h0km, M3.3*
*TAP **06** 10:36:19.1, 22°.86N×121°.35E, h38km, ML3.6, B*
ISC 06 10:36:18.0±0.9, **22°.88N**±0°.02×**121°.44E**±0°.02, **h20**km, **n122**, σ**1s.27**/188, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.15**	**306**	*i* P	**Pb**	**10 36 25.6**	**+3.0**
	baz=338						
EDH				*i* S	**Sb**	**10 36 30.4**	**+4.6**
	baz=338						
LDUT	**Ludao**	**0.21**	**172**	*i* P	**Pb**	**10 36 26.3**	**+3.0**
	baz=144						
LDUT				*e*S	**Sb**	**10 36 31.9**	**+5.0**
	baz=144						
CHKT	**Chengkung**	**0.23**	**343**	*i* P	**Pb**	**10 36 26.6**	**+2.9**
	baz=4.0						
CHKT				S	**Sb**	**10 36 32.0**	**+4.6**
	baz=4.0						
LONT	**Longtian**	**0.29**	**275**	*i* P	**Pb**	**10 36 26.2**	**+1.7**
	baz=283						
LONT				*i* S	**Sb**	**10 36 31.4**	**+2.5**
	baz=283						
ECS	**Chishang**	**0.29**	**317**	*i* P	**Pb**	**10 36 27.0**	**+2.3**
	baz=324						
ECS				*e*S	**Sb**	**10 36 33.2**	**+4.0**
	baz=324						
TTN	**Taitung**	**0.30**	**245**	*e*P	**Pb**	**10 36 26.9**	**+2.3**
	baz=249						
TTN				*e*S	**Sn**	**10 36 33.4**	**+0.3**
	baz=249						
TWGBT	**Beinan**	**0.34**	**259**	*i* P	**Pb**	**10 36 26.4**	**+1.1**
	baz=270						
TWGBT				*e*S	**Sb**	**10 36 31.8**	**+1.5**
	baz=270						
FULB	**Fuli**	**0.34**	**337**	*e*P	**Pn**	**10 36 27.6**	**-0.3**
	baz=344						
FULB				*e*S	**Sn**	**10 36 34.2**	**-0.1**
	baz=344						
TWG	**Pinlang**	**0.34**	**260**	*i* P	**Pb**	**10 36 26.4**	**+1.0**
	baz=270						
TWG				S	**Sb**	**10 36 31.8**	**+1.3**
	baz=270						
ECBN	**Changbin**	**0.43**	**1**	*i* P	**Pn**	**10 36 29.3**	**+0.2**
	baz=16						
ECBN				*i* S	**Sn**	**10 36 36.8**	**+0.3**
	baz=16						
EYUL	**Yuli**	**0.48**	**347**	*e*P	**Pn**	**10 36 29.1**	**-0.6**
	baz=348						
TWF1	**Yuli**	**0.49**	**344**	*i* P	**Pn**	**10 36 28.8**	**-1.1**
	baz=345						
TWF1				*e*S	**Sn**	**10 36 35.1**	**-2.8**
	baz=345						
ELDTW	**Lidau**	**0.49**	**308**	*i* P	**Pb**	**10 36 28.5**	**+0.4**
	baz=321						
ELDTW				S	**Sb**	**10 36 34.9**	**-0.1**
	baz=321						
YULB	**Yu-li**	**0.53**	**346**	*e*P	**Pn**	**10 36 29.1**	**-1.4**
	baz=345						
YULB				*e*S	**Sn**	**10 36 36.0**	**-2.8**
	baz=345						
ECL	**Taimali**	**0.53**	**238**	*e*P	**Pb**	**10 36 28.4**	**-0.3**
	baz=241						
ECL				*e*S	**Sb**	**10 36 35.1**	**-0.8**
	baz=241						
HGSD	**Ruisui**	**0.61**	**359**	*e*P	**Pn**	**10 36 31.1**	**-0.4**
	baz=15						
HGSD				*e*S	**Sn**	**10 36 41.1**	**+0.3**
	baz=15						
EHY	**Hungye**	**0.63**	**350**	*e*P	**Pn**	**10 36 30.6**	**-1.3**
	baz=349						
EHY				*e*S	**Sn**	**10 36 38.6**	**-2.8**
	baz=349						
STYH	**Taoyuan**	**0.68**	**295**	P	**Pb**	**10 36 31.5**	**+0.3**
	baz=296						
STYH				*e*S	**Sb**	**10 36 40.6**	**+0.5**
	baz=296						
STYT	**Tauyuan**	**0.69**	**294**	*i* P	**Pb**	**10 36 31.7**	**+0.3**
	baz=300						
STYT				S	**Sb**	**10 36 41.0**	**+0.5**
	baz=300						
TAW	**Tawu**	**0.72**	**224**	*e*P	**Pb**	**10 36 31.3**	**-0.6**
	baz=224						
TAW				*e*S	**Sb**	**10 36 40.0**	**-1.5**
	baz=224						
EAST	**Anshuo**	**0.74**	**228**	P	**Pb**	**10 36 31.5**	**-0.7**
	baz=226						
EAST				*e*S	**Sb**	**10 36 40.7**	**-1.2**
	baz=226						
SLGT	**Liugui**	**0.74**	**279**	*i* P	**Pb**	**10 36 33.0**	**+0.8**
	baz=283						
TAWH	**Dawu Township**	**0.74**	**224**	P	**Pb**	**10 36 31.6**	**-0.7**
	baz=224						
TAWH				*e*S	**Sb**	**10 36 40.4**	**-1.5**
	baz=224						
TSMG	**Majia**	**0.75**	**257**	*e*P	**Pb**	**10 36 32.3**	**-0.2**
	baz=257						
TSMG				*e*S	**Sb**	**10 36 40.9**	**-1.4**
	baz=257						
SSD	**Sandimen**	**0.76**	**260**	*e*P	**Pb**	**10 36 32.3**	**-0.2**
	baz=261						
SSD				*e*S	**Sb**	**10 36 40.7**	**-1.7**
	baz=261						
EGFH	**Guangfu**	**0.79**	**359**	*e*P	**Pb**	**10 36 32.9**	**-0.2**
	baz=3.0						
MASBT	**Mashibuluo**	**0.79**	**250**	*i* P	**Pb**	**10 36 32.9**	**-0.3**
	baz=250						
MASBT				S	**Sb**	**10 36 42.0**	**-1.4**
	baz=250						
SGST	**Jiashian**	**0.81**	**284**	*i* P	**Pb**	**10 36 33.3**	**-0.2**
	baz=292						
TEGC	**Jichi Village**	**0.83**	**6**	*i* P	**Pn**	**10 36 34.9**	**+0.3**
	baz=18						
TEGC				S	**Sn**	**10 36 46.6**	**+0.3**
	baz=18						
WTP	**Ta-pu**	**0.84**	**296**	P	**Pb**	**10 36 34.7**	**+0.7**
	baz=300						
WTP				*e*S	**Sn**	**10 36 46.7**	**+0.1**
	baz=300						
LAY	**Lan-yu**	**0.84**	**173**	*e*P	**Pb**	**10 36 34.0**	**0.0**
	baz=160						
TPUB	**Ta-pu**	**0.85**	**299**	P	**Pn**	**10 36 34.9**	**-0.1**
	baz=304						
TPUB				*e*S	**Sn**	**10 36 46.5**	**-0.4**
	baz=304						
ALS	**Alishan**	**0.86**	**317**	*i* P	**Pn**	**10 36 35.2**	**-0.1**
	baz=328						
ALS				S	**Sn**	**10 36 46.5**	**-0.9**
	baz=328						
SCST	**Cishan**	**0.87**	**271**	*e*P	**Pb**	**10 36 35.3**	**+0.8**
	baz=273						
LYUB	**Lan-yu**	**0.89**	**171**	*e*P	**Pb**	**10 36 33.6**	**-1.1**
	baz=160						
SLIU	**Shizi**	**0.89**	**222**	*e*P	**Pb**	**10 36 33.6**	**-1.1**
	baz=218						
SLIU				*e*S	**Sb**	**10 36 43.9**	**-2.3**
	baz=218						
SGLT	**Jiouru**	**0.89**	**260**	*e*P	**Pb**	**10 36 35.9**	**+1.1**
	baz=262						
CHN1	**Nanshi**	**0.89**	**290**	P	**Pn**	**10 36 35.6**	**+0.2**
	baz=299						
CHN1				*e*S	**Sn**	**10 36 47.8**	**-0.1**
	baz=299						
SSPT	**Xinbi**	**0.90**	**244**	*e*P	**Pb**	**10 36 35.2**	**+0.3**
	baz=238						
SSPT				*e*S	**Sb**	**10 36 46.3**	**-0.1**
	baz=238						
CHN4	**Tsaushan**	**0.91**	**301**	*e*P	**Pn**	**10 36 35.9**	**+0.2**
	baz=306						
CHN4				*e*S	**Sn**	**10 36 48.1**	**-0.1**
	baz=306						
SCZT	**Fangliau**	**0.91**	**236**	*e*P	**Pb**	**10 36 34.7**	**-0.4**
	baz=234						
SCZT				S	**Sb**	**10 36 45.8**	**-1.0**
	baz=234						
VWDT	**VWDT**	**0.91**	**343**	*e*P	**Pn**	**10 36 35.4**	**-0.3**
	baz=356						
VWDT				*e*S	**Sn**	**10 36 46.8**	**-1.5**
	baz=356						
ESL	**Shilin**	**0.93**	**360**	*e*P	**Pb**	**10 36 34.7**	**-0.8**
	baz=4.0						
ESL				*e*S	**Sb**	**10 36 45.5**	**-1.9**
	baz=4.0						
SNST	**Tainan City**	**0.93**	**291**	*e*P	**Pb**	**10 36 36.1**	**+0.6**
	baz=295						
SNST				*e*S	**Sn**	**10 36 48.7**	**-0.1**
	baz=295						
TWM1	**Shoushan**	**0.94**	**267**	*e*P	**Pn**	**10 36 37.4**	**+1.3**
	baz=269						
TWK	**Hsinying**	**0.96**	**294**	*e*P	**Pb**	**10 36 36.5**	**+0.5**
	baz=298						
TEYL	**Yanliau Villag**	**0.99**	**8**	*i* P	**Pn**	**10 36 37.5**	**+0.6**
	baz=1.0						
CHN5	**Tsauling**	**1.00**	**316**	*e*P	**Pn**	**10 36 37.5**	**+0.5**
	baz=320						
CHN5				*e*S	**Sn**	**10 36 51.0**	**+0.4**
	baz=320						
SSLB	**Suanglung**	**1.01**	**334**	*e*P	**Pn**	**10 36 37.2**	**+0.1**
	baz=343						
SSLB				*e*S	**Sn**	**10 36 49.5**	**-1.2**
	baz=343						
CHN3	**Shinhua**	**1.01**	**281**	*e*P	**Pn**	**10 36 38.9**	**+1.8**
	baz=285						
SHHT	**Tainan City**	**1.01**	**278**	*e*P	**Pn**	**10 36 38.4**	**+1.2**
	baz=281						
SHHT				*e*S	**Sn**	**10 36 53.5**	**+2.7**
	baz=281						
ETM	**Tongmen**	**1.08**	**3**	*i* P	**Pb**	**10 36 36.9**	**-1.2**
	baz=5.0						
HEN	**Hengchun**	**1.09**	**217**	*e*P	**Pn**	**10 36 37.6**	**-0.5**
	baz=202						
HEN				*e*S	**Sb**	**10 36 50.9**	**-1.0**
	baz=202						
OWD	**Renai**	**1.10**	**347**	*e*P	**Pb**	**10 36 37.8**	**-0.6**
	baz=358						
OWD				*e*S	**Sb**	**10 36 50.6**	**-1.7**
	baz=358						
TSEB	**Hengchuen, Pin**	**1.10**	**207**	*e*P	**Pn**	**10 36 37.6**	**-0.6**
	baz=196						
TSEB				*e*S	**Sb**	**10 36 51.8**	**-0.3**
	baz=196						
TWKBT	**Hengchun**	**1.10**	**212**	*e*P	**Pn**	**10 36 37.3**	**-1.1**
	baz=199						
TWKBT				*e*S	**Sb**	**10 36 50.8**	**-1.6**
	baz=199						
HWA	**Hwalien**	**1.10**	**8**	*e*P	**Pn**	**10 36 38.1**	**-0.2**
	baz=1.0						
HWA				*e*S	**Sn**	**10 36 51.7**	**-1.3**
	baz=1.0						
TWK1	**Hengchun**	**1.10**	**212**	*e*P	**Pn**	**10 36 37.2**	**-1.1**
	baz=201						
WLCH	**Liuqiu**	**1.11**	**242**	*e*P	**Pb**	**10 36 40.7**	**+2.1**
	baz=242						
SMLT	**Sun Moon Lake**	**1.11**	**334**	*e*P	**Pn**	**10 36 39.2**	**+0.6**
	baz=338						
SMLT				*e*S	**Sn**	**10 36 53.0**	**-0.5**
	baz=338						
CHY	**Chiayi**	**1.12**	**304**	*e*P	**Pn**	**10 36 38.8**	**+0.2**
	baz=308						
WJS	**Zhushan**	**1.14**	**325**	*e*S	**Sn**	**10 36 55.4**	**+1.4**
	baz=330						
WUSB	**Renai**	**1.15**	**345**	*e*P	**Pn**	**10 36 39.0**	**0.0**
	baz=355						
WUSB				*e*S	**Sn**	**10 36 52.5**	**-1.7**
	baz=355						
TYC	**Yuchr**	**1.15**	**332**	*e*P	**Pn**	**10 36 39.9**	**+0.9**
	baz=349						
TYC				*e*S	**Sn**	**10 36 54.8**	**+0.7**
	baz=349						
WDLH	**Douliu**	**1.16**	**314**	*e*P	**Pb**	**10 36 39.7**	**+0.4**
	baz=318						
WDLH				*e*S	**Sn**	**10 36 54.9**	**+0.6**
	baz=318						
ICHU	**Yijhu**	**1.17**	**294**	*e*P	**Pn**	**10 36 39.5**	**+0.2**
	baz=298						
CHGB	**Renai**	**1.20**	**348**	*e*P	**Pb**	**10 36 39.7**	**-0.5**
	baz=1.0						
CHGB				*e*S	**Sb**	**10 36 53.8**	**-1.6**
	baz=1.0						
TWD	**Chiawan**	**1.20**	**7**	*e*P	**Pn**	**10 36 38.7**	**-1.0**
	baz=1.0						
WNT	**Mingjian**	**1.21**	**325**	*e*P	**Pb**	**10 36 41.0**	**+0.7**
	baz=330						
WNT				S	**Sn**	**10 36 56.7**	**+1.0**
	baz=330						
WTK	**Tuku**	**1.26**	**310**	*e*P	**Pn**	**10 36 40.5**	**0.0**
	baz=314						
WTK				*e*S	**Sb**	**10 36 56.1**	**-0.7**
	baz=314						
WCS	**Beigang Elemen**	**1.27**	**338**	*e*P	**Pb**	**10 36 41.4**	**+0.1**
	baz=342						
WHF	**Hehuan Shan**	**1.27**	**353**	*e*P	**Pn**	**10 36 40.3**	**-0.7**
	baz=5.0						
WHF				*e*S	**Sb**	**10 36 56.0**	**-1.6**
	baz=5.0						
WSL	**Shuilin Townsh**	**1.28**	**300**	*e*P	**Pn**	**10 36 40.7**	**-0.2**
	baz=304						
WSL				*e*S	**Sb**	**10 36 56.5**	**-1.1**
	baz=304						
NACB	**Ninganchiao**	**1.29**	**6**	*e*P	**Pn**	**10 36 39.7**	**-1.3**
	baz=7.0						
ETLH	**Xiulin Townshi**	**1.32**	**2**	*e*P	**Pn**	**10 36 40.2**	**-1.3**
	baz=3.0						
WWF	**Wufeng**	**1.34**	**330**	*e*P	**Pb**	**10 36 43.0**	**+0.5**
	baz=334						
WWF				*e*S	**Sb**	**10 36 60.0**	**+0.7**
	baz=334						
FUSS	**Fushou**	**1.37**	**353**	*e*P	**Pn**	**10 36 41.1**	**-1.2**
	baz=1.0						
WRL	**Guolierlin Hig**	**1.41**	**316**	*e*P	**Pn**	**10 36 42.7**	**+0.2**
	baz=309						
WCHH	**Zhanghua**	**1.44**	**326**	*e*S	**Sb**	**10 37 02.1**	**0.0**
	baz=330						
WHP	**Taichung City**	**1.46**	**342**	*e*P	**Pb**	**10 36 44.9**	**+0.3**
	baz=352						
WHP				*e*S	**Sb**	**10 37 03.6**	**+0.8**
	baz=352						
NNSB	**Datong**	**1.54**	**358**	*e*P	**Pn**	**10 36 44.2**	**-0.3**
	baz=8.0						
NNS	**Nan Shan**	**1.55**	**358**	*e*P	**Pn**	**10 36 44.7**	**0.0**
	baz=8.0						
ENA	**Nanau**	**1.56**	**10**	*e*P	**Pn**	**10 36 44.2**	**-0.5**
	baz=2.0						
TWQ1	**Liyutan**	**1.58**	**337**	*e*P	**Pb**	**10 36 46.7**	**0.0**
	baz=341						
TWQ1				*e*S	**Sb**	**10 37 07.0**	**+0.8**
	baz=341						
WDJ	**Dajia District**	**1.63**	**334**	*e*P	**Pb**	**10 36 47.4**	**-0.1**
	baz=337						
WDJ				*e*S	**Sb**	**10 37 08.1**	**+0.4**
	baz=337						
LATG	**Datong**	**1.65**	**3**	*e*P	**Pn**	**10 36 45.7**	**-0.3**
	baz=13						
WDGT	**Dungji**	**1.68**	**283**	*e*P	**Pn**	**10 36 45.4**	**-0.9**
	baz=286						
NDT	**Datong Townshi**	**1.71**	**2**	*e*P	**Pn**	**10 36 46.8**	**-0.1**
	baz=10.0						
NMLH	**Miaoli**	**1.75**	**340**	*e*P	**Pb**	**10 36 49.4**	**-0.2**
	baz=343						
NMLH				*e*S	**Sb**	**10 37 11.4**	**+0.3**
	baz=343						
ENTT	**Nioudou**	**1.75**	**4**	*e*P	**Pn**	**10 36 47.3**	**-0.1**
	baz=13						
TWC	**Suao**	**1.76**	**12**	*e*P	**Pn**	**10 36 47.7**	**+0.3**
	baz=3.0						
NFF	**Wufeng Townshi**	**1.77**	**350**	*e*P	**Pb**	**10 36 48.4**	**-1.4**
	baz=357						
YHNB	**Yeheng**	**1.78**	**358**	*e*P	**Pn**	**10 36 48.3**	**+0.5**
	baz=9.0						
NSTT	**Nanjuang**	**1.79**	**347**	*e*P	**Pb**	**10 36 49.6**	**-0.6**
	baz=350						
NSK	**Sanguang**	**1.79**	**358**	*e*P	**Pb**	**10 36 48.6**	**-1.6**
	baz=9.0						
LIOB	**Emei**	**1.80**	**348**	*e*P	**Pb**	**10 36 48.8**	**-1.5**
	baz=350						
PHUB	**P'eng-hu**	**1.83**	**290**	*e*P	**Pn**	**10 36 47.7**	**-0.7**
	baz=293						
TWE	**Neicheng**	**1.84**	**6**	*e*P	**Pn**	**10 36 48.6**	**0.0**
	baz=6.0						
PNG	**Penghu**	**1.86**	**292**	*e*P	**Pn**	**10 36 48.0**	**-0.8**
	baz=283						
FUSB	**Fushanzhiwuyua**	**1.88**	**4**	*e*P	**Pn**	**10 36 49.0**	**-0.1**
	baz=13						
VCHM	**Qimei**	**1.88**	**280**	*e*P	**Pn**	**10 36 47.9**	**-1.1**
	baz=283						
NWLT	**Wulai**	**1.89**	**2**	*e*P	**Pn**	**10 36 49.6**	**+0.4**
	baz=12						
NHDH	**Xindian Distri**	**2.07**	**2**	*e*P	**Pn**	**10 36 52.7**	**+1.0**
	baz=10.0						
JYNG	**Yonagunijimaku**	**2.09**	**41**	P	**Pn**	**10 36 53.0**	**+1.1**
JYNG				S	**Sn**	**10 37 17.7**	**+0.4**
TWA	**Mucha**	**2.09**	**4**	*e*P	**Pn**	**10 36 52.7**	**+0.7**
	baz=11						
TIPB	**Shuangxi**	**2.11**	**10**	*e*P	**Pn**	**10 36 53.3**	**+1.0**
	baz=8.0						
YOJ	**Yonaguni jima**	**2.13**	**42**	P	**Pb**	**10 36 54.1**	**-1.9**
TWB1	**Santiao Chiao**	**2.18**	**13**	*e*P	**Pb**	**10 36 54.5**	**-2.3**
	baz=4.0						
NWF	**Wu-fen Shan**	**2.20**	**8**	*e*P	**Pn**	**10 36 54.1**	**+0.5**
	baz=6.0						
SXI1	**Grass Mountain**	**2.24**	**10**	*e*P	**Pn**	**10 36 54.7**	**+0.6**
	baz=8.0						
YM01	**YM01**	**2.26**	**3**	*e*P	**Pn**	**10 36 54.6**	**+0.3**
	baz=2.0						
HATJ	**Hateruma jima**	**2.47**	**61**	P	**Pn**	**10 36 57.9**	**+0.8**
HATJ				*e*S	**Sn**	**10 37 27.0**	**+0.3**
IRIF	**Iriomote-Funau**	**2.55**	**55**	P	**Pn**	**10 36 59.7**	**+1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IRIF				S	Sn	10 37 30.0	+1.2
JKRS	Kuro-shima	2.72	60	P	Pn	10 37 01.8	+1.2
JKRS				eS	Sn	10 37 34.0	+1.1
VWUC	VWUC	2.78	319	eP	Pn	10 37 00.5	-0.9
	baz=312						
JIJ	Ishigaki jima	2.89	59	P	Pn	10 37 03.6	+0.7
JIJ				S	Sn	10 37 37.1	+0.1
JISG	Ishigakijimahi	3.13	57	P	Pn	10 37 06.9	+0.6
JISG				eS	Sn	10 37 42.4	-0.7
JTJ	Tarama	3.46	59	P	Pn	10 37 11.9	+1.1
JTJ				S	Sn	10 37 51.8	+0.5
ZPLA	Ao Xicun	3.55	288	eP	Pn	10 37 11.3	-0.6
	baz=289						
JIRB	Irabujima	3.93	60	P	Pn	10 37 18.0	+0.8
JMJ2	Miyako jima3	4.01	62	P	Pn	10 37 19.4	+1.0
JOGS	Gusukube	4.09	62	P	Pn	10 37 20.8	+1.4
JOGS				eS	Sn	10 38 07.9	+1.2

*NOU **06** 10:46:54.7, 13°.09S×166°.47E, h65km, mb4.5/7, Vanuatu Islands*
*IDC **06** 10:47:00.3±0.9, 14°.17S×166°.63E, h0km, mb4.2/15, mb1 4.3/17, mb1mx4.0/47, mbtmp4.2/17, ML4.1/2, MS3.8/2, Ms1 3.8/2, ms1mx3.1/62, Error ellipse: s-maj=27.0km s-min=17.6km az=123.0*
*NEIC **06** 10:47:07.1±1.1, 14°.04S±0°.07×166°.39E±0°.04, h35km±1km, mb4.4/19, Error ellipse: s-maj=13.5km s-min=5.4km az=156.0*
ISC 06 10:47:07.1±0.6, **14°.07S**±0°.08×**166°.4E**±0°.1, **h43**km, **n53**, σ1^s**19**/53, **mb4.3**/22, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOUNC	Koumac, New Ca	6.76	197		Pn	10 48 44.2	+0.4
KOUNC	Koumac, New Ca	6.76	197	P	Pn	10 48 44.5	+0.7
	120nm,1.0s						
HNR	Honiara	7.83	305	Pn	Pn	10 48 57.2	-1.4
	6.5nm,0.3s,baz=257,slow=7.3,SNR=4.0						
HNR	Honiara	7.83	305		Pn	10 48 57.8	-0.8
DZM	Mont Dzumac	7.96	180	Pn	Pn	10 48 57.8	-2.6
	1.1nm,0.3s,baz=9.0,slow=7.3,SNR=1.9						
DZM				LR	LR	10 51 25.7	
	comp=Z,418nm,18.3s,baz=5.0,slow=34						
DZM	Mont Dzumac	7.96	180	Pn	Pn	10 48 59.6	-0.8
DZM	Mont Dzumac	7.96	180	P	Pn	10 49 01.1	+0.7
	31nm,1.5s						
NOUC	Port Laguerre	7.99	181	P	Pn	10 49 01.2	+0.5
	15nm,0.9s						
ONTNC	Ouen Toro	8.20	180	Pn	Pn	10 49 03.8	+0.2
OUENC	Ouen Island, N	8.32	177	Pn	Pn	10 49 05.8	+0.6
PINNC	Pines Island,	8.56	174	Pn	Pn	10 49 08.5	+0.1
CTA	Charters Tower	20.18	250	P	Pn	10 51 39.5	-0.8
	4.8nm,0.7s,baz=53,slow=8.1,SNR=5.2						
CTAO	Charters Tower	20.18	250	P	Pn	10 51 38.9	-1.5
CTAO				IAmb	IAmb	10 52 04.4	
	comp=Z,15nm,1.1s						
AFI	Afiamalu	21.16	92	LR	LR	10 58 37.5	
	comp=Z,346nm,18.7s,baz=66,slow=33						
ARMA	Armidale	21.23	218	P	P	10 51 49.8	+0.3
ARMA				IAmb	IAmb	10 51 52.5	
	comp=Z,20nm,1.2s						
BKZ	Black Stump Fm	26.53	162	P	P	10 52 40.5	-0.3
BKZ				IAmb	IAmb	10 53 02.9	
	comp=Z,24nm,1.4s						
STKA	Stephens Creek	28.81	228	P	P	10 53 02.2	+1.0
	comp=Z,2.8nm,0.9s,baz=255,slow=14,SNR=3.3						
STKA	Stephens Creek	28.81	228	P	P	10 53 01.0	-0.3
WR0	Warramunga Arr	31.01	255	P	P	10 53 20.1	-0.7
WR0				IAmb	IAmb	10 53 21.4	
	comp=Z,7.8nm,1.1s						
WB0	Warramunga Arr	31.13	255	P	P	10 53 21.5	-0.5
WB0				IAmb	IAmb	10 53 22.0	
	comp=Z,6.9nm,0.8s						
WB2	Warramunga Arr	31.18	255	P	P	10 53 21.8	-0.6
WB2				IAmb	IAmb	10 53 22.5	
	comp=Z,7.1nm,1.0s						
WRAB	Tennant Creek	31.18	255	P	P	10 53 21.6	-0.8
WRAB				IAmb	IAmb	10 53 22.4	
	comp=Z,6.5nm,1.0s						
WRA	Warramunga Arr	31.19	255	P	P	10 53 21.5	-1.0
	comp=Z,3.6nm,0.8s,baz=85,slow=9.2,SNR=21						
WRA	Warramunga Arr	31.19	255	P	P	10 53 21.6	-0.9
AS31	Alice Springs	32.15	248	P	P	10 53 29.5	-1.4
ASAR	Alice Springs	32.15	248	P	P	10 53 30.1	-0.8
	comp=Z,2.3nm,0.7s,baz=72,slow=9.7,SNR=27						
ASAR	Alice Springs	32.15	248	P	P	10 53 29.9	-1.0
KNRA	Kununurra	36.40	263	P	P	10 54 07.6	-0.1
FITZ	Fitzroy Crossi	39.33	259	P	P	10 54 32.5	+0.1
	comp=Z,4.9nm,0.8s,baz=110,slow=8.1,SNR=12						
FITZ	Fitzroy Crossi	39.33	259	P	P	10 54 33.0	+0.5
FITZ				IAmb	IAmb	10 54 33.7	
	comp=Z,4.8nm,0.8s						
MBWA	Marble Bar	44.93	254	P	P	10 55 19.0	+0.9
JNU	Nakatsue	57.91	325	P	P	10 56 56.0	+1.0
	comp=Z,3.4nm,0.7s,baz=162,slow=6.4,SNR=2.3						
VNDA	Vanda	63.50	181	P	P	10 57 31.5	-0.9
	comp=Z,0.6nm,0.7s,baz=354,slow=7.8,SNR=2.7						
VNDA	Vanda	63.50	181	P	P	10 57 33.7	+1.2
VNDA				IAmb	IAmb	10 58 02.6	
	comp=Z,4.3nm,1.4s						
SBA	Scott Base	63.79	180	P	P	10 57 35.1	+0.8
SBA				IAmb	IAmb	10 57 49.1	
	comp=Z,7.2nm,1.1s						
CASY	Casey	63.83	202	P	P	10 57 35.8	+1.0
USRK	Ussuriysk Ar.	65.93	334	P	P	10 57 50.3	+1.6
	comp=Z,2.1nm,0.8s,baz=96,slow=12,SNR=4.8						
CMAR	Chiang Mai Arr	73.93	294	P	P	10 58 40.4	+2.0
	comp=Z,0.9nm,0.3s,baz=141,slow=5.8,SNR=2.0						
CMAR	Chiang Mai Arr	73.93	294	P	P	10 58 38.0	-0.4
QSPA	South Pole Qui	75.96	180	P	P	10 58 50.2	+0.8
SEY	Seymchan	77.53	353	P	P	10 58 58.9	+0.9
	comp=Z,2.3nm,0.8s,baz=159,slow=5.3,SNR=14						
SONM	Songino Array	81.48	324	P	P	10 59 22.0	+2.0
	comp=Z,0.5nm,0.6s,baz=140,slow=5.3,SNR=4.0						
L19K	White Mountain	81.85	17	P	P	10 59 22.6	+1.1
IMAR	Indian Mountai	85.15	15	P	P	10 59 39.5	+1.2
ILAR	Eielson Array	86.16	18	P	P	10 59 42.5	-0.8
	comp=Z,0.6nm,0.8s,baz=239,slow=5.5,SNR=6.1						
ILAR	Eielson Array	86.16	18	P	P	10 59 43.2	-0.1
J25K	Salcha River,	86.51	19	P	P	10 59 45.5	+0.3
J25K				IAmb	IAmb	10 59 52.0	
	comp=Z,1.8nm,0.8s						
BBB	Bella Bella	86.69	34	P	P	10 59 44.3	-1.9
	comp=Z,11nm,0.8s,baz=239,slow=12,SNR=1.8						
MKAR	Makanchi Array	96.16	317	P	P	11 00 31.1	+0.6
	comp=Z,0.7nm,0.8s,baz=81,slow=7.5,SNR=6.4						
MKAR	Makanchi Array	96.16	317	P	P	11 00 30.8	+0.3
YKA	Yellowknife Ar	97.34	27	P	P	11 00 33.1	-2.3
	comp=Z,0.2nm,0.8s,baz=244,slow=6.1,SNR=2.9						
TORD	Torodi Ar. Bea	165.12	268	PKP	PKPdf	11 07 06.8	-0.9
	comp=Z,0.8nm,1.0s,baz=90,slow=3.2,SNR=3.7						
TORD	Torodi Ar. Bea	165.12	268		PKPdf	11 07 06.1	-1.6
TORD				PKPab	PKPab	11 08 01.2	-3.7

*IDC **06** 10:51:38.0±8.8, 14°.54S×165°.97E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.5/50, mbtmp4.0/5, ML4.2/2, Error ellipse: s-maj=154.3km s-min=26.9km az=63.0*
*NEIC **06** 10:51:39.4±1.2, 14°.5S±0°.1×166°.2E±0°.1, h21km±6km, mb4.3/14, Error ellipse: s-maj=23.6km s-min=11.1km az=57.0*
ISC 06 10:51:40.5±1.1, **14°.42S**±0°.10×**166°.2E**±0°.1, **h35**km, **n27**, σ1^s**09**/29, **mb4.2**/10, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOUNC	Koumac, New Ca	6.38	197	Pn	Pn	10 53 13.5	+1.5
LIFNC	LIFOU	6.40	172	Pn	Pn	10 53 09.8	-2.5
MARNC	Mare, Loyalty	7.23	167	Pn	Pn	10 53 22.4	-1.3
DZM	Mont Dzumac	7.62	179	Pn	Pn	10 53 28.1	-1.0
	1.6nm,0.3s,baz=156,slow=22,SNR=13						
DZM				Sn	Sn	10 54 54.9	+0.6
	0.5nm,0.3s,baz=98,slow=18,SNR=1.8						
ONTNC	Ouen Toro	7.85	179	Pn	Pn	10 53 32.7	+0.4
HNR	Honiara	7.90	308	Pn	Pn	10 53 33.0	+0.1
	7.8nm,0.3s,baz=217,slow=14,SNR=2.4						
HNR				Sn	Sn	10 55 01.2	+0.1
	3.6nm,0.3s,baz=202,slow=4.7,SNR=1.3						
HNR	Honiara	7.90	308		Pn	10 53 32.5	-0.5
OUENC	Ouen Island, N	7.98	176	Pn	Pn	10 53 32.6	-1.4
PINNC	Pines Island,	8.23	172	Pn	Pn	10 53 37.9	+0.4
EIDS	Eidsvold	17.92	230		P	10 55 46.1	-1.3
PMG	Port Moresby	19.31	283	P	Pn	10 56 02.3	-1.7
PMG				IAmb	IAmb	10 56 16.9	
	comp=Z,31nm,1.2s						
MXZ	Matakaoa Point	25.43	157	P	P	10 57 04.4	-0.5
BKZ	Black Stump Fm	26.26	162	P	P	10 57 13.0	+0.5
BKZ				IAmb	IAmb	10 57 24.6	
	comp=Z,16nm,1.3s						
STKA	Stephens Creek	28.45	228	P	P	10 57 33.5	+1.3
	comp=Z,1.1nm,0.4s,baz=70,slow=6.6,SNR=5.1						
STKA	Stephens Creek	28.45	228	P	P	10 57 31.8	-0.3
WR0	Warramunga Arr	30.75	255	P	P	10 57 52.5	-0.3
WR0				IAmb	IAmb	10 58 19.5	
	comp=Z,4.9nm,1.2s						
WB0	Warramunga Arr	30.87	256	P	P	10 57 53.5	-0.3
WB0				IAmb	IAmb	10 58 12.2	
	comp=Z,6.2nm,1.4s						
WB2	Warramunga Arr	30.92	255	P	P	10 57 54.0	-0.3
WB2				IAmb	IAmb	10 58 08.8	
	comp=Z,5.4nm,1.3s						
WRA	Warramunga Arr	30.93	255	P	P	10 57 53.9	-0.5
	comp=Z,0.7nm,0.8s,baz=84,slow=7.1,SNR=4.8						
ASAR	Alice Springs	31.85	248	P	P	10 58 01.9	-0.5
	comp=Z,0.4nm,0.6s,baz=78,slow=9.2,SNR=4.9						
MBWA	Marble Bar	44.66	254	P	P	10 59 49.5	-0.7
VNDA	Vanda	63.15	181	P	P	11 02 06.8	+2.4
CASY	Casey	63.44	202	P	P	11 02 06.2	-0.3
SBA	Scott Base	63.45	180	P	P	11 02 06.8	+0.5
SBA				IAmb	IAmb	11 02 37.1	
	comp=Z,2.5nm,1.1s						
USA0B	Ussuriysk Arra	66.16	334	P	P	11 02 25.5	+1.1
USA0B				IAmb	IAmb	11 02 50.3	
	comp=Z,3.6nm,0.7s						
USRK	Ussuriysk Ar.	66.16	334	P	P	11 02 25.5	+1.1
QSPA	South Pole Qui	75.61	180	P	P	11 03 22.2	+0.5
QSPA				IAmb	IAmb	11 03 51.2	
	comp=Z,3.2nm,1.1s						

*NEIC **06** 11:00:47.6±1.8, 8°.1N±0°.1×126°.4E±0°.1, h123km±7km, mb4.0/18, Error ellipse: s-maj=17.9km s-min=14.4km az=76.0*
*IDC **06** 11:00:49.5±2.6, 8°.06N×126°.30E, h148km±23km, mb3.9/13, mb1 4.0/15, mb1mx3.6/51, mbtmp4.4/15, Error ellipse: s-maj=23.1km s-min=11.4km az=79.0*
*MAN **06** 11:00:50.5, 8°.04N×126°.22E, h128km, mb5.0, ML4.0, MS4.0, Hypocentre not reviewed by the ISC*
*DJA **06** 11:00:51.6±3.0, 8°N±26°×12°6E±°, h144km±13km, M4.6/9, mB5.0/8, mb4.7/9, MLv4.9/7, Mw(mB)4.3/8*
ISC 06 11:00:48.1±0.6, **8°.02N**±0°.05×**126°.38E**±0°.07, **h134**km±5km, **n70**, σ1^s**43**/76, **mb4.1**/22, **3C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.17	354⇓	iP	Pn	11 01 08.6	+2.2
BIPH				i S	Sn	11 01 22.8	+2.5
DAV	Davao City (W)	1.23	220		Pn	11 01 12.9	-0.7
CTBH	Cotabato--PC H	2.26	250⇑	iP	Pn	11 01 26.1	+0.6
CTBH				i S	Sn	11 01 53.2	-0.9
GSPH	General Santos	2.39	217	eP	Pn	11 01 28.0	+0.8
TBP	Tagbilaran	2.99	304	eP	Pn	11 01 35.5	+0.8
TBP				i S	Sn	11 02 09.0	-1.7
DCPH	Dipolog City	3.05	281⇓	eP	Pn	11 01 37.2	+1.7
LLP	Lapu-Lapu	3.30	314⇑	iP	Pn	11 01 41.2	+2.4
LLP				i S	Sn	11 02 19.7	+1.7
SGSI	Sangihe	4.39	191	P	Pn	11 01 54.7	+1.6
RCP	Roxas	5.02	315⇓	eP	Pn	11 02 03.0	+1.5
TNTI	Ternate	7.27	172		Pn	11 02 31.9	+0.2
TNTI	Ternate	7.27	172	P	Pn	11 02 32.0	+0.2
	0.5nm2μm86nm,1.0s						
LQP	Lukban	7.69	322⇑	eP	Pn	11 02 40.7	+3.1
GTOI	Gorontalo	8.06	205	P	Pn	11 02 41.9	-0.6
	0.1nm508nm39nm,0.9s						
LBMI	Labuha	8.67	173	P	Pn	11 02 51.6	+1.0
	879nm44nm,0.6s						
MRSI	Marisa	8.70	211	P	Pn	11 02 53.1	+2.1
	1μm50nm,0.5s						
TOLI2	Tolitoli	8.84	219	Pn	Pn	11 02 51.7	-1.2
LUWI	Luwuk	9.69	202	Pn	Pn	11 03 05.0	+0.7
SANI	Sanana	10.01	182	P	Pn	11 03 05.9	-2.6
	25μm400nm,0.5s						
APSI	Ampana	10.05	208	P	Pn	11 03 11.5	+2.5
	581nm40nm,1.1s						
SIJI	Sorong	10.09	151	P	Pn	11 03 10.7	+1.1
	4.3nm,0.3s,baz=142,slow=23,SNR=9.5						
SIJI				S	Sn	11 04 57.8	-3.3
	0.9nm,0.3s,baz=188,slow=23,SNR=1.8						
KAPI	Kappang	14.54	207	Pn	Pn	11 04 07.6	+0.1
SBUM	Sibu	15.14	249	Pn	Pn	11 04 15.0	-0.1
SBUM				IAmb	IAmb	11 04 20.5	
	comp=Z,3.7nm,0.6s						
TPUB	Ta-pu	16.17	341		Pn	11 04 26.3	-1.4
BATI	Baumata	18.31	189	P	P	11 04 53.6	+1.6
	comp=Z,10.0nm,0.3s,baz=68,slow=3.2,SNR=5.4						
JCJ	Chichijima	24.18	36	P	P	11 05 51.6	-0.4
	comp=Z,18nm,0.3s,baz=264,slow=18,SNR=7.2						
FITZ	Fitzroy Crossi	25.96	182	P	P	11 06 08.3	+0.1
	comp=Z,3.2nm,0.7s,baz=39,slow=1.4,SNR=9.0						
FITZ	Fitzroy Crossi	25.96	182	P	P	11 06 08.1	-0.1
FITZ				IAmb	IAmb	11 06 11.8	
	comp=Z,3.2nm,0.8s						
WRA	Warramunga Arr	28.87	164	P	P	11 06 34.1	-0.1
	comp=Z,0.1nm,0.5s,baz=342,slow=8.1,SNR=6.4						
WRA				PcP	PcP	11 09 40.8	+0.3
	comp=Z,0.3nm,0.6s,baz=343,slow=2.6,SNR=2.6						
WRA	Warramunga Arr	28.87	164	P	P	11 06 34.9	+0.7
WB2	Warramunga Arr	28.87	164	P	P	11 06 35.6	+1.4
WR0	Warramunga Arr	28.94	164	P	P	11 06 33.3	-1.5
WR0				IAmb	IAmb	11 06 50.6	
	comp=Z,3.7nm,1.2s						
PSA00	Pilbara Seismi	30.10	192	P	P	11 06 45.1	0.0
PSA00				IAmb	IAmb	11 06 50.2	
	comp=Z,5.6nm,1.2s						
ASAR	Alice Springs	32.34	167	P	P	11 07 04.5	-0.3
	comp=Z,0.1nm,0.3s,baz=350,slow=7.5,SNR=5.6						
ASAR				PcP	PcP	11 09 50.0	+0.3
	comp=Z,0.3nm,0.6s,baz=345,slow=2.6,SNR=2.6						
ASAR				ScP	ScP	11 13 17.6	-3.5
	comp=Z,0.2nm,0.6s,baz=354,slow=3.7,SNR=1.7						
ASAR	Alice Springs	32.34	167	P	P	11 07 05.0	+0.3
ASAJ	Asahikawa	38.64	19	P	P	11 07 59.2	+0.8
	comp=Z,2.1nm,0.4s,baz=202,slow=8.2,SNR=5.8						
H11S3	WAKE ISLAND Hy	40.50	71	T	T	11 51 55.6	
	baz=262,slow=73,SNR=8.4						
H11S1	WAKE ISLAND Hy	40.52	71	T	T	11 51 56.8	
	baz=262,slow=73,SNR=4.9						
H11S2	WAKE ISLAND Hy	40.52	71	T	T	11 51 56.3	
	baz=262,slow=73,SNR=5.5						
H11N1	WAKE ISLAND Hy	40.91	69	T	T	11 52 31.2	
	baz=265,slow=75,SNR=6.0						
H11N2	WAKE ISLAND Hy	40.91	69	T	T	11 52 30.1	
	baz=265,slow=75,SNR=3.7						
H11N3	WAKE ISLAND Hy	40.92	69	T	T	11 52 31.2	
	baz=265,slow=75,SNR=5.1						
BBOO	Buckleboo	41.64	168	P	P	11 08 23.9	+0.7
STKA	Stephens Creek	42.25	161	P	P	11 08 27.6	-0.5
DZM	Mont Dzumac	49.36	128	P	P	11 09 25.9	+1.6
	comp=Z,6.8nm,0.6s,baz=262,slow=22,SNR=2.8						
MK31	Makanchi Array	53.88	324	P	P	11 09 57.8	+0.4
MK31				IAmb	IAmb	11 09 58.8	
	comp=Z,2.3nm,0.8s						
MKAR	Makanchi Array	53.88	324	P	P	11 09 57.8	+0.3
	comp=Z,2.5nm,0.7s,baz=123,slow=7.9,SNR=27						
MKAR				PcP	PcP	11 11 01.2	-0.1
	comp=Z,3.6nm,0.7s,baz=114,slow=4.1,SNR=20						
MAKZ	Makanchi	54.07	324	P	P	11 09 59.2	+0.4
MAKZ				IAmb	IAmb	11 09 59.7	
	comp=Z,2.3nm,0.8s						
ZALV	Zalesovo Beam	56.65	332	P	P	11 10 16.1	-1.0
	comp=Z,0.4nm,0.3s,baz=108,slow=7.7,SNR=2.7						
ZALV				PcP	PcP	11 11 10.2	-1.5
	comp=Z,0.7nm,0.3s,baz=127,slow=4.9,SNR=4.2						
KURK	Kurchatov	57.98	326	P	P	11 10 26.3	-0.2
KURK				IAmb	IAmb	11 10 27.6	
	comp=Z,3.3nm,1.0s						
KKAR	Karatay Array	59.91	316	P	P	11 10 39.9	-0.1
RPZ	Rata Peaks	65.47	146	P	P	11 11 18.6	+1.8
	comp=Z,4.6nm,0.6s,baz=225,slow=1.4,SNR=2.3						
RPZ	Rata Peaks	65.47	146	P	P	11 11 19.3	+2.5
ABKAR	Akbulak array	68.65	320	P	P	11 11 36.2	-0.6
TTA	Tatalina	77.27	27	P	P	11 12 28.7	+1.3
CCB	Clear Creek Bu	81.02	26	P	P	11 12 47.6	0.0
CCB				IAmb	IAmb	11 12 58.8	
	comp=Z,2.2nm,1.2s						
ILAR	Eielson Array	81.41	26	P	P	11 12 49.0	-0.8
	comp=Z,0.5nm,0.4s,baz=242,slow=4.6,SNR=13						
ILAR				pP	sP	11 13 33.0	-3.9
	comp=Z,1.1nm,0.7s,baz=237,slow=5.2,SNR=12						
J25K	Salcha River,	82.06	26	P	P	11 12 53.0	-0.2
J25K				IAmb	IAmb	11 12 54.7	
	comp=Z,2.0nm,1.1s						
INK	Inuvik	86.33	22	P	P	11 13 13.3	-1.3
	comp=Z,0.4nm,0.5s,baz=327,slow=3.1,SNR=5.0						
INK	Inuvik	86.33	22	P	P	11 13 14.5	-0.1
INK				IAmb	IAmb	11 13 27.5	
	comp=Z,2.8nm,1.2s						
ARCES	ARCESS Array B	86.33	340	P	P	11 13 13.4	-1.2
	comp=Z,1.5nm,0.8s,baz=60,slow=4.9,SNR=5.2						
FIA1	FINESS Array S	87.91	332	P	P	11 13 22.0	-0.4
FINES	FINESS Array B	87.91	332	P	P	11 13 21.8	-0.6
	comp=Z,3.1nm,0.5s,baz=94,slow=23,SNR=21						
AKASG	Malin Array Be	88.36	321	P	P	11 13 23.4	-1.4
	comp=Z,1.0nm,0.6s,baz=69,slow=4.8,SNR=6.9						
YKA	Yellowknife Ar	95.76	24	P	P	11 13 58.4	-0.3
	comp=Z,0.6nm,0.7s,baz=299,slow=4.6,SNR=12						
YKA	Yellowknife Ar	95.76	24	P	P	11 13 57.5	-1.2
TXAR	Lajitas Array	119.20	50	PKP	PKiKP	11 19 23.1	+1.0
	comp=Z,0.7nm,0.6s,baz=282,slow=0.7,SNR=12						
TXAR	Lajitas Array	119.20	50		PKiKP	11 19 23.4	+1.3
TORD	Torodi Ar. Bea	121.17	291	PKP	PKPdf	11 19 25.0	-1.1
	comp=Z,0.2nm,0.4s,baz=40,slow=0.8,SNR=5.1						
TORD	Torodi Ar. Bea	121.17	291		PKPdf	11 19 25.6	-0.5
LPAZ	La Paz	163.62	121	PKP	PKPdf	11 20 35.5	-1.3
	comp=Z,1.0nm,0.7s,baz=61,slow=3.0,SNR=3.6						
LPAZ				PKPab	PKPab	11 21 29.9	+0.8
	comp=Z,0.6nm,0.6s,baz=264,slow=3.0,SNR=4.5						

*IDC **06** 11:16:20.1±1.2, 14°.02S×166°.63E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/38, mbtmp3.7/6, ML3.6/1, MS4.2/1, Ms1 4.2/1, ms1mx2.9/62, Error ellipse: s-maj=41.7km s-min=27.2km az=122.0*
ISC 06 11:16:26.1±1.1, **14°.2S**±0°.1×**166°.7E**±0°.2, **h43**km, **n7**, σ1^s**13**/6, **mb3.7**/5, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.85	182	Pn	Pn	11 18 16.9	-1.0
	0.8nm,0.3s,baz=323,slow=20,SNR=1.9						
MSVF	Nonsavu	11.50	109	LR	LR	11 23 12.8	
	comp=Z,1μm,19.4s,baz=68,slow=36						
WRA	Warramunga Arr	31.40	255	P	P	11 22 43.2	-0.1
	0.4nm,1.0s,baz=86,slow=9.0,SNR=1.6						
ASAR	Alice Springs	32.33	248	P	P	11 22 51.4	-0.1
	0.3nm,0.5s,baz=75,slow=9.5,SNR=9.6						
VNDA	Vanda	63.40	181	P	P	11 26 52.4	+1.7
	0.4nm,0.6s,baz=351,slow=7.8,SNR=3.6						
ILAR	Eielson Array	86.19	18	P	P	11 29 02.2	-0.3
	0.4nm,0.5s,baz=232,slow=5.3,SNR=11						
YKA	Yellowknife Ar	97.33	27	P	P	11 29 54.1	-0.3
	0.4nm,1.1s,baz=246,slow=4.6,SNR=1.7						

*IDC **06** 11:16:56.4±1.0, 14°.08S×166°.66E, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.9/36, mbtmp4.0/7, ML4.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/60, Error ellipse: s-maj=41.4km s-min=22.7km az=125.0*
*NEIC **06** 11:17:02.7±1.3, 14°.2S±0°.1×166°.72E±0°.05, h35km±1km, mb4.3/19, Error ellipse: s-maj=18.6km s-min=5.7km az=157.0*
ISC 06 11:17:02.4±0.6, **14°.22S**±0°.08×**166°.7E**±0°.1, **h35**km, **n40**, σ**0**^{s}**99**/42, **mb4.3**/16, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	6.54	176	Pn	Pn	11 18 38.5	+2.2
KOUNC	Koumac, New Ca	6.71	200	Pn	Pn	11 18 40.3	+1.8
MARNC	Mare, Loyalty	7.33	170	Pn	Pn	11 18 47.5	+0.4
DZM	Mont Dzumac	7.82	182	Pn	Pn	11 18 53.8	0.0
	3.3nm,0.3s,baz=309,slow=22,SNR=7.2						
DZM				Sn	Sn	11 20 18.9	-2.2
	0.7nm,0.3s,baz=322,slow=22,SNR=1.3						
DZM	Mont Dzumac	7.82	182		Pn	11 18 54.1	+0.3
ONTNC	Ouen Toro	8.05	182	Pn	Pn	11 18 57.9	+0.9
OUENC	Ouen Island, N	8.16	179	Pn	Pn	11 18 58.6	+0.2
PINNC	Pines Island,	8.38	175	Pn	Pn	11 19 02.4	+0.9
BKZ	Black Stump Fm	26.31	163	P	P	11 22 35.0	+0.1
BKZ				IAmb	IAmb	11 22 38.6	
	comp=Z,14nm,1.2s						
JAY	Jayapura	28.18	292	LR	LR	11 31 41.0	
	comp=Z,61nm,21.2s,slow=32						
STKA	Stephens Creek	28.91	228	P	P	11 22 59.5	+1.2
	comp=Z,2.7nm,0.4s,baz=40,slow=7.9,SNR=10						
STKA	Stephens Creek	28.91	228	P	P	11 22 59.5	+1.2
WB0	Warramunga Arr	31.36	255	P	P	11 23 19.6	-0.5
WB0				IAmb	IAmb	11 23 35.3	
	comp=Z,2.8nm,0.9s						
WB2	Warramunga Arr	31.41	255	P	P	11 23 20.1	-0.5
WB2				IAmb	IAmb	11 23 20.4	
	comp=Z,5.5nm,1.2s						
WRAB	Tennant Creek	31.41	255	P	P	11 23 19.6	-0.9
WRAB				IAmb	IAmb	11 23 21.6	
	comp=Z,3.9nm,1.5s						
WRA	Warramunga Arr	31.42	255	P	P	11 23 18.4	-2.3
	comp=Z,0.7nm,0.8s,baz=86,slow=9.6,SNR=3.3						
WRA				PcP	PcP	11 26 13.6	-0.1
	comp=Z,0.8nm,1.1s,baz=87,slow=3.7,SNR=2.0						
WRA	Warramunga Arr	31.42	255	P	P	11 23 19.8	-0.9
AS31	Alice Springs	32.34	248	P	P	11 23 28.5	-0.3
ASAR	Alice Springs	32.35	248	P	P	11 23 27.6	-1.2
	comp=Z,1.0nm,0.7s,baz=76,slow=9.4,SNR=12						
ASAR				PcP	PcP	11 26 15.6	-0.6
	comp=Z,0.2nm,0.6s,baz=79,slow=3.1,SNR=2.3						
ASAR	Alice Springs	32.35	248	P	P	11 23 28.5	-0.3
BBOO	Buckleboo	33.46	231	P	P	11 23 39.1	+0.7
KNRA	Kununurra	36.65	263	P	P	11 24 04.9	-1.1
KNRA				IAmb	IAmb	11 24 23.2	
	comp=Z,7.7nm,1.0s						
FORT	Forrest	39.09	238	P	P	11 24 26.2	-0.3
FITZ	Fitzroy Crossi	39.57	259	P	P	11 24 30.6	0.0
FITZ				IAmb	IAmb	11 24 42.6	
	comp=Z,4.0nm,1.1s						
MORW	Morawa	49.00	244	P	P	11 25 45.9	0.0
VNDA	Vanda	63.36	181	P	P	11 27 26.8	-0.9
	comp=Z,0.3nm,0.4s,baz=350,slow=9.9,SNR=2.1						
VNDA	Vanda	63.36	181	P	P	11 27 27.6	-0.1
VNDA				IAmb	IAmb	11 27 34.5	
	comp=Z,1.8nm,0.9s						
SBA	Scott Base	63.65	180	P	P	11 27 31.0	+1.4
SBA				IAmb	IAmb	11 27 36.5	
	comp=Z,3.1nm,0.8s						
QSPA	South Pole Qui	75.81	180	P	P	11 28 44.7	-0.1
BILL	Bilibino	82.03	360	P	P	11 29 19.0	+0.5
BILL				IAmb	IAmb	11 29 19.7	
	comp=Z,4.7nm,0.7s						
TTA	Tatalina	82.18	16	P	P	11 29 20.3	+0.8
CAST	Castle Rocks	83.67	17	P	P	11 29 27.1	0.0
CAST				IAmb	IAmb	11 29 28.1	
	comp=Z,1.9nm,0.7s						
IL31		86.21	18	P	P	11 29 39.5	-0.3
IL31				IAmb	IAmb	11 29 46.7	
	comp=Z,2.3nm,1.1s						
ILAR	Eielson Array	86.21	18	P	P	11 29 39.0	-0.9
	comp=Z,1.2nm,0.5s,baz=237,slow=5.2,SNR=23						
ILAR	Eielson Array	86.21	18	P	P	11 29 39.2	-0.6
LENM	Lemitar	94.87	56	P	P	11 30 22.4	+0.9
YKA	Yellowknife Ar	97.35	27	P	P	11 30 30.9	-0.8
	comp=Z,0.1nm,0.4s,baz=258,slow=4.9,SNR=6.7						
YKA	Yellowknife Ar	97.35	27	P	P	11 30 31.1	-0.6
ARCES	ARCESS Array B	119.62	345	PKP	PKPdf	11 35 46.9	-1.2
	comp=Z,0.7nm,0.4s,baz=66,slow=2.2,SNR=17						
ARCES	ARCESS Array B	119.62	345		PKPdf	11 35 47.3	-0.7

*IDC **06** 11:24:54.6±2.7, 15°.06S×174°.13W, h76km±25km, mb3.6/7, mb1 3.9/9, mb1mx3.7/27, mbtmp4.0/9, Error ellipse: s-maj=35.1km s-min=15.6km az=141.0*
*NEIC **06** 11:24:55.1±1.2, 15°.13S±0°.08×174°.0W±0°.1, h77km±7km, mb4.6/22, Error ellipse: s-maj=18.1km s-min=11.2km az=110.0*
ISC 06 11:24:53.9±0.5, **15°.13S**±0°.10×**174°.07W**±0°.09, **h73**km, **n44**, σ**0**^{s}**98**/46, **mb4.6**/19, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.53	62	P	Pn	11 25 34.0	+1.1
	76nm,0.3s,baz=190,slow=1.7,SNR=118						
AFI				S	Sn	11 25 59.8	-3.0
	366nm,0.3s,baz=154,slow=23,SNR=22						
NIUE	Niue	5.58	135	Pn	Pn	11 26 15.0	+0.7

DZM	**Mont Dzumac**	**19.71**	**247**	P	**P**	**11 29 18.4**	**+0.8**
	0.1nm,0.3s,baz=219,slow=21,SNR=1.5						
URZ	**Urewera**	**24.32**	**197**	P	**P**	**11 30 02.3**	**-2.4**
	3.0nm,0.5s,baz=174,slow=14,SNR=1.9						
BKZ	**Black Stump Fm**	**25.34**	**197**	P	**P**	**11 30 12.8**	**-1.3**
EIDS	**Eidsvold**	**34.15**	**247**	P	**P**	**11 31 30.6**	**-1.7**
EIDS				IAmb	IAmb	11 31 50.7	
	comp=Z,18nm,1.4s						
ARMA	**Armidale**	**34.93**	**238**	P	**P**	**11 31 40.6**	**+1.6**
ARMA				IAmb	IAmb	11 31 50.9	
	comp=Z,13nm,1.1s						
TOO	**Toolangi**	**42.14**	**230**	P	**P**	**11 32 38.7**	**-0.6**
STKA	**Stephens Creek**	**43.61**	**240**	P	**P**	**11 32 49.5**	**-1.7**
	comp=Z,1.5nm,0.5s,baz=114,slow=12,SNR=3.4						
BBOO	**Buckleboo**	**48.39**	**239**	P	**P**	**11 33 28.5**	**-0.3**
WR0	**Warramunga Arr**	**49.09**	**257**	P	**P**	**11 33 34.5**	**+0.2**
WR0				IAmb	IAmb	11 33 44.9	
	comp=Z,6.9nm,1.2s						
WB0	**Warramunga Arr**	**49.24**	**257**	P	**P**	**11 33 34.6**	**-0.9**
WB0				IAmb	IAmb	11 33 36.7	
	comp=Z,7.4nm,0.8s						
WB2	**Warramunga Arr**	**49.27**	**257**	P	**P**	**11 33 35.8**	**+0.1**
WRAB	**Tennant Creek**	**49.27**	**257**	P	**P**	**11 33 35.7**	**0.0**
WRAB				IAmb	IAmb	11 33 36.9	
	comp=Z,6.9nm,0.7s						
WRA	**Warramunga Arr**	**49.28**	**257**	P	**P**	**11 33 36.0**	**+0.2**
	comp=Z,5.8nm,0.6s,baz=91,slow=7.5,SNR=142						
WRA	**Warramunga Arr**	**49.28**	**257**	P	**P**	**11 33 35.3**	**-0.5**
ASAR	**Alice Springs**	**49.58**	**252**	P	**P**	**11 33 38.5**	**+0.4**
	comp=Z,47nm,0.6s,baz=90,slow=7.6,SNR=775						
ASAR				PcP	**PcP**	**11 34 58.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=87,slow=4.7,SNR=0.8						
ASAR	**Alice Springs**	**49.58**	**252**	P	**P**	**11 33 38.7**	**+0.6**
MTN	**Manton Dam**	**53.11**	**265**	P	**P**	**11 34 04.7**	**+0.2**
MTN				IAmb	IAmb	11 34 06.0	
	comp=Z,11nm,1.2s						
FITZ	**Fitzroy Crossi**	**57.63**	**258**	P	**P**	**11 34 37.3**	**+0.3**
FITZ				IAmb	IAmb	11 34 42.3	
	comp=Z,3.1nm,1.0s						
PSA00	**Pilbara Seismi**	**62.66**	**253**	P	**P**	**11 35 11.1**	**-0.2**
PSA00				IAmb	IAmb	11 35 39.7	
	comp=Z,6.4nm,1.4s						
PSA00	**Pilbara Seismi**	**62.66**	**253**	P	**P**	**11 35 11.1**	**-0.2**
PSA00				IAmb	IAmb	11 35 11.6	
	comp=Z,4.9nm,0.7s						
MBWA	**Marble Bar**	**62.81**	**254**	P	**P**	**11 35 12.2**	**-0.2**
SBA	**Scott Base**	**63.47**	**184**	P	**P**	**11 35 17.2**	**+1.5**
VNDA	**Vanda**	**63.58**	**186**	P	**P**	**11 35 17.4**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=345,slow=3.9,SNR=11						
VNDA	**Vanda**	**63.58**	**186**	P	**P**	**11 35 17.7**	**+1.3**
VNDA				IAmb	IAmb	11 35 20.9	
	comp=Z,6.4nm,1.4s						
QSPA	**South Pole Qui**	**74.91**	**180**	P	**P**	**11 36 27.8**	**+1.0**
QSPA				IAmb	IAmb	11 36 28.6	
	comp=Z,8.7nm,0.8s						
TNA	**Tin City**	**80.58**	**3**	P	**P**	**11 36 59.1**	**+1.2**
TNA				IAmb	IAmb	11 37 00.1	
	comp=Z,4.1nm,0.9s						
TXAR	**Lajitas Array**	**81.00**	**56**	P	**P**	**11 37 02.2**	**+1.1**
	comp=Z,0.1nm,0.7s,baz=251,slow=5.3,SNR=1.9						
CCB	**Clear Creek Bu**	**82.02**	**11**	P	**P**	**11 37 06.0**	**+0.4**
ILAR	**Eielson Array**	**82.31**	**11**	P	**P**	**11 37 06.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=235,slow=6.1,SNR=16						
ILAR	**Eielson Array**	**82.31**	**11**	P	**P**	**11 37 06.5**	**-0.7**
J25K	**Salcha River,**	**82.46**	**12**	P	**P**	**11 37 08.8**	**+0.7**
PDAR	**Pinedale Array**	**82.50**	**42**	P	**P**	**11 37 08.2**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=220,slow=3.9,SNR=3.6						
PDAR	**Pinedale Array**	**82.50**	**42**	P	**P**	**11 37 08.5**	**-0.4**
YKA	**Yellowknife Ar**	**90.11**	**24**	P	**P**	**11 37 45.7**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=239,slow=4.6,SNR=8.1						
YKA	**Yellowknife Ar**	**90.11**	**24**	P	**P**	**11 37 46.0**	**+0.6**
A36M	**Sachs Harbour**	**92.79**	**14**	P	**P**	**11 37 58.3**	**+0.6**
ARCES	**ARCESS Array B**	**124.25**	**352**	PKP	**PKPdf**	**11 43 43.2**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=42,slow=2.0,SNR=4.3						
ARCES	**ARCESS Array B**	**124.25**	**352**		**PKPdf**	**11 43 43.8**	**0.0**
BRTR	**Keskin Array B**	**145.54**	**321**	PKPbc	**PKPdf**	**11 44 23.9**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=85,slow=3.1,SNR=3.7						
BRTR	**Keskin Array B**	**145.54**	**321**		**PKPdf**	**11 44 23.2**	**-1.1**
GERES	**GERESS Array B**	**145.78**	**351**	PKPbc	**PKPdf**	**11 44 24.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=308,slow=4.4,SNR=5.6						
GERES	**GERESS Array B**	**145.78**	**351**		**PKPdf**	**11 44 24.1**	**-0.2**

*ANF **06** 11:44:19.8±0.2, 34°.11N×119°.31W, h23km±2km, ML3.7/31, ML3.7/31, Error ellipse: s-maj=1.9km s-min=1.3km az=84.0*
*NEIC **06** 11:44:19.6±1.1, 34°.08N±0°.03×119°.28W±0°.02, h15km±6km, Error ellipse: s-maj=3.9km s-min=2.3km az=200.0*
*PAS **06** 11:44:20.2±1.2, 34°.08N±0°.03×119°.29W±0°.02, h20km±6km, Mwr3.5/4, ML3.4/60(NEIC), Error ellipse: s-maj=4.2km s-min=2.8km az=190.0*
*NEIC **06** 11:44:20.2, 34°.08N×119°.29W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.06; $M_{\theta\theta}$-2.16; $M_{\phi\phi}$2.10; $M_{r\theta}$0.43; $M_{\theta\phi}$1.05; $M_{\phi r}$0.66; Fault plane solution: $M_0$2.50000×10^{14} NP1:ϕ_s327.00000°, δ74.00000°, λ173.00000°. NP2:ϕ_s59.00000°, δ83.00000°, λ16.00000°. Principal axes: T 2.5682, Plg16.0000°, Azm284.0000°; N -0.1303, Plg72.0000°, Azm82.0000°; P -2.4379, Plg6.0000°, Azm192.0000°;*
ISC 06 11:44:19.5±1.2**, 34°.09N**±0°.03×**119°.29W**±0°.03**, h18**km±7km**,**
n62, $\sigma 0^{s}72$/82**, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBC	**Santa Barbara**	**0.49**	**315**	P	**Pg**	**11 44 30.0**	**+0.6**
	baz=136,SNR=39						
SBC				S	**Sb**	**11 44 37.1**	**+0.5**
	baz=136						
DJJ	**Donna J Jenkin**	**0.70**	**89**		**Pb**	**11 44 32.7**	**-0.5**
OSI	**Osito Audit: C**	**0.70**	**42**	P	**Pb**	**11 44 33.3**	**-0.1**
	baz=221,SNR=30						
OSI				S	**Sb**	**11 44 42.8**	**+0.1**
	baz=221						
DECC	**Green Verdugo**	**0.81**	**78**	P	**Pb**	**11 44 34.7**	**-0.4**
	baz=258,SNR=52						
DECC				S	**Sb**	**11 44 45.7**	**-0.1**
	baz=258						
BCW	**Bitter Crk WRg**	**0.85**	**353**		**Pb**	**11 44 36.0**	**0.0**
SNCC	**San Nicolas Is**	**0.86**	**193**		**Pb**	**11 44 35.9**	**-0.1**
SNCC				IAML		11 44 49.5	
	comp=N,2μm,0.5s						
SNCC				IAML		11 44 50.4	
	comp=E,2μm,0.5s						
SNCC	**San Nicolas Is**	**0.86**	**193**	P	**Pb**	**11 44 35.8**	**-0.1**
	baz=13,SNR=119						
SNCC				S	**Sn**	**11 44 48.6**	**-0.3**
	baz=13						
FMP	**Fort Macarthur**	**0.91**	**114**	P	**Pb**	**11 44 36.9**	**0.0**
	baz=294,SNR=63						
FMP				S	**Sn**	**11 44 50.2**	**0.0**
	baz=294						
PASC	**Pasadena Art C**	**0.92**	**85**		**Pb**	**11 44 36.2**	**-0.8**
PASC				IAML		11 44 50.0	
	comp=E,1μm,0.5s						
GVRC	**Garvey Reservo**	**0.97**	**92**		**Pn**	**11 44 38.2**	**-0.1**
CIS	**Catalina Islan**	**1.00**	**133**	P	**Pb**	**11 44 37.6**	**-0.9**
	baz=313,SNR=131						
CIS				S	**Sg**	**11 44 53.0**	**+0.8**
	baz=313						
ARVC	**Arvin**	**1.10**	**20**	P	**Pn**	**11 44 39.2**	**-0.9**
	baz=200,SNR=59						
ARVC				S	**Sb**	**11 44 54.1**	**0.0**
	baz=200						
SCI2	**San Clemente I**	**1.27**	**150**	P	**Pn**	**11 44 42.4**	**0.0**
	baz=331,SNR=40						
SCI2				Sb	**Sg**	**11 45 01.3**	**+0.6**
	baz=331						
EDW2	**Edwards Air Fo**	**1.33**	**53**	P	**Pn**	**11 44 43.1**	**-0.2**
	baz=234,SNR=264						
EDW2				S	**Sn**	**11 44 59.7**	**-1.0**
	baz=234						
PMLM	**Mount Lospe**	**1.35**	**307**		**Pn**	**11 44 43.0**	**-0.6**
SMMC	**Simmler**	**1.35**	**335**	P	**Pn**	**11 44 42.7**	**-0.8**
	baz=155,SNR=37						
SMMC				S	**Sn**	**11 45 00.5**	**-0.6**
	baz=155						
BFSC	**Mount Baldy Ra**	**1.36**	**83**	P	**Pn**	**11 44 43.4**	**-0.4**
	baz=264,SNR=116						
BFSC				S	**Sb**	**11 45 02.3**	**+0.5**
	baz=264						
CCAC	**Calif City Air**	**1.49**	**44**		**Pn**	**11 44 45.6**	**+0.1**
ELS	**Elsinore Mount**	**1.61**	**105**	Pn	**Pn**	**11 44 46.2**	**-1.0**
ELS				IAML		11 45 11.0	
	comp=N,284nm,0.3s						
ISA	**Isabella, Lake**	**1.71**	**23**	Pn	**Pn**	**11 44 48.8**	**+0.2**
ISA	**Isabella, Lake**	**1.71**	**23**	P	**Pn**	**11 44 48.6**	**+0.1**
	baz=203,SNR=61						
VES	**Vestal, Richgr**	**1.75**	**6**	P	**Pn**	**11 44 48.6**	**-0.5**
	baz=186,SNR=58						
VES				S	**Sn**	**11 45 10.1**	**-0.9**
	baz=186						
MURC	**Murrieta**	**1.81**	**105**	P	**Pn**	**11 44 49.2**	**-0.7**
	baz=286,SNR=94						
MURC				Sb	**Sb**	**11 45 16.3**	**+1.6**
	baz=286						
PAGB	**Antelope Grade**	**1.81**	**335**		**Pn**	**11 44 49.8**	**-0.2**
PAGB				IAML		11 45 21.1	
	comp=E,368nm,0.5s						
LRMC	**Laurel Mtn Rad**	**1.92**	**43**	Pb	**Pb**	**11 44 54.2**	**+0.1**
	baz=224						
LRMC				S	**Sn**	**11 45 14.9**	**-0.3**
	baz=224						
BBRC	**Big Bear Solar**	**1.97**	**84**	P	**Pn**	**11 44 52.2**	**-0.1**
	baz=265						
BBRC				S	**Sn**	**11 45 16.7**	**-0.1**
	baz=265						
RRX	**Edison Barstow**	**2.05**	**67**	P	**Pn**	**11 44 53.0**	**-0.3**
	baz=248,SNR=11						
RRX				S	**Sn**	**11 45 18.4**	**0.0**
	baz=248						
109C	**Camp Elliot, M**	**2.19**	**123**	Pn	**Pn**	**11 44 54.6**	**-0.4**
109C	**Camp Elliot, M**	**2.19**	**123**	P	**Pn**	**11 44 54.6**	**-0.4**
	baz=304,SNR=22						
109C				Sb	**Sg**	**11 45 28.2**	**-1.7**
	baz=304						
GSC	**Goldstone, Bar**	**2.38**	**59**		**Pn**	**11 44 58.4**	**+0.6**
GSC				IAML		11 45 43.7	
	comp=N,173nm,0.8s						
GSC	**Goldstone, Bar**	**2.38**	**59**	P	**Pn**	**11 44 57.9**	**+0.1**
	baz=240,SNR=38						
GSC				S	**Sn**	**11 45 26.1**	**-0.5**
	baz=240						
PFO	**Pinyon Flats O**	**2.41**	**101**	Pn	**Pn**	**11 44 58.2**	**+0.1**
PFO	**Pinyon Flats O**	**2.41**	**101**	P	**Pn**	**11 44 57.9**	**-0.2**
	baz=282,SNR=42						
PFO				Sb	**Sg**	**11 45 34.5**	**-2.4**
	baz=282						
TPFO	**Pinon Flats**	**2.41**	**101**	P	**Pn**	**11 44 58.0**	**-0.2**
	baz=282,SNR=36						
TJX	**Tijuana**	**2.45**	**129**		**Pn**	**11 44 59.1**	**+0.4**
PMPB	**Monarch Peak**	**2.45**	**330**		**Pn**	**11 44 58.5**	**-0.3**
PMPB				IAML		11 45 58.8	
	comp=N,182nm,1.3s						
PMPB				IAML		11 46 03.4	
	comp=E,192nm,1.2s						
MPMC	**Manual Prospec**	**2.46**	**37**	P	**Pn**	**11 44 59.1**	**+0.1**
	baz=217,SNR=87						
MPMC				Sb	**Sb**	**11 45 35.6**	**+2.2**
	baz=217						
HEC	**Hector,Ludlow**	**2.55**	**72**	P	**Pn**	**11 45 00.4**	**+0.2**
	baz=254,SNR=15						
BAR	**Barrett**	**2.60**	**122**		**Pn**	**11 45 00.2**	**-0.6**
BAR				IAML		11 45 44.4	
	comp=N,242nm,0.5s						
MONP2	**Monument Peak**	**2.68**	**116**	P	**Pn**	**11 45 01.8**	**-0.2**
	baz=297,SNR=21						
TKX	**Tecate**	**2.71**	**123**		**Pn**	**11 45 02.2**	**-0.1**
TKX				IAML		11 45 47.7	
	comp=N,195nm,0.4s						
QSM	**Queen of Sheba**	**2.73**	**46**		**Pn**	**11 45 02.8**	**+0.3**
QSM				IAML		11 45 47.7	
	comp=N,101nm,0.8s						
QSM				IAML		11 45 48.2	
	comp=E,107nm,0.6s						
BELC	**Belle Mtn. Jos**	**2.74**	**91**	P	**Pn**	**11 45 02.6**	**-0.1**
	baz=273,SNR=39						
CBX	**Cerro Bola**	**2.83**	**128**		**Pn**	**11 45 04.3**	**+0.3**
CBX				IAML		11 45 52.5	
	comp=E,138nm,0.3s						
CBX				IAML		11 45 53.0	
	comp=N,152nm,0.5s						
BBGB	**Big Mountain B**	**2.86**	**331**		**Pn**	**11 45 04.7**	**+0.2**
BBGB				IAML		11 46 02.6	
	comp=N,173nm,0.7s						
GWY	**Greenwater Val**	**3.00**	**45**	Pn	**Pn**	**11 45 06.5**	**+0.1**
GWY				IAML		11 46 00.4	
	comp=E,69nm,0.6s						
GWY				IAML		11 46 07.7	
	comp=N,89nm,0.6s						
IKP	**In-Ko-Pah, Jac**	**3.03**	**117**	P	**Pn**	**11 45 06.8**	**+0.2**
	baz=299,SNR=21						
RMX	**La Rumorosa**	**3.07**	**118**		**Pn**	**11 45 08.6**	**+1.2**
RMX				IAML		11 45 59.7	
	comp=N,116nm,0.4s						
RMX				IAML		11 46 00.0	
	comp=E,90nm,0.4s						
GMRC	**Granite Mounta**	**3.08**	**76**	P	**Pn**	**11 45 07.3**	**-0.1**
	baz=258,SNR=22						
TUQ	**Turquoise Moun**	**3.08**	**63**	P	**Pn**	**11 45 07.8**	**+0.3**
	baz=245						
CCX	**Cicese**	**3.13**	**134**		**Pn**	**11 45 08.2**	**+0.2**
CCX				IAML		11 46 03.3	
	comp=N,78nm,0.4s						
CCX				IAML		11 46 49.2	
	comp=E,96nm,0.1s						
SWSC	**Sam W. Stewart**	**3.13**	**110**	Pb	**Pb**	**11 45 16.3**	**+1.5**
	baz=292						
YUH	**Yuha Desert**	**3.17**	**116**	Pn	**Pn**	**11 45 10.1**	**+1.6**
YUH				IAML		11 46 02.8	
	comp=E,60nm,0.5s						
SAO	**San Andreas Ge**	**3.19**	**327**	Pn	**Pn**	**11 45 07.8**	**-1.1**
GRAC	**Grapevine Rang**	**3.30**	**28**		**Pn**	**11 45 10.9**	**+0.6**
GRAC				IAML		11 46 18.7	
	comp=N,53nm,1.4s						
LCH	**Last Change Ra**	**3.41**	**23**		**Pn**	**11 45 12.4**	**+0.4**
MLAC	**Mammoth, Mammo**	**3.55**	**6**	Pb	**Pb**	**11 45 23.1**	**+1.1**
	baz=186						
TPNV	**Topopah Spring**	**3.78**	**40**	P	**Pn**	**11 45 17.9**	**+0.8**
	baz=222,SNR=5.4						
GLA	**Glamis**	**3.87**	**104**		**Pn**	**11 45 18.3**	**+0.1**
GLA				IAML		11 46 30.9	
	comp=E,67nm,0.7s						
GLA				IAML		11 46 36.3	
	comp=N,40nm,0.8s						
CMB	**Columbia Colle**	**4.03**	**348**	Pn	**Pn**	**11 45 21.2**	**+0.7**
W13A	**Hualapai Mount**	**4.57**	**76**	Pn	**Pn**	**11 45 28.8**	**+0.7**
W13A				IAML		11 46 50.9	
	comp=N,27nm,0.8s						
Y14A	**Wickenburg**	**5.22**	**90**		**Pn**	**11 45 36.6**	**-0.3**
Y14A				IAML		11 47 20.4	
	comp=N,17nm,1.1s						

*ANF **06** 11:58:40.3±0.1, 34°.66N×117°.48W, h14km±1km, ML3.2/31, ML3.2/31, Error ellipse: s-maj=0.9km s-min=0.9km az=116.0*
*PAS **06** 11:58:41.1±1.1, 34°.68N±0°.01×117°.48W±0°.02, h7km±6km, ML3.2/255, ML3.1/44(NEIC), Error ellipse: s-maj=2.3km s-min=1.9km az=110.0*
NEIC 06 11:58:40.6±1.4**, 34°.667N**±0°.010×**117°.47W**±0°.01**,**
h9km±6km**, Error ellipse: s-maj=1.9km s-min=1.1km**
az=51.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRX	**Edison Barstow**	**0.44**	**62**	P	Pg	11 58 49.7	+0.5
	baz=243,SNR=14						
RRX				S	Sb	11 58 56.2	-1.1
	baz=243						
BFSC	**Mount Baldy Ra**	**0.46**	**200**	P	Pg	11 58 49.6	+0.1
	baz=19,SNR=265						
BFSC				S	Sg	11 58 55.5	0.0
	baz=19						
EDW2	**Edwards Air Fo**	**0.48**	**296**	P	Pg	11 58 49.9	-0.2
	baz=116,SNR=142						
EDW2				S	Sg	11 58 56.2	-0.3
	baz=116						
BBRC	**Big Bear Solar**	**0.60**	**132**	P	Pg	11 58 52.6	+0.3
	baz=312,SNR=9.6						
BBRC				S	Sg	11 59 01.2	+0.8
	baz=312						
CCAC	**Calif City Air**	**0.66**	**317**		Pg	11 58 53.3	-0.2
CCAC				Sg	Sg	11 59 01.8	-0.3
CCAC				IAML		11 59 05.6	
	comp=E,975nm,0.4s						
RSBC	**Riverside Bore**	**0.70**	**171**		Pg	11 58 54.0	-0.1
RSBC					Sg	11 59 03.7	+0.4
PASC	**Pasadena Art C**	**0.77**	**230**	Pg	Pg	11 58 55.0	-0.5
PASC				IAML		11 59 10.0	
	comp=E,863nm,0.4s						
PASC	**Pasadena Art C**	**0.77**	**230**		Sg	11 59 05.4	-0.2
GVRC	**Garvey Reservo**	**0.82**	**221**		Pg	11 58 56.5	+0.1
DECC	**Green Verdugo**	**0.83**	**240**	P	Pg	11 58 56.1	-0.4
	baz=59,SNR=12						
DECC				S	Sg	11 59 07.3	0.0
	baz=59						
LRMC	**Laurel Mtn Rad**	**0.83**	**348**	P	Pg	11 58 56.2	-0.4
	baz=168,SNR=89						
LRMC				S	Sb	11 59 08.7	+0.1
	baz=168						
GSC	**Goldstone, Bar**	**0.83**	**40**		Pg	11 58 56.6	-0.1
GSC				Sg	Sg	11 59 07.6	0.0
GSC				IAML		11 59 11.5	
	comp=N,816nm,0.4s						
GSC	**Goldstone, Bar**	**0.83**	**40**	P	Pg	11 58 56.5	-0.2
	baz=222,SNR=163						
GSC				S	Sb	11 59 08.7	0.0
	baz=222						
HEC	**Hector,Ludlow**	**0.95**	**80**	P	Pg	11 58 58.8	0.0
	baz=261,SNR=132						
HEC				S	Sb	11 59 12.1	+0.2
	baz=261						
ELS	**Elsinore Mount**	**1.02**	**178**	Pg	Pg	11 58 59.3	-0.8
ELS				Sg	Sg	11 59 12.7	-0.7
OSI	**Osito Audit: C**	**1.04**	**267**	P	Pg	11 59 00.1	-0.4
	baz=86,SNR=17						
OSI				S	Sg	11 59 13.8	-0.2
	baz=86						
MURC	**Murrieta**	**1.09**	**168**	P	Pg	11 59 00.7	-0.8
	baz=348,SNR=102						
MURC				S	Sg	11 59 15.3	-0.3
	baz=348						
FMP	**Fort Macarthur**	**1.17**	**216**	P	Pb	11 59 02.4	-0.6
	baz=35						
FMP				S	Sb	11 59 17.8	-0.5
	baz=35						
ARVC	**Arvin**	**1.21**	**293**	P	Pb	11 59 02.9	-0.7
	baz=112,SNR=20						
ARVC				S	Sb	11 59 18.7	-0.7
	baz=112						
ISA	**Isabella, Lake**	**1.29**	**321**	Pn	Pn	11 59 03.8	-1.0
ISA				Sn	Sb	11 59 20.7	-1.1
ISA	**Isabella, Lake**	**1.29**	**321**	P	Pn	11 59 03.9	-1.0
	baz=140,SNR=194						
ISA				S	Sb	11 59 20.6	-1.2
	baz=140						
PFO	**Pinyon Flats O**	**1.34**	**141**		Pn	11 59 05.3	-0.3
PFO				IAML		11 59 24.4	
	comp=N,248nm,0.4s						
PFO				IAML		11 59 26.3	
	comp=N,284nm,0.2s						
PFO	**Pinyon Flats O**	**1.34**	**141**	P	Pn	11 59 04.8	-0.8
	baz=322,SNR=84						
PFO				S	Sb	11 59 23.0	-0.3
	baz=322						
BELC	**Belle Mtn. Jos**	**1.39**	**118**	P	Pn	11 59 05.3	-0.9
	baz=299,SNR=60						
BELC				S	Sb	11 59 24.5	0.0
	baz=299						
QSM	**Queen of Sheba**	**1.39**	**21**		Pn	11 59 05.8	-0.3
QSM				IAML		11 59 28.3	
	comp=E,364nm,0.2s						
MPMC	**Manual Prospec**	**1.39**	**359**	P	Pn	11 59 05.6	-0.7
	baz=180,SNR=200						
MPMC				S	Sg	11 59 25.2	-0.1
	baz=180						
TUQ	**Turquoise Moun**	**1.48**	**58**	Pb	Pb	11 59 08.1	-0.2
	baz=240,SNR=16						
TUQ				Sb	Sg	11 59 28.2	0.0
	baz=240						
CIS	**Catalina Islan**	**1.49**	**212**	P	Pn	11 59 06.6	-0.9
	baz=31,SNR=23						
CIS				Sb	Sb	11 59 27.4	0.0
	baz=31						
GMRC	**Granite Mounta**	**1.49**	**85**	P	Pn	11 59 06.1	-1.6
	baz=266,SNR=65						
GMRC				Sb	Sg	11 59 28.4	-0.3
	baz=266						
BCW	**Bitter Crk WRg**	**1.62**	**280**		Pn	11 59 08.9	-0.6
BCW				IAML		11 59 35.6	
	comp=N,189nm,0.4s						
BCW				IAML		11 59 40.7	
	comp=E,134nm,0.6s						
109C	**Camp Elliot, M**	**1.80**	**170**		Pn	11 59 12.2	+0.5
109C	**Camp Elliot, M**	**1.80**	**170**	Pb	Pn	11 59 12.6	+0.8
	baz=350,SNR=5.5						
CWC	**Cottonwood Cre**	**1.84**	**344**	Pb	Pb	11 59 14.5	0.0
	baz=164						
CWC				Sb	Sg	11 59 39.1	-0.6
	baz=164						
FURC	**Furnace Creek,**	**1.86**	**15**	Pb	Pb	11 59 15.2	+0.5
	baz=196						
SCI2	**San Clemente I**	**1.91**	**208**	P	Pn	11 59 12.8	-0.4
	baz=27,SNR=8.6						
MONP2	**Monument Peak**	**1.97**	**154**	Pb	Pb	11 59 16.5	-0.3
	baz=334						
MONP2				Sb	Sb	11 59 41.9	+0.4
	baz=334						
IRM	**Iron Mountain**	**1.98**	**104**	P	Pn	11 59 13.3	-1.1
	baz=286						
BAR	**Barrett**	**2.09**	**161**		Pn	11 59 16.0	+0.2
BAR				IAML		11 59 44.7	
	comp=E,141nm,0.3s						
BAR				IAML		11 59 46.5	
	comp=N,163nm,0.4s						
SMMC	**Simmler**	**2.17**	**288**	P	Pn	11 59 15.8	-1.2
	baz=106						
SWSC	**Sam W. Stewart**	**2.21**	**141**	P	Pn	11 59 16.5	-0.9
	baz=322						
TKX	**Tecate**	**2.21**	**161**	Pn	Pn	11 59 17.9	+0.4
TKX				IAML		11 59 50.3	
	comp=E,115nm,0.2s						
TKX				IAML		11 59 52.0	
	comp=N,100nm,0.2s						
SNCC	**San Nicolas Is**	**2.22**	**231**	Pn	Pn	11 59 18.1	+0.5
IKP	**In-Ko-Pah, Jac**	**2.31**	**150**	P	Pn	11 59 18.3	-0.5
	baz=331						
GRAC	**Grapevine Rang**	**2.33**	**2**		Pn	11 59 19.6	+0.5
GRAC				IAML		12 00 01.9	
	comp=N,87nm,0.8s						
GRAC				IAML		12 00 02.9	
	comp=E,62nm,0.7s						
NEE2	**Needles Airpor**	**2.35**	**87**	P	Pn	11 59 18.5	-0.8
	baz=269						
RMX	**La Rumorosa**	**2.36**	**150**		Pn	11 59 21.3	+1.6
RMX				IAML		11 59 58.4	
	comp=E,94nm,0.5s						
YUH	**Yuha Desert**	**2.39**	**147**	Pn	Pn	11 59 20.9	+1.0
CBX	**Cerro Bola**	**2.44**	**164**		Pn	11 59 20.8	+0.1
CBX				IAML		12 00 00.4	
	comp=E,64nm,0.5s						
CBX				IAML		12 00 02.9	
	comp=N,69nm,0.6s						
TPNV	**Topopah Spring**	**2.48**	**23**	Pn	Pn	11 59 21.6	+0.2
TPNV	**Topopah Spring**	**2.48**	**23**	P	Pn	11 59 21.1	-0.2
	baz=204						
LCH	**Last Change Ra**	**2.56**	**357**		Pn	11 59 22.7	+0.3
GLA	**Glamis**	**2.72**	**126**	P	Pn	11 59 23.6	-0.9
	baz=307						
PMPB	**Monarch Peak**	**3.13**	**301**	Pn	Pn	11 59 29.8	-0.4
PMPB				IAML		12 00 26.6	
	comp=E,52nm,3.6s						
PMPB				IAML		12 00 37.2	
	comp=N,54nm,4.0s						
Y14A	**Wickenburg**	**3.76**	**100**		Pn	11 59 38.1	-0.8
Y14A				IAML		12 00 46.7	
	comp=N,28nm,0.6s						

*CNRM **06** 12:15:11.8, 35°.69N×3°.61W, h32km, ml2.5*
*SFS **06** 12:15:13.0, 35°.60N×3°.56W, h24km, ML2.2, ALBORAN SUR*
*MDD **06** 12:15:13.2±0.5, 35°.61N×3°.57W, h24km±2km, mb_Lg2.2/8, Error ellipse: s-maj=5.4km s-min=3.5km az=177.0*
ISC 06 12:15:11.6±1.3**, 35°.65N**±0°.03×**3°.58W**±0°.03**, h23**km±15km**,**
n25, $\sigma 1^{s}14$/46**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**214**	P	**Pn**	**12 15 23.7**	**0.0**
PALE				S	**Sn**	**12 15 31.4**	**-0.5**
EALB	**Alboran**	**0.53**	**57**	Pg	**Pn**	**12 15 22.8**	**-1.0**
EALB				Sg	**Sn**	**12 15 31.1**	**-0.9**
EALB				*i* Vmb_Lg		12 15 31.7	
EMEL	**Melilla**	**0.62**	**124**	Pg	**Pn**	**12 15 24.4**	**-0.6**
EMEL				Sg	**Sn**	**12 15 33.6**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOG	Mont Gurugu	0.64	132	P	Pn	12 15 24.7	-0.6
GOG				S	Sn	12 15 34.1	-0.7
ELGU	Los Guajares,	1.22	358	Pn	Pn	12 15 32.9	-0.4
ELGU				Sn	Sb	12 15 49.3	0.0
ELGU				*i* Vmb_Lg		12 15 51.3	
TAF	Taforalt	1.27	131	P	Pb	12 15 34.5	-0.4
TAF				S	Sb	12 15 52.6	+1.9
EMAL	Malaga-Limoner	1.31	328	P	Pn	12 15 34.5	+0.1
EMAL				S	Sn	12 15 49.9	-1.3
EMIJ	Mijas	1.33	314	Pn	Pn	12 15 34.3	-0.5
EMIJ				Sn	Sn	12 15 50.9	-0.9
EMIJ				*i* Vmb_Lg		12 15 52.3	
EBER	Berja	1.36	24	Pn	Pn	12 15 35.2	-0.2
EBER				Sn	Sb	12 15 53.4	-0.3
EBER				*i* Vmb_Lg		12 15 58.2	
SMIR	Smir Dam	1.47	272	P	Pn	12 15 33.8	-2.9
SMIR				S	Sn	12 15 54.7	-0.5
ECEU	Ceuta	1.48	280	Sn	Sn	12 15 54.7	-0.9
ECEU				*i* Vmb_Lg		12 16 00.9	
EGOR	Sierra Gorda,	1.52	344	Pn	Pb	12 15 38.5	-0.7
EGOR				Sn	Sb	12 15 57.8	-0.3
JBK	JBK	1.55	147	P	Pb	12 15 38.9	-1.0
JBK				S	Sn	12 15 56.8	-0.8
EQUE	Quentar	1.56	4	Pn	Pb	12 15 39.5	-0.4
EQUE				Sn	Sn	12 15 57.8	+0.2
EADA	Adamuz	2.64	343	Pn	Pn	12 15 55.1	+2.3
EADA				Sn	Sn	12 16 24.3	+0.2
EADA				*i* Vmb_Lg		12 16 43.2	
ECAB	El Cabril	2.83	329	Pn	Pn	12 15 55.6	+0.1
ECAB				Sn	Sn	12 16 29.4	+0.4
ECAB				Sg	Sb	12 16 37.4	+1.5
MDT	Midelt	2.95	197	P	Pn	12 15 59.7	+2.5
MDT				S	Sn	12 16 31.8	-0.2
EMIN	Mina Concepcio	3.26	311	Pn	Pn	12 16 01.3	0.0
EMIN				Sn	Sn	12 16 39.8	+0.3
EMIN				*i* Vmb_Lg		12 17 32.0	
ETOB	Tobarra	3.40	28	Pn	Pn	12 16 05.6	+2.3
ETOB				Sn	Sn	12 16 41.9	-1.1
EGRO	El Granado	3.66	302	Pn	Pn	12 16 07.0	+0.2
EGRO				Sn	Sn	12 16 48.6	-0.6
PBAR	Barrancos	3.75	313	*e*Sn	Sn	12 16 52.1	+0.7
PBAR				A	A	12 16 55.6	
	1.5nm,1.1s						
PVAQ	Vaqueiros	3.77	299	*e*Pn	Pn	12 16 11.0	+2.7
PVAQ				*e*Sn	Sn	12 16 52.1	+0.3
PVAQ				A	A	12 16 56.5	
	2.4nm,0.7s						
PVAQ	Vaqueiros	3.77	299	P	Pn	12 16 06.5	-1.7
PVAQ				S	Sn	12 16 51.5	-0.4
PCVE	Castro Verde	4.10	300	*e*Sn	Sn	12 17 01.2	+1.2
PMRV	Marv??o	4.84	322	*e*Pn	Pn	12 16 27.6	+4.6

NNC 06 12:15:28.3±3.6**, 38°.34N×57°.33E, h0km, mb3.6, 4C-2D, Error ellipse: s-maj=62.1km s-min=14.5km az=45.0, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA0B	ALIBECK ARRAY	0.75	123	⇑P	Pg	12 15 43.0	+0.4
GYA0B				⇑S	Sg	12 15 53.3	+1.0
AB31	Akbulak array	11.07	9	⇓Pn	Pn	12 18 08.3	+0.4
	0.4nm,0.6s,baz=195,slow=14,SNR=8.2						
AB31				⇓Sn	Sn	12 20 11.4	-1.0
	0.3nm,0.6s,baz=198,slow=26						
AKTO	Aktyubinsk	12.10	2	⇑Pn	Pn	12 18 23.3	+1.4
	0.9nm,0.6s						
AKTO				⇑Sn	Sn	12 20 38.5	+0.9
	1.5nm,1.2s						

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*IDC **06** 12:22:10.4±2.5, 13°.89S×166°.61E, h11km±14km, mb4.4/20, mb1 4.5/23, mb1mx4.4/29, mbtmp4.5/23, ML4.6/2, MS4.1/31, Ms1 4.1/31, ms1mx3.9/60, Error ellipse: s-maj=19.0km s-min=14.8km az=99.0*

*NEIC **06** 12:22:11.3±1.3, 13°.97S±0°.05×166°.77E±0°.09, h17km±3km, mb4.9/48, Error ellipse: s-maj=12.7km s-min=6.9km az=103.0*

*BJI **06** 12:22:12.0±0.0, 13°.59S×167°.13E, h31km, mb4.8/43, mB5.0/25, Ms4.6/6, Ms7 4.3/7*

ISC 06 12:22:09.9±0.4**, 13°.97S**±0°.05×**166°.68E**±0°.07**, h10km, n141, σ1s15**/119**, mb4.9**/50**, MS4.2**/32**, 1C-3D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	6.79	176	Pn	Pn	12 23 50.0	+0.4
KOUNC	Koumac, New Ca	6.93	199	Pn	Pn	12 23 52.2	+0.6
KOUNC				Sn	Sn	12 25 10.6	+0.1
MARNC	Mare, Loyalty	7.58	170		Pn	12 24 00.3	-0.1
HNR	Honiara	7.99	304	Pn	Pn	12 24 03.2	-2.9
	19nm,0.3s,baz=248,slow=9.6,SNR=2.6						
HNR				Sn	Sn	12 25 32.2	-4.4
	15nm,0.3s,baz=203,slow=15,SNR=1.3						
HNR	Honiara	7.99	304	Pn	Pn	12 24 07.4	+1.3
DZM	Mont Dzumac	8.06	182	Pn	Pn	12 24 08.3	+1.2
	4.0nm,0.3s,baz=114,slow=23,SNR=16						
DZM				Sn	Sn	12 25 36.5	-1.9
	1.1nm,0.3s,baz=328,slow=24,SNR=1.2						
DZM				LR	LR	12 26 54.2	
	comp=Z,1μm,21.3s,baz=21,slow=35						
DZM	Mont Dzumac	8.06	182	*e*Pn	Pn	12 24 08.9	+1.8
	41nm,0.5s						
DZM				*e*Sn	Sn	12 25 36.8	-1.6
	74nm,0.8s						
DZM				*e*LR	LR	12 26 04.6	
	comp=Z,2μm,25.2s						
DZM	Mont Dzumac	8.06	182		Pn	12 24 07.8	+0.7
OUENC	Ouen Island, N	8.40	179	Pn	Pn	12 24 11.5	-0.2
KRVT	Keravat (AS076	17.35	302	LR	LR	12 33 21.9	
	comp=Z,619nm,20.1s,baz=266,slow=39						
EIDS	Eidsvold	18.53	230	P	P	12 26 27.8	+1.1
LHI	Lord Howe Isla	18.81	201	P	P	12 26 29.2	-0.5
LHI				IAmb	IAmb	12 26 39.6	
	comp=Z,89nm,1.1s						
PMG	Port Moresby	19.64	281	P	P	12 26 39.3	+0.4
	baz=255,slow=5.7,SNR=6.9						
PMG				LR	LR	12 33 12.7	
	comp=Z,407nm,19.2s,baz=81,slow=34						
PMG	Port Moresby	19.64	281	P	P	12 26 38.9	-0.1
PMG				IAmb	IAmb	12 26 43.8	
	comp=Z,63nm,1.1s						
CTA	Charters Tower	20.44	250	P	P	12 26 47.5	-0.1
	comp=Z,6.2nm,0.8s,baz=52,slow=14,SNR=3.3						
CTA				LR	LR	12 33 46.2	
	comp=Z,564nm,20.0s,baz=80,slow=34						
AFI	Afiamalu	20.91	92	LR	LR	12 33 05.1	
	comp=Z,374nm,19.5s,baz=254,slow=31						
ARMA	Armidale	21.45	218	P	P	12 26 58.9	+0.3
COEN	Coen	22.81	267	P	P	12 27 13.8	+0.7
COEN				IAmb	IAmb	12 27 19.3	
	comp=Z,24nm,1.1s						
URZ	Urewera	25.90	161	P	P	12 27 43.8	+1.7
	comp=Z,6.9nm,1.1s,baz=64,slow=23,SNR=1.5						
URZ				LR	LR	12 36 24.8	
	comp=Z,429nm,19.9s,baz=30,slow=33						
BKZ	Black Stump Fm	26.55	163	P	P	12 27 48.2	+0.1
STKA	Stephens Creek	29.06	228	P	P	12 28 11.8	+1.3
	comp=Z,4.5nm,0.4s,baz=52,slow=9.5,SNR=17						
STKA				LR	LR	12 39 58.3	
	comp=Z,919nm,18.2s,baz=53,slow=37						
STKA	Stephens Creek	29.06	228	P	P	12 28 12.3	+1.7
RPZ	Rata Peaks	29.88	174	LR	LR	12 39 14.7	
	comp=Z,227nm,18.8s,baz=358,slow=34						
WR0	Warramunga Arr	31.27	255	P	P	12 28 30.5	+0.2
WB0	Warramunga Arr	31.39	255	P	P	12 28 31.3	-0.1
WB0				IAmb	IAmb	12 28 42.8	
	comp=Z,21nm,1.4s						
WB2	Warramunga Arr	31.45	255	P	P	12 28 31.5	-0.3
WB2				IAmb	IAmb	12 28 39.5	
	comp=Z,17nm,1.4s						
WRAB	Tennant Creek	31.45	255	P	P	12 28 31.7	-0.2
WRAB				IAmb	IAmb	12 28 39.5	
	comp=Z,12nm,1.2s						
WRA	Warramunga Arr	31.46	255	P	P	12 28 31.0	-0.9
	comp=Z,5.6nm,1.1s,baz=85,slow=8.7,SNR=12						
WRA				ScP	ScP	12 35 07.1	-1.6
	comp=Z,1.2nm,1.3s,baz=84,slow=3.9,SNR=1.9						
WRA				LR	LR	12 40 19.0	
	comp=Z,458nm,20.2s,baz=94,slow=35						
WRA	Warramunga Arr	31.46	255	P	P	12 28 31.3	-0.6
H11S2	WAKE ISLAND Hy	32.26	0	T	T	13 02 54.6	
	baz=183						
H11S3	WAKE ISLAND Hy	32.26	0	T	T	13 02 55.7	
	baz=183						
H11S1	WAKE ISLAND Hy	32.27	0	T	T	13 02 54.6	
	baz=183						
AS31	Alice Springs	32.41	248	P	P	12 28 40.0	-0.3
ASAR	Alice Springs	32.42	248	P	P	12 28 40.1	-0.2
	comp=Z,3.2nm,0.6s,baz=74,slow=9.3,SNR=51						
ASAR				ScP	ScP	12 35 10.6	-1.3
	comp=Z,0.3nm,0.8s,baz=76,slow=5.3,SNR=4.1						
ASAR				LR	LR	12 41 31.9	
	comp=Z,438nm,18.2s,baz=90,slow=36						
ASAR	Alice Springs	32.42	248	P	P	12 28 40.8	+0.5
RAR	Rarotonga	32.73	108	LR	LR	12 39 14.3	
	comp=Z,295nm,21.9s,baz=286,slow=31						
RAR	Rarotonga	32.73	108	P	P	12 28 42.2	-0.8
BBOO	Buckleboo	33.60	231	P	P	12 28 51.4	+0.9
MTN	Manton Dam	34.58	268	P	P	12 28 59.3	+0.1
MTN				IAmb	IAmb	12 29 12.5	
	comp=Z,15nm,1.0s						
KNRA	Kununurra	36.66	262	P	P	12 29 17.7	+0.6
KNRA				IAmb	IAmb	12 29 30.2	
	comp=Z,28nm,1.1s						
SIJI	Sorong	37.37	287	LR	LR	12 45 31.9	
	comp=Z,428nm,19.8s,baz=156,slow=38						
FITZ	Fitzroy Crossi	39.60	258	LR	LR	12 46 07.1	
	comp=Z,671nm,18.3s,baz=88,slow=36						
PPT2	Papeete2	42.18	101	*e*LQ	LQ	12 40 06.5	
	comp=Z,335nm,28.0s						
PPT2				*e*LR	LR	12 41 55.3	
	comp=Z,243nm,23.5s						
BATI	Baumata	42.19	270	LR	LR	12 48 03.5	
	comp=Z,534nm,19.6s,baz=126,slow=37						
TBI	Tubuai	42.45	109	*e*LQ	LQ	12 40 16.0	
	comp=Z,399nm,26.5s						
TBI				*e*LR	LR	12 42 04.4	
	comp=Z,408nm,24.0s						
PSA00	Pilbara Seismi	45.10	253	P	P	12 30 27.5	+0.8
JCJ	Chichijima	47.24	330	LR	LR	12 47 49.0	
	comp=Z,85nm,21.7s,baz=117,slow=33						
TAOE	Nuku Hiva Isla	52.29	90	*e*LR	LR	12 46 37.4	
	comp=Z,357nm,23.1s						
SBUM	Sibu	56.38	283	P	P	12 31 51.1	-0.8
INU	Inuyama	56.53	331	P	P	12 31 52.4	-0.2
MJAR	Matsushiro Arr	56.97	333	P	P	12 31 54.3	-1.4
	comp=Z,15nm,1.1s,baz=184,slow=5.9,SNR=20						
MJAR	Matsushiro Arr	56.97	333	IAmb	IAmb	12 31 57.5	
	comp=Z,13nm,1.1s						
MAJO	Matsushiro	56.97	333	P	P	12 31 55.1	-0.6
MAJO				IAmb	IAmb	12 31 57.7	
	comp=Z,19nm,1.1s						
MJB9	Matsu-Tunnel	56.98	333	P	P	12 31 55.8	+0.1
MJB9				IAmb	IAmb	12 31 57.1	
	comp=Z,18nm,1.0s						
LEM	Lembang	58.40	271	LR	LR	12 56 53.7	
	comp=Z,95nm,21.8s,baz=152,slow=36						
KSRS	Korea Array	62.79	326	P	P	12 32 35.7	0.0
	comp=Z,2.4nm,0.9s,baz=151,slow=7.3,SNR=8.1						
KSRS				LR	LR	12 57 11.3	
	comp=Z,39nm,20.7s,baz=140,slow=34						
KSAR	Wonju Array Be	62.81	326	P	P	12 32 35.7	0.0
VNDA	Vanda	63.60	181	P	P	12 32 41.0	+0.5
	comp=Z,3.2nm,0.8s,baz=358,slow=7.0,SNR=15						
VNDA	Vanda	63.60	181	P	P	12 32 40.1	-0.4
SBA	Scott Base	63.89	180	P	P	12 32 42.0	-0.4
SBA				IAmb	IAmb	12 32 48.1	
	comp=Z,14nm,1.0s						
CASY	Casey	64.01	202	P	P	12 32 42.9	-0.4
CASY				IAmb	IAmb	12 33 05.8	
	comp=Z,16nm,1.1s						
NJ2	Nanjing	64.74	316	*e*P	P	12 32 50.7	+2.1
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	Ussuriysk Ar.	65.95	333	P	P	12 32 56.1	-0.2
	comp=Z,22nm,1.1s,baz=160,slow=6.1,SNR=19						
USRK	Ussuriysk Ar.	65.95	333	P	P	12 32 56.2	0.0
PETK	Petropavlovsk-	67.25	354	P	P	12 33 05.1	+0.7
	comp=Z,2.8nm,0.7s,baz=190,slow=13,SNR=3.5						
PETK				LR	LR	12 57 49.4	
	comp=Z,102nm,19.0s,baz=143,slow=32						
PETK	Petropavlovsk-	67.25	354	P	P	12 33 04.5	+0.1
MDJ	Mudanjiang	67.35	332	P	P	12 33 05.8	+0.7
CN2	Changchun	68.71	329	*e*P	P	12 33 14.5	+0.8
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BNX	BinXian	69.20	332	⇓P	P	12 33 17.7	+0.9
BNX				pmax	pmax		
	comp=Z,40nm,1.3s						
BNX				pmax	pmax		
	comp=Z,200nm,5.2s						
KLR	Kul'dur	70.09	336	LR	LR	13 00 40.5	
	comp=Z,57nm,20.5s,slow=33						
ENH	Enshi	70.44	310	P	P	12 33 25.0	+0.2
BJT	Baijiatuau	71.31	321	P	P	12 33 30.5	+0.7
BJT				IAmb	IAmb	12 33 32.2	
	comp=Z,15nm,1.3s						
BJI	Beijing	71.32	321	P	P	12 33 31.5	+1.7
BJI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XAN	Xi'an	72.76	313	P	P	12 33 39.6	+0.9
XAN				pP	pwP	12 33 46.0	+0.8
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KMI	Kunming	73.42	302	⇓P	P	12 33 45.6	+2.6
KMI				sP	PcP	12 34 02.1	+2.9
KMI				pmax	pmax		
	comp=Z,16nm,1.1s						
XLT	XiLinHaoTe	73.76	324	*e*P	P	12 33 46.0	+1.6
XLT				pP	pwP	12 33 55.3	+4.4
XLT				sP	PcP	12 34 01.5	+1.4
XLT				pmax	pmax		
	comp=Z,17nm,1.3s						
XLT				pmax	pmax		
	comp=Z,110nm,5.1s						
CMAR	Chiang Mai Arr	74.12	294	P	P	12 33 48.1	+1.1
	comp=Z,1.2nm,0.4s,baz=117,slow=3.7,SNR=16						
CMAR	Chiang Mai Arr	74.12	294	P	P	12 33 46.8	-0.1
CHTO	Chiang Mai	74.25	294	P	P	12 33 47.2	-0.5
MA2	Magadan	74.42	352	LR	LR	13 02 24.0	
	comp=Z,116nm,20.6s,baz=168,slow=32						
MA2	Magadan	74.42	352	P	P	12 33 47.4	-0.5
HHC	Hu-ho-hao-te	74.64	320	*e*P	P	12 33 51.4	+1.7
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.1s						
PZH	PanZhiHua	74.81	303	P	P	12 33 52.2	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,90nm,6.7s						
QSPA	South Pole Qui	76.05	180	P	P	12 33 57.2	-0.2
LZH	Lanzhou	77.39	312	*e*P	P	12 34 07.5	+2.0
LZH				pP	PcP	12 34 15.9	-0.1
LZH				sP	pwP	12 34 20.9	+8.9
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				LR	LR		
	comp=Z,120nm,16.0s						
LZH				LR	LR		
	comp=Z,170nm,16.3s						
LZH				LR	LR		
	comp=Z,230nm,17.9s						
SEY	Seymchan	77.47	353	LR	LR	13 03 53.9	
	comp=Z,137nm,20.9s,baz=152,slow=32						
KDAK	Kodiak Island	78.96	21	LR	LR	13 03 45.0	
	comp=Z,223nm,19.4s,baz=221,slow=32						
YAK	Yakutsk	81.14	343	P	P	12 34 25.1	-0.1
ULN	Ulaanbaatar	81.19	324	P	P	12 34 26.4	+0.4
ULN				IAmb	IAmb	12 34 28.3	
	comp=Z,15nm,1.0s						
SONM	Songino Array	81.55	324	P	P	12 34 28.6	+0.7
	comp=Z,4.5nm,0.9s,baz=131,slow=4.9,SNR=16						
SONM	Songino Array	81.55	324	P	P	12 34 28.2	+0.3
SONM				IAmb	IAmb	12 34 30.0	
	comp=Z,12nm,1.2s						
GTA	Gaotai	81.73	314	⇓P	P	12 34 30.9	+1.8
GTA				pP	pwP	12 34 42.7	+7.1
GTA				sP	PcP	12 34 49.4	+15
GTA				pmax	pmax		
	comp=Z,15nm,1.2s						
BILL	Bilibino	81.79	360	P	P	12 34 28.5	0.0
BILL				IAmb	IAmb	12 34 29.5	
	comp=Z,11nm,1.3s						
SHL	Shillong	82.70	299	P	P	12 34 34.5	-0.1
CAST	Castle Rocks	83.45	17	P	P	12 34 37.5	+0.2
CAST				IAmb	IAmb	12 34 37.8	
	comp=Z,4.6nm,1.0s						
GOMU	GeErMu	84.07	309	P	P	12 34 36.5	-5.1
GOMU				pP	pP	12 34 42.7	-1.1
GOMU				sP	sP	12 34 44.1	-0.6
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,66nm,3.8s						
RND	Reindeer	84.40	18	P	P	12 34 42.1	-0.2
RND				IAmb	IAmb	12 34 56.3	
	comp=Z,11nm,1.2s						
I21K	Tanana	84.83	16	IAmb	IAmb	12 34 47.2	
	comp=Z,6.6nm,1.0s						
YBH	Yreka Blue Hor	85.29	45	LR	LR	13 05 35.8	
	comp=Z,82nm,20.0s,baz=265,slow=31						
HDA	Harding Lake	85.71	18	IAmb	IAmb	12 35 13.2	
	comp=Z,8.3nm,0.9s						
MDM	Murphy Dome	85.72	18	P	P	12 34 48.9	+0.1
MDM				IAmb	IAmb	12 35 13.3	
	comp=Z,14nm,1.4s						
IL31		85.99	18	P	P	12 34 50.1	+0.1
ILAR	Eielson Array	85.99	18	P	P	12 34 48.7	-1.4
	comp=Z,1.1nm,0.6s,baz=246,slow=4.1,SNR=12						
ILAR				LR	LR	13 08 34.8	
	comp=Z,183nm,20.2s,baz=192,slow=32						
ILAR	Eielson Array	85.99	18	P	P	12 34 49.1	-0.9
PFO	Pinyon Flats O	87.02	54	LR	LR	13 08 05.8	
	comp=Z,171nm,18.1s,baz=248,slow=32						
NVAR	Mina Array Bea	87.22	49	P	P	12 34 58.6	+1.6
	comp=Z,0.7nm,0.8s,baz=236,slow=8.6,SNR=4.8						
NVAR				LR	LR	13 06 51.7	
	comp=Z,305nm,19.9s,baz=244,slow=31						
DLBC	Dease Lake	88.54	28	LR	LR	13 10 45.2	
	comp=Z,55nm,18.4s,baz=278,slow=33						
SYO	Syowa Base	89.26	197	⇑*e*X	P	12 35 19.2	+13
LPIG	La Paz	89.40	65	LR	LR	13 10 32.6	
	comp=Z,44nm,18.3s,baz=234,slow=32						
ELK	Elko	90.21	48	LR	LR	13 10 17.7	
	comp=Z,134nm,18.4s,baz=241,slow=32						
WMQ	Urumqi	91.79	315	*e*P	P	12 35 19.8	+1.6
WMQ				pP	pwP	12 35 28.5	+3.8
WMQ				pmax	pmax		
	comp=Z,19nm,0.6s						
INK	Inuvik	92.36	19	LR	LR	13 11 50.9	
	comp=Z,140nm,19.4s,baz=206,slow=32						
PDAR	Pinedale Array	94.86	47	LR	LR	13 11 01.8	
	comp=Z,68nm,19.1s,baz=277,slow=31						
MK31	Makanchi Array	96.26	317	P	P	12 35 38.4	-0.2
MK31				IAmb	IAmb	12 35 40.0	
	comp=Z,5.7nm,1.1s						
MKAR	Makanchi Array	96.26	317	P	P	12 35 39.1	+0.5
	comp=Z,4.4nm,0.9s,baz=100,slow=6.7,SNR=25						
MKAR	Makanchi Array	96.26	317	P	P	12 35 38.4	-0.2
TXAR	Lajitas Array	96.42	61	P	P	12 35 41.0	+1.1
	comp=Z,0.1nm,0.3s,baz=239,slow=7.0,SNR=2.3						
ZAA0	Zalesovo Array	96.44	324	P	P	12 35 38.5	-0.7
ZALV	Zalesovo Beam	96.44	324	P	P	12 35 37.7	-1.5
	comp=Z,3.3nm,0.7s,baz=101,slow=4.8,SNR=15						
ZALV	Zalesovo Beam	96.44	324	P	P	12 35 38.4	-0.8
MAKZ	Makanchi	96.48	317	P	P	12 35 38.3	-1.3
YKA	Yellowknife Ar	97.14	27	P	P	12 35 41.2	-1.0
	comp=Z,0.4nm,0.8s,baz=258,slow=5.1,SNR=3.6						
NRIK	Noril'sk	99.17	339	P	Pdif	12 35 49.9	-1.3
	comp=Z,0.9nm,0.3s,baz=115,slow=5.4,SNR=3.9						
NRIK	Noril'sk	99.17	339	P	Pdif	12 35 50.2	-0.9
NRIK				IAmb	IAmb	12 35 51.5	
	comp=Z,2.4nm,0.8s						
KURBB	Kurchatov Arra	99.50	320	P	Pdif	12 35 52.0	-1.0
	comp=Z,0.4nm,0.6s,baz=86,slow=3.8,SNR=2.2						
ARCES	ARCESS Array B	119.38	345	PKP	PKPdf	12 40 58.1	-1.0
	comp=Z,1.2nm,0.4s,baz=80,slow=2.0,SNR=32						
KLMR	Klimovskoe	119.75	333	*e*PKPdf	PKPdf	12 40 56.4	-3.5
KLMR				AMP		12 41 00.4	
	comp=Z,4.0nm,0.7s						
FINES	FINESS Array B	124.81	338	PKP	PKPdf	12 41 09.2	-0.4
	comp=Z,1.3nm,0.5s,baz=85,slow=2.0,SNR=9.5						
FINES	FINESS Array B	124.81	338		PKPdf	12 41 09.5	-0.1
NB2	NORSAR Subarra	129.75	345	PKPdf	PKPdf	12 41 18.9	-0.3
	comp=Z,0.7nm,0.6s,baz=27,slow=1.8						
NOA	NORSAR Array B	129.75	345	PKP	PKPdf	12 41 18.9	-0.3
	comp=Z,0.2nm,0.4s,baz=56,slow=4.2,SNR=1.7						
AKASG	Malin Array Be	129.79	326	PKP	PKPdf	12 41 19.5	0.0
	comp=Z,0.4nm,0.4s,baz=56,slow=2.2,SNR=5.2						
AKASG	Malin Array Be	129.79	326		PKPdf	12 41 18.8	-0.7
CLL	Collm	137.13	336	*e*PKPdf	PKPdf	12 41 35.0	+1.7
CLL				*e*SKPbc	SKPbc	12 45 06.0	-0.6
CLL				*e*SKPdf	SKPdf	12 45 09.0	+0.5
GERES	GERESS Array B	138.71	333	PKP	PKPdf	12 41 35.3	-1.1
	comp=Z,0.3nm,0.3s,baz=316,slow=6.9,SNR=1.7						
GERES				SKP		12 45 11.9	
	comp=Z,0.2nm,0.3s,baz=345,slow=3.4,SNR=1.8						
DAVOX	Davos/Dischmat	141.95	334	PKhKP	PKPpre	12 41 38.0	
	comp=Z,2.2nm,0.6s,baz=332,slow=20,SNR=2.0						
KEST	Kesra	150.26	321	PKPbc	PKPbc	12 42 01.6	-0.2
	comp=Z,16nm,0.9s,baz=158,slow=1.9,SNR=7.2						
KEST	Kesra	150.26	321	PKPdf	PKPdf	12 41 53.2	-3.5
KEST				PKPbc	sPKPdf	12 42 02.2	+1.9
ESDC	Sonseca Array	153.10	344	PKPbc	PKPbc	12 42 07.8	-0.4
	comp=Z,0.7nm,0.5s,baz=25,slow=2.5,SNR=5.7						
TORD	Torodi Ar. Bea	165.38	269	PKP	PKPdf	12 42 15.1	-0.6
	comp=Z,2.4nm,1.1s,baz=36,slow=2.1,SNR=6.8						
TORD				PKPab	PKPab	12 43 12.6	-1.0
	comp=Z,2.4nm,1.2s,baz=110,slow=3.6,SNR=4.4						
TORD	Torodi Ar. Bea	165.38	269	PKPdf	PKPdf	12 42 12.9	-2.8
TORD					PKPab	12 43 12.8	-0.8

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*NEIC **06** 12:35:36.4±2.4, 2°.2S±0°.1×115°.3E±0°.2, h10km±1km, mb4.1/6, Error ellipse: s-maj=31.4km s-min=11.6km az=61.0*

*DJA **06** 12:35:43.2±2.2, 3°S±2°×11°5E±°, h19km±20km, M4.3/19, mb4.3/10, mB4.8/2, MLv4.2/19, Mw(mB)4.0/2*

ISC 06 12:35:42.6±0.9**, 2°.53S**±0°.05×**115°.40E**±0°.06**, h35km, n27, σ2s54**/26**, Borneo**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBKI	Banjar Baru	1.08	211	P	Pn	12 36 03.4	+2.1
BBKI				S	Sn	12 36 17.7	+2.7
MTKI	Muara Teweh, K	1.66	342	P	Pn	12 36 11.7	+2.5
MTKI				S	Sn	12 36 33.1	+3.8
PBKI	Pangkalan Bun	3.73	267	P	Pn	12 36 38.6	+0.9
BWJI	Bawean	4.28	220	P	Pn	12 36 47.9	+2.6
TTSI	Tana Toraja	4.45	97	P	Pn	12 36 51.0	+3.4
SPSI	Sidrap Palu	4.59	108	P	Pn	12 36 52.4	+2.8
STKI	Sintang	4.69	303	P	Pn	12 36 51.9	+0.9
KMMI	Kalianget	4.71	198	P	Pn	12 36 53.9	+2.7
KAPI	Kappang	5.00	120	Pn	Pn	12 36 55.4	+0.2
BNSI	Bone	5.06	112	P	Pn	12 36 58.9	+2.9
	0.1nm16nm,1.2s						
MPSI	Mapaga	5.33	58	P	Pn	12 37 02.2	+2.5
	0.2nm29nm,0.6s						
ABJI	Asem Bagus	5.36	192	P	Pn	12 37 01.9	+1.8
	0.2nm46nm,1.1s						
BKSI	Bulukumba	5.47	121	P	Pn	12 37 03.9	+2.2
	0.1nm22nm,0.5s						
BLJI	Banyuglugur	5.48	199	P	Pn	12 37 03.2	+1.4
	0.1nm1μm22nm,1.2s						
TBJI	Tambak Boyo	5.53	220	P	Pn	12 37 03.6	+1.0
	0.5nm101nm,1.3s						
SBUM	Sibu	5.88	327	Pn	Pn	12 36 58.1	-9.2
BSSI	Bau Bau, Buton	6.22	125	P	Pn	12 37 15.0	+3.0
	0.0nm11nm,1.2s						
APSI	Ampana	6.46	76	P	Pn	12 37 17.9	+2.7
	0.1nm395nm26nm,0.6s						
TOLI2	Tolitoli	6.49	56	Pn	Pn	12 37 10.4	-5.3
MRSI	Marisa	7.19	66	P	Pn	12 37 27.4	+2.0
FITZ	Fitzroy Crossi	18.45	148	P	P	12 39 55.3	-0.1
MBWA	Marble Bar	18.99	167	P	P	12 40 00.1	-1.2
MBWA				IAmb	IAmb	12 40 12.0	
	comp=Z,14nm,1.4s						
PSA00	Pilbara Seismi	19.42	167	P	P	12 40 06.3	+0.3
UBPT	Khong Chiam	20.24	331	P	P	12 40 08.5	-6.5
UBPT				IAmb	IAmb	12 40 26.9	
	comp=Z,7.5nm,1.3s						
WRAB	Tennant Creek	25.34	134	P	P	12 41 04.9	-1.5
WRAB				IAmb	IAmb	12 41 05.4	
	comp=Z,6.3nm,1.4s						
TPUB	Ta-pu	26.18	11	P	P	12 41 08.9	-5.1
TPUB				IAmb	IAmb	12 41 27.1	
	comp=Z,17nm,1.2s						
MANU	Manus Island	31.95	90	P	P	12 42 03.0	-2.6

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*TEH **06** 12:36:35.7, 37°.58N×48°.56E, h8km, ML3.1*

*AZER **06** 12:36:35.8±0.1, 37°.63N×48°.60E, h10km, Error ellipse: s-maj=2.1km s-min=0.6km az=298.0*

ISC 06 12:36:36.3±1.1**, 37°.60N**±0°.03×**48°.57E**±0°.03**, h6**km±10km**, n29, σ1s14**/38**, Northwestern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSN1	**Caspian**	**0.42**	**95**	*e*Pg	**Pg**	**12 36 44.6**	**+0.1**
CSN1				*e*Sg	**Sg**	**12 36 50.3**	**+0.3**
ISRB	**Sarab**	**0.75**	**288**	*e*Pg	**Pg**	**12 36 50.8**	**+0.1**
ISRB				*e*		12 36 56.7	
	comp=Z,6μm,0.1s						
ISRB				*e*Sg	**Sg**	**12 37 01.6**	**+1.1**
ZNJK	**Zanjan**	**0.93**	**174**	*e*Pg	**Pg**	**12 36 53.3**	**-0.9**
ASTR	**Astara**	**0.98**	**10**	P	**Pb**	**12 36 55.3**	**-0.3**
	SNR=47						
ASTR				S	**Sn**	**12 37 10.0**	**-0.7**
LRK	**Lerik**	**1.06**	**350**	P	**Pg**	**12 36 56.8**	**+0.2**
	SNR=56						
LRK				S	**Sn**	**12 37 12.3**	**-0.7**
LKRN	**Lenkeran, Azer**	**1.12**	**9**	P	**Pn**	**12 36 58.5**	**0.0**
LKRN				S	**Sn**	**12 37 14.8**	**+0.6**
LHJ2	**Lahijan - Gila**	**1.27**	**109**	*e*Pg	**Pn**	**12 37 00.2**	**-0.3**
GRMI	**Germi**	**1.32**	**337**	*e*Pg	**Pn**	**12 37 01.5**	**+0.1**
JIR1	**Jirandeh**	**1.33**	**132**	*e*Pg	**Pn**	**12 37 00.5**	**-1.1**
YRD	**Yardimli**	**1.34**	**349**	P	**Pn**	**12 37 01.9**	**+0.1**
	SNR=31						
YRD				S	**Sn**	**12 37 20.6**	**+0.7**
IHRS	**Heris**	**1.40**	**301**	*e*		12 37 05.5	
	comp=Z,2μm,0.3s						
IHRS				*e*Pn	**Pn**	**12 37 02.4**	**-0.2**
GLBA	**Clilabad**	**1.65**	**355**	P	**Pg**	**12 37 07.7**	**-0.2**
	SNR=8.1						
GLBA				S	**Sg**	**12 37 31.2**	**+1.9**
IGZV	**Ghazvin**	**1.79**	**132**	*e*		12 37 35.5	
	comp=Z,4μm,0.3s						
IGZV				*e*Pn	**Pb**	**12 37 09.0**	**-0.7**
ITBZ	**Tabriz**	**2.02**	**289**	*e*Pn	**Pn**	**12 37 11.5**	**+0.5**
QALM	**Alamut, Qazvin**	**2.03**	**124**	*e*Pn	**Pn**	**12 37 12.1**	**+0.8**
IAZR	**Azarshahr**	**2.06**	**273**	*e*Pn	**Pb**	**12 37 14.1**	**-0.1**
IAZR				*e*		12 37 50.5	
	comp=Z,2μm,0.4s						
QRD	**Qoradiz**	**2.10**	**333**	S	**Sg**	**12 37 43.3**	**-0.6**
BLQ	**Beylaqan**	**2.26**	**340**	P	**Pb**	**12 37 17.4**	**-0.2**
	SNR=6.5						
BLQ				S	**Sg**	**12 37 48.5**	**-0.5**
ORD	**Ordubad**	**2.42**	**304**	P	**Pb**	**12 37 19.1**	**-1.2**
ORD				S	**Sb**	**12 37 52.6**	**+2.2**
IRAZ	**Razeghan**	**2.45**	**153**	*e*Pn	**Pn**	**12 37 18.8**	**+1.8**
IRAZ				*e*		12 37 20.6	
	comp=Z,1μm,0.4s						
THKV	**Tehran--Karaj**	**2.50**	**131**	*e*Pn	**Pn**	**12 37 18.7**	**+0.9**
IMRD	**Marand**	**2.52**	**297**	*e*Pn	**Pb**	**12 37 20.5**	**-1.5**
IMRD				*e*		12 37 30.4	
	comp=Z,743nm,0.3s						
IMHD	**Mahdasht**	**2.55**	**138**	*e*Pn	**Pb**	**12 37 20.7**	**-1.8**
IMHD				*e*		12 37 23.1	
	comp=Z,1μm,0.2s						
CHTH	**Charan**	**2.66**	**129**	*e*Pn	**Pb**	**12 37 23.6**	**-0.9**
SBZ	**Shahbuz**	**2.97**	**308**	S	**Sb**	**12 38 03.9**	**-2.3**
ASAO	**Ashtian**	**3.27**	**158**	*e*Pn	**Pn**	**12 37 29.0**	**+0.7**
HSAM	**Samen**	**3.38**	**179**	*e*Pn	**Pn**	**12 37 31.3**	**+1.4**
HSAM				*e*		12 37 36.3	
	comp=Z,78nm,0.2s						
ISFB	**Sefidab**	**4.40**	**136**	*e*Pn	**Pn**	**12 37 46.3**	**+2.5**
KRSH	**Karshahi**	**4.64**	**140**	*e*Pn	**Pn**	**12 37 48.6**	**+1.5**

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*IDC **06** 12:42:13.7±1.2, 6°.35S×103°.69E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.0/52, mbtmp4.3/12, MS2.9/1, Ms1 2.9/1, ms1mx2.5/73, Error ellipse: s-maj=41.7km s-min=15.6km az=53.0*

*DJA **06** 12:42:17.3±0.4, 6°S±3°×10°4E±°, h10km, M4.3/11, MLv4.3/11*

*NEIC **06** 12:42:17.8±2.0, 6°.64S±0°.05×103°.7E±0°.1, h35km±2km, mb4.2/21, Error ellipse: s-maj=18.7km s-min=5.8km az=247.0*

ISC 06 12:42:17.6±0.6**, 6°.60S**±0°.05×**103°.60E**±0°.06**, h35**km**, n61, σ1s24**/63**, mb4.2**/20**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.40**	**40**	P	**Pn**	**12 42 38.5**	**-2.1**
KASI				S	**Sn**	**12 42 54.1**	**-3.7**
LWLI	**Liwa**	**1.64**	**16**	P	**Pn**	**12 42 43.4**	**-0.6**
LWLI				S	**Sn**	**12 43 03.0**	**-1.0**
BLSI	**Bandar Lampung**	**2.05**	**53**	P	**Pn**	**12 42 49.3**	**-0.3**
BLSI				S	**Sn**	**12 43 13.0**	**-0.9**
CGJI	**Cibinong**	**2.08**	**90**	P	**Pn**	**12 42 50.1**	**+0.1**
CGJI				S	**Sn**	**12 43 14.5**	**-0.3**
KLI	**Kotabumi**	**2.14**	**36**	P	**Pn**	**12 42 49.2**	**-1.5**
KLSI		**2.21**	**31**	P	**Pn**	**12 42 51.9**	**+0.1**
MNAI	**Manna**	**2.32**	**344**		**Pn**	**12 42 53.0**	**-0.3**
MNAI	**Manna**	**2.32**	**344**	P	**Pn**	**12 42 53.4**	**+0.2**
CNJI	**Cibinong**	**3.58**	**102**	P	**Pn**	**12 43 11.9**	**+1.3**
MASI	**Maura Aman, Be**	**3.69**	**338**	P	**Pn**	**12 43 13.6**	**+1.4**
LEM	**Lembang**	**4.00**	**93**	LR	LR	12 44 59.7	
	comp=Z,156nm,19.9s,baz=288,slow=42						
XMIS	**Christmas Isla**	**4.36**	**152**	Pn	**Pn**	**12 43 19.4**	**-2.0**
XMIS				Sn	**Sn**	**12 44 07.3**	**-3.6**
CMJI	**Cimerak**	**4.96**	**104**	P	**Pn**	**12 43 31.0**	**+1.5**
PPBI	**Pangkal Pinang**	**5.09**	**30**	P	**Pn**	**12 43 31.6**	**+0.2**
UGM	**Wanagama**	**7.00**	**101**	Pn	**Pn**	**12 43 57.0**	**-0.7**
GSI	**Gunungsitoli**	**9.89**	**322**	Pn	**Pn**	**12 44 35.8**	**-1.5**
JAGI	**Jajag, Banyuwa**	**10.63**	**101**	Pn	**Pn**	**12 44 46.5**	**-0.9**
SBUM	**Sibu**	**12.45**	**44**	Pn	**Pn**	**12 45 11.2**	**-1.2**
TOLI2	**Tolitoli**	**18.79**	**67**	P	**P**	**12 46 32.9**	**-1.2**
TOLI2				IAmb	IAmb	12 46 48.0	
	comp=Z,12nm,0.9s						
BATI	**Baumata**	**20.17**	**102**	P	**P**	**12 46 49.2**	**0.0**
	comp=Z,9.7nm,0.3s,baz=316,slow=1.8,SNR=4.2						
CM31	**Chiang Mai Arr**	**25.32**	**350**	P	**P**	**12 47 40.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**25.32**	**350**	P	**P**	**12 47 40.0**	**-1.1**
	comp=Z,7.3nm,0.6s,baz=183,slow=9.0,SNR=42						
CMAR	**Chiang Mai Arr**	**25.32**	**350**	P	**P**	**12 47 39.7**	**-1.5**
CHTO	**Chiang Mai**	**25.67**	**350**	P	**P**	**12 47 43.1**	**-1.2**
H08S2	**Diego Garcia H**	**30.88**	**266**	T	T	13 21 01.5	
	baz=89,slow=75,SNR=4.1						
H08S3	**Diego Garcia H**	**30.89**	**266**	T	T	13 21 00.4	
	baz=89,slow=75,SNR=5.7						
H08S1	**Diego Carcia H**	**30.89**	**266**	T	T	13 21 01.5	
	baz=89,slow=75,SNR=3.4						
WB0	**Warramunga Arr**	**32.64**	**117**	P	**P**	**12 48 48.1**	**+1.7**
WB0				IAmb	IAmb	12 49 02.5	
	comp=Z,2.8nm,0.9s						
WRA	**Warramunga Arr**	**32.65**	**117**	P	**P**	**12 48 47.8**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=287,slow=12,SNR=14						
WRA				PcP	**PcP**	**12 51 33.8**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=317,slow=1.7,SNR=2.4						
WRA	**Warramunga Arr**	**32.65**	**117**	P	**P**	**12 48 48.0**	**+1.4**
WRAB	**Tennant Creek**	**32.66**	**117**	P	**P**	**12 48 48.0**	**+1.4**
WRAB				IAmb	IAmb	12 48 49.2	
	comp=Z,2.6nm,0.8s						
WB2	**Warramunga Arr**	**32.66**	**117**	P	**P**	**12 48 48.2**	**+1.6**
WB2				IAmb	IAmb	12 48 48.6	
	comp=Z,2.6nm,0.7s						
WR0	**Warramunga Arr**	**32.83**	**117**	P	**P**	**12 48 49.9**	**+1.7**
ASAR	**Alice Springs**	**33.70**	**123**	P	**P**	**12 48 57.5**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=308,slow=7.8,SNR=11						
STKA	**Stephens Creek**	**43.44**	**130**	P	**P**	**12 50 18.8**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=306,slow=6.0,SNR=4.7						
STKA	**Stephens Creek**	**43.44**	**130**	P	**P**	**12 50 18.2**	**+0.8**
KSRS	**Korea Array**	**49.37**	**26**	P	**P**	**12 51 03.4**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=224,slow=8.0,SNR=8.2						
KDJ	**Kajisay**	**54.16**	**336**	P	**P**	**12 51 40.4**	**+0.8**
SONM	**Songino Array**	**54.26**	**2**	P	**P**	**12 51 40.3**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=184,slow=9.9,SNR=11						
SONM	**Songino Array**	**54.26**	**2**	P	**P**	**12 51 40.3**	**+0.2**
SONM				IAmb	IAmb	12 51 41.7	
	comp=Z,3.0nm,0.9s						
ULN	**Ulaanbaatar**	**54.32**	**3**	P	**P**	**12 51 40.3**	**-0.3**
ULN				IAmb	IAmb	12 51 41.4	
	comp=Z,2.5nm,0.9s						
MK31	**Makanchi Array**	**56.43**	**343**	P	**P**	**12 51 55.1**	**-0.6**
MK31				IAmb	IAmb	12 51 56.6	
	comp=Z,1.5nm,0.6s						
MKAR	**Makanchi Array**	**56.43**	**343**	P	**P**	**12 51 55.8**	**0.0**
	comp=Z,1.8nm,0.5s,baz=151,slow=9.2,SNR=33						
MKAR	**Makanchi Array**	**56.43**	**343**	P	**P**	**12 51 54.8**	**-0.9**
MAKZ	**Makanchi**	**56.54**	**342**	P	**P**	**12 51 56.5**	**+0.1**
MAKZ				IAmb	IAmb	12 51 59.4	
	comp=Z,1.2nm,0.6s						
USA0B	**Ussuriysk Arra**	**56.69**	**24**	P	**P**	**12 51 56.6**	**-1.0**
USRK	**Ussuriysk Ar.**	**56.69**	**24**	P	**P**	**12 51 56.7**	**-0.8**
	comp=Z,3.8nm,0.6s,baz=238,slow=8.7,SNR=6.2						
KK31	**Karatay Array**	**57.87**	**332**	P	**P**	**12 52 06.0**	**+0.1**
KKAR	**Karatay Array**	**57.87**	**332**	P	**P**	**12 52 05.6**	**-0.3**
KKAR	**Karatay Array**	**57.87**	**332**	P	**P**	**12 52 06.0**	**+0.1**
KKAR				IAmb	IAmb	12 52 06.9	
	comp=Z,1.2nm,0.8s						
KURK	**Kurchatov**	**61.03**	**342**	P	**P**	**12 52 28.3**	**+0.8**
KURK				IAmb	IAmb	12 52 29.7	
	comp=Z,1.8nm,0.9s						
ASAJ	**Asahikawa**	**61.52**	**31**	P	**P**	**12 52 29.9**	**-1.1**
	comp=Z,5.4nm,0.9s,baz=247,slow=7.7						
ZAA0	**Zalesovo Array**	**62.36**	**348**	P	**P**	**12 52 36.2**	**-0.3**
ZALV	**Zalesovo Beam**	**62.36**	**348**	P	**P**	**12 52 35.5**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=153,slow=4.3,SNR=12						
ZALV	**Zalesovo Beam**	**62.36**	**348**	P	**P**	**12 52 36.3**	**-0.1**
BRVK	**Borovoye**	**65.79**	**339**	P	**P**	**12 52 59.4**	**+0.4**
BRVK				IAmb	IAmb	12 53 25.0	
	comp=Z,2.4nm,0.8s						
ABKAR	**Akbulak array**	**67.38**	**331**	P	**P**	**12 53 09.9**	**+0.7**
ABKAR				IAmb	IAmb	12 53 13.7	
	comp=Z,2.8nm,0.8s						
ABKAR	**Akbulak array**	**67.38**	**331**	P	**P**	**12 53 09.8**	**+0.6**
KBZ	**Khabaz**	**74.11**	**319**	P	**P**	**12 53 51.4**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=146,slow=2.9,SNR=6.4						
TXAR	**Lajitas Array**	**145.77**	**45**	PKPbc	**PKPab**	**13 01 55.4**	**+1.3**
	comp=Z,2.6nm,0.7s,baz=294,slow=1.3,SNR=11						
TKL	**Tuckaleechee C**	**150.30**	**12**	PKPbc	**PKPbc**	**13 02 06.3**	**+0.7**
	comp=Z,6.3nm,1.0s,baz=287,slow=17,SNR=2.1						

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*IDC **06** 12:51:11.0±0.6, 13°.18N×51°.12E, h0km, mb4.1/24, mb1 4.3/25, mb1mx4.1/64, mbtmp4.2/25, ML4.6/1, MS3.8/17, Ms1 3.8/17, ms1mx3.5/62, Error ellipse: s-maj=16.5km s-min=13.4km az=124.0*

*NEIC **06** 12:51:12.2±1.1, 13°.05N±0°.03×51°.22E±0°.06, h10km±1km, mb4.5/61, Error ellipse: s-maj=10.2km s-min=6.0km az=267.0*

*OMAN **06** 12:51:13.6±1.6, 13°.21N×51°.16E, h36km±507km, mb4.0/1, ml3.8/3, Error ellipse: s-maj=92.2km s-min=7.7km az=231.0*

ISC 06 12:51:12.8±0.4**, 13°.12N**±0°.05×**51°.21E**±0°.05**, h16**km**, n119, σ1s24**/117**, mb4.5**/55**, MS3.5**/15**, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.87**	**108**	Pn	**Pn**	**12 51 56.1**	**-1.8**
SOCY				Sn	**Sn**	**12 52 29.1**	**-3.1**
SOCY	**Socotra**	**2.87**	**108**	P	**Pn**	**12 51 56.4**	**-1.5**
	SNR=11						
SOCY				S	**Sn**	**12 52 29.7**	**-2.5**
ABTO	**Aybut**	**4.67**	**25**	P	**Pn**	**12 52 20.3**	**-2.4**
	SNR=7.5						
ABTO				S	**Sn**	**12 53 11.1**	**-5.6**
RBK	**Rabkut**	**5.23**	**33**	P	**Pn**	**12 52 29.6**	**-0.9**
	SNR=6.9						
RBK				S	**Sn**	**12 53 27.7**	**-2.8**
WHFO	**Wadi Hawf**	**5.38**	**27**	P	**Pn**	**12 52 30.7**	**-1.7**
	SNR=31						
DMTO	**DMTO**	**5.83**	**38**	P	**Pn**	**12 52 38.9**	**+0.3**
DMTO				S	**Sn**	**12 53 46.9**	**+1.9**
DOK	**Doka**	**6.15**	**27**	P	**Pn**	**12 52 41.3**	**-1.7**
ATD	**Arta Tunnel**	**8.32**	**260**	Pn	**Pn**	**12 53 11.3**	**-1.6**
	6.8nm,0.3s,baz=5.3,slow=3.5,SNR=6.7						
ATD				LR	LR	12 55 34.9	
	comp=Z,1μm,18.9s,baz=129,slow=32						
ATD	**Arta Tunnel**	**8.32**	**260**		**Pn**	**12 53 12.5**	**-0.4**
RAYN	**Ar Rayn**	**11.68**	**333**	Pn	**Pn**	**12 53 57.6**	**-1.4**
WSAR	**Wadi Sarin**	**12.29**	**34**	LR	LR	12 58 35.0	
	comp=Z,921nm,20.5s,baz=234,slow=36						
UOSS	**Minazif**	**12.68**	**21**	Pn	**Pn**	**12 54 11.9**	**-0.6**
MSEY	**Mahe Island**	**18.18**	**166**	P	**Pn**	**12 55 23.4**	**-1.3**
LODK	**Lodwar**	**18.39**	**240**	P	**P**	**12 55 26.3**	**-1.0**
KMBO	**Kilima Mbogo**	**19.80**	**225**	LR	LR	13 03 11.4	
	comp=Z,432nm,18.9s,baz=90,slow=36						
KMBO	**Kilima Mbogo**	**19.80**	**225**	P	**P**	**12 55 41.2**	**-1.7**
KIBK	**Kibwezi**	**20.16**	**221**		**P**	**12 55 45.9**	**-0.8**
EIL	**Elat**	**22.32**	**320**	LR	LR	13 04 09.5	
	comp=Z,150nm,18.9s,baz=94,slow=35						
GHAJ	**Ghor Haditha**	**23.13**	**324**	P	**P**	**12 56 16.9**	**-1.4**
HRA	**Herat**	**23.43**	**23**	P	**P**	**12 56 21.1**	**-0.4**
HRA				IAmb	IAmb	12 56 34.3	
	comp=Z,16nm,1.1s						
MBAR	**Mbarara**	**24.45**	**238**	LR	LR	13 04 52.7	
	comp=Z,94nm,20.3s,baz=50,slow=34						
MBAR	**Mbarara**	**24.45**	**238**	P	**P**	**12 56 29.7**	**-1.7**
MBAR				IAmb	IAmb	12 56 58.8	
	comp=Z,14nm,1.4s						
MMAI	**Mount Meron Ar**	**24.51**	**327**	LR	LR	13 06 16.8	
	comp=Z,150nm,18.1s,baz=334,slow=37						
KAAM	**Kaadhehdhoo**	**24.97**	**118**	P	**P**	**12 56 33.5**	**-2.3**
GEYT	**Alibeck**	**25.47**	**13**	P	**P**	**12 56 40.9**	**+0.7**
	comp=Z,6.6nm,0.8s,baz=149,slow=12,SNR=7.5						
GEYT				LR	LR	13 08 32.8	
	comp=Z,624nm,18.8s,baz=182,slow=41						
GEYT	**Alibeck**	**25.47**	**13**	P	**P**	**12 56 39.7**	**-0.5**
GEYT				IAmb	IAmb	12 56 56.4	
	comp=Z,9.2nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**25.47**	**13**	P	**P**	**12 56 39.9**	**-0.3**
GYA0B				IAmb	IAmb	12 56 44.3	
	comp=Z,22nm,1.2s						
KBL	**Kabul**	**26.77**	**34**	P	**P**	**12 56 52.4**	**+0.2**
KBL				IAmb	IAmb	12 56 59.1	
	comp=Z,18nm,1.4s						
GNI	**Garni**	**27.52**	**349**	LR	LR	13 10 09.9	
	comp=Z,408nm,18.2s,baz=174,slow=42						
GNI	**Garni**	**27.52**	**349**	P	**P**	**12 56 58.8**	**-0.1**
GNI				IAmb	IAmb	12 57 22.1	
	comp=Z,12nm,0.8s						
KARS	**Kars**	**28.32**	**347**	P	**P**	**12 57 07.1**	**+1.1**
BNN	**Bunyan**	**29.02**	**335**	P	**P**	**12 57 12.0**	**-0.2**
PALK	**Pallekele**	**29.59**	**98**	LR	LR	13 08 04.9	
	comp=Z,95nm,18.2s,baz=15,slow=34						
PALK	**Pallekele**	**29.59**	**98**	P	**P**	**12 57 16.1**	**-1.3**
PALK				IAmb	IAmb	12 57 29.6	
	comp=Z,17nm,1.4s						
ONI	**Oni**	**30.13**	**349**	P	**P**	**12 57 22.9**	**+1.0**
ONI				IAmb	IAmb	12 57 45.5	
	comp=Z,7.3nm,1.4s						
ELL	**Elmali**	**30.30**	**325**	P	**P**	**12 57 23.3**	**-0.3**
BRTR	**Keskin Array B**	**30.70**	**333**	P	**P**	**12 57 28.2**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=160,slow=11,SNR=4.3						
BRTR				LR	LR	13 10 03.5	
	comp=Z,123nm,21.2s,baz=140,slow=37						
BRTR	**Keskin Array B**	**30.70**	**333**	P	**P**	**12 57 26.1**	**-1.0**
BR131	**Keskin Array S**	**30.70**	**333**	P	**P**	**12 57 26.4**	**-0.7**
BR131				IAmb	IAmb	12 57 35.0	
	comp=Z,6.4nm,1.1s						
ANTO	**Ankara**	**31.20**	**332**	P	**P**	**12 57 32.0**	**+0.6**
KBZ	**Khabaz**	**31.33**	**348**	P	**P**	**12 57 33.0**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=182,slow=7.3,SNR=4.8						
KBZ				LR	LR	13 12 15.1	
	comp=Z,363nm,20.8s,baz=156,slow=40						
KIV	**Kislovodsk**	**31.59**	**348**	P	**P**	**12 57 35.7**	**+0.8**
OPO	**Ambohidratompo**	**31.73**	**187**	P	**P**	**12 57 39.3**	**+2.9**
	comp=Z,2.3nm,0.7s,baz=317,slow=5.1,SNR=4.1						
OPO				LR	LR	13 09 04.1	
	comp=Z,112nm,21.5s,baz=200,slow=34						
BTK	**Batken**	**31.91**	**29**	P	**P**	**12 57 38.5**	**+0.8**
BTK				IAmb	IAmb	12 57 49.4	
	comp=Z,13nm,1.3s						
MANT	**Manisa**	**32.29**	**326**	P	**P**	**12 57 41.1**	**-0.1**
IDI	**Anoyia**	**32.43**	**317**	P	**P**	**12 57 43.1**	**+0.9**
IDI				IAmb	IAmb	12 57 50.6	
	comp=Z,5.1nm,0.9s						
KK31	**Karatay Array**	**34.21**	**26**	P	**P**	**12 57 58.7**	**+0.9**
KKAR	**Karatay Array**	**34.21**	**26**	P	**P**	**12 57 58.2**	**+0.5**
KKAR	**Karatay Array**	**34.21**	**26**	P	**P**	**12 57 58.0**	**+0.3**
ALN	**Alexandroupoli**	**35.36**	**326**	P	**P**	**12 58 07.9**	**+0.3**
ALN				IAmb	IAmb	12 58 15.8	
	comp=Z,18nm,1.5s						
AAK	**Ala-Archa**	**35.66**	**30**	P	**P**	**12 58 11.8**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=213,slow=5.1,SNR=6.1						
AAK	**Ala-Archa**	**35.66**	**30**	P	**P**	**12 58 09.4**	**-0.9**
LSZ	**Lusaka**	**36.26**	**220**	P	**P**	**12 58 16.4**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=59,slow=9.8,SNR=4.0						
LSZ	**Lusaka**	**36.26**	**220**	P	**P**	**12 58 14.4**	**-1.3**
LSZ				IAmb	IAmb	12 58 24.5	
	comp=Z,15nm,1.5s						
BOOM	**Boomskoye usch**	**36.27**	**32**	P	**P**	**12 58 15.7**	**0.0**
BOOM				IAmb	IAmb	12 58 20.2	
	comp=Z,9.1nm,1.4s						
TARG	**Taragay, Kyrgy**	**36.72**	**34**	P	**P**	**12 58 19.1**	**-0.7**
TARG				IAmb	IAmb	12 58 28.1	
	comp=Z,5.6nm,1.0s						
ABKAR	**Akbulak array**	**36.75**	**10**	P	**P**	**12 58 19.8**	**+0.5**
ABKAR				IAmb	IAmb	12 58 27.5	
	comp=Z,8.9nm,1.2s						
ABKAR	**Akbulak array**	**36.75**	**10**	P	**P**	**12 58 19.7**	**+0.3**
LIT	**Litokhoron**	**36.87**	**322**	P	**P**	**12 58 21.7**	**+1.1**
LIT				IAmb	IAmb	12 58 41.3	
	comp=Z,6.7nm,1.1s						
AKTO	**Aktyubinsk**	**37.63**	**7**	P	**P**	**12 58 26.8**	**0.0**
	comp=Z,2.7nm,1.0s,baz=191,slow=8.0,SNR=5.4						
FNA	**Florina**	**37.95**	**322**	P	**P**	**12 58 29.8**	**0.0**
VTS	**Vitosha**	**38.07**	**326**	P	**P**	**12 58 30.7**	**-0.2**
KBN	**Korca**	**38.21**	**321**	P	**P**	**12 58 31.9**	**-0.1**
KBN				IAmb	IAmb	12 58 38.2	
	comp=Z,13nm,1.0s						
MLR	**Muntele Rosu**	**38.74**	**331**	LR	LR	13 15 39.9	
	comp=Z,70nm,20.9s,baz=120,slow=38						
PDG	**Podgorica**	**40.22**	**323**	P	**P**	**12 58 49.7**	**+1.1**
BURAR	**Bucovina Array**	**40.66**	**333**	P	**P**	**12 58 53.1**	**+0.7**
AKASG	**Malin Array Be**	**41.54**	**339**	P	**P**	**12 58 59.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=148,slow=7.4,SNR=12						
AKASG				LR	LR	13 17 13.6	
	comp=Z,86nm,18.4s,baz=77,slow=38						
AKBB	**Malin Array Si**	**41.54**	**339**	P	**P**	**12 58 59.7**	**+0.3**
AKBB				IAmb	IAmb	12 59 06.5	
	comp=Z,9.4nm,1.2s						
MAKZ	**Makanchi**	**42.37**	**31**	P	**P**	**12 59 05.2**	**-1.1**
MK31	**Makanchi Array**	**42.52**	**32**	P	**P**	**12 59 08.3**	**+0.8**
MKAR	**Makanchi Array**	**42.52**	**32**	P	**P**	**12 59 08.6**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=220,slow=9.3,SNR=13						
MKAR	**Makanchi Array**	**42.52**	**32**	P	**P**	**12 59 07.9**	**+0.4**
BRVK	**Borovoye**	**42.65**	**17**	P	**P**	**12 59 08.8**	**+0.3**
BVAR	**Borovoye Array**	**42.65**	**17**	P	**P**	**12 59 09.5**	**+1.0**
	comp=Z,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**43.52**	**25**	P	**P**	**12 59 16.2**	**+0.7**
	comp=Z,1.6nm,0.2s,baz=225,slow=8.0,SNR=6.4						
KURK	**Kurchatov**	**43.63**	**25**	P	**P**	**12 59 16.8**	**+0.4**
WMQ	**Urumqi**	**43.74**	**39**	*e*P	**P**	**12 59 20.3**	**+2.8**
WMQ				pP	pwP	12 59 26.1	+0.7
WMQ				pmax	pmax		
	comp=Z,19nm,0.6s						
GOMU	**GeErMu**	**45.32**	**52**	P	**P**	**12 59 33.0**	**+2.4**
GOMU				pP	pwP	12 59 37.8	-0.3
GOMU				sP	sP	12 59 38.9	+2.6
GOMU				PP	**PcP**	**13 01 09.9**	**-0.3**
GOMU				PcP	PP	13 01 27.7	+11
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,42nm,3.9s						
TRI	**Trieste**	**45.34**	**323**	P	**P**	**12 59 30.7**	**+0.5**
TRI				IAmb	IAmb	12 59 36.6	
	comp=Z,8.1nm,1.0s						
LBTB	**Lobatse**	**45.39**	**213**	P	**P**	**12 59 32.0**	**+1.1**
	comp=Z,6.3nm,0.9s,baz=29,slow=14,SNR=5.2						
LBTB				LR	LR	13 17 45.9	
	comp=Z,153nm,19.9s,baz=76,slow=35						
CMAR	**Chiang Mai Arr**	**46.14**	**77**	P	**P**	**12 59 38.4**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=274,slow=8.7,SNR=25						
CMAR				LR	LR	13 18 05.9	
	comp=Z,11nm,20.8s,baz=145,slow=35						
GERES	**GERESS Array B**	**47.17**	**327**	P	**P**	**12 59 45.1**	**+0.4**
	comp=Z,0.2nm,0.2s,baz=155,slow=5.4,SNR=1.8						
GERES	**GERESS Array B**	**47.17**	**327**	P	**P**	**12 59 44.7**	**+0.1**
TOA0	**Torodi Ar. Sit**	**48.15**	**276**	P	**P**	**12 59 52.1**	**-0.6**
TOA0				IAmb	IAmb	12 59 54.4	
	comp=Z,7.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**48.15**	**276**	P	**P**	**12 59 51.7**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=93,slow=7.7,SNR=24						
TORD	**Torodi Ar. Bea**	**48.15**	**276**	P	**P**	**12 59 51.9**	**-0.7**
TORD				IAmb	IAmb	12 59 54.3	
	comp=Z,5.1nm,1.1s						
KLMR	**Klimovskoe**	**48.42**	**352**	*e*P	**P**	**12 59 52.5**	**-1.5**
KLMR				AMP		13 00 01.0	
	comp=Z,11nm,1.0s						
ZAA0	**Zalesovo Array**	**48.59**	**26**	P	**P**	**12 59 55.0**	**-0.4**
ZAA0				IAmb	IAmb	13 00 05.7	
	comp=Z,2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**48.59**	**26**	P	**P**	**12 59 55.1**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=236,slow=8.0,SNR=9.1						
CLL	**Collm**	**49.00**	**329**	*e*P	**P**	**13 00 01.0**	**+2.4**
PZH	**PanZhiHua**	**49.08**	**66**	P	**P**	**13 00 00.9**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,4.5s						
BFO	**Black Forest**	**49.88**	**324**	P	**P**	**13 00 05.3**	**-0.1**
BFO				IAmb	IAmb	13 00 19.9	
	comp=Z,5.1nm,0.9s						
FINES	**FINESS Array B**	**51.57**	**345**	P	**P**	**13 00 18.0**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=157,slow=10,SNR=5.5						
LZH	**Lanzhou**	**52.33**	**54**	*e*P	**P**	**13 00 24.5**	**+0.2**
LZH				pP	sP	13 00 29.5	-0.5
LZH				sP	pwP	13 00 31.8	0.0
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH				LR	LR		
	comp=N,100nm,15.3s						
LZH				LR	LR		
	comp=E,120nm,15.0s						
LZH				LR	LR		
	comp=Z,140nm,16.7s						
ESDC	**Sonseca Array**	**55.05**	**309**	P	**P**	**13 00 43.5**	**-0.5**
	comp=Z,4.3nm,0.9s,baz=88,slow=6.3,SNR=16						
ESDC	**Sonseca Array**	**55.05**	**309**	P	**P**	**13 00 44.0**	**0.0**
ESDC				IAmb	IAmb	13 00 50.6	
	comp=Z,7.9nm,1.2s						
SONM	**Songino Array**	**57.23**	**41**	P	**P**	**13 00 59.5**	**0.0**
	comp=Z,3.2nm,1.1s,baz=251,slow=9.2,SNR=6.5						
SONM	**Songino Array**	**57.23**	**41**	P	**P**	**13 00 59.6**	**+0.1**
SONM				IAmb	IAmb	13 01 08.0	
	comp=Z,5.7nm,1.2s						
ULN	**Ulaanbaatar**	**57.66**	**41**	P	**P**	**13 01 02.8**	**+0.2**
ULN				IAmb	IAmb	13 01 05.9	
	comp=Z,5.2nm,1.2s						
PESTR	**Estremoz**	**57.66**	**308**	P	**P**	**13 01 02.8**	**+0.2**
PESTR				IAmb	IAmb	13 01 04.9	
	comp=Z,3.4nm,0.8s						
HHC	**Hu-ho-hao-te**	**59.17**	**50**	*e*P	**P**	**13 01 15.0**	**+1.8**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,60nm,5.3s						
NRIK	**Noril'sk**	**60.71**	**14**	P	**P**	**13 01 23.4**	**+0.2**
NRIK				IAmb	IAmb	13 01 30.1	
	comp=Z,11nm,1.5s						
NJ2	**Nanjing**	**64.30**	**61**	*e*P	**P**	**13 01 47.7**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CN2	**Changchun**	**69.69**	**48**	*e*P	**P**	**13 02 23.8**	**+1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KSRS	**Korea Array**	**71.66**	**55**	P	**P**	**13 02 34.5**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=308,slow=13,SNR=4.4						
YAK	**Yakutsk**	**73.11**	**29**	P	**P**	**13 02 42.6**	**+0.5**
TIXI	**Tiksi**	**73.75**	**19**	P	**P**	**13 02 46.3**	**+0.5**
TIXI				IAmb	IAmb	13 02 52.8	
	comp=Z,6.7nm,1.2s						
KLR	**Kul'dur**	**74.03**	**42**	P	**P**	**13 02 48.8**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=227,slow=11,SNR=1.9						
KLR				LR	LR	13 38 55.9	
	comp=Z,56nm,18.6s,baz=276,slow=39						
SEY	**Seymchan**	**83.45**	**27**	P	**P**	**13 03 39.8**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=3.5,slow=6.3,SNR=5.9						
WRA	**Warramunga Arr**	**88.10**	**111**	P	**P**	**13 04 04.2**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=297,slow=4.0,SNR=27						
WB0	**Warramunga Arr**	**88.11**	**111**	P	**P**	**13 04 01.7**	**-1.6**
WRAB	**Tennant Creek**	**88.11**	**111**	P	**P**	**13 04 02.7**	**-0.7**
WB2	**Warramunga Arr**	**88.11**	**111**	P	**P**	**13 04 03.2**	**-0.2**
WR0	**Warramunga Arr**	**88.29**	**111**	P	**P**	**13 04 03.5**	**-0.7**
ASAR	**Alice Springs**	**88.65**	**115**	P	**P**	**13 04 06.5**	**+0.6**
	comp=Z,3.6nm,1.0s,baz=286,slow=4.3,SNR=18						
ASAR	**Alice Springs**	**88.65**	**115**	P	**P**	**13 04 05.8**	**-0.1**
PEA0B	**Petropavlovsk-**	**89.25**	**35**	P	**P**	**13 04 08.5**	**+0.4**
PET	**Petropavlovsk**	**89.81**	**35**	P	**P**	**13 04 11.7**	**+1.0**
NVAR	**Mina Array Bea**	**127.79**	**350**	PKP	**PKiKP**	**13 10 19.6**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=255,slow=1.1,SNR=4.9						

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*IDC **06** 12:52:57.8±1.2, 13°.05N×51°.09E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.7/63, mbtmp3.9/8, ML4.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/61, Error ellipse: s-maj=40.9km s-min=23.2km az=174.0*

ISC 06 12:53:00.2±1.0**, 13°.1N**±0°.3×**51°.1E**±0°.1**, h16**km**, n10,**

σ0ˢ33/8, **mb4.0**/7, **Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.18**	**260**	Pn	**Pn**	**12 54 58.3**	**-0.2**
	6.8nm,0.3s,baz=223,slow=23,SNR=6.1						
MKAR	**Makanchi Array**	**42.64**	**32**	P	**P**	**13 00 55.6**	**-0.3**
	0.5nm,0.5s,baz=223,slow=9.5,SNR=5.1						
VRAC	**Vranov**	**45.94**	**329**	LR	LR	13 23 24.9	
	comp=Z,60nm,18.1s,baz=36,slow=40						
CMAR	**Chiang Mai Arr**	**46.28**	**77**	P	**P**	**13 01 25.6**	**+0.2**
	1.7nm,0.4s,baz=270,slow=8.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**48.03**	**276**	P	**P**	**13 01 39.1**	**0.0**
	1.3nm,0.9s,baz=83,slow=6.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**48.70**	**26**	P	**P**	**13 01 43.6**	**-0.1**
	0.5nm,0.5s,baz=248,slow=7.6,SNR=1.9						
ESDC	**Sonseca Array**	**54.99**	**309**	P	**P**	**13 02 31.4**	**+0.4**
	0.9nm,0.8s,baz=99,slow=7.1,SNR=2.9						
WRA	**Warramunga Arr**	**88.20**	**111**	P	**P**	**13 05 50.9**	**-0.3**
	0.4nm,0.5s,baz=300,slow=4.1,SNR=2.7						
RCBR	**Riachuelo**	**88.36**	**264**	LR	LR	13 43 11.9	
	comp=Z,69nm,19.1s,baz=316,slow=34						
ASAR	**Alice Springs**	**88.74**	**115**	P	**P**	**13 05 54.0**	**+0.3**
	0.9nm,1.1s,baz=288,slow=5.0,SNR=2.8						

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*IDC **06** 12:53:45.5±0.9, 14°.10S×166°.88E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/41, mbtmp4.1/16, MS3.5/4, Ms1 3.5/4, ms1mx2.9/59, Error ellipse: s-maj=32.6km s-min=18.6km az=122.0*

*NEIC **06** 12:53:49.4±1.2, 14°.2S±0°.1×167°.1E±0°.2, h28km±5km, mb4.4/18, Error ellipse: s-maj=21.7km s-min=14.7km az=95.0*

ISC 06 12:53:50.5±0.6, **14°.10S**±0°.07×**167°.0E**±0°.1, **h35**km, **n54**, σ**1ˢ07**/53, **mb4.2**/21, **MS3.5**/3, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**6.65**	**178**	Pn	**Pn**	**12 55 24.6**	**-1.2**
KOUNC	**Koumac, New Ca**	**6.92**	**201**		**Pn**	**12 55 29.7**	**+0.3**
DZM	**Mont Dzumac**	**7.95**	**184**	Pn	**Pn**	**12 55 46.9**	**+3.2**
	1.5nm,0.3s,baz=129,slow=23,SNR=14						
DZM				Sn	**Sn**	**12 57 15.0**	**+2.5**
	0.5nm,0.3s,baz=187,slow=15,SNR=1.8						
DZM				LR	LR	12 58 07.2	
	comp=Z,92nm,18.0s,baz=350,slow=33						
DZM	**Mont Dzumac**	**7.95**	**184**		**Pn**	**12 55 42.5**	**-1.1**
ONTNC	**Ouen Toro**	**8.18**	**183**	Pn	**Pn**	**12 55 45.4**	**-1.4**
OUENC	**Ouen Island, N**	**8.28**	**181**	Pn	**Pn**	**12 55 46.5**	**-1.6**
PINNC	**Pines Island,**	**8.48**	**177**	Pn	**Pn**	**12 55 48.6**	**-2.3**
CTA	**Charters Tower**	**20.68**	**250**	P	**P**	**12 58 25.5**	**-2.1**
	4.6nm,0.9s,baz=204,slow=23,SNR=1.8						
CTA				LR	LR	13 04 51.9	
	comp=Z,93nm,18.6s,baz=154,slow=32						
CTAO	**Charters Tower**	**20.68**	**250**	P	Pn	12 58 29.2	-0.9
CTAO				IAmb	IAmb	12 58 51.0	
	comp=Z,33nm,1.4s						
STKA	**Stephens Creek**	**29.20**	**228**	P	**P**	**12 59 48.5**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=45,slow=9.0,SNR=8.1						
STKA	**Stephens Creek**	**29.20**	**228**	P	**P**	**12 59 48.9**	**+0.1**
WR0	**Warramunga Arr**	**31.53**	**255**	P	**P**	**13 00 09.0**	**-0.6**
WR0				IAmb	IAmb	13 00 27.6	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**31.65**	**255**	P	**P**	**13 00 10.2**	**-0.4**
WB0				IAmb	IAmb	13 00 17.8	
	comp=Z,7.4nm,1.2s						
WB2	**Warramunga Arr**	**31.70**	**255**	P	**P**	**13 00 11.5**	**+0.4**
WB2				IAmb	IAmb	13 00 18.4	
	comp=Z,7.7nm,1.2s						
WRAB	**Tennant Creek**	**31.70**	**255**	P	**P**	**13 00 10.3**	**-0.8**
WRA	**Warramunga Arr**	**31.71**	**255**	P	**P**	**13 00 10.3**	**-1.0**
	comp=Z,0.9nm,1.0s,baz=87,slow=8.6,SNR=4.1						
WRA	**Warramunga Arr**	**31.71**	**255**	P	**P**	**13 00 11.8**	**+0.5**
AS31	**Alice Springs**	**32.64**	**248**	P	**P**	**13 00 18.9**	**-0.4**
ASAR	**Alice Springs**	**32.64**	**248**	P	**P**	**13 00 18.8**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=75,slow=9.4,SNR=18						
ASAR				LR	LR	13 11 58.9	
	comp=Z,113nm,21.3s,baz=152,slow=34						
ASAR	**Alice Springs**	**32.64**	**248**	P	**P**	**13 00 19.4**	**0.0**
MTN	**Manton Dam**	**34.87**	**268**	P	**P**	**13 00 37.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**39.86**	**259**	P	**P**	**13 01 19.3**	**-1.8**
BATI	**Baumata**	**42.48**	**270**	LR	LR	13 19 31.5	
	comp=Z,196nm,18.3s,baz=136,slow=36						
MJAR	**Matsushiro Arr**	**57.22**	**333**	P	**P**	**13 03 32.8**	**-1.5**
	comp=Z,2.5nm,0.6s,baz=177,slow=5.3,SNR=3.6						
MJAR	**Matsushiro Arr**	**57.22**	**333**	P	**P**	**13 03 34.8**	**+0.5**
MJAR				IAmb	IAmb	13 03 36.0	
	comp=Z,3.5nm,0.9s						
KSRS	**Korea Array**	**63.06**	**326**	P	**P**	**13 04 14.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=128,slow=8.1,SNR=4.9						
VNDA	**Vanda**	**63.48**	**181**	P	**P**	**13 04 17.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=14,slow=7.1,SNR=2.0						
KLR	**Kul'dur**	**70.32**	**336**	P	**P**	**13 05 01.7**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=186,slow=2.3,SNR=4.8						
ENH	**Enshi**	**70.75**	**309**	P	**P**	**13 05 03.5**	**0.0**
CMAR	**Chiang Mai Arr**	**74.44**	**294**	P	**P**	**13 05 26.0**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=124,slow=3.9,SNR=6.9						
CMAR	**Chiang Mai Arr**	**74.44**	**294**	P	**P**	**13 05 25.2**	**-0.4**
MA2	**Magadan**	**74.58**	**352**	P	**P**	**13 05 27.0**	**+1.5**
	comp=Z,1.1nm,0.2s,baz=135,slow=14,SNR=3.5						
MA2	**Magadan**	**74.58**	**352**	P	**P**	**13 05 25.4**	**-0.1**
MA2				IAmb	IAmb	13 05 31.0	
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**75.93**	**180**	P	**P**	**13 05 33.1**	**-0.4**
QSPA				IAmb	IAmb	13 05 36.5	
	comp=Z,3.7nm,0.8s						
SEY	**Seymchan**	**77.62**	**353**	P	**P**	**13 05 43.8**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=163,slow=5.9,SNR=9.2						
ULN	**Ulaanbaatar**	**81.46**	**324**	P	**P**	**13 06 04.1**	**-0.1**
ULN				IAmb	IAmb	13 06 06.8	
	comp=Z,5.1nm,0.9s						
SONM	**Songino Array**	**81.82**	**324**	P	**P**	**13 06 06.1**	**0.0**
	comp=Z,1.5nm,0.7s,baz=147,slow=4.8,SNR=5.4						
SONM	**Songino Array**	**81.82**	**324**	P	**P**	**13 06 05.8**	**-0.2**
SONM				IAmb	IAmb	13 06 10.4	
	comp=Z,3.1nm,1.2s						
MAW	**Mawson**	**82.36**	**202**	P	**P**	**13 06 08.2**	**-0.2**
MAW				IAmb	IAmb	13 06 12.7	
	comp=Z,3.2nm,1.2s						
N02D	**Trinity Center**	**84.87**	**46**	P	**P**	**13 06 20.6**	**-1.3**
ILAR	**Eielson Array**	**86.01**	**18**	P	**P**	**13 06 27.8**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=242,slow=4.9,SNR=9.5						
MKAR	**Makanchi Array**	**96.56**	**316**	P	**P**	**13 07 17.3**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=99,slow=5.9,SNR=15						
MKAR	**Makanchi Array**	**96.56**	**316**	P	**P**	**13 07 17.2**	**+0.6**
ZALV	**Zalesovo Beam**	**96.72**	**324**	P	**P**	**13 07 17.4**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=103,slow=3.8,SNR=8.7						
ZALV	**Zalesovo Beam**	**96.72**	**324**	P	**P**	**13 07 17.0**	**-0.1**
YKA	**Yellowknife Ar**	**97.11**	**27**	P	**P**	**13 07 18.2**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=305,slow=6.7,SNR=4.7						
ARCES	**ARCESS Array B**	**119.57**	**345**	PKP	**PKiKP**	**13 12 36.9**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=64,slow=2.8,SNR=8.2						
ARCES	**ARCESS Array B**	**119.57**	**345**	PKPdf	**PKiKP**	**13 12 36.4**	**+0.3**
FINES	**FINESS Array B**	**125.03**	**338**	PKP	**PKPdf**	**13 12 46.1**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=123,slow=5.1,SNR=3.6						
FINES	**FINESS Array B**	**125.03**	**338**		**PKiKP**	**13 12 47.9**	**+0.9**
NOA	**NORSAR Array B**	**129.94**	**345**	PKP	**PKPdf**	**13 12 55.8**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=37,slow=1.7,SNR=1.8						
KEST	**Kesra**	**150.55**	**321**	PKPbc	**PKPbc**	**13 13 39.1**	**0.0**
	comp=Z,7.4nm,0.8s,baz=39,slow=18,SNR=4.6						
ESDC	**Sonseca Array**	**153.30**	**344**	PKPbc	**PKPbc**	**13 13 45.0**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=338,slow=3.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**165.67**	**268**	PKP	**PKPdf**	**13 13 53.5**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=90,slow=4.0,SNR=3.6						

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*IDC **06** 12:57:16.7±1.0, 41°.49N×143°.64E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/42, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=36.3km s-min=21.8km az=102.0*

*MOS **06** 12:57:20.4±1.4, 41°.64N×143°.77E, h42km, mb4.5/1, Error ellipse: s-maj=28.8km s-min=9.5km az=70.0*

*JMA **06** 12:57:32.5±0.1, 42°.58N×144°.19E, h69km±1km, M3.3*

*SKHL **06** 12:57:32.5±0.1, 42°.60N×144°.10E, h74km±2km, mb4.6/3*

ISC 06 12:57:32.8±1.0, **42°.54N**±0°.06×**144°.19E**±0°.03, **h65**km±7km, **n42**, σ**1ˢ06**/54, **mb3.7**/6, **4C-5D**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.45**	**324**	⇓P	**Pn**	**12 57 44.8**	**+0.2**
JOB				*e*S	**Sn**	**12 57 53.6**	**+0.3**
JAK	**Akkeshi**	**0.59**	**39**	⇓P	**Pn**	**12 57 45.8**	**-0.2**
JAK				*e*S	**Sn**	**12 57 55.8**	**+0.1**
JCH	**Churui**	**0.62**	**277**	⇑P	**Pn**	**12 57 46.6**	**+0.2**
JCH				*e*S	**Sn**	**12 57 56.1**	**-0.2**
AKK	**Akkeshi**	**0.67**	**45**	*e*P	**Pn**	**12 57 46.7**	**-0.3**
AKK				*e*S	**Sn**	**12 57 57.3**	**-0.2**
JTHR	**Tokachihiroo**	**0.71**	**249**	⇑P	**Pn**	**12 57 47.7**	**+0.3**
JTHR				*e*S	**Sn**	**12 57 58.8**	**+0.7**
JAR	**Ashorobuto**	**0.81**	**338**	⇓P	**Pn**	**12 57 48.5**	**-0.2**
JAR				*e*S	**Sn**	**12 58 00.2**	**-0.3**
JKHN	**Kushirohamanak**	**0.89**	**53**	⇓P	**Pn**	**12 57 49.7**	**0.0**
JKHN				*e*S	**Sn**	**12 58 02.4**	**+0.2**
JEM	**Erimo**	**0.93**	**236**	P	**Pn**	**12 57 50.7**	**+0.6**
JNBK	**Urakawa-nobuka**	**1.10**	**257**	⇑P	**Pn**	**12 57 51.9**	**-0.4**
JNK	**Nakash**	**1.11**	**20**	⇓P	**Pn**	**12 57 51.9**	**-0.6**
JNK				*e*S	**Sn**	**12 58 06.3**	**-0.8**
JFR	**Furan**	**1.33**	**298**	P	**Pn**	**12 57 55.4**	**+0.1**
JFR				*e*S	**Sn**	**12 58 12.0**	**-0.2**
JBT2	**Biratori 2**	**1.37**	**281**	⇑P	**Pn**	**12 57 55.3**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.40**	**53**	*e*P	**Pn**	**12 57 55.6**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.40**	**53**	*e*P	**Pn**	**12 57 55.6**	**-0.6**
NMR				*e*S	**Sn**	**12 58 12.3**	**-1.5**
NEM2	**Nemuro 2**	**1.40**	**54**	P	**Pn**	**12 57 55.5**	**-0.8**
NEM2				*e*S	**Sn**	**12 58 12.4**	**-1.5**
JTKR	**Abashiri--Toko**	**1.44**	**352**	P	**Pn**	**12 57 57.2**	**+0.4**
JTKR				*e*S	**Sn**	**12 58 15.2**	**+0.4**
GLVR	**Golovnino**	**1.54**	**39**	*e*P	**Pn**	**12 57 58.3**	**+0.2**
GLVR	**Golovnino**	**1.54**	**39**	*e*P	**Pn**	**12 57 58.3**	**+0.2**
GLVR				*e*S	**Sn**	**12 58 17.7**	**+0.5**
GLVR				A	A	12 58 18.5	
	1µm,0.3s						
GLVR				A	A	12 58 18.5	
	2µm,0.3s						
JRA	**Rausu**	**1.55**	**26**	P	**Pn**	**12 57 58.3**	**+0.1**
JRA				*e*S	**Sn**	**12 58 17.7**	**+0.3**
JMP	**Maruseppu**	**1.58**	**338**	*e*S	**Sn**	**12 58 18.3**	**0.0**
JKK2	**Kamakawa 2**	**1.70**	**322**	P	**Pn**	**12 58 00.8**	**+0.6**
RUSJ	**Misakicho**	**1.74**	**26**	*e*P	**Pn**	**12 58 01.6**	**+0.8**
RUSJ				*e*S	**Sn**	**12 58 24.2**	**+2.2**
YUK	**Yuzh-Kuril'sk**	**1.93**	**39**	*e*P	**Pn**	**12 58 03.5**	**+0.2**
YUK				pmax	pmax		
	comp=Z,254nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.93**	**39**	*e*P	**Pn**	**12 58 03.5**	**+0.2**
YUK				AMB	AMB	12 58 04.3	
	comp=Z,270nm,0.3s						
YUK				*e*S	**Sn**	**12 58 26.5**	**0.0**
YUK				A	A	12 58 27.6	
	comp=Z,1µm,0.4s						
YUK				A	A	12 58 27.6	
	comp=Z,2µm,0.4s						
JKA	**Kamikawa-asahi**	**1.96**	**324**	*e*P	**Pn**	**12 58 01.2**	**-2.5**
ASAJ	**Asahikawa**	**1.96**	**324**	Pn	**Pn**	**12 58 01.2**	**-2.5**
	comp=Z,3.2nm,0.3s,baz=181,slow=15,SNR=47						
ASAJ				Sn	**Sn**	**12 58 29.4**	**+2.2**
	comp=Z,9.4nm,0.3s,baz=355,slow=34,SNR=6.5						
SHO	**Shikotan**	**2.34**	**55**	*e*P	**Pn**	**12 58 08.2**	**-0.7**
SHO				pmax	pmax		
	comp=Z,61nm,0.1s						
SHO	**Shikotan**	**2.34**	**55**	*e*P	**Pn**	**12 58 08.7**	**-0.2**
SHO				AMB	AMB	12 58 09.9	
	comp=Z,40nm,0.2s						
SHO				*e*S	**Sn**	**12 58 34.6**	**-1.9**
SHO				A	A	12 58 36.7	
	comp=Z,310nm,0.4s						
SHO				A	A	12 58 36.7	
	comp=Z,430nm,0.4s						
KUR	**Kuril'sk**	**3.78**	**43**	*e*P	**Pn**	**12 58 31.4**	**+2.9**
KUR				*i* S	**Sn**	**12 59 14.0**	**+2.3**
KUR				smax	smax		
	comp=N,108nm,0.6s						
KUR				smax	smax		
	comp=E,100nm,0.6s						
KUR	**Kuril'sk**	**3.78**	**43**	*e*P	**Pn**	**12 58 28.9**	**+0.4**
KUR				AMB	AMB	12 58 31.9	
	comp=E,90nm,0.7s						
KUR				*i* S	**Sn**	**12 59 12.2**	**+0.5**
KUR				A	A	12 59 17.8	
	comp=E,100nm,0.4s						
KUR				A	A	12 59 17.8	
	comp=E,110nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.74**	**133**	T	T	13 34 51.5	
	baz=327,slow=75,SNR=63						
H11N1	**WAKE ISLAND Hy**	**29.75**	**133**	T	T	13 34 53.1	
	baz=327,slow=75,SNR=65						
H11N3	**WAKE ISLAND Hy**	**29.76**	**133**	T	T	13 34 53.6	
	baz=327,slow=75,SNR=51						
H11S1	**WAKE ISLAND Hy**	**30.64**	**135**	T	T	13 36 01.6	
	baz=328,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**30.64**	**135**	T	T	13 36 01.0	
	baz=328,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**30.65**	**135**	T	T	13 36 02.1	
	baz=328,slow=76,SNR=35						
MKAR	**Makanchi Array**	**43.23**	**298**	P	P	13 05 20.1	-7.2
	comp=E,0.2nm,0.6s,baz=90,slow=7.6,SNR=1.6						
ILAR	**Eielson Array**	**43.73**	**35**	P	**P**	**13 05 32.6**	**+1.5**
	comp=E,0.6nm,0.5s,baz=273,slow=8.2,SNR=11						
INK	**Inuvik**	**48.53**	**29**	P	**P**	**13 06 08.5**	**-0.2**
	comp=E,0.3nm,0.3s,baz=302,slow=7.4,SNR=6.8						
RES	**Resolute Bay**	**56.73**	**16**	P	**P**	**13 07 09.4**	**+0.2**
	comp=E,1.2nm,0.5s,baz=319,slow=5.3,SNR=14						
FINES	**FINESS Array B**	**64.95**	**332**	P	**P**	**13 08 03.6**	**-1.5**
	comp=E,3.1nm,1.0s,baz=57,slow=7.0,SNR=4.1						
ASAR	**Alice Springs**	**66.56**	**190**	P	P	13 08 01.2	-15
	comp=E,0.5nm,0.8s,baz=349,slow=11,SNR=18						

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*IDC **06** 13:05:42.4±1.1, 57°.55S×24°.23W, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.0/19, mbtmp4.0/5, Error ellipse: s-maj=36.6km s-min=29.2km az=52.0*

ISC 06 13:05:44.9±0.8, **57°.4S**±0°.1×**24°.6W**±0°.2, **h10**km, **n13**, σ**1ˢ99**/13, **mb3.9**/5, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.05**	**159**	P	**Pn**	**13 09 18.5**	**+1.2**
VNA3	**Neumayer Olymp**	**15.29**	**162**	P	**Pn**	**13 09 20.7**	**+0.3**
VNA2	**Neumayer--Watz**	**15.44**	**159**	P	**Pn**	**13 09 23.0**	**+0.5**
	baz=322,slow=15						
SNAA	**Sanae**	**16.96**	**156**	P	**P**	**13 09 44.8**	**+0.8**
TROLL	**Troll, Antarti**	**18.43**	**153**	P	**Pn**	**13 10 04.9**	**+4.6**
PLCA	**Paso Flores**	**33.66**	**279**	P	**P**	**13 12 25.3**	**-0.4**
	2.5nm,1.0s,baz=134,slow=22,SNR=2.7						
CPUP	**Villa Florida**	**38.77**	**309**	P	**P**	**13 13 10.9**	**+1.6**
	1.3nm,0.6s,baz=174,slow=13,SNR=3.1						
VNDA	**Vanda**	**45.33**	**182**	P	**P**	**13 13 59.5**	**-2.8**
	0.5nm,0.6s,baz=185,slow=5.3,SNR=5.9						
LPAZ	**La Paz**	**52.31**	**303**	P	**P**	**13 14 58.1**	**+0.8**
	1.5nm,0.5s,baz=128,slow=6.2,SNR=6.2						
TORD	**Torodi Ar. Bea**	**73.52**	**27**	P	**P**	**13 17 16.8**	**-0.9**
	0.8nm,0.6s,baz=205,slow=6.6,SNR=5.1						
YKA	**Yellowknife Ar**	**138.12**	**316**	PKP	**PKPdf**	**13 25 08.4**	**0.0**
	0.4nm,0.7s,baz=133,slow=2.0,SNR=7.2						
SONM	**Songino Array**	**149.35**	**87**	PKPbc	**PKPbc**	**13 25 31.2**	**-1.9**
	0.5nm,0.5s,baz=197,slow=1.5,SNR=3.8						
ILAR	**Eielson Array**	**152.07**	**309**	PKPbc	**PKiKP**	**13 25 39.2**	**+0.1**
	0.7nm,0.4s,baz=110,slow=2.5,SNR=12						

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*NNC **06** 13:09:35.8±0.5, 50°.02N×78°.75E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=12.3km s-min=2.4km az=74.0, Suspected Mining explosion.*

*IDC **06** 13:09:36.4±1.0, 50°.07N×78°.71E, h0km, mb1 2.3/2, mb1mx2.3/46, mbtmp2.3/2, ML1.9/2, Error ellipse: s-maj=10.4km s-min=6.9km az=61.0*

ISC 06 13:09:35.5±2.0, **50°.06N**±0°.07×**78°.5E**±0°.2, **h0**km, **n16**, σ**0ˢ41**/27, **5C-3D**, **Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.52**	**358**	P	**Pb**	**13 09 47.3**	**-0.2**
KUR07				S	**Sb**	**13 09 55.9**	**+0.2**
KUR06	**Kurchatov Arra**	**0.54**	**359**	P	**Pb**	**13 09 47.7**	**-0.2**
KUR06				S	**Sb**	**13 09 56.0**	**-0.2**
KUR14	**Kurchatov Arra**	**0.55**	**3**	P	**Pb**	**13 09 47.6**	**-0.5**
KUR14				S	**Sb**	**13 09 56.5**	**-0.1**
KUR15	**Kurchatov Arra**	**0.56**	**1**	P	**Pb**	**13 09 47.8**	**-0.4**
KUR15				S	**Sb**	**13 09 56.9**	**+0.2**
KURBB	**Kurchatov Arra**	**0.56**	**359**	Pg	**Pb**	**13 09 47.9**	**-0.3**
	0.6nm,0.3s,baz=165,slow=18,SNR=14						
KURBB				Lg	Lg	13 09 54.7	
	0.6nm,0.3s,baz=170,slow=34,SNR=8.1						
KURBB	**Kurchatov Arra**	**0.56**	**359**	⇑P	**Pb**	**13 09 48.0**	**-0.2**
	6.0nm,0.3s						
KURBB				⇓S	**Sb**	**13 09 57.2**	**+0.4**
	10nm,0.4s						
KUR16	**Kurchatov Arra**	**0.57**	**357**	P	**Pb**	**13 09 48.1**	**-0.2**
KUR16				S	**Sb**	**13 09 57.2**	**+0.3**
KUR17	**Kurchatov Arra**	**0.57**	**355**	P	**Pb**	**13 09 48.3**	**-0.1**
KUR17				S	**Sb**	**13 09 57.4**	**+0.3**
KUR05	**Kurchatov Arra**	**0.58**	**360**	P	**Pb**	**13 09 48.3**	**-0.2**
KUR05				S	**Sb**	**13 09 56.8**	**-0.6**
KUR04	**Kurchatov Arra**	**0.60**	**0**	P	**Pb**	**13 09 48.7**	**-0.2**
KUR04				S	**Sb**	**13 09 57.2**	**-0.8**
KURK	**Kurchatov**	**0.66**	**4**	⇑P	**Pb**	**13 09 49.2**	**-0.6**
	1.8nm,0.3s						
KURK				⇑S	**Sb**	**13 09 59.5**	**0.0**
	2.3nm,0.4s						
MAKZ	**Makanchi**	**3.98**	**144**	⇓Pg	**Pb**	**13 10 46.6**	**+0.2**
	0.7nm,0.5s						
MAKZ				⇓Lg	Lg	13 11 38.8	
	1.0nm,0.6s						
MK31	**Makanchi Array**	**4.11**	**141**	⇑Pn	**Pn**	**13 10 39.9**	**+0.3**
	baz=321,slow=9.9,SNR=8.3						
MK31				Pg	**Pb**	**13 10 49.0**	**+0.3**
	0.1nm,0.3s,baz=326,slow=15,SNR=7.5						
MK31				⇑Lg	Lg	13 11 42.4	
	1.4nm,0.7s,baz=346,slow=27,SNR=5.1						
MKAR	**Makanchi Array**	**4.11**	**141**	Pn	**Pn**	**13 10 39.5**	**-0.1**
	0.1nm,0.3s,baz=323,slow=10.0,SNR=13						
MKAR				Pg	**Pb**	**13 10 47.6**	**-1.1**
	0.2nm,0.3s,baz=322,slow=15,SNR=8.7						
MKAR				Lg	Lg	13 11 40.2	
	0.4nm,0.3s,baz=332,slow=8.2,SNR=8.5						
ZALV	**Zalesovo Beam**	**5.49**	**42**	Pn	**Pn**	**13 10 59.0**	**+0.5**
	0.3nm,0.3s,baz=231,slow=14,SNR=3.2						
I46RU	**ZALESOVO INFRA**	**5.49**	**42**	*i*		13 41 20.0	
	baz=226,slow=325,SNR=0.9						

IDC 06 13:13:27.4±8.0, **20°.26S**×**168°.85E**, **h0**km, **mb3.6**/3, **mb1 3.7**/4, **mb1mx3.5**/34, **mbtmp3.5**/4, **ML2.5**/1, **Error ellipse: s-maj=169.1km s-min=55.4km az=118.0, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.88**	**231**	Pn	Pn	13 14 16.0	+1.3
	0.8nm,0.3s,baz=104,slow=11,SNR=8.8						
DZM				Sn	Sn	13 14 49.3	-0.8
	1.2nm,0.3s,baz=241,slow=21,SNR=1.6						
STKA	**Stephens Creek**	**27.00**	**239**	P	P	13 19 10.0	-1.2
	1.2nm,0.7s,baz=60,slow=16,SNR=1.7						
WRA	**Warramunga Arr**	**32.38**	**264**	P	P	13 19 58.4	-0.7
	0.7nm,1.1s,baz=94,slow=8.9,SNR=2.6						
ASAR	**Alice Springs**	**32.54**	**258**	P	P	13 20 01.4	+0.9
	0.5nm,0.7s,baz=84,slow=9.0,SNR=8.2						

IDC 06 13:17:47.3±2.3, **1°.65N**×**127°.60E**, **h0**km, **mb3.2**/3, **mb1 3.5**/3, **mb1mx3.3**/35, **mbtmp3.3**/3, **Error ellipse: s-maj=163.0km s-min=28.7km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.45**	**163**	P	P	13 22 47.1	-0.9
	0.5nm,0.4s,baz=343,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.89**	**167**	P	P	13 23 22.1	+1.0
	0.2nm,0.4s,baz=345,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**59.76**	**326**	P	P	13 27 54.1	0.0
	0.1nm,0.3s,baz=112,slow=6.4,SNR=1.9						

IDC 06 13:40:25.6±6.1, **13°.00S**×**165°.65E**, **h0**km, **mb3.3**/3, **mb1 3.6**/3, **mb1mx3.4**/21, **mbtmp3.3**/3, **MS3.3**/2, **Ms1 3.3**/2, **ms1mx2.6**/24, **Error ellipse: s-maj=314.0km s-min=35.2km az=141.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.05**	**175**	LR	LR	13 44 58.5	
	comp=Z,152nm,19.2s,baz=30,slow=30						
PMG	**Port Moresby**	**18.48**	**279**	LR	LR	13 51 16.5	
	comp=Z,86nm,19.3s,baz=28,slow=35						
WRA	**Warramunga Arr**	**30.77**	**253**	P	P	13 46 42.3	-0.8
	0.3nm,0.9s,baz=88,slow=9.6,SNR=1.2						
ASAR	**Alice Springs**	**31.87**	**246**	P	P	13 46 53.4	+0.6
	0.1nm,0.5s,baz=70,slow=8.9,SNR=5.1						
ILAR	**Eielson Array**	**85.39**	**18**	P	P	13 53 04.5	0.0
	0.4nm,0.6s,baz=233,slow=5.5,SNR=5.8						

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*IDC **06** 13:50:17.9±2.9, 38°.25N×26°.57E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/42, mbtmp3.4/5, ML3.5/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/51, Error ellipse: s-maj=50.2km s-min=25.1km az=13.0*

*ATH **06** 13:50:18.7, 38°.54N×26°.68E, h78km±4km, ML3.5/14, Error ellipse: s-maj=4.3km s-min=1.8km az=87.0*

*ISK **06** 13:50:20.9, 38°.55N×26°.72E, h18km, ML3.9/68*

*DDA **06** 13:50:21.2±0.0, 38°.55N×26°.75E, h15km, MW3.9*

*THE **06** 13:50:22.8, 38°.52N×26°.72E, h18km±1km, ML3.7/9, Error ellipse: s-maj=1.3km s-min=0.3km az=251.0*

ISC 06 13:50:21.3±0.9, **38°.53N**±0°.02×**26°.75E**±0°.02, **h13**km±7km, **n159**, σ**0ˢ81**/191, **mb3.1**/3, **8C-8D**, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.18**	**356**	PG	**Pg**	**13 50 25.0**	**-0.5**
URLA	**Izmir**	**0.21**	**215**	PG	**Pg**	**13 50 26.8**	**+0.8**
ZEYE	**Izmir, Urla-Ze**	**0.35**	**213**	P	**Pb**	**13 50 29.2**	**-0.2**
ZEYE				S	**Sb**	**13 50 34.7**	**-0.1**
CAND	**Candarli**	**0.42**	**6**	PG	**Pb**	**13 50 30.2**	**-0.5**
CAND				SG	**Sb**	**13 50 36.6**	**-0.4**
ZEDA	**zmir-Bergama**	**0.51**	**31**	P	**Pg**	**13 50 31.0**	**-0.3**
ZEDA				S	**Sg**	**13 50 38.7**	**+0.7**
DKL	**Dikili**	**0.55**	**13**	PG	**Pb**	**13 50 32.3**	**-0.6**
DKL				SG	**Sg**	**13 50 40.1**	**+0.5**
CHOS	**Chios island**	**0.56**	**255**	P	**Pb**	**13 50 33.3**	**+0.3**
CHOS				S	**Sn**	**13 50 44.6**	**+0.3**
CHOS				AML	AML	13 50 45.6	
	comp=N,26745µm,0.6s						
CHOS				AML	AML	13 50 46.6	
	comp=E,36389µm,0.3s						
CHOS	**Chios island**	**0.56**	**255**	P	**Pb**	**13 50 33.4**	**+0.3**
CHOS				S	**Sb**	**13 50 42.1**	**+1.1**
	comp=E,16µm,0.4s						
PRK	**Paraskevi**	**0.80**	**333**	P	**Pb**	**13 50 37.7**	**+0.5**
PRK				S	**Sb**	**13 50 49.2**	**+1.3**
PRK				AML	AML	13 50 51.6	
	comp=E,46591µm,0.5s						
PRK				AML	AML	13 50 51.9	
	comp=N,52638µm,0.7s						
PRK	**Paraskevi**	**0.80**	**333**	P	**Pb**	**13 50 37.7**	**+0.5**
PRK				S	**Sb**	**13 50 49.0**	**+1.1**
	comp=N,25µm,0.6s						
SMG	**Samos**	**0.82**	**175**	P	**Pn**	**13 50 37.8**	**-0.8**
SMG				S	**Sn**	**13 50 50.4**	**-0.3**
SMG				AML	AML	13 50 53.2	
	comp=N,51519µm,0.7s						
SMG				AML	AML	13 50 53.5	
	comp=E,21729µm,0.3s						
SMG	**Samos**	**0.82**	**175**	P	**Pb**	**13 50 37.5**	**0.0**
SMG				S	**Sn**	**13 50 49.5**	**-1.2**
	comp=E,18µm,0.5s						
AKS	**Akhisar**	**0.90**	**67**	PG	**Pb**	**13 50 38.7**	**-0.2**
GCAM	**G?zelcaml?**	**0.92**	**155**	PG	**Pn**	**13 50 39.5**	**-0.4**
PSRA	**Psara**	**0.93**	**271**	P	**Pn**	**13 50 39.4**	**-0.7**
PSRA				AML	AML	13 50 56.1	
	comp=N,18353µm,0.3s						
PSRA				AML	AML	13 50 56.4	
	comp=E,9346µm,0.2s						
GOMA	**Golmarmara-Man**	**0.93**	**79**	PG	**Pb**	**13 50 39.5**	**+0.1**
SIGR	**SIGRI**	**0.97**	**315**	P	**Pb**	**13 50 39.7**	**-0.3**
SIGR				S	**Sb**	**13 50 53.6**	**+0.9**
SIGR				AML	AML	13 50 55.5	
	comp=E,8316µm,0.5s						
SIGR				AML	AML	13 50 56.3	
	comp=N,10679µm,0.5s						
SIGR	**SIGRI**	**0.97**	**315**	P	**Pb**	**13 50 39.9**	**-0.1**
SIGR				S	**Sb**	**13 50 53.6**	**+0.9**
	comp=N,5µm,0.5s						
SIGR	**SIGRI**	**0.97**	**315**	PG	**Pb**	**13 50 40.0**	**-0.1**
BUHA	**Balikesir, Bur**	**1.00**	**15**	P	**Pg**	**13 50 39.7**	**-1.0**
BUHA				S	**Sb**	**13 50 54.1**	**+0.5**
GPNR	**Gulpinar-Canak**	**1.04**	**333**	PG	**Pb**	**13 50 41.0**	**-0.2**
KOCA	**Canakkale, Ayv**	**1.08**	**334**	P	**Pb**	**13 50 41.9**	**0.0**
KOCA				S	**Sb**	**13 50 56.5**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.13**	**42**	P	**Pg**	**13 50 42.3**	**-0.9**
STEP				S	**Sg**	**13 50 57.8**	**-0.2**
DDIM	**Aydin, Didim**	**1.14**	**160**	P	**Pn**	**13 50 43.1**	**+0.1**
DDIM				S	**Sn**	**13 50 59.8**	**+1.4**
BAYC	**CANAKKALE_Bayr**	**1.22**	**353**	P	**Pg**	**13 50 43.3**	**-1.4**
BAYC				S	**Sg**	**13 50 59.3**	**-1.3**
DIDI	**Didim-Aydin**	**1.22**	**161**	PN	**Pn**	**13 50 44.5**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EZN	**Ezine**	**1.33**	**346**	P	**Pn**	**13 50 45.4**	**-0.2**
EZN				S	**Sg**	**13 51 03.1**	**-1.2**
	comp=N,2μm,0.5s						
EZN	**Ezine**	**1.33**	**346**	PN	**Pn**	**13 50 45.2**	**-0.4**
BOZC	**Bozcaada**	**1.41**	**338**	PN	**Pn**	**13 50 46.2**	**-0.5**
MANT	**Manisa**	**1.42**	**91**	P	**Pb**	**13 50 47.7**	**-0.1**
MANT				S	**Sg**	**13 51 06.5**	**-0.7**
YKAV	**Yalikavak-Bodr**	**1.47**	**163**	PN	**Pb**	**13 50 47.5**	**-1.0**
MLSB	**Milas**	**1.48**	**146**	PN	**Pn**	**13 50 47.7**	**0.0**
KULA	**Kula-Manisa**	**1.50**	**90**	P	**Pn**	**13 50 47.9**	**-0.1**
KULA				S	**Sn**	**13 51 08.5**	**+1.0**
KULA	**Kula-Manisa**	**1.50**	**90**	PN	**Pn**	**13 50 48.0**	**-0.1**
BODT	**Bodrum**	**1.53**	**163**	P	**Pn**	**13 50 48.1**	**-0.3**
BODT				S	**Sn**	**13 51 07.5**	**-0.7**
BODT	**Bodrum**	**1.53**	**163**	PN	**Pn**	**13 50 48.3**	**-0.1**
ECEA	**Canakkale, Ece**	**1.57**	**344**	P	**Pn**	**13 50 49.5**	**+0.6**
ECEA				S	**Sg**	**13 51 11.7**	**-0.3**
TNSA	**Tinos**	**1.59**	**232**	P	**Pn**	**13 50 48.8**	**-0.4**
TNSA				AML	AML	13 51 15.0	
	comp=E,1708μm,0.4s						
TNSA				AML	AML	13 51 15.2	
	comp=N,1510μm,0.3s						
GONE	**Gonen-Balikesi**	**1.68**	**25**	PN	**Pn**	**13 50 50.1**	**-0.3**
APE	**Apeiranthos**	**1.75**	**214**	⇑P	**Pn**	**13 50 50.6**	**-0.9**
APE				⇓S	**Sn**	**13 51 13.4**	**-0.1**
APE	**Apeiranthos**	**1.75**	**214**	P	**Pn**	**13 50 50.5**	**-0.9**
APE	**Apeiranthos**	**1.75**	**214**	P	**Pn**	**13 50 50.4**	**-1.0**
APE				S	**Sn**	**13 51 13.1**	**-0.5**
APE	**Apeiranthos**	**1.75**	**214**	PN	**Pn**	**13 50 50.7**	**-0.7**
SKY	**Skiros Island**	**1.75**	**282**	P	**Pn**	**13 50 51.3**	**0.0**
SKY				AML	AML	13 51 29.0	
	comp=N,1030μm,0.5s						
SKY				AML	AML	13 51 36.0	
	comp=E,838μm,0.6s						
SKY	**Skiros Island**	**1.75**	**282**	P	**Pn**	**13 50 51.4**	**0.0**
SKY				S	**Sn**	**13 51 13.6**	**0.0**
	comp=E,405nm,0.6s						
KOSK	**Kos Island**	**1.79**	**174**	P	**Pn**	**13 50 51.9**	**+0.1**
KOSK				S	**Sn**	**13 51 13.8**	**-0.6**
	comp=E,2μm,0.5s						
KOSK	**Kos Island**	**1.79**	**174**	PN	**Pn**	**13 50 51.8**	**0.0**
LIA	**Limnos Island**	**1.83**	**319**	P	**Pn**	**13 50 52.6**	**+0.2**
LIA				S	**Sn**	**13 51 14.7**	**-0.6**
LIA				AML	AML	13 51 26.7	
	comp=E,1696μm,0.5s						
LIA				AML	AML	13 51 32.6	
	comp=N,1126μm,0.6s						
LIA	**Limnos Island**	**1.83**	**319**	P	**Pn**	**13 50 52.6**	**+0.2**
LIA				S	**Sn**	**13 51 15.2**	**-0.1**
	comp=N,665nm,0.6s						
SIMA	**Simav-Kutahya**	**1.83**	**72**	PN	**Pn**	**13 50 52.9**	**+0.3**
YER	**Yerkesik**	**1.85**	**138**	P	**Pn**	**13 50 52.6**	**-0.2**
YER				S	**Sn**	**13 51 15.6**	**-0.5**
YER	**Yerkesik**	**1.85**	**138**	PN	**Pn**	**13 50 52.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.88**	**354**	PN	**Pn**	**13 50 53.1**	**0.0**
KARY	**Karystos**	**1.89**	**255**	P	**Pn**	**13 50 53.0**	**-0.2**
KARY				S	**Sn**	**13 51 15.4**	**-1.4**
KRBG	**Karabiga-Canak**	**1.91**	**13**	PN	**Pn**	**13 50 53.2**	**-0.3**
DAT	**Datca**	**1.92**	**160**	P	**Pn**	**13 50 53.6**	**-0.2**
DAT	**Datca**	**1.92**	**160**	PN	**Pn**	**13 50 53.7**	**-0.1**
EDC	**Edincik**	**2.01**	**25**	PN	**Pn**	**13 50 54.6**	**-0.3**
KYMI	**Kymi, Euboea I**	**2.08**	**274**	P	**Pn**	**13 50 55.8**	**-0.1**
KYMI				AML	AML	13 51 40.7	
	comp=E,361μm,1.0s						
KYMI				AML	AML	13 51 41.8	
	comp=N,496μm,1.6s						
KYMI	**Kymi, Euboea I**	**2.08**	**274**	P	**Pn**	**13 50 55.8**	**-0.1**
TURN	**Turunc**	**2.12**	**145**	PN	**Pn**	**13 50 56.6**	**+0.2**
KCTX	**Karacabey (Bur**	**2.13**	**35**	PN	**Pn**	**13 50 56.1**	**-0.6**
ERIK	**Erikli-Kesan**	**2.14**	**355**	PN	**Pn**	**13 50 56.4**	**-0.3**
GEDZ	**Gediz**	**2.14**	**75**	PN	**Pn**	**13 50 57.1**	**+0.2**
SMTH	**Samothraki Isl**	**2.15**	**334**	P	**Pn**	**13 50 57.0**	**+0.1**
SMTH				AML	AML	13 51 34.6	
	comp=N,591μm,0.5s						
SMTH				AML	AML	13 51 36.1	
	comp=E,432μm,0.8s						
SMTH	**Samothraki Isl**	**2.15**	**334**	P	**Pn**	**13 50 56.7**	**-0.2**
SMTH				S	**Sn**	**13 51 22.4**	**-1.1**
	comp=E,255nm,0.6s						
RKY	**Sarkoy-Tekirda**	**2.18**	**9**	PN	**Pn**	**13 50 56.2**	**-1.1**
MAR6	**Marsite Statio**	**2.21**	**10**	PN	**Pn**	**13 50 57.5**	**-0.1**
GZKV	**Gazikoy-Tekird**	**2.26**	**11**	PN	**Pn**	**13 50 58.1**	**-0.2**
DION	**Dionisos Attik**	**2.26**	**259**	P	**Pn**	**13 50 57.8**	**-0.5**
DION				AML	AML	13 51 39.5	
	comp=N,692μm,0.6s						
DION				AML	AML	13 51 46.0	
	comp=E,960μm,0.9s						
DION	**Dionisos Attik**	**2.26**	**259**	P	**Pn**	**13 50 59.3**	**+0.9**
DALY	**Dalyan (Mula)**	**2.29**	**138**	PN	**Pn**	**13 50 58.8**	**+0.1**
TVSB	**Tavsanli**	**2.31**	**66**	PN	**Pn**	**13 50 59.4**	**+0.3**
THR8	**Santorini-Mono**	**2.35**	**206**	P	**Pn**	**13 50 58.9**	**-0.7**
THR3	**Thira Island,**	**2.37**	**207**	P	**Pn**	**13 50 59.5**	**-0.4**
THR5	**Thira Island,**	**2.39**	**208**	P	**Pn**	**13 50 59.4**	**-0.7**
ALN	**Alexandroupoli**	**2.42**	**347**	P	**Pn**	**13 51 00.6**	**0.0**
ALN				AML	AML	13 51 44.6	
	comp=E,522μm,0.8s						
ALN				AML	AML	13 51 48.2	
	comp=N,746μm,0.6s						
ALN	**Alexandroupoli**	**2.42**	**347**	P	**Pn**	**13 51 00.7**	**+0.1**
ALN				S	**Sn**	**13 51 29.1**	**-1.0**
ALN	**Alexandroupoli**	**2.42**	**347**	PN	**Pn**	**13 51 00.7**	**+0.1**
THR6	**Thira Island,**	**2.42**	**207**	P	**Pn**	**13 51 00.9**	**+0.3**
VLY	**Voula,Athens**	**2.42**	**255**	P	**Pn**	**13 50 59.7**	**-0.9**
CAME	**Cameli-Denizli**	**2.57**	**127**	PN	**Pn**	**13 51 03.6**	**+0.8**
UKOP	**Uzunkopru-Edir**	**2.59**	**358**	PN	**Pn**	**13 51 03.3**	**+0.3**
THAS	**Thassos island**	**2.60**	**324**	P	**Pn**	**13 51 03.0**	**0.0**
THAS				AML	AML	13 51 51.7	
	comp=E,316μm,0.6s						
THAS				AML	AML	13 51 56.6	
	comp=N,240μm,0.7s						
THAS	**Thassos island**	**2.60**	**324**	P	**Pn**	**13 51 02.8**	**-0.2**
FETY	**Fethiye**	**2.65**	**135**	P	**Pn**	**13 51 04.9**	**+1.1**
FETY	**Fethiye**	**2.65**	**135**	PN	**Pn**	**13 51 04.6**	**+0.8**
BASM	**Basmaki-Afyon**	**2.67**	**102**	PN	**Pn**	**13 51 04.6**	**+0.5**
VILL	**Villia**	**2.73**	**263**	P	**Pn**	**13 51 05.4**	**+0.6**
VIL2	**Platees**	**2.75**	**264**	P	**Pn**	**13 51 05.2**	**0.0**
PAIG	**Paliouri**	**2.76**	**301**	P	**Pn**	**13 51 05.5**	**+0.3**
RDO	**Rodhopi**	**2.77**	**341**	P	**Pn**	**13 51 06.0**	**+0.6**
RDO	**Rodhopi**	**2.77**	**341**	P	**Pn**	**13 51 05.8**	**+0.4**
RDO	**Rodhopi**	**2.77**	**341**	PN	**Pn**	**13 51 05.6**	**+0.2**
OUR	**Ouranopolis**	**2.80**	**311**	P	**Pn**	**13 51 06.0**	**+0.3**
OUR				AML	AML	13 52 00.8	
	comp=E,268μm,0.7s						
OUR				AML	AML	13 52 06.7	
	comp=N,324μm,0.8s						
OUR	**Ouranopolis**	**2.80**	**311**	P	**Pn**	**13 51 05.4**	**-0.3**
OUR	**Ouranopolis**	**2.80**	**311**	PN	**Pn**	**13 51 05.9**	**+0.2**
TRML	**Termal-Yalova**	**2.80**	**41**	PN	**Pn**	**13 51 06.4**	**+0.7**
XOR	**Xorichti**	**2.89**	**288**	P	**Pn**	**13 51 07.0**	**-0.1**
AUBOZ	**BOZOYUK**	**2.90**	**61**	PN	**Pn**	**13 51 07.9**	**+0.7**
SLVT	**Silivri**	**2.92**	**22**	PN	**Pn**	**13 51 07.9**	**+0.5**
CAVI	**Cavuskoy**	**2.92**	**54**	PN	**Pn**	**13 51 08.4**	**+0.9**
SHUT	**Suhut-Afyon**	**2.98**	**88**	PN	**Pn**	**13 51 09.4**	**+1.0**
ADVT	**Abdulvahap**	**2.99**	**50**	PN	**Pn**	**13 51 09.3**	**+0.8**
KARP	**Karpathos**	**3.00**	**174**	P	**Pn**	**13 51 08.3**	**-0.3**
KARP	**Karpathos**	**3.00**	**174**	PN	**Pn**	**13 51 08.7**	**+0.1**
KAVA	**Kavala**	**3.00**	**326**	P	**Pn**	**13 51 08.8**	**+0.2**
CTKS	**Kestanelik-??a**	**3.02**	**26**	PN	**Pn**	**13 51 09.1**	**+0.3**
ISP	**Isparta**	**3.06**	**102**	PN	**Pn**	**13 51 09.9**	**+0.4**
BGKT	**Bogazkoy**	**3.07**	**30**	PN	**Pn**	**13 51 10.0**	**+0.5**
ELL	**Elmali**	**3.08**	**124**	PN	**Pn**	**13 51 10.9**	**+1.2**
KAVV	**Kandilli-Istan**	**3.09**	**34**	PN	**Pn**	**13 51 10.2**	**+0.4**
ISK	**Istanbul-Kandi**	**3.09**	**34**	PN	**Pn**	**13 51 10.5**	**+0.7**
KOKK	**Kokkinochori,**	**3.12**	**318**	P	**Pn**	**13 51 10.1**	**0.0**
PLG	**Polygyros**	**3.15**	**307**	P	**Pn**	**13 51 11.2**	**+0.6**
BORA	**Eskisehir**	**3.18**	**64**	PN	**Pn**	**13 51 11.8**	**+0.7**
HRT	**Hereke**	**3.21**	**44**	PN	**Pn**	**13 51 11.9**	**+0.4**
KORT	**Korkueli**	**3.24**	**117**	PN	**Pn**	**13 51 13.2**	**+1.2**
ZKR	**Zakros**	**3.44**	**187**	P	**Pn**	**13 51 14.6**	**0.0**
ZKR	**Zakros**	**3.44**	**187**	PN	**Pn**	**13 51 15.2**	**+0.6**
SILT	**Sile**	**3.44**	**40**	PN	**Pn**	**13 51 15.4**	**+0.8**
CIFT	**Cifteler, Eski**	**3.47**	**75**	PN	**Pn**	**13 51 16.2**	**+1.2**
GULT	**Gulveren**	**3.48**	**56**	PN	**Pn**	**13 51 16.3**	**+1.1**
AGG	**Agios Georgios**	**3.49**	**279**	PN	**Pn**	**13 51 15.6**	**+0.3**
SUTC	**Sutluce-Ispart**	**3.52**	**106**	PN	**Pn**	**13 51 17.3**	**+1.5**
SRS	**Serrai**	**3.54**	**318**	P	**Pn**	**13 51 16.6**	**+0.6**
IDI	**Anoyia**	**3.56**	**205**	⇓P	**Pn**	**13 51 15.5**	**-0.8**
IDI	**Anoyia**	**3.56**	**205**	PN	**Pn**	**13 51 15.8**	**-0.6**
IMMV	**Iera Moni Meta**	**3.78**	**217**	PN	**Pn**	**13 51 20.2**	**+0.9**
RODP	**Rodopos**	**3.81**	**220**	PN	**Pn**	**13 51 19.9**	**+0.2**
SVRH	**Sivrihisar-ESK**	**3.83**	**75**	PN	**Pn**	**13 51 21.2**	**+1.1**
PLD	**Plovdiv**	**3.90**	**337**	PN	**Pn**	**13 51 21.3**	**+0.5**
AUMIH	**MIHALICIK**	**3.91**	**69**	PN	**Pn**	**13 51 22.5**	**+1.2**
KNT	**Kendrikon**	**3.96**	**313**	PN	**Pn**	**13 51 22.6**	**+0.9**
KIZT	**Kizilcal**	**4.03**	**83**	PN	**Pn**	**13 51 24.4**	**+1.6**
ITM	**Ithomi**	**4.05**	**252**	PN	**Pn**	**13 51 23.8**	**+0.8**
GRG	**Griva**	**4.13**	**307**	P	**Pn**	**13 51 25.4**	**+1.3**
YUVA	**Yuva-Kibriscik**	**4.25**	**63**	PN	**Pn**	**13 51 27.3**	**+1.5**
GVD	**Gavdhos**	**4.26**	**211**	PN	**Pn**	**13 51 27.7**	**+1.8**
KONT	**Konya--Tatoy**	**4.46**	**96**	PN	**Pn**	**13 51 30.6**	**+2.0**
VTS	**Vitosha**	**4.88**	**328**	⇑P	**Pn**	**13 51 35.2**	**+0.7**
BRTR	**Keskin Array B**	**5.49**	**75**	Pn	**Pn**	**13 51 46.0**	**+3.0**
	comp=N,0.6nm,0.3s,baz=256,slow=14,SNR=6.3						
BRTR				Pg	**Pg**	**13 52 05.5**	**-0.9**
	comp=N,0.5nm,0.3s,baz=255,slow=15,SNR=11						
BRTR				Lg	Lg	13 53 19.1	
	baz=263,slow=25,SNR=7.3						
BLKB	**Belogradchik**	**5.94**	**330**	⇓S	**Sn**	**13 52 58.4**	**+1.5**
TIRR	**Tirgusor**	**6.05**	**11**	⇓P	**Pn**	**13 51 48.3**	**-2.2**
CFR	**Carcaliu**	**6.72**	**8**	⇑P	**Pn**	**13 51 58.0**	**-1.6**
MLR	**Muntele Rosu**	**6.98**	**355**	⇓P	**Pn**	**13 52 02.3**	**-1.0**
MLR	**Muntele Rosu**	**6.98**	**355**	Pn	**Pn**	**13 52 06.4**	**+3.1**
	comp=N,0.4nm,0.3s,baz=162,slow=19,SNR=5.8						
MLR				LR	LR	13 55 03.6	
	comp=N,73nm,18.1s,baz=36,slow=39						
VOIR		**7.01**	**350**	⇓P	**Pn**	**13 52 03.2**	**-0.6**
HERR	**Herculane**	**7.12**	**334**	⇑P	**Pn**	**13 52 04.5**	**-0.7**
MDVR	**Moldovita**	**7.29**	**331**	⇑P	**Pn**	**13 52 07.8**	**+0.2**
PLOR	**Plostina**	**7.31**	**359**	⇓P	**Pn**	**13 52 06.1**	**-1.7**
TIP	**Timpagrande**	**7.82**	**278**	⇑P	**Pn**	**13 52 16.3**	**+1.5**
TESR	**Tescani**	**7.97**	**360**	⇓P	**Pn**	**13 52 15.4**	**-1.5**
BZS	**Buzias**	**8.04**	**333**	⇑P	**Pn**	**13 52 16.9**	**-0.8**
BURAR	**Bucovina Array**	**9.15**	**353**	⇑P	**Pn**	**13 52 31.6**	**-1.4**
GNI	**Garni**	**14.02**	**78**	LR	LR	13 59 05.1	
	comp=N,80nm,19.6s,baz=291,slow=37						
MKAR	**Makanchi Array**	**40.92**	**60**	P	**P**	**13 58 04.3**	**+1.1**
	comp=N,0.3nm,0.8s,baz=279,slow=7.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**41.79**	**49**	P	**P**	**13 58 09.9**	**-0.4**
	comp=N,0.4nm,0.4s,baz=274,slow=11,SNR=1.9						
YKA	**Yellowknife Ar**	**74.63**	**342**	P	**P**	**14 01 59.9**	**+0.1**
	comp=N,0.1nm,0.5s,baz=33,slow=5.4,SNR=4.2						

IDC 06 13:54:21.6±5.8, 6°.05S×127°.79E, h272km±90km, mb3.1/1, mb1 3.0/5, mb1mx2.8/34, mbtmp3.7/5, Error ellipse: s-maj=95.5km s-min=59.4km az=92.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.81**	**224**	P	Pn	13 55 48.3	+0.3
	6.3nm,0.3s,baz=51,slow=6.5,SNR=9.5						
BATI				S	S	13 56 48.6	-8.6
	2.1nm,0.3s,baz=344,slow=21,SNR=1.8						
FITZ	**Fitzroy Crossi**	**12.16**	**190**	P	Pn	13 57 05.5	-1.2
	0.1nm,0.3s,baz=4.4,slow=5.6,SNR=6.6						
FITZ				S	S	13 59 21.9	-0.2
	0.0nm,0.3s,baz=52,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**15.21**	**156**	P	P	13 57 42.5	-0.1
	0.2nm,0.3s,baz=335,slow=11,SNR=12						
WRA				S	S	14 00 31.6	+1.9
	0.0nm,0.3s,baz=5.3,slow=22,SNR=1.4						
ASAR	**Alice Springs**	**18.48**	**162**	P	P	13 58 18.2	0.0
	0.2nm,0.3s,baz=342,slow=12,SNR=26						
STKA	**Stephens Creek**	**28.76**	**155**	P	P	13 59 54.8	+0.2
	0.9nm,0.7s,baz=344,slow=15,SNR=1.2						

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*IDC **06** 14:21:13.0±1.7, 6°.06S×150°.80E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.6/37, mbtmp3.8/6, ML1.6/1, Error ellipse: s-maj=102.7km s-min=17.2km az=130.0*

ISC 06 14:21:17.3±1.7, 6°.4S±0°.2×151°.4E±0°.3, h35km, n7, σ2s.21/8, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.21**	**16**	Pn	**Pn**	**14 21 49.1**	**-2.3**
	45nm,0.3s,baz=206,slow=2.4,SNR=58						
KRVT				Sn	**Sn**	**14 22 19.7**	**+2.2**
	64nm,0.3s,baz=201,slow=19,SNR=12						
PMG	**Port Moresby**	**5.14**	**235**	Pn	Pn	14 22 26.4	-5.5
	1.6nm,0.3s,baz=290,slow=23,SNR=2.2						
PMG				Sn	**Sn**	**14 23 31.8**	**+1.7**
	0.7nm,0.3s,baz=165,slow=20,SNR=1.4						
WRA	**Warramunga Arr**	**21.34**	**229**	P	**P**	**14 26 00.6**	**-0.9**
	2.9nm,0.9s,baz=54,slow=11,SNR=17						
ASAR	**Alice Springs**	**24.02**	**223**	P	**P**	**14 26 28.4**	**-0.7**
	2.8nm,0.6s,baz=55,slow=9.1,SNR=68						
FITZ	**Fitzroy Crossi**	**27.68**	**243**	P	**P**	**14 27 00.3**	**-1.9**
	0.5nm,0.4s,baz=43,slow=10,SNR=6.0						
ILAR	**Eielson Array**	**84.19**	**22**	P	**P**	**14 33 46.1**	**+1.4**
	0.2nm,0.5s,baz=236,slow=6.4,SNR=1.6						
TORD	**Torodi Ar. Bea**	**149.45**	**285**	PKPbc	**PKPdf**	**14 41 01.5**	**+2.1**
	0.6nm,0.9s,baz=78,slow=2.7,SNR=2.2						

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*BJI **06** 14:45:26.2±0.0, 8°.30S×107°.39E, h30km, mb5.4/79, mB5.7/73, Ms5.8/94, Ms7 5.6/87*

*MOS **06** 14:45:27.9±1.2, 7°.69S×107°.59E, h28km, mb6.1/77, MS5.5/38, Error ellipse: s-maj=7.8km s-min=3.9km az=115.0*

*NEIC **06** 14:45:29.6±2.9, 8°.20S±0°.05×107°.39E±0°.05, h29km±1km, mb6.0/154, Ms_20 5.6/313, Mwb5.9/80, Mww6.1, Error ellipse: s-maj=9.5km s-min=6.9km az=215.0*

*IDC **06** 14:45:29.9±1.3, 7°.79S×107°.55E, h33km±8km, mb5.3/50, mb1 5.3/52, mb1mx5.2/58, mbtmp5.5/52, ML5.0/2, MS5.4/76, Ms1 5.4/76, ms1mx5.4/82, Error ellipse: s-maj=9.4km s-min=8.0km az=41.0*

*NEIC **06** 14:45:29.7, 8°.21S×107°.39E, h35km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr6.38; Mθθ-7.33; Mφφ0.95; Mrθ4.44; Mθφ1.54; Mφr-0.24; Fault plane solution: M0 8.35000×10^17 NP1:φs95.75000°, δ61.28000°, λ85.14000°. NP2:φs285.79000°, δ29.09000°, λ98.79000°. Principal axes: T 7.6946, Plg73.0000°, Azm354.0000°; N 1.1893, Plg4.0000°, Azm98.0000°; P -8.8839, Plg16.0000°, Azm189.0000°;*

*DJA **06** 14:45:32.5±0.2, 8°S±2°×10°7E±°, h54km±2km, M5.8/123, mB6.2/105, mb5.8/123, MLv6.2/30, Mw6.0/67, Mw(mB)5.8/105, MwMwp5.8/84, Mwp5.9/84*

*GCMT **06** 14:45:34.6±0.1, 8°.41S×107°.42E, h42km, MW6.0/154, Moment Tensor Solution. s154,c364; s150,c488; Duration: 2s.6 Moment tensor: Scale 10^18Nm; Mrr1.18±.01; Mθθ-1.17±.01; Mφφ0.00±.01; Mrθ0.87±.01; Mθφ0.38±.01; Mφr-0.11±.01; Best double couple: M0 1.51200×10^18 NP1:φs293.00000°, δ28.00000°, λ101.00000°. NP2:φs101.00000°, δ63.00000°, λ84.00000°. Principal axes: T 1.4680, Plg72.0000°, Azm358.0000°; N 0.0890, Plg5.0000°, Azm103.0000°; P -1.5560, Plg18.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **06** 14:45:36, 8°.40S×107°.52E, h46km, Moment Tensor Solution. Duration: 12s.0 Moment tensor: Scale 10^18Nm; Mrr1.11; Mθθ-1.20; Mφφ0.08; Mrθ1.05; Mθφ0.26; Mφr-0.20; Fault plane solution: M0 1.60000×10^18 NP1: φs282.00000°, δ24.00000°, λ91.00000°. NP2: φs101.00000°, δ66.00000°, λ90.00000°. Principal axes: T 1.5241, Plg69.0000°, Azm10.0000°; N 0.1350, Plg0.0000°, Azm101.0000°; P -1.6591, Plg21.0000°, Azm191.0000°;*

*KLM **06** 14:45:37, 8°.16S×107°.40E, h80km, mb5.9*

ISC 06 14:45:31.6±0.2, 8°.02S±0°.03×107°.47E±0°.03, h51km±1km, h51km:pP-P, n2103, σ1s.76/2446, mb5.8/278, MS5.6/280, 139C-52D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.78**	**335**	P	**Pn**	**14 45 46.8**	**+0.3**
CNJI				S	**Sn**	**14 45 59.2**	**+1.9**
CMJI	**Cimerak**	**1.00**	**76**	P	**Pn**	**14 45 49.8**	**+0.4**
CMJI				S	**Sn**	**14 46 03.4**	**+0.9**
LEM	**Lembang**	**1.20**	**7**	Pn	**Pn**	**14 45 54.9**	**+2.7**
	5μm,0.3s,baz=45,slow=2.2,SNR=521						
LEM				Sn	Sn	14 46 18.3	+11
	12μm,0.3s,baz=334,slow=21,SNR=14						
LEM	**Lembang**	**1.20**	**7**	P	**Pn**	**14 45 54.9**	**+2.7**
LEM				S	**Sn**	**14 46 10.0**	**+2.5**
SKJI	**Sukabumi**	**1.35**	**318**	P	**Pn**	**14 45 54.6**	**+0.4**
SKJI				S	**Sn**	**14 46 12.1**	**+1.1**
KPJI	**Karang Pucung**	**1.61**	**65**	P	**Pn**	**14 45 59.8**	**+2.2**
DBJI	**Dramaga**	**1.62**	**334**	P	**Pn**	**14 45 59.9**	**+2.1**
TNG	**Tangerang**	**2.01**	**336**	P	Pn	14 46 08.1	+5.0
TNG				P	**Pn**	**14 46 05.4**	**+2.3**
CGJI	**Cibinong**	**2.25**	**308**	P	**Pn**	**14 46 05.7**	**-0.7**
YOGI	**Yogyakarta**	**2.81**	**86**	P	**Pn**	**14 46 15.0**	**+0.9**
XMI	**Christmas Isla**	**2.98**	**216**	P	**Pn**	**14 46 12.4**	**-4.1**
XMIS	**Christmas Isla**	**3.03**	**216**	Pn	Pn	14 46 12.0	-5.2
XMIS	**Christmas Isla**	**3.03**	**216**	P	**Pn**	**14 46 13.0**	**-4.1**
UGM	**Wanagama**	**3.03**	**88**	Pn	**Pn**	**14 46 17.7**	**+0.5**
UGM	**Wanagama**	**3.03**	**88**	P	**Pn**	**14 46 17.6**	**+0.5**
UGM	**Wanagama**	**3.03**	**88**	P	**Pn**	**14 46 18.9**	**+1.7**
SMRI	**Semarang**	**3.10**	**72**		**Pn**	**14 46 21.2**	**+3.1**
SMRI	**Semarang**	**3.10**	**72**	⇓P	**Pn**	**14 46 21.4**	**+3.2**
SMRI	**Semarang**	**3.10**	**72**	P	**Pn**	**14 46 21.3**	**+3.2**
SMRI	**Semarang**	**3.10**	**72**	P	**Pn**	**14 46 21.8**	**+3.6**
BLSI	**Bandar Lampung**	**3.44**	**320**	P	**Pn**	**14 46 24.5**	**+1.8**
PCJI	**Pacitan**	**3.68**	**93**	P	**Pn**	**14 46 26.7**	**+0.7**
UWJI	**Ujung Watu**	**3.80**	**65**	P	**Pn**	**14 46 30.2**	**+2.5**
KASI	**Kota Agung**	**3.85**	**310**	P	**Pn**	**14 46 29.9**	**+1.5**
KLI	**Kotabumi**	**4.07**	**320**	P	**Pn**	**14 46 34.8**	**+3.4**
KLSI		**4.28**	**320**	P	**Pn**	**14 46 37.4**	**+3.1**
PWJI	**Pagerwojo**	**4.30**	**90**	P	**Pn**	**14 46 35.2**	**+0.7**
TBJI	**Tambak Boyo**	**4.51**	**75**	P	**Pn**	**14 46 39.8**	**+2.4**
LWLI	**Liwa**	**4.51**	**311**	P	**Pn**	**14 46 39.7**	**+2.1**
BWJI	**Bawean**	**5.59**	**68**	P	**Pn**	**14 46 54.6**	**+2.4**
	23nm65μm34μm2μm,0.6s						
PMBI	**Palembang**	**5.73**	**332**		**Pn**	**14 46 58.4**	**+4.2**
PMBI	**Palembang**	**5.73**	**332**	⇓P	**Pn**	**14 46 57.9**	**+3.8**
PMBI	**Palembang**	**5.73**	**332**	P	**Pn**	**14 46 58.4**	**+4.2**
	20nm54μm4μm,0.9s						
PMBI	**Palembang**	**5.73**	**332**	P	Pn	14 46 59.0	+4.9
MNAI	**Manna**	**5.77**	**309**	Pn	**Pn**	**14 46 55.4**	**+0.6**
MNAI	**Manna**	**5.77**	**309**	⇑P	**Pn**	**14 46 55.5**	**+0.6**
MNAI	**Manna**	**5.77**	**309**	P	**Pn**	**14 46 55.6**	**+0.8**
	14nm67μm46μm3μm,1.3s						
MNAI	**Manna**	**5.77**	**309**	P	**Pn**	**14 46 56.6**	**+1.8**
GMJI	**Gumukmas**	**5.92**	**93**	P	**Pn**	**14 46 58.1**	**+1.3**
	22nm37μm27μm2μm,0.7s						
PPBI	**Pangkal Pinang**	**5.97**	**347**	P	**Pn**	**14 47 00.4**	**+2.9**
	10nm138μm17μm910nm,0.8s						
BLJI	**Banyuglugur**	**6.08**	**88**	P	**Pn**	**14 47 01.0**	**+2.0**
	9.3nm30μm20μm1μm,0.6s						
KMMI	**Kalianget**	**6.52**	**82**	P	**Pn**	**14 47 05.7**	**+0.7**
	11nm62μm17μm932nm,0.8s						
JAGI	**Jajag, Banyuwa**	**6.63**	**94**	Pn	**Pn**	**14 47 07.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**6.63**	**94**	⇑P	**Pn**	**14 47 07.4**	**+0.8**
JAGI				⇓S	**Sn**	**14 48 22.2**	**+1.3**
JAGI	**Jajag, Banyuwa**	**6.63**	**94**	P	**Pn**	**14 47 07.8**	**+1.2**
	31nm32μm42μm4μm,1.1s						
JAGI	**Jajag, Banyuwa**	**6.63**	**94**	P	**Pn**	**14 47 09.8**	**+3.2**
ABJI	**Asem Bagus**	**6.71**	**89**	P	**Pn**	**14 47 10.2**	**+2.6**
	25nm46μm67μm7μm,0.8s						
PBKI	**Pangkalan Bun**	**6.74**	**39**	P	**Pn**	**14 47 10.8**	**+2.8**
	14nm113μm29μm3μm,1.1s						
MASI	**Maura Aman, Be**	**7.11**	**313**	P	**Pn**	**14 47 14.5**	**+1.4**
	16nm68μm51μm3μm,0.9s						
JMBI	**JAMBI**	**7.40**	**329**	P	**Pn**	**14 47 20.7**	**+3.6**
	6.3nm12μm940nm,1.0s						
IGBI	**Denpasar**	**7.64**	**96**	P	**Pn**	**14 47 22.2**	**+1.8**
	16nm16μm23μm2μm,0.8s						
SRBI	**Singaraja**	**7.67**	**91**	P	**Pn**	**14 47 22.2**	**+1.4**
	17nm35μm20μm2μm,0.6s						
DNP	**Denpasar**	**7.69**	**95**	P	**Pn**	**14 47 24.1**	**+3.0**
	36nm49μm78μm6μm,0.8s						
DSRI	**Dabo**	**8.03**	**339**	P	**Pn**	**14 47 28.4**	**+2.7**
	44μm14μm610nm,1.0s						
KRJI	**Kerinci**	**8.39**	**314**	P	**Pn**	**14 47 31.7**	**+0.9**
	60μm36μm2μm,0.9s						
BBKI	**Banjar Baru**	**8.62**	**59**	P	**Pn**	**14 47 38.5**	**+4.6**
	44μm11μm615nm,1.0s						
STKI	**Sintang**	**8.97**	**27**	P	**Pn**	**14 47 43.1**	**+4.4**
	55μm7μm299nm,1.5s						
PPSI	**Pulau Pagai**	**9.07**	**305**	P	**Pn**	**14 47 38.7**	**-1.3**
	33μm29μm4μm,0.9s						
RGRI	**Rengat**	**9.18**	**326**	P	**Pn**	**14 47 43.1**	**+1.6**
TPRI	**Tanjung Pinang**	**9.35**	**342**	P	**Pn**	**14 47 46.5**	**+2.7**
	10μm432nm,1.0s						
KSM	**Kuching**	**9.85**	**17**	Pn	**Pn**	**14 47 54.1**	**+3.4**
KSM	**Kuching**	**9.85**	**17**	⇓P	**Pn**	**14 47 53.9**	**+3.3**
KSM	**Kuching**	**9.85**	**17**	P	**Pn**	**14 47 55.0**	**+4.3**
KSM	**Kuching**	**9.85**	**17**	P	**Pn**	**14 47 55.0**	**+4.3**
MTKI	**Muara Teweh, K**	**10.21**	**47**	P	Pn	14 48 00.6	+5.0
	37μm7μm205nm,1.0s						
PLAI	**Plampang**	**10.23**	**95**	P	**Pn**	**14 47 57.1**	**+1.2**
	25μm27μm2μm,1.0s						
PLAI	**Plampang**	**10.23**	**95**	P	**Pn**	**14 47 57.7**	**+1.8**
PPI	**Padang Panjang**	**10.30**	**317**	P	**Pn**	**14 47 57.0**	**+0.2**
MYKOM	**Kota Tinggi**	**10.39**	**340**		**Pn**	**14 48 00.6**	**+2.5**
MYKOM	**Kota Tinggi**	**10.39**	**340**	⇑P	**Pn**	**14 48 00.4**	**+2.3**
MYKOM	**Kota Tinggi**	**10.39**	**340**	P	Pn	14 48 03.0	+4.9
BKNI	**Bangkinang**	**10.48**	**322**		**Pn**	**14 47 58.9**	**-0.4**
BKNI	**Bangkinang**	**10.48**	**322**	P	**Pn**	**14 47 59.6**	**+0.3**
	41μm6μm419nm,1.0s						
BKNI	**Bangkinang**	**10.48**	**322**	P	**Pn**	**14 48 01.4**	**+2.1**
SISI	**Saibi**	**10.67**	**308**	P	**Pn**	**14 47 58.8**	**-3.1**
	24μm8μm783nm,0.8s						
COCO	**West Island**	**11.25**	**248**	P	**Pn**	**14 48 05.8**	**-4.1**
COCO	**West Island**	**11.25**	**248**		**Pn**	**14 48 05.8**	**-4.1**
COCO	**West Island**	**11.25**	**248**	P	Pn	14 48 24.4	+14
SBUM	**Sibu**	**11.43**	**25**	Pn	**Pn**	**14 48 15.6**	**+3.3**
SBUM	**Sibu**	**11.43**	**25**	⇑P	**Pn**	**14 48 17.0**	**+4.7**
SBUM	**Sibu**	**11.43**	**25**	P	Pn	14 48 19.0	+6.7
SMKI	**Samarinda**	**12.29**	**53**	P	**P**	**14 48 31.3**	**-3.5**
	72μm29μm492nm,1.4s						
KAPI	**Kappang**	**12.57**	**77**	Pn	**Pn**	**14 48 31.3**	**+3.5**
	9.7nm,0.3s,baz=253,slow=12,SNR=119						
KAPI				Sn	Sn	14 50 56.2	+10
	baz=299,slow=21,SNR=0.8						
KAPI				LR	LR	14 54 11.5	
	comp=Z,46μm,18.0s,baz=267,slow=42						
KAPI	**Kappang**	**12.57**	**77**	P	**Pn**	**14 48 29.8**	**+2.0**
KAPI	**Kappang**	**12.57**	**77**	Pn	**Pn**	**14 48 29.8**	**+2.0**
KAPI	**Kappang**	**12.57**	**77**	P	**Pn**	**14 48 32.5**	**+4.6**
KAPI				P	**Pn**	**14 48 32.5**	**+4.6**
KAPI				P	**Pn**	**14 48 32.5**	**+4.6**
KAPI	**Kappang**	**12.57**	**77**	⇑P	**Pn**	**14 48 30.6**	**+2.8**
KAPI	**Kappang**	**12.57**	**77**	P	P	14 48 33.3	-4.7
JRMM	**Jerantut**	**12.83**	**337**	P	**Pn**	**14 48 35.0**	**+3.5**
BKSI	**Bulukumba**	**12.85**	**79**	P	**Pn**	**14 48 34.7**	**+3.0**
	34μm10μm966nm,1.3s						
SPSI	**Sidrap Palu**	**12.88**	**72**	P	**Pn**	**14 48 35.3**	**+3.2**
	36μm7μm466nm,1.0s						
BSSI	**Bau Bau, Buton**	**13.06**	**83**	P	**Pn**	**14 48 36.5**	**+1.9**
	16μm14μm1μm,1.4s						
BNSI	**Bone**	**13.07**	**75**	P	**Pn**	**14 48 38.7**	**+4.0**
	32μm20μm827nm,1.0s						
BASI	**Baing, Sumba**	**13.13**	**101**	P	**Pn**	**14 48 34.6**	**-0.9**
	10μm9μm771nm,1.4s						
TTSI	**Tana Toraja**	**13.25**	**69**	P	**P**	**14 48 41.8**	**-3.8**
	41μm11μm529nm,1.1s						
GSI	**Gunungsitoli**	**13.53**	**313**	P	Pn	14 48 36.3	-4.7
	29μm6μm466nm,0.6s						
GSI	**Gunungsitoli**	**13.53**	**313**	P	**Pn**	**14 48 39.2**	**-1.8**
PSI	**Prapat**	**13.72**	**321**	Pn	Pn	14 48 38.5	-5.2
	1.3nm,0.3s,baz=152,slow=11,SNR=16						
TSI	**Tuntungan**	**14.49**	**322**	P	**Pn**	**14 48 54.9**	**+1.1**
	6μm223nm,1.0s						
MMRI	**Maumere**	**14.63**	**93**	Pn	**Pn**	**14 48 52.8**	**-3.0**
MMRI	**Maumere**	**14.63**	**93**	P	**Pn**	**14 48 53.0**	**-2.8**
	16μm17μm1μm,1.1s						
MMRI	**Maumere**	**14.63**	**93**	P	**Pn**	**14 48 57.1**	**+1.3**
KULM	**Kulim**	**14.87**	**333**	Pn	**Pn**	**14 48 57.4**	**-1.4**
KULM	**Kulim**	**14.87**	**333**	⇑P	**Pn**	**14 48 57.0**	**-1.8**
KULM	**Kulim**	**14.87**	**333**	P	**Pn**	**14 48 58.0**	**-0.8**
MPSI	**Mapaga**	**14.92**	**57**	P	**P**	**14 49 03.5**	**-0.6**
	41μm11μm651nm,1.6s						
KCSI	**Kotacane, Aceh**	**15.00**	**320**	P	**Pn**	**14 48 56.7**	**-3.9**
	4μm112nm,0.7s						
BBSI	**Bau Bau**	**15.21**	**81**	P	**Pn**	**14 49 05.5**	**+2.2**
	1μm116nm,1.0s						
APSI	**Ampana**	**15.80**	**64**	P	**P**	**14 49 14.0**	**+0.1**
	20μm13μm1μm,1.2s						
GIRL	**Giralia**	**15.93**	**157**	P	**Pn**	**14 49 07.8**	**-4.6**
	baz=16,SNR=124						
GIRL	**Giralia**	**15.93**	**157**	Pn	**Pn**	**14 49 07.8**	**-4.6**
GIRL				IAmb	IAmb	14 49 22.6	
	comp=Z,2μm,1.1s						
GIRL	**Giralia**	**15.93**	**157**	P	**Pn**	**14 49 10.1**	**-2.4**
TOLI2	**Tolitoli**	**16.08**	**56**		**P**	**14 49 16.6**	**-0.4**
TOLI2				IAmb	IAmb	14 49 28.6	
	comp=Z,2μm,1.8s						
TOLI2	**Tolitoli**	**16.08**	**56**	P	**P**	**14 49 20.5**	**+3.4**
BATI	**Baumata**	**16.14**	**99**	Pn	**Pn**	**14 49 12.3**	**-2.9**
	comp=Z,31nm,0.3s,baz=270,slow=2.9,SNR=32						
BATI				Sn	**Sn**	**14 52 14.8**	**+1.4**
	comp=Z,14nm,0.3s,baz=40,slow=20,SNR=3.3						

BATI Baumata 16.14 99 P **Pn** **14 49 13.2 -2.1**
comp=Z,7µmcomp=Z,11µmcomp=Z,865nm,1.0s
KKM Kota Kinabalu 16.47 32 P **P** **14 49 23.4 +1.9**
KKM IAmb IAmb 14 49 38.8
comp=Z,1µm,1.4s
KKM Kota Kinabalu 16.47 32 ⇑P **P** **14 49 21.9 +0.4**
KKM Kota Kinabalu 16.47 32 P **P** **14 49 24.0 +2.5**
MRSI Marisa 16.72 60 P **P** **14 49 24.9 +0.8**
comp=Z,37µmcomp=Z,10µmcomp=Z,952nm,1.2s
LUWI Luwuk 16.75 66 P **P** **14 49 25.8 +1.3**
LUWI IAmb IAmb 14 49 55.0
comp=Z,2µm,1.1s
LUWI Luwuk 16.75 66 P **P** **14 49 25.2 +0.7**
comp=Z,31µmcomp=Z,18µmcomp=Z,2µm,1.2s
LUWI Luwuk 16.75 66 P **P** **14 49 28.9 +4.4**
LHMI Lhok Sumawe 16.83 321 P **P** **14 49 25.9 +0.5**
comp=Z,25µmcomp=Z,5µmcomp=Z,303nm,0.8s
GTOI Gorontalo 17.73 62 P **Pn** **14 49 35.1 +0.1**
comp=Z,14µmcomp=Z,7µmcomp=Z,634nm,1.2s
PSA00 Pilbara Seismi 18.00 140 P **P** **14 49 35.5 -2.8**
PSA00 IAmb IAmb 14 49 59.1
comp=Z,974nm,1.3s
PSA00 Pilbara Seismi 18.00 140 P **P** **14 49 36.2 -2.1**
PSA00 IAmb IAmb 14 49 59.1
comp=Z,892nm,1.3s
PSA00 Pilbara Seismi 18.00 140 P **P** **14 49 37.4 -0.9**
KMSI Cibinong 18.55 63 P **P** **14 49 44.5 +0.2**
comp=Z,777nmcomp=Z,11µmcomp=Z,661nm,0.8s
SANI Sanana 19.37 73 P **P** **14 49 54.0 +0.6**
comp=Z,25µmcomp=Z,18µmcomp=Z,2µm,1.6s
SANI Sanana 19.37 73 P **Pn** **14 49 55.1 +0.2**
DLV T Lat 19.86 3 P **P** **14 49 59.8 +1.0**
DLV T Lat 19.86 3 P **Pn** **14 50 01.8 +1.0**
FITZ Fitzroy Crossi 20.32 121 P **P** **14 50 04.1 +0.4**
comp=Z,322nm,0.7s,baz=291,slow=6.5,SNR=462
FITZ S **S** **14 53 42.0 -6.8**
comp=Z,31nm,0.7s,baz=204,slow=20,SNR=1.6
FITZ LR LR 14 58 07.8
comp=Z,16µm,20.3s,baz=305,slow=37
FITZ Fitzroy Crossi 20.32 121 P **P** **14 50 04.8 +1.2**
baz=20,SNR=619
FITZ Fitzroy Crossi 20.32 121 P **P** **14 50 04.0 +0.3**
FITZ IAmb IAmb 14 50 10.4
comp=Z,461nm,0.9s
FITZ Fitzroy Crossi 20.32 121 P Pn 14 50 06.2 +0.2
AAI Ambon 21.06 79 P **P** **14 50 10.3 -1.4**
comp=Z,22µmcomp=Z,22µmcomp=Z,2µm,1.2s
LBMI Labuha 21.27 71 P **P** **14 50 14.9 +1.0**
comp=Z,17µmcomp=Z,23µmcomp=Z,2µm,1.5s
MEEK Meekatharra 21.33 152 P **P** **14 50 15.7 +1.2**
baz=21,SNR=136
MEEK Meekatharra 21.33 152 P **P** **14 50 16.2 +1.7**
SGSI Sangihe 21.45 58 P **P** **14 50 19.8 +4.0**
comp=Z,270nm,0.8s
TNTI Ternate 21.68 67 P **P** **14 50 18.9 +0.6**
TNTI Ternate 21.68 67 P **P** **14 50 17.7 -0.6**
comp=Z,13µmcomp=Z,14µmcomp=Z,999nm,1.0s
TNTI Ternate 21.68 67 P **P** **14 50 20.6 +2.3**
MSAI Masohi 21.85 79 P **P** **14 50 20.3 +0.1**
comp=Z,746nmcomp=Z,71nm,0.5s
KNRA Kununurra 22.17 112 P **P** **14 50 24.0 +0.4**
baz=22,SNR=331
KNRA Kununurra 22.17 112 P **P** **14 50 25.6 +2.0**
MORW Morawa 22.44 160 P **P** **14 50 27.0 +0.7**
baz=22,SNR=60
MORW Morawa 22.44 160 P **P** **14 50 23.6 -2.8**
MORW IAmb IAmb 14 50 32.6
comp=Z,516nm,1.1s
MORW Morawa 22.44 160 ⇑P **P** **14 50 26.1 -0.3**
MORW Morawa 22.44 160 P **P** **14 50 27.8 +1.4**
BNDI Bandanaira 22.57 82 P **P** **14 50 29.7 +1.8**
UBPT Khong Chiam 23.23 355 P **P** **14 50 33.7 -0.9**
UBPT Khong Chiam 23.23 355 ⇑P **P** **14 50 32.2 -2.4**
DAV Davao City (W) 23.47 51 P **P** **14 50 36.4 -0.5**
comp=Z,164nm,0.4s,baz=249,slow=6.5,SNR=1.2
DAV LR LR 15 00 28.0
comp=Z,15µm,21.8s,baz=226,slow=39
DAV Davao City (W) 23.47 51 IAMs_20 IAMs_20 15 00 05.7
comp=Z,19µm,22.0s
DAV Davao City (W) 23.47 51 P **P** **14 50 43.4 +6.5**
SAUI Saumlaki 23.60 92 P **P** **14 50 36.5 -1.7**
SAUI IAmb IAmb 14 51 21.0
comp=Z,838nm,1.0s
SAUI Saumlaki 23.60 92 P **P** **14 50 37.0 -1.2**
comp=Z,13µmcomp=Z,10µmcomp=Z,737nm,1.2s
SAUI Saumlaki 23.60 92 P **P** **14 50 42.6 +4.4**
MTN Manton Dam 23.76 104 P **P** **14 50 40.1 +0.5**
baz=24,SNR=50
MTN Manton Dam 23.76 104 P **P** **14 50 40.0 +0.5**
MTN IAmb IAmb 14 50 54.1
comp=Z,1µm,1.3s
MTN Manton Dam 23.76 104 P **P** **14 50 41.1 +1.5**
BLDU Ballidu 24.09 160 P **P** **14 50 44.0 +1.6**
baz=24,SNR=17
BLDU Ballidu 24.09 160 P **P** **14 50 44.8 +2.4**
SWI Sorong 24.75 74 P **P** **14 50 47.7 -1.0**
comp=Z,13µmcomp=Z,6µmcomp=Z,387nm,1.1s
SIJI Sorong 24.76 75 P **P** **14 50 47.9 -0.8**
comp=Z,213nm,0.8s,baz=271,slow=6.8,SNR=75
SIJI S **S** **14 55 07.1 -0.7**
comp=Z,26nm,1.0s,baz=327,slow=20,SNR=6.4
SIJI LR LR 15 03 32.7
comp=Z,5µm,19.5s,baz=264,slow=44
MTKN Mount Kenneth 25.02 163 P **P** **14 50 52.3 +1.4**
KDU Kakadu 25.03 103 P **P** **14 50 51.6 +0.4**
baz=25,SNR=54
KDU Kakadu 25.03 103 P **P** **14 50 52.5 +1.3**
MUN Mundaring 25.19 162 P **P** **14 50 52.9 +0.4**
baz=25,SNR=21
MUN Mundaring 25.19 162 P **P** **14 50 53.2 +0.7**
KLBR Kellerberrin 25.34 159 P **P** **14 50 54.1 +0.3**
baz=25,SNR=25
KLBR Kellerberrin 25.34 159 P **P** **14 50 54.0 +0.2**
DGPR DIGLIPUR 25.53 325 *eP* **P** **14 50 52.9 -2.8**
TGY Tagaytay City 25.73 31 LR LR 15 01 55.8
comp=Z,9µm,21.8s,baz=231,slow=39
WRKA Warakurna 26.11 133 P **P** **14 51 01.6 +0.7**
baz=26,SNR=28
WRKA Warakurna 26.11 133 ⇓P **P** **14 51 01.7 +0.7**
WRKA Warakurna 26.11 133 P **P** **14 51 02.8 +1.9**
NWAO Narrogin (SRO) 26.39 161 IAMs_20 IAMs_20 15 00 10.7
comp=Z,31µm,22.0s
QIZ Qiongzhong 26.98 5 P **P** **14 51 10.2 +1.4**
QIZ sP **pP** **14 51 24.1 +2.7**
QIZ S **S** **14 55 48.9 +6.2**
QIZ pmax pmax
comp=Z,41nm,2.0s
QIZ LR LR
comp=Z,10µm,15.1s
QIZ LR LR
comp=Z,12µm,19.1s
QIZ LR LR
comp=Z,10µm,26.3s
QIZ Qiongzhong 26.98 5 P **P** **14 51 12.5 +3.7**
H01W3 Cape Leeuwin H 27.43 168 P **P** **14 51 14.8 +2.4**
H01W3 T T 15 20 59.0
baz=344,slow=78,SNR=11
H01W1 Cape Leeuwin H 27.44 168 T T 15 20 59.6
baz=344,slow=78,SNR=10
H01W2 Cape Leeuwin H 27.44 168 T T 15 20 59.1
baz=344,slow=78,SNR=14
CM31 Chiang Mai Arr 27.62 342 P **P** **14 51 13.1 -1.4**
CM31 Chiang Mai Arr 27.62 342 P **P** **14 51 13.8 -0.7**
SNR=21
CMAR Chiang Mai Arr 27.62 342 P **P** **14 51 12.9 -1.6**
comp=Z,22nm,0.6s,baz=179,slow=9.0,SNR=67
CMAR PcP **PcP** **14 54 33.8 +2.6**
comp=Z,13nm,0.9s,baz=197,slow=4.4,SNR=3.7
CMAR ScP **ScP** **14 58 09.9 +2.1**
comp=Z,9.7nm,1.0s,baz=200,slow=3.3,SNR=6.5
CMAR PKiKP **PKiKP** **15 02 09.4 +1.2**
comp=Z,1.0nm,0.8s,baz=263,slow=1.6,SNR=4.8
CMAR LR LR 15 03 29.9
comp=Z,11µm,18.9s,baz=165,slow=39
CMAR P3KPbc 15 23 38.9
comp=Z,0.2nm,0.4s,baz=93,slow=4.5,SNR=2.2
CMAR Chiang Mai Arr 27.62 342 *i* P **P** **14 51 13.0 -1.6**
CMAR pmax pmax
comp=Z,22nm,0.6s
RKGY Rocky Gully 27.87 163 P **P** **14 51 19.0 +2.4**
baz=28,SNR=10
RKGY Rocky Gully 27.87 163 P **P** **14 51 17.9 +1.3**
CHTO Chiang Mai 27.96 343 P **P** **14 51 16.1 -1.4**
CHTO pmax pmax
comp=Z,66nm,1.1s
CHTO MLR MLR
comp=Z,13µm,20.0s
CHTO Chiang Mai 27.96 343 P **P** **14 51 16.1 -1.4**
CHTO Chiang Mai 27.96 343 IAMs_20 IAMs_20 15 03 18.7
comp=Z,13µm,20.0s
CHTO Chiang Mai 27.96 343 P **P** **14 51 17.3 -0.3**
CHTO P **P** **14 51 17.3 -0.3**
CHTO Chiang Mai 27.96 343 ⇑P **P** **14 51 15.3 -2.2**
CHTO Chiang Mai 27.96 343 P **P** **14 51 17.5 0.0**
WB0 Warramunga Arr 28.58 117 P **P** **14 51 22.8 -0.3**
WB0 IAmb IAmb 14 52 01.2
comp=Z,194nm,1.1s
WRA Warramunga Arr 28.59 117 P **P** **14 51 23.3 0.0**
comp=Z,54nm,0.8s,baz=285,slow=12,SNR=150
WRA PcP **PcP** **14 54 35.5 +1.9**
comp=Z,16nm,0.7s,baz=305,slow=2.0,SNR=4.5
WRA S **S** **14 56 06.0 -2.3**
comp=Z,3.2nm,0.8s,baz=314,slow=19,SNR=1.5
WRA LR LR 15 03 42.9
comp=Z,13µm,20.6s,baz=286,slow=38
WRA P3KPbc 15 23 36.2
comp=Z,0.3nm,0.8s,baz=271,slow=7.2,SNR=2.7
WRA Warramunga Arr 28.59 117 P **P** **14 51 23.6 +0.3**
WRA pmax pmax
comp=Z,25nm,1.0s
WRA Warramunga Arr 28.59 117 P **P** **14 51 23.6 +0.3**
WRAB Tennant Creek 28.60 117 *ce*P **P** **14 51 24.0 +0.7**
WRAB pmax pmax
comp=Z,253nm,1.7s
WRAB MLR MLR
comp=Z,12µm,20.0s
WRAB Tennant Creek 28.60 117 P **P** **14 51 22.7 -0.6**
WRAB IAmb IAmb 14 51 46.4
comp=Z,171nm,0.9s
WRAB Tennant Creek 28.60 117 IAMs_20 IAMs_20 15 03 31.7
comp=Z,12µm,20.0s
WRAB Tennant Creek 28.60 117 ⇑P **P** **14 51 23.5 +0.2**
WRAB Tennant Creek 28.60 117 P **P** **14 51 25.0 +1.7**
WB2 Warramunga Arr 28.60 117 P **P** **14 51 23.2 -0.1**
WB2 IAmb IAmb 14 52 19.2
comp=Z,207nm,1.1s
WR0 Warramunga Arr 28.77 117 P **P** **14 51 25.0 +0.2**
WR0 IAmb IAmb 14 51 48.2
comp=Z,328nm,1.1s
SRPI Serui, Papua 29.30 79 P **P** **14 51 29.1 -0.5**
comp=Z,6µmcomp=Z,12µmcomp=Z,155nm,0.6s
BAKI Biak 29.33 78 P **P** **14 51 29.1 -0.7**
comp=Z,10µmcomp=Z,4µmcomp=Z,172nm,1.4s
FORT Forrest 29.72 142 P **P** **14 51 34.9 +1.8**
baz=30,SNR=13
FORT Forrest 29.72 142 P **P** **14 51 33.2 +0.1**
FORT IAmb IAmb 14 52 25.8
comp=Z,228nm,0.8s
FORT Forrest 29.72 142 ⇓P **P** **14 51 34.2 +1.1**
FORT Forrest 29.72 142 P **P** **14 51 35.3 +2.2**
AS31 Alice Springs 29.73 125 P **P** **14 51 33.9 +0.5**
ASAR Alice Springs 29.73 125 P **P** **14 51 33.5 +0.2**
comp=Z,26nm,0.8s,baz=300,slow=8.5,SNR=182
ASAR PcP **PcP** **14 54 38.6 +2.2**
comp=Z,19nm,0.8s,baz=331,slow=1.7,SNR=5.8
ASAR S **S** **14 56 23.4 -2.7**
comp=Z,3.6nm,0.8s,baz=354,slow=7.5,SNR=0.7
ASAR LR LR 15 03 42.9
comp=Z,16µm,20.9s,baz=304,slow=37
ASAR P3KPbc 15 23 31.2
comp=Z,0.8nm,0.8s,baz=123,slow=3.5,SNR=6.1
ASAR P3KP 15 24 43.0
comp=Z,1.4nm,0.9s,baz=90,slow=2.8,SNR=2.5
ASAR Alice Springs 29.73 125 P **P** **14 51 34.0 +0.7**
ASAR Alice Springs 29.73 125 P **P** **14 51 34.0 +0.7**
PALK Pallekele 30.70 299 LR LR 15 02 40.5
comp=Z,10µm,21.1s,baz=226,slow=34
PALK Pallekele 30.70 299 P **P** **14 51 43.6 +1.6**
PALK pmax pmax
comp=Z,148nm,1.2s
PALK MLR MLR
comp=Z,10µm,20.0s
PALK Pallekele 30.70 299 P **P** **14 51 43.6 +1.6**
PALK Pallekele 30.70 299 IAMs_20 IAMs_20 15 02 29.3
comp=Z,10µm,20.0s
PALK Pallekele 30.70 299 P **P** **14 51 45.1 +3.1**
PALK P **P** **14 51 45.1 +3.1**
PALK S **S** **14 56 44.3 +2.7**
PALK S **S** **14 56 44.3 +2.7**
PALK Pallekele 30.70 299 ⇑P **P** **14 51 44.8 +2.8**
HKC Hong Kong Obse 30.84 12 ⇑P **P** **14 51 44.0 +1.0**
GZH Guangzhou 31.45 10 P P 14 51 54.5 +6.2
GZH PP **PP** **14 53 03.0 +2.8**
GZH S S 14 57 01.7 +8.9
GZH LR LR
comp=Z,5µm,18.6s
GZH LR LR
comp=Z,8µm,16.9s
OOD Oodnadatta 33.14 130 P **P** **14 52 04.2 +1.0**
GULI GuiLin 33.23 5 *eP* **P** **14 52 07.2 +3.2**
GULI PP **PP** **14 53 23.0 +3.0**
GULI S **S** **14 57 22.5 +1.9**
GULI LR LR
comp=Z,7µm,23.9s
GULI LR LR
comp=Z,5µm,21.7s
GULI LR LR
comp=Z,7µm,24.9s
KMI Kunming 33.26 352 ⇑P **P** **14 52 05.1 +0.6**
KMI pP pP 14 52 15.4 -2.0
KMI sP sP 14 52 19.6 -3.7
KMI PP **PP** **14 53 19.2 -1.4**
KMI PcP **PcP** **14 54 48.1 +2.0**
KMI S **S** **14 57 24.1 +2.6**
KMI ScP **ScP** **14 58 30.3 +3.9**
KMI pmax pmax
comp=Z,35nm,1.1s
KMI pmax pmax
comp=Z,910nm,10.0s
KMI LR LR
comp=Z,10µm,21.2s
KMI LR LR
comp=Z,27µm,18.2s
KMI LR LR
comp=Z,22µm,16.7s
KMI Kunming 33.26 352 ⇑P **P** **14 52 05.1 +0.6**
KMI pP pP 14 52 09.6 -7.8
MULG Mulgathing 33.32 135 P **P** **14 52 06.3 +1.5**
TWG Pinlang 33.42 23 P **P** **14 52 08.1 +2.4**
TWG IAmb IAmb 14 52 42.9
comp=Z,234nm,1.5s
QIS Mount Isa 33.47 115 P **P** **14 52 07.6 +1.4**
baz=34,SNR=75
QIS Mount Isa 33.47 115 P **P** **14 52 08.4 +2.2**
JAY Jayapura 33.53 82 LR LR 15 09 05.3
comp=Z,4µm,21.5s,slow=42
TPUB Ta-pu 33.69 22 P **P** **14 52 09.6 +1.6**
TPUB Ta-pu 33.69 22 P **P** **14 52 12.4 +4.4**
YULB Yu-li 34.03 23 P **P** **14 52 11.8 +0.9**
MDRS Chennai 34.21 308 *eP* **P** **14 52 12.8 +0.2**
MDRS IAmb IAmb 14 52 17.0
comp=Z,137nm,1.0s
SSLB Suanglung 34.25 22 P **P** **14 52 14.9 +2.0**
SSLB IAmb IAmb 14 52 32.0
comp=Z,105nm,0.8s
SSLB Suanglung 34.25 22 P **P** **14 52 16.8 +3.9**
GYA Guiyang 34.28 359 ⇓P **P** **14 52 15.0 +1.7**
GYA PP **PP** **14 53 33.4 +1.6**
GYA PcP **PcP** **14 54 52.1 +3.2**
GYA S **S** **14 57 35.6 -1.5**
GYA pmax pmax
comp=Z,35nm,0.9s
GYA pmax pmax
comp=Z,1µm,9.7s
GYA LR LR
comp=Z,7µm,22.5s
GYA LR LR
comp=Z,10µm,15.8s
GYA LR LR
comp=Z,12µm,23.5s
QZH Quanzhou 34.51 18 ⇑*i*P **P** **14 52 15.2 +0.1**
QZH PP **PP** **14 53 33.4 -0.8**
QZH S **S** **14 57 40.5 +0.1**
QZH pmax pmax
comp=Z,1µm,9.2s
QZH LR LR
comp=Z,4µm,28.9s
QZH LR LR
comp=Z,2µm,19.4s
QZH LR LR
comp=Z,8µm,26.5s
H08S2 Diego Garcia H 34.64 268 P **P** **14 52 18.2 +2.0**
baz=58,slow=10,SNR=34
H08S2 T T 15 29 17.6
baz=92,slow=76,SNR=210
H08S3 Diego Garcia H 34.65 268 P **P** **14 52 19.3 +3.1**
baz=58,slow=10,SNR=47
H08S3 T T 15 29 22.0
baz=92,slow=76,SNR=150
H08S1 Diego Garcia H 34.66 268 P **P** **14 52 20.0 +3.7**
baz=58,slow=10,SNR=23
H08S1 T T 15 29 31.4
baz=92,slow=76,SNR=166
DGAR Diego Garcia 34.69 269 *ce*P **P** **14 52 19.1 +2.2**
DGAR pmax pmax
comp=Z,217nm,1.0s
DGAR Diego Garcia 34.69 269 IAMs_20 IAMs_20 15 03 49.2
comp=Z,7µm,18.0s
DGAR Diego Garcia 34.69 269 P **P** **14 52 20.6 +3.7**
DGAR P **P** **14 52 20.6 +3.7**
DGAR S **S** **14 57 45.5 +1.9**
DGAR S **S** **14 57 45.5 +1.9**
DGAR Diego Garcia 34.69 269 ⇑P **P** **14 52 19.5 +2.6**
PZH PanZhiHua 34.77 351 P **P** **14 52 19.4 +2.0**
PZH pP **pP** **14 52 30.4 +0.1**
PZH PP **PP** **14 53 39.3 +2.2**
PZH PcP **PcP** **14 54 53.1 +2.9**
PZH S S 14 57 56.0 +11
PZH ScP **ScP** **14 58 34.0 +2.4**
PZH ScS **ScS** **15 02 35.6 +0.5**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,850nm,11.7s
PZH LR LR
comp=Z,13µm,17.1s
PZH LR LR
comp=Z,11µm,17.7s
PZH LR LR
comp=Z,18µm,18.2s
KOD Kodaikanal 34.94 301 *e*P **P** **14 52 21.6 +2.3**
SALM Salem 35.06 304 *e*P **P** **14 52 22.8 +2.8**
YHNB Yeheng 35.21 22 P **P** **14 52 26.0 +4.8**
BWNR Bhubaneshwar 35.30 323 *e*P **P** **14 52 19.6 -2.3**
KAAM Kaadhehdhoo 35.39 282 P **P** **14 52 26.2 +3.3**
COEN Coen 35.52 103 P **P** **14 52 24.4 +0.4**
COEN IAmb IAmb 14 52 40.6
comp=Z,145nm,0.9s
COEN Coen 35.52 103 ⇓P **P** **14 52 24.3 +0.3**
COEN Coen 35.52 103 P **P** **14 52 25.3 +1.3**
TATO Taipei 35.53 22 P **P** **14 52 25.8 +1.9**
TATO Taipei 35.53 22 P P 14 52 17.9 -5.9
YOJ Yonaguni jima 35.67 25 P **P** **14 52 25.5 +0.4**
YOJ pmax pmax
comp=Z,138nm,0.6s
YOJ Yonaguni jima 35.67 25 P **P** **14 52 25.5 +0.4**
YOJ IAmb IAmb 14 52 32.1
comp=Z,138nm,0.6s
YOJ Yonaguni jima 35.67 25 ⇑P **P** **14 52 25.1 +0.1**
YOJ Yonaguni jima 35.67 25 P **P** **14 52 28.9 +3.8**
VJD Vijayawada 36.03 313 *e*P **P** **14 52 29.4 +1.1**
PCHI Peechi 36.04 300 ⇓*e*P **P** **14 52 30.5 +2.1**
PCHI *e*S **S** **14 58 07.4 +3.1**
BBOO Buckleboo 36.19 137 P **P** **14 52 30.3 +0.7**
baz=36,SNR=41
BBOO Buckleboo 36.19 137 P **P** **14 52 29.1 -0.5**
BBOO IAmb IAmb 14 52 52.2
comp=Z,140nm,0.9s
BBOO Buckleboo 36.19 137 P **P** **14 52 30.6 +1.0**
LCRK Leigh Creek 36.40 132 P **P** **14 52 33.5 +2.1**
SHL Shillong 36.67 336 P **P** **14 52 32.3 -1.5**
SHL pmax pmax
comp=Z,106nm,1.0s
SHL Shillong 36.67 336 P **P** **14 52 32.3 -1.5**
SHL Shillong 36.67 336 *e*P **P** **14 52 32.6 -1.2**
SHL Shillong 36.67 336 P **P** **14 52 33.1 -0.7**
SNR=22
INKA Innaminka 37.06 126 P **P** **14 52 39.8 +2.8**
MTSU Mount Surprise 37.21 109 P **P** **14 52 40.1 +1.7**
baz=37,SNR=116
MTSU Mount Surprise 37.21 109 P **P** **14 52 41.4 +3.0**
HMDM Hanimaadhoo 37.21 292 P **P** **14 52 42.2 +3.8**
WHYH Whyalla 37.36 136 P **P** **14 52 41.0 +1.6**
comp=Z,82nm,0.8s
PTPS Port Pirie 37.73 136 P **P** **14 52 44.6 +2.1**
comp=Z,476nm,0.7s
NAPP Napperby 37.84 136 P **P** **14 52 45.1 +1.6**
comp=Z,219nm,0.8s
MNCY Minicoy 37.94 294 *e*P P 14 53 03.9 +19
MNCY IAmb IAmb 14 53 20.2
comp=Z,344nm,1.2s
BOK Bokaro 38.01 327 *e*P **P** **14 52 43.7 -1.3**
BOK IAmb IAmb 14 53 03.9
comp=Z,75nm,0.8s
ENH Enshi 38.12 3 P **P** **14 52 45.3 -0.6**
ENH IAMs_20 IAMs_20 15 11 24.2
comp=Z,9µm,19.0s
HYB Hyderabad 38.15 312 *e*P **P** **14 52 47.0 +0.7**
HYB IAmb IAmb 14 52 49.7
comp=Z,104nm,0.7s
HYBB Hyderabad (bro 38.15 312 *e*P **P** **14 52 47.1 +0.8**
HYBB IVmB_BB 14 52 47.4
comp=Z,1µm,4.6s
HYBB *es*P **pP** **14 52 59.2 +0.2**
HYBB *e*PP PnPn 14 54 28.1 +12
HYBB *e*PcP **PcP** **14 55 00.6 +0.1**
HYBB *e*S **S** **14 58 38.5 +2.2**
HYBB *e*ScP **ScP** **14 58 46.8 +2.6**
HYBB *e*SS **SS** **15 01 28.0 +2.5**
HYBB IVMs_BB IVMs_BB 15 09 00.8
comp=Z,1µm,21.9s
HTT Hallett 38.51 136 P **P** **14 52 50.7 +1.4**
baz=39,SNR=23
HTT Hallett 38.51 136 ⇓P **P** **14 52 50.7 +1.4**
HTT Hallett 38.51 136 P **P** **14 52 51.3 +2.0**
CD2 Chengdu 38.87 355 ⇑*i*P **P** **14 52 55.4 +3.2**
CD2 pP pP 14 53 05.6 +0.3
CD2 sP sP 14 53 10.3 -0.8
CD2 PP **PnPn** **14 54 26.1 +1.3**
CD2 S **S** **14 58 54.7 +7.9**
CD2 sS sS 14 59 12.2 +4.3
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,1µm,8.2s
CD2 LR LR
comp=Z,14µm,22.6s
CD2 LR LR
comp=Z,11µm,17.5s
WHN Wuhan 38.91 9 ⇑P **P** **14 52 52.1 -0.3**
WHN pP **pP** **14 53 05.2 -0.4**
WHN PP **PnPn** **14 54 30.9 +5.7**
WHN S **S** **14 58 48.2 +0.9**
WHN pmax pmax
comp=Z,70nm,1.1s
WHN pmax pmax
comp=Z,2µm,8.3s
WHN LR LR
comp=Z,3µm,10.6s
WHN LR LR
comp=Z,10µm,15.9s
WHN LR LR
comp=Z,14µm,19.1s
BLSP Bilaspur 38.92 321 *e*P **P** **14 52 50.8 -1.9**
GHSS Government Hou 39.14 138 P **P** **14 52 57.3 +2.9**
comp=Z,171nm,0.9s
TWOA Tennyson Woods 39.19 138 P **P** **14 52 56.6 +1.7**
comp=Z,152nm,0.8s
PMG Port Moresby 39.25 95 LR LR 15 10 56.8
comp=Z,4µm,21.9s,baz=280,slow=39
PMG Port Moresby 39.25 95 *ce*P **P** **14 52 55.1 -0.5**
PMG pmax pmax
comp=Z,323nm,1.7s
PMG MLR MLR
comp=Z,5µm,24.0s
PMG Port Moresby 39.25 95 P **P** **14 52 55.4 -0.2**
PMG IAmb IAmb 14 53 13.7
comp=Z,296nm,1.2s
PMG Port Moresby 39.25 95 ⇑P **P** **14 52 55.7 +0.1**
PMG Port Moresby 39.25 95 P **P** **14 52 57.7 +2.1**
PMG Port Moresby 39.25 95 P **P** **14 52 57.9 +2.3**
CTA Charters Tower 39.39 112 LR LR 15 09 16.3
comp=Z,11µm,21.9s,baz=283,slow=36
CTA Charters Tower 39.39 112 P **P** **14 52 59.4 +2.7**
CTAO Charters Tower 39.39 112 P **P** **14 52 57.4 +0.7**

CTAO pmax pmax
comp=Z,305nm,1.3s
CTAO MLR MLR
comp=Z,10μm,21.0s
CTAO Charters Tower 39.39 112 P **P** **14 52 57.4 +0.7**
CTAO lAmb lAmb 14 53 18.7
comp=Z,305nm,1.2s
CTAO Charters Tower 39.39 112 IAMs_20 IAMs_20 15 09 02.6
comp=Z,10μm,21.0s
CTAO Charters Tower 39.39 112 ⇓P **P** **14 52 59.2 +2.4**
CTAO pP **pP** **14 53 03.4 -5.9**
QLP Quilpie 39.46 122 P **P** **14 52 59.1 +1.9**
baz=40,SNR=62
QLP Quilpie 39.46 122 ⇑P **P** **14 52 58.6 +1.5**
QLP Quilpie 39.46 122 P **P** **14 53 00.5 +3.3**
STKA Stephens Creek 39.62 132 P **P** **14 52 58.9 +0.4**
comp=Z,186nm,0.6s,baz=300,slow=8.3,SNR=314
STKA PcP **PcP** **14 55 06.7 +1.8**
comp=Z,56nm,0.8s,baz=310,slow=7.9,SNR=2.2
STKA S **S** **14 58 54.5 -3.7**
comp=Z,4.0nm,0.8s,baz=12,slow=19,SNR=1.1
STKA LR LR 15 10 13.0
comp=Z,13μm,20.7s,baz=295,slow=37
STKA Stephens Creek 39.62 132 P **P** **14 52 59.3 +0.8**
baz=40,SNR=428
STKA Stephens Creek 39.62 132 *c i*P **P** **14 52 59.6 +1.1**
STKA Stephens Creek 39.62 132 P **P** **14 52 59.5 +1.0**
STKA Stephens Creek 39.62 132 P **P** **14 53 00.5 +2.0**
TAPN Taplejung 40.03 332 *e*P **P** **14 53 00.7 -1.5**
comp=Z,270nm,0.9s
JOW Kunigami 40.10 30 P **P** **14 53 00.8 -1.6**
comp=Z,7.0nm,0.4s,baz=250,slow=8.9,SNR=2.6
JOW PcP **PcP** **14 55 08.6 +2.2**
comp=Z,29nm,1.0s,baz=174,slow=1.1,SNR=3.6
JOW LR LR 15 09 30.8
comp=Z,6μm,21.9s,baz=218,slow=36
JOW Kunigami 40.10 30 P **P** **14 53 02.2 -0.3**
JOW Kunigami 40.10 30 ⇑P **P** **14 53 02.9 +0.4**
JOW Kunigami 40.10 30 P P 14 53 07.5 +5.1
MANU Manus Island 40.17 84 P **P** **14 53 03.5 +0.2**
MANU Manus Island 40.17 84 ⇑P **P** **14 53 04.6 +1.4**
RAMN Ramite 40.22 331 *e*P **P** **14 53 03.4 -0.4**
comp=Z,71nm,0.4s
LSA Lhasa 40.66 338 P **P** **14 53 07.4 -0.2**
LSA S **S** **14 59 16.1 +1.7**
LSA LR LR
comp=Z,5μm,22.1s
LSA LR LR
comp=Z,4μm,20.3s
LSA LR LR
comp=Z,5μm,22.8s
LSA Lhasa 40.66 338 P **P** **14 53 05.2 -2.3**
GOA Goa 40.70 305 *e*P **P** **14 53 09.6 +2.0**
GOA lAmb lAmb 14 53 13.8
comp=Z,219nm,0.9s
JIRN Jiri 41.01 331 *e*P **P** **14 53 08.6 -1.8**
SSE Sheshan 41.06 18 P **P** **14 53 12.5 +2.2**
SSE S **S** **14 59 21.7 +2.3**
SSE pmax pmax
comp=Z,50nm,0.9s
SSE pmax pmax
comp=Z,770nm,7.7s
SSE LR LR
comp=Z,2μm,23.5s
SSE LR LR
comp=Z,2μm,23.2s
NJ2 Nanjing 41.31 15 ⇑*i*P **P** **14 53 13.4 +1.1**
NJ2 sP **pP** **14 53 26.1 +0.7**
NJ2 PP **PnPn** **14 54 53.3 -0.2**
NJ2 PcP **PcP** **14 55 12.0 +1.8**
NJ2 S **S** **14 59 25.5 +2.4**
NJ2 SS **SS** **15 02 25.1 -3.3**
NJ2 ScS **ScS** **15 03 15.3 +3.3**
NJ2 pmax pmax
comp=Z,130nm,0.8s
NJ2 pmax pmax
comp=Z,2μm,6.7s
NJ2 LR LR
comp=Z,6μm,19.9s
NJ2 LR LR
comp=Z,3μm,17.3s
NJ2 LR LR
comp=Z,10μm,22.4s
PKI Pulchoki 41.33 330 *e*P **P** **14 53 11.6 -1.3**
PKIN Phulchoki 41.34 330 *e*P **P** **14 53 11.6 -1.4**
AKL Akola 41.36 314 *e*P **P** **14 53 13.8 +0.9**
GUN Gumba 41.37 330 *e*P **P** **14 53 11.2 -2.2**
comp=Z,56nm,0.5s
KAD Karad 41.42 308 *e*P **P** **14 53 14.3 +0.7**
ALBI Allahabad 41.49 324 *e*P **P** **14 53 14.7 +0.8**
DMN Daman 41.51 329 *e*P **P** **14 53 12.8 -1.6**
comp=Z,248nm,0.8s
KKN Kakani 41.57 330 *e*P **P** **14 53 13.3 -1.5**
comp=Z,165nm,0.8s
XAN Xi'an 41.85 2 P **P** **14 53 16.4 -0.4**
XAN pP pP 14 53 28.1 -1.7
XAN S **S** **14 59 29.3 -1.9**
XAN pmax pmax
comp=Z,15nm,0.9s
XAN pmax pmax
comp=Z,2μm,10.1s
XAN LR LR
comp=Z,9μm,16.5s
XAN LR LR
comp=Z,9μm,15.4s
XAN LR LR
comp=Z,13μm,17.5s
GKN Gorkha 42.07 329 *e*P **P** **14 53 16.4 -2.4**
comp=Z,202nm,0.8s
ARPS Mount Arapiles 42.36 138 P **P** **14 53 22.9 +2.0**
baz=42,SNR=11
ARPS Mount Arapiles 42.36 138 P **P** **14 53 23.2 +2.3**
POO Poona 42.38 309 *e*P **P** **14 53 21.9 +0.6**
POO lAmb lAmb 14 53 27.2
comp=Z,118nm,0.7s
KOLN Koldanda 42.41 328 *e*P **P** **14 53 20.0 -1.7**
comp=Z,298nm,0.7s
CMSA Cobar Meteorol 42.57 129 P **P** **14 53 24.8 +2.1**
baz=43,SNR=175
CMSA Cobar Meteorol 42.57 129 P **P** **14 53 25.1 +2.4**
LYN LuoYang 42.60 6 ⇓P **P** **14 53 24.6 +1.7**
LYN S **S** **14 59 42.8 +0.6**
LYN sS sS 15 00 06.8 +3.3
LYN pmax pmax
comp=Z,90nm,1.5s
LYN LR LR
comp=Z,6μm,22.8s
LYN LR LR
comp=Z,7μm,18.1s
LYN LR LR
comp=Z,9μm,32.8s
BHPL Bhopal 42.76 317 *e*P **P** **14 53 23.8 -0.6**
BHPL lAmb lAmb 14 53 27.2
comp=Z,112nm,0.6s
DANN Dangsing 42.80 329 *e*P **P** **14 53 22.5 -2.4**
comp=Z,168nm,0.5s
PYUN Piuthan 43.00 328 *e*P **P** **14 53 24.7 -1.8**
comp=Z,109nm,0.5s
RMQ Roma 43.25 120 P **P** **14 53 29.6 +1.3**
baz=43,SNR=26
RMQ Roma 43.25 120 P **P** **14 53 32.1 +3.8**
JHNI Jhansi 43.59 321 *e*P **P** **14 53 29.1 -2.0**
RK1H Rockhampton Ha 43.95 115 P **P** **14 53 36.2 +2.2**
comp=Z,52nm,0.6s
LZH Lanzhou 44.00 356 ⇓P **P** **14 53 35.5 +1.2**
LZH pP pP 14 53 46.0 -1.4
LZH sP sP 14 53 50.9 -2.3
LZH PP **PcP** **14 55 20.5 +1.2**
LZH ScP **ScP** **14 59 10.2 +3.1**
LZH PcS **PcS** **14 59 13.4 +0.8**
LZH S **S** **15 00 02.7 -0.3**
LZH sS sS 15 00 25.5 +1.1
LZH SS **SS** **15 03 20.3 -1.4**
LZH pmax pmax
comp=Z,120nm,1.3s
LZH pmax pmax
comp=Z,1μm,5.6s
LZH LR LR
comp=Z,9μm,14.3s
LZH LR LR
comp=Z,10μm,14.1s
LZH LR LR
comp=Z,12μm,16.5s
BRAT Ballarat 44.18 137 P **P** **14 53 38.9 +3.3**
comp=Z,39nm,1.0s

KRVT Keravat (AS076 44.44 88 P **P** **14 53 37.4 -0.7**
comp=Z,35nm,0.9s,baz=181,slow=4.8
RABL Rabaul 44.59 88 P **P** **14 53 39.0 -0.2**
RABL lAmb lAmb 14 54 23.0
comp=Z,340nm,1.6s
RABL Rabaul 44.59 88 ⇑P **P** **14 53 38.9 -0.4**
RABL Rabaul 44.59 88 P **P** **14 53 44.0 +4.7**
GEXS Deakin Univers 44.77 138 P **P** **14 53 44.2 +3.9**
comp=Z,221nm,0.9s
TIA Tai'an 44.92 11 P **P** **14 53 41.6 +0.1**
TIA sP **pP** **14 53 53.8 -1.0**
TIA pmax pmax
comp=Z,15nm,0.7s
TIA pmax pmax
comp=Z,1μm,5.3s
TIA LR LR
comp=Z,6μm,28.5s
TIA LR LR
comp=Z,5μm,24.2s
TIA LR LR
comp=Z,8μm,26.3s
EIDS Eidsvold 44.95 118 P **P** **14 53 44.6 +2.6**
baz=45,SNR=16
EIDS Eidsvold 44.95 118 P **P** **14 53 43.0 +1.0**
EIDS lAmb lAmb 14 54 07.1
comp=Z,627nm,2.0s
EIDS Eidsvold 44.95 118 ⇑P **P** **14 53 44.1 +2.1**
EIDS Eidsvold 44.95 118 P **P** **14 53 45.2 +3.2**
JSU Suzuyama 45.04 28 P **P** **14 53 43.5 +1.0**
JSU Suzuyama 45.04 28 ⇑P **P** **14 53 42.4 -0.1**
TOO Toolangi 45.25 136 P **P** **14 53 47.5 +3.2**
baz=45,SNR=16
TOO Toolangi 45.25 136 ⇓P **P** **14 53 47.4 +3.2**
TOO Toolangi 45.25 136 P **P** **14 53 47.9 +3.7**
LGTI Lohaghat 45.55 326 *e*P **P** **14 53 46.7 +0.2**
GOMU GeErMu 45.57 346 P **P** **14 53 48.2 +1.2**
GOMU sP pP 14 54 01.5 +1.4
GOMU PcP **PcP** **14 55 25.9 +0.9**
GOMU PP **PP** **14 55 37.7 +3.1**
GOMU S **S** **15 00 32.0 +6.0**
GOMU sS sS 15 00 50.0 +2.5
GOMU pmax pmax
comp=Z,9.0nm,0.6s
GOMU LR LR
comp=Z,6μm,21.9s
GOMU LR LR
comp=Z,2μm,21.2s
GOMU LR LR
comp=Z,8μm,21.8s
PTH Pithoragarh 45.64 326 *e*P **P** **14 53 47.3 -0.3**
HNS HongShan 45.69 8 ⇓P **P** **14 53 48.3 +0.8**
HNS S **S** **15 00 25.9 -1.0**
HNS pmax pmax
comp=Z,32nm,1.1s
HNS LR LR
comp=Z,4μm,19.8s
HNS LR LR
comp=Z,6μm,20.8s
HNS LR LR
comp=Z,6μm,17.1s
TIY Taiyuan 45.73 6 *e*P **P** **14 53 49.3 +1.3**
TIY pP **pP** **14 54 00.7 -0.4**
TIY PcP **PcP** **14 55 29.3 +4.2**
TIY S **S** **15 00 28.1 +0.3**
TIY pmax pmax
comp=Z,120nm,0.6s
TIY pmax pmax
comp=Z,830nm,5.5s
TIY LR LR
comp=Z,2μm,13.7s
TIY LR LR
comp=Z,4μm,16.9s
TIY LR LR
comp=Z,5μm,24.7s
JNU Nakatsue 46.59 27 P **P** **14 53 53.9 -0.8**
comp=Z,79nm,1.2s,baz=244,slow=2.1,SNR=9.0
JNU LR LR 15 15 26.0
comp=Z,2μm,19.9s,baz=164,slow=39
JNU Nakatsue 46.59 27 P **P** **14 53 56.3 +1.6**
JNU lAmb lAmb 14 53 59.8
comp=Z,132nm,1.3s
JNU Nakatsue 46.59 27 ⇑P **P** **14 53 53.9 -0.8**
JNU Nakatsue 46.59 27 P **P** **14 53 58.0 +3.3**
AYAN Aya Nagar 46.63 322 *e*P **P** **14 53 54.1 -1.0**
CAN Canberra 46.68 132 P **P** **14 53 56.6 +1.0**
CAN pmax pmax
comp=Z,168nm,0.7s
CAN MLR MLR
comp=Z,13μm,19.0s
CAN Canberra 46.68 132 P **P** **14 53 56.6 +1.0**
CAN lAmb lAmb 14 53 59.4
comp=Z,168nm,0.7s
CAN Canberra 46.68 132 ⇑P **P** **14 53 57.5 +2.0**
CAN Canberra 46.68 132 P **P** **14 53 58.5 +2.9**
NDI New Delhi 46.73 323 *e*P **P** **14 53 54.6 -1.3**
KUDL Kundal 46.78 321 *e*P **P** **14 53 55.7 -0.5**
AJM Ajmer 46.81 318 *e*P **P** **14 53 56.4 -0.2**
ARMA Armidale 46.88 124 P **P** **14 53 58.3 +1.0**
baz=47,SNR=18
ARMA Armidale 46.88 124 ⇑P **P** **14 54 00.3 +3.0**
ARMA Armidale 46.88 124 P **P** **14 54 01.1 +3.9**
CNB Canberra Magne 46.95 132 P **P** **14 53 59.1 +1.4**
baz=47,SNR=18
CNB Canberra Magne 46.95 132 P **P** **14 54 00.5 +2.8**
SYDH Sydney Hard Ro 47.36 129 P **P** **14 54 04.3 +3.5**
comp=Z,81nm,0.8s
MGCD Mangrove Creek 47.44 128 P **P** **14 54 02.9 +1.5**
baz=48,SNR=6.7
MGCD Mangrove Creek 47.44 128 P **P** **14 54 04.0 +2.6**
DDI Dehra Dun 47.44 325 *e*P **P** **14 54 01.6 +0.2**
DDI lAmb lAmb 14 54 24.9
comp=Z,165nm,0.7s
RIV Riverview 47.71 129 P **P** **14 54 04.9 +1.4**
baz=48,SNR=6.2
RIV Riverview 47.71 129 ⇑P **P** **14 54 06.8 +3.4**
GTA Gaotai 47.72 352 ⇓P **P** **14 54 04.8 +1.2**
GTA pP pP 14 54 16.0 -0.8
GTA sP sP 14 54 19.7 -2.8
GTA ScP **ScP** **14 59 24.9 +2.5**
GTA S **S** **15 00 52.0 -4.3**
GTA ScS **ScS** **15 03 52.1 -0.7**
GTA pmax pmax
comp=Z,18nm,1.0s
GTA pmax pmax
comp=Z,1μm,10.0s
GTA LR LR
comp=Z,11μm,17.9s
GTA LR LR
comp=Z,15μm,20.3s
GTA LR LR
comp=Z,10μm,16.7s
NTLH Newcastle Hard 47.79 128 P **P** **14 54 07.3 +3.2**
comp=Z,246nm,0.8s
NTLS Newcastle Soft 47.85 128 P **P** **14 54 08.1 +3.5**
comp=Z,171nm,1.0s
TJN Taejon 47.96 22 *c i*P **P** **14 54 04.9 -0.4**
TJN Taejon 47.96 22 P **P** **14 54 08.4 +3.1**
BTO Baotou 48.44 3 *e*P **P** **14 54 09.0 -0.1**
BTO S **S** **15 01 06.2 -0.2**
BTO LR LR
comp=Z,44μm,18.1s
BTO LR LR
comp=Z,31μm,20.1s
BJT Baijiatuau 48.47 9 P **P** **14 54 10.1 +0.9**
BJT pmax pmax
comp=Z,105nm,1.2s
BJT Baijiatuau 48.47 9 P **P** **14 54 10.1 +0.9**
BJT lAmb lAmb 14 55 05.7
comp=Z,105nm,1.2s
JCJ Chichijima 48.48 43 P **P** **14 54 07.6 -1.9**
comp=Z,59nm,0.7s,baz=298,slow=12,SNR=8.7
JCJ LR LR 15 16 27.0
comp=Z,2μm,19.9s,baz=232,slow=38
JCJ Chichijima 48.48 43 P **P** **14 54 09.2 -0.3**
JCJ Chichijima 48.48 43 P **P** **14 54 10.5 +1.0**
BJI Beijing 48.49 9 P **P** **14 54 09.2 -0.1**
BJI PP **PP** **14 56 01.6 -1.0**
BJI S **S** **15 01 06.4 -0.4**
BJI ScS **ScS** **15 03 59.5 +1.9**
BJI pmax pmax
comp=Z,51nm,0.8s
BJI pmax pmax
comp=Z,1μm,7.4s
BJI LR LR
comp=Z,2μm,16.7s

BJI LR LR
comp=Z,5μm,17.4s
BJI LR LR
comp=Z,6μm,18.3s
JMN Monobe 48.50 30 P **P** **14 54 10.6 +1.0**
JMN lAmb lAmb 14 55 39.7
comp=Z,228nm,1.6s
JMN Monobe 48.50 30 ⇑P **P** **14 54 09.3 -0.2**
DL2 Dalian 48.51 15 P **P** **14 54 10.0 +0.5**
DL2 S **S** **15 01 08.1 +1.0**
DL2 pmax pmax
comp=Z,32nm,1.1s
DL2 pmax pmax
comp=Z,840nm,9.8s
DL2 LR LR
comp=Z,4μm,19.9s
DL2 LR LR
comp=Z,4μm,18.6s
DL2 LR LR
comp=Z,7μm,27.5s
SMLA Simla 48.55 325 *e*P **P** **14 54 08.2 -1.7**
SMLA lAmb lAmb 14 54 14.4
comp=Z,241nm,0.4s
GLAD Gladstone 48.68 139 P **P** **14 54 15.4 +4.6**
comp=Z,91nm,0.8s
INCN Inchon 48.69 20 P **P** **14 54 10.2 -0.8**
INCN P **P** **14 54 10.2 -0.8**
INCN P **P** **14 54 10.2 -0.8**
HHC Hu-ho-hao-te 48.77 4 *e*P **P** **14 54 11.4 -0.2**
HHC S **S** **15 01 09.8 -1.3**
HHC sS sS 15 01 30.6 -2.1
HHC SS **SS** **15 04 45.5 +3.2**
HHC pmax pmax
comp=Z,41nm,1.7s
HHC pmax pmax
comp=Z,820nm,5.4s
HHC LR LR
comp=Z,6μm,14.1s
HHC LR LR
comp=Z,3μm,16.1s
HHC LR LR
comp=Z,6μm,14.5s
HJU Haeju 48.89 19 P **P** **14 54 10.6 -1.8**
MOO Moorlands 48.93 141 P **P** **14 54 15.5 +2.8**
baz=49,SNR=8.7
MOO Moorlands 48.93 141 P **P** **14 54 16.8 +4.1**
KSAR Wonju Array Be 49.10 22 P **P** **14 54 15.7 +1.7**
KSAR Wonju Array Be 49.10 22 P **P** **14 54 15.7 +1.7**
KSRS Korea Array 49.12 22 P **P** **14 54 13.5 -0.6**
comp=Z,15nm,0.7s,baz=198,slow=7.2,SNR=23
KSRS PcP **PcP** **14 55 38.6 +1.5**
comp=Z,29nm,1.0s,baz=203,slow=3.9,SNR=8.2
KSRS ScP **ScP** **14 59 29.8 +1.6**
comp=Z,6.6nm,0.9s,baz=208,slow=3.7,SNR=6.3
KSRS LR LR 15 16 41.8
comp=Z,2μm,20.5s,baz=215,slow=38
KS19 Wonju Array Si 49.14 22 P **P** **14 54 15.5 +1.1**
JHS Saijyo 49.17 28 P **P** **14 54 15.3 +0.6**
JHS lAmb lAmb 14 54 20.9
comp=Z,80nm,0.7s
JHS Saijyo 49.17 28 ⇑P **P** **14 54 13.4 -1.3**
BHK Bhakra 49.20 324 *e*P **P** **14 54 13.8 -1.2**
TAU Tasmania Unive 49.26 142 ⇓P **P** **14 54 17.8 +2.5**
TAU Tasmania Unive 49.26 142 P **P** **14 54 17.8 +2.5**
PYAG Pyongyang 49.82 19 P **P** **14 54 17.3 -2.2**
THN Thein Dam 50.34 325 *e*P **P** **14 54 22.9 -0.6**
SUJ Sinuiju 50.41 17 P **P** **14 54 21.7 -2.2**
SUJ sP **pP** **14 54 34.5 -2.9**
SUJ S **S** **15 01 37.2 +3.6**
SUJ AmB
comp=Z,522nm,2.1s
SUJ AMS AMS
comp=N,3μm,16.5s
SUJ AMS AMS
comp=E,463nm,2.8s
SUJ AMS AMS
comp=Z,2μm,11.4s
JHJ Hachijo jima 2 51.17 35 LR LR 15 15 43.9
comp=Z,2μm,21.8s,baz=252,slow=36
HHU Hamhung 51.19 20 P **P** **14 54 27.7 -2.2**
HHU pP **pP** **14 54 36.4 -6.9**
HHU S **S** **15 01 47.5 +3.0**
HHU AmB
comp=Z,630nm,2.1s
HHU AMS AMS
comp=N,2μm,12.8s
HHU AMS AMS
comp=E,778nm,4.5s
HHU AMS AMS
comp=Z,953nm,5.6s
INU Inuyama 51.36 31 P **P** **14 54 31.9 +0.7**
INU Inuyama 51.36 31 ⇑P **P** **14 54 29.5 -1.7**
INU Inuyama 51.36 31 P **P** **14 54 31.5 +0.3**
RER Riviere de l'E 51.51 249 IAMs_20 IAMs_20 15 10 46.8
comp=Z,7μm,22.0s
RER Riviere de l'E 51.51 249 P **P** **14 54 36.3 +3.6**
RER Riviere de l'E 51.51 249 ⇓P **P** **14 54 35.7 +3.0**
RER Riviere de l'E 51.51 249 P **P** **14 54 34.6 +1.9**
RER pP **pP** **14 54 44.5 +1.1**
JGF Kuroka 51.73 31 P **P** **14 54 33.7 -0.3**
JGF Kuroka 51.73 31 ⇑P **P** **14 54 32.8 -1.3**
MSEY Mahe Island 51.75 270 IAMs_20 IAMs_20 15 11 49.3
comp=Z,6μm,22.0s
MSEY Mahe Island 51.75 270 P **P** **14 54 36.6 +2.0**
MSEY P **P** **14 54 36.6 +2.0**
MSEY P **P** **14 54 36.6 +2.0**
MSEY S **S** **15 02 00.4 +7.2**
MSEY S **S** **15 02 00.4 +7.2**
MSEY S **S** **15 02 00.4 +7.2**
MSEY Mahe Island 51.75 270 *i*P **P** **14 54 36.9 +2.3**
SNR=22
MSEY Mahe Island 51.75 270 P **P** **14 54 37.3 +2.8**
SNY Shenyang 51.76 15 ⇑P **P** **14 54 32.6 -1.4**
SNY S **S** **15 01 48.0 -4.3**
SNY pmax pmax
comp=Z,53nm,2.3s
SNY pmax pmax
comp=Z,2μm,8.5s
SNY LR LR
comp=Z,3μm,19.4s
SNY LR LR
comp=Z,6μm,20.4s
SNY LR LR
comp=Z,6μm,31.3s
HNR Honiara 51.85 96 LR LR 15 18 26.9
comp=Z,2μm,19.6s,baz=262,slow=38
HNR Honiara 51.85 96 P **P** **14 54 35.1 -0.2**
HNR pmax pmax
comp=Z,486nm,1.0s
HNR MLR MLR
comp=Z,2μm,21.0s
HNR Honiara 51.85 96 P **P** **14 54 35.0 -0.2**
HNR Honiara 51.85 96 ⇑P **P** **14 54 35.4 +0.1**
HNR Honiara 51.85 96 P **P** **14 54 36.5 +1.2**
XLT XiLinHaoTe 52.26 8 ⇑*i*P **P** **14 54 37.8 -0.1**
XLT pP pP 14 54 48.9 -2.4
XLT sP sP 14 54 50.6 -6.3
XLT PcP **PcP** **14 55 49.6 +0.9**
XLT PP **PP** **14 56 39.3 +2.4**
XLT ScP **ScP** **14 59 44.1 +2.4**
XLT S **S** **15 01 54.2 -5.2**
XLT sS sS 15 02 21.6 -0.8
XLT ScS **ScS** **15 04 23.7 +0.2**
XLT pmax pmax
comp=Z,60nm,1.5s
XLT pmax pmax
comp=Z,1μm,5.8s
XLT LR LR
comp=Z,380nm,19.9s
XLT LR LR
comp=Z,3μm,16.9s
XLT LR LR
comp=Z,3μm,20.9s
NIL Nilore 52.65 324 P **P** **14 54 39.6 -1.3**
NIL pmax pmax
comp=Z,215nm,1.0s
NIL MLR MLR
comp=Z,3μm,22.0s
NIL Nilore 52.65 324 P **P** **14 54 39.5 -1.3**
NIL lAmb lAmb 14 55 10.8
comp=Z,215nm,1.0s
NIL Nilore 52.65 324 P **P** **14 54 40.8 -0.1**
MAJO Matsushiro 52.89 31 P **P** **14 54 42.5 -0.1**
MAJO pmax pmax
comp=Z,104nm,1.2s

MAJO Matsushiro 52.89 31 P **P** **14 54 42.5 -0.1**
MJAR Matsushiro Arr 52.90 31 P **P** **14 54 39.6 -3.0**
comp=Z,45nm,1.1s,baz=189,slow=12,SNR=37
MJAR ScP **ScP** **14 59 46.6 +2.1**
comp=Z,6.6nm,0.8s,baz=235,slow=6.2,SNR=5.4
MJAR LR LR 15 17 25.2
comp=Z,2µm,21.8s,baz=216,slow=36
MJB9 Matsu-Tunnel 52.90 31 P **P** **14 54 42.8 +0.1**
LHI Lord Howe Isla 53.31 123 P **P** **14 54 47.4 +1.6**
baz=53,SNR=4.9
LHI Lord Howe Isla 53.31 123 ⇑P **P** **14 54 48.2 +2.4**
LHI ⇑P **P** **14 54 49.2 +3.4**
LHI Lord Howe Isla 53.31 123 P P 14 54 51.3 +5.5
comp=Z,186nm,1.2s
JYT Yasato 53.70 33 ⇑P **P** **14 54 45.4 -3.1**
JYT ⇓P **P** **14 54 48.9 +0.4**
JSD Sado 54.08 30 P **P** **14 54 51.0 -0.2**
JSD IAmb IAmb 14 55 14.2
comp=Z,90nm,0.9s
JSD Sado 54.08 30 ⇑P **P** **14 54 49.5 -1.8**
JSD ⇑P **P** **14 54 50.5 -0.7**
CN2 Changchun 54.10 16 *e*P **P** **14 54 50.2 -1.0**
CN2 *e*S **S** **15 02 18.9 -5.2**
CN2 pmax pmax
comp=Z,700nm,4.0s
CN2 LR LR
comp=Z,4µm,20.6s
CN2 LR LR
comp=Z,4µm,20.6s
CN2 LR LR
comp=Z,3µm,21.3s
WMQ Urumqi 54.62 343 ⇑P **P** **14 54 58.0 +2.8**
WMQ pP pP 14 55 07.6 -1.0
WMQ PcP **PcP** **14 55 59.8 +2.1**
WMQ PP **PP** **14 56 59.7 +1.5**
WMQ ScP **ScP** **14 59 54.6 +2.6**
WMQ S **S** **15 02 31.4 0.0**
WMQ ScS **ScS** **15 04 41.5 +1.4**
WMQ pmax pmax
comp=Z,50nm,1.1s
WMQ pmax pmax
comp=Z,2µm,7.5s
WMQ LR LR
comp=Z,5µm,15.3s
WMQ LR LR
comp=Z,6µm,17.5s
WMQ LR LR
comp=Z,5µm,21.7s
WMQ Urumqi 54.62 343 P **P** **14 54 53.6 -1.6**
WMQ pP pP 14 54 59.9 -8.7
MSHR Mys Shultsa 54.80 21 *c i*P **P** **14 54 54.9 -1.5**
JMM Marumori 55.24 32 P **P** **14 54 59.0 -0.7**
JMM IAmb IAmb 14 55 24.0
comp=Z,105nm,0.9s
KSH Kashi 55.57 331 P **P** **14 54 59.8 -2.4**
KSH pP pP 14 55 09.8 -5.9
KSH PP **PP** **14 57 06.4 -0.5**
KSH SS **SS** **15 06 29.0 -1.2**
KSH pmax pmax
comp=Z,58nm,0.8s
KSH LR LR
comp=Z,5µm,20.6s
KSH LR LR
comp=Z,2µm,21.3s
KSH LR LR
comp=Z,9µm,23.4s
SONM Songino Array 55.62 359 P **P** **14 55 02.0 -0.4**
comp=Z,55nm,0.6s,baz=172,slow=8.3,SNR=58
SONM PcP **PcP** **14 56 01.6 +0.2**
comp=Z,35nm,0.6s,baz=181,slow=4.0,SNR=7.2
SONM ScP **ScP** **14 59 56.9 +0.5**
comp=Z,14nm,0.7s,baz=164,slow=4.0,SNR=8.1
SONM LR LR 15 21 10.4
comp=Z,9µm,20.3s,baz=177,slow=39
SONM PKPPKP 15 25 03.8
comp=Z,1.9nm,1.0s,baz=344,slow=4.8,SNR=3.6
SONM PKP2bc 15 25 20.3
comp=Z,1.4nm,0.7s,baz=299,slow=3.0,SNR=3.0
SONM Songino Array 55.62 359 P **P** **14 55 02.0 -0.4**
SONM pmax pmax
comp=Z,56nm,0.7s
SONM Songino Array 55.62 359 P **P** **14 55 02.0 -0.4**
ULN Ulaanbaatar 55.64 360 *ce*P **P** **14 55 01.7 -0.9**
ULN pmax pmax
comp=Z,66nm,0.7s
ULN MLR MLR
comp=Z,9µm,21.0s
ULN Ulaanbaatar 55.64 360 P **P** **14 55 02.6 0.0**
ULN IAmb IAmb 14 55 06.5
comp=Z,69nm,0.6s
ULN Ulaanbaatar 55.64 360 P **P** **14 55 02.5 -0.1**
ULN P **P** **14 55 02.5 -0.1**
ULN P **P** **14 55 02.5 -0.1**
ULN S **S** **15 02 44.5 -0.6**
ULN S **S** **15 02 44.5 -0.6**
ULN S **S** **15 02 44.5 -0.6**
ULN Ulaanbaatar 55.64 360 ⇑P **P** **14 55 02.2 -0.3**
ULN Ulaanbaatar 55.64 360 P **P** **14 55 03.7 +1.1**
ULN pP **pP** **14 55 10.7 -5.4**
ULN sP **pwP** **14 55 12.9 -3.2**
KBL Kabul 55.79 322 P **P** **14 55 02.8 -1.1**
KBL pmax pmax
comp=Z,81nm,0.6s
KBL Kabul 55.79 322 P **P** **14 55 02.8 -1.1**
KBL IAmb IAmb 14 55 07.3
comp=Z,80nm,0.6s
KBL Kabul 55.79 322 P **P** **14 55 03.5 -0.4**
SNR=64
KBL S **S** **15 02 40.9 -6.6**
JLN Jalan Bani Buh 55.82 304 P **P** **14 55 06.0 +1.9**
SNR=15
JLN P **P** **14 55 06.0 +1.9**
SNR=15
JLN P **P** **14 55 06.0 +1.9**
SNR=15
JLN S **S** **15 02 48.9 +0.9**
JLN S **S** **15 02 48.9 +0.9**
JLN S **S** **15 02 48.9 +0.9**
MDJ Mudanjiang 56.07 19 P **P** **14 55 05.9 +0.4**
MDJ Mudanjiang 56.07 19 P **P** **14 55 05.7 +0.2**
MDJ sP pP 14 55 20.7 +1.6
MDJ S **S** **15 02 55.7 +5.2**
MDJ sS sS 15 03 13.5 -1.1
MDJ pmax pmax
comp=Z,33nm,2.2s
MDJ pmax pmax
comp=Z,760nm,9.0s
MDJ LR LR
comp=Z,2µm,21.8s
MDJ LR LR
comp=Z,1µm,22.2s
MDJ LR LR
comp=Z,3µm,22.4s
MDJ Mudanjiang 56.07 19 P **P** **14 55 08.0 +2.5**
KOUNC Koumac, New Ca 56.20 109 IAMs_20 IAMs_20 15 20 15.2
comp=Z,5µm,22.0s
KOUNC Koumac, New Ca 56.20 109 ⇓P **P** **14 55 09.7 +2.8**
KOUNC ⇑P **P** **14 55 10.1 +3.2**
KOUNC Koumac, New Ca 56.20 109 P **P** **14 55 10.7 +3.8**
WBK Wadi Bani Khal 56.40 304 P **P** **14 55 10.3 +2.0**
SNR=20
WBK P **P** **14 55 10.3 +2.0**
SNR=20
WBK P **P** **14 55 10.3 +2.0**
SNR=20
WBK S **S** **15 02 56.1 +0.4**
WBK S **S** **15 02 56.1 +0.4**
WBK S **S** **15 02 56.1 +0.4**
BNX BinXian 56.42 17 ⇓P **P** **14 55 07.7 -0.3**
BNX PP **PP** **14 57 11.6 -2.6**
BNX pmax pmax
comp=Z,90nm,1.2s
BNX pmax pmax
comp=Z,3µm,8.1s
BNX LR LR
comp=Z,5µm,15.7s
BNX LR LR
comp=Z,5µm,18.4s
BNX LR LR
comp=Z,8µm,17.9s
DQM DQM 56.44 300 P **P** **14 55 10.7 +2.2**
SNR=9.4
DQM P **P** **14 55 10.7 +2.2**
SNR=9.4
DQM S **S** **15 02 59.2 +3.1**

DQM S **S** **15 02 59.2 +3.1**
USA0B Ussuriysk Arra 56.51 21 P **P** **14 55 08.9 +0.2**
USA0B pmax pmax
comp=Z,42nm,1.0s
USA0B Ussuriysk Arra 56.51 21 P **P** **14 55 08.8 +0.2**
USRK Ussuriysk Ar. 56.51 21 P **P** **14 55 07.1 -1.6**
comp=Z,20nm,0.5s,baz=188,slow=5.6,SNR=32
USRK LR LR 15 18 51.4
comp=Z,2µm,21.7s,baz=205,slow=36
MHTO MHTO 56.52 302 P **P** **14 55 10.4 +1.3**
SNR=22
MHTO P **P** **14 55 10.4 +1.3**
SNR=22
MHTO P **P** **14 55 10.4 +1.3**
SNR=22
MHTO S **S** **15 02 56.6 -0.6**
MHTO S **S** **15 02 56.6 -0.6**
MHTO S **S** **15 02 56.6 -0.6**
SBV Sambava 56.69 259 P **P** **14 55 14.3 +3.8**
SBV Sambava 56.69 259 P P 14 55 22.2 +12
SOCY Socotra 56.82 290 P **P** **14 55 12.5 +1.0**
SOCY IAmb IAmb 14 55 31.9
comp=Z,98nm,1.1s
SOCY Socotra 56.82 290 P **P** **14 55 12.6 +1.0**
SNR=7.8
SOCY Socotra 56.82 290 ⇑P **P** **14 55 11.9 +0.4**
SHLS Shalkode 56.95 336 *e*P **P** **14 55 08.6 -3.3**
SHLS *e*S **S** **15 02 57.3 -5.2**
SHLS pmax pmax
comp=Z,28nm,0.7s
SHLS Shalkode 56.95 336 *e*P **P** **14 55 08.6 -3.3**
comp=Z,28nm,0.7s,baz=336
SHLS *e*S **S** **15 02 57.3 -5.2**
baz=336
WSAR Wadi Sarin 56.96 304 P **P** **14 55 11.3 -0.9**
comp=Z,85nm,0.7s,baz=155,slow=5.2,SNR=40
WSAR S **S** **15 03 02.4 -0.6**
comp=Z,3.9nm,1.0s,baz=137,slow=16,SNR=1.4
WSAR LR LR 15 16 55.4
comp=Z,9µm,21.7s,baz=142,slow=33
WSAR Wadi Sarin 56.96 304 P **P** **14 55 15.5 +3.2**
SNR=31
WSAR S **S** **15 03 04.5 +1.4**
JMDO Jabal Madar 57.00 303 P **P** **14 55 14.1 +1.5**
SNR=23
JMDO P **P** **14 55 14.1 +1.5**
SNR=23
JMDO S **S** **15 03 03.5 -0.1**
JMDO S **S** **15 03 03.5 -0.1**
KDJ Kajisay 57.08 333 P **P** **14 55 12.4 -0.5**
KDJ pmax pmax
comp=Z,136nm,0.9s
KDJ Kajisay 57.08 333 P **P** **14 55 12.4 -0.5**
KDJ IAmb IAmb 14 55 25.1
comp=Z,136nm,0.9s
PDGK Podgornoye 57.08 336 P **P** **14 55 11.3 -1.6**
SATY Saty 57.30 335 *e*P **P** **14 55 12.0 -2.4**
SATY *e*S **S** **15 03 04.4 -2.7**
SATY pmax pmax
comp=Z,21nm,0.6s
SATY Saty 57.30 335 *e*P **P** **14 55 12.0 -2.4**
comp=Z,21nm,0.6s,baz=335
SATY *e*S **S** **15 03 04.4 -2.7**
baz=335
SHAO Shalim 57.34 297 P **P** **14 55 16.9 +1.9**
SHAO P **P** **14 55 16.9 +1.9**
SHAO S **S** **15 03 09.3 +1.1**
SHAO S **S** **15 03 09.3 +1.1**
SHAO Shalim 57.34 297 P **P** **14 55 15.6 +0.6**
SMDO Samad 57.35 304 P **P** **14 55 17.0 +1.8**
SNR=28
SMDO P **P** **14 55 17.0 +1.8**
SNR=28
SMDO P **P** **14 55 17.0 +1.8**
SNR=28
SMDO S **S** **15 03 10.9 +2.4**
SMDO S **S** **15 03 10.9 +2.4**
SMDO S **S** **15 03 10.9 +2.4**
BIDO Bidbid 57.50 304 P **P** **14 55 17.9 +1.8**
SNR=39
BIDO P **P** **14 55 17.9 +1.8**
SNR=39
BIDO P **P** **14 55 17.9 +1.8**
SNR=39
BIDO S **S** **15 03 12.3 +2.2**
BIDO S **S** **15 03 12.3 +2.2**
BIDO S **S** **15 03 12.3 +2.2**
KPKS Kokpek 57.52 335 *e*P **P** **14 55 13.4 -2.5**
KPKS *e*S **S** **15 03 07.6 -2.3**
KPKS pmax pmax
comp=Z,20nm,0.6s
KPKS Kokpek 57.52 335 *e*P **P** **14 55 13.4 -2.5**
comp=Z,20nm,0.6s,baz=335
KPKS *e*S **S** **15 03 07.6 -2.3**
baz=335
JTM Tenmabayashi 57.58 30 P **P** **14 55 15.2 -1.1**
JTM IAmb IAmb 14 55 39.8
comp=Z,204nm,1.2s
ULHL Ulahol 57.59 333 P **P** **14 55 20.3 +3.7**
SNR=9.2
DRK Karamyk 57.66 328 P **P** **14 55 16.5 -0.7**
DRK IAmb IAmb 14 55 32.9
comp=Z,120nm,0.6s
DMTO DMTO 57.83 297 P **P** **14 55 19.6 +1.2**
DMTO P **P** **14 55 19.6 +1.2**
DMTO S **S** **15 03 13.7 -0.9**
DMTO S **S** **15 03 13.7 -0.9**
TNSS Tian-Shan 57.91 334 *e*P **P** **14 55 16.8 -2.2**
TNSS pmax pmax
comp=Z,94nm,0.6s
TNSS Tian-Shan 57.91 334 *e*P **P** **14 55 16.9 -2.2**
comp=Z,94nm,0.6s,baz=334
BSY Bisya 57.92 303 P **P** **14 55 20.5 +1.5**
SNR=49
BSY P **P** **14 55 20.5 +1.5**
SNR=49
BSY S **S** **15 03 15.3 -0.4**
BSY S **S** **15 03 15.3 -0.4**
BOOM Boomskoye usch 57.92 333 P **P** **14 55 19.0 +0.1**
BOOM pmax pmax
comp=Z,60nm,1.0s
BOOM Boomskoye usch 57.92 333 P **P** **14 55 19.0 +0.1**
MDOK Medeo 57.97 334 *e*P **P** **14 55 16.4 -2.7**
MDOK *e*S **S** **15 03 13.0 -2.9**
MDOK pmax pmax
comp=Z,97nm,0.6s
MDOK Medeo 57.97 334 *e*P **P** **14 55 16.5 -2.7**
comp=Z,97nm,0.6s,baz=334
MDOK *e*S **S** **15 03 13.0 -2.9**
baz=334
HIA Hailar 58.05 9 P **P** **14 55 19.9 +0.4**
HIA pmax pmax
comp=Z,60nm,1.2s
HIA MLR MLR
comp=Z,3µm,21.0s
HIA Hailar 58.05 9 P **P** **14 55 19.9 +0.4**
AAA Alma-Ata 58.06 334 *e*P **P** **14 55 17.7 -2.0**
AAA *e*S **S** **15 03 14.5 -2.5**
AAA pmax pmax
comp=Z,75nm,1.4s
AAA Alma-Ata 58.06 334 *e*P **P** **14 55 17.8 -2.0**
comp=Z,75nm,1.4s,baz=334
AAA *e*S **S** **15 03 14.5 -2.5**
baz=334
NOUC Port Laguerre 58.19 111 P **P** **14 55 24.0 +3.1**
HOQ Hoqain 58.20 304 P **P** **14 55 22.7 +1.8**
SNR=22
HOQ P **P** **14 55 22.7 +1.8**
SNR=22
HOQ P **P** **14 55 22.7 +1.8**
SNR=22
HOQ S **S** **15 03 20.3 +1.0**
HOQ S **S** **15 03 20.3 +1.0**
HOQ S **S** **15 03 20.3 +1.0**
CASY Casey 58.21 179 P **P** **14 55 19.8 -0.4**
CASY Casey 58.21 179 ⇑P **P** **14 55 20.8 +0.6**
ZAK Zakamensk 58.27 357 *e*P **P** **14 55 20.9 -0.2**
ZAK pmax pmax
comp=Z,52nm,1.5s
DZM Mont Dzumac 58.32 111 LR LR 15 22 48.5
comp=Z,5µm,18.9s,baz=278,slow=38
DZM Mont Dzumac 58.32 111 *e*P **P** **14 55 23.6 +1.6**
comp=Z,262nm,1.5s
DZM *e*S **S** **15 03 21.1 0.0**
comp=Z,5µm,29.4s

DZM *e*LR LR 15 12 33.6
comp=Z,13µm,29.9s
DZM Mont Dzumac 58.32 111 P **P** **14 55 21.3 -0.6**
DZM IAmb IAmb 14 55 37.2
comp=Z,83nm,1.0s
DZM Mont Dzumac 58.32 111 ⇓P **P** **14 55 26.2 +4.2**
DZM Mont Dzumac 58.32 111 P **P** **14 55 22.9 +0.9**
ONTNC Ouen Toro 58.34 111 P **P** **14 55 23.8 +1.8**
UCH Uchtor 58.37 332 P **P** **14 55 22.7 +0.3**
SNR=34
RBK Rabkut 58.41 296 P **P** **14 55 24.4 +1.8**
SNR=14
RBK P **P** **14 55 24.4 +1.8**
SNR=14
RBK P **P** **14 55 24.4 +1.8**
SNR=14
RBK S **S** **15 03 23.1 +0.8**
RBK S **S** **15 03 23.1 +0.8**
RBK S **S** **15 03 23.1 +0.8**
TKM2 Tokmak 2 58.41 333 P **P** **14 55 22.6 +0.2**
SNR=22
TKM2 Tokmak 2 58.41 333 *i*P **P** **14 55 20.6 -1.7**
TKM2 pmax pmax
comp=Z,98nm,0.5s
ARXS Arharly 58.49 335 *e*P **P** **14 55 22.0 -0.7**
KBK Karagaybulak 58.50 332 P **P** **14 55 23.2 +0.2**
SNR=12
CHKK Chushkaly 58.55 335 *e*P **P** **14 55 21.3 -1.7**
CHKK pmax pmax
comp=Z,83nm,0.7s
CHKK Chushkaly 58.55 335 *e*P **P** **14 55 21.3 -1.7**
comp=Z,83nm,0.7s,baz=334
BTK Batken 58.60 328 P **P** **14 55 22.8 -0.8**
BTK pmax pmax
comp=Z,105nm,0.9s
BTK Batken 58.60 328 P **P** **14 55 22.8 -0.8**
BTK IAmb IAmb 14 55 51.1
comp=Z,106nm,0.8s
AML Almayashu 58.69 331 P **P** **14 55 22.8 -1.7**
SNR=60
AML Almayashu 58.69 331 P **P** **14 55 24.4 -0.1**
AML Almayashu 58.69 331 *i*P **P** **14 55 23.2 -1.3**
SNR=64
AAK Ala-Archa 58.70 332 P **P** **14 55 24.5 +0.3**
SNR=30
AAK Ala-Archa 58.70 332 P **P** **14 55 23.9 -0.3**
comp=Z,11nm,0.5s,baz=138,slow=5.5,SNR=39
AAK PcP **PcP** **14 56 14.0 +0.2**
comp=Z,29nm,0.6s,baz=142,slow=3.9,SNR=4.2
AAK S S 15 03 15.8 -10
comp=Z,1.3nm,0.7s,baz=163,slow=11,SNR=1.1
AAK LR LR 15 23 14.6
comp=Z,4µm,21.7s,baz=146,slow=39
AAK Ala-Archa 58.70 332 *ce*P **P** **14 55 23.2 -1.1**
AAK pmax pmax
comp=Z,61nm,1.7s
AAK MLR MLR
comp=Z,6µm,23.0s
AAK Ala-Archa 58.70 332 P **P** **14 55 24.2 0.0**
AAK IAmb IAmb 14 56 22.1
comp=Z,94nm,1.2s
AAK Ala-Archa 58.70 332 IAMs_20 IAMs_20 15 25 35.9
comp=Z,4µm,19.0s
AAK Ala-Archa 58.70 332 P **P** **14 55 23.9 -0.3**
AAK P **P** **14 55 23.9 -0.3**
AAK P **P** **14 55 23.9 -0.3**
AAK S **S** **15 03 23.5 -2.0**
AAK S **S** **15 03 23.5 -2.0**
AAK S **S** **15 03 23.5 -2.0**
AAK Ala-Archa 58.70 332 *i*P **P** **14 55 23.8 -0.5**
SNR=39
AAK Ala-Archa 58.70 332 ⇑P **P** **14 55 24.6 +0.4**
OUENC Ouen Island, N 58.71 111 P **P** **14 55 27.3 +2.7**
YATNC Mamie plateau, 58.73 111 P **P** **14 55 27.3 +2.6**
ARQ Araqi 58.74 303 P **P** **14 55 26.1 +1.4**
SNR=22
ARQ P **P** **14 55 26.1 +1.4**
SNR=22
ARQ P **P** **14 55 26.1 +1.4**
SNR=22
ARQ S **S** **15 03 27.7 +1.3**
ARQ S **S** **15 03 27.7 +1.3**
ARQ S **S** **15 03 27.7 +1.3**
ZSN Zaisan 58.75 342 *e*P **P** **14 55 22.6 -1.7**
ZSN *e*S **S** **15 03 23.8 -1.9**
ZSN Zaisan 58.75 342 *e*P **P** **14 55 22.7 -1.7**
baz=342
ZSN *e*S **S** **15 03 23.8 -1.9**
baz=342
FRU1 Bishkek 58.77 332 P **P** **14 55 24.9 +0.3**
FRU1 pmax pmax
comp=Z,89nm,1.0s
FRU1 Bishkek 58.77 332 P **P** **14 55 24.9 +0.3**
FRU1 IAmb IAmb 14 55 59.9
comp=Z,89nm,0.9s
KUU Kurty 58.86 334 *e*P **P** **14 55 23.6 -1.6**
KUU *e*S **S** **15 03 25.0 -2.2**
KUU pmax pmax
comp=Z,64nm,0.6s
KUU Kurty 58.86 334 *e*P **P** **14 55 23.6 -1.6**
comp=Z,64nm,0.6s,baz=334
KUU *e*S **S** **15 03 25.1 -2.2**
baz=334
CHMS Chumysh 58.86 332 P **P** **14 55 26.7 +1.5**
SNR=12
CHMS Chumysh 58.86 332 *i*P **P** **14 55 24.3 -0.9**
CHMS pmax pmax
comp=Z,27nm,0.8s
DOK Doka 58.88 297 P **P** **14 55 26.8 +1.0**
SNR=10
DOK P **P** **14 55 26.8 +1.0**
SNR=10
DOK S **S** **15 03 26.3 -2.0**
DOK S **S** **15 03 26.3 -2.0**
TDK Taldyqorghan 58.91 336 *e*P **P** **14 55 23.3 -2.2**
TDK *e*S **S** **15 03 25.3 -2.5**
TDK pmax pmax
comp=Z,66nm,0.6s
TDK Taldyqorghan 58.91 336 *e*P **P** **14 55 23.3 -2.2**
comp=Z,66nm,0.6s,baz=336
TDK *e*S **S** **15 03 25.3 -2.5**
baz=336
WHFO Wadi Hawf 58.94 296 P **P** **14 55 26.6 +0.3**
SNR=15
WHFO P **P** **14 55 26.6 +0.3**
SNR=15
WHFO P **P** **14 55 26.6 +0.3**
SNR=15
WHFO S **S** **15 03 27.7 -1.5**
WHFO S **S** **15 03 27.7 -1.5**
WHFO S **S** **15 03 27.7 -1.5**
TEY Ternei 58.97 24 ⇑*e*P **P** **14 55 23.4 -2.4**
TEY *e* 15 03 19.1
TEY pmax pmax
comp=N,100nm,5.3s
TEY pmax pmax
comp=Z,100nm,9.9s
TEY pmax pmax
comp=Z,20nm,0.9s
MK31 Makanchi Array 59.00 340 *i*P **P** **14 55 24.6 -1.5**
MK31 pmax pmax
comp=Z,61nm,0.8s
MKAR Makanchi Array 59.00 340 P **P** **14 55 24.0 -2.1**
comp=Z,18nm,0.4s,baz=155,slow=6.6,SNR=125
MKAR S **S** **15 03 24.0 -4.9**
comp=Z,2.6nm,1.1s,baz=74,slow=11,SNR=2.3
MKAR LR LR 15 24 12.5
comp=Z,5µm,19.9s,baz=149,slow=40
MKAR PKPPKP **P'P'df** **15 25 00.8 +2.8**
comp=Z,0.6nm,0.6s,baz=306,slow=2.9,SNR=5.0
MKAR Makanchi Array 59.00 340 *i*P **P** **14 55 24.2 -1.9**
MKAR pmax pmax
comp=Z,18nm,0.4s
MKAR Makanchi Array 59.00 340 P **P** **14 55 25.5 -0.6**
EKS2 Erkin-Say 59.05 332 P **P** **14 55 25.6 -1.0**
SNR=76
MAKZ Makanchi 59.12 340 P **P** **14 55 26.8 -0.1**
MAKZ pmax pmax
comp=Z,120nm,1.5s
MAKZ MLR MLR
comp=Z,9µm,22.0s
MAKZ Makanchi 59.12 340 P **P** **14 55 26.8 -0.1**
MAKZ IAmb IAmb 14 56 18.0
comp=Z,120nm,1.5s
ABTO Aybut 59.16 296 P **P** **14 55 29.0 +1.2**
SNR=29

ABTO P **P** **14 55 29.0 +1.2**
SNR=29
ABTO S **S** **15 03 30.1 -2.0**
ABTO S **S** **15 03 30.1 -2.0**
USP Ospenovka 59.19 332 P **P** **14 55 26.9 -0.6**
SNR=72
SGDS Sogindy 59.27 333 *e*P **P** **14 55 26.1 -2.0**
SGDS *e*S **S** **15 03 30.2 -2.4**
SGDS Sogindy 59.27 333 *e*P **P** **14 55 26.1 -2.0**
baz=332
SGDS *e*S **S** **15 03 30.2 -2.4**
baz=332
PINNC Pines Island, 59.28 111 P **P** **14 55 27.7 -0.8**
JEW Eniwo 59.33 29 P **P** **14 55 29.1 +0.7**
ABPO Ambohimpanom 59.34 253 IAMs_20 IAMs_20 15 16 34.2
comp=Z,3μm,19.0s
ABPO Ambohimpanom 59.34 253 P **P** **14 55 31.6 +2.5**
OPO Ambohidratompo 59.36 253 S **S** **15 03 32.8 -2.1**
comp=Z,0.6nm,0.3s,baz=106,slow=22,SNR=1.1
ERM Erimo 59.54 30 *c* *i*P **P** **14 55 29.0 -0.9**
ERM pmax pmax
comp=Z,55nm,1.1s
ERM MLR MLR
comp=Z,4μm,21.0s
ERM Erimo 59.54 30 IAMs_20 IAMs_20 15 21 36.4
comp=Z,4μm,21.0s
UMZA Um Al Zommool 59.61 302 P **P** **14 55 31.9 +1.2**
UMZA P **P** **14 55 31.9 +1.2**
UMZA P **P** **14 55 31.9 +1.2**
UMZA S **S** **15 03 36.8 -0.7**
UMZA S **S** **15 03 36.8 -0.7**
UMZA S **S** **15 03 36.8 -0.7**
ALNE Al Ain 59.69 304 P **P** **14 55 32.6 +1.3**
SNR=56
ALNE P **P** **14 55 32.6 +1.3**
SNR=56
ALNE P **P** **14 55 32.6 +1.3**
SNR=56
ALNE S **S** **15 03 39.1 +0.5**
ALNE S **S** **15 03 39.1 +0.5**
ALNE S **S** **15 03 39.1 +0.5**
ALNE Al Ain 59.69 304 *i*P **P** **14 55 31.3 +0.1**
SNR=34
UOSS Minazif 59.70 305 P **P** **14 55 32.0 +0.6**
UOSS Minazif 59.70 305 P **P** **14 55 32.6 +1.2**
UOSS P **P** **14 55 32.6 +1.2**
UOSS S **S** **15 03 37.4 -1.4**
UOSS S **S** **15 03 37.4 -1.4**
UOSS Minazif 59.70 305 *i*P **P** **14 55 31.3 -0.1**
SNR=38
UOSS Minazif 59.70 305 ⇑P **P** **14 55 32.2 +0.8**
UOSS pP **pP** **14 55 39.8 -5.0**
ASHO Ashiyiah 59.71 305 P **P** **14 55 32.9 +1.5**
ASHO P **P** **14 55 32.9 +1.5**
ASHO P **P** **14 55 32.9 +1.5**
ASHO P **P** **14 55 33.0 +1.5**
SNR=27
ASHO P **P** **14 55 33.0 +1.5**
SNR=27
ASHO P **P** **14 55 33.0 +1.5**
SNR=27
ASHO S **S** **15 03 38.7 -0.2**
ASHO S **S** **15 03 38.7 -0.2**
ASHO S **S** **15 03 38.7 -0.2**
ASHO S **S** **15 03 39.6 +0.7**
ASHO S **S** **15 03 39.6 +0.7**
ASHO S **S** **15 03 39.6 +0.7**
ASHO Ashiyiah 59.71 305 *i*P **P** **14 55 32.0 +0.6**
SNR=8.7
MOY Mondy 59.71 355 *e*P **P** **14 55 31.3 +0.3**
MOY pmax pmax
comp=Z,94nm,2.2s
HATD Hatta, Dubai 59.71 305 P **P** **14 55 33.1 +1.6**
SNR=38
HATD P **P** **14 55 33.1 +1.6**
SNR=38
HATD P **P** **14 55 33.1 +1.6**
SNR=38
HATD S **S** **15 03 39.2 +0.3**
HATD S **S** **15 03 39.2 +0.3**
HATD S **S** **15 03 39.2 +0.3**
HATD Hatta, Dubai 59.71 305 *i*P **P** **14 55 32.0 +0.6**
SNR=50
MARNC Mare, Loyalty 59.75 110 P **P** **14 55 35.7 +3.9**
comp=Z,4.2nm,1.0s
VOI Vohitsoka 59.87 249 P **P** **14 55 34.5 +1.7**
VOI IAmb IAmb 14 55 37.0
comp=Z,89nm,0.8s
VOI Vohitsoka 59.87 249 P **P** **14 55 36.9 +4.1**
SNR=6.2
VOI Vohitsoka 59.87 249 ⇑P **P** **14 55 34.7 +1.9**
VOI ⇑P **P** **14 55 34.7 +1.9**
VOI Vohitsoka 59.87 249 P **P** **14 55 34.9 +2.2**
MSFE Esma-Masafi 59.93 305 *i*P **P** **14 55 33.1 +0.2**
SNR=25
MASF Masafi 59.93 305 P **P** **14 55 34.8 +1.8**
SNR=18
MASF P **P** **14 55 34.8 +1.8**
SNR=18
MASF S **S** **15 03 41.6 -0.2**
MASF S **S** **15 03 41.6 -0.2**
CIT Chita 60.03 4 *e*P **P** **14 55 34.6 +1.5**
CIT *e* 14 55 44.6
CIT *e* 14 56 17.2
CIT pmax pmax
comp=Z,282nm,2.3s
BANOM Banah 60.07 306 P **P** **14 55 35.2 +1.3**
SNR=7.4
BANOM P **P** **14 55 35.2 +1.3**
SNR=7.4
BANOM S **S** **15 03 43.3 -0.1**
BANOM S **S** **15 03 43.3 -0.1**
BANOM Banah 60.07 306 *i*P **P** **14 55 34.1 +0.2**
SNR=19
HRA Herat 60.07 317 P **P** **14 55 33.2 -0.7**
HRA IAmb IAmb 14 55 36.2
comp=Z,191nm,1.7s
IRK Irkutsk 60.09 358 *e*P **P** **14 55 31.6 -1.9**
IRK *e*S **S** **15 03 45.3 +2.6**
IRK pmax pmax
comp=Z,164nm,2.4s
FAQ Al Faqa, Dubai 60.12 304 P **P** **14 55 35.6 +1.4**
SNR=72
FAQ P **P** **14 55 35.6 +1.4**
SNR=72
FAQ P **P** **14 55 35.6 +1.4**
SNR=72
FAQ Al Faqa, Dubai 60.12 304 *i*P **P** **14 55 34.6 +0.4**
SNR=176
NAZ Nazwa, Dubai 60.16 305 P **P** **14 55 36.0 +1.5**
SNR=24
NAZ P **P** **14 55 36.0 +1.5**
SNR=24
NAZ P **P** **14 55 36.0 +1.5**
SNR=24
NAZ S **S** **15 03 45.4 +0.7**
NAZ S **S** **15 03 45.4 +0.7**
NAZ S **S** **15 03 45.4 +0.7**
NAZ Nazwa, Dubai 60.16 305 *i*P **P** **14 55 35.0 +0.5**
SNR=29
SHME Shamm 60.25 306 P **P** **14 55 36.7 +1.6**
SNR=8.1
SHME P **P** **14 55 36.7 +1.6**
SNR=8.1
SHME Shamm 60.25 306 *i*P **P** **14 55 35.7 +0.6**
SNR=23
ASUD Al Ashush, Dub 60.28 304 P **P** **14 55 37.1 +1.8**
SNR=26
ASUD P **P** **14 55 37.1 +1.8**
SNR=26
ASUD P **P** **14 55 37.1 +1.8**
SNR=26
ASUD S **S** **15 03 46.7 +0.5**
ASUD S **S** **15 03 46.7 +0.5**
ASUD S **S** **15 03 46.7 +0.5**
ASUD Al Ashush, Dub 60.28 304 *i*P **P** **14 55 35.9 +0.6**
SNR=62
UMQ Umm Al-Quwin 60.40 305 S **S** **15 03 50.1 +2.5**
DZA Taraz 60.41 330 *e*P **P** **14 55 33.8 -2.1**
DZA *e*S **S** **15 03 44.7 -2.6**
DZA *i*S S 15 03 45.0 -2.3
DZA Taraz 60.41 330 *e*P **P** **14 55 33.9 -2.0**
baz=330
DZA *e*S **S** **15 03 44.7 -2.6**
baz=330
DZA *i*S S 15 03 45.1 -2.2
baz=330
IUG luzhnay 60.52 329 *e*P **P** **14 55 34.6 -2.1**
IUG *e*S **S** **15 03 45.9 -2.9**
IUG luzhnay 60.52 329 *e*P **P** **14 55 34.7 -2.1**
baz=329
IUG *e*S **S** **15 03 45.9 -2.9**
baz=329
AJN Ajban 60.53 304 P **P** **14 55 38.2 +1.2**
SNR=19
AJN P **P** **14 55 38.2 +1.2**
SNR=19
AJN P **P** **14 55 38.2 +1.2**
SNR=19
AJN S **S** **15 03 47.9 -1.5**
AJN S **S** **15 03 47.9 -1.5**
AJN S **S** **15 03 47.9 -1.5**
AJN Ajban 60.53 304 *i*P **P** **14 55 37.5 +0.5**
SNR=20
BTLS Baital 60.77 333 *e*P **P** **14 55 35.6 -2.6**
BTLS *e*S **S** **15 03 48.6 -3.1**
BTLS Baital 60.77 333 *e*P **P** **14 55 35.7 -2.6**
baz=333
BTLS *e*S **S** **15 03 48.6 -3.1**
baz=333
ASAJ Asahikawa 60.84 28 P **P** **14 55 37.3 -1.5**
comp=Z,36nm,0.6s,baz=235,slow=11,SNR=28
ASAJ LR LR 15 22 05.4
comp=Z,2μm,21.6s,baz=240,slow=36
KLR Kul'dur 60.85 18 LR LR 15 24 14.5
comp=Z,2μm,18.1s,baz=218,slow=38
KLR Kul'dur 60.85 18 *c* *e*P **P** **14 55 36.9 -1.8**
KLR pmax pmax
comp=Z,2μm,17.1s
KK31 Karatay Array 60.97 330 *e*P **P** **14 55 37.7 -2.0**
KK31 Karatay Array 60.97 330 P **P** **14 55 38.5 -1.2**
KKAR Karatay Array 60.97 330 P **P** **14 55 38.5 -1.2**
KKAR pmax pmax
comp=Z,23nm,0.8s
KKAR Karatay Array 60.97 330 P **P** **14 55 38.5 -1.2**
MZWR Madinat Zayed 61.11 303 P **P** **14 55 42.3 +1.3**
MZWR P **P** **14 55 42.3 +1.3**
MZWR P **P** **14 55 42.3 +1.3**
MZWR S **S** **15 03 57.3 +0.5**
MZWR S **S** **15 03 57.3 +0.5**
MZWR S **S** **15 03 57.3 +0.5**
MZR Muzera 61.14 302 P **P** **14 55 42.8 +1.6**
SNR=66
MZR P **P** **14 55 42.8 +1.6**
SNR=66
MZR S **S** **15 03 56.2 -1.0**
MZR S **S** **15 03 56.2 -1.0**
MZR Muzera 61.14 302 *i*P **P** **14 55 41.9 +0.7**
SNR=105
GHWR Ruwais 62.03 302 P **P** **14 55 48.4 +1.2**
JRN Qarnain Island 62.45 303 P **P** **14 55 51.0 +1.0**
SNR=26
JRN P **P** **14 55 51.0 +1.0**
SNR=26
JRN S **S** **15 04 11.8 -1.9**
JRN S **S** **15 04 11.8 -1.9**
SEM Semipalatinsk 62.81 341 *e*P **P** **14 55 49.0 -3.1**
SEM *e*S **S** **15 04 14.6 -3.1**
SEM Semipalatinsk 62.81 341 *e*P **P** **14 55 49.0 -3.1**
baz=341
SEM *e*S **S** **15 04 14.7 -3.1**
baz=341
SLWR Sila 63.07 302 P **P** **14 55 55.5 +1.4**
SLWR P **P** **14 55 55.5 +1.4**
SLWR P **P** **14 55 55.5 +1.4**
SLWR S **S** **15 04 19.1 -2.4**
SLWR S **S** **15 04 19.1 -2.4**
SLWR S **S** **15 04 19.1 -2.4**
YSS Yuzh-Sakhalins 63.08 26 *c* *e*P **P** **14 55 53.6 -0.1**
YSS *e* 14 58 13.6
YSS *e*S **S** **15 04 17.2 -3.5**
YSS *e*SS **SS** **15 08 29.2 +1.6**
YSS pmax pmax
comp=Z,2μm,7.0s
YSS pmax pmax
comp=Z,120nm,1.4s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,2μm,17.0s
YSS Yuzh-Sakhalins 63.08 26 P **P** **14 55 53.5 -0.2**
YSS Yuzh-Sakhalins 63.08 26 P **P** **14 55 54.1 +0.4**
YSS Yuzh-Sakhalins 63.08 26 ⇓P **P** **14 55 53.9 +0.2**
YSS pP pP 14 55 58.5 -8.8
YSS sP sP 14 56 01.9 -11
KURBB Kurchatov Arra 63.56 340 P **P** **14 55 55.6 -1.2**
comp=N,40nm,0.6s,baz=152,slow=5.9,SNR=137
KURBB S S 15 04 14.8 -12
comp=N,0.6nm,1.0s,baz=212,slow=6.7,SNR=1.3
KURBB PKPPKP **P'P'df** **15 24 50.4 -0.3**
comp=N,1.4nm,1.0s,baz=327,slow=2.6,SNR=5.0
KURBB LR LR 15 26 58.8
comp=N,6μm,20.4s,baz=124,slow=39
KURK Kurchatov 63.61 340 P **P** **14 55 56.6 -0.5**
KURK pmax pmax
comp=Z,172nm,1.0s
KURK MLR MLR
comp=Z,8μm,20.0s
KURK Kurchatov 63.61 340 P **P** **14 55 56.6 -0.5**
KURK IAmb IAmb 14 56 43.6
comp=Z,172nm,1.0s
KURK Kurchatov 63.61 340 P **P** **14 55 57.0 -0.1**
KURK P **P** **14 55 57.0 -0.1**
KURK S **S** **15 04 23.6 -3.7**
KURK S **S** **15 04 23.6 -3.7**
GRNR Gornyy 63.70 20 ⇓*i*P **P** **14 55 58.4 +0.7**
GRNR *e*S **S** **15 04 32.7 +4.4**
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.2s
GRNR smax smax
comp=E,2.0nm,0.8s
TRNA Turayna 63.73 303 P **P** **14 55 59.8 +1.4**
TRNA S **S** **15 04 26.1 -3.6**
ZEA Zeya 63.76 13 *e*P **P** **14 55 57.0 -1.1**
ZEA *e* 14 56 11.8
ZEA *e* 14 58 20.9
ZEA *e*S **S** **15 04 25.6 -3.4**
ZEA pmax pmax
comp=E,100nm,6.8s
ZEA pmax pmax
comp=N,400nm,6.5s
ZEA pmax pmax
comp=Z,800nm,7.4s
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=Z,60nm,1.0s
ZEA pmax pmax
comp=Z,400nm,9.9s
ZEA smax smax
comp=E,400nm,7.5s
ZEA smax smax
comp=N,500nm,10.4s
ZEA MLR MLR
comp=N,2μm,19.0s
ZEA MLR MLR
comp=E,1μm,19.0s
ZEA MLR MLR
comp=Z,2μm,19.0s
KHOR Al-Khor Airpor 63.84 304 P **P** **14 56 00.5 +1.4**
KHOR S **S** **15 04 30.2 -0.7**
OTUK Ortayu 64.00 335 P **P** **14 55 58.7 -1.1**
SHMA Al-Shehemyia 64.38 304 P **P** **14 56 03.8 +1.1**
SHMA S **S** **15 04 39.6 +1.9**
UGL Uglegorsk 64.43 24 *c* *i*P **P** **14 56 01.4 -1.1**
UGL *e* 14 56 31.3
UGL *e*S **S** **15 04 39.0 +1.6**
UGL pmax pmax
comp=Z,1μm,4.0s
UGL pmax pmax
comp=Z,80nm,0.7s
UGL MLR MLR
comp=N,2μm,20.0s
UGL MLR MLR
comp=E,2μm,22.0s
UGL MLR MLR
comp=Z,3μm,22.0s
FOZ Fox Glacier 64.57 134 P **P** **14 56 01.7 -2.0**
FOZ IAmb IAmb 14 56 37.2
comp=Z,88nm,1.2s
ZALV Zalesovo Beam 64.63 345 P **P** **14 56 01.8 -1.9**
comp=Z,26nm,0.5s,baz=135,slow=3.6,SNR=48
ZALV S **S** **15 04 37.9 -1.9**
comp=Z,4.6nm,0.8s,baz=155,slow=14,SNR=7.1
ZALV ScS **SKSac** **15 05 47.0 -6.7**
comp=Z,4.4nm,0.8s,baz=204,slow=9.3,SNR=5.7
ZALV PKPPKP **P'P'df** **15 24 49.2 +0.5**
comp=Z,2.9nm,1.0s,baz=321,slow=4.8,SNR=4.8
ZALV LR LR 15 27 08.8
comp=Z,3μm,20.4s,baz=152,slow=39
ZALV Zalesovo Beam 64.63 345 *i*P **P** **14 56 02.2 -1.6**
ZALV pmax pmax
comp=Z,27nm,0.5s
SAKB Bahrain 64.78 304 P **P** **14 56 06.4 +1.1**
SAKB S **S** **15 04 41.3 -1.3**
GEYT Alibeck 64.83 318 P **P** **14 56 04.8 -0.6**
comp=Z,29nm,0.5s,baz=151,slow=8.0,SNR=40
GEYT PKPPKP **P'P'df** **15 24 49.5 -0.6**
comp=Z,1.1nm,0.5s,baz=25,slow=4.8,SNR=2.2
GEYT LR LR 15 27 29.9
comp=Z,3μm,20.2s,baz=136,slow=39
GEYT Alibeck 64.83 318 P **P** **14 56 05.0 -0.5**
GEYT IAmb IAmb 14 56 08.2
comp=Z,215nm,1.4s
GYAOB ALIBECK ARRAY 64.83 318 P **P** **14 56 05.5 0.0**
BRZS Berezniki 65.22 336 *e*P **P** **14 56 05.8 -1.9**
BRZS *e*S **S** **15 04 45.3 -1.8**
BRZS Berezniki 65.22 336 *e*P **P** **14 56 05.8 -1.9**
baz=336
BRZS *e*S **S** **15 04 45.4 -1.8**
baz=336
RPZ Rata Peaks 65.49 134 LR LR 15 24 32.9
comp=Z,10μm,20.6s,baz=268,slow=36
RPZ Rata Peaks 65.49 134 P **P** **14 56 10.3 +0.7**
BOD Bodaibo 65.83 4 *e*P **P** **14 56 11.5 +0.1**
BOD pmax pmax
comp=Z,215nm,1.7s
LTZ Lake Taylor 66.16 133 P **P** **14 56 14.1 +0.1**
LTZ IAmb IAmb 14 56 38.9
comp=Z,114nm,1.2s
THZ Tophouse 66.43 132 P **P** **14 56 17.1 +1.3**
MAW Mawson 66.53 197 P **P** **14 56 17.1 +1.2**
comp=Z,85nm,0.6s,baz=52,slow=5.7,SNR=56
MAW LR LR 15 19 13.0
comp=Z,2μm,20.6s,baz=40,slow=30
MAW PKPPKP **P'P'df** **15 24 43.8 -4.6**
comp=Z,5.8nm,0.9s,baz=129,slow=6.5,SNR=3.0
MAW PKP2bc 15 24 50.6
comp=Z,16nm,1.0s,baz=55,slow=6.3,SNR=6.6
MAW Mawson 66.53 197 P **P** **14 56 17.3 +1.5**
baz=67,SNR=50
NNZ Nelson 66.68 131 P **P** **14 56 17.6 +0.3**
NNZ IAmb IAmb 14 56 38.5
comp=Z,200nm,1.1s
NBEZ Newall Road No 66.73 129 P **P** **14 56 22.2 +4.5**
KHEZ Kahui Hut 66.84 129 P **P** **14 56 22.7 +4.1**
NEZ North Egmont 66.90 129 P **P** **14 56 22.0 +3.1**
KHZ Kahutara 67.01 133 P **P** **14 56 20.3 +0.9**
KHZ IAmb IAmb 14 56 41.0
comp=Z,260nm,1.2s
DUWZ D'Urville Isla 67.01 131 P **P** **14 56 20.3 +0.8**
MHEZ Mangahewa 67.05 129 P **P** **14 56 24.3 +4.6**
BSWZ Blackbirch Sta 67.13 132 P **P** **14 56 20.6 +0.4**
TUWZ Tuamarina 67.13 132 P **P** **14 56 20.9 +0.7**
ATD Arta Tunnel 67.14 286 P **P** **14 56 20.9 +0.1**
comp=Z,6.9nm,0.3s,baz=203,slow=1.6,SNR=5.3
ATD LR LR 15 21 01.9
comp=Z,913nm,21.3s,baz=98,slow=32
NKL Nikolayevsk 67.15 21 *e*P **P** **14 56 16.7 -3.2**
NKL *e* 14 56 42.7
NKL *e* 14 58 49.6
NKL *e*S S 15 05 37.6 +27
NKL pmax pmax
comp=E,4.0nm,0.6s
NKL pmax pmax
comp=N,1.0nm,1.2s
NKL pmax pmax
comp=Z,67nm,1.3s
NKL pmax pmax
comp=Z,156nm,2.4s
LREZ Lake Rotokare 67.17 129 P **P** **14 56 22.6 +2.2**
TCW Tory Channel 67.34 131 P **P** **14 56 23.4 +1.8**
HIZ Hauiti 67.38 128 IAMs_20 IAMs_20 15 24 52.1
comp=Z,6μm,21.0s
HIZ Hauiti 67.38 128 P **P** **14 56 24.0 +2.1**
HIZ Hauiti 67.38 128 P **P** **14 56 25.1 +3.3**
comp=Z,763nm,0.9s
VRZ Vera Road 67.39 129 P **P** **14 56 25.1 +3.2**
CCD Concordia, Ant 67.65 176 P **P** **14 56 24.5 +1.1**
CCD pP **pP** **14 56 30.7 -5.9**
WAZ Wanganui 67.65 130 P **P** **14 56 26.0 +2.4**
SNZO South Karori 67.68 131 P **P** **14 56 24.3 +0.6**
SNZO South Karori 67.68 131 P **P** **14 56 27.4 +3.8**
comp=Z,341nm,1.1s
KIW Kapiti Island 67.76 131 P **P** **14 56 25.6 +1.4**
TOZ Tahuroa Road 67.78 127 P **P** **14 56 27.8 +3.5**
BHW Baring Head 67.82 131 P **P** **14 56 25.3 +0.7**
BHW Baring Head 67.82 131 P **P** **14 56 26.0 +1.4**
TLZ Tolley Road 67.89 128 P **P** **14 56 28.1 +3.0**
TWVZ Taurewa 67.91 129 P **P** **14 56 28.8 +3.5**
CAW Cannon Point 67.92 131 P **P** **14 56 27.2 +2.0**
OGWZ Otaki Gorge 67.95 131 P **P** **14 56 27.0 +1.6**
OHWZ Ohakea 67.97 130 P **P** **14 56 28.5 +3.0**
MTVZ Mangateitei 67.97 129 P **P** **14 56 28.7 +3.0**
FWVZ Far West T-bar 68.02 129 P **P** **14 56 28.2 +2.0**
TRVZ Turoa 68.02 129 P **P** **14 56 28.1 +1.9**
WTVZ West Tongariro 68.03 129 P **P** **14 56 29.3 +3.2**
DRZ Dome Shelter 68.03 129 P **P** **14 56 29.3 +3.0**
NGZ Ngauruhoe 68.05 129 P **P** **14 56 28.7 +2.4**
NNVZ North Ngauruho 68.05 129 P **P** **14 56 28.6 +2.3**
WHVZ Whangaehu Hut 68.05 129 P **P** **14 56 28.7 +2.3**
WNVZ Wahianoa 68.06 129 P **P** **14 56 28.1 +1.8**
KRVZ Karewarewa 68.06 129 P **P** **14 56 23.3 -3.0**
SNVZ South Ngauruho 68.08 129 P **P** **14 56 29.5 +3.0**
WATZ Wairara 68.08 128 P **P** **14 56 29.7 +3.4**
NTVZ North Tongarir 68.09 129 P **P** **14 56 29.3 +2.8**
OTVZ Oturere 68.09 129 P **P** **14 56 28.5 +2.0**
TUVZ Tukino 68.10 129 P **P** **14 56 29.1 +2.5**
MSWZ Moikau Station 68.10 131 P **P** **14 56 27.3 +1.0**
MSWZ Moikau Station 68.10 131 P **P** **14 56 28.1 +1.7**
TMVZ Te Maari 68.12 129 P **P** **14 56 29.7 +3.1**
ETVZ East Tongariro 68.12 129 P **P** **14 56 28.8 +2.1**
PLWZ Palliser 68.13 132 P **P** **14 56 28.2 +1.7**
RATZ Rangitukua 68.14 129 P **P** **14 56 29.9 +3.3**
RAYN Ar Rayn 68.14 299 P **P** **14 56 26.9 -0.1**
RAYN pmax pmax
comp=Z,142nm,1.4s
RAYN MLR MLR
comp=Z,3μm,19.0s
RAYN Ar Rayn 68.14 299 P **P** **14 56 26.9 -0.1**
RAYN IAmb IAmb 14 56 30.5
comp=Z,142nm,1.4s
RAYN Ar Rayn 68.14 299 IAMs_20 IAMs_20 15 27 27.2
comp=Z,3μm,19.0s
RAYN Ar Rayn 68.14 299 *i*P **P** **14 56 27.1 +0.1**
SNR=29
RAYN Ar Rayn 68.14 299 P **P** **14 56 27.4 +0.4**
MOVZ Moawhango 68.19 129 P **P** **14 56 28.8 +1.7**
RITZ Rihia Road 68.22 129 P **P** **14 56 30.6 +3.4**
HOWZ Holdsworth Sta 68.22 131 P **P** **14 56 29.0 +1.8**
PAWZ Paruwai Farm 68.23 131 P **P** **14 56 29.5 +2.3**
MRZ Mangatainoka R 68.23 131 P **P** **14 56 28.6 +1.4**
MTW Mount Morrison 68.25 131 P **P** **14 56 30.1 +2.8**
POWZ Post Office Ro 68.34 130 P **P** **14 56 31.9 +4.0**
WPRZ Whakapapataran 68.39 128 P **P** **14 56 31.6 +3.3**
KARZ Kaharoa 68.40 128 P **P** **14 56 31.9 +3.6**
TRWZ Traveller 68.42 131 P **P** **14 56 30.3 +1.9**
TSZ Takapari Road 68.44 130 P **P** **14 56 29.9 +1.4**
BHHZ Black Hill Sta 68.44 129 P **P** **14 56 29.6 +1.0**
BVAR Borovoye Array 68.48 337 P **P** **14 56 27.1 -1.3**
comp=Z,60nm,0.5s
TIWZ Timtock 68.48 131 P **P** **14 56 31.3 +2.5**
PRWZ Pori Road 68.52 130 P **P** **14 56 29.7 +0.8**
TMWZ Te Maipa 68.53 131 P **P** **14 56 30.3 +1.2**
BRVK Borovoye 68.55 337 *i*P **P** **14 56 27.0 -1.8**
BRVK pmax pmax
comp=Z,88nm,0.7s
BRVK MLR MLR
comp=Z,5μm,22.0s
BRVK Borovoye 68.55 337 P **P** **14 56 28.7 -0.1**

BRVK IAmb IAmb 14 56 31.9
comp=Z,267nm,1.4s
BRVK Borovoye 68.55 337 IAMs_20 IAMs_20 15 30 21.8
comp=Z,5μm,20.0s
BRVK Borovoye 68.55 337 P **P** **14 56 29.3 +0.5**
BRVK P **P** **14 56 29.3 +0.5**
BRVK P **P** **14 56 29.3 +0.5**
BRVK S **S** **15 05 23.3 -3.9**
BRVK S **S** **15 05 23.3 -3.9**
BRVK S **S** **15 05 23.3 -3.9**
PNHZ Pukenui 68.60 130 P **P** **14 56 31.3 +1.7**
OPRZ Ohinepanea 68.62 127 P **P** **14 56 31.5 +1.9**
DVHZ Dannevirke 68.63 130 P **P** **14 56 31.5 +1.8**
MRHZ Matea Rd 68.63 128 P **P** **14 56 31.3 +1.5**
RRRZ Republican Roa 68.65 128 P **P** **14 56 31.7 +1.8**
KRHZ Kereru 68.70 129 P **P** **14 56 32.2 +2.1**
KWHZ Kaweka Forest 68.71 129 P **P** **14 56 32.6 +2.3**
BKZ Black Stump Fm 68.73 129 P **P** **14 56 31.2 +0.8**
BKZ Black Stump Fm 68.73 129 P **P** **14 56 32.5 +2.1**
BFZ Birch Farm 68.74 130 P **P** **14 56 31.8 +1.4**
BFZ IAmb IAmb 14 56 52.4
comp=Z,215nm,1.1s
BFZ Birch Farm 68.74 130 P **P** **14 56 31.1 +0.7**
BFZ Birch Farm 68.74 130 P **P** **14 56 33.1 +2.7**
ANWZ Angora Road 68.88 130 P **P** **14 56 32.7 +1.5**
NMHZ Naumai 68.97 129 P **P** **14 56 34.4 +2.5**
PRHZ Porangahau 68.98 130 P **P** **14 56 33.5 +1.7**
URZ Urewera 69.11 128 LR LR 15 26 46.4
comp=Z,5μm,20.8s,baz=282,slow=36
URZ Urewera 69.11 128 P **P** **14 56 32.3 -0.3**
URZ IAmb IAmb 14 56 36.7
comp=Z,70nm,0.7s
URZ IAMs_20 IAMs_20 15 26 13.9
comp=Z,5μm,21.0s
URZ Urewera 69.11 128 P **P** **14 56 34.3 +1.6**
ARHZ Aropaoanui 69.13 129 P **P** **14 56 33.5 +0.7**
MSVF Nonsavu 69.16 106 LR LR 15 27 07.2
comp=Z,4μm,20.3s,baz=284,slow=36
MSVF Nonsavu 69.16 106 *i* P **P** **14 56 32.4 -1.1**
MSVF pmax pmax
comp=Z,4μm,18.5s
KIBK Kibwezi 69.30 271 P **P** **14 56 33.9 -0.5**
KIBK IAMs_20 IAMs_20 15 20 40.6
comp=Z,5μm,22.0s
KIBK Kibwezi 69.30 271 P **P** **14 56 36.4 +2.0**
SNR=15
MXZ Matakaoa Point 69.97 127 P **P** **14 56 39.1 +1.1**
MXZ IAmb IAmb 14 56 41.0
comp=Z,160nm,0.8s
KMBO Kilima Mbogo 70.25 272 P **P** **14 56 41.4 +0.9**
comp=Z,33nm,0.9s,baz=62,slow=7.9,SNR=34
KMBO S **S** **15 05 46.7 -2.6**
comp=Z,1.3nm,0.4s,baz=68,slow=22,SNR=2.1
KMBO LR LR 15 21 57.7
comp=Z,5μm,21.9s,baz=94,slow=31
KMBO PKPPKP **P'P'df** **15 24 41.7 -2.7**
comp=Z,0.8nm,0.4s,baz=223,slow=7.1,SNR=8.7
KMBO Kilima Mbogo 70.25 272*c i*P **P** **14 56 42.2 +1.7**
KMBO Kilima Mbogo 70.25 272 IAMs_20 IAMs_20 15 21 22.9
comp=Z,5μm,22.0s
KMBO Kilima Mbogo 70.25 272 IAmb IAmb 14 57 01.1
comp=Z,126nm,1.4s
KMBO Kilima Mbogo 70.25 272 P **P** **14 56 42.6 +2.1**
KMBO P **P** **14 56 42.6 +2.1**
KMBO Kilima Mbogo 70.25 272 *i* P **P** **14 56 41.4 +0.9**
SNR=36
KMBO Kilima Mbogo 70.25 272 ⇑P **P** **14 56 42.6 +2.1**
KMBO pP **pP** **14 56 53.7 -0.1**
ABKAR Akbulak array 70.52 329 P **P** **14 56 40.5 -0.5**
ABKAR Akbulak array 70.52 329 P **P** **14 56 40.5 -0.5**
ABKAR Akbulak array 70.52 329 P **P** **14 56 40.7 -0.3**
FURI Furi 70.56 282 IAMs_20 IAMs_20 15 23 38.0
comp=Z,5μm,21.0s
YAK Yakutsk 71.94 11 P **P** **14 56 48.1 -1.3**
comp=Z,86nm,0.6s,baz=190,slow=0.9,SNR=82
YAK S **S** **15 06 00.9 -5.6**
comp=Z,3.7nm,0.4s,baz=270,slow=13,SNR=10
YAK LR LR 15 27 55.7
comp=Z,2μm,21.8s,baz=212,slow=36
YAK Yakutsk 71.94 11*c i*P **P** **14 56 48.0 -1.3**
YAK *e**PP **pP** **14 57 00.5 -2.6**
YAK *e* 14 57 08.6
YAK *e* 14 59 22.1
YAK *e*S **S** **15 06 01.2 -5.3**
YAK *e* 15 06 41.8
YAK pmax pmax
comp=Z,322nm,1.2s
YAK pmax pmax
comp=N,118nm,1.1s
YAK pmax pmax
comp=E,85nm,1.3s
YAK pmax pmax
comp=Z,39nm,1.1s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,20nm,1.0s
YAK smax smax
comp=N,359nm,3.5s
YAK smax smax
comp=E,133nm,1.6s
YAK MLR MLR
comp=Z,4μm,17.0s
YAK MLR MLR
comp=E,1μm,13.0s
YAK MLR MLR
comp=N,2μm,13.0s
YAK Yakutsk 71.94 11 P **P** **14 56 48.5 -0.8**
YAK IAMs_20 IAMs_20 15 33 15.2
comp=Z,4μm,18.0s
SKR Severo-Kuril's 71.99 30 *e*P **P** **14 56 47.1 -2.7**
SKR *e*S **S** **15 06 12.8 +5.4**
SKR pmax pmax
comp=Z,94nm,2.1s
SKR pmax pmax
comp=Z,1μm,3.0s
SKR pmax pmax
comp=Z,400nm,9.6s
SKR MLR MLR
comp=Z,800nm,19.0s
SKR MLR MLR
comp=Z,800nm,20.0s
AKTO Aktyubinsk 72.23 329 P **P** **14 56 50.8 -0.5**
comp=Z,94nm,0.7s,baz=112,slow=8.7,SNR=83
AKTO S **S** **15 06 06.2 -4.1**
comp=Z,7.0nm,0.9s,baz=286,slow=21,SNR=13
AKTO LR LR 15 32 39.9
comp=Z,3μm,20.5s,baz=131,slow=39
TETE Tete 72.39 256*e*P **P** **14 56 54.3 +1.3**
TETE IAmb IAmb 14 56 57.9
comp=Z,62nm,0.8s
RAO Raoul Island 72.72 118 LR LR 15 28 00.7
comp=Z,4μm,21.8s,baz=250,slow=35
LODK Lodwar 72.81 276 P **P** **14 56 56.4 +0.8**
LODK Lodwar 72.81 276 P **P** **14 56 58.1 +2.4**
SNR=22
CNG Changalane 73.32 245 *i* P **P** **14 57 01.0 +2.6**
CNG Changalane 73.32 245 *i* P **P** **14 57 01.0 +2.6**
POGA Pongola 73.74 244 *e*P **P** **14 57 02.6 +1.7**
POGA IAmb IAmb 14 57 05.6
comp=Z,86nm,0.8s
KSLA Kassala 74.10 288 *i* P **P** **14 57 04.2 +1.0**
MOPA Mopani 74.10 248 *e*P **P** **14 57 05.2 +2.1**
MOPA IAmb IAmb 14 57 08.2
comp=Z,66nm,1.0s
MOPA Mopani 74.10 248 *i* P **P** **14 57 05.7 +2.6**
MOPA Mopani 74.10 248 *i* P **P** **14 57 05.7 +2.6**
PEA0B Petropavlovsk- 74.26 29*c i*P **P** **14 57 03.7 +0.5**
PEA0B Petropavlovsk- 74.26 29 P **P** **14 57 03.8 +0.6**
PETK Petropavlovsk- 74.26 29 P **P** **14 57 02.6 -0.6**
comp=Z,9.4nm,0.6s,baz=207,slow=6.2,SNR=14
PETK LR LR 15 31 43.5
comp=Z,1μm,20.3s,baz=203,slow=38
PETK Petropavlovsk- 74.26 29 P **P** **14 57 02.3 -1.0**
MAK Makhachkala 74.35 319 *e*P **P** **14 57 02.0 -1.9**
MAK *e**PP **pP** **14 57 17.8 -0.1**
MAK *e* 14 59 47.3
MAK *e*PPP PPP 15 01 31.4
MAK *e*S **S** **15 06 31.8 -2.7**
MAK *e**SS **sS** **15 06 57.9 +0.2**
MAK *e*SS **SS** **15 11 25.4 +3.7**
MAK *e*SSS SSS 15 14 37.3
MAK pmax pmax
comp=Z,332nm,1.5s
PET Petropavlovsk 74.67 29*ce*P **P** **14 57 03.9 -1.7**
PET *e* 14 59 58.7
PET *e*S **S** **15 06 35.2 -2.4**
PET pmax pmax
comp=Z,2μm,7.9s
PET pmax pmax
comp=Z,142nm,1.7s
PET pmax pmax
comp=Z,1μm,13.2s
PET pmax pmax
comp=Z,900nm,17.7s
PET pmax pmax
comp=Z,800nm,14.7s
PET Petropavlovsk 74.67 29 P **P** **14 57 06.2 +0.6**
PET IAmb IAmb 14 57 08.6
comp=Z,441nm,1.8s
PET Petropavlovsk 74.67 29 P **P** **14 57 07.4 +1.8**
comp=Z,436nm,0.6s
SYO Syowa Base 74.71 200⇑*e*P **P** **14 57 05.8 +0.2**
SYO Syowa Base 74.71 200⇑*e*pP pP 14 57 15.2 -3.8
MQOL MQOL 74.80 294 *i* P **P** **14 57 08.8 +1.8**
VNDA Vanda 74.89 169 P **P** **14 57 06.6 +0.1**
comp=Z,74nm,0.9s,baz=305,slow=6.1,SNR=125
VNDA PKP2ab 15 24 25.6
comp=Z,1.1nm,0.8s,baz=35,slow=6.7,SNR=3.5
VNDA LR LR 15 28 33.9
comp=Z,4μm,18.9s,baz=324,slow=34
VNDA Vanda 74.89 169 P **P** **14 57 06.3 -0.2**
VNDA IAmb IAmb 14 57 10.6
comp=Z,100nm,1.0s
GNI Garni 75.00 315 P **P** **14 57 08.5 +0.4**
comp=Z,52nm,1.1s,baz=65,slow=0.7,SNR=25
GNI S **S** **15 06 38.4 -3.9**
comp=Z,7.1nm,0.3s,baz=148,slow=19,SNR=1.9
GNI LR LR 15 32 37.4
comp=Z,1μm,21.9s,baz=124,slow=38
GNI Garni 75.00 315*e*P **P** **14 57 07.9 -0.1**
GNI Garni 75.00 315*ce*P **P** **14 57 07.1 -0.9**
GNI pmax pmax
comp=Z,98nm,1.3s
GNI MLR MLR
comp=Z,3μm,24.0s
GNI Garni 75.00 315 P **P** **14 57 08.4 +0.4**
GNI IAmb IAmb 14 57 43.5
comp=Z,108nm,1.1s
GNI Garni 75.00 315 P **P** **14 57 09.2 +1.1**
GNI P **P** **14 57 09.2 +1.1**
GNI S **S** **15 06 40.0 -2.3**
GNI S **S** **15 06 40.0 -2.3**
GNI Garni 75.00 315 P **P** **14 57 08.3 +0.3**
SVE Sverdlovsk 75.13 335*de*P **P** **14 57 08.4 +0.2**
SVE *e*S **S** **15 06 42.4 -0.3**
SVE pmax pmax
comp=Z,548nm,1.5s
SVE MLR MLR
comp=Z,6μm,21.0s
CLDR Caldiran 75.17 314*e*P **P** **14 57 09.4 +0.2**
CRLN Carolina, Mapu 75.27 245 *e*P **P** **14 57 10.9 +0.9**
CRLN IAmb IAmb 14 57 14.3
comp=Z,35nm,0.8s
TASB TASBURUN-IGDIR 75.28 315 *e*P **P** **14 57 09.7 +0.1**
NWCL Newcastle 75.34 243 *e*P **P** **14 57 12.3 +2.0**
NWCL IAmb IAmb 14 57 14.5
comp=Z,77nm,0.9s
MSNA Messina 75.42 249 *e*P **P** **14 57 12.2 +1.5**
MSNA IAmb IAmb 14 57 17.5
comp=Z,34nm,0.9s
MSNA Messina 75.42 249 *i* P **P** **14 57 15.1 +4.4**
MSNA Messina 75.42 249 *i* P **P** **14 57 15.1 +4.4**
GEVA Gevas 75.47 313 P **P** **14 57 11.7 +0.9**
GEVA IAmb IAmb 14 57 32.9
comp=Z,304nm,1.5s
AKDM Akdamar-Van 75.53 313 *e*P **P** **14 57 11.4 +0.3**
GROC Groznyy 75.58 318 *e*P **P** **14 57 11.0 -0.1**
GROC *e* 14 57 24.0
GROC *e*S **S** **15 06 46.4 -1.8**
GROC pmax pmax
comp=Z,190nm,1.2s
MA2 Magadan 75.67 21 LR LR 15 32 20.6
comp=Z,886nm,19.6s,baz=236,slow=37
MA2 Magadan 75.67 21*ce*P **P** **14 57 10.3 -1.0**
MA2 pmax pmax
comp=Z,197nm,1.7s
MA2 Magadan 75.67 21 P **P** **14 57 11.6 +0.3**
MA2 IAmb IAmb 14 57 14.6
comp=Z,376nm,1.8s
MA2 IAMs_20 IAMs_20 15 35 19.0
comp=Z,2μm,20.0s
MA2 Magadan 75.67 21 P **P** **14 57 12.1 +0.8**
ARU Arti 75.74 334 P **P** **14 57 11.1 -0.5**
comp=Z,30nm,0.7s,baz=132,slow=3.9,SNR=32
ARU S **S** **15 06 44.8 -4.7**
baz=72,slow=20
ARU LR LR 15 34 41.7
comp=Z,3μm,19.9s,baz=134,slow=39
ARU Arti 75.74 334*c i*P **P** **14 57 11.2 -0.5**
ARU 14 57 22.9
ARU 14 59 57.3
ARU PPP PPP 15 01 49.8
ARU S **S** **15 06 49.6 +0.2**
ARU 15 07 21.7
ARU SS **SS** **15 11 39.7 -2.5**
ARU SSS SSS 15 14 52.5
ARU pmax pmax
comp=Z,550nm,1.3s
ARU MLR MLR
comp=Z,4μm,24.0s
ARU Arti 75.74 334 P **P** **14 57 12.1 +0.4**
ARU IAMs_20 IAMs_20 15 35 17.8
comp=Z,3μm,20.0s
SBA Scott Base 75.96 169 P **P** **14 57 14.2 +1.5**
SBA pmax pmax
comp=Z,107nm,1.0s
SBA Scott Base 75.96 169 P **P** **14 57 14.2 +1.5**
SBA IAmb IAmb 14 57 34.0
comp=Z,107nm,1.0s
GURO Guroymak-BITLI 76.30 313 *e*P **P** **14 57 15.8 +0.3**
GURO Guroymak-BITLI 76.30 313 P **P** **14 57 16.0 +0.5**
GURO IAmb IAmb 14 57 20.9
comp=Z,289nm,1.5s
KARS Kars 76.35 315 P **P** **14 57 16.7 +0.9**
KARS pmax pmax
comp=Z,681nm,0.9s
KARS Kars 76.35 315 P **P** **14 57 16.7 +0.9**
AKH Akhalkalaki 76.38 316 ⇓P **P** **14 57 16.4 +0.5**
AKH Akhalkalaki 76.38 316 *e*P **P** **14 57 16.3 +0.4**
ZEI Tsey 76.66 317 *e*P **P** **14 57 17.3 -0.2**
ZEI pmax pmax
comp=Z,84nm,0.8s
SVAN Silvan-Diyarba 76.76 312 *e*P **P** **14 57 17.9 -0.1**
MARD Mardin 76.77 311 P **P** **14 57 18.3 +0.2**
MARD IAmb IAmb 14 57 21.7
comp=Z,302nm,1.5s
MBAR Mbarara 76.77 271 P **P** **14 57 20.8 +2.1**
baz=98,slow=11
MBAR S **S** **15 07 04.9 +2.1**
comp=Z,2.1nm,0.2s,baz=53,slow=20,SNR=1.3
MBAR LR LR 15 26 27.2
comp=Z,4μm,21.1s,baz=94,slow=32
MBAR Mbarara 76.77 271*c i*P **P** **14 57 20.2 +1.5**
MBAR pmax pmax
comp=Z,82nm,1.0s
MBAR Mbarara 76.77 271 IAMs_20 IAMs_20 15 26 15.7
comp=Z,3μm,20.0s
MBAR Mbarara 76.77 271 P **P** **14 57 21.2 +2.4**
MBAR P **P** **14 57 21.2 +2.4**
SENK Senkaya-Erzuru 76.84 315 *e*P **P** **14 57 18.9 +0.3**
SLR Silverton 76.85 245 *e*P **P** **14 57 20.1 +1.2**
SLR IAmb IAmb 14 57 23.6
comp=Z,133nm,1.1s
BLWY Bulawayo 76.86 251⇑*i*P **P** **14 57 20.3 +1.2**
BLWY IAmb IAmb 14 57 22.8
comp=Z,281nm,0.8s
ONI Oni 76.88 317 P **P** **14 57 19.8 +1.2**
ONI pmax pmax
comp=Z,158nm,1.2s
ONI Oni 76.88 317 P **P** **14 57 19.8 +1.2**
ONI IAmb IAmb 14 57 41.5
comp=Z,158nm,1.2s
MATP Matopo 76.95 251 LR LR 15 25 18.1
comp=Z,6μm,21.7s,baz=79,slow=31
MATP Matopo 76.95 251 *i* P **P** **14 57 21.7 +2.2**
MATP Matopo 76.95 251 *i* P **P** **14 57 21.7 +2.2**
KOPR Koprukoy-ERZUR 76.97 314 *e*P **P** **14 57 19.4 +0.1**
MAZI Mazidag 77.07 311 *e*P **P** **14 57 19.9 +0.1**
SNKL Senekal, Frees 77.20 243 *e*P **P** **14 57 21.9 +1.0**
SNKL IAmb IAmb 14 57 24.5
comp=Z,71nm,0.8s
BNGB Bingl 77.45 313 *e*P **P** **14 57 22.1 +0.2**
DYBB Diyarbakir 77.47 312 *e*P **P** **14 57 22.5 +0.5**
PRYS Parys 77.62 244⇑*i*P **P** **14 57 23.0 -0.2**
PRYS IAmb IAmb 14 57 27.3
comp=Z,128nm,0.8s
LSZ Lusaka 77.64 256 LR LR 15 26 25.3
comp=Z,9μm,21.7s,baz=102,slow=32
BATM Batumi 77.70 316 ⇓P **P** **14 57 23.5 +0.4**
BATM Batumi 77.70 316 *e*P **P** **14 57 23.3 +0.2**
KBZ Khabaz 77.71 318 P **P** **14 57 22.6 -0.5**
comp=Z,96nm,0.9s,baz=152,slow=3.9,SNR=96
KBZ S **S** **15 07 06.5 -4.9**
comp=Z,0.6nm,0.3s,baz=27,slow=4.7,SNR=1.7
KBZ Khabaz 77.71 318*ce*P **P** **14 57 23.2 +0.1**
KBZ pmax pmax
comp=Z,138nm,1.0s
KBZ MLR MLR
comp=Z,1μm,26.0s
JAWL J.Aulia 77.78 287 *i* P **P** **14 57 26.2 +2.1**
JAWL *i* 14 57 53.2
baz=343,slow=18
CHVG Ch'k'valeri 77.86 317 ⇑P **P** **14 57 25.2 +1.2**
KVAR Kislovodsk Arr 77.94 318 P **P** **14 57 23.6 -0.9**
comp=Z,5.8nm,0.5s,baz=82,slow=7.1,SNR=4.2
KVAR LR LR 15 37 15.0
comp=Z,1μm,19.7s,baz=80,slow=40
KIV Kislovodsk 77.94 318 ⇓P **P** **14 57 25.9 +1.4**
KIV Kislovodsk 77.94 318 *e*P **P** **14 57 24.5 0.0**
KIV Kislovodsk 77.94 318 *e*P **P** **14 57 25.1 +0.6**
KIV *e* 15 00 21.8
KIV *e*S **S** **15 07 14.3 +0.1**
KIV pmax pmax
comp=Z,86nm,1.1s
KIV pmax pmax
comp=Z,586nm,4.3s
KIV Kislovodsk 77.94 318 P **P** **14 57 26.2 +1.7**
KIV P **P** **14 57 26.2 +1.7**
KIV Kislovodsk 77.94 318 *i* P **P** **14 57 24.7 +0.2**
SNR=43
KOPT Kop Dagi 77.95 314 P **P** **14 57 25.5 +0.6**
ASF Jabal al Asfar 78.11 305 P **P** **14 57 25.9 +0.2**
comp=Z,57nm,0.6s,baz=165,slow=2.3,SNR=21
ASF LR LR 15 31 44.5
comp=Z,4μm,21.4s,baz=111,slow=36
GOF Gofitskoye 78.16 319⇑*i*P **P** **14 57 26.2 +0.6**
GOF *e*S **S** **15 07 13.6 -2.7**
GOF pmax pmax
comp=Z,156nm,1.2s
GOF smax smax
comp=N,57nm,1.1s
GOF smax smax
comp=E,62nm,0.8s
CHOM Cayeli-Rize 78.16 315 *e*P **P** **14 57 25.9 +0.2**
SVRC Sivrice-ELAZID 78.24 312 *e*P **P** **14 57 26.4 0.0**
ERZN Erzincan 78.35 313 *e*P **P** **14 57 27.9 +0.9**
NRIK Noril'sk 78.41 353 P **P** **14 57 24.9 -1.5**
comp=E,176nm,1.1s,baz=145,slow=5.1,SNR=65
NRIK S **S** **15 07 09.8 -8.2**
comp=E,1.2nm,0.4s,baz=112,slow=10,SNR=1.7
NRIK LR LR 15 34 59.3
comp=E,8μm,19.7s,baz=162,slow=38
NRIK Noril'sk 78.41 353*ce*P **P** **14 57 25.8 -0.6**
NRIK pmax pmax
comp=Z,414nm,1.3s
NRIK MLR MLR
comp=Z,9μm,20.0s
NRIK Noril'sk 78.41 353 P **P** **14 57 25.9 -0.6**
SEY Seymchan 78.61 19 LR LR 15 35 59.8
comp=Z,1μm,18.3s,baz=242,slow=39
SEY Seymchan 78.61 19*ce*P **P** **14 57 28.1 +0.5**
SEY pmax pmax
comp=Z,201nm,1.6s
BELG Belogornoye 78.73 327 P **P** **14 57 28.4 -0.1**
comp=Z,131nm,0.6s,baz=50,slow=0.9,SNR=50
BELG S **S** **15 07 13.7 -8.4**
comp=Z,7.4nm,0.8s,baz=115,slow=12,SNR=1.6
BELG Belogornoye 78.73 327*c i*P **P** **14 57 28.4 -0.1**
BELG pmax pmax
comp=Z,102nm,1.6s
KTUT Trabzon 78.82 314 ⇑P **P** **14 57 31.0 +1.7**
KTUT Trabzon 78.82 314 *e*P **P** **14 57 29.9 +0.6**
MRWI Hamdab 78.88 291 *i* P **P** **14 57 32.4 +2.2**
SOE Somerset East 78.92 238 *e*P **P** **14 57 32.3 +2.0**
SOE IAmb IAmb 14 57 35.3
comp=Z,94nm,0.9s
GHAJ Ghor Haditha 78.95 304 P **P** **14 57 30.4 +0.3**
GHAJ IAmb IAmb 14 57 35.2
comp=Z,172nm,0.8s
GHAJ IAMs_20 IAMs_20 15 33 17.7
comp=Z,4μm,20.0s
EIL Elat 79.00 302 P **P** **14 57 30.9 +0.3**
comp=Z,69nm,0.8s,baz=135,slow=6.1,SNR=46
EIL S **S** **15 07 20.8 -5.2**
comp=Z,1.1nm,0.4s,baz=152,slow=12,SNR=1.8
EIL LR LR 15 34 37.6
comp=Z,2μm,18.2s,baz=97,slow=37
EIL Elat 79.00 302 *e*P **P** **14 57 31.5 +0.9**
HVD Gariep Dam 79.07 240 *e*P **P** **14 57 32.5 +1.2**
HVD IAmb IAmb 14 57 51.4
comp=Z,79nm,1.3s
AFI Afiamalu 79.19 103 LR LR 15 31 51.8
comp=Z,694nm,21.9s,baz=258,slow=35
ARPR Arapgir-MALATY 79.19 312 *e*P **P** **14 57 32.5 +0.9**
UJAP Al Uja 79.21 305 *e*P **P** **14 57 32.7 +1.1**
LBTB Lobatse 79.32 246 LR LR 15 27 38.7
comp=Z,4μm,20.0s,baz=96,slow=32
LBTB Lobatse 79.32 246⇑*i*P **P** **14 57 33.9 +1.3**
LBTB IAmb IAmb 14 57 36.2
comp=Z,55nm,0.9s
MMLI Mount Malkishu 79.39 305 *e*P **P** **14 57 34.1 +1.4**
SHBL Chebaa 79.39 306 *e*P **P** **14 57 33.5 +0.7**
BOSA Boshof 79.39 242 P **P** **14 57 34.3 +1.4**
comp=Z,29nm,0.8s,baz=98,slow=3.7,SNR=42
BOSA LR LR 15 26 10.2
comp=Z,3μm,21.6s,baz=112,slow=31
BOSA Boshof 79.39 242⇑*i*P **P** **14 57 34.6 +1.6**
BOSA IAmb IAmb 14 57 37.2
comp=Z,30nm,0.8s
SWZ Schweizer 79.41 244 *e*P **P** **14 57 33.6 +0.5**
SWZ IAmb IAmb 14 57 52.9
comp=Z,210nm,1.5s
HWQ Hawqa 79.50 307 *e*P **P** **14 57 34.0 +0.7**
VSLR Vesyoloye 79.53 317*c i*P **P** **14 57 33.7 +0.6**
MMAI Mount Meron Ar 79.57 306 P **P** **14 57 35.4 +1.7**
comp=Z,10nm,0.5s,baz=95,slow=10,SNR=29
MMAI S **S** **15 07 31.1 -0.8**
comp=Z,0.8nm,0.3s,baz=20,slow=15,SNR=1.8
MMAI LR LR 15 31 51.4
comp=Z,3μm,21.6s,baz=274,slow=35
BHL Bhannes 79.62 307 *e*P **P** **14 57 34.6 +0.6**
KROM Kromhout 79.64 237 *e*P **P** **14 57 36.8 +2.7**
KROM IAmb IAmb 14 57 38.8
comp=Z,47nm,0.8s
DARE Darende-Malaty 79.65 312 *e*P **P** **14 57 34.4 +0.4**
ROSN Rosenhof 79.71 237 *e*P **P** **14 57 37.4 +3.0**
ROSN IAmb IAmb 14 57 38.7
comp=Z,66nm,0.8s
KMRS Kahramanmaras 79.75 310 *e*P **P** **14 57 34.9 +0.4**
SOC Sochi 79.79 317*c i*P **P** **14 57 34.0 -0.5**
SOC *e**PP **pP** **14 57 46.9 -1.7**
SOC *e* 15 00 31.1
SOC *e*PPP PPP 15 02 21.8
SOC *e*S **S** **15 07 27.4 -6.3**
SOC *e*SS **SS** **15 12 37.1 -6.7**
SOC *e*SSS SSS 15 16 06.6
SOC pmax pmax
comp=Z,83nm,0.7s
SOC MLR MLR
comp=Z,2μm,22.0s
YAYL Yayladag 79.90 309 *e*P **P** **14 57 36.1 +0.6**
TAHT Tahtakopru-Hat 79.94 309 *e*P **P** **14 57 36.3 +0.8**
RSDY Resadiye-TOKAT 80.36 313 *e*P **P** **14 57 38.6 +0.9**
SARI SarD1z-Kayseri 80.39 311 *e*P **P** **14 57 38.6 +0.5**
SVSK Karacayir 80.44 313 *e*P **P** **14 57 38.9 +0.8**
CEYT Ceyhan 80.47 310 *e*P **P** **14 57 39.2 +0.9**
KOZT Kozan 80.55 310 *e*P **P** **14 57 39.3 +0.5**
KRTS Karatas 80.62 309 *e*P **P** **14 57 40.1 +0.9**
TIXI Tiksi 80.76 7 IAMs_20 IAMs_20 15 34 45.7
comp=Z,3μm,22.0s
TOKT Tokat 80.90 313 *e*P **P** **14 57 41.2 +0.5**
BNN Bunyan 80.95 311 *e*P **P** **14 57 41.4 +0.3**
BNN Bunyan 80.95 311 P **P** **14 57 41.4 +0.3**
KIRV Kirov 81.00 333 P **P** **14 57 40.4 -0.2**

comp=Z,154nm,0.7s,baz=106,slow=0.7,SNR=23
KIRV S **S** **15 07 43.2 -2.5**
comp=Z,7.1nm,0.6s,baz=174,slow=19,SNR=9.9
KIRV LR LR 15 37 32.6
comp=Z,3μm,21.2s,baz=129,slow=39
KIRV Kirov 81.00 333*ce*P **P** **14 57 40.6 -0.1**
KARA Karaisali 81.07 310 *e*P **P** **14 57 41.9 +0.3**
EREN Erenkoy 81.26 308 *e*P **P** **14 57 43.0 +0.4**
MERS Mersin 81.36 309 *e*P **P** **14 57 42.8 -0.4**
VRH Novokhopyorsk 81.48 325 *e*P **P** **14 57 43.4 0.0**
VRH *e*S **S** **15 07 46.5 -4.5**
VRH pmax pmax
comp=Z,250nm,0.8s
VRH smax smax
comp=N,560nm,9.6s
KVT Kavak 81.50 314 *e*P **P** **14 57 44.5 +0.7**
YOZ Yozgat 81.58 312 *e*P **P** **14 57 44.1 -0.3**
LFK Lefkose 81.69 307 *e*P **P** **14 57 45.9 +0.9**
ANN Anapa 81.75 317 *e*P **P** **14 57 44.3 -0.7**
ANN *e**PP **pP** **14 57 58.6 -0.5**
ANN *e*S **S** **15 07 49.8 -4.3**
ANN pmax pmax
comp=Z,117nm,1.7s
CSS Mathiatis 81.76 307 *e*P **P** **14 57 46.0 +0.7**
CSS Mathiatis 81.76 307 P **P** **14 57 45.5 +0.2**
CSS IAMs_20 IAMs_20 15 37 15.3
comp=Z,4μm,20.0s
GRAN Grantham 81.81 239 *e*P **P** **14 57 48.4 +2.6**
GRAN IAmb IAmb 14 57 50.6
comp=Z,54nm,0.8s
IKL Isikli 81.83 308 *e*P **P** **14 57 45.7 +0.1**
KEBE Keben-Mersin 81.87 309 *e*P **P** **14 57 46.6 +0.7**
AKKU Akkuyu-Mersin 81.92 308 *e*P **P** **14 57 46.2 +0.1**
QSPA South Pole Qui 81.97 180 LR LR 15 29 26.8
comp=Z,9μm,21.7s,baz=332,slow=32
YESY Yesilyurt 82.22 310 *e*P **P** **14 57 48.1 +0.3**
BERE Bereket-Mersin 82.22 308 *e*P **P** **14 57 48.3 +0.4**
CORM Corum 82.25 312 *e*P **P** **14 57 48.3 +0.4**
TEKE Tekeli-Mersin 82.25 308 *e*P **P** **14 57 47.9 +0.1**
YAYX Yaylak 82.50 311 *e*P **P** **14 57 49.2 0.0**
SULT Sultanhani-AKS 82.51 310 *e*P **P** **14 57 50.1 +0.9**
SHEM Shemya Is, Ala 82.60 34 LR LR 15 33 03.5
comp=Z,268nm,21.8s,baz=272,slow=35
SERE Sereflikochisa 82.68 311 *e*P **P** **14 57 50.1 -0.1**
KAMT Kaman 82.69 311 *e*P **P** **14 57 50.1 -0.1**
VORD Divnogorie 82.79 324 *e*P **P** **14 57 50.0 -0.3**
VORD pmax pmax
comp=Z,90nm,0.6s
BR131 Keskin Array S 82.85 312*c i*P **P** **14 57 50.9 -0.1**
BR131 Keskin Array S 82.85 312 P **P** **14 57 50.6 -0.4**
BR131 IAmb IAmb 14 57 54.3
comp=Z,151nm,1.0s
BR131 Keskin Array S 82.85 312 P **P** **14 57 51.8 +0.8**
SNR=41
BR131 P **P** **14 57 51.8 +0.8**
SNR=41
BRTR Keskin Array B 82.85 312 P **P** **14 57 50.5 -0.6**
comp=Z,48nm,0.8s,baz=133,slow=6.8,SNR=63
BRTR LR LR 15 36 27.6
comp=Z,3μm,21.8s,baz=124,slow=37
BRTR Keskin Array B 82.85 312 *e*P **P** **14 57 51.6 +0.6**
BRTR Keskin Array B 82.85 312 *i*P **P** **14 57 50.7 -0.4**
BRTR pmax pmax
comp=Z,48nm,0.8s
BRTR Keskin Array B 82.85 312 P **P** **14 57 51.1 0.0**
GAZI Gazipasa 82.90 308 *e*P **P** **14 57 51.0 -0.2**
UPI Upington 82.92 242 *e*P **P** **14 57 53.1 +1.4**
UPI IAmb IAmb 14 57 56.3
comp=Z,34nm,1.0s
SUR Sutherland 82.95 238 LR LR 15 27 20.7
comp=Z,14μm,21.9s,baz=100,slow=30
SUR Sutherland 82.95 238 P **P** **14 57 54.7 +2.9**
SUR P **P** **14 57 54.7 +2.9**
HDMB Hadim 82.96 309 *e*P **P** **14 57 51.8 0.0**
VSR Storozhevoye 82.96 324 *e*P **P** **14 57 51.5 +0.4**
VSR *e*S **S** **15 07 57.9 -8.3**
VSR pmax pmax
comp=Z,210nm,0.5s
VSR smax smax
comp=E,860nm,12.4s
MATJ Matjiesfontein 83.06 237 *e*P **P** **14 57 54.5 +2.2**
MATJ IAmb IAmb 14 57 57.2
comp=Z,86nm,0.8s
VORR Voronezh 83.11 324 *e*P **P** **14 57 52.6 +0.7**
VORR pmax pmax
comp=Z,464nm,1.6s
CANT Cankiri 83.11 313 *e*P **P** **14 57 52.7 +0.4**
KULU Kulu 83.13 311 *e*P **P** **14 57 52.2 -0.3**
KEIM Keimoes 83.14 242 *e*P **P** **14 57 55.6 +2.8**
KEIM IAmb IAmb 14 57 58.1
comp=Z,117nm,0.9s
ILGA Ilgaz 83.17 313 P **P** **14 57 54.0 +1.3**
AFSR Afar-Bala (An 83.19 311 *e*P **P** **14 57 52.9 +0.1**
BZK Bozkurt 83.23 314 ⇓P **P** **14 57 53.2 +0.5**
BZK Bozkurt 83.23 314 *e*P **P** **14 57 52.9 +0.2**
KONT Konya--Tatoy 83.32 310 *e*P **P** **14 57 53.8 +0.4**
LADK Ladik-KONYA 83.38 310 *e*P **P** **14 57 53.8 0.0**
BR231 Keskin MP Arra 83.52 312 P **P** **14 57 55.5 +1.1**
BR231 IAmb IAmb 14 58 24.5
comp=Z,179nm,1.2s
LOD Lodumlu 83.54 312 *e*P **P** **14 57 55.0 +0.5**
LPSR Galich'ya Gora 83.62 325 *e*P **P** **14 57 54.6 +0.1**
LPSR *e*S **S** **15 08 06.5 -6.3**
LPSR pmax pmax
comp=Z,110nm,0.8s
LPSR smax smax
comp=E,860nm,11.1s
AUGR Augrabies 83.70 242 *e*P **P** **14 57 58.2 +2.5**
AUGR IAmb IAmb 14 58 00.4
comp=Z,86nm,0.9s
CVNA Calvinia 83.92 239⇑*i*P **P** **14 57 58.9 +2.1**
CVNA IAmb IAmb 14 58 01.3
comp=Z,55nm,0.8s
KIZT Kizilcal 83.93 311 *e*P **P** **14 57 56.3 -0.3**
SIM Simferopol' 84.04 317 *e*P **P** **14 57 57.3 +0.5**
SIM *e* 15 01 15.0
SIM pmax pmax
comp=Z,139nm,0.8s
KURC Kurucasile-Bar 84.10 314 *e*P **P** **14 57 54.6 -2.6**
CER Ceres 84.13 237 *e*P **P** **14 57 59.1 +1.5**
CER IAmb IAmb 14 58 02.0
comp=Z,16nm,1.0s
PRGR Permogore 84.18 335 *e*P **P** **14 57 55.8 -1.3**
PRGR *e*S **S** **15 08 14.3 -3.8**
PRGR pmax pmax
comp=Z,64nm,0.9s
SUTC Sutluce-Ispart 84.24 309 *e*P **P** **14 57 57.8 -0.4**
AUSIV SIVRIHISAR 84.33 311 *e*P **P** **14 57 59.0 +0.4**
SVRH Sivrihisar-ESK 84.34 311 *e*P **P** **14 57 59.1 +0.4**
YUVA Yuva-Kibriscik 84.47 312 *e*P **P** **14 58 00.5 +1.2**
AUMIH MIHALICIK 84.48 311 *e*P **P** **14 57 59.5 +0.1**
CIFT Cifteler, Eski 84.67 311 *e*P **P** **14 58 00.4 +0.1**
ISP Isparta 84.69 309 *i*P **P** **14 58 01.0 +0.5**
ISP pmax pmax
comp=Z,143nm,2.1s
SHUT Suhut-Afyon 84.85 310 *e*P **P** **14 58 01.6 +0.3**
MDUB Mudurnu 84.85 312 *e*P **P** **14 58 01.5 +0.3**
KDZE Karadeniz Ereo 84.89 313 ⇑P **P** **14 58 01.8 +0.5**
KDZE Karadeniz Ereo 84.89 313 *e*P **P** **14 58 00.9 -0.4**
ELL Elmali 84.90 308 *e*P **P** **14 58 01.7 +0.1**
ELL Elmali 84.90 308 P **P** **14 58 02.4 +0.8**
ELL pmax pmax
comp=Z,2μm,1.8s
ELL Elmali 84.90 308 P **P** **14 58 02.4 +0.8**
AKAS Kas 85.02 307 *e*P **P** **14 58 01.4 -0.8**
BORA Eskisehir 85.25 311 *e*P **P** **14 58 03.3 +0.1**
BORA Eskisehir 85.25 311 P **P** **14 58 03.3 +0.1**
GULT Gulveren 85.35 312 *e*P **P** **14 58 03.9 +0.2**
MOS Moscow 85.49 328 *e*P **P** **14 58 01.6 -2.2**
MOS *e**PP **pP** **14 58 16.0 -2.0**
MOS *e* 15 01 17.9
MOS *e* 15 08 20.8
MOS *e*S **S** **15 08 27.5 -3.8**
MOS pmax pmax
comp=Z,419nm,1.7s
MOS pmax pmax
comp=Z,2μm,3.1s
FETY Fethiye 85.52 308 *e*P **P** **14 58 04.6 0.0**
FETY Fethiye 85.52 308 P **P** **14 58 04.5 0.0**
SAUV Serdivan-Sakar 85.56 312 *e*P **P** **14 58 04.6 0.0**
AUBOZ BOZOYUK 85.58 311 *e*P **P** **14 58 04.8 0.0**
CAVI Cavuskoy 85.79 311 *e*P **P** **14 58 05.9 +0.1**
OBN Obninsk 85.83 327 ⇑P **P** **14 58 06.1 +0.5**
OBN Obninsk 85.83 327 LR LR 15 42 38.6
comp=Z,354nm,18.6s,baz=112,slow=40
OBN Obninsk 85.83 327*c i*P **P** **14 58 05.6 +0.1**
OBN *i* *PP **pP** **14 58 18.6 -1.1**
OBN *i* 15 01 26.1
OBN *i* S S 15 08 25.1 -10
OBN *i* PPS PPS 15 09 54.3
OBN *e*SS **SS** **15 14 10.6 -2.2**
OBN pmax pmax
comp=Z,453nm,1.7s
OBN MLR MLR
comp=Z,3μm,22.0s
OBN Obninsk 85.83 327 P **P** **14 58 05.2 -0.3**
OBN IAMs_20 IAMs_20 15 39 46.3
comp=Z,3μm,22.0s
TVSB Tavsanli 85.89 311 *e*P **P** **14 58 06.5 +0.1**
DALY Dalyan (Mula) 85.90 308 *e*P **P** **14 58 06.6 +0.3**
ADVT Abdulvahap 85.92 312 *e*P **P** **14 58 06.8 +0.4**
HRT Hereke 86.07 312 *e*P **P** **14 58 07.3 +0.1**
SILT Sile 86.17 312 *e*P **P** **14 58 07.5 -0.1**
TURN Turunc 86.21 308 *e*P **P** **14 58 08.8 +0.9**
YLV Yalova 86.22 312 *e*P **P** **14 58 08.3 +0.3**
YER Yerkesik 86.26 308 *e*P **P** **14 58 08.9 +0.7**
YER Yerkesik 86.26 308 P **P** **14 58 08.8 +0.6**
KULA Kula-Manisa 86.28 310 *e*P **P** **14 58 08.8 +0.4**
KULA Kula-Manisa 86.28 310 P **P** **14 58 08.7 +0.4**
BILL Bilibino 86.30 19*d i*P **P** **14 58 06.7 -1.0**
BILL *i* 14 58 10.7
BILL *e* 15 01 31.9
BILL *i* S S 15 08 27.1 -12
BILL *e*PPS PPS 15 09 44.1
BILL SS **SS** **15 14 12.0 -7.3**
BILL SSS SSS 15 17 53.0
BILL pmax pmax
comp=Z,161nm,1.7s
BILL MLR MLR
comp=Z,1μm,17.0s
BILL Bilibino 86.30 19 IAMs_20 IAMs_20 15 44 13.0
comp=Z,2μm,18.0s
GEMT Gemlik 86.33 312 *e*P **P** **14 58 09.3 +0.9**
MANT Manisa 86.35 309 P **P** **14 58 09.4 +0.6**
KLMR Klimovskoe 86.49 333*c i*P **P** **14 58 08.5 -0.1**
KLMR *e*S S 15 08 29.4 -12
KLMR pmax pmax
comp=Z,499nm,1.3s
KLMR MLR MLR
comp=Z,2μm,18.0s
KLMR Klimovskoe 86.49 333⇑*i*P **P** **14 58 08.6 -0.1**
KLMR *i* P **P** **14 58 08.6 -0.1**
KLMR ⇓*i*P **P** **14 58 08.6 -0.1**
KLMR AMP 14 58 12.9
comp=Z,499nm,1.3s
KLMR *e*PP PP 15 01 39.1 +8.2
KLMR *e*S S 15 08 29.5 -11
KLMR *e*S S 15 08 29.5 -11
KLMR LQ LQ 15 30 10.1
KLMR LQ LQ 15 30 10.1
KLMR LR LR 15 37 56.3
KLMR AMP 15 40 44.8
comp=Z,2μm,18.2s
MDNY Mudanya-Bursa 86.54 311 *e*P **P** **14 58 09.5 +0.1**
KAVV Kandilli-Istan 86.57 312 *e*P **P** **14 58 09.6 0.0**
ISK Istanbul-Kandi 86.57 312 *e*P **P** **14 58 09.8 +0.2**
ISK Istanbul-Kandi 86.57 312 P **P** **14 58 09.8 +0.2**
KLYT Kilyos 86.63 312 *e*P **P** **14 58 10.4 +0.6**
DAT Datca 86.72 308 *e*P **P** **14 58 10.8 +0.2**
DAT Datca 86.72 308 P **P** **14 58 10.7 +0.2**
KARP Karpathos 86.80 306 *e*P **P** **14 58 11.9 +1.1**
KARP Karpathos 86.80 306 P **P** **14 58 12.0 +1.1**
KARP Karpathos 86.80 306 P **P** **14 58 12.2 +1.3**
KARP IAMs_20 IAMs_20 15 37 20.8
comp=Z,2μm,22.0s
KCTX Karacabey (Bur 86.91 311 *e*P **P** **14 58 11.4 +0.1**
TROLL Troll, Antarti 86.99 197 PcP **PcP** **14 58 13.8 +0.3**
BODT Bodrum 87.00 308 *e*P **P** **14 58 11.9 +0.1**
BODT Bodrum 87.00 308 P **P** **14 58 12.1 +0.3**
CTKS Kestanelik-??a 87.02 312 *e*P **P** **14 58 11.8 +0.1**
GCAM G?zelcaml? 87.20 308 *e*P **P** **14 58 13.9 +1.2**
SLVT Silivri 87.23 312 *e*P **P** **14 58 13.4 +0.6**
TSUM Tsumeb 87.29 251 S **S** **15 08 48.8 -1.9**
comp=Z,1.5nm,0.3s,baz=79,slow=8.3,SNR=2.5
TSUM LR LR 15 31 16.9
comp=Z,6μm,21.8s,baz=93,slow=31
TSUM Tsumeb 87.29 251 *e*P **P** **14 58 14.7 +1.0**
TSUM IAmb IAmb 14 58 17.9
comp=Z,639nm,0.8s
EDC Edincik 87.29 311 *e*P **P** **14 58 13.4 +0.3**
ZKR Zakros 87.47 306 *e*P **P** **14 58 14.8 +0.7**
ZKR Zakros 87.47 306 P **P** **14 58 14.6 +0.5**
SMG Samos 87.51 308 P **P** **14 58 15.1 +0.9**
MANR Mangalia 87.56 315 ⇓P **P** **14 58 14.9 +0.6**
JURR Jurilovca 87.58 314 ⇓P **P** **14 58 15.6 +1.3**
KALB Balgarevo 87.58 314 ⇓P **P** **14 58 15.4 +1.0**
EFOR EFORIE 87.58 315 ⇓P **P** **14 58 15.4 +1.0**
ADK Adak 87.64 37 P **P** **14 58 14.5 +0.1**
ADK pmax pmax
comp=Z,173nm,1.2s
ADK Adak 87.64 37 P **P** **14 58 14.5 +0.1**
TLCR 87.72 316 ⇓P **P** **14 58 16.4 +1.4**
KRBG Karabiga-Canak 87.72 311 *e*P **P** **14 58 15.4 +0.2**
DKL Dikili 87.74 310 *e*P **P** **14 58 15.9 +0.6**
MFTR Murfatlar 87.75 315 ⇓P **P** **14 58 16.7 +1.5**
GZKV Gazikoy-Tekird 87.78 311 *e*P **P** **14 58 15.3 -0.1**
TIRR Tirgusor 87.83 315 ⇑P **P** **14 58 16.6 +1.1**
TIRR Tirgusor 87.83 315 P **P** **14 58 16.1 +0.6**
TIRR pmax pmax
comp=Z,413nm,1.2s
TIRR MLR MLR
comp=Z,4μm,22.0s
TIRR Tirgusor 87.83 315 P **P** **14 58 16.1 +0.6**
TIRR IAMs_20 IAMs_20 15 39 33.0
comp=Z,4μm,22.0s
URLA Izmir 87.83 309 *e*P **P** **14 58 16.7 +0.9**
RKY Sarkoy-Tekirda 87.88 311 *e*P **P** **14 58 16.1 +0.1**
TPGR Topolog 87.91 316 ⇑P **P** **14 58 17.1 +1.1**
TLBR Topalu 88.10 315 ⇑P **P** **14 58 18.1 +1.2**
LPK Lapseki 88.12 311 *e*P **P** **14 58 17.6 +0.5**
MILM Milestii Mici 88.13 318 ⇑P **P** **14 58 17.7 +0.8**
CFR Carcaliu 88.18 316 ⇓P **P** **14 58 17.8 +0.6**
HARR Harsova 88.21 315 ⇓P **P** **14 58 19.0 +1.6**
CHOS Chios Island 88.25 309 P **P** **14 58 18.8 +1.0**
PRD Provadia 88.26 314 *i*P **P** **14 58 18.4 +0.8**
PRK Paraskevi 88.26 310 P **P** **14 58 19.1 +1.4**
EZN Ezine 88.34 310 *e*P **P** **14 58 18.5 +0.4**
EZN Ezine 88.34 310 P **P** **14 58 18.5 +0.4**
GELI Tayfur-Gelibol 88.34 311 *e*P **P** **14 58 18.4 +0.3**
ERIK Erikli-Kesan 88.37 311 *e*P **P** **14 58 18.7 +0.5**
STAX Taxiarchis Har 88.37 307 P **P** **14 58 18.6 +0.3**
VLDR Vladesti 88.37 317 ⇑P **P** **14 58 20.0 +1.9**
SCTR Scanteiesti 88.39 316 ⇓P **P** **14 58 19.8 +1.6**
APE Apeiranthos 88.40 308 ⇑P **P** **14 58 19.6 +1.1**
APE Apeiranthos 88.40 308 *e*P **P** **14 58 18.5 -0.1**
APE Apeiranthos 88.40 308 P **P** **14 58 18.4 -0.1**
APE Apeiranthos 88.40 308*c i*P **P** **14 58 18.4 -0.1**
APE pmax pmax
comp=Z,95nm,1.2s
APE MLR MLR
comp=Z,2μm,23.0s
EDRB Edirne 88.44 312 P **P** **14 58 20.5 +1.9**
VARL Varlezi 88.54 317 ⇓P **P** **14 58 20.7 +1.8**
BOZC Bozcaada 88.55 310 *e*P **P** **14 58 19.2 +0.1**
SIGR SIGRI 88.57 310 *e*P **P** **14 58 19.5 +0.3**
SIGR SIGRI 88.57 310 P **P** **14 58 19.4 +0.3**
IDI Anoyia 88.57 306 ⇓P **P** **14 58 20.3 +0.9**
IDI Anoyia 88.57 306 *e*P **P** **14 58 20.0 +0.6**
IDI Anoyia 88.57 306 P **P** **14 58 20.0 +0.6**
IDI Anoyia 88.57 306 P **P** **14 58 20.7 +1.3**
ENEZ Enez 88.65 311 *e*P **P** **14 58 19.9 +0.4**
JMB Yambol 88.69 313 *i*P **P** **14 58 20.7 +1.0**
SNAA Sanae 88.69 197 PcP **PcP** **14 58 21.8 +1.0**
SNAA Sanae 88.69 197 LR LR 15 32 39.3
comp=Z,14μm,21.9s,baz=108,slow=32
SNAA Sanae 88.69 197 *e*P **P** **14 58 21.0 +1.7**
SNAA IAmb IAmb 14 58 40.6
comp=Z,12μm,1.1s
SNAA Sanae 88.69 197*ce*P **P** **14 58 20.4 +1.1**
SNAA pmax pmax
comp=Z,136nm,1.0s
SNAA Sanae 88.69 197 P **P** **14 58 20.2 +0.9**
SORM Soroca 88.72 319 ⇑P **P** **14 58 20.1 +0.5**
VASR Vaslui 88.75 317 ⇑P **P** **14 58 21.4 +1.5**
ALN Alexandroupoli 88.76 311 *e*P **P** **14 58 20.3 +0.2**
ALN Alexandroupoli 88.76 311 P **P** **14 58 20.2 +0.2**
ALN Alexandroupoli 88.76 311 P **P** **14 58 20.9 +0.8**
ALN pmax pmax
comp=Z,281nm,1.5s
ALN Alexandroupoli 88.76 311 P **P** **14 58 20.9 +0.8**
AKASG Malin Array Be 88.78 321 P **P** **14 58 18.8 -1.1**
comp=Z,12nm,0.5s,baz=84,slow=4.5,SNR=68
AKASG PP **PP** **15 01 48.3 -1.2**
comp=Z,10nm,1.0s,baz=94,slow=7.0,SNR=5.3
AKASG S **SKSac** **15 08 41.6 -3.4**
comp=Z,0.4nm,0.3s,baz=64,slow=10,SNR=3.8
AKASG Malin Array Be 88.78 321 *i*P **P** **14 58 19.1 -0.8**
AKASG pmax pmax
comp=Z,22nm,0.6s
AKASG Malin Array Be 88.78 321 P **P** **14 58 19.4 -0.5**
AKASG IAmb IAmb 14 58 40.1
comp=Z,120nm,1.2s
AKBB Malin Array Si 88.78 321*ce*P **P** **14 58 18.9 -1.0**
AKBB Malin Array Si 88.78 321 P **P** **14 58 19.8 -0.1**
AKBB IAmb IAmb 14 58 40.0
comp=Z,100nm,1.2s
GHRR 88.88 317 ⇓P **P** **14 58 21.0 +0.5**
PANC Panciu 89.02 316 ⇑P **P** **14 58 23.1 +2.0**
GRER 89.03 316 ⇓P **P** **14 58 22.6 +1.3**
SMTH Samothraki Isl 89.06 311 P **P** **14 58 21.6 +0.1**
GVDS Gavdos 89.13 305 P **P** **14 58 22.4 +0.4**
GVD Gavdhos 89.13 305 *e*P **P** **14 58 22.5 +0.6**
GVD Gavdhos 89.13 305 P **P** **14 58 22.6 +0.6**
RDO Rodhopi 89.19 312 *e*P **P** **14 58 22.2 +0.1**
RDO Rodhopi 89.19 312 P **P** **14 58 22.2 +0.1**
LIA Limnos Island 89.21 310 P **P** **14 58 22.4 +0.2**
BISRR Bisoca 89.25 316 ⇓P **P** **14 58 22.5 +0.2**
ISR Istrita 89.27 316 ⇓P **P** **14 58 23.3 +0.9**
VRI Vrincioaia 89.30 316 ⇓P **P** **14 58 23.7 +1.2**
VRI Vrincioaia 89.30 316 *e*P **P** **14 58 23.4 +0.9**
SZH Strazhica 89.32 314 *i*P **P** **14 58 23.0 +0.3**
IMMV Iera Moni Meta 89.33 306 *e*P **P** **14 58 23.9 +1.1**
IMMV Iera Moni Meta 89.33 306 P **P** **14 58 24.0 +1.1**
PLOR Plostina 89.35 316 ⇑P **P** **14 58 24.2 +1.4**
KDZ Kurdzhali 89.38 312 *i*P **P** **14 58 23.7 +0.7**
KARY Karystos 89.43 308 P **P** **14 58 23.6 +0.3**
TESR Tescani 89.49 317 ⇓P **P** **14 58 24.3 +0.9**
NEHR Nehoiu 89.50 316 ⇑P **P** **14 58 25.3 +1.8**
RODP Rodopos 89.53 306 P **P** **14 58 27.8 +4.0**
KNDR Palaiochora Ch 89.53 306 *e*P **P** **14 58 24.9 +1.1**
SECR 89.58 315 ⇓P **P** **14 58 25.3 +1.4**
COVR Voineasa-Covas 89.65 316 ⇑P **P** **14 58 24.8 +0.6**
RAR Rarotonga 89.69 111 LR LR 15 37 38.2
comp=Z,2μm,21.1s,baz=242,slow=35
THAS Thassos island 89.69 311 P **P** **14 58 24.6 +0.2**
MLR Muntele Rosu 89.76 316 ⇑P **P** **14 58 25.5 +0.7**
MLR Muntele Rosu 89.76 316 P **P** **14 58 25.1 +0.2**
comp=Z,52nm,0.9s,baz=90,slow=1.6,SNR=69
MLR S S 15 08 48.9 -24
comp=Z,0.5nm,0.3s,baz=156,slow=18,SNR=1.7
MLR LR LR 15 47 24.5
comp=Z,1μm,18.9s,baz=93,slow=41
MLR Muntele Rosu 89.76 316 P **P** **14 58 26.0 +1.2**
MLR pmax pmax
comp=Z,605nm,1.7s
MLR MLR MLR
comp=Z,1μm,20.0s
MLR Muntele Rosu 89.76 316 P **P** **14 58 26.0 +1.2**
KYMI Kymi, Euboea I 89.80 309 P **P** **14 58 25.0 0.0**
DION Dionisos Attik 89.83 308 P **P** **14 58 25.3 +0.1**
PTL Penteli 89.88 308 P **P** **14 58 25.7 +0.3**
RZN Rozhen 89.90 312 *i*P **P** **14 58 26.0 +0.4**
VLY Voula,Athens 89.90 308 P **P** **14 58 25.1 -0.4**
KAVA Kavala 89.92 311 P **P** **14 58 26.1 +0.6**
ATHU Athens Univers 89.93 308 P **P** **14 58 26.1 +0.5**
ANKY Antikythira Is 89.95 306 P **P** **14 58 26.9 +1.2**
PLD Plovdiv 89.99 312 *e*P **P** **14 58 26.0 +0.2**
OUR Ouranopolis 90.20 311 P **P** **14 58 27.7 +0.9**
KTHA Kythira Island 90.20 306 P **P** **14 58 27.6 +0.6**
DOPR Dopca 90.24 316 ⇑P **P** **14 58 28.1 +1.2**
HUMR Humele 90.24 315 ⇓P **P** **14 58 27.7 +0.8**
KTHR Kythira 90.25 306 P **P** **14 58 27.7 +0.5**
KOKK Kokkinochori, 90.27 311 P **P** **14 58 27.9 +0.7**
DID Didima 90.28 308 P **P** **14 58 27.8 +0.5**
KRND KRANIDI 90.32 308 P **P** **14 58 27.4 -0.1**
VILL Villia 90.33 308 P **P** **14 58 27.1 -0.5**
VNA2 Neumayer--Watz 90.34 197 PcP **PcP** **14 58 29.7 +1.6**
baz=102,slow=5.0
PAIG Paliouri 90.35 310 P **P** **14 58 27.6 +0.1**
VOIR 90.37 316 ⇑P **P** **14 58 28.1 +0.5**
VLI Veliai 90.38 307 P **P** **14 58 27.0 -0.8**
MNK Minsk 90.47 325 *i*P **P** **14 58 27.7 0.0**
MNK *i* *PP **pP** **14 58 43.1 +1.1**
MNK *i* 15 02 03.2
MNK *i* PPP PPP 15 03 59.5
MNK *i* S **SKSac** **15 08 53.3 -1.5**
MNK *i* SP SP 15 10 25.3 -0.2
MNK *i* PS **PnS** **15 10 33.6 +1.0**
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,84nm,0.8s
MNK Minsk 90.47 325 *i*P **P** **14 58 27.7 0.0**
comp=E,4.0nm,0.8s
MNK *i*P **P** **14 58 27.7 0.0**
comp=N,13nm,0.8s
MNK *i*P **P** **14 58 27.7 0.0**
comp=Z,84nm,0.8s,baz=103
MNK *i* pP **pP** **14 58 43.1 +1.1**
MNK *i* sP **sP** **14 58 51.3 +3.9**
MNK *i* PP **PP** **15 02 03.2 +0.3**
MNK *i* PPP PPP 15 03 59.6
MNK *i* S **SKSac** **15 08 53.3 -1.5**
MNK *i* SP SP 15 10 25.3 -0.2
MNK *i* PS **PnS** **15 10 33.6 +1.0**
MNK *i* SS SS 15 15 02.8 -18
MNK *i* SSS SSS 15 18 42.3
MNK *i* LQ LQ 15 33 27.5
MNK *i* LR LR 15 37 44.1
MNK *i* LRM MLR 15 44 37.6
comp=Z,2μm,19.0s
MNK *i* LRM MLR 15 44 45.5
comp=E,244nm,19.0s
MNK *i* LRM MLR 15 44 45.5
comp=N,876nm,19.0s
NVR Nevrokopi 90.47 312 P **P** **14 58 27.9 -0.2**
LTK Loutraki 90.58 308 P **P** **14 58 35.1 +6.4**
PLG Polygyros 90.61 311 P **P** **14 58 28.5 -0.3**
MMB Musomiste 90.61 312 *i*P **P** **14 58 38.9 +10**
VALR Valaam 90.62 332 *i*P **P** **14 58 28.4 +0.2**
VALR pmax pmax
comp=Z,60nm,1.1s
SRS Serrai 90.63 311 P **P** **14 58 28.3 -0.5**
XOR Xorichti 90.63 310 P **P** **14 58 28.5 -0.4**
ARR Arges 90.64 316 ⇑P **P** **14 58 29.6 +0.7**
ATAL Atalanti 90.64 309 P **P** **14 58 28.5 -0.5**
LKR Lokris 90.66 309 P **P** **14 58 28.5 -0.5**
BURAR Bucovina Array 90.67 318 ⇑P **P** **14 58 30.7 +1.7**
BURAR Bucovina Array 90.67 318 P **P** **14 58 30.0 +1.0**
BUR08 Bucovina Ar. S 90.69 318 P **P** **14 58 30.1 +1.0**
VNA1 Neumayer--Stat 90.72 197 PcP **PcP** **14 58 31.5 +1.8**
VNA3 Neumayer Olymp 90.86 197 PcP **PcP** **14 58 31.7 +1.3**
VNA3 Neumayer Olymp 90.86 197 pP pP 14 58 50.1 +6.9
HORT Hortiatis 90.91 311 *e*P **P** **14 58 29.5 -0.7**
MPEP Malo Peshtene 90.91 314 P **P** **14 58 32.3 +2.2**
LVZ Lovozero 91.01 339*c i*P **P** **14 58 29.0 -1.0**
LVZ pmax pmax
comp=Z,46nm,0.9s
KKB Krupnik 91.13 312 *i*P **P** **14 58 31.2 0.0**
VTS Vitosha 91.15 313 ⇑P **P** **14 58 32.2 +0.8**
VTS Vitosha 91.15 313 P **P** **14 58 32.2 +0.8**
VTS pmax pmax
comp=Z,154nm,1.7s
VTS Vitosha 91.15 313 P **P** **14 58 32.2 +0.8**
VTS IAmb IAmb 14 58 35.3
comp=Z,154nm,1.7s
VTS Vitosha 91.15 313 *i*P **P** **14 58 31.4 0.0**
KNT Kendrikon 91.15 311 *e*P **P** **14 58 30.8 -0.5**
KNT Kendrikon 91.15 311 P **P** **14 58 31.0 -0.3**
NACGM Naroch 91.18 325 *e*P **P** **14 58 32.2 +1.2**
KLV Kalavryta, Ach 91.22 308 P **P** **14 58 31.5 -0.2**
AGG Agios Georgios 91.23 309 *e*P **P** **14 58 31.0 -0.7**
AGG Agios Georgios 91.23 309 P **P** **14 58 30.8 -0.9**
AGG Agios Georgios 91.23 309 P **P** **14 58 32.1 +0.4**
AGG pmax pmax

comp=Z,181nm,1.4s
AGG Agios Georgios 91.23 309 P **P** **14 58 32.1 +0.4**
ITM Ithomi 91.25 307 *eP* **P** **14 58 31.9 +0.1**
ITM Ithomi 91.25 307 P **P** **14 58 32.1 +0.3**
ITM Ithomi 91.25 307 P **P** **14 58 32.9 +1.0**
LOT Lotru 91.25 316 *eP* **P** **14 58 31.3 -0.5**
LIT Litokhoron 91.28 310 P **P** **14 58 31.7 -0.2**
LIT Litokhoron 91.28 310 P **P** **14 58 31.1 -0.8**
LIT pmax pmax
comp=Z,302nm,1.4s
LIT Litokhoron 91.28 310 P **P** **14 58 31.1 -0.8**
IDID Didziasalis 91.29 326 *eP* **P** **14 58 32.8 +1.2**
APA Apatity 91.35 338 ⇓*iP* **P** **14 58 31.5 -0.1**
APA *i* 15 02 13.0
APA *i* 15 08 55.0
APA *i* S **S** **15 09 23.0 -3.4**
APA *i* PS PS 15 10 36.0 -5.7
APA *i* SS **SS** **15 15 36.0 +3.4**
APA pmax pmax
comp=Z,23nm,0.7s
APA MLR MLR
comp=Z,5µm,30.0s
PYL PYLOS 91.36 307 P **P** **14 58 32.0 -0.3**
LAKA Lakka 91.38 308 P **P** **14 58 32.8 +0.4**
VAY Valandovo 91.42 311 *i* P **P** **14 58 32.1 -0.4**
EFP Efpalio 91.47 308 P **P** **14 58 33.0 +0.3**
DRO Drossia 91.54 308 P **P** **14 58 34.1 +0.9**
THL Klokotos Trika 91.56 310 P **P** **14 58 32.8 -0.4**
IIGN Ignalina 91.59 326 *eP* **P** **14 58 34.4 +1.5**
EVR Evrytania 91.62 309 P **P** **14 58 33.9 +0.3**
BELA Belgrano 2 91.70 187 P **P** **14 58 33.6 +0.4**
BELA IAmb IAmb 14 58 53.4
comp=Z,116nm,1.2s
RLS Riolos of Patr 91.75 308 P **P** **14 58 35.0 +0.9**
STIP Stip 91.77 312 *i* P **P** **14 58 33.9 -0.2**
LVV L'vov 91.85 320 *eP* **P** **14 58 34.8 +0.5**
DEV Deva 91.93 316 ⇑P **P** **14 58 35.4 +0.7**
GZR Gura Zlata 91.94 315 ⇑P **P** **14 58 36.1 +1.2**
VSU Vasula 91.95 329 *e iP* **P** **14 58 34.5 0.0**
VSU Vasula 91.95 329 *eP* **P** **14 58 35.5 +1.0**
HERR Herculane 92.10 315 ⇑P **P** **14 58 36.5 +1.0**
SKO Skopje 92.36 312 *i* P **P** **14 58 37.5 +0.7**
BOVS Bovan 92.42 314 ⇓P **P** **14 58 37.8 +0.7**
LKD2 Lefkada island 92.49 309 P **P** **14 58 38.0 +0.5**
SPIA Saint Paul Isl 92.52 33 P **P** **14 58 37.9 +0.8**
baz=259
TRPA Tarpa 92.54 318 ⇑P **P** **14 58 38.1 +0.6**
TRPA Tarpa 92.54 318 P **P** **14 58 37.3 -0.1**
NIKH Nikolski High 92.55 37 P **P** **14 58 37.5 +0.1**
baz=260
MDVR Moldovita 92.58 315 ⇓P **P** **14 58 39.0 +1.2**
OHR Ohrid 92.71 311 *i* P **P** **14 58 39.0 +0.5**
BZS Buzias 92.78 316 ⇑P **P** **14 58 39.4 +0.7**
UZH Uzhgorod 92.78 319 *eP* **P** **14 58 40.5 +1.9**
UZH *i* 14 58 47.9
UZH *i* *PP **pwP** **14 58 55.0 -1.0**
UZH *i* 15 02 18.2
UZH *e*PPP PPP 15 04 29.5
UZH *i* S **S** **15 09 39.1 -0.8**
UZH *i* PS **PS** **15 10 49.1 -9.1**
KOLS Kolonicke sedl 92.84 319 *eP* **P** **14 58 40.8 +1.9**
KOLS pmax pmax
comp=Z,85nm,1.1s
KOLS Kolonicke sedl 92.84 319 *eP* **P** **14 58 40.8 +1.9**
IGT Igoumenitsa 92.84 309 P **P** **14 58 39.0 -0.1**
PABE Paberze 92.88 326 P **P** **14 58 38.9 +0.1**
PABE IAMs_20 IAMs_20 15 47 52.7
comp=Z,2µm,20.0s
PABE Paberze 92.88 326 *eP* **P** **14 58 39.7 +0.9**
FIA1 FINESS Array S 92.88 332 P **P** **14 58 39.6 +0.8**
FIA1 IAmb IAmb 14 58 59.2
comp=Z,54nm,0.9s
FINES FINESS Array B 92.88 332 P **P** **14 58 39.0 +0.2**
comp=Z,22nm,0.9s,baz=99,slow=4.6,SNR=30
FINES PKiKP **PKiKP** **15 03 27.4 +1.2**
comp=Z,1.7nm,0.5s,baz=100,slow=4.6,SNR=1.2
FINES LR LR 15 44 53.4
comp=Z,2µm,21.8s,baz=100,slow=38
FINES FINESS Array B 92.88 332 P **P** **14 58 39.0 +0.2**
FINES FINESS Array B 92.88 332 P **P** **14 58 39.2 +0.4**
SUW Suwalki 93.08 324 *eP* **P** **14 58 40.0 +0.1**
SUW *ep*P **sP** **14 58 59.4 -0.2**
SUW *eL* L 15 46 23.8
comp=Z,3µm,22.3s
SUW Suwalki 93.08 324 P **P** **14 58 39.8 0.0**
SUW pmax pmax
comp=Z,258nm,1.1s
SUW Suwalki 93.08 324 P **P** **14 58 39.8 0.0**
SUW IAMs_20 IAMs_20 15 46 12.9
comp=Z,4µm,21.0s
SUW Suwalki 93.08 324 *eP* **P** **14 58 40.7 +0.9**
GAMB Gambell 93.10 26 P **P** **14 58 41.1 +1.4**
GAMB Gambell 93.10 26 P **P** **14 58 41.3 +1.7**
baz=258
SRN Sarande 93.14 310 P **P** **14 58 41.0 +0.5**
KEK Kerkira 93.27 309 P **P** **14 58 41.4 +0.3**
CRVS Cervenica-Dubn 93.36 319 *eP* **P** **14 58 42.3 +1.0**
CRVS Cervenica-Dubn 93.36 319 *eP* **P** **14 58 42.2 +1.0**
TIR Tirane 93.44 311 IAMs_20 IAMs_20 15 47 53.6
comp=Z,2µm,21.0s
IVA Berane 93.62 313 *eP* **P** **14 58 43.3 +0.6**
DIVS Divibare 93.71 314 P **P** **14 58 43.3 +0.2**
DIVS IAmb IAmb 14 58 46.8
comp=Z,73nm,1.3s
KOME Kolasin 93.89 313 *eP* **P** **14 58 44.5 +0.5**
FRGS Fruska Gora 93.97 315 ⇓P **P** **14 58 45.4 +1.2**
ULC Ulcinj 93.98 312 *eP* **P** **14 58 44.5 +0.2**
PDG Podgorica 94.03 312 ⇑P **P** **14 58 45.0 +0.5**
PDG Podgorica 94.03 312 P **P** **14 58 44.9 +0.5**
PDG IAmb IAmb 14 59 05.2
comp=Z,70nm,1.3s
PDG IAMs_20 IAMs_20 15 42 45.1
comp=Z,2µm,22.0s
TTG Podgorica 94.03 312 *eP* **P** **14 58 45.0 +0.5**
PLE Pljevlja 94.04 313 *eP* **P** **14 58 44.5 -0.2**
DRME Dracevica, Mon 94.05 312 *eP* **P** **14 58 44.9 +0.3**
UNV Unalaska Valle 94.07 36 P **P** **14 58 44.9 +0.5**
baz=262,SNR=7.8
NIE Niedzica 94.19 319 *eP* **P** **14 58 46.3 +1.2**
NIE *ep*P **sP** **14 59 05.4 +0.9**
NIE *eP*P **PP** **15 02 33.0 +0.6**
NIE *eL* L 15 48 21.9
comp=Z,1µm,22.5s
PSZ Piszkesteto 94.26 318 IAMs_20 IAMs_20 15 49 33.3
comp=Z,2µm,20.0s
PSZ Piszkesteto 94.26 318 P **P** **14 58 44.5 -1.1**
BUM Brajici-Budva 94.28 312 *eP* **P** **14 58 46.0 +0.2**
CEME Cevo 94.29 312 *eP* **P** **14 58 45.8 0.0**
NKME Niksic 94.29 313 *eP* **P** **14 58 46.1 +0.3**
UPM Unac-Piva 94.38 313 *eP* **P** **14 58 46.1 -0.2**
IZAB Izabela 94.46 318 *eP* **P** **14 58 48.2 +1.8**
HCY Herceg Novi 94.59 312 *eP* **P** **14 58 47.3 +0.2**
OJC Ojcow 94.61 320 *eP* **P** **14 58 46.8 -0.2**
OJC *ep*P **pwP** **14 59 05.7 +1.2**
OJC *eP*P **PP** **15 02 35.5 -0.1**
OJC *eL* L 15 48 50.1
comp=Z,1µm,24.4s
OJC Ojcow 94.61 320 P **P** **14 58 47.9 +0.9**
OJC pmax pmax
comp=Z,45nm,1.4s
OJC Ojcow 94.61 320 P **P** **14 58 47.9 +0.9**
BRY Bratogost 94.61 313 *eP* **P** **14 58 47.4 0.0**
ARA0 ARCESS Array S 94.65 340 ⇑P **P** **14 58 47.1 +0.3**
ARA0 *e*SKSac **SKSac** **15 09 14.3 -3.2**
ARA0 IVMs_BB IVMs_BB 15 39 25.9
comp=Z,1µm,34.6s
ARCES ARCESS Array B 94.65 340 P **P** **14 58 44.8 -2.0**
comp=Z,16nm,0.6s,baz=92,slow=5.8,SNR=45
ARCES LR LR 15 46 59.2
comp=Z,5µm,20.1s,baz=100,slow=39
RAF Rauma 94.87 331 *eP* **P** **14 58 48.6 +0.7**
MORH Mrgy, Hungar 94.91 316 P **P** **14 58 48.1 -0.3**
TNA Tin City 95.01 25 P **P** **14 58 49.5 +1.0**
TNA IAmb IAmb 14 58 52.4
comp=Z,48nm,1.2s
TNA Tin City 95.01 25 P **P** **14 58 48.8 +0.4**
baz=262
VYHS Vyhne 95.03 318 *eP* **P** **14 58 51.1 +2.1**
VYHS Vyhne 95.03 318 *eP* **P** **14 58 51.1 +2.1**
VYHS *e* 15 11 23.0
KOVH Kovagotottos 95.27 316 P **P** **14 58 50.4 +0.3**
CSKK Cskako 95.30 317 P **P** **14 58 49.6 -0.6**
SRO Srobarova 95.31 317 *eP* **P** **14 58 52.4 +2.2**
SRO Srobarova 95.31 317 *eP* **P** **14 58 52.3 +2.1**
KTK1 Kautokeino 95.36 339 IVmB_BB 14 58 50.2
comp=Z,846nm,2.2s
KTK1 *eP* **P** **14 58 50.5 +0.4**
KTK1 *e*SKSac **SKSac** **15 09 21.9 +0.5**
KTK1 *e*SP SP 15 11 20.3 +1.4
KTK1 *e*SS **SS** **15 16 31.0 +1.1**
HAMF Hammerfest 95.45 341 *eP* **P** **14 58 50.6 +0.3**
HAMF IVmB_BB 14 58 51.5
comp=Z,516nm,1.3s
HAMF *e*SKSac **SKSac** **15 09 21.3 -0.4**
HAMF *e*SS **SS** **15 16 33.9 +2.9**
HAMF IVMs_BB IVMs_BB 15 45 25.3
comp=Z,2µm,21.6s
TIP Timpagrande 95.55 309 ⇑P **P** **14 58 52.4 +0.8**
OKC Ostrava-Krasne 95.62 319 *eP* PP 15 02 28.9 -15
OKC AMS AMS 15 50 00.0
comp=Z,1µm,18.2s
MATE Matera 95.74 310 ⇑P **P** **14 58 53.2 +0.9**
MPLH Magyarpolny 95.77 317 P **P** **14 58 53.0 +0.6**
JAVC Velka Javorina 95.84 318 *eP* **P** **14 58 53.9 +1.2**
ANM Nome 95.96 26 P **P** **14 58 53.4 +0.6**
baz=264
SMOL Smolenice 95.97 318 *eP* **P** **14 58 55.4 +2.2**
SMOL Smolenice 95.97 318 *eP* **P** **14 58 55.4 +2.2**
HOPEN Hopen 95.98 346 IVmB_BB 14 58 53.7
comp=Z,818nm,2.0s
HOPEN *eP* **P** **14 58 53.7 +1.0**
HOPEN *ePP* **PP** **15 02 44.0 -1.5**
HOPEN *e*SKSac **SKSac** **15 09 24.4 0.0**
HOPEN IVMs_BB IVMs_BB 15 48 31.1
comp=Z,2µm,32.8s
FALS False Pass 95.99 36 P **P** **14 58 53.3 +0.2**
baz=265
MORC Moravsky Berou 96.01 319 ⇑P **P** **14 58 54.3 +0.9**
MORC Moravsky Berou 96.01 319 P **P** **14 58 54.2 +0.7**
MORC pmax pmax
comp=Z,45nm,1.6s
MORC Moravsky Berou 96.01 319 P **P** **14 58 54.2 +0.7**
MORC Moravsky Berou 96.01 319 *eP* **P** **14 58 53.1 -0.4**
BEHE Becsehely 96.22 316 P **P** **14 58 57.2 +2.8**
JETT Jettan, Norway 96.43 339 ⇑*iP* **P** **14 58 54.8 -0.1**
KRLC Kraliky 96.52 320 *eP* **P** **14 58 56.8 +1.0**
KRLC MLR MLR
comp=Z,2µm,19.6s
KRLC Kraliky 96.52 320 *eP* **P** **14 58 56.8 +1.0**
KRLC AMS AMS 15 50 00.0
comp=Z,2µm,19.6s
VRAC Vranov 96.58 319 P **P** **14 58 55.0 -1.0**
comp=Z,1.3nm,0.4s,baz=53,slow=4.8,SNR=5.3
VRAC LR LR 15 51 38.5
comp=Z,1µm,18.3s,baz=88,slow=41
VRAC Vranov 96.58 319 P **P** **14 58 55.0 -1.0**
VRAC Vranov 96.58 319 *eP* **P** **14 58 57.1 +1.1**
RONA Rosalia, Austr 96.65 317 *eP* **P** **14 58 58.5 +2.1**
comp=Z,9.7nm,1.3s
RONA *eP* **PP** **15 02 53.3 +1.8**
comp=Z,12nm,1.3s
KRUC Moravsky 96.69 319 *eP* **P** **14 58 57.5 +1.0**
DPC Dobruska-Polom 96.84 320 *eP* **P** **14 58 58.4 +1.2**
DPC MLR MLR
comp=Z,2µm,17.9s
DPC Dobruska-Polom 96.84 320 *eP* **P** **14 58 58.4 +1.2**
DPC *ePP* PP 15 02 43.8 -9.1
DPC AMS AMS 15 51 20.0
comp=Z,2µm,17.9s
KSP Ksiaz 96.89 320 *eP* **P** **14 58 57.2 -0.2**
KSP *epP* **pwP** **14 59 16.4 +1.6**
KSP *eP*P **PP** **15 02 51.3 -1.9**
KSP *e*SKSac **SKSac** **15 09 29.8 -0.4**
KSP *eL* L 15 49 31.2
comp=Z,3µm,22.2s
OSTC Ostas 96.92 320 *eP* **P** **14 58 57.1 -0.4**
OSTC *ePP* **PP** **15 02 53.6 +0.1**
OSTC AMS AMS 15 49 30.0
comp=Z,2µm,21.8s
TRO Tromso 96.95 339 ⇑*iP* **P** **14 58 56.5 -0.7**
TRO IVmB_BB 14 58 57.3
comp=Z,846nm,2.5s
TRO *eP*P **PP** **15 02 51.8 -1.3**
TRO *e*SKSac **SKSac** **15 09 26.2 -3.3**
CONA Conrad Observa 96.96 317 *eP* **P** **14 58 59.9 +2.0**
comp=Z,8.1nm,1.5s
GCIS Gornji Cirnik 96.97 315 *eP* **P** **14 58 58.5 +0.7**
GCIS *e*S **SKSac** **15 09 29.7 -1.1**
CHVC Chvalec 97.03 320 *eP* Pdif 14 58 59.1 +1.0
CHVC *eP*P **PP** **15 02 53.6 -0.7**
CHVC AMS AMS 15 49 30.0
comp=Z,2µm,22.6s
UPC Upice 97.05 320 *eP*P **PP** **15 02 51.3 -3.2**
UPC *e*SKS **SKSac** **15 09 28.3 -2.7**
UPC AMS AMS 15 49 30.0
comp=Z,3µm,25.0s
ARSA Arzberg 97.14 317 *i* P Pdif 14 59 00.9 +2.2
comp=Z,24nm,1.8s,SNR=6.8
VAE Valguarnera 97.24 307 LR LR 15 52 14.2
comp=Z,174nm,18.2s,baz=119,slow=41
RDOG Red Dog Mine 97.24 22 IAMs_20 IAMs_20 15 51 15.1
comp=Z,2µm,18.0s
RDOG Red Dog Mine 97.24 22 P Pdif 14 58 58.8 +0.1
baz=267
BJO1 Bjornoya 97.26 344 *eP* **P** **14 58 58.3 -0.2**
BJO1 *eP*P **PP** **15 02 54.6 -0.8**
BJO1 *e*SKSac **SKSac** **15 09 29.2 -1.9**
BJO1 *e*SS **SS** **15 16 55.7 -0.7**
BJO1 IVMs_BB IVMs_BB 15 54 56.0
comp=Z,1µm,3.3s
TREC Trest 97.31 319 *eP* **P** **14 58 59.3 0.0**
TREC MLR MLR
comp=Z,2µm,16.7s
TREC Trest 97.31 319 *eP* **P** **14 58 59.3 0.0**
TREC AMS AMS 15 51 40.0
comp=Z,2µm,16.7s
SOKA Soboth 97.44 316 *i* P Pdif 14 59 01.8 +1.7
comp=Z,31nm,1.5s,SNR=18
SOKA *eP* **PP** **15 02 59.7 +2.0**
comp=Z,14nm,1.3s
SDPT Sand Point 97.71 35 P Pdif 14 59 01.4 +0.5
baz=267
LJU Ljubljana 97.75 315 *eP* Pdif 14 59 02.3 +0.9
OBKA Obir 97.76 316 *i* P Pdif 14 59 04.1 +2.5
comp=Z,16nm,1.4s,SNR=6.0
PRU Pruhonice 97.96 319 *eP*P **PP** **15 03 01.0 -0.5**
PRU AMS AMS 15 50 00.0
comp=Z,2µm,21.4s
PVCC Panska Ves 97.97 320 *eP* **P** **14 59 02.0 -0.2**
PVCC *e* 15 03 00.9
PVCC MLR MLR
comp=Z,2µm,22.8s
PVCC Panska Ves 97.97 320 *eP* **P** **14 59 02.0 -0.2**
PVCC *eP*P **PP** **15 03 00.9 -0.6**
PVCC AMS AMS 15 49 30.0
comp=Z,2µm,22.8s
SPA0 Spitsbergen Ar 98.02 348 *eP* Pdif 14 59 02.8 +0.9
SPA0 *eP*P **PP** **15 03 02.7 +1.5**
SPA0 *e*SKSac **SKSac** **15 09 34.4 -0.6**
SPITS Spitsbergen Ar 98.02 348 P **P** **14 58 59.7 -2.2**
comp=Z,16nm,0.6s,baz=62,slow=8.9,SNR=19
SPITS LR LR 15 49 26.9
comp=Z,6µm,22.0s,baz=202,slow=39
MOA Molln 98.03 317 *eP* Pdif 14 59 04.3 +1.6
comp=Z,14nm,1.7s
CKRC Cesky Krumlov 98.05 318 *eP* **P** **14 59 02.7 0.0**
CKRC *eP*P **PP** **15 03 02.0 -0.2**
CKRC *e*SKS **SKSac** **15 09 35.8 -0.4**
CKRC AMS AMS 15 50 40.0
comp=Z,2µm,22.1s
N2ST Straumen 98.07 337 *eP* **P** **14 59 01.9 -0.3**
FAUS Fauske 98.19 337 *eP* Pdif 14 59 03.0 +0.2
FAUS IVmB_BB 14 59 06.2
comp=Z,786nm,1.9s
FAUS *eP*P **PP** **15 02 57.5 -5.1**
FAUS *e*SKSac **SKSac** **15 09 33.9 -2.1**
FAUS IVMs_BB IVMs_BB 15 48 28.6
comp=Z,1µm,13.6s
HSPB Hornsund (broa 98.20 347 *eP* Pdif 14 59 03.2 +0.5
HSPB IVmB_BB 14 59 05.6
comp=Z,719nm,1.6s
HSPB *eP*P **PP** **15 03 03.6 +1.1**
HSPB *e*SKSac **SKSac** **15 09 33.1 -2.7**
HSPB *e*SP SP 15 11 52.7 +3.3
HSPB *e*SS **SS** **15 17 14.0 +4.6**
HSPB IVMs_BB IVMs_BB 15 50 12.9
comp=Z,2µm,20.7s
STEI Steigen 98.21 338 IVmB_BB 14 59 02.9
comp=Z,867nm,2.8s
STEI *eP* Pdif 14 59 03.1 +0.2
STEI *eP*P **PP** **15 03 03.8 +1.0**
STEI *e*SKSac **SKSac** **15 09 33.6 -2.5**
STEI *e*SP SP 15 11 49.9 0.0
PBCC Pribram 98.30 319 *eP* Pdif 14 59 04.5 +0.7
PBCC *ex* x 14 59 24.0
CADS Cadrg 98.31 316 *eP* Pdif 14 59 04.1 +0.1
CADS *eS* **SKSac** **15 09 37.0 -0.7**
BRG Berggiesshubel 98.38 320 *eP* Pdif 14 59 05.8 +1.7
BRG Amp 14 59 09.8
comp=Z,19nm,1.4s
BRG *ex* x 15 02 35.9
BRG Amp 15 02 39.2
comp=Z,14nm,1.4s
BRG PP **PP** **15 03 03.2 -1.5**
BRG Amp 15 03 10.5
comp=Z,36nm,1.6s
BRG Berggiesshubel 98.38 320 *eP* Pdif 14 59 05.7 +1.6
BRG 15 03 03.1
BRG pmax pmax
comp=Z,19nm,1.4s
BRG pmax pmax
comp=Z,14nm,1.4s
BRG pmax pmax
comp=Z,36nm,1.6s
BRG Berggiesshubel 98.38 320 *eP*diff Pdif 14 59 05.8 +1.7
baz=91,slow=4.5
BRG *ep*Pdiff pP 14 59 19.9 +1.7
baz=88,slow=4.6
MYKA Terra Mystica 98.39 316 *eP* Pdif 14 59 06.4 +2.0
comp=Z,24nm,1.7s
GEC2 GERESS Array S 98.45 318 *eP*diff Pdif 14 59 06.1 +1.5
baz=91,slow=4.5
GEC2 *ep*Pdiff pP 14 59 20.1 +1.4
baz=88,slow=4.6
GERES GERESS Array B 98.45 318 P **P** **14 59 03.5 -1.0**
comp=Z,1.1nm,0.6s,baz=114,slow=3.2,SNR=12
GERES *eP* **PP** **15 03 04.5 -0.9**
comp=Z,0.5nm,0.5s,baz=95,slow=3.3,SNR=2.1
GERES LR LR 15 52 09.8
comp=Z,1µm,18.9s,baz=76,slow=41
MOR8 Moi Rana 98.50 336 *eP*diff **P** **14 59 03.7 -0.6**
MOR8 *eP*P **PP** **15 03 04.9 -0.3**
MOR8 *e*SKSac **SKSac** **15 09 37.8 0.0**
MOR8 *e*SP **SP** **15 11 50.2 -3.0**
MOR8 *e*SS **SS** **15 17 13.9 -0.4**
MOR8 IVMs_BB IVMs_BB 15 48 57.2
comp=Z,1µm,23.0s
RUE Ruedersdorf 98.55 322 *eP*diff Pdif 14 59 06.5 +1.8
baz=91,slow=4.5
KHC Kasperske Hory 98.55 318 *eP* Pdif 14 59 05.6 +0.7
KHC *e* 15 03 04.7
KHC *e* 15 09 37.9
KHC MLR MLR
comp=Z,2µm,18.7s
KHC Kasperske Hory 98.55 318 *eP* Pdif 14 59 05.6 +0.7
KHC *ex* x 14 59 24.2
KHC *eP*P **PP** **15 03 04.7 -1.3**
KHC *e*SKS **SKSac** **15 09 37.9 -0.9**
KHC AMS AMS 15 52 30.0
comp=Z,2µm,18.7s
DEL Delary 98.61 326 *eP* **P** **14 59 04.6 -0.3**
KBA Koelnbreinsper 98.62 316 *eP* Pdif 14 59 06.8 +1.4
comp=Z,3.6nm,1.1s
KBA *eP* **PP** **15 03 03.0 -3.8**
comp=Z,9.7nm,1.4s
TBI Tubuai 98.70 115 *eP*diff **P** **14 59 05.3 -0.8**
comp=Z,244nm,27.8s
TBI Tubuai 98.70 115 *eP*P **PP** **15 03 04.1 -3.6**
comp=Z,285nm,27.0s
TBI *e*SKSac **SKSac** **15 09 39.0 -1.6**
comp=Z,983nm,27.8s
TBI *eS* **S** **15 10 30.0 -2.3**
comp=Z,2µm,29.8s
TBI *e*SP SP 15 11 58.9 +1.6
comp=Z,903nm,29.2s
TBI *e*SS **SS** **15 17 20.9 +2.1**
comp=Z,1µm,26.8s
TBI *e*LQ LQ 15 27 03.2
comp=Z,3µm,36.8s
TBI *e*LR LR 15 31 16.8
comp=Z,7µm,23.2s
FBE Freiberg 98.76 320 *eP*diff Pdif 14 59 07.8 +2.0
baz=91,slow=4.5
FBE *ep*Pdiff pP 14 59 21.7 +1.9
baz=88,slow=4.6
HFS Hagfors 98.78 330 P **P** **14 59 03.9 -1.7**
comp=Z,13nm,1.0s,baz=144,slow=5.5,SNR=8.2
HFS LR LR 15 49 59.6
comp=Z,2µm,18.7s,baz=79,slow=39
LOF Lofoten 98.85 338 *eP*diff Pdif 14 59 06.4 +0.6
LOF *e*SKSac **SKSac** **15 09 37.8 -1.6**
RGN Rugen 98.88 324 IAMs_20 IAMs_20 15 51 34.4
comp=Z,2µm,20.0s
KBS Kingsbay 98.88 349 IAMs_20 IAMs_20 15 52 43.2
comp=Z,3µm,20.0s
KBS Kingsbay 98.88 349 *eP*diff Pdif 14 59 06.3 +0.6
CLL Collm 98.99 321 *eP* Pdif 14 59 08.0 +1.2
CLL *e* 15 03 13.0
CLL *eS* **ScS** **15 10 31.0 -2.5**
CLL MLR MLR
comp=Z,2µm,19.5s
CLL Collm 98.99 321 IAMs_20 IAMs_20 15 52 13.2
comp=Z,2µm,20.0s
CLL Collm 98.99 321 *eP*diff Pdif 14 59 08.0 +1.2
CLL *ex* x 14 59 33.0
CLL *ex* x 15 02 29.0
CLL *ex* x 15 02 47.0
CLL *eP*P **PP** **15 03 13.0 +3.7**
CLL *eP*KiKP **PKiKP** **15 03 36.0 -1.2**
CLL *ep*PKiKP pPKiKP 15 03 48.0 -3.9
CLL *eP*PP PPP 15 05 14.0
CLL *e*SKSac **SKSac** **15 09 36.0 -4.8**
CLL *e*Sdif **ScS** **15 10 31.0 -2.5**
CLL *eP*S PS 15 12 03.0 -3.0
CLL *eP*PS PPS 15 12 48.0
CLL *eS*S **SS** **15 17 17.0 -4.8**
CLL *ex* x 15 19 00.0
CLL *ex* x 15 22 00.0
CLL *ex* x 15 23 18.0
CLL LmV 15 52 00.0
comp=Z,2µm,19.5s
CLL LmH 15 52 00.0
comp=N,1µm,21.6s
CLL LmH 15 52 00.0
comp=E,2µm,22.0s
CLL Lm MLR 18 40 00.0
comp=N,200nm,20.8s
CLL Lm MLR 18 40 00.0
comp=E,600nm,19.9s
CLL Lm MLR 18 40 00.0
comp=Z,600nm,19.0s
CLL Collm 98.99 321 *eP*diff Pdif 14 59 08.2 +1.4
baz=91,slow=4.5
CLL *ep*Pdiff pP 14 59 21.7 +0.9
baz=88,slow=4.6
WET Wettzell 99.01 318 *eP*diff Pdif 14 59 08.9 +1.9
baz=91,slow=4.5
WET *ep*Pdiff pP 14 59 22.7 +1.6
baz=88,slow=4.6
RJOB Jochberg 99.02 317 *eP*diff **Pdif** **14 59 08.0 +0.9**
baz=91,slow=4.5
KONS Konsvik 99.04 336 *eP* **Pdif** **14 59 06.7 +0.1**
N2SV S_rvYgen 99.06 338 *eP*dif **Pdif** **14 59 06.6 -0.1**
STOK Stokkvaagen 99.08 336 *eP*dif **Pdif** **14 59 08.1 +1.3**
ABTA Abfaltersbach 99.17 316 *eP* **Pdif** **14 59 09.2 +1.4**
comp=Z,5.9nm,1.2s
ABTA *eP* **PP** **15 03 10.1 -0.8**
comp=Z,21nm,1.7s
TANN Tannenbergstha 99.31 320 *eP*diff **Pdif** **14 59 09.9 +1.6**
baz=91,slow=4.5
TANN *ep*Pdiff **pP** **14 59 23.7 +1.3**
baz=88,slow=4.6
NKC Novy Kostel 99.32 320 AMS AMS 15 50 20.0
comp=Z,2µm,25.7s
N2RO R_st 99.41 337 *eP*dif **Pdif** **14 59 08.8 +0.6**
WERD Werda 99.41 320 *eP*diff **Pdif** **14 59 10.3 +1.6**
baz=91,slow=4.5
WERD *ep*Pdiff **pP** **14 59 24.4 +1.6**
baz=88,slow=4.6
A21K Barrow 99.45 19 P **Pdif** **14 59 08.7 +0.4**
baz=273
ROTZ Rotzenmuhle 99.46 319 *eP*diff **Pdif** **14 59 10.8 +1.9**

	baz=91,slow=4.5						
ROTZ				epPdiff	pP	14 59 24.9	+1.9
	baz=88,slow=4.6						
MANZ	Manzenberg	99.53	319	ePdiff	Pdif	14 59 10.9	+1.7
	baz=91,slow=4.5						
MANZ				epPdiff	pP	14 59 25.2	+1.8
	baz=88,slow=4.6						
NSS	Namsos	99.56	334	ePdif	Pdif	14 59 10.0	+1.1
NSS				eSKSac	SKSac	15 09 41.7	-1.2
GCSA	Galena City Sc	99.62	26	P	Pdif	14 59 09.6	+0.4
	baz=272						
NEUB	Neuenburg	99.76	321	ePdiff	Pdif	14 59 11.9	+1.7
	baz=91,slow=4.5						
WTTA	Wattenberg	99.79	317	eP	Pdif	14 59 11.3	+0.6
	comp=Z,22nm,1.5s						
PPT2	Papeete2	99.80	109	ePdif	Pdif	14 59 11.8	+0.5
	comp=Z,340nm,26.8s						
PPT2	Papeete2	99.80	109	ePP	PP	15 03 06.6	-10
	comp=Z,283nm,28.5s						
PPT2				eSKSac	SKSac	15 09 45.1	-1.3
	comp=Z,798nm,28.0s						
PPT2				eSdif	ScS	15 10 40.5	-1.3
	comp=Z,3µm,27.2s						
PPT2				eSP	SP	15 12 07.7	-1.8
	comp=Z,987nm,32.8s						
PPT2				eSS	SS	15 17 34.3	-0.4
	comp=Z,1µm,27.0s						
PPT2	Papeete2	99.80	109	eLR	LR	15 31 48.3	
	comp=Z,4µm,21.8s						
PPT	Papeete	99.80	109	LR	LR	15 43 39.7	
	comp=Z,2µm,18.2s,baz=256,slow=35						
WATA	Walderalm	99.83	317	eP	Pdif	14 59 12.7	+1.8
	comp=Z,13nm,1.2s						
MOX	Moxa	99.86	320	ePdiff	Pdif	14 59 12.1	+1.4
	baz=91,slow=4.5						
MOX				eL	L	15 53 54.3	
	comp=Z,1µm,21.4s						
NB2	NORSAR Subarra	100.00	331	P	Pdif	14 59 12.4	+1.3
	comp=Z,69nm,2.0s,baz=80,slow=5.1						
NB2	NORSAR Subarra	100.00	331	P	Pdif	14 59 12.4	+1.3
	baz=80,slow=5.1						
NOA	NORSAR Array B	100.00	331	P	Pdif	14 59 10.1	-1.0
	comp=Z,3.5nm,0.8s,baz=85,slow=4.5,SNR=6.4						
NOA				PKKPbc	PKKPbc	15 15 31.4	-1.1
	comp=Z,1.0nm,0.5s,baz=176,slow=6.7,SNR=3.5						
NOA				LR	LR	15 48 53.7	
	comp=Z,3µm,21.9s,baz=90,slow=38						
TTA	Tatalina	100.06	27	P	Pdif	14 59 12.6	+1.2
	baz=272,SNR=14						
SQTA	Sankt Quirin	100.08	317	eP	Pdif	14 59 15.3	+3.4
	comp=Z,5.9nm,0.7s						
GRA1	Grafenberg Arr	100.10	319	IAMs_20	IAMs_20	15 51 27.7	
	comp=Z,2µm,22.0s						
GRF	Grafenberg Arr	100.10	319	ePdiff	Pdif	14 59 13.9	+2.1
	baz=91,slow=4.5						
GRF				ePP	PP	15 03 17.7	-0.1
	baz=96,slow=7.2						
GRF				eL	L	15 52 02.6	
	comp=Z,2µm,21.5s						
GRFO	Grafenberg	100.10	319	IAMs_20	IAMs_20	15 52 02.7	
	comp=Z,1µm,22.0s						
MOTA	Moosalm	100.15	317	eP	Pdif	14 59 13.1	+0.9
	comp=Z,14nm,1.7s						
RETA	Reutte	100.39	317	eP	Pdif	14 59 13.5	+0.3
	comp=Z,13nm,1.3s						
FETA	Feichten	100.40	316	eP	Pdif	14 59 15.4	+2.0
	comp=Z,7.4nm,1.0s						
CHIR	Chirikof Islan	100.47	35	P	Pdif	14 59 13.6	+0.3
	baz=271						
P18K	Big Mountain,	100.58	31	P	Pdif	14 59 13.7	0.0
	baz=272						
L19K	White Mountain	100.63	28	P	Pdif	14 59 14.9	+1.0
	baz=273,SNR=14						
J20K	Nowinta River	100.83	26	IAMs_20	IAMs_20	15 54 33.2	
	comp=Z,1µm,20.0s						
J20K	Nowinta River	100.83	26	P	Pdif	14 59 15.5	+0.8
	baz=274,SNR=17						
KONO	Kongsberg	100.85	329	IAMs_20	IAMs_20	15 53 53.6	
	comp=Z,1µm,20.0s						
M19K	Big River Lodg	100.87	29	P	Pdif	14 59 15.8	+0.9
	baz=273						
N19K	Bonanza Creek	100.88	30	P	Pdif	14 59 15.7	+0.6
	baz=273,SNR=18						
GTTG	Gottingen	100.89	321	ePdiff	Pdif	14 59 17.2	+2.0
	baz=91,slow=4.5						
K20K	Telida	100.92	27	P	Pdif	14 59 16.3	+1.2
	baz=274,SNR=18						
DOMB	Dombas	100.98	332	ePdif	Pdif	14 59 16.2	+0.8
DOMB				ePP	PP	15 03 21.6	-2.5
DOMB				eSKSac	SKSac	15 09 47.6	-2.6
DOMB				eSP	SP	15 12 21.4	+1.4
DOMB				eSS	SS	15 17 48.8	-0.2
DOMB				IVMs_BB	IVMs_BB	15 51 23.1	
	comp=Z,1µm,23.7s						
DAVA	Damuels	100.98	317	eP	Pdif	14 59 18.3	+2.3
	comp=Z,8.4nm,1.1s						
DAVA				eP	PP	15 03 21.0	-3.7
	comp=Z,30nm,1.7s						
DAVOX	Davos/Dischmat	100.98	316	P	Pdif	14 59 15.8	-0.2
	comp=Z,4.1nm,0.6s,baz=94,slow=5.6,SNR=8.7						
O19K	Port Alsworth	101.00	30	P	Pdif	14 59 16.2	+0.8
	baz=273						
L20K	Farewell, AK	101.07	28	P	Pdif	14 59 17.1	+1.2
	baz=274,SNR=12						
KEST	Kesra	101.21	305	P	Pdif	14 59 17.6	+0.5
	comp=Z,8.0nm,0.9s,baz=323,slow=5.1,SNR=4.1						
SII	Sitkinak Islan	101.25	34	IAMs_20	IAMs_20	15 39 57.7	
	comp=Z,3µm,22.0s						
SII	Sitkinak Islan	101.25	34	P	Pdif	14 59 17.3	+0.5
	baz=272						
H21K	Melozitna Rive	101.28	25	P	Pdif	14 59 17.5	+0.8
	baz=276,SNR=22						
TUE	Stuetta	101.35	316	IAMs_20	IAMs_20	15 54 22.9	
	comp=Z,3µm,20.0s						
Q19K	Cape Douglas,	101.42	32	P	Pdif	14 59 17.8	+0.3
	baz=273						
STU	Stuttgart	101.43	318	IAMs_20	IAMs_20	15 54 16.9	
	comp=Z,1µm,19.0s						
SKAR	Skarslia	101.44	330	ePdif	Pdif	14 59 18.4	+0.9
SKAR				ePP	PP	15 03 27.6	+0.1
SKAR				eSKSac	SKSac	15 09 50.2	-2.3
MOL	Molde	101.64	332	ePdif	Pdif	14 59 18.6	+0.3
CHUM	Lake Minchumin	101.66	26	P	Pdif	14 59 19.8	+1.5
	baz=276,SNR=6.8						
I21K	Tanana	101.67	25	IAMs_20	IAMs_20	15 54 56.3	
	comp=Z,2µm,22.0s						
I21K	Tanana	101.67	25	P	Pdif	14 59 19.3	+0.9
	baz=276,SNR=15						
OHAK	Old Harbor	101.71	33	P	Pdif	14 59 19.5	+0.8
	baz=273						
CAST	Castle Rocks	101.81	27	P	Pdif	14 59 19.5	+0.4
	baz=276,SNR=12						
PPLA	Purkeypile	101.81	27	P	Pdif	14 59 19.4	+0.1
	baz=276						
O20K	Slope Mountain	101.85	30	P	Pdif	14 59 19.3	-0.1
	baz=275						
AKN	Aaknes	101.94	332	ePdif	Pdif	14 59 18.0	-1.7
AKN				ePP	PP	15 03 32.5	+1.2
SPCR	Spurr Chakacha	101.96	29	P	Pdif	14 59 19.9	+0.1
	baz=275						
BFO	Black Forest	102.02	318	IAMs_20	IAMs_20	15 54 59.4	
	comp=Z,2µm,20.0s						
KDAK	Kodiak Island	102.05	33	IAMs_20	IAMs_20	15 43 56.8	
	comp=Z,2µm,22.0s						
KDAK	Kodiak Island	102.05	33	P	Pdif	14 59 20.3	+0.1
	baz=274						
COLD	Coldfoot	102.12	23	P	Pdif	14 59 21.0	+0.6
	baz=278,SNR=12						
TOLK	Toolik Lake Re	102.14	21	IAMs_20	IAMs_20	15 47 11.7	
	comp=Z,2µm,22.0s						
TOLK	Toolik Lake Re	102.14	21	P	Pdif	14 59 21.6	+1.0
	baz=279,SNR=42						
BPAW	Bear Paw Mtn.	102.22	26	IAMs_20	IAMs_20	15 55 23.8	
	comp=Z,2µm,20.0s						
BPAW	Bear Paw Mtn.	102.22	26	P	Pdif	14 59 22.1	+1.2
	baz=277,SNR=14						
HOM	Homer	102.38	31	P	Pdif	14 59 23.2	+1.5
	baz=275						
BLS5	Blasjo	102.46	329	ePdif	Pdif	14 59 22.6	+0.5
BLS5				ePP	PP	15 03 36.8	+1.5
BLS5				eSKSac	SKSac	15 09 52.7	-4.7
BLS5				IVMs_BB	IVMs_BB	15 46 48.3	
	comp=Z,610nm,6.7s						
CAPN	Captain Cook N	102.52	30	P	Pdif	14 59 23.4	+1.2
	baz=276						
TRF	Thorofare Moun	102.61	27	P	Pdif	14 59 23.0	+0.2
	baz=277,SNR=7.3						
CUT	Chulitna	102.75	28	P	Pdif	14 59 23.2	0.0
	baz=277						
I23K	Minto, Yukon-K	102.77	25	P	Pdif	14 59 23.9	+0.7
	baz=279,SNR=16						
SENIN	Lac Senin/Sane	102.77	316	IAMs_20	IAMs_20	15 50 44.4	
	comp=Z,1µm,20.0s						
ECH	Echery	102.80	318	IAMs_20	IAMs_20	15 53 31.1	
	comp=Z,1µm,20.0s						
BRSE	Bradley Lake S	102.83	31	P	Pdif	14 59 23.8	+0.1
	baz=276						
BWN	Browne	102.87	26	IAMs_20	IAMs_20	15 55 42.0	
	comp=Z,2µm,19.0s						
M22K	Willow	102.90	28	P	Pdif	14 59 23.8	-0.1
	baz=277						
FOO	Floro	102.92	331	ePdif	Pdif	14 59 23.2	-0.8
FOO				ePP	PP	15 03 40.7	+2.2
FOO				eSKSac	SKSac	15 09 58.9	-0.4
FOO				eSP	SP	15 12 40.1	-0.3
FOO				eSS	SS	15 18 17.5	+1.8
FOO				IVMs_BB	IVMs_BB	15 49 25.1	
	comp=Z,1µm,25.7s						
BER	Bergen	102.93	330	ePP	PKiKP	15 03 39.5	-4.5
BER				eSKSac	SKSac	15 09 57.0	-2.3
NEA2	Nenana	102.98	26	IAMs_20	IAMs_20	15 55 39.9	
	comp=Z,1µm,20.0s						
NEA2	Nenana	102.98	26	P	Pdif	14 59 24.8	+0.5
	baz=279						
SUE	Sulen	103.12	331	ePdif	Pdif	14 59 22.1	-2.8
SUE				ePP	PP	15 03 41.3	+1.2
MCK	McKinley	103.17	26	IAMs_20	IAMs_20	15 56 02.9	
	comp=Z,2µm,20.0s						
MCK	McKinley	103.17	26	P	Pdif	14 59 25.1	-0.1
	baz=279,SNR=9.7						
RC01	Rabbit Creek A	103.17	29	P	Pdif	14 59 25.7	+0.6
	baz=277						
BNI	Bardonecchia	103.25	314	IAMs_20	IAMs_20	15 56 00.1	
	comp=Z,2µm,22.0s						
O22K	Cooper Landing	103.25	30	IAMs_20	IAMs_20	15 56 17.3	
	comp=Z,1µm,19.0s						
RND	Reindeer	103.25	27	IAMs_20	IAMs_20	15 56 10.1	
	comp=Z,2µm,20.0s						
H24K	Noodor Dome	103.27	24	IAMs_20	IAMs_20	15 54 55.5	
	comp=Z,2µm,22.0s						
H24K	Noodor Dome	103.27	24	P	Pdif	14 59 25.4	-0.1
	baz=280,SNR=8.2						
PMR	Palmer	103.39	29	P	Pdif	14 59 26.8	+0.7
	baz=278						
WRH	Wood River Hil	103.41	26	IAMs_20	IAMs_20	15 56 03.4	
	comp=Z,1µm,22.0s						
SEW	Seward	103.43	30	P	Pdif	14 59 26.8	+0.5
	baz=277						
TCOL	CIGO, UAF Yank	103.44	25	P	Pdif	14 59 26.3	+0.1
	baz=280						
COLA	College	103.45	25	P	Pdif	14 59 26.3	+0.1
	baz=280						
CCB	Clear Creek Bu	103.51	25	IAMs_20	IAMs_20	15 54 14.9	
	comp=Z,1µm,21.0s						
POKR	Poker Plat Res	103.58	25	P	Pdif	14 59 27.4	+0.5
	baz=280						
KNK	Knik Glacier	103.73	29	P	Pdif	14 59 28.9	+1.2
	baz=279,SNR=6.3						
SML	Sawmill	103.73	28	P	Pdif	14 59 28.6	+0.8
	baz=279,SNR=6.2						
ILAR	Eielson Array	103.87	25	Pdiff	Pdif	14 59 25.8	-2.4
	comp=Z,1.3nm,0.7s,baz=296,slow=3.6,SNR=14						
ILAR				PKiKP	PP	15 03 45.6	0.0
	comp=Z,0.7nm,0.8s,baz=222,slow=1.3,SNR=2.7						
ILAR				PKKPbc	PKKPbc	15 15 20.4	-0.8
	comp=Z,3.2nm,0.8s,baz=101,slow=1.3,SNR=21						
ILAR				PKKP	PKKPdf	15 15 30.2	+0.3
	comp=Z,1.9nm,0.9s,baz=120,slow=2.9,SNR=4.5						
PWL	Port Wells	103.88	29	IAMs_20	IAMs_20	15 43 37.9	
	comp=Z,2µm,22.0s						
PWL	Port Wells	103.88	29	P	Pdif	14 59 28.7	+0.4
	baz=278						
WAT6	Susitna Watana	103.88	27	P	Pdif	14 59 29.4	+0.8
	baz=280						
HDA	Harding Lake	103.91	26	IAMs_20	IAMs_20	15 55 45.6	
	comp=Z,1µm,18.0s						
HDA	Harding Lake	103.91	26	P	Pdif	14 59 29.0	+0.6
	baz=281						
DHY	Denali Highway	103.97	27	IAMs_20	IAMs_20	15 56 34.1	
	comp=Z,1µm,21.0s						
DHY	Denali Highway	103.97	27	P	Pdif	14 59 29.6	+0.7
	baz=280						
SCM	Sheep Creek Mo	104.20	28	IAMs_20	IAMs_20	15 56 46.3	
	comp=Z,1µm,21.0s						
SCM	Sheep Creek Mo	104.20	28	P	Pdif	14 59 30.7	+0.9
	baz=280						
GLI	Glacier Island	104.47	29	P	Pdif	14 59 32.0	+1.1
	baz=280						
J25K	Salcha River,	104.54	25	P	Pdif	14 59 31.8	+0.5
	baz=282						
M24K	Tolsona, Glenn	104.69	28	P	Pdif	14 59 32.9	+0.9
	baz=281						
SSB	Saint Sauveur	104.75	315	IAMs_20	IAMs_20	15 56 47.8	
	comp=Z,2µm,20.0s						
PAX	Paxson	104.84	27	P	Pdif	14 59 33.5	+0.8
	baz=282						
PAX				P	PKiKP	15 03 48.6	+1.0
	baz=282						
KLU	Klutina	104.92	28	P	Pdif	14 59 33.9	+0.8
	baz=281						
KLU				P	PKiKP	15 03 48.5	+0.7
	baz=281						
RIDG	Independent Ri	104.95	26	P	Pdif	14 59 33.9	+0.8
	baz=282,SNR=8.5						
RIDG				P	PKiKP	15 03 48.5	+0.7
	baz=282						
Q23K	Middleton Isla	105.08	31	P	Pdif	14 59 35.4	+1.8
	baz=280						
Q23K				P	PKiKP	15 03 48.5	+0.5
	baz=280						
HARP	HAARP	105.10	27	P	Pdif	14 59 35.1	+1.4
	baz=282						
EYAK	Cordova Ski Ar	105.18	29	P	Pdif	14 59 35.2	+1.2
	baz=281						
EYAK				P	PKiKP	15 03 48.3	+0.2
	baz=281						
MAHO	Mahon	105.22	309	PP	PP	15 03 59.7	+3.3
SCRK	Sand Creek	105.27	26	P	Pdif	14 59 35.2	+0.6
	baz=283,SNR=8.1						
SCRK				P	PKiKP	15 03 49.6	+1.2
	baz=283						
J26L	Joseph Creek	105.33	25	P	Pdif	14 59 35.8	+1.0
	baz=284						
J26L				P	PKiKP	15 03 49.3	+0.8
	baz=284						
N25K	Chitina, Valde	105.52	28	P	Pdif	14 59 37.4	+1.7
	baz=282						
N25K				P	PKiKP	15 03 50.0	+1.1
	baz=282						
DAG	Danmarks Havn	105.62	349	i P	Pdif	14 59 35.0	-0.8
BMRM	Bremner River	105.65	29	IAMs_20	IAMs_20	15 45 44.7	
	comp=Z,2µm,22.0s						
BMRM	Bremner River	105.65	29	P	Pdif	14 59 37.0	+0.7
	baz=282						
L26K	Log Cabin Wild	105.77	27	IAMs_20	IAMs_20	15 57 33.8	
	comp=Z,1µm,21.0s						
L26K	Log Cabin Wild	105.77	27	P	Pdif	14 59 38.2	+1.5
	baz=284						
L26K				P	PKiKP	15 03 50.3	+1.1
	baz=284						
GLB	Gilahina Butte	105.92	28	IAMs_20	IAMs_20	15 57 48.9	
	comp=Z,1µm,18.0s						
CLF	Chambon-Foret	106.09	318	IAMs_20	IAMs_20	15 54 38.1	
	comp=Z,2µm,20.0s						
VRDI	Verde Repeater	106.14	28	IAMs_20	IAMs_20	15 57 48.6	
	comp=Z,1µm,18.0s						
EGAK	Eagle	106.26	25	IAMs_20	IAMs_20	15 58 12.5	
	comp=Z,2µm,20.0s						
L27K	Beaver Creek,	106.43	26	P	Pdif	14 59 41.0	+1.3
	baz=285,SNR=12						
L27K				P	PKiKP	15 03 52.0	+1.5
	baz=285						
BGLC	Bering Glacier	106.47	30	P	Pdif	14 59 40.2	+0.4
	baz=283						
M27K	Edge Creek, AK	106.59	27	P	Pdif	14 59 40.6	0.0
	baz=285						
M27K				P	PKiKP	15 03 51.3	+0.3
	baz=285						
WAX	Waxell Ridge	106.60	29	IAMs_20	IAMs_20	15 52 34.0	
	comp=Z,1µm,20.0s						
BARN	Barnard Glacie	107.02	28	IAMs_20	IAMs_20	15 58 43.0	
	comp=Z,1µm,20.0s						
BVCY	Beaver Creek	107.04	27	P	Pdif	14 59 44.4	+2.0
	baz=286,SNR=6.2						
BVCY				P	PKiKP	15 03 52.4	+0.8
	baz=286						
TORD	Torodi Ar. Bea	107.07	281	Pdiff	Pdif	14 59 43.4	-0.1
	comp=Z,1.0nm,1.1s,baz=107,slow=4.1,SNR=2.7						
TORD				PKiKP	PKiKP	15 03 53.3	+0.3
	comp=Z,2.7nm,0.7s,baz=44,slow=1.3,SNR=13						
TORD				PKKPbc	PKKPbc	15 15 10.3	+0.4
	comp=Z,0.6nm,0.4s,baz=308,slow=3.9,SNR=7.8						
YAH	Yahtse	107.16	29	IAMs_20	IAMs_20	15 58 46.6	
	comp=Z,1µm,20.0s						
DAWY	Dawson	107.20	25	P	Pdif	14 59 44.7	+1.6
	baz=288						
DAWY				P	PKiKP	15 03 53.2	+1.3
	baz=288						
I29M	Ogilvie Camp,	107.23	24	IAMs_20	IAMs_20	15 52 56.2	
	comp=Z,1µm,22.0s						
I29M	Ogilvie Camp,	107.23	24	P	Pdif	14 59 44.5	+1.4
	baz=289						
I29M				P	PKiKP	15 03 53.3	+1.4
	baz=289						
DBG	Daneborg	107.35	347	i P	Pdif	14 59 41.4	-2.1
YUK3	Moose Creek	107.39	27	P	Pdif	14 59 45.8	+1.6
	baz=286						
YUK3				P	PKiKP	15 03 53.2	+0.7
	baz=286						
TABL	Table Mountain	107.43	29	IAMs_20	IAMs_20	15 59 00.7	
	comp=Z,1µm,19.0s						
J29M	Klondike Camp	107.56	24	P	PKiKP	15 03 53.3	+0.7
	baz=289						
INK	Inuvik	107.89	20	Pdiff	Pdif	14 59 45.2	-0.8
	comp=Z,2.9nm,0.7s,baz=306,slow=3.9,SNR=5.7						
INK	Inuvik	107.89	20	P	PKiKP	15 03 53.8	+0.8
	baz=294						
BCPM	Bancas Point	108.28	29	IAMs_20	IAMs_20	15 46 27.4	
	comp=Z,1µm,21.0s						
YUK4	Talbot Arm	108.35	28	P	Pdif	14 59 49.2	+0.7
	baz=288						
YUK4				P	PKiKP	15 03 55.5	+1.1
	baz=288						
PNL	Peninsula	108.48	29	P	Pdif	14 59 49.8	+0.9
	baz=286						
PNL				P	PKiKP	15 03 55.6	+1.2
	baz=286						
A36M	Sachs Harbour	108.57	15	IAMs_20	IAMs_20	15 52 13.2	
	comp=Z,1µm,21.0s						
A36M	Sachs Harbour	108.57	15	P	Pdif	14 59 50.8	+1.9
	baz=304						
A36M				P	PKiKP	15 03 55.5	+1.4
	baz=304						
YUK6	Outpost Mounta	108.60	28	P	PKiKP	15 03 55.3	+0.5
	baz=288						
M30M	Minto, Yukon	108.78	26	IAMs_20	IAMs_20	15 59 12.5	
	comp=Z,1µm,20.0s						
M30M	Minto, Yukon	108.78	26	P	Pdif	14 59 52.4	+2.2
	baz=290						
M30M				P	PKiKP	15 03 55.8	+0.9
	baz=290						
HYT	Haines Junctio	109.04	28	P	Pdif	14 59 52.4	+1.0
	baz=288						
HYT				P	PKiKP	15 03 56.5	+1.0
	baz=288						
CART	Cartagena	109.47	307	PP	PP	15 04 28.4	+0.8
N31M	Braeburn, Yuko	109.61	27	IAMs_20	IAMs_20	16 00 38.7	
	comp=Z,2µm,20.0s						
N31M	Braeburn, Yuko	109.61	27	P	Pdif	14 59 56.3	+2.4
	baz=290						
N31M				P	PKiKP	15 03 56.8	+0.3
	baz=290						
M31M	Drury Creek, Y	109.97	26	IAMs_20	IAMs_20	15 57 28.7	
	comp=Z,1µm,22.0s						
M31M	Drury Creek, Y	109.97	26	P	Pdif	14 59 56.5	+1.1
	baz=292						
M31M				P	PKiKP	15 03 58.4	+1.2
	baz=292						
WHY	Whitehorse	110.31	28	P	Pdif	14 59 58.4	+1.4
	baz=291						
WHY				P	PKiKP	15 03 58.3	+0.4
	baz=291						
C36M	Paulatuk	110.38	17	P	Pdif	14 59 57.0	0.0
	baz=304						
C36M				P	PKiKP	15 03 58.6	+1.0
	baz=304						
SKAG	Skagway	110.51	29	P	PKiKP	15 03 58.7	+0.6
	baz=290						
TAOE	Nuku Hiva Isla	110.58	103	ePdif	Pdif	14 59 58.8	-0.5
	comp=Z,144nm,26.6s						
TAOE	Nuku Hiva Isla	110.58	103	ePP	PP	15 04 28.0	-8.4
	comp=Z,393nm,26.1s						
TAOE				eSdif	Sdif	15 12 08.3	-3.7
	comp=Z,1µm,28.4s						
TAOE				eSP	SP	15 13 59.8	-1.7
	comp=Z,652nm,30.7s						
TAOE				eSS	SS	15 20 03.7	+1.2
	comp=Z,2µm,29.9s						
TAOE	Nuku Hiva Isla	110.58	103	eLR	LR	15 36 52.3	
	comp=Z,3µm,21.9s						
UCM	Universidad Co	110.92	310	PP	PP	15 04 39.4	+1.3
SIT	Sitka	111.32	31	P	Pdif	15 00 02.1	+0.7
	baz=289						
SIT				P	PKiKP	15 03 60.0	+0.3
	baz=289						
P33M	Teslin, Yukon	111.42	28	IAMs_20	IAMs_20	16 01 14.3	
	comp=Z,2µm,21.0s						
P33M	Teslin, Yukon	111.42	28	P	Pdif	15 00 03.0	+1.0
	baz=292						
P33M				P	PKiKP	15 04 00.3	+0.3
	baz=292						
TULEG	Thule	111.49	359	IAMs_20	IAMs_20	15 53 02.5	
	comp=Z,2µm,18.0s						
ESDC	Sonseca Array	111.55	309	PKiKP	PKiKP	15 04 01.1	+0.3
	comp=Z,1.1nm,0.6s,baz=55,slow=2.7,SNR=4.6						
ESDC				PP	PP	15 04 44.2	+1.6
	comp=Z,1.7nm,0.7s,baz=56,slow=7.7,SNR=6.2						
ESDC				PKKPbc	PKKPbc	15 14 56.2	0.0
	comp=Z,1.2nm,0.9s,baz=288,slow=4.0,SNR=4.0						
ESDC				PKKP	PKKPdf	15 15 15.1	0.0
	comp=Z,4.9nm,1.1s,baz=277,slow=4.5,SNR=6.2						
PAB	San Pablo	111.87	309	IAMs_20	IAMs_20	15 56 58.3	
	comp=Z,1µm,20.0s						
RES	Resolute Bay	112.15	6	Pdiff	Pdif	15 00 03.5	-1.4
	comp=Z,1.8nm,1.0s,baz=267,slow=1.5,SNR=5.3						
RES				PKiKP	PKiKP	15 04 00.8	0.0
	comp=Z,8.4nm,0.9s,baz=299,slow=2.1,SNR=20						
EMAL	Malaga-Limoner	112.28	306	PP	PP	15 04 44.3	-3.6
EMAL	Malaga-Limoner	112.28	306	PS	PS	15 14 21.4	-1.0
PVLZ	Peæn de	112.36	305	PP	PP	15 04 45.1	-3.3
PVLZ	Peæn de	112.36	305	PS	PS	15 14 34.0	+11
KOWA	Kowa	112.69	282	IAMs_20	IAMs_20	15 50 57.4	
	comp=Z,2µm,20.0s						
KIC	Kosan Boka	112.78	274	ePKIKP	PKiKP	15 04 03.3	-0.5
	comp=Z,5.5nm,0.7s						
TGTN	Hyland Airport	112.88	25	P	PKiKP	15 04 03.2	+0.5
	baz=297						
DBIC	Dimbokro	112.93	274	PKiKP	PKiKP	15 04 04.1	+0.1
	comp=Z,4.2nm,0.9s,baz=3.9,slow=7.8,SNR=4.3						
CRAG	Craig	113.01	33	P	PKiKP	15 04 03.7	+0.7
	baz=290						
LIC	Lamto	113.05	273	ePKIKP	PKiKP	15 04 03.3	-1.0
	comp=Z,28nm,1.2s						
WRAK	Wrangell Islan	113.08	31	P	PKiKP	15 04 04.4	+1.3
	baz=292						
TIC	Toumodi	113.09	274	ePKIKP	PKiKP	15 04 03.3	-1.1
MVO	Moncorvo	113.63	311	eSS	SS	15 20 55.5	+14
MVO	Moncorvo	113.63	311	eLR	LR	15 42 33.4	
	comp=Z,1µm,20.0s						
SFS	San Fernando	113.74	306	PP	PP	15 05 00.7	+2.5
ARNO	Arenosillo	114.07	307	PP	PP	15 05 00.4	-0.2
ARNO	Arenosillo	114.07	307	PS	PS	15 14 37.5	-1.2
MTE	Manteigas	114.16	311	eSS	SS	15 20 56.0	+7.4
MTE	Manteigas	114.16	311	eLR	LR	15 41 59.5	
	comp=Z,982nm,20.0s						
MTE	Manteigas	114.16	311	IAMs_20	IAMs_20	16 03 18.9	
	comp=Z,1µm,21.0s						
POLO	Lamas de Olo	114.16	312	ePKPdf	PKiKP	15 04 07.0	+1.2
PCBR	Castelo Branco	114.21	310	ePKPdf	PKiKP	15 04 07.6	+1.8
PMRV	Marv??o	114.21	310	eSS	SS	15 20 54.6	+5.3
PMRV	Marv??o	114.21	310	eLR	LR	15 42 27.8	
	comp=Z,817nm,20.0s						
PGAV	Gavieira, Arco	114.40	312	eLR	LR	15 44 17.0	
	comp=Z,860nm,20.0s						
PVAQ	Vaqueiros	114.80	307	eLR	LR	15 41 19.6	
	comp=Z,755nm,22.0s						
EVO	Evora	114.84	309	PP	PP	15 05 03.9	-2.0
EVO	Evora	114.84	309	PS	PS	15 14 47.4	+1.6
AVE	Averroes	115.13	303	PP	PP	15 05 06.9	-1.3
AVE	Averroes	115.13	303	PS	PS	15 14 51.5	+2.8
PNCL	Nicolau / Gran	115.31	308	ePKPdf	PKPdf	15 04 09.5	+1.5
YKA	Yellowknife Ar	117.65	21	Pdiff	Pdif	15 00 30.7	+1.2
	comp=Z,0.1nm,0.3s,baz=268,slow=5.9,SNR=2.5						

YKA PKP **PKPdf** 15 04 10.5 -1.3
comp=Z,6.5nm,0.7s,baz=354,slow=1.8,SNR=61
YKA PKKPbc **PKKPbc** 15 14 33.7 -2.2
comp=Z,6.5nm,0.9s,baz=121,slow=4.3,SNR=23
SFJD Kangerlussuaq 119.25 350 PKP **PKPdf** 15 04 13.5 -1.1
comp=Z,6.2nm,0.6s,baz=356,slow=4.2,SNR=4.2
NLWA Neilton Lookou 121.47 38 IAMs_20 IAMs_20 16 05 26.0
comp=Z,1µm,21.0s
A04D Lummi Island 121.60 37 P **PKiKP** 15 04 20.3 +0.4
baz=297
D03D Eldon 121.89 38 P **PKiKP** 15 04 20.9 +0.4
baz=296
B05A Bryant 122.17 37 P **PKiKP** 15 04 21.2 +0.2
baz=297
D04E Lakebay 122.24 38 P **PKPdf** 15 04 21.1 +0.2
baz=296
F04D Rainier, OR 122.56 40 P **PKPdf** 15 04 21.1 -0.6
baz=295
E04D Cinebar 122.64 39 P **PKiKP** 15 04 22.1 +0.1
baz=296
G03D McMinnville, O 122.76 41 IAMs_20 IAMs_20 15 50 49.2
comp=Z,1µm,19.0s
G03D McMinnville, O 122.76 41 P **PKPdf** 15 04 22.3 +0.2
baz=294
I02E Swisshome, OR 122.83 42 P **PKPdf** 15 04 22.4 +0.1
baz=293
C06D Leavenworth 123.04 37 P **PKiKP** 15 04 23.1 +0.3
baz=298
J01E Myrtle Point 123.14 43 P **PKPdf** 15 04 22.5 -0.3
baz=292
I03D Drain, OR 123.32 42 P **PKPdf** 15 04 23.0 -0.2
baz=293
H04D Lebanon 123.39 41 P **PKiKP** 15 04 23.7 +0.1
baz=294
K02D Willamette Mer 123.49 43 P **PKiKP** 15 04 24.0 0.0
baz=292
F05D White Salmon 123.62 39 P **PKiKP** 15 04 24.2 +0.2
baz=296
L02E Cave Junction 123.74 44 P **PKiKP** 15 04 24.7 +0.3
baz=292
I04A Tendick Farm, 123.90 42 P **PKiKP** 15 04 24.9 +0.2
baz=294
G05D Wamic, OR 124.00 40 P **PKiKP** 15 04 25.1 +0.3
baz=296
FRB Frobisher Bay 124.30 358 PKP **PKPdf** 15 04 22.6 -1.9
comp=Z,24nm,1.0s,baz=0.8,slow=2.2,SNR=19
J04D Umpqua Nationa 124.33 42 P **PKiKP** 15 04 26.4 +0.6
baz=294
I05D Terrebonne, OR 124.38 41 P **PKiKP** 15 04 26.2 +0.6
baz=296
YBH Yreka Blue Hor 124.52 44 IAMs_20 IAMs_20 15 49 07.0
comp=Z,1µm,22.0s
M02C Callahan 124.55 45 P **PKiKP** 15 04 26.8 +0.7
baz=292
L04D Klamath Falls 124.61 44 P **PKiKP** 15 04 26.8 +0.5
baz=293
N02D Trinity Center 124.81 45 P **PKiKP** 15 04 26.7 +0.1
baz=292
K04D Chiloquin, OR 124.82 43 P **PKiKP** 15 04 26.7 +0.1
baz=294
J05D Fort Rock, OR 124.89 42 P **PKiKP** 15 04 27.2 +0.4
baz=295
O02D Mt. Diablo Mer 125.05 46 IAMs_20 IAMs_20 15 50 20.1
comp=Z,1µm,20.0s
O02D Mt. Diablo Mer 125.05 46 P **PKiKP** 15 04 27.5 +0.4
baz=292
NEW Newport 125.06 35 P **PKiKP** 15 04 27.6 +0.8
baz=302
M04C Macdoel 125.10 44 P **PKiKP** 15 04 27.9 +0.7
baz=293
HOPS Hopland Field 125.27 47 IAMs_20 IAMs_20 15 49 46.0
comp=Z,1µm,22.0s
MCCM Marconi Confer 125.70 48 IAMs_20 IAMs_20 15 49 44.6
comp=Z,1µm,21.0s
O03E Paynes Creek 125.70 46 P **PKiKP** 15 04 28.8 +0.3
baz=292
SAO San Andreas Ge 127.25 49 IAMs_20 IAMs_20 16 12 10.7
comp=Z,1µm,21.0s
MSO Missoula 127.65 35 P **PKiKP** 15 04 32.2 +0.1
baz=304
FFC Flin Flon 127.82 21 IAMs_20 IAMs_20 16 10 35.4
comp=Z,2µm,19.0s
SMMC Simmler 128.86 51 P **PKiKP** 15 04 35.1 +0.3
baz=290
MLAC Mammoth, Mammot 128.87 47 P **PKiKP** 15 04 35.3 +0.3
baz=293
NVAR Mina Array Bea 128.93 46 PKhKP PKPpre 15 04 23.1
comp=Z,0.9nm,0.8s,baz=243,slow=2.7,SNR=4.0
NVAR PKP **PKPdf** 15 04 33.2 -1.2
comp=Z,1.5nm,0.7s,baz=242,slow=2.8,SNR=3.1
NVAR SKPbc SKiKP 15 07 53.8 -13
comp=Z,5.7nm,0.9s,baz=270,slow=4.4,SNR=4.0
VOG Valley Oaks Go 128.96 49 P **PKiKP** 15 04 35.3 +0.4
baz=292
HLID Hailey 129.14 39 P **PKiKP** 15 04 35.7 +0.4
baz=302
EGMT Eagleton 129.21 32 IAMs_20 IAMs_20 16 12 23.0
comp=Z,1µm,20.0s
EGMT Eagleton 129.21 32 P **PKiKP** 15 04 35.4 +0.2
baz=309
VES Vestal, Richgr 129.36 50 P **PKiKP** 15 04 36.0 +0.3
baz=292
SBC Santa Barbara 129.38 52 P **PKiKP** 15 04 35.8 0.0
baz=290
TIN Tinemaha, Big 129.54 48 P **PKiKP** 15 04 36.2 0.0
baz=293
BOZ Bozeman (W) 129.67 35 IAMs_20 IAMs_20 16 13 04.5
comp=Z,956nm,20.0s
BOZ Bozeman (W) 129.67 35 P **PKiKP** 15 04 36.8 +0.5
baz=306
ARVC Arvin 129.81 50 P **PKiKP** 15 04 37.3 +0.6
baz=291
CWC Cottonwood Cre 129.89 49 P **PKiKP** 15 04 37.1 +0.1
baz=293
ISA Isabella, Lake 129.89 50 P **PKiKP** 15 04 36.8 -0.1
baz=292
SNCC San Nicolas Is 129.92 53 P **PKiKP** 15 04 37.4 +0.5
baz=289
ELK Elko 130.02 42 IAMs_20 IAMs_20 15 52 51.5
comp=Z,1µm,22.0s
OSI Osito Audit: C 130.08 51 P **PKiKP** 15 04 37.9 +0.6
baz=291
GRAC Grapevine Rang 130.19 48 P **PKiKP** 15 04 38.0 +0.6
baz=294
MPMC Manual Prospec 130.48 49 P **PKiKP** 15 04 38.3 +0.1
baz=293
DECC Green Verdugo 130.51 51 P **PKiKP** 15 04 38.5 +0.4
baz=291
EDW2 Edwards Air Fo 130.54 50 P **PKiKP** 15 04 38.6 +0.3
baz=292
LRMC Laurel Mtn Rad 130.56 50 P **PKiKP** 15 04 38.7 +0.4
baz=292
PASC Pasadena Art C 130.65 51 IAMs_20 IAMs_20 15 59 03.9
comp=Z,1µm,20.0s
FMP Fort Macarthur 130.73 52 P **PKiKP** 15 04 39.1 +0.5
baz=290
CIS Catalina Islan 130.75 52 P **PKiKP** 15 04 38.8 +0.2
baz=290
FURC Furnace Creek, 130.78 48 P **PKiKP** 15 04 39.0 +0.5
baz=294
SCI2 San Clemente I 130.78 53 P **PKiKP** 15 04 39.4 +0.7
baz=290
R11A Troy Canyon, C 130.90 45 P **PKiKP** 15 04 39.4 +0.3
baz=297
H17A Grant Village 130.98 36 P **PKiKP** 15 04 39.3 +0.2
baz=306
TPNV Topopah Spring 131.03 47 P **PKiKP** 15 04 39.0 -0.3
baz=295
BFSC Mount Baldy Ra 131.04 51 P **PKiKP** 15 04 39.8 +0.5
baz=292
GSC Goldstone, Bar 131.28 49 P **PKiKP** 15 04 40.9 +1.1
baz=293
RLMT Red Lodge 131.29 34 P **PKiKP** 15 04 40.4 +0.8
baz=308
RRX Edison Barstow 131.30 50 P **PKiKP** 15 04 40.8 +1.1
baz=293
REDW Red Top Meadow 131.42 37 IAMs_20 IAMs_20 16 14 25.9
comp=Z,1µm,22.0s
SHOC Shoshone, Teco 131.44 48 P **PKiKP** 15 04 40.8 +0.9
baz=294
PLCA Paso Flores 131.45 182 PKhKP PKPpre 15 04 26.6
comp=Z,1.5nm,0.9s,baz=202,slow=1.3,SNR=3.1
PLCA PKP **PKiKP** 15 04 41.6 +1.6
comp=Z,12nm,1.1s,baz=126,slow=2.9,SNR=5.7
PLCA SKPbc **SKPab** 15 08 02.5 +1.8
comp=Z,18nm,1.2s,baz=132,slow=4.8,SNR=3.3
BBRC Big Bear Solar 131.59 51 P **PKiKP** 15 04 41.0 +0.4
baz=292

AHID Auburn Hatcher 131.61 38 IAMs_20 IAMs_20 15 53 31.0
comp=Z,1µm,22.0s
MURC Murrieta 131.63 52 P **PKiKP** 15 04 41.1 +0.6
baz=291
DGMT Dagmar 131.64 28 IAMs_20 IAMs_20 16 10 01.0
comp=Z,1µm,22.0s
DGMT Dagmar 131.64 28 P **PKiKP** 15 04 40.7 +0.7
baz=316
HEC Hector,Ludlow 131.82 50 P **PKiKP** 15 04 42.0 +1.2
baz=293
TUQ Turquoise Moun 131.89 49 P **PKiKP** 15 04 41.8 +0.7
baz=294
LAO LASA Array 131.90 31 IAMs_20 IAMs_20 16 09 15.1
comp=Z,1µm,20.0s
LAO LASA Array 131.90 31 P **PKiKP** 15 04 41.8 +1.1
baz=312
DUG Dugway, Tooele 131.90 42 P **PKiKP** 15 04 41.7 +0.7
baz=301
109C Camp Elliot, M 131.95 53 IAMs_20 IAMs_20 16 15 42.4
comp=Z,981nm,20.0s
109C Camp Elliot, M 131.95 53 P **PKiKP** 15 04 41.8 +0.8
baz=291
PFO Pinyon Flats O 132.19 51 IAMs_20 IAMs_20 16 15 09.8
comp=Z,1µm,20.0s
PFO Pinyon Flats O 132.19 51 P **PKiKP** 15 04 42.2 +0.5
baz=292
TPFO Pinon Flats 132.20 51 P **PKiKP** 15 04 42.4 +0.7
baz=292
GMRC Granite Mounta 132.35 50 P **PKiKP** 15 04 42.8 +0.8
baz=294
BELC Belle Mtn. Jos 132.40 51 P **PKiKP** 15 04 42.7 +0.6
baz=293
MONP2 Monument Peak 132.49 52 P **PKiKP** 15 04 42.7 +0.3
baz=291
BW06 Boulder Array 132.53 37 IAMs_20 IAMs_20 16 05 25.5
comp=Z,1µm,21.0s
BW06 Boulder Array 132.53 37 P **PKiKP** 15 04 42.1 -0.2
baz=306
PDAR Pinedale Array 132.54 37 PKhKP PKPpre 15 04 27.1
comp=Z,0.3nm,0.4s,baz=20,slow=4.7,SNR=5.3
PDAR PKP **PKiKP** 15 04 42.0 -0.2
comp=Z,2.1nm,0.7s,baz=239,slow=0.9,SNR=14
PDAR SKPbc **SKPbc** 15 08 04.2 +0.2
comp=Z,3.6nm,0.6s,baz=322,slow=0.7,SNR=7.8
IKP In-Ko-Pah, Jac 132.82 52 P **PKiKP** 15 04 43.0 0.0
baz=291
BC3 Big Chuckawall 132.95 51 P **PKiKP** 15 04 43.5 +0.3
baz=293
SWSC Sam W. Stewart 132.96 52 P **PKiKP** 15 04 43.1 0.0
baz=292
IRM Iron Mountain 132.99 50 P **PKiKP** 15 04 42.9 -0.2
baz=294
SCHQ Schefferville 133.09 355 PKP **PKPdf** 15 04 42.0 +0.4
comp=Z,14nm,0.8s,baz=307,slow=1.6,SNR=14
SCHQ SKPbc **SKPbc** 15 08 05.5 +0.3
comp=Z,22nm,0.9s,baz=10,slow=5.5,SNR=8.4
NEE2 Needles Airpor 133.14 49 P **PKiKP** 15 04 43.8 +0.4
baz=294
ULM Lac du Bonnet 133.63 21 PKP **PKPdf** 15 04 42.3 -0.4
comp=Z,20nm,0.9s,baz=320,slow=3.2,SNR=17
ULM SKPbc **SKPbc** 15 08 07.0 -0.2
comp=Z,32nm,1.0s,baz=330,slow=5.1,SNR=12
GLA Glamis 133.67 51 P **PKiKP** 15 04 44.7 +0.1
baz=293
PDMCI Parker Dam,Lak 133.69 49 P **PKiKP** 15 04 44.2 -0.3
baz=295
MDND Maddock 134.14 25 P **PKPdf** 15 04 44.2 +0.5
baz=321
K22A Casper 134.38 35 P **PKiKP** 15 04 45.5 -0.4
baz=309
RSSD Black Hills 134.77 32 P **PKPdf** 15 04 45.7 +0.5
baz=313
O20A White River Ci 134.87 39 P **PKiKP** 15 04 47.1 +0.1
baz=305
WUAZ Wupatki 135.19 47 P **PKiKP** 15 04 47.8 0.0
baz=298
AGMN Agassiz Nation 135.27 22 IAMs_20 IAMs_20 16 18 02.5
comp=Z,2µm,21.0s
AGMN Agassiz Nation 135.27 22 P **PKPdf** 15 04 46.3 +0.5
baz=326
214A Organ Pipe Nat 135.67 52 P **PKiKP** 15 04 48.7 0.0
baz=294
N23A Red Feather La 135.82 37 P **PKPdf** 15 04 48.3 +0.8
baz=309
PHWY Pilot Hill 135.85 36 IAMs_20 IAMs_20 16 14 20.0
comp=Z,1µm,22.0s
SMCO Snowmass 136.22 39 IAMs_20 IAMs_20 16 17 45.8
comp=Z,883nm,20.0s
MVCO Mesa Verde 136.34 43 P **PKiKP** 15 04 49.8 -0.3
baz=303
W18A Petrified Fore 136.56 46 P **PKPdf** 15 04 49.6 +0.8
baz=299
ISCO Idaho Springs 136.69 38 IAMs_20 IAMs_20 16 17 50.6
comp=Z,903nm,20.0s
ISCO Idaho Springs 136.69 38 P **PKPdf** 15 04 49.0 -0.2
baz=308
SUSD Miller 137.06 28 P **PKPdf** 15 04 49.8 +0.6
baz=320
EYMN Ely 137.08 19 IAMs_20 IAMs_20 16 12 09.4
comp=Z,2µm,22.0s
EYMN Ely 137.08 19 P **PKPdf** 15 04 50.1 +0.9
baz=332
TUC Tucson 137.08 50 IAMs_20 IAMs_20 16 17 13.0
comp=Z,1µm,20.0s
TUC Tucson 137.08 50 P **PKiKP** 15 04 50.9 -0.7
baz=296
S22A 4UR Ranch, Cre 137.15 41 P **PKiKP** 15 04 51.8 0.0
baz=305
Q24A Divide 137.49 38 P **PKiKP** 15 04 51.9 -0.7
baz=308
SDCO Great Sand Dun 138.00 40 IAMs_20 IAMs_20 16 13 29.5
comp=Z,877nm,22.0s
SDCO Great Sand Dun 138.00 40 P **PKiKP** 15 04 52.8 -0.8
baz=306
OGNE Ogallala 138.03 34 IAMs_20 IAMs_20 16 15 03.5
comp=Z,1µm,21.0s
OGNE Ogallala 138.03 34 P **PKPdf** 15 04 51.9 +0.7
baz=313
ECSD EROS Data Cent 138.67 27 IAMs_20 IAMs_20 16 17 19.8
comp=Z,1µm,20.0s
ECSD EROS Data Cent 138.67 27 P **PKPdf** 15 04 52.3 0.0
baz=322
ANMO Albuquerque 138.95 44 IAMs_20 IAMs_20 16 20 17.0
comp=Z,2µm,21.0s
ANMO Albuquerque 138.95 44 P **PKPdf** 15 04 53.4 +0.1
baz=303
KSCO Kaye Shedlock' 138.98 37 P **PKPdf** 15 04 53.8 +0.7
baz=311
SPMN Marine on St. 138.99 22 P **PKPdf** 15 04 53.2 +0.4
baz=329
T25A Trinidad 139.06 40 P **PKPdf** 15 04 54.4 +1.0
baz=307
Y22D IRIS PASSCAL I 139.09 46 IAMs_20 IAMs_20 16 01 34.7
comp=Z,991nm,22.0s
Y22D IRIS PASSCAL I 139.09 46 P **PKPdf** 15 04 54.5 +1.0
baz=301
121A Hoodoos Peak, D 139.23 48 P **PKPdf** 15 04 55.0 +1.1
baz=299
COWI Conover 139.46 18 IAMs_20 IAMs_20 16 18 47.2
comp=Z,2µm,22.0s
EPT El Paso 140.55 49 IAMs_20 IAMs_20 16 13 47.7
comp=Z,908nm,20.0s
CBKS Cedar Bluff 140.77 34 IAMs_20 IAMs_20 16 21 36.3
comp=Z,1µm,18.0s
CBKS Cedar Bluff 140.77 34 P **PKPdf** 15 04 56.6 +0.3
baz=314
SLBS Sierra La Lagu 140.94 62 IAMs_20 IAMs_20 16 11 20.2
comp=Z,1µm,20.0s
RCBR Riachuelo 140.96 250 PKP **PKPdf** 15 04 56.0 -1.3
comp=Z,3.4nm,0.5s,baz=120,slow=14,SNR=1.6
MNTX Cornudas Mount 141.42 48 IAMs_20 IAMs_20 16 14 17.6
comp=Z,1µm,22.0s
MNTX Cornudas Mount 141.42 48 P **PKPdf** 15 04 53.6 -4.0
baz=300,SNR=13
MNTX Cornudas Mount 141.42 48 P **PKPdf** 15 04 58.4 +0.8
baz=300
SCIA State Center 141.62 25 IAMs_20 IAMs_20 16 18 06.7
comp=Z,2µm,20.0s
SCIA State Center 141.62 25 P **PKPdf** 15 04 58.0 +0.4
baz=326
R32A Long Quarter, 141.62 34 P **PKPdf** 15 04 54.0 -3.8
baz=315,SNR=8.5
GLMI Grayling 141.86 14 P **PKPdf** 15 04 58.1 +0.1
baz=340
JFWS Jewell Farm 141.92 21 P **PKPdf** 15 04 58.3 +0.2
baz=331
MSTX Muleshoe 142.01 43 P **PKPdf** 15 04 58.9 +0.1
baz=306

KSU1 Kansas State U 142.25 31 IAMs_20 IAMs_20 16 20 02.9
comp=Z,2µm,20.0s
KSU1 Kansas State U 142.25 31 P **PKPdf** 15 04 58.5 -0.4
baz=319
L40A Anamosa 142.29 23 P **PKPdf** 15 04 55.2 -3.6
baz=329
N38A Joes South For 142.52 26 P **PKPdf** 15 04 55.8 -3.4
baz=325,SNR=5.8
K43A Burlington 142.76 19 P **PKPdf** 15 04 55.7 -3.9
baz=334
PKME Peaks-Kenny Pk 142.79 356 P **PKPdf** 15 04 56.6 -2.9
baz=5.5
PKME Peaks-Kenny Pk 142.79 356 P **PKPdf** 15 05 00.3 +0.7
baz=5.5
CPUP Villa Florida 142.80 203 PKP **PKPdf** 15 04 58.2 -2.0
comp=Z,15nm,0.7s,baz=148,slow=4.1,SNR=31
CPUP SKPbc **SKPbc** 15 08 29.2 -5.0
comp=Z,12nm,1.1s,baz=234,slow=5.2,SNR=2.3
G62A West of Eustis 142.90 358 P **PKPdf** 15 04 56.5 -3.3
baz=3.4
G62A P **PKPdf** 15 04 56.5 -3.3
baz=3.4
L42A Oliver, Polo 142.92 21 P **PKPdf** 15 04 56.5 -3.4
baz=331
SADO Sadowa 142.94 8 PKP **PKPdf** 15 04 57.4 -2.5
comp=Z,16nm,0.7s,baz=291,slow=1.0,SNR=6.1
BMNY Brushton-Moira 143.28 2 P PKPbc 15 04 57.2 -0.4
baz=357,SNR=10.0
FRNY Flat Rock 143.31 1 P PKPbc 15 04 57.6 0.0
baz=358
P38A Dawn 143.34 28 P PKPbc 15 04 58.2 +0.3
baz=324,SNR=57
L44A Lake County Fo 143.37 19 IAMs_20 IAMs_20 16 12 03.6
comp=Z,1µm,22.0s
L44A Lake County Fo 143.37 19 P PKPbc 15 04 58.5 +0.6
baz=334
LONY Lake Ozonia 143.50 2 P PKPbc 15 04 58.6 +0.4
baz=357
H62A Milan 143.57 358 P PKPbc 15 04 58.8 +0.4
baz=2.4,SNR=6.0
H62A P PKPbc 15 04 58.8 +0.4
baz=2.4,SNR=6.0
N41A Harden Midland 143.59 24 P PKPbc 15 04 58.5 -0.1
baz=328,SNR=33
TX31 Lajitas Ar. Si 143.88 50 P **PKPdf** 15 05 02.0 -0.1
baz=300
TXAR Lajitas Array 143.88 50 PKP **PKPdf** 15 05 01.5 -0.7
comp=Z,14nm,0.6s,baz=248,slow=0.9,SNR=55
T35B Sooner Cattle 143.91 34 P PKPbc 15 05 00.5 +0.8
baz=317,SNR=49
LBNH Lisbon 143.92 359 P PKPbc 15 05 00.4 +0.9
baz=1.2,SNR=11
LBNH Lisbon 143.92 359 P PKPbc 15 04 59.5 0.0
baz=1.2,SNR=11
L46A Eue Claire 144.03 18 P PKPbc 15 05 00.9 +1.1
baz=336
L46A P PKPbc 15 05 00.9 +1.1
baz=336
M44A Midewin, Midew 144.03 20 P PKPbc 15 05 00.4 +0.6
baz=333,SNR=18
I63A Otisfield 144.07 358 P **PKPdf** 15 05 01.1 -0.8
baz=3.4,SNR=14
I63A P **PKPdf** 15 05 01.1 -0.8
baz=3.4,SNR=14
WCNY West Carthage 144.08 4 P PKPbc 15 05 00.4 +0.5
baz=355,SNR=8.6
P40A Paris 144.08 26 P PKPbc 15 05 00.2 +0.1
baz=326,SNR=179
WMOK Wichita Mounta 144.11 38 P **PKPdf** 15 05 01.6 -0.7
baz=312,SNR=226
WMOK Wichita Mounta 144.11 38 P PKPbc 15 05 00.9 +0.5
baz=312
NCB Newcomb 144.16 2 P PKPbc 15 05 00.8 +0.6
baz=357,SNR=30
MCVT Middlebury Col 144.21 1 P PKPbc 15 05 01.1 +0.8
baz=359,SNR=11
K50A Casco 144.26 13 P **PKPdf** 15 05 01.5 -0.7
baz=343,SNR=7.2
K50A P **PKPdf** 15 05 01.5 -0.7
baz=343,SNR=7.2
I62A Tamworth 144.27 359 P PKPbc 15 05 01.0 +0.4
baz=2.2,SNR=15
I62A P PKPbc 15 05 01.0 +0.4
baz=2.2,SNR=15
HDIL Hopedale 144.32 22 IAMs_20 IAMs_20 16 15 25.0
comp=Z,2µm,22.0s
HDIL Hopedale 144.32 22 P PKPbc 15 05 01.2 +0.4
baz=331,SNR=38
HDIL Hopedale 144.32 22 P PKPbc 15 05 00.8 0.0
baz=331,SNR=38
AAM Ann Arbor 144.47 14 IAMs_20 IAMs_20 16 15 32.6
comp=Z,1µm,21.0s
AAM Ann Arbor 144.47 14 P **PKPdf** 15 05 02.3 -0.3
baz=341
AAM Ann Arbor 144.47 14 P PKPbc 15 05 02.0 +0.7
baz=341
J54A Appleton 144.48 8 P **PKPdf** 15 05 02.3 -0.3
baz=350,SNR=11
J54A P **PKPdf** 15 05 02.3 -0.3
baz=350,SNR=11
J55A Hilton 144.59 7 P **PKPab** 15 05 01.2 -0.2
baz=351,SNR=13
J55A P **PKPab** 15 05 01.2 -0.2
baz=351,SNR=13
L48A N Adams 144.61 15 P **PKPab** 15 05 01.7 +0.2
baz=340,SNR=47
L48A P **PKPab** 15 05 01.7 +0.2
baz=340,SNR=47
J57A Williamstown 144.62 4 P PKPbc 15 05 02.0 +0.4
baz=354
J57A P PKPbc 15 05 02.0 +0.4
baz=354
J59A Piesco 144.65 2 P PKPbc 15 05 01.9 +0.1
baz=357,SNR=38
J59A P PKPbc 15 05 01.9 +0.1
baz=357,SNR=38
J56A Wolcott 144.68 5 P **PKPab** 15 05 01.6 -0.1
baz=353,SNR=14
J56A P **PKPab** 15 05 01.6 -0.1
baz=353,SNR=14
J58A Remsen 144.72 3 P PKPbc 15 05 02.2 +0.2
baz=355,SNR=29
J58A P PKPbc 15 05 02.2 +0.2
baz=355,SNR=29
ACCN Adirondack Com 144.76 1 P PKPbc 15 05 02.5 +0.4
baz=358,SNR=34
J61A Chester 144.81 0 P **PKPdf** 15 05 03.2 0.0
baz=0.1,SNR=24
J61A P **PKPdf** 15 05 03.2 0.0
baz=0.1,SNR=24
ABTX Abilene, Hawle 144.91 42 P **PKPdf** 15 05 04.2 +0.4
baz=308,SNR=85
ABTX Abilene, Hawle 144.91 42 P **PKPdf** 15 05 04.0 +0.2
baz=308
S39A Bolivar 144.97 29 P **PKPab** 15 05 02.8 -0.2
baz=322,SNR=255
O44A Mansfield 144.98 22 P **PKPab** 15 05 02.8 -0.1
baz=332,SNR=28
R40A Maddies Statio 144.99 28 P PKPbc 15 05 03.2 +0.2
baz=324,SNR=820
P43A Skaggs, Pawnee 145.03 23 P **PKPab** 15 05 03.2 +0.1
baz=330,SNR=67
UNH University of 145.04 358 P **PKPab** 15 05 03.1 +0.2
baz=3.0,SNR=13
TUL1 Leonard 145.04 34 IAMs_20 IAMs_20 16 20 19.3
comp=Z,2µm,21.0s
TUL1 Leonard 145.04 34 P **PKPdf** 15 05 03.8 -0.1
baz=317,SNR=91
TUL1 Leonard 145.04 34 P **PKPab** 15 05 03.5 +0.3
baz=317
N47A Urbana 145.24 18 P **PKPbc** 15 05 03.7 -0.1
baz=337,SNR=98
N47A P **PKPbc** 15 05 03.7 -0.1
baz=337,SNR=98
K57A Scipio Center 145.25 5 P **PKPbc** 15 05 03.8 +0.1
baz=353,SNR=45
SFIN Lafayette 145.25 20 P **PKPdf** 15 05 04.2 +0.1
baz=334,SNR=128
SFIN Lafayette 145.25 20 P **PKPdf** 15 05 04.1 +0.1
baz=334
WVNY West Valley, N 145.34 8 P **PKPbc** 15 05 03.5 -0.5
baz=350,SNR=68
ERPA Erie 145.41 10 IAMs_20 IAMs_20 16 16 27.0
comp=Z,2µm,20.0s
ERPA Erie 145.41 10 P **PKPbc** 15 05 04.3 +0.1
baz=347,SNR=27
ERPA Erie 145.41 10 P **PKPbc** 15 05 04.4 +0.1
baz=347

TRY	**Troy**	145.41	1	P	PKPab	15 05 04.5	+0.1
	baz=358,SNR=29						
HCNY	**Howe Caverns**	145.42	2	P	PKPbc	15 05 03.7	-0.6
	baz=357,SNR=35						
M50A	**Fremont**	145.47	14	P	PKPdf	15 05 04.3	-0.1
	baz=342,SNR=17						
M50A				P	PKPdf	15 05 04.3	-0.1
	baz=342,SNR=17						
K62A	**Royalston**	145.49	360	P	PKPab	15 05 04.8	+0.1
	baz=0.7,SNR=49						
K62A				P	PKPab	15 05 04.8	+0.1
	baz=0.7,SNR=49						
N49A	**Columbus Grove**	145.63	16	P	PKPdf	15 05 04.9	+0.2
	baz=339,SNR=61						
N49A				P	PKPdf	15 05 04.9	+0.2
	baz=339,SNR=61						
HRV	**Adam Dziewonsk**	145.64	359	IAMs_20	IAMs_20	16 21 14.5	
	comp=Z,2µm,22.0s						
HRV	**Adam Dziewonsk**	145.64	359	P	PKPab	15 05 05.6	+0.4
	baz=1.9,SNR=22						
HRV	**Adam Dziewonsk**	145.64	359	P	PKPab	15 05 05.7	+0.5
	baz=1.9						
CCM	**Cathedral Cave**	145.65	27	P	PKPbc	15 05 05.3	+0.2
	baz=326,SNR=189						
CCM	**Cathedral Cave**	145.65	27	P	PKPab	15 05 05.7	+0.2
	baz=326						
L61B	**Northampton**	145.71	0	P	PKPbc	15 05 05.4	+0.3
	baz=360,SNR=23						
L61B	**Northampton**	145.71	0	P	PKPdf	15 05 05.0	+0.3
	baz=360						
M52A	**Chesterland**	145.71	12	P	PKPbc	15 05 05.2	0.0
	baz=344,SNR=18						
M52A				P	PKPbc	15 05 05.2	0.0
	baz=344,SNR=18						
L56A	**Greenwood**	145.73	7	P	PKPab	15 05 05.6	-0.1
	baz=351,SNR=50						
L56A				P	PKPab	15 05 05.6	-0.1
	baz=351,SNR=50						
WES	**Weston**	145.76	358	P	PKPbc	15 05 05.3	0.0
	baz=2.3,SNR=11						
HHAR	**Hobbs**	145.76	32	P	PKPab	15 05 05.9	0.0
	baz=320						
BINY	**Binghamton**	145.82	5	IAMs_20	IAMs_20	16 15 18.6	
	comp=Z,2µm,22.0s						
BINY	**Binghamton**	145.82	5	P	PKPbc	15 05 05.8	+0.2
	baz=354,SNR=77						
BINY	**Binghamton**	145.82	5	P	PKPbc	15 05 05.6	0.0
	baz=354						
ALLY	**Alegheny Colle**	145.84	10	P	PKPbc	15 05 05.8	+0.2
	baz=347,SNR=15						
Q44A	**Meyer Farm, Va**	145.86	23	P	PKPab	15 05 06.1	-0.1
	baz=330,SNR=63						
QUA2	**Belchertown**	145.88	360	P	PKPab	15 05 06.1	-0.1
	baz=0.5,SNR=25						
L59A	**Walton**	145.90	3	P	PKPbc	15 05 05.9	+0.1
	baz=356,SNR=48						
L59A				P	PKPbc	15 05 05.9	+0.1
	baz=356,SNR=48						
P46A	**Rosedale**	145.90	20	P	PKPab	15 05 06.3	0.0
	baz=334,SNR=38						
M53A	**WI Miller and**	145.94	11	IAMs_20	IAMs_20	16 21 39.3	
	comp=Z,1µm,20.0s						
M53A	**WI Miller and**	145.94	11	P	PKPbc	15 05 06.0	+0.1
	baz=346						
O48B	**Farmland**	145.98	17	P	PKPbc	15 05 05.9	-0.2
	baz=337,SNR=51						
O48B	**Farmland**	145.98	17	P	PKPbc	15 05 06.3	+0.3
	baz=337						
Z35A	**Perchaven, San**	145.99	39	P	PKPab	15 05 06.8	-0.1
	baz=312,SNR=49						
M54A	**Oil Creek Stat**	146.06	10	IAMs_20	IAMs_20	16 16 45.1	
	comp=Z,1µm,21.0s						
M54A	**Oil Creek Stat**	146.06	10	P	PKPbc	15 05 06.3	0.0
	baz=347,SNR=34						
M54A	**Oil Creek Stat**	146.06	10	P	PKPbc	15 05 06.6	+0.3
	baz=347						
FVM	**French Village**	146.06	26	P	PKPbc	15 05 06.4	0.0
	baz=327,SNR=59						
N51A	**Ashland**	146.09	13	P	PKPdf	15 05 06.0	+0.6
	baz=342,SNR=24						
N51A				P	PKPdf	15 05 06.0	+0.6
	baz=342,SNR=24						
JCT	**Junction City**	146.09	45	IAMs_20	IAMs_20	16 24 30.1	
	comp=Z,1µm,20.0s						
JCT	**Junction City**	146.09	45	P	PKPab	15 05 07.7	+0.3
	baz=306						
L64A	**Middleborough**	146.19	358	P	PKPbc	15 05 06.8	+0.2
	baz=3.2,SNR=8.5						
L64A				P	PKPbc	15 05 06.8	+0.2
	baz=3.2,SNR=8.5						
BDFB	**Brasilia**	146.19	226	PKPbc	PKPab	15 05 08.7	+0.4
	comp=Z,103nm,0.9s,baz=152,slow=3.4,SNR=38						
M55A	**Ridgway**	146.24	8	P	PKPbc	15 05 07.0	+0.1
	baz=349,SNR=29						
M55A				P	PKPbc	15 05 07.0	+0.1
	baz=349,SNR=29						
X37A	**Clayton**	146.24	35	P	PKPab	15 05 07.5	-0.3
	baz=316,SNR=53						
U40A	**Yellville**	146.26	30	IAMs_20	IAMs_20	16 22 50.0	
	comp=Z,1µm,20.0s						
U40A	**Yellville**	146.26	30	P	PKPdf	15 05 06.6	+0.6
	baz=322,SNR=153						
U40A				P	PKPdf	15 05 06.6	+0.6
	baz=322,SNR=153						
U40A	**Yellville**	146.26	30	P	PKPbc	15 05 07.2	+0.1
	baz=322						
O49A	**Covington**	146.28	16	P	PKPdf	15 05 06.4	+0.6
	baz=339,SNR=50						
O49A				P	PKPdf	15 05 06.4	+0.6
	baz=339,SNR=50						
OLIL	**Olney**	146.36	22	P	PKPbc	15 05 06.8	-0.5
	baz=331,SNR=48						
NPNY	**Mohonk Preserv**	146.38	2	P	PKPdf	15 05 06.0	+0.1
	baz=357,SNR=17						
KSPA	**Keystone Colle**	146.48	4	P	PKPbc	15 05 07.3	-0.2
	baz=354,SNR=44						
N53A	**Lisbon**	146.53	11	P	PKPbc	15 05 08.2	+0.5
	baz=345,SNR=50						
N53A				P	PKPbc	15 05 08.2	+0.5
	baz=345,SNR=50						
N54A	**Moraine State**	146.53	10	IAMs_20	IAMs_20	16 17 09.8	
	comp=Z,2µm,21.0s						
N54A	**Moraine State**	146.53	10	P	PKPbc	15 05 07.4	-0.3
	baz=347,SNR=48						
N54A	**Moraine State**	146.53	10	P	PKPbc	15 05 07.7	0.0
	baz=347						
M65A	**Busby, Falmout**	146.56	357	P	PKPbc	15 05 07.9	+0.2
	baz=3.5						
M57A	**Sunshine Farm,**	146.57	6	P	PKPbc	15 05 07.4	-0.4
	baz=352,SNR=48						
M57A				P	PKPbc	15 05 07.4	-0.4
	baz=352,SNR=48						
ACSO	**Alum Creek Sta**	146.59	15	IAMs_20	IAMs_20	16 19 55.8	
	comp=Z,1µm,20.0s						
ACSO	**Alum Creek Sta**	146.59	15	P	PKPdf	15 05 06.6	+0.2
	baz=341,SNR=58						
ACSO	**Alum Creek Sta**	146.59	15	P	PKPbc	15 05 08.2	+0.3
	baz=341						
P48A	**Milroy**	146.63	18	P	PKPdf	15 05 06.2	-0.2
	baz=336,SNR=39						
P48A				P	PKPdf	15 05 06.2	-0.2
	baz=336,SNR=39						
W39A	**Magazine**	146.67	33	IAMs_20	IAMs_20	16 23 24.1	
	comp=Z,2µm,22.0s						
W39A	**Magazine**	146.67	33	P	PKPbc	15 05 07.9	-0.4
	baz=319,SNR=75						
W39A	**Magazine**	146.67	33	P	PKPbc	15 05 08.7	+0.4
	baz=319						
BRNY	**Black Rk. Fore**	146.72	2	P	PKPbc	15 05 07.9	-0.3
	baz=358,SNR=22						
WHTX	**Lake Whitney,**	146.75	41	P	PKPbc	15 05 08.3	-0.3
	baz=310,SNR=34						
WHTX	**Lake Whitney,**	146.75	41	P	PKPab	15 05 10.2	+0.3
	baz=310						
M63A	**Gales Ferry**	146.75	359	P	PKPdf	15 05 06.9	+0.4
	baz=1.0,SNR=9.7						
M63A				P	PKPdf	15 05 06.9	+0.4
	baz=1.0,SNR=9.7						
P49A	**Miami Univ. Ec**	146.77	17	P	PKPbc	15 05 09.0	+0.6
	baz=338,SNR=76						
P49A	**Miami Univ. Ec**	146.77	17	P	PKPbc	15 05 09.1	+0.7
	baz=338						
S44A	**Carbondale**	146.80	25	P	PKPbc	15 05 08.1	-0.5
	baz=329,SNR=82						
O52A	**Adamsville**	146.98	13	P	PKPab	15 05 09.9	-0.5
	baz=343,SNR=60						
O52A				P	PKPab	15 05 09.9	-0.5
	baz=343,SNR=60						
O53A	**New Philadelph**	146.99	12	IAMs_20	IAMs_20	16 25 31.9	
	comp=Z,2µm,21.0s						
O53A	**New Philadelph**	146.99	12	P	PKPab	15 05 10.0	-0.4
	baz=344						
ODNJ	**Ogdensburg**	147.03	3	P	PKPdf	15 05 06.3	-0.7
	baz=356,SNR=50						
PBMO	**Poplar Bluff**	147.07	27	P	PKPbc	15 05 10.2	+0.8
	baz=326,SNR=30						
N58A	**Sunbury**	147.11	6	P	PKPbc	15 05 10.2	+0.9
	baz=352,SNR=65						
N58A				P	PKPbc	15 05 10.2	+0.9
	baz=352,SNR=65						
N59A	**State Game Lan**	147.12	5	P	PKPdf	15 05 07.8	+0.6
	baz=354,SNR=57						
N59A	**State Game Lan**	147.12	5	P	PKPab	15 05 10.6	-0.4
	baz=354						
PAL	**Palisades**	147.13	2	P	PKPdf	15 05 07.8	+0.6
	baz=358,SNR=28						
PAL	**Palisades**	147.13	2	P	PKPbc	15 05 10.3	+0.9
	baz=358						
SSPA	**Standing Stone**	147.17	8	P	PKPdf	15 05 06.8	-0.6
	baz=350,SNR=64						
SSPA	**Standing Stone**	147.17	8	P	PKPbc	15 05 10.5	+0.9
	baz=350						
N62A	**Caumsett State**	147.22	1	P	PKPbc	15 05 10.2	+0.6
	baz=358						
N62A				P	PKPbc	15 05 10.2	+0.6
	baz=358						
O54A	**Avella**	147.22	11	P	PKPdf	15 05 08.1	+0.7
	baz=346,SNR=83						
O54A				P	PKPdf	15 05 08.1	+0.7
	baz=346,SNR=83						
FOR	**Fordham**	147.27	2	P	PKPdf	15 05 08.5	+1.1
	baz=358,SNR=5.4						
P51A	**Williamsport**	147.28	15	P	PKPbc	15 05 09.1	-0.8
	baz=341,SNR=65						
P51A				P	PKPbc	15 05 09.1	-0.8
	baz=341,SNR=65						
LCAR	**Lake Charles**	147.31	29	P	PKPbc	15 05 09.2	-0.9
	baz=324,SNR=148						
P52A	**Corning**	147.37	14	IAMs_20	IAMs_20	16 24 15.2	
	comp=Z,1µm,20.0s						
P52A	**Corning**	147.37	14	P	PKPbc	15 05 10.5	+0.3
	baz=342						
Z38A	**Mt. Pleasant**	147.41	36	P	PKPdf	15 05 09.0	+1.1
	baz=315,SNR=12						
BRNJ	**Basking Ridge**	147.43	3	P	PKPdf	15 05 08.0	+0.3
	baz=356,SNR=18						
435B	**Jarrell**	147.43	43	IAMs_20	IAMs_20	16 19 44.4	
	comp=Z,1µm,22.0s						
435B	**Jarrell**	147.43	43	P	PKPdf	15 05 09.4	+1.3
	baz=309,SNR=7.0						
435B	**Jarrell**	147.43	43	P	PKPbc	15 05 11.5	+1.0
	baz=309						
O56A	**Blue Knob Stat**	147.44	9	P	PKPdf	15 05 07.5	-0.3
	baz=349,SNR=76						
O56A	**Blue Knob Stat**	147.44	9	P	PKPbc	15 05 11.0	+0.7
	baz=349						
W41B	**Gary Mavity, V**	147.49	31	P	PKPdf	15 05 07.5	-0.5
	baz=322,SNR=35						
W41B	**Gary Mavity, V**	147.49	31	P	PKPbc	15 05 10.9	+0.4
	baz=322						
833A	**Chaparral WMA,**	147.60	48	P	PKPdf	15 05 09.4	+1.0
	baz=303,SNR=69						
833A	**Chaparral WMA,**	147.60	48	P	PKiKP	15 05 12.6	-0.6
	baz=303,SNR=69						
Q51A	**Peebles**	147.63	16	P	PKPdf	15 05 08.7	+0.5
	baz=340,SNR=66						
Q51A				P	PKPdf	15 05 08.7	+0.5
	baz=340,SNR=66						
P53A	**Whipple**	147.68	13	P	PKPdf	15 05 08.8	+0.6
	baz=344,SNR=71						
P53A				P	PKPdf	15 05 08.8	+0.6
	baz=344,SNR=71						
X40A	**Basin Creek Fa**	147.71	32	IAMs_20	IAMs_20	16 25 46.8	
	comp=Z,2µm,22.0s						
X40A	**Basin Creek Fa**	147.71	32	P	PKPdf	15 05 09.5	+1.1
	baz=320,SNR=38						
X40A				P	PKPdf	15 05 09.5	+1.1
	baz=320,SNR=38						
X40A	**Basin Creek Fa**	147.71	32	P	PKPbc	15 05 12.1	+0.9
	baz=320						
PANJ	**Princeton**	147.72	3	P	PKPdf	15 05 08.5	+0.2
	baz=356,SNR=40						
R49A	**Shelbyville**	147.78	19	P	PKPbc	15 05 11.2	-0.1
	baz=336,SNR=83						
R49A				P	PKPbc	15 05 11.2	-0.1
	baz=336,SNR=83						
237A	**Washetta, Mont**	147.79	39	P	PKiKP	15 05 13.4	0.0
	baz=313,SNR=18						
MCWV	**Mont Chateau**	147.82	11	P	PKPbc	15 05 12.3	+0.9
	baz=346,SNR=38						
MCWV	**Mont Chateau**	147.82	11	P	PKiKP	15 05 12.7	-0.6
	baz=346,SNR=38						
TUPA	**Temple Univers**	147.90	4	P	PKPbc	15 05 12.4	+0.9
	baz=355,SNR=21						
Q52A	**Bidwell**	147.97	14	P	PKPbc	15 05 10.7	-1.1
	baz=342,SNR=40						
Q52A				P	PKPbc	15 05 10.7	-1.1
	baz=342,SNR=40						
R50A	**Paris**	148.05	18	P	PKPbc	15 05 12.4	+0.4
	baz=338,SNR=74						
R50A				P	PKPbc	15 05 12.4	+0.4
	baz=338,SNR=74						
GEDE	**Greenville**	148.22	5	P	PKPbc	15 05 13.2	+0.8
	baz=354,SNR=24						
T47A	**Sharon Grove**	148.27	23	P	PKiKP	15 05 13.6	-0.7
	baz=332,SNR=54						
Q54A	**Coxs Mills**	148.28	12	P	PKiKP	15 05 13.6	-0.6
	baz=344,SNR=74						
Q54A				P	PKiKP	15 05 13.6	-0.6
	baz=344,SNR=74						
P57A	**Homestead Farm**	148.29	8	P	PKPbc	15 05 13.5	+0.9
	baz=350,SNR=38						
P57A				P	PKPbc	15 05 13.5	+0.9
	baz=350,SNR=38						
P61A	**Hammonton**	148.42	3	P	PKPbc	15 05 13.4	+0.5
	baz=356						
P61A				P	PKPbc	15 05 13.4	+0.5
	baz=356						
735A	**Kenedy**	148.44	46	P	PKiKP	15 05 15.8	+0.9
	baz=306						
SDMD	**Soldier's Deli**	148.51	6	P	PKPbc	15 05 13.7	+0.6
	baz=352,SNR=15						
Q56A	**Snyder Ridge,**	148.54	10	P	PKiKP	15 05 14.3	-0.5
	baz=347,SNR=43						
Q56A				P	PKiKP	15 05 14.3	-0.5
	baz=347,SNR=43						
R53A	**Hurricane**	148.65	14	P	PKiKP	15 05 14.7	-0.4
	baz=342,SNR=61						
R53A				P	PKiKP	15 05 14.7	-0.4
	baz=342,SNR=61						
Z41A	**Richland Creek**	148.66	34	P	PKiKP	15 05 15.5	+0.3
	baz=319,SNR=13						
Z41A				P	PKiKP	15 05 15.5	+0.3
	baz=319,SNR=13						
Z41A	**Richland Creek**	148.66	34	P	PKiKP	15 05 14.8	-0.4
	baz=319						
NATX	**Nacogdoches**	148.66	38	IAMs_20	IAMs_20	16 27 29.5	
	comp=Z,2µm,21.0s						
NATX	**Nacogdoches**	148.66	38	P	PKiKP	15 05 15.5	+0.3
	baz=314,SNR=11						
NATX	**Nacogdoches**	148.66	38	P	PKiKP	15 05 15.1	-0.1
	baz=314,SNR=11						
CCAR	**Cane Creek**	148.71	32	P	PKiKP	15 05 15.2	-0.1
	baz=321						
WVT	**Waverly**	148.73	24	IAMs_20	IAMs_20	16 18 13.9	
	comp=Z,2µm,22.0s						
WVT	**Waverly**	148.73	24	P	PKiKP	15 05 15.0	-0.2
	baz=330,SNR=94						
WVT	**Waverly**	148.73	24	P	PKiKP	15 05 14.8	-0.4
	baz=330						
S51A	**Beattyville**	148.86	17	P	PKiKP	15 05 15.0	-0.5
	baz=339,SNR=55						
S51A				P	PKiKP	15 05 15.0	-0.5
	baz=339,SNR=55						
W45A	**Hickory Valley**	148.97	27	P	PKPbc	15 05 14.4	0.0
	baz=327						
T50A	**Nancy**	149.04	19	P	PKPbc	15 05 14.7	+0.1
	baz=336						
T50A				P	PKPbc	15 05 14.7	+0.1
	baz=336						
R55A	**Marlinton**	149.10	12	P	PKPbc	15 05 15.5	+0.7
	baz=345,SNR=19						
R55A				P	PKPbc	15 05 15.5	+0.7
	baz=345,SNR=19						
HKT	**Hockley**	149.13	42	P	PKPbc	15 05 15.4	+0.5
	baz=310						
KVTX	**Kingsville**	149.14	48	IAMs_20	IAMs_20	16 19 08.0	
	comp=Z,1µm,22.0s						
MIDE	**Milford**	149.17	4	P	PKiKP	15 05 17.1	+1.1
	baz=355						
U49A	**Red Boiling Sp**	149.18	21	P	PKiKP	15 05 15.8	-0.3
	baz=334,SNR=78						
S54A	**Dingess, Beckl**	149.31	14	P	PKiKP	15 05 16.0	-0.5
	baz=343,SNR=21						
S54A				P	PKiKP	15 05 16.0	-0.5
	baz=343,SNR=21						
LVC	**Limon Verde**	149.35	187	PKPbc	PKiKP	15 05 18.0	+0.5
	comp=Z,75nm,1.0s,baz=159,slow=2.8,SNR=32						
LVC	**Limon Verde**	149.35	187	PKHKP	PKPpre	15 05 15.1	
LVC	**Limon Verde**	149.35	187		PKPbc	15 05 15.1	-1.2
OXF	**Oxford**	149.40	28	P	PKiKP	15 05 16.6	-0.1
	baz=326,SNR=31						
OXF	**Oxford**	149.40	28	P	PKPbc	15 05 16.0	+0.5
	baz=326,SNR=31						
V48A	**Smith Brothers**	149.47	23	P	PKPbc	15 05 16.4	+0.6
	baz=331,SNR=25						
CBN	**Corbin Frederi**	149.63	8	P	PKPbc	15 05 16.6	+0.6
	baz=351						
R58B	**Mineral**	149.80	8	P	PKiKP	15 05 17.6	+0.2
	baz=350,SNR=22						
R58B				P	PKiKP	15 05 17.6	+0.2
	baz=350,SNR=22						
S57A	**Dark Hollow, R**	149.83	10	P	PKiKP	15 05 17.6	+0.1
	baz=347,SNR=22						
S57A				P	PKiKP	15 05 17.6	+0.1
	baz=347,SNR=22						
Y45A	**Yeager Farm, C**	149.87	29	P	PKPbc	15 05 17.1	+0.3
	baz=325,SNR=23						
TZTN	**Tazewell**	149.89	18	P	PKPbc	15 05 16.8	+0.1
	baz=338,SNR=32						
TZTN	**Tazewell**	149.89	18	P	PKiKP	15 05 17.5	-0.2
	baz=338						
BLA	**Blacksburg**	150.07	13	P	PKPbc	15 05 17.0	-0.2
	baz=344,SNR=14						
BLA	**Blacksburg**	150.07	13	P	PKiKP	15 05 18.0	-0.1
	baz=344,SNR=14						
PB09	**IPOC Station P**	150.19	186		PKPbc	15 05 17.2	-0.9
441A	**DeRidder**	150.26	38	P	PKiKP	15 05 19.3	+0.8
	baz=315,SNR=8.0						
V51A	**Loudon**	150.31	20	P	PKPbc	15 05 17.8	+0.1
	baz=336,SNR=33						
342B	**Flagon Creek P**	150.33	36	P	PKiKP	15 05 18.7	0.0
	baz=317,SNR=7.0						
U54A	**Nelsons Funny**	150.40	15	P	PKPbc	15 05 17.8	-0.2
	baz=341,SNR=19						
U54A				P	PKPbc	15 05 17.8	-0.2
	baz=341,SNR=19						
X48A	**Hartselle**	150.50	25	P	PKPbc	15 05 17.6	-0.6
	baz=330,SNR=57						
T57A	**Hurt**	150.51	11	P	PKPbc	15 05 18.2	0.0
	baz=346,SNR=24						
T57A				P	PKPbc	15 05 18.2	0.0
	baz=346,SNR=24						
V52A	**Sevierville**	150.52	18	P	PKiKP	15 05 19.0	0.0
	baz=337,SNR=50						
W50A	**Signal Mountai**	150.52	22	P	PKPbc	15 05 18.4	0.0
	baz=334,SNR=23						
TKL	**Tuckaleechee C**	150.63	19	PKPbc	PKPbc	15 05 18.2	-0.4
	comp=Z,163nm,0.9s,baz=137,slow=1.4,SNR=33						
TKL	**Tuckaleechee C**	150.63	19	P	PKiKP	15 05 19.0	-0.2
	baz=337,SNR=35						
VBMS	**Vicksburg**	150.69	32	P	PKiKP	15 05 19.7	+0.3
	baz=321,SNR=9.6						
VBMS	**Vicksburg**	150.69	32	P	PKiKP	15 05 19.7	+0.3
	baz=321						
PB02	**IPOC Station P**	150.73	185		PKPbc	15 05 18.1	-1.2
T60A	**Surry**	150.76	7	P	PKiKP	15 05 19.8	+0.4
	baz=352,SNR=12						
T60A				P	PKiKP	15 05 19.8	+0.4
	baz=352,SNR=12						
T59A	**Double "B" Far**	150.82	8	P	PKiKP	15 05 20.1	+0.6
	baz=350,SNR=30						
T59A				P	PKiKP	15 05 20.1	+0.6
	baz=350,SNR=30						
U56A	**King**	150.91	13	P	PKiKP	15 05 20.4	+0.6
	baz=344,SNR=14						
U56A				P	PKiKP	15 05 20.4	+0.6
	baz=344,SNR=14						
V53A	**Saluda**	150.92	17	P	PKiKP	15 05 19.8	-0.1
	baz=339,SNR=94						
V53A				P	PKiKP	15 05 19.8	-0.1
	baz=339,SNR=94						
W52A	**Murphy**	151.10	20	P	PKiKP	15 05 20.6	+0.3
	baz=336,SNR=27						
146A	**Union**	151.10	30	P	PKiKP	15 05 21.6	+1.3
	baz=324,SNR=12						
344A	**Westbrook Farm**	151.17	34	P	PKiKP	15 05 21.9	+1.4
	baz=320,SNR=6.7						
V55A	**Taylorsville**	151.18	15	P	PKiKP	15 05 20.9	+0.5
	baz=342,SNR=21						
V55A				P	PKiKP	15 05 20.9	+0.5
	baz=342,SNR=21						
X51A	**Calhoun**	151.25	21	P	PKiKP	15 05 21.2	+0.6
	baz=334,SNR=11						
X51A				P	PKiKP	15 05 21.2	+0.6
	baz=334,SNR=11						
Y49A	**Blount Mountai**	151.28	25	P	PKiKP	15 05 21.1	+0.4
	baz=330,SNR=30						
U59A	**Littleton**	151.39	9	P	PKiKP	15 05 21.6	+0.9
	baz=349,SNR=14						
U59A				P	PKiKP	15 05 21.6	+0.9
	baz=349,SNR=14						
CASEE	**Lake Jocassee**	151.51	18	P	PKiKP	15 05 21.6	+0.6
	baz=338,SNR=21						
V58A	**Windy Hill, Pi**	151.71	11	P	PKiKP	15 05 22.2	+0.8
	baz=346,SNR=9.9						
V58A				P	PKiKP	15 05 22.2	+0.8
	baz=346,SNR=9.9						
LRAL	**Lakeview Retre**	151.73	26	P	PKiKP	15 05 22.0	+0.5
	baz=329,SNR=18						
LRAL	**Lakeview Retre**	151.73	26	P	PKPbc	15 05 21.3	+0.2
	baz=329						
KMSC	**Kings Mountain**	151.83	15	P	PKiKP	15 05 22.3	+0.6
	baz=341,SNR=17						
KMSC	**Kings Mountain**	151.83	15	P	PKPbc	15 05 21.6	+0.3
	baz=341						
UNM	**Universidad Na**	151.83	64	IAMs_20	IAMs_20	16 13 49.5	
	comp=Z,1µm,21.0s						
346A	**Big Creek Wild**	151.90	32	P	PKPbc	15 05 21.8	+0.2
	baz=322						
PAULI	**Pauline**	152.00	16	P	PKiKP	15 05 22.7	+0.6
	baz=340,SNR=19						
W57A	**Gilead**	152.14	13	P	PKiKP	15 05 22.8	+0.5
	baz=344,SNR=9.5						
W57A				P	PKiKP	15 05 22.8	+0.5
	baz=344,SNR=9.5						
Y52A	**Lilburn**	152.17	21	P	PKiKP	15 05 23.5	+1.0
	baz=335,SNR=16						
Y52A				P	PKiKP	15 05 23.5	+1.0
	baz=335,SNR=16						
Z51A	**Franklin**	152.24	23	P	PKiKP	15 05 23.3	+0.7
	baz=332,SNR=5.3						
HODGE	**Hodges**	152.42	18	P	PKiKP	15 05 23.9	+1.0
	baz=339,SNR=16						
CNNC	**Cliffs of the**	152.47	10	P	PKiKP	15 05 23.4	+0.5
	baz=349						
BIRD	**Birdtown, Kers**	152.52	14	P	PKiKP	15 05 24.1	+1.0
	baz=343,SNR=9.0						
JSC	**Jenkinsville**	152.66	16	P	PKiKP	15 05 24.6	+1.2
	baz=341						
GOGA	**Godfrey**	152.79	20	P	PKiKP	15 05 24.9	+1.3
	baz=336,SNR=9.2						
GOGA	**Godfrey**	152.79	20	P	PKiKP	15 05 24.5	+0.8
	baz=336,SNR=9.2						
250A	**Grady**	152.95	26	P	PKiKP	15 05 25.0	+0.9
	baz=329,SNR=7.2						
152A	**Waverly Hall**	152.99	23	P	PKiKP	15 05 25.3	+1.1
	baz=333,SNR=5.5						
Y57A	**Sumter**	153.13	15	P	PKiKP	15 05 25.3	+0.9
	baz=343						
Y57A				P	PKiKP	15 05 25.3	+0.9
	baz=343						
BRAL	**Brewton**	153.28	29	P	PKiKP	15 05 26.2	+1.4
	baz=327						
BRAL	**Brewton**	153.28	29	P	PKiKP	15 05 25.4	+0.7
	baz=327						
Y58A	**Scranton**	153.41	13	P	PKiKP	15 05 25.9	+0.9
	baz=344						
Y58A				P	PKiKP	15 05 25.9	+0.9
	baz=344						
SIV	**San Ignacio**	153.58	205	PKP	PKPdf	15 05 18.0	-0.1
	comp=Z,18nm,1.0s,baz=149,slow=8.0,SNR=9.2						
SIV				PKPbc	PKiKP	15 05 26.9	+1.1
	comp=Z,27nm,0.9s,baz=179,slow=5.8,SNR=10						

SIV				PKPab	sPKPdf	15 05 39.0	+1.3
	comp=Z,59nm,0.9s,baz=230,slow=1.5,SNR=9.2						
NHSC	New Hope	154.05	15	P	PKPbc	15 05 25.6	-0.6
	baz=343						
TIGA	Tifton	154.52	22	P	PKPbc	15 05 27.4	+0.1
	baz=334						
LPAZ	La Paz	155.46	190	PKP	PKPdf	15 05 21.4	0.0
	comp=Z,5.5nm,1.0s,baz=197,slow=1.2,SNR=12						
LPAZ				PKPbc	pPKPdf	15 05 32.0	-3.9
	comp=Z,9.1nm,0.7s,baz=226,slow=3.9,SNR=15						
LPAZ				PKPab	PKPab	15 05 48.0	+1.2
	comp=Z,24nm,0.9s,baz=128,slow=3.4,SNR=13						
LPAZ				PP	PP	15 09 22.5	+0.8
	comp=Z,3.1nm,0.9s,baz=134,slow=4.8,SNR=1.9						
LPAZ	La Paz	155.46	190	⇑eP	PKPdf	15 05 21.4	0.0
CMIG	Matias Romero	156.42	65	PKP	PKPdf	15 05 21.0	-0.8
	comp=Z,14nm,0.9s,baz=6.2,slow=1.9,SNR=6.5						
CMIG				PKPab	PKPab	15 05 48.3	-2.1
	comp=Z,8.5nm,0.7s,baz=354,slow=3.5,SNR=4.7						
MDP	Montagnes des	160.03	263	PKPab	PKPab	15 06 07.9	+1.7
	comp=Z,52nm,1.0s,baz=88,slow=4.1,SNR=6.2						
TGUH	Tegucigalpa,Un	164.35	66	eP	PKPdf	15 05 28.1	-2.7
JTS	Las Juntas de	167.53	79	PKP	PKPdf	15 05 32.3	-1.0
	comp=Z,4.4nm,0.5s,baz=292,slow=2.2,SNR=5.2						
JTS				PKPab	PKPab	15 06 40.6	+1.4
	comp=Z,19nm,0.9s,baz=359,slow=4.8,SNR=6.5						
JTS	Las Juntas de	167.53	79	eP	PKPdf	15 05 31.9	-1.3
TBTG	Tabatinga, AM	167.59	192	eP	PKPdf	15 05 31.9	-1.4
GTBY	Guantanamo Bay	167.90	12	eP	PKPdf	15 05 31.9	-1.4
SJG	San Juan	168.20	329	PKP	PKPdf	15 05 33.3	-0.2
	comp=Z,10nm,0.2s,baz=50,slow=2.5,SNR=12						
SJG				PKPab	PKPab	15 06 42.5	+0.8
	comp=Z,9.0nm,0.3s,baz=335,slow=20,SNR=2.1						
SJG	San Juan	168.20	329	eP	PKPdf	15 05 31.9	-1.6
MTDJ	Mount Denham	168.75	25	eP	PKPdf	15 05 34.8	+0.8
SDDR	Presa de Saban	169.04	354	eP	PKPdf	15 05 34.8	+0.7
BRU2	Volcan	169.92	85	eP	PKPdf	15 05 33.8	-1.1
PAC1	Pacto, Paraso	170.09	141	eP	PKPdf	15 05 35.8	+0.7
CUSE	Cuicocha Este	170.36	142	eP	PKPdf	15 05 37.7	+2.1
TULM	Tulcn-Chalpat	171.05	144	eP	PKPdf	15 05 36.7	+0.7
PTLC	Puerto Leguiza	171.88	164	eP	PKPdf	15 05 33.8	-2.0
BCIP	Isla Barro Col	172.69	81	eP	PKPdf	15 05 32.9	-3.2
SOTA	Rioblanco	172.88	145	eP	PKPdf	15 05 35.8	-1.1
PCON	Cinco Dias	173.16	146	eP	PKPdf	15 05 35.8	-1.3
POPC	Popayan, Colom	173.17	143	eP	PKPdf	15 05 35.8	-0.9
GARC	Garzon, Huila	173.50	153	eP	PKPdf	15 05 35.8	-1.1
MARP	Paez Belalcaza	173.83	146	eP	PKPdf	15 05 36.7	-0.3
BETC	Betania	173.96	151	eP	PKPdf	15 05 36.7	0.0
MACC	Macarena, Meta	174.02	167	eP	PKPdf	15 05 35.8	-0.9
YOTC	Yotoco, Valle	174.48	136	eP	PKPdf	15 05 33.8	-3.2
PTAC	Punta Ardita,	174.70	99	eP	PKPdf	15 05 35.8	-1.1
ORTC	Ortega, Tolima	175.10	146	eP	PKPdf	15 05 35.8	-1.3
PLMC	San Jos del P	175.16	130	eP	PKPdf	15 05 33.8	-3.3
GUY2C	Guyana, Caldas	176.05	135	eP	PKPdf	15 05 34.8	-3.1
LCBC	Los crdobas,	176.12	77	eP	PKPdf	15 05 32.9	-4.4
PTGC	Puerto Gaitan,	176.18	186	eP	PKPdf	15 05 36.7	-0.6
DBBC	Dabeiba	176.22	105	eP	PKPdf	15 05 38.6	+1.3
URIC	Uribia, Colomb	176.30	352	eP	PKPdf	15 05 32.9	-4.4
ROSC	El Rosal	176.38	151	PKP	PKPdf	15 05 36.7	-1.1
	comp=Z,10nm,0.3s,baz=132,slow=4.3,SNR=15						
ROSC	El Rosal	176.38	151	eP	PKPdf	15 05 37.7	-0.1
CHIC	Chingaza	176.43	160	eP	PKPdf	15 05 37.7	-0.2
SMRC	Santa Marta, M	176.46	28	⇑eP	PKPdf	15 05 33.8	-3.4
HELC	Santa Helena	176.52	121	eP	PKPdf	15 05 34.8	-3.0
DABV	Dabajuro	176.56	327	eP	PKPdf	15 05 34.8	-2.5
NORC	Norcasia	176.63	136	⇑eP	PKPdf	15 05 35.8	-1.7
SJCC	San Jacinto, C	176.79	54	eP	PKPdf	15 05 36.7	-0.7
ELOV	Elorza	176.81	252	eP	PKPdf	15 05 35.8	-1.6
MOTC	Monteria, Cord	176.81	76	eP	PKPdf	15 05 37.7	+0.3
CRJC	Cerrejon, Guaj	177.00	7	eP	PKPdf	15 05 35.8	-1.7
UREC	San Jos de Ur	177.02	95	eP	PKPdf	15 05 35.8	-1.7
SPBC	San Pablo de B	177.19	147	eP	PKPdf	15 05 33.8	-3.8
PTBC	PUERTO BERRIO,	177.59	128	⇑eP	PKPdf	15 05 35.8	-1.8
ZARC	Zaragoza, Cauc	177.64	103	eP	PKPdf	15 05 36.7	-0.8
RUSC	La Rusia	177.82	166	eP	PKPdf	15 05 37.7	-0.5
SDV	Santo Domingo	177.93	295	PKP	PKPdf	15 05 37.2	-0.6
	comp=Z,6.4nm,0.7s,baz=85,slow=1.4,SNR=9.9						
SDV				PKPab	PKPab	15 07 26.2	+0.7
	comp=Z,38nm,0.7s,baz=44,slow=3.8,SNR=10						
SDV				PP	PP	15 11 19.4	+0.5
	comp=Z,26nm,1.1s,baz=41,slow=3.0,SNR=11						
LL6C	La Loma 6 Bece	178.15	23	eP	PKPdf	15 05 36.7	-0.8
TAMC	Tame, Arauca	178.26	205	eP	PKPdf	15 05 35.8	-1.9
OCAC	Ocana	179.19	74	eP	PKPdf	15 05 35.8	-2.1

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*IDC **06** 15:03:55.5±0.9, 8°.03S×107°.36E, h0km, mb3.8/13, mb1 4.1/15, mb1mx3.8/48, mbtmp3.9/15, ML4.6/1, Error ellipse: s-maj=38.4km s-min=14.4km az=48.0*

*DJA **06** 15:04:01.2±1.2, 8°S±3°×10°7E±°, h25km±12km, M4.7/18, mb4.8/5, MLv4.6/18*

*NEIC **06** 15:04:02.1±2.4, 8°.28S±0°.04×107°.28E±0°.05, h35km±2km, mb4.3/18, Error ellipse: s-maj=10.2km s-min=4.6km az=305.0*

ISC 06 15:04:01.1±0.5**, 8°.33S**±0°.05×**107°.31E**±0°.05**, h35km, n71, σ1s.73/74, mb4.2/21, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	1.03	350	P	Pn	15 04 19.2	+0.1
CNJI				S	Sn	15 04 33.0	+0.7
CMJI	Cimerak	1.25	65	P	Pn	15 04 21.2	-1.0
CMJI				S	Sn	15 04 35.1	-2.7
SKJI	Sukabumi	1.51	330	P	Pn	15 04 26.6	+0.9
SKJI				S	Sn	15 04 45.3	+1.1
LEM	Lembang	1.52	12	Pn	Pn	15 04 26.5	+0.4
	403nm,0.3s,baz=141,slow=7.9,SNR=27						
LEM				Sn	Sn	15 04 49.3	+4.6
	765nm,0.3s,baz=345,slow=23,SNR=16						
DBJI	Dramaga	1.85	343	P	Pn	15 04 32.0	+1.6
TNG	Tangerang	2.24	343	P		15 04 37.2	
TNG				P	Pn	15 04 36.7	+0.9
CGJI	Cibinong	2.34	317	P	Pn	15 04 38.0	+0.9
XMI	Christmas Isla	2.64	217	P	Pn	15 04 43.1	+1.7
XMIS	Christmas Isla	2.69	217		Pn	15 04 43.2	+1.3
YOGI	Yogyakarta	3.00	80	P	Pn	15 04 45.9	-0.4
UGM	Wanagama	3.21	83	Pn	Pn	15 04 49.1	-0.1
UGM	Wanagama	3.21	83	P	Pn	15 04 49.3	+0.1
UGM	Wanagama	3.21	83	P	Pn	15 04 50.0	+0.8
SMRI	Semarang	3.36	68	Pn	Pn	15 04 52.2	+1.1
SMRI	Semarang	3.36	68	P	Pn	15 04 51.9	+0.8
SMRI	Semarang	3.36	68	P	Pn	15 04 53.8	+2.7
BLSI	Bandar Lampung	3.58	325	P	Pn	15 04 55.7	+1.4
PCJI	Pacitan	3.83	88	P	Pn	15 04 57.8	+0.1
KASI	Kota Agung	3.94	315	P	Pn	15 04 59.2	0.0
UWJI	Ujung Watu	4.08	63	P	Pn	15 05 02.5	+1.4
KLSI		4.43	325	P	Pn	15 05 07.7	+1.8
MNAI	Manna	5.85	312	Pn	Pn	15 05 28.1	+2.6
GMJI	Gumukmas	6.07	90	P	Pn	15 05 30.3	+1.8
	0.3nm45nm,0.7s						
PPBI	Pangkal Pinang	6.24	349	P	Pn	15 05 32.0	+1.3
JAGI	Jajag, Banyuwa	6.78	92	Pn	Pn	15 05 39.3	+1.1
JAGI	Jajag, Banyuwa	6.78	92	P	Pn	15 05 39.0	+0.8
	0.4nm65nm,0.9s						
JAGI	Jajag, Banyuwa	6.78	92	P	Pn	15 05 40.0	+1.8
SRBI	Singaraja	7.83	89	P	Pn	15 05 53.0	+0.4
	0.3nm62nm,0.5s						
PLAI	Plampang	10.37	94	P	Pn	15 06 28.1	+0.7
	45nm,0.7s						
PLAI	Plampang	10.37	94	P	Pn	15 06 28.6	+1.2
KAPI	Kappang	12.79	76	Pn	Pn	15 06 55.9	-4.7
	baz=247,slow=15,SNR=0.8						
GSI	Gunungsitoli	13.63	314	Pn	Pn	15 07 09.0	-3.0
BATI	Baumata	16.25	98	Pn	Pn	15 07 44.5	-2.5
	2.5nm,0.3s,baz=266,slow=5.2,SNR=5.2						
BATI				Sn	Sn	15 10 49.2	+2.9
	0.8nm,0.3s,baz=209,slow=18,SNR=2.7						
FITZ	Fitzroy Crossi	20.30	120	P	P	15 08 34.1	0.0
	8.1nm,0.8s,baz=247,slow=7.7,SNR=4.2						
FITZ	Fitzroy Crossi	20.30	120	P	P	15 08 35.9	+1.8
FITZ				IAmb	IAmb	15 08 37.6	
	comp=Z,10nm,0.9s						
KNRA	Kununurra	22.21	111	P	P	15 08 56.7	+2.0
KNRA				IAmb	IAmb	15 09 02.5	
	comp=Z,12nm,0.8s						
MTN	Manton Dam	23.84	103	P	P	15 09 11.1	-0.3
MTN				IAmb	IAmb	15 09 23.4	
	comp=Z,12nm,0.9s						
CMAR	Chiang Mai Arr	27.87	343	P	P	15 09 42.8	-5.0
	comp=Z,0.2nm,0.4s,baz=168,slow=4.8,SNR=1.7						
WB0	Warramunga Arr	28.58	116	P	P	15 09 55.1	+0.9
WB0				IAmb	IAmb	15 09 56.7	
	comp=Z,8.1nm,1.3s						
WRA	Warramunga Arr	28.59	117	P	P	15 09 54.4	+0.1
	comp=Z,0.9nm,0.8s,baz=284,slow=12,SNR=4.6						
WRA	Warramunga Arr	28.59	117	P	P	15 09 55.6	+1.3
WRAB	Tennant Creek	28.60	117	P	P	15 09 54.6	+0.3
WRAB				IAmb	IAmb	15 10 15.9	
	comp=Z,6.5nm,1.2s						
WB2	Warramunga Arr	28.60	117	P	P	15 09 54.9	+0.5
WB2				IAmb	IAmb	15 10 03.5	
	comp=Z,14nm,1.4s						
WR0	Warramunga Arr	28.78	117	P	P	15 09 56.8	+0.9
ASAR	Alice Springs	29.69	124	P	P	15 10 04.3	+0.3
	comp=Z,0.5nm,0.8s,baz=302,slow=8.2,SNR=2.9						
H08S2	Diego Garcia H	34.48	269	T	T	15 47 53.6	
	baz=92,slow=76,SNR=6.0						
H08S3	Diego Garcia H	34.49	269	T	T	15 47 57.2	
	baz=92,slow=76,SNR=5.8						
H08S1	Diego Carcia H	34.49	269	T	T	15 47 55.1	
	baz=92,slow=76,SNR=6.1						
COEN	Coen	35.61	102	P	P	15 10 56.1	+0.3
STKA	Stephens Creek	39.54	131	P	P	15 11 30.1	+1.2
	comp=Z,4.3nm,0.7s,baz=314,slow=9.1,SNR=6.4						
STKA	Stephens Creek	39.54	131	P	P	15 11 30.6	+1.7
GOMU	GeErMu	45.82	346	P	P	15 12 24.6	+4.4
GOMU				pP	pP	15 12 31.2	+1.6
GOMU				sP	sP	15 12 33.0	-0.3
GOMU				PcP	PcP	15 13 56.8	-0.5
GOMU				PP	PP	15 14 11.6	+3.5
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	Songino Array	55.92	359	P	P	15 13 35.2	-0.6
	comp=Z,0.8nm,0.6s,baz=166,slow=8.5,SNR=2.6						
MK31	Makanchi Array	59.23	340	P	P	15 13 58.8	-0.2
MKAR	Makanchi Array	59.23	340	P	P	15 13 56.4	-2.6
	comp=Z,0.3nm,0.4s,baz=146,slow=9.4,SNR=9.7						
MKAR	Makanchi Array	59.23	340	P	P	15 13 56.6	-2.4
KK31	Karatay Array	61.16	330	P	P	15 14 11.1	-1.1
KK31				IAmb	IAmb	15 14 17.5	
	comp=Z,2.5nm,0.5s						
KKAR	Karatay Array	61.16	330	P	P	15 14 11.5	-0.7
KURBB	Kurchatov Arra	63.80	340	P	P	15 14 27.4	-2.2
	comp=Z,0.4nm,0.4s,baz=155,slow=5.7,SNR=5.1						
KURK	Kurchatov	63.84	340	P	P	15 14 29.1	-0.8
KURK				IAmb	IAmb	15 14 46.0	
	comp=Z,2.2nm,1.1s						
ZALV	Zalesovo Beam	64.89	346	P	P	15 14 34.3	-2.4
	comp=Z,0.6nm,0.3s,baz=154,slow=6.4,SNR=3.6						
ZALV	Zalesovo Beam	64.89	346	P	P	15 14 37.8	+1.1
BKZ	Black Stump Fm	68.66	129	P	P	15 15 02.8	+1.6
BVAR	Borovoye Array	68.70	337	P	P	15 14 59.9	-1.1
	comp=Z,1.0nm,0.7s						
ABKAR	Akbulak array	70.70	329	P	P	15 15 12.9	-0.5
VNDA	Vanda	74.61	169	P	P	15 15 37.5	+1.2
	comp=Z,0.5nm,0.4s,baz=307,slow=7.1,SNR=4.2						
VNDA	Vanda	74.61	169	P	P	15 15 36.0	-0.3
VNDA				IAmb	IAmb	15 15 38.4	
	comp=Z,3.7nm,1.2s						
KBZ	Khabaz	77.83	318	P	P	15 15 54.9	-0.2
	comp=Z,1.9nm,0.9s,baz=155,slow=6.3,SNR=4.7						
TIXI	Tiksi	81.08	7	P	P	15 16 10.1	-2.1
TIXI				IAmb	IAmb	15 16 13.4	
	comp=Z,2.6nm,0.9s						
QSPA	South Pole Qui	81.67	180	P	P	15 16 16.2	+0.5
AKASG	Malin Array Be	88.92	322	P	P	15 16 49.9	-2.1
	comp=Z,0.4nm,0.3s,baz=94,slow=3.6,SNR=2.1						

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*IDC **06** 15:14:50.3±1.0, 8°.28S×106°.94E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.7/43, mbtmp3.9/12, ML4.6/1, Error ellipse: s-maj=30.2km s-min=15.9km az=56.0*

*DJA **06** 15:14:55.2±0.3, 8°S±2°×10°7E±°, h10km, M4.3/20, mb4.4/3, MLv4.2/20*

*NEIC **06** 15:14:57.8±2.6, 8°.11S±0°.09×107°.34E±0°.08, h42km±3km, mb4.6/17, Error ellipse: s-maj=12.4km s-min=11.1km az=184.0*

ISC 06 15:14:57.3±1.2**, 8°.27S**±0°.06×**107°.35E**±0°.05**, h46**km±11km**, n63, σ1s.52/64, mb4.3/17, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.98	347	P	Pn	15 15 13.6	-1.1
CNJI				S	Sn	15 15 28.4	+1.0
CMJI	Cimerak	1.19	66	P	Pn	15 15 16.3	-1.3
CMJI				S	Sn	15 15 30.4	-2.2
LEM	Lembang	1.46	11	Pn	Pn	15 15 22.0	+0.6
	384nm,0.3s,baz=270,slow=20,SNR=71						
LEM				Sn	Sn	15 15 40.8	+1.4
	148nm,0.3s,baz=253,slow=19,SNR=14						
LEM	Lembang	1.46	11	P	Pn	15 15 21.9	+0.6
LEM				S	Sn	15 15 42.7	+3.3
SKJI	Sukabumi	1.48	328	P	Pn	15 15 21.6	+0.1
DBJI	Dramaga	1.81	341	P	Pn	15 15 27.3	+1.3
DBJI				S	Sn	15 15 51.0	+3.3
KPJI	Karang Pucung	1.82	59	P	Pn	15 15 26.7	+0.5
KPJI				S	Sn	15 15 50.6	+2.5
TNG	Tangerang	2.20	342	P		15 15 32.9	
TNG				P	Pn	15 15 32.6	+1.2
CGJI	Cibinong	2.33	315	P	Pn	15 15 33.2	+0.1
XMIS	Christmas Isla	2.76	217	Pn	Pn	15 15 39.0	-0.1
YOGI	Yogyakarta	2.95	81	P	Pn	15 15 43.6	+1.9
UGM	Wanagama	3.16	84	Pn	Pn	15 15 44.5	-0.2
UGM	Wanagama	3.16	84	P	Pn	15 15 44.8	+0.2
SMRI	Semarang	3.30	69	Pn	Pn	15 15 45.2	-1.3
SMRI	Semarang	3.30	69	P	Pn	15 15 47.6	+1.1
BLSI	Bandar Lampung	3.56	324	P	Pn	15 15 51.5	+1.4
PCJI	Pacitan	3.79	89	P	Pn	15 15 53.5	+0.3
KASI	Kota Agung	3.93	314	P	Pn	15 15 56.7	+1.5
UWJI	Ujung Watu	4.02	63	P	Pn	15 15 58.1	+1.8
KLSI		4.41	324	P	Pn	15 16 03.8	+2.1
PWJI	Pagerwojo	4.42	87	P	Pn	15 16 01.6	-0.2
LWLI	Liwa	4.60	314	P	Pn	15 16 05.6	+1.2
TBJI	Tambak Boyo	4.69	72	P	Pn	15 16 05.8	+0.2
MNAI	Manna	5.84	311	Pn	Pn	15 16 22.5	+1.1
SRBI	Singaraja	7.79	89	P	Pn	15 16 47.7	-0.4
	0.2nm35nm,0.8s						
GSI	Gunungsitoli	13.62	314	Pn	Pn	15 18 05.4	-2.6
BATI	Baumata	16.22	98	Pn	P	15 18 44.5	-0.1
	2.2nm,0.3s,baz=287,slow=19,SNR=2.0						
FITZ	Fitzroy Crossi	20.29	121	P	Pn	15 19 31.6	-0.1
	3.7nm,1.1s,baz=288,slow=14,SNR=3.2						
FITZ	Fitzroy Crossi	20.29	121	P	Pn	15 19 32.4	+0.7
KNRA	Kununurra	22.19	111	P	P	15 19 50.6	+0.8
KNRA				IAmb	IAmb	15 20 30.6	
	comp=Z,30nm,1.6s						
CMAR	Chiang Mai Arr	27.82	343	P	P	15 20 40.2	-2.3
	comp=Z,0.4nm,0.5s,baz=170,slow=8.8,SNR=2.5						
WB0	Warramunga Arr	28.57	116	P	P	15 20 50.0	+0.9
WB0				IAmb	IAmb	15 20 53.5	
	comp=Z,14nm,1.7s						
WRA	Warramunga Arr	28.58	117	P	P	15 20 50.2	+1.0
	comp=Z,0.5nm,1.0s,baz=286,slow=12,SNR=2.5						
WRA	Warramunga Arr	28.58	117	P	P	15 20 51.0	+1.7
WRAB	Tennant Creek	28.59	117	P	P	15 20 49.9	+0.6
WRAB				IAmb	IAmb	15 21 42.3	
	comp=Z,14nm,1.7s						
WR0	Warramunga Arr	28.76	117	P	P	15 20 53.0	+2.1
ASAR	Alice Springs	29.68	124	P	P	15 21 01.2	+2.2
	comp=Z,0.3nm,0.8s,baz=297,slow=8.1,SNR=5.1						
H08S2	Diego Garcia H	34.52	269	T	T	15 58 52.7	
	baz=92,slow=76,SNR=8.0						
H08S3	Diego Garcia H	34.53	269	T	T	15 58 50.8	
	baz=92,slow=76,SNR=6.7						
H08S1	Diego Carcia H	34.54	269	T	T	15 58 51.5	
	baz=92,slow=76,SNR=8.0						
STKA	Stephens Creek	39.54	131	P	P	15 22 26.1	+2.2
	comp=Z,1.0nm,0.4s,baz=320,slow=7.9,SNR=1.8						
SONM	Songino Array	55.87	359	P	P	15 24 29.7	-0.6
	comp=Z,1.3nm,0.8s,baz=173,slow=6.0,SNR=3.8						
SONM	Songino Array	55.87	359	P	P	15 24 27.8	-2.5
SONM				IAmb	IAmb	15 25 44.5	
	comp=Z,10nm,1.4s						
TARG	Taragay, Kyrgy	56.65	334	P	P	15 24 33.5	-2.9
TARG				IAmb	IAmb	15 25 42.4	
	comp=Z,13nm,1.4s						
KDJ	Kajisay	57.25	334	P	P	15 24 40.0	-0.3
MK31	Makanchi Array	59.19	340	P	P	15 24 52.3	-1.3
MK31				IAmb	IAmb	15 25 20.8	
	comp=Z,11nm,1.4s						
MKAR	Makanchi Array	59.19	340	P	P	15 24 51.3	-2.3
	comp=Z,0.4nm,0.4s,baz=146,slow=8.7,SNR=12						
MKAR	Makanchi Array	59.19	340	P	P	15 24 51.8	-1.8
MAKZ	Makanchi	59.31	340	P	P	15 24 53.1	-1.3
KKAR	Karatay Array	61.13	330	P	P	15 25 05.2	-1.7
KURBB	Kurchatov Arra	63.76	340	P	P	15 25 22.9	-1.4
	comp=Z,0.6nm,0.5s,baz=153,slow=6.1,SNR=7.0						
ZALV	Zalesovo Beam	64.84	346	P	P	15 25 29.4	-1.9
	comp=Z,3.0nm,0.8s,baz=109,slow=6.1,SNR=3.6						
BKZ	Black Stump Fm	68.67	129	P	P	15 25 57.1	+1.0
BRVK	Borovoye	68.73	337	P	P	15 25 56.1	0.0
BRVK				IAmb	IAmb	15 25 58.8	
	comp=Z,12nm,1.7s						
ABKAR	Akbulak array	70.67	329	P	P	15 26 07.9	-0.3
ABKAR				IAmb	IAmb	15 26 08.6	
	comp=Z,5.8nm,0.8s						
NRIK	Noril'sk	78.64	353	P	P	15 26 53.8	-0.1
	comp=Z,1.6nm,0.4s,baz=111,slow=7.2,SNR=3.6						
TIXI	Tiksi	81.02	7	P	P	15 27 05.3	-1.4
QSPA	South Pole Qui	81.72	180	P	P	15 27 13.1	+2.2
BR131	Keskin Array S	82.93	312	P	P	15 27 18.0	+0.3
BR131				IAmb	IAmb	15 29 56.4	
	comp=Z,4.2nm,0.9s						
BRTR	Keskin Array B	82.93	312	P	P	15 27 17.9	+0.3
	comp=Z,1.1nm,0.7s,baz=124,slow=3.7,SNR=3.7						
BRTR	Keskin Array B	82.93	312	P	P	15 27 17.6	0.0
TXAR	Lajitas Array	144.13	50	PKP	PKPdf	15 34 29.3	+0.5
	comp=Z,0.5nm,0.7s,baz=267,slow=1.5,SNR=3.4						
TXAR	Lajitas Array	144.13	50		PKPdf	15 34 28.8	0.0

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*IDC **06** 15:22:58.4±2.5, 3°.75N×125°.59E, h130km±22km, mb3.7/7, mb1 3.8/9, mb1mx3.3/50, mbtmp4.1/9, Error ellipse: s-maj=32.2km s-min=15.6km az=64.0*

*NEIC **06** 15:22:58.9±1.2, 4°.0N±0°.1×125°.84E±0°.10, h130km±6km, mb4.3/20, Error ellipse: s-maj=18.4km s-min=12.0km az=213.0*

*DJA **06** 15:23:01.4±0.5, 4°N±4°×12°6E±°, h123km±5km, M4.3/14, mb4.5/6, mB5.1/2, MLv4.2/14, Mw(mB)4.4/2*

ISC 06 15:23:00.3±0.5**, 3°.86N**±0°.05×**125°.80E**±0°.07**, h150km, n47, σ0s.90/53, mb4.2**/14**, 1C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.32	238	P	Pn	15 23 20.2	-0.7
SGSI				S	Sn	15 23 33.7	-2.8
GSPH	General Santos	2.37	339	⇓iP	Pn	15 23 39.6	-0.4
GSPH				iS	Sn	15 24 10.9	+0.2
KCP	Kidapawan	3.21	347	⇑eP	Pn	15 23 51.5	+1.1
TNTI	Ternate	3.44	153		Pn	15 23 52.4	-0.9
TNTI	Ternate	3.44	153	P	Pn	15 23 52.7	-0.6
KMSI	Cibinong	3.73	209	P	Pn	15 23 56.8	-0.3
GTOI	Gorontalo	4.24	221	P	Pn	15 24 04.6	+0.8
LBMI	Labuha	4.78	159	P	Pn	15 24 10.3	-0.5
MRSI	Marisa	5.11	229	P	Pn	15 24 16.2	+1.0
	0.2nm72nm,0.7s						
TOLI2	Tolitoli	5.71	242	Pn	Pn	15 24 23.4	+0.3
LUWI	Luwuk	5.73	212	P	Pn	15 24 23.4	0.0
	0.4nm84nm,0.8s						
SANI	Sanana	5.87	178	P	Pn	15 24 22.4	-2.9
	0.5nm3µm79nm,0.6s						
SWI	Sorong	7.19	131	P	Pn	15 24 43.1	+0.2
	0.1nm13nm,0.4s						
SIJI	Sorong	7.20	131	P	Pn	15 24 43.0	-0.1
	1.7nm,0.3s,baz=4.4,slow=13,SNR=8.2						
SIJI				S	Sn	15 26 03.2	-0.6
	0.8nm,0.3s,baz=66,slow=20,SNR=1.5						
KAPI	Kappang	10.69	214	P	Pn	15 25 24.2	-5.2
	1.3nm,0.3s,baz=249,slow=8.6,SNR=1.8						
SBUM	Sibu	13.63	265	P	P	15 26 09.8	-1.6
KSM	Kuching	15.66	262	P	P	15 26 34.5	+0.7
KSM				IAmb	IAmb	15 26 37.6	
	comp=Z,8.0nm,0.8s						
JAGI	Jajag, Banyuwa	16.88	223	P	Pn	15 26 48.0	+0.1
MTN	Manton Dam	17.41	162	P	P	15 26 52.1	-1.2
MTN				IAmb	IAmb	15 26 54.0	
	comp=Z,26nm,1.6s						
KNRA	Kununurra	19.63	171	P	P	15 27 17.3	0.0
KNRA				IAmb	IAmb	15 27 42.0	
	comp=Z,24nm,1.4s						
FITZ	Fitzroy Crossi	21.82	180	P	P	15 27 39.3	-1.4
	comp=Z,1.5nm,0.6s,baz=340,slow=6.5,SNR=12						
FITZ	Fitzroy Crossi	21.82	180	P	P	15 27 40.3	-0.4
WB0	Warramunga Arr	24.95	161	P	P	15 28 10.2	+0.3
WB0				IAmb	IAmb	15 28 12.3	
	comp=Z,14nm,1.1s						
WRAB	Tennant Creek	25.09	161	P	P	15 28 11.3	+0.1
WRAB				IAmb	IAmb	15 28 14.2	
	comp=Z,6.7nm,0.9s						
WRA	Warramunga Arr	25.09	161	P	P	15 28 10.9	-0.3
	comp=Z,5.9nm,0.6s,baz=344,slow=10,SNR=44						
WRA	Warramunga Arr	25.09	161	P	P	15 28 11.3	0.0
WB2	Warramunga Arr	25.10	161	P	P	15 28 11.5	+0.3
WB2				IAmb	IAmb	15 28 13.9	
	comp=Z,7.3nm,0.7s						
WR0	Warramunga Arr	25.18	160	P	P	15 28 12.4	+0.5
WR0				IAmb	IAmb	15 28 14.6	
	comp=Z,8.6nm,1.1s						
PSA00	Pilbara Seismi	25.94	193	P	P	15 28 19.4	+0.6
PSA00				IAmb	IAmb	15 28 42.9	
	comp=Z,12nm,1.8s						
AS31	Alice Springs	28.47	164	P	P	15 28 41.1	-0.4
ASAR	Alice Springs	28.47	164	P	P	15 28 41.4	-0.1
	comp=Z,0.5nm,0.6s,baz=342,slow=7.2,SNR=35						
ASAR				PcP	PcP	15 31 50.7	+0.9
	comp=Z,0.4nm,1.1s,baz=348,slow=1.9,SNR=1.5						
ASAR				ScP	ScP	15 35 17.7	+0.5
	comp=Z,0.3nm,0.7s,baz=339,slow=3.0,SNR=1.9						
ASAR	Alice Springs	28.47	164	P	P	15 28 41.0	-0.5
BBOO	Buckleboo	37.74	166	P	P	15 30 02.6	+0.9
EIDS	Eidsvold	38.02	141	P	P	15 30 04.6	+0.5
STKA	Stephens Creek	38.58	158	P	P	15 30 08.5	-0.2
	comp=Z,2.8nm,0.7s,baz=336,slow=8.9,SNR=5.4						
STKA	Stephens Creek	38.58	158	P	P	15 30 09.6	+0.9
MK31	Makanchi Array	56.93	326	P	P	15 32 30.3	+0.5
MK31				PcP	PcP	15 33 23.8	+0.4
MKAR	Makanchi Array	56.93	326	P	P	15 32 29.7	-0.1
	comp=Z,0.2nm,0.3s,baz=122,slow=7.2,SNR=7.8						
MKAR				PcP	PcP	15 33 23.8	+0.3
	comp=Z,1.4nm,0.6s,baz=112,slow=4.0,SNR=11						
KURK	Kurchatov	61.14	328	P	P	15 32 57.1	-1.6
KURK				IAmb	IAmb	15 33 23.3	
	comp=Z,8.6nm,1.7s						
LBZ	Lake Benmore	62.31	146	P	P	15 33 08.1	+1.4
TIXI	Tiksi	67.73	1	P	P	15 33 41.1	-0.1
TIXI				IAmb	IAmb	15 34 02.4	
	comp=Z,13nm,1.9s						
ABKAR	Akbulak array	71.47	321	P	P	15 34 03.7	-0.8
ARCES	ARCESS Array B	90.01	340	P	P	15 35 42.5	0.0
	comp=Z,2.2nm,0.9s,baz=56,slow=5.0,SNR=4.4						
ARCES	ARCESS Array B	90.01	340		P	15 35 42.8	+0.3
SPITS	Spitsbergen Ar	90.18	349	P	P	15 35 43.6	+0.4
	comp=Z,6.2nm,1.0s,baz=102,slow=7.8,SNR=5.5						
TORD	Torodi Ar. Bea	122.00	288	PKP	PKiKP	15 41 38.2	+0.1
	comp=Z,0.3nm,0.8s,baz=72,slow=1.8,SNR=1.8						
TORD	Torodi Ar. Bea	122.00	288		PKiKP	15 41 36.9	-1.3

NEIC 06 15:37:48.4±0.6**, 36°.50N**±0°.01×**98°.72W**±0°.01**, h5**km±1km**, mb_Lg2.2**/11**, Error ellipse: s-maj=2.2km s-min=1.1km az=171.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.25	242	Pg	Pg	15 37 53.2	-0.1
U32A				Sg	Sg	15 37 56.9	+0.2
FNO	Franklin	1.64	139	Pn	Pn	15 38 16.8	-1.0
WMOK	Wichita Mounta	1.76	182	Pn	Pn	15 38 18.3	-1.1
T35A	Sooner Cattle	1.83	76		Pn	15 38 20.2	-0.2
R32A	Long Quarter,	1.92	0	Pn	Pn	15 38 21.4	-0.3
R32A				IAmb_Lg		15 38 48.3	
	comp=Z,18nm,1.1s						
X34A	Smith Ranch, M	2.03	159	IAmb_Lg		15 38 52.3	
	comp=Z,6.8nm,0.8s						
TUL1	Leonard	2.44	103	IAmb_Lg		15 39 05.8	
	comp=Z,10nm,0.8s						
X37A	Clayton	3.33	124	IAmb_Lg		15 39 37.9	
	comp=Z,6.5nm,0.8s						
HHAR	Hobbs	3.87	92	IAmb_Lg		15 39 54.5	
	comp=Z,6.6nm,0.8s						
X40A	Basin Creek Fa	5.21	111	Pn	Pn	15 39 06.2	-0.6
WHAR	Wooly Hollow	5.36	101	IAmb_Lg		15 40 38.1	
	comp=Z,5.2nm,1.0s						
W41B	Gary Mavity, V	5.42	102	Pn	Pn	15 39 11.2	+1.4

IDC 06 16:07:14.1±2.5**, 6°.21S**×**146°.54E, h0**km**, mb3.3**/3**, mb1 3.6**/5**, mb1mx3.4**/34**, mbtmp3.5**/5**, ML2.8**/2**, Error**

ellipse: s-maj=55.4km s-min=28.8km az=92.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.23	169	Pn	Pn	16 08 06.7	+0.6
	14nm,0.3s,baz=353,slow=8.1,SNR=54						
PMG				Sn	Sn	16 08 43.1	-2.2
	3.6nm,0.3s,baz=24,slow=20,SNR=1.9						
WRA	Warramunga Arr	18.08	220	P	P	16 11 27.2	-0.2
	0.1nm,0.3s,baz=42,slow=12,SNR=8.6						
ASAR	Alice Springs	21.19	214	P	P	16 12 00.8	-0.6
	0.2nm,0.5s,baz=49,slow=8.5,SNR=12						
FITZ	Fitzroy Crossi	23.57	238	P	P	16 12 26.2	-0.3
	1.6nm,0.3s,baz=58,slow=10,SNR=18						
SONM	Songino Array	64.37	331	P	P	16 17 52.4	+0.4
	0.2nm,0.4s,baz=121,slow=5.6,SNR=1.2						

*IDC **06** 16:18:23.5±4.2, 18.°77S×169.°39E, h253km±56km, mb3.1/6, mb1 3.4/7, mb1mx3.2/30, mbtmp3.7/7, Error ellipse: s-maj=121.9km s-min=29.6km az=156.0*
*NOU **06** 16:18:25.2, 18.°82S×169.°38E, h226km, MLv4.3/14, Vanuatu Islands*
ISC 06 16:18:22.8±1.2**, 18.°8S**±0.°1×**169.°5E**±0.°2**, h250**km**, n18, σ0^{s}90**/18**, mb3.5**/6**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	1.65	310	P	Pn	16 19 02.7	+0.4
LIFNC	LIFOU	2.91	227	P	Pn	16 19 12.7	-1.5
MARNC	Mare, Loyalty	3.01	207	P	Pn	16 19 15.0	-0.3
YATNC	Mamie plateau,	4.07	217	P	Pn	16 19 26.6	-0.8
PINNC	Pines Island,	4.26	207	P	Pn	16 19 30.8	+1.2
DZM	Mont Dzumac	4.35	221	P	Pn	16 19 31.2	+0.5
	2.3nm,0.3s,baz=58,slow=19,SNR=19						
DZM	Mont Dzumac	4.35	221	P	Pn	16 19 31.2	+0.5
OUENC	Ouen Island, N	4.39	214	P	Pn	16 19 32.5	+1.4
NOUC	Port Laguerre	4.46	222	P	Pn	16 19 32.6	+0.6
ONTNC	Ouen Toro	4.52	219	P	Pn	16 19 33.4	+0.7
KOUNC	Koumac, New Ca	5.23	250	P	Pn	16 19 42.2	+0.9
WRA	Warramunga Arr	33.17	262	P	P	16 24 35.1	-1.2
	0.3nm,0.8s,baz=81,slow=6.1,SNR=4.9						
ASAR	Alice Springs	33.49	255	P	P	16 24 38.5	-0.5
	1.0nm,0.4s,baz=82,slow=8.9,SNR=43						
FITZ	Fitzroy Crossi	41.55	264	P	P	16 25 45.7	-0.7
	2.2nm,1.1s,baz=102,slow=9.3,SNR=2.2						
CMAR	Chiang Mai Arr	78.56	294	P	P	16 29 58.3	+1.1
	0.3nm,0.5s,baz=56,slow=5.5,SNR=2.5						
SONM	Songino Array	87.03	323	P	P	16 30 39.9	-0.2
	0.7nm,0.8s,baz=123,slow=5.3,SNR=2.5						
ILAR	Eielson Array	89.73	17	P	P	16 30 52.0	-0.2
	0.2nm,0.4s,baz=234,slow=5.2,SNR=5.4						
ARCES	ARCESS Array B	124.71	345	PKP	PKiKP	16 36 52.4	+0.1
	2.2nm,0.8s,baz=0.0,slow=2.9,SNR=4.3						

IDC 06 16:44:51.2±6.1**, 36.°65N×85.°46E, h0**km**, mb1 3.3**/4**, mb1mx3.0**/52**, mbtmp3.3**/4**, ML3.3**/4**, Error ellipse: s-maj=76.8km s-min=36.1km az=14.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	10.36	309	Pn	Pn	16 47 21.9	+0.8
	0.2nm,0.3s,baz=127,slow=10,SNR=2.3						
AAK				Sn	Sn	16 49 18.5	+0.4
	0.3nm,0.3s,baz=18,slow=22,SNR=6.3						
MKAR	Makanchi Array	10.41	348	Pn	Pn	16 47 21.5	-0.3
	0.8nm,0.3s,baz=165,slow=13,SNR=26						
MKAR				Sn	Sn	16 49 15.7	-3.5
	0.1nm,0.3s,baz=173,slow=32,SNR=2.0						
ZALV	Zalesovo Beam	17.31	359	P	Pn	16 48 52.8	-1.4
	0.1nm,0.3s,baz=185,slow=13,SNR=1.8						
SONM	Songino Array	19.05	48	P	P	16 49 15.2	+0.2
	0.1nm,0.3s,baz=242,slow=9.9,SNR=2.4						

*IDC **06** 16:49:12.4±2.9, 5.°67S×130.°40E, h80km±31km, mb3.4/5, mb1 3.7/9, mb1mx3.3/41, mbtmp3.8/9, Error ellipse: s-maj=45.5km s-min=17.2km az=81.0*
ISC 06 16:49:12.2±0.8**, 5.°79S**±0.°06×**130.°6E**±0.°2**, h100**km**, n9, σ3^{s}77**/13**, mb3.6**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	4.92	7	P	Pn	16 50 23.3	-0.6
	3.6nm,0.3s,baz=142,slow=23,SNR=37						
SIJI				S	Sn	16 51 14.1	-5.6
	13nm,0.3s,baz=61,slow=22,SNR=7.0						
FITZ	Fitzroy Crossi	13.18	201	P	Pn	16 52 16.6	+1.1
	0.3nm,0.3s,baz=31,slow=8.3,SNR=26						
FITZ				S	Sn	16 54 35.2	-5.3
	0.7nm,0.3s,baz=297,slow=20,SNR=10						
WRA	Warramunga Arr	14.52	166	P	Pn	16 52 34.4	+1.4
	0.3nm,0.3s,baz=355,slow=12,SNR=20						
WRA				S	Sn	16 55 08.8	-4.4
	0.9nm,0.3s,baz=353,slow=24,SNR=10						
ASAR	Alice Springs	18.05	170	P	Pn	16 53 20.4	+3.8
	0.6nm,0.3s,baz=357,slow=8.7,SNR=96						
ASAR				S	S	16 56 32.5	-5.2
	0.2nm,0.3s,baz=350,slow=27,SNR=5.2						
STKA	Stephens Creek	27.91	160	P	P	16 54 56.7	+3.8
	0.7nm,0.3s,baz=336,slow=12,SNR=4.4						
CMAR	Chiang Mai Arr	39.47	308	P	P	16 56 32.9	-0.2
	0.4nm,0.6s,baz=125,slow=6.5,SNR=2.1						
MJAR	Matsushiro Arr	42.70	9	P	P	16 57 00.6	+1.3
	1.0nm,0.4s,baz=228,slow=11,SNR=1.6						
MKAR	Makanchi Array	67.57	326	P	P	16 59 59.5	+1.5
	0.3nm,0.4s,baz=115,slow=7.3,SNR=7.0						
ZALV	Zalesovo Beam	70.79	333	P	P	17 00 18.3	+0.6
	0.5nm,0.6s,baz=134,slow=4.2,SNR=1.7						

*NOU **06** 16:57:52.2, 13.°58S×166.°66E, h6km, mb4.5/13, Vanuatu Islands*
*IDC **06** 16:57:56.8±1.0, 14.°21S×166.°68E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.8/39, mbtmp3.9/11, ML4.4/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/63, Error ellipse: s-maj=30.2km s-min=20.5km az=103.0*
*NEIC **06** 16:58:02.9±1.3, 14.°2S±0.°1×166.°7E±0.°2, h35km±8km, mb4.3/18, Error ellipse: s-maj=22.2km s-min=14.9km az=94.0*
ISC 06 16:58:03.5±0.6**, 14.°25S**±0.°07×**166.°53E**±0.°10**, h43**km**, n49, σ1^{s}04**/50**, mb4.1**/17**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	3.81	155	P	Pn	16 59 00.5	+0.8
LIFNC	LIFOU	6.53	174	Pn	Pn	16 59 30.5	-6.5
KOUNC	Koumac, New Ca	6.62	199		Pn	16 59 39.5	+1.2
KOUNC	Koumac, New Ca	6.62	199	P	Pn	16 59 39.6	+1.2
MARNC	Mare, Loyalty	7.34	169	Pn	Pn	16 59 47.9	-0.2
MARNC	Mare, Loyalty	7.34	169	P	Pn	16 59 48.3	+0.2
YATNC	Mamie plateau,	7.78	177	P	Pn	16 59 54.9	+0.7
DZM	Mont Dzumac	7.78	181	Pn	Pn	16 59 52.0	-2.3
	2.7nm,0.3s,baz=142,slow=23,SNR=35						
DZM				Sn	Sn	17 01 17.6	-3.7
	baz=26,slow=21,SNR=0.9						
DZM				LR	LR	17 01 52.4	
	comp=Z,166nm,18.5s,baz=28,slow=30						
DZM	Mont Dzumac	7.78	181	Pn	Pn	16 59 53.7	-0.6
DZM	Mont Dzumac	7.78	181	P	Pn	16 59 53.7	-0.6
NOUC	Port Laguerre	7.82	182	P	Pn	16 59 55.8	+1.1
ONTNC	Ouen Toro	8.02	180	Pn	Pn	16 59 57.4	-0.1
ONTNC	Ouen Toro	8.02	180	P	Pn	16 59 57.7	+0.2
HNR	Honiara	8.02	306	Pn	Pn	16 59 55.6	-2.0
	8.1nm,0.3s,baz=172,slow=4.1,SNR=3.5						
HNR				Sn	Sn	17 01 26.0	-1.0
	10.0nm,0.3s,baz=338,slow=21,SNR=1.8						
OUENC	Ouen Island, N	8.13	178	Pn	Pn	16 59 59.4	+0.4
OUENC	Ouen Island, N	8.13	178	P	Pn	16 59 59.4	+0.4
PINNC	Pines Island,	8.37	174	Pn	Pn	17 00 02.8	+0.6
PINNC	Pines Island,	8.37	174	P	Pn	17 00 04.2	+2.0
EIDS	Eidsvold	18.24	230	P	Pn	17 02 14.8	+1.3
EIDS				IAmb	IAmb	17 02 21.7	
	comp=Z,13nm,1.2s						
BKZ	Black Stump Fm	26.33	162	P	P	17 03 34.8	-0.6
STKA	Stephens Creek	28.77	228	P	P	17 03 58.0	+0.8
	comp=Z,2.0nm,0.6s,baz=28,slow=12,SNR=6.1						
STKA	Stephens Creek	28.77	228	P	P	17 03 58.0	+0.8
WR0	Warramunga Arr	31.06	255	P	P	17 04 17.5	-0.2
WR0				IAmb	IAmb	17 04 36.2	
	comp=Z,9.6nm,1.5s						
WB0	Warramunga Arr	31.18	255	P	P	17 04 19.0	+0.2
WB0				IAmb	IAmb	17 04 44.8	
	comp=Z,6.8nm,1.4s						
WB2	Warramunga Arr	31.24	255	P	P	17 04 19.4	+0.2
WB2				IAmb	IAmb	17 04 31.0	
	comp=Z,7.2nm,1.3s						
WRAB	Tennant Creek	31.24	255	P	P	17 04 18.9	-0.3
WRAB				IAmb	IAmb	17 04 28.8	
	comp=Z,6.5nm,1.3s						
WRA	Warramunga Arr	31.25	255	P	P	17 04 19.6	+0.2
	comp=Z,0.7nm,0.8s,baz=86,slow=9.5,SNR=7.0						
WRA				LR	LR	17 16 12.6	
	comp=Z,103nm,20.5s,baz=46,slow=35						
WRA	Warramunga Arr	31.25	255	P	P	17 04 19.0	-0.4
AS31	Alice Springs	32.17	248	P	P	17 04 27.6	0.0
ASAR	Alice Springs	32.18	248	P	P	17 04 27.9	+0.3
	comp=Z,0.7nm,0.6s,baz=73,slow=9.3,SNR=15						
ASAR	Alice Springs	32.18	248	P	P	17 04 27.6	0.0
BBOO	Buckleboo	33.31	231	P	P	17 04 39.6	+2.3
FITZ	Fitzroy Crossi	39.40	259	P	P	17 05 30.5	+1.1
FITZ				IAmb	IAmb	17 05 31.7	
	comp=Z,2.8nm,0.9s						
VNDA	Vanda	63.33	181	P	P	17 08 27.4	-0.2
	comp=Z,0.3nm,0.6s,baz=3.2,slow=6.1,SNR=9.8						
VNDA	Vanda	63.33	181	P	P	17 08 28.2	+0.6
VNDA				IAmb	IAmb	17 08 42.8	
	comp=Z,0.6nm,0.6s						
SBA	Scott Base	63.62	180	P	P	17 08 30.2	+0.7
PETK	Petropavlovsk-	67.51	354	P	P	17 08 55.4	+0.5
	comp=Z,2.7nm,0.8s,baz=180,slow=12,SNR=3.6						
CMAR	Chiang Mai Arr	74.10	294	P	P	17 09 35.5	-0.2
	comp=Z,0.2nm,0.5s,baz=126,slow=4.6,SNR=1.1						
QSPA	South Pole Qui	75.78	180	P	P	17 09 44.8	0.0
QSPA				IAmb	IAmb	17 09 52.7	
	comp=Z,11nm,1.5s						
SONM	Songino Array	81.68	324	P	P	17 10 17.7	+0.3
	comp=Z,0.4nm,0.4s,baz=116,slow=6.6,SNR=2.5						
L19K	White Mountain	81.98	17	P	P	17 10 18.8	+0.2
L19K				IAmb	IAmb	17 10 36.8	
	comp=Z,8.5nm,1.5s						
BILL	Bilibino	82.06	360	P	P	17 10 18.8	0.0
CAST	Castle Rocks	83.75	17	P	P	17 10 27.3	-0.4
J20K	Nowinta River	83.76	16	P	P	17 10 28.3	+0.6
J20K				IAmb	IAmb	17 10 34.0	
	comp=Z,6.5nm,1.4s						
ILAR	Eielson Array	86.29	18	P	P	17 10 39.1	-1.3
	comp=Z,0.7nm,0.6s,baz=240,slow=5.2,SNR=11						
ILAR	Eielson Array	86.29	18	P	P	17 10 39.4	-1.0
MKAR	Makanchi Array	96.36	317	P	P	17 11 28.5	+0.7
	comp=Z,0.1nm,0.4s,baz=90,slow=6.2,SNR=2.8						
ARCES	ARCESS Array B	119.61	345	PKP	PKPdf	17 16 47.4	-0.7
	comp=Z,3.3nm,1.1s,baz=90,slow=4.5,SNR=7.8						
ARCES	ARCESS Array B	119.61	345		PKPdf	17 16 47.6	-0.4

IDC 06 17:03:14.4±6.0**, 30.°57S×178.°51W, h0**km**, mb3.4**/2**, mb1 3.7**/2**, mb1mx3.5**/34**, mbtmp3.4**/2**, Error ellipse: s-maj=235.8km s-min=56.8km az=155.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.66	267	P	P	17 11 12.6	-0.4
	0.5nm,0.7s,baz=106,slow=7.2,SNR=16						
WRA	Warramunga Arr	43.66	273	P	P	17 11 21.3	+0.1
	0.3nm,0.4s,baz=113,slow=7.6,SNR=9.0						
FINES	FINESS Array B	145.15	340	PKPbc	PKPbc	17 22 52.0	-0.8
	0.8nm,0.5s,baz=58,slow=4.7,SNR=6.0						

NEIC 06 17:15:16.9±1.5**, 47.°50N**±0.°02×**92.°33W**±0.°03**, h0**km±2km**, mb_Lg2.2**/4**, Error ellipse: s-maj=3.9km s-min=3.1km az=335.0, Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EYMN	Ely	0.72	51	Pg	Pg	17 15 31.2	+0.5
EYMN				Sg	Sg	17 15 40.0	0.0
E38A	The Farm, Brul	1.04	149		Pg	17 15 37.2	+0.3
B35A	Bob, Littlefor	1.27	313		Pg	17 15 41.2	-0.1
B35A				Sg	Sg	17 15 57.1	-0.7
B35A				IAmb_Lg		17 15 59.4	
	comp=Z,9.3nm,1.1s						
F36A	Milaca	1.83	207		Pn	17 15 50.2	+0.6
AGMN	Agassiz Nation	2.50	290		Pn	17 15 59.2	+0.3
COWI	Conover	2.60	121	Pn	Pn	17 16 00.1	-0.2
F33A	5 Mile Ranch,	3.19	240	IAmb_Lg		17 17 02.7	
	comp=Z,12nm,0.7s						
ULM	Lac du Bonnet	3.61	321	Pn	Pn	17 16 13.2	-0.9
JFWS	Jewell Farm	4.82	161	Pn	Pn	17 16 29.5	-1.2

*PDG **06** 17:15:30.3±0.3, 43.°53N×20.°30E, h10km, MD3.0/2, ML2.9/14, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*PRU **06** 17:15:31.8±0.0, 44.°05N×20.°80E, h5km*
*RHSSO **06** 17:15:31.7±0.5, 43.°52N×20.°29E, h6km±1km, ML2.9/17*
ISC 06 17:15:30.1±1.1**, 43.°54N**±0.°02×**20.°35E**±0.°02**, h7**km±9km**, n112, σ1^{s}17**/184**, 31C-17D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DIVS	Divibare	0.62	336	⇑iPg	Pg	17 15 42.7	+0.7
DIVS				eSg	Sb	17 15 52.0	-0.2
RUDO	Rudo	0.71	277	⇑iPg	Pg	17 15 42.9	-0.9
RUDO				eSg	Sg	17 15 53.4	+0.3
PLE	Pljevlja	0.73	254	ePg	Pg	17 15 43.4	-0.7
PLE				i Sg	Sb	17 15 55.0	-0.4
IVA	Berane	0.74	207	ePg	Pg	17 15 43.8	-0.6
IVA				i Sg	Sg	17 15 54.5	+0.5
BBLS	Lazići	0.76	296	⇑iPg	Pg	17 15 44.8	+0.1
BBLS				eSg	Sg	17 15 55.4	+0.9
KOME	Kolasin	0.92	222	ePg	Pg	17 15 46.9	-0.8
KOME				i Sg	Sg	17 15 59.7	+0.1
PVY	Plav	0.98	197	ePg	Pg	17 15 48.2	-0.8
PVY				i Sg	Sg	17 16 01.7	-0.1
BOVS	Bovan	0.99	84	⇓P	Pg	17 15 49.0	-0.1
BOVS				⇑S	Sb	17 16 02.7	-0.2
UPM	Unac-Piva	1.10	253	⇓iPg	Pg	17 15 51.2	-0.1
UPM	Unac-Piva	1.10	253	ePg	Pg	17 15 50.1	-1.2
UPM				i Sg	Sb	17 16 06.8	+0.5
NKY	Niksic	1.23	234	⇑iPg	Pg	17 15 52.5	-1.1
NKY				i Sg	Sn	17 16 10.9	+0.2
NKME	Niksic	1.28	233	ePg	Pn	17 15 53.4	-1.0
NKME				i Sg	Sn	17 16 12.4	+0.6
PDG	Podgorica	1.37	216	⇑P	Pn	17 15 55.7	+0.2
PDG				⇓S	Sb	17 16 13.1	-0.5
PDG	Podgorica	1.37	216	⇑iPg	Pn	17 15 55.1	-0.5
PDG				eSg	Sb	17 16 13.2	-0.4
TTG	Podgorica	1.37	216	ePg	Pn	17 15 55.0	-0.5
TTG				i Sg	Sg	17 16 15.3	+1.3
CEME	Cevo	1.44	227	⇑iPg	Pn	17 15 56.3	-0.4
CEME				i Sg	Sg	17 16 17.6	+1.2
BRY	Bratogost	1.47	245	⇓iPg	Pn	17 15 56.9	-0.2
BRY				eSg	Sg	17 16 17.4	+0.2
BRY	Bratogost	1.47	245	ePg	Pn	17 15 56.9	-0.2
BRY				i Sg	Sg	17 16 18.4	+1.2
BLJ	Bijeljina	1.47	328	⇑iPg	Pg	17 15 58.5	+0.3
BLJ				eSg	Sg	17 16 18.9	+1.6
MDVR	Moldovita	1.59	38	⇑P	Pn	17 15 58.9	+0.2
MDVR				⇓S	Sb	17 16 19.9	-0.2
DRME	Dracevica, Mon	1.60	213	⇑iPn	Pb	17 15 59.6	-0.3
DRME				eSn	Sg	17 16 20.9	-0.5
DRME	Dracevica, Mon	1.60	213	ePg	Pn	17 15 59.3	+0.5
DRME				i Sg	Sg	17 16 22.7	+1.3
BUM	Brajici-Budva	1.63	221	ePn	Pn	17 15 59.8	+0.5
BUM				i Sn	Sg	17 16 23.8	+1.2
FRGS	Fruska Gora	1.67	347	⇑P	Pn	17 15 58.8	-0.9
FRGS	Fruska Gora	1.67	347	eSn	Sg	17 16 23.4	-0.2
TREB	Trebinje	1.68	241	⇑iPn	Pb	17 16 01.3	0.0
TREB				eSn	Sb	17 16 22.8	+0.2
BLKB	Belogradchik	1.69	86	⇑S	Sb	17 16 22.8	-0.4
HCY	Herceg Novi	1.74	232	ePn	Pb	17 16 02.2	-0.2
HCY				eSn	Sb	17 16 24.1	-0.4
HCY	Herceg Novi	1.74	232	ePn	Pn	17 16 01.3	+0.5
HCY				i Sn	Sg	17 16 26.8	+0.8
ULC	Ulcinj	1.77	208	ePn	Pn	17 16 01.7	+0.5
ULC				i Sn	Sg	17 16 27.6	+0.7
DBRK	Dubrovnik	1.83	242	ePn	Pb	17 16 03.5	-0.4
DBRK				Sn	Sg	17 16 29.3	+0.4
DJES	Djerdap	1.93	53	⇓P	Pn	17 16 04.3	+0.9
HERR	Herculane	2.00	47	⇓P	Pn	17 16 04.9	+0.5
HERR				⇓S	Sn	17 16 29.6	-0.1
DOB	Doboj	2.01	307	ePn	Pb	17 16 06.1	-0.9
DOB				eSn	Sn	17 16 31.0	+1.2
PUNG	Punghina	2.01	68	⇑P	Pn	17 16 04.7	+0.2
PUNG				⇑S	Sn	17 16 30.8	+1.0
RMGR	Halanga-Turnu	2.03	56	⇑P	Pn	17 16 05.1	+0.3
STON	Ston	2.05	252	⇑iPn	Pb	17 16 06.6	-1.0
STON				eSn	Sn	17 16 31.3	+0.6
STON	Ston	2.05	252	ePn	Pb	17 16 06.5	-1.0
STON				Sn	Sb	17 16 34.3	+1.1
BAIL	Bailesti	2.23	76	⇑S	Sn	17 16 36.0	+0.9
BZS	Buzias	2.27	23	⇑P	Pn	17 16 08.3	+0.3
STIP	Stip	2.29	143	i Pn	Pn	17 16 08.3	0.0
VTS	Vitosha	2.31	112	⇑P	Pn	17 16 08.5	-0.2
VTS				⇓S	Sn	17 16 38.2	+0.8
RICI	Ricice	2.34	270	ePn	Pn	17 16 10.6	+1.6
RICI				Sn	Sb	17 16 40.7	-1.0
SRE	Strehaia	2.35	60	⇓P	Pn	17 16 09.8	+0.7
SRKY	Kupres RS	2.36	284	ePn	Pn	17 16 10.6	+1.2
SRKY				eSn	Sn	17 16 39.8	+1.1
MAKA	Makarska	2.44	265	ePn	Pb	17 16 12.5	-1.8
MAKA				Sn	Sb	17 16 42.6	-1.9
MGRS	Mrkonjic Grad	2.51	292	ePn	Pn	17 16 12.5	+1.1
MGRS				eSn	Sn	17 16 43.4	+1.1
GZR	Gura Zlata	2.54	42	⇓P	Pn	17 16 12.0	+0.2
GZR				⇓S	Sn	17 16 43.6	+0.4
BLY	Banja Luka	2.58	299	⇑iPn	Pn	17 16 13.9	+1.6
BLY				eSn	Sn	17 16 44.9	+1.0
A252A	Venje	2.61	318	ePn	Pn	17 16 13.1	+0.4
A252A				Sn	Sn	17 16 43.5	-1.1
LSTV	Lastovo	2.64	254	ePn	Pn	17 16 14.4	+1.3
LSTV				Sn	Sb	17 16 47.9	-2.5
HVAR	Hvar	2.86	264	ePn	Pn	17 16 17.6	+1.5
HVAR				Sn	Sn	17 16 52.4	+1.5
A051A	Mrakovica	2.88	302	⇑iPn	Pn	17 16 17.0	+0.6
A051A				eSn	Sn	17 16 52.2	+0.9
SIRR	Siria	2.88	18	⇑P	Pn	17 16 17.2	+0.7
KIJV	Kijevo	2.89	281	ePn	Pn	17 16 17.9	+1.3
KIJV				Sn	Sn	17 16 53.2	+1.6
A050A	Klekovaca	2.91	290	⇑iPn	Pn	17 16 18.1	+1.2
A050A				eSn	Sn	17 16 53.1	+0.9
MORH	Mrgy, Hungar	2.94	336	⇑P	Pn	17 16 17.5	+0.3
MORH	Mrgy, Hungar	2.94	336	eSn	Sn	17 16 54.4	+1.7
MORH	Mrgy, Hungar	2.94	336	P	Pn	17 16 16.7	-0.5
KOVH	Kovagotottos	3.01	329	P	Pn	17 16 17.6	-0.6
KOVH				S	Sn	17 16 54.0	-0.5
MOSL	Moslavina	3.30	310	ePn	Pn	17 16 22.4	+0.2
MOSL				Sn	Sn	17 17 00.5	-1.2
MORI	Morici	3.38	277	ePn	Pn	17 16 25.0	+1.7
MORI				Sn	Sn	17 17 04.8	+1.2
ZIRJ	Zirje	3.42	274	ePn	Pn	17 16 25.1	+1.3
ZIRJ				Sn	Sn	17 17 05.7	+1.1
UDBI	Udbina	3.45	288	ePn	Pn	17 16 24.6	+0.3
UDBI				Sn	Sn	17 17 05.7	+0.3
ARR	Arges	3.57	58	⇓P	Pn	17 16 26.7	+0.7
PLIT	Plitvice	3.65	293	ePn	Pn	17 16 27.6	+0.6
PLIT				Sn	Sn	17 17 10.1	-0.3
DRGR		3.66	26	⇓P	Pn	17 16 27.9	+0.7
TIH	Tihany	3.78	334	P	Pn	17 16 27.4	-1.4
KALN	Kalnik	3.79	314	ePn	Pn	17 16 29.3	+0.3
KALN				Sn	Sn	17 17 11.7	-2.2
DUGI	Dugi Otok	3.86	279	ePn	Pn	17 16 31.0	+1.1
DUGI				Sn	Sn	17 17 17.3	+1.9
VOIR		3.87	59	⇓P	Pn	17 16 30.7	+0.6
BEHE	Becsehely	3.87	320	ePn	Pn	17 16 31.0	+0.9
BEHE	Becsehely	3.87	320	P	Pn	17 16 30.7	+0.7
VIRC	Vir	3.90	283	ePn	Pn	17 16 30.6	+0.2
VIRC				Sn	Sn	17 17 16.2	-0.1
PTJ	Puntijarka	3.92	309	ePn	Pn	17 16 30.9	+0.1
PTJ				Sn	Sn	17 17 15.4	-1.6
LOBO	Lobor	4.01	312	ePn	Pn	17 16 31.9	-0.1
LOBO				Sn	Sn	17 17 18.0	-1.2
OZLJ	Ozalj	4.06	302	ePn	Pn	17 16 33.2	+0.7
OZLJ				Sn	Sn	17 17 18.9	-1.4
NVLJ	Novalja	4.08	286	ePn	Pn	17 16 33.8	+1.0
NVLJ				Sn	Sn	17 17 20.7	-0.1
CSKK	Cskako	4.10	340	P	Pn	17 16 34.1	+1.0
CSKK				S	Sn	17 17 23.1	+1.8
KOGS	Kog	4.11	316	i Pn	Pn	17 16 34.0	+0.7
MPLH	Magyarpolny	4.14	332	P	Pn	17 16 34.5	+0.8
MPLH				S	Sn	17 17 21.6	-0.7
CRES	Cresnjev	4.17	305	ePn	Pn	17 16 35.2	+1.0
CRES				eSn	Sn	17 17 22.9	-0.2
A250A	Rusevo Krmpots	4.20	293	ePn	Pn	17 16 35.4	+0.9
A250A				Sn	Sn	17 17 22.9	-0.9
LEGS	Legarje	4.32	306	i Pn	Pn	17 16 37.4	+1.2
PSZ	Piszkesteto	4.39	356	⇓P	Pn	17 16 37.7	+0.4
PSZ	Piszkesteto	4.39	356	P	Pn	17 16 37.3	0.0
PSZ				S	Sn	17 17 25.1	-3.6
MLR	Muntele Rosu	4.46	62	⇓P	Pn	17 16 38.5	+0.3
VISS	Visnje	4.53	302	i Pn	Pn	17 16 40.6	+1.5
KNDS	Knezji Dol	4.71	297	i Pn	Pn	17 16 43.3	+1.7
CEY	Cerknica	4.76	300	⇑iPn	Pn	17 16 43.6	+1.3
CEY				eSn	Sn	17 17 37.0	-0.8
LJU	Ljubljana	4.84	303	ePn	Pn	17 16 44.7	+1.3
SOKA	Soboth	4.90	312	ePn	Pn	17 16 44.8	+0.6
	0.9nm,0.3s						
BRJN	Brijuni	4.93	288	ePn	Pn	17 16 44.9	+0.3
BRJN				Sn	Sn	17 17 41.3	-0.6
SKDS	Skadanscina	4.95	296	⇑iPn	Pn	17 16 45.6	+0.7
SKDS				eSn	Sn	17 17 40.8	-1.6
ARSA	Arzberg	5.03	319	Pn	Pn	17 16 46.8	+0.8
	6.4nm,0.2s,SNR=11						
ARSA				eSn	Sn	17 17 46.4	+2.0
ARSA	Arzberg	5.03	319	ePn	Pn	17 16 46.8	+0.8
ARSA				eSn	Sn	17 17 44.0	-0.4
RONA	Rosalia, Austr	5.04	327	ePn	Pn	17 16 46.9	+0.7
	0.6nm,0.2s						
VYHS	Vyhne	5.07	349	ePN	Pn	17 16 43.4	-3.1
VYHS				eSN	Sn	17 17 42.4	-2.9
OBKA	Obir	5.07	308	Pn	Pn	17 16 47.9	+1.3
	1.9nm,0.3s,SNR=6.1						
OBKA				eSn	Sn	17 17 45.4	-0.1
OBKA	Obir	5.07	308	⇑iPn	Pn	17 16 47.6	+1.0
OBKA				eSn	Sn	17 17 44.2	-1.2
CONA	Conrad Observa	5.40	326	ePn	Pn	17 16 52.5	+1.4
	1.2nm,0.5s						
CFR	Carcaliu	5.82	71	⇑P	Pn	17 16 56.5	-0.2
VLDR	Vladesti	5.98	65	⇑P	Pn	17 16 59.4	+0.4
MOA	Molln	6.06	317	ePn	Pn	17 17 01.9	+1.8
	0.8nm,0.2s						
KBA	Koelnbreinsper	6.08	308	ePn	Pn	17 17 02.0	+1.5
	1.1nm,0.3s						
BIOA	Bad Ischl, Aus	6.27	314	i Pn	Pn	17 17 05.1	+2.0
	6.3nm,0.3s,SNR=8.3						
BIOA				eSn	Sn	17 18 17.4	+2.4
WTTA	Wattenberg	7.17	304	ePn	Pn	17 17 19.3	+3.8
	5.2nm,0.3s						
WATA	Walderalm	7.24	305	ePn	Pn	17 17 19.3	+2.8
	2.2nm,0.2s						
KHC	Kasperske Hory	7.29	322	ePN	Pn	17 17 15.4	-1.7
SQTA	Sankt Quirin	7.41	303	ePn	Pn	17 17 22.5	+3.7
	2.5nm,0.3s						
MOTA	Moosalm	7.53	304	ePn	Pn	17 17 22.7	+2.3
	0.8nm,0.2s						
FETA	Feichten	7.62	301	ePn	Pn	17 17 25.0	+3.2
	1.1nm,0.4s						

IDC 06 17:16:16.2±3.4**, 47.°78N×92.°35W, h0**km**, mb1 3.2**/2**, mb1mx2.9**/40**, mbtmp3.0**/2**, ML2.0**/2**, Error ellipse: s-maj=73.2km s-min=25.9km az=46.0, Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULM	Lac du Bonnet	3.39	318	Pn	Pn	17 17 09.5	-0.8
	0.8nm,0.3s,baz=35,slow=4.0,SNR=22						
ULM				Lg	Lg	17 18 00.8	
	1.1nm,0.3s,baz=240,slow=20,SNR=7.4						
I10CA	LAC DU BONNET	3.42	316	i		17 37 50.0	
	baz=135,slow=328,SNR=5.8						
YKA	Yellowknife Ar	19.31	328	Pn	P	17 20 37.6	-4.9
	0.0nm,0.3s,baz=125,slow=11,SNR=3.6						

*SKHL **06** 17:34:23.1±0.8, 45.°10N×154.°20E, h64km±4km, mb4.3/3*
*JMA **06** 17:34:24.3±0.6, 46.°20N×153.°54E, h142km, M3.3*
*IDC **06** 17:34:29.0±3.5, 47.°74N×152.°33E, h140km±38km, mb3.0/4, mb1 3.2/7, mb1mx2.9/53, mbtmp3.6/7, Error ellipse: s-maj=64.3km s-min=19.1km az=137.0*
ISC 06 17:34:28.4±1.1**, 47.°3N**±0.°2×**152.°6E**±0.°1**, h150**km**, n26,**

σ3ˢ21/22, mb3.1/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.87	239	eP	Pn	17 35 28.4	+1.6
KUR				AMB	AMB	17 35 30.7	
	20nm,0.5s						
KUR				eS	Sn	17 36 18.1	+5.9
KUR				A	A	17 36 24.6	
	40nm,0.6s						
KUR				A	A	17 36 24.6	
	50nm,0.6s						
SHO	Shikotan	5.30	231	eP	Pn	17 35 42.7	-3.0
SHO				AMB	AMB	17 35 48.7	
	20nm,0.7s						
SHO				eS	Sn	17 36 41.8	-4.2
SHO				A	A	17 36 45.9	
	20nm,0.3s						
SHO				A	A	17 36 45.9	
	20nm,0.3s						
YUK	Yuzh-Kuril'sk	5.73	237	eP	Pn	17 35 50.5	-0.9
YUK				AMB	AMB	17 35 52.1	
	30nm,0.5s						
YUK				eS	Sn	17 36 57.3	+1.1
YUK				A	A	17 37 00.4	
	110nm,0.6s						
YUK				A	A	17 37 00.4	
	80nm,0.6s						
JRA	Rausu	6.21	240	P	Pn	17 35 57.2	-0.7
NEM2	Nemuro 2	6.22	233	P	Pn	17 35 54.8	-3.2
NEM2				eS	Sn	17 37 04.5	-3.6
NMR	Nemuro--Hokkai	6.23	233	eP	Pn	17 35 54.8	-3.2
NMR				eS	Sn	17 37 04.2	-4.0
PETK	Petropavlovsk-	6.66	28	P	Pn	17 36 00.2	-3.6
	0.4nm,0.3s,baz=200,slow=12,SNR=4.3						
JTKR	Abashiri--Toko	6.92	244	P	Pn	17 36 07.6	+0.3
AKK	Akkeshi	6.95	234	eP	Pn	17 36 04.6	-3.0
AKK				eS	Sn	17 37 20.4	-5.0
JAK	Akkeshi	7.04	235	P	Pn	17 36 06.0	-2.9
JOB	Onbets	7.59	238	P	Pn	17 36 14.5	-1.7
ASAJ	Asahikawa	7.67	249	P	Pn	17 36 18.5	+1.2
	1.3nm,0.3s,baz=82,slow=13,SNR=13						
JKK2	Kamakawa 2	7.69	247	P	Pn	17 36 18.3	+0.7
JCH	Churui	8.04	237	P	Pn	17 36 20.0	-2.2
JCH				eS	Sn	17 37 46.6	-5.1
KLR	Kul'dur	13.98	286	P	P	17 37 44.8	+1.7
	0.2nm,0.3s,baz=81,slow=12,SNR=5.8						
USRK	Ussuriysk Ar.	14.69	265	P	P	17 37 49.4	-1.6
	baz=61,slow=14,SNR=6.1						
KSRS	Korea Array	20.62	250	P	P	17 38 56.9	+1.1
	1.8nm,0.7s,baz=54,slow=9.6,SNR=5.5						
H11N2	WAKE ISLAND Hy	29.91	152	T	T	18 12 10.6	
	baz=341,slow=76,SNR=35						
H11N1	WAKE ISLAND Hy	29.92	152	T	T	18 12 13.4	
	baz=341,slow=76,SNR=25						
H11N3	WAKE ISLAND Hy	29.92	152	T	T	18 12 14.5	
	baz=341,slow=76,SNR=25						
H11S1	WAKE ISLAND Hy	30.99	153	T	T	18 13 23.2	
	baz=341,slow=76,SNR=31						
H11S3	WAKE ISLAND Hy	31.00	153	T	T	18 13 34.4	
	baz=341,slow=76,SNR=36						
H11S2	WAKE ISLAND Hy	31.01	153	T	T	18 13 24.1	
	baz=341,slow=76,SNR=23						
YKA	Yellowknife Ar	50.69	37	P	P	17 43 11.8	-0.2
	0.1nm,0.5s,baz=296,slow=6.9,SNR=3.0						
WRA	Warramunga Arr	68.94	198	P	P	17 45 20.9	+3.9
	0.7nm,1.1s,baz=17,slow=7.2,SNR=1.8						
ASAR	Alice Springs	72.64	198	P	P	17 45 43.2	+3.8
	0.3nm,0.8s,baz=9.9,slow=5.5,SNR=7.2						

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*SJA **06** 17:35:30.3±0.8, 31°.45S×72°.44W, h14km±6km, ML5.3, MW5.0*

*IDC **06** 17:35:34.0±0.4, 31°.45S×71°.59W, h0km, mb5.0/13, mb1 5.0/17, mb1mx4.8/28, mbtmp4.9/17, ML4.6/4, MS4.8/43, Ms1 4.8/43, ms1mx4.7/56, Error ellipse: s-maj=19.9km s-min=13.0km az=91.0*

*BJI **06** 17:35:36.3±0.0, 32°.29S×72°.40W, h30km, mB5.1/10, Ms5.3/18, Ms7 5.2/18*

*MOS **06** 17:35:38.5±1.2, 31°.49S×71°.94W, h40km, mb5.3/9, MS4.8/5, Error ellipse: s-maj=15.5km s-min=7.3km az=105.3*

*GUC **06** 17:35:38.8±0.7, 31°.51S×71°.68W, h36km±2km, ML5.2*

*NEIC **06** 17:35:38.7±1.6, 31°.48S±0°.03×71°.78W±0°.07, h30km, mb5.1/240, Mwr5.2/65, Mww5.3, ML5.2(GUC), Error ellipse: s-maj=8.5km s-min=3.8km az=91.0*

*NEIC **06** 17:35:38.8, 31°.50S×71°.84W, h35km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}5.82; $M_{\theta\theta}$0.79; $M_{\phi\phi}$-6.61; $M_{r\theta}$0.88; $M_{\theta\phi}$0.89; $M_{\phi r}$-2.32; Fault plane solution: $M_0$6.78000×10^{16} NP1:ϕ_s167.31000°, δ55.79000°, λ82.81000°. NP2:ϕ_s359.96000°, δ34.87000°, λ100.43000°. Principal axes: T 6.3314, Plg78.0000°, Azm52.0000°; N 0.8303, Plg6.0000°, Azm171.0000°; P -7.1618, Plg11.0000°, Azm262.0000°;*

*VAO **06** 17:35:39.3±0.4, 31°.47S×71°.57W, h28km, mb5.2*

*NEIC **06** 17:35:39, 31°.38S×71°.81W, h24km, Moment Tensor Solution. Duration: 4ˢ0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.82; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-0.98; $M_{r\theta}$0.16; $M_{\theta\phi}$0.10; $M_{\phi r}$-0.54; Fault plane solution: $M_0$1.08000×10^{17} NP1:ϕ_s4.00000°, δ30.00000°, λ104.00000°. NP2:ϕ_s168.00000°, δ61.00000°, λ82.00000°. Principal axes: T 0.9918, Plg73.0000°, Azm58.0000°; N 0.1584, Plg7.0000°, Azm172.0000°; P -1.1502, Plg16.0000°, Azm264.0000°;*

*GCMT **06** 17:35:43.7±0.2, 31°.46S±0°.01×71°.82W±0°.01, h34km, MW5.4/111, Moment Tensor Solution. s101,c155; s111,c161; Duration: 1ˢ2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.07±.03; $M_{\theta\theta}$0.14±.02; $M_{\phi\phi}$-1.21±.02; $M_{r\theta}$0.04±.03; $M_{\theta\phi}$-0.03±.01; $M_{\phi r}$-0.81±.03; Best double couple: $M_0$1.39800×10^{17} NP1:ϕ_s5.00000°, δ27.00000°, λ95.00000°. NP2:ϕ_s178.00000°, δ63.00000°, λ87.00000°. Principal axes: T 1.3290, Plg72.0000°, Azm82.0000°; N 0.1400, Plg3.0000°, Azm180.0000°; P -1.4670, Plg18.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 17:35:34.1±0.8, **31°.45S**±0°.02×**71°.85W**±0°.03, **h5**km±5km, **n705**, σ**1ˢ48**/734, **mb5.1**/141, **MS4.9**/49, **20C-9D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CO02	Combarbal	0.76	72	Pn	Pn	17 35 51.6	-0.1
CO02				Sn	Sg	17 35 58.9	+0.3
CO02	Combarbal	0.76	72	⇓iP	Pn	17 35 51.7	0.0
CO02				iS	Sb	17 36 00.8	+0.1
CO02				IAML		17 36 06.5	
	comp=E,193µm,0.5s						
CO02	Combarbal	0.76	72	eP	Pn	17 35 54.4	+2.8
CO02				IAML		17 36 19.7	
	comp=Z,37µm,0.8s						
CO06	Fray Jorge	0.79	13		Pn	17 35 54.2	+2.3
CO06				Sn	Sn	17 36 05.2	+1.1
CO06	Fray Jorge	0.79	13	⇓iP	Pn	17 35 54.4	+2.5
CO06				iS	Sn	17 36 05.5	+1.4
CO03	El Pedregal	1.16	59		Pn	17 35 57.9	+0.8
CO03				Sn	Sb	17 36 12.3	+0.1
VA06	Catapilco	1.21	157	Pn	Pn	17 35 58.4	+0.7
VA06				Sn	Sg	17 36 12.6	-0.4
VA06	Catapilco	1.21	157	⇑iP	Pn	17 35 58.4	+0.7
VA06				iS	Sg	17 36 12.5	-0.4
VA06				IAML		17 36 17.0	
	comp=E,147µm,0.4s						
GO04	Tololo Observa	1.56	36		Pg	17 36 05.3	+1.3
GO04	Tololo Observa	1.56	36	⇑iP	Pg	17 36 05.2	+1.3
GO04				iS	Sg	17 36 25.4	+1.3
GO04	Tololo Observa	1.56	36	eP	Pg	17 36 05.0	+1.1
VA01	Torpederas	1.58	174	Pn	Pb	17 36 03.9	0.0
VA01	Torpederas	1.58	174	⇓iP	Pb	17 36 04.2	+0.3
VA01				eS	Sn	17 36 22.7	-1.0
VA01	Torpederas	1.58	174	eP	Pb	17 36 04.0	+0.1
CO05	La Serena	1.61	19		Pg	17 36 06.1	+1.1
CO05	La Serena	1.61	19	⇑iP	Pg	17 36 06.0	+1.1
CO05				iS	Sg	17 36 27.9	+2.1
CO05				IAML		17 36 37.0	
	comp=N,32µm,0.5s						
ROCH	El Roble	1.68	155	⇑iP	Pb	17 36 05.8	+0.1
ROCH				⇑iP	Pn	17 36 03.4	-1.0
ROCH				iS	Sn	17 36 23.1	-3.3
ROCH				iS	Sb	17 36 26.6	-0.7
ROCH				IAML		17 36 29.3	
	comp=N,62µm,0.5s						
ROCH				IAML		17 36 31.7	
	comp=N,71µm,0.4s						
ROC1	El Roble	1.68	155		Pn	17 36 03.1	-1.4
ROC1				Sn	Sn	17 36 25.0	-1.5
ROC1	El Roble	1.68	155	eP	Pn	17 36 03.0	-1.4
VA03	San Esteban	1.71	140		Pb	17 36 06.1	0.0
VA03				Sn	Sn	17 36 26.4	-0.8
VA03	San Esteban	1.71	140	⇓iP	Pb	17 36 06.2	0.0
VA03				iS	Sn	17 36 26.8	-0.3
VA03	San Esteban	1.71	140	eP	Pn	17 36 00.4	-4.3
VA03				eP	Pb	17 36 06.0	-0.2
VA03				IAML		17 36 40.2	
	comp=Z,22µm,0.8s						
MT02	Curacav	1.91	162		Pn	17 36 08.2	+0.9
MT02	Curacav	1.91	162	⇑iP	Pn	17 36 08.4	+1.0
MT02				iS	Sn	17 36 32.3	+0.6
MT02	Curacav	1.91	162	eP	Pn	17 36 08.0	+0.7
PEL	Peldehue	1.96	150	P	Pb	17 36 09.5	-0.8
PEL	Peldehue	1.96	150		Pb	17 36 09.5	-0.8
PEL	Peldehue	1.96	150	⇑iP	Pb	17 36 09.8	-0.5
PEL				iS	Sn	17 36 33.4	+0.3
PEL				IAML		17 36 36.8	
	comp=N,26µm,0.6s						
PEL	Peldehue	1.96	150	eP	Pb	17 36 09.6	-0.7
PEL				eS	Sn	17 36 29.4	-3.7
CO01	Juntas del Tor	2.10	46		Pb	17 36 13.6	+0.7
CO01	Juntas del Tor	2.10	46	eP	Pb	17 36 13.2	+0.3
CO01				iS	Sb	17 36 38.8	-0.6
CO01				IAML		17 36 43.8	
	comp=E,15µm,0.3s						
CO01	Juntas del Tor	2.10	46	eP	Pb	17 36 13.0	+0.1
CO01				eS	Sn	17 36 35.4	-1.4
CO01				IAML		17 36 49.9	
	comp=Z,14µm,1.3s						
MT05	Renca	2.16	155		Pb	17 36 12.3	-1.3
MT05	Renca	2.16	155	⇑iP	Pb	17 36 12.4	-1.3
MT05				iS	Sn	17 36 38.3	+0.3
MT05				IAML		17 36 45.9	
	comp=E,39µm,0.5s						
MT05	Renca	2.16	155	eP	Pn	17 36 12.0	+1.2
MT05				IAML		17 36 47.4	
	comp=Z,15µm,0.7s						
RTLS	Leoncito	2.20	100	eP	Pb	17 36 15.0	+0.4
RTLS				eS	Sn	17 36 38.4	-1.0
RTLS				IAML		17 36 44.8	
	comp=Z,13µm,0.4s						
VA05	Santo Domingo	2.21	175	Pn	Pn	17 36 12.5	+1.0
VA05	Santo Domingo	2.21	175	⇑iP	Pn	17 36 12.6	+1.0
VA05				iS	Sb	17 36 41.2	-1.2
VA05				IAML		17 36 55.6	
	comp=E,27µm,0.5s						
AUSP	Uspallata	2.23	111	eP	Pb	17 36 15.0	-0.1
AUSP				eP	Pg	17 36 15.4	-1.5
FCH	Farellones	2.29	145	⇑iP	Pb	17 36 14.8	-1.4
FCH				eS	Sn	17 36 42.1	+0.4
FCH				IAML		17 36 46.8	
	comp=E,10µm,0.3s						
MT03	Universidad Ad	2.33	151		Pb	17 36 15.2	-1.6
MT03	Universidad Ad	2.33	151	eP	Pn	17 36 15.0	+1.7
MT03				eP	Pb	17 36 15.4	-1.3
MT03				eS	Sn	17 36 40.4	-2.0
MT03				IAML		17 36 49.5	
	comp=Z,16µm,0.5s						
AROD	Rodeo	2.41	59	eP	Pb	17 36 19.0	+0.9
MT09	Talagante	2.44	163		Pn	17 36 16.6	+1.8
MT09	Talagante	2.44	163	⇑iP	Pn	17 36 16.5	+1.8
MT09				iS	Sn	17 36 45.5	+0.5
MT09				IAML		17 36 57.5	
	comp=N,21µm,0.3s						
MT01	Popeta	2.46	168		Pn	17 36 16.3	+1.3
MT01	Popeta	2.46	168	⇑iP	Pn	17 36 16.4	+1.4
MT01				iS	Sb	17 36 51.2	+1.6
MT01				IAML		17 36 56.1	
	comp=E,13µm,0.4s						
MT01	Popeta	2.46	168	eP	Pn	17 36 16.0	+1.0
MT01				IAML		17 36 56.7	
	comp=Z,9µm,0.4s						
ACCO	Cerro Coronel	2.54	71	eP	Pb	17 36 21.0	+0.7
LCO	Las Campanas	2.62	22	P	Pb	17 36 20.1	-1.7
LCO	Las Campanas	2.62	22	Pn	Pb	17 36 20.1	-1.7
LCO	Las Campanas	2.62	22	eP	Pb	17 36 20.0	-1.7
ACDV	Cuesta del Vie	2.67	62	eP	Pb	17 36 23.0	+0.5
ACDV				eS	Sg	17 37 00.6	+0.8
ACDV				IAML		17 37 06.8	
	comp=Z,7µm,2.3s						
ZON	Zonda	2.71	93	P	Pb	17 36 22.7	-0.4
ZON	Zonda	2.71	93		Pb	17 36 22.7	-0.4
ZON	Zonda	2.71	93	eP	Pb	17 36 23.0	-0.1
ZON				eS	Sg	17 37 03.2	+2.1
ZON				IAML		17 37 14.9	
	comp=Z,7µm,0.8s						
BO04	La Punta	2.74	158	Pn	Pn	17 36 20.5	+1.6
BO04	La Punta	2.74	158	⇑iP	Pn	17 36 20.6	+1.7
BO04				iS	Sn	17 36 52.5	+0.1
BO04				IAML		17 37 01.9	
	comp=N,18µm,0.4s						
LMEL	Las Melosas	2.77	150		Pn	17 36 21.5	+2.2
ASAL	Salagasta	2.80	115	eP	Pb	17 36 24.0	-0.7
ASAL				eS	Sg	17 37 06.8	+2.7
ARCO	CERRO ARCO	2.84	120	eP	Pb	17 36 25.0	-0.4
ARCO				eP	Pb	17 36 25.0	-0.4
ARCO				eS	Sg	17 37 08.3	+3.1
ARCO				IAML		17 37 10.1	
	comp=Z,11µm,0.6s						
RTCV	Cerro Valdivia	2.85	99	eP	Pb	17 36 25.0	-0.5
RTCV				eS	Sg	17 37 05.9	+0.3
RTLL	Cerro Villicun	2.88	89	eP	Pb	17 36 24.0	-2.1
RTLL				eP	Pn	17 36 24.9	+4.1
RTLL				eS	Sb	17 36 59.9	-1.8
BO01	Tunca	3.01	168	Pn	Pn	17 36 23.8	+1.4
BO01	Tunca	3.01	168	eP	Pn	17 36 24.0	+1.5
BO01				eS	Sn	17 37 00.4	+1.5
BO01				IAML		17 37 10.1	
	comp=Z,4µm,0.6s						
AAGR	Agrelo	3.03	123	eP	Pb	17 36 27.0	-1.7
AC04	Llanos de Chal	3.30	12	Pn	Pn	17 36 28.6	+2.1
AC04	Llanos de Chal	3.30	12	eP	Pn	17 36 29.0	+2.5
AC04				eS	Sb	17 37 11.4	-2.2
AC04				eS	Sg	17 37 15.4	-4.6
AC04				IAML		17 37 23.4	
	comp=Z,7µm,1.4s						
BO02	Sierra Bellavi	3.46	165		Pn	17 36 30.1	+1.4
BO02	Sierra Bellavi	3.46	165	eP	Pn	17 36 11.7	-17
BO02				eP	Pb	17 36 31.0	-4.9
BO02				eS	Sn	17 37 11.4	+1.4
BO02				IAML		17 37 25.8	
	comp=Z,9µm,0.7s						
GO05	Huala	3.56	181	Pn	Pn	17 36 30.4	+0.4
GO05	Huala	3.56	181	eP	Pn	17 36 24.9	-5.1
GO05				eP	Pb	17 36 31.0	-6.6
GO05				eS	Sb	17 37 22.9	+1.9
AVFE	Valle Fertil	3.85	79	eP	Pn	17 36 37.6	+3.5
AVFE				IAML		17 37 50.9	
	comp=Z,2µm,1.1s						
GO03	Copiap	4.09	20		Pn	17 36 39.4	+2.1
GO03	Copiap	4.09	20	eS	Sn	17 37 29.4	+3.8
VCA	Vinchina	4.15	50	eP	Pb	17 36 44.0	-3.8
VCA				IAML		17 37 57.9	
	comp=Z,6µm,1.2s						
AC06	Mina Casimiro	4.28	18		Pn	17 36 41.7	+1.7
ML02	Panimavida	4.32	175		Pn	17 36 41.3	+0.8
RFA	San Rafael	4.36	140	eP	Pn	17 36 38.4	-2.7
ACLC	CERRO LA CRUZ	4.68	66	eP	Pn	17 36 49.0	+3.4
AC02	Maricunga	5.17	28	Pn	Pn	17 36 55.1	+2.5
AC01	Pan de Azucar	5.39	12	Pn	Pn	17 36 55.5	+0.2
BI05	Punta Hualpn	5.41	192	Pn	Pn	17 36 55.4	0.0
H03N1	Juan Fernandez	6.30	250	Pn	Pn	17 37 10.2	+2.8
	baz=118,slow=20,SNR=592						
H03N1				Sn	Sn	17 38 12.5	-7.1
H03N1				T	T	17 43 51.5	
	baz=79,slow=72,SNR=3189						
H03N3	Juan Fernandez	6.31	250	Pn	Pn	17 37 10.3	+2.6
	baz=118,slow=20,SNR=482						
H03N3				Sn	Sn	17 38 15.9	-4.1
H03N3				T	T	17 43 51.0	
	baz=79,slow=72,SNR=2931						
H03N2	Juan Fernandez	6.31	250	Pn	Pn	17 37 10.6	+2.9
	baz=118,slow=20,SNR=381						
H03N2				Sn	Sn	17 38 15.0	-5.0
	SNR=6.7						
H03N2				T	T	17 43 52.2	
	baz=79,slow=72,SNR=2904						
H03S3	Juan Fernandez	6.41	246	Pn	Pn	17 37 12.4	+3.3
	SNR=23						
H03S3				Sn	Sn	17 38 18.5	-4.0
H03S3				T	T	17 44 03.4	
	baz=67						
H03S1	Juan Fernandez	6.42	246	Pn	Pn	17 37 10.2	+1.1
	SNR=18						
H03S1				T	T	17 44 00.8	
	baz=67						
H03S2	Juan Fernandez	6.43	246	Pn	Pn	17 37 11.6	+2.3
	SNR=26						
H03S2				T	T	17 44 06.7	
	baz=67						
GO02	Mina Guanaco	6.57	18		Pn	17 37 11.6	-0.1
PB14	IPOC Station P	6.91	11	Pn	Pn	17 37 14.9	-1.5
LC01	Cunco	7.44	180	Pn	Pn	17 37 23.1	-0.2
PB10	IPOC Station P	7.98	9	Pn	Pn	17 37 31.2	+0.3
PB15	IPOC Station P	8.47	15		Pn	17 37 37.5	-0.3
LR04	Corral	8.52	188		Pn	17 37 38.0	0.0
PB06	IPOC Station P	8.94	14		Pn	17 37 42.1	-2.0
LVC	Limon Verde	9.18	17	Pn	Pn	17 37 46.7	-0.9
	comp=Z,1.4nm,0.3s,baz=183,slow=13,SNR=13						
LVC				LR	LR	17 41 31.7	
	comp=Z,7µm,20.9s,baz=215,slow=39						
LVC	Limon Verde	9.18	17	P	Pn	17 37 46.6	-1.0
LVC	Limon Verde	9.18	17	Pn	Pn	17 37 46.5	-1.0
LVC	Limon Verde	9.18	17	eP	Pn	17 37 46.4	-1.2
PB04	IPOC Station P	9.20	10		Pn	17 37 47.2	-0.5
PLCA	Paso Flores	9.33	174	Pn	Pn	17 37 50.8	+1.5
	comp=Z,2.0nm,0.3s,baz=335,slow=9.3,SNR=54						
PLCA				LR	LR	17 41 26.4	
	comp=Z,5µm,19.2s,baz=346,slow=38						
PLCA	Paso Flores	9.33	174		Pn	17 37 51.0	+1.7
PLCA	Paso Flores	9.33	174	eP	Pn	17 37 50.7	+1.4
LL04	Puerto Octay	9.46	183		Pn	17 37 50.9	-0.1
PB07	IPOC Station P	9.84	11		Pn	17 37 54.7	-1.8
PB09	IPOC Station P	9.89	14	Pn	Pn	17 37 57.3	+0.1
PB02	IPOC Station P	10.23	10		Pn	17 38 00.2	-1.6
PB01	IPOC Station P	10.57	12		Pn	17 38 03.8	-2.7
PATCX	Punta Patache	10.69	9	Pn	Pn	17 38 06.6	-1.5
TA01	Diego Aracena	10.94	8		Pn	17 38 09.4	-2.0
PB08	IPOC Station P	11.51	13		Pn	17 38 16.3	-3.3
PB11	IPOC Station P	11.80	10		Pn	17 38 21.2	-2.1
GO01	Chusmiza	11.97	12		Pn	17 38 22.0	-3.9
LPA	La Plata	12.16	110	deP	Pn	17 38 29.5	+1.5
LPA				S	Sn	17 40 43.6	-0.3
LPA				SSS	SSS	17 41 48.1	
LPA				PKIKP	PKiKP	17 52 12.9	+3.0
PB12	IPOC Station P	12.85	6		Pn	17 38 33.1	-4.5
PB16	IPOC Station P	13.22	10		Pn	17 38 42.6	-0.6
ITQB	Itaqui	13.24	86	Pn	Pn	17 38 40.9	-1.9
ITQB	Itaqui	13.24	86	eP	Pn	17 38 41.5	-1.3
CPUP	Villa Florida	13.70	72	Pn	Pn	17 38 47.5	-1.6
	comp=Z,1.4nm,0.3s,baz=241,slow=12,SNR=11						
CPUP				LR	LR	17 44 32.1	
	comp=Z,9µm,18.4s,baz=248,slow=40						
CPUP	Villa Florida	13.70	72	P	Pn	17 38 46.1	-3.0
CPUP	Villa Florida	13.70	72		Pn	17 38 46.1	-3.0
CPUP	Villa Florida	13.70	72	eP	Pn	17 38 46.9	-2.2
COYC	Coyhaique	14.11	181		Pn	17 38 54.0	-0.6
LPAZ	La Paz	15.46	13	Pn	P	17 39 16.2	-2.0
	comp=Z,1.1nm,0.3s,baz=188,slow=8.0,SNR=38						
LPAZ	La Paz	15.46	13	eP	P	17 39 16.4	-1.9
PLTB	Pedras Altas	15.55	96	Pn	Pn	17 39 10.5	-3.6
PLTB	Pedras Altas	15.55	96	eP	Pn	17 39 11.5	-2.6
CPSB	Cacapava Do Su	15.83	91	eP	Pn	17 39 16.1	-1.7
GO08	Villa O'Higgin	17.01	182	P	Pn	17 39 28.9	-3.8
ITAB	Concordia	17.69	81	P	Pn	17 39 40.6	-0.8
ITAB				IAmb	IAmb	17 39 56.0	
	comp=Z,257nm,1.3s						
AQDB	Aquidauana	18.14	57	P	Pn	17 39 44.4	-2.6
AQDB	Aquidauana	18.14	57	eP	P	17 39 47.9	+0.5
SIV	San Ignacio	18.25	35	P	P	17 39 48.7	+0.2
	comp=Z,2.3nm,0.3s,baz=212,slow=8.9,SNR=34						
SIV				LR	LR	17 47 26.4	
	comp=Z,2µm,21.2s,baz=220,slow=39						
PTGB	Pitanga	18.68	74	eP	Pn	17 39 53.9	+0.3
GO09	Cerro Castillo	19.81	181	P	Pn	17 40 06.7	-0.3
TER01	Tubaro-SC	19.88	87	eP	P	17 40 06.5	+0.1
NNA	Nana	19.91	346	LR	LR	17 46 07.3	
	comp=Z,2µm,21.4s,baz=171,slow=32						
PP1B	Ponte de Pedra	20.65	52	eP	P	17 40 14.5	-0.3
PCMB	Pacaembu	20.83	67	eP	P	17 40 16.3	-0.5
VILB	Vilhena	21.30	33	eP	P	17 40 21.8	0.0
FRTB	Fartura	21.34	73	eP	P	17 40 21.5	-0.7
SALV	Santo Antonio	21.36	47	eP	P	17 40 21.8	-0.7
ETMB	Extrema	22.15	15	eP	P	17 40 32.8	+1.9
MG03	Isla Dawson	22.41	178	P	P	17 40 31.0	-2.4
ITRB	Iturama	22.59	64	eP	P	17 40 34.2	-1.5
EFI	East Falkland	22.62	157	iP	P	17 40 35.6	-0.1
EFI				pmax	pmax		
	comp=Z,89nm,1.0s						
PET01	Itanhaem-SP	22.83	78	eP	P	17 40 38.0	-0.1
BB19B	Bebedouro	23.28	69	eP	P	17 40 40.7	-2.2
RCLB	Rio Claro- Sao	23.43	73	eP	P	17 40 43.6	-0.8
USHA	Ushuaia	23.50	175	P	P	17 40 45.3	+0.5
	comp=Z,41nm,0.9s,baz=353,slow=10.0,SNR=8.4						
USHA				LR	LR	17 50 31.0	
	comp=Z,4µm,18.6s,baz=358,slow=38						
CZSB	Cruzeiro do Su	23.61	358	eP	P	17 40 48.9	+2.7
VAO	Valinhos	23.63	75	eP	P	17 40 45.4	-1.0
PDRB	Porto dos Gac	24.18	39	eP	P	17 40 51.1	-0.5
PARB	Paraibuna	24.60	77	eP	P	17 40 54.1	-1.4
IPMB	Ipameri, GO	25.24	63	eP	P	17 41 00.4	-0.9
CLDB	Colider	25.29	39	eP	P	17 41 01.4	-0.3
MAN01	Angra dos Reis	26.18	78	eP	P	17 41 09.3	-0.5
BSCB	Bom Sucesso	26.36	73	eP	P	17 41 10.1	-1.4
BDFB	Brasilia	26.83	60	P	P	17 41 15.0	-0.8
	comp=Z,41nm,0.8s,baz=242,slow=4.4,SNR=58						
BDFB				LR	LR	17 53 02.9	
	comp=Z,10µm,19.0s,baz=231,slow=39						
BDFB	Brasilia	26.83	60	P	P	17 41 14.8	-1.0
BDFB				pmax	pmax		
	comp=Z,136nm,1.1s						
BDFB	Brasilia	26.83	60	P	P	17 41 14.8	-1.0
BDFB	Brasilia	26.83	60	eP	P	17 41 15.0	-0.8
VAS01	Vassouras-RJ	26.87	77	eP	P	17 41 15.8	-0.2
SNDB	Serra Nova Dou	27.11	49	eP	P	17 41 17.8	-0.3
TBTG	Tabatinga, AM	27.18	4	eP	P	17 41 20.8	+2.1
DUB01	Friburgo-RJ	27.85	78	eP	P	17 41 24.1	-0.7
MCRA	Macar, Loja	27.99	343	P	P	17 41 27.4	+1.3
MCRA				IAmb	IAmb	17 41 41.7	
	comp=Z,36nm,1.2s						
CAM01	Campos-RJ	28.56	78	eP	P	17 41 30.4	-0.7
DIAM	Diamantina, MG	28.62	69	eP	P	17 41 31.5	-0.3
NPGB	Novo Progresso	28.75	36	eP	P	17 41 32.2	-0.6
BOSC	San Juan Bosco	28.83	346	P	P	17 41 34.1	+0.4
PEXB	Peixe	29.01	54	eP	P	17 41 35.0	-0.2
ALF01	Guarapari-ES	29.87	76	eP	P	17 41 42.1	-0.7
JANB	Januaria	29.98	63	eP	P	17 41 43.3	-0.5
MACA	Manacapuru-AM	30.04	23	eP	P	17 41 46.1	+1.9
SJMB	Sao Joao De Ma	30.42	73	eP	P	17 41 46.5	-1.1
RIB01	Linhares ES	30.77	74	eP	P	17 41 50.5	-0.1
ITTB	Itaituba	30.90	33	eP	P	17 41 51.4	-0.5
SDBA	SAO DESIDERIO	31.22	59	eP	P	17 41 54.1	-0.6
SMTB	Santa Maria do	31.84	50	eP	P	17 42 00.1	-0.1
PRPB	Parauapebas	32.52	44	eP	P	17 42 06.0	-0.2
GUA01	Guaratinga, BA	32.65	71	eP	P	17 42 07.6	+0.3
RPN	Rapa Nui	32.88	268	LR	LR	17 51 52.7	
	comp=Z,2µm,19.9s,baz=115,slow=30						
CMC01	Camacan, BA	33.55	69	eP	P	17 42 14.1	-1.0
SOTA	Rioblanco	33.70	351	eP	P	17 42 19.8	+2.9
PMSA	Palmer Station	33.70	174	LR	LR	17 55 57.3	
	comp=Z,3µm,19.2s,baz=329,slow=36						
MALB	Monte Alegre	33.80	33	eP	P	17 42 16.8	-0.4
PCON	Cinco Dias	33.86	352	eP	P	17 42 21.7	+3.3
POPC	Popayan, Colom	34.11	351	eP	P	17 42 22.7	+2.5
GDU01	Guandu, BA	34.45	67	eP	P	17 42 21.8	-1.2
PAYG	Puerto Ayora	35.23	327	eP	P	17 42 26.5	-3.2
ORTC	Ortega, Tolima	35.31	354	eP	P	17 42 29.4	-0.9
BOAV	Boa Vista	35.34	20	eP	P	17 42 31.2	+0.6
VILC	Villavicencio,	35.40	357	eP	P	17 42 33.2	+2.0
YOTC	Yotoco, Valle	35.49	352	eP	P	17 42 36.1	+4.1
NBPN	Ponto Novo - B	35.72	62	eP	P	17 42 32.8	-1.2
CHIC	Chingaza	35.92	357	eP	P	17 42 37.1	+1.1
MCPB	Macapa, AP	36.15	35	eP	P	17 42 37.3	-0.3
ROSC	El Rosal	36.16	356	eP	P	17 42 39.0	+1.0
PLMC	San Jos del P	36.39	353	eP	P	17 42 40.9	+1.2
GUY2C	Guyana, Caldas	36.62	354	eP	P	17 42 43.8	+1.8
NORC	Norcasia	36.91	355	eP	P	17 42 45.7	+1.6

SPBC San Pablo de B 36.95 356 *e*P **P** 17 42 45.7 +1.3
RUSC La Rusia 37.15 358 *e*P **P** 17 42 48.6 +2.1
CBOC Ciudad Bolivar 37.31 353 *e*P **P** 17 42 50.5 +2.9
HELC Santa Helena 37.59 354 *e*P **P** 17 42 50.5 +0.4
TAMC Tame, Arauca 37.67 0 *e*P **P** 17 42 49.6 -0.9
DBBC Dabeiba 38.47 353 *e*P **P** 17 43 01.1 +3.8
ZARC Zaragoza, Cauc 38.82 355 P **P** 17 43 00.9 +0.7
ZARC Zaragoza, Cauc 38.82 355 *e*P **P** 17 42 59.2 -1.0
NBMA Muriti-CE 39.06 59 *e*P **P** 17 43 01.7 -0.7
UREC San Jos de Ur 39.13 354 *e*P **P** 17 43 02.1 -0.7
NBPS Pedro II - PI 39.23 53 *e*P **P** 17 43 03.0 -0.8
NBAN Anadia - AL 39.46 64 *e*P **P** 17 43 04.5 -1.1
NBPB Pedra_Branca-C 39.72 56 *e*P **P** 17 43 07.2 -0.5
SDV Santo Domingo 40.12 2 P **P** 17 43 11.6 +0.4
comp=Z,5.4nm,0.6s,baz=150,slow=1.5,SNR=5.7
SDV LR LR 18 01 02.3
comp=Z,1µm,18.9s,baz=188,slow=38
SDV Santo Domingo 40.12 2 P **P** 17 43 09.2 -2.0
SDV Santo Domingo 40.12 2 *e*P **P** 17 43 12.6 +1.4
SDV Santo Domingo 40.12 2 *e*P **P** 17 43 12.4 +1.2
SDV Santo Domingo 40.12 2 P **P** 17 43 12.2 +1.0
MOTC Monteria, Cord 40.16 354 *e*P P 17 43 19.4 +8.0
MDP Montagnes des 40.70 30 LR LR 18 02 23.4
comp=Z,2µm,19.0s,baz=208,slow=40
NBRF Rio Formoso - 40.96 64 *e*P **P** 17 43 17.4 -0.6
NBMO Morrinhos-CE 40.98 53 *e*P **P** 17 43 17.0 -1.2
SJCC San Jacinto, C 41.23 355 *e*P **P** 17 43 19.4 -0.9
NBCL Cascavel-CE 41.55 56 *e*P **P** 17 43 22.8 -0.2
SRBA San Rafael, Bu 41.92 343 P **P** 17 43 27.0 +1.0
SRBA IAmb IAmb 17 43 39.1
comp=Z,54nm,1.4s
BIRV Birongo 42.02 8 P **P** 17 43 27.4 +0.8
BIRV IAmb IAmb 17 43 41.3
comp=Z,46nm,1.0s
RCBR Riachuelo 42.20 60 LR LR 18 02 04.0
comp=Z,5µm,18.9s,baz=10.0,slow=38
NBPV Pedro Velho 42.27 62 *e*P **P** 17 43 28.9 +0.1
SMRC Santa Marta, M 42.43 357 *e*P **P** 17 43 26.1 -3.8
TOSP Speyside 43.86 16 P **P** 17 43 42.8 +1.3
MLPR Magueyes Islan 49.35 6 P **P** 17 44 25.2 +0.7
BELA Belgrano 2 49.36 170 P **P** 17 44 25.0 +1.0
CRPR Cabo Rojo, PR 49.38 6 P **P** 17 44 24.9 +0.2
OBIP Obispado Ponce 49.46 7 P **P** 17 44 24.4 -0.9
CELP Cerrillos 49.49 7 P **P** 17 44 26.1 +0.4
PDPR Patillas Dam, 49.50 7 P **P** 17 44 25.3 -0.4
SJG San Juan 49.58 7 P **P** 17 44 26.3 +0.1
comp=Z,17nm,0.2s,baz=52,slow=1.3,SNR=9.6
SJG San Juan 49.58 7 P **P** 17 44 26.5 +0.3
CBYP Canovanas 49.76 7 P **P** 17 44 27.4 -0.3
CUPR Culebra, Puert 49.87 8 P **P** 17 44 28.3 -0.2
PTCN Pitcairn Islan 51.20 262 P P 17 44 33.1 -5.6
VNA3 Neumayer Olymp 51.66 159 P **P** 17 44 42.2 +0.7
VNA2 Neumayer--Watz 52.30 158 P **P** 17 44 46.9 +0.6
baz=284,slow=9.0
CMIG Matias Romero 53.09 332 LR LR 18 03 24.7
comp=Z,540nm,18.1s,baz=152,slow=31
SNAA Sanae 53.89 159 P **P** 17 44 58.6 +0.5
SNAA Sanae 53.89 159 LR LR 18 06 10.9
comp=Z,708nm,20.6s,baz=1.0,slow=34
SNAA Sanae 53.89 159*ce***P P** 17 44 58.3 +0.2
SNAA pmax pmax
comp=Z,28nm,0.8s
SNAA Sanae 53.89 159 P **P** 17 44 57.9 -0.2
TROLL Troll, Antarti 55.60 159 P **P** 17 45 10.9 +0.3
QSPA South Pole Qui 58.78 180 P **P** 17 45 34.0 +0.8
comp=Z,14nm,0.8s,baz=152,slow=1.7,SNR=65
QSPA LR LR 18 10 25.1
comp=Z,455nm,20.3s,baz=166,slow=36
QSPA South Pole Qui 58.78 180 P **P** 17 45 34.0 +0.8
QSPA South Pole Qui 58.78 180 ⇑P **P** 17 45 34.5 +1.3
QSPA pP sP 17 45 48.1 +14
250A Grady 64.54 346 P **P** 17 46 11.7 -0.4
152A Waverly Hall 64.92 348 P **P** 17 46 13.6 -0.9
152A IAmb IAmb 17 46 31.9
comp=Z,18nm,0.9s
833A Chaparral WMA, 64.97 333 P **P** 17 46 17.7 +2.8
baz=154
HKT Hockley 65.17 337 P **P** 17 46 15.5 -0.7
HKT pmax pmax
comp=Z,8.0nm,1.0s
HKT Hockley 65.17 337 P **P** 17 46 15.5 -0.7
SBA Scott Base 65.61 191 P P 17 46 30.3 +12
SBA pP PcP 17 46 36.1 -14
LPIG La Paz 66.37 322 LR LR 18 10 26.2
comp=Z,251nm,18.1s,baz=124,slow=32
Y49A Blount Mountai 66.39 347 P **P** 17 46 24.6 +0.5
HPIG 66.42 327 P **P** 17 46 23.8 -0.8
HPIG IAmb IAmb 17 46 36.4
comp=Z,19nm,1.2s
VNDA Vanda 66.63 191 P **P** 17 46 26.8 +1.6
comp=Z,1.3nm,0.8s,baz=119,slow=2.5,SNR=3.8
VNDA LR LR 18 11 40.3
comp=Z,194nm,19.5s,baz=138,slow=32
VNDA Vanda 66.63 191 P **P** 17 46 24.1 -1.0
VNDA pmax pmax
comp=Z,3.0nm,1.2s
VNDA Vanda 66.63 191 P **P** 17 46 24.1 -1.0
X51A Calhoun 66.79 348 P **P** 17 46 26.6 0.0
FPAL Fort Paine 66.90 348 P **P** 17 46 27.8 +0.4
FPAL IAmb IAmb 17 46 50.9
comp=Z,15nm,1.3s
BG3 Lake Jocassee 66.90 350 P **P** 17 46 27.3 0.0
BG3 IAmb IAmb 17 46 29.1
comp=Z,13nm,0.9s
TAOE Nuku Hiva Isla 66.94 274 *e*S **S** 17 55 27.7 +5.4
comp=Z,419nm,26.2s
TAOE Nuku Hiva Isla 66.94 274 *e*LR LR 18 06 53.5
comp=Z,920nm,26.2s
JCT Junction City 67.06 334 P **P** 17 46 28.5 0.0
JCT pmax pmax
comp=Z,13nm,0.9s
JCT Junction City 67.06 334 P **P** 17 46 28.5 0.0
JCT IAmb IAmb 17 46 49.8
comp=Z,13nm,0.9s
V58A Windy Hill, Pi 67.23 354 P **P** 17 46 29.8 +0.5
V58A IAmb IAmb 17 46 47.5
comp=Z,16nm,1.1s
V58A Windy Hill, Pi 67.23 354 P **P** 17 46 30.5 +1.2
baz=173
V58A P **P** 17 46 30.5 +1.2
baz=173
W50A Signal Mountai 67.49 348 P **P** 17 46 31.6 +0.5
W50A IAmb IAmb 17 46 55.0
comp=Z,20nm,0.9s
V55A Taylorsville 67.52 352 P **P** 17 46 32.2 +1.0
V55A IAmb IAmb 17 46 32.9
comp=Z,15nm,0.8s
V53A Saluda 67.55 350 P **P** 17 46 32.4 +1.0
V53A IAmb IAmb 17 46 33.0
comp=Z,12nm,0.8s
TX31 Lajitas Ar. Si 67.60 330 P **P** 17 46 32.6 +0.7
TX31 Lajitas Ar. Si 67.60 330 P **P** 17 46 34.1 +2.1
baz=151
TX32 Lajitas Array 67.60 330 P **P** 17 46 32.9 +0.9
TX32 IAmb IAmb 17 46 53.2
comp=Z,18nm,1.5s
TXAR Lajitas Array 67.60 330 P **P** 17 46 34.0 +2.0
comp=Z,1.2nm,0.5s,baz=156,slow=8.0,SNR=13
TXAR LR LR 18 12 18.8
comp=Z,694nm,18.4s,baz=146,slow=33
TXAR Lajitas Array 67.60 330 P **P** 17 46 32.1 +0.1
TXAR Lajitas Array 67.60 330 P **P** 17 46 32.1 +0.1
CPCT Cooper Cave 67.60 349 P **P** 17 46 32.3 +0.6
CPCT IAmb IAmb 17 46 33.3
comp=Z,18nm,1.1s
SWET Sewanee 67.62 348 P **P** 17 46 29.8 -2.1
SWET IAmb IAmb 17 46 53.2
comp=Z,17nm,0.8s
OXF Oxford 67.66 344 P **P** 17 46 31.8 -0.3
OXF pmax pmax
comp=Z,40nm,0.7s
OXF Oxford 67.66 344 P **P** 17 46 31.8 -0.3
TKL Tuckaleechee C 67.68 350 P **P** 17 46 32.3 0.0
TKL pmax pmax
comp=Z,15nm,0.9s
TKL Tuckaleechee C 67.68 350 P **P** 17 46 32.3 0.0
TKL IAmb IAmb 17 46 33.5
comp=Z,15nm,0.9s
TKL Tuckaleechee C 67.68 350 P **P** 17 46 33.3 +1.1
baz=169
PLAL Pickwick Lake 67.82 346 P **P** 17 46 32.8 -0.2
V52A Sevierville 67.84 350 P **P** 17 46 33.8 +0.6
V52A IAmb IAmb 17 46 34.9
comp=Z,15nm,0.9s

U56A King 67.91 353 P **P** 17 46 34.9 +1.3
U56A IAmb IAmb 17 46 36.6
comp=Z,11nm,0.6s
V51A Loudon 67.92 349 P **P** 17 46 34.4 +0.7
V51A IAmb IAmb 17 46 37.5
comp=Z,18nm,1.1s
TBI Tubuai 68.10 255 *e*S **S** 17 55 43.0 +7.2
comp=Z,461nm,26.0s
TBI Tubuai 68.10 255 *e*LR LR 18 07 15.9
comp=Z,2µm,25.8s,baz=110
TBI Tubuai 68.10 255 *e*T T 19 00 42.3
comp=Z,15nm,0.2s
SYO Syowa Base 68.18 159⇑*e*P **P** 17 46 32.8 -2.2
SYO Syowa Base 68.18 159⇓*e*pP pP 17 46 41.7 +5.9
U54A Nelsons Funny 68.25 351 P **P** 17 46 36.5 +0.6
U54A Nelsons Funny 68.25 351 P **P** 17 46 36.9 +1.0
baz=171
U54A P **P** 17 46 36.9 +1.0
baz=171
V48A Smith Brothers 68.30 347 P **P** 17 46 37.2 +1.1
V48A IAmb IAmb 17 46 57.6
comp=Z,20nm,1.0s
V48A Smith Brothers 68.30 347 P **P** 17 46 37.5 +1.4
baz=166,SNR=5.0
CLTN Cedars of Leba 68.54 347 P **P** 17 46 38.5 +0.9
CLTN IAmb IAmb 17 46 48.1
comp=Z,14nm,0.9s
UALR University of 68.64 342 P **P** 17 46 38.9 +0.7
UALR IAmb IAmb 17 46 39.9
comp=Z,18nm,1.3s
Z35A Perchaven, San 68.75 337 P **P** 17 46 38.1 -0.8
U49A Red Boiling Sp 68.85 348 P **P** 17 46 39.9 +0.3
U49A IAmb IAmb 17 46 52.1
comp=Z,24nm,1.4s
U49A Red Boiling Sp 68.85 348 P **P** 17 46 40.2 +0.7
baz=167
WVT Waverly 68.87 346 P **P** 17 46 40.3 +0.6
WVT pmax pmax
comp=Z,25nm,1.0s
WVT Waverly 68.87 346 P **P** 17 46 40.2 +0.6
WVT Waverly 68.87 346 P **P** 17 46 40.8 +1.2
baz=165,SNR=9.9
WVT Waverly 68.87 346 ⇓P **P** 17 46 40.9 +1.2
WVT pP sP 17 46 52.5 +12
WVT sP **PcP** 17 46 56.9 -7.2
ABTX Abilene, Hawle 68.93 335 P **P** 17 46 41.2 +1.0
ABTX IAmb IAmb 17 46 51.3
comp=Z,16nm,0.9s
W41B Gary Mavity, V 68.99 342 P **P** 17 46 41.1 +0.7
W41B IAmb IAmb 17 46 53.4
comp=Z,26nm,1.4s
JSRW J. Sargeant Re 69.01 355 P **P** 17 46 39.6 -0.8
S57A Dark Hollow, R 69.17 354 P **P** 17 46 41.1 -0.4
S57A IAmb IAmb 17 46 43.4
comp=Z,9.6nm,0.8s
W39A Magazine 69.42 341 P **P** 17 46 45.0 +1.9
W39A IAmb IAmb 17 46 54.5
comp=Z,17nm,0.9s
W39A Magazine 69.42 341 P **P** 17 46 45.1 +2.0
baz=160,SNR=8.5
T47A Sharon Grove 69.56 347 P **P** 17 46 44.4 +0.5
T47A Sharon Grove 69.56 347 P **P** 17 46 45.0 +1.0
baz=166
LCAR Lake Charles 69.56 343 P **P** 17 46 43.7 -0.2
LCAR Lake Charles 69.56 343 P **P** 17 46 45.3 +1.3
baz=162,SNR=9.2
S51A Beattyville 69.60 350 P **P** 17 46 44.7 +0.6
S51A IAmb IAmb 17 46 47.2
comp=Z,9.3nm,0.8s
S51A Beattyville 69.60 350 P **P** 17 46 44.9 +0.8
baz=169
S51A P **P** 17 46 44.9 +0.8
baz=169
FCAR Ozark Folk Cen 69.63 343 P **P** 17 46 45.0 +0.6
R55A Marlinton 69.80 353 P **P** 17 46 46.8 +1.4
R55A IAmb IAmb 17 47 10.3
comp=Z,17nm,1.0s
R55A Marlinton 69.80 353 P **P** 17 46 47.3 +1.9
baz=172
R55A P **P** 17 46 47.3 +1.9
baz=172
U40A Yellville 70.26 342 P **P** 17 46 48.4 +0.1
U40A IAmb IAmb 17 47 01.6
comp=Z,11nm,0.9s
U40A Yellville 70.26 342 P **P** 17 46 49.7 +1.4
baz=161,SNR=7.4
U40A P **P** 17 46 49.7 +1.4
baz=161,SNR=7.4
R50A Paris 70.34 350 P **P** 17 46 48.6 -0.1
MNTX Cornudas Mount 70.38 330 P **P** 17 46 49.4 +0.3
MNTX IAmb IAmb 17 46 59.9
comp=Z,10.0nm,0.9s
MNTX Cornudas Mount 70.38 330 P **P** 17 46 50.3 +1.2
baz=150
TVO Taravao 70.42 261 *e*T T 19 03 37.5
comp=Z,1.1nm,0.2s
R49A Shelbyville 70.48 349 P **P** 17 46 49.6 +0.1
R49A IAmb IAmb 17 47 12.4
comp=Z,18nm,1.4s
HHAR Hobbs 70.49 341 P **P** 17 46 50.2 +0.5
HHAR IAmb IAmb 17 47 19.7
comp=Z,13nm,0.9s
HHAR Hobbs 70.49 341 P **P** 17 46 50.7 +1.1
baz=160
Q54A Coxs Mills 70.57 353 P **P** 17 46 50.1 +0.1
Q54A IAmb IAmb 17 46 51.1
comp=Z,8.7nm,0.8s
PPT2 Papeete2 70.78 261 *e*S **S** 17 56 14.5 +6.7
comp=Z,464nm,26.8s
PPT2 Papeete2 70.78 261 *e*LR LR 18 08 29.5
comp=Z,710nm,23.8s,baz=109
PPT Papeete 70.79 261 LR LR 18 10 26.7
comp=Z,239nm,21.5s,baz=144,slow=30
P57A Homestead Farm 70.80 355 P **P** 17 46 53.3 +1.9
P57A IAmb IAmb 17 46 54.6
comp=Z,15nm,0.8s
MGMO Mountain Grove 70.87 343 P **P** 17 46 53.1 +1.1
MGMO IAmb IAmb 17 47 13.6
comp=Z,14nm,1.2s
Q51A Peebles 70.92 351 P **P** 17 46 52.3 +0.1
Q51A IAmb IAmb 17 47 10.3
comp=Z,14nm,0.8s
MVL Millersville 71.21 356 P **P** 17 46 55.1 +1.2
MVL IAmb IAmb 17 47 17.4
comp=Z,18nm,1.2s
FVM French Village 71.22 345 P **P** 17 46 54.6 +0.6
FVM pmax pmax
comp=Z,30nm,1.3s
FVM French Village 71.22 345 P **P** 17 46 54.6 +0.6
FVM IAmb IAmb 17 46 55.8
comp=Z,30nm,1.2s
FVM French Village 71.22 345 P **P** 17 46 55.0 +1.0
baz=163
MSTX Muleshoe 71.30 333 P **P** 17 46 55.7 +0.9
MSTX Muleshoe 71.30 333 P **P** 17 46 56.6 +1.9
baz=152
P51A Williamsport 71.33 351 P **P** 17 46 55.2 +0.5
P52A Corning 71.36 352 P **P** 17 46 55.2 +0.4
PAGS Pennsylvania G 71.45 356 P **P** 17 46 56.9 +1.5
PAGS IAmb IAmb 17 47 16.0
comp=Z,24nm,1.0s
CCM Cathedral Cave 71.47 344 P **P** 17 46 56.2 +0.6
CCM pmax pmax
comp=Z,14nm,0.8s
CCM Cathedral Cave 71.47 344 P **P** 17 46 56.2 +0.6
CCM IAmb IAmb 17 46 57.4
comp=Z,14nm,0.8s
CCM Cathedral Cave 71.47 344 P **P** 17 46 56.8 +1.2
baz=163,SNR=8.5
CCM Cathedral Cave 71.47 344 P **P** 17 46 57.1 +1.6
CCM pP sP 17 47 06.2 +10
P49A Miami Univ. Ec 71.62 350 P **P** 17 46 56.9 +0.5
P49A IAmb IAmb 17 46 59.1
comp=Z,12nm,0.8s
S39A Bolivar 71.65 342 P **P** 17 46 57.4 +0.7
S39A IAmb IAmb 17 46 58.5
comp=Z,20nm,1.3s
S39A Bolivar 71.65 342 P **P** 17 46 57.9 +1.3
baz=161,SNR=6.6
P48A Milroy 71.67 349 P **P** 17 46 56.6 -0.1
P48A IAmb IAmb 17 47 18.9
comp=Z,31nm,1.3s
LUPA Lehigh Univers 71.76 357 P **P** 17 46 58.4 +1.2
LUPA IAmb IAmb 17 47 00.9
comp=Z,12nm,1.0s
O52A Adamsville 71.80 352 P **P** 17 46 58.3 +0.8
O52A IAmb IAmb 17 46 59.8
comp=Z,14nm,0.7s
319A Douglas 71.85 327 P **P** 17 46 58.1 0.0
R40A Maddies Statio 71.94 343 P **P** 17 46 55.6 -2.8
R40A IAmb IAmb 17 47 00.1
comp=Z,16nm,0.7s
ACSO Alum Creek Sta 72.06 351 P **P** 17 46 59.4 +0.4
ACSO Alum Creek Sta 72.06 351 P **P** 17 46 59.9 +0.8
baz=170,SNR=7.4
N58A Sunbury 72.06 356 P **P** 17 47 00.9 +1.8
baz=176
N58A P **P** 17 47 00.9 +1.8
baz=176
N59A State Game Lan 72.09 357 P **P** 17 47 00.6 +1.3
N59A IAmb IAmb 17 47 11.5
comp=Z,24nm,1.1s
121A Cookes Peak, D 72.14 329 P **P** 17 47 00.4 +0.5
121A IAmb IAmb 17 47 12.7
comp=Z,21nm,1.1s
Q49A Covington 72.21 350 P **P** 17 47 00.4 +0.5
Q49A IAmb IAmb 17 47 01.2
comp=Z,16nm,0.8s
ODNJ Ogdensburg 72.21 358 P **P** 17 47 01.8 +1.9
ODNJ IAmb IAmb 17 47 02.7
comp=Z,12nm,0.9s
ODNJ Ogdensburg 72.21 358 P **P** 17 47 01.9 +2.0
baz=178
N54A Moraine State 72.44 354 P **P** 17 47 02.4 +1.0
N54A IAmb IAmb 17 47 04.8
comp=Z,15nm,0.7s
N54A Moraine State 72.44 354 P **P** 17 47 02.6 +1.3
baz=173
P43A Skaggs, Pawnee 72.61 346 P **P** 17 47 02.7 +0.4
P43A IAmb IAmb 17 47 17.3
comp=Z,16nm,0.8s
M55A Ridgway 72.83 355 P **P** 17 47 04.7 +1.0
M55A IAmb IAmb 17 47 05.9
comp=Z,18nm,0.8s
NPNY Mohonk Preserv 72.87 358 P **P** 17 47 05.9 +2.1
baz=178,SNR=5.3
N49A Columbus Grove 72.90 350 P **P** 17 47 05.0 +0.9
N49A Columbus Grove 72.90 350 P **P** 17 47 04.9 +0.9
baz=169,SNR=10.0
N49A P **P** 17 47 04.9 +0.9
baz=169,SNR=10.0
M54A Oil Creek Stat 72.95 354 P **P** 17 47 05.2 +0.9
M54A IAmb IAmb 17 47 05.8
comp=Z,15nm,0.8s
M53A WI Miller and 72.98 353 P **P** 17 47 04.9 +0.4
M53A IAmb IAmb 17 47 07.8
comp=Z,17nm,0.8s
BNM Barren Site 73.02 330 P **P** 17 47 05.8 +0.6
P40A Paris 73.07 344 P **P** 17 47 03.6 -1.4
P40A IAmb IAmb 17 47 07.5
comp=Z,25nm,0.9s
N47A Urbana 73.09 349 P **P** 17 47 05.0 -0.2
N47A IAmb IAmb 17 47 05.9
comp=Z,21nm,0.8s
M52A Chesterland 73.15 353 P **P** 17 47 05.0 -0.6
L59A Walton 73.33 358 P **P** 17 47 08.3 +1.7
L59A IAmb IAmb 17 47 09.4
comp=Z,20nm,0.8s
L59A Walton 73.33 358 P **P** 17 47 08.7 +2.1
baz=177,SNR=5.8
L59A P **P** 17 47 08.7 +2.1
baz=177,SNR=5.8
TUC Tucson 73.33 326 P **P** 17 47 08.1 +1.2
TUC pmax pmax
comp=Z,9.0nm,1.4s
TUC Tucson 73.33 326 P **P** 17 47 08.1 +1.2
L56A Greenwood 73.41 356 P **P** 17 47 08.0 +0.9
L56A IAmb IAmb 17 47 09.1
comp=Z,21nm,0.8s
P38A Dawn 73.52 343 P **P** 17 47 08.0 +0.2
P38A IAmb IAmb 17 47 26.7
comp=Z,11nm,0.9s
L61B Northampton 73.54 359 P **P** 17 47 09.4 +1.6
L61B IAmb IAmb 17 47 10.4
comp=Z,17nm,0.8s
L61B Northampton 73.54 359 P **P** 17 47 09.7 +1.9
baz=179,SNR=5.2
ANMO Albuquerque 73.63 331 LR LR 18 15 09.8
comp=Z,792nm,20.2s,baz=156,slow=32
ANMO Albuquerque 73.63 331*ce***P P** 17 47 11.0 +2.2
ANMO pmax pmax
comp=Z,13nm,1.4s
ANMO Albuquerque 73.63 331 P P 17 47 10.4 +1.6
WVNY West Valley, N 73.75 355 P **P** 17 47 09.7 +0.6
WVNY West Valley, N 73.75 355 P **P** 17 47 10.9 +1.8
baz=174
LIC Lamto 73.82 72 *e*P **P** 17 47 10.3 +0.1
comp=Z,45nm,0.7s
N41A Harden Midland 73.92 345 P **P** 17 47 10.8 +0.8
N41A IAmb IAmb 17 47 35.4
comp=Z,19nm,0.8s
K57A Scipio Center 73.94 356 P **P** 17 47 11.5 +1.3
K57A IAmb IAmb 17 47 11.7
comp=Z,11nm,0.8s
L48A N Adams 73.94 350 P **P** 17 47 10.1 0.0
L48A IAmb IAmb 17 47 11.6
comp=Z,22nm,0.8s
MMNY Mt. Morris Dam 74.02 355 P **P** 17 47 11.4 +0.8
214A Organ Pipe Nat 74.03 325 P **P** 17 47 11.3 +0.4
TIC Toumodi 74.07 72 *e*P **P** 17 47 11.2 -0.4
KIC Kosan Boka 74.14 72 *e*P **P** 17 47 11.7 -0.3
comp=Z,79nm,0.7s
DBIC Dimbokro 74.22 72 P **P** 17 47 12.3 -0.1
comp=Z,52nm,0.6s,baz=240,slow=5.6,SNR=55
DBIC LR LR 18 16 39.7
comp=Z,1µm,21.3s,baz=232,slow=33
DBIC Dimbokro 74.22 72 P **P** 17 47 11.7 -0.7
DBIC pmax pmax
comp=Z,54nm,0.7s
DBIC Dimbokro 74.22 72 P **P** 17 47 11.7 -0.7
SFX San Felipe 74.33 323 P **P** 17 47 13.1 +0.4
J61A Chester 74.43 359 P **P** 17 47 14.3 +1.4
ACCN Adirondack Com 74.48 359 P **P** 17 47 14.2 +0.9
ACCN IAmb IAmb 17 47 36.1
comp=Z,30nm,1.4s
K50A Casco 74.52 352 P **P** 17 47 13.5 0.0
T25A Trinidad 74.72 334 P **P** 17 47 17.6 +2.4
NCB Newcomb 75.08 358 P **P** 17 47 17.4 +0.7
NCB IAmb IAmb 17 47 41.6
comp=Z,16nm,1.3s
I63A Otisfield 75.14 1 P **P** 17 47 18.6 +1.5
WCNY West Carthage 75.14 357 P **P** 17 47 18.7 +1.6
baz=177,SNR=5.4
PECO Prince Edward 75.16 356 P **P** 17 47 18.2 +1.0
J47A Sunmer 75.27 350 P **P** 17 47 17.9 +0.1
J47A Sunmer 75.27 350 P **P** 17 47 17.7 -0.1
baz=169
J47A P **P** 17 47 17.7 -0.1
baz=169
L40A Anamosa 75.29 345 P **P** 17 47 18.1 +0.1
L40A IAmb IAmb 17 47 19.9
comp=Z,22nm,0.8s
L40A Anamosa 75.29 345 P **P** 17 47 18.9 +1.0
baz=163,SNR=5.7
LBNH Lisbon 75.32 360 P **P** 17 47 17.3 -0.8
LBNH pmax pmax
comp=Z,14nm,0.8s
LBNH Lisbon 75.32 360 P **P** 17 47 17.3 -0.8
LBNH IAmb IAmb 17 47 21.4
comp=Z,14nm,0.8s
X16A Lo Mia Camp, P 75.38 327 P **P** 17 47 19.0 +0.1
MAW Mawson 75.58 164 P **P** 17 47 19.8 +0.3
comp=Z,15nm,0.8s,baz=183,slow=3.9,SNR=12
MAW LR LR 18 23 55.1
comp=Z,836nm,18.2s,baz=226,slow=38
MAW Mawson 75.58 164 P **P** 17 47 19.6 +0.2
MAW pmax pmax
comp=Z,7.0nm,1.2s
MAW Mawson 75.58 164 P **P** 17 47 19.6 +0.2
SDCO Great Sand Dun 75.67 333 P **P** 17 47 22.2 +1.5
SDCO Great Sand Dun 75.67 333 P **P** 17 47 22.9 +2.2
baz=151
Y14A Wickenburg 75.73 326 P **P** 17 47 20.7 -0.1
LONY Lake Ozonia 75.74 358 P **P** 17 47 21.2 +0.7
LONY IAmb IAmb 17 47 32.0
comp=Z,27nm,1.2s
JFWS Jewell Farm 75.90 346 P **P** 17 47 22.1 +0.6
JFWS pmax pmax
comp=Z,21nm,0.9s
JFWS Jewell Farm 75.90 346 P **P** 17 47 22.1 +0.6
JFWS IAmb IAmb 17 47 23.1

comp=Z,21nm,0.9s
JFWS Jewell Farm 75.90 346 P **P** **17 47 22.6 +1.1**
baz=164
SUR Sutherland 75.93 119 LR LR 18 16 34.8
comp=Z,727nm,20.2s,baz=240,slow=32
SUR Sutherland 75.93 119 P **P** **17 47 22.5 +0.1**
FRNY Flat Rock 75.93 359 P **P** **17 47 22.4 +0.8**
FRNY IAmb IAmb 17 47 24.7
comp=Z,16nm,0.8s
FRNY Flat Rock 75.93 359 P **P** **17 47 23.3 +1.7**
baz=178,SNR=6.2
BMNY Brushton-Moira 75.96 358 P **P** **17 47 23.1 +1.4**
baz=178,SNR=7.3
SADO Sadowa 76.14 355 P **P** **17 47 23.4 +0.6**
SADO IAmb IAmb 17 47 24.3
comp=Z,18nm,0.7s
WUAZ Wupatki 76.26 328 P **P** **17 47 22.9 -1.0**
WUAZ IAmb IAmb 17 47 36.8
comp=Z,18nm,1.1s
G62A West of Eustis 76.31 1 P **P** **17 47 25.0 +1.2**
G62A West of Eustis 76.31 1 P **P** **17 47 25.7 +2.0**
baz=181,SNR=5.5
G62A P **P** **17 47 25.7 +2.0**
baz=181,SNR=5.5
MVCO Mesa Verde 76.42 331 P **P** **17 47 25.5 +0.6**
MVCO IAmb IAmb 17 47 36.7
comp=Z,24nm,1.3s
BAR Barrett 76.57 322 P **P** **17 47 26.2 +0.6**
BAR IAmb IAmb 17 47 37.7
comp=Z,18nm,0.9s
Q24A Divide 76.60 334 P **P** **17 47 27.6 +1.6**
Q24A IAmb IAmb 17 47 37.7
comp=Z,25nm,1.1s
F63A Nahmakanta, Br 76.83 2 P **P** **17 47 27.4 +0.7**
F63A IAmb IAmb 17 47 38.1
comp=Z,22nm,1.2s
I40A Norwalk 76.92 346 P **P** **17 47 27.6 +0.4**
I40A IAmb IAmb 17 47 31.4
comp=Z,10nm,0.6s
F64A Sherman 77.01 3 P **P** **17 47 28.8 +1.1**
F64A IAmb IAmb 17 47 31.9
comp=Z,17nm,0.8s
W13A Hualapai Mount 77.09 326 P **P** **17 47 28.3 -0.4**
PFO Pinyon Flats O 77.19 323 LR LR 18 14 33.4
comp=Z,471nm,21.0s,baz=144,slow=30
PFO Pinyon Flats O 77.19 323 *i* P **P** **17 47 30.6 +1.4**
PFO pmax pmax
comp=Z,40nm,1.9s
PFO Pinyon Flats O 77.19 323 P **P** **17 47 29.9 +0.8**
LMN Caledonia Moun 77.20 5 P **P** **17 47 29.6 +0.8**
PV01 Paradox Valley 77.23 331 P **P** **17 47 29.4 -0.1**
TRQ Mont Tremblant 77.34 358 P **P** **17 47 30.5 +0.9**
PV13 Radium Mtn., P 77.36 331 P **P** **17 47 30.8 +0.6**
PV02 Paradox Valley 77.36 331 P **P** **17 47 30.2 +0.1**
PV02 IAmb IAmb 17 47 42.0
comp=Z,14nm,1.1s
PV15 Paradox Valley 77.37 331 P **P** **17 47 29.9 -0.4**
PV05 Paradox Valley 77.41 331 P **P** **17 47 31.5 +1.1**
U15A North Rim 77.43 328 P **P** **17 47 32.0 +1.3**
PV03 Paradox Valley 77.45 331 P **P** **17 47 31.4 +0.8**
SMCO Snowmass 77.48 333 P **P** **17 47 30.9 -0.1**
SMCO IAmb IAmb 17 47 47.8
comp=Z,17nm,1.0s
PV12 Saucer Basin, 77.48 331 P **P** **17 47 30.1 -0.7**
ISCO Idaho Springs 77.50 334 P **P** **17 47 30.4 -0.6**
ISCO pmax pmax
comp=Z,16nm,1.5s
ISCO Idaho Springs 77.50 334 P **P** **17 47 30.4 -0.6**
ISCO Idaho Springs 77.50 334 P **P** **17 47 33.2 +2.2**
baz=151
PV17 East Wray Mesa 77.52 331 P **P** **17 47 31.5 +0.5**
PV16 Nyswonger Mesa 77.53 331 P **P** **17 47 32.4 +1.3**
RAR Rarotonga 77.55 253 LR LR 18 14 31.4
comp=Z,169nm,20.0s,baz=118,slow=30
PV04 Paradox Valley 77.59 331 P **P** **17 47 32.2 +0.8**
PV14 Lion Creek, Pa 77.62 331 P **P** **17 47 31.8 +0.2**
I37A Lemond, Waseca 77.64 344 P **P** **17 47 31.9 +0.7**
I37B Waseca 77.64 344 P **P** **17 47 32.4 +1.1**
baz=161
ELS Elsinore Mount 77.72 322 P **P** **17 47 30.3 -1.8**
KNB Kanab 78.15 328 P **P** **17 47 37.1 +2.6**
KNB pmax pmax
comp=Z,14nm,1.1s
KNB Kanab 78.15 328 P **P** **17 47 37.1 +2.6**
KNB IAmb IAmb 17 47 46.8
comp=Z,14nm,1.1s
ECSD EROS Data Cent 78.17 342 P **P** **17 47 35.0 +0.8**
ECSD IAmb IAmb 17 47 36.0
comp=Z,16nm,0.8s
ECSD EROS Data Cent 78.17 342 P **P** **17 47 34.9 +0.6**
baz=159
D62A Allapoint, All 78.20 2 P **P** **17 47 35.0 +0.7**
D62A Allapoint, All 78.20 2 P **P** **17 47 36.4 +2.0**
baz=182,SNR=8.2
D62A P **P** **17 47 36.4 +2.0**
baz=182,SNR=8.2
E46A Sault Ste Mari 78.27 351 P **P** **17 47 35.3 +0.6**
LCMT Little Creek M 78.34 327 P **P** **17 47 34.7 -0.8**
LATQ La Tuque 78.47 359 P **P** **17 47 35.3 -0.5**
LATQ IAmb IAmb 17 47 37.6
comp=Z,21nm,0.9s
N23A Red Feather La 78.58 334 P **P** **17 47 36.5 -0.5**
E43A Lone Tree Farm 78.66 349 P **P** **17 47 37.9 +1.0**
E43A IAmb IAmb 17 47 38.8
comp=Z,15nm,0.8s
GSC Goldstone, Bar 78.70 324 P **P** **17 47 39.0 +1.5**
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 78.70 324 P **P** **17 47 39.0 +1.5**
MTPU Mount Pierson 78.71 329 P **P** **17 47 40.2 +2.4**
O20A White River Ci 78.81 332 P **P** **17 47 39.5 +1.4**
O20A IAmb IAmb 17 47 50.5
comp=Z,20nm,1.2s
CCUT Cedar City 78.84 328 P **P** **17 47 40.2 +1.8**
CCUT IAmb IAmb 17 47 50.9
comp=Z,14nm,1.1s
SHPR Sheep Range 78.84 326 P **P** **17 47 40.1 +1.7**
SRU San Rafael Swe 78.88 330 P **P** **17 47 40.0 +1.5**
SRU pmax pmax
comp=Z,11nm,1.1s
SRU San Rafael Swe 78.88 330 P **P** **17 47 40.0 +1.5**
Q16A Castle Valley 78.99 330 P **P** **17 47 40.8 +1.6**
Q16A IAmb IAmb 17 47 50.9
comp=Z,19nm,1.3s
MSU Marysvale 79.09 329 P **P** **17 47 40.4 +0.6**
MSU Marysvale 79.09 329 P **P** **17 47 40.4 +0.6**
P18A Preston Nutter 79.19 331 P **P** **17 47 40.5 +0.1**
P18A IAmb IAmb 17 47 56.3
comp=Z,16nm,1.0s
P17A Butcher Ranch, 79.27 330 P **P** **17 47 41.3 +0.7**
P17A IAmb IAmb 17 47 52.8
comp=Z,18nm,1.2s
TMUT Trail Mountain 79.32 330 P **P** **17 47 40.2 -0.9**
VLDQ Val d'Or 79.36 356 P **P** **17 47 41.8 +1.2**
VLDQ IAmb IAmb 17 47 52.0
comp=Z,30nm,1.1s
F36A Milaca 79.42 345 P **P** **17 47 41.3 +0.3**
F36A Milaca 79.42 345 P **P** **17 47 41.6 +0.6**
baz=161
KOWA Kowa 79.44 66 P **P** **17 47 41.5 -0.3**
PRN Pahroc Range 79.51 326 P **P** **17 47 42.4 +0.4**
PRN IAmb IAmb 17 47 55.0
comp=Z,16nm,1.1s
D41A Chassel 79.58 348 P **P** **17 47 42.8 +0.9**
RDMU Red Mountain 79.71 332 P **P** **17 47 44.3 +1.2**
RDMU IAmb IAmb 17 47 54.3
comp=Z,12nm,1.0s
TPNV Topopah Spring 79.72 325 P **P** **17 47 42.1 -1.0**
TPNV pmax pmax
comp=Z,12nm,1.1s
TPNV Topopah Spring 79.72 325 P **P** **17 47 42.1 -1.0**
TSUM Tsumeb 79.76 106 LR LR 18 19 11.5
comp=Z,887nm,19.1s,baz=236,slow=33
TSUM Tsumeb 79.76 106 P **P** **17 47 43.3 -0.5**
TSUM IAmb IAmb 17 47 44.9
comp=Z,11nm,0.8s
ISA Isabella, Lake 79.83 323 P **P** **17 47 45.3 +1.7**
ISA pmax pmax
comp=Z,14nm,1.2s
ISA Isabella, Lake 79.83 323 P **P** **17 47 45.3 +1.7**
ISA IAmb IAmb 17 47 56.5
comp=Z,14nm,1.1s
PSUT Pine Spring 79.86 328 P **P** **17 47 44.7 +0.8**
NLU North Lily Min 80.24 330 P **P** **17 47 47.0 +1.1**

DUG Dugway, Tooele 80.76 329 P **P** **17 47 49.9 +1.3**
DUG pmax pmax
comp=Z,9.0nm,1.2s
DUG Dugway, Tooele 80.76 329 P **P** **17 47 49.9 +1.3**
BOSA Boshof 81.12 118 P **P** **17 47 50.7 -0.3**
comp=Z,21nm,0.8s,baz=247,slow=4.1,SNR=31
BOSA LR LR 18 21 59.3
comp=Z,597nm,18.1s,baz=226,slow=34
BOSA Boshof 81.12 118 P **P** **17 47 50.7 -0.3**
BOSA pmax pmax
comp=Z,28nm,1.0s
BOSA Boshof 81.12 118 P **P** **17 47 50.7 -0.3**
HWUT Hardware Ranch 81.40 331 P **P** **17 47 53.2 +1.1**
HWUT IAmb IAmb 17 48 05.1
comp=Z,22nm,1.4s
BGU Big Grassy Mou 81.45 330 P **P** **17 47 53.2 +0.9**
PDAR Pinedale Array 81.56 333 P **P** **17 47 54.2 +1.2**
comp=Z,0.7nm,0.6s,baz=136,slow=6.4,SNR=7.3
PDAR LR LR 18 21 01.6
comp=Z,358nm,19.7s,baz=148,slow=33
OMMB Old Mammoth Mi 81.60 324 P **P** **17 47 54.5 +1.1**
B35A Bob, Littlefor 81.83 345 P **P** **17 47 54.4 +0.5**
B35A IAmb IAmb 17 47 55.1
comp=Z,12nm,0.8s
B35A Bob, Littlefor 81.83 345 P **P** **17 47 54.6 +0.6**
baz=161
HVU Hansel Valley 82.05 330 P **P** **17 47 55.9 +0.5**
HVU pmax pmax
comp=Z,11nm,1.2s
HVU Hansel Valley 82.05 330 P **P** **17 47 55.9 +0.5**
AGMN Agassiz Nation 82.25 344 P **P** **17 47 55.8 -0.3**
AGMN IAmb IAmb 17 47 57.5
comp=Z,8.3nm,0.8s
AGMN Agassiz Nation 82.25 344 P **P** **17 47 56.7 +0.6**
baz=160
KVN Kaiserville 82.27 325 P **P** **17 47 56.4 -0.3**
KVN pmax pmax
comp=Z,10.0nm,1.1s
KVN Kaiserville 82.27 325 P **P** **17 47 56.4 -0.3**
ELK Elko 82.28 328 LR LR 18 19 48.9
comp=Z,428nm,21.2s,baz=148,slow=32
ELK Elko 82.28 328 P **P** **17 47 57.4 +0.6**
ELK pmax pmax
comp=Z,8.0nm,1.2s
ELK Elko 82.28 328 P **P** **17 47 57.4 +0.6**
CASY Casey 82.57 181 P **P** **17 47 58.9 +1.1**
TOA0 Torodi Ar. Sit 83.19 70 P **P** **17 48 01.2 -0.7**
TORD Torodi Ar. Bea 83.19 70 P **P** **17 48 01.6 -0.3**
comp=Z,62nm,0.7s,baz=255,slow=4.3,SNR=248
TORD LR LR 18 22 35.3
comp=Z,1µm,20.5s,baz=214,slow=34
TORD Torodi Ar. Bea 83.19 70 P **P** **17 48 01.5 -0.3**
LBTB Lobatse 83.23 115 LR LR 18 20 40.9
comp=Z,1µm,20.7s,baz=234,slow=33
LBTB Lobatse 83.23 115 P **P** **17 48 01.4 -0.8**
LBTB pmax pmax
comp=Z,25nm,0.7s
LBTB Lobatse 83.23 115 P **P** **17 48 01.4 -0.8**
PAHR Pah Rah Range 83.41 325 P **P** **17 48 02.9 +0.3**
PAHR IAmb IAmb 17 48 14.5
comp=Z,16nm,1.2s
RLMT Red Lodge 83.46 334 P **P** **17 48 04.5 +1.7**
YHH Holmes Hill 83.77 333 P **P** **17 48 06.2 +1.7**
YHH IAmb IAmb 17 48 34.6
comp=Z,9.7nm,1.2s
ULM Lac du Bonnet 84.08 345 P **P** **17 48 06.1 +0.6**
comp=Z,5.3nm,0.7s,baz=163,slow=6.0,SNR=8.6
ULM Lac du Bonnet 84.08 345 *i* P **P** **17 48 04.8 -0.7**
ULM Lac du Bonnet 84.08 345 P **P** **17 48 05.9 +0.3**
ULM IAmb IAmb 17 48 06.5
comp=Z,8.1nm,0.9s
HLID Hailey 84.20 330 P **P** **17 48 08.1 +1.6**
ORV Oroville 84.35 324 P **P** **17 48 07.8 +0.6**
ORV pmax pmax
comp=Z,15nm,1.3s
ORV Oroville 84.35 324 P **P** **17 48 07.8 +0.6**
ORV IAmb IAmb 17 48 19.1
comp=Z,15nm,1.2s
BCYI Bear Canyon 84.39 331 P **P** **17 48 08.1 +0.5**
MCMT McKenzie Canyo 84.59 332 P **P** **17 48 09.8 +1.2**
DGMT Dagmar 84.66 339 P **P** **17 48 09.6 +1.1**
URZ Urewera 85.50 227 LR LR 18 17 04.7
comp=Z,522nm,21.2s,baz=210,slow=29
MOD Modoc Plateau 85.54 326 P **P** **17 48 14.5 +1.1**
MOD IAmb IAmb 17 48 24.8
comp=Z,9.4nm,1.1s
RPZ Rata Peaks 85.69 220 LR LR 18 19 29.7
comp=Z,278nm,19.8s,baz=122,slow=31
J08A Circle Bar Ran 85.82 328 P **P** **17 48 15.1 +0.5**
J08A IAmb IAmb 17 48 26.2
comp=Z,18nm,1.1s
SCHQ Schefferville 86.03 3 LR LR 18 26 20.7
comp=Z,114nm,21.9s,baz=226,slow=35
PLID Pearl Lake 86.10 330 P **P** **17 48 17.5 +1.4**
PLID IAmb IAmb 17 48 27.2
comp=Z,8.3nm,1.1s
M04C Macdoel 86.20 325 P **P** **17 48 18.1 +1.6**
M04C IAmb IAmb 17 48 28.0
comp=Z,13nm,1.1s
K05A Summer Lake 86.45 326 P **P** **17 48 19.8 +1.9**
BMO Blue Mountains 86.47 329 P **P** **17 48 19.1 +1.3**
BMO pmax pmax
comp=Z,4.0nm,1.2s
BMO Blue Mountains 86.47 329 P **P** **17 48 19.1 +1.3**
I07A Izee 86.85 328 P **P** **17 48 21.4 +1.8**
I07A IAmb IAmb 17 48 31.3
comp=Z,22nm,1.4s
PINE Pine Mountain 87.29 327 P **P** **17 48 24.0 +2.0**
PINE IAmb IAmb 17 48 33.8
comp=Z,16nm,1.1s
G08A Pilot Rock 87.54 329 P **P** **17 48 24.9 +1.9**
MATP Matopo 87.93 113 LR LR 18 22 51.0
comp=Z,1µm,20.9s,baz=240,slow=32
H04A Detroit Lake 88.55 327 P **P** **17 48 27.3 -0.4**
H04A IAmb IAmb 17 48 47.8
comp=Z,8.6nm,1.0s
NEW Newport 89.10 332 LR LR 18 25 46.3
comp=Z,534nm,18.0s,baz=146,slow=34
MDT Midelt 90.09 51 LR LR 18 28 52.9
comp=Z,238nm,18.8s,baz=244,slow=36
LSZ Lusaka 90.45 108 LR LR 18 26 17.7
comp=Z,681nm,19.1s,baz=230,slow=34
AFI Afiamalu 91.10 253 LR LR 18 22 00.6
comp=Z,450nm,18.1s,baz=134,slow=30
FCC Fort Churchill 91.76 349 P **P** **17 48 41.5 -0.8**
FCC pmax pmax
comp=Z,16nm,1.4s
FCC Fort Churchill 91.76 349 P **P** **17 48 41.5 -0.8**
ESDC Sonseca Array 94.69 46 P **P** **17 48 56.5 +0.1**
comp=Z,1.1nm,0.8s,baz=252,slow=3.6,SNR=6.2
ESDC LR LR 18 30 40.8
comp=Z,750nm,19.0s,baz=225,slow=35
FRB Frobisher Bay 94.90 1 LR LR 18 36 09.8
comp=Z,158nm,18.8s,baz=200,slow=38
BBB Bella Bella 96.71 329 LR LR 18 28 02.1
comp=Z,167nm,20.7s,baz=134,slow=32
SFJD Kangerlussuaq 99.45 8 LR LR 18 32 55.2
comp=Z,207nm,21.9s,baz=194,slow=35
YKA Yellowknife Ar 99.70 341 P **Pdif** **17 49 18.7 +0.3**
comp=Z,0.8nm,0.6s,baz=141,slow=4.3,SNR=16
YKA PKiKP **PKiKP** **17 53 47.7 +0.7**
comp=Z,0.3nm,0.6s,baz=145,slow=2.0,SNR=4.3
YKA PKKPbc **PKKPbc** **18 05 37.8 -3.7**
comp=Z,0.3nm,0.6s,baz=330,slow=3.2,SNR=5.2
DZM Mont Dzumac 102.87 234 *e* LR LR 18 23 23.3
comp=Z,1µm,27.4s,baz=124
GERES GERESS Array B 110.24 45 PKiKP **PKiKP** **17 54 06.9 0.0**
comp=Z,0.6nm,0.8s,baz=220,slow=3.5,SNR=5.9
ILAR Eielson Array 111.99 333 PKiKP **PKiKP** **17 54 09.9 +0.3**
comp=Z,0.6nm,0.7s,baz=154,slow=2.2,SNR=5.9
ILAR PKKPbc **PKKPbc** **18 05 00.8 -2.5**
comp=Z,0.6nm,0.7s,baz=290,slow=2.0,SNR=5.2
ILAR Eielson Array 111.99 333 PKKPbc 18 04 54.7 -8.7
ASAR Alice Springs 119.91 207 PKP **PKPdf** **17 54 25.6 -0.8**
comp=Z,0.7nm,0.7s,baz=140,slow=1.9,SNR=15
ASAR PKKPbc **PKKPbc** **18 04 35.1 +0.2**
comp=Z,0.4nm,0.6s,baz=337,slow=3.1,SNR=9.4
AKASG Malin Array Be 120.33 46 PKP **PKPdf** **17 54 25.4 -0.6**
comp=Z,4.9nm,0.7s,baz=265,slow=2.8,SNR=34
AKASG Malin Array Be 120.33 46 PKiKP **PKPdf** **17 54 24.9 -1.2**
AKASG Malin Array Be 120.33 46 **PKPdf** **17 54 24.9 -1.2**
AKBB Malin Array Si 120.33 46 *c i* PKiKP **PKPdf** **17 54 25.3 -0.7**
AKBB Malin Array Si 120.33 46 PKPdf **PKPdf** **17 54 25.1 -0.9**
BRTR Keskin Array B 120.43 60 PKP **PKPdf** **17 54 26.2 -0.6**
comp=Z,2.7nm,0.8s,baz=201,slow=4.5,SNR=8.2
BRTR Keskin Array B 120.43 60 PKiKP **PKPdf** **17 54 26.2 -0.6**

BRTR Keskin Array B 120.43 60 **PKPdf** **17 54 26.2 -0.6**
TNA Tin City 120.64 331 PKPdf **PKiKP** **17 54 27.1 +0.8**
FINES FINESS Array B 120.79 34 PKP **PKPdf** **17 54 26.5 -0.1**
comp=Z,2.7nm,0.7s,baz=335,slow=2.3,SNR=8.1
ARCES ARCESS Array B 121.63 24 PKP **PKPdf** **17 54 28.2 +0.2**
comp=Z,2.5nm,0.6s,baz=233,slow=2.9,SNR=12
WRA Warramunga Arr 123.06 210 PKP **PKPdf** **17 54 32.2 -0.2**
comp=Z,1.8nm,0.7s,baz=158,slow=1.6,SNR=15
WRA Warramunga Arr 123.06 210 PKiKP **PKPdf** **17 54 31.8 -0.6**
WRA Warramunga Arr 123.06 210 **PKPdf** **17 54 31.8 -0.6**
WRAB Tennant Creek 123.06 210 *i* PKiKP **PKPdf** **17 54 31.3 -1.1**
RAYN Ar Rayn 124.50 82 PKiKP **PKPdf** **17 54 35.3 +0.3**
RAYN Ar Rayn 124.50 82 PKPdf **PKPdf** **17 54 35.3 +0.3**
LVZ Lovozero 124.92 26 PKiKP **PKPdf** **17 54 34.5 +0.1**
LVZ Lovozero 124.92 26 PKPdf **PKPdf** **17 54 34.5 +0.1**
OBN Obninsk 125.45 42 ⇓ *i* PKiKP **PKPdf** **17 54 35.4 -0.3**
OBN *i* 17 54 44.6
OBN *e* 17 54 53.4
OBN *e* PPS PPS 18 08 02.9
OBN pmax pmax
comp=Z,11nm,0.6s
OBN pmax pmax
comp=Z,6.0nm,0.6s
KOPT Kop Dagi 125.59 61 PKPdf **PKPdf** **17 54 34.4 -2.5**
H11S2 WAKE ISLAND Hyl 125.93 271 T T 20 13 30.0
baz=116,slow=75,SNR=233
H11S1 WAKE ISLAND Hyl 125.95 271 T T 20 13 35.3
baz=116,slow=75,SNR=188
H11S3 WAKE ISLAND Hyl 125.95 271 T T 20 13 34.7
baz=116,slow=75,SNR=224
PSA00 Pilbara Seismi 126.11 194 **PKPdf** **17 54 37.6 -0.6**
H11N3 WAKE ISLAND Hyl 126.28 272 T T 20 13 59.0
baz=117,slow=75,SNR=146
H11N1 WAKE ISLAND Hyl 126.30 272 T T 20 13 59.7
baz=117,slow=75,SNR=40
H11N2 WAKE ISLAND Hyl 126.30 272 T T 20 14 00.3
baz=117,slow=75,SNR=497
LPSR Galich'ya Gora 126.60 45 *e* PKiKP **PKPdf** **17 54 37.9 -0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 126.66 47 *e* PKiKP **PKPdf** **17 54 37.2 -1.0**
VORD pmax pmax
comp=Z,7.0nm,0.8s
VORR Voronezh 126.68 46 *e* PKiKP **PKPdf** **17 54 37.6 -0.6**
VORR pmax pmax
comp=Z,30nm,0.3s
KLMR Klimovskoe 127.23 35 *e* PKiKP **PKPdf** **17 54 38.3 -0.7**
KLMR pmax pmax
comp=Z,15nm,0.7s
KLMR Klimovskoe 127.23 35 *e* PKPdf **PKPdf** **17 54 38.3 -0.7**
comp=Z,15nm,0.7s
KLMR AMP 17 54 40.2
KIV Kislovodsk 127.98 56 *i* PKiKP **PKiKP** **17 54 42.5 +0.8**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,194nm,23.0s
KBZ Khabaz 128.09 57 PKP **PKiKP** **17 54 41.6 -0.1**
comp=Z,1.4nm,0.7s,baz=236,slow=3.6,SNR=7.1
KBZ Khabaz 128.09 57 *c i* PKiKP **PKiKP** **17 54 42.4 +0.7**
PRGR Permogore 130.12 34 *e* PKiKP **PKPdf** **17 54 44.4 0.0**
PRGR pmax pmax
comp=Z,2.0nm,0.5s
BILL Bilibino 130.60 335 ⇓ *e* PKiKP **PKPdf** **17 54 45.2 0.0**
BILL *e* 17 54 54.3
BILL *e* 17 55 02.4
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,122nm,19.0s
BILL Bilibino 130.60 335 PKPdf **PKPdf** **17 54 45.7 +0.5**
BELG Belogornoye 131.91 46 *i* PKiKP **PKPdf** **17 54 47.1 -1.0**
KIRV Kirov 132.42 37 *i* PKiKP **PKPdf** **17 54 49.2 +0.3**
ARU Arti 137.68 39 *i* PKiKP **PKPdf** **17 54 59.2 +0.4**
ARU MLR MLR
comp=Z,479nm,21.0s
SEY Seymchan 137.88 332 *i* PKiKP **PKiKP** **17 55 00.3 -0.7**
PETK Petropavlovsk- 138.46 316 PKP **PKPdf** **17 55 00.9 +0.5**
comp=Z,2.8nm,0.7s,baz=20,slow=4.6,SNR=4.9
AKTO Aktyubinsk 138.54 48 PKiKP **PKPdf** **17 55 00.0 -0.6**
SVE Sverdlovsk 138.68 38 *i* PKiKP **PKPdf** **17 55 00.8 +0.2**
SVE MLR MLR
comp=Z,524nm,23.0s
AB31 Akbulak array 139.94 49 *i* PKHKP PKPpre 17 54 54.5
ABKAR Akbulak array 139.94 49 PKPpre 17 54 54.3
ABKAR Akbulak array 139.94 49 PKPpre 17 54 53.2
MA2 Magadan 140.09 328 PKHKP PKPpre 17 54 56.2
MA2 Magadan 140.09 328 PKPpre 17 54 56.2
NRIK Nurilsk 140.29 11 *i* PKiKP **PKPdf** **17 55 04.0 +0.8**
LEM Lembang 141.94 179 PKhKP PKPpre 17 55 04.4
comp=Z,26nm,0.7s,baz=56,slow=4.0,SNR=9.9
PALK Pallekele 144.86 127 PKiKP **PKPab** **17 55 11.8 -0.3**
PALK Pallekele 144.86 127 PKPdf **PKPab** **17 55 11.8 -0.3**
BRVK Borovoye 145.20 40 *c i* PKiKP **PKPdf** **17 55 12.8 +0.4**
BRVK Borovoye 145.20 40 **PKPdf** **17 55 12.7 +0.3**
YAK Yakutsk 146.37 342 PKPbc **PKPbc** **17 55 15.9 +0.5**
comp=Z,33nm,0.7s,baz=204,slow=0.3,SNR=48
YAK Yakutsk 146.37 342 *e* PKP2 **PKPdf** **17 55 14.7 +0.6**
YAK *e* 17 58 46.6
YAK *e* SS SS 18 17 32.1 -2.9
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=Z,61nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,18nm,1.4s
YAK pmax pmax
comp=N,13nm,1.6s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK Yakutsk 146.37 342 PKPdf **PKPdf** **17 55 14.2 +0.2**
TOLI2 Tolitoli 147.55 204 **PKPbc** **17 55 19.3 -0.9**
KK31 Karatay Array 148.12 58 *i* PKP2 **PKPbc** **17 55 20.3 -0.6**
KK31 Karatay Array 148.12 58 **PKPbc** **17 55 20.5 -0.4**
KKAR Karatay Array 148.12 58 PKP2 **PKPbc** **17 55 20.5 -0.4**
KKAR Karatay Array 148.12 58 **PKPbc** **17 55 20.5 -0.4**
KKAR Karatay Array 148.12 58 **PKPdf** **17 55 17.9 +0.2**
OTUK Ortayu 148.14 48 PKiKP **PKPdf** **17 55 18.8 +1.2**
GSI Gunungsitoli 148.40 159 **PKPbc** **17 55 23.0 +0.5**
BTK Batken 148.69 64 PKiKP **PKPdf** **17 55 18.8 0.0**
BTK Batken 148.69 64 **PKPdf** **17 55 18.8 0.0**
YSS Yuzh-Sakhalins 149.33 310 *e* PKHKP PKPpre 17 55 21.2
YSS MLR MLR
comp=Z,200nm,22.0s
YSS Yuzh-Sakhalins 149.33 310 **PKPbc** **17 55 23.9 +0.1**
HYBB Hyderabad (bro 149.76 111 *e* PKiKP **PKPbc** **17 55 26.1 +0.3**
HYBB *ep* PKiKP **sPKPab** **17 55 36.0 +3.8**
JKA Kamikawa-asahi 150.20 305 **PKiKP** **17 55 26.8 -0.1**
ASAJ Asahikawa 150.21 305 PKPbc **PKiKP** **17 55 26.8 -0.1**
comp=Z,7.1nm,0.7s,baz=80,slow=15,SNR=4.1
EKS2 Erkin-Say 150.56 58 P **PKiKP** **17 55 28.1 +0.3**
SNR=26
AML Almayashu 150.59 59 P **PKiKP** **17 55 28.1 -0.2**
SNR=16
KURBB Kurchatov Arra 150.86 40 PKiKP **PKPbc** **17 55 27.4 0.0**
KURK Kurchatov 150.86 40 PKiKP **PKPbc** **17 55 27.5 +0.1**
KURK Kurchatov 150.86 40 **PKPbc** **17 55 27.5 +0.1**
USP Ospenovka 150.95 56 P **PKiKP** **17 55 28.5 0.0**
SNR=19
AAK Ala-Archa 151.08 58 P **PKiKP** **17 55 29.6 +0.6**
SNR=20
CHMS Chumysh 151.19 57 P **PKiKP** **17 55 29.3 +0.3**
SNR=7.6
KBK Karagaybulak 151.41 58 P **PKiKP** **17 55 30.0 +0.3**
SNR=8.0
TKM2 Tokmak 2 151.81 57 P **PKiKP** **17 55 30.7 +0.2**
SNR=12
TKM2 Tokmak 2 151.81 57 PKiKP **PKPdf** **17 55 23.8 0.0**
ZAA0 Zalesovo Array 151.96 30 PKPdf **PKPdf** **17 55 23.1 -0.2**
ZAA0 PKPbc **PKPbc** **17 55 30.1 +0.3**
ZALV Zalesovo Beam 151.96 30 PKP **PKPdf** **17 55 23.7 +0.4**
comp=Z,5.9nm,0.7s,baz=288,slow=2.3,SNR=20
ZALV PKPbc **PKiKP** **17 55 30.3 +0.1**
comp=Z,142nm,0.5s,baz=306,slow=3.0,SNR=268
ZALV PKPab **PKPab** **17 55 39.4 +0.3**
comp=Z,38nm,0.7s,baz=291,slow=4.1,SNR=4.1
ZALV Zalesovo Beam 151.96 30 PKiKP **PKPdf** **17 55 23.0 -0.3**
ZALV Zalesovo Beam 151.96 30 **PKPdf** **17 55 23.0 -0.3**
KSH Kashi 152.69 64 PKPbc **PKPdf** **17 55 21.1 -4.0**
KSH pPKP PKPbc 17 55 32.1 -0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH				sPKP		17 55 41.4	
KSH				LR	LR		
	comp=Z,140nm,12.4s						
KSH				LR	LR		
	comp=Z,300nm,18.2s						
KSH				LR	LR		
	comp=Z,450nm,21.6s						
MDOK	**Medeo**	**152.79**	**56**	PKIKP	**PKPbc**	**17 55 31.4**	**-0.9**
KDJ	**Kajisay**	**153.13**	**58**	PKPdf	**PKPdf**	**17 55 23.0**	**-2.7**
KDJ					**PKPbc**	**17 55 33.2**	**+0.1**
BOD	**Bodaibo**	**153.32**	**353**	*e*PKIKP	**PKPbc**	**17 55 32.0**	**-0.7**
BOD				pmax	pmax		
	comp=Z,17nm,1.1s						
ZEA	**Zeya**	**153.82**	**334**	*e*PKIKP	**PKPdf**	**17 55 26.3**	**+0.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PDGK	**Podgornoye**	**154.45**	**54**	PKIKP	**PKPbc**	**17 55 35.0**	**-0.8**
MJAR	**Matsushiro Arr**	**154.62**	**290**	PKPab	**PKPab**	**17 55 53.8**	**+2.8**
	comp=Z,2.2nm,0.7s,baz=28,slow=2.7,SNR=4.5						
MJAR	**Matsushiro Arr**	**154.62**	**290**		**PKPbc**	**17 55 36.2**	**-0.1**
MAKZ	**Makanchi**	**154.71**	**45**	PKIKP	**PKPdf**	**17 55 25.4**	**-2.2**
MAKZ	**Makanchi**	**154.71**	**45**	PKPdf	**PKPdf**	**17 55 25.4**	**-2.2**
MK31	**Makanchi Array**	**154.91**	**45**	*i* PKIKP	**PKPdf**	**17 55 25.8**	**-2.1**
MK31	**Makanchi Array**	**154.91**	**45**	PKPdf	**PKPdf**	**17 55 27.3**	**-0.5**
MK31				PKPbc	**PKPbc**	**17 55 36.1**	**-0.5**
MKAR	**Makanchi Array**	**154.91**	**45**	PKP	**PKPdf**	**17 55 27.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=354,slow=1.0,SNR=28						
MKAR				PKPbc	**PKPbc**	**17 55 36.5**	**0.0**
	comp=Z,8.7nm,0.7s,baz=322,slow=1.8,SNR=48						
MKAR	**Makanchi Array**	**154.91**	**45**		**PKPdf**	**17 55 26.3**	**-1.6**
WMQ	**Urumqi**	**159.69**	**47**	*e*PKP	**PKPdf**	**17 55 34.4**	**+0.4**
WMQ				PKPab	**PKPab**	**17 56 13.5**	**+0.8**
WMQ				PP	PP	18 00 03.1	+8.8
WMQ				SKS	**SKSdf**	**18 02 35.0**	**-5.1**
WMQ				AMB	AMB		
	comp=Z,300nm,5.3s						
WMQ				LR	LR		
	comp=Z,320nm,22.3s						
WMQ				LR	LR		
	comp=Z,390nm,18.5s						
WMQ				LR	LR		
	comp=Z,410nm,20.7s						
ZAK	**Zakamensk**	**160.73**	**9**	*e*PKIKP	**PKPdf**	**17 55 35.1**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KSRS	**Korea Array**	**162.64**	**296**	PKPab	**PKPab**	**17 56 28.3**	**+2.6**
	comp=Z,1.3nm,0.8s,baz=89,slow=5.1,SNR=3.3						
SONM	**Songino Array**	**163.57**	**4**	PKP	**PKPdf**	**17 55 36.5**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=248,slow=1.6,SNR=4.3						
SONM				PKPab	**PKPab**	**17 56 29.7**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=338,slow=6.1,SNR=4.4						
CMAR	**Chiang Mai Arr**	**164.62**	**145**	PKP	**PKPdf**	**17 55 39.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=269,slow=2.4,SNR=5.5						
CMAR				PKPab	**PKPab**	**17 56 34.3**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=228,slow=6.0,SNR=10						
CMAR	**Chiang Mai Arr**	**164.62**	**145**	PKIKP	**PKPdf**	**17 55 38.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**164.62**	**145**		**PKPdf**	**17 55 38.4**	**-1.3**
GOMU	**GeErMu**	**167.94**	**63**	PKP	**PKPdf**	**17 55 43.4**	**+1.1**
GOMU				pPKP	sPKPdf	17 55 48.6	+5.2
GOMU				sPKP		17 55 53.8	
GOMU				PP	**PP**	**18 00 39.3**	**+0.7**
GOMU				SKKS		18 07 26.9	
GOMU				LR	LR		
	comp=Z,210nm,17.3s						
GOMU				LR	LR		
	comp=Z,150nm,16.8s						
GOMU				LR	LR		
	comp=Z,160nm,17.3s						
GTA	**Gaotai**	**169.54**	**38**	PKP	**PKPdf**	**17 55 43.6**	**+0.7**
GTA				sPKP		17 55 53.0	
GTA				PKPab	**PKPab**	**17 56 56.9**	**+0.8**
HHC	**Hu-ho-hao-te**	**170.22**	**345**	*e*PKP	**PKPdf**	**17 55 40.8**	**-2.4**
HHC				LR	LR		
	comp=Z,220nm,21.6s						
HHC				LR	LR		
	comp=Z,290nm,18.4s						
HHC				LR	LR		
	comp=Z,370nm,19.8s						
NJ2	**Nanjing**	**170.87**	**277**	*e*PKP	**PKPdf**	**17 55 43.8**	**+0.1**
PZH	**PanZhiHua**	**172.53**	**130**	PKP	**PKPdf**	**17 55 44.3**	**-0.5**
PZH				PP	**PP**	**18 01 03.8**	**+2.9**
PZH				AMB	AMB		
	comp=Z,110nm,5.6s						
PZH				LR	LR		
	comp=Z,170nm,21.1s						
PZH				LR	LR		
	comp=Z,230nm,22.0s						
PZH				LR	LR		
	comp=Z,250nm,20.6s						
LZH	**Lanzhou**	**174.14**	**37**	*e*PKP	**PKPdf**	**17 55 45.8**	**+0.6**
LZH				pPKP	sPKPdf	17 55 54.1	+7.7
LZH				sPKP		17 55 56.3	
LZH				PP	**PP**	**18 01 13.7**	**+5.3**
LZH				SS	SS	18 22 28.6	+0.3
LZH				AMB	AMB		
	comp=Z,240nm,9.6s						
LZH				LR	LR		
	comp=Z,300nm,18.0s						
LZH				LR	LR		
	comp=Z,240nm,18.2s						
LZH				LR	LR		
	comp=Z,460nm,20.1s						

TAP 06 18:30:59.5, 24.°45N×121.°90E, h18km, ML1.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.11**	**268**	P	Pg	18 31 03.0	-0.2
	baz=267						
EWUT				S	Sg	18 31 05.8	+0.1
	baz=267						
ENA	**Nanau**	**0.14**	**262**	*e*P	Pb	18 31 03.4	+0.1
	baz=260						
ENA				S	Sg	18 31 06.4	0.0
	baz=260						
TWC	**Suao**	**0.17**	**344**	P	Pb	18 31 03.8	0.0
	baz=347						
TWC				S	Sg	18 31 06.9	0.0
	baz=347						
NDS	**Dongshan**	**0.25**	**318**	*e*P	Pg	18 31 04.9	-0.2
	baz=318						
NDS				*e*S	Sg	18 31 08.9	-0.1
	baz=318						
TWE	**Neicheng**	**0.34**	**322**	*e*P	Pg	18 31 06.5	-0.3
	baz=323						
TWE				*e*S	Sg	18 31 11.6	-0.1
	baz=323						
LATG	**Datong**	**0.35**	**284**	*e*P	Pg	18 31 06.8	-0.1
	baz=284						
LATG				*e*S	Sg	18 31 11.9	0.0
	baz=284						
ENTT	**Nioudou**	**0.36**	**302**	*e*P	Pg	18 31 06.9	0.0
	baz=302						
ENTT				*e*S	Sg	18 31 12.1	0.0
	baz=302						
NDT	**Datong Townshi**	**0.38**	**294**	*e*P	Pg	18 31 07.3	-0.1
	baz=293						
NDT				*e*S	Sg	18 31 13.1	+0.2
	baz=293						
NACB	**Ninganchiao**	**0.39**	**225**	*e*P	Pb	18 31 07.9	0.0
	baz=225						
NACB				*e*S	Sg	18 31 13.0	0.0
	baz=225						
FUSB	**Fushanzhiwuyua**	**0.42**	**318**	*e*P	Pg	18 31 07.9	-0.2
	baz=317						
FUSB				*e*S	Sg	18 31 14.2	+0.2
	baz=317						
ETLH	**Xiulin Townshi**	**0.45**	**238**	*e*S	Sb	18 31 15.8	+0.4
	baz=237						
NNSB	**Datong**	**0.47**	**268**	*e*S	Sg	18 31 15.5	0.0
	baz=267						
NWLT	**Wulai**	**0.49**	**312**	*e*P	Pg	18 31 09.0	-0.3
	baz=312						
NWLT				*e*S	Sg	18 31 15.9	0.0
	baz=312						
YHNB	**Yeheng**	**0.52**	**295**	*e*P	Pg	18 31 09.5	-0.5
	baz=294						
YHNB				*e*S	Sg	18 31 17.0	-0.1
	baz=294						
TIPB	**Shuangxi**	**0.53**	**353**	*e*P	Pg	18 31 09.9	-0.1
	baz=352						
TIPB				*e*S	Sg	18 31 17.0	-0.1
	baz=352						
NSK	**Sanguang**	**0.54**	**295**	*e*P	Pg	18 31 09.7	-0.6
	baz=294						
NSK				*e*S	Sg	18 31 17.4	-0.3
	baz=294						

MIRAS 06 19:09:33.7±0.0, 59.°51N×52.°11E, h10km, ML2.5/4, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRVA	**Griva**	**1.26**	**329**	*i* P	Pn	19 09 57.2	-0.2
	baz=329						
GRVA				*e*S	Sg	19 10 14.2	-0.2
	baz=329						
GRVA				*e*S	Sg	19 10 14.2	-0.2
	baz=329						
GRVA				*e*S	Sg	19 10 14.2	-0.2
	baz=329						
KIRV	**Kirov**	**1.67**	**238**	*i* P	Pn	19 10 03.1	+0.1
	baz=238						
KIRV				*e*S	Sn	19 10 24.2	-0.2
	baz=238						
KIRV				*e*S	Sn	19 10 24.2	-0.2
	baz=238						
KIRV				*e*S	Sn	19 10 24.2	-0.2
	baz=238						
PR1R	**Pomanovo**	**2.40**	**96**	*i* P	Pn	19 10 12.7	-0.2
	baz=96						
PR1R				*e*S	Sn	19 10 42.6	+0.2
	baz=96						
PR1R				*e*S	Sn	19 10 42.6	+0.2
	27nm,0.3s,baz=96						
PR1R				*e*S	Sn	19 10 42.6	+0.2
	25nm,0.2s,baz=96						
PR1R	**Pomanovo**	**2.40**	**96**	*i* P	Pn	19 10 13.8	+0.9
	3.3nm,0.4s						
PR1R				*i* P	Pn	19 10 13.8	+0.9
PR1R				*i* P	Pn	19 10 13.8	+0.9
PR1R				*i* S	Sn	19 10 44.2	+1.9
PR1R				*i* S	Sn	19 10 44.2	+1.9
PR1R				*i* S	Sn	19 10 44.2	+1.9
	20nm,0.4s						
PR1R				*i* AML	AML	19 10 47.6	
	25nm,0.2s						
PR4R	**Vlasy**	**2.45**	**129**	*i* P	Pn	19 10 14.5	+0.7
	baz=129						
PR4R				*e*S	Sn	19 10 45.6	+1.8
	baz=129						
PR4R				*e*S	Sn	19 10 45.6	+1.8
	43nm,0.3s,baz=129						
PR4R				*e*S	Sn	19 10 45.6	+1.8
	75nm,0.2s,baz=129						
PR4R	**Vlasy**	**2.45**	**129**	*i* P	Pb	19 10 17.7	-0.2
	15nm,0.2s						
PR4R				*i* P	Pb	19 10 17.7	-0.2
PR4R				*i* P	Pb	19 10 17.7	-0.2
PR4R				*i* S	Sb	19 10 48.6	+0.5
PR4R				*i* S	Sb	19 10 48.6	+0.5
	48nm,0.3s						
PR4R				*i* S	Sb	19 10 48.6	+0.5
PR4R				*i* AML	AML	19 10 49.4	
	75nm,0.2s						
PR0R	**Verkhnechusovs**	**2.92**	**114**	*i* P	Pb	19 10 26.8	+0.9
	1.3nm,0.2s						
PR0R				*i* P	Pb	19 10 26.8	+0.9
PR0R				*i* S	Sb	19 11 02.8	+1.2
PR0R				*i* S	Sb	19 11 02.8	+1.2
	3.9nm,0.2s						
PR0R				*i* AML	AML	19 11 04.5	
	12nm,0.4s						
PR3R	**Kungur**	**3.30**	**127**	*i* P	Pn	19 10 26.2	+0.8
PR3R				*i* P	Pn	19 10 26.2	+0.8
PR3R				*i* P	Pn	19 10 26.2	+0.8
PR3R				*i* S	Sn	19 11 06.3	+1.7
PR3R				*i* S	Sn	19 11 06.3	+1.7
PR3R				*i* S	Sn	19 11 06.3	+1.7
	7.0nm,0.4s						
PR3R				*i* AML	AML	19 11 20.8	
	34nm,0.4s						
PR7R	**Sarany**	**3.57**	**103**	*i* P	Pb	19 10 38.4	+1.5
	5.8nm,0.9s						
PR7R				*i* P	Pb	19 10 38.4	+1.5
PR7R				*i* P	Pb	19 10 38.4	+1.5
PR7R				*i* S	Sb	19 11 21.5	+1.3
PR7R				*i* S	Sb	19 11 21.5	+1.3
PR7R				*i* S	Sb	19 11 21.5	+1.3
	15nm,0.2s						
PR7R				*i* AML	AML	19 11 24.2	
	21nm,0.3s						
ARU	**Arti**	**4.62**	**129**	*i* P	Pb	19 10 49.7	-5.0
	1.5nm,0.1s						
ARU				*i* P	Pb	19 10 49.7	-5.0
ARU				*i* P	Pb	19 10 49.7	-5.0
ARU				*i* S	Sb	19 11 44.3	-6.0
ARU				*i* S	Sb	19 11 44.3	-6.0
ARU				*i* S	Sb	19 11 44.3	-6.0
	2.3nm,0.3s						
ARU				*i* AML	AML	19 11 52.1	
	5.3nm,0.5s						
LSH	**Leshukonskoye**	**6.16**	**334**	*e*S	Sn	19 12 10.8	-4.2

*IDC **06** 19:15:30.9±1.4, 65.°07S×175.°52E, h0km, mb3.9/3, mb1 4.2/4, mb1mx4.0/17, mbtmp4.0/4, ML4.0/1, MS3.8/14, Ms1 3.8/14, ms1mx3.5/45, Error ellipse: s-maj=59.4km s-min=26.2km az=72.0*

ISC 06 19:15:31.8±1.6, 65.°0S±0.°2×175.°9E±0.°4, h10km, n31, σ1.s34/7, mb3.8/3, MS3.8/14, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.30**	**193**	Pn	**Pn**	**19 18 40.5**	**+0.2**
	0.8nm,0.3s,baz=33,slow=16,SNR=20						
VNDA				LR	LR	19 22 36.5	
	comp=Z,382nm,21.9s,baz=354,slow=32						
QSPA	**South Pole Qui**	**25.10**	**180**	P	**P**	**19 20 56.3**	**-0.1**
	6.3nm,0.9s,baz=27,slow=7.6,SNR=9.1						
QSPA				LR	LR	19 28 43.1	
	comp=Z,203nm,18.4s,baz=62,slow=32						
MAW	**Mawson**	**39.44**	**214**	LR	LR	19 39 11.1	
	comp=Z,181nm,19.4s,baz=156,slow=36						
DZM	**Mont Dzumac**	**43.35**	**347**	LR	LR	19 39 30.4	
	comp=Z,60nm,18.4s,baz=252,slow=33						
RAR	**Rarotonga**	**46.60**	**32**	LR	LR	19 38 35.0	
	comp=Z,67nm,19.1s,baz=257,slow=30						
H01W1	**Cape Leeuwin H**	**47.10**	**279**	T	T	20 15 55.5	
	baz=148,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**47.10**	**279**	T	T	20 15 52.9	
	baz=148,slow=76,SNR=17						
H01W3	**Cape Leeuwin H**	**47.11**	**279**	T	T	20 15 53.7	
	baz=148,slow=76,SNR=21						
MSVF	**Nonsavu**	**47.24**	**3**	LR	LR	19 42 19.8	
	comp=Z,68nm,18.2s,baz=152,slow=34						
ASAR	**Alice Springs**	**49.39**	**306**	P	**P**	**19 24 22.2**	**+0.8**
	0.9nm,0.9s,baz=153,slow=7.0,SNR=5.0						
AFI	**Afiamalu**	**51.72**	**15**	LR	LR	19 41 39.4	
	comp=Z,36nm,20.6s,baz=320,slow=30						
RKT	**Rikitea**	**52.44**	**61**	*e*T	T	20 20 05.6	
	6.4nm,0.2s						
TVO	**Taravao**	**52.61**	**43**	*e*T	T	20 20 21.6	
	0.2nm,0.2s						
PPT2	**Papeete2**	**52.70**	**43**	*e*LR	LR	19 39 17.0	
	comp=Z,126nm,25.2s						
WRA	**Warramunga Arr**	**52.70**	**308**	P	**P**	**19 24 46.0**	**-0.3**
	0.9nm,0.9s,baz=159,slow=6.4,SNR=5.8						
WRA				LR	LR	19 45 00.3	
	comp=Z,78nm,21.0s,baz=19,slow=34						
PPT	**Papeete**	**52.72**	**43**	LR	LR	19 41 22.7	
	comp=Z,49nm,18.9s,baz=186,slow=29						
VAH	**Vaihoa**	**55.49**	**44**	*e*T	T	20 23 52.3	
	42nm,0.2s						
H03S2	**Juan Fernandez**	**65.85**	**118**	T	T	20 37 47.5	
	baz=205						
H03S1	**Juan Fernandez**	**65.85**	**118**	T	T	20 37 48.7	
	baz=205						
H03S3	**Juan Fernandez**	**65.86**	**118**	T	T	20 37 48.8	
	baz=205						
SUR	**Sutherland**	**81.02**	**201**	LR	LR	20 02 20.0	
	comp=Z,86nm,19.2s,baz=176,slow=35						
BOSA	**Boshof**	**83.95**	**206**	LR	LR	20 02 16.2	
	comp=Z,89nm,20.9s,baz=184,slow=34						
PSI	**Prapat**	**87.04**	**283**	LR	LR	20 02 14.9	
	comp=Z,47nm,20.7s,baz=164,slow=32						
LBTB	**Lobatse**	**87.39**	**207**	LR	LR	20 05 08.3	
	comp=Z,83nm,18.9s,baz=164,slow=34						
H08S2	**Diego Garcia H**	**88.75**	**255**	T	T	21 08 15.5	
	baz=155,slow=76,SNR=42						
H08S1	**Diego Carcia H**	**88.76**	**255**	T	T	21 08 13.3	
	baz=155,slow=76,SNR=41						
H08S3	**Diego Garcia H**	**88.77**	**255**	T	T	21 08 15.3	
	baz=155,slow=76,SNR=43						
LSZ	**Lusaka**	**96.31**	**211**	LR	LR	20 10 38.3	
	comp=Z,91nm,18.3s,baz=150,slow=34						
MKAR	**Makanchi Array**	**132.54**	**291**	PKP	**PKPdf**	**19 34 43.1**	**-2.2**
	0.1nm,0.5s,baz=132,slow=2.1,SNR=2.1						
KBZ	**Khabaz**	**146.49**	**254**	PKPbc	**PKPdf**	**19 35 11.0**	**+0.4**
	1.1nm,0.9s,baz=135,slow=4.0,SNR=4.3						
RES	**Resolute Bay**	**150.57**	**33**	PKPbc	**PKiKP**	**19 35 23.5**	**+1.1**
	1.5nm,0.7s,baz=227,slow=8.0,SNR=7.9						

*IDC **06** 19:17:26.4±1.8, 10.°42S×152.°32E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/32, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=72.8km s-min=26.8km az=120.0*

ISC 06 19:17:31.7±1.6, 10.°5S±0.°3×152.°3E±0.°4, h35km, n6, σ0.s40/6, mb3.6/4, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.70**	**239**	P	**P**	**19 21 58.1**	**-0.1**
	0.1nm,0.3s,baz=63,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**21.90**	**231**	P	**P**	**19 22 21.5**	**-0.5**
	0.5nm,0.8s,baz=55,slow=11,SNR=12						
STKA	**Stephens Creek**	**23.49**	**203**	P	**P**	**19 22 38.7**	**+0.3**
	3.1nm,1.0s,baz=1.6,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**84.27**	**320**	P	**P**	**19 30 00.2**	**+0.3**
	0.3nm,0.7s,baz=96,slow=6.6,SNR=5.8						
ILAR	**Eielson Array**	**87.57**	**22**	P	**P**	**19 30 15.6**	**-0.3**
	0.3nm,0.6s,baz=241,slow=5.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**151.10**	**278**	PKPbc	**PKPbc**	**19 37 22.3**	**+0.1**
	0.3nm,0.5s,baz=70,slow=2.4,SNR=5.7						

*IDC **06** 19:29:02.8±3.3, 56.°45N×162.°26W, h164km±30km, mb3.2/6, mb1 3.4/10, mb1mx3.0/71, mbtmp3.7/10, Error ellipse: s-maj=42.4km s-min=18.1km az=5.0*

*NEIC **06** 19:29:04.3±1.7, 56.°1N±0.°1×161.°8W±0.°1, h226km±8km, mb4.0/7, ML3.8/14, ML3.5(AEIC), Error ellipse: s-maj=16.7km s-min=7.2km az=157.0*

*AEIC **06** 19:29:05±2.8, 55.°97N±0.°07×161.°8W±0.°1, h222km±6km, Error ellipse: s-maj=11.6km s-min=6.9km az=146.0*

ISC 06 19:29:04.6±0.7, 56.°29N±0.°08×161.°91W±0.°05, h200km, n128, σ1.s32/132, mb3.6/8, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLHA	**Black Hill**	**0.60**	**188**		**Pn**	**19 29 33.7**	**+1.6**
BLHA	**Black Hill**	**0.60**	**188**	P	**Pn**	**19 29 33.7**	**+1.6**
	baz=27						
PS4A	**Pavlof South-4**	**0.95**	**178**		**Pn**	**19 29 36.0**	**+2.0**
DT1	**Dutton Round H**	**1.21**	**190**		**Pn**	**19 29 38.1**	**+2.3**
BALA	**Baldy Mountain**	**1.21**	**205**		**Pn**	**19 29 37.4**	**+1.6**
SDPT	**Sand Point**	**1.25**	**139**		**Pn**	**19 29 37.0**	**+0.9**
SDPT					**Sn**	**19 30 01.2**	**+0.8**
SDPT	**Sand Point**	**1.25**	**139**	IAML		19 30 02.4	
	comp=E,590nm,0.4s						
SDPT	**Sand Point**	**1.25**	**139**	P	**Pn**	**19 29 37.0**	**+0.9**
	baz=313						
SDPT				S	**Sn**	**19 30 01.2**	**+0.8**
	baz=313						
VNFG	**Fog Glacier, M**	**1.32**	**89**		**Pn**	**19 29 39.2**	**+2.5**
VNFG	**Fog Glacier, M**	**1.32**	**89**	P	**Pn**	**19 29 39.2**	**+2.5**
	baz=259						
VNHG	**Veniaminof 1**	**1.54**	**92**		**Pn**	**19 29 40.6**	**+2.0**
FALS	**False Pass**	**1.67**	**211**		**Pn**	**19 29 40.5**	**+0.7**
SSLN	**Shishaldin Nor**	**1.90**	**219**		**Pn**	**19 29 42.9**	**+0.9**
SSLN					**Sn**	**19 30 12.2**	**+1.1**
AZAC	**Aniakchak**	**2.12**	**72**		**Pn**	**19 29 46.6**	**+2.2**
WESE	**West Dahl East**	**2.38**	**221**		**Pn**	**19 29 48.1**	**+1.0**
AKSA	**Akutan Strait**	**3.06**	**227**		**Pn**	**19 29 55.4**	**+0.6**
AKSA					**Sn**	**19 30 33.4**	**-0.7**
AKBBA	**Akutan Broad B**	**3.18**	**228**		**Pn**	**19 29 57.1**	**+0.8**
AKBBA					**Sn**	**19 30 36.4**	**-0.4**
CHIR	**Chirikof Islan**	**3.56**	**95**		**Pn**	**19 30 01.3**	**+0.5**
CHIR					**Sn**	**19 30 43.2**	**-1.7**
CHIR	**Chirikof Islan**	**3.56**	**95**	IAML		19 30 44.9	
	comp=N,234nm,0.5s						
CHIR	**Chirikof Islan**	**3.56**	**95**	P	**Pn**	**19 30 01.3**	**+0.5**
	baz=276						
CHIR				S	**Sn**	**19 30 43.2**	**-1.7**
	baz=276						
MTBL	**Makushin Table**	**3.59**	**232**		**Pn**	**19 30 01.6**	**+0.3**
UNV	**Unalaska Valle**	**3.60**	**229**		**Pn**	**19 30 01.2**	**-0.1**
UNV					**Sn**	**19 30 43.8**	**-2.1**
UNV	**Unalaska Valle**	**3.60**	**229**	P	**Pn**	**19 30 01.2**	**-0.1**
	baz=49						
UNV				S	**Sn**	**19 30 43.8**	**-2.1**
	baz=49						
MSW	**Makushin Switc**	**3.67**	**232**		**Pn**	**19 30 02.1**	**-0.1**
SII	**Sitkinak Islan**	**4.30**	**83**		**Pn**	**19 30 10.3**	**+0.3**
SII	**Sitkinak Islan**	**4.30**	**83**	IAML		19 31 04.8	
	comp=N,137nm,0.5s						
SII	**Sitkinak Islan**	**4.30**	**83**	P	**Pn**	**19 30 10.3**	**+0.3**
	baz=266						
OKFG	**Magazine Ridge**	**4.51**	**233**		**Pn**	**19 30 12.1**	**-0.5**
P18K	**Big Mountain,**	**4.73**	**46**		**Pn**	**19 30 17.4**	**+2.0**
OHAK	**Old Harbor**	**4.84**	**75**		**Pn**	**19 30 17.0**	**+0.3**
OHAK	**Old Harbor**	**4.84**	**75**	IAML		19 31 12.3	
	comp=E,62nm,0.3s						
OHAK				IAML		19 31 14.3	
	comp=N,74nm,0.3s						
OHAK	**Old Harbor**	**4.84**	**75**	P	**Pn**	**19 30 17.0**	**+0.3**
	baz=259						
Q19K	**Cape Douglas,**	**5.17**	**56**		**Pn**	**19 30 22.8**	**+1.7**
Q19K	**Cape Douglas,**	**5.17**	**56**	P	**Pn**	**19 30 22.8**	**+1.7**
	baz=240						
NIKH	**Nikolski High**	**5.23**	**233**		**Pn**	**19 30 21.3**	**-0.4**
NIKH	**Nikolski High**	**5.23**	**233**	P	**Pn**	**19 30 21.3**	**-0.4**
	baz=51						
KDAK	**Kodiak Island**	**5.31**	**70**	P	**Pn**	**19 30 23.2**	**+0.5**
	comp=N,18nm,0.3s,baz=220,slow=2.6,SNR=406						
KDAK				S	**Sn**	**19 31 22.0**	**-2.5**
	comp=N,1.8nm,0.3s,baz=25,slow=24,SNR=1.3						
KDAK	**Kodiak Island**	**5.31**	**70**	Pn	**Pn**	**19 30 23.1**	**+0.3**
KDAK				IAML		19 31 28.1	
	comp=N,39nm,0.3s						
KDAK				IAML		19 31 33.9	
	comp=N,38nm,0.7s						
P19K	**Oil Pt**	**5.72**	**50**	Pn	**Pn**	**19 30 30.1**	**+2.1**
SVW2	**Sparrevohn**	**5.84**	**32**		**Pn**	**19 30 31.5**	**+1.9**
N19K	**Bonanza Creek**	**5.97**	**38**	Pn	**Pn**	**19 30 33.6**	**+2.2**
RDWB	**Redoubt West**	**6.36**	**45**		**Pn**	**19 30 38.7**	**+2.3**
RSO	**Redoubt South**	**6.38**	**45**		**Pn**	**19 30 38.8**	**+2.1**
CNPM	**China Poot**	**6.55**	**56**	Pn	**Pn**	**19 30 39.0**	**+0.3**
BRLK	**Bradley Lake**	**6.81**	**55**	Pn	**Pn**	**19 30 41.9**	**-0.3**
M19K	**Big River Lodg**	**6.83**	**31**		**Pn**	**19 30 45.0**	**+2.6**
L19K	**White Mountain**	**6.92**	**29**	Pn	**Pn**	**19 30 45.8**	**+2.2**
SEW	**Seward**	**7.61**	**55**		**Pn**	**19 30 52.6**	**+0.1**
O22K	**Cooper Landing**	**7.66**	**52**		**Pn**	**19 30 53.6**	**+0.5**
RC01	**Rabbit Creek A**	**7.95**	**48**	Pn	**Pn**	**19 30 56.9**	**-0.1**
K20K	**Telida**	**8.11**	**26**	Pn	**Pn**	**19 31 01.3**	**+2.3**
PPLA	**Purkeypile**	**8.25**	**33**		**Pn**	**19 31 03.9**	**+3.0**
ATKA	**Atka Island**	**8.28**	**245**		**Pn**	**19 31 01.1**	**-0.1**
PWL	**Port Wells**	**8.44**	**52**		**Pn**	**19 31 03.1**	**-0.2**
ANM	**Nome**	**8.47**	**350**	Pn	**Pn**	**19 31 06.1**	**+2.4**
KNK	**Knik Glacier**	**8.65**	**48**	Pn	**Pn**	**19 31 06.6**	**+0.5**
CAST	**Castle Rocks**	**8.68**	**31**	Pn	**Pn**	**19 31 09.1**	**+2.7**
J20K	**Nowinta River**	**8.79**	**23**	Pn	**Pn**	**19 31 09.8**	**+1.9**
Q23K	**Middleton Isla**	**8.87**	**63**	Pn	**Pn**	**19 31 08.8**	**0.0**
MID	**Middleton Isla**	**8.87**	**63**	Pn	**Pn**	**19 31 08.6**	**-0.3**
GAMB	**Gambell**	**8.95**	**331**	Pn	**Pn**	**19 31 10.9**	**+1.0**
GLI	**Glacier Island**	**8.99**	**53**	Pn	**Pn**	**19 31 09.6**	**-0.9**
KTH	**Kantishna Hill**	**9.12**	**33**	Pn	**Pn**	**19 31 13.9**	**+1.7**
FID	**Port Fidalgo**	**9.22**	**55**	Pn	**Pn**	**19 31 12.3**	**-1.1**
TRF	**Thorofare Moun**	**9.24**	**34**	Pn	**Pn**	**19 31 14.5**	**+0.6**
SCM	**Sheep Creek Mo**	**9.33**	**47**	Pn	**Pn**	**19 31 14.9**	**0.0**
EYAK	**Cordova Ski Ar**	**9.48**	**57**	Pn	**Pn**	**19 31 16.1**	**-0.7**
BPAW	**Bear Paw Mtn.**	**9.52**	**30**	Pn	**Pn**	**19 31 19.2**	**+1.9**
RND	**Reindeer**	**9.68**	**37**	Pn	**Pn**	**19 31 19.1**	**-0.4**
DIV	**Divide**	**9.69**	**53**		**Pn**	**19 31 19.4**	**-0.1**
ADK	**Adak**	**9.73**	**249**	Pn	**Pn**	**19 31 19.0**	**-1.2**
TNA	**Tin City**	**9.74**	**345**	Pn	**Pn**	**19 31 21.8**	**+1.6**
KLU	**Klutina**	**9.77**	**51**		**Pn**	**19 31 19.9**	**-0.7**
M24K	**Tolsona, Glenn**	**9.94**	**48**		**Pn**	**19 31 23.4**	**+0.5**
KIWB	**Kanaga Island**	**9.99**	**250**	Pn	**Pn**	**19 31 23.1**	**-0.4**
DHY	**Denali Highway**	**9.99**	**41**	Pn	**Pn**	**19 31 23.6**	**0.0**
I21K	**Tanana**	**10.14**	**24**		**Pn**	**19 31 27.4**	**+2.1**
BMRM	**Bremner River**	**10.15**	**55**		**Pn**	**19 31 25.5**	**-0.1**
H21K	**Melozitna Rive**	**10.37**	**21**	Pn	**Pn**	**19 31 29.3**	**+1.0**
N25K	**Chitina, Valde**	**10.39**	**52**		**Pn**	**19 31 28.6**	**0.0**
BERG	**Berg Lake**	**10.40**	**59**	Pn	**Pn**	**19 31 28.3**	**-0.4**
IMAR	**Indian Mountai**	**10.48**	**19**	Pn	**Pn**	**19 31 30.3**	**+0.6**

PAX	Paxson	10.66	44	Pn	Pn	19 31 30.8	-1.3
GLB	Gilahina Butte	10.68	54	Pn	Pn	19 31 32.5	+0.1
VRDI	Verde Repeater	10.77	55		Pn	19 31 33.6	0.0
SNH	Sunshine Point	10.77	61	Pn	Pn	19 31 34.7	+1.1
I23K	Minto, Yukon-K	10.78	29	Pn	Pn	19 31 33.5	0.0
WAX	Waxell Ridge	10.83	60	Pn	Pn	19 31 34.8	+0.5
CCB	Clear Creek Bu	10.87	34	Pn	Pn	19 31 34.2	-0.4
MDM	Murphy Dome	10.96	32	Pn	Pn	19 31 35.9	0.0
ISLE	Juniper Island	11.11	59	Pn	Pn	19 31 38.8	+0.8
IL31		11.24	35	Pn	Pn	19 31 38.2	-1.2
ILAR	Eielson Array	11.24	35	P	Pn	19 31 39.2	-0.2
	comp=N,0.1nm,0.3s,baz=230,slow=12,SNR=4.9						
H23K	Yukon River	11.26	27		Pn	19 31 40.4	+0.8
RIDG	Independent Ri	11.31	42		Pn	19 31 41.0	+0.6
MENT	Mentasta	11.34	47	Pn	Pn	19 31 41.4	+0.6
YAH	Yahtse	11.34	61	Pn	Pn	19 31 42.0	+1.0
L26K	Log Cabin Wild	11.53	47	Pn	Pn	19 31 43.4	+0.2
BARN	Barnard Glacie	11.55	57		Pn	19 31 42.2	-1.4
DOT	Dot Lake	11.55	43		Pn	19 31 42.8	-0.7
J25K	Salcha River,	11.63	37		Pn	19 31 44.0	-0.6
TABL	Table Mountain	11.65	61		Pn	19 31 45.2	+0.2
H24K	Noodor Dome	11.71	29	Pn	Pn	19 31 44.2	-1.3
SCRK	Sand Creek	11.76	42	Pn	Pn	19 31 45.0	-1.2
M27K	Edge Creek, AK	11.87	51		Pn	19 31 48.1	+0.5
L27K	Beaver Creek,	12.17	48		Pn	19 31 50.7	-0.6
BCAR	Beaver Creek A	12.19	48	Pn	Pn	19 31 51.4	-0.2
COLD	Coldfoot	12.26	22		Pn	19 31 53.0	+0.6
EGAK	Eagle	13.23	42		Pn	19 32 04.3	-0.2
HYT	Haines Junctio	13.48	60	P	Pn	19 32 08.1	+0.2
DAWY	Dawson	13.58	46		Pn	19 32 10.2	+1.2
BMAR	Burnt Mountain	13.77	29	Pn	Pn	19 32 11.3	0.0
N31M	Braeburn, Yuko	14.41	58	P	Pn	19 32 19.1	-0.3
I29M	Ogilvie Camp,	14.57	42	P	Pn	19 32 21.6	+0.4
M31M	Drury Creek, Y	15.19	56	P	Pn	19 32 28.6	-0.2
M31M				IAmb	IAmb	19 32 32.6	
	comp=Z,6.4nm,0.8s						
P33M	Teslin, Yukon	15.74	64	Pn	Pn	19 32 36.7	+1.2
P33M				IAmb	IAmb	19 32 38.7	
	comp=Z,2.6nm,0.7s						
DLBC	Dease Lake	17.25	70	P	Pn	19 32 55.1	+1.6
	comp=Z,0.2nm,0.3s,baz=266,slow=9.7,SNR=3.1						
DLBC	Dease Lake	17.25	70	IAmb	IAmb	19 33 10.2	
	comp=Z,15nm,1.5s						
INK	Inuvik	17.64	36	P	Pn	19 32 58.0	+0.2
	comp=Z,0.4nm,0.3s,baz=231,slow=9.1,SNR=5.7						
C36M	Paulatuk	21.20	37	P	P	19 33 33.2	-0.9
C36M				IAmb	IAmb	19 33 52.6	
	comp=Z,1.4nm,0.5s						
PETK	Petropavlovsk-	23.32	279	P	P	19 33 54.6	+0.2
	comp=Z,3.5nm,0.8s,baz=82,slow=14,SNR=4.1						
SEY	Seymchan	23.61	305	P	P	19 33 56.3	-0.6
	comp=Z,1.8nm,0.8s,baz=159,slow=24,SNR=3.3						
YKA	Yellowknife Ar	24.39	56	P	P	19 34 06.5	+2.5
	comp=Z,0.5nm,0.5s,baz=278,slow=9.8,SNR=12						
PLID	Pearl Lake	30.60	92	P	P	19 34 55.3	-4.5
PLID				IAmb	IAmb	19 35 08.1	
	comp=Z,5.8nm,1.1s						
NVAR	Mina Array Bea	33.81	103	P	P	19 35 31.0	+3.2
	comp=Z,0.3nm,0.6s,baz=316,slow=7.6,SNR=2.4						
RLMT	Red Lodge	34.33	86	P	P	19 35 26.3	-5.9
SONM	Songino Array	52.96	302	P	P	19 38 00.0	-0.2
	comp=Z,0.4nm,0.4s,baz=62,slow=8.5,SNR=2.1						
MKAR	Makanchi Array	64.12	317	P	P	19 39 15.9	-1.1
	comp=Z,0.4nm,0.7s,baz=46,slow=6.9,SNR=4.7						

IDC 06 19:32:06.1±1.7**, 50.12°N×114.63°W, h0km, mb1 3.3**/3**, mb1mx3.0**/55**, mbtmp2.8**/3**, ML2.9**/3**, Error ellipse: s-maj=32.3km s-min=10.4km az=117.0, Alberta**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEW	Newport	2.47	222	Pn	Pn	19 32 48.2	+0.4
	0.7nm,0.3s,baz=45,slow=15,SNR=3.5						
NEW				Lg	Lg	19 33 23.2	
	1.5nm,0.3s,baz=280,slow=7.9,SNR=5.8						
I56US	NEWPORT INFRAS	2.48	222	i		19 47 30.0	
	baz=40,slow=327,SNR=2.8						
NVAR	Mina Array Bea	11.98	194	Pn	Pn	19 34 59.4	+1.1
	0.1nm,0.3s,baz=11,slow=11,SNR=2.0						
YKA	Yellowknife Ar	12.41	0	Pn	Pn	19 34 59.8	-4.0
	0.1nm,0.3s,baz=181,slow=13,SNR=5.9						
YKA				Lg	Lg	19 38 32.7	
	baz=171,slow=25,SNR=1.5						

IDC 06 19:34:07.7±2.1**, 2.74°N×126.81°E, h0km, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.4**/41**, mbtmp3.4**/4**, MS3.1**/2**, Ms1 3.1**/2**, ms1mx2.5**/38**, Error ellipse: s-maj=121.1km s-min=26.7km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.74	183	P	P	19 38 50.5	+0.3
	0.8nm,0.8s,baz=18,slow=9.6,SNR=1.3						
FITZ				LR	LR	19 46 52.3	
	comp=Z,26nm,18.7s,baz=234,slow=37						
WRA	Warramunga Arr	23.73	162	P	P	19 39 21.7	0.0
	1.0nm,0.4s,baz=341,slow=10,SNR=11						
ASAR	Alice Springs	27.14	166	P	P	19 39 52.8	-0.1
	0.5nm,0.5s,baz=345,slow=7.6,SNR=12						
MKAR	Makanchi Array	58.41	326	P	P	19 44 05.1	-0.1
	0.1nm,0.4s,baz=128,slow=7.1,SNR=2.2						
AFI	Afiamalu	63.08	107	LR	LR	20 08 18.7	
	comp=Z,34nm,20.3s,baz=8.5,slow=32						

*IDC **06** 19:41:51.1±2.6, 22.06°S×68.58°W, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.5/22, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=75.6km s-min=47.8km az=44.0*
*GUC **06** 19:42:06.5±0.7, 21.06°S×68.93°W, h108km±3km, ML3.7*
ISC 06 19:42:05.6±1.4**, 21.06°S**±0.02×**68.74°W**±0.06**, h19**km±5km**, n28,** σ1.96/36**, 5C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.70	271⇑	eP	Pn	19 42 22.8	+2.3
PB01				eS	Sn	19 42 35.4	+4.6
PB01				IAML		19 42 37.3	
	comp=N,3μm,0.2s						
PB09	IPOC Station P	0.87	213	eP	Pn	19 42 25.9	+3.0
PB09				eS	Sn	19 42 40.5	+5.4
PB09				IAML		19 42 44.3	
	comp=E,2μm,0.5s						
PB08	IPOC Station P	1.00	337	eP	Pg	19 42 27.1	+2.0
PB08				eS	Sn	19 42 42.5	+4.0
PB08				IAML		19 42 44.0	
	comp=E,5μm,0.6s						
PB02	IPOC Station P	1.11	256⇑	eP	Pg	19 42 26.7	-0.4
PB02				eS	Sg	19 42 41.9	+0.1
PB02				IAML		19 42 43.1	
	comp=E,3μm,0.2s						
PB07	IPOC Station P	1.26	238⇑	eP	Pb	19 42 28.6	-0.2
PB07				eS	Sn	19 42 45.0	+0.3
PB07				IAML		19 42 47.6	
	comp=N,1μm,0.5s						
HMBC	Humberstone	1.33	306	eP	Pn	19 42 28.9	-0.3
HMBC				eS	Sn	19 42 46.2	-0.3
PATCX	Punta Patache	1.34	280⇑	eP	Pn	19 42 28.9	-0.4
PATCX				eS	Sn	19 42 45.8	-0.9
PATCX				IAML		19 42 47.7	
	comp=N,3μm,0.2s						
TA01	Diego Aracena	1.44	290⇑	eP	Pn	19 42 29.7	-0.8
TA01				eS	Sn	19 42 47.6	-1.3
TA01				IAML		19 42 48.8	
	comp=E,3μm,0.2s						
GO01	Chusmiza	1.45	343	eP	Pb	19 42 32.2	0.0
GO01				eS	Sg	19 42 52.2	-0.5
GO01				IAML		19 42 53.5	
	comp=N,5μm,0.1s						
TA02	Huaiquique	1.52	301	eP	Pn	19 42 30.9	-0.8
TA02				eS	Sn	19 42 49.6	-1.5
LVC	Limon Verde	1.55	186	eP	Pg	19 42 34.3	-1.2
LVC				eS	Sg	19 42 55.5	-0.2
PB11	IPOC Station P	1.56	326	eP	Pn	19 42 32.2	-0.2
PB11				eS	Sn	19 42 51.9	-0.1
PB11				IAML		19 42 53.1	
	comp=N,2μm,0.2s						
PB06	IPOC Station P	1.81	205	eP	Pn	19 42 36.0	+0.2
PB06				eS	Sn	19 42 58.7	+0.3
PB06				IAML		19 43 03.9	
	comp=E,591nm,0.3s						
PB04	IPOC Station P	1.82	226	eP	Pn	19 42 35.9	-0.1
PB04				eS	Sn	19 42 57.3	-1.4
PB04				IAML		19 43 03.2	
	comp=N,534nm,0.4s						
PB15	IPOC Station P	2.24	198	eP	Pn	19 42 42.0	+0.2
PB15				i S	Sn	19 43 09.1	0.0
PB16	IPOC Station P	2.81	345	eP	Pn	19 42 49.9	-0.1
PB12	IPOC Station P	2.86	328	eP	Pn	19 42 47.5	-2.8
PB12				eS	Sn	19 43 20.5	-3.6
PB12				IAML		19 43 29.4	
	comp=N,204nm,0.4s						
GO02	Mina Guanaco	4.16	191	eP	Pn	19 43 07.0	-1.2
GO02				eS	Sn	19 43 54.4	-2.1
LPAZ	La Paz	4.78	7	Pn	Pn	19 43 18.4	+1.2
	comp=N,2.2nm,0.3s,baz=186,slow=4.0,SNR=27						
TXAR	Lajitas Array	60.36	325	P	P	19 52 08.4	-5.2
	comp=N,0.1nm,0.5s,baz=159,slow=7.7,SNR=1.6						
TORD	Torodi Ar. Bea	77.06	70	P	P	19 53 47.9	-10
	comp=N,0.3nm,0.5s,baz=248,slow=5.5,SNR=2.1						
H11S2	WAKE ISLAND Hy	127.98	277	T	T	22 21 00.1	
	baz=102,slow=74,SNR=6.1						
H11S1	WAKE ISLAND Hy	127.99	277	T	T	22 21 03.0	
	baz=102,slow=74,SNR=3.8						
H11S3	WAKE ISLAND Hy	128.00	277	T	T	22 21 03.7	
	baz=102,slow=74,SNR=3.7						
H11N3	WAKE ISLAND Hy	128.05	279	T	T	22 21 05.5	
	baz=99						
H11N2	WAKE ISLAND Hy	128.06	279	T	T	22 21 06.2	
	baz=99						
H11N1	WAKE ISLAND Hy	128.06	279	T	T	22 21 06.4	
	baz=99						
MKAR	Makanchi Array	145.19	36	PKPbc	PKPbc	20 01 31.7	-10
	comp=N,0.4nm,0.5s,baz=303,slow=3.1,SNR=6.2						

*KRSZO **06** 19:51:07.6±0.7, 45.24°N×16.93°E, h12km, ML3.5/26, Error ellipse: s-maj=1.9km s-min=1.8km az=73.0*
*LDG **06** 19:51:07.9±0.2, 45.31°N×16.99°E, h2km, Ml2.8/11, Error ellipse: s-maj=4.5km s-min=3.3km az=18.0*
*PDG **06** 19:51:08.0±0.7, 45.25°N×17.01°E, h11km±1km, ML3.2/12, Error ellipse: s-maj=0.7km s-min=1.2km az=0.0*
*RHSSO **06** 19:51:08.5±0.2, 45.23°N×16.93°E, h3km±1km, ML3.2/19*
*BGR **06** 19:51:10.1±0.6, 45.22°N×16.95°E, h10km, ML3.1/7, Error ellipse: s-maj=14.5km s-min=6.7km az=165.0*
*PRU **06** 19:51:11.0±0.0, 45.48°N×16.84°E, h0km*
ISC 06 19:51:08.0±1.0**, 45.25°N**±0.01×**16.93°E**±0.01**, h9**km±8km**, n182,** σ1.65/303**, 20C-16D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
A051A	Mrakovica	0.24	183⇓	iPg	Pg	19 51 13.1	+0.2
A051A				eSg	Sg	19 51 16.1	-0.1
PRIJ	Prijedor	0.32	209	ePg	Pg	19 51 14.2	-0.1
PRIJ				eSg	Sg	19 51 18.6	+0.2
MOSL	Moslavina	0.38	341	ePg	Pb	19 51 16.7	-0.3
MOSL				Sg	Sb	19 51 22.2	-0.8
A052A	Srbac	0.44	110⇑	iPg	Pb	19 51 16.8	-1.2
A052A				eSg	Sg	19 51 22.5	0.0
A251A	Rujevac	0.48	255	ePg	Pg	19 51 17.6	+0.2
A251A				Sg	Sg	19 51 24.1	+0.3
BLY	Banja Luka	0.54	160⇓	iPg	Pg	19 51 18.0	-0.4
BLY				eSg	Sg	19 51 24.6	-0.9
BLY	Banja Luka	0.54	160	Pg	Pg	19 51 18.0	-0.4
	comp=Z,7.1nm,SNR=295						
A252A	Venje	0.68	74	i Pg	Pb	19 51 21.6	-0.4
A252A				Sg	Sb	19 51 31.4	-0.1
A050A	Klekovaca	0.82	200⇓	iPg	Pg	19 51 22.8	-1.0
A050A				eSg	Sg	19 51 33.4	-1.1
MGRS	Mrkonjic Grad	0.84	172	ePg	Pg	19 51 23.8	-0.5
MGRS				eSg	Sg	19 51 35.0	-0.2
ZAG	Zagreb	0.88	311	ePg	Pg	19 51 24.9	0.0
ZAG				eSg	Sb	19 51 36.9	-0.3
ZAG	Zagreb	0.88	311	ePg	Pb	19 51 26.0	+0.6
ZAG				Sg	Sb	19 51 37.8	+0.5
ZAG	Zagreb	0.88	311	Pn	Pb	19 51 26.2	+0.8
	comp=Z,3.5nm,SNR=24						
KALN	Kalnik	0.94	340	ePg	Pb	19 51 26.8	+0.3
KALN				Sg	Sb	19 51 39.5	+0.4
PTJ	Puntijarka	0.94	314	ePg	Pb	19 51 26.6	0.0
PTJ				Sg	Sb	19 51 38.9	-0.3
PTJ	Puntijarka	0.94	314	Pg	Pb	19 51 26.5	0.0
	comp=Z,3.4nm,SNR=98						
A264A	Tarany	0.94	16	Lg	Lg	19 51 41.5	
DOB	Doboj	0.98	122⇑	iPg	Pg	19 51 25.8	-1.1
DOB				eSg	Sg	19 51 38.6	-1.0
PLIT	Plitvice	1.00	248	ePg	Pg	19 51 26.3	-0.9
PLIT				Sg	Sg	19 51 39.1	-1.0
LOBO	Lobor	1.08	327	ePg	Pb	19 51 29.2	+0.2
LOBO				Sg	Sb	19 51 43.9	+0.6
OZLJ	Ozalj	1.09	290	ePg	Pg	19 51 28.8	-0.1
OZLJ				Sg	Sb	19 51 43.7	+0.3
UDBI	Udbina	1.10	229	i Pg	Pg	19 51 28.6	-0.5
UDBI				Sg	Sg	19 51 42.2	-1.2
GCIS	Gornji Cirnik	1.10	304	i Pg	Pb	19 51 29.1	-0.2
GCIS				i Sg	Sb	19 51 44.1	+0.4
GCIS				IAML		19 51 49.3	
	comp=Z,82nm,0.2s						
KOVH	Kovagotottos	1.17	44	Pn	Pb	19 51 30.0	-0.5
	comp=Z,2.8nm,SNR=150						
KOVH				Lg	Lg	19 51 47.1	
KOVH	Kovagotottos	1.17	44	P	Pb	19 51 30.0	-0.5
KOVH				S	Sn	19 51 47.1	+0.4
CRES	Cresnjev	1.18	300⇑	iPg	Pg	19 51 30.2	-0.5
CRES				eSg	Sb	19 51 46.6	+0.5
CRES	Cresnjev	1.18	300	Pg	Pg	19 51 30.2	-0.5
	comp=Z,2.9nm,SNR=38						
CRES				Lg	Lg	19 51 47.7	
SRKY	Kupres RS	1.20	172⇓	iPg	Pg	19 51 30.1	-0.9
SRKY				eSg	Sg	19 51 46.0	-0.6
BOJS	Bojanci	1.21	283	i Pg	Pg	19 51 30.5	-0.7
BOJS				i Sg	Sb	19 51 47.2	+0.5
BOJS				IAML		19 51 49.9	
	comp=Z,91nm,0.4s						
BEHE	Becsehely	1.22	355	ePg	Pn	19 51 31.7	+0.4
BEHE				eSg	Sn	19 51 48.4	+0.4
BEHE	Becsehely	1.22	355	Pg	Pn	19 51 31.8	+0.5
	comp=Z,1.8nm,SNR=31						
BEHE				Lg	Lg	19 51 48.6	
BEHE	Becsehely	1.22	355	P	Pn	19 51 31.8	+0.5
BEHE				S	Sn	19 51 48.6	+0.6
KOGS	Kog	1.28	339	Pn	Pg	19 51 32.2	-0.5
	comp=Z,4.8nm,SNR=42						
KIJV	Kijevo	1.30	197	ePg	Pg	19 51 32.0	-1.0
KIJV				Sg	Sg	19 51 48.9	-1.0
A265A	Kaposfured	1.32	27	Pg	Pn	19 51 34.8	+2.1
	comp=Z,1.9nm,SNR=22						
A265A				Lg	Lg	19 51 53.8	
A263A	Hollad	1.41	11	Pn	Pn	19 51 33.6	-0.3
	comp=Z,1.8nm,SNR=30						
A250A	Rusevo Krmpots	1.44	264	ePn	Pn	19 51 34.5	+0.2
A250A				Sg	Sn	19 51 54.5	+1.2
GBRS	Gornja Briga	1.52	281	i Pg	Pn	19 51 35.1	-0.3
MORH	Mrgy, Hungar	1.54	51	⇑P	Pn	19 51 34.9	-0.8
MORH				⇑S	Sg	19 51 57.9	+0.3
MORH	Mrgy, Hungar	1.54	51	ePn	Pg	19 51 36.5	-1.1
MORH				eSn	Sg	19 51 57.6	+0.1
MORH	Mrgy, Hungar	1.54	51	Pb	Pn	19 51 34.8	-0.8
	comp=Z,0.6nm,SNR=32						
MORH				Sg	Sn	19 51 55.1	-0.7
MORH	Mrgy, Hungar	1.54	51	P	Pn	19 51 34.8	-0.8
MORH				S	Sn	19 51 55.1	-0.7
A266A	Gyulaj	1.58	36	Pg	Pg	19 51 38.0	-0.3
	comp=Z,3.4nm,SNR=62						
A266A				Lg	Lg	19 52 01.3	
RABC	Rab	1.60	252	ePn	Pn	19 51 36.7	+0.2
RABC				Sn	Sb	19 51 59.1	+1.0
NVLJ	Novalja	1.61	245	i Pn	Pn	19 51 37.0	+0.3
NVLJ				Sn	Sn	19 51 58.8	+1.1
A262A	Szaknyer	1.64	350	Pn	Pn	19 51 37.5	+0.5
	comp=Z,1.1nm,SNR=15						
MORI	Morici	1.64	213	i Pn	Pn	19 51 37.8	+0.7
MORI				Sn	Sn	19 51 59.0	+0.8
VIRC	Vir	1.64	235	i Pn	Pn	19 51 37.5	+0.5
VIRC				Sn	Sn	19 51 59.6	+1.3
A261A	Ohid	1.71	5	Pn	Pn	19 51 38.4	+0.5
	comp=Z,0.8nm,SNR=19						
BLJ	Bijeljina	1.73	105	ePn	Pn	19 51 38.4	+0.2
BLJ				eSn	Sn	19 52 00.7	+0.3
RIY	Rijeka	1.73	273	ePn	Pn	19 51 39.3	+1.1
RIY				eSn	Sn	19 52 01.5	+1.1
RIY	Rijeka	1.73	273	ePn	Pn	19 51 38.3	0.0
RIY				Sn	Sn	19 52 02.0	+1.6
RICI	Ricice	1.77	175	ePn	Pn	19 51 39.5	+0.7
RICI				Sn	Sb	19 52 03.6	+0.7
TIH	Tihany	1.78	22	Pn	Pn	19 51 36.8	-2.2
	comp=Z,2.4nm,SNR=33						
TIH	Tihany	1.78	22	P	Pn	19 51 36.8	-2.2
CEY	Cerknica	1.82	286	ePn	Pn	19 51 39.9	+0.3
CEY				eSn	Sn	19 52 04.5	+1.6
DUGI	Dugi Otok	1.84	227	i Pn	Pn	19 51 40.4	+0.6
DUGI				Sn	Sn	19 52 04.1	+1.0
ZIRJ	Zirje	1.84	210	ePn	Pn	19 51 40.6	+0.8
ZIRJ				Sn	Sn	19 52 03.7	+0.4
LJU	Ljubljana	1.86	296	ePn	Pn	19 51 41.3	+1.2
LJU				eSn	Sn	19 52 05.2	+1.5
SOKA	Soboth	1.94	318	ePn	Pn	19 51 41.1	-0.2
	comp=Z,3.5nm,0.3s						
SOKA				eSn	Sn	19 52 04.6	-1.3
MPLH	Magyarpolny	1.96	12	Pn	Pn	19 51 41.7	+0.2
	comp=Z,0.2nm,SNR=8.3						
MPLH	Magyarpolny	1.96	12	P	Pn	19 51 41.7	+0.2
MAKA	Makarska	1.97	178	ePn	Pn	19 51 41.8	+0.3
MAKA				Sn	Sn	19 52 06.6	+0.3
SMRN	Sveta Marina	1.97	265	ePn	Pn	19 51 42.0	+0.4
SMRN				Sn	Sn	19 52 08.3	+1.8
A267A	Kaloz	2.01	32	Pg	Pg	19 51 47.7	+1.1
	comp=Z,0.6nm,SNR=16						
A267A				Lg	Lg	19 52 14.7	
FRGS	Fruska Gora	2.04	92	⇑P	Pn	19 51 43.2	+0.6
FRGS				⇑S	Sb	19 52 11.1	+0.3
FRGS	Fruska Gora	2.04	92	ePn	Pn	19 51 42.7	+0.1
FRGS				eSn	Sn	19 52 09.1	+0.9
SKDS	Skadanscina	2.07	279	ePn	Pn	19 51 43.4	+0.3
SKDS				eSn	Sn	19 52 09.6	+0.6
OBKA	Obir	2.08	308	ePn	Pn	19 51 43.4	+0.1
	comp=Z,2.4nm,0.3s,SNR=29						
OBKA				eSn	Sg	19 52 14.1	-0.8
OBKA	Obir	2.08	308	ePn	Pn	19 51 43.8	+0.5
OBKA				eSn	Sn	19 52 10.8	+1.4
OBKA	Obir	2.08	308	x	x	19 51 43.2	
	comp=Z,0.5nm,SNR=24						
OBKA	Obir	2.08	308	ePn	Pn	19 51 43.5	+0.2
OBKA				ePg	Pg	19 51 49.0	+1.0
OBKA				eSg	Sg	19 52 14.4	-0.6
HVAR	Hvar	2.10	190	i Pn	Pn	19 51 44.5	+1.1
HVAR				Sn	Sn	19 52 10.0	+0.3
EGYH	Egyhazaskeszo	2.18	7	Pn	Pn	19 51 45.2	+0.6
	comp=Z,0.4nm,SNR=5.9						
EGYH	Egyhazaskeszo	2.18	7	P	Pn	19 51 45.2	+0.6
ARSA	Arzberg	2.22	335	ePn	Pn	19 51 45.4	+0.3
	comp=Z,12nm,0.4s						
ARSA				eSn	Sn	19 52 13.8	+1.1
ARSA	Arzberg	2.22	335	ePn	Pn	19 51 46.2	+1.1
ARSA				eSn	Sn	19 52 14.6	+1.9
ARSA	Arzberg	2.22	335	Pn	Pn	19 51 45.4	+0.3
	comp=Z,0.3nm,SNR=9.8						
ARSA	Arzberg	2.22	335	ePn	Pn	19 51 45.6	+0.5
ARSA				eSg	Sg	19 52 20.3	+0.8
BBLS	Lazići	2.25	127⇑	iPn	Pn	19 51 46.1	+0.6
BBLS				eSn	Sn	19 52 14.4	+1.0
BRJN	Brijuni	2.28	262	ePn	Pn	19 51 45.9	+0.1
BRJN				Sn	Sn	19 52 15.1	+1.1
A268A	Rede	2.29	17	Pn	Pn	19 51 45.8	-0.2
	comp=Z,0.3nm,SNR=10						
CSKK	Cskako	2.30	23	Pn	Pn	19 51 46.2	0.0
	comp=Z,3.6nm,SNR=15						
CSKK				Sn	Sn	19 52 13.5	-1.2
CSKK	Cskako	2.30	23	P	Pn	19 51 46.2	0.0
CSKK				S	Sn	19 52 13.5	-1.2
RUDO	Rudo	2.40	132	ePn	Pn	19 51 48.5	+1.0
RUDO				eSn	Sn	19 52 18.0	+1.1
SOP	Sopron	2.44	354	Pn	Pn	19 51 48.4	+0.3
	comp=Z,0.2nm,SNR=5.0						
SOP	Sopron	2.44	354	ePn	Pn	19 51 48.5	+0.4
SOP				eSn	Sn	19 52 16.6	-1.5
SOP	Sopron	2.44	354	P	Pn	19 51 48.4	+0.3
STON	Ston	2.44	167	ePn	Pn	19 51 49.0	+0.9
STON				eSn	Sn	19 52 19.4	+1.3
STON	Ston	2.44	167	ePn	Pn	19 51 49.0	+0.9
STON				Sn	Sn	19 52 19.7	+1.6
DIVS	Divibare	2.47	117	ePn	Pn	19 51 49.7	+1.1
DIVS				eSn	Sn	19 52 20.1	+1.1
LSTV	Lastovo	2.48	181	ePn	Pn	19 51 49.1	+0.5
LSTV				Sn	Sn	19 52 20.1	+1.0
RONA	Rosalia, Austr	2.49	350	ePn	Pn	19 51 49.3	+0.6
	comp=Z,16nm,0.2s,SNR=19						
RONA				eSn	Sn	19 52 17.0	-2.2
UPM	Unac-Piva	2.50	145	ePn	Pn	19 51 49.1	+0.1
UPM				eSn	Sn	19 52 20.9	+1.3
UPM	Unac-Piva	2.50	145⇓	iPn	Pn	19 51 49.0	+0.1
UPM				i Sn	Sn	19 52 21.8	+2.2
A269A	Baj	2.59	22	Pn	Pn	19 51 50.6	+0.5
	comp=Z,0.3nm,SNR=7.5						
A269A				Lg	Lg	19 52 34.0	
PLE	Pljevlja	2.61	137⇓	iPn	Pn	19 51 50.6	+0.1
PLE				i Sn	Sn	19 52 24.6	+2.2
BRY	Bratogost	2.62	153	ePn	Pn	19 51 52.0	+1.3
BRY				eSn	Sn	19 52 23.8	+1.1
BRY	Bratogost	2.62	153	ePn	Pn	19 51 50.9	+0.2
BRY				i Sn	Sn	19 52 25.3	+2.6
BUD	Budapest	2.66	32	eSg	Sg	19 52 35.9	+2.4
MYKA	Terra Mystica	2.67	302	ePn	Pg	19 51 58.5	-0.8
	comp=Z,19nm,0.6s,SNR=10						
MYKA				eSn	Sb	19 52 31.4	+2.3
DBRK	Dubrovnik	2.73	161	ePn	Pn	19 51 52.9	+0.9
DBRK				Sn	Sn	19 52 26.4	+1.3
SRO	Srobarova	2.73	20	ePN	Pn	19 51 53.1	+1.0
TREB	Trebinje	2.74	157⇑	iPn	Pn	19 51 53.3	+1.2
TREB				eSn	Sn	19 52 27.0	+1.7
CONA	Conrad Observa	2.77	345	ePn	Pn	19 51 53.4	+0.6
	comp=Z,14nm,0.3s,SNR=19						
CONA				eSn	Sn	19 52 25.1	-1.3
CONA	Conrad Observa	2.77	345	Pn	Pn	19 51 53.3	+0.6
	comp=Z,0.1nm,SNR=4.2						
AMBH	Ambrzfalva	2.88	66	⇑S	Sn	19 52 31.5	+2.8
AMBH	Ambrzfalva	2.88	66	Pn	Pn	19 51 50.9	-3.1
	comp=Z,0.4nm,SNR=3.4						
AMBH				Pb	Pg	19 52 03.3	+0.2
AMBH				Lg	Lg	19 52 42.9	
AMBH	Ambrzfalva	2.88	66	P	Pn	19 51 50.9	-3.1
AMBH	Ambrzfalva	2.88	66	PG	Pg	19 52 03.3	+0.2
ZST	Bratislava	2.95	2	ePN	Pn	19 51 55.4	+0.4
HCY	Herceg Novi	3.02	157	ePn	Pn	19 51 57.4	+1.3
HCY				eSn	Sn	19 52 33.8	+1.3
HCY	Herceg Novi	3.02	157⇓	iPn	Pn	19 51 56.6	+0.5
HCY				i Sn	Sn	19 52 35.0	+2.5
KOME	Kolasin	3.04	141⇑	iPn	Pn	19 51 56.6	+0.2
KOME				i Sn	Sn	19 52 35.2	+2.2
CEME	Cevo	3.06	151⇓	iPn	Pn	19 51 57.1	+0.4
CEME				i Sn	Sn	19 52 35.8	+2.3
KBA	Koelnbreinsper	3.09	308	ePn	Pn	19 51 57.6	+0.5
	comp=Z,0.6nm,0.3s						
KBA	Koelnbreinsper	3.09	308	ePn	Pn	19 51 57.6	+0.5
KBA				ePg	Pg	19 52 07.3	+0.2
KBA				eSn	Sn	19 52 34.6	+0.4
BSZH	Besenyszg	3.09	47	⇓S	Sn	19 52 35.3	+1.3
MOA	Molln	3.18	326	ePn	Pn	19 51 59.7	+1.5
	comp=Z,2.9nm,0.2s						
MOA	Molln	3.18	326	ePn	Pn	19 51 59.8	+1.5
MOA				eSn	Sn	19 52 35.8	-0.5
IVA	Berane	3.20	137	ePn	Pn	19 51 58.8	+0.2
IVA				i Sn	Sn	19 52 38.9	+2.0
BUM	Brajici-Budva	3.28	154⇑	iPn	Pn	19 52 00.1	+0.5
BUM				i Sn	Sn	19 52 41.1	+2.3
SMOL	Smolenice	3.28	6	ePN	Pn	19 52 00.0	+0.4
SMOL				eSN	Sn	19 52 36.1	-2.7
PDG	Podgorica	3.29	148	⇑S	Sn	19 52 40.1	+1.2
PDG	Podgorica	3.29	148	ePn	Pn	19 52 00.6	+0.9
PDG				eSn	Sn	19 52 39.3	+0.4
TTG	Podgorica	3.29	148	ePn	Pn	19 52 00.1	+0.4
TTG				i Sn	Sn	19 52 41.1	+2.2
BZS	Buzias	3.32	82	⇓P	Pn	19 52 00.7	+0.5
BZS				⇑S	Sn	19 52 42.5	+2.8
BZS	Buzias	3.32	82	Pb	Pg	19 52 09.4	-2.2
	comp=Z,0.1nm,SNR=4.9						
PSZ	Piszkesteto	3.36	36	⇓S	Sn	19 52 41.4	+0.5
PSZ	Piszkesteto	3.36	36	ePn	Pn	19 52 00.6	-0.2
PSZ				ePg	Pg	19 52 14.0	+1.6
PSZ				eSn	Sn	19 52 38.9	-2.0
PSZ				eSg	Sg	19 52 57.5	+1.6
ABTA	Abfaltersbach	3.42	297	ePn	Pn	19 52 03.2	+1.6
	comp=Z,1.1nm,0.2s						
MDVR	Moldovita	3.43	96	⇑P	Pn	19 52 01.7	0.0
PVY	Plav	3.44	139⇑	iPn	Pn	19 52 02.3	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SIRR	**Siria**	**3.46**	**71**	⇓P	**Pn**	**19 52 02.0**	**-0.2**
SIRR				⇓S	**Sn**	**19 52 45.3**	**+2.0**
DRME	**Dracevica, Mon**	**3.48**	**151**	*e*Pn	**Pn**	**19 52 03.3**	**+1.0**
DRME				*e*Sn	**Sn**	**19 52 44.1**	**+0.5**
DRME	**Dracevica, Mon**	**3.48**	**151**	⇑*i*Pn	**Pn**	**19 52 02.8**	**+0.5**
DRME				*i* Sn	**Sn**	**19 52 45.8**	**+2.2**
KOLL	**Kolacno**	**3.48**	**16**	*e*PN	**Pn**	**19 52 02.9**	**+0.6**
KOLL				*e*SN	**Sn**	**19 52 41.4**	**-2.2**
VYHS	**Vyhne**	**3.50**	**21**	Pg	**Pg**	**19 52 18.0**	**+3.0**
VYHS	**Vyhne**	**3.50**	**21**	*e*PN	**Pn**	**19 52 02.7**	**+0.1**
VYHS				*e*SN	**Sn**	**19 52 42.0**	**-2.1**
JAVC	**Velka Javorina**	**3.64**	**8**	*e*PN	**Pn**	**19 52 05.4**	**+0.7**
ULC	**Ulcinj**	**3.69**	**152**	*e*Pn	**Pn**	**19 52 05.8**	**+0.5**
ULC				*i* Sn	**Sn**	**19 52 51.1**	**+2.1**
RJOB	**Jochberg**	**3.78**	**313**	*e*Pn	**Pn**	**19 52 08.2**	**+1.6**
RJOB				*e*Sn	**Sn**	**19 52 52.0**	**+0.8**
KRUC	**Moravsky**	**3.83**	**355**	*e*PN	**Pn**	**19 52 07.0**	**-0.1**
KRUC				*e*SN	**Sn**	**19 52 49.9**	**-2.4**
HERR	**Herculane**	**3.91**	**94**	⇑P	**Pn**	**19 52 07.8**	**-0.5**
CKRC	**Cesky Krumlov**	**3.99**	**334**	*e*PN	**Pn**	**19 52 11.5**	**+2.1**
CKRC				*e*SN	**Sn**	**19 52 54.2**	**-2.1**
VRAC	**Vranov**	**4.06**	**357**	⇓P	**Pn**	**19 52 08.8**	**-1.6**
VRAC	**Vranov**	**4.06**	**357**	*e*PN	**Pn**	**19 52 10.3**	**-0.1**
VRAC				*e*SN	**Sn**	**19 52 55.1**	**-3.0**
GZR	**Gura Zlata**	**4.13**	**86**	⇓P	**Pn**	**19 52 11.7**	**+0.3**
GZR	**Gura Zlata**	**4.13**	**86**	Pg	**Pg**	**19 52 24.6**	**-2.5**
WTTA	**Wattenberg**	**4.18**	**301**	*e*Pn	**Pn**	**19 52 14.3**	**+2.1**
	comp=Z,1.7nm,0.2s						
WTTA	**Wattenberg**	**4.18**	**301**	*e*Pn	**Pn**	**19 52 14.0**	**+1.8**
WTTA				*e*Pg	**Pg**	**19 52 26.1**	**-2.1**
WTTA				*e*Sn	**Sn**	**19 53 02.4**	**+1.1**
GEC2	**GERESS Array S**	**4.21**	**330**	*e*Pn	**Pn**	**19 52 13.5**	**+0.9**
GEC2				*e*Sn	**Sn**	**19 53 01.3**	**-0.6**
WATA	**Walderalm**	**4.25**	**301**	*e*Pn	**Pn**	**19 52 15.7**	**+2.6**
	comp=Z,1.4nm,0.2s						
LANS	**Liptovska Anna**	**4.27**	**23**	*e*PN	**Pn**	**19 52 14.4**	**+1.2**
SQTA	**Sankt Quirin**	**4.43**	**298**	*e*Pn	**Pn**	**19 52 18.0**	**+2.5**
	comp=Z,3.3nm,0.4s						
SRE	**Strehaia**	**4.50**	**95**	⇓P	**Pn**	**19 52 16.5**	**+0.2**
KHC	**Kasperske Hory**	**4.50**	**331**	*e*PN	**Pn**	**19 52 17.4**	**+1.0**
KHC				*e*PG	**Pg**	**19 52 32.0**	**-2.2**
KHC				*e*SN	**Sn**	**19 53 06.9**	**-2.0**
KHC				*e*SG	**Sg**	**19 53 32.5**	**0.0**
MORC	**Moravsky Berou**	**4.54**	**5**	⇑P	**Pn**	**19 52 16.4**	**-0.7**
MORC	**Moravsky Berou**	**4.54**	**5**	*e*PN	**Pn**	**19 52 17.5**	**+0.5**
MORC				*e*SN	**Sn**	**19 53 07.5**	**-2.5**
FETA	**Feichten**	**4.66**	**295**	*e*Pn	**Pn**	**19 52 21.0**	**+2.3**
	comp=Z,1.6nm,0.4s						
KRLC	**Kraliky**	**4.83**	**359**	*e*PN	**Pn**	**19 52 21.5**	**+0.6**
KRLC				*e*SN	**Sn**	**19 53 15.1**	**-1.8**
PRU	**Pruhonice**	**5.00**	**342**	*e*SN	**Sn**	**19 53 18.2**	**-3.0**
DPC	**Dobruska-Polom**	**5.12**	**356**	*e*PN	**Pn**	**19 52 26.0**	**+1.1**
VTS	**Vitosha**	**5.26**	**118**	⇑P	**Pn**	**19 52 26.9**	**-0.1**
DAVA	**Damuels**	**5.29**	**295**	*e*Pn	**Pn**	**19 52 25.4**	**-2.0**
OSTC	**Ostas**	**5.33**	**355**	*e*PN	**Pn**	**19 52 28.3**	**+0.5**
CHVC	**Chvalec**	**5.37**	**354**	*e*PN	**Pn**	**19 52 28.8**	**+0.4**
BRG	**Berggiesshubel**	**5.97**	**342**	Sg	**Sb**	**19 54 07.8**	**+4.1**
BRG				Amp		19 54 39.4	
	comp=Z,7.2nm,1.3s						
GUNZ	**Gunzen**	**5.98**	**330**	*e*Pn	**Pn**	**19 52 38.3**	**+1.6**
PGF	**Pioggiola**	**6.33**	**248**	*e*Pn	**Pn**	**19 52 41.1**	**-0.6**
PGF				*e*Sn	**Sn**	**19 53 49.1**	**-5.0**
	comp=Z,0.3nm,0.3s						
CLL	**Collm**	**6.60**	**338**	*e*Pn	Pn	19 52 38.0	-7.2
CLL				*e*Sn	Sn	19 53 49.0	-11
CLL				*e*Sb	**Sb**	**19 54 25.0**	**+3.2**
CLL				*e*Sg	**Sg**	**19 54 39.0**	**-0.7**
	comp=Z,8.0nm,0.9s						
BFO	**Black Forest**	**6.66**	**301**	*e*Pn	**Pn**	**19 52 45.5**	**-0.6**
SBF	**Sospel**	**6.92**	**262**	*e*Pn	**Pn**	**19 52 48.9**	**-0.8**
SBF				*e*Sn	**Sn**	**19 54 02.5**	**-6.1**
	comp=Z,2.6nm,0.3s						
LPG	**La Plagne**	**7.17**	**276**	*e*P	**Pn**	**19 52 57.3**	**+4.0**
LPG				*e*Sn	**Sn**	**19 54 09.6**	**-5.4**
	comp=Z,1.2nm,0.4s						
LPL	**La Plagne**	**7.18**	**276**	*e*P	**Pn**	**19 52 57.5**	**+4.1**
LPL				*e*Sn	**Sn**	**19 54 09.7**	**-5.6**
	comp=Z,1.4nm,0.4s						
MBDF	**Montbardon**	**7.22**	**269**	*e*P	**Pn**	**19 52 57.3**	**+3.4**
MBDF				*e*Sn	**Sn**	**19 54 10.4**	**-5.7**
	comp=Z,1.0nm,0.3s						
CDF	**Champ du Feu**	**7.33**	**299**	*e*Pn	**Pn**	**19 52 54.3**	**-1.1**
CDF				*e*Sn	**Sn**	**19 54 13.3**	**-5.4**
	comp=Z,1.0nm,0.4s						
FRF	**La Foret Royal**	**7.55**	**261**	*e*Pn	**Pn**	**19 52 57.0**	**-1.3**
FRF				*e*Sn	**Sn**	**19 54 18.3**	**-5.7**
	comp=Z,0.7nm,0.3s						
LMR	**La Mourre**	**7.72**	**259**	*e*Pn	**Pn**	**19 52 59.1**	**-1.4**
LMR				*e*Sn	**Sn**	**19 54 22.2**	**-5.8**
	comp=Z,0.4nm,0.3s						
HAU	**Haudompre**	**7.79**	**294**	*e*Pn	**Pn**	**19 53 00.5**	**-1.0**
HAU				*e*Sn	**Sn**	**19 54 24.0**	**-5.7**
	comp=Z,3.4nm,0.4s						
ORIF	**Oris-en-Rattie**	**7.83**	**271**	*e*P	**Pn**	**19 53 06.7**	**+4.6**
ORIF				*e*Sn	**Sn**	**19 54 24.8**	**-6.1**
	comp=Z,0.7nm,0.3s						
SMRF	**Simiane la Rot**	**8.20**	**265**	*e*Pn	**Pn**	**19 53 06.2**	**-1.0**

*IDC **06** 20:10:37.9±1.7, 14.°08S×166.°59E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/42, mbtmp3.8/6, ML3.7/1, MS3.4/1, Ms1 3.3/1, ms1mx2.6/60, Error ellipse: s-maj=45.2km s-min=26.8km az=111.0*

*NOU **06** 20:10:38.2, 13.°97S×166.°62E, h0km, MLv5.1/9, Vanuatu Islands*

ISC 06 20:10:44.2±1.2**, 14.°2S**±0.°1×**166.°6E**±0.°2**, h43**km**, n11,** σ**0.s65**/12**, mb3.6**/5**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.88**	**157**	P	**Pn**	**20 11 41.6**	**+0.3**
KOUNC	**Koumac, New Ca**	**6.73**	**199**	P	**Pn**	**20 12 20.9**	**+0.4**
	31nm,0.8s						
DZM	**Mont Dzumac**	**7.88**	**181**	Pn	**Pn**	**20 12 35.6**	**-0.8**
	1.1nm,0.3s,baz=183,slow=24,SNR=9.1						
DZM				Sn	**Sn**	**20 14 04.1**	**-0.2**
	baz=294,slow=20,SNR=1.0						
DZM	**Mont Dzumac**	**7.88**	**181**	P	**Pn**	**20 12 35.6**	**-0.8**
NOUC	**Port Laguerre**	**7.91**	**182**	P	**Pn**	**20 12 36.2**	**-0.5**
OUENC	**Ouen Island, N**	**8.23**	**178**	P	**Pn**	**20 12 41.8**	**+0.8**
STKA	**Stephens Creek**	**28.87**	**228**	P	**P**	**20 16 39.5**	**+0.6**
	1.6nm,0.6s,baz=39,slow=8.0,SNR=7.4						
STKA				LR	LR	20 26 33.4	
	comp=Z,67nm,18.6s,baz=177,slow=33						
WRA	**Warramunga Arr**	**31.32**	**255**	P	**P**	**20 17 00.2**	**-0.5**
	0.6nm,0.8s,baz=87,slow=9.7,SNR=5.1						
ASAR	**Alice Springs**	**32.26**	**248**	P	**P**	**20 17 08.4**	**-0.5**
	0.7nm,0.8s,baz=75,slow=8.9,SNR=10						
ILAR	**Eielson Array**	**86.19**	**18**	P	**P**	**20 23 20.0**	**-0.5**
	0.4nm,0.8s,baz=227,slow=5.3,SNR=4.7						
MKAR	**Makanchi Array**	**96.33**	**317**	P	**P**	**20 24 08.9**	**+0.6**
	0.1nm,0.5s,baz=79,slow=4.6,SNR=1.8						

*IDC **06** 20:30:03.9±2.1, 6.°50S×130.°34E, h149km±24km, mb3.4/1, mb1 3.5/6, mb1mx3.0/50, mbtmp3.9/6, Error ellipse: s-maj=38.1km s-min=19.3km az=94.0*

*NEIC **06** 20:30:03.5±1.7, 6.°54S±0.°07×130.°25E±0.°10, h143km±11km, mb4.0/4, Error ellipse: s-maj=14.1km s-min=10.5km az=75.0*

ISC 06 20:30:02.1±0.7**, 6.°53S**±0.°05×**130.°29E**±0.°07**, h150**km**, n23,** σ**2.s83**/30**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.76**	**145**	Pn	**Pn**	**20 30 36.2**	**+1.7**
SAUI				Sn	**Sn**	**20 31 00.1**	**+0.7**
SIJI	**Sorong**	**5.71**	**10**	P	**Pn**	**20 31 26.4**	**+1.4**
	2.3nm,0.3s,baz=21,slow=16,SNR=17						
SIJI				S	**Sn**	**20 32 24.6**	**-5.1**
	6.4nm,0.3s,baz=107,slow=23,SNR=11						
MTN	**Manton Dam**	**6.33**	**173**		**Pn**	**20 31 35.6**	**+2.4**
BATI	**Baumata**	**7.50**	**240**	P	**Pn**	**20 31 51.9**	**+3.0**
	5.4nm,0.3s,baz=120,slow=2.7,SNR=11						
BATI				S	**Sn**	**20 33 12.5**	**-0.4**
	5.3nm,0.3s,baz=171,slow=7.4,SNR=8.5						
MMRI	**Maumere**	**8.25**	**255**	Pn	**Pn**	**20 32 03.3**	**+4.4**
KNRA	**Kununurra**	**9.21**	**189**	Pn	**Pn**	**20 32 12.8**	**+1.1**
KNRA					**Sn**	**20 33 48.8**	**-5.2**
TOLI2	**Tolitoli**	**12.15**	**308**	Pn	**Pn**	**20 32 47.7**	**-2.7**
FITZ	**Fitzroy Crossi**	**12.36**	**201**	P	**Pn**	**20 32 54.8**	**+1.7**
	0.5nm,0.3s,baz=19,slow=12,SNR=38						
FITZ				S	**Sn**	**20 35 02.4**	**-7.4**
	0.9nm,0.3s,baz=131,slow=22,SNR=7.8						
FITZ	**Fitzroy Crossi**	**12.36**	**201**		**Pn**	**20 32 53.5**	**+0.4**
WB0	**Warramunga Arr**	**13.75**	**164**	Pn	**Pn**	**20 33 11.1**	**+0.2**
WRAB	**Tennant Creek**	**13.89**	**164**	Pn	**Pn**	**20 33 12.9**	**+0.2**
WRA	**Warramunga Arr**	**13.90**	**164**	P	**Pn**	**20 33 13.6**	**+0.7**
	0.5nm,0.3s,baz=348,slow=13,SNR=33						
WRA				S	**Sn**	**20 35 41.5**	**-5.5**
	1.4nm,0.3s,baz=329,slow=24,SNR=10						
WRA	**Warramunga Arr**	**13.90**	**164**	P	**Pn**	**20 33 13.1**	**+0.3**
WB2	**Warramunga Arr**	**13.90**	**164**	Pn	**Pn**	**20 33 13.4**	**+0.6**
WR0	**Warramunga Arr**	**13.97**	**163**	Pn	**Pn**	**20 33 14.3**	**+0.6**
COEN	**Coen**	**14.66**	**121**		**Pn**	**20 33 23.3**	**+0.9**
JAGI	**Jajag, Banyuwa**	**16.11**	**262**		**Pn**	**20 33 41.0**	**+0.7**
JAGI				IAmb	IAmb	20 33 48.1	
	comp=Z,14nm,1.0s						
AS31	**Alice Springs**	**17.39**	**169**		**Pn**	**20 33 58.0**	**+2.3**
ASAR	**Alice Springs**	**17.39**	**169**	P	**Pn**	**20 33 58.8**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=349,slow=11,SNR=14						
ASAR				S	**S**	**20 37 06.7**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=1.4,slow=25,SNR=6.6						
ASAR	**Alice Springs**	**17.39**	**169**	P	**P**	**20 33 55.4**	**+0.6**
PSA00	**Pilbara Seismi**	**18.05**	**213**	Pn	**Pn**	**20 34 04.5**	**+1.0**
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**20 40 47.0**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=116,slow=8.0,SNR=12						
MAKZ	**Makanchi**	**68.17**	**326**	P	**P**	**20 40 47.6**	**+1.5**
MAKZ				IAmb	IAmb	20 41 05.1	
	comp=Z,2.4nm,1.4s						

*BJI **06** 20:35:10.9±0.0, 6.°28S×130.°63E, h126km, mb6.0/89, mB5.6/56*

*MOS **06** 20:35:14.8±1.3, 5.°97S×130.°33E, h137km, mb5.8/57, Error ellipse: s-maj=7.8km s-min=4.1km az=118.4*

*NEIC **06** 20:35:14.6±2.1, 6.°03S±0.°04×130.°43E±0.°08, h118km±1km, mb5.7/230, Mwb5.5/24, Mww5.5, Error ellipse: s-maj=12.7km s-min=6.7km az=84.0*

*NEIC **06** 20:35:15.5, 6.°03S×130.°45E, h119km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.37; Mθθ-1.15; Mφφ0.78; Mrθ1.54; Mθφ0.11; Mφr0.91; Fault plane solution: M0 2.06000×10^17 NP1:φs315.49000°, δ26.90000°, λ165.50000°. NP2:φs58.48000°, δ83.49000°, λ63.84000°. Principal axes: T 1.9380, Plg45.0000°, Azm302.0000°; N 0.2219, Plg26.0000°, Azm62.0000°; P -2.1599, Plg33.0000°, Azm170.0000°;*

*GCMT **06** 20:35:15.6±0.1, 6.°10S±0.°01×130.°36E±0.°01, h131km, MW5.5/152, Moment Tensor Solution. s131,c226; s152,c291; Duration: 1.s4 Moment tensor: Scale 10^17 Nm; Mrr0.80±.02; Mθθ-1.83±.03; Mφφ1.04±.03; Mrθ1.28±.02; Mθφ0.38±.03; Mφr0.74±.02; Best double couple: M0 2.18500×10^17 NP1:φs317.00000°, δ41.00000°, λ159.00000°. NP2:φs63.00000°, δ76.00000°, λ51.00000°. Principal axes: T 2.0180, Plg45.0000°, Azm295.0000°; N 0.3400, Plg37.0000°, Azm74.0000°; P -2.3530, Plg22.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **06** 20:35:16.5±0.8, 6.°04S×130.°39E, h137km±6km, mb5.3/52, mb1 5.3/56, mb1mx5.2/63, mbtmp5.7/56, MS4.2/41, Ms1 4.3/41, ms1mx4.1/66 Error ellipse: s-maj=7.8km s-min=5.8km az=64.0*

*DJA **06** 20:35:16.1±0.1, 6°S±1°×13°0E±°, h139km±2km, M5.5/133, mB5.9/108, mb5.8/133, MLv6.2/14, Mw5.4/21, Mw(mB)5.5/108, MwMwp5.1/37, Mwp5.4/37*

*NEIC **06** 20:35:17, 5.°87S×130.°56E, h140km, Moment Tensor Solution. Duration: 2.s0 Moment tensor: Scale 10^17Nm; Mrr0.73; Mθθ-1.62; Mφφ0.89; Mrθ1.00; Mθφ0.18; Mφr0.85; Fault plane solution: M0 1.93000×10^17 NP1: φs312.00000°, δ41.00000°, λ158.00000°. NP2: φs59.00000°, δ76.00000°, λ51.00000°. Principal axes: T 1.8612, Plg45.0000°, Azm290.0000°; N 0.1314, Plg37.0000°, Azm70.0000°; P -1.9926, Plg21.0000°, Azm177.0000°;*

ISC 06 20:35:15.5±0.2**, 6.°07S**±0.°03×**130.°38E**±0.°03**, h136**km±1km**, h137**km**:pP-P, n1384,** σ**1.s43**/1540**, mb5.7**/339**, 145C-84D, Fault plane solution: NP1:**φs91.97701°**,** δ75.26463°**,** λ46.80148°. **NP2:**φs346.82074°**,** δ45.16960°**,** λ158.98254°. **Principal axes:** T Plg42.7167°**,** Azm320.7683°**;** N Plg41.4537°**,** Azm105.4100°**;** P Plg18.5820°**,** Azm212.6845°**; Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.60**	**343**	P	**Pn**	**20 35 46.6**	**+1.4**
SAUI	**Saumlaki**	**2.11**	**154**	Pn	**Pn**	**20 35 50.9**	**-0.3**
SAUI	**Saumlaki**	**2.11**	**154**	P	**Pn**	**20 35 51.5**	**+0.3**
SAUI				S	**Sn**	**20 36 19.3**	**+0.7**
SAUI	**Saumlaki**	**2.11**	**154**	P	**Pn**	**20 35 51.7**	**+0.5**
MSAI	**Masohi**	**3.06**	**332**	P	**Pn**	**20 36 04.5**	**+1.3**
MSAI				S	**Sn**	**20 36 41.5**	**+1.4**
AAI	**Ambon**	**3.21**	**317**	P	**Pn**	**20 36 07.2**	**+2.1**
AAI				S	**Sn**	**20 36 45.9**	**+2.4**
KMPI	**Kaimana, Papua**	**4.08**	**54**	P	**Pn**	**20 36 16.6**	**0.0**
SIJI	**Sorong**	**5.24**	**10**	P	**Pn**	**20 36 30.6**	**-1.3**
	977nm,0.3s,baz=187,slow=6.6,SNR=594						
SIJI				S	**Sn**	**20 37 26.4**	**-5.2**
	592nm,0.3s,baz=250,slow=23,SNR=15						
SWI	**Sorong**	**5.24**	**10**	P	**Pn**	**20 36 30.5**	**-1.5**
	42nm147µm166µm7µm,0.7s						
SANI	**Sanana**	**5.92**	**312**	P	**Pn**	**20 36 43.4**	**+2.3**
	4.6nm20µm13µm1µm,0.6s						
SANI	**Sanana**	**5.92**	**312**	P	**Pn**	**20 36 43.2**	**+2.1**
	1µm,0.6s						
LBMI	**Labuha**	**6.11**	**332**	P	**Pn**	**20 36 44.3**	**+0.7**
	25nm16µm27µm2µm,0.6s						
MTN	**Manton Dam**	**6.78**	**174**	P	**Pn**	**20 36 50.2**	**-2.3**
	baz=6.7,SNR=1000						
MTN				S	**Sn**	**20 38 02.3**	**-6.2**
	baz=6.7						
MTN	**Manton Dam**	**6.78**	**174**	Pn	**Pn**	**20 36 50.2**	**-2.3**
MTN	**Manton Dam**	**6.78**	**174**	P	**Pn**	**20 36 51.0**	**-1.6**
	5µm,0.6s						
KDU	**Kakadu**	**6.89**	**163**	P	**Pn**	**20 36 51.6**	**-2.5**
	baz=6.8,SNR=1000						
KDU				S	**Sn**	**20 38 03.4**	**-8.0**
	baz=6.8						
KDU	**Kakadu**	**6.89**	**163**	P	**Pn**	**20 36 51.8**	**-2.4**
	4µm,0.7s						
SRPI	**Serui, Papua**	**7.18**	**55**	P	**Pn**	**20 36 55.4**	**-2.6**
	20nm3µm11µm643nm,0.7s						
TNTI	**Ternate**	**7.43**	**336**	Pn	**Pn**	**20 37 01.4**	**0.0**
TNTI	**Ternate**	**7.43**	**336**	P	**Pn**	**20 37 01.4**	**0.0**
	7.1nm4µm19µm2µm,0.8s						
TNTI	**Ternate**	**7.43**	**336**	P	**Pn**	**20 37 02.0**	**+0.7**
	2µm,0.8s						
BAKI	**Biak**	**7.49**	**50**	P	**Pn**	**20 37 02.4**	**+0.2**
	166µm21µm,0.9s						
BBSI	**Bau Bau**	**7.79**	**274**	P	**Pn**	**20 37 10.1**	**+3.9**
	0.7nm2µm229nm,1.1s						
BATI	**Baumata**	**7.82**	**238**	P	**Pn**	**20 37 06.7**	**+0.1**
	332nm,0.3s,baz=137,slow=2.8,SNR=226						
BATI				S	**Sn**	**20 38 32.1**	**-1.5**
	1µm,0.3s,baz=96,slow=21,SNR=18						
BATI	**Baumata**	**7.82**	**238**	P	**Pn**	**20 37 06.5**	**-0.1**
	12nm4µm17µm2µm,0.8s						
MMRI	**Maumere**	**8.47**	**252**	Pn	**Pn**	**20 37 17.0**	**+1.7**
MMRI	**Maumere**	**8.47**	**252**	P	**Pn**	**20 37 17.6**	**+2.3**
	3.0nm5µm9µm608nm,0.8s						
MMRI	**Maumere**	**8.47**	**252**	P	**Pn**	**20 37 17.4**	**+2.1**
	602nm,0.8s						
WAMI	**Wamena**	**8.58**	**76**	P	**Pn**	**20 37 18.9**	**+2.1**
	4µm,0.9s						
LUWI	**Luwuk**	**9.08**	**303**	Pn	**Pn**	**20 37 25.6**	**+2.0**
LUWI	**Luwuk**	**9.08**	**303**	P	**Pn**	**20 37 25.9**	**+2.3**
	6µm10µm714nm,0.8s						
KMSI	**Cibinong**	**9.18**	**316**	P	**Pn**	**20 37 26.4**	**+1.5**
	12µm1µm,0.7s						
KNRA	**Kununurra**	**9.68**	**189**	P	**Pn**	**20 37 28.3**	**-3.2**
	baz=9.6,SNR=1000						
KNRA	**Kununurra**	**9.68**	**189**	Pn	**Pn**	**20 37 28.2**	**-3.3**
KNRA	**Kununurra**	**9.68**	**189**	P	**Pn**	**20 37 28.8**	**-2.7**
	7µm,0.7s						
BSSI	**Bau Bau, Buton**	**9.83**	**269**	P	**Pn**	**20 37 35.7**	**+2.1**
	2µm7µm520nm,1.4s						
APSI	**Ampana**	**10.11**	**300**	P	**Pn**	**20 37 40.6**	**+3.4**
	3µm10µm973nm,1.2s						
MMPI	**Merauke**	**10.21**	**104**	P	**Pn**	**20 37 37.2**	**-1.4**
	64µm8µm,0.7s						
BKSI	**Bulukumba**	**10.23**	**274**	P	**Pn**	**20 37 40.6**	**+1.7**
	3µm3µm441nm,1.0s						
BNSI	**Bone**	**10.36**	**279**	P	**Pn**	**20 37 43.0**	**+2.3**
	5µm636nm,0.8s						
BASI	**Baing, Sumba**	**10.54**	**246**	P	**Pn**	**20 37 43.6**	**+0.5**
	7µm582nm,0.7s						
KAPI	**Kappang**	**10.63**	**275**	P	**Pn**	**20 37 46.1**	**+1.9**
	1.7nm,0.3s,baz=82,slow=4.2,SNR=33						
KAPI				S	**Sn**	**20 39 44.1**	**+2.5**
	1.3nm,0.3s,baz=180,slow=22,SNR=0.9						
KAPI	**Kappang**	**10.63**	**275**	Pn	**Pn**	**20 37 45.9**	**+1.6**
KAPI	**Kappang**	**10.63**	**275**	P	**Pn**	**20 37 44.7**	**+0.5**
	335nm,0.7s						
MRSI	**Marisa**	**10.64**	**307**	P	**Pn**	**20 37 46.0**	**+1.6**
	4µm8µm831nm,1.0s						
SPSI	**Sidrap Palu**	**10.77**	**281**	P	**Pn**	**20 37 48.0**	**+1.9**
	5µm6µm385nm,1.7s						
SGSI	**Sangihe**	**10.83**	**333**	P	**Pn**	**20 37 49.3**	**+2.4**
	7µm612nm,0.7s						
TTSI	**Tana Toraja**	**10.95**	**285**	P	**Pn**	**20 37 52.1**	**+3.7**
	6µm5µm574nm,1.1s						
TOLI2	**Tolitoli**	**11.94**	**306**	Pn	**Pn**	**20 38 02.3**	**+0.7**
TOLI2	**Tolitoli**	**11.94**	**306**	P	**Pn**	**20 38 03.3**	**+1.7**
	589nm,0.8s						
MPSI	**Mapaga**	**12.24**	**301**	P	**Pn**	**20 38 07.8**	**+2.3**
	5µm5µm607nm,0.8s						
PLAI	**Plampang**	**12.79**	**257**	P	**Pn**	**20 38 12.0**	**-0.6**
	2µm5µm477nm,0.8s						
PLAI	**Plampang**	**12.79**	**257**	P	**Pn**	**20 38 11.4**	**-1.2**
	470nm,0.7s						
FITZ	**Fitzroy Crossi**	**12.82**	**201**	P	**Pn**	**20 38 09.2**	**-3.8**
	64nm,0.3s,baz=36,slow=11,SNR=185						
FITZ				S	Sn	20 40 21.2	-13
	158nm,0.3s,baz=233,slow=16,SNR=9.6						
FITZ				LR	LR	20 44 46.3	
	comp=Z,2µm,18.0s,baz=14,slow=44						
FITZ	**Fitzroy Crossi**	**12.82**	**201**	P	Pn	20 38 07.9	-5.1
	baz=13						
FITZ	**Fitzroy Crossi**	**12.82**	**201**	Pn	Pn	20 38 08.0	-5.0
DAV	**Davao City (W)**	**13.90**	**340**	P	**P**	**20 38 32.0**	**+1.4**
	49nm,0.3s,baz=99,slow=4.5,SNR=11						
DAV				S	**Sn**	**20 41 02.4**	**+1.8**
	30nm,0.3s,baz=68,slow=19,SNR=1.3						
DAV				LR	LR	20 44 03.3	
	comp=Z,2µm,19.1s,baz=106,slow=38						
DAV	**Davao City (W)**	**13.90**	**340**	Pn	**Pn**	**20 38 25.7**	**-1.1**
DAV	**Davao City (W)**	**13.90**	**340**	P	**P**	**20 38 29.7**	**-0.9**
	1µm,0.9s						
WB0	**Warramunga Arr**	**14.17**	**164**	Pn	Pn	20 38 24.0	-6.2
SMKI	**Samarinda**	**14.28**	**293**	P	**P**	**20 38 35.2**	**+0.4**
	7µm25µm1µm,1.1s						
I07AU	**WARRAMUNGA INF**	**14.31**	**165**	P	**Pn**	**20 38 30.1**	**-2.0**
	baz=334,slow=21,SNR=4.6						
WRAB	**Tennant Creek**	**14.31**	**165**	*d i*P	Pn	20 38 26.9	-5.2
WRAB	**Tennant Creek**	**14.31**	**165**	Pn	Pn	20 38 26.6	-5.4
WRA	**Warramunga Arr**	**14.32**	**165**	P	Pn	20 38 26.8	-5.3
	36nm,0.3s,baz=348,slow=13,SNR=73						
WRA				S	Sn	20 40 55.7	-15
	113nm,0.3s,baz=348,slow=23,SNR=10						
WRA				LR	LR	20 44 39.5	
	comp=Z,2µm,20.5s,baz=4.0,slow=39						
WRA				P3KPbc		21 13 58.5	
	0.1nm,0.3s,baz=170,slow=3.2,SNR=5.8						
WRA	**Warramunga Arr**	**14.32**	**165**	P	Pn	20 38 25.4	-6.8
WRA	**Warramunga Arr**	**14.32**	**165**	Pn	Pn	20 38 25.4	-6.7
WB2	**Warramunga Arr**	**14.32**	**165**	Pn	Pn	20 38 26.6	-5.6
WC3	**Warramunga Arr**	**14.35**	**165**	P	Pn	20 38 27.2	-5.3
	baz=14						
WR0	**Warramunga Arr**	**14.39**	**164**	Pn	Pn	20 38 27.3	-5.7
CTBH	**Cotabato--PC H**	**14.55**	**335**	⇑*e*P	**Pn**	**20 38 35.4**	**+0.4**
COEN	**Coen**	**14.84**	**123**	Pn	**Pn**	**20 38 35.6**	**-3.0**
COEN	**Coen**	**14.84**	**123**	P	**Pn**	**20 38 37.6**	**-1.0**
	2µm,0.8s						
SRBI	**Singaraja**	**15.18**	**262**	P	**Pn**	**20 38 43.8**	**+0.8**
	2µm3µm292nm,0.8s						
DNP	**Denpasar**	**15.26**	**259**	P	**P**	**20 38 46.8**	**+1.1**
	25µm367nm,0.6s						
ZCP	**Zamboanga City**	**15.34**	**327**	⇓*e*P	**P**	**20 38 46.9**	**+0.3**
IGBI	**Denpasar**	**15.35**	**259**	P	**Pn**	**20 38 44.8**	**-0.3**
	3µm223nm,0.6s						
BBKI	**Banjar Baru**	**15.70**	**279**	P	**P**	**20 38 52.2**	**+1.6**
	6µm21µm3µm,1.0s						
ABJI	**Asem Bagus**	**16.12**	**263**	P	**P**	**20 38 56.2**	**+1.0**
	4µm5µm464nm,0.9s						
MTKI	**Muara Teweh, K**	**16.27**	**288**	P	**P**	**20 38 58.3**	**+1.4**
	4µm8µm507nm,0.9s						
JAGI	**Jajag, Banyuwa**	**16.27**	**261**	P	**Pn**	**20 38 53.4**	**-3.0**
JAGI				IAmb	IAmb	20 39 01.9	
	comp=Z,492nm,1.2s						
JAGI	**Jajag, Banyuwa**	**16.27**	**261**	P	**Pn**	**20 38 54.9**	**-1.5**
	comp=Z,2µmcomp=Z,3µmcomp=Z,346nm,1.2s						
JAGI	**Jajag, Banyuwa**	**16.27**	**261**	P	**Pn**	**20 38 55.2**	**-1.2**
	comp=Z,350nm,1.1s						
KMMI	**Kalianget**	**16.33**	**266**	P	**P**	**20 38 59.4**	**+1.8**
	comp=Z,8µmcomp=Z,18µmcomp=Z,2µm,0.9s						
BLJI	**Banyuglugur**	**16.75**	**263**	P	**Pn**	**20 39 03.1**	**+0.9**
	comp=Z,4µmcomp=Z,364nm,0.6s						
SNPH	**Sibulan**	**16.88**	**335**	⇓*e*P	**Pn**	**20 39 05.6**	**+1.7**
GMJI	**Gumukmas**	**16.94**	**262**	P	**Pn**	**20 39 04.5**	**-0.1**
	comp=Z,3µmcomp=Z,218nm,0.9s						
TBP	**Tagbilaran**	**16.95**	**337**	⇓*e*P	**Pn**	**20 39 05.8**	**+1.2**
TBP				*i* S	**S**	**20 42 18.3**	**+4.2**
PMG	**Port Moresby**	**16.95**	**102**	P	**Pn**	**20 39 05.9**	**+1.2**
	comp=Z,20nm,0.3s,baz=291,slow=7.1,SNR=82						
PMG				S	Sn	20 42 00.6	-13
	comp=Z,17nm,0.3s,baz=224,slow=22,SNR=6.4						
PMG	**Port Moresby**	**16.95**	**102**	*ce*P	**Pn**	**20 39 05.1**	**+0.4**
PMG				pmax	pmax		
	comp=Z,387nm,1.3s						
PMG	**Port Moresby**	**16.95**	**102**	P	**P**	**20 39 03.6**	**-0.8**
PMG				IAmb	IAmb	20 39 19.3	
	comp=Z,625nm,0.9s						
PMG	**Port Moresby**	**16.95**	**102**	P	**Pn**	**20 39 06.6**	**+1.9**
	comp=Z,770nm,1.4s						
PMG	**Port Moresby**	**16.95**	**102**	P	**Pn**	**20 39 06.7**	**+2.0**
	comp=Z,770nm,1.4s						
QIS	**Mount Isa**	**16.96**	**149**	P	**P**	**20 39 02.5**	**-1.9**
	baz=17,SNR=414						
QIS	**Mount Isa**	**16.96**	**149**	P	**P**	**20 39 03.4**	**-1.1**
	comp=Z,1µm,0.7s						
MANU	**Manus Island**	**17.41**	**77**	P	**P**	**20 39 08.1**	**-1.4**
BWJI	**Bawean**	**17.63**	**270**	P	**Pn**	**20 39 13.5**	**+0.7**
	comp=Z,5µmcomp=Z,11µmcomp=Z,1µm,1.0s						
AS31	**Alice Springs**	**17.82**	**169**	P	**P**	**20 39 12.9**	**-1.1**
AS31				IAmb	IAmb	20 39 16.3	
	comp=Z,697nm,0.9s						
ASAR	**Alice Springs**	**17.82**	**169**	P	**Pn**	**20 39 14.7**	**-0.5**
	comp=Z,91nm,0.3s,baz=349,slow=9.5,SNR=1273						
ASAR				S	**S**	**20 42 22.5**	**-10**
	comp=Z,55nm,0.3s,baz=352,slow=20,SNR=9.8						
ASAR				LR	LR	20 45 55.8	
	comp=Z,1µm,21.0s,baz=358,slow=36						
ASAR				P3KPbc		21 13 46.5	
	comp=Z,0.0nm,0.3s,baz=167,slow=4.6,SNR=1.6						
ASAR	**Alice Springs**	**17.82**	**169**	P	**P**	**20 39 12.3**	**-1.6**
ASPA	**Alice Springs**	**17.82**	**169**	P	**P**	**20 39 13.4**	**-0.6**
	baz=18						
MTSU	**Mount Surprise**	**18.14**	**133**	P	**Pn**	**20 39 18.3**	**-0.6**
	baz=18,SNR=160						
MTSU	**Mount Surprise**	**18.14**	**133**	P	**Pn**	**20 39 18.7**	**-0.2**
	comp=Z,226nm,0.8s						
MBWA	**Marble Bar**	**18.21**	**213**	P	**P**	**20 39 17.9**	**-0.2**
MBWA				IAmb	IAmb	20 39 19.7	
	comp=Z,383nm,0.7s						
TBJI	**Tambak Boyo**	**18.43**	**267**	P	**Pn**	**20 39 22.5**	**+0.1**
	comp=Z,3µmcomp=Z,9µmcomp=Z,999nm,0.9s						
PSA00	**Pilbara Seismi**	**18.48**	**212**	P	**P**	**20 39 21.1**	**0.0**
PSA00	**Pilbara Seismi**	**18.48**	**212**	P	**P**	**20 39 21.1**	**0.0**
PSA00	**Pilbara Seismi**	**18.48**	**212**	P	**P**	**20 39 22.1**	**+1.0**
	comp=Z,2µm,0.7s						
PWJI	**Pagerwojo**	**18.54**	**263**	P	**P**	**20 39 22.0**	**+0.2**
	comp=Z,2µmcomp=Z,200nm,0.9s						
KKM	**Kota Kinabalu**	**18.56**	**310**	P	**Pn**	**20 39 23.2**	**-0.8**
KKM	**Kota Kinabalu**	**18.56**	**310**	P	**Pn**	**20 39 23.8**	**-0.2**
	comp=Z,1µm,0.7s						
PBKI	**Pangkalan Bun**	**18.95**	**279**	P	**Pn**	**20 39 27.6**	**-0.9**
	comp=Z,24µmcomp=Z,3µm,1.0s						
WRKA	**Warakurna**	**18.97**	**186**	P	**P**	**20 39 27.0**	**+0.5**
	baz=19,SNR=1000						
WRKA	**Warakurna**	**18.97**	**186**	P	**P**	**20 39 27.4**	**+0.9**
	comp=Z,4µm,0.8s						
RCP	**Roxas**	**19.09**	**337**	⇓*e*P	**Pn**	**20 39 29.5**	**-0.5**
PCJI	**Pacitan**	**19.17**	**263**	P	**P**	**20 39 28.5**	**-0.2**
	comp=Z,4µmcomp=Z,276nm,0.8s						
UWJI	**Ujung Watu**	**19.32**	**268**	P	**Pn**	**20 39 31.6**	**-1.2**
	comp=Z,4µmcomp=Z,430nm,0.7s						
PPR	**Puerto Princes**	**19.55**	**324**	⇓*i*P	**Pn**	**20 39 34.9**	**-0.6**
UGM	**Wanagama**	**19.79**	**264**	P	**P**	**20 39 35.1**	**-0.4**

UGM Wanagama 19.79 264 P P 20 39 36.9 +1.4
comp=Z,3µmcomp=Z,222nm,0.9s
UGM Wanagama 19.79 264 P P 20 39 35.3 -0.2
comp=Z,225nm,0.9s
STKI Sintang 19.82 287 P P 20 39 36.4 +0.6
comp=Z,6µmcomp=Z,484nm,1.0s
SMRI Semarang 19.83 266 P P 20 39 35.3 -0.6
SMRI IAmb IAmb 20 39 42.9
comp=Z,427nm,0.9s
SMRI Semarang 19.83 266 P Pn 20 39 37.6 -1.2
comp=Z,6µmcomp=Z,552nm,0.8s
SMRI Semarang 19.83 266 P P 20 39 37.0 +1.1
comp=Z,558nm,0.9s
SBUM Sibu 20.01 294 P P 20 39 38.7 +0.9
SBUM IAmb IAmb 20 39 41.8
comp=Z,593nm,1.1s
SBUM Sibu 20.01 294 P P 20 39 39.0 +1.2
YOGI Yogyakarta 20.01 264 P P 20 39 38.6 +0.8
comp=Z,4µmcomp=Z,417nm,0.7s
CTA Charters Tower 20.79 134 P P 20 39 47.2 +1.2
comp=Z,350nm,0.9s,baz=308,slow=11,SNR=143
CTA S S **20 43 32.1 +1.4**
comp=Z,84nm,0.8s,baz=198,slow=20,SNR=3.3
CTA LR LR 20 48 18.6
comp=Z,978nm,20.2s,baz=308,slow=38
CTA Charters Tower 20.79 134 P P 20 39 47.3 +1.2
comp=Z,513nm,1.1s
CTAO Charters Tower 20.79 134 P P 20 39 46.3 +0.2
CTAO pmax pmax
comp=Z,410nm,1.0s
CTAO Charters Tower 20.79 134 P P 20 39 46.3 +0.2
CTAO IAmb IAmb 20 39 53.0
comp=Z,410nm,0.9s
KPJI Karang Pucung 21.34 265 P P 20 39 50.9 -1.1
comp=Z,4µmcomp=Z,421nm,0.7s
GQP Guinayangan 21.35 338⇑ *e*P P 20 39 52.7 +0.6
KSM Kuching 21.39 290 P P 20 39 51.6 -1.1
KSM IAmb IAmb 20 39 57.1
comp=Z,290nm,0.8s
KSM Kuching 21.39 290 P P 20 39 52.0 -0.6
KSM Kuching 21.39 290 P P 20 39 52.8 +0.2
comp=Z,432nm,1.0s
PGP Puerto Galera 21.58 334⇑ *e*P P 20 39 56.0 +1.5
KRVT Keravat (AS076 21.63 86 P P 20 39 56.4 +1.2
comp=Z,80nm,0.8s,baz=269,slow=9.5,SNR=10
RABL Rabaul 21.78 86 P P 20 39 57.2 +0.4
RABL Rabaul 21.78 86 P P 20 39 58.3 +1.5
comp=Z,177nm,0.8s
CMJI Cimerak 21.84 264 P P 20 39 55.1 -2.2
comp=Z,3µmcomp=Z,441nm,1.1s
LQP Lukban 21.88 336 *e*P P 20 39 58.0 +0.1
JCJI Jatiwangi 21.98 268 P P 20 39 58.4 -0.4
comp=Z,15µmcomp=Z,898nm,1.7s
TGY Tagaytay City 22.12 335 P P 20 40 01.2 +1.0
comp=Z,2µm,0.8s,baz=241,slow=1.8,SNR=79
OOD Oodnadatta 22.19 167 P P 20 40 00.7 -0.1
comp=Z,2µm,0.7s
LEM Lembang 22.63 267 P P 20 40 05.6 +0.1
comp=Z,215nm,0.6s,baz=85,slow=7.9,SNR=29
LEM LR LR 20 51 35.4
comp=Z,460nm,18.1s,baz=84,slow=43
LEM Lembang 22.63 267 P P 20 40 05.0 -0.4
comp=Z,2µmcomp=Z,6µmcomp=Z,225nm,1.0s
GIRL Giralia 22.68 222 P P 20 40 06.5 +0.9
baz=23,SNR=41
GIRL Giralia 22.68 222 P P 20 40 06.0 +0.4
GIRL IAmb IAmb 20 40 24.3
comp=Z,302nm,0.8s
GIRL Giralia 22.68 222 P P 20 40 06.7 +1.1
comp=Z,390nm,1.0s
CNJI Cibinong 23.12 266 P P 20 40 08.7 -1.2
comp=Z,30µmcomp=Z,4µm,1.1s
MEEK Meekatharra 23.33 207 P P 20 40 11.5 -0.2
baz=23,SNR=89
MEEK Meekatharra 23.33 207 P P 20 40 11.6 -0.1
comp=Z,253nm,0.8s
PCPH Palayan 23.37 337⇓ *e*P P 20 40 12.8 +0.7
CBJI Citeko 23.39 268 P P 20 40 10.6 -1.7
comp=Z,822nm,0.8s
DBJI Dramaga 23.49 268 P P 20 40 13.2 -0.1
comp=Z,14µmcomp=Z,375nm,1.2s
SKJI Sukabumi 23.68 266 P P 20 40 14.7 -0.3
comp=Z,3µmcomp=Z,426nm,0.8s
INKA Innaminka 23.70 157 P P 20 40 16.2 +1.2
comp=Z,5µm,0.9s
QLP Quilpie 24.31 149 P P 20 40 21.2 +0.7
baz=24,SNR=45
QLP Quilpie 24.31 149 P P 20 40 21.2 +0.7
comp=Z,626nm,0.7s
MULG Mulgathing 24.34 172 P P 20 40 21.6 +0.9
comp=Z,2µm,0.9s
PPBI Pangkal Pinang 24.48 278 P P 20 40 22.1 -0.2
comp=Z,4µmcomp=Z,433nm,1.0s
CGJI Cibinong 24.54 267 P P 20 40 20.1 -2.7
comp=Z,9µmcomp=Z,881nm,1.5s
FORT Forrest 24.68 185 P P 20 40 24.2 +0.3
baz=25,SNR=170
FORT Forrest 24.68 185 P P 20 40 23.8 0.0
FORT Forrest 24.68 185 P P 20 40 24.3 +0.5
comp=Z,2µm,0.7s
XMI Christmas Isla 24.81 258 P P 20 40 26.2 +0.9
comp=Z,411nm,1.0s
XMIS Christmas Isla 24.85 258 P P 20 40 23.6 -2.1
XMIS IAmb IAmb 20 40 27.5
comp=Z,258nm,0.8s
XMIS Christmas Isla 24.85 258 P P 20 40 25.7 +0.1
comp=Z,343nm,0.9s
BLSI Bandar Lampung 25.02 270 P P 20 40 28.3 +1.2
comp=Z,76nm,0.9s
LCRK Leigh Creek 25.35 164 P P 20 40 30.9 +1.0
comp=Z,2µm,0.7s
KLI Kotabumi 25.43 271 P P 20 40 32.1 +1.2
comp=Z,4µmcomp=Z,416nm,0.8s
KLSI 25.57 272 P P 20 40 33.0 +0.9
comp=Z,2µmcomp=Z,151nm,0.8s
PMBI Palembang 25.71 276 P P 20 40 34.3 +0.9
PMBI Palembang 25.71 276 P P 20 40 36.1 +2.7
comp=Z,12µmcomp=Z,1µm,1.2s
PMBI Palembang 25.71 276 P P 20 40 35.5 +2.1
comp=Z,1µm,1.2s
KASI Kota Agung 25.75 270 P P 20 40 32.3 -1.5
comp=Z,2µmcomp=Z,200nm,1.0s
RK1H Rockhampton Ha 25.92 134 P P 20 40 36.2 +1.1
comp=Z,75nm,0.7s
LWLI Liwa 26.22 271 P P 20 40 39.0 +0.9
comp=Z,2µmcomp=Z,202nm,0.8s
DSRI Dabo 26.34 281 P P 20 40 39.3 +0.2
comp=Z,915nmcomp=Z,907nmcomp=Z,67nm,1.1s
MORW Morawa 26.59 209 P P 20 40 41.2 0.0
baz=27,SNR=50
MORW Morawa 26.59 209 P P 20 40 41.0 -0.2
MORW Morawa 26.59 209 P P 20 40 41.3 +0.1
comp=Z,105nm,0.9s
TPRI Tanjung Pinang 26.73 284 P P 20 40 44.1 +1.6
comp=Z,2µmcomp=Z,140nm,1.2s
RMQ Roma 26.83 141 P P 20 40 43.8 +0.4
baz=27,SNR=23
RMQ Roma 26.83 141 P P 20 40 43.7 +0.4
comp=Z,102nm,0.7s
JMBI JAMBI 27.03 278 P P 20 40 47.8 +2.5
comp=Z,3µmcomp=Z,134nm,0.8s
BBOO Buckleboo 27.13 169 P P 20 40 46.0 +0.1
baz=27,SNR=410
BBOO Buckleboo 27.13 169 P P 20 40 45.8 -0.1
BBOO Buckleboo 27.13 169 P P 20 40 46.0 +0.1
comp=Z,567nm,0.8s
MNAI Manna 27.36 272 P P 20 40 45.2 -3.0
MNAI IAmb IAmb 20 41 14.6
comp=Z,170nm,1.0s
MNAI Manna 27.36 272 P P 20 40 48.3 +0.1
comp=Z,3µmcomp=Z,203nm,0.7s
MNAI Manna 27.36 272 P P 20 40 48.6 +0.4
comp=Z,205nm,0.7s
EIDS Eidsvold 27.59 136 P P 20 40 49.9 -0.1
baz=28,SNR=12
EIDS Eidsvold 27.59 136 P P 20 40 49.1 -1.0
EIDS Eidsvold 27.59 136 P P 20 40 50.2 +0.1
comp=Z,58nm,1.1s
BLDU Ballidu 27.59 206 P P 20 40 50.2 +0.1
baz=28,SNR=74
BLDU Ballidu 27.59 206 P P 20 40 50.5 +0.4
comp=Z,110nm,0.9s
MYKOM Kota Tinggi 27.61 286 P P 20 40 49.8 -0.6
MYKOM IAmb IAmb 20 40 53.3
comp=Z,132nm,1.2s
MYKOM Kota Tinggi 27.61 286 P P 20 40 51.0 +0.5
WHYH Whyalla 27.66 167 P P 20 40 51.0 +0.4
comp=Z,498nm,0.9s
STKA Stephens Creek 27.74 159 P P 20 40 51.8 +0.5
comp=Z,176nm,0.5s,baz=334,slow=9.0,SNR=584
STKA LR LR 20 53 05.1
comp=Z,2µm,18.5s,baz=326,slow=38
STKA Stephens Creek 27.74 159 P P 20 40 51.9 +0.5
baz=28,SNR=313
STKA Stephens Creek 27.74 159 *d* P P 20 40 51.6 +0.2
STKA Stephens Creek 27.74 159 P P 20 40 51.4 0.0
STKA Stephens Creek 27.74 159 P P 20 40 51.8 +0.5
comp=Z,82nm,0.9s
PTPS Port Pirie 27.89 166 P P 20 40 53.2 +0.6
comp=Z,614nm,1.1s
NAPP Napperby 27.93 166 P P 20 40 53.5 +0.5
comp=Z,942nm,0.8s
KLBR Kellerberrin 28.01 203 P P 20 40 54.2 +0.5
baz=28,SNR=52
KLBR Kellerberrin 28.01 203 P P 20 40 54.3 +0.5
comp=Z,571nm,0.8s
DLV T Lat 28.18 309 P P 20 40 56.4 +0.7
DLV IAmb IAmb 20 40 58.4
comp=Z,152nm,0.9s
DLV T Lat 28.18 309 P P 20 40 56.5 +0.8
comp=Z,230nm,1.4s
MASI Maura Aman, Be 28.19 275 P P 20 40 55.7 0.0
comp=Z,29µmcomp=Z,3µmcomp=Z,204nm,0.7s
HTT Hallett 28.36 165 P P 20 40 57.3 +0.4
baz=28,SNR=68
HTT Hallett 28.36 165 P P 20 40 57.4 +0.4
comp=Z,182nm,0.9s
RGRI Rengat 28.56 280 P P 20 41 00.0 +1.1
comp=Z,73nm,0.6s
MUN Mundaring 28.98 205 P P 20 41 02.7 +0.3
baz=29,SNR=23
MUN Mundaring 28.98 205 P P 20 41 02.9 +0.5
comp=Z,146nm,0.9s
KRJI Kerinci 29.11 277 P P 20 41 02.8 -1.0
comp=Z,6µmcomp=Z,728nm,0.9s
CMSA Cobar Meteorol 29.12 152 P P 20 41 04.0 +0.4
baz=29,SNR=254
CMSA Cobar Meteorol 29.12 152 P P 20 41 04.4 +0.8
comp=Z,614nm,1.0s
MTKN Mount Kenneth 29.13 206 P P 20 41 06.2 +2.5
comp=Z,245nm,0.7s
HNR Honiara 29.48 98 P P 20 41 06.7 -0.3
comp=Z,53nm,0.4s,baz=312,slow=4.0,SNR=3.8
HNR LR LR 20 54 09.9
comp=Z,419nm,20.2s,baz=274,slow=38
HNR Honiara 29.48 98 P P 20 41 06.7 -0.3
HNR pmax pmax
comp=Z,98nm,0.6s
HNR Honiara 29.48 98 P P 20 41 06.7 -0.3
HNR IAmb IAmb 20 41 22.5
comp=Z,98nm,0.6s
JRMM Jerantut 29.56 289 P P 20 41 07.0 -0.8
GHSS Government Hou 29.70 166 P P 20 41 10.0 +1.3
comp=Z,420nm,0.6s
TWOA Tennyson Woods 29.80 166 P P 20 41 10.8 +1.2
comp=Z,343nm,1.2s
BKNI Bangkinang 29.97 281 P P 20 41 10.9 -0.4
BKNI IAmb IAmb 20 41 17.0
comp=Z,160nm,0.8s
BKNI Bangkinang 29.97 281 P P 20 41 11.6 +0.3
comp=Z,3µmcomp=Z,259nm,0.6s
BKNI Bangkinang 29.97 281 P P 20 41 11.7 +0.4
comp=Z,251nm,0.6s
TWG Pinlang 30.12 343 P P 20 41 09.6 -2.9
PPSI Pulau Pagai 30.45 275 P P 20 41 16.5 +0.9
comp=Z,172nm,0.8s
YULB Yu-li 30.59 343 P P 20 41 12.2 -4.5
TPUB Ta-pu 30.70 342 P P 20 41 15.3 -2.4
TPUB IAmb IAmb 20 41 22.1
comp=Z,93nm,0.7s
TPUB Ta-pu 30.70 342 P P 20 41 16.9 -0.8
comp=Z,118nm,0.8s
RKGY Rocky Gully 30.99 202 P P 20 41 21.9 +1.9
baz=31,SNR=24
RKGY Rocky Gully 30.99 202 P P 20 41 21.9 +1.9
comp=Z,338nm,0.8s
SSLB Suanglung 31.07 343 P P 20 41 18.2 -2.6
SSLB IAmb IAmb 20 41 21.5
comp=Z,96nm,0.9s
SSLB Suanglung 31.07 343 P P 20 41 19.8 -1.1
comp=Z,78nm,0.9s
JMJ Miyako jima 2 31.09 351 P P 20 41 21.9 +0.9
comp=Z,1µm,0.8s
YOJ Yonaguni jima 31.18 347 P P 20 41 21.2 -0.6
YOJ pmax pmax
comp=Z,193nm,0.6s
YOJ Yonaguni jima 31.18 347 P P 20 41 21.2 -0.6
YOJ Yonaguni jima 31.18 347 P P 20 41 22.5 +0.7
comp=Z,341nm,0.9s
NACB Ninganchiao 31.25 344 P P 20 41 20.7 -1.8
ARMA Armidale 31.40 143 P P 20 41 25.2 +1.3
baz=31,SNR=30
ARMA Armidale 31.40 143 P P 20 41 24.3 +0.4
ARMA Armidale 31.40 143 P P 20 41 25.0 +1.1
comp=Z,27nm,1.0s
MNSI Mandailing Nat 31.49 281 P P 20 41 23.4 -1.4
comp=Z,2µmcomp=Z,265nm,0.8s
SISI Saibi 31.57 277 P P 20 41 24.6 -0.8
comp=Z,63nm,0.6s
KULM Kulim 31.75 290 P P 20 41 25.8 -1.2
KULM IAmb IAmb 20 41 29.8
comp=Z,88nm,0.7s
KULM Kulim 31.75 290 P P 20 41 26.0 -1.0
YHNB Yeheng 31.78 344 P P 20 41 24.7 -2.5
YHNB IAmb IAmb 20 41 35.4
comp=Z,144nm,1.2s
YHNB Yeheng 31.78 344 P P 20 41 26.8 -0.4
comp=Z,112nm,1.0s
QIZ Qiongzhong 32.11 321 P P 20 41 30.5 +0.4
QIZ IAmb IAmb 20 41 31.9
comp=Z,160nm,0.9s
QIZ Qiongzhong 32.11 321⇑ *i* P P 20 41 30.8 +0.7
QIZ S S **20 46 27.0 -5.7**
QIZ pmax pmax
comp=Z,160nm,1.0s
QIZ pmax pmax
comp=Z,700nm,3.0s
ARPS Mount Arapiles 32.31 163 P P 20 41 32.8 +1.3
baz=32,SNR=86
ARPS Mount Arapiles 32.31 163 P P 20 41 32.9 +1.3
comp=Z,459nm,0.7s
HKPS Hong Kong Po S 32.35 331 P P 20 41 32.2 +0.1
HKPS IAmb IAmb 20 41 33.5
comp=Z,124nm,0.9s
MCO Taipa Grande 32.50 330 P P 20 41 34.0 +0.6
KNMB Chin-men Tao 32.52 339 P P 20 41 33.4 -0.1
UBPT Khong Chiam 32.54 311 P P 20 41 34.5 +0.6
RPSI Rantau Prapat 32.59 285 P P 20 41 33.8 -0.6
PSI Prapat 32.62 285 P P 20 41 33.8 -1.0
comp=Z,139nm,1.0s,baz=130,slow=4.0,SNR=60
PSI LR LR 20 56 29.9
comp=Z,545nm,19.7s,baz=121,slow=39
JOW Kunigami 32.77 357 P P 20 41 36.5 +0.9
comp=Z,235nm,0.8s,baz=184,slow=8.2,SNR=39
JOW LR LR 20 53 44.0
comp=Z,846nm,21.6s,baz=313,slow=34
JOW Kunigami 32.77 357 P P 20 41 36.9 +1.2
JOW Kunigami 32.77 357 P P 20 41 37.4 +1.7
comp=Z,404nm,1.1s
QZH Quanzhou 32.89 340⇑ *i* P P 20 41 37.1 +0.3
QZH pP **pP** **20 42 03.1 -1.9**
QZH S S **20 46 39.8 -4.7**
QZH pmax pmax
comp=Z,170nm,0.7s
QZH LR LR
comp=Z,390nm,10.4s
QZH LR LR
comp=Z,160nm,10.0s
QZH LR LR
comp=Z,690nm,11.4s
TSI Tuntungan 33.16 286 P P 20 41 40.6 +1.3
comp=Z,69nm,0.7s
MGCD Mangrove Creek 33.18 147 P P 20 41 41.2 +2.0
baz=33,SNR=15
MGCD Mangrove Creek 33.18 147 P P 20 41 41.2 +2.0
comp=Z,187nm,0.8s
NTLH Newcastle Hard 33.27 146 P P 20 41 42.9 +2.9
comp=Z,191nm,1.0s
SYDH Sydney Hard Ro 33.41 148 P P 20 41 44.0 +2.8
comp=Z,70nm,0.8s
GZH Guangzhou 33.42 331 P P 20 41 44.5 +3.1
GSI Gunungsitoli 33.56 282 P P 20 41 40.4 -2.5
GSI Gunungsitoli 33.56 282 P P 20 41 41.0 -1.8
comp=Z,3µmcomp=Z,285nm,0.8s
GSI Gunungsitoli 33.56 282 P P 20 41 41.1 -1.8
comp=Z,289nm,0.8s
BRAT Ballarat 33.69 160 P P 20 41 45.6 +2.1
comp=Z,150nm,0.8s
CAN Canberra 33.79 152 P P 20 41 45.1 +0.5
CAN pmax pmax
comp=Z,182nm,0.7s
CAN Canberra 33.79 152 P P 20 41 45.1 +0.5
CAN Canberra 33.79 152 P P 20 41 46.3 +1.7
comp=Z,518nm,1.1s
CAN Canberra 33.79 152 ⇓ P P 20 41 46.3 +1.7
CAN pP **pwP** **20 42 21.4 +3.4**
KCSI Kotacane, Aceh 33.92 285 P P 20 41 44.6 -1.4
comp=Z,786nmcomp=Z,44nm,1.0s
CNB Canberra Magne 33.96 152 P P 20 41 47.4 +1.3
baz=34,SNR=47
CNB Canberra Magne 33.96 152 P P 20 41 47.7 +1.7
comp=Z,171nm,1.5s
SRIT Nakonsritamara 33.97 295 P P 20 41 45.6 -0.7
SRIT IAmb IAmb 20 41 47.6
comp=Z,137nm,0.9s
TOO Toolangi 34.25 158 P P 20 41 50.7 +2.2
baz=34,SNR=115
TOO Toolangi 34.25 158 P P 20 41 49.9 +1.4
TOO pmax pmax
comp=Z,269nm,1.0s
TOO Toolangi 34.25 158 P P 20 41 49.9 +1.4
TOO Toolangi 34.25 158 P P 20 41 50.5 +2.0
comp=Z,369nm,1.2s
GEXS Deakin Univers 34.39 160 P P 20 41 51.1 +1.4
comp=Z,1µm,0.8s
JCJ Chichijima 34.89 19 P P 20 41 52.8 -1.2
comp=Z,142nm,0.4s,baz=102,slow=5.3,SNR=43
JCJ S S **20 47 11.3 -4.0**
comp=Z,127nm,1.0s,baz=280,slow=21,SNR=6.3
JCJ Chichijima 34.89 19 P P 20 41 52.6 -1.5
JCJ Chichijima 34.89 19 P P 20 41 53.3 -0.8
comp=Z,227nm,0.6s
LHMI Lhok Sumawe 35.21 288 P P 20 41 55.6 -1.5
LHMI Lhok Sumawe 35.21 288 P P 20 41 56.3 -0.7
comp=Z,4µmcomp=Z,520nm,0.9s
LHMI Lhok Sumawe 35.21 288 P P 20 41 56.5 -0.5
comp=Z,524nm,0.9s
KOUNC Koumac, New Ca 35.89 117 P P 20 42 03.9 +1.1
JSU Suzuyama 37.36 0 P P 20 42 15.4 +0.4
JSU IAmb IAmb 20 42 17.1
comp=Z,115nm,0.9s
SSE Sheshan 37.98 347 P P 20 42 21.5 +1.3
SSE S S **20 48 01.3 -1.0**
SSE pmax pmax
comp=Z,91nm,1.0s
SSE LR LR
comp=Z,240nm,15.5s
SSE LR LR
comp=Z,160nm,15.5s
NOUC Port Laguerre 38.18 118 P P 20 42 22.7 +0.6
comp=Z,88nm,0.9s
GLAD Gladstone 38.18 158 P P 20 42 23.4 +1.6
comp=Z,138nm,0.9s
CORO Coronation Par 38.28 160 P P 20 42 24.6 +2.0
comp=Z,193nm,0.9s
DZM Mont Dzumac 38.29 118 P P 20 42 23.9 +0.8
comp=Z,42nm,0.7s,baz=269,slow=8.1,SNR=24
DZM Mont Dzumac 38.29 118 *e*P P 20 42 23.8 +0.7
comp=Z,146nm,1.1s
DZM *e*pP **pP** **20 42 51.7 +0.3**
comp=Z,169nm,1.4s
DZM *e*S S **20 47 59.7 -7.8**
comp=Z,293nm,27.6s
DZM *e*LR LR 20 52 43.6
comp=Z,1µm,32.2s
DZM Mont Dzumac 38.29 118 P P 20 42 22.7 -0.4
DZM IAmb IAmb 20 42 24.9
comp=Z,54nm,0.8s
DZM Mont Dzumac 38.29 118 P P 20 42 24.1 +1.0
comp=Z,97nm,0.9s
ONTNC Ouen Toro 38.38 119 P P 20 42 23.3 -0.4
ONTNC IAmb IAmb 20 42 25.3
comp=Z,56nm,0.8s
LIFNC LIFOU 38.60 116 P P 20 42 25.1 -0.5
LIFNC IAmb IAmb 20 42 26.1
comp=Z,157nm,0.8s
YATNC Mamie plateau, 38.68 118 P P 20 42 27.8 +1.5
comp=Z,130nm,1.1s
OUENC Ouen Island, N 38.75 119 P P 20 42 26.7 -0.1
OUENC Ouen Island, N 38.75 119 P P 20 42 28.1 +1.2
comp=Z,75nm,1.0s
JNU Nakatsue 38.98 1 P P 20 42 28.6 +0.1
comp=Z,130nm,0.9s,baz=180,slow=4.3,SNR=31
JNU Nakatsue 38.98 1 P P 20 42 28.9 +0.3
JNU IAmb IAmb 20 42 30.4
comp=Z,165nm,1.0s
JNU Nakatsue 38.98 1 P P 20 42 29.3 +0.7
comp=Z,198nm,1.0s
MOO Moorlands 39.17 160 P P 20 42 32.1 +2.0
baz=39,SNR=42
MOO Moorlands 39.17 160 P P 20 42 32.3 +2.2
comp=Z,379nm,0.9s
CM31 Chiang Mai Arr 39.43 309 P P 20 42 33.0 +0.5
CM31 Chiang Mai Arr 39.43 309 P P 20 42 33.8 +1.2
SNR=141
CMAR Chiang Mai Arr 39.43 309 P P 20 42 33.8 +1.2
comp=Z,336nm,0.6s,baz=135,slow=7.3,SNR=2006
CMAR PcP **PcP** **20 44 40.1 +2.1**
comp=Z,31nm,0.7s,baz=171,slow=2.7,SNR=8.2
CMAR ScP **ScP** **20 48 15.6 +1.3**
comp=Z,7.6nm,0.8s,baz=152,slow=3.5,SNR=7.6
CMAR LR LR 21 03 38.5
comp=Z,180nm,18.0s,baz=110,slow=43
CMAR Chiang Mai Arr 39.43 309 P P 20 42 33.4 +0.9
NJ2 Nanjing 39.47 345⇑ *i* P P 20 42 33.9 +1.3
NJ2 pP **pP** **20 43 01.9 0.0**
NJ2 sP **sP** **20 43 15.6 -1.4**
NJ2 S S **20 48 24.3 -0.2**
NJ2 sS **sS** **20 49 12.6 -2.6**
NJ2 pmax pmax
comp=Z,210nm,0.8s
NJ2 pmax pmax
comp=Z,810nm,3.5s
MARNC Mare, Loyalty 39.51 117 P P 20 42 33.5 +0.4
WHN Wuhan 39.51 336⇑ *i* P P 20 42 34.7 +1.7
WHN pP **pP** **20 43 02.0 -0.1**
WHN PcP **PcP** **20 44 39.6 +1.6**
WHN ScP **ScP** **20 48 15.0 +0.8**
WHN S S **20 48 24.3 -0.9**
WHN pmax pmax
comp=Z,770nm,0.8s
TAU Tasmania Unive 39.63 160 P P 20 42 35.7 +1.9
TAU pmax pmax
comp=Z,213nm,1.1s
TAU Tasmania Unive 39.63 160 P P 20 42 35.7 +1.9
TAU IAmb IAmb 20 42 36.8
comp=Z,213nm,1.1s
TAU Tasmania Unive 39.63 160 P P 20 42 35.8 +1.9
comp=Z,219nm,1.1s
CHTO Chiang Mai 39.64 309 P P 20 42 35.3 +1.0
CHTO pmax pmax
comp=Z,738nm,0.8s
CHTO Chiang Mai 39.64 309 P P 20 42 35.3 +1.0
CHTO Chiang Mai 39.64 309 P P 20 42 35.3 +1.0
comp=Z,608nm,0.8s
CHTO Chiang Mai 39.64 309 P P 20 42 35.5 +1.2
CHTO pP **pP** **20 43 02.9 -0.2**
GYA Guiyang 39.67 326⇑ *i* P P 20 42 35.4 +0.8
GYA pP pwP 20 43 09.3 +0.2
GYA PP **PnPn** **20 44 13.1 0.0**
GYA PcP **PcP** **20 44 40.3 +1.5**
GYA ScP **ScP** **20 48 16.9 +1.8**
GYA S S **20 48 23.7 -4.4**
GYA SS **SS** **20 51 26.0 -3.3**
GYA ScS **ScS** **20 52 27.3 -1.0**
GYA pmax pmax
comp=Z,200nm,1.0s
JMN Monobe 39.72 5 P P 20 42 36.0 +1.2
JHJ Hachijo jima 2 39.98 12 LR LR 20 57 29.3
comp=Z,692nm,19.4s,baz=78,slow=33
JHS Saijyo 40.93 3 P P 20 42 45.8 +1.2
JHS IAmb IAmb 20 42 46.9
comp=Z,199nm,0.9s
KMI Kunming 41.04 320⇑ P P 20 42 47.5 +1.6
KMI pP pP 20 43 15.5 +0.6
KMI sP sP 20 43 29.2 -0.6
KMI PcP **PcP** **20 44 45.5 +2.1**
KMI ScP **ScP** **20 48 21.7 +1.0**
KMI PcS **PcS** **20 48 35.0 +0.1**

KMI S **S** **20 48 55.9 +7.3**
KMI SS **SS** **20 51 58.7 +2.2**
KMI pmax pmax
comp=Z,220nm,0.9s
KMI pmax pmax
comp=Z,600nm,3.5s
KMI LR LR
comp=Z,570nm,17.5s
KMI LR LR
comp=Z,350nm,15.9s
KMI LR LR
comp=Z,580nm,15.0s
KMI Kunming 41.04 320 ⇑P **P** **20 42 47.6 +1.6**
KMI pP pP 20 43 00.3 -15
ENH Enshi 41.31 332 P **P** **20 42 48.1 +0.2**
ENH Enshi 41.31 332 ⇑P **P** **20 42 48.3 +0.4**
ENH pP pP 20 42 58.0 -19
ENH sP pwP 20 43 03.2 -19
PBA Port Blair 41.37 295 P **P** **20 42 47.0 -1.6**
PBA IAmb IAmb 20 43 12.5
comp=Z,78nm,0.9s
PBA Port Blair 41.37 295 P **P** **20 42 49.7 +1.1**
SNR=5.3
INU Inuyama 41.66 8 P **P** **20 42 51.1 +0.4**
INU Inuyama 41.66 8 P **P** **20 42 51.7 +1.1**
comp=Z,54nm,0.9s
DGPR DIGLIPUR 41.82 297 *e*P **P** **20 42 56.5 +4.3**
JGF Kuroka 41.96 9 P **P** **20 42 53.0 -0.1**
TJN Taejon 42.31 356 *ce*P **P** **20 42 56.6 +0.7**
TJN Taejon 42.31 356 P **P** **20 42 57.0 +1.1**
TJN Taejon 42.31 356 P **P** **20 42 57.1 +1.2**
comp=Z,606nm,1.2s
PZH PanZhiHua 42.65 321 ⇑P **P** **20 42 59.3 +0.4**
PZH pP **pP** **20 43 28.1 0.0**
PZH sP **sP** **20 43 41.6 -1.4**
PZH PP **PP** **20 44 39.3 -1.4**
PZH ScP **ScP** **20 48 22.5 -4.4**
PZH S **S** **20 49 13.5 +1.4**
PZH ScS **ScS** **20 52 45.3 -1.1**
PZH pmax pmax
comp=Z,230nm,0.8s
PZH pmax pmax
comp=Z,540nm,6.1s
PZH LR LR
comp=Z,580nm,19.5s
PZH LR LR
comp=Z,730nm,20.1s
PZH LR LR
comp=Z,1μm,18.2s
MAJO Matsushiro 43.02 9 ⇑P **P** **20 43 01.2 -0.4**
MAJO pP pP 20 43 17.7 -13
MAJO sP pwP 20 43 28.4 -9.3
MJAR Matsushiro Arr 43.02 9 P **P** **20 43 01.1 -0.4**
comp=Z,84nm,0.8s,baz=95,slow=4.8,SNR=96
MJAR S **S** **20 49 13.4 -3.6**
comp=Z,2.9nm,0.6s,baz=191,slow=9.7,SNR=4.1
MJAR LR LR 20 59 33.1
comp=Z,561nm,20.8s,baz=192,slow=34
MJAR Matsushiro Arr 43.02 9 P **P** **20 43 00.8 -0.7**
MJB9 Matsu-Tunnel 43.02 9 P **P** **20 43 01.0 -0.6**
MJB9 IAmb IAmb 20 43 02.1
comp=Z,148nm,1.0s
JYT Yasato 43.07 12 P **P** **20 43 01.4 -0.6**
KSAR Wonju Array Be 43.34 357 P **P** **20 43 04.0 -0.1**
KSAR Wonju Array Be 43.34 357 P **P** **20 43 04.0 -0.1**
KSRS Korea Array 43.35 357 P **P** **20 43 05.5 +1.3**
comp=Z,23nm,0.6s,baz=173,slow=8.7,SNR=118
KSRS PcP **PcP** **20 44 51.6 +1.1**
comp=Z,14nm,0.8s,baz=183,slow=3.5,SNR=8.5
KSRS ScP **ScP** **20 48 31.1 +1.8**
comp=Z,3.3nm,0.8s,baz=183,slow=5.1,SNR=4.3
KSRS LR LR 20 59 52.8
comp=Z,499nm,21.8s,baz=190,slow=34
KS19 Wonju Array Si 43.41 357 P **P** **20 43 05.5 +0.8**
INCN Inchon 43.46 356 P **P** **20 43 06.4 +1.2**
INCN pmax pmax
comp=Z,80nm,0.9s
INCN Inchon 43.46 356 P **P** **20 43 06.4 +1.2**
INCN IAmb IAmb 20 43 08.2
comp=Z,80nm,0.8s
INCN Inchon 43.46 356 P **P** **20 43 06.4 +1.2**
comp=Z,114nm,0.8s
LYN LuoYang 43.80 338 ⇑*i*P **P** **20 43 08.7 +0.8**
LYN S **S** **20 49 26.1 -2.3**
LYN pmax pmax
comp=Z,170nm,1.3s
LYN LR LR
comp=Z,440nm,18.4s
JSD Sado 44.49 9 P **P** **20 43 12.3 -0.9**
JSD IAmb IAmb 20 43 14.8
comp=Z,164nm,1.5s
CD2 Chengdu 44.73 327 ⇑*i*P **P** **20 43 15.4 0.0**
CD2 PP **PP** **20 45 04.5 +1.9**
CD2 S **S** **20 49 44.8 +2.7**
CD2 sS sS 20 50 36.9 +3.3
CD2 ScS **ScS** **20 53 00.7 +1.6**
CD2 pmax pmax
comp=Z,200nm,0.9s
CD2 pmax pmax
comp=Z,320nm,4.0s
XAN Xi'an 44.76 334 P **P** **20 43 15.8 +0.2**
XAN PP **PP** **20 45 03.0 +0.1**
XAN S **S** **20 49 38.0 -4.4**
XAN pmax pmax
comp=Z,360nm,0.9s
XAN pmax pmax
comp=Z,890nm,3.8s
XAN LR LR
comp=Z,300nm,25.0s
XAN LR LR
comp=Z,340nm,15.9s
XAN LR LR
comp=Z,900nm,25.0s
JMM Marumori 44.77 12 P **P** **20 43 16.0 +0.5**
JMM IAmb IAmb 20 43 19.6
comp=Z,113nm,0.7s
DL2 Dalian 45.47 350 P **P** **20 43 21.9 +0.8**
DL2 pP **pP** **20 43 46.2 -4.8**
DL2 S **S** **20 49 50.5 -1.9**
DL2 pmax pmax
comp=Z,72nm,1.1s
DL2 pmax pmax
comp=Z,250nm,5.0s
HNS HongShan 45.65 342 ⇑P **P** **20 43 23.1 +0.6**
HNS pP **pP** **20 43 49.1 -3.4**
HNS sP **sP** **20 44 04.7 -2.7**
HNS PP **PP** **20 45 11.8 -0.4**
HNS S **S** **20 49 52.2 -2.8**
HNS pmax pmax
comp=Z,330nm,0.9s
TIY Taiyuan 46.66 340 ⇑P **P** **20 43 31.1 +0.6**
TIY pmax pmax
comp=Z,200nm,0.7s
LKP Lekhapani 47.09 316 *e*P **P** **20 43 33.8 -0.1**
LKP IAmb IAmb 20 43 34.4
comp=Z,321nm,0.5s
KOHI KOHIMA 47.32 313 *e*P **P** **20 43 35.8 -0.1**
MOKO MOKOCHONG 47.39 314 *e*P **P** **20 43 36.6 +0.2**
MOKO IAmb IAmb 20 43 37.6
comp=Z,277nm,0.6s
BRDH Bariadhala 47.45 308 P **P** **20 43 39.4 +2.6**
comp=Z,1.0nm,0.3s,baz=360,slow=24,SNR=19
JTM Tenmabayashi 47.65 11 P **P** **20 43 37.9 -0.1**
JTM IAmb IAmb 20 43 39.3
comp=Z,72nm,0.6s
BJT Baijiatuau 47.69 345 P **P** **20 43 39.1 +0.8**
BJT pmax pmax
comp=Z,186nm,0.7s
BJT Baijiatuau 47.69 345 P **P** **20 43 39.0 +0.8**
BJT Baijiatuau 47.69 345 ⇑P **P** **20 43 39.2 +0.8**
BJT pP pP 20 43 53.7 -15
BJI Beijing 47.71 345 P **P** **20 43 39.2 +0.7**
BJI pP **pP** **20 44 07.4 -1.5**
BJI sP **sP** **20 44 21.4 -2.5**
BJI PcP **PcP** **20 45 06.5 +0.9**
BJI ScP **ScP** **20 48 48.2 +0.8**
BJI S **S** **20 50 21.7 -2.6**
BJI pmax pmax
comp=Z,250nm,0.7s
BJI pmax pmax
comp=Z,690nm,6.2s
SILR SILCHAR 47.73 311 *e*P **P** **20 43 40.0 +1.1**
SILR IAmb IAmb 20 43 40.6
comp=Z,1μm,0.9s

BELO BELONIA 47.91 309 *e*P **P** **20 43 42.2 +1.9**
MSVF Nonsavu 47.93 108 S **S** **20 50 30.5 +2.2**
comp=Z,8.4nm,0.3s,baz=143,slow=22,SNR=6.0
SNY Shenyang 48.07 353 ⇑P **P** **20 43 41.6 +0.4**
SNY S **S** **20 50 23.8 -5.4**
SNY pmax pmax
comp=Z,97nm,0.8s
SNY pmax pmax
comp=Z,310nm,3.6s
SNY LR LR
comp=Z,310nm,21.3s
SNY LR LR
comp=Z,350nm,23.7s
SNY LR LR
comp=Z,620nm,23.7s
AGT Agartala 48.40 309 *e*P **P** **20 43 45.9 +1.8**
AGT IAmb IAmb 20 43 46.5
comp=Z,848nm,0.6s
MSHR Mys Shultsa 48.42 1 *ce*P **P** **20 43 44.9 +1.0**
MSHR pmax pmax
comp=Z,44nm,0.6s
LZH Lanzhou 48.77 331 ⇑P **P** **20 43 48.4 +1.5**
LZH pP pP 20 44 17.2 +0.4
LZH sP sP 20 44 31.4 -0.4
LZH PcP **PcP** **20 45 11.6 +1.8**
LZH ScP **ScP** **20 48 54.1 +1.9**
LZH S **S** **20 50 37.9 -1.8**
LZH SS **SS** **20 54 09.2 -3.0**
LZH pmax pmax
comp=Z,320nm,1.3s
LZH pmax pmax
comp=Z,520nm,5.4s
LZH LR LR
comp=Z,550nm,14.0s
LZH LR LR
comp=Z,460nm,14.1s
LZH LR LR
comp=Z,760nm,16.3s
SHL Shillong 48.86 312 P **P** **20 43 47.6 -0.2**
SHL pmax pmax
comp=Z,436nm,0.8s
SHL Shillong 48.86 312 P **P** **20 43 47.6 -0.2**
SHL Shillong 48.86 312 *e*P **P** **20 43 47.8 0.0**
SHL IAmb IAmb 20 43 50.3
comp=Z,328nm,0.7s
SHL Shillong 48.86 312 P **P** **20 43 47.7 0.0**
SNR=117
OUZ Omahuta 49.18 132 P **P** **20 43 51.8 +1.9**
OUZ IAmb IAmb 20 43 53.2
comp=Z,91nm,1.1s
OUZ Omahuta 49.18 132 P **P** **20 43 52.1 +2.2**
comp=Z,82nm,1.1s
ERM Erimo 49.25 13 P **P** **20 43 52.7 +2.5**
comp=Z,58nm,1.0s
JEW Eniwo 49.70 11 P **P** **20 43 54.2 +0.5**
JEW IAmb IAmb 20 43 55.9
comp=Z,119nm,0.9s
HHC Hu-ho-hao-te 49.78 341 *e*P **P** **20 43 55.8 +1.4**
HHC sP sP 20 44 37.4 -2.5
HHC pmax pmax
comp=Z,160nm,1.0s
HHC pmax pmax
comp=Z,270nm,4.8s
CN2 Changchun 49.84 355 *e*P **P** **20 43 54.8 +0.2**
CN2 *e*S **S** **20 50 48.7 -5.2**
CN2 pmax pmax
comp=Z,60nm,0.7s
CN2 pmax pmax
comp=Z,400nm,10.3s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,400nm,19.0s
USA0B Ussuriysk Arra 50.05 2 P **P** **20 43 57.0 +0.7**
USA0B pmax pmax
comp=Z,68nm,0.7s
USA0B Ussuriysk Arra 50.05 2 P **P** **20 43 57.0 +0.7**
USA0B IAmb IAmb 20 43 57.8
comp=Z,68nm,0.7s
USRK Ussuriysk Ar. 50.05 2 P **P** **20 43 57.2 +0.9**
comp=Z,68nm,0.7s,baz=184,slow=7.3,SNR=77
USRK Ussuriysk Ar. 50.05 2 P **P** **20 43 56.8 +0.6**
BTO Baotou 50.07 340 *e*P **P** **20 43 57.8 +1.2**
MDJ Mudanjiang 50.45 359 P **P** **20 44 00.1 +0.8**
MDJ IAmb IAmb 20 44 01.5
comp=Z,88nm,0.7s
MDJ Mudanjiang 50.45 359 P **P** **20 44 00.4 +1.1**
MDJ S **S** **20 51 03.8 +1.3**
MDJ pmax pmax
comp=Z,130nm,0.8s
MDJ pmax pmax
comp=Z,560nm,3.9s
DHUB DHUBRI 50.52 311 *e*P **P** **20 44 00.6 +0.4**
DHUB IAmb IAmb 20 44 02.1
comp=Z,256nm,0.7s
DCZ Deep Cove 50.57 147 P **P** **20 44 01.4 +1.2**
DCZ IAmb IAmb 20 44 01.9
comp=Z,98nm,1.1s
FOZ Fox Glacier 50.90 143 P **P** **20 44 03.7 +1.0**
FOZ IAmb IAmb 20 44 05.2
comp=Z,77nm,0.9s
MLZ Mavora Lakes 51.03 146 P **P** **20 44 04.3 +0.5**
QRZ Quartz Range 51.11 139 P **P** **20 44 05.9 +1.6**
QRZ IAmb IAmb 20 44 07.0
comp=Z,106nm,0.8s
QRZ Quartz Range 51.11 139 P **P** **20 44 06.3 +2.0**
comp=Z,138nm,0.9s
ASAJ Asahikawa 51.15 11 P **P** **20 44 05.4 +0.9**
comp=Z,42nm,0.6s,baz=233,slow=8.5,SNR=58
JKA Kamikawa-asahi 51.15 11 P **P** **20 44 05.0 +0.4**
TEY Ternei 51.18 6 *eP* **P** **20 44 05.2 +0.5**
TEY *e* 20 51 10.2
TEY pmax pmax
comp=Z,100nm,2.0s
TEY pmax pmax
comp=Z,90nm,0.8s
TEY pmax pmax
comp=N,60nm,0.8s
WKZ Wanaka 51.21 145 P **P** **20 44 05.3 +0.3**
WKZ IAmb IAmb 20 44 07.0
comp=Z,61nm,0.9s
WHZ Wether Hill Ro 51.27 147 P **P** **20 44 05.9 +0.5**
WHZ IAmb IAmb 20 44 06.6
comp=Z,74nm,0.7s
PALK Pallekele 51.30 284 P **P** **20 44 05.6 -0.6**
comp=Z,40nm,0.6s,baz=202,slow=7.7,SNR=65
PALK PcP **PcP** **20 45 21.2 +1.8**
comp=Z,27nm,0.8s,baz=178,slow=4.0,SNR=3.9
PALK LR LR 21 09 34.7
comp=Z,245nm,18.1s,baz=221,slow=40
PALK Pallekele 51.30 284 P **P** **20 44 05.5 -0.8**
PALK IAmb IAmb 20 44 11.1
comp=Z,46nm,0.8s
PALK **PcP** **20 45 20.4 +0.9**
XLT XiLinHaoTe 51.39 347 ⇑*i*P **P** **20 44 07.4 +1.0**
XLT pP pP 20 44 37.5 +0.2
XLT sP sP 20 44 51.3 -0.8
XLT PcP **PcP** **20 45 20.4 +1.2**
XLT S **S** **20 51 12.9 -2.6**
XLT pmax pmax
comp=Z,150nm,1.0s
XLT pmax pmax
comp=Z,180nm,4.4s
LBZ Lake Benmore 51.62 144 P **P** **20 44 08.6 +0.5**
LBZ IAmb IAmb 20 44 09.8
comp=Z,117nm,0.9s
BNX BinXian 51.64 357 ⇓P **P** **20 44 08.4 +0.3**
BNX pP **pP** **20 44 40.0 +1.1**
BNX sP **sP** **20 44 55.8 +2.2**
BNX PP **PP** **20 46 08.3 +1.2**
BNX S **S** **20 51 14.8 -4.0**
BNX pmax pmax
comp=Z,120nm,0.8s
BNX pmax pmax
comp=Z,470nm,4.5s
BNX LR LR
comp=Z,720nm,8.1s
BNX LR LR
comp=Z,870nm,24.9s
BNX LR LR
comp=Z,870nm,24.9s
RPZ Rata Peaks 51.74 143 P **P** **20 44 10.0 +1.0**
comp=Z,72nm,0.8s,baz=309,slow=2.5,SNR=27

RPZ LR LR 21 05 38.5
comp=Z,806nm,20.5s,baz=301,slow=35
RPZ Rata Peaks 51.74 143 P **P** **20 44 09.4 +0.4**
RPZ IAmb IAmb 20 44 11.1
comp=Z,98nm,0.9s
RPZ Rata Peaks 51.74 143 P **P** **20 44 10.4 +1.3**
comp=Z,477nm,1.0s
LSA Lhasa 51.79 316 P **P** **20 44 11.3 +1.2**
LSA pmax pmax
comp=Z,232nm,0.8s
LSA Lhasa 51.79 316 P **P** **20 44 11.3 +1.2**
LSA Lhasa 51.79 316 P **P** **20 44 11.5 +1.3**
LSA S **S** **20 51 17.9 -4.5**
LSA pmax pmax
comp=Z,350nm,0.9s
LSA LR LR
comp=Z,160nm,14.6s
LSA LR LR
comp=Z,310nm,17.8s
LSA LR LR
comp=Z,98nm,8.9s
LSA Lhasa 51.79 316 P **P** **20 44 11.7 +1.5**
LSA Lhasa 51.79 316 ⇑P **P** **20 44 11.6 +1.5**
LSA pP pP 20 44 29.3 -11
THZ Tophouse 51.83 140 P **P** **20 44 10.1 +0.3**
THZ IAmb IAmb 20 44 12.2
comp=Z,55nm,0.7s
LTZ Lake Taylor 51.97 141 P **P** **20 44 11.4 +0.6**
KMRZ Kaimai 52.02 134 P **P** 20 44 23.1 +12
OXZ Oxford 52.12 142 P **P** **20 44 12.0 +0.1**
ODZ Otahua Downs 52.27 145 P **P** **20 44 13.0 +0.2**
ODZ Otahua Downs 52.27 145 P **P** **20 44 13.6 +0.7**
comp=Z,39nm,1.0s
TUWZ Tuamarina 52.33 139 P **P** **20 44 13.1 -0.3**
WTVZ West Tongariro 52.34 136 P **P** **20 44 16.2 +2.5**
OTVZ Oturere 52.41 136 P **P** **20 44 17.1 +2.8**
TMVZ Te Maari 52.42 136 P **P** **20 44 16.5 +2.2**
ETVZ East Tongariro 52.43 136 P **P** **20 44 16.6 +2.2**
BSWZ Blackbirch Sta 52.43 139 P **P** **20 44 12.7 -1.4**
KHZ Kahutara 52.58 140 P **P** **20 44 15.4 +0.3**
KHZ IAmb IAmb 20 44 16.3
comp=Z,67nm,0.6s
KHZ Kahutara 52.58 140 P **P** **20 44 15.9 +0.7**
comp=Z,100nm,0.8s
BOK Bokaro 52.58 306 *e*P **P** **20 44 16.0 +0.5**
BOK IAmb IAmb 20 44 18.8
comp=Z,137nm,0.8s
MOVZ Moawhango 52.58 136 P **P** **20 44 16.2 +0.8**
RAGD RAYAGADA 52.60 300 *e*P **P** **20 44 16.6 +0.9**
MQZ McQueen's Vall 52.71 142 P **P** **20 44 17.1 +1.0**
SNZO South Karori 52.77 139 P **P** **20 44 17.2 +0.6**
comp=Z,137nm,1.1s
BHHZ Black Hill Sta 52.84 136 P **P** **20 44 17.8 +0.5**
BHW Baring Head 52.93 139 P **P** **20 44 17.1 -0.7**
ODAN Odare 52.94 310 *e*P **P** **20 44 19.1 +0.7**
comp=Z,1μm,0.7s
TAPN Taplejung 52.96 311 *e*P **P** **20 44 19.4 +0.8**
comp=Z,658nm,0.5s
BKZ Black Stump Fm 52.99 135 P **P** **20 44 18.4 0.0**
BKZ IAmb IAmb 20 44 20.4
comp=Z,64nm,0.8s
BKZ Black Stump Fm 52.99 135 P **P** **20 44 18.8 +0.4**
BKZ Black Stump Fm 52.99 135 P **P** **20 44 18.8 +0.4**
comp=Z,360nm,0.9s
TSZ Takapari Road 53.02 137 P **P** **20 44 18.9 +0.3**
URZ Urewera 53.03 134 P **P** **20 44 18.7 +0.2**
comp=Z,17nm,0.5s,baz=286,slow=3.5,SNR=20
URZ LR LR 21 10 42.0
comp=Z,315nm,18.3s,baz=341,slow=40
URZ Urewera 53.03 134 P **P** **20 44 18.3 -0.3**
URZ Urewera 53.03 134 P **P** **20 44 18.8 +0.2**
URZ Urewera 53.03 134 P **P** **20 44 19.1 +0.5**
comp=Z,144nm,0.7s
RTZ Ruatahuna 53.09 135 P **P** **20 44 19.5 +0.3**
MTHZ Maungataniwha 53.10 135 P **P** **20 44 19.8 +0.7**
KRHZ Kereru 53.12 136 P **P** **20 44 19.7 +0.4**
PNHZ Pukenui 53.12 136 P **P** **20 44 19.5 +0.2**
NMHZ Naumai 53.18 135 P **P** **20 44 21.2 +1.4**
MSWZ Moikau Station 53.18 138 P **P** **20 44 18.7 -1.0**
MCHZ McNeill Hill 53.25 136 P **P** **20 44 21.7 +1.5**
PLWZ Palliser 53.26 139 P **P** **20 44 19.5 -0.8**
DVHZ Dannevirke 53.27 137 P **P** **20 44 20.5 +0.1**
MDRS Chennai 53.30 291 *e*P **P** **20 44 21.2 +0.2**
HAZ Te Kaha 53.31 133 P **P** **20 44 22.0 +1.4**
RUGZ Raukumara Rang 53.32 134 P **P** **20 44 20.7 -0.2**
GTA Gaotai 53.34 331 ⇑P **P** **20 44 22.3 +1.3**
GTA pP pP 20 44 50.3 -1.4
GTA sP sP 20 45 07.1 +0.7
GTA PcP **PcP** **20 45 28.2 +1.5**
GTA ScP **ScP** **20 49 13.8 +2.0**
GTA S **S** **20 51 37.8 -4.7**
GTA pmax pmax
comp=Z,200nm,0.9s
GTA pmax pmax
comp=Z,260nm,7.6s
GTA LR LR
comp=Z,190nm,17.1s
GTA LR LR
comp=Z,220nm,13.9s
GTA LR LR
comp=Z,290nm,21.1s
MWZ Matawai 53.36 134 P **P** **20 44 21.6 +0.5**
JHSG JHARSUGUGA 53.39 303 *e*P **P** **20 44 22.2 +0.7**
BFZ Birch Farm 53.50 137 P **P** **20 44 22.8 +0.8**
comp=Z,28nm,1.1s
MCQ Macquarie Isla 53.51 160 P **P** **20 44 23.2 +1.4**
baz=54,SNR=4.7
MCQ Macquarie Isla 53.51 160 P **P** **20 44 23.7 +1.9**
MCQ pmax pmax
comp=Z,350nm,0.8s
MCQ Macquarie Isla 53.51 160 P **P** **20 44 23.7 +1.9**
MCQ Macquarie Isla 53.51 160 P **P** **20 44 24.1 +2.3**
KAHZ Kahuranaki 53.53 136 P **P** **20 44 22.9 +0.6**
ANWZ Angora Road 53.56 137 P **P** **20 44 22.8 +0.4**
RAMN Ramite 53.59 310 *e*P **P** **20 44 24.2 +1.1**
comp=Z,1μm,0.5s
MXZ Matakaoa Point 53.61 133 P **P** **20 44 23.5 +0.6**
MXZ IAmb IAmb 20 44 24.3
comp=Z,53nm,0.9s
MXZ Matakaoa Point 53.61 133 P **P** **20 44 23.7 +0.9**
GOMU GeErMu 53.66 324 P **P** **20 44 24.4 +0.8**
GOMU PcP **PcP** **20 45 28.6 +0.3**
GOMU PP **PP** **20 46 27.0 +1.0**
GOMU S **S** **20 51 49.1 +1.8**
GOMU sS sS 20 52 40.3 +0.5
GOMU pmax pmax
comp=Z,35nm,0.9s
GOMU LR LR
comp=Z,160nm,16.3s
GOMU LR LR
comp=Z,140nm,16.0s
GOMU LR LR
comp=Z,230nm,19.0s
WMGZ Waiomatatini S 53.79 133 P **P** **20 44 25.2 +1.0**
RAO Raoul Island 53.87 122 LR LR 21 07 58.7
comp=Z,288nm,19.5s,baz=132,slow=36
CNGZ Carnagh Statio 53.91 134 P **P** **20 44 26.0 +1.0**
YSS Yuzh-Sakhalins 53.92 10 *ce*P **P** **20 44 25.5 +0.7**
YSS *e**SP **sP** **20 45 12.6 +2.8**
YSS *e* 20 45 28.2
YSS *e*S **S** **20 51 47.8 -1.8**
YSS *e*SS **SS** **20 55 36.0 +3.0**
YSS pmax pmax
comp=Z,400nm,3.7s
YSS pmax pmax
comp=Z,60nm,0.7s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS MLR MLR
comp=N,300nm,15.0s
YSS Yuzh-Sakhalins 53.92 10 P **P** **20 44 24.6 -0.2**
YSS IAmb IAmb 20 44 26.4
comp=Z,60nm,0.7s
YSS Yuzh-Sakhalins 53.92 10 P **P** **20 44 26.1 +1.3**
comp=Z,100nm,0.9s
VJD Vijayawada 54.06 295 *e*P **P** **20 44 27.4 +1.0**
JIRN Jiri 54.27 310 *e*P **P** **20 44 29.0 +0.8**
comp=Z,1μm,0.7s
GUN Gumba 54.63 310 *e*P **P** **20 44 31.6 +0.8**
comp=Z,2μm,0.7s
PKI Pulchoki 54.81 310 *e*P **P** **20 44 32.5 +0.4**
comp=Z,679nm,0.7s
PKIN Phulchoki 54.83 310 *e*P **P** **20 44 32.5 +0.4**
comp=Z,664nm,0.7s

BLSP Bilaspur 54.92 302 *e*P **P** **20 44 32.6 0.0**
KKN Kakani 55.02 310 *e*P **P** **20 44 34.1 +0.6**
comp=Z,1µm,0.8s
DMN Daman 55.06 310 *e*P **P** **20 44 34.6 +0.8**
comp=Z,1µm,0.8s
KLR Kul'dur 55.08 1 P **P** **20 44 34.5 +1.3**
baz=192,slow=7.8
KLR LR LR 21 07 51.7
comp=Z,222nm,20.4s,baz=206,slow=36
KLR Kul'dur 55.08 1*ce*P **P** **20 44 33.9 +0.7**
KLR pmax pmax
comp=Z,109nm,1.0s
KOD Kodaikanal 55.13 287 *e*P **P** **20 44 34.5 -0.1**
GKN Gorkha 55.62 310 *e*P **P** **20 44 38.4 +0.7**
comp=Z,1µm,0.7s
UGL Uglegorsk 55.86 9 *e*P **P** **20 44 40.0 +1.3**
UGL *e*S **S** **20 52 18.5 +3.1**
UGL pmax pmax
comp=Z,230nm,1.0s
VLK Valmikinagar 55.87 309 *e*P **P** **20 44 40.7 +1.4**
HYB Hyderabad 56.25 295 *e*P **P** **20 44 41.7 -0.5**
HYBB Hyderabad (bro 56.25 295 *e*P **P** **20 44 41.7 -0.5**
HYBB *ep*P **pP** **20 45 12.0 -1.2**
HYBB *es*P **sP** **20 45 25.3 -2.5**
HYBB *e*PcP **PcP** **20 45 38.7 +0.4**
HYBB *e*PP **PP** **20 46 48.4 -0.7**
HYBB *e*PcS **PcS** **20 49 38.2 -1.0**
HYBB *e*S **S** **20 52 16.7 -5.2**
HYBB *es*S **sS** **20 53 12.1 -2.7**
HYBB *e*ScS **ScS** **20 54 16.9 -1.7**
PCHI Peechi 56.27 287⇑ *i*P **P** **20 44 42.2 -0.1**
PCHI *e*S **S** **20 52 19.2 -2.9**
KOLN Koldanda 56.30 309 *e*P **P** **20 44 43.5 +0.9**
comp=Z,2µm,0.8s
DANN Dangsing 56.47 310 *e*P **P** **20 44 44.5 +0.6**
comp=Z,1µm,0.9s
ALBI Allahabad 56.57 306 *e*P **P** **20 44 44.3 0.0**
GRNR Gornyy 56.85 5⇑ *i*P **P** **20 44 46.9 +1.1**
GRNR pmax pmax
comp=N,10.0nm,0.8s
GRNR pmax pmax
comp=Z,40nm,0.7s
GRNR MLR MLR
comp=E,160nm,16.0s
PYUN Piuthan 56.93 309 *e*P **P** **20 44 47.9 +0.8**
comp=E,2µm,0.8s
AFI Afiamalu 57.38 103 LR LR 21 11 16.0
comp=E,110nm,18.3s,baz=282,slow=38
H08S2 Diego Garcia H 57.46 265 P **P** **20 44 51.5 +1.1**
baz=54,slow=9.0,SNR=25
H08S3 Diego Garcia H 57.47 265 P **P** **20 44 51.5 +1.0**
baz=54,slow=9.0,SNR=28
H08S1 Diego Garcia H 57.48 265 P **P** **20 44 51.6 +1.1**
baz=54,slow=9.0,SNR=38
ULN Ulaanbaatar 57.50 342*ce*P **P** **20 44 52.3 +1.7**
ULN pmax pmax
comp=Z,242nm,0.7s
ULN Ulaanbaatar 57.50 342 P **P** **20 44 52.0 +1.4**
DGAR Diego Garcia 57.51 265*c i*P **P** **20 44 52.0 +0.9**
DGAR pmax pmax
comp=Z,254nm,0.9s
DGAR Diego Garcia 57.51 265 P **P** **20 44 52.0 +0.9**
DGAR Diego Garcia 57.51 265 ⇑P **P** **20 44 52.3 +1.2**
DGAR ⇑pP pP 20 45 04.9 -17
KAAM Kaadhehdhoo 57.65 274 P **P** **20 44 53.1 +1.0**
SONM Songino Array 57.68 341 P **P** **20 44 53.4 +1.5**
comp=Z,80nm,0.6s,baz=158,slow=6.9,SNR=481
SONM PcP **PcP** **20 45 44.2 +0.8**
comp=Z,15nm,0.6s,baz=121,slow=2.9,SNR=3.7
SONM PKP2bc 21 14 45.8
comp=Z,0.8nm,0.8s,baz=290,slow=4.2,SNR=4.7
SONM P4KPbc 21 21 56.9
comp=Z,0.3nm,0.8s,baz=141,slow=0.9,SNR=1.1
SONM Songino Array 57.68 341 P **P** **20 44 53.1 +1.3**
SONM IAmb IAmb 20 44 54.1
comp=Z,93nm,0.8s
TYV Tymovskoe 57.68 9 *e*P **P** **20 44 53.4 +1.8**
TYV *e*S **S** **20 52 43.7 +4.3**
TYV pmax pmax
comp=Z,63nm,0.7s
TYV pmax pmax
comp=Z,400nm,4.2s
TYV smax smax
comp=N,500nm,9.4s
TYV smax smax
comp=E,300nm,9.4s
AKL Akola 58.76 299 *e*P **P** **20 44 59.4 -0.3**
JHNI Jhansi 59.30 304 *e*P **P** **20 45 02.4 -1.0**
BHPL Bhopal 59.34 301 *e*P **P** **20 45 03.6 -0.1**
BHPL IAmb IAmb 20 45 04.3
comp=Z,248nm,0.7s
CIT Chita 59.62 348 *e*P **P** **20 45 04.4 -0.7**
CIT *e* 20 45 52.2
CIT *e* 20 47 15.4
CIT *e* 20 53 07.0
CIT pmax pmax
comp=Z,170nm,2.5s
NKL Nikolayevsk 59.63 7 *e*P **P** **20 45 05.5 +0.5**
NKL *e*S **S** **20 53 00.4 -4.1**
NKL pmax pmax
comp=N,1.0nm,0.7s
NKL pmax pmax
comp=E,3.0nm,0.7s
NKL pmax pmax
comp=Z,177nm,0.7s
NKL pmax pmax
comp=Z,49nm,2.3s
ZEA Zeya 59.64 358*ce*P **P** **20 45 06.0 +0.9**
ZEA *e**SP **sP** **20 45 52.8 +1.7**
ZEA *e*S **S** **20 53 03.7 -0.9**
ZEA *e* 20 54 42.0
ZEA pmax pmax
comp=N,70nm,0.9s
ZEA pmax pmax
comp=Z,140nm,0.9s
ZEA pmax pmax
comp=Z,100nm,6.3s
ZEA smax smax
comp=E,200nm,7.4s
LGTI Lohaghat 59.69 309 *e*P **P** **20 45 06.2 +0.3**
PTH Pithoragarh 59.76 309 *e*P **P** **20 45 06.3 -0.4**
KAD Karad 60.16 294 *e*P **P** **20 45 08.5 -0.9**
POO Poona 60.84 295 *e*P **P** **20 45 13.5 -0.6**
POO IAmb IAmb 20 45 14.3
comp=Z,231nm,0.8s
POO Poona 60.84 295⇓ *i*P P 20 45 09.0 -5.0
DRV Dumont d'Urvil 60.87 176 ⇓P **P** **20 45 14.4 +1.2**
DRV ⇑pP pP 20 45 21.9 -22
ZAK Zakamensk 60.91 341 *e*P **P** **20 45 14.9 +0.9**
ZAK pmax pmax
comp=Z,116nm,1.2s
SONA Sohna 61.64 307 *e*P **P** **20 45 18.8 -0.4**
CASY Casey 61.68 189 P **P** **20 45 19.2 +0.4**
CASY IAmb IAmb 20 45 20.6
comp=Z,67nm,1.2s
CASY Casey 61.68 189⇓P **P** **20 45 19.6 +0.8**
CASY pP pP 20 45 33.4 -16
AYAN Aya Nagar 61.71 307 *e*P **P** **20 45 18.9 -0.7**
DDI Dehra Dun 61.78 309 *e*P **P** **20 45 20.6 +0.4**
DDI IAmb IAmb 20 45 21.3
comp=Z,235nm,0.9s
KUDL Kundal 62.08 306 *e*P **P** **20 45 20.8 -1.3**
IRK Irkutsk 62.20 342 *e*P **P** **20 45 21.8 -0.7**
IRK *e* 20 45 54.4
IRK *e*S **S** **20 53 36.7 -0.6**
IRK pmax pmax
comp=Z,364nm,1.3s
MOY Mondy 62.77 340 *e*P **P** **20 45 28.3 +1.9**
MOY pmax pmax
comp=Z,323nm,1.9s
WMQ Urumqi 62.82 327⇑P **P** **20 45 28.4 +1.5**
WMQ pP pP 20 45 57.4 -1.1
WMQ PcP **PcP** **20 46 05.7 +1.7**
WMQ S **S** **20 53 47.3 +1.8**
WMQ sS sS 20 54 37.8 -3.2
WMQ ScS **SKSac** **20 55 05.7 -0.8**
WMQ pmax pmax
comp=Z,450nm,0.9s
WMQ pmax pmax
comp=Z,1µm,4.7s
SMLA Simla 62.83 309 *e*P **P** **20 45 28.2 +1.2**
AJM Ajmer 62.92 304 *e*P **P** **20 45 27.8 0.0**
KNGR Kungurtug, Tuv 63.17 337*c i*P **P** **20 45 30.5 +1.5**
PEA0B Petropavlovsk- 63.33 18*ce*P **P** **20 45 31.0 +1.1**
PEA0B Petropavlovsk- 63.33 18 P **P** **20 45 31.0 +1.1**
PETK Petropavlovsk- 63.33 18 P **P** **20 45 30.8 +0.9**
comp=Z,75nm,0.6s,baz=193,slow=6.1,SNR=73
PETK PcP **PcP** **20 46 06.2 +0.4**
comp=Z,25nm,0.7s,baz=202,slow=7.4,SNR=5.4
PETK LR LR 21 08 51.2
comp=Z,197nm,21.1s,baz=210,slow=32
PETK Petropavlovsk- 63.33 18 P **P** **20 45 29.8 -0.1**
BHK Bhakra 63.53 309 *e*P **P** **20 45 32.8 +1.1**
PET Petropavlovsk 63.55 19 *e*P **P** **20 45 32.1 +0.8**
PET *e**SP **sP** **20 46 20.1 +2.5**
PET *e*S **S** **20 53 54.8 +0.8**
PET pmax pmax
comp=Z,500nm,11.8s
PET pmax pmax
comp=Z,166nm,0.8s
PET pmax pmax
comp=Z,200nm,13.2s
PET Petropavlovsk 63.55 19 P **P** **20 45 32.0 +0.8**
PET IAmb IAmb 20 45 33.6
comp=Z,87nm,0.8s
PET Petropavlovsk 63.55 19 P **P** **20 45 33.1 +1.8**
THN Thein Dam 64.51 310 *e*P **P** **20 45 37.7 -0.3**
BOD Bodaibo 65.04 350 *e*P **P** **20 45 41.7 +0.7**
BOD pmax pmax
comp=Z,134nm,1.3s
JMU Jammu 65.25 310 *e*P **P** **20 45 44.4 +1.6**
JASL Jaisalmer 66.19 303 *e*P **P** **20 45 49.6 +0.6**
ZSN Zaisan 66.68 328 *e*P **P** **20 45 49.9 -1.8**
ZSN *e*S **S** **20 54 31.7 -0.8**
ZSN pmax pmax
comp=Z,73nm,0.9s
ZSN Zaisan 66.68 328 *e*P **P** **20 45 50.0 -1.8**
comp=Z,73nm,0.9s,baz=328
ZSN *e*S **S** **20 54 31.8 -0.8**
baz=328
NIL Nilore 66.90 310 P **P** **20 45 53.9 +0.5**
NIL pmax pmax
comp=Z,182nm,0.8s
NIL Nilore 66.90 310 P **P** **20 45 53.9 +0.5**
SHLS Shalkode 67.22 322 *e*P **P** **20 45 51.9 -3.4**
SHLS *e*S **S** **20 54 35.2 -4.2**
SHLS pmax pmax
comp=Z,120nm,1.0s
SHLS Shalkode 67.22 322 *e*P **P** **20 45 52.0 -3.4**
comp=Z,120nm,1.0s,baz=322
SHLS *e*S **S** **20 54 35.2 -4.2**
baz=322
MA2 Magadan 67.42 11 P **P** **20 45 57.1 +1.1**
comp=Z,56nm,0.8s,baz=183,slow=6.0,SNR=119
MA2 PcP **PcP** **20 46 23.2 +0.7**
comp=Z,17nm,0.6s,baz=170,slow=4.9,SNR=7.2
MA2 LR LR 21 13 27.5
comp=Z,109nm,21.3s,baz=224,slow=34
MA2 Magadan 67.42 11*ce*P **P** **20 45 57.1 +1.1**
MA2 pmax pmax
comp=Z,121nm,1.3s
MA2 Magadan 67.42 11 P **P** **20 45 57.2 +1.1**
MA2 IAmb IAmb 20 45 58.6
comp=Z,81nm,0.9s
MA2 Magadan 67.42 11 P **P** **20 45 57.7 +1.6**
MA2 Magadan 67.42 11 ⇑P **P** **20 45 57.3 +1.2**
MA2 pP PcP 20 46 04.7 -18
MA2 sP **PcP** **20 46 23.3 +0.7**
UZB Uzunbulak 67.48 322 *e*P **P** **20 45 55.5 -1.5**
UZB pmax pmax
comp=Z,137nm,1.1s
UZB Uzunbulak 67.48 322 *e*P **P** **20 45 55.6 -1.5**
comp=Z,137nm,1.1s,baz=322
KSH Kashi 67.59 317 P **P** **20 45 59.4 +1.6**
KSH PcP **PcP** **20 46 26.2 +2.3**
KSH sS sS 20 55 36.6 -2.6
KSH pmax pmax
comp=Z,160nm,0.8s
MK31 Makanchi Array 67.66 326*c i*P **P** **20 45 59.3 +1.4**
MK31 Makanchi Array 67.66 326 P **P** **20 45 58.8 +0.9**
MKAR Makanchi Array 67.66 326 P **P** **20 45 59.4 +1.5**
comp=Z,418nm,0.7s,baz=125,slow=7.8,SNR=3530
MKAR PcP **PcP** **20 46 24.9 +1.0**
comp=Z,37nm,0.6s,baz=116,slow=5.5,SNR=4.0
MKAR S **S** **20 54 45.2 +0.9**
comp=Z,2.5nm,0.9s,baz=119,slow=12,SNR=2.9
MKAR PKP2bc 21 14 18.8
comp=Z,0.2nm,0.5s,baz=317,slow=5.1,SNR=3.9
MKAR LR LR 21 17 50.1
comp=Z,110nm,19.9s,baz=120,slow=38
MKAR P4KPbc 21 22 32.6
comp=Z,0.2nm,0.5s,baz=128,slow=4.0,SNR=3.4
MKAR Makanchi Array 67.66 326 P **P** **20 45 59.2 +1.3**
SATY Saty 67.81 321 *e*P **P** **20 45 57.5 -1.6**
SATY *e*S **S** **20 54 45.4 -1.1**
SATY pmax pmax
comp=Z,173nm,0.9s
SATY Saty 67.81 321 *e*P **P** **20 45 57.5 -1.6**
comp=Z,173nm,0.9s,baz=321
SATY *e*S **S** **20 54 45.5 -1.1**
baz=321
MAKZ Makanchi 67.84 326 P **P** **20 46 00.1 +1.0**
MAKZ pmax pmax
comp=Z,505nm,1.1s
MAKZ Makanchi 67.84 326 P **P** **20 46 00.1 +1.0**
KPKS Kokpek 67.86 322 *e*P **P** **20 45 57.4 -1.9**
KPKS *e*S **S** **20 54 45.8 -1.2**
KPKS pmax pmax
comp=Z,146nm,0.8s
KPKS Kokpek 67.86 322 *e*P **P** **20 45 57.5 -1.9**
comp=Z,146nm,0.8s,baz=322
KPKS *e*S **S** **20 54 45.8 -1.2**
baz=322
YAK Yakutsk 67.90 360 P **P** **20 45 59.9 +0.8**
comp=Z,173nm,0.6s,baz=358,slow=0.7,SNR=176
YAK S **S** **20 54 46.3 -0.1**
comp=Z,2.6nm,0.5s,baz=101,slow=23,SNR=13
YAK LR LR 21 16 01.8
comp=Z,167nm,21.5s,baz=256,slow=36
YAK Yakutsk 67.90 360*c i*P **P** **20 45 59.8 +0.8**
YAK *e**PP **pP** **20 46 31.3 -0.2**
YAK *e*S **S** **20 54 45.7 -0.8**
YAK *e* 20 55 42.8
YAK pmax pmax
comp=Z,386nm,0.9s
YAK pmax pmax
comp=E,13nm,0.7s
YAK pmax pmax
comp=N,85nm,1.1s
YAK pmax pmax
comp=Z,29nm,0.9s
YAK smax smax
comp=N,101nm,2.0s
YAK smax smax
comp=E,120nm,1.5s
YAK Yakutsk 67.90 360 P **P** **20 45 59.6 +0.6**
KDJ Kajisay 68.10 320 P **P** **20 46 02.5 +1.5**
KDJ pmax pmax
comp=Z,178nm,0.8s
KDJ Kajisay 68.10 320 P **P** **20 46 02.5 +1.5**
TNSS Tian-Shan 68.71 321 *e*P **P** **20 46 04.1 -0.9**
TNSS Tian-Shan 68.71 321 *e*P **P** **20 46 04.2 -0.9**
baz=321
MDOK Medeo 68.72 321 *e*P **P** **20 46 02.7 -2.0**
MDOK *e*S **S** **20 54 55.8 -1.5**
MDOK Medeo 68.72 321 *e*P **P** **20 46 02.7 -2.0**
baz=321
MDOK *e*S **S** **20 54 55.9 -1.5**
baz=321
ULHL Ulahol 68.76 320 P **P** **20 46 07.3 +2.1**
SNR=8.4
AAA Alma-Ata 68.82 321 *e*P **P** **20 46 03.7 -1.6**
AAA pmax pmax
comp=Z,186nm,1.1s
AAA Alma-Ata 68.82 321 *e*P **P** **20 46 03.8 -1.6**
comp=Z,186nm,1.1s,baz=321
TDK Taldyqorghan 68.86 323 *e*P **P** **20 46 03.7 -1.7**
TDK *e*S **S** **20 54 57.5 -1.1**
TDK pmax pmax
comp=Z,170nm,1.1s
TDK Taldyqorghan 68.86 323 *e*P **P** **20 46 03.7 -1.7**
comp=Z,170nm,1.1s,baz=323
TDK *e*S **S** **20 54 57.6 -1.1**
baz=323
RAR Rarotonga 69.06 110 LR LR 21 16 12.8
comp=Z,55nm,18.1s,baz=277,slow=36
BOOM Boomskoye usch 69.08 320 P **P** **20 46 08.4 +1.4**
BOOM pmax pmax
comp=Z,275nm,1.0s
BOOM Boomskoye usch 69.08 320 P **P** **20 46 08.4 +1.4**
CCD Concordia, Ant 69.11 182⇓P **P** **20 46 08.3 +1.4**
CCD ⇑pP **PcP** **20 46 23.1 -6.9**
CHKK Chushkaly 69.11 322 *e*P **P** **20 46 04.9 -2.1**
CHKK Chushkaly 69.11 322 *e*P **P** **20 46 05.0 -2.1**
baz=322
SHEM Shemya Is, Ala 69.28 27 LR LR 21 13 04.8
comp=Z,194nm,19.7s,baz=284,slow=33
TKM2 Tokmak 2 69.51 320 P **P** **20 46 11.4 +1.6**
SNR=258
KUU Kurty 69.53 321 *e*P **P** **20 46 07.6 -2.0**
KUU *e*S **S** **20 55 05.5 -1.1**
KUU pmax pmax
comp=Z,270nm,0.9s
KUU Kurty 69.53 321 *e*P **P** **20 46 07.7 -2.0**
comp=Z,270nm,0.9s,baz=321
KUU *e*S **S** **20 55 05.5 -1.1**
baz=321
KBK Karagaybulak 69.80 320 P **P** **20 46 13.3 +1.9**
SNR=163
UCH Uchtor 69.87 319 P **P** **20 46 14.2 +2.0**
SNR=410
FRU1 Bishkek 70.07 320 P **P** **20 46 14.4 +1.4**
FRU1 pmax pmax
comp=Z,91nm,0.8s
FRU1 Bishkek 70.07 320 P **P** **20 46 14.4 +1.4**
FRU1 IAmb IAmb 20 46 15.3
comp=Z,91nm,0.8s
AAK Ala-Archa 70.08 319 P **P** **20 46 15.0 +1.8**
SNR=306
AAK Ala-Archa 70.08 319 P **P** **20 46 15.0 +1.8**
comp=Z,185nm,0.9s,baz=121,slow=5.3,SNR=652
AAK Ala-Archa 70.08 319*ce*P **P** **20 46 14.7 +1.6**
AAK pmax pmax
comp=Z,492nm,1.7s
AAK Ala-Archa 70.08 319 P **P** **20 46 14.7 +1.6**
AAK Ala-Archa 70.08 319 *i*P **P** **20 46 14.9 +1.8**
SNR=463
AAK Ala-Archa 70.08 319 P **P** **20 46 14.9 +1.8**
CHMS Chumysh 70.09 320 P **P** **20 46 14.3 +1.3**
SNR=108
AML Almayashu 70.36 319 P **P** **20 46 17.1 +2.0**
SNR=595
AML Almayashu 70.36 319 *i*P **P** **20 46 17.0 +1.8**
SNR=20
USP Ospenovka 70.38 320 P **P** **20 46 15.8 +1.0**
SNR=169
SGDS Sogindy 70.39 320 *e*P **P** **20 46 12.9 -2.0**
SGDS pmax pmax
comp=Z,89nm,1.1s
SGDS Sogindy 70.39 320 *e*P **P** **20 46 13.0 -2.0**
comp=Z,89nm,1.1s,baz=320
DRK Karamyk 70.44 316 P **P** **20 46 16.9 +1.3**
KBL Kabul 70.45 310 P **P** **20 46 16.1 +0.4**
KBL pmax pmax
comp=Z,199nm,1.0s
KBL Kabul 70.45 310 P **P** **20 46 16.1 +0.4**
KBL IAmb IAmb 20 46 17.8
comp=Z,199nm,1.0s
KBL Kabul 70.45 310 P **P** **20 46 16.5 +0.8**
SNR=107
EKS2 Erkin-Say 70.55 319 P **P** **20 46 18.0 +2.0**
SNR=18
SEY Seymchan 70.83 10 P **P** **20 46 18.6 +1.6**
comp=Z,138nm,0.7s,baz=196,slow=4.9,SNR=612
SEY S **S** **20 55 22.2 +1.4**
comp=Z,0.3nm,0.3s,baz=343,slow=20,SNR=8.6
SEY Seymchan 70.83 10*ce*P **P** **20 46 18.2 +1.2**
SEY pmax pmax
comp=Z,205nm,0.9s
SEM Semipalatinsk 70.90 329 *e*P **P** **20 46 15.4 -2.6**
SEM *e*S **S** **20 55 20.4 -2.2**
SEM pmax pmax
comp=Z,113nm,1.2s
SEM Semipalatinsk 70.90 329 *e*P **P** **20 46 15.4 -2.6**
comp=Z,113nm,1.2s,baz=329
SEM *e*S **S** **20 55 20.4 -2.2**
baz=329
ZAA0 Zalesovo Array 70.92 333 P **P** **20 46 17.8 0.0**
ZALV Zalesovo Beam 70.92 333 P **P** **20 46 18.4 +0.6**
comp=Z,145nm,0.6s,baz=121,slow=5.2,SNR=764
ZALV Zalesovo Beam 70.92 333 *i*P **P** **20 46 18.2 +0.4**
ZALV pmax pmax
comp=Z,187nm,0.7s
ZALV Zalesovo Beam 70.92 333 P **P** **20 46 17.9 +0.2**
BTK Batken 71.37 316 P **P** **20 46 22.0 +1.1**
BTK pmax pmax
comp=Z,178nm,0.9s
BTK Batken 71.37 316 P **P** **20 46 22.0 +1.1**
BTK IAmb IAmb 20 46 24.4
comp=Z,178nm,0.8s
BTLS Baital 71.53 322 *e*P **P** **20 46 19.5 -2.1**
BTLS pmax pmax
comp=Z,136nm,1.4s
BTLS Baital 71.53 322 *e*P **P** **20 46 19.6 -2.1**
comp=Z,136nm,1.4s,baz=322
KURBB Kurchatov Arra 71.92 328 P **P** **20 46 24.9 +1.1**
comp=Z,246nm,0.7s,baz=127,slow=5.0,SNR=1973
KURK Kurchatov 71.92 328*ce*P **P** **20 46 24.8 +0.9**
KURK pmax pmax
comp=Z,366nm,1.0s
KURK Kurchatov 71.92 328 P **P** **20 46 24.9 +1.1**
KURK Kurchatov 71.92 328⇑P **P** **20 46 25.1 +1.2**
KURK pP PcP 20 46 33.6 -8.2
KURK sP pP 20 46 41.4 -15
DZA Taraz 72.26 319 *e*P **P** **20 46 24.6 -1.5**
DZA pmax pmax
comp=Z,114nm,0.7s
DZA Taraz 72.26 319 *e*P **P** **20 46 24.6 -1.5**
comp=Z,114nm,0.7s,baz=319
IUG Iuzhnay 72.80 317 *e*P **P** **20 46 27.6 -1.8**
IUG Iuzhnay 72.80 317 *e*P **P** **20 46 27.7 -1.8**
baz=317
KK31 Karatay Array 72.89 318 P **P** **20 46 30.7 +0.8**
KK31 pmax pmax
comp=Z,220nm,1.0s
KK31 Karatay Array 72.89 318 P **P** **20 46 30.7 +0.8**
KK31 IAmb IAmb 20 46 32.3
comp=Z,220nm,1.0s
KKAR Karatay Array 72.89 318 P **P** **20 46 30.8 +0.9**
KKAR pmax pmax
comp=Z,220nm,1.0s
KKAR Karatay Array 72.89 318 P **P** **20 46 30.8 +0.9**
KKAR IAmb IAmb 20 46 32.3
comp=Z,220nm,1.0s
KIWB Kanaga Island 72.94 31 P **P** **20 46 31.1 +1.2**
TAS Tashkent 72.95 316 P **P** **20 46 31.9 +1.6**
TAS pmax pmax
comp=Z,686nm,0.9s
TAS Tashkent 72.95 316 P **P** **20 46 31.9 +1.6**
ADK Adak 73.19 31 P **P** **20 46 32.8 +1.4**
BRLS Borolday 73.31 318 *e*P **P** **20 46 30.4 -1.9**
BRLS pmax pmax
comp=Z,68nm,0.8s
BRLS Borolday 73.31 318 *e*P **P** **20 46 30.4 -1.9**
comp=Z,68nm,0.8s,baz=318
VNDA Vanda 73.32 173 P **P** **20 46 32.6 +0.8**
comp=Z,22nm,0.8s,baz=320,slow=6.5,SNR=113
VNDA LR LR 21 19 13.0
comp=Z,202nm,19.2s,baz=356,slow=36
VNDA Vanda 73.32 173 P **P** **20 46 32.4 +0.7**
SBA Scott Base 74.20 172 P **P** **20 46 38.3 +1.4**
SBA pmax pmax
comp=Z,19nm,0.8s
SBA Scott Base 74.20 172 P **P** **20 46 38.2 +1.4**
MSEY Mahe Island 74.53 267 P **P** **20 46 40.5 +0.4**
MSEY pmax pmax
comp=Z,84nm,1.0s
MSEY Mahe Island 74.53 267 P **P** **20 46 40.5 +0.4**
MSEY IAmb IAmb 20 46 42.2
comp=Z,84nm,0.9s
MSEY Mahe Island 74.53 267 *i*P **P** **20 46 41.0 +1.0**
SNR=20
ATKA Atka Island 74.66 32 P **P** **20 46 40.9 +1.0**
BRZS Berezniki 74.76 326 *e*P **P** **20 46 38.6 -1.9**
BRZS pmax pmax
comp=Z,62nm,0.8s
BRZS Berezniki 74.76 326 *e*P **P** **20 46 38.7 -1.9**
comp=Z,62nm,0.8s,baz=326
JLN Jalan Bani Buh 74.85 295 P **P** **20 46 42.5 +0.8**
SNR=22
WBK Wadi Bani Khal 75.35 295 P **P** **20 46 45.8 +1.3**
SNR=34
HRA Herat 75.68 308 P **P** **20 46 47.4 +1.0**
HRA IAmb IAmb 20 46 48.7
comp=Z,109nm,1.1s

WSAR Wadi Sarin 75.80 296 P **P** **20 46 49.8 +2.7**
comp=Z,230nm,0.9s,baz=135,slow=5.9,SNR=140
WSAR LR LR 21 20 44.3
comp=Z,91nm,22.0s,baz=122,slow=36
WSAR Wadi Sarin 75.80 296 P **P** **20 46 49.8 +2.7**
SNR=50
MHTO MHTO 75.91 293 P **P** **20 46 48.3 +0.6**
SNR=46
MAW Mawson 75.95 201 P **P** **20 46 48.5 +1.4**
comp=Z,23nm,0.8s,baz=68,slow=6.4,SNR=12
MAW LR LR 21 16 28.9
comp=Z,326nm,21.9s,baz=58,slow=32
MAW Mawson 75.95 201 P **P** **20 46 48.4 +1.4**
baz=76,SNR=8.6
MAW Mawson 75.95 201 P **P** **20 46 48.1 +1.1**
JMDO Jabal Madar 76.08 295 P **P** **20 46 49.4 +0.7**
SNR=23
DQM DQM 76.08 292 P **P** **20 46 49.7 +1.0**
SNR=23
SMDO Samad 76.28 295 P **P** **20 46 50.9 +0.9**
SNR=36
BIDO Bidbid 76.31 296 P **P** **20 46 51.4 +1.4**
SNR=90
BSY Bisya 76.98 295 P **P** **20 46 54.6 +0.8**
SNR=25
HOQ Hoqain 77.06 296 P **P** **20 46 55.3 +1.1**
SNR=77
BVAR Borovoye Array 77.48 328 P **P** **20 46 56.9 +1.0**
comp=Z,112nm,0.7s
SHAO Shalim 77.49 290 *i* P **P** **20 46 57.7 +1.0**
SNR=15
BRVK Borovoye 77.55 328 *ce* P **P** **20 46 56.9 +0.6**
BRVK pmax pmax
comp=Z,246nm,1.0s
BRVK Borovoye 77.55 328 P **P** **20 46 56.8 +0.6**
ARQ Araqi 77.71 295 P **P** **20 46 58.8 +0.9**
SNR=28
NIKH Nikolski High 77.87 33 P **P** **20 46 58.7 +0.6**
baz=242
SOCY Socotra 78.07 284 P **P** **20 47 00.1 +0.1**
SOCY Socotra 78.07 284 P **P** **20 47 00.4 +0.3**
SNR=21
BILL Bilibino 78.13 13 *d* iP **P** **20 46 59.3 +0.2**
BILL *i* 20 47 08.9
BILL *e**SP **sP** **20 47 49.7 +2.9**
BILL S **S** **20 56 42.0 +0.1**
BILL *SS sS 20 57 46.0 +8.4
BILL pmax pmax
comp=Z,35nm,2.5s
BILL Bilibino 78.13 13 P **P** **20 46 59.2 0.0**
UOSS Minazif 78.34 297 P **P** **20 47 01.3 +0.1**
UOSS IAmb IAmb 20 47 03.0
comp=Z,129nm,1.1s
UOSS Minazif 78.34 297 *i* P **P** **20 47 01.6 +0.4**
SNR=23
HATD Hatta, Dubai 78.38 297 P **P** **20 47 02.5 +1.0**
SNR=28
HATD Hatta, Dubai 78.38 297 *i* P **P** **20 47 02.5 +1.0**
SNR=26
ASHO Ashiyiah 78.41 297 P **P** **20 47 02.6 +0.9**
SNR=29
ASHO Ashiyiah 78.41 297 *i* P **P** **20 47 02.5 +0.8**
SNR=35
BANOM Banah 78.46 298 P **P** **20 47 03.4 +1.4**
SNR=18
BANOM Banah 78.46 298 *i* P **P** **20 47 03.2 +1.3**
SNR=17
MSFE Esma-Masafi 78.46 297 *i* P **P** **20 47 03.1 +1.1**
SNR=46
MASF Masafi 78.47 297 P **P** **20 47 03.4 +1.4**
SNR=22
ALNE Al Ain 78.55 296 P **P** **20 47 03.4 +1.0**
SNR=42
ALNE Al Ain 78.55 296 *i* P **P** **20 47 03.3 +0.8**
SNR=22
TBI Tubuai 78.61 113 *e* S **S** **20 56 43.5 -5.3**
comp=Z,113nm,33.0s
TBI Tubuai 78.61 113 *e* LR LR 21 11 15.3
comp=Z,296nm,33.8s
SHME Shamm 78.63 298 P **P** **20 47 04.2 +1.4**
SNR=16
SHME Shamm 78.63 298 *i* P **P** **20 47 04.1 +1.3**
SNR=14
PAE Paea 78.72 107 *e* P **P** **20 47 06.1 +2.7**
comp=Z,8.4nm,1.2s
PPT2 Papeete2 78.73 107 *e* S **S** **20 56 45.2 -5.2**
comp=Z,123nm,25.0s
PPT2 Papeete2 78.73 107 *e* LR LR 21 11 17.0
comp=Z,193nm,23.8s
PPT Papeete 78.73 107 LR LR 21 18 31.1
comp=Z,64nm,21.9s,baz=266,slow=33
RBK Rabkut 78.73 289 P **P** **20 47 04.1 +0.5**
SNR=14
NAZ Nazwa, Dubai 78.83 297 P **P** **20 47 04.8 +0.9**
SNR=26
NAZ Nazwa, Dubai 78.83 297 *i* P **P** **20 47 04.5 +0.6**
SNR=17
FAQ Al Faqa, Dubai 78.84 297 P **P** **20 47 04.9 +0.9**
SNR=33
FAQ Al Faqa, Dubai 78.84 297 *i* P **P** **20 47 04.8 +0.8**
SNR=93
UMQ Umm Al-Quwin 78.94 297 P **P** **20 47 06.8 +2.3**
SNR=5.2
UMQ Umm Al-Quwin 78.94 297 *i* P **P** **20 47 06.1 +1.6**
SNR=5.2
DOK Doka 79.00 290 P **P** **20 47 05.3 +0.4**
SNR=16
ASUD Al Ashush, Dub 79.05 296 P **P** **20 47 06.5 +1.3**
SNR=26
ASUD Al Ashush, Dub 79.05 296 *i* P **P** **20 47 06.4 +1.3**
SNR=26
SPIA Saint Paul Isl 79.17 28 P **P** **20 47 05.9 +0.9**
baz=240
SPIA Saint Paul Isl 79.17 28 P **P** **20 47 07.1 +2.1**
WHFO Wadi Hawf 79.21 289 P **P** **20 47 06.4 +0.2**
SNR=21
AJN Ajban 79.34 296 P **P** **20 47 07.3 +0.6**
SNR=25
AJN Ajban 79.34 296 *i* P **P** **20 47 07.1 +0.4**
SNR=13
UNV Unalaska Valle 79.52 33 P **P** **20 47 07.9 +0.9**
UNV IAmb IAmb 20 47 09.0
comp=Z,155nm,1.4s
UNV Unalaska Valle 79.52 33 P **P** **20 47 07.6 +0.6**
baz=244,SNR=6.1
UNV Unalaska Valle 79.52 33 P **P** **20 47 08.6 +1.6**
ABTO Aybut 79.56 289 P **P** **20 47 08.9 +0.8**
SNR=28
GEYT Alibeck 79.90 310 P **P** **20 47 10.9 +1.4**
comp=Z,39nm,0.6s,baz=141,slow=5.7,SNR=88
GEYT LR LR 21 28 25.6
comp=Z,104nm,20.0s,baz=100,slow=40
GEYT Alibeck 79.90 310 P **P** **20 47 10.8 +1.3**
GEYT IAmb IAmb 20 47 11.6
comp=Z,71nm,0.9s
GYA0B ALIBECK ARRAY 79.90 310 P **P** **20 47 10.5 +1.0**
GYA0B IAmb IAmb 20 47 11.5
comp=Z,70nm,0.8s
MZR Muzera 80.39 294 P **P** **20 47 13.5 +1.1**
SNR=55
MZR Muzera 80.39 294 *i* P **P** **20 47 13.4 +1.0**
SNR=113
PMOR Pomariorio Ree 80.49 104 *e* P **P** **20 47 15.9 +2.9**
comp=Z,59nm,1.0s
VAH Vaihoa 80.73 104 *e* P **P** **20 47 16.6 +2.3**
comp=Z,28nm,1.0s
NRIK Noril'sk 80.75 346 P **P** **20 47 14.4 +1.1**
comp=Z,141nm,0.8s,baz=128,slow=5.8,SNR=100
NRIK S **S** **20 57 08.6 -0.9**
comp=Z,1.0nm,0.3s,baz=5.9,slow=20,SNR=17
NRIK LR LR 21 25 20.6
comp=Z,133nm,21.9s,baz=160,slow=37
NRIK Noril'sk 80.75 346 *ce* P **P** **20 47 14.2 +0.8**
NRIK pmax pmax
comp=Z,213nm,0.9s
NRIK Noril'sk 80.75 346 P **P** **20 47 14.1 +0.8**
NRIK IAmb IAmb 20 47 17.2
comp=Z,161nm,0.8s
JRN Qarnain Island 81.32 296 P **P** **20 47 17.9 +0.7**
SNR=23
FALS False Pass 81.58 32 P **P** **20 47 18.6 +0.6**
FALS IAmb IAmb 20 47 19.7
comp=Z,112nm,0.7s
FALS False Pass 81.58 32 P **P** **20 47 18.5 +0.5**
baz=247,SNR=12
FALS False Pass 81.58 32 P **P** **20 47 19.4 +1.4**
ABPO Ambohimpanom 81.59 252 P **P** **20 47 19.2 +0.1**
ABPO pmax pmax
comp=Z,18nm,1.1s
ABPO Ambohimpanom 81.59 252 P **P** **20 47 19.2 +0.1**
OPO Ambohidratompo 81.66 252 P **P** **20 47 20.4 +0.9**
comp=Z,23nm,0.7s,baz=88,slow=4.1,SNR=33
VOI Vohitsoka 81.83 249 P **P** **20 47 20.4 +0.2**
VOI IAmb IAmb 20 47 22.0
comp=Z,53nm,0.7s
VOI Vohitsoka 81.83 249 P **P** **20 47 21.0 +0.8**
GAMB Gambell 81.92 22 P **P** **20 47 20.6 +1.1**
GAMB Gambell 81.92 22 P **P** **20 47 20.9 +1.3**
baz=238
ABKAR Akbulak array 82.02 321 P **P** **20 47 20.6 +0.2**
ABKAR IAmb IAmb 20 47 23.5
comp=Z,68nm,0.8s
SDPT Sand Point 83.34 33 P **P** **20 47 27.4 +0.4**
SDPT Sand Point 83.34 33 P **P** **20 47 27.7 +0.6**
baz=249,SNR=40
AKTO Aktyubinsk 83.57 322 P **P** **20 47 29.1 +0.7**
comp=Z,70nm,0.7s,baz=107,slow=6.4,SNR=169
AKTO S **S** **20 57 36.8 -2.3**
comp=Z,1.2nm,0.8s,baz=339,slow=22,SNR=9.5
AKTO LR LR 21 29 53.4
comp=Z,54nm,18.1s,baz=117,slow=39
QSPA South Pole Qui 83.90 180 P **P** **20 47 30.4 +0.3**
comp=Z,46nm,0.8s,baz=307,slow=1.2,SNR=100
QSPA LR LR 21 26 06.3
comp=Z,218nm,19.6s,baz=10,slow=36
SVE Sverdlovsk 84.17 329 *d* iP **P** **20 47 31.9 +0.6**
SVE *eS **S** **20 57 39.1 -5.7**
SVE pmax pmax
comp=Z,322nm,1.3s
TNA Tin City 84.22 22 P **P** **20 47 32.0 +0.7**
TNA Tin City 84.22 22 P **P** **20 47 32.4 +1.0**
baz=242
SYO Syowa Base 84.66 201 ⇑ *i* PcP **PcP** **20 47 41.1 +4.3**
ANM Nome 84.73 23 P **P** **20 47 34.9 +0.9**
ANM pmax pmax
comp=Z,37nm,0.8s
ANM Nome 84.73 23 P **P** **20 47 34.9 +0.9**
ANM Nome 84.73 23 P **P** **20 47 35.3 +1.4**
baz=244
ARU Arti 85.12 328 P **P** **20 47 36.1 0.0**
comp=Z,40nm,0.6s,baz=121,slow=1.8,SNR=223
ARU Arti 85.12 328 *c* iP **P** **20 47 35.7 -0.4**
ARU *PP **pwP** **20 48 14.0 -0.2**
ARU PPP PPP 20 52 46.0
ARU S **S** **20 57 47.0 -7.2**
ARU SSS SSS 21 07 00.8
ARU pmax pmax
comp=Z,199nm,1.0s
ARU Arti 85.12 328 P **P** **20 47 35.7 -0.4**
CHIR Chirikof Islan 86.10 33 P **P** **20 47 41.6 +0.6**
CHIR IAmb IAmb 20 47 43.0
comp=Z,126nm,0.9s
CHIR Chirikof Islan 86.10 33 P **P** **20 47 41.7 +0.8**
baz=253
SII Sitkinak Islan 87.08 32 P **P** **20 47 46.6 +0.9**
SII Sitkinak Islan 87.08 32 P **P** **20 47 47.0 +1.3**
baz=254
SII Sitkinak Islan 87.08 32 P **P** **20 47 47.6 +1.9**
RDOG Red Dog Mine 87.11 20 P **P** **20 47 45.8 +0.2**
RDOG IAmb IAmb 20 47 47.1
comp=Z,66nm,0.8s
RDOG Red Dog Mine 87.11 20 P **P** **20 47 46.1 +0.4**
baz=246
P18K Big Mountain, 87.32 30 P **P** **20 47 46.8 -0.1**
baz=253
SVW2 Sparrevohn 87.65 28 P **P** **20 47 49.7 +1.3**
SVW2 IAmb IAmb 20 47 50.9
comp=Z,43nm,0.8s
RAYN Ar Rayn 87.72 294 P **P** **20 47 50.0 +0.4**
RAYN pmax pmax
comp=Z,121nm,0.9s
RAYN Ar Rayn 87.72 294 P **P** **20 47 50.0 +0.4**
RAYN IAmb IAmb 20 47 51.5
comp=Z,122nm,0.9s
RAYN Ar Rayn 87.72 294 *i* P **P** **20 47 50.4 +0.8**
SNR=127
OHAK Old Harbor 87.72 32 P **P** **20 47 49.4 +0.7**
OHAK Old Harbor 87.72 32 P **P** **20 47 49.8 +1.0**
baz=255
Q19K Cape Douglas, 87.98 30 P **P** **20 47 50.8 +0.8**
baz=255
TTA Tatalina 87.99 26 P **P** **20 47 50.7 +0.7**
TTA pmax pmax
comp=Z,59nm,0.7s
TTA Tatalina 87.99 26 P **P** **20 47 50.7 +0.7**
TTA IAmb IAmb 20 47 52.5
comp=Z,59nm,0.7s
TTA Tatalina 87.99 26 P **P** **20 47 50.8 +0.7**
baz=253,SNR=67
N19K Bonanza Creek 88.08 28 P **P** **20 47 51.1 +0.6**
N19K IAmb IAmb 20 47 52.9
comp=Z,68nm,0.8s
N19K Bonanza Creek 88.08 28 P **P** **20 47 51.3 +0.8**
baz=254,SNR=30
GCSA Galena City Sc 88.18 24 P **P** **20 47 51.2 +0.5**
baz=252
KDAK Kodiak Island 88.23 31 LR LR 21 24 46.7
comp=Z,245nm,19.8s,baz=274,slow=34
KDAK Kodiak Island 88.23 31 *c* iP **P** **20 47 51.5 +0.4**
KDAK pmax pmax
comp=Z,112nm,0.9s
KDAK Kodiak Island 88.23 31 P **P** **20 47 51.7 +0.6**
KDAK IAmb IAmb 20 47 53.2
comp=Z,85nm,0.8s
KDAK Kodiak Island 88.23 31 P **P** **20 47 52.0 +0.8**
baz=256
L19K White Mountain 88.29 27 P **P** **20 47 52.1 +0.7**
L19K IAmb IAmb 20 47 54.5
comp=Z,82nm,0.9s
L19K White Mountain 88.29 27 P **P** **20 47 52.3 +0.9**
baz=254,SNR=54
P19K Oil Pt 88.37 30 P **P** **20 47 52.1 +0.3**
baz=255
M19K Big River Lodg 88.42 27 P **P** **20 47 52.7 +0.7**
M19K IAmb IAmb 20 47 54.8
comp=Z,69nm,0.8s
M19K Big River Lodg 88.42 27 P **P** **20 47 53.2 +1.2**
baz=254
O20K Slope Mountain 88.78 29 P **P** **20 47 54.8 +1.0**
baz=256
ATD Arta Tunnel 88.79 282 P **P** **20 47 57.2 +2.4**
comp=Z,26nm,0.7s,baz=118,slow=22,SNR=9.5
ATD LR LR 21 27 04.8
comp=Z,45nm,19.7s,baz=61,slow=35
ATD Arta Tunnel 88.79 282 P **P** **20 47 56.6 +1.8**
ATD IAmb IAmb 20 47 57.9
comp=Z,39nm,0.8s
L20K Farewell, AK 88.81 27 P **P** **20 47 54.8 +0.9**
baz=254,SNR=24
RSO Redoubt South 88.81 29 P **P** **20 47 54.5 +0.5**
MAK Makhachkala 88.89 313 *e* P **P** **20 47 52.8 -1.8**
MAK *e*PP **pP** **20 48 25.7 -2.6**
MAK *e*SP **sP** **20 48 40.5 -1.7**
MAK *e* 20 51 22.5
MAK *e*PPP PPP 20 53 23.3
MAK *e* 20 58 08.9
MAK *e*SS SS 21 04 31.9 +5.1
MAK pmax pmax
comp=Z,26nm,0.4s
K20K Telida 88.96 26 P **P** **20 47 55.2 +0.7**
K20K IAmb IAmb 20 47 57.4
comp=Z,42nm,0.8s
K20K Telida 88.96 26 P **P** **20 47 55.4 +0.9**
baz=254,SNR=44
J20K Nowinta River 89.15 25 P **P** **20 47 56.0 +0.7**
J20K IAmb IAmb 20 47 58.4
comp=Z,37nm,0.7s
J20K Nowinta River 89.15 25 P **P** **20 47 56.2 +0.9**
baz=254,SNR=52
HOM Homer 89.16 30 P **P** **20 47 55.3 -0.1**
baz=256
SPCR Spurr Chakacha 89.25 28 P **P** **20 47 57.1 +1.1**
baz=256,SNR=5.1
BRLK Bradley Lake 89.56 30 P **P** **20 47 57.9 +0.5**
BRLK IAmb IAmb 20 48 02.2
comp=Z,25nm,0.6s
BRSE Bradley Lake S 89.62 30 P **P** **20 47 58.0 +0.3**
baz=257
CAPN Captain Cook N 89.65 29 P **P** **20 47 57.8 +0.1**
baz=257
PPLA Purkeypile 89.67 27 P **P** **20 47 58.0 0.0**
PPLA Purkeypile 89.67 27 P **P** **20 47 58.0 0.0**
baz=256,SNR=7.4
IMAR Indian Mountai 89.80 23 P **P** **20 47 57.9 -0.4**
CAST Castle Rocks 89.84 26 P **P** **20 47 58.1 -0.5**
CAST Castle Rocks 89.84 26 P **P** **20 47 58.6 -0.1**
baz=256,SNR=16
CHUM Lake Minchumin 89.85 26 P **P** **20 47 59.3 +0.7**
baz=256,SNR=76
H21K Melozitna Rive 90.09 24 P **P** **20 47 59.7 0.0**
H21K Melozitna Rive 90.09 24 P **P** **20 48 00.2 +0.5**
baz=256,SNR=19
GROC Groznyy 90.17 313 *e* P **P** **20 48 00.5 -0.1**
GROC *e*PP **pP** **20 48 33.8 -0.5**
GROC *e*SP **sP** **20 48 47.9 -0.3**
GROC *e* 20 51 35.1
GROC pmax pmax
comp=Z,36nm,1.0s
I21K Tanana 90.30 24 P **P** **20 48 00.8 +0.1**
I21K Tanana 90.30 24 P **P** **20 48 01.3 +0.6**
baz=256,SNR=17
A21K Barrow 90.33 18 P **P** **20 48 01.2 +0.6**
baz=252
SEW Seward 90.33 30 P **P** **20 48 00.5 -0.4**
baz=258
BELG Belogornoye 90.35 323 P **P** **20 48 00.5 -0.6**
comp=Z,74nm,0.8s,baz=304,slow=1.4,SNR=32
BELG Belogornoye 90.35 323 *c* iP **P** **20 47 59.9 -1.2**
BELG pmax pmax
comp=Z,14nm,0.8s
M22K Willow 90.35 28 P **P** **20 48 00.3 -0.7**
baz=258
KTH Kantishna Hill 90.38 26 P **P** **20 48 00.6 -0.6**
RC01 Rabbit Creek A 90.39 29 P **P** **20 48 00.7 -0.5**
RC01 IAmb IAmb 20 48 03.2
comp=Z,45nm,0.7s
RC01 Rabbit Creek A 90.39 29 P **P** **20 48 00.9 -0.3**
baz=258,SNR=9.7
CUT Chulitna 90.42 27 P **P** **20 48 01.1 -0.2**
CUT Chulitna 90.42 27 P **P** **20 48 00.7 -0.6**
baz=258
KIRV Kirov 90.44 329 P **P** **20 48 00.6 -0.9**
comp=Z,42nm,0.7s,baz=133,slow=2.2,SNR=28
KIRV Kirov 90.44 329 *ce* P **P** **20 48 00.4 -1.0**
BPAW Bear Paw Mtn. 90.47 26 P **P** **20 48 01.2 -0.3**
BPAW Bear Paw Mtn. 90.47 26 P **P** **20 48 01.3 -0.2**
baz=257,SNR=9.9
GNI Garni 90.54 310 P **P** **20 48 03.8 +1.2**
comp=Z,14nm,0.7s,baz=5.1,slow=4.4,SNR=16
GNI LR LR 21 36 03.1
comp=Z,66nm,20.3s,baz=94,slow=40
GNI Garni 90.54 310 *ce* P **P** **20 48 03.8 +1.2**
GNI pmax pmax
comp=Z,17nm,0.7s
GNI Garni 90.54 310 P **P** **20 48 03.8 +1.2**
GNI IAmb IAmb 20 48 17.5
comp=Z,26nm,0.8s
GNI Garni 90.54 310 P **P** **20 48 04.0 +1.3**
TRF Thorofare Moun 90.63 26 P **P** **20 48 02.1 -0.4**
TRF Thorofare Moun 90.63 26 P **P** **20 48 01.9 -0.6**
baz=258,SNR=5.7
PMR Palmer 90.78 28 P **P** **20 48 02.5 -0.5**
PMR pmax pmax
comp=Z,13nm,0.8s
PMR Palmer 90.78 28 P **P** **20 48 02.5 -0.5**
PMR Palmer 90.78 28 P **P** **20 48 02.7 -0.3**
baz=259
PWL Port Wells 91.02 29 P **P** **20 48 04.0 -0.2**
baz=259
KNK Knik Glacier 91.06 28 P **P** **20 48 04.2 -0.1**
KNK IAmb IAmb 20 48 07.3
comp=Z,27nm,0.7s
KNK Knik Glacier 91.06 28 P **P** **20 48 04.6 +0.3**
baz=259,SNR=7.4
BWN Browne 91.14 26 P **P** **20 48 04.7 0.0**
BWN IAmb IAmb 20 48 05.8
comp=Z,65nm,0.8s
SML Sawmill 91.19 28 P **P** **20 48 05.0 0.0**
baz=259,SNR=16
RND Reindeer 91.26 26 P **P** **20 48 04.4 -0.9**
RND pmax pmax
comp=Z,72nm,0.7s
RND Reindeer 91.26 26 P **P** **20 48 04.4 -0.9**
MCK McKinley 91.28 26 P **P** **20 48 04.6 -0.8**
MCK pmax pmax
comp=Z,30nm,0.7s
MCK McKinley 91.28 26 P **P** **20 48 04.6 -0.8**
MCK IAmb IAmb 20 48 05.9
comp=Z,30nm,0.7s
MCK McKinley 91.28 26 P **P** **20 48 04.9 -0.5**
baz=259,SNR=19
I23K Minto, Yukon-K 91.38 25 P **P** **20 48 05.7 0.0**
I23K Minto, Yukon-K 91.38 25 P **P** **20 48 05.9 +0.3**
baz=259,SNR=31
NEA2 Nenana 91.39 25 P **P** **20 48 05.5 -0.3**
NEA2 Nenana 91.39 25 P **P** **20 48 05.8 0.0**
baz=259,SNR=14
H23K Yukon River 91.44 24 P **P** **20 48 06.5 +0.5**
baz=258
COLD Coldfoot 91.47 23 P **P** **20 48 06.5 +0.4**
COLD IAmb IAmb 20 48 07.8
comp=Z,55nm,0.8s
COLD Coldfoot 91.47 23 P **P** **20 48 06.7 +0.6**
baz=258,SNR=87
ZEI Tsey 91.49 313 *e* P **P** **20 48 06.7 -0.3**
ZEI pmax pmax
comp=Z,18nm,0.6s
WAT6 Susitna Watana 91.61 27 P **P** **20 48 06.9 -0.1**
baz=260,SNR=10.0
GEVA Gevas 91.62 308 P **P** **20 48 08.8 +1.1**
GLI Glacier Island 91.62 29 P **P** **20 48 07.0 +0.1**
baz=260
AKH Akhalkalaki 91.64 311 ⇓ P **P** **20 48 09.0 +1.3**
SCM Sheep Creek Mo 91.67 28 P **P** **20 48 08.0 +0.8**
SCM pmax pmax
comp=Z,31nm,0.7s
SCM Sheep Creek Mo 91.67 28 P **P** **20 48 08.0 +0.8**
SCM IAmb IAmb 20 48 10.2
comp=Z,31nm,0.7s
SCM Sheep Creek Mo 91.67 28 P **P** **20 48 07.4 +0.2**
baz=260,SNR=6.1
Q23K Middleton Isla 91.76 31 P **P** **20 48 07.6 +0.1**
baz=261
WRH Wood River Hil 91.78 25 P **P** **20 48 06.8 -0.8**
WRH IAmb IAmb 20 48 08.0
comp=Z,55nm,0.9s
NCK Nalchik 91.80 313 *i* P **P** **20 48 08.3 +0.1**
NCK pmax pmax
comp=Z,46nm,1.4s
ONI Oni 91.80 312 P **P** **20 48 07.2 -1.1**
ONI pmax pmax
comp=Z,8.0nm,0.7s
ONI Oni 91.80 312 P **P** **20 48 07.2 -1.1**
MDM Murphy Dome 91.81 25 P **P** **20 48 06.6 -1.2**
DHY Denali Highway 91.86 27 P **P** **20 48 08.2 +0.1**
DHY IAmb IAmb 20 48 09.3
comp=Z,26nm,0.7s
DHY Denali Highway 91.86 27 P **P** **20 48 08.3 +0.1**
baz=260,SNR=16
KARS Kars 91.86 310 P **P** **20 48 09.9 +1.2**
KARS pmax pmax
comp=Z,76nm,0.8s
KARS Kars 91.86 310 P **P** **20 48 09.8 +1.2**
CCB Clear Creek Bu 91.94 25 P **P** **20 48 07.0 -1.2**
CCB IAmb IAmb 20 48 08.4
comp=Z,60nm,0.8s
COLA College 91.96 25 *i* P **P** **20 48 06.8 -1.5**
COLA pmax pmax
comp=Z,25nm,0.7s
TOLK Toolik Lake Re 91.99 21 P **P** **20 48 08.7 +0.1**
TOLK IAmb IAmb 20 48 10.2
comp=Z,30nm,0.7s
TOLK Toolik Lake Re 91.99 21 P **P** **20 48 09.0 +0.5**
baz=258,SNR=24
KIBK Kibwezi 92.07 267 P **P** **20 48 10.6 +0.4**
KIBK Kibwezi 92.07 267 P **P** **20 48 11.3 +1.1**
SNR=6.4
H24K Noodor Dome 92.11 24 P **P** **20 48 09.1 -0.1**
H24K Noodor Dome 92.11 24 P **P** **20 48 09.7 +0.5**
baz=260,SNR=51
POKR Poker Plat Res 92.17 25 P **P** **20 48 09.8 +0.4**
baz=260
PYA1 Pyatigorsk 92.22 314 *i* P **P** **20 48 10.1 0.0**
EYAK Cordova Ski Ar 92.22 29 P **P** **20 48 10.2 +0.6**
baz=262
M24K Tolsona, Glenn 92.25 28 P **P** **20 48 10.6 +0.7**
M24K IAmb IAmb 20 48 13.0
comp=Z,53nm,0.9s
M24K Tolsona, Glenn 92.25 28 P **P** **20 48 10.6 +0.7**

baz=261,SNR=6.9
HDA Harding Lake 92.26 26 P P 20 48 08.7 -1.1
HDA IAmb IAmb 20 48 10.6
comp=Z,41nm,0.8s
HDA Harding Lake 92.26 26 P P 20 48 08.8 -1.1
baz=261,SNR=41
KLU Klutina 92.28 29 P P 20 48 10.6 +0.5
KLU Klutina 92.28 29 P P 20 48 10.4 +0.4
baz=262
DIV Divide 92.30 29 P P 20 48 10.8 +0.6
DIV IAmb IAmb 20 48 11.7
comp=Z,44nm,0.8s
KBZ Khabaz 92.33 314 P P 20 48 10.5 0.0
comp=Z,7.2nm,0.8s,baz=129,slow=4.0,SNR=22
KBZ Khabaz 92.33 314 *ce*P P **20 48 10.5 0.0**
KBZ pmax pmax
comp=Z,14nm,1.4s
ILAR Eielson Array 92.35 25 P P 20 48 09.2 -1.0
comp=Z,27nm,0.7s,baz=274,slow=4.3,SNR=201
ILAR PKKPbc **PKKPdf 21 05 24.6 +0.4**
comp=Z,0.9nm,0.7s,baz=69,slow=0.5,SNR=7.8
ILAR Eielson Array 92.35 25 P P 20 48 08.4 -1.8
ILAR **PKKPdf 21 05 21.5 -2.7**
NEY Neytrino 92.41 313 *i* P P **20 48 10.7 -0.5**
NEY pmax pmax
comp=Z,9.0nm,1.6s
GURO Guroymak-BITLI 92.44 308 P P 20 48 12.6 +1.2
GURO IAmb IAmb 20 48 13.9
comp=Z,57nm,0.8s
KVAR Kislovodsk Arr 92.50 314 P P 20 48 12.7 +1.2
comp=Z,3.0nm,0.7s,baz=292,slow=19,SNR=3.4
SHA1 Shidzhatmaz 92.50 314 *i* P P **20 48 11.3 -0.4**
KIV Kislovodsk 92.50 314 ⇑P P **20 48 11.2 -0.4**
KIV Kislovodsk 92.50 314 *e*P P **20 48 11.4 -0.1**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 92.50 314 P P 20 48 11.4 -0.1
KIV Kislovodsk 92.50 314 P P 20 48 11.4 -0.1
PAX Paxson 92.70 27 P P 20 48 12.2 +0.2
PAX pmax pmax
comp=Z,23nm,0.8s
PAX Paxson 92.70 27 P P 20 48 12.2 +0.2
PAX IAmb IAmb 20 48 13.5
comp=Z,23nm,0.8s
PAX Paxson 92.70 27 P P 20 48 12.2 +0.2
baz=262,SNR=15
HARP HAARP 92.76 28 P P 20 48 12.5 +0.3
baz=262
PRGR Permogore 92.80 332 *e*P P **20 48 10.1 -2.2**
PRGR *e* 20 51 54.3
PRGR *e*S **SKSac 20 58 32.5 -0.6**
PRGR pmax pmax
comp=Z,65nm,0.8s
BMRM Bremner River 92.84 29 P P 20 48 12.7 +0.1
BMRM IAmb IAmb 20 48 14.0
comp=Z,32nm,0.8s
BMRM Bremner River 92.84 29 P P 20 48 12.7 +0.1
baz=263
N25K Chitina, Valde 92.92 28 P P 20 48 13.4 +0.3
N25K Chitina, Valde 92.92 28 P P 20 48 13.6 +0.6
baz=263,SNR=6.1
J25K Salcha River, 92.97 25 P P 20 48 12.1 -1.1
J25K IAmb IAmb 20 48 15.1
comp=Z,17nm,0.7s
J25K Salcha River, 92.97 25 P P 20 48 12.5 -0.7
baz=262,SNR=20
KMBO Kilima Mbogo 92.99 269 P P 20 48 15.8 +1.2
comp=Z,6.6nm,0.7s,baz=69,slow=5.3,SNR=14
KMBO Kilima Mbogo 92.99 269 P P 20 48 15.8 +1.2
KMBO pmax pmax
comp=Z,12nm,0.9s
KMBO Kilima Mbogo 92.99 269 IAmb IAmb 20 48 16.4
comp=Z,12nm,0.9s
RIDG Independent Ri 93.08 26 P P 20 48 13.0 -0.7
RIDG IAmb IAmb 20 48 14.7
comp=Z,53nm,1.0s
RIDG Independent Ri 93.08 26 P P 20 48 13.7 0.0
baz=263,SNR=17
GLB Gilahina Butte 93.28 29 P P 20 48 14.9 +0.2
MARD Mardin 93.31 307 P P 20 48 15.4 -0.1
MARD IAmb IAmb 20 48 17.1
comp=Z,46nm,0.7s
BGLC Bering Glacier 93.39 30 P P 20 48 14.9 -0.2
baz=264
DOT Dot Lake 93.42 26 P P 20 48 14.8 -0.4
DOT IAmb IAmb 20 48 16.3
comp=Z,32nm,0.9s
VRDI Verde Repeater 93.42 29 P P 20 48 15.7 +0.2
SCRK Sand Creek 93.49 26 P P 20 48 15.2 -0.5
SCRK Sand Creek 93.49 26 P P 20 48 15.6 0.0
baz=263,SNR=11
MENT Mentasta 93.49 27 P P 20 48 15.8 +0.3
WAX Waxell Ridge 93.64 30 P P 20 48 17.1 +0.8
WAX IAmb IAmb 20 48 18.2
comp=Z,52nm,1.0s
BMAR Burnt Mountain 93.65 23 P P 20 48 17.0 +0.8
L26K Log Cabin Wild 93.67 27 P P 20 48 16.4 0.0
L26K Log Cabin Wild 93.67 27 P P 20 48 16.7 +0.4
baz=264,SNR=7.6
J26L Joseph Creek 93.73 26 P P 20 48 17.0 +0.3
baz=264,SNR=101
KOPT Kop Dagi 93.76 310 P P 20 48 18.8 +1.2
KOPT IAmb IAmb 20 48 26.2
comp=Z,38nm,0.7s
VRH Novokhopyorsk 93.84 321 *e*P P **20 48 16.1 -1.2**
VRH pmax pmax
comp=Z,50nm,0.6s
BARN Barnard Glacie 94.27 29 P P 20 48 19.7 +0.3
BARN IAmb IAmb 20 48 22.7
comp=Z,18nm,0.7s
M27K Edge Creek, AK 94.28 28 P P 20 48 19.7 +0.4
baz=265
L27K Beaver Creek, 94.36 27 P P 20 48 19.7 +0.2
L27K IAmb IAmb 20 48 21.4
comp=Z,31nm,0.8s
L27K Beaver Creek, 94.36 27 P P 20 48 20.3 +0.7
baz=265,SNR=29
BCAR Beaver Creek A 94.38 27 P P 20 48 20.1 +0.4
TABL Table Mountain 94.48 30 P P 20 48 20.8 +0.4
TABL IAmb IAmb 20 48 24.3
comp=Z,19nm,0.8s
BVCY Beaver Creek 94.75 28 P P 20 48 22.1 +0.7
baz=266,SNR=9.6
EGAK Eagle 94.79 25 P P 20 48 21.4 0.0
EGAK IAmb IAmb 20 48 22.7
comp=Z,44nm,0.8s
EGAK Eagle 94.79 25 P P 20 48 21.6 +0.2
baz=266
PINM Pinnacle 94.90 30 P P 20 48 22.2 +0.1
baz=266
YUK3 Moose Creek 94.90 28 P P 20 48 22.7 +0.4
baz=266
TROLL Troll, Antarti 95.15 194 PcP **PcP 20 48 24.9 +1.4**
VORD Divnogorie 95.35 321 *e*P P **20 48 23.0 -1.2**
VORD pmax pmax
comp=Z,30nm,0.6s
VORR Voronezh 95.44 321 *e*P P **20 48 23.3 -1.3**
VORR pmax pmax
comp=Z,50nm,0.6s
VSR Storozhevoye 95.44 321 *e*P P **20 48 22.7 -2.0**
VSR pmax pmax
comp=Z,60nm,1.8s
DAWY Dawson 95.51 26 P P 20 48 25.1 +0.3
DAWY Dawson 95.51 26 P P 20 48 25.4 +0.6
baz=268
LPSR Galich'ya Gora 95.66 322 *e*P P **20 48 24.3 -1.3**
LPSR pmax pmax
comp=Z,30nm,0.8s
KLMR Klimovskoe 95.67 331 *e*P P **20 48 21.6 -3.9**
KLMR *e**PP **pP 20 48 57.2 -2.0**
KLMR *e* 20 52 14.9
KLMR *e*PPP PPP 20 54 23.5
KLMR pmax pmax
comp=Z,105nm,1.2s
KLMR Klimovskoe 95.67 331 *e*P P **20 48 21.7 -3.8**
KLMR AMP 20 48 25.2
comp=Z,105nm,1.2s
KLMR *e*pP **pP 20 48 57.3 -2.0**
KLMR *e*PP **PP 20 52 15.0 -3.6**
KLMR *e*PPP PPP 20 54 23.6
YUK4 Talbot Arm 95.75 29 P P **20 48 26.8 +0.6**
baz=268
BELA Belgrano 2 95.77 183 P P 20 48 25.2 -0.6
YUK6 Outpost Mounta 95.87 29 P P 20 48 27.3 +0.6
baz=268

I29M Ogilvie Camp, 96.02 25 P P 20 48 26.7 -0.3
I29M Ogilvie Camp, 96.02 25 P P 20 48 27.5 +0.4
baz=269
J29M Klondike Camp 96.04 26 P P 20 48 28.1 +0.9
baz=269
ASF Jabal al Asfar 96.13 302 P P 20 48 29.0 +0.6
comp=Z,17nm,0.8s,baz=22,slow=14,SNR=2.9
ASF Jabal al Asfar 96.13 302 P P 20 48 29.0 +0.6
HYT Haines Junctio 96.29 30 P P 20 48 29.0 +0.5
baz=269
ANN Anapa 96.32 314 *e*P P **20 48 27.4 -1.4**
ANN *e* 20 58 48.1
ANN *e*S **S 20 59 39.5 +2.4**
ANN pmax pmax
comp=Z,20nm,0.7s
MOS Moscow 96.52 325 *e*P P **20 48 27.4 -2.1**
MOS *e* 20 52 28.2
MOS *e* 20 58 50.2
MOS pmax pmax
comp=Z,53nm,1.0s
MOS pmax pmax
comp=Z,100nm,1.0s
M30M Minto, Yukon 96.65 28 P P 20 48 29.9 -0.1
M30M Minto, Yukon 96.65 28 P P 20 48 30.6 +0.6
baz=270,SNR=8.4
SNAA Sanae 96.65 193 PcP **PcP 20 48 31.2 +1.2**
SNAA Sanae 96.65 193 P P 20 48 31.0 +1.1
comp=Z,11nm,0.9s,baz=113,slow=7.7,SNR=4.6
SNAA LR LR 21 31 36.0
comp=Z,444nm,20.7s,baz=185,slow=35
OBN Obninsk 97.12 325 P **P 20 48 31.2 -0.9**
comp=Z,9.9nm,0.6s,baz=36,slow=1.5,SNR=16
OBN Obninsk 97.12 325 *c* *i*P **P 20 48 30.7 -1.5**
OBN *PP **pwP 20 49 11.0 +0.5**
OBN *e* 20 52 26.4
OBN *i*S **SKSac 20 58 57.1 +0.7**
OBN *e* 21 02 03.8
OBN pmax pmax
comp=Z,50nm,0.7s
OBN MLR MLR
comp=Z,128nm,17.0s
OBN Obninsk 97.12 325 P P 20 48 30.7 -1.5
N31M Braeburn, Yuko 97.13 29 P Pdif 20 48 32.7 +0.5
baz=270
GHAJ Ghor Haditha 97.22 301 P P 20 48 32.9 -0.3
GHAJ IAmb IAmb 20 48 34.8
comp=Z,30nm,0.8s
SKAG Skagway 97.37 31 P Pdif 20 48 34.1 +0.8
baz=271
MMAI Mount Meron Ar 97.44 302 P Pdif 20 48 35.3 +1.0
comp=Z,5.2nm,0.9s,baz=52,slow=8.0,SNR=3.7
MMAI LR LR 21 41 38.2
comp=Z,46nm,18.0s,baz=254,slow=41
WHY Whitehorse 97.58 30 P Pdif 20 48 34.8 +0.5
baz=271
EIL Elat 97.67 299 P Pdif 20 48 35.8 +0.4
comp=Z,8.7nm,0.7s,baz=155,slow=3.0,SNR=12
LVZ Lovozero 97.74 338 *ce*P **P 20 48 33.7 -1.1**
LVZ pmax pmax
comp=Z,28nm,1.0s
LVZ Lovozero 97.74 338 P **P 20 48 33.8 -1.1**
LVZ IAmb IAmb 20 48 34.6
comp=Z,22nm,0.8s
M31M Drury Creek, Y 97.77 28 P **P 20 48 34.7 -0.3**
baz=272
INK Inuvik 97.86 22 PKKPbc PKKPbc 21 05 09.7 -2.7
comp=Z,3.3nm,0.8s,baz=40,slow=4.3,SNR=9.7
INK Inuvik 97.86 22 P **P 20 48 34.5 -0.7**
INK IAmb IAmb 20 48 35.9
comp=Z,29nm,1.1s
INK Inuvik 97.86 22 P **P 20 48 34.9 -0.3**
baz=273
APA Apatity 98.24 337 ⇓*i*P **P 20 48 34.2 -2.7**
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,5μm,30.0s
VNA3 Neumayer Olymp 98.47 192 Pdiff Pdif 20 48 38.9 +0.9
P33M Teslin, Yukon 98.61 30 P Pdif 20 48 39.2 +0.3
baz=273
MATP Matopo 98.95 248 P Pdif 20 48 41.7 +0.3
comp=Z,5.4nm,0.9s,baz=87,slow=4.5,SNR=8.6
ILGA Ilgaz 98.97 310 P **P 20 48 40.9 -0.3**
ILGA IAmb IAmb 20 48 42.1
comp=Z,17nm,0.8s
BR131 Keskin Array S 99.02 309 *c* *i*P **Pdif 20 48 40.5 -0.8**
BRTR Keskin Array B 99.02 309 P **Pdif 20 48 40.8 -0.5**
comp=Z,6.8nm,0.8s,baz=128,slow=5.2,SNR=24
BRTR PP PP 20 52 34.0 -11
comp=Z,3.6nm,0.8s,baz=116,slow=8.4,SNR=5.3
BRTR LR LR 21 43 44.1
comp=Z,83nm,18.0s,baz=88,slow=42
BRTR Keskin Array B 99.02 309 *i*P **Pdif 20 48 40.5 -0.8**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 99.02 309 Pdif 20 48 40.2 -1.1
WRAK Wrangell Islan 99.05 34 P **Pdif 20 48 41.4 +0.6**
baz=273
CSS Mathiatis 99.21 304 Pdif 20 48 41.6 -0.5
MBAR Mbarara 99.52 268 LR LR 21 29 06.3
comp=Z,62nm,21.4s,baz=76,slow=32
MBAR Mbarara 99.52 268 *i*P **Pdif 20 48 44.6 +0.5**
LSZ Lusaka 100.09 253 P **Pdif 20 48 47.1 +0.5**
comp=Z,4.6nm,0.6s,baz=95,slow=3.3,SNR=11
LSZ Lusaka 100.09 253 Pdif 20 48 46.6 +0.1
A36M Sachs Harbour 100.17 18 P **Pdif 20 48 45.5 0.0**
baz=282,SNR=6.4
BOSA Boshof 100.26 240 P **Pdif 20 48 47.2 +0.2**
comp=Z,3.9nm,0.7s,baz=115,slow=3.1,SNR=6.0
TGTN Hyland Airport 100.72 29 P **Pdif 20 48 48.5 +0.3**
baz=277
LBTB Lobatse 100.72 243 P **Pdif 20 48 49.6 +0.4**
comp=Z,4.4nm,0.8s,baz=103,slow=5.5,SNR=4.6
LBTB Lobtse 100.72 243 Pdif 20 48 49.3 +0.1
SPA0 Spitsbergen Ar 100.73 349 *e*P **Pdif 20 48 47.8 -0.2**
SPITS Spitsbergen Ar 100.73 349 P **Pdif 20 48 48.2 +0.3**
baz=68,slow=8.0
ARA0 ARCESS Array S 100.84 340 *e*P **Pdif 20 48 48.3 -0.2**
ARCES ARCESS Array B 100.84 340 P **Pdif 20 48 48.1 -0.4**
comp=Z,15nm,0.7s,baz=86,slow=5.0,SNR=26
ARCES PKiKP **PKiKP 20 53 14.0 +0.6**
comp=Z,3.6nm,0.8s,baz=113,slow=1.3,SNR=11
ARCES ARCESS Array B 100.84 340 Pdif **Pdif 20 48 47.9 -0.7**
C36M Paulatuk 101.11 20 P **Pdif 20 48 49.5 -0.2**
baz=282,SNR=20
HAMF Hammerfest 101.20 341 *e*P **Pdif 20 48 49.6 -0.5**
BJO1 Bjornoya 101.45 345 *e*P **Pdif 20 48 51.6 +0.4**
AKASG Malin Array Be 101.73 320 P **Pdif 20 48 51.8 -1.1**
comp=Z,3.7nm,0.6s,baz=68,slow=4.6,SNR=20
AKASG PP **PP 20 53 04.0 -1.1**
comp=Z,2.7nm,0.8s,baz=70,slow=6.8,SNR=4.4
AKASG PKiKP **PKiKP 20 53 15.8 +0.3**
comp=Z,4.6nm,0.8s,baz=64,slow=2.5,SNR=8.8
KTK1 Kautokeino 101.74 339 *e*P **Pdif 20 48 52.1 -0.4**
FINES FINESS Array B 102.13 332 P **Pdif 20 48 53.6 -0.7**
comp=Z,12nm,0.7s,baz=58,slow=5.7,SNR=38
FINES PP **PP 20 53 06.8 -0.8**
comp=Z,11nm,1.1s,baz=104,slow=8.0,SNR=4.6
FINES PKiKP **PKiKP 20 53 15.5 -0.5**
comp=Z,3.1nm,0.6s,baz=85,slow=2.1,SNR=3.5
MNK Minsk 102.17 324 *i*P **Pdif 20 48 54.9 +0.2**
MNK *i* 20 53 08.9
MNK *i*PPP PPP 20 55 19.4
MNK *i*S **SKSac 20 59 20.9 -0.4**
MNK *i*SP **SP 21 02 06.6 +6.9**
MNK *i*PS **PS 21 02 19.5 +2.5**
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,54nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK MLR MLR
comp=E,22nm,21.0s
MNK MLR MLR
comp=Z,165nm,21.0s
MNK MLR MLR
comp=N,144nm,21.0s
MNK Minsk 102.17 324 *i*P **Pdif 20 48 54.9 +0.2**
comp=E,3.0nm,0.8s
MNK *i*P **Pdif 20 48 54.9 +0.2**
comp=N,9.0nm,0.8s
MNK *i*P **Pdif 20 48 54.9 +0.2**
comp=Z,54nm,0.8s,baz=83
MNK *i*pP **pPdif 20 49 28.6 +0.1**
MNK *i*sP **sPdif 20 49 44.4 +2.0**
MNK *i*PP **PP 20 53 08.9 +0.7**
MNK *i*PPP PPP 20 55 19.5
MNK *i*S **SKSac 20 59 21.0 -0.4**
MNK *i*PS **PS 21 02 19.6 +2.5**
MNK *i*SS SS 21 07 12.5 -22
MNK *i*SSS SSS 21 11 19.9
MNK *i*LR LR 21 30 24.3
MNK *i*LRM MLR 21 36 01.1
comp=E,22nm,20.6s
MNK *i*LRM MLR 21 36 02.4
comp=Z,165nm,20.6s
MNK *i*LRM MLR 21 36 05.6
comp=N,144nm,20.6s
VSU Vasula 102.28 328 *e*P **Pdif 20 48 54.3 -0.8**
SORM Soroca 102.52 318 ⇑P **Pdif 20 48 55.7 -0.7**
SORM Soroca 102.52 318 ⇑P **Pdif 20 48 55.7 -0.7**
JETT Jettan, Norway 102.57 340 *e*P **Pdif 20 48 56.1 -0.2**
IDID Didziasalis 102.72 325 *e*P **Pdif 20 48 57.6 +0.4**
NACGM Naroch 102.75 325 *e*P **Pdif 20 48 57.5 +0.2**
VLDR Vladesti 102.89 316 ⇑P **Pdif 20 48 58.6 +0.5**
CFR Carcaliu 102.91 315 ⇓P **Pdif 20 48 57.4 -0.8**
CFR Carcaliu 102.91 315 ⇓P **Pdif 20 48 57.4 -0.8**
IIGN Ignalina 103.01 325 *e*P **Pdif 20 48 58.8 +0.3**
TRO Tromso 103.04 340 *e*P **Pdif 20 48 58.2 -0.1**
TESR Tescani 103.82 316 ⇑P **Pdif 20 49 02.5 +0.1**
VRI Vrincioaia 103.83 316 ⇑P **Pdif 20 49 03.4 +1.0**
VRI Vrincioaia 103.83 316 ⇑P **Pdif 20 49 03.4 +1.0**
PLOR Plostina 103.89 316 ⇑P **Pdif 20 49 02.7 0.0**
PLOR Plostina 103.89 316 ⇑P **Pdif 20 49 02.7 0.0**
PABE Paberze 104.25 326 Pdif **Pdif 20 49 03.7 -0.3**
PABE Paberze 104.25 326 *e*P **Pdif 20 49 04.4 +0.5**
RAF Rauma 104.26 332 *e*P **Pdif 20 49 03.2 -0.7**
MLR Muntele Rosu 104.42 315 ⇓P **Pdif 20 49 05.2 +0.1**
MLR Muntele Rosu 104.42 315 ⇓P **Pdif 20 49 05.2 +0.1**
MLR Muntele Rosu 104.42 315 Pdif **Pdif 20 49 05.1 0.0**
BURAR Bucovina Array 104.67 318 ⇓P **Pdif 20 49 06.8 +0.6**
BURAR Bucovina Array 104.67 318 ⇓P **Pdif 20 49 06.8 +0.6**
BURAR Bucovina Array 104.67 318 Pdif **Pdif 20 49 06.0 -0.2**
STEI Steigen 104.88 339 *e*P **Pdif 20 49 05.0 -1.5**
SUW Suwalki 104.97 324 *e*P **Pdif 20 49 06.8 -0.4**
FAUS Fauske 105.06 339 *e*P **Pdif 20 49 06.9 -0.5**
LVV L'vov 105.15 320 *e*P **Pdif 20 49 06.5 -1.6**
LOF Lofoten 105.40 340 *e*P **Pdif 20 49 08.3 -0.5**
MOR8 Moi Rana 105.82 338 *e*P **Pdif 20 49 09.1 -1.6**
IDI Vnoyia 106.12 305 ⇓P **Pdif 20 49 12.8 0.0**
TRPA Tarpa 106.38 318 P **Pdif 20 49 13.7 0.0**
UZH Uzhgorod 106.46 319 ⇑*i*P **Pdif 20 49 12.6 -1.4**
VTS Vitosha 106.69 313 ⇑P **Pdif 20 49 15.5 +0.1**
VTS Vitosha 106.69 313 ⇑P **Pdif 20 49 15.5 +0.1**
YKA Yellowknife Ar 106.75 26 Pdiff **Pdif 20 49 15.5 +0.5**
comp=N,2.1nm,0.6s,baz=292,slow=4.9,SNR=28
YKA PKiKP **PKiKP 20 53 24.6 +0.2**
comp=N,3.3nm,0.6s,baz=296,slow=1.6,SNR=35
YKA PKKPbc **PKKPbc 21 04 43.5 -2.6**
comp=N,1.7nm,0.7s,baz=106,slow=2.9,SNR=15
YKA SKKPbc SKKPbc 21 08 11.0 -6.0
comp=N,0.8nm,0.7s,baz=108,slow=2.7,SNR=6.8
YKA Yellowknife Ar 106.75 26 P **Pdif 20 49 15.2 +0.3**
CRVS Cervenica-Dubn 106.95 319 *i*P **Pdif 20 49 17.2 +1.0**
CRVS Cervenica-Dubn 106.95 319 *e*PDIFF **Pdif 20 49 17.2 +1.0**
HERR Herculane 106.97 315 ⇑P **Pdif 20 49 15.5 -0.8**
DAG Danmarks Havn 107.37 353 *i*P **Pdif 20 49 17.0 -0.4**
DAG Danmarks Havn 107.37 353 *i*P **PKiKP 20 53 25.0 -0.3**
NSS Namsos 107.41 337 *e*P **Pdif 20 49 17.1 -0.7**
NB2 NORSAR Subarra 109.12 333 P **Pdif 20 49 24.4 -1.2**
comp=Z,2.3nm,0.7s,baz=67,slow=4.6
NB2 NORSAR Subarra 109.12 333 PKPdf **PKiKP 20 53 28.5 -0.5**
comp=Z,3.4nm,1.0s,baz=68,slow=1.9
NB2 NORSAR Subarra 109.12 333 P **Pdif 20 49 24.4 -1.2**
baz=67,slow=4.6
NOA NORSAR Array B 109.12 333 Pdiff **Pdif 20 49 25.0 -0.6**
comp=Z,4.2nm,0.8s,baz=67,slow=4.5,SNR=7.7
MORC Moravsky Berou 109.28 321 *e*PKP **PKiKP 20 53 30.4 +0.8**
JAVC Velka Javorina 109.41 320 *e*PKP **PKiKP 20 53 31.5 +1.6**
KRLC Kraliky 109.68 321 *e*PKP **PKiKP 20 53 31.0 +0.6**
KRLC *e*PP **PP 20 54 03.1 -0.5**
DBG Daneborg 109.68 352 *i*P **Pdif 20 49 27.3 -0.5**
DBG Daneborg 109.68 352 *i*P **PKiKP 20 53 28.6 -1.0**
DPC Dobruska-Polom 109.90 322 *e*PKP **PKiKP 20 53 31.1 +0.3**
DPC *ex* x 20 54 02.2
OSTC Ostas 109.91 322 *e*PKP **PKiKP 20 53 31.9 +1.1**
VRAC Vranov 109.99 320 PP **PP 20 54 06.3 +0.4**
comp=Z,4.9nm,0.8s,baz=54,slow=6.8,SNR=4.8
VRAC Vranov 109.99 320 *e*PKP **PKiKP 20 53 31.7 +0.8**
CHVC Chvalec 110.00 322 *e*PKP **PKiKP 20 53 32.4 +1.5**
KRUC Moravsky 110.18 320 *e*PKP **PKiKP 20 53 32.0 +0.7**
NVAR Mina Array Bea 110.42 51 Pdiff **Pdif 20 49 35.9 +3.7**
comp=Z,1.4nm,0.7s,baz=262,slow=6.3,SNR=8.8
NVAR PKiKP **PKiKP 20 53 33.5 +1.1**
comp=Z,0.6nm,0.6s,baz=309,slow=1.0,SNR=4.2
NVAR PKKPbc **PKKPbc 21 04 33.3 -0.6**
comp=Z,1.2nm,0.7s,baz=132,slow=4.6,SNR=8.3
NVAR Mina Array Bea 110.42 51 PKKPbc 21 04 29.9 -3.9
AKN Aaknes 110.45 335 *e*Pdif **Pdif 20 49 32.2 +0.7**
SKAR Skarslia 110.57 334 *e*Pdif **Pdif 20 49 32.4 +0.4**
RONA Rosalia, Austr 110.58 319 *e*P **PKiKP 20 53 32.5 +0.3**
comp=Z,2.6nm,0.7s
TREC Trest 110.69 321 *e*PKiKP **PKiKP 20 53 33.0 +0.7**
TREC Trest 110.69 321 *e*PKP **PKiKP 20 53 33.0 +0.7**
CONA Conrad Observa 110.81 319 *i*P **PKiKP 20 53 32.7 0.0**
comp=Z,3.9nm,0.7s
RUE Ruedersdorf 110.82 324 *e*PKPdf **PKiKP 20 53 33.5 +1.2**
baz=74,slow=1.9
PVCC Panska Ves 110.93 322 *e*PKiKP **PKiKP 20 53 33.8 +1.2**
PVCC Panska Ves 110.93 322 *e*PKP **PKiKP 20 53 33.8 +1.2**
PRU Pruhonice 111.10 321 *e*PKiKP **PKiKP 20 53 33.4 +0.4**
PRU *e* 20 54 15.2
PRU Pruhonice 111.10 321 *e*PKP **PKiKP 20 53 33.4 +0.4**
PRU *e*PP **PP 20 54 15.2 +1.5**
ARSA Arzberg 111.20 318 *e*P **PKiKP 20 53 33.3 -0.1**
comp=Z,4.9nm,0.7s
BRG Berggiesshubel 111.21 323 *e*PKP **PKiKP 20 53 34.0 +0.8**
BRG Amp 20 53 37.9
comp=Z,4.5nm,0.8s
BRG *ex* x 20 54 09.9
BRG Amp 20 54 10.8
comp=Z,8.8nm,1.0s
BRG Berggiesshubel 111.21 323 *e*PKiKP **PKiKP 20 53 34.0 +0.8**
BRG *e* 20 54 09.8
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 111.21 323 *e*PKPdf **PKiKP 20 53 33.8 +0.6**
baz=74,slow=1.9
HYA Hoyanger 111.27 335 *e*Pdif **Pdif 20 49 35.3 +0.3**
PBCC Pribram 111.52 321 *e*PKP **PKiKP 20 53 34.5 +0.7**
CKRC Cesky Krumlov 111.57 320 *e*PKP **PKiKP 20 53 34.8 +0.8**
CKRC *ex* x 20 54 17.6
CLL Collm 111.64 323 *i* PKiKP **PKiKP 20 53 34.3 +0.3**
CLL *i* 20 54 05.1
CLL *i* 20 54 17.4
CLL *e* 21 04 37.0
CLL pmax pmax
comp=Z,11nm,1.0s
CLL pmax pmax
comp=Z,12nm,1.2s
CLL Collm 111.64 323 *e*Pdif **Pdif 20 49 37.0 +0.1**
CLL *i* PKiKP **PKiKP 20 53 34.3 +0.3**
comp=Z,11nm,1.0s
CLL *i*pPKiKP **pPKiKP 20 54 05.1 -4.3**
CLL *i*PP **PP 20 54 17.4 -0.1**
comp=Z,12nm,1.2s
CLL *ep*PP 20 54 49.0
CLL *e*PKKPab **PKKPab 21 04 37.0 -0.9**
CLL *es*PPS 21 05 38.0
CLL Collm 111.64 323 *e*PKPdf **PKiKP 20 53 34.4 +0.5**
baz=74,slow=1.9
SOKA Soboth 111.67 318 *e*P **PKiKP 20 53 34.4 +0.1**
comp=Z,5.1nm,0.8s
MOA Molln 111.86 319 *e*P **PKiKP 20 53 34.2 -0.4**
comp=Z,3.3nm,0.7s
SUE Sulen 111.93 335 *e*Pdif **Pdif 20 49 38.4 +0.5**
KHC Kasperske Hory 111.94 321 *e*PKiKP **PKiKP 20 53 35.2 +0.5**
KHC *e* 20 54 26.0
KHC Kasperske Hory 111.94 321 *e*PKP **PKiKP 20 53 35.2 +0.5**
KHC *e*PP **PP 20 54 26.0 +6.1**
GEC2 GERESS Array S 111.95 320 *e*PKPdf **PKiKP 20 53 35.1 +0.3**
baz=74,slow=1.9
GERES GERESS Array B 111.95 320 Pdiff **Pdif 20 49 38.6 +0.1**
comp=Z,0.4nm,0.5s,baz=72,slow=4.3,SNR=5.0
GERES PKiKP **PKiKP 20 53 35.3 +0.5**
comp=Z,5.6nm,0.6s,baz=66,slow=1.6,SNR=32

GERES PP PP 20 54 18.6 -1.4
comp=Z,2.3nm,0.8s,baz=90,slow=5.3,SNR=4.2
GERES SKP 20 56 57.5
comp=Z,0.8nm,0.5s,baz=70,slow=1.6,SNR=4.5
GERES GERESS Array B 111.95 320 PKiKP 20 53 34.7 -0.1
OBKA Obir 112.03 318 *e*P **PKiKP 20 53 35.7 +0.7**
comp=Z,2.2nm,0.7s
TANN Tannenbergstha 112.24 322 *e*PKPdf **PKiKP 20 53 35.7 +0.5**
baz=74,slow=1.9
TPNV Topopah Spring 112.26 53 P **PKiKP 20 53 36.9 +1.0**
baz=280
BIOA Bad Ischl, Aus 112.31 319 *e*P **PKiKP 20 53 35.3 -0.1**
comp=Z,5.3nm,0.6s
HLID Hailey 112.33 45 P **PKiKP 20 53 36.9 +1.1**
baz=283
WERN Wernitzgruen 112.34 322 *e*PKPdf **PKiKP 20 53 36.0 +0.6**
baz=74,slow=1.9
FLTG Flechtingen 112.34 325 *e*PKPdf **PKiKP 20 53 35.9 +0.6**
baz=74,slow=1.9
GUNZ Gunzen 112.34 322 *e*PKPdf **PKiKP 20 53 35.9 +0.5**
baz=74,slow=1.9
WET Wettzell 112.38 321 *e*PKPdf **PKiKP 20 53 36.1 +0.6**
baz=74,slow=1.9
HEC Hector,Ludlow 112.53 55 P **PKiKP 20 53 37.5 +1.2**
baz=279
R11A Troy Canyon, C 112.54 51 P **PKiKP 20 53 37.5 +1.1**
baz=280
MANZ Manzenberg 112.59 322 *e*PKPdf **PKiKP 20 53 36.4 +0.5**
baz=74,slow=1.9
PFO Pinyon Flats O 112.60 56 P **PKiKP 20 53 37.7 +1.2**
baz=278
MYKA Terra Mystica 112.61 318 *e*P **PKiKP 20 53 35.9 -0.1**
comp=Z,3.9nm,0.5s
KBA Koelnbreinsper 112.68 319 *e*P **PKiKP 20 53 35.9 -0.4**
comp=Z,4.2nm,0.6s
RJOB Jochberg 112.85 320 *e*PKPdf **PKiKP 20 53 36.4 -0.1**
baz=74,slow=1.9
BELC Belle Mtn. Jos 112.92 56 P **PKiKP 20 53 38.2 +1.1**
baz=278
CLZ Clausthal 113.01 324 *e*PKPdf **PKiKP 20 53 37.6 +0.9**
baz=74,slow=1.9
IKP In-Ko-Pah, Jac 113.02 57 P **PKiKP 20 53 38.6 +1.3**
baz=278
GMRC Granite Mounta 113.08 55 P **PKiKP 20 53 38.7 +1.3**
baz=279
GRF Grafenberg Arr 113.23 322 *e*PKPdf **PKiKP 20 53 37.3 +0.2**
baz=74,slow=1.9
GRF *e*PP **PP 20 54 30.8 +1.9**
baz=71,slow=6.9
UPNV Upernavik 113.23 2 *i* P **PKiKP 20 53 35.7 -0.7**
ABTA Abfaltersbach 113.32 319 *i* P **PKiKP 20 53 37.2 -0.3**
comp=Z,16nm,0.8s,SNR=7.0
IRM Iron Mountain 113.60 55 P **PKiKP 20 53 39.5 +1.2**
baz=279
FUR Furstenfeldbru 113.69 320 *e*PKPdf **PKiKP 20 53 38.4 +0.4**
baz=74,slow=1.9
WTTA Wattenberg 113.74 319 *i* P **PKiKP 20 53 38.5 +0.2**
comp=Z,35nm,0.5s,SNR=17
WATA Walderalm 113.76 319 *i* P **PKiKP 20 53 38.4 +0.1**
comp=Z,8.1nm,0.5s,SNR=6.2
SQTA Sankt Quirin 114.03 319 *e*P **PKiKP 20 53 39.0 +0.2**
comp=Z,7.2nm,0.6s
MOTA Moosalm 114.06 319 *i* P **PKiKP 20 53 39.0 +0.1**
comp=Z,13nm,0.5s,SNR=8.4
RETA Reutte 114.23 320 *e*P **PKiKP 20 53 39.3 +0.2**
comp=Z,6.2nm,0.7s
DUG Dugway, Tooele 114.27 49 P **PKiKP 20 53 40.4 +0.8**
baz=283
FETA Feichten 114.40 319 *i* P **PKiKP 20 53 40.0 +0.4**
comp=Z,9.0nm,0.8s,SNR=6.2
UBR Ueberruh 114.59 320 *e*PKPdf **PKiKP 20 53 40.0 +0.1**
baz=74,slow=1.9
STU Stuttgart 114.80 321 *e*PKPdf PKPdf 20 53 40.5 +0.4
baz=74,slow=1.9
DAVA Damuels 114.87 320 *i* P PKPdf 20 53 40.9 +0.4
comp=Z,18nm,0.5s,SNR=7.4
TUE Stuetta 115.48 319 PKiKP 20 53 41.4 -0.4
FFC Flin Flon 115.97 31 PKIKP **PKPdf 20 53 42.1 -0.1**
FFC Flin Flon 115.97 31 PKPdf 20 53 42.0 -0.1
BW06 Boulder Array 115.97 45 P **PKiKP 20 53 43.4 +0.6**
baz=287
PDAR Pinedale Array 115.97 45 PKP **PKiKP 20 53 43.4 +0.5**
comp=Z,1.5nm,0.7s,baz=247,slow=0.8,SNR=5.9
PDAR SKP 20 57 06.2
comp=Z,2.3nm,0.7s,baz=255,slow=1.1,SNR=8.9
PDAR SKKPbc SKKPbc **PKKPbc 21 04 14.5 -0.9**
comp=Z,1.0nm,0.8s,baz=119,slow=5.8,SNR=5.6
PDAR SKKPbc SKKPbc 21 07 45.9 -3.4
comp=Z,0.5nm,0.7s,baz=90,slow=4.5,SNR=3.2
PDAR Pinedale Array 115.97 45 PKKPbc 21 04 12.9 -2.5
P17A Butcher Ranch, 115.99 49 PKPdf **PKiKP 20 53 43.2 +0.3**
MEM Membach 116.02 324 *d*PKPdf **PKiKP 20 53 42.9 +0.5**
WUAZ Wupatki 116.40 53 PKPdf **PKiKP 20 53 45.1 +1.3**
WUAZ Wupatki 116.40 53 P **PKiKP 20 53 44.8 +1.0**
baz=282
BCLA Clavier 116.50 324 *d*PKPdf **PKiKP 20 53 43.7 +0.3**
ICESG Greenland Ices 116.72 356 *i* P **PKPdf 20 53 42.8 -0.9**
SENIN Lac Senin/Sane 116.85 319 PKPdf **PKiKP 20 53 44.5 +0.1**
BMRD Maredsous 116.86 324 *d*PKPdf **PKiKP 20 53 44.7 +0.6**
LAO LASA Array 116.94 40 P **PKiKP 20 53 45.8 +1.4**
baz=291
DOU Dourbes 117.05 324 *d*PKPdf **PKiKP 20 53 45.1 +0.7**
SNF Seneffe 117.06 325 *d*PKPdf **PKiKP 20 53 45.4 +1.0**
USHA Ushuaia 117.32 168 PKP **PKiKP 20 53 45.8 +0.9**
comp=Z,6.1nm,0.7s,baz=209,slow=3.3,SNR=1.8
FCC Fort Churchill 117.35 24 PKIKP **PKPdf 20 53 43.9 -0.8**
FCC Fort Churchill 117.35 24 PKPdf **PKPdf 20 53 43.9 -0.8**
TUC Tucson 117.52 57 P **PKiKP 20 53 46.9 +0.9**
baz=281
O20A White River Ci 117.67 48 PKPdf **PKPdf 20 53 45.5 -0.7**
O20A White River Ci 117.67 48 P **PKiKP 20 53 47.2 +1.0**
baz=287
BNI Bardonecchia 117.72 318 PKIKP **PKPdf 20 53 45.9 -0.1**
BNI Bardonecchia 117.72 318 PKPdf **PKPdf 20 53 45.9 -0.1**
PV13 Radium Mtn., P 117.78 50 PKiKP 20 53 47.6 +1.1
W18A Petrified Fore 117.80 53 P **PKiKP 20 53 47.1 +0.5**
baz=283
MVCO Mesa Verde 118.27 51 P **PKiKP 20 53 48.3 +0.8**
baz=285
KEST Kesra 118.56 307 PKP **PKiKP 20 53 49.0 +1.0**
comp=Z,4.5nm,0.7s,baz=137,slow=1.5,SNR=4.9
KEST PP **PP 20 55 03.0 -3.9**
comp=Z,54nm,0.9s,baz=307,slow=5.1,SNR=17
N23A Red Feather La 119.11 46 P **PKiKP 20 53 49.9 +0.8**
baz=289
SFJD Kangerlussuaq 119.17 0 PKIKP **PKPdf 20 53 47.8 -0.2**
SFJD Kangerlussuaq 119.17 0 PKPdf **PKPdf 20 53 47.8 -0.2**
SFJD Kangerlussuaq 119.17 0 *i* P **PKPdf 20 53 46.5 -1.5**
RSSD Black Hills 119.31 42 PKIKP **PKPdf 20 53 49.1 -0.2**
RSSD Black Hills 119.31 42 PKPdf **PKPdf 20 53 49.0 -0.2**
RSSD Black Hills 119.31 42 P **PKiKP 20 53 49.6 +0.2**
baz=292
S22A 4UR Ranch, Cre 119.40 50 PKPdf **PKPdf 20 53 49.6 -0.1**
S22A 4UR Ranch, Cre 119.40 50 P **PKiKP 20 53 50.7 +0.9**
baz=286
DY2G Dye2 119.65 358 *i* P **PKPdf 20 53 48.3 -0.9**
ISCO Idaho Springs 119.70 47 P **PKiKP 20 53 51.0 +0.7**
baz=288
121A Cookes Peak, D 119.95 56 P **PKiKP 20 53 51.9 +1.0**
baz=283
ANGG Ammassalik, Gr 119.96 354 *i* P **PKPdf 20 53 48.0 -1.5**
ISOG Isortoq, Green 120.15 355 *i* P **PKPdf 20 53 48.3 -1.5**
Q24A Divide 120.30 48 P **PKiKP 20 53 51.8 +0.2**
baz=288
SDCO Great Sand Dun 120.41 50 P **PKiKP 20 53 52.6 +0.8**
baz=287
ANMO Albuquerque 120.45 53 SKP 20 57 15.0
comp=Z,1.4nm,0.8s,baz=283,slow=4.6,SNR=3.6
ANMO Albuquerque 120.45 53 P **PKiKP 20 53 52.6 +0.8**
baz=285
BNM Barren Site 120.52 54 PKPdf **PKiKP 20 53 52.3 +0.3**
MDND Maddock 120.55 37 P **PKiKP 20 53 52.0 +0.7**
baz=298
T25A Trinidad 121.42 50 PKPdf **PKiKP 20 53 54.3 +0.7**
T25A Trinidad 121.42 50 P **PKPdf 20 53 53.4 -0.1**
baz=288
ULM Lac du Bonnet 121.46 33 PKP **PKPdf 20 53 52.4 -0.5**
comp=Z,5.8nm,0.7s,baz=306,slow=3.6,SNR=8.5
ULM Lac du Bonnet 121.46 33 PKPdf **PKPdf 20 53 52.2 -0.7**
OGNE Ogallala 121.87 45 P **PKiKP 20 53 54.4 +0.1**
baz=292
MNTX Cornudas Mount 122.13 56 PKPdf **PKiKP 20 53 55.4 +0.5**
MNTX Cornudas Mount 122.13 56 P **PKiKP 20 53 55.8 +0.8**
baz=284
MSTX Muleshoe 123.64 53 P **PKiKP 20 53 58.0 0.0**
baz=287

TX32 Lajitas Array 124.12 59 PKPdf **PKiKP 20 53 59.3 +0.2**
TXAR Lajitas Array 124.13 59 PKP **PKiKP 20 53 59.8 +0.7**
comp=Z,1.4nm,0.7s,baz=242,slow=1.0,SNR=12
TXAR PKKPbc **PKKPbc 21 03 44.6 -0.1**
comp=Z,0.5nm,0.6s,baz=110,slow=5.3,SNR=6.1
TXAR SKKPbc SKKPbc 21 07 21.9 -0.5
comp=Z,0.3nm,0.7s,baz=96,slow=6.4,SNR=1.9
TXAR Lajitas Array 124.13 59 PKPdf 20 53 58.7 -0.1
TXAR **PKKPab 21 03 43.3 -0.6**
ECSD EROS Data Cent 124.33 40 PKPdf 20 53 58.5 -0.1
ECSD EROS Data Cent 124.33 40 P **PKiKP 20 53 58.8 -0.1**
baz=298
NRS Narsarsuaq 124.94 358 PKIKP **PKiKP 20 53 59.4 -0.1**
NRS Narsarsuaq 124.94 358 PKiKP 20 53 59.4 -0.1
NRS Narsarsuaq 124.94 358 *i* P **PKPdf 20 53 59.0 -0.2**
IVI Ivigtut 124.97 359 *i* P **PKPdf 20 53 56.9 -2.3**
EYMN Ely 125.14 33 P **PKiKP 20 54 00.3 -0.1**
baz=306
F36A Milaca 125.16 36 PKiKP 20 54 00.4 -0.1
I37A Lemond, Waseca 126.21 38 PKPdf **PKPdf 20 54 01.3 -0.9**
KSU1 Kansas State U 126.43 45 P **PKiKP 20 54 03.3 +0.1**
baz=295
WMOK Wichita Mounta 126.52 51 P **PKiKP 20 54 03.6 0.0**
baz=291
ABTX Abilene, Hawle 126.55 54 P **PKPdf 20 54 03.3 +0.1**
baz=288
JCT Junction City 127.07 56 PKIKP **PKPdf 20 54 04.1 -0.2**
JCT Junction City 127.07 56 PKPdf **PKPdf 20 54 04.1 -0.2**
JCT Junction City 127.07 56 P **PKiKP 20 54 04.9 +0.1**
baz=287
ESDC Sonseca Array 127.10 316 PKP **PKiKP 20 54 05.3 +0.7**
comp=Z,3.9nm,0.9s,baz=21,slow=3.0,SNR=14
ESDC PP **PP 20 56 05.4 +1.3**
comp=Z,11nm,0.9s,baz=62,slow=7.0,SNR=19
ESDC Sonseca Array 127.10 316 PKPdf **PKPdf 20 54 04.3 +0.2**
PAB San Pablo 127.42 316 PKIKP **PKiKP 20 54 05.5 +0.2**
PAB San Pablo 127.42 316 PKPdf **PKiKP 20 54 05.5 +0.2**
PBRG Braganca 127.92 320 *e*PKPdf **PKiKP 20 54 06.9 +0.7**
833A Chaparral WMA, 128.01 59 P **PKiKP 20 54 06.9 +0.2**
baz=286
P38A Dawn 128.32 43 PKPdf **PKPdf 20 54 06.3 0.0**
TUL1 Leonard 128.34 48 P **PKiKP 20 54 07.0 -0.1**
baz=294
MVO Monteryo 128.43 319 *e*PKPdf **PKiKP 20 54 08.1 +0.8**
WHTX Lake Whitney, 128.51 54 P **PKiKP 20 54 07.7 +0.1**
baz=290
JFWS Jewell Farm 128.74 38 P **PKiKP 20 54 07.6 -0.1**
baz=304
PGAV Gavieira, Arco 128.81 321 *e*PKPdf **PKiKP 20 54 09.2 +1.2**
POLO Lamas de Olo 128.82 320 *e*PKPdf **PKiKP 20 54 08.4 +0.3**
PVRL Vila Real 128.82 320 *e*PKPdf **PKiKP 20 54 09.2 +1.2**
TORD Torodi Ar. Bea 128.99 282 PKP **PKPdf 20 54 08.5 +0.3**
comp=Z,18nm,0.7s,baz=48,slow=1.9,SNR=57
TORD PP **PP 20 56 18.9 +1.3**
comp=Z,11nm,1.2s,baz=72,slow=5.2,SNR=3.8
TORD SKPbc SKiKP 20 57 16.0 -17
comp=Z,19nm,0.7s,baz=78,slow=3.7,SNR=24
TORD Torodi Ar. Bea 128.99 282 PKPdf **PKPdf 20 54 06.9 -1.4**
MTE Manteigas 129.16 319 *e*PKPdf **PKiKP 20 54 08.5 -0.2**
MTE *e*SKP 20 57 17.3
PVIS Viseu 129.22 319 *e*PKPdf **PKiKP 20 54 09.7 +0.9**
PVIS *e*SKP 20 57 17.2
S39A Bolivar 129.37 45 PKPdf **PKPdf 20 54 07.6 -0.8**
PCBR Castelo Branco 129.40 318 *e*PKPdf **PKiKP 20 54 10.3 +1.2**
PCBR *e*SKP 20 57 18.1
SCHQ Schefferville 129.44 13 PKP **PKiKP 20 54 09.0 +0.2**
comp=Z,4.8nm,0.6s,baz=282,slow=4.0,SNR=11
SCHQ SKPbc SKPbc 20 57 17.2 -0.2
comp=Z,10nm,0.7s,baz=357,slow=6.6,SNR=7.5
SCHQ Schefferville 129.44 13 PKPdf 20 54 07.9 -0.1
PMRV Marv??o 129.55 318 *e*PKPdf **PKiKP 20 54 10.6 +1.1**
PMRV *e*SKP 20 57 18.2
PLCA Paso Flores 129.62 159 PKP **PKiKP 20 54 10.1 +0.4**
comp=Z,3.2nm,0.6s,baz=214,slow=1.0,SNR=12
PLCA SKPbc SKPbc 20 57 18.6 -0.1
comp=Z,17nm,1.1s,baz=308,slow=6.9,SNR=7.4
R40A Maddies Statio 129.82 44 PKPdf 20 54 08.5 -0.8
PBAR Barrancos 129.92 316 *e*PKPdf **PKiKP 20 54 10.8 +0.6**
PBAR Barrancos 129.92 316 *e*PP PP 20 56 23.9 +1.5
PBAR *e*SKP 20 57 19.7
PESTR Estremoz 129.96 317 *e*PKPdf **PKiKP 20 54 11.4 +1.1**
PESTR *e*SKP 20 57 20.0
PCAS Casmilo, Conde 129.96 319 *e*PKPdf **PKiKP 20 54 11.3 +1.0**
PCAS *e*SKP 20 57 19.9
W39A Magazine 130.13 48 P **PKiKP 20 54 10.7 -0.1**
baz=295
PMTG Montargil 130.29 318 *e*PKPdf **PKiKP 20 54 11.9 +1.0**
PMTG *e*SKP 20 57 20.8
U40A Yellville 130.31 46 PKPdf **PKiKP 20 54 11.0 0.0**
U40A Yellville 130.31 46 P **PKiKP 20 54 11.1 0.0**
baz=297
EVO Evora 130.41 317 *e*PKPdf **PKiKP 20 54 11.0 -0.2**
EVO Evora 130.41 317 *e*PP PP 20 56 24.9 -0.7
EVO *e*SKP 20 57 21.9
PSBE So Bento 130.44 318 *e*SKP 20 57 22.0
PBEJ Beja 130.56 316 *e*PKPdf **PKiKP 20 54 13.0 +1.5**
PBEJ *e*SKP 20 57 22.6
HDIL Hopedale 130.63 40 P **PKiKP 20 54 11.4 -0.2**
baz=303
CCM Cathedral Cave 130.64 44 PKIKP **PKiKP 20 54 11.8 +0.1**
CCM Cathedral Cave 130.64 44 PKPdf **PKiKP 20 54 11.8 +0.1**
CCM Cathedral Cave 130.64 44 P **PKiKP 20 54 11.6 -0.1**
baz=300
PVAQ Vaqueiros 130.76 315 *e*SKP 20 57 23.2
GLMI Grayling 130.81 33 P **PKiKP 20 54 12.0 +0.1**
baz=311
PCVE Castro Verde 130.87 316 *e*PKPdf **PKiKP 20 54 12.6 +0.4**
PCVE *e*SKP 20 57 23.6
PNCL Nicolau / Gran 130.97 317 *e*PKPdf **PKiKP 20 54 13.6 +1.3**
PNCL *e*SKP 20 57 24.4
PMST Lisbon--Monsan 131.10 318 *e*PP PP 20 56 29.1 -0.9
MORF Marmelete 131.46 316 *e*PKPdf **PKiKP 20 54 14.9 +1.5**
J47A Sunmer 131.72 34 PKiKP 20 54 13.7 0.0
L48A N Adams 132.77 35 PKPdf 20 54 14.3 -0.4
O48B Farmland 133.38 38 P **PKiKP 20 54 17.0 -0.2**
baz=307
WVT Waverly 133.97 44 P **PKiKP 20 54 18.1 -0.4**
baz=301
P49A Miami Univ. Ec 134.09 38 P **PKiKP 20 54 18.4 -0.2**
baz=307
CMIG Matias Romero 134.44 72 SKPbc **SKPbc 20 57 36.8 +0.8**
comp=Z,2.9nm,0.7s,baz=4.0,slow=8.2,SNR=4.7
ACSO Alum Creek Sta 134.70 36 P **PKiKP 20 54 19.7 -0.2**
baz=310
ERPA Erie 135.12 32 P **PKiKP 20 54 20.5 -0.1**
baz=315
M53A WI Miller and 135.22 33 P **PKiKP 20 54 20.5 -0.4**
baz=313
KIC Kosan Boka 135.39 273 *e*PKP1 **PKiKP 20 54 22.5 +0.5**
comp=Z,21nm,0.7s
DBIC Dimbokro 135.52 273 PKP **PKiKP 20 54 21.7 -0.5**
comp=Z,21nm,0.8s,baz=95,slow=2.3,SNR=12
DBIC SKPbc **SKPbc 20 57 38.9 -0.6**
comp=Z,30nm,0.6s,baz=112,slow=2.3,SNR=20
P52A Corning 135.59 36 P **PKiKP 20 54 21.4 -0.2**
baz=310
LIC Lamto 135.67 273 *e*PKP1 **PKiKP 20 54 23.2 +0.7**
comp=Z,29nm,0.7s
TIC Toumodi 135.68 273 *e*PKP1 **PKiKP 20 54 22.8 +0.2**
M54A Oil Creek Stat 135.72 33 PKPdf 20 54 20.1 -0.2
M54A Oil Creek Stat 135.72 33 P **PKiKP 20 54 21.8 -0.1**
baz=315
O53A New Philadelph 135.72 35 P **PKiKP 20 54 21.8 -0.1**
baz=312
LONY Lake Ozonia 135.84 26 P **PKiKP 20 54 21.7 -0.3**
baz=323
LRAL Lakeview Retre 136.12 47 P **PKiKP 20 54 23.0 +0.1**
baz=300
L56A Greenwood 136.36 30 PKPdf **PKPdf 20 54 21.4 -0.1**
TZTN Tazewell 136.61 41 P **PKiKP 20 54 23.7 -0.1**
baz=306
MCWV Mont Chateau 136.89 35 P **PKiKP 20 54 24.0 -0.3**
baz=313
TKL Tuckaleechee C 136.98 42 SKPbc **SKPbc 20 57 43.1 -0.3**
comp=Z,20nm,0.9s,baz=155,slow=4.1,SNR=4.3
BINY Binghamton 137.08 29 P **PKiKP 20 54 24.4 -0.3**
baz=320
O56A Blue Knob Stat 137.18 33 P **PKiKP 20 54 24.3 -0.6**
baz=315
LBNH Lisbon 137.25 24 P **PKiKP 20 54 24.6 -0.3**
baz=326
SSPA Standing Stone 137.28 32 PKPdf **PKPdf 20 54 23.8 +0.6**
SSPA Standing Stone 137.28 32 P **PKiKP 20 54 24.6 -0.4**
baz=316
PKME Peaks-Kenny Pk 137.36 21 P **PKiKP 20 54 24.8 -0.3**
baz=330
N59A State Game Lan 138.16 30 P **PKiKP 20 54 26.8 -0.1**
baz=319
BLA Blacksburg 138.18 38 P **PKiKP 20 54 27.0 -0.1**
baz=310
L61B Northampton 138.40 26 P **PKiKP 20 54 26.9 -0.4**
baz=324
GOGA Godfrey 138.45 45 P **PKiKP 20 54 27.1 -0.6**
baz=304
HRV Adam Dziewonsk 138.83 25 P **PKiKP 20 54 27.9 -0.3**
baz=326
KMSC Kings Mountain 138.89 41 P **PKiKP 20 54 28.2 -0.3**
baz=307
PAL Palisades 139.00 28 P **PKiKP 20 54 28.6 +0.1**
baz=322
ROSA Rosais 142.17 332 PKPdf **PKPdf 20 54 29.2 -2.9**
PLTB Pedras Altas 142.19 174 PKPdf **PKPdf 20 54 29.9 -2.5**
AC02 Maricunga 142.23 151 PKPdf **PKPdf 20 54 30.4 -2.8**
CRIN San Cristobal 142.52 77 PKPdf 20 54 31.0 -2.4
GO02 Mina Guanaco 143.38 149 PKPdf PKPbc 20 54 33.4 +0.9
MATN Matagalpa 143.58 76 PKPdf 20 54 34.3 -1.1
SOR Soroa 143.78 59 PKIKP **PKPdf 20 54 34.5 -0.9**
SOR Soroa 143.78 59 PKPdf **PKPdf 20 54 34.5 -0.9**
ITQB Itaqui 143.84 170 PKPdf PKPbc 20 54 34.4 +1.0
ITQB Itaqui 143.84 170 *e*P **PKPdf 20 54 34.7 -0.6**
BOAB BOACO BROADBAND 143.89 77 PKPdf PKPbc 20 54 34.8 +0.9
HZTE Horizontes, Gu 144.13 80 PKPdf 20 54 35.8 -0.4
ACON Acoyapa 144.43 78 PKPdf 20 54 36.4 -0.3
JTS Las Juntas de 144.79 81 PKP **PKPdf 20 54 38.3 +0.9**
comp=Z,74nm,0.7s,baz=38,slow=2.1,SNR=48
JTS Las Juntas de 144.79 81 PKIKP **PKPdf 20 54 37.7 +0.3**
JTS Las Juntas de 144.79 81 PKPdf 20 54 37.7 +0.3
JTS Las Juntas de 144.79 81 *e*P **PKPdf 20 54 38.3 +0.9**
LVC Limon Verde 145.82 147 PKPbc **PKPab 20 54 41.9 +1.2**
comp=Z,51nm,0.9s,baz=250,slow=2.2,SNR=30
LVC Limon Verde 145.82 147 *e*P **PKPdf 20 54 38.4 -1.1**
PATCX Punta Patache 146.53 143 PKPdf 20 54 39.1 -1.2
FSCY Frank Sound, G 146.59 64 PKPdf 20 54 39.6 -0.7
TA01 Diego Aracena 146.71 143 PKPab 20 54 43.5 -0.2
PB01 IPOC Station P 146.74 145 PKPdf 20 54 40.3 -0.4
CPUP Villa Florida 146.94 167 PKPbc **PKPbc 20 54 42.4 -0.5**
comp=Z,28nm,0.8s,baz=199,slow=2.1,SNR=34
CPUP SKPbc **SKiKP 20 58 09.2 +0.1**
comp=Z,6.7nm,0.6s,baz=230,slow=1.0,SNR=5.5
CPUP Villa Florida 146.94 167 PKIKP **PKPbc 20 54 41.9 -1.0**
CPUP 20 58 09.2
CPUP Villa Florida 146.94 167 PKPbc 20 54 41.9 -1.0
CPUP **SKiKP 20 58 09.2 +0.1**
NNA Nana 147.53 124 PKPbc **PKiKP 20 54 46.3 -0.6**
comp=Z,24nm,0.6s,baz=248,slow=5.2,SNR=8.2
NNA Nana 147.53 124 PKIKP **PKPbc 20 54 43.8 -1.0**
NNA Nana 147.53 124 PKPbc **PKPbc 20 54 43.8 -1.0**
PB11 IPOC Station P 147.64 143 PKPdf 20 54 42.9 +0.6
PB08 IPOC Station P 147.64 144 PKiKP 20 54 46.9 -0.5
MCRA Macar, Loja 147.99 108 PKPdf 20 54 41.6 -1.3
PB12 IPOC Station P 148.09 141 PKiKP 20 54 47.3 -0.7
GMAL Guarumal, Vera 148.58 85 *e*P PKPab 20 55 05.6 +14
PB16 IPOC Station P 148.81 141 PKPbc 20 54 49.3 +0.6
BOSC San Juan Bosco 149.75 107 PKPdf **PKPdf 20 54 45.1 -0.8**
BOSC **PKiKP 20 54 52.3 +0.7**
BCIP Isla Barro Col 149.90 82 *e*P **PKPbc 20 54 51.0 +0.2**
UPA Univ. de Panam 150.21 83 *e*P **PKPbc 20 54 51.8 +0.2**
LPAZ La Paz 151.21 141 PKP **PKPbc 20 54 51.9 -2.7**
comp=Z,16nm,0.4s,baz=295,slow=2.3,SNR=7.1
LPAZ PKPbc **PKiKP 20 54 56.2 +1.0**
comp=Z,16nm,0.4s,baz=9.9,slow=3.1,SNR=76
LPAZ La Paz 151.21 141 PKIKP **PKPdf 20 54 48.4 -0.2**
LPAZ La Paz 151.21 141 PKPdf **PKPdf 20 54 48.4 -0.2**
LPAZ La Paz 151.21 141 *e*P **PKiKP 20 54 55.9 +0.7**
PTAC Punta Ardita, 151.98 86 *e*P **PKiKP 20 54 56.2 +0.2**
PIZC Pizarro, Choco 152.37 91 *e*P **PKiKP 20 54 57.4 +0.6**
POPC Popayan, Colom 152.80 96 *e*P **PKiKP 20 54 58.2 +0.1**
SOTA Rioblanco 152.81 97 *e*P **PKiKP 20 54 59.9 +1.5**
PCON Cinco Dias 153.04 97 *e*P **PKPbc 20 54 57.8 -1.0**
YOTC Yotoco, Valle 153.30 93 *e*P **PKiKP 20 54 59.4 +0.4**
PLMC San Jos del P 153.44 91 *e*P **PKiKP 20 54 59.4 +0.2**
MARP Paez Belalcaza 153.56 96 *e*P **PKPbc 20 54 59.4 -0.2**
DBBC Dabeiba 153.57 86 *e*P **PKiKP 20 55 02.1 +2.7**
CBOC Ciudad Bolivar 153.75 89 *e*P **PKiKP 20 55 00.4 +0.5**
PTLC Puerto Leguiza 154.20 102 *e*P **PKiKP 20 55 01.3 +0.6**
HELC Santa Helena 154.24 88 *e*P **PKiKP 20 55 02.1 +0.9**
GUY2C Guyana, Caldas 154.37 91 *e*P **PKiKP 20 55 02.1 +0.5**
ORTC Ortega, Tolima 154.38 94 *e*P **PKPdf 20 54 52.7 +0.1**
ZARC Zaragoza, Cauc 154.90 85 PKPdf **PKPdf 20 54 51.9 -1.4**
ZARC **PKiKP 20 55 02.3 +0.2**
ZARC Zaragoza, Cauc 154.90 85 *e*P **PKiKP 20 55 02.5 +0.4**
SDDR Presa de Saban 155.30 57 *e*P PKPab 20 55 09.5 -10
PTBC PUERTO BERRIO 155.31 88 *e*P PKPdf 20 55 01.7 +7.8
SIV San Ignacio 155.33 153 PKPab **PKPab 20 55 21.0 +1.6**
baz=207,slow=4.8
MACC Macarena, Meta 155.53 98 *e*P **PKPdf 20 54 53.1 -1.1**
SPBC San Pablo de B 155.67 90 *e*P **PKPdf 20 54 55.2 +0.8**
CHIC Chingaza 155.95 92 *e*P **PKPdf 20 54 55.5 +0.2**
RUSC La Rusia 156.67 89 *e*P **PKPdf 20 54 55.2 -1.0**
BDFB Brasilia 158.37 184 PKP **PKPdf 20 54 58.8 +1.0**
comp=Z,3.9nm,0.6s,baz=218,slow=3.6,SNR=5.8
SDV Santo Domingo 158.98 81 PKP **PKPdf 20 54 59.1 +0.4**
comp=Z,6.1nm,0.6s,baz=268,slow=3.4,SNR=9.0
SJG San Juan 159.91 52 PKP **PKPdf 20 54 59.4 +0.1**
comp=Z,5.9nm,0.3s,baz=244,slow=3.5,SNR=3.3
SJG PKPab **PKPab 20 55 40.1 +0.8**
comp=Z,22nm,0.9s,baz=310,slow=3.6,SNR=8.8
SJG San Juan 159.91 52 PKIKP **PKPdf 20 54 59.4 +0.1**
SJG 20 55 39.6
RCBR Riachuelo 161.91 229 PKP **PKPdf 20 55 02.2 +0.5**
comp=Z,6.8nm,0.7s,baz=90,slow=1.0,SNR=2.1
RCBR PKPab **sPKPdf 20 55 49.7 -1.3**
comp=Z,15nm,0.6s,baz=272,slow=5.3,SNR=9.5
SMRT St. Maarten 162.27 47 PKPdf **PKPdf 20 55 01.4 -0.5**
SMRT PKPab **PKPab 20 55 49.9 +0.3**
NBCL Cascavel-CE 164.75 228 *e*P **PKPdf 20 55 03.7 -0.7**

PRU 06 20:46:55.1±0.0, 49°91N×18°47E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.22**	**251**	*e*PG	Pg	20 46 58.9	-0.4
OKC				*e*SG	Sg	20 47 02.8	+0.6
	comp=Z,6.3nm,0.6s						
MORC	**Moravsky Berou**	**0.61**	**258**	*e*PG	Pg	20 47 06.6	-0.3
MORC				*e*SG	Sg	20 47 14.0	-0.8
KRLC	**Kraliky**	**1.10**	**279**	*e*PG	Pg	20 47 14.7	-1.5
KRLC				*e*SG	Sg	20 47 29.4	-1.1
DPC	**Dobruska-Polom**	**1.45**	**289**	*e*PG	Pn	20 47 21.5	-1.1
DPC				*e*SG	Sg	20 47 41.5	-0.2
OSTC	**Ostas**	**1.59**	**295**	*e*PG	Pn	20 47 23.8	-0.7
OSTC				*e*SG	Sn	20 47 44.9	-0.8

*IDC **06** 20:49:47.1±0.8, 38°88N×113°18E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.8/62, mbtmp3.9/14, ML3.7/1, Error ellipse: s-maj=26.5km s-min=15.7km az=62.0*
*NEIC **06** 20:49:48.9±2.4, 38°89N±0°07×112°92E±0°06, h10km±1km, mb4.4/12, Error ellipse: s-maj=13.1km s-min=5.6km az=150.0*
*BJI **06** 20:49:49.0±0.0, 38°85N×112°90E, h11km, mb4.2/13, mB4.8/5, ML4.5/25, Ms4.1/13, Ms7 3.6/12*

ISC 06 20:49:48.4±0.4, 38°89N±0°03×112°84E±0°03, h10km, n50, σ1°94/66, mb4.0/17, 3C-1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIY	**Taiyuan**	**1.21**	**195**	⇑Pg	**Pg**	**20 50 11.1**	**-0.6**
TIY				Sg	**Sn**	**20 50 27.4**	**-0.6**
TIY				smax	smax		
	comp=N,7μm,0.4s						
TIY				smax	smax		
	comp=E,9μm,0.4s						
HNS	**HongShan**	**2.09**	**135**	⇓Pn	**Pn**	**20 50 23.4**	**-0.1**
HNS				Pg	**Pb**	**20 50 25.5**	**-0.9**
HNS				Sn	**Sb**	**20 50 49.9**	**-2.5**
HNS				Sg	**Sg**	**20 52.0**	**-3.5**
HNS				smax	smax		
	comp=N,8μm,0.6s						
HNS				smax	smax		
	comp=E,8μm,0.7s						
HHC	**Hu-ho-hao-te**	**2.19**	**334**	*e*Pg	**Pb**	**20 50 27.1**	**-1.2**
HHC				Sg	**Sb**	**20 50 55.8**	**+0.2**
BTO	**Baotou**	**2.77**	**309**	Pn	**Pb**	**20 50 37.0**	**-1.1**
BTO				Pg	**Pg**	**20 50 41.8**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTO				Sn	Sb	20 51 10.5	-1.7
BTO				Sg	Sg	20 51 18.4	+0.9
BTO				smax	smax		
	comp=N,10μm,0.5s						
BTO				smax	smax		
	comp=E,10μm,0.4s						
BJT	Baijiatuau	2.81	65		Pn	20 50 32.2	-1.2
BJI	Beijing	2.83	65	Pg	Pb	20 50 38.5	-0.4
BJI				Sg	Sg	20 51 15.2	-4.0
BJI				smax	smax		
	comp=N,2μm,0.6s						
BJI				smax	smax		
	comp=E,1μm,0.5s						
TIA	Tai'an	4.32	127	Pn	Pn	20 50 54.4	+0.2
TIA				Pg	Pb	20 51 05.2	+0.7
TIA				Sg	Sb	20 51 58.8	+2.1
TIA				smax	smax		
	comp=N,550nm,0.7s						
TIA				smax	smax		
	comp=E,570nm,0.5s						
LYN	LuoYang	4.34	184	Pn	Pn	20 50 55.2	+0.8
LYN				Pg	Pb	20 51 04.9	+0.2
LYN				Sg	Sb	20 51 59.3	+2.2
LYN				smax	smax		
	comp=N,2μm,0.4s						
LYN				smax	smax		
	comp=E,3μm,0.4s						
XLT	XiLinHaoTe	5.57	25	ePn	Pn	20 51 12.2	+0.8
XLT				smax	smax		
	comp=N,49nm,0.6s						
XLT				smax	smax		
	comp=E,420nm,0.7s						
XAN	Xi'an	5.78	214	Pn	Pn	20 51 15.0	+0.8
XAN				Sg	Sg	20 52 49.2	-4.6
XAN				smax	smax		
	comp=N,560nm,0.9s						
XAN				smax	smax		
	comp=E,360nm,1.1s						
XAN				LR	LR		
	comp=N,1μm,9.5s						
XAN				LR	LR		
	comp=E,820nm,14.3s						
XAN				LR	LR		
	comp=Z,740nm,13.2s						
LZH	Lanzhou	7.68	251	ePn	Pn	20 51 42.6	+2.1
LZH				Sg	Sg	20 53 50.0	-4.9
LZH				smax	smax		
	comp=N,380nm,1.1s						
LZH				smax	smax		
	comp=E,340nm,1.2s						
LZH				LR	LR		
	comp=N,1μm,6.2s						
LZH				LR	LR		
	comp=E,690nm,6.5s						
LZH				LR	LR		
	comp=Z,690nm,8.0s						
WHN	Wuhan	8.41	171	⇑P	Pn	20 51 53.0	+2.6
WHN				S	Sn	20 53 29.8	+4.4
ENH	Enshi	9.03	199	Pn	Pn	20 51 58.6	-0.3
ULN	Ulaanbaatar	9.91	337		Pn	20 52 11.5	+0.4
SONM	Songino Array	10.10	334	Pn	Pn	20 52 14.9	+1.3
	0.7nm,0.3s,baz=150,slow=13,SNR=14						
SONM				Lg	Lg	20 55 05.2	
	4.0nm,0.3s,baz=146,slow=28,SNR=12						
SONM	Songino Array	10.10	334	Pn	Pn	20 52 12.5	-1.1
GTA	Gaotai	10.13	277	⇑P	Pn	20 52 18.6	+4.5
GTA				sP		20 52 26.1	
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,100nm,6.4s						
GTA				LR	LR		
	comp=N,250nm,10.8s						
GTA				LR	LR		
	comp=E,220nm,9.6s						
GTA				LR	LR		
	comp=Z,340nm,12.0s						
CD2	Chengdu	10.90	226	P	Pn	20 52 26.1	+1.6
HIA	Hailar	11.50	23		Pn	20 52 30.7	-1.9
KSRS	Korea Array	11.96	92	Pn	Pn	20 52 38.6	-0.3
	0.3nm,0.3s,baz=276,slow=13,SNR=6.3						
KSRS				Lg	Lg	20 56 06.3	
	0.2nm,0.3s,baz=280,slow=30,SNR=2.8						
GOMU	GeErMu	14.55	265	P	P	20 53 17.6	-3.8
GOMU				pP	Pn	20 53 20.9	+6.2
GOMU				sP		20 53 22.3	
GOMU				S	Sn	20 55 51.6	-4.7
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,120nm,5.8s						
GOMU				LR	LR		
	comp=N,170nm,15.5s						
GOMU				LR	LR		
	comp=E,140nm,17.8s						
GOMU				LR	LR		
	comp=Z,160nm,15.0s						
USRK	Ussuriysk Ar.	15.28	64	Pn	P	20 53 28.3	-0.7
	baz=257,slow=12,SNR=4.7						
USRK				Lg	Lg	20 57 51.4	
	baz=269,slow=24,SNR=2.5						
PZH	PanZhiHua	15.47	220	P	P	20 53 33.6	+2.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YHNB	Yeheng	15.91	150	Pn	Pn	20 53 30.6	-1.9
YHNB				IAmb	IAmb	20 53 54.1	
	comp=Z,46nm,1.5s						
KLR	Kul'dur	17.03	46	Pn	P	20 53 50.4	+2.0
	comp=Z,0.1nm,0.3s,baz=270,slow=12,SNR=2.2						
KLR				Lg	Lg	20 58 46.5	
	comp=Z,0.2nm,0.3s,baz=322,slow=22,SNR=4.4						
MAJO	Matsushiro	20.19	89	P	P	20 54 22.3	-0.8
MK31	Makanchi Array	23.64	299	P	P	20 55 01.4	+1.6
MKAR	Makanchi Array	23.64	299	P	P	20 55 02.9	+3.1
	comp=Z,2.4nm,0.6s,baz=96,slow=11,SNR=9.4						
CM31	Chiang Mai Arr	23.67	215	P	P	20 55 01.9	+1.7
CM31				IAmb	IAmb	20 55 22.9	
	comp=Z,4.3nm,0.8s						
CMAR	Chiang Mai Arr	23.67	215	P	P	20 55 01.2	+1.0
	comp=Z,1.6nm,0.6s,baz=14,slow=10.0,SNR=7.6						
ZAA0	Zalesovo Array	24.28	318	P	P	20 55 06.6	+0.9
ZAA0				IAmb	IAmb	20 55 29.3	
	comp=Z,6.3nm,0.9s						
ZALV	Zalesovo Beam	24.28	318	P	P	20 55 06.8	+1.1
	comp=Z,1.1nm,0.7s,baz=106,slow=9.1,SNR=2.1						
KURK	Kurchatov	26.77	307	P	P	20 55 27.4	-0.8
KURBB	Kurchatov Arra	26.80	307	P	P	20 55 30.6	+2.1
	comp=Z,2.6nm,0.8s,baz=104,slow=10,SNR=10						
KKAR	Karatay Array	31.98	291	P	P	20 56 15.9	+1.3
BRVK	Borovoye	32.28	310	P	P	20 56 19.1	+2.0
BRVK				IAmb	IAmb	20 56 36.4	
	comp=Z,9.5nm,1.4s						
TIXI	Tiksi	33.84	9	P	P	20 56 30.4	-0.1
ABKAR	Akbulak array	38.67	303	P	P	20 57 13.3	+1.2
ARU	Arti	39.38	315	P	P	20 57 20.2	+2.3
	comp=Z,2.9nm,0.6s,baz=70,slow=4.2,SNR=13						
ARU	Arti	39.38	315	P	P	20 57 18.3	+0.5
ARU				IAmb	IAmb	20 57 24.4	
	comp=Z,9.9nm,0.8s						
KIV	Kislovodsk	51.41	300	P	P	20 58 54.8	+1.3
KIV				IAmb	IAmb	20 59 00.9	
	comp=Z,5.0nm,0.8s						
KEV	Kevo	52.71	334	P	P	20 59 01.4	-1.2
FINES	FINESS Array B	55.29	324	P	P	20 59 23.1	+1.4
	comp=Z,0.9nm,0.5s,baz=93,slow=7.0,SNR=1.3						
BRTR	Keskin Array B	59.29	298	P	P	20 59 51.8	+1.3
	comp=Z,0.9nm,0.6s,baz=75,slow=4.4,SNR=3.3						
ILAR	Eielson Array	59.65	29	P	P	20 59 52.0	-0.4
	comp=Z,0.4nm,0.6s,baz=282,slow=4.5,SNR=5.0						
WRA	Warramunga Arr	61.89	157	P	P	21 00 07.6	-0.4
	comp=Z,1.2nm,0.6s,baz=346,slow=7.2,SNR=7.4						
NOA	NORSAR Array B	61.99	327	P	P	21 00 09.1	+0.7
	comp=Z,0.8nm,0.7s,baz=60,slow=6.3,SNR=3.6						
ASAR	Alice Springs	65.28	159	P	P	21 00 30.3	-0.1
	comp=Z,2.6nm,0.7s,baz=341,slow=6.3,SNR=29						
YKA	Yellowknife Ar	72.02	21	P	P	21 01 11.3	-0.7
	comp=Z,0.6nm,0.7s,baz=323,slow=6.0,SNR=7.9						
ESDC	Sonseca Array	82.77	316	P	P	21 02 14.2	+1.4
	comp=Z,0.8nm,0.8s,baz=42,slow=5.3,SNR=3.2						

*NOU **06** 21:08:54.2, 13°.49S×166°.66E, h19km, mb4.4/10, Vanuatu Islands*

*IDC **06** 21:08:58.8±1.3, 14°.07S×166°.59E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/45, mbtmp4.0/6, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/61, Error ellipse: s-maj=49.5km s-min=22.8km az=125.0*

*NEIC **06** 21:09:05.1±1.9, 14°.1S±0°.1×166°.59E±0°.07, h35km±2km, mb4.5/15, Error ellipse: s-maj=17.3km s-min=10.7km az=2.0*

ISC 06 21:09:05.8±0.8**, 14°.24S**±0°.08×**166°.6E**±0°.1**, h43km, n35, σ1s.40**/35**, mb4.3**/14**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVP	Devils Point	3.80	156	P	Pn	21 10 01.3	-0.5
KOUNC	Koumac, New Ca	6.65	199		Pn	21 10 40.5	-0.4
KOUNC	Koumac, New Ca	6.65	199	P	Pn	21 10 41.1	+0.1
YATNC	Mamie plateau,	7.79	178	P	Pn	21 10 56.8	+0.2
DZM	Mont Dzumac	7.79	181	Pn	Pn	21 10 55.4	-1.3
	2.2nm,0.3s,baz=356,slow=20,SNR=17						
DZM				Sn	Sn	21 12 20.5	-3.3
	baz=305,slow=23,SNR=1.2						
DZM	Mont Dzumac	7.79	181		Pn	21 10 54.9	-1.9
DZM	Mont Dzumac	7.79	181	P	Pn	21 10 56.0	-0.8
NOUC	Port Laguerre	7.83	182	P	Pn	21 10 57.8	+0.7
ONTNC	Ouen Toro	8.03	181	Pn	Pn	21 10 58.5	-1.4
OUENC	Ouen Island, N	8.14	178	Pn	Pn	21 11 02.2	+0.7
OUENC	Ouen Island, N	8.14	178	P	Pn	21 11 01.5	+0.1
PINNC	Pines Island,	8.37	174	Pn	Pn	21 11 05.2	+0.6
EIDS	Eidsvold	18.29	230	P	Pn	21 13 17.1	+0.8
PMG	Port Moresby	19.60	282	LR	LR	21 18 55.7	
	comp=Z,90nm,19.2s,baz=318,slow=30						
BKZ	Black Stump Fm	26.33	162	P	P	21 14 36.6	-1.0
BKZ				IAmb	IAmb	21 15 05.0	
	comp=Z,18nm,1.5s						
STKA	Stephens Creek	28.81	228	P	P	21 15 00.8	+0.9
	comp=Z,2.2nm,0.6s,baz=55,slow=7.3,SNR=5.4						
STKA	Stephens Creek	28.81	228	P	P	21 15 00.8	+0.9
WB0	Warramunga Arr	31.23	255	P	P	21 15 20.1	-1.4
WB0				IAmb	IAmb	21 15 42.3	
	comp=Z,7.4nm,1.4s						
WRA	Warramunga Arr	31.30	255	P	P	21 15 20.9	-1.2
	comp=Z,1.1nm,0.8s,baz=86,slow=9.2,SNR=8.4						
ASAR	Alice Springs	32.23	248	P	P	21 15 29.4	-0.9
	comp=Z,0.7nm,0.7s,baz=73,slow=9.4,SNR=13						
BBOO	Buckleboo	33.36	231	P	P	21 15 40.6	+0.6
FORT	Forrest	38.98	238	P	P	21 16 28.0	-0.1
MORW	Morawa	48.88	244	P	P	21 17 47.5	0.0
MORW				IAmb	IAmb	21 18 02.4	
	comp=Z,12nm,1.1s						
VNDA	Vanda	63.34	181	P	P	21 19 33.0	+3.0
SBA	Scott Base	63.63	180	P	P	21 19 36.1	+4.2
SBA				IAmb	IAmb	21 19 40.4	
	comp=Z,3.7nm,0.9s						
QSPA	South Pole Qui	75.79	180	P	P	21 20 48.3	+1.2
QSPA				IAmb	IAmb	21 21 04.9	
	comp=Z,10nm,1.3s						
SEY	Seymchan	77.72	353	P	P	21 20 56.9	-0.8
	comp=Z,0.5nm,0.3s,baz=156,slow=7.6,SNR=5.3						
L19K	White Mountain	81.96	17	P	P	21 21 21.0	+0.3
L19K				IAmb	IAmb	21 21 36.3	
	comp=Z,4.4nm,1.2s						
J20K	Nowinta River	83.74	16	P	P	21 21 29.1	-0.8
J20K				IAmb	IAmb	21 21 36.4	
	comp=Z,4.0nm,1.2s						
RND	Reindeer	84.68	18	P	P	21 21 34.5	-0.2
I21K	Tanana	85.11	16	P	P	21 21 36.4	-0.3
I21K				IAmb	IAmb	21 21 37.3	
	comp=Z,4.1nm,1.1s						
HDA	Harding Lake	85.99	18	P	P	21 21 40.1	-1.1
HDA				IAmb	IAmb	21 21 57.5	
	comp=Z,5.0nm,1.1s						
ILAR	Eielson Array	86.27	18	P	P	21 21 40.8	-1.7
	comp=Z,0.6nm,0.6s,baz=240,slow=5.1,SNR=9.7						
ARCES	ARCESS Array B	119.61	345	PKP	PKPdf	21 27 49.6	-0.8
	comp=Z,1.2nm,0.6s,baz=76,slow=1.1,SNR=5.6						
ESDC	Sonseca Array	153.33	344	PKPbc	PKPbc	21 28 58.8	-0.8
	comp=Z,0.3nm,0.6s,baz=354,slow=3.8,SNR=1.7						

IDC 06 21:15:21.6±39.0**, 13°.80S**×**166°.93E, h0km, mb3.8**/3**, mb1 4.0**/4**, mb1mx3.6**/43**, mbtmp3.8**/4**, ML3.6**/1**, Error ellipse: s-maj=662.7km s-min=52.4km az=56.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.24	183	Pn	Pn	21 17 21.9	-0.6
	0.7nm,0.3s,baz=354,slow=18,SNR=6.1						
DZM				Sn	Sn	21 18 48.5	-7.9
	baz=88,slow=16,SNR=1.2						
STKA	Stephens Creek	29.35	228	P	P	21 21 27.2	+0.9
	2.0nm,0.7s,baz=46,slow=7.9,SNR=4.9						
WRA	Warramunga Arr	31.74	254	P	P	21 21 47.4	-0.3
	0.8nm,0.9s,baz=87,slow=8.9,SNR=5.4						
ASAR	Alice Springs	32.71	248	P	P	21 21 55.7	-0.4
	0.6nm,0.7s,baz=77,slow=9.0,SNR=6.5						

*IDC **06** 21:21:17.1±0.8, 13°.98S×166°.76E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/38, mbtmp4.2/10, ML3.8/1, MS3.5/10, Ms1 3.5/10, ms1mx3.1/60, Error ellipse: s-maj=31.1km s-min=20.7km az=110.0*

*NEIC **06** 21:21:23.2±2.2, 14°.1S±0°.1×166°.7E±0°.1, h35km±2km, mb4.5/19, Error ellipse: s-maj=23.7km s-min=17.4km az=88.0*

*NOU **06** 21:21:28.1, 14°.58S×167°.16E, h0km, ML4.5/7, Vanuatu Islands*

ISC 06 21:21:22.7±0.6**, 14°.07S**±0°.08×**166°.7E**±0°.1**, h35km, n55, σ1s.05**/48**, mb4.4**/19**, MS3.5**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOUNC	Koumac, New Ca	6.85	199	Pn	Pn	21 23 00.8	+0.1
KOUNC	Koumac, New Ca	6.85	199	P	Pn	21 23 05.2	+4.6
MARNC	Mare, Loyalty	7.47	171	Pn	Pn	21 23 10.5	+1.3
YATNC	Mamie plateau,	7.95	179	P	Pn	21 23 18.2	+2.5
DZM	Mont Dzumac	7.96	182	Pn	Pn	21 23 15.1	-0.9
	1.2nm,0.3s,baz=312,slow=12,SNR=16						
DZM				Sn	Sn	21 24 44.3	-0.7
	0.6nm,0.3s,baz=300,slow=13,SNR=1.6						
DZM				LR	LR	21 26 06.4	
	comp=Z,196nm,19.4s,baz=310,slow=36						
DZM	Mont Dzumac	7.96	182		Pn	21 23 15.2	-0.8
OUENC	Ouen Island, N	8.30	179	Pn	Pn	21 23 21.9	+1.3
OUENC	Ouen Island, N	8.30	179	P	Pn	21 23 22.4	+1.8
EIDS	Eidsvold	18.50	230		Pn	21 25 37.2	+1.0
PMG	Port Moresby	19.70	281	LR	LR	21 33 05.9	
	comp=Z,211nm,18.1s,baz=138,slow=36						
CTA	Charters Tower	20.45	250	LR	LR	21 32 24.4	
	comp=Z,103nm,20.1s,baz=78,slow=32						
AFI	Afiamalu	20.87	92	LR	LR	21 32 19.0	
	comp=Z,71nm,21.3s,baz=285,slow=32						
URZ	Urewera	25.80	161	LR	LR	21 35 46.5	
	comp=Z,141nm,18.1s,baz=30,slow=34						
BKZ	Black Stump Fm	26.44	163	P	P	21 26 55.6	-0.7
BKZ				IAmb	IAmb	21 27 21.5	
	comp=Z,15nm,1.2s						
STKA	Stephens Creek	29.02	228	P	P	21 27 20.4	+1.0
	comp=Z,2.0nm,0.6s,baz=37,slow=10.0,SNR=8.3						
STKA				LR	LR	21 38 20.7	
	comp=Z,160nm,18.2s,baz=26,slow=35						
STKA	Stephens Creek	29.02	228	P	P	21 27 19.8	+0.4
WB0	Warramunga Arr	31.40	255	P	P	21 27 39.4	-1.3
WB0				IAmb	IAmb	21 27 55.6	
	comp=Z,8.1nm,1.4s						
WRA	Warramunga Arr	31.47	255	P	P	21 27 40.0	-1.3
	comp=Z,1.2nm,0.7s,baz=85,slow=8.9,SNR=10						
WRA				LR	LR	21 39 32.7	
	comp=Z,104nm,19.7s,baz=146,slow=35						
WRA	Warramunga Arr	31.47	255	P	P	21 27 41.0	-0.3
AS31	Alice Springs	32.41	248	P	P	21 27 48.5	-1.0
ASAR	Alice Springs	32.41	248	P	P	21 27 48.6	-0.9
	comp=Z,1.7nm,0.7s,baz=73,slow=9.5,SNR=26						
ASAR	Alice Springs	32.41	248	P	P	21 27 48.3	-1.3
BBOO	Buckleboo	33.56	231	P	P	21 27 58.4	-1.1
KNRA	Kununurra	36.68	263	P	P	21 28 26.3	-0.2
FORT	Forrest	39.18	238	P	P	21 28 47.8	+0.3
FITZ	Fitzroy Crossi	39.61	259	LR	LR	21 45 19.1	
	comp=Z,118nm,18.4s,baz=105,slow=36						
FITZ	Fitzroy Crossi	39.61	259	P	P	21 28 50.2	-1.0
FITZ				IAmb	IAmb	21 29 06.1	
	comp=Z,5.1nm,1.2s						
MJAR	Matsushiro Arr	57.08	333	LR	LR	21 57 38.4	
	comp=Z,16nm,18.0s,baz=134,slow=38						
VNDA	Vanda	63.50	181	P	P	21 31 50.1	+1.3
	comp=Z,1.6nm,0.7s,baz=6.7,slow=6.0,SNR=8.3						
VNDA	Vanda	63.50	181	P	P	21 31 50.2	+1.3
VNDA				IAmb	IAmb	21 31 55.4	
	comp=Z,6.2nm,1.4s						
SBA	Scott Base	63.79	180	P	P	21 31 50.7	0.0
SBA				IAmb	IAmb	21 32 03.6	
	comp=Z,6.3nm,1.2s						
CM31	Chiang Mai Arr	74.19	294	P	P	21 32 58.1	+1.7
CM31				IAmb	IAmb	21 32 58.9	
	comp=Z,5.6nm,1.1s						
CMAR	Chiang Mai Arr	74.19	294	P	P	21 32 58.0	+1.6
	comp=Z,1.9nm,0.9s,baz=124,slow=4.8,SNR=12						
CMAR	Chiang Mai Arr	74.19	294	P	P	21 32 57.4	+1.0
QSPA	South Pole Qui	75.95	180	P	P	21 33 05.6	-0.3
RPN	Rapa Nui	78.42	115	LR	LR	21 58 35.8	
	comp=Z,35nm,21.9s,baz=216,slow=28						
ULN	Ulaanbaatar	81.29	324	P	P	21 33 36.3	+0.8
ULN				IAmb	IAmb	21 33 37.5	
	comp=Z,4.5nm,0.8s						
SONM	Songino Array	81.65	324	P	P	21 33 37.9	+0.6
	comp=Z,1.4nm,0.8s,baz=140,slow=7.2,SNR=8.7						
J20K	Nowinta River	83.54	16	P	P	21 33 48.2	+1.6
J20K				IAmb	IAmb	21 34 09.9	
	comp=Z,7.2nm,1.5s						
RND	Reindeer	84.48	18	P	P	21 33 52.3	+0.7
RND				IAmb	IAmb	21 34 11.1	
	comp=Z,7.0nm,1.4s						
ILAR	Eielson Array	86.07	18	P	P	21 33 58.1	-1.2
	comp=Z,0.8nm,0.8s,baz=240,slow=5.3,SNR=8.2						
BELA	Belgrano 2	87.42	176	P	P	21 34 04.0	-1.9
BELA				IAmb	IAmb	21 34 10.5	
	comp=Z,2.1nm,1.1s						
MK31	Makanchi Array	96.36	317	P	P	21 34 47.8	-0.1
MK31				IAmb	IAmb	21 34 49.1	
	comp=Z,1.2nm,0.9s						
MKAR	Makanchi Array	96.36	317	P	P	21 34 48.4	+0.4
	comp=Z,1.0nm,0.7s,baz=98,slow=5.9,SNR=13						
MKAR	Makanchi Array	96.36	317	P	P	21 34 47.9	0.0
ZALV	Zalesovo Beam	96.55	324	P	P	21 34 47.4	-1.2
	comp=Z,1.3nm,0.7s,baz=112,slow=6.6,SNR=6.5						
ZALV	Zalesovo Beam	96.55	324	P	P	21 34 47.6	-0.9
ARCES	ARCESS Array B	119.48	345	PKP	PKPdf	21 40 07.2	-0.8
	comp=Z,1.9nm,0.7s,baz=67,slow=1.9,SNR=9.4						
FINES	FINESS Array B	124.92	338	PKP	PKPdf	21 40 17.9	-0.7
	comp=Z,1.8nm,0.8s,baz=77,slow=4.1,SNR=4.5						
NOA	NORSAR Array B	129.85	345	PKP	PKPdf	21 40 27.7	-0.4
	comp=Z,0.6nm,0.7s,baz=35,slow=2.1,SNR=2.6						
AKASG	Malin Array Be	129.89	326	PKP	PKPdf	21 40 28.0	-0.4
	comp=Z,0.3nm,0.4s,baz=71,slow=2.3,SNR=4.3						
GERES	GERESS Array B	138.82	333	PKP	PKPdf	21 40 44.7	-0.7
	comp=Z,0.2nm,0.4s,baz=90,slow=1.0,SNR=1.7						
KEST	Kesra	150.36	321	PKPbc	PKPbc	21 41 10.8	-0.2
	comp=Z,5.2nm,0.7s,baz=121,slow=3.6,SNR=5.5						
ESDC	Sonseca Array	153.21	344	PKPbc	PKPbc	21 41 17.0	-0.3
	comp=Z,0.7nm,0.8s,baz=29,slow=2.9,SNR=5.1						
TORD	Torodi Ar. Bea	165.41	268	PKP	PKPdf	21 41 24.6	+0.1
	comp=Z,0.4nm,0.7s,baz=102,slow=2.1,SNR=2.3						

*IDC **06** 21:43:49.1±3.6, 55°.98N×157°.92W, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.2/47, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=70.7km s-min=30.4km az=163.0*

*NEIC **06** 21:43:56.8±1.2, 57°.01N±0°.06×157°.97W±0°.07, h15km±9km, Error ellipse: s-maj=8.2km s-min=5.4km az=174.0*

*AEIC **06** 21:43:56.5±1.5, 57°.05N±0°.05×157°.95W±0°.07, h13km±6km, ML3.2/16, ML3.4/26(NEIC), Error ellipse: s-maj=7.3km s-min=5.2km az=182.0*

ISC 06 21:43:56.6±1.2**, 57°.02N**±0°.06×**158°.00W**±0°.05**, h16km**±9km**, n47, σ0s.63**/51**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.13	244		Pg	21 44 00.7	+0.3
AZAC	Aniakchak	0.18	225		Pg	21 44 00.9	-0.2
VNHG	Veniaminof 1	1.03	219		Pb	21 44 15.7	-0.4
VNFG	Fog Glacier, M	1.13	230		Pb	21 44 18.0	+0.1
VNFG	Fog Glacier, M	1.13	230	P	Pb	21 44 18.0	+0.1
	baz=48						
CHIR	Chirikof Islan	1.79	131		Pn	21 44 27.0	+0.1
CHIR					Sb	21 44 50.7	-0.5
CHIR	Chirikof Islan	1.79	131	IAML		21 45 00.8	
	comp=N,455nm,0.7s						
CHIR	Chirikof Islan	1.79	131	P	Pn	21 44 27.0	+0.1
	baz=314						
CHIR				S	Sb	21 44 50.7	-0.5
	baz=314						
SII	Sitkinak Islan	2.15	101		Pn	21 44 32.0	+0.2
SII					Sb	21 45 00.9	-0.6
SII	Sitkinak Islan	2.15	101	P	Pn	21 44 32.0	+0.2
	baz=285						
SII				S	Sb	21 45 01.0	-0.6
	baz=285						
SDPT	Sand Point	2.18	221		Pn	21 44 33.5	+1.3
SDPT	Sand Point	2.18	221	IAML		21 45 10.3	
	comp=E,263nm,0.6s						
SDPT				IAML		21 45 10.3	
	comp=N,233nm,0.5s						
SDPT	Sand Point	2.18	221	P	Pn	21 44 33.5	+1.3
	baz=38						
OHAK	Old Harbor	2.58	84		Pn	21 44 37.6	0.0
OHAK					Sn	21 45 09.7	+1.0
OHAK	Old Harbor	2.58	84	P	Pn	21 44 37.6	0.0
	baz=268						
OHAK				S	Sn	21 45 09.7	+1.0
	baz=268						
P18K	Big Mountain,	2.79	31		Pn	21 44 40.1	-0.6
Q19K	Cape Douglas,	3.00	49	Pn	Pn	21 44 42.5	-1.1
Q19K				IAML		21 45 48.6	
	comp=N,147nm,1.2s						
KDAK	Kodiak Island	3.03	73	Pn	Pn	21 44 44.1	+0.3
	comp=N,5.4nm,0.3s,baz=212,slow=3.2,SNR=110						
KDAK				Sn	Sn	21 45 19.9	+0.2
	comp=N,4.4nm,0.3s,baz=282,slow=7.3,SNR=4.6						
KDAK	Kodiak Island	3.03	73		Pn	21 44 44.3	+0.4
KDAK	Kodiak Island	3.03	73	P	Pn	21 44 44.3	+0.4
	baz=258						
N19K	Bonanza Creek	4.21	24		Pn	21 45 00.3	0.0
N19K	Bonanza Creek	4.21	24	IAML		21 46 12.3	
	comp=N,45nm,1.1s						
N19K				IAML		21 46 19.4	
	comp=E,56nm,0.7s						
N19K	Bonanza Creek	4.21	24	P	Pn	21 45 00.3	0.0
	baz=207						
SVW2	Sparrevohn	4.27	16		Pn	21 45 01.1	+0.2
SVW2				IAML		21 46 17.3	
	comp=N,41nm,0.5s						
SVW2				IAML		21 46 21.8	
	comp=E,54nm,0.8s						
CNPM	China Poot	4.36	52	Pn	Pn	21 45 03.1	+0.9
CNPM				IAML		21 45 38.8	
	comp=E,42nm,2.5s						
CNPM				IAML		21 46 14.2	
	comp=N,46nm,2.4s						
RDWB	Redoubt West	4.39	36		Pn	21 45 03.0	+0.3
M19K	Big River Lodg	5.23	19		Pn	21 45 14.0	-0.1
M19K				IAML		21 46 53.1	
	comp=N,25nm,0.8s						
L19K	White Mountain	5.41	16		Pn	21 45 16.3	-0.4
L19K	White Mountain	5.41	16	P	Pn	21 45 16.3	-0.4
	baz=198						
L20K	Farewell, AK	5.85	19		Pn	21 45 23.1	+0.4
L20K	Farewell, AK	5.85	19	P	Pn	21 45 23.1	+0.4
	baz=202						
TTA	Tatalina	6.01	9	Pn	Pn	21 45 24.7	-0.2
PPLA	Purkeypile	6.57	24	Pn	Pn	21 45 33.6	+1.0
K20K	Telida	6.65	15	Pn	Pn	21 45 32.0	-1.5
SPIA	Saint Paul Isl	6.68	276	Pn	Pn	21 45 35.3	+1.4
CAST	Castle Rocks	7.06	22	Pn	Pn	21 45 39.2	0.0
SCM	Sheep Creek Mo	7.27	44	Pn	Pn	21 45 42.3	+0.2
J20K	Nowinta River	7.42	13	Pn	Pn	21 45 44.7	+0.6
KTH	Kantishna Hill	7.43	25	Pn	Pn	21 45 43.6	-0.7
TRF	Thorofare Moun	7.50	28	Pn	Pn	21 45 46.4	+1.0
KLU	Klutina	7.63	49	Pn	Pn	21 45 47.7	+0.6
BPAW	Bear Paw Mtn.	7.89	23	Pn	Pn	21 45 51.0	+0.5
DHY	Denali Highway	8.06	37	Pn	Pn	21 45 53.1	+0.1
ANM	Nome	8.37	338	Pn	Pn	21 45 57.7	+0.5
ILAR	Eielson Array	9.46	30	Pn	Pn	21 46 12.4	+0.4
	comp=N,0.1nm,0.3s,baz=217,slow=13,SNR=6.9						
YKA	Yellowknife Ar	22.18	58	P	P	21 48 51.4	-0.3
	comp=N,0.5nm,0.7s,baz=273,slow=10,SNR=9.1						
SONM	Songino Array	54.36	304	P	P	21 53 22.0	-0.4
	comp=N,0.2nm,0.4s,baz=49,slow=6.5,SNR=2.2						

IDC 06 21:47:06.3±3.7**, 29°.71S**×**137°.59E, h0km, mb1 2.8**/3**, mb1mx2.8**/27**, mbtmp2.6**/3**, ML2.6**/3**, Error ellipse:**

s-maj=88.5km s-min=22.6km az=49.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.06**	**123**	Pn	Pn	21 48 09.7	-0.2
	0.2nm,0.3s,baz=300,slow=14,SNR=3.9						
STKA				Sn	Sn	21 48 58.6	+0.5
	0.3nm,0.3s,baz=0.4,slow=16,SNR=3.2						
ASAR	**Alice Springs**	**6.87**	**330**	Pn	Pn	21 48 49.1	+0.8
	0.1nm,0.3s,baz=174,slow=8.0,SNR=8.4						
ASAR				Sn	Sn	21 50 07.2	-0.1
	0.1nm,0.3s,baz=156,slow=22,SNR=2.5						
WRA	**Warramunga Arr**	**10.16**	**342**	Pn	Pn	21 49 34.2	+0.6
	0.1nm,0.3s,baz=164,slow=13,SNR=4.6						
WRA				Sn	Sn	21 51 26.8	-1.6
	0.0nm,0.3s,baz=163,slow=23,SNR=2.0						

IDC 06 21:49:22.2±4.6**, 13.°38S×167.°76E, h0km, mb3.3**/3**, mb1 3.6**/3**, mb1mx3.2**/33**, mbtmp3.3**/3**, Error ellipse: s-maj=257.6km s-min=35.2km az=143.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.63**	**254**	P	P	21 55 55.6	-0.5
	0.3nm,0.8s,baz=85,slow=9.2,SNR=1.6						
ASAR	**Alice Springs**	**33.61**	**247**	P	P	21 56 05.4	+0.7
	0.2nm,0.6s,baz=73,slow=9.8,SNR=1.6						
ILAR	**Eielson Array**	**85.10**	**18**	P	P	22 02 00.3	+0.7
	0.2nm,0.5s,baz=231,slow=5.9,SNR=5.0						
ARCES	**ARCESS Array B**	**119.07**	**346**	PKP	PKPdf	22 08 11.2	-1.3
	1.4nm,0.7s,baz=52,slow=2.0,SNR=5.4						

PRU 06 21:59:51.3±0.0**, 50.°01N×19.°06E, h0km, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.90**	**163**	*e*PG	Pb	22 00 10.1	+0.3
LANS				*e*SG	Sn	22 00 24.4	-0.6
MORC	**Moravsky Berou**	**1.01**	**257**	*e*PG	Pg	22 00 09.4	-1.2
KRLC	**Kraliky**	**1.47**	**273**	*e*PG	Pn	22 00 15.6	-3.5
VYHS	**Vyhne**	**1.52**	**186**	*e*SN	Sn	22 00 43.7	+3.4
DPC	**Dobruska-Polom**	**1.79**	**282**	*e*PG	Pn	22 00 21.4	-2.1
KRUC	**Moravsky**	**1.98**	**242**	*e*PG	Pg	22 00 30.1	+0.9
KRUC				*e*SG	Sn	22 00 51.4	-0.1
CHVC	**Chvalec**	**2.01**	**288**	*e*PG	Pn	22 00 26.9	+0.4

PRU 06 22:00:02.2±0.0**, 49.°89N×18.°47E, h0km, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.21**	**256**	*e*PG	Pg	22 00 06.0	-0.3
OKC				*e*SG	Sg	22 00 10.2	+1.1
MORC	**Moravsky Berou**	**0.61**	**260**	*e*PG	Pg	22 00 13.8	-0.1
MORC				*e*SG	Sg	22 00 21.7	-0.1
KRLC	**Kraliky**	**1.11**	**280**	*e*PG	Pg	22 00 21.6	-1.8
KRLC				*e*SG	Sg	22 00 35.4	-2.3
	comp=Z,3.1nm,0.3s						
JAVC	**Velka Javorina**	**1.16**	**207**	*e*PG	Pg	22 00 23.0	-1.3
VRAC	**Vranov**	**1.35**	**245**	*e*PG	Pg	22 00 26.6	-1.5
VRAC				*e*SG	Sg	22 00 44.3	-1.3
DPC	**Dobruska-Polom**	**1.46**	**289**	*e*PG	Pn	22 00 28.5	-1.3
OSTC	**Ostas**	**1.59**	**296**	*e*PG	Pn	22 00 31.0	-0.7
OSTC				*e*SG	Sn	22 00 52.9	-0.1
CHVC	**Chvalec**	**1.70**	**295**	*e*PG	Pn	22 00 33.0	-0.2

*IDC **06** 22:06:19.2±1.0, 49.°48N×28.°44W, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.7/54, mbtmp3.7/13, ML3.1/1, MS3.6/15, Ms1 3.6/15, ms1mx3.2/97, Error ellipse: s-maj=30.9km s-min=17.5km az=10.0*

ISC 06 22:06:21.7±0.9**, 49.°4N**±0.°2×**28.°4W**±0.°1**, h17km, n22,** σ**0.s96**/13**, mb3.8**/12**, MS3.5**/14**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.89**	**110**	P	**Pn**	**22 10 53.4**	**-0.4**
	0.0nm,0.3s,baz=309,slow=8.1,SNR=4.7						
ESDC				LR	LR	22 17 13.5	
	comp=Z,103nm,18.7s,baz=337,slow=33						
NOA	**NORSAR Array B**	**25.00**	**47**	LR	LR	22 20 54.2	
	comp=Z,118nm,18.7s,baz=260,slow=35						
DAVOX	**Davos/Dischmat**	**25.53**	**81**	LR	LR	22 21 30.9	
	comp=Z,146nm,18.4s,baz=308,slow=36						
FRB	**Frobisher Bay**	**25.80**	**319**	LR	LR	22 19 43.8	
	comp=Z,82nm,19.1s,baz=145,slow=31						
GERES	**GERESS Array B**	**27.31**	**75**	P	**P**	**22 12 06.8**	**+1.4**
	0.5nm,0.8s,baz=295,slow=9.4,SNR=4.3						
GERES				LR	LR	22 21 34.5	
	comp=Z,137nm,19.9s,baz=290,slow=34						
VRAC	**Vranov**	**28.98**	**73**	LR	LR	22 23 40.8	
	comp=Z,61nm,18.0s,baz=312,slow=36						
FINES	**FINESS Array B**	**32.18**	**47**	P	**P**	**22 12 48.7**	**+0.5**
	5.6nm,1.1s,baz=264,slow=6.3,SNR=2.0						
FINES				LR	LR	22 24 57.3	
	comp=Z,136nm,18.7s,baz=244,slow=35						
AKASG	**Malin Array Be**	**36.22**	**65**	P	**P**	**22 13 22.0**	**-1.3**
	0.6nm,0.6s,baz=285,slow=8.6,SNR=2.0						
AKASG				LR	LR	22 30 37.6	
	comp=Z,90nm,18.8s,baz=304,slow=40						
TORD	**Torodi Ar. Bea**	**43.82**	**135**	P	**P**	**22 14 26.8**	**0.0**
	1.7nm,1.0s,baz=332,slow=8.6,SNR=8.4						
TORD				LR	LR	22 31 13.9	
	comp=Z,64nm,20.8s,baz=232,slow=34						
YKA	**Yellowknife Ar**	**46.30**	**320**	P	**P**	**22 14 45.9**	**0.0**
	1.3nm,1.0s,baz=64,slow=7.8,SNR=8.3						
DBIC	**Dimbokro**	**47.00**	**147**	LR	LR	22 32 33.5	
	comp=Z,69nm,18.7s,baz=327,slow=34						
GNI	**Garni**	**50.85**	**71**	LR	LR	22 39 50.3	
	comp=Z,43nm,18.2s,baz=314,slow=40						
PDAR	**Pinedale Array**	**54.10**	**296**	P	**P**	**22 15 43.9**	**-1.7**
	0.7nm,0.5s,baz=41,slow=6.0,SNR=3.9						
ANMO	**Albuquerque**	**57.11**	**287**	LR	LR	22 40 56.1	
	comp=Z,68nm,19.3s,baz=66,slow=36						
TXAR	**Lajitas Array**	**59.05**	**280**	P	**P**	**22 16 21.2**	**+0.4**
	0.3nm,0.8s,baz=62,slow=6.2,SNR=2.2						
TXAR				LR	LR	22 42 05.7	
	comp=Z,57nm,18.2s,baz=26,slow=36						
NVAR	**Mina Array Bea**	**61.98**	**297**	P	**P**	**22 16 42.0**	**+1.2**
	0.3nm,0.5s,baz=60,slow=5.3,SNR=1.7						
YBH	**Yreka Blue Hor**	**62.25**	**303**	LR	LR	22 40 49.2	
	comp=Z,53nm,18.9s,baz=104,slow=33						
KURBB	**Kurchatov Arra**	**62.45**	**43**	P	**P**	**22 16 42.8**	**-0.7**
	1.0nm,0.8s,baz=318,slow=7.3,SNR=7.2						
AAK	**Ala-Archa**	**66.21**	**52**	P	**P**	**22 17 08.8**	**+0.3**
	1.0nm,0.9s,baz=282,slow=7.8,SNR=4.0						
LPIG	**La Paz**	**66.94**	**280**	LR	LR	22 44 33.1	
	comp=Z,73nm,19.4s,baz=32,slow=34						
MKAR	**Makanchi Array**	**66.95**	**44**	P	**P**	**22 17 12.7**	**-0.3**
	1.2nm,0.9s,baz=331,slow=5.6,SNR=11						
SONM	**Songino Array**	**75.55**	**30**	P	**P**	**22 18 05.5**	**+0.4**
	0.1nm,0.4s,baz=352,slow=5.8,SNR=2.7						

IDC 06 22:13:28.2±1.3**, 3.°76N×125.°63E, h0km, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.2**/45**, mbtmp3.4**/4**, Error ellipse: s-maj=149.4km s-min=20.5km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.06**	**160**	P	P	22 18 53.5	-0.9
	0.8nm,0.8s,baz=339,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**28.43**	**164**	P	P	22 19 26.0	+1.1
	0.1nm,0.4s,baz=337,slow=9.1,SNR=1.6						
SONM	**Songino Array**	**46.93**	**342**	P	P	22 22 01.2	+0.5
	0.3nm,0.5s,baz=148,slow=6.2,SNR=2.9						
MKAR	**Makanchi Array**	**56.91**	**326**	P	P	22 23 15.2	+0.1
	0.2nm,0.3s,baz=124,slow=8.2,SNR=10.0						
MKAR				PcP	PcP	22 24 10.6	0.0
	0.3nm,0.5s,baz=131,slow=3.2,SNR=3.8						
KURBB	**Kurchatov Arra**	**61.12**	**328**	P	P	22 23 43.6	-0.6
	baz=126,slow=6.5						

*BJI **06** 22:19:15.8±0.0, 3.°56N×126.°70E, h32km, mb4.8/68, mB4.9/35, Ms4.4/48, Ms7 4.2/49*

*MOS **06** 22:19:19.7±0.9, 4.°21N×126.°39E, h27km, mb5.0/33, MS4.2/4, Error ellipse: s-maj=9.1km s-min=4.3km az=117.6*

*IDC **06** 22:19:20.4±1.9, 4.°14N×126.°46E, h18km±11km, mb4.6/33, mb1 4.6/36, mb1mx4.5/51, mbtmp4.7/36, ML4.6/3, MS4.0/47, Ms1 4.0/47, ms1mx3.9/81, Error ellipse: s-maj=16.2km s-min=7.9km az=69.0*

*DJA **06** 22:19:21.0±0.6, 4°N±2°×12°7E±°, h26km±4km, M4.9/84, mb5.0/84, mB5.4/34, MLv5.2/15, Mw(mB)4.8/34, MwMwp4.5/3, Mwp4.9/3*

*GCMT **06** 22:19:23.0±0.4, 4.°19N±0.°03×126.°76E±0.°02, h32km±1km, MW5.0/62, Moment Tensor Solution. s38,c42; s62,c75; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.00±.20; Mθθ-0.07±.12; Mφφ-2.93±.13; Mrθ0.70±.15; Mθφ-0.90±.09; Mφr1.74±.17; Best double couple: M0 3.61800×10^16 NP1:φs193.00000°, δ30.00000°, λ84.00000°. NP2: φs19.00000°, δ61.00000°, λ93.00000°. Principal axes: T 3.5290, Plg74.0000°, Azm298.0000°; N 0.1760, Plg3.0000°, Azm198.0000°; P -3.7070, Plg16.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **06** 22:19:23.1±1.6, 4.°16N±0.°05×126.°61E±0.°06, h35km±1km, mb5.0/121 Error ellipse: s-maj=10.9km s-min=8.6km az=266.0*

*MAN **06** 22:19:28.7, 4.°19N×126.°16E, h102km, mb5.5, ML4.6, MS4.8, Hypocentre not reviewed by the ISC*

ISC 06 22:19:22.2±0.6**, 4.°19N**±0.°03×**126.°68E**±0.°04**, h32**km±3km**, n552,** σ**1.s55**/551**, mb4.9**/167**, MS4.1**/66**, 55C-28D, Fault plane solution: NP1:**φs34.81229°**,** δ42.34529°**,** λ77.27911°. **NP2:**φs231.79652°**,** δ48.92373°**,** λ101.34776°. **Principal axes:** T Plg80.8357°, Azm202.6742°**;** N Plg8.5300°, Azm44.2846°**;** P Plg3.3255°, Azm313.7853°**; Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.25**	**246**	P	**Pb**	**22 19 44.1**	**-1.2**
DDMP	**Don Marcelino,**	**2.13**	**333**	*e*P	**Pn**	**22 19 56.6**	**+1.1**
MATI	**Mati**	**2.77**	**351**	*e*P	**Pb**	**22 20 08.4**	**-2.6**
DAV	**Davao City (W)**	**3.06**	**339**	Pn	**Pn**	**22 20 07.6**	**-0.8**
	67nm,0.3s,baz=180,slow=6.9,SNR=1.8						
DAV				Pg	**Pb**	**22 20 16.5**	**+0.4**
	53nm,0.3s,baz=98,slow=4.8,SNR=14						
DAV				Lg	Lg	22 20 52.9	
	132nm,0.3s,baz=289,slow=21,SNR=2.3						
DAV	**Davao City (W)**	**3.06**	**339**	Pn	**Pn**	**22 20 07.2**	**-1.2**
KCP	**Kidapawan**	**3.21**	**331**	⇑*e*P	**Pn**	**22 20 13.3**	**+2.7**
KCP				*i* S	**Sb**	**22 21 01.4**	**+3.9**
TNTI	**Ternate**	**3.47**	**169**	Pn	**Pn**	**22 20 13.4**	**-0.5**
TNTI	**Ternate**	**3.47**	**169**	P	**Pn**	**22 20 15.2**	**+1.2**
TNTI	**Ternate**	**3.47**	**169**	P	**Pn**	**22 20 14.9**	**+0.9**
CTBH	**Cotabato--PC H**	**3.86**	**321**	⇑*e*P	**Pn**	**22 20 22.4**	**+2.9**
CTBH				*i* S	**Sb**	**22 21 10.8**	**-5.2**
BIPH	**Bislig**	**3.98**	**355**	⇓*e*P	**Pn**	**22 20 24.1**	**+3.1**
BIPH				*e*S	**Sb**	**22 21 21.1**	**+1.7**
KMSI	**Cibinong**	**4.49**	**217**	P	**Pn**	**22 20 30.8**	**+2.7**
LBMI	**Labuha**	**4.87**	**170**	P	**Pn**	**22 20 34.4**	**+1.1**
	1.8nm4μm156nm,0.7s						
PAGZ	**Pagadian**	**4.89**	**318**	*e*P	**Pn**	**22 20 37.7**	**+4.1**
GTOI	**Gorontalo**	**5.09**	**226**	P	**Pn**	**22 20 39.2**	**+2.9**
	0.5nm1μm100nm,0.7s						
ZCP	**Zamboanga City**	**5.33**	**301**	⇑*i*P	**Pn**	**22 20 41.3**	**+1.7**
ZCP				*i* S	**Sn**	**22 21 40.0**	**0.0**
DCPH	**Dipolog City**	**5.47**	**323**	⇓*e*P	Pb	22 20 49.4	-7.7
GLSP	**General Luna,**	**5.58**	**354**	*e*P	Pb	22 20 50.9	-8.0
MRSI	**Marisa**	**6.00**	**232**	P	**Pn**	**22 20 51.5**	**+2.6**
	1.9nm5μm506nm,0.6s						
TBP	**Tagbilaran**	**6.14**	**333**	*e*P	**Pn**	**22 20 50.9**	**+0.2**
TBP				*i* S	Sb	22 22 33.5	+12
SNPH	**Sibulan**	**6.16**	**326**	*i* P	Pn	22 20 59.2	+8.2
MSLP	**Maasin**	**6.17**	**343**	*e*P	Pn	22 20 59.0	+7.8
SANI	**Sanana**	**6.24**	**186**	P	**Pn**	**22 20 50.8**	**-1.3**
	0.5nm2μm75nm,0.8s						
SANI	**Sanana**	**6.24**	**186**	P	**Pn**	**22 20 52.5**	**+0.4**
LUWI	**Luwuk**	**6.50**	**217**	Pn	**Pn**	**22 20 56.8**	**+1.0**
LUWI	**Luwuk**	**6.50**	**217**	P	Pn	22 21 01.0	+5.3
	3.9nm9μm1μm,1.2s						
LUWI	**Luwuk**	**6.50**	**217**	P	Pn	22 21 00.3	+4.6
TOLI2	**Tolitoli**	**6.64**	**243**		**Pn**	**22 20 57.0**	**-0.6**
SWI	**Sorong**	**6.79**	**138**	P	**Pn**	**22 21 00.6**	**+0.9**
	0.6nm2μm156nm,0.6s						
SIJI	**Sorong**	**6.80**	**138**	Pn	**Pn**	**22 21 01.1**	**+1.2**
	27nm,0.3s,baz=337,slow=9.8,SNR=62						
SIJI				Sn	**Sn**	**22 22 16.4**	**+0.1**
	2.6nm,0.3s,baz=206,slow=23,SNR=1.5						
SIJI				LR	LR	22 24 05.8	
	comp=Z,2μm,18.5s,baz=332,slow=41						
APSI	**Ampana**	**7.14**	**225**	P	**Pn**	**22 21 07.5**	**+3.0**
	1.1nm3μm263nm,1.1s						
MPSI	**Mapaga**	**7.78**	**241**	P	**Pn**	**22 21 17.0**	**+3.7**
	2μm958nm76nm,0.8s						
MSAI	**Masohi**	**7.82**	**163**	P	**Pn**	**22 21 15.4**	**+1.6**
	0.1nm15nm,0.6s						
AAI	**Ambon**	**7.97**	**169**	P	**Pn**	**22 21 18.1**	**+2.2**
	2μm58nm,1.1s						
RCP	**Roxas**	**8.29**	**332**	⇑*e*P	**Pn**	**22 21 24.4**	**+4.0**
TTSI	**Tana Toraja**	**9.94**	**224**	P	**Pn**	**22 21 46.3**	**+3.4**
	3μm94nm,0.8s						
KKM	**Kota Kinabalu**	**10.59**	**280**	Pn	**Pn**	**22 21 52.9**	**+1.0**
KKM	**Kota Kinabalu**	**10.59**	**280**	P	Pn	22 21 57.5	+5.6
SPSI	**Sidrap Palu**	**10.65**	**221**	P	**Pn**	**22 21 56.7**	**+4.1**
	614nm42nm,1.1s						
BNSI	**Bone**	**10.77**	**218**	P	**Pn**	**22 21 58.8**	**+4.5**
	46nm,1.1s						
BAKI	**Biak**	**10.83**	**119**	P	**Pn**	**22 21 52.7**	**-2.5**
	3μm182nm,1.2s						
LQP	**Lukban**	**11.08**	**333**	*e*P	Pn	22 22 06.0	+7.2
KAPI	**Kappang**	**11.47**	**217**	LR	LR	22 26 58.5	
	comp=Z,1μm,20.1s,baz=37,slow=41						
KAPI	**Kappang**	**11.47**	**217**	P	**Pn**	**22 22 02.7**	**-1.2**
KAPI	**Kappang**	**11.47**	**217**	Pn	**Pn**	**22 22 02.7**	**-1.2**
BKSI	**Bulukumba**	**11.50**	**215**	P	**Pn**	**22 22 08.5**	**+4.2**
	334nm25nm,1.2s						
BSSI	**Bau Bau, Buton**	**11.98**	**211**	P	**Pn**	**22 22 14.5**	**+3.6**
	355nm25nm,0.8s						
MTKI	**Muara Teweh, K**	**12.83**	**247**	P	**Pn**	**22 22 26.9**	**+4.3**
	60nm,1.0s						
MMRI	**Maumere**	**13.49**	**199**	P	P	22 22 47.3	+6.9
BBKI	**Banjar Baru**	**14.06**	**237**	P	**P**	**22 22 44.3**	**-2.4**
	100nm,1.5s						
SBUM	**Sibu**	**14.54**	**264**	Pn	**Pn**	**22 22 46.1**	**+0.2**
BATI	**Baumata**	**14.62**	**192**	P	**P**	**22 22 50.0**	**-2.9**
	4μm39nm,0.9s						
JAY	**Jayapura**	**15.52**	**115**	Pn	**P**	**22 23 01.9**	**-1.0**
	1.5nm,0.3s,baz=257,slow=14,SNR=5.9						
JAY				LR	LR	22 28 00.5	
	comp=Z,952nm,21.9s,baz=336,slow=33						
PLAI	**Plampang**	**15.69**	**214**	P	**P**	**22 23 03.2**	**-1.6**
	1μm129nm,1.1s						
PLAI	**Plampang**	**15.69**	**214**	P	**Pn**	**22 23 02.7**	**+1.7**
STKI	**Sintang**	**15.73**	**255**	P	**P**	**22 23 07.4**	**+2.1**
PBKI	**Pangkalan Bun**	**16.49**	**246**	P	**P**	**22 23 15.8**	**+2.1**
	211nm,1.1s						
KSM	**Kuching**	**16.57**	**261**		**Pn**	**22 23 12.1**	**-0.2**
KSM				IAmb	IAmb	22 23 22.7	
	comp=Z,96nm,1.1s						
SRBI	**Singaraja**	**16.72**	**223**	P	**P**	**22 23 16.5**	**+0.3**
	comp=Z,777nmcomp=Z,49nm,1.0s						
KMMI	**Kalianget**	**16.90**	**229**	P	**P**	**22 23 19.9**	**+1.6**
	comp=Z,67nm,1.0s						
BWJI	**Bawean**	**17.19**	**235**	P	**P**	**22 23 23.3**	**+1.8**
	comp=Z,185nm,1.3s						
ABJI	**Asem Bagus**	**17.20**	**226**	P	**P**	**22 23 25.0**	**+3.4**
	comp=Z,57nm,0.9s						
IGBI	**Denpasar**	**17.30**	**222**	P	**P**	**22 23 23.1**	**+0.4**
	comp=Z,57nm,0.6s						
MTN	**Manton Dam**	**17.49**	**165**	P	**Pn**	**22 23 21.2**	**-2.6**
	baz=18,SNR=11						
MTN	**Manton Dam**	**17.49**	**165**	Pn	**Pn**	**22 23 21.1**	**-2.7**
MTN	**Manton Dam**	**17.49**	**165**	P	**Pn**	**22 23 21.6**	**-2.3**
BLJI	**Banyuglugur**	**17.64**	**228**	P	**P**	**22 23 30.6**	**+4.2**
	comp=Z,1μmcomp=Z,30nm,0.6s						
KDU	**Kakadu**	**17.73**	**161**	P	**Pn**	**22 23 23.6**	**-3.2**
	baz=18,SNR=18						
JAGI	**Jajag, Banyuwa**	**17.73**	**225**		**Pn**	**22 23 26.1**	**-0.8**
JAGI	**Jajag, Banyuwa**	**17.73**	**225**	P	**P**	**22 23 30.7**	**+3.3**
	comp=Z,911nmcomp=Z,53nm,0.8s						
JAGI	**Jajag, Banyuwa**	**17.73**	**225**	P	**P**	**22 23 29.6**	**+2.2**
GMJI	**Gumukmas**	**18.10**	**227**	P	**P**	**22 23 34.0**	**+2.5**
	comp=Z,55nm,1.1s						
PWJI	**Pagerwojo**	**19.17**	**231**	P	**P**	**22 23 42.3**	**-1.0**
TWG	**Pinlang**	**19.30**	**344**	P	**P**	**22 23 43.4**	**-1.2**
DLV	**T Lat**	**19.58**	**294**	P	**P**	**22 23 48.1**	**+0.1**
DLV				IAmb	IAmb	22 23 51.3	
	comp=Z,67nm,0.9s						
SMRI	**Semarang**	**19.68**	**235**	P	**P**	**22 23 48.6**	**-0.4**
SMRI				IAmb	IAmb	22 24 14.4	
	comp=Z,78nm,1.2s						
PCJI	**Pacitan**	**19.76**	**231**	P	**Pn**	**22 23 50.9**	**-0.5**
	comp=Z,58nm,0.9s						
YULB	**Yu-li**	**19.78**	**345**	P	**P**	**22 23 49.0**	**-0.9**
KNRA	**Kununurra**	**19.85**	**174**	P	**P**	**22 23 50.2**	**-0.4**
	baz=20,SNR=22						
KNRA	**Kununurra**	**19.85**	**174**	P	**P**	**22 23 50.0**	**-0.7**
KNRA				IAmb	IAmb	22 24 09.2	
	comp=Z,85nm,0.9s						
KNRA	**Kununurra**	**19.85**	**174**	P	**P**	**22 23 50.7**	**+0.1**
TPUB	**Ta-pu**	**19.88**	**343**	P	**P**	**22 23 50.2**	**-0.7**
TPUB				IAmb	IAmb	22 24 03.8	
	comp=Z,48nm,0.7s						
UGM	**Wanagama**	**20.11**	**233**	P	**P**	**22 23 53.0**	**-0.6**
UGM				IAmb	IAmb	22 24 31.6	
	comp=Z,68nm,1.1s						
UGM	**Wanagama**	**20.11**	**233**	P	Pn	22 23 56.4	+0.8
	comp=Z,67nm,1.4s						
YOGI	**Yogyakarta**	**20.24**	**234**	P	Pn	22 23 58.5	+1.5
	comp=Z,82nm,0.7s						
SSLB	**Suanglung**	**20.25**	**345**	P	**P**	**22 23 54.6**	**-0.4**
SSLB	**Suanglung**	**20.25**	**345**	P	**P**	**22 23 55.8**	**+0.8**
YHNB	**Yeheng**	**20.99**	**346**	P	**P**	**22 24 03.0**	**0.0**
YHNB	**Yeheng**	**20.99**	**346**	P	Pn	22 24 06.7	+0.9
KPJI	**Karang Pucung**	**21.09**	**237**	P	**P**	**22 24 04.4**	**+0.2**
	comp=Z,71nm,0.9s						
PPBI	**Pangkal Pinang**	**21.48**	**253**	P	**P**	**22 24 10.0**	**+1.6**
	comp=Z,4μmcomp=Z,22nm,0.7s						
KNMB	**Chin-men Tao**	**21.68**	**339**	P	**P**	**22 24 11.2**	**+0.8**
KNMB				IAmb	IAmb	22 24 27.7	
	comp=Z,39nm,0.7s						
LEM	**Lembang**	**21.95**	**240**	P	**P**	**22 24 13.8**	**+0.2**
	comp=Z,24nm,0.7s,baz=16,slow=18,SNR=4.9						
LEM				LR	LR	22 33 54.6	
	comp=Z,418nm,19.1s,baz=38,slow=40						
LEM	**Lembang**	**21.95**	**240**	P	**P**	**22 24 16.3**	**+2.7**
	comp=Z,22nm,0.8s						
QIZ	**Qiongzhong**	**22.09**	**313**	P	**P**	**22 24 15.8**	**+0.9**
QIZ	**Qiongzhong**	**22.09**	**313**	P	**P**	**22 24 17.0**	**+2.2**
QIZ				S	**S**	**22 28 20.1**	**+3.3**
QIZ				pmax	pmax		
	comp=Z,18nm,0.9s						
QIZ				LR	LR		
	comp=Z,350nm,19.6s						
QIZ				LR	LR		
	comp=Z,310nm,22.3s						
QIZ				LR	LR		
	comp=Z,550nm,25.7s						
FITZ	**Fitzroy Crossi**	**22.17**	**183**	P	**P**	**22 24 14.4**	**-1.2**
	comp=Z,15nm,0.6s,baz=18,slow=8.6,SNR=35						
FITZ	**Fitzroy Crossi**	**22.17**	**183**	P	**P**	**22 24 16.5**	**+0.8**
	baz=22,SNR=20						
FITZ	**Fitzroy Crossi**	**22.17**	**183**	P	**P**	**22 24 14.5**	**-1.2**
FITZ				IAmb	IAmb	22 24 34.9	
	comp=Z,33nm,0.8s						
TPRI	**Tanjung Pinang**	**22.37**	**262**	P	**P**	**22 24 17.6**	**-0.3**
	comp=Z,5μmcomp=Z,39nm,0.7s						
CBJI	**Citeko**	**22.43**	**242**	P	**P**	**22 24 19.7**	**+1.1**
	comp=Z,35μmcomp=Z,87nm,0.9s						
DSRI	**Dabo**	**22.57**	**259**	P	**P**	**22 24 21.9**	**+1.8**
	comp=Z,22nm,1.1s						
MYKOM	**Kota Tinggi**	**22.92**	**265**	P	**P**	**22 24 22.5**	**-1.3**
MYKOM				IAmb	IAmb	22 24 30.7	
	comp=Z,64nm,1.2s						
PMBI	**Palembang**	**23.01**	**252**	P	**P**	**22 24 25.4**	**+0.8**
CGJI	**Cibinong**	**23.54**	**243**	P	**P**	**22 24 27.8**	**-2.1**
	comp=Z,41nm,0.8s						
UBPT	**Khong Chiam**	**23.60**	**299**	P	**P**	**22 24 29.9**	**-0.6**
UBPT				IAmb	IAmb	22 24 31.1	
	comp=Z,73nm,1.0s						
KLSI		**23.64**	**248**	P	**P**	**22 24 30.9**	**0.0**
	comp=Z,23nm,1.2s						
KASI	**Kota Agung**	**24.17**	**247**	P	**P**	**22 24 39.4**	**+3.6**
	comp=Z,32nm,0.8s						
COEN	**Coen**	**24.35**	**138**	P	**P**	**22 24 36.5**	**-1.0**
COEN				IAmb	IAmb	22 25 09.6	
	comp=Z,97nm,1.9s						
COEN	**Coen**	**24.35**	**138**	P	**P**	**22 24 37.8**	**+0.3**
LWLI	**Liwa**	**24.38**	**248**	P	**P**	**22 24 39.0**	**+1.1**
PMG	**Port Moresby**	**24.48**	**124**	LR	LR	22 34 54.1	
	comp=Z,300nm,19.6s,baz=306,slow=38						
WB0	**Warramunga Arr**	**24.99**	**163**	P	**P**	**22 24 42.0**	**-1.2**
WRAB	**Tennant Creek**	**25.13**	**163**	*ce*P	**P**	**22 24 44.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,27nm,0.6s						
WRA	**Warramunga Arr**	**25.14**	**163**	P	**P**	**22 24 43.2**	**-1.4**
	comp=Z,33nm,0.8s,baz=343,slow=10,SNR=210						
WRA				S	**S**	**22 29 10.8**	**+3.2**
	comp=Z,3.2nm,0.8s,baz=333,slow=17,SNR=5.8						
WRA	**Warramunga Arr**	**25.14**	**163**	P	**P**	**22 24 42.8**	**-1.8**
WB2	**Warramunga Arr**	**25.14**	**163**	P	**P**	**22 24 43.8**	**-0.8**
	baz=25						
MASI	**Maura Aman, Be**	**25.49**	**254**	P	**P**	**22 24 52.2**	**+4.3**
	comp=Z,207nm,1.1s						
IPM	**Ipoh**	**25.58**	**272**	P	**P**	**22 24 48.0**	**-0.8**
IPM				IAmb	IAmb	22 24 55.3	
	comp=Z,40nm,0.9s						
BKNI	**Bangkinang**	**25.90**	**262**	P	**P**	**22 24 51.1**	**-0.5**
BKNI	**Bangkinang**	**25.90**	**262**	P	**P**	**22 24 52.4**	**+0.8**
	comp=Z,6μmcomp=Z,172nm,1.1s						
KULM	**Kulim**	**25.96**	**273**	P	**P**	**22 24 51.6**	**-0.6**
KULM				IAmb	IAmb	22 24 59.7	
	comp=Z,64nm,1.2s						
PSA00	**Pilbara Seismi**	**26.47**	**194**	P	**P**	**22 24 56.0**	**-0.6**
PSA00				IAmb	IAmb	22 25 12.4	
	comp=Z,39nm,0.9s						
PSA00	**Pilbara Seismi**	**26.47**	**194**	P	**P**	**22 24 56.0**	**-0.6**
PSA00	**Pilbara Seismi**	**26.47**	**194**	P	**P**	**22 24 57.1**	**+0.5**
KRVT	**Keravat (AS076**	**26.69**	**108**	LR	LR	22 33 55.7	
	comp=Z,629nm,19.1s,baz=80,slow=33						
JCJ	**Chichijima**	**27.17**	**31**	P	**P**	**22 25 03.4**	**+0.5**
	comp=Z,37nm,0.6s,baz=258,slow=19,SNR=5.6						
JCJ				LR	LR	22 34 25.7	
	comp=Z,113nm,21.2s,baz=218,slow=33						
JCJ	**Chichijima**	**27.17**	**31**	P	**P**	**22 25 01.8**	**-1.1**
JCJ	**Chichijima**	**27.17**	**31**	P	**P**	**22 25 03.7**	**+0.8**
SRIT	**Nakonsritamara**	**27.26**	**281**	P	**P**	**22 25 03.6**	**-0.2**
MNSI	**Mandailing Nat**	**27.28**	**264**	P	**P**	**22 25 06.7**	**+2.6**
	comp=Z,92nm,1.0s						
QIS	**Mount Isa**	**27.68**	**153**	P	**P**	**22 25 07.9**	**+0.4**
	baz=28,SNR=16						
QIS	**Mount Isa**	**27.68**	**153**	P	**P**	**22 25 08.0**	**+0.4**
PSI	**Prapat**	**27.74**	**268**	P	**P**	**22 25 07.3**	**-1.0**
	comp=Z,17nm,0.9s,baz=121,slow=5.0,SNR=8.4						
PSI				LR	LR	22 38 07.5	
	comp=Z,376nm,19.9s,baz=79,slow=41						
AS31	**Alice Springs**	**28.57**	**166**	P	**P**	**22 25 14.5**	**-1.0**
ASAR	**Alice Springs**	**28.57**	**166**	P	**P**	**22 25 15.1**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=341,slow=6.6,SNR=59						
ASAR				PcP	**PcP**	**22 28 28.4**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=349,slow=2.2,SNR=2.4						
ASAR				S	**S**	**22 30 04.5**	**+2.7**
	comp=Z,1.4nm,0.9s,baz=345,slow=21,SNR=4.8						
ASAR				ScP	**ScP**	**22 32 05.4**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=332,slow=3.4,SNR=5.3						
ASAR				LR	LR	22 37 19.5	
	comp=Z,155nm,21.3s,baz=342,slow=38						
ASAR	**Alice Springs**	**28.57**	**166**	P	**P**	**22 25 14.6**	**-0.9**
NJ2	**Nanjing**	**28.67**	**346**	*e*P	**P**	**22 25 17.8**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHN	**Wuhan**	**28.68**	**337**	⇑P	**P**	**22 25 17.6**	**+1.3**
WHN				pmax	pmax		
	comp=Z,38nm,0.7s						
WHN				LR	LR		
	comp=Z,2μm,21.1s						
WHN				LR	LR		
	comp=Z,2μm,22.9s						
WHN				LR	LR		
	comp=Z,2μm,22.9s						
KCSI	**Kotacane, Aceh**	**28.85**	**270**	P	**P**	**22 25 19.2**	**+1.1**
	comp=Z,16nm,1.2s						
WRKA	**Warakurna**	**29.10**	**177**	P	**P**	**22 25 19.9**	**-0.2**
	baz=29,SNR=38						
WRKA	**Warakurna**	**29.10**	**177**	P	**P**	**22 25 20.5**	**+0.3**
GSI	**Gunungsitoli**	**29.21**	**265**	P	**P**	**22 25 20.6**	**-0.7**
GSI				IAmb	IAmb	22 25 21.2	
	comp=Z,32nm,0.9s						
GSI	**Gunungsitoli**	**29.21**	**265**	P	**P**	**22 25 20.5**	**-0.8**
	comp=Z,42nm,1.1s						
GYA	**Guiyang**	**29.28**	**321**	⇓P	**P**	**22 25 22.2**	**+0.3**
GYA				LR	LR		
	comp=Z,710nm,21.6s						
CM31	**Chiang Mai Arr**	**30.60**	**300**	P	**P**	**22 25 32.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**30.60**	**300**	P	**P**	**22 25 33.6**	**+0.1**

comp=Z,6.8nm,0.8s,baz=115,slow=7.2,SNR=46
CMAR ScP **ScP** **22 32 13.2 +1.0**
comp=Z,0.9nm,0.6s,baz=147,slow=1.8,SNR=9.2
CMAR LR LR 22 37 49.1
comp=Z,188nm,21.1s,baz=110,slow=36
CMAR Chiang Mai Arr 30.60 300 P **P** **22 25 32.5 -1.1**
ENH Enshi 30.61 330 P **P** **22 25 32.4 -1.1**
ENH IAmb IAmb 22 25 34.0
comp=Z,29nm,0.8s
ENH Enshi 30.61 330 ⇓P **P** **22 25 33.2 -0.2**
ENH pP **pP** **22 25 40.3 -2.2**
CHTO Chiang Mai 30.75 300 P **P** **22 25 33.5 -1.3**
CHTO pmax pmax
comp=Z,11nm,0.7s
CHTO Chiang Mai 30.75 300 P **P** **22 25 33.5 -1.3**
CTA Charters Tower 30.86 142 P **P** **22 25 37.4 +1.6**
comp=Z,5.0nm,0.8s,baz=323,slow=7.7,SNR=5.1
CTA LR LR 22 40 17.4
comp=Z,275nm,18.7s,baz=298,slow=41
KMI Kunming 31.02 314 ⇓P **P** **22 25 37.5 +0.1**
KMI pP pP 22 25 42.3 -3.8
KMI pmax pmax
comp=Z,8.0nm,1.0s
KMI LR LR
comp=Z,220nm,24.7s
KMI LR LR
comp=Z,390nm,22.8s
KMI LR LR
comp=Z,630nm,25.3s
MEEK Meekatharra 31.63 194 P **P** **22 25 42.2 -0.3**
baz=32,SNR=6.9
PZH PanZhiHua 32.58 315 P **P** **22 25 51.5 +0.5**
PZH S **S** **22 31 12.6 +7.8**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.1s
PZH LR LR
comp=Z,1μm,24.0s
PZH LR LR
comp=Z,800nm,23.5s
PZH LR LR
comp=Z,2μm,24.5s
LYN LuoYang 32.96 338 ⇓P **P** **22 25 54.5 +0.4**
LYN pmax pmax
comp=Z,30nm,0.7s
LYN pmax pmax
comp=Z,100nm,4.7s
LYN LR LR
comp=Z,490nm,22.7s
LYN LR LR
comp=Z,380nm,19.1s
LYN LR LR
comp=Z,660nm,25.9s
KSAR Wonju Array Be 33.11 2 P **P** **22 25 55.1 -0.2**
KSAR Wonju Array Be 33.11 2 P **P** **22 25 55.1 -0.2**
KSRS Korea Array 33.12 2 P **P** **22 25 56.0 +0.6**
comp=Z,4.6nm,0.8s,baz=179,slow=10,SNR=15
KSRS PcP **PcP** **22 28 39.1 +0.9**
comp=Z,1.0nm,0.7s,baz=187,slow=2.4,SNR=4.8
MJAR Matsushiro Arr 33.90 17 LR LR 22 37 57.4
comp=Z,165nm,21.9s,baz=218,slow=33
XAN Xi'an 33.98 333 P **P** **22 26 02.2 -0.9**
XAN pP pP 22 26 10.2 -1.9
XAN pmax pmax
comp=Z,47nm,0.9s
XAN Xi'an 33.98 333 ⇓P **P** **22 26 02.6 -0.5**
XAN pP **pP** **22 26 10.6 -1.5**
MORW Morawa 34.61 197 P **P** **22 26 08.7 +0.2**
baz=35,SNR=5.5
MORW Morawa 34.61 197 P **P** **22 26 07.7 -0.9**
MORW IAmb IAmb 22 26 22.7
comp=Z,56nm,1.7s
FORT Forrest 34.80 178 P **P** **22 26 09.8 -0.3**
baz=35,SNR=7.5
FORT Forrest 34.80 178 P **P** **22 26 09.3 -0.8**
HNS HongShan 34.82 343 ⇓P **P** **22 26 10.8 +0.6**
HNS S **S** **22 31 35.2 -3.8**
HNS pmax pmax
comp=Z,30nm,1.1s
HNS LR LR
comp=Z,330nm,22.2s
HNS LR LR
comp=Z,570nm,22.0s
QLP Quilpie 34.99 152 P **P** **22 26 11.9 +0.1**
baz=35,SNR=4.5
HNR Honiara 35.81 112 LR LR 22 40 20.5
comp=Z,246nm,21.2s,baz=309,slow=35
BLDU Ballidu 35.90 195 P **P** **22 26 19.6 0.0**
baz=36,SNR=4.8
KLBR Kellerberrin 36.59 193 P **P** **22 26 25.3 -0.1**
baz=37,SNR=5.6
BJT Baijiatuan 36.91 347 P **P** **22 26 28.5 +0.4**
BJT pmax pmax
comp=Z,26nm,0.8s
BJT Baijiatuan 36.91 347 P **P** **22 26 28.5 +0.4**
BJT IAmb IAmb 22 26 30.0
comp=Z,26nm,0.8s
BJT Baijiatuan 36.91 347 ⇓P **P** **22 26 29.1 +1.0**
BJT pP **pP** **22 26 33.7 -3.2**
BJI Beijing 36.93 347 P **P** **22 26 29.1 +0.9**
BJI pmax pmax
comp=Z,34nm,0.8s
BJI LR LR
comp=Z,130nm,22.1s
BJI LR LR
comp=Z,160nm,22.0s
BJI LR LR
comp=Z,240nm,22.8s
EIDS Eidsvold 37.74 142 P **P** **22 26 35.7 +0.4**
baz=38,SNR=6.9
EIDS Eidsvold 37.74 142 P **P** **22 26 35.2 -0.1**
BBOO Buckleboo 37.86 167 P **P** **22 26 36.1 -0.1**
baz=38,SNR=13
BBOO Buckleboo 37.86 167 P **P** **22 26 35.7 -0.5**
NWAO Narrogin (SRO) 37.99 193 P **P** **22 26 36.9 -0.4**
NWAO pmax pmax
comp=Z,106nm,1.7s
NWAO Narrogin (SRO) 37.99 193 P **P** **22 26 36.9 -0.4**
LZH Lanzhou 38.08 329 ⇓P **P** **22 26 39.0 +0.7**
LZH pP sP 22 26 50.5 -0.5
LZH sP pP 22 26 55.2 +7.8
LZH PP **PnPn** **22 28 12.0 +4.7**
LZH sS 32 32 46.4 +3.0
LZH SS **SnSn** **22 35 10.8 -2.9**
LZH pmax pmax
comp=Z,76nm,1.3s
LZH LR LR
comp=Z,510nm,14.1s
LZH LR LR
comp=Z,300nm,14.6s
LZH LR LR
comp=Z,540nm,17.3s
STKA Stephens Creek 38.58 159 P **P** **22 26 42.5 +0.3**
comp=Z,17nm,0.6s,baz=332,slow=8.9,SNR=32
STKA LR LR 22 44 40.7
comp=Z,204nm,18.6s,baz=348,slow=39
STKA Stephens Creek 38.58 159 P **P** **22 26 42.5 +0.3**
baz=39,SNR=31
STKA Stephens Creek 38.58 159 P **P** **22 26 42.4 +0.1**
STKA pmax pmax
comp=Z,5.0nm,1.0s
STKA Stephens Creek 38.58 159 P **P** **22 26 42.4 +0.1**
HHC Hu-ho-hao-te 38.95 342 *eP* **P** **22 26 46.0 +0.6**
HHC S **S** **22 32 39.4 -2.6**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.3s
HHC LR LR
comp=Z,380nm,20.6s
HHC LR LR
comp=Z,200nm,21.0s
HHC LR LR
comp=Z,480nm,20.4s
HTT Hallett 39.17 164 P **P** **22 26 48.1 +0.9**
baz=39,SNR=4.8
SHL Shillong 39.56 306 P **P** **22 26 49.6 -1.3**
SHL pmax pmax
comp=Z,63nm,0.7s
SHL Shillong 39.56 306 P **P** **22 26 49.6 -1.3**
CMSA Cobar Meteorol 39.88 154 P **P** **22 26 53.9 +0.8**
baz=40,SNR=8.4
USA0B Ussuriysk Arra 40.12 6 P **P** **22 26 54.8 -0.1**
USA0B pmax pmax
comp=Z,11nm,1.1s
USA0B Ussuriysk Arra 40.12 6 P **P** **22 26 54.8 -0.1**
USRK Ussuriysk Ar. 40.12 6 P **P** **22 26 56.2 +1.3**
comp=Z,3.6nm,0.7s,baz=185,slow=7.9,SNR=12
USRK Ussuriysk Ar. 40.12 6 P **P** **22 26 55.4 +0.4**
USRK Ussuriysk Ar. 40.12 6 P **P** **22 26 55.4 +0.4**
MDJ Mudanjiang 40.34 3 P **P** **22 26 57.4 +0.6**
MDJ Mudanjiang 40.34 3 P **P** **22 26 58.5 +1.7**
MDJ pmax pmax
comp=Z,14nm,0.9s
MDJ pmax pmax
comp=Z,100nm,4.7s
ERM Erimo 40.44 19 *ceP* **P** **22 26 57.5 -0.1**
ERM pmax pmax
comp=Z,44nm,1.7s
XLT XiLinHaoTe 40.64 348 ⇓*iP* **P** **22 27 00.6 +1.2**
XLT pP pP 22 27 04.8 -3.4
XLT S **S** **22 33 10.2 +3.0**
XLT pmax pmax
comp=Z,36nm,0.9s
XLT pmax pmax
comp=Z,110nm,4.5s
XLT LR LR
comp=Z,19nm,19.9s
XLT LR LR
comp=Z,170nm,12.6s
XLT LR LR
comp=Z,220nm,20.0s
BNX BinXian 41.39 1 ⇑P P 22 27 11.2 +5.8
BNX pmax pmax
comp=Z,20nm,0.8s
BNX pmax pmax
comp=Z,170nm,3.5s
ARMA Armidale 41.88 147 P **P** **22 27 10.5 +0.7**
baz=42,SNR=11
ARMA Armidale 41.88 147 P **P** **22 27 10.2 +0.4**
LSA Lhasa 42.10 311 P **P** **22 27 11.6 -0.5**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 42.10 311 P **P** **22 27 11.6 -0.5**
ASAJ Asahikawa 42.17 17 P **P** **22 27 13.0 +1.2**
comp=Z,9.1nm,0.8s,baz=149,slow=5.9,SNR=2.3
ASAJ LR LR 22 42 36.9
comp=Z,167nm,21.9s,baz=183,slow=33
ASAJ Asahikawa 42.17 17 ⇑P **P** **22 27 13.0 +1.2**
GTA Gaotai 42.68 329 ⇑P **P** **22 27 15.6 -0.6**
GTA pP pP 22 27 22.4 -3.1
GTA PcP **PcP** **22 29 08.5 +0.7**
GTA ScS ScS 22 37 15.2 -0.3
GTA pmax pmax
comp=Z,14nm,0.9s
GTA pmax pmax
comp=Z,70nm,7.2s
GTA LR LR
comp=Z,270nm,19.1s
GTA LR LR
comp=Z,380nm,18.3s
GTA LR LR
comp=Z,520nm,19.9s
ARPS Mount Arapiles 43.14 162 P **P** **22 27 21.0 +1.2**
baz=43,SNR=7.8
GOMU GeErMu 43.29 321 P **P** **22 27 22.0 +0.4**
GOMU pP pP 22 27 27.1 -3.8
GOMU sP sP 22 27 29.9 -4.5
GOMU PP **PP** **22 29 02.9 +0.4**
GOMU PcP **PcP** **22 29 11.4 +1.1**
GOMU S **S** **22 33 51.7 +4.4**
GOMU pmax pmax
comp=Z,10.0nm,1.2s
GOMU pmax pmax
comp=Z,86nm,4.8s
GOMU LR LR
comp=Z,190nm,17.8s
GOMU LR LR
comp=Z,99nm,13.6s
GOMU LR LR
comp=Z,210nm,18.7s
ODAN Odare 43.76 305 *eP* **P** **22 27 25.1 -0.2**
comp=Z,42nm,0.7s
RAMN Ramite 44.45 305 *eP* **P** **22 27 30.7 -0.1**
comp=Z,18nm,0.6s
CAN Canberra 44.55 154 P **P** **22 27 32.4 +1.2**
CAN pmax pmax
comp=Z,93nm,1.5s
CAN Canberra 44.55 154 P **P** **22 27 32.4 +1.2**
JIRN Jiri 45.06 306 *eP* **P** **22 27 35.7 -0.2**
comp=Z,35nm,0.6s
KLR Kul'dur 45.08 5 P **P** **22 27 35.6 +0.4**
comp=Z,2.6nm,0.5s,baz=211,slow=5.0,SNR=7.1
KLR Kul'dur 45.08 5 *ceP* **P** **22 27 35.4 +0.2**
KLR pmax pmax
comp=Z,7.0nm,0.8s
TOO Toolangi 45.09 159 P **P** **22 27 36.5 +1.0**
TOO pmax pmax
comp=Z,62nm,1.7s
TOO Toolangi 45.09 159 P **P** **22 27 36.5 +1.0**
HIA Hailar 45.30 354 P **P** **22 27 37.8 +0.8**
HIA pmax pmax
comp=Z,18nm,1.1s
HIA Hailar 45.30 354 P **P** **22 27 37.8 +0.8**
HIA IAmb IAmb 22 27 50.0
comp=Z,18nm,1.1s
GUN Gumba 45.42 306 *eP* **P** **22 27 38.4 -0.3**
comp=Z,65nm,0.8s
PALK Pallekele 45.84 276 LR LR 22 46 36.5
comp=Z,124nm,21.8s,baz=224,slow=36
GKN Gorkha 46.46 305 *eP* **P** **22 27 45.8 -0.9**
comp=Z,12nm,0.6s
ULN Ulaanbaatar 46.67 342 *ceP* **P** **22 27 48.1 +0.2**
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 46.67 342 P **P** **22 27 47.9 0.0**
ULN IAmb IAmb 22 28 07.6
comp=Z,16nm,1.0s
DZM Mont Dzumac 46.84 126 P **P** **22 27 50.5 +0.8**
comp=Z,11nm,0.6s,baz=255,slow=6.6,SNR=10
DZM Mont Dzumac 46.84 126 *eP* **P** **22 27 46.9 -2.7**
comp=Z,81nm,1.4s
DZM Mont Dzumac 46.84 126 *eLR* LR 22 40 56.9
comp=Z,203nm,24.3s
DZM Mont Dzumac 46.84 126 P **P** **22 27 49.8 +0.2**
SONM Songino Array 46.85 341 P **P** **22 27 49.4 +0.1**
comp=Z,4.0nm,0.6s,baz=154,slow=8.3,SNR=42
SONM PcP **PcP** **22 29 22.8 +0.9**
comp=Z,3.8nm,1.0s,baz=146,slow=4.1,SNR=3.0
SONM ScP **ScP** **22 33 15.8 +2.3**
comp=Z,0.3nm,0.4s,baz=118,slow=4.0,SNR=2.6
SONM Songino Array 46.85 341 P **P** **22 27 49.0 -0.3**
SONM IAmb IAmb 22 27 52.3
comp=Z,25nm,1.6s
KOLN Koldanda 47.22 304 *eP* **P** **22 27 52.4 -0.3**
comp=Z,59nm,0.6s
DANN Dangsing 47.31 305 *eP* **P** **22 27 52.5 -1.0**
comp=Z,73nm,0.6s
PYUN Piuthan 47.84 305 *eP* **P** **22 27 57.3 -0.2**
comp=Z,66nm,0.9s
HYBB Hyderabad (bro 48.92 289 *eP* **P** **22 28 04.9 -0.8**
ZAK Zakamensk 50.08 341 *eP* **P** **22 28 13.6 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
PCHI Peechi 50.27 280 *eP* **P** **22 28 15.9 -0.1**
PCHI *eS* S 22 34 41.0 -46
IRK Irkutsk 51.38 343 *eP* **P** **22 28 23.0 -0.8**
IRK pmax pmax
comp=Z,34nm,2.1s
MOY Mondy 51.93 340 *eP* **P** **22 28 28.7 +0.6**
MOY pmax pmax
comp=Z,20nm,1.6s
WMQ Urumqi 52.32 325 *eP* **P** **22 28 31.2 +0.1**
WMQ pP pP 22 28 37.5 -3.0
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ LR LR
comp=Z,540nm,17.5s
WMQ LR LR
comp=Z,210nm,20.5s
WMQ LR LR
comp=Z,280nm,19.3s
KNGR Kungurtug, Tuv 52.34 337 *iP* **P** **22 28 30.9 -0.3**
BOD Bodaibo 54.40 352 *eP* **P** **22 28 46.0 0.0**
BOD pmax pmax
comp=Z,22nm,1.6s
PEA0B Petropavlovsk- 55.02 22 P **P** **22 28 51.6 +1.0**
PEA0B pmax pmax
comp=Z,90nm,2.0s
PEA0B Petropavlovsk- 55.02 22 P **P** **22 28 51.6 +1.0**
PETK Petropavlovsk- 55.02 22 P **P** **22 28 52.1 +1.5**
comp=Z,6.1nm,0.9s,baz=208,slow=9.1,SNR=4.7
PETK Petropavlovsk- 55.02 22 P **P** **22 28 51.8 +1.2**
ZSN Zaisan 56.09 327 *eP* **P** **22 28 56.8 -1.6**
ZSN Zaisan 56.09 327 *eP* **P** **22 28 56.8 -1.6**
baz=327
SHLS Shalkode 56.96 320 *eP* **P** **22 29 01.2 -3.6**
SHLS Shalkode 56.96 320 *eP* **P** **22 29 01.2 -3.6**
baz=320
MK31 Makanchi Array 57.15 325 *i* P **P** **22 29 04.7 -1.3**
MK31 pmax pmax
comp=Z,14nm,0.9s
MK31 Makanchi Array 57.15 325 P **P** **22 29 05.4 -0.5**
MK31 IAmb IAmb 22 29 06.4
comp=Z,8.7nm,0.9s
MKAR Makanchi Array 57.15 325 P **P** **22 29 05.3 -0.7**
comp=Z,7.3nm,0.6s,baz=126,slow=8.1,SNR=109
MKAR PcP **PcP** **22 30 00.8 +0.4**
comp=Z,5.7nm,0.7s,baz=115,slow=3.9,SNR=5.8
MKAR ScP **ScP** **22 33 57.6 -0.4**
comp=Z,2.1nm,0.7s,baz=124,slow=4.1,SNR=8.3
MKAR LR LR 22 55 06.6
comp=Z,332nm,18.5s,baz=112,slow=38
UZB Uzynbulak 57.24 320 *eP* **P** **22 29 04.7 -2.1**
UZB Uzynbulak 57.24 320 *eP* **P** **22 29 04.8 -2.1**
baz=320
MAKZ Makanchi 57.34 325 P **P** **22 29 06.4 -0.8**
MAKZ pmax pmax
comp=Z,13nm,1.0s
MAKZ Makanchi 57.34 325 P **P** **22 29 06.3 -0.9**
MAKZ IAmb IAmb 22 29 07.7
comp=Z,13nm,0.9s
MAKZ Makanchi 57.34 325 ⇑P **P** **22 29 06.5 -0.8**
TARG Taragay, Kyrgy 57.37 318 P **P** **22 29 07.3 -0.8**
SATY Saty 57.59 320 *eP* **P** **22 29 07.4 -1.9**
SATY pmax pmax
comp=Z,7.0nm,1.0s
SATY Saty 57.59 320 *eP* **P** **22 29 07.4 -1.9**
comp=Z,7.4nm,1.0s,baz=320
NIL Nilore 57.61 307 P **P** **22 29 08.1 -1.3**
NIL pmax pmax
comp=Z,16nm,0.7s
NIL Nilore 57.61 307 P **P** **22 29 08.1 -1.3**
KPKS Kokpek 57.61 320 *eP* **P** **22 29 07.0 -2.3**
KPKS Kokpek 57.61 320 *eP* **P** **22 29 07.0 -2.3**
baz=320
KSH Kashi 57.68 315 P **P** **22 29 10.3 +0.3**
KSH pP pP 22 29 16.8 -2.8
KSH PcP **PcP** **22 30 04.0 +1.2**
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH LR LR
comp=Z,250nm,14.4s
KSH LR LR
comp=Z,190nm,13.1s
KSH LR LR
comp=Z,250nm,18.5s
YAK Yakutsk 57.75 2 LR LR 22 53 48.6
comp=Z,56nm,20.9s,baz=85,slow=36
YAK Yakutsk 57.75 2 *eP* **P** **22 29 10.5 +0.7**
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK Yakutsk 57.75 2 P **P** **22 29 10.2 +0.4**
KDJ Kajisay 57.97 318 P **P** **22 29 11.4 -0.6**
KDJ pmax pmax
comp=Z,15nm,1.3s
KDJ Kajisay 57.97 318 P **P** **22 29 11.4 -0.6**
KDJ IAmb IAmb 22 29 12.8
comp=Z,15nm,1.2s
MA2 Magadan 58.27 14 LR LR 22 58 06.2
comp=Z,50nm,18.9s,baz=217,slow=40
MA2 Magadan 58.27 14 *i* P **P** **22 29 14.0 +0.5**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
MDOK Medeo 58.52 319 *eP* **P** **22 29 14.1 -1.7**
MDOK Medeo 58.52 319 *eP* **P** **22 29 14.1 -1.7**
baz=319
TDK Taldyqorghan 58.53 322 *eP* **P** **22 29 13.9 -1.7**
TDK Taldyqorghan 58.53 322 *eP* **P** **22 29 14.0 -1.7**
baz=325
TNSS Tian-Shan 58.53 319 *eP* **P** **22 29 14.9 -1.3**
TNSS Tian-Shan 58.53 319 *eP* **P** **22 29 14.9 -1.3**
baz=319
AAA Alma-Ata 58.63 319 *eP* **P** **22 29 14.5 -2.0**
AAA Alma-Ata 58.63 319 *eP* **P** **22 29 14.6 -2.0**
baz=319
CHKK Chushkaly 58.88 320 *eP* **P** **22 29 16.3 -1.8**
CHKK Chushkaly 58.88 320 *eP* **P** **22 29 16.3 -1.8**
baz=320
BOOM Boomskoye usch 58.95 318 P **P** **22 29 18.3 -0.6**
BOOM pmax pmax
comp=Z,7.0nm,1.0s
BOOM Boomskoye usch 58.95 318 P **P** **22 29 18.3 -0.6**
KUU Kurty 59.31 320 *eP* **P** **22 29 18.9 -2.2**
KUU pmax pmax
comp=Z,22nm,1.2s
KUU Kurty 59.31 320 *eP* **P** **22 29 18.9 -2.2**
comp=Z,22nm,1.2s,baz=320
TKM2 Tokmak 2 59.37 318 *i* P **P** **22 29 20.8 -1.0**
TKM2 pmax pmax
comp=Z,3.0nm,0.5s
FRU1 Bishkek 59.97 318 P **P** **22 29 25.7 0.0**
FRU1 pmax pmax
comp=Z,6.0nm,0.8s
FRU1 Bishkek 59.97 318 P **P** **22 29 25.7 0.0**
FRU1 IAmb IAmb 22 30 12.9
comp=Z,6.3nm,0.8s
AAK Ala-Archa 59.98 318 LR LR 22 58 38.6
comp=Z,146nm,20.5s,baz=90,slow=39
AAK Ala-Archa 59.98 318 *i* P **P** **22 29 23.5 -2.5**
AAK pmax pmax
comp=Z,10.0nm,1.8s
ZAA0 Zalesovo Array 60.16 333 P **P** **22 29 25.4 -1.3**
ZAA0 IAmb IAmb 22 29 26.4
comp=Z,6.1nm,0.8s
ZALV Zalesovo Beam 60.16 333 P **P** **22 29 25.4 -1.2**
comp=Z,5.3nm,0.6s,baz=128,slow=6.6,SNR=25
ZALV LR LR 22 57 21.2
comp=Z,159nm,18.2s,baz=132,slow=38
ZALV Zalesovo Beam 60.16 333 P **P** **22 29 25.2 -1.4**
SGDS Sogindy 60.24 319 *eP* **P** **22 29 25.7 -1.9**
SGDS Sogindy 60.24 319 *eP* **P** **22 29 25.7 -1.9**
baz=319
SEM Semipalatinsk 60.29 328 *eP* **P** **22 29 25.4 -2.5**
SEM Semipalatinsk 60.29 328 *eP* **P** **22 29 25.5 -2.5**
baz=328
DRK Karamyk 60.66 313 P **P** **22 29 29.8 -1.0**
DRK IAmb IAmb 22 29 35.4
comp=Z,8.1nm,0.7s
KBL Kabul 61.20 307 P **P** **22 29 33.0 -1.5**
KBL pmax pmax
comp=Z,9.0nm,1.0s
KBL Kabul 61.20 307 P **P** **22 29 33.0 -1.5**
KBL IAmb IAmb 22 29 34.3
comp=Z,9.0nm,0.9s
BTLS Baital 61.29 320 *eP* **P** **22 29 32.9 -1.7**
BTLS Baital 61.29 320 *eP* **P** **22 29 33.0 -1.7**
baz=320
KURBB Kurchatov Arra 61.33 327 LR LR 22 58 01.6
comp=Z,97nm,18.1s,baz=105,slow=38
KURK Kurchatov 61.33 327 *i* P **P** **22 29 33.4 -1.3**
KURK pmax pmax
comp=Z,28nm,0.8s
KURK Kurchatov 61.33 327 P **P** **22 29 33.9 -0.8**
KURK Kurchatov 61.33 327 ⇓P **P** **22 29 34.2 -0.5**
KURK pP **sP** **22 29 53.8 +6.1**
BTK Batken 61.57 314 P **P** **22 29 35.7 -1.0**
BTK pmax pmax
comp=Z,16nm,1.2s
BTK Batken 61.57 314 P **P** **22 29 35.7 -1.0**
BTK IAmb IAmb 22 30 06.5
comp=Z,16nm,1.2s
SEY Seymchan 61.60 13 LR LR 22 55 48.8
comp=Z,61nm,21.3s,baz=360,slow=36
SEY Seymchan 61.60 13 *ceP* **P** **22 29 37.6 +1.3**
SEY pmax pmax
comp=Z,6.0nm,1.0s
LBZ Lake Benmore 62.09 146 P **P** **22 29 40.4 +0.4**
SHEM Shemya Is, Ala 62.09 30 LR LR 22 52 44.8
comp=Z,52nm,20.1s,baz=285,slow=32
RPZ Rata Peaks 62.16 145 P **P** **22 29 41.5 +1.0**
comp=Z,5.0nm,0.5s,baz=360,slow=7.1,SNR=1.9
DZA Taraz 62.23 317 *eP* **P** **22 29 39.5 -1.5**

DZA pmax pmax
comp=Z,5.0nm,1.1s
DZA Taraz 62.23 317 *e*P **P 22 29 39.5 -1.5**
comp=Z,5.2nm,1.1s,baz=317
IUG luzhnay 62.85 316 *e*P **P 22 29 43.8 -1.5**
IUG luzhnay 62.85 316 *e*P **P 22 29 43.9 -1.5**
baz=316
KK31 Karatay Array 62.86 317 P **P 22 29 43.7 -1.5**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KK31 Karatay Array 62.86 317 P **P 22 29 43.7 -1.5**
KK31 IAmb IAmb 22 29 46.9
comp=Z,7.4nm,0.9s
KKAR Karatay Array 62.86 317 P **P 22 29 43.6 -1.6**
KKAR pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 62.86 317 P **P 22 29 43.6 -1.6**
KKAR IAmb IAmb 22 29 46.9
comp=Z,7.4nm,0.9s
KKAR Karatay Array 62.86 317 P **P 22 29 43.8 -1.5**
URZ Urewera 62.91 137 P **P 22 29 45.8 +0.3**
comp=Z,6.6nm,0.8s,baz=329,slow=4.3,SNR=4.4
URZ Urewera 62.91 137 P **P 22 29 45.2 -0.4**
URZ IAmb IAmb 22 30 02.8
comp=Z,26nm,1.4s
BKZ Black Stump Fm 62.96 138 P **P 22 29 45.4 -0.5**
BKZ IAmb IAmb 22 29 48.7
comp=Z,16nm,0.9s
BRLS Boroldav 63.30 317 *e*P **P 22 29 46.2 -1.9**
BRLS pmax pmax
comp=Z,9.0nm,1.7s
BRLS Boroldav 63.30 317 *e*P **P 22 29 46.3 -1.9**
comp=Z,9.5nm,1.7s,baz=316
BRZS Berezniki 64.29 325 *e*P **P 22 29 52.9 -1.6**
BRZS pmax pmax
comp=Z,4.0nm,0.7s
BRZS Berezniki 64.29 325 *e*P **P 22 29 53.0 -1.6**
comp=Z,3.9nm,0.7s,baz=325
HRA Herat 66.62 306 P **P 22 30 08.8 -1.4**
BRVK Borovoye 66.98 327 *i*P **P 22 30 10.2 -1.6**
BRVK pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 66.98 327 P **P 22 30 11.1 -0.7**
BRVK IAmb IAmb 22 30 40.3
comp=Z,21nm,1.2s
BRVK Borovoye 66.98 327 ⇓P **P 22 30 11.3 -0.5**
TIXI Tiksi 67.38 1 P **P 22 30 13.8 -0.2**
TIXI pmax pmax
comp=Z,38nm,1.4s
TIXI Tiksi 67.38 1 P **P 22 30 13.8 -0.2**
WSAR Wadi Sarin 68.20 293 LR LR 23 02 40.6
comp=Z,42nm,20.1s,baz=84,slow=38
BILL Bilibino 69.12 15⇑*e*P **P 22 30 24.3 -0.7**
BILL *i* 22 30 37.4
BILL *i* 22 30 51.1
BILL 22 32 55.0
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,105nm,17.0s
NRIK Noril'sk 69.97 346 P **P 22 30 30.6 +0.4**
comp=Z,81nm,1.4s,baz=132,slow=6.2,SNR=26
NRIK LR LR 23 03 22.7
comp=Z,177nm,19.8s,baz=156,slow=38
NRIK Noril'sk 69.97 346*ce*P **P 22 30 30.2 0.0**
NRIK pmax pmax
comp=Z,26nm,1.1s
NRIK Noril'sk 69.97 346 P **P 22 30 30.5 +0.4**
GEYT Alibeck 70.57 309 P **P 22 30 34.2 -0.3**
comp=Z,6.6nm,0.8s,baz=170,slow=9.0,SNR=12
GEYT LR LR 23 05 51.7
comp=Z,119nm,20.0s,baz=86,slow=40
GEYT Alibeck 70.57 309 P **P 22 30 34.0 -0.5**
GEYT IAmb IAmb 22 30 35.4
comp=Z,9.3nm,0.9s
GYA0B ALIBECK ARRAY 70.57 309 P **P 22 30 34.0 -0.5**
GYA0B IAmb IAmb 22 30 35.4
comp=Z,11nm,0.8s
CASY Casey 71.27 187 P **P 22 30 38.5 +0.4**
CASY IAmb IAmb 22 31 37.9
comp=Z,13nm,0.6s
ABKAR Akbulak array 71.76 321 P **P 22 30 40.4 -1.1**
ABKAR Akbulak array 71.76 321 P **P 22 30 40.3 -1.1**
SOCY Socotra 72.22 281 P **P 22 30 42.6 -2.4**
SOCY IAmb IAmb 22 31 13.4
comp=Z,12nm,1.0s
AKTO Aktyubinsk 73.27 322 LR LR 23 05 44.9
comp=Z,236nm,20.0s,baz=105,slow=38
SVE Sverdlovsk 73.54 328 *e*P **P 22 30 51.4 -0.5**
SVE pmax pmax
comp=Z,11nm,0.8s
GAMB Gambell 74.00 24 P **P 22 30 55.2 +0.9**
GAMB Gambell 74.00 24 P **P 22 30 55.3 +1.0**
baz=246
ARU Arti 74.52 328 LR LR 23 06 02.3
comp=Z,115nm,20.5s,baz=43,slow=38
ARU Arti 74.52 328*d i*P **P 22 30 56.1 -1.5**
ARU 22 31 11.4
ARU PPP PPP 22 35 26.1
ARU S **S 22 40 32.9 +2.3**
ARU SS **SS 22 45 11.2 -6.4**
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 74.52 328 P **P 22 30 56.4 -1.2**
ARU IAmb IAmb 22 30 58.7
comp=Z,9.7nm,0.6s
SDPT Sand Point 76.84 34 P **P 22 31 11.4 +0.5**
SDPT Sand Point 76.84 34 P **P 22 31 11.6 +0.8**
baz=258
KIRV Kirov 79.80 329*ce*P **P 22 31 26.4 -0.8**
BELG Belogornoye 80.01 322 LR LR 23 08 03.7
comp=Z,113nm,19.5s,baz=129,slow=37
BELG Belogornoye 80.01 322 *i*P **P 22 31 25.4 -3.0**
BELG pmax pmax
comp=Z,4.0nm,1.0s
RAYN Ar Rayn 80.26 293 P **P 22 31 29.3 -1.2**
RAYN pmax pmax
comp=Z,6.0nm,0.8s
RAYN Ar Rayn 80.26 293 P **P 22 31 29.3 -1.2**
GROC Groznyy 80.50 313 *e*P **P 22 31 31.2 -0.1**
GROC *e* 22 34 34.7
GROC pmax pmax
comp=Z,11nm,0.7s
TTA Tatalina 80.51 27 P **P 22 31 32.3 +1.2**
TTA pmax pmax
comp=Z,6.0nm,1.1s
TTA Tatalina 80.51 27 P **P 22 31 32.3 +1.2**
TTA Tatalina 80.51 27 P **P 22 31 32.5 +1.4**
baz=261
N19K Bonanza Creek 80.91 29 P **P 22 31 34.3 +1.1**
baz=262
L19K White Mountain 80.93 28 P **P 22 31 34.2 +0.9**
L19K White Mountain 80.93 28 P **P 22 31 35.3 +2.1**
baz=262
M19K Big River Lodg 81.10 28 P **P 22 31 35.5 +1.3**
M19K Big River Lodg 81.10 28 P **P 22 31 35.9 +1.7**
baz=262
GNI Garni 81.15 310 LR LR 23 13 41.9
comp=Z,56nm,19.4s,baz=64,slow=40
GNI Garni 81.15 310 *i*P **P 22 31 35.1 0.0**
GNI pmax pmax
comp=Z,9.0nm,1.5s
OPO Ambohidratompo 81.40 251 P **P 22 31 35.5 -1.3**
comp=Z,3.0nm,0.8s,baz=83,slow=8.1,SNR=2.8
L20K Farewell, AK 81.42 28 P **P 22 31 37.9 +2.1**
baz=263
ABPO Ambohimpanom 81.42 250 P **P 22 31 36.4 -0.5**
ABPO pmax pmax
comp=Z,50nm,2.0s
ABPO Ambohimpanom 81.42 250 P **P 22 31 36.4 -0.5**
ABPO IAmb IAmb 22 34 13.4
comp=Z,50nm,1.9s
K20K Telida 81.45 27 P **P 22 31 37.2 +1.2**
K20K IAmb IAmb 22 32 05.5
comp=Z,13nm,1.2s
K20K Telida 81.45 27 P **P 22 31 37.6 +1.6**
baz=262
J20K Nowinta River 81.53 26 P **P 22 31 37.5 +1.2**
J20K IAmb IAmb 22 31 57.6
comp=Z,11nm,1.0s
J20K Nowinta River 81.53 26 P **P 22 31 38.0 +1.7**
baz=262
KDAK Kodiak Island 81.53 32 P **P 22 31 37.8 +1.3**
comp=Z,8.6nm,0.9s,baz=200,slow=2.2,SNR=5.2
KDAK Kodiak Island 81.53 32 P **P 22 31 37.0 +0.6**
KDAK pmax pmax
comp=Z,142nm,2.0s
KDAK Kodiak Island 81.53 32 P **P 22 31 37.0 +0.6**
ZEI Tsey 81.87 312 *e*P **P 22 31 37.2 -1.7**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
IMAR Indian Mountai 81.94 24 P **P 22 31 39.9 +1.4**
PRGR Permogore 82.08 332 *e*P **P 22 31 38.6 -0.6**
PRGR pmax pmax
comp=Z,19nm,0.7s
AKH Akhalkalaki 82.14 311 ⇑P **P 22 31 40.3 0.0**
ONI Oni 82.19 312 P **P 22 31 40.4 0.0**
ONI pmax pmax
comp=Z,16nm,1.7s
ONI Oni 82.19 312 P **P 22 31 40.4 0.0**
VOI Vohitsoka 82.20 247 P **P 22 31 39.8 -1.1**
H21K Melozitna Rive 82.29 24 P **P 22 31 41.8 +1.5**
H21K IAmb IAmb 22 32 01.6
comp=Z,14nm,1.1s
H21K Melozitna Rive 82.29 24 P **P 22 31 41.1 +0.7**
baz=263
CHUM Lake Minchumin 82.29 26 P **P 22 31 42.0 +1.6**
baz=264
CAST Castle Rocks 82.34 27 P **P 22 31 42.1 +1.4**
baz=264
GEVA Gevas 82.42 308 P **P 22 31 41.4 -0.5**
GEVA IAmb IAmb 22 31 45.3
comp=Z,7.1nm,0.7s
I21K Tanana 82.57 25 P **P 22 31 43.8 +2.0**
baz=264
KBZ Khabaz 82.63 313 P **P 22 31 41.3 -1.2**
comp=Z,2.7nm,1.0s,baz=170,slow=5.8,SNR=6.9
KBZ Khabaz 82.63 313*ce*P **P 22 31 41.5 -1.0**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 82.78 314 *e*P **P 22 31 39.9 -3.6**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,60nm,19.0s
BPAW Bear Paw Mtn. 82.89 26 P **P 22 31 44.5 +1.0**
BPAW IAmb IAmb 22 32 04.9
comp=Z,21nm,1.1s
BPAW Bear Paw Mtn. 82.89 26 P **P 22 31 44.7 +1.2**
baz=265
M22K Willow 83.10 28 P **P 22 31 45.4 +0.8**
baz=266
ATD Arta Tunnel 83.14 281 LR LR 23 07 33.4
comp=Z,38nm,20.2s,baz=102,slow=35
TRF Thorofare Moun 83.15 27 P **P 22 31 45.4 +0.4**
TRF IAmb IAmb 22 32 05.2
comp=Z,22nm,1.2s
TRF Thorofare Moun 83.15 27 P **P 22 31 45.6 +0.6**
baz=266
GURO Guroymak-BITLI 83.22 308 P **P 22 31 45.4 -0.6**
RC01 Rabbit Creek A 83.24 29 P **P 22 31 47.0 +1.6**
baz=266
COLD Coldfoot 83.49 23 P **P 22 31 48.4 +1.9**
COLD IAmb IAmb 22 32 07.9
comp=Z,18nm,1.2s
COLD Coldfoot 83.49 23 P **P 22 31 48.1 +1.6**
baz=265
VRH Novokhopyorsk 83.59 321 *e*P **P 22 31 45.9 -1.4**
VRH pmax pmax
comp=Z,10.0nm,0.8s
H23K Yukon River 83.64 24 P **P 22 31 48.7 +1.3**
H23K IAmb IAmb 22 32 08.6
comp=Z,17nm,1.1s
H23K Yukon River 83.64 24 P **P 22 31 48.4 +1.1**
baz=266
I23K Minto, Yukon-K 83.67 25 P **P 22 31 49.0 +1.6**
I23K Minto, Yukon-K 83.67 25 P **P 22 31 48.8 +1.3**
baz=266
NEA2 Nenana 83.76 26 P **P 22 31 48.8 +0.8**
NEA2 IAmb IAmb 22 32 09.9
comp=Z,15nm,1.0s
NEA2 Nenana 83.76 26 P **P 22 31 48.9 +0.8**
baz=267
MCK McKinley 83.77 26 P **P 22 31 48.4 +0.3**
MCK pmax pmax
comp=Z,16nm,1.0s
MCK McKinley 83.77 26 P **P 22 31 48.4 +0.3**
MCK IAmb IAmb 22 32 10.0
comp=Z,16nm,1.0s
MCK McKinley 83.77 26 P **P 22 31 48.7 +0.6**
baz=267
RND Reindeer 83.79 27 P **P 22 31 48.6 +0.3**
RND pmax pmax
comp=Z,13nm,1.1s
RND Reindeer 83.79 27 P **P 22 31 48.6 +0.3**
RND IAmb IAmb 22 32 08.6
comp=Z,13nm,1.1s
TOLK Toolik Lake Re 83.84 21 P **P 22 31 50.4 +2.1**
baz=266
KNK Knik Glacier 83.88 29 P **P 22 31 49.5 +0.9**
baz=268
VNDA Vanda 83.89 173 P **P 22 31 48.5 +0.2**
comp=Z,3.2nm,0.9s,baz=292,slow=4.0,SNR=7.3
VNDA Vanda 83.89 173 P **P 22 31 48.8 +0.4**
PWL Port Wells 83.92 29 P **P 22 31 49.1 +0.3**
baz=268
SML Sawmill 83.96 28 P **P 22 31 50.0 +0.9**
SML Sawmill 83.96 28 P **P 22 31 50.2 +1.1**
baz=268
WRH Wood River Hil 84.18 26 P **P 22 31 50.6 +0.5**
WRH IAmb IAmb 22 32 10.6
comp=Z,13nm,1.1s
WAT6 Susitna Watana 84.26 28 P **P 22 31 51.7 +0.9**
baz=268
H24K Noodor Dome 84.33 24 P **P 22 31 52.5 +1.6**
baz=268
KOPT Kop Dagi 84.41 310 P **P 22 31 52.1 -0.1**
KOPT IAmb IAmb 22 31 58.0
comp=Z,30nm,1.6s
SCM Sheep Creek Mo 84.43 28 P **P 22 31 52.7 +1.2**
baz=268
HDA Harding Lake 84.67 26 P **P 22 31 52.0 -0.7**
baz=269
IL31 84.71 25 P **P 22 31 52.8 +0.1**
IL31 IAmb IAmb 22 32 55.9
comp=Z,16nm,1.5s
ILAR Eielson Array 84.71 25 P **P 22 31 53.7 +0.9**
comp=Z,1.7nm,0.9s,baz=244,slow=5.9,SNR=12
ILAR Eielson Array 84.71 25 P **P 22 31 52.3 -0.4**
KLMR Klimovskoe 84.98 331 *e*P **P 22 31 51.7 -2.5**
KLMR pmax pmax
comp=Z,74nm,1.0s
KLMR Klimovskoe 84.98 331 *e*P **P 22 31 51.7 -2.5**
KLMR AMP 22 31 54.9
comp=Z,74nm,1.0s
M24K Tolsona, Glenn 84.98 28 P **P 22 31 55.7 +1.4**
baz=270
KLU Klutina 85.10 29 P **P 22 31 56.0 +1.1**
baz=270
VORD Divnogorie 85.12 321 *e*P **P 22 31 54.5 -0.6**
VORD pmax pmax
comp=Z,7.0nm,0.5s
VORR Voronezh 85.17 321 *e*P **P 22 31 54.7 -0.6**
VORR pmax pmax
comp=Z,20nm,0.4s
VSR Storozhevoye 85.20 321 *e*P **P 22 31 53.8 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.2s
PPT2 Papeete2 85.30 108 *e*LR LR 22 58 49.6
comp=Z,184nm,27.5s
PAX Paxson 85.31 27 P **P 22 31 57.0 +1.1**
baz=270
LPSR Galich'ya Gora 85.33 322 *e*P **P 22 31 54.8 -1.3**
LPSR pmax pmax
comp=Z,20nm,0.8s
RIDG Independent Ri 85.59 26 P **P 22 31 58.6 +1.3**
baz=270
BMAR Burnt Mountain 85.67 23 P **P 22 31 59.3 +1.7**
BMRM Bremner River 85.74 29 P **P 22 31 59.1 +1.1**
baz=271
SCRK Sand Creek 85.97 26 P **P 22 32 00.7 +1.4**
baz=271
TBI Tubuai 86.02 114 *e*LR LR 22 59 07.0
comp=Z,205nm,28.2s
MOS Moscow 86.03 325 *e*P **P 22 31 57.9 -1.6**
MOS pmax pmax
comp=Z,57nm,0.9s
J26L Joseph Creek 86.14 26 P **P 22 32 01.2 +1.2**
baz=272
OBN Obninsk 86.66 325 ⇑P **P 22 32 01.9 -0.8**
OBN Obninsk 86.66 325 LR LR 23 12 57.6
comp=Z,51nm,20.2s,baz=1.5,slow=37
OBN Obninsk 86.66 325*ce*P **P 22 32 01.8 -0.8**
OBN *i* 22 32 09.8
OBN S **S 22 42 36.0 -1.5**
OBN *e* 22 43 36.7
OBN pmax pmax
comp=Z,30nm,1.1s
OBN MLR MLR
comp=Z,183nm,18.0s
OBN Obninsk 86.66 325 P **P 22 32 01.9 -0.8**
BCAR Beaver Creek A 86.99 27 P **P 22 32 04.6 +0.4**
I29M Ogilvie Camp, 88.32 25 P **P 22 32 11.1 +0.7**
baz=276
KIBK Kibwezi 88.81 268 P **P 22 32 13.1 -0.8**
KIBK IAmb IAmb 22 32 14.7
comp=Z,6.6nm,1.0s
MMAI Mount Meron Ar 88.81 303 LR LR 23 19 51.0
comp=Z,36nm,18.5s,baz=236,slow=41
EIL Elat 89.45 300 LR LR 23 17 17.2
comp=Z,63nm,21.3s,baz=84,slow=39
KMBO Kilima Mbogo 89.51 269 P **P 22 32 17.0 -0.4**
comp=Z,4.0nm,0.9s,baz=49,slow=5.6,SNR=9.6
KMBO LR LR 23 09 10.5
comp=Z,40nm,21.7s,baz=94,slow=34
KMBO Kilima Mbogo 89.51 269 P **P 22 32 16.3 -1.1**
KMBO pmax pmax
comp=Z,7.0nm,1.2s
KMBO Kilima Mbogo 89.51 269 P **P 22 32 16.3 -1.1**
KMBO IAmb IAmb 22 32 18.3
comp=Z,6.7nm,1.1s
PUL Pulkovo 89.61 330*ce*P **P 22 32 16.5 -0.1**
PUL pmax pmax
comp=Z,47nm,0.6s
BRTR Keskin Array B 89.69 310 P **P 22 32 15.8 -1.8**
comp=Z,1.9nm,0.8s,baz=112,slow=5.4,SNR=6.8
BRTR LR LR 23 18 18.0
comp=Z,71nm,20.5s,baz=74,slow=40
BRTR Keskin Array B 89.69 310 P **P 22 32 15.6 -2.0**
ARCES ARCESS Array B 90.00 340 P **P 22 32 17.5 -0.8**
comp=Z,5.2nm,0.9s,baz=96,slow=3.7,SNR=7.3
ARCES LR LR 23 15 48.6
comp=Z,132nm,20.6s,baz=104,slow=38
SPITS Spitsbergen Ar 90.02 349 LR LR 23 18 05.0
comp=Z,184nm,20.1s,baz=234,slow=39
FINES FINESS Array B 91.40 332 P **P 22 32 24.4 -0.6**
comp=Z,7.7nm,0.8s,baz=102,slow=6.4,SNR=15
FINES LR LR 23 16 18.4
comp=Z,177nm,19.7s,baz=49,slow=37
AKASG Malin Array Be 91.50 321 P **P 22 32 24.2 -1.4**
comp=Z,2.8nm,0.7s,baz=70,slow=4.2,SNR=14
AKASG LR LR 23 16 10.1
comp=Z,132nm,19.6s,baz=25,slow=37
AKASG Malin Array Be 91.50 321 P **P 22 32 24.3 -1.3**
AKASG Malin Array Be 91.50 321 P **P 22 32 24.3 -1.3**
AKBB Malin Array Si 91.50 321*ce*P **P 22 32 23.9 -1.7**
VSU Vasula 91.65 329 *e*P **P 22 32 25.5 -0.6**
MNK Minsk 91.72 325 *i*P **P 22 32 24.6 -1.9**
MNK *i* 22 36 04.7
MNK *i* PPP PPP 22 38 02.0
MNK *i* S **SKSac 22 42 56.6 -0.3**
MNK *i* PS **PS 22 44 37.3 -0.9**
MNK *i* SS **SS 22 49 29.9 -2.3**
MNK *i* SSS SSS 22 53 14.8
MNK pmax pmax
comp=N,3.0nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,35nm,1.0s
MNK MLR MLR
comp=N,131nm,19.0s
MNK MLR MLR
comp=Z,122nm,19.0s
MNK MLR MLR
comp=E,11nm,13.0s
MNK Minsk 91.72 325 *i*P **P 22 32 24.6 -1.9**
comp=E,2.0nm,1.0s
MNK *i* P **P 22 32 24.6 -1.9**
comp=N,3.0nm,1.0s
MNK *i* P **P 22 32 24.6 -1.9**
comp=Z,35nm,1.0s,baz=81
MNK *i* PP **PP 22 36 04.7 -0.5**
MNK *i* PPP PPP 22 38 02.0
MNK *i* S **SKSac 22 42 56.6 -0.3**
MNK *i* PS PS 22 44 37.4 -0.9
MNK *i* SS **SS 22 49 29.9 -2.3**
MNK *i* SSS SSS 22 53 14.9
MNK *i* LQ LQ 23 08 13.9
MNK *i* LR LR 23 11 34.7
MNK *i* LRM MLR 23 14 07.4
comp=N,131nm,19.3s
MNK *i* LRM MLR 23 14 11.9
comp=Z,122nm,19.3s
MNK *i* LRM MLR 23 14 15.8
comp=E,11nm,12.9s
IDID Didziasalis 92.23 326 *e*P **P 22 32 28.8 0.0**
NACGM Naroch 92.28 325 *e*P **P 22 32 28.7 -0.4**
SORM Soroca 92.46 318 ⇑P **P 22 32 29.6 -0.5**
MEF Metsahovi 92.47 331 *e*P **P 22 32 29.0 -0.8**
IIGN Ignalina 92.51 326 *e*P **P 22 32 29.9 -0.3**
NOR Nord 92.63 355 *i*P **P 22 32 32.5 +2.2**
C36M Paulatuk 92.80 20 P **P 22 32 31.4 +0.3**
baz=290
SYO Syowa Base 92.84 201⇓*e*P **P 22 32 30.4 -0.9**
VLDR Vladesti 93.00 316 ⇓P **P 22 32 33.0 +0.3**
MTSE Matsula 93.09 329 *e*P **P 22 32 33.9 +1.2**
PABE Paberze 93.73 326 P **P 22 32 34.8 -1.0**
PABE Paberze 93.73 326 *e*P **P 22 32 35.4 -0.4**
TAOE Nuku Hiva Isla 93.76 99 *e*LR LR 23 02 45.0
comp=E,153nm,22.2s
TESR Tescani 93.87 317 ⇓P **P 22 32 36.1 -0.5**
VRI Vrincioaia 93.93 316 ⇑P **P 22 32 37.1 +0.1**
PLOR Plostina 93.98 316 ⇓P **P 22 32 37.6 +0.3**
BISRR Bisoca 94.00 316 ⇓P **P 22 32 37.8 +0.4**
COVR Voineasa-Covas 94.29 316 ⇑P **P 22 32 37.5 -1.2**
NEHR Nehoiu 94.30 316 ⇑P **P 22 32 39.2 +0.5**
SUW Suwalki 94.52 325 *e*P **P 22 32 38.5 -0.9**
SUW Suwalki 94.52 325 P **P 22 32 38.7 -0.7**
SUW pmax pmax
comp=Z,40nm,0.9s
SUW Suwalki 94.52 325 P **P 22 32 38.7 -0.7**
SUW Suwalki 94.52 325 *e*P **P 22 32 38.9 -0.6**
MLR Muntele Rosu 94.53 316 ⇑P **P 22 32 40.2 +0.3**
MLR Muntele Rosu 94.53 316 LR LR 23 21 46.2
comp=Z,147nm,19.6s,baz=60,slow=40
MLR Muntele Rosu 94.53 316 P **P 22 32 39.6 -0.3**
MLR pmax pmax
comp=Z,7.0nm,0.9s
MLR Muntele Rosu 94.53 316 P **P 22 32 39.5 -0.3**
MLR IAmb IAmb 22 32 50.2
comp=Z,6.7nm,0.9s
BURAR Bucovina Array 94.62 318 ⇓P **P 22 32 39.4 -0.8**
BURAR Bucovina Array 94.62 318 P **P 22 32 39.6 -0.7**
BURAR IAmb IAmb 22 32 41.7
comp=Z,8.4nm,0.9s
BUR08 Bucovina Ar. S 94.63 318 P **P 22 32 39.5 -0.8**
BUR08 IAmb IAmb 22 32 41.4
comp=Z,6.0nm,0.9s
ARR Arges 95.47 316 ⇑P **P 22 32 44.0 -0.1**
MBAR Mbarara 95.97 270 LR LR 23 11 48.8
comp=Z,86nm,21.7s,baz=67,slow=33
TRPA Tarpa 96.28 319 ⇑P **P 22 32 46.9 -0.7**
UZH Uzhgorod 96.32 320⇑*i*P **P 22 32 47.1 -0.7**
UZH *i* 22 32 56.3
UZH *i* 22 32 57.8
CRVS Cervenica-Dubn 96.79 320 *i*P **P 22 32 50.5 +0.5**
CRVS Cervenica-Dubn 96.79 320 *e*PDIFF **P 22 32 50.5 +0.5**
DAG Danmarks Havn 96.79 352 *i*P **P 22 32 47.0 -2.3**
SIRR Siria 97.30 318 ⇑P **P 22 32 51.7 -0.6**
HFS Hagfors 97.59 332 LR LR 23 20 43.1
comp=Z,159nm,18.3s,baz=33,slow=38
NC405 NORSAR Array S 98.10 334 P **P 22 32 54.9 -0.7**
NB2 NORSAR Subarra 98.35 334 P **P 22 32 55.3 -1.5**
comp=Z,8.2nm,1.1s,baz=67,slow=4.6
NB2 NORSAR Subarra 98.35 334 P **P 22 32 55.3 -1.5**
baz=67,slow=4.6
NOA NORSAR Array B 98.35 334 P **P 22 32 55.8 -0.9**
comp=Z,2.4nm,0.9s,baz=66,slow=4.5,SNR=7.6
NOA LR LR 23 22 19.8
comp=Z,104nm,19.2s,baz=70,slow=38
DIVS Divibare 98.97 316 P **P 22 32 58.7 -1.3**
DBG Daneborg 99.06 351 *i*P **Pdif 22 32 57.4 -2.2**
YKA Yellowknife Ar 99.10 24 P **Pdif 22 33 00.5 +0.5**
comp=Z,0.7nm,1.0s,baz=297,slow=4.5,SNR=5.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YKA				PKiKP	**PKiKP**	**22 37 31.8**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=303,slow=2.0,SNR=3.8						
LSZ	**Lusaka**	**99.28**	**255**	LR	LR	23 14 10.4	
	comp=Z,98nm,21.9s,baz=138,slow=33						
JMIC	**Jan Mayen**	**99.40**	**346**	LR	LR	23 24 42.8	
	comp=Z,62nm,18.2s,baz=52,slow=40						
BRG	**Berggiesshubel**	**100.84**	**323**	*e*P	**Pdif**	**22 33 08.2**	**+0.2**
BRG				Amp		22 33 10.3	
	comp=Z,6.6nm,0.9s						
BRG	**Berggiesshubel**	**100.84**	**323**	*e*P	**Pdif**	**22 33 08.2**	**+0.2**
BRG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLL	**Collm**	**101.24**	**324**	*e*P	**Pdif**	**22 33 10.0**	**+0.2**
CLL	**Collm**	**101.24**	**324**	*e*Pdif	**Pdif**	**22 33 10.0**	**+0.2**
GERES	**GERESS Array B**	**101.69**	**322**	P	**Pdif**	**22 33 11.5**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=0.0,slow=2.7,SNR=8.0						
GERES	**GERESS Array B**	**101.69**	**322**	P	**Pdif**	**22 33 11.4**	**-0.6**
GERES	**GERESS Array B**	**101.69**	**322**		**Pdif**	**22 33 11.3**	**-0.6**
PDAR	**Pinedale Array**	**111.04**	**41**	PKKPab	PKKPab	22 48 59.1	-1.9
	comp=Z,0.8nm,0.8s,baz=127,slow=5.7,SNR=5.3						
SCHQ	**Schefferville**	**120.12**	**9**	PKP	**PKiKP**	**22 38 10.6**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=331,slow=19,SNR=3.8						
TXAR	**Lajitas Array**	**121.36**	**52**	PKP	**PKiKP**	**22 38 14.6**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=316,slow=1.7,SNR=6.5						
TXAR	**Lajitas Array**	**121.36**	**52**	PKIKP	**PKiKP**	**22 38 13.8**	**+0.6**
TXAR	**Lajitas Array**	**121.36**	**52**		**PKiKP**	**22 38 13.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP	**PKPdf**	**22 38 14.9**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=57,slow=1.6,SNR=11						
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKPdf	**PKPdf**	**22 38 15.1**	**-0.8**
PLCA	**Paso Flores**	**140.45**	**159**	PKP	**PKPdf**	**22 38 49.9**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=116,slow=5.8,SNR=3.7						
PLCA	**Paso Flores**	**140.45**	**159**	PKIKP	**PKPdf**	**22 38 49.4**	**+0.7**
PLCA	**Paso Flores**	**140.45**	**159**		**PKPdf**	**22 38 49.4**	**+0.7**
CO03	**El Pedregal**	**148.84**	**150**		**PKiKP**	**22 39 08.7**	**-0.1**
CPUP	**Villa Florida**	**157.65**	**170**	PKPab	**PKPab**	**22 39 47.4**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=191,slow=5.2,SNR=3.8						
LPAZ	**La Paz**	**161.13**	**131**	PKP	**PKPdf**	**22 39 22.4**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=233,slow=7.6,SNR=4.5						
SIV	**San Ignacio**	**166.02**	**148**	PKP	**PKPdf**	**22 39 25.8**	**+0.8**
	comp=Z,1.6nm,1.1s,baz=261,slow=5.4,SNR=1.8						

*IDC **06** 22:25:18.8±2.3, 7.°18S×129.°97E, h112km±28km, mb3.4/1, mb1 3.4/6, mb1mx3.1/45, mbtmp3.8/6 Error ellipse: s-maj=42.3km s-min=22.0km az=95.0*

ISC 06 22:25:17.1±0.9**, 7.°26S**±0.°06×**130.°0E**±0.°1**, h100**km**, n6,** σ**3.s99**/10**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.46**	**11**	P	**Pn**	**22 26 50.5**	**+0.7**
	1.4nm,0.3s,baz=232,slow=19,SNR=9.7						
SIJI				S	**Sn**	**22 27 57.5**	**-4.7**
	1.8nm,0.3s,baz=257,slow=23,SNR=2.1						
BATI	**Baumata**	**6.94**	**245**	P	**Pn**	**22 26 58.9**	**+2.6**
	3.2nm,0.3s,baz=100,slow=6.1,SNR=1.6						
BATI				S	**Sn**	**22 28 12.3**	**-1.5**
	10nm,0.3s,baz=143,slow=20,SNR=8.8						
FITZ	**Fitzroy Crossi**	**11.59**	**201**	P	**Pn**	**22 28 00.0**	**+0.6**
	0.4nm,0.3s,baz=27,slow=10,SNR=17						
FITZ				S	**Sn**	**22 29 59.4**	**-7.5**
	0.7nm,0.3s,baz=295,slow=21,SNR=2.4						
WRA	**Warramunga Arr**	**13.28**	**162**	P	**Pn**	**22 28 23.5**	**+1.7**
	0.1nm,0.3s,baz=335,slow=14,SNR=1.2						
WRA				S	**Sn**	**22 30 45.0**	**-3.0**
	0.6nm,0.3s,baz=336,slow=22,SNR=1.9						
ASAR	**Alice Springs**	**16.73**	**168**	P	**P**	**22 29 09.5**	**+3.3**
	0.1nm,0.3s,baz=341,slow=9.7,SNR=1.5						
MKAR	**Makanchi Array**	**68.46**	**327**	P	**P**	**22 36 08.2**	**-0.2**
	0.3nm,0.4s,baz=117,slow=8.1,SNR=6.5						

IDC 06 22:30:14.7±1.6**, 13.°97S**×**166.°41E, h0**km**, mb3.4**/3**, mb1 3.8**/4**, mb1mx3.4**/33**, mbtmp3.6**/4**, ML3.6**/1**, Error ellipse: s-maj=52.0km s-min=33.1km az=126.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.06**	**180**	Pn	Pn	22 32 13.1	-0.1
	0.8nm,0.3s,baz=336,slow=20,SNR=12						
DZM				Sn	Sn	22 33 34.7	-10
	baz=210,slow=22,SNR=0.7						
WRA	**Warramunga Arr**	**31.22**	**255**	P	P	22 36 36.1	-0.1
	0.3nm,0.8s,baz=87,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**32.18**	**248**	P	P	22 36 44.7	+0.1
	0.3nm,0.5s,baz=70,slow=9.8,SNR=2.1						
ILAR	**Eielson Array**	**86.06**	**18**	P	P	22 42 57.0	0.0
	0.4nm,0.8s,baz=226,slow=6.1,SNR=4.2						
ARCES	**ARCESS Array B**	**119.31**	**345**	PKP	PKPdf	22 49 05.2	-0.3
	3.1nm,1.1s,baz=64,slow=3.1,SNR=1.6						

IDC 06 22:51:06.1±24.0**, 25.°90S**×**177.°30W, h285**km±233km**, mb3.0**/3**, mb1 3.1**/4**, mb1mx2.9**/41**, mbtmp3.7**/4**, Error ellipse: s-maj=198.9km s-min=54.8km az=14.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.20**	**200**	P	Pn	22 54 03.3	0.0
	0.3nm,0.3s,baz=60,slow=8.1,SNR=1.4						
URZ				S	S	22 56 24.1	-5.5
	0.2nm,0.3s,baz=36,slow=11,SNR=1.9						
CTA	**Charters Tower**	**33.97**	**272**	P	P	22 57 23.6	+0.2
	1.8nm,0.4s,baz=92,slow=9.6,SNR=1.7						
ASAR	**Alice Springs**	**44.16**	**262**	P	P	22 58 47.7	+0.3
	0.1nm,0.3s,baz=101,slow=7.1,SNR=2.2						
WRA	**Warramunga Arr**	**44.74**	**267**	P	P	22 58 51.5	-0.5
	0.2nm,0.4s,baz=105,slow=7.5,SNR=14						
AKASG	**Malin Array Be**	**147.97**	**328**	PKPbc	PKPbc	23 10 17.0	-0.6
	0.3nm,0.4s,baz=42,slow=4.0,SNR=2.4						

*TUL **06** 22:55:55.2±0.7, 35.°66N±0.°03×97.°17W±0.°02, h5km±5km, ML2.9, mb_Lg2.6/44(NEIC), Error ellipse: s-maj=4.7km s-min=0.7km az=144.0*

*ANF **06** 22:55:55.1±0.2, 35.°71N×97.°15W, h5km, ML2.9/7, Error ellipse: s-maj=2.6km s-min=1.8km az=11.0*

*NEIC **06** 22:55:55.9±0.7, 35.°67N±0.°03×97.°18W±0.°02, h5km±5km, Error ellipse: s-maj=4.4km s-min=1.2km az=148.0*

ISC 06 22:55:55.2±1.0**, 35.°69N**±0.°03×**97.°17W**±0.°03**, h5**km±7km**, n44,** σ**0.s64**/36**, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.04**	**211**	Pg	**Pg**	**22 55 56.3**	**-0.1**
OK005				Sg	**Sg**	**22 55 57.1**	**0.0**
OK001	**Jones High Sch**	**0.16**	**218**	Pg	**Pg**	**22 55 58.5**	**+0.1**
OK009	**Oakdale Elemen**	**0.23**	**243**		**Pg**	**22 56 00.1**	**+0.4**
FNO	**Franklin**	**0.47**	**204**	Pg	**Pg**	**22 56 04.1**	**-0.1**
FNO				Sg	**Sg**	**22 56 10.8**	**+0.4**
W35A	**Tecumseh**	**0.58**	**156**	Pg	**Pg**	**22 56 06.2**	**-0.2**
TUL1	**Leonard**	**1.14**	**78**	Pg	**Pg**	**22 56 16.0**	**-1.0**
TUL1	**Leonard**	**1.14**	**78**	P	**Pg**	**22 56 16.1**	**-1.0**
	baz=258						
TUL1				S	**Sg**	**22 56 32.0**	**+0.2**
	baz=258						
X34A	**Smith Ranch, M**	**1.21**	**207**		**Pg**	**22 56 17.9**	**-0.6**
T35A	**Sooner Cattle**	**1.33**	**23**		**Pn**	**22 56 20.0**	**-0.6**
T35B	**Sooner Cattle**	**1.33**	**23**	P	**Pn**	**22 56 20.1**	**-0.4**
	baz=203						
T35B				S	**Sg**	**22 56 38.8**	**+0.7**
	baz=203						
WMOK	**Wichita Mounta**	**1.63**	**235**		**Pn**	**22 56 24.2**	**-0.3**
WMOK	**Wichita Mounta**	**1.63**	**235**	P	**Pn**	**22 56 24.3**	**-0.3**
	baz=54						
U32A	**Winter Ranch,**	**1.64**	**295**	Pn	**Pn**	**22 56 24.8**	**+0.1**
U32A	**Winter Ranch,**	**1.64**	**295**	P	**Pn**	**22 56 25.1**	**+0.3**
	baz=115						
U32A				Sb	**Sg**	**22 56 48.5**	**+0.6**
	baz=115						
X37A	**Clayton**	**1.83**	**126**		**Pn**	**22 56 27.6**	**+0.3**
X37A				IAmb_Lg		22 56 54.2	
	comp=Z,18nm,0.8s						
X37A	**Clayton**	**1.83**	**126**	P	**Pn**	**22 56 27.8**	**+0.5**
	baz=307						
X37A				Sb	**Sb**	**22 56 53.7**	**+1.2**
	baz=307						
Z35A	**Perchaven, San**	**2.35**	**182**	Pn	**Pn**	**22 56 35.0**	**+0.5**
Z35A				IAmb_Lg		22 57 13.2	
	comp=Z,18nm,0.9s						
HHAR	**Hobbs**	**2.68**	**76**	Pn	**Pn**	**22 56 40.7**	**+1.6**
W39A	**Magazine**	**2.81**	**99**	Pn	**Pn**	**22 56 41.1**	**+0.4**
W39A	**Magazine**	**2.81**	**99**	P	**Pn**	**22 56 41.2**	**+0.4**
	baz=281						
Z38A	**Mt. Pleasant**	**3.02**	**143**	Pn	**Pn**	**22 56 42.5**	**-1.1**
MIAR	**Mount Ida**	**3.16**	**110**	Pn	**Pn**	**22 56 46.4**	**+0.8**
KSU1	**Kansas State U**	**3.44**	**7**	IAmb_Lg		22 57 50.7	
	comp=Z,14nm,0.8s						
U40A	**Yellville**	**3.56**	**78**	Pn	**Pn**	**22 56 51.6**	**+0.5**
S39A	**Bolivar**	**3.68**	**56**		**Pn**	**22 56 53.2**	**+0.5**
ABTX	**Abilene, Hawle**	**3.68**	**215**		**Pn**	**22 56 52.2**	**-0.7**
ABTX	**Abilene, Hawle**	**3.68**	**215**	Pb	**Pb**	**22 57 00.0**	**-0.7**
	baz=33						
X40A	**Basin Creek Fa**	**3.75**	**107**		**Pn**	**22 56 54.1**	**+0.4**
X40A				IAmb_Lg		22 57 57.3	
	comp=Z,23nm,1.0s						
WHAR	**Wooly Hollow**	**4.00**	**94**	Pn	**Pn**	**22 56 57.5**	**+0.4**
W41B	**Gary Mavity, V**	**4.05**	**96**	Pn	**Pn**	**22 56 58.1**	**+0.3**
UALR	**University of**	**4.05**	**102**	IAmb_Lg		22 58 07.0	
	comp=Z,18nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.10**	**86**	Pn	**Pn**	**22 56 58.2**	**-0.4**
FCAR				IAmb_Lg		22 58 05.2	
	comp=Z,19nm,0.8s						
MGMO	**Mountain Grove**	**4.21**	**68**	IAmb_Lg		22 58 16.1	
	comp=Z,20nm,0.7s						
R40A	**Maddies Statio**	**4.70**	**55**	IAmb_Lg		22 58 33.1	
	comp=Z,9.5nm,0.7s						
P38A	**Dawn**	**4.87**	**35**	IAmb_Lg		22 58 41.3	
	comp=Z,10nm,0.7s						
LCAR	**Lake Charles**	**4.90**	**84**	IAmb_Lg		22 58 34.2	
	comp=Z,7.4nm,0.7s						
MSTX	**Muleshoe**	**4.92**	**251**	IAmb_Lg		22 58 33.5	
	comp=Z,6.8nm,0.8s						
CCM	**Cathedral Cave**	**5.30**	**62**	IAmb_Lg		22 58 53.1	
	comp=Z,11nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.47**	**309**	IAmb_Lg		22 58 57.5	
	comp=Z,7.5nm,0.8s						
PBMO	**Poplar Bluff**	**5.55**	**77**	IAmb_Lg		22 58 52.3	
	comp=Z,15nm,0.8s						
JCT	**Junction City**	**5.65**	**204**	IAmb_Lg		22 59 01.5	
	comp=Z,9.4nm,0.8s						
FVM	**French Village**	**5.87**	**65**	IAmb_Lg		22 59 15.7	
	comp=Z,9.3nm,0.9s						
T25A	**Trinidad**	**6.02**	**286**	IAmb_Lg		22 59 15.6	
	comp=Z,5.7nm,0.7s						
Q24A	**Divide**	**7.15**	**300**	IAmb_Lg		22 59 59.2	
	comp=Z,6.2nm,0.8s						

*IDC **06** 22:59:09.7±2.3, 14.°14S×166.°85E, h13km±12km, mb4.5/16, mb1 4.6/19, mb1mx4.5/38, mbtmp4.6/19, ML3.8/2, MS4.2/47, Ms1 4.2/47, ms1mx4.1/66, Error ellipse: s-maj=20.2km s-min=15.6km az=88.0*

*NEIC **06** 22:59:13.6±1.6, 14.°16S±0.°03×166.°73E±0.°08, h35km±1km, mb4.8/54, Error ellipse: s-maj=13.7km s-min=3.1km az=110.0*

*BJI **06** 22:59:13.5±0.0, 14.°08S×166.°60E, h37km, mb4.7/39, mB5.0/24, Ms4.7/6, Ms7 4.4/6*

*GCMT **06** 22:59:16.6±0.3, 14.°39S±0.°02×166.°46E±0.°02, h35km±1km, MW5.1/58, Moment Tensor Solution. s31,c37; s58,c77; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.15±.26; $M_{\theta\theta}$1.41±.19; $M_{\phi\phi}$-3.55±.16; $M_{r\theta}$3.16±.25; $M_{\theta\phi}$0.88±.10; $M_{\phi r}$-2.12±.15; Best double couple: $M_0$4.98400×10^16 NP1:ϕ_s23.00000°, δ34.00000°, λ153.00000°. NP2: ϕ_s136.00000°, δ75.00000°, λ59.00000°. Principal axes: T 5.0860, Plg50.0000°, Azm11.0000°; N -0.1950, Plg30.0000°, Azm145.0000°; P -4.8810, Plg24.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 22:59:14.1±0.6**, 14.°23S**±0.°05×**166.°70E**±0.°07**, h40**km±4km**, h40**km**:pP-P, n192,** σ**1.s25**/173**, mb4.8**/64**, MS4.2**/46**, 3C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**6.53**	**176**	Pn	**Pn**	**23 00 47.8**	**+0.2**
KOUNC	**Koumac, New Ca**	**6.69**	**200**		**Pn**	**23 00 50.5**	**+0.6**
MARNC	**Mare, Loyalty**	**7.32**	**170**		**Pn**	**23 00 59.8**	**+1.3**
DZM	**Mont Dzumac**	**7.80**	**182**	Pn	**Pn**	**23 01 05.3**	**+0.1**
	7.5nm,0.3s,baz=9.5,slow=18,SNR=33						
DZM				Sn	**Sn**	**23 02 32.3**	**0.0**
	2.6nm,0.3s,baz=145,slow=22,SNR=1.0						
DZM				LR	LR	23 03 54.9	
	comp=Z,3μm,20.1s,baz=312,slow=36						
DZM	**Mont Dzumac**	**7.80**	**182**	*e*Pn	**Pn**	**23 01 05.4**	**+0.2**
	73nm,0.4s						
DZM				*e*Sn	**Sn**	**23 02 30.0**	**-2.3**
	178nm,0.8s						
DZM				*e*LR	LR	23 02 53.8	
	comp=Z,4μm,24.8s						
ONTNC	**Ouen Toro**	**8.04**	**182**	Pn	**Pn**	**23 01 08.6**	**+0.3**
OUENC	**Ouen Island, N**	**8.14**	**179**	Pn	**Pn**	**23 01 10.1**	**+0.3**
HNR	**Honiara**	**8.15**	**305**	Pn	**Pn**	**23 01 09.9**	**0.0**
	53nm,0.3s,baz=195,slow=6.9,SNR=8.1						
HNR				Sn	**Sn**	**23 02 38.9**	**-1.9**
	16nm,0.3s,baz=188,slow=10,SNR=1.3						
HNR				LR	LR	23 04 27.2	
	comp=Z,771nm,18.4s,baz=141,slow=39						
HNR	**Honiara**	**8.15**	**305**		**Pn**	**23 01 08.9**	**-1.0**
PINNC	**Pines Island,**	**8.37**	**175**		**Pn**	**23 01 13.7**	**+0.9**
MSVF	**Nonsavu**	**11.46**	**109**	LR	LR	23 05 22.7	
	comp=Z,2μm,19.1s,baz=292,slow=33						
EIDS	**Eidsvold**	**18.38**	**231**	P	**P**	**23 03 25.7**	**0.0**
	baz=18,SNR=6.7						
EIDS	**Eidsvold**	**18.38**	**231**	P	**P**	**23 03 25.3**	**-0.4**
PMG	**Port Moresby**	**19.71**	**282**	P	**Pn**	**23 03 42.0**	**0.0**
	2.7nm,0.3s,baz=73,slow=5.1,SNR=13						
PMG				LR	LR	23 10 12.5	
	comp=Z,614nm,19.2s,baz=72,slow=33						
PMG	**Port Moresby**	**19.71**	**282**		**P**	**23 03 41.1**	**+0.8**
CTA	**Charters Tower**	**20.38**	**251**	P	Pn	23 03 48.8	-1.0
	34nm,1.1s,baz=71,slow=12,SNR=10						
CTA				LR	LR	23 10 52.4	
	comp=Z,988nm,19.3s,baz=78,slow=34						
CTA	**Charters Tower**	**20.38**	**251**	P	Pn	23 03 49.0	-0.8
	baz=20						
RMQ	**Roma**	**20.74**	**231**	P	Pn	23 03 53.8	-0.2
	baz=21,SNR=18						
AFI	**Afiamalu**	**20.88**	**92**	LR	LR	23 10 04.9	
	comp=Z,550nm,18.8s,baz=268,slow=32						
ARMA	**Armidale**	**21.26**	**218**	P	**P**	**23 03 59.2**	**+2.1**
	baz=21,SNR=5.7						
ARMA	**Armidale**	**21.26**	**218**	P	**P**	**23 03 57.0**	**-0.1**
ARMA				IAmb	IAmb	23 03 59.6	
	comp=Z,60nm,1.1s						
MTSU	**Mount Surprise**	**21.84**	**257**	P	**P**	**23 04 04.3**	**+1.0**
	baz=22,SNR=8.5						
COEN	**Coen**	**22.82**	**268**	P	**P**	**23 04 13.8**	**+0.1**
	baz=23						
COEN	**Coen**	**22.82**	**268**	P	**P**	**23 04 12.2**	**-1.6**
COEN				IAmb	IAmb	23 04 16.5	
	comp=Z,64nm,1.1s						
URZ	**Urewera**	**25.65**	**161**	P	**P**	**23 04 40.9**	**+0.9**
	comp=Z,6.2nm,0.8s,baz=17,slow=9.4,SNR=3.8						
URZ				LR	LR	23 14 02.7	
	comp=Z,429nm,18.3s,baz=24,slow=35						
URZ	**Urewera**	**25.65**	**161**	P	**P**	**23 04 40.3**	**+0.3**
CMSA	**Cobar Meteorol**	**25.83**	**225**	P	**P**	**23 04 42.5**	**+0.7**
	baz=26,SNR=16						
BKZ	**Black Stump Fm**	**26.30**	**163**	P	**P**	**23 04 46.0**	**0.0**
QIS	**Mount Isa**	**26.59**	**252**	P	**P**	**23 04 48.6**	**-0.1**
	baz=26,SNR=8.2						
THZ	**Tophouse**	**27.95**	**170**	P	**P**	**23 05 00.6**	**-0.2**
THZ				IAmb	IAmb	23 05 22.7	
	comp=Z,24nm,1.3s						
STKA	**Stephens Creek**	**28.90**	**228**	P	**P**	**23 05 10.2**	**+0.9**
	comp=Z,32nm,0.8s,baz=38,slow=7.9,SNR=52						
STKA				LR	LR	23 16 52.8	
	comp=Z,2μm,18.3s,baz=50,slow=37						
STKA	**Stephens Creek**	**28.90**	**228**	P	**P**	**23 05 10.4**	**+1.1**
	baz=29,SNR=43						
STKA	**Stephens Creek**	**28.90**	**228**	P	**P**	**23 05 09.9**	**+0.6**
RPZ	**Rata Peaks**	**29.62**	**174**	LR	LR	23 16 03.7	
	comp=Z,608nm,19.4s,baz=335,slow=34						
WR0	**Warramunga Arr**	**31.23**	**255**	P	**P**	**23 05 28.6**	**-1.4**
WR0				IAmb	IAmb	23 05 30.0	
	comp=Z,14nm,1.0s						
WB2	**Warramunga Arr**	**31.40**	**255**	P	**P**	**23 05 30.5**	**-1.1**
	baz=31						
WRAB	**Tennant Creek**	**31.40**	**255**	P	**P**	**23 05 30.1**	**-1.4**
WRAB				pP	**pP**	**23 05 39.8**	**-1.6**
WRAB				sP	**pwP**	**23 05 49.4**	**+2.6**
WRA	**Warramunga Arr**	**31.41**	**255**	P	**P**	**23 05 30.4**	**-1.3**
	comp=Z,9.9nm,0.9s,baz=84,slow=8.8,SNR=54						
WRA				ScP	**ScP**	**23 12 06.8**	**+2.0**
	comp=Z,1.2nm,1.0s,baz=81,slow=4.2,SNR=5.0						
WRA				LR	LR	23 17 25.5	
	comp=Z,820nm,19.7s,baz=74,slow=35						
WRA	**Warramunga Arr**	**31.41**	**255**	P	**P**	**23 05 30.2**	**-1.5**
HTT	**Hallett**	**31.63**	**228**	P	**P**	**23 05 34.7**	**+1.2**
	baz=32,SNR=6.6						
AS31	**Alice Springs**	**32.34**	**248**	P	**P**	**23 05 38.2**	**-1.6**
ASAR	**Alice Springs**	**32.34**	**248**	P	**P**	**23 05 38.8**	**-1.1**
	comp=Z,9.8nm,0.8s,baz=74,slow=9.6,SNR=91						
ASAR				ScP	**ScP**	**23 12 10.0**	**+2.1**
	comp=Z,1.5nm,1.1s,baz=86,slow=3.0,SNR=5.8						
ASAR				LR	LR	23 18 08.9	
	comp=Z,732nm,18.9s,baz=94,slow=35						
ASAR	**Alice Springs**	**32.34**	**248**	P	**P**	**23 05 38.0**	**-1.8**
RAR	**Rarotonga**	**32.63**	**107**	LR	LR	23 16 24.9	
	comp=Z,266nm,21.2s,baz=276,slow=32						
KDU	**Kakadu**	**33.31**	**268**	P	**P**	**23 05 48.4**	**+0.1**
	baz=33,SNR=6.0						
BBOO	**Buckleboo**	**33.45**	**231**	P	**P**	**23 05 50.2**	**+0.8**
	baz=33,SNR=22						
BBOO	**Buckleboo**	**33.45**	**231**	P	**P**	**23 05 49.5**	**+0.1**
MTN	**Manton Dam**	**34.59**	**268**	P	**P**	**23 05 58.7**	**-0.7**
MTN				IAmb	IAmb	23 06 07.7	
	comp=Z,15nm,0.9s						
KNRA	**Kununurra**	**36.65**	**263**	P	**P**	**23 06 16.7**	**-0.4**
	baz=37,SNR=7.2						
KNRA	**Kununurra**	**36.65**	**263**	P	**P**	**23 06 16.4**	**-0.8**
SIJI	**Sorong**	**37.47**	**288**	LR	LR	23 22 30.1	
	comp=Z,607nm,19.4s,baz=140,slow=37						
WRKA	**Warakurna**	**37.61**	**247**	P	**P**	**23 06 24.5**	**-0.7**
	baz=38,SNR=44						
FORT	**Forrest**	**39.08**	**238**	P	**P**	**23 06 37.8**	**+0.3**
	baz=39,SNR=18						
FORT	**Forrest**	**39.08**	**238**	P	**P**	**23 06 37.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**39.57**	**259**	LR	LR	23 23 03.0	
	comp=Z,822nm,18.3s,baz=92,slow=36						
FITZ	**Fitzroy Crossi**	**39.57**	**259**	P	**P**	**23 06 40.7**	**-1.0**
FITZ				IAmb	IAmb	23 06 42.2	
	comp=Z,16nm,1.1s						
LBMI	**Labuha**	**41.05**	**286**	P	**P**	**23 06 53.8**	**-0.2**
	comp=Z,28nm,1.4s						
SANI	**Sanana**	**41.99**	**283**	P	**P**	**23 07 02.0**	**+0.3**
	comp=Z,28nm,1.0s						
PPT2	**Papeete2**	**42.12**	**101**	*e*S	**S**	**23 13 21.3**	**+1.3**
	comp=Z,129nm,26.5s						
PPT2				*e*LQ	LQ	23 16 48.0	
	comp=Z,498nm,26.5s						
PPT2				*e*LR	LR	23 18 34.3	
	comp=Z,381nm,25.0s						
PPT	**Papeete**	**42.12**	**101**	LR	LR	23 22 46.8	
	comp=Z,222nm,19.4s,baz=290,slow=34						
BATI	**Baumata**	**42.21**	**270**	LR	LR	23 24 40.9	
	comp=Z,413nm,19.7s,baz=115,slow=36						
BATI	**Baumata**	**42.21**	**270**	P	**P**	**23 07 05.0**	**+1.5**
	comp=Z,46nm,1.0s						
MMRI	**Maumere**	**43.88**	**272**	P	**P**	**23 07 15.8**	**-1.3**
MMRI	**Maumere**	**43.88**	**272**	P	**P**	**23 07 16.6**	**-0.5**
	comp=Z,4μmcomp=Z,38nm,1.0s						
PSA00	**Pilbara Seismi**	**45.05**	**254**	P	**P**	**23 07 26.0**	**-0.3**
PSA00	**Pilbara Seismi**	**45.05**	**254**	P	**P**	**23 07 25.4**	**-0.9**
PSA00				IAmb	IAmb	23 07 43.1	
	comp=Z,19nm,1.1s						
LUWI	**Luwuk**	**45.36**	**283**	P	**P**	**23 07 29.4**	**+0.6**
	comp=Z,35nm,1.0s						
MEEK	**Meekatharra**	**46.47**	**247**	P	**P**	**23 07 37.9**	**+0.4**
	baz=46,SNR=14						
BNSI	**Bone**	**46.92**	**277**	P	**P**	**23 07 40.1**	**-1.0**
	comp=Z,11nm,1.3s						
KAPI	**Kappang**	**47.10**	**276**	LR	LR	23 28 17.7	
	comp=Z,114nm,19.5s,baz=90,slow=37						
KAPI	**Kappang**	**47.10**	**276**	P	**P**	**23 07 42.5**	**0.0**
KAPI				IAmb	IAmb	23 08 01.9	
	comp=Z,16nm,1.1s						
JCJ	**Chichijima**	**47.48**	**330**	LR	LR	23 25 42.7	
	comp=Z,65nm,21.9s,baz=198,slow=34						
KLBR	**Kellerberrin**	**47.87**	**240**	P	**P**	**23 07 48.1**	**-0.2**
	baz=48,SNR=3.7						
PLAI	**Plampang**	**48.17**	**271**	P	**P**	**23 07 50.9**	**+0.1**
	comp=Z,850nmcomp=Z,46nm,1.0s						
MPSI	**Mapaga**	**48.52**	**283**	P	**P**	**23 07 53.4**	**-0.1**
	comp=Z,18nm,1.2s						
NWAO	**Narrogin (SRO)**	**48.53**	**239**	P	**P**	**23 07 53.0**	**-0.3**
NWAO	**Narrogin (SRO)**	**48.53**	**239**	P	**P**	**23 07 53.1**	**-0.3**
NWAO				pP	**pP**	**23 08 03.4**	**-0.4**
MORW	**Morawa**	**48.99**	**244**	P	**P**	**23 07 57.1**	**+0.2**
	baz=49,SNR=6.5						
MORW	**Morawa**	**48.99**	**244**	P	**P**	**23 07 56.8**	**-0.1**
IGBI	**Denpasar**	**50.72**	**270**	P	**P**	**23 08 10.9**	**+0.6**
	comp=Z,135nm,1.1s						
JAGI	**Jajag, Banyuwa**	**51.75**	**270**	P	**P**	**23 08 16.6**	**-1.5**
JAGI	**Jajag, Banyuwa**	**51.75**	**270**	P	**P**	**23 08 17.3**	**-0.8**
	comp=Z,40nm,1.2s						
TAOE	**Nuku Hiva Isla**	**52.26**	**90**	*e*LR	LR	23 23 17.1	
	comp=Z,464nm,22.7s						
PCJI	**Pacitan**	**54.69**	**270**	P	**P**	**23 08 40.5**	**+0.8**
	comp=Z,53nm,1.7s						
SBUM	**Sibu**	**56.46**	**283**	P	**P**	**23 08 52.1**	**-0.3**
SBUM				IAmb	IAmb	23 08 54.4	
	comp=Z,7.7nm,1.1s						
MJAR	**Matsushiro Arr**	**57.21**	**333**	LR	LR	23 29 57.5	
	comp=Z,59nm,21.8s,baz=132,slow=32						
MJAR	**Matsushiro Arr**	**57.21**	**333**	P	**P**	**23 08 57.2**	**-0.1**
MAJO	**Matsushiro**	**57.21**	**333**	P	**P**	**23 08 56.9**	**-0.4**
MAJO				IAmb	IAmb	23 09 04.0	
	comp=Z,14nm,1.1s						
KSM	**Kuching**	**57.97**	**281**	P	**P**	**23 09 03.1**	**0.0**
KSM				IAmb	IAmb	23 09 25.6	
	comp=Z,7.9nm,0.9s						
LEM	**Lembang**	**58.43**	**271**	LR	LR	23 34 21.4	
	comp=Z,136nm,19.4s,baz=160,slow=36						
CGJI	**Cibinong**	**60.34**	**270**	P	**P**	**23 09 19.2**	**-0.3**
	comp=Z,991nmcomp=Z,20nm,0.7s						
ASAJ	**Asahikawa**	**62.09**	**341**	LR	LR	23 33 10.1	
	comp=Z,182nm,20.5s,baz=168,slow=33						
KSRS	**Korea Array**	**63.02**	**326**	P	**P**	**23 09 37.4**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=134,slow=6.4,SNR=5.1						
KSRS				LR	LR	23 36 05.9	
	comp=Z,38nm,19.0s,baz=85,slow=35						
VNDA	**Vanda**	**63.34**	**181**	P	**P**	**23 09 39.3**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=356,slow=7.1,SNR=7.9						
VNDA				LR	LR	23 34 28.2	
	comp=Z,100nm,18.4s,baz=4.5,slow=33						
VNDA	**Vanda**	**63.34**	**181**	P	**P**	**23 09 38.7**	**+0.1**
VNDA				IAmb	IAmb	23 09 52.4	
	comp=Z,12nm,1.2s						
SBA	**Scott Base**	**63.63**	**180**	P	**P**	**23 09 41.6**	**+1.1**
SBA	**Scott Base**	**63.63**	**180**	P	**P**	**23 09 42.7**	**+2.2**
SBA				pP	**pwP**	**23 09 54.0**	**-0.7**
NJ2	**Nanjing**	**64.94**	**316**	*e*P	**P**	**23 09 52.8**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
CCD	**Concordia, Ant**	**65.28**	**191**	⇑P	**P**	**23 09 52.7**	**+0.9**
CCD				pP	**pP**	**23 10 04.6**	**+1.5**
USA0B	**Ussuriysk Arra**	**66.20**	**333**	P	**P**	**23 09 57.2**	**-0.5**
USA0B				IAmb	IAmb	23 10 17.6	
	comp=Z,12nm,0.9s						
USRK	**Ussuriysk Ar.**	**66.20**	**333**	P	**P**	**23 09 57.5**	**-0.1**
	comp=Z,5.2nm,0.9s,baz=167,slow=6.8,SNR=4.6						
PETK	**Petropavlovsk-**	**67.51**	**354**	pP	**P**	**23 10 08.8**	**+3.0**
	comp=Z,3.7nm,0.6s,baz=169,slow=8.6,SNR=3.5						
PETK				LR	LR	23 34 24.8	
	comp=Z,150nm,20.6s,baz=144,slow=31						
IPM	**Ipoh**	**67.71**	**281**	P	**P**	**23 10 07.7**	**-0.3**
IPM				IAmb	IAmb	23 10 29.1	
	comp=Z,11nm,0.9s						
CN2	**Changchun**	**68.94**	**329**	*e*P	**P**	**23 10 14.9**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PSI	**Prapat**	**69.24**	**279**	LR	LR	23 41 58.3	
	comp=Z,87nm,18.7s,baz=151,slow=37						
KLR	**Kul'dur**	**70.33**	**336**	LR	LR	23 37 48.3	
	comp=Z,94nm,20.9s,baz=125,slow=33						
ENH	**Enshi**	**70.62**	**310**	P	**P**	**23 10 25.2**	**-0.5**
ENH				IAmb	IAmb	23 10 27.0	
	comp=Z,14nm,1.1s						
XAN	**Xi'an**	**72.95**	**313**	P	**P**	**23 10 40.3**	**+0.7**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMI	**Kunming**	**73.58**	**302**	⇑P	**P**	**23 10 45.5**	**+1.8**
KMI				pP	sP	23 10 58.6	-0.4
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
XLT	**XiLinHaoTe**	**73.98**	**324**	*e*P	P	23 10 50.6	+5.1
XLT				pP	PcP	23 10 59.6	-1.1
XLT				sP	sP	23 11 03.6	+2.9
XLT				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,16nm,0.9s						
XLT				pmax	pmax		
	comp=Z,92nm,3.8s						
CM31	**Chiang Mai Arr**	**74.24**	**294**	P	**P**	**23 10 47.2**	**-0.2**
CM31				IAmb	IAmb	23 10 50.3	
	comp=Z,8.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**74.24**	**294**	P	**P**	**23 10 48.8**	**+1.3**
	comp=Z,5.3nm,1.0s,baz=124,slow=4.5,SNR=20						
CMAR	**Chiang Mai Arr**	**74.24**	**294**	P	**P**	**23 10 47.9**	**+0.4**
CHTO	**Chiang Mai**	**74.37**	**294**	P	**P**	**23 10 47.7**	**-0.6**
HHC	**Hu-ho-hao-te**	**74.85**	**320**	*e*P	**P**	**23 10 52.4**	**+1.7**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.4s						
PZH	**PanZhiHua**	**74.97**	**303**	P	**P**	**23 10 52.2**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,90nm,4.5s						
CD2	**Chengdu**	**75.27**	**308**	P	**P**	**23 10 54.3**	**+1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**75.58**	**330**	P	**P**	**23 10 55.2**	**+0.6**
HIA				IAmb	IAmb	23 10 58.8	
	comp=Z,8.4nm,1.1s						
QSPA	**South Pole Qui**	**75.79**	**180**	P	**P**	**23 10 55.9**	**+0.1**
	comp=Z,15nm,1.1s,baz=24,slow=1.8						
QSPA				LR	LR	23 42 01.0	
	comp=Z,130nm,18.6s,baz=18,slow=34						
QSPA	**South Pole Qui**	**75.79**	**180**	P	**P**	**23 10 56.0**	**+0.2**
QSPA				IAmb	IAmb	23 10 59.8	
	comp=Z,14nm,1.0s						
LZH	**Lanzhou**	**77.58**	**312**	*e*P	**P**	**23 11 08.4**	**+2.0**
LZH				pP	pP	23 11 18.8	+1.3
LZH				sP	sP	23 11 22.4	+0.7
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				LR	LR		
	comp=Z,170nm,16.4s						
LZH				LR	LR		
	comp=Z,170nm,16.3s						
LZH				LR	LR		
	comp=Z,150nm,18.2s						
SEY	**Seymchan**	**77.73**	**353**	LR	LR	23 40 40.0	
	comp=Z,167nm,21.7s,baz=182,slow=32						
KDAK	**Kodiak Island**	**79.20**	**21**	LR	LR	23 40 20.2	
	comp=Z,303nm,19.2s,baz=226,slow=31						
GAMB	**Gambell**	**79.53**	**10**	P	**P**	**23 11 17.0**	**+0.8**
YAK	**Yakutsk**	**81.40**	**343**	LR	LR	23 48 57.6	
	comp=Z,124nm,18.0s,baz=90,slow=37						
ULN	**Ulaanbaatar**	**81.41**	**324**	P	**P**	**23 11 25.9**	**-1.1**
ULN				IAmb	IAmb	23 11 31.0	
	comp=Z,8.7nm,1.2s						
SONM	**Songino Array**	**81.77**	**324**	P	**P**	**23 11 29.1**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=145,slow=5.3,SNR=11						
SONM	**Songino Array**	**81.77**	**324**	P	**P**	**23 11 27.7**	**-1.1**
GTA	**Gaotai**	**81.93**	**314**	⇓P	**P**	**23 11 31.5**	**+1.7**
GTA				pP	pP	23 11 39.5	-1.5
GTA				sP	pwP	23 11 44.0	-1.3
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BILL	**Bilibino**	**82.05**	**360**	P	**P**	**23 11 28.7**	**-0.9**
SHL	**Shillong**	**82.85**	**299**	P	**P**	**23 11 34.5**	**-0.4**
SHL				IAmb	IAmb	23 11 36.2	
	comp=Z,13nm,1.1s						
J20K	**Nowinta River**	**83.70**	**16**	P	**P**	**23 11 38.2**	**-0.1**
J20K				IAmb	IAmb	23 11 44.9	
	comp=Z,9.5nm,1.5s						
GOMU	**GeErMu**	**84.25**	**309**	P	**P**	**23 11 43.0**	**+0.8**
GOMU				PP	**PP**	**23 14 57.0**	**-0.3**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,100nm,4.6s						
I21K	**Tanana**	**85.07**	**16**	P	**P**	**23 11 44.7**	**-0.4**
I21K				IAmb	IAmb	23 12 14.4	
	comp=Z,12nm,1.1s						
H21K	**Melozitna Rive**	**85.22**	**16**	P	**P**	**23 11 46.0**	**0.0**
H21K				IAmb	IAmb	23 12 12.5	
	comp=Z,5.8nm,1.1s						
IMAR	**Indian Mountai**	**85.23**	**15**	P	**P**	**23 11 45.6**	**-0.4**
YBH	**Yreka Blue Hor**	**85.46**	**45**	LR	LR	23 42 30.7	
	comp=Z,109nm,20.4s,baz=322,slow=30						
HDA	**Harding Lake**	**85.95**	**18**	P	**P**	**23 11 48.7**	**-0.9**
HDA				IAmb	IAmb	23 12 13.6	
	comp=Z,9.6nm,0.9s						
MDM	**Murphy Dome**	**85.96**	**18**		**P**	**23 11 47.4**	**-2.3**
IL31		**86.23**	**18**	P	**P**	**23 11 49.0**	**-1.8**
ILAR	**Eielson Array**	**86.23**	**18**	P	**P**	**23 11 49.0**	**-2.0**
	comp=Z,1.1nm,0.6s,baz=236,slow=5.2,SNR=21						
ILAR				LR	LR	23 45 00.4	
	comp=Z,244nm,20.6s,baz=197,slow=32						
ILAR	**Eielson Array**	**86.23**	**18**	P	**P**	**23 11 48.8**	**-2.2**
J25K	**Salcha River,**	**86.58**	**19**	P	**P**	**23 11 51.8**	**-1.0**
J25K				IAmb	IAmb	23 12 15.9	
	comp=Z,12nm,1.4s						
BBB	**Bella Bella**	**86.67**	**34**	LR	LR	23 42 55.0	
	comp=Z,146nm,20.5s,baz=256,slow=30						
PFO	**Pinyon Flats O**	**87.16**	**54**	LR	LR	23 43 53.3	
	comp=Z,283nm,19.5s,baz=234,slow=31						
BELA	**Belgrano 2**	**87.26**	**176**	P	**P**	**23 11 53.8**	**-2.1**
BELA				IAmb	IAmb	23 12 19.2	
	comp=Z,11nm,1.2s						
NVAR	**Mina Array Bea**	**87.37**	**49**	LR	LR	23 43 35.6	
	comp=Z,406nm,20.1s,baz=248,slow=30						
PALK	**Pallekele**	**87.91**	**278**	LR	LR	23 52 09.0	
	comp=Z,49nm,19.2s,baz=251,slow=36						
BMAR	**Burnt Mountain**	**88.76**	**17**	P	**P**	**23 12 03.8**	**+0.6**
DLBC	**Dease Lake**	**88.76**	**28**	LR	LR	23 43 41.8	
	comp=Z,142nm,22.0s,baz=266,slow=30						
SYO	**Syowa Base**	**89.02**	**197**	⇑*i*X	**P**	**23 12 01.0**	**-3.4**
LPIG	**La Paz**	**89.49**	**65**	LR	LR	23 47 08.3	
	comp=Z,62nm,18.1s,baz=226,slow=32						
ELK	**Elko**	**90.37**	**48**	LR	LR	23 45 26.4	
	comp=Z,191nm,19.7s,baz=244,slow=31						
NEW	**Newport**	**91.55**	**40**	LR	LR	23 51 59.4	
	comp=Z,76nm,18.3s,baz=241,slow=35						
WMQ	**Urumqi**	**91.99**	**315**	*e*P	**P**	**23 12 20.4**	**+1.6**
INK	**Inuvik**	**92.60**	**19**	LR	LR	23 47 10.1	
	comp=Z,227nm,21.1s,baz=218,slow=31						
REDW	**Red Top Meadow**	**94.25**	**46**	P	**P**	**23 12 28.8**	**-0.6**
MOOW	**Moose Ponds**	**94.43**	**46**	P	**P**	**23 12 30.0**	**-0.2**
MOOW				IAmb	IAmb	23 12 37.7	
	comp=Z,3.9nm,0.9s						
LOHW	**Long Hollow**	**94.50**	**46**	P	**P**	**23 12 27.1**	**-3.5**
PDAR	**Pinedale Array**	**95.02**	**47**	LR	LR	23 46 29.8	
	comp=Z,108nm,21.9s,baz=270,slow=30						
O20A	**White River Ci**	**95.33**	**50**	P	**P**	**23 12 33.0**	**-1.4**
ANMO	**Albuquerque**	**95.48**	**55**	LR	LR	23 48 05.2	
	comp=Z,166nm,20.2s,baz=268,slow=31						
MK31	**Makanchi Array**	**96.47**	**317**	P	**P**	**23 12 38.5**	**-0.7**
MK31				IAmb	IAmb	23 13 00.8	
	comp=Z,4.3nm,1.4s						
MKAR	**Makanchi Array**	**96.47**	**317**	P	**P**	**23 12 39.0**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=102,slow=5.9,SNR=10						
MKAR	**Makanchi Array**	**96.47**	**317**	P	**P**	**23 12 38.4**	**-0.8**
TXAR	**Lajitas Array**	**96.53**	**62**	LR	LR	23 47 37.0	
	comp=Z,115nm,21.6s,baz=274,slow=30						
ZALV	**Zalesovo Beam**	**96.67**	**324**	P	**P**	**23 12 38.5**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=108,slow=3.3,SNR=4.7						
ZALV				LR	LR	23 55 04.5	
	comp=Z,58nm,20.3s,baz=56,slow=35						
ZALV	**Zalesovo Beam**	**96.67**	**324**	P	**P**	**23 12 38.3**	**-1.6**
YKA	**Yellowknife Ar**	**97.36**	**27**	P	**P**	**23 12 40.8**	**-2.0**
	comp=Z,0.1nm,0.5s,baz=259,slow=4.6,SNR=3.8						
YKA				LR	LR	23 48 39.6	
	comp=Z,56nm,21.6s,baz=293,slow=30						
NRIK	**Noril'sk**	**99.42**	**339**	P	**Pdif**	**23 12 51.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=79,slow=5.2,SNR=3.9						
NRIK				LR	LR	00 00 20.6	
	comp=Z,64nm,18.0s,baz=101,slow=37						
ARCES	**ARCESS Array B**	**119.63**	**345**	PKP	**PKPdf**	**23 17 57.8**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=69,slow=1.6,SNR=50						
KLMR	**Klimovskoe**	**119.99**	**333**	*e*PKPdf	**PKiKP**	**23 17 59.9**	**-0.1**
KLMR				AMP		23 18 03.6	
	comp=Z,11nm,1.2s						
FINES	**FINESS Array B**	**125.06**	**338**	PKP	**PKPdf**	**23 18 08.7**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=102,slow=2.6,SNR=11						
NB2	**NORSAR Subarra**	**130.00**	**345**	SKPa		23 21 40.6	
	comp=Z,10nm,1.4s,baz=38,slow=4.8						
NB2	**NORSAR Subarra**	**130.00**	**345**	SKPa		23 21 40.6	
	baz=38,slow=4.8						
NOA	**NORSAR Array B**	**130.00**	**345**	PKP	**PKPdf**	**23 18 18.6**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=31,slow=2.0,SNR=3.4						
NOA				SKPbc	**SKPbc**	**23 21 41.3**	**+2.5**
	comp=Z,3.7nm,1.0s,baz=32,slow=2.9,SNR=5.5						
AKASG	**Malin Array Be**	**130.01**	**326**	PKP	**PKPdf**	**23 18 18.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=77,slow=1.1,SNR=6.9						
AKASG				SKPbc	**SKPbc**	**23 21 41.8**	**+2.7**
	comp=Z,1.2nm,0.8s,baz=52,slow=4.5,SNR=4.6						
AKASG	**Malin Array Be**	**130.01**	**326**		**PKiKP**	**23 18 20.0**	**-0.3**
CLL	**Collm**	**137.38**	**336**	*e*PKiKP	**PKiKP**	**23 18 37.0**	**+1.9**
CLL				*e*sPKiKP	**sPKiKP**	**23 18 52.0**	**+0.6**
CLL				*e*SKPdf	**SKPdf**	**23 22 06.0**	**+0.8**
	comp=Z,8.0nm,1.1s						
CONA	**Conrad Observa**	**138.62**	**330**	*e*P	**PKiKP**	**23 18 40.2**	**+2.3**
	comp=Z,5.6nm,1.4s						
CONA				*e*S	**SKiKP**	**23 22 12.9**	**+1.9**
	comp=Z,9.2nm,1.7s						
GERES	**GERESS Array B**	**138.95**	**333**	PKP	**PKPdf**	**23 18 36.7**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=70,slow=3.4,SNR=2.5						
GERES				SKPbc	**SKiKP**	**23 22 10.7**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=325,slow=2.1,SNR=7.2						
GERES	**GERESS Array B**	**138.95**	**333**	PKPdf	**PKPdf**	**23 18 36.6**	**+0.2**
SOKA	**Soboth**	**139.89**	**330**	*e*P	**PKiKP**	**23 18 42.2**	**+1.7**
	comp=Z,4.6nm,1.2s						
SOKA				*e*S	**SKiKP**	**23 22 12.2**	**-1.5**
	comp=Z,6.8nm,1.5s						
OBKA	**Obir**	**140.25**	**330**	*e*S	**SKPab**	**23 22 19.2**	**-4.4**
	comp=Z,5.3nm,1.9s						
KBA	**Koelnbreinsper**	**140.42**	**331**	*e*P	**PKiKP**	**23 18 44.5**	**+2.8**
	comp=Z,4.9nm,1.1s						
ABTA	**Abfaltersbach**	**141.05**	**332**	*e*S	**SKPbc**	**23 22 13.2**	**-0.8**
	comp=Z,5.3nm,1.5s						
MOTA	**Moosalm**	**141.23**	**333**	*e*S	**SKiKP**	**23 22 16.5**	**0.0**
	comp=Z,5.9nm,1.2s						
DAVA	**Damuels**	**141.79**	**334**	*e*P	**PKiKP**	**23 18 46.8**	**+2.2**
	comp=Z,7.6nm,1.4s						
KEST	**Kesra**	**150.48**	**321**	PKPbc	**PKPbc**	**23 19 01.8**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=94,slow=3.6,SNR=5.8						
KEST	**Kesra**	**150.48**	**321**		**PKPbc**	**23 19 01.6**	**-0.4**
ESDC	**Sonseca Array**	**153.36**	**344**	PKPbc	**PKPbc**	**23 19 07.6**	**-0.8**
	comp=Z,1.8nm,1.0s,baz=358,slow=3.2,SNR=7.8						
TORD	**Torodi Ar. Bea**	**165.39**	**268**	PKP	**PKPdf**	**23 19 14.2**	**-1.0**
	comp=Z,1.3nm,1.0s,baz=11,slow=2.2,SNR=5.4						
TORD				PKPab	**PKPab**	**23 20 13.2**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=88,slow=2.8,SNR=6.7						

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*TUL **06** 23:02:03.8±1.4, 36.29N±0.02×97.07W±0.02, h5^{km}±7^{km}, ML2.9, mb_Lg2.7/40(NEIC), Error ellipse: s-maj=2.4km s-min=2.0km az=197.0*

NEIC 06 23:02:04.0±0.9**, 36.29N**±0.02×**97.092W**±0.006**, h5**^{km}±7^{km}**, Error ellipse: s-maj=2.4km s-min=0.7km az=177.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.64**	**187**	Pg	Pg	23 02 16.6	+0.2
OK001	**Jones High Sch**	**0.75**	**192**	Pg	Pg	23 02 18.3	-0.1
T35A	**Sooner Cattle**	**0.78**	**37**		Pg	23 02 18.8	-0.2
FNO	**Franklin**	**1.06**	**194**		Pg	23 02 23.7	-0.7
TUL1	**Leonard**	**1.12**	**110**	Pg	Pg	23 02 24.5	-1.0
W35A	**Tecumseh**	**1.15**	**171**		Pg	23 02 25.0	-1.2
U32A	**Winter Ranch,**	**1.54**	**274**		Pn	23 02 32.5	+0.2
X34A	**Smith Ranch, M**	**1.79**	**200**	Pn	Pn	23 02 36.5	+0.8
X37A	**Clayton**	**2.21**	**140**		Pn	23 02 42.2	+0.9
R32A	**Long Quarter,**	**2.49**	**329**	Pn	Pn	23 02 45.9	+0.7
HHAR	**Hobbs**	**2.55**	**89**		Pn	23 02 47.2	+1.2
KSU1	**Kansas State U**	**2.83**	**8**		Pn	23 02 49.8	-0.1
W39A	**Magazine**	**2.91**	**111**	IAmb_Lg		23 03 39.5	
	comp=Z,31nm,0.7s						
CBKS	**Cedar Bluff**	**3.28**	**321**	IAmb_Lg		23 03 50.5	
	comp=Z,21nm,0.7s						
S39A	**Bolivar**	**3.33**	**64**		Pn	23 02 57.4	+0.6
S39A				IAmb_Lg		23 03 53.9	
	comp=Z,29nm,0.8s						
U40A	**Yellville**	**3.42**	**88**		Pn	23 02 58.8	+0.7
X40A	**Basin Creek Fa**	**3.92**	**116**	IAmb_Lg		23 04 12.1	
	comp=Z,17nm,0.8s						
MGMO	**Mountain Grove**	**3.97**	**76**		Pn	23 03 07.3	+1.7
WHAR	**Wooly Hollow**	**4.03**	**103**		Pn	23 03 06.9	+0.5
WHAR				IAmb_Lg		23 04 17.5	
	comp=Z,24nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.04**	**94**	IAmb_Lg		23 04 17.4	
	comp=Z,14nm,0.8s						
W41B	**Gary Mavity, V**	**4.10**	**104**		Pn	23 03 07.8	+0.5
W41B				IAmb_Lg		23 04 16.9	
	comp=Z,19nm,0.9s						
UALR	**University of**	**4.16**	**110**	IAmb_Lg		23 04 17.8	
	comp=Z,15nm,0.7s						
ABTX	**Abilene, Hawle**	**4.22**	**211**	IAmb_Lg		23 04 19.1	
	comp=Z,11nm,0.9s						
R40A	**Maddies Statio**	**4.33**	**61**		Pn	23 03 09.8	-0.8
P38A	**Dawn**	**4.36**	**39**	IAmb_Lg		23 04 33.2	
	comp=Z,22nm,1.3s						
CCM	**Cathedral Cave**	**4.99**	**68**	IAmb_Lg		23 04 38.1	
	comp=Z,17nm,0.9s						
P40A	**Paris**	**5.13**	**49**	IAmb_Lg		23 04 51.4	
	comp=Z,16nm,0.7s						
PBMO	**Poplar Bluff**	**5.39**	**83**	IAmb_Lg		23 04 58.3	
	comp=Z,15nm,0.9s						
FVM	**French Village**	**5.59**	**70**	IAmb_Lg		23 05 03.0	
	comp=Z,9.4nm,0.8s						
T25A	**Trinidad**	**5.94**	**280**	IAmb_Lg		23 05 13.3	
	comp=Z,7.5nm,0.8s						
JCT	**Junction City**	**6.22**	**202**	IAmb_Lg		23 05 28.5	
	comp=Z,15nm,1.1s						
S44A	**Carbondale**	**6.43**	**75**	IAmb_Lg		23 05 30.4	
	comp=Z,12nm,0.8s						
SIUC	**Southern Illin**	**6.46**	**75**	IAmb_Lg		23 05 32.7	
	comp=Z,11nm,0.7s						
N23A	**Red Feather La**	**8.31**	**306**	IAmb_Lg		23 06 47.0	
	comp=Z,6.8nm,0.9s						

IDC 06 23:10:59.7±8.9**, 5.47S**×**128.36E, h171**^{km}±110^{km}**, mb2.7**/1**, mb1 2.9**/4**, mb1mx2.6**/41**, mbtmp3.3**/4**, Error ellipse: s-maj=161.3km s-min=23.1km az=80.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.42**	**32**	P	Pn	23 12 19.1	0.0
	0.6nm,0.3s,baz=225,slow=20,SNR=1.3						
SIJI				S	Sn	23 13 12.7	-8.6
	1.3nm,0.3s,baz=279,slow=24,SNR=1.8						
WRA	**Warramunga Arr**	**15.51**	**159**	P	Pn	23 14 29.1	-0.5
	0.1nm,0.3s,baz=342,slow=13,SNR=10						
ASAR	**Alice Springs**	**18.86**	**164**	P	P	23 15 07.5	+0.5
	0.1nm,0.3s,baz=343,slow=12,SNR=6.8						
MKAR	**Makanchi Array**	**66.07**	**327**	P	P	23 21 28.0	-0.2
	0.2nm,0.7s,baz=114,slow=6.5,SNR=2.2						

IDC 06 23:15:33.5±2.3**, 6.50S**×**129.51E, h0**^{km}**, mb3.3**/1**, mb1 3.5**/4**, mb1mx3.2**/38**, mbtmp3.3**/4**, ML3.1**/3**, Error ellipse: s-maj=84.8km s-min=30.5km az=76.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.13**	**198**	Pn	Pn	23 18 28.1	+0.5
	0.1nm,0.3s,baz=25,slow=8.8,SNR=1.2						
FITZ				Sn	Sn	23 20 29.1	-15
	0.1nm,0.3s,baz=333,slow=10,SNR=1.4						
WRA	**Warramunga Arr**	**14.16**	**161**	Pn	Pn	23 18 55.1	-0.3
	0.1nm,0.3s,baz=340,slow=12,SNR=2.0						
WRA				Sn	Sn	23 21 18.1	-15
	0.1nm,0.3s,baz=330,slow=22,SNR=3.0						
ASAR	**Alice Springs**	**17.58**	**167**	P	Pn	23 19 40.0	-0.1
	0.2nm,0.3s,baz=339,slow=10,SNR=8.9						
MKAR	**Makanchi Array**	**67.55**	**327**	P	P	23 26 31.7	0.0
	0.2nm,0.7s,baz=140,slow=7.5,SNR=2.3						

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*IDC **06** 23:24:57.1±1.0, 36.33N×97.63W, h0^{km}, mb3.4/1, mb1 3.8/5, mb1mx3.4/57, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=13.8km s-min=11.4km az=122.0*
*NEIC **06** 23:24:57.7±0.4, 36.21N±0.02×97.56W±0.02, h4^{km}±7^{km}, Error ellipse: s-maj=2.6km s-min=1.8km az=220.0*
*ANF **06** 23:24:57.3±0.3, 36.22N×97.56W, h6^{km}, ML4.2/15, Error ellipse: s-maj=3.5km s-min=2.8km az=7.0*
*TUL **06** 23:24:57.1±0.6, 36.21N±0.02×97.56W±0.02, h6^{km}±7^{km}, ML3.6, mb_Lg3.7/115(NEIC), Mwr3.4/15(SLM), Error ellipse: s-maj=2.5km s-min=1.7km az=211.0*
*NEIC **06** 23:24:57.1, 36.21N×97.56W, h4^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$1.33; $M_{\phi\phi}$-1.33; $M_{r\theta}$0.13; $M_{\theta\phi}$1.11; $M_{\phi r}$0.28; Fault plane solution: $M_0$1.76000×10^{14} NP1:ϕ_s115.00000°, δ80.00000°, λ0.00000°. NP2:ϕ_s205.00000°, δ90.00000°, λ-170.00000°. Principal axes: T 1.7590, Plg7.0000°, Azm340.0000°; N 0.0002, Plg80.0000°, Azm205.0000°; P -1.7592, Plg7.0000°, Azm71.0000°;*

ISC 06 23:24:57.0±1.3**, 36.24N**±0.03×**97.55W**±0.03**, h1**^{km}±11^{km}**, n111, σ0.80**/86**, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.66**	**153**	Pg	**Pg**	**23 25 09.4**	**-0.1**
OK009	**Oakdale Elemen**	**0.67**	**171**		**Pg**	**23 25 09.6**	**-0.2**
OK001	**Jones High Sch**	**0.71**	**163**		**Pg**	**23 25 10.3**	**-0.3**
FNO	**Franklin**	**0.99**	**173**		**Pg**	**23 25 15.2**	**-0.8**
FNO				IAmb_Lg		23 25 28.5	
	comp=Z,425nm,1.0s						
T35A	**Sooner Cattle**	**1.07**	**51**		**Pg**	**23 25 17.7**	**+0.2**
T35B	**Sooner Cattle**	**1.07**	**51**	P	**Pg**	**23 25 17.8**	**+0.2**
	baz=231,SNR=440						
T35B				S	**Sg**	**23 25 32.8**	**+1.3**
	baz=231						
U32A	**Winter Ranch,**	**1.18**	**277**		**Pg**	**23 25 18.8**	**-0.8**
U32A	**Winter Ranch,**	**1.18**	**277**	P	**Pg**	**23 25 18.8**	**-0.8**
	baz=98,SNR=51						
U32A				S	**Sb**	**23 25 35.4**	**-0.5**
	baz=98						
W35A	**Tecumseh**	**1.22**	**153**	Pg	**Pg**	**23 25 19.0**	**-1.3**
TUL1	**Leonard**	**1.46**	**103**	Pg	**Pn**	**23 25 23.6**	**-0.9**
TUL1	**Leonard**	**1.46**	**103**	P	**Pn**	**23 25 23.6**	**-0.9**
	baz=282,SNR=188						
TUL1				S	**Sn**	**23 25 43.8**	**-0.4**
	baz=282						
X34A	**Smith Ranch, M**	**1.65**	**188**		**Pn**	**23 25 27.1**	**0.0**
WMOK	**Wichita Mounta**	**1.81**	**214**		**Pn**	**23 25 28.5**	**-0.7**
WMOK	**Wichita Mounta**	**1.81**	**214**	P	**Pn**	**23 25 28.6**	**-0.7**
	baz=34,SNR=318						
R32A	**Long Quarter,**	**2.36**	**337**		**Pn**	**23 25 37.0**	**+0.1**
R32A	**Long Quarter,**	**2.36**	**337**	P	**Pb**	**23 25 39.3**	**-1.1**
	baz=157,SNR=48						
R32A				Sb	**Sg**	**23 26 11.9**	**-1.0**
	baz=157						
X37A	**Clayton**	**2.43**	**132**		**Pn**	**23 25 37.9**	**+0.2**
X37A	**Clayton**	**2.43**	**132**	P	**Pn**	**23 25 38.0**	**+0.3**
	baz=313,SNR=120						
X37A				Sb	**Sb**	**23 26 13.2**	**+1.4**
	baz=313						
Z35A	**Perchaven, San**	**2.92**	**175**		**Pn**	**23 25 44.1**	**-0.4**
Z35A	**Perchaven, San**	**2.92**	**175**	P	**Pn**	**23 25 44.6**	**+0.1**
	baz=355,SNR=13						
HHAR	**Hobbs**	**2.92**	**88**		**Pn**	**23 25 44.3**	**-0.2**
HHAR				IAmb_Lg		23 26 36.5	
	comp=Z,147nm,0.7s						
KSU1	**Kansas State U**	**2.95**	**14**		**Pn**	**23 25 45.8**	**+0.8**
KSU1				IAmb_Lg		23 26 39.7	
	comp=Z,145nm,0.7s						
KSU1	**Kansas State U**	**2.95**	**14**	P	**Pn**	**23 25 46.1**	**+1.2**
	baz=195,SNR=28						
CBKS	**Cedar Bluff**	**3.10**	**327**		**Pn**	**23 25 47.4**	**+0.3**
W39A	**Magazine**	**3.24**	**108**		**Pn**	**23 25 48.9**	**0.0**
W39A				IAmb_Lg		23 26 48.4	
	comp=Z,322nm,1.0s						
W39A	**Magazine**	**3.24**	**108**	P	**Pn**	**23 25 49.1**	**+0.3**
	baz=289						
W39A				S	**Sg**	**23 26 40.6**	**-0.5**
	baz=289						
Z38A	**Mt. Pleasant**	**3.65**	**144**	Pn	**Pn**	**23 25 54.0**	**-0.5**
Z38A				IAmb_Lg		23 27 01.2	
	comp=Z,292nm,0.7s						
MIAR	**Mount Ida**	**3.66**	**116**	Pn	**Pn**	**23 25 55.0**	**+0.2**
MIAR				IAmb_Lg		23 27 00.9	
	comp=Z,162nm,0.7s						
S39A	**Bolivar**	**3.68**	**66**	Pn	**Pn**	**23 25 55.3**	**+0.3**
S39A				IAmb_Lg		23 26 59.6	
	comp=Z,156nm,0.8s						
S39A	**Bolivar**	**3.68**	**66**	P	**Pn**	**23 25 55.3**	**+0.3**
	baz=248,SNR=94						
U40A	**Yellville**	**3.80**	**87**	Pn	**Pn**	**23 25 55.7**	**-0.9**
ABTX	**Abilene, Hawle**	**4.00**	**206**		**Pn**	**23 25 58.7**	**-0.8**
ABTX				IAmb_Lg		23 27 03.8	
	comp=Z,155nm,1.0s						
X40A	**Basin Creek Fa**	**4.23**	**113**		**Pn**	**23 26 02.8**	**+0.2**
X40A	**Basin Creek Fa**	**4.23**	**113**	P	**Pn**	**23 26 03.0**	**+0.4**
	baz=296,SNR=8.2						
X40A				P	**Pn**	**23 26 03.0**	**+0.4**
	baz=296,SNR=8.2						
WHTX	**Lake Whitney,**	**4.24**	**179**		**Pn**	**23 26 01.9**	**-0.8**
MGMO	**Mountain Grove**	**4.34**	**76**		**Pn**	**23 26 04.3**	**+0.2**
MGMO				IAmb_Lg		23 27 16.6	
	comp=Z,117nm,0.8s						
WHAR	**Wooly Hollow**	**4.38**	**101**		**Pn**	**23 26 04.0**	**-0.6**
WHAR				IAmb_Lg		23 27 19.2	
	comp=Z,249nm,1.2s						
FCAR	**Ozark Folk Cen**	**4.41**	**93**		**Pn**	**23 26 04.7**	**-0.3**
FCAR				IAmb_Lg		23 27 20.0	
	comp=Z,105nm,0.8s						
W41B	**Gary Mavity, V**	**4.45**	**102**		**Pn**	**23 26 04.8**	**-0.7**
W41B				IAmb_Lg		23 27 19.3	
	comp=Z,123nm,0.8s						
WLAR	**White Oak Lake**	**4.45**	**124**		**Pn**	**23 26 05.4**	**-0.1**
WLAR				IAmb_Lg		23 27 23.0	
	comp=Z,122nm,0.9s						
237A	**Washetta, Mont**	**4.47**	**161**	Pn	**Pn**	**23 26 04.8**	**-0.9**
237A	**Washetta, Mont**	**4.47**	**161**	P	**Pn**	**23 26 04.9**	**-0.9**
	baz=341,SNR=5.9						
N33A	**J Bar K, Exete**	**4.49**	**1**	Pn	**Pn**	**23 26 05.3**	**-0.8**
N33A				IAmb_Lg		23 27 32.0	
	comp=Z,146nm,0.8s						
UALR	**University of**	**4.49**	**108**	Pn	**Pn**	**23 26 06.3**	**+0.1**
P38A	**Dawn**	**4.63**	**42**	Pn	**Pn**	**23 26 08.0**	**-0.1**
P38A				IAmb_Lg		23 27 26.9	
	comp=Z,190nm,0.7s						
R40A	**Maddies Statio**	**4.68**	**63**		**Pn**	**23 26 09.0**	**+0.2**
R40A				IAmb_Lg		23 27 26.1	
	comp=Z,140nm,1.0s						
R40A	**Maddies Statio**	**4.68**	**63**	P	**Pn**	**23 26 08.8**	**+0.1**
	baz=245,SNR=27						
MSTX	**Muleshoe**	**4.84**	**244**		**Pn**	**23 26 10.8**	**-0.3**
N35A	**Tabor**	**4.85**	**17**		**Pn**	**23 26 10.2**	**-0.9**
KSCO	**Kaye Shedlock'**	**4.89**	**306**		**Pn**	**23 26 12.4**	**+0.7**
Z41A	**Richland Creek**	**4.91**	**126**	Pn	**Pn**	**23 26 10.9**	**-1.0**
Z41A				IAmb_Lg		23 27 39.1	
	comp=Z,179nm,0.9s						
LCAR	**Lake Charles**	**5.18**	**90**	Pn	**Pn**	**23 26 15.7**	**+0.1**
BGNE	**Belgrade**	**5.18**	**355**	Pn	**Pn**	**23 26 15.3**	**-0.3**
BGNE	**Belgrade**	**5.18**	**355**	P	**Pn**	**23 26 15.4**	**-0.2**
	baz=175						
CCAR	**Cane Creek**	**5.28**	**114**	Pn	**Pn**	**23 26 16.5**	**-0.4**
CCM	**Cathedral Cave**	**5.35**	**68**	Pn	**Pn**	**23 26 17.8**	**-0.2**
CCM				IAmb_Lg		23 27 53.5	
	comp=Z,151nm,0.8s						
CCM	**Cathedral Cave**	**5.35**	**68**	P	**Pn**	**23 26 17.8**	**-0.2**
	baz=252,SNR=16						
435B	**Jarrell**	**5.45**	**180**	IAmb_Lg		23 27 55.5	
	comp=Z,92nm,0.8s						
P40A	**Paris**	**5.45**	**51**	Pn	**Pn**	**23 26 18.9**	**-0.3**
P40A				IAmb_Lg		23 27 54.6	
	comp=Z,176nm,0.9s						
T25A	**Trinidad**	**5.58**	**281**	Pn	**Pn**	**23 26 21.0**	**-0.4**
T25A				IAmb_Lg		23 28 07.6	
	comp=Z,144nm,0.8s						
N38A	**Joes South For**	**5.66**	**35**	Pn	**Pn**	**23 26 22.5**	**+0.3**
PBMO	**Poplar Bluff**	**5.76**	**83**	IAmb_Lg		23 28 06.1	
	comp=Z,120nm,0.8s						
L34A	**Svendsen Farm,**	**5.79**	**9**	IAmb_Lg		23 28 02.4	
	comp=Z,181nm,0.8s						
OGNE	**Ogallala**	**5.86**	**325**	IAmb_Lg		23 28 09.4	
	comp=Z,125nm,0.7s						
FVM	**French Village**	**5.95**	**71**		**Pn**	**23 26 26.1**	**-0.2**
FVM				IAmb_Lg		23 28 07.5	
	comp=Z,82nm,1.0s						
FVM	**French Village**	**5.95**	**71**	P	**Pn**	**23 26 26.2**	**0.0**
	baz=255,SNR=6.6						
JCT	**Junction City**	**6.05**	**199**		**Pn**	**23 26 27.2**	**-0.4**
143A	**Socs Landing,**	**6.18**	**123**	IAmb_Lg		23 28 24.8	
	comp=Z,92nm,0.8s						
SDCO	**Great Sand Dun**	**6.54**	**286**	Pn	**Pn**	**23 26 35.5**	**+1.0**
Q24A	**Divide**	**6.62**	**297**	Pn	**Pn**	**23 26 35.3**	**-0.3**
Q24A				IAmb_Lg		23 28 36.9	
	comp=Z,115nm,0.8s						
HALT	**Halls**	**6.66**	**90**	IAmb_Lg		23 28 32.3	
	comp=Z,149nm,1.0s						
S44A	**Carbondale**	**6.80**	**75**	Pn	**Pn**	**23 26 37.5**	**-0.3**
S44A				IAmb_Lg		23 28 35.0	
	comp=Z,108nm,0.7s						
SIUC	**Southern Illin**	**6.83**	**75**	IAmb_Lg		23 28 32.5	
	comp=Z,147nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OXF	Oxford	6.87	102	IAmb_Lg		23 28 44.7	
	comp=Z,109nm,0.9s						
N41A	Harden Midland	6.89	48		Pn	23 26 39.3	+0.3
W45A	Hickory Valley	6.89	97	IAmb_Lg		23 28 55.9	
	comp=Z,79nm,0.8s						
Y45A	Yeager Farm, C	6.98	108	IAmb_Lg		23 28 51.0	
	comp=Z,79nm,0.9s						
VBMS	Vicksburg	7.07	123	IAmb_Lg		23 28 49.3	
	comp=Z,70nm,1.1s						
P43A	Skaggs, Pawnee	7.19	59	IAmb_Lg		23 28 52.8	
	comp=Z,137nm,0.9s						
Q44A	Meyer Farm, Va	7.28	66	Pn	Pn	23 26 44.0	-0.4
ISCO	Idaho Springs	7.29	302	Pn	Pn	23 26 45.6	+0.8
ISCO				IAmb_Lg		23 28 57.2	
	comp=Z,85nm,1.1s						
735A	Kenedy	7.37	182	IAmb_Lg		23 29 00.9	
	comp=Z,52nm,0.9s						
ANMO	Albuquerque	7.37	262	Pg	Pb	23 27 10.1	+4.3
	comp=Z,1.4nm,0.3s,baz=77,slow=16,SNR=17						
ANMO				Lg	Lg	23 28 43.5	
	comp=Z,3.1nm,0.3s,baz=352,slow=20,SNR=4.5						
ECSD	EROS Data Cent	7.52	5	Pn	Pn	23 26 46.2	-1.5
L40A	Anamosa	7.61	38	IAmb_Lg		23 29 01.3	
	comp=Z,99nm,0.9s						
HDIL	Hopedale	7.78	54		Pn	23 26 50.6	-0.7
WVT	Waverly	7.86	88	Pn	Pn	23 26 53.0	+0.6
146A	Union	7.88	115	IAmb_Lg		23 29 15.3	
	comp=Z,46nm,0.9s						
OLIL	Olney	7.91	69	IAmb_Lg		23 29 13.7	
	comp=Z,114nm,1.1s						
MNTX	Cornudas Mount	7.93	237	Pn	Pn	23 26 52.6	-0.7
PHWY	Pilot Hill	7.98	312	IAmb_Lg		23 29 21.9	
	comp=Z,84nm,1.0s						
N23A	Red Feather La	8.05	308	IAmb_Lg		23 29 30.2	
	comp=Z,94nm,0.8s						
833A	Chaparral WMA,	8.05	192	IAmb_Lg		23 29 16.8	
	comp=Z,65nm,1.0s						
USIN	University of	8.08	75	IAmb_Lg		23 29 17.1	
	comp=Z,114nm,1.1s						
O44A	Mansfield	8.15	59	IAmb_Lg		23 29 30.0	
	comp=Z,78nm,0.8s						
SUSD	Miller	8.26	353	IAmb_Lg		23 29 30.8	
	comp=Z,63nm,0.8s						
Z47A	Carrollton	8.37	109	IAmb_Lg		23 29 42.3	
	comp=Z,44nm,1.1s						
I37A	Lemond, Waseca	8.39	21	IAmb_Lg		23 29 35.6	
	comp=Z,73nm,0.7s						
TXAR	Lajitas Array	8.60	218	Pn	Pn	23 27 01.9	-0.7
	comp=Z,0.3nm,0.3s,baz=40,slow=12,SNR=16						
TXAR				Lg	Lg	23 29 23.8	
	comp=Z,1.4nm,0.3s,baz=32,slow=31,SNR=5.0						
TX32	Lajitas Array	8.60	218	Pn	Pn	23 27 02.0	-0.6
JFWS	Jewell Farm	8.72	38	IAmb_Lg		23 29 43.1	
	comp=Z,96nm,0.7s						
RWWY	Rawlins	9.28	309	IAmb_Lg		23 30 12.0	
	comp=Z,63nm,0.9s						
RSSD	Black Hills	9.30	330	IAmb_Lg		23 29 59.1	
	comp=Z,36nm,0.8s						
I40A	Norwalk	9.30	33	IAmb_Lg		23 29 58.2	
	comp=Z,63nm,0.9s						
K43A	Burlington	9.61	45	IAmb_Lg		23 30 14.7	
	comp=Z,71nm,0.9s						
SPMN	Marine on St.	9.67	20	IAmb_Lg		23 30 17.4	
	comp=Z,73nm,1.1s						
TKL	Tuckaleechee C	11.18	89	Pn	Pn	23 27 37.7	-0.2
	comp=Z,0.1nm,0.3s,baz=255,slow=5.3,SNR=1.9						
TKL				Lg	Lg	23 30 44.9	
	comp=Z,0.9nm,0.3s,baz=189,slow=23,SNR=6.4						
PDAR	Pinedale Array	11.33	309	Pn	Pn	23 27 38.9	-1.2
	comp=Z,0.2nm,0.3s,baz=118,slow=11,SNR=6.1						
PDAR				Lg	Lg	23 30 47.5	
	comp=Z,0.4nm,0.3s,baz=116,slow=35,SNR=3.0						
ULM	Lac du Bonnet	14.05	4	Pn	Pn	23 28 11.6	-5.5
	comp=Z,0.3nm,0.3s,baz=187,slow=9.2,SNR=1.8						
ULM				Sn	Sn	23 30 39.9	-14
	comp=Z,0.3nm,0.3s,baz=90,slow=21,SNR=2.0						
ULM				Lg	Lg	23 32 10.6	
	comp=Z,0.2nm,0.3s,baz=277,slow=16,SNR=1.7						
SADO	Sadowa	16.36	53	Lg	Lg	23 33 20.5	
	comp=Z,0.3nm,0.3s,baz=281,slow=17,SNR=1.7						
ILAR	Eielson Array	40.75	330	P	P	23 32 39.5	+0.4
	comp=Z,0.4nm,0.9s,baz=110,slow=7.1,SNR=4.3						

*IDC **06** 23:36:57.6±0.6, 67°.86N×20°.20E, h0km, mb3.2/5, mb1 3.5/12, mb1mx3.3/43, mbtmp3.3/12, ML3.2/7, Error ellipse: s-maj=14.8km s-min=7.1km az=114.0*
*HEL **06** 23:36:57.9, 67°.82N×20°.21E, h0km, ML2.8, Explosion*
*UPP **06** 23:36:57.5±0.0, 67°.82N×20°.21E, h0km, ML3.1, Explosion*
*DNK **06** 23:36:57.8±0.4, 67°.82N×20°.21E, h0km, ML3.1(UPP), Explosion*
*NAO **06** 23:36:58.0±0.6, 67°.84N×20°.34E, ML3.3*
*KOLA **06** 23:36:58.1, 67°.71N×20°.22E, h0km, ML2.8*
*BER **06** 23:36:59.7±3.6, 67°.86N×20°.34E, h0km, ML2.7, ML3.3(NAO), Suspected explosion*
ISC 06 23:36:56.8±0.5**, 67°.79N**±0°.02×**20°.23E**±0°.02**, h0km, n88, σ1s.36**/135**, mb3.1**/5**, 3C, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOVU	Salmi	0.43	357	⇑P	Pg	23 37 05.1	0.0
KOVU				S	Sg	23 37 10.6	-0.1
KOVU	Salmi	0.43	357	⇑P	Pg	23 37 05.1	0.0
KOVU				S	Sg	23 37 10.6	-0.1
KOVU	Salmi	0.43	357	⇑iP	Pg	23 37 05.1	0.0
KOVU				iS	Sg	23 37 10.6	-0.1
NIKU	Nikkaluokta	0.46	280	P	Pg	23 37 06.1	+0.5
NIKU				S	Sg	23 37 12.2	+0.7
NIKU	Nikkaluokta	0.46	280	P	Pg	23 37 06.1	+0.5
NIKU				S	Sg	23 37 12.2	+0.7
NIKU	Nikkaluokta	0.46	280	iP	Pg	23 37 06.1	+0.5
NIKU				iS	Sg	23 37 12.2	+0.7
DUNU	Dundret	0.69	169	P	Pg	23 37 10.8	+0.9
DUNU	Dundret	0.69	169	P	Pg	23 37 10.8	+0.9
DUNU	Dundret	0.69	169	iP	Pg	23 37 10.8	+0.9
LANU	Lannavaara	0.71	68	P	Pg	23 37 11.0	+0.5
LANU	Lannavaara	0.71	68	P	Pg	23 37 11.0	+0.5
LANU	Lannavaara	0.71	68	iP	Pg	23 37 11.0	+0.5
MASU	Masugnsbyn	0.76	116	P	Pg	23 37 12.2	+0.9
MASU	Masugnsbyn	0.76	116	P	Pg	23 37 12.2	+0.9
MASU	Masugnsbyn	0.76	116	iP	Pg	23 37 12.2	+0.9
SALU	Saltoluokta	0.78	239	P	Pg	23 37 12.3	+0.6
SALU	Saltoluokta	0.78	239	P	Pg	23 37 12.3	+0.6
SALU	Saltoluokta	0.78	239	iP	Pg	23 37 12.3	+0.6
KIF	Kilpisjarvi	1.24	10	Pg	Pb	23 37 20.9	-0.1
KIF				Lg	Lg	23 37 36.5	
KIF	Kilpisjarvi	1.24	10	Pg	Pb	23 37 20.9	-0.1
KIF				Sg	Sg	23 37 36.5	0.0
KIF	Kilpisjarvi	1.24	10	eP	Pg	23 37 20.1	-0.3
KIF				MSG		23 37 35.8	
	comp=Z,248nm,0.2s						
KIF				eSB	Sg	23 37 36.8	+0.3
PAJU	Pajala	1.35	123	P	Pg	23 37 22.6	-0.2
PAJU				S	Sb	23 37 41.4	+0.5
PAJU	Pajala	1.35	123	P	Pg	23 37 22.6	-0.2
PAJU				S	Sb	23 37 41.4	+0.5
PAJU	Pajala	1.35	123	eP	Pg	23 37 22.4	-0.3
	baz=309						
HEF	Hetta	1.43	63	Pg	Pn	23 37 23.7	-0.3
HEF				Lg	Lg	23 37 42.0	
HEF	Hetta	1.43	63	Pg	Pn	23 37 23.7	-0.3
HEF				Sg	Sg	23 37 42.0	-0.6
HEF	Hetta	1.43	63	eP	Pn	23 37 23.2	-0.7
	baz=245						
HEF				MSG		23 37 40.7	
	comp=Z,92nm,0.2s						
HEF				eSB	Sg	23 37 42.4	-0.3
ERTU	Ertsjaerv	1.46	148	P	Pn	23 37 24.7	+0.3
ERTU	Ertsjaerv	1.46	148	P	Pn	23 37 24.7	+0.3
ERTU	Ertsjaerv	1.46	148	eP	Pn	23 37 24.5	+0.1
ERTU				eSN	Sn	23 37 48.7	+4.5
KLF	Kolari	1.54	110	eP	Pn	23 37 25.7	+0.2
KTK1	Kautokeino	1.66	41	Pn	Pn	23 37 27.4	+0.4
KTK1				Lg	Lg	23 37 49.9	
KTK1	Kautokeino	1.66	41	eP	Pn	23 37 27.3	+0.2
KTK1				IAML		23 37 52.4	
	comp=Z,108nm,0.7s						
HARU	Harads	1.66	170	P	Pb	23 37 28.0	-0.2
HARU	Harads	1.66	170	P	Pb	23 37 28.0	-0.2
HARU	Harads	1.66	170	eP	Pb	23 37 28.0	-0.2
JETT	Jettan, Norway	1.77	2	Pn	Pn	23 37 29.0	+0.2
JETT				Sg	Sn	23 37 52.2	+0.2
JETT				IAML		23 37 54.6	
	comp=Z,300nm,0.4s						
STEI	Steigen	1.90	277	Pn	Pb	23 37 31.9	-0.3
STEI				Sn	Sb	23 37 56.8	+0.4
STEI	Steigen	1.90	277	eP	Pb	23 37 31.9	-0.3
STEI				eS	Sn	23 37 55.3	+0.4
STEI				IAML		23 37 59.8	
	comp=Z,124nm,0.4s						
TRO	Tromso	1.91	346	Pn	Pn	23 37 31.2	+0.6
TRO				Sn	Sb	23 37 56.5	-0.2
FAUS	Fauske	1.94	260	eP	Pb	23 37 32.5	-0.5
FAUS				eS	Sb	23 37 58.0	+0.4
FAUS				IAML		23 38 04.4	
	comp=Z,118nm,0.4s						
KALU	Kalix	2.30	146	eP	Pb	23 37 37.9	-1.3
KALU				eSG	Sb	23 38 09.2	+1.2
TOF	Tornio	2.36	135	eP	Pb	23 37 38.9	-1.2
	baz=321						
TOF				MSG		23 38 08.4	
	comp=Z,38nm,0.2s						
TOF				eSG	Sg	23 38 11.5	-0.9
SGF	Sodankyl	2.44	95	eP	Pn	23 37 39.4	+1.6
	baz=281						
SGF				eSG	Sg	23 38 14.6	-0.3
RNF	Rovaniemi	2.55	115	eP	Pn	23 37 41.2	+1.9
	baz=303						
RNF				eSB	Sb	23 38 14.9	-0.2
ARA0	ARCESS Array S	2.60	45	Pn	Pn	23 37 41.0	+0.8
	baz=233,slow=14						
ARA0				Sn	Sn	23 38 13.7	+1.2
	baz=228,slow=28						
ARA0				Lg	Lg	23 38 17.5	
	baz=224,slow=28						
ARA0	ARCESS Array S	2.60	45	Pn	Pn	23 37 41.0	+0.8
	baz=233,slow=14						
ARA0				Sn	Sn	23 38 13.7	+1.2
	baz=228,slow=28						
ARA0				Sg	Sb	23 38 17.5	+0.6
	baz=224,slow=28						
ARA0				IAML		23 38 18.7	
	comp=Z,47nm,0.7s						
ARA0	ARCESS Array S	2.60	45	e		23 38 07.8	
ARCES	ARCESS Array B	2.60	45	Pn	Pn	23 37 40.8	+0.7
	baz=237,slow=14,SNR=248						
ARCES				Sn	Sn	23 38 13.2	+0.8
	baz=228,slow=24,SNR=14						
ARCES	ARCESS Array B	2.60	45	P	Pn	23 37 41.5	+1.3
ARCES				S	Sb	23 38 15.0	-1.9
MOR8	Moi Rana	2.80	237	Pn	Pn	23 37 43.0	+0.2
MOR8				Sn	Sb	23 38 20.4	-1.9
HAMF	Hammerfest	3.12	22	Pn	Pn	23 37 48.3	+1.2
HAMF				Sn	Sn	23 38 26.0	+1.0
KEV	Kevo	3.16	48	Pn	Pn	23 37 48.2	+0.6
KEV				Sn	Sn	23 38 27.8	+1.8
KEV	Kevo	3.16	48	Pn	Pn	23 37 48.2	+0.6
KEV	Kevo	3.16	48	eP	Pn	23 37 48.5	+0.8
KEV				eS	Sn	23 38 27.5	+1.5
KEV				MSG		23 38 30.1	
	comp=Z,24nm,0.2s						
VRF	Varrio	3.57	86	eP	Pn	23 37 54.3	+1.0
	baz=272						
OUF	Merijarvi	3.90	150	eP	Pn	23 37 59.6	+1.8
UMAU	Umeaa	3.93	177	eP	Pn	23 38 00.8	+2.6
	baz=353						
UMAU				eSG	Sg	23 39 01.8	-1.1
MSF	Maaselka	3.96	114	eP	Pn	23 38 00.4	+1.7
	baz=300						
KU6	Riekki	4.20	110	eP	Pn	23 38 03.6	+1.6
	baz=295						
PRVG	Vayda Guba	4.77	60	P	Pn	23 38 10.6	+0.9
PRVG				S	Sn	23 39 04.6	-1.0
APA0	Apatity Array	4.87	86	Pn	Pn	23 38 11.1	-0.1
	baz=273,slow=11						
APA0				Sn	Sn	23 39 07.0	-1.1
	baz=270,slow=22						
APA0				Lg	Lg	23 39 26.1	
	baz=294,slow=22						
APA0	Apatity Array	4.87	86	Pn	Pn	23 38 11.1	-0.1
	baz=273,slow=11						
APA0				Sn	Sn	23 39 07.0	-1.1
	baz=270,slow=22						
APA0				Sg	Sb	23 39 26.1	+4.3
	baz=294,slow=22						
APA0	Apatity Array	4.87	86	P	Pn	23 38 11.1	-0.1
APA0				S	Sn	23 39 05.8	-2.2
LVZ	Lovozero	5.46	82	P	Pn	23 38 20.2	+0.9
LVZ				S	Sn	23 39 21.6	-1.1
TERR	Teriberka	5.65	69	P	Pn	23 38 21.8	-0.1
TERR				S	Sn	23 39 24.6	-2.7
FIA0	FINESS Array S	6.85	156	Pn	Pn	23 38 40.0	+1.7
	baz=353,slow=14						
FIA0				Sn	Sn	23 39 57.5	+0.6
	baz=346,slow=28						
FIA0				Lg	Lg	23 40 30.4	
	baz=356,slow=28						
FIA0	FINESS Array S	6.85	156	Pn	Pn	23 38 40.0	+1.7
	baz=353,slow=14						
FIA0				Sn	Sn	23 39 57.5	+0.6
	baz=346,slow=28						
FINES	FINESS Array B	6.85	156	Pn	Pn	23 38 40.0	+1.7
	comp=Z,0.6nm,0.3s,baz=349,slow=13,SNR=28						
FINES				Sn	Sn	23 39 54.9	-2.0
	comp=Z,0.5nm,0.3s,baz=346,slow=23,SNR=1.8						
FINES				Lg	Lg	23 40 29.3	
	comp=Z,1.3nm,0.3s,baz=350,slow=28,SNR=16						
NB2	NORSAR Subarra	7.81	214	Pn	Pn	23 38 53.3	+1.7
	baz=20,slow=12						
NB2				Lg	Lg	23 41 01.9	
	baz=31,slow=37						
NB2	NORSAR Subarra	7.81	214	Pn	Pn	23 38 53.3	+1.7
	baz=20,slow=12						
NOA	NORSAR Array B	7.81	214	Pn	Pn	23 38 51.9	+0.3
	comp=Z,0.1nm,0.3s,baz=26,slow=11,SNR=13						
NOA				Sn	Sn	23 40 17.1	-3.5
	comp=Z,0.1nm,0.3s,baz=38,slow=24,SNR=2.2						
NOA				Lg	Lg	23 40 59.3	
	comp=Z,0.1nm,0.3s,baz=44,slow=23,SNR=5.9						
NRA0	NORESS Array S	8.02	212	Pn	Pn	23 38 55.4	+0.9
	baz=21,slow=16						
NRA0				Sn	Sn	23 40 24.1	-1.6
	baz=15,slow=28						
NRA0				Lg	Lg	23 41 07.4	
	baz=18,slow=28						
NRA0	NORESS Array S	8.02	212	Pn	Pn	23 38 55.4	+0.9
	baz=21,slow=16						
HFS	Hagfors	8.20	204	Pn	Pn	23 38 57.1	+0.2
	comp=Z,0.3nm,0.3s,baz=66,slow=15,SNR=1.5						
HFS				Sn	Sn	23 40 26.5	-3.7
	comp=Z,0.7nm,0.3s,baz=11,slow=25,SNR=2.0						
HFS				Lg	Lg	23 41 14.5	
	comp=Z,0.8nm,0.3s,baz=23,slow=24,SNR=5.8						
HFS	Hagfors	8.20	204	Pn	Pn	23 38 57.8	+0.9
HFS				Sn	Sn	23 40 27.5	-2.7
HFS				Lg	Lg	23 41 13.5	
	baz=31,slow=28						
HFS	Hagfors	8.20	204	Pn	Pn	23 38 57.8	+0.9
SPA0	Spitsbergen Ar	10.50	356	Pn	Pn	23 39 27.7	-0.6
	baz=160,slow=11						
SPA0	Spitsbergen Ar	10.50	356	Pn	Pn	23 39 27.7	-0.6
	baz=160,slow=11						
SPITS	Spitsbergen Ar	10.50	356	Pn	Pn	23 39 25.7	-2.6
	baz=149,slow=14,SNR=21						
KLMR	Klimovskoe	10.84	121	ePn	Pn	23 39 31.6	-1.3
KLMR				AMP		23 39 42.0	
	comp=Z,5.0nm,0.9s						
KLMR				eSn	Sn	23 41 29.7	-5.0
KLMR				eSn	Sn	23 41 29.7	-5.0
AKASG	Malin Array Be	17.71	161	P	Pn	23 41 05.2	+0.7
	comp=Z,0.4nm,0.3s,baz=345,slow=11,SNR=2.4						
GERES	GERESS Array B	19.29	193	P	Pn	23 41 23.8	-0.1
	comp=Z,0.1nm,0.3s,baz=1.9,slow=12,SNR=2.1						
MKAR	Makanchi Array	37.40	92	P	P	23 44 12.3	+1.3
	comp=Z,0.1nm,0.5s,baz=324,slow=6.5,SNR=1.7						
YKA	Yellowknife Ar	45.99	333	P	P	23 45 21.2	+0.1
	comp=Z,0.1nm,0.6s,baz=18,slow=8.4,SNR=3.4						
ILAR	Eielson Array	47.40	353	P	P	23 45 33.4	+1.3
	comp=Z,0.5nm,0.6s,baz=360,slow=6.6,SNR=9.8						
TORD	Torodi Ar. Bea	55.93	202	P	P	23 46 36.0	-0.4
	comp=Z,0.3nm,0.7s,baz=6.4,slow=7.0,SNR=5.1						
TXAR	Lajitas Array	74.59	311	P	P	23 48 37.3	-0.2
	comp=Z,0.1nm,0.5s,baz=28,slow=6.1,SNR=2.6						

*ISK **06** 23:41:49.4, 35°.98N×31°.46E, h17km, ML3.2/23*
*NIC **06** 23:41:51.4±0.0, 35°.99N×31°.59E, h50km±11km, Ml3.2/6*
*DDA **06** 23:41:52.1±0.0, 36°.06N×31°.49E, h32km, ML3.0*
ISC 06 23:41:50.4±1.2**, 35°.98N**±0°.02×**31°.46E**±0°.02**, h25km**±13km**, n81, σ1s.28**/119**, 1D, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.74	69	PG	Pb	23 42 04.4	-0.3
GAZI				SG	Sb	23 42 14.9	+0.6
GAZI	Gazipasa	0.74	69	P	Pb	23 42 04.9	+0.3
GAZI				S	Sb	23 42 14.3	0.0
GAZI				i AML	AML	23 42 15.0	
	comp=Z,651nm,0.2s						
GAZI				i AML	AML	23 42 16.0	
	comp=N,1µm,0.6s						
GAZI				i AML	AML	23 42 16.0	
	comp=E,604nm,0.4s						
KEPZ	Antalya-Kepez	0.93	7	P	Pb	23 42 07.3	-0.6
KEPZ				S	Sb	23 42 19.0	-0.9
KEMT	Kemer-ANTALYA	0.96	311	PG	Pn	23 42 08.4	0.0
KEMT				SG	Sn	23 42 22.2	+0.9
AKUM	Antalya-Kumluc	0.97	291	P	Pn	23 42 09.4	+0.9
AKUM				S	Sn	23 42 25.8	+4.3
ANTB	Antalya	1.13	325	PN	Pn	23 42 10.2	-0.5
AKMS	Akamas	1.19	143	P	Pn	23 42 11.7	+0.1
AKMS				S	Sb	23 42 27.1	-0.3
AKMS				AML	AML	23 42 32.3	
	1.3nm,0.4s						
AKMS				AML	AML	23 42 32.3	
	1.3nm,0.4s						
AKMS				AML	AML	23 42 35.9	
	2.0nm,0.2s						
AKMS				AML	AML	23 42 35.9	
	2.0nm,0.2s						
ALFC	Alefka	1.24	131	P	Pn	23 42 11.4	-0.8
ALFC				S	Sn	23 42 26.8	-1.3
ALFC				AML	AML	23 42 27.0	
	1.9nm,0.2s						
ALFC				AML	AML	23 42 27.0	
	1.9nm,0.2s						
ALFC				AML	AML	23 42 35.7	
	1.8nm,0.3s						
ALFC				AML	AML	23 42 35.7	
	1.8nm,0.3s						
HDMB	Hadim	1.28	40	PN	Pn	23 42 13.2	+0.2
ERMK	Ermenek	1.35	60	P	Pn	23 42 14.3	+0.4
ERMK				S	Sn	23 42 30.1	-1.0
TEKE	Tekeli-Mersin	1.35	83	PN	Pn	23 42 13.7	0.0
SEYD	Seydisehir-KON	1.46	12	PN	Pn	23 42 15.7	+0.4
ELL	Elmali	1.47	302	PN	Pn	23 42 15.8	+0.3
ELL	Elmali	1.47	302	P	Pb	23 42 16.6	-0.5
BERE	Bereket-Mersin	1.47	75	PN	Pn	23 42 15.8	+0.2
SEDI	Konya, Seydise	1.49	9	P	Pn	23 42 16.0	+0.2
SEDI				S	Sn	23 42 33.7	-0.8
NATA	Nata	1.50	143	S	Sn	23 42 34.2	-0.4
NATA				AML	AML	23 42 42.9	
	1.3nm,0.4s						
NATA				AML	AML	23 42 44.1	
	2.0nm,1.0s						
AKAS	Kas	1.52	280	PN	Pn	23 42 16.7	+0.4
AKAS	Kas	1.52	280	P	Pn	23 42 15.9	-0.3
BUCA	Burdur, Bucak-	1.53	332	P	Pb	23 42 17.7	-0.4
BUCA				S	Sb	23 42 37.5	+0.4
SUTC	Sutluce-Ispart	1.54	346	PN	Pn	23 42 16.6	+0.1
BCK	Bucak	1.64	335	PN	Pn	23 42 18.3	+0.5
TEVE	Tevekalti-Mers	1.67	74	PN	Pn	23 42 18.6	+0.4
AKK1	Akkuyu-Mersin	1.69	84	PN	Pn	23 42 19.1	+0.7
AKK2	Akkuyu-Mersin	1.70	84	PN	Pn	23 42 19.0	+0.5
GULN	MERSIN_Gulnar	1.70	82	P	Pn	23 42 19.3	+0.7
GULN				S	Sn	23 42 40.0	+0.6
AKKU	Akkuyu-Mersin	1.70	83	PN	Pn	23 42 19.2	+0.6
KKBE	Karaman, Kazim	1.72	43	P	Pb	23 42 20.6	-0.8
KKBE				S	Sb	23 42 41.5	-1.1
ATHAL	Athalassa	1.79	117	P	Pn	23 42 19.1	-0.6
ATHAL				S	Sn	23 42 40.9	-0.7
ATHAL				AML	AML	23 42 43.0	
	0.8nm,0.3s						
ATHAL				AML	AML	23 42 43.0	
	0.8nm,0.3s						
ATHAL				AML	AML	23 42 44.0	
	0.6nm,0.7s						
ATHAL				AML	AML	23 42 44.0	
	0.6nm,0.7s						
TISA	Tisan-Mersin	1.81	84	PN	Pn	23 42 20.5	+0.5
IKL	Isikli	1.82	81	PN	Pn	23 42 20.8	+0.6
LFK	Lefkose	1.82	112	PN	Pn	23 42 20.8	+0.5
CSS	Mathiatis	1.83	123	PN	Pn	23 42 19.5	-0.9
CSS	Mathiatis	1.83	123	P	Pn	23 42 19.3	-1.1
CSS				S	Sn	23 42 41.3	-1.5
KRMN	Karaman	1.88	50	PN	Pn	23 42 21.6	+0.5
KEBE	Keben-Mersin	1.88	75	PN	Pn	23 42 21.8	+0.7
ASGA	Asgata	1.88	129	P	Pn	23 42 21.1	+0.1
ASGA				AML	AML	23 42 51.9	
	0.3nm,0.6s						
ASGA				AML	AML	23 42 53.7	
	0.4nm,0.4s						
KMER	Konya-Meram	1.93	22	P	Pn	23 42 23.1	+1.2
KMER				S	Sn	23 42 46.4	+1.0
GOLH	Golhisar	1.98	310	P	Pb	23 42 24.4	-1.5
MVOU	Mavrovouni	2.01	118	⇓eP	Pn	23 42 21.6	-1.3
MVOU				S	Sn	23 42 45.4	-1.8
MVOU				AML	AML	23 42 46.5	
	0.3nm,0.3s						
MVOU				AML	AML	23 42 46.5	
	0.3nm,0.3s						
MVOU				AML	AML	23 42 48.1	
	0.3nm,0.2s						
MVOU				AML	AML	23 42 48.1	
	0.3nm,0.2s						
SILI	Silifke-Mersin	2.03	78	PN	Pn	23 42 23.8	+0.7
FETY	Fethiye	2.03	290	P	Pn	23 42 22.8	-0.3
BRDR	BURDUR-Merkez	2.05	327	P	Pb	23 42 25.2	-1.8
BRDR				S	Sb	23 42 50.1	-2.1
CAEL	Denizli, Camel	2.07	304	P	Pn	23 42 24.9	+1.1
CAEL				i AML	AML	23 43 10.0	
	comp=N,116nm,0.9s						
BAGO	Egridir - ISPA	2.08	345	P	Pn	23 42 23.7	-0.2
BAGO				S	Sn	23 42 49.3	+0.3
KONT	Konya--Tatoy	2.09	20	PN	Pn	23 42 24.9	+0.9
KONT	Konya--Tatoy	2.09	20	P	Pn	23 42 25.1	+1.2
KONT				S	Sn	23 42 46.7	-2.5
DOGA	KONYA_Doganhis	2.13	4	P	Pn	23 42 25.5	+0.9
DOGA				S	Sn	23 42 49.5	-0.9
EREN	Erenkoy	2.25	101	PN	Pn	23 42 26.9	+0.8
EREN	Erenkoy	2.25	101	P	Pn	23 42 27.3	+1.3
EREN				S	Sn	23 42 52.8	-0.2
EREN				i AML	AML	23 42 56.0	
	comp=E,104nm,0.5s						
EREN				i AML	AML	23 43 00.0	
	comp=Z,132nm,0.5s						
YVAC	Isparta, Yalva	2.29	356	P	Pn	23 42 27.4	+0.5
YVAC				S	Sn	23 42 53.8	-0.6
PARAL	Paralimni	2.32	114	S	Sn	23 42 53.8	-1.0
LADK	Ladik-KONYA	2.33	18	PN	Pn	23 42 28.2	+0.8
AFYN	Afyon-Dinar-K	2.41	342	P	Pb	23 42 35.8	+2.6
AFYN				S	Sb	23 43 08.0	+5.4
OSC1	CSNet OBS 1	2.48	184	P	Pn	23 42 31.1	+1.9
OSC1				S	Sn	23 42 59.7	+1.1
KZIL	AFYON_Kizioren	2.51	336	P	Pn	23 42 29.6	-0.2
KZIL				S	Sn	23 42 59.4	-0.3
TAVA	DENIZLI_Tavas	2.53	307	P	Pn	23 42 30.5	+0.5
YESY	Yesilyurt	2.57	45	PN	Pn	23 42 31.5	+0.9
KERG	Konya-Eregli	2.58	55	P	Pn	23 42 31.5	+0.7
KERG				S	Sn	23 43 00.9	-0.5
ALIN	Konya, Altinte	2.58	26	P	Pn	23 42 31.0	+0.3
ALIN				S	Sn	23 42 58.1	-3.2
KDHN	Kadinhani	2.59	11	P	Pn	23 42 30.4	-0.5
KDHN				S	Sn	23 43 00.9	-0.8
MERS	Mersin	2.62	69	PN	Pn	23 42 32.3	+1.0
TURN	Turunc	2.72	288	P	Pn	23 42 32.6	+0.1
SULT	Sultanhani-AKS	2.76	36	PN	Pn	23 42 34.5	+1.3
MULA	Mugla, Merkez-	2.83	298	P	Pn	23 42 34.3	+0.1
MULA				S	Sn	23 43 06.5	-1.0
PASA	Karahalli, USA	2.84	327	P	Pn	23 42 34.0	-0.3
DED	Mersin	2.86	69	P	Pn	23 42 35.8	+1.2
DED				S	Sn	23 43 08.1	-0.2
GULE	Gulek	2.97	63	P	Pn	23 42 38.6	+2.4
GULE				S	Sn	23 43 14.2	+3.1
OSC2	CSNet OBS 4	2.97	167	P	Pn	23 42 36.7	+0.6
AKSY	AKSARAY - Alti	3.24	34	P	Pn	23 42 40.2	+0.4
USAK	Uak-Merkez	3.35	325	P	Pn	23 42 41.5	+0.2
USAK				S	Sn	23 43 19.6	-0.8
KKUL	Konya-Kulu	3.39	20	P	Pn	23 42 42.5	+0.6
KKUL				S	Sn	23 43 20.2	-1.2
MANT	Manisa	3.42	318	P	Pn	23 42 41.8	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MANT				S	**Sn**	**23 43 20.1**	**-2.1**
YURE	**YUREGIR**	**3.47**	**75**	P	**Pn**	**23 42 44.2**	**+1.3**
GDZ	**Gediz**	**3.48**	**334**	P	**Pn**	**23 42 43.2**	**0.0**
GDZ				S	**Sn**	**23 43 22.0**	**-1.7**
ASUZ	**Hatay-Arsuz**	**3.51**	**84**	P	**Pn**	**23 42 45.5**	**+2.1**
ASUZ				S	**Sn**	**23 43 24.5**	**+0.3**
ASUZ				*i* AML	AML	23 43 26.0	
	comp=N,78nm,0.5s						
ASUZ				*i* AML	AML	23 43 28.0	
	comp=E,52nm,0.8s						
AKO	**Adana**	**3.53**	**64**	P	**Pn**	**23 42 46.4**	**+2.7**
AKO				S	**Sn**	**23 43 24.7**	**0.0**
SGAZ	**Eskisehir, Sey**	**3.58**	**352**	P	**Pn**	**23 42 44.5**	**+0.1**
SGAZ				S	**Sn**	**23 43 23.0**	**-3.0**
KIRS	**Kirsehir-Merke**	**3.70**	**31**	P	**Pn**	**23 42 46.8**	**+0.6**
YAHY	**KAYSERI_Yahyal**	**3.77**	**55**	P	**Pn**	**23 42 50.0**	**+2.9**
KAMA	**Osmaniye**	**4.36**	**72**	P	**Pn**	**23 42 55.5**	**+0.3**

TIR 06 23:50:11.7, 40°.35N×19°.34E, h5km±1km, Md2.5, Ml1.7, Albania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.17**	**45**	P	Pg	23 50 16.1	+1.1
	baz=45						
VLO				S	Sg	23 50 19.7	+2.4
	baz=45						
VLO				AMP			
	comp=N,6.3nm,0.3s,baz=45						
SRN	**Sarande**	**0.69**	**133**	P	Pg	23 50 25.6	+0.6
	baz=132						
SRN				S	Sb	23 50 35.9	-0.2
	baz=132						
SRN				AMP			
	comp=N,0.1nm,0.4s,baz=132						
SCTE	**Santa Cesarea**	**0.72**	**248**	P	Pb	23 50 26.8	-0.1
	baz=249						
SCTE				S	Sb	23 50 36.9	-0.2
	baz=249						
SCTE				AMP			
	comp=N,0.1nm,0.4s,baz=249						
LSK	**Leskovik**	**0.98**	**101**	AMP			
	comp=E,0.1nm,0.8s,baz=101						
IGT	**Igoumenitsa**	**1.12**	**137**	P	Pb	23 50 33.4	-0.2
	baz=136						
IGT				S	Sb	23 50 49.0	+0.7
	baz=136						
FNA	**Florina**	**1.61**	**74**	P	Pg	23 50 42.5	-0.1
	baz=73						
FNA				S	Sg	23 51 04.7	+1.2
	baz=73						

*ISK **06** 23:52:01.6, 39°.13N×28°.02E, h9km, ML2.4/23*
DDA 06 23:52:02.4±0.0**, 39°.09N×28°.02E, h7**km±2km**, ML2.2, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.26**	**218**	P	Pg	23 52 08.4	+0.9
AKHS				S	Sg	23 52 12.4	+1.4
AKHS				*i* AML	AML	23 52 13.0	
	comp=E,546nm,0.3s						
AKS	**Akhisar**	**0.26**	**218**	PG	Pg	23 52 07.9	+0.4
AKS				SG	Sb	23 52 12.7	-1.4
STEP	**BALIKESIR_Sava**	**0.37**	**321**	P	Pg	23 52 09.9	+0.2
STEP				S	Sg	23 52 15.4	+0.8
GOMA	**Golmarmara-Man**	**0.39**	**192**	PG	Pg	23 52 10.5	+0.6
GOMA				SG	Sb	23 52 16.8	-0.9
DEMI	**Demirci**	**0.55**	**94**	P	Pg	23 52 13.4	+0.5
DEMI				S	Sg	23 52 20.3	+0.2
DEMI				*i* AML	AML	23 52 21.0	
	comp=E,176nm,0.2s						
DURS	**Dursunbey**	**0.62**	**34**	P	Pg	23 52 14.5	0.0
DURS				S	Sg	23 52 23.6	+1.0
DST	**Dursunbey**	**0.70**	**42**	PG	Pg	23 52 14.8	-1.0
BALY	**Balya**	**0.72**	**335**	P	Pg	23 52 16.5	+0.2
BALY				S	Sg	23 52 25.9	+0.1
MANT	**Manisa**	**0.73**	**144**	P	Pb	23 52 17.0	-0.5
MANT				S	Sg	23 52 26.3	+0.4
ZEDA	**zmir-Bergama**	**0.74**	**261**	P	Pb	23 52 17.6	0.0
ZEDA				S	Sb	23 52 27.8	-0.2
ZEDA				*i* AML	AML	23 52 28.0	
	comp=N,101nm,0.3s						
SMAA	**Simav-Kutahya**	**0.75**	**89**	PG	Pg	23 52 16.6	-0.2
SIMA	**Simav-Kutahya**	**0.75**	**90**	PG	Pg	23 52 16.6	-0.2
KULA	**Kula-Manisa**	**0.76**	**138**	PG	Pg	23 52 17.4	+0.4
BUHA	**Balikesir, Bur**	**0.84**	**300**	P	Pb	23 52 19.0	-0.3
BUHA				S	Sb	23 52 30.4	-0.4
USAK	**Uak-Merkez**	**0.86**	**115**	P	Pg	23 52 19.3	+0.3
USAK				S	Sg	23 52 29.2	-1.0
DKL	**Dikili**	**0.87**	**269**	PG	Pg	23 52 18.9	-0.1
SHAP	**Saphane-Kutahy**	**0.94**	**93**	PG	Pg	23 52 20.4	0.0
GONE	**Gonen-Balikesi**	**0.99**	**345**	PG	Pg	23 52 20.6	-0.9
AYVA	**Ayvalik**	**1.06**	**283**	P	Pb	23 52 23.2	+0.2
AYVA				S	Sb	23 52 36.9	-0.1
AYVA				*i* AML	AML	23 52 40.0	
	comp=E,59nm,0.5s						
AYVA				*i* AML	AML	23 52 43.0	
	comp=N,74nm,0.7s						
GEDZ	**Gediz**	**1.08**	**92**	PN	Pg	23 52 21.9	-1.3
GDZ	**Gediz**	**1.14**	**89**	P	Pb	23 52 24.4	-0.1
GDZ				S	Sg	23 52 38.3	-0.7
ORLT	**Orhaneli**	**1.18**	**35**	PN	Pg	23 52 23.7	-1.3
TVSB	**Tavsanli**	**1.18**	**72**	PN	Pg	23 52 24.3	-0.7
KCTX	**Karacabey (Bur**	**1.21**	**12**	PN	Pg	23 52 23.6	-2.0
KNL	**Balıkesir**	**1.24**	**342**	P	Pb	23 52 25.9	-0.3
KNL				S	Sg	23 52 41.5	-1.0
KNL				*i* AML	AML	23 52 45.0	
	comp=E,46nm,0.5s						
EDC	**Edincik**	**1.27**	**355**	PN	Pn	23 52 24.4	-2.1
BAYC	**CANAKKALE_Bayr**	**1.31**	**300**	P	Pg	23 52 27.8	+0.2
BAYC				S	Sb	23 52 44.0	-0.4
URLA	**Izmir**	**1.33**	**237**	PN	Pn	23 52 27.2	-0.2
URLA	**Izmir**	**1.33**	**237**	P	Pn	23 52 27.4	0.0
URLA				S	Sn	23 52 45.2	-0.1
PASA	**Karahalli, USA**	**1.36**	**122**	P	Pb	23 52 28.4	0.0
PASA				S	Sn	23 52 46.4	0.0
KRBG	**Karabiga-Canak**	**1.42**	**337**	PN	Pn	23 52 26.9	-1.7
AYDN	**Tasoluk**	**1.43**	**184**	P	Pn	23 52 28.5	-0.3
AYDN				S	Sn	23 52 47.9	+0.1
MDNY	**Mudanya-Bursa**	**1.45**	**27**	PN	Pn	23 52 27.5	-1.5
ZEYE	**Izmir, Urla-Ze**	**1.46**	**235**	P	Pn	23 52 29.0	-0.1
ZEYE				S	Sn	23 52 47.1	-1.3
EZN	**Ezine**	**1.50**	**300**	PN	Pn	23 52 28.9	-0.9
GCAM	**G?zelcaml?**	**1.51**	**204**	P	Pb	23 52 31.0	+0.3
GCAM				S	Sg	23 52 51.8	+0.8
KOCA	**Canakkale, Ayv**	**1.52**	**287**	P	Pn	23 52 30.1	+0.1
KOCA				S	Sn	23 52 50.0	0.0
KOCA				*i* AML	AML	23 52 56.0	
	comp=E,30nm,0.5s						
LPK	**Lapseki**	**1.61**	**323**	PN	Pn	23 52 30.3	-1.0
SIGR	**SIGRI**	**1.69**	**275**	PN	Pn	23 52 32.0	-0.3
BOZC	**Bozcaada**	**1.70**	**297**	PN	Pn	23 52 32.0	-0.5
MAR6	**Marsite Statio**	**1.72**	**341**	PN	Pn	23 52 31.9	-0.8
RKY	**Sarkoy-Tekirda**	**1.73**	**338**	PN	Pn	23 52 32.1	-0.8
GZKV	**Gazikoy-Tekird**	**1.74**	**342**	PN	Pn	23 52 32.4	-0.7
TRML	**Termal-Yalova**	**1.76**	**30**	PN	Pn	23 52 32.3	-1.1
GELI	**Tayfur-Gelibol**	**1.77**	**318**	PN	Pn	23 52 32.9	-0.6
YLV	**Yalova**	**1.81**	**35**	PN	Pn	23 52 33.4	-0.7
ERIK	**Erikli-Kesan**	**1.96**	**324**	PN	Pn	23 52 35.6	-0.5

*IDC **06** 23:54:20.4±2.8, 8°.76S×113°.17E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/22, mbtmp3.3/4, MS3.5/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=136.9km s-min=23.8km az=51.0*
*DJA **06** 23:54:36.1±0.5, 9°S±6°×11°3E±°, h99km±8km, M3.3/13, MLv3.3/13*
ISC 06 23:54:34.7±1.1**, 9°.0S**±0°.1×**113°.31E**±0°.05**, h125**km±9km**, n17,** σ0s.**76**/22**, mb3.3**/4**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.70**	**11**	P	**Pn**	**23 54 54.9**	**+0.3**
GMJI				S	**Sn**	**23 55 09.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**0.96**	**59**	P	**Pn**	**23 54 57.1**	**+0.2**
JAGI				S	**Sn**	**23 55 12.8**	**-0.9**
BLJI	**Banyuglugur**	**1.24**	**13**	P	**Pn**	**23 55 00.1**	**+0.4**
BLJI				S	**Sn**	**23 55 18.0**	**-0.7**
ABJI	**Asem Bagus**	**1.48**	**38**	P	**Pn**	**23 55 03.3**	**+1.0**
ABJI				S	**Sn**	**23 55 24.0**	**+0.8**
PWJI	**Pagerwojo**	**1.76**	**302**	P	**Pn**	**23 55 06.2**	**+0.6**
IGBI	**Denpasar**	**1.82**	**86**	P	**Pn**	**23 55 06.5**	**+0.3**
IGBI				S	**Sn**	**23 55 30.3**	**0.0**
DNP	**Denpasar**	**1.90**	**81**	P	**Pn**	**23 55 07.6**	**+0.4**
KMMI	**Kalianget**	**2.01**	**19**	P	**Pn**	**23 55 09.9**	**+1.3**
SRBI	**Singaraja**	**2.07**	**65**	P	**Pn**	**23 55 09.8**	**+0.4**
PCJI	**Pacitan**	**2.25**	**290**	P	**Pn**	**23 55 12.4**	**+0.9**
PCJI				S	**Sn**	**23 55 39.5**	**-0.2**
UGM	**Wanagama**	**2.95**	**291**	P	**Pn**	**23 55 21.2**	**+0.6**
PLAI	**Plampang**	**4.41**	**89**	P	**Pn**	**23 55 40.4**	**+0.5**
WRA	**Warramunga Arr**	**23.07**	**121**	P	**P**	**23 59 29.9**	**+0.3**
	0.1nm,0.4s,baz=296,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**24.53**	**129**	P	**P**	**23 59 44.2**	**+1.3**
	0.6nm,0.8s,baz=296,slow=7.1,SNR=5.5						
JHJ	**Hachijo jima 2**	**48.85**	**30**	LR	LR	00 23 50.5	
	comp=Z,62nm,21.8s,baz=25,slow=36						
SONM	**Songino Array**	**56.88**	**354**	P	**P**	**00 04 06.0**	**-0.6**
	0.3nm,0.4s,baz=174,slow=5.8,SNR=3.2						
MKAR	**Makanchi Array**	**62.02**	**336**	P	**P**	**00 04 40.8**	**-1.0**
	0.2nm,0.4s,baz=157,slow=7.4,SNR=8.2						

*PRE **07** 00:06:30.0±1.1, 26°.43S×27°.41E, h2km, ML2.5*
*EAF **07** 00:06:33.4±1.1, 26°.44S×27°.56E, h10km, MD3.6*
*BUL **07** 00:06:33.4±1.1, 26°.44S×27°.56E, h10km, MD3.8*
ISC 07 00:06:30.7±1.3**, 26°.37S**±0°.03×**27°.43E**±0°.03**, h11**km±11km**, n18,** σ1s.**78**/36**, South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**0.70**	**317**	*e*P	**Pg**	**00 06 44.3**	**0.0**
KSR				*e*S	**Sg**	**00 06 53.9**	**+0.3**
KSR				IAML		00 07 02.4	
	comp=Z,396nm,0.1s						
SLR	**Silverton**	**1.00**	**51**	*e*P	**Pb**	**00 06 50.7**	**+0.7**
SLR				*e*S	**Sg**	**00 07 04.3**	**+1.4**
SLR				IAML		00 07 11.1	
	comp=Z,71nm,0.2s						
SNKL	**Senekal, Frees**	**1.92**	**171**	*e*P	**Pb**	**00 07 04.7**	**-1.2**
SNKL				*e*S	**Sb**	**00 07 28.3**	**-1.6**
SNKL				IAML		00 07 32.3	
	comp=Z,79nm,0.2s						
SWZ	**Schweizer**	**2.04**	**246**	*e*P	**Pb**	**00 07 06.2**	**-1.6**
SWZ				*e*S	**Sn**	**00 07 31.1**	**+0.4**
SWZ				IAML		00 07 35.9	
	comp=Z,66nm,0.2s						
LBTB	**Lobatse**	**2.13**	**309**	*i* P	**Pg**	**00 07 11.0**	**-0.6**
LBTB				*i* S	**Sg**	**00 07 38.4**	**-0.9**
LBTB	**Lobatse**	**2.13**	**309**	*i* P	**Pg**	**00 07 11.0**	**-0.6**
LBTB				*i* S	**Sg**	**00 07 38.4**	**-0.9**
CRLN	**Carolina, Mapu**	**2.36**	**81**	*e*P	**Pn**	**00 07 11.5**	**+1.9**
CRLN				*e*S	**Sn**	**00 07 40.6**	**+1.9**
CRLN				IAML		00 07 42.9	
	comp=Z,19nm,1.0s						
NWCL	**Newcastle**	**2.58**	**122**	*e*P	**Pn**	**00 07 13.4**	**+0.9**
NWCL				*e*S	**Sn**	**00 07 44.6**	**+0.5**
NWCL				IAML		00 07 53.8	
	comp=Z,36nm,0.4s						
BOSA	**Boshof**	**2.95**	**220**	*i* P	**Pn**	**00 07 19.5**	**+1.9**
BOSA				*i* S	**Sn**	**00 07 55.0**	**+1.9**
BOSA	**Boshof**	**2.95**	**220**	*i* P	**Pn**	**00 07 19.5**	**+1.9**
BOSA				*i* S	**Sn**	**00 07 55.0**	**+1.9**
CNG	**Changalane**	**4.27**	**90**	*i* P	**Pn**	**00 07 36.2**	**+0.5**
CNG				*i* S	**Sn**	**00 08 23.4**	**-2.2**
CNG	**Changalane**	**4.27**	**90**	*i* P	**Pn**	**00 07 36.2**	**+0.5**
CNG				*i* S	**Sn**	**00 08 23.4**	**-2.2**
MSNA	**Messina**	**4.66**	**31**	*i* P	**Pn**	**00 07 43.4**	**+2.4**
MSNA				*i* S	**Sn**	**00 08 33.0**	**-2.1**
MSNA	**Messina**	**4.66**	**31**	*i* P	**Pn**	**00 07 43.4**	**+2.4**
MSNA				*i* S	**Sn**	**00 08 33.0**	**-2.1**
MATP	**Matopo**	**6.00**	**10**	*i* P	**Pn**	**00 08 02.2**	**+2.6**
MATP				*i* S	**Sn**	**00 09 06.8**	**-1.6**
MATP	**Matopo**	**6.00**	**10**	*i* P	**Pn**	**00 08 02.2**	**+2.6**
MATP				*i* S	**Sn**	**00 09 06.8**	**-1.6**
BLWY	**Bulawayo**	**6.30**	**10**	*i* P	**Pn**	**00 08 06.2**	**+2.5**
BLWY				*i* S	**Sn**	**00 09 14.0**	**-1.7**
BLWY	**Bulawayo**	**6.30**	**10**	*i* P	**Pn**	**00 08 06.2**	**+2.5**
BLWY				*i* S	**Sn**	**00 09 14.0**	**-1.7**

*JMA **07** 00:13:26.7±0.5, 22°.66N×122°.91E, h57km, M4.1*
*NIED **07** 00:13:26.7, 22°.66N×122°.91E, h57km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.09; $M_{\theta\theta}$0.95; $M_{\phi\phi}$-1.04; $M_{r\theta}$0.22; $M_{\theta\phi}$-1.16; $M_{\phi r}$0.58; Fault plane solution: $M_0$1.63000×10^{15} NP1: ϕ_s158.00000°, δ78.00000°, λ-15.00000°. NP2: ϕ_s251.00000°, δ76.00000°, λ-168.00000°.*
*TAP **07** 00:13:29.0, 22°.67N×122°.70E, h65km±1km, ML4.7, D*
*IDC **07** 00:13:38.8±7.7, 23°.16N×123°.18E, h110km±75km, mb3.3/7, mb1 3.6/8, mb1mx3.3/42, mbtmp3.7/8, ML3.7/1, MS3.1/7, Ms1 3.1/7, ms1mx2.8/42, Error ellipse: s-maj=48.6km s-min=16.5km az=66.0*
ISC 07 00:13:25.9±2.9**, 22°.69N**±0°.03×**122°.84E**±0°.03**, h17**km±19km**, n183,** σ1s.**54**/244**, mb3.6**/7**, MS3.0**/6**, 6C-52D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**1.27**	**269**	⇓*i*P	**Pn**	**00 13 48.5**	**-0.4**
	baz=279						
LDUT				*i* S	**Sb**	**00 14 02.5**	**-2.8**
	baz=279						
LYUB	**Lan-yu**	**1.35**	**240**	⇑*i*P	**Pn**	**00 13 50.2**	**+0.2**
	baz=237						
LYUB				*i* S	**Sn**	**00 14 04.8**	**-2.8**
	baz=237						
LAY	**Lan-yu**	**1.36**	**242**	⇑*i*P	**Pn**	**00 13 49.8**	**-0.3**
	baz=239						
LAY				*e*S	**Sn**	**00 14 04.0**	**-3.8**
	baz=239						
CHKT	**Chengkung**	**1.42**	**287**	⇓*i*P	**Pn**	**00 13 50.6**	**-0.3**
	baz=293						
CHKT				*e*S	**Sn**	**00 14 05.4**	**-3.8**
	baz=293						
ECBN	**Changbin**	**1.42**	**296**	⇓P	**Pn**	**00 13 50.9**	**-0.1**
	baz=300						
ECBN				S	**Sn**	**00 14 05.9**	**-3.4**
	baz=300						
EDH	**Donghe**	**1.45**	**281**	⇓P	**Pn**	**00 13 51.3**	**0.0**
	baz=288						
EDH				S	**Sn**	**00 14 07.2**	**-2.7**
	baz=288						
FULB	**Fuli**	**1.51**	**290**	⇓*i*P	**Pn**	**00 13 51.9**	**-0.4**
	baz=300						
FULB				*e*S	**Sn**	**00 14 08.8**	**-2.8**
	baz=300						
HGSD	**Ruisui**	**1.53**	**302**	⇓*i*P	**Pn**	**00 13 51.9**	**-0.5**
	baz=305						
EYUL	**Yuli**	**1.55**	**295**	*i* P	**Pn**	**00 13 52.8**	**+0.1**
	baz=304						
ECS	**Chishang**	**1.55**	**285**	*e*P	**Pn**	**00 13 52.8**	**+0.1**
	baz=288						
TTN	**Taitung**	**1.56**	**273**	*e*P	**Pn**	**00 13 53.4**	**+0.5**
	baz=279						
TTN				*e*S	**Sn**	**00 14 10.5**	**-2.4**
	baz=279						
TEGC	**Jichi Village**	**1.57**	**310**	P	**Pn**	**00 13 52.8**	**-0.2**
	baz=308						
TEGC				*e*S	**Sn**	**00 14 10.8**	**-2.1**
	baz=308						
TWF1	**Yuli**	**1.57**	**295**	*i* P	**Pn**	**00 13 53.0**	**0.0**
	baz=304						
YULB	**Yu-li**	**1.58**	**296**	⇓*i*P	**Pn**	**00 13 53.2**	**0.0**
	baz=299						
YULB				S	**Sn**	**00 14 11.6**	**-1.8**
	baz=299						
LONT	**Longtian**	**1.59**	**278**	*e*P	**Pn**	**00 13 53.6**	**+0.2**
	baz=280						
LONT				*e*S	**Sn**	**00 14 12.7**	**-0.8**
	baz=280						
EHY	**Hungye**	**1.62**	**300**	⇓*i*P	**Pn**	**00 13 53.5**	**-0.2**
	baz=308						
HATJ	**Hateruma jima**	**1.62**	**33**	P	**Pn**	**00 13 53.7**	**0.0**
HATJ				*e*S	**Sn**	**00 14 12.4**	**-1.8**
EGFH	**Guangfu**	**1.62**	**307**	⇓*e*P	**Pn**	**00 13 53.6**	**-0.1**
	baz=311						
TWGBT	**Beinan**	**1.63**	**275**	P	**Pn**	**00 13 54.0**	**+0.1**
	baz=281						
TWGBT				S	**Sn**	**00 14 12.8**	**-1.7**
	baz=281						
TEYL	**Yanliau Villag**	**1.64**	**316**	*e*P	**Pn**	**00 13 54.0**	**+0.1**
	baz=329						
TEYL				*e*S	**Sn**	**00 14 12.4**	**-2.1**
	baz=329						
ESL	**Shilin**	**1.71**	**311**	⇓*i*P	**Pn**	**00 13 54.5**	**-0.4**
	baz=315						
ESL				*e*S	**Sn**	**00 14 12.5**	**-4.0**
	baz=315						
HWA	**Hwalien**	**1.71**	**319**	*e*P	**Pn**	**00 13 54.9**	**-0.1**
	baz=329						
HWA				*e*S	**Sn**	**00 14 14.8**	**-1.6**
	baz=329						
ECL	**Taimali**	**1.75**	**267**	⇓*i*P	**Pn**	**00 13 55.8**	**+0.3**
	baz=278						
ECL				*e*S	**Sn**	**00 14 14.9**	**-2.4**
	baz=278						
ELDTW	**Lidau**	**1.75**	**287**	⇓*i*P	**Pn**	**00 13 55.7**	**+0.1**
	baz=289						
ELDTW				*e*S	**Sn**	**00 14 14.2**	**-3.5**
	baz=289						
JYNG	**Yonagunijimaku**	**1.75**	**3**	P	**Pn**	**00 13 56.4**	**+0.9**
JYNG				*e*S	**Sn**	**00 14 17.7**	**+0.2**
YOJ	**Yonaguni jima**	**1.77**	**5**	P	**Pn**	**00 13 56.1**	**+0.4**
YOJ				*e*S	**Sn**	**00 14 18.6**	**+0.8**
ETM	**Tongmen**	**1.77**	**316**	⇓P	**Pn**	**00 13 55.4**	**-0.4**
	baz=325						
TWD	**Chiawan**	**1.79**	**321**	⇓*i*P	**Pn**	**00 13 56.0**	**-0.1**
	baz=332						
TWD				*e*S	**Sn**	**00 14 14.7**	**-3.7**
	baz=332						
IRIF	**Iriomote-Funau**	**1.83**	**26**	P	**Pn**	**00 13 56.7**	**+0.2**
IRIF				*e*S	**Sn**	**00 14 18.9**	**-0.4**
TAW	**Tawu**	**1.83**	**260**	*e*P	**Pn**	**00 13 57.1**	**+0.5**
	baz=250						
TAW				*e*S	**Sn**	**00 14 16.9**	**-2.5**
	baz=250						
ETL	**Fush Village**	**1.84**	**323**	P	**Pn**	**00 13 56.5**	**-0.2**
	baz=326						
ETL				*e*S	**Sn**	**00 14 16.7**	**-2.9**
	baz=326						
TAWH	**Dawu Township**	**1.84**	**259**	*e*P	**Pn**	**00 13 57.5**	**+0.8**
	baz=250						
TAWH				*e*S	**Sn**	**00 14 18.8**	**-0.8**
	baz=250						
NACB	**Ninganchiao**	**1.87**	**322**	⇓*i*P	**Pn**	**00 13 57.0**	**-0.1**
	baz=326						
NACB				*i* S	**Sn**	**00 14 17.3**	**-3.0**
	baz=326						
EAST	**Anshuo**	**1.87**	**261**	P	**Pn**	**00 13 58.0**	**+0.9**
	baz=271						
EAST				*e*S	**Sn**	**00 14 18.7**	**-1.6**
	baz=271						
JKRS	**Kuro-shima**	**1.88**	**35**	P	**Pn**	**00 13 57.3**	**+0.1**
JKRS				*e*S	**Sn**	**00 14 18.9**	**-1.6**
VWDT	**VWDT**	**1.89**	**304**	⇓*i*P	**Pn**	**00 13 58.2**	**+0.9**
	baz=307						
VWDT				S	**Sn**	**00 14 19.7**	**-1.1**
	baz=307						
SLIU	**Shizi**	**1.95**	**256**	*e*P	**Pn**	**00 13 59.1**	**+0.9**
	baz=248						
SLIU				*e*S	**Sn**	**00 14 19.9**	**-2.3**
	baz=248						
ETLH	**Xiulin Townshi**	**1.96**	**321**	⇓P	**Pn**	**00 13 58.5**	**+0.1**
	baz=328						
ETLH				*e*S	**Sn**	**00 14 20.3**	**-2.4**
	baz=328						
STYH	**Taoyuan**	**1.96**	**284**	*e*P	**Pn**	**00 13 59.4**	**+1.0**
	baz=286						
STYH				*e*S	**Sn**	**00 14 20.8**	**-1.8**
	baz=286						
TSEB	**Hengchuen, Pin**	**1.96**	**247**	⇑P	**Pb**	**00 14 00.3**	**-0.9**
	baz=255						
TSEB				*e*S	**Sn**	**00 14 22.4**	**-0.3**
	baz=255						
SMST	**Manzhou Townsh**	**1.97**	**251**	*e*P	**Pn**	**00 13 59.9**	**+1.4**
	baz=250						
SMST				*e*S	**Sn**	**00 14 21.5**	**-1.3**
	baz=250						
STYT	**Tauyuan**	**1.98**	**284**	⇓*i*P	**Pn**	**00 13 59.7**	**+1.0**
	baz=286						
STYT				*e*S	**Sn**	**00 14 21.8**	**-1.3**
	baz=286						
OWD	**Renai**	**1.98**	**310**	⇓*i*P	**Pn**	**00 13 59.3**	**+0.5**
	baz=313						
OWD				*e*S	**Sn**	**00 14 20.2**	**-3.1**
	baz=313						
EWUT	**Wuta**	**2.00**	**331**	*e*P	**Pn**	**00 13 59.6**	**+0.7**
	baz=327						
EWUT				*e*S	**Sn**	**00 14 22.5**	**-1.0**
	baz=327						
ENA	**Nanau**	**2.00**	**330**	⇓P	**Pn**	**00 13 59.5**	**+0.5**
	baz=326						
ENA				*e*S	**Sn**	**00 14 22.3**	**-1.3**
	baz=326						
TWKBT	**Hengchun**	**2.02**	**249**	⇑P	**Pn**	**00 14 00.5**	**+1.3**
	baz=254						
TWKBT				*e*S	**Sn**	**00 14 22.5**	**-1.6**
	baz=254						
TWK1	**Hengchun**	**2.03**	**249**	⇑*i*P	**Pn**	**00 14 00.4**	**+1.1**
	baz=254						
TWK1				*e*S	**Sn**	**00 14 23.6**	**-0.7**
	baz=254						
TSMG	**Majia**	**2.03**	**271**	*e*P	**Pn**	**00 14 00.2**	**+0.9**
	baz=272						
SSD	**Sandimen**	**2.04**	**272**	P	**Pn**	**00 14 00.2**	**+0.7**
	baz=273						
MASBT	**Mashibuluo**	**2.04**	**268**	⇓*i*P	**Pn**	**00 14 00.5**	**+1.0**
	baz=273						
ALS	**Alishan**	**2.04**	**294**	⇓P	**Pn**	**00 14 01.2**	**+1.4**
	baz=300						
WUSB	**Renai**	**2.04**	**310**	⇓*i*P	**Pn**	**00 14 00.5**	**+0.8**
	baz=312						
WUSB				*e*S	**Sn**	**00 14 22.7**	**-2.2**
	baz=312						
SLGT	**Liugui**	**2.05**	**279**	*e*P	**Pn**	**00 14 01.3**	**+1.7**
	baz=277						
WHF	**Hehuan Shan**	**2.05**	**315**	⇓*i*P	**Pn**	**00 14 00.2**	**+0.2**
	baz=318						
WHF				*e*S	**Sn**	**00 14 23.2**	**-2.2**
	baz=318						
JIJ	**Ishigaki jima**	**2.05**	**35**	P	**Pn**	**00 13 59.2**	**-0.4**
JIJ				*e*S	**Sn**	**00 14 22.1**	**-2.7**
CHGB	**Renai**	**2.05**	**312**	⇓*i*P	**Pn**	**00 14 00.5**	**+0.7**
	baz=322						
CHGB				S	**Sn**	**00 14 23.5**	**-1.6**
	baz=322						
SSLB	**Suanglung**	**2.05**	**302**	⇓*i*P	**Pn**	**00 14 00.4**	**+0.8**
	baz=305						
SSLB				*e*S	**Sn**	**00 14 22.8**	**-2.1**
	baz=305						
HEN	**Hengchun**	**2.06**	**251**	*e*P	**Pb**	**00 14 01.8**	**-1.1**
	baz=250						
HEN				*e*S	**Sn**	**00 14 24.9**	**-0.2**
	baz=250						
SCZT	**Fangliau**	**2.08**	**262**	*e*P	**Pn**	**00 14 01.5**	**+1.5**
	baz=253						
SSPT	**Xinbi**	**2.11**	**265**	*e*P	**Pb**	**00 14 02.7**	**-1.1**
	baz=255						
TWC	**Suao**	**2.11**	**335**	P	**Pn**	**00 14 01.2**	**+0.7**
	baz=346						
TWC				*e*S	**Sn**	**00 14 24.0**	**-2.3**
	baz=346						
SGST	**Jiashian**	**2.12**	**281**	⇓*i*P	**Pn**	**00 14 01.9**	**+1.3**
	baz=283						
SGST				*e*S	**Sn**	**00 14 26.0**	**-0.6**
	baz=283						
TPUB	**Ta-pu**	**2.12**	**287**	⇓*i*P	**Pb**	**00 14 02.8**	**-1.2**
	baz=289						
WTP	**Ta-pu**	**2.12**	**285**	⇓*e*P	**Pn**	**00 14 02.8**	**+2.1**
	baz=287						
FUSS	**Fushou**	**2.13**	**317**	⇓*e*P	**Pn**	**00 14 01.6**	**+0.6**
	baz=327						
FUSS				*e*S	**Sn**	**00 14 25.9**	**-1.3**
	baz=327						
SMLT	**Sun Moon Lake**	**2.14**	**304**	⇓*i*P	**Pn**	**00 14 02.1**	**+1.2**
	baz=307						
SMLT				*e*S	**Sn**	**00 14 26.2**	**-1.1**
	baz=307						
SGLT	**Jiouru**	**2.17**	**271**	*e*P	**Pb**	**00 14 04.4**	**-0.4**
	baz=272						
CHN4	**Tsaushan**	**2.17**	**288**	⇓*e*P	**Pb**	**00 14 03.8**	**-0.9**
	baz=298						
WPL	**Puli Township**	**2.17**	**308**	*e*P	**Pn**	**00 14 02.5**	**+1.1**
	baz=310						
SCST	**Cishan**	**2.17**	**276**	⇓*e*P	**Pb**	**00 14 03.8**	**-1.0**
	baz=274						
TWT	**Tachien**	**2.18**	**316**	⇓*i*P	**Pn**	**00 14 02.7**	**+1.1**
	baz=325						
TWT				S	**Sn**	**00 14 27.4**	**-0.9**
	baz=325						
CHN5	**Tsauling**	**2.19**	**295**	⇓P	**Pb**	**00 14 03.8**	**-1.3**

baz=303
NNSB Datong 2.19 323⇓iP Pn 00 14 02.3 +0.7
baz=325
NNSB S Sn 00 14 26.3 -2.0
baz=325
TYC Yuchr 2.19 304⇓iP Pn 00 14 02.8 +1.3
baz=312
CHN1 Nanshi 2.19 283⇓eP Pb 00 14 04.3 -0.8
baz=285
NDS Dongshan 2.19 332 eP Pn 00 14 02.7 +1.1
baz=328
NDS eS Sn 00 14 27.7 -0.6
baz=328
TDCB Techi 2.19 315 P Pn 00 14 02.7 +1.0
baz=324
TDCB S Sn 00 14 27.1 -1.5
baz=324
LATG Datong 2.19 327⇓iP Pn 00 14 02.3 +0.6
baz=330
LATG S Sn 00 14 27.2 -1.4
baz=330
NNS Nan Shan 2.20 323 P Pn 00 14 02.5 +0.7
baz=325
NNS S Sn 00 14 27.1 -1.6
baz=325
SNST Tainan City 2.22 284⇓eP Pb 00 14 04.7 -0.9
baz=294
WCS Beigang Elemen 2.23 308 eP Pn 00 14 03.3 +1.2
baz=310
TWM1 Shoushan 2.24 274 eP Pb 00 14 05.6 -0.3
baz=273
TWK Hsinying 2.24 285⇓eP Pb 00 14 04.8 -1.2
baz=296
WJS Zhushan 2.25 300 eP Pb 00 14 04.6 -1.4
baz=305
NDT Datong Townshi 2.26 328 ⇓P Pn 00 14 03.5 +1.0
baz=330
NDT eS Sn 00 14 28.6 -1.4
baz=330
ENTT Nioudou 2.26 329⇓iP Pn 00 14 03.5 +0.9
baz=327
ENTT S Sn 00 14 29.2 -0.9
baz=327
TWE Neicheng 2.29 332 P Pn 00 14 03.9 +1.0
baz=329
TWE S Sn 00 14 29.9 -0.8
baz=329
EGS 2.30 339 eP Pn 00 14 04.8 +1.8
baz=352
WLCH Liuqiu 2.30 262 eP Pb 00 14 07.7 +0.7
baz=253
WNT Mingjian 2.31 301 eP Pn 00 14 05.3 +2.1
baz=304
CHN3 Shinhua 2.31 280 eP Pb 00 14 07.3 +0.1
baz=282
TWP Hsiaoliuchiu 2.32 262 eP Pb 00 14 07.4 +0.1
baz=262
JISG Ishigakijimahi 2.32 35 P Pn 00 14 03.0 -0.3
JISG S Sn 00 14 29.2 -2.2
WGK Gukeng 2.32 296 eP Pn 00 14 05.6 +2.3
baz=298
SHHT Tainan City 2.32 279 eP Pb 00 14 07.9 +0.6
baz=280
CHN2 Minshiung 2.33 291 eP Pb 00 14 06.4 -1.1
baz=293
WDLH Douliu 2.34 296 eP Pb 00 14 06.3 -1.3
baz=307
NTC Toucheng 2.34 337 eP Pn 00 14 05.3 +1.7
baz=349
WHP Taichung City 2.35 313 eP Pn 00 14 05.3 +1.5
baz=315
WHP eS Sn 00 14 31.7 -0.6
baz=315
FUSB Fushanzhiwuyua 2.36 331 ⇓P Pn 00 14 05.0 +1.1
baz=327
FUSB eS Sn 00 14 30.9 -1.6
baz=327
CHY Chiayi 2.37 290⇓eP Pb 00 14 06.7 -1.3
baz=292
YHNB Yeheng 2.38 326 ⇓P Pn 00 14 05.3 +1.1
baz=328
YHNB eS Sn 00 14 31.3 -1.8
baz=328
WWF Wufeng 2.38 305⇓eP Pb 00 14 07.1 -1.3
baz=307
NSK Sanguang 2.40 326⇓iP Pn 00 14 05.5 +1.0
baz=328
NSK eS Sn 00 14 31.9 -1.6
baz=328
NWLT Wulai 2.41 330 eP Pn 00 14 05.6 +1.0
baz=332
WYL Yuanlin Townsh 2.43 302 eP Pn 00 14 07.4 +2.5
baz=304
TWB1 Santiao Chiao 2.43 341 eP Pn 00 14 05.2 +0.3
baz=353
ICHU Yijhu 2.45 286 eP Pb 00 14 07.8 -1.7
baz=288
TIPB Shuangxi 2.45 338 eP Pn 00 14 06.7 +1.5
baz=348
TCU Taichung 2.46 306 eP Pn 00 14 07.6 +2.3
baz=309
WTK Tuku 2.46 294 eP Pn 00 14 07.7 +2.3
baz=296
NFF Wufeng Townshi 2.50 321 eP Pn 00 14 07.7 +1.9
baz=328
CHN8 Yiju 2.51 286 eP Pn 00 14 08.6 +2.7
baz=287
WCHH Zhanghua 2.51 304 eP Pb 00 14 08.7 -1.8
baz=306
TWQ1 Liyutan 2.51 311 eP Pn 00 14 08.5 +2.5
baz=319
TWQ1 eS Sn 00 14 37.0 +0.7
baz=319
WSL Shuilin Townsh 2.54 289 eP Pn 00 14 08.4 +2.0
baz=291
SXI1 Grass Mountain 2.55 340⇓eP Pn 00 14 07.1 +0.5
baz=352
TWA Mucha 2.55 333 eP Pn 00 14 08.2 +1.7
baz=344
TWA eS Sn 00 14 36.8 -0.5
baz=344
NWF Wu-fen Shan 2.56 338 eP Pn 00 14 07.9 +1.2
baz=350
WFSB Wu-fen Shan 2.56 338 eP Pn 00 14 07.5 +0.9
baz=351
WFSB eS Sn 00 14 36.6 -0.8
baz=351
NHDH Xindian Distri 2.56 332 eP Pn 00 14 08.6 +1.9
baz=329
NSTT Nanjuang 2.56 319 eP Pn 00 14 08.8 +2.2
baz=328
NSTT eS Sn 00 14 37.0 -0.4
baz=328
LIOB Emei 2.56 320 eP Pn 00 14 09.3 +2.6
baz=328
WRL Guolierlin Hig 2.56 298 eP Pn 00 14 08.9 +2.2
baz=307
NSY Sanyi 2.57 312 eP Pn 00 14 09.2 +2.5
baz=315
JTJ Tarama 2.58 41 P Pn 00 14 06.7 -0.2
JTJ eS Sn 00 14 37.1 -0.9
WSF Szhu 2.59 292 eP Pn 00 14 08.6 +1.6
baz=294
WDJ Dajia District 2.61 310 eP Pn 00 14 09.8 +2.5
baz=324
WTCT Ta-ch'eng 2.63 297 eP Pn 00 14 09.7 +2.2
baz=299
NMLH Miaoli 2.63 315 eP Pn 00 14 09.7 +2.1
baz=316
TAP1 Taipei 2.63 333 eP Pn 00 14 09.2 +1.7
baz=335
TNOU National Taiwa 2.63 338 eP Pn 00 14 08.8 +1.1
baz=350
TAP Taipei 2.64 333 eP Pn 00 14 08.7 +1.0
baz=335
HSN1 Hsinchu 2.67 322 eP Pn 00 14 10.5 +2.5
baz=332
SBCB Hsinchu 2.69 321 eP Pn 00 14 10.7 +2.2
baz=337
NTY Taoyuan 2.70 329 eP Pn 00 14 09.9 +1.4
baz=331
YM01 YM01 2.71 335 eP Pn 00 14 10.4 +1.7
baz=337
HSN Hsinchu 2.71 321 eP Pn 00 14 10.9 +2.2
baz=324
NCU National Centr 2.73 327 eP Pn 00 14 10.3 +1.4
baz=328
NCUH Zhongli 2.73 327 eP Pn 00 14 10.7 +1.7
baz=328
TWS1 Kuangyinshan 2.73 332 eP Pn 00 14 11.2 +2.2
baz=334
YM08 YM08 2.73 336 eP Pn 00 14 10.4 +1.3
baz=348
TWY Chenhua 2.81 336 eP Pn 00 14 11.9 +1.8
baz=348
WDGT Dungji 2.98 282⇓eP Pn 00 14 14.4 +1.9
baz=283
WDGT eS Sn 00 14 47.5 -0.4
baz=283
JIRB Irabujima 3.01 45 S Sn 00 14 46.3 -2.3
JMJ2 Miyako jima3 3.06 48 P Pn 00 14 12.9 -0.6
JMJ2 S Sn 00 14 47.5 -2.2
PHUB P'eng-hu 3.12 286 eP Pn 00 14 16.0 +1.7
baz=288
JOGS Gusukube 3.12 48 eS Sn 00 14 49.9 -1.4
JIKM Ikemajima 3.13 44 S Sn 00 14 50.0 -1.4
PNG Penghu 3.15 287 eP Pn 00 14 16.7 +2.0
baz=289
PNG eS Sn 00 14 51.0 -0.9
baz=289
VCHM Qimei 3.19 280 eP Pn 00 14 17.0 +1.8
baz=282
VCHM eS Sn 00 14 51.2 -1.6
baz=282
VWUC VWUC 3.86 307 eP Pn 00 14 25.5 +1.0
baz=308
VWUC eS Sn 00 15 07.0 -2.4
baz=308
PTMZ Houxiangcun 4.13 305⇓eP Pn 00 14 27.6 -0.7
baz=306
MATB Ma-tsu 4.34 323 eP Pn 00 14 32.1 +1.0
baz=333
MSUT Lienchiang 4.37 323 eP Pn 00 14 32.4 +0.9
baz=333
KNMB Chin-men Tao 4.45 294 eP Pn 00 14 33.5 +0.9
baz=296
LYJJ Jianjiangzhen 4.75 324 eP Pn 00 14 37.3 +0.5
baz=335
ZPLA Ao Xicun 4.84 286 eP Pn 00 14 39.5 +1.5
baz=288
MHZQ Yeshan 4.86 315 eP Pn 00 14 39.2 +1.0
baz=315
XPSS Dashiqiu 4.86 331 eP Pn 00 14 38.4 +0.1
baz=331
AXDP Jialang 4.97 297⇓eP Pn 00 14 41.0 +1.2
baz=299
APYP Conner 5.03 198⇑eP Pn 00 14 41.8 +1.2
APYP eS Sn 00 15 37.0 -1.5
SXFK Yanhouchang 6.00 309 eP Pn 00 14 55.3 +1.4
baz=307
KSRS Korea Array 15.35 15 P Pn 00 17 02.9 +1.2
0.3nm,0.3s,baz=192,slow=12,SNR=18
KSRS LR LR 00 22 58.2
comp=Z,32nm,20.6s,baz=180,slow=38
ASAJ Asahikawa 26.86 33 LR LR 00 29 29.3
comp=Z,50nm,19.2s,baz=300,slow=36
KLR Kul'dur 27.41 13 LR LR 00 29 03.8
comp=Z,33nm,19.9s,baz=22,slow=34
KAPI Kappang 27.70 187 LR LR 00 30 41.1
comp=Z,27nm,20.5s,baz=58,slow=36
SONM Songino Array 28.33 336 P P 00 19 20.6 +1.6
0.3nm,0.5s,baz=159,slow=8.6,SNR=1.9
PETK Petropavlovsk- 40.28 32 LR LR 00 37 49.2
comp=Z,25nm,20.4s,baz=234,slow=36
MKAR Makanchi Array 40.46 317 P P 00 21 05.2 +1.5
0.6nm,0.6s,baz=108,slow=9.6,SNR=9.7
H11N1 WAKE ISLAND Hy 41.07 86 T T 01 05 03.4
baz=282
H11N2 WAKE ISLAND Hy 41.07 86 T T 01 04 55.3
baz=282
H11N3 WAKE ISLAND Hy 41.08 86 T T 01 05 10.0
baz=282
H11S3 WAKE ISLAND Hy 41.15 88 T T 01 04 54.7
baz=283,slow=75
H11S1 WAKE ISLAND Hy 41.16 87 T T 01 04 56.7
baz=283,slow=75
H11S2 WAKE ISLAND Hy 41.17 88 T T 01 04 56.5
baz=283,slow=75
MA2 Magadan 41.80 21 LR LR 00 40 04.8
comp=Z,22nm,19.1s,baz=108,slow=38
ZALV Zalesovo Beam 42.32 327 P P 00 21 18.9 +0.2
1.6nm,0.7s,baz=110,slow=6.9,SNR=7.5
WRA Warramunga Arr 43.84 164 P P 00 21 36.9 +5.6
1.1nm,0.7s,baz=345,slow=9.1,SNR=9.7
ASAR Alice Springs 47.32 166 P P 00 22 04.4 +5.6
0.4nm,0.7s,baz=350,slow=8.9,SNR=5.3
KIRV Kirov 62.31 325 LR LR 00 54 19.3
comp=Z,102nm,19.9s,baz=278,slow=39
KBZ Khabaz 67.60 309 P P 00 24 24.1 +2.4
1.2nm,0.8s,baz=138,slow=5.4,SNR=5.9
YKA Yellowknife Ar 83.74 23 P P 00 25 52.3 -1.5
0.2nm,0.5s,baz=306,slow=5.3,SNR=3.6

CNRM 07 00:20:52.9, 35.°76N×3.°52W, h31km, ml2.4
INMG 07 00:20:53.2±1.8, 35.°66N×3.°68W, h0km, ML2.2, Error ellipse: s-maj=5.2km s-min=3.3km az=43.0
MDD 07 00:20:53.3±0.5, 35.°72N×3.°65W, h0km, mb_Lg2.3/7, Error ellipse: s-maj=3.6km s-min=3.2km az=38.0
SFS 07 00:20:53.0, 35.°72N×3.°65W, ML2.3, ALBORAN SUR
ISC 07 00:20:52.5±1.3**, 35.°70N**±0.°02×**3.°61W**±0.°03**, h16km**±10km**, n34, σ1s17**/56**, Strait of Gibraltar**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
EALB Alboran 0.53 62 Pg Pb 00 21 04.3 +1.0
EALB Sg Sb 00 21 12.5 +1.8
EALB i Vmb_Lg 00 21 14.3
PALE Palemas 0.55 210 P Pn 00 21 05.0 -0.7
PALE Palemas 0.55 210 P Pb 00 21 04.6 +0.8
PALE S Sn 00 21 14.0 -0.6
EMEL Melilla 0.66 126 Pg Pb 00 21 05.6 0.0
EMEL Sg Sb 00 21 14.8 +0.2
PVLZ Peæn de 0.77 228 P Pn 00 21 08.6 -0.1
PVLZ S Sb 00 21 18.3 +0.5
ELGU Los Guajares, 1.17 359 Pg Pb 00 21 14.1 -0.3
ELGU Sg Sn 00 21 29.9 -0.1
ELGU i Vmb_Lg 00 21 32.9
AKLM AKL 1.20 190 P Pg 00 21 15.6 -0.1
AKLM S Sn 00 21 31.1 +0.4
EMAL Malaga-Limoner 1.26 328 P Pb 00 21 15.4 -0.4
EMAL S Sb 00 21 30.3 -1.5
EMIJ Mijas 1.28 313 Pg Pb 00 21 15.9 -0.4
EMIJ Sg Sn 00 21 32.6 -0.1
EMIJ i Vmb_Lg 00 21 37.7
TAF Taforalt 1.31 132 P Pn 00 21 16.0 -0.3
TAF Taforalt 1.31 132 P Pn 00 21 15.3 -1.0
TAF S Sb 00 21 30.8 -2.7
EBER Berja 1.33 26 Pg Pn 00 21 16.1 -0.5
EBER Sg Sb 00 21 33.5 -0.7
EBER i Vmb_Lg 00 21 35.9
SMIR Smir Dam 1.45 270 P Pn 00 21 17.0 -1.0
SMIR Smir Dam 1.45 270 P Pn 00 21 17.2 -0.8
SMIR S Sn 00 21 35.6 -1.0
ECEU Ceuta 1.45 279 Pg Pn 00 21 17.0 -1.1
ECEU Sg Sn 00 21 35.2 -1.7
ECEU i Vmb_Lg 00 21 36.3
EGOR Sierra Gorda, 1.47 344 Pg Pg 00 21 20.1 -0.7
EGOR Sg Sg 00 21 41.3 +1.3
EGOR i Vmb_Lg 00 21 44.3
CHEFC Chefchaouen 1.53 248 P Pb 00 21 20.1 -0.5
CHEFC Chefchaouen 1.53 248 P Pb 00 21 19.8 -0.8
CHEFC S Sb 00 21 40.2 +0.3
JBK JBK 1.60 148 P Pn 00 21 20.0 -0.4
JBK JBK 1.60 148 P Pn 00 21 19.5 -0.9
JBK S Sn 00 21 38.5 -2.3
ESPR Espera 2.16 303 Pn Pb 00 21 29.4 -1.9
ESPR Sg Sb 00 21 58.7 +0.8
ESPR i Vmb_Lg 00 22 02.4
LCRM LCR 2.25 208 P Pg 00 21 34.7 -1.1
LCRM S Sb 00 22 01.5 +0.9
MD31 MD31 2.98 199 P Pn 00 21 40.8 +1.6
MD31 S Sn 00 22 15.1 +0.5
MDT Midelt 2.99 196 P Pn 00 21 41.6 +2.2
MDT Midelt 2.99 196 P Pn 00 21 41.6 +2.2
MDT S Sn 00 22 16.0 +1.1
PBAR Barrancos 3.70 313 eSn Sn 00 22 32.6 +0.3
PBAR A A 00 22 35.8
2.7nm,1.1s
PVAQ Vaqueiros 3.72 298 ePn Pn 00 21 50.5 +1.2
PVAQ eSn Sn 00 22 32.7 -0.2
PVAQ A A 00 22 35.3
3.0nm,0.4s
PVAQ Vaqueiros 3.72 298 P Pn 00 21 48.9 -0.4
PVAQ S Sn 00 22 32.5 -0.3
PBDV Barranco-do-Ve 3.81 295 ePn Pn 00 21 52.1 +1.5
PBDV eSn Sn 00 22 35.4 +0.3
PBDV A A 00 22 41.3
3.9nm,0.7s
PCVE Castro Verde 4.05 300 eSn Sn 00 22 41.5 +0.5
PCVE A A 00 22 49.6
3.3nm,0.4s
EVO Evora 4.52 310 eSn Sn 00 22 52.0 -0.5
PNCL Nicolau / Gran 4.62 303 ePn Pn 00 22 03.6 +1.9
PMRV Marv??o 4.79 322 ePn Pn 00 22 05.5 +1.5
PCBR Castelo Branco 5.15 325 ePn Pn 00 22 11.4 +2.5

IDC 07 00:22:33.4±3.4**, 14.°13S×166.°64E, h0km, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/38**, mbtmp3.7**/4**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.6**/57**, Error ellipse: s-maj=157.7km s-min=35.3km az=143.0, Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
DZM Mont Dzumac 7.91 181 LR LR 00 27 14.3
comp=Z,116nm,18.6s,baz=96,slow=36
WRA Warramunga Arr 31.39 255 P P 00 28 56.1 -0.2
0.3nm,0.8s,baz=86,slow=9.9,SNR=2.1
ASAR Alice Springs 32.33 248 P P 00 29 04.5 0.0
0.2nm,0.5s,baz=76,slow=9.1,SNR=1.9
ILAR Eielson Array 86.14 18 P P 00 35 15.7 -0.3
0.6nm,0.7s,baz=237,slow=5.3,SNR=4.3
MKAR Makanchi Array 96.35 317 P P 00 36 04.6 +0.4
0.7nm,0.9s,baz=84,slow=5.9,SNR=4.4
ARCES ARCESS Array B 119.52 345 PKP PKPdf 00 41 24.3 -0.2
2.0nm,0.8s,baz=64,slow=2.1,SNR=7.1

IDC 07 00:28:17.9±0.6, 6.°96S×154.°81E, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.2/40, mbtmp4.1/17, ML3.9/2, MS3.6/5, Ms1 3.6/5, ms1mx3.0/56, Error ellipse: s-maj=21.0km s-min=16.4km az=102.0
NEIC 07 00:28:20.4±2.0, 6.°81S±0.°10×154.°9E±0.°1, h10km±1km, mb4.6/20, Error ellipse: s-maj=19.5km s-min=16.2km az=74.0
ISC 07 00:28:19.8±0.5**, 6.°86S**±0.°07×**154.°90E**±0.°08**, h10km, n56, σ1s10**/61**, mb4.3**/24**, MS3.4**/5**, Bougainville-Solomon Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
RABL Rabaul 3.79 314 Pn Pn 00 29 18.0 -0.4
KRVT Keravat (AS076 3.82 311 Pn Pn 00 29 17.3 -1.4
9.1nm,0.3s,baz=169,slow=5.2,SNR=3.6
KRVT Sn Sn 00 30 06.3 +2.7
27nm,0.3s,baz=255,slow=5.0,SNR=3.9
PMG Port Moresby 8.07 251 Pn Pn 00 30 20.4 +3.3
3.1nm,0.3s,baz=70,slow=15,SNR=3.9
PMG Sn Sn 00 31 47.0 -1.5
2.8nm,0.3s,baz=67,slow=23,SNR=7.0
PMG Port Moresby 8.07 251 Pn 00 30 18.9 +1.8
CTA Charters Tower 15.60 212 Pn Pn 00 32 00.8 +0.9
0.3nm,0.3s,baz=35,slow=15,SNR=6.8
DZM Mont Dzumac 18.79 145 P P 00 32 38.3 -1.2
0.4nm,0.3s,baz=90,slow=20,SNR=1.9
DZM Mont Dzumac 18.79 145 P P 00 32 40.1 +0.5
WR0 Warramunga Arr 23.66 235 P P 00 33 30.1 -1.6
WR0 IAmb IAmb 00 33 32.0
comp=Z,12nm,0.9s
WRA Warramunga Arr 23.82 235 P P 00 33 31.3 -1.8
comp=Z,7.8nm,0.8s,baz=60,slow=9.9,SNR=30
WRA PcP PcP 00 37 16.8 +0.1
comp=Z,0.3nm,0.4s,baz=59,slow=2.6,SNR=6.3
WRA ScP ScP 00 40 55.5 +0.1
comp=Z,0.9nm,1.1s,baz=64,slow=3.8,SNR=3.6
WRA LR LR 00 42 28.6
comp=Z,110nm,19.4s,baz=69,slow=36
WRA Warramunga Arr 23.82 235 P P 00 33 30.6 -2.6
MTN Manton Dam 24.15 254 P P 00 33 35.4 -0.9
MTN IAmb IAmb 00 33 50.6
comp=Z,28nm,1.5s
AS31 Alice Springs 26.19 228 P P 00 33 53.7 -1.1
ASAR Alice Springs 26.19 228 P P 00 33 53.2 -1.6
comp=Z,2.7nm,0.7s,baz=60,slow=8.8,SNR=25
ASAR PcP PcP 00 37 21.9 -0.1
comp=Z,0.4nm,0.8s,baz=56,slow=2.3,SNR=1.7
ASAR ScP ScP 00 41 02.2 +0.2
comp=Z,0.9nm,0.8s,baz=58,slow=3.0,SNR=7.8
ASAR LR LR 00 42 21.1
comp=Z,112nm,21.4s,baz=140,slow=32
ASAR Alice Springs 26.19 228 P P 00 33 53.5 -1.3
KNRA Kununurra 27.06 249 P P 00 34 02.6 -0.1
KNRA IAmb IAmb 00 34 03.8
comp=Z,13nm,0.9s
STKA Stephens Creek 27.82 205 P P 00 34 08.2 -1.1
comp=Z,1.2nm,0.4s,baz=26,slow=13,SNR=2.2
FITZ Fitzroy Crossi 30.62 246 P P 00 34 32.9 -1.5
comp=Z,2.4nm,0.7s,baz=56,slow=9.4,SNR=12
FITZ Fitzroy Crossi 30.62 246 P P 00 34 33.1 -1.2
BBOO Buckleboo 31.20 212 P P 00 34 40.0 +0.6
FORT Forrest 34.62 223 P P 00 35 07.8 -1.5
SSLB Suanglung 45.01 314 P P 00 36 35.9 +0.1
SSLB IAmb IAmb 00 36 54.5
comp=Z,9.8nm,0.7s
JNU Nakatsue 45.84 332 LR LR 00 55 51.1
comp=Z,148nm,18.7s,baz=248,slow=36
ASAJ Asahikawa 51.94 349 LR LR 00 56 25.3
comp=Z,22nm,21.0s,baz=161,slow=32
ENH Enshi 57.07 313 P P 00 38 06.3 -0.2
PETK Petropavlovsk- 59.78 2 P P 00 38 25.9 +1.0
comp=Z,0.5nm,0.3s,baz=134,slow=8.3,SNR=4.6
CMAR Chiang Mai Arr 60.64 296 P P 00 38 32.0 +0.6
comp=Z,2.2nm,0.4s,baz=118,slow=5.5,SNR=14
CMAR Chiang Mai Arr 60.64 296 P P 00 38 31.7 +0.2
SHL Shillong 69.14 301 P P 00 39 27.1 +0.1
SONM Songino Array 69.17 327 P P 00 39 26.8 +0.2
comp=Z,1.5nm,0.8s,baz=127,slow=5.3,SNR=9.5
SONM Songino Array 69.17 327 P P 00 39 26.7 +0.1
SONM IAmb IAmb 00 39 28.5
comp=Z,2.5nm,1.0s
VNDA Vanda 70.72 178 P P 00 39 35.2 -0.4
comp=Z,0.7nm,0.8s,baz=328,slow=7.9,SNR=2.7
VNDA Vanda 70.72 178 P P 00 39 35.8 +0.2
CNPM China Poot 78.67 25 P P 00 40 21.8 -0.2
CAST Castle Rocks 80.63 21 P P 00 40 33.0 +0.5
CAST IAmb IAmb 00 40 40.8
comp=Z,4.3nm,1.0s
IMAR Indian Mountai 81.63 19 P P 00 40 38.0 +0.3
QSPA South Pole Qui 83.12 180 P P 00 40 45.9 +0.1
MK31 Makanchi Array 83.24 319 P P 00 40 46.4 -0.2
MK31 IAmb IAmb 00 41 03.0
comp=Z,1.7nm,0.8s
MKAR Makanchi Array 83.24 319 P P 00 40 46.4 -0.2
comp=Z,1.0nm,0.6s,baz=102,slow=5.2,SNR=14
MKAR Makanchi Array 83.24 319 P P 00 40 46.3 -0.3
ILAR Eielson Array 83.28 22 P P 00 40 46.4 0.0
comp=Z,0.3nm,0.4s,baz=258,slow=4.3,SNR=4.5
ZALV Zalesovo Beam 84.01 326 P P 00 40 49.1 -1.2
comp=Z,0.9nm,0.5s,baz=98,slow=4.9,SNR=3.9
ZALV Zalesovo Beam 84.01 326 P P 00 40 48.8 -1.6
HYT Haines Junctio 85.30 27 P P 00 40 57.4 +0.5
HYT IAmb IAmb 00 41 21.6
comp=Z,9.7nm,1.3s
EGAK Eagle 85.43 23 P P 00 40 58.1 +0.8
EGAK IAmb IAmb 00 41 05.4
comp=Z,4.1nm,1.0s
KDJ Kajisay 85.53 313 P P 00 40 58.7 +0.2
KDJ IAmb IAmb 00 41 00.3
comp=Z,2.9nm,0.8s
KURBB Kurchatov Arra 86.69 322 P P 00 41 02.9 -1.0
comp=Z,0.3nm,0.7s,baz=101,slow=4.6,SNR=4.6
AAK Ala-Archa 87.58 313 P P 00 41 08.3 -0.3
comp=Z,0.5nm,0.5s,baz=146,slow=7.3,SNR=1.9
AAK Ala-Archa 87.58 313 P P 00 41 08.8 +0.1
NVAR Mina Array Bea 91.71 52 P P 00 41 29.4 +1.2
comp=Z,1.2nm,0.8s,baz=259,slow=6.1,SNR=9.2
YKA Yellowknife Ar 96.26 28 P P 00 41 48.6 +0.5
comp=Z,1.9nm,0.8s,baz=267,slow=4.5,SNR=24
LPIG La Paz 97.12 67 LR LR 01 18 48.0
comp=Z,35nm,18.8s,baz=0.5,slow=31
AKASG Malin Array Be 117.37 324 PKP PKPdf 00 47 04.9 -0.8
comp=Z,0.4nm,0.4s,baz=58,slow=2.7,SNR=1.7
GERES GERESS Array B 126.88 329 PKP PKPdf 00 47 23.9 -0.2
comp=Z,0.9nm,0.7s,baz=90,slow=1.3,SNR=6.8
BDFB Brasilia 148.15 135 PKPbc PKPdf 00 48 05.6 +1.7
comp=Z,2.4nm,0.7s,baz=314,slow=5.1,SNR=3.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TORD	Torodi Ar. Bea	152.89	285	PKP	PKPdf	00 48 10.2	-0.9
	comp=Z,0.5nm,0.9s,baz=94,slow=1.4,SNR=2.3						
TORD				PKPbc	PKPbc	00 48 17.6	-0.8
	comp=Z,3.0nm,0.8s,baz=58,slow=1.7,SNR=14						
TORD	Torodi Ar. Bea	152.89	285		PKPdf	00 48 10.5	-0.7
TORD					PKPbc	00 48 18.1	-0.3

*NEIC **07** 00:31:09.4±2.4, 21°.56S±0°.07×66°.74W±0°.09, h198km±6km, mb4.4/57, Error ellipse: s-maj=12.0km s-min=9.5km az=87.0*

*IDC **07** 00:31:09.7±0.8, 21°.56S×66°.74W, h205km±7km, mb3.8/10, mb1 4.0/17, mb1mx3.9/31, mbtmp4.3/17, MS3.6/1, Ms1 3.6/1, ms1mx2.6/63, Error ellipse: s-maj=11.9km s-min=10.3km az=105.0*

*SJA **07** 00:31:10.7±0.7, 21°.47S×66°.83W, h200km, ML4.3, MW4.0*

*VAO **07** 00:31:10.8±0.3, 21°.45S×66°.91W, h214km, mb4.1*

*SCB **07** 00:31:12.7±1.4, 21°.56S×66°.95W, h180km±11km, ML4.3/14, MW3.9, Error ellipse: s-maj=4.6km s-min=4.5km az=0.0*

ISC 07 00:31:10.2±0.5**, 21°.57S**±0°.03×**66°.87W**±0°.04**, h213**km±5km**, n224, σ1s.24**/263**, mb4.4**/32**, 7C, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOCB	Mochara	1.19	75	P	Pn	00 31 43.6	+0.5
MOCB				S	S	00 32 06.2	-2.3
MOCB				IAML		00 32 08.4	
	4μm,0.5s						
MOCB				IAML		00 32 09.1	
	4μm,0.4s						
YJA	Yavi	1.40	116	P	Pn	00 31 45.2	+0.5
YJA	Yavi	1.40	116	iP	Pn	00 31 45.1	+0.5
YJA				eP		00 32 06.0	
YJA				eS	S	00 32 10.6	-0.6
YJA				IAML		00 32 12.5	
	comp=Z,733nm,0.6s						
HJA	Humahuaca	2.12	141	eP	Pn	00 31 52.7	+1.4
HJA				eS	S	00 32 10.5	-13
HJA				IAML		00 32 30.7	
	comp=Z,1μm,0.4s						
LVC	Limon Verde	2.16	241	P	Pn	00 31 52.6	+1.0
	comp=Z,29nm,0.3s,baz=57,slow=6.4,SNR=228						
LVC				S	S	00 32 24.1	+0.4
	comp=Z,31nm,0.3s,baz=211,slow=20,SNR=9.4						
LVC	Limon Verde	2.16	241	Pn	Pn	00 31 52.3	+0.6
LVC	Limon Verde	2.16	241	eP	Pn	00 31 52.6	+1.0
LVC	Limon Verde	2.16	241	P	Pn	00 31 52.7	+1.0
LVC	Limon Verde	2.16	241	eP	Pn	00 31 52.7	+1.0
LVC				eS	S	00 32 24.7	+1.0
LVC				IAML		00 32 26.9	
	comp=Z,151nm,0.2s						
LVC	Limon Verde	2.16	241	eP	Pn	00 31 52.6	+1.0
PB09	IPOC Station P	2.22	264		Pn	00 31 53.1	+1.0
PB09	IPOC Station P	2.22	264	P	Pn	00 31 53.1	+1.0
PB09				IAML		00 32 28.0	
	comp=Z,196nm,0.6s						
PB09	IPOC Station P	2.22	264	eP	Pn	00 31 53.0	+0.9
PB09				eP		00 31 53.7	
PB09				eS	S	00 32 26.1	+1.7
PB09				IAML		00 32 30.3	
	comp=Z,328nm,0.3s						
PB01	IPOC Station P	2.50	282		Pn	00 31 55.5	+0.5
PB01	IPOC Station P	2.50	282	eP	Pn	00 31 55.5	+0.5
PB01	IPOC Station P	2.50	282	P	Pn	00 31 55.5	+0.5
PB01				IAML		00 32 31.0	
	comp=Z,450nm,0.4s						
PB01	IPOC Station P	2.50	282	eP	Pn	00 31 55.6	+0.6
PB01				eS	S	00 32 30.1	+0.5
PB01				IAML		00 32 35.7	
	comp=Z,404nm,0.1s						
PB08	IPOC Station P	2.56	303		Pn	00 31 57.2	+1.2
PB08	IPOC Station P	2.56	303	⇑iP	Pn	00 31 57.2	+1.2
PB08				iS	S	00 32 32.0	+0.6
PB08				IAML		00 32 34.5	
	comp=N,838nm,0.3s						
PB08	IPOC Station P	2.56	303	P	Pn	00 31 57.3	+1.2
PB08				S	S	00 32 29.5	-1.9
PB08				IAML		00 32 33.4	
	comp=N,394nm,0.8s						
PB08				IAML		00 32 34.6	
	comp=N,381nm,0.3s						
PB08	IPOC Station P	2.56	303	eP	Pn	00 31 57.0	+1.0
PB08				eS	S	00 32 32.6	+1.2
PB08				IAML		00 32 34.9	
	comp=Z,229nm,0.1s						
PB06	IPOC Station P	2.75	245	eP	Pn	00 31 58.3	+0.5
PB06	IPOC Station P	2.75	245	P	Pn	00 31 58.2	+0.4
PB06	IPOC Station P	2.75	245	eP	Pn	00 31 58.3	+0.5
PB06				eS	S	00 32 34.6	-0.2
PB06				IAML		00 32 39.1	
	comp=Z,644nm,0.1s						
PB07	IPOC Station P	2.81	266		Pn	00 31 58.9	+0.3
PB07	IPOC Station P	2.81	266	eP	Pn	00 31 58.9	+0.3
PB07	IPOC Station P	2.81	266	P	Pn	00 31 59.2	+0.6
PB07				IAML		00 32 36.4	
	comp=Z,1μm,0.4s						
PB07	IPOC Station P	2.81	266	eP	Pn	00 31 58.8	+0.2
PB07				eP		00 31 59.0	
PB07				eS	S	00 32 35.5	-0.5
PB07				IAML		00 32 36.9	
	comp=Z,1μm,0.4s						
PB02	IPOC Station P	2.83	274		Pn	00 31 59.1	+0.4
PB02	IPOC Station P	2.83	274	eP	Pn	00 31 59.2	+0.4
PB02	IPOC Station P	2.83	274	P	Pn	00 31 59.2	+0.5
PB02				S	S	00 32 33.5	-2.7
PB02				IAML		00 32 35.9	
	comp=Z,1μm,0.3s						
PB02				IAML		00 32 37.4	
	comp=Z,2μm,0.3s						
PB02	IPOC Station P	2.83	274	eP	Pn	00 31 59.0	+0.4
PB02				eS	S	00 32 35.5	-0.7
PB02				eS	S	00 32 35.6	-0.7
PB02				IAML		00 32 37.3	
	comp=Z,2μm,0.3s						
GO01	Chusmiza	2.88	310	Pn	Pn	00 32 00.8	+1.1
GO01	Chusmiza	2.88	310	⇑iP	Pn	00 32 00.5	+0.7
GO01	Chusmiza	2.88	310	eP	Pn	00 32 00.7	+1.1
GO01				eS	S	00 32 35.5	-2.5
PB15	IPOC Station P	2.91	235	Pn	Pn	00 32 00.5	+0.8
PB15	IPOC Station P	2.91	235	eP	Pn	00 32 00.2	+0.5
PB15				iS	S	00 32 38.3	+0.2
PB15	IPOC Station P	2.91	235	P	Pn	00 32 00.4	+0.8
PB15				IAML		00 32 40.9	
	comp=Z,3μm,0.4s						
PB15	IPOC Station P	2.91	235	eP	Pn	00 32 00.6	+0.8
PB15				eS	S	00 32 38.2	+0.1
PB15				IAML		00 32 40.8	
	comp=Z,3μm,0.3s						
HMBC	Humberstone	3.10	294	⇑iP	Pn	00 32 01.6	-0.2
PB04	IPOC Station P	3.14	255		Pn	00 32 02.4	+0.1
PB04	IPOC Station P	3.14	255	eP	Pn	00 32 02.6	+0.3
PB04	IPOC Station P	3.14	255	P	Pn	00 32 02.8	+0.5
PB04				IAML		00 32 43.2	
	comp=Z,354nm,0.3s						
PB04	IPOC Station P	3.14	255	eP	Pn	00 32 02.7	+0.3
PB04				eP	Pn	00 32 02.7	+0.5
PB04				eP	Pn	00 32 02.9	+0.5
PB04				eS	S	00 32 42.0	-0.8
PB04				IAML		00 32 43.9	
	comp=Z,726nm,0.1s						
PATCX	Punta Patache	3.15	283	Pn	Pn	00 32 02.7	+0.3
PATCX	Punta Patache	3.15	283	eP	Pn	00 32 02.6	+0.2
PATCX	Punta Patache	3.15	283	eP	Pn	00 32 02.6	+0.3
PATCX				eP	Pn	00 32 02.7	+0.3
PATCX				eP	Pn	00 32 02.8	+0.3
PATCX				eP	P	00 32 02.9	+0.5
PATCX				eP	P	00 32 02.9	+0.5
PATCX				IAML		00 32 45.6	
	comp=Z,420nm,0.4s						
PB11	IPOC Station P	3.17	304	Pn	Pn	00 32 02.8	+0.2
PB11	IPOC Station P	3.17	304	⇑iP	Pn	00 32 02.9	+0.2
PB11	IPOC Station P	3.17	304	P	Pn	00 32 02.9	+0.2
PB11				S	S	00 32 40.8	-2.6
PB11				IAML		00 32 45.8	
	comp=Z,1μm,0.3s						
PB11				IAML		00 32 46.7	
	comp=Z,829nm,0.2s						
PB11	IPOC Station P	3.17	304	eP	Pn	00 32 02.9	+0.2
PB11				eS	S	00 32 42.2	-1.2
PB11				eS	S	00 32 42.6	-0.7
PB11				IAML		00 32 46.6	
	comp=Z,1μm,0.3s						
TA01	Diego Aracena	3.25	287	Pn	Pn	00 32 03.2	-0.3
TA01	Diego Aracena	3.25	287	eP	Pn	00 32 02.9	-0.6
TA01				iS	S	00 32 42.2	-2.6
TA01	Diego Aracena	3.25	287	eP	Pn	00 32 03.4	-0.1
TA01				eS	S	00 32 43.4	-1.4
TA01				IAML		00 32 46.9	
	comp=Z,310nm,0.6s						
TA02	Huaiquique	3.31	292	Pn	Pn	00 32 04.1	-0.1
TA02	Huaiquique	3.31	292	eP	Pn	00 32 03.9	-0.3
TA02	Huaiquique	3.31	292	eP	Pn	00 32 04.2	+0.1
TA02				eS	S	00 32 44.5	-1.6
TA02				IAML		00 32 48.5	
	comp=Z,2μm,0.1s						
SLA	San Lorenzo	3.38	158	eP	Pn	00 32 06.6	+1.4
SLA				eS	S	00 32 49.3	+1.3
SLA				IAML		00 32 58.6	
	comp=Z,172nm,1.0s						
PB10	IPOC Station P	3.92	240	Pn	Pn	00 32 11.4	-0.1
PB10	IPOC Station P	3.92	240	eP	Pn	00 32 11.4	-0.1
PB10	IPOC Station P	3.92	240	P	Pn	00 32 11.6	+0.1
PB10				IAML		00 32 59.9	
	comp=Z,275nm,0.2s						
PB10	IPOC Station P	3.92	240	eP	Pn	00 32 11.4	-0.1
PB10				eP	Pn	00 32 11.8	+0.3
PB10				eS	S	00 32 57.1	-2.3
PB10				IAML		00 32 59.8	
	comp=Z,347nm,0.4s						
PB16	IPOC Station P	4.06	322	Pn	Pn	00 32 15.2	+1.4
PB16	IPOC Station P	4.06	322	⇑iP	Pn	00 32 15.0	+1.2
PB16				iS	S	00 33 04.3	+0.9
PB16	IPOC Station P	4.06	322	P	Pn	00 32 15.2	+1.4
GO02	Mina Guanaco	4.37	214	Pn	Pn	00 32 17.7	+0.4
GO02	Mina Guanaco	4.37	214	eP	Pn	00 32 17.5	+0.2
GO02				eS	S	00 33 07.4	-2.5
PB12	IPOC Station P	4.38	311	Pn	Pn	00 32 15.8	-1.5
PB12	IPOC Station P	4.38	311	⇑iP	Pn	00 32 15.8	-1.5
PB12				iS	S	00 33 05.8	-4.0
PB12	IPOC Station P	4.38	311	eP	Pn	00 32 16.0	-1.3
PB12				eS	S	00 33 07.4	-2.5
PB12				eS	S	00 33 07.4	-2.5
PB12				IAML		00 33 10.8	
	comp=Z,342nm,0.1s						
PB14	IPOC Station P	4.46	226	Pn	Pn	00 32 17.8	-0.6
PB14	IPOC Station P	4.46	226	⇑iP	Pn	00 32 18.3	-0.1
PB14	IPOC Station P	4.46	226	eP	Pn	00 32 18.3	-0.1
PB14				eS	S	00 33 09.4	-2.4
PB14				IAML		00 33 11.0	
	comp=Z,502nm,0.8s						
AP01	Chacalluta	4.56	314		Pn	00 32 18.3	-1.1
AP01	Chacalluta	4.56	314	eP	Pn	00 32 18.1	-1.3
BBOE	La Paz, Chanca	4.84	347	P	Pn	00 32 25.6	+2.0
BBOD	La Paz, Gloria	5.17	341	P	Pn	00 32 29.3	+1.7
LPAZ	La Paz	5.38	347	P	Pn	00 32 31.2	+0.7
	comp=Z,27nm,0.3s,baz=143,slow=8.3,SNR=501						
LPAZ				S	S	00 33 34.7	+1.1
	baz=90,slow=20,SNR=0.9						
LPAZ	La Paz	5.38	347	Pn	Pn	00 32 31.4	+0.9
LPAZ	La Paz	5.38	347	P	Pn	00 32 31.5	+1.1
AC02	Maricunga	5.64	201	Pn	Pn	00 32 32.9	-0.6
AC01	Pan de Azucar	5.70	216	Pn	Pn	00 32 32.4	-1.4
AC06	Mina Casimiro	6.58	208	Pn	Pn	00 32 43.4	-1.7
GO03	Copiap	6.74	206	Pn	Pn	00 32 45.5	-1.7
GO03	Copiap	6.74	206	eP	Pn	00 32 45.7	-1.4
GO03				eS	S	00 33 59.8	-4.4
AC04	Llanos de Chal	7.63	209	Pn	Pn	00 32 55.4	-3.3
SIV	San Ignacio	7.80	46	P	Pn	00 32 59.0	-1.9
	comp=Z,13nm,0.3s,baz=231,slow=12,SNR=187						
SIV				S	S	00 34 13.5	-16
	comp=Z,4.1nm,0.3s,baz=237,slow=11,SNR=5.6						
LCO	Las Campanas	8.19	204	Pn	Pn	00 33 03.4	-2.7
APLL	PUNTA DE LOS L	8.80	178	eP	Pn	00 33 11.8	-2.0
GO04	Tololo Observa	9.27	202		Pn	00 33 16.9	-3.2
PTLB	Pontes e Lacer	9.53	52	eP	Pn	00 33 21.2	-2.0
CO03	El Pedregal	9.85	200		Pn	00 33 24.8	-2.6
CPUP	Villa Florida	9.93	120	P	Pn	00 33 26.7	-1.6
	comp=Z,1.4nm,0.3s,baz=299,slow=11,SNR=15						
CPUP	Villa Florida	9.93	120	eP	Pn	00 33 28.7	+0.5
CO06	Fray Jorge	10.03	204		Pn	00 33 25.6	-3.9
ZON	Zonda	10.07	189	Pn	Pn	00 33 28.2	-2.0
CO02	Combarbal	10.29	200		Pn	00 33 29.8	-3.2
AQDB	Aquidauana	10.49	86	eP	Pn	00 33 35.2	-0.3
VILB	Vilhena	10.67	38	eP	Pn	00 33 36.7	-1.3
VA03	San Esteban	11.62	196	Pn	Pn	00 33 47.8	-2.2
ETMB	Extrema	11.70	3	eP	Pn	00 33 49.5	-1.5
ROC1	El Roble	11.95	197	Pn	Pn	00 33 52.1	-2.2
PP1B	Ponte de Pedra	11.97	73	eP	Pn	00 33 54.4	0.0
SALV	Santo Antonio	11.99	64	eP	Pn	00 33 54.5	-0.2
MT05	Renca	12.27	195		Pn	00 33 57.3	-0.9
MT09	Talagante	12.70	196		Pn	00 34 01.1	-2.4
VA05	Santo Domingo	12.76	198		Pn	00 34 02.2	-1.9
BO04	La Punta	12.81	194		Pn	00 34 03.2	-1.7
MT01	Popeta	12.85	197	Pn	Pn	00 34 02.9	-2.5
BO01	Tunca	13.31	195	Pn	Pn	00 34 09.3	-1.7
NNA	Nana	13.48	313	P	Pn	00 34 14.3	+0.9
	comp=Z,2.2nm,0.3s,baz=147,slow=8.3,SNR=3.6						
BO02	Sierra Bellavi	13.62	194		Pn	00 34 13.8	-1.2
PDRB	Porto dos Gac	13.86	46	eP	Pn	00 34 17.6	-0.4
PCMB	Pacaembu	14.52	93	eP	P	00 34 29.0	+2.0
ITAB	Concordia	14.56	116		Pn	00 34 26.7	+0.2
ITAB	Concordia	14.56	116	eP	P	00 34 27.4	+0.1
ML02	Panimavida	14.70	195	P	Pn	00 34 27.8	-0.3
CPSB	Cacapava Do Su	14.93	129	eP	P	00 34 32.3	+0.8
CLDB	Colider	15.02	47	eP	Pn	00 34 31.9	-0.4
PLTB	Pedras Altas	15.60	133		P	00 34 37.6	-1.2
PLTB				IAmb	IAmb	00 34 40.6	
	comp=Z,28nm,1.4s						
PLTB	Pedras Altas	15.60	133	eP	Pn	00 34 38.8	-0.2
FRTB	Fartura	16.09	100	eP	Pn	00 34 46.1	+1.0
BB19B	Bebedouro	17.10	92	eP	P	00 34 55.9	+0.5
SNDB	Serra Nova Dou	17.68	60	eP	P	00 35 01.7	-0.1
LC01	Cunco	17.80	193		P	00 35 02.7	-0.2
LC01				IAmb	IAmb	00 35 29.5	
	comp=Z,34nm,1.4s						
IPMB	Ipameri, GO	17.91	82	eP	P	00 35 04.3	-0.1
RCLB	Rio Claro- Sao	17.95	96	eP	P	00 35 05.0	+0.2
NPGB	Novo Progresso	18.22	39	eP	P	00 35 06.5	-1.2
VAO	Valinhos	18.47	98	eP	P	00 35 10.4	-0.1
BDFB	Brasilia	18.81	75	P	P	00 35 13.6	-0.6
	comp=Z,0.7nm,0.3s,baz=238,slow=7.5,SNR=5.4						
BDFB	Brasilia	18.81	75	P	P	00 35 13.3	-0.9
MACA	Manacapuru-AM	19.26	19	eP	P	00 35 18.0	-0.9
PLCA	Paso Flores	19.36	188	P	P	00 35 20.5	+0.7
	comp=Z,0.6nm,0.3s,baz=10.0,slow=10,SNR=8.7						
PLCA	Paso Flores	19.36	188	P	P	00 35 20.2	+0.3
PLCA				IAmb	IAmb	00 35 29.1	
	comp=Z,15nm,1.1s						
PLCA	Paso Flores	19.36	188	eP	P	00 35 20.5	+0.7
PARB	Paraibuna	19.72	99	eP	P	00 35 23.6	-0.2
LL04	Puerto Octay	19.85	192	P	P	00 35 25.1	+0.2
PEXB	Peixe	20.09	65	eP	P	00 35 27.5	-0.3
ITTB	Itaituba	20.22	34	eP	P	00 35 27.8	-1.5
BSCB	Bom Sucesso	20.60	92	eP	P	00 35 33.8	+0.6
MCRA	Macar, Loja	21.30	322	P	P	00 35 41.6	+1.0
MCRA				IAmb	IAmb	00 35 52.1	
	comp=Z,9.5nm,0.8s						
DIAM	Diamantina, MG	22.04	86	eP	P	00 35 47.0	-1.0
JANB	Januaria	22.36	77	eP	P	00 35 50.5	-0.4
SMTB	Santa Maria do	22.45	59	eP	P	00 35 50.7	-0.9
PRPB	Parauapebas	22.50	50	eP	P	00 35 50.9	-1.3
SDBA	SAO DESIDERIO	22.87	70	eP	P	00 35 54.8	-0.7
MALB	Monte Alegre	23.12	34	eP	P	00 35 56.9	-0.7
OTAV	Otavalo	24.44	331	eP	P	00 36 09.9	-0.3
BOAV	Boa Vista	24.61	15	eP	P	00 36 10.2	-1.0
NAN01	Guarapari, ES	25.43	86	eP	P	00 36 18.1	-0.6
MCPB	Macapa, AP	25.55	36	eP	P	00 36 18.9	-0.8
GUA01	Guaratinga, BA	26.03	84	eP	P	00 36 23.3	-0.7
ZARC	Zaragoza, Cauc	29.92	344	P	P	00 36 57.5	-1.0
BIRV	Birongo	31.85	1	P	P	00 37 15.6	+0.3
SJCC	San Jacinto, C	32.31	345	P	P	00 37 20.5	+1.0
SJCC				IAmb	IAmb	00 37 33.9	
	comp=Z,15nm,1.3s						
SRBA	San Rafael, Bu	34.62	330	P	P	00 37 41.4	+1.9
JTS	Las Juntas de	36.30	329	LR	LR	00 52 29.8	
	comp=Z,102nm,21.7s,baz=161,slow=35						
BIM	Bigot	36.31	10	P	P	00 37 53.6	-0.1
FDF	Fort de France	36.51	9	P	P	00 37 54.3	-1.1
SVN	Savane Anatole	36.61	9	P	P	00 37 56.7	+0.4
MLPR	Magueyes Islan	39.29	360	P	P	00 38 18.3	-0.3
MLPR				IAmb	IAmb	00 38 24.8	
	comp=Z,20nm,1.1s						
PDPR	Patillas Dam,	39.35	1	P	P	00 38 18.2	-0.8
PDPR				IAmb	IAmb	00 38 22.1	
	comp=Z,12nm,0.8s						
CELP	Cerrillos	39.40	0	P	P	00 38 17.5	-1.9
MTO3	Montecristo	42.01	326	P	P	00 38 42.3	+1.2
MTO3				IAmb	IAmb	00 38 43.0	
	comp=Z,6.1nm,0.7s						
LRAL	Lakeview Retre	57.60	340	P	P	00 40 37.4	-0.5
LRAL				IAmb	IAmb	00 40 49.6	
	comp=Z,8.7nm,1.4s						
833A	Chaparral WMA,	58.71	326	P	P	00 40 46.3	+0.7
OXF	Oxford	59.75	339	P	P	00 40 52.0	-0.6
WLAR	White Oak Lake	60.37	335	P	P	00 40 57.2	+0.3
WVT	Waverly	60.71	341	P	P	00 40 58.4	-0.8
WVT				IAmb	IAmb	00 40 59.3	
	comp=Z,11nm,0.8s						
MIAR	Mount Ida	61.31	335	P	P	00 41 03.4	+0.2
MIAR				IAmb	IAmb	00 41 04.1	
	comp=Z,14nm,1.3s						
TXAR	Lajitas Array	61.79	324	P	P	00 41 07.2	+0.6
	comp=Z,0.6nm,0.7s,baz=146,slow=7.4,SNR=8.1						
TXAR				PcP	PcP	00 41 46.9	+1.2
	comp=Z,0.2nm,0.5s,baz=145,slow=6.4,SNR=3.8						
TXAR	Lajitas Array	61.79	324	P	P	00 41 07.1	+0.4
TX32	Lajitas Array	61.79	324	P	P	00 41 07.5	+0.8
FVM	French Village	63.24	339	P	P	00 41 15.7	-0.2
CCM	Cathedral Cave	63.58	339	P	P	00 41 17.7	-0.4
CCM				IAmb	IAmb	00 41 18.7	
	comp=Z,8.0nm,0.7s						
MSTX	Muleshoe	64.95	327	P	P	00 41 27.7	+0.4
MSTX				IAmb	IAmb	00 41 28.5	
	comp=Z,9.7nm,0.8s						
121A	Cookes Peak, D	66.51	323	P	P	00 41 38.8	+1.4
121A				IAmb	IAmb	00 41 40.4	
	comp=Z,9.8nm,1.1s						
319A	Douglas	66.52	321	P	P	00 41 38.6	+1.3
319A				IAmb	IAmb	00 41 40.0	
	comp=Z,8.3nm,0.8s						
DBIC	Dimbokro	66.94	72	P	P	00 41 39.6	-0.6
	comp=Z,2.9nm,0.6s,baz=249,slow=8.6,SNR=2.3						
CBKS	Cedar Bluff	67.50	333	P	P	00 41 43.9	+0.6
ANMO	Albuquerque	67.61	326	P	P	00 41 44.2	0.0
TUC	Tucson	68.07	321	P	P	00 41 48.4	+1.3
QSPA	South Pole Qui	68.63	180	P	P	00 41 51.6	+1.5
SDCO	Great Sand Dun	69.29	328	P	P	00 41 56.1	+1.4
SDCO				IAmb	IAmb	00 41 57.1	
	comp=Z,7.2nm,0.9s						
KOWA	Kowa	71.31	65	P	P	00 42 05.6	-1.4
KOWA				IAmb	IAmb	00 42 06.8	
	comp=Z,5.1nm,0.8s						
PKCU	Pink Cliffs	72.63	324	P	P	00 42 16.0	+1.1
PKCU				IAmb	IAmb	00 42 18.3	
	comp=Z,7.2nm,1.3s						
QSM	Queen of Sheba	74.23	320	P	P	00 42 24.2	+0.4
TPNV	Topopah Spring	74.53	321	P	P	00 42 27.7	+2.0
ISA	Isabella, Lake	75.01	319	P	P	00 42 30.0	+1.6
ISA				IAmb	IAmb	00 42 31.5	
	comp=Z,6.4nm,0.8s						
R11A	Troy Canyon, C	75.10	322	P	P	00 42 30.2	+1.2
PD31	Pinedale Array	75.13	329	P	P	00 42 30.1	+1.0
PDAR	Pinedale Array	75.13	329	P	P	00 42 29.8	+0.6
	comp=Z,0.9nm,0.5s,baz=128,slow=8.4,SNR=14						
PDAR	Pinedale Array	75.13	329	P	P	00 42 29.9	+0.8
TOA0	Torodi Ar. Sit	75.59	69	P	P	00 42 31.0	-1.1
TOA0				IAmb	IAmb	00 42 31.6	
	comp=Z,7.9nm,0.6s						
TORD	Torodi Ar. Bea	75.59	69	P	P	00 42 31.1	-1.0
	comp=Z,6.9nm,0.5s,baz=257,slow=5.5,SNR=146						
TORD	Torodi Ar. Bea	75.59	69	P	P	00 42 30.4	-1.7
TORD				IAmb	IAmb	00 42 31.9	
	comp=Z,5.7nm,0.7s						
ULM	Lac du Bonnet	75.97	341	P	P	00 42 33.3	-0.1
	comp=Z,4.3nm,0.5s,baz=151,slow=5.6,SNR=7.7						
ULM	Lac du Bonnet	75.97	341	P	P	00 42 33.1	-0.3
ULM				IAmb	IAmb	00 42 33.7	
	comp=Z,5.0nm,0.7s						
LOHW	Long Hollow	76.27	329	P	P	00 42 36.9	+1.4
OMMB	Old Mammoth Mi	76.61	320	P	P	00 42 38.6	+0.9
OMMB				IAmb	IAmb	00 42 40.5	
	comp=Z,5.2nm,0.9s						
NVAR	Mina Array Bea	76.73	321	P	P	00 42 39.1	+0.9
	comp=Z,2.4nm,0.8s,baz=156,slow=5.8,SNR=18						
NVAR	Mina Array Bea	76.73	321	P	P	00 42 39.7	+1.5
VNDA	Vanda	77.11	190	P	P	00 42 41.5	+1.9
	comp=Z,0.4nm,0.7s,baz=182,slow=1.1,SNR=3.7						
YHL	Hebgen Lake	77.47	329	P	P	00 42 44.2	+1.8
YHL				IAmb	IAmb	00 42 45.0	
	comp=Z,3.7nm,0.7s						
HLID	Hailey	78.12	327	P	P	00 42 48.0	+2.1
HLID				IAmb	IAmb	00 42 49.0	
	comp=Z,5.7nm,0.8s						
G08A	Pilot Rock	81.67	326	P	P	00 43 06.2	+1.4
BOSA	Boshof	81.73	117	P	P	00 43 05.4	-0.2
	comp=Z,3.9nm,1.0s,baz=232,slow=3.8,SNR=6.9						
BOSA	Boshof	81.73	117	P	P	00 43 05.3	-0.2
BOSA				IAmb	IAmb	00 43 16.2	
	comp=Z,21nm,1.4s						
PINE	Pine Mountain	81.75	324	P	P	00 43 07.2	+2.0
PINE				IAmb	IAmb	00 43 08.2	
	comp=Z,5.3nm,0.8s						
FCC	Fort Churchill	83.14	346	P	P	00 43 12.2	+0.4
FCC				IAmb	IAmb	00 43 13.0	
	comp=Z,5.4nm,1.0s						
ESDC	Sonseca Array	84.56	44	P	P	00 43 19.4	-0.1
	comp=Z,1.8nm,1.0s,baz=255,slow=6.7,SNR=5.6						
YKA	Yellowknife Ar	91.89	340	P	P	00 43 54.4	+0.6
	comp=Z,2.6nm,0.7s,baz=129,slow=4.4,SNR=52						
YKA	Yellowknife Ar	91.89	340	P	P	00 43 54.2	+0.5
ASAR	Alice Springs	130.70	205	PKP	PKPdf	00 49 57.0	+0.3
	comp=Z,0.8nm,0.5s,baz=135,slow=1.9,SNR=11						
ASAR				SKPbc	SKPbc	00 53 00.2	-0.3
	comp=Z,0.7nm,0.7s,baz=153,slow=3.2,SNR=5.3						
WRA	Warramunga Arr	133.83	208	PKP	PKiKP	00 50 03.1	-0.8
	comp=Z,1.0nm,0.7s,baz=152,slow=1.9,SNR=14						
WRA	Warramunga Arr	133.83	208		PKPdf	00 50 02.7	+0.1
FITZ	Fitzroy Crossi	138.72	198	PKP	PKPdf	00 50 12.6	+0.9
	comp=Z,1.2nm,0.7s,baz=180,slow=2.0,SNR=2.1						
FITZ	Fitzroy Crossi	138.72	198		PKPdf	00 50 11.8	+0.1
KURBB	Kurchatov Arra	140.33	35	PKP	PKPdf	00 50 14.0	+0.5
	comp=Z,0.8nm,0.7s,baz=299,slow=2.5,SNR=11						
ZALV	Zalesovo Beam	141.18	27	PKP	PKPdf	00 50 15.0	0.0
	comp=Z,2.4nm,0.6s,baz=295,slow=3.7,SNR=11						
KSH	Kashi	143.65	52	PKP	PKPbc	00 50 18.7	+0.6
MKAR	Makanchi Array	144.55	37	PKP	PKPdf	00 50 21.1	-0.1
	comp=Z,8.6nm,0.7s,baz=313,slow=3.8,SNR=109						
SONM	Songino Array	153.23	10	PKP	PKPdf	00 50 36.3	+1.0
	comp=Z,1.2nm,0.8s,baz=292,slow=1.9,SNR=8.2						
SONM				PKPbc	PKiKP	00 50 43.5	+0.5
	comp=Z,2.1nm,0.5s,baz=278,slow=1.4,SNR=17						
PZH	PanZhiHua	168.49	62	PKP	PKPdf	00 50 49.4	-2.7

OMAN 07 00:35:55.8±0.4**, 14°.56N×51°.90E, h35**km±65km**, mb3.5**/1**, ml3.2**/4**, Error ellipse: s-maj=11.9km s-min=11.3km az=326.0, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABTO	Aybut	3.08	26	P	Pn	00 36 41.9	-0.2
	SNR=11						
ABTO				S	Sn	00 37 19.7	+1.9
RBK	Rabkut	3.67	37	P	Pn	00 36 51.1	+1.0
	SNR=12						
RBK				S	Sn	00 37 30.8	-1.4
WHFO	Wadi Hawf	3.79	28	P	Pn	00 36 52.0	+0.2
	SNR=126						
WHFO				S	Sn	00 37 35.6	+0.4
DMTO	DMTO	4.29	43	P	Pn	00 36 58.7	0.0
DMTO				S	Sn	00 37 50.6	+3.1
DOK	Doka	4.56	28	P	Pn	00 37 02.6	+0.2
DOK				S	Sn	00 37 54.9	+0.7
MZR	Muzera	8.53	10	P	Pn	00 37 56.3	-0.5
MZR				S	Sn	00 39 32.4	+0.5
MHTO	MHTO	8.61	41	P	Pn	00 37 58.0	0.0
MHTO				S	Sn	00 39 35.3	+1.3
ATD	Arta Tunnel	9.32	252	P	Pn	00 38 08.0	+0.1
JMDO	Jabal Madar	9.74	36	P	Pn	00 38 13.4	-0.1
JMDO				S	Sn	00 40 04.0	+2.2

*IDC **07** 00:37:54.4±3.1, 23°.71S×69°.48W, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=84.8km s-min=62.8km az=59.0*

*GUC **07** 00:38:09.1±0.7, 22°.84S×69°.25W, h88km±3km, ML3.5*

ISC 07 00:38:09.2±1.0**, 22°.82S**±0°.04×**69°.26W**±0°.07**, h85**km±7km**, n24, σ0s.71**/30**, 3C-5D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB06	IPOC Station P	0.31	292⇑	*i*P	Pn	00 38 22.2	0.0
PB06				*i* S	Sn	00 38 32.0	+0.1
PB06				IAML		00 38 32.3	
	comp=N,12µm,0.1s						
LVC	Limon Verde	0.39	57	LR	LR	00 38 24.9	
	comp=N,55nm,19.3s,baz=173,slow=25						
LVC	Limon Verde	0.39	57	*e*P	Pn	00 38 22.3	-0.7
LVC				*i* S	Sn	00 38 32.8	-0.3
PB15	IPOC Station P	0.43	206⇓	*i*P	Pn	00 38 23.3	+0.2
PB15				*i* S	Sn	00 38 33.9	+0.5
PB04	IPOC Station P	0.95	300⇑	*i*P	Pn	00 38 28.2	0.0
PB04				*i* S	Sn	00 38 42.9	+0.6
PB04				IAML		00 38 47.5	
	comp=E,2µm,0.3s						
PB09	IPOC Station P	1.02	1	*e*P	Pn	00 38 29.8	+0.8
PB09				*i* S	Sn	00 38 44.4	+0.7
PB09				IAML		00 38 50.1	
	comp=N,684nm,0.3s						
PB07	IPOC Station P	1.23	332⇑	*i*P	Pn	00 38 31.9	+0.3
PB07				*i* S	Sn	00 38 48.6	+0.3
PB07				IAML		00 38 49.6	
	comp=E,2µm,0.2s						
PB10	IPOC Station P	1.37	240	*e*P	Pn	00 38 32.8	-0.3
PB10				*i* S	Sn	00 38 50.8	-0.4
PB02	IPOC Station P	1.61	338⇓	*i*P	Pn	00 38 36.6	+0.4
PB02				*i* S	Sn	00 38 57.5	+0.9
PB02				IAML		00 38 58.1	
	comp=E,2µm,0.1s						
PB01	IPOC Station P	1.78	353⇓	*i*P	Pn	00 38 38.9	+0.4
PB01				*i* S	Sn	00 39 01.8	+1.2
PB01				IAML		00 39 05.9	
	comp=N,767nm,0.3s						
PB14	IPOC Station P	2.08	210	*e*P	Pn	00 38 43.2	+0.6
PB14				*i* S	Sn	00 39 08.9	+0.9
PB14				IAML		00 39 13.8	
	comp=E,331nm,0.6s						
PATCX	Punta Patache	2.16	337⇓	*i*P	Pn	00 38 42.9	-0.5
PATCX				IAML		00 39 18.3	
	comp=E,281nm,0.6s						
GO02	Mina Guanaco	2.35	187	*e*P	Pn	00 38 46.8	+0.7
TA01	Diego Aracena	2.40	339⇓	*i*P	Pn	00 38 45.5	-1.0
TA01				IAML		00 39 25.9	
	comp=N,227nm,0.4s						
HMBC	Humberstone	2.60	347	*e*P	Pn	00 38 48.5	-0.8
HMBC				IAML		00 39 30.2	
	comp=N,271nm,0.7s						
PB08	IPOC Station P	2.67	2	*e*P	Pn	00 38 50.8	+0.2
PB08				IAML		00 39 45.5	
	comp=E,130nm,0.7s						
PB11	IPOC Station P	3.07	353	*e*P	Pn	00 38 54.7	-1.0
GO01	Chusmiza	3.14	1	*e*P	Pn	00 38 56.8	-0.2
LPAZ	La Paz	6.59	10	Pn	Pn	00 39 45.5	+1.4
	comp=E,0.2nm,0.3s,baz=207,slow=9.0,SNR=2.1						
H03N1	Juan Fernandez	13.57	217	T	T	00 53 56.4	
	baz=42						
H03N2	Juan Fernandez	13.58	217	T	T	00 53 58.6	
	baz=42						
H03N3	Juan Fernandez	13.59	217	T	T	00 53 42.8	
	baz=42						
TORD	Torodi Ar. Bea	78.11	70	P	P	00 49 58.5	-1.0
	comp=E,0.6nm,0.9s,baz=250,slow=5.2,SNR=1.4						
YKA	Yellowknife Ar	92.32	341	P	P	00 51 09.5	0.0
	comp=E,0.4nm,0.8s,baz=140,slow=4.4,SNR=7.3						

*ISK **07** 00:46:04.1, 38°.49N×39°.38E, h6km, ML2.5/3*
*DDA **07** 00:46:04.3±0.0, 38°.47N×39°.37E, h7km±2km, ML1.5*
ISC 07 00:46:04.5±1.0, **38°.48N**±0°.04×**39°.37E**±0°.03, **h10**km±7km, **n10**, σ0s.**65**/18, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.12	207	PG	Pg	00 46 07.2	-0.3
SVRC				SG	Sg	00 46 09.5	-0.1
ELZG	Elazig	0.31	273	P	Pg	00 46 10.9	+0.2
ELZG				S	Sg	00 46 15.6	+0.8
ELZG				*i* AML	AML	00 46 18.0	
	comp=N,64nm,0.2s						
ELZG				*i* AML	AML	00 46 18.0	
	comp=E,91nm,0.2s						
KOVA	Elazig, Kovanc	0.41	57	P	Pg	00 46 12.7	+0.1
KOVA				S	Sb	00 46 19.8	-0.5
TNCL	Tunceli-Merkez	0.64	12	P	Pg	00 46 16.7	-0.3
TNCL				S	Sg	00 46 26.0	+0.5
TNCL				*i* AML	AML	00 46 27.0	
	comp=E,24nm,0.7s						
MALT	Malatya	0.76	257	PG	Pg	00 46 19.3	+0.1
DIYA	Diyarbakir	0.81	133	P	Pn	00 46 21.6	-0.4
DIYA				S	Sn	00 46 33.9	-0.3
ARPR	Arapgir-MALATY	1.01	307	PG	Pg	00 46 23.8	-0.2
AKCD	Akcadag	1.16	261	P	Pg	00 46 25.9	-0.8
AKCD				S	Sb	00 46 42.0	+0.2
AKCD				*i* AML	AML	00 46 47.0	
	comp=N,11nm,0.6s						
HEKM	Malatya_Hekimh	1.18	290	P	Pg	00 46 26.2	-0.9
HEKM				S	Sn	00 46 44.0	+0.6
MAZI	Mazidag	1.33	140	PN	Pg	00 46 29.7	-0.3
MAZI				SN	Sn	00 46 48.5	+1.5

*IDC **07** 00:47:54.9±0.8, 1°.87S×121°.15E, h0km, mb4.1/9, mb1 4.2/11, mb1mx3.9/41, mbtmp4.1/11, ML3.7/2, MS3.1/5, Ms1 3.1/5, ms1mx2.7/76, Error ellipse: s-maj=24.9km s-min=13.3km az=84.0*
*DJA **07** 00:48:00.1±1.2, 2°S±2°×12°1E±°, h29km±13km, M4.6/19, mb4.7/3, mB5.1/2, MLv4.5/19, Mw(mB)4.5/2*
*NEIC **07** 00:48:01.2±1.5, 1°.96S±0°.07×121°.09E±0°.07, h44km±8km, mb4.3/19, Error ellipse: s-maj=10.5km s-min=9.2km az=135.0*
ISC 07 00:47:59.5±1.5, **1°.92S**±0°.03×**121°.09E**±0°.05, **h29**km±11km, **n62**, σ0s.**93**/65, **mb4.3**/20, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APSI	Ampana	1.14	29	P	Pb	00 48 20.0	-0.7
APSI				S	Sb	00 48 36.9	+1.8
TTSI	Tana Toraja	1.69	228	P	Pn	00 48 26.3	-0.8
TTSI				S	Sn	00 48 48.4	+0.5
LUWI	Luwuk	1.89	63		Pn	00 48 30.1	+0.2
LUWI				Sn	Sb	00 48 55.2	-1.4
LUWI	Luwuk	1.89	63	P	Pn	00 48 30.7	+0.8
SPSI	Sidrap Palu	2.42	213	P	Pn	00 48 38.1	+0.9
MRSI	Marisa	2.52	20	P	Pn	00 48 38.7	+0.1
MRSI				S	Sn	00 49 09.5	+1.1
MPSI	Mapaga	2.54	332	P	Pn	00 48 38.9	+0.2
MPSI				S	Sn	00 49 09.8	+1.1
BNSI	Bone	2.66	202	P	Pn	00 48 41.2	+0.8
TOLI2	Tolitoli	3.02	354	Pn	Pn	00 48 47.1	+1.7
GTOI	Gorontalo	3.18	37	P	Pn	00 48 48.9	+1.3
KAPI	Kappang	3.35	203	Pn	Pn	00 48 49.8	-0.2
	25nm,0.3s,baz=3.8,slow=7.6,SNR=42						
KAPI				Sn	Sn	00 49 32.3	+3.4
	36nm,0.3s,baz=80,slow=16,SNR=14						
KAPI				LR	LR	00 49 43.3	
	comp=Z,49nm,21.0s,baz=210,slow=32						
KAPI				Lg	Lg	00 49 44.8	
	43nm,0.3s,baz=144,slow=23,SNR=6.2						
KAPI	Kappang	3.35	203		Pn	00 48 50.2	+0.2
BKSI	Bulukumba	3.52	196	P	Pn	00 48 53.3	+1.0
KMSI	Cibinong	3.81	49	P	Pn	00 48 56.5	+0.3
BBSI	Bau Bau	3.84	157	P	Pn	00 48 57.5	+0.7
BKB	Balikpapan	4.24	279		Pn	00 49 04.0	+1.8
BKB	Balikpapan	4.24	279	P	Pn	00 49 02.9	+0.7
BSSI	Bau Bau, Buton	4.24	188	P	Pn	00 49 02.2	0.0
SANI	Sanana	4.90	92	P	Pn	00 49 11.6	+0.4
LBMI	Labuha	6.54	79	P	Pn	00 49 34.7	+0.9
	0.3nm1µm111nm,0.8s						
BATI	Baumata	8.62	163	LR	LR	00 54 00.7	
	comp=Z,292nm,18.6s,baz=216,slow=42						
LEM	Lembang	14.29	250	LR	LR	00 57 03.3	
	comp=Z,112nm,19.4s,baz=140,slow=38						
MTN	Manton Dam	14.72	138	Pn	Pn	00 51 26.4	+0.4
FITZ	Fitzroy Crossi	16.69	165	Pn	Pn	00 51 50.9	-0.5
	0.1nm,0.3s,baz=337,slow=9.2,SNR=2.3						
FITZ				LR	LR	00 59 49.8	
	comp=Z,48nm,19.5s,baz=50,slow=43						
FITZ	Fitzroy Crossi	16.69	165	P	Pn	00 51 52.0	+0.5
WB0	Warramunga Arr	22.00	145	P	P	00 52 50.2	-1.4
WRA	Warramunga Arr	22.11	145	P	P	00 52 51.5	-1.3
	3.2nm,0.8s,baz=321,slow=11,SNR=23						
WRA	Warramunga Arr	22.11	145	P	P	00 52 51.5	-1.3
RPSI	Rantau Prapat	22.63	282	P	P	00 52 57.8	-0.6
PSI	Prapat	22.65	282	P	P	00 52 57.8	-0.9
	2.8nm,0.5s,baz=163,slow=4.9,SNR=4.4						
AS31	Alice Springs	24.93	151	P	P	00 53 20.0	-0.4
ASAR	Alice Springs	24.93	151	P	P	00 53 20.5	0.0
	2.7nm,1.0s,baz=328,slow=8.9,SNR=19						
ASAR	Alice Springs	24.93	151	P	P	00 53 20.1	-0.4
CMAR	Chiang Mai Arr	29.75	314	P	P	00 54 04.6	+0.9
	1.6nm,0.4s,baz=138,slow=8.2,SNR=4.2						
CMAR	Chiang Mai Arr	29.75	314	P	P	00 54 03.9	+0.2
JCJ	Chichijima	35.29	34	P	P	00 54 51.5	-0.5
STKA	Stephens Creek	35.52	149	P	P	00 54 55.0	+1.0
STKA				IAmb	IAmb	00 54 57.7	
	comp=Z,2.9nm,1.5s						
LSA	Lhasa	42.51	320	P	P	00 55 53.3	+0.2
LSA				IAmb	IAmb	00 56 02.1	
	comp=Z,5.2nm,0.5s						
USRK	Ussuriysk Ar.	46.94	11	P	P	00 56 27.9	+0.3
	comp=Z,2.2nm,0.5s,baz=196,slow=5.7,SNR=5.5						
USRK	Ussuriysk Ar.	46.94	11	P	P	00 56 28.3	+0.7
ULN	Ulaanbaatar	51.07	348	P	P	00 56 59.1	-0.3
ULN				IAmb	IAmb	00 57 00.4	
	comp=Z,5.4nm,1.0s						
SONM	Songino Array	51.18	347	P	P	00 57 00.2	-0.1
	comp=Z,2.9nm,0.9s,baz=163,slow=9.1,SNR=20						
SONM	Songino Array	51.18	347	P	P	00 56 59.6	-0.7
SONM				IAmb	IAmb	00 57 01.7	
	comp=Z,2.8nm,0.9s						
KSH	Kashi	58.36	320	P	P	00 57 53.0	+0.5
KSH				sP	pP	00 58 01.0	-0.7
KSH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KDJ	Kajisay	59.11	323	P	P	00 57 57.6	0.0
KDJ				IAmb	IAmb	00 57 59.0	
	comp=Z,4.8nm,1.0s						
MK31	Makanchi Array	59.27	330	P	P	00 57 58.5	0.0
MK31				IAmb	IAmb	00 57 59.8	
	comp=Z,2.3nm,0.9s						
MKAR	Makanchi Array	59.27	330	P	P	00 57 58.3	-0.2
	comp=Z,2.1nm,0.8s,baz=124,slow=8.1,SNR=21						
MKAR	Makanchi Array	59.27	330	P	P	00 57 58.0	-0.4
MAKZ	Makanchi	59.43	330	P	P	00 57 59.1	-0.5
MAKZ				IAmb	IAmb	00 58 00.3	
	comp=Z,2.0nm,0.9s						
BOOM	Boomskoye usch	60.06	323	P	P	00 58 04.2	0.0
BOOM				IAmb	IAmb	00 58 05.2	
	comp=Z,3.3nm,0.8s						
KBL	Kabul	60.75	312	P	P	00 58 08.1	-1.0
AAK	Ala-Archa	61.03	322	P	P	00 58 11.0	+0.2
ZAA0	Zalesovo Array	63.29	337	P	P	00 58 24.9	-0.5
ZAA0				IAmb	IAmb	00 58 25.6	
	comp=Z,2.2nm,0.8s						
ZALV	Zalesovo Beam	63.29	337	P	P	00 58 24.8	-0.7
	comp=Z,1.8nm,0.7s,baz=108,slow=4.7,SNR=7.9						
KURK	Kurchatov	63.70	331	P	P	00 58 27.6	-0.6
KURK				IAmb	IAmb	00 58 30.5	
	comp=Z,3.9nm,1.1s						
KKAR	Karatay Array	63.75	321	P	P	00 58 27.8	-1.1
KKAR	Karatay Array	63.75	321	P	P	00 58 27.7	-1.2
KKAR				IAmb	IAmb	00 58 42.3	
	comp=Z,2.2nm,1.3s						
BVAR	Borovoye Array	69.15	330	P	P	00 59 02.1	-1.0
	comp=Z,0.7nm,0.8s						
ABKAR	Akbulak array	73.09	323	P	P	00 59 26.4	-0.7
QSPA	South Pole Qui	88.03	180	P	P	01 00 47.8	+0.9
INK	Inuvik	97.44	21	LR	LR	01 52 18.4	
	comp=Z,21nm,18.1s,baz=48,slow=40						
TORD	Torodi Ar. Bea	119.04	284	PKP	PKPdf	01 06 45.7	-0.9
	comp=Z,0.8nm,1.0s,baz=90,slow=1.5,SNR=2.9						

IDC 07 01:00:19.2±1.6, **14°.11S**×**166°.18E**, **h0**km, **mb3.7**/4, **mb1 3.9**/5, **mb1mx3.7**/28, **mbtmp3.7**/5, **ML3.1**/1, **Error ellipse: s-maj=43.0km s-min=28.4km az=113.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.93	178	Pn	Pn	01 02 16.9	+1.0
	0.3nm,0.3s,baz=342,slow=20,SNR=2.3						
DZM				Sn	Sn	01 03 46.2	-0.2
	baz=250,slow=21,SNR=1.3						
WRA	Warramunga Arr	30.96	255	P	P	01 06 37.7	-0.6
	0.4nm,0.6s,baz=86,slow=9.5,SNR=8.0						
ASAR	Alice Springs	31.92	248	P	P	01 06 46.8	0.0
	0.6nm,0.6s,baz=74,slow=9.5,SNR=13						
ILAR	Eielson Array	86.27	18	P	P	01 13 01.6	-0.8
	0.3nm,0.5s,baz=238,slow=4.6,SNR=6.8						
MKAR	Makanchi Array	96.02	317	P	P	01 13 50.2	+1.7
	0.1nm,0.5s,baz=120,slow=5.7,SNR=2.8						

THE 07 01:06:27.5, 38°.72N×20°.60E, h13km±1km, **ML1.9**/4, **Error ellipse: s-maj=2.4km s-min=1.1km az=101.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRAG	Dragano-Lefkad	0.04	208	P	Pg	01 06 29.3	-0.7
DRAG				S	Sg	01 06 31.8	+0.1
	3µm,0.2s						
NYDR	Nydri-Lefkada	0.08	96	P	Pg	01 06 30.0	-0.2
NYDR				S	Sg	01 06 31.7	-0.4
	1µm,0.1s						
LKD2	Lefkada island	0.08	34	P	Pg	01 06 30.1	-0.2
LKD2				S	Sg	01 06 32.1	-0.3
EVGI	Lefkada island	0.11	156	P	Pg	01 06 30.5	-0.1
EVGI				S	Sb	01 06 33.6	-0.5
	782nm,0.1s						
TSLK	Tsoukalades, L	0.11	23	P	Pg	01 06 30.9	+0.2
TSLK				S	Sg	01 06 33.4	+0.5
	415nm,0.3s						

ATH 07 01:07:20.1, 37°.55N×21°.06E, h24km±4km, **ML1.7**/3, **Error ellipse: s-maj=4.9km s-min=1.5km az=242.0, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LTHK	Lithakia	0.24	311	P	Pb	01 07 26.4	+0.4
LTHK				S	Sb	01 07 30.6	+0.5
RLS	Riolos of Patr	0.60	32	P	Pb	01 07 31.9	0.0
RLS				AML	AML	01 07 43.3	
	comp=N,138µm,0.3s						
RLS				AML	AML	01 07 46.8	
	comp=E,120µm,0.3s						
DRO	Drossia	0.65	52	P	Pb	01 07 33.0	+0.2
DRO				AML	AML	01 07 46.3	
	comp=E,107µm,0.4s						
DRO				AML	AML	01 07 47.1	
	comp=N,262µm,0.5s						
VLS	Valsamata	0.73	329	P	Pb	01 07 33.8	-0.3
ITM	Ithomi	0.78	118	P	Pn	01 07 35.8	+0.1
ITM				AML	AML	01 07 52.4	
	comp=N,136µm,0.3s						
ITM				AML	AML	01 07 53.1	
	comp=E,152µm,0.4s						
PYL	PYLOS	0.85	140	P	Pb	01 07 36.2	0.0
KEF3	Kipouria, Keph	0.86	319	P	Pb	01 07 36.3	0.0
KEF4	Livadi, Kephal	0.86	325	P	Pn	01 07 36.7	-0.1
DMLN	Damoulianata-K	0.87	322	P	Pn	01 07 37.4	+0.4
LAKA	Lakka	1.00	46	P	Pb	01 07 39.0	+0.3
LKD2	Lefkada island	1.27	346	P	Pb	01 07 45.0	+1.6

*IEPN **07** 01:20:18.0, 78°.44N×7°.61E, h10km*
DNK 07 01:20:15.2±2.9, **78°.89N**×**6°.16E**, **h38**km, **ML0.9**, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	1.12	85	*i* P	Pn	01 20 34.8	+0.6
KBS				*i* S	Sn	01 20 46.8	-1.6
KBS	Kingsbay	1.12	85	*e*P	Pn	01 20 35.1	+0.8
KBS				*e*S	Sn	01 20 48.0	-0.4
HSPB	Hornsund (broa	2.73	129	*e*P	Pn	01 20 53.4	-3.0
HSPB				*e*S	Sn	01 21 19.8	-8.3
HOPEN	Hopen	4.67	111	*e*P	Pn	01 21 21.3	-1.7
HOPEN				*e*S	Sn	01 22 08.5	-7.2
DAG	Danmarks Havn	5.62	260	*i* P	Pn	01 21 37.1	+1.0
DAG				*i* S	Sn	01 22 32.1	-7.1
DAG				IAML		01 22 39.6	
	comp=Z,0.6nm,0.1s						
ZFI2	Zemlya Franca-	7.43	55	*e*P	Pn	01 22 04.8	+4.0
ZFI2				*e*S	Sn	01 23 22.7	-0.9
ZFI	Zemlya Franca-	7.43	55	*e*P	Pn	01 22 04.7	+3.9
ZFI				*e*S	Sn	01 23 22.9	-0.7
	comp=Z,7.1nm,2.2s						
DBG	Daneborg	7.58	246	*i* P	Pn	01 22 01.8	-1.0
DBG				*i* S	Sn	01 23 18.7	-8.5
DBG				IAML		01 23 25.6	
	comp=Z,0.3nm,0.4s						

*NEIC **07** 01:30:20.2±1.2, 7°.57S±0°.07×127°.98E±0°.09, h165km±7km, mb4.3/7, Error ellipse: s-maj=13.7km s-min=8.7km az=117.0*
*IDC **07** 01:30:20.4±2.2, 7°.47S×127°.88E, h161km±21km, mb3.5/6, mb1 3.7/9, mb1mx3.4/28, mbtmp4.1/9, Error ellipse: s-maj=24.5km s-min=16.5km az=84.0*
ISC 07 01:30:18.0±0.6, **7°.63S**±0°.06×**127°.93E**±0°.07, **h142**km, **n42**, σ2s.**23**/45, **mb3.8**/6, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.35	96	Pn	Pn	01 31 11.9	+2.3
BATI	Baumata	4.93	238	P	Pn	01 31 34.1	+3.6
	14nm,0.3s,baz=113,slow=3.6,SNR=6.6						
BATI				S	Sn	01 32 27.6	+0.7
	44nm,0.3s,baz=86,slow=10,SNR=14						
MTN	Manton Dam	6.06	149		Pn	01 31 47.6	+2.1
MTN	Manton Dam	6.06	149	P	Pn	01 31 47.9	+2.4
FAKI	Fak Fak	6.36	43	Pn	Pn	01 31 49.5	0.0
KDU	Kakadu	6.72	139	P	Pn	01 31 55.9	+1.5
SIJI	Sorong	7.50	26	P	Pn	01 32 05.2	+0.4
	3.0nm,0.3s,baz=252,slow=19,SNR=3.5						
KNRA	Kununurra	8.04	174		Pn	01 32 12.9	+0.9
KNRA	Kununurra	8.04	174	P	Pn	01 32 13.3	+1.3
FITZ	Fitzroy Crossi	10.64	192	P	Pn	01 32 45.4	-1.3
	2.2nm,0.3s,baz=35,slow=12,SNR=91						
FITZ				S	Sn	01 34 38.5	-5.8
	3.2nm,0.3s,baz=92,slow=20,SNR=7.5						
FITZ	Fitzroy Crossi	10.64	192		Pn	01 32 45.6	-1.1
WB0	Warramunga Arr	13.59	153	P	Pn	01 33 23.8	-1.4
WRA	Warramunga Arr	13.72	154	P	Pn	01 33 24.9	-2.0
	3.8nm,0.3s,baz=326,slow=14,SNR=94						
WRA				S	Sn	01 35 49.4	-9.3
	5.1nm,0.3s,baz=330,slow=22,SNR=12						
WRA	Warramunga Arr	13.72	154	Pn	Pn	01 33 23.9	-2.9
WB2	Warramunga Arr	13.73	154	Pn	Pn	01 33 25.3	-1.6
WR0	Warramunga Arr	13.83	153	Pn	Pn	01 33 26.4	-1.8
MBWA	Marble Bar	15.61	210	P	P	01 33 52.2	+0.6
MBWA				IAmb	IAmb	01 34 13.0	
	comp=Z,25nm,1.3s						
PSA00	Pilbara Seismi	15.91	209		P	01 33 56.1	+1.2
PSA00				IAmb	IAmb	01 33 56.6	
	comp=Z,13nm,0.7s						
PSA00	Pilbara Seismi	15.91	209		P	01 33 55.9	+1.0
PSA00				IAmb	IAmb	01 33 57.0	
	comp=Z,3.2nm,0.7s						
PSA00	Pilbara Seismi	15.91	209	P	P	01 33 56.8	+1.9
COEN	Coen	16.23	114	Pn	P	01 34 00.3	+1.8
COEN				IAmb	IAmb	01 34 31.8	
	comp=Z,29nm,1.5s						
COEN	Coen	16.23	114	P	P	01 34 01.3	+2.7
AS31	Alice Springs	16.94	161	Pn	Pn	01 34 08.8	+2.1
AS31				IAmb	IAmb	01 34 10.1	
	comp=Z,7.7nm,0.5s						
ASAR	Alice Springs	16.94	161	P	Pn	01 34 07.6	+0.9
	comp=Z,2.5nm,0.3s,baz=338,slow=9.9,SNR=167						
ASAR				S	S	01 37 08.2	-7.5
	comp=Z,1.5nm,0.3s,baz=330,slow=20,SNR=13						
ASAR	Alice Springs	16.94	161	P	P	01 34 07.1	+0.8
QIS	Mount Isa	17.11	140	P	Pn	01 34 10.8	+2.0
WRKA	Warakurna	17.31	179	P	Pn	01 34 13.2	+2.0
MTSU	Mount Surprise	19.06	125	P	Pn	01 34 32.4	+0.5
FORT	Forrest	23.03	180	P	P	01 35 12.3	+1.6
STKA	Stephens Creek	27.27	154	P	P	01 35 51.7	+2.5
	comp=Z,1.0nm,0.4s,baz=277,slow=7.6,SNR=3.5						
PSI	Prapat	30.74	289	P	P	01 36 19.6	-0.7
	baz=181,slow=8.5						
KSRS	Korea Array	44.85	360	P	P	01 38 17.4	-0.7
	comp=Z,1.0nm,0.4s,baz=175,slow=10,SNR=5.3						
SONM	Songino Array	58.42	343	P	P	01 39 59.2	+0.3
	comp=Z,0.4nm,0.6s,baz=174,slow=8.0,SNR=4.3						
SONM	Songino Array	58.42	343	P	P	01 39 57.7	-1.2
MKAR	Makanchi Array	67.65	328	P	P	01 40 58.4	-1.3
	comp=Z,0.5nm,0.4s,baz=119,slow=8.3,SNR=9.8						
MKAR	Makanchi Array	67.65	328	P	P	01 40 58.2	-1.5
ZALV	Zalesovo Beam	71.26	335	P	P	01 41 20.1	-1.6
	comp=Z,0.4nm,0.3s,baz=133,slow=5.5,SNR=2.3						
MAW	Mawson	73.62	201	P	P	01 41 37.4	+2.0
	comp=Z,2.4nm,0.9s,baz=6.8,slow=19,SNR=1.4						
BCAR	Beaver Creek A	96.87	27	P	P	01 43 31.5	-1.3
TORD	Torodi Ar. Bea	126.92	281	PKP	PKPdf	01 49 04.5	-1.6
	comp=Z,0.4nm,0.8s,baz=167,slow=3.3,SNR=1.9						
TORD	Torodi Ar. Bea	126.92	281	PKPdf	PKPdf	01 49 04.1	-2.0
TXAR	Lajitas Array	127.01	59	PKP	PKPdf	01 49 06.1	0.0
	comp=Z,0.1nm,0.4s,baz=216,slow=4.0,SNR=4.2						

*IDC **07** 01:35:54.1±4.8, 15°.21S×68°.83W, h258km±20km, mb3.5/2, mb1 3.4/3, mb1mx3.0/21, mbtmp4.0/3, Error ellipse: s-maj=136.3km s-min=62.2km az=70.0*
*SCB **07** 01:35:59.0±1.1, 16°.22S×68°.95W, h246km±17km, ML2.4/5, MW2.5, Error ellipse: s-maj=30.1km s-min=14.9km az=1.0*
ISC 07 01:35:50.1±2.2, **15°.7S**±0°.1×**69°.7W**±0°.2, **h250**km, **n10**, σ3s.**49**/12, **Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBOD	La Paz, Gloria	1.41	133	P	Pn	01 36 32.7	+4.3
BBOD				IAML		01 37 27.2	
	9.1nm,1.7s						
LPAZ	La Paz	1.60	112	P	Pn	01 36 32.6	+2.7
	3.9nm,0.3s,baz=314,slow=9.1,SNR=93						
LPAZ				S	S	01 37 02.6	+1.4
	3.4nm,0.3s,baz=135,slow=23,SNR=24						
LPAZ	La Paz	1.60	112	P	Pn	01 36 33.0	+3.0
LPAZ				S	S	01 36 59.3	-1.9
LPAZ				IAML		01 37 05.9	
	7.5nm,1.6s						
BBOE	La Paz, Chanca	1.98	125	P	Pn	01 36 35.9	+2.9
BBOE				IAML		01 37 20.8	
	9.9nm,0.7s						
PB16	IPOC Station P	2.65	177	P	Pn	01 36 44.1	+4.6
PB16				IAML		01 37 25.2	
	24nm,0.4s						
PB08	IPOC Station P	4.47	174	P	Pn	01 37 02.3	+2.5
PB08				S	S	01 37 50.5	-4.8
PB01	IPOC Station P	5.34	178	IAML		01 37 26.5	
	8.8nm,2.3s						
CPUP	Villa Florida	15.64	135	P	P	01 39 18.2	+1.2
	0.2nm,0.3s,baz=312,slow=5.8,SNR=4.5						
DBIC	Dimbokro	67.90	76	P	P	01 46 20.3	-2.1
	7.6nm,1.2s,baz=258,slow=9.3,SNR=2.1						
TORD	Torodi Ar. Bea	76.17	72	P	P	01 47 09.2	-2.2
	0.3nm,0.6s,baz=256,slow=6.3,SNR=5.0						

*IDC **07** 01:56:09.3±1.1, 11°.55S×165°.93E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/43, mbtmp3.9/8, ML3.8/1, MS3.4/8, Ms1 3.4/8, ms1mx3.0/64, Error ellipse: s-maj=43.1km s-min=23.3km az=128.0*
*NEIC **07** 01:56:15.1±0.7, 11°.6S±0°.1×166°.1E±0°.1, h44km±9km, mb4.3/10, Error ellipse: s-maj=22.0km s-min=13.0km az=59.0*
ISC 07 01:56:14.7±0.8, **11°.65S**±0°.08×**166°.0E**±0°.1, **h37**km, **n28**, σ0s.**81**/26, **mb4.1**/12, **MS3.3**/6, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	6.36	290	Pn	Pn	01 57 46.6	+0.7
KOUNC	Koumac, New Ca	9.00	190	Pn	Pn	01 58 23.1	+0.9
DZM	Mont Dzumac	10.37	178	Pn	Pn	01 58 41.9	+0.9
	0.8nm,0.3s,baz=87,slow=9.6,SNR=9.1						
DZM				Sn	Sn	02 00 35.6	-0.4
	0.1nm,0.3s,baz=71,slow=20,SNR=1.3						
DZM	Mont Dzumac	10.37	178		Pn	01 58 41.5	+0.5
MSVF	Nonsavu	13.12	119	LR	LR	02 03 05.1	
	comp=Z,187nm,19.1s,baz=204,slow=31						
PMG	Port Moresby	18.67	275	LR	LR	02 06 57.4	
	comp=Z,131nm,20.6s,baz=160,slow=35						
EIDS	Eidsvold	19.64	224	P	P	02 00 40.3	0.0
EIDS				IAmb	IAmb	02 00 52.6	
	comp=Z,21nm,1.5s						
CTA	Charters Tower	20.76	244	LR	LR	02 07 06.8	
	comp=Z,99nm,19.8s,baz=80,slow=32						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JAY	Jayapura	26.68	288	LR	LR	02 13 26.9	
	comp=Z,36nm,18.2s,baz=0.0,slow=39						
STKA	Stephens Creek	30.19	224	P	P	02 02 22.4	+0.7
	comp=Z,0.4nm,0.3s,baz=0.0,slow=10,SNR=1.4						
STKA				LR	LR	02 13 43.3	
	comp=Z,72nm,19.2s,baz=22,slow=35						
WR0	Warramunga Arr	31.35	251	P	P	02 02 31.7	-0.3
WR0				IAmb	IAmb	02 03 09.4	
	comp=Z,12nm,1.4s						
WB0	Warramunga Arr	31.45	251	P	P	02 02 32.2	-0.7
WB0				IAmb	IAmb	02 02 33.5	
	comp=Z,4.5nm,0.8s						
WRAB	Tennant Creek	31.52	251	P	P	02 02 31.6	-1.9
WRAB				IAmb	IAmb	02 02 42.9	
	comp=Z,8.7nm,1.4s						
WB2	Warramunga Arr	31.52	251	P	P	02 02 33.2	-0.3
WRA	Warramunga Arr	31.53	251	P	P	02 02 33.2	-0.4
	comp=Z,2.1nm,0.9s,baz=84,slow=8.8,SNR=13						
WRA				PcP	PcP	02 05 26.2	+0.2
	comp=Z,0.3nm,0.6s,baz=82,slow=3.0,SNR=2.0						
WRA				LR	LR	02 13 18.9	
	comp=Z,56nm,20.4s,baz=81,slow=33						
WRA	Warramunga Arr	31.53	251	P	P	02 02 33.4	-0.3
WRA					PcP	02 05 25.6	-0.3
AS31	Alice Springs	32.76	244	P	P	02 02 43.2	-1.3
ASAR	Alice Springs	32.76	244	P	P	02 02 43.2	-1.2
	comp=Z,2.8nm,0.7s,baz=73,slow=9.4,SNR=32						
ASAR				PcP	PcP	02 05 28.2	-1.1
	comp=Z,0.2nm,0.2s,baz=72,slow=3.0,SNR=1.3						
FITZ	Fitzroy Crossi	39.48	256	LR	LR	02 19 55.9	
	comp=Z,58nm,18.7s,baz=127,slow=36						
FITZ	Fitzroy Crossi	39.48	256	P	P	02 03 42.0	+0.1
FITZ				IAmb	IAmb	02 04 14.4	
	comp=Z,6.8nm,1.4s						
MBWA	Marble Bar	45.26	252	P	P	02 04 28.5	-0.4
QSPA	South Pole Qui	78.36	180	P	P	02 08 10.7	-0.4
QSPA				IAmb	IAmb	02 08 20.3	
	comp=Z,5.1nm,1.2s						
SONM	Songino Array	79.31	324	P	P	02 08 17.6	+1.0
	comp=Z,0.2nm,0.5s,baz=141,slow=7.4,SNR=1.9						
ILAR	Eielson Array	84.00	18	P	P	02 08 40.3	-0.5
	comp=Z,0.3nm,0.6s,baz=239,slow=5.1,SNR=6.3						
NVAR	Mina Array Bea	86.21	50	P	P	02 08 53.4	+0.6
	comp=Z,0.2nm,0.5s,baz=236,slow=6.4,SNR=2.8						
INK	Inuvik	90.39	19	LR	LR	02 46 05.1	
	comp=Z,23nm,20.5s,baz=7.5,slow=33						
MKAR	Makanchi Array	94.14	317	P	P	02 09 29.6	-0.1
	comp=Z,0.4nm,0.6s,baz=92,slow=6.0,SNR=6.4						
MKAR	Makanchi Array	94.14	317	P	P	02 09 28.5	-1.1

IDC 07 02:00:18.2±3.6, 55°.83S×27°.33W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.7/21, mbtmp4.0/2, Error ellipse: s-maj=128.6km s-min=49.8km az=168.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	47.81	17	T	T	03 01 07.9	
	baz=189						
H10S3	ASCENSION HYDR	47.81	17	T	T	03 00 59.2	
	baz=31						
H10N1	ASCENSION HYDR	48.93	17	T	T	03 02 11.9	
	baz=189,slow=75,SNR=5.1						
H10N3	ASCENSION HYDR	48.93	17	T	T	03 02 10.8	
	baz=189,slow=75,SNR=11						
H10N2	ASCENSION HYDR	48.94	17	T	T	03 02 13.1	
	baz=189,slow=75,SNR=12						
LPAZ	La Paz	50.18	305	P	P	02 09 16.1	-0.1
	0.7nm,0.6s,baz=219,slow=13,SNR=2.2						
TORD	Torodi Ar. Bea	72.90	30	P	P	02 11 48.9	0.0
	1.5nm,0.5s,baz=199,slow=6.5,SNR=35						
YKA	Yellowknife Ar	135.95	318	PKP	PKPdf	02 19 39.6	+0.2
	0.1nm,0.6s,baz=135,slow=2.1,SNR=5.3						
ILAR	Eielson Array	149.91	312	PKPbc	PKPbc	02 20 08.0	-0.8
	0.4nm,0.7s,baz=107,slow=1.0,SNR=2.5						

WEL 07 02:08:35.5±0.6, 33°S±8°×18°0E±2°0, h33km, M4.2/13, mB4.8/10, ML4.4/19, MLv4.2/13, Mw(mB)4.1/10, Error ellipse: s-maj=0.0km s-min=0.0km az=110.6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.22	27	S	Sn	02 10 21.9	-3.8
MXZ	Matakaoa Point	4.68	196	P	Pn	02 09 46.6	+2.8
MXZ				S	Sn	02 10 40.6	+3.7
WMGZ	Waiomatatini S	4.90	194	P	Pn	02 09 49.3	+2.5
WMGZ				S	Sn	02 10 44.8	+2.4
HAZ	Te Kaha	4.99	200	P	Pn	02 09 48.9	+0.9
HAZ				S	Sn	02 10 45.5	+0.9
PKGZ	Pakihiroa	5.04	197	P	Pn	02 09 50.5	+1.7
PKGZ				S	Sn	02 10 47.0	+1.1
PUZ	Puketiti	5.18	194	P	Pn	02 09 51.8	+1.2
PUZ				S	Sn	02 10 48.8	-0.4
RUGZ	Raukumara Rang	5.22	200	P	Pn	02 09 50.7	-0.6
RUGZ				S	Sn	02 10 49.8	-0.6
TWGZ	Tauwhareparae	5.34	196	P	Pn	02 09 55.7	+2.9
TWGZ				S	Sn	02 10 53.4	+0.1
CNGZ	Carnagh Statio	5.58	194	P	Pn	02 09 54.9	-1.3
MWZ	Matawai	5.61	199	P	Pn	02 09 58.6	+2.1
TKGZ	Te Karaka	5.62	197	P	Pn	02 09 58.1	+1.4
TKGZ				S	Sn	02 10 59.3	-0.8
URZ	Urewera	5.66	203	P	Pn	02 09 57.9	+0.7
URZ				S	Sn	02 10 59.3	-1.8
RIGZ	Rimuhau	5.89	196	P	Pn	02 10 01.8	+1.3
RIGZ				S	Sn	02 11 05.3	-1.6
MUGZ	Murupara	5.97	204	P	Pn	02 10 02.5	+1.0
RTZ	Ruatahuna	6.03	202	P	Pn	02 10 02.5	+0.1
RTZ				S	Sn	02 11 06.0	-4.3
PRGZ	Paritu Road	6.08	195	P	Pn	02 10 03.6	+0.6
SNGZ	Shannon Statio	6.08	199	P	Pn	02 10 03.5	+0.6
SNGZ				S	Sn	02 11 08.9	-2.4
RAHZ	Arahi	6.27	200	P	Pn	02 10 05.9	+0.2
MTHZ	Maungataniwha	6.29	202	P	Pn	02 10 06.2	+0.3
MTHZ				S	Sn	02 11 14.2	-2.4
MHGZ	Mahia Peninsul	6.29	194	P	Pn	02 10 06.6	+0.6
NMHZ	Naumai	6.52	202	P	Pn	02 10 09.5	+0.3
BKZ	Black Stump Fm	6.69	203	P	Pn	02 10 10.6	-0.8
HIZ	Hauiti	6.81	215	P	Pn	02 10 16.6	+3.6
TMVZ	Te Maari	6.93	208	P	Pn	02 10 14.3	-0.5
ETVZ	East Tongariro	6.94	208	P	Pn	02 10 14.5	-0.5
SNVZ	South Ngauruho	7.02	208	P	Pn	02 10 15.5	-0.5

IDC 07 02:15:34.8±2.6, 20°.98S×69°.78W, h98km±19km, mb3.4/2, mb1 3.6/3, mb1mx3.3/24, mbtmp3.7/3, Error ellipse: s-maj=59.1km s-min=20.9km az=78.0
GUC 07 02:15:36.1±0.7, 20°.89S×69°.02W, h110km±3km, ML3.5
ISC 07 02:15:35.2±1.0, 20°.89S±0°.03×69°.11W±0°.07, h118km±7km, n24, σ0s.95/42, 8C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.39	247	⇑iP	Pn	02 15 52.0	-0.4
PB01				iS	Sn	02 16 04.8	-0.7
PB01				IAML		02 16 05.6	
	comp=N,4μm,0.3s						
PB08	IPOC Station P	0.75	357	⇑iP	Pn	02 15 55.1	-0.1
PB08				iS	Sn	02 16 09.6	-0.7
PB08				IAML		02 16 10.2	
	comp=E,1μm,0.2s						
PB02	IPOC Station P	0.85	240	⇑iP	Pn	02 15 56.1	+0.3
PB02				iS	Sn	02 16 11.6	+0.2
PB02				IAML		02 16 12.8	
	comp=N,4μm,0.3s						
PB09	IPOC Station P	0.91	188	⇓iP	Pn	02 15 56.7	+0.2
PB09				iS	Sn	02 16 12.8	+0.3
PB09				IAML		02 16 16.9	
	comp=E,1μm,0.3s						
HMBC	Humberstone	0.95	310	⇑iP	Pn	02 15 56.8	+0.1
HMBC				iS	Sn	02 16 12.8	-0.2
HMBC				IAML		02 16 14.2	
	comp=E,1μm,0.4s						
PATCX	Punta Patache	0.98	274	⇑iP	Pn	02 15 57.5	+0.5
PATCX				iS	Sn	02 16 14.1	+0.6
PATCX				IAML		02 16 15.9	
	comp=N,966nm,0.3s						
TA01	Diego Aracena	1.06	288	⇑iP	Pn	02 15 57.8	+0.2
TA01				iS	Sn	02 16 14.7	+0.1
TA01				IAML		02 16 17.1	
	comp=E,542nm,0.5s						
PB07	IPOC Station P	1.11	221	⇑iP	Pn	02 15 58.6	+0.3
PB07				iS	Sn	02 16 15.7	-0.2
PB07				IAML		02 16 17.0	
	comp=E,1μm,0.5s						
TA02	Huaiquique	1.14	302	eP	Pn	02 15 58.7	+0.2
TA02				iS	Sn	02 16 16.3	+0.1
TA02				IAML		02 16 16.8	
	comp=N,1μm,0.1s						
GO01	Chusmiza	1.22	356	eP	Pn	02 15 59.9	0.0
GO01				iS	Sn	02 16 18.4	-0.1
GO01				IAML		02 16 20.9	
	comp=E,2μm,0.2s						
PB11	IPOC Station P	1.24	335	⇑iP	Pn	02 15 59.7	0.0
PB11				iS	Sn	02 16 18.2	-0.1
PB11				IAML		02 16 19.7	
	comp=N,960nm,0.4s						
LVC	Limon Verde	1.72	174	P	Pn	02 16 06.0	+0.5
	comp=N,15nm,0.3s,baz=44,slow=10,SNR=123						
LVC				S	Sn	02 16 28.1	-0.5
	comp=N,19nm,0.3s,baz=270,slow=12,SNR=4.3						
LVC	Limon Verde	1.72	174	⇓iP	Pn	02 16 06.0	+0.5
LVC				iS	Sn	02 16 29.1	+0.4
PB04	IPOC Station P	1.73	214	eP	Pn	02 16 05.8	+0.3
PB04				iS	Sn	02 16 29.1	+0.5
PB04				IAML		02 16 34.8	
	comp=N,350nm,0.3s						
PB06	IPOC Station P	1.86	193	eP	Pn	02 16 07.2	+0.2
PB06				iS	Sn	02 16 30.7	-0.5
PB06				IAML		02 16 32.9	
	comp=E,516nm,0.2s						
PB15	IPOC Station P	2.33	188	eP	Pn	02 16 13.4	+0.4
PB15				iS	Sn	02 16 42.4	+0.4
PB12	IPOC Station P	2.54	333	⇓iP	Pn	02 16 14.9	-0.6
PB12				iS	Sn	02 16 45.1	-1.4
PB12				IAML		02 16 47.2	
	comp=N,144nm,0.3s						
PB16	IPOC Station P	2.57	351	eP	Pn	02 16 17.6	+1.2
PB16				iS	Sn	02 16 49.3	+1.3
PB16				IAML		02 16 54.6	
	comp=E,71nm,0.4s						
PB10	IPOC Station P	2.94	207	eP	Pn	02 16 20.1	-0.5
PB10				IAML		02 16 52.6	
	comp=E,100nm,0.6s						
GO02	Mina Guanaco	4.28	186	eP	Pn	02 16 37.9	-0.8
LPAZ	La Paz	4.67	12	P	Pn	02 16 46.6	+2.3
	comp=E,1.8nm,0.3s,baz=198,slow=6.7,SNR=39						
LPAZ				S	Sn	02 17 35.0	-2.9
	comp=E,0.2nm,0.3s,baz=218,slow=3.9,SNR=4.8						
TORD	Torodi Ar. Bea	77.32	71	P	P	02 27 23.1	+5.8
	comp=E,0.6nm,0.4s,baz=246,slow=5.4,SNR=18						
YKA	Yellowknife Ar	90.55	341	P	P	02 28 25.0	+1.6
	comp=E,0.2nm,0.5s,baz=129,slow=4.6,SNR=6.2						
MKAR	Makanchi Array	145.25	35	PKPbc	PKiKP	02 35 00.1	-2.8
	comp=E,0.4nm,0.6s,baz=336,slow=3.2,SNR=4.0						

IDC 07 02:23:54.6±1.1, 4°.26N×126°.71E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/52, mbtmp3.6/7, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/59, Error ellipse: s-maj=75.6km s-min=16.9km az=69.0
ISC 07 02:24:03.1±0.9, 4°.4N±0°.2×127°.2E±0°.3, h81km, n10, σ1s.75/8, mb3.5/6, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	Tagbilaran	6.19	328	⇓iP	Pn	02 25 31.0	-1.0
TBP				iS		02 25 34.2	
SIJI	Sorong	6.66	142	Pn	Pn	02 25 37.8	-0.6
	2.1nm,0.3s,baz=229,slow=23,SNR=2.2						
KAPI	Kappang	11.93	218	LR	LR	02 31 33.2	
	comp=Z,70nm,18.1s,baz=26,slow=40						
FITZ	Fitzroy Crossi	22.41	184	P	P	02 28 53.1	-2.2
	1.0nm,0.6s,baz=23,slow=11,SNR=7.6						
WRA	Warramunga Arr	25.21	164	P	P	02 29 20.4	-1.1
	1.2nm,0.6s,baz=342,slow=9.4,SNR=14						
ASAR	Alice Springs	28.67	167	P	P	02 29 54.6	+2.1
	0.2nm,0.4s,baz=343,slow=7.0,SNR=5.7						
SONM	Songino Array	46.80	341	P	P	02 32 24.3	-0.5
	0.2nm,0.4s,baz=153,slow=4.8,SNR=1.8						
MKAR	Makanchi Array	57.25	325	P	P	02 33 43.5	+1.2
	0.5nm,0.5s,baz=122,slow=8.1,SNR=7.0						
AAK	Ala-Archa	60.15	317	LR	LR	03 03 07.0	
	comp=Z,47nm,18.4s,baz=336,slow=39						
KURBB	Kurchatov Arra	61.41	327	P	P	02 34 12.1	+1.3
	1.3nm,0.9s,baz=128,slow=6.3,SNR=11						

THE 07 02:26:01.4, 38°.80N×20°.74E, h0km±5km, ML0.4/2, Error ellipse: s-maj=6.2km s-min=0.9km az=344.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	Lefkada island	0.06	259	P	Pg	02 26 02.2	-0.4
LKD2				S	Sg	02 26 03.4	0.0
	152nm,0.1s						
TSLK	Tsoukalades, L	0.07	291	P	Pg	02 26 02.5	-0.2
TSLK				S	Sg	02 26 04.9	+1.3
	32nm,0.2s						
NYDR	Nydri-Lefkada	0.09	199	P	Pg	02 26 03.2	+0.1
NYDR				S	Sg	02 26 05.2	+0.9
EVGI	Lefkada island	0.19	200	P	Pg	02 26 05.0	0.0
EVGI				S	Sg	02 26 08.7	+1.2

ATH 07 02:26:56.8, 38°.13N×20°.42E, h10km±2km, ML1.3/1, Error ellipse: s-maj=2.5km s-min=1.2km az=228.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LXRA	Lixouri, Kepha	0.07	15	P	Pg	02 26 58.9	0.0
LXRA				S	Sg	02 27 00.4	-0.1
KEF3	Kipouria, Keph	0.09	323	P	Pg	02 26 59.3	+0.2
KEF3				S	Sg	02 27 00.8	0.0
DMLN	Damoulianata-K	0.11	343	P	Pg	02 26 59.6	+0.1
DMLN				S	Sg	02 27 01.6	+0.2
KEF4	Livadi, Kephal	0.12	3	P	Pg	02 26 59.6	-0.1
KEF4				S	Sg	02 27 01.8	+0.1
PSDA	Pessada-Kefalo	0.14	98	P	Pg	02 27 00.1	+0.3
PSDA				S	Sg	02 27 02.1	+0.2
VLS	Valsamata	0.14	72	P	Pg	02 26 59.8	-0.2
VLS				S	Sg	02 27 01.9	-0.4
VLS				AML	AML	02 27 02.4	
	comp=E,412μm,0.1s						
VLS				AML	AML	02 27 02.7	
	comp=N,305μm,0.2s						
FSK	Fiskardo	0.35	20	P	Pg	02 27 03.8	+0.2
FSK				S	Sg	02 27 08.8	+0.6
EVGI	Lefkada island	0.52	21	P	Pg	02 27 06.5	-0.4
EVGI				S	Sg	02 27 14.0	+0.2
NYDR	Nydri-Lefkada	0.62	21	P	Pg	02 27 08.0	-0.8

NEIC 07 02:31:36.9±0.9, 57°.08N±0°.04×157°.97W±0°.05, h10km±4km, Error ellipse: s-maj=5.9km s-min=4.0km az=155.0
ANF 07 02:31:37.0±1.7, 57°.07N×157°.90W, h7km±13km, ML4.3/16, Error ellipse: s-maj=5.0km s-min=4.4km az=116.0
NEIC 07 02:31:37, 57°.04N×157°.93W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr-2.38; Mθθ-1.86; Mφφ4.24; Mrθ1.81; Mθφ2.41; Mφr-0.47; Fault plane solution: M0 4.78000×10^14 NP1:φs235.37000°, δ62.41000°, λ-33.87000°. NP2:φs342.64000°, δ60.40000°, λ-147.82000°. Principal axes: T 5.0817, Plg1.0000°, Azm289.0000°; N -0.6678, Plg47.0000°, Azm21.0000°; P -4.4138, Plg43.0000°, Azm198.0000°;
AEIC 07 02:31:37±1.1, 57°.04N±0°.03×157°.93W±0°.06, h11km±4km, ML3.8, mb3.7/4(NEIC), ML4.0/32(NEIC), Mwr3.7/12(NEIC) Error ellipse: s-maj=6.1km s-min=2.4km az=137.0
IDC 07 02:31:42.6±2.6, 57°.40N×157°.91W, h45km±24km, mb3.5/12, mb1 3.7/15, mb1mx3.5/57, mbtmp3.7/15, ML3.5/3, MS2.8/1, Ms1 2.9/1, ms1mx2.3/69, Error ellipse: s-maj=30.2km s-min=13.7km az=12.0
ISC 07 02:31:37.2±1.1, 57°.05N±0°.03×157°.92W±0°.03, h13km±7km, n148, σ0s.94/159, mb3.7/12, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.18	242		Pg	02 31 41.6	+0.3
ANPB	Aniakchak Plen	0.32	218		Pg	02 31 43.3	-0.4
PLBL	Peulik Blue Cr	0.88	42		Pb	02 31 53.9	-0.5
PLK1	Peulik 1	1.04	43		Pb	02 31 56.5	-0.4
VNHG	Veniaminof 1	1.08	220		Pb	02 31 56.6	-1.1
VNHG					Sg	02 32 13.1	+1.1
PLK3	Peulik 3	1.10	54		Pb	02 31 57.6	-0.4
PLK5	Peulik 5	1.10	30		Pg	02 31 57.7	-0.7
VNFG	Fog Glacier, M	1.18	230		Pn	02 31 59.1	-0.4
KJL	Kejulik	1.62	51		Pn	02 32 05.5	+0.1
CAHL	Cahill	1.73	53		Pn	02 32 07.2	+0.2
ANCK	Angle Creek	1.74	48		Pn	02 32 07.3	+0.2
CHIR	Chirikof Islan	1.77	133		Pn	02 32 07.8	+0.3
CHIR					Sb	02 32 32.5	+0.9
CHIR	Chirikof Islan	1.77	133	IAML		02 32 36.1	
	comp=N,1μm,1.0s						
CHIR				IAML		02 32 36.3	
	comp=E,2μm,0.7s						
CHIR	Chirikof Islan	1.77	133	P	Pn	02 32 07.8	+0.3
	baz=315,SNR=26						
CHIR				S	Sb	02 32 31.6	0.0
	baz=315						
KELA	Mount Kelaz	1.82	39		Pn	02 32 08.5	+0.3
SII	Sitkinak Islan	2.11	102		Pb	02 32 13.7	-1.6
SII					Sb	02 32 42.5	+1.1
SII	Sitkinak Islan	2.11	102	IAML		02 32 49.3	
	comp=E,1μm,0.8s						
SII				IAML		02 32 52.4	
	comp=N,1μm,0.6s						
SII	Sitkinak Islan	2.11	102	P	Pn	02 32 12.8	+0.6
	baz=285,SNR=23						
SII				Sb	Sb	02 32 43.1	+1.6
	baz=285						
SDPT	Sand Point	2.22	221		Pn	02 32 14.2	+0.5
SDPT					Sb	02 32 44.8	+0.3
SDPT	Sand Point	2.22	221	IAML		02 32 49.0	
	comp=E,720nm,1.2s						
SDPT	Sand Point	2.22	221	P	Pn	02 32 14.2	+0.5
	baz=38,SNR=25						
SDPT				Sb	Sb	02 32 45.7	+1.2
	baz=38						
OHAK	Old Harbor	2.53	84		Pn	02 32 18.4	+0.5
OHAK					Sb	02 32 51.0	-2.4
OHAK	Old Harbor	2.53	84	P	Pn	02 32 18.2	+0.3
	baz=268,SNR=35						
OHAK				S	Sn	02 32 50.3	+1.8
	baz=268						
BLHA	Black Hill	2.67	241		Pn	02 32 20.3	+0.5
P18K	Big Mountain,	2.75	30		Pn	02 32 21.0	+0.1
P18K	Big Mountain,	2.75	30	IAML		02 33 01.1	
	comp=E,339nm,0.5s						
P18K	Big Mountain,	2.75	30	P	Pn	02 32 20.3	-0.6
	baz=213						
P18K				Sb	Sb	02 32 59.7	+0.1
	baz=213						
Q19K	Cape Douglas,	2.96	49		Pn	02 32 23.6	-0.2
Q19K	Cape Douglas,	2.96	49	IAML		02 33 38.0	
	comp=N,587nm,0.7s						
Q19K	Cape Douglas,	2.96	49	P	Pn	02 32 23.5	-0.3
	baz=232,SNR=6.0						
KDAK	Kodiak Island	2.98	74	P	Pn	02 32 24.7	+0.6
	comp=N,8.2nm,0.3s,baz=223,slow=2.8,SNR=158						
KDAK				S	Sn	02 33 00.0	+0.4
	comp=N,7.1nm,0.3s,baz=60,slow=23,SNR=1.7						
KDAK	Kodiak Island	2.98	74		Pn	02 32 24.5	+0.4
KDAK	Kodiak Island	2.98	74		Sn	02 33 00.0	+0.4
KDAK	Kodiak Island	2.98	74	P	Pn	02 32 24.4	+0.4
	baz=258						
KDAK				S	Sn	02 33 01.9	+2.3
	baz=258						
O18K	Koktuh Hills	3.15	26		Pn	02 32 26.4	-0.1
O18K	Koktuh Hills	3.15	26	IAML		02 33 18.8	
	comp=E,489nm,0.7s						
O18K				IAML		02 33 21.6	
	comp=N,344nm,0.6s						
O18K	Koktuh Hills	3.15	26	P	Pn	02 32 26.1	-0.4
	baz=208						
O18K				Sb	Sb	02 33 13.0	+1.7
	baz=208						
OPT	Oil Point	3.59	41		Pn	02 32 32.9	+0.4
P19K	Oil Pt	3.59	41		Pn	02 32 32.5	0.0
P19K	Oil Pt	3.59	41	P	Pn	02 32 32.2	-0.3
	baz=226						
P19K				Sb	Sb	02 33 27.0	+3.0
	baz=226						
O19K	Port Alsworth	3.67	29		Pn	02 32 34.0	+0.5
O19K	Port Alsworth	3.67	29	P	Pn	02 32 33.2	-0.4
	baz=213,SNR=13						
FALS	False Pass	3.79	237	Sb	Sb	02 33 32.2	+2.5
	baz=52						
IVE	Iliamna Volcan	3.93	39		Pn	02 32 37.2	-0.1
O20K	Slope Mountain	4.12	40		Pn	02 32 40.0	+0.3
O20K	Slope Mountain	4.12	40	P	Pn	02 32 39.8	0.0
	baz=225						
O20K				Sb	Sb	02 33 42.2	+3.2
	baz=225						
SSLS	Shishaldin Sou	4.15	238		Pn	02 32 40.2	+0.1
N19K	Bonanza Creek	4.17	24		Pn	02 32 40.9	+0.4
N19K	Bonanza Creek	4.17	24	IAML		02 33 59.8	
	comp=E,170nm,0.8s						
N19K				IAML		02 34 00.6	
	comp=N,150nm,0.7s						
N19K	Bonanza Creek	4.17	24	P	Pn	02 32 40.5	-0.1
	baz=207,SNR=17						
N19K				Sb	Sb	02 33 42.4	+1.7
	baz=207						
SVW2	Sparrevohn	4.24	16		Pn	02 32 40.8	-0.6
SVW2	Sparrevohn	4.24	16	IAML		02 33 55.8	
	comp=E,160nm,1.0s						
SVW2				IAML		02 34 06.1	
	comp=N,146nm,0.7s						
RED	Redoubt Volcan	4.31	36		Pn	02 32 42.8	+0.3
RDWB	Redoubt West	4.34	35		Pn	02 32 43.2	+0.3
RSO	Redoubt South	4.35	36		Pn	02 32 43.4	+0.3
DFR	Drift River	4.47	35		Pn	02 32 44.8	+0.1
BRLK	Bradley Lake	4.59	51		Pn	02 32 46.2	-0.1
BRSE	Bradley Lake S	4.64	51		Pn	02 32 47.6	+0.7
SPCR	Spurr Chakacha	5.10	33	Sb	Sb	02 34 09.6	+2.4
	baz=218						
M19K	Big River Lodg	5.19	19		Pn	02 32 54.5	+0.1
M19K	Big River Lodg	5.19	19	IAML		02 34 48.2	
	comp=N,92nm,1.4s						
M19K	Big River Lodg	5.19	19	P	Pn	02 32 54.3	-0.1
	baz=202						
M19K				S	Sn	02 33 53.7	-0.3
	baz=202						
SPCG	Spurr Capps Gl	5.22	33		Pn	02 32 55.4	+0.4
L19K	White Mountain	5.38	16		Pn	02 32 56.5	-0.5
L19K	White Mountain	5.38	16	P	Pn	02 32 56.5	-0.5
	baz=198,SNR=33						
L19K				S	Sn	02 33 58.6	-0.1
	baz=198						
STLK	Strandline Lak	5.44	32		Pn	02 32 58.8	+0.8
L20K	Farewell, AK	5.81	19		Pn	02 33 03.3	+0.2
L20K	Farewell, AK	5.81	19	P	Pn	02 33 02.8	-0.2
	baz=202,SNR=14						
L20K				S	Sn	02 34 09.9	+0.4
	baz=202						
TT01	Tatalina	5.95	8		Pn	02 33 04.2	-0.6
TTA	Tatalina	5.98	8		Pn	02 33 04.5	-0.7
TTA	Tatalina	5.98	8	P	Pn	02 33 04.4	-0.8
	baz=190,SNR=8.9						
PMR	Palmer	6.40	41		Pn	02 33 11.0	+0.1
PPLA	Purkeypile	6.53	24		Pn	02 33 13.8	+0.9
PPLA	Purkeypile	6.53	24	P	Pn	02 33 13.7	+0.8
	baz=209,SNR=5.2						
K20K	Telida	6.61	15		Pn	02 33 13.0	-0.9
K20K	Telida	6.61	15	P	Pn	02 33 12.9	-1.0
	baz=199						
SPIA	Saint Paul Isl	6.72	276		Pn	02 33 15.7	+0.3
SPIA	Saint Paul Isl	6.72	276	P	Pn	02 33 15.9	+0.6
	baz=86						
SML	Sawmill	6.83	42		Pn	02 33 17.1	+0.2
FID	Port Fidalgo	6.99	53		Pn	02 33 19.1	0.0
CAST	Castle Rocks	7.01	22		Pn	02 33 19.4	-0.1
CAST	Castle Rocks	7.01	22	P	Pn	02 33 19.3	-0.1
	baz=207,SNR=8.7						
SCM	Sheep Creek Mo	7.22	44		Pn	02 33 23.0	+0.7
J20K	Nowinta River	7.39	13		Pn	02 33 23.8	-0.7
J20K	Nowinta River	7.39	13	P	Pn	02 33 23.8	-0.7
	baz=196						
KTH	Kantishna Hill	7.39	25		Pn	02 33 25.1	+0.5
CHUM	Lake Minchumin	7.39	20		Pn	02 33 24.3	-0.3
CHUM	Lake Minchumin	7.39	20	P	Pn	02 33 24.2	-0.3
	baz=205,SNR=10						
WAT6	Susitna Watana	7.55	39		Pn	02 33 26.7	-0.3
KLU	Klutina	7.58	49		Pn	02 33 27.4	+0.1
KLU	Klutina	7.58	49	P	Pn	02 33 27.4	+0.1
	baz=240						
GCSA	Galena City Sc	7.74	3	P	Pn	02 33 28.7	-0.6
	baz=184						
BPAW	Bear Paw Mtn.	7.85	23		Pn	02 33 31.4	+0.6

ANM	Nome	8.37	337		Pn	02 33 38.0	+0.1
ANM	Nome	8.37	337	P	Pn	02 33 38.0	+0.1
	baz=151,SNR=15						
WAX	Waxell Ridge	8.54	60		Pn	02 33 40.5	0.0
PAX	Paxson	8.60	41	Pn	Pn	02 33 41.2	0.0
I21K	Tanana	8.64	17		Pn	02 33 41.3	-0.5
I21K	Tanana	8.64	17	P	Pn	02 33 41.5	-0.2
	baz=202						
NEA2	Nenana	8.71	26		Pn	02 33 42.2	-0.4
NEA2	Nenana	8.71	26	P	Pn	02 33 42.3	-0.3
	baz=214						
WRH	Wood River Hil	8.85	29		Pn	02 33 45.4	+0.8
H21K	Melozitna Rive	8.97	14		Pn	02 33 45.6	-0.7
H21K	Melozitna Rive	8.97	14	P	Pn	02 33 45.6	-0.7
	baz=198,SNR=6.8						
CCB	Clear Creek Bu	9.07	29		Pn	02 33 47.4	-0.1
I23K	Minto, Yukon-K	9.11	23		Pn	02 33 47.9	-0.2
I23K	Minto, Yukon-K	9.11	23	P	Pn	02 33 47.9	-0.2
	baz=211,SNR=6.7						
HDA	Harding Lake	9.12	31		Pn	02 33 48.2	0.0
IM03		9.18	11		Pn	02 33 48.5	-0.5
RIDG	Independent Ri	9.30	38		Pn	02 33 50.8	-0.1
IL31		9.41	30		Pn	02 33 52.2	0.0
ILAR	Eielson Array	9.41	30	P	Pn	02 33 52.3	0.0
	comp=N,0.4nm,0.3s,baz=211,slow=13,SNR=22						
ILAR				LR	LR	02 37 54.6	
	comp=N,56nm,18.0s,baz=96,slow=41						
ILAR	Eielson Array	9.41	30		Pn	02 33 52.0	-0.3
GAMB	Gambell	9.57	320	P	Pn	02 33 54.6	+0.3
	baz=129,SNR=5.5						
H23K	Yukon River	9.66	21		Pn	02 33 55.2	-0.5
H23K	Yukon River	9.66	21	P	Pn	02 33 55.7	0.0
	baz=208						
J25K	Salcha River,	9.73	34		Pn	02 33 56.8	+0.1
J25K	Salcha River,	9.73	34	P	Pn	02 33 56.8	+0.1
	baz=225,SNR=5.2						
TNA	Tin City	9.78	335		Pn	02 33 57.9	+0.6
TNA	Tin City	9.78	335	P	Pn	02 33 57.9	+0.6
	baz=146,SNR=7.9						
H24K	Noodor Dome	10.03	24	Pn	Pn	02 34 00.2	-0.5
H24K	Noodor Dome	10.03	24	P	Pn	02 34 01.2	+0.5
	baz=213						
J26L	Joseph Creek	10.23	37	P	Pn	02 34 04.4	+0.8
	baz=230						
COLD	Coldfoot	10.82	16	P	Pn	02 34 13.3	+1.8
	baz=203,SNR=11						
TOLK	Toolik Lake Re	12.22	15	P	Pn	02 34 30.2	-0.5
	baz=202						
INK	Inuvik	15.74	34	P	Pn	02 35 16.6	-1.7
	comp=N,0.1nm,0.3s,baz=151,slow=12,SNR=3.2						
INK	Inuvik	15.74	34	Pn	Pn	02 35 16.6	-1.7
C36M	Paulatuk	19.26	37	P	P	02 35 59.2	-1.7
C36M				IAmb	IAmb	02 36 24.6	
	comp=Z,3.6nm,0.9s						
A36M	Sachs Harbour	20.11	29	P	P	02 36 07.0	-3.2
A36M				IAmb	IAmb	02 36 37.5	
	comp=Z,3.7nm,0.8s						
YKA	Yellowknife Ar	22.13	58	P	P	02 36 32.0	0.0
	comp=Z,1.7nm,0.7s,baz=273,slow=10,SNR=36						
YKA				PcP	PcP	02 40 28.9	+0.4
	comp=Z,0.6nm,0.6s,baz=280,slow=1.9,SNR=13						
YKA	Yellowknife Ar	22.13	58	P	P	02 36 30.2	-1.8
SEY	Seymchan	24.98	304	P	P	02 37 00.3	+0.2
	comp=Z,2.0nm,0.7s,baz=83,slow=16,SNR=4.2						
PETK	Petropavlovsk-	25.36	280	P	P	02 37 05.5	+1.9
	comp=Z,1.9nm,0.8s,baz=70,slow=14,SNR=3.6						
PETK	Petropavlovsk-	25.36	280	P	P	02 37 03.5	-0.1
NVAR	Mina Array Bea	31.90	109	P	P	02 38 05.7	+3.5
	comp=Z,0.7nm,0.7s,baz=303,slow=7.8,SNR=6.5						
PDAR	Pinedale Array	33.49	94	P	P	02 38 17.7	+1.5
	comp=Z,0.4nm,0.7s,baz=311,slow=5.3,SNR=4.0						
PDAR	Pinedale Array	33.49	94	P	P	02 38 16.2	+0.1
USRK	Ussuriysk Ar.	44.30	284	P	P	02 39 46.2	-0.1
	comp=Z,0.8nm,0.6s,baz=138,slow=20,SNR=1.7						
TXAR	Lajitas Array	46.61	103	P	P	02 40 06.3	+1.4
	comp=Z,0.3nm,0.6s,baz=316,slow=5.0,SNR=5.1						
SCHQ	Schefferville	47.38	52	P	P	02 40 09.7	-0.8
	comp=Z,2.5nm,0.8s,baz=232,slow=16,SNR=2.1						
KSRS	Korea Array	51.25	281	P	P	02 40 41.0	+0.8
	comp=Z,0.3nm,0.3s,baz=46,slow=7.0,SNR=2.0						
SONM	Songino Array	54.38	304	P	P	02 41 03.0	-0.5
	comp=Z,1.4nm,0.7s,baz=39,slow=6.7,SNR=9.1						
GERES	GERESS Array B	74.24	6	P	P	02 43 12.4	-1.1
	comp=Z,0.3nm,0.4s,baz=324,slow=6.5,SNR=2.3						
ESDC	Sonseca Array	81.16	20	P	P	02 43 51.7	-0.5
	comp=Z,0.2nm,0.5s,baz=342,slow=5.6,SNR=1.5						
ESDC	Sonseca Array	81.16	20	P	P	02 43 51.0	-1.1
QSPA	South Pole Qui	146.84	180	PKPbc	PKPbc	02 51 18.3	+0.8
	comp=Z,4.5nm,0.8s,baz=24,slow=0.8,SNR=10.0						
QSPA	South Pole Qui	146.84	180		PKPab	02 51 18.7	-0.2
BOSA	Boshof	151.49	354	PKPbc	PKPbc	02 51 29.1	-1.4
	comp=Z,2.8nm,0.8s,baz=22,slow=1.5,SNR=3.4						

JMA ***07*** *02:33:28.5±0.4, 23°.14N×120°.68E, h0km, M3.7*
TAP ***07*** *02:33:29.8, 23°.13N×120°.77E, h7km, ML3.9, B*
IASPEI ***07*** *02:33:30.4±0.8, 23°.15N±0°.01×120°.77E±0°.01, h6km±4km, Error ellipse: s-maj=1.9km s-min=1.9km az=56.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

ISC 07 02:33:30.2±0.8**, 23°.14N**±0°.01×**120°.75E**±0°.01**, h7**km±4km**, n148,** σ1s.**08**/226**, 28C-15D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	Tauyuan	0.02	9	⇑iP	Pg	02 33 31.3	-0.2
	baz=355						
STYT				iS	Sg	02 33 32.2	-0.3
	baz=355						
STYH	Taoyuan	0.04	36	⇑iP	Pg	02 33 31.6	0.0
	baz=11						
STYH				iS	Sg	02 33 32.7	+0.2
	baz=11						
WTP	Ta-pu	0.17	309	⇓iP	Pg	02 33 34.4	+0.8
	baz=310						
WTP				iS	Sg	02 33 37.6	+1.7
	baz=310						
SGST	Jiashian	0.17	249	⇑eP	Pg	02 33 33.3	-0.3
	baz=252						
SGST				eS	Sg	02 33 36.4	+0.4
	baz=252						
SLGT	Liugui	0.18	214	⇑iP	Pg	02 33 34.5	+0.8
	baz=211						
SLGT				S	Sg	02 33 37.4	+1.2
	baz=211						
TPUB	Ta-pu	0.20	324	⇓iP	Pg	02 33 35.0	+0.8
	baz=324						
TPUB				iS	Sg	02 33 38.5	+1.8
	baz=324						
CHN1	Nanshi	0.21	282	⇓iP	Pg	02 33 35.5	+1.1
	baz=284						
CHN1				iS	Sg	02 33 39.5	+2.2
	baz=284						
ELDTW	Lidau	0.25	79	⇑iP	Pg	02 33 35.5	+0.3
	baz=78						
ELDTW				iS	Sg	02 33 38.9	+0.4
	baz=78						
SNST	Tainan City	0.25	288	⇓iP	Pg	02 33 36.4	+1.3
	baz=290						
SNST				S	Sg	02 33 41.2	+2.8
	baz=290						
CHN4	Tsaushan	0.26	325	⇓iP	Pg	02 33 36.3	+1.1
	baz=334						
CHN4				iS	Sg	02 33 41.4	+2.7
	baz=334						
TWK	Hsinying	0.27	297	⇓iP	Pb	02 33 36.9	-0.7
	baz=300						
TWK				iS	Sb	02 33 41.4	-1.0
	baz=300						
SCST	Cishan	0.35	223	P	Pb	02 33 38.3	-0.5
	baz=214						
CHN3	Shinhua	0.36	260	eP	Pn	02 33 39.7	-2.2
	baz=280						
ALS	Alishan	0.37	7	⇑iP	Pb	02 33 38.1	-1.2
	baz=7.0						
ALS				iS	Sb	02 33 44.0	-1.5
	baz=7.0						
SHHT	Tainan City	0.39	252	eP	Pn	02 33 40.5	-1.8
	baz=254						
SSD	Sandimen	0.41	196	⇑iP	Pb	02 33 38.3	-1.5
	baz=188						
SSD				S	Sg	02 33 43.5	0.0
	baz=188						
LONT	Longtian	0.42	124	⇓iP	Pb	02 33 38.7	-1.3
	baz=124						
LONT				S	Sg	02 33 44.7	+0.9
	baz=124						
ECS	Chishang	0.43	96	iP	Pb	02 33 39.1	-1.1
	baz=93						
ECS				S	Sg	02 33 45.3	+1.1
	baz=93						
TWM1	Shoushan	0.44	224	eP	Pb	02 33 40.5	+0.1
	baz=215						
TWGBT	Beinan	0.44	137	⇓iP	Pb	02 33 39.0	-1.3
	baz=137						
TWGBT				S	Sg	02 33 45.0	+0.5
	baz=137						
TSMG	Majia	0.45	193	⇑iP	Pb	02 33 38.9	-1.5
	baz=187						
TSMG				S	Sg	02 33 44.5	-0.2
	baz=187						
CHN5	Tsauling	0.46	351	⇑iP	Pb	02 33 39.9	-0.8
	baz=360						
CHN5				S	Sb	02 33 47.8	0.0
	baz=360						
CHN2	Minshiung	0.47	327	P	Pb	02 33 40.8	0.0
	baz=327						
CHN2				S	Sb	02 33 49.0	+1.1
	baz=327						
CHY	Chiayi	0.47	320	⇓eP	Pb	02 33 40.8	0.0
	baz=321						
CHY				eS	Sb	02 33 48.5	+0.6
	baz=321						
SGLT	Jiouru	0.48	210	eP	Pb	02 33 41.1	+0.1
	baz=202						
ICHU	Yijhu	0.49	297	eP	Pn	02 33 41.4	-2.2
	baz=297						
ICHU				eS	Sb	02 33 49.7	+1.2
	baz=297						
TAI1	Yung-k'ang	0.49	258	eP	Pn	02 33 42.4	-1.3
	baz=275						
FULB	Fuli	0.50	83	⇑iP	Pb	02 33 40.7	-0.7
	baz=75						
FULB				S	Sg	02 33 47.6	+1.1
	baz=75						
SCLT	Jiali	0.52	274	eP	Pn	02 33 41.8	-2.2
	baz=290						
TSPT	Pingtung City	0.52	207	eP	Pb	02 33 41.3	-0.3
	baz=201						
TTN	Taitung	0.53	137	P	Pb	02 33 41.5	-0.4
	baz=136						
TTN				S	Sb	02 33 49.6	-0.1
	baz=136						
EDH	Donghe	0.53	108	eP	Pb	02 33 41.1	-0.8
	baz=114						
EDH				eS	Sb	02 33 48.9	-0.9
	baz=114						
CHN8	Yiju	0.54	292	eP	Pn	02 33 42.4	-2.0
	baz=293						
MASBT	Mashibuluo	0.54	192	⇑iP	Pb	02 33 40.6	-1.4
	baz=188						
MASBT				eS	Sg	02 33 47.2	-0.4
	baz=188						
TWF1	Yuli	0.54	67	⇑iP	Pg	02 33 40.8	+0.2
	baz=73						
TWF1				S	Sg	02 33 47.2	-0.5
	baz=73						
EYUL	Yuli	0.56	68	⇑eP	Pg	02 33 41.2	+0.2
	baz=69						
EYUL				eS	Sg	02 33 47.8	-0.5
	baz=69						
YULB	Yu-li	0.56	63	⇑iP	Pg	02 33 41.0	0.0
	baz=63						
YULB				eS	Sg	02 33 47.2	-1.1
	baz=63						
WHYT	Xinyi Township	0.56	9	eP	Pb	02 33 41.5	-0.9
	baz=8.0						
CHKT	Chengkung	0.56	94	⇑iP	Pb	02 33 42.2	-0.2
	baz=95						
CHKT				S	Sb	02 33 50.9	+0.1
	baz=95						
WGK	Gukeng	0.57	342	eP	Pb	02 33 42.8	+0.2
	baz=342						
WGK				eS	Sn	02 33 52.5	-2.0
	baz=342						
ECL	Taimali	0.57	161	⇓iP	Pb	02 33 41.4	-1.2
	baz=152						
ECL				S	Sg	02 33 48.4	-0.3
	baz=152						
WDLH	Douliu	0.58	340	eP	Pn	02 33 43.4	-1.5
	baz=339						
WDLH				eS	Sn	02 33 53.0	-1.6
	baz=339						
WSL	Shuilin Townsh	0.61	308	P	Pb	02 33 43.3	0.0
	baz=308						
EHY	Hungye	0.64	55	⇑iP	Pg	02 33 42.5	+0.1
	baz=64						
WTK	Tuku	0.64	328	⇓eP	Pn	02 33 44.0	-1.8
	baz=329						
WTK				eS	Sn	02 33 53.9	-2.2
	baz=329						
ECBN	Changbin	0.67	75	eP	Pb	02 33 44.2	0.0
	baz=67						
ECBN				eS	Sb	02 33 54.7	+1.1
	baz=67						
SSLB	Suanglung	0.67	16	⇑iP	Pb	02 33 43.1	-1.1
	baz=23						
SSLB				eS	Sb	02 33 53.0	-0.8
	baz=23						
SSPT	Xinbi	0.68	195	⇑eP	Pb	02 33 43.8	-0.6
	baz=185						
WJS	Zhushan	0.68	358	eP	Pb	02 33 44.7	+0.3
	baz=340						
WJS				eS	Sn	02 33 55.9	-1.2
	baz=340						
WSF	Szhu	0.69	315	⇓eP	Pn	02 33 44.8	-1.7
	baz=316						
WSF				eS	Sn	02 33 55.5	-2.0
	baz=316						
VWDT	VWDT	0.71	30	⇑iP	Pb	02 33 43.9	-1.0
	baz=30						
VWDT				eS	Sb	02 33 55.2	+0.4
	baz=30						
HGSD	Ruisui	0.71	60	⇑P	Pb	02 33 44.4	-0.5
	baz=60						
HGSD				eS	Sb	02 33 54.6	-0.3
	baz=60						
WNT	Mingjian	0.74	355	eP	Pn	02 33 45.7	-1.3
	baz=339						
WNT				iS	Sn	02 33 57.5	-1.1
	baz=339						
EAST	Anshuo	0.76	173	⇑iP	Pb	02 33 45.0	-0.8
	baz=166						
EAST				eS	Sb	02 33 55.0	-1.3
	baz=166						
TYC	Yuchr	0.77	7	⇑iP	Pb	02 33 45.8	-0.1
	baz=16						
TYC				S	Sn	02 33 58.7	-0.6
	baz=16						
WNT1	Nantou City	0.77	355	eP	Pn	02 33 46.1	-1.4
	baz=354						
SCZT	Fangliau	0.78	189	⇑iP	Pb	02 33 45.1	-0.9
	baz=188						
SCZT				eS	Sn	02 33 58.0	-1.5
	baz=188						
TAW	Tawu	0.79	170	eP	Pb	02 33 45.6	-0.7
	baz=164						
LDUT	Ludao	0.81	125	eP	Pb	02 33 46.0	-0.6
	baz=125						
LDUT				eS	Sb	02 33 58.5	+0.8
	baz=125						
TAWH	Dawu Township	0.81	171	eP	Pb	02 33 45.6	-0.9
	baz=178						
EGFH	Guangfu	0.81	50	eP	Pg	02 33 45.8	-0.1
	baz=56						
WRL	Guolierlin Hig	0.83	336	eP	Pb	02 33 46.8	-0.2
	baz=335						
WRL				eS	Sn	02 33 59.2	-1.7
	baz=335						
WYL	Yuanlin Townsh	0.83	349	eP	Pn	02 33 47.2	-1.2
	baz=348						
WLCH	Liuqiu	0.86	204	eP	Pn	02 33 50.9	+2.2
	baz=207						
TWP	Hsiaoliuchiu	0.87	205	eP	Pn	02 33 50.2	+1.3
	baz=207						
WPL	Puli Township	0.89	12	eP	Pb	02 33 47.5	-0.5
	baz=11						
OWD	Renai	0.90	26	⇑P	Pg	02 33 47.0	-0.5
	baz=35						
WWF	Wufeng	0.90	357	eP	Pn	02 33 48.6	-0.7
	baz=341						
WWF				eS	Sn	02 34 02.2	-0.4
	baz=341						
WUSB	Renai	0.91	21	eP	Pg	02 33 47.4	-0.3
	baz=12						
ESL	Shilin	0.92	43	eP	Pb	02 33 47.9	-0.5
	baz=43						
ESL				eS	Sb	02 34 01.0	+0.1
	baz=43						
TEGC	Jichi Village	0.92	52	eP	Pn	02 33 48.7	-0.8
	baz=50						
SLIU	Shizi	0.92	177	eP	Pb	02 33 48.3	-0.2
	baz=180						
WCS	Beigang Elemen	0.92	9	eP	Pb	02 33 48.5	0.0
	baz=8.0						
WCHH	Zhanghua	0.95	349	eP	Pn	02 33 50.0	0.0
	baz=348						
WCHH				eS	Sn	02 34 03.5	-0.3
	baz=348						
CHGB	Renai	0.99	23	eP	Pg	02 33 48.6	-0.6
	baz=23						
CHGB				eS	Sn	02 34 04.7	-0.5
	baz=23						
TCU	Taichung	1.00	356	eP	Pn	02 33 51.4	+0.7
	baz=341						
TCU				eS	Sn	02 34 05.0	-0.2
	baz=341						
WDGT	Dungji	1.01	277	⇓iP	Pn	02 33 49.8	-1.0
	baz=277						
WDGT				iS	Sn	02 34 04.2	-1.2
	baz=277						
TEYL	Yanliau Villag	1.06	47	P	Pn	02 33 51.3	-0.2
	baz=57						
ETM	Tongmen	1.06	39	⇑iP	Pb	02 33 50.3	-0.7
	baz=50						
ETM				eS	Sb	02 34 05.0	-0.1
	baz=50						
WHF	Hehuan Shan	1.10	25	⇑iP	Pg	02 33 50.9	-0.6
	baz=33						
SMST	Manzhou Townsh	1.12	176	eP	Pn	02 33 52.4	+0.1
	baz=184						
HEN	Hengchun	1.13	181	eP	Pn	02 33 53.2	+0.7
	baz=174						
HWA	Hwalien	1.14	43	eP	Pn	02 33 52.3	-0.3
	baz=55						
WHP	Taichung City	1.15	9	⇑P	Pn	02 33 52.8	0.0
	baz=18						
WHP				eS	Sn	02 34 10.4	+1.6
	baz=18						
PHUB	P'eng-hu	1.15	289	eP	Pn	02 33 51.8	-0.9
	baz=289						
PHUB				eS	Sb	02 34 06.8	-0.6
	baz=289						
TDCB	Techi	1.17	18	eP	Pb	02 33 52.1	-0.7
	baz=25						
TDCB				eS	Sn	02 34 09.5	+0.1
	baz=25						
TWT	Tachien	1.17	19	eP	Pb	02 33 52.5	-0.5
	baz=17						
PNG	Penghu	1.18	291	⇓P	Pn	02 33 52.2	-0.9
	baz=292						
PNG				eS	Sb	02 34 07.8	-0.6
	baz=292						
FUSS	Fushou	1.19	22	eP	Pg	02 33 52.2	-0.9
	baz=8.0						
TWK1	Hengchun	1.19	178	eP	Pn	02 33 53.8	+0.4
	baz=178						
TWKBT	Hengchun	1.20	177	eP	Pn	02 33 53.4	0.0
	baz=178						
TWKBT				eS	Sn	02 34 12.1	+2.2
	baz=178						
TWQ1	Liyutan	1.20	1	eP	Pn	02 33 53.9	+0.4
	baz=348						
TWQ1				eS	Sn	02 34 12.2	+2.1
	baz=348						
WDJ	Dajia District	1.21	355	eP	Pn	02 33 54.2	+0.7
	baz=342						
WDJ				eS	Sn	02 34 11.5	+1.4
	baz=342						
TWD	Chiawan	1.21	39	⇓P	Pn	02 33 53.2	-0.4
	baz=39						
TWD				eS	Sn	02 34 10.9	+0.6
	baz=39						
VCHM	Qimei	1.22	273	P	Pn	02 33 52.8	-0.9
	baz=273						
VCHM				eS	Sn	02 34 09.2	-1.3
	baz=273						
TSEB	Hengchuen, Pin	1.24	174	eP	Pn	02 33 55.1	+1.1
	baz=181						
TSEB				S	Sn	02 34 13.9	+2.9
	baz=181						
ETLH	Xiulin Townshi	1.25	32	eP	Pg	02 33 53.4	-0.9
	baz=31						
ETLH				eS	Sn	02 34 12.0	+0.5
	baz=31						
NSY	Sanyi	1.27	0	P	Pn	02 33 55.4	+1.0
	baz=359						
NACB	Ninganchiao	1.28	37	eP	Pg	02 33 54.0	-0.8
	baz=46						
NACB				S	Sn	02 34 12.1	0.0
	baz=46						
ETL	Fush Village	1.29	38	eP	Pg	02 33 54.3	-0.7
	baz=36						
LAY	Lan-yu	1.32	146	eP	Pb	02 33 55.4	+0.1
	baz=132						
LYUB	Lan-yu	1.37	146	eP	Pn	02 33 53.6	-2.2
	baz=133						
NMLH	Miaoli	1.39	1	eP	Pg	02 33 57.1	+0.2
	baz=340						
NNSB	Datong	1.41	24	⇑eP	Pn	02 33 55.8	-0.6
	baz=12						
NNSB				eS	Sn	02 34 16.8	+1.6
	baz=12						
NNS	Nan Shan	1.41	24	eP	Pn	02 33 56.2	-0.3
	baz=12						
NNS				eS	Sn	02 34 17.6	+2.1
	baz=12						
NSTT	Nanjuang	1.50	9	eP	Pg	02 33 58.4	-0.6
	baz=357						
NSTT				eS	Sg	02 34 19.5	+1.0
	baz=357						
LIOB	Emei	1.52	9	eP	Pg	02 33 58.4	-0.9
	baz=348						
NFF	Wufeng Townshi	1.52	13	eP	Pg	02 33 58.9	-0.5
	baz=359						
NFF				eS	Sg	02 34 20.8	+1.6
	baz=359						
LATG	Datong	1.56	27	eP	Pb	02 33 58.9	-0.5
	baz=37						
LATG				eS	Sg	02 34 20.9	+0.6
	baz=37						
ENA	Nanau	1.57	35	eP	Pn	02 33 58.6	+0.1
	baz=47						
EWUT	Wuta	1.60	36	eP	Pb	02 33 59.3	-0.8
	baz=48						
NDT	Datong Townshi	1.61	25	eP	Pb	02 33 59.9	-0.5
	baz=35						
NDT				eS	Sg	02 34 24.9	+2.9
	baz=35						
YHNB	Yeheng	1.62	20	eP	Pb	02 34 00.1	-0.5
	baz=19						
YHNB				eS	Sg	02 34 23.7	+1.3
	baz=19						
NSK	Sanguang	1.62	20	eP	Pb	02 34 00.1	-0.4
	baz=19						
NSK				eS	Sg	02 34 23.8	+1.4
	baz=19						
ENTT	Nioudou	1.67	26	eP	Pg	02 34 01.5	-0.7
	baz=35						
NDS	Dongshan	1.73	30	eP	Pb	02 34 01.9	-0.3
	baz=45						
NWLT	Wulai	1.77	23	eP	Pb	02 34 02.7	-0.3
	baz=9.0						
TWC	Suao	1.77	34	eP	Pb	02 34 02.7	-0.3
	baz=44						
TWC				eS	Sg	02 34 27.2	0.0
	baz=44						
TWE	Neicheng	1.78	28	eP	Pg	02 34 03.2	-1.1
	baz=27						
TWE				eS	Sg	02 34 28.9	+1.4
	baz=27						
FUSB	Fushanzhiwuyua	1.78	25	eP	Pg	02 34 03.3	-1.1
	baz=12						
NHDH	Xindian Distri	1.95	21	eP	Pg	02 34 07.0	-0.5
	baz=19						
TWA	Mucha	1.98	22	eP	Pg	02 34 07.6	-0.6
	baz=30						
EGS		2.01	32	eP	Pb	02 34 07.2	+0.2
	baz=43						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TAP1	**Taipei**	**2.02**	**20**	*e*P	**Pn**	**02 34 04.9**	**+0.2**
TIPB	**Shuangxi**	**2.07**	**28**	*e*P	**Pb**	**02 34 07.0**	**-1.1**
	baz=42						
YM01	**YM01**	**2.13**	**20**	*e*P	**Pn**	**02 34 07.1**	**+0.8**
	baz=1.0						
NWF	**Wu-fen Shan**	**2.14**	**26**	*e*P	**Pb**	**02 34 08.4**	**-1.0**
	baz=4.0						
WFSB	**Wu-fen Shan**	**2.14**	**26**	*e*P	**Pb**	**02 34 08.7**	**-0.6**
	baz=3.0						
TWB1	**Santiao Chiao**	**2.17**	**31**	*e*P	**Pb**	**02 34 09.9**	**0.0**
	baz=41						
YM08	**YM08**	**2.18**	**20**	*e*P	**Pb**	**02 34 08.7**	**-1.3**
	baz=17						
VWUC	**VWUC**	**2.19**	**327**	*e*P	**Pn**	**02 34 06.0**	**-1.1**
	baz=328						
VWUC				*e*S	**Sn**	**02 34 35.2**	**+0.7**
	baz=328						
SXI1	**Grass Mountain**	**2.20**	**28**	*e*P	**Pg**	**02 34 11.0**	**-1.3**
	baz=8.0						
SXI1				*e*S	**Sb**	**02 34 37.0**	**-0.8**
	baz=8.0						
JYNG	**Yonagunijimaku**	**2.39**	**57**	P	**Pn**	**02 34 10.7**	**+0.8**
JYNG				*e*S	**Sn**	**02 34 40.7**	**+1.2**
PTMZ	**Houxiangcun**	**2.41**	**322**	*e*P	**Pn**	**02 34 08.9**	**-1.1**
	baz=322						
YOJ	**Yonaguni jima**	**2.45**	**57**	P	**Pb**	**02 34 12.4**	**-2.2**
KNM	**Kinmen**	**2.48**	**301**	*e*P	**Pn**	**02 34 11.7**	**+0.7**
	baz=299						
KNMB	**Chin-men Tao**	**2.54**	**302**	*e*P	**Pn**	**02 34 10.9**	**-0.9**
	baz=301						
ZPLA	**Ao Xicun**	**2.87**	**286**	*e*P	**Pn**	**02 34 15.7**	**-0.6**
	baz=286						
HATJ	**Hateruma jima**	**2.94**	**71**	*e*S	**Sn**	**02 34 52.9**	**-0.1**
IRIF	**Iriomote-Funau**	**2.98**	**66**	P	**Pn**	**02 34 19.2**	**+1.4**
MATB	**Ma-tsu**	**3.09**	**346**	*e*P	**Pn**	**02 34 19.1**	**-0.3**
	baz=345						
AXDP	**Jialang**	**3.09**	**305**	*e*P	**Pn**	**02 34 18.8**	**-0.6**
	baz=304						
JKRS	**Kuro-shima**	**3.18**	**69**	P	**Pn**	**02 34 21.7**	**+1.1**
JIJ	**Ishigaki jima**	**3.33**	**68**	P	**Pn**	**02 34 24.8**	**+2.0**
JIJ				*e*S	**Sn**	**02 35 05.7**	**+3.0**
MHZQ	**Yeshan**	**3.34**	**332**	*e*P	**Pn**	**02 34 23.0**	**+0.2**
	baz=331						
LYJJ	**Jianjiangzhen**	**3.51**	**345**	*e*P	**Pn**	**02 34 25.1**	**-0.1**
	baz=343						
JISG	**Ishigakijimahi**	**3.56**	**65**	P	**Pn**	**02 34 26.1**	**+0.2**
XPSS	**Dashiqiu**	**3.81**	**352**	*e*P	**Pn**	**02 34 29.5**	**+0.2**
	baz=349						

TAP 07 02:33:54.2, 23°.14N×120°.77E, h7km, ML3.9, 5C-4D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.03**	**337**	⇑ *i*P	Pg	02 33 55.7	+0.1
	baz=354						
STYT				*i* S	Sg	02 33 56.6	0.0
	baz=354						
STYH	**Taoyuan**	**0.04**	**8**	*i* P	Pg	02 33 56.0	+0.4
	baz=12						
STYH				*i* S	Sg	02 33 57.0	+0.5
	baz=12						
SGST	**Jiashian**	**0.18**	**253**	⇑ *e*P	Pg	02 33 57.8	-0.1
	baz=259						
SGST				*e*S	Sg	02 34 00.7	+0.4
	baz=259						
SLGT	**Liugui**	**0.18**	**219**	⇑ *i*P	Pg	02 33 58.9	+1.1
	baz=211						
SLGT				*e*S	Sg	02 34 01.8	+1.5
	baz=211						
WTP	**Ta-pu**	**0.18**	**308**	⇓ *i*P	Pg	02 33 58.8	+0.9
	baz=309						
WTP				*i* S	Sg	02 34 01.8	+1.4
	baz=309						
TPUB	**Ta-pu**	**0.21**	**322**	⇓ *i*P	Pg	02 33 59.4	+1.1
	baz=324						
TPUB				*i* S	Sg	02 34 02.9	+1.7
	baz=324						
CHN1	**Nanshi**	**0.23**	**283**	*i* P	Pg	02 33 59.8	+1.1
	baz=283						
CHN1				*i* S	Sg	02 34 03.7	+1.9
	baz=283						
ELDTW	**Lidau**	**0.23**	**77**	⇑ *i*P	Pg	02 33 59.8	+1.0
	baz=79						
ELDTW				*i* S	Sg	02 34 03.2	+1.2
	baz=79						
SNST	**Tainan City**	**0.27**	**289**	P	Pb	02 34 00.8	-0.5
	baz=290						
SNST				S	Sb	02 34 05.5	-0.6
	baz=290						
CHN4	**Tsaushan**	**0.27**	**323**	⇓ *i*P	Pb	02 34 00.7	-0.7
	baz=334						
CHN4				*i* S	Sb	02 34 05.4	-0.8
	baz=334						
TWK	**Hsinying**	**0.29**	**297**	⇓ *i*P	Pb	02 34 01.4	-0.4
	baz=299						
TWK				S	Sb	02 34 05.9	-1.0
	baz=299						
SCST	**Cishan**	**0.36**	**226**	P	Pb	02 34 02.6	-0.3
	baz=214						
ALS	**Alishan**	**0.38**	**5**	⇑ *i*P	Pg	02 34 02.4	+0.8
	baz=7.0						
ALS				*i* S	Sb	02 34 08.2	-1.3
	baz=7.0						
CHN3	**Shinhua**	**0.38**	**261**	*e*P	Pb	02 34 04.0	+0.8
	baz=280						
LONT	**Longtian**	**0.40**	**124**	P	Pb	02 34 03.0	-0.6
	baz=124						
LONT				S	Sb	02 34 08.9	-1.1
	baz=124						
SHHT	**Tainan City**	**0.41**	**254**	*e*P	Pb	02 34 04.8	+1.1
	baz=253						
SHHT				*e*S	Sb	02 34 13.9	+3.8
	baz=253						
SSD	**Sandimen**	**0.41**	**198**	*i* P	Pg	02 34 02.6	+0.6
	baz=188						
SSD				*i* S	Sg	02 34 07.8	+0.4
	baz=188						
ECS	**Chishang**	**0.41**	**95**	*e*P	Pb	02 34 03.6	-0.3
	baz=93						
ECS				S	Sb	02 34 09.4	-1.0
	baz=93						
TWGBT	**Beinan**	**0.43**	**138**	*i* P	Pb	02 34 03.4	-0.6
	baz=138						
TWGBT				S	Sb	02 34 09.5	-1.2
	baz=138						
TSMG	**Majia**	**0.44**	**195**	*i* P	Pg	02 34 03.3	+0.5
	baz=187						
TSMG				S	Sg	02 34 09.0	+0.4
	baz=187						
TWM1	**Shoushan**	**0.45**	**226**	*e*P	Pn	02 34 05.8	-1.2
	baz=215						
CHN5	**Tsauling**	**0.47**	**350**	*e*P	Pb	02 34 04.3	-0.5
	baz=359						
CHN5				*e*S	Sb	02 34 11.7	-0.3
	baz=359						
CHN2	**Minshiung**	**0.48**	**326**	*e*P	Pb	02 34 05.1	+0.2
	baz=326						
CHY	**Chiayi**	**0.48**	**319**	P	Pb	02 34 05.1	+0.1
	baz=320						
CHY				*e*S	Sb	02 34 13.3	+1.0
	baz=320						
SGLT	**Jiouru**	**0.48**	**212**	*e*P	Pb	02 34 06.2	+1.2
	baz=203						
FULB	**Fuli**	**0.49**	**82**	*e*P	Pb	02 34 04.9	-0.2
	baz=75						
FULB				*e*S	Sb	02 34 12.0	-0.5
	baz=75						
ICHU	**Yijhu**	**0.50**	**297**	*e*P	Pb	02 34 05.8	+0.4
	baz=297						
ICHU				*e*S	Sb	02 34 13.8	+0.9
	baz=297						
TAI1	**Yung-k'ang**	**0.51**	**259**	*e*P	Pn	02 34 07.0	-0.8
	baz=275						
TTN	**Taitung**	**0.51**	**137**	P	Pb	02 34 05.9	+0.3
	baz=137						
TTN				S	Sb	02 34 14.4	+1.2
	baz=137						
EDH	**Donghe**	**0.52**	**108**	*e*P	Pb	02 34 05.6	0.0
	baz=113						
TSPT	**Pingtung City**	**0.52**	**209**	*e*P	Pb	02 34 06.1	+0.4
	baz=201						
TWF1	**Yuli**	**0.53**	**66**	P	Pb	02 34 05.3	-0.5
	baz=73						
TWF1				S	Sg	02 34 12.0	+0.6
	baz=73						
SCLT	**Jiali**	**0.53**	**274**	*e*P	Pb	02 34 05.5	-0.4
	baz=290						
MASBT	**Mashibuluo**	**0.54**	**194**	*e*P	Pg	02 34 05.0	+0.5
	baz=188						
MASBT				*e*S	Sg	02 34 11.4	-0.1
	baz=188						
EYUL	**Yuli**	**0.55**	**67**	*e*P	Pb	02 34 05.5	-0.6
	baz=75						
YULB	**Yu-li**	**0.55**	**62**	*e*P	Pg	02 34 05.3	+0.5
	baz=63						
YULB				*e*S	Sg	02 34 12.2	+0.2
	baz=63						
CHKT	**Chengkung**	**0.55**	**94**	*e*P	Pb	02 34 06.7	+0.5
	baz=93						
CHN8	**Yiju**	**0.56**	**292**	*e*P	Pb	02 34 06.4	+0.2
	baz=293						
ECL	**Taimali**	**0.56**	**162**	P	Pb	02 34 05.9	-0.5
	baz=153						
ECL				*e*S	Sg	02 34 12.8	+0.5
	baz=153						
WGK	**Gukeng**	**0.58**	**341**	*e*P	Pb	02 34 06.9	+0.1
	baz=342						
WGK				*e*S	Sn	02 34 17.1	-1.6
	baz=342						
WDLH	**Douliu**	**0.59**	**339**	*e*P	Pb	02 34 07.6	+0.7
	baz=339						
WDLH				*e*S	Sn	02 34 17.8	-1.2
	baz=339						
EHY	**Hungye**	**0.63**	**54**	*e*P	Pg	02 34 06.8	+0.5
	baz=64						
WSL	**Shuilin Townsh**	**0.63**	**308**	*e*P	Pb	02 34 07.9	+0.4
	baz=308						
ECBN	**Changbin**	**0.65**	**74**	*e*P	Pb	02 34 08.4	+0.5
	baz=67						
ECBN				*e*S	Sn	02 34 19.3	-1.1
	baz=67						
WTK	**Tuku**	**0.65**	**328**	*e*P	Pb	02 34 08.1	+0.2
	baz=328						
SSLB	**Suanglung**	**0.67**	**15**	P	Pg	02 34 07.4	+0.2
	baz=22						
SSLB				S	Sg	02 34 16.9	+1.0
	baz=22						
SSPT	**Xinbi**	**0.68**	**196**	*e*P	Pb	02 34 08.1	-0.2
	baz=185						
WJS	**Zhushan**	**0.69**	**357**	*e*P	Pb	02 34 08.9	+0.4
	baz=357						
HGSD	**Ruisui**	**0.70**	**59**	*e*P	Pb	02 34 08.8	+0.1
	baz=66						
VWDT	**VWDT**	**0.70**	**29**	*e*P	Pg	02 34 08.1	+0.4
	baz=30						
VWDT				*e*S	Sb	02 34 20.1	+1.3
	baz=30						
WSF	**Szhu**	**0.71**	**315**	*e*P	Pb	02 34 09.0	+0.1
	baz=316						
WSF				*e*S	Sb	02 34 20.3	+1.4
	baz=316						
WNT	**Mingjian**	**0.74**	**354**	P	Pb	02 34 10.0	+0.5
	baz=339						
WNT				S	Sn	02 34 21.4	-1.3
	baz=339						
EAST	**Anshuo**	**0.75**	**174**	*e*P	Pb	02 34 09.8	+0.1
	baz=180						
TYC	**Yuchr**	**0.77**	**6**	P	Pn	02 34 10.8	-0.7
	baz=16						
TYC				S	Sn	02 34 23.4	0.0
	baz=16						
SCZT	**Fangliau**	**0.77**	**190**	*e*P	Pb	02 34 10.1	+0.1
	baz=190						
WNT1	**Nantou City**	**0.77**	**354**	*e*P	Pn	02 34 10.9	-0.7
	baz=353						
TAW	**Tawu**	**0.78**	**171**	*e*P	Pb	02 34 10.4	+0.3
	baz=165						
LDUT	**Ludao**	**0.79**	**125**	*e*P	Pb	02 34 10.7	+0.4
	baz=125						
TAWH	**Dawu Township**	**0.80**	**172**	*e*P	Pb	02 34 10.6	+0.2
	baz=166						
EGFH	**Guangfu**	**0.80**	**49**	*e*P	Pb	02 34 10.5	0.0
	baz=56						
WMLT	**Mailiao**	**0.83**	**323**	*e*P	Pb	02 34 10.8	-0.2
	baz=324						
WMLT				*e*S	Sn	02 34 23.8	-1.1
	baz=324						
WYL	**Yuanlin Townsh**	**0.84**	**348**	*e*P	Pg	02 34 10.4	+0.1
	baz=348						
WRL	**Guolierlin Hig**	**0.84**	**335**	*e*P	Pg	02 34 10.1	-0.3
	baz=335						
WTCT	**Ta-ch'eng**	**0.85**	**328**	*e*P	Pb	02 34 11.2	-0.2
	baz=329						
WTCT				*e*S	Sn	02 34 24.3	-1.1
	baz=329						
WLCH	**Liuqiu**	**0.86**	**205**	*e*P	Pn	02 34 14.8	+2.0
	baz=207						
TWP	**Hsiaoliuchiu**	**0.87**	**206**	*e*P	Pn	02 34 12.7	-0.2
	baz=207						
WPL	**Puli Township**	**0.89**	**11**	*e*P	Pb	02 34 11.9	-0.1
	baz=10.0						
OWD	**Renai**	**0.90**	**24**	*e*P	Pb	02 34 11.9	-0.3
	baz=35						
WWF	**Wufeng**	**0.91**	**356**	*e*P	Pn	02 34 13.5	+0.1
	baz=341						
WWF				*e*S	Sn	02 34 26.6	-0.2
	baz=341						
ESL	**Shilin**	**0.91**	**42**	*e*P	Pb	02 34 12.2	-0.2
	baz=42						
WUSB	**Renai**	**0.91**	**20**	*e*P	Pn	02 34 13.8	+0.2
	baz=3.0						
SLIU	**Shizi**	**0.92**	**178**	*e*P	Pn	02 34 13.4	-0.1
	baz=183						
WCS	**Beigang Elemen**	**0.93**	**8**	*e*P	Pg	02 34 10.4	-1.6
	baz=7.0						
CHGB	**Renai**	**0.99**	**22**	*e*P	Pb	02 34 14.1	+0.2
	baz=6.0						
TCU	**Taichung**	**1.01**	**355**	*e*P	Pn	02 34 15.6	+0.8
	baz=340						
WDGT	**Dungji**	**1.03**	**277**	*e*P	Pb	02 34 14.6	+0.2
	baz=277						
WDGT				*e*S	Sb	02 34 28.3	+0.2
	baz=277						
TEYL	**Yanliau Villag**	**1.05**	**46**	*e*P	Pb	02 34 14.6	-0.2
	baz=57						
ETM	**Tongmen**	**1.06**	**39**	*e*P	Pn	02 34 15.7	+0.1
	baz=38						
SMST	**Manzhou Townsh**	**1.11**	**177**	*e*P	Pn	02 34 16.5	+0.3
	baz=179						
WHP	**Taichung City**	**1.15**	**8**	*e*P	Pn	02 34 17.2	+0.3
	baz=7.0						
PHUB	**P'eng-hu**	**1.16**	**289**	*e*P	Pg	02 34 15.9	-0.6
	baz=289						
PHUB				*e*S	Sb	02 34 31.8	-0.2
	baz=289						
TWKBT	**Hengchun**	**1.19**	**178**	*e*P	Pn	02 34 18.6	+1.3
	baz=181						
PNG	**Penghu**	**1.20**	**291**	*e*P	Pg	02 34 16.8	-0.4
	baz=292						
PNG				*e*S	Sb	02 34 32.9	0.0
	baz=292						
TWD	**Chiawan**	**1.21**	**39**	*e*P	Pn	02 34 18.0	+0.4
	baz=38						
WDJ	**Dajia District**	**1.21**	**354**	*e*P	Pn	02 34 18.2	+0.6
	baz=342						
WDJ				*e*S	Sn	02 34 36.7	+2.4
	baz=342						
TSEB	**Hengchuen, Pin**	**1.23**	**174**	*e*P	Pn	02 34 18.9	+1.1
	baz=195						
VCHM	**Qimei**	**1.24**	**274**	*e*P	Pb	02 34 17.2	-0.6
	baz=273						
VCHM				*e*S	Sg	02 34 34.0	0.0
	baz=273						
NSY	**Sanyi**	**1.27**	**360**	*e*P	Pg	02 34 19.1	+0.4
	baz=359						
NSY				*e*S	Sn	02 34 38.3	+2.4
	baz=359						
NACB	**Ninganchiao**	**1.28**	**36**	*e*P	Pn	02 34 17.4	-1.1
	baz=51						
LYUB	**Lan-yu**	**1.36**	**146**	*e*P	Pn	02 34 17.4	-2.2
	baz=133						
NNSB	**Datong**	**1.41**	**23**	*e*P	Pn	02 34 20.4	0.0
	baz=11						
NNS	**Nan Shan**	**1.41**	**23**	*e*P	Pn	02 34 20.0	-0.5
	baz=11						
LATG	**Datong**	**1.56**	**26**	*e*P	Pb	02 34 23.5	+0.1
	baz=36						
NDT	**Datong Townshi**	**1.61**	**25**	*e*P	Pg	02 34 25.6	+0.5
	baz=34						
NSK	**Sanguang**	**1.63**	**19**	*e*P	Pb	02 34 24.4	-0.1
	baz=4.0						
ENTT	**Nioudou**	**1.67**	**26**	*e*P	Pg	02 34 26.6	+0.5
	baz=35						

*WEL **07** 02:38:00, 37°.68S×177°.19E, h117km, ML4.5, Mw4.6, Moment Tensor Solution. s6 Moment tensor: Scale 10^{15} Nm; M_{rr}5.90; $M_{\theta\theta}$-4.38; $M_{\phi\phi}$-1.52; $M_{r\theta}$2.86; $M_{\theta\phi}$-3.65; $M_{\phi r}$6.64; Fault plane solution: $M_0$9.68000×10^{15} NP1: ϕ_s257.00000°, δ27.00000°, λ132.00000°. NP2: ϕ_s32.00000°, δ70.00000°, λ72.00000°. Principal axes: T -952.9800, Plg61.0000°, Azm275.0000°; N -29.4900, Plg17.0000°, Azm38.0000°; P 982.4700, Plg23.0000°, Azm136.0000°;*

*IDC **07** 02:38:00.6±0.7, 37°.45S×177°.35E, h116km±5km, mb4.5/20, mb1 4.6/20, mb1mx4.4/36, mbtmp4.9/20, MS3.3/4, Ms1 3.3/4, ms1mx2.9/50 Error ellipse: s-maj=18.7km s-min=12.4km az=63.0*

*NEIC **07** 02:38:02.5±1.8, 37°.78S±0°.05×177°.30E±0°.08, h137km±4km, mb4.8/26, Error ellipse: s-maj=9.5km s-min=5.7km az=118.0*

*NOU **07** 02:38:02.9, 37°.96S×177°.26E, h131km, mb4.8/28, Off E. Coast of N. Island, N.Z.*

*WEL **07** 02:38:05.8, 38°S±8°×17°7E±°, h99km±11km, M4.5/18, ML4.8/18, MLv4.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=145.6*

ISC 07 02:38:02.2±0.4, **37°.72S**±0°.04×**177°.19E**±0°.04, **h131**km±3km, **n288**, σ**1s.62**/324, **mb4.8**/40, **4C-3D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.20**	**359**	P	**Pn**	**02 38 20.1**	**0.0**
WSRZ	**White Island S**	**0.21**	**357**	P	**Pn**	**02 38 20.7**	**+0.5**
WHRZ	**Whale Island**	**0.22**	**233**	P	**Pn**	**02 38 20.7**	**+0.5**
RUGZ	**Raukumara Rang**	**0.45**	**122**	P	**Pn**	**02 38 21.1**	**-0.2**
RUGZ				S	**Sn**	**02 38 34.4**	**-1.2**
HAZ	**Te Kaha**	**0.47**	**94**	P	**Pn**	**02 38 21.3**	**+0.2**
HAZ				S	**Sn**	**02 38 34.3**	**-1.1**
MARZ	**Manawahe**	**0.49**	**237**	P	**Pn**	**02 38 22.0**	**+0.7**
MARZ				S	**Sn**	**02 38 34.7**	**-1.1**
OPRZ	**Ohinepanea**	**0.52**	**256**	P	**Pn**	**02 38 21.9**	**+0.5**
OPRZ				S	**Sn**	**02 38 35.7**	**-0.3**
EDRZ	**Edgecumbe**	**0.52**	**223**	P	**Pn**	**02 38 22.5**	**+0.9**
URZ	**Urewera**	**0.54**	**187**	P	**Pn**	**02 38 21.8**	**+0.3**
	2µm,0.3s,baz=293,slow=2.1,SNR=9830						
URZ				S	**Sn**	**02 38 36.4**	**+0.2**
	1µm,0.3s,baz=41,slow=23,SNR=55						
URZ	**Urewera**	**0.54**	**187**	Pn	**Pn**	**02 38 22.2**	**+0.6**
URZ				Sn	**Sn**	**02 38 36.2**	**0.0**
URZ	**Urewera**	**0.54**	**187**	P	**Pn**	**02 38 22.1**	**+0.6**
URZ				S	**Sn**	**02 38 36.4**	**+0.2**
URZ	**Urewera**	**0.54**	**187**	P	**Pn**	**02 38 22.1**	**+0.6**
MWZ	**Matawai**	**0.66**	**157**	P	**Pn**	**02 38 23.2**	**+0.8**
MWZ				S	**Sn**	**02 38 38.5**	**+0.7**
LIRZ	**Lichensteins R**	**0.70**	**246**	P	**Pn**	**02 38 23.7**	**+1.1**
MKRZ	**Makatiti**	**0.71**	**234**	P	**Pn**	**02 38 24.5**	**+1.7**
PKGZ	**Pakihiroa**	**0.72**	**103**	P	**Pn**	**02 38 23.6**	**+0.8**
PKGZ				S	**Sn**	**02 38 38.8**	**+0.3**
TGRZ	**Tauranga**	**0.74**	**269**	P	**Pn**	**02 38 23.5**	**+0.6**
TARZ	**Mount Tarawera**	**0.74**	**227**	P	**Pn**	**02 38 24.4**	**+1.3**
OMRZ	**Omania**	**0.75**	**239**	P	**Pn**	**02 38 24.1**	**+1.1**
TWGZ	**Tauwhareparae**	**0.77**	**126**	P	**Pn**	**02 38 24.3**	**+1.1**
TWGZ				S	**Sn**	**02 38 40.9**	**+1.7**
RAGZ	**Rawiri**	**0.79**	**167**	P	**Pn**	**02 38 24.4**	**+1.0**
RAGZ				S	**Sn**	**02 38 40.6**	**+1.1**
KARZ	**Kaharoa**	**0.81**	**248**	P	**Pn**	**02 38 24.5**	**+1.0**
RRRZ	**Republican Roa**	**0.81**	**221**	P	**Pn**	**02 38 24.7**	**+1.1**
MUGZ	**Murupara**	**0.82**	**204**	P	**Pn**	**02 38 24.6**	**+1.0**
HLRZ	**Highlands Stat**	**0.85**	**231**	P	**Pn**	**02 38 25.3**	**+1.5**
MYRZ	**Mayor Island**	**0.88**	**300**	P	**Pn**	**02 38 24.5**	**+0.5**
NGRZ	**Ngongotaha**	**0.88**	**244**	P	**Pn**	**02 38 25.5**	**+1.4**
TKGZ	**Te Karaka**	**0.88**	**144**	P	**Pn**	**02 38 25.0**	**+0.9**
TKGZ				S	**Sn**	**02 38 41.3**	**+0.7**
MXZ	**Matakaoa Point**	**0.90**	**80**	Pn	**Pn**	**02 38 24.9**	**+0.6**
MXZ				Sn	**Sn**	**02 38 41.2**	**+0.3**
MXZ	**Matakaoa Point**	**0.90**	**80**	P	**Pn**	**02 38 24.8**	**+0.6**
RTZ	**Ruatahuna**	**0.91**	**191**	P	**Pn**	**02 38 25.2**	**+0.8**
RTZ				S	**Sn**	**02 38 41.9**	**+0.6**
PUZ	**Puketiti**	**0.91**	**113**	P	**Pn**	**02 38 25.1**	**+0.7**
UTU	**Utuhina**	**0.91**	**240**	P	**Pn**	**02 38 26.2**	**+1.9**
HSRZ	**Hossack Road**	**0.95**	**232**	P	**Pn**	**02 38 26.4**	**+1.7**
WMGZ	**Waiomatatini S**	**0.97**	**96**	P	**Pn**	**02 38 25.8**	**+0.9**
HRRZ	**Handcock Road**	**0.98**	**227**	P	**Pn**	**02 38 26.6**	**+1.6**
PRRZ	**Plateau Road**	**1.00**	**219**	P	**Pn**	**02 38 26.4**	**+1.3**
KMRZ	**Kaimai**	**1.00**	**263**	P	**Pn**	**02 38 26.2**	**+1.0**
GRRZ	**Galatos Road**	**1.06**	**234**	P	**Pn**	**02 38 27.4**	**+1.7**
SNGZ	**Shannon Statio**	**1.06**	**174**	P	**Pn**	**02 38 27.0**	**+1.2**
ALRZ	**Allen Road**	**1.07**	**218**	P	**Pn**	**02 38 27.2**	**+1.4**
RIGZ	**Rimuhau**	**1.08**	**156**	P	**Pn**	**02 38 27.3**	**+1.3**
CNGZ	**Carnagh Statio**	**1.10**	**134**	P	**Pn**	**02 38 27.4**	**+1.3**
WPRZ	**Whakapapatarin**	**1.14**	**225**	P	**Pn**	**02 38 28.1**	**+1.6**
MTHZ	**Maungataniwha**	**1.16**	**194**	P	**Pn**	**02 38 27.6**	**+0.9**
RAHZ	**Arahi**	**1.19**	**184**	P	**Pn**	**02 38 28.5**	**+1.5**
MRHZ	**Matea Rd**	**1.27**	**209**	P	**Pn**	**02 38 29.0**	**+1.1**
PRGZ	**Paritu Road**	**1.31**	**156**	P	**Pn**	**02 38 29.5**	**+1.1**
KUTZ	**Kaahu Road**	**1.32**	**234**	P	**Pn**	**02 38 30.1**	**+1.7**
TOZ	**Tahuroa Road**	**1.34**	**269**	P	**Pn**	**02 38 29.8**	**+1.3**
KNZ	**Kokohu**	**1.35**	**164**	P	**Pn**	**02 38 29.7**	**+1.1**
WHHZ	**Waihua**	**1.35**	**179**	P	**Pn**	**02 38 28.2**	**-0.5**
WHTZ	**Whakaora**	**1.35**	**226**	P	**Pn**	**02 38 31.0**	**+2.2**
NMHZ	**Naumai**	**1.40**	**192**	P	**Pn**	**02 38 30.9**	**+1.6**
TLZ	**Tolley Road**	**1.44**	**245**	P	**Pn**	**02 38 31.3**	**+1.6**
HATZ	**Hinemaiaia**	**1.45**	**216**	P	**Pn**	**02 38 31.2**	**+1.3**
WATZ	**Wairara**	**1.51**	**229**	P	**Pn**	**02 38 32.3**	**+1.8**
KUZ	**Kuaotunu**	**1.53**	**309**	P	**Pn**	**02 38 30.8**	**+0.1**
MHGZ	**Mahia Peninsul**	**1.53**	**159**	P	**Pn**	**02 38 32.2**	**+1.5**
BKZ	**Black Stump Fm**	**1.54**	**201**	Pn	**Pn**	**02 38 31.6**	**+0.7**
BKZ				Sn	**Sn**	**02 38 53.4**	**+0.7**
BKZ	**Black Stump Fm**	**1.54**	**201**	P	**Pn**	**02 38 31.7**	**+0.8**
BKZ	**Black Stump Fm**	**1.54**	**201**	P	**Pn**	**02 38 31.7**	**+0.8**
ARHZ	**Aropaoanui**	**1.54**	**186**	P	**Pn**	**02 38 32.2**	**+1.4**
RATZ	**Rangitukua**	**1.60**	**224**	P	**Pn**	**02 38 33.6**	**+2.1**
RITZ	**Rihia Road**	**1.63**	**220**	P	**Pn**	**02 38 33.7**	**+1.8**
KATZ	**Kakaramea**	**1.72**	**223**	P	**Pn**	**02 38 35.7**	**+2.8**
MKAZ	**Moumakai**	**1.73**	**290**	P	**Pn**	**02 38 34.1**	**+1.1**
MCHZ	**McNeill Hill**	**1.76**	**193**	P	**Pn**	**02 38 34.6**	**+1.3**
KWHZ	**Kaweka Forest**	**1.80**	**199**	P	**Pn**	**02 38 34.9**	**+1.0**
TMVZ	**Te Maari**	**1.82**	**220**	P	**Pn**	**02 38 35.6**	**+1.5**
NTVZ	**North Tongarir**	**1.82**	**221**	P	**Pn**	**02 38 35.8**	**+1.7**
ETVZ	**East Tongariro**	**1.83**	**219**	P	**Pn**	**02 38 35.7**	**+1.4**
KRVZ	**Karewarewa**	**1.83**	**221**	P	**Pn**	**02 38 36.0**	**+1.7**
OTVZ	**Oturere**	**1.87**	**219**	P	**Pn**	**02 38 36.4**	**+1.6**
NNVZ	**North Ngauruho**	**1.87**	**221**	P	**Pn**	**02 38 36.6**	**+1.7**
WTVZ	**West Tongariro**	**1.88**	**222**	P	**Pn**	**02 38 36.3**	**+1.5**
WIAZ	**Waiheke Island**	**1.89**	**299**	P	**Pn**	**02 38 35.9**	**+1.0**
SNVZ	**South Ngauruho**	**1.90**	**219**	P	**Pn**	**02 38 36.8**	**+1.6**
NGZ	**Ngauruhoe**	**1.91**	**220**	P	**Pn**	**02 38 36.9**	**+1.6**
TWVZ	**Taurewa**	**1.93**	**225**	P	**Pn**	**02 38 37.0**	**+1.6**
CKHZ	**Cape Kidnapper**	**1.93**	**183**	P	**Pn**	**02 38 36.3**	**+0.9**
TUVZ	**Tukino**	**1.96**	**218**	P	**Pn**	**02 38 37.3**	**+1.5**
ETAZ	**East Tamaki Re**	**1.96**	**292**	P	**Pn**	**02 38 37.2**	**+1.4**
BHHZ	**Black Hill Sta**	**1.97**	**206**	P	**Pn**	**02 38 36.6**	**+0.7**
FWVZ	**Far West T-bar**	**2.00**	**220**	P	**Pn**	**02 38 37.7**	**+1.3**
WHVZ	**Whangaehu Hut**	**2.00**	**218**	P	**Pn**	**02 38 37.7**	**+1.3**
HIZ	**Hauiti**	**2.00**	**246**		**Pn**	**02 38 38.3**	**+2.1**
HIZ				Sn	**Sn**	**02 39 04.9**	**+2.6**
HIZ	**Hauiti**	**2.00**	**246**	P	**Pn**	**02 38 38.3**	**+2.1**
HIZ	**Hauiti**	**2.00**	**246**	P	**Pn**	**02 38 38.3**	**+2.1**
DRZ	**Dome Shelter**	**2.01**	**219**	P	**Pn**	**02 38 38.3**	**+1.7**
KRHZ	**Kereru**	**2.02**	**198**	P	**Pn**	**02 38 36.9**	**+0.5**
GRZ	**Great Barrier**	**2.02**	**316**	P	**Pn**	**02 38 36.8**	**+0.3**
MOVZ	**Moawhango**	**2.02**	**213**	P	**Pn**	**02 38 37.1**	**+0.5**
WNVZ	**Wahianoa**	**2.03**	**218**	P	**Pn**	**02 38 37.9**	**+1.1**
TRVZ	**Turoa**	**2.03**	**219**	P	**Pn**	**02 38 38.1**	**+1.3**
MBAZ	**Motutapu North**	**2.06**	**297**	P	**Pn**	**02 38 38.3**	**+1.3**
KAHZ	**Kahuranaki**	**2.08**	**187**	P	**Pn**	**02 38 38.0**	**+0.8**
EPAZ	**Eden Park BICE**	**2.13**	**293**	P	**Pn**	**02 38 39.2**	**+1.5**
PKVZ	**Pokaka**	**2.13**	**222**	P	**Pn**	**02 38 39.2**	**+1.4**
AWAZ	**Awhitu Peninsu**	**2.14**	**287**	P	**Pn**	**02 38 39.2**	**+1.3**
MTVZ	**Mangateitei**	**2.14**	**219**	P	**Pn**	**02 38 39.4**	**+1.4**
HBAZ	**Herne Bay Bore**	**2.15**	**293**	P	**Pn**	**02 38 39.5**	**+1.5**
ABAZ	**Army Bay**	**2.19**	**300**	P	**Pn**	**02 38 39.9**	**+1.3**
WTAZ	**Waiatarua**	**2.23**	**290**	P	**Pn**	**02 38 40.5**	**+1.5**
RVAZ	**Riverhead Bore**	**2.29**	**294**	P	**Pn**	**02 38 41.0**	**+1.2**
PXZ	**Pawanui**	**2.32**	**186**	P	**Pn**	**02 38 40.4**	**+0.3**
PNHZ	**Pukenui**	**2.32**	**199**	P	**Pn**	**02 38 40.3**	**+0.1**
VRZ	**Vera Road**	**2.37**	**233**	P	**Pn**	**02 38 42.4**	**+1.7**
WPHZ	**Waipukurau**	**2.41**	**194**	P	**Pn**	**02 38 41.4**	**+0.1**
TSZ	**Takapari Road**	**2.52**	**202**	P	**Pn**	**02 38 42.6**	**-0.2**
PRHZ	**Porangahau**	**2.58**	**190**	P	**Pn**	**02 38 43.3**	**-0.1**
WAZ	**Wanganui**	**2.66**	**220**	P	**Pn**	**02 38 45.6**	**+1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVHZ	Dannevirke	2.69	197	P	Pn	02 38 44.4	-0.5
DREZ	Durham Road	2.77	237	P	Pn	02 38 47.7	+1.9
ANWZ	Angora Road	2.79	191	P	Pn	02 38 46.0	0.0
PREZ	Palmer Road	2.88	235	P	Pn	02 38 50.2	+2.9
OHWZ	Ohakea	2.88	210	P	Pn	02 38 48.2	+1.0
NEZ	North Egmont	2.88	237	P	Pn	02 38 49.4	+2.1
POWZ	Post Office Ro	2.88	202	P	Pn	02 38 47.1	-0.2
WCZ	Waipu Caves	2.90	307	P	Pn	02 38 48.4	+0.9
PKE	Pukeiti	2.91	239	P	Pn	02 38 49.6	+1.8
KHEZ	Kahui Hut	2.94	237	P	Pn	02 38 50.0	+1.8
PRWZ	Pori Road	2.98	198	P	Pn	02 38 48.3	-0.2
NBEZ	Newall Road No	3.03	238	P	Pn	02 38 51.6	+2.4
BFZ	Birch Farm	3.04	194	Pn	Pn	02 38 48.8	-0.5
BFZ	Birch Farm	3.04	194	P	Pn	02 38 48.7	-0.7
BFZ	Birch Farm	3.04	194	P	Pn	02 38 48.9	-0.5
NMEZ	Namu Road	3.10	236	P	Pn	02 38 52.0	+1.9
MRZ	Mangatainoka R	3.19	203	P	Pn	02 38 50.4	-0.8
TIWZ	Tintock	3.21	198	P	Pn	02 38 51.1	-0.5
CPWZ	Castlepoint	3.27	193	P	Pn	02 38 52.2	-0.1
HOWZ	Holdsworth Sta	3.42	202	P	Pn	02 38 53.1	-1.3
OGWZ	Otaki Gorge	3.46	206	P	Pn	02 38 53.8	-1.0
TMWZ	Te Maipa	3.52	196	P	Pn	02 38 54.5	-1.1
KIW	Kapiti Island	3.60	209	P	Pn	02 38 55.5	-1.1
OUZ	Omahuta	3.83	310	Pn	Pn	02 39 00.9	+1.3
OUZ	Omahuta	3.83	310	P	Pn	02 39 00.9	+1.3
OUZ	Omahuta	3.83	310	P	Pn	02 39 01.1	+1.4
MSWZ	Moikau Station	3.98	202		Pn	02 38 59.4	-2.3
SNZO	South Karori	4.07	207	Pn	Pn	02 39 00.9	-1.9
SNZO	South Karori	4.07	207	P	Pn	02 39 00.4	-2.4
BHW	Baring Head	4.09	205	Pn	Pn	02 39 00.9	-2.2
PLWZ	Palliser	4.12	201		Pn	02 39 01.2	-2.3
TUWZ	Tuamarina	4.47	213		Pn	02 39 06.0	-2.2
NNZ	Nelson	4.57	219	Pn	Pn	02 39 07.8	-1.7
CMWZ	Cape Campbell	4.63	209	P	Pn	02 39 09.3	-1.0
BSWZ	Blackbirch Sta	4.74	212		Pn	02 39 09.7	-2.0
QRZ	Quartz Range	4.76	228		Pn	02 39 10.1	-2.0
QRZ	Quartz Range	4.76	228	P	Pn	02 39 10.0	-2.1
THZ	Tophouse	5.21	218	Pn	Pn	02 39 15.9	-2.3
KHZ	Kahutara	5.46	210	Pn	Pn	02 39 18.9	-2.5
KHZ	Kahutara	5.46	210	P	Pn	02 39 19.0	-2.4
LTZ	Lake Taylor	6.30	215		Pn	02 39 29.6	-3.2
OXZ	Oxford	6.83	213		Pn	02 39 36.2	-3.6
MQZ	McQueen's Vall	6.90	209		Pn	02 39 36.5	-4.2
RPZ	Rata Peaks	7.58	216	P	Pn	02 39 47.0	-3.0
	30nm,0.3s,baz=55,slow=1.2,SNR=58						
RPZ				S	Sn	02 41 06.7	-7.7
	38nm,0.3s,baz=317,slow=11,SNR=18						
RPZ	Rata Peaks	7.58	216	Pn	Pn	02 39 47.1	-2.8
RPZ	Rata Peaks	7.58	216	P	Pn	02 39 47.4	-2.6
CTZ	Chatham Island	7.62	144	P	Pn	02 39 51.6	+1.2
ODZ	Otahua Downs	8.81	212	Pn	Pn	02 40 03.0	-3.5
ODZ	Otahua Downs	8.81	212	P	Pn	02 40 02.9	-3.5
YATNC	Mamie plateau,	17.97	327	P	Pn	02 42 06.6	+2.8
DZM	Mont Dzumac	18.15	326	P	Pn	02 42 05.7	-0.3
	1.2nm,0.3s,baz=178,slow=8.3,SNR=9.5						
DZM	Mont Dzumac	18.15	326	P	P	02 42 04.6	0.0
DZM				IAmb	IAmb	02 42 13.5	
	comp=Z,14nm,0.7s						
DZM	Mont Dzumac	18.15	326	P	Pn	02 42 06.8	+0.8
	comp=Z,24nm,1.3s						
MSVF	Nonsavu	19.93	2	P	P	02 42 21.4	-2.6
	comp=Z,3.2nm,0.3s,baz=301,slow=23,SNR=1.5						
KOUNC	Koumac, New Ca	20.45	323	P	P	02 42 30.1	+0.6
KOUNC				IAmb	IAmb	02 42 34.8	
	comp=Z,33nm,0.9s						
ARMA	Armidale	22.35	281	P	P	02 42 53.0	+3.4
EIDS	Eidsvold	25.34	292	P	P	02 43 17.3	+0.2
EIDS				IAmb	IAmb	02 43 19.3	
	comp=Z,12nm,1.1s						
EIDS	Eidsvold	25.34	292	P	P	02 43 18.8	+1.8
	comp=Z,13nm,2.3s						
RAR	Rarotonga	25.84	57	LR	LR	02 54 34.7	
	comp=Z,32nm,18.2s,baz=118,slow=39						
CMSA	Cobar Meteorol	26.57	274	P	P	02 43 30.6	+2.6
STKA	Stephens Creek	29.69	271	P	P	02 43 57.6	+1.9
	comp=Z,2.6nm,0.3s,baz=101,slow=13,SNR=9.2						
STKA				PcP	PcP	02 46 55.2	-1.5
	comp=Z,1.2nm,0.4s,baz=42,slow=2.3,SNR=4.2						
STKA				LR	LR	02 53 51.8	
	comp=Z,56nm,20.5s,baz=196,slow=32						
STKA	Stephens Creek	29.69	271	P	P	02 43 55.7	0.0
STKA	Stephens Creek	29.69	271	P	P	02 43 58.0	+2.3
QLP	Quilpie	29.89	282	P	P	02 43 59.0	+1.4
HTT	Hallett	31.27	266	P	P	02 44 11.5	+1.7
	comp=Z,14nm,1.4s						
CTA	Charters Tower	32.08	295	P	P	02 44 18.4	+1.5
	comp=Z,29nm,0.8s						
CTAO	Charters Tower	32.08	295	⇑P	P	02 44 18.8	+1.9
CTAO				pP	pP	02 44 45.1	-0.1
LCRK	Leigh Creek	32.91	271	P	P	02 44 25.5	+1.5
MTSU	Mount Surprise	34.74	295	P	P	02 44 42.2	+2.2
DRV	Dumont d'Urvil	35.85	204	P	P	02 44 51.9	+3.0
DRV				X		02 44 58.0	
DRV				pP	pP	02 45 07.8	-10
MULG	Mulgathing	36.27	269	P	P	02 44 53.0	+0.1
	comp=Z,16nm,1.6s						
QIS	Mount Isa	36.73	287	P	P	02 44 58.7	+1.8
COEN	Coen	38.36	299	P	P	02 45 11.8	+1.1
COEN				IAmb	IAmb	02 45 12.7	
	comp=Z,24nm,0.7s						
COEN	Coen	38.36	299	P	P	02 45 12.2	+1.5
PMG	Port Moresby	39.08	308	P	P	02 45 17.0	+0.4
PMG	Port Moresby	39.08	308	P	P	02 45 18.7	+2.0
	comp=Z,38nm,0.7s						
PMG	Port Moresby	39.08	308	P	P	02 45 18.4	+1.7
AS31	Alice Springs	39.43	278	P	P	02 45 19.9	+0.3
ASAR	Alice Springs	39.43	278	P	P	02 45 19.7	+0.1
	comp=Z,6.1nm,0.4s,baz=129,slow=9.0,SNR=109						
ASAR				PcP	PcP	02 47 23.4	-1.7
	comp=Z,2.3nm,0.4s,baz=116,slow=4.2,SNR=5.3						
ASAR				ScP	ScP	02 50 58.2	-3.3
	comp=Z,0.7nm,0.6s,baz=123,slow=3.9,SNR=5.0						
ASAR				S	S	02 51 12.2	+0.5
	comp=Z,0.2nm,0.5s,baz=131,slow=14,SNR=1.6						
ASAR				PKiKP	PKiKP	02 54 35.2	-1.6
	comp=Z,0.5nm,0.5s,baz=90,slow=1.3,SNR=8.7						
VNDA	Vanda	40.44	185	P	P	02 45 31.2	+3.9
	comp=Z,0.9nm,0.5s,baz=264,slow=8.3,SNR=3.7						
VNDA				PcP	PcP	02 47 28.8	+1.4
	comp=Z,1.1nm,0.6s,baz=278,slow=4.4,SNR=4.2						
VNDA				ScP	ScP	02 51 02.5	-2.0
	comp=Z,1.2nm,0.8s,baz=328,slow=5.1,SNR=6.3						
VNDA	Vanda	40.44	185	P	P	02 45 27.6	+0.4
FORT	Forrest	40.82	265	P	P	02 45 31.5	+0.5
WR0	Warramunga Arr	40.95	283	P	P	02 45 32.4	+0.3
WR0				IAmb	IAmb	02 45 34.3	
	comp=Z,12nm,0.9s						
WB2	Warramunga Arr	41.10	283	P	P	02 45 33.6	+0.2
WB2				IAmb	IAmb	02 45 39.8	
	comp=Z,15nm,0.6s						
WRAB	Tennant Creek	41.11	283	P	P	02 45 33.4	0.0
WRAB				IAmb	IAmb	02 45 34.7	
	comp=Z,13nm,0.6s						
WRAB	Tennant Creek	41.11	283	⇑P	P	02 45 33.5	+0.1
WRAB				X		02 45 39.6	
WRAB				pP	sP	02 46 13.2	-4.2
WRAB				sP	pP	02 46 27.2	+25
WRA	Warramunga Arr	41.11	283	P	P	02 45 33.6	+0.1
	comp=Z,9.7nm,0.4s,baz=123,slow=8.3,SNR=269						
WRA				PcP	PcP	02 47 29.1	-1.4
	comp=Z,1.2nm,0.8s,baz=116,slow=3.5,SNR=4.5						
WRA				ScP	ScP	02 51 03.8	-4.4
	comp=Z,1.2nm,0.9s,baz=128,slow=3.9,SNR=5.2						
WRA				PKiKP	PKiKP	02 54 36.7	-1.7
	comp=Z,0.3nm,0.4s,baz=138,slow=0.2,SNR=12						
WRA				LR	LR	03 02 49.2	
	comp=Z,52nm,18.2s,baz=125,slow=36						
WRA	Warramunga Arr	41.11	283	P	P	02 45 32.3	-1.1
WB0	Warramunga Arr	41.17	284	P	P	02 45 34.2	+0.2
WB0				IAmb	IAmb	02 45 35.2	
	comp=Z,18nm,0.5s						
CCD	Concordia, Ant	44.81	197	P	P	02 46 06.8	+3.9
CCD				pP	pP	02 46 27.4	-5.4
CASY	Casey	46.82	211	P	P	02 46 18.6	+0.3
CASY				IAmb	IAmb	02 46 20.3	
	comp=Z,36nm,0.8s						
CASY	Casey	46.82	211	⇓P	P	02 46 19.8	+1.4
CASY				X		02 46 22.9	
CASY				pP	pP	02 46 48.6	+0.4
MTN	Manton Dam	47.84	289	P	P	02 46 26.9	0.0
MTN				IAmb	IAmb	02 46 28.2	
	comp=Z,11nm,0.5s						
KNRA	Kununurra	47.90	284	P	P	02 46 27.5	+0.2
KNRA				IAmb	IAmb	02 46 28.6	
	comp=Z,12nm,0.8s						
JAY	Jayapura	48.44	307	P	P	02 46 31.1	-0.4
	comp=Z,7.8nm,0.4s,baz=142,slow=2.8,SNR=6.2						
PSA00	Pilbara Seismi	51.62	271	P	P	02 46 54.9	-0.5
MBWA	Marble Bar	51.92	272	P	P	02 46 57.0	-0.8
MBWA				pP	pP	02 47 26.8	-1.3
MBWA				sP	sP	02 47 40.1	-2.5
QSPA	South Pole Qui	52.40	180	P	P	02 47 04.5	+3.7
	comp=Z,8.7nm,0.4s,baz=355,slow=0.7,SNR=74						
QSPA	South Pole Qui	52.40	180	P	P	02 47 00.8	0.0
QSPA				IAmb	IAmb	02 47 05.6	
	comp=Z,12nm,0.8s						
QSPA	South Pole Qui	52.40	180	⇑P	P	02 47 05.0	+4.2
QSPA				X		02 47 09.3	
QSPA				pP	pP	02 47 33.8	+2.3
QSPA				sP	sP	02 47 45.9	-0.2
BATI	Baumata	55.16	285	P	P	02 47 22.4	+0.9
	comp=Z,37nm,0.3s,baz=307,slow=23,SNR=3.3						
SIJI	Sorong	55.90	300	P	P	02 47 26.9	+0.3
	comp=Z,4.3nm,0.3s,baz=114,slow=3.2,SNR=5.6						
SANI	Sanana	58.79	294	P	P	02 47 45.8	-1.2
	comp=Z,26nm,0.7s						
KAPI	Kappang	61.44	287	P	P	02 48 05.9	+0.9
	comp=Z,2.4nm,0.4s,baz=141,slow=7.5,SNR=4.0						
KAPI				LR	LR	03 14 34.2	
	comp=Z,27nm,20.0s,baz=140,slow=36						
KAPI	Kappang	61.44	287	P	P	02 48 05.0	0.0
KAPI				IAmb	IAmb	02 48 07.9	
	comp=Z,18nm,1.4s						
BELA	Belgrano 2	63.06	173	P	P	02 48 15.3	+0.4
BELA				IAmb	IAmb	02 48 22.2	
	comp=Z,8.2nm,0.7s						
MAW	Mawson	64.05	203	P	P	02 48 23.0	+1.5
	comp=Z,7.2nm,0.5s,baz=134,slow=7.6,SNR=17						
MAW	Mawson	64.05	203	P	P	02 48 21.6	+0.1
GMJI	Gumukmas	64.27	280	P	P	02 48 23.7	0.0
	comp=Z,24nm,0.8s						
MPSI	Mapaga	64.86	292	P	P	02 48 27.9	+0.3
	comp=Z,894nmcomp=Z,8.3nm,1.0s						
PWJI	Pagerwojo	65.70	279	P	P	02 48 33.2	+0.2
	comp=Z,38nm,0.7s						
SYO	Syowa Base	69.06	195	⇓eP	P	02 48 52.6	-0.7
LEM	Lembang	69.71	277	P	P	02 48 59.3	+0.9
	comp=Z,40nm,0.8s,baz=260,slow=3.7,SNR=4.5						
TROLL	Troll, Antarti	70.50	182	P	P	02 49 04.0	+1.7
SNAA	Sanae	70.91	180	P	P	02 49 05.9	+1.3
VNA3	Neumayer Olymp	71.22	178	P	P	02 49 08.4	+1.9
CGJI	Cibinong	71.36	276	P	P	02 49 07.9	-0.3
	comp=Z,1μmcomp=Z,24nm,0.6s						
KKM	Kota Kinabalu	71.41	293	P	P	02 49 08.2	-0.4
VNA2	Neumayer--Watz	71.61	178	P	P	02 49 10.6	+1.8
	baz=178,slow=5.0						
JCJ	Chichijima	72.36	328	P	P	02 49 12.7	-1.1
	comp=Z,15nm,0.4s,baz=102,slow=23,SNR=2.1						
MDSI	Maura Dua	73.84	277	P	P	02 49 21.9	-1.0
MASI	Maura Aman, Be	76.19	277	P	P	02 49 35.6	-0.8
PLCA	Paso Flores	80.34	134	P	P	02 50 01.5	+2.5
	comp=Z,2.9nm,1.0s,baz=160,slow=3.3,SNR=3.5						
MJAR	Matsushiro Arr	82.23	329	P	P	02 50 07.2	-1.4
	comp=Z,2.5nm,0.5s,baz=187,slow=17,SNR=5.0						
MJAR	Matsushiro Arr	82.23	329	P	P	02 50 07.3	-1.4
RPSI	Rantau Prapat	82.38	279	P	P	02 50 08.1	-1.8
PSI	Prapat	82.45	279	P	P	02 50 08.1	-2.3
	comp=Z,2.2nm,0.3s,baz=198,slow=7.9,SNR=5.6						
GSI	Gunungsitoli	82.58	277	P	P	02 50 10.3	-0.7
JKA	Kamikawa-asahi	87.28	336	P	P	02 50 33.3	-0.4
ASAJ	Asahikawa	87.28	336	P	P	02 50 34.2	+0.5
	comp=Z,7.7nm,0.7s,baz=317,slow=6.9,SNR=4.4						
KSRS	Korea Array	87.55	323	P	P	02 50 36.4	+1.3
	comp=Z,7.2nm,0.8s,baz=142,slow=5.4,SNR=26						
KSAR	Wonju Array Be	87.56	323	P	P	02 50 35.5	+0.4
KS19	Wonju Array Si	87.61	323	P	P	02 50 36.0	+0.5
USRK	Ussuriysk Ar.	91.23	329	P	P	02 50 52.6	+0.4
	comp=Z,3.5nm,0.7s,baz=142,slow=4.4,SNR=6.2						
PETK	Petropavlovsk-	92.03	348	P	P	02 50 55.3	-0.4
	comp=Z,5.7nm,0.6s,baz=123,slow=5.7,SNR=12						
CMAR	Chiang Mai Arr	92.20	292	P	P	02 50 58.1	+0.8
	comp=Z,5.8nm,0.3s,baz=147,slow=3.4,SNR=33						
CMAR	Chiang Mai Arr	92.20	292	P	P	02 50 57.4	0.0
KLR	Kul'dur	95.47	332	P	P	02 51 11.0	-0.6
	comp=Z,0.7nm,0.4s,baz=188,slow=2.4,SNR=2.5						
TXAR	Lajitas Array	99.58	60	P	Pdif	02 51 30.9	+0.1
	comp=Z,0.2nm,0.9s,baz=227,slow=3.6,SNR=1.6						
ILAR	Eielson Array	105.98	15	PKKP		03 07 48.3	
	comp=Z,0.6nm,0.8s,baz=7.3,slow=2.9,SNR=7.3						
YKA	Yellowknife Ar	113.76	28	PKiKP	PKiKP	02 56 22.8	-1.5
	comp=Z,0.2nm,0.5s,baz=236,slow=1.6,SNR=11						
YKA				PKKPbc	PKKPbc	03 07 07.9	-0.7
	comp=Z,0.1nm,0.6s,baz=44,slow=3.9,SNR=4.6						
MKAR	Makanchi Array	119.29	308	PKP	PKPdf	02 56 33.5	-2.0
	comp=Z,1.5nm,0.5s,baz=201,slow=1.8,SNR=21						
MKAR				PKKPbc	PKKPab	03 06 50.6	+1.8
	comp=Z,0.3nm,0.4s,baz=328,slow=2.9,SNR=4.5						
MKAR	Makanchi Array	119.29	308		PKPdf	02 56 34.0	-1.5
ZALV	Zalesovo Beam	120.72	317	PKP	PKPdf	02 56 36.4	-1.6
	comp=Z,0.7nm,0.3s,baz=1.7,slow=1.7,SNR=4.0						
RES	Resolute Bay	125.43	19	PKP	PKPdf	02 56 45.1	-1.3
	comp=Z,0.9nm,0.6s,baz=180,slow=4.2,SNR=2.6						
GEYT	Alibeck	132.66	290	PKP	PKPdf	02 57 00.8	-0.5
	comp=Z,1.6nm,0.4s,baz=86,slow=7.6,SNR=4.5						
SPA0	Spitsbergen Ar	138.65	354	*e*PKPdf	PKPdf	02 57 11.1	-0.2
ARA0	ARCESS Array S	144.68	343	*e*PKPbc	PKPbc	02 57 21.1	-0.3
ARCES	ARCESS Array B	144.68	343	PKP	PKPab	02 57 20.1	-1.2
	comp=Z,5.6nm,0.5s,baz=48,slow=3.1,SNR=44						
ARCES	ARCESS Array B	144.68	343		PKPab	02 57 20.4	-1.0
KBZ	Khabaz	145.20	295	PKPbc	PKPdf	02 57 22.6	-1.3
	comp=Z,22nm,1.0s,baz=119,slow=2.8,SNR=56						
KTK1	Kautokeino	145.59	344	*e*PKPdf	PKPbc	02 57 23.6	-0.7
JETT	Jettan, Norway	145.74	346	*e*PKPdf	PKPbc	02 57 24.3	-0.5
TRO	Tromso	145.96	347	*e*PKPdf	PKPdf	02 57 24.0	-0.3
STEI	Steigen	148.11	347	*e*PKPbc	PKiKP	02 57 31.9	-1.2
LOF	Lofoten	148.21	348	*e*PKPbc	PKiKP	02 57 32.8	-0.5
FAUS	Fauske	148.58	347	*e*PKPdf	PKPbc	02 57 31.0	-1.7
DBIC	Dimbokro	149.03	176	PKPbc	PKPbc	02 57 35.3	-0.1
	comp=Z,3.0nm,0.3s,baz=191,slow=1.5,SNR=23						
KONS	Konsvik	149.76	347	*e*PKPdf	PKPbc	02 57 33.5	-2.1
MOR8	Moi Rana	149.81	346	*e*PKPdf	PKPbc	02 57 33.3	-2.5
STOK	Stokkvaagen	149.93	347	*e*PKPbc	PKiKP	02 57 37.3	+0.5
FINES	FINESS Array B	150.22	332	PKPbc	PKPbc	02 57 36.0	-0.9
	comp=Z,1.7nm,0.3s,baz=60,slow=2.8,SNR=31						
FINES				PKPab	PKPab	02 57 42.1	-1.4
	comp=Z,3.4nm,0.3s,baz=52,slow=4.3,SNR=5.2						
BRTR	Keskin Array B	151.62	285	PKPbc	PKPbc	02 57 40.1	-0.9
	comp=Z,11nm,0.9s,baz=146,slow=4.6,SNR=45						
BRTR				PKPab	PKPab	02 57 49.4	-0.9
	comp=Z,4.6nm,0.7s,baz=134,slow=3.6,SNR=7.5						
NSS	Namsos	151.75	347	*e*PKPdf	PKPbc	02 57 39.0	-1.3
TBLU	Trondheim	153.23	347	*e*PKPdf	PKPdf	02 57 37.2	+1.1
AKASG	Malin Array Be	153.86	310	PKPbc	PKPbc	02 57 44.7	-0.7
	comp=Z,2.5nm,0.5s,baz=60,slow=2.7,SNR=14						
AKASG				PKPab	PKPab	02 57 58.1	-1.0
	comp=Z,3.6nm,0.6s,baz=57,slow=4.2,SNR=15						
MOL	Molde	154.32	349	*e*PKPdf	PKPdf	02 57 38.8	+1.1
DOMB	Dombas	154.57	347	*e*PKPbc	PKiKP	02 57 48.1	+1.4
NB2	NORSAR Subarra	155.05	344	PKP	PKPab	02 58 02.3	-1.6
	comp=Z,3.1nm,0.7s,baz=24,slow=3.4						
NOA	NORSAR Array B	155.05	344	PKPab	PKPab	02 58 02.2	-1.8
	comp=Z,1.0nm,0.6s,baz=68,slow=4.3,SNR=7.1						
SORM	Soroca	155.09	305	⇑P	PKPdf	02 57 47.4	+8.3
TORD	Torodi Ar. Bea	155.20	191	PKP	PKPdf	02 57 40.0	-0.3
	comp=Z,1.3nm,0.7s,baz=177,slow=0.5,SNR=12						
TORD				PKPab	PKPab	02 58 05.7	+0.1
	comp=Z,7.9nm,0.8s,baz=156,slow=3.3,SNR=12						
SKAR	Skarslia	155.97	347	*e*PKPab	PKPab	02 58 06.9	-1.0
ARR	Arges	158.16	299	⇓P	PKPab	02 58 24.6	+6.6
GERES	GERESS Array B	163.67	318	PKPab	PKPab	02 58 41.5	-0.4
	comp=Z,0.4nm,0.5s,baz=57,slow=5.1,SNR=2.5						
ESDC	Sonseca Array	177.85	25	PKP	PKPdf	02 57 56.6	-0.3
	comp=Z,0.6nm,0.9s,baz=312,slow=4.8,SNR=2.2						

AEIC ***07*** *03:09:42.4±1.9, 57°.18N±0°.05×158°.12W±0°.08, h10km±6km, ML3.1/27, ML3.3/22(NEIC), Error ellipse: s-maj=8.7km s-min=4.4km az=139.0*

NEIC ***07*** *03:09:45.0±2.7, 57°.16N±0°.04×158°.1W±0°.1, h51km±9km, Error ellipse: s-maj=8.9km s-min=5.6km az=111.0*

ISC 07 03:09:45.7±1.4**, 57°.13N**±0°.04×**158°.06W**±0°.05**, h35km, n37, σ1§48**/34**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.18	208		Pn	03 09 47.1	-5.3
ANPB	Aniakchak Plen	0.35	201		Pn	03 09 49.0	-5.2
PLBL	Peulik Blue Cr	0.88	49		Pn	03 09 58.8	-2.8
PLBL					Sn	03 10 11.2	-2.0
PLK1	Peulik 1	1.04	49		Pn	03 10 01.8	-1.9
PLK5	Peulik 5	1.08	36		Pn	03 10 02.7	-1.7
VNHG	Veniaminof 1	1.09	214		Pn	03 10 02.3	-2.3
PLK3	Peulik 3	1.12	59		Pn	03 10 04.2	-0.7
PLK3					Sn	03 10 20.2	+1.1
VNFG	Fog Glacier, M	1.18	225		Pn	03 10 04.4	-1.3
VNFG	Fog Glacier, M	1.18	225	P	Pn	03 10 04.4	-1.3
	baz=41						
ANCK	Angle Creek	1.75	51		Pn	03 10 12.6	-1.0
CAHL	Cahill	1.75	57		Sn	03 10 37.6	+2.9
CHIR	Chirikof Islan	1.88	133		Pn	03 10 13.6	-1.7
CHIR	Chirikof Islan	1.88	133	IAML		03 10 40.5	
	comp=E,182nm,0.9s						
CHIR	Chirikof Islan	1.88	133	P	Pn	03 10 13.6	-1.7
	baz=316						
SII	Sitkinak Islan	2.20	103		Pn	03 10 18.8	-0.9
SII					Sn	03 10 48.3	+2.5
SII	Sitkinak Islan	2.20	103	IAML		03 11 46.2	
	comp=N,137nm,0.8s						
SII	Sitkinak Islan	2.20	103	P	Pn	03 10 18.8	-0.9
	baz=288						
SII				S	Sn	03 10 48.3	+2.5
	baz=288						
SDPT	Sand Point	2.23	218		Pn	03 10 20.2	0.0
SDPT	Sand Point	2.23	218	P	Pn	03 10 20.2	0.0
	baz=34						
OHAK	Old Harbor	2.60	86		Pn	03 10 23.6	-1.6
OHAK	Old Harbor	2.60	86	P	Pn	03 10 23.6	-1.6
	baz=271						
P18K	Big Mountain,	2.72	32		Pn	03 10 26.1	-0.8
P18K	Big Mountain,	2.72	32	P	Pn	03 10 26.1	-0.8
	baz=216						
O18K	Koktuh Hills	3.12	27		Pn	03 10 31.5	-0.9
O18K	Koktuh Hills	3.12	27	IAML		03 12 23.5	
	comp=N,99nm,0.5s						
O18K				IAML		03 12 24.4	
	comp=E,80nm,0.6s						
O18K	Koktuh Hills	3.12	27	P	Pn	03 10 31.5	-0.9
	baz=211						
N19K	Bonanza Creek	4.14	25		Pn	03 10 45.9	-0.5
N19K	Bonanza Creek	4.14	25	IAML		03 12 49.9	
	comp=N,42nm,0.7s						
N19K	Bonanza Creek	4.14	25	P	Pn	03 10 45.9	-0.5
	baz=209						
SVW2	Sparrevohn	4.18	17		Pn	03 10 46.6	-0.4
SVW2	Sparrevohn	4.18	17	IAML		03 13 00.3	
	comp=N,37nm,0.6s						
SVW2				IAML		03 13 08.0	
	comp=E,44nm,1.6s						
RED	Redoubt Volcan	4.30	38		Pn	03 10 48.3	-0.3
M19K	Big River Lodg	5.14	20		Pn	03 10 59.8	-0.3
M19K	Big River Lodg	5.14	20	P	Pn	03 10 59.8	-0.3
	baz=203						
L19K	White Mountain	5.33	16		Pn	03 11 02.3	-0.3
L19K	White Mountain	5.33	16	P	Pn	03 11 02.3	-0.3
	baz=200						
TT01	Tatalina	5.89	9		Pn	03 11 09.9	-0.5

IDC ***07*** *03:10:24.4±7.2, 55°.52N×158°.67W, h0km, mb2.9/2, mb1 3.4/4, mb1mx3.2/36, mbtmp3.1/4, ML3.2/2, Error ellipse: s-maj=115.1km s-min=39.1km az=83.0*

AEIC ***07*** *03:10:40.8±1.1, 57°.01N±0°.03×157°.88W±0°.06, h4km±4km, ML3.0/25, ML3.3/10(NEIC), Error ellipse: s-maj=6.3km s-min=1.4km az=129.0*

NEIC ***07*** *03:10:41.4±2.6, 57°.12N±0°.03×158°.08W±0°.08, h22km±7km, Error ellipse: s-maj=7.3km s-min=0.8km az=124.0*

ISC 07 03:10:40.6±1.2**, 57°.00N**±0°.04×**157°.91W**±0°.04**, h7km**±10km**, n33, σ1§08**/39**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.17	258		Pg	03 10 44.7	+0.5
ANPB	Aniakchak Plen	0.29	226		Pg	03 10 46.5	+0.3
PLBL	Peulik Blue Cr	0.92	40		Pg	03 10 57.8	-0.4
PLBL					Sg	03 11 10.6	+0.5
VNHG	Veniaminof 1	1.05	222		Pb	03 11 00.1	-0.9
VNHG					Sn	03 11 15.5	-1.1
PLK1	Peulik 1	1.07	41		Pg	03 11 00.6	-0.5
PLK3	Peulik 3	1.12	52		Pg	03 11 02.2	+0.1
PLK3					Sg	03 11 17.8	+1.0
PLK5	Peulik 5	1.14	29		Pg	03 11 02.1	-0.5
VNFG	Fog Glacier, M	1.16	232		Pn	03 11 02.6	-0.7
VNFG	Fog Glacier, M	1.16	232	P	Pn	03 11 02.6	-0.7
	baz=51						
CHIR	Chirikof Islan	1.73	132		Pn	03 11 10.8	-0.3
CHIR					Sn	03 11 35.9	+2.4
CHIR	Chirikof Islan	1.73	132	IAML		03 11 37.7	
	comp=N,340nm,0.9s						
CHIR				IAML		03 11 38.0	
	comp=E,466nm,0.8s						
CHIR	Chirikof Islan	1.73	132	P	Pn	03 11 10.8	-0.3
	baz=314						
CHIR				S	Sn	03 11 35.9	+2.4
	baz=314						
CAHL	Cahill	1.76	52		Pn	03 11 11.7	+0.2
ANCK	Angle Creek	1.77	46		Pn	03 11 11.9	+0.3
SII	Sitkinak Islan	2.10	101		Pn	03 11 16.2	+0.1
SII					Sn	03 11 43.8	+1.3
SII	Sitkinak Islan	2.10	101	IAML		03 11 49.2	
	comp=E,432nm,0.7s						
SII				IAML		03 11 49.6	
	comp=N,346nm,0.9s						
SII	Sitkinak Islan	2.10	101	P	Pn	03 11 16.2	+0.1
	baz=284						
SII				S	Sn	03 11 43.8	+1.3
	baz=284						
SDPT	Sand Point	2.19	222		Pn	03 11 18.2	+0.8
SDPT					Sb	03 11 47.4	-0.5
SDPT	Sand Point	2.19	222	IAML		03 11 51.9	
	comp=N,203nm,1.3s						
SDPT				IAML		03 11 54.4	
	comp=E,271nm,1.1s						
SDPT	Sand Point	2.19	222	P	Pn	03 11 18.2	+0.8
	baz=40						
SDPT				S	Sb	03 11 47.4	-0.5
	baz=40						
OHAK	Old Harbor	2.53	83		Pn	03 11 21.4	-0.6
OHAK	Old Harbor	2.53	83	IAML		03 12 01.8	
	comp=E,66nm,0.9s						
OHAK				IAML		03 12 03.1	
	comp=N,88nm,1.1s						
OHAK	Old Harbor	2.53	83	P	Pn	03 11 21.4	-0.6
	baz=267						
BLHA	Black Hill	2.66	242		Pn	03 11 24.7	+0.9
BLHA	Black Hill	2.66	242	P	Pn	03 11 24.7	+0.9
	baz=59						
P18K	Big Mountain,	2.79	29		Pn	03 11 26.0	+0.4
P18K					Sn	03 12 01.4	+1.9
P18K	Big Mountain,	2.79	29	IAML		03 12 05.2	
	comp=E,97nm,0.5s						
P18K				IAML		03 12 07.8	
	comp=N,97nm,0.5s						
P18K	Big Mountain,	2.79	29	P	Pn	03 11 26.0	+0.4
	baz=212						
P18K				S	Sn	03 12 01.4	+1.9
	baz=212						
KDAK	Kodiak Island	2.99	73	Pn	Pn	03 11 26.9	-1.4
	comp=N,3.0nm,0.3s,baz=213,slow=4.5,SNR=14						
KDAK				Sn	Sn	03 12 05.5	+1.2
	comp=N,2.3nm,0.3s,baz=358,slow=13,SNR=4.0						
KDAK	Kodiak Island	2.99	73	P	Pn	03 11 27.9	-0.4
	baz=257						
ILAR	Eielson Array	9.45	30	Pn	Pn	03 12 55.5	-1.5
	comp=N,0.1nm,0.3s,baz=216,slow=13,SNR=5.8						
YKA	Yellowknife Ar	22.15	58	P	P	03 15 35.0	-1.6
	comp=N,0.4nm,0.8s,baz=274,slow=10,SNR=6.1						
NVAR	Mina Array Bea	31.87	109	P	P	03 16 50.3	-16
	comp=N,0.1nm,0.4s,baz=292,slow=11,SNR=1.5						

ISK 07 03:13:24.7, 39°.00N×28°.96E, h10km, ML1.3/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.08	13	PG	Pg	03 13 27.5	+0.2
SIMA				SG	Sg	03 13 29.5	+0.4
SMAA	Simav-Kutahya	0.10	10	PG	Pg	03 13 27.6	+0.2
SMAA				SG	Sg	03 13 29.8	+0.4
SHAP	Saphane-Kutahy	0.21	84	PG	Pg	03 13 29.5	+0.4
SHAP				SG	Sg	03 13 33.0	+0.9
GEDZ	Gediz	0.35	83	PG	Pg	03 13 32.2	+0.4
GEDZ				SG	Sb	03 13 37.7	-1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.59	41	PG	Pb	03 13 36.8	-0.4

DDA 07 03:13:24.9±0.0, 39°.09N×29°.00E, h7km±4km, ML1.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	Demirci	0.23	257	P	Pg	03 13 30.4	+0.9
DEMI				S	Sg	03 13 33.4	+0.9
DEMI				*i* AML	AML	03 13 34.0	
	comp=Z,24nm,0.3s						
DEMI				*i* AML	AML	03 13 34.0	
	comp=N,31nm,0.2s						
DEMI				*i* AML	AML	03 13 34.0	
	comp=E,40nm,0.3s						
GDZ	Gediz	0.37	90	P	Pg	03 13 32.4	+0.2
GDZ				S	Sg	03 13 37.2	+0.1
GDZ				*i* AML	AML	03 13 38.0	
	comp=N,13nm,0.2s						
GDZ				*i* AML	AML	03 13 38.0	
	comp=E,12nm,0.2s						
USAK	Uak-Merkez	0.38	178	P	Pb	03 13 33.3	-0.6
USAK				S	Sb	03 13 39.1	-1.0
USAK				*i* AML	AML	03 13 49.0	
	comp=E,17nm,0.6s						
MANT	Manisa	0.69	210	P	Pb	03 13 39.3	-0.1
MANT				S	Sg	03 13 48.1	+0.8
MANT				*i* AML	AML	03 13 50.0	
	comp=E,6.5nm,0.3s						

DDA 07 03:13:50.3±0.0, 37°.14N×28°.48E, h7km±2km, ML1.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MULA	Mugla, Merkez-	0.17	312	P	Pg	03 13 54.4	+0.6
MULA				S	Sg	03 13 56.7	+0.5
MULA				*i* AML	AML	03 13 58.0	
	comp=E,55nm,0.4s						
TURN	Turunc	0.41	207	P	Pg	03 13 58.3	0.0
TURN				S	Sb	03 14 05.2	-1.1
TAVA	DENIZLI_Tavas	0.47	47	P	Pg	03 13 59.8	+0.3
TAVA				S	Sg	03 14 06.0	+0.2
AYDN	Tasoluk	0.70	318	P	Pg	03 14 04.2	+0.4
AYDN				S	Sg	03 14 12.9	-0.2
BDRM	Kayabasi	0.83	265	P	Pg	03 14 06.5	+0.2
BDRM				S	Sb	03 14 17.9	-0.5
DAT	Datca	0.83	240	P	Pb	03 14 06.8	-0.3
DAT				S	Sb	03 14 19.6	+1.0

NNC 07 03:14:05.3±17.0, 37°.11N×70°.00E, h0km, mb3.5, mpv3.0, 1C-3D, Error ellipse: s-maj=162.6km s-min=113.0km az=156.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.00	4	⇑Pn	Pn	03 15 35.1	-0.3
	0.5nm,0.3s,baz=176,slow=12,SNR=20						
KK31				⇓Sn	Sn	03 16 46.1	+1.3
	1.0nm,0.3s,baz=187,slow=23,SNR=8.9						
AB31	Akbulak array	14.17	332	⇓P	Pn	03 17 26.9	-0.2
	0.4nm,0.5s						
AKTO	Aktyubinsk	15.86	331	⇓P	Pn	03 17 50.7	+0.9
	1.1nm,0.7s						

ISK 07 03:14:08.5, 39°.17N×29°.04E, h8km, ML1.5/2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMAA	Simav-Kutahya	0.09	213	PG	Pg	03 14 11.1	+0.4
SIMA	Simav-Kutahya	0.10	207	PG	Pg	03 14 11.3	+0.4
SIMA				SG	Sg	03 14 13.3	+0.6
SHAP	Saphane-Kutahy	0.20	137	PG	Pg	03 14 13.2	+0.5
SHAP				SG	Sg	03 14 16.6	+1.1
TVSB	Tavsanli	0.43	50	PG	Pg	03 14 17.3	+0.4
TVSB				SG	Sb	03 14 23.9	-1.1

*NEIC **07** 03:26:32.1±1.5, 17°.05S±0°.10×174°.2W±0°.1, h133km±6km, mb4.3/11, Error ellipse: s-maj=15.4km s-min=12.3km az=135.0*

*IDC **07** 03:26:34.4±10.0, 16°.97S×174°.39W, h147km±100km, mb3.6/7, mb1 3.8/8, mb1mx3.4/47, mbtmp4.1/8, Error ellipse: s-maj=47.1km s-min=27.3km az=165.0*

ISC 07 03:26:33.9±0.6, 16°.9S±0°.1×174°.4W±0°.2, h150km, n36, σ1s.31/28, mb4.2/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.86	41	P	Pn	03 27 29.8	-2.6
	28nm,0.3s,baz=223,slow=2.8,SNR=8.8						
AFI				S	Sn	03 28 09.2	-8.7
	111nm,0.3s,baz=63,slow=22,SNR=16						
AFI	Afiamalu	3.86	41	Pn	Pn	03 27 30.4	-2.1
AFI	Afiamalu	3.86	41	P	Pn	03 27 24.8	-7.6
NIUE	Niue	4.76	118		Pn	03 27 38.4	-5.7
DZM	Mont Dzumac	18.82	251	P	Pn	03 30 44.0	-0.4
	0.2nm,0.3s,baz=209,slow=3.0,SNR=2.9						
URZ	Urewera	22.58	198	P	P	03 31 21.1	-0.6
	6.4nm,0.4s,baz=5.5,slow=3.4,SNR=7.5						
URZ	Urewera	22.58	198	P	P	03 31 21.0	-0.6
URZ				IAmb	IAmb	03 31 22.4	
	comp=Z,10.0nm,0.6s						
KHLH	Kahului Airpor	41.46	26	P	P	03 34 06.3	+0.3
STKA	Stephens Creek	42.51	241	P	P	03 34 14.5	-0.1
	comp=Z,2.0nm,0.7s,baz=47,slow=6.2,SNR=3.6						
WR0	Warramunga Arr	48.43	258	P	P	03 35 00.5	-0.9
WR0				IAmb	IAmb	03 35 29.0	
	comp=Z,7.2nm,1.4s						
WB0	Warramunga Arr	48.59	258	P	P	03 35 02.5	0.0
WB0				IAmb	IAmb	03 35 41.0	
	comp=Z,6.0nm,1.2s						
WB2	Warramunga Arr	48.61	258	P	P	03 35 02.4	-0.3
WRAB	Tennant Creek	48.61	258	P	P	03 35 02.3	-0.4
WRAB				IAmb	IAmb	03 35 28.0	
	comp=Z,7.3nm,1.4s						
WRA	Warramunga Arr	48.62	258	P	P	03 35 02.6	-0.2
	comp=Z,1.1nm,0.5s,baz=96,slow=7.1,SNR=29						
WRA	Warramunga Arr	48.62	258	P	P	03 35 02.3	-0.5
AS31	Alice Springs	48.79	253	P	P	03 35 04.4	+0.3
AS31				IAmb	IAmb	03 35 05.5	
	comp=Z,3.3nm,0.6s						
ASAR	Alice Springs	48.79	253	P	P	03 35 04.5	+0.4
	comp=Z,12nm,0.7s,baz=88,slow=8.5,SNR=180						
FORT	Forrest	53.94	244	P	P	03 35 42.1	-0.1
VNDA	Vanda	61.83	186	P	P	03 36 36.8	+0.3
VNDA				IAmb	IAmb	03 36 42.6	
	comp=Z,5.2nm,1.4s						
QSPA	South Pole Qui	73.18	180	P	P	03 37 47.0	-1.1
QSPA				IAmb	IAmb	03 37 55.3	
	comp=Z,10nm,1.5s						
TXAR	Lajitas Array	82.19	56	P	P	03 38 41.8	+3.2
	comp=Z,0.2nm,0.8s,baz=218,slow=5.7,SNR=2.4						
TXAR				pP	pwP	03 39 19.1	+3.5
	comp=Z,0.5nm,0.9s,baz=232,slow=6.2,SNR=3.8						
TXAR	Lajitas Array	82.19	56	P	P	03 38 37.1	-1.5
PDAR	Pinedale Array	83.97	42	P	P	03 38 47.6	0.0
	comp=Z,0.5nm,0.8s,baz=193,slow=5.9,SNR=4.1						
PDAR				pP	pwP	03 39 27.9	+1.2
	comp=Z,0.5nm,0.8s,baz=247,slow=3.1,SNR=4.1						
PDAR	Pinedale Array	83.97	42	P	P	03 38 47.3	-0.3
ILAR	Eielson Array	84.06	11	P	P	03 38 47.6	+0.4
	comp=Z,0.6nm,0.8s,baz=201,slow=7.3,SNR=4.2						
H03S2	Juan Fernandez	85.16	124	T	T	05 12 18.6	
	baz=247,SNR=7.8						
H03S1	Juan Fernandez	85.17	124	T	T	05 12 20.3	
	baz=247,SNR=8.7						
H03S3	Juan Fernandez	85.18	124	T	T	05 12 20.8	
	baz=247,SNR=7.6						
H03N2	Juan Fernandez	85.27	123	T	T	05 12 22.8	
	baz=257,slow=72,SNR=4.3						
H03N3	Juan Fernandez	85.27	123	T	T	05 12 25.7	
	baz=257,slow=72,SNR=3.3						
H03N1	Juan Fernandez	85.29	123	T	T	05 12 24.0	
	baz=257,slow=72,SNR=5.3						
YKA	Yellowknife Ar	91.81	24	pP	pP	03 40 06.3	+4.6
	comp=Z,0.2nm,0.9s,baz=273,slow=3.9,SNR=3.5						
KMBO	Kilima Mbogo	144.06	243	PKP	PKPdf	03 45 52.5	-0.4
	comp=Z,3.5nm,0.9s,baz=60,slow=6.9,SNR=7.8						
KMBO	Kilima Mbogo	144.06	243		PKPab	03 45 51.3	+0.5
BRTR	Keskin Array B	146.68	319	PKPbc	PKPbc	03 45 59.6	+1.1
	comp=Z,1.2nm,0.9s,baz=72,slow=0.5,SNR=8.7						
BRTR	Keskin Array B	146.68	319		PKPdf	03 45 56.0	-0.6

IDC 07 03:30:03.8±2.1, 2°.08N×126°.14E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/46, mbtmp3.6/3, Error ellipse: s-maj=208.6km s-min=23.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.32	160	P	P	03 35 15.1	+1.3
	0.6nm,0.3s,baz=339,slow=10,SNR=7.3						
ASAR	Alice Springs	26.69	164	P	P	03 35 43.5	-1.4
	0.3nm,0.6s,baz=340,slow=8.1,SNR=5.3						
MKAR	Makanchi Array	58.58	326	P	P	03 40 02.5	+0.1
	0.8nm,0.4s,baz=120,slow=7.8,SNR=18						

*MOS **07** 03:32:48.6±1.3, 13°.92S×166°.62E, h15km, mb6.2/65, MS6.5/40, Error ellipse: s-maj=7.3km s-min=5.2km az=125.0*

*IDC **07** 03:32:50.6±1.9, 13°.97S×166°.74E, h17km±11km, mb5.6/41, mb1 5.6/44, mb1mx5.5/47, mbtmp5.7/44, ML5.2/3, MS6.5/58, Ms1 6.5/58, ms1mx6.5/66, Error ellipse: s-maj=10.2km s-min=9.5km az=19.0*

*BJI **07** 03:32:52.9±0.0, 13°.82S×166°.68E, h30km, mb5.9/88, mB6.6/77, Ms6.6/99, Ms7 6.4/92*

*NEIC **07** 03:32:53.5±1.5, 13°.98S±0°.06×166°.59E±0°.07, h28km±3km, mb5.9/391, Ms_20 6.7/428, Mwb6.5/36, Mwc6.7/128, Mww6.7, Error ellipse: s-maj=10.1km s-min=8.5km az=61.0*

*NEIC **07** 03:32:53.8, 13°.99S×166°.57E, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}6.79; $M_{\theta\theta}$-1.31; $M_{\phi\phi}$-5.48; $M_{r\theta}$0.02; $M_{\theta\phi}$2.61; $M_{\phi r}$-0.63; Fault plane solution: $M_0$6.79000×10^{18} NP1:ϕ_s156.45000°, δ47.48000°, λ92.88000°. NP2:ϕ_s332.19000°, δ42.59000°, λ86.86000°. Principal axes: T 6.8255, Plg87.0000°, Azm105.0000°; N -0.0672, Plg2.0000°, Azm335.0000°; P -6.7583, Plg2.0000°, Azm244.0000°;*

*NOU **07** 03:32:56.4, 13°.98S×166°.60E, h41km, ML6.5/97, Vanuatu Islands*

*GCMT **07** 03:32:58.5±0.0, 13°.92S×166°.54E, h32km, MW6.6/168, Moment Tensor Solution. s168,c446; s166,c736; Duration: 5s.1 Moment tensor: Scale 10^{19}Nm; M_{rr}1.10±.00; $M_{\theta\theta}$-0.05±.00; $M_{\phi\phi}$-1.05±.00; $M_{r\theta}$0.23±.01; $M_{\theta\phi}$0.31±.00; $M_{\phi r}$-0.15±.01; Best double couple: $M_0$1.15300×10^{19} NP1:ϕ_s353.00000°, δ41.00000°, λ104.00000°. NP2:ϕ_s155.00000°, δ51.00000°, λ78.00000°. Principal axes: T 1.1490, Plg79.0000°, Azm13.0000°; N 0.0080, Plg9.0000°, Azm162.0000°; P -1.1570, Plg5.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 03:33:01, 13°.81S×166°.34E, h40km, Moment Tensor Solution. Duration: 12s.0 Moment tensor: Scale 10^{19}Nm; M_{rr}1.18; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-1.15; $M_{r\theta}$0.18; $M_{\theta\phi}$0.22; $M_{\phi r}$-0.30; Fault plane solution: $M_0$1.24000×10^{19} NP1: ϕ_s354.00000°, δ38.00000°, λ98.00000°. NP2: ϕ_s164.00000°, δ53.00000°, λ83.00000°. Principal axes: T 1.2377, Plg81.0000°, Azm44.0000°; N -0.0031, Plg5.0000°, Azm168.0000°; P -1.2346, Plg8.0000°, Azm258.0000°;*

*NEIC **07** 03:33:11.7, 14°.03S×166°.25E, h38km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}1.31; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-1.16; $M_{r\theta}$0.23; $M_{\theta\phi}$0.28; $M_{\phi r}$-0.32; Fault plane solution: $M_0$1.33000×10^{19} NP1:ϕ_s159.58000°, δ53.42000°, λ83.28000°. NP2:ϕ_s350.77000°, δ37.10000°, λ98.96000°. Principal axes: T 1.3742, Plg80.0000°, Azm41.0000°; N -0.0876, Plg5.0000°, Azm164.0000°; P -1.2866, Plg8.0000°, Azm254.0000°;*

ISC 07 03:32:53.0±0.3, 13°.93S±0°.03×166°.68E±0°.03, h31km±1km, h31km:pP-P, n1966, σ2s.36/1918, mb5.9/370, MS6.7/333, 93C-65D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	4.04	159	P	Pn	03 33 57.5	+4.7
RTV	Rentapao	4.19	157	P	Pb	03 34 00.8	-5.2
LIFNC	LIFOU	6.83	176	Pn	Pn	03 34 28.5	-2.6
LIFNC	LIFOU	6.83	176	P	Pn	03 34 31.9	+0.8
KOUNC	Koumac, New Ca	6.97	199		Pn	03 34 31.7	-1.4
KOUNC				Sn	Sn	03 35 50.4	-0.9
KOUNC	Koumac, New Ca	6.97	199	P	Pn	03 34 34.2	+1.2
MARNC	Mare, Loyalty	7.62	170	Pn	Pn	03 34 41.7	-0.3
MARNC	Mare, Loyalty	7.62	170	P	Pn	03 34 44.1	+2.2
HNR	Honiara	7.97	303	Pn	Pn	03 34 47.1	+0.3
	73nm,0.3s,baz=208,slow=5.7,SNR=17						
HNR				Sn	Sn	03 36 17.3	+1.3
	241nm,0.3s,baz=323,slow=22,SNR=7.3						
HNR				LR	LR	03 37 38.3	
	comp=Z,452µm,20.9s,baz=142,slow=36						
HNR	Honiara	7.97	303	P	Pn	03 34 46.5	-0.3
HNR						03 36 13.7	
HNR	Honiara	7.97	303	Pn	Pn	03 34 46.5	-0.3
HNR				Sn	Sn	03 36 13.7	-2.3
HNR	Honiara	7.97	303	P	Pn	03 34 47.4	+0.6
YATNC	Mamie plateau,	8.09	179	P	Pn	03 34 49.5	+1.1
DZM	Mont Dzumac	8.10	182	Pn	Pn	03 34 48.0	-0.6
	15nm,0.3s,baz=342,slow=12,SNR=71						
DZM				Sn	Sn	03 36 25.1	+5.9
	32nm,0.3s,baz=122,slow=22,SNR=1.5						
DZM				ScP	ScP	03 44 59.4	+6.2
	2.9nm,0.3s,baz=55,slow=11,SNR=10						
DZM	Mont Dzumac	8.10	182	*e*Pn	Pn	03 34 46.6	-2.0
	854nm,0.3s						
DZM				*e*Sn	Sn	03 36 11.2	-8.0
	2µm,0.6s						
DZM				*e*LR	LR	03 36 39.2	
	comp=Z,490µm,25.4s						
DZM				*e*ScP	ScP	03 44 49.2	-4.0
	283nm,1.1s						
DZM	Mont Dzumac	8.10	182	Pn	Pn	03 34 47.9	-0.7
DZM	Mont Dzumac	8.10	182	P	Pn	03 34 49.2	+0.6
NOUC	Port Laguerre	8.13	182	P	Pn	03 34 51.1	+2.1
OUENC	Ouen Island, N	8.44	179	Pn	Pn	03 34 53.0	-0.2
OUENC	Ouen Island, N	8.44	179	P	Pn	03 34 55.8	+2.5
PINNC	Pines Island,	8.66	175		Pn	03 34 56.0	-0.3
MSVF	Nonsavu	11.57	111	Pn	Pn	03 35 41.8	+5.5
	3.8nm,0.3s,baz=271,slow=12,SNR=13						
MSVF				LR	LR	03 39 14.6	
	comp=Z,642µm,18.7s,baz=288,slow=33						
MSVF	Nonsavu	11.57	111	P	Pn	03 35 37.6	+1.3
MSVF	Nonsavu	11.57	111	Pn	Pn	03 35 37.6	+1.3
FUNA	Funafuti	13.40	68	Pn	Pn	03 36 00.6	-0.6
KRVT	Keravat (AS076	17.33	302	P	Pn	03 36 52.3	-0.5
	7.7nm,0.3s,baz=161,slow=23,SNR=1.4						
KRVT				LR	LR	03 44 04.3	
	comp=Z,233µm,19.9s,baz=264,slow=39						
RK1H	Rockhampton Ha	17.98	236	P	P	03 37 04.2	+3.2
EIDS	Eidsvold	18.56	230	P	P	03 37 06.8	-0.7
EIDS				IAmb	IAmb	03 37 15.8	
	comp=Z,1µm,1.6s						
EIDS	Eidsvold	18.56	230	P	Pn	03 37 10.9	+3.0
LHI	Lord Howe Isla	18.85	201		P	03 37 09.8	-0.8
LHI				IAmb	IAmb	03 37 34.8	
	comp=Z,3µm,2.5s						
LHI	Lord Howe Isla	18.85	201	P	Pn	03 37 12.2	+0.9
PMG	Port Moresby	19.64	281	P	Pn	03 37 21.6	+0.7
	comp=Z,2.8nm,0.3s,baz=97,slow=6.2,SNR=36						
PMG				LR	LR	03 44 27.6	
	comp=Z,108µm,19.6s,baz=26,slow=35						
PMG				ScP	ScP	03 45 13.5	+1.1
	comp=Z,1.7nm,0.3s,baz=270,slow=9.9,SNR=1.8						
PMG				PKiKP	PKiKP	03 49 28.4	+0.3
	comp=Z,0.9nm,0.3s,baz=288,slow=2.3,SNR=1.8						
PMG	Port Moresby	19.64	281	*d i*P	Pn	03 37 21.9	+1.0
PMG				pmax	pmax		
	comp=Z,396nm,1.3s						
PMG	Port Moresby	19.64	281	P	P	03 37 18.6	-0.8
PMG				IAmb	IAmb	03 37 36.5	
	comp=Z,859nm,1.1s						
PMG	Port Moresby	19.64	281	P	Pn	03 37 22.7	+1.8
CTA	Charters Tower	20.46	250	P	Pn	03 37 29.5	-1.1
	comp=Z,270nm,1.0s,baz=72,slow=11,SNR=27						
CTA				S	Sn	03 41 18.5	-2.0
	comp=Z,12nm,0.7s,baz=288,slow=4.1,SNR=1.0						
CTA				ScP	ScP	03 45 16.2	+1.9
	comp=Z,9.4nm,0.8s,baz=170,slow=5.3,SNR=3.0						
CTA				PKiKP	PKiKP	03 49 29.2	+0.9
	comp=Z,7.4nm,0.9s,baz=0.0,slow=4.0,SNR=3.7						
CTA	Charters Tower	20.46	250	P	Pn	03 37 29.6	-1.0
RAO	Raoul Island	20.88	139	P	P	03 37 33.1	+0.4
	comp=Z,155nm,0.4s,baz=234,slow=23,SNR=1.2						
AFI	Afiamalu	20.91	93	P	P	03 37 33.5	+0.3
	comp=Z,98nm,0.9s,baz=250,slow=20,SNR=4.1						
AFI				LR	LR	03 43 54.8	
	comp=Z,130µm,18.3s,baz=258,slow=32						
AFI				ScP	ScP	03 45 17.2	+1.7
	comp=Z,47nm,0.9s,baz=155,slow=20,SNR=3.4						
AFI	Afiamalu	20.91	93		P	03 37 34.5	+1.3
AFI				IAmb	IAmb	03 37 43.0	
	comp=Z,498nm,0.9s						
AFI				PcP	PcP	03 41 39.9	-0.9
AFI					ScP	03 45 16.7	+1.2
RMQ	Roma	20.92	231	P	Pn	03 37 37.1	+1.3
ARMA	Armidale	21.49	218	P	P	03 37 38.2	-1.2
ARMA				IAmb	IAmb	03 37 51.6	
	comp=Z,1µm,1.6s						
ARMA	Armidale	21.49	218	P	P	03 37 41.5	+2.1
OUZ	Omahuta	22.09	165	P	P	03 37 45.0	-0.7
OUZ				IAmb	IAmb	03 37 54.0	
	comp=Z,386nm,0.9s						
OUZ	Omahuta	22.09	165	P	P	03 37 48.2	+2.5
PATS	Pohnpei	22.24	338	P	P	03 37 50.8	+3.3
MANU	Manus Island	22.45	300	P	P	03 37 49.7	-0.1
MANU				IAmb	IAmb	03 38 12.9	
	comp=Z,320nm,1.1s						
COEN	Coen	22.81	267	P	P	03 37 53.1	-0.5
COEN	Coen	22.81	267	P	P	03 37 55.7	+2.1
NIUE	Niue	22.99	106	P	P	03 37 57.7	+2.2
NIUE	Niue	22.99	106	P	P	03 37 59.8	+4.4
KNTN	Kanton	24.04	64	P	P	03 38 06.8	+1.1
KNTN				IAmb	IAmb	03 38 13.9	
	comp=Z,336nm,1.1s						
KNTN	Kanton	24.04	64	P	P	03 38 07.0	+1.4
QLP	Quilpie	24.48	236	P	P	03 38 10.6	+1.0
HIZ	Hauiti	25.53	165	P	P	03 38 19.6	+0.6
HIZ				IAmb	IAmb	03 38 46.3	
	comp=Z,481nm,1.1s						
HIZ	Hauiti	25.53	165	P	P	03 38 24.3	+5.3
OMRZ	Omania	25.57	162	P	P	03 38 19.6	+0.3
MXZ	Matakaoa Point	25.71	158	P	P	03 38 21.1	+0.5
MXZ				IAmb	IAmb	03 38 57.4	
	comp=Z,487nm,1.5s						
MXZ	Matakaoa Point	25.71	158	P	P	03 38 26.9	+6.3
URZ	Urewera	25.94	161	P	P	03 38 24.0	+1.4
	comp=Z,128nm,1.0s,baz=354,slow=2.9,SNR=24						
URZ				S	S	03 42 53.6	+2.7
	comp=Z,7.4nm,0.7s,baz=144,slow=12,SNR=1.1						
URZ				ScP	ScP	03 45 30.7	+2.3
	comp=Z,16nm,0.8s,baz=141,slow=23,SNR=2.0						
URZ				LR	LR	03 47 29.3	
	comp=Z,141µm,19.7s,baz=338,slow=34						
URZ	Urewera	25.94	161	P	P	03 38 22.8	+0.2
URZ				IAmb	IAmb	03 38 43.7	
	comp=Z,232nm,1.0s						
URZ	Urewera	25.94	161	P	P	03 38 24.6	+2.0
CMSA	Cobar Meteorol	26.03	224	P	P	03 38 25.3	+1.7
MUGZ	Murupara	26.03	162	P	P	03 38 24.6	+1.1
RATZ	Rangitukua	26.10	164	P	P	03 38 32.5	+8.3
TWVZ	Taurewa	26.21	164	P	P	03 38 29.5	+4.3
RTZ	Ruatahuna	26.22	162	P	P	03 38 28.3	+3.0
MRHZ	Matea Rd	26.25	163	P	P	03 38 29.9	+4.3
WTVZ	West Tongariro	26.29	164	P	P	03 38 31.9	+5.9
NTVZ	North Tongarir	26.30	164	P	P	03 38 33.5	+7.4
NNVZ	North Ngauruho	26.31	164	P	P	03 38 32.8	+6.6
TMVZ	Te Maari	26.32	164	P	P	03 38 33.4	+7.1
ETVZ	East Tongariro	26.34	164	P	P	03 38 32.6	+6.2
NGZ	Ngauruhoe	26.35	164	P	P	03 38 32.8	+6.3
OTVZ	Oturere	26.35	164	P	P	03 38 32.5	+5.9
SNVZ	South Ngauruho	26.37	164	P	P	03 38 33.4	+6.6
CNB	Canberra Magne	26.39	213	P	P	03 38 29.6	+2.7
MTHZ	Maungataniwha	26.40	162	P	P	03 38 30.4	+3.6
SNGZ	Shannon Statio	26.49	161	P	P	03 38 29.3	+1.7
WNVZ	Wahianoa	26.49	164	P	P	03 38 31.9	+4.0
RAHZ	Arahi	26.53	162	P	P	03 38 31.1	+3.0
RIGZ	Rimuhau	26.55	160	P	P	03 38 29.0	+0.7
BKZ	Black Stump Fm	26.58	163	P	P	03 38 27.4	-1.2
BKZ	Black Stump Fm	26.58	163	P	P	03 38 28.3	-0.3
BKZ	Black Stump Fm	26.58	163	P	P	03 38 28.3	-0.3
CAN	Canberra	26.59	214	P	P	03 38 28.6	-0.1
CAN				pmax	pmax		
	comp=Z,273nm,1.4s						
CAN				MLR	MLR		
	comp=Z,124µm,18.0s						
CAN	Canberra	26.59	214	P	P	03 38 28.6	-0.1
CAN				IAmb	IAmb	03 38 52.5	
	comp=Z,273nm,1.4s						
CAN	Canberra	26.59	214	P	P	03 38 32.3	+3.6
MOVZ	Moawhango	26.61	164	P	P	03 38 33.4	+4.6
NMHZ	Naumai	26.61	162	P	P	03 38 31.5	+2.7
QIS	Mount Isa	26.66	252	P	P	03 38 30.0	+0.6
BHHZ	Black Hill Sta	26.77	164	P	P	03 38 33.0	+2.9
KWHZ	Kaweka Forest	26.80	163	P	P	03 38 33.5	+2.9
MCHZ	McNeill Hill	26.90	163	P	P	03 38 32.3	+0.9
KRHZ	Kereru	26.99	163	P	P	03 38 34.5	+2.2
MHGZ	Mahia Peninsul	27.00	161	P	P	03 38 32.9	+0.6
PNHZ	Pukenui	27.20	164	P	P	03 38 37.6	+3.6
CKHZ	Cape Kidnapper	27.21	162	P	P	03 38 34.4	+0.3
TSZ	Takapari Road	27.27	164	P	P	03 38 36.4	+1.7
QRZ	Quartz Range	27.27	170	P	P	03 38 35.9	+1.2
QRZ				IAmb	IAmb	03 38 50.7	
	comp=Z,263nm,1.2s						
QRZ	Quartz Range	27.27	170	P	P	03 38 39.0	+4.3
KAHZ	Kahuranaki	27.28	163	P	P	03 38 35.3	+0.5
DVHZ	Dannevirke	27.55	164	P	P	03 38 42.1	+4.9
PRHZ	Porangahau	27.65	163	P	P	03 38 40.2	+2.1
ANWZ	Angora Road	27.78	164	P	P	03 38 43.0	+3.8
NNZ	Nelson	27.80	169	P	P	03 38 38.4	-1.0
BFZ	Birch Farm	27.93	164	IAMs_20	IAMs_20	03 48 53.3	
	comp=Z,162µm,21.0s						
BFZ	Birch Farm	27.93	164	P	P	03 38 42.4	+1.8
BFZ	Birch Farm	27.93	164	P	P	03 38 42.0	+1.4
JAY	Jayapura	28.06	292	P	P	03 38 43.1	+1.0
	comp=Z,19nm,0.7s,baz=112,slow=2.8,SNR=4.3						
JAY				S	S	03 43 23.8	-1.3
	comp=Z,18nm,1.0s,baz=194,slow=12,SNR=1.9						
JAY				ScP	ScP	03 45 38.1	+2.8
	comp=Z,21nm,1.0s,baz=332,slow=2.3,SNR=2.4						
TUWZ	Tuamarina	28.12	168	P	P	03 38 42.6	+0.4
SNZO	South Karori	28.16	167	IAMs_20	IAMs_20	03 50 00.2	
	comp=Z,161µm,18.0s						
SNZO	South Karori	28.16	167	P	P	03 38 45.8	+3.3
THZ	Tophouse	28.25	170	P	P	03 38 43.9	+0.4
MSWZ	Moikau Station	28.38	166	P	P	03 38 43.7	-0.9
GENI	Genyem	28.51	291	P	P	03 38 45.7	-0.3
	comp=Z,65µmcomp=Z,13µmcomp=Z,101nm,0.9s						
PLWZ	Palliser	28.53	166	P	P	03 38 46.1	+0.2
KHZ	Kahutara	29.00	169	P	P	03 38 49.1	-0.9
KHZ				IAmb	IAmb	03 39 18.0	
	comp=Z,216nm,1.4s						
KHZ	Kahutara	29.00	169	P	P	03 38 50.7	+0.7
STKA	Stephens Creek	29.09	228	P	P	03 38 51.9	+0.9
	comp=Z,184nm,0.6s,baz=40,slow=8.2,SNR=84						
STKA				S	S	03 43 39.2	-1.7
	comp=Z,15nm,1.0s,baz=332,slow=19,SNR=1.8						
STKA				ScP	ScP	03 45 39.5	+1.3
	comp=Z,11nm,0.9s,baz=347,slow=8.1,SNR=3.2						
STKA				PKiKP	PKiKP	03 49 33.1	+0.4
	comp=Z,4.0nm,0.6s,baz=78,slow=23,SNR=3.2						
STKA				LR	LR	03 50 15.1	
	comp=Z,257µm,19.2s,baz=56,slow=36						
STKA	Stephens Creek	29.09	228	*i* P	P	03 38 51.5	+0.5
STKA	Stephens Creek	29.09	228	P	P	03 38 50.6	-0.4
STKA	Stephens Creek	29.09	228	P	P	03 38 51.9	+0.9
LTZ	Lake Taylor	29.15	172	P	P	03 38 51.3	-0.1
LTZ				IAmb	IAmb	03 39 06.8	
	comp=Z,198nm,0.9s						
FOZ	Fox Glacier	29.62	175	P	P	03 38 55.6	+0.1
FOZ				IAmb	IAmb	03 39 03.6	
	comp=Z,248nm,0.9s						
FOZ				PcP	PcP	03 41 59.8	+0.1
OXZ	Oxford	29.65	172	P	P	03 38 55.7	-0.1
OXZ				IAmb	IAmb	03 39 03.2	
	comp=Z,162nm,1.0s						
RPZ	Rata Peaks	29.92	174	P	P	03 38 57.5	-0.7
	comp=Z,45nm,0.8s,baz=305,slow=3.5,SNR=13						
RPZ				LR	LR	03 49 40.5	
	comp=Z,90µm,21.3s,baz=352,slow=34						
RPZ	Rata Peaks	29.92	174	P	P	03 38 57.7	-0.5

RPZ IAmb IAmb 03 39 11.0
comp=Z,195nm,0.9s
RPZ Rata Peaks 29.92 174 P P 03 38 58.4 +0.2
MQZ McQueen's Vall 30.11 171 P P 03 38 59.2 -0.7
MQZ IAmb IAmb 03 39 14.1
comp=Z,169nm,0.9s
TOO Toolangi 30.16 215 P P 03 38 59.2 -1.3
TOO pmax pmax
comp=Z,90nm,1.0s
TOO Toolangi 30.16 215 P P 03 38 59.2 -1.3
TOO Toolangi 30.16 215 P P 03 39 03.0 +2.5
LBZ Lake Benmore 30.50 175 P P 03 39 03.5 +0.2
LBZ IAmb IAmb 03 39 09.3
comp=Z,110nm,0.9s
LBZ ScP ScP 03 45 43.5 +1.0
WKZ Wanaka 30.86 177 P P 03 39 06.7 +0.3
WKZ IAmb IAmb 03 39 30.6
comp=Z,258nm,1.0s
LCRK Leigh Creek 30.93 233 P P 03 39 07.7 +0.4
ODZ Otahua Downs 31.19 175 P P 03 39 09.6 +0.2
ODZ IAmb IAmb 03 39 30.2
comp=Z,240nm,1.3s
ODZ Otahua Downs 31.19 175 P P 03 39 11.3 +1.9
WR0 Warramunga Arr 31.29 254 P P 03 39 09.3 -1.3
WR0 IAmb IAmb 03 39 20.9
comp=Z,328nm,1.4s
WR0 PcP PcP 03 42 05.1 +0.5
MLZ Mavora Lakes 31.36 178 P P 03 39 09.6 -1.3
MLZ IAmb IAmb 03 39 20.5
comp=Z,162nm,0.9s
WB0 Warramunga Arr 31.41 255 P P 03 39 10.8 -0.9
WB0 IAmb IAmb 03 39 21.9
comp=Z,268nm,1.1s
DCZ Deep Cove 31.43 179 P P 03 39 11.6 +0.2
DCZ IAmb IAmb 03 39 21.4
comp=Z,338nm,1.0s
WB2 Warramunga Arr 31.46 255 P P 03 39 10.6 -1.6
WB2 IAmb IAmb 03 39 22.5
comp=Z,307nm,1.2s
WRAB Tennant Creek 31.46 255*ce*P P 03 39 11.5 -0.7
WRAB pmax pmax
comp=Z,271nm,1.7s
WRAB MLR MLR
comp=Z,158µm,17.0s
WRAB Tennant Creek 31.46 255 P P 03 39 11.2 -1.0
WRAB IAmb IAmb 03 39 22.4
comp=Z,289nm,1.2s
WRAB Tennant Creek 31.46 255 IAMs_20 IAMs_20 03 51 33.1
comp=Z,121µm,18.0s
WRAB Tennant Creek 31.46 255 P P 03 39 12.3 +0.1
WRA Warramunga Arr 31.48 255 P P 03 39 11.3 -1.0
comp=Z,87nm,0.9s,baz=86,slow=9.4,SNR=153
WRA S S 03 44 10.8 -7.8
comp=Z,2.5nm,0.8s,baz=96,slow=22,SNR=1.6
WRA ScP ScP 03 45 47.6 +1.5
comp=Z,5.1nm,0.8s,baz=80,slow=3.3,SNR=3.3
WRA PKiKP PKiKP 03 49 32.7 -1.9
comp=Z,9.2nm,0.8s,baz=358,slow=0.5,SNR=5.6
WRA LR LR 03 51 34.7
comp=Z,113µm,18.8s,baz=69,slow=36
WRA P3KPbc 04 10 51.5
comp=Z,2.4nm,1.0s,baz=270,slow=3.2,SNR=8.9
WRA P4KP 04 20 54.6
comp=Z,1.3nm,0.8s,baz=79,slow=4.0,SNR=4.7
WRA Warramunga Arr 31.48 255 *i* P P 03 39 11.3 -1.0
WRA pmax pmax
comp=Z,85nm,0.9s
WRA Warramunga Arr 31.48 255 P P 03 39 11.1 -1.1
GLAD Gladstone 31.49 208 P P 03 39 13.7 +1.6
ARPS Mount Arapiles 31.78 220 P P 03 39 16.7 +2.0
HTT Hallett 31.82 228 P P 03 39 16.2 +1.0
WHZ Wether Hill Ro 31.88 178 P P 03 39 15.1 -0.3
WHZ IAmb IAmb 03 39 19.9
comp=Z,160nm,1.3s
OOD Oodnadatta 31.97 240 P P 03 39 17.6 +1.1
H11S2 WAKE ISLAND Hy 32.22 0 T T 04 13 46.5
baz=184,slow=76,SNR=6.3
H11S3 WAKE ISLAND Hy 32.22 0 T T 04 13 47.1
baz=184,slow=76,SNR=7.0
H11S1 WAKE ISLAND Hy 32.24 0 T T 04 13 49.7
baz=184,slow=76,SNR=7.6
NAPP Napperby 32.26 229 P P 03 39 20.4 +1.5
AS31 Alice Springs 32.43 248 P P 03 39 19.3 -1.4
ASAR Alice Springs 32.44 248 P P 03 39 19.6 -1.1
comp=Z,60nm,0.6s,baz=73,slow=9.3,SNR=175
ASAR S S 03 44 29.0 -4.5
comp=Z,1.7nm,0.7s,baz=44,slow=4.3,SNR=1.2
ASAR ScP ScP 03 45 49.3 -0.1
comp=Z,8.2nm,0.7s,baz=89,slow=4.3,SNR=5.8
ASAR PKiKP PKiKP 03 49 33.5 -1.8
comp=Z,4.3nm,0.8s,baz=135,slow=1.7,SNR=5.7
ASAR LR LR 03 52 16.4
comp=Z,126µm,18.3s,baz=80,slow=36
ASAR P3KPbc 04 10 47.2
comp=Z,0.8nm,0.8s,baz=251,slow=4.5,SNR=5.6
ASAR P3KP 04 12 08.7
comp=Z,0.8nm,0.9s,baz=321,slow=1.1,SNR=4.1
ASAR P4KP 04 20 56.1
comp=Z,2.3nm,1.0s,baz=79,slow=3.2,SNR=7.4
ASAR Alice Springs 32.44 248 P P 03 39 19.5 -1.2
WHYH Whyalla 32.60 229 P P 03 39 23.5 +1.5
RAR Rarotonga 32.74 108 P P 03 39 24.1 +0.8
comp=Z,136nm,0.9s,baz=249,slow=6.3,SNR=12
RAR S S 03 44 32.1 -6.1
comp=Z,16nm,0.9s,baz=284,slow=21,SNR=1.2
RAR LR LR 03 50 06.1
comp=Z,101µm,21.1s,baz=282,slow=32
RAR Rarotonga 32.74 108 P P 03 39 23.5 +0.2
RAR pmax pmax
comp=Z,4µm,2.9s
RAR Rarotonga 32.74 108 P P 03 39 23.5 +0.2
RAR Rarotonga 32.74 108 P P 03 39 26.6 +3.3
BAKI Biak 32.78 290 P P 03 39 24.8 +1.0
comp=Z,187nm,1.2s
TWOA Tennyson Woods 32.90 225 P P 03 39 25.9 +1.3
MOO Moorlands 33.03 207 P P 03 39 26.7 +1.1
KDU Kakadu 33.30 268 P P 03 39 28.0 -0.2
TAU Tasmania Unive 33.35 206 P P 03 39 27.7 -0.6
TAU pmax pmax
comp=Z,280nm,1.4s
TAU Tasmania Unive 33.35 206 P P 03 39 27.7 -0.6
TAU IAmb IAmb 03 39 46.0
comp=Z,280nm,1.4s
TAU Tasmania Unive 33.35 206 IAMs_20 IAMs_20 03 50 09.3
comp=Z,128µm,21.0s
TAU Tasmania Unive 33.35 206 P P 03 39 29.9 +1.6
H11N1 WAKE ISLAND Hy 33.44 0 T T 04 15 16.2
baz=184,slow=76,SNR=9.3
H11N3 WAKE ISLAND Hy 33.44 0 T T 04 15 24.0
baz=184,slow=76,SNR=8.0
H11N2 WAKE ISLAND Hy 33.45 0 T T 04 15 24.9
baz=184,slow=76,SNR=9.2
MULG Mulgathing 34.16 236 P P 03 39 35.5 -0.1
MTN Manton Dam 34.58 268 P P 03 39 39.1 -0.3
MTN ScP ScP 03 45 58.0 +1.0
MTN Manton Dam 34.58 268 P P 03 39 40.0 +0.6
SAUI Saumlaki 35.21 276 IAMs_20 IAMs_20 03 53 20.4
comp=Z,121µm,20.0s
SAUI Saumlaki 35.21 276 P P 03 39 45.4 +0.6
comp=Z,69µmcomp=Z,22µmcomp=Z,517nm,1.9s
FAKI Fak Fak 35.72 285 IAMs_20 IAMs_20 03 53 57.8
comp=Z,172µm,22.0s
FAKI Fak Fak 35.72 285 P P 03 39 51.1 +1.9
KNRA Kununurra 36.67 262 P P 03 39 57.0 -0.4
KNRA Kununurra 36.67 262 P P 03 39 57.2 -0.1
SIJI Sorong 37.36 287 P P 03 40 03.9 +0.6
comp=Z,77nm,0.7s,baz=90,slow=7.3,SNR=30
SIJI S S 03 45 48.1 -1.4
comp=Z,4.3nm,0.3s,baz=161,slow=23,SNR=1.6
SIJI LR LR 03 55 55.6
comp=Z,156µm,20.7s,baz=133,slow=37
SWI Sorong 37.37 287 P P 03 40 03.2 -0.1
comp=Z,45µmcomp=Z,8µmcomp=Z,167nm,0.9s
WRKA Warakurna 37.71 247 P P 03 40 05.6 -0.6
FORT Forrest 39.22 238 P P 03 40 18.4 -0.3
FORT Forrest 39.22 238 P P 03 40 18.8 +0.1
AAI Ambon 39.31 281 P P 03 40 19.6 0.0
comp=Z,53µmcomp=Z,11µmcomp=Z,175nm,0.9s
FITZ Fitzroy Crossi 39.61 258 P P 03 40 21.3 -0.8
comp=Z,85nm,0.9s,baz=90,slow=9.5
FITZ LR LR 03 56 51.3
comp=Z,236µm,18.3s,baz=78,slow=36
FITZ Fitzroy Crossi 39.61 258 P P 03 40 21.4 -0.8
FITZ IAmb IAmb 03 40 35.2
comp=Z,272nm,1.2s
MCQ Macquarie Isla 40.92 187 P P 03 40 33.2 +0.8
MCQ pmax pmax
comp=Z,848nm,1.7s
MCQ Macquarie Isla 40.92 187 P P 03 40 33.2 +0.8
LBMI Labuha 40.95 285 P P 03 40 35.5 +2.2
comp=Z,36µmcomp=Z,11µmcomp=Z,352nm,1.2s
TNTI Ternate 41.59 287 P P 03 40 38.2 -0.3
TNTI IAmb IAmb 03 40 57.7
comp=Z,433nm,1.5s
TNTI Ternate 41.59 287 P P 03 40 38.9 +0.4
comp=Z,30µmcomp=Z,7µmcomp=Z,193nm,2.3s
SANI Sanana 41.91 283 P P 03 40 41.2 +0.1
comp=Z,52µmcomp=Z,17µmcomp=Z,489nm,2.0s
SANI Sanana 41.91 283 P P 03 40 42.7 +1.6
PAE Paea 42.18 101 *e*P P 03 40 44.6 +1.3
comp=Z,25nm,1.1s
PAE *e*ScP ScP 03 46 21.8 -4.1
comp=Z,21nm,1.5s
PPT2 Papeete2 42.19 101 *e*P P 03 40 45.0 +1.6
comp=Z,88nm,1.0s
PPT2 *e*ScP ScP 03 46 22.4 -3.6
comp=Z,102nm,1.5s
PPT2 *e*S S 03 47 02.4 +0.5
comp=Z,46µm,28.8s
PPT2 *e*LQ LQ 03 50 44.3
comp=Z,180µm,29.5s
PPT2 *e*LR LR 03 52 31.0
comp=Z,118µm,24.5s,baz=263
PPT Papeete 42.19 101 P P 03 40 44.2 +0.9
comp=Z,92nm,0.8s,baz=54,slow=2.8,SNR=13
PPT LR LR 03 54 17.1
comp=Z,29µm,20.0s,baz=276,slow=30
BATI Baumata 42.19 270 P P 03 40 44.6 +1.2
comp=Z,239nm,1.1s,baz=127,slow=5.0,SNR=28
BATI Baumata 42.19 270 P P 03 40 44.9 +1.4
comp=Z,30µmcomp=Z,6µmcomp=Z,340nm,1.3s
PPTF Pamatai, Papee 42.20 101 P P 03 40 45.1 +1.6
PPTF IAmb IAmb 03 41 21.4
comp=Z,234nm,1.2s
PPTF Pamatai, Papee 42.20 101 P P 03 40 46.8 +3.3
TBI Tubuai 42.46 109 *e*P P 03 40 46.9 +1.4
comp=Z,392nm,0.8s
TBI *e*S S 03 47 06.1 +0.4
comp=Z,34µm,29.5s
TBI *e*LQ LQ 03 50 50.6
comp=Z,139µm,27.8s
TBI *e*LR LR 03 52 38.3
comp=Z,167µm,24.2s,baz=283
MMRI Maumere 43.85 272 P P 03 40 56.6 -0.2
MMRI Maumere 43.85 272 P P 03 40 56.2 -0.7
comp=Z,47µmcomp=Z,13µmcomp=Z,394nm,1.2s
PMOR Pomariorio Ree 43.94 97 *e*P P 03 40 59.5 +2.0
comp=Z,722nm,1.1s
PMOR *e*ScP ScP 03 46 29.3 -3.7
comp=Z,245nm,1.4s
VAH Vaihoa 44.18 98 *e*P P 03 41 01.1 +1.7
comp=Z,356nm,1.1s
VAH *e*ScP ScP 03 46 30.3 -3.7
comp=Z,161nm,1.5s
BBSI Bau Bau 44.22 276 P P 03 41 02.6 +2.8
comp=Z,694nmcomp=Z,26nm,1.2s
KMSI Cibinong 44.67 285 P P 03 41 07.7 +4.3
PSA00 Pilbara Seismi 45.11 253 P P 03 41 06.8 -0.2
PSA00 Pilbara Seismi 45.11 253 P P 03 41 07.2 +0.3
PSA00 IAmb IAmb 03 41 19.7
comp=Z,2µm,2.5s
PSA00 Pilbara Seismi 45.11 253 P P 03 41 08.3 +1.4
BASI Baing, Sumba 45.18 269 P P 03 41 07.9 +0.4
comp=Z,14µmcomp=Z,645nm,1.9s
MBWA Marble Bar 45.21 254 IAMs_20 IAMs_20 04 00 06.8
comp=Z,118µm,18.0s
LUWI Luwuk 45.27 283 P P 03 41 09.4 +1.1
LUWI Luwuk 45.27 283 P P 03 41 08.6 +0.4
comp=Z,51µmcomp=Z,17µmcomp=Z,406nm,1.3s
GTOI Gorontalo 45.60 285 P P 03 41 12.2 +1.4
comp=Z,16µmcomp=Z,4µmcomp=Z,99nm,1.4s
DAV Davao City (W) 45.82 295 P P 03 41 13.5 +1.0
comp=Z,140nm,0.4s,baz=80,slow=6.1,SNR=6.6
DAV Davao City (W) 45.82 295 P P 03 41 12.2 -0.4
BSSI Bau Bau, Buton 46.07 275 P P 03 41 14.4 -0.2
comp=Z,25µmcomp=Z,7µmcomp=Z,108nm,1.8s
APSI Ampana 46.38 282 P P 03 41 17.9 +0.9
comp=Z,30µmcomp=Z,8µmcomp=Z,279nm,1.6s
WBSI Waikabubak, Su 46.43 270 P P 03 41 17.5 0.0
comp=Z,10µmcomp=Z,279nm,1.0s
MRSI Marisa 46.55 284 P P 03 41 16.7 -1.6
comp=Z,44µmcomp=Z,6µmcomp=Z,124nm,0.9s
MEEK Meekatharra 46.57 246 P P 03 41 19.3 +0.9
BKSI Bulukumba 46.62 276 P P 03 41 19.1 +0.2
comp=Z,43µmcomp=Z,9µmcomp=Z,148nm,2.0s
BNSI Bone 46.86 277 P P 03 41 21.2 +0.4
comp=Z,47µmcomp=Z,12µmcomp=Z,302nm,1.6s
KAPI Kappang 47.05 276 P P 03 41 22.5 +0.3
comp=Z,97nm,1.1s,baz=101,slow=4.3,SNR=32
KAPI Kappang 47.05 276 P P 03 41 22.1 -0.2
KAPI Kappang 47.05 276 P P 03 41 24.5 +2.2
KAPI P P 03 41 24.5 +2.2
JCJ Chichijima 47.21 330 P P 03 41 22.4 -0.8
comp=Z,279nm,0.7s,baz=222,slow=1.5,SNR=20
JCJ LR LR 04 00 12.2
comp=Z,21µm,21.1s,baz=154,slow=35
JCJ Chichijima 47.21 330 P P 03 41 23.1 -0.2
JCJ Chichijima 47.21 330 P P 03 41 25.1 +1.9
SPSI Sidrap Palu 47.30 278 P P 03 41 23.4 -0.8
comp=Z,45µmcomp=Z,8µmcomp=Z,146nm,1.3s
TTSI Tana Toraja 47.50 279 P P 03 41 26.3 +0.6
comp=Z,41µmcomp=Z,8µmcomp=Z,124nm,1.4s
TOLI2 Tolitoli 47.86 284 P P 03 41 28.0 -0.5
TOLI2 Tolitoli 47.86 284 P P 03 41 29.5 +1.0
KLBR Kellerberrin 48.00 240 P P 03 41 28.6 -0.8
PLAI Plampang 48.15 271 P P 03 41 30.3 -0.5
comp=Z,49µmcomp=Z,14µmcomp=Z,395nm,1.1s
PLAI Plampang 48.15 271 P P 03 41 32.6 +1.8
MPSI Mapaga 48.44 283 P P 03 41 32.9 -0.1
comp=Z,44µmcomp=Z,11µmcomp=Z,302nm,1.2s
NWAO Narrogin (SRO) 48.67 238 IAMs_20 IAMs_20 04 01 40.3
comp=Z,100µm,20.0s
BLDU Ballidu 48.73 241 P P 03 41 35.3 +0.2
MORW Morawa 49.10 244 P P 03 41 37.6 -0.3
MORW Morawa 49.10 244 P P 03 41 38.9 +0.9
RKGY Rocky Gully 49.22 236 P P 03 41 39.8 +1.1
MUN Mundaring 49.36 240 P P 03 41 42.3 +2.4
OPA Opana 49.53 45 P P 03 41 43.2 +2.0
OPA pmax pmax
comp=Z,4µm,2.7s
OPA Opana 49.53 45 P P 03 41 43.2 +2.0
AIN Ainahou 49.85 49 P P 03 41 44.8 +1.0
HMH Humu'ula Sheep 49.97 49 P P 03 41 46.2 +1.2
SDHHI Sand Hill 49.98 49 P P 03 41 46.0 +1.1
POHA Pohakuloa 50.03 49 IAMs_20 IAMs_20 03 58 02.9
comp=Z,93µm,21.0s
POHA Pohakuloa 50.03 49 P P 03 41 48.4 +3.1
HPAH Hawaii Prepara 50.09 48 P P 03 41 46.9 +1.3
GIRL Giralia 50.34 252 P P 03 41 46.5 -0.9
GIRL Giralia 50.34 252 P P 03 41 49.9 +2.5
DNP Denpasar 50.67 270 P P 03 41 50.4 +0.4
comp=Z,816nm,0.9s
IGBI Denpasar 50.70 270 P P 03 41 51.1 +0.8
comp=Z,24µmcomp=Z,16µmcomp=Z,1µm,1.0s
SMKI Samarinda 50.75 281 P P 03 41 52.6 +2.0
comp=Z,73µmcomp=Z,20µmcomp=Z,274nm,0.5s
SRBI Singaraja 50.78 271 P P 03 41 50.6 -0.2
comp=Z,42µmcomp=Z,12µmcomp=Z,422nm,1.4s
BKB Balikpapan 50.80 280 P P 03 41 53.7 +2.7
comp=Z,62µmcomp=Z,15µmcomp=Z,284nm,1.9s
JAGI Jajag, Banyuwa 51.73 270 P P 03 41 57.1 -0.9
JAGI Jajag, Banyuwa 51.73 270 P P 03 41 57.4 -0.6
comp=Z,40µmcomp=Z,12µmcomp=Z,584nm,1.8s
JAGI Jajag, Banyuwa 51.73 270 P P 03 41 59.7 +1.7
ABJI Asem Bagus 51.78 271 P P 03 41 58.3 -0.1
comp=Z,47µmcomp=Z,17µmcomp=Z,614nm,1.2s
BBKI Banjar Baru 52.18 276 P P 03 42 01.5 +0.1
comp=Z,31µmcomp=Z,9µmcomp=Z,180nm,1.7s
KMMI Kalianget 52.20 272 P P 03 42 00.8 -0.7
comp=Z,45µmcomp=Z,13µmcomp=Z,263nm,1.9s
TAOE Nuku Hiva Isla 52.28 90 *e*P P 03 42 04.4 +2.2
comp=Z,291nm,1.1s
TAOE *e*S S 03 49 24.9 -1.0
comp=Z,37µm,27.2s
TAOE *e*LR LR 03 57 13.3
comp=Z,125µm,22.8s,baz=260
TAOE Nuku Hiva Isla 52.28 90 P P 03 42 04.8 +2.6
TAOE IAmb IAmb 03 42 09.2
comp=Z,104nm,1.0s
BLJI Banyuglugur 52.41 271 P P 03 42 02.8 -0.3
comp=Z,24µmcomp=Z,7µmcomp=Z,312nm,1.2s
GMJI Gumukmas 52.46 270 P P 03 42 02.8 -0.6
comp=Z,35µmcomp=Z,9µmcomp=Z,216nm,2.0s
MTKI Muara Teweh, K 52.81 280 P P 03 42 06.7 +0.7
SPMM Sapulut 53.15 287 P P 03 42 10.0 +1.4
TGY Tagaytay City 53.17 300 LR LR 04 04 43.4
comp=Z,18µm,19.4s,baz=117,slow=36
JHJ Hachijo jima 2 53.38 332 LR LR 04 05 05.3
comp=Z,18µm,19.0s,baz=126,slow=36
BWJI Bawean 53.72 273 P P 03 42 11.3 -1.5
comp=Z,55µmcomp=Z,129nm,0.6s
KKM Kota Kinabalu 53.87 288 P P 03 42 14.3 +0.4
KKM Kota Kinabalu 53.87 288 P P 03 42 15.9 +2.0
PWJI Pagerwojo 54.10 270 P P 03 42 15.4 -0.1
comp=Z,9µmcomp=Z,275nm,2.0s
TBJI Tambak Boyo 54.30 272 P P 03 42 17.1 +0.1
comp=Z,159nm,1.5s
PCJI Pacitan 54.67 270 P P 03 42 20.7 +1.0
comp=Z,41µmcomp=Z,14µmcomp=Z,661nm,2.0s
JOW Kunigami 55.08 317 P P 03 42 22.6 +0.3
JOW Kunigami 55.08 317 P P 03 42 24.4 +2.1
UWJI Ujung Watu 55.26 272 P P 03 42 24.4 +0.5
comp=Z,38µmcomp=Z,310nm,1.9s
UGM Wanagama 55.36 270 P P 03 42 24.7 0.0
UGM Wanagama 55.36 270 P P 03 42 25.7 +1.0
comp=Z,45µmcomp=Z,12µmcomp=Z,676nm,1.4s
UGM Wanagama 55.36 270 P P 03 42 26.5 +1.8
PBKI Pangkalan Bun 55.43 276 P P 03 42 25.5 +0.3
comp=Z,45µmcomp=Z,9µmcomp=Z,148nm,0.7s
YOGI Yogyakarta 55.60 270 P P 03 42 26.4 0.0
comp=Z,21µmcomp=Z,11µmcomp=Z,614nm,1.4s
SMRI Semarang 55.62 271 P P 03 42 27.6 +1.1
comp=Z,52µmcomp=Z,20µmcomp=Z,542nm,2.1s
JYT Yasato 55.81 334 P P 03 42 27.2 -0.2
STKI Sintang 56.37 280 P P 03 42 35.5 +3.6
comp=Z,28µmcomp=Z,13µmcomp=Z,131nm,1.6s
SBUM Sibu 56.38 282 P P 03 42 31.5 -0.4
SBUM Sibu 56.38 282 P P 03 42 33.0 +1.1
INU Inuyama 56.50 331 P P 03 42 33.0 +0.6
INU Inuyama 56.50 331 P P 03 42 35.3 +2.9
JGF Kuroka 56.55 331 P P 03 42 32.9 +0.1
JGF IAmb IAmb 03 42 37.0
comp=Z,101nm,0.8s
JMN Monobe 56.77 327 P P 03 42 34.8 +0.4
MJAR Matsushiro Arr 56.94 333 P P 03 42 34.8 -0.7
comp=Z,236nm,0.9s,baz=100,slow=4.2,SNR=50
MJAR LR LR 04 09 47.8
comp=Z,11µm,18.0s,baz=147,slow=39
MJAR Matsushiro Arr 56.94 333 P P 03 42 34.8 -0.7
MJB9 Matsu-Tunnel 56.95 333 P P 03 42 35.1 -0.4
JMM Marumori 56.97 336 P P 03 42 35.8 +0.1
JSU Suzuyama 57.00 323 P P 03 42 36.5 +0.4
KPJI Karang Pucung 57.03 270 P P 03 42 36.5 0.0
comp=Z,51µmcomp=Z,11µmcomp=Z,410nm,1.1s
YOJ Yonaguni jima 57.22 312 P P 03 42 38.1 +0.4
YOJ pmax pmax
comp=Z,620nm,1.4s
YOJ Yonaguni jima 57.22 312 P P 03 42 38.0 +0.4
YOJ Yonaguni jima 57.22 312 P P 03 42 38.8 +1.2
CMJI Cimerak 57.40 270 P P 03 42 38.0 -1.2
comp=Z,24µmcomp=Z,5µmcomp=Z,169nm,1.3s
TWG Pinlang 57.70 309 P P 03 42 40.6 -0.4
TWG IAmb IAmb 03 42 56.5
comp=Z,244nm,1.3s
JCJI Jatiwangi 57.84 271 P P 03 42 42.2 -0.1
YULB Yu-li 57.85 309 P P 03 42 41.7 -0.5
YULB IAmb IAmb 03 43 02.4
comp=Z,148nm,0.9s
KSM Kuching 57.90 281 P P 03 42 42.7 0.0
KSM Kuching 57.90 281 P P 03 42 43.0 +0.3
JNU Nakatsue 57.95 325 P P 03 42 42.5 -0.2
comp=Z,302nm,0.9s,baz=110,slow=3.9,SNR=33
JNU LR LR 04 04 18.0
comp=Z,26µm,21.4s,baz=130,slow=32
JNU Nakatsue 57.95 325 P P 03 42 43.3 +0.6
JNU Nakatsue 57.95 325 P P 03 42 46.1 +3.4
NACB Ninganchiao 58.08 310 P P 03 42 43.9 +0.1
JHS Saijyo 58.16 328 P P 03 42 44.0 -0.1
JSD Sado 58.17 334 P P 03 42 44.2 +0.1
TPUB Ta-pu 58.30 309 P P 03 42 44.7 -0.7
TPUB Ta-pu 58.30 309 P P 03 42 46.6 +1.3
SSLB Suanglung 58.34 310 P P 03 42 44.7 -0.9
SSLB IAmb IAmb 03 42 48.8
comp=Z,231nm,1.1s
SSLB Suanglung 58.34 310 P P 03 42 46.8 +1.2
LEM Lembang 58.41 271 LR LR 04 07 48.9
comp=Z,29µm,21.7s,baz=91,slow=36
LEM Lembang 58.41 271 P P 03 42 46.7 +0.2
comp=Z,22µmcomp=Z,8µmcomp=Z,360nm,2.0s
YHNB Yeheng 58.53 311 P P 03 42 46.6 -0.4
YHNB Yeheng 58.53 311 P P 03 42 49.4 +2.4
TATO Taipei 58.63 311 P P 03 42 47.2 -0.3
TATO Taipei 58.63 311 P P 03 42 49.9 +2.3
TATO P P 03 42 49.9 +2.3
CNJI Cibinong 58.78 270 P P 03 42 47.2 -1.7
comp=Z,37µmcomp=Z,12µmcomp=Z,511nm,0.9s
CBJI Citeko 59.24 271 P P 03 42 51.6 -0.4
comp=Z,43µmcomp=Z,29µmcomp=Z,687nm,0.9s
DBJI Dramaga 59.30 271 P P 03 42 52.0 -0.5
comp=Z,32µmcomp=Z,18µmcomp=Z,470nm,2.1s
JTM Tenmabayashi 59.40 338 P P 03 42 53.4 +0.8
SKJI Sukabumi 59.40 270 P P 03 42 55.9 +2.7
comp=Z,2µmcomp=Z,194nm,0.7s
XMIS Christmas Isla 59.62 266 P P 03 42 54.5 -0.2
ERM Erimo 59.74 340*ce*P P 03 42 55.0 +0.1
ERM pmax pmax
comp=Z,93nm,0.7s
ERM MLR MLR
comp=Z,38µm,18.0s
ERM Erimo 59.74 340 P P 03 42 56.1 +1.2
ERM IAmb IAmb 03 43 03.0
comp=Z,88nm,0.7s
ERM Erimo 59.74 340 IAMs_20 IAMs_20 04 04 11.0
comp=Z,61µm,22.0s
ERM Erimo 59.74 340 P P 03 42 57.7 +2.8
CGJI Cibinong 60.32 270 P P 03 42 58.1 -1.4
comp=Z,12µmcomp=Z,403nm,1.7s
YUK Yuzh-Kuril'sk 60.74 343 *e*P P 03 43 03.5 +1.9
YUK *e* 03 43 46.8
YUK *e* 03 45 17.1
YUK *e*PPP PPP 03 46 41.7
YUK *e*S S 03 51 19.0 +2.5
YUK *e* 03 52 51.9
YUK *e*SS SS 03 55 19.6 +3.6
YUK pmax pmax
comp=Z,309nm,2.0s
YUK pmax pmax
comp=Z,410nm,1.1s
YUK pmax pmax
comp=E,393nm,1.3s
YUK pmax pmax
comp=N,211nm,1.2s
YUK MLR MLR
comp=Z,17µm,15.0s
YUK MLR MLR
comp=E,6µm,17.0s
YUK MLR MLR
comp=N,10µm,13.0s
QZH Quanzhou 60.76 309↑ *i*P P 03 43 02.9 +0.7
QZH S S 03 51 18.8 +1.2
QZH pmax pmax
comp=N,160nm,1.0s
QZH pmax pmax
comp=N,10µm,9.0s
QZH LR LR
comp=N,7µm,22.7s
QZH LR LR
comp=N,5µm,14.7s
QZH LR LR
comp=N,12µm,18.9s
BLSI Bandar Lampung 61.02 272 P P 03 43 02.4 -1.9
comp=N,7µmcomp=N,122nm,0.4s
JEW Eniwo 61.06 339 P P 03 43 05.1 +1.2
KUR Kuril'sk 61.31 345*c* *i*P P 03 42 59.6 -5.9
KUR *i*S S 03 51 19.4 -4.3
KUR pmax pmax
comp=N,7µm,15.7s
KUR pmax pmax
comp=E,3µm,15.7s
KUR pmax pmax
comp=Z,11µm,15.7s
KUR pmax pmax
comp=Z,590nm,1.5s
KUR MLR MLR
comp=N,42µm,17.0s
KUR MLR MLR

comp=E,8µm,17.0s
KUR MLR MLR
comp=Z,41µm,17.0s
KLI Kotabumi 61.51 272 P **P** **03 43 06.2 -1.4**
comp=Z,38µmcomp=Z,9µmcomp=Z,178nm,0.8s
KLSI 61.67 272 P **P** **03 43 07.5 -1.2**
comp=Z,14µmcomp=Z,3µmcomp=Z,46nm,1.4s
JKA Kamikawa-asahi 61.80 341 P **P** **03 43 10.2 +1.3**
JKA IAmb IAmb 03 43 27.7
comp=Z,170nm,1.0s
ASAJ Asahikawa 61.80 341 P **P** **03 43 09.8 +0.9**
comp=Z,106nm,0.8s,baz=206,slow=10,SNR=29
ASAJ LR LR 04 06 10.4
comp=Z,52µm,20.9s,baz=184,slow=32
LWLI Liwa 62.25 272 P **P** **03 43 12.2 -0.5**
comp=Z,221nm,0.9s
MDSI Maura Dua 62.26 272 P **P** **03 43 11.5 -1.1**
comp=Z,21µmcomp=Z,4µmcomp=Z,102nm,2.3s
TJN Taejon 62.30 325*c i*P **P** **03 43 13.7 +1.3**
TJN Taejon 62.30 325 P **P** **03 43 12.7 +0.3**
SSE Sheshan 62.56 316 P **P** **03 43 14.8 +0.6**
SSE S **S** **03 51 43.5 +3.4**
SSE pmax pmax
comp=Z,25nm,0.7s
SSE pmax pmax
comp=Z,3µm,8.7s
SSE LR LR
comp=Z,7µm,17.1s
SSE LR LR
comp=Z,9µm,17.8s
KSRS Korea Array 62.76 326 P **P** **03 43 16.1 +0.7**
comp=Z,45nm,0.8s,baz=140,slow=6.5,SNR=56
KSRS LR LR 04 07 20.9
comp=Z,18µm,21.7s,baz=130,slow=33
KSRS PKP2ab 04 12 30.6
comp=Z,1.7nm,1.0s,baz=335,slow=5.5,SNR=4.1
KSAR Wonju Array Be 62.78 326 P **P** **03 43 16.0 +0.4**
KSAR Wonju Array Be 62.78 326 P **P** **03 43 16.0 +0.4**
HKC Hong Kong Obse 62.80 304⇑P **P** **03 43 18.0 +2.0**
HKPS Hong Kong Po S 62.82 304 P **P** **03 43 16.8 +0.6**
KS19 Wonju Array Si 62.83 326 P **P** **03 43 16.3 +0.4**
KS19 IAmb IAmb 03 43 20.5
comp=Z,126nm,1.1s
DSRI Dabo 62.85 277 P **P** **03 43 17.3 +0.7**
comp=Z,27µmcomp=Z,6µmcomp=Z,79nm,0.9s
DLV T Lat 63.15 291 P **P** **03 43 18.3 -0.4**
DLV IAmb IAmb 03 43 23.2
comp=Z,259nm,1.5s
MCO Taipa Grande 63.21 304 P **P** **03 43 21.0 +2.2**
TPRI Tanjung Pinang 63.28 278 P **P** **03 43 19.5 +0.1**
comp=Z,57µmcomp=Z,8µmcomp=Z,157nm,1.1s
JMBI JAMBI 63.46 275 P **P** **03 43 21.5 +0.9**
MNAI Manna 63.47 272 P **P** **03 43 19.9 -0.8**
MNAI Manna 63.47 272 P **P** **03 43 19.9 -0.8**
comp=Z,40µmcomp=Z,11µmcomp=Z,306nm,2.2s
INCN Inchon 63.49 325 P **P** **03 43 20.3 -0.1**
INCN pmax pmax
comp=Z,518nm,1.7s
INCN Inchon 63.49 325 P **P** **03 43 20.3 -0.1**
VNDA Vanda 63.64 181 P **P** **03 43 19.7 -1.1**
comp=Z,30nm,0.8s,baz=352,slow=8.0,SNR=71
VNDA S **S** **03 51 48.6 -3.8**
comp=Z,1.4nm,0.9s,baz=256,slow=14,SNR=1.6
VNDA LR LR 04 08 54.2
comp=Z,14µm,18.9s,baz=36,slow=34
VNDA PKPPKP **P'P'df** **04 12 22.7 +4.2**
comp=Z,5.1nm,1.1s,baz=250,slow=7.4,SNR=6.6
VNDA Vanda 63.64 181 P **P** **03 43 20.0 -0.7**
VNDA pmax pmax
comp=Z,116nm,1.0s
VNDA Vanda 63.64 181 P **P** **03 43 20.0 -0.7**
VNDA IAmb IAmb 03 43 29.6
comp=Z,116nm,0.9s
GZH Guangzhou 63.86 305 P **P** **03 43 25.2 +2.2**
GZH PP **PP** **03 45 46.3 +2.4**
GZH S **S** **03 52 02.0 +5.3**
GZH pmax pmax
comp=Z,12µm,9.0s
GZH LR LR
comp=Z,9µm,17.9s
GZH LR LR
comp=Z,11µm,17.2s
SBA Scott Base 63.93 180 P **P** **03 43 22.3 -0.3**
SBA pmax pmax
comp=Z,265nm,0.9s
SBA Scott Base 63.93 180 P **P** **03 43 22.3 -0.3**
CASY Casey 64.05 202 P **P** **03 43 22.6 -1.0**
CASY IAmb IAmb 03 43 43.8
comp=Z,132nm,0.9s
CASY Casey 64.05 202 IAMs_20 IAMs_20 04 05 08.0
comp=Z,48µm,22.0s
MYKOM Kota Tinggi 64.17 279 P **P** **03 43 24.8 -0.5**
MYKOM IAmb IAmb 03 43 29.6
comp=Z,142nm,1.2s
MYKOM Kota Tinggi 64.17 279 P **P** **03 43 26.0 +0.7**
YSS Yuzh-Sakhalins 64.30 342*α i*P **P** **03 43 26.1 +0.7**
YSS *e**SP **sP** **03 43 36.2 -1.0**
YSS *e* 03 45 42.5
YSS *e*S **S** **03 51 58.8 -2.4**
YSS *e*PPS PPS 03 52 23.4
YSS *e*SSS SSS 03 59 02.5
YSS pmax pmax
comp=Z,9µm,7.2s
YSS pmax pmax
comp=N,3µm,8.0s
YSS pmax pmax
comp=E,900nm,8.9s
YSS pmax pmax
comp=Z,200nm,0.9s
YSS Yuzh-Sakhalins 64.30 342 P **P** **03 43 26.2 +0.7**
YSS IAMs_20 IAMs_20 04 08 11.5
comp=Z,53µm,21.0s
HJU Haeju 64.40 325 P **P** **03 43 27.4 +1.2**
HJU sP **pwP** **03 43 45.6 +6.7**
HJU S **S** **03 52 04.7 +1.9**
HJU AmB
comp=Z,577nm,1.3s
HJU AMS AMS
comp=N,1µm,0.8s
HJU AMS AMS
comp=E,26µm,15.9s
HJU AMS AMS
comp=Z,42µm,25.4s
MASI Maura Aman, Be 64.45 273 P **P** **03 43 24.7 -2.5**
comp=Z,35µmcomp=Z,6µmcomp=Z,243nm,0.9s
NJ2 Nanjing 64.71 316*i*P **P** **03 43 29.2 +0.8**
NJ2 pP **sP** **03 43 38.7 -1.6**
NJ2 sP **pwP** **03 43 43.0 +1.9**
NJ2 S **S** **03 51 58.5 -8.4**
NJ2 ScS **SKSac** **03 53 17.0 -4.0**
NJ2 SS **SS** **03 56 21.5 +2.8**
NJ2 pmax pmax
comp=Z,61nm,0.8s
NJ2 pmax pmax
comp=Z,8µm,9.0s
NJ2 LR LR
comp=Z,14µm,20.1s
NJ2 LR LR
comp=Z,16µm,20.1s
NJ2 LR LR
comp=Z,31µm,19.6s
TEY Ternei 64.72 337⇓*e*P **P** **03 43 28.1 -0.1**
TEY *e* 03 52 03.3
TEY pmax pmax
comp=N,10.0nm,1.3s
TEY pmax pmax
comp=Z,20nm,1.3s
TEY pmax pmax
comp=Z,500nm,8.2s
TEY pmax pmax
comp=E,200nm,6.9s
TEY pmax pmax
comp=N,200nm,8.5s
TEY pmax pmax
comp=E,400nm,9.5s
TEY pmax pmax
comp=N,200nm,16.2s
HHU Hamhung 64.78 328 P **P** **03 43 29.7 +1.0**
HHU sP **pwP** **03 43 42.4 +0.9**
HHU S **S** **03 52 08.2 +0.7**
HHU AmB
comp=Z,766nm,1.8s
HHU AMS AMS
comp=N,1µm,18.3s
HHU AMS AMS
comp=E,2µm,21.2s
HHU AMS AMS
comp=Z,169nm,2.4s
QIZ Qiongzhong 64.86 299 P **P** **03 43 31.1 +1.4**
QIZ sP **pwP** **03 43 45.0 +2.7**
QIZ S **S** **03 52 06.8 -2.4**
QIZ ScS **SKSac** **03 53 15.2 -7.4**
QIZ pmax pmax
comp=Z,130nm,1.2s
QIZ pmax pmax
comp=Z,8µm,13.9s
QIZ LR LR
comp=Z,10µm,25.5s
QIZ LR LR
comp=Z,13µm,14.3s
QIZ LR LR
comp=Z,17µm,25.5s
SKR Severo-Kuril's 65.00 353*c i*P **P** **03 43 29.5 -0.4**
SKR *e*S **S** **03 52 09.7 0.0**
SKR pmax pmax
comp=Z,4µm,10.8s
SKR pmax pmax
comp=Z,3µm,9.8s
SKR pmax pmax
comp=Z,105nm,0.8s
SKR smax smax
comp=N,5µm,15.1s
SKR smax smax
comp=E,6µm,17.0s
SKR smax smax
comp=E,5µm,14.3s
SKR smax smax
comp=N,4µm,14.4s
SKR MLR MLR
comp=Z,12µm,18.0s
SKR MLR MLR
comp=Z,12µm,18.0s
MSHR Mys Shultsa 65.02 332*ce*P **P** **03 43 30.9 +0.7**
MSHR pmax pmax
comp=Z,152nm,1.3s
PYAG Pyongyang 65.09 326 P **P** **03 43 31.8 +1.1**
PYAG sP **pwP** **03 43 45.0 +1.5**
PYAG S **S** **03 52 14.0 +2.6**
PYAG AmB
comp=Z,397nm,0.9s
PYAG AMS AMS
comp=N,7µm,18.3s
PYAG AMS AMS
comp=E,2µm,5.3s
PYAG AMS AMS
comp=Z,1µm,4.0s
VLA Vladivostok 65.11 333*c i*P **P** **03 43 31.3 +0.5**
VLA pmax pmax
comp=Z,341nm,1.2s
VLA MLR MLR
comp=Z,22µm,20.0s
KRJI Kerinci 65.46 274 P **P** **03 43 34.4 +0.6**
comp=Z,36µmcomp=Z,256nm,1.0s
USA0B Ussuriysk Arra 65.92 333 P **P** **03 43 37.3 +1.3**
USA0B pmax pmax
comp=Z,391nm,1.1s
USA0B Ussuriysk Arra 65.92 333 P **P** **03 43 37.3 +1.3**
USRK Ussuriysk Ar. 65.92 333 P **P** **03 43 36.9 +0.9**
comp=Z,226nm,1.0s,baz=140,slow=5.6,SNR=59
USRK S **S** **03 52 21.4 +0.1**
comp=Z,1.0nm,0.6s,baz=236,slow=48,SNR=1.1
USRK LR LR 04 09 15.0
comp=Z,14µm,21.6s,baz=135,slow=33
USRK Ussuriysk Ar. 65.92 333 P **P** **03 43 36.8 +0.8**
USRK Ussuriysk Ar. 65.92 333 P **P** **03 43 36.8 +0.8**
JRMM Jerantut 66.08 281 P **P** **03 43 39.0 +1.3**
UGL Uglegorsk 66.41 343 *e*P **P** **03 43 39.2 +0.2**
UGL *e*S **S** **03 52 25.0 -2.0**
UGL *e* 03 56 48.0
UGL pmax pmax
comp=Z,9µm,8.1s
UGL pmax pmax
comp=Z,330nm,0.8s
UGL smax smax
comp=E,6µm,10.0s
UGL smax smax
comp=N,9µm,9.2s
UGL MLR MLR
comp=E,7µm,19.0s
UGL MLR MLR
comp=N,16µm,18.0s
UGL MLR MLR
comp=Z,13µm,19.0s
BKNI Bangkinang 66.48 277 P **P** **03 43 39.2 -1.0**
BKNI Bangkinang 66.48 277 P **P** **03 43 40.8 +0.5**
comp=Z,49µmcomp=Z,11µmcomp=Z,515nm,1.2s
SUJ Sinuiju 66.53 326 P **P** **03 43 40.5 +0.5**
SUJ sP **pwP** **03 43 55.4 +2.7**
SUJ S **S** **03 52 31.0 +2.2**
SUJ AmB
comp=Z,3µm,3.4s
SUJ AMS AMS
comp=N,25µm,20.1s
SUJ AMS AMS
comp=E,35µm,27.9s
SUJ AMS AMS
comp=Z,32µm,25.0s
SHEM Shemya Is, Ala 66.69 5 P **P** **03 43 40.7 0.0**
comp=Z,120nm,0.9s,baz=15,slow=5.1,SNR=8.1
SHEM LR LR 04 06 47.8
comp=Z,44µm,21.9s,baz=188,slow=30
PPSI Pulau Pagai 66.70 273 P **P** **03 43 41.9 +0.2**
comp=Z,45µmcomp=Z,10µmcomp=Z,418nm,2.3s
WHN Wuhan 66.99 312⇑P **P** **03 43 43.1 0.0**
WHN S **S** **03 52 36.4 +1.6**
WHN pmax pmax
comp=Z,350nm,1.2s
WHN LR LR
comp=Z,26µm,15.5s
WHN LR LR
comp=Z,21µm,19.4s
WHN LR LR
comp=Z,43µm,20.0s
KIWB Kanaga Island 67.00 11 P **P** **03 43 44.2 +1.5**
PET Petropavlovsk 67.04 355*i*P **P** **03 43 42.1 -0.8**
PET *e* 03 44 11.4
PET *e*S **S** **03 52 33.4 -1.1**
PET *e*SS **SS** **03 56 54.8 +0.7**
PET pmax pmax
comp=Z,149nm,1.5s
PET pmax pmax
comp=Z,14µm,15.7s
PET pmax pmax
comp=Z,10µm,14.1s
PET smax smax
comp=E,7µm,10.4s
PET smax smax
comp=E,8µm,12.6s
PET MLR MLR
comp=Z,24µm,19.0s
PET MLR MLR
comp=Z,20µm,18.0s
PET Petropavlovsk 67.04 355 IAMs_20 IAMs_20 04 07 37.4
comp=Z,36µm,21.0s
PET Petropavlovsk 67.04 355 P **P** **03 43 47.5 +4.6**
ADK Adak 67.11 11 P **P** **03 43 44.6 +1.1**
ADK pmax pmax
comp=Z,248nm,1.3s
ADK Adak 67.11 11 P **P** **03 43 44.5 +1.1**
ADK Adak 67.11 11 IAMs_20 IAMs_20 04 07 26.1
comp=Z,51µm,20.0s
ADK Adak 67.11 11 P **P** **03 43 45.9 +2.4**
UBPT Khong Chiam 67.13 293 P **P** **03 43 43.6 -0.7**
UBPT IAmb IAmb 03 43 48.9
comp=Z,127nm,1.2s
PEA0B Petropavlovsk- 67.21 354*ce*P **P** **03 43 43.9 -0.2**
PEA0B Petropavlovsk- 67.21 354 P **P** **03 43 44.8 +0.7**
PETK Petropavlovsk- 67.21 354 P **P** **03 43 43.3 -0.8**
comp=Z,73nm,0.8s,baz=178,slow=10,SNR=45
PETK PcP **PcP** **03 44 13.9 +2.0**
comp=Z,40nm,0.9s,baz=161,slow=6.0,SNR=4.8
PETK LR LR 04 07 47.3
comp=Z,31µm,21.6s,baz=165,slow=31
PETK PKP2bc 04 12 14.4
comp=Z,3.3nm,0.9s,baz=151,slow=3.4,SNR=4.0
PETK Petropavlovsk- 67.21 354 P **P** **03 43 44.5 +0.4**
MDJ Mudanjiang 67.31 332 P **P** **03 43 45.6 +0.7**
MDJ S **S** **03 52 43.7 +5.5**
MDJ pmax pmax
comp=Z,87nm,1.0s
MDJ pmax pmax
comp=Z,10µm,10.0s
MDJ LR LR
comp=Z,15µm,21.4s
MDJ LR LR
comp=Z,14µm,22.8s
MDJ LR LR
comp=Z,29µm,24.5s
DL2 Dalian 67.32 323⇑*i*P **P** **03 43 45.6 +0.5**
DL2 S **S** **03 52 36.0 -2.5**
DL2 pmax pmax
comp=Z,230nm,0.8s
DL2 pmax pmax
comp=Z,7µm,9.8s
DL2 LR LR
comp=Z,18µm,19.0s
DL2 LR LR
comp=Z,19µm,26.5s
DL2 LR LR
comp=Z,28µm,22.4s
GSTR Great Sitkin T 67.43 11 P **P** **03 43 48.1 +2.5**
IPM Ipoh 67.64 281 P **P** **03 43 47.2 -0.4**
IPM Ipoh 67.64 281 P **P** **03 43 48.0 +0.3**
COCO West Island 67.83 262 IAMs_20 IAMs_20 04 10 56.9
comp=Z,57µm,20.0s
TYV Tymovskoe 67.86 344 *e*P **P** **03 43 50.4 +2.2**
TYV *e*S **S** **03 52 49.9 +5.5**
TYV pmax pmax
comp=Z,7µm,8.1s
TYV pmax pmax
comp=Z,64nm,1.4s
TYV smax smax
comp=N,2µm,6.4s
TYV smax smax
comp=E,3µm,6.4s
ATKA Atka Island 67.91 13 P **P** **03 43 50.4 +1.9**
SISI Saibi 67.94 274 P **P** **03 43 50.1 +0.5**
comp=E,25µmcomp=E,5µmcomp=E,76nm,1.0s
MNSI Mandailing Nat 68.01 277 P **P** **03 43 49.7 -0.3**
comp=E,7µmcomp=E,139nm,1.1s
KULM Kulim 68.23 282 P **P** **03 43 50.5 -0.9**
KULM IAmb IAmb 03 43 55.3
comp=Z,189nm,1.2s
KULM Kulim 68.23 282 P **P** **03 43 52.0 +0.6**
SNY Shenyang 68.23 327⇓P **P** **03 43 50.5 -0.2**
SNY S **S** **03 52 52.9 +3.7**
SNY pmax pmax
comp=Z,100nm,0.9s
SNY pmax pmax
comp=Z,9µm,11.4s
SNY LR LR
comp=Z,21µm,17.8s
SNY LR LR
comp=Z,14µm,19.0s
SNY LR LR
comp=Z,28µm,22.6s
TIA Tai'an 68.37 319⇑P **P** **03 43 51.6 -0.2**
TIA S **S** **03 52 52.8 +1.6**
TIA pmax pmax
comp=Z,140nm,1.2s
TIA LR LR
comp=Z,11µm,16.7s
TIA LR LR
comp=Z,10µm,18.1s
TIA LR LR
comp=Z,23µm,18.6s
CN2 Changchun 68.67 329 *e*P **P** **03 43 52.3 -1.2**
CN2 *es*P pwP 03 44 06.6 +0.3
CN2 *e*S **S** **03 52 52.4 -2.1**
CN2 *e*SS **SS** **03 57 19.3 -0.5**
CN2 pmax pmax
comp=Z,130nm,0.9s
CN2 pmax pmax
comp=Z,8µm,6.0s
CN2 LR LR
comp=Z,14µm,20.0s
CN2 LR LR
comp=Z,16µm,20.0s
CN2 LR LR
comp=Z,26µm,22.0s
BNX BinXian 69.17 332⇓P **P** **03 43 56.9 +0.4**
BNX pP **sP** **03 44 07.8 -0.6**
BNX sP **pwP** **03 44 12.1 +2.8**
BNX S **S** **03 52 56.0 -4.3**
BNX pmax pmax
comp=Z,120nm,1.0s
BNX pmax pmax
comp=Z,14µm,12.0s
BNX LR LR
comp=Z,8µm,15.8s
BNX LR LR
comp=Z,14µm,17.4s
BNX LR LR
comp=Z,14µm,18.1s
PSI Prapat 69.18 278 LR LR 04 16 32.8
comp=Z,28µm,19.2s,baz=116,slow=38
GRNR Gornyy 69.65 340⇑*i*P **P** **03 44 00.7 +1.3**
GRNR *e*S **S** **03 53 11.2 +5.4**
GRNR pmax pmax
comp=N,10.0nm,1.2s
GRNR pmax pmax
comp=Z,40nm,1.0s
GRNR smax smax
comp=N,3.0nm,0.6s
TSI Tuntungan 69.71 279 P **P** **03 44 03.5 +2.9**
comp=N,43µmcomp=N,19µmcomp=N,368nm,0.8s
NIKH Nikolski High 69.88 15 P **P** **03 44 01.4 +0.7**
NIKH Nikolski High 69.88 15 P **P** **03 43 59.1 -1.7**
baz=205,SNR=9.0
KLR Kul'dur 70.05 336 S **S** **03 53 09.8 -0.7**
comp=N,0.2nm,0.3s,baz=249,slow=23,SNR=0.9
KLR LR LR 04 11 30.4
comp=N,23µm,21.4s,baz=154,slow=33
KLR Kul'dur 70.05 336*ce*P **P** **03 44 02.5 +0.6**
KLR pmax pmax
comp=Z,160nm,1.2s
GSI Gunungsitoli 70.08 277 P **P** **03 44 01.6 -1.2**
GSI IAMs_20 IAMs_20 04 15 20.2
comp=Z,60µm,21.0s
GSI Gunungsitoli 70.08 277 P **P** **03 44 02.2 -0.6**
comp=Z,44µmcomp=Z,12µmcomp=Z,247nm,0.9s
GSI Gunungsitoli 70.08 277 P **P** **03 44 05.3 +2.5**
SRIT Nakonsritamara 70.22 285 P **P** **03 44 03.4 -0.3**
NKL Nikolayevsk 70.45 344 *e*P **P** **03 44 04.3 +0.1**
NKL *e* 03 44 24.7
NKL *e*S **S** **03 53 12.8 -2.1**
NKL pmax pmax
comp=N,1.0nm,0.7s
NKL pmax pmax
comp=E,3.0nm,0.7s
NKL pmax pmax
comp=Z,221nm,1.0s
NKL pmax pmax
comp=Z,578nm,13.0s
NKL smax smax
comp=E,4.0nm,4.1s
NKL smax smax
comp=N,2.0nm,1.3s
NKL MLR MLR
comp=Z,12µm,17.0s
KCSI Kotacane, Aceh 70.48 279 P **P** **03 44 04.0 -1.3**
comp=Z,34µmcomp=Z,5µmcomp=Z,73nm,1.0s
LYN LuoYang 70.52 315*i*P **P** **03 44 05.6 +0.5**
LYN sP pwP 03 44 20.2 +2.4
LYN S **S** **03 53 15.2 -1.3**
LYN pmax pmax
comp=Z,190nm,1.2s
LYN pmax pmax
comp=Z,9µm,9.6s
LYN LR LR
comp=Z,24µm,19.6s
LYN LR LR
comp=Z,14µm,22.2s
LYN LR LR
comp=Z,33µm,20.6s
HNS HongShan 70.63 318⇑P **P** **03 44 06.6 +0.9**
HNS sP **pwP** **03 44 21.2 +2.7**
HNS S **S** **03 53 15.5 -2.2**
HNS pmax pmax
comp=Z,9µm,9.8s
HNS LR LR
comp=Z,14µm,17.3s
HNS LR LR
comp=Z,19µm,17.3s
HNS LR LR
comp=Z,25µm,17.7s
GYA Guiyang 70.80 305⇑*i*P **P** **03 44 07.8 +0.7**
GYA sP pwP 03 44 20.3 +0.4

GYA S **S** **03 53 22.3 +2.0**
GYA pmax pmax
comp=Z,47nm,1.4s
GYA pmax pmax
comp=Z,8µm,7.2s
GYA LR LR
comp=Z,14µm,19.0s
GYA LR LR
comp=Z,10µm,18.4s
GYA LR LR
comp=Z,19µm,18.8s
BJI Beijing 71.29 321 P **P** **03 44 10.0 +0.4**
BJI S **S** **03 53 28.2 +2.9**
BJI ScS **ScS** **03 54 14.4 +2.3**
BJI SS **SS** **03 58 05.7 +5.5**
BJI pmax pmax
comp=Z,130nm,1.5s
BJI pmax pmax
comp=Z,8µm,11.9s
BJI LR LR
comp=Z,22µm,19.8s
BJI LR LR
comp=Z,13µm,20.0s
BJI LR LR
comp=Z,28µm,21.9s
UNV Unalaska Valle 71.29 16 P **P** **03 44 09.0 -0.3**
UNV IAmb IAmb 03 44 12.5
comp=Z,80nm,0.9s
UNV Unalaska Valle 71.29 16 P **P** **03 44 07.4 -1.9**
baz=208,SNR=7.6
LHMI Lhok Sumawe 71.74 280 P **P** **03 44 13.2 +0.3**
TIY Taiyuan 72.29 317 ⇑P **P** **03 44 17.1 +1.3**
TIY S **S** **03 53 31.6 -5.5**
TIY SS **SS** **03 58 13.3 -2.5**
TIY pmax pmax
comp=Z,190nm,1.2s
TIY pmax pmax
comp=Z,8µm,10.3s
TIY LR LR
comp=Z,13µm,19.2s
TIY LR LR
comp=Z,7µm,17.9s
TIY LR LR
comp=Z,21µm,17.9s
XAN Xi'an 72.73 313 P **P** **03 44 19.0 +0.5**
XAN pP pP 03 44 28.4 +1.2
XAN S **S** **03 53 44.1 +1.9**
XAN pmax pmax
comp=Z,66nm,1.2s
XAN pmax pmax
comp=Z,9µm,10.1s
XAN LR LR
comp=Z,10µm,17.9s
XAN LR LR
comp=Z,19µm,20.3s
XAN LR LR
comp=Z,31µm,20.7s
FALS False Pass 73.05 18 P **P** **03 44 20.4 +0.6**
FALS IAmb IAmb 03 44 24.1
comp=Z,122nm,0.6s
FALS False Pass 73.05 18 P **P** **03 44 16.9 -2.9**
baz=210
SPIA Saint Paul Isl 73.39 13 P **P** **03 44 20.0 -1.7**
baz=203
KMI Kunming 73.41 302 ⇑P **P** **03 44 24.5 +1.6**
KMI sP PcP 03 44 38.5 -0.5
KMI S **S** **03 53 49.5 -1.1**
KMI pmax pmax
comp=Z,350nm,1.4s
KMI pmax pmax
comp=Z,7µm,9.5s
KMI LR LR
comp=Z,8µm,20.8s
KMI LR LR
comp=Z,13µm,22.7s
KMI LR LR
comp=Z,20µm,23.3s
XLT XiLinHaoTe 73.73 324 ⇑*i*P **P** **03 44 25.1 +0.9**
XLT sP sP 03 44 36.0 -0.1
XLT PcP **PcP** **03 44 39.2 -0.6**
XLT S **S** **03 53 56.2 +3.0**
XLT sS sS 03 54 10.1 +2.9
XLT pmax pmax
comp=Z,83nm,1.0s
XLT pmax pmax
comp=Z,9µm,6.5s
XLT LR LR
comp=Z,18µm,21.5s
XLT LR LR
comp=Z,16µm,21.1s
CM31 Chiang Mai Arr 74.11 294 P **P** **03 44 26.3 -0.5**
CM31 Chiang Mai Arr 74.11 294 P **P** **03 44 28.4 +1.5**
SNR=79
CMAR Chiang Mai Arr 74.11 294 P **P** **03 44 28.2 +1.3**
comp=Z,141nm,0.9s,baz=117,slow=3.9,SNR=83
CMAR Chiang Mai Arr 74.11 294 P **P** **03 44 26.4 -0.4**
CMAR Chiang Mai Arr 74.11 294 P **P** **03 44 26.4 -0.4**
CHTO Chiang Mai 74.23 294 P **P** **03 44 27.8 +0.2**
CHTO pmax pmax
comp=Z,269nm,1.2s
CHTO Chiang Mai 74.23 294 P **P** **03 44 27.8 +0.2**
CHTO IAmb IAmb 03 44 32.1
comp=Z,268nm,1.1s
CHTO Chiang Mai 74.23 294 P **P** **03 44 29.7 +2.1**
CHTO Chiang Mai 74.23 294 P **P** **03 44 29.9 +2.3**
SDPT Sand Point 74.36 19 P **P** **03 44 27.4 -0.1**
SDPT Sand Point 74.36 19 P **P** **03 44 24.0 -3.5**
baz=213,SNR=6.8
MA2 Magadan 74.38 352 LR LR 04 12 11.7
comp=Z,46µm,21.8s,baz=184,slow=32
MA2 Magadan 74.38 352*c i*P **P** **03 44 26.0 -1.5**
MA2 pmax pmax
comp=Z,74nm,0.7s
MA2 Magadan 74.38 352 P **P** **03 44 26.7 -0.8**
MA2 IAmb IAmb 03 44 32.5
comp=Z,74nm,0.7s
MA2 IAMs_20 IAMs_20 04 11 16.3
comp=Z,52µm,22.0s
HHC Hu-ho-hao-te 74.61 320 *e*P **P** **03 44 30.5 +1.0**
HHC S **S** **03 54 03.5 +0.2**
HHC SS **SS** **03 58 52.5 +1.3**
HHC pmax pmax
comp=Z,160nm,1.0s
HHC pmax pmax
comp=Z,9µm,9.1s
HHC LR LR
comp=Z,18µm,17.1s
HHC LR LR
comp=Z,9µm,17.8s
HHC LR LR
comp=Z,25µm,17.1s
PZH PanZhiHua 74.79 303 ⇑P **P** **03 44 31.1 +0.3**
PZH pP **pP** **03 44 40.2 +0.6**
PZH PcP **PcP** **03 44 49.8 +5.0**
PZH PP **PP** **03 47 19.1 +0.5**
PZH S **S** **03 54 07.8 +1.9**
PZH sS **sS** **03 54 22.9 +2.8**
PZH SKS **SKSac** **03 54 33.1 -4.6**
PZH ScS **ScS** **03 54 39.7 -1.3**
PZH SS **SS** **03 58 55.1 +0.6**
PZH pmax pmax
comp=Z,120nm,1.4s
PZH pmax pmax
comp=Z,6µm,8.8s
PZH LR LR
comp=Z,36µm,17.5s
PZH LR LR
comp=Z,30µm,18.6s
PZH LR LR
comp=Z,31µm,18.3s
CD2 Chengdu 75.08 308 ⇑*i*P **P** **03 44 32.6 +0.3**
CD2 PP **PP** **03 47 22.5 +1.7**
CD2 S **S** **03 54 10.0 +1.3**
CD2 SS **SS** **03 59 00.2 +1.7**
CD2 pmax pmax
comp=Z,220nm,1.1s
CD2 pmax pmax
comp=Z,10µm,9.2s
CD2 LR LR
comp=Z,14µm,20.6s
CD2 LR LR
comp=Z,10µm,20.6s
ZEA Zeya 75.34 337*ce*P **P** **03 44 34.1 +0.9**
ZEA *e* 03 44 34.1
ZEA *e* 03 47 29.0
ZEA *eS* **S** **03 54 16.2 +5.6**
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=N,70nm,1.0s
ZEA pmax pmax
comp=Z,100nm,1.0s
ZEA pmax pmax
comp=E,1µm,15.3s
ZEA pmax pmax
comp=N,2µm,13.2s
ZEA pmax pmax
comp=Z,5µm,15.3s
ZEA pmax pmax
comp=E,700nm,15.4s
ZEA pmax pmax
comp=N,500nm,13.9s
ZEA pmax pmax
comp=Z,2µm,11.8s
ZEA smax smax
comp=E,6µm,8.1s
ZEA smax smax
comp=N,8µm,13.9s
BTO Baotou 75.45 319 *e*P **P** **03 44 36.0 +1.7**
BTO S **S** **03 54 17.6 +4.9**
BTO LR LR
comp=N,46µm,16.2s
BTO LR LR
comp=N,29µm,17.7s
QSPA South Pole Qui 76.09 180 P **P** **03 44 36.2 -1.4**
comp=N,119nm,0.7s,baz=334,slow=0.6,SNR=137
QSPA S **S** **03 54 25.2 +6.2**
comp=N,7.4nm,1.2s,baz=176,slow=21,SNR=8.3
QSPA LR LR 04 17 16.0
comp=N,6µm,18.6s,baz=26,slow=35
QSPA South Pole Qui 76.09 180 P **P** **03 44 36.6 -1.0**
QSPA IAmb IAmb 03 44 42.3
comp=Z,192nm,1.0s
CHIR Chirikof Islan 76.34 21 P **P** **03 44 36.2 -2.7**
baz=218
LZH Lanzhou 77.37 312 ⇑P **P** **03 44 46.8 +1.5**
LZH pP PcP 03 44 56.2 +0.4
LZH sP pwP 03 44 59.4 +1.2
LZH PP **PP** **03 47 42.7 +2.5**
LZH S **S** **03 54 36.9 +2.9**
LZH sS sS 03 54 49.4 +1.4
LZH SS **SS** **03 59 39.3 +6.0**
LZH pmax pmax
comp=Z,360nm,1.5s
LZH pmax pmax
comp=Z,9µm,6.0s
LZH LR LR
comp=Z,11µm,18.4s
LZH LR LR
comp=Z,13µm,17.3s
LZH LR LR
comp=Z,21µm,17.9s
SII Sitkinak Islan 77.42 21 P **P** **03 44 45.5 +0.5**
SII IAmb IAmb 03 44 47.6
comp=Z,92nm,0.8s
SII IAMs_20 IAMs_20 04 13 46.0
comp=Z,50µm,20.0s
SII Sitkinak Islan 77.42 21 P **P** **03 44 43.0 -2.0**
baz=219,SNR=7.5
SII Sitkinak Islan 77.42 21 P **P** **03 44 46.1 +1.1**
SEY Seymchan 77.43 353 LR LR 04 14 13.0
comp=Z,56µm,22.0s,baz=166,slow=32
SEY Seymchan 77.43 353*c i*P **P** **03 44 43.5 -1.3**
SEY pmax pmax
comp=Z,123nm,0.7s
PBA Port Blair 77.58 285 P **P** **03 44 46.7 0.0**
PBA IAmb IAmb 03 44 59.3
comp=Z,119nm,1.0s
PBA Port Blair 77.58 285 *e*P **P** **03 44 51.4 +4.6**
PBA IAmb IAmb 03 45 04.4
comp=Z,43nm,0.6s
PBA Port Blair 77.58 285 P **P** **03 44 51.0 +4.3**
SNR=11
DGPR DIGLIPUR 77.85 287 *e*P **P** **03 44 49.3 +1.0**
DGPR IAmb IAmb 03 45 10.4
comp=Z,231nm,1.0s
OHAK Old Harbor 78.25 21 P **P** **03 44 48.8 -0.7**
OHAK IAmb IAmb 03 44 54.8
comp=Z,179nm,1.2s
OHAK Old Harbor 78.25 21 P **P** **03 44 47.6 -1.9**
baz=220,SNR=18
RPN Rapa Nui 78.51 115 LR LR 04 12 05.7
comp=Z,13µm,21.4s,baz=264,slow=30
KDAK Kodiak Island 78.92 21 P **P** **03 44 53.7 +0.5**
comp=Z,56nm,0.9s,baz=225,slow=2.6,SNR=13
KDAK LR LR 04 14 04.1
comp=Z,68µm,20.7s,baz=242,slow=31
KDAK Kodiak Island 78.92 21*c i*P **P** **03 44 51.2 -2.0**
KDAK pmax pmax
comp=Z,78nm,0.8s
KDAK Kodiak Island 78.92 21 P **P** **03 44 53.5 +0.2**
KDAK Kodiak Island 78.92 21 P **P** **03 44 50.9 -2.3**
baz=220
GAMB Gambell 79.24 10 P **P** **03 44 54.7 -0.1**
GAMB IAmb IAmb 03 45 26.2
comp=Z,192nm,1.6s
GAMB IAMs_20 IAMs_20 04 16 24.1
comp=Z,36µm,20.0s
GAMB Gambell 79.24 10 P **P** **03 44 53.4 -1.4**
baz=201,SNR=40
P18K Big Mountain, 79.31 19 IAMs_20 IAMs_20 04 13 37.7
comp=Z,46µm,20.0s
P18K Big Mountain, 79.31 19 P **P** **03 44 52.6 -2.8**
baz=218
Q19K Cape Douglas, 79.45 20 P **P** **03 44 57.8 +1.7**
Q19K IAmb IAmb 03 45 29.3
comp=Z,222nm,1.0s
Q19K Cape Douglas, 79.45 20 P **P** **03 44 54.1 -2.0**
baz=219
LKP Lekhapani 79.96 301 *e*P **P** **03 45 00.0 +0.4**
CIT Chita 80.10 330 *e*P **P** **03 45 00.1 +0.2**
CIT *e* 03 47 59.0
CIT pmax pmax
comp=Z,622nm,3.6s
P19K Oil Pt 80.15 19 P **P** **03 45 00.8 +0.8**
P19K IAmb IAmb 03 45 04.3
comp=Z,88nm,0.8s
P19K Oil Pt 80.15 19 P **P** **03 44 57.5 -2.4**
baz=219
O19K Port Alsworth 80.23 19 P **P** **03 45 01.5 +1.2**
O19K IAmb IAmb 03 45 28.5
comp=Z,108nm,1.2s
O19K IAMs_20 IAMs_20 04 13 34.8
comp=Z,49µm,22.0s
O19K Port Alsworth 80.23 19 P **P** **03 44 58.5 -1.8**
baz=218,SNR=7.8
SVW2 Sparrevohn 80.57 18 P **P** **03 45 03.8 +1.6**
N19K Bonanza Creek 80.67 18 P **P** **03 45 04.1 +1.3**
N19K Bonanza Creek 80.67 18 P **P** **03 44 59.9 -2.9**
baz=218
HOM Homer 80.67 20 P **P** **03 45 01.0 -1.6**
baz=221
O20K Slope Mountain 80.68 19 P **P** **03 45 01.1 -1.7**
baz=220
MOKO MOKOCHONG 80.71 300 *e*P **P** **03 45 04.0 +0.1**
MOKO IAmb IAmb 03 45 12.9
comp=Z,244nm,0.8s
KOHI KOHIMA 80.85 299 *e*P **P** **03 45 04.4 -0.2**
KOHI IAmb IAmb 03 45 21.8
comp=Z,241nm,1.0s
AIS Amsterdam Isla 80.91 233 IAMs_20 IAMs_20 04 17 07.7
comp=Z,38µm,21.0s
RSO Redoubt South 80.93 19 P **P** **03 45 05.6 +1.3**
BRLK Bradley Lake 81.01 20 P **P** **03 45 04.5 0.0**
BRLK IAmb IAmb 03 45 33.2
comp=Z,88nm,1.0s
BRSE Bradley Lake S 81.04 20 P **P** **03 45 02.2 -2.5**
baz=222
ANM Nome 81.11 12 P **P** **03 45 04.2 -0.7**
ANM pmax pmax
comp=Z,116nm,1.3s
ANM Nome 81.11 12 P **P** **03 45 04.2 -0.7**
ANM IAmb IAmb 03 45 49.5
comp=Z,116nm,1.3s
ANM IAMs_20 IAMs_20 04 17 32.7
comp=Z,42µm,20.0s
ANM Nome 81.11 12 P **P** **03 45 04.5 -0.4**
baz=208,SNR=42
YAK Yakutsk 81.11 343 S **S** **03 55 09.7 -2.5**
comp=Z,11nm,0.5s,baz=190,slow=2.6,SNR=1.0
YAK LR LR 04 22 37.9
comp=Z,30µm,18.0s,baz=146,slow=37
YAK Yakutsk 81.11 343*c i*P **P** **03 45 04.6 -0.4**
YAK *e* 03 45 13.4
YAK *e* 03 48 18.7
YAK *e*PPP PPP 03 49 59.9
YAK *e*S **S** **03 55 10.9 -1.3**
YAK pmax pmax
comp=Z,618nm,1.3s
YAK pmax pmax
comp=N,127nm,1.3s
YAK pmax pmax
comp=E,70nm,1.2s
YAK pmax pmax
comp=Z,872nm,4.2s
YAK pmax pmax
comp=N,552nm,4.3s
YAK pmax pmax
comp=E,395nm,4.3s
YAK smax smax
comp=N,834nm,5.2s
YAK smax smax
comp=E,3µm,6.3s
YAK Yakutsk 81.11 343 P **P** **03 45 04.5 -0.4**
ULN Ulaanbaatar 81.16 324*ce*P **P** **03 45 06.1 +0.3**
ULN pmax pmax
comp=Z,336nm,1.3s
ULN MLR MLR
comp=Z,19µm,19.0s
ULN Ulaanbaatar 81.16 324 P **P** **03 45 06.3 +0.5**
ULN IAmb IAmb 03 45 10.8
comp=Z,204nm,0.9s
ULN Ulaanbaatar 81.16 324 P **P** **03 45 07.1 +1.3**
SONM Songino Array 81.52 324 P **P** **03 45 07.8 +0.1**
comp=Z,102nm,0.9s,baz=138,slow=5.5,SNR=92
SONM S **S** **03 55 18.6 +1.1**
comp=Z,0.4nm,0.5s,baz=45,slow=33,SNR=1.5
SONM LR LR 04 22 45.2
comp=Z,13µm,18.5s,baz=120,slow=37
SONM Songino Array 81.52 324 P **P** **03 45 08.1 +0.4**
SONM IAmb IAmb 03 45 12.5
comp=Z,171nm,1.0s
TNA Tin City 81.53 10 P **P** **03 45 06.2 -0.9**
TNA IAmb IAmb 03 45 38.7
comp=Z,191nm,1.9s
TNA Tin City 81.53 10 P **P** **03 45 06.3 -0.7**
baz=205,SNR=37
M19K Big River Lodg 81.56 18 P **P** **03 45 06.1 -1.3**
baz=218
L19K White Mountain 81.64 17 P **P** **03 45 08.4 +0.5**
L19K IAmb IAmb 03 45 37.5
comp=Z,200nm,1.8s
L19K White Mountain 81.64 17 P **P** **03 45 07.3 -0.5**
baz=218,SNR=19
ITAN ITANAGAR 81.67 301 *e*P **P** **03 45 09.9 +1.2**
ITAN IAmb IAmb 03 45 25.1
comp=Z,348nm,0.8s
SPCR Spurr Chakacha 81.67 19 P **P** **03 45 05.5 -2.5**
baz=220
CAPN Captain Cook N 81.67 19 P **P** **03 45 06.3 -1.6**
baz=221
GTA Gaotai 81.71 314 ⇑P **P** **03 45 09.9 +1.0**
GTA pP sP 03 45 20.1 -0.7
GTA sP pwP 03 45 24.3 +2.5
GTA S **S** **03 55 19.3 -0.5**
GTA pmax pmax
comp=Z,76nm,1.1s
GTA pmax pmax
comp=Z,8µm,11.2s
GTA LR LR
comp=Z,12µm,19.9s
GTA LR LR
comp=Z,10µm,21.5s
GTA LR LR
comp=Z,12µm,23.1s
SEW Seward 81.74 21 P **P** **03 45 06.3 -2.0**
baz=223
BILL Bilibino 81.75 360*d i*P **P** **03 45 07.0 -1.2**
BILL *i* 03 48 11.3
BILL *i*S **S** **03 55 14.9 -3.8**
BILL *e*SS **SS** **04 00 37.5 +0.2**
BILL *e*SSS SSS 04 04 01.8
BILL pmax pmax
comp=Z,166nm,1.6s
BILL pmax pmax
comp=Z,7µm,13.4s
BILL Bilibino 81.75 360 P **P** **03 45 07.1 -1.2**
BILL IAmb IAmb 03 45 45.1
comp=Z,166nm,1.1s
TTA Tatalina 81.92 16 P **P** **03 45 08.4 -0.9**
baz=216,SNR=8.7
O22K Cooper Landing 81.93 20 P **P** **03 45 11.0 +1.7**
O22K IAMs_20 IAMs_20 04 18 36.1
comp=Z,39µm,19.0s
O22K Cooper Landing 81.93 20 P **P** **03 45 07.3 -2.0**
baz=223
L20K Farewell, AK 82.16 17 P **P** **03 45 09.5 -1.0**
baz=219,SNR=46
BELO BELONIA 82.32 296 *e*P **P** **03 45 14.2 +2.0**
Q23K Middleton Isla 82.36 22 IAMs_20 IAMs_20 04 19 56.5
comp=Z,35µm,18.0s
Q23K Middleton Isla 82.36 22 P **P** **03 45 10.3 -1.3**
baz=226
RC01 Rabbit Creek A 82.38 20 P **P** **03 45 13.2 +1.5**
RC01 IAmb IAmb 03 45 56.4
comp=Z,190nm,1.4s
RC01 Rabbit Creek A 82.38 20 P **P** **03 45 08.5 -3.2**
baz=222
MAW Mawson 82.41 202 P **P** **03 45 11.2 -0.6**
comp=Z,29nm,0.9s,baz=107,slow=5.4,SNR=19
MAW LR LR 04 16 04.2
comp=Z,41µm,21.7s,baz=96,slow=32
MAW Mawson 82.41 202 P **P** **03 45 11.2 -0.6**
PWL Port Wells 82.67 20 P **P** **03 45 13.2 0.0**
PWL IAmb IAmb 03 45 19.5
comp=Z,186nm,1.0s
PWL IAMs_20 IAMs_20 04 20 30.8
comp=Z,29µm,19.0s
PWL Port Wells 82.67 20 P **P** **03 45 11.3 -2.0**
baz=224,SNR=22
SHL Shillong 82.69 299 P **P** **03 45 14.4 0.0**
SHL pmax pmax
comp=Z,298nm,1.1s
SHL Shillong 82.69 299 P **P** **03 45 14.4 0.0**
SHL Shillong 82.69 299 *e*P **P** **03 45 14.6 +0.3**
SHL IAmb IAmb 03 45 26.6
comp=Z,199nm,1.2s
SHL Shillong 82.69 299 P **P** **03 45 14.8 +0.5**
SNR=120
AGT Agartala 82.69 297 *e*P **P** **03 45 16.1 +1.9**
M22K Willow 82.75 19 P **P** **03 45 13.1 -0.4**
M22K IAmb IAmb 03 45 40.9
comp=Z,192nm,1.1s
M22K Willow 82.75 19 P **P** **03 45 10.4 -3.2**
baz=222
K20K Telida 82.79 17 P **P** **03 45 14.3 +0.4**
K20K IAmb IAmb 03 45 46.9
comp=Z,126nm,1.5s
K20K IAMs_20 IAMs_20 04 18 12.7
comp=Z,44µm,20.0s
K20K Telida 82.79 17 P **P** **03 45 12.8 -1.0**
baz=218,SNR=11
PMR Palmer 82.94 20 P **P** **03 45 14.9 +0.3**
PMR pmax pmax
comp=Z,367nm,1.9s
PMR Palmer 82.94 20 P **P** **03 45 14.9 +0.3**
PMR Palmer 82.94 20 P **P** **03 45 13.0 -1.6**
baz=223,SNR=7.9
PPLA Purkeypile 82.97 18 P **P** **03 45 16.6 +1.7**
PPLA IAmb IAmb 03 45 50.2
comp=Z,118nm,1.7s
PPLA Purkeypile 82.97 18 P **P** **03 45 12.7 -2.3**
baz=220
KNK Knik Glacier 83.03 20 IAMs_20 IAMs_20 04 19 10.3
comp=Z,34µm,20.0s
KNK Knik Glacier 83.03 20 P **P** **03 45 13.0 -2.1**
baz=224,SNR=14
GUWA GUWAHATI 83.06 299 *e*P **P** **03 45 15.1 -0.9**
GUWA IAmb IAmb 03 45 28.3
comp=Z,46nm,0.8s
GLI Glacier Island 83.11 21 P **P** **03 45 16.5 +0.9**
GLI IAmb IAmb 03 45 40.6
comp=Z,147nm,1.2s
GLI IAMs_20 IAMs_20 04 15 16.4
comp=Z,36µm,22.0s
GLI Glacier Island 83.11 21 P **P** **03 45 13.4 -2.1**
baz=225

GCSA	**Galena City Sc**	**83.17**	**15**	P	**P**	**03 45 14.9**	**-0.8**
	baz=216,SNR=8.8						
CUT	**Chulitna**	**83.18**	**19**	IAMs_20	IAMs_20	04 16 04.0	
	comp=Z,48µm,21.0s						
CUT	**Chulitna**	**83.18**	**19**	P	**P**	**03 45 11.1**	**-4.7**
	baz=222						
FID	**Port Fidalgo**	**83.24**	**21**	P	**P**	**03 45 17.0**	**+0.8**
FID				IAMs_20	IAMs_20	04 18 39.1	
	comp=Z,31µm,20.0s						
EYAK	**Cordova Ski Ar**	**83.35**	**22**	P	**P**	**03 45 17.5**	**+0.8**
EYAK				IAmb	IAmb	03 45 48.6	
	comp=Z,109nm,1.2s						
EYAK	**Cordova Ski Ar**	**83.35**	**22**	P	**P**	**03 45 13.9**	**-2.9**
	baz=226						
SML	**Sawmill**	**83.36**	**20**	IAMs_20	IAMs_20	04 20 19.7	
	comp=Z,29µm,19.0s						
SML	**Sawmill**	**83.36**	**20**	P	**P**	**03 45 15.4**	**-1.5**
	baz=224,SNR=11						
CAST	**Castle Rocks**	**83.41**	**17**	P	**P**	**03 45 15.5**	**-1.5**
CAST				IAmb	IAmb	03 45 23.6	
	comp=Z,66nm,0.7s						
CAST				IAMs_20	IAMs_20	04 16 19.9	
	comp=Z,44µm,21.0s						
CAST	**Castle Rocks**	**83.41**	**17**	P	**P**	**03 45 14.8**	**-2.2**
	baz=220,SNR=76						
KAIM	**Kayak Island**	**83.41**	**22**	P	**P**	**03 45 14.9**	**-2.2**
	baz=228						
J20K	**Nowinta River**	**83.42**	**16**	P	**P**	**03 45 15.9**	**-1.2**
J20K				IAMs_20	IAMs_20	04 16 55.2	
	comp=Z,40µm,21.0s						
J20K	**Nowinta River**	**83.42**	**16**	P	**P**	**03 45 16.1**	**-0.9**
	baz=218,SNR=30						
BOD	**Bodaibo**	**83.52**	**335**	*e*P	**P**	**03 45 16.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,148nm,1.5s						
CHUM	**Lake Minchumin**	**83.70**	**17**	P	**P**	**03 45 16.6**	**-1.8**
	baz=220,SNR=16						
SCM	**Sheep Creek Mo**	**83.71**	**20**	P	**P**	**03 45 20.0**	**+1.3**
SCM				pmax	pmax		
	comp=Z,170nm,1.1s						
SCM	**Sheep Creek Mo**	**83.71**	**20**	P	**P**	**03 45 20.0**	**+1.3**
SCM				IAmb	IAmb	03 45 46.8	
	comp=Z,170nm,1.1s						
SCM	**Sheep Creek Mo**	**83.71**	**20**	P	**P**	**03 45 17.1**	**-1.6**
	baz=225,SNR=15						
PAF	**Port-aux-Franc**	**83.72**	**221**	IAMs_20	IAMs_20	04 15 46.2	
	comp=Z,32µm,22.0s						
MCCM	**Marconi Confer**	**83.73**	**48**	P	**P**	**03 45 19.1**	**-0.1**
MCCM				IAmb	IAmb	03 45 25.9	
	comp=Z,40nm,0.8s						
DIV	**Divide**	**83.75**	**21**	P	**P**	**03 45 19.5**	**+0.6**
KMPM	**Mount Pierce**	**83.76**	**46**	P	**P**	**03 45 20.0**	**+0.6**
KMPM				IAmb	IAmb	03 46 03.5	
	comp=Z,298nm,2.0s						
KCPM	**Cahto Peak**	**83.84**	**47**	P	**P**	**03 45 21.0**	**+1.1**
KCPM				IAmb	IAmb	03 46 01.5	
	comp=Z,295nm,2.0s						
HOPS	**Hopland Field**	**83.93**	**48**	P	**P**	**03 45 19.6**	**-0.6**
HOPS				IAmb	IAmb	03 46 04.6	
	comp=Z,109nm,1.5s						
KLU	**Klutina**	**83.95**	**21**	P	**P**	**03 45 20.2**	**+0.3**
KLU				IAmb	IAmb	03 45 59.9	
	comp=Z,161nm,1.3s						
KLU				IAMs_20	IAMs_20	04 19 44.5	
	comp=Z,40µm,19.0s						
KLU	**Klutina**	**83.95**	**21**	P	**P**	**03 45 18.4**	**-1.5**
	baz=226,SNR=9.2						
TRF	**Thorofare Moun**	**83.96**	**18**	P	**P**	**03 45 19.6**	**-0.4**
TRF				IAmb	IAmb	03 46 03.0	
	comp=Z,76nm,1.0s						
TRF	**Thorofare Moun**	**83.96**	**18**	P	**P**	**03 45 17.6**	**-2.4**
	baz=222,SNR=20						
BGLC	**Bering Glacier**	**83.96**	**23**	P	**P**	**03 45 18.5**	**-1.4**
	baz=228						
KMRM	**Mail Ridge**	**83.97**	**46**	P	**P**	**03 45 21.1**	**+0.6**
JCC	**Jacoby Creek,**	**83.98**	**46**	IAMs_20	IAMs_20	04 15 21.0	
	comp=Z,24µm,20.0s						
GOMU	**GeErMu**	**84.05**	**309**	P	**P**	**03 45 20.9**	**-0.5**
GOMU				pP	pP	03 45 31.3	+1.1
GOMU				sP	pwP	03 45 34.2	-0.2
GOMU				PP	**PP**	**03 48 35.8**	**+0.1**
GOMU				S	**S**	**03 55 43.6**	**-0.6**
GOMU				sS	sS	03 56 00.1	+1.6
GOMU				SS	**SS**	**04 01 12.9**	**-0.6**
GOMU				pmax	pmax		
	comp=Z,18nm,1.1s						
GOMU				LR	LR		
	comp=Z,5µm,16.5s						
GOMU				LR	LR		
	comp=Z,7µm,20.8s						
GOMU				LR	LR		
	comp=Z,9µm,21.5s						
BMRM	**Bremner River**	**84.05**	**22**	P	**P**	**03 45 21.0**	**+0.6**
BMRM				IAMs_20	IAMs_20	04 21 02.0	
	comp=Z,27µm,19.0s						
BMRM	**Bremner River**	**84.05**	**22**	P	**P**	**03 45 18.5**	**-1.9**
	baz=227						
GDXM	**Geysers**	**84.05**	**48**	P	**P**	**03 45 22.5**	**+1.5**
GDXM				IAmb	IAmb	03 46 05.8	
	comp=Z,103nm,1.8s						
WAT6	**Susitna Watana**	**84.11**	**19**	P	**P**	**03 45 19.5**	**-1.3**
	baz=224,SNR=29						
SNH	**Sunshine Point**	**84.17**	**23**	IAMs_20	IAMs_20	04 17 56.4	
	comp=Z,35µm,20.0s						
KHMM	**Horse Mountain**	**84.21**	**46**	P	**P**	**03 45 23.1**	**+1.3**
BPAW	**Bear Paw Mtn.**	**84.24**	**17**	P	**P**	**03 45 20.7**	**-0.6**
BPAW				IAMs_20	IAMs_20	04 17 38.0	
	comp=Z,40µm,20.0s						
BPAW	**Bear Paw Mtn.**	**84.24**	**17**	P	**P**	**03 45 18.8**	**-2.5**
	baz=221,SNR=16						
SAO	**San Andreas Ge**	**84.26**	**50**	P	**P**	**03 45 22.7**	**+0.7**
SAO				pmax	pmax		
	comp=Z,19nm,0.9s						
SAO	**San Andreas Ge**	**84.26**	**50**	P	**P**	**03 45 22.7**	**+0.7**
M24K	**Tolsona, Glenn**	**84.29**	**20**	P	**P**	**03 45 22.9**	**+1.3**
M24K				IAMs_20	IAMs_20	04 16 48.3	
	comp=Z,25µm,21.0s						
M24K	**Tolsona, Glenn**	**84.29**	**20**	P	**P**	**03 45 20.1**	**-1.5**
	baz=226,SNR=8.4						
WAX	**Waxell Ridge**	**84.34**	**23**	P	**P**	**03 45 22.4**	**+0.5**
RND	**Reindeer**	**84.36**	**18**	P	**P**	**03 45 22.0**	**0.0**
RND				pmax	pmax		
	comp=Z,139nm,1.0s						
RND	**Reindeer**	**84.36**	**18**	P	**P**	**03 45 22.0**	**0.0**
RND				IAmb	IAmb	03 45 53.4	
	comp=Z,139nm,1.0s						
SNCC	**San Nicolas Is**	**84.46**	**54**	P	**P**	**03 45 21.9**	**-1.2**
	baz=249						
N25K	**Chitina, Valde**	**84.49**	**21**	P	**P**	**03 45 23.0**	**+0.3**
N25K				IAmb	IAmb	03 46 03.5	
	comp=Z,84nm,1.1s						
N25K				IAMs_20	IAMs_20	04 15 58.6	
	comp=Z,27µm,22.0s						
N25K	**Chitina, Valde**	**84.49**	**21**	P	**P**	**03 45 20.8**	**-1.8**
	baz=227,SNR=9.8						
BBGB	**Big Mountain B**	**84.50**	**50**	P	**P**	**03 45 24.1**	**+0.8**
BBGB				IAmb	IAmb	03 46 10.0	
	comp=Z,92nm,1.2s						
PMPB	**Monarch Peak**	**84.54**	**51**	P	**P**	**03 45 22.9**	**-0.6**
PMPB				IAmb	IAmb	03 46 57.7	
	comp=Z,75nm,1.2s						
ZAK	**Zakamensk**	**84.58**	**325**	*e*P	**P**	**03 45 23.3**	**-0.1**
ZAK				*e*		03 55 44.5	
ZAK				pmax	pmax		
	comp=Z,401nm,1.3s						
MCK	**McKinley**	**84.58**	**18**	P	**P**	**03 45 23.1**	**+0.1**
MCK				pmax	pmax		
	comp=Z,226nm,1.2s						
MCK	**McKinley**	**84.58**	**18**	P	**P**	**03 45 23.1**	**+0.1**
MCK	**McKinley**	**84.58**	**18**	P	**P**	**03 45 20.4**	**-2.6**
	baz=223,SNR=30						
DHY	**Denali Highway**	**84.59**	**19**	P	**P**	**03 45 24.1**	**+0.8**
DHY				IAmb	IAmb	03 45 52.1	
	comp=Z,180nm,1.4s						
DHY	**Denali Highway**	**84.59**	**19**	P	**P**	**03 45 21.6**	**-1.6**
	baz=224,SNR=15						
O02D	**Mt. Diablo Mer**	**84.59**	**47**	P	**P**	**03 45 23.9**	**+0.2**
O02D	**Mt. Diablo Mer**	**84.59**	**47**	P	**P**	**03 45 23.3**	**-0.4**
	baz=247,SNR=28						
ISLE	**Juniper Island**	**84.64**	**23**	P	**P**	**03 45 23.9**	**+0.5**
ISLE				IAMs_20	IAMs_20	04 19 17.7	
	comp=Z,45µm,20.0s						
DIB	**Dawson Inlet,**	**84.64**	**32**	IAmb	IAmb	03 45 48.9	
	comp=Z,56nm,0.9s						
H02S1	**DAWSON INLET T**	**84.64**	**32**	P	**P**	**03 45 25.3**	**+1.9**
	SNR=12						
H02S1				T	T	05 18 33.1	
	SNR=13						
VRDI	**Verde Repeater**	**84.64**	**22**	P	**P**	**03 45 25.1**	**+1.5**
GLB	**Gilahina Butte**	**84.66**	**22**	IAmb	IAmb	03 46 16.7	
	comp=Z,206nm,1.8s						
GLB				IAMs_20	IAMs_20	04 20 24.0	
	comp=Z,23µm,19.0s						
LSA	**Lhasa**	**84.66**	**302**	P	**P**	**03 45 25.1**	**+0.4**
LSA				pmax	pmax		
	comp=Z,40nm,1.0s						
LSA				LR	LR		
	comp=Z,6µm,21.0s						
LSA				LR	LR		
	comp=Z,6µm,21.7s						
LSA				LR	LR		
	comp=Z,5µm,22.1s						
RDOG	**Red Dog Mine**	**84.66**	**11**	IAMs_20	IAMs_20	04 18 04.6	
	comp=Z,25µm,20.0s						
RDOG	**Red Dog Mine**	**84.66**	**11**	P	**P**	**03 45 22.6**	**-0.7**
	baz=210,SNR=12						
YAH	**Yahtse**	**84.70**	**23**	IAMs_20	IAMs_20	04 22 24.2	
	comp=Z,42µm,19.0s						
SBC	**Santa Barbara**	**84.73**	**53**	P	**P**	**03 45 23.2**	**-1.1**
	baz=249						
BWN	**Browne**	**84.74**	**18**	IAMs_20	IAMs_20	04 17 23.6	
	comp=Z,41µm,20.0s						
PAGB	**Antelope Grade**	**84.78**	**51**	IAmb	IAmb	03 46 11.0	
	comp=Z,202nm,2.1s						
I21K	**Tanana**	**84.79**	**16**	IAMs_20	IAMs_20	04 17 57.2	
	comp=Z,43µm,20.0s						
I21K	**Tanana**	**84.79**	**16**	P	**P**	**03 45 23.1**	**-0.8**
	baz=220,SNR=50						
L02E	**Cave Junction**	**84.82**	**44**	IAMs_20	IAMs_20	04 16 27.1	
	comp=Z,29µm,20.0s						
L02E	**Cave Junction**	**84.82**	**44**	P	**P**	**03 45 23.4**	**-1.3**
	baz=246						
SMMC	**Simmler**	**84.83**	**52**	P	**P**	**03 45 24.5**	**-0.4**
	baz=249						
HARP	**HAARP**	**84.84**	**20**	P	**P**	**03 45 22.9**	**-1.4**
	baz=227,SNR=8.0						
H21K	**Melozitna Rive**	**84.94**	**16**	IAmb	IAmb	03 45 49.7	
	comp=Z,58nm,1.1s						
H21K				IAMs_20	IAMs_20	04 18 56.3	
	comp=Z,24µm,20.0s						
H21K	**Melozitna Rive**	**84.94**	**16**	P	**P**	**03 45 24.2**	**-0.5**
	baz=219,SNR=39						
IRK	**Irkutsk**	**84.96**	**327**	*e*P	**P**	**03 45 24.2**	**-1.0**
IRK				*e*S	**S**	**03 55 46.4**	**-5.5**
IRK				pmax	pmax		
	comp=Z,348nm,1.9s						
N02D	**Trinity Center**	**84.97**	**46**	IAmb	IAmb	03 46 09.5	
	comp=Z,82nm,1.3s						
N02D				IAMs_20	IAMs_20	04 16 13.8	
	comp=Z,34µm,20.0s						
N02D	**Trinity Center**	**84.97**	**46**	P	**P**	**03 45 24.1**	**-1.4**
	baz=247,SNR=12						
TABL	**Table Mountain**	**84.98**	**23**	IAmb	IAmb	03 45 29.5	
	comp=Z,90nm,0.7s						
TABL				IAMs_20	IAMs_20	04 22 24.9	
	comp=Z,34µm,18.0s						
K02D	**Willamette Mer**	**85.00**	**44**	P	**P**	**03 45 24.0**	**-1.6**
	baz=246,SNR=7.3						
J01E	**Myrtle Point**	**85.01**	**43**	IAMs_20	IAMs_20	04 17 09.0	
	comp=Z,35µm,20.0s						
J01E	**Myrtle Point**	**85.01**	**43**	P	**P**	**03 45 24.0**	**-1.6**
	baz=246						
M02C	**Callahan**	**85.03**	**45**	IAmb	IAmb	03 46 09.8	
	comp=Z,97nm,1.5s						
M02C				IAMs_20	IAMs_20	04 15 37.4	
	comp=Z,23µm,20.0s						
M02C	**Callahan**	**85.03**	**45**	P	**P**	**03 45 25.7**	**-0.2**
	baz=247,SNR=18						
PAX	**Paxson**	**85.13**	**20**	IAmb	IAmb	03 46 25.6	
	comp=Z,182nm,2.0s						
PAX	**Paxson**	**85.13**	**20**	P	**P**	**03 45 23.9**	**-1.9**
	baz=226						
SCI2	**San Clemente I**	**85.14**	**54**	P	**P**	**03 45 25.3**	**-1.2**
	baz=250						
NEA2	**Nenana**	**85.17**	**18**	IAMs_20	IAMs_20	04 16 42.3	
	comp=Z,36µm,21.0s						
NEA2	**Nenana**	**85.17**	**18**	P	**P**	**03 45 23.3**	**-2.6**
	baz=223,SNR=18						
PNL	**Peninsula**	**85.18**	**24**	P	**P**	**03 45 24.1**	**-1.9**
	baz=232						
BARN	**Barnard Glacie**	**85.19**	**23**	IAmb	IAmb	03 46 07.2	
	comp=Z,95nm,1.2s						
BARN				IAMs_20	IAMs_20	04 19 27.1	
	comp=Z,41µm,20.0s						
YBH	**Yreka Blue Hor**	**85.26**	**45**	P	**P**	**03 45 26.8**	**-0.2**
	comp=Z,19nm,0.8s,baz=246,slow=2.2,SNR=46						
YBH				LR	LR	04 16 16.3	
	comp=Z,24µm,20.9s,baz=254,slow=31						
YBH	**Yreka Blue Hor**	**85.26**	**45**	IAmb	IAmb	03 46 10.7	
	comp=Z,70nm,1.4s						
YBH				IAMs_20	IAMs_20	04 16 04.8	
	comp=Z,23µm,20.0s						
BCPM	**Bancas Point**	**85.26**	**24**	IAMs_20	IAMs_20	04 21 20.1	
	comp=Z,31µm,19.0s						
ORV	**Oroville**	**85.27**	**47**	IAmb	IAmb	03 46 10.1	
	comp=Z,134nm,1.9s						
O03E	**Paynes Creek**	**85.33**	**47**	IAmb	IAmb	03 46 10.4	
	comp=Z,261nm,1.9s						
O03E				IAMs_20	IAMs_20	04 16 17.9	
	comp=Z,32µm,20.0s						
O03E	**Paynes Creek**	**85.33**	**47**	P	**P**	**03 45 25.4**	**-2.0**
	baz=248,SNR=18						
SIT	**Sitka**	**85.37**	**28**	P	**P**	**03 45 23.6**	**-3.4**
	baz=236						
CIS	**Catalina Islan**	**85.39**	**54**	P	**P**	**03 45 26.1**	**-1.6**
	baz=250						
HUMO	**Hull Mountain**	**85.44**	**44**	IAMs_20	IAMs_20	04 16 55.5	
	comp=Z,27µm,20.0s						
DBO	**Dodson Butte**	**85.45**	**44**	IAmb	IAmb	03 46 11.4	
	comp=Z,116nm,1.9s						
I02E	**Swisshome, OR**	**85.45**	**43**	IAMs_20	IAMs_20	04 20 59.7	
	comp=Z,24µm,19.0s						
I02E	**Swisshome, OR**	**85.45**	**43**	P	**P**	**03 45 26.2**	**-1.6**
	baz=246						
I23K	**Minto, Yukon-K**	**85.50**	**17**	IAmb	IAmb	03 46 01.9	
	comp=Z,209nm,1.9s						
I23K	**Minto, Yukon-K**	**85.50**	**17**	P	**P**	**03 45 25.4**	**-2.1**
	baz=223,SNR=10						
CRAG	**Craig**	**85.52**	**30**	P	**P**	**03 45 23.9**	**-3.9**
	baz=238						
OSI	**Osito Audit: C**	**85.56**	**53**	P	**P**	**03 45 26.6**	**-2.0**
	baz=250						
FMP	**Fort Macarthur**	**85.59**	**54**	P	**P**	**03 45 26.7**	**-2.0**
	baz=250						
I03D	**Drain, OR**	**85.61**	**43**	P	**P**	**03 45 25.8**	**-2.8**
	baz=246						
VOG	**Valley Oaks Go**	**85.65**	**51**	P	**P**	**03 45 26.3**	**-2.6**
	baz=249						
ARVC	**Arvin**	**85.65**	**52**	P	**P**	**03 45 25.9**	**-3.1**
	baz=250						
HDA	**Harding Lake**	**85.67**	**18**	P	**P**	**03 45 26.4**	**-2.0**
	baz=225,SNR=64						
MDM	**Murphy Dome**	**85.68**	**18**	IAMs_20	IAMs_20	04 17 50.9	
	comp=Z,29µm,21.0s						
MENT	**Mentasta**	**85.69**	**20**	IAmb	IAmb	03 46 24.5	
	comp=Z,241nm,2.0s						
VES	**Vestal, Richgr**	**85.70**	**52**	P	**P**	**03 45 27.0**	**-2.3**
	baz=250						
L04D	**Klamath Falls**	**85.73**	**45**	IAmb	IAmb	03 46 11.8	
	comp=Z,86nm,1.2s						
L04D	**Klamath Falls**	**85.73**	**45**	P	**P**	**03 45 27.9**	**-1.5**
	baz=247,SNR=16						
TCOL	**CIGO, UAF Yank**	**85.73**	**18**	IAmb	IAmb	03 45 55.9	
	comp=Z,124nm,1.0s						
TCOL				IAMs_20	IAMs_20	04 17 32.2	
	comp=Z,36µm,21.0s						
TCOL	**CIGO, UAF Yank**	**85.73**	**18**	P	**P**	**03 45 26.6**	**-2.1**
	baz=224,SNR=7.7						
COLA	**College**	**85.73**	**18** *c*	*i*P	**P**	**03 45 25.1**	**-3.6**
COLA				pmax	pmax		
	comp=Z,42nm,0.7s						
COLA	**College**	**85.73**	**18**	P	**P**	**03 45 27.4**	**-1.3**
COLA				IAmb	IAmb	03 45 55.9	
	comp=Z,123nm,1.0s						
COLA	**College**	**85.73**	**18**	IAMs_20	IAMs_20	04 17 32.4	
	comp=Z,34µm,21.0s						
COLA	**College**	**85.73**	**18**	P	**P**	**03 45 26.1**	**-2.5**
	baz=224						
DECC	**Green Verdugo**	**85.74**	**53**	P	**P**	**03 45 27.9**	**-1.6**
	baz=250						
PASC	**Pasadena Art C**	**85.83**	**53**	IAMs_20	IAMs_20	04 18 36.0	
	comp=Z,29µm,19.0s						
RIDG	**Independent Ri**	**85.87**	**20**	IAMs_20	IAMs_20	04 16 52.7	
	comp=Z,39µm,22.0s						
RIDG	**Independent Ri**	**85.87**	**20**	P	**P**	**03 45 27.6**	**-1.9**
	baz=227,SNR=21						
L26K	**Log Cabin Wild**	**85.88**	**20**	IAMs_20	IAMs_20	04 17 17.3	
	comp=Z,36µm,21.0s						
L26K	**Log Cabin Wild**	**85.88**	**20**	P	**P**	**03 45 27.9**	**-1.7**
	baz=228,SNR=15						
M04C	**Macdoel**	**85.88**	**45**	P	**P**	**03 45 28.3**	**-1.9**
	baz=247,SNR=12						
H23K	**Yukon River**	**85.95**	**17**	IAMs_20	IAMs_20	04 18 31.8	
	comp=Z,38µm,20.0s						
H23K	**Yukon River**	**85.95**	**17**	P	**P**	**03 45 27.7**	**-2.1**
	baz=222,SNR=28						
ILAR	**Eielson Array**	**85.95**	**18**	P	**P**	**03 45 27.9**	**-1.9**
	comp=Z,24nm,0.6s,baz=238,slow=4.6,SNR=101						
ILAR				PKiKP	**PKiKP**	**03 50 38.7**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=278,slow=2.7,SNR=1.4						
ILAR				S	**S**	**03 55 55.5**	**-5.6**
	comp=Z,2.2nm,1.1s,baz=255,slow=6.7,SNR=6.1						
ILAR				PKKPbc	**PKKPbc**	**04 03 30.1**	**-3.2**
	comp=Z,1.1nm,0.9s,baz=356,slow=2.3,SNR=6.2						
ILAR				LR	LR	04 18 53.9	
	comp=Z,60µm,20.5s,baz=241,slow=32						
M27K	**Edge Creek, AK**	**85.95**	**21**	IAMs_20	IAMs_20	04 20 56.4	
	comp=Z,27µm,20.0s						
M27K	**Edge Creek, AK**	**85.95**	**21**	P	**P**	**03 45 28.0**	**-2.1**
	baz=230						
GTK	**Tadong**	**86.03**	**299**	IAmb	IAmb	03 45 45.8	
	comp=Z,251nm,1.2s						
POKR	**Poker Plat Res**	**86.03**	**18**	IAMs_20	IAMs_20	04 18 03.2	
	comp=Z,35µm,21.0s						
POKR	**Poker Plat Res**	**86.03**	**18**	P	**P**	**03 45 28.0**	**-2.2**
	baz=224,SNR=21						
BUCK	**Buck Mountain**	**86.05**	**43**	IAmb	IAmb	03 46 13.0	
	comp=Z,132nm,1.6s						
DOT	**Dot Lake**	**86.06**	**20**	IAmb	IAmb	03 46 02.2	
	comp=Z,249nm,2.0s						
YUK3	**Moose Creek**	**86.09**	**22**	P	**P**	**03 45 28.0**	**-2.9**
	baz=231,SNR=16						
ISA	**Isabella, Lake**	**86.11**	**52**	P	**P**	**03 45 29.1**	**-2.2**
	baz=250,SNR=14						
EDW2	**Edwards Air Fo**	**86.21**	**53**	P	**P**	**03 45 30.6**	**-1.3**
	baz=250,SNR=24						
MPK	**Martis Peak**	**86.23**	**48**	IAmb	IAmb	03 46 23.6	
	comp=Z,61nm,1.1s						
109C	**Camp Elliot, M**	**86.25**	**55**	P	**P**	**03 45 30.0**	**-2.0**
	baz=251						
J04D	**Umpqua Nationa**	**86.26**	**44**	IAmb	IAmb	03 45 38.3	
	comp=Z,43nm,0.8s						
J04D				IAMs_20	IAMs_20	04 17 51.2	
	comp=Z,26µm,20.0s						
J04D	**Umpqua Nationa**	**86.26**	**44**	P	**P**	**03 45 30.5**	**-1.6**
	baz=247						
BFSC	**Mount Baldy Ra**	**86.26**	**54**	P	**P**	**03 45 29.6**	**-2.6**
	baz=250,SNR=12						
K04D	**Chiloquin, OR**	**86.26**	**45**	P	**P**	**03 45 30.1**	**-1.9**
	baz=247						
I04A	**Tendick Farm,**	**86.27**	**43**	P	**P**	**03 45 29.5**	**-2.5**
	baz=247,SNR=8.8						
G03D	**McMinnville, O**	**86.28**	**42**	IAmb	IAmb	03 46 36.5	
	comp=Z,113nm,1.4s						
G03D				IAMs_20	IAMs_20	04 21 56.6	
	comp=Z,24µm,19.0s						
G03D	**McMinnville, O**	**86.28**	**42**	P	**P**	**03 45 29.9**	**-2.0**
	baz=246						
J25K	**Salcha River,**	**86.30**	**19**	IAmb	IAmb	03 45 37.4	
	comp=Z,71nm,0.7s						
J25K	**Salcha River,**	**86.30**	**19**	P	**P**	**03 45 29.9**	**-1.7**
	baz=226,SNR=117						
SCRK	**Sand Creek**	**86.31**	**20**	IAmb	IAmb	03 46 03.9	
	comp=Z,260nm,1.8s						
SCRK				IAMs_20	IAMs_20	04 17 17.5	
	comp=Z,28µm,21.0s						
SCRK	**Sand Creek**	**86.31**	**20**	P	**P**	**03 45 29.9**	**-1.8**
	baz=228,SNR=33						
H04D	**Lebanon**	**86.35**	**43**	IAmb	IAmb	03 46 40.9	
	comp=Z,79nm,1.3s						
H04D	**Lebanon**	**86.35**	**43**	P	**P**	**03 45 30.2**	**-2.0**
	baz=246						
BVCY	**Beaver Creek**	**86.35**	**22**	P	**P**	**03 45 30.9**	**-0.9**
	baz=230,SNR=6.9						
YUK6	**Outpost Mounta**	**86.37**	**24**	P	**P**	**03 45 30.0**	**-2.2**
	baz=233						
WRAK	**Wrangell Islan**	**86.39**	**29**	IAmb	IAmb	03 46 51.7	
	comp=Z,80nm,1.4s						
WRAK	**Wrangell Islan**	**86.39**	**29**	IAMs_20	IAMs_20	04 19 49.7	
	comp=Z,29µm,19.0s						
WRAK	**Wrangell Islan**	**86.39**	**29**	P	**P**	**03 45 29.7**	**-2.4**
	baz=238						
MURC	**Murrieta**	**86.41**	**54**	P	**P**	**03 45 30.4**	**-2.5**
	baz=251						
H24K	**Noodor Dome**	**86.42**	**17**	IAMs_20	IAMs_20	04 20 52.4	
	comp=Z,44µm,20.0s						
H24K	**Noodor Dome**	**86.42**	**17**	P	**P**	**03 45 29.5**	**-2.7**
	baz=224						
L27K	**Beaver Creek,**	**86.43**	**21**	IAMs_20	IAMs_20	04 20 48.8	
	comp=Z,27µm,20.0s						
L27K	**Beaver Creek,**	**86.43**	**21**	P	**P**	**03 45 30.4**	**-1.8**
	baz=230,SNR=13						
BBB	**Bella Bella**	**86.44**	**34**	LR	LR	04 16 28.5	
	comp=Z,46µm,20.7s,baz=252,slow=30						
BWNR	**Bhubaneshwar**	**86.44**	**292**	*e*P	**P**	**03 45 34.7**	**+1.5**
MOY	**Mondy**	**86.46**	**325**	*e*P	**P**	**03 45 31.6**	**-1.1**
MOY				pmax	pmax		
	comp=Z,313nm,2.1s						
JIS	**Juneau Island**	**86.47**	**27**	IAmb	IAmb	03 46 40.6	
	comp=Z,83nm,1.8s						
PNTR	**Pine Nut**	**86.47**	**48**	IAmb	IAmb	03 46 18.8	
	comp=Z,53nm,1.2s						
YUK4	**Talbot Arm**	**86.50**	**23**	P	**P**	**03 45 31.5**	**-1.4**
	baz=233,SNR=7.9						
VCNR	**Virginia City**	**86.51**	**48**	IAmb	IAmb	03 46 00.3	
	comp=Z,285nm,2.8s						
MLAC	**Mammoth, Mammo**	**86.52**	**50**	P	**P**	**03 45 32.5**	**-1.1**
	baz=250						
TKX	**Tecate**	**86.54**	**55**	IAmb	IAmb	03 48 55.2	
	comp=Z,53nm,0.7s						
E03A	**Lebam**	**86.63**	**40**	IAmb	IAmb	03 46 20.6	
	comp=Z,94nm,1.1s						
HYT	**Haines Junctio**	**86.63**	**24**	P	**P**	**03 45 31.1**	**-2.3**
	baz=234,SNR=10						
LRMC	**Laurel Mtn Rad**	**86.66**	**52**	P	**P**	**03 45 31.2**	**-2.9**
	baz=250						
CWC	**Cottonwood Cre**	**86.67**	**51**	P	**P**	**03 45 32.5**	**-1.8**
	baz=250						
YERR	**Yerington**	**86.69**	**49**	IAmb	IAmb	03 46 46.0	
	comp=Z,87nm,1.8s						
SKAG	**Skagway**	**86.72**	**26**	P	**P**	**03 45 30.6**	**-3.1**
	baz=236						
TIN	**Tinemaha, Big**	**86.77**	**51**	P	**P**	**03 45 32.6**	**-2.1**
	baz=250						
H04A	**Detroit Lake**	**86.77**	**43**	P	**P**	**03 45 34.7**	**+0.4**
H04A				IAmb	IAmb	03 46 16.3	
	comp=Z,89nm,1.6s						
NLWA	**Neilton Lookou**	**86.79**	**40**	IAmb	IAmb	03 46 39.1	
	comp=Z,91nm,1.6s						
NLWA				IAMs_20	IAMs_20	04 18 24.9	
	comp=Z,35µm,20.0s						
F04D	**Rainier, OR**	**86.79**	**41**	P	**P**	**03 45 33.5**	**-0.8**
	baz=246						
MONP2	**Monument Peak**	**86.80**	**55**	P	**P**	**03 45 33.4**	**-1.6**
	baz=251,SNR=19						
J26L	**Joseph Creek**	**86.80**	**19**	P	**P**	**03 45 33.2**	**-0.9**
	baz=228,SNR=14						
COLD	**Coldfoot**	**86.82**	**15**	P	**P**	**03 45 33.8**	**-0.2**
	baz=222,SNR=29						
BBRC	**Big Bear Solar**	**86.84**	**54**	P	**P**	**03 45 32.9**	**-2.3**
	baz=251,SNR=9.2						
PAHR	**Pah Rah Range**	**86.84**	**48**	IAmb	IAmb	03 46 49.0	
	comp=Z,74nm,1.4s						
J05D	**Fort Rock, OR**	**86.87**	**44**	P	**P**	**03 45 33.1**	**-1.9**
	baz=248,SNR=31						
IKP	**In-Ko-Pah, Jac**	**86.97**	**55**	P	**P**	**03 45 34.1**	**-1.6**
	baz=251,SNR=7.1						
LHV	**Little Huntoon**	**86.98**	**50**	IAmb	IAmb	03 46 20.3	
	comp=Z,174nm,1.9s						
RMX	**La Rumorosa**	**86.98**	**56**	IAmb	IAmb	03 46 48.0	
	comp=Z,72nm,1.2s						
RRX	**Edison Barstow**	**86.98**	**53**	P	**P**	**03 45 33.6**	**-2.0**
	baz=251						
MOD	**Modoc Plateau**	**86.99**	**46**	IAmb	IAmb	03 46 21.3	
	comp=Z,239nm,2.4s						
MOD				IAMs_20	IAMs_20	04 17 12.6	
	comp=Z,27µm,20.0s						
MPMC	**Manual Prospec**	**87.00**	**52**	P	**P**	**03 45 34.1**	**-1.7**
	baz=250,SNR=23						
PFO	**Pinyon Flats O**	**87.00**	**54**	P	**P**	**03 45 35.5**	**-0.3**
	comp=Z,11nm,0.7s,baz=258,slow=5.1,SNR=22						
PFO				LR	LR	04 17 29.9	

comp=Z,59µm,19.8s,baz=262,slow=31
PFO Pinyon Flats O 87.00 54*c i*P P **03 45 33.5 -2.3**
PFO pmax pmax
comp=Z,24nm,0.9s
PFO MLR MLR
comp=Z,49µm,17.0s
PFO Pinyon Flats O 87.00 54 P P **03 45 34.2 -1.6**
PFO Pinyon Flats O 87.00 54 P P **03 45 34.2 -1.6**
baz=251,SNR=11
TPFO Pinon Flats 87.00 54 P P **03 45 33.8 -2.1**
baz=251,SNR=9.3
CBB Campbell River 87.01 37 IAmb IAmb 03 46 59.5
comp=Z,80nm,1.4s
RYN Ryan 87.09 49 IAmb IAmb 03 46 20.7
comp=Z,162nm,1.9s
F04A Amboy 87.11 41 IAmb IAmb 03 46 40.1
comp=Z,94nm,1.5s
YUH Yuha Desert 87.12 56 IAmb IAmb 03 46 49.0
comp=Z,69nm,1.4s
NVAR Mina Array Bea 87.19 49 P P **03 45 36.5 -0.3**
comp=Z,16nm,0.9s,baz=232,slow=6.7,SNR=52
NVAR PKKPbc **PKKPbc 04 03 34.9 +5.4**
comp=Z,1.4nm,0.7s,baz=80,slow=3.3,SNR=7.6
NVAR PKPPKP **P'P'df 04 11 34.8 +0.2**
comp=Z,2.7nm,1.0s,baz=92,slow=3.0,SNR=8.4
NVAR LR LR 04 17 21.6
comp=Z,94µm,20.2s,baz=284,slow=31
I05D Terrebonne, OR 87.20 43 P P **03 45 35.2 -1.3**
baz=248,SNR=10
CLRS Cowichan Lake 87.22 38 IAmb IAmb 03 46 18.6
comp=Z,66nm,1.4s
E04D Cinebar 87.26 41 IAmb IAmb 03 46 19.5
comp=Z,89nm,1.3s
E04D Cinebar 87.26 41 P P **03 45 35.4 -1.2**
baz=247,SNR=5.2
LCH Last Change Ra 87.27 51 IAmb IAmb 03 46 21.4
comp=Z,139nm,2.1s
GSC Goldstone, Bar 87.27 53 IAmb IAmb 03 46 22.4
comp=Z,79nm,1.6s
GSC Goldstone, Bar 87.27 53 P P **03 45 35.7 -1.4**
baz=251,SNR=11
NV11 Mina Array Sit 87.30 49 IAmb IAmb 03 46 20.7
comp=Z,104nm,1.6s
SWSC Sam W. Stewart 87.31 55 P P **03 45 35.7 -1.5**
baz=252,SNR=18
D03D Eldon 87.33 40 P P **03 45 36.1 -0.9**
baz=246,SNR=8.3
BOK Bokaro 87.35 295 *e*P P **03 45 38.8 +1.2**
BOK IAmb IAmb 03 45 45.7
comp=Z,26nm,0.8s
HOOD Mount Hood Mea 87.37 42 IAmb IAmb 03 46 05.3
comp=Z,45nm,1.1s
D04E Lakebay 87.38 40 P P **03 45 34.4 -2.7**
baz=246
GRAC Grapevine Rang 87.40 51 IAmb IAmb 03 46 23.2
comp=Z,82nm,1.2s
GRAC Grapevine Rang 87.40 51 P P **03 45 36.0 -1.6**
baz=250,SNR=9.6
QSM Queen of Sheba 87.44 52 IAmb IAmb 03 46 22.2
comp=Z,171nm,2.2s
BELC Belle Mtn. Jos 87.48 54 P P **03 45 36.6 -1.6**
baz=251,SNR=34
HEC Hector,Ludlow 87.48 53 P P **03 45 35.4 -2.7**
baz=251,SNR=33
KVN Kaiserville 87.55 49 IAmb IAmb 03 46 21.9
comp=Z,85nm,1.6s
BELA Belgrano 2 87.56 176 IAmb IAmb 03 45 42.1
comp=Z,98nm,0.9s
G05D Wamic, OR 87.56 42 P P **03 45 37.2 -0.9**
baz=248,SNR=6.3
WHY Whitehorse 87.59 25 P P **03 45 34.7 -3.3**
baz=236
FURC Furnace Creek, 87.61 52 P P **03 45 37.2 -1.3**
baz=251,SNR=18
GWY Greenwater Val 87.67 52 IAmb IAmb 03 46 50.6
comp=Z,62nm,1.5s
N31M Braeburn, Yuko 87.70 24 IAMs_20 IAMs_20 04 23 52.6
comp=Z,30µm,18.0s
N31M Braeburn, Yuko 87.70 24 P P **03 45 37.0 -1.5**
baz=235,SNR=6.7
F05D White Salmon 87.71 42 P P **03 45 36.4 -2.5**
baz=247
EGAK Eagle 87.76 20 IAMs_20 IAMs_20 04 21 12.0
comp=Z,30µm,20.0s
EGAK Eagle 87.76 20 P P **03 45 35.5 -3.1**
baz=230
BC3 Big Chuckawall 87.81 55 P P **03 45 38.3 -1.4**
baz=252,SNR=18
PALK Pallekele 87.85 278 LR LR 04 25 37.5
comp=Z,20µm,19.9s,baz=220,slow=36
PALK Pallekele 87.85 278*c i*P P **03 45 40.2 -0.1**
PALK pmax pmax
comp=Z,237nm,1.3s
PALK MLR MLR
comp=Z,24µm,19.0s
PALK Pallekele 87.85 278 P P **03 45 39.6 -0.7**
PALK Pallekele 87.85 278 P P **03 45 42.0 +1.7**
SHOC Shoshone, Teco 87.88 52 P P **03 45 38.7 -1.2**
baz=251,SNR=10
DAWY Dawson 87.91 21 P P **03 45 38.5 -0.9**
baz=232,SNR=6.8
M30M Minto, Yukon 87.94 23 IAMs_20 IAMs_20 04 23 22.0
comp=Z,32µm,19.0s
M30M Minto, Yukon 87.94 23 P P **03 45 36.8 -2.8**
baz=234
GMRC Granite Mounta 88.00 54 P P **03 45 39.3 -1.3**
baz=252,SNR=25
TUQ Turquoise Moun 88.00 53 P P **03 45 37.6 -3.0**
baz=251
TOLK Toolik Lake Re 88.03 15 IAmb IAmb 03 46 29.9
comp=Z,63nm,1.1s
TOLK Toolik Lake Re 88.03 15 P P **03 45 39.3 -0.6**
baz=222,SNR=32
A04D Lummi Island 88.04 39 P P **03 45 37.6 -2.7**
baz=246
GLA Glamis 88.12 55 IAmb IAmb 03 46 54.2
comp=Z,111nm,1.3s
GLA Glamis 88.12 55 P P **03 45 40.2 -0.9**
baz=252,SNR=14
P33M Teslin, Yukon 88.20 26 IAMs_20 IAMs_20 04 20 43.0
comp=Z,26µm,20.0s
P33M Teslin, Yukon 88.20 26 P P **03 45 37.6 -3.3**
baz=238
IRM Iron Mountain 88.21 54 P P **03 45 39.6 -1.9**
baz=252,SNR=29
TPNV Topopah Spring 88.23 51 P P **03 45 39.9 -1.8**
baz=251,SNR=19
B05A Bryant 88.23 39 P P **03 45 39.9 -1.3**
baz=247,SNR=6.5
RAGD RAYAGADA 88.29 290 *e*P P **03 45 42.6 +0.4**
I07A Izee 88.33 44 IAmb IAmb 03 46 25.5
comp=Z,197nm,1.9s
WVOR Wild Horse Val 88.33 46 IAMs_20 IAMs_20 04 20 00.2
comp=Z,26µm,20.0s
DLBC Dease Lake 88.51 28 P P **03 45 42.9 +0.5**
comp=Z,4.7nm,0.9s,baz=222,slow=11,SNR=5.8
DLBC LR LR 04 21 34.0
comp=Z,22µm,18.4s,baz=246,slow=33
DLBC Dease Lake 88.51 28 IAmb IAmb 03 47 11.6
comp=Z,270nm,3.0s
J29M Klondike Camp 88.55 21 P P **03 45 40.8 -1.7**
baz=233
BLYC Blythe 88.57 55 IAmb IAmb 03 46 55.3
comp=Z,110nm,1.5s
A21K Barrow 88.61 11 P P **03 45 41.0 -1.4**
baz=216
M31M Drury Creek, Y 88.65 24 IAMs_20 IAMs_20 04 24 23.7
comp=Z,39µm,18.0s
M31M Drury Creek, Y 88.65 24 P P **03 45 40.5 -2.5**
baz=236
BMN Battle Mountai 88.65 48 IAmb IAmb 03 46 26.3
comp=Z,88nm,1.4s
F07A Phinny Hill Vi 88.71 42 IAmb IAmb 03 46 26.9
comp=Z,66nm,1.4s
LTY Liberty 88.73 41 IAmb IAmb 03 46 26.8
comp=Z,187nm,2.4s
J08A Circle Bar Ran 88.77 45 IAmb IAmb 03 46 56.5
comp=Z,56nm,1.2s
NEE2 Needles Airpor 88.81 54 P P **03 45 42.6 -1.7**
baz=252
S11A Rachel 88.83 51 IAmb IAmb 03 46 29.9
comp=Z,158nm,1.6s
C06D Leavenworth 88.84 40 P P **03 45 42.5 -1.7**
baz=248
113A Mohawk Valley, 88.88 56 IAmb IAmb 03 46 29.5
comp=Z,74nm,1.7s
SHPR Sheep Range 88.92 52 IAmb IAmb 03 46 56.9
comp=Z,96nm,1.4s
E07A Sunnyside 89.00 41 IAmb IAmb 03 46 27.5
comp=Z,46nm,1.2s
PDMCI Parker Dam,Lak 89.04 54 P P **03 45 44.4 -1.0**
baz=252,SNR=18
I29M Ogilvie Camp, 89.07 20 IAmb IAmb 03 46 31.2
comp=Z,60nm,1.4s
I29M IAMs_20 IAMs_20 04 23 51.7
comp=Z,32µm,19.0s
I29M Ogilvie Camp, 89.07 20 P P **03 45 43.2 -1.7**
baz=233,SNR=6.1
TIXI Tiksi 89.08 349 IAMs_20 IAMs_20 04 21 46.7
comp=Z,23µm,21.0s
G08A Pilot Rock 89.12 43 IAmb IAmb 03 46 28.1
comp=Z,102nm,1.6s
HAWA Hanford 89.14 42 IAmb IAmb 03 46 29.1
comp=Z,162nm,1.8s
R11A Troy Canyon, C 89.18 50 P P **03 45 45.0 -1.2**
baz=252,SNR=16
LLLB Lillooet 89.28 37 IAmb IAmb 03 46 18.5
comp=Z,258nm,2.4s
PRN Pahroc Range 89.28 51 IAmb IAmb 03 46 58.5
comp=Z,119nm,1.4s
SYO Syowa Base 89.30 197⇑ *i*PcP **PcP 03 45 49.0 +1.7**
SYO Syowa Base 89.30 197⇓ *e*sP sP 03 45 57.0 -1.0
LPIG La Paz 89.38 65 LR LR 04 20 38.5
comp=Z,12µm,18.0s,baz=254,slow=32
214A Organ Pipe Nat 89.42 57 P P **03 45 45.8 -1.5**
baz=253,SNR=27
E08A Dider Farm, El 89.48 42 IAmb IAmb 03 46 29.8
comp=Z,94nm,1.3s
SLBS Sierra La Lagu 89.59 66 P P **03 45 47.5 -0.8**
SLBS IAmb IAmb 03 45 51.5
comp=Z,170nm,2.2s
MDRS Chennai 89.71 283 *e*P P **03 45 49.4 +0.5**
MDRS IAmb IAmb 03 45 58.1
comp=Z,31nm,1.0s
D08A Wollman Farm, 89.77 41 IAmb IAmb 03 46 31.0
comp=Z,73nm,1.6s
Y14A Wickenburg 89.84 55 IAmb IAmb 03 46 34.0
comp=Z,161nm,2.4s
B08A Colville Reser 89.98 40 IAmb IAmb 03 46 53.4
comp=Z,76nm,1.6s
BMO Blue Mountains 90.07 44 IAMs_20 IAMs_20 04 23 58.8
comp=Z,26µm,18.0s
E09A Wood Farm, Sta 90.08 42 IAmb IAmb 03 46 33.1
comp=Z,141nm,1.8s
ELK Elko 90.18 48 P P **03 45 51.1 +0.2**
comp=Z,17nm,0.9s,baz=265,slow=5.2,SNR=40
ELK LR LR 04 18 00.2
comp=Z,48µm,21.9s,baz=250,slow=30
ELK Elko 90.18 48 IAmb IAmb 03 46 34.2
comp=Z,198nm,2.1s
BLSP Bilaspur 90.23 293 *e*P P **03 45 50.5 -0.8**
C09A Chrisman Ranch 90.44 41 IAmb IAmb 03 46 34.5
comp=Z,70nm,1.6s
LCMT Little Creek M 90.54 52 IAmb IAmb 03 47 03.5
comp=Z,49nm,1.2s
TGTN Hyland Airport 90.78 26 P P **03 45 52.3 -0.7**
baz=242
SZCU Shurtz Canyon 90.83 52 IAmb IAmb 03 46 37.7
comp=Z,194nm,2.2s
KNB Kanab 90.87 52 IAmb IAmb 03 46 47.0
comp=Z,105nm,1.5s
PLID Pearl Lake 91.02 44 IAmb IAmb 03 46 36.6
comp=Z,71nm,1.6s
PLID IAMs_20 IAMs_20 04 21 31.0
comp=Z,35µm,19.0s
U15A North Rim 91.11 53 IAmb IAmb 03 46 06.1
comp=Z,54nm,1.2s
TUC Tucson 91.17 57 P P **03 45 55.0 -0.5**
TUC pmax pmax
comp=Z,22nm,0.9s
TUC Tucson 91.17 57 P P **03 45 55.0 -0.5**
TUC Tucson 91.17 57 IAMs_20 IAMs_20 04 19 09.6
comp=Z,31µm,20.0s
TUC Tucson 91.17 57 P P **03 45 53.5 -2.0**
baz=254
SALM Salem 91.31 282 *e*P P **03 45 57.3 +1.0**
NEW Newport 91.33 40 P P **03 45 55.5 -0.3**
comp=Z,8.0nm,0.8s,baz=233,slow=4.0,SNR=18
NEW LR LR 04 24 23.3
comp=Z,18µm,18.1s,baz=251,slow=34
NEW Newport 91.33 40 IAMs_20 IAMs_20 04 23 53.8
comp=Z,21µm,19.0s
NEW Newport 91.33 40 P P **03 45 54.0 -1.8**
baz=251,SNR=9.3
WUAZ Wupatki 91.57 54 P P **03 45 56.2 -1.2**
baz=254,SNR=17
TCRU Three Creeks R 91.60 51 IAmb IAmb 03 46 03.8
comp=Z,25nm,0.8s
HLID Hailey 91.63 46 IAmb IAmb 03 46 40.2
comp=Z,67nm,1.8s
HLID IAMs_20 IAMs_20 04 20 24.2
comp=Z,34µm,19.0s
HLID Hailey 91.63 46 P P **03 45 57.0 -0.5**
baz=252,SNR=18
KOD Kodaikanal 91.67 280 *e*P P **03 45 59.0 +0.6**
WMQ Urumqi 91.77 315 *e*P P **03 45 57.9 -0.1**
WMQ pP sP 03 46 08.8 -1.2
WMQ sP pwP 03 46 13.3 +2.2
WMQ PP **PP 03 49 40.0 +2.8**
WMQ SKS **SKSac 03 56 29.3 +0.6**
WMQ S **S 03 56 56.4 -0.5**
WMQ SS **SS 04 03 07.3 +2.1**
WMQ pmax pmax
comp=Z,140nm,1.5s
WMQ pmax pmax
comp=Z,5µm,9.1s
WMQ LR LR
comp=Z,7µm,17.9s
WMQ LR LR
comp=Z,15µm,23.1s
WMQ LR LR
comp=Z,15µm,23.1s
DUG Dugway, Tooele 91.78 49 IAmb IAmb 03 47 09.7
comp=Z,43nm,1.4s
DUG Dugway, Tooele 91.78 49 P P **03 45 56.4 -1.8**
baz=253
319A Douglas 92.16 58 IAmb IAmb 03 46 03.9
comp=Z,52nm,0.8s
H08S2 Diego Garcia H 92.22 262 P P **03 46 02.6 +2.3**
baz=27,slow=6.4,SNR=11
H08S3 Diego Garcia H 92.23 262 P P **03 46 02.9 +2.5**
baz=27,slow=6.4,SNR=7.8
H08S1 Diego Garcia H 92.23 262 P P **03 46 02.2 +1.8**
baz=27,slow=6.4,SNR=8.3
HVU Hansel Valley 92.26 48 IAmb IAmb 03 46 43.9
comp=Z,153nm,2.1s
DGAR Diego Garcia 92.31 262*c i*P P **03 46 00.3 -0.8**
DGAR pmax pmax
comp=Z,105nm,1.3s
DGAR Diego Garcia 92.31 262 P P **03 46 00.2 -0.9**
DGAR Diego Garcia 92.31 262 IAMs_20 IAMs_20 04 23 01.5
comp=Z,30µm,21.0s
INK Inuvik 92.32 19 P P **03 45 60.0 +0.2**
comp=Z,1.0nm,0.5s,baz=318,slow=8.9,SNR=6.3
INK PKKPbc **PKKPdf 04 03 13.8 -1.5**
comp=Z,2.6nm,0.8s,baz=74,slow=4.8,SNR=5.7
INK LR LR 04 22 21.3
comp=Z,52µm,20.7s,baz=220,slow=32
INK Inuvik 92.32 19 P P **03 46 00.0 +0.2**
INK Inuvik 92.32 19 P P **03 45 56.7 -3.1**
baz=237
HYB Hyderabad 92.34 287 *e*P P **03 46 00.6 -0.6**
HYB IAmb IAmb 03 46 03.7
comp=Z,120nm,1.3s
HYBB Hyderabad (bro 92.35 287 *e*P P **03 46 00.6 -0.6**
HYBB *e*PcP **PcP 03 46 01.6 -0.4**
HYBB *e*sP **sP 03 46 13.3 +0.1**
HYBB *e*PP **PP 03 49 42.9 +0.5**
HYBB *e*SKSac **SKSac 03 56 32.5 -0.4**
HYBB *e*ScS **ScS 03 57 04.7 -0.6**
HYBB *e*SP **SP 03 58 13.1 -0.5**
HYBB *e*PS **PS 03 58 17.1 -0.5**
HYBB *e*SKKSac **SKKSdf 04 10 31.6 +9.2**
MPU Maple Canyon 92.60 50 IAmb IAmb 03 47 13.8
comp=Z,42nm,1.5s
Q16A Castle Valley 92.65 51 IAmb IAmb 03 47 15.3
comp=Z,42nm,1.3s
CTU Camp Tracy 92.70 49 IAmb IAmb 03 46 45.7
comp=Z,171nm,2.8s
PMSA Palmer Station 92.70 161 LR LR 04 24 09.0
comp=Z,13µm,18.9s,baz=228,slow=33
PMSA Palmer Station 92.70 161 *e*P P **03 46 05.9 +4.1**
W18A Petrified Fore 92.75 55 P P **03 46 01.6 -1.3**
baz=255
JLU Jordanelle 92.90 49 IAmb IAmb 03 46 48.0
comp=Z,44nm,1.6s
MSO Missoula 92.93 43 P P **03 46 01.3 -2.0**
baz=253
HWUT Hardware Ranch 93.09 48 IAMs_20 IAMs_20 04 18 34.8
comp=Z,30µm,22.0s
SRU San Rafael Swe 93.19 51 IAmb IAmb 03 46 56.1
comp=Z,132nm,2.8s
DLMT Dillon 93.40 44 IAMs_20 IAMs_20 04 22 03.9
comp=Z,21µm,20.0s
TROLL Troll, Antarti 93.60 185 P P **03 46 04.5 -1.6**
121A Cookes Peak, D 93.68 58 P P 03 45 59.0 -8.2
baz=256
121A S S **03 57 18.3 +3.7**
baz=256
121A Cookes Peak, D 93.68 58 P P **03 46 05.4 -1.8**
baz=256
LGTI Lohaghat 93.69 299 *e*P P **03 46 06.8 -0.2**
AHID Auburn Hatcher 93.73 47 IAMs_20 IAMs_20 04 20 02.8
comp=Z,39µm,21.0s
TPAW Teton Pass 94.03 46 IAMs_20 IAMs_20 04 20 47.6
comp=Z,38µm,20.0s
BOZ Bozeman (W) 94.12 44 IAMs_20 IAMs_20 04 21 15.9
comp=Z,24µm,20.0s
BOZ Bozeman (W) 94.12 44 P P **03 46 06.8 -2.1**
baz=254
PV23 Carpenter Ridg 94.16 52 IAmb IAmb 03 46 12.4
comp=Z,28nm,0.7s
MVCO Mesa Verde 94.25 53 IAMs_20 IAMs_20 04 23 27.9
comp=Z,33µm,19.0s
MVCO Mesa Verde 94.25 53 P P **03 46 07.7 -2.1**
baz=256
SNAA Sanae 94.31 183 P P **03 46 07.9 -1.3**
SNAA Sanae 94.31 183 LR LR 04 27 46.7
comp=Z,24µm,18.5s,baz=172,slow=35
SNAA Sanae 94.31 183*ce*P P **03 46 08.3 -0.9**
SNAA pmax pmax
comp=Z,236nm,1.7s
SNAA MLR MLR
comp=Z,23µm,18.0s
SNAA Sanae 94.31 183 IAMs_20 IAMs_20 04 26 57.9
comp=Z,24µm,19.0s
AKL Akola 94.52 290 *e*P P **03 46 10.5 -0.6**
H17A Grant Village 94.52 46 IAmb IAmb 03 47 04.1
comp=Z,77nm,2.5s
H17A Grant Village 94.52 46 P P **03 46 11.2 +0.3**
baz=255
KIDD KIDD Seismic O 94.55 59 P P **03 46 08.9 -2.3**
baz=256
Y22A Socorro 94.68 56 P P **03 46 09.3 -2.4**
baz=256
ZSN Zaisan 94.70 318 *e*P P **03 46 09.0 -2.3**
ZSN *e*S S 03 56 41.3 -41
ZSN pmax pmax
comp=Z,33nm,0.9s
ZSN Zaisan 94.70 318 *e*P P **03 46 09.1 -2.3**
comp=Z,33nm,0.9s,baz=318
ZSN *e*S **SKSac 03 56 41.4 -3.2**
baz=318
BHPL Bhopal 94.72 293 *e*P P **03 46 11.2 -0.8**
BHPL IAmb IAmb 03 46 26.7
comp=Z,14nm,0.7s
Y22D IRIS PASSCAL I 94.75 56 IAMs_20 IAMs_20 04 21 29.3
comp=Z,32µm,20.0s
Y22D IRIS PASSCAL I 94.75 56 P P **03 46 10.8 -1.3**
baz=256
Y22D IRIS PASSCAL I 94.75 56 P P **03 46 10.3 -1.7**
baz=256
BW06 Boulder Array 94.83 47 IAMs_20 IAMs_20 04 23 18.9
comp=Z,29µm,20.0s
BW06 Boulder Array 94.83 47 P P **03 46 08.8 -3.5**
baz=256
PDAR Pinedale Array 94.83 47 P P **03 46 12.8 +0.4**
comp=Z,1.6nm,0.7s,baz=214,slow=4.2,SNR=13
PDAR PKKPbc **PKKPbc 04 03 09.1 -1.2**
comp=Z,2.5nm,1.0s,baz=90,slow=4.9,SNR=8.6
PDAR PKPPKP **P'P'df 04 11 26.6 +6.4**
comp=Z,0.9nm,0.9s,baz=118,slow=2.2,SNR=4.1
PDAR LR LR 04 23 20.7
comp=Z,22µm,19.4s,baz=277,slow=32
VNA3 Neumayer Olymp 95.00 181 P P **03 46 09.9 -2.4**
O20A White River Ci 95.15 50 P P **03 46 11.0 -2.8**
baz=256
VNA2 Neumayer--Watz 95.25 182 P P **03 46 12.0 -1.4**
baz=187,slow=4.0
ANMO Albuquerque 95.32 55 LR LR 04 21 41.6
comp=Z,38µm,20.6s,baz=268,slow=31
ANMO Albuquerque 95.32 55*ce*P P **03 46 14.1 -0.6**
ANMO pmax pmax
comp=Z,12nm,1.2s
ANMO Albuquerque 95.32 55 P P **03 46 14.1 -0.6**
ANMO Albuquerque 95.32 55 IAMs_20 IAMs_20 04 21 20.5
comp=Z,36µm,20.0s
ANMO Albuquerque 95.32 55 P P **03 46 11.7 -3.0**
baz=257
ANMO Albuquerque 95.32 55 P P **03 46 12.5 -2.2**
baz=257
MNTX Cornudas Mount 95.47 59 P P **03 46 12.3 -2.9**
baz=257
MNTX Cornudas Mount 95.47 59 P P **03 46 13.6 -1.7**
baz=257
VNA1 Neumayer--Stat 95.56 182 P P **03 46 15.4 +0.6**
RLMT Red Lodge 95.61 45 IAMs_20 IAMs_20 04 22 24.6
comp=Z,29µm,20.0s
RLMT Red Lodge 95.61 45 P P **03 46 15.4 -0.4**
baz=256
S22A 4UR Ranch, Cre 95.67 53 P P **03 46 14.1 -2.2**
baz=257
C36M Paulatuk 95.83 19 IAMs_20 IAMs_20 04 23 00.3
comp=Z,29µm,22.0s
C36M Paulatuk 95.83 19 P P **03 46 12.2 -3.7**
baz=246
SMCO Snowmass 95.88 51 IAMs_20 IAMs_20 04 20 56.0
comp=Z,24µm,22.0s
EGMT Eagleton 95.98 42 P P **03 46 14.8 -2.4**
baz=256
NDI New Delhi 96.10 298 *e*P P **03 46 20.0 +1.9**
MK31 Makanchi Array 96.24 317 *i*P P **03 46 18.0 -0.4**
MK31 pmax pmax
comp=Z,75nm,0.8s
MKAR Makanchi Array 96.24 317 P P **03 46 17.9 -0.5**
comp=Z,51nm,0.8s,baz=99,slow=6.4,SNR=150
MKAR PP **PP 03 50 12.6 +0.5**
comp=Z,16nm,1.0s,baz=106,slow=6.4,SNR=5.3
MKAR PKKP **PKiKP 03 50 55.9 -0.6**
comp=Z,2.6nm,0.5s,baz=134,slow=0.6,SNR=9.3
MKAR S **SKSac 03 56 52.2 -0.6**
comp=Z,1.1nm,0.8s,baz=100,slow=5.4,SNR=4.2
MKAR PKKPbc **PKKPbc 04 03 04.0 -2.3**
comp=Z,2.9nm,0.8s,baz=282,slow=2.8,SNR=12
MKAR LR LR 04 28 55.3
comp=Z,12µm,21.8s,baz=82,slow=35
RWWY Rawlins 96.27 49 IAMs_20 IAMs_20 04 21 18.1
comp=Z,40µm,22.0s
TX31 Lajitas Ar. Si 96.40 61 IAmb IAmb 03 50 14.7
comp=Z,32nm,1.2s
TX31 Lajitas Ar. Si 96.40 61 P P 03 46 14.2 -5.4
baz=258
TXAR Lajitas Array 96.40 61 P P **03 46 17.8 -1.8**
comp=Z,2.8nm,0.8s,baz=225,slow=5.3,SNR=33
TXAR PP **PP 03 50 13.8 0.0**
comp=Z,8.6nm,1.0s,baz=226,slow=10,SNR=11
TXAR PKKPbc **PKKPbc 04 03 04.8 -0.5**
comp=Z,1.1nm,0.8s,baz=108,slow=4.1,SNR=6.2
TXAR PKPPKP **P'P'df 04 11 12.6 -5.8**
comp=Z,0.6nm,0.9s,baz=129,slow=1.8,SNR=3.4
TXAR LR LR 04 21 13.3
comp=Z,27µm,21.8s,baz=262,slow=30
ZALV Zalesovo Beam 96.42 324 P P **03 46 17.6 -1.4**
comp=Z,83nm,1.0s,baz=112,slow=4.3,SNR=80
ZALV LR LR 04 30 17.8
comp=Z,12µm,20.1s,baz=100,slow=36
MAKZ Makanchi 96.45 317 P P **03 46 18.9 -0.5**
MAKZ pmax pmax
comp=Z,165nm,1.4s
MAKZ MLR MLR
comp=Z,15µm,21.0s
MAKZ Makanchi 96.45 317 P P **03 46 18.9 -0.5**
A36M Sachs Harbour 96.58 17 IAmb IAmb 03 47 04.8
comp=Z,34nm,1.1s
A36M IAMs_20 IAMs_20 04 23 46.8
comp=Z,31µm,22.0s
A36M Sachs Harbour 96.58 17 P P **03 46 17.5 -1.8**
baz=245
SMLA Simla 96.66 300 *e*P P **03 46 19.7 -0.9**
SDCO Great Sand Dun 96.69 53 P P **03 46 19.6 -1.4**
baz=258
SDCO Great Sand Dun 96.69 53 P P **03 46 19.1 -1.9**
baz=258

POO	Poona	96.96	287	eP	P	03 46 19.0	-3.3
K22A	Casper	96.98	48	P	P	03 46 19.4	-2.6
	baz=258						
K22A	Casper	96.98	48	P	P	03 46 18.9	-3.1
	baz=258						
N23A	Red Feather La	97.03	50	P	P	03 46 21.4	-1.1
	baz=258						
ISCO	Idaho Springs	97.04	51	P	P	03 46 20.6	-2.0
	baz=258						
ISCO	Idaho Springs	97.04	51	P	P	03 46 21.4	-1.1
	baz=258						
YKA	Yellowknife Ar	97.10	27	P	P	03 46 20.2	-1.7
	comp=Z,6.5nm,0.8s,baz=258,slow=4.8,SNR=37						
YKA				PKiKP	PKiKP	03 50 54.7	-2.8
	comp=Z,0.3nm,0.3s,baz=256,slow=1.5,SNR=11						
YKA				S	SKSac	03 57 02.3	+5.9
	comp=Z,1.9nm,1.2s,baz=260,slow=5.8,SNR=5.2						
YKA				PKKPbc	PKKPbc	04 03 01.3	-3.1
	comp=Z,1.5nm,0.8s,baz=72,slow=2.9,SNR=6.8						
YKA				PKPPKP	P'P'df	04 11 10.9	-3.1
	comp=Z,0.5nm,0.9s,baz=56,slow=1.5,SNR=4.3						
YKA				LR	LR	04 28 40.2	
	comp=Z,10µm,18.2s,baz=260,slow=34						
Q24A	Divide	97.22	52	P	P	03 46 22.2	-1.2
	baz=258						
USHA	Ushuaia	97.25	151	LR	LR	04 21 09.4	
	comp=Z,17µm,21.8s,baz=217,slow=30						
SHLS	Shalkode	97.39	313	eP	P	03 46 19.9	-3.9
SHLS				eS	SKSac	03 56 53.9	-5.2
SHLS				pmax	pmax		
	comp=Z,17nm,1.1s						
SHLS	Shalkode	97.39	313	eP	P	03 46 20.0	-3.9
	comp=Z,17nm,1.1s,baz=313						
SHLS				eS	SKSac	03 56 54.0	-5.2
	baz=313						
PDGK	Podgornoye	97.41	313	P	P	03 46 22.6	-1.3
T25A	Trinidad	97.41	54	P	P	03 46 22.7	-1.5
	baz=258						
UZB	Uzynbulak	97.70	312	eP	P	03 46 23.0	-2.3
UZB	Uzynbulak	97.70	312	eP	P	03 46 23.0	-2.3
	baz=312						
AJM	Ajmer	97.88	295	eP	P	03 46 24.9	-1.4
KPKS	Kokpek	98.01	313	eP	P	03 46 23.6	-2.9
KPKS				eS	SKSac	03 56 58.4	-3.8
KPKS				pmax	pmax		
	comp=Z,34nm,1.7s						
KPKS	Kokpek	98.01	313	eP	P	03 46 23.7	-2.9
	comp=Z,34nm,1.7s,baz=313						
KPKS				eS	SKSac	03 56 58.5	-3.8
	baz=313						
LAO	LASA Array	98.03	44	IAMs_20	IAMs_20	04 24 18.3	
	comp=Z,24µm,20.0s						
LAO	LASA Array	98.03	44	P	P	03 46 25.6	-1.0
	baz=258						
LAO	LASA Array	98.03	44	P	P	03 46 25.1	-1.4
	baz=258						
MSTX	Muleshoe	98.09	57	P	P	03 46 25.7	-1.5
	baz=259						
MSTX	Muleshoe	98.09	57	P	P	03 46 24.6	-2.6
	baz=259						
SATY	Saty	98.13	312	eP	P	03 46 24.4	-2.7
SATY	Saty	98.13	312	eP	P	03 46 24.5	-2.7
	baz=312						
UNM	Universidad Na	98.33	72	IAMs_20	IAMs_20	04 24 36.8	
	comp=Z,26µm,18.0s						
SEM	Semipalatinsk	98.35	320	eP	P	03 46 25.6	-2.4
SEM				eS	SKSac	03 57 00.5	-3.4
SEM	Semipalatinsk	98.35	320	eP	P	03 46 25.6	-2.4
	baz=320						
SEM				eS	SKSac	03 57 00.6	-3.4
	baz=320						
TDK	Taldyqorghan	98.50	314	eP	P	03 46 26.4	-2.2
TDK				eS	SKSac	03 57 01.7	-2.8
TDK				MLR	MLR		
	comp=Z,8µm,22.0s						
TDK	Taldyqorghan	98.50	314	eP	P	03 46 26.5	-2.2
	baz=314						
TDK				eS	SKSac	03 57 01.8	-2.8
	baz=314						
TDK				LR	LR	04 28 36.0	
	comp=Z,8µm,22.1s,baz=314						
ARXS	Arharly	98.76	313	eP	Pdif	03 46 30.0	+0.1
KDJ	Kajisay	98.84	311	IAmb	IAmb	03 46 50.3	
	comp=Z,26nm,1.1s						
RSSD	Black Hills	99.05	47	IAMs_20	IAMs_20	04 29 40.5	
	comp=Z,25µm,19.0s						
RSSD	Black Hills	99.05	47	P	Pdif	03 46 28.9	-2.4
	baz=259						
RSSD	Black Hills	99.05	47	Pdiff	Pdif	03 46 29.2	-2.2
	baz=259						
MDOK	Medeo	99.12	312	eP	Pdif	03 46 28.7	-2.9
MDOK				eS	SKSac	03 57 04.7	-3.3
MDOK				pmax	pmax		
	comp=Z,22nm,0.9s						
MDOK				MLR	MLR		
	comp=Z,4µm,20.0s						
MDOK	Medeo	99.12	312	eP	Pdif	03 46 28.8	-2.9
	comp=Z,22nm,0.9s,baz=312						
MDOK				eS	SKSac	03 57 04.8	-3.3
	baz=312						
MDOK				LR	LR	04 31 11.4	
	comp=Z,4µm,20.0s,baz=312						
NRIK	Noril'sk	99.13	339	P	Pdif	03 46 29.6	-1.2
	comp=Z,30nm,0.7s,baz=111,slow=5.1,SNR=19						
NRIK				PP	PP	03 50 35.3	+1.7
	comp=Z,2.2nm,0.3s,baz=131,slow=6.7,SNR=4.5						
NRIK				LR	LR	04 28 40.8	
	comp=Z,24µm,21.9s,baz=100,slow=34						
NRIK	Noril'sk	99.13	339c	eP	Pdif	03 46 29.9	-0.9
NRIK				pmax	pmax		
	comp=Z,66nm,0.9s						
KSCO	Kaye Shedlock'	99.16	52	P	Pdif	03 46 30.4	-1.5
	baz=260						
KSCO	Kaye Shedlock'	99.16	52	Pdiff	Pdif	03 46 30.0	-1.8
	baz=260						
TNSS	Tian-Shan	99.17	312	eP	Pdif	03 46 29.1	-3.1
TNSS				pmax	pmax		
	comp=Z,16nm,0.7s						
TNSS	Tian-Shan	99.17	312	eP	Pdif	03 46 29.1	-3.1
	comp=Z,16nm,0.7s,baz=312						
AAA	Alma-Ata	99.23	312	eP	Pdif	03 46 29.4	-2.6
AAA	Alma-Ata	99.23	312	eP	Pdif	03 46 29.5	-2.6
	baz=312						
KSH	Kashi	99.26	308	P	Pdif	03 46 35.6	+3.3
KSH				pP	pP	03 46 42.4	+1.2
KSH				PP	PP	03 50 34.5	-1.1
KSH				SKS	SKSac	03 57 08.6	-0.2
KSH				S	ScS	03 57 59.9	-2.4
KSH				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KSH				LR	LR		
	comp=Z,10µm,20.3s						
KSH				LR	LR		
	comp=Z,7µm,19.9s						
KSH				LR	LR		
	comp=Z,11µm,19.2s						
KURK	Kurchatov	99.43	320c	iP	Pdif	03 46 31.6	-1.0
KURK				pmax	pmax		
	comp=Z,25nm,1.0s						
KURK	Kurchatov	99.43	320		Pdif	03 46 31.3	-1.2
KURK				IAmb	IAmb	03 50 37.2	
	comp=Z,80nm,1.6s						
KURK	Kurchatov	99.43	320	P	Pdif	03 46 35.2	+2.6
KURBB	Kurchatov Arra	99.47	320	PKKPbc	PKKPbc	04 02 57.0	-0.4
	comp=Z,2.9nm,0.9s,baz=282,slow=3.3,SNR=12						
KURBB				LR	LR	04 33 36.6	
	comp=Z,12µm,18.7s,baz=82,slow=37						
KURBB	Kurchatov Arra	99.47	320	P	Pdif	03 46 31.1	-1.6
DGMT	Dagmar	99.71	42	P	Pdif	03 46 33.0	-0.9
	baz=260						
DGMT	Dagmar	99.71	42	Pdiff	Pdif	03 46 33.7	-0.3
	baz=260						
KUU	Kurty	99.76	313	eP	Pdif	03 46 31.4	-2.8
KUU				eS	SKSac	03 57 07.4	-3.4
KUU				pmax	pmax		
	comp=Z,22nm,1.4s						
KUU	Kurty	99.76	313	eP	Pdif	03 46 31.5	-2.8
	comp=Z,22nm,1.4s,baz=313						
KUU				eS	SKSac	03 57 07.5	-3.4
	baz=313						
KUU				LR	LR	04 33 42.5	
	comp=Z,5µm,17.2s,baz=313						
BOOM	Boomskoye usch	99.81	311	IAmb	IAmb	03 47 05.0	
	comp=Z,42nm,1.6s						
833A	Chaparral WMA,	99.88	63	P	Pdif	03 46 33.8	-1.4
	baz=259						
833A	Chaparral WMA,	99.88	63	Pdiff	Pdif	03 46 33.6	-1.6
	baz=259						
JCT	Junction City	99.91	61	IAMs_20	IAMs_20	04 23 45.6	
	comp=Z,29µm,21.0s						
JCT	Junction City	99.91	61	P	Pdif	03 46 31.2	-4.1
	baz=260						
JCT	Junction City	99.91	61	Pdiff	Pdif	03 46 32.2	-3.1
	baz=260						
OGNE	Ogallala	99.94	50	P	Pdif	03 46 34.4	-0.9
	baz=260						
OGNE	Ogallala	99.94	50	Pdiff	Pdif	03 46 33.9	-1.3
	baz=260						
TKM2	Tokmak 2	100.13	312	P	Pdif	03 46 34.4	-1.8
ABTX	Abilene, Hawle	100.42	59	P	Pdif	03 46 34.9	-2.6
	baz=260						
ABTX	Abilene, Hawle	100.42	59	Pdiff	Pdif	03 46 34.9	-2.6
	baz=260						
AAK	Ala-Archa	100.88	311	PKKPbc	PKKPbc	04 02 57.0	+3.7
	comp=Z,3.0nm,0.6s,baz=229,slow=5.4,SNR=7.8						
AAK	Ala-Archa	100.88	311	P	Pdif	03 46 38.0	-1.5
AAK	Ala-Archa	100.88	311	Pdif	Pdif	03 46 38.0	-1.5
AAK	Ala-Archa	100.88	311	Pdiff	Pdif	03 46 39.0	-0.5
SGDS	Sogindy	100.91	312	eP	Pdif	03 46 36.8	-2.7
SGDS	Sogindy	100.91	312	eP	Pdif	03 46 36.9	-2.7
	baz=312						
KVTX	Kingsville	101.05	64	P	Pdif	03 46 39.4	-0.9
	baz=260						
735A	Kenedy	101.34	63	P	Pdif	03 46 39.0	-2.6
	baz=260						
CBKS	Cedar Bluff	101.35	53	P	Pdif	03 46 39.6	-1.8
	baz=261						
CBKS	Cedar Bluff	101.35	53	Pdiff	Pdif	03 46 40.5	-1.0
	baz=261						
AML	Almayashu	101.39	311	P	Pdif	03 46 44.7	+2.6
AML	Almayashu	101.39	311	i Pdiff	Pdif	03 46 42.1	0.0
	SNR=11						
WMOK	Wichita Mounta	101.48	57	IAMs_20	IAMs_20	04 23 59.5	
	comp=Z,22µm,21.0s						
WMOK	Wichita Mounta	101.48	57	P	Pdif	03 46 42.9	+0.8
	baz=261						
WMOK	Wichita Mounta	101.48	57	Pdiff	Pdif	03 46 40.7	-1.4
	baz=261						
U32A	Winter Ranch,	101.55	55	P	Pdif	03 46 41.7	-0.7
	baz=261						
BTLS	Baital	101.56	314	eP	Pdif	03 46 40.1	-2.1
BTLS	Baital	101.56	314	eP	Pdif	03 46 40.2	-2.1
	baz=314						
E28A	Huff	101.76	45	P	Pdif	03 46 40.4	-2.8
	baz=262						
435B	Jarrell	101.85	61	IAMs_20	IAMs_20	04 24 44.6	
	comp=Z,29µm,20.0s						
435B	Jarrell	101.85	61	P	Pdif	03 46 42.4	-1.4
	baz=261						
435B	Jarrell	101.85	61	Pdiff	Pdif	03 46 42.7	-1.1
	baz=261						
CMIG	Matias Romero	101.89	75	P	Pdif	03 46 46.1	+1.8
	comp=Z,2.2nm,0.8s,baz=124,slow=18,SNR=4.2						
CMIG				PP	PP	03 50 57.3	+1.4
	comp=Z,2.8nm,0.9s,baz=277,slow=9.5,SNR=3.1						
R32A	Long Quarter,	102.08	53	P	Pdif	03 46 40.0	-4.7
	baz=262						
WHTX	Lake Whitney,	102.15	60	P	Pdif	03 46 44.3	-0.8
	baz=261						
WHTX	Lake Whitney,	102.15	60	Pdiff	Pdif	03 46 43.3	-1.9
	baz=261						
Z35A	Perchaven, San	102.52	59	P	Pdif	03 46 44.2	-2.5
	baz=262						
K31A	O'Neill	102.62	49	P	Pdif	03 46 47.6	+0.6
	baz=263						
MDND	Maddock	102.66	44	P	Pdif	03 46 46.6	-0.4
	baz=263						
MDND	Maddock	102.66	44	Pdiff	Pdif	03 46 45.6	-1.5
	baz=263						
SUSD	Miller	102.70	47	P	Pdif	03 46 46.2	-1.1
	baz=263						
SUSD	Miller	102.70	47	Pdiff	Pdif	03 46 46.5	-0.8
	baz=263						
BGNE	Belgrade	102.91	50	Pdiff	Pdif	03 46 45.9	-2.4
	baz=263						
BRZS	Berezniki	103.09	319	eP	Pdif	03 46 46.3	-2.6
BRZS	Berezniki	103.09	319	ePdif	Pdif	03 46 46.4	-2.6
	baz=319						
OTUK	Ortayu	103.13	317	P	Pdif	03 46 49.9	+0.7
HKT	Hockley	103.22	62	IAMs_20	IAMs_20	04 29 39.8	
	comp=Z,25µm,19.0s						
HKT	Hockley	103.22	62	P	Pdif	03 46 48.4	-1.4
	baz=261						
DZA	Taraz	103.23	311	ePKiKP	PKiKP	03 51 06.4	-2.8
	baz=311						
237A	Washetta, Mont	103.53	60	P	Pdif	03 46 51.6	+0.3
	baz=262						
T35B	Sooner Cattle	103.61	55	P	Pdif	03 46 50.2	-1.3
	baz=263						
RER	Riviere de l'E	103.77	244	IAMs_20	IAMs_20	04 30 34.8	
	comp=Z,19µm,19.0s						
KSU1	Kansas State U	103.80	53	P	Pdif	03 46 51.1	-1.3
	baz=263						
KSU1	Kansas State U	103.80	53	Pdiff	Pdif	03 46 51.0	-1.3
	baz=263						
KK31	Karatay Array	103.85	311	i P	Pdif	03 46 51.3	-1.2
EFI	East Falkland	104.02	153	IAMs_20	IAMs_20	04 24 34.6	
	comp=Z,18µm,22.0s						
TUL1	Leonard	104.06	56	IAMs_20	IAMs_20	04 26 25.9	
	comp=Z,31µm,21.0s						
TUL1	Leonard	104.06	56	P	Pdif	03 46 51.1	-2.5
	baz=263						
TUL1	Leonard	104.06	56	Pdiff	Pdif	03 46 51.8	-1.8
	baz=263						
IUG	Iuzhnay	104.10	310	eP	Pdif	03 46 51.7	-2.0
IUG	Iuzhnay	104.10	310	ePdif	Pdif	03 46 51.8	-2.0
	baz=310						
PLCA	Paso Flores	104.11	139	Pdiff	Pdif	03 46 54.8	+0.9
	comp=Z,4.1nm,1.0s,baz=241,slow=2.4,SNR=3.8						
PLCA				PKKPbc	PKKPbc	04 02 44.0	+0.6
	comp=Z,6.0nm,1.1s,baz=30,slow=6.1,SNR=3.3						
X37A	Clayton	104.24	57	P	Pdif	03 46 57.0	+2.6
	baz=263						
L34A	Svendsen Farm,	104.30	50	P	Pdif	03 46 53.9	-0.6
	baz=264						
ECSD	EROS Data Cent	104.30	48	IAMs_20	IAMs_20	04 34 25.6	
	comp=Z,18µm,18.0s						
ECSD	EROS Data Cent	104.30	48	P	Pdif	03 46 52.7	-1.7
	baz=264						
ECSD	EROS Data Cent	104.30	48	Pdiff	Pdif	03 46 54.0	-0.5
	baz=264						
BRLS	Borolday	104.33	311	ePKiKP	PKiKP	03 51 08.6	-2.5
	baz=311						
Z38A	Mt. Pleasant	104.39	59	P	Pdif	03 46 54.2	-0.8
	baz=263						
NATX	Nacogdoches	104.47	60	IAMs_20	IAMs_20	04 26 27.9	
	comp=Z,25µm,20.0s						
NATX	Nacogdoches	104.47	60	Pdiff	Pdif	03 46 53.5	-1.9
	baz=262						
F33A	5 Mile Ranch,	104.72	46	P	Pdif	03 46 52.9	-3.4
	baz=265						
N35A	Tabor	104.73	51	P	Pdif	03 46 54.1	-2.4
	baz=264						
BRVK	Borovoye	104.84	322	P	Pdif	03 46 55.3	-1.3
BRVK				MLR	MLR		
	comp=Z,19µm,21.0s						
BRVK	Borovoye	104.84	322	Pdif	Pdif	03 46 55.2	-1.3
BRVK	Borovoye	104.84	322	IAMs_20	IAMs_20	04 31 44.3	
	comp=Z,19µm,21.0s						
BRVK	Borovoye	104.84	322	P	Pdif	03 47 00.1	+3.6
AGMN	Agassiz Nation	105.20	43	IAMs_20	IAMs_20	04 27 39.1	
	comp=Z,23µm,20.0s						
AGMN	Agassiz Nation	105.20	43	P	PKiKP	03 51 09.4	-3.1
	baz=266						
AGMN	Agassiz Nation	105.20	43	Pdiff	Pdif	03 46 56.7	-1.6
	baz=266						
ULM	Lac du Bonnet	105.32	41	PP	PKiKP	03 51 13.7	+1.0
	comp=Z,1.7nm,0.4s,baz=360,slow=5.3,SNR=3.4						
ULM				SKiKP	SKiKP	03 54 50.4	+4.6
	comp=Z,1.5nm,0.5s,baz=238,slow=2.4,SNR=3.7						
RES	Resolute Bay	105.57	16	PKKPbc	PKKPbc	04 02 35.8	-4.2
	comp=Z,2.9nm,0.8s,baz=134,slow=0.5,SNR=11						
HHAR	Hobbs	105.59	56	P	PKiKP	03 51 15.3	+1.6
	baz=264						
W39A	Magazine	105.61	57	IAMs_20	IAMs_20	04 26 29.8	
	comp=Z,26µm,22.0s						
W39A	Magazine	105.61	57	Pdiff	Pdif	03 46 58.6	-1.8
	baz=264						
MIAR	Mount Ida	105.70	58	IAMs_20	IAMs_20	04 31 27.7	
	comp=Z,21µm,19.0s						
MIAR	Mount Ida	105.70	58	P	PKiKP	03 51 12.0	-1.9
	baz=264						
MIAR	Mount Ida	105.70	58	Pdiff	Pdif	03 46 59.1	-1.7
	baz=264						
Z41A	Richland Creek	106.20	59	Pdiff	Pdif	03 47 02.4	-0.8
	baz=264						
S39A	Bolivar	106.22	54	P	PKiKP	03 51 18.7	+4.0
	baz=265						
P38A	Dawn	106.23	52	P	PKiKP	03 51 20.4	+5.8
	baz=265						
X40A	Basin Creek Fa	106.31	58	IAMs_20	IAMs_20	04 31 54.8	
	comp=Z,23µm,19.0s						
X40A	Basin Creek Fa	106.31	58	P	PKiKP	03 51 24.6	+10
	baz=264						
X40A				P	PKiKP	03 51 24.6	+10
	baz=264						
X40A	Basin Creek Fa	106.31	58	Pdiff	Pdif	03 46 59.9	-3.7
	baz=264						
342B	Flagon Creek P	106.40	61	P	PKiKP	03 51 25.3	+10
	baz=264						
U40A	Yellville	106.47	56	IAMs_20	IAMs_20	04 30 52.7	
	comp=Z,28µm,19.0s						
U40A	Yellville	106.47	56	P	PKiKP	03 51 25.5	+10
	baz=265						
U40A				P	PKiKP	03 51 25.5	+10
	baz=265						
U40A	Yellville	106.47	56	Pdiff	Pdif	03 47 02.5	-1.8
	baz=265						
SNET	Serv Nac Est T	106.61	80	IAMs_20	IAMs_20	04 24 34.3	
	comp=Z,19µm,22.0s						
B35A	Bob, Littlefor	106.63	43	P	PKiKP	03 51 25.2	+10
	baz=268						
SCIA	State Center	106.64	50	Pdiff	Pdif	03 47 03.2	-1.7
	baz=266						
F36A	Milaca	106.65	46	P	PKiKP	03 51 27.5	+12
	baz=267						
W41B	Gary Mavity, V	106.85	57	P	PKiKP	03 51 27.9	+12
	baz=265						
W41B	Gary Mavity, V	106.85	57	Pdiff	Pdif	03 47 04.7	-1.3
	baz=265						
SPMN	Marine on St.	107.13	47	Pdiff	Pdif	03 47 05.2	-1.8
	baz=267						
CCM	Cathedral Cave	107.89	54	Pdiff	Pdif	03 47 08.1	-2.4
	baz=266						
PEL	Peldehue	108.00	132	IAMs_20	IAMs_20	04 26 03.1	
	comp=Z,16µm,21.0s						
VBMS	Vicksburg	108.02	60	IAMs_20	IAMs_20	04 30 37.9	
	comp=Z,16µm,20.0s						
VBMS	Vicksburg	108.02	60	Pdiff	Pdif	03 47 10.3	-0.9
	baz=265						
EYMN	Ely	108.11	44	IAMs_20	IAMs_20	04 33 50.1	
	comp=Z,25µm,19.0s						
EYMN	Ely	108.11	44	Pdiff	Pdif	03 47 09.7	-1.6
	baz=269						
TGUH	Tegucigalpa,Un	108.55	80	eP	PKiKP	03 51 34.2	+14
ALE	Alert	108.71	6	IAMs_20	IAMs_20	04 37 29.3	
	comp=Z,18µm,20.0s						
JFWS	Jewell Farm	108.88	49	Pdiff	Pdif	03 47 12.7	-2.2
	baz=268						
OXF	Oxford	109.13	58	IAMs_20	IAMs_20	04 35 45.2	
	comp=Z,19µm,18.0s						
OXF	Oxford	109.13	58	Pdiff	Pdif	03 47 13.5	-2.6
	baz=266						
MSEY	Mahe Island	109.31	260	IAMs_20	IAMs_20	04 35 05.6	
	comp=Z,25µm,20.0s						
MSEY	Mahe Island	109.31	260	PKiKP	PKiKP	03 51 20.8	-0.5
HDIL	Hopedale	109.53	52	Pdiff	Pdif	03 47 15.8	-2.0
	baz=268						
COWI	Conover	109.72	46	IAMs_20	IAMs_20	04 31 27.7	
	comp=Z,26µm,21.0s						
JTS	Las Juntas de	110.09	84	IAMs_20	IAMs_20	04 27 03.7	
	comp=Z,18µm,20.0s						
PLAL	Pickwick Lake	110.25	58	IAMs_20	IAMs_20	04 34 04.9	
	comp=Z,15µm,20.0s						
SVE	Sverdlovsk	110.33	326	i PKIKP	PKiKP	03 51 24.5	+2.7
SVE				pmax	pmax		
	comp=Z,29nm,1.5s						
SVE				MLR	MLR		
	comp=E,10µm,20.0s						
SVE				MLR	MLR		
	comp=Z,10µm,21.0s						
WVT	Waverly	110.51	56	IAMs_20	IAMs_20	04 30 31.6	
	comp=Z,23µm,20.0s						
WVT	Waverly	110.51	56	Pdiff	Pdif	03 47 20.3	-1.9
	baz=268						
L44A	Lake County Fo	110.60	50	Pdiff	Pdif	03 47 19.3	-3.2
	baz=270						
HDC	Heredia	110.85	84	IAMs_20	IAMs_20	04 27 09.7	
	comp=Z,19µm,21.0s						
BRAL	Brewton	110.88	62	IAMs_20	IAMs_20	04 36 17.7	
	comp=Z,16µm,20.0s						
LRAL	Lakeview Retre	111.04	60	IAMs_20	IAMs_20	04 33 23.9	
	comp=Z,21µm,19.0s						
LRAL	Lakeview Retre	111.04	60	Pdiff	Pdif	03 47 23.2	-1.5
	baz=267						
VOI	Vohitsoka	111.14	240	IAMs_20	IAMs_20	04 32 40.1	
	comp=Z,27µm,20.0s						
TULEG	Thule	111.19	12	i P	PKiKP	03 51 22.5	-0.5
SFIN	Lafayette	111.20	52	Pdiff	Pdif	03 47 24.2	-0.9
	baz=270						
AB31	Akbulak array	111.34	318	i P	Pdif	03 47 26.4	+0.8
ARU	Arti	111.51	325	SKiKP	SKiKP	03 55 04.3	+6.9
	comp=Z,1.1nm,0.3s,baz=291,slow=3.7,SNR=4.8						
ARU	Arti	111.51	325	P	Pdif	03 47 31.0	+4.8
ARU				i		03 51 22.9	
ARU						03 52 07.4	
ARU				PPP	PPP	03 54 27.3	
ARU						03 58 31.7	
ARU				SP	SP	04 01 34.0	+0.7
ARU				SSS	SSS	04 11 54.0	
ARU				MLR	MLR		
	comp=Z,11µm,20.0s						
NNA	Nana	111.97	109	IAMs_20	IAMs_20	04 27 01.9	
	comp=Z,16µm,22.0s						
JMDO	Jabal Madar	112.14	289	P	PKiKP	03 51 28.5	+2.2
OPO	Ambohidratompo	112.19	243	SKiKP	SKiKP	03 55 08.5	+8.3
	comp=Z,3.3nm,0.8s,baz=111,slow=5.7,SNR=4.6						
SMDO	Samad	112.27	289	P	PKiKP	03 51 29.9	+3.3
NOR	Nord	112.28	1	i P	PKiKP	03 51 18.4	-6.6
AKTO	Aktyubinsk	112.50	319	SKiKP	SKiKP	03 55 05.4	+5.9
	comp=Z,4.0nm,0.8s,baz=34,slow=2.4,SNR=4.5						
AKTO				PKKPbc	PKKPbc	04 02 27.2	+10
	comp=Z,5.1nm,0.8s,baz=248,slow=2.5,SNR=12						
AKTO	Aktyubinsk	112.50	319	P	Pdif	03 47 29.3	-1.4
O48B	Farmland	112.68	52	Pdiff	Pdif	03 47 28.9	-2.9
	baz=271						
GLMI	Grayling	112.93	47	IAMs_20	IAMs_20	04 33 30.2	
	comp=Z,21µm,20.0s						
GLMI	Grayling	112.93	47	Pdiff	Pdif	03 47 30.2	-2.6
	baz=273						
GEYT	Alibeck	113.01	305	PKiKP	PKiKP	03 51 27.1	-0.5
	comp=Z,11nm,0.7s,baz=338,slow=1.6,SNR=9.3						
GEYT	Alibeck	113.01	305	PKiKP	PKiKP	03 51 27.0	-0.6
GYA0B	ALIBECK ARRAY	113.01	305	PKiKP	PKiKP	03 51 26.9	-0.7
BSY	Bisya	113.01	289	P	PKiKP	03 51 27.8	-0.2
P49A	Miami Univ. Ec	113.03	53	Pdiff	Pdif	03 47 29.2	-4.1
	baz=271						
ARQ	Araqi	113.69	290	P	PKiKP	03 51 31.1	+1.9
AAM	Ann Arbor	113.75	50	Pdiff	Pdif	03 47 32.1	-4.4
	baz=273						
SOHO	SOHO	113.76	290	P	PKiKP	03 51 31.4	+2.1
SOHO	SOHO	113.76	290	i PKPdf	PKiKP	03 51 27.8	-1.5
	SNR=6.1						
KBS	Kingsbay	113.86	355	IAMs_20	IAMs_20	04 35 04.3	
	comp=Z,18µm,21.0s						
KBS	Kingsbay	113.86	355	i P	PKiKP	03 51 29.8	+1.8
KBS				IVMs_BB	IVMs_BB	04 35 02.3	
	comp=Z,12µm,21.8s						
KBS	Kingsbay	113.86	355	ePKPdf	PKiKP	03 51 29.7	+1.7
KBS				ePP	PP	03 52 20.2	-1.2
TZTN	Tazewell	113.97	56	Pdiff	Pdif	03 47 32.2	-5.5
	baz=270						
GOGA	Godfrey	114.01	59	IAMs_20	IAMs_20	04 34 26.9	
	comp=Z,22µm,20.0s						
SPA0	Spitsbergen Ar	114.08	354	ePdif	Pdif	03 47 39.1	+1.8
SPA0				ePKPdf	PKiKP	03 51 30.4	+2.0
SPA0				ePP	PP	03 52 26.0	+2.9
SPA0				eSP	SP	04 02 00.2	+4.5
SPA0				eSS	SS	04 08 12.3	+1.5
SPA0				IVMs_BB	IVMs_BB	04 41 39.2	
	comp=Z,4µm,18.8s						
SPITS	Spitsbergen Ar	114.08	354	PKKPbc	PKKPbc	04 02 12.8	+0.3
	comp=Z,2.1nm,0.6s,baz=169,slow=9.3,SNR=11						
SPB2	Spitsbergen Ar	114.08	354	PKiKP	PKiKP	03 51 29.2	+0.7
BANOM	Banah	114.11	292	P	PKiKP	03 51 32.8	+2.8
UOSS	Minazif	114.12	291	P	PKiKP	03 51 32.1	+2.1
UOSS	Minazif	114.12	291	PKPdf	PKPdf	03 51 27.5	-2.5
OTAV	Otavalo	114.16	96	IAMs_20	IAMs_20	04 28 47.8	
	comp=Z,17µm,20.0s						
HATD	Hatta, Dubai	114.18	291	P	PKiKP	03 51 33.0	+2.9
	SNR=7.1						
HATD	Hatta, Dubai	114.18	291	i PKPdf	PKPdf	03 51 29.3	-0.9

SNR=9.7
MSFE Esma-Masafi 114.20 292 PKPdf PKPdf 03 51 28.9 -1.3
ASHO Ashiyiah 114.23 291 P **PKiKP** **03 51 33.0 +2.7**
SNR=6.6
ASHO Ashiyiah 114.23 291 PKPdf PKPdf 03 51 28.7 -1.6
HOPEN Hopen 114.29 351 *e*Pdif **Pdif** **03 47 38.7 +0.5**
HOPEN IVmBBB 03 47 43.6
comp=Z,749nm,2.0s
HOPEN *e*PP **PP** **03 52 23.4 -1.2**
HOPEN *e*SP SP 04 02 01.9 +4.2
HOPEN IVMs_BB IVMs_BB 04 35 27.8
comp=Z,4μm,25.9s
ACSO Alum Creek Sta 114.35 52 Pdiff **Pdif** **03 47 37.4 -1.8**
baz=272
ALNE Al Ain 114.46 290 P **PKiKP** **03 51 33.9 +3.2**
SNR=6.4
ALNE Al Ain 114.46 290 PKPdf PKPdf 03 51 29.1 -1.6
DMTO DMTO 114.52 283 P **PKiKP** **03 51 31.7 +0.8**
LVC Limon Verde 114.55 123 PKKPbc PKKPbc 04 02 19.9 +10
comp=Z,5.5nm,0.9s,baz=64,slow=9.4,SNR=4.6
NAZ Nazwa, Dubai 114.62 291 P **PKiKP** **03 51 34.0 +3.0**
SNR=8.9
NAZ Nazwa, Dubai 114.62 291 *i* PKPdf PKPdf 03 51 29.6 -1.4
SNR=8.5
FAQ Al Faqa, Dubai 114.66 291 PKPdf PKPdf 03 51 30.0 -1.0
ASUD Al Ashush, Dub 114.89 291 P **PKiKP** **03 51 35.0 +3.5**
SNR=6.2
ASUD Al Ashush, Dub 114.89 291 PKPdf PKPdf 03 51 31.1 -0.4
P52A Corning 115.02 53 Pdiff **Pdif** **03 47 41.0 -1.2**
baz=272
HSPB Hornsund (broa 115.19 353 *e*Pdif **Pdif** **03 47 42.2 +0.1**
HSPB *e*PKPdf **PKPdf** **03 51 32.8 +2.2**
HSPB *e*PP **PP** **03 52 30.3 -0.5**
HSPB *e*SP SP 04 02 05.1 -0.7
HSPB *e*SS **SS** **04 08 25.5 +0.3**
HSPB IVMs_BB IVMs_BB 04 42 14.7
comp=Z,5μm,19.6s
RBK Rabkut 115.20 283 P **PKiKP** **03 51 32.6 +0.3**
DOK Doka 115.41 284 P **PKiKP** **03 51 32.7 +0.1**
LPA La Plata 115.58 140*ce*PDIFF **Pdif** **03 47 42.3 -2.6**
LPA PP **PP** **03 52 27.1 -7.1**
LPA SKS **SKSac** **03 58 20.1 +0.2**
LPA PPP PPP 04 09 39.0
WHFO Wadi Hawf 115.66 283 P **PKiKP** **03 51 33.9 +0.7**
GO01 Chusmiza 115.67 120 **PKPdf** **03 51 31.6 -2.2**
O53A New Philadelph 115.70 52 Pdiff **Pdif** **03 47 42.7 -2.5**
baz=273
KMSC Kings Mountain 115.78 58 Pdiff **Pdif** **03 47 43.6 -2.1**
baz=271
M53A WI Miller and 116.03 51 IAMs_20 IAMs_20 04 33 06.5
comp=Z,30μm,22.0s
M53A WI Miller and 116.03 51 Pdiff **Pdif** **03 47 44.8 -1.8**
baz=274
ABTO Aybut 116.04 283 P **PKiKP** **03 51 35.3 +1.3**
UPNV Upernavik 116.14 13 *i* P **PKiKP** **03 51 29.8 -2.6**
UPNV IVMs_BB IVMs_BB 04 38 18.9
comp=Z,5μm,18.2s
MZR Muzera 116.45 289 P **PKiKP** **03 51 38.3 +3.7**
SNR=10
MZR Muzera 116.45 289 *i* PKPdf **PKPdf** **03 51 33.8 -0.8**
SNR=6.8
BLA Blacksburg 116.47 55 Pdiff **Pdif** **03 47 50.2 +1.5**
baz=272
ERPA Erie 116.48 50 Pdiff **Pdif** **03 47 46.1 -2.6**
baz=275
N54A Moraine State 116.58 51 Pdiff **Pdif** **03 47 48.2 -1.0**
baz=274
PRGR Permogore 116.71 333 *e*PKIKP **PKPdf** **03 51 31.7 -2.1**
PRGR *e* 03 52 38.1
PRGR *e* 03 55 16.2
PRGR *e* 03 58 24.1
PRGR pmax pmax
comp=Z,31nm,0.9s
NHSC New Hope 116.77 60 IAMs_20 IAMs_20 04 36 28.8
comp=Z,19μm,20.0s
M54A Oil Creek Stat 116.78 50 Pdiff **Pdif** **03 47 51.9 +1.9**
baz=275
BJO1 Bjornoya 116.81 351 *e*Pdif **Pdif** **03 47 48.4 -1.0**
BJO1 *e*PKPdf **PKiKP** **03 51 35.3 +1.5**
BJO1 *e*PP **PP** **03 52 44.1 +1.9**
BJO1 *e*SP SP 04 02 20.6 -0.1
BJO1 *e*SS **SS** **04 08 46.2 -0.3**
BJO1 IVMs_BB IVMs_BB 04 41 40.2
comp=Z,4μm,23.0s
SADO Sadowa 116.82 47 PKP **PKiKP** **03 51 34.8 +0.2**
comp=Z,5.9nm,0.7s,baz=275,slow=5.6,SNR=2.2
DAG Danmarks Havn 117.09 1 *i* P **PKPdf** **03 51 31.0 -3.2**
DAG IVMs_BB IVMs_BB 04 35 02.9
comp=Z,5μm,22.2s
JRN Qarnain Island 117.16 291 P **PKiKP** **03 51 38.8 +3.0**
SNR=7.2
FRB Frobisher Bay 117.42 24 SKP 03 55 13.8
comp=Z,8.7nm,1.0s,baz=277,slow=3.5,SNR=3.7
FRB PKKPbc PKKPbc 04 02 00.5 0.0
comp=Z,4.7nm,0.8s,baz=177,slow=5.2,SNR=5.5
O56A Blue Knob Stat 117.72 52 Pdiff **Pdif** **03 47 53.7 -0.5**
baz=275
LVZ Lovozero 117.87 341 ⇓PKIKP **PKPdf** **03 51 33.6 -2.4**
LVZ Lovozero 117.87 341 PKPdf **PKPdf** **03 51 34.5 -1.6**
LPAZ La Paz 118.08 117 PKP **PKPdf** **03 51 37.2 -1.4**
comp=Z,2.2nm,0.6s,baz=259,slow=1.9,SNR=11
LPAZ SKP 03 55 17.9
comp=Z,3.6nm,0.8s,baz=260,slow=3.7,SNR=4.7
LPAZ PKKPbc **PKKPbc** **04 01 57.9 +0.1**
comp=Z,3.6nm,0.8s,baz=222,slow=4.8,SNR=7.7
SSPA Standing Stone 118.20 51 Pdiff **Pdif** **03 47 56.9 +0.6**
baz=276
GUY2C Guyana, Caldas 118.35 92 *e*P **PKiKP** **03 51 41.0 +1.9**
APA Apatity 118.45 341 ⇓*i*PKIKP **PKiKP** **03 51 37.8 +0.7**
APA *i* 03 55 34.0
APA *i* 03 58 25.0
APA *i* PS **PS** **04 02 38.0 -2.7**
APA *i* PPS PPS 04 04 02.0
APA pmax pmax
comp=Z,37nm,1.0s
BELG Belogornoye 118.56 322*c* *i*PKIKP **PKPdf** **03 51 35.9 -1.8**
BELG MLR MLR
comp=Z,2μm,23.0s
CNNC Cliffs of the 118.60 57 IAMs_20 IAMs_20 04 36 26.2
comp=Z,27μm,21.0s
KEV Kevo 118.81 345 PKIKP **PKiKP** **03 51 38.6 +0.9**
KEV MLR MLR
comp=Z,18μm,20.0s
KEV Kevo 118.81 345 PKPdf **PKiKP** **03 51 38.6 +0.9**
KEV IAMs_20 IAMs_20 04 45 07.7
comp=Z,18μm,20.0s
SHMA Al-Shehemyia 118.91 292 P **PKiKP** **03 51 40.1 +0.9**
HAMF Hammerfest 118.96 347 *e*Pdif **Pdif** **03 48 01.4 +2.4**
HAMF IVmB_BB 03 48 08.6
comp=Z,664nm,3.0s
HAMF *e*PKPdf **PKPdf** **03 51 37.3 -0.6**
HAMF *e*PP **PP** **03 52 54.8 -2.4**
HAMF *e*SP SP 04 02 39.7 -0.4
HAMF IVMs_BB IVMs_BB 04 41 18.8
comp=Z,6μm,20.3s
ROSC El Rosal 119.28 92 PKP **PKPdf** **03 51 39.2 -1.6**
comp=Z,4.2nm,0.3s,baz=60,slow=21,SNR=2.1
ROSC SKP 03 55 19.5
comp=Z,18nm,0.8s,baz=115,slow=13,SNR=6.5
ARA0 ARCESS Array S 119.34 345 *e*Pdif **Pdif** **03 48 00.4 -0.4**
ARA0 IVmB_BB 03 48 04.1
comp=Z,668nm,2.8s
ARA0 *e*PKPdf **PKPdf** **03 51 37.3 -1.4**
ARA0 *e*PP **PP** **03 52 58.7 -1.2**
ARA0 *e*SP SP 04 02 42.3 -1.3
ARA0 IVMs_BB IVMs_BB 04 42 35.8
comp=Z,4μm,19.0s
ARCES ARCESS Array B 119.34 345 PKP **PKPdf** **03 51 37.3 -1.5**
comp=Z,64nm,0.7s,baz=81,slow=2.1,SNR=132
ARCES SKP 03 55 18.9
comp=Z,6.5nm,0.8s,baz=48,slow=1.8,SNR=4.6
ARCES PKKPbc **PKKPab** **04 01 49.4 -3.3**
comp=Z,3.6nm,0.7s,baz=215,slow=3.1,SNR=14
DBG Daneborg 119.51 2 *i* P **PKPdf** **03 51 37.0 -2.0**
DBG IVMs_BB IVMs_BB 04 36 29.8
comp=Z,6μm,19.6s
DBG Daneborg 119.51 2 *e*PKPdf **PKiKP** **03 51 41.1 +2.1**
DBG *e*PP **PP** **03 53 00.8 -0.1**
KLMR Klimovskoe 119.72 333 *e*PKIKP **PKPdf** **03 51 37.0 -2.6**
KLMR *e* 03 52 58.8
KLMR *e*PS **PS** **04 02 45.5 -6.8**
KLMR *e*SS SS 04 09 23.1 -1.8
KLMR pmax pmax
comp=Z,119nm,1.4s
KLMR MLR MLR
comp=Z,15μm,21.0s
KLMR Klimovskoe 119.72 333 *e*PKPdf **PKPdf** **03 51 37.1 -2.6**
KLMR AMP 03 51 43.8
comp=Z,119nm,1.4s
KLMR *e*PP **PP** **03 52 58.9 -3.9**
KLMR *e*SKP 03 55 09.6
KLMR *e*PKKPbc **PKKPab** **04 01 50.5 -0.6**
KLMR *e*PS **PS** **04 02 45.6 -6.8**
KLMR *e*PS **PS** **04 02 45.6 -6.8**
KLMR *e*SS **SS** **04 09 23.2 -1.7**
KLMR *e*SS **SS** **04 09 23.2 -1.7**
KLMR LQ LQ 04 31 30.6
KLMR LQ LQ 04 31 30.6
KLMR LR LR 04 37 50.5
comp=Z,15μm,21.3s
KLMR AMP 04 40 54.2
N59A State Game Lan 119.76 51 IAMs_20 IAMs_20 04 35 56.4
comp=Z,26μm,21.0s
ILULI Ilulissat 119.83 15 IAMs_20 IAMs_20 04 43 40.1
comp=Z,18μm,20.0s
ILULI Ilulissat 119.83 15 *i* P **PKiKP** **03 51 40.0 +0.3**
ILULI IVMs_BB IVMs_BB 04 44 16.6
comp=Z,7μm,17.4s
LONY Lake Ozonia 120.06 46 IAMs_20 IAMs_20 04 37 32.6
comp=Z,15μm,21.0s
KTK1 Kautokeino 120.28 346 *e*Pdif **Pdif** **03 48 07.0 +2.1**
KTK1 *e*PKPdf **PKPdf** **03 51 39.1 -1.4**
KTK1 *e*PP **PP** **03 53 03.7 -2.6**
KTK1 *e*SP SP 04 02 51.8 -0.2
KTK1 *e*SS **SS** **04 09 32.1 +0.5**
KTK1 IVMs_BB IVMs_BB 04 36 06.0
comp=Z,3μm,27.7s
PLTB Pedras Altas 120.37 140 *e*P **PKiKP** **03 51 44.2 +2.1**
JETT Jettan, Norway 120.51 347 *e*PKPdf **PKPdf** **03 51 38.3 -2.7**
JETT *e*PP **PP** **03 53 05.4 -2.5**
MAK Makhachkala 120.66 312 *i* P **Pdif** **03 48 05.4 -1.8**
MAK *i* 03 51 41.2
MAK *e* 03 53 10.6
MAK *e*PPP PPP 03 55 39.1
MAK *e* 03 58 34.6
MAK *e*PS **PS** **04 02 52.9 -8.7**
MAK pmax pmax
comp=Z,122nm,0.8s
TRO Tromso 120.77 347 *e*Pdif **Pdif** **03 48 06.7 -0.4**
TRO IVmB_BB 03 48 47.1
comp=Z,555nm,2.9s
TRO *e*PKPdf **PKPdf** **03 51 39.6 -1.8**
TRO *e*PP **PP** **03 53 06.9 -2.7**
TRO *e*SP SP 04 02 57.1 +0.8
TRO IVMs_BB IVMs_BB 04 40 35.7
comp=Z,4μm,22.4s
TBTG Tabatinga, AM 121.06 104 *e*P **PKiKP** **03 51 46.1 +2.3**
VT1 Waterbury 121.40 46 IAMs_20 IAMs_20 04 39 04.2
comp=Z,14μm,20.0s
CPSB Cacapava Do Su 121.40 139 *e*P **PKiKP** **03 51 45.7 +1.6**
CPUP Villa Florida 121.41 133 PKP **PKPdf** **03 51 42.5 -1.5**
comp=Z,12nm,0.9s,baz=260,slow=0.8,SNR=17
CPUP SKP 03 55 23.6
comp=Z,7.7nm,1.0s,baz=305,slow=2.9,SNR=6.3
CPUP PKKPbc **PKKPab** **04 01 47.3 +0.6**
comp=Z,12nm,1.2s,baz=39,slow=5.9,SNR=6.4
CPUP Villa Florida 121.41 133 PKPdf **PKPdf** **03 51 43.7 -0.4**
CPUP Villa Florida 121.41 133 *e*P **PKiKP** **03 51 46.0 +1.8**
SFJD Kangerlussuaq 121.57 16 PKKPbc PKKPbc 04 01 48.3 +3.1
comp=Z,5.5nm,0.5s,baz=105,slow=4.2,SNR=5.2
SFJD Kangerlussuaq 121.57 16 PKIKP **PKiKP** **03 51 43.3 +0.1**
SFJD MLR MLR
comp=Z,28μm,20.0s
SFJD Kangerlussuaq 121.57 16 PKPdf **PKiKP** **03 51 43.2 +0.1**
SFJD Kangerlussuaq 121.57 16 *i* P **PKPdf** **03 51 40.9 -2.2**
SFJD IVMs_BB IVMs_BB 04 43 29.9
comp=Z,6μm,17.6s
GROC Groznyy 121.85 312 *i* PKIKP **PKPdf** **03 51 41.7 -2.6**
GROC *e* 03 53 19.6
GROC *e* 03 58 43.8
GROC *e*PS **PS** **04 03 04.8 -7.4**
GROC pmax pmax
comp=Z,46nm,0.6s
SCHQ Schefferville 121.95 33 PKP **PKPdf** **03 51 41.8 -2.4**
comp=Z,9.5nm,0.8s,baz=233,slow=3.5,SNR=16
SCHQ PKKPbc **PKKPbc** **04 01 45.8 +2.2**
comp=Z,5.0nm,0.7s,baz=120,slow=2.2,SNR=10.0
LBNH Lisbon 122.00 46 IAMs_20 IAMs_20 04 36 53.0
comp=Z,17μm,22.0s
ICESG Greenland Ices 122.39 11 *i* P **PKPdf** **03 51 42.0 -3.1**
VRH Novokhopyorsk 122.41 322 *i* PKIKP **PKPdf** **03 51 43.8 -1.3**
VRH *e* 03 53 16.9
VRH *e*PS **PS** **04 03 12.5 -4.3**
VRH pmax pmax
comp=Z,140nm,0.8s
VRH MLR MLR
comp=Z,10μm,19.0s
ETMB Extrema 122.46 111 *e*P **PKiKP** **03 51 46.9 +0.3**
MOPA Mopani 122.58 230 *i* P **PKPdf** **03 51 45.8 -0.7**
MOPA Mopani 122.58 230 *i* P **PKPdf** **03 51 45.8 -0.7**
HRV Adam Dziewonsk 122.61 48 IAMs_20 IAMs_20 04 43 20.6
comp=Z,23μm,19.0s
G62A West of Eustis 122.74 45 **PKiKP** **03 51 46.1 -0.1**
JMIC Jan Mayen 122.90 358 *e*PP PP 03 53 26.2 +2.2
JMIC *e*SP SP 04 03 15.9 +0.9
JMIC *e*SS **SS** **04 10 07.9 +3.2**
MOS Moscow 122.91 328 *i* PKIKP **PKPdf** **03 51 43.8 -2.1**
MOS *e* 03 58 42.9
MOS *e*PPS PPS 04 04 45.1
MOS pmax pmax
comp=Z,106nm,0.9s
STEI Steigen 122.94 348 *e*Pdif **Pdif** **03 48 12.7 -4.0**
STEI *e*PKPdf **PKPdf** **03 51 45.1 -0.5**
STEI *e*PP **PP** **03 53 22.4 -1.9**
STEI *e*SP SP 04 03 18.3 +2.7
STEI IVMs_BB IVMs_BB 04 39 32.3
comp=Z,4μm,19.2s
DY2G Dye2 123.11 15 *i* P **PKPdf** **03 51 45.2 -1.2**
DY2G IVMs_BB IVMs_BB 04 45 06.8
comp=Z,5μm,5.8s
LOF Lofoten 123.12 348 *e*Pdif **Pdif** **03 48 18.6 +1.0**
LOF *e*PKPdf **PKPdf** **03 51 45.4 -0.6**
LOF *e*PP **PP** **03 53 22.4 -3.1**
GNI Garni 123.19 309*c* *i*PKIKP **PKPdf** **03 51 46.7 -0.5**
GNI Garni 123.19 309 PKPdf **PKPdf** **03 51 46.6 -0.7**
GNI Garni 123.19 309 P **PKiKP** **03 51 49.4 +1.9**
SCO Scoresbysund 123.23 3 IAMs_20 IAMs_20 04 44 10.0
comp=Z,15μm,20.0s
SCO Scoresbysund 123.23 3 *i* P **PKPdf** **03 51 45.2 -1.0**
SCO IVMs_BB IVMs_BB 04 39 37.6
comp=Z,5μm,23.1s
ZEI Tsey 123.29 312 *i* PKIKP **PKPdf** **03 51 46.1 -1.3**
ZEI pmax pmax
comp=Z,32nm,0.9s
NCK Nalchik 123.36 313 *i* PKIKP **PKPdf** **03 51 46.3 -1.0**
FAUS Fauske 123.39 347 *e*Pdif **Pdif** **03 48 19.1 +0.3**
FAUS *e*PKPdf **PKPdf** **03 51 45.3 -1.2**
FAUS *e*PP **PP** **03 53 22.6 -3.8**
FAUS *e*SP SP 04 03 22.4 +2.8
FAUS *e*SS **SS** **04 10 17.0 +5.9**
FAUS IVMs_BB IVMs_BB 04 40 22.4
comp=Z,4μm,20.3s
LPSR Galich'ya Gora 123.52 325 *i* PKIKP **PKPdf** **03 51 46.1 -1.1**
LPSR *e* 03 53 25.5
LPSR pmax pmax
comp=Z,130nm,1.0s
SUR Sutherland 123.54 215 PKP **PKPdf** **03 51 47.2 -1.1**
comp=Z,23nm,0.9s,baz=158,slow=3.0
SUR Sutherland 123.54 215 **PKPdf** **03 51 46.5 -1.8**
SUR Sutherland 123.54 215 IAMs_20 IAMs_20 04 35 18.6
comp=Z,25μm,21.0s
SUR Sutherland 123.54 215 P **PKiKP** **03 51 50.5 +1.9**
PKME Peaks-Kenny Pk 123.58 45 IAMs_20 IAMs_20 04 51 23.7
comp=Z,18μm,18.0s
BOSA Boshof 123.60 221 PKP **PKPdf** **03 51 48.0 -0.3**
comp=Z,26nm,0.8s,baz=119,slow=1.3,SNR=27
BOSA Boshof 123.60 221 PKIKP **PKPdf** **03 51 47.4 -1.0**
BOSA Boshof 123.60 221 PKPdf **PKPdf** **03 51 47.4 -1.0**
SDV Santo Domingo 123.70 89 PKPdf **PKPdf** **03 51 46.7 -2.2**
SDV Santo Domingo 123.70 89 IAMs_20 IAMs_20 04 35 31.2
comp=Z,16μm,20.0s
VORR Voronezh 123.72 324 *e*PKIKP **PKPdf** **03 51 47.0 -0.6**
VORR pmax pmax
comp=Z,156nm,0.6s
OBN Obninsk 123.73 328 ⇑P **PKPdf** **03 51 47.1 -0.4**
OBN Obninsk 123.73 328 *i* PKIKP **PKPdf** **03 51 45.3 -2.2**
OBN *i* 03 53 26.9
OBN *e* 03 58 55.3
OBN *e*SS SS 04 10 11.9 -4.3
OBN *i* SSS SSS 04 14 54.9
OBN pmax pmax
comp=Z,115nm,1.3s
OBN Obninsk 123.73 328 PKPdf **PKPdf** **03 51 45.5 -2.0**
OBN IAMs_20 IAMs_20 04 48 11.6
comp=Z,15μm,20.0s
KBZ Khabaz 123.79 314 PKP **PKPdf** **03 51 47.2 -0.8**
comp=Z,13nm,0.8s,baz=160,slow=3.0,SNR=29
KBZ PP **PP** **03 53 35.0 +3.8**
comp=Z,8.5nm,0.9s,baz=63,slow=7.4,SNR=4.8
KBZ PKKPbc **PKKPbc** **04 01 40.0 +4.0**
comp=Z,1.3nm,0.9s,baz=229,slow=3.6,SNR=3.8
KBZ Khabaz 123.79 314 ⇑*i*PKIKP **PKPdf** **03 51 46.5 -1.5**
RAYN Ar Rayn 123.80 289 ⇓PKIKP **PKPdf** **03 51 47.8 -0.9**
RAYN Ar Rayn 123.80 289 PKPdf **PKPdf** **03 51 48.0 -0.7**
RAYN Ar Rayn 123.80 289 P **PKiKP** **03 51 50.3 +1.3**
RAYN Ar Rayn 123.80 289 *i* PKPdf **PKPdf** **03 51 48.1 -0.7**
SNR=25
AKH Akhalkalaki 123.88 311 ⇓P **PKPdf** **03 51 47.7 -0.9**
KIV Kislovodsk 123.89 314 ⇓P **PKPdf** **03 51 45.2 -3.2**
KIV Kislovodsk 123.89 314 *e*P **Pdif** **03 48 19.2 -2.5**
KIV *i* 03 51 47.1
KIV *e* 03 53 30.7
KIV *e*PPP PPP 03 56 09.2
KIV *e*PS **PS** **04 03 28.4 -2.1**
KIV *e*SS SS 04 10 18.8 -0.7
KIV pmax pmax
comp=Z,31nm,1.0s
KIV Kislovodsk 123.89 314 PKPdf **PKPdf** **03 51 47.8 -0.6**
KIV Kislovodsk 123.89 314 P **PKiKP** **03 51 50.4 +1.7**
KIV Kislovodsk 123.89 314 *i* PKPdf **PKPdf** **03 51 47.6 -0.7**
SNR=5.9
VSR Storozhevoye 123.91 323 *i* PKIKP **PKPdf** **03 51 46.6 -1.4**
VSR pmax pmax
comp=Z,90nm,0.9s
VSR MLR MLR
comp=Z,17μm,22.0s
VORD Divnogorie 123.93 323 *e*PKIKP **PKPdf** **03 51 47.0 -1.1**
VORD pmax pmax
comp=Z,50nm,0.8s
SHA1 Shidzhatmaz 123.96 314*c* *i*PKIKP **PKPdf** **03 51 47.8 -0.9**
NEY Neytrino 124.03 313 *i* PKIKP **PKPdf** **03 51 48.6 -0.2**
NEY MLR MLR
comp=Z,7μm,20.0s
SIV San Ignacio 124.22 121 PKP **PKPdf** **03 51 47.9 -1.8**
comp=Z,4.8nm,0.7s,baz=243,slow=6.2,SNR=15
SIV PKKPbc **PKKPab** **04 01 35.0 +0.4**
comp=Z,3.0nm,0.8s,baz=201,slow=0.3,SNR=5.9
ITAB Concordia 124.38 137 *e*P **PKiKP** **03 51 52.1 +2.1**
SOEG Soedalen 124.52 8 *i* P **PKPdf** **03 51 48.0 -0.7**
MOR8 Moi Rana 124.59 347 *e*Pdif **Pdif** **03 48 21.8 -2.3**
MOR8 *e*PKPdf **PKPdf** **03 51 48.2 -0.8**
MOR8 *e*PP **PP** **03 53 33.1 -2.4**
MOR8 *e*SS SS 04 10 25.4 -0.9
MOR8 IVMs_BB IVMs_BB 04 36 47.4
comp=Z,4μm,31.4s
KONS Konsvik 124.60 347 *e*PKPdf **PKPdf** **03 51 47.7 -1.2**
CHVG Ch'k'valeri 124.61 313 ⇑P **PKPdf** **03 51 45.7 -4.0**
CHVG Ch'k'valeri 124.61 313 ⇑PKIKP **PKPdf** **03 51 45.7 -4.0**
STOK Stokkvaagen 124.76 347 *e*PKPdf **PKiKP** **03 51 50.2 +0.7**
FINES FINESS Array B 124.78 338 PKP **PKPdf** **03 51 48.1 -1.2**
comp=Z,24nm,0.7s,baz=95,slow=1.1,SNR=48
EMMW East Machias 124.98 45 IAMs_20 IAMs_20 04 50 33.8
comp=Z,18μm,18.0s
BATM Batumi 125.16 311 ⇓P **PKPdf** **03 51 47.6 -3.1**
BATM Batumi 125.16 311 ⇓PKIKP **PKPdf** **03 51 47.6 -3.1**
ATD Arta Tunnel 125.27 274 IAMs_20 IAMs_20 04 50 35.2
comp=Z,19μm,18.0s
ATD Arta Tunnel 125.27 274 P **PKiKP** **03 51 53.7 +1.6**
TER01 Tubaro-SC 125.39 141 *e*P **PKiKP** **03 51 54.0 +2.0**
ISOG Isortoq, Green 125.58 13 *i* P **PKPdf** **03 51 50.0 -0.8**
LBTB Lobatse 125.79 225 PKIKP **PKPdf** **03 51 52.0 -0.7**
LBTB Lobatse 125.79 225 PKPdf **PKPdf** **03 51 52.0 -0.7**
ANGG Ammassalik, Gr 125.80 12 **PKPdf** **03 51 50.6 -0.6**
ANGG IAMs_20 IAMs_20 04 45 31.7
comp=Z,14μm,19.0s
ANGG Ammassalik, Gr 125.80 12 *i* P **PKPdf** **03 51 50.0 -1.2**
SOC Sochi 126.06 314 *i* PKIKP **PKPdf** **03 51 50.3 -2.1**
SOC *e* 03 53 42.4
SOC *e*PPP PPP 03 56 24.4
SOC *e* 03 58 55.5
SOC *e*PS **PS** **04 03 44.2 -5.2**
SOC pmax pmax
comp=Z,35nm,1.0s
PTGB Pitanga 126.10 135 *e*P **PKiKP** **03 51 54.0 +0.4**
PTLB Pontes e Lacer 126.10 121 *e*P **PKPdf** **03 51 52.8 -0.4**
AQDB Aquidauana 126.10 129 *e*P **PKiKP** **03 51 53.6 0.0**
MEF Metsahovi 126.21 338 *e*P **PKPdf** **03 51 51.6 -0.5**
VILB Vilhena 126.42 118 *e*P **PKiKP** **03 51 55.4 +1.0**
VSU Vasula 126.45 335 *e*P **PKPdf** **03 51 51.6 -1.0**
IVI Ivigtut 126.52 20 *i* P **PKPdf** **03 51 51.7 -1.0**
IVI IVMs_BB IVMs_BB 04 41 13.1
comp=Z,8μm,4.7s
NSS Namsos 126.54 347 *e*Pdif **Pdif** **03 48 30.9 -1.9**
NSS *e*PKPdf **PKPdf** **03 51 51.9 -0.7**
NSS *e*PP **PP** **03 53 47.5 -0.9**
NSS *e*SP SP 04 03 44.2 -3.1
NSS IVMs_BB IVMs_BB 04 46 31.5
comp=Z,5μm,21.9s
MATP Matopo 126.56 231 SKP 03 55 23.1
comp=Z,22nm,0.9s,baz=128,slow=6.6,SNR=6.6
MATP Matopo 126.56 231 *i* P **PKiKP** **03 51 54.8 +0.1**
MATP Matopo 126.56 231 *i* P **PKiKP** **03 51 54.8 +0.1**
RAF Rauma 126.58 340 *e*P **PKPdf** **03 51 52.5 -0.3**
KIBK Kibwezi 126.59 256 PKPdf **PKPdf** **03 51 53.8 -0.6**
KIBK IAMs_20 IAMs_20 04 45 21.2
comp=Z,19μm,19.0s
KIBK Kibwezi 126.59 256 P **PKiKP** **03 51 54.9 0.0**
SNR=23
BLWY Bulawayo 126.64 231 *i* P **PKPdf** **03 51 54.6 +0.1**
BLWY Bulawayo 126.64 231 *i* P **PKPdf** **03 51 54.6 +0.1**
KTUT Trabzon 126.71 311 ⇑P **PKPdf** **03 51 50.2 -3.5**
ANN Anapa 127.26 316 *i* P **Pdif** **03 48 33.5 -3.0**
ANN *i* 03 51 52.7
ANN *e* 03 53 53.5
ANN *e* 03 58 55.1
ANN *e*SS SS 04 11 06.8 +5.5
ANN pmax pmax
comp=Z,4.0nm,0.6s
ANN pmax pmax
comp=Z,49nm,1.0s
MTSE Matsula 127.45 337 *e*P **PKPdf** **03 51 53.6 -0.9**
NRS Narsarsuaq 127.45 19 PKIKP **PKiKP** **03 51 54.8 -0.2**
NRS MLR MLR
comp=Z,35μm,19.0s
NRS Narsarsuaq 127.45 19 **PKiKP** **03 51 54.8 -0.2**
NRS Narsarsuaq 127.45 19 *i* P **PKPdf** **03 51 53.9 -0.6**
KMBO Kilima Mbogo 127.73 258 PKP **PKPdf** **03 51 56.4 -0.4**
comp=Z,24nm,1.2s,baz=40,slow=3.1,SNR=18
KMBO SKP 03 55 27.8
comp=Z,19nm,1.1s,baz=95,slow=5.0,SNR=6.6
KMBO Kilima Mbogo 127.73 258 PKIKP **PKPdf** **03 51 55.9 -0.9**
KMBO Kilima Mbogo 127.73 258 PKPdf **PKPdf** **03 51 55.9 -0.9**
KMBO Kilima Mbogo 127.73 258 IAMs_20 IAMs_20 04 44 04.6
comp=Z,19μm,22.0s
KMBO Kilima Mbogo 127.73 258 *i* PKPdf **PKPdf** **03 51 57.0 +0.2**
SNR=26
AAL Aland 127.79 340 *e*P **PKiKP** **03 51 58.1 +2.4**
TBLU Trondheim 128.03 347 *e*PKPdf **PKPdf** **03 51 55.7 +0.1**
TBLU *e*PP **PP** **03 53 59.0 +0.7**
BIRV Birongo 128.21 88 PKPdf **PKPdf** **03 51 56.9 -0.5**
MLPR Magueyes Islan 128.33 78 PKPdf **PKPdf** **03 51 55.6 -1.8**
MNK Minsk 128.35 331 *i* PKP **PKPdf** **03 51 54.6 -1.8**
comp=E,5.0nm,1.2s
MNK *i* PKP **PKPdf** **03 51 54.6 -1.8**
comp=N,28nm,0.9s,baz=54
MNK *i* PKP **PKPdf** **03 51 54.6 -1.8**
comp=Z,108nm,1.2s
MNK *i* PP **PP** **03 53 59.4 -1.4**
MNK *i* SKP 03 55 25.9
MNK *i* PKS **PKSdf** **03 55 31.2 -1.5**
MNK *i* PPP PPP 03 56 44.5
MNK *i* SS SS 04 11 14.0 0.0
MNK *i* SSS SSS 04 15 58.1
MNK *i* LQ LQ 04 40 37.1
MNK *i* LR LR 04 47 56.3
MNK *i* LRM MLR 04 51 20.8
comp=Z,13μm,21.7s
MNK *i* LRM MLR 04 51 38.6
comp=N,13μm,25.6s
MNK *i* LRM MLR 04 52 39.3
comp=E,1μm,19.2s

PP1B	Ponte de Pedra	128.39	126	eP	PKPdf	03 51 57.6	0.0
IDID	Didziasalis	128.40	332	eP	PKiKP	03 51 57.3	+0.2
IIGN	Ignalina	128.61	332	eP	PKiKP	03 51 57.5	0.0
NACGM	Naroch	128.63	332	PKP	PKPdf	03 51 57.0	+0.1
PCMB	Pacaembu	128.68	133	eP	PKPdf	03 51 57.9	-0.2
SALV	Santo Antonio	128.69	124	eP	PKPdf	03 51 58.2	0.0
FRTB	Fartura	128.72	136	eP	PKiKP	03 52 00.2	+1.3
UPP	Uppsala	128.82	341	eP	PKiKP	03 51 58.4	+0.6
FURI	Furi	128.87	270	IAMs_20	IAMs_20	04 43 56.4	
	comp=Z,20µm,20.0s						
BORG	Borgarnes	128.94	4	IAMs_20	IAMs_20	04 41 12.8	
	comp=Z,16µm,22.0s						
SJG	San Juan	129.19	78	PKIKP	PKPdf	03 51 58.1	-1.0
SJG	San Juan	129.19	78		PKPdf	03 51 58.1	-1.0
MOL	Molde	129.21	348	ePKPdf	PKiKP	03 51 58.9	+0.4
MOL				ePP	PP	03 54 08.2	+2.2
TRIS	Tristan da Cun	129.26	181	IAMs_20	IAMs_20	04 41 11.8	
	comp=Z,20µm,22.0s						
DOMB	Dombas	129.36	347	ePdif	Pdif	03 48 46.2	+0.7
DOMB				ePKPdf	PKPdf	03 51 57.1	-1.1
DOMB				ePP	PP	03 54 07.6	+0.6
DOMB				eSP	SP	04 04 12.3	+0.4
DOMB				IVMs_BB	IVMs_BB	04 47 08.6	
	comp=Z,8µm,20.8s						
SIM	Simferopol'	129.41	317	ePKIKP	PKiKP	03 51 59.4	-0.1
SIM				e		03 54 03.0	
SIM				pmax	pmax		
	comp=Z,40nm,0.6s						
PABE	Paberze	129.51	333	IAMs_20	IAMs_20	04 47 42.6	
	comp=Z,22µm,22.0s						
PABE	Paberze	129.51	333	eP	PKiKP	03 51 59.5	+0.2
PET01	Itanhaem-SP	129.57	139	eP	PKiKP	03 52 02.2	+1.8
AKN	Aaknes	129.68	348	ePKPdf	PKiKP	03 52 00.0	+0.5
AKN				ePP	PP	03 54 11.4	+2.4
AKN				eSKPdf	SKPdf	03 55 31.8	-0.2
AKN				eSKSac	SKSac	03 59 04.8	-0.5
AKN				eSS	SS	04 11 28.6	-1.1
AKN				IVMs_BB	IVMs_BB	04 46 38.3	
	comp=Z,4µm,17.4s						
NB2	NORSAR Subarra	129.71	345	PKPdf	PKPdf	03 51 58.3	-0.6
	comp=Z,15nm,0.8s,baz=31,slow=1.9						
NB2	NORSAR Subarra	129.71	345	PKPdf	PKPdf	03 51 58.3	-0.6
	baz=31,slow=1.9						
NOA	NORSAR Array B	129.71	345	PKP	PKPdf	03 51 57.8	-1.1
	comp=Z,19nm,0.7s,baz=32,slow=2.0,SNR=25						
NOA				SKPbc	SKPbc	03 55 19.4	+0.4
	comp=Z,11nm,0.9s,baz=31,slow=3.1,SNR=12						
LSZ	Lusaka	129.73	236	SKPbc	SKPbc	03 55 27.1	+6.6
	comp=Z,37nm,1.1s,baz=136,slow=10,SNR=2.9						
AKASG	Malin Array Be	129.76	326	PKhKP	PKPpre	03 51 48.0	
	comp=Z,0.5nm,0.4s,baz=50,slow=3.6,SNR=5.7						
AKASG				PKP	PKPdf	03 51 58.3	-0.9
	comp=Z,31nm,1.0s,baz=57,slow=2.1,SNR=37						
AKASG				PP	PP	03 54 11.1	+0.9
	comp=Z,4.3nm,0.8s,baz=53,slow=6.2,SNR=5.0						
AKASG				SKPbc	SKPbc	03 55 19.7	+0.4
	comp=Z,8.8nm,0.9s,baz=46,slow=4.4,SNR=6.3						
BBSR	BB Station	129.82	59	IAMs_20	IAMs_20	04 48 10.4	
	comp=Z,13µm,19.0s						
NC602	NORSAR Array S	129.89	344	ePKPdf	PKPdf	03 51 58.7	-0.5
NC602				ePP	PP	03 54 11.1	+0.6
PBUR	Paburge	130.03	335	eP	PKiKP	03 52 00.9	+0.6
PDRB	Porto dos Gac	130.03	118	eP	PKiKP	03 52 02.4	+0.7
MACA	Manacapuru-AM	130.06	106	eP	PKiKP	03 52 02.5	+0.8
VIKU	Vikbolandet	130.17	340	eP	PKiKP	03 52 02.1	+1.5
CDVI	St. Croix	130.48	78	eP	PKiKP	03 52 05.6	+3.2
ITRB	Iturama	130.54	132	eP	PKiKP	03 52 03.7	+1.2
BZK	Bozkurt	130.56	314	⇑P	PKPdf	03 51 57.4	-3.6
BZK	Bozkurt	130.56	314	PKPdf	PKPdf	03 52 00.5	-0.5
FOO	Floro	130.60	349	ePKPdf	PKiKP	03 52 01.0	-0.3
FOO				ePP	PP	03 54 17.0	+2.1
FOO				eSKPdf	SKPdf	03 55 28.0	-5.6
FOO				eSS	SS	04 11 46.2	+5.5
FOO				IVMs_BB	IVMs_BB	04 50 52.5	
	comp=Z,4µm,20.3s						
VAO	Valinhos	130.68	138	eP	PKiKP	03 52 04.5	+1.6
RCLB	Rio Claro- Sao	130.71	137	eP	PKiKP	03 52 04.0	+1.1
SKAR	Skarslia	130.73	346	ePKPdf	PKiKP	03 52 01.6	-0.1
SKAR				ePP	PP	03 54 18.0	+2.0
SKAR				eSP	SP	04 04 24.2	+0.4
SKAR				IVMs_BB	IVMs_BB	04 48 34.1	
	comp=Z,6µm,22.9s						
HYA	Hoyanger	130.76	348	ePKPdf	PKiKP	03 52 02.6	+0.9
HYA				ePP	PP	03 54 18.9	+2.8
HYA				eSKPdf	SKPdf	03 55 30.4	-3.6
OSL	Oslo	130.78	344	ePKPdf	PKiKP	03 52 02.9	+1.2
OSL				ePP	PP	03 54 16.6	+0.3
SUW	Suwalki	130.83	332	ePKPdf	PKPdf	03 52 00.1	-1.0
SUW				eSS	SS	04 11 57.5	+13
SUW				eL	L	04 48 27.4	
	comp=Z,26µm,22.5s						
SUW	Suwalki	130.83	332	IAMs_20	IAMs_20	04 48 49.4	
	comp=Z,25µm,22.0s						
SUW	Suwalki	130.83	332	eP	PKiKP	03 52 02.6	+0.6
LODK	Lodwar	130.85	262	IAMs_20	IAMs_20	04 46 23.8	
	comp=Z,20µm,20.0s						
LODK	Lodwar	130.85	262	P	PKPdf	03 52 02.6	+0.1
	SNR=6.0						
BB19B	Bebedouro	130.95	135	eP	PKiKP	03 52 05.1	+1.7
SUE	Sulen	131.15	348	ePKPdf	PKPdf	03 52 00.8	-0.7
SUE				ePP	PP	03 54 20.9	+2.3
SUE				eSKPdf	SKPdf	03 55 32.2	-2.4
CLDB	Colider	131.19	118	eP	PKiKP	03 52 04.5	+0.5
PARB	Paraibuna	131.31	139	eP	PKiKP	03 52 05.4	+1.3
KONO	Kongsberg	131.32	345	PKIKP	PKPdf	03 52 01.6	-0.3
KONO				MLR	MLR		
	comp=Z,11µm,22.0s						
KONO	Kongsberg	131.32	345	PKPdf	PKPdf	03 52 01.6	-0.3
KONO	Kongsberg	131.32	345	ePKPdf	PKiKP	03 52 03.5	+0.6
KONO				ePP	PP	03 54 20.9	+1.2
BHL	Bhannes	131.52	303	eP	PKPdf	03 52 02.3	-0.9
BR131	Keskin Array S	131.56	311	P	PKPdf	03 52 03.6	+0.4
	SNR=12						
BRTR	Keskin Array B	131.56	311	PKP	PKPdf	03 52 03.1	-0.1
	comp=Z,14nm,0.8s,baz=144,slow=4.2,SNR=23						
BRTR				PP	PP	03 54 25.4	+2.8
	comp=Z,7.5nm,1.0s,baz=116,slow=5.6,SNR=5.0						
BRTR				SKPbc	SKPab	03 55 29.6	+2.5
	comp=Z,24nm,0.7s,baz=86,slow=4.2,SNR=7.8						
BRTR				SKKPbc	SKKPbc	04 05 06.4	+8.4
	comp=Z,1.5nm,1.0s,baz=264,slow=2.5,SNR=3.6						
SHBL	Chebaa	131.56	302	eP	PKPdf	03 52 02.8	-0.6
SORM	Soroca	131.57	323	⇓P	PKPdf	03 51 59.1	-3.6
SORM	Soroca	131.57	323	⇓PKIKP	PKPdf	03 51 59.1	-3.6
ASK	Askoy	131.59	348	ePKPdf	PKiKP	03 52 04.1	+0.8
ASK				ePP	PP	03 54 26.2	+4.8
ASK				eSKPdf	SKPdf	03 55 33.9	-1.6
BER	Bergen	131.65	348	ePdif	Pdif	03 48 56.8	+1.1
BER				ePKPdf	PKPdf	03 52 02.9	+0.4
BER				ePP	PP	03 54 22.6	+0.8
BER				eSKPdf	SKPdf	03 55 34.0	-1.7
BER				eSS	SS	04 11 55.6	+2.0
BER				IVMs_BB	IVMs_BB	04 47 19.9	
	comp=Z,4µm,24.5s						
ODD1	Odda	131.80	347	ePKPdf	PKiKP	03 52 04.1	+0.2
ODD1				ePP	PP	03 54 24.6	+1.8
MILM	Milestii Mici	131.90	322	⇑P	PKPdf	03 52 00.2	-3.2
MILM	Milestii Mici	131.90	322	⇑PKIKP	PKPdf	03 52 00.2	-3.2
BOAV	Boa Vista	131.99	99	eP	PKiKP	03 52 06.7	+1.1
GHAJ	Ghor Haditha	132.08	300	IAMs_20	IAMs_20	04 57 51.7	
	comp=Z,13µm,19.0s						
SEUS	St. Eustatius	132.16	79	eP	PKPdf	03 52 00.9	-3.8
BLS5	Blasjo	132.28	346	ePKPdf	PKPdf	03 52 03.8	0.0
BLS5				ePP	PP	03 54 28.6	+2.7
BLS5				eSKPdf	SKPdf	03 55 35.6	-1.3
BLS5				eSP	SP	04 04 34.8	-2.3
BLS5				IVMs_BB	IVMs_BB	04 50 14.8	
	comp=Z,9µm,23.2s						
LEOM	Leova	132.46	322	⇓P	PKPdf	03 52 01.3	-3.1
LEOM	Leova	132.46	322	⇓PKIKP	PKPdf	03 52 01.3	-3.1
MAN01	Angra dos Reis	132.69	140	eP	PKiKP	03 52 08.2	+1.3
DEL	Delary	132.71	340	eP	PKPdf	03 52 04.6	0.0
TLCR		132.72	320	⇓P	PKPdf	03 52 01.5	-3.5
TLCR		132.72	320	⇓PKIKP	PKPdf	03 52 01.5	-3.5
KMY	Karmoy	132.74	347	ePKPdf	PKPdf	03 52 05.0	+0.5
KMY				ePP	PP	03 54 31.6	+2.8
KMY				eSP	SP	04 04 41.7	+0.7
KMY				eSS	SS	04 12 06.6	-0.3
HOMB	Homborsund	132.80	344	ePKPdf	PKPdf	03 52 05.1	+0.4
HOMB				ePP	PP	03 54 30.6	+1.4
HOMB				eSKPdf	SKPdf	03 55 36.0	-1.8
HOMB				eSS	SS	04 12 10.5	+2.8
HOMB				IVMs_BB	IVMs_BB	04 44 42.4	

	comp=Z,6µm,22.5s						
VLDR	Vladesti	132.86	321	⇑P	PKPdf	03 52 01.8	-3.5
JURR	Jurilovca	132.87	319	⇑P	PKPdf	03 52 01.2	-4.1
TRN	Trinidad (W)	132.96	88	eP	PKiKP	03 52 10.2	+2.7
SCTR	Scanteiesti	133.00	321	⇓P	PKPdf	03 52 02.2	-3.3
LRW	Lerwick	133.02	352	eP	PKPdf	03 52 02.1	-2.9
LRW				IAMs_20	IAMs_20	04 49 23.4	
	comp=Z,13µm,22.8s						
LVV	L'vov	133.02	327	ePKIKP	PKPdf	03 52 04.2	-1.2
LVV				e		03 54 31.4	
LVV				e		03 59 12.9	
LVV				eSS	SS	04 12 15.3	+3.9
LVV				MLR	MLR		
	comp=Z,16µm,22.0s						
SNART	Snartemo	133.07	345	ePKPdf	PKiKP	03 52 05.9	-0.5
SNART				ePP	PP	03 54 33.2	+2.3
SNART				eSKPdf	SKiKP	03 55 39.7	-0.7
CFR	Carcaliu	133.15	320	⇓P	PKPdf	03 52 02.4	-3.4
CFR	Carcaliu	133.15	320	⇓PKIKP	PKPdf	03 52 02.4	-3.4
OVD	Ostervraa, Den	133.16	343	i P	PKiKP	03 52 07.5	+0.9
OVD				IVMs_BB	IVMs_BB	04 47 59.7	
	comp=Z,7µm,23.8s						
GHRR		133.16	321	⇓P	PKPdf	03 52 02.3	-3.5
IPMB	Ipameri, GO	133.20	132	eP	PKiKP	03 52 08.5	+0.5
GCMP	Grenada, Carri	133.20	86	eP	PKPdf	03 52 00.9	-5.8
TIRR	Tirgusor	133.31	319	⇑P	PKPdf	03 52 02.3	-3.8
TIRR	Tirgusor	133.31	319	⇑PKIKP	PKPdf	03 52 02.3	-3.8
NPGB	Novo Progresso	133.36	114	eP	PKiKP	03 52 09.1	+0.7
CBE	Ff, Capester	133.39	81	IAMs_20	IAMs_20	04 40 47.8	
	comp=Z,12µm,22.0s						
CBE	Ff, Capester	133.39	81	eP	PKPdf	03 51 56.3	-11
PANC	Panciu	133.41	321	⇑P	PKPdf	03 52 02.1	-4.2
BSD	Bornholm Skovb	133.42	338	eP	PKiKP	03 52 10.2	+3.0
BSD	Bornholm Skovb	133.42	338	i P	PKPdf	03 52 05.7	-0.2
BSD				IVMs_BB	IVMs_BB	04 52 22.0	
	comp=Z,6µm,20.9s						
MFTR	Murfatlar	133.43	319	⇑P	PKPdf	03 52 03.6	-2.7
VAS01	Vassouras-RJ	133.45	140	eP	PKiKP	03 52 09.9	+1.5
MANR	Mangalia	133.49	318	⇑P	PKPdf	03 52 02.6	-3.9
TLBR	Topalu	133.50	319	⇑P	PKPdf	03 52 03.0	-3.4
HARR	Harsova	133.50	320	⇑P	PKPdf	03 52 03.7	-2.8
HARR	Harsova	133.50	320	⇑PKIKP	PKPdf	03 52 03.7	-2.8
BSCB	Bom Sucesso	133.53	138	eP	PKiKP	03 52 09.6	+0.9
BURAR	Bucovina Array	133.63	324	⇓P	PKPdf	03 52 03.7	-3.1
BURAR	Bucovina Array	133.63	324	⇓PKIKP	PKPdf	03 52 03.7	-3.1
VRI	Vrincioaia	133.67	322	⇑P	PKPdf	03 52 03.6	-3.2
VRI	Vrincioaia	133.67	322	⇑PKIKP	PKPdf	03 52 03.6	-3.2
FDF	Fort de France	133.72	83	eP	PKPdf	03 52 00.9	-6.8
BIM	Bigot	133.78	83	IAMs_20	IAMs_20	04 40 14.3	
	comp=Z,13µm,22.0s						
BIM	Bigot	133.78	83	eP	PKiKP	03 52 10.2	+1.1
COP	Copenhagen	133.82	340	i P	PKPdf	03 52 05.5	-1.2
COP				IVMs_BB	IVMs_BB	04 50 57.9	
	comp=Z,40µm,21.0s						
BISRR	Bisoca	133.84	321	⇓P	PKPdf	03 52 04.0	-3.2
TOSP	Speyside	133.90	88	eP	PKiKP	03 52 19.5	+10
GKP	Gorka Klasztor	133.91	335	ePKPdf	PKPdf	03 52 06.5	-0.4
GKP				ePP	PP	03 54 38.9	+2.3
GKP				eL	L	04 51 48.4	
	comp=Z,27µm,21.4s						
H05N1	Guadeloupe/Mar	133.93	81	PKP	PKiKP	03 52 09.4	0.0
	SNR=4.4						
MPOM	Morne Pois Mar	133.97	83	IAMs_20	IAMs_20	04 40 31.5	
	comp=Z,13µm,22.0s						
COVR	Voineasa-Covas	134.00	322	⇑P	PKPdf	03 52 03.7	-3.8
NEHR	Nehoiu	134.16	321	⇑P	PKPdf	03 52 03.7	-4.0
ISR	Istrita	134.16	321	⇑P	PKPdf	03 52 04.6	-3.2
ISR	Istrita	134.16	321	⇑PKIKP	PKPdf	03 52 04.6	-3.2
ITTB	Itaituba	134.16	110	eP	PKiKP	03 52 11.1	+1.0
MUD	Monsted U'grnd	134.19	343	i P	PKiKP	03 52 08.3	-0.4
MUD				IVMs_BB	IVMs_BB	04 48 45.1	
	comp=Z,7µm,23.4s						
DUB01	Friburgo-RJ	134.25	141	eP	PKiKP	03 52 11.5	+1.4
MLR	Muntele Rosu	134.34	322	⇓P	PKPdf	03 52 04.9	-3.4
MLR	Muntele Rosu	134.34	322	⇓PKIKP	PKPdf	03 52 04.9	-3.4
MLR	Muntele Rosu	134.34	322	IAMs_20	IAMs_20	04 54 57.4	
	comp=Z,14µm,21.0s						
SNDB	Serra Nova Dou	134.40	123	eP	PKiKP	03 52 11.5	+1.1
ARCR	ARCALIA	134.42	324	⇑P	PKPdf	03 52 04.8	-3.3
DOPR	Dopca	134.42	322	⇑P	PKPdf	03 52 04.8	-3.4
KOLS	Kolonicke sedl	134.47	327	ePKIKP	PKPdf	03 52 08.8	+0.6
KOLS	Kolonicke sedl	134.47	327	ePKP	PKPdf	03 52 08.8	+0.6
KOLS				e		03 55 38.8	
KOLS				e		03 55 45.3	
ISP	Isparta	134.48	310	IAMs_20	IAMs_20	04 58 47.1	
	comp=Z,12µm,20.0s						
SECR		134.49	321	⇓P	PKPdf	03 52 03.9	-4.5
PRD	Provadia	134.53	318	eP	PKPdf	03 52 07.0	-1.5
BMR	Baia Mare	134.56	325	⇓P	PKPdf	03 52 05.5	-2.9
BMR	Baia Mare	134.56	325	⇓PKIKP	PKPdf	03 52 05.5	-2.9
UZH	Uzhgorod	134.64	327	i PKIKP	PKPdf	03 52 09.0	+0.5
UZH				e		03 52 14.0	
TRPA	Tarpa	134.81	326	⇓P	PKPdf	03 52 05.0	-3.9
BDFB	Brasilia	134.83	129	PKhKP	PKPpre	03 52 00.9	
	comp=Z,2.3nm,0.6s,baz=23,slow=5.9,SNR=4.5						
BDFB				PKP	PKiKP	03 52 10.8	-0.7
	comp=Z,12nm,0.8s,baz=332,slow=1.2,SNR=5.5						
BDFB				SKPbc	SKPab	03 55 42.8	+0.9
	comp=Z,37nm,1.1s,baz=336,slow=2.6,SNR=12						
BDFB	Brasilia	134.83	129	eP	PKiKP	03 52 12.3	+0.8
OJC	Ojcow	134.89	330	ePKPdf	PKPdf	03 52 07.8	-1.2
OJC				ePP	PP	03 54 44.8	+1.8
OJC				eSS	SS	04 12 38.9	+5.0
OJC				eL	L	04 51 11.9	
	comp=Z,18µm,23.1s						
VOIR		134.90	322	⇑P	PKPdf	03 52 05.6	-3.6
VOIR		134.90	322	⇑PKIKP	PKPdf	03 52 05.6	-3.6
CRVS	Cervenica-Dubn	134.91	328	ePKIKP	PKPdf	03 52 07.7	-1.3
CRVS				e		03 54 38.2	
CRVS				e		04 06 50.1	
CRVS				eSS	SS	04 12 39.7	+5.5
CRVS	Cervenica-Dubn	134.91	328	ePKP	PKPdf	03 52 07.7	-1.3
CRVS				ePP	PP	03 54 38.2	-5.0
CRVS				e		03 55 40.0	
CRVS				e		03 55 46.5	
CRVS				eSKS		04 06 50.1	
CRVS				eSS	SS	04 12 39.7	+5.5
RAZG	Razgrad	134.94	319	⇓P	PKPdf	03 52 05.6	-3.6
CBBR	Cluj-Babes-Bol	135.05	324	⇓P	PKPdf	03 52 05.9	-3.4
CJR	Cluj-Napoca	135.05	324	⇓P	PKPdf	03 52 04.8	-4.6
CJR	Cluj-Napoca	135.05	324	⇓PKIKP	PKPdf	03 52 04.8	-4.6
MLA1	Latheron	135.08	353	eP	PKPdf	03 52 09.3	+0.3
BBGH	Gun Hill	135.09	85	IAMs_20	IAMs_20	04 44 31.0	
	comp=Z,18µm,20.0s						
BBGH	Gun Hill	135.09	85	eP	PKiKP	03 52 14.9	+3.1
TSUM	Tsumeb	135.16	223	PP	PP	03 54 53.7	+8.4
	comp=Z,1.7nm,0.5s,baz=108,slow=6.4,SNR=3.6						
TSUM				SKPbc	SKPab	03 55 44.3	+1.1
	comp=Z,5.3nm,0.8s,baz=77,slow=3.2,SNR=3.5						
MESR	Meseseni	135.17	325	⇓P	PKPdf	03 52 06.8	-2.7
NIE	Niedzica	135.17	329	ePKPdf	PKPdf	03 52 10.2	+0.6
NIE				ePP	PP	03 54 46.1	+1.3
ARR	Arges	135.19	322	⇓P	PKPdf	03 52 06.5	-3.2
JMB	Yambol	135.41	317	eP	PKPdf	03 52 08.0	-2.1
HUMR	Humele	135.42	321	⇑P	PKPdf	03 52 06.0	-4.1
DRGR		135.51	325	⇑P	PKPdf	03 52 05.8	-4.5
DRGR		135.51	325	⇑PKIKP	PKPdf	03 52 05.8	-4.5
LTVH	Ltavrtes, Hu	135.61	326	⇓P	PKPdf	03 52 06.3	-4.1
LOT	Lotru	135.66	323	⇓P	PKPdf	03 52 06.5	-4.1
LANS	Liptovska Anna	135.76	329	ePKIKP	PKiKP	03 52 12.9	+0.6
LANS	Liptovska Anna	135.76	329	ePKP	PKiKP	03 52 12.9	+0.6
LANS				e		03 55 45.0	
LANS				e		03 55 49.8	
MCD	Coleburn Disti	135.77	352	eP	PKPdf	03 52 10.9	+0.6
BORR	Bors	135.85	326	⇑P	PKPdf	03 52 07.9	-2.9
PVL	Pavlikeni	135.86	319	eP	PKPdf	03 52 09.0	-1.9
RUE	Ruedersdorf	135.89	336	eP	PKiKP	03 52 12.8	+0.5
OKC	Ostrava-Krasne	135.94	331	ePKIKP	PKiKP	03 52 12.0	-0.5
OKC				e		03 52 15.4	
OKC				e		03 54 49.7	
OKC				MLR	MLR		
	comp=Z,15µm,18.3s						
OKC	Ostrava-Krasne	135.94	331	ePKPDF	PKiKP	03 52 12.0	-0.5
OKC				ex	x	03 52 15.4	
OKC				ePP	PP	03 54 49.7	+0.2
OKC				AMS	AMS	04 56 40.0	
	comp=Z,15µm,18.3s						
FETY	Fethiye	135.96	309	P	PKPdf	03 52 10.0	-1.4
BSEG	Bad Segeberg	135.96	340	eSKPbc	SKPbc	03 55 42.5	+2.1
	baz=33,slow=2.7						
MDO	Dochfour	136.05	353	eP	PKPdf	03 52 10.2	-0.7
KSP	Ksiaz	136.07	333	ePKPdf	PKPdf	03 52 11.3	+0.2

KSP				ePP	PP	03 54 53.0	+2.7
KSP				eL	L	04 52 31.4	
	comp=Z,26µm,21.5s						
KAC	Achnashellach	136.09	354	eP	PKPdf	03 52 11.6	+0.6
DIAM	Diamantina, MG	136.17	136	eP	PKiKP	03 52 14.2	+0.1
MORC	Moravsky Berou	136.26	331	⇑P	PKPdf	03 52 07.3	-4.3
MORC	Moravsky Berou	136.26	331	⇑PKIKP	PKPpre	03 52 07.3	
MORC	Moravsky Berou	136.26	331	ePKP	PKPpre	03 52 02.0	
MORC				ePP	PP	03 54 43.1	-8.5
MORC				e		04 07 04.5	
GZR	Gura Zlata	136.27	323	⇑P	PKPdf	03 52 08.9	-2.8
GZR	Gura Zlata	136.27	323	⇑PKIKP	PKPdf	03 52 08.9	-2.8
KPL	Plockton	136.29	354	eP	PKPdf	03 52 09.8	-1.5
OSTC	Ostas	136.31	333	ePKPpre	PKPpre	03 52 00.3	
OSTC				ePKPDF	PKiKP	03 52 13.9	+0.6
OSTC				ePP	PP	03 54 47.7	-4.2
OSTC				eSKP		03 55 43.6	
OSTC				ePKKS		04 04 49.1	
OSTC				AMS	AMS	04 51 50.0	
	comp=Z,28µm,22.0s						
PSZ	Piszkesteto	136.34	328	IAMs_20	IAMs_20	04 59 56.2	
	comp=Z,16µm,19.0s						
ALF01	Guarapari-ES	136.36	141	eP	PKiKP	03 52 14.5	+0.2
CHVC	Chvalec	136.36	333	ePKPpre	PKPpre	03 52 01.1	
CHVC				ePKPDF	PKiKP	03 52 12.6	-0.8
CHVC				ePP	PP	03 54 55.6	+3.4
CHVC				eSKP		03 55 43.5	
CHVC				ePKKS		04 04 35.5	
CHVC				AMS	AMS	04 51 50.0	
	comp=Z,23µm,21.8s						
YER	Yerkesik	136.39	310	P	PKPdf	03 52 10.9	-1.3
KRLC	Kraliky	136.40	332	ePKIKP	PKPpre	03 52 04.4	
KRLC				e		03 52 14.5	
KRLC				e		03 54 52.4	
KRLC				MLR	MLR		
	comp=Z,18µm,24.0s						
KRLC	Kraliky	136.40	332	ePKPpre	PKPpre	03 52 04.4	
KRLC				ePKPDF	PKiKP	03 52 14.5	+0.9
KRLC				ePP	PP	03 54 52.4	-0.1
KRLC				eSKP		03 55 42.7	
KRLC				ePKKS		04 04 45.0	
KRLC				AMS	AMS	04 51 00.0	
	comp=Z,18µm,24.0s						
SIRR	Siria	136.41	325	⇑P	PKPdf	03 52 08.4	-3.5
DPC	Dobruska-Polom	136.41	333	ePKIKP	PKPpre	03 52 04.9	
DPC				e		03 54 49.1	
DPC				MLR	MLR		
	comp=Z,27µm,22.2s						
DPC	Dobruska-Polom	136.41	333	ePKPpre	PKPpre	03 52 04.9	
DPC				ePKPDF	PKiKP	03 52 15.8	+2.2
DPC				ePP	PP	03 54 49.1	-3.4
DPC				eSKP		03 55 42.8	
DPC				ePKKS		04 04 31.1	
DPC				AMS	AMS	04 51 40.0	
	comp=Z,27µm,22.2s						
UPC	Upice	136.44	333	ePKIKP	PKPdf	03 52 05.4	-6.4
UPC				e		03 52 15.7	
UPC				e		03 54 50.9	
UPC				MLR	MLR		
	comp=Z,25µm,21.5s						
UPC	Upice	136.44	333	ePKPpre	PKPpre	03 52 05.4	
UPC				ePKPDF	PKiKP	03 52 15.7	+2.2
UPC				ePP	PP	03 54 50.9	-1.7
UPC				eSKP		03 55 43.9	
UPC				AMS	AMS	04 52 00.0	
	comp=Z,25µm,21.5s						
ALN	Alexandroupoli	136.48	316	P	PKPdf	03 52 09.3	-2.9
MALB	Monte Alegre	136.50	108	eP	PKiKP	03 52 15.5	+0.8
VYHS	Vyhne	136.51	329	ePKIKP	PKiKP	03 52 13.2	-0.6
VYHS				e		03 54 54.8	
VYHS	Vyhne	136.51	329	ePKP	PKiKP	03 52 13.2	-0.6
VYHS				ePP	PP	03 54 54.8	+1.6
VYHS				e		03 55 44.3	
VYHS				e		03 55 51.4	
KDZ	Kurdzhali	136.55	317	eP	PKPpre	03 52 08.0	
KOLL	Kolacno	136.67	329	ePKP	PKiKP	03 52 14.9	+0.8
KOLL				e		03 55 44.6	
KOLL				e		03 55 52.1	
RDO	Rodhopi	136.71	316	P	PKPdf	03 52 10.3	-2.3
PEXB	Peixe	136.74	125	eP	PKiKP	03 52 15.4	+0.2
EZN	Ezine	136.75	314	P	PKPdf	03 52 10.5	-2.2
HERR	Herculane	136.77	323	⇑P	PKPdf	03 52 08.8	-3.8
MPEP	Malo Peshtene	136.79	320	eP	PKiKP	03 52 14.0	-0.5
BZS	Buzias	136.81	324	⇓P	PKPdf	03 52 08.7	-3.9
BZS	Buzias	136.81	324	⇓PKIKP	PKPdf	03 52 08.7	-3.9
JAVC	Velka Javorina	136.83	330	ePKP	PKPpre	03 52 05.0	
JAVC				ePP	PP	03 54 47.5	-7.8
JAVC				e		04 07 13.2	
FLTG	Flechtingen	136.96	338	ePP	PP	03 54 57.1	+1.4
	baz=38,slow=6.0						
RZN	Rozhen	137.00	317	eP	PKPpre	03 52 09.0	
SMTH	Samothraki Isl	137.02	315	P	PKPdf	03 52 09.7	-3.5
VRAC	Vranov	137.03	331	ePKP	PKPpre	03 52 07.8	
VRAC				ePP	PP	03 54 46.3	-10
VRAC				e		04 07 11.6	
PVCC	Panska Ves	137.05	334	ePKIKP	PKPpre	03 52 07.0	
PVCC				e		03 52 15.0	
PVCC				e		03 55 00.2	
PVCC				MLR	MLR		
	comp=Z,13µm,23.5s						
PVCC	Panska Ves	137.05	334	ePKPpre	PKPpre	03 52 07.0	
PVCC				ePKPDF	PKiKP	03 52 15.0	+0.2
PVCC				ePP	PP	03 55 00.2	+3.8
PVCC				eSKP		03 55 46.3	
PVCC				AMS	AMS	04 51 30.0	
	comp=Z,13µm,23.5s						
BRG	Berggiesshubel	137.05	335	ePKP	PKPpre	03 52 03.5	
BRG				Amp		03 52 05.9	
	comp=Z,2.8nm,0.7s						
BRG				ex	x	03 52 12.6	
BRG				Amp		03 52 14.1	
	comp=Z,14nm,1.2s						
BRG				ex	x	03 52 17.2	
BRG				Amp		03 52 18.0	
	comp=Z,66nm,1.2s						
BRG				ex	x	03 52 25.1	
BRG				Amp		03 52 29.0	
	comp=Z,33nm,1.1s						
BRG				ex	x	03 52 35.2	
BRG				Amp		03 52 37.4	
	comp=Z,56nm,1.2s						
BRG				PP	PP	03 54 48.2	-8.1
BRG				Amp		03 54 49.9	
	comp=Z,33nm,1.7s						
BRG				SKP		03 55 45.8	
BRG				Amp		03 55 53.3	
	comp=Z,58nm,1.2s						
BRG	Berggiesshubel	137.05	335	ePKHKP	PKPpre	03 52 03.4	
BRG				e		03 52 12.6	
BRG				e		03 52 17.1	
BRG				e		04 07 05.0	
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRG				pmax	pmax		
	comp=Z,14nm,1.2s						
BRG	Berggiesshubel	137.05	335	eSKPbc	SKPbc	03 55 45.8	+2.0
	baz=33,slow=2.7						
DAT	Datca	137.06	309	P	PKPdf	03 52 11.1	-2.5
CLL	Collm	137.10	336	eP	Pdif	03 49 23.0	+2.9
CLL				pmax	pmax		
	comp=Z,44nm,1.3s						
CLL				MLR	MLR		
	comp=Z,18µm,20.5s						
CLL	Collm	137.10	336	IAMs_20	IAMs_20	04 54 06.9	
	comp=Z,18µm,20.0s						
CLL	Collm	137.10	336	ePdif	Pdif	03 49 23.0	+2.9
CLL				ePKPpre	PKPpre	03 52 07.0	
CLL				i PKPdf	PKiKP	03 52 14.6	-0.2
	comp=Z,44nm,1.3s						
CLL				i PKiKP	PKPdf	03 52 16.7	+3.7
	comp=Z,57nm,1.1s						
CLL				esPKiKP	sPKiKP	03 52 29.0	+1.6
CLL				ex	x	03 54 48.0	
CLL				ePP	PP	03 54 59.0	+2.4
CLL				ex	x	03 55 03.0	
CLL				epPP		03 55 07.0	
CLL				i SKPdf	SKPdf	03 55 45.6	-0.3
	comp=Z,29nm,1.0s						
CLL				i x	x	03 55 48.4	
CLL				i PKSdf	PKSdf	03 55 51.2	+2.2
	comp=Z,49nm,1.0s						
CLL				i PKSab	PKSab	03 55 55.1	+1.2

CLL			i pPKSdf		03 55 58.5	
CLL			i sSKPdf		03 56 00.5	
CLL			ePPS	PPS	04 07 11.0	
CLL			eSS	SS	04 13 06.0	+6.2
CLL			ex	x	04 14 18.0	
CLL			eSSS	SSS	04 18 06.0	
CLL			ex	x	04 19 06.0	
CLL			Lm	MLR	04 54 00.0	
	comp=N,18µm,20.7s					
CLL			Lm	MLR	04 54 00.0	
	comp=E,6µm,19.7s					
CLL			Lm	MLR	04 54 00.0	
	comp=Z,18µm,20.5s					
CLL	Collm	137.10 336	eSKPbc	SKPbc	03 55 45.8	+1.8
	baz=33,slow=2.7					
BODT	Bodrum	137.14 310	P	PKPdf	03 52 10.8	-2.8
SMOL	Smolenice	137.19 330	ePKIKP	PKiKP	03 52 15.4	+0.3
SMOL			e		03 54 59.4	
SMOL	Smolenice	137.19 330	ePKP	PKiKP	03 52 15.4	+0.3
SMOL			ePP	PP	03 54 59.4	+2.0
SMOL			e		03 55 53.1	
SRO	Srobarova	137.22 329	ePKIKP	PKiKP	03 52 15.4	+0.2
SRO			e		03 55 01.2	
SRO	Srobarova	137.22 329	ePKP	PKiKP	03 52 15.4	+0.2
SRO			ePP	PP	03 55 01.2	+3.6
SRO			e		03 55 53.3	
BANR	Banloc	137.22 324	⇑P	PKPdf	03 52 10.4	-3.0
NRDL	Niedersach Rie	137.23 339	ePP	PP	03 54 59.1	+1.8
	baz=38,slow=6.0					
MDVR	Moldovita	137.24 323	⇓P	PKPdf	03 52 09.9	-3.6
SMG	Samos	137.25 311	P	PKPdf	03 52 11.4	-2.3
FBE	Freiberg	137.26 335	eSKPbc	SKPbc	03 55 46.8	+2.3
	baz=33,slow=2.7					
RETH	Rethem/Aller,	137.28 340	ePP	PP	03 54 59.2	+1.6
	baz=38,slow=6.0					
ESY	Stoneypath	137.29 351	eP	PKPdf	03 52 09.7	-3.5
KRUC	Moravsky	137.30 331	ePKP	PKPdf	03 52 06.8	-6.7
KRUC			ePP	PP	03 54 50.3	-7.7
KRUC			e		04 07 11.6	
LAWE	Loch Awe, Argy	137.32 353	eP	PKPdf	03 52 13.9	+0.6
ASSE	Asse, Remlinge	137.33 338	ePP	PP	03 54 59.4	+1.5
	baz=38,slow=6.0					
SIGR	SIGRI	137.34 314	P	PKPdf	03 52 11.7	-2.1
KAVA	Kavala	137.46 317	P	PKPdf	03 52 12.4	-1.6
PRU	Pruhonice	137.46 334	ePKIKP	PKPpre	03 52 07.0	
PRU			e		03 52 13.4	
PRU			e		03 54 57.4	
PRU			MLR	MLR		
	comp=Z,16µm,21.3s					
PRU	Pruhonice	137.46 334	ePKPpre	PKPpre	03 52 07.0	
PRU			ePKPDF	PKPdf	03 52 13.4	-0.3
PRU			ePP	PP	03 54 57.4	-1.6
PRU			eSKP		03 55 46.7	
PRU			ePKKS		04 04 40.9	
PRU			AMS	AMS	04 54 10.0	
	comp=Z,16µm,21.3s					
VTS	Vitosha	137.49 319	⇑P	PKPdf	03 52 10.7	-3.5
VTS	Vitosha	137.49 319	⇑PKIKP	PKPdf	03 52 10.7	-3.5
VTS	Vitosha	137.49 319	eP	PKPdf	03 52 11.0	-3.2
SJMB	Sao Joao De Ma	137.50 139	eP	PKiKP	03 52 16.6	-0.1
THAS	Thassos island	137.51 316	P	PKPdf	03 52 11.8	-2.3
LIA	Limnos Island	137.51 315	P	PKPdf	03 52 11.4	-2.7
CSKK	Cskako	137.54 328	PKP	PKiKP	03 52 15.9	0.0
CHOS	Chios island	137.54 312	P	PKPdf	03 52 12.1	-2.3
RIB01	Linhares ES	137.55 140	eP	PKiKP	03 52 16.7	0.0
TREC	Trest	137.55 332	ePKIKP	PKiKP	03 52 15.4	-0.5
TREC			e		03 54 54.8	
TREC			MLR	MLR		
	comp=Z,25µm,23.1s					
TREC	Trest	137.55 332	ePKPDF	PKiKP	03 52 15.4	-0.5
TREC			ePP	PP	03 54 54.8	-4.8
TREC			eSKP		03 55 47.6	
TREC			AMS	AMS	04 53 00.0	
	comp=Z,25µm,23.1s					
ZST	Bratislava	137.56 330	ePKIKP	PKiKP	03 52 16.4	+0.5
ZST			e		03 55 01.8	
ZST			eSS	SS	04 13 11.8	+6.1
ZST	Bratislava	137.56 330	ePKP	PKiKP	03 52 16.4	+0.5
ZST			ePP	PP	03 55 01.8	+2.1
ZST			e		03 55 54.2	
ZST			eSKS		04 07 30.4	
ZST			eSS	SS	04 13 11.8	+6.1
NEUB	Neuenburg	137.66 337	ePP	PP	03 55 01.8	+1.7
	baz=38,slow=6.0					
NEUB			eSKPbc	SKiKP	03 55 47.8	-2.2
	baz=33,slow=2.7					
CLZ	Clausthal	137.67 338	ePP	PP	03 55 02.4	+2.2
	baz=38,slow=6.0					
MMB	Musomiste	137.69 318	eP	PKPdf	03 52 10.0	-4.5
NVR	Nevrokopi	137.72 317	P	PKPdf	03 52 12.0	-2.5
KARP	Karpathos	137.80 308	P	PKPdf	03 52 12.8	-2.0
BOVS	Bovan	137.89 322	⇑P	PKPdf	03 52 10.7	-4.0
KOKK	Kokkinochori,	137.89 317	P	PKPdf	03 52 12.4	-2.4
PBCC	Pribram	137.92 334	ePKPDF	PKPdf	03 52 10.5	-4.1
PBCC			ex	x	03 52 16.0	
PBCC			ePP	PP	03 54 57.4	-4.5
PBCC			eSKP		03 55 47.4	
EKA	Eskdalemuir Ar	137.94 351	SKKPbc	SKKPbc	04 04 40.2	+5.2
	comp=Z,19nm,1.2s,baz=160,slow=2.7,SNR=7.0					
ESK	Eskdalemuir	137.96 351	IAMs_20	IAMs_20	04 59 43.7	
	comp=Z,17µm,20.0s					
KKB	Krupnik	137.97 319	eP	PKPdf	03 52 11.0	-4.0
TANN	Tannenbergstha	138.01 335	ePP	PP	03 55 03.4	+1.0
	baz=38,slow=6.0					
TIH	Tihany	138.04 328	PKP	PKiKP	03 52 16.4	-0.5
MPLH	Magyarpolny	138.04 328	PKP	PKPdf	03 52 09.0	-5.8
WERD	Werda	138.05 336	ePP	PP	03 55 03.6	+1.0
	baz=38,slow=6.0					
WERD			eSKPbc	SKiKP	03 55 48.9	-2.0
	baz=33,slow=2.7					
MORH	Mrgy, Hungar	138.09 327	eP	PKPdf	03 52 11.0	-4.0
FRGS	Fruska Gora	138.11 325	⇑P	PKPdf	03 52 11.5	-3.6
FRGS	Fruska Gora	138.11 325	eP	PKPdf	03 52 08.2	-6.9
OUR	Ouranopolis	138.13 316	P	PKPdf	03 52 13.4	-1.8
NKC	Novy Kostel	138.16 335	ePKHKP	PKPpre	03 52 06.2	
NKC			e		03 54 59.1	
NKC			MLR	MLR		
	comp=Z,18µm,22.7s					
NKC	Novy Kostel	138.16 335	ePKPpre	PKPpre	03 52 06.2	
NKC			ePP	PP	03 54 59.1	-4.2
NKC			eSKP		03 55 48.7	
NKC			AMS	AMS	04 52 00.0	
	comp=Z,18µm,22.7s					
MOX	Moxa	138.16 336	eSKPbc	SKPbc	03 55 49.0	+1.9
	baz=33,slow=2.7					
MOX			eL	L	04 55 46.4	
	comp=Z,16µm,20.7s					
SOP	Sopron	138.18 330	PKP	PKiKP	03 52 17.4	+0.2
RONA	Rosalia, Austr	138.30 330	eP	PKPdf	03 52 09.7	-5.7
	comp=Z,3.6nm,0.8s					
RONA			i P	PKiKP	03 52 15.6	-1.9
	comp=Z,7.8nm,0.9s,SNR=12					
RONA			eP	pPKPdf	03 52 18.3	-6.5
	comp=Z,56nm,1.0s					
RONA			ePP	PP	03 54 59.9	-4.5
	comp=Z,3µm,5.6s					
RONA			eS	SKPab	03 55 56.7	+0.6
	comp=Z,62nm,1.4s					
NEWG	New Galloway	138.30 352	eP	PKiKP	03 52 16.5	-0.7
NEWG			IAMs_20	IAMs_20	04 57 14.9	
	comp=Z,14µm,20.8s					
CONA	Conrad Observa	138.35 330	eP	PKPdf	03 52 10.0	-5.5
	comp=Z,6.8nm,1.2s					
CONA			eP	PKiKP	03 52 19.0	+1.4
	comp=Z,54nm,1.0s					
CONA			ePP	PP	03 54 58.8	-5.9
	comp=Z,4µm,6.9s					
CONA			eS	SKPab	03 55 56.2	-0.1
	comp=Z,18nm,1.0s					
CKRC	Cesky Krumlov	138.43 332	ePKPpre	PKPpre	03 52 05.4	
CKRC			ePKPDF	PKPdf	03 52 16.3	+0.7
CKRC			ePP	PP	03 54 57.4	-7.7
CKRC			eSKP		03 55 49.2	
CKRC			ePKKS		04 04 37.8	
KNT	Kendrikon	138.45 318	P	PKPpre	03 52 08.3	
APE	Apeiranthos	138.46 311	⇓P	PKPdf	03 52 12.3	-3.8
APE	Apeiranthos	138.46 311	⇓PKIKP	PKPdf	03 52 12.3	-3.8
PLG	Polygyros	138.47 316	P	PKPdf	03 52 14.0	-1.9
MANZ	Manzenberg	138.49 335	ePP	PP	03 55 06.5	+1.1
	baz=38,slow=6.0					
KHC	Kasperske Hory	138.52 333	ePKHKP	PKPpre	03 52 04.8	
KHC			MLR	MLR		
	comp=Z,19µm,22.9s					

KHC	Kasperske Hory	138.52 333	ePKPpre	PKPpre	03 52 04.8	
KHC			ePKPDF	PKiKP	03 52 17.1	-0.8
KHC			ex	x	03 52 31.5	
KHC			ex	x	03 52 57.0	
KHC			ePP	PP	03 54 53.8	-12
KHC			eSKP		03 55 49.3	
KHC			ePKKS		04 04 33.5	
KHC			AMS	AMS	04 51 10.0	
	comp=Z,19µm,22.9s					
ROTZ	Rotzenmuhle	138.62 335	ePP	PP	03 55 07.1	+1.0
	baz=38,slow=6.0					
PRPB	Parauapebas	138.63 117	eP	PKiKP	03 52 19.6	+0.4
DIVS	Divibare	138.64 323	eP	PKPpre	03 52 05.2	
UBBA	Unterbreizbach	138.64 338	ePP	PP	03 55 07.3	+1.3
	baz=38,slow=6.0					
GEC2	GERESS Array S	138.68 333	ePP	PP	03 55 07.7	+1.0
	baz=38,slow=6.0					
GEC2			eSKPbc	SKiKP	03 55 50.6	-1.7
	baz=33,slow=2.7					
GERES	GERESS Array B	138.68 333	PKhKP	PKPpre	03 52 07.2	
	comp=Z,2.1nm,0.8s,baz=264,slow=4.0,SNR=11					
GERES			PKP	PKPdf	03 52 16.4	+0.3
	comp=Z,11nm,0.9s,baz=69,slow=3.0,SNR=19					
GERES			SKPbc	SKPbc	03 55 49.9	+1.1
	comp=Z,10nm,0.8s,baz=343,slow=1.8,SNR=9.1					
GERES			SKKPbc	SKKPbc	04 04 36.4	+4.4
	comp=Z,2.3nm,1.0s,baz=242,slow=8.6,SNR=3.7					
KYMI	Kymi, Euboea I	138.83 314	P	PKPpre	03 52 08.6	
KARY	Karystos	138.85 313	P	PKPdf	03 52 03.2	-13
GRG	Griva	138.88 318	P	PKPdf	03 52 12.6	-4.1
KASTN	Kahler Asten	138.89 339	ePP	PP	03 55 09.2	+1.5
	baz=38,slow=6.0					
BEHE	Becsehely	138.90 328	eP	PKPpre	03 52 05.5	
ARSA	Arzberg	138.99 330	eP	PKPdf	03 52 13.9	-2.8
	comp=Z,9.5nm,1.1s					
ARSA			eP	PKiKP	03 52 18.9	0.0
	comp=Z,20nm,1.2s					
ARSA			eS	SKPab	03 55 56.9	-2.2
	comp=Z,26nm,1.6s					
GRA1	Grafenberg Arr	139.07 336	IAMs_20	IAMs_20	04 55 33.1	
	comp=Z,19µm,20.0s					
GRF	Grafenberg Arr	139.07 336	ePKPdf	PKPpre	03 52 09.0	
	baz=43,slow=1.4					
GRF			ePP	PP	03 55 09.9	+1.0
	baz=38,slow=6.0					
GRF			eSKPbc	SKiKP	03 55 52.2	-0.8
	baz=33,slow=2.7					
GRF			eSKKPab	SKKPbc	04 04 35.9	+5.6
	baz=208,slow=4.8					
GRF			eL	L	04 55 33.8	
	comp=Z,20µm,20.3s					
GRFO	Grafenberg	139.07 336	PKIKP	PKPdf	03 52 17.2	+0.5
GRFO			MLR	MLR		
	comp=Z,20µm,20.0s					
GRFO	Grafenberg	139.07 336	PKPdf	PKPdf	03 52 17.2	+0.5
GRFO			IAMs_20	IAMs_20	04 55 33.2	
	comp=Z,19µm,20.0s					
MCPB	Macapa, AP	139.10 107	eP	PKiKP	03 52 20.2	+0.1
BBLS	Lazići	139.12 323	eP	PKPdf	03 52 12.3	-4.8
XOR	Xorichti	139.12 315	P	PKPdf	03 52 14.1	-3.1
MOA	Molln	139.16 332	eP	PKPpre	03 52 10.6	
	comp=Z,2.9nm,0.6s					
MOA			eP	PKPdf	03 52 17.9	+1.0
	comp=Z,12nm,1.2s					
MOA			eP	PKiKP	03 52 22.2	+3.0
	comp=Z,33nm,0.9s					
DION	Dionisos Attik	139.19 313	P	PKPpre	03 52 07.6	
LIT	Litokhoron	139.24 317	P	PKPpre	03 52 06.4	
RUDO	Rudo	139.28 323	eP	PKPpre	03 52 07.6	
ATAL	Atalanti	139.55 314	P	PKPpre	03 52 09.1	
BIOA	Bad Ischl, Aus	139.56 332	eP	PKPdf	03 52 14.1	-3.6
	comp=Z,4.6nm,1.0s					
BIOA			i P	PKiKP	03 52 19.9	-0.2
	comp=Z,22nm,0.9s,SNR=12					
BIOA			ePP	PP	03 55 08.5	-3.6
	comp=Z,0.5nm,0.2s					
VILL	Villia	139.59 313	P	PKPpre	03 52 07.0	
PERS	Pernice	139.62 330	i	PKPdf	03 52 16.4	-1.4
PERS			e		04 07 41.0	
KZN	Kozani	139.62 317	P	PKPpre	03 52 08.0	
IDI	Anoyia	139.62 309	⇓P	PKPdf	03 52 13.7	-4.6
IDI	Anoyia	139.62 309	P	PKPpre	03 52 07.8	
IDI	Anoyia	139.62 309	IAMs_20	IAMs_20	04 59 41.5	
	comp=Z,14µm,22.0s					
SOKA	Soboth	139.63 330	i P	PKPdf	03 52 12.0	-6.0
	comp=Z,3.1nm,0.8s					
SOKA			eP	PKiKP	03 52 20.1	-0.2
	comp=Z,14nm,0.7s					
SOKA			eP	pPKPdf	03 52 24.5	-2.9
	comp=Z,62nm,1.2s					
SOKA			ePP	PP	03 55 09.2	-3.4
	comp=Z,3µm,6.0s					
SOKA			eS	SKPab	03 55 59.8	-2.2
	comp=Z,56nm,1.2s					
FNA	Florina	139.63 318	P	PKPpre	03 52 09.5	
TNS	Taunus Mts	139.69 338	ePP	PP	03 55 14.1	+1.3
	baz=38,slow=6.0					
ZAG	Zagreb	139.74 328	eP	PKiKP	03 52 19.7	-0.7
PHP	Peshkopia	139.74 320	P	PKPpre	03 52 08.4	
UPM	Unac-Piva	139.80 323	eP	PKPdf	03 52 17.2	-1.3
BLY	Banja Luka	139.82 326	eP	PKPpre	03 52 10.3	
THL	Klokotos Trika	139.83 316	P	PKPpre	03 52 10.5	
AGG	Agios Georgios	139.88 315	P	PKPpre	03 52 07.8	
GCIS	Gornji Cirnik	139.89 328	i	PKPdf	03 52 17.2	-1.1
GCIS			ePKiKP	pPKPdf	03 52 24.6	-3.1
GCIS			ePP	PP	03 55 14.0	-0.2
GCIS			i SKPbc	SKiKP	03 55 54.1	-0.7
GCIS			i SKPab	SKPab	03 55 59.9	-3.3
GCIS			i SKKPab	SKKPbc	04 04 30.4	+3.5
GCIS			IAMs_20	IAMs_20	04 51 39.4	
	comp=Z,16µm,22.5s					
LTK	Loutraki	139.90 313	P	PKPdf	03 52 08.9	-10
AHRW	Bad Neuenahr-A	139.90 340	ePP	PP	03 55 15.5	+1.6
	baz=38,slow=6.0					
RJOB	Jochberg	139.91 333	ePP	PP	03 55 15.3	+1.1
	baz=38,slow=6.0					
OBKA	Obir	139.98 330	eP	PKPdf	03 52 13.7	-4.9
	comp=Z,8.8nm,1.0s					
OBKA			eP	PKiKP	03 52 24.4	+3.4
	comp=Z,18nm,1.0s					
OBKA			ePP	PP	03 55 07.6	-7.3
	comp=Z,2µm,5.4s					
OBKA			eS	SKPab	03 56 00.4	-3.2
	comp=Z,30nm,1.6s					
WME	Myndd Eilian	139.99 352	eP	PKPdf	03 52 15.9	-2.3
CRES	Cresnjev	140.01 328	⇓iP	PKPdf	03 52 10.9	-7.6
WPS	Cemaes, Angles	140.01 352	eP	PKPdf	03 52 14.3	-4.0
WPS			IAMs_20	IAMs_20	04 54 23.9	
	comp=Z,15µm,21.6s					
MAKR	Makrakomi, Fth	140.01 315	P	PKPdf	03 52 13.8	-5.0
NEST	Nestorio	140.04 318	P	PKPpre	03 52 10.5	
PDG	Podgorica	140.05 322	⇑P	PKPdf	03 52 13.9	-4.7
PDG	Podgorica	140.05 322	IAMs_20	IAMs_20	05 00 43.6	
	comp=Z,12µm,20.0s					
PDG	Podgorica	140.05 322	eP	PKPpre	03 52 09.8	
KPRO	Kipourio	140.07 317	P	PKPdf	03 52 09.3	-10
MGRS	Mrkonjic Grad	140.09 326	eP	PKPpre	03 52 11.5	
WLF1	Llynfaes	140.10 352	eP	PKPdf	03 52 19.1	+0.7
WLF1			IAMs_20	IAMs_20	04 56 13.3	
	comp=Z,31µm,20.7s					
KBA	Koelnbreinsper	140.15 331	eP	PKPdf	03 52 12.3	-6.6
	comp=Z,16nm,1.2s					
KBA			eP	PKiKP	03 52 24.4	+2.9
	comp=Z,87nm,1.3s					
KBA			ePP	PP	03 55 13.0	-2.9
	comp=Z,3µm,6.5s					
BTNL	Ternell	140.17 341	dPKP	PKPdf	03 52 13.0	-5.7
BTNL			dPKiKP	PKiKP	03 52 22.0	+0.8
MEM	Membach	140.19 341	dPKP	PKPdf	03 52 13.6	-5.1
BRY	Bratogost	140.20 323	eP	PKPpre	03 52 10.0	
DRME	Dracevica, Mon	140.24 321	⇓iP	PKPpre	03 52 10.4	
IMMV	Iera Moni Meta	140.24 309	P	PKPpre	03 52 11.1	
EVR	Evrytania	140.28 315	P	PKPpre	03 52 10.5	
MDP	Montagnes des	140.29 99	PKP	PKPdf	03 52 20.3	+0.4
	comp=Z,12nm,0.7s,baz=160,slow=5.4,SNR=1.6					
MDP			SKP		03 55 58.1	
	comp=Z,17nm,1.0s,baz=273,slow=1.9,SNR=1.9					
FOEL	Foel Wylfa	140.31 350	eP	PKPdf	03 52 16.5	-2.4
FOEL			IAMs_20	IAMs_20	04 55 30.3	
	comp=Z,21µm,21.7s					
LJU	Ljubljana	140.32 329	eP	PKPpre	03 52 12.2	
LJU	Ljubljana	140.32 329	i	PKPdf	03 52 18.0	-1.1
LJU			ePKiKP	pPKPdf	03 52 25.2	-3.3
LJU			e		03 55 07.7	
LJU			ePP	PP	03 55 16.1	-0.7

LJU			e		03 55 35.8	
LJU			ePKS	PKSdf	03 55 54.1	-0.9
LJU			i SKPbc	SKiKP	03 55 55.2	-0.5
LJU			i SKPab	SKPab	03 56 00.8	-4.2
LJU			e		03 58 19.5	
LJU			e		04 00 07.3	
LJU			eSS	SS	04 13 41.8	+3.5
MYKA	Terra Mystica	140.34 331	eP	PKiKP	03 52 21.1	-0.6
	comp=Z,34nm,0.9s					
MYKA			ePP	PP	03 55 15.2	-1.7
	comp=Z,5µm,9.6s					
MYKA			eS	SKPab	03 56 00.9	-4.2
	comp=Z,56nm,1.7s					
BSTI	Sart Tilman	140.35 341	dPKP	PKPdf	03 52 14.6	-4.4
BSTI			dPKiKP	PKiKP	03 52 22.2	+0.7
BHOU	Houvegnez	140.41 341	dPKP	PKPdf	03 52 15.0	-4.1
BHOU			dx	x	03 52 23.1	
TREB	Trebinje	140.42 323	eP	PKPdf	03 52 18.3	-1.1
GBAS	Gorenja Brezov	140.44 329	i PKiKP	PKiKP	03 52 25.2	+3.3
GBAS			i SKPab	SKPab	03 56 01.0	-4.6
GBAS			i SKKPab	SKKPbc	04 04 29.7	+5.0
KLV	Kalavryta, Ach	140.46 314	P	PKPpre	03 52 10.7	
LAKA	Lakka	140.49 314	P	PKPpre	03 52 11.7	
VLI	Veliai	140.49 312	P	PKPpre	03 52 10.4	
HCY	Herceg Novi	140.50 322	eP	PKPdf	03 52 11.7	-7.8
GBRS	Gornja Briga	140.54 329	i SKPab	SKPab	03 56 01.6	-4.5
JAN	Janina	140.56 317	P	PKPpre	03 52 10.7	
BCLA	Clavier	140.58 341	dPKiKP	PKiKP	03 52 23.1	+1.1
ANKY	Antikythira Is	140.58 310	P	PKPpre	03 52 10.9	
CEY	Cerknica	140.59 329	eP	PKPpre	03 52 11.8	
BGES	Gesves	140.68 341	dPKiKP	PKiKP	03 52 21.8	-0.4
STON	Ston	140.71 323	eP	PKPpre	03 52 11.7	
WATA	Walderalm	140.75 333	i P	PKPdf	03 52 15.6	-4.4
	comp=Z,4.8nm,0.6s,SNR=10					
WATA			eP	PKiKP	03 52 23.7	+1.1
	comp=Z,84nm,1.0s					
WATA			eP	PP	03 55 16.8	-2.8
	comp=Z,2µm,6.5s					
ABTA	Abfaltersbach	140.78 332	P	PKPpre	03 52 13.3	
	comp=Z,13nm,0.8s,SNR=7.6					
ABTA			eP	PP	03 55 17.3	-2.3
	comp=Z,5µm,12.3s					
WTTA	Wattenberg	140.78 333	i P	PKPdf	03 52 15.8	-4.3
	comp=Z,3.2nm,0.4s,SNR=11					
WTTA			eP	PKiKP	03 52 23.9	+1.2
	comp=Z,66nm,0.9s					
WTTA			eP	PP	03 55 16.5	-3.2
	comp=Z,3µm,7.7s					
WTTA			eS	SKiKP	03 56 00.9	+4.1
	comp=Z,46nm,1.0s					
DRO	Drossia	140.81 314	P	PKPpre	03 52 10.1	
RCHB	Rochefort	140.83 341	dPKP	PKiKP	03 52 21.5	-1.0
BMRD	Maredsous	140.85 342	dPKiKP	PKiKP	03 52 22.2	-0.4
RIY	Rijeka	140.85 329	eP	PKPpre	03 52 12.8	
SKDS	Skadanscina	140.93 329	eP	PKPpre	03 52 13.2	
RLS	Riolos of Patr	140.93 314	P	PKPdf	03 52 14.6	-5.8
MOTA	Moosalm	140.95 333	i P	PKPdf	03 52 14.8	-5.6
	comp=Z,8.7nm,1.0s,SNR=9.8					
MOTA			eP	PKiKP	03 52 19.7	-3.4
	comp=Z,52nm,1.0s					
MOTA			eP	PP	03 55 17.5	-3.2
	comp=Z,5µm,7.5s					
WLF	Walferdange	140.96 340	ePP	PP	03 55 21.3	+0.9
	baz=38,slow=6.0					
WLF	Walferdange	140.96 340	dPKP	PKPdf	03 52 15.0	-5.1
WLF			dx	x	03 52 24.8	
IGT	Igoumenitsa	140.96 317	P	PKPpre	03 52 11.7	
RETA	Reutte	140.99 334	eP	PKPdf	03 52 14.4	-6.0
	comp=Z,2.5nm,0.5s					
RETA			eP	PKiKP	03 52 19.7	-3.4
	comp=Z,28nm,1.3s					
RETA			eP	PP	03 55 17.5	-3.3
	comp=Z,0.5nm,0.3s					
SQTA	Sankt Quirin	141.00 333	i P	PKPdf	03 52 15.2	-5.2
	comp=Z,12nm,0.8s,SNR=8.1					
SQTA			eP	PP	03 55 17.9	-3.1
	comp=Z,4µm,7.2s					
ITM	Ithomi	141.01 313	P	PKPdf	03 52 14.6	-6.0
DOU	Dourbes	141.08 342	dPKiKP	PKiKP	03 52 22.8	-0.2
LKD2	Lefkada island	141.13 316	P	PKPpre	03 52 12.2	
MCH1	Michaelchurch	141.14 350	eP	PKPdf	03 52 17.2	-3.1
MCH1			IAMs_20	IAMs_20	04 56 03.5	
	comp=Z,19µm,21.8s					
STRD	Stroud	141.20 349	eP	PKPdf	03 52 16.1	-4.4
STRD			IAMs_20	IAMs_20	04 55 28.8	
	comp=Z,23µm,22.2s					
KEK	Kerkira	141.22 318	P	PKPpre	03 52 12.8	
PYL	PYLOS	141.28 313	P	PKPpre	03 52 11.0	
BFO	Black Forest	141.30 337	PKHKP	PKPpre	03 52 14.4	
BFO	Black Forest	141.30 337	PKPpre	PKPpre	03 52 14.4	
BFO	Black Forest	141.30 337	eSKPbc	SKiKP	03 55 56.9	-0.8
	baz=33,slow=2.7					
FSK	Fiskardo	141.36 316	P	PKPdf	03 52 14.6	-6.6
FETA	Feichten	141.37 333	eP	PKPdf	03 52 15.1	-6.0
	comp=Z,9.0nm,0.8s					
FETA			eP	PKiKP	03 52 21.2	-2.7
	comp=Z,70nm,0.9s					
FETA			eP	PP	03 55 19.3	-3.9
	comp=Z,4µm,7.9s					
SWN1	Swindon	141.38 348	eP	PKPpre	03 52 12.1	
SWN1			IAMs_20	IAMs_20	04 55 56.5	
	comp=Z,22µm,23.3s					
RSBS	Rosebush, Pemb	141.46 351	eP	PKPdf	03 52 16.8	-4.1
RSBS			IAMs_20	IAMs_20	04 55 24.1	
	comp=Z,19µm,21.6s					
VLS	Valsamata	141.48 315	P	PKPdf	03 52 11.9	-10
DAVA	Damuels	141.52 334	i P	PKPdf	03 52 17.1	-4.3
	comp=Z,6.4nm,0.6s,SNR=10					
DAVA			eP	PP	03 55 21.7	-2.5
	comp=Z,4µm,7.4s					
DAVA			eS	SKPab	03 56 05.0	-5.5
	comp=Z,56nm,1.2s					
KEF3	Kipouria, Keph	141.63 315	P	PKPpre	03 52 12.5	
TMAB	Tom-Au,PA,Br	141.91 113	eP	PKiKP	03 52 25.6	-0.3
DAVOX	Davos/Dischmat	141.92 334	SKKPbc	SKKPbc	04 04 22.4	+3.3
	comp=Z,7.3nm,0.8s,baz=198,slow=10,SNR=6.3					
MATE	Matera	142.65 321	⇑P	PKPdf	03 52 18.5	-4.9
SENIN	Lac Senin/Sane	143.31 336	IAMs_20	IAMs_20	04 58 03.4	
	comp=Z,13µm,21.0s					
AQU	L'Aquila	143.46 326	IAMs_20	IAMs_20	04 59 20.6	
	comp=Z,17µm,20.0s					
AQU	L'Aquila	143.46 326	eP	PKPab	03 52 20.6	-0.5
TIP	Timpagrande	143.48 319	⇓P	PKPab	03 52 20.5	-0.8
CLF	Chambon-Foret	143.63 342	IAMs_20	IAMs_20	05 00 02.5	
	comp=Z,17µm,21.0s					
CEL	Celeste	144.56 319	PKPdf	PKPab	03 52 24.6	-0.8
SSB	Saint Sauveur	145.28 338	IAMs_20	IAMs_20	05 06 37.3	
	comp=Z,10µm,18.0s					
CLTB	Caltabellotta	146.66 320		PKPdf	03 52 31.1	+0.4
CLTB			IAMs_20	IAMs_20	05 00 26.8	
	comp=Z,18µm,22.0s					
NBAN	Anadia - AL	147.31 135	eP	PKPdf	03 52 32.4	+0.2
NBPB	Pedra_Branca-C	147.54 125	eP	PKPbc	03 52 34.8	-0.5
NBMO	Morrinhos-CE	148.44 121	eP	PKPbc	03 52 36.3	-1.4
NBRF	Rio Formoso -	148.80 135	eP	PKPdf	03 52 36.5	+1.8
NBCL	Cascavel-CE	149.35 124	eP	PKPbc	03 52 37.9	-2.0
SHEL	Horse Pasture	149.37 194	PKIKP	PKPdf	03 52 34.9	-0.7
SHEL			MLR	MLR		
	comp=Z,9µm,19.0s					
SHEL	Horse Pasture	149.37 194	PKPdf	PKPdf	03 52 34.9	-0.7
SHEL	Horse Pasture	149.37 194	IAMs_20	IAMs_20	05 00 47.0	
	comp=Z,9µm,19.0s					
MAHO	Mahon	149.88 332	PKP	PKPdf	03 52 35.8	+0.1
MAHO	Mahon	149.88 332	PP	PP	03 56 06.8	-6.7
H07S1	FLORES T-PHASE	150.15 29	ePKP	PKPdf	03 52 38.4	+2.2
RCBR	Riachuelo	150.20 130	PKPbc	PKPbc	03 52 41.4	-0.7
	comp=Z,24nm,0.7s,baz=22,slow=5.9,SNR=12					
RCBR	Riachuelo	150.20 130	PKIKP	PKPdf	03 52 36.0	-1.0
RCBR	Riachuelo	150.20 130	PKPdf	PKPdf	03 52 36.0	-1.0
RCBR	Riachuelo	150.20 130	IAMs_20	IAMs_20	04 53 23.6	
	comp=Z,11µm,22.0s					
RCBR	Riachuelo	150.20 130	eP	PKPdf	03 52 39.4	+2.4
KEST	Kesra	150.24 321	PKPbc	PKPbc	03 52 41.5	-0.1
	comp=Z,289nm,1.0s,baz=325,slow=2.2,SNR=56					
KEST	Kesra	150.24 321	P	PKPbc	03 52 41.4	-0.3
	SNR=23					
NBPV	Pedro Velho	150.26 131	eP	PKPdf	03 52 39.6	+2.5
CKFL	Kef-Lekhel	151.32 325	P	PKPbc	03 52 43.9	-0.3
CASM	Ain Smara	151.55 325	P	PKPbc	03 52 44.7	+0.1
PBRG	Braganca	151.65 350	ePKP	PKPdf	03 52 35.5	-2.9
PBRG	Braganca	151.65 350	ePP	PP	03 56 24.4	+1.0
DFRA	Djebel Bou Aff	151.68 326	P	PKPdf	03 52 41.6	+2.9
PGAV	Gavieira, Arco	151.73 352	ePKP	PKPbc	03 52 44.4	-0.5
PGAV	Gavieira, Arco	151.73 352	ePP	PP	03 56 23.9	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PGAV	Gavieira, Arco	151.73	352	eLR	LR	04 45 52.0	
	comp=Z,17µm,20.0s						
PGRA	Graciosa	151.85	25	ePKP	PKPbc	03 52 42.3	-2.9
PCAB	Cabril	151.94	352	ePKP	PKPbc	03 52 42.9	-2.4
ROSA	Rosais	152.00	25	ePKP	PKiKP	03 52 46.4	+0.5
ROSA	Rosais	152.00	25	PKPdf	PKPdf	03 52 39.0	0.0
PICO	Pico	152.11	26	ePKP	PKPbc	03 52 46.0	+0.1
PMAN	Manadas	152.14	25	ePKP	PKiKP	03 52 48.4	+2.3
PPNO	Prainha do Nor	152.20	26	ePKP	PKiKP	03 52 47.3	+0.9
POLO	Lamas de Olo	152.24	351	ePKP	PKPdf	03 52 37.9	-1.5
POLO	Lamas de Olo	152.24	351	ePP	PP	03 56 26.5	-0.3
UCM	Universidad Co	152.28	343	PKP	PKPdf	03 52 40.0	+0.6
UCM	Universidad Co	152.28	343	PP	PP	03 56 29.5	+2.4
PID	Ribeirinha	152.29	26	ePKP	PKPbc	03 52 46.2	0.0
MVO	Moncorvo	152.32	350	ePKP	PKPdf	03 52 37.1	-2.4
MVO	Moncorvo	152.32	350	ePP	PP	03 56 27.9	+0.7
MVO	Moncorvo	152.32	350	eLQ	LQ	04 37 30.6	
MVO				eLR	LR	04 46 34.4	
	comp=Z,15µm,20.0s						
PVRL	Vila Real	152.32	351	ePKP	PKPbc	03 52 43.1	-3.1
PAGU	Agualva, Azore	152.39	24	ePKP	PKPdf	03 52 42.8	+3.2
ADH	Angra Heroismo	152.47	24	ePKP	PKPbc	03 52 43.4	-3.1
PTO	Porto	152.58	352	ePKP	PKPbc	03 52 45.5	-1.2
PVIS	Viseu	152.90	351	ePKP	PKPdf	03 52 33.1	-7.2
PVIS	Viseu	152.90	351	ePP	PP	03 56 35.4	+4.9
ESDC	Sonseca Array	153.07	344	PKP	PKPdf	03 52 39.8	-0.8
	comp=Z,5.7nm,0.9s,baz=358,slow=2.7,SNR=15						
ESDC				PKPbc	pPKPdf	03 52 50.0	0.0
	comp=Z,39nm,0.9s,baz=2.5,slow=3.0,SNR=30						
MTE	Manteigas	153.15	350	ePKP	PKPdf	03 52 39.5	-1.2
MTE	Manteigas	153.15	350	ePP	PP	03 56 33.6	+1.7
MTE	Manteigas	153.15	350	eLR	LR	04 48 18.1	
	comp=Z,19µm,20.0s						
PAB	San Pablo	153.29	344	⇓PKIKP	PKPdf	03 52 41.2	+0.2
PAB	San Pablo	153.29	344	PKPdf	PKPdf	03 52 40.5	-0.4
PAB	San Pablo	153.29	344	IAMs_20	IAMs_20	05 03 38.2	
	comp=Z,14µm,20.0s						
PAB	San Pablo	153.29	344	P	PKPdf	03 52 43.9	+2.9
COI	Coimbra	153.47	352	ePKP	PKPdf	03 52 38.4	-2.7
COI	Coimbra	153.47	352	ePP	PP	03 56 33.3	-0.3
COI	Coimbra	153.47	352	IAMs_20	IAMs_20	04 59 38.2	
	comp=Z,14µm,20.0s						
PCAS	Casmilo, Conde	153.64	352	ePKP	PKPdf	03 52 43.6	+2.2
PCAS	Casmilo, Conde	153.64	352	ePP	PP	03 56 36.7	+2.1
PCBR	Castelo Branco	153.69	350	ePKP	PKPdf	03 52 43.5	+2.1
CMLA	Cha da Macela	153.90	22	ePKP	PKPdf	03 52 41.7	-0.1
CMLA	Cha da Macela	153.90	22	IAMs_20	IAMs_20	04 58 16.0	
	comp=Z,16µm,20.0s						
CART	Cartagena	154.01	337	PKP	PKPdf	03 52 39.4	-2.5
CART	Cartagena	154.01	337	PP	PP	03 56 39.2	+2.3
CART	Cartagena	154.01	337	IAMs_20	IAMs_20	05 16 43.5	
	comp=Z,11µm,21.0s						
PMRV	Marv??o	154.07	349	ePKP	PKPdf	03 52 40.9	-1.1
PMRV	Marv??o	154.07	349	ePP	PP	03 56 39.8	+2.7
PMRV	Marv??o	154.07	349	eLR	LR	04 50 00.4	
	comp=Z,15µm,20.0s						
PSBE	So Bento	154.21	352	ePKP	PKPdf	03 52 38.4	-3.8
PMTG	Montargil	154.56	351	ePKP	PKPdf	03 52 40.4	-2.3
PESTR	Estremoz	154.65	350	ePKP	PKPdf	03 52 40.7	-2.1
PESTR	Estremoz	154.65	350	ePP	PP	03 56 48.9	+8.6
PSMA	Santa Maria	154.72	23	ePKP	PKPdf	03 52 44.1	+1.2
PSMN	Pico do Norte,	154.74	22	ePKP	PKPdf	03 52 42.4	-0.6
PMAFR	Mafra	154.82	353	ePKP	PKPdf	03 52 43.5	+0.5
PMAFR	Mafra	154.82	353	ePP	PP	03 56 43.3	+2.1
PACT	Alcochete	154.95	352	ePKP	PKPdf	03 52 43.1	-0.1
PMST	Lisbon--Monsan	155.02	352	ePKP	PKPdf	03 52 42.1	-1.2
LIS	Lisbon	155.04	352	ePKPdf	PKPdf	03 52 43.2	-0.1
LIS				ePP	PP	03 56 44.7	+2.3
LIS				IAMs_20	IAMs_20	05 02 53.3	
	comp=Z,21µm,25.4s						
LIS	Lisbon	155.04	352	ePKIKP	PKPdf	03 52 43.2	-0.1
LIS				e		03 56 44.7	
EVO	Evora	155.05	350	PKP	PKPdf	03 52 41.6	-1.8
EVO	Evora	155.05	350	PP	PP	03 56 46.6	+4.1
EVO	Evora	155.05	350	ePKP	PKPdf	03 52 39.2	-4.2
EVO	Evora	155.05	350	ePP	PP	03 56 43.6	+1.1
PBAR	Barrancos	155.22	348	ePKP	PKPdf	03 52 40.8	-2.8
PBAR	Barrancos	155.22	348	ePP	PP	03 56 43.3	-0.2
PBEJ	Beja	155.52	350	ePKP	PKPdf	03 52 42.8	-1.2
PNCL	Nicolau / Gran	155.54	351	ePKP	PKPdf	03 52 43.5	-0.5
PNCL	Nicolau / Gran	155.54	351	ePP	PP	03 56 47.5	+2.2
EMAL	Malaga-Limoner	155.91	342	PKP	PKPdf	03 52 43.0	-1.5
PCVE	Castro Verde	155.93	350	ePKP	PKPdf	03 52 38.2	-6.4
PCVE	Castro Verde	155.93	350	ePP	PP	03 56 49.0	+1.5
PVAQ	Vaqueiros	156.10	349	ePKP	PKPdf	03 52 43.8	-1.0
PVAQ	Vaqueiros	156.10	349	ePP	PP	03 56 49.0	+0.6
PVAQ	Vaqueiros	156.10	349	eLR	LR	04 46 41.1	
	comp=Z,21µm,20.0s						
PTEO	Sao Teotonio	156.13	351	ePKP	PKPdf	03 52 45.6	+0.8
ARNO	Arenosillo	156.19	347	PKP	PKPdf	03 52 43.0	-2.0
ARNO	Arenosillo	156.19	347	PP	PP	03 56 51.4	+2.5
PBDV	Barranco-do-Ve	156.29	349	ePKP	PKPdf	03 52 44.3	-0.8
PBDV	Barranco-do-Ve	156.29	349	ePP	PP	03 56 51.1	+1.6
MORF	Marmelete	156.35	351	ePKPdf	PKPdf	03 52 45.0	-0.2
MORF				ePP	PP	03 56 52.1	+2.2
MORF				IAMs_20	IAMs_20	05 05 08.1	
	comp=Z,13µm,17.5s						
MORF	Marmelete	156.35	351	ePKP	PKPdf	03 52 42.3	-2.9
MORF	Marmelete	156.35	351	ePKIKP	PKPdf	03 52 45.0	-0.2
MORF				e		03 56 52.0	
PFVI	Vila Bisbo	156.55	351	ePKP	PKPdf	03 52 43.6	-1.8
PFVI	Vila Bisbo	156.55	351	ePP	PP	03 56 52.5	+1.7
SFS	San Fernando	156.67	345	PKP	PKPdf	03 52 41.5	-4.0
SFS	San Fernando	156.67	345	PP	PP	03 56 55.0	+3.4
TAF	Taforalt	156.99	337	P	PKPdf	03 52 50.0	+3.8
PALE	Palemas	157.18	340	P	PKPdf	03 52 49.0	+2.7
PVLZ	Peæn de	157.34	341	PKP	PKPdf	03 52 41.7	-4.7
PVLZ	Peæn de	157.34	341	PP	PP	03 56 57.1	+1.7
JBK	JBK	157.47	336	P	PKPdf	03 52 50.0	+3.0
ASCN	Ascension	158.25	177	IAMs_20	IAMs_20	05 20 09.8	
	comp=Z,11µm,19.0s						
FIGM	Figuig	158.79	331	P	PKPdf	03 52 52.0	+3.5
LCRM	LCR	158.89	340	P	PKPdf	03 52 52.0	+3.4
MDT	Midelt	159.59	339	P	PKPdf	03 52 51.9	+2.5
AVE	Averroes	159.99	345	PKP	PKPdf	03 52 48.6	-1.1
AVE	Averroes	159.99	345	PP	PP	03 57 12.2	+2.4
GOLM	Goulmima	160.72	338	P	PKPdf	03 52 55.0	+4.2
PMOZ	Porto Moniz, M	160.87	10	eLR	LR	04 49 10.3	
	comp=Z,13µm,18.0s						
TZRR	Tazzarine	161.77	338	P	PKPdf	03 52 55.0	+3.1
ZGR	Zagora	162.39	337	P	PKPdf	03 52 55.1	+2.7
TOA0	Torodi Ar. Sit	165.38	269		PKPdf	03 52 52.2	-3.2
TORD	Torodi Ar. Bea	165.38	269	PKP	PKPdf	03 52 53.8	-1.7
	comp=Z,35nm,1.0s,baz=1.7,slow=1.5,SNR=36						
TORD				PKPab	PKPab	03 53 52.9	-0.6
	comp=Z,37nm,0.8s,baz=90,slow=2.5,SNR=9.0						
TORD	Torodi Ar. Bea	165.38	269		PKPdf	03 52 54.0	-1.5
KIC	Kosan Boka	168.69	229	ePKP1	PKPdf	03 52 58.6	+0.6
	comp=Z,49nm,0.7s						
KIC	Kosan Boka	168.69	229	eP	PKPab	03 54 11.4	+3.4
	comp=Z,41nm,1.0s						
LIC	Lamto	168.81	228	ePKP1	PKPdf	03 52 59.5	+1.4
	comp=Z,80nm,1.1s						
LIC	Lamto	168.81	228	eP	PKPab	03 54 10.6	+2.1
	comp=Z,38nm,0.9s						
DBIC	Dimbokro	168.99	230	PKP	PKPdf	03 52 56.0	-2.2
	comp=Z,42nm,0.9s,baz=125,slow=2.0,SNR=10						
DBIC				PKPab	PKPab	03 54 11.3	+2.1
	comp=Z,24nm,1.0s,baz=222,slow=6.7,SNR=2.7						
DBIC	Dimbokro	168.99	230	⇓PKIKP	PKPdf	03 52 51.8	-6.4
TIC	Toumodi	169.09	229	ePKP1	PKPdf	03 52 58.9	+0.6
TIC	Toumodi	169.09	229	eP	PKPab	03 54 13.0	+3.2
KOWA	Kowa	170.96	275		PKPdf	03 52 56.9	-2.3
KOWA	Kowa	170.96	275	P	PKPdf	03 53 00.6	+1.4

TAP 07 03:43:30.9, 24°.00N×121°.63E, h9km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	Hwalien	0.03	221	eP	Pg	03 43 32.4	-0.3
	baz=207						
HWA				eS	Sg	03 43 34.5	+0.6
	baz=207						
TWD	Chiawan	0.08	340	eP	Pg	03 43 32.9	-0.4
	baz=345						
TWD				eS	Sg	03 43 34.7	-0.2
	baz=345						
ETL	Fush Village	0.16	358	eP	Pg	03 43 34.5	+0.1
	baz=358						
ETL				eS	Sg	03 43 37.3	+0.5
	baz=358						
NACB	Ninganchiao	0.17	350	S	Sg	03 43 37.5	+0.2
	baz=349						
NACB	Ninganchiao	0.17	350	P	Pg	03 43 34.5	-0.1
	baz=349						
NACB	Ninganchiao	0.17	350	PcP	Pg	03 43 34.6	-0.1
ETLH	Xiulin Townshi	0.24	327	P	Pg	03 43 35.8	-0.2
	baz=326						
ETLH				S	Sg	03 43 39.5	+0.1
	baz=326						
ESL	Shilin	0.26	224	eP	Pg	03 43 36.1	-0.1
	baz=222						
ESL				eS	Sg	03 43 39.9	+0.2
	baz=222						
WHF	Hehuan Shan	0.36	293	P	Pg	03 43 38.0	-0.2
	baz=293						
WHF				S	Sg	03 43 43.2	+0.1
	baz=293						
OWD	Renai	0.42	264	eP	Pg	03 43 38.9	-0.3
	baz=263						
OWD				eS	Sg	03 43 44.7	0.0
	baz=263						
CHGB	Renai	0.42	278	eP	Pg	03 43 38.9	-0.4
	baz=278						
CHGB				eS	Sg	03 43 45.2	+0.4
	baz=278						
FUSS	Fushou	0.43	305	eP	Pg	03 43 38.7	-0.8
	baz=304						
FUSS				eS	Sg	03 43 44.8	-0.4
	baz=304						
ENA	Nanau	0.44	14	eP	Pg	03 43 39.9	+0.3
	baz=14						
ENA				eS	Sb	03 43 46.9	-0.6
	baz=14						
WUSB	Renai	0.47	269	eP	Pg	03 43 40.0	-0.1
	baz=268						
WUSB				eS	Sg	03 43 47.0	+0.7
	baz=268						
NNSB	Datong	0.48	332	eP	Pg	03 43 40.3	-0.1
	baz=332						
NNSB				eS	Sg	03 43 47.3	+0.6
	baz=332						
NNS	Nan Shan	0.49	332	eP	Pg	03 43 40.6	-0.1
	baz=332						
NNS				eS	Sg	03 43 47.7	+0.5
	baz=332						
VWDT	VWDT	0.51	241	eP	Pg	03 43 41.0	+0.2
	baz=241						
VWDT				eS	Sg	03 43 48.2	+0.7
	baz=241						
LATG	Datong	0.54	350	eP	Pg	03 43 41.6	+0.1
	baz=350						
LATG				eS	Sg	03 43 49.6	+1.0
	baz=350						
NDS	Dongshan	0.64	7	eP	Pg	03 43 43.5	+0.2
	baz=7.0						
NDS				eS	Sb	03 43 52.9	-0.3
	baz=7.0						
SSLB	Suanglung	0.65	251	eP	Pg	03 43 43.5	-0.1
	baz=250						
SSLB				eS	Sg	03 43 52.8	+0.6
	baz=250						

IDC 07 03:45:17.1±1.7, 13°.63S×166°.47E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.8/42, mbtmp4.2/4, ML3.9/1, Error ellipse: s-maj=60.2km s-min=29.9km az=122.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.40	180	Pn	Pn	03 47 20.3	0.0
	1.4nm,0.3s,baz=299,slow=20,SNR=6.5						
DZM				Sn	Sn	03 48 49.0	-6.9
	0.2nm,0.3s,baz=50,slow=23,SNR=1.9						
STKA	Stephens Creek	29.14	227	P	P	03 51 20.1	0.0
	5.4nm,0.7s,baz=49,slow=9.8,SNR=5.9						
ASAR	Alice Springs	32.36	247	P	P	03 51 48.6	0.0
	1.2nm,0.7s,baz=76,slow=9.5,SNR=9.2						
SONM	Songino Array	81.16	324	P	P	03 57 38.0	+3.3
	0.4nm,0.6s,baz=122,slow=14,SNR=1.8						
ILAR	Eielson Array	85.72	18	P	P	03 57 57.7	0.0
	0.5nm,0.5s,baz=237,slow=4.7,SNR=8.2						

NEIC 07 03:56:52.0±0.6, 36°.513N±0°.010×97°.875W±0°.009, h4km±7km, mb_Lg2.5/12, Error ellipse: s-maj=1.5km s-min=1.1km az=167.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.92	262	Pg	Pg	03 57 09.3	-0.3
T35A	Sooner Cattle	1.17	69		Pg	03 57 13.9	-0.5
FNO	Franklin	1.31	163		Pn	03 57 16.4	-0.7
W35A	Tecumseh	1.58	149		Pn	03 57 20.7	-0.1
TUL1	Leonard	1.79	109		Pn	03 57 24.0	+0.3
TUL1				IAmb_Lg		03 57 52.5	
	comp=Z,23nm,1.2s						
X34A	Smith Ranch, M	1.91	179		Pb	03 57 26.6	-0.8
WMOK	Wichita Mounta	1.92	203		Pn	03 57 25.9	+0.3
R32A	Long Quarter,	2.02	341		Pn	03 57 27.5	+0.6
X37A	Clayton	2.80	132	Pn	Pn	03 57 38.0	+0.4
X37A				IAmb_Lg		03 58 27.3	
	comp=Z,12nm,0.7s						
HHAR	Hobbs	3.18	93	Pn	Pn	03 57 43.9	+1.0
MIAR	Mount Ida	4.02	118	IAmb_Lg		03 59 10.2	
	comp=Z,8.7nm,1.1s						
U40A	Yellville	4.05	91	Pn	Pn	03 57 54.6	-0.2
KSCO	Kaye Shedlock'	4.52	305	IAmb_Lg		03 59 23.2	
	comp=Z,6.4nm,0.7s						
P38A	Dawn	4.62	46	IAmb_Lg		03 59 31.4	
	comp=Z,19nm,1.2s						
N38A	Joes South For	5.61	39	IAmb_Lg		04 00 05.5	
	comp=Z,13nm,0.7s						

IDC 07 03:58:09.5±1.6, 13°.89S×166°.55E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/44, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=55.8km s-min=28.4km az=111.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.14	181	Pn	Pn	04 00 08.9	-0.2
	0.3nm,0.3s,baz=96,slow=23,SNR=1.4						
DZM				Sn	Sn	04 01 41.8	-0.1
	0.3nm,0.3s,baz=78,slow=18,SNR=1.3						
STKA	Stephens Creek	29.02	228	P	P	04 04 12.6	+1.3
	1.4nm,0.5s,baz=24,slow=10.0,SNR=4.1						
ASAR	Alice Springs	32.33	248	P	P	04 04 39.8	-0.9
	0.3nm,0.7s,baz=68,slow=10,SNR=2.7						
ILAR	Eielson Array	85.95	18	P	P	04 10 51.9	+0.7
	0.2nm,0.7s,baz=239,slow=3.8,SNR=4.4						
ARCES	ARCESS Array B	119.27	345	PKP	PKPdf	04 16 58.7	-1.5
	2.9nm,0.9s,baz=54,slow=1.7,SNR=1.7						

SJA 07 04:01:20.0, 31°.97S×72°.15W, h10km, ML4.4
GUC 07 04:01:22.9±0.8, 31°.97S×71°.71W, h29km±4km, ML3.6
ISC 07 04:01:20.4±1.6, 31°.96S±0°.02×71°.86W±0°.06, h8km±11km, n53, σ1s.52/67, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA06	Catapilco	0.76	142	iP	Pg	04 01 36.2	+1.1
VA06				iS	Sg	04 01 44.2	-0.9
VA06				IAML		04 01 48.4	
	comp=N,4µm,0.3s						
CO02	Combarbal	1.05	44	⇑iP	Pb	04 01 40.5	-0.5
CO02				iS	Sb	04 01 53.4	-1.4
VA01	Torpederas	1.07	171	eP	Pb	04 01 41.7	+0.4
VA01	Torpederas	1.07	171	iP	Pb	04 01 42.0	+0.8
ROCH	El Roble	1.23	145	⇓iP	Pb	04 01 43.6	-0.5
ROCH				⇓iP	Pn	04 01 41.3	-2.9
ROCH				iS	Sb	04 01 57.1	-3.3
ROCH				iS	Sg	04 01 59.3	-0.9
ROCH				IAML		04 02 01.8	
	comp=E,1µm,0.5s						
ROCH				IAML		04 02 03.5	
	comp=N,1µm,0.6s						
ROC1	El Roble	1.24	145	iP	Pn	04 01 41.0	-3.3
CO06	Fray Jorge	1.30	8	⇓iP	Pn	04 01 45.1	+0.2
CO06				iS	Sb	04 02 01.6	-0.3
CO06				IAML		04 02 04.3	
	comp=E,943nm,0.2s						
VA03	San Esteban	1.36	126	iP	Pn	04 01 45.0	-0.9
VA03				iS	Sb	04 02 01.6	-2.3
VA03				IAML		04 02 05.8	
	comp=E,3µm,0.2s						
MT02	Curacav	1.43	155	eP	Pn	04 01 46.7	0.0
MT02	Curacav	1.43	155	iP	Pn	04 01 46.0	-0.7
CO03	El Pedregal	1.50	42	eP	Pn	04 01 48.0	+0.3
CO03				iS	Sn	04 02 07.1	-0.4
CO03				IAML		04 02 09.2	
	comp=E,3µm,0.1s						
CO03	El Pedregal	1.50	42	iP	Pn	04 01 48.0	+0.3
PEL	Peldehue	1.54	140	⇓iP	Pn	04 01 48.2	0.0
PEL				iS	Sn	04 02 07.7	-0.7
PEL	Peldehue	1.54	140	iP	Pn	04 01 48.0	-0.2
VA05	Santo Domingo	1.70	173	eP	Pn	04 01 51.0	+0.6
VA05				iS	Sb	04 02 15.0	+1.4
VA05				IAML		04 02 19.3	
	comp=E,1µm,0.4s						
MT05	Renca	1.71	147	iP	Pn	04 01 51.0	+0.4
FCH	Farellones	1.90	136	⇓iP	Pn	04 01 53.8	+0.4
MT03	Universidad Ad	1.90	144	eP	Pn	04 01 53.9	+0.6
MT03				iS	Sn	04 02 17.1	-0.4
MT03				IAML		04 02 21.0	
	comp=E,1µm,0.2s						
MT03	Universidad Ad	1.90	144	iP	Pn	04 01 54.0	+0.7
MT09	Talagante	1.95	158	eP	Pn	04 01 55.2	+1.2
MT09				IAML		04 02 26.6	
	comp=N,710nm,0.4s						
MT01	Popeta	1.96	165	⇑eP	Pn	04 01 54.9	+0.8
MT01				IAML		04 02 25.8	
	comp=E,579nm,0.6s						
MT01	Popeta	1.96	165	iP	Pn	04 01 55.0	+1.0
GO04	Tololo Observa	2.00	27	eP	Pn	04 01 55.4	+0.6
GO04				iS	Sn	04 02 20.8	+0.7
GO04	Tololo Observa	2.00	27	iP	Pn	04 01 55.0	+0.3
AUSP	Uspallata	2.11	98	iP	Pn	04 01 58.0	+1.7
RTLS	Leoncito	2.18	86	iP	Pb	04 02 00.0	-0.4
BO04	La Punta	2.28	153	eP	Pn	04 01 59.6	+1.2
BO04				iS	Sn	04 02 28.0	+1.3
BO04				IAML		04 02 34.4	
	comp=E,459nm,0.1s						
LMEL	Las Melosas	2.34	144	eP	Pn	04 02 00.5	+1.2
LMEL				IAML		04 02 38.0	
	comp=N,646nm,0.3s						
CO01	Juntas del Tor	2.49	38	eP	Pn	04 02 03.1	+1.6
CO01				iS	Sn	04 02 32.5	+0.3
CO01				IAML		04 02 37.8	
	comp=N,481nm,0.4s						
CO01	Juntas del Tor	2.49	38	iP	Pn	04 02 03.0	+1.5
BO01	Tunca	2.51	165	eP	Pn	04 02 02.4	+0.9
BO01	Tunca	2.51	165	iP	Pn	04 02 03.0	+1.5
ARCO	CERRO ARCO	2.62	110	iP	Pb	04 02 08.0	+0.2
ASAL	Salagasta	2.63	105	iP	Pb	04 02 07.0	-0.9
ZON	Zonda	2.74	82	iP	Pb	04 02 08.0	-1.7
ACCO	Cerro Coronel	2.75	61	iP	Pb	04 02 09.0	-1.1
AAGR	Agrelo	2.79	114	iP	Pb	04 02 09.0	-1.6
ACDV	Cuesta del Vie	2.95	53	iP	Pn	04 02 11.0	+3.3
RTLL	Cerro Villicun	2.95	79	iP	Pn	04 02 11.0	+3.3
BO02	Sierra Bellavi	2.96	163	iP	Pn	04 02 09.0	+1.2
GO05	Huala	3.04	181	iP	Pn	04 02 09.0	+0.1
LCO	Las Campanas	3.10	19	iP	Pn	04 02 10.0	0.0
AC04	Llanos de Chal	3.81	10	iP	Pn	04 02 19.0	-0.3
AVFE	Valle Fertil	3.98	72	iP	Pn	04 02 24.0	+2.1
RFA	San Rafael	3.99	136	iP	Pn	04 02 25.0	+3.1
ACHE	Chepes	4.50	81	iP	Pn	04 02 31.0	+1.9
VCA	Vinchina	4.50	45	iP	Pn	04 02 33.0	+3.9
APLL	PUNTA DE LOS L	4.83	73	iP	Pn	04 02 36.0	+2.6
ACLC	CERRO LA CRUZ	4.92	60	iP	Pn	04 02 37.0	+2.1
MRA	San Martin	5.22	97	iP	Pn	04 02 40.0	+1.0
AC02	Maricunga	5.63	26	iP	Pn	04 02 46.0	+1.1
AC01	Pan de Azucar	5.90	11	iP	Pn	04 02 47.0	-1.1
LC01	Cunco	6.92	180	iP	Pn	04 03 03.0	+0.8

IDC 07 04:01:30.3±1.0, 3°.58S×144°.29E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.8/44, mbtmp3.9/10, ML2.9/2, Error ellipse: s-maj=38.6km s-min=17.9km az=99.0
ISC 07 04:01:34.7±1.5, 3°.5S±0°.3×144°.2E±0°.4, h35km, n10, σ0s.95/5, mb4.0/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.54	153	Pn	Pn	04 03 08.6	+0.2
	3.1nm,0.3s,baz=18,slow=20,SNR=1.7						
PMG				Sn	Sn	04 04 26.8	+4.9
	baz=256,slow=20,SNR=1.2						
WRA	Warramunga Arr	18.94	210	P	Pn	04 05 52.7	-1.0
	0.1nm,0.3s,baz=30,slow=12,SNR=4.7						
ASAR	Alice Springs	22.36	206	P	P	04 06 30.7	+0.9
	0.2nm,0.4s,baz=36,slow=6.8,SNR=2.5						
FITZ	Fitzroy Crossi	23.23	230	P	P	04 06 39.2	+0.2
	1.9nm,0.6s,baz=180,slow=20						
STKA	Stephens Creek	28.31	185	P	P	04 07 25.1	0.0
	0.7nm,0.3s,baz=328,slow=9.5,SNR=1.9						
KSRS	Korea Array	43.49	341	P	P	04 09 36.7	+2.1
	2.0nm,0.7s,baz=161,slow=9.4,SNR=5.5						
USRK	Ussuriysk Ar.	48.76	348	P	P	04 10 18.1	+2.0
	1.3nm,0.6s,baz=164,slow=7.5,SNR=2.7						
MKAR	Makanchi Array	73.82	321	P	P	04 13 07.8	+2.0
	1.6nm,0.9s,baz=103,slow=8.0,SNR=6.9						
ILAR	Eielson Array	84.34	24	P	P	04 14 02.8	-0.1
	1.7nm,0.8s,baz=255,slow=4.9,SNR=11						
YKA	Yellowknife Ar	98.29	27	P	Pdif	04 15 09.7	+1.4
	0.3nm,0.8s,baz=279,slow=4.7,SNR=4.2						

TAP 07 04:04:31.4, 24°.80N×122°.40E, h7km±1km, ML3.2, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGS		0.43	277	eP	Pb	04 04 41.1	-0.2
	baz=276						
EGS				S	Sb	04 04 47.7	-0.3
	baz=276						
TWB1	Santiao Chiao	0.43	299	P	Pb	04 04 40.8	-0.6
	baz=299						
TWB1				S	Sg	04 04 46.4	+1.0
	baz=299						
NTC	Toucheng	0.52	276	eP	Pb	04 04 43.7	+0.8
	baz=276						
NTC				eS	Sb	04 04 51.1	+0.5
	baz=276						
TWC	Suao	0.54	250	P	Pg	04 04 42.2	+0.4
	baz=249						
TWC				S	Sb	04 04 51.2	+0.2
	baz=249						
TIPB	Shuangxi	0.55	289	P	Pb	04 04 43.5	0.0
	baz=288						
TIPB				S	Sb	04 04 51.9	+0.4
	baz=288						
SXI1	Grass Mountain	0.56	302	P	Pb	04 04 43.6	-0.1
	baz=301						
SXI1				S	Sb	04 04 52.1	+0.3
	baz=301						
NWF	Wu-fen Shan	0.62	296	P	Pb	04 04 44.9	+0.2
	baz=295						
NWF				S	Sb	04 04 53.9	+0.2
	baz=295						
WFSB	Wu-fen Shan	0.62	296	P	Pb	04 04 44.8	+0.2
	baz=295						
WFSB				S	Sb	04 04 53.7	+0.1
	baz=295						
NDS	Dongshan	0.64	255	eP	Pg	04 04 44.0	+0.1
	baz=255						
NDS				S	Sb	04 04 55.3	+1.2
	baz=255						
EWUT	Wuta	0.67	238	eP	Pb	04 04 45.4	+0.1
	baz=238						
EWUT				S	Sb	04 04 55.2	+0.5
	baz=238						
TNOU	National Taiwa	0.67	302	P	Pb	04 04 45.1	-0.3
	baz=301						
TNOU				S	Sb	04 04 55.0	+0.1
	baz=301						
TWE	Neicheng	0.67	264	P	Pg	04 04 44.4	0.0
	baz=263						
TWE				S	Sb	04 04 55.6	+0.7
	baz=263						
ENA	Nanau	0.70	239	P	Pg	04 04 45.3	+0.3
	baz=238						
ENA				S	Sb	04 04 55.6	-0.3
	baz=238						
FUSB	Fushanzhiwuyua	0.74	267	P	Pb	04 04 46.7	+0.1
	baz=267						
FUSB				S	Sb	04 04 57.2	+0.2
	baz=267						
TWA	Mucha	0.76	284	eP	Pb	04 04 46.7	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=283						
TWA				S	Sb	04 04 58.2	+0.6
	baz=283						
EHP	Heping Village	0.77	231	eP	Pb	04 04 46.9	-0.3
	baz=230						
ENTT	Nioudou	0.77	259	P	Pb	04 04 47.3	+0.1
	baz=258						
ENTT				S	Sb	04 04 58.8	+0.8
	baz=258						
NWLT	Wulai	0.82	269	eP	Pb	04 04 47.8	-0.2
	baz=268						
NWLT				eS	Sb	04 05 00.1	+0.9
	baz=268						
NDT	Datong Townshi	0.83	257	P	Pb	04 04 47.9	-0.3
	baz=256						
NDT				eS	Sb	04 05 00.5	+1.0
	baz=256						
YM01	YM01	0.83	295	P	Pn	04 04 48.9	-0.6
	baz=294						
YM01				S	Sb	04 04 60.0	+0.4
	baz=294						
LATG	Datong	0.84	252	P	Pg	04 04 47.6	+0.1
	baz=251						
LATG				eS	Sn	04 05 01.1	-1.2
	baz=251						
TWY	Chenhua	0.87	303	P	Pn	04 04 49.5	-0.5
	baz=303						
TWY				S	Sb	04 05 01.6	+0.9
	baz=303						
YHNB	Yeheng	0.94	262	eP	Pb	04 04 50.1	0.0
	baz=262						
ETL	Fush Village	0.95	228	eP	Pg	04 04 49.6	-0.1
	baz=228						
ETL				eS	Sn	04 05 04.2	-0.9
	baz=228						
NSK	Sanguang	0.95	263	P	Pg	04 04 50.1	+0.3
	baz=262						
NSK				eS	Sn	04 05 04.3	-0.9
	baz=262						
NACB	Ninganchiao	0.96	230	eP	Pg	04 04 49.5	-0.4
	baz=229						
NACB				eS	Sb	04 05 03.7	+0.4
	baz=229						
NNSB	Datong	1.00	249	eP	Pg	04 04 50.5	-0.1
	baz=248						
NNSB				eS	Sb	04 05 05.3	+0.9
	baz=248						
NNS	Nan Shan	1.00	249	eP	Pb	04 04 51.2	+0.1
	baz=248						
NNS				eS	Sn	04 05 05.9	-0.5
	baz=248						
ETLH	Xiulin Townshi	1.02	235	eP	Pg	04 04 51.0	-0.1
	baz=234						
TWD	Chiawan	1.02	226	eP	Pn	04 04 52.0	-0.2
	baz=225						
TWD				eS	Sn	04 05 06.6	-0.1
	baz=225						
HWA	Hwalien	1.09	222	eP	Pb	04 04 52.8	+0.2
	baz=221						
HWA				eS	Sn	04 05 08.2	-0.2
	baz=221						
NFF	Wufeng Townshi	1.18	262	eS	Sn	04 05 11.7	+1.1
	baz=261						
FUSS	Fushou	1.19	243	eP	Pg	04 04 52.8	-1.4
	baz=242						
WHF	Hehuan Shan	1.22	238	eP	Pb	04 04 55.0	-0.1
	baz=237						
LIOB	Emei	1.27	263	eP	Pg	04 04 57.6	+1.8
	baz=263						
NSTT	Nanjuang	1.28	263	eP	Pg	04 04 57.6	+1.6
	baz=262						
CHGB	Renai	1.34	237	eP	Pg	04 04 57.3	+0.2
	baz=236						
OWD	Renai	1.40	233	eP	Pg	04 04 58.6	+0.4
	baz=233						
WUSB	Renai	1.42	236	eP	Pg	04 04 59.2	+0.6
	baz=235						
WHP	Taichung City	1.42	249	eP	Pg	04 04 59.5	+0.8
	baz=248						
VWDT	VWDT	1.55	228	eP	Pg	04 05 01.4	+0.3
	baz=227						
VWDT				eS	Sb	04 05 20.4	+0.2
	baz=227						
HGSD	Ruisui	1.58	215	eP	Pb	04 05 00.5	-0.4
	baz=214						
HGSD				eS	Sb	04 05 21.0	0.0
	baz=214						
SSLB	Suanglung	1.66	233	eP	Pn	04 05 01.4	+0.5
	baz=232						
SSLB				eS	Sn	04 05 22.8	+0.3
	baz=232						
TYC	Yuchr	1.67	238	eP	Pb	04 05 02.0	-0.4
	baz=237						
YULB	Yu-li	1.72	216	eP	Pn	04 05 01.6	-0.3
	baz=215						

*TAP **07** 04:04:47.0, 24°.79N×122°.41E, h13km±1km, ML3.4, D*
*JMA **07** 04:04:47.3±0.1, 24°.69N×122°.44E, h2km±2km, M3.0*
*IDC **07** 04:04:53.6±6.2, 24°.30N×123°.00E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.2/57, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=314.2km s-min=40.5km az=96.0*
ISC 07 04:04:46.8±1.1**, 24°.78N**±0°.03×**122°.41E**±0°.02**, h5**km±9km**, n58,** σ1s.**01**/97**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		0.44	279	eP	Pb	04 04 57.2	+0.1
	baz=277						
EGS				S	Sb	04 05 04.5	+0.4
	baz=277						
TWB1	Santiao Chiao	0.45	301	P	Pg	04 04 56.0	+0.5
	baz=300						
TWB1				S	Sg	04 05 02.1	+0.7
	baz=300						
NTC	Toucheng	0.54	278	eP	Pb	04 04 58.2	-0.5
	baz=276						
NTC				eS	Sb	04 05 06.0	-0.7
	baz=276						
TWC	Suao	0.54	252	P	Pg	04 04 57.8	+0.6
	baz=250						
TWC				S	Sb	04 05 06.4	-0.5
	baz=250						
TIPB	Shuangxi	0.57	290	P	Pb	04 04 58.5	-0.8
	baz=288						
TIPB				S	Sb	04 05 06.9	-0.7
	baz=288						
SXI1	Grass Mountain	0.58	303	P	Pb	04 04 59.0	-0.6
	baz=302						
SXI1				S	Sb	04 05 07.7	-0.4
	baz=302						
JYNG	Yonagunijimaku	0.58	124	P	Pg	04 04 57.7	-0.4
JYNG				S	Sg	04 05 04.9	-0.8
ILA	Ilan	0.60	269	P	Pg	04 04 58.9	+0.5
	baz=267						
ILA				S	Sb	04 05 08.7	0.0
	baz=267						
YOJ	Yonaguni jima	0.63	120	P	Pg	04 04 58.6	-0.3
YOJ				eS	Sg	04 05 06.5	-0.6
NWF	Wu-fen Shan	0.64	297	P	Pb	04 05 00.2	-0.4
	baz=296						
NWF				S	Sb	04 05 09.4	-0.5
	baz=296						
WFSB	Wu-fen Shan	0.64	297	P	Pb	04 05 00.2	-0.4
	baz=296						
WFSB				S	Sb	04 05 09.4	-0.4
	baz=296						
NDS	Dongshan	0.65	257	eP	Pb	04 05 00.5	-0.1
	baz=256						
NDS				eS	Sn	04 05 11.0	-2.4
	baz=256						
EWUT	Wuta	0.67	240	eP	Pb	04 05 00.4	-0.6
	baz=239						
EWUT				eS	Sb	04 05 10.2	-0.3
	baz=239						
TWE	Neicheng	0.68	265	P	Pb	04 05 00.7	-0.5
	baz=263						
TWE				S	Sb	04 05 10.4	-0.5
	baz=263						
TNOU	National Taiwa	0.69	303	P	Pg	04 05 00.4	+0.3
	baz=301						
TNOU				S	Sb	04 05 10.4	-0.7
	baz=301						
ENA	Nanau	0.70	240	P	Pb	04 05 01.1	-0.5
	baz=238						
ENA				eS	Sb	04 05 11.0	-0.6
	baz=238						
FUSB	Fushanzhiwuyua	0.75	269	eP	Pg	04 05 01.6	+0.3
	baz=267						
FUSB				eS	Sb	04 05 12.6	-0.4
	baz=267						
EHP	Heping Village	0.77	233	S	Sb	04 05 13.6	+0.1
	baz=231						
TWA	Mucha	0.78	285	eP	Pb	04 05 02.7	-0.2
	baz=284						
TWA				eS	Sb	04 05 13.6	-0.2
	baz=284						
ENTT	Nioudou	0.78	260	S	Sn	04 05 14.6	-2.0
	baz=258						
NHDH	Xindian Distri	0.83	283	eP	Pn	04 05 03.9	-1.3
	baz=282						
NHDH				eS	Sb	04 05 14.8	-0.3
	baz=282						
NWLT	Wulai	0.83	270	eP	Pb	04 05 03.3	-0.4
	baz=269						
NWLT				eS	Sb	04 05 14.8	-0.4
	baz=269						
NDT	Datong Townshi	0.84	258	eP	Pb	04 05 03.7	-0.1
	baz=257						
NDT				eS	Sn	04 05 15.9	-2.1
	baz=257						
LATG	Datong	0.84	253	eP	Pg	04 05 02.7	-0.3
	baz=252						
LATG				eS	Sb	04 05 15.5	-0.2
	baz=252						
YM01	YM01	0.85	296	P	Pn	04 05 04.3	-1.2
	baz=295						
YM01				S	Sb	04 05 14.8	-1.0
	baz=295						
TAP	Taipei	0.86	288	eS	Sn	04 05 16.2	-2.4
	baz=286						
TWY	Chenhua	0.89	304	P	Pn	04 05 04.9	-1.1
	baz=303						
TWY				S	Sb	04 05 16.7	-0.2
	baz=303						
ANP	Anpu	0.91	297	eS	Sg	04 05 16.2	+0.2
	baz=296						
ETL	Fush Village	0.95	230	eP	Pb	04 05 04.8	-1.0
	baz=228						
ETL				eS	Sb	04 05 18.6	-0.1
	baz=228						
YHNB	Yeheng	0.95	264	eP	Pg	04 05 04.9	-0.2
	baz=262						
YHNB				eS	Sn	04 05 19.4	-1.4
	baz=262						
YHNB	Yeheng	0.95	264	eS	Sg	04 05 04.5	-13
	baz=262						
NTST	Danshui	0.95	294	eP	Pb	04 05 04.0	-1.8
	baz=293						
NTST				eS	Sn	04 05 18.8	-2.0
	baz=293						
NACB	Ninganchiao	0.96	231	eP	Pb	04 05 05.3	-0.6
	baz=230						
NACB				eS	Sg	04 05 18.6	+0.9
	baz=230						
TWS1	Kuangyinshan	0.96	290	eP	Pb	04 05 05.2	-0.7
	baz=289						
TWS1				eS	Sb	04 05 18.6	-0.4
	baz=289						
NSK	Sanguang	0.96	264	P	Pb	04 05 05.3	-0.7
	baz=263						
NSK				S	Sb	04 05 18.6	-0.6
	baz=263						
NNSB	Datong	1.00	250	eP	Pb	04 05 06.2	-0.5
	baz=248						
NNSB				eS	Sn	04 05 20.9	-1.3
	baz=248						
NNS	Nan Shan	1.01	251	P	Pn	04 05 06.6	-1.1
	baz=249						
NNS				S	Sn	04 05 20.3	-2.0
	baz=249						
TWD	Chiawan	1.02	227	P	Pb	04 05 06.0	-0.9
	baz=226						
TWD				S	Sg	04 05 20.0	+0.4
	baz=226						
ETLH	Xiulin Townshi	1.02	236	eP	Pg	04 05 06.8	+0.3
	baz=235						
ETLH				eS	Sn	04 05 21.2	-1.5
	baz=235						
ETLH	Xiulin Townshi	1.02	236	eS	Sb	04 05 06.8	-14
	baz=234						
NFF	Wufeng Townshi	1.19	263	eP	Pg	04 05 10.0	+0.4
	baz=262						
NFF				eS	Sn	04 05 25.7	-1.0
	baz=262						
FUSS	Fushou	1.19	244	eP	Pb	04 05 08.5	-1.5
	baz=242						
FUSS				eS	Sb	04 05 25.1	-0.7
	baz=242						
WHF	Hehuan Shan	1.22	239	P	Pg	04 05 10.4	+0.1
	baz=238						
WHF				eS	Sn	04 05 27.1	-1.0
	baz=238						
TWT	Tachien	1.24	245	eS	Sn	04 05 26.7	-1.5
	baz=244						
TDCB	Techi	1.26	246	eP	Pn	04 05 10.1	-1.1
	baz=244						
TDCB				eS	Sn	04 05 27.1	-1.4
	baz=244						
IRIF	Iriomote-Funau	1.28	110	P	Pn	04 05 10.3	-1.0
IRIF				eS	Sb	04 05 26.6	-1.5
NSTT	Nanjuang	1.29	264	eS	Sb	04 05 27.6	-1.0
	baz=262						
ESL	Shilin	1.31	223	eP	Pn	04 05 11.0	-0.8
	baz=222						
ESL				eS	Sg	04 05 29.0	0.0
	baz=222						
CHGB	Renai	1.34	238	eP	Pg	04 05 12.7	+0.2
	baz=237						
OWD	Renai	1.40	234	eP	Pg	04 05 13.5	-0.1
	baz=233						
WUSB	Renai	1.42	237	eP	Pb	04 05 13.6	-0.2
	baz=235						
HATJ	Hateruma jima	1.46	119	P	Pn	04 05 13.6	-0.2
HATJ				eS	Sn	04 05 32.1	-1.2
VWDT	VWDT	1.55	229	eP	Pb	04 05 15.7	-0.3
	baz=228						
JKRS	Kuro-shima	1.55	110	P	Pb	04 05 15.8	-0.2
SSLB	Suanglung	1.66	234	eP	Pb	04 05 17.8	-0.1
	baz=233						
KSRS	Korea Array	13.48	19	Pn	P	04 08 09.7	+1.5
	0.2nm,0.3s,baz=197,slow=11,SNR=6.4						
WRA	Warramunga Arr	45.94	164	P	P	04 13 13.1	+2.3
	0.6nm,0.5s,baz=346,slow=8.7,SNR=7.7						
ASAR	Alice Springs	49.43	166	P	P	04 13 41.5	+3.6
	0.3nm,0.6s,baz=341,slow=8.4,SNR=4.4						

*IDC **07** 04:07:42.7±0.8, 13°.99S×166°.87E, h0km, mb4.6/16, mb1 4.6/17, mb1mx4.3/46, mbtmp4.6/17, ML2.8/1, Error ellipse: s-maj=25.4km s-min=16.3km az=111.0*
*NEIC **07** 04:07:49.4±1.8, 13°.94S±0°.08×166°.66E±0°.09, h35km±1km, mb4.6/21, Error ellipse: s-maj=16.7km s-min=11.3km az=48.0*
ISC 07 04:07:48.5±0.5**, 13°.89S**±0°.07×**166°.7E**±0°.1**, h35**km**, n67,** σ1s.**18**/66**, mb4.6**/25**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	6.87	176	Pn	Pn	04 09 29.4	+2.6
KOUNC	Koumac, New Ca	7.00	199	Pn	Pn	04 09 30.9	+2.2
KOUNC				Sn	Sn	04 10 46.5	-0.7
DZM	Mont Dzumac	8.14	182	Pn	Pn	04 09 45.3	+1.0
	1.5nm,0.3s,baz=177,slow=20,SNR=2.0						
DZM	Mont Dzumac	8.14	182	Pn	Pn	04 09 44.8	+0.5
ONTNC	Ouen Toro	8.37	181	Pn	Pn	04 09 49.8	+2.4
OUENC	Ouen Island, N	8.48	179		Pn	04 09 50.7	+1.8
PINNC	Pines Island,	8.71	175	Pn	Pn	04 09 53.9	+1.9
EIDS	Eidsvold	18.58	230	P	P	04 12 02.2	-0.5
PMG	Port Moresby	19.62	281	P	Pn	04 12 15.9	+0.2
	0.9nm,0.3s,baz=36,slow=11,SNR=3.6						
CTA	Charters Tower	20.47	250	P	Pn	04 12 24.7	-1.0
	8.1nm,0.9s,baz=104,slow=10,SNR=5.4						
OUZ	Omahuta	22.14	165	P	P	04 12 40.9	-0.2
OUZ				IAmb	IAmb	04 12 46.4	
	comp=Z,14nm,0.9s						
COEN	Coen	22.81	267	P	P	04 12 50.0	+1.4
COEN				IAmb	IAmb	04 13 01.4	
	comp=Z,18nm,1.2s						
THZ	Tophouse	28.29	170	P	P	04 13 38.4	-0.4
THZ				IAmb	IAmb	04 13 52.5	
	comp=Z,10nm,1.0s						
STKA	Stephens Creek	29.11	228	P	P	04 13 46.5	+0.3
	comp=Z,11nm,0.6s,baz=45,slow=8.3,SNR=42						
STKA	Stephens Creek	29.11	228	P	P	04 13 47.1	+1.0
WR0	Warramunga Arr	31.29	254	P	P	04 14 05.2	-0.4
WR0				IAmb	IAmb	04 14 12.3	
	comp=Z,12nm,1.4s						
WB0	Warramunga Arr	31.41	255	P	P	04 14 06.2	-0.5
WB0				IAmb	IAmb	04 14 06.7	
	comp=Z,7.1nm,0.8s						
WB2	Warramunga Arr	31.47	254	P	P	04 14 06.1	-1.1
WB2				IAmb	IAmb	04 14 13.4	
	comp=Z,18nm,1.5s						
WRA	Warramunga Arr	31.48	254	P	P	04 14 06.0	-1.2
	comp=Z,2.9nm,0.8s,baz=84,slow=8.9,SNR=16						
WRA	Warramunga Arr	31.48	254	P	P	04 14 05.7	-1.5
H11S2	WAKE ISLAND Hy	32.18	0	T	T	04 48 37.4	
	baz=185,slow=76,SNR=7.1						
H11S3	WAKE ISLAND Hy	32.18	0	T	T	04 48 16.3	
	baz=185,slow=76,SNR=3.9						
H11S1	WAKE ISLAND Hy	32.20	0	T	T	04 48 27.8	
	baz=185,slow=76,SNR=3.0						
AS31	Alice Springs	32.44	248	P	P	04 14 15.1	-0.6
ASAR	Alice Springs	32.44	248	P	P	04 14 15.1	-0.7
	comp=Z,3.4nm,0.6s,baz=75,slow=9.3,SNR=42						
ASAR	Alice Springs	32.44	248	P	P	04 14 13.9	-1.8
BBOO	Buckleboo	33.65	231	P	P	04 14 25.6	-0.5
FORT	Forrest	39.24	238	P	P	04 15 13.9	+0.1
NWAO	Narrogin (SRO)	48.69	238	P	P	04 16 28.7	-0.9
MORW	Morawa	49.12	244	P	P	04 16 30.8	-2.2
MORW				IAmb	IAmb	04 16 49.5	
	comp=Z,18nm,1.2s						
MJAR	Matsushiro Arr	56.90	333	P	P	04 17 30.5	+0.3
	comp=Z,2.3nm,0.4s,baz=184,slow=19,SNR=8.6						
MAJO	Matsushiro	56.90	333	P	P	04 17 30.6	+0.5
JHS	Saijyo	58.12	328	P	P	04 17 39.6	+0.9
JKA	Kamikawa-asahi	61.76	341	P	P	04 18 05.2	+1.7
ASAJ	Asahikawa	61.76	341	P	P	04 18 05.0	+1.5
	comp=Z,5.1nm,0.6s,baz=186,slow=9.4,SNR=3.7						
KSRS	Korea Array	62.73	326	P	P	04 18 11.2	+1.1
	comp=Z,2.1nm,0.8s,baz=145,slow=6.7,SNR=6.3						
VNDA	Vanda	63.68	181	P	P	04 18 16.2	+0.3
	comp=Z,2.1nm,0.6s,baz=356,slow=7.6,SNR=23						
VNDA	Vanda	63.68	181	P	P	04 18 16.0	+0.1
SBA	Scott Base	63.97	180	P	P	04 18 18.6	+0.8
SBA				IAmb	IAmb	04 18 19.8	
	comp=Z,12nm,0.8s						
USRK	Ussuriysk Ar.	65.88	333	P	P	04 18 32.3	+1.6
	comp=Z,8.2nm,0.8s,baz=146,slow=6.0,SNR=14						
USRK	Ussuriysk Ar.	65.88	333	P	P	04 18 31.9	+1.3
PETK	Petropavlovsk-	67.17	354	P	P	04 18 39.8	+1.1
	comp=Z,4.5nm,0.9s,baz=184,slow=12,SNR=4.4						
KLR	Kul'dur	70.01	336	P	P	04 18 57.6	+1.1
	comp=Z,4.5nm,0.7s,baz=103,slow=2.6,SNR=12						
CMAR	Chiang Mai Arr	74.08	294	P	P	04 19 23.1	+1.5
	comp=Z,3.2nm,0.4s,baz=121,slow=4.2,SNR=14						
CMAR	Chiang Mai Arr	74.08	294	P	P	04 19 21.2	-0.4
QSPA	South Pole Qui	76.13	180	P	P	04 19 32.4	-0.3
QSPA				IAmb	IAmb	04 19 33.3	
	comp=Z,11nm,0.7s						
SONM	Songino Array	81.48	324	P	P	04 20 03.6	+1.3
	comp=Z,3.3nm,0.8s,baz=142,slow=6.2,SNR=7.9						
SONM	Songino Array	81.48	324	P	P	04 20 03.2	+0.8
SONM				IAmb	IAmb	04 20 04.5	
	comp=Z,6.2nm,1.0s						
ILAR	Eielson Array	85.91	18	P	P	04 20 23.6	-0.9
	comp=Z,1.4nm,0.6s,baz=241,slow=5.3,SNR=23						
MK31	Makanchi Array	96.20	317	P	P	04 21 13.5	+0.4
MK31				IAmb	IAmb	04 21 14.4	
	comp=Z,4.4nm,0.9s						
MKAR	Makanchi Array	96.20	317	P	P	04 21 13.8	+0.7
	comp=Z,3.8nm,0.7s,baz=95,slow=6.3,SNR=8.5						
MKAR	Makanchi Array	96.20	317	P	P	04 21 13.5	+0.4
ZALV	Zalesovo Beam	96.38	324	P	P	04 21 13.2	-0.4
	comp=Z,5.0nm,0.7s,baz=117,slow=4.8,SNR=11						
ZALV	Zalesovo Beam	96.38	324	P	P	04 21 13.5	-0.2
ARCES	ARCESS Array B	119.30	345	PKP	PKPdf	04 26 32.9	-0.6
	comp=Z,2.1nm,0.5s,baz=89,slow=2.0,SNR=28						
KLMR	Klimovskoe	119.68	333	ePKPdf	PKPdf	04 26 30.6	-3.9
KLMR				AMP		04 26 35.0	
	comp=Z,5.0nm,0.8s						
BOSA	Boshof	123.63	221	PKP	PKPdf	04 26 42.5	-0.8
	comp=Z,4.1nm,0.9s,baz=311,slow=0.6,SNR=5.0						
KBZ	Khabaz	123.76	314	PKP	PKPdf	04 26 42.7	-0.1
	comp=Z,0.7nm,0.8s,baz=134,slow=2.1,SNR=4.0						
NB2	NORSAR Subarra	129.67	345	PKPdf	PKPdf	04 26 53.1	-0.6
	comp=Z,1.3nm,0.7s,baz=31,slow=1.9						
NOA	NORSAR Array B	129.67	345	PKP	PKPdf	04 26 53.4	-0.2
	comp=Z,0.2nm,0.4s,baz=40,slow=1.2,SNR=3.2						
AKASG	Malin Array Be	129.72	326	PKP	PKPdf	04 26 52.7	-1.3
	comp=Z,1.1nm,0.6s,baz=65,slow=2.0,SNR=5.2						
GERES	GERESS Array B	138.64	333	PKP	PKPdf	04 27 11.3	+0.3
	comp=Z,0.4nm,0.2s,baz=215,slow=1.6,SNR=4.4						
GERES	GERESS Array B	138.64	333		PKPdf	04 27 09.8	-1.1
KEST	Kesra	150.20	321	PKPbc	PKPbc	04 27 36.1	-0.2
	comp=Z,16nm,0.7s,baz=136,slow=1.6,SNR=11						
ESDC	Sonseca Array	153.03	344	PKPbc	PKPbc	04 27 41.3	-1.4
	comp=Z,1.3nm,0.8s,baz=22,slow=1.9,SNR=6.5						
ESDC				PKPab	pPKPbc	04 27 53.5	+0.4
	comp=Z,1.2nm,0.6s,baz=12,slow=3.7,SNR=11						
ESDC	Sonseca Array	153.03	344	PKPbc	PKPbc	04 27 42.7	-0.1
TORD	Torodi Ar. Bea	165.37	269	PKP	PKPdf	04 27 49.8	-0.5
	comp=Z,1.9nm,0.8s,baz=78,slow=1.1,SNR=9.9						
TORD				PKPab	PKPab	04 28 48.8	+0.4
	comp=Z,2.4nm,1.0s,baz=101,slow=4.4,SNR=5.6						

*BJI **07** 04:09:17.7±0.0, 0°.89N×123°.11E, h26km, mb4.5/19*
*DJA **07** 04:09:21.4±0.5, 1°N±3°×12°3E±°, h13km±3km, M5.1/25, mB5.2/2, mb5.0/25, MLv5.1/19, Mw(mB)4.6/2*
*IDC **07** 04:09:24.7±2.0, 1°.17N×122°.78E, h48km±20km, mb4.1/18, mb1 4.3/22, mb1mx4.1/51, mbtmp4.5/22, ML4.8/4, Error ellipse: s-maj=17.9km s-min=10.3km az=75.0*
*NEIC **07** 04:09:24.3±1.9, 1°.22N±0°.06×122°.58E±0°.06, h40km±6km, mb4.6/20, Error ellipse: s-maj=10.6km s-min=6.6km az=48.0*
ISC 07 04:09:24.6±0.3**, 1°.25N**±0°.04×**122°.72E**±0°.04**, h50**km**, n139,** σ1s.**55**/138**, mb4.5**/29**, 1C-1D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.09	226	P	Pn	04 09 41.4	-2.2
MRSI				S	Sn	04 09 55.7	-2.0
KMSI	Cibinong	1.43	118	P	Pn	04 09 48.3	+0.2
KMSI				S	Sn	04 10 05.9	+0.2
TOLI2	Tolitoli	1.94	266	Pn	Pn	04 09 52.5	-2.8
TOLI2				Sn	Sn	04 10 15.4	-3.1
TOLI2	Tolitoli	1.94	266	P	Pn	04 09 53.3	-1.9
LUWI	Luwuk	2.28	179	Pn	Pn	04 09 59.9	+0.2
LUWI	Luwuk	2.28	179	P	Pn	04 10 00.3	+0.5
LUWI	Luwuk	2.28	179	P	Pn	04 10 00.8	+1.0
APSI	Ampana	2.40	207	P	Pn	04 10 03.5	+2.0
MPSI	Mapaga	2.96	252	P	Pn	04 10 07.5	-1.7
SANI	Sanana	4.63	135	P	Pn	04 10 30.2	-1.8
LBMI	Labuha	5.13	111	P	Pn	04 10 38.4	-0.6
	1.1nm119nm,1.0s						
TTSI	Tana Toraja	5.16	214	P	Pn	04 10 40.4	+1.1
SMKI	Samarinda	5.76	253	P	Pn	04 10 47.9	+0.2
	1.6nm209nm,0.8s						
SPSI	Sidrap Palu	5.96	210	P	Pn	04 10 51.3	+1.0
	1.4nm378nm,0.8s						
BNSI	Bone	6.19	205	P	Pn	04 10 54.5	+1.0
	1.6nm564nm,0.7s						
KCP	Kidapawan	6.19	22	⇑iP	Pn	04 10 52.3	-1.3
DAV	Davao City (W)	6.45	26	P	Pn	04 10 58.2	+1.2
	59nm,0.3s,baz=163,slow=1.0,SNR=12						
DAV	Davao City (W)	6.45	26		Pn	04 10 58.4	+1.3
BBSI	Bau Bau	6.69	181	P	Pn	04 11 00.0	-0.4
	0.3nm579nm42nm,0.8s						
KAPI	Kappang	6.89	205	P	Pn	04 11 03.5	+0.3
	33nm,0.3s,baz=12,slow=7.0,SNR=24						
KAPI				S	Sn	04 12 27.3	+7.0
	9.6nm,0.3s,baz=265,slow=22,SNR=7.7						
KAPI	Kappang	6.89	205	Pn	Pn	04 11 02.3	-0.8
KAPI	Kappang	6.89	205	P	Pn	04 11 03.4	+0.3
	194nm,0.7s						
BKSI	Bulukumba	7.02	202	P	Pn	04 11 02.6	-2.3
	0.7nm146nm,0.8s						
AAI	Ambon	7.34	132	P	Pn	04 11 08.7	-0.7
	0.7nm167nm,0.8s						
BSSI	Bau Bau, Buton	7.67	197	P	Pn	04 11 15.2	+1.3
	0.5nm143nm,0.8s						
MSAI	Masohi	7.70	126	P	Pn	04 11 12.5	-1.7
KKM	Kota Kinabalu	8.05	306	Pn	Pn	04 11 17.9	-1.2
KKM	Kota Kinabalu	8.05	306	P	Pn	04 11 19.3	+0.1
SWI	Sorong	8.79	104	P	Pn	04 11 43.3	+14
SIJI	Sorong	8.80	104	P	Pn	04 11 28.8	-0.5

1.4nm,0.3s,baz=239,slow=22,SNR=2.2
BBKI Banjar Baru 9.16 239 P Pn 04 11 34.8 +0.5
MMRI Maumere 9.83 183 P Pn 04 11 42.9 -0.5
91nm,0.8s
FAKI Fak Fak 10.38 114 P Pn 04 11 55.0 +4.0
25nm,0.8s
PLAI Plampang 11.16 206 P Pn 04 12 02.4 +0.8
60nm,0.8s
PLAI Plampang 11.16 206 P Pn 04 12 00.7 -0.9
JAGI Jajag, Banyuwa 12.89 221 P P 04 12 36.5 +1.8
GMJI Gumukmas 13.23 224 P P 04 12 45.6 +7.2
MTN Manton Dam 16.30 149 P P 04 13 11.7 -0.8
baz=16,SNR=10
MTN Manton Dam 16.30 149 Pn **Pn 04 13 09.2 -1.0**
MTN Manton Dam 16.30 149 P Pn 04 13 11.2 +0.9
37nm,0.8s
KDU Kakadu 16.89 145 P Pn 04 13 15.7 -1.9
baz=17,SNR=7.7
KNRA Kununurra 17.85 161 P P 04 13 29.9 +0.3
baz=18,SNR=10
KNRA Kununurra 17.85 161 P Pn 04 13 29.3 -0.1
KNRA Kununurra 17.85 161 P P 04 13 30.0 +0.3
CGJI Cibinong 18.71 245 P Pn 04 13 43.0 +3.1
22nm,1.0s
KLSI 18.92 252 P Pn 04 13 44.7 +2.2
10nm,0.7s
MDSI Maura Dua 19.39 253 P Pn 04 13 47.8 -0.3
30nm,1.0s
FITZ Fitzroy Crossi 19.44 172 P P 04 13 46.2 -0.9
2.7nm,0.3s,baz=10.0,slow=9.5,SNR=95
FITZ Fitzroy Crossi 19.44 172 P P 04 13 46.3 -0.8
baz=19
FITZ Fitzroy Crossi 19.44 172 P P 04 13 45.9 -1.2
LWLI Liwa 19.66 251 P Pn 04 14 07.0 +16
MASI Maura Aman, Be 20.93 258 P Pn 04 14 05.8 -0.7
142nm,1.2s
KRJI Kerinci 21.51 261 P P 04 14 20.4 +11
IPM Ipoh 21.90 279 P P 04 14 11.4 -2.4
IPM IAmb IAmb 04 14 28.4
comp=Z,18nm,0.8s
TPUB Ta-pu 22.02 355 P P 04 14 14.3 -0.6
SSLB Suanglung 22.47 356 P P 04 14 19.3 -0.5
SSLB IAmb IAmb 04 14 26.3
comp=Z,20nm,0.8s
PSA00 Pilbara Seismi 22.86 187 P P 04 14 21.1 -2.8
PSA00 IAmb IAmb 04 14 36.4
comp=Z,35nm,1.3s
PSA00 Pilbara Seismi 22.86 187 P P 04 14 22.0 -1.9
PSI Prapat 23.83 274 P P 04 14 33.6 +0.1
comp=Z,7.4nm,0.5s,baz=93,slow=5.2,SNR=8.2
WRAB Tennant Creek 23.94 152 P P 04 14 33.3 -1.0
WRA Warramunga Arr 23.94 152 P P 04 14 32.2 -2.1
comp=Z,17nm,0.8s,baz=333,slow=8.5,SNR=70
WC3 Warramunga Arr 23.97 152 P P 04 14 33.1 -1.5
baz=24
KCSI Kotacane, Aceh 25.03 276 P P 04 14 59.4 +15
GSI Gunungsitoli 25.14 270 P P 04 14 44.0 -1.3
GSI Gunungsitoli 25.14 270 P P 04 14 45.7 +0.4
comp=Z,55nm,0.9s
GIRL Giralia 25.15 199 P P 04 14 44.3 -1.0
baz=25,SNR=3.4
GIRL Giralia 25.15 199 P P 04 14 44.3 -1.0
COEN Coen 25.28 127 P P 04 14 46.4 -0.2
WRKA Warakurna 26.68 169 P P 04 14 57.7 -1.5
baz=27,SNR=62
WRKA Warakurna 26.68 169 P P 04 14 58.2 -1.0
ASAR Alice Springs 27.05 157 P P 04 15 01.3 -1.2
comp=Z,6.8nm,0.8s,baz=340,slow=11,SNR=18
ASAR PcP **PcP 04 18 21.4 -1.5**
comp=Z,0.8nm,0.3s,baz=345,slow=2.0,SNR=5.0
QIS Mount Isa 27.26 144 P P 04 15 03.5 -0.9
baz=27,SNR=20
QIS Mount Isa 27.26 144 P P 04 15 03.9 -0.5
MEEK Meekatharra 28.01 188 P P 04 15 08.7 -2.4
baz=28,SNR=10
MEEK Meekatharra 28.01 188 P P 04 15 09.1 -1.9
CMAR Chiang Mai Arr 28.93 308 P P 04 15 19.5 +0.2
MORW Morawa 30.82 191 P P 04 15 33.4 -2.5
baz=31,SNR=4.6
MORW Morawa 30.82 191 P P 04 15 33.9 -2.0
OOD Oodnadatta 31.45 158 P P 04 15 40.6 -0.9
BLDU Ballidu 32.20 190 P P 04 15 45.6 -2.4
baz=32,SNR=12
BLDU Ballidu 32.20 190 P P 04 15 45.7 -2.4
KLBR Kellerberrin 33.00 188 P P 04 15 52.9 -2.2
baz=33,SNR=5.2
KLBR Kellerberrin 33.00 188 P P 04 15 53.3 -1.7
MULG Mulgathing 33.17 162 P P 04 15 55.7 -0.8
LCRK Leigh Creek 34.81 156 P P 04 16 09.9 -0.8
KSRS Korea Array 36.35 7 P P 04 16 24.1 +0.3
comp=Z,1.8nm,0.7s,baz=186,slow=12,SNR=3.8
STKA Stephens Creek 37.49 153 P P 04 16 33.3 -0.4
comp=Z,21nm,0.8s,baz=325,slow=9.0,SNR=21
STKA Stephens Creek 37.49 153 P P 04 16 33.1 -0.6
baz=38,SNR=12
STKA Stephens Creek 37.49 153 P P 04 16 33.0 -0.6
STKA Stephens Creek 37.49 153 P P 04 16 33.2 -0.4
HTT Hallett 37.72 158 P P 04 16 35.1 -0.5
baz=38,SNR=25
HTT Hallett 37.72 158 P P 04 16 35.5 -0.2
MJAR Matsushiro Arr 37.93 20 P P 04 16 36.8 -0.6
comp=Z,1.4nm,0.3s,baz=98,slow=2.3,SNR=4.1
SHL Shillong 38.31 312 P P 04 16 39.3 -1.7
SHL IAmb IAmb 04 16 53.8
comp=Z,16nm,1.0s
CMSA Cobar Meteorol 39.22 148 P P 04 16 47.7 -0.5
baz=39,SNR=6.8
CMSA Cobar Meteorol 39.22 148 P P 04 16 48.3 +0.1
ARPS Mount Arapiles 41.79 157 P P 04 17 09.3 0.0
baz=42,SNR=20
ARPS Mount Arapiles 41.79 157 P P 04 17 09.4 0.0
ARMA Armidale 41.83 141 P P 04 17 10.4 +0.5
baz=42,SNR=5.3
PALK Pallekele 42.31 279 P P 04 17 15.6 +1.6
comp=Z,2.3nm,0.5s,baz=219,slow=10,SNR=4.3
GOMU GeErMu 43.34 327 P P 04 17 35.7 +13
GOMU pP pwP 04 17 39.4 +0.6
GOMU sP sP 04 17 41.4 +1.1
GOMU S **S 04 23 54.1 +7.2**
GOMU sS sS 04 24 04.9 -3.9
GOMU SS SS 04 26 28.5 -34
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU LR LR
comp=N,2μm,15.5s
GOMU LR LR
comp=E,3μm,16.4s
GOMU LR LR
comp=Z,4μm,17.6s
GTA Gaotai 43.35 334 *e*P **P 04 17 21.0 -1.2**
GTA pP pP 04 17 28.6 -6.0
GTA sP pwP 04 17 35.0 -3.7
GTA pmax pmax
comp=Z,2.0nm,0.8s
USRK Ussuriysk Ar. 43.55 10 P P 04 17 24.5 +1.0
comp=Z,2.7nm,0.8s,baz=214,slow=8.1,SNR=4.4
CAN Canberra 43.89 149 P P 04 17 26.2 -0.3
TOO Toolangi 44.00 154 P P 04 17 26.8 -0.5
baz=44,SNR=4.6
BNX BinXian 44.50 5 ⇓P P 04 17 32.4 +1.3
ULN Ulaanbaatar 48.38 346 P P 04 18 00.8 -0.9
ULN IAmb IAmb 04 18 14.8
comp=Z,8.2nm,1.3s
KLR Kul'dur 48.42 8 P P 04 18 02.4 +0.6
comp=Z,0.8nm,0.7s,baz=238,slow=6.4,SNR=4.1
SONM Songino Array 48.52 345 P P 04 18 03.2 +0.5
comp=Z,2.7nm,0.8s,baz=158,slow=10,SNR=9.5
SONM Songino Array 48.52 345 P P 04 18 02.8 +0.1
SONM IAmb IAmb 04 18 20.9
comp=Z,5.3nm,1.1s
KSH Kashi 57.07 318 P P 04 19 06.8 +0.8
KSH pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 57.41 328 P P 04 19 09.2 +1.0
MKAR Makanchi Array 57.41 328 P P 04 19 09.4 +1.3
comp=Z,0.7nm,0.5s,baz=126,slow=8.3,SNR=13
MKAR Makanchi Array 57.41 328 P P 04 19 08.7 +0.5
PETK Petropavlovsk- 59.26 24 P P 04 19 21.8 +0.9
comp=Z,4.1nm,0.8s,baz=201,slow=7.9,SNR=5.3
AAK Ala-Archa 59.60 320 P P 04 19 22.3 -1.4
AAK IAmb IAmb 04 19 41.7
comp=Z,4.2nm,1.1s
KBL Kabul 59.93 310 P P 04 19 25.1 -1.1
ZALV Zalesovo Beam 61.07 335 P P 04 19 35.1 +1.9
comp=Z,0.7nm,0.5s,baz=142,slow=7.2,SNR=2.5
ZALV Zalesovo Beam 61.07 335 P P 04 19 33.7 +0.4
KURK Kurchatov 61.76 330 P P 04 19 38.3 +0.3
KURK IAmb IAmb 04 20 02.7
comp=Z,8.3nm,1.1s
RPZ Rata Peaks 62.16 142 P P 04 19 40.7 -0.1
comp=Z,27nm,0.7s,baz=333,slow=5.8,SNR=7.9
RPZ Rata Peaks 62.16 142 P P 04 19 41.4 +0.6
KKAR Karatay Array 62.39 319 P P 04 19 42.8 +0.4
URZ Urewera 63.58 134 P P 04 19 50.4 +0.1
comp=Z,8.5nm,0.9s,baz=216,slow=6.0,SNR=3.6
RAYN Ar Rayn 77.78 294 P P 04 21 16.9 -0.3
VNDA Vanda 81.51 172 P P 04 21 35.9 -0.4
comp=Z,9.1nm,0.9s,baz=314,slow=6.0,SNR=23
VNDA Vanda 81.51 172 P P 04 21 36.2 0.0
VNDA IAmb IAmb 04 21 36.8
comp=Z,8.3nm,0.9s
KBZ Khabaz 81.78 314 P P 04 21 38.5 +0.2
comp=Z,1.5nm,0.8s,baz=143,slow=1.8,SNR=5.5
KMBO Kilima Mbogo 85.50 269 P P 04 21 59.2 +0.9
comp=Z,0.6nm,0.3s,baz=134,slow=4.1,SNR=3.7
KLMR Klimovskoe 85.60 331 *e*P **P 04 21 55.3 -2.2**
KLMR AMP 04 22 05.9
comp=Z,8.0nm,1.1s
KARP Karpathos 93.81 306 P P 04 22 35.9 -1.0
TXAR Lajitas Array 126.27 52 PKP **PKPdf 04 28 22.9 +0.3**
comp=Z,0.6nm,0.8s,baz=245,slow=2.2,SNR=6.7
TXAR Lajitas Array 126.27 52 PKPdf **PKiKP 04 28 23.0 -0.1**
CPUP Villa Florida 155.06 180 PKPab **PKPab 04 29 37.1 -0.2**
comp=Z,4.1nm,0.9s,baz=134,slow=6.1,SNR=7.4
LVC Limon Verde 155.94 153 PKPab **PKPab 04 29 42.5 +0.9**
comp=Z,4.0nm,0.7s,baz=324,slow=1.3,SNR=4.5
LVC Limon Verde 155.94 153 PKPab 04 29 42.4 +0.7
LPAZ La Paz 161.62 145 PKPab **PKPab 04 30 08.2 +1.5**
comp=Z,0.9nm,0.6s,baz=188,slow=7.6,SNR=5.6
BDFB Brasilia 163.03 212 PKPab **PKPab 04 30 11.5 -0.7**
comp=Z,3.7nm,0.9s,baz=165,slow=5.6,SNR=6.6
SIV San Ignacio 164.88 166 PKPab **PKPab 04 30 19.9 -0.3**
comp=Z,3.8nm,0.8s,baz=190,slow=4.1,SNR=15

*IDC **07** 04:12:56.0±1.5, 13°.51S×166°.52E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/38, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=53.7km s-min=30.0km az=128.0*
ISC 07 04:13:01.9±1.2, 13°.6S±0°.1×166°.5E±0°.3, h39km, n6, σ1$17/6, mb3.9/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.42**	**180**	Pn	**Pn**		**04 15 01.8**	**+0.2**
	0.7nm,0.3s,baz=133,slow=18,SNR=1.8							
WRA	**Warramunga Arr**	**31.41**	**254**	P	**P**		**04 19 19.2**	**-0.5**
	0.6nm,0.9s,baz=90,slow=11,SNR=2.6							
ASAR	**Alice Springs**	**32.41**	**247**	P	**P**		**04 19 27.9**	**-0.5**
	0.9nm,0.6s,baz=74,slow=9.8,SNR=6.6							
ILAR	**Eielson Array**	**85.69**	**18**	P	**P**		**04 25 35.8**	**-0.5**
	0.4nm,0.5s,baz=240,slow=4.7,SNR=9.2							
MKAR	**Makanchi Array**	**95.89**	**317**	P	**P**		**04 26 26.1**	**+1.5**
	0.5nm,0.7s,baz=86,slow=5.2,SNR=4.0							
ARCES	**ARCESS Array B**	**118.98**	**345**	PKP	**PKPdf**		**04 31 44.8**	**-1.0**
	3.2nm,0.9s,baz=56,slow=2.0,SNR=7.6							

*IDC **07** 04:22:10.4±1.6, 13°.77S×166°.61E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/38, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=51.3km s-min=28.0km az=123.0*
ISC 07 04:22:17.1±1.2, 13°.82S±0°.1×166°.5E±0°.2, h43km, n9, σ1$71/10, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
YATNC	**Mamie plateau,**	**8.21**	**178**	P	**Pn**		**04 24 15.2**	**+1.5**
	30nm,0.8s							
DZM	**Mont Dzumac**	**8.21**	**180**	Pn	**Pn**		**04 24 12.2**	**-1.6**
	0.8nm,0.3s,baz=309,slow=20,SNR=14							
DZM				Sn	**Sn**		**04 25 44.0**	**-1.4**
	0.5nm,0.3s,baz=165,slow=18,SNR=1.6							
DZM	**Mont Dzumac**	**8.21**	**180**	P	**Pn**		**04 24 17.0**	**+3.2**
STKA	**Stephens Creek**	**29.05**	**228**	P	**P**		**04 28 13.2**	**-0.2**
	1.5nm,0.4s,baz=48,slow=7.5,SNR=7.1							
WRA	**Warramunga Arr**	**31.36**	**254**	P	**P**		**04 28 33.6**	**-0.4**
	0.5nm,0.9s,baz=86,slow=9.2,SNR=3.4							
ASAR	**Alice Springs**	**32.33**	**248**	P	**P**		**04 28 42.4**	**-0.2**
	0.5nm,0.5s,baz=73,slow=9.4,SNR=12							
ILAR	**Eielson Array**	**85.89**	**18**	P	**P**		**04 34 50.9**	**-1.1**
	0.2nm,0.5s,baz=238,slow=4.9,SNR=2.3							
MKAR	**Makanchi Array**	**96.04**	**317**	P	**P**		**04 35 41.3**	**+1.3**
	0.1nm,0.3s,baz=74,slow=6.7,SNR=2.9							
ARCES	**ARCESS Array B**	**119.19**	**345**	PKP	**PKPdf**		**04 41 00.4**	**-0.5**
	1.7nm,0.8s,baz=95,slow=1.2,SNR=7.4							

*IDC **07** 04:33:57.9±0.5, 8°.95S×158°.20E, h0km, mb4.3/16, mb1 4.5/18, mb1mx4.4/33, mbtmp4.4/18, ML4.2/2, Error ellipse: s-maj=15.3km s-min=14.4km az=50.0*
*BJI **07** 04:33:57.0±0.0, 8°.88S×158°.76E, h16km, mb4.6/38, mB5.3/3, Ms5.6/3, Ms7 5.5/3*
*NEIC **07** 04:33:59.2±1.9, 9°.02S±0°.09×158°.35E±0°.06, h10km±1km, mb4.9/70, Error ellipse: s-maj=15.8km s-min=9.7km az=197.0*
ISC 07 04:34:00.4±2.1, 8°.99S±0°.06×158°.33E±0°.05, h18km±12km, n212, σ1$35/211, mb4.8/57, 2C-2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HNR	**Honiara**	**1.66**	**106**	Pn	**Pn**		**04 34 28.5**	**-0.1**
	264nm,0.3s,baz=275,slow=3.2,SNR=31							
HNR				Sn	**Sg**		**04 34 54.6**	**+0.6**
	1μm,0.3s,baz=63,slow=23,SNR=6.3							
HNR	**Honiara**	**1.66**	**106**	Pn	**Pn**		**04 34 27.8**	**-0.9**
HNR				Sn	**Sn**		**04 34 49.4**	**-0.2**
PMG	**Port Moresby**	**11.03**	**267**	Pn	**Pn**		**04 36 40.4**	**+2.9**
	1.3nm,0.3s,baz=85,slow=6.2,SNR=3.8							
PMG	**Port Moresby**	**11.03**	**267**		**Pn**		**04 36 38.9**	**+1.5**
PMG	**Port Moresby**	**11.03**	**267**	P	Pn		04 36 49.5	+12
KOUNC	**Koumac, New Ca**	**12.86**	**154**	P	Pn		04 37 12.4	+10
DZM	**Mont Dzumac**	**15.17**	**150**	Pn	**P**		**04 37 36.4**	**-2.6**
	0.3nm,0.3s,baz=19,slow=11,SNR=4.0							
DZM	**Mont Dzumac**	**15.17**	**150**	Pn	**Pn**		**04 37 33.9**	**-0.2**
DZM				IAmb	IAmb		04 37 49.6	
	comp=Z,98nm,1.5s							
DZM	**Mont Dzumac**	**15.17**	**150**	P	**P**		**04 37 40.3**	**+1.3**
YATNC	**Mamie plateau,**	**15.39**	**149**	P	**P**		**04 37 44.5**	**+3.2**
	comp=Z,51nm,1.3s							
COEN	**Coen**	**15.65**	**250**		**Pn**		**04 37 40.4**	**+0.2**
COEN				IAmb	IAmb		04 37 47.9	
	comp=Z,96nm,1.4s							
COEN	**Coen**	**15.65**	**250**	P	**P**		**04 37 47.6**	**+3.3**
OUENC	**Ouen Island, N**	**15.66**	**149**		**Pn**		**04 37 40.5**	**+0.2**
OUENC				IAmb	IAmb		04 37 47.0	
	comp=Z,62nm,1.1s							
OUENC	**Ouen Island, N**	**15.66**	**149**	P	**P**		**04 37 46.8**	**+2.5**
	comp=Z,62nm,1.3s							
PATS	**Pohnpei**	**15.72**	**360**	Pn	**Pn**		**04 37 42.2**	**+1.0**
CTA	**Charters Tower**	**16.06**	**225**	Pn	**P**		**04 37 51.3**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=38,slow=15,SNR=6.4							
MTSU	**Mount Surprise**	**16.36**	**235**	P	**P**		**04 37 55.9**	**+3.7**
EIDS	**Eidsvold**	**17.69**	**202**	P	**P**		**04 38 07.1**	**+0.2**
EIDS	**Eidsvold**	**17.69**	**202**	P	**P**		**04 38 09.7**	**+2.9**
JAY	**Jayapura**	**18.67**	**289**	P	**P**		**04 38 15.9**	**-1.8**
	comp=Z,2.4nm,0.3s,baz=137,slow=4.9,SNR=3.0							
RMQ	**Roma**	**19.63**	**206**	P	**Pn**		**04 38 30.9**	**+1.3**
QIS	**Mount Isa**	**21.42**	**235**	P	**P**		**04 38 48.8**	**+1.1**
QLP	**Quilpie**	**22.01**	**216**	P	**P**		**04 38 54.7**	**+0.7**
ARMA	**Armidale**	**22.22**	**195**	P	**P**		**04 38 56.6**	**+0.4**
ARMA	**Armidale**	**22.22**	**195**	P	**P**		**04 38 58.1**	**+1.8**
INKA	**Innaminka**	**24.96**	**219**	P	**P**		**04 39 24.2**	**+1.1**
CMSA	**Cobar Meteorol**	**25.33**	**206**	P	**P**		**04 39 26.9**	**+0.6**
WR0	**Warramunga Arr**	**25.45**	**242**	P	**P**		**04 39 25.7**	**-1.8**
WR0				IAmb	IAmb		04 39 29.7	
	comp=Z,38nm,1.3s							
WB0	**Warramunga Arr**	**25.50**	**243**	P	**P**		**04 39 26.9**	**-1.1**
WB0				IAmb	IAmb		04 39 36.0	
	comp=Z,38nm,1.3s							
WRAB	**Tennant Creek**	**25.60**	**242**	P	**P**		**04 39 28.2**	**-0.8**
WRAB				IAmb	IAmb		04 39 41.8	
	comp=Z,18nm,0.9s							
WRAB	**Tennant Creek**	**25.60**	**242**	P	**P**		**04 39 28.8**	**-0.2**
WRA	**Warramunga Arr**	**25.61**	**242**	P	**P**		**04 39 27.9**	**-1.2**
	comp=Z,10.0nm,1.1s,baz=68,slow=9.5,SNR=28							
WRA				PcP	**PcP**		**04 43 00.4**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=70,slow=3.1,SNR=6.1							
WRA	**Warramunga Arr**	**25.61**	**242**	P	**P**		**04 39 28.5**	**-0.6**
WRA				PcP	**PcP**		**04 42 59.6**	**-0.4**
KDU	**Kakadu**	**25.65**	**259**	P	**P**		**04 39 29.4**	**0.0**
AS31	**Alice Springs**	**27.54**	**235**	P	**P**		**04 39 44.5**	**-2.0**
ASAR	**Alice Springs**	**27.54**	**235**	P	**P**		**04 39 45.0**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=67,slow=9.5,SNR=21							
ASAR				PcP	**PcP**		**04 43 04.3**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=72,slow=4.1,SNR=4.4							
ASAR				ScP	**ScP**		**04 46 48.2**	**+3.8**
	comp=Z,0.9nm,1.1s,baz=86,slow=3.3,SNR=4.4							
ASAR	**Alice Springs**	**27.54**	**235**	P	**P**		**04 39 43.9**	**-2.5**
ASAR					**PcP**		**04 43 02.5**	**-1.9**
STKA	**Stephens Creek**	**27.57**	**212**	P	**P**		**04 39 46.9**	**+0.3**
	comp=Z,4.1nm,0.4s,baz=34,slow=17,SNR=15							
STKA	**Stephens Creek**	**27.57**	**212**	P	**P**		**04 39 45.4**	**-1.2**
STKA	**Stephens Creek**	**27.57**	**212**	P	**P**		**04 39 47.1**	**+0.5**
OOD	**Oodnadatta**	**28.39**	**226**	P	**P**		**04 39 53.9**	**0.0**
LCRK	**Leigh Creek**	**28.43**	**219**	P	**P**		**04 39 54.4**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**28.53**	**17**	T	T		05 08 28.2	
	baz=198,slow=76,SNR=182							
H11S2	**WAKE ISLAND Hy**	**28.53**	**17**	T	T		05 08 29.7	
	baz=198,slow=76,SNR=211							
H11S1	**WAKE ISLAND Hy**	**28.54**	**17**	T	T		05 08 26.8	
	baz=198,slow=76,SNR=194							
OUZ	**Omahuta**	**29.61**	**154**	P	**P**		**04 40 06.1**	**+1.4**
OUZ				IAmb	IAmb		04 40 07.4	
	comp=Z,19nm,1.0s							
KNRA	**Kununurra**	**29.61**	**254**	P	**P**		**04 40 03.6**	**-1.3**
KNRA	**Kununurra**	**29.61**	**254**	P	**P**		**04 40 04.5**	**-0.4**
H11N1	**WAKE ISLAND Hy**	**29.74**	**16**	T	T		05 10 21.3	
	baz=196,slow=76,SNR=35							
H11N3	**WAKE ISLAND Hy**	**29.75**	**16**	T	T		05 10 01.2	
	baz=196,slow=76,SNR=40							
H11N2	**WAKE ISLAND Hy**	**29.76**	**16**	T	T		05 10 17.2	
	baz=196,slow=76,SNR=99							
NAPP	**Napperby**	**30.44**	**215**	P	**P**		**04 40 12.5**	**+0.4**
WHYH	**Whyalla**	**30.66**	**216**	P	**P**		**04 40 14.5**	**+0.5**
MULG	**Mulgathing**	**31.03**	**224**	P	**P**		**04 40 16.6**	**-0.7**
BBOO	**Buckleboo**	**31.40**	**218**	P	**P**		**04 40 19.3**	**-1.2**
ARPS	**Mount Arapiles**	**31.45**	**206**	P	**P**		**04 40 21.3**	**+0.4**
WRKA	**Warakurna**	**32.74**	**237**	P	**P**		**04 40 31.0**	**-1.5**
SANI	**Sanana**	**32.90**	**280**	P	**P**		**04 40 33.8**	**-0.1**
	comp=Z,26nm,0.9s							
SANI	**Sanana**	**32.90**	**280**	P	**P**		**04 40 34.3**	**+0.4**
HIZ	**Hauiti**	**32.94**	**156**	P	**P**		**04 40 33.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**32.99**	**251**	P	**P**		**04 40 33.5**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=64,slow=6.6,SNR=14							
FITZ				PcP	**PcP**		**04 43 18.7**	**0.0**
	comp=Z,2.4nm,0.8s,baz=63,slow=2.3,SNR=2.3							
FITZ	**Fitzroy Crossi**	**32.99**	**251**	P	**P**		**04 40 33.1**	**-1.6**
FITZ					**PcP**		**04 43 17.6**	**-1.1**
URZ	**Urewera**	**33.70**	**153**	P	**P**		**04 40 41.5**	**+0.9**
	comp=Z,9.4nm,0.9s,baz=333,slow=3.0,SNR=5.8							
URZ	**Urewera**	**33.70**	**153**	P	**P**		**04 40 40.1**	**-0.5**
URZ				IAmb	IAmb		04 40 48.7	
	comp=Z,17nm,1.0s							
BKZ	**Black Stump Fm**	**34.18**	**154**	P	**P**		**04 40 44.5**	**-0.3**
BKZ	**Black Stump Fm**	**34.18**	**154**	P	**P**		**04 40 45.3**	**+0.5**
TUWZ	**Tuamarina**	**35.14**	**159**	P	**P**		**04 40 52.3**	**-0.8**
MMRI	**Maumere**	**35.66**	**268**	P	**P**		**04 40 56.0**	**-1.8**
MMRI	**Maumere**	**35.66**	**268**	P	**P**		**04 40 55.6**	**-2.3**
	comp=Z,49nm,0.5s							
GTOI	**Gorontalo**	**36.45**	**283**	P	**P**		**04 41 04.1**	**-0.6**
	comp=Z,510nmcomp=Z,11nm,0.9s							
BSSI	**Bau Bau, Buton**	**37.60**	**272**	P	**P**		**04 41 14.3**	**-0.2**
	comp=Z,28nm,1.4s							
BNSI	**Bone**	**38.22**	**274**	P	**P**		**04 41 18.1**	**-1.6**
KAPI	**Kappang**	**38.48**	**273**	P	**P**		**04 41 20.9**	**-0.9**
KAPI				IAmb	IAmb		04 41 22.5	
	comp=Z,44nm,1.2s							
KAPI	**Kappang**	**38.48**	**273**	P	**P**		**04 41 22.3**	**+0.5**
TOLI2	**Tolitoli**	**38.73**	**283**	P	**P**		**04 41 21.8**	**-2.2**
PSA00	**Pilbara Seismi**	**39.05**	**247**	P	**P**		**04 41 24.1**	**-2.5**
PSA00				IAmb	IAmb		04 41 26.5	
	comp=Z,64nm,1.4s							
PSA00	**Pilbara Seismi**	**39.05**	**247**	P	**P**		**04 41 25.4**	**-1.2**
PSA00				IAmb	IAmb		04 41 26.5	
	comp=Z,30nm,1.4s							
PSA00	**Pilbara Seismi**	**39.05**	**247**	P	**P**		**04 41 25.2**	**-1.4**
PLAI	**Plampang**	**40.05**	**267**	P	**P**		**04 41 34.5**	**-0.5**
MEEK	**Meekatharra**	**41.46**	**240**	P	**P**		**04 41 46.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**43.65**	**267**	P	**P**		**04 42 02.7**	**-1.8**
KKM	**Kota Kinabalu**	**44.55**	**288**	P	**P**		**04 42 10.8**	**-1.0**
KKM				IAmb	IAmb		04 42 35.7	
	comp=Z,24nm,1.2s							
SBUM	**Sibu**	**47.34**	**282**	P	**P**		**04 42 33.6**	**-0.1**
KSM	**Kuching**	**48.96**	**280**	P	**P**		**04 42 45.3**	**-1.0**
KSM				IAmb	IAmb		04 42 47.2	
	comp=Z,21nm,1.3s							
KSRS	**Korea Array**	**54.26**	**330**	P	**P**		**04 43 25.4**	**0.0**
	comp=Z,1.2nm,0.6s,baz=134,slow=11,SNR=6.4							
KSAR	**Wonju Array Be**	**54.27**	**330**	P	**P**		**04 43 26.2**	**+0.7**
NJ2	**Nanjing**	**55.56**	**319**	*e*P	**P**		**04 43 35.6**	**+0.6**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**58.06**	**338**	P	**P**		**04 43 53.3**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=190,slow=9.7,SNR=5.2							
USRK	**Ussuriysk Ar.**	**58.06**	**338**	P	**P**		**04 43 52.9**	**+0.3**
CN2	**Changchun**	**60.42**	**333**	*e*P	**P**		**04 44 08.4**	**-0.5**
CN2				*es*P	sP		04 44 15.4	-1.0
CN2				pmax	pmax			
	comp=Z,10.0nm,1.1s							
BNX	**BinXian**	**61.14**	**336**	⇑P	**P**		**04 44 13.9**	**+0.2**
BNX				pmax	pmax			
	comp=Z,55nm,1.3s							
GYA	**Guiyang**	**61.28**	**307**	⇑P	**P**		**04 44 15.7**	**+0.5**
GYA				pmax	pmax			
	comp=Z,12nm,1.6s							
PETK	**Petropavlovsk-**	**61.85**	**360**	P	**P**		**04 44 18.1**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=182,slow=12,SNR=2.4							
KMI	**Kunming**	**63.86**	**304**	⇓P	**P**		**04 44 33.3**	**+0.7**
KMI				pmax	pmax			
	comp=Z,10.0nm,1.1s							
ADK	**Adak**	**64.33**	**17**	P	**P**		**04 44 36.9**	**+2.1**
CMAR	**Chiang Mai Arr**	**64.61**	**295**	P	**P**		**04 44 37.6**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=117,slow=4.7,SNR=14							
CMAR	**Chiang Mai Arr**	**64.61**	**295**	P	**P**		**04 44 37.0**	**-0.4**
CHTO	**Chiang Mai**	**64.73**	**296**	P	**P**		**04 44 37.1**	**-1.1**
CHTO				IAmb	IAmb		04 44 39.9	
	comp=Z,16nm,1.1s							
PZH	**PanZhiHua**	**65.25**	**305**	P	**P**		**04

	baz=229						
N19K	Bonanza Creek	78.83	22	P	P	04 46 04.0	+1.8
	baz=228						
M19K	Big River Lodg	79.60	21	P	P	04 46 08.3	+2.0
	baz=228						
L19K	White Mountain	79.63	20	P	P	04 46 08.5	+2.0
	baz=227						
TTA	Tatalina	79.75	19	P	P	04 46 07.8	+0.7
TTA	Tatalina	79.75	19	P	P	04 46 08.1	+0.9
	baz=226						
L20K	Farewell, AK	80.16	20	P	P	04 46 11.3	+2.0
	baz=228						
SEW	Seward	80.28	24	P	P	04 46 13.3	+3.3
	baz=232						
QSPA	South Pole Qui	81.00	180	P	P	04 46 14.4	+0.3
J20K	Nowinta River	81.22	19	P	P	04 46 16.2	+1.3
J20K				IAmb	IAmb	04 46 17.5	
	comp=Z,15nm,1.4s						
J20K	Nowinta River	81.22	19	P	P	04 46 16.4	+1.4
	baz=228						
PMR	Palmer	81.31	23	P	P	04 46 16.0	+0.5
	baz=232						
CAST	Castle Rocks	81.40	20	P	P	04 46 16.7	+0.8
CAST	Castle Rocks	81.40	20	P	P	04 46 16.0	+0.1
	baz=230						
CHUM	Lake Minchumin	81.63	20	P	P	04 46 18.4	+1.3
	baz=229						
WAT6	Susitna Watana	82.43	22	P	P	04 46 22.3	+0.7
	baz=234						
WMQ	Urumqi	82.53	316	*eP*	P	04 46 23.1	+0.7
WMQ				pP	sP	04 46 26.9	-3.2
WMQ				pmax	pmax		
	comp=Z,26nm,0.7s						
IMAR	Indian Mountai	82.57	18	P	P	04 46 22.0	-0.1
I21K	Tanana	82.58	19	P	P	04 46 22.7	+0.6
I21K				IAmb	IAmb	04 46 54.2	
	comp=Z,12nm,1.3s						
I21K	Tanana	82.58	19	P	P	04 46 22.8	+0.7
	baz=230						
H21K	Melozitna Rive	82.64	18	P	P	04 46 22.3	-0.1
	baz=229						
MCK	McKinley	82.69	21	P	P	04 46 23.0	+0.2
MCK	McKinley	82.69	21	P	P	04 46 23.3	+0.6
	baz=232						
NEA2	Nenana	83.18	20	P	P	04 46 25.1	-0.1
NEA2				IAmb	IAmb	04 46 36.5	
	comp=Z,12nm,1.1s						
NEA2	Nenana	83.18	20	P	P	04 46 25.1	-0.1
	baz=232						
CCB	Clear Creek Bu	83.64	20	P	P	04 46 27.2	-0.4
CCB				IAmb	IAmb	04 46 27.7	
	comp=Z,9.5nm,1.4s						
MDM	Murphy Dome	83.69	20	P	P	04 46 28.1	+0.2
MDM				IAmb	IAmb	04 46 28.8	
	comp=Z,18nm,1.5s						
H23K	Yukon River	83.78	19	P	P	04 46 28.6	+0.3
H23K				IAmb	IAmb	04 46 40.6	
	comp=Z,11nm,1.1s						
H23K	Yukon River	83.78	19	P	P	04 46 27.2	-1.2
	baz=232						
HDA	Harding Lake	83.80	21	P	P	04 46 28.2	-0.3
HDA				IAmb	IAmb	04 46 57.0	
	comp=Z,16nm,1.4s						
HDA	Harding Lake	83.80	21	P	P	04 46 28.1	-0.3
	baz=234						
IL31		84.04	21	P	P	04 46 28.8	-0.7
IL31				IAmb	IAmb	04 46 41.3	
	comp=Z,13nm,1.2s						
ILAR	Eielson Array	84.04	21	P	P	04 46 28.9	-0.8
	comp=Z,1.5nm,0.9s,baz=258,slow=4.2,SNR=10						
ILAR	Eielson Array	84.04	21	P	P	04 46 28.6	-1.0
POKR	Poker Plat Res	84.05	20	P	P	04 46 28.4	-1.3
	baz=234						
RIDG	Independent Ri	84.18	22	P	P	04 46 30.9	+0.5
	baz=236						
DOT	Dot Lake	84.42	22	P	P	04 46 29.5	-2.1
J25K	Salcha River,	84.48	21	P	P	04 46 30.7	-1.2
J25K	Salcha River,	84.48	21	P	P	04 46 31.5	-0.4
	baz=236						
M27K	Edge Creek, AK	84.58	24	P	P	04 46 35.0	+2.5
	baz=239						
SCRK	Sand Creek	84.63	22	P	P	04 46 34.0	+1.2
	baz=237						
L27K	Beaver Creek,	84.96	23	P	P	04 46 36.0	+1.6
	baz=239						
J26L	Joseph Creek	85.07	22	P	P	04 46 35.9	+1.0
	baz=237						
TOLK	Toolik Lake Re	85.53	17	P	P	04 46 36.3	-0.8
	baz=232						
SKAG	Skagway	86.05	28	P	P	04 46 40.7	+1.0
	baz=245						
BMAR	Burnt Mountain	86.33	19	P	P	04 46 41.3	+0.2
DAWY	Dawson	86.41	23	P	P	04 46 42.2	+0.7
DAWY				IAmb	IAmb	04 46 54.1	
	comp=Z,14nm,1.5s						
DAWY	Dawson	86.41	23	P	P	04 46 42.6	+1.1
	baz=241						
N31M	Braeburn, Yuko	86.71	26	P	P	04 46 43.9	+0.8
N31M	Braeburn, Yuko	86.71	26	P	P	04 46 44.4	+1.3
	baz=245						
WHY	Whitehorse	86.75	27	P	P	04 46 43.7	+0.3
	baz=245						
M30M	Minto, Yukon	86.75	25	P	P	04 46 43.7	+0.5
	baz=244						
MK31	Makanchi Array	87.08	318	P	P	04 46 44.2	-1.0
MKAR	Makanchi Array	87.08	318	P	P	04 46 44.3	-0.9
	comp=Z,2.0nm,0.6s,baz=92,slow=6.5,SNR=17						
MKAR	Makanchi Array	87.08	318	P	P	04 46 43.6	-1.6
ZALV	Zalesovo Beam	87.67	325	P	P	04 46 45.8	-2.0
	comp=Z,0.8nm,0.6s,baz=113,slow=5.8,SNR=4.4						
KDJ	Kajisay	89.46	313	P	P	04 46 56.2	-0.6
KDJ				IAmb	IAmb	04 47 05.3	
	comp=Z,8.0nm,1.3s						
PAHR	Pah Rah Range	89.80	50	P	P	04 46 58.6	+0.1
KSH	Kashi	89.81	310	P	P	04 47 00.4	+1.9
KSH				sP	sP	04 47 07.6	+1.4
EDW2	Edwards Air Fo	89.94	55	P	P	04 46 59.9	+0.8
	baz=259						
BFSC	Mount Baldy Ra	90.09	55	P	P	04 47 01.9	+2.0
	baz=259						
CWC	Cottonwood Cre	90.17	53	P	P	04 47 01.1	+0.9
	baz=259						
LHV	Little Huntoon	90.18	51	P	P	04 46 59.8	-0.2
LHV				IAmb	IAmb	04 47 09.7	
	comp=Z,12nm,1.4s						
LRMC	Laurel Mtn Rad	90.30	54	P	P	04 47 02.6	+1.7
	baz=259						
NVAR	Mina Array Bea	90.37	51	P	P	04 47 02.9	+1.6
	comp=Z,2.7nm,1.0s,baz=242,slow=6.8,SNR=13						
NVAR	Mina Array Bea	90.37	51	P	P	04 47 00.7	-0.5
NV11	Mina Array Sit	90.49	51	P	P	04 47 00.7	-1.0
MPMC	Manual Prospec	90.56	54	P	P	04 47 02.4	+0.2
	baz=259						
KVN	Kaiserville	90.65	51	P	P	04 46 59.4	-3.1
KVN				IAmb	IAmb	04 47 25.1	
	comp=Z,6.8nm,1.2s						
FURC	Furnace Creek,	91.14	53	P	P	04 47 06.5	+2.0
	baz=260						
TPH	Tonopah	91.14	52	P	P	04 47 02.8	-2.0
J08A	Circle Bar Ran	91.19	46	P	P	04 47 04.8	0.0
BELC	Belle Mtn. Jos	91.40	56	P	P	04 47 06.5	+0.5
	baz=260						
SHOC	Shoshone, Teco	91.50	54	P	P	04 47 08.9	+2.6
	baz=260						
SYO	Syowa Base	91.51	198	||*eP*	pP	04 47 09.0	-2.3
TPNV	Topopah Spring	91.70	53	P	P	04 47 06.3	-1.1
TPNV				IAmb	IAmb	04 47 32.8	
	comp=Z,8.2nm,1.4s						
BMO	Blue Mountains	92.30	45	P	P	04 47 08.7	-1.1
BMO				IAmb	IAmb	04 47 22.4	
	comp=Z,5.5nm,1.4s						
R11A	Troy Canyon, C	92.46	52	P	P	04 47 10.9	0.0
R11A	Troy Canyon, C	92.46	52	P	P	04 47 12.9	+2.0
	baz=260						
SHPR	Sheep Range	92.50	54	P	P	04 47 09.7	-1.3
BELA	Belgrano 2	92.97	177	P	P	04 47 11.3	-1.0
ELK	Elko	93.11	49	P	P	04 47 12.8	-1.1
214A	Organ Pipe Nat	93.73	58	P	P	04 47 15.3	-1.4
	baz=262						
C36M	Paulatuk	94.01	20	P	P	04 47 16.8	-0.2
	baz=255						
A36M	Sachs Harbour	94.32	18	P	P	04 47 19.5	+1.1
	baz=254						
YKA	Yellowknife Ar	96.55	28	P	P	04 47 28.2	-0.5
	comp=Z,1.0nm,0.9s,baz=258,slow=4.8,SNR=6.7						
YKA	Yellowknife Ar	96.55	28	P	P	04 47 27.3	-1.4

PDAR	Pinedale Array	97.58	48	P	Pdif	04 47 36.9	+2.5
	comp=Z,0.6nm,0.8s,baz=219,slow=1.9,SNR=4.7						
PDAR	Pinedale Array	97.58	48	P	P	04 47 32.7	-1.6
TXAR	Lajitas Array	101.29	62	PP	PP	04 51 59.7	-0.8
	comp=Z,0.6nm,1.1s,baz=245,slow=5.3,SNR=4.5						
CVTR	Volcan Turrial	118.84	83		PKPdf	04 52 46.4	-3.0
AKASG	Malin Array Be	121.06	325	PKP	PKiKP	04 52 54.2	+2.0
	comp=Z,0.6nm,0.6s,baz=58,slow=2.4,SNR=4.1						
LPAZ	La Paz	127.61	119	PKP	PKiKP	04 53 09.0	+2.0
	comp=Z,4.6nm,1.2s,baz=290,slow=5.8,SNR=4.4						
BDFB	Brasilia	144.23	133	PKP	PKPab	04 53 34.2	-0.1
	comp=Z,5.1nm,0.9s,baz=197,slow=3.1,SNR=8.1						
BDFB	Brasilia	144.23	133		PKPbc	04 53 34.6	-0.1
ESDC	Sonseca Array	145.59	335	PKPbc	PKPdf	04 53 37.9	-0.3
	comp=Z,2.5nm,1.1s,baz=27,slow=7.0,SNR=6.7						
ESDC	Sonseca Array	145.59	335		PKPdf	04 53 38.4	+0.2
TORD	Torodi Ar. Bea	156.70	282	PKP	PKPdf	04 53 54.2	-1.5
	comp=Z,0.4nm,0.8s,baz=216,slow=7.1,SNR=1.6						
TORD					PKPab	04 54 23.6	-1.4
	comp=Z,0.7nm,0.6s,baz=76,slow=1.9,SNR=4.8						

IDC 07 04:54:51.9±15.0, 14.45S×165.98E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/35, mbtmp3.7/4, ML2.8/1, Error ellipse: s-maj=259.3km s-min=40.2km az=58.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.60	177	Pn	Pn	04 56 43.8	-0.2
	0.2nm,0.3s,baz=301,slow=22,SNR=2.1						
DZM				Sn	Sn	04 58 09.9	-1.0
	baz=138,slow=23,SNR=1.7						
STKA	Stephens Creek	28.24	228	P	P	05 00 48.1	+1.3
	1.7nm,0.6s,baz=35,slow=9.3,SNR=4.9						
WRA	Warramunga Arr	30.69	255	P	P	05 01 07.9	-0.8
	0.5nm,0.9s,baz=81,slow=6.9,SNR=2.7						
ASAR	Alice Springs	31.61	248	P	P	05 01 16.3	-0.5
	0.4nm,0.7s,baz=70,slow=11,SNR=1.9						

AUST 07 05:53:47.2±4.1, 34.29S×148.94E, h6km±40km, Error ellipse: s-maj=32.6km s-min=25.6km az=80.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUMTS	Mt Stromlo	1.03	177	P	Pb	05 54 07.3	-0.1
	baz=1.1						
AUMTS				S	Sn	05 54 22.6	-0.4
	baz=1.1						
AUMTS	Mt Stromlo	1.03	177	P	Pg	05 54 07.0	+0.1
	baz=1.0						
AUMTS				S	Sb	05 54 21.6	+0.4
	baz=1.0						
AUMHS	Melrose High S	1.07	173	P	Pb	05 54 08.3	0.0
	baz=1.1						
AUMHS				S	Sn	05 54 23.4	-0.8
	baz=1.1						
AUMHS				S	Sb	05 54 24.3	+1.7
	baz=1.1						
CNB	Canberra Magne	1.08	161	P	Pg	05 54 07.7	-0.2
	baz=1.1						
CNB				S	Sb	05 54 23.5	+0.7
	baz=1.1						
CNB	Canberra Magne	1.08	161	P	Pg	05 54 07.8	-0.1
	baz=1.1						
CNB				S	Sb	05 54 22.8	0.0
	baz=1.1						
MGCD	Mangrove Creek	2.11	60	P	Pn	05 54 22.7	-0.3
	baz=2.1						
MGCD				S	Sn	05 54 50.6	+1.1
	baz=2.1						

*PDG **07** 05:56:20.4±1.4, 38.81N×22.44E, h11km±2km, ML4.2/13, Error ellipse: s-maj=1.2km s-min=1.3km az=0.0*
*ISK **07** 05:56:21.7, 38.70N×22.56E, h87km, ML3.4/20*
*ATH **07** 05:56:22.4, 38.65N×22.50E, h80km±2km, ML3.5/4, Error ellipse: s-maj=2.4km s-min=1.2km az=322.0*
*IDC **07** 05:56:23.9±2.0, 38.76N×22.33E, h106km±20km, mb3.4/7, mb1 3.5/12, mb1mx3.2/57, mbtmp3.8/12, Error ellipse: s-maj=19.7km s-min=13.5km az=151.0*
*THE **07** 05:56:23.0, 38.66N×22.50E, h78km±1km, ML3.7/15, Error ellipse: s-maj=1.4km s-min=0.6km az=214.0*
*DDA **07** 05:56:24.0±0.0, 38.76N×22.59E, h74km±9km, MW3.8*
*TIR **07** 05:56:24.3, 38.98N×22.25E, h72km±14km, Ml3.9*

ISC 07 05:56:21.7±0.7, 38.69N±0.03×22.41E±0.03, h91km±5km, n288, σ1°50/354, mb3.6/7, 44C-27D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLFA	Delphi	0.22	163	P	Pn	05 56 34.6	-0.4
DLFA				S	Sn	05 56 43.2	-1.7
DLFA				AML	AML	05 56 43.4	
	comp=E,8636μm,0.1s						
DLFA				AML	AML	05 56 43.4	
	comp=N,20382μm,0.3s						
AGG	Agios Georgios	0.34	349	P	Pn	05 56 35.8	+0.3
AGG				S	Sn	05 56 45.5	-0.4
AGG				AML	AML	05 56 45.8	
	comp=N,28098μm,0.4s						
AGG				AML	AML	05 56 46.0	
	comp=E,13512μm,0.3s						
AGG	Agios Georgios	0.34	349	P	Pn	05 56 35.9	+0.3
AGG				S	Sn	05 56 45.3	-0.6
	comp=E,10μm,0.3s						
AGG	Agios Georgios	0.34	349	PG	Pn	05 56 35.7	+0.1
AGG				SG	Sn	05 56 45.5	-0.4
AGG	Agios Georgios	0.34	349	P	Pn	05 56 35.9	+0.3
AGG				S	Sn	05 56 45.5	-0.4
MAKR	Makrakomi, Fth	0.39	326	P	Pn	05 56 36.6	+0.7
MAKR				S	Sn	05 56 46.5	0.0
MAKR				AML	AML	05 56 47.8	
	comp=E,4710μm,0.2s						
MAKR				AML	AML	05 56 48.9	
	comp=N,3726μm,0.5s						
MAKR	Makrakomi, Fth	0.39	326	P	Pn	05 56 36.5	+0.7
MAKR				S	Sn	05 56 45.7	-0.7
	comp=N,11μm,0.3s						
TRIZ	Trizonia	0.42	220	P	Pn	05 56 36.0	0.0
TRIZ				S	Sn	05 56 45.6	-1.0
TRIZ	Trizonia	0.42	220	P	Pn	05 56 36.0	0.0
LKR	Lokris	0.46	95	P	Pn	05 56 36.0	-0.3
LKR				S	Sn	05 56 45.3	-1.8
LKR				AML	AML	05 56 46.8	
	comp=N,2361μm,0.1s						
LKR				AML	AML	05 56 49.6	
	comp=E,2681μm,0.2s						
LKR	Lokris	0.46	95	P	Pn	05 56 36.0	-0.3
ATAL	Atalanti	0.48	90	P	Pn	05 56 36.2	-0.3
ATAL				S	Sn	05 56 45.9	-1.4
ATAL	Atalanti	0.48	90	P	Pn	05 56 36.1	-0.3
ATAL				S	Sn	05 56 45.8	-1.6
	comp=E,1μm,0.4s						
EFP	Efpalio	0.48	237	P	Pn	05 56 36.8	+0.4
EFP	Efpalio	0.48	237	P	Pn	05 56 36.9	+0.5
EFP				S	Sn	05 56 47.1	-0.2
	comp=E,9μm,0.2s						
ALIK	Aliki, Aigiali	0.49	209	P	Pn	05 56 36.8	+0.3
ALIK				S	Sn	05 56 46.7	-0.8
EVR	Evrytania	0.52	296	P	Pn	05 56 37.7	+0.8
EVR	Evrytania	0.52	296	P	Pn	05 56 37.7	+0.8
EVR				S	Sn	05 56 48.4	+0.2
	comp=E,7μm,0.4s						
LAKA	Lakka	0.56	217	P	Pn	05 56 37.5	+0.3
LAKA	Lakka	0.56	217	P	Pn	05 56 37.5	+0.3
LAKA				S	Sn	05 56 47.5	-1.2
	comp=E,9μm,0.5s						
UPR	University Cam	0.64	231	P	Pn	05 56 38.5	+0.8
KLV	Kalavryta, Ach	0.68	198	P	Pn	05 56 38.2	0.0
KLV	Kalavryta, Ach	0.68	198	P	Pn	05 56 38.2	0.0
KLV				S	Sn	05 56 49.0	-1.5
	comp=E,3μm,0.3s						
THAL	Thalero	0.68	163	P	Pn	05 56 38.1	-0.1
THAL	Thalero	0.68	163	P	Pn	05 56 37.9	-0.3
LTK	Loutraki	0.80	147	P	Pn	05 56 40.2	+0.9
VIL2	Platees	0.82	125	P	Pn	05 56 39.9	+0.3
VILL	Villia	0.88	126	P	Pn	05 56 39.9	-0.3
NEO	Neokhori	0.88	45	P	Pn	05 56 40.6	+0.4
NEO	Neokhori	0.88	45	P	Pn	05 56 40.5	+0.3
XOR	Xorichti	0.91	42	P	Pn	05 56 40.7	+0.3
XOR	Xorichti	0.91	42	P	Pn	05 56 40.8	+0.3
DRO	Drossia	0.92	217	P	Pn	05 56 41.2	+0.6

DRO	Drossia	0.92	217	P	Pn	05 56 41.3	+0.6
THL	Klokotos Trika	0.93	341	P	Pn	05 56 41.5	+0.8
THL	Klokotos Trika	0.93	341	P	Pn	05 56 41.5	+0.8
THL	Klokotos Trika	0.93	341	P	Pn	05 56 41.5	+0.8
THL				S	Sn	05 56 55.3	+0.4
THL				AML	AML		
	comp=N,195μm,0.9s						
THL				AML	AML		
	comp=E,216μm,0.5s						
RLS	Riolos of Patr	0.98	230	P	Pn	05 56 42.8	+1.6
RLS	Riolos of Patr	0.98	230	P	Pn	05 56 42.8	+1.6
LRSO	Larissa Observ	0.98	359	P	Pn	05 56 42.1	+0.9
TYRN	Tyrnavos	1.03	352	P	Pn	05 56 42.5	+0.7
TYRN				S	Sn	05 56 57.2	+0.3
	comp=E,2μm,0.6s						
ATH	Athens Observa	1.25	125	P	Pn	05 56 44.5	+0.1
ATH	Athens Observa	1.25	125	P	Pn	05 56 44.6	+0.2
ATH				S	Sn	05 57 00.0	-1.5
	comp=E,2μm,0.4s						
ATHU	Athens Univers	1.30	123	P	Pn	05 56 45.0	0.0
ATHU	Athens Univers	1.30	123	P	Pn	05 56 45.1	+0.1
ATHU				S	Sn	05 57 00.6	-2.0
	comp=E,630nm,0.4s						
PTL	Penteli	1.31	119	P	Pn	05 56 45.2	+0.1
PTL	Penteli	1.31	119	P	Pn	05 56 45.2	+0.1
PTL				S	Sn	05 57 01.0	-1.9
	comp=E,1μm,0.5s						
KYMI	Kymi, Euboea I	1.32	92	P	Pn	05 56 45.4	+0.1
DION	Dionisos Attik	1.34	117	P	Pn	05 56 45.8	+0.2
DION	Dionisos Attik	1.34	117	P	Pn	05 56 45.7	+0.2
DION				S	Sn	05 57 01.9	-1.7
	comp=E,3μm,0.5s						
NYDR	Nydri-Lefkada	1.34	272	P	Pn	05 56 47.0	+1.5
NYDR	Nydri-Lefkada	1.34	272	P	Pn	05 56 47.2	+1.7
NYDR				S	Sn	05 56 48.0	-15
VLY	Voula,Athens	1.37	127	P	Pn	05 56 45.9	0.0
VLY	Voula,Athens	1.37	127	P	Pn	05 56 46.0	+0.1
VLY				S	Sn	05 57 02.0	-2.2
	comp=E,2μm,0.5s						
LKD2	Lefkada island	1.38	275	P	Pn	05 56 47.8	+1.8
LKD2	Lefkada island	1.38	275	P	Pn	05 56 47.9	+1.9
LKD2				S	Sn	05 56 48.3	-16
	comp=E,1μm,0.2s						
LKD2	Lefkada island	1.38	275	P	Pn	05 56 47.8	+1.9
	baz=262						
LKD2				S	Sn	05 57 05.2	+0.8
	baz=262						
EVGI	Lefkada island	1.38	268	P	Pn	05 56 47.5	+1.5
EVGI				S	Sn	05 56 48.9	-15
	comp=E,810nm,0.1s						
TSLK	Tsoukalades, L	1.38	276	P	Pn	05 56 47.9	+1.9
TSLK	Tsoukalades, L	1.38	276	P	Pn	05 56 48.0	+1.9
TSLK				S	Sn	05 56 50.2	-14
	comp=E,722nm,0.2s						
LIT	Litokhoron	1.41	2	P	Pn	05 56 47.0	+0.6
LIT	Litokhoron	1.41	2	P	Pn	05 56 47.0	+0.6
LIT				S	Sn	05 57 04.6	-0.5
KRND	KRANIDI	1.43	156	P	Pn	05 56 46.5	-0.1
KRND	KRANIDI	1.43	156	P	Pn	05 56 46.6	-0.1
KRND				S	Sn	05 57 04.6	-0.8
	comp=E,2μm,0.5s						
DRAG	Dragano-Lefkad	1.44	270	P	Pn	05 56 48.2	+1.5
DRAG	Dragano-Lefkad	1.44	270	P	Pn	05 56 48.3	+1.5
FSK	Fiskardo	1.47	262	P	Pn	05 56 48.5	+1.4
KPRO	Kipourio	1.50	327	P	Pn	05 56 49.5	+1.9
VLS	Valsamata	1.52	251	P	Pn	05 56 48.6	+0.8
VLS	Valsamata	1.52	251	⇑P	Pn	05 56 48.7	+0.8
VLS				AML	AML		
	comp=E,424μm,1.3s						
VLS				AML	AML		
	comp=N,598μm,0.2s						
VLS				AML	AML		
	comp=E,425μm,1.3s						
JAN	Janina	1.55	309	P	Pn	05 56 49.9	+1.7
ITM	Ithomi	1.56	194	P	Pn	05 56 49.6	+1.3
ITM	Ithomi	1.56	194	PN	Pn	05 56 49.7	+1.4
ITM				SN	Sn	05 57 10.1	+1.7
PAIG	Paliouri	1.58	38	P	Pn	05 56 48.7	+0.2
KEF4	Livadi, Kephal	1.62	255	P	Pn	05 56 50.0	+1.0
KEF4				S	Sn	05 57 09.9	+0.2
DMLN	Damoulianata-K	1.66	255	P	Pn	05 56 50.8	+1.2
SKY	Skiros Island	1.68	83	P	Pn	05 56 49.9	+0.1
SKY				S	Sn	05 57 09.8	-1.3
	comp=E,920nm,0.5s						
KZN	Kozani	1.69	343	P	Pn	05 56 51.9	+1.9
KEF3	Kipouria, Keph	1.69	254	P	Pn	05 56 50.5	+0.6
KTI	Kastanea	1.71	352	P	Pn	05 56 51.7	+1.3
KARY	Karystos	1.72	112	P	Pn	05 56 50.6	+0.3
KARY	Karystos	1.72	112	P	Pn	05 56 50.6	+0.3
PENT	Pentalofos	1.80	327	P	Pn	05 56 53.6	+2.2
IGT	Igoumenitsa	1.82	298	P	Pn	05 56 53.0	+1.4
IGT	Igoumenitsa	1.82	298	P	Pn	05 56 53.1	+1.4
	baz=291						
IGT				S	Sn	05 57 13.6	-0.8
	baz=291						
PLG	Polygyros	1.86	25	P	Pn	05 56 52.5	+0.3
PYL	PYLOS	1.87	197	P	Pn	05 56 52.6	+0.3
HORT	Hortiatis	1.98	15	P	Pn	05 56 54.3	+0.6
HORT	Hortiatis	1.98	15	PN	Pn	05 56 54.4	+0.7
THE	Thessaloniki	1.98	12	P	Pn	05 56 54.2	+0.5
THE	Thessaloniki	1.98	12	P	Pn	05 56 54.2	+0.5
	baz=18						
VLI	Veliai	2.01	168	P	Pn	05 56 53.8	-0.3
LSK	Leskovik	2.02	317	P	Pn	05 56 55.8	+1.5
	baz=314						
LSK				AMP			
	comp=E,5.3nm,0.6s,baz=314						
OUR	Ouranopolis	2.04	36	P	Pn	05 56 54.9	+0.5
OUR	Ouranopolis	2.04	36	PN	Pn	05 56 54.7	+0.3
SRN	Sarande	2.22	303	P	Pn	05 56 58.1	+1.4
SRN	Sarande	2.22	303	P	Pn	05 56 58.1	+1.4
SRN				S	Sn	05 57 23.2	-0.4
SRN				AML	AML		
	comp=N,790μm,0.3s						
SRN				AML	AML		
	comp=E,715μm,0.2s						
SRN	Sarande	2.22	303	P	Pn	05 56 58.1	+1.4
	baz=299						
SRN				S	Sn	05 57 22.5	-1.1
	baz=299						
SRN				AMP			
	comp=N,2.5nm,0.2s,baz=299						
FNA	Florina	2.24	339	P	Pn	05 56 58.9	+1.8
FNA	Florina	2.24	339	PN	Pn	05 56 58.8	+1.6
FNA				SN	Sn	05 57 25.9	+1.7
FNA	Florina	2.24	339	P	Pn	05 56 58.7	+1.6
	baz=341						
FNA				S	Sn	05 57 22.5	-1.7
	baz=341						
FNA	Florina	2.24	339	P	Pn	05 56 58.9	+1.8
FNA				S	Sn	05 57 26.1	+1.9
SOH	Sokhos	2.25	19	P	Pn	05 56 58.6	+1.3
GRG	Griva	2.26	360	P	Pn	05 56 58.3	+0.9
GRG	Griva	2.26	360	PN

APE	Apeiranthos	2.95	122		P		Pn	05 57 06.8	+0.2
SMTH	Samothraki Isl	2.99	53		P		Pn	05 57 07.0	-0.1
STIP	Stip	3.00	357	*i*	Pn		Pn	05 57 09.2	+1.9
BOZC	Bozcaada	3.05	67		PN		Pn	05 57 07.9	0.0
BOZC	Bozcaada	3.05	67		P		Pn	05 57 08.2	+0.4
BOZC					S		Sn	05 57 41.5	-1.9
ECEA	Canakkale, Ece	3.21	64		P		Pn	05 57 10.7	+0.6
EZN	Ezine	3.24	68		PN		Pn	05 57 10.6	+0.2
URLA	Izmir	3.30	94		PN		Pn	05 57 11.1	-0.1
TIR	Tirane	3.30	324	⇓	P		Pn	05 57 11.4	+0.2
TIR	Tirane	3.30	324		P		Pn	05 57 12.9	+1.7
TIR					S		Sn	05 57 51.4	+1.9
TIR					AML	AML			
	comp=E,532µm,0.2s								
TIR					AML	AML			
	comp=N,396µm,0.3s								
TIR	Tirane	3.30	324		P		Pn	05 57 11.0	-0.2
	baz=324								
TIR					S		Sn	05 57 50.5	+1.0
	baz=324								
TIR					AMP				
	comp=E,0.7nm,0.2s,baz=324								
RODP	Rodopos	3.30	161		PN		Pn	05 57 11.9	+0.5
PHP	Peshkopia	3.35	334		P		Pn	05 57 13.2	+1.2
	baz=334								
PHP					S		Sn	05 57 50.7	-0.1
	baz=334								
PHP					AMP				
	comp=N,0.6nm,0.2s,baz=334								
SCTE	Santa Cesarea	3.35	296	⇑	P		Pn	05 57 12.6	+0.7
SCTE					S		Sn	05 57 48.4	-2.4
SCTE					AML	AML			
	comp=E,840µm,0.3s								
SCTE					AML	AML			
	comp=N,1154µm,0.5s								
SCTE	Santa Cesarea	3.35	296		P		Pn	05 57 12.7	+0.7
	baz=292								
BAYC	CANAKKALE_Bayr	3.38	71		P		Pn	05 57 13.0	+0.7
RDO	Rodhopi	3.43	43		PN		Pn	05 57 13.5	+0.5
IMMV	Iera Moni Meta	3.46	158		PN		Pn	05 57 14.3	+0.9
ENEZ	Enez	3.53	54		PN		Pn	05 57 14.6	+0.2
ALN	Alexandroupoli	3.56	51		PN		Pn	05 57 14.9	+0.1
ALN	Alexandroupoli	3.56	51		P		Pn	05 57 14.9	+0.1
GELI	Tayfur-Gelibol	3.57	60		PN		Pn	05 57 15.0	+0.1
KNDR	Palaiochora Ch	3.60	163		PN		Pn	05 57 16.0	+0.7
ERIK	Erikli-Kesan	3.73	57		PN		Pn	05 57 17.0	0.0
LPK	Lapseki	3.76	62		PN		Pn	05 57 17.4	0.0
PLD	Plovdiv	3.83	26		PN		Pn	05 57 19.2	+0.8
IDI	Anoyia	3.93	149	⇓	P		Pn	05 57 19.6	-0.3
IDI	Anoyia	3.93	149		PN		Pn	05 57 20.5	+0.6
VTS	Vitosha	3.97	9	⇑	P		Pn	05 57 22.4	+1.9
MESG	Mesagne	4.00	300		S		Sn	05 58 03.0	-3.5
ULC	Ulcinj	4.07	324	⇑	*i*Pn		Pn	05 57 22.1	+0.4
ULC					*i* Sn		Sn	05 58 07.2	-1.0
GVD	Gavdhos	4.07	160		PN		Pn	05 57 21.7	0.0
BCI	Bajram Curri	4.08	335		P		Pn	05 57 23.4	+1.5
	baz=335								
BCI					S		Sn	05 58 08.4	-0.1
	baz=335								
BCI					AMP				
	comp=N,1.7nm,0.3s,baz=335								
DRME	Dracevica, Mon	4.27	326		*e*Pn		Pn	05 57 24.8	+0.4
DRME	Dracevica, Mon	4.27	326		*e*Pn		Pn	05 57 24.8	+0.4
DRME					*i* Sn		Sn	05 58 12.0	-1.1
LADO	San Nicola del	4.28	280	⇑	P		Pn	05 57 25.7	+1.2
PVY	Plav	4.32	335	⇑	*i*Pn		Pn	05 57 26.1	+0.9
PVY					*i* Sn		Sn	05 58 13.1	-1.4
PIPA	Pietrapaola	4.43	282	⇑	P		Pn	05 57 27.4	+0.8
PIPA					S		Sn	05 58 13.9	-3.0
PIPA					AML	AML			
	comp=E,816µm,0.4s								
PIPA					AML	AML			
	comp=N,438µm,0.3s								
PIPA					AML	AML			
	comp=N,506µm,1.4s								
PIPA					AML	AML			
	comp=E,762µm,0.4s								
TIP	Timpagrande	4.44	278	⇑	S		Sn	05 58 13.3	-3.9
TIP	Timpagrande	4.44	278	⇑	P		Pn	05 57 27.4	+0.7
TIP					S		Sn	05 58 15.0	-2.2
TIP					AML	AML			
	comp=N,166µm,0.9s								
TIP					AML	AML			
	comp=N,173µm,0.9s								
TIP					AML	AML			
	comp=E,180µm,0.7s								
TIP					AML	AML			
	comp=E,171µm,0.8s								
PDG	Podgorica	4.44	328	⇓	P		Pn	05 57 27.2	+0.4
PDG	Podgorica	4.44	328		*e*Pn		Pn	05 57 27.1	+0.4
TTG	Podgorica	4.44	328	⇑	*i*Pn		Pn	05 57 27.0	+0.3
TTG					*i* Sn		Sn	05 58 15.9	-1.3
SERS	Sersale	4.48	276	⇑	P		Pn	05 57 28.0	+0.6
SERS					S		Sn	05 58 14.0	-4.4
SERS					AML	AML			
	comp=E,368µm,0.5s								
SERS					AML	AML			
	comp=N,274µm,0.5s								
BUM	Brajici-Budva	4.50	324	⇑	*i*Pn		Pn	05 57 27.2	-0.3
BUM					*i* Sn		Sn	05 58 17.2	-1.4
IVA	Berane	4.59	336	⇑	*i*Pn		Pn	05 57 29.8	+0.9
IVA					*i* Sn		Sn	05 58 19.4	-1.6
NOCI	Noci	4.62	299		P		Pn	05 57 29.4	+0.2
NOCI					S		Sn	05 58 17.1	-4.6
CEME	Cevo	4.68	326		*e*Pn		Pn	05 57 29.7	-0.3
CEME					*i* Sn		Sn	05 58 21.5	-1.6
GRI	Girifalco	4.69	273	⇑	P		Pn	05 57 31.3	+1.2
GRI					AML	AML			
	comp=E,319µm,0.3s								
GRI					AML	AML			
	comp=N,376µm,0.4s								
PLAC	Placanica	4.69	269		P		Pn	05 57 30.5	+0.4
PLAC					AML	AML			
	comp=N,202µm,0.6s								
PLAC					AML	AML			
	comp=N,184µm,0.6s								
PLAC					AML	AML			
	comp=E,212µm,0.4s								
PLAC					AML	AML			
	comp=E,196µm,0.6s								
ZKR	Zakros	4.69	138		PN		Pn	05 57 30.4	+0.2
KOME	Kolasin	4.70	333		*e*Pn		Pn	05 57 31.3	+1.0
KOME					*i* Sn		Sn	05 58 22.0	-1.7
LTRZ	Laterza	4.72	296		P		Pn	05 57 30.6	+0.1
LTRZ					S		Sn	05 58 19.0	-5.0
LTRZ					AML	AML			
	comp=E,350µm,1.6s								
LTRZ					AML	AML			
	comp=N,856µm,1.6s								
SPS2	Spezzano della	4.77	279		P		Pn	05 57 34.5	+3.3
SPS2					AML	AML			
	comp=E,114µm,1.1s								
SPS2					AML	AML			
	comp=N,174µm,0.7s								
HCY	Herceg Novi	4.79	323		*e*Pn		Pn	05 57 30.5	-1.0
HCY	Herceg Novi	4.79	323		*e*Pn		Pn	05 57 32.5	+1.0
HCY					*i* Sn		Sn	05 58 24.3	-1.5
MATE	Matera	4.82	296	⇓	P		Pn	05 57 31.3	-0.5
MATE	Matera	4.82	296		P		Pn	05 57 32.2	+0.4
MATE					AML	AML			
	comp=E,412µm,0.2s								
MATE					AML	AML			
	comp=N,535µm,0.4s								
NKME	Niksic	4.85	328	⇑	*i*Pn		Pn	05 57 32.5	+0.3
NKME					*i* Sn		Sn	05 58 25.5	-1.6
SALB	San Lorenzo Be	4.86	286	⇓	P		Pn	05 57 33.1	+0.6
SALB					AML	AML			
	comp=N,232µm,0.3s								
SALB					AML	AML			
	comp=E,690µm,0.3s								
SALB					AML	AML			
	comp=N,238µm,0.3s								
SALB					AML	AML			
	comp=E,655µm,0.4s								
CAR1	CAROLEI	4.87	279	⇓	P		Pn	05 57 33.9	+1.4
CAR1					AML	AML			
	comp=E,415µm,0.9s								
CAR1					AML	AML			
	comp=N,386µm,0.3s								
NKY	Niksic	4.87	329		*e*Pn		Pn	05 57 33.3	+0.7
NKY					*i* Sn		Sn	05 58 26.0	-1.7
BLKB	Belogradchik	4.93	2	⇑	P		Pn	05 57 35.3	+1.9
BOVS	Bovan	4.97	354	⇑	P		Pn	05 57 34.8	+0.9
MIGL	Miglionico	4.99	294	⇑	P		Pn	05 57 34.8	+0.6
MIGL					AML	AML			
	comp=E,1080µm,1.5s								
MIGL					AML	AML			
	comp=N,962µm,0.3s								
AMUR	Altamura	4.99	298	⇑	P		Pn	05 57 34.4	+0.2
AMUR					AML	AML			
	comp=E,597µm,0.9s								
AMUR					AML	AML			
	comp=N,576µm,0.6s								
SOI	Samo	5.03	265	⇓	P		Pn	05 57 35.1	+0.4
TREB	Trebinje	5.07	324		*e*Pn		Pn	05 57 34.0	-1.2
CET2	Cetraro	5.09	281		P		Pn	05 57 37.5	+1.9
CET2					AML	AML			
	comp=E,836µm,0.7s								
CET2					AML	AML			
	comp=N,600µm,0.5s								
JOPP	Joppolo	5.11	271		P		Pn	05 57 36.9	+1.0
JOPP					AML	AML			
	comp=E,228µm,0.3s								
JOPP					AML	AML			
	comp=N,260µm,0.4s								
BRY	Bratogost	5.13	326		*e*Pn		Pn	05 57 35.5	-0.7
BRY	Bratogost	5.13	326		*e*Pn		Pn	05 57 37.1	+0.9
BRY					*i* Sn		Sn	05 58 32.4	-1.8
SCHR	S. Chirico Rap	5.13	289		P		Pn	05 57 37.8	+1.6
SCHR					AML	AML			
	comp=N,178µm,0.3s								
SCHR					AML	AML			
	comp=E,162µm,1.6s								
PLE	Pljevlja	5.17	335	⇑	*i*Pn		Pn	05 57 37.5	+0.8
PLE					*i* Sn		Sn	05 58 33.1	-1.9
MSCL	Scilla	5.22	267	⇑	P		Pn	05 57 37.8	+0.5
UPM	Unac-Piva	5.23	331		*e*Pn		Pn	05 57 38.4	+0.8
UPM	Unac-Piva	5.23	331	⇑	*i*Pn		Pn	05 57 38.5	+0.8
UPM					*i* Sn		Sn	05 58 34.7	-2.0
AG11	Viggiano (PZ)	5.26	290		P		Pn	05 57 38.9	+1.0
AG11					AML	AML			
	comp=N,560µm,1.5s								
AG11					AML	AML			
	comp=E,525µm,1.2s								
SIRI	Monte Sirino -	5.28	288	⇓	P		Pn	05 57 39.3	+1.1
SIRI					AML	AML			
	comp=E,281µm,1.6s								
SIRI					AML	AML			
	comp=E,288µm,1.6s								
SIRI					AML	AML			
	comp=N,344µm,0.5s								
SIRI					AML	AML			
	comp=N,338µm,0.5s								
MTTG	Motta San Giov	5.33	265	⇓	P		Pn	05 57 38.9	+0.1
MTTG					AML	AML			
	comp=N,401µm,0.7s								
MTTG					AML	AML			
	comp=E,498µm,0.5s								
MRVN	Minervino Murg	5.34	298	⇓	P		Pn	05 57 39.1	+0.2
MRVN					AML	AML			
	comp=N,240µm,0.5s								
MRVN					AML	AML			
	comp=E,210µm,0.5s								
MCEL	Monticello	5.37	290	⇓	P		Pn	05 57 40.6	+1.2
MCEL					AML	AML			
	comp=E,478µm,0.5s								
MCEL					AML	AML			
	comp=N,394µm,1.1s								
MTSN	Montesano sull	5.39	289		P		Pn	05 57 40.5	+0.8
MTSN					AML	AML			
	comp=E,354µm,0.8s								
MTSN					AML	AML			
	comp=N,326µm,0.6s								
ACER	Acerenza	5.41	295	⇑	P		Pn	05 57 40.5	+0.6
ACER					AML	AML			
	comp=N,538µm,1.0s								
ACER					AML	AML			
	comp=E,860µm,0.3s								
ACER					AML	AML			
	comp=N,532µm,0.3s								
ACER					AML	AML			
	comp=E,791µm,0.3s								
RUDO	Rudo	5.43	336		*e*Pn		Pn	05 57 38.7	-1.5
MSRU	Castanea	5.43	268	⇑	P		Pn	05 57 40.2	0.0
MSRU					AML	AML			
	comp=N,428µm,0.9s								
MSRU					AML	AML			
	comp=E,369µm,0.4s								
PALZ	Palazzo San Ge	5.45	296	⇓	P		Pn	05 57 41.1	+0.6
PALZ					AML	AML			
	comp=E,446µm,1.4s								
PALZ					AML	AML			
	comp=N,324µm,0.6s								
STON	Ston	5.50	321		*e*Pn		Pn	05 57 39.3	-1.7
MGR	Morigerati	5.51	287		P		Pn	05 57 42.2	+1.1
MGR					AML	AML			
	comp=N,209µm,1.6s								
MGR					AML	AML			
	comp=E,246µm,0.4s								
SLCN	Sala Consilina	5.51	290	⇑	P		Pn	05 57 42.8	+1.5
SLCN					AML	AML			
	comp=E,1200µm,0.3s								
SLCN					AML	AML			
	comp=N,748µm,0.9s								
IST3	Stromboli F	5.62	273	⇑	P		Pn	05 58 00.6	+18
BULG	Bulgheria - Ca	5.62	286		P		Pn	05 57 43.6	+0.7
CAPA	Cerignola FG	5.64	298		P		Pn	05 57 43.7	+0.7
CAPA					AML	AML			
	comp=E,412µm,0.8s								
CAPA					AML	AML			
	comp=N,406µm,0.8s								
BBLS	Lazići	5.64	337		*e*Pn		Pn	05 57 43.3	+0.2
MILZ	Milazzo	5.65	268	⇓	P		Pn	05 57 41.3	-1.8
AIO	Antillo	5.69	265	⇓	P		Pn	05 57 44.1	+0.3
AIO					AML	AML			
	comp=E,405µm,0.9s								
AIO					AML	AML			
	comp=N,345µm,0.4s								
DIVS	Divibare	5.70	342		*e*Pn		Pn	05 57 43.4	-0.5
MRLC	Muro Lucano	5.72	293	⇓	P		Pn	05 57 45.7	+1.6
CMPR	Campora	5.73	289	⇓	P		Pn	05 57 46.3	+2.0
CMPR					AML	AML			
	comp=N,480µm,0.6s								
CMPR					AML	AML			
	comp=E,275µm,0.4s								
CDRU	Civita di Ruta	5.78	290	⇓	P		Pn	05 57 46.0	+1.0
CDRU					AML	AML			
	comp=E,285µm,0.2s								
CDRU					AML	AML			
	comp=N,146µm,0.9s								
MSAG	Monte S. Angel	5.82	303	⇑	P		Pn	05 57 45.1	-0.4
VPL	Vulcano Piano	5.83	269	⇓	P		Pn	05 57 45.6	0.0
HAGA	Augusta	5.90	258		P		Pn	05 57 44.2	-2.3
SGRT	San Giovanni R	5.95	303	⇓	P		Pn	05 57 47.0	-0.3
MUCR	Ucria	5.96	266	⇑	P		Pn	05 57 48.2	+0.8
EPZF	Pizzo Felice	6.01	264		P		Pn	05 57 48.0	-0.2
HAVL	Avola	6.02	256		P		Pn	05 57 46.1	-2.1
APRC	Apricena	6.08	302		P		Pn	05 57 48.7	-0.4
HLNI	Lentini	6.10	260	⇓	P		Pn	05 57 47.3	-2.0
MNO	Monte Soro	6.12	265		P		Pn	05 57 50.1	+0.4
HPAC	Pachino	6.12	253	⇑	P		Pn	05 57 49.7	+0.2
MEU	Monte Lauro	6.13	257		P		Pn	05 57 48.6	-1.1
BIOG	Biogem	6.13	296		P		Pn	05 57 55.6	+5.9
IFIL	Filicudi I Eol	6.15	271	⇓	P		Pn	05 57 51.2	+1.4
MSFR	San Fratello	6.18	266	⇓	P		Pn	05 57 51.0	+0.6
HERR	Herculane	6.18	0	⇑	P		Pn	05 57 51.8	+1.5
GALF	Gagliano Caste	6.26	263	⇑	P		Pn	05 57 51.7	+0.2
HMDC	Modica	6.28	256	⇑	P		Pn	05 57 50.6	-1.2
CAGR	Agira	6.33	263	⇓	P		Pn	05 57 53.0	+0.6
VAE	Valguarnera	6.43	262		P		Pn	05 57 55.6	+1.9
	comp=N,3.9nm,0.3s,baz=212,slow=7.3,SNR=1.4								
VAE					S		Sn	05 59 08.2	+2.5
	comp=N,16nm,0.3s,baz=15,slow=16,SNR=6.2								
CIGN	Sant'Elia a Pi	6.47	300	⇓	P		Pn	05 57 56.9	+2.7
PLLN	Pollina	6.54	266	⇓	P		Pn	05 58 17.1	+22
SRKY	Kupres RS	6.67	325		*e*Pn		Pn	05 57 56.7	-0.3
GZR	Gura Zlata	6.70	2	⇓	P		Pn	05 57 58.9	+1.4
FRGS	Fruska Gora	6.75	344		*e*Pn		Pn	05 57 57.8	-0.3
CLTA	Licata	6.85	260		P		Pn	05 57 59.4	-0.2
ARR	Arges	6.87	13	⇑	P		Pn	05 58 01.2	+1.4
MGRS	Mrkonjic Grad	6.98	327		*e*Pn		Pn	05 58 00.6	-0.6
VOIR		7.02	15	⇑	P		Pn	05 58 04.4	+2.5
LPEL	Lama dei Pelig	7.12	301	⇑	P		Pn	05 58 05.7	+2.4
BLY	Banja Luka	7.21	329		*e*Pn		Pn	05 58 03.8	-0.5
MLR	Muntele Rosu	7.28	20	⇑	P		Pn	05 58 07.7	+2.2
MLR	Muntele Rosu	7.28	20		P		Pn	05 58 08.4	+2.9
	comp=N,1.1nm,0.3s,baz=179,slow=16,SNR=9.1								
NEHR	Nehoiu	7.32	22	⇑	P		Pn	05 58 08.8	+2.8
DOPR	Dopca	7.60	16	⇑	P		Pn	05 58 12.4	+2.8
COVR	Voineasa-Covas	7.68	20	⇑	P		Pn	05 58 13.3	+2.5
OZUR		7.81	18	⇑	P		Pn	05 58 15.6	+3.1
PLOR	Plostina	7.81	22	⇑	P		Pn	05 58 15.4	+2.8
VRI	Vrincioaia	7.85	23	⇑	P		Pn	05 58 15.8	+2.7
MORH	Mrgy, Hungar	8.02	341		P		Pn	05 58 14.3	-1.0
MORH					S		Sn	05 59 39.7	-4.6
KOVH	Kovagototos	8.05	338		P		Pn	05 58 14.1	-1.7
KOVH					S		Sn	05 59 38.5	-6.6
LNSS	Leonessa	8.13	302	⇓	P		Pn	05 58 19.3	+2.4
BRTR	Keskin Array B	8.78	80		P		Pn	05 58 28.9	+3.1
	comp=N,0.5nm,0.3s,baz=258,slow=12,SNR=6.1								
CRES	Cresnjev	8.80	326		*e*Pn		Pn	05 58 24.2	-1.8
CEY	Cerknica	9.20	323		*e*Pn		Pn	05 58 29.8	-1.7
SKDS	Skadanscina	9.26	320		*e*Pn		Pn	05 58 30.2	-2.1
SOKA	Soboth	9.65	328		*i* Pn		Pn	05 58 36.8	-0.8
	comp=N,1.9nm,0.4s								
SOKA					*e*Sn		Sn	06 00 18.9	-5.3
	comp=N,3.6nm,0.5s								
OBKA	Obir	9.72	326		*i* Pn		Pn	05 58 38.6	-0.1
	comp=N,0.9nm,0.1s								
OBKA					*i* Sn		Sn	06 00 22.3	-3.7
	comp=N,5.2nm,0.3s								
ARSA	Arzberg	9.93	332		*e*Pn		Pn	05 58 40.6	-0.8
	comp=N,2.4nm,0.3s								
RONA	Rosalia, Austr	10.05	336		*e*Pn		Pn	05 58 43.2	+0.2
	comp=N,1.9nm,0.5s								
KBA	Koelnbreinsper	10.70	325		*e*Pn		Pn	05 58 51.0	-0.9
	comp=N,0.9nm,0.3s								
KBA					*i* Sn		Sn	06 00 42.5	-7.2
	comp=N,2.1nm,0.4s								
GERES	GERESS Array B	11.94	331		P		Pn	05 59 07.8	-0.9
	comp=N,0.4nm,0.3s,baz=154,slow=13,SNR=4.2								
GERES					S		Sn	06 01 15.6	-4.2
	comp=N,0.4nm,0.3s,baz=148,slow=26,SNR=2.9								
FETA	Feichten	11.94	318		*e*Sn		Sn	06 01 14.7	-5.3
	comp=N,2.5nm,0.5s								
DAVOX	Davos/Dischmat	12.25	315		S		Sn	06 01 24.3	-3.2
	comp=N,0.9nm,0.3s,baz=340,slow=21,SNR=4.0								
KBZ	Khabaz	16.20	65		P		P	06 00 06.1	+0.9
	comp=N,0.1nm,0.3s,baz=286,slow=9.5,SNR=5.1								
HFS	Hagfors	22.16	348		P		P	06 01 10.2	+0.4
	comp=N,1.9nm,0.5s,baz=24,slow=23,SNR=5.9								
FINES	FINESS Array B	22.89	5		P		P	06 01 17.7	+0.3
	comp=N,1.0nm,0.5s,baz=180,slow=9.5,SNR=4.7								
NOA	NORSAR Array B	23.44	346		P		P	06 01 22.5	-0.1
	comp=N,0.6nm,0.5s,baz=153,slow=9.5,SNR=4.1								
EKA	Eskdalemuir Ar	23.90	322		P		P	06 01 28.5	+1.8
	comp=N,0.9nm,0.4s,baz=122,slow=9.1,SNR=7.9								
TORD	Torodi Ar. Bea	31.38	221		P		P	06 02 35.0	+1.1
	comp=N,0.6nm,0.5s,baz=30,slow=8.8,SNR=9.9								
MKAR	Makanchi Array	43.77	59		P		P	06 04 18.7	+0.7
	comp=N,1.5nm,0.4s,baz=271,slow=7.8,SNR=20								
ZALV	Zalesovo Beam	44.24	49		P		P	06 04 22.2	+0.6
	comp=N,1.1nm,0.4s,baz=264,slow=7.9,SNR=3.7								
WRA	Warramunga Arr	119.08	93		PKP		PKPdf	06 14 59.3	-0.8
	comp=N,0.2nm,0.8s,baz=321,slow=1.3,SNR=4.9								
ASAR	Alice Springs	120.75	97		PKP		PKiKP	06 15 03.6	+0.1
	comp=N,0.1nm,0.3s,baz=221,slow=38,SNR=1.7								

ANF ***07*** *05:58:56.9±0.3, 35.°71N×97.°14W, h6km, ML3.8/11, Error ellipse: s-maj=3.2km s-min=3.0km az=171.0*
TUL ***07*** *05:58:56.3±1.0, 35.°66N±0.°04×97.°17W±0.°05, h5km±7km, ML3.3, mb_Lg3.3/99(NEIC), Error ellipse: s-maj=5.7km s-min=4.8km az=129.0*
NEIC ***07*** *05:58:56.7±0.9, 35.°67N±0.°02×97.°19W±0.°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.6km az=141.0*

ISC 07 05:58:56.2±1.0, 35.°68N±0.°03×97.°16W±0.°03, h5km±9km, n79, σ0s82/56, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK005	Luther M Schoo	0.04	219			Pg	05 58 57.4	+0.2
OK001	Jones High Sch	0.16	220	Pg		Pg	05 58 59.6	+0.3
FNO	Franklin	0.47	205	Pg		Pg	05 59 05.3	+0.1
W35A	Tecumseh	0.58	156	Pg		Pg	05 59 07.6	+0.4
W35A				Sg		Sg	05 59 15.6	+0.8
TUL1	Leonard	1.14	78			Pg	05 59 18.1	+0.1
TUL1	Leonard	1.14	78	P		Pg	05 59 17.2	-0.7
	baz=258							
TUL1				S		Sg	05 59 33.2	+0.5
	baz=258							
X34A	Smith Ranch, M	1.21	207	Pn		Pg	05 59 19.0	-0.4
T35A	Sooner Cattle	1.34	23			Pn	05 59 21.1	-0.5
T35B	Sooner Cattle	1.34	23	P		Pn	05 59 21.1	-0.5
	baz=203,SNR=131							
T35B				S		Sb	05 59 40.1	+0.8
	baz=203							
WMOK	Wichita Mounta	1.63	235			Pn	05 59 25.2	-0.4
WMOK	Wichita Mounta	1.63	235	P		Pn	05 59 25.2	-0.4
	baz=54,SNR=337							
U32A	Winter Ranch,	1.64	296			Pn	05 59 26.2	+0.4
U32A				IAmb_Lg			05 59 51.1	
	comp=Z,131nm,0.8s							
U32A	Winter Ranch,	1.64	296	P		Pn	05 59 26.2	+0.4
	baz=115							
U32A				S		Sg	05 59 49.3	+0.3
	baz=115							
X37A	Clayton	1.83	126	Pn		Pn	05 59 29.1	+0.8
X37A				IAmb_Lg			05 59 55.5	
	comp=Z,121nm,0.8s							
X37A	Clayton	1.83	126	P		Pn	05 59 29.1	+0.8
	baz=307,SNR=222							
X37A				S		Sg	05 59 54.7	-0.2
	baz=307							
Z35A	Perchaven, San	2.35	182			Pn	05 59 35.8	+0.3
Z35A				IAmb_Lg			06 00 14.4	
	comp=Z,196nm,1.2s							
Z35A	Perchaven, San	2.35	182	P		Pn	05 59 36.5	+1.1
	baz=1.5,SNR=

	comp=Z,125nm,0.7s							
Z41A	**Richland Creek**	**4.34**	**123**	Pn	**Pn**	**06 00 03.0**	**+0.2**
R40A	**Maddies Statio**	**4.70**	**55**	Pn	**Pn**	**06 00 08.7**	**+0.8**
R40A				IAmb_Lg		06 01 27.0	
	comp=Z,55nm,0.7s						
CCAR	**Cane Creek**	**4.77**	**110**	IAmb_Lg		06 01 38.2	
	comp=Z,38nm,0.9s						
P38A	**Dawn**	**4.88**	**35**	Pn	**Pn**	**06 00 10.7**	**+0.5**
P38A				IAmb_Lg		06 01 39.1	
	comp=Z,61nm,0.8s						
LCAR	**Lake Charles**	**4.89**	**84**	Pn	**Pn**	**06 00 10.2**	**-0.2**
LCAR				IAmb_Lg		06 01 35.4	
	comp=Z,47nm,0.7s						
435B	**Jarrell**	**4.90**	**184**	IAmb_Lg		06 01 38.5	
	comp=Z,50nm,0.7s						
MSTX	**Muleshoe**	**4.92**	**251**	IAmb_Lg		06 01 35.0	
	comp=Z,42nm,0.9s						
N33A	**J Bar K, Exete**	**5.05**	**358**	IAmb_Lg		06 01 39.2	
	comp=Z,57nm,0.8s						
CCM	**Cathedral Cave**	**5.30**	**62**	Pn	**Pn**	**06 00 15.9**	**-0.1**
CCM				IAmb_Lg		06 01 50.7	
	comp=Z,60nm,0.7s						
N35A	**Tabor**	**5.30**	**13**	Pn	**Pn**	**06 00 17.3**	**+1.2**
KSCO	**Kaye Shedlock'**	**5.47**	**309**	IAmb_Lg		06 02 05.3	
	comp=Z,41nm,0.8s						
PBMO	**Poplar Bluff**	**5.55**	**77**	IAmb_Lg		06 02 02.9	
	comp=Z,94nm,0.9s						
P40A	**Paris**	**5.59**	**45**	IAmb_Lg		06 02 00.1	
	comp=Z,72nm,0.8s						
JCT	**Junction City**	**5.64**	**204**	IAmb_Lg		06 02 02.7	
	comp=Z,65nm,0.8s						
BGNE	**Belgrade**	**5.77**	**353**	IAmb_Lg		06 02 10.3	
	comp=Z,94nm,0.8s						
FVM	**French Village**	**5.87**	**65**	IAmb_Lg		06 02 14.2	
	comp=Z,46nm,0.7s						
N38A	**Joes South For**	**5.96**	**30**		**Pn**	**06 00 24.9**	**-0.3**
N38A				IAmb_Lg		06 02 17.3	
	comp=Z,53nm,0.7s						
T25A	**Trinidad**	**6.02**	**286**	Pn	**Pn**	**06 00 26.8**	**+0.6**
OXF	**Oxford**	**6.46**	**98**	Pn	**Pn**	**06 00 31.7**	**-0.3**
OGNE	**Ogallala**	**6.50**	**325**	IAmb_Lg		06 02 26.9	
	comp=Z,71nm,0.8s						
Y45A	**Yeager Farm, C**	**6.53**	**104**	Pn	**Pn**	**06 00 32.6**	**-0.3**
W45A	**Hickory Valley**	**6.53**	**92**	Pn	**Pn**	**06 00 33.9**	**+0.9**
W45A				IAmb_Lg		06 02 31.0	
	comp=Z,68nm,0.8s						
344A	**Westbrook Farm**	**6.83**	**126**	Pn	**Pn**	**06 00 37.0**	**0.0**
735A	**Kenedy**	**6.83**	**185**	IAmb_Lg		06 02 49.2	
	comp=Z,24nm,0.8s						
SCIA	**State Center**	**6.94**	**25**	IAmb_Lg		06 02 54.3	
	comp=Z,44nm,0.8s						
SDCO	**Great Sand Dun**	**7.01**	**290**		**Pn**	**06 00 40.0**	**+0.2**
Q44A	**Meyer Farm, Va**	**7.24**	**61**	IAmb_Lg		06 03 04.0	
	comp=Z,55nm,0.8s						
PLAL	**Pickwick Lake**	**7.46**	**93**	Pn	**Pn**	**06 00 44.9**	**-0.8**
833A	**Chaparral WMA,**	**7.58**	**195**	IAmb_Lg		06 03 03.5	
	comp=Z,31nm,1.1s						
WVT	**Waverly**	**7.59**	**84**	IAmb_Lg		06 03 02.5	
	comp=Z,28nm,1.0s						
L40A	**Anamosa**	**7.87**	**34**	IAmb_Lg		06 03 10.3	
	comp=Z,32nm,0.8s						
ECSD	**EROS Data Cent**	**8.05**	**3**	IAmb_Lg		06 03 17.9	
	comp=Z,17nm,0.8s						
O44A	**Mansfield**	**8.19**	**54**	IAmb_Lg		06 03 23.9	
	comp=Z,57nm,0.8s						
PHWY	**Pilot Hill**	**8.59**	**313**	IAmb_Lg		06 03 35.8	
	comp=Z,19nm,0.8s						
L42A	**Oliver, Polo**	**8.60**	**41**	IAmb_Lg		06 03 29.2	
	comp=Z,45nm,0.8s						
N23A	**Red Feather La**	**8.64**	**310**	IAmb_Lg		06 03 44.8	
	comp=Z,31nm,0.9s						
I37A	**Lemond, Waseca**	**8.81**	**18**	IAmb_Lg		06 03 50.3	
	comp=Z,31nm,0.9s						
JFWS	**Jewell Farm**	**8.99**	**34**	IAmb_Lg		06 03 58.6	
	comp=Z,24nm,0.7s						
M44A	**Midewin, Midew**	**9.13**	**49**	IAmb_Lg		06 03 43.1	
	comp=Z,48nm,0.9s						
RSSD	**Black Hills**	**9.94**	**330**	IAmb_Lg		06 04 36.0	
	comp=Z,22nm,0.9s						

NNC ***07*** *06:00:13.0±3.6,54.°19N×86.°94E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=36.7km s-min=25.0km az=153.0, Suspected Mining explosion.*

IDC ***07*** *06:00:13.8±3.0,54.°62N×86.°39E, h0km, mb1 2.9/2, mb1mx2.8/52, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=23.0km s-min=14.5km az=50.0*

ISC 07 06:00:09.3±2.0, 53.°03N±0.°08×86.°1E±0.°1, h0km, n7, σ3°05/11, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**321**	*i*		06 07 57.6	
	baz=54,slow=327,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.20**	**321**	Pg	**Pn**	**06 00 34.2**	**+0.9**
	0.7nm,0.3s,baz=54,slow=17,SNR=15						
ZALV				Lg	Lg	06 00 50.4	
	1.4nm,0.3s,baz=51,slow=29,SNR=15						
KURK	**Kurchatov**	**5.17**	**246**	⇓Pn	**Pg**	**06 01 44.8**	**-3.5**
	1.4nm,0.8s						
KURK				⇑Sn	**Sg**	**06 02 58.6**	**+3.3**
	1.8nm,0.8s						
KURK				⇓Lg	Lg	06 03 28.7	
	5.7nm,0.9s						
KURBB	**Kurchatov Arra**	**5.27**	**246**	Pn	**Pg**	**06 01 48.0**	**-2.1**
	0.1nm,0.3s,baz=52,slow=14,SNR=14						
KURBB				Sn	**Sg**	**06 02 59.2**	**+0.9**
	0.0nm,0.3s,baz=46,slow=18,SNR=3.2						
KURBB				Lg	Lg	06 03 31.8	
	0.0nm,0.3s,baz=53,slow=33,SNR=8.5						
KURBB	**Kurchatov Arra**	**5.27**	**246**	⇑Pn	**Pg**	**06 01 47.6**	**-2.5**
	1.7nm,0.7s						
KURBB				⇑Sn	**Sg**	**06 02 58.4**	**0.0**
	6.0nm,0.8s						
KURBB				⇑Lg	Lg	06 03 32.3	
	11nm,0.8s						
MK31	**Makanchi Array**	**6.70**	**203**	⇓Pn	**Pb**	**06 02 08.1**	**+1.5**
	0.2nm,0.5s,baz=19,slow=11,SNR=4.0						
MK31				⇓Sn	**Sg**	**06 03 42.3**	**-2.0**
	0.7nm,0.6s,baz=22,slow=27,SNR=4.0						
MK31				⇑Lg	Lg	06 04 28.7	
	2.6nm,0.9s						
MKAR	**Makanchi Array**	**6.70**	**203**	Pn	**Pg**	**06 02 14.7**	**-2.8**
	0.1nm,0.3s,baz=19,slow=12,SNR=4.0						
MKAR				Sn	**Sg**	**06 03 49.2**	**+4.9**
	0.1nm,0.3s,baz=29,slow=28,SNR=6.4						
MKAR				Lg	Lg	06 04 36.6	
	0.1nm,0.3s,baz=266,slow=8.0,SNR=2.9						

IDC 07 06:02:32.5±1.3, 34.°79N×135.°16E, h389km±17km, mb2.5/2, mb1 2.9/5, mb1mx2.6/50, mbtmp3.4/5, Error ellipse: s-maj=41.3km s-min=21.3km az=109.0, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**3.04**	**54**	P	Pn	06 03 35.2	+0.1
	0.2nm,0.3s,baz=230,slow=9.6,SNR=9.8						
JNU	**Nakatsue**	**3.93**	**246**	P	Pn	06 03 43.5	+0.2
	0.8nm,0.3s,baz=90,slow=2.0,SNR=2.2						
USRK	**Ussuriysk Ar.**	**9.71**	**346**	P	Pn	06 04 46.4	-0.5
	baz=135,slow=9.7,SNR=6.5						
WRA	**Warramunga Arr**	**54.44**	**181**	P	P	06 11 21.2	-0.1
	0.2nm,0.4s,baz=355,slow=7.6,SNR=11						
YKA	**Yellowknife Ar**	**68.23**	**28**	P	P	06 12 52.0	0.0
	0.1nm,0.4s,baz=302,slow=5.8,SNR=3.3						

IDC ***07*** *06:09:54.5±1.7,41.°21N×126.°60E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/43, mbtmp3.9/6, Error ellipse: s-maj=84.6km s-min=19.5km az=61.0*

ISC 07 06:10:00.5±1.8, 42.°2N±0.°3×126.°7E±0.°5, h45km, n7, σ0°72/6, mb3.9/6, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**3.19**	**331**	⇓*e*P	Pn	06 10 55.1	+6.8
FITZ	**Fitzroy Crossi**	**22.18**	**183**	P	**P**	**06 14 52.4**	**-0.5**
	1.3nm,0.7s,baz=5.3,slow=9.4,SNR=3.1						
WRA	**Warramunga Arr**	**25.15**	**163**	P	**P**	**06 15 21.8**	**0.0**
	3.2nm,0.8s,baz=340,slow=11,SNR=25						
ASAR	**Alice Springs**	**28.59**	**166**	P	**P**	**06 15 52.1**	**-0.4**
	0.4nm,0.7s,baz=337,slow=6.5,SNR=6.2						
CMAR	**Chiang Mai Arr**	**30.57**	**300**	P	**P**	**06 16 10.8**	**+0.5**
	2.2nm,0.3s,baz=112,slow=6.9,SNR=4.4						
STKA	**Stephens Creek**	**38.59**	**159**	P	**P**	**06 17 20.0**	**+0.7**
	1.9nm,0.6s,baz=335,slow=4.5,SNR=4.8						
MKAR	**Makanchi Array**	**57.13**	**325**	P	**P**	**06 19 42.0**	**-0.6**
	0.8nm,0.8s,baz=125,slow=8.3,SNR=7.5						

IDC 07 06:18:02.4±8.7, 13.°77S×166.°86E, h207km±95km, mb3.4/4, mb1 3.5/5, mb1mx3.2/39, mbtmp3.9/5, Error ellipse: s-maj=81.4km s-min=54.3km az=138.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.26**	**183**	P	Pn	06 20 00.2	+1.0
	0.2nm,0.3s,baz=188,slow=12,SNR=1.7						
DZM				S	S	06 21 30.8	-1.6
	0.1nm,0.3s,baz=32,slow=24,SNR=1.5						
STKA	**Stephens Creek**	**29.32**	**228**	P	P	06 23 46.5	+0.6
	1.7nm,0.4s,baz=32,slow=9.4,SNR=5.4						
WRA	**Warramunga Arr**	**31.69**	**254**	P	P	06 24 06.7	-0.1
	0.4nm,0.6s,baz=82,slow=7.0,SNR=9.8						
ASAR	**Alice Springs**	**32.66**	**248**	P	P	06 24 14.9	-0.3
	1.3nm,0.5s,baz=74,slow=9.2,SNR=37						
MKAR	**Makanchi Array**	**96.24**	**317**	P	P	06 31 06.6	-0.5
	0.2nm,0.6s,baz=91,slow=5.2,SNR=2.4						

IDC 07 06:36:12.7±1.4, 60.°73S×32.°50W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=62.1km s-min=37.9km az=49.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**38.33**	**323**	P	P	06 43 36.1	+1.3
	1.2nm,0.8s,baz=169,slow=6.7,SNR=3.9						
LPAZ	**La Paz**	**51.22**	**314**	P	P	06 45 18.1	-0.3
	0.8nm,0.4s,baz=135,slow=5.7,SNR=11						
H10S2	**ASCENSION HYDR**	**53.35**	**22**	T	T	07 42 41.4	
	baz=29,slow=74,SNR=6.3						
H10S3	**ASCENSION HYDR**	**53.36**	**22**	T	T	07 42 41.4	
	baz=191,slow=74,SNR=14						
H10N1	**ASCENSION HYDR**	**54.47**	**22**	T	T	07 44 19.9	
	baz=190,slow=75,SNR=26						
H10N3	**ASCENSION HYDR**	**54.47**	**22**	T	T	07 44 16.9	
	baz=190,slow=75,SNR=41						
H10N2	**ASCENSION HYDR**	**54.49**	**22**	T	T	07 44 19.0	
	baz=190,slow=75,SNR=34						
TORD	**Torodi Ar. Bea**	**78.51**	**34**	P	P	06 48 15.6	+0.1
	0.7nm,0.7s,baz=186,slow=6.6,SNR=3.8						
ASAR	**Alice Springs**	**95.18**	**168**	P	P	06 49 39.0	+1.1
	0.2nm,0.8s,baz=180,slow=5.1,SNR=1.8						
YKA	**Yellowknife Ar**	**137.73**	**317**	PKP	PKPdf	06 55 35.5	-1.6
	0.1nm,0.6s,baz=134,slow=1.8,SNR=2.3						
ILAR	**Eielson Array**	**150.91**	**307**	PKPbc	PKPbc	06 56 04.0	-1.5
	0.9nm,0.7s,baz=147,slow=1.8,SNR=9.1						

IDC ***07*** *06:40:12.8±0.8, 38.°97N×144.°84E, h0km, mb3.7/15, mb1 3.9/18, mb1mx3.7/60, mbtmp3.7/18, ML2.9/3, Error ellipse: s-maj=21.5km s-min=16.8km az=137.0*

JMA ***07*** *06:40:17.2±0.2, 39.°27N×144.°26E, h50km, M3.8*

ISC 07 06:40:18.7±0.7, 39.°30N±0.°05×144.°25E±0.°06, h50km, n35, σ2°13/42, mb3.7/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.90**	**279**	P	**Pn**	**06 40 48.4**	**-0.3**
JTH	**Tanohata**	**1.95**	**290**	P	**Pn**	**06 40 49.0**	**-0.4**
JTH				S	**Sn**	**06 41 12.6**	**-0.1**
OFUJ	**Ofunato**	**2.02**	**265**	P	**Pn**	**06 40 49.6**	**-0.7**
JOM	**Ohasama**	**2.30**	**275**	P	**Pn**	**06 40 54.3**	**+0.2**
JOM				S	**Sn**	**06 41 21.2**	**0.0**
JANG	**Nango**	**2.37**	**298**	P	**Pn**	**06 40 54.5**	**-0.5**
JANG				S	**Sn**	**06 41 22.1**	**-0.7**
JMK	**Ichinoseki**	**2.38**	**263**	P	**Pn**	**06 40 54.9**	**-0.4**
JYK	**Kaneyama**	**3.05**	**264**	P	**Pn**	**06 41 04.6**	**+0.2**
JYK				S	**Sn**	**06 41 41.1**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.19**	**340**	P	**Pn**	**06 41 06.8**	**+0.5**
JNBK				S	**Sn**	**06 41 44.3**	**+1.2**
JOT	**Ohata**	**3.21**	**311**	P	**Pn**	**06 41 07.0**	**+0.4**
JOT				S	**Sn**	**06 41 43.5**	**-0.2**
JCH	**Churui**	**3.38**	**349**	P	**Pn**	**06 41 07.9**	**-1.0**
JCH				*e*S	**Sn**	**06 41 47.6**	**-0.2**
JFT	**Otama**	**3.55**	**241**	P	**Pn**	**06 41 10.4**	**-0.9**
JFT				S	**Sn**	**06 41 49.7**	**-2.3**
JAK	**Akkeshi**	**3.71**	**5**	P	**Pn**	**06 41 12.1**	**-1.3**
JAK				S	**Sn**	**06 41 54.0**	**-1.8**
NEM2	**Nemuro 2**	**4.22**	**15**	P	**Pn**	**06 41 18.1**	**-2.3**
NEM2				S	**Sn**	**06 42 04.2**	**-4.1**
JTKR	**Abashiri--Toko**	**4.68**	**357**	P	**Pn**	**06 41 26.0**	**-0.7**
JTKR				*e*S	**Sn**	**06 42 17.3**	**-2.3**
JHR	**Hokuryu**	**4.83**	**338**	P	**Pn**	**06 41 31.0**	**+2.2**
JHR				S	**Sn**	**06 42 25.8**	**+2.4**
ASAJ	**Asahikawa**	**4.97**	**346**	Pn	**Pn**	**06 41 32.2**	**+1.4**
	1.8nm,0.3s,baz=20,slow=16,SNR=2.3						
ASAJ				Sn	**Sn**	**06 42 18.7**	**-8.2**
	0.9nm,0.3s,baz=283,slow=15,SNR=1.5						
JRY	**Ryogami san**	**5.36**	**234**	P	**Pn**	**06 41 34.5**	**-1.7**
JRY				S	**Sn**	**06 42 32.5**	**-4.1**
MJAR	**Matsushiro Arr**	**5.51**	**242**	Pn	**Pn**	**06 41 38.1**	**-0.1**
	0.8nm,0.3s,baz=42,slow=16,SNR=12						
USRK	**Ussuriysk Ar.**	**10.39**	**302**	Pn	Pn	06 42 48.6	+3.7
	baz=96,slow=15,SNR=2.8						
KLR	**Kul'dur**	**13.36**	**322**	Pn	**P**	**06 43 29.8**	**-3.8**
	0.1nm,0.3s,baz=215,slow=12,SNR=3.2						
SEY	**Seymchan**	**24.17**	**9**	P	**P**	**06 45 32.7**	**+2.8**
	0.8nm,0.3s,baz=180,slow=7.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**42.09**	**311**	P	P	06 48 11.4	+5.9
	0.6nm,0.6s,baz=73,slow=9.7,SNR=1.8						
CMAR	**Chiang Mai Arr**	**44.23**	**255**	P	P	06 48 26.6	+3.4
	1.4nm,0.3s,baz=50,slow=8.4,SNR=1.8						
MKAR	**Makanchi Array**	**44.85**	**301**	P	P	06 48 32.6	+4.8
	0.2nm,0.5s,baz=81,slow=12,SNR=2.1						
ILAR	**Eielson Array**	**46.38**	**34**	P	**P**	**06 48 40.7**	**+1.0**
	0.9nm,0.7s,baz=264,slow=6.8,SNR=9.4						
KURBB	**Kurchatov Arra**	**46.41**	**307**	P	P	06 48 46.0	+6.0
	0.4nm,0.4s,baz=82,slow=8.7,SNR=1.7						
WRA	**Warramunga Arr**	**59.66**	**191**	P	**P**	**06 50 17.0**	**-0.8**
	0.4nm,0.6s,baz=9.1,slow=7.1,SNR=4.8						
RES	**Resolute Bay**	**59.84**	**15**	P	**P**	**06 50 20.6**	**+2.1**
	2.0nm,0.9s,baz=324,slow=5.9,SNR=6.2						
YKA	**Yellowknife Ar**	**60.72**	**31**	P	**P**	**06 50 26.0**	**+1.4**
	0.4nm,0.7s,baz=300,slow=6.6,SNR=6.7						
ASAR	**Alice Springs**	**63.38**	**191**	P	**P**	**06 50 42.5**	**-0.3**
	0.1nm,0.3s,baz=74,slow=9.3,SNR=5.0						
GEYT	**Alibeck**	**64.69**	**299**	P	P	06 50 57.3	+5.8
	2.0nm,0.5s,baz=129,slow=50,SNR=1.7						
FINES	**FINES Array B**	**67.84**	**333**	P	P	06 51 15.7	+4.5
	0.4nm,0.3s,baz=182,slow=36,SNR=1.0						
NVAR	**Mina Array Bea**	**71.85**	**55**	P	**P**	**06 51 36.6**	**0.0**
	0.6nm,0.9s,baz=282,slow=6.1,SNR=3.0						
PDAR	**Pinedale Array**	**74.49**	**47**	P	**P**	**06 51 52.0**	**-0.1**
	0.3nm,0.6s,baz=284,slow=1.9,SNR=4.5						
TXAR	**Lajitas Array**	**86.98**	**54**	P	**P**	**06 52 59.8**	**+1.0**
	0.1nm,0.5s,baz=298,slow=1.9,SNR=1.7						

IDC ***07*** *06:48:13.8±2.5,53.°61N×90.°77E, h0km, mb1 3.1/4, mb1mx3.0/44, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=24.3km s-min=18.6km az=11.0*

NNC ***07*** *06:48:14.5±2.9,53.°65N×90.°50E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=20.9km s-min=16.7km az=57.0, Suspected Mining explosion.*

ISC 07 06:48:11.3±1.6, 53.°9N±0.°1×90.°62E±0.°08, h0km, n9, σ1°56/14, 8C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.43**	**274**	*i*		07 14 00.0	
	baz=89,slow=327,SNR=6.7						
ZAA0	**Zalesovo Array**	**3.43**	**274**	⇑Pg	**Pg**	**06 49 15.0**	**-2.0**
	1.4nm,0.8s						
ZAA0				⇓Lg	Lg	06 50 03.8	
	9.8nm,1.0s						
ZALV	**Zalesovo Beam**	**3.43**	**274**	Pn	**Pb**	**06 49 12.2**	**-0.7**
	0.4nm,0.3s,baz=90,slow=17,SNR=7.6						
ZALV				Sn	**Sb**	**06 49 55.3**	**+0.1**
	0.5nm,0.3s,baz=99,slow=19,SNR=3.7						
ZALV				Lg	Lg	06 50 04.5	
	2.0nm,0.3s,baz=94,slow=26,SNR=18						
KURK	**Kurchatov**	**8.00**	**252**	⇑Pn	**Pn**	**06 50 10.6**	**+1.8**
	1.3nm,0.7s						
KURK				⇓Sn	**Sn**	**06 51 40.2**	**+0.4**
	6.4nm,0.7s						
KURK				⇑Lg	Lg	06 52 26.9	
	9.1nm,0.8s						
KURBB	**Kurchatov Arra**	**8.10**	**251**	Pn	**Pn**	**06 50 12.4**	**+2.4**
	0.1nm,0.3s,baz=65,slow=14,SNR=4.2						
KURBB				Sn	**Sn**	**06 51 43.4**	**+1.2**
	0.0nm,0.3s,baz=66,slow=26,SNR=3.9						
KURBB				Lg	Lg	06 52 29.8	
	0.0nm,0.3s,baz=67,slow=30,SNR=5.6						
KURBB	**Kurchatov Arra**	**8.10**	**251**	⇑Pn	**Pn**	**06 50 12.4**	**+2.4**
	1.5nm,0.6s						
KURBB				⇑Sn	**Sn**	**06 51 42.7**	**+0.6**
	18nm,0.8s						
KURBB				⇑Lg	Lg	06 52 28.9	
	24nm,0.7s						
MK31	**Makanchi Array**	**8.85**	**220**	⇑Pn	**Pn**	**06 50 22.0**	**+1.6**
	0.3nm,0.5s,baz=13,slow=13,SNR=3.4						
MK31				⇑Sn	**Sn**	**06 51 59.9**	**-0.9**
	1.1nm,0.6s						
MK31				⇓Lg	Lg	06 52 48.6	
	3.0nm,0.7s,baz=28,slow=30,SNR=4.6						
MKAR	**Makanchi Array**	**8.85**	**220**	Pn	**Pn**	**06 50 21.4**	**+1.0**
	0.1nm,0.3s,baz=38,slow=14,SNR=6.0						
MKAR				Sn	**Sn**	**06 51 59.8**	**-1.0**
	0.1nm,0.3s,baz=39,slow=28,SNR=3.4						
MKAR				Lg	Lg	06 52 48.5	
	0.1nm,0.3s,baz=53,slow=26,SNR=5.0						
SONM	**Songino Array**	**11.64**	**115**	Pn	**Pn**	**06 50 58.5**	**-0.2**
	0.2nm,0.3s,baz=306,slow=13,SNR=1.6						
SONM				Lg	Lg	06 54 06.4	
	baz=292,slow=31,SNR=3.4						

TAP 07 07:01:44.2, 23.°64N×121.°77E, h32km, ML2.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.22**	**288**	*e*P	Pb	07 01 50.9	0.0
	baz=282						
TEGC				S	Sn	07 01 56.0	+0.2
	baz=282						
EGFH	**Guangfu**	**0.32**	**275**	*e*P	Pb	07 01 52.0	0.0
	baz=279						
EGFH				*e*S	Sb	07 01 57.6	+0.2
	baz=279						
HGSD	**Ruisui**	**0.35**	**245**	*e*P	Pb	07 01 51.9	-0.6
	baz=241						
HGSD				*e*S	Sb	07 01 57.8	-0.5
	baz=241						
ESL	**Shilin**	**0.35**	**299**	*e*P	Pb	07 01 51.9	-0.7
	baz=299						
ESL				*e*S	Sb	07 01 57.6	-0.7
	baz=299						
EHY	**Hungye**	**0.43**	**252**	*e*P	Pb	07 01 53.3	-0.4
	baz=251						
EHY				*e*S	Sb	07 01 60.0	-0.3
	baz=251						
TWD	**Chiawan**	**0.47**	**340**	*e*P	Pb	07 01 53.7	-0.5
	baz=349						
TWD				S	Sb	07 02 00.8	-0.3
	baz=349						
YULB	**Yu-li**	**0.50**	**240**	P	Pb	07 01 54.2	-0.6
	baz=234						
YULB				*e*S	Sb	07 02 01.6	-0.4
	baz=234						
EYUL	**Yuli**	**0.51**	**235**	*e*S	Sn	07 02 02.8	-0.1
	baz=229						
NACB	**Ninganchiao**	**0.55**	**343**	*e*P	Pb	07 01 54.9	-0.7
	baz=348						
NACB				*e*S	Sb	07 02 02.9	-0.6
	baz=348						
VWDT	**VWDT**	**0.59**	**281**	P	Pb	07 01 55.9	-0.3
	baz=281						
ETLH	**Xiulin Townshi**	**0.62**	**335**	*e*P	Pb	07 01 56.2	-0.6
	baz=335						
ETLH				*e*S	Sb	07 02 04.8	-0.6
	baz=335						
OWD	**Renai**	**0.63**	**300**	*i* P	Pb	07 01 56.3	-0.6
	baz=300						
OWD				*e*S	Sb	07 02 05.2	-0.5
	baz=300						
WHF	**Hehuan Shan**	**0.68**	**317**	*e*P	Pb	07 01 57.2	-0.9
	baz=309						
WHF				*e*S	Sb	07 02 07.3	-0.1
	baz=309						
CHGB	**Renai**	**0.69**	**307**	*i* P	Pn	07 01 57.5	-0.5
	baz=307						
CHGB				*e*S	Sb	07 02 07.3	0.0
	baz=307						
WUSB	**Renai**	**0.69**	**300**	P	Pn	07 01 57.5	-0.4
	baz=300						
SSLB	**Suanglung**	**0.76**	**281**	*e*P	Pn	07 01 58.1	-0.7
	baz=288						
FUSS	**Fushou**	**0.77**	**321**	*e*P	Pn	07 01 57.8	-1.4
	baz=322						
FUSS				*e*S	Sb	07 02 08.3	-1.4
	baz=322						
EDH	**Donghe**	**0.79**	**213**	*e*S	Sn	07 02 07.5	-2.4
	baz=203						
NNSB	**Datong**	**0.86**	**336**	*e*P	Pn	07 02 00.1	-0.1
	baz=336						
NNSB				*e*S	Sn	07 02 11.3	-0.5
	baz=336						
STYH	**Taoyuan**	**1.03**	**243**	*e*P	Pn	07 02 01.1	-1.3
	baz=233						

JMA 07 07:02:34.8±0.1, 24.°88N×123.°38E, h35km, M1.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.54**	**219**	P	Pn	07 02 45.6	-0.3
IRIF	**Iriomote-Funau**	**0.63**	**150**	P	Pn	07 02 47.0	-0.2
IRIF				S	Sn

PB11	**IPOC Station P**	**1.04 310**			**Pn**	**07 03 28.1**	**-0.7**			
PB11	**IPOC Station P**	**1.04 310**	⇓	*iP*	**Pn**	**07 03 28.6**	**-0.2**			
PB11				*i* S	**Sn**	**07 03 44.8**	**-0.6**			
PB11				IAML		07 03 45.9				
	comp=E,37µm,0.6s									
PB11	**IPOC Station P**	**1.04 310**		*eP*	**Pn**	**07 03 28.0**	**-0.7**			
PB11				*eS*	**Sn**	**07 03 45.4**	**+0.1**			
PB11				IAML		07 03 47.5				
	comp=Z,7µm,0.3s									
TA02	**Huaiquique**	**1.25 277**			**Pn**	**07 03 30.2**	**-0.6**			
TA02	**Huaiquique**	**1.25 277**	⇑	*iP*	**Pn**	**07 03 30.6**	**-0.3**			
TA02				*i* S	**Sn**	**07 03 48.5**	**-0.6**			
TA02				IAML		07 03 53.2				
	comp=E,36µm,0.1s									
TA02	**Huaiquique**	**1.25 277**		*eP*	**Pn**	**07 03 30.0**	**-0.8**			
TA02				*eS*	**Sn**	**07 03 49.1**	**+0.1**			
TA02				IAML		07 03 53.7				
	comp=Z,10µm,0.1s									
TA01	**Diego Aracena**	**1.29 264**			**Pn**	**07 03 30.2**	**-1.1**			
TA01	**Diego Aracena**	**1.29 264**	⇑	*iP*	**Pn**	**07 03 30.7**	**-0.6**			
TA01				*i* S	**Sn**	**07 03 48.7**	**-1.1**			
TA01				IAML		07 03 49.8				
	comp=N,9µm,0.5s									
TA01	**Diego Aracena**	**1.29 264**		*eP*	**Pn**	**07 03 30.0**	**-1.3**			
PATCX	**Punta Patache**	**1.32 253**			**Pn**	**07 03 31.0**	**-0.7**			
PATCX	**Punta Patache**	**1.32 253**	⇑	*iP*	**Pn**	**07 03 31.3**	**-0.3**			
PATCX				*i* S	**Sn**	**07 03 50.0**	**-0.5**			
PATCX				IAML		07 03 54.7				
	comp=N,15µm,0.3s									
PATCX	**Punta Patache**	**1.32 253**		*eP*	**Pn**	**07 03 31.3**	**-0.3**			
PATCX				*eP*	**P**	**07 03 31.4**	**-0.2**			
PATCX				*eP*	**P**	**07 03 31.4**	**-0.2**			
PATCX				IAML		07 03 56.5				
	comp=Z,11µm,0.5s									
PB02	**IPOC Station P**	**1.34 229**			**Pn**	**07 03 32.0**	**0.0**			
PB02	**IPOC Station P**	**1.34 229**	⇑	*iP*	**Pn**	**07 03 32.0**	**0.0**			
PB02				*i* S	**Sn**	**07 03 50.9**	**-0.2**			
PB02				IAML		07 03 55.3				
	comp=N,11µm,0.1s									
PB02	**IPOC Station P**	**1.34 229**		*eP*	Pn	07 03 22.6	-9.4			
PB02				*eP*		07 03 32.0				
PB02				*eS*	**Sn**	**07 03 52.5**	**+1.4**			
PB02				IAML		07 03 55.0				
	comp=Z,20µm,0.3s									
PB09	**IPOC Station P**	**1.41 197**			**Pn**	**07 03 33.2**	**+0.3**			
PB09	**IPOC Station P**	**1.41 197**	⇑	*iP*	**Pn**	**07 03 33.6**	**+0.7**			
PB09				*i* S	**Sn**	**07 03 53.5**	**+0.9**			
PB09				IAML		07 03 58.6				
	comp=N,30µm,1.0s									
PB09	**IPOC Station P**	**1.41 197**		*eP*	**Pn**	**07 03 33.0**	**+0.2**			
PB09				*eS*	**Sn**	**07 03 54.7**	**+2.1**			
PB07	**IPOC Station P**	**1.63 218**			**Pn**	**07 03 35.0**	**-0.5**			
PB07	**IPOC Station P**	**1.63 218**	⇑	*iP*	**Pn**	**07 03 35.3**	**-0.1**			
PB07				*i* S	**Sn**	**07 03 56.8**	**-0.5**			
PB07				IAML		07 04 00.2				
	comp=N,4µm,0.3s									
PB07	**IPOC Station P**	**1.63 218**		*eP*	**Pn**	**07 03 35.4**	**-0.1**			
PB07				*eS*	**Sn**	**07 03 58.1**	**+0.9**			
LVC	**Limon Verde**	**2.16 183**		P	**Pn**	**07 03 43.6**	**+1.3**			
	comp=N,88nm,0.3s,baz=6.8,slow=8.7,SNR=237									
LVC				S	**Sn**	**07 04 10.4**	**+1.0**			
	comp=N,158nm,0.3s,baz=139,slow=23,SNR=39									
LVC	**Limon Verde**	**2.16 183**	⇑	*iP*	**Pn**	**07 03 43.5**	**+1.3**			
LVC				*i* S	**Sn**	**07 04 10.9**	**+1.5**			
LVC	**Limon Verde**	**2.16 183**		*eP*	**Pn**	**07 03 43.0**	**+0.7**			
LVC				*eS*	**Sn**	**07 04 06.1**	**-3.3**			
LVC	**Limon Verde**	**2.16 183**		*eP*	**Pn**	**07 03 43.6**	**+1.3**			
PB16	**IPOC Station P**	**2.19 342**			**Pn**	**07 03 43.8**	**+0.9**			
PB16	**IPOC Station P**	**2.19 342**	⇑	*iP*	**Pn**	**07 03 44.2**	**+1.3**			
PB16				*i* S	**Sn**	**07 04 11.6**	**+1.1**			
PB16				IAML		07 04 15.5				
	comp=E,3µm,0.4s									
PB16	**IPOC Station P**	**2.19 342**		*eP*	**Pn**	**07 03 44.0**	**+1.1**			
PB16				*eS*	**Sn**	**07 04 08.6**	**-1.8**			
PB04	**IPOC Station P**	**2.26 213**			**Pn**	**07 03 43.6**	**+0.2**			
PB04	**IPOC Station P**	**2.26 213**	⇑	*iP*	**Pn**	**07 03 42.6**	**-0.7**			
PB04				*i* S	**Sn**	**07 04 11.0**	**-0.4**			
PB04				IAML		07 04 21.6				
	comp=N,3µm,0.4s									
PB04	**IPOC Station P**	**2.26 213**		*eP*	**Pn**	**07 03 43.0**	**-0.4**			
PB04				*eP*		07 03 43.6				
PB04				*eS*	**Sn**	**07 04 11.9**	**+0.5**			
PB04				IAML		07 04 22.6				
	comp=Z,2µm,0.3s									
PB12	**IPOC Station P**	**2.31 321**		Pn	**Pn**	**07 03 43.4**	**-0.6**			
PB12	**IPOC Station P**	**2.31 321**	⇑	*iP*	**Pn**	**07 03 43.3**	**-0.6**			
PB12				*i* S	**Sn**	**07 04 11.8**	**-0.7**			
PB12				IAML		07 04 18.2				
	comp=E,7µm,0.3s									
PB12	**IPOC Station P**	**2.31 321**		*eP*	**Pn**	**07 03 43.0**	**-1.0**			
PB12				*eS*	**Sn**	**07 04 11.1**	**-1.3**			
PB12				IAML		07 04 19.0				
	comp=Z,4µm,0.4s									
PB06	**IPOC Station P**	**2.37 197**			**Pn**	**07 03 45.1**	**+0.4**			
PB06	**IPOC Station P**	**2.37 197**		*eP*	**Pn**	**07 03 45.1**	**+0.4**			
PB06				*i* S	**Sn**	**07 04 13.4**	**-0.4**			
PB06				IAML		07 04 19.5				
	comp=E,3µm,0.6s									
PB06	**IPOC Station P**	**2.37 197**		*eP*	**Pn**	**07 03 44.9**	**+0.2**			
PB06				*eP*		07 03 45.3				
PB06				*eS*	**Sn**	**07 04 06.6**	**-7.1**			
PB06				*eS*		07 04 14.1				
PB06				IAML		07 04 22.1				
	comp=Z,2µm,0.4s									
AP01	**Chacalluta**	**2.52 325**			**Pn**	**07 03 45.7**	**-0.8**			
AP01	**Chacalluta**	**2.52 325**	⇑	*iP*	**Pn**	**07 03 46.1**	**-0.5**			
AP01				*i* S	**Sn**	**07 04 16.9**	**-0.1**			
AP01	**Chacalluta**	**2.52 325**		*eP*	**Pn**	**07 03 46.0**	**-0.5**			
AP01				IAML		07 04 30.6				
	comp=Z,7µm,0.6s									
PB15	**IPOC Station P**	**2.83 193**			**Pn**	**07 03 50.3**	**-0.5**			
PB15	**IPOC Station P**	**2.83 193**		*eP*	**Pn**	**07 03 50.5**	**-0.3**			
PB15	**IPOC Station P**	**2.83 193**		*eP*	**Pn**	**07 03 51.0**	**+0.3**			
PB15				*eS*	**Sn**	**07 04 17.6**	**-6.9**			
PB15				IAML		07 04 35.8				
	comp=Z,4µm,0.4s									
PB10	**IPOC Station P**	**3.46 208**			**Pn**	**07 03 57.4**	**-1.6**			
PB10	**IPOC Station P**	**3.46 208**		*eP*	**Pn**	**07 03 57.8**	**-1.2**			
PB10	**IPOC Station P**	**3.46 208**		*eP*	**Pn**	**07 03 58.0**	**-1.0**			
PB10				*eS*	**Sn**	**07 04 39.4**	**+0.1**			
YJA	**Yavi**	**3.52 120**		*eP*	**Pn**	**07 04 03.0**	**+2.8**			
LPAZ	**La Paz**	**4.18 9**		P	**Pn**	**07 04 11.3**	**+2.1**			
	comp=Z,34nm,0.3s,baz=180,slow=5.9,SNR=647									
LPAZ	**La Paz**	**4.18 9**			**Pn**	**07 04 10.4**	**+1.2**			
LPAZ	**La Paz**	**4.18 9**		*eP*	**Pn**	**07 04 11.5**	**+2.3**			
LPAZ	**La Paz**	**4.18 9**		*eP*	**Pn**	**07 04 11.0**	**+1.8**			
HJA	**Humahuaca**	**4.19 132**		*eP*	**Pn**	**07 04 06.6**	**-2.4**			
PB14	**IPOC Station P**	**4.42 199**		*eP*	**Pn**	**07 04 16.1**	**+4.0**			
PB14	**IPOC Station P**	**4.42 199**		*eS*	**Sn**	**07 05 06.1**	**+3.3**			
PB14				IAML		07 05 15.0				
	comp=Z,1µm,0.7s									
GO02	**Mina Guanaco**	**4.76 189**		*eP*	**Pn**	**07 04 15.8**	**-0.8**			
AC01	**Pan de Azucar**	**5.92 196**		Pn	**Pn**	**07 04 29.1**	**-2.9**			
AC02	**Maricunga**	**6.38 183**		*eS*	Sn	07 06 05.1	+15			
GO03	**Copiap**	**7.24 190**		*eS*	**Sn**	**07 06 10.0**	**-0.8**			
SIV	**San Ignacio**	**8.58 60**		P	**Pn**	**07 05 05.9**	**-2.3**			
	comp=Z,18nm,0.3s,baz=248,slow=10,SNR=513									
PTLB	**Pontes e Lacer**	**10.45 63**		*eP*	**Pn**	**07 05 32.3**	**-1.3**			
ETMB	**Extrema**	**10.85 14**		*eP*	**Pn**	**07 05 36.6**	**-2.4**			
VILB	**Vilhena**	**11.10 49**		*eP*	**Pn**	**07 05 40.5**	**-1.9**			
NNA	**Nana**	**11.40 316**		P	**Pn**	**07 05 43.8**	**-2.6**			
	comp=Z,1.5nm,0.3s,baz=125,slow=8.4,SNR=2.7									
CPUP	**Villa Florida**	**12.06 121**		P	**Pn**	**07 05 54.1**	**-0.8**			
	comp=Z,1.4nm,0.3s,baz=306,slow=12,SNR=80									
CPUP	**Villa Florida**	**12.06 121**		Pn	**Pn**	**07 05 53.5**	**-1.5**			
CPUP	**Villa Florida**	**12.06 121**		*eP*	**Pn**	**07 05 54.3**	**-0.7**			
AQDB	**Aquidauana**	**12.29 92**		Pn	**Pn**	**07 05 54.3**	**-3.7**			
AQDB	**Aquidauana**	**12.29 92**		*eP*	**Pn**	**07 05 55.9**	**-2.1**			
MT02	**Curacav**	**12.94 189**			**Pn**	**07 06 06.4**	**-0.1**			
MT05	**Renca**	**13.02 187**			**Pn**	**07 06 06.1**	**-1.4**			
MT03	**Universidad Ad**	**13.09 186**			**Pn**	**07 06 07.6**	**-1.0**			
CZSB	**Cruzeiro do Su**	**13.19 343**		*eP*	**Pn**	**07 06 10.5**	**+0.7**			
SALV	**Santo Antonio**	**13.25 72**		*eP*	**Pn**	**07 06 08.3**	**-2.4**			
LMEL	**Las Melosas**	**13.41 185**			**Pn**	**07 06 11.3**	**-1.5**			
MT09	**Talagante**	**13.43 188**			**Pn**	**07 06 12.2**	**-0.7**			
PP1B	**Ponte de Pedra**	**13.47 80**		*eP*	**Pn**	**07 06 11.3**	**-2.1**			
MT01	**Popeta**	**13.55 189**			**Pn**	**07 06 13.6**	**-0.8**			
BO01	**Tunca**	**14.04 188**		Pn	**Pn**	**07 06 19.6**	**-1.2**			
ITQB	**Itaqui**	**14.36 132**		*eP*	**Pn**	**07 06 25.5**	**+0.7**			
PDRB	**Porto dos Gac**	**14.54 55**		*eP*	**Pn**	**07 06 23.4**	**-3.9**			
ML02	**Panimavida**	**15.44 188**			**Pn**	**07 06 36.9**	**-1.6**			
ML02				IAmb	IAmb	07 06 43.4				
	comp=Z,68nm,0.9s									
CLDB	**Colider**	**15.72 55**		*eP*	**Pn**	**07 06 41.2**	**-0.8**			
PTGB	**Pitanga**	**16.04 108**		*eP*	**Pn**	**07 06 45.7**	**-0.3**			
PCMB	**Pacaembu**	**16.42 97**		*eP*	**Pn**	**07 06 50.1**	**-0.7**			
ITAB	**Concordia**	**16.68 117**		*eP*	**Pn**	**07 06 53.8**	**-0.1**			
CPSB	**Cacapava Do Su**	**17.05 129**		*eP*	**Pn**	**07 06 57.8**	**-0.5**			
ITRB	**Iturama**	**17.35 91**		*eP*	**P**	**07 07 01.7**	**0.0**			
PLTB	**Pedras Altas**	**17.69 133**		*eP*	**P**	**07 07 05.2**	**-0.2**			
FRTB	**Fartura**	**18.09 103**		*eP*	**P**	**07 07 09.7**	**-0.2**			
NPGB	**Novo Progresso**	**18.63 46**		*eP*	**P**	**07 07 14.2**	**-1.7**			
SNDB	**Serra Nova Dou**	**18.79 66**		*eP*	**P**	**07 07 17.0**	**-0.6**			
TIJ01	**Guaruva-PR**	**18.88 109**		*eP*	**P**	**07 07 19.5**	**+0.9**			
MACA	**Manacapuru-AM**	**18.91 26**		*eP*	**P**	**07 07 17.8**	**-1.0**			
BB19B	**Bebedouro**	**18.98 95**		*eP*	**P**	**07 07 19.3**	**-0.3**			
MCRA	**Macar, Loja**	**19.31 324**		P	**P**	**07 07 21.5**	**-1.8**			
MCRA				IAmb	IAmb	07 07 29.5				
	comp=Z,18nm,0.8s									
LR03	**Panguipulli**	**19.37 188**		P	**P**	**07 07 21.2**	**-2.5**			
LR03				IAmb	IAmb	07 07 37.7				
	comp=Z,54nm,1.4s									
IPMB	**Ipameri, GO**	**19.60 86**		*eP*	**P**	**07 07 25.9**	**-0.5**			
BOSC	**San Juan Bosco**	**19.61 330**		P	**P**	**07 07 26.3**	**-0.3**			
BOSC				IAmb	IAmb	07 07 32.1				
	comp=Z,35nm,0.7s									
LR04	**Corral**	**19.78 191**		P	**P**	**07 07 25.4**	**-2.6**			
RCLB	**Rio Claro- Sao**	**19.90 100**		*eP*	**P**	**07 07 29.3**	**-0.4**			
PET01	**Itanhaem-SP**	**20.27 105**		*eP*	**P**	**07 07 34.3**	**+0.8**			
PLCA	**Paso Flores**	**20.28 184**		P	**P**	**07 07 34.5**	**+0.8**			
	comp=Z,17nm,0.8s,baz=10,slow=12,SNR=24									
PLCA				PcP	**PcP**	**07 11 43.0**	**+0.3**			
	comp=Z,3.6nm,0.8s,baz=350,slow=2.1,SNR=5.0									
PLCA	**Paso Flores**	**20.28 184**		P	**P**	**07 07 33.4**	**-0.2**			
PLCA				IAmb	IAmb	07 07 35.7				
	comp=Z,25nm,0.9s									
PLCA	**Paso Flores**	**20.28 184**		*eP*	**P**	**07 07 34.9**	**+1.3**			
BDFB	**Brasilia**	**20.33 80**		P	**P**	**07 07 33.3**	**-1.1**			
	comp=Z,5.4nm,0.6s,baz=257,slow=11,SNR=14									
BDFB				LR	LR	07 17 22.2				
	comp=Z,235nm,19.3s,baz=174,slow=42									
BDFB	**Brasilia**	**20.33 80**		P	**P**	**07 07 32.6**	**-1.8**			
BDFB	**Brasilia**	**20.33 80**		*eP*	**P**	**07 07 33.6**	**-0.8**			
ITTB	**Itaituba**	**20.42 40**		*eP*	**P**	**07 07 33.8**	**-1.5**			
VAO	**Valinhos**	**20.45 101**		*eP*	**P**	**07 07 34.7**	**-0.8**			
PEXB	**Peixe**	**21.34 70**		*eP*	**P**	**07 07 44.1**	**-1.0**			
PARB	**Paraibuna**	**21.70 102**		*eP*	**P**	**07 07 48.2**	**-0.8**			
TULM	**Tulcn-Chalpat**	**22.79 336**		P	**P**	**07 08 00.4**	**-0.2**			
TULM				IAmb	IAmb	07 08 29.1				
	comp=Z,21nm,0.8s									
GCUF	**Volcan Galeras**	**23.10 338**		*eP*	**P**	**07 08 04.6**	**+1.0**			
GUVC	**San Jose del G**	**23.15 350**		*eP*	**P**	**07 08 03.6**	**+0.1**			
MAN01	**Angra dos Reis**	**23.21 100**		*eP*	**P**	**07 08 04.6**	**+0.5**			
PRPB	**Parauapebas**	**23.25 55**		*eP*	**P**	**07 08 03.1**	**-1.5**			
GARC	**Garzon, Huila**	**23.42 343**		*eP*	**P**	**07 08 06.3**	**-0.1**			
SMTB	**Santa Maria do**	**23.50 64**		*eP*	**P**	**07 08 06.2**	**-0.6**			
VAS01	**Vassouras-RJ**	**23.69 99**		*eP*	**P**	**07 08 07.9**	**-0.5**			
DIAM	**Diamantina, MG**	**23.80 89**		*eP*	**P**	**07 08 09.1**	**-0.6**			
JANB	**Januaria**	**23.92 81**		*eP*	**P**	**07 08 10.2**	**-0.5**			
BOAV	**Boa Vista**	**24.10 21**		*eP*	**P**	**07 08 11.7**	**-0.5**			
POPC	**Popayan, Colom**	**24.11 340**		*eP*	**P**	**07 08 14.2**	**+1.8**			
SDBA	**SAO DESIDERIO**	**24.25 74**		*eP*	**P**	**07 08 12.0**	**-1.7**			
PTGC	**Puerto Gaitan,**	**24.70 352**		*eP*	**P**	**07 08 17.8**	**+0.2**			
ORTC	**Ortega, Tolima**	**25.01 345**		*eP*	**P**	**07 08 21.0**	**+0.6**			
YOTC	**Yotoco, Valle**	**25.37 342**		*eP*	**P**	**07 08 24.0**	**+0.1**			
CHIC	**Chingaza**	**25.38 348**		*eP*	**P**	**07 08 24.4**	**+0.1**			
ROSC	**El Rosal**	**25.70 347**		P	**P**	**07 08 28.0**	**+0.9**			
	comp=Z,5.8nm,0.4s,baz=282,slow=3.6,SNR=3.8									
ROSC	**El Rosal**	**25.70 347**		IAmb	IAmb	07 08 31.2				
	comp=Z,14nm,1.1s									
MCPB	**Macapa, AP**	**25.82 41**		*eP*	**P**	**07 08 29.6**	**+1.8**			
SJMB	**Sao Joao De Ma**	**26.07 91**		*eP*	**P**	**07 08 29.4**	**-0.7**			
PLMC	**San Jos del P**	**26.23 343**		*eP*	**P**	**07 08 31.3**	**-0.2**			
ALF01	**Guarapari-ES**	**26.29 95**		*eP*	**P**	**07 08 31.6**	**-0.4**			
GUY2C	**Guyana, Caldas**	**26.30 345**		*eP*	**P**	**07 08 33.3**	**+0.6**			
SPBC	**San Pablo de B**	**26.44 348**		*eP*	**P**	**07 08 32.9**	**-0.6**			
RUSC	**La Rusia**	**26.50 350**		*eP*	**P**	**07 08 35.0**	**+0.6**			
NORC	**Norcasia**	**26.52 346**		*eP*	**P**	**07 08 33.6**	**-0.5**			
RIB01	**Linhares ES**	**26.73 93**		*eP*	**P**	**07 08 35.8**	**-0.2**			
TMAB	**Tom-Au,PA,Br**	**27.04 51**		*eP*	**P**	**07 08 38.6**	**-0.1**			
CBOC	**Ciudad Bolivar**	**27.08 344**		*eP*	**P**	**07 08 39.4**	**+0.1**			
NAN01	**Guarapari, ES**	**27.20 89**		*eP*	**P**	**07 08 39.5**	**-0.8**			
BARC	**Barichara**	**27.20 350**		*eP*	**P**	**07 08 37.3**	**-3.1**			
HELC	**Santa Helena**	**27.27 345**		*eP*	**P**	**07 08 40.6**	**-0.6**			
GUA01	**Guaratinga, BA**	**27.75 87**		*eP*	**P**	**07 08 45.5**	**+0.4**			
ZARC	**Zaragoza, Cauc**	**28.39 347**		P	**P**	**07 08 48.8**	**-1.9**			
ZARC	**Zaragoza, Cauc**	**28.39 347**		*eP*	**P**	**07 08 48.4**	**-2.4**			
UREC	**San Jos de Ur**	**28.78 346**		*eP*	P	07 08 44.6	-10			
OCAC	**Ocana**	**28.84 351**		*eP*	**P**	**07 08 52.4**	**-2.5**			
NBPN	**Ponto Novo - B**	**29.11 75**		*eP*	**P**	**07 08 56.4**	**-0.9**			
SDV	**Santo Domingo**	**29.20 356**		P	**P**	**07 08 57.3**	**-0.8**			
	comp=Z,2.1nm,0.3s,baz=139,slow=2.3,SNR=4.1									
SDV	**Santo Domingo**	**29.20 356**		*eP*	**P**	**07 08 57.5**	**-0.6**			
NBPS	**Pedro II - PI**	**31.03 63**		*eP*	**P**	**07 09 14.0**	**-0.2**			
NBLA	**Lagarto - SE**	**31.25 77**		*eP*	**P**	**07 09 14.8**	**-1.3**			
NBMA	**Muriti-CE**	**31.85 70**		*eP*	**P**	**07 09 21.3**	**-0.1**			
NBPB	**Pedra_Branca-C**	**32.01 66**		*eP*	**P**	**07 09 21.7**	**-1.1**			
OBIP	**Obispado Ponce**	**38.30 3**		P	**P**	**07 10 15.1**	**-1.5**			
PDPR	**Patillas Dam,**	**38.32 4**		P	**P**	**07 10 14.3**	**-2.3**			
PDPR				IAmb	IAmb	07 10 16.3				
	comp=Z,18nm,0.8s									
CELP	**Cerrillos**	**38.34 3**		P	**P**	**07 10 15.2**	**-1.6**			
GCPR	**Guaynabo City**	**38.60 4**		P	**P**	**07 10 16.9**	**-2.2**			
GCPR				IAmb	IAmb	07 10 18.1				
	comp=Z,17nm,0.9s									
DR12	**Loma Pena Alta**	**38.99 359**		P	**P**	**07 10 20.1**	**-2.3**			
PETF	**Flores**	**42.49 329**		P	**P**	**07 10 50.2**	**-0.9**			
PETF				IAmb	IAmb	07 10 54.1				
	comp=Z,13nm,0.9s									
CMIG	**Matas Romero**	**45.23 324**		P	**P**	**07 11 14.0**	**+0.9**			
	comp=Z,2.3nm,0.8s,baz=201,slow=4.3,SNR=5.4									
DWPF	**Disney Wildern**	**49.78 345**		P	**P**	**07 11 48.0**	**-0.1**			
	baz=164									
TIGA	**Tifton**	**53.50 344**		P	**P**	**07 12 15.5**	**-0.2**			
	baz=163									
BRAL	**Brewton**	**54.22 341**		P	**P**	**07 12 20.0**	**-1.0**			
	baz=159									
NHSC	**New Hope**	**54.34 348**		P	**P**	**07 12 22.4**	**+0.6**			
	baz=167									
Y57A	**Sumter**	**55.27 348**		P	**P**	**07 12 28.0**	**-0.4**			
GOGA	**Godfrey**	**55.35 345**		P	**P**	**07 12 28.5**	**-0.5**			
	baz=163									
BIRD	**Birdtown, Kers**	**55.89 348**		P	**P**	**07 12 32.3**	**-0.6**			
LRAL	**Lakeview Retre**	**55.94 342**		P	**P**	**07 12 32.5**	**-0.7**			
	baz=159									
KMSC	**Kings Mountain**	**56.54 348**		P	**P**	**07 12 37.2**	**-0.3**			
KMSC				IAmb	IAmb	07 12 38.6				
	comp=Z,13nm,0.8s									
KMSC	**Kings Mountain**	**56.54 348**		P	**P**	**07 12 37.6**	**+0.1**			
	baz=166									
833A	**Chaparral WMA,**	**56.78 328**		P	**P**	**07 12 40.1**	**+0.8**			
	baz=145									
NATX	**Nacogdoches**	**57.52 334**		P	**P**	**07 12 45.6**	**+1.1**			
	baz=151									
SWET	**Sewanee**	**57.69 343**		P	**P**	**07 12 44.8**	**-0.8**			
U54A	**Nelsons Funny**	**57.97 348**		P	**P**	**07 12 47.1**	**-0.5**			
OXF	**Oxford**	**58.05 340**		P	**P**	**07 12 48.1**	**-0.1**			
	baz=157									
BLA	**Blacksburg**	**58.38 349**		P	**P**	**07 12 50.4**	**0.0**			
	baz=167									
WHTX	**Lake Whitney,**	**58.92 332**		P	**P**	**07 12 54.6**	**+0.4**			
	baz=148									
WVT	**Waverly**	**59.07 342**		P	**P**	**07 12 54.4**	**-0.8**			
	baz=159									
S54A	**Dingess, Beckl**	**59.11 348**		P	**P**	**07 12 55.5**	**0.0**			
W41B	**Gary Mavity, V**	**59.62 338**		P	**P**	**07 12 58.7**	**-0.3**			
	baz=154									
T47A	**Sharon Grove**	**59.67 343**		P	**P**	**07 12 58.8**	**-0.5**			
TXAR	**Lajitas Array**	**59.82 325**		P	**P**	**07 13 00.9**	**+0.3**			
	comp=Z,0.5nm,0.6s,baz=148,slow=9.2,SNR=4.3									
TXAR				pP	**pP**	**07 13 30.5**	**+1.5**			
	comp=Z,1.3nm,0.9s,baz=147,slow=7.4,SNR=6.2									
Q56A	**Snyder Ridge,**	**59.96 351**		P	**P**	**07 13 01.7**	**-0.4**			
Q56A				IAmb	IAmb	07 13 02.9				
	comp=Z,13nm,0.7s									
W39A	**Magazine**	**60.20 337**		P	**P**	**07 13 03.4**	**+0.5**			
	baz=153									
ABTX	**Abilene, Hawle**	**60.45 330**		P	**P**	**07 13 04.9**	**+0.2**			
	baz=147									
MCWV	**Mont Chateau**	**60.67 350**		P	**P**	**07 13 06.5**	**+0.5**			
	baz=168									
U40A	**Yellville**	**60.89 338**		P	**P**	**07 13 07.3**	**-0.4**			
	baz=154									
P52A	**Corning**	**61.04 348**		P	**P**	**07 13 08.2**	**-0.4**			
	baz=166,SNR=5.1									
VNA3	**Neumayer Olymp**	**61.05 161**		P	**P**	**07 13 09.5**	**+1.2**			
O56A	**Blue Knob Stat**	**61.07 351**		P	**P**	**07 13 09.7**	**+0.8**			
	baz=170									
O53A	**New Philadelph**	**61.47 349**		P	**P**	**07 13 11.4**	**-0.1**			
	baz=167,SNR=5.5									
P49A	**Miami Univ. Ec**	**61.49 346**		P	**P**	**07 13 10.7**	**-0.9**			
	baz=163									
TUL1	**Leonard**	**61.59 335**		P	**P**	**07 13 12.3**	**-0.1**			
	baz=151									
VNA2	**Neumayer--Watz**	**61.62 161**		P	**P**	**07 13 13.3**	**+1.2**			
	baz=301,slow=7.0									
ACSO	**Alum Creek Sta**	**61.79 348**		P	**P**	**07 13 13.0**	**-0.6**			
	baz=165,SNR=5.8									
CCM	**Cathedral Cave**	**61.89 340**		P	**P**	**07 13 14.0**	**-0.4**			
	baz=156									
N54A	**Moraine State**	**61.96 350**		P	**P**	**07 13 15.2**	**+0.4**			
N54A	**Moraine State**	**61.96 350**		P	**P**	**07 13 15.0**	**+0.3**			
	baz=168									
S39A	**Bolivar**	**62.26 338**		P	**P**	**07 13 16.0**	**-0.8**			
O48B	**Farmland**	**62.28 346**		P	**P**	**07 13 16.1**	**-0.8**			
	baz=163,SNR=6.0									
M54A	**Oil Creek Stat**	**62.45 351**		P	**P**	**07 13 18.3**	**+0.3**			
	baz=168									
M53A	**WI Miller and**	**62.54 350**		P	**P**	**07 13 18.6**

ELK	**Elko**	**74.61**	**325**	P	**P**	**07 14 34.0 0.0**
NVAR	**Mina Array Bea**	**74.72**	**322**	P	**P**	**07 14 35.8 +1.1**
	comp=Z,2.2nm,0.8s,baz=158,slow=6.2,SNR=16					
NVAR				pP	**pP**	**07 15 06.3 +2.4**
	comp=Z,1.0nm,0.7s,baz=153,slow=6.7,SNR=4.7					
NVAR				sP	**sP**	**07 15 17.6 +1.3**
	comp=Z,2.4nm,0.8s,baz=148,slow=6.8,SNR=6.5					
NVAR	**Mina Array Bea**	**74.72**	**322**	P	**P**	**07 14 34.7 +0.1**
FLWY	**Flagg Ranch**	**74.79**	**330**	P	**P**	**07 14 35.8 +0.9**
FLWY				IAmb	IAmb	07 14 37.6
	comp=Z,15nm,0.8s					
LAO	**LASA Array**	**74.87**	**334**	P	**P**	**07 14 36.4 +1.3**
	baz=144					
RLMT	**Red Lodge**	**74.93**	**332**	P	**P**	**07 14 37.0 +1.3**
	baz=141					
H17A	**Grant Village**	**74.97**	**330**	P	**P**	**07 14 38.4 +2.4**
	baz=140,SNR=5.2					
SCHQ	**Schefferville**	**74.98**	**1**	P	**P**	**07 14 35.3 -0.2**
	comp=Z,7.8nm,0.7s,baz=200,slow=4.8,SNR=12					
YNR	**Norris Junctio**	**75.26**	**331**	P	**P**	**07 14 37.7 +0.1**
DGMT	**Dagmar**	**75.54**	**337**	P	**P**	**07 14 38.9 0.0**
DGMT				IAmb	IAmb	07 14 41.1
	comp=Z,20nm,0.8s					
DGMT	**Dagmar**	**75.54**	**337**	P	**P**	**07 14 40.3 +1.4**
	baz=146,SNR=6.2					
GCMT	**Greycliff**	**75.63**	**332**	P	**P**	**07 14 40.2 +0.7**
HLID	**Hailey**	**76.20**	**328**	P	**P**	**07 14 44.3 +1.4**
HLID				IAmb	IAmb	07 14 46.0
	comp=Z,7.9nm,0.9s					
HLID	**Hailey**	**76.20**	**328**	P	**P**	**07 14 44.7 +1.8**
	baz=136,SNR=17					
PAHR	**Pah Rah Range**	**76.20**	**322**	P	**P**	**07 14 43.9 +1.0**
PAHR				IAmb	IAmb	07 14 46.0
	comp=Z,10nm,0.8s					
MCMT	**McKenzie Canyo**	**76.36**	**329**	P	**P**	**07 14 45.0 +1.1**
BOZ	**Bozeman (W)**	**76.36**	**331**	P	**P**	**07 14 45.0 +1.2**
	baz=139,SNR=7.9					
TOA0	**Torodi Ar. Sit**	**76.91**	**71**	P	**P**	**07 14 46.3 -1.0**
TOA0				IAmb	IAmb	07 14 47.7
	comp=Z,6.1nm,0.7s					
TORD	**Torodi Ar. Bea**	**76.91**	**71**	P	**P**	**07 14 46.7 -0.6**
	comp=Z,5.3nm,0.7s,baz=252,slow=5.3,SNR=27					
TORD				pP	**pP**	**07 15 15.7 -1.3**
	comp=Z,6.7nm,1.1s,baz=250,slow=5.6,SNR=4.9					
TORD				sP	**sP**	**07 15 29.5 0.0**
	comp=Z,4.7nm,0.8s,baz=244,slow=5.7,SNR=4.2					
TORD	**Torodi Ar. Bea**	**76.91**	**71**	P	**P**	**07 14 46.3 -1.0**
HRY	**Holter Researc**	**77.30**	**331**	P	**P**	**07 14 49.9 +1.0**
EGMT	**Eagleton**	**77.40**	**333**	P	**P**	**07 14 50.2 +0.8**
	baz=141,SNR=8.9					
SYO	**Syowa Base**	**77.46**	**159**↑	*e*P	**P**	**07 14 46.6 -2.8**
SYO	**Syowa Base**	**77.46**	**159**↓	*e*PcP	**PcP**	**07 14 57.2 -2.2**
VNDA	**Vanda**	**77.91**	**190**	P	**P**	**07 14 54.0 +2.1**
	comp=Z,2.1nm,0.9s,baz=166,slow=3.2,SNR=9.2					
VNDA				pP	**pP**	**07 15 23.4 +1.8**
	comp=Z,1.5nm,1.0s,baz=163,slow=6.5,SNR=3.7					
VNDA	**Vanda**	**77.91**	**190**	IAmb	IAmb	07 14 55.0
	comp=Z,3.0nm,0.9s					
MSO	**Missoula**	**78.35**	**330**	P	**P**	**07 14 56.4 +1.6**
	baz=137					
N02D	**Trinity Center**	**78.95**	**321**	P	**P**	**07 14 58.8 +0.7**
	baz=130					
M04C	**Macdoel**	**78.97**	**322**	P	**P**	**07 14 59.7 +1.4**
	baz=130					
SUR	**Sutherland**	**79.03**	**120**	P	**P**	**07 15 00.0 +0.9**
SUR				IAmb	IAmb	07 15 28.0
	comp=Z,50nm,1.4s					
I07A	**Izee**	**79.20**	**325**	P	**P**	**07 15 01.3 +1.8**
M02C	**Callahan**	**79.30**	**322**	P	**P**	**07 15 01.5 +1.4**
	baz=130					
L04D	**Klamath Falls**	**79.51**	**323**	P	**P**	**07 15 02.6 +1.4**
	baz=130					
J05D	**Fort Rock, OR**	**79.61**	**324**	P	**P**	**07 15 03.4 +1.6**
	baz=131					
J04D	**Umpqua Nationa**	**80.06**	**323**	P	**P**	**07 15 05.5 +1.2**
	baz=130					
L02E	**Cave Junction**	**80.22**	**322**	P	**P**	**07 15 06.9 +1.9**
	baz=129					
TSUM	**Tsumeb**	**80.25**	**107**	P	**P**	**07 15 05.1 -0.8**
TSUM				IAmb	IAmb	07 15 07.5
	comp=Z,16nm,1.4s					
I05D	**Terrebonne, OR**	**80.35**	**325**	P	**P**	**07 15 07.6 +2.0**
	baz=131					
I04A	**Tendick Farm,**	**80.59**	**324**	P	**P**	**07 15 07.8 +0.9**
	baz=130					
K02D	**Willamette Mer**	**80.59**	**322**	P	**P**	**07 15 08.2 +1.2**
	baz=129					
NEW	**Newport**	**80.88**	**330**	P	**P**	**07 15 08.8 +0.4**
	baz=135					
G05D	**Wamic, OR**	**80.94**	**325**	P	**P**	**07 15 11.2 +2.5**
	baz=131					
I03D	**Drain, OR**	**81.05**	**323**	P	**P**	**07 15 10.3 +1.1**
	baz=129					
H04D	**Lebanon**	**81.24**	**324**	P	**P**	**07 15 11.3 +1.1**
	baz=130					
F05D	**White Salmon**	**81.43**	**326**	P	**P**	**07 15 12.7 +1.4**
	baz=131					
FCC	**Fort Churchill**	**81.62**	**347**	P	**P**	**07 15 11.8 -0.1**
FCC				IAmb	IAmb	07 15 13.2
	comp=Z,11nm,0.6s					
B05A	**Bryant**	**83.32**	**327**	P	**P**	**07 15 21.5 +0.6**
	baz=131					
D03D	**Eldon**	**83.36**	**326**	P	**P**	**07 15 22.2 +1.0**
	baz=130					
BOSA	**Boshof**	**83.86**	**118**	P	**P**	**07 15 25.0 +0.5**
	comp=Z,5.1nm,0.8s,baz=251,slow=4.1,SNR=5.7					
BOSA	**Boshof**	**83.86**	**118**	P	**P**	**07 15 24.5 -0.1**
BOSA				IAmb	IAmb	07 15 25.6
	comp=Z,8.8nm,0.9s					
A04D	**Lummi Island**	**83.93**	**327**	P	**P**	**07 15 25.1 +1.0**
	baz=130					
ESDC	**Sonseca Array**	**85.01**	**45**	P	**P**	**07 15 30.3 +0.4**
	comp=Z,1.7nm,0.9s,baz=239,slow=5.4,SNR=7.3					
MAW	**Mawson**	**85.31**	**163**	P	**P**	**07 15 32.1 +1.2**
	comp=Z,4.1nm,0.6s,baz=219,slow=4.0,SNR=8.2					
MAW	**Mawson**	**85.31**	**163**	P	**P**	**07 15 31.7 +0.8**
LBTB	**Lobatse**	**85.37**	**115**	P	**P**	**07 15 33.0 +0.8**
LBTB				IAmb	IAmb	07 15 34.0
	comp=Z,6.1nm,0.9s					
YKA	**Yellowknife Ar**	**90.22**	**341**	P	**P**	**07 15 54.7 +0.5**
	comp=Z,16nm,0.8s,baz=133,slow=4.6,SNR=222					
YKA				pP	**pP**	**07 16 24.8 -0.1**
	comp=Z,6.7nm,0.8s,baz=136,slow=4.7,SNR=8.8					
YKA				sP	**sP**	**07 16 36.9 -0.3**
	comp=Z,4.1nm,0.8s,baz=136,slow=4.8,SNR=3.3					
A36M	**Sachs Harbour**	**99.71**	**345**	P	**Pdif**	**07 16 37.7 +0.4**
	baz=128					
INK	**Inuvik**	**99.98**	**340**	P	**Pdif**	**07 16 39.0 +0.5**
	baz=121					
DAWY	**Dawson**	**100.06**	**335**	P	**Pdif**	**07 16 39.7 +0.6**
	baz=116					
KBZ	**Khabaz**	**119.38**	**51**	PKP	**PKiKP**	**07 21 44.0 +1.0**
	comp=Z,2.2nm,0.9s,baz=262,slow=2.4,SNR=5.0					
ASAR	**Alice Springs**	**130.89**	**208**	PKP	**PKPdf**	**07 22 05.7 -0.2**
	comp=Z,1.8nm,0.8s,baz=159,slow=1.3,SNR=4.9					
WRA	**Warramunga Arr**	**133.91**	**211**	PKP	**PKPdf**	**07 22 12.1 +0.5**
	comp=Z,1.9nm,0.6s,baz=161,slow=1.7,SNR=27					
KURBB	**Kurchatov Arra**	**146.40**	**33**	PKP	**PKPdf**	**07 22 23.5 +1.0**
	comp=Z,1.5nm,0.7s,baz=301,slow=2.6,SNR=10					
ZALV	**Zalesovo Beam**	**140.95**	**25**	PKhKP	PKPpre	07 22 19.8
	comp=Z,2.4nm,0.5s,baz=343,slow=4.6,SNR=8.0					
AAK	**Ala-Archa**	**142.10**	**46**	PKhKP	PKPpre	07 22 25.5
	comp=Z,2.1nm,0.8s,baz=176,slow=3.9,SNR=6.0					
KSH	**Kashi**	**144.35**	**50**	PKP	PKPbc	07 22 29.8 +1.0
MKAR	**Makanchi Array**	**144.72**	**35**	PKP	**PKPab**	**07 22 30.3 +0.8**
	comp=Z,6.4nm,0.8s,baz=322,slow=3.6,SNR=55					
KLR	**Kul'dur**	**146.91**	**335**	PKPbc	**PKPdf**	**07 22 35.4 +1.4**
	comp=Z,2.4nm,0.5s,baz=81,slow=3.9,SNR=15					
WMQ	**Urumqi**	**149.55**	**35**	*e*PKPbc	**PKPdf**	**07 22 37.7 -0.9**
WMQ				AMB	AMB	
	comp=Z,150nm,8.1s					
USRK	**Ussuriysk Ar.**	**150.66**	**329**	PKPbc	**PKPbc**	**07 22 46.8 +1.0**
	comp=Z,7.2nm,0.7s,baz=34,slow=2.1,SNR=12					
SIJI	**Sorong**	**151.11**	**225**	PKPbc	**PKPbc**	**07 22 47.4 -0.4**
	comp=Z,36nm,0.9s,baz=50,slow=1.1,SNR=6.4					
SONM	**Songino Array**	**152.40**	**7**	PKP	**PKPdf**	**07 22 44.5 +1.6**
	comp=Z,1.7nm,0.8s,baz=149,slow=3.0,SNR=5.7					
SONM				PKPbc	**PKPbc**	**07 22 50.7 +0.9**
	comp=Z,6.0nm,0.7s,baz=325,slow=2.6,SNR=12					
GOMU	**GeErMu**	**158.73**	**39**	PKP	**PKPdf**	**07 22 53.1 +1.0**
GOMU				AMB	AMB	
	comp=Z,150nm,8.6s					
HHC	**Hu-ho-hao-te**	**159.65**	**359**	*e*PKP	**PKPdf**	**07 22 52.5 -0.1**
HHC				AMB	AMB	
	comp=Z,160nm,4.7s					
NJ2	**Nanjing**	**166.55**	**331**	*e*PKP	**PKPdf**	**07 22 58.7 -0.6**
CMAR	**Chiang Mai Arr**	**168.28**	**98**	PKP	**PKPdf**	**07 23 02.1 +1.1**
	comp=Z,3.0nm,0.3s,baz=294,slow=2.9,SNR=5.7					
PZH	**PanZhiHua**	**169.44**	**53**	PKP	**PKPdf**	**07 22 59.7 -2.0**

IDC 07 07:12:05.1±3.5, 6°.03S×147°.39E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/34, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=70.5km s-min=35.7km az=87.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.36**	**184**	Pn	Pn	07 13 00.7	+1.8
	3.6nm,0.3s,baz=18,slow=7.9,SNR=3.4						
PMG				Sn	Sn	07 13 39.7	+0.1
	7.5nm,0.3s,baz=221,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**18.77**	**221**	P	P	07 16 25.7	-0.3
	0.1nm,0.3s,baz=46,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**21.82**	**215**	P	P	07 16 58.4	-0.8
	0.4nm,0.4s,baz=52,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**24.38**	**239**	P	P	07 17 25.6	+0.3
	2.2nm,0.8s,baz=68,slow=11,SNR=8.0						
TORD	**Torodi Ar. Bea**	**145.48**	**284**	PKPbc	PKPbc	07 31 45.3	-1.0
	0.3nm,0.7s,baz=70,slow=2.4,SNR=1.4						

*IDC **07** 07:15:18.6±2.5, 54°.15N×86°.49E, h0km, mb1 3.2/2, mb1mx2.9/53, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=20.0km s-min=11.9km az=60.0*

ISC 07 07:15:22.4±4.7, 54°.1N±0°.2×86°.2E±0°.2, h10km, n6, σ1s56/8, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.82**	**263**	*i*		07 22 00.0	
	baz=79,slow=324,SNR=3.0						
ZALV	**Zalesovo Beam**	**0.82**	**263**	Pg	**Pg**	**07 15 37.0**	**-1.2**
	1.7nm,0.3s,baz=77,slow=16,SNR=22						
ZALV				Lg	Lg	07 15 51.8	
	3.3nm,0.3s,baz=77,slow=28,SNR=26						
ZALV				Rg	Rg	07 15 57.6	
	69nm,1.1s,baz=80,slow=32,SNR=10						
KURK	**Kurchatov**	**5.72**	**237**	⇓Pn	**Pn**	**07 16 48.8**	**+1.4**
	0.4nm,0.4s						
KURK				⇑Sn	**Sn**	**07 17 53.6**	**+0.6**
	1.5nm,0.9s						
KURK				⇑Lg	Lg	07 18 22.7	
	4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**5.82**	**237**	Pn	**Pn**	**07 16 49.5**	**+0.8**
	0.2nm,0.3s,baz=54,slow=13,SNR=33						
KURBB				Lg	Lg	07 18 31.4	
	0.0nm,0.3s,baz=60,slow=31,SNR=7.1						
MK31	**Makanchi Array**	**7.68**	**200**	⇑Pn	**Pn**	**07 17 14.7**	**+0.4**
	0.4nm,0.6s,baz=26,slow=13						
MK31				⇓Sn	**Sn**	**07 18 39.3**	**-2.1**
	0.3nm,0.4s,baz=29,slow=29						
MK31				⇑Lg	Lg	07 19 17.9	
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**7.68**	**200**	Pn	**Pn**	**07 17 14.7**	**+0.3**
	0.3nm,0.3s,baz=24,slow=13,SNR=14						
MKAR				Sn	**Sn**	**07 18 43.1**	**+1.6**
	0.1nm,0.3s,baz=23,slow=29,SNR=4.2						
MKAR				Lg	Lg	07 19 24.4	
	0.1nm,0.3s,baz=30,slow=32,SNR=5.8						

*TUL **07** 07:37:53.7±0.7, 35°.66N±0°.02×97°.17W±0°.02, h5km±7km, ML3.6, mb_Lg3.1/82(NEIC), Error ellipse: s-maj=3.5km s-min=2.3km az=145.0*

NEIC 07 07:37:54.0±1.1, 35°.69N±0°.02×97°.21W±0°.02, h5km±7km, Error ellipse: s-maj=3.3km s-min=1.5km az=151.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.04**	**160**	Pg	Pg	07 37 54.8	-0.5
OK001	**Jones High Sch**	**0.14**	**208**		Pg	07 37 56.9	-0.1
FNO	**Franklin**	**0.46**	**200**	Pg	Pg	07 38 02.6	-0.3
W35A	**Tecumseh**	**0.60**	**153**	Pg	Pg	07 38 04.5	-1.1
T35A	**Sooner Cattle**	**1.35**	**24**		Pn	07 38 18.5	-1.0
X37A	**Clayton**	**1.86**	**126**	lAmb_Lg		07 38 56.2	
	comp=Z,109nm,1.0s						
Z35A	**Perchaven, San**	**2.35**	**181**		Pn	07 38 33.6	+0.3
Z35A				lAmb_Lg		07 39 11.6	
	comp=Z,68nm,0.9s						
HHAR	**Hobbs**	**2.71**	**76**	lAmb_Lg		07 39 25.5	
	comp=Z,60nm,1.0s						
R32A	**Long Quarter,**	**2.98**	**337**	lAmb_Lg		07 39 35.5	
	comp=Z,45nm,0.8s						
KSU1	**Kansas State U**	**3.44**	**8**	lAmb_Lg		07 39 46.3	
	comp=Z,46nm,0.8s						
U40A	**Yellville**	**3.59**	**78**	lAmb_Lg		07 39 56.4	
	comp=Z,45nm,0.7s						
ABTX	**Abilene, Hawle**	**3.67**	**214**	lAmb_Lg		07 39 56.1	
	comp=Z,32nm,1.1s						
CBKS	**Cedar Bluff**	**3.71**	**328**	lAmb_Lg		07 39 55.3	
	comp=Z,40nm,0.7s						
X40A	**Basin Creek Fa**	**3.78**	**107**	lAmb_Lg		07 39 56.4	
	comp=Z,50nm,0.7s						
WLAR	**White Oak Lake**	**3.92**	**119**	lAmb_Lg		07 40 01.8	
	comp=Z,29nm,0.8s						
WHAR	**Wooly Hollow**	**4.03**	**94**	lAmb_Lg		07 40 09.0	
	comp=Z,27nm,0.8s						
W41B	**Gary Mavity, V**	**4.08**	**96**	lAmb_Lg		07 40 12.6	
	comp=Z,31nm,0.7s						
UALR	**University of**	**4.08**	**102**	lAmb_Lg		07 40 06.5	
	comp=Z,51nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.14**	**86**	lAmb_Lg		07 40 12.0	
	comp=Z,46nm,0.7s						
MGMO	**Mountain Grove**	**4.24**	**68**	lAmb_Lg		07 40 12.3	
	comp=Z,69nm,0.8s						
R40A	**Maddies Statio**	**4.73**	**55**	lAmb_Lg		07 40 24.3	
	comp=Z,34nm,0.7s						
P38A	**Dawn**	**4.89**	**35**	lAmb_Lg		07 40 39.1	
	comp=Z,36nm,0.8s						
435B	**Jarrell**	**4.90**	**184**	lAmb_Lg		07 40 40.1	
	comp=Z,27nm,0.7s						
LCAR	**Lake Charles**	**4.93**	**84**	lAmb_Lg		07 40 29.7	
	comp=Z,32nm,0.9s						
N33A	**J Bar K, Exete**	**5.04**	**358**	lAmb_Lg		07 40 36.9	
	comp=Z,34nm,0.9s						
CCM	**Cadedral Cave**	**5.33**	**62**	lAmb_Lg		07 40 51.8	
	comp=Z,32nm,0.8s						
P40A	**Paris**	**5.61**	**45**	lAmb_Lg		07 40 58.4	
	comp=Z,40nm,0.8s						
JCT	**Junction City**	**5.63**	**203**	lAmb_Lg		07 40 59.5	
	comp=Z,53nm,1.1s						
FVM	**French Village**	**5.90**	**65**	lAmb_Lg		07 41 11.6	
	comp=Z,31nm,0.7s						
N38A	**Joes South For**	**5.98**	**30**	lAmb_Lg		07 41 15.9	
	comp=Z,36nm,0.8s						
T25A	**Trinidad**	**5.99**	**286**	lAmb_Lg		07 41 08.4	
	comp=Z,20nm,0.8s						
HALT	**Halls**	**6.40**	**86**	lAmb_Lg		07 41 27.5	
	comp=Z,45nm,0.8s						
OGNE	**Ogallala**	**6.47**	**326**	lAmb_Lg		07 41 29.7	
	comp=Z,37nm,0.7s						
SCIA	**State Center**	**6.95**	**25**	lAmb_Lg		07 41 40.7	
	comp=Z,24nm,0.8s						
K31A	**O'Neill**	**7.03**	**351**	lAmb_Lg		07 41 52.7	
	comp=Z,41nm,0.7s						
833A	**Chaparral WMA,**	**7.58**	**195**	lAmb_Lg		07 42 05.0	
	comp=Z,14nm,1.1s						
WVT	**Waverly**	**7.62**	**84**	lAmb_Lg		07 42 00.2	
	comp=Z,14nm,0.8s						
K38A	**Parkersburg**	**7.75**	**25**	lAmb_Lg		07 42 10.1	
	comp=Z,19nm,0.7s						
OLIL	**Olney**	**7.88**	**65**	lAmb_Lg		07 42 15.8	
	comp=Z,35nm,0.8s						
L40A	**Anamosa**	**7.89**	**34**	lAmb_Lg		07 42 08.0	
	comp=Z,18nm,0.7s						
USIN	**University of**	**7.98**	**71**	lAmb_Lg		07 42 21.5	
	comp=Z,36nm,0.9s						
O44A	**Mansfield**	**8.22**	**55**	lAmb_Lg		07 42 24.4	
	comp=Z,31nm,0.9s						
N23A	**Red Feather La**	**8.61**	**310**	lAmb_Lg		07 42 37.2	
	comp=Z,17nm,0.9s						
L42A	**Oliver, Polo**	**8.62**	**41**	lAmb_Lg		07 42 26.6	
	comp=Z,25nm,0.8s						
RSSD	**Black Hills**	**9.92**	**330**	lAmb_Lg		07 43 33.2	
	comp=Z,9.9nm,0.9s						

IDC 07 07:38:01.1±5.0, 31°.29N×141°.62E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/33, mbtmp3.3/4, ML2.9/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/33, Error ellipse: s-maj=195.1km s-min=27.9km az=71.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**5.95**	**332**	Pn	Pn	07 39 28.4	-2.1
	0.3nm,0.3s,baz=155,slow=13,SNR=2.1						
SONM	**Songino Array**	**31.45**	**312**	LR	LR	07 57 11.9	
	comp=Z,151nm,20.1s,baz=211,slow=37						
MKAR	**Makanchi Array**	**47.50**	**307**	P	P	07 46 38.8	+0.9
	0.3nm,0.6s,baz=81,slow=8.9,SNR=2.6						
WRA	**Warramunga Arr**	**51.42**	**189**	P	P	07 47 07.8	-0.3
	0.2nm,0.4s,baz=5.9,slow=7.7,SNR=7.7						
ASAR	**Alice Springs**	**55.15**	**189**	P	P	07 47 35.2	-0.2
	0.1nm,0.3s,baz=1.8,slow=5.7,SNR=1.6						

*NEIC **07** 07:42:28.7±1.2, 36°.50N±0°.03×114°.00W±0°.02, h8km±7km, Error ellipse: s-maj=3.6km s-min=2.8km az=181.0*
*REN **07** 07:42:28.3±1.3, 36°.49N±0°.03×114°.00W±0°.01, h8km±7km, ML2.7/8, ML2.8/48(NEIC), Error ellipse: s-maj=4.2km s-min=1.0km az=165.0*
*ANF **07** 07:42:28.5±0.5, 36°.53N×114°.00W, h8km, ML3.0/14, Error ellipse: s-maj=4.8km s-min=2.5km az=79.0*

ISC 07 07:42:28.1±1.2, 36°.50N±0°.02×114°.02W±0°.03, h2km±12km, n38, σ0s61/48, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ICU	**Indian Springs**	**0.65**	**7**		**Pg**	**07 42 41.1**	**+0.5**
ICU					**Sg**	**07 42 50.4**	**+1.4**
LCMT	**Little Creek M**	**0.80**	**50**	Pg	**Pg**	**07 42 43.7**	**+0.2**
LCMT				Sg	**Sg**	**07 42 53.4**	**-0.4**
SHPR	**Sheep Range**	**0.92**	**270**	Pg	**Pg**	**07 42 46.1**	**+0.3**
KNB	**Kanab**	**1.09**	**62**		**Pg**	**07 42 49.0**	**+0.1**
KNB				Sg	**Sg**	**07 43 02.4**	**-0.6**
KNB				IAML		07 43 03.0	
	comp=E,333nm,0.6s						
KNB				IAML		07 43 03.2	
	comp=N,261nm,0.7s						
CCUT	**Cedar City**	**1.17**	**26**		**Pg**	**07 42 50.8**	**+0.3**
PRN	**Pahroc Range**	**1.23**	**318**	Pn	**Pn**	**07 42 52.4**	**0.0**
PRN				IAML		07 43 12.6	
	comp=E,228nm,0.5s						
SZCU	**Shurtz Canyon**	**1.32**	**34**		**Pn**	**07 42 53.3**	**-0.5**
U15A	**North Rim**	**1.39**	**93**		**Pn**	**07 42 54.6**	**-0.2**
W13A	**Hualapai Mount**	**1.41**	**176**	Pn	**Pn**	**07 42 54.4**	**-0.5**
PKCU	**Pink Cliffs**	**1.66**	**55**		**Pb**	**07 42 59.5**	**-0.1**
PKCU				IAML		07 43 31.8	
	comp=N,155nm,0.5s						
S11A	**Rachel**	**1.79**	**310**		**Pn**	**07 43 00.1**	**-0.1**
NEE2	**Needles Airpor**	**1.80**	**196**	Pg	**Pg**	**07 43 03.2**	**+0.6**
	baz=16						
NEE2				S	**Sb**	**07 43 25.4**	**+0.6**
	baz=16						
TPNV	**Topopah Spring**	**1.85**	**285**	Pn	**Pn**	**07 43 01.5**	**+0.5**
TPNV				IAML		07 43 31.6	
	comp=N,77nm,0.3s						
TPNV				IAML		07 43 36.1	
	comp=N,65nm,0.9s						
TPNV	**Topopah Spring**	**1.85**	**285**	P	**Pn**	**07 43 01.4**	**+0.5**
	baz=104,SNR=128						
TPNV				S	**Sb**	**07 43 25.7**	**-0.7**
	baz=104						
TUQ	**Turquoise Moun**	**1.88**	**236**	Pb	**Pb**	**07 43 03.5**	**+0.2**
	baz=56,SNR=7.0						
TUQ				S	**Sb**	**07 43 26.9**	**-0.3**
	baz=56						
SHOC	**Shoshone, Teco**	**1.92**	**252**	P	**Pn**	**07 43 01.9**	**-0.1**
	baz=72,SNR=36						
SHOC				S	**Sb**	**07 43 28.6**	**+0.2**
	baz=72						
MTPU	**Mount Pierson**	**2.12**	**43**		**Pb**	**07 43 06.3**	**-1.1**
MTPU				IAML		07 43 36.6	
	comp=N,78nm,0.5s						
MTPU				IAML		07 43 36.7	
	comp=E,71nm,0.3s						
GMRC	**Granite Mounta**	**2.18**	**218**	P	**Pn**	**07 43 05.2**	**-0.3**
	baz=38						
GMRC				Sb	**Sg**	**07 43 38.4**	**+0.4**
	baz=38						
PDMCI	**Parker Dam,Lak**	**2.20**	**183**	Sb	**Sg**	**07 43 38.8**	**+0.1**
	baz=3.0						
R11A	**Troy Canyon, C**	**2.23**	**326**		**Pn**	**07 43 06.2**	**-0.1**
R11A	**Troy Canyon, C**	**2.23**	**326**	P	**Pn**	**07 43 06.0**	**-0.2**
	baz=145,SNR=79						
R11A				Sb	**Sb**	**07 43 38.6**	**+1.3**
	baz=145						
WUAZ	**Wupatki**	**2.36**	**114**		**Pn**	**07 43 07.9**	**-0.1**
WUAZ	**Wupatki**	**2.36**	**114**	Pb	**Pb**	**07 43 11.3**	**0.0**
	baz=295,SNR=57						
QSM	**Queen of Sheba**	**2.37**	**258**		**Pn**	**07 43 05.8**	**-2.2**
QSM				IAML		07 43 50.2	
	comp=E,46nm,1.0s						
QSM				IAML		07 43 52.0	
	comp=N,43nm,0.8s						
MSU	**Marysvale**	**2.48**	**36**		**Pn**	**07 43 09.7**	**-0.1**
IRM	**Iron Mountain**	**2.52**	**202**	P	**Pn**	**07 43 10.2**	**+0.2**
	baz=22,SNR=8.4						
IRM				Sb	**Sg**	**07 43 48.7**	**-0.3**
	baz=22						
HEC	**Hector,Ludlow**	**2.52**	**229**	P	**Pn**	**07 43 10.2**	**0.0**
	baz=48						
GSC	**Goldstone, Bar**	**2.56**	**243**		**Pn**	**07 43 10.9**	**+0.2**
GSC				IAML		07 43 56.4	
	comp=E,40nm,0.6s						
GSC				IAML		07 43 59.1	
	comp=N,33nm,0.6s						
Y14A	**Wickenburg**	**2.69**	**162**		**Pn**

IDOB					*e*Sg	**Sg**	07 50 19.1	**+1.8**
HSAM	**Samen**	**2.10**	**114**		*e*Pn	**Pn**	07 49 48.5	**+0.7**
HSAM					*e*		07 50 29.0	
	comp=Z,706nm,0.6s							
HAGD	**Aghdareh**	**2.36**	**95**		*e*Pn	**Pn**	07 49 52.1	**+0.7**
HAGD					*e*		07 50 37.6	
	comp=Z,741nm,0.9s							
BHD	**Baghdad**	**2.39**	**222**		*e*Pn	**Pn**	07 49 52.0	**+0.4**
BHD					*e*Sn	**Sn**	07 50 23.0	**+1.9**
BMDN	**Meydan**	**2.52**	**123**		*e*Pn	**Pn**	07 49 54.9	**+1.3**
BMDN					*e*		07 50 47.7	
	comp=Z,994nm,0.8s							
IAZR	**Azarshahr**	**2.61**	**355**		*e*Pn	**Pn**	07 49 55.7	**+0.8**
IAZR					*e*		07 50 47.9	
	comp=Z,2µm,0.8s							
QABG	**Abgarm-Qazvin**	**2.77**	**76**		*e*Pn	**Pn**	07 49 57.5	**+0.5**
QABG					*e*		07 50 44.8	
	comp=Z,271nm,1.0s							
ISRB	**Sarab**	**2.96**	**22**		*e*Pn	**Pn**	07 50 00.5	**+0.8**
IRAZ	**Razeghan**	**3.00**	**83**		*e*Pn	**Pn**	07 50 01.5	**+1.3**
IRAZ					*e*		07 50 55.0	
	comp=Z,536nm,0.8s							
RAFI	**Al-Rafai**	**3.34**	**182**		*e*Pn	**Pn**	07 50 05.0	**+0.3**
RAFI					*e*Sn	**Sn**	07 50 45.0	**+0.4**
ISFB	**Sefidab**	**4.96**	**97**		*e*Pn	**Pn**	07 50 26.7	**-0.3**

TAP 07 07:56:14.1, 23.03N×120.59E, h8km, ML1.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.05**	**358**	*i* P	Pg	07 56 16.3	+0.4
	baz=5.0						
CHN1	**Nanshi**	**0.17**	**341**	*i* P	Pg	07 56 18.5	+0.9
	baz=341						
CHN1				*e*S	Sg	07 56 21.1	+1.1
	baz=341						
SNST	**Tainan City**	**0.21**	**337**	P	Pg	07 56 19.8	+1.5
	baz=337						
SNST				S	Sg	07 56 23.3	+2.1
	baz=337						
CHN3	**Shinhua**	**0.21**	**283**	S	Sg	07 56 23.0	+1.8
	baz=283						
STYT	**Tauyuan**	**0.21**	**50**	P	Pg	07 56 19.2	+0.8
	baz=51						
STYT				S	Sg	07 56 23.4	+2.1
	baz=51						
WTP	**Ta-pu**	**0.22**	**7**	*i* P	Pg	07 56 19.4	+0.9
	baz=8.0						
WTP				*i* S	Sg	07 56 23.6	+2.0
	baz=8.0						
STYH	**Taoyuan**	**0.23**	**51**	P	Pg	07 56 19.8	+1.2
	baz=50						
STYH				*e*S	Sg	07 56 23.5	+1.7
	baz=50						
TWM1	**Shoushan**	**0.25**	**216**	P	Pg	07 56 19.8	+0.6
	baz=214						
TWK	**Hsinying**	**0.25**	**339**	*e*P	Pg	07 56 20.1	+0.8
	baz=341						
TWK				*e*S	Sb	07 56 24.4	-1.2
	baz=341						
TPUB	**Ta-pu**	**0.27**	**9**	P	Pb	07 56 20.7	-0.7
	baz=8.0						
TPUB				S	Sb	07 56 25.2	-0.9
	baz=8.0						
SSD	**Sandimen**	**0.28**	**171**	*e*S	Sb	07 56 25.9	-0.5
	baz=169						
CHN4	**Tsaushan**	**0.32**	**1**	P	Pb	07 56 21.4	-0.7
	baz=1.0						
CHN4				*e*S	Sb	07 56 26.5	-1.0
	baz=1.0						
TSMG	**Majia**	**0.33**	**170**	*e*S	Sb	07 56 27.2	-0.3
	baz=170						

IDC 07 08:01:11.4±2.8, 8.85S×149.95E, h0km, mb3.1/2, mb1 3.3/4, mb1mx3.2/29, mbtmp3.2/4, ML2.3/2, Error ellipse: s-maj=76.6km s-min=36.9km az=125.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.81**	**258**	Pn	Pn	08 01 56.1	-1.5
	17nm,0.3s,baz=90,slow=9.4,SNR=16						
PMG				Sn	Sn	08 02 20.7	-12
	23nm,0.3s,baz=247,slow=20,SNR=16						
WRA	**Warramunga Arr**	**18.69**	**232**	P	P	08 05 31.4	-0.1
	0.0nm,0.3s,baz=54,slow=10,SNR=1.6						
ASAR	**Alice Springs**	**21.28**	**224**	P	P	08 06 00.1	+0.5
	0.4nm,0.7s,baz=60,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**81.54**	**320**	P	P	08 13 32.9	+1.9
	0.2nm,0.7s,baz=87,slow=7.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**148.56**	**281**	PKPbc	PKPdf	08 20 59.0	+1.3
	0.1nm,0.5s,baz=60,slow=3.5,SNR=1.2						

*IDC **07** 08:01:44.8±0.8, 13.76S×166.52E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.3/31, mbtmp4.2/15, ML3.7/1, MS3.9/17, Ms1 3.9/17, ms1mx3.6/61, Error ellipse: s-maj=26.3km s-min=17.8km az=118.0*

*NEIC **07** 08:01:46.2±2.2, 13.85S±0.08×166.6E±0.1, h8km±5km, mb4.9/26, Error ellipse: s-maj=17.7km s-min=11.6km az=74.0*

ISC 07 08:01:46.4±0.5, 13.83S±0.06×166.6E±0.1, h10km, n81, σ1s29/64, mb4.8/33, MS4.0/17, 3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.71**	**160**	Pn	Pn	**08 02 16.6**	**+0.3**
KOUNC	**Koumac, New Ca**	**7.04**	**198**	Pn	Pn	**08 03 30.8**	**+1.2**
HNR	**Honiara**	**7.85**	**303**	LR	LR	08 06 34.5	
	comp=Z,397nm,20.5s,baz=156,slow=37						
DZM	**Mont Dzumac**	**8.20**	**181**	Pn	Pn	**08 03 46.7**	**+1.1**
	1.0nm,0.3s,baz=154,slow=23,SNR=15						
DZM				Sn	Sn	**08 05 18.5**	**+0.1**
	baz=122,slow=23,SNR=0.7						
DZM	**Mont Dzumac**	**8.20**	**181**	*e*Pn	Pn	**08 03 48.1**	**+2.6**
	40nm,0.5s						
DZM				*e*Sn	Sn	**08 05 21.3**	**+3.0**
	54nm,0.7s						
DZM				*e*LR	LR	08 05 52.3	
	comp=Z,749nm,24.8s						
DZM	**Mont Dzumac**	**8.20**	**181**		Pn	**08 03 45.2**	**-0.3**
ONTNC	**Ouen Toro**	**8.43**	**181**	Pn	Pn	**08 03 47.2**	**-1.5**
OUENC	**Ouen Island, N**	**8.54**	**178**	Pn	Pn	**08 03 48.6**	**-1.6**
RABL	**Rabaul**	**17.16**	**303**	P	Pn	**08 05 46.7**	**+0.2**
RABL				IAmb	IAmb	08 06 41.8	
	comp=Z,34nm,0.6s						
KRVT	**Keravat (AS076**	**17.21**	**302**	LR	LR	08 12 50.2	
	comp=Z,239nm,19.4s,baz=261,slow=39						
PMG	**Port Moresby**	**19.54**	**281**	LR	LR	08 12 03.6	
	comp=Z,310nm,20.7s,baz=28,slow=32						
CTA	**Charters Tower**	**20.42**	**249**	P	**P**	**08 06 24.4**	**+0.5**
	comp=Z,13nm,0.8s,baz=89,slow=12,SNR=9.4						
CTA				LR	LR	08 13 06.5	
	comp=Z,264nm,21.8s,baz=74,slow=34						
CTAO	**Charters Tower**	**20.42**	**249**	P	**P**	**08 06 22.9**	**-1.0**
AFI	**Afiamalu**	**21.00**	**93**	LR	LR	08 11 55.9	
	comp=Z,79nm,21.8s,baz=272,slow=29						
URZ	**Urewera**	**26.06**	**161**	LR	LR	08 16 36.3	
	comp=Z,152nm,18.2s,baz=35,slow=34						
BKZ	**Black Stump Fm**	**26.70**	**163**	P	**P**	**08 07 24.5**	**-1.5**
BKZ				IAmb	IAmb	08 07 27.1	
	comp=Z,45nm,1.6s						
STKA	**Stephens Creek**	**29.10**	**228**	P	**P**	**08 07 47.3**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=32,slow=8.2,SNR=13						
STKA				LR	LR	08 19 12.7	
	comp=Z,413nm,18.2s,baz=37,slow=36						
STKA	**Stephens Creek**	**29.10**	**228**	P	**P**	**08 07 47.2**	**-0.2**
WRAB	**Tennant Creek**	**31.41**	**254**	P	**P**	**08 08 06.2**	**-1.8**
WRA	**Warramunga Arr**	**31.43**	**254**	P	**P**	**08 08 06.3**	**-1.8**
	comp=Z,2.8nm,0.9s,baz=86,slow=9.4,SNR=19						
AS31	**Alice Springs**	**32.40**	**248**	P	**P**	**08 08 14.5**	**-2.1**
ASAR	**Alice Springs**	**32.40**	**248**	P	**P**	**08 08 15.2**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=74,slow=9.8,SNR=48						
ASAR				ScP	**ScP**	**08 14 47.5**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=58,slow=3.0,SNR=4.4						
ASAR				LR	LR	08 20 12.8	
	comp=Z,203nm,21.1s,baz=88,slow=34						
ASAR	**Alice Springs**	**32.40**	**248**	P	**P**	**08 08 15.8**	**-0.9**
BBOO	**Buckleboo**	**33.63**	**231**	P	**P**	**08 08 26.5**	**-0.8**
BBOO				IAmb	IAmb	08 08 32.8	
	comp=Z,15nm,0.9s						
KNRA	**Kununurra**	**36.60**	**262**	P	**P**	**08 08 50.6**	**-2.5**
KNRA				IAmb	IAmb	08 08 57.5	
	comp=Z,18nm,1.1s						

SIJI	**Sorong**		**37.26**	**287**	LR	LR	08 24 39.5		
	comp=Z,197nm,19.9s,baz=144,slow=37								
FORT	**Forrest**		**39.21**	**238**	P	**P**	**08 09 15.3**	**+0.4**	
FORT					IAmb	IAmb	08 09 19.4		
	comp=Z,15nm,0.9s								
FITZ	**Fitzroy Crossi**		**39.55**	**258**	LR	LR	08 25 20.3		
	comp=Z,229nm,18.0s,baz=87,slow=36								
BATI	**Baumata**		**42.11**	**270**	LR	LR	08 27 42.7		
	comp=Z,228nm,18.1s,baz=148,slow=37								
PPT2	**Papeete2**		**42.28**	**101**	*e*LR	LR	08 21 52.5		
	comp=Z,242nm,29.2s								
TBI	**Tubuai**		**42.57**	**109**	*e*LR	LR	08 22 08.0		
	comp=Z,120nm,22.5s								
MORW	**Morawa**		**49.08**	**243**	P	**P**	**08 10 33.3**	**-0.9**	
TAOE	**Nuku Hiva Isla**		**52.36**	**91**	*e*LR	LR	08 26 31.1		
	comp=Z,139nm,22.4s								
KSM	**Kuching**		**57.80**	**281**	P	**P**	**08 11 41.9**	**+3.4**	
KSM					IAmb	IAmb	08 11 43.6		
	comp=Z,18nm,1.5s								
KSRS	**Korea Array**		**62.63**	**326**	P	**P**	**08 12 10.8**	**-0.3**	
	comp=Z,0.5nm,0.5s,baz=133,slow=7.1,SNR=1.5								
VNDA	**Vanda**		**63.74**	**181**	P	**P**	**08 12 18.9**	**+0.9**	
	comp=Z,1.6nm,0.8s,baz=30,slow=0.9,SNR=8.7								
VNDA	**Vanda**		**63.74**	**181**	P	**P**	**08 12 18.5**	**+0.6**	
VNDA					IAmb	IAmb	08 12 24.6		
	comp=Z,9.6nm,1.2s								
SBA	**Scott Base**		**64.03**	**180**	P	**P**	**08 12 20.8**	**+1.0**	
SBA					IAmb	IAmb	08 12 26.8		
	comp=Z,12nm,1.2s								
NJ2	**Nanjing**		**64.58**	**316**	*e*P	P	08 12 17.2	-6.9	
NJ2					pmax	pmax			
	comp=Z,5.0nm,0.5s								
USA0B	**Ussuriysk Arra**		**65.80**	**333**	P	**P**	**08 12 31.4**	**-0.3**	
USRK	**Ussuriysk Ar.**		**65.80**	**333**	P	**P**	**08 12 31.7**	**0.0**	
	comp=Z,3.2nm,0.8s,baz=129,slow=5.2,SNR=4.9								
USRK	**Ussuriysk Ar.**		**65.80**	**333**	P	**P**	**08 12 32.6**	**+0.9**	
HNS	**HongShan**		**70.50**	**318**	⇓P	P	08 13 07.5	+6.1	
XLT	**XiLinHaoTe**		**73.60**	**324**	*e*P	P	08 13 30.3	+10	
XLT					pmax	pmax			
	comp=Z,16nm,1.1s								
XLT					pmax	pmax			
	comp=Z,110nm,4.5s								
CMAR	**Chiang Mai Arr**		**73.99**	**294**	P	**P**	**08 13 23.8**	**+1.1**	
	comp=Z,1.2nm,0.4s,baz=117,slow=4.0,SNR=6.2								
HHC	**Hu-ho-hao-te**		**74.48**	**320**	*e*P	**P**	**08 13 27.9**	**+2.6**	
HHC					pmax	pmax			
	comp=Z,10.0nm,1.0s								
HHC					pmax	pmax			
	comp=Z,92nm,5.4s								
PZH	**PanZhiHua**		**74.67**	**303**	P	**P**	**08 13 28.3**	**+1.6**	
PZH					pmax	pmax			
	comp=Z,10.0nm,0.9s								
PZH					pmax	pmax			
	comp=Z,100nm,5.2s								
QSPA	**South Pole Qui**		**76.19**	**180**	P	**P**	**08 13 34.3**	**-0.5**	
QSPA					IAmb	IAmb	08 13 53.0		
	comp=Z,14nm,1.2s								
LZH	**Lanzhou**		**77.24**	**312**	⇓P	**P**	**08 13 43.1**	**+1.9**	
LZH					pP	pwP	08 13 49.4	+1.0	
LZH					sP	PcP	08 13 52.5	+0.6	
LZH					pmax	pmax			
	comp=Z,18nm,1.5s								
OHAK	**Old Harbor**		**78.19**	**21**	P	**P**	**08 13 47.7**	**+1.9**	
SONM	**Songino Array**		**81.39**	**324**	P	**P**	**08 14 03.2**	**-0.4**	
	comp=Z,0.5nm,0.4s,baz=239,slow=16,SNR=2.6								
GTA	**Gaotai**		**81.58**	**314**	*e*P	**P**	**08 14 05.7**	**+0.9**	
GTA					pP	pwP	08 14 11.2	-0.8	
GTA					sP	PcP	08 14 15.4	+4.7	
GTA					pmax	pmax			
	comp=Z,5.0nm,1.4s								
GOMU	**GeErMu**		**83.92**	**309**	P	**P**	**08 14 15.8**	**-1.5**	
GOMU					pmax	pmax			
	comp=Z,2.0nm,0.5s								
GOMU					pmax	pmax			
	comp=Z,35nm,3.5s								
RND	**Reindeer**		**84.29**	**18**	P	**P**	**08 14 18.8**	**+0.6**	
HDA	**Harding Lake**		**85.60**	**18**	P	**P**	**08 14 24.8**	**+0.1**	
HDA					IAmb	IAmb	08 14 25.8		
	comp=Z,6.3nm,0.9s								
IL31			**85.88**	**18**	P	**P**	**08 14 26.9**	**+0.9**	
IL31					IAmb	IAmb	08 14 29.6		
	comp=Z,16nm,1.6s								
ILAR	**Eielson Array**		**85.88**	**18**	P	**P**	**08 14 25.4**	**-0.7**	
	comp=Z,1.5nm,0.5s,baz=258,slow=4.8,SNR=29								
ILAR					LR	LR	08 46 58.2		
	comp=Z,87nm,19.6s,baz=231,slow=32								
ILAR	**Eielson Array**		**85.88**	**18**	P	**P**	**08 14 25.9**	**-0.2**	
J25K	**Salcha River,**		**86.23**	**19**	P	**P**	**08 14 27.6**	**-0.3**	
PFO	**Pinyon Flats O**		**87.00**	**54**	LR	LR	08 47 33.9		
	comp=Z,90nm,18.2s,baz=260,slow=32								
NVAR	**Mina Array Bea**		**87.18**	**49**	LR	LR	08 45 47.4		
	comp=Z,137nm,19.9s,baz=228,slow=30								
BELA	**Belgrano 2**		**87.66**	**176**	P	**P**	**08 14 35.0**	**+0.2**	
SYO	**Syowa Base**		**89.38**	**197**	⇓*e*SP	sP	08 14 46.0	-0.1	
ELK	**Elko**		**90.17**	**48**	LR	LR	08 47 49.2		
	comp=Z,61nm,21.8s,baz=316,slow=31								
WMQ	**Urumqi**		**91.64**	**315**	*e*P	**P**	**08 14 55.1**	**+1.1**	
WMQ					pP	pwP	08 15 01.2	+0.7	
WMQ					pmax	pmax			
	comp=Z,23nm,0.7s								
INK	**Inuvik**		**92.25**	**19**	LR	LR	08 51 16.5		
	comp=Z,75nm,19.0s,baz=70,slow=32								
ANMO	**Albuquerque**		**95.33**	**55**	LR	LR	08 50 30.6		
	comp=Z,62nm,20.0s,baz=236,slow=31								
MK31	**Makanchi Array**		**96.11**	**317**	P	**P**	**08 15 14.1**	**-0.3**	
MK31					IAmb	IAmb	08 15 25.5		
	comp=Z,4.0nm,1.2s								
MKAR	**Makanchi Array**		**96.11**	**317**	P	**P**	**08 15 13.8**	**-0.6**	
	comp=Z,1.2nm,0.8s,baz=95,slow=6.7,SNR=10								
ZAA0	**Zalesovo Array**		**96.29**	**324**	P	**P**	**08 15 13.7**	**-1.3**	
ZAA0					IAmb	IAmb	08 15 24.9		
	comp=Z,3.4nm,0.9s								
ZALV	**Zalesovo Beam**		**96.29**	**324**	P	**P**	**08 15 13.8**	**-1.1**	
	comp=Z,0.6nm,0.4s,baz=102,slow=5.0,SNR=4.3								
ZALV	**Zalesovo Beam**		**96.29**	**324**	P	**P**	**08 15 14.1**	**-0.9**	
CRZF	**Crozet Islands**		**96.29**	**219**	P	**P**	**08 15 14.1**	**-1.2**	
MAKZ	**Makanchi**		**96.32**	**317**	P	**P**	**08 15 13.1**	**-2.2**	
MAKZ					IAmb	IAmb	08 15 27.1		
	comp=Z,5.3nm,1.2s								
TXAR	**Lajitas Array**		**96.42**	**61**	P	**P**	**08 15 17.0**	**+0.6**	
	comp=Z,0.2nm,0.8s,baz=229,slow=3.5,SNR=3.2								
TXAR	**Lajitas Array**		**96.42**	**61**		**P**	**08 15 16.5**	**+0.1**	
YKA	**Yellowknife Ar**		**97.05**	**27**	P	**P**	**08 15 17.2**	**-1.0**	
	comp=Z,0.5nm,0.9s,baz=255,slow=4.6,SNR=5.7								
ARCES	**ARCESS Array B**		**119.22**	**345**	PKP	**PKPdf**	**08 20 34.8**	**-0.4**	
	comp=Z,2.3nm,0.7s,baz=45,slow=1.9,SNR=5.7								
CLL	**Collm**		**136.97**	**336**	*e*PKiKP	**PKiKP**	**08 21 12.0**	**+0.7**	
	comp=Z,4.0nm,0.6s								
ESDC	**Sonseca Array**		**152.95**	**344**	PKPbc	**PKPbc**	**08 21 43.6**	**-0.8**	
	comp=Z,1.5nm,1.1s,baz=238,slow=28,SNR=4.6								
TORD	**Torodi Ar. Bea**		**165.30**	**269**	PKP	**PKPdf**	**08 21 52.1**	**0.0**	
	comp=Z,0.9nm,1.0s,baz=34,slow=1.7,SNR=3.2								

*ANF **07** 08:29:32.9±0.3, 36.42N×98.15W, h8km, ML4.3/11, Error ellipse: s-maj=3.9km s-min=2.6km az=4.0*

*TUL **07** 08:29:32.8±0.9, 36.42N±0.02×98.17W±0.02, h8km±7km, ML3.7, mb_Lg3.4/97(NEIC), Error ellipse: s-maj=2.6km s-min=2.0km az=150.0*

*NEIC **07** 08:29:32.7±0.8, 36.41N±0.02×98.16W±0.02, h10km±7km, Error ellipse: s-maj=2.7km s-min=2.3km az=199.0*

*IDC **07** 08:29:33.9±1.6, 36.54N×98.54W, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.5/44, mbtmp3.5/4, ML3.4/4, Error ellipse: s-maj=24.5km s-min=12.6km az=100.0*

ISC 07 08:29:33.0±1.3, 36.40N±0.04×98.14W±0.03, h10km±10km, n111, σ1s08/78, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.69**	**268**	Pg	**Pg**	**08 29 45.7**	**-0.8**
U32A	**Winter Ranch,**	**0.69**	**268**	P	**Pg**	**08 29 45.6**	**-0.8**
	baz=86,SNR=328						
U32A				S	**Sg**	**08 29 55.2**	**-0.3**
	baz=86						
FNO	**Franklin**	**1.29**	**152**		**Pn**	**08 29 56.9**	**-0.3**
T35A	**Sooner Cattle**	**1.41**	**68**		**Pn**	**08 29 58.9**	**+0.1**
T35B	**Sooner Cattle**	**1.41**	**68**	P	**Pn**	**08 29 59.0**	**+0.3**
	baz=250,SNR=359						
T35B				S	**Sn**	**08 30 17.7**	**+0.3**
	baz=250						
W35A	**Tecumseh**	**1.62**	**140**		**Pn**	**08 30 01.9**	**+0.3**
WMOK	**Wichita Mounta**	**1.74**	**198**		**Pn**	**08 30 03.4**	**+0.1**
WMOK	**Wichita Mounta**	**1.74**	**198**	P	**Pn**	**08 30 03.6**	**+0.3**
	baz=16,SNR=400						

WMOK	**Wichita Mounta**	**1.74**	**198**	P	**Pn**	**08 30 03.6**	**+0.3**
	baz=16,SNR=295						
WMOK				S	**Sb**	**08 30 27.2**	**+0.2**
	baz=16						
TUL1	**Leonard**	**1.96**	**104**	IAmb_Lg		08 30 37.7	
	comp=Z,277nm,1.1s						
TUL1	**Leonard**	**1.96**	**104**	P	**Pn**	**08 30 07.4**	**+1.0**
	baz=286,SNR=121						
TUL1				Sb	**Sb**	**08 30 35.4**	**+2.0**
	baz=286						
TUL1	**Leonard**	**1.96**	**104**	P	**Pn**	**08 30 06.7**	**+0.3**
	baz=286						
TUL1				Sb	**Sb**	**08 30 34.9**	**+1.5**
	baz=286						
R32A	**Long Quarter,**	**2.07**	**348**		**Pn**	**08 30 08.6**	**+0.7**
R32A	**Long Quarter,**	**2.07**	**348**	P	**Pn**	**08 30 08.8**	**+0.9**
	baz=168,SNR=101						
R32A				Sb	**Sb**	**08 30 37.4**	**+1.0**
	baz=168						
CBKS	**Cedar Bluff**	**2.72**	**333**	Pn	**Pn**	**08 30 17.2**	**+0.4**
CBKS	**Cedar Bluff**	**2.72**	**333**	P	**Pn**	**08 30 17.4**	**+0.6**
	baz=152,SNR=106						
CBKS	**Cedar Bluff**	**2.72**	**333**	P	**Pn**	**08 30 17.2**	**+0.4**
	baz=152						
CBKS				Sb	**Sb**	**08 30 57.0**	**+1.7**
	baz=152						
X37A	**Clayton**	**2.90**	**128**		**Pn**	**08 30 20.3**	**+1.1**
KSU1	**Kansas State U**	**2.95**	**24**		**Pn**	**08 30 20.4**	**+0.4**
KSU1				IAmb_Lg		08 31 14.0	
	comp=Z,178nm,0.9s						
KSU1	**Kansas State U**	**2.95**	**24**	P	**Pn**	**08 30 20.6**	**+0.6**
	baz=205,SNR=8.3						
KSU1	**Kansas State U**	**2.95**	**24**	P	**Pn**	**08 30 20.4**	**+0.4**
	baz=205,SNR=17						
Z35A	**Perchaven, San**	**3.15**	**166**		**Pn**	**08 30 23.6**	**+0.9**
Z35A	**Perchaven, San**	**3.15**	**166**	P	**Pn**	**08 30 24.0**	**+1.2**
	baz=347						
W39A	**Magazine**	**3.74**	**108**	IAmb_Lg		08 31 40.1	
	comp=Z,83nm,0.8s						
W39A	**Magazine**	**3.74**	**108**	S	**Sg**	**08 31 31.9**	**-1.3**
	baz=290						
W39A	**Magazine**	**3.74**	**108**	P	**Pn**	**08 30 31.5**	**+0.7**
	baz=290,SNR=12						
ABTX	**Abilene, Hawle**	**3.97**	**199**	IAmb_Lg		08 31 42.7	
	comp=Z,81nm,0.7s						
ABTX	**Abilene, Hawle**	**3.97**	**199**	P	**Pn**	**08 30 34.1**	**+0.1**
	baz=17,SNR=11						
S39A	**Bolivar**	**4.07**	**70**	IAmb_Lg		08 31 41.0	
	comp=Z,69nm,0.7s						
Z38A	**Mt. Pleasant**	**4.07**	**139**		**Pn**	**08 30 36.3**	**+0.9**
Z38A				IAmb_Lg		08 31 44.2	
	comp=Z,65nm,1.0s						
MIAR	**Mount Ida**	**4.16**	**115**	IAmb_Lg		08 31 48.5	
	comp=Z,74nm,0.8s						
U40A	**Yellville**	**4.27**	**89**	IAmb_Lg		08 31 49.4	
	comp=Z,96nm,0.8s						
U40A	**Yellville**	**4.27**	**89**	P	**Pn**	**08 30 38.3**	**+0.2**
	baz=272,SNR=17						
N33B	**J Bar K, Exete**	**4.36**	**7**	P	**Pn**	**08 30 38.6**	**-0.7**
	baz=188,SNR=7.9						
N33A	**J Bar K, Exete**	**4.36**	**7**	IAmb_Lg		08 31 57.2	
	comp=Z,51nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.41**	**308**		**Pn**	**08 30 40.9**	**+0.8**
KSCO				IAmb_Lg		08 31 59.1	
	comp=Z,110nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.41**	**308**	P	**Pn**	**08 30 40.3**	**+0.2**
	baz=125						
WHTX	**Lake Whitney,**	**4.44**	**172**	P	**Pn**	**08 30 40.8**	**+0.4**
	baz=353						
WHTX				S	**Sn**	**08 31 32.3**	**+0.2**
	baz=353						
MSTX	**Muleshoe**	**4.50**	**239**		**Pn**	**08 30 41.6**	**+0.2**
MSTX	**Muleshoe**	**4.50**	**239**	P	**Pn**	**08 30 41.3**	**-0.1**
	baz=56						
X40A	**Basin Creek Fa**	**4.74**	**112**	IAmb_Lg		08 32 06.9	
	comp=Z,71nm,0.8s						
X40A	**Basin Creek Fa**	**4.74**	**112**	P	**Pn**	**08 30 45.3**	**+0.8**
	baz=296						
MGMO	**Mountain Grove**	**4.78**	**79**	IAmb_Lg		08 32 10.5	
	comp=Z,48nm,0.8s						
P38A	**Dawn**	**4.86**	**47**	IAmb_Lg		08 32 17.7	
	comp=Z,76nm,0.8s						
N35A	**Tabor**	**4.86**	**23**		**Pn**	**08 30 47.0**	**+0.8**
WLAR	**White Oak Lake**	**4.94**	**122**	IAmb_Lg		08 32 21.3	
	comp=Z,61nm,0.8s						
W41B	**Gary Mavity, V**	**4.95**	**103**	S	**Sn**	**08 31 44.5**	**-0.1**
	baz=286						
BGNE	**Belgrade**	**5.00**	**360**		**Pn**	**08 30 48.0**	**-0.1**
BGNE	**Belgrade**	**5.00**	**360**	P	**Pn**	**08 30 48.1**	**-0.1**
	baz=180,SNR=19						
BGNE	**Belgrade**	**5.00**	**360**	P	**Pn**	**08 30 48.1**	**-0.1**
	baz=180,SNR=9.8						
UALR	**University of**	**5.00**	**107**	IAmb_Lg		08 32 17.8	
	comp=Z,101nm,1.2s						
R40A	**Maddies Statio**	**5.04**	**66**		**Pn**	**08 30 49.1**	**+0.4**
T25A	**Trinidad**	**5.08**	**280**		**Pn**	**08 30 49.8**	**+0.3**
T25A	**Trinidad**	**5.08**	**280**	P	**Pn**	**08 30 49.8**	**+0.3**
	baz=96						
T25A				S	**Sn**	**08 31 46.7**	**-1.7

ECSD	**EROS Data Cent**	**7.42**	**9**	IAmb_Lg			08 33 31.4	
	comp=Z,33nm,0.9s							
ECSD	**EROS Data Cent**	**7.42**	**9**	P		**Pn**	**08 31 19.5**	**-1.8**
	baz=190							
Y45A	**Yeager Farm, C**	**7.49**	**107**	IAmb_Lg			08 33 40.2	
	comp=Z,30nm,1.0s							
PHWY	**Pilot Hill**	**7.51**	**313**			**Pn**	**08 31 21.7**	**-1.2**
PHWY				IAmb_Lg			08 33 38.2	
	comp=Z,36nm,0.8s							
Y22D	**IRIS PASSCAL I**	**7.55**	**255**	IAmb_Lg			08 33 52.9	
	comp=Z,53nm,0.8s							
N23A	**Red Feather La**	**7.57**	**309**	IAmb_Lg			08 33 34.0	
	comp=Z,67nm,0.7s							
N23A	**Red Feather La**	**7.57**	**309**	P		**Pn**	**08 31 24.4**	**+0.7**
	baz=124							
MNTX	**Cornudas Mount**	**7.62**	**234**			**Pn**	**08 31 24.3**	**+0.2**
MNTX	**Cornudas Mount**	**7.62**	**234**	P		**Pn**	**08 31 24.4**	**+0.3**
	baz=50							
146A	**Union**	**8.38**	**114**	IAmb_Lg			08 34 15.6	
	comp=Z,23nm,0.9s							
I37A	**Lemond, Waseca**	**8.42**	**24**	IAmb_Lg			08 34 04.3	
	comp=Z,40nm,0.8s							
TX32	**Lajitas Array**	**8.44**	**215**			**Pn**	**08 31 34.9**	**-0.6**
TXAR	**Lajitas Array**	**8.44**	**215**	Pn		**Pn**	**08 31 35.0**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=29,slow=11,SNR=52							
TXAR				Pg		Pb	08 32 06.1	+6.8
	comp=Z,1.6nm,0.3s,baz=30,slow=15,SNR=18							
TXAR				Lg		Lg	08 33 53.3	
	comp=Z,0.8nm,0.3s,baz=31,slow=15,SNR=2.5							
L42A	**Oliver, Polo**	**8.63**	**47**	IAmb_Lg			08 34 09.5	
	comp=Z,56nm,0.8s							
RWWY	**Rawlins**	**8.81**	**310**	IAmb_Lg			08 34 24.4	
	comp=Z,40nm,1.2s							
JFWS	**Jewell Farm**	**8.90**	**41**	P		**Pn**	**08 31 41.3**	**-0.4**
	baz=226							
RSSD	**Black Hills**	**8.93**	**332**	P		**Pn**	**08 31 42.5**	**+0.3**
	baz=148							
K22A	**Casper**	**8.99**	**317**	IAmb_Lg			08 34 41.9	
	comp=Z,47nm,1.0s							
I40A	**Norwalk**	**9.44**	**35**	IAmb_Lg			08 34 43.4	
	comp=Z,22nm,0.8s							
F33A	**5 Mile Ranch,**	**9.53**	**8**	IAmb_Lg			08 34 47.9	
	comp=Z,26nm,1.0s							
SPMN	**Marine on St.**	**9.69**	**23**	IAmb_Lg			08 34 59.5	
	comp=Z,19nm,0.8s							
SPMN	**Marine on St.**	**9.69**	**23**	P		**Pn**	**08 31 52.1**	**-0.4**
	baz=207							
PDAR	**Pinedale Array**	**10.86**	**309**	Pn		**Pn**	**08 32 08.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=126,slow=14,SNR=6.0							
PDAR				Lg		Lg	08 35 00.7	
	comp=Z,0.4nm,0.3s,baz=111,slow=16,SNR=3.6							
O48B	**Farmland**	**10.90**	**65**	P		**Pn**	**08 32 08.1**	**-0.9**
	baz=254							
TKL	**Tuckaleechee C**	**11.66**	**89**	Lg		Lg	08 35 33.2	
	comp=Z,0.4nm,0.3s,baz=43,slow=14,SNR=5.4							
ULM	**Lac du Bonnet**	**13.94**	**6**	Pn		**Pn**	**08 32 46.0**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=144,slow=8.1,SNR=1.9							
ULM				Lg		Lg	08 36 45.0	
	comp=Z,0.3nm,0.3s,baz=73,slow=16,SNR=2.0							
YKA	**Yellowknife Ar**	**28.05**	**344**	P		**P**	**08 35 23.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=149,slow=8.7,SNR=7.8							

*DJA **07** 08:35:54.8±0.5,6°S±6°×10°3E±°, h10km,M4.2/10,mb4.5/4, mB5.0/1,MLv4.0/10,Mw(mB)4.3/1*
*IDC **07** 08:36:19.5±10.0,6°19S×104°15E,h184km±105km, mb3.4/7,mb1 3.5/7,mb1mx3.1/49,mbtmp3.9/7,Error ellipse: s-maj=168.5km s-min=19.1km az=51.0*
ISC 07 08:35:57.6±1.3,5°7S±0°1×103°2E±0°1,h50km,n21, σ0§95/18,mb3.9/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.08**	**50**	P	**Pn**	**08 36 15.9**	**-0.6**
KASI	**Kota Agung**	**1.27**	**81**	P	**Pn**	**08 36 17.8**	**-1.2**
MNAI	**Manna**	**1.38**	**348**	P	**Pn**	**08 36 20.8**	**+0.3**
MDSI	**Maura Dua**	**1.55**	**38**	P	**Pn**	**08 36 23.1**	**+0.3**
KLSI		**1.81**	**56**	P	**Pn**	**08 36 26.7**	**+0.3**
CGJI	**Cibinong**	**2.60**	**110**	P	**Pn**	**08 36 37.1**	**-0.1**
MASI	**Maura Aman, Be**	**2.75**	**339**	P	**Pn**	**08 36 40.7**	**+1.4**
CNJI	**Cibinong**	**4.18**	**112**	P	**Pn**	**08 36 58.6**	**-0.3**
PPSI	**Pulau Pagai**	**4.36**	**312**	P	**Pn**	**08 37 01.5**	**+0.2**
CMJI	**Cimerak**	**5.57**	**112**	P	**Pn**	**08 37 17.7**	**-0.2**
	0.2nm1µm25nm,0.7s						
SISI	**Saibi**	**6.01**	**316**	P	**Pn**	**08 37 23.0**	**-1.1**
	0.1nm19nm,1.4s						
UGM	**Wanagama**	**7.56**	**107**	P	**Pn**	**08 37 45.6**	**+0.3**
	0.5nm66nm,0.9s						
PCJI	**Pacitan**	**8.26**	**108**	P	**Pn**	**08 37 55.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**25.10**	**121**	P	**P**	**08 41 18.4**	**+0.6**
	2.1nm,0.7s,baz=279,slow=7.4,SNR=5.9						
WRA	**Warramunga Arr**	**33.37**	**118**	P	**P**	**08 42 32.0**	**+0.5**
	0.3nm,0.7s,baz=307,slow=9.2,SNR=5.9						
ASAR	**Alice Springs**	**34.48**	**124**	P	**P**	**08 42 41.5**	**+0.4**
	0.4nm,0.6s,baz=299,slow=7.7,SNR=8.0						
STKA	**Stephens Creek**	**44.29**	**131**	P	**P**	**08 44 03.6**	**+1.0**
	2.7nm,0.5s,baz=311,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**55.49**	**343**	P	P	08 45 40.2	+13
	1.2nm,0.7s,baz=144,slow=8.1,SNR=8.8						
KURBB	**Kurchatov Arra**	**60.03**	**342**	P	P	08 46 12.2	+13
	0.6nm,0.7s,baz=157,slow=6.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**61.43**	**348**	P	P	08 46 22.1	+13
	1.8nm,0.5s,baz=145,slow=8.1,SNR=1.4						
TXAR	**Lajitas Array**	**145.40**	**44**	PKPbc	**PKiKP**	**08 55 32.4**	**-2.5**
	0.5nm,0.6s,baz=288,slow=1.4,SNR=9.2						

*IDC **07** 08:38:50.6±6.5,15°10N×61°11W,h0km,mb3.3/6, mb1 3.7/7,mb1mx3.6/46,mbtmp3.4/7,ML4.0/1,Error ellipse: s-maj=158.2km s-min=59.9km az=175.0*
*TRN **07** 08:39:17.5,18°69N×62°13W,h27km,MD4.3*
ISC 07 08:39:17.9±2.0,18°73N±0°07×62°14W±0°05,h27km±14km, n40,σ1§49/55,mb3.4/6,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.11**	**162**	*eS*	**Sn**	**08 39 52.5**	**+0.6**
ANWB	**Willy Bob**	**1.11**	**162**	*eP*	**Pb**	**08 39 38.8**	**+0.4**
SMRT	**St. Maarten**	**1.12**	**233**	*eP*	**Pb**	**08 39 38.5**	**0.0**
SMRT				*eS*	**Sn**	**08 39 53.5**	**+1.3**
SEUS	**St. Eustatius**	**1.47**	**213**	*eP*	**Pb**	**08 39 44.0**	**-0.6**
SEUS				*eS*	**Sb**	**08 40 02.5**	**-0.3**
SKOC	**St. Kitts, UWI**	**1.54**	**202**	*eP*	**Pn**	**08 39 44.4**	**+0.9**
SKOC				*eS*	**Sn**	**08 40 03.2**	**+0.6**
NVDO	**Nevis, Disaste**	**1.67**	**196**	*eP*	**Pb**	**08 39 46.9**	**-1.0**
NVDO				*eS*	**Sb**	**08 40 07.6**	**-0.8**
ANBD	**Bethesda, Anti**	**1.71**	**168**	*eP*	**Pn**	**08 39 45.9**	**0.0**
ANBD				*eS*	**Sn**	**08 40 07.3**	**+0.5**
MBFL	**Flemmings, Mon**	**1.97**	**182**	*eP*	**Pn**	**08 39 50.0**	**+0.5**
MBFL				*eS*	**Sn**	**08 40 14.8**	**+1.4**
MLYT	**Lee's Yard**	**2.00**	**181**	*eP*	**Pn**	**08 39 50.2**	**+0.3**
MLYT				*eS*	**Sn**	**08 40 15.1**	**+1.1**
ABD	**La Joyeuse, An**	**2.33**	**164**	*eP*	**Pn**	**08 39 55.4**	**+1.0**
ABD				*eS*	**Sn**	**08 40 22.9**	**+0.8**
CDVI	**St. Croix**	**2.68**	**249**	*eP*	**Pn**	**08 40 00.7**	**+1.4**
CDVI				*eS*	**Sn**	**08 40 33.5**	**+2.6**
CBE	**Ff, Capester**	**2.69**	**169**	*eP*	**Pn**	**08 40 00.6**	**+1.1**
CBE				*eS*	**Sn**	**08 40 32.1**	**+0.9**
MAGL	**Barre de l'ile**	**2.88**	**163**	*eP*	**Pn**	**08 40 03.5**	**+1.4**
MAGL				*eS*	**Sn**	**08 40 37.0**	**+1.2**
TBG	**Guadaloupe-3**	**2.90**	**171**	*eP*	**Pn**	**08 40 03.5**	**+1.2**
TBG				*eS*	**Sn**	**08 40 36.7**	**+0.5**
TDBA	**Terre de Bas,**	**2.90**	**170**	*eP*	**Pn**	**08 40 03.9**	**+1.6**
TDBA				*eS*	**Sn**	**08 40 37.9**	**+1.5**
DSLB	**Salisbury**	**3.34**	**168**	*eP*	**Pn**	**08 40 09.6**	**+1.1**
DSLB				*eS*	**Sn**	**08 40 47.7**	**+0.4**
SJG	**San Juan**	**3.86**	**261**	Pn	**Pn**	**08 40 16.8**	**+1.3**
	4.1nm,0.3s,baz=81,slow=9.0,SNR=5.2						
SJG				Sn	**Sn**	**08 40 59.6**	**-0.3**
	8.8nm,0.3s,baz=342,slow=21,SNR=2.2						
FDF	**Fort de France**	**4.08**	**166**	*eP*	**Pn**	**08 40 20.0**	**+1.4**
FDF	**Fort de France**	**4.08**	**166**	*eS*	**Sn**	**08 41 06.5**	**+0.9**
BIM	**Bigot**	**4.31**	**166**	*eP*	**Pn**	**08 40 22.8**	**+1.0**
BIM	**Bigot**	**4.31**	**166**	*eS*	**Sn**	**08 41 11.6**	**+0.4**
AOPR	**Arecibo Observ**	**4.40**	**266**	*eP*	**Pn**	**08 40 24.0**	**+1.1**
MPOM	**Morne Pois Mar**	**4.43**	**164**	*eP*	**Pn**	**08 40 24.8**	**+1.4**
MPOM	**Morne Pois Mar**	**4.43**	**164**	*eS*	**Sn**	**08 41 13.4**	**-0.7**
SLBI	**Saint Lucia, B**	**4.81**	**166**	*eP*	**Pn**	**08 40 30.0**	**+1.4**
SLBI	**Saint Lucia, B**	**4.81**	**166**	*eS*	**Sn**	**08 41 22.6**	**-0.9**
OCAC	**Ocana**	**15.05**	**228**	*eP*	**Pn**	**08 42 51.3**	**+2.3**
PAMC	**Pamplona, Colo**	**15.29**	**224**	*eP*	**Pn**	**08 42 54.9**	**+2.5**
UREC	**San Jos de Ur**	**16.99**	**232**	*eP*	**Pn**	**08 43 09.2**	**-4.5**
PTBC	**PUERTO BERRIO,**	**17.05**	**226**	*eP*	**Pn**	**08 43 14.1**	**-0.4**
CHIC	**Chingaza**	**18.02**	**220**	*eP*	**P**	**08 43 27.7**	**+0.5**
CBOC	**Ciudad Bolivar**	**18.61**	**228**	*eP*	**P**	**08 43 33.6**	**0.0**
GUY2C	**Guyana, Caldas**	**18.62**	**226**	*eP*	**P**	**08 43 31.3**	**-2.7**
PLMC	**San Jos del P**	**19.48**	**227**	*eP*	**P**	**08 43 43.1**	**+0.1**
TXAR	**Lajitas Array**	**39.19**	**294**	P	**P**	**08 46 41.4**	**-2.5**
	0.1nm,0.4s,baz=120,slow=10,SNR=1.9						
PDAR	**Pinedale Array**	**46.52**	**312**	P	**P**	**08 47 45.5**	**+2.2**
	0.2nm,0.6s,baz=123,slow=6.6,SNR=2.3						
NVAR	**Mina Array Bea**	**52.27**	**304**	P	**P**	**08 48 23.4**	**-3.8**
	0.2nm,0.6s,baz=96,slow=8.3,SNR=2.9						
YKA	**Yellowknife Ar**	**56.58**	**334**	P	**P**	**08 48 59.5**	**+1.6**
	0.4nm,0.7s,baz=106,slow=7.4,SNR=6.7						
INK	**Inuvik**	**65.87**	**337**	P	**P**	**08 50 01.7**	**+0.9**
	0.7nm,0.8s,baz=87,slow=7.4,SNR=2.2						
ILAR	**Eielson Array**	**71.00**	**333**	P	**P**	**08 50 32.6**	**-0.3**
	0.3nm,0.7s,baz=80,slow=5.9,SNR=4.6						

*IDC **07** 09:00:25.4±0.9,39°96N×136°00E,h348km±10km, mb3.2/16,mb1 3.3/23,mb1mx3.2/67,mbtmp4.0/23,Error ellipse: s-maj=14.0km s-min=9.5km az=76.0*
*JMA **07** 09:00:25.2±0.3,39°95N×136°35E,h378km±4km,M3.6*
ISC 07 09:00:25.0±0.5,39°94N±0°06×136°19E±0°07,h350km,n35, σ1§79/41,mb3.5/16,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**2.16**	**165**	P	**Pn**	**09 01 20.3**	**+2.8**
JOG3	**Oga3**	**2.22**	**90**	P	Pn	09 01 24.5	+6.7
JSD	**Sado**	**2.49**	**139**	P	**Pn**	**09 01 21.7**	**+1.7**
JSZ	**Suzu**	**2.65**	**159**	P	**Pn**	**09 01 24.0**	**+2.7**
JAW	**Awa shima**	**2.80**	**121**	P	**Pn**	**09 01 24.2**	**+1.7**
JIW	**Iwasaki**	**2.99**	**76**	P	**Pn**	**09 01 26.0**	**+1.8**
JRG	**Rokugo**	**3.47**	**98**	P	**Pn**	**09 01 30.3**	**+1.6**
JRG				*eS*	**S**	**09 02 21.6**	**+1.6**
MJAR	**Matsushiro Arr**	**3.75**	**154**	P	**Pn**	**09 01 32.5**	**+1.0**
	0.7nm,0.3s,baz=113,slow=15,SNR=17						
JNG	**Nsakai**	**3.83**	**156**	P	**Pn**	**09 01 34.3**	**+1.8**
JOT	**Ohata**	**3.96**	**67**	P	**Pn**	**09 01 34.8**	**+1.3**
JMK	**Ichinoseki**	**4.01**	**103**	P	**Pn**	**09 01 35.0**	**+0.9**
JMM	**Marumori**	**4.14**	**119**	P	**Pn**	**09 01 36.3**	**+0.9**
JRY	**Ryogami san**	**4.46**	**150**	P	**Pn**	**09 01 40.8**	**+1.9**
JRY				*eS*	**S**	**09 02 39.9**	**+1.4**
USRK	**Ussuriysk Ar.**	**5.28**	**325**	P	**Pn**	**09 01 48.2**	**+0.7**
	baz=140,slow=10,SNR=6.8						
ASAJ	**Asahikawa**	**6.34**	**47**	P	**Pn**	**09 02 00.2**	**+0.7**
	2.6nm,0.3s,baz=224,slow=12,SNR=35						
ASAJ				S	**S**	**09 03 12.3**	**-3.9**
	1.6nm,0.3s,baz=352,slow=27,SNR=8.7						
KSRS	**Korea Array**	**6.93**	**252**	P	**Pn**	**09 02 06.2**	**-0.2**
	0.2nm,0.3s,baz=70,slow=12,SNR=6.4						
JHJ	**Hachijo jima 2**	**7.39**	**156**	P	**Pn**	**09 02 12.3**	**+0.3**
	20nm,0.3s,baz=323,slow=20,SNR=1.4						
JHJ				S	**S**	**09 03 36.9**	**-2.2**
	12nm,0.3s,baz=63,slow=18,SNR=1.5						
KLR	**Kul'dur**	**9.81**	**343**	P	**Pn**	**09 02 41.1**	**+0.6**
	2.6nm,0.3s,baz=164,slow=13,SNR=36						
JCJ	**Chichijima**	**13.74**	**157**	P	**Pn**	**09 03 27.1**	**-0.2**
	2.7nm,0.3s,baz=355,slow=19,SNR=8.7						
JCJ				S	**S**	**09 05 49.7**	**-6.1**
	3.0nm,0.3s,baz=328,slow=20,SNR=1.6						
SONM	**Songino Array**	**22.77**	**300**	P	**P**	**09 04 59.3**	**+1.1**
	0.8nm,0.3s,baz=105,slow=11,SNR=3.0						
ZALV	**Zalesovo Beam**	**36.92**	**310**	P	**P**	**09 07 00.8**	**-0.5**
	0.5nm,0.4s,baz=67,slow=13,SNR=4.1						
CMAR	**Chiang Mai Arr**	**38.54**	**247**	P	**P**	**09 07 14.1**	**-1.2**
	1.0nm,0.3s,baz=103,slow=14,SNR=17						
NRIK	**Norilsk**	**38.91**	**335**	P	**P**	**09 07 16.1**	**-1.5**
	3.6nm,0.4s,baz=143,slow=10,SNR=16						
MKAR	**Makanchi Array**	**39.12**	**298**	P	**P**	**09 07 18.7**	**-1.0**
	0.6nm,0.6s,baz=87,slow=10,SNR=7.9						
MKAR				ScP	**ScP**	**09 12 34.0**	**-1.5**
	0.2nm,0.5s,baz=108,slow=3.6,SNR=2.2						
ILAR	**Eielson Array**	**49.28**	**33**	P	**P**	**09 08 40.2**	**+1.2**
	0.2nm,0.8s,baz=304,slow=9.7,SNR=1.8						
FITZ	**Fitzroy Crossi**	**58.57**	**192**	P	**P**	**09 09 47.2**	**+1.2**
	1.4nm,0.8s,baz=15,slow=8.7,SNR=2.7						
GEYT	**Alibeck**	**58.87**	**295**	P	**P**	**09 09 46.9**	**-1.1**
	1.8nm,0.5s,baz=76,slow=8.2,SNR=1.7						
WRA	**Warramunga Arr**	**59.59**	**182**	P	**P**	**09 09 53.7**	**+0.7**
	1.1nm,0.4s,baz=356,slow=7.3,SNR=33						
WRA				PcP	**PcP**	**09 10 37.3**	**+1.2**
	0.3nm,0.8s,baz=354,slow=4.7,SNR=1.7						
ARCES	**ARCESS Array B**	**59.80**	**338**	P	**P**	**09 09 54.0**	**+0.2**
	0.5nm,0.4s,baz=57,slow=8.8,SNR=6.2						
ASAR	**Alice Springs**	**63.31**	**182**	P	**P**	**09 10 18.3**	**+0.7**
	0.9nm,0.5s,baz=354,slow=6.7,SNR=20						
FINES	**FINESS Array B**	**64.30**	**330**	P	**P**	**09 10 23.8**	**+0.3**
	3.1nm,0.9s,baz=90,slow=3.8,SNR=5.0						
AKASG	**Malin Array Be**	**69.46**	**319**	P	**P**	**09 10 56.1**	**+0.2**
	0.6nm,0.4s,baz=48,slow=6.5,SNR=2.2						
NOA	**NORSAR Array B**	**69.87**	**335**	P	**P**	**09 10 58.8**	**+0.5**
	0.4nm,0.4s,baz=60,slow=8.1,SNR=4.7						
NVAR	**Mina Array Bea**	**76.44**	**51**	P	**P**	**09 11 38.7**	**+1.6**
	0.3nm,0.6s,baz=298,slow=6.0,SNR=5.0						
PDAR	**Pinedale Array**	**78.46**	**43**	P	**P**	**09 11 49.4**	**+1.3**
	0.7nm,1.0s,baz=190,slow=0.9,SNR=4.2						

*INET **07** 09:24:34.8±0.9,9°45N×83°72W,h4km±3km,MW3.3*
*UPA **07** 09:24:35.2±1.7,9°45N×83°71W,h0km±5km,MW4.1*
ISC 07 09:24:35.7±0.9,9°42N±0°03×83°73W±0°03,h10km±6km, n23,σ0§90/40,1C,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEZE	**Perez Zeledon,**	**0.07**	**128**	*eP*	**Pg**	**09 24 37.9**	**-0.1**
CDM	**Cerro de Muert**	**0.13**	**346**	*eP*	**Pg**	**09 24 39.4**	**+0.2**
CDM				*eS*	**Sg**	**09 24 42.1**	**+0.5**
RIMA	**Rio Macho**	**0.36**	**339**	*eP*	**Pb**	**09 24 43.1**	**-1.3**
RIMA				*eS*	**Sb**	**09 24 48.5**	**-1.7**
DRK0	**Durika**	**0.51**	**108**	*eP*	**Pg**	**09 24 45.4**	**-0.2**
DRK0				*eS*	**Sb**	**09 24 53.8**	**-0.5**
DRK0	**Durika**	**0.51**	**108**	*eP*	**Pg**	**09 24 45.2**	**-0.4**
HDC3	**Heredia 3**	**0.69**	**327**	*eP*	**Pg**	**09 24 48.6**	**-0.4**
HDC	**Heredia**	**0.69**	**327**	*eP*	**Pb**	**09 24 50.0**	**+0.1**
HDC				*eS*	**Sb**	**09 25 00.6**	**+1.2**
RIOS	**Rincon, Osa**	**0.75**	**163**	*eP*	**Pg**	**09 24 49.2**	**-0.9**
BATAN	**Batan**	**0.76**	**28**	*eP*	**Pb**	**09 24 50.5**	**-0.4**
BATAN				*eS*	**Sb**	**09 25 01.8**	**+0.5**
PIRO	**Carate, Puerto**	**1.09**	**159**	*eP*	**Pb**	**09 24 56.7**	**+0.2**
PIRO				*eS*	**Sn**	**09 25 13.1**	**+1.1**
MLIR3	**Monte Lirio, C**	**1.09**	**125**	*eP*	**Pb**	**09 24 56.8**	**+0.1**
MLIR3				*eS*	**Sn**	**09 25 14.0**	**+1.6**
CDITO	**Canoas**	**1.20**	**135**	*eP*	**Pg**	**09 24 56.9**	**-1.8**
BRU2	**Volcan**	**1.20**	**121**	*iP*	**Pg**	**09 24 58.2**	**-0.6**
BRU2				*eS*	**Sn**	**09 25 15.6**	**+0.5**
LAFE	**Finca La Fe, P**	**1.22**	**288**	*eP*	**Pn**	**09 24 59.1**	**+0.3**
CNI2	**El Empalme, Bo**	**1.24**	**90**	*eP*	**Pn**	**09 24 59.2**	**+0.1**
CNI2				*eS*	**Sg**	**09 25 14.9**	**-0.8**
BC3P	**Paso Ancho**	**1.26**	**119**	*eP*	**Pb**	**09 24 59.5**	**-0.2**
BC3P				*eS*	**Sg**	**09 25 15.2**	**-1.2**
BCO2	**Palmira**	**1.38**	**120**	*eP*	**Pn**	**09 25 00.5**	**-0.7**
BCO2				*eS*	**Sg**	**09 25 19.6**	**-0.6**
PTAR3	**Potrerillos Ar**	**1.42**	**121**	*eP*	**Pn**	**09 25 01.5**	**-0.2**
PTAR3				*eS*	**Sn**	**09 25 22.3**	**+1.9**
LNBQ3	**Los Naranjos,**	**1.42**	**116**	*eP*	**Pn**	**09 25 01.5**	**-0.2**
LNBQ3				*eS*	**Sn**	**09 25 21.5**	**+1.0**
PTPM	**Petroterminale**	**1.48**	**145**	*eP*	**Pg**	**09 25 03.8**	**-0.2**
PTPM				*eS*	**Sg**	**09 25 24.5**	**+1.3**
JTS	**Las Juntas de**	**1.48**	**306**	*eP*	**Pn**	**09 25 02.5**	**+0.1**
JTS				*eS*	**Sg**	**09 25 22.5**	**-0.9**
DVD	**David**	**1.60**	**128**	*eP*	**Pn**	**09 25 03.9**	**-0.1**
DVD				*eS*	**Sn**	**09 25 25.5**	**+0.8**
BCIP	**Isla Barro Col**	**3.85**	**93**	*eP*	**Pn**	**09 25 36.4**	**+1.4**
BCIP				*eS*	**Sn**	**09 26 20.9**	**+0.5**

*IDC **07** 09:33:56.8±2.3,47°66N×146°32E,h399km±26km,mb2.9/6, mb1 2.9/10,mb1mx2.7/48,mbtmp3.6/10,Error ellipse: s-maj=21.6km s-min=20.3km az=87.0*
ISC 07 09:33:57.6±1.0,47°7N±0°2×146°4E±0°1,h411km,n10, σ1§29/10,mb3.0/6,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**9.02**	**49**	P	**P**	**09 36 02.2**	**-1.6**
	baz=229,slow=15,SNR=2.4						
KLR	**Kul'dur**	**9.84**	**284**	P	**P**	**09 36 13.9**	**+0.8**
	0.3nm,0.3s,baz=69,slow=7.9,SNR=6.0						
USRK	**Ussuriysk Ar.**	**10.62**	**256**	P	**P**	**09 36 21.1**	**-0.6**
	baz=69,slow=9.0,SNR=1.8						
KSRS	**Korea Array**	**16.99**	**240**	P	**P**	**09 37 30.9**	**+0.1**
	0.2nm,0.3s,baz=39,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**42.39**	**294**	P	**P**	**09 41 13.2**	**-0.5**
	0.4nm,0.5s,baz=66,slow=7.1,SNR=5.3						
KURBB	**Kurchatov Arra**	**43.06**	**300**	P	**P**	**09 41 18.0**	**-0.8**
	0.9nm,0.5s,baz=69,slow=8.6,SNR=7.4						
FINES	**FINESS Array B**	**61.12**	**332**	P	**P**	**09 43 30.3**	**+0.7**
	2.0nm,0.7s,baz=27,slow=9.4,SNR=2.1						
WRA	**Warramunga Arr**	**68.20**	**192**	P	**P**	**09 44 14.3**	**-1.1**
	0.2nm,0.9s,baz=7.0,slow=6.6,SNR=4.9						
ASAR	**Alice Springs**	**71.93**	**192**	P	**P**	**09 44 37.9**	**+0.3**
	0.2nm,0.5s,baz=4.7,slow=5.4,SNR=8.6						
TXAR	**Lajitas Array**	**80.89**	**56**	P	**P**	**09 45 29.8**	**+2.3**
	0.1nm,0.4s,baz=316,slow=3.8,SNR=1.3						

*NOU **07** 09:44:45.8,41°77S×174°45E,h0km,MLv4.2/7,Cook Strait, New Zealand*
*WEL **07** 09:44:47.1±0.5,42°S±3°×17°4E±°,h9km±4km,M3.2/16, ML3.6/16,MLv3.2/16,Error ellipse: s-maj=0.0km s-min=0.0km az=157.5*
ISC 07 09:44:46.8±1.0,41°67S±0°03×174°47E±0°03,h25km±8km, n96,σ1§39/103,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.21**	**246**	P	**Pb**	**09 44 53.0**	**+0.4**
CMWZ				S	**Sb**	**09 44 57.7**	**+1.2**
BHW	**Baring Head**	**0.40**	**50**	P	**Pb**	**09 44 55.3**	**-0.1**
BHW				S	**Sb**	**09 45 00.8**	**-0.4**
SNZO	**South Karori**	**0.40**	**27**	P	**Pb**	**09 44 54.7**	**-0.7**
WEL	**Wellington**	**0.44**	**31**	P	**Pb**	**09 44 55.5**	**-0.6**
WEL				S	**Sb**	**09 45 01.6**	**-0.8**
BSWZ	**Blackbirch Sta**	**0.45**	**263**	P	**Pb**	**09 44 56.1**	**-0.1**
TUWZ	**Tuamarina**	**0.46**	**301**	P	**Pb**	**09 44 55.1**	**-1.3**
TUWZ				S	**Sb**	**09 45 00.6**	**-2.2**
TCW	**Tory Channel**	**0.48**	**343**	P	**Pb**	**09 44 55.0**	**-1.7**
TCW				S	**Sb**	**09 45 00.2**	**-3.1**
PLWZ	**Palliser**	**0.60**	**81**	P	**Pn**	**09 44 60.0**	**+0.2**
MSWZ	**Moikau Station**	**0.64**	**67**	P	**Pb**	**09 45 00.2**	**+0.8**
CAW	**Cannon Point**	**0.72**	**39**	P	**Pb**	**09 45 00.3**	**-0.4**
CAW				S	**Sb**	**09 45 09.8**	**-0.4**
PAWZ	**Paruwai Farm**	**0.78**	**69**	P	**Pn**	**09 45 02.6**	**+0.4**
PAWZ				S	**Sn**	**09 45 13.6**	**+0.6**
KIW	**Kapiti Island**	**0.87**	**23**	P	**Pb**	**09 45 02.5**	**-0.8**
MTW	**Mount Morrison**	**0.93**	**57**	P	**Pn**	**09 45 04.9**	**+0.6**
NNZ	**Nelson**	**0.93**	**298**	P	**Pb**	**09 45 03.4**	**-0.9**
TRWZ	**Traveller**	**0.95**	**74**	P	**Pn**	**09 45 05.5**	**+0.9**
DUWZ	**D'Urville Isla**	**0.96**	**334**	P	**Pb**	**09 45 03.5**	**-1.2**
OGWZ	**Otaki Gorge**	**1.00**	**32**	P	**Pb**	**09 45 04.9**	**-0.6**
KHZ	**Kahutara**	**1.02**	**222**	P	**Pn**	**09 45 07.1**	**+1.6**

UXUV				*e*			10 00 57.0	
CMIG	**Matias Romero**	**4.08**	**322**	Pn	**Pn**	**10 00 10.8**	**+0.9**
	0.9nm,0.3s,baz=159,slow=10.0,SNR=13							
CMIG				Sn	**Sn**	**10 00 57.7**	**-0.6**
	2.2nm,0.3s,baz=102,slow=20,SNR=4.8							
CMIG				Lg	Lg	10 01 16.5		
	3.5nm,0.3s,baz=49,slow=20,SNR=6.4							
CMIG	**Matias Romero**	**4.08**	**322**	*e*P	**Pn**	**10 00 09.2**	**-0.6**
CMIG				*e*		10 01 04.5		
JTS	**Las Juntas de**	**7.99**	**115**	Pn	**Pn**	**10 01 02.9**	**-0.6**
	0.4nm,0.3s,baz=331,slow=17,SNR=1.6							
TXAR	**Lajitas Array**	**18.67**	**327**	P	**P**	**10 03 27.5**	**+1.6**
	0.1nm,0.3s,baz=144,slow=7.7,SNR=5.7							
ANMO	**Albuquerque**	**24.60**	**331**	P	**P**	**10 04 29.9**	**+1.7**
	0.6nm,0.6s,baz=147,slow=11,SNR=4.3							
NVAR	**Mina Array Bea**	**33.62**	**322**	P	**P**	**10 05 50.7**	**+2.2**
	0.7nm,0.9s,baz=156,slow=8.9,SNR=4.8							
YKA	**Yellowknife Ar**	**51.11**	**347**	P	**P**	**10 08 08.2**	**-2.0**
	0.5nm,0.7s,baz=148,slow=7.6,SNR=7.5							

*IDC **07** 10:19:54.1±0.8,6°.76N×72°.98W,h160km±12km,mb2.9/3, mb1 3.4/5,mb1mx3.0/46,mbtmp3.5/5,Error ellipse: s-maj=38.8km s-min=8.7km az=131.0*
*RSNC **07** 10:19:55.1±0.9,6°.84N×73°.16W,h150km±4km,ML3.3, Mw3.6*

ISC 07 10:19:53.9±0.8,6°.85N±0°.03×73°.14W±0°.03,h157km±6km, n40,σ1§76/75,mb3.1/3,2C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BARC	**Barichara**	**0.26**	**189**	⇓*i*P	**Pn**	**Pn**	**10 20 15.4**	**0.0**
BARC				*e*S	**Sn**	**Sn**	**10 20 30.7**	**-1.2**
BARC				*i*			10 20 31.9	
	comp=Z,576nm,0.2s							
PAMC	**Pamplona, Colo**	**0.65**	**42**	⇑*e*P	**Pn**	**Pn**	**10 20 18.2**	**+0.8**
PAMC				*e*S	**Sn**	**Sn**	**10 20 35.5**	**+0.1**
PAMC				*i*			10 20 36.0	
	comp=Z,187nm,0.2s							
RUSC	**La Rusia**	**0.95**	**176**	*e*P	**Pn**	**Pn**	**10 20 19.4**	**-0.1**
RUSC				*e*S	**Sn**	**Sn**	**10 20 38.3**	**-0.8**
RUSC				*i*			10 20 39.5	
	comp=Z,195nm,0.2s							
PTBC	**PUERTO BERRIO,**	**1.34**	**257**	*e*P	**Pn**	**Pn**	**10 20 21.9**	**-0.5**
PTBC				*e*S	**Sn**	**Sn**	**10 20 43.2**	**-1.0**
PTBC				*i*			10 20 49.8	
	comp=Z,221nm,0.4s							
OCAC	**Ocana**	**1.39**	**353**	*e*P	**Pn**	**Pn**	**10 20 23.4**	**+0.4**
OCAC				*e*S	**Sn**	**Sn**	**10 20 45.4**	**0.0**
OCAC				*i*			10 20 48.9	
	comp=Z,434nm,0.2s							
TAMC	**Tame, Arauca**	**1.41**	**107**	⇑*i*P	**Pn**	**Pn**	**10 20 23.8**	**+0.8**
TAMC				*i*			10 20 44.6	
	comp=Z,122nm,0.3s							
TAMC				*e*S	**Sn**	**Sn**	**10 20 45.6**	**+0.2**
SPBC	**San Pablo de B**	**1.51**	**218**	*e*P	**Pn**	**Pn**	**10 20 24.3**	**+0.2**
SPBC				*e*S	**Sn**	**Sn**	**10 20 46.6**	**-0.8**
SPBC				*i*			10 20 50.8	
	comp=Z,490nm,0.7s							
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	*e*P	**Pn**	**Pn**	**10 20 27.9**	**+0.5**
ZARC				*e*S	**Sn**	**Sn**	**10 20 53.3**	**+0.2**
ZARC				*i*			10 20 58.5	
	comp=Z,302nm,0.3s							
NORC	**Norcasia**	**2.14**	**233**	*e*P	**Pn**	**Pn**	**10 20 31.5**	**+0.4**
NORC				*e*S	**Sn**	**Sn**	**10 20 59.3**	**-0.5**
NORC				*i*			10 21 08.8	
	comp=Z,115nm,0.2s							
CHIC	**Chingaza**	**2.29**	**195**	*e*P	**Pn**	**Pn**	**10 20 33.6**	**+0.4**
CHIC				*e*S	**Sn**	**Sn**	**10 21 02.9**	**-0.6**
CHIC				*i*			10 21 06.3	
	comp=Z,148nm,0.7s							
ROSC	**El Rosal**	**2.32**	**210**	P	**Pn**	**Pn**	**10 20 35.2**	**+1.7**
	comp=Z,32nm,0.3s,baz=96,slow=19,SNR=74							
ROSC				S	**Sn**	**Sn**	**10 21 04.8**	**+0.7**
	comp=Z,24nm,0.3s,baz=126,slow=14,SNR=6.1							
ROSC	**El Rosal**	**2.32**	**210**	*e*P	**Pn**	**Pn**	**10 20 35.0**	**+1.5**
ROSC				*e*S	**Sn**	**Sn**	**10 21 05.5**	**+1.4**
HELC	**Santa Helena**	**2.46**	**255**	*e*P	**Pn**	**Pn**	**10 20 36.0**	**+0.8**
HELC				*e*S	**Sn**	**Sn**	**10 21 07.7**	**+0.7**
HELC				*i*			10 21 13.8	
	comp=Z,106nm,0.4s							
UREC	**San Jos de Ur**	**2.53**	**291**	*e*P	**Pn**	**Pn**	**10 20 35.3**	**-0.5**
UREC				*e*S	**Sn**	**Sn**	**10 21 06.0**	**-2.1**
UREC				*i*			10 21 14.4	
	comp=Z,116nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P	**Pn**	**Pn**	**10 20 39.3**	**+0.6**
GUY2C				*e*S	**Sn**	**Sn**	**10 21 12.9**	**-0.4**
GUY2C				*i*			10 21 21.5	
	comp=Z,149nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.82**	**159**	⇓*e*P	**Pn**	**Pn**	**10 20 38.6**	**-0.7**
PTGC				*e*S	**Sn**	**Sn**	**10 21 12.3**	**-2.2**
PTGC				*i*			10 21 23.2	
	comp=Z,60nm,0.3s							
LL6C	**La Loma 6 Bece**	**2.87**	**357**	*e*P	**Pn**	**Pn**	**10 20 40.1**	**+0.2**
LL6C				*e*S	**Sn**	**Sn**	**10 21 15.8**	**+0.2**
LL6C				*i*			10 21 21.4	
	comp=Z,59nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.02**	**251**	*e*P	**Pn**	**Pn**	**10 20 43.0**	**+1.1**
CBOC				*e*S	**Sn**	**Sn**	**10 21 19.3**	**+0.3**
CBOC				*i*			10 21 30.4	
	comp=Z,31nm,0.5s							
MOTC	**Monteria, Cord**	**3.15**	**308**	*e*P	**Pn**	**Pn**	**10 20 42.5**	**-0.9**
MOTC				*e*S	**Sn**	**Sn**	**10 21 20.7**	**-1.1**
MOTC				*i*			10 21 36.2	
	comp=Z,67nm,0.5s							
SDV	**Santo Domingo**	**3.20**	**51**	P	**Pn**	**Pn**	**10 20 44.9**	**+0.6**
	comp=Z,30nm,0.3s,baz=239,slow=12,SNR=83							
SDV				S	**Sn**	**Sn**	**10 21 22.6**	**-0.8**
	comp=Z,5.5nm,0.3s,baz=266,slow=19,SNR=6.3							
SDV	**Santo Domingo**	**3.20**	**51**	*e*P	**Pn**	**Pn**	**10 20 45.0**	**+0.6**
SDV				*e*S	**Sn**	**Sn**	**10 21 20.9**	**-2.4**
ANIL	**Santa Ana**	**3.25**	**224**	*e*P	**Pn**	**Pn**	**10 20 45.5**	**+0.6**
ANIL				*e*S	**Sn**	**Sn**	**10 21 25.1**	**+0.6**
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P	**Pn**	**Pn**	**10 20 49.6**	**+0.4**
ORTC				*e*S	**Sn**	**Sn**	**10 21 32.9**	**+0.8**
ORTC				*i*			10 21 36.8	
	comp=Z,90nm,0.2s							
SJCC	**San Jacinto, C**	**3.63**	**326**	*e*P	**Pn**	**Pn**	**10 20 49.0**	**-0.7**
SJCC				*e*S	**Sn**	**Sn**	**10 21 30.4**	**-2.7**
SJCC				*i*			10 21 45.1	
	comp=Z,39nm,0.6s							
PLMC	**San Jos del P**	**3.67**	**238**	*e*P	**Pn**	**Pn**	**10 20 50.9**	**+0.7**
PLMC				*e*S	**Sn**	**Sn**	**10 21 32.2**	**-1.7**
PLMC				*i*			10 21 45.9	
	comp=Z,28nm,0.2s							
CRJC	**Cerrejon, Guaj**	**4.15**	**4**	*e*P	**Pn**	**Pn**	**10 20 55.6**	**-0.7**
CRJC				*e*S	**Sn**	**Sn**	**10 21 43.5**	**-1.6**
CRJC				*i*			10 21 50.6	
	comp=Z,64nm,0.2s							
YOTC	**Yotoco, Valle**	**4.28**	**228**	*e*P	**Pn**	**Pn**	**10 20 58.0**	**-0.1**
YOTC				*e*S	**Sn**	**Sn**	**10 21 42.5**	**-5.6**
GUVC	**San Jose del G**	**4.31**	**173**	*e*P	**Pn**	**Pn**	**10 20 58.1**	**-0.3**
GUVC				*e*S	**Sn**	**Sn**	**10 21 45.8**	**-2.9**
GUVC				*i*			10 21 53.0	
	comp=Z,56nm,0.2s							
SMRC	**Santa Marta, M**	**4.42**	**346**	*e*P	**Pn**	**Pn**	**10 20 59.9**	**+0.1**
SMRC				*e*S	**Sn**	**Sn**	**10 21 47.4**	**-3.7**
SMRC				*i*			10 21 50.9	
	comp=Z,28nm,0.4s							
MACC	**Macarena, Meta**	**4.73**	**189**	*e*P	**Pn**	**Pn**	**10 21 02.5**	**-1.5**
MACC				*e*S	**Sn**	**Sn**	**10 21 53.5**	**-5.1**
MACC				*i*			10 21 59.5	
	comp=Z,53nm,0.9s							
DABV	**Dabajuro**	**4.74**	**31**	*e*P	**Pn**	**Pn**	**10 21 04.7**	**+0.6**
DABV				*e*S	**Sn**	**Sn**	**10 21 55.1**	**-3.7**
MARP	**Paez Belalcaza**	**4.87**	**215**	*e*P	**Pn**	**Pn**	**10 21 06.7**	**+0.7**
MARP				*e*S	**Sn**	**Sn**	**10 21 59.8**	**-2.5**
MARP				*i*			10 22 07.0	
	comp=Z,7.9nm,0.4s							
URIC	**Uribia, Colomb**	**4.95**	**13**	*e*P	**Pn**	**Pn**	**10 21 05.9**	**-0.9**
URIC				*e*S	**Sn**	**Sn**	**10 22 00.3**	**-3.5**
URIC				*i*			10 22 08.4	
	comp=Z,11nm,0.4s							
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P	**Pn**	**Pn**	**10 21 09.5**	**-0.7**
GARC				*e*S	**Sn**	**Sn**	**10 22 06.4**	**-3.5**
GARC				*i*			10 22 13.6	
	comp=Z,40nm,0.2s							
POPC	**Popayan, Colom**	**5.54**	**220**	*e*P	**Pn**	**Pn**	**10 21 15.1**	**+0.2**
POPC				*e*S	**Sn**	**Sn**	**10 22 12.3**	**-5.9**
POPC				*i*			10 22 24.2	
	comp=Z,4.2nm,0.5s							
TXAR	**Lajitas Array**	**36.42**	**312**	P	**P**	**P**	**10 26 45.2**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=121,slow=11,SNR=2.3							
PDAR	**Pinedale Array**	**48.04**	**324**	P	**P**	**P**	**10 28 18.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=116,slow=6.1,SNR=2.2							
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**P**	**10 30 05.8**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=133,slow=6.6,SNR=11							
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPbc**	**PKPbc**	**10 39 24.5**	**-0.1**
	comp=Z,0.4nm,1.1s,baz=106,slow=3.0,SNR=1.7							
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc	**PKPbc**	**PKPbc**	**10 39 26.9**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=107,slow=2.6,SNR=5.5							

*NEIC **07** 10:38:07.4±2.5, 13°.84S±0°.07×166°.7E±0°.1,h23km±5km, mb4.6/18, Error ellipse: s-maj=16.6km s-min=7.5km az=58.0*
*IDC **07** 10:38:10.2±3.4, 13°.92S×166°.56E,h48km±30km,mb4.0/11, mb1 4.2/13,mb1mx3.8/39,mbtmp4.3/13,ML4.2/2,MS3.8/23, Ms1 3.8/23,ms1mx3.5/64,Error ellipse: s-maj=27.1km s-min=20.3km az=98.0*

ISC 07 10:38:09.6±0.6,13°.88S±0°.06×166°.61E±0°.09,h43km,n64, σ1§48/47,mb4.5/21,MS3.8/21,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SANVU	**Saraoutou**	**1.66**	**160**	Pn	**Pn**	**Pn**	**10 38 35.7**	**-0.6**
LIFNC	**LIFOU**	**6.89**	**175**	Pn	**Pn**	**Pn**	**10 39 43.8**	**-4.3**
KOUNC	**Koumac, New Ca**	**7.00**	**198**		**Pn**	**Pn**	**10 39 49.2**	**-0.4**
MARNC	**Mare, Loyalty**	**7.68**	**170**	Pn	**Pn**	**Pn**	**10 39 56.2**	**-2.8**
HNR	**Honiara**	**7.88**	**303**	P	**Pn**	**Pn**	**10 40 02.4**	**+0.6**
	12nm,0.3s,baz=190,slow=14,SNR=1.5							
HNR				S		**Sn**	**10 41 26.6**	**-3.2**
	5.3nm,0.3s,baz=187,slow=21,SNR=1.3							
HNR	**Honiara**	**7.88**	**303**	Pn	**Pn**	**Pn**	**10 40 02.5**	**+0.8**
DZM	**Mont Dzumac**	**8.15**	**181**	P	**Pn**	**Pn**	**10 40 06.1**	**+0.5**
	1.0nm,0.3s,baz=321,slow=23,SNR=3.0							
DZM				S		**Sn**	**10 41 40.3**	**+3.9**
	0.5nm,0.3s,baz=324,slow=21,SNR=1.5							
DZM				LR	LR		10 43 03.3	
	comp=Z,623nm,20.3s,baz=16,slow=36							
DZM	**Mont Dzumac**	**8.15**	**181**	*e*Pn		**Pn**	**10 40 06.0**	**+0.5**
	18nm,0.3s							
DZM				*e*Sn		**Sn**	**10 41 33.0**	**-3.4**
	24nm,0.8s							
DZM				*e*LR	LR		10 41 56.0	
	comp=Z,594nm,24.2s							
DZM	**Mont Dzumac**	**8.15**	**181**	Pn	**Pn**	**Pn**	**10 40 05.7**	**+0.1**
ONTNC	**Ouen Toro**	**8.38**	**181**	Pn	**Pn**	**Pn**	**10 40 08.4**	**-0.2**
OUENC	**Ouen Island, N**	**8.50**	**179**	Pn	**Pn**	**Pn**	**10 40 09.0**	**-1.2**
PINNC	**Pines Island,**	**8.72**	**175**	Pn	**Pn**	**Pn**	**10 40 14.3**	**+1.0**
MSVF	**Nonsavu**	**11.65**	**111**	LR	LR	LR	10 44 16.2	
	comp=Z,188nm,20.4s,baz=56,slow=31							
PMG	**Port Moresby**	**19.56**	**281**	LR	LR		10 49 02.5	
	comp=Z,128nm,19.6s,baz=43,slow=33							
CTA	**Charters Tower**	**20.42**	**250**	P	**P**	**P**	**10 42 43.0**	**-0.3**
	4.9nm,0.8s,baz=122,slow=15,SNR=4.1							
CTA				LR	LR		10 49 24.2	
	comp=Z,264nm,19.1s,baz=81,slow=33							
AFI	**Afiamalu**	**20.98**	**93**	LR	LR		10 49 21.1	
	comp=Z,180nm,18.7s,baz=241,slow=32							
BKZ	**Black Stump Fm**	**26.66**	**163**	P	**P**	**P**	**10 43 43.7**	**-0.8**
BKZ				IAmb	IAmb	IAmb	10 44 06.5	
	comp=Z,26nm,1.2s							
STKA	**Stephens Creek**	**29.07**	**228**	P	**P**	**P**	**10 44 06.5**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=30,slow=7.0,SNR=7.5							
STKA				LR	LR		10 55 22.1	
	comp=Z,248nm,18.3s,baz=36,slow=36							
RPZ	**Rata Peaks**	**29.98**	**174**	LR	LR		10 55 48.0	
	comp=Z,157nm,18.3s,baz=322,slow=35							
WB0	**Warramunga Arr**	**31.36**	**255**	P	**P**	**P**	**10 44 24.9**	**-1.6**
WB2	**Warramunga Arr**	**31.42**	**254**	P	**P**	**P**	**10 44 26.6**	**-0.4**
WRAB	**Tennant Creek**	**31.42**	**254**	P	**P**	**P**	**10 44 28.1**	**+1.1**
WRAB				IAmb	IAmb	IAmb	10 44 29.7	
	comp=Z,7.0nm,1.4s							
WRA	**Warramunga Arr**	**31.43**	**254**	P	**P**	**P**	**10 44 25.1**	**-2.0**
	comp=Z,1.5nm,0.9s,baz=85,slow=9.6,SNR=10							
WRA				LR	LR		10 56 58.2	
	comp=Z,132nm,19.5s,baz=84,slow=36							
ASAR	**Alice Springs**	**32.39**	**248**	P	**P**	**P**	**10 44 33.9**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=74,slow=9.4,SNR=24							
ASAR				LR	LR		10 56 30.6	
	comp=Z,204nm,19.5s,baz=84,slow=34							
RAR	**Rarotonga**	**32.82**	**108**	LR	LR		10 56 50.7	
	comp=Z,114nm,18.2s,baz=262,slow=34							
BBOO	**Buckleboo**	**33.61**	**231**	P	**P**	**P**	**10 44 46.3**	**+0.2**
SIJI	**Sorong**	**37.28**	**287**	LR	LR		11 00 58.9	
	comp=Z,144nm,19.4s,baz=58,slow=37							
FORT	**Forest**	**39.19**	**238**	P	**P**	**P**	**10 45 35.5**	**+1.8**
FORT				IAmb	IAmb	IAmb	10 45 46.3	
	comp=Z,11nm,0.8s							
FITZ	**Fitzroy Crossi**	**39.55**	**258**	LR	LR		11 02 23.5	
	comp=Z,179nm,18.3s,baz=72,slow=37							
FITZ	**Fitzroy Crossi**	**39.55**	**258**	P	**P**	**P**	**10 45 37.9**	**+1.0**
BATI	**Baumata**	**42.12**	**270**	LR	LR		11 04 10.9	
	comp=Z,151nm,18.3s,baz=234,slow=37							
PPT	**Papeete**	**42.26**	**101**	LR	LR		10 59 15.1	
	comp=Z,37nm,21.1s,baz=304,slow=30							
TAOE	**Nuku Hiva Isla**	**52.35**	**91**	*e*LR	LR		11 02 29.0	
	comp=Z,110nm,29.2s							
SBA	**Scott Base**	**63.98**	**180**	P	**P**	**P**	**10 48 39.4**	**+1.2**
SBA				IAmb	IAmb	IAmb	10 48 48.5	
	comp=Z,8.0nm,1.4s							
USRK	**Ussuriysk Ar.**	**65.84**	**333**	P	**P**	**P**	**10 48 51.8**	**+1.1**
	comp=Z,3.1nm,0.9s,baz=177,slow=5.8,SNR=6.9							
SHEM	**Shemya Is, Ala**	**66.65**	**5**	LR	LR		11 13 21.5	
	comp=Z,33nm,19.3s,baz=170,slow=32							
CN2	**Changchun**	**68.59**	**329**	*e*P		P	10 49 18.6	+11
CN2				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**74.02**	**294**	P	**P**	**P**	**10 49 42.1**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=118,slow=4.2,SNR=7.5							
MA2	**Magadan**	**74.32**	**352**	LR	LR		11 18 55.6	
	comp=Z,44nm,19.0s,baz=204,slow=33							
QSPA	**South Pole Qui**	**76.14**	**180**	P	**P**	**P**	**10 49 53.1**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=7.9,slow=1.1,SNR=11							
OHAK	**Old Harbor**	**78.22**	**21**	P	**P**	**P**	**10 50 06.7**	**+2.3**
BILL	**Bilibino**	**81.69**	**360**	P	**P**	**P**	**10 50 23.2**	**+0.2**
BILL				IAmb	IAmb	IAmb	10 50 23.9	
	comp=Z,5.7nm,0.9s							
I21K	**Tanana**	**84.76**	**16**	P	**P**	**P**	**10 50 39.0**	**+0.2**
I21K				IAmb	IAmb	IAmb	10 50 40.2	
	comp=Z,4.1nm,0.9s							
YBH	**Yreka Blue Hor**	**85.27**	**45**	LR	LR		11 27 06.6	
	comp=Z,40nm,18.2s,baz=340,slow=34							
HDA	**Harding Lake**	**85.64**	**18**	P	**P**	**P**	**10 50 43.5**	**+0.1**
MDM	**Murphy Dome**	**85.65**	**18**	P	**P**	**P**	**10 50 43.0**	**-0.4**
MDM				IAmb	IAmb	IAmb	10 50 44.1	
	comp=Z,7.3nm,1.0s							
IL31		**85.92**	**18**	IAmb	IAmb	IAmb	10 50 45.0	
	comp=Z,3.8nm,1.1s							
ILAR	**Eielson Array**	**85.92**	**18**	P	**P**	**P**	**10 50 43.4**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=245,slow=4.9,SNR=19							
J25K	**Salcha River,**	**86.27**	**19**	IAmb	IAmb	IAmb	10 50 53.9	
	comp=Z,3.6nm,0.7s							
PFO	**Pinyon Flats O**	**87.02**	**54**	LR	LR		11 24 19.9	
	comp=Z,58nm,18.1s,baz=236,slow=32							
NVAR	**Mina Array Bea**	**87.20**	**49**	LR	LR		11 24 03.8	
	comp=Z,82nm,18.3s,baz=250,slow=32							
ELK	**Elko**	**90.19**	**48**	LR	LR		11 25 14.1	
	comp=Z,58nm,18.8s,baz=262,slow=31							
INK	**Inuvik**	**92.29**	**19**	LR	LR		11 31 38.1	
	comp=Z,48nm,18.6s,baz=97,slow=35							
ANMO	**Albuquerque**	**95.35**	**55**	LR	LR		11 28 53.8	
	comp=Z,45nm,18.9s,baz=304,slow=32							
MK31	**Makanchi Array**	**96.15**	**317**	P	**P**	**P**	**10 51 32.8**	**-0.2**
MK31				IAmb	IAmb	IAmb	10 51 33.9	
	comp=Z,1.5nm,0.8s							
MKAR	**Makanchi Array**	**96.15**	**317**	P	**P**	**P**	**10 51 33.1**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=104,slow=5.8,SNR=7.3							
MKAR	**Makanchi Array**	**96.15**	**317**	P	**P**	**P**	**10 51 32.6**	**-0.5**
ZALV	**Zalesovo Beam**	**96.33**	**324**	P	**P**	**P**	**10 51 33.0**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=129,slow=4.6,SNR=3.5							
TXAR	**Lajitas Array**	**96.43**	**61**	LR	LR		11 27 53.5	
	comp=Z,27nm,18.6s,baz=354,slow=31							
YKA	**Yellowknife Ar**	**97.09**	**27**	P	**P**	**P**	**10 51 35.9**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=254,slow=4.5,SNR=4.2							
ARCES	**ARCESS Array B**	**119.27**	**345**	PKP		**PKPdf**	**10 56 53.0**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=85,slow=1.6,SNR=8.3							
NOA	**NORSAR Array B**	**129.64**	**345**	PKP		**PKPdf**	**10 57 13.3**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=32,slow=2.1,SNR=3.9							
ESDC	**Sonseca Array**	**153.00**	**344**	PKP		**PKPdf**	**10 57 55.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=18,slow=2.0,SNR=2.1							
ESDC				PKPbc		**PKiKP**	**10 58 03.2**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=24,slow=3.5,SNR=3.6							
ESDC				PKPab		**PKPab**	**10 58 14.0**	**0.0**
	comp=Z,1.2nm,0.7s,baz=5.5,slow=4.7,SNR=5.5							
TORD	**Torodi Ar. Bea**	**165.31**	**269**	PKP		**PKPdf**	**10 58 10.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=105,slow=0.7,SNR=3.5							

*BJI **07** 10:39:42.3±0.0,7°.50S×105°.02E,h52km,mb4.7/25, mB4.8/13,Ms4.3/3,Ms7 3.6/3*
*DJA **07** 10:39:43.5±0.4,7°.5S×10°.5E±°,h10km,M4.8/18,mb4.9/4, mB6.0/1,MLv4.7/18,Mw(mB)5.7/1*
*NEIC **07** 10:39:46.5±2.3,6°.91S±0°.07×105°.13E±0°.06,h48km±7km, mb4.8/36, Error ellipse: s-maj=11.1km s-min=8.6km az=207.0*
*IDC **07** 10:39:51.0±2.2,6°.69S×105°.36E,h84km±19km,mb4.2/24, mb1 4.2/26,mb1mx4.1/44,mbtmp4.5/26,MS3.3/8, Ms1 3.3/8,ms1mx3.0/82,Error ellipse: s-maj=18.8km s-min=9.2km az=47.0*

ISC 07 10:39:43.0±0.4,7°.04S±0°.05×105°.06E±0°.04,h23km,n126, σ1§72/120,mb4.7/45,MS3.5/6,3C,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CGJI	**Cibinong**	**0.76**	**56**	P	**Pb**	**Pb**	**10 39 57.7**	**+0.1**
SKJI	**Sukabumi**	**1.49**	**89**	P	**Pn**	**Pn**	**10 40 08.4**	**0.0**
KASI	**Kota Agung**	**1.60**	**340**	P	**Pb**	**Pb**	**10 40 13.5**	**+1.5**
BLSI	**Bandar Lampung**	**1.67**	**7**	P	**Pb**	**Pb**	**10 40 12.8**	**-0.4**
DBJI	**Dramaga**	**1.75**	**74**	P	**Pn**	**Pn**	**10 40 12.5**	**+0.5**
TNG	**Tangerang**	**1.80**	**61**	P	**Pn**	**Pn**	**10 40 13.9**	**+1.2**
TNG				P		**Pb**	**10 40 14.9**	**-0.4**
CBJI	**Citeko**	**1.89**	**71**	P	**Pn**	**Pn**	**10 40 14.7**	**+0.8**
CNJI	**Cibinong**	**2.08**	**98**	P	**Pn**	**Pn**	**10 40 16.7**	**+0.2**
KLI	**Kotabumi**	**2.17**	**355**	P	**Pb**	**Pb**	**10 40 21.4**	**-0.3**
LWLI	**Liwa**	**2.24**	**334**	P	**Pb**	**Pb**	**10 40 23.2**	**+0.3**
KLSI		**2.36**	**352**	P	**Pb**	**Pb**	**10 40 23.9**	**-0.9**
LEM	**Lembang**	**2.55**	**85**	P	**Pb**	**Pb**	**10 40 26.6**	**-1.7**
	39nm,0.3s,baz=211,slow=30,SNR=18							
LEM				S		**Sb**	**10 40 57.7**	**-1.6**
	85nm,0.3s,baz=288,slow=20,SNR=5.2							
LEM				LR	LR		10 41 12.6	
	comp=Z,261nm,21.7s,baz=358,slow=36							
LEM	**Lembang**	**2.55**	**85**	P	**Pn**	**Pn**	**10 40 25.4**	**+2.2**
MNAI	**Manna**	**3.38**	**322**		**Pb**	**Pb**	**10 40 38.3**	**-4.0**
MNAI	**Manna**	**3.38**	**322**	P	**Pb**	**Pb**	**10 40 39.0**	**-3.3**
CMJI	**Cimerak**	**3.45**	**103**	P	**Pn**	**Pn**	**10 40 36.2**	**+0.9**
XMI	**Christmas Isla**	**3.45**	**170**	P	**Pn**	**Pn**	**10 40 35.5**	**+0.1**
XMIS	**Christmas Isla**	**3.47**	**170**	Pn	**Pn**	**Pn**	**10 40 35.4**	**-0.3**
XMIS	**Christmas Isla**	**3.47**	**170**	P	**Pn**	**Pn**	**10 40 35.2**	**-0.5**
KPJI	**Karang Pucung**	**3.86**	**95**	P	**Pn**	**Pn**	**10 40 40.1**	**-0.9**
PMBI	**Palembang**	**4.09**	**356**	P	**Pn**	**Pn**	**10 40 45.6**	**+1.3**
MASI	**Maura Aman, Be**	**4.78**	**324**	P	**Pn**	Pn	10 40 58.7	+5.0
PPBI	**Pangkal Pinang**	**4.96**	**13**	P	**Pn**	**Pn**	**10 40 57.6**	**+1.4**
	1.3nm16μm158nm,0.8s							
UGM	**Wanagama**	**5.49**	**99**	Pn	**Pn**	**Pn**	**10 41 05.7**	**+2.2**
UGM	**Wanagama**

WMQ				pP	sP	10 49 11.7	+4.3	
WMQ				pmax	pmax			
	comp=Z,18nm,0.7s							
KSH	**Kashi**	**53.57**	**332**	P	**P**	**10 48 59.5**	**-2.9**	
KSH				pP	sP	10 49 13.2	+1.4	
KSH				pmax	pmax			
	comp=Z,6.0nm,0.6s							
WSAR	**Wadi Sarin**	**54.44**	**305**	LR	LR	11 11 45.8		
	comp=Z,60nm,18.2s,baz=150,slow=35							
SONM	**Songino Array**	**54.65**	**1**	P	**P**	**10 49 09.0**	**-1.1**	
	comp=Z,2.0nm,0.5s,baz=178,slow=9.2,SNR=8.1							
SONM				PcP	**PcP**	**10 50 12.7**	**-0.2**	
	comp=Z,2.6nm,0.5s,baz=177,slow=2.9,SNR=9.0							
SONM	**Songino Array**	**54.65**	**1**	IAmb	IAmb	10 49 11.1		
	comp=Z,1.5nm,0.6s							
KDJ	**Kajisay**	**55.16**	**335**	P	**P**	**10 49 13.4**	**-0.6**	
KDJ				IAmb	IAmb	10 49 16.0		
	comp=Z,4.3nm,0.8s							
GAR	**Garm**	**56.00**	**328**	P	**P**	**10 49 18.9**	**-1.2**	
GAR				IAmb	IAmb	10 49 19.8		
	comp=Z,11nm,0.5s							
CHGR	**Chuyangaron**	**56.37**	**327**	P	**P**	**10 49 21.1**	**-1.6**	
USA0B	**Ussuriysk Arra**	**56.50**	**23**	P	**P**	**10 49 21.6**	**-1.8**	
USA0B				IAmb	IAmb	10 49 22.2		
	comp=Z,9.9nm,0.7s							
USRK	**Ussuriysk Ar.**	**56.50**	**23**	P	**P**	**10 49 21.4**	**-1.9**	
	comp=Z,8.6nm,0.5s,baz=201,slow=5.3,SNR=21							
USRK	**Ussuriysk Ar.**	**56.50**	**23**	P	**P**	**10 49 21.6**	**-1.8**	
MK31	**Makanchi Array**	**57.29**	**342**	P	**P**	**10 49 27.4**	**-1.5**	
MKAR	**Makanchi Array**	**57.29**	**342**	P	**P**	**10 49 27.5**	**-1.4**	
	comp=Z,2.7nm,0.5s,baz=147,slow=7.9,SNR=36							
KK31	**Karatay Array**	**58.94**	**331**	P	**P**	**10 49 39.5**	**-1.0**	
KKAR	**Karatay Array**	**58.94**	**331**	P	**P**	**10 49 39.8**	**-0.8**	
OUENC	**Ouen Island, N**	**61.29**	**112**	P	**P**	**10 49 57.8**	**+0.7**	
SANVU	**Saraoutou**	**61.35**	**104**	P	**P**	**10 49 55.0**	**-2.6**	
LIFNC	**LIFOU**	**61.55**	**110**	P	**P**	**10 49 58.2**	**-0.7**	
KURK	**Kurchatov**	**61.90**	**341**	P	**P**	**10 50 00.3**	**-0.3**	
GEYT	**Alibeck**	**62.52**	**319**	P	**P**	**10 50 04.9**	**-0.3**	
	comp=Z,6.4nm,0.7s,baz=133,slow=13,SNR=6.5							
GEYT	**Alibeck**	**62.52**	**319**	IAmb	IAmb	10 50 07.0		
	comp=Z,5.9nm,0.8s							
ZAA0	**Zalesovo Array**	**63.11**	**347**	P	**P**	**10 50 07.1**	**-1.5**	
ZAA0				IAmb	IAmb	10 50 07.8		
	comp=Z,2.8nm,0.5s							
ZALV	**Zalesovo Beam**	**63.11**	**347**	P	**P**	**10 50 07.2**	**-1.4**	
	comp=Z,3.0nm,0.3s,baz=154,slow=6.0,SNR=11							
ZALV	**Zalesovo Beam**	**63.11**	**347**	P	**P**	**10 50 06.5**	**-2.1**	
RAYN	**Ar Rayn**	**65.58**	**300**	P	**P**	**10 50 27.8**	**+2.3**	
RAYN				pP	**pwP**	**10 50 36.4**	**+1.4**	
BRVK	**Borovoye**	**66.73**	**338**	P	**P**	**10 50 31.1**	**-1.2**	
BRVK	**Borovoye**	**66.73**	**338**	P	**P**	**10 50 32.1**	**-0.1**	
BRVK				X		10 50 36.0		
BRVK				pP	**sP**	**10 50 40.3**	**-1.4**	
MAW	**Mawson**	**66.78**	**196**	P	**P**	**10 50 35.9**	**+3.6**	
	comp=Z,3.6nm,0.9s,baz=98,slow=19,SNR=2.9							
AB31	**Akbulak array**	**68.47**	**330**	Pn	P	10 50 30.2	-13	
	comp=Z,2.6nm,0.3s,baz=313,slow=13,SNR=149							
AB31				Sn		10 50 57.6		
	baz=308,slow=26							
ARU	**Arti**	**73.84**	**335**	LR	LR	11 28 03.5		
	comp=Z,68nm,19.3s,baz=305,slow=39							
ARU	**Arti**	**73.84**	**335**	P	**P**	**10 51 15.9**	**+0.2**	
ARU				IAmb	IAmb	10 51 16.6		
	comp=Z,26nm,1.2s							
PETK	**Petropavlovsk-**	**74.58**	**30**	P	**P**	**10 51 16.9**	**-3.1**	
	comp=Z,0.0nm,0.6s,baz=247,slow=2.7,SNR=8.1							
SYO	**Syowa Base**	**74.81**	**200**⇑	*e*P				
SYO	**Syowa Base**	**74.81**	**200**⇑	*e*pP	pP	10 51 37.0	+9.1	
MATP	**Matopo**	**75.01**	**251**	P	**P**	**10 51 25.9**	**+2.5**	
	comp=Z,2.6nm,0.9s,baz=37,slow=3.8,SNR=2.2							
KBZ	**Khabaz**	**75.39**	**319**	P	**P**	**10 51 25.1**	**+0.2**	
	comp=Z,2.9nm,0.9s,baz=105,slow=3.9,SNR=6.0							
MA2	**Magadan**	**75.65**	**22**	P	**P**	**10 51 24.8**	**-1.3**	
MA2				IAmb	IAmb	10 51 25.5		
	comp=Z,8.1nm,0.8s							
VNDA	**Vanda**	**76.29**	**169**	P	**P**	**10 51 31.9**	**+2.4**	
	comp=Z,0.8nm,0.9s,baz=286,slow=2.7,SNR=2.5							
NRIK	**Noril'sk**	**77.17**	**354**	P	**P**	**10 51 33.5**	**-1.0**	
	comp=Z,6.6nm,0.4s,baz=150,slow=4.5,SNR=8.9							
NRIK	**Noril'sk**	**77.17**	**354**	P	**P**	**10 51 33.1**	**-1.4**	
NRIK				IAmb	IAmb	10 51 34.5		
	comp=Z,19nm,1.2s							
TIXI	**Tiksi**	**80.09**	**7**	P	**P**	**10 51 48.4**	**-2.2**	
TIXI				IAmb	IAmb	10 51 49.2		
	comp=Z,7.6nm,0.6s							
BRTR	**Keskin Array B**	**80.42**	**312**	P	**P**	**10 51 54.2**	**+1.0**	
	comp=Z,2.8nm,0.7s,baz=142,slow=7.0,SNR=11							
BRTR	**Keskin Array B**	**80.42**	**312**	P	**P**	**10 51 53.1**	**-0.1**	
AKASG	**Malin Array Be**	**86.53**	**322**	P	**P**	**10 52 24.2**	**+0.1**	
	comp=Z,0.4nm,0.4s,baz=86,slow=4.7,SNR=4.7							
MLR	**Muntele Rosu**	**87.40**	**316**	P	**P**	**10 52 30.8**	**+2.1**	
MLR				IAmb	IAmb	10 52 31.5		
	comp=Z,15nm,1.4s							
BURAR	**Bucovina Array**	**88.35**	**318**	P	**P**	**10 52 35.0**	**+1.8**	
BURAR				IAmb	IAmb	10 52 38.8		
	comp=Z,3.2nm,0.7s							
BUR08	**Bucovina Ar. S**	**88.36**	**318**	P	**P**	**10 52 32.4**	**-0.9**	
BUR08				IAmb	IAmb	10 52 38.7		
	comp=Z,4.7nm,0.8s							
LIT	**Litokhoron**	**88.83**	**310**	IAmb	IAmb	10 52 37.3		
	comp=Z,11nm,0.7s							
FINES	**FINESS Array B**	**90.89**	**332**	P	**P**	**10 52 45.5**	**+0.8**	
	comp=Z,3.3nm,0.8s,baz=104,slow=4.4,SNR=8.3							
ARCES	**ARCESS Array B**	**92.90**	**340**	P	**P**	**10 52 53.2**	**-0.6**	
	comp=Z,1.0nm,0.4s,baz=102,slow=6.5,SNR=12							
YKA	**Yellowknife Ar**	**117.56**	**20**	PKP	**PKPdf**	**10 58 25.9**	**-0.9**	
	comp=Z,0.3nm,0.6s,baz=344,slow=2.5,SNR=7.3							
NVAR	**Mina Array Bea**	**129.95**	**45**	PKP	**PKPdf**	**10 58 51.0**	**-0.6**	
	comp=Z,0.2nm,0.6s,baz=246,slow=3.8,SNR=2.2							
PDAR	**Pinedale Array**	**133.15**	**35**	PKP	**PKPdf**	**10 58 56.9**	**-0.7**	
	comp=Z,0.3nm,0.6s,baz=319,slow=3.6,SNR=3.7							
TXAR	**Lajitas Array**	**145.02**	**47**	PKP	**PKPdf**	**10 59 19.0**	**-0.4**	
	comp=Z,1.3nm,0.5s,baz=296,slow=0.8,SNR=53							
TXAR	**Lajitas Array**	**145.02**	**47**	PKPdf	**PKPab**	**10 59 18.7**	**0.0**	

IDC 07 10:43:49.8±1.3, 0.°49S×135.°53E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.1/34, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=20.1km s-min=9.1km az=29.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.28**	**265**	P		Pn	10 44 56.0	-0.2
	1.3nm,0.3s,baz=66,slow=20,SNR=2.2							
SIJI				Sn		Sn	10 45 48.0	+1.2
	0.9nm,0.3s,baz=126,slow=24,SNR=1.6							
WRA	**Warramunga Arr**	**19.37**	**183**	P		Pn	10 48 18.9	+0.6
	0.1nm,0.3s,baz=3.0,slow=11,SNR=2.3							
ASAR	**Alice Springs**	**23.09**	**184**	P		P	10 48 57.2	-0.2
	0.6nm,0.7s,baz=9.9,slow=12,SNR=12							
MKAR	**Makanchi Array**	**66.11**	**323**	P		P	10 54 39.0	+0.1
	0.3nm,0.5s,baz=112,slow=7.2,SNR=2.7							

*IDC **07** 10:59:05.6±2.2, 46.°24N×147.°36E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.4/51, mbtmp3.6/6, ML2.8/1, MS3.7/1, Ms1 3.8/1, ms1mx2.4/89, Error ellipse: s-maj=57.0km s-min=27.8km az=154.0*

*MOS **07** 10:59:12.0±0.8, 44.°88N×147.°81E, h139km, mb4.1/1, Error ellipse: s-maj=31.0km s-min=15.0km az=54.4*

*JMA **07** 10:59:13.5±0.4, 44.°40N×148.°15E, h131km, M3.5*

*SKHL **07** 10:59:13.3±0.1, 44.°80N×147.°80E, h133km±6km, mb4.8/3, msha5.4/4*

ISC 07 10:59:11.9±1.0, 44.°68N±0.°08×148.°12E±0.°10, h133km±6km, n37, σ1s22/49, mb3.5/5, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.58**	**342**	*d*	*i* P	**Pn**	**10 59 32.0**	**+0.3**
KUR				*i*	S	**Sn**	**10 59 46.2**	**-0.5**
KUR					pmax	pmax		
	comp=Z,161nm,0.3s							
KUR					pmax	pmax		
	comp=E,55nm,0.2s							
KUR					smax	smax		
	comp=N,937nm,0.4s							
KUR					smax	smax		
	comp=E,439nm,0.3s							
KUR	**Kuril'sk**	**0.58**	**342**	*i*	P	**Pn**	**10 59 32.0**	**+0.3**
KUR					AMB	AMB	10 59 32.5	
	comp=E,160nm,0.3s							
KUR				*i*	S	**Sn**	**10 59 46.0**	**-0.7**
KUR					A	A	10 59 46.7	
	comp=E,940nm,0.4s							
KUR					A	A	10 59 46.7	
	comp=E,440nm,0.4s							
SHO	**Shikotan**	**1.23**	**229**	*c*	*i* PN	**Pn**	**10 59 37.5**	**+0.3**
SHO					*e*S	**Sn**	**10 59 55.0**	**-1.5**
SHO					pmax	pmax		
	comp=E,109nm,0.3s							
SHO					pmax	pmax		
	comp=Z,290nm,0.3s							
SHO					pmax	pmax		
	comp=N,113nm,0.4s							
SHO					smax	smax		
	comp=E,1μm,0.5s							
SHO					smax	smax		
	comp=N,915nm,0.2s							
SHO	**Shikotan**	**1.23**	**229**	*i*	P	**Pn**	**10 59 37.5**	**+0.3**
SHO					AMB	AMB	10 59 37.9	
	comp=N,290nm,0.3s							
SHO					*e*S	**Sn**	**10 59 55.7**	**-0.8**
SHO					A	A	10 59 56.1	
	comp=N,920nm,0.5s							
SHO					A	A	10 59 56.1	
	comp=N,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.74**	**249**	*c*	*i* PN	**Pn**	**10 59 43.6**	**+0.7**
YUK					*e*S	**Sn**	**11 00 06.4**	**-0.1**
YUK					pmax	pmax		
	comp=Z,223nm,0.2s							
YUK					smax	smax		
	comp=N,550nm,0.4s							
YUK					smax	smax		
	comp=E,407nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.74**	**249**		*e*S		10 00 05.9	
YUK					A	A	10 00 08.7	
	comp=E,550nm,0.4s							
YUK					A	A	10 00 08.7	
	comp=E,410nm,0.4s							
YUK					*i* P	**Pn**	**10 59 43.4**	**+0.5**
YUK					AMB	AMB	10 59 44.0	
	comp=E,220nm,0.2s							
GLVR	**Golovnino**	**2.09**	**244**		PN	**Pn**	**10 59 47.1**	**0.0**
GLVR					*e*S	**Sn**	**11 00 13.3**	**-0.7**
GLVR					smax	smax		
	comp=N,408nm,0.2s							
GLVR					smax	smax		
	comp=E,562nm,0.4s							
GLVR	**Golovnino**	**2.09**	**244**	*e*S			10 00 13.1	
GLVR					A	A	10 00 15.8	
	comp=E,410nm,0.4s							
GLVR					A	A	10 00 15.8	
	comp=E,560nm,0.4s							
GLVR					*e*P	**Pn**	**10 59 47.4**	**+0.3**
RUSJ	**Misakicho**	**2.13**	**255**	*e*	PN	**Pn**	**10 59 48.3**	**+0.7**
RUSJ					*e*S	**Sn**	**11 00 18.7**	**+3.7**
NEM2	**Nemuro 2**	**2.16**	**233**		P	**Pn**	**10 59 47.9**	**0.0**
NEM2					*e*S	**Sn**	**11 00 13.4**	**-2.1**
NMR	**Nemuro--Hokkai**	**2.16**	**234**	⇓	*i* PN	**Pn**	**10 59 48.0**	**+0.1**
NMR					*e*S	**Sn**	**11 00 13.1**	**-2.5**
NMR	**Nemuro--Hokkai**	**2.16**	**234**		*e*S		10 00 13.9	
NMR					*i* P	**Pn**	**10 59 48.1**	**+0.1**
JRA	**Rausu**	**2.27**	**252**		P	**Pn**	**10 59 50.3**	**+1.0**
JNSB	**Nemuroshibetsu**	**2.41**	**249**		P	**Pn**	**10 59 52.3**	**+1.2**
JKHN	**Kushirohamanak**	**2.67**	**234**		P	**Pn**	**10 59 54.5**	**+0.2**
JKHN					*e*S	**Sn**	**11 00 25.8**	**-1.1**
JNK	**Nakash**	**2.68**	**247**		P	**Pn**	**10 59 55.4**	**+0.9**
JNK					*e*S	**Sn**	**11 00 28.0**	**+0.8**
AKK	**Akkeshi**	**2.89**	**236**	*e*S			10 00 29.1	
AKK				*e*P		**Pn**	**10 59 57.6**	**+0.4**
JAK	**Akkeshi**	**2.99**	**237**		P	**Pn**	**10 59 58.6**	**+0.1**
JAK					*e*S	**Sn**	**11 00 32.8**	**-1.6**
JTKR	**Abashiri--Toko**	**3.10**	**258**		P	**Pn**	**11 00 00.7**	**+0.8**
JAR	**Ashorobuto**	**3.43**	**248**		P	**Pn**	**11 00 05.7**	**+1.6**
JAR					*e*S	**Sn**	**11 00 45.5**	**+1.0**
JCH	**Churui**	**4.02**	**241**		P	**Pn**	**11 00 12.0**	**+0.1**
JCH					*e*S	**Sn**	**11 00 56.2**	**-2.3**
JNBK	**Urakawa-nobuka**	**4.58**	**240**		P	**Pn**	**11 00 19.6**	**+0.2**
JNBK					*e*S	**Sn**	**11 01 10.0**	**-1.8**
TYV	**Tymovskoe**	**7.20**	**331**	*e*	P	**Pn**	**11 00 52.7**	**-1.6**
MJAR	**Matsushiro Arr**	**11.07**	**226**		Pn	**P**	**11 01 56.4**	**+0.8**
	comp=E,0.1nm,0.3s,baz=35,slow=12,SNR=1.6							
H11S1	**WAKE ISLAND Hy**	**30.37**	**143**		T	T	11 37 31.8	
	baz=334,slow=76,SNR=27							
H11S3	**WAKE ISLAND Hy**	**30.38**	**143**		T	T	11 37 32.4	
	baz=334,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**30.39**	**143**		T	T	11 37 36.5	
	baz=334,slow=76,SNR=17							
ILAR	**Eielson Array**	**40.33**	**37**		P	**P**	**11 06 37.3**	**+1.5**
	comp=E,0.2nm,0.5s,baz=267,slow=6.3,SNR=2.3							
ILAR					LR	LR	11 26 06.1	
	comp=E,85nm,18.1s,baz=215,slow=41							
MKAR	**Makanchi Array**	**44.77**	**297**		P	**P**	**11 07 10.9**	**-1.1**
	comp=E,0.8nm,0.6s,baz=77,slow=8.5,SNR=4.0							
MKAR	**Makanchi Array**	**44.77**	**297**		P	**P**	**11 07 11.0**	**-1.1**
MKAR	**Makanchi Array**	**44.77**	**297**	*e*	P	**P**	**11 07 11.0**	**-1.1**
KURK	**Kurchatov**	**45.59**	**304**		P	**P**	**11 07 17.6**	**-0.8**
KURK	**Kurchatov**	**45.59**	**304**	*e*	P	**P**	**11 07 17.6**	**-0.8**
KURBB	**Kurchatov Arra**	**45.68**	**303**		P	**P**	**11 07 17.6**	**-1.4**
	comp=E,0.5nm,0.5s,baz=74,slow=8.6,SNR=4.2							
YKA	**Yellowknife Ar**	**54.64**	**34**		P	**P**	**11 08 27.9**	**+1.5**
	comp=E,0.2nm,0.5s,baz=303,slow=7.2,SNR=6.3							
FINES	**FINESS Array B**	**64.36**	**333**		P	**P**	**11 09 32.0**	**-1.0**
	comp=E,1.2nm,0.6s,baz=46,slow=9.9,SNR=2.0							
FINES	**FINESS Array B**	**64.36**	**333**		P	**P**	**11 09 32.0**	**-1.0**

ROM 07 11:00:22.3±0.1, 39.°699N±0.°004×15.°87E±0.°01, h29km, ML2.3/30, 14C-17D, Error ellipse: s-maj=0.8km s-min=0.5km az=69.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CET2	**Cetraro**	**0.18**	**159**	⇓	P	Pn	11 00 28.9	-0.2
CET2					S	Sb	11 00 32.8	+0.6
CET2					AML	AML		
	comp=N,11920μm,0.2s							
CET2					AML	AML		
	comp=E,10835μm,0.5s							
CET2	**Cetraro**	**0.18**	**159**		AML	AML		
	comp=E,10835μm,0.5s							
CET2					AML	AML		
	comp=E,10835μm,0.5s							
CET2					AML	AML		
	comp=N,11920μm,0.2s							
CET2					AML	AML		
	comp=E,10835μm,0.5s							
CET2					AML	AML		
	comp=N,11920μm,0.2s							
CET2					AML	AML		
	comp=N,11920μm,0.2s							
CET2					AML	AML		
	comp=E,10835μm,0.5s							
MMN	**Mormanno**	**0.21**	**26**	⇓	*i* P	Pb	11 00 28.5	0.0
MMN					S	Sb	11 00 32.5	-0.2
MMN					AML	AML		
	comp=N,1865μm,0.2s							
MMN					AML	AML		
	comp=E,990μm,0.2s							
MMN	**Mormanno**	**0.21**	**26**	⇓	P	Pb	11 00 28.5	0.0
MMN					AML	AML		
	comp=E,990μm,0.2s							
MMN					AML	AML		
	comp=N,1865μm,0.2s							
MMN					AML	AML		
	comp=E,990μm,0.2s							
MMN					AML	AML		
	comp=N,1865μm,0.2s							
MMN					AML	AML		
	comp=E,990μm,0.2s							
MMN					AML	AML		
	comp=N,1865μm,0.2s							
MMN					AML	AML		
	comp=N,1865μm,0.2s							
MMN					AML	AML		
	comp=E,990μm,0.2s							
TDS	**Terranova Siba**	**0.36**	**96**	⇑	*i* P	Pb	11 00 30.6	+0.1
TDS					S	Sb	11 00 35.9	-0.2
TDS					AML	AML		
	comp=N,206μm,0.3s							
TDS					AML	AML		
	comp=E,206μm,0.3s							
TDS	**Terranova Siba**	**0.36**	**96**	⇑	P	Pb	11 00 30.6	0.0
TDS					AML	AML		
	comp=E,206μm,0.3s							
TDS					AML	AML		
	comp=N,206μm,0.3s							
TDS					AML	AML		
	comp=E,206μm,0.3s							
TDS					AML	AML		
	comp=N,206μm,0.3s							
TDS					AML	AML		
	comp=E,206μm,0.3s							
TDS					AML	AML		
	comp=N,206μm,0.3s							
SALB	**San Lorenzo Be**	**0.41**	**64**	⇑	P	Pb	11 00 31.3	0.0
SALB					S	Sb	11 00 38.0	+0.6
SALB					AML	AML		
	comp=E,586μm,0.3s							
SALB					AML	AML		
	comp=E,558μm,0.3s							
SALB					AML	AML		
	comp=N,422μm,0.6s							
SALB					AML	AML		
	comp=N,410μm,0.6s							
SALB	**San Lorenzo Be**	**0.41**	**64**		AML	AML		
	comp=N,410μm,0.6s							
SALB					AML	AML		
	comp=E,558μm,0.3s							
SALB					AML	AML		
	comp=N,410μm,0.6s							
SALB					AML	AML		
	comp=E,586μm,0.3s							
SALB					AML	AML		
	comp=N,422μm,0.6s							
SALB					AML	AML		
	comp=E,558μm,0.3s							
SALB					AML	AML		
	comp=N,410μm,0.6s							
SALB					AML	AML		
	comp=E,586μm,0.3s							
SALB					AML	AML		
	comp=N,422μm,0.6s							
SALB					AML	AML		
	comp=E,586μm,0.3s							
SALB					AML	AML		
	comp=E,558μm,0.3s							
SALB					AML	AML		
	comp=N,422μm,0.6s							
SIRI	**Monte Sirino -**	**0.48**	**360**	⇓	*i* P	Pb	11 00 32.5	+0.1
SIRI					S	Sb	11 00 39.6	+0.2
SIRI					AML	AML		
	comp=E,472μm,0.3s							
SIRI					AML	AML		
	comp=N,414μm,1.1s							
SIRI					AML	AML		
	comp=E,490μm,0.3s							
SIRI					AML	AML		
	comp=N,436μm,1.1s							
SIRI					AML	AML		
	comp=E,471μm,0.3s							
SIRI	**Monte Sirino -**	**0.48**	**360**	⇓	P	Pb	11 00 32.5	+0.1
SIRI					AML	AML		
	comp=E,472μm,0.3s							
SIRI					AML	AML		
	comp=N,414μm,1.1s							
SIRI					AML	AML		
	comp=E,490μm,0.3s							
SIRI					AML	AML		
	comp=N,436μm,1.1s							
SIRI					AML	AML		
	comp=E,471μm,0.3s							
SIRI					AML	AML		
	comp=N,414μm,1.1s							
SIRI					AML	AML		
	comp=E,490μm,0.3s							
SIRI					AML	AML		
	comp=N,436μm,1.1s							
SIRI					AML	AML		
	comp=E,490μm,0.3s							
SIRI					AML	AML		
	comp=E,471μm,0.3s							
SIRI					AML	AML		
	comp=N,414μm,1.1s							
SIRI					AML	AML		
	comp=N,436μm,1.1s							
MGR	**Morigerati**	**0.50**	**331**	⇓	*i* P	Pb	11 00 32.9	+0.2
MGR					S	Sb	11 00 40.1	+0.4
MGR					AML	AML		
	comp=N,628μm,1.2s							
MGR					AML	AML		
	comp=E,650μm,0.3s							
MGR	**Morigerati**	**0.50**	**331**		P	Pb	11 00 32.4	-0.3
MGR					AML	AML		
	comp=E,650μm,0.3s							
MGR					AML	AML		
	comp=N,628μm,1.2s							
MGR					AML	AML		
	comp=E,650μm,0.3s							
MGR					AML	AML		
	comp=N,628μm,1.2s							
MGR					AML	AML		
	comp=E,650μm,0.3s							
MGR					AML	AML		
	comp=N,628μm,1.2s							
MGR					AML	AML		
	comp=E,650μm,0.3s							
MGR					AML	AML		
	comp=N,628μm,1.2s							
CAR1	**CAROLEI**	**0.52**	**149**	⇓	*i* P	Pb	11 00 33.2	+0.3
CAR1					S	Sn	11 00 41.0	-0.6
CAR1					AML	AML		
	comp=E,344μm,1.0s							
CAR1					AML	AML		
	comp=N,424μm,0.6s							
CAR1					AML	AML		
	comp=E,434μm,1.0s							
CAR1					AML	AML		
	comp=E,344μm,1.0s							
CAR1					AML	AML		
	comp=N,561μm,0.6s							
CAR1	**CAROLEI**	**0.52**	**149**		AML	AML		
	comp=E,434μm,1.0s							
CAR1					AML	AML		
	comp=E,344μm,1.0s							
CAR1					AML	AML		
	comp=N,561μm,0.6s							
CAR1					AML	AML		
	comp=E,434μm,1.0s							
CAR1					AML	AML		
	comp=N,424μm,0.6s							
CAR1					AML	AML		
	comp=E,344μm,1.0s							
CAR1					AML	AML		
	comp=N,561μm,0.6s							
CAR1					AML	AML		
	comp=E,434μm,1.0s							
CAR1					AML	AML		
	comp=N,424μm,0.6s							
CAR1					AML	AML		
	comp=E,434μm,1.0s							
CAR1					AML	AML		
	comp=E,344μm,1.0s							
CAR1					AML	AML		
	comp=N,424μm,0.6s							
CAR1					AML	AML		
	comp=N,561μm,0.6s							
SCHR	**S. Chirico Rap**	**0.52**	**17**	⇓	*i* P	Pb	11 00 32.7	-0.4
SCHR					AML	AML		
	comp=E,148μm,0.7s							
SCHR					AML	AML		
	comp=N,112μm,0.7s							
SCHR					AML	AML		
	comp=N,112μm,0.7s							
SCHR	**S. Chirico Rap**	**0.52**	**17**	⇓	P	Pb	11 00 32.8	-0.3
SCHR					AML	AML		
	comp=E,148μm,0.7s							

SCHR				AML	AML			
	comp=N,112μm,0.7s							
SCHR				AML	AML			
	comp=E,148μm,0.7s							
SCHR				AML	AML			
	comp=N,112μm,0.7s							
BULG	**Bulgheria - Ca**	**0.54**	**315**	P	Pn	11 00 34.0	-0.1	
BULG	**Bulgheria - Ca**	**0.54**	**315**	⇓P	Pn	11 00 34.1	0.0	
SPS2	**Spezzano della**	**0.54**	**138**	*i*P	Pb	11 00 33.6	+0.3	
SPS2				S	Sb	11 00 41.5	+0.6	
SPS2				AML	AML			
	comp=N,232μm,0.2s							
SPS2				AML	AML			
	comp=E,182μm,0.3s							
SPS2				AML	AML			
	comp=E,182μm,0.3s							
SPS2				AML	AML			
	comp=N,232μm,0.2s							
SPS2	**Spezzano della**	**0.54**	**138**	P	Pb	11 00 33.7	+0.3	
SPS2				AML	AML			
	comp=E,182μm,0.3s							
SPS2				AML	AML			
	comp=N,232μm,0.2s							
SPS2				AML	AML			
	comp=E,182μm,0.3s							
SPS2				AML	AML			
	comp=N,232μm,0.2s							
SPS2				AML	AML			
	comp=E,182μm,0.3s							
SPS2				AML	AML			
	comp=N,232μm,0.2s							
SPS2				AML	AML			
	comp=E,182μm,0.3s							
SPS2				AML	AML			
	comp=N,232μm,0.2s							
MTSN	**Montesano sull**	**0.57**	**351**	⇓*i*P	Pb	11 00 33.8	-0.2	
MTSN				S	Sn	11 00 43.0	-0.2	
MTSN				AML	AML			
	comp=N,192μm,0.5s							
MTSN				AML	AML			
	comp=E,194μm,0.3s							
MTSN	**Montesano sull**	**0.57**	**351**	⇓P	Pb	11 00 33.8	-0.2	
MTSN				AML	AML			
	comp=E,194μm,0.3s							
MTSN				AML	AML			
	comp=N,192μm,0.5s							
MTSN				AML	AML			
	comp=E,194μm,0.3s							
MTSN				AML	AML			
	comp=N,192μm,0.5s							
MTSN				AML	AML			
	comp=N,192μm,0.5s							
MTSN				AML	AML			
	comp=E,194μm,0.3s							
ORI	**Oriolo Calabro**	**0.57**	**51**	P	Pn	11 00 34.3	-0.2	
ORI				AML	AML			
	comp=E,765μm,0.3s							
ORI				AML	AML			
	comp=N,575μm,0.5s							
ORI	**Oriolo Calabro**	**0.57**	**51**	P	Pb	11 00 33.9	0.0	
ORI				AML	AML			
	comp=E,765μm,0.3s							
ORI				AML	AML			
	comp=N,575μm,0.5s							
ORI				AML	AML			
	comp=E,765μm,0.3s							
ORI				AML	AML			
	comp=N,575μm,0.5s							
ORI				AML	AML			
	comp=E,765μm,0.3s							
ORI				AML	AML			
	comp=N,575μm,0.5s							
MCEL	**Monticello**	**0.63**	**355**	P	Pb	11 00 34.6	-0.2	
MCEL				AML	AML			
	comp=E,170μm,0.3s							
MCEL				AML	AML			
	comp=N,142μm,1.1s							
MCEL	**Monticello**	**0.63**	**355**	P	Pb	11 00 34.5	-0.3	
MCEL				AML	AML			
	comp=E,170μm,0.3s							
MCEL				AML	AML			
	comp=N,142μm,1.1s							
MCEL				AML	AML			
	comp=E,170μm,0.3s							
MCEL				AML	AML			
	comp=N,142μm,1.1s							
MCEL				AML	AML			
	comp=E,170μm,0.3s							
MCEL				AML	AML			
	comp=N,142μm,1.1s							
AG11	**Viggiano (PZ)**	**0.64**	**6**	P	Pb	11 00 35.2	+0.2	
AG11				S	Sn	11 00 44.9	+0.2	
AG11				AML	AML			
	comp=E,195μm,0.4s							
AG11				AML	AML			
	comp=N,193μm,0.5s							
AG11	**Viggiano (PZ)**	**0.64**	**6**	P	Pn	11 00 35.2	-0.2	
AG11				AML	AML			
	comp=E,195μm,0.4s							
AG11				AML	AML			
	comp=N,193μm,0.5s							
AG11				AML	AML			
	comp=E,195μm,0.4s							
AG11				AML	AML			
	comp=N,193μm,0.5s							
AG11				AML	AML			
	comp=E,195μm,0.4s							
SLCN	**Sala Consilina**	**0.71**	**345**	P	Pb	11 00 36.0	-0.3	
SLCN				AML	AML			
	comp=N,204μm,0.3s							
SLCN				AML	AML			
	comp=E,274μm,0.4s							
SLCN	**Sala Consilina**	**0.71**	**345**	⇑P	Pb	11 00 36.0	-0.2	
SLCN				AML	AML			
	comp=E,274μm,0.4s							
SLCN				AML	AML			
	comp=N,204μm,0.3s							
SLCN				AML	AML			
	comp=E,274μm,0.4s							
SLCN				AML	AML			
	comp=N,204μm,0.3s							
SLCN				AML	AML			
	comp=E,274μm,0.4s							
SLCN				AML	AML			
	comp=N,204μm,0.3s							
CMPR	**Campora**	**0.76**	**325**	⇑*i*P	Pn	11 00 37.1	0.0	
CMPR				S	Sn	11 00 47.8	+0.2	
CMPR				AML	AML			
	comp=N,190μm,0.5s							
CMPR				AML	AML			
	comp=E,192μm,0.4s							
CMPR	**Campora**	**0.76**	**325**	⇑P	Pn	11 00 37.1	0.0	
CMPR				AML	AML			
	comp=E,192μm,0.4s							
CMPR				AML	AML			
	comp=N,190μm,0.5s							
CMPR				AML	AML			
	comp=E,192μm,0.4s							
CMPR				AML	AML			
	comp=N,190μm,0.5s							
CMPR				AML	AML			
	comp=N,190μm,0.5s							
CMPR				AML	AML			
	comp=E,192μm,0.4s							
PIPA	**Pietrapaola**	**0.76**	**106**	P	Pn	11 00 37.6	+0.5	
PIPA				AML	AML			
	comp=E,154μm,0.3s							
PIPA				AML	AML			
	comp=N,125μm,0.3s							
PIPA				AML	AML			
	comp=N,126μm,0.3s							
PIPA	**Pietrapaola**	**0.76**	**106**	⇑P	Pn	11 00 38.1	+1.0	
PIPA				AML	AML			
	comp=E,154μm,0.3s							
PIPA				AML	AML			
	comp=N,125μm,0.3s							
PIPA				AML	AML			
	comp=E,154μm,0.3s							
PIPA				AML	AML			
	comp=N,126μm,0.3s							
PIPA				AML	AML			
	comp=E,154μm,0.3s							
PIPA				AML	AML			
	comp=N,126μm,0.3s							
CRAC	**Craco**	**0.79**	**33**	⇑P	Pn	11 00 37.9	+0.3	
CRAC				AML	AML			
	comp=E,250μm,1.1s							
CRAC				AML	AML			
	comp=N,248μm,0.3s							
CRAC				AML	AML			
	comp=N,247μm,0.3s							
CRAC				AML	AML			
	comp=E,250μm,1.1s							
CRAC	**Craco**	**0.79**	**33**	AML	AML			
CRAC				AML	AML			
	comp=N,247μm,0.3s							
CRAC				AML	AML			
	comp=E,250μm,1.1s							
CRAC				AML	AML			
	comp=N,248μm,0.3s							
CRAC				AML	AML			
	comp=E,250μm,1.1s							
CRAC				AML	AML			
	comp=N,247μm,0.3s							
CRAC				AML	AML			
	comp=E,250μm,1.1s							
TIP	**Timpagrande**	**0.86**	**127**	P	Pb	11 00 39.0	+0.3	
TIP				AML	AML			
	comp=N,94μm,0.9s							
TIP				AML	AML			
	comp=E,67μm,1.4s							
TIP				AML	AML			
	comp=N,94μm,0.9s							
TIP	**Timpagrande**	**0.86**	**127**	⇓P	Pb	11 00 38.8	+0.1	
TIP				AML	AML			
	comp=E,67μm,1.4s							
TIP				AML	AML			
	comp=N,94μm,0.9s							
TIP				AML	AML			
	comp=E,67μm,1.4s							
TIP				AML	AML			
	comp=N,94μm,0.9s							
TIP				AML	AML			
	comp=E,67μm,1.4s							
TIP				AML	AML			
	comp=N,94μm,0.9s							
CDRU	**Civita di Ruta**	**0.90**	**331**	P	Pn	11 00 39.0	-0.2	
CDRU				AML	AML			
	comp=E,195μm,0.2s							
CDRU				AML	AML			
	comp=N,78μm,0.2s							
CDRU	**Civita di Ruta**	**0.90**	**331**	P	Pn	11 00 39.0	-0.1	
CDRU				AML	AML			
	comp=E,195μm,0.2s							
CDRU				AML	AML			
	comp=N,78μm,0.2s							
CDRU				AML	AML			
	comp=E,195μm,0.2s							
CDRU				AML	AML			
	comp=N,78μm,0.2s							
CDRU				AML	AML			
	comp=E,195μm,0.2s							
CDRU				AML	AML			
	comp=N,78μm,0.2s							
GRI	**Girifalco**	**0.97**	**154**	P	Pn	11 00 39.9	-0.2	
GRI				AML	AML			
	comp=E,88μm,0.4s							
GRI				AML	AML			
	comp=N,76μm,0.4s							
GRI				AML	AML			
	comp=E,88μm,0.4s							
GRI				AML	AML			
	comp=N,76μm,0.4s							
GRI	**Girifalco**	**0.97**	**154**	P	Pn	11 00 39.9	-0.1	
GRI				AML	AML			
	comp=E,88μm,0.4s							
GRI				AML	AML			
	comp=N,76μm,0.4s							
GRI				AML	AML			
	comp=E,88μm,0.4s							
GRI				AML	AML			
	comp=N,76μm,0.4s							
GRI				AML	AML			
	comp=E,88μm,0.4s							
GRI				AML	AML			
	comp=N,76μm,0.4s							
MIGL	**Miglionico**	**1.00**	**26**	P	Pn	11 00 40.8	+0.3	
MIGL				AML	AML			
	comp=E,644μm,0.4s							
MIGL				AML	AML			
	comp=N,724μm,0.6s							
MIGL				AML	AML			
	comp=N,724μm,0.6s							
MIGL	**Miglionico**	**1.00**	**26**	⇑P	Pn	11 00 40.7	+0.2	
MIGL				AML	AML			
	comp=E,644μm,0.4s							
MIGL				AML	AML			
	comp=N,724μm,0.6s							
MIGL				AML	AML			
	comp=E,644μm,0.4s							
MIGL				AML	AML			
	comp=N,724μm,0.6s							
MIGL				AML	AML			
	comp=N,724μm,0.6s							
MIGL				AML	AML			
	comp=E,644μm,0.4s							
ACER	**Acerenza**	**1.09**	**3**	P	Pb	11 00 43.2	+0.7	
ACER				AML	AML			
	comp=N,82μm,1.5s							
ACER				AML	AML			
	comp=E,93μm,0.6s							
ACER	**Acerenza**	**1.09**	**3**	⇓P	Pb	11 00 43.3	+0.7	
ACER				AML	AML			
	comp=E,93μm,0.6s							
ACER				AML	AML			
	comp=N,82μm,1.5s							
ACER				AML	AML			
	comp=E,93μm,0.6s							
ACER				AML	AML			
	comp=N,82μm,1.5s							
JOPP	**Joppolo**	**1.09**	**179**	⇑*i*P	Pn	11 00 41.8	+0.2	
JOPP				S	Sn	11 00 55.9	+0.1	
JOPP				AML	AML			
	comp=E,99μm,1.3s							
JOPP				AML	AML			
	comp=N,108μm,1.4s							
JOPP				AML	AML			
	comp=N,108μm,1.4s							
JOPP	**Joppolo**	**1.09**	**179**	⇑P	Pn	11 00 41.9	+0.2	
JOPP				AML	AML			
	comp=E,99μm,1.3s							
JOPP				AML	AML			
	comp=N,108μm,1.4s							
JOPP				AML	AML			
	comp=E,99μm,1.3s							
JOPP				AML	AML			
	comp=N,108μm,1.4s							
JOPP				AML	AML			
	comp=N,108μm,1.4s							
JOPP				AML	AML			
	comp=E,99μm,1.3s							
LTRZ	**Laterza**	**1.16**	**39**	P	Pb	11 00 43.7	0.0	
LTRZ	**Laterza**	**1.16**	**39**	⇓P	Pb	11 00 43.5	-0.3	
MCRV	**Calabrutti - M**	**1.21**	**334**	P	Pn	11 00 43.9	+0.6	
MCRV				AML	AML			
	comp=E,40μm,1.3s							
MCRV				AML	AML			
	comp=N,54μm,1.0s							
MCRV	**Calabrutti - M**	**1.21**	**334**	P	Pb	11 00 44.8	+0.2	
MCRV				AML	AML			
	comp=E,40μm,1.3s							
MCRV				AML	AML			
	comp=N,54μm,1.0s							
MCRV				AML	AML			
	comp=E,40μm,1.3s							
MCRV				AML	AML			
	comp=N,54μm,1.0s							
PLAC	**Placanica**	**1.32**	**160**	⇑P	Pn	11 00 45.2	+0.3	
AMUR	**Altamura**	**1.33**	**25**	P	Pb	11 00 46.5	-0.1	
AMUR				AML	AML			
	comp=E,57μm,0.6s							
AMUR				AML	AML			
	comp=N,58μm,0.4s							
AMUR	**Altamura**	**1.33**	**25**	P	Pb	11 00 47.0	+0.4	
AMUR				AML	AML			
	comp=E,57μm,0.6s							
AMUR				AML	AML			
	comp=N,58μm,0.4s							
AMUR				AML	AML			
	comp=N,58μm,0.4s							
AMUR				AML	AML			
	comp=E,57μm,0.6s							
NOCI	**Noci**	**1.42**	**40**	P	Pb	11 00 47.7	-0.5	
NOCI				AML	AML			
	comp=E,71μm,1.3s							
NOCI				AML	AML			
	comp=N,83μm,0.3s							
NOCI				AML	AML			
	comp=E,71μm,1.3s							
NOCI				AML	AML			
	comp=N,83μm,0.3s							
MSRU	**Castanea**	**1.46**	**191**	P	Pn	11 00 47.3	+0.6	
MSRU				AML	AML			
	comp=E,110μm,1.0s							
MSRU				AML	AML			
	comp=N,103μm,1.0s							
MSRU	**Castanea**	**1.46**	**191**	⇓P	Pn	11 00 47.7	+1.0	
MSRU				AML	AML			
	comp=E,110μm,1.0s							
MSRU				AML	AML			
	comp=N,103μm,1.0s							
MSRU				AML	AML			
	comp=E,110μm,1.0s							
MSRU				AML	AML			
	comp=N,103μm,1.0s							
MSCL	**Scilla**	**1.47**	**182**	P	Pn	11 00 47.5	+0.6	
MSCL				AML	AML			
	comp=E,426μm,0.1s							
MSCL				AML	AML			
	comp=N,383μm,0.9s							
MSCL				AML	AML			
	comp=E,426μm,0.1s							
MSCL	**Scilla**	**1.47**	**182**	⇓P	Pn	11 00 47.5	+0.7	
MSCL				AML	AML			
	comp=E,426μm,0.1s							
MSCL				AML	AML			
	comp=N,383μm,0.9s							
MSCL				AML	AML			
	comp=E,426μm,0.1s							
MSCL				AML	AML			
	comp=N,383μm,0.9s							
MSCL				AML	AML			
	comp=N,383μm,0.9s							
MSCL				AML	AML			
	comp=E,426μm,0.1s							
SOI	**Samo**	**1.63**	**175**	P	Pn	11 00 49.6	+0.6	
SOI				AML	AML			
	comp=E,56μm,1.4s							
SOI				AML	AML			
	comp=N,55μm,1.6s							
SOI				AML	AML			
	comp=N,56μm,1.6s							
SOI	**Samo**	**1.63**	**175**	⇑P	Pn	11 00 49.7	+0.6	
SOI				AML	AML			
	comp=E,56μm,1.4s							
SOI				AML	AML			
	comp=N,54μm,1.6s							
SOI				AML	AML			
	comp=E,56μm,1.4s							
SOI				AML	AML			
	comp=N,56μm,1.6s							
SOI				AML	AML			
	comp=E,56μm,1.4s							
SOI				AML	AML			
	comp=N,56μm,1.6s							
ESLN	**Serra La Nave**	**2.12**	**200**	S	Sn	11 01 23.0	+1.5	
LIK	**San Giovanni I**	**2.52**	**316**	S	Sn	11 01 27.0	-4.0	
LPEL	**Lama dei Pelig**	**2.67**	**332**	P	Pb	11 01 08.2	-1.2	
LPEL				S	Sn	11 01 31.0	-3.9	
CLTA	**Licata**	**2.95**	**211**	⇑P	Pb	11 01 11.2	-2.9	

ROM 07 11:01:11.1±0.1, **42°.746N**±0°.002×**13°.242E**±0°.005, **h10km, ML1.1/1, 3C-5D, Error ellipse: s-maj=0.4km s-min=0.2km az=250.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
NRCA	**Norcia**	**0.13**	**313**	⇓P	Pg	11 01 14.7	+0.6	
NRCA	**Norcia**	**0.13**	**313**	⇓*i*P	Pg	11 01 14.7	+0.6	
NRCA				S	Sg	11 01 16.9	+0.6	
LNSS	**Leonessa**	**0.21**	**226**	⇑P	Pg	11 01 16.1	+0.7	
LNSS				AML	AML			
	comp=E,101μm,0.5s							
LNSS				AML	AML			
	comp=N,81μm,0.2s							
LNSS	**Leonessa**	**0.21**	**226**	⇑*i*P	Pg	11 01 16.1	+0.7	
LNSS				S	Sg	11 01 19.6	+1.2	
LNSS				AML	AML			
	comp=N,81μm,0.2s							
LNSS				AML	AML			
	comp=E,101μm,0.5s							
RM33	**Pellescritta (**	**0.24**	**185**	P	Pg	11 01 17.0	+1.0	
RM33				P	Pg	11 01 19.6	+3.6	
RM33	**Pellescritta (**	**0.24**	**185**	P	Pg	11 01 17.1	+1.1	
RM33				S	Sg	11 01 20.9	+1.7	
TERO	**Teramo**	**0.29**	**115**	⇓P	Pb	11 01 17.8	-0.7	
TERO	**Teramo**	**0.29**	**115**	P	Pb	11 01 17.8	-0.7	
TERO				S	Sb	11 01 22.6	-0.9	
FDMO	**Fiordimonte**	**0.31**	**339**	⇑P	Pg	11 01 18.0	+0.6	
FDMO	**Fiordimonte**	**0.31**	**339**	P	Pg	11 01 17.9	+0.6	
FDMO				S	Sb	11 01 23.1	-0.9	
CSP1	**Cessapalombo**	**0.35**	**355**	⇓P	Pg	11 01 18.7	+0.7	
CSP1	**Cessapalombo**	**0.35**	**355**	P	Pg	11 01 18.6	+0.6	
CSP1				S	Sb	11 01 24.3	-0.8	
CESI	**CESI - Serrava**	**0.36**	**316**	⇓P	Pg	11 01 18.7	+0.5	
CESI	**CESI - Serrava**	**0.36**	**316**	P	Pg	11 01 18.7	+0.5	
CESI				S	Sb	11 01 24.5	-0.9	
GIGS	**Gran Sasso**	**0.38**	**141**	P	Pg	11 01 19.1	+0.5	
GIGS	**Gran Sasso**	**0.38**	**141**	P	Pg	11 01 19.0	+0.4	
GIGS				S	Sb	11 01 25.0	-1.0	
VLS	**Valsamata**	**7.22**	**127**	AML	AML			
	comp=E,15μm,1.1s							
VLS				AML	AML			
	comp=N,9μm,1.1s							

*IDC **07** 11:11:13.5±0.8, 37°.92N×35°.03E, h0km, mb3.7/9, mb1 3.8/15, mb1mx3.6/45, mbtmp3.7/15, ML3.7/5, Error ellipse: s-maj=18.7km s-min=11.5km az=71.0*
*ISK **07** 11:11:14.5, 37°.94N×35°.08E, h5km, ML4.1/10*
*DDA **07** 11:11:14.4±0.0, 37°.92N×35°.09E, h13km±1km, MW4.1*
*GII **07** 11:11:19.4±0.0, 37°.75N×35°.56E, h1km, mb4.0/1, MD3.8/2, Mm4.0/3*

ISC 07 11:11:15.2±0.9, **37°.94N**±0°.02×**35°.08E**±0°.02, **h9**km±7km, **n101**, σ1**s45**/153, **mb3.6/7, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
NIDE	**Nigde/Merkez-G**	**0.25**	**284**	P	**Pg**	**11 11 20.4**	**+0.1**	
NIDE				S	**Sg**	**11 11 24.4**	**+0.7**	
YAHY	**KAYSERI_Yahyal**	**0.27**	**55**	P	**Pg**	**11 11 20.2**	**-0.6**	
YAHY				S	**Sg**	**11 11 24.4**	**0.0**	
CMRD	**Camardi-Nigde**	**0.28**	**194**	PG	**Pg**	**11 11 20.5**	**-0.4**	
CMRD				SG	**Sg**	**11 11 24.8**	**0.0**	
NIG	**Nigde**	**0.41**	**295**	PG	**Pg**	**11 11 22.8**	**-0.5**	
NIG				SG	**Sg**	**11 11 29.3**	**+0.6**	
AKO	**Adana**	**0.56**	**148**	P	**Pg**	**11 11 24.8**	**-1.2**	
AKO				S	**Sg**	**11 11 32.8**	**-0.6**	
GULE	**Gulek**	**0.70**	**200**	P	**Pg**	**11 11 27.8**	**-0.8**	
GULE				S	**Sg**	**11 11 38.2**	**+0.4**	
SAIM	**ADANA**	**0.79**	**87**	P	**Pg**	**11 11 29.5**	**-1.0**	
SAIM				S	**Sg**	**11 11 40.5**	**-0.3**	
AVNS	**Nevsehir-Avano**	**0.89**	**348**	P	**Pg**	**11 11 31.4**	**-0.9**	
AVNS				S	**Sg**	**11 11 44.6**	**+0.8**	
KERG	**Konya-Eregli**	**0.92**	**236**	P	**Pg**	**11 11 31.9**	**-1.0**	
KERG				S	**Sb**	**11 11 45.9**	**+0.1**	
DED	**Mersin**	**1.00**	**193**	P	**Pg**	**11 11 32.6**	**-1.8**	
DED				S	**Sg**	**11 11 47.4**	**0.0**	
GUNE	**Kayseri**	**1.05**	**24**	P	**Pg**	**11 11 34.6**	**-0.8**	
GUNE				S	**Sn**	**11 11 53.0**	**+1.9**	
ANDN	**Andirin**	**1.06**	**109**	P	**Pg**	**11 11 34.6**	**-1.1**	
ANDN				S	**Sg**	**11 11 50.3**	**+0.8**	
YURE	**YUREGIR**	**1.20**	**158**	P	**Pb**	**11 11 37.6**	**-0.4**	
YURE				S	**Sn**	**11 11 55.3**	**+0.8**	
AKSY	**AKSARAY - Alti**	**1.26**	**305**	P	**Pn**	**11 11 38.1**	**-1.0**	
AKSY				S	**Sb**	**11 11 56.0**	**+0.5**	
KOZK	**Kozakli-Nevseh**	**1.28**	**353**	PN	**Pn**	**11 11 39.1**	**-0.3**	
KOZK				SN	**Sb**	**11 11 57.0**	**+0.8**	
SIRC	**Yozgat**	**1.40**	**2**	P	**Pn**	**11 11 40.6**	**-0.4**	
SIRC				S	**Sn**	**11 12 01.4**	**+1.8**	
YAYX	**Yaylak**	**1.41**	**315**	PN	**Pn**	**11 11 40.9**	**-0.3**	
KAMA	**Osmaniye**	**1.47**	**120**	P	**Pn**	**11 11 40.6**	**-1.4**	
KAMA				S	**Sn**	**11 12 00.6**	**-0.7**	
KIRS	**Kirsehir-Merke**	**1.50**	**323**	P	**Pn**	**11 11 42.4**	**0.0**	

KIRS			S	**Sb**	**11 12 04.1 +1.6**
HCB	**Kahramanmara**	**1.57 112**	P	**Pn**	**11 11 43.1 -0.1**
HCB			S	**Sn**	**11 12 04.0 +0.3**
KAHM	**Kahramanmaras,**	**1.57 105**	P	**Pn**	**11 11 43.7 +0.4**
KAHM			S	**Sb**	**11 12 05.7 +1.3**
KRMN	**Karaman**	**1.63 243**	PN	**Pn**	**11 11 44.7 +0.5**
ELBS	**KAHRAMANMARAS**	**1.66 76**	P	**Pn**	**11 11 44.7 +0.1**
ELBS			S	**Sg**	**11 12 09.8 +1.0**
CUSAR	**Sarkisla-SIVAS**	**1.74 31**	P	**Pn**	**11 11 46.1 +0.4**
CUSAR			S	**Sb**	**11 12 10.5 +1.2**
KHMN	**Narli-Kahraman**	**1.74 108**	PN	**Pn**	**11 11 46.4 +0.8**
CDAG	**Cicekdag**	**1.77 342**	P	**Pn**	**11 11 46.8 +0.7**
CDAG			S	**Sn**	**11 12 10.3 +1.4**
ALIN	**Konya, Altinte**	**1.77 282**	P	**Pn**	**11 11 46.5 +0.3**
ALIN			S	**Sg**	**11 12 13.6 +1.4**
HACI	**Hacifakili, Ak**	**1.83 16**	P	**Pn**	**11 11 46.9 -0.1**
HACI			S	**Sb**	**11 12 14.0 +1.9**
CHBY	**Cihanbeyli**	**1.84 291**	PN	**Pn**	**11 11 47.5 +0.4**
KKBE	**Karaman, Kazim**	**1.84 248**	P	**Pn**	**11 11 47.6 +0.5**
KKBE			S	**Sg**	**11 12 14.6 +0.1**
CUAYA	**Sivas-Altinyay**	**1.86 44**	P	**Pn**	**11 11 48.2 +0.8**
CUAYA			S	**Sb**	**11 12 14.8 +1.9**
CUGUR	**Gurin_SVAS**	**1.89 65**	P	**Pn**	**11 11 48.9 +1.1**
CUGUR			S	**Sb**	**11 12 16.4 +2.6**
KULU	**Kulu**	**1.97 305**	PN	**Pn**	**11 11 49.5 +0.7**
KUZU	**Kuzuini**	**1.97 126**	P	**Pn**	**11 11 49.4 +0.6**
KUZU			S	**Sn**	**11 12 13.9 +0.2**
KARG	**Kargicak-Mersi**	**2.05 213**	PN	**Pn**	**11 11 50.8 +0.9**
GZT	**Gaziantep**	**2.06 106**	P	**Pn**	**11 11 50.1 0.0**
GZT			S	**Sg**	**11 12 21.8 +0.5**
KKUL	**Konya-Kulu**	**2.10 307**	P	**Pn**	**11 11 51.7 +1.2**
KKUL			S	**Sg**	**11 12 24.3 +1.8**
TEPK	**Tepekoy-MERSIN**	**2.11 216**	PN	**Pn**	**11 11 51.6 +0.9**
BRTR	**Keskin Array B**	**2.11 328**	Pn	**Pn**	**11 11 51.8 +0.9**
	12nm,0.3s,baz=158,slow=16,SNR=104				
BRTR			Lg	Lg	11 12 20.9
	46nm,0.3s,baz=149,slow=30,SNR=9.6				
BRTR	**Keskin Array B**	**2.11 328**	PN	**Pn**	**11 11 51.6 +0.8**
GULN	**MERSIN_Gulnar**	**2.14 216**	P	**Pn**	**11 11 52.3 +1.3**
GULN			S	**Sg**	**11 12 22.8 -1.1**
KONT	**Konya--Tatoy**	**2.15 271**	PN	**Pn**	**11 11 52.2 +0.9**
CKRK	**Yozgat, Cekere**	**2.16 9**	P	**Pn**	**11 11 51.9 +0.5**
CKRK			S	**Sg**	**11 12 25.1 +0.6**
ERMK	**Ermenek**	**2.16 234**	P	**Pn**	**11 11 53.2 +1.7**
ERMK			S	**Sb**	**11 12 22.8 +1.3**
OREN	**Orenkoy-Mersin**	**2.16 217**	PN	**Pn**	**11 11 52.1 +1.1**
AKK2	**Akkuyu-Mersin**	**2.18 215**	PN	**Pn**	**11 11 52.5 +0.9**
AFSR	**Afar-Bala (An**	**2.18 314**	PN	**Pn**	**11 11 52.6 +0.9**
DELI	**KIRIKKALE**	**2.25 337**	P	**Pn**	**11 11 53.5 +0.8**
DELI			S	**Sb**	**11 12 25.8 +1.9**
AKCD	**Akcadag**	**2.27 80**	P	**Pn**	**11 11 53.8 +0.7**
AKCD			S	**Sb**	**11 12 25.9 +1.2**
HDMB	**Hadim**	**2.28 246**	PN	**Pn**	**11 11 54.0 +0.8**
COAL	**Corum-Alaca**	**2.31 358**	P	**Pn**	**11 11 54.4 +0.8**
COAL			S	**Sg**	**11 12 29.5 0.0**
TEKE	**Tekeli-Mersin**	**2.38 222**	PN	**Pn**	**11 11 55.6 +1.2**
HEKM	**Malatya_Hekimh**	**2.45 67**	P	**Pn**	**11 11 58.7 +3.1**
HEKM			S	**Sg**	**11 12 35.4 +1.5**
BOZY	**Bozyazi-Mersin**	**2.48 223**	PN	**Pn**	**11 11 56.9 +1.1**
ATAB	**Bozova**	**2.59 99**	P	**Pn**	**11 11 57.8 +0.5**
ATAB			S	**Sg**	**11 12 38.3 -0.2**
SEYD	**Seydisehir-KON**	**2.63 259**	PN	**Pn**	**11 11 58.9 +1.0**
TOKT	**Tokat**	**2.64 25**	PN	**Pn**	**11 11 59.1 +1.1**
MALT	**Malatya**	**2.67 81**	PN	**Pn**	**11 11 59.7 +1.3**
KIZT	**Kizilcal**	**2.68 291**	PN	**Pn**	**11 11 59.7 +1.0**
GAZI	**Gazipasa**	**2.79 233**	PN	**Pn**	**11 12 01.2 +1.2**
ARPR	**Arapgir-MALATY**	**2.80 65**	PN	**Pn**	**11 12 01.6 +1.3**
CUZAR	**Zara_SIVAS**	**2.86 46**	P	**Pn**	**11 12 04.7 +3.5**
CUZAR			S	**Sb**	**11 12 43.8 +2.1**
KEMA	**Kemaliye**	**2.99 63**	P	**Pn**	**11 12 04.0 +1.2**
KEMA			S	**Sb**	**11 12 46.1 +0.9**
AUSIV	**SIVRIHISAR**	**3.15 300**	PN	**Pn**	**11 12 05.8 +0.7**
AKIN	**Akıncılar- Kıb**	**3.19 205**	PN	**Pn**	**11 12 06.9 +1.3**
SUTC	**Sutluce-Ispart**	**3.27 263**	PN	**Pn**	**11 12 08.1 +1.4**
CSS	**Mathiatis**	**3.29 206**	PN	**Pn**	**11 12 06.6 -0.3**
AUMIH	**MIHALICIK**	**3.40 306**	PN	**Pn**	**11 12 09.8 +1.2**
YUVA	**Yuva-Kibriscik**	**3.60 314**	PN	**Pn**	**11 12 12.8 +1.6**
HWQ	**Hawqa**	**3.72 169** *eP*		**Pn**	**11 12 15.8 +2.8**
KORT	**Korkueli**	**3.88 257**	PN	**Pn**	**11 12 16.8 +1.7**
BHL	**Bhannes**	**4.05 173** *eP*		**Pn**	**11 12 18.9 +1.4**
DORL	**Deir Qamar**	**4.24 174** *eP*		**Pn**	**11 12 19.9 +2.8**
RCY	**Rachaya**	**4.47 172** *eP*		**Pn**	**11 12 24.4 +1.1**
SHBL	**Chebaa**	**4.61 173** *eP*		**Pn**	**11 12 26.7 +1.5**
NATI	**Neve Ativ**	**4.70 173**	Pn	**Pn**	**11 12 28.3 +2.1**
NATI			S	**Sn**	**11 13 22.4 +1.6**
GEM	**Giv'at Ha'Em**	**4.74 174**	Pn	**Pn**	**11 12 29.0 +2.1**
GEM			S	**Sn**	**11 13 22.8 +0.8**
MMA0B	**Mount Meron ar**	**4.92 177**	Pn	**Pn**	**11 12 31.7 +2.3**
MMA0B			S	**Sn**	**11 13 27.9 +1.4**
MMAI	**Mount Meron Ar**	**4.92 177**	Pn	**Pn**	**11 12 29.9 +0.5**
	49nm,0.3s,baz=11,slow=41,SNR=10				
MMAI			S	**Sn**	**11 13 25.6 -0.9**
	18nm,0.3s,baz=77,slow=19,SNR=1.5				
OFRI	**`Ofer**	**5.31 181**	Pn	**Pn**	**11 12 38.7 +4.0**
OFRI			S	**Sn**	**11 13 37.6 +1.6**
MMLI	**Mount Malkishu**	**5.50 177**	Pn	**Pn**	**11 12 39.5 +2.2**
MMLI			S	**Sn**	**11 13 42.0 +1.4**
HMDT	**Nahal Hemdat**	**5.69 176**	Pn	**Pn**	**11 12 43.1 +3.3**
HMDT			S	**Sn**	**11 13 46.8 +1.6**
SLTI	**Sal'it**	**5.69 180**	Pn	**Pn**	**11 12 42.7 +2.9**
SLTI			S	**Sn**	**11 13 46.8 +1.5**
ASF	**Jabal al Asfar**	**5.94 165**	Pn	**Pn**	**11 12 43.8 +0.3**
	0.5nm,0.3s,baz=40,slow=18,SNR=1.9				
DSI	**Dead Sea**	**6.36 178**	Pn	**Pn**	**11 12 52.1 +3.0**
PRNI	**Paran**	**7.57 180**	Pn	**Pn**	**11 13 09.2 +3.5**
HRFI	**Mount Harif**	**7.88 180**	Pn	**Pn**	**11 13 14.3 +4.3**
HRFI			S	**Sn**	**11 14 43.0 +3.6**
MBRI	**Mt Berech**	**8.12 181**	Pn	**Pn**	**11 13 17.1 +3.7**
EIL	**Elat**	**8.25 181**	Pn	**Pn**	**11 13 16.4 +1.3**
	0.7nm,0.3s,baz=44,slow=7.7,SNR=3.7				
EIL			S	**Sn**	**11 14 48.6 +0.2**
	1.0nm,0.3s,baz=94,slow=15,SNR=2.2				
EIL	**Elat**	**8.25 181**	Pn	**Pn**	**11 13 17.7 +2.7**
AKASG	**Malin Array Be**	**13.42 344**	Pn	**Pn**	**11 14 24.9 -0.8**
	0.5nm,0.3s,baz=157,slow=12,SNR=1.7				
GERES	**GERESS Array B**	**18.91 312**	P	**P**	**11 15 36.4 +0.2**
	0.3nm,0.3s,baz=128,slow=6.4,SNR=1.7				
AKTO	**Aktyubinsk**	**20.55 45**	P	**P**	**11 15 53.8 -0.1**
	1.1nm,0.7s,baz=255,slow=14,SNR=5.4				
KEST	**Kesra**	**20.70 272**	P	**P**	**11 15 55.4 -0.3**
	6.4nm,0.7s,baz=78,slow=9.3,SNR=3.6				
FINES	**FINESS Array B**	**24.19 349**	P	**P**	**11 16 31.8 +0.1**
	1.8nm,0.7s,baz=147,slow=11,SNR=3.7				
HFS	**Hagfors**	**26.04 335**	P	**P**	**11 16 46.4 -2.1**
	0.9nm,0.6s,baz=152,slow=6.5,SNR=1.2				
ESDC	**Sonseca Array**	**30.32 286**	P	**P**	**11 17 26.3 -0.7**
	1.8nm,1.1s,baz=75,slow=6.8,SNR=3.2				
KURBB	**Kurchatov Arra**	**33.11 53**	P	**P**	**11 17 50.3 -1.0**
	0.5nm,0.6s,baz=270,slow=9.0,SNR=4.8				
MKAR	**Makanchi Array**	**35.52 60**	P	**P**	**11 18 13.0 +0.7**
	0.3nm,0.7s,baz=263,slow=8.8,SNR=1.6				
TORD	**Torodi Ar. Bea**	**38.60 239**	P	**P**	**11 18 36.6 -2.1**
	0.4nm,0.8s,baz=40,slow=7.2,SNR=2.3				
TORD			PcP	**PcP**	**11 20 49.9 -1.2**
	0.2nm,0.5s,baz=72,slow=2.3,SNR=1.7				
YKA	**Yellowknife Ar**	**76.98 346**	P	**P**	**11 23 07.9 +0.1**
	0.5nm,0.5s,baz=20,slow=5.2,SNR=16				

UCR 07 11:12:15.6±0.8,5°14N×82°75W,h5km,MW3.6,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIRO	**Carate, Puerto**	**3.29**	**350**	*eP*		Pn 11 13 07.2	-0.6
PIRO				*eS*		Sn 11 13 48.1	+0.7
RIOS	**Rincon, Osa**	**3.62**	**348**	*eP*		Pn 11 13 11.5	-0.8
RIOS				*eS*		Sn 11 13 56.2	+0.8
PLAN	**Los Planes de**	**3.62**	**345**	*eP*		Pn 11 13 11.4	-1.1
BRU2	**Volcan**	**3.63**	**1**	*eP*		Pn 11 13 12.7	+0.1
EDPN	**Palmar Norte**	**3.86**	**350**	*eP*		Pn 11 13 15.7	0.0
POTG	**Potrero Grande**	**3.90**	**355**	*eP*		Pn 11 13 16.5	+0.2
SRBA	**San Rafael, Bu**	**4.11**	**352**	*eP*		Pn 11 13 19.4	+0.2
DRK0	**Durika**	**4.12**	**353**	*eP*		Pn 11 13 19.7	+0.2
PEZE	**Perez Zeledon,**	**4.31**	**348**	*eP*		Pn 11 13 22.4	+0.4
CDM	**Cerro de Muert**	**4.50**	**347**	*eP*		Pn 11 13 25.3	+0.4
LCR2	**La Lucha 2**	**4.74**	**345**	*eP*		Pn 11 13 28.2	+0.2
JTS	**Las Juntas de**	**5.56**	**337**	*eP*		Pn 11 13 39.4	+0.3

*IDC **07** 11:17:21.8±1.3,13°.82S×166°.48E,h0km,mb4.0/4,*

mb1 4.2/5,mb1mx3.6/32,mbtmp3.9/5,ML3.6/1,MS3.5/6, Ms1 3.5/6,ms1mx3.0/62,Error ellipse: s-maj=50.1km s-min=26.3km az=128.0

ISC 07 11:17:27.7±1.3,14°.0S×166°.6E±0°.2,h43km,n9, σ1ᵖ79/9,mb3.8/4,MS3.5/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.07**	**181**	Pn	**Pn**	**11 19 20.9**	**-1.6**
	0.8nm,0.3s,baz=307,slow=20,SNR=10						
DZM				Sn	**Sn**	**11 20 53.8**	**+1.3**
	baz=6.9,slow=23,SNR=1.1						
MSVF	**Nonsavu**	**11.68**	**110**	LR	LR	11 23 37.3	
	comp=Z,222nm,19.0s,baz=353,slow=32						
CTA	**Charters Tower**	**20.34**	**250**	LR	LR	11 29 47.0	
	comp=Z,55nm,18.3s,baz=84,slow=37						
STKA	**Stephens Creek**	**28.98**	**228**	P	**P**	**11 23 23.8**	**+0.4**
	3.5nm,0.5s,baz=47,slow=8.6,SNR=15						
STKA				LR	LR	11 34 40.3	
	comp=Z,112nm,18.2s,baz=76,slow=36						
WRA	**Warramunga Arr**	**31.35**	**255**	P	**P**	**11 23 43.6**	**-0.9**
	1.3nm,1.0s,baz=88,slow=8.3,SNR=6.3						
WRA				PcP	**PcP**	**11 26 39.7**	**+1.9**
	0.2nm,0.8s,baz=90,slow=5.6,SNR=1.4						
WRA				LR	LR	11 35 28.2	
	comp=Z,82nm,18.6s,baz=110,slow=35						
ASAR	**Alice Springs**	**32.31**	**248**	P	**P**	**11 23 51.9**	**-1.0**
	0.8nm,0.7s,baz=72,slow=9.5,SNR=25						
ASAR				PcP	**PcP**	**11 26 42.8**	**+2.4**
	0.3nm,0.9s,baz=93,slow=2.0,SNR=2.0						
ASAR				LR	LR	11 36 21.0	
	comp=Z,87nm,18.1s,baz=162,slow=35						
FITZ	**Fitzroy Crossi**	**39.48**	**258**	LR	LR	11 40 25.8	
	comp=Z,76nm,18.4s,baz=134,slow=35						
ILAR	**Eielson Array**	**86.01**	**18**	P	**P**	**11 30 01.9**	**-1.3**
	0.4nm,0.5s,baz=236,slow=4.5,SNR=9.7						
ARCES	**ARCESS Array B**	**119.33**	**345**	PKP	**PKiKP**	**11 36 13.2**	**+1.4**
	2.8nm,0.9s,baz=96,slow=1.2,SNR=3.5						

*IDC **07** 11:20:08.8±7.6,14°.08N×91°.58W,h0km,mb3.3/3, mb1 3.6/5,mb1mx3.5/40,mbtmp3.3/5,ML3.3/2,MS3.3/1, Ms1 3.3/1,ms1mx2.5/37,Error ellipse: s-maj=192.2km s-min=55.7km az=25.0*

*GCG **07** 11:20:15.0±0.6,14°.13N×92°.16W,h73km±10km,MD3.7*

ISC 07 11:20:16.6±2.5,14°.0N±0°.3×92°.12W±0°.08,h50km,n10, σ1ᵖ14/10,mb3.4/3,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG3	**Santiaguito 3,**	**0.88**	**37**	*eP*		**Pn 11 20 32.2**	**-0.7**
FUG	**Fuego 3**	**1.31**	**70**	*eP*		**Pn 11 20 37.2**	**-1.5**
FUG				*eS*		**Sn 11 20 56.5**	**+1.3**
NBG	**Las Nubes**	**1.81**	**71**	*eP*		**Pn 11 20 45.7**	**+0.1**
MRL	**Marmol**	**2.58**	**65**	*eP*		**Pn 11 20 55.3**	**-0.9**
CMIG	**Matias Romero**	**4.06**	**319**	Pn		**Pn 11 21 15.6**	**-0.7**
	0.8nm,0.3s,baz=131,slow=9.1,SNR=11						
CMIG				Sn		Sn 11 22 09.1	+6.5
	2.1nm,0.3s,baz=109,slow=18,SNR=3.9						
TXAR	**Lajitas Array**	**18.63**	**327**	P		**Pn 11 24 30.5**	**-0.4**
	0.0nm,0.3s,baz=137,slow=11,SNR=4.2						
TKL	**Tuckaleechee C**	**22.82**	**18**	LR		LR 11 35 23.4	
	comp=Z,68nm,18.3s,baz=18,slow=40						
ANMO	**Albuquerque**	**24.54**	**331**	P		**P 11 25 32.7**	**+0.9**
	0.6nm,0.5s,baz=164,slow=8.3,SNR=3.9						
NVAR	**Mina Array Bea**	**33.59**	**321**	P		**P 11 26 53.6**	**+1.2**
	0.2nm,0.5s,baz=123,slow=9.8,SNR=2.4						
YKA	**Yellowknife Ar**	**50.99**	**347**	P		**P 11 29 12.1**	**-1.0**
	0.3nm,0.6s,baz=150,slow=7.0,SNR=6.9						

IDC 07 11:26:50.9±419.0,50°.46N×48°.04E,h0km,Error ellipse: s-maj=157.2km s-min=122.1km az=90.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.39**	**87**	*i*		12 03 20.0	
	baz=275,slow=323,SNR=6.7						
I43RU	**DUBNA INFRASON**	**8.98**	**318**	*i*		12 21 00.0	
	baz=129,slow=333,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**22.64**	**67**	*i*		13 46 10.0	
	baz=272,slow=318,SNR=1.0						
I34MN	**SONGINO INFRAS**	**37.44**	**71**	*i*		15 19 30.0	
	baz=289,slow=323,SNR=1.2						

*DDA **07** 11:27:07.5±0.0,35°.83N×33°.22E,h7km±3km,ML1.8*
*ISK **07** 11:27:08.4,35°.88N×33°.24E,h10km,ML2.7/12*
*NIC **07** 11:27:10.4±0.0,35°.63N×33°.22E,h25km±1km,Ml2.4/3*

ISC 07 11:27:07.7±1.0,35°.81N±0°.02×33°.22E±0°.03,h12km±9km, n25,σ0ᵖ64/41,2D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEKE	**Tekeli-Mersin**	**0.34**	**346**	PG	**Pg**	**11 27 14.6**	**0.0**
AKK1	**Akkuyu-Mersin**	**0.42**	**38**	PG	**Pg**	**11 27 16.1**	**0.0**
AKK1				SG	**Sg**	**11 27 22.2**	**+0.5**
AKK2	**Akkuyu-Mersin**	**0.42**	**39**	PG	**Pg**	**11 27 16.1**	**0.0**
AKK2				SG	**Sg**	**11 27 21.7**	**0.0**
OREN	**Orenkoy-Mersin**	**0.44**	**26**	PG	**Pg**	**11 27 16.3**	**-0.1**
OREN				SG	**Sg**	**11 27 21.9**	**-0.4**
GULN	**MERSIN_Gulnar**	**0.46**	**35**	P	**Pg**	**11 27 16.9**	**+0.2**
GULN				S	**Sg**	**11 27 22.8**	**0.0**
GULN				*i* AML	AML	11 27 24.0	
	comp=N,56nm,0.3s						
GULN				*i* AML	AML	11 27 24.0	
	comp=E,40nm,0.4s						
TEPK	**Tepekoy-MERSIN**	**0.49**	**33**	PG	**Pg**	**11 27 17.3**	**-0.1**
TEPK				SG	**Sg**	**11 27 23.5**	**-0.4**
TISA	**Tisan-Mersin**	**0.51**	**47**	PG	**Pg**	**11 27 17.6**	**-0.1**
KARG	**Kargicak-Mersi**	**0.56**	**45**	PG	**Pg**	**11 27 18.7**	**+0.1**
TEVE	**Tevekalti-Mers**	**0.65**	**16**	PG	**Pg**	**11 27 20.2**	**-0.2**
KEBE	**Keben-Mersin**	**0.75**	**32**	PG	**Pg**	**11 27 22.1**	**-0.2**
SILI	**Silifke-Mersin**	**0.80**	**46**	PG	**Pg**	**11 27 23.2**	**+0.1**
ALFC	**Alefka**	**0.82**	**218**	⇓*i* P	**Pg**	**11 27 24.1**	**+0.5**
ALFC				S	**Sg**	**11 27 34.7**	**+0.3**
ALFC				AML	AML	11 27 35.1	
	1.1nm,0.1s						
ALFC				AML	AML	11 27 35.1	
	1.1nm,0.1s						
ALFC				AML	AML	11 27 35.4	
	0.9nm,0.1s						
ALFC				AML	AML	11 27 35.4	
	0.9nm,0.1s						
EREN	**Erenkoy**	**0.82**	**109**	PG	**Pb**	**11 27 25.0**	**+1.1**
EREN	**Erenkoy**	**0.82**	**109**	P	**Pg**	**11 27 24.0**	**+0.4**
EREN				S	**Sg**	**11 27 35.0**	**+0.6**
EREN				*i* AML	AML	11 27 36.0	
	comp=E,48nm,0.3s						
EREN				*i* AML	AML	11 27 55.0	
	comp=N,25nm,0.5s						
GAZI	**Gazipasa**	**0.84**	**300**	PG	**Pg**	**11 27 24.5**	**+0.5**
GAZI	**Gazipasa**	**0.84**	**300**	P	**Pg**	**11 27 24.2**	**+0.2**
GAZI				S	**Sb**	**11 27 36.2**	**+0.7**
CSS	**Mathiatis**	**0.85**	**174**	P	**Pg**	**11 27 24.6**	**+0.5**
CSS				S	**Sg**	**11 27 34.8**	**-0.5**
MVOU	**Mavrovouni**	**0.86**	**157**	⇓*i* P	**Pg**	**11 27 24.2**	**-0.1**
MVOU				S	**Sg**	**11 27 34.5**	**-1.0**
MVOU				AML	AML	11 27 34.9	
	0.5nm,0.1s						
MVOU				AML	AML	11 27 34.9	
	0.5nm,0.1s						
MVOU				AML	AML	11 27 35.1	
	0.5nm,0.1s						
MVOU				AML	AML	11 27 35.1	
	0.5nm,0.1s						
ERMK	**Ermenek**	**0.87**	**344**	P	**Pg**	**11 27 23.9**	**-0.6**
ERMK				S	**Sg**	**11 27 35.4**	**-0.4**
ERMK				*i* AML	AML	11 27 36.0	
	comp=N,54nm,0.3s						
ERMK				*i* AML	AML	11 27 36.0	
	comp=E,50nm,0.3s						
ASGA	**Asgata**	**1.02**	**179**	P	**Pg**	**11 27 26.8**	**-0.5**
ASGA				S	**Sg**	**11 27 38.7**	**-2.0**
ASGA				AML	AML	11 27 40.0	
	0.1nm,0.3s						
ASGA				AML	AML	11 27 40.0	
	0.1nm,0.3s						
ASGA				AML	AML	11 27 42.6	
	0.1nm,0.3s						
ASGA				AML	AML	11 27 42.6	
	0.1nm,0.3s						
AKMS	**Akamas**	**1.07**	**223**	P	**Pg**	**11 27 27.7**	**-0.5**
AKMS				S	**Sg**	**11 27 42.0**	**-0.2**
HDMB	**Hadim**	**1.29**	**333**	PN	**Pn**	**11 27 32.4**	**+0.6**
KKBE	**Karaman, Kazim**	**1.43**	**351**	P	**Pn**	**11 27 32.3**	**-1.1**
KKBE				S	**Sb**	**11 27 50.8**	**-1.6**
KEPZ	**Antalya-Kepez**	**1.70**	**310**	P	**Pn**	**11 27 37.0**	**-0.2**
KEPZ				S	**Sn**	**11 27 59.5**	**+0.7**
KEPZ				*i* AML	AML	11 28 07.0	
	comp=E,5.1nm,0.6s						
KERG	**Konya-Eregli**	**1.76**	**24**	P	**Pn**	**11 27 37.8**	**-0.3**
KERG				S	**Sn**	**11 28 00.2**	**-0.4**
KERG				*i* AML	AML	11 28 01.0	
	comp=N,22nm,0.3s						
KERG				*i* AML	AML	11 28 01.0	
	comp=E,12nm,0.6s						

*IDC **07** 11:31:12.5±1.2,28°.57N×142°.70E,h0km,mb3.8/8, mb1 4.0/10,mb1mx3.8/40,mbtmp3.8/10,ML3.3/2,Error ellipse: s-maj=39.5km s-min=14.4km az=86.0*

*JMA **07** 11:31:16.5±0.1,28°.65N×142°.31E,h53km,M3.9*

*NEIC **07** 11:31:18.4±1.9,28°.62N±0°.05×142°.7E±0°.2,h35km±6km, mb4.5/11,Error ellipse: s-maj=23.6km s-min=7.9km az=91.0*

ISC 07 11:31:16.4±0.8,28°.58N±0°.05×142°.6E±0°.2,h25km,n36, σ1ᵖ35/36,mb4.3/15,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.52**	**193**	P	**Pb**	**11 31 42.3**	**-1.7**
CBIJ				*eS*	**Sb**	**11 32 01.3**	**-1.5**
JCJ	**Chichijima**	**1.52**	**193**	Pn	**Pb**	**11 31 42.2**	**-1.8**
	17nm,0.3s,baz=6.4,slow=18,SNR=25						
JCJ				Sn	**Sn**	**11 32 01.2**	**+0.1**
	91nm,0.3s,baz=296,slow=22,SNR=12						
JCJ	**Chichijima**	**1.52**	**193**		**Pb**	**11 31 43.1**	**-0.9**
JHU	**Hanno**	**7.76**	**340**	P	**Pn**	**11 33 07.2**	**-0.6**
JHU				*eS*	**Sn**	**11 34 30.4**	**-4.5**
JYT	**Yasato**	**7.88**	**346**	Pn	**Pn**	**11 33 08.0**	**-1.4**
JRY	**Ryogami san**	**8.03**	**338**	P	**Pn**	**11 33 11.7**	**+0.1**
JAG	**Ashikaga**	**8.25**	**342**	P	**Pn**	**11 33 14.0**	**-0.5**
MJAR	**Matsushiro Arr**	**8.74**	**336**	Pn	**Pn**	**11 33 19.3**	**-2.0**
	0.3nm,0.3s,baz=160,slow=14,SNR=6.4						
MAJO	**Matsushiro**	**8.74**	**336**	Pn	**Pn**	**11 33 21.6**	**+0.2**
MJB9	**Matsu-Tunnel**	**8.75**	**336**	Pn	**Pn**	**11 33 21.4**	**0.0**
JMM	**Marumori**	**9.38**	**351**	Pn	**Pn**	**11 33 27.6**	**-2.3**
KSRS	**Korea Array**	**15.12**	**310**	Pn	**Pn**	**11 34 49.6**	**+1.2**
	0.2nm,0.3s,baz=114,slow=12,SNR=3.2						
KLR	**Kul'dur**	**22.22**	**341**	P	**P**	**11 36 12.3**	**+1.3**
	1.5nm,0.8s,baz=144,slow=4.8,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**23.85**	**106**	T	T	12 01 33.6	
	baz=296,slow=74,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**23.85**	**106**	T	T	12 01 33.4	
	baz=296,slow=74,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**23.87**	**106**	T	T	12 01 33.4	
	baz=296,slow=74,SNR=6.4						
COEN	**Coen**	**42.30**	**179**	P	**P**	**11 39 09.0**	**+0.8**
ZALV	**Zalesovo Beam**	**48.60**	**318**	P	**P**	**11 39 56.6**	**-1.2**
	0.7nm,0.4s,baz=92,slow=7.8,SNR=2.6						
WB0	**Warramunga Arr**	**48.71**	**190**	P	**P**	**11 39 59.5**	**+0.5**
WR0	**Warramunga Arr**	**48.88**	**190**	P	**P**	**11 40 00.9**	**+0.7**
WR0				IAmb	IAmb	11 40 01.0	
	comp=Z,1.9nm,0.6s						
WRAB	**Tennant Creek**	**48.88**	**190**	P	**P**	**11 40 00.1**	**-0.2**
WRAB				IAmb	IAmb	11 40 12.2	
	comp=Z,3.4nm,0.7s						
WB2	**Warramunga Arr**	**48.89**	**190**	P	**P**	**11 40 00.6**	**+0.2**
WB2				IAmb	IAmb	11 40 01.9	
	comp=Z,7.3nm,1.2s						
WRA	**Warramunga Arr**	**48.89**	**190**	P	**P**	**11 40 00.9**	**+0.6**
	comp=Z,2.0nm,0.4s,baz=15,slow=8.9,SNR=33						
MK31	**Makanchi Array**	**49.80**	**309**	P	**P**	**11 40 08.2**	**+1.0**
MKAR	**Makanchi Array**	**49.80**	**309**	P	**P**	**11 40 07.0**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=98,slow=8.8,SNR=5.9						
KURK	**Kurchatov**	**52.19**	**314**	P	**P**	**11 40 25.7**	**+0.7**
KURK				IAmb	IAmb	11 40 26.8	
	comp=Z,6.8nm,1.1s						
KURBB	**Kurchatov Arra**	**52.25**	**314**	P	**P**	**11 40 26.5**	**+1.1**
	comp=Z

PB15 IPOC Station P 1.98 245 eP Pn 11 54 57.0 +0.5
PB15 eS Sn **11 55 25.4 +1.1**
PB15 IAML 11 55 28.4
comp=Z,20μm,0.2s
MOCB Mochara 2.08 58 P Pn 11 55 00.1 +2.2
MOCB S Sn **11 55 26.8 +0.2**
MOCB IAML 11 55 31.0
comp=Z,3μm,0.4s
MOCB IAML 11 55 35.4
comp=Z,4μm,0.9s
HJA Humahuaca 2.12 114 eP Pn 11 55 00.0 +1.7
HJA eP 11 55 00.3
PB01 IPOC Station P 2.25 305 Pn 11 55 00.7 +1.1
PB01 IPOC Station P 2.25 305 ⇑iP Pn 11 55 00.7 +1.1
PB01 iS Sn **11 55 30.4 +0.7**
PB01 IAML 11 55 32.0
comp=E,7μm,0.3s
PB01 IPOC Station P 2.25 305 P Pn 11 55 00.9 +1.4
PB01 IAML 11 55 33.8
comp=E,3μm,0.2s
PB01 IPOC Station P 2.25 305 eP Pn 11 55 00.0 +0.5
PB01 eS Sn **11 55 30.7 +1.1**
PB01 eS 11 55 31.1
PB01 IAML 11 55 33.8
comp=Z,3μm,0.2s
PB07 IPOC Station P 2.28 286 Pn 11 55 00.7 +0.7
PB07 IPOC Station P 2.28 286 ⇑iP Pn 11 55 00.9 +1.0
PB07 iS Sn **11 55 29.9 -0.6**
PB07 IAML 11 55 30.8
comp=N,8μm,0.3s
PB07 IPOC Station P 2.28 286 P Pn 11 55 01.0 +1.0
PB07 IAML 11 55 36.2
comp=N,3μm,0.3s
PB07 IPOC Station P 2.28 286 eP Pn 11 55 00.0 0.0
PB07 eP 11 55 00.7
PB07 eS Sn **11 55 31.1 +0.7**
PB07 IAML 11 55 38.5
comp=Z,3μm,0.5s
PB04 IPOC Station P 2.43 270 Pn 11 55 02.1 +0.5
PB04 IPOC Station P 2.43 270 ⇑iP Pn 11 55 02.2 +0.5
PB04 iS Sn **11 55 32.6 -0.9**
PB04 IAML 11 55 35.7
comp=E,4μm,0.5s
PB04 IPOC Station P 2.43 270 P Pn 11 55 02.6 +0.9
PB04 IAML 11 55 35.8
comp=E,4μm,0.4s
PB04 IPOC Station P 2.43 270 eP Pn 11 55 02.0 +0.3
PB04 eP 11 55 02.4
PB04 eS Sn **11 55 34.1 +0.6**
PB04 IAML 11 55 35.9
comp=Z,4μm,0.3s
PB02 IPOC Station P 2.44 295 Pn 11 55 02.5 +0.8
PB02 IPOC Station P 2.44 295 ⇑iP Pn 11 55 02.5 +0.8
PB02 iS Sn **11 55 33.1 -0.5**
PB02 IAML 11 55 34.1
comp=N,10μm,0.3s
PB02 IPOC Station P 2.44 295 P Pn 11 55 02.7 +1.0
PB02 IAML 11 55 34.2
comp=N,6μm,0.4s
PB02 IPOC Station P 2.44 295 eP Pn 11 55 02.0 +0.3
PB02 eP 11 55 02.4
PB02 eS Sn **11 55 34.4 +0.8**
PB02 IAML 11 55 40.0
comp=Z,5μm,0.3s
PB08 IPOC Station P 2.69 325 Pn 11 55 07.1 +2.1
PB08 IPOC Station P 2.69 325 ⇑iP Pn 11 55 07.2 +2.1
PB08 iS Sn **11 55 41.3 +1.9**
PB08 IAML 11 55 46.2
comp=E,4μm,0.7s
PB08 IPOC Station P 2.69 325 P Pn 11 55 07.4 +2.4
PB08 IAML 11 55 46.6
comp=E,2μm,0.7s
PB08 IPOC Station P 2.69 325 eP Pn 11 55 07.0 +2.1
PB08 eS Sn **11 55 41.5 +2.1**
PB08 IAML 11 55 46.5
comp=Z,2μm,0.7s
PATCX Punta Patache 2.89 302 Pn 11 55 07.5 +0.3
PATCX Punta Patache 2.89 302 ⇑iP Pn 11 55 07.5 +0.3
PATCX iS Sn **11 55 42.3 -1.1**
PATCX IAML 11 55 45.4
comp=E,6μm,0.3s
PATCX Punta Patache 2.89 302 eP Pn 11 55 07.0 -0.2
PATCX eP 11 55 07.5
PATCX eP Pn **11 55 07.5 +0.3**
PATCX eP Pn **11 55 07.5 +0.3**
PATCX eP Pn **11 55 07.6 +0.3**
PATCX IAML 11 55 46.1
comp=Z,3μm,0.5s
SLA San Lorenzo 2.99 142 eP Pn 11 55 10.0 +1.5
SLA eS Sn **11 55 47.2 +1.5**
PB10 IPOC Station P 3.02 247 Pn Pn 11 55 08.7 0.0
PB10 IPOC Station P 3.02 247 ⇑iP Pn 11 55 08.7 0.0
PB10 iS Sn **11 55 44.2 -1.8**
PB10 IAML 11 55 46.9
comp=E,3μm,0.4s
PB10 IPOC Station P 3.02 247 P Pn 11 55 08.9 +0.2
PB10 S Sn **11 55 43.3 -2.8**
PB10 IAML 11 55 48.2
comp=E,2μm,0.5s
PB10 IPOC Station P 3.02 247 eP Pn 11 55 08.7 0.0
PB10 eS Sn **11 55 44.9 -1.2**
PB10 IAML 11 55 48.7
comp=Z,2μm,0.6s
HMBC Humberstone 3.03 313 ⇑iP Pn 11 55 09.0 0.0
HMBC iS Sn **11 55 45.9 -0.6**
TA01 Diego Aracena 3.06 305 Pn Pn 11 55 09.1 -0.1
TA01 Diego Aracena 3.06 305 ⇑iP Pn 11 55 09.1 -0.1
TA01 iS Sn **11 55 45.5 -1.4**
TA01 IAML 11 55 56.0
comp=E,4μm,0.5s
TA01 Diego Aracena 3.06 305 eP Pn 11 55 09.2 +0.1
TA01 eS Sn **11 55 46.5 -0.4**
TA01 IAML 11 55 48.5
comp=Z,2μm,0.5s
GO01 Chusmiza 3.11 330 Pn 11 55 11.9 +1.6
GO01 Chusmiza 3.11 330 ⇑iP Pn 11 55 11.9 +1.6
GO01 iS Sn **11 55 50.1 +1.3**
GO01 IAML 11 55 53.5
comp=N,5μm,0.3s
GO01 Chusmiza 3.11 330 eP Pn 11 55 11.9 +1.6
GO01 eS Sn **11 55 51.2 +2.3**
TA02 Huaiquique 3.20 310 Pn 11 55 10.8 -0.2
TA02 Huaiquique 3.20 310 eP Pn 11 55 10.8 -0.2
TA02 iS Sn **11 55 48.5 -1.7**
TA02 Huaiquique 3.20 310 eP Pn 11 55 10.8 -0.2
TA02 eP 11 55 11.7
TA02 eS Sn **11 55 49.7 -0.5**
TA02 IAML 11 55 55.2
comp=Z,2μm,0.3s
PB11 IPOC Station P 3.27 322 Pn Pn 11 55 12.3 +0.3
PB11 IPOC Station P 3.27 322 ⇑iP Pn 11 55 12.3 +0.3
PB11 iS Sn **11 55 51.6 -0.4**
PB11 IPOC Station P 3.27 322 P Pn 11 55 13.1 +1.1
PB11 IAML 11 55 59.0
comp=Z,3μm,0.4s
PB11 IPOC Station P 3.27 322 eP Pn 11 55 12.3 +0.3
PB11 eS Sn **11 55 46.2 -5.8**
PB11 eS 11 55 52.0
PB11 IAML 11 55 58.9
comp=Z,3μm,0.4s
GO02 Mina Guanaco 3.37 214 Pn Pn 11 55 13.8 +0.5
GO02 Mina Guanaco 3.37 214 ⇓iP Pn 11 55 13.8 +0.5
GO02 iS Sn **11 55 53.4 -1.0**
GO02 Mina Guanaco 3.37 214 eP Pn 11 55 13.0 -0.3
GO02 eS Sn **11 55 53.6 -0.8**
PB14 IPOC Station P 3.47 229 Pn Pn 11 55 14.5 -0.2
PB14 IPOC Station P 3.47 229 ⇑iP Pn 11 55 14.3 -0.4
FSA Cafayete 3.98 160 eP Pn 11 55 22.8 +1.7
PB16 IPOC Station P 4.42 335 ⇑iP Pn 11 55 28.4 +1.2
PB16 IPOC Station P 4.42 335 P Pn 11 55 28.8 +1.6
PB16 IAML 11 56 27.5
comp=Z,804nm,0.5s
PB16 IPOC Station P 4.42 335 eP Pn 11 55 28.0 +0.8
PB16 eS Sn **11 56 11.7 -7.5**
PB16 eS 11 56 19.4
PB16 eS 11 56 19.7
PB16 IAML 11 56 27.4
comp=Z,811nm,0.5s
PB12 IPOC Station P 4.57 324 Pn Pn 11 55 27.5 -1.1
PB12 IPOC Station P 4.57 324 ⇑iP Pn 11 55 27.2 -1.4
PB12 IPOC Station P 4.57 324 eP Pn 11 55 27.6 -1.0
PB12 eS Sn 11 56 09.2 -13
PB12 eS 11 56 19.7
PB12 IAML 11 56 29.9
comp=Z,1μm,0.6s
AC02 Maricunga 4.68 198 Pn Pn 11 55 30.5 0.0
AC02 Maricunga 4.68 198 ⇓iP Pn 11 55 30.6 +0.2
AC02 Maricunga 4.68 198 eP Pn 11 55 30.0 -0.5
AC02 eS Sn **11 56 28.0 +2.9**
AC01 Pan de Azucar 4.69 216 Pn Pn 11 55 29.1 -1.1
AC01 Pan de Azucar 4.69 216 eP Pn 11 55 28.9 -1.3
AC01 Pan de Azucar 4.69 216 eP Pn 11 55 29.0 -1.1
AC01 eS Sn **11 56 20.8 -3.9**
AC01 IAML 11 56 22.2
comp=Z,820nm,0.3s
AP01 Chacalluta 4.78 326 eP Pn 11 55 30.1 -1.2
AP01 i S Sn **11 56 23.4 -3.2**
AP01 Chacalluta 4.78 326 eP Pn 11 55 31.0 -0.3
BBOE La Paz, Chanca 5.54 355 P Pn 11 55 45.0 +3.1
BBOE IAML 11 56 51.8
comp=Z,762nm,0.6s
AC06 Mina Casimiro 5.59 207 eP Pn 11 55 39.5 -2.5
GO03 Copiap 5.75 205 eP Pn 11 55 42.1 -2.1
GO03 eS Sn **11 56 46.2 -3.5**
BBOD La Paz, Gloria 5.79 350 P Pn 11 55 48.0 +2.8
BBOD IAML 11 57 06.3
comp=Z,709nm,1.0s
LPAZ La Paz 6.08 354 P Pn 11 55 51.0 +2.0
comp=Z,17nm,0.3s,baz=134,slow=4.7,SNR=292
LPAZ S Sn **11 56 57.6 -0.7**
comp=Z,6.2nm,0.3s,baz=347,slow=20,SNR=6.4
LPAZ La Paz 6.08 354 P Pn 11 55 51.2 +2.2
ACLC CERRO LA CRUZ 7.05 176 eP Pn 11 56 00.0 -1.4
ACLC eS Sn **11 57 23.5 +2.8**
LCO Las Campanas 7.21 203 Pn Pn 11 56 00.4 -3.2
LCO Las Campanas 7.21 203 eP Pn 11 56 01.0 -2.6
CO01 Juntas del Tor 7.92 196 Pn 11 56 10.9 -2.1
APLL PUNTA DE LOS L 8.04 174 eP Pn 11 56 12.8 -1.6
ACCO Cerro Coronel 8.30 189 eS Sn 11 57 43.2 -7.7
SIV San Ignacio 8.80 45 P Pn 11 56 22.1 -2.5
comp=Z,117nm,0.3s,baz=221,slow=11,SNR=508
SIV S Sn **11 57 55.2 -7.4**
comp=Z,42nm,0.3s,baz=148,slow=19,SNR=7.9
RTLL Cerro Villicun 8.97 185 eP Pn 11 56 24.9 -1.8
RTLL eS Sn 11 57 39.3 -27
CO06 Fray Jorge 9.05 203 Pn 11 56 22.9 -4.9
ZON Zonda 9.20 186 Pn 11 56 27.7 -2.1
CPUP Villa Florida 10.10 115 P Pn 11 56 40.6 -1.0
comp=Z,0.8nm,0.3s,baz=293,slow=12,SNR=21
CPUP Villa Florida 10.10 115 Pn 11 56 39.5 -2.1
CPUP Villa Florida 10.10 115 eP Pn 11 56 40.0 -1.6
PTLB Pontes e Lacer 10.50 51 eP Pn 11 56 44.9 -2.1
VA06 Catapilco 10.69 197 Pn Pn 11 56 46.4 -2.9
VA03 San Esteban 10.70 194 Pn 11 56 48.3 -1.2
AQDB Aquidauana 11.17 82 Pn Pn 11 56 53.5 -2.2
AQDB Aquidauana 11.17 82 eP Pn 11 56 54.2 -1.5
VILB Vilhena 11.68 38 eP Pn 11 57 01.9 -0.4
ITQB Itaqui 12.20 129 Pn 11 57 05.5 -3.4
ITQB Itaqui 12.20 129 eP Pn 11 57 08.1 -0.8
BO01 Tunca 12.38 194 Pn 11 57 07.3 -3.9
ETMB Extrema 12.54 6 eP Pn 11 57 12.4 -1.1
PP1B Ponte de Pedra 12.80 70 eP Pn 11 57 16.5 -0.2
SALV Santo Antonio 12.89 62 eP Pn 11 57 17.6 -0.4
NNA Nana 13.62 318 S Sn 11 59 54.7 -4.0
comp=Z,1.7nm,0.3s,baz=204,slow=19,SNR=1.7
NNA LR LR 12 03 02.2
comp=Z,83nm,21.3s,baz=168,slow=38
PTGB Pitanga 14.37 102 eP Pn 11 57 36.6 0.0
ITAB Concordia 14.79 112 P Pn 11 57 41.9 +0.2
ITAB Concordia 14.79 112 eP Pn 11 57 41.7 -0.1
PDRB Porto dos Gac 14.86 46 eP Pn 11 57 41.7 -1.0
CPSB Cacapava Do Su 14.94 125 eP Pn 11 57 43.1 -0.4
PCMB Pacaembu 15.11 90 eP Pn 11 57 45.2 -0.5
CZSB Cruzeiro do Su 15.38 340 eP P 11 57 49.8 -0.3
PLTB Pedras Altas 15.52 130 P Pn 11 57 48.6 -2.1
PLTB Pedras Altas 15.52 130 eP Pn 11 57 50.3 -0.4
CLDB Colider 16.02 46 eP Pn 11 57 56.5 -0.3
ITRB Iturama 16.24 84 eP P 11 57 59.5 -0.1
FRTB Fartura 16.59 97 eP Pn 11 58 03.9 +0.1
LC01 Cunco 16.89 192 IAmb IAmb 11 58 30.1
comp=Z,24nm,0.8s
TIJ01 Guaruva-PR 17.20 104 eP Pn 11 58 10.7 -0.4
BB19B Bebedouro 17.70 89 eP P 11 58 15.9 +0.3
TER01 Tubaro-SC 17.70 114 eP P 11 58 15.1 -0.5
TBTG Tabatinga, AM 18.22 352 eP Pn 11 58 23.4 +0.2
PLCA Paso Flores 18.49 187 P P 11 58 24.4 +0.3
comp=Z,1.2nm,0.3s,baz=10,slow=12,SNR=45
PLCA LR LR 12 06 38.7
comp=Z,148nm,18.1s,baz=353,slow=40
PLCA Paso Flores 18.49 187 IAmb IAmb 11 58 25.8
comp=Z,22nm,0.8s
PLCA Paso Flores 18.49 187 eP P 11 58 24.2 +0.2
RCLB Rio Claro- Sao 18.49 94 eP P 11 58 24.0 -0.2
SNDB Serra Nova Dou 18.62 59 eP P 11 58 26.3 -0.3
IPMB Ipameri, GO 18.64 80 eP P 11 58 26.0 0.0
PET01 Itanhaem-SP 18.70 100 eP P 11 58 26.3 -0.1
VAO Valinhos 18.98 96 eP P 11 58 28.9 -0.7
NPGB Novo Progresso 19.23 39 eP P 11 58 31.1 -1.2
BDFB Brasilia 19.61 73 P P 11 58 36.3 -0.2
comp=Z,11nm,0.3s,baz=256,slow=11,SNR=102
BDFB Brasilia 19.61 73 P P 11 58 35.1 -1.4
BDFB Brasilia 19.61 73 eP P 11 58 36.3 -0.2
PARB Paraibuna 20.21 97 eP P 11 58 42.0 -0.8
MACA Manacapuru-AM 20.21 20 eP P 11 58 42.3 -0.5
PEXB Peixe 20.98 64 eP P 11 58 50.0 -1.1
LL02 Futaleuf 21.07 189 P P 11 58 51.3 -0.5
ITTB Itaituba 21.23 34 eP P 11 58 52.1 -1.6
MAN01 Angra dos Reis 21.75 96 eP P 11 58 58.1 -1.1
VAS01 Vassouras-RJ 22.27 94 eP P 11 59 03.4 -1.0
AY01 Puyuhuapi 22.40 190 P P 11 59 05.2 -0.1
AY01 IAmb IAmb 11 59 05.7
comp=Z,22nm,0.8s
DIAM Diamantina, MG 22.72 84 eP P 11 59 07.5 -1.3
JANB Januaria 23.14 76 eP P 11 59 10.9 -1.6
DUB01 Friburgo-RJ 23.28 94 eP P 11 59 12.7 -1.0
SMTB Santa Maria do 23.39 58 eP P 11 59 13.9 -0.8
COYC Coyhaique 23.45 188 P P 11 59 13.7 -1.2
COYC IAmb IAmb 11 59 15.7
comp=Z,17nm,0.8s
PRPB Parauapebas 23.49 49 eP P 11 59 14.3 -1.3
SDBA SAO DESIDERIO 23.72 69 eP P 11 59 16.3 -1.5
CAM01 Campos-RJ 23.97 94 eP P 11 59 18.9 -1.0
MALB Monte Alegre 24.12 34 eP P 11 59 20.4 -1.0
SJMB Sao Joao De Ma 24.92 86 eP P 11 59 27.7 -0.9
ALF01 Guarapari-ES 24.99 91 eP P 11 59 28.4 -0.8
RIB01 Linhares ES 25.52 88 eP P 11 59 32.4 -1.6
BOAV Boa Vista 25.55 16 eP P 11 59 34.5 +0.3
NAN01 Guarapari, ES 26.10 85 eP P 11 59 37.7 -1.6
MCPB Macapa, AP 26.56 37 eP P 11 59 42.8 -0.5
GUA01 Guaratinga, BA 26.73 83 eP P 11 59 44.3 -0.6
CMC01 Camacan, BA 27.37 80 eP P 11 59 49.8 -0.8
GDU01 Guandu, BA 27.89 77 eP P 11 59 54.7 -0.6
NBPN Ponto Novo - B 28.53 71 eP P 11 59 59.2 -1.7
EFI East Falkland 30.16 168 P P 12 00 15.0 +0.1
NBPS Pedro II - PI 30.93 59 eP P 12 00 21.3 -0.9
MDP Montagnes des 30.94 30 P P 12 00 20.9 -1.3
comp=Z,8.3nm,0.6s,baz=196,slow=8.8,SNR=4.5
MDP LR LR 12 13 16.0
comp=Z,74nm,18.6s,baz=248,slow=37
NBMA Muriti-CE 31.46 66 eP P 12 00 26.6 -0.2
NBPB Pedra_Branca-C 31.76 62 eP P 12 00 28.7 -0.7
USHA Ushuaia 32.42 181 P P 12 00 35.7 +1.0
comp=Z,5.7nm,0.7s,baz=306,slow=19,SNR=1.8
NBAN Anadia - AL 32.50 72 eP P 12 00 35.3 -0.6
NBMO Morrinhos-CE 32.70 59 eP P 12 00 36.4 -1.2
NBCL Cascavel-CE 33.56 62 eP P 12 00 44.3 -0.8
NBRF Rio Formoso - 33.95 72 eP P 12 00 48.2 -0.3
RCBR Riachuelo 34.68 66 eP P 12 00 54.2 -0.6
NBPV Pedro Velho 34.90 68 eP P 12 00 56.0 -0.6
PMSA Palmer Station 42.45 178 eP P 12 02 00.1 +1.3
VNA3 Neumayer Olymp 58.84 161 P P 12 04 02.6 +1.1
VNA2 Neumayer--Watz 59.41 161 P P 12 04 06.6 +1.3
baz=288,slow=8.0
SNAA Sanae 61.04 161 P P 12 04 17.7 +1.2
SNAA Sanae 61.04 161 P P 12 04 17.4 +0.9
comp=Z,3.3nm,0.6s,baz=274,slow=8.8,SNR=6.1
SNAA Sanae 61.04 161 IAmb IAmb 12 04 23.3
comp=Z,21nm,1.3s
TXAR Lajitas Array 62.08 324 P P 12 04 24.9 +0.9
comp=Z,0.6nm,0.6s,baz=150,slow=8.5,SNR=11
TX31 Lajitas Ar. Si 62.08 324 IAmb IAmb 12 04 37.3
comp=Z,3.4nm,1.0s
TROLL Troll, Antarti 62.76 161 P P 12 04 29.4 +1.4
CCM Cathedral Cave 64.11 339 P P 12 04 37.1 +0.1

S39A Bolivar 64.48 338 IAmb IAmb 12 04 41.0
comp=Z,6.1nm,0.7s
MNTX Cornudas Mount 64.84 325 P P 12 04 41.4 -0.6
MNTX IAmb IAmb 12 04 43.0
comp=Z,3.6nm,0.9s
LIC Lamto 67.40 73 eP P 12 04 58.6 -0.1
comp=Z,11nm,0.9s
TIC Toumodi 67.60 72 eP P 12 04 59.3 -0.7
KIC Kosan Boka 67.72 73 eP P 12 05 00.1 -0.6
comp=Z,26nm,0.7s
DBIC Dimbokro 67.76 72 P P 12 05 00.8 -0.1
comp=Z,28nm,0.9s,baz=252,slow=4.7,SNR=16
DBIC Dimbokro 67.76 72 P P 12 05 00.4 -0.5
QSPA South Pole Qui 67.83 180 P P 12 05 01.9 +1.3
ANMO Albuquerque 67.93 326 P P 12 05 03.3 +1.5
ANMO IAmb IAmb 12 05 04.6
comp=Z,4.6nm,0.8s
CBKS Cedar Bluff 67.94 333 P P 12 05 02.6 +1.1
TUC Tucson 68.31 321 P P 12 05 06.1 +2.0
TUC IAmb IAmb 12 05 07.2
comp=Z,5.2nm,1.1s
SDCO Great Sand Dun 69.65 329 IAmb IAmb 12 05 15.4
comp=Z,8.2nm,1.1s
X16A Lo Mia Camp, P 70.22 322 IAmb IAmb 12 05 19.4
comp=Z,5.5nm,1.1s
MVCO Mesa Verde 70.72 326 IAmb IAmb 12 05 21.6
comp=Z,5.5nm,0.9s
Y14A Wickenburg 70.77 321 IAmb IAmb 12 05 22.1
comp=Z,5.1nm,1.2s
WUAZ Wupatki 70.99 323 IAmb IAmb 12 05 24.1
comp=Z,7.5nm,1.0s
SMCO Snowmass 71.49 329 IAmb IAmb 12 05 26.6
comp=Z,4.1nm,0.7s
PV13 Radium Mtn., P 71.61 327 IAmb IAmb 12 05 27.4
comp=Z,6.3nm,1.1s
U15A North Rim 72.16 323 IAmb IAmb 12 05 31.4
comp=Z,8.5nm,1.2s
KOWA Kowa 72.19 66 P P 12 05 27.4 -0.5
N23A Red Feather La 72.36 330 IAmb IAmb 12 05 31.7
comp=Z,4.6nm,0.8s
O20A White River Ci 72.85 328 IAmb IAmb 12 05 34.7
comp=Z,8.9nm,0.9s
KNB Kanab 72.88 323 IAmb IAmb 12 05 35.7
comp=Z,13nm,1.1s
SRU San Rafael Swe 73.20 326 IAmb IAmb 12 05 36.5
comp=Z,6.8nm,0.7s
P18A Preston Nutter 73.45 327 IAmb IAmb 12 05 38.5
comp=Z,7.8nm,0.7s
CCUT Cedar City 73.56 324 IAmb IAmb 12 05 39.8
comp=Z,6.0nm,0.8s
P17A Butcher Ranch, 73.59 326 IAmb IAmb 12 05 38.9
comp=Z,5.4nm,0.6s
RDMU Red Mountain 73.83 328 IAmb IAmb 12 05 39.6
comp=Z,5.4nm,0.6s
RSSD Black Hills 74.14 334 P P 12 05 40.8 +1.8
GWY Greenwater Val 74.49 321 IAmb IAmb 12 05 44.1
comp=Z,4.8nm,0.8s
JLU Jordanelle 74.79 327 IAmb IAmb 12 05 45.6
comp=Z,4.2nm,0.6s
ISA Isabella, Lake 75.21 319 P P 12 05 47.4 +2.2
ISA IAmb IAmb 12 05 48.6
comp=Z,4.1nm,0.7s
PDAR Pinedale Array 75.50 329 P P 12 05 48.3 +1.4
comp=Z,0.9nm,0.5s,baz=130,slow=7.4,SNR=9.8
HWUT Hardware Ranch 75.60 327 IAmb IAmb 12 05 50.1
comp=Z,7.3nm,1.2s
BGU Big Grassy Mou 75.84 326 IAmb IAmb 12 05 51.8
comp=Z,6.8nm,1.3s
VNDA Vanda 76.22 190 P P 12 05 52.2 +2.0
comp=Z,2.1nm,0.9s,baz=141,slow=5.3,SNR=7.9
VNDA Vanda 76.22 190 IAmb IAmb 12 05 59.4
comp=Z,5.4nm,1.5s
AHID Auburn Hatcher 76.24 328 IAmb IAmb 12 05 53.7
comp=Z,15nm,1.2s
TORD Torodi Ar. Bea 76.44 70 P P 12 05 52.5 0.0
comp=Z,45nm,0.8s,baz=259,slow=5.7,SNR=230
TORD Torodi Ar. Bea 76.44 70 P P 12 05 52.6 +0.1
ULM Lac du Bonnet 76.53 342 P P 12 05 52.6 +0.4
comp=Z,6.5nm,0.5s,baz=148,slow=5.7,SNR=11
ULM Lac du Bonnet 76.53 342 IAmb IAmb 12 05 53.2
comp=Z,7.2nm,0.6s
LOHW Long Hollow 76.64 329 IAmb IAmb 12 05 55.8
comp=Z,4.1nm,0.7s
OMMB Old Mammoth Mi 76.83 320 IAmb IAmb 12 05 57.8
comp=Z,9.1nm,1.3s
SCHQ Schefferville 76.89 0 P P 12 05 53.9 -0.2
comp=Z,2.9nm,0.7s,baz=114,slow=4.0,SNR=4.1
SCHQ Schefferville 76.89 0 IAmb IAmb 12 06 05.8
comp=Z,11nm,1.4s
NVAR Mina Array Bea 76.97 321 P P 12 05 56.5 +1.2
comp=Z,1.1nm,0.7s,baz=152,slow=6.0,SNR=12
FLWY Flagg Ranch 77.05 330 IAmb IAmb 12 05 58.5
comp=Z,6.1nm,0.8s
RLMT Red Lodge 77.19 331 IAmb IAmb 12 05 58.7
comp=Z,4.2nm,0.6s
KVN Kaiserville 77.27 322 IAmb IAmb 12 05 59.7
comp=Z,6.8nm,1.1s
YMR Madison River 77.61 330 IAmb IAmb 12 06 03.4
comp=Z,6.8nm,1.1s
YHH Holmes Hill 77.65 330 IAmb IAmb 12 06 02.7
comp=Z,10nm,1.3s
PNTR Pine Nut 78.16 321 IAmb IAmb 12 06 05.3
comp=Z,8.1nm,0.8s
PAHR Pah Rah Range 78.45 322 IAmb IAmb 12 06 06.8
comp=Z,10nm,0.8s
HLID Hailey 78.46 327 IAmb IAmb 12 06 06.9
comp=Z,6.4nm,0.9s
TSUM Tsumeb 78.56 106 P P 12 06 05.1 +0.7
ORV Oroville 79.58 321 IAmb IAmb 12 06 12.6
comp=Z,11nm,1.4s
PLID Pearl Lake 80.35 327 IAmb IAmb 12 06 16.0
comp=Z,4.6nm,0.7s
J08A Circle Bar Ran 80.42 325 IAmb IAmb 12 06 17.1
comp=Z,9.7nm,1.3s
K05A Summer Lake 81.30 323 IAmb IAmb 12 06 21.9
comp=Z,9.4nm,0.9s
BOSA Boshof 81.91 117 P P 12 06 22.8 +0.6
comp=Z,7.3nm,0.5s,baz=264,slow=3.0,SNR=33
BOSA Boshof 81.91 117 P P 12 06 22.8 +0.6
BOSA IAmb IAmb 12 06 24.1
comp=Z,14nm,1.1s
PINE Pine Mountain 82.03 324 IAmb IAmb 12 06 25.3
comp=Z,5.6nm,0.7s
MAW Mawson 83.13 163 P P 12 06 29.0 +1.4
comp=Z,3.3nm,0.6s,baz=288,slow=10,SNR=2.7
LBTB Lobatse 83.49 114 P P 12 06 30.9 +0.4
ESDC Sonseca Array 85.56 44 P P 12 06 40.6 +0.4
comp=Z,1.5nm,0.8s,baz=251,slow=5.5,SNR=6.8
YKA Yellowknife Ar 92.43 340 P P 12 07 13.1 +1.1
comp=Z,2.6nm,0.6s,baz=134,slow=4.5,SNR=55
ASAR Alice Springs 129.72 206 PKP PKiKP 12 13 11.6 -0.1
comp=Z,2.1nm,0.7s,baz=134,slow=1.8,SNR=26
ASAR SKPbc SKPab 12 16 16.9 -0.6
comp=Z,0.4nm,0.7s,baz=145,slow=3.0,SNR=6.0
TIXI Tiksi 129.81 353 SKPbc SKPbc 12 16 17.0 +0.4
comp=Z,1.3nm,0.5s,baz=270,slow=24,SNR=4.4
WRA Warramunga Arr 132.84 209 PKP PKiKP 12 13 17.9 -0.2
comp=Z,2.2nm,0.4s,baz=158,slow=1.7,SNR=62
WRA SKPbc **SKPbc 12 16 29.8 +0.6**
comp=Z,1.6nm,0.9s,baz=151,slow=3.2,SNR=9.9
KURK Kurchatov 141.33 35 PKPdf 12 13 30.8 -0.7
KURBB Kurchatov Arra 141.34 35 PKP PKPdf 12 13 30.8 -0.7
comp=Z,0.2nm,0.3s,baz=295,slow=2.9,SNR=4.1
KURBB SKPbc **SKPbc 12 16 52.1 -1.0**
comp=Z,0.2nm,0.4s,baz=292,slow=3.3,SNR=2.3
ZALV Zalesovo Beam 142.17 27 PKP PKPdf 12 13 33.5 +0.6
comp=Z,0.7nm,0.4s,baz=326,slow=3.8,SNR=2.0
KSH Kashi 144.62 53 PKP PKPdf 12 13 37.5 -0.3
KSH pPKP pPKPdf 12 14 18.7 -4.0
KSH PP PP 12 16 47.2 -9.0
MKAR Makanchi Array 145.56 38 PKPbc PKPbc 12 13 39.6 0.0
comp=Z,3.4nm,0.7s,baz=324,slow=2.5,SNR=34
MKAR Makanchi Array 145.56 38 PKPbc 12 13 39.7 +0.2
SONM Songino Array 154.12 9 PKPbc PKiKP 12 14 01.1 +0.1
comp=Z,0.3nm,0.3s,baz=336,slow=3.2,SNR=2.4
SONM PKPab **PKPab 12 14 16.3 +1.1**
comp=Z,0.6nm,0.5s,baz=346,slow=2.1,SNR=4.7
CMAR Chiang Mai Arr 166.73 105 PKPab PKPab 12 15 10.6 -0.3
comp=Z,0.7nm,0.3s,baz=259,slow=6.2,SNR=4.9
PZH PanZhiHua 169.39 65 PKP PKPdf 12 14 07.8 -1.1

*GCMT **07** 12:00:24.0±0.3,24.32S±0.02,115.73W±0.02,h22$^{km}_{\pm 1}$km, MW5.1/103,Moment Tensor Solution. s36,c41; s103,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.97±.19; $M_{\theta\theta}$-2.20±.15; $M_{\phi\phi}$3.17±.17; $M_{r\theta}$-0.62±.28;*

Mθφ3.76±.15; Mφr1.07±.29; Best double couple: M0 4.81500×10^16 NP1:φs71.00000°,δ74.00000°, λ-8.00000°. NP2:φs164.00000°,δ83.00000°, λ-163.00000°. Principal axes: T 5.1790, Plg6.0000°, Azm297.0000°; N -0.7280, Plg72.0000°, Azm187.0000°; P -4.4500, Plg17.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function

IDC 07 12:00:14.7±1.5**, 24.77S**×**114.79W, h0km, mb3.6**/5**, mb1 4.0**/5**, mb1mx3.8**/26**, mbtmp3.6**/5**, MS4.2**/9**, Ms1 4.2**/9**, ms1mx3.9**/51 **Error ellipse: s-maj=48.5km s-min=44.2km az=40.0, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAOE	Nuku Hiva Isla	28.89	299	eS	S	12 10 29.2	-38
	134nm,30.2s						
TAOE				eLR	LR	12 12 44.2	
	comp=Z,2µm,26.4s,baz=131						
TBI	Tubuai	31.65	265	eS	S	12 11 20.3	-30
	93nm,27.8s						
TBI				eLQ	LQ	12 12 55.0	
	398nm,34.8s						
TBI				eLR	LR	12 14 13.9	
	comp=Z,696nm,28.0s,baz=105						
H03N2	Juan Fernandez	32.37	114	T	T	12 42 17.0	
	baz=280,slow=75,SNR=320						
H03N3	Juan Fernandez	32.38	114	T	T	12 42 15.7	
	baz=280,slow=75,SNR=378						
H03N1	Juan Fernandez	32.39	114	T	T	12 42 13.4	
	baz=280,slow=75,SNR=620						
PPT2	Papeete2	33.15	276	eS	S	12 11 40.7	-33
	151nm,26.5s						
PPT2				eLQ	LQ	12 13 29.5	
	572nm,24.5s						
PPT2				eLR	LR	12 14 48.7	
	comp=Z,967nm,28.0s,baz=104						
PPT	Papeete	33.16	276	LR	LR	12 15 31.1	
	comp=Z,502nm,19.7s,baz=110,slow=28						
PLCA	Paso Flores	40.02	124	LR	LR	12 20 41.3	
	comp=Z,525nm,21.1s,baz=276,slow=31						
RAR	Rarotonga	41.43	265	LR	LR	12 19 58.2	
	comp=Z,186nm,21.6s,baz=110,slow=29						
LPAZ	La Paz	44.33	88	P	P	12 08 27.7	+0.1
	0.5nm,0.3s,baz=270,slow=5.5,SNR=1.6						
USHA	Ushuaia	45.34	144	LR	LR	12 23 43.5	
	comp=Z,474nm,19.8s,baz=322,slow=31						
AFI	Afiamalu	54.52	270	LR	LR	12 26 50.1	
	comp=Z,377nm,19.6s,baz=152,slow=29						
TXAR	Lajitas Array	54.84	12	P	P	12 09 47.5	+0.6
	0.2nm,0.7s,baz=189,slow=7.0,SNR=2.3						
NVAR	Mina Array Bea	62.95	357	P	P	12 10 44.2	+0.9
	0.4nm,0.7s,baz=182,slow=8.9,SNR=5.0						
VNDA	Vanda	64.56	194	LR	LR	12 32 06.4	
	comp=Z,215nm,20.1s,baz=144,slow=30						
PDAR	Pinedale Array	67.37	4	P	P	12 11 10.9	-1.0
	0.7nm,0.8s,baz=165,slow=6.2,SNR=6.9						
DZM	Mont Dzumac	71.34	254	LR	LR	12 34 44.1	
	comp=Z,115nm,20.2s,baz=44,slow=29						
DZM	Mont Dzumac	71.34	254	eLR	LR	12 32 42.0	
	comp=Z,239nm,26.9s						
YKA	Yellowknife Ar	86.96	0	P	P	12 13 01.3	+0.1
	0.8nm,0.8s,baz=177,slow=5.4,SNR=12						
H11S2	WAKE ISLAND Hy	87.68	291	T	T	13 48 46.1	
	baz=117,slow=75,SNR=138						
H11S1	WAKE ISLAND Hy	87.69	291	T	T	13 48 47.1	
	baz=117,slow=75,SNR=129						
H11S3	WAKE ISLAND Hy	87.69	291	T	T	13 48 47.2	
	baz=117,slow=75,SNR=155						
MAW	Mawson	87.89	179	LR	LR	12 47 09.0	
	comp=Z,191nm,20.6s,baz=219,slow=32						
H11N3	WAKE ISLAND Hy	88.06	293	T	T	13 49 19.9	
	baz=117,slow=74,SNR=21						
H11N1	WAKE ISLAND Hy	88.07	293	T	T	13 49 23.3	
	baz=117,slow=74,SNR=23						
H11N2	WAKE ISLAND Hy	88.08	293	T	T	13 49 20.5	
	baz=117,slow=74,SNR=35						
SCHQ	Schefferville	89.29	25	LR	LR	12 49 11.9	
	comp=Z,77nm,20.9s,baz=250,slow=33						
ZALV	Zalesovo Beam	147.38	338	PKPbc	PKPbc	12 19 59.3	-0.8
	1.0nm,0.6s,baz=57,slow=6.0,SNR=4.7						
CMAR	Chiang Mai Arr	148.08	265	PKPbc	PKPbc	12 20 03.6	+0.5
	0.6nm,0.4s,baz=101,slow=1.8,SNR=1.5						
KURBB	Kurchatov Arra	152.21	342	PKPbc	PKPbc	12 20 11.8	-0.3
	0.6nm,0.7s,baz=24,slow=2.1,SNR=7.1						
MKAR	Makanchi Array	154.13	332	PKPbc	PKPbc	12 20 15.0	-1.5
	0.2nm,0.5s,baz=36,slow=2.3,SNR=3.5						

*SJA **07** 12:02:46.1±0.6, 29.79S×72.60W, h12km, ML4.0, MW4.1*
*GUC **07** 12:02:53.6±0.7, 29.91S×72.02W, h39km±2km, ML3.9*
ISC 07 12:02:51.6±1.4**, 29.95S**±0.02×**71.97W**±0.05**, h7km**±10km**, n45, σ2.26**/84**, 3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.63	87	⇓eP	Pn	12 03 06.7	-0.2
CO05				eS	Sn	12 03 15.8	-1.5
CO05				IAML		12 03 19.1	
	comp=E,6µm,0.5s						
CO06	Fray Jorge	0.78	158	eP	Pb	12 03 08.4	+1.1
CO06				eS	Sn	12 03 20.7	-0.2
GO04	Tololo Observa	1.04	103	eP	Pn	12 03 13.2	+0.5
GO04				eS	Sn	12 03 28.1	+0.5
GO04	Tololo Observa	1.04	103	eP	Pn	12 03 13.5	+0.8
GO04				eS	Sn	12 03 29.9	+2.2
CO03	El Pedregal	1.42	129	⇓eP	Pg	12 03 19.4	+0.7
CO03				eS	Sg	12 03 38.1	+1.1
CO03	El Pedregal	1.42	129	eP	Pg	12 03 19.0	+0.3
CO03				eP	Pb	12 03 19.6	+1.2
CO03				eS	Sg	12 03 42.7	+5.6
CO03				IAML		12 03 43.6	
	comp=Z,1µm,0.6s						
LCO	Las Campanas	1.45	50	eP	Pn	12 03 18.9	+0.5
LCO				eS	Sg	12 03 38.5	+0.3
LCO	Las Campanas	1.45	50	eP	Pn	12 03 19.0	+0.5
CO02	Combarbal	1.50	146	⇓iP	Pg	12 03 20.8	+0.4
CO02				eS	Sg	12 03 41.1	+1.3
CO02				IAML		12 03 47.1	
	comp=N,3µm,0.6s						
CO02	Combarbal	1.50	146	eP	Pg	12 03 21.0	+0.6
CO02				eS	Sn	12 03 37.7	-1.2
CO02				IAML		12 03 50.3	
	comp=Z,2µm,0.7s						
CO01	Juntas del Tor	1.63	91	eP	Pg	12 03 23.2	+0.4
CO01				eS	Sg	12 03 43.7	-0.1
CO01				IAML		12 03 45.9	
	comp=N,877nm,0.4s						
AC04	Llanos de Chal	1.91	24	eP	Pn	12 03 23.6	-0.9
AROD	Rodeo	2.17	96	eP	Pn	12 03 27.7	-0.8
AROD				eP	Pg	12 03 33.0	-0.3
AROD				eS	Sb	12 03 57.2	-1.5
ACDV	Cuesta del Vie	2.48	96	eP	Pg	12 03 38.0	-1.1
ACDV				eS	Sb	12 04 06.7	-0.6
ACCO	Cerro Coronel	2.59	105	eP	Pb	12 03 39.0	+0.5
ACCO				eS	Sb	12 04 10.7	0.0
ACCO				eS	Sg	12 04 18.8	+4.0
VA06	Catapilco	2.66	168	eP	Pn	12 03 35.7	+0.8
VA06				IAML		12 04 25.2	
	comp=E,503nm,0.7s						
GO03	Copiap	2.80	33	eP	Pn	12 03 36.7	-0.1
GO03				IAML		12 04 24.5	
	comp=N,342nm,0.6s						
RTLS	Leoncito	2.94	129	eP	Pb	12 03 44.5	0.0
RTLS				eS	Sb	12 04 21.2	+0.4
RTLS				IAML		12 04 29.9	
	comp=Z,407nm,1.4s						
AC06	Mina Casimiro	2.95	29	eP	Pn	12 03 39.3	+0.5
AC06				IAML		12 04 34.2	
	comp=N,178nm,0.4s						
VA03	San Esteban	3.05	157	eP	Pn	12 03 42.1	+1.7
VA03				eS	Sn	12 04 18.6	+1.3
VA03				IAML		12 04 34.9	
	comp=E,356nm,0.3s						
VA03	San Esteban	3.05	157	eP	Pn	12 03 42.3	+1.9
VA03				eS	Sg	12 04 27.7	-2.0
VA03				IAML		12 04 44.2	
	comp=Z,376nm,1.0s						
ROCH	El Roble	3.12	165	eP	Pn	12 03 42.5	+1.1
ROCH				IAML		12 04 39.8	
	comp=N,336nm,0.5s						
AUSP	Uspallata	3.17	136	eP	Pb	12 03 47.0	-1.3
AUSP				eS	Sn	12 04 21.2	+0.9
PEL	Peldehue	3.37	161	eP	Pn	12 03 46.5	+1.9
PEL				eS	Sn	12 04 25.9	+1.1
PEL	Peldehue	3.37	161	eP	Pn	12 03 47.2	+2.6
PEL				eS	Sb	12 04 34.2	+1.4
MT02	Curacav	3.37	168	eP	Pn	12 03 45.5	+0.8
MT02				eS	Sn	12 04 26.0	+1.0
MT02				IAML		12 04 51.5	
	comp=E,110nm,0.6s						
MT02	Curacav	3.37	168	eP	Pn	12 03 46.0	+1.3
MT02				eS	Sg	12 04 37.7	-2.2
MT02				IAML		12 04 50.8	
	comp=Z,161nm,1.1s						
MT05	Renca	3.59	163	IAML		12 04 53.3	
	comp=N,328nm,0.8s						
ASAL	Salagasta	3.76	135	eP	Pb	12 03 56.0	-2.3
ASAL				eP	Pn	12 03 56.3	+6.2
ASAL				eS	Sb	12 04 45.7	+1.6
ASAL				eS	Sg	12 04 53.2	+0.9
ARCO	CERRO ARCO	3.88	139	eP	Pn	12 03 53.2	+1.4
ARCO				eS	Sb	12 04 47.7	+0.1
ARCO				IAML		12 04 59.9	
	comp=Z,153nm,0.9s						
MT09	Talagante	3.90	168	eP	Pn	12 03 53.4	+1.3
MT09				IAML		12 05 05.0	
	comp=N,125nm,0.3s						
MT01	Popeta	3.95	171	eP	Pn	12 03 53.5	+0.9
MT01				eS	Sn	12 04 39.3	+0.1
MT01				IAML		12 05 13.1	
	comp=Z,100nm,0.6s						
AVFE	Valle Fertil	3.96	101	eP	Pb	12 03 57.7	-4.1
AVFE				eS	Sb	12 04 49.7	-0.3
AVFE				IAML		12 05 01.3	
	comp=Z,124nm,0.7s						
AC01	Pan de Azucar	3.98	18	eP	Pn	12 03 51.1	-1.9
AC01				eS	Sb	12 04 52.7	+2.3
AC01				IAML		12 05 04.6	
	comp=Z,112nm,1.4s						
AC02	Maricunga	3.99	40	eP	Pn	12 03 54.9	+1.3
AC02	Maricunga	3.99	40	eP	Pn	12 03 54.7	+1.1
AC02				eS	Sg	12 05 02.5	+2.8
AC02				IAML		12 05 06.2	
	comp=Z,239nm,1.1s						
ACLC	CERRO LA CRUZ	4.39	84	eP	Pn	12 04 03.0	+4.1
ACLC				eS	Sb	12 04 59.2	-3.3
ACLC				eS	Sg	12 05 10.7	-2.1
ACLC				IAML		12 05 17.0	
	comp=Z,241nm,1.5s						
BO01	Tunca	4.49	171	eP	Pn	12 03 57.2	-2.8
BO01				eP	Pb	12 04 01.4	-9.3
BO01				eS	Sg	12 05 12.2	-3.6
BO01				IAML		12 05 26.4	
	comp=Z,68nm,1.3s						
ACHE	Chepes	4.73	106	eP	Pn	12 04 08.0	+4.5
ACHE				eS	Sb	12 05 10.7	-1.5
APLL	PUNTA DE LOS L	4.73	97	eP	Pn	12 04 08.0	+4.6
APLL				eS	Sb	12 05 10.2	-1.9
BO02	Sierra Bellavi	4.93	169	eP	Pn	12 04 07.7	+1.6
BO02				eS	Sb	12 05 22.7	+4.9
BO02				IAML		12 05 40.2	
	comp=Z,112nm,0.8s						
GO02	Mina Guanaco	5.22	24	eP	Pn	12 04 09.7	-0.6
GO02				eS	Sn	12 05 13.5	+2.6
RFA	San Rafael	5.64	149	eP	Pn	12 04 18.7	+2.7
RFA				eP	Pb	12 04 21.0	-9.4
RFA				eS	Sg	12 05 47.7	-5.1
RFA				IAML		12 06 18.2	
	comp=Z,35nm,1.0s						
MRA	San Martin	5.89	116	eP	Pn	12 04 18.7	-0.7
MRA				eP	Pb	12 04 24.7	-10
MRA				eS	Sb	12 05 37.2	-8.3
PB02	IPOC Station P	8.80	13	eP	Pn	12 04 56.0	-3.3

*IDC **07** 12:08:30.8±1.0, 4.74S×106.20W, h0km, mb4.2/15, mb1 4.4/15, mb1mx4.3/31, mbtmp4.2/15, Error ellipse: s-maj=33.6km s-min=14.5km az=52.0*
*NEIC **07** 12:08:33.7±1.8, 4.9S±0.1×106.0W±0.1, h10km±1km, mb4.6/84, Error ellipse: s-maj=24.5km s-min=17.0km az=232.0*
ISC 07 12:08:33.6±0.6**, 4.68S**±0.10×**105.95W**±0.10**, h10km, n91, σ1.40**/58**, mb4.6**/51**, MS4.2**/3**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	Puerto Ayora	16.14	76	Pn	Pn	12 12 22.8	+2.0
CMIG	Matias Romero	24.24	27	P	P	12 13 51.5	+0.6
	4.9nm,0.9s,baz=233,slow=8.0,SNR=4.8						
MTO3	Montecristo	25.10	41	P	P	12 13 59.9	+0.9
MTO3				IAmb	IAmb	12 14 13.7	
	comp=Z,20nm,1.2s						
JACO	JACO, Garabito	25.55	56	P	P	12 14 03.6	+0.7
JTS	Las Juntas de	25.66	55	P	P	12 14 04.5	+0.6
	comp=Z,7.9nm,0.8s,baz=255,slow=9.6,SNR=3.0						
TXAR	Lajitas Array	33.89	4	P	P	12 15 15.7	-1.2
	comp=Z,0.1nm,0.4s,baz=180,slow=10,SNR=3.0						
TXAR				PcP	PcP	12 17 55.1	-0.4
	comp=Z,0.2nm,0.6s,baz=168,slow=4.4,SNR=2.8						
TAOE	Nuku Hiva Isla	34.20	261	eLR	LR	12 24 25.3	
	comp=Z,450nm,26.1s						
MNTX	Cornudas Mount	36.18	1	P	P	12 15 35.8	-0.7
AP01	Chacalluta	37.35	114	P	P	12 15 47.0	+0.5
SDV	Santo Domingo	37.70	69	P	P	12 15 50.7	+0.8
	comp=Z,7.0nm,0.7s,baz=266,slow=7.9,SNR=7.9						
SDV	Santo Domingo	37.70	69	P	P	12 15 50.2	+0.3
SDV				IAmb	IAmb	12 15 53.5	
	comp=Z,7.6nm,0.8s						
PB16	IPOC Station P	38.09	114	P	P	12 15 52.7	-0.9
PB16				IAmb	IAmb	12 16 05.8	
	comp=Z,17nm,1.4s						
H03N2	Juan Fernandez	38.10	142	T	T	12 56 02.4	
	baz=317,slow=77,SNR=14						
H03N1	Juan Fernandez	38.11	142	T	T	12 56 04.9	
	baz=317,slow=77,SNR=21						
H03N3	Juan Fernandez	38.11	142	T	T	12 56 01.9	
	baz=317,slow=77,SNR=14						
PB11	IPOC Station P	38.38	116	P	P	12 15 56.3	+0.7
PB11				IAmb	IAmb	12 15 59.0	
	comp=Z,9.8nm,0.9s						
LPAZ	La Paz	38.85	110	P	P	12 15 60.0	-0.1
	comp=Z,1.1nm,0.7s,baz=298,slow=7.0,SNR=2.2						
LPAZ	La Paz	38.85	110	P	P	12 15 59.7	-0.4
PB01	IPOC Station P	38.94	118	P	P	12 16 01.1	+0.9
PB01				IAmb	IAmb	12 16 12.4	
	comp=Z,18nm,1.2s						
Y14A	Wickenburg	38.99	351	P	P	12 16 00.6	+0.3
X16A	Lo Mia Camp, P	39.23	353	P	P	12 16 02.3	-0.2
PFO	Pinyon Flats O	39.37	346	P	P	12 16 03.5	0.0
	comp=Z,3.1nm,0.9s,baz=98,slow=2.9,SNR=4.5						
LVC	Limon Verde	39.99	120	P	P	12 16 10.1	+0.9
	comp=Z,6.6nm,0.9s,baz=267,slow=9.2,SNR=5.3						
LVC	Limon Verde	39.99	120	P	P	12 16 07.5	-1.7
LVC				IAmb	IAmb	12 16 12.5	
	comp=Z,9.8nm,1.0s						
WUAZ	Wupatki	40.31	353	P	P	12 16 12.2	+0.8
X37A	Clayton	40.31	14	P	P	12 16 12.2	+1.0
X37A				IAmb	IAmb	12 16 25.3	
	comp=Z,9.1nm,1.0s						
GO02	Mina Guanaco	40.39	124	P	P	12 16 10.3	-2.1
GO02				IAmb	IAmb	12 16 15.9	
	comp=Z,17nm,0.9s						
W35A	Tecumseh	40.53	11	P	P	12 16 12.8	-0.3
W35A				IAmb	IAmb	12 16 25.0	
	comp=Z,21nm,1.1s						
AC04	Llanos de Chal	40.55	129	P	P	12 16 10.5	-2.9
MIAR	Mount Ida	40.73	16	P	P	12 16 13.8	-0.8
MIAR				IAmb	IAmb	12 16 25.3	
	comp=Z,9.8nm,0.8s						
GSC	Goldstone, Bar	41.06	346	P	P	12 16 18.3	+0.8
AC02	Maricunga	41.46	126	P	P	12 16 21.2	-0.3
AC02				IAmb	IAmb	12 16 38.5	
	comp=Z,9.8nm,0.9s						
QSM	Queen of Sheba	41.71	347	P	P	12 16 23.4	+0.6
SHPR	Sheep Range	41.87	349	P	P	12 16 25.8	+1.5
GWY	Greenwater Val	41.88	347	P	P	12 16 25.3	+1.0
KNB	Kanab	41.98	352	IAmb	IAmb	12 16 49.3	
	comp=Z,9.5nm,1.3s						
CCUT	Cedar City	42.58	351	P	P	12 16 31.9	+1.8
LCAR	Lake Charles	42.84	18	P	P	12 16 32.8	+0.8
LCAR				IAmb	IAmb	12 16 42.7	
	comp=Z,9.7nm,1.2s						
PLAL	Pickwick Lake	42.89	22	IAmb	IAmb	12 16 40.9	
	comp=Z,14nm,0.9s						
S39A	Bolivar	43.77	15	IAmb	IAmb	12 16 50.9	
	comp=Z,12nm,1.1s						
WVT	Waverly	44.01	21	P	P	12 16 41.9	+0.6
LMEL	Las Melosas	44.09	136	P	P	12 16 39.5	-2.9
LHV	Little Huntoon	44.28	346	IAmb	IAmb	12 17 07.2	
	comp=Z,9.8nm,1.1s						
NVAR	Mina Array Bea	44.40	346	P	P	12 16 45.1	+0.4
	comp=Z,2.5nm,1.0s,baz=174,slow=8.5,SNR=13						
PPT2	Papeete2	44.56	250	eS	S	12 23 24.5	+2.2
	comp=Z,51nm,25.9s						
PPT2				eLR	LR	12 29 17.5	
	comp=Z,505nm,26.8s						
R40A	Maddies Statio	44.60	15	IAmb	IAmb	12 16 55.0	
	comp=Z,4.7nm,0.8s						
RYN	Ryan	44.64	346	IAmb	IAmb	12 17 04.5	
	comp=Z,8.0nm,1.2s						
PNTR	Pine Nut	45.35	345	IAmb	IAmb	12 16 56.1	
	comp=Z,9.2nm,0.9s						
SIV	San Ignacio	45.45	108	P	P	12 16 52.1	-1.2
	comp=Z,1.0nm,0.7s,baz=277,slow=11,SNR=4.2						
VCNR	Virginia City	45.55	345	IAmb	IAmb	12 17 16.9	
	comp=Z,9.0nm,1.2s						
TBI	Tubuai	45.87	242	eS	S	12 23 43.8	+2.8
	comp=Z,50nm,25.8s						
TBI				eLR	LR	12 29 56.0	
	comp=Z,378nm,28.2s						
PAHR	Pah Rah Range	45.88	346	IAmb	IAmb	12 17 13.9	
	comp=Z,7.3nm,1.1s						
BMN	Battle Mountai	46.07	348	IAmb	IAmb	12 17 00.5	
	comp=Z,7.7nm,1.2s						
ORV	Oroville	46.30	343	IAmb	IAmb	12 17 02.8	
	comp=Z,9.3nm,1.1s						
PDAR	Pinedale Array	47.34	356	P	P	12 17 07.3	-0.6
	comp=Z,0.2nm,0.5s,baz=171,slow=6.3,SNR=2.7						
PLCA	Paso Flores	47.92	144	P	P	12 17 12.8	+0.4
	comp=Z,8.6nm,1.1s,baz=304,slow=8.5,SNR=5.2						
N02D	Trinity Center	47.96	343	IAmb	IAmb	12 17 42.6	
	comp=Z,6.4nm,1.1s						
M02C	Callahan	48.39	343	P	P	12 17 17.2	+1.3
YBH	Yreka Blue Hor	48.66	343	P	P	12 17 17.5	-0.5
	comp=Z,3.2nm,0.9s,baz=124,slow=3.6,SNR=8.8						
YBH	Yreka Blue Hor	48.66	343	IAmb	IAmb	12 17 30.1	
	comp=Z,6.3nm,1.1s						
MFID	Camas Ranch	48.70	350	IAmb	IAmb	12 17 35.4	
	comp=Z,8.3nm,1.1s						
J08A	Circle Bar Ran	49.14	348	IAmb	IAmb	12 17 39.0	
	comp=Z,9.6nm,1.3s						
L02E	Cave Junction	49.31	343	IAmb	IAmb	12 17 30.5	
	comp=Z,8.4nm,1.0s						
I07A	Izee	50.05	347	IAmb	IAmb	12 17 46.5	
	comp=Z,10nm,1.1s						
CPUP	Villa Florida	51.16	120	P	P	12 17 38.2	+1.0
	comp=Z,7.8nm,1.0s,baz=279,slow=6.2,SNR=7.1						
CPUP	Villa Florida	51.16	120	IAmb	IAmb	12 17 41.1	
	comp=Z,10nm,1.1s						
AGMN	Agassiz Nation	53.50	8	IAmb	IAmb	12 18 03.5	
	comp=Z,11nm,1.1s						
FCC	Fort Churchill	63.95	7	P	P	12 19 07.4	+0.7
YKA	Yellowknife Ar	67.32	356	P	P	12 19 26.9	-1.4
	comp=Z,3.4nm,1.0s,baz=164,slow=6.2,SNR=18						
J25K	Salcha River,	75.01	344	IAmb	IAmb	12 20 29.3	
	comp=Z,13nm,1.4s						
RND	Reindeer	75.16	342	P	P	12 20 16.2	+0.2
INK	Inuvik	75.33	350	P	P	12 20 14.1	-2.6
	comp=Z,1.5nm,1.0s,baz=150,slow=3.9,SNR=3.7						
INK	Inuvik	75.33	350	P	P	12 20 17.6	+0.8
INK				IAmb	IAmb	12 20 22.8	
	comp=Z,4.1nm,0.9s						
IL31		75.56	343	P	P	12 20 21.6	+3.5
IL31				IAmb	IAmb	12 20 24.6	
	comp=Z,3.1nm,0.8s						
ILAR	Eielson Array	75.56	343	P	P	12 20 15.5	-2.6
	comp=Z,1.2nm,1.0s,baz=145,slow=5.9,SNR=7.4						
ILAR	Eielson Array	75.56	343	P	P	12 20 18.1	0.0
WRH	Wood River Hil	75.69	343	IAmb	IAmb	12 20 46.0	
	comp=Z,8.9nm,1.2s						
H24K	Noodor Dome	76.63	344	IAmb	IAmb	12 20 31.3	
	comp=Z,4.9nm,0.9s						
K20K	Telida	76.85	340	IAmb	IAmb	12 20 41.5	
	comp=Z,6.7nm,1.1s						
J20K	Nowinta River	77.41	340	P	P	12 20 27.6	-1.0
J20K				IAmb	IAmb	12 20 46.4	
	comp=Z,7.3nm,1.2s						
A36M	Sachs Harbour	77.55	354	IAmb	IAmb	12 20 39.8	
	comp=Z,3.9nm,0.9s						
COLD	Coldfoot	78.28	344	IAmb	IAmb	12 20 52.4	
	comp=Z,10nm,1.2s						
QSPA	South Pole Qui	85.37	180	P	P	12 21 10.7	-0.3
H11N3	WAKE ISLAND Hy	88.88	290	T	T	14 00 14.9	
	baz=96,slow=74,SNR=55						
H11N2	WAKE ISLAND Hy	88.89	290	T	T	14 00 16.5	
	baz=96,slow=74,SNR=50						
H11N1	WAKE ISLAND Hy	88.89	290	T	T	14 00 14.3	
	baz=96,slow=74,SNR=47						
H11S2	WAKE ISLAND Hy	88.96	289	T	T	14 00 19.3	
	baz=95,slow=75,SNR=55						
H11S1	WAKE ISLAND Hy	88.96	289	T	T	14 00 17.7	
	baz=95,slow=75,SNR=48						
H11S3	WAKE ISLAND Hy	88.97	289	T	T	14 00 20.6	
	baz=95,slow=75,SNR=62						
MKAR	Makanchi Array	137.45	352	PKP	PKPdf	12 27 56.5	-1.4
	comp=Z,0.5nm,0.9s,baz=331,slow=1.3,SNR=3.5						
MKAR				PP	PP	12 30 40.3	-1.9
	comp=Z,0.1nm,0.7s,baz=8.5,slow=2.9,SNR=1.5						
CMAR	Chiang Mai Arr	152.09	301	PKPbc	PKPbc	12 28 27.8	-2.5
	comp=Z,0.5nm,0.3s,baz=48,slow=1.3,SNR=5.5						

*NEIC **07** 12:18:00.1±2.5, 5.9S±0.1×107.5W±0.1, h10km±1km, mb4.7/60, Error ellipse: s-maj=30.6km s-min=4.3km az=222.0*
*IDC **07** 12:18:02.3±1.3, 4.49S×106.07W, h0km, mb3.8/12, mb1 4.1/12, mb1mx4.0/29, mbtmp3.8/12, MS4.3/32, Ms1 4.3/32, ms1mx4.2/52, Error ellipse: s-maj=49.9km s-min=17.4km az=52.0*
*GCMT **07** 12:18:07.1±0.3, 4.56S±0.02×105.47W±0.02, h15km±1km, MW5.0/100, Moment Tensor Solution. s24,c27; s100,c141; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.72±.17; Mθθ1.17±.13; Mφφ-1.90±.16; Mrθ0.55±.27; Mθφ3.91±.14; Mφr-0.81±.29; Best double couple: M0 4.28900×10^16 NP1:φs11.00000°,δ83.00000°, λ-173.00000°. NP2:φs280.00000°,δ83.00000°, λ-7.00000°. Principal axes: T 3.8360, Plg0.0000°, Azm326.0000°; N 0.9000, Plg80.0000°, Azm56.0000°; P -4.7420, Plg10.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 12:17:59.7±0.9**, 5.7S**±0.1×**107.3W**±0.2**, h10km, n108, σ1.59**/57**, mb4.7**/38**, MS4.4**/35**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	21.38	185	LR	LR	12 29 22.4	
	comp=Z,586nm,19.3s,baz=2.5,slow=30						
CMIG	Matias Romero	25.76	28	P	P	12 23 18.4	-12
	2.2nm,0.8s,baz=248,slow=6.3,SNR=3.8						
CMIG				LR	LR	12 29 10.7	
	comp=Z,153nm,18.8s,baz=179,slow=28						
JTS	Las Juntas de	27.33	54	LR	LR	12 30 47.4	
	comp=Z,2µm,20.5s,baz=256,slow=30						
LPIG	La Paz	29.79	354	LR	LR	12 32 36.7	
	comp=Z,863nm,20.3s,baz=166,slow=30						
TAOE	Nuku Hiva Isla	32.76	263	eLR	LR	12 33 55.7	
	comp=Z,1µm,25.5s,baz=87						
833A	Chaparral WMA,	34.69	12	P	P	12 24 50.8	+1.0
833A				IAmb	IAmb	12 24 55.5	
	comp=Z,8.6nm,0.8s						
TXAR	Lajitas Array	35.02	5	P	P	12 24 45.1	-7.7
	comp=Z,0.3nm,1.0s,baz=218,slow=8.7,SNR=2.2						
TXAR				PcP	PcP	12 27 23.8	-1.1
	comp=Z,0.4nm,0.8s,baz=189,slow=5.8,SNR=3.7						
TXAR				LR	LR	12 36 08.7	
	comp=Z,391nm,21.1s,baz=179,slow=32						
PTGC	Puerto Gaitan,	36.44	75	eP	P	12 24 57.3	-7.8
SMRC	Santa Marta, M	36.91	63	eP	P	12 24 54.4	-15
MNTX	Cornudas Mount	37.25	3	P	P	12 25 10.5	-1.2
H03N2	Juan Fernandez	38.12	140	T	T	13 05 28.8	
	baz=317,slow=77,SNR=22						
H03N1	Juan Fernandez	38.14	140	T	T	13 05 27.3	
	baz=317,slow=77,SNR=20						
H03N3	Juan Fernandez	38.14	140	T	T	13 05 33.4	
	baz=317,slow=77,SNR=22						
ABTX	Abilene, Hawle	38.81	10	P	P	12 25 25.8	+0.9
ABTX				IAmb	IAmb	12 25 30.1	
	comp=Z,25nm,1.4s						

PB16 IPOC Station P 38.90 112 P P 12 25 30.6 +4.1
PB16 IAmb IAmb 12 25 43.8
comp=Z,31nm,1.5s
SDV Santo Domingo 39.29 69 LR LR 12 37 54.2
comp=Z,788nm,20.1s,baz=250,slow=32
PB10 IPOC Station P 39.51 120 P P 12 25 33.1 +2.2
PB10 IAmb IAmb 12 25 36.2
comp=Z,37nm,1.3s
GO01 Chusmiza 39.52 114 P P 12 25 34.0 +2.4
BNM Barren Site 39.66 1 P P 12 25 34.1 +1.9
LPAZ La Paz 39.75 109 P P 12 25 32.0 -1.7
comp=Z,1.3nm,0.9s,baz=270,slow=9.1,SNR=3.2
LPAZ La Paz 39.75 109 P P 12 25 34.7 +1.0
LPAZ La Paz 39.75 109 eP P 12 25 33.0 -0.7
PFO Pinyon Flats O 40.08 348 LR LR 12 38 13.2
comp=Z,752nm,18.5s,baz=161,slow=31
PFO Pinyon Flats O 40.08 348 P P 12 25 37.8 +2.2
PB09 IPOC Station P 40.09 117 P P 12 25 38.4 +2.5
ANMO Albuquerque 40.45 1 LR LR 12 39 03.6
comp=Z,243nm,20.6s,baz=178,slow=32
LVC Limon Verde 40.63 118 P P 12 25 41.4 +0.7
comp=Z,5.5nm,0.9s,baz=305,slow=21,SNR=3.9
LVC Limon Verde 40.63 118 P P 12 25 41.5 +0.9
GO02 Mina Guanaco 40.92 122 P P 12 25 40.6 -2.4
GO02 IAmb IAmb 12 25 55.3
comp=Z,28nm,1.1s
LCO Las Campanas 41.60 128 P P 12 25 47.7 -0.8
LCO IAmb IAmb 12 25 53.1
comp=Z,22nm,1.1s
X37A Clayton 41.63 15 P P 12 25 48.6 +0.4
X37A IAmb IAmb 12 25 51.6
comp=Z,14nm,1.1s
W35A Tecumseh 41.81 13 P P 12 25 51.2 +1.4
W35A IAmb IAmb 12 25 52.5
comp=Z,16nm,1.1s
AC02 Maricunga 41.94 124 IAmb IAmb 12 26 09.1
comp=Z,24nm,1.3s
U15A North Rim 42.19 354 P P 12 25 56.6 +3.5
QSM Queen of Sheba 42.43 348 P P 12 25 55.0 +0.2
CO03 El Pedregal 42.45 131 P P 12 25 54.7 -0.5
CO03 IAmb IAmb 12 26 09.1
comp=Z,30nm,1.3s
ISA Isabella, Lake 42.49 346 P P 12 25 56.5 +1.2
GWY Greenwater Val 42.61 349 P P 12 25 56.6 +0.2
SHPR Sheep Range 42.65 351 P P 12 25 55.6 -1.2
KNB Kanab 42.83 353 P P 12 25 57.4 -0.8
PPT Papeete 42.98 250 LR LR 12 39 45.0
comp=Z,475nm,22.0s,baz=110,slow=29
PPT2 Papeete2 42.98 250 eS S 12 32 43.6 +18
comp=Z,124nm,26.8s
PPT2 eLR LR 12 38 50.9
comp=Z,1µm,26.2s,baz=70
WHAR Wooly Hollow 43.16 18 P P 12 26 02.8 +2.1
WHAR IAmb IAmb 12 26 06.6
comp=Z,15nm,1.3s
PKCU Pink Cliffs 43.20 354 P P 12 26 02.3 +1.0
SDCO Great Sand Dun 43.27 2 P P 12 26 04.1 +2.2
PRN Pahroc Range 43.51 351 P P 12 26 04.0 +0.3
PRN IAmb IAmb 12 26 32.5
comp=Z,11nm,1.2s
LCH Last Change Ra 43.82 348 P P 12 26 07.4 +1.3
S11A Rachel 43.86 350 P P 12 26 06.4 0.0
TBI Tubuai 44.23 242 eS S 12 33 05.0 +22
comp=Z,147nm,27.5s
TBI eLR LR 12 39 38.1
comp=Z,832nm,27.5s
LMEL Las Melosas 44.30 134 P P 12 26 09.8 -0.3
TPH Tonopah 44.55 349 P P 12 26 12.2 +0.2
S39A Bolivar 45.10 16 P P 12 26 16.6 +0.4
NVAR Mina Array Bea 45.11 348 P P 12 26 15.1 -1.5
comp=Z,0.8nm,0.8s,baz=167,slow=8.3,SNR=4.3
NVAR LR LR 12 41 01.6
comp=Z,396nm,18.3s,baz=181,slow=31
RYN Ryan 45.34 348 P P 12 26 18.8 +0.5
RYN IAmb IAmb 12 26 30.3
comp=Z,15nm,1.5s
V48A Smith Brothers 45.49 23 IAmb IAmb 12 26 21.0
comp=Z,10nm,0.8s
O20A White River Ci 45.63 359 IAmb IAmb 12 26 46.9
comp=Z,20nm,1.4s
R40A Maddies Statio 45.95 16 IAmb IAmb 12 26 28.7
comp=Z,8.7nm,1.1s
PNTR Pine Nut 46.02 347 IAmb IAmb 12 26 37.2
comp=Z,9.7nm,0.9s
EMB Emerald Bay 46.03 346 IAmb IAmb 12 26 37.5
comp=Z,14nm,1.3s
SIV San Ignacio 46.40 107 P P 12 26 25.3 -1.7
comp=Z,0.4nm,0.4s,baz=253,slow=14,SNR=1.4
PAHR Pah Rah Range 46.56 347 P P 12 26 27.3 -0.7
TKL Tuckaleechee C 46.70 26 LR LR 12 45 21.9
comp=Z,261nm,18.4s,baz=152,slow=36
ELK Elko 46.81 352 LR LR 12 42 46.3
comp=Z,654nm,18.3s,baz=154,slow=32
ORV Oroville 46.93 345 P P 12 26 31.5 +0.8
ORV IAmb IAmb 12 26 44.5
comp=Z,13nm,1.2s
SJG San Juan 46.97 59 LR LR 12 41 19.3
comp=Z,282nm,21.9s,baz=235,slow=31
PLCA Paso Flores 47.89 142 LR LR 12 41 57.0
comp=Z,841nm,18.4s,baz=334,slow=30
PDAR Pinedale Array 48.30 358 P P 12 26 37.3 -4.2
comp=Z,0.3nm,0.6s,baz=167,slow=7.9,SNR=2.3
PDAR LR LR 12 44 10.4
comp=Z,418nm,18.8s,baz=158,slow=33
MOD Modoc Plateau 48.87 347 IAmb IAmb 12 26 58.0
comp=Z,6.8nm,1.1s
YBH Yreka Blue Hor 49.29 345 P P 12 26 46.0 -2.9
comp=Z,4.2nm,1.2s,baz=162,slow=9.1,SNR=3.5
YBH LR LR 12 42 52.0
comp=Z,359nm,21.1s,baz=155,slow=31
MFID Camas Ranch 49.52 352 P P 12 26 49.9 -0.8
MFID IAmb IAmb 12 27 18.2
comp=Z,6.7nm,1.2s
RSSD Black Hills 49.70 3 P P 12 26 53.7 +1.5
RSSD IAmb IAmb 12 26 59.1
comp=Z,12nm,1.4s
I07A Izee 50.79 349 IAmb IAmb 12 27 17.4
comp=Z,13nm,1.5s
CPUP Villa Florida 51.80 119 P P 12 27 08.7 +0.6
comp=Z,2.2nm,0.5s,baz=266,slow=8.7,SNR=5.2
CPUP Villa Florida 51.80 119 P P 12 27 08.0 -0.1
CPUP IAmb IAmb 12 27 19.3
comp=Z,19nm,1.4s
RAR Rarotonga 53.08 248 LR LR 12 44 54.7
comp=Z,122nm,21.8s,baz=70,slow=30
MDP Montagnes des 55.59 80 LR LR 12 47 58.4
comp=Z,298nm,18.6s,baz=302,slow=33
EDM Edmonton 58.94 356 P P 12 27 57.5 -1.7
AFI Afiamalu 63.93 257 LR LR 12 52 18.0
comp=Z,137nm,18.9s,baz=256,slow=31
DLBC Dease Lake 66.52 347 LR LR 12 54 10.5
comp=Z,188nm,19.5s,baz=140,slow=33
YKA Yellowknife Ar 68.25 356 P P 12 28 57.4 -3.0
comp=Z,1.4nm,0.8s,baz=163,slow=6.4,SNR=16
RCBR Riachuelo 70.95 94 LR LR 12 57 52.3
comp=Z,327nm,20.1s,baz=63,slow=34
KDAK Kodiak Island 73.07 337 LR LR 12 54 38.8
comp=Z,495nm,18.1s,baz=137,slow=30
MSVF Nonsavu 73.71 253 LR LR 12 54 20.4
comp=Z,148nm,18.5s,baz=145,slow=29
URZ Urewera 75.20 232 LR LR 12 58 12.8
comp=Z,134nm,18.0s,baz=44,slow=31
INK Inuvik 76.12 350 P P 12 29 45.5 -1.8
comp=Z,1.3nm,0.8s,baz=136,slow=9.2,SNR=5.2
INK LR LR 13 00 36.9
comp=Z,388nm,18.2s,baz=153,slow=34
INK Inuvik 76.12 350 P P 12 29 46.5 -0.8
INK IAmb IAmb 12 30 10.8
comp=Z,6.8nm,1.3s
IL31 76.17 344 P P 12 29 48.1 +0.4
IL31 IAmb IAmb 12 30 03.6
comp=Z,10nm,1.2s
ILAR Eielson Array 76.17 344 P P 12 29 48.0 +0.2
comp=Z,1.2nm,1.0s,baz=150,slow=4.3,SNR=7.3
ILAR LR LR 12 59 08.2
comp=Z,126nm,20.1s,baz=112,slow=33
H24K Noodor Dome 77.25 344 P P 12 29 54.7 +0.8
H24K IAmb IAmb 12 30 09.8
comp=Z,9.9nm,1.1s
K20K Telida 77.37 340 P P 12 29 54.9 +0.3
H21K Melozitna Rive 78.53 342 IAmb IAmb 12 30 16.9
comp=Z,7.4nm,1.1s
COLD Coldfoot 78.91 344 P P 12 30 03.9 +0.9
RPZ Rata Peaks 80.06 227 LR LR 12 59 58.3
comp=Z,258nm,18.4s,baz=88,slow=31
QSPA South Pole Qui 84.34 180 P P 12 30 31.7 -0.3

DZM Mont Dzumac 84.45 248 LR LR 13 02 09.8
comp=Z,81nm,19.8s,baz=45,slow=31
DZM Mont Dzumac 84.45 248 eLR LR 12 58 08.4
comp=Z,181nm,27.1s
SHEM Shemya Is, Ala 87.67 323 LR LR 13 01 25.4
comp=Z,267nm,21.3s,baz=112,slow=30
H11N3 WAKE ISLAND Hy 87.99 290 T T 14 09 39.7
baz=96,slow=74,SNR=46
H11N2 WAKE ISLAND Hy 88.01 290 T T 14 09 42.7
baz=96,slow=74,SNR=69
H11N1 WAKE ISLAND Hy 88.01 290 T T 14 09 44.8
baz=96,slow=74,SNR=37
H11S2 WAKE ISLAND Hy 88.04 289 T T 14 09 49.2
baz=94,slow=74,SNR=49
H11S1 WAKE ISLAND Hy 88.05 289 T T 14 09 52.0
baz=94,slow=74,SNR=44
H11S3 WAKE ISLAND Hy 88.06 289 T T 14 09 50.7
baz=94,slow=74,SNR=48
HNR Honiara 91.81 260 LR LR 13 06 01.6
comp=Z,101nm,19.1s,baz=108,slow=31
PETK Petropavlovsk- 97.57 323 LR LR 13 07 51.9
comp=Z,168nm,20.9s,baz=72,slow=31
SEY Seymchan 99.78 333 LR LR 13 12 10.8
comp=Z,160nm,18.3s,baz=42,slow=33
MKAR Makanchi Array 138.26 350 PKP **PKiKP 12 37 28.2 +0.6**
comp=Z,0.3nm,0.7s,baz=31,slow=2.8,SNR=3.9
CMAR Chiang Mai Arr 151.47 299 PKPbc **PKiKP 12 37 58.9 +3.4**
comp=Z,0.6nm,0.4s,baz=19,slow=1.5,SNR=4.9

*VAO **07** 12:22:14.2±0.2, 10.6′64N×62.°52′W, h10km, mb5.1*
*MOS **07** 12:22:21.2±0.9, 10.°65N×62.°73′W, h98km, mb5.4/34, Error ellipse: s-maj=8.0km s-min=5.1km az=58.3*
*NEIC **07** 12:22:22.0±1.9, 10.°54N±0.°06×62.°59W±0.°06, h86km±5km, mb5.2/448, Md4.9(CAR), Error ellipse: s-maj=9.9km s-min=8.3km az=139.0*
*FUNV **07** 12:22:22.7, 10.°50N×62.°49W, h82km, MW5.6*
*TRN **07** 12:22:22.1, 10.°53N×62.°51W, h90km, MD5.7*
TRN Felt in Trinidad and Tobago MMI III, IV; G renada III; St. Vincent III; Saint Lucia III.
*IDC **07** 12:22:22.1±0.5, 10.°67N×62.°80W, h97km±3km, mb4.7/35, mb1 4.8/38, mb1mx4.8/46, mbtmp5.0/38, MS3.9/8, Ms1 3.9/8, ms1mx3.4/72, Error ellipse: s-maj=8.9km s-min=7.5km az=121.0*
*CAR **07** 12:22:23±2.3, 10.°55N±0.°06×62.°52W±0.°06, h83km±4km, Error ellipse: s-maj=9.0km s-min=8.0km az=144.0*
*GCMT **07** 12:22:26.0±0.2, 10.°61N±0.°01×62.°51W±0.°02, h84km±3km, MW5.0/117, Moment Tensor Solution. s39,c47; s117,c172; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.88±.18; Mθθ-2.67±.17; Mϕϕ 1.79±.19; Mrθ2.65±.08; Mθϕ-0.68±.17; Mϕr-3.14±.09; Best double couple: Mo4.71700×10¹⁶ NP1:ϕ227.00000°, δ31.00000°, λ11.00000°. NP2:ϕ128.00000°, δ85.00000°, λ121.00000°. Principal axes: T 5.1790, Plg42.0000°, Azm67.0000°; N -0.9250, Plg30.0000°, Azm305.0000°; P -4.2550, Plg33.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **07** 12:22:29.4±0.0, 10.°75N×61.°50W, h109km, mb5.4*

ISC 07 12:22:21.3±0.3, 10.°58N±0.°03×62.°67W±0.°03, h93km±2km, h93km:pP-P,n1210,σ1959/1171, mb5.2/358, 71C-53D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.57**	**279**	**P**	**eP**		**Pn**	**12 22 38.4**	**+1.5**
CRUV						eS	**Sn**	**12 22 49.1**	**+0.5**
COAV	**Cumanacoa**	**1.22**	**250**	**P**	**eP**		**Pn**	**12 22 46.5**	**+2.5**
TPP	**Pointe-a-Pierr**	**1.22**	**102**	**P**	**eP**		**Pn**	**12 22 42.5**	**-1.3**
TRN	**Trinidad (W)**	**1.24**	**87**	**P**	**eP**		**Pn**	**12 22 43.6**	**-0.4**
TRN						eS	**Sn**	**12 22 58.1**	**-3.1**
CUMV	**Cumana_UDO**	**1.51**	**264**	**P**	**iP**		**Pn**	**12 22 50.2**	**+2.8**
CUMV						eS	**Sn**	**12 23 10.4**	**+3.3**
GRFF	**Grenada Fort F**	**1.72**	**32**	**P**	**eP**		**Pn**	**12 22 50.0**	**-0.1**
GRFF						eS	**Sn**	**12 23 10.4**	**-1.4**
GRGR	**Grenville**	**1.83**	**33**	**Pn**			**Pn**	**12 22 51.7**	**+0.2**
GRGR	**Grenville**	**1.83**	**33**	**P**	**eP**		**Pn**	**12 22 51.8**	**+0.3**
GRGR						eS	**Sn**	**12 23 14.4**	**-0.1**
GRHS	**Sauteurs**	**1.92**	**32**	**P**	**eP**		**Pn**	**12 22 53.0**	**+0.5**
GRHS						eS	**Sn**	**12 23 16.1**	**-0.2**
PCRV	**Puerto La Cruz**	**1.98**	**258**	**P**	**eP**		**Pn**	**12 22 55.3**	**+1.9**
PCRV						eS	**Sn**	**12 23 19.0**	**+1.0**
TOSP	**Speyside**	**2.21**	**71**				**Pn**	**12 22 55.4**	**-1.0**
TOSP	**Speyside**	**2.21**	**71**	**P**	**eP**		**Pn**	**12 22 55.5**	**-0.8**
TOSP						eS	**Sn**	**12 23 20.1**	**-3.1**
GCMP	**Grenada, Carri**	**2.25**	**33**	**P**	**eP**		**Pn**	**12 22 57.3**	**+0.4**
GCMP						eS	**Sn**	**12 23 24.1**	**-0.1**
PRGV	**PARIAGUAN**	**2.66**	**227**	**P**	**eP**		**Pn**	**12 23 03.7**	**+1.2**
PRGV						eS	**Sn**	**12 23 34.3**	**+0.3**
SVOC	**Richmond Hill,**	**2.92**	**29**	**P**	**eP**		**Pn**	**12 23 05.7**	**-0.1**
SVOC						eS	**Sn**	**12 23 39.6**	**-0.5**
SVB	**Belmont**	**3.01**	**27**				**Pn**	**12 23 07.5**	**+0.4**
SVB	**Belmont**	**3.01**	**27**	**P**	**eP**		**Pn**	**12 23 07.7**	**+0.6**
SVB						eS	**Sn**	**12 23 42.0**	**-0.4**
SVV	**Soufriere Volc**	**3.07**	**27**	**P**	**eP**		**Pn**	**12 23 09.1**	**+1.2**
MCLT	**Moule a Chique**	**3.54**	**28**	**P**	**eP**		**Pn**	**12 23 15.1**	**+0.9**
MCLT						eS	**Sn**	**12 23 53.1**	**-1.9**
BIRV	**Birongo**	**3.54**	**269**				**Pn**	**12 23 16.9**	**+2.6**
BIRV	**Birongo**	**3.54**	**269**	**P**	**eP**		**Pn**	**12 23 17.1**	**+2.8**
BIRV						eS	**Sn**	**12 23 57.1**	**+1.8**
SLCP	**Castries, St.**	**3.78**	**26**	**P**	**eP**		**Pn**	**12 23 18.4**	**+1.0**
SLCP						eS	**Sn**	**12 23 59.7**	**-1.2**
SLBI	**Saint Lucia, B**	**3.80**	**26**	**P**	**eP**		**Pn**	**12 23 18.2**	**+0.5**
SLBI						eS	**Sn**	**12 23 58.3**	**-3.1**
MERV	**Las Mercedes**	**3.81**	**250**	**P**	**eP**		**Pn**	**12 23 18.7**	**+1.1**
MERV						eS	**Sn**	**12 24 02.3**	**+0.5**
BCHC	**Barbados, Cave**	**3.91**	**49**	**P**	**eP**		**Pn**	**12 23 18.7**	**-0.5**
BBGH	**Gun Hill**	**3.97**	**50**				**Pn**	**12 23 20.9**	**+1.0**
BBGH	**Gun Hill**	**3.97**	**50**	**P**	**eP**		**Pn**	**12 23 20.8**	**+0.8**
BBSP	**Saint Philip**	**4.02**	**51**	**P**	**eP**		**Pn**	**12 23 21.4**	**+0.7**
FUNV	**FUNVISIS**	**4.08**	**269**	**P**	**eP**		**Pn**	**12 23 23.7**	**+2.1**
FUNV						eS	**Sn**	**12 24 09.2**	**+0.9**
CARV	**Caracas**	**4.19**	**269**	**P**	**eP**		**Pn**	**12 23 24.9**	**+1.8**
CARV						eS	**Sn**	**12 24 12.9**	**+1.8**
BIM	**Bigot**	**4.21**	**22**	**Pn**			**Pn**	**12 23 23.6**	**+0.3**
BIM	**Bigot**	**4.21**	**22**	**P**	**eP**		**Pn**	**12 23 23.9**	**+0.6**
BIM	**Bigot**	**4.21**	**22**	**S**	**eS**		**Sn**	**12 24 10.1**	**-1.3**
H05S1	**Guadeloupe/Mar**	**4.22**	**25**	**P**	**P**		**Pn**	**12 23 24.4**	**+1.1**
H05S1						S	**Sn**	**12 24 10.8**	**-0.7**
MPOM	**Morne Pois Mar**	**4.22**	**24**				**Pn**	**12 23 24.0**	**+0.5**
MPOM	**Morne Pois Mar**	**4.22**	**24**	**P**	**eP**		**Pn**	**12 23 23.8**	**+0.3**
MPOM	**Morne Pois Mar**	**4.22**	**24**	**S**	**eS**		**Sn**	**12 24 09.6**	**-2.1**
TRMF	**Trois Ilets**	**4.23**	**22**	**P**	**eP**		**Pn**	**12 23 24.4**	**+0.8**
ZAM	**Aeronautique**	**4.28**	**22**	**P**	**eP**		**Pn**	**12 23 25.2**	**+1.0**
LPMF	**Morne Lapointe**	**4.30**	**23**	**P**	**eP**		**Pn**	**12 23 25.2**	**+0.6**
MVM	**Montagne Vaucl**	**4.31**	**23**	**P**	**eP**		**Pn**	**12 23 25.6**	**+1.0**
FDF	**Fort de France**	**4.38**	**20**	**P**			**Pn**	**12 23 26.1**	**+0.4**
FDF	**Fort de France**	**4.38**	**20**	**Pn**			**Pn**	**12 23 26.1**	**+0.4**
FDF	**Fort de France**	**4.38**	**20**	**P**	**eP**		**Pn**	**12 23 26.0**	**+0.3**
FDF	**Fort de France**	**4.38**	**20**	**S**	**eS**		**Sn**	**12 24 13.9**	**-1.8**
PML	**Morne Lenard**	**4.42**	**19**	**P**	**eP**		**Pn**	**12 23 27.1**	**+0.9**
GBMF	**Grand Be**	**4.44**	**19**	**P**	**eP**		**Pn**	**12 23 27.2**	**+0.8**
PCM	**Pelee Case Pet**	**4.44**	**18**	**P**	**eP**		**Pn**	**12 23 27.1**	**+0.7**
PCM	**Pelee Case Pet**	**4.44**	**18**	**P**	**eP**		**Pn**	**12 23 27.2**	**+0.7**
CXM	**Morne La Croix**	**4.45**	**19**	**P**	**eP**		**Pn**	**12 23 26.6**	**-0.1**
BAMF	**Morne Balai**	**4.46**	**19**	**P**	**eP**		**Pn**	**12 23 27.6**	**+0.8**
SVN	**Savane Anatole**	**4.48**	**19**				**Pn**	**12 23 27.6**	**+0.6**
SVN	**Savane Anatole**	**4.48**	**19**	**P**	**eP**		**Pn**	**12 23 27.7**	**+0.7**
ILAM	**Ilet Lapin Mar**	**4.52**	**23**				**Pn**	**12 23 28.2**	**+0.7**
ILAM	**Ilet Lapin Mar**	**4.52**	**23**	**P**	**eP**		**Pn**	**12 23 28.5**	**+1.0**
ILAM	**Ilet Lapin Mar**	**4.52**	**23**	**S**	**eS**		**Sn**	**12 24 16.6**	**-2.2**
CACV	**CAICARA DEL OR**	**4.86**	**232**	**P**	**eP**		**Pn**	**12 23 27.5**	**-4.6**
CACV						eS	Sn	12 24 16.3	-11
MDN	**Morne-Daniel**	**4.87**	**15**	**P**	**eP**		**Pn**	**12 23 33.6**	**+1.4**
MDN	**Morne-Daniel**	**4.87**	**15**	**S**	**eS**		**Sn**	**12 24 24.7**	**-2.7**
MDN						eT	T	12 27 11.2	
MDN						T	T	12 28 02.5	
BENV	**Beln**	**4.89**	**263**	**P**	**eP**		**Pn**	**12 23 33.6**	**+1.0**
BENV						eS	**Sn**	**12 24 27.7**	**-0.4**
DLPL	**La Plaine**	**4.92**	**16**				**Pn**	**12 23 33.5**	**+0.5**
DLPL	**La Plaine**	**4.92**	**16**	**P**	**eP**		**Pn**	**12 23 33.6**	**+0.6**
DLPL	**La Plaine**	**4.92**	**16**	**S**	**eS**		**Sn**	**12 24 25.8**	**-2.8**
DSLB	**Salisbury**	**4.98**	**14**	**P**	**eP**		**Pn**	**12 23 34.3**	**+0.6**
DSLB	**Salisbury**	**4.98**	**14**	**S**	**eS**		**Sn**	**12 24 28.8**	**-1.3**
DSLB						eT	T	12 27 17.2	
DSLB						T	T	12 28 11.2	
TURV	**Turiamo**	**5.09**	**269**	**P**	**eP**		**Pn**	**12 23 36.5**	**+1.2**
TURV						eS	**Sn**	**12 24 32.6**	**-0.2**

MDVC Dominica, Viel 5.15 14 eP Pn 12 23 37.5 +1.4
MDVC Dominica, Viel 5.15 14 eS Sn 12 24 32.4 -1.9
TDBA Terre de Bas, 5.33 11 Pn 12 23 39.4 +0.9
TDBA Terre de Bas, 5.33 11 eP Pn 12 23 39.5 +1.0
TDBA Terre de Bas, 5.33 11 eS Sn 12 24 36.6 -2.0
TDBA eT T 12 27 15.5
TDBA T T 12 28 37.6
TBG Guadaloupe-3 5.33 11 eP Pn 12 23 40.4 +1.9
TBG Guadaloupe-3 5.33 11 eS Sn 12 24 36.2 -2.4
TBG eT T 12 27 22.7
MAGL Barre de l'ile 5.50 14 Pn 12 23 41.8 +0.9
MAGL Barre de l'ile 5.50 14 eP Pn 12 23 42.4 +1.5
MAGL Barre de l'ile 5.50 14 eS Sn 12 24 41.4 -1.4
MAGL T T 12 28 56.8
CBE Ff, Capester 5.55 11 Pn 12 23 42.7 +1.2
CBE Ff, Capester 5.55 11 eP Pn 12 23 42.8 +1.3
CBE Ff, Capester 5.55 11 eS Sn 12 24 41.8 -2.2
CBE eT T 12 27 36.1
CBE T T 12 28 45.9
GDHS Morne Mazeau, 5.72 9 Pn 12 23 45.2 +1.3
MAPV Macapo 5.75 263 eP Pn 12 23 45.1 +0.9
MAPV eS Sn 12 24 47.9 -1.0
H05N1 Guadeloupe/Mar 5.91 15 P Pn 12 23 47.3 +0.9
H05N1 S Sn 12 24 49.2 -3.6
ABD La Joyeuse, An 5.97 11 eP Pn 12 23 48.7 +1.5
ABD La Joyeuse, An 5.97 11 eS Sn 12 24 51.9 -2.2
JACV Jacura 6.08 275 eP Pn 12 23 50.9 +2.2
JACV eS Sn 12 24 55.7 -1.2
MLYT Lee's Yard 6.12 4 eP Pn 12 23 51.4 +2.2
MLYT Lee's Yard 6.12 4 eS Sn 12 24 55.4 -2.5
MLYT eT T 12 28 28.4
MLYT T T 12 29 31.5
MBFL Flemmings, Mon 6.14 4 eP Pn 12 23 51.6 +2.0
MBFL Flemmings, Mon 6.14 4 eS Sn 12 24 57.3 -1.2
MBFL eT T 12 28 29.1
MBFL T T 12 29 32.5
HATO Hato, Curacao 6.37 285 Pn 12 23 54.9 +2.3
ANBD Bethesda, Anti 6.49 8 eP Pn 12 23 55.9 +1.7
ANBD eT T 12 29 05.8
ANBD T T 12 29 40.8
SKI Saint Kitts 6.71 359 eP Pn 12 23 59.8 +2.5
SKI Saint Kitts 6.71 359 eS Sn 12 25 09.9 -2.4
SKI eT T 12 29 32.5
SKI T T 12 30 15.5
SANV Sanarito 6.85 262 eP Pn 12 23 59.7 +0.4
SANV eS **Sn 12 25 13.2 -2.7**
SEUS St. Eustatius 6.88 357 Pn 12 24 02.0 +2.4
SEUS St. Eustatius 6.88 357 eP Pn 12 24 01.9 +2.3
SIQV Siquisique 7.02 271 eP Pn 12 24 02.3 +0.8
SIQV eS **Sn 12 25 16.6 -3.4**
ANWB Willy Bob 7.10 7 eP Sn 12 24 04.4 +1.9
ANWB Willy Bob 7.10 7 eS Sn 12 25 18.0 -3.7
PAYV Puerto Ayacuch 7.12 224 eP Pn 12 24 02.9 0.0
PAYV eS **Sn 12 25 17.3 -5.1**
CURV Curarigua 7.20 266 eS Sn 12 25 21.7 -2.7
CDVI St. Croix 7.41 344 Pn Pn 12 24 07.5 +0.7
SMRT St. Maarten 7.43 357 Pn 12 24 08.5 +1.4
SMRT St. Maarten 7.43 357 eP Pn 12 24 09.9 +2.8
ELOV Elorza 7.62 243 eP Pn 12 24 11.0 +1.3
ELOV Elorza 7.62 243 eP Pn 12 24 10.3 +0.6
ELOV eS **Sn 12 25 29.8 -4.7**
DABV Dabajuro 7.84 273 eP Pn 12 24 13.4 +0.7
DABV eS **Sn 12 25 36.8 -3.0**
SDV Santo Domingo 8.03 259 P Pn 12 24 14.9 -0.6
44nm,0.3s,baz=148,slow=7.6,SNR=111
SDV S **Sn 12 25 41.6 -3.3**
464nm,0.3s,baz=72,slow=20,SNR=21
SDV LR LR 12 28 16.2
comp=Z,496nm,19.1s,baz=60,slow=45
SDV Santo Domingo 8.03 259 Pn Pn 12 24 15.9 +0.4
SDV Santo Domingo 8.03 259 eP Pn 12 24 14.9 -0.6
SDV Santo Domingo 8.03 259 eP Pn 12 24 15.1 -0.4
STVI Saint Thomas 8.04 344 Pn Pn 12 24 17.0 +1.7
SJG San Juan 8.21 336 P Pn 12 24 17.9 +0.2
37nm,0.3s,baz=134,slow=12,SNR=24
SJG S **Sn 12 25 41.7 -7.1**
10nm,0.3s,baz=136,slow=5.1,SNR=4.7
SJG San Juan 8.21 336 P Pn 12 24 18.3 +0.6
SJG San Juan 8.21 336 Pn 12 24 18.3 +0.6
SJG San Juan 8.21 336 eP Pn 12 24 15.8 -1.9
SJG San Juan 8.21 336 eP Pn 12 24 19.5 +1.7
BOAV Boa Vista 8.41 165 eP Pn 12 24 18.1 -2.4
MLPR Magueyes Islan 8.48 330 Pn Pn 12 24 22.9 +1.5
AOPR Arecibo Observ 8.67 333 Pn Pn 12 24 25.7 +1.7
AOPR Arecibo Observ 8.67 333 eP Pn 12 24 25.7 +1.7
PRSN Puerto Rico Se 8.74 331 Pn 12 24 28.3 +3.4
URIC Uribia, Colomb 9.22 278 Pn 12 24 31.4 -0.1
URIC Uribia, Colomb 9.22 278 eP Pn 12 24 30.3 -1.2
PCDR Punta Cana, DR 9.63 326 Pn Pn 12 24 41.2 +4.1
MCQV Machiques 9.73 268 eP Pn 12 24 38.2 -0.2
CAPV Capacho 9.90 255 eP Pn 12 24 40.7 -0.3
CAPV eS **Sn 12 26 23.1 -7.3**
TAMC Tame, Arauca 9.92 246 eP Pn 12 24 41.0 +0.8
TAMC Tame, Arauca 9.92 246 eP Pn 12 24 39.0 -2.1
CRJC Cerrejon, Guaj 10.05 273 eP Pn 12 24 39.9 -2.9
PAMC Pamplona, Colo 10.42 253 eP Pn 12 24 46.7 -1.6
DR12 Loma Pena Alta 10.43 322 Pn 12 24 50.2 +2.2
LL6C La Loma 6 Bece 10.47 266 eP Pn 12 24 48.6 0.0
SDD Santo Domingo 10.51 319 Pn Pn 12 24 52.5 +3.5
OCAC Ocana 10.77 258 Pn 12 24 52.1 -0.6
OCAC Ocana 10.77 258 eP Pn 12 24 51.5 -1.2
LL1C La Loma 1 Cana 10.77 265 eP Pn 12 24 48.6 -4.1
BARC Barichara 11.13 250 eP Pn 12 24 58.3 +0.5
RUSC La Rusia 11.31 246 eP Pn 12 25 01.1 +0.7
MDP Montagnes des 11.32 118 P Pn 12 24 55.4 -4.7
21nm,0.3s,baz=313,slow=15,SNR=62
MDP S Sn 12 26 52.2 -13
208nm,0.3s,baz=27,slow=22,SNR=24
SDDR Presa de Saban 11.80 316 eP Pn 12 25 08.9 +2.3
SPBC San Pablo de B 12.31 247 eP Pn 12 25 10.8 -2.6
PTBC PUERTO BERRIO, 12.33 252 eP Pn 12 25 11.8 -1.9
SJCC San Jacinto, C 12.34 268 Pn Pn 12 25 12.5 -1.3
SJCC San Jacinto, C 12.34 268 eP Pn 12 25 10.8 -3.0
ZARC Zaragoza, Cauc 12.43 257 Pn Pn 12 25 13.8 -1.2
ZARC Zaragoza, Cauc 12.43 257 eP Pn 12 25 11.8 -3.2
CHIC Chingaza 12.46 242 eP P 12 25 24.3 +0.5
VILC Villavicencio, 12.68 240 eP Pn 12 25 18.5 0.0
ROSC El Rosal 12.88 245 P Pn 12 25 21.6 +0.3
17nm,0.3s,baz=82,slow=16,SNR=16
ROSC S **Sn 12 27 43.1 0.0**
13nm,0.3s,baz=178,slow=24,SNR=1.8
ROSC LR LR 12 31 34.3
comp=Z,1µm,20.9s,baz=77,slow=43
MOTC Monteria, Cord 12.94 263 eP Pn 12 25 18.5 -3.3
UREC San Jos de Ur 13.01 259 eP Pn 12 25 18.5 -4.2
NORC Norcasia 13.07 249 eP Pn 12 25 22.4 -1.2
CNOCA NORCASIA, CALD 13.07 249 eP Pn 12 25 20.4 -3.1
HELC Santa Helena 13.45 252 eP Pn 12 25 31.0 +2.2
GUY2C Guyana, Caldas 13.66 248 eP Pn 12 25 29.1 -2.5
MACA Manacapuru-AM 13.79 172 eP Pn 12 25 29.7 -3.2
MACC Macarena, Meta 13.91 234 eP Pn 12 25 33.9 -0.6
MACC Macarena, Meta 13.91 234 eP Pn 12 25 36.8 +2.3
ANIL Santa Ana 14.00 245 eP Pn 12 25 34.9 -1.0
**CBOC Ciudad Bolivar 14.01 252 eP P 12 25 38.8 -

TULM Tulcn-Chalpat 17.94 238 eP Pn 12 26 28.9 +3.5
OTAV Otavalo 18.76 238 P Pn 12 26 34.9 -0.2
OTAV pmax pmax
comp=Z,84nm,1.0s
OTAV Otavalo 18.76 238 P Pn 12 26 34.9 -0.2
NPGB Novo Progresso 18.96 157 eP P 12 26 35.1 -0.3
TMAB Tom-Au,PA,Br 19.39 131 eP P 12 26 39.9 -0.1
CDITO Canoas 20.02 266 P Pn 12 26 49.0 -0.5
CDITO IAmb IAmb 12 27 18.5
comp=Z,84nm,0.7s
SRBA San Rafael, Bu 20.43 268 P Pn 12 26 53.9 -0.5
ETMB Extrema 20.57 190 eP P 12 26 53.7 +0.9
CZSB Cruzeiro do Su 20.76 209 eP Pn 12 26 57.0 -1.1
BOSC San Juan Bosco 20.84 230 P P 12 26 56.4 +0.4
PRPB Parauapebas 20.99 142 eP P 12 26 58.6 +1.2
JTS Las Juntas de 21.92 271 P P 12 27 07.9 +0.6
comp=Z,4.5nm,0.4s,baz=24,slow=20,SNR=2.7
CLDB Colider 22.38 162 eP P 12 27 13.2 +1.0
BOAB BOACO BROADBAND 22.61 277 P P 12 27 15.4 +0.8
BOAB IAmb IAmb 12 27 59.1
comp=Z,170nm,1.2s
ROSB Rosrio 22.80 125 eP P 12 27 16.9 +0.4
PDRB Porto dos Gac 22.82 165 eP P 12 27 17.7 +1.0
MATN Matagalpa 22.89 278 P P 12 27 19.2 +1.7
SOR Soroa 22.92 305 P P 12 27 19.4 +1.7
SOR pmax pmax
comp=Z,66nm,1.1s
SOR Soroa 22.92 305 P P 12 27 19.4 +1.7
061Z Ochoppi 23.00 314 P P 12 27 20.2 +1.9
VILB Vilhena 23.51 174 eP P 12 27 25.7 +2.5
SMTB Santa Maria do 24.46 142 eP P 12 27 33.9 +2.1
DWPF Disney Wildern 24.79 317 P P 12 27 36.2 +1.6
baz=131
SNDB Serra Nova Dou 25.10 153 eP P 12 27 40.1 +2.6
NBPS Pedro II - PI 25.84 124 eP P 12 27 46.1 +1.7
NBMO Morrinhos-CE 26.41 120 eP P 12 27 50.4 +0.8
SIV San Ignacio 26.45 177 P P 12 27 51.5 +1.7
comp=Z,46nm,0.8s,baz=5.4,slow=8.9,SNR=104
NNA Nana 26.48 213 P P 12 27 51.7 +1.7
comp=Z,95nm,0.7s,baz=14,slow=7.7,SNR=39
NNA Nana 26.48 213 *d* iP P 12 27 51.5 +1.4
NNA pmax pmax
comp=Z,214nm,0.9s
NNA Nana 26.48 213 P P 12 27 51.5 +1.4
NNA IAmb IAmb 12 27 52.7
comp=Z,117nm,0.8s
PEXB Peixe 26.68 147 eP P 12 27 54.1 +2.3
SALV Santo Antonio 27.20 165 eP P 12 27 58.4 +1.9
LPAZ La Paz 27.24 192 P P 12 27 59.4 +1.9
comp=Z,9.4nm,0.8s,baz=11,slow=9.4,SNR=27
NHSC New Hope 27.60 327 P P 12 28 01.6 +1.7
baz=140
NBPB Pedra_Branca-C 28.02 124 eP P 12 28 04.9 +1.1
TIGA Tifton 28.40 320 P P 12 28 08.9 +1.9
baz=132
SDBA SAO DESIDERIO 28.86 142 eP P 12 28 12.3 +0.9
BIRD Birdtown, Kers 28.94 329 IAmb IAmb 12 28 15.4
comp=Z,68nm,1.2s
BIRD Birdtown, Kers 28.94 329 P P 12 28 13.5 +1.6
baz=142,SNR=5.7
PP1B Ponte de Pedra 29.04 165 eP P 12 28 15.2 +2.3
V58A Windy Hill, Pi 29.21 332 P P 12 28 16.4 +2.2
baz=145,SNR=7.5
V58A P P 12 28 16.4 +2.2
baz=145,SNR=7.5
T59A Double "B" Far 29.51 335 P P 12 28 18.6 +1.7
baz=149,SNR=5.5
T59A P P 12 28 18.6 +1.7
baz=149,SNR=5.5
HODGE Hodges 29.59 326 P P 12 28 19.5 +2.0
baz=138
GOGA Godfrey 29.68 323 P P 12 28 20.3 +2.0
baz=135
GOGA Godfrey 29.68 323 P P 12 28 20.4 +2.0
baz=135,SNR=5.2
NBMA Muriti-CE 29.73 126 eP P 12 28 20.7 +1.6
KMSC Kings Mountain 29.78 328 IAmb IAmb 12 29 14.0
comp=Z,80nm,1.8s
KMSC Kings Mountain 29.78 328 P P 12 28 21.2 +2.0
baz=141
KMSC Kings Mountain 29.78 328 P P 12 28 21.0 +1.8
baz=141
PAULI Pauline 29.79 327 P P 12 28 21.2 +1.9
baz=140
BDFB Brasilia 29.82 151 P P 12 28 21.6 +1.7
comp=Z,8.0nm,0.6s,baz=306,slow=7.8,SNR=12
BDFB PcP PcP 12 31 20.8 -0.6
comp=Z,3.5nm,0.6s,baz=27,slow=6.8,SNR=3.1
BDFB Brasilia 29.82 151 P P 12 28 20.5 +0.6
152A Waverly Hall 29.93 321 IAmb IAmb 12 28 23.6
comp=Z,31nm,0.5s
152A Waverly Hall 29.93 321 P P 12 28 23.0 +2.4
baz=132,SNR=12
U56A King 30.25 331 IAmb IAmb 12 28 26.5
comp=Z,38nm,0.8s
U56A King 30.25 331 P P 12 28 25.5 +2.0
baz=144,SNR=5.7
U56A P P 12 28 25.5 +2.0
baz=144,SNR=5.7
T57A Hurt 30.26 333 P P 12 28 25.5 +2.0
baz=146,SNR=21
T57A P P 12 28 25.5 +2.0
baz=146,SNR=21
V55A Taylorsville 30.27 329 P P 12 28 24.2 +0.6
baz=142,SNR=6.4
V55A P P 12 28 24.2 +0.6
baz=142,SNR=6.4
Y52A Lilburn 30.35 323 P P 12 28 26.3 +2.0
baz=135,SNR=6.1
Y52A P P 12 28 26.3 +2.0
baz=135,SNR=6.1
R58B Mineral 30.50 336 P P 12 28 27.4 +1.9
baz=150,SNR=5.4
R58B P P 12 28 27.4 +1.9
baz=150,SNR=5.4
BRAL Brewton 30.51 316 P P 12 28 28.1 +2.4
baz=127
BG3 Lake Jocassee 30.52 326 IAmb IAmb 12 28 53.9
comp=Z,72nm,1.4s
CASEE Lake Jocassee 30.52 326 P P 12 28 28.6 +2.8
baz=138
Z51A Franklin 30.65 321 P P 12 28 29.2 +2.3
baz=132
GO01 Chusmiza 30.74 192 IAmb IAmb 12 28 29.6
comp=Z,52nm,1.5s
S57A Dark Hollow, R 30.77 334 IAmb IAmb 12 28 30.6
comp=Z,38nm,0.8s
S57A Dark Hollow, R 30.77 334 P P 12 28 29.9 +1.9
baz=147,SNR=8.2
S57A P P 12 28 29.9 +1.9
baz=147,SNR=8.2
NBPN Ponto Novo - B 30.86 133 eP P 12 28 30.1 +1.1
V53A Saluda 30.96 327 P P 12 28 32.0 +2.3
baz=139,SNR=5.5
V53A P P 12 28 32.0 +2.3
baz=139,SNR=5.5
BLA Blacksburg 30.97 332 IAmb IAmb 12 28 33.1
comp=Z,51nm,0.9s
BLA Blacksburg 30.97 332 P P 12 28 32.2 +2.3
baz=144
BLA Blacksburg 30.97 332 P P 12 28 32.1 +2.3
baz=144,SNR=7.7
U54A Nelsons Funny 31.10 329 IAmb IAmb 12 28 34.1
comp=Z,29nm,0.5s
U54A Nelsons Funny 31.10 329 P P 12 28 32.9 +1.9
baz=141,SNR=6.4
U54A P P 12 28 32.9 +1.9
baz=141,SNR=6.4
PB08 IPOC Station P 31.19 192 IAmb IAmb 12 28 33.5
comp=Z,46nm,1.0s
RCBR Riachuelo 31.24 120 LR LR 12 41 38.4
comp=Z,239nm,19.1s,baz=75,slow=37
JANB Januaria 31.30 144 eP P 12 28 33.9 +0.9
TKL Tuckaleechee C 31.48 326 IAmb IAmb 12 28 53.1
comp=Z,70nm,1.6s
AQDB Aquidauana 31.61 167 eP P 12 28 38.2 +2.7
LRAL Lakeview Retre 31.62 319 IAmb IAmb 12 28 39.0
comp=Z,28nm,0.5s
LRAL Lakeview Retre 31.62 319 P P 12 28 37.7 +2.2
baz=130
LRAL Lakeview Retre 31.62 319 P P 12 28 37.7 +2.2
baz=130,SNR=17
FPAL Fort Paine 31.75 322 IAmb IAmb 12 28 39.7
comp=Z,74nm,1.6s
IPMB Ipameri, GO 31.77 153 eP P 12 28 39.7 +2.7
Y49A Blount Mountai 31.78 320 IAmb IAmb 12 28 39.7
comp=Z,80nm,1.4s
Y49A Blount Mountai 31.78 320 P P 12 28 39.1 +2.2
baz=131,SNR=9.1
TA01 Diego Aracena 31.82 193 IAmb IAmb 12 28 38.5
comp=Z,94nm,1.6s
S54A Dingess, Beckl 31.86 331 P P 12 28 40.0 +2.3
baz=144,SNR=11
S54A P P 12 28 40.0 +2.3
baz=144,SNR=11
P57A Homestead Farm 31.86 337 IAmb IAmb 12 28 40.7
comp=Z,114nm,1.6s
V51A Loudon 31.90 325 IAmb IAmb 12 28 41.4
comp=Z,25nm,0.8s
V51A Loudon 31.90 325 P P 12 28 39.6 +1.6
baz=137,SNR=8.1
CMIG Matias Romero 31.91 285 P P 12 28 35.4 -2.8
comp=Z,1.1nm,0.3s,baz=102,slow=9.1,SNR=4.6
CMIG PcP PcP 12 31 25.5 -1.4
comp=Z,2.6nm,0.4s,baz=71,slow=5.5,SNR=4.8
Q56A Snyder Ridge, 31.95 335 P P 12 28 40.8 +2.5
baz=148,SNR=11
Q56A P P 12 28 40.8 +2.5
baz=148,SNR=11
TZTN Tazewell 32.01 327 IAmb IAmb 12 28 42.0
comp=Z,35nm,1.1s
TZTN Tazewell 32.01 327 P P 12 28 40.9 +2.0
baz=139
W50A Signal Mountai 32.02 324 IAmb IAmb 12 28 42.3
comp=Z,27nm,0.8s
W50A Signal Mountai 32.02 324 P P 12 28 41.5 +2.5
baz=134,SNR=7.5
PATCX Punta Patache 32.06 193 IAmb IAmb 12 28 40.8
comp=Z,67nm,1.1s
NBPV Pedro Velho 32.06 121 eP P 12 28 41.4 +1.8
PB01 IPOC Station P 32.13 192 IAmb IAmb 12 28 40.9
comp=Z,27nm,0.8s
ODNJ Ogdensburg 32.16 343 IAmb IAmb 12 28 42.5
comp=Z,37nm,0.8s
ODNJ Ogdensburg 32.16 343 P P 12 28 41.9 +1.8
baz=158
N59A State Game Lan 32.35 341 P P 12 28 43.6 +1.7
baz=155
SWET Sewanee 32.40 323 IAmb IAmb 12 28 45.4
comp=Z,32nm,0.9s
Z47A Carrollton 32.42 318 IAmb IAmb 12 29 17.2
comp=Z,95nm,1.2s
Z47A Carrollton 32.42 318 P P 12 28 43.9 +1.3
baz=128,SNR=7.0
ITRB Iturama 32.45 158 eP P 12 28 45.5 +2.7
X48A Hartselle 32.56 321 IAmb IAmb 12 28 46.2
comp=Z,22nm,0.7s
X48A Hartselle 32.56 321 P P 12 28 45.9 +2.2
baz=131,SNR=13
R53A Hurricane 32.59 331 P P 12 28 46.4 +2.5
baz=143,SNR=7.9
R53A P P 12 28 46.4 +2.5
baz=143,SNR=7.9
N58A Sunbury 32.59 340 IAmb IAmb 12 29 54.0
comp=Z,43nm,1.1s
Q54A Coxs Mills 32.60 333 P P 12 28 46.6 +2.6
baz=145,SNR=14
Q54A P P 12 28 46.6 +2.6
baz=145,SNR=14
NBLA Lagarto - SE 32.73 130 eP P 12 28 45.2 -0.1
MCWV Mont Chateau 32.74 335 P P 12 28 47.8 +2.5
baz=148
MCWV Mont Chateau 32.74 335 P P 12 28 47.7 +2.5
baz=148,SNR=8.1
O56A Blue Knob Stat 32.75 337 IAmb IAmb 12 28 48.7
comp=Z,42nm,0.8s
O56A Blue Knob Stat 32.75 337 P P 12 28 48.1 +2.8
baz=150,SNR=8.4
O56A Blue Knob Stat 32.75 337 P P 12 28 47.7 +2.3
baz=150,SNR=8.4
PB09 IPOC Station P 32.82 191 IAmb IAmb 12 28 48.2
comp=Z,66nm,1.2s
SSPA Standing Stone 32.82 338 P P 12 28 47.6 +1.6
SSPA Standing Stone 32.82 338 P P 12 28 48.1 +2.2
baz=152
SSPA Standing Stone 32.82 338 P P 12 28 48.1 +2.2
baz=152
SSPA Standing Stone 32.82 338 ⇓P P 12 28 48.3 +2.4
SSPA pP pP 12 28 58.4 -8.8
SSPA sP sP 12 29 14.0 -4.0
S51A Beattyville 32.86 328 IAmb IAmb 12 28 49.3
comp=Z,33nm,0.8s
S51A Beattyville 32.86 328 P P 12 28 48.5 +2.2
baz=140,SNR=9.3
S51A P P 12 28 48.5 +2.2
baz=140,SNR=9.3
PB07 IPOC Station P 32.88 192 IAmb IAmb 12 28 48.0
comp=Z,78nm,1.1s
T50A Nancy 33.06 326 IAmb IAmb 12 28 51.2
comp=Z,42nm,1.0s
T50A Nancy 33.06 326 P P 12 28 50.3 +2.3
baz=137
T50A P P 12 28 50.3 +2.3
baz=137
NBAN Anadia - AL 33.08 127 eP P 12 28 49.0 +0.6
M57A Sunshine Farm, 33.18 340 IAmb IAmb 12 28 52.1
comp=Z,41nm,0.8s
M57A Sunshine Farm, 33.18 340 P P 12 28 51.1 +2.1
baz=153,SNR=8.2
M57A P P 12 28 51.1 +2.1
baz=153,SNR=8.2
U49A Red Boiling Sp 33.22 325 IAmb IAmb 12 28 52.4
comp=Z,36nm,1.0s
U49A Red Boiling Sp 33.22 325 P P 12 28 51.6 +2.1
baz=135,SNR=11
CLTN Cedars of Leba 33.24 324 IAmb IAmb 12 28 52.8
comp=Z,33nm,1.0s
Q52A Bidwell 33.24 332 IAmb IAmb 12 28 52.6
comp=Z,88nm,1.3s
Q52A Bidwell 33.24 332 P P 12 28 52.1 +2.5
baz=143,SNR=7.9
Q52A P P 12 28 52.1 +2.5
baz=143,SNR=7.9
344A Westbrook Farm 33.26 313 P P 12 28 52.8 +2.9
baz=123,SNR=6.5
P53A Whipple 33.26 333 IAmb IAmb 12 28 52.9
comp=Z,34nm,0.8s
P53A Whipple 33.26 333 P P 12 28 52.2 +2.4
baz=145,SNR=7.1
P53A P P 12 28 52.2 +2.4
baz=145,SNR=7.1
GDU01 Guandu, BA 33.28 136 eP P 12 28 51.6 +1.4
V48A Smith Brothers 33.29 323 P P 12 28 51.9 +1.9
baz=133,SNR=9.3
O54A Avella 33.40 335 P P 12 28 53.4 +2.4
baz=147,SNR=12
O54A P P 12 28 53.4 +2.4
baz=147,SNR=12
NBRF Rio Formoso - 33.42 124 eP P 12 28 53.4 +1.9
VBMS Vicksburg 33.52 314 P P 12 28 54.0 +1.9
baz=124
LVC Limon Verde 33.55 190 P P 12 28 53.4 +0.6
comp=Z,15nm,0.6s,baz=19,slow=6.5,SNR=13
LVC Limon Verde 33.55 190 P P 12 28 52.9 0.0
LVC Limon Verde 33.55 190 eP P 12 28 54.6 +1.7
LVC Limon Verde 33.55 190 ⇑P P 12 28 53.6 +0.8
LVC pP pP 12 28 59.2 -15
PLAL Pickwick Lake 33.55 320 IAmb IAmb 12 28 54.9
comp=Z,28nm,0.6s
BINY Binghamton 33.59 342 IAmb IAmb 12 28 55.5
comp=Z,67nm,1.2s
BINY Binghamton 33.59 342 P P 12 28 54.4 +1.8
baz=156
BINY Binghamton 33.59 342 P P 12 28 54.3 +1.7
baz=156,SNR=5.8
P52A Corning 33.72 332 P P 12 28 55.5 +1.7
baz=144,SNR=10
R50A Paris 33.73 328 IAmb IAmb 12 28 57.5
comp=Z,49nm,1.1s
R50A Paris 33.73 328 P P 12 28 56.5 +2.7
baz=139,SNR=8.9
R50A P P 12 28 56.5 +2.7
baz=139,SNR=8.9
PB06 IPOC Station P 33.77 192 IAmb IAmb 12 28 55.7
comp=Z,40nm,1.0s
Q51A Peebles 33.81 330 P P 12 28 56.8 +2.3
baz=141,SNR=5.8
Q51A P P 12 28 56.8 +2.3
baz=141,SNR=5.8
O53A New Philadelph 33.81 334 IAmb IAmb 12 28 57.5
comp=Z,37nm,0.8s
O53A New Philadelph 33.81 334 P P 12 28 56.4 +1.8
baz=146,SNR=6.2
M55A Ridgway 33.87 338 P P 12 28 57.0 +1.9
baz=151,SNR=12
M55A P P 12 28 57.0 +1.9
baz=151,SNR=12
PCMB Pacaembu 33.89 161 eP P 12 28 58.1 +2.6
N54A Moraine State 33.90 336 IAmb IAmb 12 28 58.0
comp=Z,28nm,0.8s
N54A Moraine State 33.90 336 P P 12 28 57.6 +2.3
baz=148,SNR=7.3
N54A Moraine State 33.90 336 P P 12 28 57.5 +2.1
baz=148,SNR=7.3
O52A Adamsville 33.97 333 P P 12 28 58.1 +2.2
baz=145,SNR=14
O52A P P 12 28 58.1 +2.2
baz=145,SNR=14
P51A Williamsport 34.03 331 P P 12 28 58.6 +2.2
baz=142,SNR=13
P51A P P 12 28 58.6 +2.2
baz=142,SNR=13
L56A Greenwood 34.04 340 P P 12 28 58.4 +1.9
baz=153,SNR=10
L56A P P 12 28 58.4 +1.9
baz=153,SNR=10
ACCN Adirondack Com 34.05 346 IAmb IAmb 12 28 59.1
comp=Z,103nm,1.8s
OXF Oxford 34.11 318 P P 12 28 58.6 +1.4
baz=128
OXF Oxford 34.11 318 P P 12 28 58.6 +1.4
baz=128,SNR=6.4
N53A Lisbon 34.12 335 P P 12 28 59.5 +2.4
baz=147,SNR=17
N53A P P 12 28 59.5 +2.4
baz=147,SNR=17
WVT Waverly 34.15 322 P P 12 28 58.7 +1.1
WVT pmax pmax
comp=Z,33nm,1.0s
WVT Waverly 34.15 322 P P 12 28 58.6 +1.1
WVT IAmb IAmb 12 28 59.8
comp=Z,33nm,1.0s
WVT Waverly 34.15 322 P P 12 28 58.9 +1.4
baz=132
WVT Waverly 34.15 322 P P 12 28 58.9 +1.4
baz=132
WVT Waverly 34.15 322 ⇑P P 12 28 58.9 +1.4
WVT pP pP 12 29 22.7 +3.8
WVT sP sP 12 29 29.9 +0.2
PB15 IPOC Station P 34.24 191 IAmb IAmb 12 29 00.8
comp=Z,79nm,1.8s
M54A Oil Creek Stat 34.24 337 P P 12 29 00.1 +1.8
baz=149,SNR=8.3
M54A Oil Creek Stat 34.24 337 P P 12 28 60.0 +1.7
baz=149,SNR=8.3
DIAM Diamantina, MG 34.28 147 eP P 12 29 00.7 +1.7
T47A Sharon Grove 34.31 324 IAmb IAmb 12 29 01.7
comp=Z,62nm,1.0s
T47A Sharon Grove 34.31 324 P P 12 29 00.8 +1.9
baz=134,SNR=14
BB19B Bebedouro 34.38 156 eP P 12 29 02.1 +2.4
LBNH Lisbon 34.48 348 P P 12 29 01.6 +1.4
baz=164
CMC01 Camacan, BA 34.50 138 eP P 12 29 02.1 +1.4
M53A WI Miller and 34.58 336 P P 12 29 03.0 +1.9
baz=148,SNR=9.0
ACSO Alum Creek Sta 34.59 332 P P 12 29 03.4 +2.1
baz=143
ACSO Alum Creek Sta 34.59 332 P P 12 29 03.3 +2.1
baz=143,SNR=12
MMNY Mt. Morris Dam 34.68 340 IAmb IAmb 12 29 04.5
comp=Z,76nm,1.3s
N51A Ashland 34.87 333 P P 12 29 05.6 +2.0
baz=145,SNR=12
N51A P P 12 29 05.6 +2.0
baz=145,SNR=12
P49A Miami Univ. Ec 34.87 329 P P 12 29 05.8 +2.1
baz=140,SNR=16
P49A Miami Univ. Ec 34.87 329 P P 12 29 05.7 +1.9
baz=140,SNR=16
ERPA Erie 34.89 337 P P 12 29 05.5 +1.7
baz=149
P48A Milroy 35.18 329 IAmb IAmb 12 29 08.8
comp=Z,78nm,1.4s
P48A Milroy 35.18 329 P P 12 29 08.0 +1.6
baz=139,SNR=5.6
P48A P P 12 29 08.0 +1.6
baz=139,SNR=5.6
O49A Covington 35.19 331 P P 12 29 08.4 +2.0
baz=141,SNR=18
O49A P P 12 29 08.4 +2.0
baz=141,SNR=18
GUA01 Guaratinga, BA 35.21 140 eP P 12 29 08.3 +1.4
LONY Lake Ozonia 35.44 345 P P 12 29 09.4 +0.9
baz=160
M50A Fremont 35.55 333 P P 12 29 11.6 +2.1
baz=144,SNR=14
M50A P P 12 29 11.6 +2.1
baz=144,SNR=14
O48B Farmland 35.64 330 P P 12 29 11.9 +1.6
baz=140,SNR=6.9
O48B Farmland 35.64 330 P P 12 29 11.7 +1.4
baz=140,SNR=6.9
N49A Columbus Grove 35.69 332 IAmb IAmb 12 29 13.8
comp=Z,59nm,1.1s
N49A Columbus Grove 35.69 332 P P 12 29 12.6 +1.9
baz=142,SNR=8.9
N49A P P 12 29 12.6 +1.9
baz=142,SNR=8.9
Z41A Richland Creek 35.70 314 P P 12 29 12.4 +1.5
baz=122
SJMB Sao Joao De Ma 36.00 144 eP P 12 29 15.3 +1.7
RCLB Rio Claro- Sao 36.00 156 eP P 12 29 15.9 +2.3
SIUC Southern Illin 36.04 323 IAmb IAmb 12 29 16.3
comp=Z,53nm,1.1s
S44A Carbondale 36.05 323 IAmb IAmb 12 29 16.2
comp=Z,62nm,1.1s
S44A Carbondale 36.05 323 P P 12 29 15.2 +1.4
baz=132,SNR=11
OLIL Olney 36.08 325 P P 12 29 15.9 +1.8
baz=134
GO02 Mina Guanaco 36.16 191 IAmb IAmb 12 29 16.4
comp=Z,33nm,0.8s
LCAR Lake Charles 36.19 319 P P 12 29 16.0 +1.0
baz=128
P46A Rosedale 36.22 327 P P 12 29 17.4 +2.1
baz=136,SNR=5.1
NATX Nacogdoches 36.30 310 P P 12 29 18.2 +2.1
baz=118
NATX Nacogdoches 36.30 310 P P 12 29 17.8 +1.8
baz=118
W41B Gary Mavity, V 36.38 317 P P 12 29 18.0 +1.3
baz=125,SNR=6.8
W41B Gary Mavity, V 36.38 317 P P 12 29 17.7 +1.1
baz=125,SNR=6.8
N47A Urbana 36.38 330 P P 12 29 18.0 +1.3
baz=140,SNR=17
N47A P P 12 29 18.0 +1.3
baz=140,SNR=17
X40A Basin Creek Fa 36.39 316 P P 12 29 17.8 +1.0
baz=124
X40A P P 12 29 17.8 +1.0
baz=124
X40A Basin Creek Fa 36.39 316 P P 12 29 17.6 +0.8
baz=124
HKT Hockley 36.40 307 P P 12 29 18.4 +1.6
HKT pmax pmax
comp=Z,16nm,0.9s
HKT Hockley 36.40 307 P P 12 29 18.4 +1.6
WHAR Wooly Hollow 36.47 317 IAmb IAmb 12 29 45.0
comp=Z,114nm,2.0s
K50A Casco 36.49 335 P P 12 29 19.2 +1.6
baz=146,SNR=5.6
K50A P P 12 29 19.2 +1.6
baz=146,SNR=5.6
AAM Ann Arbor 36.55 333 P P 12 29 20.2 +2.2
baz=144
AAM Ann Arbor 36.55 333 P P 12 29 19.9 +1.9
baz=144,SNR=8.7
PTGB Pitanga 36.58 164 eP P 12 29 20.5 +2.0
L48A N Adams 36.61 332 P P 12 29 20.4 +1.8
baz=142,SNR=29
L48A P P 12 29 20.4 +1.8
baz=142,SNR=29
FCAR Ozark Folk Cen 36.71 318 IAmb IAmb 12 29 43.7
comp=Z,28nm,1.0s
SFIN Lafayette 36.72 328 IAmb IAmb 12 29 22.1
comp=Z,22nm,0.8s
SFIN Lafayette 36.72 328 P P 12 29 21.2 +1.7
baz=137
Q44A Meyer Farm, Va 36.72 325 P P 12 29 21.1 +1.5
baz=133,SNR=14

VAO **Valinhos** 36.75 155 *e*P P 12 29 22.3 +2.3
FVM **French Village** 36.94 322 lAmb lAmb 12 29 57.7
comp=Z,18nm,0.6s
RIB01 **Linhares ES** 36.94 143 *e*P P 12 29 23.3 +1.7
TRQ **Mont Tremblant** 36.94 346 lAmb lAmb 12 29 23.3
comp=Z,64nm,1.5s
CPUP **Villa Florida** 37.06 172 P P 12 29 22.9 +0.5
comp=Z,18nm,0.8s,baz=353,slow=7.9,SNR=22
CPUP PcP PcP 12 31 42.5 +1.0
comp=Z,4.5nm,0.6s,baz=252,slow=2.0,SNR=3.1
CPUP **Villa Florida** 37.06 172 P P 12 29 23.0 +0.5
CPUP 12 31 42.5
comp=Z,28nm,1.1s
CPUP pmax pmax
CPUP **Villa Florida** 37.06 172 P P 12 29 23.0 +0.5
CPUP lAmb lAmb 12 29 23.9
comp=Z,28nm,1.1s
CPUP **Villa Florida** 37.06 172 *e*P P 12 29 23.1 +0.6
Z38A **Mt. Pleasant** 37.27 312 P P 12 29 25.4 +1.2
baz=120,SNR=7.0
237A **Washetta, Mont** 37.28 310 P P 12 29 26.1 +1.7
baz=118,SNR=8.3
O44A **Mansfield** 37.28 327 P P 12 29 25.8 +1.5
baz=135,SNR=5.2
LMQ **La Malbaie** 37.41 351 lAmb lAmb 12 29 28.4
comp=Z,30nm,1.3s
W39A **Magazine** 37.43 316 P P 12 29 26.9 +1.4
baz=123,SNR=7.2
W39A **Magazine** 37.43 316 P P 12 29 27.0 +1.4
baz=123,SNR=7.2
U40A **Yellville** 37.46 318 P P 12 29 26.2 +0.3
baz=126,SNR=8.0
U40A P P 12 29 26.2 +0.3
baz=126,SNR=8.0
U40A **Yellville** 37.46 318 P P 12 29 26.5 +0.7
baz=126,SNR=8.0
CCM **Cathedral Cave** 37.48 322 P P 12 29 26.3 +0.4
CCM pmax pmax
comp=Z,14nm,0.8s
CCM **Cathedral Cave** 37.48 322 P P 12 29 26.3 +0.4
CCM **Cathedral Cave** 37.48 322 P P 12 29 26.5 +0.5
baz=130
CCM **Cathedral Cave** 37.48 322 P P 12 29 26.7 +0.7
baz=130
P43A **Skaggs, Pawnee** 37.51 325 P P 12 29 27.3 +1.1
baz=133,SNR=24
AC02 **Maricunga** 37.72 189 lAmb lAmb 12 29 30.7
comp=Z,37nm,1.2s
J47A **Sumner** 37.81 333 P P 12 29 29.6 +0.9
baz=143,SNR=12
J47A P P 12 29 29.6 +0.9
baz=143,SNR=12
M44A **Midewin, Midew** 37.95 328 P P 12 29 30.9 +1.1
baz=137,SNR=7.6
MAN01 **Angra dos Reis** 37.95 151 *e*P P 12 29 32.2 +2.0
HDIL **Hopedale** 38.02 326 P P 12 29 31.8 +1.3
baz=134
HDIL **Hopedale** 38.02 326 P P 12 29 31.5 +1.1
baz=134
435B **Jarrell** 38.12 307 P P 12 29 32.4 +1.0
baz=114
HHAR **Hobbs** 38.14 317 lAmb lAmb 12 29 33.7
comp=Z,20nm,0.6s
HHAR **Hobbs** 38.14 317 P P 12 29 32.0 +0.4
baz=124
CAM01 **Campos-RJ** 38.24 147 *e*P P 12 29 34.7 +2.2
R40A **Maddies Statio** 38.25 321 lAmb lAmb 12 29 56.4
comp=Z,35nm,1.6s
R40A **Maddies Statio** 38.25 321 P P 12 29 32.7 +0.2
baz=128,SNR=5.7
L44A **Lake County Fo** 38.46 329 P P 12 29 35.4 +1.3
baz=138
WHTX **Lake Whitney,** 38.53 309 P P 12 29 35.8 +0.9
baz=116,SNR=12
WHTX **Lake Whitney,** 38.53 309 P P 12 29 35.7 +0.9
baz=116,SNR=12
S39A **Bolivar** 38.55 320 P P 12 29 35.7 +0.7
baz=126,SNR=37
833A **Chaparral WMA,** 38.66 302 P P 12 29 37.4 +1.3
baz=110,SNR=9.1
833A **Chaparral WMA,** 38.66 302 P P 12 29 37.1 +1.0
baz=110,SNR=9.1
DRLN **Deer Lake** 38.79 5 P P 12 29 37.7 +0.9
DRLN lAmb lAmb 12 29 38.3
comp=Z,42nm,0.9s
P40A **Paris** 38.90 323 lAmb lAmb 12 29 39.9
comp=Z,36nm,0.8s
P40A **Paris** 38.90 323 P P 12 29 38.5 +0.7
baz=130,SNR=17
ITAB **Concordia** 38.96 165 lAmb lAmb 12 29 41.2
comp=Z,42nm,1.2s
N41A **Harden Midland** 38.98 325 lAmb lAmb 12 29 40.0
comp=Z,38nm,0.7s
N41A **Harden Midland** 38.98 325 P P 12 29 39.0 +0.5
baz=132
GLMI **Grayling** 39.00 335 P P 12 29 40.2 +1.6
baz=144
GLMI **Grayling** 39.00 335 P P 12 29 40.3 +1.6
baz=144,SNR=6.8
K43A **Burlington** 39.05 330 P P 12 29 40.6 +1.5
baz=138,SNR=7.1
I45A **Fountain** 39.07 333 P P 12 29 40.9 +1.7
baz=141,SNR=8.2
I45A P P 12 29 40.9 +1.7
baz=141,SNR=8.2
TUL1 **Leonard** 39.20 315 lAmb lAmb 12 30 04.2
comp=Z,31nm,0.9s
TUL1 **Leonard** 39.20 315 P P 12 29 40.4 0.0
baz=122
TUL1 **Leonard** 39.20 315 P P 12 29 40.6 +0.2
baz=122
L42A **Oliver, Polo** 39.23 328 P P 12 29 41.8 +1.2
baz=135,SNR=11
AC04 **Llanos de Chal** 39.41 192 lAmb lAmb 12 29 43.0
comp=Z,75nm,1.4s
W35A **Tecumseh** 39.57 314 lAmb lAmb 12 30 06.8
comp=Z,25nm,0.8s
G45A **Suttons Bay** 39.61 334 P P 12 29 45.7 +2.0
baz=143
G45A P P 12 29 45.7 +2.0
baz=143
JCT **Junction City** 39.76 305 lAmb lAmb 12 30 19.2
comp=Z,60nm,1.1s
JCT **Junction City** 39.76 305 P P 12 29 46.2 +0.9
baz=112
JCT **Junction City** 39.76 305 P P 12 29 45.8 +0.6
baz=112,SNR=6.9
P38A **Dawn** 39.85 322 lAmb lAmb 12 30 09.8
comp=Z,34nm,1.4s
P38A **Dawn** 39.85 322 P P 12 29 46.0 +0.2
baz=128,SNR=6.0
X34A **Smith Ranch, M** 39.99 312 P 12 29 48.0 +1.0
L40A **Anamosa** 40.10 326 lAmb lAmb 12 29 49.3
comp=Z,65nm,1.0s
L40A **Anamosa** 40.10 326 P P 12 29 48.4 +0.6
baz=133,SNR=12
H43A **Windswept, Lux** 40.11 332 P P 12 29 49.5 +1.6
baz=140,SNR=7.1
LCO **Las Campanas** 40.12 191 P P 12 29 48.0 -0.4
LCO pmax pmax
comp=Z,32nm,1.1s
LCO **Las Campanas** 40.12 191 P P 12 29 48.0 -0.4
LCO lAmb lAmb 12 29 49.3
comp=Z,32nm,1.1s
E46A **Sault Ste Mari** 40.14 337 P P 12 29 50.0 +1.9
baz=146,SNR=5.2
JFWS **Jewell Farm** 40.18 328 P P 12 29 49.4 +0.9
JFWS pmax pmax
comp=Z,114nm,1.2s
JFWS **Jewell Farm** 40.18 328 P P 12 29 49.4 +0.9
JFWS **Jewell Farm** 40.18 328 P P 12 29 49.5 +1.1
baz=135
JFWS **Jewell Farm** 40.18 328 P P 12 29 49.3 +0.9
baz=135,SNR=11
I42A **Draeger Farm,** 40.22 330 P P 12 29 49.9 +1.1
baz=138,SNR=19
T35A **Sooner Cattle** 40.22 316 lAmb lAmb 12 30 13.0
comp=Z,36nm,1.1s
T35B **Sooner Cattle** 40.22 316 P P 12 29 49.1 +0.2
baz=122,SNR=9.5
N38A **Joes South For** 40.40 323 P P 12 29 51.0 +0.7
baz=130,SNR=16
ITQB **Itaqui** 40.44 172 P P 12 29 50.1 -0.6
ITQB lAmb lAmb 12 29 52.1
comp=Z,66nm,1.1s
ITQB **Itaqui** 40.44 172 *e*P P 12 29 51.3 +0.6
ABTX **Abilene, Hawle** 40.47 309 lAmb lAmb 12 30 25.0
comp=Z,71nm,1.1s
ABTX **Abilene, Hawle** 40.47 309 P P 12 29 51.1 +0.1
baz=114,SNR=6.9
WMOK **Wichita Mounta** 40.74 312 P P 12 29 53.0 -0.3
baz=118
WMOK **Wichita Mounta** 40.74 312 P P 12 29 53.0 -0.3
baz=118,SNR=10
CO01 **Juntas del Tor** 40.95 190 P P 12 29 55.4 +0.2
TER01 **Tubaro-SC** 41.03 162 *e*P P 12 29 57.3 +1.7
I40A **Norwalk** 41.06 329 P P 12 29 56.7 +1.0
baz=136,SNR=13
E43A **Lone Tree Farm** 41.24 334 P P 12 29 58.9 +1.8
baz=142,SNR=8.9
F42A **Maple Grove Fa** 41.26 333 P P 12 29 59.0 +1.7
baz=140,SNR=12
K38A **Parkersburg** 41.35 326 P P 12 29 59.0 +0.9
baz=132,SNR=25
KSU1 **Kansas State U** 41.47 319 lAmb lAmb 12 30 24.8
comp=Z,30nm,0.8s
KSU1 **Kansas State U** 41.47 319 P P 12 29 58.9 -0.3
baz=124
KSU1 **Kansas State U** 41.47 319 P P 12 29 58.6 -0.6
baz=124,SNR=5.8
ROSA **Rosais** 41.57 42 P P 12 30 00.3 +0.3
U32A **Winter Ranch,** 41.67 314 P P 12 30 01.2 +0.3
baz=119
CPSB **Cacapava Do Su** 41.71 168 *e*P P 12 30 01.7 +0.6
G40A **Rib Lake** 41.85 331 lAmb lAmb 12 30 04.1
comp=Z,74nm,1.2s
G40A **Rib Lake** 41.85 331 P P 12 30 03.2 +1.0
baz=137,SNR=11
COWI **Conover** 41.97 332 P P 12 30 04.1 +0.9
COWI lAmb lAmb 12 30 07.2
comp=Z,26nm,0.5s
COWI **Conover** 41.97 332 P P 12 30 04.4 +1.3
baz=139
ZON **Zonda** 42.28 188 lAmb lAmb 12 30 07.3
comp=Z,90nm,1.7s
D41A **Chassel** 42.45 334 P P 12 30 08.6 +1.6
baz=140,SNR=6.1
TXAR **Lajitas Array** 42.54 302 P P 12 30 08.9 +0.8
comp=Z,2.6nm,0.4s,baz=118,slow=9.5,SNR=102
TXAR PcP PcP 12 31 59.5 +0.3
comp=Z,11nm,0.5s,baz=119,slow=5.6,SNR=22
TXAR ScP ScP 12 35 38.5 -3.2
comp=Z,3.0nm,0.9s,baz=125,slow=6.3,SNR=7.1
TX31 **Lajitas Ar. Si** 42.54 302 lAmb lAmb 12 30 49.7
comp=Z,38nm,0.8s
TX31 **Lajitas Ar. Si** 42.54 302 P P 12 30 08.9 +0.9
baz=108
I37B **Waseca** 42.60 327 P P 12 30 09.0 +0.8
baz=132,SNR=29
PLTB **Pedras Altas** 42.99 169 *e*P P 12 30 12.0 +0.5
SPMN **Marine on St.** 43.11 329 lAmb lAmb 12 30 14.2
comp=Z,68nm,1.2s
SPMN **Marine on St.** 43.11 329 P P 12 30 12.6 +0.2
baz=134,SNR=7.7
SPMN **Marine on St.** 43.11 329 P P 12 30 12.3 0.0
baz=134,SNR=7.7
CBKS **Cedar Bluff** 43.38 317 P P 12 30 14.5 -0.2
baz=120
MSTX **Muleshoe** 43.41 309 lAmb lAmb 12 30 49.1
comp=Z,47nm,1.0s
MSTX **Muleshoe** 43.41 309 P P 12 30 15.7 +0.6
baz=113,SNR=5.9
MSTX **Muleshoe** 43.41 309 P P 12 30 15.5 +0.4
baz=113,SNR=5.9
E38A **The Farm, Brul** 43.48 331 lAmb lAmb 12 30 16.3
comp=Z,35nm,0.8s
E38A **The Farm, Brul** 43.48 331 P P 12 30 15.6 +0.4
baz=136,SNR=6.2
VA03 **San Esteban** 43.76 190 lAmb lAmb 12 30 19.4
comp=Z,105nm,1.6s
F36A **Milaca** 43.92 329 lAmb lAmb 12 30 19.7
comp=Z,26nm,0.7s
F36A **Milaca** 43.92 329 P P 12 30 18.9 0.0
baz=133,SNR=15
ROC1 **El Roble** 44.04 190 lAmb lAmb 12 32 04.0
comp=Z,27nm,0.6s
PEL **Peldehue** 44.15 190 lAmb lAmb 12 31 21.4
comp=Z,128nm,2.0s
ECSD **EROS Data Cent** 44.20 325 P P 12 30 20.8 -0.3
ECSD **EROS Data Cent** 44.20 325 P P 12 30 21.1 -0.1
baz=128
ECSD **EROS Data Cent** 44.20 325 P P 12 30 21.8 +0.6
baz=128,SNR=10
SCHQ **Schefferville** 44.26 357 P P 12 30 22.0 +0.6
comp=Z,61nm,0.9s,baz=180,slow=5.4,SNR=93
SCHQ **Schefferville** 44.26 357 lAmb lAmb 12 30 23.1
comp=Z,40nm,0.6s
MT02 **Curacav** 44.34 190 lAmb lAmb 12 30 23.7
comp=Z,37nm,1.1s
EYMN **Ely** 44.42 332 lAmb lAmb 12 30 24.4
comp=Z,25nm,0.8s
EYMN **Ely** 44.42 332 P P 12 30 23.1 +0.2
baz=137
EYMN **Ely** 44.42 332 P P 12 30 22.8 0.0
baz=137,SNR=7.8
MNTX **Cornudas Mount** 44.67 305 P P 12 30 25.9 +0.8
baz=108
MNTX **Cornudas Mount** 44.67 305 P P 12 30 26.2 +1.1
baz=108,SNR=9.1
LMEL **Las Melosas** 44.76 189 lAmb lAmb 12 30 34.0
comp=Z,56nm,1.6s
MT09 **Talagante** 44.82 190 lAmb lAmb 12 30 26.9
comp=Z,47nm,1.1s
BO04 **La Punta** 44.96 189 lAmb lAmb 12 30 28.7
comp=Z,40nm,1.1s
F33A **5 Mile Ranch,** 45.35 327 lAmb lAmb 12 30 30.9
comp=Z,18nm,0.7s
F33A **5 Mile Ranch,** 45.35 327 P P 12 30 30.5 +0.3
baz=130,SNR=10.0
BO01 **Tunca** 45.44 190 lAmb lAmb 12 30 38.0
comp=Z,38nm,1.4s
KSCO **Kaye Shedlock'** 45.45 315 P P 12 30 31.5 +0.2
baz=118
B35A **Bob, Littlefor** 45.76 331 lAmb lAmb 12 30 34.1
comp=Z,56nm,1.0s
B35A **Bob, Littlefor** 45.76 331 P P 12 30 33.3 -0.1
baz=135,SNR=17
T25A **Trinidad** 45.90 312 lAmb lAmb 12 31 09.7
comp=Z,32nm,1.1s
T25A **Trinidad** 45.90 312 P P 12 30 35.5 +0.5
baz=114,SNR=8.7
SUSD **Miller** 45.97 324 P P 12 30 35.2 0.0
baz=126
OGNE **Ogallala** 45.98 318 P P 12 30 34.9 -0.5
baz=120
ANMO **Albuquerque** 46.60 309 P P 12 30 41.2 +0.8
ANMO pmax pmax
comp=Z,30nm,1.1s
ANMO **Albuquerque** 46.60 309 P P 12 30 41.2 +0.8
ANMO lAmb lAmb 12 31 06.8
comp=Z,30nm,1.1s
ANMO **Albuquerque** 46.60 309 P P 12 30 41.8 +1.3
baz=111
ANMO **Albuquerque** 46.60 309 P P 12 30 41.6 +1.2
baz=111
ANMO **Albuquerque** 46.60 309 P P 12 30 41.8 +1.3
ANMO pP pP 12 31 05.9 +3.1
ANMO sP sP 12 31 15.1 +1.8
Y22A **Socorro** 46.65 307 P P 12 30 41.8 +0.9
baz=109
AGMN **Agassiz Nation** 46.75 330 P P 12 30 41.2 0.0
baz=132
AGMN **Agassiz Nation** 46.75 330 P P 12 30 41.1 -0.1
baz=132,SNR=31
SLBS **Sierra La Lagu** 46.81 293 P P 12 30 43.3 +1.1
SLBS lAmb lAmb 12 31 08.0
comp=Z,36nm,0.9s
121A **Cookes Peak, D** 46.87 305 P P 12 30 43.2 +0.6
baz=107
SDCO **Great Sand Dun** 46.94 312 P P 12 30 43.6 +0.4
baz=114
SDCO **Great Sand Dun** 46.94 312 P P 12 30 43.6 +0.4
baz=114,SNR=13
LPIG **La Paz** 47.20 293 LR LR 12 50 54.0
comp=Z,38nm,20.6s,baz=86,slow=36
319A **Douglas** 47.76 303 lAmb lAmb 12 31 25.1
comp=Z,32nm,1.1s
ISCO **Idaho Springs** 47.87 315 P P 12 30 50.6 +0.2
baz=116,SNR=7.6
S22A **4UR Ranch, Cre** 47.91 312 P P 12 30 51.4 +0.7
baz=113
ULM **Lac du Bonnet** 48.09 332 P P 12 30 50.8 -0.7
comp=Z,40nm,0.6s,baz=125,slow=7.7,SNR=67
ULM **Lac du Bonnet** 48.09 332 *c i*P P 12 30 50.5 -1.0
MDND **Maddock** 48.38 327 P P 12 30 54.4 +0.6
baz=128,SNR=8.0
MDND **Maddock** 48.38 327 P P 12 30 54.4 +0.6
baz=128,SNR=8.0
N23A **Red Feather La** 48.58 316 P P 12 30 55.4 -0.3
baz=116
RSSD **Black Hills** 48.85 321 P P 12 30 57.9 +0.1
baz=120
MVCO **Mesa Verde** 48.94 311 P P 12 30 58.0 -0.6
baz=111
X18A **Snowflake** 49.19 307 lAmb lAmb 12 31 27.8
comp=Z,34nm,1.0s
W18A **Petrified Fore** 49.20 308 P P 12 31 01.1 +0.6
baz=108
TUC **Tucson** 49.24 304 P P 12 31 01.8 +1.1
TUC pmax pmax
comp=Z,22nm,1.2s
TUC **Tucson** 49.24 304 P P 12 31 01.8 +1.1
TUC lAmb lAmb 12 31 36.1
comp=Z,22nm,1.1s
TUC **Tucson** 49.24 304 P P 12 31 00.9 +0.1
baz=105
TUC **Tucson** 49.24 304 P P 12 31 01.6 +0.8
TUC pP pP 12 31 25.7 +2.5
TUC sP sP 12 31 35.4 +1.7
PV13 **Radium Mtn., P** 49.52 312 lAmb lAmb 12 31 39.1
comp=Z,50nm,1.1s
PV11 **David Mesa, Pa** 49.61 312 lAmb lAmb 12 31 42.3
comp=Z,25nm,1.0s
K22A **Casper** 49.74 318 lAmb lAmb 12 31 31.1
comp=Z,20nm,0.8s
K22A **Casper** 49.74 318 P P 12 31 04.6 +0.1
baz=117,SNR=5.1
K22A **Casper** 49.74 318 P P 12 31 04.5 0.0
baz=117,SNR=5.1
O20A **White River Ci** 49.85 314 P P 12 31 06.0 +0.6
baz=113
LC01 **Cunco** 49.97 189 lAmb lAmb 12 31 46.2
comp=Z,22nm,0.9s
WUAZ **Wupatki** 50.59 308 P P 12 31 11.9 +0.9
baz=107
214A **Organ Pipe Nat** 50.83 303 P P 12 31 12.0 -0.7
baz=103
RDMU **Red Mountain** 50.96 314 lAmb lAmb 12 31 39.9
comp=Z,23nm,1.2s
P18A **Preston Nutter** 51.09 313 lAmb lAmb 12 31 55.2
comp=Z,31nm,0.9s
SRU **San Rafael Swe** 51.11 312 lAmb lAmb 12 31 40.9
comp=Z,65nm,1.6s
DGMT **Dagmar** 51.24 326 P P 12 31 17.0 +1.5
baz=123
DGMT **Dagmar** 51.24 326 P P 12 31 16.6 +1.1
baz=123,SNR=27
P17A **Butcher Ranch,** 51.39 313 lAmb lAmb 12 31 43.2
comp=Z,52nm,1.3s
LAO **LASA Array** 51.48 323 P P 12 31 17.3 0.0
baz=120
PLCA **Paso Flores** 51.57 188 P P 12 31 19.1 +1.0
comp=Z,25nm,0.6s,baz=4.0,slow=8.1,SNR=54
PLCA PcP PcP 12 32 32.6 +1.9
comp=Z,6.4nm,0.5s,baz=5.0,slow=4.0,SNR=5.7
PLCA **Paso Flores** 51.57 188 *e*P P 12 31 19.4 +1.4
PLCA **Paso Flores** 51.57 188 ⇓P P 12 31 19.2 +1.2
PLCA pP pP 12 31 39.1 -1.6
PLCA sP sP 12 31 48.4 -2.8
TMUT **Trail Mountain** 51.67 312 lAmb lAmb 12 31 45.2
comp=Z,22nm,1.0s
PD31 **Pinedale Array** 51.81 317 lAmb lAmb 12 31 46.0
comp=Z,90nm,1.2s
PDAR **Pinedale Array** 51.81 317 P P 12 31 19.6 -0.5
comp=Z,5.8nm,0.6s,baz=116,slow=9.9,SNR=78
PDAR pP pP 12 31 42.4 -0.4
comp=Z,11nm,0.7s,baz=120,slow=8.7,SNR=8.1
PDAR PcP PcP 12 32 31.1 -0.9
comp=Z,3.7nm,0.6s,baz=107,slow=5.8,SNR=4.1
PDAR ScP ScP 12 36 16.4 -4.1
comp=Z,3.1nm,0.8s,baz=115,slow=6.7,SNR=8.3
BW06 **Boulder Array** 51.81 317 lAmb lAmb 12 31 45.9
comp=Z,30nm,1.2s
BW06 **Boulder Array** 51.81 317 P P 12 31 19.8 -0.3
baz=114,SNR=13
MTPU **Mount Pierson** 51.98 310 lAmb lAmb 12 31 48.2
comp=Z,23nm,1.2s
NRS **Narsarsuaq** 52.06 11 P P 12 31 22.5 +1.2
NRS pmax pmax
comp=Z,83nm,0.9s
NRS **Narsarsuaq** 52.06 11 P P 12 31 22.5 +1.2
NRS **Narsarsuaq** 52.06 11 *i* P P 12 31 20.7 -0.5
NRS lAmb lAmb 12 31 22.5
comp=Z,53nm,0.9s
KNB **Kanab** 52.15 309 lAmb lAmb 12 31 50.1
comp=Z,32nm,1.2s
JLU **Jordanelle** 52.30 314 lAmb lAmb 12 31 50.6
comp=Z,31nm,1.2s
PDMCI **Parker Dam,Lak** 52.46 305 P P 12 31 24.9 +0.1
baz=104
CTU **Camp Tracy** 52.54 314 lAmb lAmb 12 31 55.1
comp=Z,20nm,1.1s
RLMT **Red Lodge** 52.62 320 lAmb lAmb 12 31 52.3
comp=Z,47nm,1.6s
RLMT **Red Lodge** 52.62 320 P P 12 31 26.1 +0.1
baz=116,SNR=7.6
GLA **Glamis** 52.73 304 P P 12 31 27.6 +0.8
baz=103
HWUT **Hardware Ranch** 52.74 315 lAmb lAmb 12 32 01.8
comp=Z,18nm,0.8s
LOHW **Long Hollow** 52.85 317 lAmb lAmb 12 31 53.3
comp=Z,26nm,1.4s
REDW **Red Top Meadow** 52.92 317 lAmb lAmb 12 31 54.6
comp=Z,51nm,1.4s
DUG **Dugway, Tooele** 53.14 313 lAmb lAmb 12 31 55.9
comp=Z,26nm,1.1s
DUG **Dugway, Tooele** 53.14 313 P P 12 31 30.3 +0.5
baz=109,SNR=6.4
IRM **Iron Mountain** 53.23 305 P P 12 31 31.1 +0.6
baz=103
BC3 **Big Chuckawall** 53.37 304 P P 12 31 31.9 +0.3
baz=103
PSUT **Pine Spring** 53.38 310 lAmb lAmb 12 32 05.9
comp=Z,26nm,0.8s
BGU **Big Grassy Mou** 53.54 313 lAmb lAmb 12 31 59.1
comp=Z,30nm,1.0s
FCC **Fort Churchill** 53.63 340 lAmb lAmb 12 31 32.9
comp=Z,43nm,1.3s
GMRC **Granite Mounta** 53.79 305 P P 12 31 34.5 -0.2
baz=103
FFC **Flin Flon** 53.85 333 P P 12 31 34.2 -0.4
FFC pmax pmax
comp=Z,39nm,1.3s
FFC **Flin Flon** 53.85 333 P P 12 31 34.2 -0.4
FFC lAmb lAmb 12 31 34.7
comp=Z,39nm,1.3s
FFC **Flin Flon** 53.85 333 ⇓P P 12 31 34.0 -0.6
FFC pP pP 12 31 38.3 -19
MONP2 **Monument Peak** 54.01 303 P P 12 31 35.8 -0.6
baz=102
LL02 **Futaleuf** 54.17 188 lAmb lAmb 12 31 39.6
comp=Z,33nm,1.1s
EGMT **Eagleton** 54.22 323 lAmb lAmb 12 32 10.2
comp=Z,21nm,1.0s
EGMT **Eagleton** 54.22 323 P P 12 31 37.8 +0.2
baz=118
BOZ **Bozeman (W)** 54.33 319 lAmb lAmb 12 32 04.3
comp=Z,20nm,1.1s
BOZ **Bozeman (W)** 54.33 319 P P 12 31 38.6 +0.2
baz=114
HEC **Hector,Ludlow** 54.34 305 P P 12 31 38.7 0.0
baz=103
R11A **Troy Canyon, C** 54.63 310 P P 12 31 41.7 +0.9
baz=106
BBRC **Big Bear Solar** 54.69 305 P P 12 31 42.3 +0.9
baz=102
TPNV **Topopah Spring** 54.77 308 P P 12 31 43.3 +1.4
baz=104
GSC **Goldstone, Bar** 54.83 306 P P 12 31 42.6 +0.4
baz=103
MORF **Marmelete** 55.20 52 *e*P P 12 31 46.5 +1.8
MORF lAmb lAmb 12 31 47.4
comp=Z,44nm,1.0s
MORF **Marmelete** 55.20 52 *e*P P 12 31 46.3 +1.6
comp=Z,60nm,1.6s
MORF **Marmelete** 55.20 52 *e*P P 12 31 46.5 +1.8
BFSC **Mount Baldy Ra** 55.29 304 P P 12 31 45.4 -0.1
baz=102
HLID **Hailey** 55.40 316 lAmb lAmb 12 32 12.8
comp=Z,21nm,1.0s
HLID **Hailey** 55.40 316 P P 12 31 46.4 +0.1
baz=110,SNR=8.4

PNCL **Nicolau / Gran** 55.49 51 *e*P P 12 31 48.2 +1.4
comp=Z,50nm,1.4s
MPMC **Manual Prospec** 55.53 307 P P 12 31 47.7 +0.3
baz=103
LRMC **Laurel Mtn Rad** 55.56 306 P P 12 31 47.5 0.0
baz=102
GRAC **Grapevine Rang** 55.65 308 P P 12 31 48.9 +0.9
baz=104
EDW2 **Edwards Air Fo** 55.69 305 P P 12 31 49.0 +0.7
baz=102
PBDV **Barranco-do-Ve** 55.74 52 *e*P P 12 31 51.0 +2.4
comp=Z,55nm,1.3s
CIS **Catalina Islan** 55.74 303 P P 12 31 49.3 +0.6
baz=101
PCVE **Castro Verde** 55.75 52 *e*P P 12 31 51.4 +2.8
PMTG **Montargil** 55.97 50 *e*P P 12 31 51.5 +1.3
comp=Z,64nm,1.6s
PBEJ **Beja** 55.98 51 *e*P P 12 31 51.6 +1.3
comp=Z,26nm,1.7s
PCAS **Casmilo, Conde** 56.03 49 *e*P P 12 31 51.6 +1.0
comp=Z,66nm,1.7s
CWC **Cottonwood Cre** 56.09 307 P P 12 31 51.7 +0.5
baz=103
ISA **Isabella, Lake** 56.23 306 P P 12 31 52.4 +0.2
baz=102
MSO **Missoula** 56.29 320 P P 12 31 52.6 +0.1
baz=113
PESTR **Estremoz** 56.40 50 *e*P P 12 31 55.5 +2.3
comp=Z,51nm,1.3s
PESTR **Estremoz** 56.40 50 lAmb lAmb 12 31 56.3
comp=Z,21nm,1.0s
PBAR **Barrancos** 56.65 51 *e*P P 12 31 56.7 +1.7
comp=Z,23nm,2.1s
PVIS **Viseu** 56.66 48 *e*P P 12 31 56.5 +1.4
comp=Z,38nm,1.5s
PMRV **Marv??o** 56.69 50 *e*P P 12 31 57.0 +1.7
comp=Z,26nm,1.4s
NVAR **Mina Array Bea** 56.72 309 P P 12 31 56.0 +0.3
comp=Z,1.4nm,0.5s,baz=108,slow=7.7,SNR=18
NVAR pP **pP** 12 32 18.4 -0.4
comp=Z,5.5nm,0.8s,baz=120,slow=6.2,SNR=9.8
NVAR PcP **PcP** 12 32 50.1 -0.8
comp=Z,4.1nm,0.7s,baz=136,slow=4.9,SNR=6.1
NVAR ScP **ScP** 12 36 38.3 -3.8
comp=Z,2.3nm,0.9s,baz=129,slow=5.2,SNR=5.5
PCBR **Castelo Branco** 56.73 49 *e*P P 12 31 57.4 +1.9
comp=Z,47nm,1.8s
MTE **Manteigas** 56.83 48 *e*P P 12 31 55.8 -0.5
comp=Z,44nm,1.6s
POLO **Lamas de Olo** 56.91 47 *e*P P 12 31 53.8 -3.1
comp=Z,26nm,1.6s
DY2G **Dye2** 56.92 8 *i*P P 12 31 54.7 -2.1
DY2G lAmb lAmb 12 31 57.1
comp=Z,66nm,0.7s
SFJD **Kangerlussuaq** 56.93 6 *i*P P 12 31 54.3 -2.1
PVRL **Vila Real** 56.94 47 *e*P P 12 31 57.8 +0.7
comp=Z,28nm,1.1s
PLID **Pearl Lake** 57.00 317 lAmb lAmb 12 32 23.4
comp=Z,14nm,0.9s
TIC **Toumodi** 57.07 89 *e*P P 12 31 58.9 +0.5
LIC **Lamto** 57.12 89 *e*P P 12 31 59.9 +1.2
comp=Z,70nm,1.2s
DBIC **Dimbokro** 57.22 89 P P 12 32 00.2 +0.7
comp=Z,18nm,0.6s,baz=305,slow=5.1,SNR=20
DBIC **Dimbokro** 57.22 89 P P 12 32 00.1 +0.7
DBIC lAmb lAmb 12 32 00.8
comp=Z,25nm,0.8s
KOWA **Kowa** 57.26 80 P P 12 32 00.7 +1.0
KOWA **Kowa** 57.26 80 ⇑P P 12 32 00.9 +1.3
KOWA pP **pP** 12 32 21.7 -1.0
KOWA sP **sP** 12 32 32.5 -0.6
ISOG **Isortoq, Green** 57.27 11 *i*P P 12 31 57.5 -1.3
ISOG lAmb lAmb 12 31 59.1
comp=Z,31nm,0.6s
KIC **Kosan Boka** 57.38 89 *e*P P 12 32 01.3 +0.7
comp=Z,34nm,0.7s
MVO **Moncorvo** 57.41 48 *e*P P 12 32 02.0 +1.6
comp=Z,44nm,1.5s
YERR **Yerington** 57.56 310 lAmb lAmb 12 32 28.2
comp=Z,20nm,0.9s
PNTR **Pine Nut** 57.85 310 lAmb lAmb 12 32 39.9
comp=Z,18nm,1.0s
RPN **Rapa Nui** 58.76 229 LR LR 12 53 49.4
comp=Z,70nm,20.6s,baz=68,slow=32
NEW **Newport** 58.83 321 P P 12 32 09.8 -0.3
baz=111
PAB **San Pablo** 59.00 50 P P 12 32 12.9 +1.3
PAB pmax pmax
comp=Z,64nm,1.6s
PAB **San Pablo** 59.00 50 P P 12 32 12.9 +1.3
PAB **San Pablo** 59.00 50 ⇓P P 12 32 13.3 +1.7
PAB pP **pP** 12 32 32.2 -2.6
PAB sP **sP** 12 32 43.3 -1.8
ILULI **Ilulissat** 59.05 5 *i*P P 12 32 10.7 -0.6
ILULI lAmb lAmb 12 32 11.4
comp=Z,17nm,0.7s
I07A **Izee** 59.06 315 lAmb lAmb 12 32 38.3
comp=Z,21nm,0.9s
ESDC **Sonseca Array** 59.32 50 P P 12 32 15.2 +1.5
comp=Z,14nm,0.9s,baz=258,slow=7.1,SNR=44
ESDC pP **pP** 12 32 37.6 +0.7
comp=Z,9.8nm,1.0s,baz=272,slow=7.7,SNR=5.7
ESDC PcP **PcP** 12 33 00.7 -0.2
comp=Z,6.2nm,0.7s,baz=267,slow=5.1,SNR=12
ESDC **Sonseca Array** 59.32 50 lAmb lAmb 12 32 16.6
comp=Z,21nm,1.2s
ESBB **Sonseca Array** 59.32 50 lAmb lAmb 12 32 16.5
comp=Z,22nm,1.1s
K05A **Summer Lake** 59.68 313 lAmb lAmb 12 32 43.3
comp=Z,28nm,1.1s
O03E **Paynes Creek** 59.78 311 P P 12 32 16.8 -0.2
baz=102
J05D **Fort Rock, OR** 60.06 314 P P 12 32 19.2 +0.3
baz=104
M04C **Macdoel** 60.14 312 lAmb lAmb 12 32 45.6
comp=Z,23nm,0.9s
M04C **Macdoel** 60.14 312 P P 12 32 19.7 +0.3
baz=103,SNR=6.2
ICESG **Greenland Ices** 60.32 9 *i*P P 12 32 18.5 -1.9
ICESG lAmb lAmb 12 32 20.4
comp=Z,34nm,0.9s
L04D **Klamath Falls** 60.57 313 lAmb lAmb 12 32 49.8
comp=Z,27nm,0.8s
L04D **Klamath Falls** 60.57 313 P P 12 32 22.3 -0.1
baz=103
J04D **Umpqua Nationa** 60.67 314 P P 12 32 23.5 +0.4
baz=104
LTY **Liberty** 60.76 319 P P 12 32 23.3 -0.2
M02C **Callahan** 60.79 312 P P 12 32 23.7 -0.2
baz=102
I04A **Tendick Farm,** 61.02 314 P P 12 32 25.2 0.0
baz=104
KMRM **Mail Ridge** 61.19 310 P P 12 32 27.4 +0.9
KMRM lAmb lAmb 12 32 54.8
comp=Z,19nm,0.8s
BORG **Borgarnes** 61.22 19 LR LR 12 58 49.6
comp=Z,55nm,18.2s,baz=235,slow=36
H04D **Lebanon** 61.42 315 P P 12 32 27.9 0.0
baz=104
L02E **Cave Junction** 61.50 312 P P 12 32 28.4 -0.1
baz=102
KMPM **Mount Pierce** 61.54 310 P P 12 32 29.7 +0.8
KMPM lAmb lAmb 12 32 57.1
comp=Z,22nm,0.8s
I03D **Drain, OR** 61.65 314 P P 12 32 29.3 -0.2
baz=103
K02D **Willamette Mer** 61.66 313 P P 12 32 29.5 -0.1
baz=102
J01E **Myrtle Point** 61.95 313 P P 12 32 31.8 +0.4
baz=102
B05A **Bryant** 61.97 319 P P 12 32 30.8 -0.7
baz=106
EFI **East Falkland** 62.13 177⇑ *e*P P 12 32 35.0 +2.7
RSBS **Rosebush, Pemb** 62.19 36⇑ *e*P P 12 32 33.7 +0.8
RSBS lAmb lAmb 12 32 34.5
comp=Z,79nm,0.8s
YRC **Rhoscolyn** 62.73 35 *e*P P 12 32 37.0 +0.5
WLF1 **Llynfaes** 62.85 35⇑ *e*P P 12 32 38.0 +0.8
WLF1 lAmb lAmb 12 32 38.8
comp=Z,186nm,0.9s
TOA0 **Torodi Ar. Sit** 62.89 81 P P 12 32 39.0 +0.8
TORD **Torodi Ar. Bea** 62.89 81 P P 12 32 38.9 +0.7
comp=Z,49nm,0.7s,baz=290,slow=6.6,SNR=249
TORD **Torodi Ar. Bea** 62.89 81 P P 12 32 39.0 +0.7
YLL **Llanberis** 62.92 35⇑ *e*P P 12 32 38.5 +0.8
WIM **Isle of Man** 62.99 34⇑ *e*P P 12 32 39.1 +0.9
WIM lAmb lAmb 12 32 39.9
comp=Z,71nm,0.8s
LLW **Llanuwychllyn** 63.12 36⇑ *e*P P 12 32 39.6 +0.6
GAL1 **Galloway** 63.23 33⇑ *e*P P 12 32 40.2 +0.5
GAL1 lAmb lAmb 12 32 41.6
comp=Z,104nm,1.1s
MCH1 **Michaelchurch** 63.23 37 *e*P P 12 32 40.1 +0.3
MCH1 lAmb lAmb 12 32 40.8
comp=Z,32nm,0.8s
FOEL **Foel Wyfa** 63.40 36⇑ *e*P P 12 32 41.4 +0.5
LEWI **Lewis, Hebride** 63.40 29 *e*P P 12 32 41.2 +0.5
HLM1 **Long Mynd** 63.46 36⇑ *e*P P 12 32 41.9 +0.6
HLM1 lAmb lAmb 12 32 42.8
comp=Z,74nm,0.9s
NEWG **New Galloway** 63.58 33⇑ *e*P P 12 32 42.7 +0.7
NEWG lAmb lAmb 12 32 44.0
comp=Z,140nm,1.2s
STRD **Stroud** 63.66 37⇑ *e*P P 12 32 43.1 +0.5
STRD lAmb lAmb 12 32 43.7
comp=Z,65nm,0.7s
KPL **Plockton** 63.67 30⇑ *e*P P 12 32 42.5 -0.1
YKA **Yellowknife Ar** 63.70 336 P P 12 32 41.6 -1.1
comp=Z,18nm,0.6s,baz=110,slow=7.3,SNR=156
EAB **Aberfoyle** 63.90 32 *e*P P 12 32 44.4 +0.3
KAC **Achnashellach** 63.91 30⇑ *e*P P 12 32 44.6 +0.4
INVG **Invergeldie, C** 64.14 32 *e*P P 12 32 45.3 -0.4
EKA **Eskdalemuir Ar** 64.23 33 P P 12 32 46.5 +0.2
comp=Z,4.8nm,0.6s,baz=287,slow=4.0,SNR=21
MDO **Dochfour** 64.35 31⇑ *e*P P 12 32 47.3 +0.2
LBWR **Ladybower, Pea** 64.40 35⇑ *e*P P 12 32 48.1 +0.7
LBWR lAmb lAmb 12 32 49.7
comp=Z,84nm,1.0s
EDI **Edinburgh** 64.41 33 *e*P P 12 32 47.6 +0.2
EDI lAmb lAmb 12 32 47.9
comp=Z,52nm,0.9s
EBL **Broad Law** 64.44 33 *e*P P 12 32 48.0 +0.3
HPK **Haverah Park** 64.63 35⇑ *e*P P 12 32 49.4 +0.5
HPK lAmb lAmb 12 32 50.3
comp=Z,86nm,1.0s
EDMD **Edmundbyers** 64.71 34⇑ *e*P P 12 32 49.5 +0.1
EDMD lAmb lAmb 12 32 51.0
comp=Z,49nm,0.8s
ESY **Stoneypath** 64.72 33 *e*P P 12 32 49.7 +0.2
EDU **Dundee** 64.72 32⇑ *e*P P 12 32 50.1 +0.6
MCD **Coleburn Disti** 64.96 31⇑ *e*P P 12 32 51.0 0.0
SCO **Scoresbysund** 65.02 14 *i*P P 12 32 50.9 -0.3
SCO lAmb lAmb 12 32 58.8
comp=Z,2.3nm,0.6s
MLA1 **Latheron** 65.17 30 *e*P P 12 32 52.9 +0.6
GDLE **Glaisdale, N Y** 65.22 35⇑ *e*P P 12 32 53.6 +0.8
GDLE lAmb lAmb 12 32 54.4
comp=Z,93nm,1.0s
WACR **West Acre** 65.57 37 *e*P P 12 32 55.3 +0.3
WACR lAmb lAmb 12 32 56.6
comp=Z,158nm,1.1s
TULEG **Thule** 66.02 358 *i*P P 12 32 56.0 -1.6
TULEG lAmb lAmb 12 32 56.8
comp=Z,10nm,0.4s
RES **Resolute Bay** 66.61 351 LR LR 13 03 19.9
comp=Z,137nm,18.6s,baz=126,slow=37
DOU **Dourbes** 67.40 40 *d*P P 12 33 07.0 +0.3
BMRD **Maredsous** 67.54 40 *d*P P 12 33 07.7 0.0
comp=Z,19nm,1.0s
BGES **Gesves** 67.76 40 *d*P P 12 33 09.3 +0.3
comp=Z,14nm,1.1s
RCHB **Rochefort** 67.81 40 *d*P P 12 33 09.9 +0.6
comp=Z,30nm,0.9s
BCLA **Clavier** 67.90 40 *d*P P 12 33 10.6 +0.7
BNI **Bardonecchia** 68.00 46 P P 12 33 12.8 +1.9
BNI pmax pmax
comp=Z,26nm,1.5s
BNI **Bardonecchia** 68.00 46 P P 12 33 12.8 +1.9
DBG **Daneborg** 68.10 11 *i*P P 12 33 09.4 -1.3
DBG lAmb lAmb 12 33 11.0
comp=Z,8.2nm,0.7s
WLF **Walferdange** 68.31 41 P P 12 33 12.8 +0.3
WLF pmax pmax
comp=Z,37nm,0.9s
WLF **Walferdange** 68.31 41 P P 12 33 12.8 +0.3
WLF lAmb lAmb 12 33 14.3
comp=Z,37nm,0.9s
WLF **Walferdange** 68.31 41 *e*P P 12 33 13.3 +0.8
comp=Z,42nm,0.9s,baz=264,slow=6.1
WLF **Walferdange** 68.31 41 *d*P P 12 33 13.4 +0.9
comp=Z,28nm,0.9s
BHOU **Houvegnez** 68.33 40 *d*P P 12 33 13.6 +0.9
comp=Z,22nm,1.0s
BHOU dpP **pP** 12 33 34.8 -1.6
MEM **Membach** 68.38 40 *d*P P 12 33 13.6 +0.7
comp=Z,21nm,0.9s
BTNL **Ternell** 68.45 40 *d*P P 12 33 14.1 +0.7
comp=Z,9.8nm,1.1s
ECH **Echery** 68.75 42 lAmb lAmb 12 33 16.9
comp=Z,41nm,1.1s
ECH **Echery** 68.75 42 ⇓P P 12 33 15.8 +0.5
ECH pP **pP** 12 33 34.2 -4.8
AHRW **Bad Neuenahr-A** 69.04 40 *e*P P 12 33 18.1 +1.1
comp=Z,88nm,1.4s,baz=264,slow=6.1
TGTN **Hyland Airport** 69.22 332 P P 12 33 18.8 +0.8
baz=107,SNR=6.4
DLBC **Dease Lake** 69.25 329 lAmb lAmb 12 33 20.0
comp=Z,25nm,0.8s
BUG **Bochum--Univer** 69.30 39 *e*P P 12 33 19.1 +0.6
comp=Z,64nm,1.3s,baz=264,slow=6.1
KEST **Kesra** 69.32 56 P P 12 33 19.1 -0.1
comp=Z,12nm,0.9s,baz=184,slow=4.7,SNR=5.2
KEST **Kesra** 69.32 56 lAmb lAmb 12 34 04.5
comp=Z,49nm,1.3s
BFO **Black Forest** 69.54 42 P P 12 33 19.5 -0.7
BFO pmax pmax
comp=Z,12nm,1.1s
BFO **Black Forest** 69.54 42 P P 12 33 19.5 -0.7
BFO **Black Forest** 69.54 42 *e*P P 12 33 20.2 0.0
comp=Z,12nm,1.1s,baz=264,slow=6.1
KMY **Karmoy** 69.72 31 *e*P P 12 33 21.2 +0.2
IBBN **Ibbenburen** 69.74 38 *e*P P 12 33 22.1 +0.8
comp=Z,95nm,0.9s,baz=264,slow=6.1
IBBN *e*pP **pP** 12 33 49.4 +4.3
baz=264,slow=6.0
TNS **Taunus Mts** 69.86 40 *e*P P 12 33 23.0 +0.8
comp=Z,52nm,0.9s,baz=264,slow=6.1
TNS *e*pP **pP** 12 33 50.3 +4.3
baz=264,slow=6.0
MSSA **Maissana** 69.94 47 lAmb lAmb 12 33 24.1
comp=Z,64nm,1.8s
KASTN **Kahler Asten** 69.98 39 *e*P P 12 33 23.2 +0.4
comp=Z,33nm,1.3s,baz=264,slow=6.1
ASK **Askoy** 70.00 29 *e*P P 12 33 23.7 +1.0
DAG **Danmarks Havn** 70.10 10 *i*P P 12 33 21.0 -2.0
DAG lAmb lAmb 12 33 22.2
comp=Z,3.2nm,0.7s
STU **Stuttgart** 70.16 42 *e*P P 12 33 24.5 +0.5
comp=Z,133nm,1.0s,baz=264,slow=6.1
C36M **Paulatuk** 70.27 341 P P 12 33 21.5 -2.6
baz=114,SNR=5.5
CRAG **Craig** 70.29 325 P P 12 33 23.9 -0.6
baz=100
BLS5 **Blasjo** 70.37 30 *e*P P 12 33 26.3 +1.2
DAVOX **Davos/Dischmat** 70.41 44 P P 12 33 27.0 +1.2
comp=Z,27nm,0.9s,baz=258,slow=5.2,SNR=28
DAVOX **Davos/Dischmat** 70.41 44 P P 12 33 27.0 +1.2
DAVA **Damuels** 70.46 44 *i*P P 12 33 27.1 +1.1
comp=Z,43nm,0.9s,SNR=10
SNART **Snartemo** 70.52 32 *e*P P 12 33 26.8 +0.9
ODD1 **Odda** 70.56 30 *e*P P 12 33 27.6 +1.4
HYA **Hoyanger** 70.64 29 *e*P P 12 33 27.7 +1.2
UBR **Ueberruh** 70.66 43 *e*P P 12 33 27.7 +0.6
comp=Z,41nm,1.5s,baz=264,slow=6.1
SALO **Salr** 70.76 45 lAmb lAmb 12 33 28.4
comp=Z,21nm,0.8s
RETH **Rethem/Aller,** 70.77 38 *e*P P 12 33 28.6 +1.1
comp=Z,76nm,1.5s,baz=264,slow=6.1
CASP **Castiglione de** 70.81 48 lAmb lAmb 12 33 29.8
comp=Z,37nm,1.0s
GTTG **Gottingen** 70.99 39 *e*P P 12 33 29.8 +0.9
comp=Z,33nm,0.9s,baz=264,slow=6.1
GTTG *e*pP **pP** 12 33 57.1 +4.3
baz=264,slow=6.0
ZCCA **Zocca** 70.99 47 lAmb lAmb 12 33 31.9
comp=Z,102nm,1.8s
FETA **Feichten** 71.02 44 *i*P P 12 33 30.4 +1.0
comp=Z,62nm,1.2s,SNR=24
P33M **Teslin, Yukon** 71.05 330 P P 12 33 29.8 +0.6
baz=102,SNR=8.2
RETA **Reutte** 71.08 43 *i*P P 12 33 30.5 +0.8
comp=Z,25nm,1.1s,SNR=8.1
HOMB **Homborsund** 71.18 32 *e*P P 12 33 31.0 +1.1
NRDL **Niedersach Rie** 71.19 38 *e*P P 12 33 31.3 +1.3
comp=Z,57nm,1.1s,baz=264,slow=6.1
NRDL *e*pP **pP** 12 33 58.5 +4.6
baz=264,slow=6.0
MUD **Monsted U'grnd** 71.22 34 *i*P P 12 33 30.0 -0.2
MUD lAmb lAmb 12 33 31.2
comp=Z,22nm,0.8s
AKN **Aaknes** 71.25 28 *e*P P 12 33 31.6 +1.2
CLZ **Clausthal** 71.27 39 *e*P P 12 33 31.6 +0.9
comp=Z,45nm,1.1s,baz=264,slow=6.1
CLZ *e*pP **pP** 12 33 58.9 +4.3
baz=264,slow=6.0
MOTA **Moosalm** 71.30 44 *i*P P 12 33 31.7 +0.6
comp=Z,42nm,1.3s,SNR=10
SQTA **Sankt Quirin** 71.36 44 *i*P P 12 33 32.2 +0.8
comp=Z,38nm,0.8s,SNR=14
ASSE **Asse, Remlinge** 71.49 39 *e*P P 12 33 33.0 +1.2
comp=Z,34nm,1.0s,baz=264,slow=6.1
BSEG **Bad Segeberg** 71.50 37 *e*P P 12 33 32.6 +0.7
comp=Z,71nm,1.1s,baz=264,slow=6.1
BSEG *e*pP **pP** 12 33 59.9 +4.1
baz=264,slow=6.0
SKAR **Skarslia** 71.54 29 *e*P P 12 33 33.4 +1.3
TEOL **Teolo** 71.55 46 lAmb lAmb 12 33 33.6
comp=Z,35nm,0.9s
GRF **Grafenberg Arr** 71.58 41 *e*P P 12 33 33.2 +0.7
comp=Z,26nm,1.0s,baz=264,slow=6.1
GRF *e*pP **pP** 12 34 00.4 +4.0
baz=264,slow=6.0
WATA **Walderalm** 71.62 44 *i*P P 12 33 33.3 +0.3
comp=Z,23nm,1.1s,SNR=6.8
WTTA **Wattenberg** 71.65 44 *i*P P 12 33 33.9 +0.7
comp=Z,36nm,1.2s,SNR=9.3
A36M **Sachs Harbour** 71.68 343 P P 12 33 31.4 -1.3
baz=113,SNR=8.7
FLTG **Flechtingen** 71.86 38 *e*P P 12 33 34.6 +0.5
comp=Z,40nm,1.1s,baz=264,slow=6.1
FLTG *e*pP **pP** 12 34 01.9 +3.9
baz=264,slow=6.0
MOX **Moxa** 71.92 40 *e*P P 12 33 35.0 +0.4
comp=Z,10nm,0.9s,baz=264,slow=6.1
MOX *e*pP **pP** 12 34 02.4 +3.9
baz=264,slow=6.0
KONO **Kongsberg** 71.98 31⇑ *e*P P 12 33 35.8 +1.1
KONO pmax pmax
comp=Z,78nm,1.7s
KONO **Kongsberg** 71.98 31 P P 12 33 35.7 +1.0
NEUB **Neuenburg** 72.08 40 *e*P P 12 33 36.2 +0.7
comp=Z,30nm,0.9s,baz=264,slow=6.1
NEUB *e*pP **pP** 12 34 03.5 +4.2
baz=264,slow=6.0
SKAG **Skagway** 72.15 329 P P 12 33 36.5 +0.8
baz=100
MANZ **Manzenberg** 72.18 41 *e*P P 12 33 37.1 +0.9
comp=Z,7.6nm,1.0s,baz=264,slow=6.1
MANZ *e*pP **pP** 12 34 04.5 +4.4
baz=264,slow=6.0
M31M **Drury Creek, Y** 72.20 332 lAmb lAmb 12 33 37.8
comp=Z,37nm,0.8s
M31M **Drury Creek, Y** 72.20 332 P P 12 33 36.8 +0.8
baz=101,SNR=24
ABTA **Abfaltersbach** 72.22 44 *i*P P 12 33 37.0 +0.5
comp=Z,34nm,1.0s,SNR=14
ROTZ **Rotzenmuhle** 72.22 41 *e*P P 12 33 37.1 +0.7
comp=Z,5.9nm,1.3s,baz=264,slow=6.1
PLN **Pisuen** 72.25 40 *e*P P 12 33 37.2 +0.7
comp=Z,27nm,1.3s,baz=264,slow=6.1
PLN *e*pP **pP** 12 34 04.5 +4.1
baz=264,slow=6.0
WERD **Werda** 72.34 40 *e*P P 12 33 37.6 +0.5
comp=Z,24nm,1.1s,baz=264,slow=6.1
GUNZ **Gunzen** 72.35 40 *e*P P 12 33 37.9 +0.7
comp=Z,16nm,1.1s,baz=264,slow=6.1
WERN **Wernitzgruen** 72.38 41 *e*P P 12 33 38.2 +0.8
comp=Z,27nm,1.1s,baz=264,slow=6.1
WERN *e*pP **pP** 12 34 05.7 +4.4
baz=264,slow=6.0
NKC **Novy Kostel** 72.42 41 *e*P P 12 33 38.3 +0.7
NKC **Novy Kostel** 72.42 41 *e*P P 12 33 38.3 +0.7
TANN **Tannenbergstha** 72.44 40 *e*P P 12 33 38.4 +0.7
comp=Z,34nm,1.2s,baz=264,slow=6.1
TANN *e*pP **pP** 12 34 05.9 +4.3
baz=264,slow=6.0
RJOB **Jochberg** 72.47 43 *e*P P 12 33 38.4 +0.4
comp=Z,29nm,1.0s,baz=264,slow=6.1
RJOB *e*pP **pP** 12 34 05.8 +3.9
baz=264,slow=6.0
WET **Wettzell** 72.61 42 *e*P P 12 33 39.3 +0.6
comp=Z,30nm,1.3s,baz=264,slow=6.1
WET *e*pP **pP** 12 34 06.9 +4.2
baz=264,slow=6.0
N31M **Braeburn, Yuko** 72.72 331 lAmb lAmb 12 33 40.5
comp=Z,37nm,0.7s
N31M **Braeburn, Yuko** 72.72 331 P P 12 33 39.5 +0.4
baz=100,SNR=13
NBO00 **NORSAR Array S** 72.80 29 lAmb lAmb 12 33 42.0
comp=Z,72nm,1.1s
KBA **Koelnbreinsper** 72.80 44 *i*P P 12 33 40.6 +0.5
comp=Z,56nm,1.0s,SNR=29
CLL **Collm** 72.85 40⇑ *i*P P 12 33 40.6 +0.5
CLL *e**PP **pP** 12 34 04.0 0.0
CLL pmax pmax
comp=Z,34nm,1.1s
CLL **Collm** 72.85 40 lAmb lAmb 12 33 41.9
comp=Z,34nm,1.1s
CLL **Collm** 72.85 40⇑ *i*P P 12 33 40.6 +0.5
comp=Z,34nm,1.1s
CLL *e*pP **pP** 12 34 04.0 0.0
CLL *es*P **sP** 12 34 15.0 +0.8
CLL **Collm** 72.85 40 *e*P P 12 33 40.8 +0.7
comp=Z,34nm,1.1s,baz=264,slow=6.1
CLL *e*pP **pP** 12 34 08.2 +4.2
baz=264,slow=6.0
MYKA **Terra Mystica** 72.99 44 *i*P P 12 33 41.7 +0.6
comp=Z,39nm,1.4s,SNR=12
NB2 **NORSAR Subarra** 73.01 29 P P 12 33 41.8 +1.0
comp=Z,65nm,1.2s,baz=262,slow=6.2
NB2 **NORSAR Subarra** 73.01 29 P P 12 33 41.8 +1.0
baz=262,slow=6.2
NOA **NORSAR Array B** 73.01 29 P P 12 33 42.0 +1.1
comp=Z,16nm,0.9s,baz=262,slow=5.9,SNR=23
NOA pP **pP** 12 34 06.0 +1.2
comp=Z,9.4nm,0.8s,baz=262,slow=5.9,SNR=7.2
BIOA **Bad Ischl, Aus** 73.03 43 *i*P P 12 33 41.7 +0.5
comp=Z,51nm,1.2s,SNR=13
CADS **Cadrg** 73.03 45 *i*P P 12 33 41.9 +0.5
FBE **Freiberg** 73.05 40 *e*P P 12 33 42.3 +1.1
comp=Z,48nm,1.5s,baz=264,slow=6.1
FBE *e*pP **pP** 12 34 09.6 +4.5
baz=264,slow=6.0
KHC **Kasperske Hory** 73.07 42 *ce*P P 12 33 41.9 +0.4
KHC pmax pmax
comp=Z,63nm,1.2s
KHC **Kasperske Hory** 73.07 42 lAmb lAmb 12 33 43.5
comp=Z,36nm,1.3s
KHC **Kasperske Hory** 73.07 42 *e*P P 12 33 41.7 +0.2
KHC *e*pP **pP** 12 34 05.0 -0.4
NC303 **NORSAR Array S** 73.11 29 lAmb lAmb 12 33 43.9
comp=Z,75nm,1.4s
NC602 **NORSAR Array S** 73.12 30 *e*P P 12 33 43.5 +2.1
GEC2 **GERESS Array S** 73.14 42 lAmb lAmb 12 33 43.5
comp=Z,41nm,1.0s
GEC2 **GERESS Array S** 73.14 42 *e*P P 12 33 42.5 +0.5
comp=Z,53nm,1.1s,baz=264,slow=6.1
GEC2 *e*pP **pP** 12 34 10.0 +4.1
baz=264,slow=6.0
GERES **GERESS Array B** 73.14 42 P P 12 33 42.3 +0.4
comp=Z,17nm,0.9s,baz=260,slow=7.9,SNR=71
INK **Inuvik** 73.19 338 P P 12 33 40.6 -1.1
comp=Z,13nm,0.9s,baz=88,slow=6.0,SNR=39
INK **Inuvik** 73.19 338 P P 12 33 40.5 -1.1
baz=104,SNR=21
RGN **Rugen** 73.32 36 *e*pP pP 12 34 11.0 +4.3
baz=264,slow=6.0
M30M **Minto, Yukon** 73.37 332 lAmb lAmb 12 33 44.2
comp=Z,38nm,1.3s
M30M **Minto, Yukon** 73.37 332 P P 12 33 43.1 +0.1
baz=99,SNR=12
PBCC **Pribram** 73.38 41 *e*P P 12 33 43.9 +0.7
BRG **Berggiesshubel** 73.42 40 *e*P P 12 33 44.3 +0.9
BRG Amp 12 33 45.5
comp=Z,26nm,1.0s
BRG *ex* x 12 34 11.6
BRG Amp 12 34 13.5
comp=Z,12nm,1.0s
BRG **Berggiesshubel** 73.42 40 *e*P P 12 33 44.3 +0.9
BRG *e* 12 34 11.6

BRG pmax pmax
comp=Z,26nm,1.0s
BRG pmax pmax
comp=Z,12nm,1.0s
BRG Berggiesshubel 73.42 40 *e*P **P 12 33 44.3 +0.9**
comp=Z,29nm,1.1s,baz=264,slow=6.1
BRG *e*pP **pP 12 34 11.7 +4.3**
baz=264,slow=6.0
RUE Ruedersdorf 73.42 38 *e*P **P 12 33 44.4 +1.0**
comp=Z,62nm,0.7s,baz=264,slow=6.1
HYT Haines Junctio 73.44 330 P **P 12 33 44.5 +1.0**
baz=98,SNR=7.2
MOA Molln 73.47 43 *i* P **P 12 33 44.2 +0.4**
comp=Z,28nm,1.0s,SNR=14
CKRC Cesky Krumlov 73.54 42 *e*P **P 12 33 44.3 +0.1**
LJU Ljubljana 73.58 45 *i* P **P 12 33 45.5 +1.1**
OBKA Obir 73.61 45 *i* P **P 12 33 45.3 +0.6**
comp=Z,22nm,0.9s,SNR=9.6
NOR Nord 73.68 6 *i* P **P 12 33 42.4 -2.1**
NOR IAmb IAmb 12 33 43.7
comp=Z,5.2nm,0.6s
PRU Pruhonice 73.75 41 *e*P **P 12 33 46.0 +0.6**
PRU Pruhonice 73.75 41 *e*P **P 12 33 46.0 +0.6**
PVCC Panska Ves 73.79 40 *e*P **P 12 33 46.7 +1.1**
PVCC Panska Ves 73.79 40 *e*P **P 12 33 46.7 +1.1**
DEL Delary 73.81 34 *e*P **P 12 33 46.7 +1.1**
YUK6 Outpost Mounta 73.87 330 P **P 12 33 47.0 +0.8**
baz=97
NSS Namsos 73.91 26 *e*P **P 12 33 46.6 +0.6**
SOKA Soboth 73.94 44 *i* P **P 12 33 46.8 +0.1**
comp=Z,12nm,1.0s,SNR=8.1
EPYK Eagle Plains 73.99 336 P **P 12 33 46.0 -0.5**
baz=100,SNR=13
YUK4 Talbot Arm 74.06 331 P **P 12 33 47.7 +0.5**
baz=97,SNR=8.1
HFS Hagfors 74.10 30 P **P 12 33 47.9 +0.7**
comp=Z,18nm,0.7s,baz=205,slow=6.6,SNR=25
HFS pP **pP 12 34 11.8 +0.6**
comp=Z,12nm,0.7s,baz=212,slow=7.8,SNR=7.0
PNL Peninsula 74.23 329 P **P 12 33 48.7 +0.6**
baz=96
J29M Klondike Camp 74.29 334 P **P 12 33 49.3 +0.9**
baz=98,SNR=8.0
ARSA Arzberg 74.30 44 *i* P **P 12 33 49.1 +0.4**
comp=Z,21nm,0.9s,SNR=8.3
TREC Trest 74.33 42 *e*P **P 12 33 49.6 +0.8**
TREC Trest 74.33 42 *e*P **P 12 33 49.6 +0.8**
I29M Ogilvie Camp, 74.46 335 IAmb IAmb 12 33 50.0
comp=Z,46nm,1.4s
I29M Ogilvie Camp, 74.46 335 P **P 12 33 49.1 -0.2**
baz=99,SNR=21
CONA Conrad Observa 74.54 43 *i* P **P 12 33 50.8 +0.6**
comp=Z,22nm,1.4s,SNR=9.7
UPC Upice 74.71 40 *e*P **P 12 33 51.7 +0.7**
UPC Upice 74.71 40 *e*P **P 12 33 51.7 +0.7**
CHVC Chvalec 74.74 40 *e*P **P 12 33 52.0 +0.8**
DAWY Dawson 74.74 334 IAmb IAmb 12 33 52.8
comp=Z,50nm,1.4s
DAWY Dawson 74.74 334 P **P 12 33 51.0 0.0**
baz=97,SNR=19
KOGS Kog 74.78 45 *i* P **P 12 33 52.1 +0.7**
RONA Rosalia, Austr 74.83 43 *i* P **P 12 33 52.3 +0.6**
comp=Z,16nm,1.0s,SNR=8.1
OSTC Ostas 74.84 40 *e*P **P 12 33 52.6 +0.9**
DPC Dobruska-Polom 74.91 41 *e*P **P 12 33 52.6 +0.5**
DPC Dobruska-Polom 74.91 41 *e*P **P 12 33 52.6 +0.5**
KRUC Moravsky 74.92 42 *e*P **P 12 33 52.7 +0.5**
YUK3 Moose Creek 74.97 331 P **P 12 33 52.7 +0.2**
baz=96,SNR=8.1
VRAC Vranov 75.06 42 ⇑P **P 12 33 53.9 +0.9**
VRAC Vranov 75.06 42 P **P 12 33 53.4 +0.4**
comp=Z,24nm,0.8s,baz=264,slow=6.8,SNR=21
VRAC Vranov 75.06 42 ⇑P **P 12 33 53.9 +0.9**
VRAC Vranov 75.06 42 *e*P **P 12 33 53.8 +0.9**
LOF Lofoten 75.11 22 *e*P **P 12 33 53.9 +1.1**
PMSA Palmer Station 75.15 181 P **P 12 33 54.3 +1.4**
KRLC Kraliky 75.19 41 *e*P **P 12 33 54.7 +0.9**
KRLC Kraliky 75.19 41 *e*P **P 12 33 54.7 +0.9**
BVCY Beaver Creek 75.22 332 P **P 12 33 54.1 +0.4**
baz=96,SNR=18
TIP Timpagrande 75.22 52 ⇑P **P 12 33 54.4 +0.2**
ZST Bratislava 75.38 43 *e*P **P 12 33 56.1 +1.3**
ZST pmax pmax
comp=Z,144nm,1.3s
ZST Bratislava 75.38 43 *e*P **P 12 33 56.1 +1.3**
BARN Barnard Glacie 75.48 330 IAmb IAmb 12 33 58.5
comp=Z,49nm,1.6s
VIKU Vikbolandet 75.49 32 *e*P **P 12 33 56.3 +1.1**
EGYH Egyhazaskeszo 75.53 44 P **P 12 33 56.5 +0.8**
GKP Gorka Klasztor 75.56 38 *e*P **P 12 33 57.3 +1.6**
EGAK Eagle 75.59 334 IAmb IAmb 12 33 56.7
comp=Z,46nm,0.8s
EGAK Eagle 75.59 334 P **P 12 33 55.8 +0.2**
baz=96
SMOL Smolenice 75.60 43 *e*P **P 12 33 57.3 +1.2**
SMOL pmax pmax
comp=Z,14nm,1.1s
SMOL Smolenice 75.60 43 *e*P **P 12 33 57.3 +1.2**
FAUS Fauske 75.66 23 *e*P **P 12 33 57.4 +1.3**
MPLH Magyarpolny 75.67 44 P **P 12 33 57.1 +0.6**
MORC Moravsky Berou 75.68 41 ⇓P **P 12 33 58.1 +1.5**
MORC Moravsky Berou 75.68 41 ⇓P **P 12 33 58.1 +1.5**
MORC Moravsky Berou 75.68 41 IAmb IAmb 12 33 59.0
comp=Z,42nm,1.3s
MORC Moravsky Berou 75.68 41 *e*P **P 12 33 57.5 +0.9**
M27K Edge Creek, AK 75.69 332 IAmb IAmb 12 33 58.1
comp=Z,30nm,0.8s
M27K Edge Creek, AK 75.69 332 P **P 12 33 57.2 +0.7**
baz=95,SNR=23
STEI Steigen 75.71 22 *e*P **P 12 33 57.4 +1.1**
L27K Beaver Creek, 75.72 333 P **P 12 33 57.0 +0.5**
baz=95,SNR=23
JAVC Velka Javorina 75.76 42 *e*P **P 12 33 58.7 +1.6**
TIH Tihany 75.91 44 P **P 12 33 57.6 -0.3**
UPP Uppsala 76.04 31 *e*P **P 12 33 59.0 +0.6**
KOVH Kovagotottos 76.06 45 P **P 12 33 59.8 +1.0**
CSKK Cskako 76.16 44 P **P 12 34 00.2 +0.9**
L26K Log Cabin Wild 76.41 332 P **P 12 34 01.0 +0.6**
baz=93,SNR=25
MORH Mrgy, Hungar 76.44 45 ⇓P **P 12 34 02.4 +1.5**
MORH Mrgy, Hungar 76.44 45 P **P 12 34 01.8 +0.9**
SCTE Santa Cesarea 76.51 51 IAmb IAmb 12 34 03.8
comp=Z,40nm,1.0s
VYHS Vyhne 76.53 43 *e*P **P 12 34 02.7 +1.3**
VYHS pmax pmax
comp=Z,9.0nm,0.9s
VYHS Vyhne 76.53 43 *e*P **P 12 34 02.7 +1.3**
GLB Gilahina Butte 76.54 331 IAmb IAmb 12 34 03.8
comp=Z,31nm,1.3s
MENT Mentasta 76.57 332 IAmb IAmb 12 34 02.8
comp=Z,26nm,0.7s
J26L Joseph Creek 76.60 334 P **P 12 34 01.0 -0.6**
baz=94,SNR=12
SCRK Sand Creek 76.75 333 IAmb IAmb 12 34 03.3
comp=Z,22nm,0.6s
BMRM Bremner River 76.91 330 P **P 12 34 04.4 +1.1**
BMRM IAmb IAmb 12 34 04.6
comp=Z,21nm,0.7s
BMRM Bremner River 76.91 330 P **P 12 34 04.0 +0.7**
baz=92
N25K Chitina, Valde 76.92 331 IAmb IAmb 12 34 04.9
comp=Z,18nm,0.6s
N25K Chitina, Valde 76.92 331 P **P 12 34 04.1 +0.6**
baz=92,SNR=7.9
LANS Liptovska Anna 76.94 42 *e*P **P 12 34 05.7 +2.0**
LANS pmax pmax
comp=Z,9.0nm,0.7s
LANS Liptovska Anna 76.94 42 *e*P **P 12 34 05.7 +2.0**
PDG Podgorica 77.00 49 ⇑P **P 12 34 05.5 +1.4**
PDG Podgorica 77.00 49 IAmb IAmb 12 34 06.8
comp=Z,45nm,1.4s
IZAB Izabela 77.11 42 *e*P **P 12 34 06.3 +1.6**
IZAB pmax pmax
comp=Z,19nm,1.6s
OJC Ojcow 77.13 41 IAmb IAmb 12 34 07.3
comp=Z,56nm,1.1s
HARP HAARP 77.21 332 P **P 12 34 05.3 +0.4**
baz=92
TRO Tromso 77.22 21 *e*P **P 12 34 05.3 +0.5**
PSZ Piszkesteto 77.25 43 ⇓P **P 12 34 06.8 +1.2**
PSZ Piszkesteto 77.25 43 ⇓P **P 12 34 06.8 +1.2**
PSZ Piszkesteto 77.25 43 P **P 12 34 06.1 +0.5**
FRGS Fruska Gora 77.29 46 ⇓P **P 12 34 06.2 +0.5**
KLNR Kaliningrad 77.33 36 ⇑*i*P **P 12 34 04.6 -1.1**
KLNR pmax pmax
comp=Z,92nm,0.8s
PAX Paxson 77.38 332 P **P 12 34 06.1 +0.2**
PAX pmax pmax
comp=Z,12nm,1.0s
PAX Paxson 77.38 332 P **P 12 34 06.1 +0.2**
PAX Paxson 77.38 332 P **P 12 34 05.6 -0.3**
baz=92,SNR=8.1
J25K Saicha River, 77.38 334 P **P 12 34 05.3 -0.6**
baz=92,SNR=14
EYAK Cordova Ski Ar 77.46 330 P **P 12 34 06.9 +0.6**
baz=91
SPA0 Spitsbergen Ar 77.46 12 *e*P **P 12 34 06.5 +0.4**
DIVS Divibare 77.46 47 IAmb IAmb 12 34 09.5
comp=Z,33nm,1.2s
TIR Tirane 77.51 50 P P 12 34 13.2 +6.2
TIR Tirane 77.51 50 P P 12 34 13.2 +6.2
KLU Klutina 77.56 331 P **P 12 34 07.4 +0.4**
baz=91
KECS Kecovo 77.63 43 *e*P **P 12 34 10.3 +2.8**
KECS Kecovo 77.63 43 *e*P **P 12 34 10.3 +2.8**
M24K Tolsona, Glenn 77.69 331 P **P 12 34 07.8 +0.2**
baz=91
JETT Jettan, Norway 77.73 21 *e*P **P 12 34 08.7 +1.0**
IL31 78.04 334 IAmb IAmb 12 34 09.7
comp=Z,16nm,0.6s
ILAR Eielson Array 78.04 334 P **P 12 34 08.7 -0.8**
comp=Z,13nm,0.6s,baz=94,slow=4.7,SNR=208
ILAR pP **pP 12 34 34.2 +0.5**
comp=Z,9.4nm,0.6s,baz=96,slow=4.7,SNR=10
ILAR PP **PP 12 37 01.1 -5.6**
comp=Z,0.8nm,0.8s,baz=72,slow=6.7,SNR=2.2
HDA Harding Lake 78.06 334 P **P 12 34 08.8 -0.8**
baz=90,SNR=8.4
SCM Sheep Creek Mo 78.23 331 P **P 12 34 10.8 +0.1**
baz=90
DHY Denali Highway 78.25 332 P **P 12 34 10.3 -0.5**
baz=90
CRVS Cervenica-Dubn 78.26 42 *e*P **P 12 34 12.7 +1.7**
CRVS pmax pmax
comp=Z,59nm,1.2s
CRVS Cervenica-Dubn 78.26 42 *e*P **P 12 34 12.7 +1.7**
POKR Poker Plat Res 78.27 335 P **P 12 34 10.5 -0.3**
baz=90,SNR=12
WAT6 Susitna Watana 78.42 332 P **P 12 34 11.5 -0.3**
baz=89,SNR=9.4
SLIT Slitere, Latvi 78.44 33 *e*P **P 12 34 11.2 -0.6**
COLA College 78.45 334 ⇑P **P 12 34 11.3 -0.4**
COLA College 78.45 334 P **P 12 34 11.2 -0.4**
COLA College 78.45 334 P **P 12 34 11.2 -0.4**
baz=90
TCOL CEO, UAF Yank 78.45 334 P **P 12 34 11.2 -0.5**
baz=90
H24K Noodor Dome 78.46 335 P **P 12 34 11.7 -0.1**
baz=90,SNR=12
SIRR Siria 78.53 45 ⇓P **P 12 34 14.0 +1.4**
BZS Buzias 78.54 45 ⇑P **P 12 34 14.0 +1.4**
BZS Buzias 78.54 45 ⇑P **P 12 34 14.0 +1.4**
MDVR Moldovita 78.66 46 ⇓P **P 12 34 14.7 +1.4**
FNA Florina 78.68 50 IAmb IAmb 12 34 16.0
comp=Z,22nm,0.7s
SML Sawmill 78.70 331 P **P 12 34 13.3 0.0**
baz=89
KTK1 Kautokeino 78.72 21 *e*P **P 12 34 13.4 +0.2**
BOVS Bovan 78.73 47 ⇓P **P 12 34 14.7 +1.0**
KOLS Kolonicke sedl 78.79 42 *e*P **P 12 34 15.9 +1.9**
KOLS Kolonicke sedl 78.79 42 *e*P **P 12 34 15.9 +1.9**
UZH Uzhgorod 78.82 42 *e*P **P 12 34 14.9 +0.8**
UZH *e* 12 34 21.3
UZH *e* 12 34 40.1
NEA2 Nenana 78.98 334 P **P 12 34 14.4 -0.3**
baz=89,SNR=48
TRPA Tarpa 79.02 43 ⇓P **P 12 34 16.7 +1.6**
TRPA Tarpa 79.02 43 P **P 12 34 16.4 +1.2**
I23K Minto, Yukon-K 79.09 335 P **P 12 34 14.9 -0.2**
baz=88,SNR=13
SUW Suwalki 79.09 37 P **P 12 34 15.5 +0.1**
SUW pmax pmax
comp=Z,137nm,1.1s
SUW Suwalki 79.09 37 P **P 12 34 15.4 +0.1**
SUW Suwalki 79.09 37 *e*P **P 12 34 16.6 +1.2**
PMR Palmer 79.09 331 P **P 12 34 15.2 -0.1**
baz=88
TOLK Toolik Lake Re 79.09 338 P **P 12 34 14.7 -0.6**
baz=89
H23K Yukon River 79.14 335 P **P 12 34 15.4 -0.1**
baz=88,SNR=6.0
DRGR 79.22 44 ⇓P **P 12 34 17.8 +1.4**
DRGR 79.22 44 ⇓P **P 12 34 17.8 +1.4**
DJES Djerdap 79.24 46 ⇑P **P 12 34 18.1 +1.6**
SEW Seward 79.31 329 P **P 12 34 17.1 +0.6**
SEW IAmb IAmb 12 34 18.8
comp=Z,30nm,0.9s
SEW Seward 79.31 329 P **P 12 34 16.3 -0.2**
baz=87
COLD Coldfoot 79.37 337 P **P 12 34 16.6 -0.1**
baz=88,SNR=5.4
GZR Gura Zlata 79.37 46 ⇑P **P 12 34 18.4 +1.1**
GZR Gura Zlata 79.37 46 ⇑P **P 12 34 18.4 +1.1**
RC01 Rabbit Creek A 79.40 330 P **P 12 34 17.4 +0.3**
baz=87
DEV Deva 79.42 45 ⇑P **P 12 34 19.4 +2.0**
DEV Deva 79.42 45 ⇑P **P 12 34 19.4 +2.0**
O22K Cooper Landing 79.43 330 P **P 12 34 17.6 +0.4**
baz=87
BLKB Belogradchik 79.43 47 ⇓P **P 12 34 19.0 +1.4**
MEF Metsahovi 79.44 30 *e*P **P 12 34 16.6 -0.6**
PABE Paberze 79.46 35 P **P 12 34 17.7 +0.3**
PABE Paberze 79.46 35 *e*P **P 12 34 18.6 +1.2**
TAOE Nuku Hiva Isla 79.47 259 *e*LR LR 12 59 19.3
comp=Z,159nm,33.4s
ARA0 ARCESS Array S 79.52 21 *e*P **P 12 34 17.9 +0.4**
ARCES ARCESS Array B 79.52 21 P **P 12 34 17.9 +0.4**
comp=Z,3.0nm,0.6s,baz=274,slow=4.9,SNR=26
ARCES PKKPbc **PKKPbc 12 53 05.0 -3.3**
comp=Z,5.5nm,1.0s,baz=96,slow=3.7,SNR=5.9
ARCES ARCESS Array B 79.52 21 IAmb IAmb 12 36 25.5
comp=Z,55nm,1.6s
TRF Thorofare Moun 79.55 333 IAmb IAmb 12 34 19.2
comp=Z,45nm,0.8s
M22K Willow 79.56 331 IAmb IAmb 12 34 19.4
comp=Z,46nm,0.9s
M22K Willow 79.56 331 P **P 12 34 18.1 +0.3**
baz=87
AGG Agios Georgios 79.56 52 IAmb IAmb 12 34 21.2
comp=Z,67nm,1.3s
CUT Chulitna 79.59 332 P **P 12 34 18.0 0.0**
baz=87
BMR Baia Mare 79.69 43 P P 12 34 04.4 -14
BMR pmax pmax
comp=Z,21nm,0.7s
BPAW Bear Paw Mtn. 79.83 334 P **P 12 34 19.0 -0.3**
baz=87,SNR=17
KTH Kantishna Hill 79.83 333 IAmb IAmb 12 34 20.5
comp=Z,37nm,1.0s
KKB Krupnik 79.88 49 *e*P **P 12 34 21.0 +1.0**
LVV L'vov 79.88 41 *e*P **P 12 34 21.0 +1.2**
VTS Vitosha 79.92 48 ⇓P **P 12 34 22.2 +1.7**
VTS Vitosha 79.92 48 ⇓P **P 12 34 22.2 +1.7**
VTS Vitosha 79.92 48 *e*P **P 12 34 21.0 +0.6**
BRSE Bradley Lake S 79.98 329 P **P 12 34 20.6 +0.5**
baz=86
FINES FINESS Array B 80.19 29 P **P 12 34 21.8 +0.6**
comp=Z,18nm,0.8s,baz=271,slow=3.9,SNR=56
FINES pP **pP 12 34 45.4 -0.1**
comp=Z,6.6nm,0.6s,baz=266,slow=2.9,SNR=4.4
FIA1 FINESS Array S 80.19 29 IAmb IAmb 12 34 22.8
comp=Z,44nm,1.3s
I21K Tanana 80.19 335 P **P 12 34 21.0 -0.2**
baz=86
CNPM China Poot 80.24 329 IAmb IAmb 12 34 23.0
comp=Z,40nm,0.7s
ARCR ARCALIA 80.32 44 ⇑P **P 12 34 23.8 +1.5**
CAST Castle Rocks 80.36 333 IAmb IAmb 12 34 22.7
comp=Z,63nm,1.7s
MMB Musomiste 80.38 49 *e*P **P 12 34 24.0 +1.2**
HOM Homer 80.44 329 P **P 12 34 23.3 +0.7**
baz=86
SPCR Spurr Chakacha 80.59 331 P **P 12 34 23.8 +0.2**
baz=85
PGB Panagyurishte 80.61 48 *e*P **P 12 34 25.0 +1.0**
ARR Arges 80.67 46 ⇓P **P 12 34 25.7 +1.5**
IIGN Ignalina 80.75 35 *e*P **P 12 34 26.0 +1.6**
VSU Vasula 80.76 32 *ce*P **P 12 34 24.6 +0.3**
VSU pmax pmax
comp=Z,186nm,1.0s
VSU Vasula 80.76 32 *e*P **P 12 34 25.1 +0.8**
BURAR Bucovina Array 80.86 43 ⇑P **P 12 34 27.0 +1.8**
BURAR Bucovina Array 80.86 43 ⇑P **P 12 34 27.0 +1.8**
O20K Slope Mountain 80.90 329 P **P 12 34 25.8 +0.6**
baz=85
VOIR 80.96 45 ⇑P **P 12 34 27.6 +1.8**
VOIR 80.96 45 ⇑P **P 12 34 27.6 +1.8**
IDID Didziasalis 81.05 35 *e*P **P 12 34 27.4 +1.4**
RZN Rozhen 81.11 49 *e*P **P 12 34 27.0 +0.2**
NACGM Naroch 81.12 36 *e*P **P 12 34 27.6 +1.2**
DOPR Dopca 81.14 45 ⇓P **P 12 34 28.2 +1.5**
J20K Nowinta River 81.20 334 P **P 12 34 26.2 -0.5**
baz=84,SNR=14
K20K Telida 81.26 333 IAmb IAmb 12 34 27.8
comp=Z,32nm,1.1s
K20K Telida 81.26 333 P **P 12 34 26.9 -0.1**
baz=84
L20K Farewell, AK 81.26 332 P **P 12 34 26.9 -0.1**
baz=84,SNR=14
OZUR 81.40 45 ⇓P **P 12 34 29.4 +1.3**
OHAK Old Harbor 81.53 327 P **P 12 34 28.6 +0.1**
baz=84
Q19K Cape Douglas, 81.53 328 P **P 12 34 28.6 +0.1**
baz=84
M19K Big River Lodg 81.56 331 IAmb IAmb 12 34 30.0
comp=Z,39nm,0.7s
M19K Big River Lodg 81.56 331 P **P 12 34 29.0 +0.4**
baz=83
MLR Muntele Rosu 81.58 45 ⇑P **P 12 34 30.7 +1.5**
MLR Muntele Rosu 81.58 45 P **P 12 34 30.4 +1.2**
comp=Z,46nm,0.9s,baz=312,slow=3.5,SNR=52
MLR Muntele Rosu 81.58 45 ⇑P **P 12 34 30.7 +1.5**
KDZ Kurdzhali 81.64 49 *e*P **P 12 34 29.0 -0.4**
COVR Voineasa-Covas 81.72 45 ⇑P **P 12 34 31.8 +2.0**
O19K Port Alsworth 81.73 330 IAmb IAmb 12 34 30.3
comp=Z,26nm,0.6s
O19K Port Alsworth 81.73 330 P **P 12 34 29.4 0.0**
baz=83,SNR=10.0
N19K Bonanza Creek 81.73 330 IAmb IAmb 12 34 30.6
comp=Z,29nm,1.0s
N19K Bonanza Creek 81.73 330 P **P 12 34 29.4 -0.2**
baz=83,SNR=11
L19K White Mountain 81.75 332 IAmb IAmb 12 34 30.6
comp=Z,31nm,1.1s
L19K White Mountain 81.75 332 P **P 12 34 29.5 -0.1**
baz=83,SNR=22
MNK Minsk 81.80 36 *i* P **P 12 34 30.5 +0.6**
MNK *i* *PP **pP 12 34 54.1 -0.2**
MNK *i* *SP **sP 12 35 04.1 -0.2**
MNK *i* 12 37 38.0
MNK *i* PPP PPP 12 39 27.9
MNK *i* S **S 12 44 36.8 +1.4**
MNK *i* *SS **sS 12 45 17.7 +0.5**
MNK *i* SS **SS 12 49 58.2 +3.3**
MNK *i* SSS SSS 12 53 25.4
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=Z,127nm,1.0s
MNK pmax pmax
comp=N,21nm,0.7s
MNK MLR MLR
comp=Z,113nm,13.0s
MNK MLR MLR
comp=N,99nm,11.0s
MNK MLR MLR
comp=E,15nm,12.0s
MNK Minsk 81.80 36 *i* P **P 12 34 30.5 +0.6**
comp=E,8.0nm,1.0s
MNK *i* P **P 12 34 30.5 +0.6**
comp=N,21nm,0.7s
MNK *i* P **P 12 34 30.5 +0.6**
comp=Z,127nm,1.0s,baz=277
MNK *i* pP **pP 12 34 54.2 -0.2**
MNK *i* sP **sP 12 35 04.2 -0.2**
MNK *i* PP **PP 12 37 38.0 +0.1**
MNK *i* PPP PPP 12 39 28.0
MNK *i* S **S 12 44 36.9 +1.4**
MNK *i* sS **sS 12 45 17.8 +0.5**
MNK *i* SS **SS 12 49 58.2 +3.3**
MNK *i* SSS SSS 12 53 25.5
MNK *i* LQ LQ 13 05 41.6
MNK *i* LR LR 13 11 50.9
MNK *i* LRM MLR 13 14 59.8
comp=Z,113nm,13.1s
MNK *i* LRM MLR 13 15 10.2
comp=N,99nm,11.2s
MNK *i* LRM MLR 13 15 12.9
comp=E,15nm,11.8s
TESR Tescani 81.95 44 ⇓P **P 12 34 32.3 +1.4**
IDI Anoyia 82.00 56 ⇑P **P 12 34 33.2 +1.8**
IDI Anoyia 82.00 56 IAmb IAmb 12 34 34.5
comp=Z,55nm,0.9s
PLOR Plostina 82.03 45 ⇑P **P 12 34 32.4 +1.0**
PLOR Plostina 82.03 45 ⇑P **P 12 34 32.4 +1.0**
ISR Istrita 82.04 46 ⇑P **P 12 34 32.5 +1.0**
ISR Istrita 82.04 46 ⇑P **P 12 34 32.5 +1.0**
VRI Vrincioaia 82.08 45 ⇑P **P 12 34 32.8 +1.2**
VRI Vrincioaia 82.08 45 ⇑P **P 12 34 32.8 +1.2**
TTA Tatalina 82.18 333 P **P 12 34 31.5 -0.4**
baz=82,SNR=8.8
ALN Alexandroupoli 82.20 50 IAmb IAmb 12 34 34.5
comp=Z,26nm,1.0s
RAZG Razgrad 82.21 47 ⇓P **P 12 34 33.6 +1.2**
SVW2 Sparrevohn 82.23 331 IAmb IAmb 12 34 33.0
comp=Z,28nm,0.7s
P18K Big Mountain, 82.28 329 P **P 12 34 32.2 -0.2**
baz=82
GCSA Galena City Sc 82.31 334 P **P 12 34 32.6 +0.2**
baz=82,SNR=12
JMB Yambol 82.40 48 *e*P **P 12 34 33.0 -0.3**
SORM Soroca 82.89 42 ⇑P **P 12 34 36.1 +0.3**
SORM Soroca 82.89 42 ⇑P **P 12 34 36.1 +0.3**
PRD Provadia 82.90 47 *e*P **P 12 34 36.0 +0.1**
HARR Harsova 83.07 46 ⇑P **P 12 34 37.6 +0.8**
HARR Harsova 83.07 46 ⇑P **P 12 34 37.6 +0.8**
AKASG Malin Array Be 83.10 40 P **P 12 34 37.1 +0.4**
comp=Z,15nm,0.8s,baz=264,slow=4.7,SNR=24
AKASG LR LR 13 09 58.2
comp=Z,105nm,18.0s,baz=306,slow=34
AKBB Malin Array Si 83.10 40 *c* *i*P **P 12 34 36.8 0.0**
AKBB pmax pmax
comp=Z,37nm,1.4s
AKBB Malin Array Si 83.10 40 IAmb IAmb 12 34 38.2
comp=Z,35nm,1.2s
CFR Carcaliu 83.15 45 ⇑P **P 12 34 37.4 +0.2**
CFR Carcaliu 83.15 45 ⇑P **P 12 34 37.4 +0.2**
MILM Milestii Mici 83.37 44 ⇓P **P 12 34 39.1 +0.8**
MILM Milestii Mici 83.37 44 ⇓P **P 12 34 39.1 +0.8**
TPGR Topolog 83.39 46 ⇑P **P 12 34 38.9 +0.4**
PSN Preselentsi 83.40 47 *e*P **P 12 34 38.0 -0.5**
TIRR Tirgusor 83.45 46 ⇓P **P 12 34 39.6 +0.9**
TIRR Tirgusor 83.45 46 ⇓P **P 12 34 39.6 +0.9**
TIRR Tirgusor 83.45 46 IAmb IAmb 12 34 44.1
comp=Z,28nm,0.9s
JURR Jurilovca 83.73 46 ⇑P **P 12 34 42.1 +2.0**
RDOG Red Dog Mine 84.07 338 P **P 12 34 41.3 -0.2**
baz=76,SNR=7.1
TSUM Tsumeb 84.39 111 P **P 12 34 44.2 +0.1**
TSUM IAmb IAmb 12 34 47.1
comp=Z,22nm,0.9s
AKAS Kas 85.65 54 IAmb IAmb 12 34 52.3
comp=Z,32nm,0.9s
BORA Eskisehir 85.68 50 IAmb IAmb 12 34 52.2
comp=Z,43nm,1.2s
SDPT Sand Point 85.79 325 P **P 12 34 50.2 0.0**
baz=78
OBN Obninsk 86.64 35 *e*P **P 12 34 55.1 +0.7**
OBN *e**PP **pP 12 35 19.1 +0.1**
OBN *e**SP **sP 12 35 28.5 -0.5**
OBN *e* 12 38 19.1
OBN *e*PPP PPP 12 40 12.5
OBN pmax pmax
comp=Z,105nm,1.7s
TNA Tin City 86.66 336 IAmb IAmb 12 34 56.1
comp=Z,24nm,1.0s
KLMR Klimovskoe 86.70 29 *e*P **P 12 34 53.3 -1.3**
KLMR *e**PP **pP 12 35 20.4 +1.1**
KLMR pmax pmax
comp=Z,39nm,1.2s
KLMR Klimovskoe 86.70 29 *e*P **P 12 34 53.4 -1.2**
KLMR AMP 12 34 55.7
comp=Z,39nm,1.2s
KLMR *e*pP **pP 12 35 20.4 +1.1**

MOS	**Moscow**	**87.07**	**34**	*e*P		**P**	**12 34 55.0**	**-1.5**
SIM	**Simferopol'**	**87.36**	**45**	*e*P		**P**	**12 34 59.0**	**+0.8**
SIM				pmax	pmax			
	comp=Z,33nm,1.0s							
BR131	**Keskin Array S**	**88.12**	**50**	*c i*P		**P**	**12 35 02.9**	**+0.8**
BR131	**Keskin Array S**	**88.12**	**50**	IAmb	IAmb		12 35 04.0	
	comp=Z,34nm,0.8s							
BRTR	**Keskin Array B**	**88.12**	**50**	P		**P**	**12 35 02.9**	**+0.8**
	comp=Z,15nm,0.8s,baz=260,slow=4.1,SNR=52							
LPSR	**Galich'ya Gora**	**88.62**	**37**	*e*P		**P**	**12 35 02.6**	**-1.4**
LPSR				pmax	pmax			
	comp=Z,20nm,0.9s							
GAMB	**Gambell**	**88.80**	**335**	P		**P**	**12 35 05.0**	**+0.4**
	baz=68,SNR=7.6							
CSS	**Mathiatis**	**88.87**	**55**	IAmb	IAmb		12 35 08.2	
	comp=Z,21nm,1.1s							
VNA3	**Neumayer Olymp**	**88.92**	**165**	P		**P**	**12 35 06.9**	**+2.0**
VORR	**Voronezh**	**89.04**	**38**	*e*P		**P**	**12 35 05.0**	**-0.9**
VORR				pmax	pmax			
	comp=Z,60nm,0.4s							
VSR	**Storozhevoye**	**89.14**	**38**	*e*P		**P**	**12 35 04.2**	**-2.2**
VSR				pmax	pmax			
	comp=Z,40nm,1.2s							
PRGR	**Permogore**	**89.26**	**27**	*e*P		**P**	**12 35 05.5**	**-1.2**
PRGR				pmax	pmax			
	comp=Z,22nm,0.9s							
VNA2	**Neumayer--Watz**	**89.32**	**164**	P		**P**	**12 35 08.7**	**+1.9**
	baz=311,slow=9.0							
UNV	**Unalaska Valle**	**89.56**	**325**	P		**P**	**12 35 08.9**	**+0.6**
	baz=73							
ANN	**Anapa**	**89.69**	**44**	*e*P		**P**	**12 35 08.6**	**-0.5**
ANN				*e**PP		**pP**	**12 35 31.6**	**-2.3**
ANN				*e*S		**SKSac**	**12 45 30.4**	**-1.0**
ANN				pmax	pmax			
	comp=Z,36nm,0.8s							
PPT2	**Papeete2**	**90.24**	**252**	*e*LR		LR	13 04 17.5	
	comp=Z,314nm,30.8s							
VRH	**Novokhopyorsk**	**90.68**	**38**	*e*P		**P**	**12 35 11.4**	**-2.2**
VRH				pmax	pmax			
	comp=Z,20nm,0.7s							
SNAA	**Sanae**	**90.96**	**164**	P		**P**	**12 35 16.3**	**+1.8**
TBI	**Tubuai**	**91.23**	**247**	*e*LR		LR	13 04 44.4	
	comp=Z,206nm,37.5s							
EIL	**Elat**	**91.35**	**60**	P		**P**	**12 35 17.6**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=86,slow=3.7,SNR=4.1							
SOC	**Sochi**	**91.60**	**45**	*e*P		**P**	**12 35 18.2**	**+0.1**
SOC				*e*			12 38 53.1	
SOC				*e*PPP		PPP	12 40 55.6	
SOC				*e*S		**SKSac**	**12 45 42.3**	**-0.1**
SOC				*e*SS		**SS**	**12 52 19.7**	**+1.0**
SOC				*e*SSS		SSS	12 55 57.0	
SOC				pmax	pmax			
	comp=Z,15nm,0.7s							
VSLR	**Vesyoloye**	**91.85**	**45**	*d i*P		**P**	**12 35 21.1**	**+1.8**
KIRV	**Kirov**	**92.19**	**29**	ǁ*e*P		**P**	**12 35 20.4**	**0.0**
TROLL	**Troll, Antarti**	**92.59**	**164**	P		**P**	**12 35 23.5**	**+1.3**
BOSA	**Boshof**	**93.19**	**118**	P		**P**	**12 35 27.1**	**+1.3**
	comp=Z,11nm,0.9s,baz=294,slow=4.8,SNR=11							
KIV	**Kislovodsk**	**93.54**	**44**	*e*P		**P**	**12 35 28.5**	**+1.3**
KIV				pmax	pmax			
	comp=Z,12nm,1.0s							
BELG	**Belogornoye**	**93.71**	**35**	*de*P		**P**	**12 35 28.0**	**+0.4**
BELG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KBZ	**Khabaz**	**93.76**	**44**	P		**P**	**12 35 27.8**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=248,slow=3.3,SNR=12							
KBZ	**Khabaz**	**93.76**	**44**	*ce*P		**P**	**12 35 29.4**	**+1.4**
KBZ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
NEY	**Neytrino**	**93.79**	**45**	ǁ*e*P		**P**	**12 35 30.5**	**+2.1**
NEY				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BILL	**Bilibino**	**94.24**	**343**	*e*P		**P**	**12 35 29.1**	**-0.6**
BILL				pmax	pmax			
	comp=Z,6.0nm,1.3s							
BILL	**Bilibino**	**94.24**	**343**	P		**P**	**12 35 29.2**	**-0.6**
NCK	**Nalchik**	**94.31**	**44**	ǁ*e*P		**P**	**12 35 28.7**	**-1.9**
NCK				pmax	pmax			
	comp=Z,28nm,0.4s							
GNI	**Garni**	**96.22**	**47**	ǁ*i*P		**P**	**12 35 41.3**	**+1.7**
GNI				pmax	pmax			
	comp=Z,10.0nm,0.6s							
SEY	**Seymchan**	**101.89**	**344**	ǁ*e*P		**Pdif**	**12 36 03.6**	**-0.6**
SEY				pmax	pmax			
	comp=Z,8.0nm,2.1s							
SYO	**Syowa Base**	**104.21**	**159**	ǁ*e*Pdiff		**Pdif**	**12 36 13.0**	**-1.2**
ZALV	**Zalesovo Beam**	**110.05**	**20**	PKiKP		**PKiKP**	**12 40 40.9**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=270,slow=0.4,SNR=5.0							
MAW	**Mawson**	**112.80**	**160**	PKiKP		**PKiKP**	**12 40 47.2**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=315,slow=17,SNR=1.5							
AAK	**Ala-Archa**	**114.13**	**33**	ǁ*i*PKiKP		**PKiKP**	**12 40 50.5**	**+0.2**
AAK				pmax	pmax			
	comp=Z,4.0nm,2.5s							
MKAR	**Makanchi Array**	**114.87**	**26**	PKP		**PKiKP**	**12 40 50.4**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=301,slow=2.5,SNR=1.5							
MKAR				PKKPbc		**PKKPbc**	**12 51 26.7**	**-3.3**
	comp=Z,0.5nm,0.6s,baz=122,slow=5.5,SNR=6.1							
KLR	**Kul'dur**	**119.11**	**349**	PKP		**PKPdf**	**12 40 57.4**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=301,slow=18,SNR=2.3							
KLR				PP		**PP**	**12 42 16.0**	**-3.4**
	comp=Z,1.2nm,0.8s,baz=193,slow=1.0,SNR=3.8							
WMQ	**Urumqi**	**119.52**	**24**	*e*PKP		**PKiKP**	**12 41 01.9**	**+1.3**
WMQ				LR	LR			
	comp=Z,260nm,15.3s							
WMQ				LR	LR			
	comp=Z,170nm,18.3s							
SONM	**Songino Array**	**121.03**	**9**	PKP		**PKPdf**	**12 41 02.4**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=223,slow=1.2,SNR=5.6							
SONM				PP		**PP**	**12 42 31.2**	**-1.6**
	comp=Z,0.8nm,0.9s,baz=337,slow=7.1,SNR=4.7							
SONM				PKKPbc		**PKKPbc**	**12 51 06.2**	**-2.0**
	comp=Z,2.3nm,0.4s,baz=174,slow=4.2,SNR=22							
HHC	**Hu-ho-hao-te**	**128.55**	**6**	*e*PKP		**PKPdf**	**12 41 17.0**	**-1.0**
BJI	**Beijing**	**129.62**	**1**	PKP		**PKPdf**	**12 41 19.7**	**-0.2**
KSRS	**Korea Array**	**131.20**	**349**	PKP		**PKPdf**	**12 41 22.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=56,slow=3.2,SNR=2.5							
KSRS				SKPbc		**SKPbc**	**12 44 35.9**	**-3.6**
	comp=Z,5.8nm,1.0s,baz=358,slow=4.3,SNR=14							
NJ2	**Nanjing**	**137.58**	**358**	*e*PKP		**PKPdf**	**12 41 35.6**	**+0.5**
PZH	**PanZhiHua**	**140.14**	**22**	PKP		**PKPdf**	**12 41 33.8**	**-6.3**
KMI	**Kunming**	**141.76**	**22**	ǁPKP		**PKPdf**	**12 41 43.3**	**+0.1**
RABL	**Rabaul**	**144.91**	**278**			**PKPab**	**12 41 46.6**	**-1.5**
CHTO	**Chiang Mai**	**145.62**	**32**	PKIKP		**PKPdf**	**12 41 49.2**	**-0.6**
CHTO	**Chiang Mai**	**145.62**	**32**			**PKPdf**	**12 41 49.2**	**-0.6**
SSLB	**Suanglung**	**145.66**	**354**	PKPdf		**PKPdf**	**12 41 48.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**145.91**	**32**	PKPbc		**PKPdf**	**12 41 50.4**	**+0.1**
	comp=Z,8.1nm,0.6s,baz=312,slow=5.4,SNR=36							
CMAR	**Chiang Mai Arr**	**145.91**	**32**	PKPdf		**PKPdf**	**12 41 50.5**	**+0.2**
STKA	**Stephens Creek**	**149.15**	**223**	PKP		**PKPdf**	**12 41 55.1**	**-0.1**
	comp=Z,4.7nm,0.6s,baz=170,slow=3.6,SNR=7.2							
STKA				PKPbc		**PKPbc**	**12 41 59.4**	**-0.2**
	comp=Z,4.7nm,0.6s,baz=87,slow=3.0,SNR=6.2							
AS31	**Alice Springs**	**159.53**	**228**	PKPdf		**PKPdf**	**12 42 09.2**	**-0.8**
ASAR	**Alice Springs**	**159.53**	**228**	PKP		**PKPdf**	**12 42 09.7**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=117,slow=1.3,SNR=45							
ASAR				PKPab		**sPKPdf**	**12 42 46.0**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=115,slow=4.1,SNR=11							
WRA	**Warramunga Arr**	**161.16**	**238**	PKP		**PKPdf**	**12 42 11.5**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=108,slow=0.8,SNR=23							
WRA				PKPab		**PKPab**	**12 42 53.5**	**-2.1**
	comp=Z,2.2nm,0.7s,baz=119,slow=2.2,SNR=6.6							

*IDC **07** 12:22:58.3±28.0,23.05S×179.39E,h437km±283km, mb3.5/3,mb1 3.7/3,mb1mx3.2/21,mbtmp4.3/3,Error ellipse: s-maj=151.3km s-min=115.8km az=50.0*
*NOU **07** 12:23:09.2,23.62S×179.24E,h551km,mb4.3/10,South of Fiji Islands*
ISC 07 12:23:06.5±1.3,**23.73S**±0.10×**179.6E**±0.2,**h548**km,**n32,** σ1§**85**/36,**mb3.9**/3,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**11.26**	**273**	P	**P**	**12 25 36.4**	**-0.9**
OUZ	**Omahuta**	**12.59**	**203**	P	**P**	**12 25 53.5**	**+2.5**
OUZ	**Omahuta**	**12.59**	**203**	P	**P**	**12 25 53.9**	**+2.9**
WCZ	**Waipu Caves**	**13.00**	**199**	P	**P**	**12 25 58.3**	**+3.2**
KUZ	**Kuaotunu**	**13.40**	**194**	P	**P**	**12 26 01.7**	**+2.4**
RVAZ	**Riverhead Bore**	**13.71**	**197**	P	**P**	**12 26 05.2**	**+2.8**
ETAZ	**East Tamaki Re**	**13.79**	**196**	P	**P**	**12 26 06.2**	**+2.9**
MXZ	**Matakaoa Point**	**13.84**	**184**	P	**P**	**12 26 05.2**	**+1.4**
WTAZ	**Waiatarua**	**13.86**	**197**	P	**P**	**12 26 06.9**	**+2.9**
AWAZ	**Awhitu Peninsu**	**13.97**	**197**	P	**P**	**12 26 07.6**	**+2.5**
HAZ	**Te Kaha**	**14.07**	**186**	P	**P**	**12 26 06.0**	**-0.2**
HAZ				S	**S**	**12 28 34.3**	**0.0**
PKGZ	**Pakihiroa**	**14.18**	**185**	P	**P**	**12 26 07.0**	**-0.4**
RUGZ	**Raukumara Rang**	**14.29**	**186**	P	**P**	**12 26 10.1**	**+1.5**
RUGZ				S	**S**	**12 28 35.0**	**-3.6**
PUZ	**Puketiti**	**14.35**	**184**	P	**P**	**12 26 09.0**	**-0.1**
PUZ				S	**S**	**12 28 39.8**	**+0.2**
TWGZ	**Tauwhareparae**	**14.47**	**185**	P	**P**	**12 26 10.6**	**+0.2**
MWZ	**Matawai**	**14.67**	**187**	P	**P**	**12 26 12.0**	**-0.4**
MWZ				S	**S**	**12 28 44.5**	**-1.2**
CNGZ	**Carnagh Statio**	**14.76**	**184**	P	**P**	**12 26 14.6**	**+1.3**
RIGZ	**Rimuhau**	**15.02**	**186**	P	**P**	**12 26 16.0**	**0.0**
BKZ	**Black Stump Fm**	**15.62**	**189**	P	**P**	**12 26 24.1**	**+1.9**
QRZ	**Quartz Range**	**18.06**	**198**	P	**P**	**12 26 48.0**	**+3.2**
KHZ	**Kahutara**	**19.31**	**194**	P	**P**	**12 26 58.7**	**+2.6**
	48nm,2.2s						
MGCD	**Mangrove Creek**	**26.72**	**243**	P	**P**	**12 28 03.1**	**+0.7**
CNB	**Canberra Magne**	**28.64**	**239**	P	**P**	**12 28 19.9**	**+0.6**
CAN	**Canberra**	**28.93**	**239**	P	**P**	**12 28 22.2**	**+0.4**
CMSA	**Cobar Meteorol**	**30.96**	**248**	P	**P**	**12 28 38.6**	**-0.7**
STKA	**Stephens Creek**	**34.47**	**248**	P	**P**	**12 29 08.3**	**-0.7**
	4.2nm,0.5s,baz=92,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**41.72**	**261**	P	**P**	**12 30 06.6**	**-1.5**
	3.4nm,0.8s,baz=89,slow=7.7,SNR=40						
WRA	**Warramunga Arr**	**42.07**	**266**	P	**P**	**12 30 08.9**	**-1.9**
	1.1nm,0.3s,baz=101,slow=8.3,SNR=133						
FINES	**FINESS Array B**	**138.17**	**341**	PKP	**PKiKP**	**12 41 31.3**	**+0.3**
	1.4nm,0.7s,baz=1.9,slow=4.2,SNR=1.6						
AKASG	**Malin Array Be**	**144.64**	**327**	PKP	**PKPab**	**12 41 41.6**	**+0.1**
	1.2nm,0.5s,baz=46,slow=4.3,SNR=9.9						
BRTR	**Keskin Array B**	**147.20**	**307**	PKPbc	**PKPbc**	**12 41 49.5**	**+0.8**
	0.8nm,0.5s,baz=150,slow=3.2,SNR=2.2						
EKA	**Eskdalemuir Ar**	**148.37**	**3**	PKPbc	**PKPbc**	**12 41 51.6**	**+0.7**
	0.3nm,0.3s,baz=344,slow=2.9,SNR=5.2						

*KRSC **07** 12:41:21.4±1.0,53.82N×159.17E,h177km±9km,ML4.0*
*IDC **07** 12:41:22.9±1.2,53.53N×158.86E,h184km±7km,mb3.0/3, mb1 3.1/4,mb1mx2.9/45,mbtmp3.6/4,Error ellipse: s-maj=26.8km s-min=21.6km az=35.0*
ISC 07 12:41:22.4±0.8,**53.82N**±0.05×**159.09E**±0.07,**h177**km±7km, **n37,** σ0§**91**/51,**mb3.2**/3,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.30**	**45**	*e*P	**Pn**	**12 41 46.2**	**0.0**
KRER	**Koryakskii**	**0.56**	**201**	*e*P	**Pn**	**12 41 47.9**	**+0.6**
SDLR	**Sedlovina**	**0.56**	**193**	*e*P	**Pn**	**12 41 47.7**	**+0.5**
SMAR	**Somma**	**0.59**	**197**	*e*P	**Pn**	**12 41 48.0**	**+0.5**
SMAR				*e*S	**Sn**	**12 42 07.0**	**+0.3**
AVH	**Avacha**	**0.60**	**201**	*e*P	**Pn**	**12 41 48.1**	**+0.7**
KOK	**Koryaka**	**0.60**	**207**	*e*P	**Pn**	**12 41 48.0**	**+0.6**
UGR	**Uglovaya**	**0.64**	**195**	*e*P	**Pn**	**12 41 48.3**	**+0.7**
NLC	**Nalytchevo**	**0.67**	**167**	*e*P	**Pn**	**12 41 48.0**	**+0.4**
NLC				*e*S	**Sn**	**12 42 07.0**	**0.0**
GNL	**Ganaly**	**0.69**	**260**	*e*P	**Pn**	**12 41 47.6**	**-0.3**
DALK	**Dalny**	**0.82**	**194**	*e*P	**Pn**	**12 41 48.9**	**+0.4**
PET	**Petropavlovsk**	**0.84**	**198**	*e*P	**Pn**	**12 41 49.1**	**+0.5**
PET				*e*S	**Sn**	**12 42 08.8**	**0.0**
SPN	**Mys Shipunski**	**0.92**	**142**	*i* P	**Pn**	**12 41 49.2**	**+0.1**
SPN				*e*S	**Sn**	**12 42 09.0**	**-0.7**
PETK	**Petropavlovsk-**	**1.10**	**230**	P	**Pn**	**12 41 50.6**	**+0.1**
	6.3nm,0.3s,baz=67,slow=11,SNR=39						
PETK				S	**Sn**	**12 42 10.9**	**-1.3**
	3.7nm,0.3s,baz=60,slow=32,SNR=12						
KRMR	**Karymshinskiy**	**1.15**	**210**	*i* P	**Pn**	**12 41 51.4**	**+0.5**
KRMR				*e*S	**Sn**	**12 42 13.1**	**+0.2**
GRL	**Gorelyy**	**1.41**	**206**	*e*P	**Pn**	**12 41 54.6**	**+1.2**
GRL				*e*S	**Sn**	**12 42 19.1**	**+1.8**
RUS	**Russkaya**	**1.44**	**194**	*e*P	**Pn**	**12 41 53.7**	**+0.3**
RUS				*e*S	**Sn**	**12 42 16.8**	**-0.6**
MTVR	**Mutnovka**	**1.45**	**202**	*e*P	**Pn**	**12 41 55.1**	**+1.3**
MTVR				*e*S	**Sn**	**12 42 19.5**	**+1.6**
APC	**Apacha**	**1.47**	**233**	*e*P	**Pn**	**12 41 54.2**	**+0.5**
APC				*e*S	**Sn**	**12 42 18.0**	**+0.1**
TUMD	**Tumrok D**	**1.58**	**28**	*e*P	**Pn**	**12 41 55.3**	**+0.5**
TUMD				*e*S	**Sn**	**12 42 19.8**	**-0.2**
TUMR	**Tumrok**	**1.59**	**22**	*e*P	**Pn**	**12 41 55.8**	**+0.8**
TUMR				*e*S	**Sn**	**12 42 20.5**	**+0.2**
ASAK	**Asacha**	**1.61**	**207**	*e*P	**Pn**	**12 41 56.3**	**+1.1**
ASAK				*e*S	**Sn**	**12 42 21.7**	**+1.1**
MKZ	**Mys Kozlova**	**1.72**	**64**	*e*P	**Pn**	**12 41 56.5**	**+0.4**
MKZ				*e*S	**Sn**	**12 42 20.6**	**-1.7**
KMNR	**Kamenistaya**	**2.05**	**18**	*e*P	**Pn**	**12 42 00.8**	**+0.6**
MIPR	**Malaya Ipel'ka**	**2.09**	**223**	*e*P	**Pn**	**12 42 00.8**	**+0.6**
KDTR	**Khodutka, Kamc**	**2.11**	**197**	*e*P	**Pn**	**12 42 00.3**	**-0.1**
KDTR				*e*S	**Sn**	**12 42 28.6**	**-1.2**
ESO	**Esso**	**2.12**	**354**	*e*P	**Pn**	**12 42 00.9**	**+0.5**
KLY	**Klyuchi**	**2.65**	**19**	*e*P	**Pn**	**12 42 08.1**	**+1.6**
BDR	**Baidarnaya**	**3.01**	**23**	*e*P	**Pn**	**12 42 12.2**	**+1.3**
KBG	**Krutoberegovo**	**3.20**	**39**	*e*P	**Pn**	**12 42 13.3**	**+0.1**
KBG				*e*S	**Sn**	**12 42 52.4**	**-0.6**
KBTR	**Krutoberegovo**	**3.21**	**40**	*e*P	**Pn**	**12 42 13.5**	**+0.1**
KBTR				*e*S	**Sn**	**12 42 52.2**	**-1.0**
ASAJ	**Asahikawa**	**14.51**	**235**	P	**Pn**	**12 44 37.8**	**-1.6**
	0.1nm,0.3s,baz=342,slow=20,SNR=1.6						
ILAR	**Eielson Array**	**28.73**	**46**	P	**P**	**12 47 05.2**	**+2.4**
	0.2nm,0.5s,baz=262,slow=6.3,SNR=1.7						
SONM	**Songino Array**	**33.16**	**282**	P	**P**	**12 47 41.2**	**-0.6**
	0.4nm,0.7s,baz=65,slow=6.8,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**34.56**	**167**	T	T	13 24 15.4	
	baz=349						
H11N3	**WAKE ISLAND Hy**	**34.57**	**167**	T	T	13 24 19.1	
	baz=349						
H11N1	**WAKE ISLAND Hy**	**34.57**	**167**	T	T	13 24 23.3	
	baz=349						
MKAR	**Makanchi Array**	**47.30**	**294**	P	**P**	**12 49 36.9**	**-0.8**
	0.8nm,0.5s,baz=59,slow=7.5,SNR=12						

*IDC **07** 12:54:12.9±1.4,35.78N×4.66W,h0km,mb3.5/2,mb1 3.5/4, mb1mx3.3/50,mbtmp3.3/4,ML3.1/2,MS3.4/1,Ms1 3.4/1, ms1mx2.6/67,Error ellipse: s-maj=60.0km s-min=14.1km az=89.0*
*IGIL **07** 12:54:14.3,35.58N×3.57W,h13km,ML3.1*
*CNRM **07** 12:54:14.4,35.65N×3.60W,h23km,ml3.4*
*SFS **07** 12:54:15.0,35.58N×3.56W,h27km,ML3.2,ALBORAN SUR*
*INMG **07** 12:54:15.4±1.4,35.61N×3.53W,h31km,ML3.0,Error ellipse: s-maj=3.2km s-min=2.3km az=4.0*
*MDD **07** 12:54:15.1±0.4,35.58N×3.57W,h27km±5km,mb_Lg3.2/23, Error ellipse: s-maj=4.3km s-min=2.0km az=170.0*
ISC 07 12:54:14.4±0.8,**35.69N**±0.02×**3.58W**±0.02,**h20**km±6km, **n80,** σ1§**41**/139,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.51**	**60**	Pg	**Pb**	**12 54 24.9**	**+0.3**
EALB				Sg	**Sn**	**12 54 33.5**	**-1.2**
EALB				*i* Vmb_Lg		12 54 34.5	
PALE	**Palemas**	**0.55**	**212**	P	**Pb**	**12 54 25.1**	**-0.4**
PALE				S	**Sb**	**12 54 32.4**	**-0.6**
EMEL	**Melilla**	**0.64**	**127**	Pg	**Pb**	**12 54 26.4**	**-0.5**
EMEL				Sg	**Sb**	**12 54 34.9**	**-0.5**
GOG	**Mont Gurugu**	**0.67**	**134**	P	**Pb**	**12 54 26.8**	**-0.6**
GOG				S	**Sb**	**12 54 35.7**	**-0.6**
PVLZ	**Peæn de**	**0.78**	**229**	P	**Pb**	**12 54 28.7**	**-0.5**
PVLZ				S	**Sb**	**12 54 38.7**	**-0.7**
ELGU	**Los Guajares,**	**1.18**	**358**	Pn	**Pn**	**12 54 35.2**	**-0.6**
ELGU				Sn	**Sb**	**12 54 51.4**	**+0.4**
ELGU				*i* Vmb_Lg		12 54 58.1	
EMAL	**Malaga-Limoner**	**1.27**	**328**	P	**Pn**	**12 54 36.5**	**-0.5**
EMAL				S	**Sn**	**12 54 51.3**	**-2.3**
TAF	**Taforalt**	**1.29**	**132**	P	**Pn**	**12 54 36.2**	**-1.1**
TAF				S	**Sb**	**12 54 55.1**	**+0.9**
EMIJ	**Mijas**	**1.30**	**313**	Pn	**Pn**	**12 54 36.6**	**-0.9**
EMIJ				Sn	**Sn**	**12 54 52.9**	**-1.4**
EMIJ				*i* Vmb_Lg		12 54 58.6	
EBER	**Berja**	**1.33**	**25**	Pn	**Pn**	**12 54 37.0**	**-1.0**
EBER				Sn	**Sn**	**12 54 54.7**	**-0.5**
EBER				*i* Vmb_Lg		12 55 08.1	
SMIR	**Smir Dam**	**1.47**	**270**	P	**Pn**	**12 54 37.9**	**-1.7**
SMIR				S	**Sn**	**12 54 57.1**	**-1.2**
ECEU	**Ceuta**	**1.48**	**279**	Pn	**Pn**	**12 54 38.4**	**-1.5**
ECEU				Sn	**Sn**	**12 54 56.1**	**-2.4**
ECEU				*i* Vmb_Lg		12 54 58.3	
EGOR	**Sierra Gorda,**	**1.48**	**343**	Pn	**Pn**	**12 54 39.8**	**-0.3**
EGOR				Sn	**Sb**	**12 54 59.9**	**+0.1**
EGOR				*i* Vmb_Lg		12 55 08.1	
EQUE	**Quentar**	**1.52**	**4**	Pn	**Pb**	**12 54 41.6**	**-0.4**
EQUE				Sn	**Sn**	**12 55 00.1**	**+0.4**
EQUE				*i* Vmb_Lg		12 55 09.7	
CHEFC	**Chefchaouen**	**1.55**	**249**	P	**Pn**	**12 54 41.0**	**+0.1**
CHEFC	**Chefchaouen**	**1.55**	**249**	P	**Pn**	**12 54 40.8**	**-0.1**
CHEFC				S	**Sb**	**12 55 02.9**	**+1.3**
JBK	**JBK**	**1.58**	**148**	P	**Pb**	**12 54 44.0**	**+1.0**
JBK	**JBK**	**1.58**	**148**	P	**Pn**	**12 54 40.4**	**-1.1**
JBK				S	**Sn**	**12 54 59.7**	**-1.8**
ENIJ	**Nijar**	**1.69**	**40**	Pn	**Pn**	**12 54 42.4**	**-0.5**
ENIJ				Sn	**Sn**	**12 55 03.0**	**-1.0**
ENIJ				*i* Vmb_Lg		12 55 17.7	
EJIF	**Jimena Fronter**	**1.71**	**297**	Pn	**Pn**	**12 54 43.2**	**+0.1**
EJIF				Sn	**Sn**	**12 55 03.5**	**-0.8**
ESPR	**Espera**	**2.19**	**303**	Pn	**Pn**	**12 54 50.4**	**+0.8**
ESPR				Sn	**Sn**	**12 54 16.5**	**-1.4**
ESPR				*i* Vmb_Lg		12 55 26.2	
LCRM	**LCR**	**2.26**	**208**	P	**Pn**	**12 54 50.5**	**-0.2**
LCRM				S	**Sb**	**12 55 21.0**	**-1.1**
EADA	**Adamuz**	**2.60**	**342**	Pn	**Pn**	**12 54 56.8**	**+1.5**
EADA				Sn	**Sn**	**12 55 25.1**	**-1.3**
EADA				*i* Vmb_Lg		12 55 37.1	
EZAR	**Zarzadilla de**	**2.66**	**34**	Pn	**Pn**	**12 54 56.4**	**+0.2**
EZAR				Sn	**Sn**	**12 55 25.7**	**-2.1**
ECAB	**El Cabril**	**2.80**	**329**	Pn	**Pn**	**12 54 59.6**	**+1.5**
ECAB				Sn	**Sn**	**12 55 30.5**	**-0.8**
ECAB				*i* Vmb_Lg		12 55 43.8	
CART	**Cartagena**	**2.81**	**47**	P	**Pn**	**12 54 57.7**	**-0.5**
CART				S	**Sn**	**12 55 28.7**	**-2.7**
CZD	**Col de Zad**	**2.91**	**205**	P	**Pn**	**12 55 01.0**	**+1.2**
CZD	**Col de Zad**	**2.91**	**205**	P	**Pn**	**12 55 00.6**	**+0.8**
CZD				S	**Sn**	**12 55 32.7**	**-1.7**
MD31	**MD31**	**2.98**	**199**	P	**Pn**	**12 54 60.0**	**-0.5**
MD31				S	**Sn**	**12 55 36.4**	**+0.8**
MDT	**Midelt**	**2.99**	**197**	Pn	**Pn**	**12 55 01.8**	**+1.1**
	1.4nm,0.3s,baz=190,slow=9.0,SNR=41						
MDT				Lg	Lg	12 55 45.5	
	7.5nm,0.3s,baz=42,slow=8.3,SNR=5.7						
MDT	**Midelt**	**2.99**	**197**	P	**Pn**	**12 55 01.2**	**+0.5**
MDT				S	**Sn**	**12 55 36.9**	**+0.9**
EMIN	**Mina Concepcio**	**3.24**	**311**	Pn	**Pn**	**12 55 04.0**	**0.0**
EMIN				Sn	**Sn**	**12 55 39.5**	**-2.5**
EMIN				*i* Vmb_Lg		12 55 44.0	
ETOB	**Tobarra**	**3.37**	**28**	Pn	**Pn**	**12 55 07.9**	**+2.0**
ETOB				Sn	**Sn**	**12 55 43.7**	**-1.7**
ETOB				*i* Vmb_Lg		12 56 03.3	
ZHG	**ZHG**	**3.37**	**229**	P	**Pn**	**12 55 06.0**	**0.0**
ZHG				S	**Sn**	**12 55 45.9**	**+0.5**
EGRO	**El Granado**	**3.64**	**302**	Pn	**Pn**	**12 55 09.7**	**+0.1**
EGRO				Sn	**Sn**	**12 55 49.8**	**-2.1**
EGRO				*i* Vmb_Lg		12 55 54.2	
PBAR	**Barrancos**	**3.72**	**313**	*e*Pn	**Pn**	**12 55 11.0**	**+0.3**
PBAR				*e*Sn	**Sn**	**12 55 53.1**	**-0.8**
PBAR				A	A	12 55 59.8	
	18nm,0.6s						
PVAQ	**Vaqueiros**	**3.75**	**298**	*e*Pn	**Pn**	**12 55 11.1**	**+0.1**
PVAQ				*e

PVRL				*e*Sn		**Sn**	**12 56 58.7**	**-2.6**
PVRL				A		A	12 57 06.2	
	comp=N,12nm,0.3s							
POLO	**Lamas de Olo**	**6.57**	**331**	*e*Pn		**Pn**	**12 55 52.1**	**+2.2**
ELOB	**Lobios**	**7.09**	**332**	Pn		**Pn**	**12 55 57.4**	**+0.3**
ELOB				Sn		**Sn**	**12 57 12.8**	**-4.3**
DAVOX	**Davos/Dischmat**	**14.99**	**38**	LR		LR	13 04 07.0	
	comp=N,148nm,21.3s,baz=253,slow=38							
TORD	**Torodi Ar. Bea**	**22.94**	**167**	P		**P**	**12 59 22.9**	**+5.5**
	comp=N,0.7nm,0.7s,baz=348,slow=10,SNR=5.3							
YKA	**Yellowknife Ar**	**67.74**	**332**	P		**P**	**13 05 07.9**	**-2.1**
	comp=N,0.4nm,0.6s,baz=47,slow=9.3,SNR=4.5							

*NOU **07** 12:58:26.8, 39˚.71S×173˚.89E, h264km, MLv3.8/8, Off W. Coast of N. Island, N.Z.*
WEL 07 12:58:30.4±0.7, 40˚S±.5˚×17˚4E±˚, h230km±6km, M2.9/31, ML2.5/8, MLv2.9/31, Error ellipse: s-maj=0.0km s-min=0.0km az=110.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NMEZ	**Namu Road**	**0.37**	**353**	P		Pn	12 59 01.5	+0.8
NMEZ				S		S	12 59 26.0	+1.7
PREZ	**Palmer Road**	**0.47**	**21**	P		Pn	12 59 01.6	+0.6
LREZ	**Lake Rotokare**	**0.48**	**48**	P		Pn	12 59 01.8	+0.8
LREZ				S		S	12 59 26.6	+1.8
KHEZ	**Kahui Hut**	**0.49**	**7**	P		Pn	12 59 01.8	+0.6
NBEZ	**Newall Road No**	**0.52**	**354**	P		Pn	12 59 01.8	+0.7
NEZ	**North Egmont**	**0.52**	**13**	P		Pn	12 59 02.3	+1.0
PKE	**Pukeiti**	**0.59**	**4**	P		Pn	12 59 01.9	+0.5
DREZ	**Durham Road**	**0.62**	**19**	P		Pn	12 59 01.8	+0.3
MHEZ	**Mangahewa**	**0.76**	**23**	P		Pn	12 59 03.0	+0.9
WAZ	**Wanganui**	**0.81**	**89**	P		Pn	12 59 03.5	+1.2
WAZ				S		S	12 59 28.9	+1.8
VRZ	**Vera Road**	**0.91**	**44**	P		Pn	12 59 02.7	-0.1
VRZ				S		S	12 59 28.3	+0.2
DUWZ	**D'Urville Isla**	**1.02**	**181**	P		Pn	12 59 04.0	+0.5
DUWZ				S		S	12 59 29.4	0.0
OHWZ	**Ohakea**	**1.14**	**112**	P		Pn	12 59 05.2	+1.1
OHWZ				S		S	12 59 31.7	+1.1
PKVZ	**Pokaka**	**1.19**	**66**	P		Pn	12 59 04.7	+0.1
KIW	**Kapiti Island**	**1.31**	**146**	P		Pn	12 59 05.5	+0.2
KIW				S		S	12 59 32.1	-0.7
TRVZ	**Turoa**	**1.33**	**69**	P		Pn	12 59 05.9	+0.1
FWVZ	**Far West T-bar**	**1.35**	**68**	P		Pn	12 59 06.0	0.0
TWVZ	**Taurewa**	**1.36**	**59**	P		Pn	12 59 05.5	-0.4
WNVZ	**Wahianoa**	**1.36**	**71**	P		Pn	12 59 06.1	+0.2
OGWZ	**Otaki Gorge**	**1.40**	**138**	P		Pn	12 59 06.5	+0.5
OGWZ				S		S	12 59 33.8	-0.1
NGZ	**Ngauruhoe**	**1.42**	**65**	P		Pn	12 59 06.4	0.0
TUVZ	**Tukino**	**1.42**	**69**	P		Pn	12 59 06.8	+0.4
WTVZ	**West Tongariro**	**1.44**	**63**	P		Pn	12 59 06.6	0.0
SNVZ	**South Ngauruho**	**1.44**	**66**	P		Pn	12 59 06.9	+0.3
MOVZ	**Moawhango**	**1.45**	**76**	P		Pn	12 59 06.2	-0.3
NNVZ	**North Ngauruho**	**1.45**	**76**	P		Pn	12 59 06.3	-0.1
TCW	**Tory Channel**	**1.45**	**170**	P		Pn	12 59 05.9	+0.5
HIZ	**Hauiti**	**1.45**	**30**	P		Pn	12 59 05.9	-0.6
HIZ	**Hauiti**	**1.45**	**30**	P		Pn	12 59 05.9	-0.6
TKNZ	**Takaka Hill**	**1.46**	**211**	P		Pn	12 59 06.5	0.0
OTVZ	**Oturere**	**1.47**	**66**	P		Pn	12 59 06.9	+0.1
KRVZ	**Karewarewa**	**1.48**	**63**	P		Pn	12 59 06.9	0.0
NNZ	**Nelson**	**1.50**	**196**	P		Pn	12 59 06.9	+0.1
QRZ	**Quartz Range**	**1.50**	**225**	P		Pn	12 59 06.5	-0.3
QRZ	**Quartz Range**	**1.50**	**225**	P		Pn	12 59 06.7	-0.1
ETVZ	**East Tongariro**	**1.52**	**65**	P		Pn	12 59 07.1	0.0
TMVZ	**Te Maari**	**1.52**	**65**	P		Pn	12 59 07.4	+0.3
MRZ	**Mangatainoka R**	**1.53**	**126**	P		Pn	12 59 07.2	+0.1
TSZ	**Takapari Road**	**1.58**	**101**	P		Pn	12 59 07.8	+0.2
CAW	**Cannon Point**	**1.58**	**147**	P		Pn	12 59 07.7	+0.3
KATZ	**Kakaramea**	**1.58**	**60**	P		Pn	12 59 07.8	+0.1
TUWZ	**Tuamarina**	**1.65**	**180**	P		Pn	12 59 08.1	+0.1
BHHZ	**Black Hill Sta**	**1.67**	**81**	P		Pn	12 59 07.8	-0.5
RATZ	**Rangitukua**	**1.69**	**58**	P		Pn	12 59 08.3	-0.2
RITZ	**Rihia Road**	**1.69**	**62**	P		Pn	12 59 08.6	+0.1
PRWZ	**Pori Road**	**1.74**	**117**	P		Pn	12 59 09.4	+0.6
PNHZ	**Pukenui**	**1.75**	**95**	P		Pn	12 59 09.1	+0.2
WATZ	**Wairara**	**1.76**	**53**	P		Pn	12 59 08.9	-0.1
DVHZ	**Dannevirke**	**1.79**	**108**	P		Pn	12 59 09.4	+0.2
MTW	**Mount Morrison**	**1.82**	**140**	P		Pn	12 59 09.5	0.0
MRNZ	**Matariki Terra**	**1.85**	**209**	P		Pn	12 59 09.4	-0.4
KRHZ	**Kereru**	**1.88**	**87**	P		Pn	12 59 10.2	+0.1
HATZ	**Hinemaiaia**	**1.89**	**63**	P		Pn	12 59 09.5	-0.8
TLZ	**Tolley Road**	**1.91**	**41**	P		Pn	12 59 09.4	-1.1
MSWZ	**Moikau Station**	**1.91**	**149**	P		Pn	12 59 10.4	0.0
BSWZ	**Blackbirch Sta**	**1.93**	**181**	P		Pn	12 59 10.9	+0.4
WPHZ	**Waipukurau**	**1.94**	**99**	P		Pn	12 59 11.0	+0.3
KWHZ	**Kaweka Forest**	**1.95**	**80**	P		Pn	12 59 11.1	+0.2
KUTZ	**Kaahu Road**	**1.95**	**49**	P		Pn	12 59 10.5	-0.4
BFZ	**Birch Farm**	**1.98**	**118**	P		Pn	12 59 11.0	0.0
BFZ	**Birch Farm**	**1.98**	**118**	P		Pn	12 59 10.9	-0.1
TMWZ	**Te Maipa**	**1.99**	**132**	P		Pn	12 59 11.2	0.0
PLWZ	**Palliser**	**2.05**	**151**	P		Pn	12 59 11.7	0.0
ANWZ	**Angora Road**	**2.06**	**110**	P		Pn	12 59 12.1	+0.4
BKZ	**Black Stump Fm**	**2.07**	**74**	P		Pn	12 59 11.5	-0.5
BKZ	**Black Stump Fm**	**2.07**	**74**	P		Pn	12 59 11.4	-0.6
TRWZ	**Traveller**	**2.09**	**141**	P		Pn	12 59 12.2	+0.1
PRHZ	**Porangahau**	**2.13**	**104**	P		Pn	12 59 12.7	+0.2
THZ	**Tophouse**	**2.13**	**201**	P		Pn	12 59 12.1	-0.4
WPRZ	**Whakapapataran**	**2.14**	**55**	P		Pn	12 59 11.8	-0.9
MRHZ	**Matea Rd**	**2.14**	**65**	P		Pn	12 59 11.6	-1.1
MCHZ	**McNeill Hill**	**2.16**	**82**	P		Pn	12 59 13.3	+0.6
PXZ	**Pawanui**	**2.26**	**97**	P		Pn	12 59 13.9	+0.1
KAHZ	**Kahuranaki**	**2.26**	**91**	P		Pn	12 59 14.3	+0.5
NMHZ	**Naumai**	**2.32**	**74**	P		Pn	12 59 14.8	+0.3
TOZ	**Tahuroa Road**	**2.38**	**31**	P		Pn	12 59 14.0	-1.1
ARHZ	**Aropaoanui**	**2.42**	**79**	P		Pn	12 59 15.6	+0.2
CKHZ	**Cape Kidnapper**	**2.42**	**88**	P		Pn	12 59 15.8	+0.4
NGRZ	**Ngongotaha**	**2.42**	**47**	P		Pn	12 59 13.6	-1.8
MTHZ	**Maungataniwha**	**2.43**	**69**	P		Pn	12 59 14.8	-0.8
MUGZ	**Murupara**	**2.56**	**60**	P		Pn	12 59 15.3	-1.6
RAHZ	**Arahi**	**2.59**	**72**	P		Pn	12 59 16.9	-0.4
RTZ	**Ruatahuna**	**2.63**	**65**	P		Pn	12 59 16.5	-1.2
WHHZ	**Waihua**	**2.65**	**76**	P		Pn	12 59 15.7	-2.1
KHZ	**Kahutara**	**2.65**	**186**	P		Pn	12 59 16.7	-1.0
KHZ	**Kahutara**	**2.65**	**186**	P		Pn	12 59 16.9	-0.8
SNGZ	**Shannon Statio**	**2.82**	**70**	P		Pn	12 59 18.9	-0.8
URZ	**Urewera**	**2.90**	**59**	P		Pn	12 59 18.6	-2.0
URZ	**Urewera**	**2.90**	**59**	P		Pn	12 59 18.6	-2.0
KNZ	**Kokohu**	**2.99**	**77**	P		Pn	12 59 20.8	-0.7
MHGZ	**Mahia Peninsul**	**3.13**	**80**	P		Pn	12 59 22.9	-0.3
MWZ	**Matawai**	**3.15**	**64**	P		Pn	12 59 21.7	-1.7
RIGZ	**Rimuhau**	**3.16**	**71**	P		Pn	12 59 22.6	-0.9
PRGZ	**Paritu Road**	**3.17**	**76**	P		Pn	12 59 23.2	-0.5
LTZ	**Lake Taylor**	**3.25**	**202**	P		Pn	12 59 23.1	-1.4
GVZ	**Greta Valley S**	**3.26**	**192**	P		Pn	12 59 22.9	-1.7
TKGZ	**Te Karaka**	**3.32**	**67**	P		Pn	12 59 24.3	-1.0
RUGZ	**Raukumara Rang**	**3.43**	**59**	P		Pn	12 59 24.1	-2.7
AMCZ	**Amberley**	**3.53**	**196**	P		Pn	12 59 26.0	-1.7
TWGZ	**Tauwhareparae**	**3.53**	**64**	P		Pn	12 59 26.6	-1.3
CNGZ	**Carnagh Statio**	**3.56**	**70**	P		Pn	12 59 27.5	-0.6
PKGZ	**Pakihiroa**	**3.74**	**61**	P		Pn	12 59 28.5	-1.9
PUZ	**Puketiti**	**3.77**	**64**	P		Pn	12 59 28.7	-2.0
OXZ	**Oxford**	**3.82**	**201**	P		Pn	12 59 28.8	-2.3
OKCZ	**Okains Bay**	**3.99**	**189**	P		Pn	12 59 31.0	-2.2
WMGZ	**Waiomatatini S**	**4.01**	**62**	P		Pn	12 59 31.7	-1.7
MQZ	**McQueen's Vall**	**4.04**	**193**	P		Pn	12 59 30.8	-2.9
WVZ	**Waitaha Valley**	**4.08**	**215**	P		Pn	12 59 32.1	-2.1
AKCZ	**Akaroa Harbour**	**4.16**	**190**	P		Pn	12 59 32.7	-2.5
RACZ	**Rakaia**	**4.17**	**198**	P		Pn	12 59 33.2	-2.1
WACZ	**Wakanui South**	**4.45**	**200**	P		Pn	12 59 37.4	-1.2
GCSZ	**Gaunt Creek Bo**	**4.45**	**216**	P		Pn	12 59 36.8	-1.9
RPZ	**Rata Peaks**	**4.48**	**208**	P		Pn	12 59 37.0	-2.1
RPZ	**Rata Peaks**	**4.48**	**208**	P		Pn	12 59 37.1	-2.1
ARCZ	**Arundel**	**4.65**	**205**	P		Pn	12 59 38.9	-2.3
FOZ	**Fox Glacier**	**4.86**	**218**	P		Pn	12 59 40.9	-2.8
TMZ	**Timaru**	**5.09**	**204**	P		Pn	12 59 44.6	-2.0
LBZ	**Lake Benmore**	**5.38**	**210**	P		Pn	12 59 47.2	-3.1
JCZ	**Jackson Bay**	**5.76**	**220**	P		Pn	12 59 52.1	-3.0
ODZ	**Otahua Downs**	**5.80**	**204**	P		Pn	12 59 53.6	-1.8
ODZ	**Otahua Downs**	**5.80**	**204**	P		Pn	12 59 53.6	-1.9
WKZ	**Wanaka**	**6.22**	**214**	P		Pn	12 59 56.9	-4.0
EAZ	**Earnscleugh**	**6.43**	**211**	P		Pn	12 59 59.2	-4.3

IDC 07 13:00:57.3±2.9, 3.70N×124˚.39E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/35, mbtmp3.2/3, MS3.7/1, Ms1 3.7/1, ms1mx2.6/27, Error ellipse: s-maj=365.2km s-min=29.4km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.45**	**158**	P		P	13 06 26.3	-0.8
	0.5nm,0.9s,baz=336,slow=10.0,SNR=4.0							
WRA				LR		LR	13 18 37.0	
	comp=Z,177nm,18.8s,baz=70,slow=42							
ASAR	**Alice Springs**	**28.74**	**162**	P		P	13 06 57.4	+0.7
	0.3nm,0.8s,baz=340,slow=7.1,SNR=6.2							
MKAR	**Makanchi Array**	**56.27**	**326**	P		P	13 10 39.6	-0.1
	0.3nm,0.9s,baz=139,slow=6.8,SNR=2.1							

*MAN **07** 13:24:30.2, 3.23N×127˚.01E, h88km, mb5.4, ML4.3, MS4.5, Hypocentre not reviewed by the ISC*
*IDC **07** 13:24:37.0±0.6, 4.24N×126˚.65E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.1/45, mbtmp4.2/16, ML4.1/2, MS3.4/8, Ms1 3.4/8, ms1mx3.0/83, Error ellipse: s-maj=37.3km s-min=11.0km az=71.0*
*NEIC **07** 13:24:41.4±1.9, 4.42N±0.09×126˚.91E±0.06, h32km±6km, mb4.4/26, Error ellipse: s-maj=14.8km s-min=5.5km az=212.0*
*DJA **07** 13:24:41.0±0.6, 4˚N±4˚×12˚7E±˚, h18km±4km, M4.5/19, mB5.2/5, mb4.5/19, MLv4.4/11, Mw(mB)4.6/5*
ISC 07 13:24:41.8±0.4, 4.28N±0.05×126.79E±0.06, h35km, n81, σ1ᵍ53/72, mb4.3/28, MS3.3/5, 3C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.39**	**245**	P		**Pn**	**13 25 04.2**	**-0.6**
SGSI				S		**Sn**	**13 25 19.7**	**-2.2**
DDMP	**Don Marcelino,**	**2.10**	**329**	*e*P		**Pn**	**13 25 16.2**	**+1.7**
GSPH	**General Santos**	**2.56**	**314**	*e*P		**Pn**	**13 25 22.6**	**+1.6**
DAV	**Davao City (W)**	**3.02**	**337**	Pn		**Pn**	**13 25 27.0**	**-0.2**
	18nm,0.3s,baz=66,slow=21,SNR=1.1							
DAV				Lg		Lg	13 26 13.6	
	71nm,0.3s,baz=243,slow=23,SNR=2.0							
KCP	**Kidapawan**	**3.19**	**328**	*e*P		**Pn**	**13 25 32.5**	**+2.9**
KCP				*i* S		Sn	13 26 21.7	+15
TNTI	**Ternate**	**3.54**	**171**			**Pn**	**13 25 35.3**	**+1.0**
TNTI	**Ternate**	**3.54**	**171**	P		**Pn**	**13 25 35.8**	**+1.5**
BIPH	**Bislig**	**3.90**	**354**	*e*P		Pn	13 25 44.1	+4.8
BIPH				*e*S		Sn	13 26 40.5	+17
KMSI	**Cibinong**	**4.63**	**217**	P		**Pn**	**13 25 52.4**	**+3.0**
PAGZ	**Pagadian**	**4.90**	**316**	*e*P		**Pn**	**13 25 56.3**	**+3.2**
LBMI	**Labuha**	**4.94**	**102**	P		**Pn**	**13 25 55.0**	**+1.4**
GTOI	**Gorontalo**	**5.23**	**226**	P		**Pn**	**13 25 58.1**	**+0.5**
	0.1nm314nm20nm,0.7s							
GLSP	**General Luna,**	**5.50**	**353**	*e*P		Pn	13 26 11.5	+10
MRSI	**Marisa**	**6.14**	**232**	P		**Pn**	**13 26 11.1**	**+0.9**
	0.4nm1µm110nm,0.5s							
SANI	**Sanana**	**6.34**	**187**	P		**Pn**	**13 26 11.3**	**-1.6**
	0.1nm13nm,0.9s							
LUWI	**Luwuk**	**6.64**	**217**	Pn		Pn	13 26 22.7	+5.7
LUWI	**Luwuk**	**6.64**	**217**	P		Pn	13 26 34.3	+17
TOLI2	**Tolitoli**	**6.78**	**242**	Pn		**Pn**	**13 26 20.2**	**+1.3**
SWI	**Sorong**	**6.79**	**139**	P		**Pn**	**13 26 21.3**	**+2.2**
	0.2nm43nm,0.5s							
SIJI	**Sorong**	**6.80**	**139**	Pn		**Pn**	**13 26 20.8**	**+1.6**
	5.0nm,0.3s,baz=352,slow=14,SNR=18							
SIJI				Sn		**Sn**	**13 27 33.5**	**-2.0**
	baz=280,slow=22,SNR=0.9							
SIJI				LR		LR	13 28 24.2	
	comp=Z,60nm,18.2s,baz=2.5,slow=33							
MPSI	**Mapaga**	**7.92**	**241**	P		**Pn**	**13 26 35.2**	**+0.6**
	0.1nm16nm,0.7s							
TTSI	**Tana Toraja**	**10.07**	**224**	P		**Pn**	**13 27 05.8**	**+1.7**
	1µm18nm,0.6s							
LQP	**Lukban**	**11.05**	**332**	*e*P		Pn	13 27 28.5	+11
KAPI	**Kappang**	**11.61**	**217**	LR		LR	13 32 30.1	
	comp=Z,177nm,18.8s,baz=32,slow=41							
MTKI	**Muara Teweh, K**	**12.97**	**247**	P		**Pn**	**13 27 44.8**	**+1.0**
SBUM	**Sibu**	**14.65**	**263**	Pn		**Pn**	**13 28 09.9**	**+3.1**
JAY	**Jayapura**	**15.46**	**116**	LR		LR	13 34 05.2	
	comp=Z,118nm,19.6s,baz=5.0,slow=36							
KSM	**Kuching**	**16.69**	**261**	P		**P**	**13 28 35.8**	**+0.5**
MTN	**Manton Dam**	**17.55**	**166**	Pn		**Pn**	**13 28 40.9**	**-3.0**
TWG	**Pinlang**	**19.24**	**344**	P		**P**	**13 28 58.8**	**-4.4**
TWG				lAmb		lAmb	13 29 00.9	
	comp=Z,28nm,1.2s							
YULB	**Yu-li**	**19.72**	**345**	P		**P**	**13 29 04.7**	**-3.9**
YULB				lAmb		lAmb	13 29 28.2	
	comp=Z,12nm,0.9s							
KNRA	**Kununurra**	**19.93**	**174**			**P**	**13 29 10.3**	**-0.5**
KNRA				lAmb		lAmb	13 29 28.0	
	comp=Z,16nm,0.7s							
LEM	**Lembang**	**22.09**	**240**	LR		LR	13 38 35.3	
	comp=Z,158nm,20.9s,baz=140,slow=38							
FITZ	**Fitzroy Crossi**	**22.27**	**183**	P		**P**	**13 29 35.5**	**-0.5**
	comp=Z,4.6nm,0.5s,baz=6.3,slow=9.2,SNR=33							
FITZ	**Fitzroy Crossi**	**22.27**	**183**	P		**P**	**13 29 35.9**	**-0.2**
JOW	**Kunigami**	**22.47**	**3**	LR		LR	13 39 35.0	
	comp=Z,100nm,18.2s,baz=54,slow=40							
UBPT	**Khong Chiam**	**23.65**	**299**	P		**P**	**13 29 48.5**	**-1.7**
UBPT				lAmb		lAmb	13 29 55.6	
	comp=Z,10nm,1.0s							
PMG	**Port Moresby**	**24.44**	**124**	LR		LR	13 39 33.4	
	comp=Z,94nm,19.1s,baz=262,slow=37							
WRAB	**Tennant Creek**	**25.19**	**163**	P		**P**	**13 30 04.4**	**+0.1**
WRAB				lAmb		lAmb	13 30 08.5	
	comp=Z,9.1nm,0.7s							
WRA	**Warramunga Arr**	**25.19**	**163**	P		**P**	**13 30 04.7**	**+0.3**
	comp=Z,7.3nm,0.8s,baz=343,slow=10,SNR=59							
WB2	**Warramunga Arr**	**25.20**	**163**	P		**P**	**13 30 04.1**	**-0.3**
WB2				lAmb		lAmb	13 30 14.5	
	comp=Z,11nm,0.8s							
WR0	**Warramunga Arr**	**25.27**	**163**	P		**P**	**13 30 05.5**	**+0.5**
WR0				lAmb		lAmb	13 30 09.2	
	comp=Z,7.3nm,0.8s							
PSA00	**Pilbara Seismi**	**26.58**	**195**	P		**P**	**13 30 16.7**	**-0.2**
PSA00				lAmb		lAmb	13 30 38.9	
	comp=Z,14nm,1.1s							
MNSI	**Mandailing Nat**	**27.40**	**263**	P		P	13 30 32.7	+8.3
AS31	**Alice Springs**	**28.63**	**166**	P		**P**	**13 30 35.3**	**0.0**
ASAR	**Alice Springs**	**28.64**	**166**	P		**P**	**13 30 35.1**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=344,slow=6.8,SNR=54							
ASAR				PcP		**PcP**	**13 33 47.6**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=350,slow=1.9,SNR=2.7							
ASAR	**Alice Springs**	**28.64**	**166**	P		**P**	**13 30 34.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**30.65**	**300**	P		**P**	**13 30 53.2**	**0.0**
	comp=Z,2.3nm,0.7s,baz=114,slow=7.1,SNR=11							
CMAR				LR		LR	13 42 49.7	
	comp=Z,30nm,21.6s,baz=70,slow=36							
CHTO	**Chiang Mai**	**30.79**	**300**	P		**P**	**13 30 55.4**	**+0.9**
CHTO				lAmb		lAmb	13 31 01.5	
	comp=Z,4.5nm,0.8s							
KSRS	**Korea Array**	**33.03**	**2**	P		**P**	**13 31 14.3**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=184,slow=10,SNR=2.9							
XAN	**Xi'an**	**33.95**	**333**	P		**P**	**13 31 22.4**	**+0.4**
XAN				pP		pP	13 31 28.0	-4.1
XAN				pmax		pmax		
	comp=Z,16nm,0.8s							
FORT	**Forrest**	**34.89**	**178**	P		**P**	**13 31 29.1**	**-0.9**
EIDS	**Eidsvold**	**37.75**	**143**	P		**P**	**13 31 54.1**	**-0.6**
BBOO	**Buckleboo**	**37.92**	**167**	P		**P**	**13 31 56.5**	**+0.5**
LZH	**Lanzhou**	**38.06**	**329**	*e*P		P	13 32 01.9	+4.6
LZH				pP		sP	13 32 16.1	+4.5
LZH				sP		pP	13 32 27.8	+20
LZH				pmax		pmax		
	comp=Z,15nm,1.4s							
STKA	**Stephens Creek**	**38.62**	**160**	P		**P**	**13 32 01.9**	**0.0**
	comp=Z,10nm,0.9s,baz=345,slow=7.6,SNR=20							
STKA	**Stephens Creek**	**38.62**	**160**	P		**P**	**13 32 02.5**	**+0.6**
HHC	**Hu-ho-hao-te**	**38.89**	**342**	*e*P		P	13 32 07.8	+3.6
HHC				pmax		pmax		
	comp=Z,19nm,0.8s							
HHC				pmax		pmax		
	comp=Z,75nm,5.3s							
ARMA	**Armidale**	**41.90**	**147**	P		**P**	**13 32 29.4**	**+0.2**
KLR	**Kul'dur**	**44.98**	**5**	P		**P**	**13 32 53.6**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=155,slow=19,SNR=1.9							
PALK	**Pallekele**	**45.93**	**276**	LR		LR	13 53 55.3	
	comp=Z,120nm,18.4s,baz=183,slow=38							
SONM	**Songino Array**	**46.80**	**341**	P		**P**	**13 33 08.3**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=155,slow=7.9,SNR=5.1							
SONM	**Songino Array**	**46.80**	**341**	P		**P**	**13 33 06.0**	**-2.2**
WMQ	**Urumqi**	**52.31**	**325**	*e*P		**P**	**13 33 53.3**	**+3.1**
MK31	**Makanchi Array**	**57.14**	**325**	P		**P**	**13 34 24.1**	**-1.0**
MK31				lAmb		lAmb	13 34 26.4	
	comp=Z,1.6nm,0.7s							
MKAR	**Makanchi Array**	**57.14**	**325**	P		**P**	**13 34 25.3**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=124,slow=8.2,SNR=30							
MKAR				PcP		**PcP**	**13 35 21.0**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=133,slow=2.7,SNR=5.0							
MKAR				ScP		**ScP**	**13 39 19.6**	**+2.8**
	comp=Z,0.2nm,0.6s,baz=104,slow=5.1,SNR=5.8							
MKAR	**Makanchi Array**	**57.14**	**325**	P		**P**	**13 34 25.1**	**0.0**
KDJ	**Kajisay**	**57.97**	**318**	P		**P**	**13 34 30.9**	**-0.4**
KDJ				lAmb		lAmb	13 34 31.9	
	comp=Z,3.8nm,1.2s							
ZALV	**Zalesovo Beam**	**60.12**	**333**	P		**P**	**13 34 45.4**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=132,slow=6.2,SNR=5.6							
ZALV	**Zalesovo Beam**	**60.12**	**333**	P		**P**	**13 34 44.9**	**-0.8**
KURK	**Kurchatov**	**61.31**	**327**	P		**P**	**13 34 53.3**	**-0.5**
TIXI	**Tiksi**	**67.29**	**1**	P		**P**	**13 35 33.5**	**+0.9**
TIXI				lAmb		lAmb	13 35 36.0	
	comp=Z,3.2nm,1.1s							
NRIK	**Noril'sk**	**69.91**	**346**	P		**P**	**13 35 49.1**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=198,slow=7.8,SNR=4.1							
ABKAR	**Akbulak array**	**71.76**	**321**	P		**P**	**13 35 59.8**	**-0.8**
ABKAR				lAmb		lAmb	13 36 02.8	
	comp=Z,1.9nm,0.8s							
IMAR	**Indian Mountai**	**81.82**	**24**	P		**P**	**13 36 57.4**	**+0.3**
VNDA	**Vanda**	**83.97**	**173**	P		**P**	**13 37 07.9**	**0.0**
VNDA				lAmb		lAmb	13 37 18.5	
	comp=Z,5.3nm,1.5s							
ILAR	**Eielson Array**	**84.58**	**25**	P		**P**	**13 37 13.2**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=251,slow=5.6,SNR=2.3							
ARCES	**ARCESS Array B**	**89.95**	**340**	P		**P**	**13 37 38.2**	**+1.0**
	comp=Z,6.4nm,0.9s,baz=52,slow=7.9,SNR=4.3							
ARCES	**ARCESS Array B**	**89.95**	**340**	P		**P**	**13 37 36.3**	**-0.9**
FINES	**FINESS Array B**	**91.37**	**332**	P		**P**	**13 37 44.4**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=85,slow=4.0,SNR=4.4							
TORD	**Torodi Ar. Bea**	**122.80**	**289**	PKP		**PKPdf**	**13 43 34.5**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=51,slow=2.4,SNR=1.6							

*BGR **07** 13:39:52.0±0.0, 16˚.64S×178˚.66W, h33km*
*BJI **07** 13:40:46.1±0.0, 20˚.00S×178˚.15W, h641km, mb4.9/52, mB5.0/33*
*NEIC **07** 13:40:48.9±2.5, 20˚.1S±0˚.1×178˚.8W±0˚.1, h636km±6km, mb4.9/87, Error ellipse: s-maj=15.5km s-min=14.8km az=148.0*
*IDC **07** 13:40:49.5±0.5, 20˚.14S×178˚.88W, h644km±5km, mb4.2/41, mb1 4.3/44, mb1mx4.2/50, mbtmp5.2/44, Error ellipse: s-maj=8.4km s-min=7.0km az=154.0*
*GCMT **07** 13:40:51.9±0.3, 20˚.05S±0˚

WNVZ Wahianoa 19.72 193 P P 13 44 36.8 -1.3
PKVZ Pokaka 19.73 194 P P 13 44 38.0 -0.2
MOVZ Moawhango 19.76 193 P P 13 44 36.9 -1.5
BHHZ Black Hill Sta 19.78 192 P P 13 44 35.9 -2.7
KRHZ Kereru 19.87 191 P P 13 44 37.4 -1.9
KAHZ Kahuranaki 19.93 190 P P 13 44 38.8 -1.1
PKE Pukeiti 19.98 197 P P 13 44 40.0 +3.6
NEZ North Egmont 20.02 196 P P 13 44 42.6 +1.8
PNHZ Pukenui 20.16 191 P P 13 44 40.4 -1.5
PXZ Pawanui 20.16 190 P P 13 44 40.6 -1.3
WAZ Wanganui 20.26 194 P P 13 44 43.1 +0.3
WPHZ Waipukurau 20.27 191 P P 13 44 42.2 -0.7
TSZ Takapari Road 20.35 192 P P 13 44 42.0 -1.7
PRHZ Porangahau 20.43 190 P P 13 44 43.2 -1.1
DVHZ Dannevirke 20.54 191 P P 13 44 43.7 -1.7
ANWZ Angora Road 20.64 190 P P 13 44 45.3 -0.9
BFZ Birch Farm 20.90 191 P P 13 44 46.8 -1.7
KHZ Kahutara 23.13 195 P P 13 45 06.4 -1.8
KHZ IAmb IAmb 13 45 09.4
comp=Z,28nm,0.6s
RPZ Rata Peaks 24.99 198 P P 13 45 23.5 -1.2
comp=Z,8.8nm,0.4s,baz=38,slow=2.1,SNR=12
PAE Paea 27.68 90 eP P 13 45 47.6 -0.9
comp=Z,11nm,1.1s
PPT2 Papeete2 27.70 90 eP P 13 45 47.9 -0.9
comp=Z,34nm,1.0s
PPT Papeete 27.70 90 P P 13 45 50.0 +1.2
comp=Z,24nm,0.5s,baz=86,slow=3.7,SNR=8.3
PPTF Pamatai, Papee 27.71 90 P P 13 45 50.3 +1.4
PPTF IAmb IAmb 13 45 51.0
comp=Z,55nm,1.0s
WHZ Wether Hill Ro 27.91 200 P P 13 45 50.2 +0.1
EIDS Eidsvold 28.27 254 P P 13 45 52.4 -1.2
baz=28,SNR=6.9
EIDS Eidsvold 28.27 254 P P 13 45 53.3 -0.2
EIDS IAmb IAmb 13 45 53.9
comp=Z,20nm,0.9s
ARMA Armidale 28.59 243 P P 13 45 55.6 -0.8
baz=29,SNR=14
ARMA Armidale 28.59 243 P P 13 45 57.3 +0.9
ARMA IAmb IAmb 13 45 57.8
comp=Z,8.6nm,0.6s
PMOR Pomariorio Ree 29.82 85 eP P 13 46 07.3 +0.3
comp=Z,91nm,1.1s
VAH Vaihoa 30.02 86 eP P 13 46 08.7 +0.1
comp=Z,52nm,0.9s
RMQ Roma 30.45 252 P P 13 46 11.1 -1.1
baz=30,SNR=24
CNB Canberra Magne 31.84 235 P P 13 46 23.4 -0.6
baz=32,SNR=14
CAN Canberra 32.13 235 P P 13 46 26.7 +0.3
RABL Rabaul 32.47 295 P P 13 46 28.7 -0.8
RABL PcP PcP 13 48 57.9 +1.7
KRVT Keravat (AS076 32.53 295 P P 13 46 29.1 -0.9
comp=Z,47nm,0.3s,baz=280,slow=0.8,SNR=33
CTA Charters Tower 32.83 264 P P 13 46 32.8 +0.4
comp=Z,77nm,0.4s,baz=88,slow=10.0,SNR=478
CTAO Charters Tower 32.83 264 ⇓P P 13 46 32.8 +0.4
CMSA Cobar Meteorol 33.81 243 P P 13 46 39.5 -0.9
baz=34,SNR=38
QLP Quilpie 34.49 252 P P 13 46 45.3 -0.9
baz=35,SNR=42
PMG Port Moresby 34.59 283 P P 13 46 47.2 +0.1
comp=Z,116nm,0.9s,baz=68,slow=7.4,SNR=23
PMG Port Moresby 34.59 283 P P 13 46 47.1 0.0
PMG Port Moresby 34.59 283 ⇓P P 13 46 47.4 +0.3
MTSU Mount Surprise 34.91 267 P P 13 46 50.0 +0.2
baz=35,SNR=130
TOO Toolangi 35.54 233 P P 13 46 55.3 +0.6
baz=36,SNR=12
COEN Coen 36.87 274 P P 13 47 06.2 +0.4
STKA Stephens Creek 37.31 244 P P 13 47 09.6 +0.4
comp=Z,14nm,0.7s,baz=88,slow=10,SNR=20
STKA S S 13 52 08.0 -5.2
comp=Z,1.6nm,0.4s,baz=5.7,slow=10,SNR=3.3
STKA Stephens Creek 37.31 244 P P 13 47 10.0 +0.8
baz=37,SNR=8.5
STKA Stephens Creek 37.31 244 P P 13 47 09.6 +0.4
ARPS Mount Arapiles 38.10 236 P P 13 47 13.3 -2.1
baz=38,SNR=14
QIS Mount Isa 38.98 262 P P 13 47 22.3 -0.4
baz=39,SNR=34
HTT Hallett 39.77 242 P P 13 47 29.4 +0.5
baz=40,SNR=17
BBOO Buckleboo 42.08 243 P P 13 47 46.3 -0.7
baz=42,SNR=154
BBOO Buckleboo 42.08 243 P P 13 47 47.2 +0.2
JAY Jayapura 43.27 289 P P 13 47 56.9 +0.3
comp=Z,88nm,0.5s,baz=144,slow=5.1,SNR=53
JAY Jayapura 43.27 289 P P 13 47 56.9 +0.3
comp=Z,1µmcomp=Z,104nm,1.2s
WR0 Warramunga Arr 43.77 262 P P 13 47 59.7 -0.6
AS31 Alice Springs 43.92 256 P P 13 48 01.5 0.0
AS31 IAmb IAmb 13 48 02.8
comp=Z,28nm,0.8s
ASAR Alice Springs 43.92 256 P P 13 48 01.4 0.0
comp=Z,64nm,0.5s,baz=86,slow=8.1,SNR=2428
ASAR PcP PcP 13 49 32.7 +0.1
comp=Z,4.0nm,0.5s,baz=97,slow=3.7,SNR=3.7
ASAR S S 13 53 45.5 -3.0
comp=Z,12nm,0.6s,baz=91,slow=16,SNR=30
WB0 Warramunga Arr 43.93 262 P P 13 48 01.2 -0.4
WB2 Warramunga Arr 43.95 262 P P 13 48 01.1 -0.5
WRAB Tennant Creek 43.95 262 P P 13 48 01.0 -0.6
WRAB Tennant Creek 43.95 262 ⇓P P 13 48 01.1 -0.6
WRA Warramunga Arr 43.96 262 P P 13 48 01.1 -0.7
comp=Z,50nm,0.4s,baz=97,slow=7.9,SNR=1787
WRA PcP PcP 13 49 32.4 -0.4
comp=Z,2.7nm,0.6s,baz=97,slow=4.7,SNR=5.0
WRA S S 13 53 45.9 -3.2
comp=Z,3.7nm,0.5s,baz=97,slow=13,SNR=10
KDU Kakadu 47.24 271 P P 13 48 25.9 -0.7
baz=47,SNR=79
MTN Manton Dam 48.46 271 P P 13 48 34.8 -0.8
baz=48,SNR=44
MTN Manton Dam 48.46 271 P P 13 48 34.5 -1.1
MTN IAmb IAmb 13 48 35.7
comp=Z,83nm,1.0s
FORT Forrest 48.79 246 P P 13 48 37.3 -0.5
baz=49,SNR=48
FORT Forrest 48.79 246 P P 13 48 37.1 -0.7
FORT IAmb IAmb 13 48 37.8
comp=Z,43nm,0.6s
WRKA Warakurna 48.89 254 P P 13 48 38.5 -0.1
baz=49,SNR=127
KNRA Kununurra 49.99 266 P P 13 48 46.5 -0.2
baz=50,SNR=24
KNRA Kununurra 49.99 266 P P 13 48 46.4 -0.3
KNRA IAmb IAmb 13 48 46.9
comp=Z,44nm,0.7s
FITZ Fitzroy Crossi 52.38 262 P P 13 49 03.9 0.0
comp=Z,20nm,0.4s,baz=79,slow=4.9,SNR=309
FITZ S S 13 55 42.4 -1.4
comp=Z,2.9nm,1.1s,baz=310,slow=14,SNR=3.8
SIJI Sorong 52.48 285 P P 13 49 04.8 +0.2
comp=Z,96nm,0.6s,baz=121,slow=4.1,SNR=41
SWI Sorong 52.48 285 P P 13 49 04.6 -0.1
comp=Z,2µmcomp=Z,230nm,1.0s
AAI Ambon 54.18 280 P P 13 49 16.2 -0.4
comp=Z,99nm,1.3s
LBMI Labuha 56.00 283 P P 13 49 29.0 -0.2
comp=Z,55nm,1.0s
BATI Baumata 56.23 271 P P 13 49 30.6 -0.2
comp=Z,32nm,0.4s,baz=119,slow=5.6,SNR=6.6
BATI Baumata 56.23 271 P P 13 49 30.5 -0.2
comp=Z,38nm,1.1s
TNTI Ternate 56.70 285 P P 13 49 34.0 +0.1
comp=Z,1µmcomp=Z,87nm,1.1s
SANI Sanana 56.83 281 P P 13 49 34.1 -0.8
comp=Z,1µmcomp=Z,78nm,1.1s
PSA00 Pilbara Seismi 57.07 257 P P 13 49 35.2 -1.1
PSA00 Pilbara Seismi 57.07 257 P P 13 49 35.5 -0.8
PSA00 IAmb IAmb 13 49 36.9
comp=Z,65nm,1.1s
MBWA Marble Bar 57.25 257 ⇓P P 13 49 37.2 -0.4
MEEK Meekatharra 57.37 251 P P 13 49 37.6 -0.7
baz=57,SNR=17
KLBR Kellerberrin 57.57 245 P P 13 49 39.3 -0.3
baz=58,SNR=7.2
MMRI Maumere 58.04 272 P P 13 49 42.3 -0.7
MMRI IAmb IAmb 13 49 44.0
comp=Z,50nm,0.6s
MMRI Maumere 58.04 272 P P 13 49 42.0 -1.0
comp=Z,2µmcomp=Z,90nm,0.7s
SBA Scott Base 58.16 184 ⇓P P 13 49 45.6 +2.8
SBA pP pP 13 51 50.2 +7.0

VNDA Vanda 58.19 185 P P 13 49 44.7 +1.8
comp=Z,6.6nm,0.5s,baz=14,slow=7.7,SNR=70
VNDA Vanda 58.19 185 P P 13 49 44.7 +1.8
BLDU Ballidu 58.56 246 P P 13 49 45.8 -0.4
baz=59,SNR=28
BBSI Bau Bau 58.76 276 P P 13 49 48.2 +0.4
comp=Z,4.3nm,1.0s
MUN Mundaring 58.84 244 P P 13 49 48.3 +0.2
baz=59,SNR=5.3
MORW Morawa 59.31 248 P P 13 49 50.9 -0.4
baz=59,SNR=12
MORW Morawa 59.31 248 P P 13 49 50.8 -0.5
JCJ Chichijima 60.33 320 P P 13 49 57.3 -0.6
comp=Z,21nm,0.3s,baz=285,slow=22,SNR=9.5
JCJ Chichijima 60.33 320 P P 13 49 57.5 -0.4
JCJ IAmb IAmb 13 50 11.1
comp=Z,49nm,0.9s
KAPI Kappang 61.56 275 P P 13 50 05.8 -0.4
comp=Z,6.8nm,0.3s,baz=88,slow=3.4,SNR=5.3
GIRL Giralia 61.97 254 P P 13 50 07.6 -1.1
baz=62,SNR=14
GIRL Giralia 61.97 254 P P 13 50 09.7 +1.0
GIRL IAmb IAmb 13 50 11.8
comp=Z,36nm,1.0s
CCD Concordia, Ant 62.62 194 ⇑P P 13 50 13.4 +1.0
CCD pP pwP 13 52 19.1 +0.6
TOLI2 Tolitoli 62.85 282 P P 13 50 14.6 +0.1
TOLI2 IAmb IAmb 13 50 15.4
comp=Z,53nm,1.1s
CASY Casey 63.97 205 P P 13 50 21.1 +0.4
CASY Casey 63.97 205 ⇓P P 13 50 20.6 0.0
CASY ⇓X 13 50 26.2
CASY pP pwP 13 52 28.6 0.0
JAGI Jajag, Banyuwa 65.69 270 P P 13 50 30.9 -1.5
JAGI IAmb IAmb 13 50 31.6
comp=Z,34nm,0.7s
JHJ Hachijo jima 2 66.14 323 P P 13 50 34.8 0.0
comp=Z,87nm,0.3s,baz=53,slow=23,SNR=6.7
KKM Kota Kinabalu 69.00 285 P P 13 50 52.8 +0.2
KKM IAmb IAmb 13 50 54.2
comp=Z,54nm,1.0s
UGM Wanagama 69.27 269 P P 13 50 53.8 -0.4
JOW Kunigami 69.42 310 P P 13 50 55.2 +0.6
comp=Z,26nm,0.3s,baz=131,slow=9.9,SNR=16
JOW Kunigami 69.42 310 P P 13 50 55.4 +0.8
JOW IAmb IAmb 13 50 56.0
comp=Z,67nm,1.1s
MJAR Matsushiro Arr 69.53 324 P P 13 50 54.8 -0.3
comp=Z,6.3nm,0.4s,baz=87,slow=4.1,SNR=25
MJAR Matsushiro Arr 69.53 324 P P 13 50 55.0 -0.1
MAJO Matsushiro 69.53 324 P P 13 50 55.2 +0.1
MAJO IAmb IAmb 13 50 57.2
comp=Z,18nm,0.6s
MAJO Matsushiro 69.53 324 P P 13 50 55.3 +0.1
QSPA South Pole Qui 69.91 180 P P 13 50 58.3 +1.2
comp=Z,21nm,0.4s,baz=222,slow=1.2,SNR=344
QSPA South Pole Qui 69.91 180 P P 13 50 58.3 +1.2
QSPA IAmb IAmb 13 50 59.5
comp=Z,42nm,0.8s
QSPA South Pole Qui 69.91 180 ⇑P P 13 50 58.3 +1.2
QSPA ⇓pP pP 13 53 07.0 +2.4
QSPA sP sP 13 54 10.4 -0.4
JTM Tenmabayashi 71.22 329 P P 13 51 05.0 +0.2
JTM IAmb IAmb 13 51 06.2
comp=Z,47nm,1.0s
JNU Nakatsue 71.55 317 P P 13 51 06.6 -0.5
comp=Z,30nm,0.8s,baz=1.9,slow=1.1,SNR=12
JNU Nakatsue 71.55 317 P P 13 51 07.3 +0.2
JNU IAmb IAmb 13 51 08.6
comp=Z,51nm,1.0s
YOJ Yonaguni jima 71.97 305 P P 13 51 08.7 -0.9
YOJ IAmb IAmb 13 51 13.5
comp=Z,74nm,1.1s
LEM Lembang 72.35 269 P P 13 51 11.9 -0.3
comp=Z,86nm,1.0s,baz=102,slow=4.9,SNR=14
TWG Pinlang 72.61 303 P P 13 51 11.2 -2.2
TWG IAmb IAmb 13 51 12.5
comp=Z,33nm,0.5s
KSM Kuching 72.67 278 P P 13 51 14.4 +0.5
KSM IAmb IAmb 13 51 15.2
comp=Z,31nm,0.6s
YULB Yu-li 72.73 304 P P 13 51 12.5 -1.5
YULB IAmb IAmb 13 51 15.9
comp=Z,18nm,0.6s
SHEM Shemya Is, Ala 72.85 355 P P 13 51 13.9 -0.1
comp=Z,79nm,0.9s,baz=38,slow=4.9,SNR=5.8
NACB Ninganchiao 72.91 304 P P 13 51 14.4 -0.6
NACB IAmb IAmb 13 51 15.6
comp=Z,53nm,0.8s
JKA Kamikawa-asahi 73.10 332 P P 13 51 17.0 +1.4
JKA IAmb IAmb 13 51 18.8
comp=Z,50nm,0.7s
SSLB Suanglung 73.20 304 P P 13 51 15.5 -1.2
TPUB Ta-pu 73.21 303 P P 13 51 15.3 -1.4
NIKH Nikolski High 73.33 6 P P 13 51 16.5 -0.2
baz=189
UNV Unalaska Valle 74.45 7 P P 13 51 22.5 -0.4
baz=192
PEA0B Petropavlovsk- 75.77 346 P P 13 51 30.8 +0.5
PETK Petropavlovsk- 75.77 346 P P 13 51 30.1 -0.2
comp=Z,28nm,0.9s,baz=116,slow=7.9,SNR=50
PETK Petropavlovsk- 75.77 346 P P 13 51 29.9 -0.4
KSRS Korea Array 76.17 319 P P 13 51 34.0 +1.2
comp=Z,6.6nm,0.6s,baz=127,slow=6.0,SNR=31
KSAR Wonju Array Be 76.19 319 P P 13 51 33.5 +0.5
SDPT Sand Point 76.80 11 P P 13 51 35.6 -0.2
baz=197
CHIR Chirikof Islan 78.18 13 P P 13 51 43.7 +0.5
baz=202
USRK Ussuriysk Ar. 78.29 326 P P 13 51 44.8 +0.6
comp=Z,26nm,1.0s,baz=118,slow=3.3,SNR=29
USRK Ussuriysk Ar. 78.29 326 P P 13 51 44.6 +0.4
NJ2 Nanjing 79.13 310 ⇑P P 13 51 50.3 +1.5
NJ2 PcP PcP 13 51 56.4 +1.9
NJ2 pmax pmax
comp=Z,22nm,1.0s
SII Sitkinak Islan 79.18 14 P P 13 51 49.4 +0.8
baz=203
O02D Mt. Diablo Mer 79.47 40 P P 13 51 52.7 +2.2
baz=232
EDW2 Edwards Air Fo 79.49 47 P P 13 51 52.6 +1.8
baz=236
MONP2 Monument Peak 79.51 49 P P 13 51 52.7 +1.5
baz=238
ISA Isabella, Lake 79.60 46 P P 13 51 52.8 +1.4
baz=236
IKP In-K›-Pah, Jac 79.61 50 P P 13 51 53.0 +1.6
baz=238
MDJ Mudanjiang 79.84 325 P P 13 51 54.0 +1.7
MDJ pmax pmax
comp=Z,46nm,1.1s
MDJ pmax pmax
comp=Z,350nm,5.9s
PFO Pinyon Flats O 79.87 49 P P 13 51 54.0 +1.1
baz=237
TPFO Pinon Flats 79.87 49 P P 13 51 54.6 +1.7
baz=237
BELA Belgrano 2 79.98 173 P P 13 51 52.7 +0.1
BELA IAmb IAmb 13 51 54.0
comp=Z,28nm,0.8s
OHAK Old Harbor 79.98 14 P P 13 51 53.3 +0.6
baz=204
N02D Trinity Center 80.00 40 P P 13 51 55.7 +2.3
baz=232,SNR=5.8
LRMC Laurel Mtn Rad 80.03 46 P P 13 51 55.1 +1.4
baz=236
O03E Paynes Creek 80.14 41 P P 13 51 55.2 +1.1
O03E Paynes Creek 80.14 41 P P 13 51 55.5 +1.4
baz=233,SNR=7.0
M02C Callahan 80.17 39 P P 13 51 56.5 +2.3
baz=232,SNR=7.3
L02E Cave Junction 80.20 38 P P 13 51 56.3 +2.0
baz=231
CWC Cottonwood Cre 80.30 45 P P 13 51 56.8 +1.7
baz=236
BELC Belle Mtn. Jos 80.40 49 P P 13 51 57.4 +1.8
baz=238
MLAC Mammoth, Mammo 80.46 44 P P 13 51 57.5 +1.5
baz=235
YBH Yreka Blue Hor 80.46 39 P P 13 51 57.9 +2.1
comp=Z,5.2nm,0.6s,baz=167,slow=1.9,SNR=19
YBH Yreka Blue Hor 80.46 39 P P 13 51 57.5 +1.8
MPMC Manual Prospec 80.48 46 P P 13 51 57.9 +1.8
baz=236,SNR=8.1
K02D Willamette Mer 80.50 38 P P 13 51 57.7 +1.9
baz=231

GSC Goldstone, Bar 80.54 47 P P 13 51 57.3 +1.0
baz=237
HEC Hector,Ludlow 80.61 48 P P 13 51 58.1 +1.4
baz=237
J01E Myrtle Point 80.64 37 P P 13 51 58.1 +1.7
baz=231
KDAK Kodiak Island 80.65 14 P P 13 51 56.5 +0.4
comp=Z,8.8nm,0.6s,baz=330,slow=1.2,SNR=13
KDAK Kodiak Island 80.65 14 P P 13 51 56.9 +0.8
baz=204
L04D Klamath Falls 81.00 39 P P 13 52 00.4 +1.8
baz=232,SNR=5.3
M04C Macdoel 81.01 39 P P 13 52 00.4 +1.8
baz=233
GMRC Granite Mounta 81.05 48 P P 13 52 00.6 +1.6
baz=238
IRM Iron Mountain 81.09 49 P P 13 52 01.1 +2.0
baz=238
FURC Furnace Creek, 81.13 46 P P 13 52 00.6 +1.5
baz=237
TUQ Turquoise Moun 81.22 47 P P 13 52 01.4 +1.6
baz=238
NVAR Mina Array Bea 81.26 44 P P 13 52 01.9 +1.8
comp=Z,2.2nm,0.5s,baz=224,slow=8.8,SNR=24
NVAR pP pP 13 54 14.6 +1.7
comp=Z,0.1nm,0.4s,baz=225,slow=8.9,SNR=1.0
I02E Swisshome, OR 81.28 37 P P 13 52 01.7 +2.0
baz=231
PAHR Pah Rah Range 81.29 42 P P 13 52 00.5 +0.3
I03D Drain, OR 81.31 37 P P 13 52 01.7 +1.8
baz=231
Q19K Cape Douglas, 81.47 13 P P 13 52 00.6 +0.3
baz=204
K04D Chiloquin, OR 81.57 39 P P 13 52 02.8 +1.4
baz=232
P18K Big Mountain, 81.58 12 P P 13 52 01.3 +0.4
P18K IAmb IAmb 13 52 01.6
comp=Z,20nm,0.7s
P18K Big Mountain, 81.58 12 P P 13 52 01.0 +0.1
baz=202
CN2 Changchun 81.61 323 eP P 13 52 01.9 +0.5
CN2 PP PP 13 55 22.7 +1.8
CN2 SKS S 14 01 22.6 +0.5
CN2 SS SS 14 07 08.3 +8.2
MAW Mawson 81.65 200 P P 13 52 02.0 +0.8
comp=Z,3.2nm,0.5s,baz=55,slow=18,SNR=2.8
214A Organ Pipe Nat 81.65 52 P P 13 52 03.2 +1.3
baz=240
WHN Wuhan 81.68 307 ⇓P P 13 52 03.1 +1.0
WHN pmax pmax
comp=Z,130nm,1.5s
J04D Umpqua Nationa 81.74 38 P P 13 52 03.8 +1.5
baz=232
BNX BinXian 81.75 325 ⇓P P 13 52 02.3 +0.3
BNX pmax pmax
comp=Z,33nm,0.7s
BNX pmax pmax
comp=Z,420nm,3.9s
TPNV Topopah Spring 81.80 46 P P 13 52 04.6 +1.8
baz=237,SNR=6.2
PDMCI Parker Dam,Lak 81.87 49 P P 13 52 04.7 +1.7
baz=239
I04A Tendick Farm, 81.90 37 P P 13 52 04.2 +1.2
baz=232
MOD Modoc Plateau 82.00 40 P P 13 52 05.2 +1.5
H04D Lebanon 82.16 37 P P 13 52 04.4 +0.2
baz=232
J05D Fort Rock, OR 82.27 38 P P 13 52 07.0 +2.1
baz=233,SNR=18
UBPT Khong Chiam 82.36 289 P P 13 52 06.1 +0.3
IPM Ipoh 82.40 278 P P 13 52 06.8 +0.7
O19K Port Alsworth 82.50 12 P P 13 52 05.8 +0.4
O19K Port Alsworth 82.50 12 P P 13 52 05.7 +0.2
baz=203,SNR=37
TIA Tai'an 82.53 313 eP P 13 52 06.8 +0.6
TIA pmax pmax
comp=Z,14nm,1.3s
O20K Slope Mountain 82.74 13 P P 13 52 06.4 -0.4
baz=204
BRLK Bradley Lake 82.83 14 P P 13 52 06.3 -0.9
BRLK IAmb IAmb 13 52 08.7
comp=Z,41nm,1.1s
BRSE Bradley Lake S 82.84 14 P P 13 52 07.8 +0.6
baz=206
I05D Terrebonne, OR 82.84 38 P P 13 52 09.0 +1.3
baz=233
R11A Troy Canyon, C 83.00 45 P P 13 52 09.8 +1.0
baz=237
KULM Kulim 83.03 278 P P 13 52 09.8 +0.6
KULM IAmb IAmb 13 52 10.7
comp=Z,22nm,0.5s
N19K Bonanza Creek 83.04 12 P P 13 52 07.9 -0.4
N19K IAmb IAmb 13 52 08.6
comp=Z,22nm,1.1s
N19K Bonanza Creek 83.04 12 P P 13 52 08.1 -0.2
baz=203,SNR=7.5
MA2 Magadan 83.27 345 P P 13 52 09.1 -0.2
comp=Z,17nm,1.0s,baz=147,slow=5.7,SNR=16
MA2 Magadan 83.27 345 P P 13 52 08.6 -0.7
MA2 IAmb IAmb 13 52 10.5
comp=Z,27nm,1.1s
SEW Seward 83.46 14 P P 13 52 10.6 +0.4
baz=207
E04D Cinebar 83.52 35 P P 13 52 11.4 +0.5
baz=232
O22K Cooper Landing 83.73 14 P P 13 52 12.0 +0.4
baz=207
I07A Izee 83.75 39 P P 13 52 14.1 +1.8
PSI Prapat 83.77 275 P P 13 52 12.5 -0.6
comp=Z,15nm,0.8s,baz=139,slow=5.1,SNR=14
GAMB Gambell 83.84 3 P P 13 52 13.0 +1.0
GAMB IAmb IAmb 13 52 14.4
comp=Z,23nm,1.0s
GAMB Gambell 83.84 3 P P 13 52 12.7 +0.7
baz=186
SPCR Spurr Chakacha 83.84 13 P P 13 52 11.7 -0.5
baz=205
D03D Eldon 83.84 34 P P 13 52 13.3 +0.8
baz=231
L19K White Mountain 84.24 11 P P 13 52 14.8 +0.7
L19K IAmb IAmb 13 52 16.1
comp=Z,26nm,1.1s
L19K White Mountain 84.24 11 P P 13 52 14.5 +0.5
baz=202,SNR=10
U15A North Rim 84.25 48 P P 13 52 17.1 +2.0
RC01 Rabbit Creek A 84.27 14 P P 13 52 14.5 +0.3
baz=207
PWL Port Wells 84.39 14 P P 13 52 15.2 +0.3
PWL IAmb IAmb 13 52 16.2
comp=Z,50nm,1.2s
PWL Port Wells 84.39 14 P P 13 52 14.9 +0.1
baz=208
BBB Bella Bella 84.44 29 P P 13 52 15.6 +0.5
comp=Z,10nm,0.9s,baz=265,slow=3.7,SNR=4.6
ELK Elko 84.51 43 P P 13 52 16.4 +0.2
comp=Z,1.0nm,0.6s,baz=257,slow=0.3,SNR=5.9
GSI Gunungsitoli 84.51 273 P P 13 52 17.6 +1.1
GSI IAmb IAmb 13 52 18.3
comp=Z,36nm,0.7s
L20K Farewell, AK 84.69 11 P P 13 52 16.4 +0.1
baz=203,SNR=5.8
TTA Tatalina 84.73 10 P P 13 52 17.0 +0.4
TTA Tatalina 84.73 10 P P 13 52 16.9 +0.4
baz=201,SNR=10
EYAK Cordova Ski Ar 84.75 16 P P 13 52 16.5 0.0
baz=211
M22K Willow 84.78 13 P P 13 52 16.5 -0.1
baz=207
HNS HongShan 84.81 313 ⇓P P 13 52 18.5 +1.2
HNS pmax pmax
comp=Z,23nm,1.0s
B05A Bryant 84.82 34 P P 13 52 17.1 -0.1
baz=232
PMR Palmer 84.85 14 P P 13 52 17.0 0.0
baz=208,SNR=7.0
LYN LuoYang 85.00 309 ⇓iP P 13 52 19.6 +1.2
LYN pmax pmax
comp=Z,30nm,1.0s
BJI Beijing 85.16 316 P P 13 52 19.9 +0.9
BJI pmax pmax
comp=Z,15nm,1.4s
BJI pmax pmax
comp=Z,260nm,4.7s
SML Sawmill 85.22 14 P P 13 52 19.3 +0.4
baz=208
CUT Chulitna 85.33 13 P P 13 52 19.3 0.0
baz=206,SNR=8.1

BMRM	Bremner River	85.40	16	P		P	13 52 20.0	+0.3
	baz=212							
K20K	Telida	85.46	11	P		P	13 52 20.2	+0.2
K20K	Telida	85.46	11	P		P	13 52 20.1	+0.2
	baz=203,SNR=13							
SCM	Sheep Creek Mo	85.48	14	P		P	13 52 20.6	+0.5
	baz=209,SNR=8.6							
KLU	Klutina	85.52	15	P		P	13 52 20.6	+0.3
	baz=210							
WRAK	Wrangell Islan	85.69	24	P		P	13 52 22.2	+1.1
	baz=223							
PNL	Peninsula	85.78	19	P		P	13 52 22.2	+0.7
	baz=216							
GYA	Guiyang	85.88	300	⇑P		P	13 52 23.8	+0.9
GYA				pmax	pmax			
	comp=Z,15nm,1.0s							
SEY	Seymchan	85.89	347	P		P	13 52 22.4	+0.5
	comp=Z,17nm,0.6s,baz=151,slow=5.8,SNR=179							
SEY				pP		pP	13 54 37.4	-0.2
	comp=Z,6.4nm,1.2s,baz=126,slow=6.4,SNR=4.6							
N25K	Chitina, Valde	85.94	16	P		P	13 52 23.1	+0.8
N25K				IAmb		IAmb	13 52 23.6	
	comp=Z,12nm,0.6s							
N25K	Chitina, Valde	85.94	16	P		P	13 52 22.9	+0.6
	baz=212,SNR=8.5							
M24K	Tolsona, Glenn	85.99	15	P		P	13 52 23.4	+0.9
	baz=210,SNR=5.4							
WAT6	Susitna Watana	86.04	14	P		P	13 52 23.0	+0.1
	baz=209,SNR=12							
J20K	Nowinta River	86.21	11	P		P	13 52 23.8	+0.4
J20K				IAmb		IAmb	13 52 24.4	
	comp=Z,15nm,1.1s							
J20K	Nowinta River	86.21	11	P		P	13 52 23.8	+0.4
	baz=203,SNR=9.4							
GCSA	Galena City Sc	86.30	9	P		P	13 52 24.4	+0.6
	baz=200,SNR=9.3							
PLID	Pearl Lake	86.39	39	P		P	13 52 25.9	+0.9
HARP	HAARP	86.48	15	P		P	13 52 25.5	+0.7
	baz=211							
RND	Reindeer	86.52	13	P		P	13 52 25.0	0.0
HLID	Hailey	86.53	41	P		P	13 52 27.3	+1.7
	baz=238,SNR=11							
DHY	Denali Highway	86.55	14	P		P	13 52 25.4	+0.2
	baz=209,SNR=7.3							
BPAW	Bear Paw Mtn.	86.71	12	P		P	13 52 25.0	-0.8
BPAW	Bear Paw Mtn.	86.71	12	P		P	13 52 26.3	+0.5
	baz=206							
PAX	Paxson	86.90	15	P		P	13 52 26.6	-0.2
	baz=211							
SYO	Syowa Base	86.90	193	⇑*e*P		P	13 52 27.4	+0.7
SKAG	Skagway	86.91	21	P		P	13 52 28.3	+1.6
	baz=220							
YUK6	Outpost Mounta	87.11	18	P		P	13 52 28.8	+0.8
	baz=217							
YUK3	Moose Creek	87.18	17	P		P	13 52 29.2	+0.9
	baz=215,SNR=17							
XLT	XiLinHaoTe	87.23	319	*e*P		P	13 52 28.2	-0.6
XLT				pmax	pmax			
	comp=Z,10.0nm,0.9s							
XLT				pmax	pmax			
	comp=Z,130nm,4.2s							
M27K	Edge Creek, AK	87.28	16	P		P	13 52 29.8	+1.1
	baz=214,SNR=11							
HYT	Haines Junctio	87.28	19	P		P	13 52 29.5	+0.9
	baz=218							
YUK4	Talbot Arm	87.35	18	P		P	13 52 30.0	+0.9
	baz=217							
XAN	Xi'an	87.37	308	P		P	13 52 30.9	+1.2
XAN				pmax	pmax			
	comp=Z,34nm,1.1s							
L26K	Log Cabin Wild	87.46	15	P		P	13 52 29.9	+0.6
	baz=213,SNR=7.3							
TXAR	Lajitas Array	87.46	58	P		P	13 52 32.5	+2.2
	comp=Z,4.2nm,0.9s,baz=214,slow=4.7,SNR=21							
TXAR				pP		pwP	13 54 48.8	-0.2
	comp=Z,0.8nm,0.9s,baz=202,slow=6.3,SNR=3.4							
TXAR	Lajitas Array	87.46	58	P		P	13 52 31.8	+1.5
I21K	Tanana	87.51	11	P		P	13 52 29.6	+0.2
	baz=205,SNR=20							
NEW	Newport	87.51	36	P		P	13 52 30.7	+0.8
	baz=236							
NEA2	Nenana	87.53	12	P		P	13 52 28.8	-0.8
	baz=207,SNR=9.5							
BVCY	Beaver Creek	87.59	17	P		P	13 52 31.0	+1.0
	baz=215,SNR=8.6							
ANMO	Albuquerque	87.74	52	P		P	13 52 30.4	-1.1
	baz=243							
HDA	Harding Lake	87.81	13	P		P	13 52 31.0	+0.1
	baz=209,SNR=24							
L27K	Beaver Creek,	87.87	16	P		P	13 52 31.9	+0.6
	baz=214,SNR=6.3							
I23K	Minto, Yukon-K	87.97	12	P		P	13 52 31.2	-0.4
	baz=207,SNR=14							
WHY	Whitehorse	87.97	20	P		P	13 52 32.8	+0.9
	baz=220							
DLBC	Dease Lake	88.01	23	P		P	13 52 33.1	+1.0
	comp=Z,3.7nm,0.9s,baz=175,slow=10.0,SNR=4.1							
TCOL	CIGO, UAF Yank	88.03	13	P		P	13 52 31.7	-0.2
	baz=209,SNR=10							
COLA	College	88.03	13	P		P	13 52 31.9	+0.1
COLA	College	88.03	13	P		P	13 52 31.8	-0.1
	baz=209							
TROLL	Troll, Antarti	88.07	180	P		P	13 52 32.5	+0.1
IL31		88.14	13	P		P	13 52 32.2	-0.2
IL31				IAmb		IAmb	13 52 33.4	
	comp=Z,14nm,0.8s							
ILAR	Eielson Array	88.14	13	P		P	13 52 32.2	-0.2
	comp=Z,7.8nm,0.6s,baz=219,slow=5.7,SNR=112							
ILAR				pP		pP	13 54 48.6	+0.2
	comp=Z,2.7nm,0.9s,baz=222,slow=6.0,SNR=10.0							
ILAR				PKiKP		PKiKP	13 57 28.5	-0.6
	comp=Z,0.2nm,0.4s,baz=276,slow=3.8,SNR=5.0							
P33M	Teslin, Yukon	88.31	21	P		P	13 52 34.2	+0.7
	baz=222							
N31M	Braeburn, Yuko	88.32	19	P		P	13 52 34.5	+1.1
	baz=220,SNR=5.4							
POKR	Poker Plat Res	88.33	13	P		P	13 52 32.6	-0.7
	baz=209,SNR=7.4							
J25K	Salcha River,	88.33	14	P		P	13 52 33.6	+0.2
	baz=211,SNR=24							
SNAA	Sanae	88.37	179	P		P	13 52 33.9	+0.2
VNA3	Neumayer Olymp	88.52	176	P		P	13 52 34.3	0.0
MSO	Missoula	88.53	38	P		P	13 52 35.9	+1.0
	baz=238							
H23K	Yukon River	88.54	12	P		P	13 52 35.9	+1.6
	baz=207							
KMI	Kunming	88.57	297	⇓P		P	13 52 37.4	+1.7
KMI				pmax	pmax			
	comp=Z,26nm,0.8s							
HHC	Hu-ho-hao-te	88.62	315	*e*P		P	13 52 36.3	+0.9
HHC				pmax	pmax			
	comp=Z,22nm,0.9s							
HHC				pmax	pmax			
	comp=Z,130nm,4.6s							
BILL	Bilibino	88.63	354	P		P	13 52 35.4	+0.8
J26L	Joseph Creek	88.65	14	P		P	13 52 36.1	+1.1
	baz=212,SNR=39							
S22A	4UR Ranch, Cre	88.72	49	P		P	13 52 36.8	+0.6
	baz=243							
RDOG	Red Dog Mine	88.72	6	P		P	13 52 35.0	-0.1
	baz=195							
O20A	White River Ci	88.83	46	P		P	13 52 37.3	+0.8
	baz=242							
M30M	Minto, Yukon	88.86	18	P		P	13 52 36.8	+0.9
M30M				IAmb		IAmb	13 52 37.9	
	comp=Z,29nm,1.1s							
M30M	Minto, Yukon	88.86	18	P		P	13 52 36.6	+0.7
	baz=219,SNR=16							
H24K	Noodor Dome	88.87	12	P		P	13 52 35.9	+0.1
	baz=208							
VNA2	Neumayer--Watz	88.96	177	P		P	13 52 36.6	+0.3
	baz=183,slow=4.0							
VNA1	Neumayer--Stat	89.19	177	P		P	13 52 37.7	+0.3
BW06	Boulder Array	89.19	44	P		P	13 52 36.6	-1.6
	baz=241							
PD31	Pinedale Array	89.19	44	P		P	13 52 39.8	+1.6
PDAR	Pinedale Array	89.19	44	P		P	13 52 39.4	+1.2
	comp=Z,2.5nm,0.6s,baz=205,slow=3.8,SNR=16							
BOZ	Bozeman (W)	89.28	40	P		P	13 52 37.5	-0.9
	baz=240							
M31M	Drury Creek, Y	89.29	19	P		P	13 52 38.4	+0.5
	baz=221							
DAWY	Dawson	89.33	16	P		P	13 52 38.7	+0.7
DAWY				IAmb		IAmb	13 52 40.0	
	comp=Z,13nm,0.8s							
DAWY	Dawson	89.33	16	P		P	13 52 38.9	+0.8
	baz=216,SNR=19							
CMAR	Chiang Mai Arr	89.34	290	P		P	13 52 40.5	+1.4
	comp=Z,17nm,1.0s,baz=118,slow=2.9,SNR=68							
EGAK	Eagle	89.46	15	P		P	13 52 39.1	+0.6
	baz=215,SNR=16							
COLD	Coldfoot	89.67	11	P		P	13 52 40.2	+0.7
	baz=206,SNR=12							
LC01	Cunco	89.91	132	P		P	13 52 42.7	+1.2
LC01				IAmb		IAmb	13 52 45.3	
	comp=Z,14nm,0.8s							
PZH	PanZhiHua	89.94	298	⇓P		P	13 52 42.8	+1.0
PZH				pmax	pmax			
	comp=Z,20nm,0.9s							
PZH				pmax	pmax			
	comp=Z,110nm,5.3s							
PLCA	Paso Flores	90.01	134	P		P	13 52 43.4	+1.5
	comp=Z,5.1nm,0.9s,baz=260,slow=3.8,SNR=6.7							
I29M	Ogilvie Camp,	90.65	16	P		P	13 52 44.3	+0.2
	baz=217,SNR=5.2							
BMAR	Burnt Mountain	90.91	13	P		P	13 52 46.3	+1.0
TOLK	Toolik Lake Re	91.05	10	P		P	13 52 45.9	+0.1
TOLK	Toolik Lake Re	91.05	10	P		P	13 52 46.0	+0.1
	baz=207							
EPYK	Eagle Plains	91.85	16	P		P	13 52 49.8	+0.2
	baz=219,SNR=6.3							
LZH	Lanzhou	92.01	308	⇓P		P	13 52 52.6	+1.4
LZH				sP		sP	13 56 08.0	-3.2
LZH				SKS		SKSac	14 02 22.3	-1.6
LZH				S		ScS	14 03 02.0	+1.1
LZH				pmax	pmax			
	comp=Z,28nm,1.5s							
LZH				pmax	pmax			
	comp=Z,100nm,5.4s							
INK	Inuvik	94.13	15	P		P	13 52 59.5	-0.3
	comp=Z,3.6nm,0.9s,baz=207,slow=5.4,SNR=12							
INK	Inuvik	94.13	15	P		P	13 52 59.2	-0.6
INK				IAmb		IAmb	13 53 00.9	
	comp=Z,6.0nm,1.0s							
INK	Inuvik	94.13	15	P		P	13 52 59.7	-0.1
	baz=222,SNR=6.5							
SONM	Songino Array	95.04	319	P		P	13 53 04.6	-0.1
	comp=Z,1.0nm,0.6s,baz=136,slow=3.6,SNR=5.9							
SONM				pP		pwP	13 55 23.8	-1.0
	comp=Z,0.9nm,1.0s,baz=114,slow=3.2,SNR=3.4							
SONM				PP		PP	13 57 04.8	-1.4
	comp=Z,0.5nm,0.5s,baz=138,slow=6.9,SNR=4.3							
GTA	Gaotai	96.22	310	*e*P		P	13 53 11.0	+0.8
GTA				pmax	pmax			
	comp=Z,6.0nm,1.3s							
YKA	Yellowknife Ar	96.50	25	P		P	13 53 11.2	+0.5
	comp=Z,0.6nm,0.5s,baz=245,slow=4.3,SNR=12							
YKA				pP		pwP	13 55 30.2	-0.9
	comp=Z,0.3nm,0.8s,baz=242,slow=4.0,SNR=2.8							
A36M	Sachs Harbour	98.73	15	P		P	13 53 20.8	+0.4
	baz=230							
GOMU	GeErMu	98.88	305	P		P	13 53 22.7	+0.2
GOMU				pmax	pmax			
	comp=Z,1.0nm,1.0s							
GOMU				pmax	pmax			
	comp=Z,69nm,5.3s							
HDIL	Hopedale	102.42	51	P		Pdif	13 53 36.6	-1.0
	baz=254							
ZALV	Zalesovo Beam	109.79	321	PKiKP		PKiKP	13 58 07.1	-1.0
	comp=Z,1.4nm,0.5s,baz=95,slow=1.5,SNR=7.9							
ZALV				PP		PP	13 58 55.8	+1.8
	comp=Z,0.6nm,0.5s,baz=27,slow=3.6,SNR=4.1							
MKAR	Makanchi Array	110.46	314	Pdiff		Pdif	13 54 14.4	+1.2
	comp=Z,0.5nm,0.6s,baz=90,slow=5.4,SNR=6.7							
MKAR				PKiKP		PKiKP	13 58 08.8	-0.8
	comp=Z,0.8nm,0.4s,baz=131,slow=0.8,SNR=29							
MKAR				PKKPbc		PKKPbc	14 09 10.6	-1.7
	comp=Z,0.5nm,0.6s,baz=261,slow=3.6,SNR=6.3							
KURBB	Kurchatov Arra	113.33	317	PKiKP		PKiKP	13 58 13.7	-1.2
	comp=Z,1.2nm,0.5s,baz=107,slow=1.7,SNR=9.4							
KURBB				PP		PP	13 59 12.9	-5.9
	comp=Z,0.9nm,0.7s,baz=99,slow=6.3,SNR=7.0							
BVAR	Borovoye Array	118.37	320	PKP		PKPdf	13 58 24.4	-0.2
	comp=Z,4.4nm,0.4s							
BRVK	Borovoye	118.43	320	PKPdf		PKPdf	13 58 24.4	-0.3
KKAR	Karatay Array	118.49	309	PKPdf		PKPdf	13 58 25.1	-0.1
KBS	Kingsbay	120.97	358	*e*PKPdf		PKPdf	13 58 28.9	0.0
SPA0	Spitsbergen Ar	121.48	356	*e*PKPdf		PKiKP	13 58 30.0	-0.1
DAG	Danmarks Havn	122.47	5	*i* P		PKPdf	13 58 30.1	-1.7
HSPB	Hornsund (broa	122.67	356	*e*PKPdf		PKPdf	13 58 32.1	-0.1
DBG	Daneborg	124.58	7	*i* P		PKPdf	13 58 34.5	-1.4
ABKAR	Akbulak array	125.36	317	PKPdf		PKPdf	13 58 38.1	0.0
AKTO	Aktyubinsk	126.35	318	PKP		PKPdf	13 58 39.3	-0.7
	comp=Z,2.9nm,0.7s,baz=80,slow=3.6,SNR=6.9							
NRS	Narsarsuaq	127.75	26	*i* P		PKPdf	13 58 37.8	-4.4
HAMF	Hammerfest	127.78	351	*e*PKPdf		PKPdf	13 58 41.7	-0.4
ARA0	ARCESS Array S	128.46	349	*e*PKPdf		PKPdf	13 58 43.6	+0.1
ARCES	ARCESS Array B	128.46	349	PKhKP		PKPpre	13 58 30.9	
	comp=Z,0.7nm,0.4s,baz=83,slow=1.4,SNR=9.1							
ARCES				PKP		PKPdf	13 58 43.4	0.0
	comp=Z,4.8nm,0.5s,baz=5.6,slow=1.5,SNR=39							
KTK1	Kautokeino	129.31	350	*e*PKPdf		PKPdf	13 58 45.4	+0.4
TRO	Tromso	129.37	352	*e*PKPdf		PKPdf	13 58 44.1	-1.0
KLMR	Klimovskoe	131.29	336	*e*PKPdf		PKPdf	13 58 49.2	+0.2
KLMR				AMP			13 58 52.3	
	comp=Z,11nm,1.2s							
KLMR				*e*PP		pPKPdf	14 01 13.2	-2.3
STEI	Steigen	131.43	353	*e*PKPdf		PKPdf	13 58 48.0	-1.1
NSS	Namsos	135.08	353	*e*PKPdf		PKPdf	13 58 54.8	-1.2
FINES	FINESS Array B	135.25	343	PKhKP		PKPpre	13 58 44.6	
	comp=Z,3.2nm,1.0s,baz=11,slow=2.5,SNR=5.9							
FINES				SKPbc		SKPbc	14 01 29.9	+1.5
	comp=Z,2.0nm,0.5s,baz=50,slow=3.0,SNR=4.7							
KBZ	Khabaz	138.16	314	PKP		PKPdf	13 59 02.8	+0.4
	comp=Z,1.5nm,0.6s,baz=122,slow=4.0,SNR=5.2							
KBZ				SKPbc		SKPbc	14 01 37.2	-0.1
	comp=Z,0.8nm,0.6s,baz=41,slow=11,SNR=4.3							
NB2	NORSAR Subarra	138.56	353	PKP		PKPpre	13 58 54.0	
	comp=Z,1.4nm,0.5s,baz=11,slow=3.0							
NOA	NORSAR Array B	138.56	353	PKhKP		PKPpre	13 58 54.0	
	comp=Z,0.5nm,0.4s,baz=28,slow=1.7,SNR=16							
NOA				PKP		PKiKP	13 59 04.0	-0.9
	comp=Z,0.7nm,0.5s,baz=14,slow=4.0,SNR=5.7							
NOA				SKPbc		SKiKP	14 01 39.7	-1.5
	comp=Z,4.3nm,1.1s,baz=14,slow=4.3,SNR=6.7							
NC602	NORSAR Array S	138.81	352	*e*		PKPpre	13 58 55.7	
KMBO	Kilima Mbogo	138.87	243	SKPbc		SKPbc	14 01 41.1	+0.4
	comp=Z,2.5nm,0.9s,baz=61,slow=3.2,SNR=4.0							
SKAR	Skarslia	139.21	355	*e*		PKPpre	13 58 56.4	
HOMB	Homborsund	141.57	354	*e*PKPdf		PKPdf	13 59 04.9	-3.1
SNART	Snartemo	141.62	355	*e*PKPdf		PKPdf	13 59 04.2	-3.9
AKASG	Malin Array Be	142.38	331	PKhKP		PKPpre	13 59 06.3	
	comp=Z,21nm,0.4s,baz=43,slow=4.1,SNR=141							
AKASG				SKPbc		SKPbc	14 01 48.1	0.0
	comp=Z,1.4nm,0.5s,baz=36,slow=3.1,SNR=14							
AKASG	Malin Array Be	142.38	331	PKPdf		PKPdf	13 59 06.6	-3.1
AKBB	Malin Array Si	142.38	331	PKPdf		PKPdf	13 59 06.5	-3.2
KAC	Achnashellach	142.40	6	*e*P		PKPdf	13 59 07.2	-2.3
MCD	Coleburn Disti	142.48	4	*e*P		PKPdf	13 59 06.3	-3.3
KPL	Plockton	142.52	6	*e*P		PKPdf	13 59 06.9	-2.8
MDO	Dochfour	142.54	5	*e*P		PKPdf	13 59 06.8	-3.0
DEL	Delary	142.54	349	*i* P		PKPdf	13 59 06.0	-3.8
LODK	Lodwar	142.83	248	PKPdf		PKPdf	13 59 11.1	-0.6
DRUM	Mains of Drumt	143.19	3	*e*P		PKPab	13 59 08.8	-0.5
MUD	Monsted U'grnd	143.28	353	*i* P		PKPab	13 59 08.0	-1.6
EDU	Dundee	143.53	4	*e*P		PKPbc	13 59 10.4	-0.2
COP	Copenhagen	143.54	349	*i* P		PKPbc	13 59 09.7	-1.0
INVG	Invergeldie, C	143.57	5	*e*P		PKPbc	13 59 10.6	-0.2
BSD	Bornholm Skovb	143.60	347	*i* P		PKPbc	13 59 09.0	-1.9
LAWE	Loch Awe, Argy	143.61	6	*e*P		PKPab	13 59 11.3	+0.3
EAB	Aberfoyle	143.78	5	*e*P		PKPbc	13 59 11.0	-0.4
ESY	Stoneypath	144.18	4	*e*P		PKPbc	13 59 12.5	-0.2
EBL	Broad Law	144.29	4	*e*P		PKPdf	13 59 12.2	-0.7
SORM	Soroca	144.55	328	⇓P		PKPbc	13 59 13.9	-0.1
BZK	Bozkurt	144.84	316	⇑P		PKPbc	13 59 14.8	-0.3
NEWG	New Galloway	144.85	5	*e*P		PKPbc	13 59 14.6	-0.1
MILM	Milestii Mici	145.12	326	⇓P		PKPbc	13 59 15.6	-0.1
BSEG	Bad Segeberg	145.57	351	*e*PKPbc		PKPbc	13 59 17.5	+0.7
	baz=17,slow=2.4							
GDLE	Glaisdale, N Y	145.76	2	*e*P		PKPbc	13 59 16.7	-0.6
VASR	Vaslui	145.84	327	⇓		PKPbc	13 59 18.5	+0.7
KWP	Kalwaria Pacla	145.98	335	*e*PKP		PKPbc	13 59 18.6	+0.5
BR131	Keskin Array S	146.09	312			PKPbc	13 59 19.3	+0.4
BRTR	Keskin Array B	146.10	312	PKPbc		PKPbc	13 59 18.9	-0.1
	comp=Z,5.7nm,0.5s,baz=144,slow=3.5,SNR=26							
BRTR				SKPab		SKPab	14 02 22.7	
	comp=Z,3.2nm,1.0s,baz=90,slow=2.9,SNR=5.1							
BRTR	Keskin Array B	146.10	312			PKPbc	13 59 19.3	+0.3
VLDR	Vladesti	146.21	325	⇑P		PKPbc	13 59 19.8	+0.9
TLCR		146.23	324	⇓P		PKPbc	13 59 19.5	+0.6
RUE	Ruedersdorf	146.30	346	*e*PKPbc		PKPbc	13 59 19.5	+0.6
	baz=17,slow=2.4							
BUR08	Bucovina Ar. S	146.41	330			PKPbc	13 59 20.5	+1.0
GHRR		146.42	326	⇓P		PKiKP	13 59 20.9	-0.6
BURAR	Bucovina Array	146.42	330	⇑P		PKPbc	13 59 20.2	+0.6
JURR	Jurilovca	146.45	323	⇓P		PKPbc	13 59 19.8	+0.3
TESR	Tescani	146.50	328	⇓P		PKPbc	13 59 20.1	+0.4
OJC	Ojcow	146.59	338	*e*PKP		PKPbc	13 59 20.2	+0.5
CFR	Carcaliu	146.60	324	⇓P		PKPbc	13 59 20.1	+0.1
WLF1	Llynfaes	146.64	6	*e*P		PKPbc	13 59 19.5	-0.3
TPGR	Topolog	146.65	324	⇓P		PKPbc	13 59 20.7	+0.6
PANC	Panciu	146.68	326	⇓P		PKiKP	13 59 21.3	-0.8
KOLS	Kolonicke sedl	146.71	334	*e*PKP		PKPbc	13 59 20.9	+0.8
RETH	Rethem/Aller,	146.88	351	*e*PKPbc		PKPbc	13 59 21.0	+0.6
	baz=17,slow=2.4							
VRI	Vrincioaia	146.90	327	⇓P		PKPbc	13 59 21.0	+0.2
TIRR	Tirgusor	146.90	323	⇑P		PKPbc	13 59 21.0	+0.3
PLOR	Plostina	146.95	327	⇓P		PKPbc	13 59 21.1	+0.2
FLTG	Flechtingen	146.96	349	*e*PKPbc		PKPbc	13 59 21.0	+0.4
	baz=17,slow=2.4							
FLTG				*e*PKPab		PKPab	13 59 24.4	+0.1
	baz=17,slow=4.2							
NRDL	Niedersach Rie	147.00	350	*e*PKPbc		PKPbc	13 59 21.3	+0.7
	baz=17,slow=2.4							
HARR	Harsova	147.03	324	⇑P		PKiKP	13 59 22.0	-0.7
CRVS	Cervenica-Dubn	147.06	335	*e*PKP		PKiKP	13 59 22.0	-0.7
NIE	Niedzica	147.08	337	*e*PKP		PKiKP	13 59 22.9	+0.1
BISRR	Bisoca	147.12	326	⇓P		PKiKP	13 59 22.6	-0.5
FOEL	Foel Wylfa	147.15	5	*e*P		PKPbc	13 59 21.3	+0.2
KSP	Ksiaz	147.16	342	*e*PKP		PKiKP	13 59 22.2	-0.6
COVR	Voineasa-Covas	147.19	327	⇑P		PKPbc	13 59 21.7	+0.2
TRPA	Tarpa	147.23	333	⇓P		PKPbc	13 59 21.8	+0.3
ASSE	Asse, Remlinge	147.26	349	*e*PKPbc		PKPbc	13 59 22.0	+0.7
	baz=17,slow=2.4							
NEHR	Nehoiu	147.42	326	⇑P		PKPbc	13 59 22.7	+0.6
OSTC	Ostas	147.44	342	⇑*e*PKP		PKiKP	13 59 22.8	-0.7
CHVC	Chvalec	147.46	342	⇑*e*PKP		PKPbc	13 59 22.6	+0.6
ISR	Istrita	147.50	326	⇓P		PKiKP	13 59 23.6	-0.2
PSN	Preselentsi	147.51	322	*e*P		PKiKP	13 59 23.1	-0.7
DOPR	Dopca	147.51	328	⇓P		PKiKP	13 59 23.6	-0.2
IBBN	Ibbenburen	147.52	353	*e*PKPbc		PKPbc	13 59 22.7	+0.7
	baz=17,slow=2.4							
UPC	Upice	147.54	342	⇑*e*PKP		PKPbc	13 59 22.9	+0.7
HLM1	Long Mynd	147.54	5	*e*P		PKPbc	13 59 21.7	-0.4
KALB	Balgarevo	147.54	322	⇑P		PKiKP	13 59 23.8	-0.1
MLR	Muntele Rosu	147.56	327	⇓P		PKPbc	13 59 22.5	-0.1
MLR	Muntele Rosu	147.56	327			PKPbc	13 59 22.7	+0.1
CLL	Collm	147.57	346	⇓*i* PKPbc		PKPbc	13 59 22.8	+0.6
	comp=Z,43nm,0.6s							
CLL				*i* PKPab		PKPab	13 59 27.0	+0.2
	comp=Z,44nm,1.3s							
CLL				*e*pPKPab		pPKPbc	14 01 47.0	+0.1
CLL				*e*SKPdf		SKPdf	14 01 52.0	-0.8
CLL				*e*(SKPbc)			14 02 04.0	
CLL				*e*PKSdf		sPKPab	14 02 51.0	+1.6
CLL	Collm	147.57	346	*e*PKPbc		PKPbc	13 59 22.9	+0.6
	baz=17,slow=2.4							
CLL				*e*PKPab		PKPab	13 59 27.3	+0.5
	baz=17,slow=4.2							
CLZ	Clausthal	147.59	349	*e*PKPbc		PKiKP	13 59 23.2	-0.6
	baz=17,slow=2.4							
DPC	Dobruska-Polom	147.59	342	⇑*e*PKP		PKiKP	13 59 23.2	-0.6
LANS	Liptovska Anna	147.60	337	*e*PKP		PKiKP	13 59 24.0	+0.1
LANS				*e*			13 59 28.6	
KRLC	Kraliky	147.70	341	⇑*e*PKP		PKPbc	13 59 23.2	+0.5
MORC	Moravsky Berou	147.72	340	⇑P		PKPbc	13 59 22.1	-0.7
MORC	Moravsky Berou	147.72	340	*e*PKP		PKPbc	13 59 23.4	+0.6
BRG	Berggiesshubel	147

baz=17,slow=2.4

GRF				*e*PKPab	**PKPab**	**13 59 35.9**	**+1.1**
	baz=17,slow=4.2							
CKRC	**Cesky Krumlov**	**149.54**	**343**	⇓*e*PKP	**PKPbc**	**13 59 27.5**	**+0.3**
CSKK	**Cskako**	**149.54**	**337**	PKP	**PKiKP**	**13 59 28.4**	**+0.5**
BZS	**Buzias**	**149.57**	**331**	⇓P	**PKPbc**	**13 59 27.6**	**+0.2**
WET	**Wettzell**	**149.62**	**345**	*e*PKPbc	**PKiKP**	**13 59 28.0**	**-0.1**
	baz=17,slow=2.4							
WET				*e*PKPab	**PKPab**	**13 59 36.4**	**+1.0**
	baz=17,slow=4.2							
GEC2	**GERESS Array S**	**149.68**	**344**	*e*PKPbc	**PKiKP**	**13 59 28.1**	**-0.2**
	baz=17,slow=2.4							
GEC2				*e*PKPab	**PKPab**	**13 59 36.4**	**+0.7**
	baz=17,slow=4.2							
GERES	**GERESS Array B**	**149.68**	**344**	PKPbc	**PKiKP**	**13 59 28.0**	**-0.2**
	comp=Z,4.7nm,0.6s,baz=282,slow=2.6,SNR=34							
GERES				PKPab	**PKPab**	**13 59 36.5**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=345,slow=4.1,SNR=5.9							
HERR	**Herculane**	**149.75**	**329**	⇓P	**PKPbc**	**13 59 27.9**	**+0.2**
BMRD	**Maredsous**	**149.79**	**356**	*d*PKP	**PKiKP**	**13 59 28.0**	**-0.3**
CONA	**Conrad Observa**	**149.88**	**340**	*i* P	**PKiKP**	**13 59 28.8**	**+0.1**
	comp=Z,16nm,0.7s,SNR=15							
RONA	**Rosalia, Austr**	**149.94**	**340**	*i* P	**PKiKP**	**13 59 28.9**	**+0.1**
	comp=Z,18nm,0.6s,SNR=11							
MPLH	**Magyarpolny**	**149.97**	**338**	PKP	**PKiKP**	**13 59 29.0**	**+0.2**
MDVR	**Moldovita**	**150.16**	**330**	⇑P	**PKiKP**	**13 59 29.1**	**-0.2**
WLF	**Walferdange**	**150.30**	**354**	*e*PKPbc	**PKiKP**	**13 59 30.0**	**+0.6**
	baz=17,slow=2.4							
WLF				*e*PKPab	**PKPab**	**13 59 39.0**	**+0.8**
	baz=17,slow=4.2							
WLF	**Walferdange**	**150.30**	**354**	*d*PKP	**PKiKP**	**13 59 30.2**	**+0.8**
MORH	**Mrgy, Hungar**	**150.35**	**335**	⇓P	**PKPbc**	**13 59 29.1**	**-0.1**
MORH	**Mrgy, Hungar**	**150.35**	**335**	PKP	**PKiKP**	**13 59 29.2**	**+0.1**
KDZ	**Kurdzhali**	**150.37**	**322**	*e*P	**PKiKP**	**13 59 30.6**	**+0.8**
MOA	**Molln**	**150.43**	**342**	*e*P	**PKiKP**	**13 59 29.6**	**-0.1**
	comp=Z,4.3nm,0.5s							
MOA				*e*P	**PKPab**	**13 59 40.5**	**+1.7**
	comp=Z,16nm,1.4s							
ALN	**Alexandroupoli**	**150.46**	**320**		**PKPbc**	**13 59 29.2**	**-0.3**
BLKB	**Belogradchik**	**150.54**	**327**	⇓P	**PKPbc**	**13 59 29.6**	**-0.1**
ARSA	**Arzberg**	**150.59**	**340**	*e*P	**PKPbc**	**13 59 29.6**	**-0.1**
	comp=Z,2.9nm,0.5s							
ARSA				*e*P	**PKPab**	**13 59 40.4**	**+0.9**
	comp=Z,8.2nm,1.1s							
KOVH	**Kovagotottos**	**150.67**	**336**	PKP	**PKiKP**	**13 59 30.0**	**-0.2**
FRGS	**Fruska Gora**	**150.72**	**333**	⇓P	**PKPbc**	**13 59 29.3**	**-0.8**
STU	**Stuttgart**	**150.75**	**349**	*e*PKPbc	**PKiKP**	**13 59 30.7**	**+0.3**
	baz=17,slow=2.4							
FUR	**Furstenfeldbru**	**150.91**	**346**	*e*PKPbc	**PKiKP**	**13 59 30.8**	**+0.1**
	baz=17,slow=2.4							
FUR				*e*PKPab	**PKPab**	**13 59 41.8**	**+0.9**
	baz=17,slow=4.2							
RJOB	**Jochberg**	**150.94**	**344**	*e*PKPbc	**PKPbc**	**13 59 30.6**	**+0.1**
	baz=17,slow=2.4							
RJOB				*e*PKPab	**PKPab**	**13 59 42.3**	**+1.2**
	baz=17,slow=4.2							
VTS	**Vitosha**	**150.95**	**325**	⇑P	**PKiKP**	**13 59 31.1**	**-0.1**
VTS	**Vitosha**	**150.95**	**325**	*e*P	**PKiKP**	**13 59 31.0**	**-0.1**
BOVS	**Bovan**	**151.01**	**328**	⇑P	**PKPbc**	**13 59 30.2**	**-0.5**
SOKA	**Soboth**	**151.25**	**340**	*i* P	**PKPbc**	**13 59 31.1**	**-0.2**
	comp=Z,20nm,1.4s,SNR=6.6							
SOKA				*e*P	**PKPab**	**13 59 43.4**	**+1.0**
	comp=Z,13nm,1.1s							
PERS	**Pernice**	**151.26**	**340**	*i* PKPbc	**PKPbc**	**13 59 30.9**	**-0.3**
BFO	**Black Forest**	**151.32**	**350**		**PKiKP**	**13 59 31.9**	**+0.4**
BFO	**Black Forest**	**151.32**	**350**	*e*PKPbc	**PKiKP**	**13 59 31.6**	**0.0**
	baz=17,slow=2.4							
BFO				*e*PKPab	**PKPab**	**13 59 42.8**	**+0.3**
	baz=17,slow=4.2							
MMB	**Musomiste**	**151.38**	**323**	*e*P	**PKPbc**	**13 59 31.3**	**-0.4**
KBA	**Koelnbreinsper**	**151.40**	**343**	*i* P	**PKPbc**	**13 59 31.2**	**-0.5**
	comp=Z,4.6nm,0.4s,SNR=6.1							
KKB	**Krupnik**	**151.55**	**324**	*e*P	**PKPbc**	**13 59 31.6**	**-0.4**
OBKA	**Obir**	**151.55**	**341**	*e*P	**PKiKP**	**13 59 32.5**	**+0.3**
	comp=Z,3.9nm,0.5s							
WATA	**Walderalm**	**151.62**	**345**	*i* P	**PKPbc**	**13 59 32.1**	**-0.1**
	comp=Z,11nm,0.4s,SNR=5.2							
WATA				*e*P	**PKPab**	**13 59 45.3**	**+1.2**
	comp=Z,29nm,1.3s							
UBR	**Ueberruh**	**151.62**	**347**	*e*PKPbc	**PKiKP**	**13 59 32.3**	**0.0**
	baz=17,slow=2.4							
RETA	**Reutte**	**151.66**	**346**	*e*P	**PKiKP**	**13 59 32.3**	**-0.1**
	comp=Z,4.9nm,0.5s							
WTTA	**Wattenberg**	**151.67**	**345**	*i* P	**PKiKP**	**13 59 32.6**	**0.0**
	comp=Z,9.6nm,0.4s,SNR=9.2							
MYKA	**Terra Mystica**	**151.72**	**342**	*i* P	**PKPbc**	**13 59 31.9**	**-0.4**
	comp=Z,7.2nm,0.4s,SNR=5.1							
MOTA	**Moosalm**	**151.72**	**346**	*e*P	**PKiKP**	**13 59 32.5**	**-0.1**
	comp=Z,6.5nm,0.5s							
PDKS	**Podkum**	**151.81**	**340**	*i* PKPbc	**PKPbc**	**13 59 32.5**	**0.0**
PDKS				*i* PKPab	**PKPab**	**13 59 44.8**	**+0.1**
SQTA	**Sankt Quirin**	**151.81**	**346**	*e*P	**PKiKP**	**13 59 32.8**	**0.0**
	comp=Z,3.0nm,0.4s							
SQTA				*e*P	**PKPab**	**13 59 46.0**	**+1.2**
	comp=Z,3.6nm,0.5s							
ABTA	**Abfaltersbach**	**151.93**	**343**	*i* P	**PKPbc**	**13 59 32.4**	**-0.4**
	comp=Z,12nm,0.5s,SNR=6.5							
LJU	**Ljubljana**	**151.97**	**340**	*i* PKPbc	**PKiKP**	**13 59 32.9**	**-0.1**
LJU				*i* PKPab	**PKPab**	**13 59 45.9**	**+0.5**
DAVA	**Damuels**	**152.04**	**347**	*e*P	**PKiKP**	**13 59 33.5**	**+0.2**
	comp=Z,14nm,1.2s							
FETA	**Feichten**	**152.11**	**346**	*e*P	**PKiKP**	**13 59 33.6**	**+0.1**
	comp=Z,3.1nm,0.5s							
FETA				*e*P	**PKPab**	**13 59 46.9**	**+0.8**
	comp=Z,13nm,1.1s							
TIP	**Timpagrande**	**156.81**	**328**	⇓P	**PKPab**	**14 00 06.8**	**+0.3**
ESDC	**Sonseca Array**	**160.04**	**12**	PKPab	**PKPab**	**14 00 20.2**	**-0.2**
	comp=Z,7.5nm,1.1s,baz=339,slow=4.1,SNR=14							
DBIC	**Dimbokro**	**165.34**	**155**	PKPab	**PKPab**	**14 00 44.8**	**+0.5**
	comp=Z,9.6nm,0.9s,baz=217,slow=6.4,SNR=5.1							
TORD	**Torodi Ar. Bea**	**173.01**	**184**	PKPab	**PKPab**	**14 01 18.0**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=184,slow=4.5,SNR=9.3							
TORD				pPKPab	**pPKPab**	**14 03 35.1**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=168,slow=3.0,SNR=6.8							
TORD				PP	**PP**	**14 05 08.9**	**-0.3**
	comp=Z,2.7nm,1.1s,baz=199,slow=3.2,SNR=5.5							

*TEH **07** 13:50:48.8, 29.°06N×56.°21E, h8km, ML3.0*
*DSN **07** 13:50:50.1±1.3, 29.°02N×56.°46E, h10km, ML2.9/5, Error ellipse: s-maj=49.5km s-min=11.1km az=87.0*

ISC 07 13:50:50.3±1.1, 29.°05N±0.°04×56.°22E±0.°06, h10km, n20, σ0s85/23, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NGRK	**Negar Kerman**	**0.74**	**37**	*e*Sg		**Sg**	**13 51 14.6**	**+0.3**
NGRK				*e*Pg		**Pg**	**13 51 04.4**	**-0.2**
NGRK				*e*			13 51 15.6	
	comp=Z,6μm,0.2s							
KRBR	**Kerman**	**1.04**	**27**	*e*Pg		**Pg**	**13 51 09.6**	**-0.7**
TVBK	**TV Kerman**	**1.04**	**27**	*e*Sg		**Sg**	**13 51 23.8**	**-0.2**
TVBK				*e*Pg		**Pg**	**13 51 09.6**	**-0.8**
TVBK				*e*			13 51 24.7	
	comp=Z,8μm,0.2s							
KHGB	**Koh Gabri**	**1.34**	**10**	*e*Pg		**Pn**	**13 51 13.8**	**-1.4**
KHGB				*e*			13 51 31.7	
	comp=Z,2μm,0.3s							
CHMN	**Cheshme madani**	**1.41**	**55**	*e*Pg		**Pn**	**13 51 15.9**	**-0.4**
CHMN				*e*			13 51 42.9	
	comp=Z,5μm,0.4s							
GENO	**Geno**	**1.65**	**181**	*e*Pg		**Pn**	**13 51 20.2**	**+0.8**
KHNJ	**Kahnooj**	**1.71**	**130**	*e*Pg		**Pn**	**13 51 21.7**	**+1.5**
KBAM	**BAM**	**1.96**	**87**	*e*Pn		**Pn**	**13 51 24.5**	**+0.9**
KBAM				*e*			13 51 59.0	
	comp=Z,1μm,0.3s							
IMEH	**Mehriz**	**2.71**	**330**	*e*Pn		**Pn**	**13 51 35.5**	**+1.4**
SHME	**Shamm**	**2.99**	**181**	P		**Pn**	**13 51 36.6**	**-1.1**
BANOM	**Banah**	**3.12**	**179**	P		**Pn**	**13 51 39.9**	**+0.3**
BANOM				S		**Sn**	**13 52 17.1**	**+0.2**
YZKH	**Yazd**	**3.61**	**338**	*e*Pn		**Pn**	**13 51 47.6**	**+1.3**
MSFE	**Esma-Masafi**	**3.68**	**181**	P		**Pn**	**13 51 47.4**	**+0.1**
BSRN	**Basiran**	**3.84**	**40**	*e*Pn		**Pn**	**13 51 50.3**	**+0.8**
UOSS	**Minazif**	**4.09**	**180**	P		**Pn**	**13 51 51.9**	**-1.0**
HATD	**Hatta, Dubai**	**4.21**	**181**	P		**Pn**	**13 51 54.1**	**-0.5**
IRAM	**Rameshеh**	**4.30**	**311**	*e*Pn		**Pn**	**13 51 56.4**	**+0.4**
FAQ	**Al Faqa, Dubai**	**4.33**	**188**	P		**Pn**	**13 51 56.1**	**-0.1**
ASUD	**Al Ashush, Dub**	**4.48**	**190**	P		**Pn**	**13 51 58.6**	**+0.4**
ANAR	**Anarak**	**4.64**	**333**	*e*Pn		**Pn**	**13 52 01.3**	**+0.7**

WEL 07 13:52:55.0±0.9, 35.°S±5.′×17.°9E±.°, h12km, M4.0/40, mB4.6/5, ML4.2/47, MLv4.1/40, Mw(mB)3.8/5, Error ellipse: s-maj=0.0km s-min=0.0km az=83.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**2.62**	**192**	P		Pb	13 53 40.4	-1.5
WMGZ	**Waiomatatini S**	**2.85**	**190**	P		Pb	13 53 43.8	-2.1
HAZ	**Te Kaha**	**2.92**	**199**	P		Pn	13 53 43.4	+2.1
PUZ	**Puketiti**	**3.12**	**191**	P		Pn	13 53 46.0	+1.9
RUGZ	**Raukumara Rang**	**3.15**	**200**	P		Pn	13 53 45.8	+1.3
RUGZ				S		Sn	13 54 25.2	+3.1
GRZ	**Great Barrier**	**3.15**	**246**	P		Pn	13 53 44.2	-0.2
KUZ	**Kuaotunu**	**3.19**	**236**	P		Pn	13 53 46.2	+1.3
TWGZ	**Tauwhareparae**	**3.28**	**194**	P		Pn	13 53 48.3	+2.1
TWGZ				S		Sn	13 54 28.6	+3.4
WHRZ	**Whale Island**	**3.29**	**209**	P		Pn	13 53 49.2	+2.9
WHRZ				S		Sb	13 54 30.4	-2.9
OPRZ	**Ohinepanea**	**3.46**	**214**	P		Pn	13 53 50.7	+2.1
TGRZ	**Tauranga**	**3.51**	**218**	P		Pn	13 53 51.8	+2.4
MARZ	**Manawahe**	**3.52**	**212**	P		Pn	13 53 51.8	+2.2
MWZ	**Matawai**	**3.53**	**199**	P		Pn	13 53 50.4	+0.7
MWZ				S		Sn	13 54 32.0	+0.6
CNGZ	**Carnagh Statio**	**3.54**	**190**	P		Pn	13 53 51.2	+1.4
TKGZ	**Te Karaka**	**3.56**	**195**	P		Pn	13 53 50.9	+0.9
TKGZ				S		Sn	13 54 32.3	+0.3
URZ	**Urewera**	**3.59**	**205**	P		Pn	13 53 50.7	+0.2
URZ				S		Sn	13 54 35.0	+2.1
EDRZ	**Edgecumbe**	**3.60**	**210**	P		Pn	13 53 52.2	+1.5
RAGZ	**Rawiri**	**3.72**	**200**	P		Pn	13 53 53.2	+0.9
OMRZ	**Omania**	**3.76**	**214**	P		Pn	13 53 54.4	+1.5
MKAZ	**Moumakai**	**3.76**	**235**	P		Pn	13 53 53.2	+0.4
KMRZ	**Kaimai**	**3.77**	**220**	P		Pn	13 53 54.6	+1.7
TARZ	**Mount Tarawera**	**3.81**	**211**	P		Pn	13 53 55.4	+1.9
HLRZ	**Highlands Stat**	**3.89**	**213**	P		Pn	13 53 55.8	+1.3
RRRZ	**Republican Roa**	**3.89**	**210**	P		Pn	13 53 55.8	+1.2
WCZ	**Waipu Caves**	**3.92**	**255**	P		Pn	13 53 54.8	-0.2
TOZ	**Tahuroa Road**	**3.93**	**225**	P		Pn	13 53 55.9	+0.8
RTZ	**Ruatahuna**	**3.96**	**204**	P		Pn	13 53 54.9	-0.7
HSRZ	**Hossack Road**	**3.98**	**213**	P		Pn	13 53 57.4	+1.5
PRGZ	**Paritu Road**	**4.02**	**193**	P		Pn	13 53 56.1	-0.3
PRRZ	**Plateau Road**	**4.08**	**210**	P		Pn	13 53 57.2	+0.1
ALRZ	**Allen Road**	**4.15**	**210**	P		Pn	13 53 58.1	-0.1
KNZ	**Kokohu**	**4.15**	**195**	P		Pn	13 53 57.2	-1.0
WPRZ	**Whakapapatarin**	**4.19**	**212**	P		Pn	13 53 59.2	+0.4
RAHZ	**Arahi**	**4.20**	**201**	P		Pn	13 53 58.2	-0.7
RAHZ				S		Sn	13 54 46.5	-1.4
MTHZ	**Maungataniwha**	**4.22**	**204**	P		Pn	13 53 57.9	-1.3
WHHZ	**Waihua**	**4.31**	**199**	P		Pn	13 53 57.6	-2.7
WHHZ				S		Sn	13 54 50.2	-0.3
KUTZ	**Kaahu Road**	**4.32**	**215**	P		Pn	13 54 01.3	+0.7
TLZ	**Tolley Road**	**4.34**	**219**	P		Pn	13 54 02.0	+1.1
MRHZ	**Matea Rd**	**4.35**	**208**	P		Pn	13 53 60.0	-1.1
OUZ	**Omahuta**	**4.44**	**266**	P		Pn	13 54 01.1	-1.1
NMHZ	**Naumai**	**4.45**	**203**	P		Pn	13 54 01.6	-0.8
HATZ	**Hinemaiaia**	**4.53**	**210**	P		Pn	13 54 02.1	-1.3
WATZ	**Wairara**	**4.54**	**214**	P		Pn	13 54 03.4	-0.2
ARHZ	**Aropaoanui**	**4.55**	**200**	P		Pn	13 54 02.1	-1.5
ARHZ				S		Sn	13 54 54.5	-1.9
BKZ	**Black Stump Fm**	**4.62**	**205**	P		Pn	13 54 02.8	-1.9
RATZ	**Rangitukua**	**4.65**	**213**	P		Pn	13 54 04.7	-0.4
RITZ	**Rihia Road**	**4.70**	**212**	P		Pn	13 54 04.9	-0.9
MCHZ	**McNeill Hill**	**4.80**	**202**	P		Pn	13 54 05.1	-2.0
MCHZ				S		Sn	13 55 00.5	-2.3
HIZ	**Hauiti**	**4.84**	**222**	P		Pn	13 54 08.8	+1.2
KWHZ	**Kaweka Forest**	**4.87**	**204**	P		Pn	13 54 05.8	-2.3
TMVZ	**Te Maari**	**4.88**	**212**	P		Pn	13 54 06.8	-1.6
CKHZ	**Cape Kidnapper**	**4.90**	**198**	P		Pn	13 54 06.2	-2.3
ETVZ	**East Tongariro**	**4.90**	**212**	P		Pn	13 54 06.9	-1.7
WTVZ	**West Tongariro**	**4.93**	**213**	P		Pn	13 54 07.3	-1.8
NNVZ	**North Ngauruho**	**4.94**	**212**	P		Pn	13 54 07.6	-1.5
SNVZ	**South Ngauruho**	**4.97**	**212**	P		Pn	13 54 08.0	-1.6
NGZ	**Ngauruhoe**	**4.98**	**212**	P		Pn	13 54 08.2	-1.6
BHHZ	**Black Hill Sta**	**5.06**	**207**	P		Pn	13 54 07.7	-3.1
KAHZ	**Kahuranaki**	**5.08**	**199**	P		Pn	13 54 08.3	-2.7
KRHZ	**Kereru**	**5.09**	**204**	P		Pn	13 54 07.8	-3.3
WNVZ	**Wahianoa**	**5.11**	**211**	P		Pn	13 54 09.2	-2.3
MOVZ	**Moawhango**	**5.11**	**210**	P		Pn	13 54 08.2	-3.2
PXZ	**Pawanui**	**5.30**	**198**	P		Pn	13 54 10.3	-3.7
VRZ	**Vera Road**	**5.34**	**218**	P		Pn	13 54 14.2	-0.3
PNHZ	**Pukenui**	**5.39**	**204**	P		Pn	13 54 11.3	-4.0
WPHZ	**Waipukurau**	**5.45**	**201**	P		Pn	13 54 12.1	-4.0
PRHZ	**Porangahau**	**5.58**	**199**	P		Pn	13 54 14.0	-3.9
TSZ	**Takapari Road**	**5.60**	**205**	P		Pn	13 54 13.5	-4.6
WAZ	**Wanganui**	**5.73**	**213**	P		Pn	13 54 16.4	-3.4
DVHZ	**Dannevirke**	**5.75**	**202**	P		Pn	13 54 15.6	-4.6
NEZ	**North Egmont**	**5.79**	**221**	P		Pn	13 54 20.4	-0.5
ANWZ	**Angora Road**	**5.81**	**199**	P		Pn	13 54 16.6	-4.3
POWZ	**Post Office Ro**	**5.96**	**205**	P		Pn	13 54 18.5	-4.6
PRWZ	**Puri Road**	**6.04**	**203**	P		Pn	13 54 19.7	-5.6
BFZ	**Birch Farm**	**6.08**	**200**	P		Pn	13 54 19.7	-5.0
MRZ	**Mangatainoka R**	**6.27**	**205**	P		Pn	13 54 21.7	-5.5
CPWZ	**Castlepoint**	**6.30**	**200**	P		Pn	13 54 23.3	-4.4
HOWZ	**Holdsworth Sta**	**6.50**	**204**	P		Pn	13 54 23.0	-7.5
OGWZ	**Otaki Gorge**	**6.55**	**206**	P		Pn	13 54 25.4	-5.8
TMWZ	**Te Maipa**	**6.57**	**201**	P		Pn	13 54 25.6	-5.8
KIW	**Kapiti Island**	**6.69**	**208**	P		Pn	13 54 26.9	-6.1
MTW	**Mount Morrison**	**6.74**	**203**	P		Pn	13 54 27.3	-6.5
CAW	**Cannon Point**	**6.84**	**206**	P		Pn	13 54 28.5	-6.6
TRWZ	**Traveller**	**6.90**	**201**	P		Pn	13 54 29.7	-6.3
PAWZ	**Paruwai Farm**	**6.97**	**203**	P		Pn	13 54 30.1	-6.8
MSWZ	**Moikau Station**	**7.05**	**204**	P		Pn	13 54 31.6	-6.5
WEL	**Wellington**	**7.11**	**207**	P		Pn	13 54 32.2	-6.6
PLWZ	**Palliser**	**7.19**	**203**	P		Pn	13 54 32.8	-7.2
TCW	**Tory Channel**	**7.24**	**210**	P		Pn	13 54 33.3	-7.2
TUWZ	**Tuamarina**	**7.55**	**210**	P		Pn	13 54 37.3	-7.6
BSWZ	**Blackbirch Sta**	**7.82**	**209**	P		Pn	13 54 41.3	-7.3
THZ	**Tophouse**	**8.28**	**214**	P		Pn	13 54 46.8	-8.1
KHZ	**Kahutara**	**8.55**	**208**	P		Pn	13 54 49.7	-8.9
GVZ	**Greta Valley S**	**9.21**	**209**	P		Pn	13 54 58.6	-9.0
LTZ	**Lake Taylor**	**9.38**	**212**	P		Pn	13 55 00.8	-9.1
OKCZ	**Okains Bay**	**9.85**	**206**	P		Pn	13 55 06.9	-9.5
MQZ	**McQueen's Vall**	**9.99**	**208**	P		Pn	13 55 07.5	-11
RPZ	**Rata Peaks**	**10.65**	**213**	P		Pn	13 55 17.3	-10

*IDC **07** 14:15:29.5±5.7, 5.°41S×140.°27E, h0km, mb3.2/1, mb1 3.9/3, mb1mx3.5/24, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=210.1km s-min=35.5km az=90.0*

ISC 07 14:15:41.3±3.0, 6.°4S±0.°2×141.°0E±0.°2, h35km, n11, σ0s85/12, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
COEN	**Coen**	**7.82**	**164**	P		**Pn**	**14 17 32.7**	**+0.1**
KDU	**Kakadu**	**10.48**	**233**	P		**Pn**	**14 18 09.7**	**+0.6**
MTN	**Manton Dam**	**11.65**	**236**	P		**Pn**	**14 18 25.0**	**-0.2**
QIS	**Mount Isa**	**14.15**	**185**	P		**Pn**	**14 18 59.3**	**0.0**
WRA	**Warramunga Arr**	**14.95**	**205**	Pn		**Pn**	**14 19 08.6**	**-1.5**
	0.4nm,0.3s,baz=20,slow=13,SNR=25							
WRA				Sn		**Sn**	**14 21 55.4**	**+0.8**
	0.2nm,0.3s,baz=20,slow=36,SNR=1.7							
KNRA	**Kununurra**	**15.14**	**231**	P		**Pn**	**14 19 11.4**	**-1.3**
ASAR	**Alice Springs**	**18.48**	**201**	P		**Pn**	**14 19 55.3**	**+0.5**
	0.4nm,0.3s,baz=27,slow=10,SNR=49							
ASAR				S		**S**	**14 23 23.0**	**-0.7**
	0.0nm,0.3s,baz=16,slow=28,SNR=4.7							
OOD	**Oodnadatta**	**21.88**	**193**	P		**P**	**14 20 31.3**	**+0.1**
WRKA	**Warakurna**	**22.18**	**212**	P		**P**	**14 20 33.7**	**-0.8**
MULG	**Mulgathing**	**24.65**	**195**	P		**P**	**14 20 58.4**	**-0.3**
MKAR	**Makanchi Array**	**74.08**	**322**	P		P	14 27 00.5	-13
	0.1nm,0.7s,baz=118,slow=6.4,SNR=1.4							

IDC 07 14:46:40.2±2.4, 4.°18N×126.°77E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/46, mbtmp3.3/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/28, Error ellipse: s-maj=190.0km s-min=29.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAY	**Jayapura**	**15.44**	**115**	LR		LR	14 55 36.1	
	comp=Z,90nm,18.2s,baz=197,slow=35							
WRA	**Warramunga Arr**	**25.10**	**163**	P		P	14 52 07.5	+0.6
	0.9nm,0.7s,baz=342,slow=10,SNR=8.9							
ASAR	**Alice Springs**	**28.54**	**166**	P		P	14 52 37.1	-0.8
	0.3nm,0.9s,baz=346,slow=6.6,SNR=7.0							
MKAR	**Makanchi Array**	**57.21**	**325**	P		P	14 56 29.4	+0.1
	0.1nm,0.4s,baz=106,slow=7.6,SNR=2.6							

*IDC **07** 14:48:50.0±1.3, 42.°12N×144.°67E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.5/43, mbtmp3.8/7, ML4.0/1, MS2.9/4, Ms1 2.9/4, ms1mx2.5/94, Error ellipse: s-maj=33.9km s-min=25.5km az=48.0*
*MOS **07** 14:48:54.4±0.7, 42.°20N×144.°67E, h45km, mb4.4/1, Error ellipse: s-maj=20.2km s-min=9.1km az=80.5*
*SKHL **07** 14:48:55.8±0.6, 42.°20N×144.°80E, h67km, mb4.6/3*
*NIED **07** 14:48:56.1, 42.°33N×144.°68E, h34km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr3.87; Mθθ-2.46; Mφφ-1.41; Mrθ2.23; Mθφ-1.86; Mφr1.95; Fault plane solution: M0 4.87000×10^14^ NP1:φs50.00000°, δ64.00000°, λ88.00000°. NP2:φs235.00000°, δ26.00000°, λ94.00000°.*
*JMA **07** 14:48:56.0, 42.°33N×144.°68E, h34km±1km, M3.8*

ISC 07 14:48:54.7±1.6, 42.°26N±0.°06×144.°70E±0.°04, h27km±11km, n40, σ0s89/54, mb3.7/6, 1C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAK	**Akkeshi**	**0.74**	**360**	⇓P		**Pb**	**14 49 08.9**	**-0.1**
JAK				*e*S		**Sb**	**14 49 18.6**	**-0.1**
AKK	**Akkeshi**	**0.77**	**8**	*e*P		**Pn**	**14 49 09.4**	**-0.3**
AKK				*e*S		**Sb**	**14 49 19.4**	**-0.1**
JKHN	**Kushirohamanak**	**0.89**	**22**	⇓P		**Pn**	**14 49 11.9**	**+0.5**
JKHN				*e*S		**Sn**	**14 49 24.1**	**+0.7**
JOB	**Onbets**	**0.91**	**316**	⇓P		**Pn**	**14 49 11.8**	**+0.2**
JOB				*e*S		**Sn**	**14 49 23.7**	**-0.1**
JCH	**Churui**	**1.05**	**290**	⇓P		**Pn**	**14 49 14.3**	**+0.7**
JCH				*e*S		**Sn**	**14 49 27.8**	**+0.4**
JEM	**Erimo**	**1.17**	**259**	P		**Pb**	**14 49 17.2**	**+0.9**
JAR	**Ashorobuto**	**1.24**	**327**	⇓P		**Pn**	**14 49 16.0**	**-0.3**
JNK	**Nakash**	**1.33**	**1**	⇓P		**Pn**	**14 49 16.9**	**-0.5**
JNK				*e*S		**Sn**	**14 49 33.0**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.34**	**34**	⇓*i* PN		**Pn**	**14 49 17.8**	**+0.2**
NMR				*e*S		**Sn**	**14 49 34.6**	**0.0**
NMR	**Nemuro--Hokkai**	**1.34**	**34**	*i* P		**Pn**	**14 49 17.8**	**+0.2**
NMR				*e*S		**Sn**	**14 49 34.6**	**0.0**
NEM2	**Nemuro 2**	**1.35**	**34**	P		**Pn**	**14 49 17.9**	**+0.2**
NEM2				*e*S		**Sn**	**14 49 34.6**	**0.0**
JNBK	**Urakawa-nobuka**	**1.45**	**272**	P		**Pb**	**14

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**229**	P	P	14 57 53.7	-1.4
	0.3nm,0.4s,baz=54,slow=9.9,SNR=8.1						
ASAR	**Alice Springs**	**25.24**	**222**	P	P	14 58 22.1	+0.9
	0.5nm,0.6s,baz=57,slow=8.9,SNR=20						
TORD	**Torodi Ar. Bea**	**149.90**	**287**	PKPbc	PKPbc	15 12 46.3	-0.4
	0.4nm,0.7s,baz=86,slow=4.5,SNR=2.4						

*TUL **07** 14:54:50.1±1.0, 36.62N±0.01×97.69W±0.02, h7km±7km, ML2.8, mb_Lg2.5/20(NEIC), Error ellipse: s-maj=2.4km s-min=1.6km az=102.0*

NEIC 07 14:54:50.1±1.0, 36.62N±0.01×97.690W±0.007, h4km±7km, Error ellipse: s-maj=1.7km s-min=0.4km az=205.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.99**	**72**		Pg	14 55 08.8	-0.3
U32A	**Winter Ranch,**	**1.08**	**258**		Pg	14 55 10.4	-0.4
FNO	**Franklin**	**1.38**	**170**		Pn	14 55 15.7	-0.4
W35A	**Tecumseh**	**1.60**	**155**	Pn	Pn	14 55 19.2	0.0
TUL1	**Leonard**	**1.69**	**114**	Pn	Pn	14 55 20.6	+0.3
X34A	**Smith Ranch, M**	**2.02**	**183**		Pn	14 55 26.1	+1.2
WMOK	**Wichita Mounta**	**2.08**	**206**		Pn	14 55 26.1	+0.4
WMOK				IAmb_Lg		14 55 58.7	
	comp=Z,16nm,0.8s						
X37A	**Clayton**	**2.77**	**136**	IAmb_Lg		14 56 24.8	
	comp=Z,19nm,0.8s						
P38A	**Dawn**	**4.45**	**46**	IAmb_Lg		14 57 21.6	
	comp=Z,11nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.56**	**98**	IAmb_Lg		14 57 18.7	
	comp=Z,10nm,1.1s						
WHAR	**Wooly Hollow**	**4.58**	**105**	IAmb_Lg		14 57 14.5	
	comp=Z,10nm,1.1s						
R40A	**Maddies Statio**	**4.63**	**67**	IAmb_Lg		14 57 18.7	
	comp=Z,9.3nm,0.7s						
P40A	**Paris**	**5.32**	**55**	IAmb_Lg		14 57 44.5	
	comp=Z,9.4nm,0.7s						
CCM	**Cathedral Cave**	**5.33**	**72**	IAmb_Lg		14 57 43.6	
	comp=Z,9.6nm,0.9s						
T25A	**Trinidad**	**5.41**	**278**	IAmb_Lg		14 57 47.8	
	comp=Z,9.0nm,1.1s						
X43A	**Marvell**	**5.93**	**109**	IAmb_Lg		14 58 06.6	
	comp=Z,8.2nm,0.8s						

*ISK **07** 15:04:21.7, 38.65N×25.95E, h5km, ML2.8/13*
*DDA **07** 15:04:22.3±0.0, 38.66N×26.00E, h8km±4km, ML2.6*
*THE **07** 15:04:23.6, 38.66N×26.01E, h14km, ML3.0/5, Error ellipse: s-maj=1.3km s-min=0.4km az=267.0*
*ATH **07** 15:04:23.1, 38.65N×26.01E, h22km±5km, ML2.9/8, Error ellipse: s-maj=5.3km s-min=1.3km az=191.0*

ISC 07 15:04:23.0±0.9, 38.66N±0.02×26.00E±0.02, h16km±8km, n62, σ0.66/83, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.27**	**172**	P	**Pb**	**15 04 29.4**	**-0.2**
CHOS				S	**Sg**	**15 04 33.0**	**0.0**
CHOS				AML	AML	15 04 35.1	
	comp=N,8028μm,0.2s						
CHOS				AML	AML	15 04 35.1	
	comp=E,15312μm,0.2s						
CHOS	**Chios island**	**0.27**	**172**	P	**Pb**	**15 04 29.4**	**-0.2**
CHOS				S	**Sg**	**15 04 33.5**	**+0.6**
	comp=E,6μm,0.2s						
PSRA	**Psara**	**0.36**	**252**	P	**Pb**	**15 04 32.0**	**+0.9**
PSRA				S	**Sb**	**15 04 36.9**	**+0.4**
PSRA				AML	AML	15 04 37.5	
	comp=N,12480μm,0.3s						
PSRA				AML	AML	15 04 37.6	
	comp=E,14314μm,0.2s						
URLA	**Izmir**	**0.55**	**122**	PG	**Pg**	**15 04 33.7**	**-0.2**
URLA	**Izmir**	**0.55**	**122**	P	**Pg**	**15 04 33.8**	**-0.1**
URLA				S	**Sg**	**15 04 40.7**	**-0.6**
URLA				*i* AML	AML	15 04 42.0	
	comp=E,321nm,0.3s						
SIGR	**SIGRI**	**0.56**	**348**	P	**Pg**	**15 04 33.8**	**-0.3**
SIGR				S	**Sg**	**15 04 41.2**	**-0.5**
SIGR				AML	AML	15 04 45.4	
	comp=N,2481μm,0.2s						
SIGR				AML	AML	15 04 45.7	
	comp=E,4533μm,0.5s						
SIGR	**SIGRI**	**0.56**	**348**	P	**Pg**	**15 04 33.9**	**-0.3**
SIGR				S	**Sb**	**15 04 43.4**	**+1.0**
	comp=E,2μm,0.4s						
SIGR	**SIGRI**	**0.56**	**348**	PG	**Pg**	**15 04 33.5**	**-0.7**
FOCM	**Foa**	**0.57**	**84**	PG	**Pg**	**15 04 33.9**	**-0.4**
FOCM				SG	**Sb**	**15 04 42.5**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**0.57**	**137**	P	**Pg**	**15 04 33.8**	**-0.4**
ZEYE				S	**Sg**	**15 04 41.9**	**0.0**
ZEYE				*i* AML	AML	15 04 46.0	
	comp=E,482nm,0.2s						
ZEYE				*i* AML	AML	15 04 47.0	
	comp=E,412nm,0.4s						
PRK	**Paraskevi**	**0.62**	**19**	P	**Pg**	**15 04 35.5**	**+0.3**
PRK				S	**Sb**	**15 04 44.1**	**0.0**
PRK				AML	AML	15 04 47.8	
	comp=E,4219μm,0.4s						
PRK				AML	AML	15 04 48.4	
	comp=N,3519μm,0.3s						
PRK	**Paraskevi**	**0.62**	**19**	P	**Pg**	**15 04 35.6**	**+0.3**
PRK				S	**Sb**	**15 04 45.1**	**+1.0**
	comp=N,2μm,0.3s						
GPNR	**Gulpinar-Canak**	**0.80**	**7**	PG	**Pg**	**15 04 37.8**	**-0.8**
GPNR				SG	**Sb**	**15 04 49.9**	**+0.6**
DKL	**Dikili**	**0.82**	**59**	PG	**Pg**	**15 04 38.9**	**0.0**
DKL				SG	**Sn**	**15 04 51.2**	**-0.4**
AYVA	**Ayvalik**	**0.84**	**39**	P	**Pg**	**15 04 38.7**	**-0.6**
AYVA				S	**Sg**	**15 04 50.1**	**-0.3**
AYVA				*i* AML	AML	15 04 53.0	
	comp=N,168nm,0.2s						
AYVA				*i* AML	AML	15 04 55.0	
	comp=N,152nm,0.3s						
KOCA	**Canakkale, Ayv**	**0.85**	**7**	P	**Pg**	**15 04 38.8**	**-0.7**
KOCA				S	**Sg**	**15 04 50.6**	**-0.2**
KOCA				*i* AML	AML	15 04 52.0	
	comp=N,370nm,0.5s						
KOCA				*i* AML	AML	15 04 53.0	
	comp=N,408nm,0.7s						
ZEDA	**zmir-Bergama**	**0.89**	**69**	P	**Pb**	**15 04 40.1**	**0.0**
SMG	**Samos**	**1.15**	**145**	P	**Pb**	**15 04 44.3**	**-0.2**
SMG				S	**Sb**	**15 04 59.1**	**-0.2**
SMG				AML	AML	15 05 03.5	
	comp=E,1930μm,0.5s						
SMG				AML	AML	15 05 03.7	
	comp=N,1107μm,0.3s						
SMG	**Samos**	**1.15**	**145**	P	**Pb**	**15 04 44.4**	**-0.2**
SMG				S	**Sg**	**15 04 59.9**	**-0.4**
	comp=N,760nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**1.16**	**21**	P	**Pn**	**15 04 43.9**	**-0.7**
BAYC				S	**Sb**	**15 04 58.4**	**-1.2**
BOZC	**Bozcaada**	**1.18**	**2**	PN	**Pn**	**15 04 44.6**	**-0.3**
BUHA	**Balikesir, Bur**	**1.19**	**44**	P	**Pn**	**15 04 44.0**	**-1.0**
EZN	**Ezine**	**1.19**	**12**	P	**Pn**	**15 04 44.8**	**-0.2**
EZN				S	**Sb**	**15 05 00.9**	**+0.4**
	comp=N,192nm,0.3s						
EZN	**Ezine**	**1.19**	**12**	PN	**Pn**	**15 04 44.8**	**-0.2**
TNSA	**Tinos**	**1.30**	**211**	P	**Pn**	**15 04 45.9**	**-0.6**
GCAM	**G?zelcaml?**	**1.36**	**134**	PN	**Pb**	**15 04 48.2**	**+0.1**
GCAM	**G?zelcaml?**	**1.36**	**134**	P	**Pg**	**15 04 49.0**	**-0.1**
KARY	**Karystos**	**1.38**	**244**	P	**Pn**	**15 04 47.5**	**-0.1**
KARY	**Karystos**	**1.38**	**244**	P	**Pn**	**15 04 47.5**	**-0.1**
ECEA	**Canakkale, Ece**	**1.39**	**5**	P	**Pn**	**15 04 47.5**	**-0.3**
ECEA				S	**Sn**	**15 05 04.7**	**-1.1**
ECEA				*i* AML	AML	15 05 06.0	
	comp=N,80nm,0.6s						
ECEA				*i* AML	AML	15 05 12.0	
	comp=N,131nm,0.3s						
LIA	**Limnos Island**	**1.39**	**333**	P	**Pn**	**15 04 47.8**	**0.0**
LIA				AML	AML	15 05 08.8	
	comp=E,289μm,0.3s						
LIA				AML	AML	15 05 09.0	
	comp=N,273μm,0.3s						
LIA	**Limnos Island**	**1.39**	**333**	P	**Pn**	**15 04 47.7**	**-0.1**
AKHS	**Akhisar**	**1.43**	**81**	P	**Pb**	**15 04 49.6**	**+0.3**
KYMI	**Kymi, Euboea I**	**1.49**	**270**	P	**Pn**	**15 04 49.9**	**+0.8**
KYMI				AML	AML	15 05 14.7	
	comp=E,81μm,0.6s						
KYMI				AML	AML	15 05 14.8	
	comp=N,91μm,0.5s						
STEP	**BALIKESIR_Sava**	**1.52**	**61**	P	**Pn**	**15 04 49.2**	**-0.4**
GOKA	**anakkale-Gk**	**1.53**	**357**	P	**Pb**	**15 04 50.9**	**-0.1**
DDIM	**Aydin, Didim**	**1.55**	**140**	P	**Pg**	**15 04 54.0**	**+1.3**
DDIM				S	**Sg**	**15 05 12.4**	**-0.4**
APE	**Apeiranthos**	**1.63**	**193**	P	**Pn**	**15 04 50.8**	**-0.3**
APE	**Apeiranthos**	**1.63**	**193**	P	**Pn**	**15 04 50.9**	**-0.2**
APE	**Apeiranthos**	**1.63**	**193**	PN	**Pn**	**15 04 51.1**	**0.0**
DION	**Dionisos Attik**	**1.73**	**251**	P	**Pn**	**15 04 52.9**	**+0.5**
DION				AML	AML	15 05 20.0	
	comp=N,206μm,0.4s						
DION				AML	AML	15 05 21.4	
	comp=E,223μm,0.7s						
GELI	**Tayfur-Gelibol**	**1.78**	**12**	PN	**Pn**	**15 04 54.1**	**+1.0**
AYDN	**Tasoluk**	**1.78**	**123**	P	**Pn**	**15 04 53.7**	**+0.5**
LPK	**Lapseki**	**1.81**	**19**	PN	**Pn**	**15 04 54.6**	**+1.1**
SMTH	**Samothraki Isl**	**1.85**	**349**	P	**Pn**	**15 04 53.6**	**-0.5**
BODT	**Bodrum**	**1.90**	**147**	P	**Pn**	**15 04 55.0**	**+0.3**
BODT	**Bodrum**	**1.90**	**147**	PN	**Pn**	**15 04 55.1**	**+0.3**
GONE	**Gonen-Balikesi**	**1.90**	**43**	PN	**Pn**	**15 04 56.2**	**+1.4**
BDRM	**Kayabasi**	**1.96**	**144**	P	**Pn**	**15 04 55.5**	**-0.1**
KNL	**Balıkesir**	**2.00**	**36**	P	**Pb**	**15 04 60.0**	**+1.0**
KRBG	**Karabiga-Canak**	**2.00**	**30**	PN	**Pn**	**15 04 57.5**	**+1.3**
MANT	**Manisa**	**2.01**	**94**	P	**Pb**	**15 04 59.7**	**+0.4**
MANT				S	**Sg**	**15 05 26.8**	**-0.8**
MANT				*i* AML	AML	15 05 28.0	
	comp=E,36nm,0.4s						
ERIK	**Erikli-Kesan**	**2.05**	**11**	PN	**Pn**	**15 04 57.4**	**+0.6**
ENEZ	**Enez**	**2.08**	**3**	PN	**Pn**	**15 04 57.7**	**+0.5**
DURS	**Dursunbey**	**2.14**	**63**	P	**Pb**	**15 05 01.7**	**+0.2**
THAS	**Thassos island**	**2.19**	**333**	P	**Pn**	**15 04 58.6**	**-0.1**
EDC	**Edincik**	**2.22**	**40**	PN	**Pn**	**15 05 00.6**	**+1.5**
RKY	**Sarkoy-Tekirda**	**2.22**	**24**	PN	**Pn**	**15 05 00.6**	**+1.4**
ALN	**Alexandroupoli**	**2.24**	**1**	P	**Pn**	**15 04 59.3**	**-0.1**
MAR6	**Marsite Statio**	**2.26**	**25**	PN	**Pn**	**15 05 01.2**	**+1.4**
GZKV	**Gazikoy-Tekird**	**2.32**	**26**	PN	**Pn**	**15 05 02.0**	**+1.4**
KCTX	**Karacabey (Bur**	**2.43**	**48**	PN	**Pn**	**15 05 03.4**	**+1.3**

*JMA **07** 15:07:04.7±0.2, 29.18N×129.14E, h11km±1km, M3.2*
JMA Felt II J1.
*IDC **07** 15:07:05.3±5.5, 28.99N×129.36E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.2/54, mbtmp3.5/4, MS2.8/2, Ms1 2.8/2, ms1mx2.4/69, Error ellipse: s-maj=237.5km s-min=30.8km az=62.0*

ISC 07 15:07:05.0±1.2, 29.12N±0.05×129.31E±0.06, h5km±10km, n22, σ1.905/25, mb3.7/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.10**	**290**	P	**Pg**	**15 07 07.0**	**0.0**
JTAJ				S	**Sg**	**15 07 08.3**	**-0.1**
JAM	**Amami Oshima**	**0.75**	**160**	P	**Pb**	**15 07 21.0**	**+0.4**
JNN	**Nakanoshima**	**0.87**	**34**	P	**Pg**	**15 07 22.4**	**+0.7**
JAMN	**Amaminishikomi**	**0.88**	**188**	P	**Pb**	**15 07 22.4**	**-0.4**
JAMN				*e*S	Sn	15 07 35.0	-2.2
JZK	**Kikaishima**	**0.99**	**144**	P	**Pn**	**15 07 26.3**	**+0.7**
JTK	**Tokunoshima**	**1.37**	**193**	P	**Pn**	**15 07 29.6**	**-1.1**
JTK				*e*S	**Sb**	**15 07 47.1**	**-1.7**
JYAK	**Yakushimahirau**	**1.53**	**43**	P	**Pn**	**15 07 31.8**	**-1.1**
JKC	**Kuchinoerabu**	**1.54**	**30**	P	**Pn**	**15 07 31.3**	**-1.9**
JOKE	**Okinoerabujima**	**1.87**	**201**	P	**Pn**	**15 07 37.4**	**-0.3**
JOKE				*e*S	**Sn**	**15 08 00.9**	**-0.8**
JMTN	**Minamitane**	**1.88**	**47**	P	**Pn**	**15 07 37.3**	**-0.5**
JTN	**Tanegashima 3**	**2.11**	**43**	P	**Pn**	**15 07 40.5**	**-0.4**
JYRO	**Yoronjima**	**2.22**	**200**	P	**Pn**	**15 07 42.3**	**-0.2**
JYRO				*e*S	**Sn**	**15 08 09.7**	**-0.6**
JIH	**Iheya**	**2.39**	**210**	P	**Pn**	**15 07 44.7**	**-0.1**
JOW	**Kunigami**	**2.46**	**202**	P	**Pn**	**15 07 45.4**	**-0.3**
JNTH	**Nagotoyohara**	**2.83**	**204**	P	**Pn**	**15 07 50.7**	**-0.2**
JKE	**Kume jima 2**	**3.57**	**219**	P	**Pn**	**15 08 02.4**	**+1.4**
KSRS	**Korea Array**	**8.39**	**352**	LR	LR	15 12 34.9	
	comp=Z,84nm,18.5s,baz=160,slow=39						
MJAR	**Matsushiro Arr**	**10.52**	**43**	LR	LR	15 13 26.9	
	comp=Z,31nm,19.1s,baz=246,slow=36						
MKAR	**Makanchi Array**	**40.39**	**309**	P	**P**	**15 14 45.8**	**+1.9**
	0.1nm,0.5s,baz=99,slow=9.5,SNR=2.6						
FITZ	**Fitzroy Crossi**	**47.08**	**185**	P	**P**	**15 15 37.8**	**-0.1**
	1.7nm,0.8s,baz=353,slow=7.2,SNR=2.8						
WRA	**Warramunga Arr**	**49.02**	**174**	P	**P**	**15 15 52.3**	**-0.6**
	1.1nm,0.8s,baz=354,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**52.67**	**175**	P	**P**	**15 16 21.0**	**+0.6**
	0.3nm,0.6s,baz=8.0,slow=14,SNR=8.6						

*IDC **07** 15:15:55.0±3.5, 36.29N×71.28E, h83km±31km, mb3.8/19, mb1 3.9/22, mb1mx3.7/50, mbtmp4.1/22, MS2.8/1, Ms1 2.8/1, ms1mx2.4/93, Error ellipse: s-maj=20.0km s-min=12.9km az=22.0*
*MOS **07** 15:15:56.3±1.2, 36.40N×71.44E, h100km, mb4.4/21, Error ellipse: s-maj=7.1km s-min=3.7km az=84.0*
*BJI **07** 15:15:57.1±0.0, 36.45N×71.29E, h98km, mb4.1/22, mB4.4/11*
*NEIC **07** 15:15:58.1±2.7, 36.44N±0.05×71.12E±0.05, h107km±4km, mb4.4/61, Error ellipse: s-maj=6.7km s-min=5.4km az=185.0*
*NNC **07** 15:16:01.9±3.8, 36.79N×71.09E, h133km±34km, mb3.6, mpv4.4, Error ellipse: s-maj=31.8km s-min=21.8km az=27.0*

ISC 07 15:15:58.3±0.3, 36.36N±0.03×71.40E±0.04, h114km, n257, σ2.39/286, mb4.2/63, 12C-17D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.57**	**170**	⇓P	**Pn**	**15 16 40.8**	**+1.8**
CEP				S	**Sn**	**15 17 14.0**	**+3.9**
KBL	**Kabul**	**2.65**	**227**	PN	**Pn**	**15 16 39.0**	**-1.0**
KBL	**Kabul**	**2.65**	**227**	Pn	**Pn**	**15 16 39.0**	**-1.0**
GAR	**Garm**	**2.77**	**342**		**Pn**	**15 16 39.6**	**-1.8**
CHGR	**Chuyangaron**	**2.90**	**323**	PN	**Pn**	**15 16 40.1**	**-3.0**
CHGR	**Chuyangaron**	**2.90**	**323**	Pn	**Pn**	**15 16 40.1**	**-3.0**
CHGR				Sn	**Sn**	**15 17 11.2**	**-6.5**
CHCP	**Chirah Chowk**	**3.10**	**150**	P	**Pn**	**15 16 48.4**	**+2.5**
NIL	**Nilore**	**3.11**	**150**	Pn	**Pn**	**15 16 48.3**	**+2.4**
NIL				Sn	**Sn**	**15 17 24.7**	**+2.2**
DRK	**Karamyk**	**3.13**	**6**		**Pn**	**15 16 45.8**	**-0.6**
DRK				Sn	**Sn**	**15 17 22.6**	**-0.8**
THW	**Thamme Wali**	**3.57**	**175**	⇓P	**Pn**	**15 16 53.0**	**+0.9**
BTK	**Batken**	**3.72**	**353**	Pn	**Pn**	**15 16 53.0**	**-0.9**
BTK				Sn	**Sn**	**15 17 33.4**	**-3.7**
JMU	**Jammu**	**4.65**	**141**	*e*P	**Pn**	**15 17 07.7**	**+1.3**
JMU				*e*S	**Sn**	**15 17 59.5**	**+0.1**
KSH	**Kashi**	**4.80**	**48**	P	**Pn**	**15 17 05.6**	**-2.9**
KSH				S	**Sn**	**15 17 55.6**	**-7.5**
KSH				smax	smax		
	comp=N,1μm,0.6s						
KSH				smax	smax		
	comp=E,610nm,0.7s						
TAS	**Tashkent**	**5.22**	**342**	PN	**Pn**	**15 17 11.5**	**-2.6**
TAS	**Tashkent**	**5.22**	**342**	Pn	**Pn**	**15 17 11.5**	**-2.6**
THN	**Thein Dam**	**5.30**	**136**	*e*P	**Pn**	**15 17 17.2**	**+1.9**
THN				*e*S	**Sn**	**15 18 15.8**	**+0.6**
IUG	**luzhnay**	**5.87**	**350**	*e*PN	**Pn**	**15 17 20.8**	**-2.2**
IUG	**luzhnay**	**5.87**	**350**	*e*P	**Pn**	**15 17 20.9**	**-2.2**
	baz=349						
AML	**Almayashu**	**6.03**	**17**	P	**Pn**	**15 17 25.2**	**-0.2**
	SNR=116						
UCH	**Uchtor**	**6.33**	**21**	P	**Pn**	**15 17 29.8**	**+0.2**
	SNR=42						
BHK	**Bhakra**	**6.46**	**138**	*e*P	**Pn**	**15 17 32.1**	**+1.1**
BHK				*e*S	**Sn**	**15 18 42.3**	**-1.1**
DZA	**Taraz**	**6.52**	**360**	*e*PN	**Pn**	**15 17 29.8**	**-1.9**
DZA	**Taraz**	**6.52**	**360**	*e*P	**Pn**	**15 17 29.8**	**-1.9**
	baz=359						
EKS2	**Erkin-Say**	**6.55**	**16**	P	**Pn**	**15 17 32.2**	**0.0**
	SNR=70						
AAK	**Ala-Archa**	**6.71**	**20**	P	**Pn**	**15 17 34.8**	**+0.5**
	SNR=49						
AAK	**Ala-Archa**	**6.71**	**20**	P	**Pn**	**15 17 32.2**	**-2.2**
	10nm,0.3s,baz=189,slow=6.4,SNR=128						
AAK				S	**Sn**	**15 18 47.8**	**-1.5**
	7.4nm,0.3s,baz=159,slow=21,SNR=17						
AAK				LR	LR	15 20 17.9	
	comp=Z,77nm,19.2s,baz=226,slow=39						
AAK	**Ala-Archa**	**6.71**	**20**	*d* PN	**Pn**	**15 17 34.6**	**+0.2**
AAK				pmax	pmax		
	comp=Z,17nm,0.6s						
AAK	**Ala-Archa**	**6.71**	**20**	Pn	**Pn**	**15 17 34.5**	**+0.2**
BRLS	**Borolday**	**6.76**	**350**	*e*PN	**Pn**	**15 17 30.9**	**-4.1**
BRLS	**Borolday**	**6.76**	**350**	*e*P	**Pn**	**15 17 31.0**	**-4.1**
	baz=348						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.76**	**355**	PN	**Pn**	**15 17 33.2**	**-1.8**
KK31	**Karatay Array**	**6.76**	**355**	Pn	**Pn**	**15 17 33.1**	**-1.9**
KK31	**Karatay Array**	**6.76**	**355**	P	**Pn**	**15 17 33.2**	**-1.8**
	comp=Z,18nm,0.4s,baz=180,slow=14,SNR=316						
KK31				⇓S	**Sn**	**15 18 44.0**	**-6.6**
	comp=Z,68nm,0.6s,baz=183,slow=21,SNR=12						
KKAR	**Karatay Array**	**6.76**	**355**	PN	**Pn**	**15 17 33.0**	**-2.0**
KKAR	**Karatay Array**	**6.76**	**355**		**Pn**	**15 17 32.8**	**-2.2**
KKAR	**Karatay Array**	**6.76**	**355**		**Pn**	**15 17 33.0**	**-2.0**
KBK	**Karagaybulak**	**6.86**	**23**	P	**Pn**	**15 17 37.1**	**+0.7**
	SNR=19						
FRU1	**Bishkek**	**6.91**	**20**	PN	**Pn**	**15 17 36.3**	**-0.7**
FRU1	**Bishkek**	**6.91**	**20**		**Pn**	**15 17 36.2**	**-0.7**
ULHL	**Ulahol**	**6.97**	**31**	P	**Pn**	**15 17 38.7**	**+0.7**
	SNR=7.3						
BOOM	**Boomskoye usch**	**7.06**	**29**	PN	**Pn**	**15 17 38.9**	**-0.2**
BOOM	**Boomskoye usch**	**7.06**	**29**	Pn	**Pn**	**15 17 38.9**	**-0.2**
SMLA	**Simla**	**7.10**	**136**	*e*P	**Pn**	**15 17 40.4**	**+0.8**
SMLA				*e*S	**Sn**	**15 18 56.7**	**-1.9**
SMLA				IAML		15 19 00.9	
	comp=E,322nm,0.6s						
CHMS	**Chumysh**	**7.11**	**20**	P	**Pn**	**15 17 40.0**	**+0.3**
	SNR=18						
USP	**Ospenovka**	**7.30**	**18**	P	**Pn**	**15 17 42.1**	**-0.1**
	SNR=49						
KDJ	**Kajisay**	**7.30**	**36**	PN	**Pn**	**15 17 41.1**	**-1.3**
KDJ	**Kajisay**	**7.30**	**36**	Pn	**Pn**	**15 17 41.0**	**-1.3**
TKM2	**Tokmak 2**	**7.31**	**25**	P	**Pn**	**15 17 42.9**	**+0.3**
	SNR=38						
TKM2	**Tokmak 2**	**7.31**	**25**	⇑P	**Pn**	**15 17 42.8**	**+0.3**
	comp=E,16nm,0.6s						
TKM2				⇓S	**Sn**	**15 19 03.0**	**-0.9**
	comp=E,38nm,0.9s						
SGDS	**Sogindy**	**7.50**	**18**	*e*PN	**Pn**	**15 17 43.9**	**-1.1**
SGDS	**Sogindy**	**7.50**	**18**	*e*P	**Pn**	**15 17 44.0**	**-1.1**
	baz=18						
SGDS				*e*S	**Sn**	**15 19 04.7**	**-3.8**
	baz=18						
HRA	**Herat**	**7.73**	**258**	Pn	**Pn**	**15 17 46.3**	**-2.0**
TNSS	**Tian-Shan**	**7.92**	**31**	*e*PN	**Pn**	**15 17 50.1**	**-0.8**
TNSS	**Tian-Shan**	**7.92**	**31**	*e*P	**Pn**	**15 17 50.2**	**-0.8**
	baz=31						
AAA	**Alma-Ata**	**8.05**	**30**	*e*PN	**Pn**	**15 17 52.0**	**-0.4**
AAA				pmax	pmax		
	comp=Z,12nm,0.9s						
AAA	**Alma-Ata**	**8.05**	**30**	*e*P	**Pn**	**15 17 52.1**	**-0.4**
	comp=Z,12nm,0.9s,baz=30						
MDOK	**Medeo**	**8.06**	**31**	PN	**Pn**	**15 17 53.8**	**+1.1**
MDOK	**Medeo**	**8.06**	**31**	*e*P	**Pn**	**15 17 52.6**	**-0.1**
	baz=31						
MDOK	**Medeo**	**8.06**	**31**	⇑P	**Pn**	**15 17 53.9**	**+1.1**
	comp=Z,8.7nm,0.7s						
KUU	**Kurty**	**8.42**	**25**	*e*PN	**Pn**	**15 17 57.0**	**-0.4**
KUU	**Kurty**	**8.42**	**25**	*e*P	**Pn**	**15 17 57.0**	**-0.4**
	baz=25						
SATY	**Saty**	**8.59**	**37**	*e*PN	**Pn**	**15 17 59.5**	**-0.3**
SATY	**Saty**	**8.59**	**37**	*e*P	**Pn**	**15 17 59.5**	**-0.3**
	baz=37						
CHKK	**Chushkaly**	**8.62**	**28**	*e*PN	**Pn**	**15 17 58.9**	**-1.2**
CHKK	**Chushkaly**	**8.62**	**28**	*e*P	**Pn**	**15 17 58.9**	**-1.2**
	baz=28						
BTLS	**Baital**	**8.90**	**12**	*e*PN	**Pn**	**15 18 02.2**	**-1.6**
BTLS	**Baital**	**8.90**	**12**	*e*P	**Pn**	**15 18 02.3**	**-1.6**
	baz=12						
UZB	**Uzynbulak**	**8.96**	**39**	*e*PN	**Pn**	**15 18 04.2**	**-0.6**
UZB	**Uzynbulak**	**8.96**	**39**	*e*P	**Pn**	**15 18 04.3**	**-0.6**
	baz=39						
KPKS	**Kokpek**	**9.03**	**36**	*e*PN	**Pn**	**15 18 05.7**	**-0.1**
KPKS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KPKS	**Kokpek**	**9.03**	**36**	*e*P	**Pn**	**15 18 05.8**	**-0.1**
	comp=Z,6.0nm,0.8s,baz=36						
NDI	**New Delhi**	**9.10**	**146**	*e*P	**Pn**	**15 18 07.5**	**+0.9**
NDI				*e*S	**Sn**	**15 19 40.1**	**-7.2**
SHLS	**Shalkode**	**9.19**	**40**	*e*P	**Pn**	**15 18 10.6**	**+2.6**
SHLS	**Shalkode**	**9.19**	**40**	*e*P	**Pn**	**15 18 10.7**	**+2.6**
	baz=42						
AYAN	**Aya Nagar**	**9.23**	**147**	*e*P	**Pn**	**15 18 05.7**	**-2.7**
AYAN				*e*S	**Sn**	**15 19 46.1**	**-4.4**
KUDL	**Kundal**	**9.26**	**151**	*e*P	**Pn**	**15 18 07.1**	**-1.7**
KUDL				*e*S	**Sn**	**15 19 45.4**	**-5.8**
PDGK	**Podgornoye**	**9.33**	**39**	P	**Pn**	**15 18 09.2**	**-0.6**
PDGK	**Podgornoye**	**9.33**	**39**	⇓P	**Pn**	**15 18 09.3**	**-0.6**
	comp=Z,7.4nm,1.2s						
SONA	**Sohna**	**9.41**	**148**	*e*S	**Sn**	**15 19 48.5**	**-6.4**
PTH	**Pithoragarh**	**10.05**	**130**	*e*P	**Pn**	**15 18 16.1**	**-3.6**

AKTO Aktyubinsk 17.06 330 P P 15 19 47.1 -2.5
comp=Z,0.8nm,0.3s,baz=128,slow=14,SNR=12
AKTO S Sn 15 22 44.0 -15
comp=Z,0.2nm,0.3s,baz=157,slow=18,SNR=2.9
AKTO Aktyubinsk 17.06 330 ⇓P P 15 19 47.9 -1.7
comp=Z,7.7nm,0.7s
UOSS Minazif 17.31 233 P 15 19 49.2 -3.4
BOK Bokaro 17.70 131 *e*P **Pn 15 19 59.6 +2.0**
BOK *e*S S 15 23 02.8 -12
LSA Lhasa 17.83 106 P **Pn 15 19 59.3 -0.4**
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 17.83 106 P **Pn 15 19 59.3 -0.4**
GOMU GeErMu 18.88 84 P **Pn 15 20 13.5 +1.6**
GOMU S **S 15 23 39.4 +0.5**
GOMU pmax pmax
comp=Z,6.0nm,1.1s
GOMU pmax pmax
comp=Z,76nm,4.4s
GOMU LR LR
comp=Z,66nm,8.0s
GOMU LR LR
comp=Z,63nm,6.5s
GOMU LR LR
comp=Z,39nm,9.8s
HYBB Hyderabad (bro 19.91 160 *e*P **Pn 15 20 22.2 -1.5**
HYBB *es*P **sP 15 21 02.6 +5.5**
HYBB *e*S **S 15 24 03.2 +4.2**
HYBB IVMs_BB IVMs_BB 15 26 23.8
comp=Z,78nm,3.4s
ZAA0 Zalesovo Array 19.91 24 P **P 15 20 19.1 -1.6**
ZAA0 IAmb IAmb 15 20 22.0
comp=Z,7.4nm,0.6s
ZAA0 Zalesovo Array 19.91 24 ⇓P **P 15 20 20.4 -0.2**
comp=Z,0.9nm,0.6s
ZALV Zalesovo Beam 19.91 24 P **P 15 20 20.4 -0.2**
comp=Z,5.9nm,0.3s,baz=214,slow=10.0,SNR=32
ZALV Zalesovo Beam 19.91 24 *i* P **P 15 20 20.7 0.0**
ZALV pmax pmax
comp=Z,6.0nm,0.3s
ZALV Zalesovo Beam 19.91 24 P **P 15 20 19.8 -0.9**
SHL Shillong 20.56 116 P **P 15 20 26.8 -1.4**
SHL pmax pmax
comp=Z,21nm,1.1s
SHL Shillong 20.56 116 P **P 15 20 26.8 -1.4**
SHL IAmb IAmb 15 20 31.2
comp=Z,21nm,1.1s
GROC Groznyy 20.78 297 *e*P **P 15 20 31.2 +1.1**
GROC *e*S **S 15 24 20.4 +4.8**
GROC pmax pmax
comp=Z,14nm,0.4s
GNI Garni 21.24 288 *d i* P **P 15 20 38.6 +3.3**
GNI pmax pmax
comp=Z,39nm,1.3s
GNI Garni 21.24 288 P **P 15 20 36.2 +0.9**
GNI IAmb IAmb 15 20 44.5
comp=Z,26nm,1.0s
ARU Arti 21.86 341 P **P 15 20 41.8 +0.2**
comp=Z,2.9nm,0.5s,baz=139,slow=3.4,SNR=12
ARU S **S 15 24 34.5 -1.4**
comp=Z,0.5nm,0.3s,baz=149,slow=18,SNR=2.0
ARU Arti 21.86 341 *d i* P **P 15 20 42.6 +1.0**
ARU 15 21 10.8
ARU S **S 15 24 36.5 +0.6**
ARU SS **SnSn 15 25 24.1 +11**
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 21.86 341 P **P 15 20 39.1 -2.5**
ARU IAmb IAmb 15 20 45.7
comp=Z,22nm,1.3s
ZEI Tsey 22.08 295 *e*P **P 15 20 46.0 +1.7**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
ONI Oni 22.39 295 P **P 15 20 47.5 +0.3**
ONI pmax pmax
comp=Z,6.0nm,0.8s
ONI Oni 22.39 295 P **P 15 20 47.5 +0.3**
NCK Nalchik 22.41 297 ⇑ *e*P **P 15 20 49.8 +2.4**
NCK pmax pmax
comp=Z,17nm,0.4s
GTA Gaotai 22.60 74 *e*P **P 15 20 53.6 +4.1**
GTA pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 22.95 297 P **P 15 20 51.6 -1.1**
comp=Z,3.4nm,1.0s,baz=139,slow=7.4,SNR=7.6
KBZ S **S 15 25 04.4 +11**
comp=Z,1.3nm,0.7s,baz=135,slow=14,SNR=2.9
KBZ Khabaz 22.95 297 *d i* P **P 15 20 53.5 +0.9**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 23.13 298 *e*P **P 15 20 55.8 +1.2**
KIV *e*S **S 15 24 58.7 +1.6**
KIV pmax pmax
comp=Z,6.0nm,1.0s
BELG Belogornoye 23.20 321 P **P 15 20 53.9 -1.0**
comp=Z,6.7nm,0.5s,baz=104,slow=10,SNR=8.8
BELG S S 15 25 09.2 +12
comp=Z,9.0nm,0.9s,baz=45,slow=10.0,SNR=2.9
BELG Belogornoye 23.20 321 *ce*P **P 15 20 57.3 +2.4**
BELG pmax pmax
comp=Z,2.0nm,0.9s
KOPT Kop Dagi 24.49 288 P **P 15 21 04.4 -2.8**
KOPT IAmb IAmb 15 21 14.0
comp=Z,10nm,1.2s
RAYN Ar Rayn 25.74 247 P **P 15 21 15.0 -3.3**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
RAYN Ar Rayn 25.74 247 P **P 15 21 15.0 -3.3**
KIRV Kirov 26.50 334 P **P 15 21 25.0 +0.3**
comp=Z,11nm,0.6s,baz=135,slow=19,SNR=4.6
KIRV Kirov 26.50 334 *c i* P **P 15 21 25.6 +0.9**
PZH PanZhiHua 27.60 102 P **P 15 21 38.3 +3.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
SONM Songino Array 28.15 55 P **P 15 21 40.2 +0.4**
comp=Z,0.3nm,0.6s,baz=246,slow=11,SNR=2.5
CMAR Chiang Mai Arr 30.11 119 P **P 15 21 59.0 +1.8**
comp=Z,0.6nm,0.3s,baz=299,slow=8.3,SNR=7.5
OBN Obninsk 30.25 319 *e*P **P 15 21 59.8 +1.8**
OBN *e**PP **pP 15 22 25.6 +2.0**
OBN *e* 15 23 00.9
OBN *e* 15 24 56.9
OBN pmax pmax
comp=Z,5.0nm,0.4s
HHC Hu-ho-hao-te 31.51 69 *e*P **P 15 22 11.0 +1.5**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.2s
HHC LR LR
comp=Z,110nm,14.0s
HHC LR LR
comp=Z,110nm,14.0s
HHC LR LR
comp=Z,87nm,14.0s
AKASG Malin Array Be 33.28 309 P **P 15 22 24.8 +0.1**
comp=Z,2.4nm,0.4s,baz=81,slow=7.2,SNR=16
AKASG Malin Array Be 33.28 309 P **P 15 22 25.2 +0.5**
AKBB Malin Array Si 33.28 309 *ce*P **P 15 22 26.2 +1.5**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 33.28 309 P **P 15 22 25.5 +0.8**
AKBB IAmb IAmb 15 22 26.9
comp=Z,3.9nm,0.7s
NRIK Noril'sk 34.20 10 ⇓ *e*P **P 15 22 35.4 +3.0**
NRIK pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 35.12 299 P **P 15 22 41.4 +0.5**
MLR pmax pmax
comp=Z,13nm,0.9s
MLR Muntele Rosu 35.12 299 P **P 15 22 41.4 +0.5**
MLR IAmb IAmb 15 22 45.0
comp=Z,13nm,0.9s
BURAR Bucovina Array 35.63 303 P **P 15 22 45.4 +0.3**
BURAR IAmb IAmb 15 22 48.1
comp=Z,2.8nm,0.8s
BUR08 Bucovina Ar. S 35.64 303 P **P 15 22 45.4 +0.2**
BUR08 IAmb IAmb 15 22 47.9
comp=Z,2.2nm,0.8s
ATD Arta Tunnel 35.69 233 P **P 15 22 46.8 +0.9**
KAAM Kaadhehdhoo 35.72 177 P **P 15 22 47.5 +1.5**
LVZ Lovozero 37.70 338 P **P 15 23 03.1 +0.8**
LVZ pmax pmax
comp=Z,47nm,1.3s
LVZ Lovozero 37.70 338 P **P 15 23 03.1 +0.8**
FIA1 FINESS Array S 37.77 326 P **P 15 23 03.3 +0.4**
FINES FINESS Array B 37.77 326 P **P 15 23 03.4 +0.4**
comp=Z,2.1nm,0.6s,baz=111,slow=10,SNR=8.4
FINES FINESS Array B 37.77 326 P **P 15 23 03.8 +0.9**
KEV Kevo 41.05 338 P **P 15 23 31.0 +1.0**
KEV pmax pmax
comp=Z,32nm,1.2s
KEV Kevo 41.05 338 P **P 15 23 31.0 +1.0**
KRLC Kraliky 41.18 307 *e*P **P 15 23 33.5 +2.0**
KRLC Kraliky 41.18 307 *e*P **P 15 23 33.5 +2.0**
ARCES ARCESS Array B 41.39 338 P **P 15 23 33.9 +1.0**
comp=Z,3.7nm,0.5s,baz=112,slow=8.9,SNR=27
ARCES ARCESS Array B 41.39 338 P **P 15 23 34.0 +1.1**
DPC Dobruska-Polom 41.47 308 *e*P **P 15 23 35.5 +1.7**
DPC Dobruska-Polom 41.47 308 *e*P **P 15 23 35.5 +1.7**
OSTC Ostas 41.53 308 *e*P **P 15 23 36.5 +2.2**
CHVC Chvalec 41.63 308 *e*P **P 15 23 36.5 +1.4**
BRG Berggiesshubel 42.96 308 *e*P **P 15 23 47.6 +1.8**
BRG Amp 15 23 48.9
comp=Z,6.5nm,1.1s
BRG Berggiesshubel 42.96 308 *e*P **P 15 23 47.6 +1.8**
BRG pmax pmax
comp=Z,7.0nm,1.1s
GERES GERESS Array B 43.27 305 P **P 15 23 48.0 -0.4**
comp=Z,0.5nm,0.7s,baz=113,slow=10,SNR=4.8
KHC Kasperske Hory 43.32 306 *e*P **P 15 23 50.6 +1.8**
KHC Kasperske Hory 43.32 306 *e*P **P 15 23 50.6 +1.8**
YAK Yakutsk 43.89 35 ⇓ *e*P **P 15 23 52.2 -0.9**
YAK pmax pmax
comp=Z,4.0nm,0.6s
NC405 NORSAR Array S 44.44 323 P **P 15 23 58.3 +0.7**
NC300 NORSAR Array S 44.60 323 P **P 15 23 59.6 +0.8**
NC303 NORSAR Array S 44.62 323 P **P 15 23 59.6 +0.7**
NC303 IAmb IAmb 15 24 36.0
comp=Z,22nm,1.5s
NB201 NORSAR Array S 44.64 323 P **P 15 23 59.5 +0.3**
NB2 NORSAR Subarra 44.68 323 P **P 15 23 59.8 +0.3**
comp=Z,2.3nm,0.5s,baz=95,slow=7.9
NOA NORSAR Array B 44.68 323 P **P 15 23 59.1 -0.4**
comp=Z,0.3nm,0.4s,baz=102,slow=7.1,SNR=12
NBO00 NORSAR Array S 44.89 323 P **P 15 24 01.2 +0.1**
TIXI Tiksi 45.78 22 ⇓ *e*P **P 15 24 09.1 +1.2**
TIXI pmax pmax
comp=Z,1.0nm,0.4s
TIXI Tiksi 45.78 22 P **P 15 24 08.3 +0.4**
SPB2 Spitsbergen Ar 47.69 347 P **P 15 24 22.8 0.0**
SPITS Spitsbergen Ar 47.70 347 P **P 15 24 22.3 -0.5**
SPITS pmax pmax
comp=Z,59nm,1.6s
KBS Kingsbay 48.81 347 P **P 15 24 31.0 -0.4**
KBS pmax pmax
comp=Z,24nm,1.5s
KBS Kingsbay 48.81 347 P **P 15 24 31.0 -0.4**
DAG Danmarks Havn 54.95 344 *i* P **P 15 25 18.0 +1.1**
DAG Danmarks Havn 54.95 344 *i* P **P 15 25 17.0 +0.1**
BILL Bilibino 58.59 26 *e*P **P 15 25 43.9 +1.2**
BILL *e**PP **pP 15 26 14.9 +3.2**
BILL *e* 15 26 35.1
BILL *e* 15 27 58.6
BILL pmax pmax
comp=Z,1.0nm,0.9s
PETK Petropavlovsk- 59.84 44 P **P 15 25 52.0 +0.4**
comp=Z,1.6nm,0.7s,baz=224,slow=4.1,SNR=4.1
PETK Petropavlovsk- 59.84 44 P **P 15 25 52.0 +0.4**
TOA0 Torodi Ar. Sit 66.03 269 P **P 15 26 31.0 -2.1**
TOA0 IAmb IAmb 15 26 33.9
comp=Z,3.3nm,0.6s
TORD Torodi Ar. Bea 66.03 269 P **P 15 26 31.7 -1.4**
comp=Z,3.1nm,0.5s,baz=48,slow=5.8,SNR=22
TORD Torodi Ar. Bea 66.03 269 P **P 15 26 32.1 -1.0**
TORD IAmb IAmb 15 26 34.6
comp=Z,8.0nm,1.5s
RES Resolute Bay 68.86 356 P **P 15 26 50.1 +0.2**
RES pmax pmax
comp=Z,3.0nm,1.4s
RES Resolute Bay 68.86 356 P **P 15 26 50.1 +0.2**
TOLK Toolik Lake Re 70.97 15 P **P 15 27 04.4 +1.3**
TOLK IAmb IAmb 15 27 05.9
comp=Z,2.9nm,0.7s
A36M Sachs Harbour 71.31 5 P **P 15 27 06.5 +1.5**
COLD Coldfoot 72.02 16 P **P 15 27 10.7 +1.4**
COLD IAmb IAmb 15 27 43.1
comp=Z,5.0nm,1.3s
IMAR Indian Mountai 72.20 18 P **P 15 27 11.2 +0.8**
BMAR Burnt Mountain 73.00 14 P **P 15 27 15.6 +0.5**
J20K Nowinta River 73.56 19 P **P 15 27 18.7 +0.3**
J20K IAmb IAmb 15 27 51.0
comp=Z,6.9nm,1.6s
H24K Noodor Dome 73.69 16 P **P 15 27 20.0 +0.8**
H24K IAmb IAmb 15 27 43.2
comp=Z,6.8nm,1.5s
C36M Paulatuk 73.98 6 P **P 15 27 21.8 +1.0**
C36M IAmb IAmb 15 27 22.8
comp=Z,5.7nm,1.1s
K20K Telida 74.23 20 P **P 15 27 23.6 +1.1**
K20K IAmb IAmb 15 27 24.9
comp=Z,4.7nm,1.1s
MDM Murphy Dome 74.36 16 P **P 15 27 25.2 +2.1**
MDM IAmb IAmb 15 27 46.8
comp=Z,6.9nm,1.6s
BPAW Bear Paw Mtn. 74.42 18 P **P 15 27 24.4 +0.9**
BPAW IAmb IAmb 15 27 54.4
comp=Z,9.9nm,1.5s
COLA College 74.52 16 ⇑ *e*P **P 15 27 25.7 +1.8**
COLA pmax pmax
comp=Z,4.0nm,0.8s
ILAR Eielson Array 74.82 16 P **P 15 27 25.6 -0.2**
comp=Z,0.8nm,0.9s,baz=317,slow=4.0,SNR=8.6
ILAR Eielson Array 74.82 16 P **P 15 27 26.8 +1.1**
KNRA Kununurra 74.89 123 P **P 15 27 27.9 +1.2**
KNRA IAmb IAmb 15 28 04.4
comp=Z,8.8nm,1.1s
J25K Salcha River, 75.29 15 P **P 15 27 29.3 +0.7**
J25K IAmb IAmb 15 27 51.7
comp=Z,4.1nm,1.3s
RND Reindeer 75.53 17 P **P 15 27 30.5 +0.6**
RND pmax pmax
comp=Z,9.0nm,1.4s
RND Reindeer 75.53 17 P **P 15 27 30.5 +0.6**
RND IAmb IAmb 15 27 49.5
comp=Z,9.0nm,1.4s
DHY Denali Highway 76.17 17 P **P 15 27 34.4 +0.8**
DHY IAmb IAmb 15 27 41.1
comp=Z,13nm,1.6s
DAWY Dawson 76.98 13 P **P 15 27 37.9 -0.2**
SML Sawmill 77.02 18 P **P 15 27 36.7 -1.6**
SML IAmb IAmb 15 27 47.1
comp=Z,28nm,1.6s
SCM Sheep Creek Mo 77.24 18 P **P 15 27 40.1 +0.5**
SCM pmax pmax
comp=Z,25nm,1.5s
SCM Sheep Creek Mo 77.24 18 P **P 15 27 40.1 +0.5**
SCM IAmb IAmb 15 27 42.5
comp=Z,25nm,1.5s
L27K Beaver Creek, 77.41 15 P **P 15 27 40.4 -0.1**
L27K IAmb IAmb 15 28 17.6
comp=Z,5.7nm,1.4s
BCAR Beaver Creek A 77.41 15 P **P 15 27 39.6 -0.9**
BOSA Boshof 77.85 220 P **P 15 27 42.5 -0.9**
comp=Z,1.4nm,0.8s,baz=111,slow=3.8,SNR=1.4
BRLK Bradley Lake 78.06 20 P **P 15 27 42.5 -1.6**
HMT Hamilton 79.29 17 P **P 15 27 49.6 -1.2**
OHAK Old Harbor 79.44 23 P **P 15 27 52.3 +0.7**
OHAK IAmb IAmb 15 28 19.6
comp=Z,16nm,1.2s
HYT Haines Junctio 80.31 14 P **P 15 27 58.0 +1.5**
HYT IAmb IAmb 15 28 27.0
comp=Z,15nm,1.4s
YKA Yellowknife Ar 81.36 3 P **P 15 28 02.7 +0.8**
comp=Z,2.4nm,0.5s,baz=349,slow=5.3,SNR=48
YKA Yellowknife Ar 81.36 3 P **P 15 28 02.4 +0.5**
YKA Yellowknife Ar 81.36 3 P **P 15 28 02.4 +0.5**
WRA Warramunga Arr 81.65 122 P **P 15 28 04.1 +0.1**
comp=Z,0.5nm,0.5s,baz=326,slow=4.8,SNR=16
WRAB Tennant Creek 81.65 122 P **P 15 28 04.2 +0.2**
WRAB pmax pmax
comp=Z,7.0nm,1.5s
WRAB Tennant Creek 81.65 122 P **P 15 28 04.2 +0.2**
WRAB IAmb IAmb 15 28 21.9
comp=Z,6.6nm,1.5s
ASAR Alice Springs 83.92 125 P **P 15 28 16.0 +0.3**
comp=Z,0.5nm,0.6s,baz=312,slow=4.5,SNR=4.4

IDC 07 15:25:29.4±6.0, 21.10S×169.78E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/24, mbtmp3.5/3, Error ellipse: s-maj=255.9km s-min=40.3km az=150.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.17**	**266**	P	P	15 32 07.7	-0.3
	0.2nm,0.4s,baz=97,slow=6.8,SNR=6.3						
ASAR	**Alice Springs**	**33.22**	**259**	P	P	15 32 08.3	0.0
	0.2nm,0.5s,baz=89,slow=8.1,SNR=6.6						
ILAR	**Eielson Array**	**91.85**	**17**	P	P	15 38 39.0	+0.1
	0.9nm,1.1s,baz=231,slow=5.7,SNR=4.3						

*NEIC **07** 15:26:29.4±2.8, 14.70S±0.06×76.50W±0.09, h10km±1km, mb4.6/47, Error ellipse: s-maj=15.6km s-min=8.3km az=239.0*
*IDC **07** 15:26:30.0±0.8, 14.53S×76.17W, h0km, mb4.1/10, mb1 4.3/13, mb1mx4.2/30, mbtmp4.2/13, ML3.8/3, MS3.7/16, Ms1 3.7/16, ms1mx3.5/65, Error ellipse: s-maj=33.4km s-min=13.1km az=62.0*
*VAO **07** 15:26:30.5±0.8, 14.71S×76.54W, h10km, mb4.5*
ISC 07 15:26:31.1±0.5, 14.69S±0.05×76.45W±0.07, h23km, n150, σ1891/131, mb4.6/23, MS3.8/11, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.71**	**352**	Pn	**Pn**	**15 27 14.2**	**+0.8**
	26nm,0.3s,baz=158,slow=14,SNR=21						
NNA				Sn	**Sn**	**15 27 41.1**	**-4.4**
	95nm,0.3s,baz=136,slow=20,SNR=9.0						
NNA				Lg	Lg	15 27 52.7	
	119nm,0.3s,baz=194,slow=11,SNR=6.4						
NNA				LR	LR	15 28 18.5	
	comp=Z,505nm,18.7s,baz=74,slow=42						
NNA	**Nana**	**2.71**	**352**	Pn	**Pb**	**15 27 14.7**	**-4.4**
NNA				Sn	**Sn**	**15 27 41.2**	**-4.4**
AP01	**Chacalluta**	**6.91**	**123**		**Pn**	**15 28 11.4**	**+0.4**
PB12	**IPOC Station P**	**7.05**	**124**	Pn	**Pn**	**15 28 12.5**	**-0.5**
PB16	**IPOC Station P**	**7.58**	**119**	Pn	**Pn**	**15 28 22.1**	**+1.3**
PB16				Sn	**Sn**	**15 29 40.0**	**-6.3**
CZSB	**Cruzeiro do Su**	**7.83**	**28**	*e*P	**Pn**	**15 28 25.1**	**+1.4**
LPAZ	**La Paz**	**8.18**	**102**	Pn	**Pn**	**15 28 32.6**	**+3.6**
	4.7nm,0.3s,baz=292,slow=7.9,SNR=120						
LPAZ				LR	LR	15 32 04.8	
	comp=Z,443nm,20.8s,baz=286,slow=42						
LPAZ	**La Paz**	**8.18**	**102**	Pn	**Pn**	**15 28 32.4**	**+3.4**
TA02	**Huaiquique**	**8.20**	**134**		**Pn**	**15 28 29.3**	**+0.6**
PB11	**IPOC Station P**	**8.22**	**129**	Pn	**Pn**	**15 28 29.3**	**+0.1**
PB11				Sn	**Sn**	**15 29 58.0**	**-3.4**
TA01	**Diego Aracena**	**8.36**	**135**	Pn	**Pn**	**15 28 31.4**	**+0.5**
TA01				Sn	**Sn**	**15 30 00.3**	**-4.4**
GO01	**Chusmiza**	**8.52**	**127**		**Pn**	**15 28 33.7**	**+0.1**
PATCX	**Punta Patache**	**8.55**	**136**		**Pn**	**15 28 33.3**	**-0.4**
PATCX				Sn	**Sn**	**15 30 05.2**	**-4.4**
PB08	**IPOC Station P**	**8.83**	**129**		**Pn**	**15 28 38.0**	**+0.3**
PB02	**IPOC Station P**	**9.07**	**138**		**Pn**	**15 28 39.9**	**-0.9**
PB01	**IPOC Station P**	**9.16**	**135**		**Pn**	**15 28 41.7**	**-0.3**
PB07	**IPOC Station P**	**9.37**	**139**		**Pn**	**15 28 44.5**	**-0.6**
PB04	**IPOC Station P**	**9.67**	**143**	Pn	**Pn**	**15 28 49.5**	**+0.4**
PB09	**IPOC Station P**	**9.84**	**137**		**Pn**	**15 28 52.4**	**+1.0**
PB06	**IPOC Station P**	**10.29**	**142**		**Pn**	**15 28 56.6**	**-1.1**
PB10	**IPOC Station P**	**10.39**	**148**	Pn	**Pn**	**15 28 57.7**	**-1.2**
LVC	**Limon Verde**	**10.63**	**139**	Pn	**Pn**	**15 29 03.5**	**+1.0**
	1.1nm,0.3s,baz=306,slow=9.5,SNR=13						
LVC				Sn	**Sn**	**15 30 59.0**	**-2.0**
	1.0nm,0.3s,baz=344,slow=20,SNR=1.9						
LVC				Lg	Lg	15 32 02.1	
	baz=258,slow=20,SNR=6.6						
LVC				LR	LR	15 32 34.5	
	comp=Z,212nm,21.0s,baz=315,slow=34						
LVC	**Limon Verde**	**10.63**	**139**	*e*P	**Pn**	**15 29 04.3**	**+1.9**
PB15	**IPOC Station P**	**10.74**	**143**		**Pn**	**15 29 02.3**	**-1.4**
MCRA	**Macar, Loja**	**10.82**	**341**		**Pn**	**15 29 01.9**	**-2.9**
BOSC	**San Juan Bosco**	**11.64**	**350**		**Pn**	**15 29 14.3**	**-1.8**
BOSC					**Sn**	**15 31 25.3**	**-0.3**
GO02	**Mina Guanaco**	**12.25**	**149**	Pn	**Pn**	**15 29 23.2**	**-1.3**
TBTG	**Tabatinga, AM**	**12.27**	**32**	*e*P	**Pn**	**15 29 24.6**	**+0.1**
SIV	**San Ignacio**	**14.89**	**97**	Pn	**Pn**	**15 29 57.1**	**-3.3**
	0.2nm,0.3s,baz=277,slow=14,SNR=13						
SIV				LR	LR	15 36 47.1	
	comp=Z,343nm,21.6s,baz=288,slow=42						
OTAV	**Otavalo**	**14.96**	**352**	Pn	**Pn**	**15 29 59.7**	**-2.0**
LCO	**Las Campanas**	**15.21**	**160**	Pn	**Pn**	**15 30 02.0**	**-2.8**
TULM	**Tulcn-Chalpat**	**15.37**	**355**		**Pn**	**15 30 04.7**	**-2.4**
TULM				IAmb	IAmb	15 30 19.4	
	comp=Z,28nm,0.9s						
VILB	**Vilhena**	**15.88**	**86**	*e*P	**P**	**15 30 14.7**	**-2.2**
CO05	**La Serena**	**15.90**	**163**	Pn	**Pn**	**15 30 10.9**	**-2.6**
CO05				IAmb	IAmb	15 30 30.0	
	comp=Z,103nm,1.6s						
GO04	**Tololo Observa**	**16.26**	**162**	Pn	**Pn**	**15 30 16.2**	**-2.2**
SOTA	**Rioblanco**	**16.72**	**359**	*e*P	P	15 30 35.4	+8.7
PTLB	**Pontes e Lacer**	**16.74**	**95**	*e*P	**P**	**15 30 26.1**	**-0.3**
CO03	**El Pedregal**	**16.92**	**163**		**P**	**15 30 29.0**	**+0.6**
POPC	**Popayan, Colom**	**17.12**	**359**	*e*P	**P**	**15 30 34.4**	**+3.5**
H03N1	**Juan Fernandez**	**18.80**	**186**	T	T	15 50 17.3	
	baz=8.4,slow=74,SNR=804						
H03N2	**Juan Fernandez**	**18.80**	**186**	T	T	15 50 16.7	
	baz=8.4,slow=74,SNR=892						
H03N3	**Juan Fernandez**	**18.82**	**186**	T	T	15 50 16.1	
	baz=8.4,slow=74,SNR=1058						
MACA	**Manacapuru-AM**	**19.32**	**55**	*e*P	**Pn**	**15 30 56.5**	**+0.5**
PDRB	**Porto dos Gac**	**19.45**	**83**	*e*P	**Pn**	**15 30 57.1**	**-0.5**
PAYG	**Puerto Ayora**	**19.52**	**314**	P	**P**	**15 30 53.7**	**-3.4**
PAYG				IAmb	IAmb	15 31 34.7	
	comp=Z,44nm,1.1s						
ROSC	**El Rosal**	**19.52**	**6**	LR	LR	15 39 56.0	
	comp=Z,311nm,19.5s,baz=230,slow=42						
MT09	**Talagante**	**19.64**	**166**	P	**P**	**15 30 56.9**	**-1.5**
MT09				IAmb	IAmb	15 31 15.6	
	comp=Z,58nm,1.6s						
MT01	**Popeta**	**19.66**	**167**	P	**P**	**15 30 57.9**	**-0.6**
GUY2C	**Guyana, Caldas**	**19.82**	**3**	*e*P	**Pn**	**15 31 04.0**	**+1.7**
LMEL	**Las Melosas**	**19.89**	**165**	P	**P**	**15 30 59.7**	**-1.5**
SALV	**Santo Antonio**	**20.06**	**96**	*e*P	Pn	15 31 04.3	-0.5
NORC	**Norcasia**	**20.18**	**5**	*e*P	Pn	15 31 06.0	-0.4
BO01	**Tunca**	**20.21**	**167**	P	**P**	**15 31 03.5**	**-0.9**
BO01				IAmb	IAmb	15 31 19.3	
	comp=Z,35nm,1.6s						
SPBC	**San Pablo de B**	**20.35**	**7**	*e*P	Pn	15 31 09.8	+1.5
AQDB	**Aquidauana**	**20.59**	**109**	P	**P**	**15 31 07.9**	**-0.9**
AQDB	**Aquidauana**	**20.59**	**109**	*e*P	Pn	15 31 10.3	-0.7
GO05	**Huala**	**20.64**	**169**	P	**P**	**15 31 08.3**	**-0.8**
BO02	**Sierra Bellavi**	**20.66**	**167**	P	**P**	**15 31 07.4**	**-2.0**
BO02				IAmb	IAmb	15 31 40.2	
	comp=Z,31nm,1.5s						
RUSC	**La Rusia**	**20.72**	**10**	*e*P	Pn	15 31 13.6	+0.6
PP1B	**Ponte de Pedra**	**20.92**	**101**	*e*P	Pn	15 31 13.5	-1.4
PTBC	**PUERTO BERRIO,**	**21.19**	**5**	*e*P	**P**	**15 31 16.5**	**+1.3**
CPUP	**Villa Florida**	**21.30**	**126**	P	**P**	**15 31 16.5**	**+0.2**
	comp=Z,5.9nm,0.9s,baz=297,slow=12,SNR=8.2						
CPUP				LR	LR	15 40 45.4	
	comp=Z,146nm,19.0s,baz=277,slow=40						
CPUP	**Villa Florida**	**21.30**	**126**	P	**P**	**15 31 15.8**	**-0.5**
CPUP	**Villa Florida**	**21.30**	**126**	*e*P	**P**	**15 31 17.1**	**+0.9**
MLO2	**Panimavida**	**21.46**	**169**	P	**P**	**15 31 14.9**	**-3.0**
DBBC	**Dabeiba**	**21.57**	**1**	*e*P	**P**	**15 31 22.2**	**+2.9**
ZARC	**Zaragoza, Cauc**	**22.10**	**4**	P	**P**	**15 31 24.6**	**-0.3**
ZARC				IAmb	IAmb	15 31 44.6	
	comp=Z,15nm,0.8s						
ZARC	**Zaragoza, Cauc**	**22.10**	**4**	*e*P	**P**	**15 31 25.1**	**+0.2**
PAMC	**Pamplona, Colo**	**22.20**	**10**	*e*P	**P**	**15 31 29.9**	**+3.3**
UREC	**San Jos de Ur**	**22.32**	**2**	*e*P	**P**	**15 31 29.9**	**+2.6**
OCAC	**Ocana**	**22.99**	**8**	P	**P**	**15 31 33.4**	**-1.1**
OCAC				IAmb	IAmb	15 31 36.2	
	comp=Z,8.8nm,0.5s						
BOAV	**Boa Vista**	**23.18**	**44**	*e*P	**P**	**15 31 39.1**	**+2.8**
MOTC	**Monteria, Cord**	**23.33**	**2**	*e*P	**P**	**15 31 38.5**	**+0.6**
SOCV	**Socops**	**23.49**	**14**	*e*P	**P**	**15 31 39.4**	**0.0**
ITQB	**Itaqui**	**23.59**	**132**	P	**P**	**15 31 39.6**	**-0.7**
ITQB				IAmb	IAmb	15 31 44.6	
	comp=Z,30nm,1.0s						
ITQB	**Itaqui**	**23.59**	**132**	*e*P	**P**	**15 31 42.7**	**+2.4**
SDV	**Santo Domingo**	**24.13**	**14**	P	**P**	**15 31 46.6**	**+0.9**
	comp=Z,20nm,0.7s,baz=188,slow=9.2,SNR=23						
SDV	**Santo Domingo**	**24.13**	**14**	P	**P**	**15 31 46.2**	**+0.5**
SDV				IAmb	IAmb	15 31 48.0	
	comp=Z,22nm,0.7s						
SDV	**Santo Domingo**	**24.13**	**14**	*e*P	**P**	**15 31 47.1**	**+1.5**
RIOS	**Rincon, Osa**	**24.27**	**343**	P	**P**	**15 31 47.2**	**+0.4**

RIOS				IAmb	IAmb	15 32 22.8	
	comp=Z,23nm,1.0s						
LC01	**Cunco**	**24.45**	**171**	P	**P**	**15 31 49.5**	**+1.3**
LC01				IAmb	IAmb	15 32 14.7	
	comp=Z,42nm,1.4s						
SJCC	**San Jacinto, C**	**24.46**	**3**	P	**P**	**15 31 48.3**	**-0.3**
SJCC				IAmb	IAmb	15 32 10.4	
	comp=Z,27nm,1.0s						
PTGB	**Pitanga**	**24.99**	**117**	*e*P	**P**	**15 31 53.8**	**+0.4**
MALB	**Monte Alegre**	**25.35**	**62**	*e*P	**P**	**15 31 57.5**	**+0.8**
ITRB	**Iturama**	**25.41**	**105**	*e*P	**P**	**15 31 58.9**	**+1.8**
JTS	**Las Juntas de**	**26.21**	**341**	LR	LR	15 42 03.0	
	comp=Z,115nm,18.4s,baz=254,slow=36						
CPSB	**Cacapava Do Su**	**26.31**	**130**	*e*P	**P**	**15 32 06.7**	**+1.5**
PLCA	**Paso Flores**	**26.45**	**170**	P	**P**	**15 32 10.2**	**+3.8**
	comp=Z,2.0nm,0.9s,baz=329,slow=15,SNR=3.0						
PLCA	**Paso Flores**	**26.45**	**170**	IAmb	IAmb	15 32 34.3	
	comp=Z,14nm,1.6s						
PLTB	**Pedras Altas**	**26.92**	**133**	P	**P**	**15 32 10.0**	**-0.8**
PLTB				IAmb	IAmb	15 32 29.6	
	comp=Z,19nm,1.3s						
PLTB	**Pedras Altas**	**26.92**	**133**	*e*P	**P**	**15 32 10.7**	**0.0**
BIRV	**Birongo**	**26.97**	**23**	P	**P**	**15 32 09.7**	**-1.5**
BIRV				IAmb	IAmb	15 32 12.4	
	comp=Z,23nm,1.3s						
IPMB	**Ipameri, GO**	**27.29**	**101**	*e*P	**P**	**15 32 14.6**	**+0.4**
BB19B	**Bebedouro**	**27.30**	**107**	*e*P	**P**	**15 32 16.2**	**+1.9**
BDFB	**Brasilia**	**27.46**	**96**	P	**P**	**15 32 14.9**	**-1.0**
BDFB				IAmb	IAmb	15 32 17.0	
	comp=Z,8.8nm,1.1s						
BDFB	**Brasilia**	**27.46**	**96**	*e*P	**P**	**15 32 16.3**	**+0.5**
PEXB	**Peixe**	**27.50**	**88**	*e*P	**P**	**15 32 17.8**	**+1.7**
AY01	**Puyuhuapi**	**29.81**	**175**	P	**P**	**15 32 36.1**	**-0.1**
AY01				IAmb	IAmb	15 32 58.2	
	comp=Z,25nm,1.4s						
MDP	**Montagnes des**	**30.73**	**52**	LR	LR	15 45 40.5	
	comp=Z,411nm,20.1s,baz=245,slow=38						
JANB	**Januaria**	**31.05**	**95**	*e*P	**P**	**15 32 47.8**	**+0.1**
DIAM	**Diamantina, MG**	**31.61**	**101**	*e*P	**P**	**15 32 53.9**	**+1.2**
RTAL	**Retalhuleu**	**32.71**	**332**	P	**P**	**15 33 01.7**	**-0.4**
MTDJ	**Mount Denham**	**32.73**	**358**	P	**P**	**15 33 00.4**	**-1.9**
FDF	**Fort de France**	**32.92**	**28**	P	**P**	**15 33 02.8**	**-1.3**
JAKH	**Jacmel**	**32.95**	**7**	P	**P**	**15 33 01.9**	**-2.2**
RPN	**Rapa Nui**	**33.01**	**243**	LR	LR	15 42 51.8	
	comp=Z,179nm,18.7s,baz=96,slow=30						
CELP	**Cerrillos**	**33.38**	**17**	P	**P**	**15 33 13.7**	**+0.5**
SJG	**San Juan**	**34.14**	**18**	LR	LR	15 48 42.3	
	comp=Z,108nm,20.6s,baz=246,slow=39						
MTP	**Monte Pirata**	**34.31**	**19**	P	**P**	**15 33 15.1**	**-0.9**
CBYP	**Canovanas**	**34.38**	**18**	P	**P**	**15 33 14.3**	**-2.4**
RIB01	**Linhares ES**	**34.75**	**103**	*e*P	**P**	**15 33 20.6**	**+0.7**
GUA01	**Guaratinga, BA**	**35.31**	**98**	*e*P	**P**	**15 33 25.7**	**+0.9**
NBPN	**Ponto Novo - B**	**35.54**	**88**	*e*P	**P**	**15 33 26.8**	**0.0**
CMC01	**Camacan, BA**	**35.65**	**96**	*e*P	**P**	**15 33 28.2**	**+0.5**
GDU01	**Guandu, BA**	**35.74**	**93**	*e*P	**P**	**15 33 29.4**	**+0.8**
CMIG	**Matias Romero**	**36.45**	**329**	LR	LR	15 46 45.3	
	comp=Z,99nm,18.1s,baz=192,slow=33						
RCBR	**Riachuelo**	**40.80**	**82**	LR	LR	15 52 04.3	
	comp=Z,200nm,20.1s,baz=30,slow=38						
NBRF	**Rio Formoso -**	**40.86**	**86**	*e*P	**P**	**15 34 12.3**	**+0.7**
TXAR	**Lajitas Array**	**51.05**	**329**	P	**P**	**15 35 33.9**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=152,slow=8.2,SNR=4.7						
TXAR				PcP	**PcP**	**15 36 50.3**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=138,slow=6.9,SNR=1.5						
TXAR	**Lajitas Array**	**51.05**	**329**	P	**P**	**15 35 32.5**	**+0.6**
PDAR	**Pinedale Array**	**64.76**	**334**	P	**P**	**15 37 08.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=148,slow=5.3,SNR=1.7						
ULM	**Lac du Bonnet**	**66.88**	**347**	P	**P**	**15 37 22.4**	**+1.2**
	comp=Z,4.1nm,0.6s,baz=159,slow=4.5,SNR=7.2						
ULM				LR	LR	16 07 09.9	
	comp=Z,50nm,18.2s,baz=81,slow=36						
ULM	**Lac du Bonnet**	**66.88**	**347**	IAmb	IAmb	15 37 23.6	
	comp=Z,4.3nm,0.6s						
SCHQ	**Schefferville**	**69.73**	**6**	P	**P**	**15 37 40.4**	**+1.4**
SNAA	**Sanae**	**71.01**	**161**	P	**P**	**15 37 48.7**	**+1.9**
SNAA				IAmb	IAmb	15 37 53.2	
	comp=Z,3.5nm,0.7s						
QSPA	**South Pole Qui**	**75.46**	**180**	P	**P**	**15 38 12.8**	**-0.4**
QSPA				IAmb	IAmb	15 38 42.8	
	comp=Z,15nm,1.6s						
KOWA	**Kowa**	**77.28**	**71**	P	**P**	**15 38 25.9**	**+1.7**
KOWA				IAmb	IAmb	15 38 26.4	
	comp=Z,5.6nm,0.8s						
FRB	**Frobisher Bay**	**78.43**	**4**	LR	LR	16 14 36.5	
	comp=Z,49nm,19.4s,baz=120,slow=37						
RAR	**Rarotonga**	**78.71**	**251**	LR	LR	16 06 19.3	
	comp=Z,76nm,20.0s,baz=202,slow=30						
TOA0	**Torodi Ar. Sit**	**82.15**	**74**	P	**P**	**15 38 52.1**	**+1.4**
TORD	**Torodi Ar. Bea**	**82.15**	**74**	P	**P**	**15 38 52.0**	**+1.2**
	comp=Z,13nm,1.0s,baz=258,slow=4.8,SNR=38						
TORD	**Torodi Ar. Bea**	**82.15**	**74**	P	**P**	**15 38 51.8**	**+1.1**
YKA	**Yellowknife Ar**	**82.52**	**343**	P	**P**	**15 38 53.6**	**+2.1**
	comp=Z,1.1nm,0.6s,baz=142,slow=5.9,SNR=20						
ESDC	**Sonseca Array**	**86.31**	**48**	P	**P**	**15 39 13.1**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=257,slow=5.3,SNR=4.5						
LBTB	**Lobatse**	**94.44**	**117**	LR	LR	16 19 06.2	
	comp=Z,64nm,18.3s,baz=200,slow=34						
ILAR	**Eielson Array**	**95.09**	**336**	P	**P**	**15 39 53.6**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=172,slow=2.7,SNR=2.9						
GERES	**GERESS Array B**	**101.01**	**42**	P	**Pdif**	**15 40 20.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=245,slow=2.8,SNR=3.4						
H11N3	**WAKE ISLAND Hyl**	**19.56**	**285**	T	T	17 56 21.2	
	baz=96,slow=74,SNR=224						
H11N2	**WAKE ISLAND Hyl**	**19.57**	**285**	T	T	17 56 22.3	
	baz=96,slow=74,SNR=229						
H11N1	**WAKE ISLAND Hyl**	**19.57**	**285**	T	T	17 56 22.4	
	baz=96,slow=74,SNR=113						
H11S2	**WAKE ISLAND Hyl**	**19.61**	**283**	T	T	17 56 21.9	
	baz=97,slow=75,SNR=165						
H11S1	**WAKE ISLAND Hyl**	**19.62**	**283**	T	T	17 56 20.3	
	baz=97,slow=75,SNR=214						
H11S3	**WAKE ISLAND Hyl**	**19.63**	**283**	T	T	17 56 23.2	
	baz=97,slow=75,SNR=230						
ZALV	**Zalesovo Beam**	**138.16**	**17**	PKP	**PKiKP**	**15 45 56.0**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=325,slow=2.3,SNR=8.1						
MKAR	**Makanchi Array**	**143.40**	**25**	PKP	**PKiKP**	**15 46 05.7**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=17,slow=1.3,SNR=5.5						
KSH	**Kashi**	**145.41**	**39**	PKPbc	**PKiKP**	**15 46 10.6**	**-1.1**
SONM	**Songino Array**	**146.87**	**356**	PKPbc	**PKiKP**	**15 46 14.4**	**0.0**
	comp=Z,3.0nm,0.7s,baz=336,slow=1.6,SNR=17						
KSRS	**Korea Array**	**148.66**	**321**	PKPbc	**PKPab**	**15 46 20.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=53,slow=6.3,SNR=4.1						
PZH	**PanZhiHua**	**168.13**	**8**	PKP	**PKPdf**	**15 46 34.1**	**-2.6**
CMAR	**Chiang Mai Arr**	**174.21**	**49**	PKP	**PKPdf**	**15 46 43.8**	**+4.0**
	comp=Z,0.3nm,0.3s,baz=242,slow=7.8,SNR=1.7						

*NEIC **07** 15:35:52.9±1.7, 30.33S±0.08×179.3W±0.2, h301km±5km, mb4.0/16, Error ellipse: s-maj=22.1km s-min=10.2km az=109.0*

*IDC **07** 15:35:54.2±1.1, 30.28S×179.31W, h313km±10km, mb3.5/6, mb1 3.7/10, mb1mx3.5/26, mbtmp4.4/10, Error ellipse: s-maj=21.5km s-min=14.8km az=129.0*

ISC 07 15:35:53.5±0.4, **30.24S**±0.05×**179.52W**±0.07, **h300**km, **n146**, σ1s**79**/163, **mb3.8**/13, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.70**	**55**	P	**Pn**	**15 36 41.5**	**+3.5**
GLKZ				S	**S**	**15 37 17.5**	**+4.0**
RIZ	**Raoul Island**	**1.71**	**55**	P	Pn	15 36 42.1	+4.0
RIZ				S	**S**	**15 37 19.4**	**+5.7**
RAO	**Raoul Island**	**1.71**	**55**	P	**Pn**	**15 36 39.0**	**+0.9**
	114nm,0.3s,baz=51,slow=12,SNR=12						
RAO	**Raoul Island**	**1.71**	**55**	Sn	**S**	**15 37 09.9**	**-3.8**
MXZ	**Matakaoa Point**	**7.52**	**193**	Pn	**Pn**	**15 37 40.8**	**-0.3**
MXZ				Sn	**S**	**15 39 07.4**	**-0.8**
MXZ	**Matakaoa Point**	**7.52**	**193**	P	**Pn**	**15 37 41.2**	**+0.1**
MXZ				S	**S**	**15 39 06.8**	**-1.4**
WMGZ	**Waiomatatini S**	**7.75**	**192**	P	**Pn**	**15 37 45.7**	**+1.8**
WMGZ				S	**S**	**15 39 10.7**	**-2.7**
PKGZ	**Pakihiroa**	**7.88**	**194**	P	**Pn**	**15 37 46.9**	**+1.3**
PKGZ				S	**S**	**15 39 14.5**	**-1.9**
RUGZ	**Raukumara Rang**	**8.04**	**196**	P	**Pn**	**15 37 50.4**	**+2.8**
RUGZ				S	**S**	**15 39 18.3**	**-1.9**
WHRZ	**Whale Island**	**8.13**	**200**	P	Pn	15 37 55.0	+6.4
TWGZ	**Tauwhareparae**	**8.18**	**194**	P	Pn	15 37 54.0	+4.8
TWGZ				S	**S**	**15 39 23.2**	**+0.1**
CNGZ	**Carnagh Statio**	**8.43**	**192**	P	**Pn**	**15 37 51.9**	**-0.4**
MWZ	**Matawai**	**8.43**	**196**	P	**Pn**	**15 37 52.7**	**+0.4**
MWZ				S	**S**	**15 39 27.7**	**-1.1**
TKGZ	**Te Karaka**	**8.46**	**194**	P	**Pn**	**15 37 51.9**	**-0.6**
TKGZ				S	**S**	**15 39 27.7**	**-1.6**
KMRZ	**Kaimai**	**8.46**	**205**	P	Pn	15 38 00.3	+7.6
URZ	**Urewera**	**8.47**	**198**	P	**Pn**	**15 37 52.4**	**-0.3**
	6.0nm,0.3s,baz=278,slow=1.7,SNR=34						
URZ				S	**S**	**15 39 30.2**	**+0.8**
	23nm,0.3s,baz=312,slow=22,SNR=16						
URZ	**Urewera**	**8.47**	**198**		**Pn**	**15 37 52.5**	**-0.2**
URZ				Sn	**S**	**15 39 28.3**	**-1.2**
URZ	**Urewera**	**8.47**	**198**	P	**Pn**	**15 37 53.4**	**+0.7**
URZ				S	**S**	**15 39 30.3**	**+0.8**
URZ	**Urewera**	**8.47**	**198**	P	**Pn**	**15 37 53.0**	**+0.3**
RAGZ	**Rawiri**	**8.61**	**196**	P	**P**	**15 37 58.7**	**-1.1**
RRRZ	**Republican Roa**	**8.71**	**201**	P	**P**	**15 38 00.8**	**0.0**
RRRZ				S	**S**	**15 39 40.9**	**+5.8**
RIGZ	**Rimuhau**	**8.73**	**194**	P	**P**	**15 37 59.6**	**-1.5**
MUGZ	**Murupara**	**8.77**	**199**	P	**Pn**	**15 37 57.6**	**+1.2**
MUGZ				S	**S**	**15 39 37.5**	**+1.2**
HSRZ	**Hossack Road**	**8.78**	**202**	P	**P**	**15 38 02.1**	**+0.6**
HRRZ	**Handcock Road**	**8.83**	**202**	P	**P**	**15 38 03.1**	**+0.9**
RTZ	**Ruatahuna**	**8.84**	**198**	P	**Pn**	**15 37 58.9**	**+1.5**
RTZ				S	**S**	**15 39 34.4**	**-3.5**
GRRZ	**Galatos Road**	**8.86**	**203**	P	**P**	**15 38 03.0**	**+0.6**
PRRZ	**Plateau Road**	**8.90**	**201**	P	**P**	**15 38 02.3**	**-0.5**
PRRZ				S	**S**	**15 39 41.4**	**+2.1**
SNGZ	**Shannon Statio**	**8.90**	**196**	P	**Pn**	**15 37 58.2**	**+0.2**
SNGZ				S	**S**	**15 39 37.2**	**-2.1**
PRGZ	**Paritu Road**	**8.92**	**193**	P	**P**	**15 38 01.3**	**-1.8**
PRGZ				S	**S**	**15 39 36.6**	**-3.1**
ALRZ	**Allen Road**	**8.97**	**201**	P	**P**	**15 38 03.1**	**-0.5**
WPRZ	**Whakapapatarin**	**8.99**	**202**	P	**P**	**15 38 03.6**	**-0.3**
TLZ	**Tolley Road**	**9.04**	**206**	P	**P**	**15 38 05.7**	**+1.2**
KNZ	**Kokohu**	**9.06**	**194**	P	**Pn**	**15 37 59.0**	**-0.9**
KNZ				S	**S**	**15 39 38.4**	**-4.3**
KUTZ	**Kaahu Road**	**9.08**	**204**	P	**P**	**15 38 04.4**	**-0.5**
RAHZ	**Arahi**	**9.09**	**197**	P	**Pn**	**15 38 02.5**	**+2.1**
RAHZ				S	**S**	**15 39 42.8**	**-0.9**
MTHZ	**Maungataniwha**	**9.10**	**198**	P	**P**	**15 38 04.4**	**-0.7**
MTHZ				S	**S**	**15 39 46.2**	**+2.4**
MRHZ	**Matea Rd**	**9.20**	**200**	P	**Pn**	**15 38 03.4**	**+1.7**
WHHZ	**Waihua**	**9.21**	**196**	P	**Pn**	**15 38 03.1**	**+1.3**
WHHZ				S	**S**	**15 39 43.2**	**-3.0**
WATZ	**Wairara**	**9.31**	**204**	P	**P**	**15 38 08.1**	**+0.7**
NMHZ	**Naumai**	**9.33**	**198**	P	**Pn**	**15 38 05.7**	**+2.3**
HATZ	**Hinemaiaia**	**9.35**	**202**	P	**P**	**15 38 06.0**	**-1.9**
RATZ	**Rangitukua**	**9.44**	**203**	P	**P**	**15 38 07.4**	**-1.5**
ARHZ	**Aropaoanui**	**9.44**	**197**	P	**P**	**15 38 07.7**	**-1.2**
HIZ	**Hauiti**	**9.46**	**208**	Pn	**Pn**	**15 38 07.0**	**+2.1**
HIZ	**Hauiti**	**9.46**	**208**	P	**P**	**15 38 09.5**	**+0.4**
BKZ	**Black Stump Fm**	**9.48**	**199**		**Pn**	**15 38 03.5**	**-1.7**
BKZ	**Black Stump Fm**	**9.48**	**199**	P	**Pn**	**15 38 04.4**	**-0.9**
BKZ	**Black Stump Fm**	**9.48**	**199**	P	**Pn**	**15 38 04.0**	**-1.3**
RITZ	**Rihia Road**	**9.51**	**202**	P	**P**	**15 38 09.9**	**+0.3**
TMVZ	**Te Maari**	**9.68**	**203**	P	**P**	**15 38 11.7**	**0.0**
MCHZ	**McNeill Hill**	**9.69**	**198**	P	**Pn**	**15 38 09.3**	**+1.6**
ETVZ	**East Tongariro**	**9.70**	**203**	P	**P**	**15 38 11.5**	**-0.4**
WTVZ	**West Tongariro**	**9.72**	**203**	P	**Pn**	**15 38 10.3**	**+2.1**
NNVZ	**North Ngauruho**	**9.73**	**203**	P	**P**	**15 38 11.8**	**-0.4**
TWVZ	**Taurewa**	**9.73**	**204**	P	**P**	**15 38 12.1**	**-0.2**
KWHZ	**Kaweka Forest**	**9.74**	**199**	P	**Pn**	**15 38 09.4**	**+1.0**
NGZ	**Ngauruhoe**	**9.77**	**203**	P	**P**	**15 38 12.1**	**-0.6**
CKHZ	**Cape Kidnapper**	**9.80**	**196**	P	**P**	**15 38 11.6**	**-1.2**
FWVZ	**Far West T-bar**	**9.86**	**203**	P	**Pn**	**15 38 11.6**	**+1.6**
WNVZ	**Wahianoa**	**9.91**	**203**	P	**Pn**	**15 38 12.6**	**+2.0**
BHHZ	**Black Hill Sta**	**9.91**	**200**	P	**Pn**	**15 38 10.9**	**+0.5**
MOVZ	**Moawhango**	**9.93**	**202**	P	**Pn**	**15 38 12.5**	**+1.8**
KRHZ	**Kereru**	**9.96**	**199**	P	**Pn**	**15 38 11.7**	**+0.6**
KAHZ	**Kahuranaki**	**9.97**	**196**	P	**Pn**	**15 38 11.3**	**+0.1**
PXZ	**Pawanui**	**10.20**	**196**	P	**Pn**	**15 38 12.7**	**-1.2**
PNHZ	**Pukenui**	**10.26**	**199**	P	**Pn**	**15 38 15.5**	**+0.7**
TSZ	**Takapari Road**	**10.46**	**199**	P	**Pn**	**15 38 16.5**	**-0.8**
PRHZ	**Porangahau**	**10.48**	**196**	P	**Pn**	**15 38 17.0**	**-0.4**
WAZ	**Wanganui**	**10.50**	**204**	P	**P**	**15 38 19.9**	**-0.8**
DVHZ	**Dannevirke**	**10.63**	**198**	P	**Pn**	**15 38 20.3**	**+1.1**
ANWZ	**Angora Road**	**10.70**	**197**	P	**Pn**	**15 38 20.7**	**+0.6**
POWZ	**Post Office Ro**	**10.83**	**199**	P	**P**	**15 38 23.5**	**-0.8**
PRWZ	**Pori Road**	**10.92**	**198**	P	**Pn**	**15 38 24.0**	**+1.1**
BFZ	**Birch Farm**	**10.97**	**197**	P	**Pn**	**15 38 23.1**	**-0.2**
BFZ	**Birch Farm**	**10.97**	**197**	P	**Pn**	**15 38 24.1**	**+0.8**
BFZ	**Birch Farm**	**10.97**	**197**	P	**Pn**	**15 38 23.2**	**-0.2**
TRWZ	**Traveller**	**11.79**	**198**	P	**P**	**15 38 34.4**	**-0.5**
MSWZ	**Moikau Station**	**11.93**	**199**	Pn	**Pn**	**15 38 33.8**	**-1.2**
SNZO	**South Karori**	**11.99**	**201**	P	**Pn**	**15 38 36.1**	**+0.3**
TUWZ	**Tuamarina**	**12.35**	**204**	P	**Pn**	**15 38 37.3**	**-2.8**
QRZ	**Quartz Range**	**12.38**	**209**	P	**P**	**15 38 43.0**	**+1.5**
MSVF	**Nonsavu**	**12.65**	**349**	P	**P**	**15 38 45.6**	**+0.8**
	3.2nm,0.3s,baz=138,slow=8.0,SNR=10.0						
MSVF	**Nonsavu**	**12.65**	**349**	P	**Pn**	**15 38 43.0**	**-1.1**
KHZ	**Kahutara**	**13.37**	**203**	P	**Pn**	**15 38 48.5**	**-3.8**
KHZ	**Kahutara**	**13.37**	**203**	P	**Pn**	**15 38 50.9**	**-1.4**
PINNC	**Pines Island,**	**13.92**	**300**	P	**Pn**	**15 38 59.6**	**+0.4**
LTZ	**Lake Taylor**	**14.14**	**205**	P	**P**	**15 38 58.4**	**-2.5**
MARNC	**Mare, Loyalty**	**14.19**	**305**	P	**P**	**15 39 01.5**	**-0.3**
OUENC	**Ouen Island, N**	**14.49**	**299**	P	**P**	**15 39 05.2**	**+0.2**
DZM	**Mont Dzumac**	**14.99**	**300**	P	**Pn**	**15 39 12.9**	**+0.9**
	1.3nm,0.3s,baz=183,slow=13,SNR=13						
DZM	**Mont Dzumac**	**14.99**	**300**	P	**Pn**	**15 39 12.6**	**+0.6**
DZM				IAmb	IAmb	15 39 22.7	
	comp=Z,14nm,0.9s						
RPZ	**Rata Peaks**	**15.39**	**207**	P	**Pn**	**15 39 17.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=39,slow=20,SNR=0.8						
RPZ				S	**S**	**15 41 56.2**	**-5.6**
	comp=Z,3.4nm,0.3s,baz=354,slow=17,SNR=8.4						
RPZ	**Rata Peaks**	**15.39**	**207**	P	**P**	**15 39 13.9**	**-0.9**
AFI	**Afiamalu**	**17.76**	**25**	S	**S**	**15 42 40.5**	**-8.9**
	comp=Z,2.2nm,0.3s,baz=298,slow=12,SNR=1.9						
KNTN	**Kanton**	**28.30**	**17**	P	**P**	**15 41 19.6**	**-0.6**
CTAO	**Charters Tower**	**32.47**	**280**	P	**P**	**15 41 58.6**	**+1.9**
STKA	**Stephens Creek**	**33.23**	**257**	P	**P**	**15 42 05.8**	**+2.7**
	comp=Z,3.1nm,1.0s,baz=75,slow=6.0,SNR=4.3						
STKA	**Stephens Creek**	**33.23**	**257**	IAmb	IAmb	15 42 08.6	
	comp=Z,1.6nm,1.4s						
BBOO	**Buckleboo**	**37.74**	**254**	P	**P**	**15 42 43.5**	**+2.3**
BBOO				IAmb	IAmb	15 43 09.6	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**41.80**	**267**	P	**P**	**15 43 15.6**	**+1.0**
ASAR	**Alice Springs**	**41.80**	**267**	P	**P**	**15 43 15.4**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=101,slow=7.2,SNR=22						
ASAR				PcP	**PcP**	**15 45 04.2**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=107,slow=6.7,SNR=2.7						
ASAR				ScP	**ScP**	**15 48 23.1**	**-2.6**
	comp=Z,1.0nm,0.8s,baz=117,slow=4.1,SNR=6.7						
ASAR	**Alice Springs**	**41.80**	**267**	P	**P**	**15 43 14.8**	**+0.2**
WR0	**Warramunga Arr**	**42.59**	**273**	P	**P**	**15 43 21.3**	**+0.4**
WB2	**Warramunga Arr**	**42.76**	**273**	P	**P**	**15 43 22.9**	**+0.6**
WB2				IAmb	IAmb	15 43 25.2	
	comp=Z,3.4nm,0.8s						
WRAB	**Tennant Creek**	**42.77**	**273**	P	**P**	**15 43 23.3**	**+0.9**
WRAB				IAmb	IAmb	15 43 25.2	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**42.77**	**273**	P	**P**	**15 43 23.3**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=110,slow=8.1,SNR=18						
WRA				ScP	**ScP**	**15 48 27.4**	**-2.3**
	comp=Z,0.2nm,0.9s,baz=109,slow=4.4,SNR=2.1						
WB0	**Warramunga Arr**	**42.80**	**273**	P	**P**	**15 43 22.8**	**+0.2**
WB0				IAmb	IAmb	15 43 24.9	
	comp=Z,4.0nm,0.8s						
FORT	**Forrest**	**44.81**	**255**	P	**P**	**15 43 39.2**	**+0.8**
FORT				IAmb	IAmb	15 44 06.9	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**49.38**	**275**	P	**P**	**15 44 15.2**	**+1.6**
KNRA				IAmb	IAmb	15 44 29.6	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.04**	**271**	P	**P**	**15 44 26.9**	**+0.9**
QSPA	**South Pole Qui**	**59.87**	**180**	P	**P**	**15 45 30.0**	**+2.2**
QSPA				IAmb	IAmb	15 46 02.2	
	comp=Z,7.5nm,1.4s						
JSU	**Suzuyama**	**77.63**	**318**	P	**P**	**15 47 17.5**	**+0.4**
H03N3	**Juan Fernandez**	**81.84**	**124**	T	T	17 17 53.9	
	baz=241						
H03N2	**Juan Fernandez**	**81.84**	**124**	T	T	17 17 50.8	
	baz=241						
H03N1	**Juan Fernandez**	**81.86**	**124**	T	T	17 17 54.4	
	baz=241						
KSRS	**Korea Array**	**83.38**	**321**	P	**P**	**15 47 47.1**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=152,slow=5.5,SNR=4.9						
YSS	**Yuzh-Sakhalins**	**84.04**	**335**	P	**P**	**15 47 51.2**	**+0.9**
PETK	**Petropavlovsk-**	**85.34**	**346**	P	**P**	**15 47 55.9**	**-0.8**
	comp=Z,5.0nm,0.7s,baz=148,slow=9.6,SNR=7.0						
NVAR	**Mina Array Bea**	**89.03**	**44**	P	**P**	**15 48 15.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=218,slow=6.8,SNR=5.2						
MKAR	**Makanchi Array**	**116.67**	**310**	PKP	**PKPdf**	**15 54 00.2**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=51,slow=2.8,SNR=2.9						
KKAR	**Karatay Array**	**123.89**	**304**		**PKPdf**	**15 54 14.3**	**-1.5**
ARCES	**ARCESS Array B**	**138.15**	**347**	PKhKP	PKPpre	15 54 33.3	
	comp=Z,4.0nm,1.0s,baz=9.5,slow=2.7,SNR=11						
ARCES				PKP	**PKPdf**	**15 54 41.9**	**-0.1**
	comp=Z,6.0nm,0.9s,baz=3.8,slow=3.6,SNR=4.6						
ONI	**Oni**	**143.66**	**302**		PKPbc	15 54 51.2	0.0
KBZ	**Khabaz**	**143.93**	**304**	PKP	PKPab	15 54 50.3	-0.9
	comp=Z,2.9nm,0.7s,baz=126,slow=3.1,SNR=8.1						
FIA1	**FINESS Array S**	**144.54**	**339**		**PKPab**	**15 54 51.5**	**-1.5**
FINES	**FINESS Array B**	**144.54**	**339**	PKP	**PKPab**	**15 54 51.7**	**-1.3**
	comp=Z,16nm,0.6s,baz=47,slow=4.4,SNR=64						
FINES	**FINESS Array B**	**144.54**	**339**		**PKPab**	**15 54 51.8**	**-1.2**
NB2	**NORSAR Subarra**	**148.38**	**350**	PKP	**PKPbc**	**15 55 03.1**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=19,slow=4.3						
NOA	**NORSAR Array B**	**148.38**	**350**	PKPbc	**PKPbc**	**15 55 02.9**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=16,slow=4.2,SNR=8.3						
AKASG	**Malin Array Be**	**150.37**	**322**	PKPbc	**PKPbc**	**15 55 08.4**	**-0.6**
	comp=Z,4.9nm,0.7s,baz=50,slow=2.7,SNR=18						
AKASG	**Malin Array Be**	**150.37**	**322**		**PKPbc**	**15 55 07.8**	**-1.2**
AKBB	**Malin Array Si**	**150.37**	**322**		**PKPbc**	**15 55 07.0**	**-2.1**
BRTR	**Keskin Array B**	**151.37**	**298**	PKPbc	**PKPbc**	**15 55 10.9**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=94,slow=4.1,SNR=6.3						
BRTR	**Keskin Array B**	**151.37**	**298**		**PKPbc**	**15 55 09.7**	**-2.3**
BUR08	**Bucovina Ar. S**	**154.25**	**319**		**PKPab**	**15 55 33.0**	**-0.4**
UPC	**Upice**	**156.64**	**334**	*e*PKP	**PKPab**	**15 55 43.8**	**+0.5**
DPC	**Dobruska-Polom**	**156.65**	**334**	*e*PKP	**PKPab**	**15 55 43.0**	**-0.4**
KRLC	**Kraliky**	**156.69**	**333**	*e*PKP	**PKPab**	**15 55 43.3**	**-0.3**
CLL	**Collm**	**156.98**	**340**	*i* PKPab	**PKPab**	**15 55 44.4**	**-0.3**
	comp=Z,7.0nm,0.9s						
BRG	**Berggiesshubel**	**157.06**	**338**	*e*P

THL				AML	AML	15 38 39.1	
	comp=N,333µm,0.6s						
THL				AML	AML	15 38 40.4	
	comp=E,219µm,0.5s						
LKD2	**Lefkada island**	**1.37**	**180**	P	**Pg**	**15 38 18.7**	**0.0**
LIT	**Litokhoron**	**1.40**	**92**	P	**Pn**	**15 38 18.4**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.45**	**179**	P	**Pb**	**15 38 19.8**	**+0.3**
EVR	**Evrytania**	**1.52**	**144**	P	**Pg**	**15 38 21.4**	**-0.1**
PHP	**Peshkopia**	**1.53**	**354**	P	**Pg**	**15 38 22.8**	**+1.1**
	baz=352						
PHP				S	**Sg**	**15 38 46.1**	**+4.6**
	baz=352						
GRG	**Griva**	**1.54**	**58**	P	**Pn**	**15 38 20.4**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.61**	**135**	P	**Pg**	**15 38 23.2**	**0.0**
FSK	**Fiskardo**	**1.70**	**183**	P	**Pb**	**15 38 24.1**	**+0.2**
STIP	**Stip**	**1.91**	**36** *i*	Pn	**Pb**	**15 38 27.9**	**+0.4**
KNT	**Kendrikon**	**1.97**	**59**	P	**Pn**	**15 38 26.1**	**+0.1**
BCI	**Bajram Curri**	**2.25**	**349**	P	**Pg**	**15 38 34.7**	**-0.7**
	baz=348						
BCI				S	**Sg**	**15 39 08.5**	**+4.0**
	baz=348						
LSTV	**Lastovo**	**3.85**	**314**	*e*Pn	**Pn**	**15 38 51.8**	**-0.1**
LSTV				Sn	**Sn**	**15 39 35.9**	**-1.5**
RICI	**Ricice**	**4.25**	**323**	*e*Pn	**Pn**	**15 38 56.8**	**-0.6**
RICI				Sn	**Sn**	**15 39 45.0**	**-2.3**
KIJV	**Kijevo**	**4.98**	**322**	*e*Pn	**Pn**	**15 39 07.1**	**-0.4**
KIJV				Sn	**Sn**	**15 40 02.9**	**-2.3**
ZIRJ	**Zirje**	**5.12**	**315**	*e*Pn	**Pn**	**15 39 09.2**	**-0.2**
ZIRJ				Sn	**Sn**	**15 40 06.6**	**-2.1**
MORI	**Morici**	**5.23**	**317**	*e*Pn	**Pn**	**15 39 11.1**	**+0.3**
MORI				Sn	**Sn**	**15 40 08.5**	**-2.9**

*NNC **07** 15:48:33.8±7.3,38°.54N×75°.31E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=65.4km s-min=39.5km az=154.0*
*IDC **07** 15:48:47.7±54.0,38°.92N×76°.30E,h166km±216km, mb3.3/1,mb1 3.1/3,mb1mx2.8/30,mbtmp3.6/3,ML3.2/2, MS4.0/1,Ms1 4.0/1,ms1mx2.6/56,Error ellipse: s-maj=583.0km s-min=126.4km az=44.0*
ISC 07 15:48:37.5±3.0,38°.5N±0°.2×75°.37E±0°.09,h150km,n16, σ1§16/17,4C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**3.80**	**350**	P	**Pn**	**15 49 36.5**	**+0.9**
	SNR=32						
AML	**Almayashu**	**3.87**	**341**	P	**Pn**	**15 49 37.0**	**+0.6**
	SNR=37						
KBK	**Karagaybulak**	**4.19**	**356**	P	**Pn**	**15 49 41.1**	**+0.8**
	SNR=6.8						
AAK	**Ala-Archa**	**4.21**	**351**	P	**Pn**	**15 49 42.0**	**+1.4**
	SNR=7.2						
EKS2	**Erkin-Say**	**4.35**	**344**	P	**Pn**	**15 49 44.0**	**+1.6**
	SNR=9.1						
TKM2	**Tokmak 2**	**4.44**	**2**	P	**Pn**	**15 49 45.0**	**+1.3**
	SNR=5.3						
TKM2	**Tokmak 2**	**4.44**	**2**	⇓P	**Pn**	**15 49 44.8**	**+1.1**
	1.3nm,0.4s						
TKM2				⇑S	**Sn**	**15 50 35.7**	**+0.4**
	10nm,0.6s						
USP	**Osepenovka**	**4.83**	**352**	P	**Pn**	**15 49 49.7**	**+1.0**
	SNR=5.1						
PDGK	**Podgornoye**	**5.77**	**31**	⇓P	**Pn**	**15 50 00.9**	**-0.3**
	2.3nm,0.5s						
PDGK				⇓S	**Sn**	**15 51 05.2**	**-1.4**
	11nm,0.9s						
KK31	**Karatay Array**	**5.91**	**323**	⇑P	**Pn**	**15 50 02.8**	**-0.2**
	1.6nm,0.2s,baz=138,slow=15,SNR=94						
KK31				⇑S	**Sn**	**15 51 07.4**	**-2.4**
	2.2nm,0.3s,baz=140,slow=22,SNR=4.6						
MKAR	**Makanchi Array**	**9.75**	**29**	P	**Pn**	**15 50 54.5**	**+0.4**
	0.2nm,0.3s,baz=202,slow=16,SNR=6.8						
AB31	**Akbulak array**	**15.45**	**319**	⇓P	**P**	**15 52 08.1**	**-0.4**
	0.7nm,0.6s,baz=131,slow=14,SNR=23						
ZALV	**Zalesovo Beam**	**16.77**	**20**	P	**Pn**	**15 52 23.9**	**+0.5**
	0.5nm,0.3s,baz=212,slow=10,SNR=8.7						
AKTO	**Aktyubinsk**	**17.16**	**320**	⇑P	**Pn**	**15 52 28.3**	**+0.2**
	0.5nm,0.4s						
SONM	**Songino Array**	**24.35**	**57**	P	P	15 53 42.6	+1.1
	0.8nm,0.3s,baz=259,slow=11,SNR=6.7						
MBAR	**Mbarara**	**56.49**	**237**	LR	LR	16 28 05.0	
	comp=Z,126nm,18.2s,baz=226,slow=41						

*EAF **07** 15:52:32.4±6.1,22°.10S×28°.29E,h10km,MD3.1*
BUL 07 15:52:33.2±1.4,20°.77S×30°.37E,h10km,MD3.0, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**1.60**	**191**	*e*P	Pn	15 53 01.8	+0.1
MSNA				*e*S	Sn	15 53 20.9	-1.5
MSNA	**Messina**	**1.60**	**191**	*e*P	Pn	15 53 01.8	+0.1
MSNA				*e*S	Sn	15 53 20.9	-1.5
BLWY	**Bulawayo**	**1.76**	**290**	*e*P	Pn	15 53 03.2	-0.7
BLWY				*e*S	Sn	15 53 24.8	-1.7
BLWY	**Bulawayo**	**1.76**	**290**	*e*P	Pn	15 53 03.2	-0.7
BLWY				*e*S	Sn	15 53 24.8	-1.7
MATP	**Matopo**	**1.78**	**281**	*e*P	Pn	15 53 03.9	-0.3
MATP				*e*S	Sn	15 53 27.3	+0.3
MATP	**Matopo**	**1.78**	**281**	*e*P	Pn	15 53 03.9	-0.3
MATP				*e*S	Sn	15 53 27.3	+0.3

*IDC **07** 16:07:21.7±7.6,15°.22S×166°.02E,h0km,mb3.9/3, mb1 4.2/5,mb1mx3.8/32,mbtmp4.1/5,ML4.2/2,Error ellipse: s-maj=133.9km s-min=29.8km az=65.0*
*NEIC **07** 16:07:24.8±0.8,15°.20S±0°.06×166°.18E±0°.06,h24km±9km, mb4.3/9,Error ellipse: s-maj=8.5km s-min=7.8km az=213.0*
*NOU **07** 16:07:29.7,15°.33S×167°.54E,h74km,MLv4.4/14, Vanuatu Islands*
ISC 07 16:07:25.0±0.9,15°.13S±0°.09×166°.16E±0°.07,h35km,n30, σ1§21/28,mb4.0/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.05**	**107**		**Pn**	**16 07 42.1**	**-1.2**
SANVU					Sn	**16 07 57.1**	**+0.3**
SANVU	**Saraoutou**	**1.05**	**107**	P	**Pn**	**16 07 42.7**	**-0.6**
DVP	**Devils Point**	**3.23**	**143**	P	Pn	16 08 06.9	-6.4
KOUNC	**Koumac, New Ca**	**5.68**	**198**	Pn	**Pn**	**16 08 43.9**	**-3.0**
KOUNC	**Koumac, New Ca**	**5.68**	**198**	P	Pn	16 08 56.5	+10
MARNC	**Mare, Loyalty**	**6.56**	**165**	Pn	Pn	16 08 53.8	-5.2
MARNC	**Mare, Loyalty**	**6.56**	**165**	P	**Pn**	**16 08 58.5**	**-0.5**
	1.3nm,1.3s						
DZM	**Mont Dzumac**	**6.91**	**178**	Pn	**Pn**	**16 09 03.9**	**0.0**
	0.8nm,0.3s,baz=3.4,slow=17,SNR=22						
DZM				Sn	**Sn**	**16 10 20.4**	**-1.0**
	0.6nm,0.3s,baz=0.0,slow=20,SNR=1.2						
DZM	**Mont Dzumac**	**6.91**	**178**	P	**Pn**	**16 09 05.8**	**+1.9**
YATNC	**Mamie plateau,**	**6.92**	**174**	P	**Pn**	**16 09 05.2**	**+1.1**
ONTNC	**Ouen Toro**	**7.14**	**178**	Pn	**Pn**	**16 09 07.3**	**+0.2**
ONTNC	**Ouen Toro**	**7.14**	**178**	P	**Pn**	**16 09 10.5**	**+3.5**
	28nm,1.2s						
OUENC	**Ouen Island, N**	**7.28**	**175**	Pn	**Pn**	**16 09 09.0**	**+0.2**
OUENC	**Ouen Island, N**	**7.28**	**175**	P	**Pn**	**16 09 10.5**	**+1.6**
PINNC	**Pines Island,**	**7.54**	**171**	Pn	**Pn**	**16 09 11.8**	**-0.7**
PINNC	**Pines Island,**	**7.54**	**171**	P	**Pn**	**16 09 13.4**	**+0.9**
	78nm,2.5s						
HNR	**Honiara**	**8.30**	**312**	Pn	**Pn**	**16 09 23.5**	**+0.5**
	15nm,0.3s,baz=143,slow=20,SNR=2.4						
STKA	**Stephens Creek**	**27.92**	**229**	P	**P**	**16 13 12.0**	**0.0**
	1.1nm,0.3s,baz=50,slow=9.1,SNR=7.7						
STKA	**Stephens Creek**	**27.92**	**229**	IAmb	IAmb	16 13 18.3	
	comp=Z,1.9nm,1.6s						
WR0	**Warramunga Arr**	**30.50**	**256**	P	**P**	**16 13 35.5**	**+0.4**
WR0				IAmb	IAmb	16 13 36.8	
	comp=Z,8.1nm,1.5s						
WB0	**Warramunga Arr**	**30.62**	**257**	P	**P**	**16 13 36.6**	**+0.4**
WB0				IAmb	IAmb	16 13 53.0	
	comp=Z,2.4nm,1.1s						
WB2	**Warramunga Arr**	**30.68**	**256**	P	**P**	**16 13 37.2**	**+0.5**
WB2				IAmb	IAmb	16 13 49.5	
	comp=Z,6.6nm,1.4s						
WRAB	**Tennant Creek**	**30.68**	**256**	P	**P**	**16 13 36.7**	**+0.1**
WRAB				IAmb	IAmb	16 13 49.4	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**30.69**	**256**	P	**P**	**16 13 37.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=84,slow=8.3,SNR=7.1						
AS31	**Alice Springs**	**31.52**	**249**	P	**P**	**16 13 44.1**	**0.0**
ASAR	**Alice Springs**	**31.53**	**249**	P	**P**	**16 13 44.5**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=75,slow=9.2,SNR=76						
BBOO	**Buckleboo**	**32.49**	**232**	P	**P**	**16 13 52.3**	**-0.1**
KNRA	**Kununurra**	**36.03**	**264**	P	**P**	**16 14 24.0**	**+0.8**
FORT	**Forrest**	**38.17**	**239**	P	**P**	**16 14 40.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**38.89**	**260**	P	**P**	**16 14 48.2**	**+0.7**

*IDC **07** 16:13:04.5±0.9,14°.05S×166°.88E,h0km,mb4.1/13, mb1 4.2/14,mb1mx4.0/37,mbtmp4.1/14,ML3.6/1,MS3.5/1, Ms1 3.5/1,ms1mx2.6/61,Error ellipse: s-maj=32.3km s-min=16.8km az=107.0*
*NEIC **07** 16:13:09.3±1.9,14°.03S±0°.07×166°.9E±0°.1,h27km±5km, mb4.5/20,Error ellipse: s-maj=17.4km s-min=9.8km az=72.0*
ISC 07 16:13:09.9±0.6,14°.04S±0°.06×166°.9E±0°.1,h35km,n50, σ0§99/52,mb4.3/21,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.44**	**167**		**Pn**	**16 13 33.6**	**+0.1**
SANVU					Sn	**16 13 51.6**	**+0.5**
LIFNC	**LIFOU**	**6.71**	**177**	Pn	**Pn**	**16 14 46.0**	**0.0**
KOUNC	**Koumac, New Ca**	**6.94**	**201**		**Pn**	**16 14 50.6**	**+1.5**
KOUNC					Sn	**16 16 06.8**	**0.0**
MARNC	**Mare, Loyalty**	**7.48**	**172**	Pn	**Pn**	**16 14 56.5**	**-0.2**
DZM	**Mont Dzumac**	**8.00**	**183**	Pn	**Pn**	**16 15 03.8**	**0.0**
	0.9nm,0.3s,baz=9.0,slow=19,SNR=12						
DZM				Sn	**Sn**	**16 16 35.1**	**+1.9**
	baz=0.0,slow=20,SNR=1.1						
ONTNC	**Ouen Toro**	**8.24**	**183**	Pn	**Pn**	**16 15 06.8**	**-0.2**
OUENC	**Ouen Island, N**	**8.34**	**180**	Pn	**Pn**	**16 15 09.0**	**+0.6**
PINNC	**Pines Island,**	**8.55**	**176**	Pn	**Pn**	**16 15 09.8**	**-1.4**
CTAO	**Charters Tower**	**20.61**	**250**	P	**P**	**16 17 46.7**	**+0.4**
CTAO				IAmb	IAmb	16 18 02.6	
	comp=Z,14nm,1.1s						
BKZ	**Black Stump Fm**	**26.43**	**163**	P	**P**	**16 18 44.2**	**+0.7**
BHW	**Baring Head**	**28.14**	**167**	P	**P**	**16 18 57.9**	**-0.9**
STKA	**Stephens Creek**	**29.16**	**228**	P	**P**	**16 19 08.7**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=47,slow=9.2,SNR=14						
STKA	**Stephens Creek**	**29.16**	**228**	P	**P**	**16 19 08.6**	**+0.6**
TOO	**Toolangi**	**30.19**	**215**	P	**P**	**16 19 15.5**	**-1.5**
TOO				IAmb	IAmb	16 19 38.8	
	comp=Z,24nm,1.6s						
WR0	**Warramunga Arr**	**31.45**	**255**	P	**P**	**16 19 26.9**	**-1.4**
WR0				IAmb	IAmb	16 19 30.3	
	comp=Z,11nm,1.6s						
WB0	**Warramunga Arr**	**31.57**	**255**	P	**P**	**16 19 28.0**	**-1.4**
WB0				IAmb	IAmb	16 19 37.4	
	comp=Z,9.8nm,1.6s						
WB2	**Warramunga Arr**	**31.62**	**255**	P	**P**	**16 19 28.2**	**-1.7**
WB2				IAmb	IAmb	16 19 36.4	
	comp=Z,4.0nm,1.1s						
WRA	**Warramunga Arr**	**31.63**	**255**	P	**P**	**16 19 28.2**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=85,slow=8.9,SNR=16						
AS31	**Alice Springs**	**32.57**	**248**	P	**P**	**16 19 36.8**	**-1.4**
ASAR	**Alice Springs**	**32.57**	**248**	P	**P**	**16 19 36.8**	**-1.5**
	comp=Z,2.2nm,0.5s,baz=73,slow=9.4,SNR=114						
ASAR				PcP	**PcP**	**16 22 23.3**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=76,slow=2.9,SNR=2.0						
ASAR				LR	LR	16 30 48.2	
	comp=Z,83nm,18.7s,baz=150,slow=33						
BBOO	**Buckleboo**	**33.71**	**231**	P	**P**	**16 19 48.2**	**+0.2**
MTN	**Manton Dam**	**34.77**	**268**	P	**P**	**16 19 57.0**	**-0.4**
MTN				IAmb	IAmb	16 19 57.8	
	comp=Z,7.7nm,1.1s						
KNRA	**Kununurra**	**36.85**	**263**	P	**P**	**16 20 13.3**	**-1.8**
KNRA				IAmb	IAmb	16 20 32.0	
	comp=Z,23nm,1.5s						
FORT	**Forrest**	**39.33**	**238**	P	**P**	**16 20 35.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**39.78**	**259**	P	**P**	**16 20 39.4**	**-0.4**
JKA	**Kamikawa-asahi**	**61.97**	**340**	P	**P**	**16 23 27.3**	**+1.0**
JKA	**Kamikawa-asahi**	**61.97**	**340**	IAmb	IAmb	16 23 34.8	
	comp=Z,13nm,1.2s						
ASAJ	**Asahikawa**	**61.97**	**340**	P	**P**	**16 23 27.3**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=188,slow=7.1,SNR=1.7						
VNDA	**Vanda**	**63.54**	**181**	P	**P**	**16 23 36.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=27,slow=2.3,SNR=2.6						
VNDA	**Vanda**	**63.54**	**181**	P	**P**	**16 23 37.2**	**+0.8**
VNDA				IAmb	IAmb	16 24 03.6	
	comp=Z,4.5nm,1.6s						
SBA	**Scott Base**	**63.83**	**180**	P	**P**	**16 23 39.5**	**+1.2**
CASY	**Casey**	**64.02**	**202**	P	**P**	**16 23 40.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**66.10**	**333**	P	**P**	**16 23 54.4**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=123,slow=5.3,SNR=3.4						
USRK	**Ussuriysk Ar.**	**66.10**	**333**	P	**P**	**16 23 53.5**	**+0.1**
PEA0B	**Petropavlovsk-**	**67.34**	**354**	P	**P**	**16 24 03.2**	**+2.1**
PETK	**Petropavlovsk-**	**67.34**	**354**	P	**P**	**16 24 02.3**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=198,slow=8.9,SNR=2.1						
KLR	**Kul'dur**	**70.22**	**336**	P	**P**	**16 24 19.9**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=93,slow=15,SNR=3.8						
CMAR	**Chiang Mai Arr**	**74.32**	**294**	P	**P**	**16 24 45.5**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=130,slow=4.3,SNR=8.0						
CMAR	**Chiang Mai Arr**	**74.32**	**294**	P	**P**	**16 24 44.1**	**-0.3**
QSPA	**South Pole Qui**	**75.99**	**180**	P	**P**	**16 24 53.1**	**-0.3**
QSPA				IAmb	IAmb	16 25 10.4	
	comp=Z,4.2nm,1.2s						
SEY	**Seymchan**	**77.55**	**353**	P	**P**	**16 25 01.2**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=155,slow=4.5,SNR=26						
ULN	**Ulaanbaatar**	**81.36**	**324**	P	**P**	**16 25 23.3**	**+0.2**
ULN				IAmb	IAmb	16 25 24.4	
	comp=Z,2.4nm,0.7s						
SONM	**Songino Array**	**81.72**	**324**	P	**P**	**16 25 24.3**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=155,slow=4.8,SNR=2.6						
SONM	**Songino Array**	**81.72**	**324**	IAmb	IAmb	16 25 27.7	
	comp=Z,3.0nm,1.5s						
ILAR	**Eielson Array**	**85.99**	**18**	P	**P**	**16 25 45.6**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=250,slow=5.1,SNR=8.6						
MKAR	**Makanchi Array**	**96.44**	**316**	P	**P**	**16 26 35.8**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=106,slow=8.9,SNR=5.2						
ARCES	**ARCESS Array B**	**119.49**	**345**	PKP	**PKPdf**	**16 31 54.6**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=56,slow=4.5,SNR=9.0						
FINES	**FINESS Array B**	**124.94**	**338**	PKP	**PKPdf**	**16 32 05.6**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=15,slow=5.8,SNR=1.7						
GERES	**GERESS Array B**	**138.86**	**333**	PKP	**PKPdf**	**16 32 33.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=74,slow=3.5,SNR=1.6						
TORD	**Torodi Ar. Bea**	**165.57**	**268**	PKP	**PKPdf**	**16 33 11.0**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=39,slow=0.8,SNR=2.7						

*IDC **07** 16:13:42.5±0.5,32°.35N×40°.23W,h0km,mb4.3/41, mb1 4.4/41,mb1mx4.3/63,mbtmp4.3/41,MS3.7/36, Ms1 3.7/36,ms1mx3.5/95,Error ellipse: s-maj=13.4km s-min=11.8km az=159.0*
*NEIC **07** 16:13:45.2±1.2,32°.36N±0°.10×40°.2W±0°.1,h14km±4km, mb4.9/136,Error ellipse: s-maj=14.4km s-min=13.2km az=169.0*
ISC 07 16:13:44.6±0.3,32°.37N±0°.06×40°.15W±0°.06,h13km,n288, σ1§18/264,mb4.8/117,MS3.7/36,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACI	**Morro de la Ar**	**20.81**	**95**	P	**P**	**16 18 27.2**	**+1.2**
GBN	**Guysborough**	**21.04**	**314**	P	**P**	**16 18 27.6**	**-0.4**
DRLN	**Deer Lake**	**21.30**	**327**	P	**P**	**16 18 30.6**	**-0.2**
DRLN				IAmb	IAmb	16 18 46.0	
	comp=Z,131nm,1.7s						
SACV	**Santiago Islan**	**22.95**	**135**	P	**P**	**16 18 48.5**	**-0.3**
F63A	**Nahmakanta, Br**	**25.97**	**309**	P	**P**	**16 19 16.0**	**-0.9**
MPOM	**Morne Pois Mar**	**25.98**	**231**	P	**P**	**16 19 17.8**	**+0.7**
BIM	**Bigot**	**26.07**	**232**	P	**P**	**16 19 17.0**	**-0.9**
PFVI	**Vila Bisbo**	**26.11**	**71**	P	**P**	**16 19 19.4**	**+1.3**
I63A	**Otisfield**	**26.45**	**305**	P	**P**	**16 19 19.4**	**-1.8**
D62A	**Allapoint, All**	**26.46**	**312**	P	**P**	**16 19 23.4**	**+2.1**
CUPR	**Culebra, Puert**	**26.59**	**244**	P	**P**	**16 19 26.0**	**+3.3**
SJG	**San Juan**	**27.37**	**245**	LR	LR	16 31 46.4	
	comp=Z,26nm,18.1s,baz=76,slow=40						
WSPT	**Westport, CT**	**27.86**	**298**	P	**P**	**16 19 35.9**	**+2.0**
TRNY	**Table Rock, Ra**	**28.52**	**298**	P	**P**	**16 19 39.5**	**-0.4**
SCHQ	**Schefferville**	**29.31**	**328**	P	**P**	**16 19 46.5**	**-0.1**
SCHQ				IAmb	IAmb	16 20 15.7	
	comp=Z,40nm,1.9s						
MDP	**Montagnes des**	**29.53**	**206**	LR	LR	16 29 35.1	
	comp=Z,49nm,18.9s,baz=52,slow=32						
MDT	**Midelt**	**29.87**	**79**	P	**P**	**16 19 51.1**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=287,slow=11,SNR=2.4						
MDT				LR	LR	16 29 00.2	
	comp=Z,209nm,20.3s,baz=304,slow=31						
ESDC	**Sonseca Array**	**30.01**	**66**	P	**P**	**16 19 51.7**	**-1.4**
	comp=Z,1.3nm,1.0s,baz=322,slow=5.0,SNR=5.0						
ESDC				LR	LR	16 28 13.1	
	comp=Z,98nm,20.8s,baz=292,slow=29						
ESDC	**Sonseca Array**	**30.01**	**66**	P	**P**	**16 19 53.1**	**-0.1**
P57A	**Homestead Farm**	**31.30**	**294**	P	**P**	**16 20 06.0**	**+1.6**
S57A	**Dark Hollow, R**	**32.05**	**291**	P	**P**	**16 20 10.7**	**-0.3**
SADO	**Sadowa**	**32.60**	**304**	LR	LR	16 33 09.2	
	comp=Z,28nm,18.8s,baz=344,slow=36						
MCPB	**Macapa, AP**	**34.44**	**201**	*e*P	**P**	**16 20 32.0**	**0.0**
ROSB	**Rosrio**	**35.27**	**187**	*e*P	**P**	**16 20 39.6**	**+0.4**
BOAV	**Boa Vista**	**35.44**	**217**	*e*P	**P**	**16 20 42.3**	**+1.7**
FRB	**Frobisher Bay**	**36.07**	**339**	P	**P**	**16 20 45.4**	**-0.2**
	comp=Z,7.2nm,1.0s,baz=137,slow=8.2,SNR=7.1						
TKL	**Tuckaleechee C**	**36.09**	**287**	LR	LR	16 33 19.5	
	comp=Z,106nm,18.3s,baz=85,slow=33						
MALB	**Monte Alegre**	**36.56**	**204**	*e*P	**P**	**16 20 51.1**	**+0.8**
SDV	**Santo Domingo**	**36.64**	**237**	LR	LR	16 33 25.3	
	comp=Z,52nm,19.6s,baz=75,slow=32						
SDV	**Santo Domingo**	**36.64**	**237**	P	**P**	**16 20 50.6**	**-0.6**
SDV				IAmb	IAmb	16 20 54.8	
	comp=Z,26nm,1.0s						
SDV	**Santo Domingo**	**36.64**	**237**	*e*P	**P**	**16 20 52.8**	**+1.7**
SSB	**Saint Sauveur**	**36.67**	**56**	P	**P**	**16 20 50.6**	**-0.4**
SSB				IAmb	IAmb	16 20 59.6	
	comp=Z,26nm,1.5s						
KOWA	**Kowa**	**37.39**	**110**	P	**P**	**16 20 56.9**	**-0.5**
KOWA				IAmb	IAmb	16 21 01.6	
	comp=Z,66nm,1.9s						
RCBR	**Riachuelo**	**38.20**	**173**	P	**P**	**16 21 05.6**	**+1.4**
	comp=Z,4.4nm,0.7s,baz=331,slow=16,SNR=1.7						
PRPB	**Parauapebas**	**39.41**	**195**	*e*P	**P**	**16 21 14.9**	**+0.5**
ITTB	**Itaituba**	**39.42**	**205**	*e*P	**P**	**16 21 15.6**	**+1.2**
TUE	**Stuetta**	**40.10**	**55**	P	**P**	**16 21 19.4**	**-0.6**
TUE				IAmb	IAmb	16 21 23.9	
	comp=Z,43nm,1.5s						
MACA	**Manacapuru-AM**	**40.35**	**213**	*e*P	**P**	**16 21 23.2**	**+1.1**
DAVOX	**Davos/Dischmat**	**40.48**	**54**	P	**P**	**16 21 24.6**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=322,slow=6.1,SNR=3.9						
DAVOX				LR	LR	16 34 04.2	
	comp=Z,162nm,19.6s,baz=268,slow=30						
DAVA	**Damuels**	**40.51**	**53**	*e*P	**P**	**16 21 25.8**	**+2.4**
	comp=Z,9.5nm,1.4s						
ZARC	**Zaragoza, Cauc**	**40.64**	**240**	P	**P**	**16 21 23.8**	**-0.8**
KEST	**Kesra**	**40.80**	**71**	P	**P**	**16 21 26.8**	**+0.9**
	comp=Z,6.2nm,0.7s,baz=270,slow=12,SNR=2.1						
KEST				LR	LR	16 37 06.5	
	comp=Z,99nm,18.7s,baz=328,slow=34						
FETA	**Feichten**	**41.07**	**54**	*e*P	**P**	**16 21 29.9**	**+1.8**
	comp=Z,13nm,1.6s						
RETA	**Reutte**	**41.12**	**53**	*i* P	**P**	**16 21 31.2**	**+2.9**
	comp=Z,16nm,1.8s,SNR=5.7						
MOTA	**Moosalm**	**41.34**	**53**	*e*P	**P**	**16 21 33.1**	**+2.9**
	comp=Z,24nm,1.7s						
SQTA	**Sankt Quirin**	**41.41**	**54**	*i* P	**P**	**16 21 32.3**	**+1.6**
	comp=Z,20nm,1.4s,SNR=6.1						
OSSC	**Osservatorio P**	**41.44**	**59**	P	**P**	**16 21 30.7**	**-0.2**
TIC	**Toumodi**	**41.52**	**120**	*e*P	P	16 21 37.6	+5.8
DBIC	**Dimbokro**	**41.62**	**120**	P	**P**	**16 21 32.2**	**-0.4**
	comp=Z,4.6nm,0.6s,baz=320,slow=6.2,SNR=7.2						
DBIC				LR	LR	16 37 29.4	
	comp=Z,70nm,18.6s,baz=318,slow=34						
DBIC	**Dimbokro**	**41.62**	**120**	IAmb	IAmb	16 21 33.9	
	comp=Z,68nm,1.9s						
WATA	**Walderalm**	**41.66**	**53**	*e*P	**P**	**16 21 35.5**	**+2.7**
	comp=Z,11nm,1.0s						
WTTA	**Wattenberg**	**41.70**	**54**	*i* P	**P**	**16 21 35.6**	**+2.4**
	comp=Z,21nm,1.3s,SNR=5.3						
NPGB	**Novo Progresso**	**41.79**	**203**	*e*P	**P**	**16 21 34.1**	**+0.1**
LIC	**Lamto**	**41.80**	**121**	*e*P	**P**	**16 21 35.0**	**+0.9**
	comp=Z,28nm,0.8s						
KIC	**Kosan Boka**	**41.91**	**120**	*e*P	**P**	**16 21 35.3**	**+0.2**
	comp=Z,12nm,0.6s						
LCAR	**Lake Charles**	**41.95**	**290**	P	**P**	**16 21 36.1**	**+0.9**
ROSC	**El Rosal**	**42.06**	**237**	LR	LR	16 36 36.0	
	comp=Z,155nm,20.2s,baz=340,slow=33						
ABTA	**Abfaltersbach**	**42.29**	**54**	*i* P	**P**	**16 21 38.8**

H10S3 ASCENSION HYDR 47.75 145 T T 17 13 21.0
baz=330,slow=74,SNR=692
H10S2 ASCENSION HYDR 47.77 145 T T 17 13 22.1
baz=250,slow=74,SNR=259
CRVS Cervenica-Dubn 48.26 51 *eP* **P 16 22 28.2 +3.0**
FFC Flin Flon 48.26 317 P **P 16 22 24.6 -0.4**
FFC IAmb IAmb 16 22 44.7
comp=Z,19nm,1.7s
BDFB Brasilia 48.33 190 P **P 16 22 26.5 +0.5**
comp=Z,7.3nm,0.7s,baz=18,slow=8.8,SNR=11
BDFB Brasilia 48.33 190 P **P 16 22 26.7 +0.7**
BDFB IAmb IAmb 16 22 28.2
comp=Z,7.7nm,0.9s
BDFB Brasilia 48.33 190 *eP* **P 16 22 27.2 +1.2**
OHR Ohrid 48.74 61 *i* P **P 16 22 32.0 +2.9**
ETMB Extrema 48.78 215 *eP* **P 16 22 28.9 -0.5**
KBN Korca 48.82 62 P **P 16 22 29.8 +0.1**
VILB Vilhena 48.98 206 *eP* **P 16 22 32.3 +1.3**
TRPA Tarpa 49.03 52 P **P 16 22 33.3 +2.3**
SKO Skopje 49.06 60 *i* P **P 16 22 32.8 +1.3**
FNA Florina 49.23 62 P **P 16 22 33.8 +1.0**
STIP Stip 49.66 60 *i* P **P 16 22 38.2 +2.2**
RES Resolute Bay 49.95 344 P **P 16 22 37.0 -0.7**
comp=Z,4.1nm,1.1s,baz=99,slow=5.5,SNR=6.9
RES Resolute Bay 49.95 344 P **P 16 22 39.7 +2.0**
VAY Valandovo 50.02 61 *i* P **P 16 22 39.9 +1.2**
LIT Litokhoron 50.20 62 P **P 16 22 40.3 +0.1**
SALV Santo Antonio 50.25 200 *eP* **P 16 22 41.0 +0.3**
VTS Vitosha 50.26 59 P **P 16 22 40.8 0.0**
VTS IAmb IAmb 16 22 44.0
comp=Z,9.4nm,0.8s
VTS PcP **PcP 16 24 00.7 +1.1**
VTS Vitosha 50.26 59 *i* P **P 16 22 41.6 +0.8**
KKB Krupnik 50.29 60 *i* P **P 16 22 42.7 +1.9**
DIAM Diamantina, MG 50.49 184 *eP* **P 16 22 43.8 +1.2**
IPMB Ipameri, GO 50.66 190 *eP* **P 16 22 43.9 +0.2**
BOSC San Juan Bosco 50.68 233 P **P 16 22 43.1 -1.1**
BOSC IAmb IAmb 16 22 45.2
comp=Z,13nm,1.0s
MMB Musomiste 50.82 60 *i* P **P 16 22 46.3 +1.5**
BUR08 Bucovina Ar. S 50.87 52 P **P 16 22 46.2 +1.0**
BUR08 IAmb IAmb 16 22 47.7
comp=Z,48nm,1.9s
FINES FINESS Array B 50.87 35 P **P 16 22 45.2 +0.4**
comp=Z,2.5nm,0.7s,baz=234,slow=6.4,SNR=8.1
FINES LR LR 16 40 52.8
comp=Z,131nm,18.2s,baz=234,slow=32
BURAR Bucovina Array 50.88 52 P **P 16 22 46.3 +1.0**
BURAR IAmb IAmb 16 22 48.4
comp=Z,26nm,1.9s
PTLB Pontes e Lacer 50.90 204 *eP* **P 16 22 47.4 +1.9**
PGB Panagyurishte 50.95 59 *i* P **P 16 22 47.3 +1.4**
CMIG Matias Romero 51.47 267 LR LR 16 43 40.9
comp=Z,44nm,18.7s,baz=28,slow=35
RZN Rozhen 51.52 60 *i* P **P 16 22 51.7 +1.4**
ARCES ARCESS Array B 51.58 24 P **P 16 22 50.4 +0.3**
comp=Z,5.5nm,0.9s,baz=235,slow=4.3,SNR=5.2
MLR Muntele Rosu 51.69 55 P **P 16 22 52.5 +1.1**
comp=Z,5.8nm,0.8s,baz=298,slow=2.1,SNR=19
MLR Muntele Rosu 51.69 55 P **P 16 22 51.6 +0.1**
KDZ Kurdzhali 52.04 60 *i* P **P 16 22 54.4 +0.4**
SZH Strazhica 52.09 58 *i* P **P 16 22 54.7 +0.4**
T25A Trinidad 52.12 294 P **P 16 22 55.4 +0.5**
MCRA Macar, Loja 52.56 234 P **P 16 22 57.7 -0.4**
ALN Alexandroupoli 52.67 61 P **P 16 22 58.1 -0.5**
JMB Yambol 52.72 59 *i* P **P 16 22 59.4 +0.4**
SDCO Great Sand Dun 52.80 295 P **P 16 23 00.1 +0.1**
AKASG Malin Array Be 53.08 48 P **P 16 23 01.0 -0.5**
comp=Z,3.2nm,0.7s,baz=273,slow=6.9,SNR=17
AKASG LR LR 16 43 28.0
comp=Z,101nm,18.0s,baz=306,slow=34
AKBB Malin Array Si 53.08 48 P **P 16 23 00.8 -0.7**
PRD Provadia 53.15 58 *i* P **P 16 23 02.3 +0.2**
EGMT Eagleton 53.64 309 P **P 16 23 05.9 +0.1**
EGMT IAmb IAmb 16 23 10.2
comp=Z,22nm,1.6s
S22A 4UR Ranch, Cre 53.82 296 P **P 16 23 08.6 +1.1**
TXAR Lajitas Array 53.90 285 P **P 16 23 06.6 -1.4**
comp=Z,1.5nm,0.8s,baz=100,slow=7.1,SNR=13
TXAR LR LR 16 43 57.6
comp=Z,55nm,19.5s,baz=73,slow=34
TX31 Lajitas Ar. Si 53.90 285 P **P 16 23 07.4 -0.6**
TX31 IAmb IAmb 16 23 34.5
comp=Z,15nm,1.1s
TX32 Lajitas Array 53.90 285 P **P 16 23 07.5 -0.4**
ANMO Albuquerque 54.33 292 LR LR 16 43 47.2
comp=Z,73nm,21.5s,baz=76,slow=33
ANMO Albuquerque 54.33 292 P **P 16 23 11.0 -0.1**
YMP Mirror Lake Pl 54.55 305 P **P 16 23 12.8 0.0**
YMP IAmb IAmb 16 23 15.7
comp=Z,10nm,1.0s
BW06 Boulder Array 54.58 302 P **P 16 23 11.7 -1.2**
PD31 Pinedale Array 54.58 302 P **P 16 23 11.6 -1.3**
PDAR Pinedale Array 54.58 302 P **P 16 23 11.7 -1.3**
comp=Z,4.2nm,0.9s,baz=86,slow=7.0,SNR=19
PDAR LR LR 16 44 47.3
comp=Z,64nm,19.1s,baz=78,slow=34
PDAR Pinedale Array 54.58 302 P **P 16 23 11.8 -1.0**
AQDB Aquidauana 54.61 198 P **P 16 23 12.2 -0.6**
AQDB IAmb IAmb 16 23 16.2
comp=Z,12nm,1.2s
AQDB Aquidauana 54.61 198 *eP* **P 16 23 13.4 +0.5**
BNM Barren Site 54.70 291 P **P 16 23 12.8 -1.2**
YKA Yellowknife Ar 54.75 327 P **P 16 23 13.2 -0.2**
comp=Z,2.7nm,1.0s,baz=87,slow=7.4,SNR=18
YHH Holmes Hill 55.02 305 P **P 16 23 15.5 -0.7**
RDMU Red Mountain 55.12 300 P **P 16 23 16.7 -0.2**
RDMU IAmb IAmb 16 23 19.4
comp=Z,16nm,1.3s
YMR Madison River 55.13 305 P **P 16 23 16.4 -0.4**
YMR IAmb IAmb 16 23 20.8
comp=Z,18nm,1.2s
MANT Manisa 55.16 63 P **P 16 23 16.4 -0.7**
MANT IAmb IAmb 16 23 20.0
comp=Z,21nm,1.0s
LPAZ La Paz 55.30 213 P **P 16 23 18.4 -0.4**
comp=Z,3.2nm,0.8s,baz=5.5,slow=7.1,SNR=9.4
LPAZ LR LR 16 45 12.8
comp=Z,76nm,18.5s,baz=34,slow=34
LPAZ La Paz 55.30 213 P **P 16 23 17.2 -1.5**
LPAZ IAmb IAmb 16 23 27.7
comp=Z,30nm,1.9s
LPAZ La Paz 55.30 213 *eP* **P 16 23 18.9 +0.2**
REDW Red Top Meadow 55.35 303 P **P 16 23 16.8 -1.7**
REDW IAmb IAmb 16 23 20.9
comp=Z,12nm,1.4s
TPAW Teton Pass 55.39 303 P **P 16 23 18.0 -0.8**
P18A Preston Nutter 55.88 299 P **P 16 23 22.5 +0.1**
P18A IAmb IAmb 16 23 25.8
comp=Z,30nm,1.9s
SRU San Rafael Swe 56.23 298 P **P 16 23 24.0 -0.8**
SRU IAmb IAmb 16 23 28.4
comp=Z,40nm,2.0s
HWUT Hardware Ranch 56.31 301 P **P 16 23 24.0 -1.3**
OBN Obninsk 56.79 42 P **P 16 23 28.3 +0.1**
comp=Z,2.1nm,0.4s,baz=347,slow=0.1,SNR=7.4
NLU North Lily Min 57.14 300 P **P 16 23 29.9 -1.4**
KLMR Klimovskoe 57.40 35 *eP* **P 16 23 30.7 -1.7**
KLMR AMP 16 23 36.0
comp=Z,15nm,1.2s
BGU Big Grassy Mou 57.56 301 P **P 16 23 33.2 -1.0**
MSU Marysvale 57.64 298 P **P 16 23 34.3 -0.6**
WUAZ Wupatki 57.97 294 P **P 16 23 37.3 +0.2**
U15A North Rim 58.38 296 P **P 16 23 40.2 0.0**
U15A IAmb IAmb 16 23 43.6
comp=Z,10nm,1.3s
NEW Newport 58.41 310 P **P 16 23 39.8 0.0**
PLID Pearl Lake 58.49 306 P **P 16 23 40.7 0.0**
BRTR Keskin Array B 58.58 60 P **P 16 23 41.3 0.0**
comp=Z,2.9nm,0.8s,baz=294,slow=14,SNR=24
BRTR Keskin Array B 58.58 60 P **P 16 23 40.7 -0.6**
GO01 Chusmiza 58.74 212 P **P 16 23 41.0 -1.9**
CCUT Cedar City 58.83 297 P **P 16 23 43.7 +0.5**
MFID Camas Ranch 58.84 304 P **P 16 23 42.6 -0.5**
PSUT Pine Spring 58.88 298 P **P 16 23 43.4 -0.1**
PSUT IAmb IAmb 16 24 03.1
comp=Z,7.9nm,1.1s
PB11 IPOC Station P 59.03 213 P **P 16 23 43.0 -1.5**
ELK Elko 59.21 301 LR LR 16 48 09.3
comp=Z,36nm,19.9s,baz=33,slow=35
BMO Blue Mountains 59.45 306 P **P 16 23 48.0 +0.8**
W13A Hualapai Mount 60.05 295 P **P 16 23 51.6 0.0**
R11A Troy Canyon, C 60.23 299 P **P 16 23 52.5 -0.2**
BNN Bunyan 60.48 61 P **P 16 23 54.7 +0.3**

CPUP Villa Florida 60.62 198 P **P 16 23 53.7 -1.5**
comp=Z,1.3nm,0.5s,baz=47,slow=14,SNR=2.5
J08A Circle Bar Ran 60.70 305 P **P 16 23 55.5 -0.3**
J08A IAmb IAmb 16 23 59.0
comp=Z,15nm,1.3s
WVOR Wild Horse Val 61.10 304 P **P 16 23 57.5 -1.1**
LVC Limon Verde 61.19 210 LR LR 16 48 10.2
comp=Z,75nm,21.4s,baz=340,slow=34
LPIG La Paz 61.39 282 LR LR 16 49 15.2
comp=Z,41nm,19.4s,baz=35,slow=35
INK Inuvik 61.57 335 P **P 16 24 01.2 +0.1**
INK IAmb IAmb 16 24 22.5
comp=Z,12nm,1.2s
GWY Greenwater Val 61.78 297 P **P 16 24 02.2 -1.2**
GWY IAmb IAmb 16 24 26.9
comp=Z,9.0nm,1.2s
KVN Kaiserville 61.84 300 P **P 16 24 03.5 -0.2**
KVN IAmb IAmb 16 24 06.0
comp=Z,9.4nm,1.2s
QSM Queen of Sheba 62.01 297 P **P 16 24 04.7 -0.1**
QSM IAmb IAmb 16 24 08.7
comp=Z,15nm,1.4s
NV11 Mina Array Sit 62.10 300 P **P 16 24 04.9 -0.5**
NV11 IAmb IAmb 16 24 27.3
comp=Z,14nm,1.6s
LCH Last Change Ra 62.14 298 P **P 16 24 05.7 -0.1**
LCH IAmb IAmb 16 24 25.5
comp=Z,19nm,1.9s
NVAR Mina Array Bea 62.21 300 P **P 16 24 04.9 -1.4**
comp=Z,1.5nm,0.8s,baz=80,slow=6.9,SNR=6.6
NVAR LR LR 16 50 23.9
comp=Z,61nm,18.1s,baz=269,slow=36
MOD Modoc Plateau 62.45 304 P **P 16 24 07.2 -0.6**
PFO Pinyon Flats O 62.57 294 LR LR 16 49 45.7
comp=Z,49nm,19.7s,baz=64,slow=35
K05A Summer Lake 62.58 305 P **P 16 24 09.0 +0.4**
K05A IAmb IAmb 16 24 11.7
comp=Z,17nm,1.2s
KIRV Kirov 62.80 36 P **P 16 24 09.2 -0.3**
comp=Z,8.5nm,0.4s,baz=302,slow=7.5,SNR=6.3
DLBC Dease Lake 62.99 324 LR LR 16 51 29.0
comp=Z,80nm,18.4s,baz=88,slow=36
EIL Elat 63.15 71 P **P 16 24 11.9 -0.4**
comp=Z,2.1nm,0.5s,baz=244,slow=6.2,SNR=5.3
ISA Isabella, Lake 63.34 297 P **P 16 24 13.3 -0.3**
ISA IAmb IAmb 16 24 17.7
comp=Z,8.1nm,1.1s
KOPT Kop Dagi 63.46 58 P **P 16 24 13.3 -1.3**
KOPT IAmb IAmb 16 24 18.3
comp=Z,16nm,1.2s
GO02 Mina Guanaco 63.73 210 P **P 16 24 15.1 -1.3**
GO02 IAmb IAmb 16 24 17.6
comp=Z,9.2nm,1.0s
M31M Drury Creek, Y 63.81 329 P **P 16 24 16.1 -0.2**
M31M IAmb IAmb 16 24 37.2
comp=Z,17nm,1.4s
KBZ Khabaz 63.82 53 P **P 16 24 16.9 +0.4**
comp=Z,3.7nm,0.8s,baz=298,slow=6.2,SNR=15
YBH Yreka Blue Hor 64.19 304 LR LR 16 50 09.8
comp=Z,14nm,20.9s,baz=84,slow=34
ONI Oni 64.61 54 P **P 16 24 21.2 -0.7**
ONI IAmb IAmb 16 24 25.5
comp=Z,16nm,1.1s
GURO Guroymak-BITLI 65.11 59 P **P 16 24 25.2 0.0**
GURO IAmb IAmb 16 24 28.9
comp=Z,13nm,1.2s
DAWY Dawson 65.25 331 P **P 16 24 26.1 +0.5**
DAWY IAmb IAmb 16 24 29.7
comp=Z,10nm,1.2s
EGAK Eagle 65.66 333 P **P 16 24 28.4 +0.2**
EGAK IAmb IAmb 16 24 48.5
comp=Z,10nm,1.1s
KMPM Mount Pierce 65.67 304 P **P 16 24 27.2 -1.6**
GNI Garni 66.43 56 P **P 16 24 33.2 -0.6**
comp=Z,8.8nm,1.0s,baz=233,slow=2.6,SNR=16
GNI LR LR 16 55 30.1
comp=Z,57nm,18.0s,baz=328,slow=38
GNI Garni 66.43 56 P **P 16 24 34.6 +0.8**
L27K Beaver Creek, 66.65 331 P **P 16 24 36.4 +1.7**
L27K IAmb IAmb 16 24 44.6
comp=Z,9.8nm,1.2s
J25K Salcha River, 67.36 333 P **P 16 24 39.0 -0.2**
J25K IAmb IAmb 16 24 49.2
comp=Z,7.7nm,1.1s
ILAR Eielson Array 67.86 334 P **P 16 24 42.2 -0.1**
comp=Z,1.4nm,1.0s,baz=55,slow=4.9,SNR=7.5
HDA Harding Lake 68.06 333 P **P 16 24 43.5 0.0**
HDA IAmb IAmb 16 24 53.6
comp=Z,8.9nm,1.1s
ARU Arti 68.18 36 P **P 16 24 44.5 +0.1**
comp=Z,0.5nm,0.4s,baz=292,slow=4.0,SNR=7.5
ARU LR LR 16 52 08.1
comp=Z,76nm,18.7s,baz=288,slow=34
ARU Arti 68.18 36 P **P 16 24 44.8 +0.5**
CO01 Juntas del Tor 68.20 208 P **P 16 24 44.4 -0.6**
CO01 IAmb IAmb 16 24 47.7
comp=Z,9.4nm,1.0s
CCB Clear Creek Bu 68.26 334 P **P 16 24 45.6 +0.9**
CCB IAmb IAmb 16 24 53.9
comp=Z,8.8nm,1.3s
DHY Denali Highway 68.88 332 P **P 16 24 49.6 +0.8**
I21K Tanana 69.50 335 P **P 16 24 53.0 +0.6**
AKTO Aktyubinsk 70.57 42 P **P 16 25 00.2 +0.9**
comp=Z,9.0nm,0.7s,baz=301,slow=5.6,SNR=38
AKTO LR LR 16 55 16.9
comp=Z,91nm,18.2s,baz=322,slow=35
NRIK Noril'sk 71.68 17 P **P 16 25 07.7 +2.0**
comp=Z,8.2nm,1.1s,baz=304,slow=5.5,SNR=8.6
NRIK Noril'sk 71.68 17 P **P 16 25 06.3 +0.6**
NRIK IAmb IAmb 16 25 19.5
comp=Z,8.6nm,0.9s
ABKAR Akbulak array 72.22 43 P **P 16 25 09.6 +0.3**
ABKAR IAmb IAmb 16 25 12.5
comp=Z,13nm,1.4s
H09N1 TRISTAN DA CUN 73.81 157 T T 17 45 52.0
SNR=11
H09W1 TRISTAN DA CUN 73.83 157 T T 17 45 60.0
SNR=10.0
MBAR Mbarara 74.25 101 LR LR 16 56 55.3
comp=Z,109nm,18.6s,baz=240,slow=35
BRVK Borovoye 75.73 36 P **P 16 25 30.4 +0.7**
BRVK IAmb IAmb 16 25 33.2
comp=Z,13nm,1.4s
BVAR Bovoye Array 75.81 36 P **P 16 25 31.8 +1.6**
comp=Z,2.5nm,0.6s
TIXI Tiksi 75.98 4 P **P 16 25 32.2 +1.3**
comp=Z,1.2nm,0.7s,baz=66,slow=7.5,SNR=15
TIXI Tiksi 75.98 4 P **P 16 25 31.2 +0.4**
ATD Arta Tunnel 78.06 84 LR LR 17 00 23.5
comp=Z,67nm,18.1s,baz=114,slow=36
KMBO Kilima Mbogo 79.97 98 LR LR 16 59 14.6
comp=Z,50nm,21.4s,baz=95,slow=34
KURK Kurchatov 81.24 34 P **P 16 26 00.3 +0.1**
KURK IAmb IAmb 16 26 03.2
comp=Z,22nm,1.4s
KURBB Kurchatov Arra 81.26 34 P **P 16 26 01.0 +0.7**
comp=Z,4.7nm,1.1s,baz=310,slow=5.5,SNR=29
KIBK Kibwezi 81.30 98 P **P 16 26 00.6 -0.6**
KKAR Karatay Array 81.72 44 P **P 16 26 02.0 -0.9**
ZAA0 Zalesovo Array 81.78 29 P **P 16 26 02.7 -0.3**
ZAA0 IAmb IAmb 16 26 06.8
comp=Z,19nm,1.5s
ZALV Zalesovo Beam 81.78 29 P **P 16 26 03.3 +0.4**
comp=Z,1.9nm,0.7s,baz=270,slow=4.4,SNR=11
ZALV Zalesovo Beam 81.78 29 P **P 16 26 02.9 -0.1**
UOSS Minazif 82.04 66 P **P 16 26 03.1 -1.8**
CHGR Chuyangaron 83.55 48 P **P 16 26 11.6 -1.1**
GAR Garm 84.07 47 P **P 16 26 15.6 +0.3**
AAK Ala-Archa 84.31 42 P **P 16 26 16.8 +0.2**
comp=Z,1.6nm,0.9s,baz=328,slow=4.9,SNR=6.2
AAK LR LR 17 02 50.7
comp=Z,75nm,18.1s,baz=322,slow=35
AAK Ala-Archa 84.31 42 P **P 16 26 16.7 +0.2**
SEY Seymchan 84.50 354 P **P 16 26 16.9 0.0**
comp=Z,0.7nm,0.7s,baz=90,slow=10,SNR=3.0
MAKZ Makanchi 85.52 36 P **P 16 26 22.3 -0.1**
MAKZ IAmb IAmb 16 26 25.1
comp=Z,11nm,1.4s
YAK Yakutsk 85.58 5 P **P 16 26 23.3 +1.0**
comp=Z,2.4nm,0.3s,baz=75,slow=4.6,SNR=4.2
MK31 Makanchi Array 85.69 36 P **P 16 26 22.8 -0.4**
MKAR Makanchi Array 85.69 36 P **P 16 26 23.6 +0.4**
comp=Z,2.7nm,1.0s,baz=319,slow=5.3,SNR=15
MKAR Makanchi Array 85.69 36 P **P 16 26 22.8 -0.4**
KSH Kashi 87.17 44 P **P 16 26 33.0 +2.2**
KSH sP pwP 16 26 39.8 +1.7
KSH S **S 16 37 08.4 -1.8**
KSH pmax pmax
comp=Z,6.0nm,0.5s
WMQ Urumqi 90.47 35 *eP* **P 16 26 47.7 +1.5**
SONM Songino Array 94.70 22 P **P 16 27 06.4 +0.7**
comp=Z,0.6nm,0.6s,baz=261,slow=2.9,SNR=3.6
GOMU GeErMu 99.81 36 P **Pdif 16 27 21.7 -7.6**
GOMU pP pP 16 27 25.9 -6.8
GOMU sP sP 16 27 27.0 -6.9
GOMU pmax pmax
comp=Z,67nm,5.6s
XLT XiLinHaoTe 101.05 17 *eP* **Pdif 16 27 32.9 -1.4**
XLT pmax pmax
comp=Z,6.0nm,0.6s
HHC Hu-ho-hao-te 102.60 22 *eP* **Pdif 16 27 39.8 -1.5**
PZH PanZhiHua 111.11 36 PKP **PKiKP 16 32 17.3 -1.2**
VNDA Vanda 133.68 186 PKP **PKiKP 16 33 00.8 -0.3**
comp=Z,1.6nm,1.1s,baz=27,slow=2.3,SNR=4.0
WRA Warramunga Arr 166.68 23 PKP **PKPdf 16 33 50.1 -0.2**
comp=Z,0.5nm,1.0s,baz=314,slow=1.3,SNR=5.2
ASAR Alice Springs 169.87 33 PKP **PKPdf 16 33 52.8 +0.3**
comp=Z,1.6nm,0.8s,baz=25,slow=0.1,SNR=18
ASAR PKPab **PKPab 16 35 07.8 +0.9**
comp=Z,1.7nm,0.9s,baz=339,slow=4.5,SNR=10

*IDC **07** 16:50:58.5±0.8, 69.05N×53.95W, h0km, mb3.7/11, mb1 3.9/14, mb1mx3.6/50, mbtmp3.7/14, ML3.2/2, MS3.6/3, Ms1 3.6/3, ms1mx2.7/91, Error ellipse: s-maj=16.5km s-min=13.9km az=57.0*
*DNK **07** 16:51:01.2±2.4, 69.16N×53.89W, h10km±8km, ML3.1*
*OTT **07** 16:51:02.2±0.1, 69.18N×53.80W, h18km, ML3.7/2, Western Greenland. 458km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone.*
ISC 07 16:51:00.5±1.5, 69.12N±0.05×53.90W±0.05, h17km±9km, n40, σ2°27/48, mb3.6/10, MS3.5/3, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILULI	**Ilulissat**	**1.01**	**83**	*i*	P	**Pg**		**16 51 19.7**	**-0.2**
ILULI					S	**Sg**		**16 51 32.2**	**-0.9**
ILULI					IAML			16 51 40.5	
	comp=Z,990nm,0.4s								
ILULI	**Ilulissat**	**1.01**	**83**		PG	**Pg**		**16 51 19.9**	**-0.1**
ILULI					SG	**Sg**		**16 51 32.5**	**-0.5**
ILULI					Trac			16 51 38.8	
	comp=Z,332nm,0.1s								
NUUG	**Nuugaatsiaq**	**2.45**	**5**	*i*	P	**Pn**		**16 51 40.4**	**+0.8**
NUUG					S	**Sn**		**16 52 09.2**	**+0.1**
NUUG					IAML			16 52 44.6	
	comp=Z,144nm,0.5s								
SFJD	**Kangerlussuaq**	**2.46**	**148**		Pn	**Pn**		**16 51 40.0**	**+0.2**
	comp=Z,9.1nm,0.3s,baz=337,slow=16,SNR=85								
SFJD					Sn	**Sn**		**16 52 11.3**	**+1.9**
	comp=Z,207nm,0.3s,baz=36,slow=10,SNR=29								
SFJD					Lg	Lg		16 52 15.5	
	comp=Z,126nm,0.3s,baz=61,slow=22,SNR=11								
SFJD	**Kangerlussuaq**	**2.46**	**148**	*i*	P	**Pn**		**16 51 41.4**	**+1.6**
SFJD					S	**Sn**		**16 52 11.5**	**+2.1**
SFJD					IAML			16 52 18.2	
	comp=Z,391nm,0.8s								
SFJD	**Kangerlussuaq**	**2.46**	**148**		PN	**Pn**		**16 51 41.5**	**+1.6**
SFJD					SN	**Sn**		**16 52 11.1**	**+1.7**
SFJD					Trac			16 52 16.7	
	comp=Z,26nm,0.3s								
UPNV	**Upernavik**	**3.76**	**350**	*i*	P	**Pn**		**16 51 58.6**	**+1.1**
UPNV					S	**Sn**		**16 52 39.0**	**-2.3**
UPNV					IAML			16 52 42.1	
	comp=Z,132nm,0.4s								
DY2G	**Dye2**	**3.93**	**129**	*i*	P	**Pn**		**16 52 01.7**	**+1.5**
DY2G					S	**Sn**		**16 52 46.7**	**+0.8**
DY2G					IAML			16 53 03.0	
	comp=Z,188nm,0.4s								
ICESG	**Greenland Ices**	**5.10**	**84**	*i*	P	**Pn**		**16 52 16.8**	**+0.4**
ICESG					S	**Sn**		**16 53 14.3**	**-0.7**
ICESG					IAML			16 53 38.6	
	comp=Z,235nm,0.7s								
ISOG	**Isortoq, Green**	**6.78**	**115**	*i*	P	**Pn**		**16 52 38.4**	**-0.6**
ISOG					S	**Sn**		**16 53 52.0**	**-3.7**
ISOG					IAML			16 54 29.5	
	comp=Z,149nm,0.6s								
ANGG	**Ammassalik, Gr**	**7.18**	**112**	*i*	P	**Pn**		**16 52 42.9**	**-1.7**
ANGG					S	**Sn**		**16 54 00.1**	**-5.4**
ANGG					IAML			16 54 49.5	
	comp=Z,117nm,0.9s								
FRB	**Frobisher Bay**	**7.95**	**234**		Pn	**Pn**		**16 52 52.2**	**-2.9**
	baz=48,slow=14,SNR=2.6								
FRB					Sn	**Sn**		**16 54 23.2**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=62,slow=12,SNR=2.1								
FRB	**Frobisher Bay**	**7.95**	**234**		PN	**Pn**		**16 52 56.6**	**+1.5**
FRB					SN	**Sn**		**16 54 20.8**	**-3.7**
FRB					Trac			16 54 43.4	
	comp=Z,40nm,0.9s								
SOEG	**Soedalen**	**8.25**	**86**	*i*	S	**Sn**		**16 54 27.4**	**-4.4**
SOEG					IAML			16 55 14.9	
	comp=Z,134nm,0.8s								
IVI	**Ivigtut**	**8.30**	**160**	*i*	P	**Pn**		**16 53 00.2**	**+0.3**
IVI					IAML			16 55 30.6	
	comp=Z,42nm,0.8s								
TULEG	**Thule**	**8.62**	**336**	*i*	P	**Pn**		**16 53 04.0**	**-0.3**
TULEG					S	**Sn**		**16 54 33.4**	**-7.5**
TULEG					IAML			16 54 55.5	
	comp=Z,12nm,0.7s								
SCO	**Scoresbysund**	**11.05**	**68**	*i*	P	**Pn**		**16 53 34.0**	**-3.5**
SCO					S	Sn		16 55 27.9	-13
SCO					IAML			16 56 43.8	
	comp=Z,14nm,0.7s								
DBG	**Daneborg**	**11.63**	**48**	*i*	P	Pn		16 53 40.4	-5.0
DBG					S	Sn		16 55 37.5	-17
DBG					IAML			16 57 34.8	
	comp=Z,9.2nm,0.8s								
DAG	**Danmarks Havn**	**12.62**	**37**	*i*	P	Pn		16 53 52.5	-6.4
DAG					S	Sn		16 56 02.7	-16
DAG					IAML			16 56 20.8	
	comp=Z,4.4nm,0.8s								
EUNU	**Eureka**	**13.62**	**337**		PN	**Pn**		**16 54 13.3**	**+0.6**
EUNU					SN	Sn		16 56 33.1	-10
EUNU					Trac			16 56 48.0	
	comp=Z,470nm,4.8s								
RES	**Resolute Bay**	**13.62**	**312**		Pn	**Pn**		**16 54 12.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=105,slow=19,SNR=2.5								
RES					Sn	Sn		16 56 35.5	-7.8
	comp=Z,0.1nm,0.3s,baz=71,slow=9.7,SNR=1.6								
NOR	**Nord**	**15.13**	**20**	*i*	P	Pn		16 54 26.1	-6.9
SCHQ	**Schefferville**	**15.51**	**209**		Pn	**Pn**		**16 54 37.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=28,slow=6.7,SNR=6.3								
SPITS	**Spitsbergen Ar**	**20.21**	**34**		P	**P**		**16 55 35.6**	**+1.5**
	comp=Z,13nm,1.2s,baz=272,slow=8.5,SNR=1.3								
YKA	**Yellowknife Ar**	**24.73**	**285**		P	**P**		**16 56 21.9**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=45,slow=9.9,SNR=6.3								
ARCES	**ARCESS Array B**	**26.23**	**51**		P	**P**		**16 56 35.7**	**+1.7**
	comp=Z,5.1nm,0.9s,baz=318,slow=7.0,SNR=5.5								
NOA	**NORSAR Array B**	**27.26**	**75**		LR	LR		17 05 40.5	
	comp=Z,67nm,20.6s,baz=330,slow=32								
DPC	**Dobruska-Polom**	**37.39**	**83**	*eP*		**P**		**16 58 14.4**	**+2.4**
KHC	**Kasperske Hory**	**37.43**	**87**	*eP*		**P**		**16 58 15.4**	**+3.0**
GERES	**GERESS Array B**	**37.72**	**87**		P	**P**		**16 58 14.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=305,slow=10,SNR=2.5								
KRLC	**Kraliky**	**37.78**	**83**	*eP*		**P**		**16 58 17.8**	**+2.4**
VRAC	**Vranov**	**38.36**	**84**		LR	LR		17 15 28.6	
	comp=Z,199nm,18.8s,baz=342,slow=38								
PDAR	**Pinedale Array**	**38.69**	**257**		P	**P**		**16 58 22.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=57,slow=6.6,SNR=3.1								
NRIK	**Noril'sk**	**39.36**	**20**		P	**P**		**16 58 30.1**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=341,slow=6.1,SNR=3.8								
KDAK	**Kodiak Island**	**40.60**	**306**		LR	LR		17 17 08.8	
	comp=Z,62nm,18.8s,baz=174,slow=39								
AKASG	**Malin Array Be**	**41.61**	**72**		P	**P**		**16 58 46.7**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=332,slow=8.9,SNR=2.7								
MKAR	**Makanchi Array**	**59.97**	**33**		P	**P**		**17 01 06.2**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=352,slow=6.1,SNR=5.1								
SONM	**Songino Array**	**62.46**	**15**		P	**P**		**17 01 24.1**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=336,slow=3.2,SNR=2.7								
TORD	**Torodi Ar. Bea**	**65.90**	**118**		P	**P**		**17 01 46.0**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=335,slow=7.6,SNR=2.0								
CMAR	**Chiang Mai Arr**	**90.52**	**26**		P	**P**		**17 04 01.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=335,slow=4.0,SNR=3.5								

*IDC **07** 17:00:53.7±0.9, 67.04N×21.39E, h0km, mb1 3.0/4, mb1mx2.9/45, mbtmp3.0/4, ML1.9/4, Error ellipse: s-maj=20.9km s-min=7.4km az=115.0*

*UPP **07** 17:00:53.6±0.1,67.°04N×20.°97E,h0km,ML2.4, Explosion*
*HEL **07** 17:00:54.3±0.0,67.°05N×20.°95E,h0km,ML2.1, ML2.4(UPP), Explosion*
*KOLA **07** 17:00:55.4,67.°07N×20.°86E,h0km,ML2.4*
ISC 07 17:00:53.5±0.8,67.°05N±0.°03×20.°95E±0.°02,h0km,n44, σ0s97/64,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.17**	**295**	P	**Pg**	**17 00 57.2**	**+0.5**
DUNU				S	**Sg**	**17 00 59.5**	**+0.7**
DUNU	**Dundret**	**0.17**	**295**	*i* P	**Pg**	**17 00 57.2**	**+0.5**
DUNU				*i* S	**Sg**	**17 00 59.5**	**+0.7**
MASU	**Masugnsbyn**	**0.57**	**44**	P	**Pg**	**17 01 04.6**	**+0.1**
MASU	**Masugnsbyn**	**0.57**	**44**	*i* P	**Pg**	**17 01 04.6**	**+0.1**
ERTU	**Ertsjaerv**	**0.70**	**135**	*e*P	**Pg**	**17 01 06.3**	**-0.6**
ERTU				*e*S	**Sg**	**17 01 15.9**	**0.0**
PAJU	**Pajala**	**0.85**	**91**	P	**Pg**	**17 01 09.3**	**-0.5**
PAJU				S	**Sg**	**17 01 21.2**	**+0.5**
PAJU	**Pajala**	**0.85**	**91**	*e*P	**Pg**	**17 01 09.1**	**-0.7**
PAJU				*e*S	**Sg**	**17 01 21.0**	**+0.3**
HARU	**Harads**	**0.89**	**179**	P	**Pg**	**17 01 10.2**	**-0.4**
HARU	**Harads**	**0.89**	**179**	*i* P	**Pg**	**17 01 10.2**	**-0.4**
RATU	**Laukkuluspa**	**0.94**	**326**	P	**Pg**	**17 01 11.0**	**-0.4**
RATU	**Laukkuluspa**	**0.94**	**326**	*e*P	**Pg**	**17 01 11.0**	**-0.4**
SALU	**Saltoluokta**	**1.01**	**290**	*e*P	**Pg**	**17 01 12.7**	**-0.1**
SALU	**Saltoluokta**	**1.01**	**290**	P	**Pg**	**17 01 12.4**	**-0.4**
SALU	**Saltoluokta**	**1.01**	**290**	*e*P	**Pg**	**17 01 12.4**	**-0.4**
LANU	**Lannavaara** baz=205	**1.08**	**21**	*e*PB	**Pg**	**17 01 13.9**	**-0.2**
KLF	**Kolari**	**1.19**	**80**	*e*P	**Pg**	**17 01 15.4**	**-0.9**
KLF				*e*SB	**Sg**	**17 01 32.0**	**+0.3**
KALU	**Kalix**	**1.54**	**140**	P	**Pn**	**17 01 21.5**	**-0.7**
KALU	**Kalix**	**1.54**	**140**	*e*P	**Pn**	**17 01 21.5**	**-0.7**
KALU				*e*SN	**Sg**	**17 01 45.3**	**+2.5**
SJUU	**Sjulsmark**	**1.57**	**170**	P	**Pn**	**17 01 22.3**	**-0.3**
SJUU	**Sjulsmark**	**1.57**	**170**	*e*P	**Pn**	**17 01 22.3**	**-0.3**
TOF	**Tornio**	**1.66**	**124**	*e*P	**Pn**	**17 01 23.7**	**-0.2**
TOF	comp=Z,19nm,0.2s			MSG		17 01 44.3	
TOF				*e*SG	**Sn**	**17 01 45.6**	**-0.3**
HEF	**Hetta**	**1.71**	**36**	*e*P	**Pn**	**17 01 23.7**	**-0.8**
HEF	**Hetta** baz=221	**1.71**	**36**	*e*P	**Pn**	**17 01 24.1**	**-0.4**
HEF	comp=Z,16nm,0.2s			MSG		17 01 45.6	
HEF				*e*SN	**Sb**	**17 01 48.2**	**+0.4**
KIF	**Kilpisjarvi**	**1.96**	**358**	*e*PB	**Pb**	**17 01 29.4**	**-0.7**
KIF	comp=Z,25nm,0.2s			MSG		17 01 53.1	
KIF				*e*SG	**Sg**	**17 01 56.6**	**+0.1**
RNF	**Rovaniemi**	**2.05**	**100**	*e*P	**Pn**	**17 01 30.0**	**+0.8**
RNF				*e*SG	**Sg**	**17 01 58.5**	**-0.8**
SGF	**Sodankyl**	**2.20**	**77**	*e*P	**Pn**	**17 01 32.3**	**+1.0**
SGF				*e*SG	**Sb**	**17 02 02.4**	**+0.4**
OUL	**Oulu**	**2.82**	**132**	*e*P	**Pn**	**17 01 40.9**	**+1.1**
ARA0	**ARCESS Array S**	**3.01**	**32**	*e*PG	**Pb**	**17 01 48.7**	**+0.7**
ARA0				*e*SB	**Sb**	**17 02 23.3**	**-2.0**
ARCES	**ARCESS Array B** baz=210,slow=14,SNR=43	**3.01**	**32**	Pn	**Pn**	**17 01 42.8**	**+0.3**
ARCES	baz=210,slow=24,SNR=9.5			Lg	Lg	17 02 24.1	
ARCES	**ARCESS Array B**	**3.01**	**32**	P	**Pn**	**17 01 43.2**	**+0.7**
ARCES				S	**Sn**	**17 02 21.2**	**+1.9**
OUF	**Merijarvi**	**3.12**	**148**	*e*P	**Pn**	**17 01 44.6**	**+0.8**
OUF	comp=Z,2.5nm,0.2s			MSG		17 02 25.2	
UMAU	**Umeaa**	**3.19**	**182**	*e*P	**Pn**	**17 01 45.5**	**+0.7**
VRF	**Varrio**	**3.42**	**74**	*e*PG	**Pb**	**17 01 56.6**	**+1.8**
VRF				*e*SB	**Sb**	**17 02 37.1**	**+0.3**
OLKF	**Oulanka, Finla**	**3.44**	**98**	*e*P	**Pn**	**17 01 48.7**	**+0.5**
MSF	**Maaselka**	**3.44**	**106**	*e*P	**Pn**	**17 01 49.3**	**+1.0**
MSF				*e*SG	**Sg**	**17 02 42.5**	**-1.4**
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**17 01 49.4**	**+0.1**
KU6	**Riekki**	**3.72**	**102**	*e*P	**Pn**	**17 01 52.5**	**+0.4**
KU6				*e*S	**Sn**	**17 02 37.9**	**+1.2**
HUSU	**Husum** baz=5.0	**3.80**	**192**	*e*P	**Pn**	**17 01 54.1**	**+1.0**
VAF	**Ylistaro** baz=347	**4.09**	**169**	*e*P	**Pn**	**17 01 58.2**	**+1.0**
APA0	**Apatity Array**	**4.69**	**78**	P	**Pn**	**17 02 07.8**	**+2.3**
APA0				S	**Sn**	**17 03 00.2**	**-0.3**
PRVG	**Vayda Guba**	**4.95**	**52**	P	**Pn**	**17 02 09.4**	**+0.3**
PRVG				S	**Sn**	**17 03 05.2**	**-1.7**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=2.5	**6.05**	**156**	Pn	**Pn**	**17 02 25.1**	**+0.9**
FINES	comp=Z,0.1nm,0.3s,baz=345,slow=26,SNR=2.1			Lg	Lg	17 03 59.6	
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=26,slow=11,SNR=4.6	**7.38**	**220**	Pn	**Pn**	**17 02 41.9**	**-0.6**
HFS	**Hagfors** comp=Z,0.0nm,0.3s,baz=24,slow=43,SNR=2.2	**7.66**	**208**	Pn	**Pn**	**17 02 45.8**	**-0.4**
HFS	comp=Z,0.1nm,0.3s,baz=22,slow=12,SNR=1.6			Sn	**Sn**	**17 04 10.2**	**-3.3**
HFS	comp=Z,0.2nm,0.3s,baz=38,slow=26,SNR=2.2			Lg	Lg	17 04 53.2	

*IDC **07** 17:06:00.5±0.4,39.°33S×34.°80E,h0km,mb4.4/24, mb1 4.6/28,mb1mx4.5/42,mbtmp4.5/28,ML5.1/3,MS3.9/14, Ms1 3.9/14,ms1mx3.5/69,Error ellipse: s-maj=19.9km s-min=12.5km az=71.0*
*NEIC **07** 17:06:03.3±1.9,39.°25S±0.°10×34.°8E±0.°2,h10km±1km, mb4.8/43,Error ellipse: s-maj=20.4km s-min=15.6km az=67.0*
*PRE **07** 17:06:05.1±2.6,39.°09S×34.°18E,h10km,mb5.0*
ISC 07 17:06:02.3±0.3,39.°34S±0.°06×34.°58E±0.°07,h10km,n153, σ1s42/153,mb4.7/41,MS3.9/11,2C,Off coast of South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KROM	**Kromhout**	**9.52**	**300**	*e*P	**Pn**	**17 08 18.5**	**-1.0**
ROSN	**Rosenhof**	**9.60**	**300**	*e*P	**Pn**	**17 08 19.8**	**-0.7**
SOE	**Somerset East**	**9.85**	**309**	*e*P	**Pn**	**17 08 23.6**	**-0.4**
HVD	**Gariep Dam**	**11.46**	**317**	*e*P	**Pn**	**17 08 46.5**	**+0.4**
HVD				*e*S	Sn	17 10 43.3	-11
POGA	**Pongola**	**12.20**	**348**	*e*P	**Pn**	**17 08 56.6**	**+0.4**
GRAN	**Grantham**	**12.27**	**301**	*e*P	**Pn**	**17 08 57.0**	**-0.2**
SNKL	**Senekal, Frees**	**12.40**	**331**	*e*P	**Pn**	**17 08 58.1**	**-0.9**
ELIM	**Elim**	**12.77**	**287**	*e*P	**Pn**	**17 09 04.6**	**+0.7**
MATJ	**Matjiesfontein**	**12.81**	**294**	*e*P	**Pn**	**17 09 04.8**	**+0.2**
MATJ	comp=Z,165nm,1.4s			IAmb	IAmb	17 09 06.1	
SUR	**Sutherland** comp=Z,9.5nm,0.3s,baz=114,slow=13,SNR=91	**13.14**	**298**	Pn	**Pn**	**17 09 08.7**	**-0.4**
SUR	comp=Z,11nm,0.3s,baz=48,slow=16,SNR=3.6			Sn	**Sn**	**17 11 28.3**	**-7.2**
SUR	comp=Z,309nm,19.2s,baz=148,slow=34			LR	LR	17 13 38.7	
SUR	**Sutherland**	**13.14**	**298**	Pn	**Pn**	**17 09 08.0**	**-1.2**
CNG	**Changalane**	**13.17**	**351**	*e*P	**Pn**	**17 09 10.6**	**+1.2**
CNG	**Changalane**	**13.17**	**351**	*e*P	**Pn**	**17 09 11.0**	**+1.6**
CNG	**Changalane**	**13.17**	**351**	*e*P	**Pn**	**17 09 11.0**	**+1.6**
BOSA	**Boshof** comp=Z,6.4nm,0.3s,baz=152,slow=13,SNR=116	**13.19**	**321**	Pn	**Pn**	**17 09 08.4**	**-1.5**
BOSA	comp=Z,8.6nm,0.3s,baz=243,slow=18,SNR=3.8			Sn	Sn	17 11 25.5	-11
BOSA	comp=Z,417nm,18.6s,baz=150,slow=35			LR	LR	17 13 46.7	
BOSA	**Boshof**	**13.19**	**321**	↑*i*P	**Pn**	**17 09 08.4**	**-1.5**
BOSA	comp=Z,27nm,0.6s			IAmb	IAmb	17 09 10.5	
BOSA	**Boshof**	**13.19**	**321**	*e*P	**Pn**	**17 09 08.7**	**-1.2**
BOSA	**Boshof**	**13.19**	**321**	*e*P	**Pn**	**17 09 08.7**	**-1.2**
CER	**Ceres**	**13.68**	**291**	↑*i*P	**Pn**	**17 09 16.5**	**+0.1**
PRYS	**Parys**	**13.77**	**332**	*e*P	**Pn**	**17 09 18.1**	**+0.3**
CRN	**Carolina, Mapu**	**13.85**	**343**	*e*P	**Pn**	**17 09 19.8**	**+0.9**
WDLM	**Western Deep L**	**14.21**	**333**	*e*P	**Pn**	**17 09 24.4**	**+0.7**
SWZ	**Schweizer**	**14.37**	**325**	*e*P	**Pn**	**17 09 23.9**	**-2.1**
CVNA	**Calvinia**	**14.39**	**298**	*e*P	**Pn**	**17 09 25.0**	**-1.1**
SLR	**Silverton**	**14.56**	**337**	*e*P	**Pn**	**17 09 28.2**	**-0.4**
KSR	**Koster**	**14.92**	**332**	*e*P	**Pn**	**17 09 34.3**	**+0.9**
KSR				*e*S	Sn	17 12 04.6	-14
KEIM	**Keimoes**	**15.47**	**309**	*e*P	**Pn**	**17 09 38.1**	**-2.6**
UPI	**Upington**	**15.55**	**311**	*e*P	**Pn**	**17 09 39.9**	**-1.8**
AUGR	**Augrabies** comp=Z,27nm,0.5s	**15.93**	**308**	*e*P	**Pn**	**17 09 44.6**	**-2.0**
MOPA	**Mopani**	**16.01**	**349**	*e*P	**Pn**	**17 09 48.9**	**+1.3**
MOPA	**Mopani**	**16.01**	**349**	*e*P	**Pn**	**17 09 45.3**	**-2.3**
MOPA	**Mopani**	**16.01**	**349**	*e*P	**Pn**	**17 09 45.3**	**-2.3**
LBTB	**Lobatse**	**16.17**	**329**	Pn	**Pn**	**17 09 48.4**	**-1.4**
LBTB	comp=Z,8.5nm,0.3s,baz=160,slow=12,SNR=79			Sn	Sn	17 12 35.6	-14
LBTB	comp=Z,3.5nm,0.3s,baz=208,slow=15,SNR=6.1			LR	LR	17 15 27.1	
LBTB	**Lobatse**	**16.17**	**329**	*e*P	**Pn**	**17 09 49.4**	**-0.3**
LBTB	comp=Z,301nm,19.5s,baz=156,slow=35			IAmb	IAmb	17 09 53.2	
LBTB	**Lobatse**	**16.17**	**329**	Pn	**Pn**	**17 09 48.7**	**-1.0**
LBTB	comp=Z,23nm,0.6s			IAmb	IAmb	17 10 03.1	
LBTB	**Lobatse**	**16.17**	**329**	*e*P	**Pn**	**17 09 49.7**	**-0.1**
LBTB	**Lobatse**	**16.17**	**329**	*e*P	**Pn**	**17 09 49.7**	**-0.1**
MSNA	**Messina**	**17.38**	**346**	*e*P	**P**	**17 10 07.3**	**+1.0**
MSNA	comp=Z,60nm,2.0s			IAmb	IAmb	17 10 14.4	
MSNA	**Messina**	**17.38**	**346**	*e*P	**P**	**17 10 08.4**	**+2.0**
MSNA	**Messina**	**17.38**	**346**	*e*P	**P**	**17 10 08.4**	**+2.0**
MATP	**Matopo**	**19.57**	**343**	P	**P**	**17 10 29.1**	**-1.4**
MATP	comp=Z,0.1nm,0.3s,baz=158,slow=14,SNR=1.8			S	Sn	17 13 55.9	-16
MATP	**Matopo**	**19.57**	**343**	*e*P	**Pn**	**17 10 34.0**	**+2.2**
MATP	**Matopo**	**19.57**	**343**	*e*P	**Pn**	**17 10 34.0**	**+2.2**
BLWY	**Bulawayo**	**19.82**	**343**	*e*P	**Pn**	**17 10 35.4**	**+0.6**
BLWY	comp=Z,29nm,0.8s			IAmb	IAmb	17 10 52.2	
BLWY	**Bulawayo**	**19.82**	**343**	*e*P	**Pn**	**17 10 36.3**	**+1.5**
BLWY	**Bulawayo**	**19.82**	**343**	*e*P	**Pn**	**17 10 36.3**	**+1.5**
LSZ	**Lusaka**	**24.62**	**345**	P	**P**	**17 11 21.6**	**-1.5**
LSZ	comp=Z,2.1nm,0.7s,baz=168,slow=7,SNR=2.2			S	S	17 15 55.3	+11
LSZ	comp=Z,1.4nm,0.3s,baz=100,slow=16,SNR=2.3			LR	LR	17 20 38.0	
TSUM	**Tsumeb** comp=Z,262nm,18.2s,baz=158,slow=36	**24.87**	**319**	P	**P**	**17 11 26.4**	**+1.1**
TSUM	comp=Z,6.7nm,0.8s,baz=141,slow=10,SNR=12			S	**S**	**17 15 55.8**	**+7.4**
TSUM	comp=Z,0.9nm,0.3s,baz=122,slow=11,SNR=1.8			LR	LR	17 20 59.9	
TSUM	**Tsumeb**	**24.87**	**319**	*e*P	**P**	**17 11 26.0**	**+0.7**
TSUM	comp=Z,314nm,18.1s,baz=152,slow=36			IAmb	IAmb	17 11 33.4	
TSUM	**Tsumeb**	**24.87**	**319**	P	**P**	**17 11 26.0**	**+0.7**
TSUM	comp=Z,104nm,0.9s			IAmb	IAmb	17 11 42.0	
MAW	**Mawson** comp=Z,24nm,1.1s	**32.34**	**160**	P	**P**	**17 12 30.3**	**-1.1**
MAW	**Mawson**	**32.34**	**160**	P	**P**	**17 12 32.3**	**+1.0**
TROLL	**Troll, Antarti**	**36.45**	**196**	P	**P**	**17 13 08.1**	**+1.1**
SNAA	**Sanae**	**37.45**	**198**	P	**P**	**17 13 17.1**	**+1.6**
SNAA	**Sanae** comp=Z,9.9nm,1.0s,baz=39,slow=8.7,SNR=5.5	**37.45**	**198**	P	**P**	**17 13 15.1**	**-0.4**
SNAA	comp=Z,318nm,20.7s,baz=7.0,slow=30			LR	LR	17 24 35.1	
SNAA	**Sanae**	**37.45**	**198**	P	**P**	**17 13 16.9**	**+1.3**
SNAA	comp=Z,35nm,1.4s			IAmb	IAmb	17 13 18.2	
VNA2	**Neumayer--Watz** baz=45,slow=8.0	**38.20**	**201**	P	**P**	**17 13 23.0**	**+1.2**
MBAR	**Mbarara** comp=Z,30nm,19.5s,baz=163,slow=35	**38.72**	**354**	LR	LR	17 28 41.3	
VNA3	**Neumayer Olymp**	**39.00**	**201**	P	**P**	**17 13 29.6**	**+1.1**
CASY	**Casey**	**49.19**	**149**	P	**P**	**17 14 50.3**	**+0.2**
CASY	comp=Z,15nm,1.1s			IAmb	IAmb	17 14 51.1	
QSPA	**South Pole Qui** comp=Z,14nm,0.8s,baz=257,slow=2.0,SNR=52	**50.87**	**180**	P	**P**	**17 15 03.3**	**+0.2**
SOCY	**Socotra** comp=Z,14nm,1.0s	**54.36**	**24**	P	**P**	**17 15 31.8**	**+2.4**
SOCY				IAmb	IAmb	17 15 36.5	
DBIC	**Dimbokro** comp=Z,95nm,18.1s,baz=150,slow=35	**58.53**	**312**	LR	LR	17 40 18.9	
VNDA	**Vanda** comp=Z,12nm,0.8s,baz=249,slow=7.6,SNR=6.0	**59.06**	**168**	P	**P**	**17 16 02.4**	**+0.4**
VNDA	**Vanda**	**59.06**	**168**	P	**P**	**17 16 02.3**	**+0.4**
SBA	**Scott Base**	**59.55**	**170**	P	**P**	**17 16 07.0**	**+1.6**
TOA0	**Torodi Ar. Sit**	**60.55**	**323**	P	**P**	**17 16 12.6**	**-0.4**
TOA0	comp=Z,13nm,1.1s			IAmb	IAmb	17 16 26.8	
TORD	**Torodi Ar. Bea** comp=Z,2.4nm,0.7s,baz=156,slow=6.7,SNR=20	**60.55**	**323**	P	**P**	**17 16 13.3**	**+0.3**
TORD	comp=Z,71nm,18.5s,baz=237,slow=36			LR	LR	17 42 09.2	
TORD	**Torodi Ar. Bea**	**60.55**	**323**	P	**P**	**17 16 12.8**	**-0.1**
TORD	comp=Z,12nm,1.1s			IAmb	IAmb	17 16 27.4	
PALK	**Pallekele** comp=Z,79nm,18.1s,baz=319,slow=32	**63.01**	**53**	LR	LR	17 39 40.2	
RAYN	**Ar Rayn**	**63.37**	**11**	P	**P**	**17 16 32.5**	**+0.7**
MORW	**Morawa**	**66.05**	**109**	P	**P**	**17 16 49.0**	**-0.4**
KASI	**Kota Agung** comp=Z,22nm,1.2s	**71.01**	**81**	P	**P**	**17 17 20.3**	**-0.3**
PSA00	**Pilbara Seismi**	**73.12**	**104**	P	**P**	**17 17 30.6**	**-2.6**
PSA00	comp=Z,11nm,1.4s			IAmb	IAmb	17 17 33.4	
BDFB	**Brasilia**	**74.60**	**262**	P	**P**	**17 17 42.3**	**+0.2**
BDFB	comp=Z,13nm,1.5s			IAmb	IAmb	17 17 44.0	
IPM	**Ipoh**	**74.93**	**71**	P	**P**	**17 17 43.5**	**-0.3**
IPM	comp=Z,6.1nm,0.7s			IAmb	IAmb	17 17 44.4	
CPUP	**Villa Florida** comp=Z,4.3nm,0.8s,baz=158,slow=5.3,SNR=6.9	**75.20**	**248**	P	**P**	**17 17 45.8**	**+0.5**
CPUP	**Villa Florida** comp=Z,18nm,1.4s	**75.20**	**248**	IAmb	IAmb	17 17 47.2	
HRA	**Herat**	**77.70**	**23**	P	**P**	**17 17 59.0**	**-0.3**
HRA	comp=Z,9.8nm,0.9s			IAmb	IAmb	17 18 04.5	
GURO	**Guroymak-BITLI**	**77.82**	**6**	P	**P**	**17 18 00.2**	**+0.5**
BR131	**Keskin Array S**	**78.69**	**359**	P	**P**	**17 18 04.6**	**0.0**
BR131	comp=Z,6.0nm,0.9s			IAmb	IAmb	17 18 05.8	
BRTR	**Keskin Array B** comp=Z,2.5nm,0.8s,baz=190,slow=6.3,SNR=11	**78.69**	**359**	P	**P**	**17 18 04.0**	**-0.6**
BRTR	**Keskin Array B**	**78.69**	**359**	P	**P**	**17 18 04.7**	**+0.2**
BORA	**Eskisehir**	**78.93**	**357**	P	**P**	**17 18 07.3**	**+1.5**
BORA	comp=Z,6.8nm,0.9s			IAmb	IAmb	17 18 08.6	
BO04	**La Punta** comp=Z,11nm,1.1s	**79.48**	**235**	P	**P**	**17 18 09.8**	**+0.6**
BO04				IAmb	IAmb	17 18 10.5	
MDUB	**Mudurnu**	**79.50**	**357**	P	**P**	**17 18 09.8**	**+1.0**
GNI	**Garni** comp=Z,4.1nm,0.5s,baz=213,slow=5.1,SNR=4.6	**79.66**	**8**	P	**P**	**17 18 10.7**	**+0.8**
GNI	comp=Z,51nm,18.7s,baz=276,slow=36			LR	LR	17 53 54.8	
GNI	**Garni** comp=Z,21nm,1.4s	**79.66**	**8**	P	**P**	**17 18 10.0**	**+0.2**
GNI				IAmb	IAmb	17 18 12.4	
GEYT	**Alibeck**	**79.88**	**19**	P	**P**	**17 18 10.5**	**-0.5**
GYA0B	**ALIBECK ARRAY**	**79.88**	**19**	P	**P**	**17 18 10.3**	**-0.7**
ALN	**Alexandroupoli**	**80.24**	**353**	P	**P**	**17 18 13.2**	**+0.5**
MDT	**Midelt** comp=Z,125nm,18.2s,baz=335,slow=36	**80.47**	**327**	LR	LR	17 54 47.2	
CO01	**Juntas del Tor**	**81.75**	**238**	P	**P**	**17 18 23.5**	**+1.8**
CO01	comp=Z,7.8nm,0.8s			IAmb	IAmb	17 18 24.1	
ONI	**Oni**	**81.95**	**7**	P	**P**	**17 18 22.5**	**+0.6**
ONI	comp=Z,6.2nm,1.1s			IAmb	IAmb	17 18 24.0	
STKA	**Stephens Creek** comp=Z,11nm,0.8s,baz=230,slow=4.4,SNR=26	**82.03**	**125**	P	**P**	**17 18 22.0**	**-0.8**
STKA	**Stephens Creek**	**82.03**	**125**	P	**P**	**17 18 22.4**	**-0.4**
ASAR	**Alice Springs** comp=Z,1.2nm,0.9s,baz=220,slow=5.0,SNR=16	**82.14**	**114**	P	**P**	**17 18 21.8**	**-1.8**
ASAR	**Alice Springs**	**82.14**	**114**	P	**P**	**17 18 22.3**	**-1.3**
KBZ	**Khabaz** comp=Z,2.6nm,0.9s,baz=168,slow=6.2,SNR=8.9	**82.03**	**6**	P	**P**	**17 18 27.6**	**+0.2**
CMAR	**Chiang Mai Ar** comp=Z,0.8nm,0.4s,baz=231,slow=6.2,SNR=8.7	**83.12**	**60**	P	**P**	**17 18 27.5**	**-1.0**
CHGR	**Chuyangaron**	**83.85**	**27**	P	**P**	**17 18 31.9**	**0.0**
DIVS	**Divibare**	**84.10**	**349**	P	**P**	**17 18 33.5**	**+0.4**
MLR	**Muntele Rosu**	**84.81**	**354**	P	**P**	**17 18 37.3**	**+0.6**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.8s,baz=227,slow=4.1,SNR=7.8	**84.81**	**111**	P	**P**	**17 18 35.4**	**-2.0**
PB15	**IPOC Station P**	**85.74**	**244**	P	**P**	**17 18 43.7**	**+1.5**
ESDC	**Sonseca Array** comp=Z,2.6nm,0.9s,baz=150,slow=4.2,SNR=8.9	**86.18**	**331**	P	**P**	**17 18 44.7**	**+1.1**
ESDC	**Sonseca Array**	**86.18**	**331**	P	**P**	**17 18 45.3**	**+1.7**
BURAR	**Bucovina Array**	**86.98**	**354**	P	**P**	**17 18 49.0**	**+1.7**
BURAR	comp=Z,8.5nm,0.8s			IAmb	IAmb	17 18 50.3	
BUR08	**Bucovina Ar. S**	**87.01**	**354**	P	**P**	**17 18 49.2**	**+1.7**
KSH	**Kashi**	**87.14**	**31**	P	**P**	**17 18 46.8**	**-1.6**
KSH				pP	PcP	17 18 50.3	-0.2
KSH	comp=Z,8.0nm,0.9s			pmax	pmax		
BNI	**Bardonecchia**	**87.68**	**341**	P	**P**	**17 18 50.6**	**-0.2**
KKAR	**Karatay Array**	**88.28**	**25**	P	**P**	**17 18 54.0**	**+0.4**
DAVOX	**Davos/Dischmat** comp=Z,80nm,18.6s,baz=256,slow=36	**88.54**	**343**	LR	LR	17 59 10.3	
AAK	**Ala-Archa** comp=Z,0.4nm,0.3s,baz=209,slow=13,SNR=1.5	**89.27**	**28**	P	**P**	**17 18 58.7**	**+0.3**
LPAZ	**La Paz** comp=Z,0.9nm,0.6s,baz=240,slow=8.1,SNR=3.8	**89.30**	**250**	P	**P**	**17 19 00.2**	**+0.3**
LPAZ	comp=Z,41nm,18.7s,baz=82,slow=32			LR	LR	17 54 28.9	
GERES	**GERESS Array B** comp=Z,0.5nm,0.7s,baz=186,slow=5.0,SNR=4.3	**89.73**	**346**	P	**P**	**17 19 01.6**	**+1.2**
AKASG	**Malin Array Be** comp=Z,1.9nm,0.7s,baz=174,slow=3.8,SNR=9.5	**89.79**	**357**	P	**P**	**17 19 00.1**	**-0.3**
AKASG	**Malin Array Be** comp=Z,1.8nm,1.1s	**89.79**	**357**	IAmb	IAmb	17 19 01.0	
PZH	**PanZhiHua**	**90.61**	**56**	P	P	17 19 09.9	+4.9
PZH	comp=Z,7.0nm,0.7s			pmax	pmax		
PZH	comp=Z,100nm,4.8s			pmax	pmax		
AKTO	**Aktyubinsk** comp=Z,0.8nm,0.6s,baz=182,slow=9.2,SNR=1.8	**91.74**	**15**	P	**P**	**17 19 09.4**	**-0.2**
GOMU	**GeErMu**	**93.43**	**45**	P	**P**	**17 19 18.0**	**-0.2**
GOMU				pP	sP	17 19 22.3	+1.7
GOMU				sP	pwP	17 19 24.5	-1.9
GOMU	comp=Z,1.0nm,1.1s			pmax	pmax		
GOMU	comp=Z,91nm,5.5s			pmax	pmax		
NACGM	**Naroch**	**94.11**	**355**	*e*P	**P**	**17 19 19.9**	**-0.4**
WMQ	**Urumqi**	**95.67**	**36**	*e*P	**P**	**17 19 29.2**	**+1.3**
WMQ				pP	pwP	17 19 34.1	-1.9
WMQ	comp=Z,14nm,0.6s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.3nm,0.7s,baz=208,slow=2.8,SNR=3.0	**95.76**	**31**	P	**P**	**17 19 27.1**	**-1.0**
BVAR	**Borovoye Array** comp=Z,2.5nm,0.8s	**97.08**	**21**	P	**P**	**17 19 33.3**	**-0.7**
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.2s,baz=216,slow=5.7,SNR=5.1	**97.54**	**26**	P	**P**	**17 19 35.3**	**-0.8**
O52A	**Adamsville**	**132.05**	**292**	PKPdf	**PKPdf**	**17 25 13.8**	**-2.1**
TXAR	**Lajitas Array** comp=Z,0.9nm,0.5s,baz=143,slow=5.8,SNR=17	**144.38**	**267**	PKP	**PKPdf**	**17 25 38.4**	**-0.5**
TXAR	**Lajitas Array**	**144.38**	**267**		**PKPdf**	**17 25 38.1**	**-0.8**
TX32	**Lajitas Array**	**144.38**	**267**	PKPdf	**PKPdf**	**17 25 38.2**	**-0.7**
MSTX	**Muleshoe**	**145.60**	**275**	PKPdf	**PKPab**	**17 25 42.1**	**+0.6**
MNTX	**Cornudas Mount**	**146.74**	**269**	PKPdf	**PKPbc**	**17 25 44.1**	**-0.4**
FFC	**Flin Flon**	**147.24**	**313**	PKPdf	**PKPbc**	**17 25 44.8**	**-0.4**
C36M	**Paulatuk**	**147.84**	**346**	PKPdf	**PKPbc**	**17 25 45.4**	**-0.9**
BNM	**Barren Site**	**148.65**	**273**		**PKiKP**	**17 25 50.8**	**-0.6**
ANMO	**Albuquerque**	**148.80**	**274**		**PKPbc**	**17 25 50.8**	**+0.6**
RSSD	**Black Hills**	**148.99**	**292**	PKPdf	**PKPdf**	**17 25 46.3**	**-0.1**
N23A	**Red Feather La**	**149.94**	**286**	PKPdf	**PKPdf**	**17 25 48.1**	**0.0**
INK	**Inuvik**	**150.26**	**351**		**PKPbc**	**17 25 52.0**	**-0.4**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.6s,baz=46,slow=1.7,SNR=4.5	**150.28**	**331**	PKP	**PKPdf**	**17 25 46.4**	**-1.1**
YKA	comp=Z,4.1nm,0.7s,baz=44,slow=1.9,SNR=33			PKPbc	**PKPbc**	**17 25 52.8**	**+0.1**
TOLK	**Toolik Lake Re**	**150.56**	**3**		**PKPbc**	**17 25 53.3**	**+0.1**
GAMB	**Gambell**	**150.99**	**24**		**PKPbc**	**17 25 54.2**	**-0.1**
COLD	**Coldfoot**	**151.94**	**4**		**PKiKP**	**17 25 56.1**	**0.0**
PD31	**Pinedale Array**	**152.87**	**289**		**PKPbc**	**17 25 59.0**	**-0.6**
PDAR	**Pinedale Array** comp=Z,1.0nm,0.9s,baz=90,slow=3.0,SNR=4.8	**152.87**	**289**	PKP	**PKPdf**	**17 25 52.0**	**-0.4**
PDAR	comp=Z,3.2nm,0.7s,baz=116,slow=4.1,SNR=19			PKPbc	**PKPbc**	**17 25 59.4**	**-0.3**
PDAR	**Pinedale Array**	**152.87**	**289**		**PKPbc**	**17 25 59.1**	**-0.6**
EGMT	**Eagleton**	**152.99**	**300**		**PKiKP**	**17 25 59.9**	**+0.2**
YHH	**Holmes Hill**	**153.89**	**293**		**PKiKP**	**17 26 02.8**	**+0.8**
YHH				PKPab	**pPKPab**	**17 26 16.6**	**-0.3**
HWUT	**Hardware Ranch**	**154.24**	**286**		**PKiKP**	**17 26 03.0**	**+0.4**
ILAR	**Eielson Array** comp=Z,0.1nm,0

MKAR	**Makanchi Array**	**57.14 325**	P	**P**	**17 50 13.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=116,slow=7.1,SNR=10					
ZALV	**Zalesovo Beam**	**60.15 333**	P	**P**	**17 50 33.0**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=126,slow=7.4,SNR=2.2					
KURBB	**Kurchatov Arra**	**61.32 327**	P	**P**	**17 50 41.3**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=129,slow=6.1,SNR=18					
KURK	**Kurchatov**	**61.32 327**	P	**P**	**17 50 42.0**	**+0.1**
ABKAR	**Akbulak array**	**71.75 321**	P	**P**	**17 51 47.5**	**-1.1**

NOU ***07*** *17:51:58.2, 11.84S×165.88E, h0km, mb4.9/15, Santa Cruz Islands*

IDC ***07*** *17:52:26.0±0.8, 14.14S×166.49E, h0km, mb4.2/16, mb1 4.4/18, mb1mx4.3/30, mbtmp4.2/18, ML4.3/2, MS3.8/32, Ms1 3.8/32, ms1mx3.6/67, Error ellipse: s-maj=25.5km s-min=17.2km az=116.0*

BJI ***07*** *17:52:30.4±0.0, 13.57S×166.73E, h22km, mb4.4/24, mB4.9/13, Ms4.5/3, Ms7 4.2/3*

NEIC ***07*** *17:52:31.4±1.8, 14.12S±0.07×166.5E±0.1, h30km±1km, mb4.9/26, Error ellipse: s-maj=15.6km s-min=9.3km az=64.0*

ISC 07 17:52:32.6±0.4, 14.16S±0.05×166.43E±0.07, h43km, n110, σ1§59/91, mb4.6/35, MS3.9/33, 2C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.48**	**150**	Pn	**Pn**	**17 52 54.8**	**-2.1**
SANVU	**Saraoutou**	**1.48**	**150**	P	**Pn**	**17 52 57.3**	**+0.4**
DVP	**Devils Point**	**3.93**	**155**	P	**Pn**	**17 53 31.9**	**+1.4**
	457µm,0.7s						
KOUNC	**Koumac, New Ca**	**6.68**	**198**	Pn	**Pn**	**17 54 07.8**	**-0.4**
KOUNC				Sn	**Sn**	**17 55 22.0**	**-1.0**
KOUNC	**Koumac, New Ca**	**6.68**	**198**	P	**Pn**	**17 54 06.7**	**-1.5**
	211nm,0.7s						
MARNC	**Mare, Loyalty**	**7.44**	**168**	Pn	**Pn**	**17 54 15.4**	**-3.2**
MARNC	**Mare, Loyalty**	**7.44**	**168**	P	**Pn**	**17 54 21.0**	**+2.3**
	1.2nm,0.7s						
DZM	**Mont Dzumac**	**7.87**	**180**	Pn	**Pn**	**17 54 23.7**	**-1.0**
	2.3nm,0.3s,baz=339,slow=16,SNR=20						
DZM				Sn	**Sn**	**17 55 50.0**	**-2.5**
	0.8nm,0.3s,baz=92,slow=24,SNR=1.0						
DZM				LR	LR	17 56 35.6	
	comp=Z,188nm,20.9s,baz=16,slow=32						
DZM	**Mont Dzumac**	**7.87**	**180**	*e*Pn	**Pn**	**17 54 24.2**	**-0.5**
	38nm,0.5s						
DZM				*e*Sn	**Sn**	**17 55 49.0**	**-3.5**
	41nm,0.8s						
DZM				*e*LR	LR	17 55 57.3	
	comp=Z,568nm,25.1s						
DZM	**Mont Dzumac**	**7.87**	**180**		**Pn**	**17 54 24.5**	**-0.2**
DZM	**Mont Dzumac**	**7.87**	**180**	P	**Pn**	**17 54 24.9**	**+0.2**
	31nm,0.6s						
YATNC	**Mamie plateau,**	**7.87**	**177**	P	**Pn**	**17 54 25.5**	**+0.9**
	50nm,1.0s						
HNR	**Honiara**	**7.89**	**306**	Pn	**Pn**	**17 54 21.9**	**-3.0**
	7.0nm,0.3s,baz=183,slow=1.6,SNR=6.8						
HNR				Sn	**Sn**	**17 55 51.3**	**-1.7**
	4.4nm,0.3s,baz=54,slow=23,SNR=1.3						
HNR	**Honiara**	**7.89**	**306**	Pn	**Pn**	**17 54 23.8**	**-1.1**
NOUC	**Port Laguerre**	**7.90**	**181**	P	**Pn**	**17 54 26.2**	**+1.2**
	28nm,0.7s						
ONTNC	**Ouen Toro**	**8.11**	**180**		**Pn**	**17 54 27.7**	**-0.1**
ONTNC	**Ouen Toro**	**8.11**	**180**	P	**Pn**	**17 54 28.5**	**+0.7**
	72nm,0.7s						
OUENC	**Ouen Island, N**	**8.22**	**177**	Pn	**Pn**	**17 54 27.4**	**-2.1**
OUENC	**Ouen Island, N**	**8.22**	**177**	P	**Pn**	**17 54 31.6**	**+2.2**
	61nm,1.1s						
PINNC	**Pines Island,**	**8.46**	**174**	Pn	**Pn**	**17 54 32.9**	**+0.1**
PINNC	**Pines Island,**	**8.46**	**174**	P	**Pn**	**17 54 35.1**	**+2.4**
	61nm,1.0s						
MSVF	**Nonsavu**	**11.73**	**109**	LR	LR	17 58 49.6	
	comp=Z,528nm,20.1s,baz=293,slow=33						
EIDS	**Eidsvold**	**18.23**	**230**	P	**Pn**	**17 56 43.6**	**+1.1**
PMG	**Port Moresby**	**19.44**	**282**	LR	LR	18 03 24.6	
	comp=Z,300nm,19.6s,baz=65,slow=34						
CTA	**Charters Tower**	**20.15**	**250**	P	**P**	**17 57 01.4**	**-2.0**
	6.8nm,0.9s,baz=118,slow=23,SNR=2.4						
CTA				LR	LR	18 04 10.8	
	comp=Z,326nm,18.1s,baz=79,slow=35						
AFI	**Afiamalu**	**21.15**	**92**	LR	LR	18 03 31.7	
	comp=Z,178nm,19.8s,baz=249,slow=32						
STKA	**Stephens Creek**	**28.75**	**228**	P	**P**	**17 58 27.2**	**+0.9**
	2.5nm,0.6s,baz=24,slow=8.6,SNR=8.8						
STKA				LR	LR	18 10 04.2	
	comp=Z,407nm,18.1s,baz=37,slow=37						
STKA	**Stephens Creek**	**28.75**	**228**	P	**P**	**17 58 27.6**	**+1.3**
RPZ	**Rata Peaks**	**29.72**	**173**	LR	LR	18 10 22.3	
	comp=Z,233nm,18.6s,baz=333,slow=36						
WRAB	**Tennant Creek**	**31.17**	**255**	P	**P**	**17 58 49.4**	**+1.5**
WRAB				IAmb	IAmb	17 58 50.4	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**31.18**	**255**	P	**P**	**17 58 47.0**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=86,slow=8.9,SNR=10						
WRA				LR	LR	18 10 54.1	
	comp=Z,213nm,18.8s,baz=12,slow=36						
AS31	**Alice Springs**	**32.12**	**248**	P	**P**	**17 58 55.5**	**-0.8**
ASAR	**Alice Springs**	**32.12**	**248**	P	**P**	**17 58 54.7**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=73,slow=9.4,SNR=32						
ASAR				LR	LR	18 11 09.1	
	comp=Z,250nm,18.2s,baz=134,slow=35						
RAR	**Rarotonga**	**32.91**	**107**	LR	LR	18 09 30.0	
	comp=Z,81nm,21.6s,baz=271,slow=31						
MTN	**Manton Dam**	**34.33**	**268**	P	**P**	**17 59 17.1**	**+1.6**
SIJI	**Sorong**	**37.20**	**288**	LR	LR	18 15 48.4	
	comp=Z,190nm,18.9s,baz=218,slow=38						
FORT	**Forrest**	**38.89**	**238**	P	**P**	**17 59 54.8**	**+0.5**
FORT				IAmb	IAmb	17 59 58.1	
	comp=Z,16nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.32**	**259**	LR	LR	18 16 23.0	
	comp=Z,189nm,18.5s,baz=104,slow=36						
SANI	**Sanana**	**41.72**	**283**	P	**P**	**18 00 17.7**	**-0.1**
	comp=Z,7.5nm,1.1s						
BATI	**Baumata**	**41.94**	**270**	LR	LR	18 17 15.2	
	comp=Z,85nm,18.7s,baz=168,slow=36						
BATI	**Baumata**	**41.94**	**270**	P	**P**	**18 00 21.5**	**+1.8**
	comp=Z,16nm,1.1s						
PPT2	**Papeete2**	**42.39**	**101**	*e*LR	LR	18 12 20.3	
	comp=Z,146nm,27.0s						
PPT	**Papeete**	**42.39**	**101**	LR	LR	18 16 46.0	
	comp=Z,137nm,18.1s,baz=189,slow=34						
TBI	**Tubuai**	**42.62**	**109**	*e*LR	LR	18 12 27.4	
	comp=Z,112nm,24.8s						
TAOE	**Nuku Hiva Isla**	**52.53**	**90**	*e*LR	LR	18 16 59.6	
	comp=Z,192nm,24.4s						
DRV	**Dumont d'Urvil**	**55.32**	**192**	P	P	18 02 10.7	+9.1
DRV				pP	pwP	18 02 19.9	+2.1
MJAR	**Matsushiro Arr**	**57.03**	**333**	P	**P**	**18 02 14.7**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=92,slow=8.7,SNR=2.7						
MJAR	**Matsushiro Arr**	**57.03**	**333**	P	**P**	**18 02 13.9**	**-0.4**
MJAR				IAmb	IAmb	18 02 38.1	
	comp=Z,12nm,1.5s						
LEM	**Lembang**	**58.16**	**271**	LR	LR	18 28 59.2	
	comp=Z,56nm,18.3s,baz=178,slow=38						
KSRS	**Korea Array**	**62.81**	**326**	P	**P**	**18 02 54.6**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=143,slow=7.1,SNR=3.9						
KSAR	**Wonju Array Be**	**62.83**	**326**	P	**P**	**18 02 54.9**	**+0.9**
KS19	**Wonju Array Si**	**62.88**	**326**	P	**P**	**18 02 52.4**	**-2.0**
VNDA	**Vanda**	**63.41**	**181**	P	**P**	**18 02 56.8**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=12,slow=7.6,SNR=3.5						
SBA	**Scott Base**	**63.70**	**180**	P	**P**	**18 03 00.7**	**+1.5**
SBA				IAmb	IAmb	18 03 07.1	
	comp=Z,14nm,1.2s						
SBA	**Scott Base**	**63.70**	**180**	⇓P	**P**	**18 03 01.8**	**+2.5**
SBA				X		18 03 05.2	
SBA				pP	**pP**	**18 03 11.3**	**+0.8**
YSS	**Yuzh-Sakhalins**	**64.44**	**342**	P	**P**	**18 03 05.4**	**+0.9**
NJ2	**Nanjing**	**64.70**	**316**	*e*P	**P**	**18 03 08.1**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CCD	**Concordia, Ant**	**65.30**	**191**	P	P	18 03 35.1	+25
CCD				pP	PcP	18 03 54.7	+12
USRK	**Ussuriysk Ar.**	**66.01**	**334**	P	**P**	**18 03 14.2**	**-0.5**
	comp=Z,8.6nm,1.0s,baz=149,slow=6.7,SNR=6.4						
USRK	**Ussuriysk Ar.**	**66.01**	**334**	P	**P**	**18 03 13.7**	**-1.0**
SHEM	**Shemya Is, Ala**	**66.94**	**5**	LR	LR	18 25 24.8	
	comp=Z,60nm,21.4s,baz=208,slow=30						
ADK	**Adak**	**67.38**	**11**	⇑P	**P**	**18 03 22.5**	**-0.8**
ADK				⇑X		18 03 24.2	
ADK				pP	**pP**	**18 03 28.2**	**-6.1**
PETK	**Petropavlovsk-**	**67.41**	**354**	P	**P**	**18 03 23.9**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=178,slow=11,SNR=5.4						
KLR	**Kul'dur**	**70.16**	**337**	LR	LR	18 34 26.9	
	comp=Z,32nm,18.9s,baz=283,slow=36						
CMAR	**Chiang Mai Arr**	**73.97**	**294**	P	**P**	**18 04 05.5**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=114,slow=4.0,SNR=1.7						

MA2	**Magadan**	**74.57**	**352**	LR	LR	18 33 14.9	
	comp=Z,41nm,18.5s,baz=188,slow=33						
HHC	**Hu-ho-hao-te**	**74.62**	**320**	*e*P	**P**	**18 04 10.1**	**+2.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,4.4s						
PZH	**PanZhiHua**	**74.70**	**303**	P	**P**	**18 04 12.9**	**+4.5**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.4s						
KDAK	**Kodiak Island**	**79.22**	**21**	LR	LR	18 33 19.1	
	comp=Z,72nm,19.1s,baz=222,slow=31						
ULN	**Ulaanbaatar**	**81.20**	**324**	P	**P**	**18 04 44.0**	**0.0**
ULN				IAmb	IAmb	18 04 46.7	
	comp=Z,9.7nm,1.4s						
YAK	**Yakutsk**	**81.25**	**343**	P	**P**	**18 04 44.3**	**+0.5**
YAK				IAmb	IAmb	18 04 45.5	
	comp=Z,13nm,1.0s						
SONM	**Songino Array**	**81.56**	**324**	P	**P**	**18 04 46.0**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=125,slow=4.2,SNR=6.3						
GTA	**Gaotai**	**81.69**	**314**	*e*P	**P**	**18 04 48.8**	**+2.0**
GTA				pP	PcP	18 04 54.1	+1.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BILL	**Bilibino**	**81.97**	**360**	P	**P**	**18 04 48.1**	**+0.6**
BILL				IAmb	IAmb	18 04 48.9	
	comp=Z,10nm,1.0s						
MAW	**Mawson**	**82.10**	**202**	LR	LR	18 38 41.3	
	comp=Z,71nm,18.2s,baz=238,slow=34						
PWL	**Port Wells**	**82.97**	**20**	P	**P**	**18 04 53.0**	**+0.1**
PWL				IAmb	IAmb	18 04 53.9	
	comp=Z,16nm,1.0s						
GOMU	**GeErMu**	**84.00**	**309**	P	**P**	**18 04 57.2**	**-2.0**
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,76nm,6.4s						
RND	**Reindeer**	**84.66**	**19**	P	**P**	**18 05 01.4**	**-0.1**
RND				IAmb	IAmb	18 05 02.7	
	comp=Z,16nm,1.1s						
BWN	**Browne**	**85.03**	**18**	P	**P**	**18 05 03.7**	**+0.4**
I21K	**Tanana**	**85.07**	**16**	P	**P**	**18 05 04.0**	**+0.5**
IMAR	**Indian Mountai**	**85.23**	**15**	P	**P**	**18 05 04.9**	**+0.7**
YBH	**Yreka Blue Hor**	**85.59**	**45**	LR	LR	18 34 50.6	
	comp=Z,41nm,21.6s,baz=288,slow=30						
WRH	**Wood River Hil**	**85.66**	**18**	P	**P**	**18 05 06.5**	**+0.1**
WRH				IAmb	IAmb	18 05 07.3	
	comp=Z,6.4nm,1.0s						
HDA	**Harding Lake**	**85.96**	**18**	P	**P**	**18 05 07.8**	**-0.1**
MDM	**Murphy Dome**	**85.97**	**18**	P	**P**	**18 05 07.7**	**-0.3**
MDM				IAmb	IAmb	18 05 08.8	
	comp=Z,19nm,1.4s						
IL31		**86.24**	**18**	P	**P**	**18 05 08.4**	**-0.8**
ILAR	**Eielson Array**	**86.24**	**18**	P	**P**	**18 05 07.5**	**-1.8**
	comp=Z,3.4nm,0.8s,baz=234,slow=5.6,SNR=22						
ILAR				LR	LR	18 39 49.5	
	comp=Z,65nm,18.4s,baz=187,slow=33						
ILAR	**Eielson Array**	**86.24**	**18**	P	**P**	**18 05 08.1**	**-1.2**
J25K	**Salcha River,**	**86.60**	**19**	P	**P**	**18 05 10.1**	**-1.0**
J25K				IAmb	IAmb	18 05 12.1	
	comp=Z,5.5nm,0.8s						
BBB	**Bella Bella**	**86.76**	**34**	LR	LR	18 36 25.9	
	comp=Z,40nm,19.6s,baz=296,slow=30						
COLD	**Coldfoot**	**87.10**	**16**	P	**P**	**18 05 15.1**	**+1.6**
COLD				IAmb	IAmb	18 05 16.1	
	comp=Z,7.6nm,1.2s						
PFO	**Pinyon Flats O**	**87.33**	**55**	LR	LR	18 40 20.7	
	comp=Z,102nm,18.0s,baz=240,slow=33						
NVAR	**Mina Array Bea**	**87.52**	**49**	P	**P**	**18 05 16.9**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=256,slow=3.6,SNR=3.6						
NVAR				LR	LR	18 38 25.3	
	comp=Z,108nm,18.9s,baz=276,slow=32						
DLBC	**Dease Lake**	**88.82**	**28**	LR	LR	18 38 14.4	
	comp=Z,56nm,18.8s,baz=237,slow=31						
SYO	**Syowa Base**	**89.02**	**197**	⇓*e*PcP	**PcP**	**18 05 24.0**	**-0.1**
TIXI	**Tiksi**	**89.25**	**349**	P	**P**	**18 05 22.7**	**-0.8**
LPIG	**La Paz**	**89.70**	**65**	LR	LR	18 43 30.8	
	comp=Z,52nm,18.2s,baz=229,slow=34						
ELK	**Elko**	**90.52**	**48**	LR	LR	18 40 52.4	
	comp=Z,59nm,18.0s,baz=253,slow=32						
WMQ	**Urumqi**	**91.75**	**315**	*e*P	**P**	**18 05 39.0**	**+3.1**
WMQ				sP	pwP	18 05 53.0	-1.3
INK	**Inuvik**	**92.61**	**19**	LR	LR	18 44 44.7	
	comp=Z,58nm,18.9s,baz=146,slow=34						
PDAR	**Pinedale Array**	**95.16**	**47**	LR	LR	18 42 47.2	
	comp=Z,42nm,18.2s,baz=340,slow=32						
ANMO	**Albuquerque**	**95.65**	**56**	LR	LR	18 46 32.3	
	comp=Z,66nm,18.2s,baz=261,slow=34						
MK31	**Makanchi Array**	**96.23**	**317**	P	**P**	**18 05 56.7**	**+0.3**
MKAR	**Makanchi Array**	**96.23**	**317**	P	**P**	**18 05 57.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=101,slow=6.4,SNR=8.5						
ZALV	**Zalesovo Beam**	**96.45**	**324**	P	**P**	**18 05 55.2**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=134,slow=6.4,SNR=4.7						
TXAR	**Lajitas Array**	**96.72**	**62**	LR	LR	18 42 21.9	
	comp=Z,38nm,19.4s,baz=288,slow=31						
A36M	**Sachs Harbour**	**96.87**	**17**	P	**P**	**18 05 58.6**	**0.0**
A36M				IAmb	IAmb	18 05 59.5	
	comp=Z,3.5nm,0.8s						
YKA	**Yellowknife Ar**	**97.42**	**27**	P	**P**	**18 05 59.3**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=255,slow=4.6,SNR=7.5						
ARCES	**ARCESS Array B**	**119.50**	**345**	PKP	**PKPdf**	**18 11 17.1**	**0.0**
	comp=Z,3.3nm,0.9s,baz=63,slow=1.7,SNR=12						
MNK	**Minsk**	**128.42**	**330**	*i* PKP	**PKPdf**	**18 11 33.7**	**-0.8**
	comp=E,3.0nm,1.1s						
MNK				*i* PKP	**PKPdf**	**18 11 33.7**	**-0.8**
	comp=N,10.0nm,0.8s						
MNK				*i* PKP	**PKPdf**	**18 11 33.7**	**-0.8**
	comp=Z,6.0nm,0.8s,baz=55						
MNK				*i* PP	**PP**	**18 13 38.6**	**-0.8**
MNK				*i* PPP	PPP	18 16 24.4	
MNK				*i* SKS	**SKSdf**	**18 18 42.7**	**0.0**
MNK				*i* SS	**SS**	**18 30 52.0**	**+0.1**
MNK				*i* SSS	SSS	18 35 38.4	
MNK				*i* LR	LR	19 04 20.1	
MNK				*i* LRM	MLR	19 12 01.9	
	comp=Z,142nm,13.0s						
MNK				*i* LRM	MLR	19 12 04.8	
	comp=N,160nm,17.2s						
MNK				*i* LRM	MLR	19 12 10.5	
	comp=E,19nm,15.2s						

IDC ***07*** *18:01:10.1±57.0, 4.22S×99.32E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.4/26, mbtmp3.8/3, Error ellipse: s-maj=1154.0km s-min=181.5km az=173.0*

DJA ***07*** *18:01:40.3±0.6, 1.3S×10.0E±°, h16km±6km, M3.5/7, mb3.6/1, MLv3.4/7*

ISC 07 18:01:39.6±1.0, 0.93S±0.06×99.73E±0.06, h10km, n9, σ1§93/9, mb3.9/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.75**	**238**	P	**Pg**	**18 01 54.9**	**+0.7**
SISI				S	**Sb**	**18 02 06.0**	**+0.9**
PPI	**Padang Panjang**	**0.82**	**55**	P	**Pb**	**18 01 57.0**	**+1.1**
PPI				S	**Sb**	**18 02 08.0**	**+1.0**
MNSI	**Mandailing Nat**	**1.72**	**355**	P	**Pn**	**18 02 08.7**	**-0.9**
PPSI	**Pulau Pagai**	**1.84**	**171**	P	**Pn**	**18 02 10.1**	**-1.3**
KRJI	**Kerinci**	**2.08**	**124**	P	**Pn**	**18 02 16.4**	**+1.6**
GSI	**Gunungsitoli**	**3.09**	**316**	P	**Pn**	**18 02 30.5**	**+2.0**
SONM	**Songino Array**	**48.91**	**6**	P	**P**	**18 10 22.8**	**-3.1**
	0.6nm,0.5s,baz=197,slow=9.0,SNR=3.9						
MKAR	**Makanchi Array**	**49.93**	**344**	P	P	18 10 28.6	-5.1
	0.4nm,0.4s,baz=154,slow=8.5,SNR=8.1						
ZALV	**Zalesovo Beam**	**56.07**	**349**	P	P	18 11 12.8	-6.0
	0.6nm,0.5s,baz=175,slow=8.7,SNR=3.8						

WEL 07 18:08:52.6±0.9, 33.5S±11.1×178.3E±3.0, h442km±15km, M3.9/12, mB4.4/9, ML4.5/17, MLv4.3/12, Mw(mB)3.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=109.5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.03**	**31**	S	S	18 11 11.9	+3.5
MXZ	**Matakaoa Point**	**4.93**	**193**	P	P	18 10 13.6	-2.1
MXZ				S	S	18 11 21.9	-1.7
WMGZ	**Waiomatatini S**	**5.16**	**192**	P	P	18 10 17.1	-0.8
WMGZ				S	S	18 11 28.4	+0.7
RUGZ	**Raukumara Rang**	**5.46**	**197**	P	P	18 10 20.3	-0.7
RUGZ				S	S	18 11 31.0	-2.3
OPRZ	**Ohinepanea**	**5.69**	**206**	P	P	18 10 24.2	+0.9

MWZ	**Matawai**	**5.84**	**197**	P	P	18 10 23.7	-1.1
TKGZ	**Te Karaka**	**5.87**	**194**	P	P	18 10 25.3	+0.3
TKGZ				S	S	18 11 42.0	+1.3
URZ	**Urewera**	**5.88**	**200**	P	P	18 10 23.0	-2.2
URZ				S	S	18 11 41.2	+0.1
TOZ	**Tahuroa Road**	**6.04**	**214**	P	P	18 10 28.8	+2.0
RIGZ	**Rimuhau**	**6.14**	**194**	P	P	18 10 28.2	+0.2
MUGZ	**Murupara**	**6.19**	**202**	P	P	18 10 28.5	+0.2
SNGZ	**Shannon Statio**	**6.31**	**197**	P	P	18 10 30.2	+0.5
SNGZ				S	S	18 11 51.6	+2.4
ALRZ	**Allen Road**	**6.41**	**204**	P	P	18 10 31.4	+0.7
KNZ	**Kokohu**	**6.47**	**194**	P	P	18 10 29.8	-1.4
KNZ				S	S	18 11 51.4	-0.6
RAHZ	**Arahi**	**6.50**	**198**	P	P	18 10 31.7	0.0
MTHZ	**Maungataniwha**	**6.51**	**200**	P	P	18 10 29.6	-2.3
MHGZ	**Mahia Peninsul**	**6.55**	**192**	P	P	18 10 32.9	+0.7
MHGZ				S	S	18 11 56.9	+3.2
WHHZ	**Waihua**	**6.62**	**197**	P	P	18 10 31.3	-1.6
WHHZ				S	S	18 11 55.5	+0.4
MRHZ	**Matea Rd**	**6.63**	**203**	P	P	18 10 32.7	-0.5
WATZ	**Wairara**	**6.76**	**207**	P	P	18 10 34.8	+0.3
ARHZ	**Aropaoanui**	**6.85**	**198**	P	P	18 10 35.0	-0.4
ARHZ				S	S	18 12 01.5	+1.9
RATZ	**Rangitukua**	**6.88**	**207**	P	P	18 10 36.8	+1.0
BKZ	**Black Stump Fm**	**6.91**	**201**	P	P	18 10 34.7	-1.3
HIZ	**Hauiti**	**6.97**	**213**	P	P	18 10 38.8	+2.1
MCHZ	**McNeill Hill**	**7.10**	**199**	P	P	18 10 37.8	-0.3
NTVZ	**North Tongarir**	**7.12**	**206**	P	P	18 10 39.2	+0.7
TMVZ	**Te Maari**	**7.13**	**206**	P	P	18 10 38.6	+0.1
KRVZ	**Karewarewa**	**7.13**	**206**	P	P	18 10 37.9	-0.7
ETVZ	**East Tongariro**	**7.14**	**206**	P	P	18 10 38.9	+0.3
KWHZ	**Kaweka Forest**	**7.17**	**201**	P	P	18 10 38.3	-0.5
WTVZ	**West Tongariro**	**7.17**	**207**	P	P	18 10 39.1	+0.2
OTVZ	**Oturere**	**7.18**	**206**	P	P	18 10 39.5	+0.4
CKHZ	**Cape Kidnapper**	**7.21**	**196**	P	P	18 10 39.7	+0.5
SNVZ	**South Ngauruho**	**7.21**	**206**	P	P	18 10 39.5	+0.1
NGZ	**Ngauruhoe**	**7.22**	**206**	P	P	18 10 40.2	+0.7
FWVZ	**Far West T-bar**	**7.31**	**206**	P	P	18 10 40.6	0.0
BHHZ	**Black Hill Sta**	**7.34**	**203**	P	P	18 10 38.8	-1.9
MOVZ	**Moawhango**	**7.37**	**205**	P	P	18 10 39.9	-1.1
KRHZ	**Kereru**	**7.38**	**201**	P	P	18 10 39.4	-1.7
KAHZ	**Kahuranaki**	**7.39**	**197**	P	P	18 10 40.6	-0.5
PKVZ	**Pokaka**	**7.42**	**207**	P	P	18 10 41.4	-0.1
PXZ	**Pawanui**	**7.61**	**197**	P	P	18 10 42.9	-0.7
PNHZ	**Pukenui**	**7.68**	**201**	P	P	18 10 42.7	-1.6
WPHZ	**Waipukurau**	**7.75**	**199**	P	P	18 10 45.5	+0.4
TSZ	**Takapari Road**	**7.89**	**201**	P	P	18 10 44.9	-1.6
PRHZ	**Porangahau**	**7.89**	**197**	P	P	18 10 46.9	+0.3
ANWZ	**Angora Road**	**8.12**	**198**	P	P	18 10 49.4	+0.5
PRWZ	**Pori Road**	**8.34**	**200**	P	P	18 10 51.7	+0.3
PRWZ				S	S	18 12 32.3	+3.2
BFZ	**Birch Farm**	**8.38**	**198**	P	P	18 10 50.6	-1.3
BFZ				S	S	18 12 33.5	+3.6
MRZ	**Mangatainoka R**	**8.56**	**202**	P	P	18 10 53.5	-0.3
HOWZ	**Holdsworth Sta**	**8.79**	**201**	P	P	18 10 56.1	-0.3
HOWZ				S	S	18 12 38.4	+0.2
OGWZ	**Otaki Gorge**	**8.83**	**203**	P	P	18 10 55.2	-1.5
OGWZ				S	S	18 12 40.3	+1.4
MTW	**Mount Morrison**	**9.04**	**201**	P	P	18 10 58.8	-0.2
MTW				S	S	18 12 45.6	+2.5
MSWZ	**Moikau Station**	**9.35**	**201**	P	P	18 11 01.8	-0.6

NEIC 07 18:17:53.3±0.6, 36.48N±0.01×98.74W±0.01, h4km±3km, mb_Lg2.4/1, Error ellipse: s-maj=2.0km s-min=1.3km az=151.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.23**	**245**	Pg	Pg	18 17 57.5	-0.3
U32A				Sg	Sg	18 18 01.1	+0.4
T35A	**Sooner Cattle**	**1.85**	**76**	Pn	Pn	18 18 26.0	+0.2

SKHL ***07*** *18:21:13.3±0.7, 44.20N×146.90E, h115km±2km, mb4.0/3, msha5.2/2*

JMA ***07*** *18:21:13.0±0.3, 44.12N×146.92E, h126km±4km, M3.0*

**ISC 07 18:21:11.5±2.3, 44.14N±0.09×147.04E

YUK					A	A	18 24 13.0	
	20nm,0.8s							
YUK					A	A	18 24 13.0	
	90nm,0.8s							
NMR	**Nemuro--Hokkai**	**4.33**	**204**	*e*P	Pn	18 23 16.3	-5.4	
NMR				*e*S	S	18 24 10.5	-10	
AKK	**Akkeshi**	**4.92**	**210**	*e*P	Pn	18 23 27.0	-1.1	
AKK				*e*S	**S**	**18 24 28.9**	**-2.9**	
ASAJ	**Asahikawa**	**5.07**	**233**	P	**Pn**	**18 23 33.6**	**+4.0**	
	0.2nm,0.3s,baz=80,slow=12,SNR=2.5							
KLR	**Kul'dur**	**11.12**	**286**	P	**Pn**	**18 24 39.2**	**-1.1**	
	0.1nm,0.3s,baz=102,slow=5.0,SNR=4.5							
SEY	**Seymchan**	**15.81**	**7**	P	**P**	**18 25 33.1**	**+0.9**	
	0.1nm,0.3s,baz=171,slow=13,SNR=5.0							
KDAK	**Kodiak Island**	**36.35**	**51**	P	**P**	**18 28 41.6**	**+0.8**	
	4.8nm,0.9s,baz=289,slow=8.7,SNR=6.5							
ILAR	**Eielson Array**	**38.20**	**39**	P	**P**	**18 28 57.2**	**+1.2**	
	0.5nm,0.6s,baz=276,slow=8.1,SNR=8.7							
MKAR	**Makanchi Array**	**43.65**	**295**	P	**P**	**18 29 39.6**	**-0.8**	
	0.2nm,0.6s,baz=61,slow=6.0,SNR=2.5							
RES	**Resolute Bay**	**51.32**	**18**	P	**P**	**18 30 37.3**	**-0.9**	
	0.4nm,0.4s,baz=324,slow=8.7,SNR=5.2							
YKA	**Yellowknife Ar**	**52.44**	**36**	P	**P**	**18 30 46.9**	**+0.3**	
	0.3nm,0.4s,baz=303,slow=7.3,SNR=5.3							
FINES	**FINESS Array B**	**62.02**	**333**	P	**P**	**18 31 51.6**	**-1.2**	
	0.7nm,0.5s,baz=40,slow=9.8,SNR=4.7							

*IDC **07** 18:25:29.1±1.4, 14°.13S×166°.82E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/40, mbtmp3.9/7, ML4.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/62, Error ellipse: s-maj=36.1km s-min=29.0km az=89.0*

ISC 07 18:25:34.9±1.4, **14°.2S**±0°.1×**166.7E**±0°.2, **h35**km, **n9, σ0§60/11, mb3.7/5, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
DZM	**Mont Dzumac**	**7.87**	**182**	Pn	**Pn**	**18 27 26.6**	**-0.3**
	2.0nm,0.3s,baz=326,slow=18,SNR=2.9						
DZM				Sn	**Sn**	**18 28 54.7**	**-0.1**
	baz=323,slow=20,SNR=1.5						
DZM				LR	LR	18 29 53.4	
	comp=Z,87nm,19.5s,baz=28,slow=34						
HNR	**Honiara**	**8.10**	**305**	Pn	**Pn**	**18 27 30.8**	**+0.7**
	13nm,0.3s,baz=155,slow=8.2,SNR=8.3						
HNR				Sn	**Sn**	**18 28 59.4**	**-1.1**
	3.8nm,0.3s,baz=49,slow=9.5,SNR=1.8						
STKA	**Stephens Creek**	**28.93**	**228**	P	**P**	**18 31 31.6**	**+0.7**
	1.8nm,0.4s,baz=52,slow=9.8,SNR=13						
WRA	**Warramunga Arr**	**31.42**	**255**	P	**P**	**18 31 53.2**	**+0.2**
	0.2nm,0.5s,baz=78,slow=5.4,SNR=1.9						
ASAR	**Alice Springs**	**32.35**	**248**	P	**P**	**18 32 00.8**	**-0.4**
	0.5nm,0.5s,baz=75,slow=9.5,SNR=16						
VNDA	**Vanda**	**63.41**	**181**	P	**P**	**18 36 00.2**	**-0.2**
	0.3nm,0.4s,baz=10,slow=7.8,SNR=1.7						
MKAR	**Makanchi Array**	**96.41**	**317**	P	**P**	**18 39 00.5**	**+0.2**
	0.3nm,0.8s,baz=94,slow=4.3,SNR=1.8						
ARCES	**ARCESS Array B**	**119.57**	**345**	PKP	**PKPdf**	**18 44 19.9**	**-0.5**
	3.0nm,0.8s,baz=80,slow=2.1,SNR=9.1						
FINES	**FINESS Array B**	**124.99**	**338**	PKP	**PKPdf**	**18 44 30.7**	**-0.2**
	3.1nm,1.1s,baz=36,slow=1.5,SNR=4.2						

*STR **07** 18:25:54.8±0.9, 45°.N±4°.×1°.2E±°, h4km, MLv3.3/13, preliminary*
*PRU **07** 18:25:54.8±0.0, 44°.63N×11°.80E, h0km*
*GEN **07** 18:25:54.3, 44°.55N×12°.22E, h15km±1km, Ml3.0*
*LDG **07** 18:25:55.2±0.3, 44°.69N×12°.34E, h10km, Ml3.2/27, Error ellipse: s-maj=6.0km s-min=3.3km az=80.0*
*ROM **07** 18:25:56.7±0.2, 44°.645N±0°.004×12°.067E±0°.009, h3km±1km, ML3.2/79, Error ellipse: s-maj=0.6km s-min=0.4km az=90.0*
*IDC **07** 18:25:57.1±2.6, 44°.53N×12°.25E, h23km±16km, mb3.4/1, mb1 3.5/6, mb1mx3.2/51, mbtmp3.4/6, ML3.3/5, MS3.6/1, Ms1 3.6/1, ms1mx2.6/52, Error ellipse: s-maj=19.0km s-min=15.8km az=106.0*

ISC 07 18:25:57.4±0.8, **44°.62N**±0°.01×**12°.00E**±0°.01, **h18**km±5km, **n301, σ1§62/403, 3C-5D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
CMPO	**Campotto Po**	**0.14**	**256**	⇓P	**Pg**	**18 26 00.9**	**-0.5**
CMPO				S	**Sg**	**18 26 04.9**	**+0.7**
CMPO				AML	AML		
	comp=E,76250μm,1.1s						
CMPO				AML	AML		
	comp=N,32000μm,0.6s						
IMOL	**Imola, Italy**	**0.31**	**215**	⇑P	**Pg**	**18 26 04.4**	**+0.3**
IMOL				S	**Sb**	**18 26 11.2**	**+2.0**
IMOL				AML	AML		
	comp=E,5690μm,0.7s						
IMOL				AML	AML		
	comp=N,16500μm,0.5s						
IMOL				AML	AML		
	comp=N,16550μm,0.5s						
IMOL	**Imola, Italy**	**0.31**	**215**	P	**Pg**	**18 26 04.4**	**+0.3**
BRSN	**Barisano**	**0.34**	**170**	P	**Pb**	**18 26 05.3**	**+0.4**
BRSN				S	**Sb**	**18 26 10.1**	**+0.2**
BRSN				AML	AML		
	comp=E,5290μm,0.6s						
BRSN				AML	AML		
	comp=N,6490μm,1.2s						
BRSN				AML	AML		
	comp=E,5435μm,0.7s						
BRSN				AML	AML		
	comp=N,6385μm,1.2s						
BRSN				AML	AML		
	comp=E,5285μm,0.6s						
BRSN				AML	AML		
BRSN				AML	AML		
	comp=E,5445μm,0.7s						
BRSN				AML	AML		
	comp=N,6390μm,1.2s						
BRSN				AML	AML		
	comp=N,6400μm,0.3s						
BRSN				AML	AML		
	comp=E,5350μm,0.7s						
FAEN	**Faenza**	**0.34**	**195**	P	**Pb**	**18 26 05.5**	**+0.6**
FIU	**Minerbio Fiu**	**0.36**	**274**	P	**Pg**	**18 26 05.2**	**+0.3**
FIU				S	**Sb**	**18 26 12.1**	**+1.5**
FIU				AML	AML		
	comp=E,6865μm,0.2s						
FIU				AML	AML		
	comp=N,4625μm,1.3s						
ADRI	**Adria, Italy**	**0.42**	**2**	*e*Pg	**Pb**	**18 26 07.4**	**+1.0**
ADRI				*e*Sg	**Sb**	**18 26 15.0**	**+2.5**
FERS	**Ferrara-Casagl**	**0.43**	**312**	P	**Pb**	**18 26 07.8**	**+1.2**
FERS				S	**Sb**	**18 26 14.4**	**+1.6**
MTRZ	**Monterenzio**	**0.45**	**238**	P	**Pn**	**18 26 09.6**	**+0.6**
MTRZ				AML	AML		
	comp=N,3700μm,0.8s						
MTRZ				AML	AML		
	comp=E,4910μm,0.6s						
MTRZ				AML	AML		
	comp=N,3690μm,0.8s						
MTRZ				AML	AML		
	comp=E,5120μm,0.6s						
MTRZ	**Monterenzio**	**0.45**	**238**	P	**Pn**	**18 26 09.9**	**+0.8**
LMD	**Lutirano**	**0.58**	**201**	P	**Pg**	**18 26 07.9**	**-0.9**
LMD				AML	AML		
	comp=N,1880μm,0.2s						
LMD				AML	AML		
	comp=E,1580μm,1.6s						
LMD	**Lutirano**	**0.58**	**201**	P	**Pg**	**18 26 07.8**	**-1.0**
BRIS	**BRISIGHELLA**	**0.58**	**217**	P	**Pg**	**18 26 06.3**	**-2.7**
BRIS				S	**Sg**	**18 26 14.0**	**-2.7**
BRIS				AML	AML		
	comp=E,2010μm,1.5s						
BRIS				AML	AML		
	comp=N,3630μm,1.2s						
BLLA	**Bellaria**	**0.58**	**144**	P	**Pb**	**18 26 09.7**	**+0.7**
SERM	**Sermide**	**0.64**	**309**	P	**Pb**	**18 26 11.1**	**+1.1**
SERM				S	**Sb**	**18 26 20.9**	**+2.3**
SERM				AML	AML		
	comp=E,1895μm,0.5s						
SERM				AML	AML		
	comp=N,1870μm,0.8s						
SERM				AML	AML		
	comp=E,3540μm,0.4s						
SERM				AML	AML		
	comp=N,2135μm,1.5s						
SERM				AML	AML		
	comp=N,1875μm,0.8s						
SERM				AML	AML		
	comp=E,3535μm,0.4s						
SERM				AML	AML		
	comp=N,2125μm,1.5s						
SERM				AML	AML		
	comp=E,1900μm,0.5s						
SERM	**Sermide**	**0.64**	**309**	P	**Pn**	**18 26 12.1**	**+0.5**
RAVA	**Ravarino**	**0.64**	**283**	P	**Pn**	**18 26 11.9**	**+0.3**
RAVA				S	**Sn**	**18 26 22.6**	**+1.2**
RAVA				AML	AML		
	comp=N,5200μm,0.2s						
RAVA				AML	AML		
	comp=E,6855μm,0.3s						
MIRAN	**Mirandola MO**	**0.71**	**292**	*e*Pg	**Pn**	**18 26 13.1**	**+0.5**
MIRAN				*e*Sg	**Sn**	**18 26 24.4**	**+1.2**
SFI	**Santa Sofia**	**0.72**	**189**	P	**Pg**	**18 26 10.9**	**-0.6**
SFI				S	**Sn**	**18 26 24.1**	**+0.8**
SFI				AML	AML		
	comp=E,1175μm,0.4s						
SFI				AML	AML		
	comp=N,1167μm,0.4s						
SFI				AML	AML		
	comp=N,1134μm,0.4s						
SFI				AML	AML		
	comp=N,1166μm,0.4s						
SFI				AML	AML		
	comp=E,1198μm,0.4s						
SFI				AML	AML		
	comp=N,1136μm,0.4s						
SFI				AML	AML		
	comp=N,1137μm,0.4s						
SFI				AML	AML		
	comp=E,1200μm,0.4s						
SEI	**Scarperia**	**0.72**	**220**	P	**Pb**	**18 26 12.1**	**+0.5**
SEI				AML	AML		
	comp=E,2590μm,0.4s						
SEI				AML	AML		
	comp=N,4835μm,0.4s						
SEI	**Scarperia**	**0.72**	**220**	P	**Pb**	**18 26 12.1**	**+0.5**
CAVE	**Cavezzo**	**0.75**	**290**	P	**Pn**	**18 26 13.9**	**+0.8**
CAVE				S	**Sn**	**18 26 24.2**	**+0.1**
CAVE				AML	AML		
	comp=E,2100μm,0.8s						
CAVE				AML	AML		
	comp=N,2545μm,0.5s						
CAVE	**Cavezzo**	**0.75**	**290**	P	**Pg**	**18 26 13.1**	**+1.0**
RSM	**Repubblica di**	**0.76**	**154**	P	**Pn**	**18 26 13.6**	**+0.3**
FNVD	**Fontana Vidola**	**0.77**	**235**	P	**Pb**	**18 26 12.9**	**+0.6**
FNVD				S	**Sn**	**18 26 26.7**	**+2.0**
FNVD				AML	AML		
	comp=E,996μm,0.6s						
FNVD				AML	AML		
	comp=N,1026μm,0.6s						
FNVD	**Fontana Vidola**	**0.77**	**235**	P	**Pb**	**18 26 13.0**	**+0.6**
ZCCA	**Zocca**	**0.78**	**250**	P	**Pn**	**18 26 14.2**	**+0.7**
ZCCA				AML	AML		
	comp=E,568μm,1.1s						
ZCCA				AML	AML		
	comp=N,696μm,1.4s						
ZCCA				AML	AML		
	comp=E,596μm,0.4s						
ZCCA				AML	AML		
	comp=N,654μm,0.5s						
ZCCA				AML	AML		
	comp=N,696μm,1.4s						
ZCCA				AML	AML		
	comp=E,596μm,0.4s						
ZCCA				AML	AML		
	comp=E,568μm,1.1s						
ZCCA	**Zocca**	**0.78**	**250**	P	**Pn**	**18 26 14.3**	**+0.7**
TEOL	**Teolo**	**0.78**	**343**	*e*Pg	**Pg**	**18 26 13.6**	**+0.9**
TEOL				*e*Sg	**Sn**	**18 26 25.6**	**+0.7**
TEOL	**Teolo**	**0.78**	**343**	P	**Pb**	**18 26 13.0**	**+0.5**
TEOL				S	**Sg**	**18 26 24.6**	**+1.6**
TEOL				AML	AML		
	comp=E,9130μm,0.6s						
TEOL				AML	AML		
	comp=N,4985μm,0.4s						
ASQU	**Asqua**	**0.83**	**190**	P	**Pb**	**18 26 12.3**	**-1.1**
ASQU				S	**Sn**	**18 26 27.3**	**+1.1**
ASQU				AML	AML		
	comp=N,1305μm,1.0s						
ASQU				AML	AML		
	comp=E,1245μm,1.3s						
ASQU	**Asqua**	**0.83**	**190**	P	**Pb**	**18 26 12.5**	**-0.9**
VENL	**Venezia Lido**	**0.85**	**19**	P	**Pb**	**18 26 13.0**	**-0.6**
RUFI	**Rufina**	**0.85**	**204**	P	**Pb**	**18 26 13.4**	**-0.3**
RUFI				S	**Sn**	**18 26 28.4**	**+1.9**
RUFI	**Rufina**	**0.85**	**204**	P	**Pb**	**18 26 12.7**	**-1.0**
OPPE	**Oppeano**	**0.91**	**320**	P	**Pg**	**18 26 15.9**	**+0.8**
OPPE				AML	AML		
	comp=N,2655μm,0.4s						
OPPE				AML	AML		
	comp=E,4410μm,0.4s						
OPPE				AML	AML		
	comp=N,2660μm,0.4s						
OPPE	**Oppeano**	**0.91**	**320**	P	**Pn**	**18 26 16.1**	**+0.8**
PESA	**Pesaro**	**0.91**	**138**	P	**Pn**	**18 26 16.5**	**+1.2**
PESA				AML	AML		
	comp=E,2055μm,0.9s						
PESA				AML	AML		
	comp=N,2485μm,0.9s						
ZOVE	**Zovencedo**	**0.91**	**337**	P	**Pb**	**18 26 15.3**	**+0.5**
ZOVE				S	**Sb**	**18 26 27.8**	**+1.2**
MPPT	**Montemurlo**	**0.93**	**225**	P	**Pb**	**18 26 15.4**	**+0.4**
MPPT				AML	AML		
	comp=N,750μm,0.8s						
MPPT				AML	AML		
	comp=E,874μm,0.6s						
MTCR	**Monte La Croce**	**0.93**	**231**	P	**Pb**	**18 26 15.6**	**+0.6**
MTCR				AML	AML		
	comp=E,1104μm,0.4s						
MTCR				AML	AML		
	comp=N,689μm,1.1s						
MTCR	**Monte La Croce**	**0.93**	**231**	P	**Pb**	**18 26 15.6**	**+0.6**
PARC	**Parchiule**	**0.98**	**170**	P	**Pb**	**18 26 16.0**	**+0.1**
PARC				AML	AML		
	comp=E,690μm,0.4s						
PARC				AML	AML		
	comp=N,672μm,1.5s						
PARC				AML	AML		
	comp=N,672μm,1.5s						
IESO	**Jesolo**	**0.99**	**23**	*e*Pg	**Pn**	**18 26 16.8**	**+0.4**
IESO				*e*Sg	**Sn**	**18 26 32.8**	**+2.9**
PE3	**Peglio**	**0.99**	**158**	P	**Pn**	**18 26 17.7**	**+1.3**
CRE	**Caprese Michel**	**1.00**	**182**	P	**Pb**	**18 26 16.1**	**-0.1**
CRE				AML	AML		
	comp=N,1264μm,0.6s						
CRE				AML	AML		
	comp=E,906μm,0.5s						
GSCL	**Gusciola**	**1.04**	**256**	P	**Pg**	**18 26 18.6**	**+1.0**
GSCL				AML	AML		
	comp=E,582μm,0.4s						
GSCL				AML	AML		
	comp=N,523μm,0.4s						
SSP9	**Sansepolcro**	**1.04**	**175**	P	**Pn**	**18 26 17.5**	**+0.3**
SSP9				AML	AML		
	comp=E,543μm,0.5s						
SSP9				AML	AML		
	comp=N,689μm,0.6s						
SANR	**Sandrigo**	**1.06**	**345**	P	**Pn**	**18 26 18.4**	**+1.0**
FSSB	**Fossombrone**	**1.08**	**148**	P	**Pg**	**18 26 18.4**	**+0.1**
FSSB				AML	AML		
	comp=N,2070μm,1.3s						
FSSB				AML	AML		
	comp=E,1865μm,0.4s						
FSSB				AML	AML		
	comp=N,2065μm,1.3s						
TREG	**Tregnago**	**1.08**	**327**	P	**Pb**	**18 26 18.4**	**+0.7**
NARO	**Abbazia di Nar**	**1.09**	**157**	P	**Pg**	**18 26 18.7**	**+0.2**
NARO				AML	AML		
	comp=E,548μm,1.3s						
NARO				AML	AML		
	comp=N,438μm,1.4s						
CRMI	**Carmignano**	**1.11**	**222**	P	**Pg**	**18 26 19.3**	**+0.5**
CRMI				AML	AML		
	comp=N,92μm,1.3s						
CRMI				AML	AML		
	comp=E,70μm,0.9s						
CRMI	**Carmignano**	**1.11**	**222**	P	**Pg**	**18 26 19.4**	**+0.5**
BADI	**Badiali**	**1.12**	**171**	P	**Pg**	**18 26 19.9**	**+0.8**
BADI				AML	AML		
	comp=E,1034μm,0.9s						
BADI				AML	AML		
	comp=N,689μm,0.5s						
BADI				AML	AML		
	comp=E,1033μm,0.9s						
BADI				AML	AML		
	comp=N,688μm,0.5s						
BDI	**Bagni Di Lucca**	**1.15**	**242**	P	**Pg**	**18 26 20.0**	**+0.4**
BDI				AML	AML		
	comp=N,1470μm,0.5s						
BDI				AML	AML		
	comp=N,1610μm,0.5s						
BDI				AML	AML		
	comp=E,802μm,1.2s						
BDI				AML	AML		
	comp=E,806μm,0.5s						
BDI	**Bagni Di Lucca**	**1.15**	**242**	P	**Pg**	**18 26 19.9**	**+0.4**
PIEI	**Pieia**	**1.15**	**160**	⇓P	**Pg**	**18 26 19.4**	**-0.2**
PIEI				AML	AML		
	comp=N,922μm,0.3s						
PIEI				AML	AML		
	comp=E,830μm,0.2s						
MARN	**Marana (Italy)**	**1.16**	**332**	*e*Pg	**Pb**	**18 26 19.9**	**+0.9**
MARN				*e*Sg	**Sg**	**18 26 36.5**	**+1.3**
ASOL	**Asolo**	**1.19**	**357**	P	**Pn**	**18 26 19.5**	**+0.3**
MTLO	**Montello**	**1.20**	**3**	*e*Pg	**Pn**	**18 26 19.8**	**+0.4**
FRON	**Frontone**	**1.22**	**154**	P	**Pg**	**18 26 21.0**	**+0.1**
FRON				AML	AML		
	comp=N,715μm,0.8s						
FRON				AML	AML		
	comp=E,474μm,0.8s						
OSSC	**Osservatorio P**	**1.22**	**207**	⇑P	**Pg**	**18 26 21.3**	**+0.4**
OSSC				AML	AML		
	comp=E,1000μm,0.9s						
OSSC				AML	AML		
	comp=N,687μm,0.6s						
OSSC				AML	AML		
	comp=E,654μm,0.5s						
OSSC				AML	AML		
	comp=E,1002μm,0.9s						
OSSC				AML	AML		
	comp=N,1018μm,0.9s						
OSSC				AML	AML		
	comp=N,688μm,0.6s						
OSSC	**Osservatorio P**	**1.22**	**207**	P	**Pg**	**18 26 21.3**	**+0.4**
COR1	**Corinaldo**	**1.22**	**143**	P	**Pg**	**18 26 21.5**	**+0.5**
CRND	**Cornuda**	**1.22**	**3**	P	**Pn**	**18 26 20.4**	**+0.8**
ROVR	**Rover Verones**	**1.22**	**328**	P	**Pn**	**18 26 20.0**	**+0.2**
SARO	**Sassorosso**	**1.22**	**250**	P	**Pg**	**18 26 21.3**	**+0.3**
CARD	**Cardoso**	**1.24**	**242**	P	**Pg**	**18 26 21.4**	**+0.2**
CARD				AML	AML		
	comp=N,757μm,0.6s						
CARD				AML	AML		
	comp=E,594μm,0.6s						
CARD	**Cardoso**	**1.24**	**242**	P	**Pg**	**18 26 21.5**	**+0.2**
ED06	**Collalto TV**	**1.25**	**7**	*e*Pg	**Pb**	**18 26 21.0**	**+0.5**
ED06				*e*Sg	**Sg**	**18 26 40.8**	**+2.9**
CGRP	**Cima Grappa**	**1.27**	**354**	*e*Pg	**Pn**	**18 26 21.0**	**+0.5**
BRJN	**Brijuni**	**1.28**	**76**	*e*Pg	**Pn**	**18 26 20.9**	**+0.4**
BRJN				Sg	**Sn**	**18 26 38.0**	**+0.7**
BRJN	**Brijuni**	**1.28**	**76**	P	**Pn**	**18 26 21.0**	**+0.5**
CAFI	**Castiglion Fio**	**1.29**	**181**	P	**Pg**	**18 26 22.3**	**+0.1**
MAIM	**Mastiano**	**1.29**	**238**	P	**Pb**	**18 26 22.0**	**+0.9**
MAIM				AML	AML		
	comp=N,310μm,1.1s						
MAIM				AML	AML		
	comp=E,408μm,1.4s						
MAIM	**Mastiano**	**1.29**	**238**	P	**Pb**	**18 26 22.1**	**+0.9**
ARVD	**Arcevia**	**1.31**	**148**	P	**Pg**	**18 26 22.6**	**-0.1**
ARVD				AML	AML		
	comp=E,378μm,0.5s						
ARVD				AML	AML		
	comp=N,420μm,0.5s						
BALD	**Monte Baldo**	**1.35**	**322**	*e*Pg	**Pb**	**18 26 23.3**	**+0.9**
BALD	**Monte Baldo**	**1.35**	**322**	P	**Pn**	**18 26 22.1**	**+0.5**
TRES	**Parco Tresine**	**1.36**	**310**	P	**Pn**	**18 26 20.8**	**-0.7**
VARN	**Col Varnada, M**	**1.38**	**3**	*e*Pg	**Pn**	**18 26 22.7**	**+0.8**
VARN	**Col Varnada, M**	**1.38**	**3**	P	**Pn**	**18 26 22.1**	**+0.1**
VARN				AML	AML		
	comp=N,1150μm,1.4s						
VARN				AML	AML		
	comp=E,2045μm,0.6s						
GRAM	**Graiana**	**1.39**	**266**	⇑P	**Pb**	**18 26 23.7**	**+0.9**
GRAM				AML	AML		
	comp=E,850μm,0.4s						
GRAM				AML	AML		
	comp=N,834μm,0.3s						
GRAM	**Graiana**	**1.39**	**266**	P	**Pb**	**18 26 23.7**	**+0.9**
PII	**Pisa**	**1.39**	**230**	P	**Pb**	**18 26 23.0**	**+0.3**
PII				AML	AML		
	comp=N,642μm,1.0s						
PII				AML	AML		
	comp=E,646μm,0.4s						
PII	**Pisa**	**1.39**	**230**	P	**Pb**	**18 26 23.1**	**+0.3**
DOSS	**Dosso del Somm**	**1.39**	**336**	*e*Pg	**Pb**	**18 26 23.8**	**+0.8**
DOSS	**Dosso del Somm**	**1.39**	**336**	P	**Pn**	**18 26 22.5**	**+0.4**
DOSS				S	**Sb**	**18 26 41.8**	**+1.4**
DOSS				AML	AML		
	comp=N,1735μm,0.3s						
DOSS				AML	AML		
	comp=E,1770μm,0.3s						
DOSS				AML	AML		
	comp=N,1340μm,0.4s						
DOSS				AML	AML		
	comp=E,1315μm,0.3s						
EQUI	**Equi**	**1.40**	**252**	P	**Pb**	**18 26 23.9**	**+0.9**
EQUI				AML	AML		
	comp=N,294μm,1.6s						
EQUI				AML	AML		
	comp=E,214μm,1.0s						
EQUI	**Equi**	**1.40**	**252**	P	**Pb**	**18 26 24.1**	**+1.2**
FOSV	**Fossato di Vic**	**1.43**	**157**	P	**Pb**	**18 26 24.3**	**+0.7**
FOSV				AML	AML		
	comp=N,476μm,1.0s						
FOSV				AML	AML		
	comp=E,367μm,0.6s						
SALO	**Salr**	**1.45**	**314**	P	**Pn**	**18 26 23.5**	**+0.7**
SALO				AML	AML		
	comp=N,1495μm,0.5s						
SALO				AML	AML		
	comp=E,1024μm,0.3s						
SALO				AML	AML		
	comp=N,1520μm,0.5s						
SALO				AML	AML		
	comp=E,1055μm,1.2s						
SALO	**Salr**	**1.45**	**314**	P	**Pn**	**18 26 23.6**	**+0.8**
CTI	**Castel Tesino**	**1.45**	**350**	⇓P	**Pn**	**18 26 23.3**	**+0.3**
CTI				AML	AML		
	comp=E,1720μm,1.0s						
CTI				AML	AML		
	comp=N,1210μm,0.2s						
CTI	**Castel Tesino**	**1.45**	**350**	P	**Pn**	**18 26 23.3**	**+0.3**
POLC	**Polcenigo**	**1.46**	**14**	P	**Pn**	**18 26 23.1**	**+0.2**
POLC				AML	AML		
	comp=N,1855μm,0.3s						
POLC				AML	AML		
	comp=E,1365μm,0.6s						
MAGA	**Magasa**	**1.51**	**321**	P	**Pn**	**18 26 24.1**	**+0.3**
MAGA				AML	AML		
	comp=E,3105μm,0.3s						
MAGA				AML	AML		
	comp=N,3625μm,0.3s						
EL6	**Elcito**	**1.51**	**148**	P	**Pb**	**18 26 25.4**	**+0.4**
SNTG	**Esanatoglia**	**1.52**	**153**	P	**Pb**	**18 26 25.3**	**+0.2**
SNTG				AML	AML		
	comp=N,352μm,1.3s						
SNTG				AML	AML		
	comp=E,326μm,0.7s						
FROS	**Frosini**	**1.53**	**204**	P	**Pn**	**18 26 24.3**	**+0.4**
SMRN	**Sveta Marina**	**1.59**	**74**	*e*Pn	**Pn**	**18 26 24.6**	**-0.1**
SMRN				Sg	**Sb**	**18 26 46.3**	**+0.2**
PLMA	**Palmaria, Port**	**1.64**	**251**	P	**Pb**	**18 26 27.3**	**+0.1**
GAGG	**Gaggia**	**1.64**	**334**	P	**Pn**	**18 26 26.5**	**+0.9**
GAGG				AML	AML		
	comp=E,688μm,1.1s						
GAGG				AML	AML		
	comp=N,1128μm,0.9s						
GAGG				AML	AML		
	comp=N,711μm,0.5s						
GAGG				AML	AML		
	comp=E,1203μm,0.9s						
TRI	**Trieste**	**1.66**	**48**	⇓P	**Pn**	**18 26 25.6**	**-0.1**
TRI				AML	AML		
	comp=E,264μm,0.7s						
TRI				AML	AML		
	comp=N,302μm,0.6s						
TRIF	**Trifonti**	**1.69**	**208**	P	**Pn**	**18 26 27.5**	**+1.3**
MGAB	**Montegabbione**	**1.70**	**177**	P	**Pb**	**18 26 28.0**	**-0.3**
MGAB				AML	AML		
	comp=E,442μm,0.7s						

MGAB AML AML
comp=E,512µm,0.7s
MGAB AML AML
comp=N,436µm,0.4s
MGAB AML AML
comp=N,370µm,0.5s
SKDS Skadanscina 1.71 56 *i* Pn **Pn 18 26 26.3 -0.1**
SKDS IAML 18 26 57.7
comp=Z,112nm,0.2s
CIMO Cimolais 1.72 10 P **Pn 18 26 26.6 0.0**
CIMO AML AML
CIMO AML AML
CESI CESI - Serrava 1.74 157 P **Pb 18 26 28.4 -0.5**
CESI AML AML
comp=E,276µm,0.7s
CESI AML AML
comp=N,299µm,1.5s
CSP1 Cessapalombo 1.76 150 P **Pb 18 26 28.5 -0.7**
FDMO Fiordimonte 1.77 153 P **Pb 18 26 28.6 -0.6**
FDMO AML AML
comp=N,270µm,0.5s
FDMO AML AML
comp=E,240µm,0.4s
SACS San Casciano d 1.77 182 P **Pn 18 26 28.5 +1.3**
MPRI Monte Prat 1.77 23 P **Pn 18 26 27.9 +0.6**
MPRI AML AML
comp=E,606µm,0.9s
MPRI AML AML
comp=N,822µm,1.2s
SABO M.te Sabotino 1.77 39 P **Pn 18 26 27.9 +0.6**
SABO AML AML
comp=E,2610µm,0.7s
SABO AML AML
comp=N,908µm,0.7s
SABO AML AML
comp=E,601µm,0.7s
SABO AML AML
comp=N,3445µm,0.7s
MSSA Maissana 1.80 261 P **Pb 18 26 30.0 +0.1**
MSSA AML AML
comp=E,258µm,0.6s
MSSA AML AML
comp=N,288µm,0.8s
ARCI Arcidosso 1.80 192 P **Pn 18 26 28.8 +1.1**
ARCI AML AML
comp=E,104µm,1.0s
ARCI AML AML
comp=N,128µm,0.9s
BOB Bobbio (Coli) 1.82 276 P **Pn 18 26 29.6 +1.6**
BOB AML AML
comp=N,349µm,1.3s
BOB AML AML
comp=E,381µm,1.5s
GEPF Gemona 1.84 25 P **Pn 18 26 28.4 +0.2**
GEPF AML AML
comp=N,369µm,0.7s
GEPF AML AML
comp=E,275µm,0.9s
MOMA Monte Martano 1.86 167 P **Pb 18 26 31.2 +0.3**
MOMA AML AML
comp=E,234µm,0.7s
MOMA AML AML
comp=N,406µm,1.6s
MOMA AML AML
comp=E,252µm,0.6s
MOMA AML AML
comp=N,208µm,0.5s
KOSI Kohlern 1.90 347 P **Pn 18 26 30.4 +1.2**
KOSI AML AML
comp=N,502µm,0.5s
KOSI AML AML
comp=E,789µm,0.6s
RIY Rijeka 1.90 67 *e*Pn **Pn 18 26 29.0 0.0**
RIY Sn **Sn 18 26 53.2 +0.7**
KNDS Knezji Dol 1.92 61 *i* Pn **Pn 18 26 29.4 +0.1**
GORR Gorreto 1.93 271 P **Pn 18 26 31.3 +1.9**
GORR AML AML
comp=N,272µm,0.5s
GORR AML AML
comp=E,344µm,0.7s
APPI Appiano 1.94 344 P **Pn 18 26 30.8 +1.1**
APPI AML AML
comp=E,1270µm,0.4s
APPI AML AML
comp=N,848µm,0.4s
VOJS Vojsko 1.94 43 *i* Pn **Pn 18 26 29.9 +0.3**
VOJS IAML 18 27 06.2
comp=Z,42nm,0.2s
RABC Rab 1.99 85 *e*Pn **Pn 18 26 30.9 +0.7**
RABC Sn **Sn 18 26 55.3 +0.6**
CASP Castiglione de 2.00 205 P **Pn 18 26 31.1 +0.8**
CASP AML AML
comp=E,93µm,0.3s
CASP AML AML
comp=N,122µm,0.7s
CADS Cadrg 2.03 37 *i* Pn **Pn 18 26 31.1 +0.3**
PTCC Patocco-Chiusa 2.03 28 P **Pn 18 26 31.0 +0.1**
PTCC AML AML
comp=E,258µm,0.5s
PTCC AML AML
comp=N,195µm,0.5s
CESX Cesi 2.05 168 AML AML
comp=E,176µm,0.7s
CESX AML AML
comp=N,296µm,0.4s
FVI Forni Avoltri 2.06 15 P **Pn 18 26 32.1 +0.9**
FVI AML AML
comp=E,234µm,0.3s
FVI AML AML
comp=N,280µm,1.6s
ZOU Zoufplan 2.06 19 P **Pn 18 26 31.9 +0.5**
A250A Rusevo Krmpots 2.13 76 *e*Pn **Pn 18 26 33.0 +0.9**
A250A Sn **Sn 18 26 58.5 +0.4**
LNSS Leonessa 2.15 159 P **Pn 18 26 34.0 +1.5**
LNSS AML AML
comp=E,232µm,0.4s
LNSS AML AML
comp=N,240µm,1.2s
ABTA Abfaltersbach 2.16 9 *e*Pn **Pn 18 26 34.0 +1.3**
comp=N,21nm,0.4s,SNR=38
ABTA *e*Sn **Sn 18 27 01.4 +2.3**
ABSI Aberstueckl 2.17 348 P **Pn 18 26 33.8 +0.9**
ABSI AML AML
comp=N,751µm,1.5s
ABSI AML AML
comp=E,735µm,0.7s
CRNS Crni Vrh 2.17 47 *i* Pn **Pn 18 26 33.1 +0.4**
RNCA Ronca, Sant'Ol 2.18 267 AML AML
comp=E,99µm,0.5s
RNCA AML AML
comp=N,106µm,0.5s
BRMO Bormio 2.18 329 P **Pn 18 26 34.9 +1.9**
BRMO AML AML
comp=E,174µm,0.6s
BRMO AML AML
comp=N,180µm,1.2s
GBRS Gornja Briga 2.19 64 *i* Pn **Pn 18 26 33.7 +0.6**
ACOM Acomizza, Ital 2.21 28 P **Pn 18 26 33.9 +0.5**
ACOM AML AML
comp=N,400µm,0.6s
ACOM AML AML
comp=E,394µm,0.4s
SMA1 SAN MARTINO 2.21 153 P **Pn 18 26 34.8 +1.5**
SMA1 AML AML
comp=E,290µm,1.4s
SMA1 AML AML
comp=N,306µm,0.8s
VIRC Vir 2.21 97 *e*Pn **Pn 18 26 34.5 +1.2**
VIRC Sn **Sn 18 27 00.5 +0.4**
MOSI Grossmontoni 2.24 334 P **Pn 18 26 36.4 +2.5**
RM33 Pellescritta (2.28 157 P **Pn 18 26 36.3 +1.9**
RM33 AML AML
comp=E,214µm,0.9s
RM33 AML AML
comp=N,164µm,0.8s
DUGI Dugi Otok 2.29 105 *e*Pn **Pn 18 26 35.2 +0.9**
DUGI Sn **Sn 18 27 01.7 -0.3**
LJU Ljubljana 2.29 50 P **Pn 18 26 35.2 +0.9**
LJU AML AML
comp=E,1925µm,1.0s
LJU AML AML
comp=N,2605µm,0.4s
MYKA Terra Mystica 2.32 29 *e*Pn **Pn 18 26 35.9 +1.0**
comp=N,7.5nm,0.2s,SNR=16
MYKA *e*Sn **Sg 18 27 15.3 +3.1**
comp=N,33nm,0.4s

RISI Rein 2.33 1 P **Pn 18 26 36.9 +1.8**
RISI AML AML
comp=E,602µm,0.5s
RISI AML AML
comp=N,682µm,0.4s
VISS Visnje 2.33 58 *i* Pn **Pn 18 26 35.6 +0.6**
VISS IAML 18 27 18.2
comp=Z,54nm,0.3s
MUGIO Muggio 2.46 303 P **Pn 18 26 36.9 +0.1**
PCP Piancastagn 2.47 269 P **Pn 18 26 38.6 +1.8**
PCP AML AML
comp=N,131µm,0.5s
PCP AML AML
comp=E,104µm,0.5s
BOJS Bojanci 2.47 68 P **Pn 18 26 37.8 +0.9**
BOJS AML AML
comp=E,464µm,0.5s
BOJS AML AML
comp=N,512µm,0.9s
BOJS Bojanci 2.47 68 *i* Pn **Pn 18 26 37.8 +0.9**
BOJS IAML 18 27 22.2
comp=Z,45nm,0.4s
FETA Feichten 2.56 340 *e*Pn **Pn 18 26 40.6 +2.4**
comp=Z,12nm,0.4s,SNR=8.6
FETA *e*Sn **Sb 18 27 13.3 -1.0**
PLIT Plitvice 2.60 83 *e*Pn **Pn 18 26 39.7 +1.1**
PLIT Sn **Sn 18 27 09.7 0.0**
OBKA Obir 2.61 43 *e*Pn **Pn 18 26 39.6 +0.8**
comp=Z,7.7nm,0.3s,SNR=9.5
OBKA *e*Sn **Sg 18 27 24.9 +3.6**
comp=Z,55nm,0.3s
FAGN Fagnano 2.62 153 AML AML
comp=E,315µm,0.6s
FAGN AML AML
comp=N,242µm,0.4s
DAVOX Davos/Dischmat 2.62 326 Pn **Pn 18 26 42.1 +3.0**
comp=N,2.5nm,0.3s,baz=145,slow=17,SNR=16
DAVOX Pg **Pg 18 26 47.4 -0.4**
comp=N,3.2nm,0.3s,baz=144,slow=19,SNR=14
DAVOX Sn **Sb 18 27 14.4 -1.6**
comp=N,3.7nm,0.3s,baz=356,slow=22,SNR=7.6
DAVOX Lg Lg 18 27 24.9
comp=N,7.8nm,0.3s,baz=198,slow=20,SNR=7.6
TUE Stuetta 2.63 316 P **Pn 18 26 40.5 +1.3**
TUE AML AML
comp=N,118µm,0.5s
TUE AML AML
comp=E,162µm,0.3s
TUE AML AML
comp=N,153µm,0.5s
TUE AML AML
comp=E,146µm,1.3s
KBA Koelnbreinsper 2.64 20 *i* Pn **Pn 18 26 40.7 +1.4**
comp=E,6.3nm,0.2s
KBA *e*Sn **Sg 18 27 23.0 +0.8**
OZLJ Ozalj 2.65 67 *e*Pn **Pn 18 26 40.5 +1.2**
OZLJ Sn **Sn 18 27 11.1 0.0**
WTTA Wattenberg 2.66 355 *e*Pn **Pn 18 26 42.2 +2.5**
comp=E,6.0nm,0.2s
WTTA *e*Sn **Sg 18 27 25.0 +2.0**
comp=E,76nm,0.4s
WTTA Wattenberg 2.66 355 P **Pn 18 26 42.1 +2.5**
WTTA AML AML
comp=E,303µm,0.5s
WTTA AML AML
comp=N,262µm,0.5s
SQTA Sankt Quirin 2.66 348 *e*Pn **Pn 18 26 42.1 +2.5**
comp=N,17nm,0.2s,SNR=22
SQTA *e*Sn **Sb 18 27 18.3 +1.2**
comp=N,42nm,0.4s
UDBI Udbina 2.69 91 *e*Pn **Pn 18 26 41.6 +1.7**
UDBI Sn **Sn 18 27 12.3 +0.1**
T0110 Collepietro 2.72 151 AML AML
comp=E,177µm,0.7s
T0110 AML AML
comp=N,172µm,0.4s
CANO Canova, Maglio 2.72 263 P **Pn 18 26 40.3 -0.1**
CANO AML AML
comp=E,293µm,0.4s
CANO AML AML
comp=N,258µm,0.4s
WATA Walderalm 2.74 354 *e*Pn **Pn 18 26 43.5 +2.8**
comp=N,5.4nm,0.2s
WATA *e*Sn **Sb 18 27 19.7 +0.5**
comp=N,19nm,0.2s
MORI Morici 2.77 104 *e*Pn **Pn 18 26 42.3 +1.3**
MORI Sn **Sn 18 27 14.6 +0.7**
ZIRJ Zirje 2.80 109 *e*Pn **Pn 18 26 42.3 +1.0**
ZIRJ Sn **Sn 18 27 13.9 -0.7**
MOTA Moosalm 2.80 347 *e*Pn **Pn 18 26 44.5 +3.0**
comp=N,2.8nm,0.2s
SOKA Soboth 2.96 45 *e*Pn **Pn 18 26 44.6 +0.9**
comp=N,1.1nm,0.2s
SOKA *e*Sn **Sg 18 27 36.3 +3.6**
comp=N,10.0nm,0.3s
FUSIO Fusio 2.98 309 P **Pn 18 26 44.9 +0.9**
RETA Reutte 3.00 344 *e*Pn **Pn 18 26 47.1 +2.9**
comp=N,1.7nm,0.1s
PGF Pioggiola 3.00 228 *e*Pn **Pn 18 26 44.8 +0.6**
PGF Pioggiola 3.00 228 *e*P **Pn 18 26 46.7 +2.5**
PGF *e*Sn **Sn 18 27 22.4 +2.6**
comp=N,16nm,0.3s
PGF Pioggiola 3.00 228 P **Pn 18 26 45.2 +1.0**
DAVA Damuels 3.05 332 *e*Pn **Pn 18 26 47.9 +2.9**
comp=N,4.3nm,0.3s
DAVA *e*Sn **Sn 18 27 25.5 +4.4**
comp=N,64nm,0.4s
A251A Rujevac 3.08 79 *e*Pn **Pn 18 26 45.9 +0.7**
A251A Sn **Sn 18 27 20.8 -0.8**
PTJ Puntijarka 3.09 64 *e*Pn **Pn 18 26 45.8 +0.4**
PTJ Sn **Sn 18 27 21.5 -0.4**
RJOB Jochberg 3.17 10 *e*Pn **Pn 18 26 48.4 +1.8**
KIJV Kijevo 3.22 99 *e*Pn **Pn 18 26 48.8 +1.6**
KIJV Sn **Sn 18 27 25.2 0.0**
SAOF Saorge 3.25 260 P **Pn 18 26 48.2 +0.7**
SAOF Pg **Pb 18 26 52.0 -2.5**
SAOF S **Sn 18 27 26.7 +0.9**
SAOF Saorge 3.25 260 AML AML
comp=E,51µm,0.6s
SAOF AML AML
comp=N,60µm,1.0s
LOBO Lobor 3.26 60 *e*Pn **Pn 18 26 48.3 +0.7**
LOBO Sn **Sn 18 27 26.4 +0.5**
BIOA Bad Ischl, Aus 3.28 20 *i* Pn **Pn 18 26 50.6 +2.6**
comp=N,4.8nm,0.2s
BIOA *e*Sn **Sn 18 27 30.5 +3.9**
comp=N,17nm,0.3s
UBR Ueberruh 3.33 338 *e*Pn **Pn 18 26 51.1 +2.4**
SBF Sospel 3.36 259 *e*Pn **Pn 18 26 50.1 +1.0**
SBF Sospel 3.36 259 *e*P **Pn 18 26 53.3 +4.2**
SBF *e*Sn **Sn 18 27 30.2 +1.5**
comp=N,26nm,0.3s
TURF col de Turini 3.37 261 P **Pn 18 26 50.1 +0.8**
TURF Pg **Pb 18 26 54.1 -2.6**
TURF S **Sn 18 27 29.8 +0.9**
SPIF crte de Spivo 3.46 262 P **Pn 18 26 51.5 +1.0**
SPIF Pg **Pb 18 26 56.5 -1.8**
KALN Kalnik 3.49 63 *e*Pn **Pn 18 26 51.4 +0.6**
KALN Sn **Sn 18 27 31.0 -0.7**
MOSL Moslavina 3.51 72 *e*Pn **Pn 18 26 51.3 +0.2**
MOSL Sn **Sn 18 27 31.3 -1.0**
HVAR Hvar 3.52 112 *e*Pn **Pn 18 26 52.4 +1.1**
HVAR Sn **Sn 18 27 31.5 -1.0**
HVAR Hvar 3.52 112 P **Pn 18 26 52.2 +0.9**
DIX Grande Dixence 3.55 296 P **Pn 18 26 52.3 +0.4**
DIX Pg Pb 18 26 54.7 -5.1
MVIF Mont Vial 3.55 260 P **Pn 18 26 53.0 +1.1**
MOA Molln 3.60 25 *i* Pn **Pn 18 26 53.9 +1.6**
comp=N,16nm,0.2s,SNR=6.6
MOA *e*Sn **Sn 18 27 37.5 +3.1**
comp=N,9.4nm,0.3s
ARSA Arzberg 3.61 42 *i* Pn **Pn 18 26 53.2 +0.8**
comp=N,2.0nm,0.2s
ARSA Arzberg 3.61 42 P **Pn 18 26 53.2 +0.8**
SURF Saint Ours 3.71 270 P **Pn 18 26 53.6 -0.4**
MBDF Montbardon 3.73 274 *e*Pn **Pn 18 26 53.8 -0.5**
MBDF Montbardon 3.73 274 *e*P **Pn 18 26 58.2 +3.9**
MBDF *e*Sn **Sn 18 27 38.3 +0.5**
comp=N,27nm,0.7s
CALF Calern 3.75 258 P **Pn 18 26 55.4 +0.9**
LPG La Plagne 3.82 285 *e*Pn **Pn 18 26 55.0 -0.6**
LPG La Plagne 3.82 285 *e*P **Pn 18 26 59.3 +3.7**
LPG *e*Sn **Sn 18 27 39.9 -0.3**
comp=N,20nm,0.6s
BEHE Becsehely 3.84 59 P **Pn 18 26 58.4 +2.8**

LPL La Plagne 3.84 285 *e*Pn **Pn 18 26 55.0 -0.8**
LPL La Plagne 3.84 285 *e*P **Pn 18 27 00.0 +4.2**
LPL *e*Sn **Sn 18 27 40.2 -0.4**
comp=N,12nm,0.6s
MAKA Makarska 3.86 108 *i* Pn **Pn 18 26 57.0 +1.1**
MAKA Sn **Sn 18 27 40.0 -0.8**
RICI Ricice 3.87 105 *e*Pn **Pn 18 26 57.2 +1.2**
RICI Sn **Sn 18 27 41.0 -0.1**
AIGLE Aigle 3.94 298 P **Pn 18 26 58.7 +1.5**
RSL Roselend 3.95 288 P **Pn 18 26 59.9 +2.6**
FRF La Foret Royal 4.00 257 *e*Pn **Pn 18 26 58.5 +0.7**
FRF La Foret Royal 4.00 257 *e*P **Pn 18 27 01.7 +3.9**
FRF *e*Sn **Sn 18 27 45.4 +1.2**
comp=N,11nm,0.3s
LSTV Lastovo 4.00 116 *e*Pn **Pn 18 26 58.2 +0.3**
LSTV Sn **Sn 18 27 42.3 -2.0**
MSAG Monte S. Angel 4.08 134 P **Pn 18 26 58.7 -0.3**
MSAG AML AML
comp=E,45µm,1.1s
MSAG AML AML
comp=N,97µm,0.2s
LMR La Mourre 4.16 254 *e*Pn **Pn 18 27 00.3 +0.2**
LMR La Mourre 4.16 254 *e*P **Pn 18 27 04.1 +4.0**
LMR *e*Sn **Sn 18 27 49.5 +1.2**
comp=N,9.3nm,0.4s
A252A Venje 4.23 77 *e*Pn **Pn 18 27 02.0 +1.0**
A252A Sn **Sn 18 27 48.5 -1.4**
CONA Conrad Observa 4.26 38 *e*Pn **Pn 18 27 02.5 +1.0**
comp=N,3.9nm,0.2s
CONA *e*Sn **Sn 18 27 54.0 +3.1**
comp=N,3.1nm,0.3s
RONA Rosalia, Austr 4.29 43 *i* Pn **Pn 18 27 02.7 +0.8**
comp=N,14nm,0.2s,SNR=5.8
ORIF Oris-en-Rattie 4.37 276 *e*Pn **Pn 18 27 03.8 +0.9**
ORIF Oris-en-Rattie 4.37 276 *e*P **Pn 18 27 07.1 +4.1**
ORIF *e*Sn **Sn 18 27 53.7 +0.3**
comp=N,12nm,0.5s
ORIF Oris-en-Rattie 4.37 276 P **Pn 18 27 03.8 +0.9**
GEC2 GERESS Array S 4.39 15 *e*Pn **Pn 18 27 03.6 +0.2**
GEC2 *e*Sn **Sn 18 27 54.1 0.0**
GEC2 *e*Sg **Sg 18 28 19.5 +1.2**
GERES GERESS Array B 4.39 15 Pn **Pn 18 27 03.5 +0.2**
comp=N,1.6nm,0.3s,baz=194,slow=14,SNR=27
GERES Pg **Pg 18 27 18.6 -2.9**
comp=N,1.0nm,0.3s,baz=187,slow=14,SNR=6.4
GERES Sn **Sn 18 27 53.8 -0.3**
comp=N,4.1nm,0.3s,baz=196,slow=24,SNR=7.8
GERES Lg Lg 18 28 20.2
comp=N,1.7nm,0.3s,baz=201,slow=28,SNR=4.1
SOP Sopron 4.41 44 P **Pn 18 27 04.4 +0.9**
STON Ston 4.49 111 *e*Pn **Pn 18 27 06.0 +1.5**
STON Sn **Sn 18 27 55.3 -0.9**
STON Ston 4.49 111 P **Pn 18 27 06.6 +2.1**
BFO Black Forest 4.50 327 *e*Pn **Pn 18 27 06.6 +1.9**
BFO *e*Sn **Sn 18 27 54.5 -2.0**
CKRC Cesky Krumlov 4.50 20 *e*PN **Pn 18 27 05.1 +0.4**
CKRC *e*SN **Sn 18 27 55.3 -1.3**
BRANT Les Verrieres 4.51 303 P **Pn 18 27 05.7 +0.8**
BRANT Les Verrieres 4.51 303 S **Sn 18 27 56.2 -0.8**
KOVH Kovagotottos 4.55 69 P **Pn 18 27 05.2 -0.1**
KOVH S **Sn 18 27 55.5 -2.3**
CHMF Charmoille 4.56 307 P **Pn 18 27 06.0 +0.4**
CHMF S **Sn 18 27 55.5 -2.7**
OGSM Saint Maurice 4.57 285 P **Pn 18 27 06.4 +0.7**
OGSM S **Sn 18 27 59.0 +0.7**
WET Wettzell 4.57 7 *e*Pn **Pn 18 27 06.1 +0.3**
WET *e*Sn **Sn 18 27 57.2 -1.2**
CABF La Chapelle 4.60 298 *e*Pn **Pn 18 27 06.1 -0.1**
CABF La Chapelle 4.60 298 *e*P **Pn 18 27 08.7 +2.5**
CABF *e*Sn **Sn 18 27 57.4 -1.8**
comp=N,3.8nm,0.3s
MPLH Magyarpolny 4.64 55 P **Pn 18 27 08.1 +1.5**
KHC Kasperske Hory 4.65 13 *e*PN **Pn 18 27 06.9 +0.1**
KHC *e*SN **Sn 18 27 58.8 -1.4**
KHC *e*SG **Sg 18 28 24.5 -2.0**
SMRF Simiane la Rot 4.65 264 *e*Pn **Pn 18 27 07.4 +0.5**
SMRF Simiane la Rot 4.65 264 *e*P **Pn 18 27 11.2 +4.3**
SMRF *e*Sn **Sn 18 28 00.7 +0.2**
comp=N,6.9nm,0.4s
OG35 Corcelles 4.75 290 P **Pn 18 27 08.9 +0.7**
HINF Hinteralfeld 4.79 314 *e*P **Pn 18 27 09.5 +0.7**
HINF *e*Sn **Sn 18 28 00.3 -3.6**
comp=N,13nm,0.3s
MORH Mrgy, Hungar 4.95 69 P **Pn 18 27 10.1 -0.7**
CDF Champ du Feu 5.00 321 *e*P **Pn 18 27 13.0 +1.3**
CDF *e*Sn **Sn 18 28 04.6 -4.5**
comp=N,9.6nm,0.4s
ZST Bratislava 5.03 43 *e*PN **Pn 18 27 12.6 +0.6**
HAU Haudompre 5.18 313 *e*Pn **Pn 18 27 12.8 -1.2**
HAU Haudompre 5.18 313 *e*P **Pn 18 27 16.3 +2.3**
HAU *e*Sn **Sn 18 28 09.2 -4.1**
comp=N,26nm,0.4s
VIVF Saint-Julien-l 5.22 275 *e*Pn **Pn 18 27 15.0 +0.3**
VIVF Saint-Julien-l 5.22 275 *e*P **Pn 18 27 19.1 +4.4**
VIVF *e*Sn **Sn 18 28 13.6 -0.9**
comp=N,0.9nm,0.2s
MODS Modra-Piesok 5.24 42 *e*PN **Pn 18 27 15.4 +0.6**
MODS *e*SN **Sn 18 28 16.0 +1.2**
KRUC Moravsky 5.38 33 *e*PN **Pn 18 27 16.1 -0.6**
SMOL Smolenice 5.41 42 *e*PN **Pn 18 27 17.9 +0.7**
NKC Novy Kostel 5.63 3 *e*PN **Pn 18 27 20.7 +0.5**
NKC *e*SN **Sn 18 28 21.5 -2.9**
PRU Pruhonice 5.65 17 *e*PN **Pn 18 27 20.6 +0.1**
PRU *e*SN **Sn 18 28 22.1 -2.7**
VRAC Vranov 5.65 32 Pn **Pn 18 27 19.3 -1.3**
comp=N,0.7nm,0.3s,baz=218,slow=8.5,SNR=4.8
VRAC Vranov 5.65 32 *e*PN **Pn 18 27 19.2 -1.3**
WERN Wernitzgruen 5.68 2 *e*Sn **Sn 18 28 22.9 -2.9**
GUNZ Gunzen 5.76 2 *e*Pn **Pn 18 27 21.8 -0.2**
GUNZ *e*Sn **Sn 18 28 24.1 -3.5**
JAVC Velka Javorina 5.76 41 *e*PN **Pn 18 27 23.2 +1.1**
TANN Tannenbergstha 5.81 3 *e*Pn **Pn 18 27 23.0 +0.2**
TANN *e*Sn **Sn 18 28 26.2 -2.8**
WERD Werda 5.84 2 *e*Pn **Pn 18 27 24.7 +1.5**
PAGF Fort de Pagny 5.85 315 *e*P **Pn 18 27 25.3 +2.1**
PAGF *e*Sn **Sn 18 28 25.1 -4.7**
comp=N,4.6nm,0.3s
LASF Ste Croix 5.86 268 *e*Pn **Pn 18 27 23.6 +0.2**
LASF *e*Sn **Sn 18 28 29.4 -0.8**
comp=N,0.8nm,0.3s
SFTF Sexfontaines 6.00 309 *e*Pn **Pn 18 27 23.9 -1.4**
baz=128
SFTF *e*Sn **Sn 18 28 29.5 -4.1**
comp=N,4.3nm,0.3s
MOX Moxa 6.04 358 *e*Pn **Pn 18 27 26.0 +0.2**
MOX *e*Sn **Sn 18 28 31.6 -2.9**
SMF Signal de Mont 6.07 292 *e*Pn **Pn 18 27 26.3 0.0**
SMF Signal de Mont 6.07 292 *e*P **Pn 18 27 30.0 +3.7**
SMF *e*Sn **Sn 18 28 32.4 -2.8**
comp=N,4.7nm,0.4s
TNS Taunus Mts 6.10 338 *e*Pn **Pn 18 27 28.0 +1.2**
VYHS Vyhne 6.11 48 *e*PN **Pn 18 27 26.5 -0.3**
MEZF Maizieres J'vi 6.17 312 *e*P **Pn 18 27 29.9 +2.3**
MEZF *e*Sn **Sn 18 28 33.2 -4.4**
comp=N,6.3nm,0.4s
SAVF Savonnieres en 6.20 313 *e*P **Pn 18 27 30.6 +2.6**
SAVF *e*Sn **Sn 18 28 33.8 -4.6**
comp=N,6.2nm,0.4s
LBL Lubilhac 6.24 279 P **Pn 18 27 28.9 +0.2**
LOR Lormes 6.26 298 *e*Pn **Pn 18 27 28.4 -0.5**
baz=117
LOR Lormes 6.26 298 *e*P **Pn 18 27 32.5 +3.6**
LOR *e*Sn **Sn 18 28 36.6 -3.5**
comp=N,5.3nm,0.3s
LOR Lormes 6.26 298 S **Sn 18 28 36.2 -3.8**
LOR Lormes 6.26 298 P **Pn 18 27 29.4 +0.4**
KRLC Kraliky 6.36 29 *e*PN **Pn 18 27 29.9 -0.3**
BRG Berggiesshubel 6.40 11 Pn **Pn 18 27 31.5 +0.8**
BRG Amp 18 27 39.3
comp=Z,1.8nm,0.3s
BRG *ex* x 18 27 58.0
BRG Amp 18 28 01.3
comp=Z,3.8nm,0.8s
BRG *ex* x 18 28 40.9
BRG Amp 18 28 43.3
comp=Z,2.6nm,0.5s
BRG *ex* x 18 29 19.5
BRG Amp 18 29 35.5
comp=Z,2.8nm,0.6s
BRG Berggiesshubel 6.40 11 *e*Pn **Pn 18 27 30.3 -0.4**
BRG *e*Sn **Sn 18 28 40.9 -2.4**
MORC Moravsky Berou 6.40 34 *e*PN **Pn 18 27 31.0 +0.2**
SSF Saint Saulge 6.42 295 *e*Pn **Pn 18 27 30.2 -0.8**

AVF	Avril sur Loir	6.43	293	*e*Pn		Pn	18 27 30.2	-1.0
AVF	Avril sur Loir	6.43	293	*e*P		Pn	18 27 35.1	+3.9
AVF				*e*Sn		Sn	18 28 41.2	-3.0
	comp=Z,0.6nm,0.2s							
CHVC	Chvalec	6.58	23	*e*PN		Pn	18 27 33.1	-0.1
OSTC	Ostas	6.59	24	*e*PN		Pn	18 27 34.3	+0.8
BGF	Bois d'Agland	6.71	290	*e*Pn		Pn	18 27 35.2	+0.2
BGF				*e*Sn		Sn	18 28 47.9	-3.1
	comp=Z,6.0nm,0.5s							
HYF	Humbligny	7.04	295	*e*Pn		Pn	18 27 38.8	-0.8
CAF	Calviac	7.08	276	*e*Pn		Pn	18 27 40.3	+0.2
CAF	Calviac	7.08	276	*e*P		Pn	18 27 44.8	+4.7
TCF	Toulx Ste Croi	7.08	287	*e*Pn		Sn	18 27 39.8	-0.4
TCF				*e*Sn		Sn	18 28 57.3	-3.0
	comp=Z,1.7nm,0.3s							
MTLF	Montolieu	7.17	263	*e*P		Pn	18 27 46.8	+5.4
AKASG	Malin Array Be	13.10	56	Pn		Pn	18 28 59.2	-3.3
	comp=Z,0.4nm,0.3s,baz=256,slow=10,SNR=2.5							
HFS	Hagfors	15.58	3	LR		LR	18 36 48.8	
	comp=Z,226nm,18.6s,baz=340,slow=42							
FINES	FINESS Array B	18.79	21	P		P	18 30 15.3	-0.2
	comp=Z,0.1nm,0.3s,baz=230,slow=10,SNR=3.6							
TORD	Torodi Ar. Bea	32.57	199	P		P	18 32 27.1	-0.7
	comp=Z,0.3nm,0.5s,baz=12,slow=8.6,SNR=2.2							

*IDC **07** 18:26:26.6±0.9,37.°19N×142.°35E, h0km, mb3.5/8, mb1 3.8/13, mb1mx3.6/58, mbtmp3.8/13, ML3.6/5, MS2.8/4, Ms1 2.8/4, ms1mx2.5/83, Error ellipse: s-maj=23.6km s-min=17.5km az=115.0*

*NEIC **07** 18:26:28.8±1.4, 37.°24N±0.°06×142.°41E±0.°08, h17km±4km, mb4.1/5, Error ellipse: s-maj=10.2km s-min=8.5km az=123.0*

*NIED **07** 18:26:29.0, 37.°22N×142.°25E, h20km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=1.57; Mθθ=1.05; Mϕϕ2.62; Mrθ=1.84; Mθϕ-0.45; Mϕr5.15; Fault plane solution: M₀5.89000×10¹⁴ NP1: ϕs160.00000°, δ80.00000°, λ-98.00000°. NP2:ϕs19.00000°, δ13.00000°, λ-52.00000°.*

*JMA **07** 18:26:29.0±0.3, 37.°22N×142.°25E, h20km±4km, M4.0*

JMA Felt I J1.

ISC 07 18:26:27.6±0.7, 37.°23N±0.°05×142.°35E±0.°05, h9km, n59, σ1ş28/59, mb3.7/14, 3C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.18	277	⇑P			Pb	18 26 49.1	-1.1
ONAJ	Iwakimizuishiy	1.24	264	P			Pn	18 26 50.1	-1.1
JMST	Minamisoumatoc	1.26	293	⇑P			Pn	18 26 50.2	-1.2
JMST				S			Sb	18 27 06.0	-1.8
JIKH	Ishinomakikobu	1.28	327	P			Pn	18 26 51.2	-0.5
JMM	Marumori	1.39	298	P			Pn	18 26 52.2	-0.9
JMM	Marumori	1.39	298	Pn			Pn	18 26 52.1	-0.9
JMM				Sn			Sb	18 27 10.3	-1.2
JIO	Ouri	1.45	327	P			Pn	18 26 53.7	-0.3
JFT	Otama	1.63	281	⇑P			Pn	18 26 56.2	-0.2
JFT				S			Sn	18 27 15.0	-2.5
JOU	Okura	1.75	311	P			Pn	18 26 58.2	+0.1
JOU				S			Sn	18 27 19.3	-1.2
JMK	Ichinoseki	1.93	333	P			Pn	18 27 01.9	+1.3
JYT	Yasato	2.00	241				Pn	18 27 01.8	+0.3
JYS	Shirataka	2.06	299	P			Pn	18 27 04.0	+1.6
JYS				*e*S			Sn	18 27 28.4	+0.2
JFY	Yanaizu	2.11	276	P			Pn	18 27 04.2	+1.1
JYK	Kaneyama	2.30	318	P			Pn	18 27 06.6	+0.9
JYK				*e*S			Sn	18 27 33.8	-0.3
JSD	Sado	3.34	285				Pn	18 27 20.8	+0.8
MJAR	Matsushiro Arr	3.39	259	Pn			Pn	18 27 22.2	+1.5
	2.4nm,0.3s,baz=137,slow=22,SNR=49								
MJAR				Sn			Sn	18 28 04.9	+3.9
	2.0nm,0.3s,baz=72,slow=30,SNR=5.9								
MJAR				LR			LR	18 28 55.5	
	comp=Z,256nm,19.1s,baz=43,slow=44								
MJAR	Matsushiro Arr	3.39	259	Pn			Pn	18 27 21.8	+1.1
MAJO	Matsushiro	3.39	260				Pn	18 27 22.0	+1.3
MJB9	Matsu-Tunnel	3.39	260	Pn			Pn	18 27 21.1	+0.4
JTM	Tenmabayashi	3.69	345				Pn	18 27 24.9	+0.2
JGF	Kuroka	4.34	249				Pn	18 27 35.2	+1.4
JHJ2	Mitsune	4.60	207	Pn			Pn	18 27 37.9	+0.5
JHJ	Hachijo jima 2	4.61	208	Pn			Pn	18 27 38.1	+0.7
	12nm,0.3s,baz=45,slow=19,SNR=1.4								
JHJ				Sn			Sn	18 28 27.2	-3.9
	27nm,0.3s,baz=81,slow=22,SNR=1.6								
INU	Inuyama	4.70	248				Pn	18 27 39.6	+1.0
ERM	Erimo	4.82	7				Pn	18 27 39.9	-0.3
JEW	Eniwo	5.64	353				Pn	18 27 50.5	-1.1
ASAJ	Asahikawa	6.88	2	Pn			Pn	18 28 09.2	+0.7
	2.0nm,0.3s,baz=218,slow=9.3,SNR=22								
ASAJ				Sn			Sn	18 29 25.9	-1.0
	0.4nm,0.3s,baz=124,slow=28,SNR=1.6								
ASAJ				LR			LR	18 30 28.2	
	comp=Z,12nm,20.9s,baz=282,slow=35								
JKA	Kamikawa-asahi	6.88	2	Pn			Pn	18 28 09.1	+0.5
JMN	Monobe	7.74	246				Pn	18 28 20.7	+0.2
JHS	Saijyo	7.80	256				Pn	18 28 23.1	+1.9
JCJ	Chichijima	10.11	181	Pn			Pn	18 28 52.5	-0.4
	1.4nm,0.3s,baz=330,slow=17,SNR=1.9								
JNU	Nakatsue	10.24	250	Pn			Pn	18 28 56.4	+1.6
	0.2nm,0.3s,baz=65,slow=13,SNR=2.9								
USRK	Ussuriysk Ar.	10.49	315	Pn			Pn	18 28 58.2	0.0
KSRS	Korea Array	11.49	275	LR			LR	18 33 36.8	
	comp=Z,53nm,18.1s,baz=75,slow=37								
HHC	Hu-ho-hao-te	24.12	288	*e*P			P	18 31 43.6	-0.2
HHC				pmax			pmax		
	comp=Z,12nm,0.8s								
HHC				pmax			pmax		
	comp=Z,160nm,6.4s								
H11N2	WAKE ISLAND Hy	27.62	122	T			T	19 01 08.6	
	baz=315,slow=75,SNR=42								
H11N1	WAKE ISLAND Hy	27.62	122	T			T	19 01 11.2	
	baz=315,slow=75,SNR=38								
H11N3	WAKE ISLAND Hy	27.63	122	T			T	19 01 12.6	
	baz=315,slow=75,SNR=36								
SONM	Songino Array	28.30	303	P			P	18 32 22.3	+0.9
	comp=Z,0.7nm,0.6s,baz=102,slow=9.0,SNR=4.7								
SONM	Songino Array	28.30	303	lAmb			lAmb	18 32 29.3	
	comp=Z,1.0nm,0.9s								
H11S1	WAKE ISLAND Hy	28.35	125	T			T	19 02 01.1	
	baz=316,slow=76,SNR=20								
H11S3	WAKE ISLAND Hy	28.35	125	T			T	19 02 03.2	
	baz=316,slow=76,SNR=26								
H11S2	WAKE ISLAND Hy	28.36	125	T			T	19 02 06.5	
	baz=316,slow=76,SNR=26								
PZH	PanZhiHua	35.86	265	P			P	18 33 29.7	+1.7
PZH				pmax			pmax		
	comp=Z,10.0nm,0.7s								
PZH				pmax			pmax		
	comp=Z,100nm,5.3s								
WMQ	Urumqi	41.42	297	*e*P			P	18 34 14.5	+0.1
WMQ				pP			pwP	18 34 27.9	+9.1
WMQ				pmax			pmax		
	comp=Z,24nm,1.1s								
ZALV	Zalesovo Beam	42.33	312	P			P	18 34 20.6	-1.0
	comp=Z,0.4nm,0.4s,baz=101,slow=6.0,SNR=1.9								
MK31	Makanchi Array	44.65	302	P			P	18 34 41.0	+0.5
MK31				lAmb			lAmb	18 34 57.9	
	comp=Z,1.0nm,0.8s								
MKAR	Makanchi Array	44.65	302	P			P	18 34 40.5	+0.1
	comp=Z,0.7nm,0.7s,baz=81,slow=9.7,SNR=8.1								
MKAR	Makanchi Array	44.65	302	P			P	18 34 40.1	-0.3
KURK	Kurchatov	46.40	308	P			P	18 34 54.3	+0.1
KURK				lAmb			lAmb	18 35 02.8	
	comp=Z,3.8nm,0.8s								
PMG	Port Moresby	46.61	173	LR			LR	19 01 10.8	
	comp=Z,38nm,18.1s,baz=341,slow=45								
IL31		48.93	32	P			P	18 35 13.8	+0.2
IL31				lAmb			lAmb	18 35 16.5	
	comp=Z,2.8nm,1.1s								
ILAR	Eielson Array	48.93	32	P			P	18 35 14.8	+1.1
	comp=Z,0.9nm,0.8s,baz=267,slow=6.2,SNR=8.7								
ILAR	Eielson Array	48.93	32	P			P	18 35 14.4	+0.7
WRA	Warramunga Arr	57.37	189	P			P	18 36 15.7	-0.5
	comp=Z,0.2nm,0.5s,baz=5.8,slow=7.1,SNR=2.1								
ASAR	Alice Springs	61.09	189	P			P	18 36 41.0	-1.0
	comp=Z,0.2nm,0.8s,baz=8.9,slow=6.6,SNR=1.8								
YKA	Yellowknife Ar	63.26	30	P			P	18 36 56.2	+0.2
	comp=Z,0.3nm,0.7s,baz=303,slow=6.5,SNR=5.1								
TULEG	Thule	64.80	8	P			P	18 37 04.0	-2.0
PDAR	Pinedale Array	76.99	46	P			P	18 38 23.2	+2.2
	comp=Z,0.3nm,0.6s,baz=308,slow=3.0,SNR=2.1								

*ISK **07** 18:47:26.9, 34.°22N×33.°59E, h39km±1km, ML2.4/8*

*NIC **07** 18:47:30.4±0.0, 34.°49N×33.°76E, h5km, 2km, Ml2.6/6*

*GII **07** 18:47:38.0±0.0, 34.°34N×34.°18E, h30km, Mm2.2/2*

ISC 07 18:47:30.6±1.2, 34.°49N±0.°03×33.°85E±0.°03, h23km±14km, n28, σ1ş29/43, 2C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PARAL	Paralimni	0.52	17	⇑*e*P			Pn	18 47 41.9	-0.8
PARAL					AML		AML	18 47 50.7	
	1.3nm,0.4s								
PARAL					AML		AML	18 47 50.7	
	1.3nm,0.4s								
PARAL				S			Sn	18 47 50.7	-0.1
PARAL					AML		AML	18 47 50.9	
	2.5nm,0.4s								
PARAL					AML		AML	18 47 50.9	
	2.5nm,0.4s								
MVOU	Mavrovouni	0.55	341	⇑*e*P			Pb	18 47 40.9	-0.7
MVOU				S			Sn	18 47 49.9	-1.7
MVOU					AML		AML	18 47 51.9	
	0.3nm,0.5s								
MVOU					AML		AML	18 47 51.9	
	0.3nm,0.5s								
MVOU					AML		AML	18 47 58.9	
	0.5nm,0.6s								
MVOU					AML		AML	18 47 58.9	
	0.5nm,0.6s								
ASGA	Asgata	0.58	301	P			Pb	18 47 40.8	-1.3
ASGA				S			Sb	18 47 49.0	-0.9
ASGA					AML		AML	18 47 51.3	
	1.2nm,0.4s								
ASGA					AML		AML	18 47 51.3	
	1.2nm,0.4s								
ASGA					AML		AML	18 48 00.8	
	0.6nm,0.5s								
ASGA					AML		AML	18 48 00.8	
	0.6nm,0.5s								
AKIN	Akıncılar- Kıb	0.61	329	PG			Pb	18 47 42.3	-0.4
CSS	Mathiatis	0.64	318	PG			Pb	18 47 41.9	-1.2
CSS				SG			Sn	18 47 52.9	-0.8
CSS	Mathiatis	0.64	318	P			Pb	18 47 41.6	-1.5
CSS				S			Sn	18 47 52.4	-1.3
ATHAL	Athalassa	0.75	330	P			Pb	18 47 44.8	-0.1
LFK	Lefkose	0.83	342	PG			Pn	18 47 46.1	-0.8
SZAC	Souni	0.84	288	P			Pn	18 47 46.2	-0.9
SZAC				S			Sb	18 47 58.0	+0.6
SZAC					AML		AML	18 47 58.2	
	1.0nm,0.3s								
SZAC					AML		AML	18 47 58.2	
	1.0nm,0.3s								
SZAC					AML		AML	18 47 58.6	
	3.8nm,0.5s								
SZAC					AML		AML	18 47 58.6	
	3.8nm,0.5s								
EREN	Erenkoy	1.07	14	PN			Pb	18 47 50.7	+0.3
EREN				SN			Sb	18 48 08.1	+4.2
NATA	Nata	1.09	285	P			Pn	18 47 50.4	-0.2
ALFC	Alefka	1.22	303	P			Pn	18 47 52.0	-0.4
ALFC				S			Sb	18 48 09.4	+0.9
ALFC					AML		AML	18 48 10.4	
	0.7nm,0.3s								
ALFC					AML		AML	18 48 10.4	
	0.7nm,0.3s								
ALFC					AML		AML	18 48 12.0	
	0.6nm,0.3s								
ALFC					AML		AML	18 48 12.0	
	0.6nm,0.3s								
AKMS	Akamas	1.35	293	P			Pn	18 47 54.6	+0.5
AKMS				S			Sb	18 48 13.6	+1.4
AKMS					AML		AML	18 48 14.6	
	0.5nm,0.2s								
AKMS					AML		AML	18 48 14.6	
	0.5nm,0.2s								
AKMS					AML		AML	18 48 15.5	
	0.5nm,0.3s								
AKMS					AML		AML	18 48 15.5	
	0.5nm,0.3s								
AKKU	Akkuyu-Mersin	1.68	352	PN			Pn	18 47 58.5	-0.1
IKL	Isikli	1.75	356	PN			Pn	18 47 59.6	+0.1
TEKE	Tekeli-Mersin	1.75	340	PN			Pn	18 47 58.8	-0.8
HNTI	Hanita	1.79	142	Pn			Pb	18 48 02.4	-0.3
HNTI				Sn			Sn	18 48 21.3	-0.8
OSC2	CSNet OBS 4	1.94	223	P			Pn	18 48 03.0	+0.9
OSC2				S			Sn	18 48 28.7	+3.1
KEBE	Keben-Mersin	1.95	357	PN			Pn	18 48 02.6	+0.2
MMA0B	Mount Meron ar	1.96	138	Pn			Pb	18 48 05.3	-0.4
MMA0B				Sn			Sn	18 48 26.6	+0.1
TEVE	Tevekalti-Mers	1.97	350	PN			Pn	18 48 02.5	-0.1
GEM	Giv'at Ha'Em	1.98	130	Pn			Pb	18 48 05.1	-0.8
GEM				Sn			Sn	18 48 24.8	-2.0
NATI	Neve Ativ	1.99	128	Pn			Pb	18 48 05.0	-1.1
NATI				Sn			Sn	18 48 26.1	-1.0
OFRI	`Ofer	2.09	153	Sn			Sn	18 48 28.6	-1.1
OSC1	CSNet OBS 1	2.36	246	S			Sn	18 48 37.8	+1.7
MMLI	Mount Malkishu	2.43	147	Sn			Sn	18 48 38.1	0.0
HMDT	Nahal Hemdat	2.64	147	Pn			Pb	18 48 15.2	-2.0
HMDT				Sn			Sn	18 48 43.1	+0.1
CMRD	Camardi-Nigde	3.29	16	PN			Pn	18 48 22.5	+1.6

*TUL **07** 18:51:26.2±0.9, 36.°42N±0.°01×98.°16W±0.°01, h7km±3km, ML3.1, mb_Lg2.7/22(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=126.0*

NEIC 07 18:51:26.7±0.9, 36.°42N±0.°01×98.°16W±0.°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=297.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.68	266	Pg		Pg	Pg	18 51 39.1	-0.6
FNO	Franklin	1.32	152				Pn	18 51 50.3	-1.4
T35A	Sooner Cattle	1.42	69				Pn	18 51 52.3	-0.8
W35A	Tecumseh	1.65	140				Pn	18 51 55.2	-1.1
WMOK	Wichita Mounta	1.76	197				Pn	18 51 56.5	-1.3
X34A	Smith Ranch, M	1.84	171				Pn	18 51 59.4	+0.5
X34A					lAmb_Lg			18 52 28.2	
	comp=Z,44nm,0.7s								
TUL1	Leonard	1.99	104	Pn			Pn	18 51 59.7	-1.2
TUL1					lAmb_Lg			18 52 32.5	
	comp=Z,42nm,0.9s								
R32A	Long Quarter,	2.04	348	Pn			Pn	18 52 01.2	-0.6
CBKS	Cedar Bluff	2.69	333	Pn			Pn	18 52 09.4	-1.3
X37A	Clayton	2.92	128				Pn	18 52 12.3	-1.5
KSU1	Kansas State U	2.94	24		lAmb_Lg			18 53 05.2	
	comp=Z,23nm,0.9s								
W39A	Magazine	3.76	108		lAmb_Lg			18 53 28.4	
	comp=Z,18nm,0.8s								
ABTX	Abilene, Hawle	3.98	198	Pn			Pn	18 52 26.4	-2.0
ABTX					lAmb_Lg			18 53 34.6	
	comp=Z,13nm,0.8s								
S39A	Bolivar	4.07	70		lAmb_Lg			18 53 41.5	
	comp=Z,14nm,0.7s								
MIAR	Mount Ida	4.19	115		lAmb_Lg			18 53 41.7	
	comp=Z,17nm,0.9s								
U40A	Yellville	4.28	89	Pn			Pn	18 52 31.7	-0.8
KSCO	Kaye Shedlock'	4.38	307		lAmb_Lg			18 53 54.4	
	comp=Z,21nm,0.8s								
X40A	Basin Creek Fa	4.76	112		lAmb_Lg			18 53 58.9	
	comp=Z,16nm,0.9s								
MGMO	Mountain Grove	4.79	79		lAmb_Lg			18 54 06.4	
	comp=Z,12nm,0.8s								
WHAR	Wooly Hollow	4.90	102		lAmb_Lg			18 54 15.4	
	comp=Z,14nm,0.8s								
R40A	Maddies Statio	5.05	67	Pn			Pn	18 52 43.4	+0.4
CCM	Cathedral Cave	5.75	72	Pn			Pn	18 52 53.2	+0.5

*NEIC **07** 19:10:14.0±1.4, 30.°55S±0.°1×177.°9W±0.°2, h28km±5km, mb4.5/16, Error ellipse: s-maj=24.8km s-min=14.4km az=83.0*

*IDC **07** 19:10:18.4±2.2, 30.°48S×178.°08W, h65km±19km, mb4.0/5, mb1 4.2/5, mb1mx3.8/24, mbtmp4.3/5, Error ellipse: s-maj=26.3km s-min=20.1km az=128.0*

ISC 07 19:10:15.9±0.7, 30.°73S±0.°07×178.°1W±0.°1, h46km, n47, σ1ş45/40, mb4.5/11, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.48	7	P			Pn	19 10 39.8	-0.3
	380nm,0.3s,baz=254,slow=23,SNR=8.7								
RAO				S			Sn	19 10 55.3	-3.0
	491nm,0.3s,baz=104,slow=22,SNR=6.0								
RAO	Raoul Island	1.48	7				Pn	19 10 35.1	-5.1
MXZ	Matakaoa Point	7.43	203	Pn			Pn	19 12 00.4	-1.4
OUZ	Omahuta	8.28	235				Pn	19 12 19.9	+6.5
URZ	Urewera	8.48	206	P			Pn	19 12 13.0	-3.1
	0.6nm,0.3s,baz=263,slow=4.0,SNR=12								
URZ				S			Sn	19 13 48.8	-1.7
	4.5nm,0.3s,baz=242,slow=4.5,SNR=12								
URZ	Urewera	8.48	206				Pn	19 12 13.2	-2.9
BKZ	Black Stump Fm	9.51	206	Pn			Pn	19 12 27.5	-2.7
THZ	Tophouse	13.17	211	Pn			Pn	19 13 19.1	-1.3
KHZ	Kahutara	13.45	208	Pn			Pn	19 13 17.5	-6.5
FOZ	Fox Glacier	15.98	214	Pn			P	19 13 59.8	-0.5
FOZ				lAmb			lAmb	19 14 26.4	
	comp=Z,100nm,1.3s								
CTAO	Charters Tower	33.76	280	P			P	19 16 54.1	+0.7
STKA	Stephens Creek	34.31	257	P			P	19 17 00.6	+2.5
	comp=Z,9.1nm,0.8s,baz=93,slow=10.0,SNR=24								
STKA	Stephens Creek	34.31	257	P			P	19 17 00.3	+2.2
BBOO	Buckleboo	38.79	255	P			P	19 17 36.9	+0.6
BBOO				lAmb			lAmb	19 17 43.8	
	comp=Z,10nm,1.1s								
COEN	Coen	39.27	286	P			P	19 17 41.8	+1.4
AS31	Alice Springs	42.99	267	P			P	19 18 11.1	+0.1
ASAR	Alice Springs	42.99	267	P			P	19 18 11.4	+0.4
	comp=Z,2.3nm,0.7s,baz=106,slow=7.4,SNR=41								
ASAR	Alice Springs	42.99	267	P			P	19 18 11.0	-0.1
WR0	Warramunga Arr	43.83	273	P			P	19 18 17.9	+0.1
WB2	Warramunga Arr	44.00	273	P			P	19 18 19.1	0.0
WB2				lAmb			lAmb	19 18 21.0	
	comp=Z,4.5nm,0.7s								
WRAB	Tennant Creek	44.01	273	P			P	19 18 19.3	+0.2
WRAB				lAmb			lAmb	19 18 21.0	
	comp=Z,4.9nm,0.8s								
WRA	Warramunga Arr	44.01	273	P			P	19 18 19.2	-0.1
	comp=Z,2.9nm,0.4s,baz=112,slow=7.9,SNR=88								
WB0	Warramunga Arr	44.04	273	P			P	19 18 19.6	+0.2
WB0				lAmb			lAmb	19 18 21.3	
	comp=Z,5.8nm,0.7s								
FORT	Forrest	45.87	255	P			P	19 18 33.7	-0.2
SBA	Scott Base	47.70	184	P			P	19 18 48.2	+0.7
MTN	Manton Dam	49.94	279	P			P	19 19 05.9	+0.4
MTN				lAmb			lAmb	19 19 17.5	
	comp=Z,8.3nm,1.1s								
KNRA	Kununurra	50.63	275	P			P	19 19 09.5	-1.2
KNRA				lAmb			lAmb	19 19 17.2	
	comp=Z,5.5nm,1.1s								
FITZ	Fitzroy Crossi	52.26	270	P			P	19 19 23.9	+1.0
QSPA	South Pole Qui	59.38	180	P			P	19 20 15.8	+2.4
	comp=Z,4.1nm,0.9s,baz=274,slow=0.9,SNR=14								
QSPA	South Pole Qui	59.38	180				P	19 20 15.7	+2.4
QSPA				lAmb			lAmb	19 20 33.7	
	comp=Z,3.6nm,1.0s								
MG03	Isla Dawson	75.23	144	P			P	19 21 54.5	+0.8
H03S2	Juan Fernandez	80.36	124	T			T	20 51 31.6	
	baz=237,SNR=45								
H03S1	Juan Fernandez	80.38	124	T			T	20 51 31.6	
	baz=237,SNR=42								
H03S3	Juan Fernandez	80.38	124	T			T	20 51 31.7	
	baz=237,SNR=39								
H03N3	Juan Fernandez	80.56	123	T			T	20 51 44.8	
	baz=242,slow=72,SNR=26								
H03N2	Juan Fernandez	80.56	123	T			T	20 51 44.3	
	baz=242,slow=72,SNR=25								
H03N1	Juan Fernandez	80.58	123	T			T	20 51 41.5	
	baz=242,slow=72,SNR=47								
NVAR	Mina Array Bea	88.55	43	P			P	19 23 04.5	+0.6
	comp=Z,0.0nm,0.8s,baz=227,slow=5.9,SNR=2.3								
MKAR	Makanchi Array	117.91	310	PKP			PKPdf	19 28 55.8	-1.4
	comp=Z,0.2nm,0.5s,baz=96,slow=2.9,SNR=2.4								
KBZ	Khabaz	145.21	304	PKPbc			PKPbc	19 29 47.5	-0.4
	comp=Z,1.1nm,0.7s,baz=359,slow=2.0,SNR=4.6								
FINES	FINESS Array B	145.42	340	PKPbc			PKPdf	19 29 47.1	-1.0
	comp=Z,4.7nm,0.5s,baz=66,slow=3.3,SNR=61								
NB2	NORSAR Subarra	149.06	351	PKP			PKPbc	19 29 57.4	-1.0
	comp=Z,9.5nm,1.2s,baz=14,slow=4.1								
NOA	NORSAR Array B	149.06	351	PKPbc			PKPbc	19 29 57.1	-1.2
	comp=Z,1.0nm,0.6s,baz=12,slow=4.0,SNR=3.8								
AKASG	Malin Array Be	151.50	322	PKPbc			PKPbc	19 30 03.8	-0.7
	comp=Z,2.1nm,0.5s,baz=51,slow=2.6,SNR=6.6								
BRTR	Keskin Array B	152.67	298	PKPbc			PKiKP	19 30 08.0	+0.1
	comp=Z,0.6nm,0.4s,baz=116,slow=6.6,SNR=5.5								
TORD	Torodi Ar. Bea	162.50	179	PKPab			PKPab	19 31 00.6	-0.5
	comp=Z,1.0nm,0.7s,baz=184,slow=3.9,SNR=11								
TORD	Torodi Ar. Bea	162.50	179				PKPab	19 31 01.5	+0.4

IDC 07 19:15:13.6±8.9, 6.°90S×154.°51E, h62km±63km, mb3.1/3, mb1 3.4/4, mb1mx3.2/27, mbtmp3.4/4, ML3.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/23, Error ellipse: s-maj=80.8km s-min=28.4km az=92.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.57	316

ILAR	**Eielson Array**	**86.15**	**18**	P		P		19 51 15.6	0.0
	0.6nm,0.7s,baz=238,slow=5.9,SNR=6.4								

*IDC **07** 20:02:56.3±2.9, 26˚.56N×74˚.41E, h0km, mb3.3/5, mb1 3.5/6, mb1mx3.2/62, mbtmp3.3/6, ML3.2/1, Error ellipse: s-maj=80.6km s-min=24.9km az=69.0*
*NDI **07** 20:03:02.9±3.5, 26˚.94N×75˚.25E, h10km, ML3.4*
ISC 07 20:03:02.0±0.7, 26˚.96N±0˚.04×75˚.20E±0˚.06, h10km, n23, σ1§62/34, mb3.3/4, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJM	**Ajmer**	**0.69**	**226**	*eP*	**Pg**	**20 03 16.6**	**+1.3**
AJM				*eS*	**Sb**	**20 03 26.8**	**+1.0**
KUDL	**Kundal**	**1.65**	**44**	*eP*	**Pn**	**20 03 29.7**	**-1.3**
SONA	**Sohna**	**2.11**	**52**	*eP*	**Pn**	**20 03 37.5**	**+0.2**
SONA				*eS*	**Sn**	**20 04 01.9**	**-1.7**
AYAN	**Aya Nagar**	**2.29**	**48**	*eP*	**Pn**	**20 03 40.7**	**+1.0**
AYAN				*eS*	**Sn**	**20 04 08.3**	**+0.4**
NDI	**New Delhi**	**2.48**	**46**	*eP*	**Pn**	**20 03 43.7**	**+1.3**
NDI				*eS*	**Sn**	**20 04 13.2**	**+0.5**
NDI	**New Delhi**	**2.48**	**46**	*eP*	**Pn**	**20 03 45.0**	**+2.6**
NDI				*eS*	**Sn**	**20 04 14.0**	**+1.2**
JHNI	**Jhansi**	**3.35**	**116**	*eP*	**Pn**	**20 03 55.4**	**+1.0**
JHNI				*eS*	**Sn**	**20 04 35.9**	**+1.6**
DDI	**Dehra Dun**	**4.19**	**36**	*eS*	**Sn**	**20 04 55.6**	**+0.6**
DDI				IAML		20 05 14.1	
	comp=E,217nm,0.3s						
DDI				IAML		20 05 18.2	
	comp=N,252nm,0.6s						
BHPL	**Bhopal**	**4.21**	**151**	*eP*	**Pn**	**20 04 06.8**	**+0.5**
BHPL				*eS*	**Sn**	**20 04 56.1**	**+0.4**
BHPL				IAML		20 04 56.6	
	comp=E,67nm,0.3s						
BHPL				IAML		20 04 57.0	
	comp=N,42nm,0.4s						
SMLA	**Simla**	**4.50**	**22**	*eP*	**Pn**	**20 04 10.4**	**+0.2**
SMLA				*eS*	**Sn**	**20 05 03.1**	**+0.5**
SMLA				IAML		20 05 06.7	
	comp=N,84nm,0.4s						
SMLA				IAML		20 05 07.0	
	comp=E,133nm,0.3s						
BHK	**Bhakra**	**4.57**	**13**	*eS*	**Sn**	**20 05 04.8**	**+0.4**
LGTI	**Lohaghat**	**5.10**	**60**	*eP*	**Pn**	**20 04 16.1**	**-2.4**
LGTI				*eS*	Sn	20 05 08.5	-8.9
PTH	**Pithoragarh**	**5.12**	**59**	*eP*	**Pn**	**20 04 19.4**	**+0.4**
PTH				*eS*	**Sn**	**20 05 14.3**	**-4.0**
THN	**Thein Dam**	**5.47**	**5**	*eS*	**Sn**	**20 05 26.6**	**-0.1**
JMU	**Jammu**	**5.75**	**357**	*eS*	**Sn**	**20 05 32.5**	**-0.8**
JBP	**Jabalpur**	**5.75**	**130**	*eP*	**Pb**	**20 04 44.5**	**+2.1**
JBP				*ex*	x	20 04 44.5	
JBP				*eS*	**Sn**	**20 05 31.9**	**-1.6**
AKL	**Akola**	**6.44**	**165**	*eP*	**Pn**	**20 04 37.3**	**+0.3**
AKL				*eS*	**Sn**	**20 05 46.6**	**-4.0**
AAK	**Ala-Archa**	**15.65**	**358**	Pn	**Pn**	**20 06 40.7**	**-2.1**
	comp=E,0.1nm,0.3s,baz=174,slow=19,SNR=3.4						
MKAR	**Makanchi Array**	**20.58**	**14**	P	**P**	**20 07 42.7**	**+1.7**
	comp=E,0.5nm,0.8s,baz=211,slow=13,SNR=5.6						
CMAR	**Chiang Mai Arr**	**23.45**	**106**	P	**P**	**20 08 12.2**	**+0.5**
	comp=E,1.8nm,0.9s,baz=292,slow=10,SNR=12						
KURBB	**Kurchatov Arra**	**23.77**	**5**	P	**P**	**20 08 15.0**	**+0.5**
	comp=E,0.6nm,0.8s,baz=193,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**73.87**	**123**	P	**P**	**20 14 35.8**	**-1.6**
	comp=E,0.1nm,0.5s,baz=323,slow=5.4,SNR=5.9						
ASAR	**Alice Springs**	**75.81**	**126**	P	**P**	**20 14 47.2**	**-1.4**
	comp=E,0.2nm,0.6s,baz=302,slow=5.3,SNR=2.0						

*IDC **07** 20:08:36.3±1.8, 43˚.78N×105˚.43W, h0km, mb4.0/2, mb1 3.7/8, mb1mx3.5/55, mbtmp3.6/8, ML3.0/5, MS3.2/2, Ms1 3.2/2, ms1mx2.4/95, Error ellipse: s-maj=52.3km s-min=7.6km az=148.0*
*NEIC **07** 20:08:37.0±0.9, 43˚.82N±0˚.03×105˚.30W±0˚.06, h0km±2km, ML3.3/48, Error ellipse: s-maj=8.9km s-min=3.0km az=126.0*
ISC 07 20:08:36.2±0.8, 43˚.81N±0˚.05×105˚.29W±0˚.06, h0km, n45, σ1§02/44, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**71**		**Pb**	**20 08 55.7**	**-0.1**
K22A	**Casper**	**1.47**	**218**		**Pn**	**20 09 02.6**	**-1.5**
K22A				IAML		20 09 29.1	
	comp=E,404nm,0.7s						
K22A				IAML		20 09 31.7	
	comp=N,392nm,0.3s						
PHWY	**Pilot Hill**	**2.51**	**183**		**Pn**	**20 09 18.6**	**0.0**
PHWY				IAML		20 10 00.0	
	comp=N,124nm,0.7s						
RWWY	**Rawlins**	**2.55**	**214**		**Pn**	**20 09 20.0**	**+1.0**
RWWY				IAML		20 09 56.7	
	comp=N,186nm,1.0s						
RWWY				IAML		20 09 57.3	
	comp=N,238nm,0.9s						
LAO	**LASA Array**	**2.95**	**347**		**Pn**	**20 09 24.5**	**0.0**
N23A	**Red Feather La**	**2.95**	**190**		**Pn**	**20 09 25.4**	**+0.8**
N23A				IAML		20 10 12.8	
	comp=N,119nm,0.8s						
N23A				IAML		20 10 21.3	
	comp=E,114nm,0.9s						
RLMT	**Red Lodge**	**3.13**	**296**		**Pn**	**20 09 27.7**	**+0.6**
RLMT				IAML		20 10 23.1	
	comp=E,60nm,1.6s						
RLMT				IAML		20 10 26.6	
	comp=E,66nm,0.8s						
PD31	**Pinedale Array**	**3.29**	**253**	Pn	**Pn**	**20 09 29.8**	**+0.6**
PDAR	**Pinedale Array**	**3.29**	**253**	Pn	**Pn**	**20 09 29.8**	**+0.6**
	comp=E,4.9nm,0.3s,baz=70,slow=18,SNR=68						
PDAR				Pg	**Pg**	**20 09 38.3**	**-0.9**
	comp=E,8.8nm,0.3s,baz=72,slow=20,SNR=16						
PDAR				Lg	Lg	20 10 15.1	
	comp=E,14nm,0.3s,baz=72,slow=35,SNR=5.1						
PDAR	**Pinedale Array**	**3.29**	**253**		**Pn**	**20 09 29.9**	**+0.8**
BW06	**Boulder Array**	**3.29**	**253**		**Pn**	**20 09 29.5**	**+0.3**
OGNE	**Ogallala**	**3.74**	**139**	Pn	**Pn**	**20 09 36.1**	**+0.8**
H17A	**Grant Village**	**3.85**	**281**		**Pn**	**20 09 38.9**	**+1.9**
H17A				IAML		20 10 43.1	
	comp=N,33nm,1.0s						
LOHW	**Long Hollow**	**3.86**	**269**		**Pn**	**20 09 38.7**	**+1.7**
FLWY	**Flagg Ranch**	**3.92**	**276**		**Pn**	**20 09 38.3**	**+0.5**
FLWY				IAML		20 10 46.2	
	comp=N,80nm,2.4s						
FLWY				IAML		20 11 10.9	
	comp=N,61nm,1.1s						
MOOW	**Moose Ponds**	**3.95**	**271**		**Pn**	**20 09 39.6**	**+1.3**
ISCO	**Idaho Springs**	**4.01**	**184**	Pn	**Pn**	**20 09 40.0**	**+0.7**
ISCO				IAML		20 10 47.2	
	comp=N,33nm,1.1s						
REDW	**Red Top Meadow**	**4.07**	**266**	Pn	**Pn**	**20 09 40.0**	**+0.1**
REDW				IAML		20 10 56.6	
	comp=N,62nm,1.2s						
REDW				IAML		20 11 10.3	
	comp=N,62nm,1.4s						
YHH	**Holmes Hill**	**4.11**	**286**		**Pn**	**20 09 40.8**	**+0.2**
YHH				IAML		20 10 53.6	
	comp=N,31nm,1.0s						
TPAW	**Teton Pass**	**4.12**	**268**		**Pn**	**20 09 40.9**	**+0.2**
TPAW				IAML		20 10 57.7	
	comp=N,50nm,1.0s						
TPAW				IAML		20 11 04.7	
	comp=N,33nm,1.1s						
E28A	**Huff**	**4.27**	**48**	Pn	**Pn**	**20 09 42.8**	**+0.4**
O20A	**White River Ci**	**4.28**	**212**		**Pn**	**20 09 43.5**	**+0.7**
O20A				IAML		20 11 37.0	
	comp=E,59nm,2.2s						
YHL	**Hebgen Lake**	**4.35**	**286**		**Pn**	**20 09 43.5**	**-0.4**
YHL				IAML		20 11 13.5	
	comp=N,42nm,1.2s						
YHL				IAML		20 11 13.9	
	comp=E,33nm,0.8s						
ECR	**Eagle Creek**	**4.49**	**262**		**Pn**	**20 09 45.9**	**+0.1**
Q24A	**Divide**	**4.84**	**179**	Pn	**Pn**	**20 09 51.2**	**+0.5**
Q24A				IAML		20 11 18.2	
	comp=N,23nm,0.8s						
BOZ	**Bozeman (W)**	**4.86**	**294**		**Pn**	**20 09 51.5**	**+0.8**
BOZ				IAML		20 11 12.6	
	comp=N,21nm,1.1s						
BOZ				IAML		20 11 32.8	
	comp=N,19nm,0.9s						
HWUT	**Hardware Ranch**	**5.12**	**247**	Pn	**Pn**	**20 09 55.5**	**+1.2**
EGMT	**Eagleton**	**5.24**	**325**	Pn	**Pn**	**20 09 57.0**	**+1.1**
HRY	**Holter Researc**	**5.45**	**304**		**Pn**	**20 09 58.5**	**-0.4**
LRM	**Limekiln Ridge**	**5.48**	**294**		**Pn**	**20 09 59.3**	**0.0**
P18A	**Preston Nutter**	**5.59**	**223**		**Pn**	**20 10 01.5**	**+0.7**
PV23	**Carpenter Ridg**	**6.04**	**209**	Pn	**Pn**	**20 10 07.5**	**+0.4**
PV10	**Paradox Valley**	**6.12**	**209**	Pn	**Pn**	**20 10 08.9**	**+0.8**
SRU	**San Rafael Swe**	**6.12**	**222**		**Pn**	**20 10 08.2**	**+0.1**
PV11	**David Mesa, Pa**	**6.13**	**207**		**Pn**	**20 10 08.7**	**+0.5**
MSU	**Marysvale**	**7.41**	**227**	Pn	**Pn**	**20 10 26.8**	**+0.9**
ELK	**Elko**	**7.99**	**251**	Pn	**Pn**	**20 10 33.3**	**-0.4**
	comp=N,0.1nm,0.3s,baz=57,slow=17,SNR=2.3						
ULM	**Lac du Bonnet**	**9.10**	**42**	Pn	**Pn**	**20 10 48.2**	**-0.5**
	comp=N,2.4nm,0.3s,baz=230,slow=13,SNR=14						
ULM				Lg	Lg	20 13 18.4	
	comp=N,0.3nm,0.3s,baz=130,slow=22,SNR=2.3						
NVAR	**Mina Array Bea**	**11.19**	**246**	Pn	**Pn**	**20 11 19.5**	**+2.0**
	comp=N,0.1nm,0.3s,baz=51,slow=10,SNR=4.0						
YBH	**Yreka Blue Hor**	**12.97**	**267**	Pn	**Pn**	**20 11 45.6**	**+3.8**
	comp=N,0.2nm,0.3s,baz=97,slow=4.8,SNR=3.9						
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**20 13 03.6**	**-0.9**
	comp=N,0.1nm,0.3s,baz=157,slow=13,SNR=6.3						
DLBC	**Dease Lake**	**21.16**	**322**	LR	LR	20 21 43.6	
	comp=N,53nm,18.2s,baz=202,slow=37						
PETK	**Petropavlovsk-**	**60.19**	**316**	LR	LR	20 48 34.4	
	comp=N,18nm,18.2s,baz=140,slow=40						
ZALV	**Zalesovo Beam**	**82.23**	**354**	P	**P**	**20 20 58.5**	**-0.5**
	comp=N,0.9nm,0.5s,baz=346,slow=5.2,SNR=3.7						
MKAR	**Makanchi Array**	**89.53**	**355**	P	**P**	**20 21 35.5**	**+0.3**
	comp=N,0.6nm,0.7s,baz=12,slow=4.4,SNR=7.1						

*ANF **07** 21:06:25.4±0.3, 36˚.26N×97˚.58W, h5km, ML4.1/11, Error ellipse: s-maj=4.6km s-min=2.5km az=0.0*
*NEIC **07** 21:06:25.8±1.0, 36˚.21N±0˚.01×97˚.57W±0˚.02, h5km±2km, mb_Lg3.6/94, Mwr3.3/9(SLM), Error ellipse: s-maj=3.0km s-min=2.2km az=174.0*
*NEIC **07** 21:06:25.8, 36˚.21N×97˚.57W, h5km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.00; Mθθ0.54; Mφφ-0.54; Mrθ0.09; Mrφ0.94; Mθφ-0.03; Fault plane solution: M₀1.08000×10¹⁴ NP1:φ₁15.00000°, δ85.00000°, λ-180.00000°. NP2:φ₂285.00000°, δ90.00000°, λ-5.00000°. Principal axes: T 1.0838, Plg4.0000°, Azm330.0000°; N 0.0001, Plg85.0000°, Azm105.0000°; P -1.0839, Plg4.0000°, Azm240.0000°;*
ISC 07 21:06:24.5±1.2, 36˚.23N±0˚.02×97˚.57W±0˚.03, h3km±12km, n76, σ1§33/53, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.65**	**152**		**Pg**	**21 06 37.9**	**+1.0**
OK005				Sg	**Sg**	**21 06 46.9**	**+1.5**
OK009	**Oakdale Elemen**	**0.66**	**169**		**Pg**	**21 06 38.1**	**+1.0**
OK009				Sg	**Sg**	**21 06 47.2**	**+1.6**
OK001	**Jones High Sch**	**0.71**	**161**		**Pg**	**21 06 38.9**	**+0.9**
OK001				Sg	**Sg**	**21 06 48.3**	**+1.2**
FNO	**Franklin**	**0.98**	**172**		**Pg**	**21 06 43.9**	**+0.6**
T35A	**Sooner Cattle**	**1.09**	**51**		**Pb**	**21 06 46.1**	**+0.1**
T35B	**Sooner Cattle**	**1.09**	**51**	P	**Pb**	**21 06 46.3**	**+0.2**
	baz=231						
T35B				S	**Sg**	**21 07 00.5**	**+0.9**
	baz=231						
U32A	**Winter Ranch,**	**1.17**	**278**		**Pb**	**21 06 46.8**	**-0.5**
U32A	**Winter Ranch,**	**1.17**	**278**	P	**Pb**	**21 06 47.4**	**+0.1**
	baz=98						
U32A				S	**Sn**	**21 07 04.0**	**-0.2**
	baz=98						
W35A	**Tecumseh**	**1.22**	**152**	Pn	**Pb**	**21 06 47.5**	**-0.6**
TUL1	**Leonard**	**1.48**	**102**	IAmb_Lg		21 07 14.9	
	comp=Z,224nm,0.8s						
TUL1	**Leonard**	**1.48**	**102**	P	**Pn**	**21 06 52.1**	**+0.1**
	baz=282						
TUL1				S	**Sb**	**21 07 12.1**	**+0.3**
	baz=282						
X34A	**Smith Ranch, M**	**1.64**	**188**		**Pb**	**21 06 55.2**	**-0.1**
WMOK	**Wichita Mounta**	**1.79**	**214**		**Pn**	**21 06 57.1**	**+0.8**
WMOK	**Wichita Mounta**	**1.79**	**214**	P	**Pn**	**21 06 57.1**	**+0.8**
	baz=33						
R32A	**Long Quarter,**	**2.37**	**338**		**Pn**	**21 07 06.0**	**+1.7**
R32A	**Long Quarter,**	**2.37**	**338**	P	**Pb**	**21 07 07.8**	**0.0**
	baz=157						
X37A	**Clayton**	**2.43**	**132**	Pn	**Pn**	**21 07 05.9**	**+0.8**
X37A				IAmb_Lg		21 07 48.9	
	comp=Z,280nm,1.1s						
X37A	**Clayton**	**2.43**	**132**	P	**Pn**	**21 07 06.5**	**+1.4**
	baz=313						
X37A				Sb	**Sg**	**21 07 41.7**	**-0.9**
	baz=313						
Z35A	**Perchaven, San**	**2.91**	**175**	S	**Sb**	**21 07 49.7**	**-3.2**
	baz=355						
KSU1	**Kansas State U**	**2.96**	**15**		**Pn**	**21 07 14.2**	**+1.8**
KSU1				IAmb_Lg		21 08 01.8	
	comp=Z,122nm,0.9s						
CBKS	**Cedar Bluff**	**3.10**	**327**		**Pg**	**21 07 23.4**	**-0.5**
W39A	**Magazine**	**3.25**	**107**	Pn	**Pn**	**21 07 17.5**	**+1.2**
W39A				IAmb_Lg		21 08 16.9	
	comp=Z,196nm,0.9s						
W39A	**Magazine**	**3.25**	**107**	P	**Pn**	**21 07 17.8**	**+1.4**
	baz=289						
W39A				Sb	**Sg**	**21 08 08.7**	**-0.2**
	baz=289						
Z38A	**Mt. Pleasant**	**3.65**	**144**	Pg	**Pg**	**21 07 33.0**	**-1.4**
Z38A				IAmb_Lg		21 08 28.8	
	comp=Z,212nm,0.8s						
MIAR	**Mount Ida**	**3.67**	**116**	IAmb_Lg		21 08 31.1	
	comp=Z,117nm,0.8s						
S39A	**Bolivar**	**3.70**	**66**	Pn	**Pn**	**21 07 23.7**	**+1.1**
S39A				Pg	**Pb**	**21 07 32.8**	**+2.3**
S39A				IAmb_Lg		21 08 29.7	
	comp=Z,104nm,0.8s						
S39A	**Bolivar**	**3.70**	**66**	P	**Pn**	**21 07 23.9**	**+1.3**
	baz=248						
U40A	**Yellville**	**3.81**	**87**	Pn	**Pn**	**21 07 25.9**	**+1.8**
U40A				IAmb_Lg		21 08 30.8	
	comp=Z,122nm,0.8s						
ABTX	**Abilene, Hawle**	**3.98**	**206**		**Pn**	**21 07 27.0**	**+0.5**
ABTX				IAmb_Lg		21 08 32.4	
	comp=Z,137nm,1.0s						
WHTX	**Lake Whitney,**	**4.23**	**179**	Pg	**Pg**	**21 07 41.0**	**+1.5**
X40A	**Basin Creek Fa**	**4.24**	**113**	Pn	**Pn**	**21 07 32.2**	**+2.1**
X40A	**Basin Creek Fa**	**4.24**	**113**	Sb	**Sg**	**21 08 37.6**	**-3.2**
	baz=295						
X40A				Sb	**Sg**	**21 08 37.6**	**-3.2**
	baz=295						
MGMO	**Mountain Grove**	**4.36**	**76**		**Pn**	**21 07 32.7**	**+1.1**
MGMO				IAmb_Lg		21 08 45.4	
	comp=Z,121nm,0.8s						
WHAR	**Wooly Hollow**	**4.40**	**101**		**Pg**	**21 07 46.9**	**-1.8**
WHAR				IAmb_Lg		21 08 46.8	
	comp=Z,92nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.43**	**93**		**Pn**	**21 07 33.0**	**+0.5**
FCAR				IAmb_Lg		21 08 45.0	
	comp=Z,80nm,0.7s						
WLAR	**White Oak Lake**	**4.46**	**123**	Pn	**Pn**	**21 07 33.0**	**+0.1**
WLAR					**Pg**	**21 07 49.9**	**0.0**
WLAR				IAmb_Lg		21 08 49.5	
	comp=Z,76nm,0.7s						
W41B	**Gary Mavity, V**	**4.46**	**102**	IAmb_Lg		21 08 50.6	
	comp=Z,135nm,0.8s						
W41B	**Gary Mavity, V**	**4.46**	**102**	P	**Pn**	**21 07 34.0**	**+1.0**
	baz=285						
237A	**Washetta, Mont**	**4.46**	**160**		**Pn**	**21 07 33.2**	**+0.2**
237A				Pg	**Pg**	**21 07 49.1**	**-0.9**
N33A	**J Bar K, Exete**	**4.50**	**1**	IAmb_Lg		21 09 00.5	
	comp=Z,129nm,0.8s						
P38A	**Dawn**	**4.66**	**42**		**Pg**	**21 07 52.6**	**-1.0**
P38A				IAmb_Lg		21 08 55.8	
	comp=Z,136nm,0.8s						
MSTX	**Muleshoe**	**4.82**	**244**	Pn	**Pn**	**21 07 39.3**	**+1.2**
KSCO	**Kaye Shedlock'**	**4.88**	**306**	Pg	**Pg**	**21 07 56.6**	**-1.4**
KSCO				IAmb_Lg		21 09 14.6	
	comp=Z,87nm,0.7s						
Z41A	**Richland Creek**	**4.92**	**126**	IAmb_Lg		21 09 15.1	
	comp=Z,110nm,0.8s						
NATX	**Nacogdoches**	**5.07**	**151**	Pn	**Pn**	**21 07 41.7**	**+0.3**
BGNE	**Belgrade**	**5.19**	**355**	Pn	**Pn**	**21 07 43.5**	**+0.4**
LCAR	**Lake Charles**	**5.20**	**90**	IAmb_Lg		21 09 15.9	
	comp=Z,68nm,1.0s						
CCM	**Cathedral Cave**	**5.37**	**68**	IAmb_Lg		21 09 21.9	
	comp=Z,82nm,0.7s						
435B	**Jarrell**	**5.43**	**180**	IAmb_Lg		21 09 21.0	
	comp=Z,89nm,0.7s						
P40A	**Paris**	**5.47**	**51**	IAmb_Lg		21 09 23.5	
	comp=Z,102nm,0.8s						
T25A	**Trinidad**	**5.57**	**281**	IAmb_Lg		21 09 36.2	
	comp=Z,100nm,0.8s						
PBMO	**Poplar Bluff**	**5.78**	**82**	IAmb_Lg		21 09 39.3	
	comp=Z,69nm,0.8s						
OGNE	**Ogallala**	**5.86**	**325**	IAmb_Lg		21 09 37.8	
	comp=Z,83nm,0.9s						
FVM	**French Village**	**5.97**	**71**	IAmb_Lg		21 09 37.7	
	comp=Z,82nm,0.9s						
143A	**Socs Landing,**	**6.19**	**123**	IAmb_Lg		21 09 55.2	
	comp=Z,91nm,0.8s						
SDCO	**Great Sand Dun**	**6.53**	**286**	IAmb_Lg		21 09 55.4	
	comp=Z,48nm,1.0s						
Q24A	**Divide**	**6.61**	**297**	IAmb_Lg		21 10 06.3	
	comp=Z,102nm,0.9s						
S44A	**Carbondale**	**6.82**	**75**	IAmb_Lg		21 10 03.1	
	comp=Z,90nm,0.7s						
SIUC	**Southern Illin**	**6.85**	**75**	IAmb_Lg		21 10 04.4	
	comp=Z,84nm,0.8s						
OXF	**Oxford**	**6.88**	**102**	IAmb_Lg		21 10 15.7	
	comp=Z,93nm,0.9s						
N41A	**Harden Midland**	**6.91**	**48**	IAmb_Lg		21 10 05.1	
	comp=Z,98nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.30**	**66**	IAmb_Lg		21 10 24.9	
	comp=Z,84nm,0.9s						
735A	**Kenedy**	**7.36**	**182**	IAmb_Lg		21 10 38.2	
	comp=Z,40nm,0.8s						
L40A	**Anamosa**	**7.63**	**38**	IAmb_Lg		21 10 33.7	
	comp=Z,56nm,0.8s						
OLIL	**Olney**	**7.93**	**69**	IAmb_Lg		21 10 42.6	
	comp=Z,59nm,1.0s						
PHWY	**Pilot Hill**	**7.97**	**312**	IAmb_Lg		21 10 50.2	
	comp=Z,34nm,0.8s						
833A	**Chaparral WMA,**	**8.03**	**192**	IAmb_Lg		21 10 47.3	
	comp=Z,36nm,0.9s						
N23A	**Red Feather La**	**8.04**	**308**	IAmb_Lg		21 10 53.8	
	comp=Z,59nm,0.8s						
O44A	**Mansfield**	**8.17**	**59**	IAmb_Lg		21 11 00.6	
	comp=Z,54nm,0.8s						
SUSD	**Miller**	**8.27**	**353**	IAmb_Lg		21 10 57.5	
	comp=Z,63nm,0.8s						
I37A	**Lemond, Waseca**	**8.40**	**21**	IAmb_Lg		21 10 59.7	
	comp=Z,52nm,0.8s						
L42A	**Oliver, Polo**	**8.42**	**44**	IAmb_Lg		21 10 54.9	
	comp=Z,38nm,0.7s						
JFWS	**Jewell Farm**	**8.74**	**38**	IAmb_Lg		21 11 17.2	
	comp=Z,46nm,0.7s						
I40A	**Norwalk**	**9.32**	**33**	IAmb_Lg		21 11 35.7	
	comp=Z,31nm,0.8s						
K22A	**Casper**	**9.43**	**316**	IAmb_Lg		21 11 41.3	
	comp=Z,53nm,0.9s						
SPMN	**Marine on St.**	**9.68**	**20**	IAmb_Lg		21 11 45.9	
	comp=Z,47nm,1.1s						

*NEIC **07** 21:20:22.8±1.9, 53˚.74N±0˚.07×164˚.38W±0˚.07, h19km±10km, Error ellipse: s-maj=11.2km s-min=3.8km az=150.0*
AEIC 07 21:20:22.5±1.9, 53˚.71N±0˚.06×164˚.33W±0˚.06, h23km±7km, ML3.5/30, Error ellipse: s-maj=9.9km s-min=4.2km az=157.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.78**	**349**		**Pb**	21 20 37.4	0.0
WECS	**Westdahl Cape**	**0.86**	**343**		**Pb**	21 20 38.8	-0.1
AKSA	**Akutan Strait**	**0.91**	**299**		**Pb**	21 20 39.4	-0.2
AKSA					**Sb**	21 20 51.7	+0.4
AKSA	**Akutan Strait**	**0.91**	**299**		**Pb**	21 20 39.3	-0.3
AKSA					**Sn**	21 20 52.2	-0.2
BRPK	**Brown Peak**	**1.00**	**20**		**Pn**	21 20 40.0	-1.2
AKBBA	**Akutan Broad B**	**1.02**	**293**		**Pn**	21 20 41.2	-0.3
AKBBA					**Sn**	21 20 55.2	+0.1
ZRO	**Akutan Zero**	**1.05**	**292**		**Pn**	21 20 41.5	-0.3
ISLZ	**Isanotski Laza**	**1.08**	**19**		**Pn**	21 20 41.4	-0.9
AKGG	**Akutan Green G**	**1.10**	**297**		**Sn**	21 20 57.0	+0.1
SSLN	**Shishaldin Nor**	**1.12**	**10**		**Sn**	21 20 42.4	-0.5
SSLN					**Sn**	21 20 58.4	+0.8
ISNN	**Isanotski Nort**	**1.17**	**16**		**Pn**	21 20 43.2	-0.3
FALS	**False Pass**	**1.27**	**25**		**Pn**	21 20 43.9	-0.9
FALS				Sn	**Sn**	21 21 00.6	-0.6
UNV	**Unalaska Valle**	**1.29**	**277**		**Pn**	21 20 44.1	-1.0
UNV				Sn	**Sn**	21 21 00.6	-1.2
MTBL	**Makushin Table**	**1.41**	**282**		**Pn**	21 20 46.6	-0.3
MSW	**Makushin Switc**	**1.47**	**279**		**Pn**	21 20 46.9	-0.7
MSW					**Sb**	21 21 08.1	+0.8
MGOD	**Makushin Gods**	**1.51**	**274**		**Pn**	21 20 48.1	-0.1
BALA	**Baldy Mountain**	**1.74**	**31**		**Pb**	21 20 52.6	-1.2
HAG	**Hague Volcano**	**2.15**	**40**		**Pn**	21 20 57.6	+0.7
OKFG	**Magazine Ridge**	**2.15**	**263**		**Pn**	21 20 57.3	+0.3
PS4A	**Pavlof South-4**	**2.19**	**40**		**Pn**	21 20 58.1	+0.7
BLHA	**Black Hill**	**2.39**	**32**		**Pn**	21 21 01.1	+0.8
SDPT	**Sand Point**	**2.79**	**52**		**Pn**	21 21 06.1	+0.4
SDPT				Sn	**Sn**	21 21 38.6	+0.1
NIKH	**Nikolski High**	**2.81**	**257**		**Pn**	21 21 06.0	+0.1
SPIA	**Saint Paul Isl**	**4.84**	**318**	Pn	**Pn**	21 21 32.9	-0.9
CHIR	**Chirikof Islan**	**5.47**	**64**	Pn	**Pn**	21 21 41.8	-0.7
OHAK	**Old Harbor**	**7.20**	**56**	Pn	**Pn**	21 22 06.8	+0.6
ADK	**Adak**	**7.71**	**261**	Pn	**Pn**	21 22 14.6	+1.4
KDAK	**Kodiak Island**	**7.78**	**54**	Pn	**

KSH S Sn 21 27 39.4 -10
KSH smax smax
comp=E,120nm,0.6s
KSH smax smax
comp=E,61nm,0.5s
KSH LR LR
comp=E,360nm,9.4s
KSH LR LR
comp=E,370nm,10.4s
KSH LR LR
comp=E,420nm,10.4s
IUG luzhnay 7.94 2 *e*P **Pn 21 26 38.7 +1.8**
IUG *e*S **Sn 21 28 01.8 -3.7**
IUG luzhnay 7.94 2 *e*P **Pn 21 26 38.8 +1.8**
baz=359
IUG *e*S **Sn 21 28 01.9 -3.6**
baz=359
DDI Dehra Dun 8.04 116 *e*P **Pn 21 26 41.7 +3.5**
DDI *e*S **Sn 21 28 10.0 +2.0**
DDI IAML 21 28 14.9
comp=N,149nm,0.3s
DDI IAML 21 28 15.6
comp=E,122nm,0.3s
CHM Chimkent 8.11 359 *e*P Pn 21 26 41.8 +2.7
CHM *e*S **Sn 21 28 06.7 -2.8**
CHM Chimkent 8.11 359 *e*P Pn 21 26 41.9 +2.7
baz=356
CHM *e*S **Sn 21 28 06.8 -2.8**
baz=356
KUDL Kundal 8.36 134 *e*P **Pn 21 26 44.6 +1.9**
KUDL *e*S **Sn 21 28 15.9 +0.1**
AML Almayashu 8.51 20 P **Pn 21 26 46.1 +1.1**
SNR=89
SONA Sohna 8.64 131 *e*P **Pn 21 26 49.1 +2.6**
SONA *e*S **Sn 21 28 21.1 -1.7**
DZA Taraz 8.77 8 *e*P **Pn 21 26 49.7 +1.5**
DZA Taraz 8.77 8 *e*P **Pn 21 26 49.8 +1.5**
baz=5.6
AJM Ajmer 8.79 150 *e*P Pn 21 26 52.0 +3.5
AJM *e*S **Sn 21 28 26.7 +0.3**
UCH Uchtor 8.85 24 P **Pn 21 26 50.8 +1.0**
SNR=22
KK31 Karatay Array 8.91 4 P **Pn 21 26 51.1 +0.9**
KK31 Karatay Array 8.91 4 Pn **Pn 21 26 51.1 +0.9**
KK31 Karatay Array 8.91 4 Pn **Pn 21 26 51.4 +1.2**
comp=E,4.3nm,0.3s,baz=183,slow=12,SNR=59
KK31 ⇑Sn **Sn 21 28 28.7 -0.6**
comp=E,11nm,0.5s,baz=192,slow=23,SNR=2.5
KKAR Karatay Array 8.91 4 P **Pn 21 26 50.9 +0.7**
KKAR Karatay Array 8.91 4 Pn **Pn 21 26 50.9 +0.7**
EKS2 Erkin-Say 9.02 19 P **Pn 21 26 53.0 +1.2**
SNR=18
AAK Ala-Archa 9.21 22 P **Pn 21 26 55.8 +1.3**
SNR=27
AAK Ala-Archa 9.21 22 Pn **Pn 21 26 55.6 +1.2**
comp=E,4.1nm,0.3s,baz=210,slow=5.8,SNR=50
AAK Sn **Sn 21 28 36.2 -0.7**
comp=E,1.7nm,0.3s,baz=332,slow=18,SNR=7.0
AAK LR LR 21 29 53.3
comp=E,50nm,19.9s,baz=221,slow=34
AAK Ala-Archa 9.21 22 Pn **Pn 21 26 55.4 +1.0**
KBK Karagaybulak 9.38 24 P **Pn 21 26 59.3 +2.5**
SNR=7.7
FRU1 Bishkek 9.41 23 P **Pn 21 26 58.7 +1.6**
FRU1 Bishkek 9.41 23 **Pn 21 26 58.7 +1.6**
ULHL Ulahol 9.52 31 P **Pn 21 26 59.7 +0.9**
SNR=9.2
BOOM Boomskoye usch 9.60 29 P **Pn 21 27 01.0 +1.2**
BOOM Boomskoye usch 9.60 29 **Pn 21 27 01.0 +1.2**
CHMS Chumysh 9.62 23 P **Pn 21 27 00.8 +0.8**
SNR=15
USP Ospenovka 9.79 21 P **Pn 21 27 03.5 +1.3**
SNR=17
TKM2 Tokmak 2 9.84 26 P **Pn 21 27 03.5 +0.4**
SNR=16
KDJ Kajisay 9.85 34 P **Pn 21 27 04.2 +1.1**
KDJ Kajisay 9.85 34 **Pn 21 27 04.2 +1.1**
SGDS Sogindy 9.99 21 *e*P **Pn 21 27 05.2 +0.2**
SGDS pmax pmax
comp=Z,2.0nm,1.0s
SGDS Sogindy 9.99 21 *e*P **Pn 21 27 05.3 +0.2**
comp=Z,1.7nm,1.0s,baz=20
PTH Pithoragarh 10.04 115 *e*P **Pn 21 27 07.3 +1.4**
PTH *e*S **Sn 21 28 55.3 -2.1**
GEYT Alibeck 10.11 295 Pn Pn 21 27 10.1 +3.5
comp=Z,0.7nm,0.3s,baz=142,slow=15,SNR=4.5
GEYT LR LR 21 31 38.0
comp=Z,110nm,19.4s,baz=133,slow=41
LGTI Lohaghat 10.12 115 *e*P **Pn 21 27 07.9 +1.2**
LGTI *e*S **Sn 21 28 54.8 -4.1**
TNSS Tian-Shan 10.47 30 *e*P **Pn 21 27 11.3 -0.5**
TNSS Tian-Shan 10.47 30 *e*P **Pn 21 27 11.3 -0.5**
baz=30
MDOK Medeo 10.62 30 *e*P **Pn 21 27 13.6 0.0**
MDOK Medeo 10.62 30 *e*P **Pn 21 27 13.7 0.0**
baz=30
KUU Kurty 10.95 26 *e*P **Pn 21 27 18.0 -0.1**
KUU pmax pmax
comp=Z,1.0nm,0.7s
KUU Kurty 10.95 26 *e*P **Pn 21 27 18.0 -0.1**
comp=Z,1.3nm,0.7s,baz=26
SATY Saty 11.14 35 *e*P **Pn 21 27 20.1 -0.7**
SATY pmax pmax
comp=Z,1.0nm,0.7s
SATY Saty 11.14 35 *e*P **Pn 21 27 20.1 -0.7**
comp=Z,0.9nm,0.7s,baz=35
CHKK Chushkaly 11.16 28 *e*P **Pn 21 27 21.1 +0.1**
CHKK Chushkaly 11.16 28 *e*P **Pn 21 27 21.1 +0.1**
baz=28
BTLS Baital 11.32 16 *e*P **Pn 21 27 23.5 +0.4**
BTLS Baital 11.32 16 *e*P **Pn 21 27 23.6 +0.4**
baz=15
UZB Uzynbulak 11.50 36 *e*P **Pn 21 27 25.6 -0.1**
UZB Uzynbulak 11.50 36 *e*P **Pn 21 27 25.7 -0.1**
baz=36
JHNI Jhansi 11.58 136 *e*P **Pn 21 27 28.2 +1.4**
JHNI *e*S **Sn 21 29 31.4 -3.4**
KPKS Kokpek 11.58 34 *e*P **Pn 21 27 26.2 -0.6**
KPKS pmax pmax
comp=Z,3.0nm,0.7s
KPKS Kokpek 11.58 34 *e*P **Pn 21 27 26.2 -0.6**
comp=Z,2.6nm,0.7s,baz=34
SHLS Shalkode 11.73 37 *e*P **Pn 21 27 31.5 +2.7**
SHLS Shalkode 11.73 37 *e*P **Pn 21 27 31.6 +2.7**
baz=39
PDGK Podgornoye 11.87 37 ⇓P **Pn 21 27 29.8 -1.0**
comp=Z,2.7nm,0.7s
BHPL Bhopal 12.83 146 *e*P **Pn 21 27 45.5 +1.7**
BHPL *e*S **Sn 21 30 00.6 -4.9**
PYUN Piuthan 12.88 115 *e*P **Pn 21 27 44.6 0.0**
comp=Z,30nm,0.3s
DANN Dangsing 13.33 112 *e*P **Pn 21 27 51.6 +0.6**
comp=Z,22nm,0.3s
OTUK Ortayu 14.17 7 ⇓P **Pn 21 28 00.6 -1.4**
comp=Z,3.6nm,0.8s
GKN Gorkha 14.18 112 *e*P **Pn 21 28 02.3 -0.1**
comp=Z,12nm,0.2s
DMN Daman 14.73 112 *e*P **Pn 21 28 09.3 -0.7**
comp=Z,25nm,0.4s
KKN Kakani 14.78 111 *e*P **Pn 21 28 09.5 -1.1**
comp=Z,24nm,0.5s
PKIN Phulchoki 14.97 112 *e*P **Pn 21 28 12.9 -0.4**
comp=Z,24nm,0.4s
PKI Pulchoki 14.99 112 *e*P **Pn 21 28 13.3 -0.2**
comp=Z,19nm,0.4s
GUN Gumba 15.19 110 *e*P **Pn 21 28 16.1 0.0**
comp=Z,20nm,0.4s
JIRN Jiri 15.55 110 *e*P **Pn 21 28 20.1 -0.8**
comp=Z,30nm,0.3s
MAKZ Makanchi 15.64 33 P **Pn 21 28 19.7 -1.9**
MAKZ pmax pmax
comp=Z,15nm,1.1s
MAKZ Makanchi 15.64 33 Pn **Pn 21 28 19.7 -1.9**
MAKZ IAmb IAmb 21 28 25.7
comp=Z,15nm,1.1s
MK31 Makanchi Array 15.77 33 *d i*P **Pn 21 28 22.5 -0.8**
MK31 Makanchi Array 15.77 33 Pn **Pn 21 28 22.0 -1.3**
MK31 Makanchi Array 15.77 33 P **Pn 21 28 22.3 -1.0**
comp=Z,1.2nm,0.3s,baz=218,slow=10,SNR=61
MKAR Makanchi Array 15.77 33 Pn **Pn 21 28 22.4 -0.9**
comp=Z,0.3nm,0.3s,baz=218,slow=9.2,SNR=21
MKAR Makanchi Array 15.77 33 *i* P **Pn 21 28 22.3 -1.0**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 15.77 33 **Pn 21 28 21.8 -1.5**
RAMN Ramite 16.21 112 *e*P **Pn 21 28 27.6 -1.7**
comp=Z,16nm,0.3s
AB31 Akbulak array 16.70 337 P **P 21 28 35.3 -1.8**
comp=Z,0.9nm,0.3s,baz=156,slow=13,SNR=63
ABKAR Akbulak array 16.70 337 **P 21 28 34.4 -2.7**
TAPN Taplejung 16.88 109 *e*P **Pn 21 28 37.1 -0.7**
comp=Z,10.0nm,0.3s
WMQ Urumqi 16.92 50 *e*P **P 21 28 41.6 +2.0**
WMQ sP sP 21 28 51.1 -2.8
WMQ pmax pmax
comp=Z,19nm,0.9s
ZSN Zaisan 17.46 36 *e*P **Pn 21 28 42.4 -2.2**
ZSN Zaisan 17.46 36 *e*P **Pn 21 28 42.5 -2.2**
baz=36
BOK Bokaro 17.50 122 *e*P **P 21 28 50.5 +4.4**
BOK *e*S Sn 21 31 48.9 -10
KURBB Kurchatov Arra 17.63 19 P **Pn 21 28 43.9 -2.7**
comp=Z,0.2nm,0.3s,baz=203,slow=10,SNR=14
KURK Kurchatov 17.74 19⇓ *e*P **P 21 28 48.0 -0.5**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 17.74 19 **Pn 21 28 45.4 -2.6**
AKTO Aktyubinsk 18.35 336 P **Pn 21 28 56.6 +1.1**
comp=Z,0.2nm,0.3s,baz=156,slow=12,SNR=6.4
BVAR Borovoye Array 18.82 1 P **Pn 21 29 00.5 -0.7**
BRVK Borovoye 18.86 1⇓ *e*P **Pn 21 29 00.5 -1.1**
BRVK Borovoye 18.86 1 P **Pn 21 28 59.7 -1.9**
GOMU GeErMu 20.58 77 P Pn 21 29 23.6 +1.0
GOMU pP pP 21 29 27.6 -2.2
GOMU pmax pmax
comp=Z,100nm,5.7s
GNI Garni 20.75 294 P Pn 21 29 26.7 +2.4
comp=Z,3.5nm,0.8s,baz=93,slow=19,SNR=5.1
GNI Garni 20.75 294 *de*P Pn 21 29 31.0 +6.7
GNI pmax pmax
comp=Z,12nm,2.5s
ZAA0 Zalesovo Array 22.43 24 P **P 21 29 38.2 -1.3**
ZAA0 IAmb IAmb 21 29 43.8
comp=Z,6.5nm,0.8s
ZALV Zalesovo Beam 22.43 24 P **P 21 29 38.5 -1.1**
comp=Z,5.7nm,0.3s,baz=212,slow=11,SNR=27
ZALV Zalesovo Beam 22.43 24 P **P 21 29 38.2 -1.3**
KBZ Khabaz 22.85 303 P **P 21 29 47.9 +3.9**
comp=Z,0.7nm,0.7s,baz=107,slow=11,SNR=2.1
KIV Kislovodsk 23.06 303 *e*P **P 21 29 50.6 +4.3**
KIV pmax pmax
comp=Z,4.0nm,1.1s
ARU Arti 23.52 344 P **P 21 29 52.2 +1.7**
comp=Z,0.4nm,0.3s,baz=130,slow=9.0,SNR=4.3
ARU Arti 23.52 344 *c i*P **P 21 29 51.0 +0.5**
ARU 21 30 25.2
ARU S **S 21 33 55.4 -6.4**
ARU SS **SnSn 21 34 45.2 +5.5**
ARU pmax pmax
comp=Z,3.0nm,0.9s
ARU Arti 23.52 344 P **P 21 29 49.5 -1.1**
ARU IAmb IAmb 21 30 00.5
comp=Z,18nm,1.8s
BELG Belogornoye 24.12 326 P **P 21 29 58.6 +2.4**
comp=Z,8.9nm,0.6s,baz=90,slow=2.0,SNR=9.5
BELG Belogornoye 24.12 326 *d i*P **P 21 29 58.4 +2.2**
BELG pmax pmax
comp=Z,1.0nm,0.8s
GTA Gaotai 24.58 69 ⇓P **P 21 30 03.8 +3.0**
GTA pP pP 21 30 11.4 +0.2
GTA pmax pmax
comp=Z,10.0nm,1.0s
KNGR Kungurtug, Tuv 26.05 43⇓ *i*P **P 21 30 15.7 +1.8**
SOCY Socotra 26.19 217 P P 21 30 07.3 -8.2
KIRV Kirov 27.91 337⇓ *e*P **P 21 30 32.3 +2.0**
MMAI Mount Meron Ar 28.54 277 LR LR 21 43 08.3
comp=Z,58nm,18.1s,baz=106,slow=39
PZH PanZhiHua 28.58 97 P **P 21 30 37.3 +0.4**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.7s
GHAJ Ghor Haditha 28.80 274 P **P 21 30 34.4 -4.3**
BR131 Keskin Array S 29.23 291 P **P 21 30 38.9 -3.7**
BR131 pmax pmax
comp=Z,5.0nm,1.6s
BR131 Keskin Array S 29.23 291 P **P 21 30 38.9 -3.7**
BR131 IAmb IAmb 21 30 45.3
comp=Z,5.3nm,1.6s
BRTR Keskin Array B 29.23 291 P P 21 30 46.0 +3.5
comp=Z,0.3nm,0.5s,baz=115,slow=9.7,SNR=2.3
BRTR Keskin Array B 29.23 291 P **P 21 30 39.1 -3.5**
CSS Mathiatis 29.88 282 P P 21 30 43.5 -4.8
CHTO Chiang Mai 30.16 113 P **P 21 30 47.6 -3.2**
CHTO pmax pmax
comp=Z,1.0nm,0.6s
CHTO Chiang Mai 30.16 113 P **P 21 30 47.6 -3.2**
CHTO IAmb IAmb 21 31 06.0
comp=Z,1.4nm,0.6s
CMAR Chiang Mai Arr 30.37 114 P **P 21 30 55.2 +2.5**
comp=Z,0.4nm,0.2s,baz=312,slow=10,SNR=5.2
CMAR Chiang Mai Arr 30.37 114 *ce*P **P 21 30 55.7 +3.0**
SONM Songino Array 30.53 52 P **P 21 30 55.7 +1.7**
comp=Z,1.0nm,0.8s,baz=238,slow=8.3,SNR=6.8
SONM Songino Array 30.53 52 P **P 21 30 53.6 -0.4**
SONM pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 30.53 52 P **P 21 30 53.6 -0.4**
SONM IAmb IAmb 21 30 56.3
comp=Z,2.6nm,1.3s
ULN Ulaanbaatar 30.96 53⇑ *e*P **P 21 30 58.7 +0.8**
ULN pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 30.96 53 P **P 21 30 57.0 -0.8**
ULN IAmb IAmb 21 31 00.5
comp=Z,1.6nm,0.9s
OBN Obninsk 31.07 322 *e*P P 21 31 01.8 +3.4
OBN pmax pmax
comp=Z,3.0nm,0.8s
ATD Arta Tunnel 33.32 234 LR LR 21 46 44.0
comp=Z,45nm,18.3s,baz=125,slow=40
HHC Hu-ho-hao-te 33.59 66 *e*P **P 21 31 22.4 +1.5**
AKASG Malin Array Be 33.64 312 P P 21 31 24.3 +3.2
comp=Z,0.5nm,0.5s,baz=86,slow=6.6,SNR=2.8
NRIK Noril'sk 36.57 11 P **P 21 31 47.5 +1.5**
comp=Z,1.5nm,0.4s,baz=202,slow=5.4,SNR=2.1
FINES FINESS Array B 38.85 328 P **P 21 32 07.1 +1.8**
comp=Z,1.3nm,0.9s,baz=101,slow=7.2,SNR=3.8
FINES FINESS Array B 38.85 328 P P 21 32 00.7 -4.7
ARCES ARCESS Array B 42.89 339 P **P 21 32 40.3 +1.7**
comp=Z,3.6nm,0.7s,baz=116,slow=7.4,SNR=15
GERES GERESS Array B 43.45 307 P **P 21 32 45.2 +1.7**
comp=Z,0.4nm,0.8s,baz=105,slow=7.4,SNR=1.8
NB2 NORSAR Subarra 45.62 324 P **P 21 33 01.8 +1.2**
comp=Z,0.6nm,0.5s,baz=102,slow=7.9
NOA NORSAR Array B 45.62 324 P **P 21 33 01.7 +1.2**
comp=Z,0.3nm,0.4s,baz=99,slow=8.0,SNR=2.5
KSRS Korea Array 46.65 68 P **P 21 33 09.9 +1.0**
comp=Z,1.7nm,0.4s,baz=276,slow=6.5,SNR=9.0
TIXI Tiksi 48.29 21 P **P 21 33 21.0 -0.2**
comp=Z,1.0nm,0.3s,baz=274,slow=14,SNR=11
TIXI Tiksi 48.29 21⇑ *e*P **P 21 33 20.7 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
ASAJ Asahikawa 55.67 56 LR LR 22 00 27.4
comp=Z,51nm,19.2s,baz=277,slow=39
BILL Bilibino 61.12 25 *e*P **P 21 34 53.1 -1.1**
BILL *e* 21 37 07.2
BILL pmax pmax
comp=Z,1.0nm,1.0s
PETK Petropavlovsk- 62.35 43 P P 21 35 05.8 +3.0
comp=Z,0.8nm,0.3s,baz=278,slow=10,SNR=7.6
TORD Torodi Ar. Bea 64.63 269 P **P 21 35 20.0 +1.6**
comp=Z,0.6nm,0.7s,baz=50,slow=5.9,SNR=6.6
INK Inuvik 76.33 9 P **P 21 36 30.2 +1.3**
comp=Z,1.5nm,0.5s,baz=348,slow=9.3,SNR=2.7
ILAR Eielson Array 77.27 15 P **P 21 36 34.4 +0.1**
comp=Z,0.5nm,0.5s,baz=302,slow=5.0,SNR=11
WRA Warramunga Arr 81.68 121 P **P 21 37 00.9 +2.0**
comp=Z,0.7nm,0.9s,baz=325,slow=5.0,SNR=7.1
YKA Yellowknife Ar 83.58 2 P **P 21 37 09.4 +1.2**
comp=Z,0.6nm,0.4s,baz=350,slow=5.3,SNR=4.7
YKA Yellowknife Ar 83.58 2 *i* P **P 21 37 06.9 -1.2**
YKA pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 83.81 124 P **P 21 37 12.1 +2.2**
comp=Z,0.7nm,0.6s,baz=314,slow=5.4,SNR=13

*IDC **07** 21:35:12.0±1.8,39°.50N×74°.11E,h0km,mb3.6/4,*
mb1 3.7/9,mb1mx3.4/56,mbtmp3.6/9,ML2.7/5,Error

ellipse: s-maj=31.1km s-min=15.4km az=124.0
*SOME **07** 21:35:12.8,39°.67N×74°.17E,h15km*
*KRNET **07** 21:35:13.1±0.1,39°.62N×74°.11E,mb3.7*
*NNC **07** 21:35:16.3±1.7,39°.72N×74°.09E,h0km,mb3.9,mpv3.6,*
Error ellipse: s-maj=13.1km s-min=7.0km az=166.0
ISC 07 21:35:12.3±1.6,39°.67N±0°.05×74°.30E±0.03,h2km±10km,
n75,σ1.592/114,mb3.7/4,21C-23D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time			Res ISC
							h	m	s	
OHH	**Osh**	**1.45**	**307**	⇑*i*P		**Pn**	**21**	**35**	**38.8**	**-0.8**
	baz=12									
OHH				⇑*i*S		**Sg**	**21**	**35**	**57.9**	**-0.8**
	baz=12									
DRK	**Karamyk**	**1.94**	**265**	⇓*i*P		**Pn**	**21**	**35**	**46.6**	**0.0**
	baz=66									
DRK				⇓*i*S		**Sn**	**21**	**36**	**11.4**	**-0.4**
	baz=66									
AML	**Almayashu**	**2.51**	**350**	P		**Pb**	**21**	**35**	**58.1**	**-0.2**
	SNR=58									
UCH	**Uchtor**	**2.56**	**4**	P		**Pb**	**21**	**35**	**60.0**	**+0.6**
	SNR=84									
UCH	**Uchtor**	**2.56**	**4**	⇓*i*P		**Pb**	**21**	**35**	**59.1**	**-0.3**
	baz=7.0									
UCH				⇓*i*S		**Sg**	**21**	**36**	**32.6**	**-2.2**
	baz=7.0									
BTK	**Batken**	**2.71**	**279**	⇑*i*P		**Pn**	**21**	**35**	**58.2**	**+1.2**
	baz=81									
BTK				⇑*i*S		**Sn**	**21**	**36**	**31.1**	**+0.7**
	baz=81									
ARK	**Arkit**	**2.77**	**321**	⇓*i*P		**Pn**	**21**	**36**	**00.2**	**+2.3**
	baz=24									
ARK				⇓*i*S		**Sb**	**21**	**36**	**34.8**	**-2.4**
	baz=24									
ULHL	**Ulahol**	**2.97**	**29**	P		**Pg**	**21**	**36**	**10.0**	**+0.8**
	SNR=6.5									
ULHL	**Ulahol**	**2.97**	**29**	⇓*i*P		**Pb**	**21**	**36**	**05.2**	**-0.9**
	baz=31									
ULHL				⇓*i*S		**Sb**	**21**	**36**	**43.2**	**+0.3**
	baz=31									
AAK	**Ala-Archa**	**2.97**	**3**	P		**Pb**	**21**	**36**	**05.8**	**-0.4**
	SNR=30									
AAK	**Ala-Archa**	**2.97**	**3**	Pn		**Pb**	**21**	**36**	**05.6**	**-0.5**
	3.4nm,0.3s,baz=168,slow=7.5,SNR=36									
AAK				Pg		**Pg**	**21**	**36**	**09.6**	**+0.3**
	6.2nm,0.3s,baz=193,slow=9.7,SNR=40									
AAK				Lg		Lg	21	36	47.3	
	5.4nm,0.3s,baz=326,slow=23,SNR=12									
AAK	**Ala-Archa**	**2.97**	**3**	⇓*i*P		**Pb**	**21**	**36**	**04.5**	**-1.7**
	baz=5.0									
AAK				⇓*i*S		**Sb**	**21**	**36**	**42.0**	**-1.0**
	baz=5.0									
EKS2	**Erkin-Say**	**3.02**	**353**	P		**Pb**	**21**	**36**	**05.4**	**-1.5**
	SNR=25									
EKS2	**Erkin-Say**	**3.02**	**353**	⇓*i*P		**Pb**	**21**	**36**	**04.7**	**-2.2**
	baz=55									
EKS2				⇓*i*S		**Sb**	**21**	**36**	**42.5**	**-1.8**
	baz=55									
KBK	**Karagaybulak**	**3.03**	**9**	P		**Pb**	**21**	**36**	**06.7**	**-0.4**
	SNR=40									
KBK	**Karagaybulak**	**3.03**	**9**	⇓*i*P		**Pb**	**21**	**36**	**05.5**	**-1.6**
	baz=11									
KBK				⇓*i*S		**Sb**	**21**	**36**	**43.8**	**-0.8**
	baz=11									
TRKS	**Terek-Say**	**3.04**	**309**	⇑*i*P		**Pn**	**21**	**36**	**02.7**	**+1.0**
	baz=10.0									
TRKS				⇑*i*S		**Sn**	**21**	**36**	**39.0**	**+0.2**
	baz=10.0									
BOOM	**Boomskoye usch**	**3.08**	**23**	⇓*i*P		**Pb**	**21**	**36**	**06.7**	**-1.3**
	baz=25									
BOOM				⇓*i*S		**Sb**	**21**	**36**	**45.8**	**-0.4**
	baz=25									
FRU1	**Bishkek**	**3.15**	**4**	⇑*i*P		**Pb**	**21**	**36**	**07.4**	**-1.7**
	baz=7.0									
FRU1				⇑*i*S		**Sb**	**21**	**36**	**46.7**	**-1.4**
	baz=7.0									
GAR	**Garm**	**3.16**	**259**	⇓*i*P		**Pn**	**21**	**36**	**04.3**	**+1.1**
	baz=59									
GAR				⇓*i*S		**Sn**	**21**	**36**	**41.4**	**-0.2**
	baz=59									
MRKS	**Merke**	**3.18**	**346**	*e*P		**Pg**	**21**	**36**	**11.8**	**-1.5**
	6.9nm,0.5s									
MRKS				*e*S		**Sg**	**21**	**36**	**54.9**	**+0.3**
	100nm,0.5s									
MRKS	**Merke**	**3.18**	**346**	Pg		**Pg**	**21**	**36**	**11.8**	**-1.5**
	6.9nm,0.5s									
MRKS				Lg		Lg	21	36	53.8	
	100nm,0.5s									
KDJ	**Kajisay**	**3.29**	**41**	⇑*i*P		**Pb**	**21**	**36**	**10.2**	**-1.4**
	baz=42									
KDJ				⇑*i*S		**Sb**	**21**	**36**	**51.6**	**-0.6**
	baz=42									
CHMS	**Chumysh**	**3.35**	**6**	⇓*i*P		**Pb**	**21**	**36**	**09.5**	**-3.0**
	baz=8.0									
CHMS				⇓*i*S		**Sb**	**21**	**36**	**50.8**	**-2.9**
	baz=8.0									
TKM2	**Tokmak 2**	**3.40**	**16**	P		**Pb**	**21**	**36**	**11.9**	**-1.4**
	SNR=15									
TKM2	**Tokmak 2**	**3.40**	**16**	⇑*i*P		**Pb**	**21**	**36**	**10.9**	**-2.5**
	baz=18									
TKM2				⇑*i*S		**Sb**	**21**	**36**	**53.1**	**-2.1**
	baz=18									
KST	**Kastek**	**3.60**	**20**	*e*P		**Pg**	**21**	**36**	**22.1**	**+0.8**
	8.0nm,0.7s									
KST				*e*S		**Sg**	**21**	**37**	**11.9**	**+4.0**
	79nm,0.7s									
KST	**Kastek**	**3.60**	**20**	Pg		**Pg**	**21**	**36**	**23.0**	**+1.7**
	8.0nm,0.7s									
KST				Lg		Lg	21	37	11.9	
	79nm,0.7s									
USP	**Ospenovka**	**3.60**	**2**	P		**Pg**	**21**	**36**	**20.6**	**-0.7**
	SNR=12									
USP	**Ospenovka**	**3.60**	**2**	⇑*i*P		**Pb**	**21**	**36**	**12.9**	**-3.9**
	baz=4.0									
USP				⇑*i*S		**Sb**	**21**	**36**	**56.9**	**-4.1**
	baz=4.0									
DGS	**Degeres**	**3.74**	**17**	*e*P		**Pg**	**21**	**36**	**24.7**	**+0.7**
	13nm,0.4s									
DGS				*e*S		**Sg**	**21**	**37**	**16.6**	**+4.1**
	24nm,0.6s									
DGS	**Degeres**	**3.74**	**17**	Pg		**Pg**	**21**	**36**	**25.4**	**+1.4**
	13nm,0.4s									
DGS				Lg		Lg	21	37	16.6	
	24nm,0.6s									
SGDS	**Sogindy**	**3.79**	**4**	*e*P		**Pg**	**21**	**36**	**23.3**	**-1.7**
	7.3nm,0.5s									
SGDS				*e*S		**Sg**	**21**	**37**	**14.3**	**+0.2**
	24nm,0.6s									
SGDS	**Sogindy**	**3.79**	**4**	Pg		**Pg**	**21**	**36**	**23.8**	**-1.2**
	7.3nm,0.5s									
SGDS				Lg		Lg	21	37	14.8	
	24nm,0.6s									
MTBS	**Maitube**	**3.81**	**24**	*e*P		**Pg**	**21**	**36**	**25.3**	**-0.1**
	7.8nm,0.5s									
MTBS				*e*S		**Sg**	**21**	**37**	**17.1**	**+2.3**
	33nm,0.5s									
MTBS	**Maitube**	**3.81**	**24**	Pg		**Pg**	**21**	**36**	**27.1**	**+1.7**
	7.1nm,0.5s									
MTBS				Lg		Lg	21	37	19.2	
	33nm,0.5s									
TNSS	**Tian-Shan**	**3.91**	**30**	*e*P		**Pg**	**21**	**36**	**26.4**	**-0.9**
	4.9nm,0.6s									
TNSS				*e*S		**Sg**	**21**	**37**	**19.7**	**+1.6**
	8.9nm,0.9s									
TNSS	**Tian-Shan**	**3.91**	**30**	Pg		**Pg**	**21**	**36**	**27.3**	**0.0**
	4.9nm,0.6s									
TNSS				Lg		Lg	21	37	19.7	
	8.9nm,0.9s									
DZA	**Taraz**	**3.92**	**326**	*e*P		**Pb**	**21**	**36**	**24.7**	**+2.5**
	10nm,0.1s									
DZA				*e*S		**Sg**	**21**	**37**	**16.4**	**-1.9**
	44nm,0.5s									
DZA	**Taraz**	**3.92**	**326**	Pg		**Pg**	**21**	**36**	**26.0**	**-1.5**
	10nm,0.1s									
DZA				Lg		Lg	21	37	17.3	
	44nm,0.5s									
ANVS	**Anan'yevo**	**4.02**	**38**	⇑*i*P		**Pb**	**21**	**36**	**19.6**	**-4.4**
	baz=39									
ANVS				⇑*i*S		**Sb**	**21**	**37**	**09.0**	**-4.1**
	baz=39									
MDOK	**Medeo**	**4.06**	**30**	*e*P		**Pg**	**21**	**36**	**29.0**	**-1.1**
	11nm,0.4s									
MDOK				*e*S		**Sg**	**21**	**37**	**24.0**	**+1.3**
	34nm,1.1s									
MDOK	**Medeo**	**4.06**	**30**	Pg		**Pg**	**21**	**36**	**31.6**	**+1.5**
	11nm,0.5s									
MDOK				Lg		Lg	21	37	26.9	
	34nm,1.1s									

CHGR	**Chuyangaron**	**4.12**	**257**	⇑*iP*		**Pn**	**21 36 17.8**	**+1.4**
	baz=58								
CHGR				⇑*iS*		**Sn**	**21 37 04.8**	**-0.5**
	baz=58								
KRBS	**Karabastau**	**4.16**	**14**	*eP*		**Pg**	**21 36 30.4**	**-1.6**
	4.4nm,0.5s								
KRBS				*eS*		**Sg**	**21 37 26.2**	**+0.3**
	29nm,0.7s								
KRBS	**Karabastau**	**4.16**	**14**	Pg		**Pg**	**21 36 31.3**	**-0.7**
	4.4nm,0.5s								
KRBS				Lg		Lg	21 37 27.0		
	29nm,0.7s								
TAS	**Tashkent**	**4.16**	**295**	⇓*iP*		**Pn**	**21 36 18.1**	**+1.2**
	baz=96								
TAS				⇓*iS*		**Sn**	**21 37 05.9**	**-0.2**
	baz=96								
KK31	**Karatay Array**	**4.46**	**322**	⇑Pn		**Pn**	**21 36 23.4**	**+2.4**
	1.5nm,0.3s,baz=130,slow=12,SNR=55								
KK31				⇑Pg		**Pb**	**21 36 34.1**	**+2.7**
	2.8nm,0.4s,baz=132,slow=17,SNR=3.7								
KK31				⇓Sn		**Sn**	**21 37 18.1**	**+4.5**
	2.6nm,0.3s,baz=244,slow=77,SNR=4.0								
KK31				⇑Lg		Lg	21 37 33.8		
	17nm,0.7s,baz=132,slow=27,SNR=5.0								
KUU	**Kurty**	**4.49**	**19**	*eP*		**Pg**	**21 36 36.5**	**-1.9**
	6.1nm,0.8s								
KUU				*eS*		**Sg**	**21 37 36.9**	**+0.3**
	29nm,0.6s								
KUU	**Kurty**	**4.49**	**19**	Pg		**Pg**	**21 36 37.4**	**-1.0**
	6.1nm,0.8s								
KUU				Lg		Lg	21 37 36.9		
	29nm,0.6s								
SATY	**Saty**	**4.59**	**41**	*eP*		**Pg**	**21 36 39.5**	**-0.7**
	6.3nm,0.4s								
SATY				*eS*		**Sg**	**21 37 41.6**	**+2.0**
	13nm,0.9s								
CHKK	**Chushkaly**	**4.64**	**25**	*eP*		**Pg**	**21 36 40.3**	**-1.0**
	1.9nm,0.2s								
CHKK				*eS*		**Sg**	**21 37 42.8**	**+1.3**
	23nm,0.6s								
CHKK	**Chushkaly**	**4.64**	**25**	Pg		**Pg**	**21 36 40.9**	**-0.3**
	1.9nm,0.2s								
CHKK				Lg		Lg	21 37 42.8		
	23nm,0.6s								
BRLS	**Boroldav**	**4.75**	**316**	*eP*		**Pb**	**21 36 37.7**	**+1.3**
	7.0nm,0.5s								
BRLS				*eS*		**Sb**	**21 37 38.9**	**+4.8**
	12nm,0.4s								
BRLS	**Boroldav**	**4.75**	**316**	Pg		**Pb**	**21 36 38.4**	**+2.1**
	7.0nm,0.5s								
BRLS				Lg		Lg	21 37 38.9		
	12nm,0.4s								
KURS	**Kuram**	**4.80**	**36**	*eP*		**Pg**	**21 36 43.9**	**-0.3**
	5.1nm,0.6s								
KURS				*eS*		**Sg**	**21 37 48.7**	**+2.3**
	11nm,0.7s								
UZB	**Uzynbulak**	**4.97**	**44**	*eP*		**Pg**	**21 36 45.7**	**-1.8**
	4.1nm,0.4s								
UZB				*eS*		**Sg**	**21 37 51.8**	**-0.2**
	7.5nm,0.7s								
KPKS	**Kokpek**	**5.02**	**39**	*eP*		**Pg**	**21 36 47.0**	**-1.6**
	6.9nm,0.6s								
KPKS				*eS*		**Sg**	**21 37 54.3**	**+0.6**
	29nm,0.6s								
SHLS	**Shalkode**	**5.22**	**46**	*eP*		**Pg**	**21 36 54.1**	**+1.8**
	4.6nm,0.7s								
SHLS				*eS*		Sg	21 38 07.9	+8.0	
	13nm,1.1s								
PDGK	**Podgornoye**	**5.35**	**45**	Pg		**Pg**	**21 36 55.8**	**+1.0**
	4.3nm,0.7s								
PDGK				Lg		Lg	21 38 04.1		
	19nm,0.9s								
BTLS	**Baital**	**5.38**	**358**	*eP*		**Pg**	**21 36 51.6**	**-3.7**
	2.8nm,0.6s								
BTLS				*eS*		**Sg**	**21 38 02.5**	**-2.5**
	12nm,0.8s								
BTLS	**Baital**	**5.38**	**358**	Pg		**Pg**	**21 36 56.7**	**+1.4**
	2.0nm,0.6s								
BTLS				Lg		Lg	21 38 09.7		
	12nm,0.8s								
TDK	**Taldyqorghan**	**6.14**	**28**	*eP*		**Pg**	**21 37 11.4**	**+1.4**
	13nm,0.4s								
TDK				*eS*		**Sg**	**21 38 36.3**	**+6.8**
	21nm,0.7s								
TDK	**Taldyqorghan**	**6.14**	**28**	Pg		**Pg**	**21 37 12.0**	**+2.1**
	13nm,0.4s								
TDK				Lg		Lg	21 38 36.3		
	21nm,0.7s								
MKAR	**Makanchi Array**	**9.20**	**37**	Pn		Pn	21 37 32.1	+6.0	
	0.0nm,0.3s,baz=240,slow=13,SNR=2.5								
MKAR				Lg		Lg	21 40 08.3		
	0.0nm,0.3s,baz=217,slow=31,SNR=2.6								
KURBB	**Kurchatov Arra**	**11.36**	**14**	Lg		Lg	21 41 13.7		
	0.1nm,0.3s,baz=204,slow=29,SNR=2.1								
BVAR	**Borovoye Array**	**13.63**	**350**	Pn		**Pn**	**21 38 27.0**	**+0.4**
BVAR				Lg		Lg	21 42 27.1		
AB31	**Akbulak array**	**14.02**	**318**	P		**Pn**	**21 38 30.6**	**-1.2**
	2.0nm,0.6s,baz=129,slow=13,SNR=30								
AKTO	**Aktyubinsk**	**15.72**	**319**	Pn		**Pn**	**21 38 53.2**	**-1.6**
	0.2nm,0.3s,baz=119,slow=16,SNR=2.9								
ZALV	**Zalesovo Beam**	**15.97**	**23**	Pn		**P**	**21 39 02.5**	**+0.8**
	0.1nm,0.3s,baz=227,slow=11,SNR=3.7								
ARU	**Arti**	**19.72**	**333**	P		**Pn**	**21 39 45.3**	**+1.0**
	0.0nm,0.3s,baz=152,slow=8.9,SNR=4.1								
FINES	**FINESS Array B**	**36.42**	**323**	P		**P**	**21 42 18.6**	**+0.5**
	1.8nm,0.7s,baz=113,slow=13,SNR=6.0								
GERES	**GERESS Array B**	**43.31**	**303**	P		**P**	**21 43 16.3**	**+0.7**
	0.4nm,0.5s,baz=64,slow=8.9,SNR=4.1								
TORD	**Torodi Ar. Bea**	**68.38**	**269**	P		**P**	**21 46 13.8**	**-1.9**
	0.3nm,0.5s,baz=54,slow=5.3,SNR=7.7								
YKA	**Yellowknife Ar**	**77.94**	**4**	P		**P**	**21 47 11.3**	**-0.1**
	0.2nm,0.5s,baz=346,slow=5.9,SNR=5.8								

*IDC **07**.21:37:04.3±1.8,22.2°14S×179.2°50W,h567km±17km,mb3.3/9, mb1 3.6/12,mb1mx3.3/35,mbtmp4.3/12,Error ellipse: s-maj=25.8km s-min=16.9km az=139.0*
*NEIC **07**.21:37:04.5±2.1,22.2°2S±0.1°×179.4°W±0.1°,h569km±7km, mb4.4/47,Error ellipse: s-maj=16.4km s-min=15.6km az=148.0*

ISC 07 21:37:05.6±0.4,**22°16S**±0.07°×**179°48W**±0.07,**h592**km, **n115**,σ1°**74**/123,**mb4.3**/32,**1D**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.98**	**332**	P		**P**	**21 38 36.0**	**-2.1**
	12nm,0.3s,baz=147,slow=12,SNR=23							
MSVF	**Nonsavu**	**4.98**	**332**	P		**P**	**21 38 35.7**	**-2.4**
RAO	**Raoul Island**	**7.20**	**169**	P		**P**	**21 38 54.3**	**-2.7**
NIUE	**Niue**	**9.46**	**73**	P		**P**	**21 39 16.3**	**-2.6**
MARNC	**Mare, Loyalty**	**11.62**	**271**	P		**P**	**21 39 39.5**	**-1.0**
PINNC	**Pines Island,**	**12.11**	**265**	P		**P**	**21 39 44.5**	**-0.9**
OUENC	**Ouen Island, N**	**12.67**	**266**	P		**P**	**21 39 47.9**	**-3.2**
DZM	**Mont Dzumac**	**13.05**	**268**	P		**P**	**21 39 53.5**	**-1.6**
	1.3nm,0.3s,baz=75,slow=20,SNR=8.7							
OUZ	**Omahuta**	**14.35**	**203**	P		**P**	**21 40 08.2**	**+0.4**
WMGZ	**Waiomatatini S**	**15.71**	**186**	P		**P**	**21 40 15.2**	**-5.2**
HAZ	**Te Kaha**	**15.72**	**188**	P		**P**	**21 40 18.5**	**-1.9**
HAZ				S		**S**	**21 43 07.6**	**+8.2**
PKGZ	**Pakihiroa**	**15.81**	**187**	P		**P**	**21 40 20.6**	**-0.8**
URZ	**Urewera**	**16.31**	**190**	P		**P**	**21 40 24.0**	**-1.9**
	3.1nm,0.3s,baz=3.5,slow=5.8,SNR=12							
URZ				S		**S**	**21 43 03.3**	**-5.8**
	0.4nm,0.3s,baz=168,slow=22,SNR=2.2							
URZ	**Urewera**	**16.31**	**190**			**P**	**21 40 24.1**	**-1.8**
URZ	**Urewera**	**16.31**	**190**	P		**P**	**21 40 24.0**	**-1.9**
HIZ	**Hauiti**	**17.01**	**195**	P		**P**	**21 40 32.7**	**+0.4**
BKZ	**Black Stump Fm**	**17.29**	**191**	P		**P**	**21 40 32.9**	**-2.1**
BKZ					IAmb	IAmb	21 40 44.0		
	comp=Z,12nm,0.8s								
BKZ	**Black Stump Fm**	**17.29**	**191**	P		**P**	**21 40 32.9**	**-2.1**
WTVZ	**West Tongariro**	**17.42**	**193**	P		**P**	**21 40 35.3**	**-0.9**
BHHZ	**Black Hill Sta**	**17.68**	**191**	P		**P**	**21 40 36.6**	**-2.0**
KRHZ	**Kereru**	**17.78**	**191**	P		**P**	**21 40 38.4**	**-1.0**
DVHZ	**Dannevirke**	**18.45**	**191**	P		**P**	**21 40 44.7**	**-0.8**
BFZ	**Birch Farm**	**18.81**	**190**			**P**	**21 40 47.1**	**-1.6**
BFZ	**Birch Farm**	**18.81**	**190**	P		**P**	**21 40 47.0**	**-1.8**
BFZ	**Birch Farm**	**18.81**	**190**	P		**P**	**21 40 48.4**	**-0.3**
KIW	**Kapiti Island**	**19.23**	**193**	P		**P**	**21 40 52.2**	**-0.4**
DUWZ	**D'Urville Isla**	**19.40**	**195**	P		**P**	**21 40 54.1**	**0.0**
TRWZ	**Traveller**	**19.61**	**191**	P		**P**	**21 40 52.7**	**-3.2**
MSWZ	**Moikau Station**	**19.70**	**192**	P		**P**	**21 40 55.6**	**-1.2**
TCW	**Tory Channel**	**19.71**	**194**	P		**P**	**21 40 54.4**	**-2.5**
SNZO	**South Karori**	**19.71**	**193**	P		**P**	**21 40 56.9**	**+0.1**
BHW	**Baring Head**	**19.77**	**193**	P		**P**	**21 40 57.2**	**-0.1**
QRZ	**Quartz Range**	**19.80**	**198**	P		**P**	**21 40 58.5**	**+0.9**
QRZ	**Quartz Range**	**19.80**	**198**	P		**P**	**21 40 59.2**	**+1.5**
QRZ	**Quartz Range**	**19.80**	**198**	P		**P**	**21 40 59.3**	**+1.7**
PLWZ	**Palliser**	**19.85**	**192**	P		**P**	**21 40 57.9**	**-0.2**
PLWZ	**Palliser**	**19.85**	**192**	P		**P**	**21 40 52.9**	**-5.3**
NNZ	**Nelson**	**19.93**	**196**	P		**P**	**21 40 59.2**	**+0.4**
NNZ	**Nelson**	**19.93**	**196**	P		**P**	**21 40 56.6**	**-2.2**
TUWZ	**Tuamarina**	**19.99**	**195**	P		**P**	**21 41 00.2**	**+0.9**
TUWZ	**Tuamarina**	**19.99**	**195**	P		**P**	**21 41 00.0**	**+0.6**
BSWZ	**Blackbirch Sta**	**20.28**	**194**	P		**P**	**21 41 02.4**	**+0.4**
THZ	**Tophouse**	**20.56**	**196**	P		**P**	**21 41 05.3**	**+0.7**
THZ	**Tophouse**	**20.56**	**196**	P		**P**	**21 41 04.9**	**+0.2**
KHZ	**Kahutara**	**21.02**	**195**	P		**P**	**21 41 10.3**	**+1.7**
KHZ					IAmb	IAmb	21 41 24.0		
	comp=Z,18nm,1.0s								
KHZ	**Kahutara**	**21.02**	**195**	P		**P**	**21 41 12.2**	**+3.6**
LTZ	**Lake Taylor**	**21.68**	**197**	P		**P**	**21 41 14.9**	**+0.3**
LTZ					IAmb	IAmb	21 41 20.3		
	comp=Z,3.1nm,0.2s								
EIDS	**Eidsvold**	**27.11**	**257**	P		**P**	**21 42 03.1**	**+0.4**
EIDS					IAmb	IAmb	21 42 14.2		
	comp=Z,7.3nm,1.1s								
ARMA	**Armidale**	**27.12**	**246**	P		**P**	**21 42 04.0**	**+1.0**
CTAO	**Charters Tower**	**31.99**	**267**	P		**P**	**21 42 45.1**	**+0.2**
CTAO					IAmb	IAmb	21 42 56.0		
	comp=Z,9.5nm,1.1s								
TOO	**Toolangi**	**33.81**	**235**	P		**P**	**21 43 00.9**	**+0.8**
TOO					IAmb	IAmb	21 43 06.2		
	comp=Z,3.7nm,0.8s								
STKA	**Stephens Creek**	**35.84**	**246**	P		**P**	**21 43 17.4**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=90,slow=12,SNR=7.5								
STKA	**Stephens Creek**	**35.84**	**246**		IAmb	IAmb	21 43 17.6		
	comp=Z,0.4nm,0.9s								
COEN	**Coen**	**36.35**	**277**	P		**P**	**21 43 20.2**	**-1.1**
COEN					IAmb	IAmb	21 43 29.4		
	comp=Z,11nm,1.1s								
BBOO	**Buckleboo**	**40.59**	**245**	P		**P**	**21 43 55.3**	**+0.1**
AS31	**Alice Springs**	**42.82**	**259**	P		**P**	**21 44 13.1**	**+0.1**
ASAR	**Alice Springs**	**42.82**	**259**	P		**P**	**21 44 12.9**	**0.0**
	comp=Z,2.1nm,0.6s,baz=90,slow=8.7,SNR=38								
ASAR					S	**S**	**21 49 54.4**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=95,slow=16,SNR=6.5								
WR0	**Warramunga Arr**	**42.84**	**264**	P		**P**	**21 44 12.5**	**-0.7**
WB0	**Warramunga Arr**	**43.02**	**264**	P		**P**	**21 44 13.8**	**-0.7**
WB0					IAmb	IAmb	21 44 14.4		
	comp=Z,4.2nm,0.5s								
WB2	**Warramunga Arr**	**43.02**	**264**	P		**P**	**21 44 14.0**	**-0.5**
WRAB	**Tennant Creek**	**43.02**	**264**	P		**P**	**21 44 16.3**	**+1.8**
WRAB					IAmb	IAmb	21 44 18.3		
	comp=Z,18nm,1.1s								
WRA	**Warramunga Arr**	**43.03**	**264**	P		**P**	**21 44 13.9**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=95,slow=7.9,SNR=75								
WRA					ScP	**ScP**	**21 48 51.0**	**+4.4**
	comp=Z,1.6nm,0.9s,baz=96,slow=4.4,SNR=5.4								
WRA					S	**S**	**21 49 55.3**	**-3.3**
	comp=Z,0.6nm,0.9s,baz=97,slow=13,SNR=2.8								
FORT	**Forrest**	**47.38**	**248**	P		**P**	**21 44 47.5**	**-0.1**
FORT					IAmb	IAmb	21 44 48.7		
	comp=Z,8.0nm,0.8s								
KNRA	**Kununurra**	**49.20**	**268**	P		**P**	**21 45 01.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.46**	**264**	P		**P**	**21 45 18.2**	**+0.6**
PSA00	**Pilbara Seismi**	**55.97**	**258**	P		**P**	**21 45 49.1**	**-0.2**
PSA00					IAmb	IAmb	21 45 49.4		
	comp=Z,14nm,1.1s								
MBWA	**Marble Bar**	**56.16**	**259**	P		**P**	**21 45 50.6**	**-0.1**
MBWA					IAmb	IAmb	21 45 51.2		
	comp=Z,6.4nm,0.7s								
MORW	**Morawa**	**57.93**	**249**	P		**P**	**21 46 02.9**	**+0.2**
GIRL	**Giralia**	**60.79**	**256**	P		**P**	**21 46 22.2**	**+0.5**
TOLI2	**Tolitoli**	**62.62**	**283**	P		**P**	**21 46 34.7**	**+1.0**
TOLI2					IAmb	IAmb	21 46 36.2		
	comp=Z,7.9nm,1.0s								
JMZ	**Minamidaito 2**	**67.52**	**312**	P		**P**	**21 47 04.4**	**+0.3**
JMZ					IAmb	IAmb	21 47 08.0		
	comp=Z,18nm,0.8s								
QSPA	**South Pole Qui**	**67.91**	**180**	P		**P**	**21 47 08.2**	**+2.2**
QSPA					IAmb	IAmb	21 47 09.1		
	comp=Z,9.9nm,1.1s								
KKM	**Kota Kinabalu**	**68.87**	**286**	P		**P**	**21 47 12.0**	**-0.6**
KKM					IAmb	IAmb	21 47 30.8		
	comp=Z,13nm,0.9s								
KSRS	**Korea Array**	**77.24**	**320**	P		**P**	**21 48 00.9**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=103,slow=5.4,SNR=2.5								
PETK	**Petropavlovsk-**	**77.53**	**346**	P		**P**	**21 48 01.2**	**+0.2**
	comp=Z,5.1nm,0.6s,baz=142,slow=7.4,SNR=8.7								
BELA	**Belgrano 2**	**78.09**	**173**	P		**P**	**21 48 04.6**	**+0.8**
MAW	**Mawson**	**79.54**	**200**	P		**P**	**21 48 13.3**	**+1.8**
PMSA	**Palmer Station**	**80.31**	**157**	P		**P**	**21 48 13.7**	**-1.9**
BAR	**Barrett**	**81.04**	**49**	P		**P**	**21 48 21.0**	**+1.0**
JCC	**Jacoby Creek,**	**81.10**	**39**	P		**P**	**21 48 20.1**	**+0.2**
KULM	**Kulim**	**82.65**	**279**	P		**P**	**21 48 27.4**	**-1.1**
KULM					IAmb	IAmb	21 48 30.3		
	comp=Z,9.1nm,1.1s								
MG04	**Isla Riesco**	**82.80**	**144**	P		**P**	**21 48 26.2**	**-2.3**
MG03	**Isla Dawson**	**82.92**	**146**	P		**P**	**21 48 29.0**	**-0.2**
MG03					IAmb	IAmb	21 48 35.8		
	comp=Z,20nm,1.1s								
ENH	**Enshi**	**85.84**	**305**			**P**	**21 48 44.0**	**+0.2**
ENH					IAmb	IAmb	21 48 45.9		
	comp=Z,8.3nm,1.0s								
L19K	**White Mountain**	**86.33**	**11**	P		**P**	**21 48 46.0**	**+0.7**
L19K					IAmb	IAmb	21 48 46.8		
	comp=Z,8.7nm,1.1s								
CAST	**Castle Rocks**	**87.98**	**12**	P		**P**	**21 48 52.3**	**-0.7**
CAST					IAmb	IAmb	21 48 53.2		
	comp=Z,4.2nm,0.8s								
TRF	**Thorofare Moun**	**88.36**	**13**	P		**P**	**21 48 54.8**	**-0.2**
RND	**Reindeer**	**88.62**	**13**	P		**P**	**21 48 56.4**	**+0.4**
RND					IAmb	IAmb	21 48 57.0		
	comp=Z,8.2nm,0.9s								
TXAR	**Lajitas Array**	**89.11**	**58**	P		**P**	**21 49 01.1**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=219,slow=6.3,SNR=5.2								
PLCA	**Paso Flores**	**89.12**	**134**	P		**P**	**21 49 01.1**	**+1.9**
	comp=Z,1.9nm,0.8s,baz=249,slow=8.6,SNR=4.1								
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P		**P**	**21 49 02.8**	**+2.2**
	comp=Z,3.2nm,0.9s,baz=135,slow=3.1,SNR=22								
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P		**P**	**21 49 02.3**	**+1.7**
CHTO	**Chiang Mai**	**89.52**	**290**	P		**P**	**21 49 02.1**	**+0.9**
CHTO					IAmb	IAmb	21 49 04.0		
	comp=Z,4.1nm,0.8s								
MDM	**Murphy Dome**	**90.12**	**13**	P		**P**	**21 49 02.6**	**-0.4**
MDM					IAmb	IAmb	21 49 03.4		
	comp=Z,8.1nm,1.2s								
ILAR	**Eielson Array**	**90.24**	**13**	P		**P**	**21 49 03.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=221,slow=5.6,SNR=5.6								
AKASG	**Malin Array Be**	**143.76**	**329**	PKP		PKPbc	21 55 32.6	-0.5	
	comp=Z,3.6nm,0.5s,baz=42,slow=4.4,SNR=37								
AKASG	**Malin Array Be**	**143.76**	**329**			**PKPbc**	21 55 32.8	-0.3	
AKBB	**Malin Array Si**	**143.76**	**329**			PKPbc	21 55 32.4	-0.7	
SUW	**Suwalki**	**143.87**	**337**			PKPbc	21 55 33.3	-0.1	
BR131	**Keskin Array S**	**146.88**	**310**			**PKPbc**	**21 55 42.3**	**-0.5**
BRTR	**Keskin Array B**	**146.88**	**310**	PKPbc		**PKPbc**	**21 55 42.8**	**0.0**
	comp=Z,1.6nm,0.7s,baz=120,slow=3.5,SNR=12								
OSTC	**Ostas**	**149.11**	**340**	*e*PKP		**PKiKP**	**21 55 48.9**	**+0.2**
CHVC	**Chvalec**	**149.13**	**341**	*e*PKP		**PKiKP**	**21 55 48.7**	**0.0**
UPC	**Upice**	**149.21**	**341**	*e*PKP		**PKiKP**	**21 55 49.0**	**+0.1**
DPC	**Dobruska-Polom**	**149.25**	**340**	*e*PKP		**PKPbc**	**21 55 48.6**	**+0.4**
DPC				*ex*		**PKPab**	**21 55 56.3**	**+1.0**
CLL	**Collm**	**149.33**	**345**	⇓*i*PKPbc		**PKiKP**	**21 55 48.7**	**-0.4**
	comp=Z,7.0nm,0.9s								
CLL				*i* PKPab		**PKPab**	**21 55 55.3**	**-0.2**
	comp=Z,5.0nm,0.8s								
KRLC	**Kraliky**	**149.34**	**339**	*e*PKP		**PKiKP**	**21 55 49.3**	**+0.1**
PRU	**Pruhonice**	**150.11**	**342**	*e*PKP		**PKiKP**	**21 55 51.1**	**+0.4**
PRU				*ex*		**PKPab**	**21 55 59.2**	**+0.4**
NKC	**Novy Kostel**	**150.46**	**344**	*e*PKP		**PKiKP**	**21 55 51.9**	**+0.4**
PBCC	**Pribram**	**150.54**	**342**	*e*PKP		**PKiKP**	**21 55 51.8**	**+0.1**
PBCC				*ex*		**PKPab**	**21 55 59.1**	**-1.5**
KHC	**Kasperske Hory**	**151.16**	**342**	PKPdf		**PKPdf**	**21 55 46.6**	**+0.5**
KHC	**Kasperske Hory**	**151.16**	**342**	*e*PKP		**PKiKP**	**21 55 53.4**	**+0.4**
KHC				*ex*		**PKPab**	**21 56 03.9**	**+0.6**
CKRC	**Cesky Krumlov**	**151.22**	**341**	*e*PKP		**PKiKP**	**21 55 53.5**	**+0.4**
CKRC				*ex*		**PKPab**	**21 56 03.8**	**+0.2**
GERES	**GERESS Array B**	**151.38**	**342**	PKPbc		**PKiKP**	**21 55 53.9**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=29,slow=2.2,SNR=5.9								
GERES				PKPab		**PKPab**	**21 56 04.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=0.0,slow=2.8,SNR=3.9								
GERES	**GERESS Array B**	**151.38**	**342**	PKPbc		**PKPbc**	**21 55 53.2**	**0.0**
GERES				PKPab		**PKPab**	**21 56 05.1**	**+0.8**

*BGR **07**.21:38:11.9±0.0,17.8°88S×177.3°19W,h33km*
*IDC **07**.21:39:07.8±2.0,17.6°7S×178.6°1W,h523km±21km, mb3.7/21,mb1 3.9/21,mb1mx3.8/35,mbtmp4.5/21,Error ellipse: s-maj=20.5km s-min=11.3km az=143.0*
*NEIC **07**.21:39:10.7±2.3,17.6°6S±0.1°×178.5°W±0.1°,h550km±1km, mb4.3/213,Error ellipse: s-maj=18.7km s-min=16.2km az=128.0*

ISC 07 21:39:09.7±0.3,**17°66S**±0.07°×**178°56W**±0.07,**h547**km, **n557**,σ0°**98**/548,**mb4.2**/131,**21C-35D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.23**	**268**	P		**P**	**21 40 26.1**	**+0.1**
MSVF				S		**S**	**21 41 29.2**	**+1.0**
AFI	**Afiamalu**	**7.52**	**61**	P		**P**	**21 41 00.5**	**-2.3**
FUNA	**Funafuti**	**9.34**	**346**	P		**P**	**21 41 19.1**	**-1.8**
DZM	**Mont Dzumac**	**14.77**	**250**	P		**P**	**21 42 18.6**	**+1.6**
KNTN	**Kanton**	**16.25**	**25**	P		**P**	**21 42 29.6**	**-2.2**
KOUNC	**Koumac, New Ca**	**16.46**	**257**	P		**P**	**21 42 33.0**	**-0.8**
OUZ	**Omahuta**	**18.83**	**200**	P		**P**	**21 42 54.7**	**-0.4**
MXZ	**Matakaoa Point**	**20.02**	**187**	P		**P**	**21 43 04.9**	**-0.9**
URZ	**Urewera**	**20.87**	**190**	S		**S**	**21 46 31.7**	**+0.9**
	6.8nm,0.8s,baz=148,slow=18,SNR=2.7							
URZ	**Urewera**	**20.87**	**190**	P		**P**	**21 43 11.6**	**-1.9**
BKZ	**Black Stump Fm**	**21.85**	**190**	P		**P**	**21 43 21.9**	**-0.6**
HNR	**Honiara**	**22.42**	**289**	P		**P**	**21 43 27.2**	**-0.7**
BFZ	**Birch Farm**	**23.37**	**190**	P		**P**	**21 43 34.4**	**-1.6**
MSWZ	**Moikau Station**	**24.26**	**191**	P		**P**	**21 43 42.9**	**-1.0**
QRZ	**Quartz Range**	**24.33**	**197**	P		**P**	**21 43 44.3**	**-0.2**
BHW	**Baring Head**	**24.33**	**192**	P		**P**	**21 43 43.3**	**-1.2**
PLWZ	**Palliser**	**24.41**	**191**	P		**P**	**21 43 43.6**	**-1.6**
NNZ	**Nelson**	**24.48**	**195**	P		**P**	**21 43 44.3**	**-1.4**
BSWZ	**Blackbirch Sta**	**24.83**	**194**	P		**P**	**21 43 49.0**	**+0.1**
THZ	**Tophouse**	**25.11**	**195**	P		**P**	**21 43 50.2**	**-1.2**
KHZ	**Kahutara**	**25.58**	**194**	P		**P**	**21 43 53.5**	**-2.0**
LTZ	**Lake Taylor**	**26.23**	**195**	P		**P**	**21 43 59.4**	**-1.8**
RPZ	**Rata Peaks**	**27.41**	**196**	P		**P**	**21 44 10.8**	**-0.9**
FOZ	**Fox Glacier**	**27.60**	**198**	P		**P**	**21 44 11.9**	**-1.3**
LBZ	**Lake Benmore**	**28.27**	**197**	P		**P**	**21 44 16.6**	**-2.6**
LBZ					IAmb	IAmb	21 44 28.2		
	comp=Z,7.9nm,0.9s								
ODZ	**Otahua Downs**	**28.76**	**196**	P		**P**	**21 44 21.6**	**-1.7**
WKZ	**Wanaka**	**29.02**	**198**	P		**P**	**21 44 23.7**	**-1.9**
EIDS	**Eidsvold**	**29.22**	**250**	P		**P**	**21 44 26.9**	**-0.7**
EIDS					IAmb	IAmb	21 44 28.2		
	comp=Z,6.0nm,0.7s								
MLZ	**Mavora Lakes**	**29.78**	**199**	P		**P**	**21 44 32.2**	**0.0**
ARMA	**Armidale**	**29.94**	**239**	P		**P**	**21 44 33.9**	**-0.1**
ARMA					IAmb	IAmb	21 44 35.0		
	comp=Z,4.2nm,0.8s								
WHZ	**Wether Hill Ro**	**30.30**	**199**	P		**P**	**21 44 35.9**	**-0.8**
COEN	**Coen**	**36.96**	**270**	P		**P**	**21 45 32.8**	**-0.3**
COEN					IAmb	IAmb	21 45 37.6		

baz=238,SNR=5.7
NJ2 Nanjing 77.67 310 *e*P **P** **21 50 12.4 +2.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
ISA Isabella, Lake 77.75 46 P **P** **21 50 11.1 +0.4**
ISA IAmb IAmb 21 50 12.9
comp=Z,8.2nm,1.0s
ISA Isabella, Lake 77.75 46 P **P** **21 50 11.7 +1.0**
baz=238,SNR=5.4
CMB Columbia Colle 77.76 43 P **P** **21 50 10.6 -0.1**
MONP2 Monument Peak 77.77 50 P **P** **21 50 12.0 +1.0**
baz=239
IKP In-Ko-Pah, Jac 77.87 50 P **P** **21 50 12.8 +1.4**
baz=240
MDJ Mudanjiang 77.90 325 P **P** **21 50 12.3 +1.1**
MDJ IAmb IAmb 21 50 13.9
comp=Z,16nm,0.9s
MDJ Mudanjiang 77.90 325 P **P** **21 50 12.5 +1.3**
MDJ pmax pmax
comp=Z,19nm,0.9s
MDJ pmax pmax
comp=Z,71nm,4.6s
ORV Oroville 77.91 42 P **P** **21 50 11.4 +0.1**
YUH Yuha Desert 78.01 50 P **P** **21 50 11.8 -0.2**
SFX San Felipe 78.01 52 P **P** **21 50 11.9 -0.2**
SFX IAmb IAmb 21 50 14.2
comp=Z,20nm,1.0s
PFO Pinyon Flats O 78.10 49 P **P** **21 50 13.2 +0.5**
PFO Pinyon Flats O 78.10 49 P **P** **21 50 14.4 +1.7**
baz=239
TPFO Pinon Flats 78.11 49 P **P** **21 50 14.5 +1.8**
baz=239
M02C Callahan 78.14 39 P **P** **21 50 13.2 +0.5**
M02C Callahan 78.14 39 P **P** **21 50 13.5 +0.9**
baz=233
O03E Paynes Creek 78.14 41 P **P** **21 50 12.7 0.0**
KDAK Kodiak Island 78.20 14 P **P** **21 50 12.9 +0.5**
comp=Z,16nm,1.1s,baz=235,slow=5.6,SNR=7.6
KDAK Kodiak Island 78.20 14 P **P** **21 50 12.2 -0.3**
baz=205
SWSC Sam W Stewart 78.25 50 P **P** **21 50 15.0 +1.8**
baz=240
YBH Yreka Blue Hor 78.43 39 P **P** **21 50 15.3 +1.1**
comp=Z,4.0nm,1.0s,baz=270,slow=6.1,SNR=8.8
YBH Yreka Blue Hor 78.43 39 P **P** **21 50 14.6 +0.4**
CWC Cottonwood Cre 78.44 46 P **P** **21 50 15.4 +0.9**
baz=238
OMMB Old Mammoth Mi 78.44 44 P **P** **21 50 15.2 +0.5**
BELC Belle Mtn. Jos 78.63 49 P **P** **21 50 16.6 +1.1**
baz=240
MPMC Manual Prospec 78.64 46 P **P** **21 50 16.5 +0.9**
baz=238
MPK Martis Peak 78.70 42 P **P** **21 50 15.9 0.0**
MPK IAmb IAmb 21 50 18.0
comp=Z,16nm,1.1s
GSC Goldstone, Bar 78.72 47 P **P** **21 50 15.8 -0.1**
GSC Goldstone, Bar 78.72 47 P **P** **21 50 17.2 +1.3**
baz=239
HUMO Hull Mountain 78.80 38 P **P** **21 50 16.7 +0.6**
BEKR Beckworth 78.81 42 P **P** **21 50 16.6 +0.2**
HEC Hector,Ludlow 78.81 48 P **P** **21 50 17.9 +1.5**
baz=239
BC3 Big Chuckawall 78.85 49 P **P** **21 50 17.6 +1.0**
baz=240
PNTR Pine Nut 78.86 43 P **P** **21 50 16.3 -0.5**
PNTR IAmb IAmb 21 50 18.8
comp=Z,11nm,0.9s
VCNR Virginia City 78.94 43 P **P** **21 50 17.3 +0.1**
VCNR IAmb IAmb 21 50 19.2
comp=Z,5.1nm,0.8s
L04D Klamath Falls 78.96 39 P **P** **21 50 17.4 +0.3**
L04D IAmb IAmb 21 50 19.0
comp=Z,10nm,0.9s
L04D Klamath Falls 78.96 39 P **P** **21 50 18.0 +0.9**
baz=234
M04C Macdoel 78.98 40 P **P** **21 50 16.8 -0.4**
M04C Macdoel 78.98 40 P **P** **21 50 18.1 +0.9**
baz=234
GLA Glamis 79.01 50 P **P** **21 50 19.4 +1.9**
baz=240
Q19K Cape Douglas, 79.01 13 P **P** **21 50 17.0 +0.2**
QSM Queen of Sheba 79.02 47 P **P** **21 50 17.4 0.0**
YERR Yerington 79.04 43 P **P** **21 50 18.1 +0.5**
YERR IAmb IAmb 21 50 19.5
comp=Z,7.6nm,1.0s
P18K Big Mountain, 79.11 12 P **P** **21 50 16.8 -0.5**
P18K IAmb IAmb 21 50 17.8
comp=Z,15nm,0.9s
LHV Little Huntoon 79.12 44 P **P** **21 50 18.2 +0.4**
LHV IAmb IAmb 21 50 20.3
comp=Z,11nm,1.0s
LCH Last Change Ra 79.15 45 P **P** **21 50 18.1 -0.2**
I02E Swisshome, OR 79.19 37 P **P** **21 50 19.4 +1.4**
baz=232
I03D Drain, OR 79.22 37 P **P** **21 50 19.0 +0.8**
baz=233
GMRC Granite Mounta 79.27 48 P **P** **21 50 19.7 +0.8**
baz=240
GWY Greenwater Val 79.27 47 P **P** **21 50 19.0 +0.1**
RYN Ryan 79.31 44 P **P** **21 50 19.8 +0.8**
IRM Iron Mountain 79.32 49 P **P** **21 50 20.9 +1.8**
baz=240
PAHR Pah Rah Range 79.34 42 P **P** **21 50 19.2 0.0**
PAHR IAmb IAmb 21 50 21.1
comp=Z,7.2nm,1.2s
NVAR Mina Array Bea 79.35 44 P **P** **21 50 20.1 +0.8**
comp=Z,3.1nm,0.8s,baz=227,slow=8.9,SNR=20
NVAR Mina Array Bea 79.35 44 P **P** **21 50 19.6 +0.2**
TUQ Turquoise Moun 79.41 48 P **P** **21 50 20.8 +1.2**
baz=239
NV11 Mina Array Sit 79.45 44 P **P** **21 50 19.7 -0.1**
NV11 IAmb IAmb 21 50 21.8
comp=Z,8.4nm,1.1s
113A Mohawk Valley, 79.65 51 P **P** **21 50 21.6 +0.8**
J04D Umpqua Nationa 79.68 38 P **P** **21 50 21.9 +1.0**
J04D IAmb IAmb 21 50 23.0
comp=Z,17nm,0.9s
J04D Umpqua Nationa 79.68 38 P **P** **21 50 21.6 +0.7**
baz=234
BUCK Buck Mountain 79.73 37 P **P** **21 50 22.3 +1.3**
BUCK IAmb IAmb 21 50 28.5
comp=Z,8.5nm,1.1s
CN2 Changchun 79.74 322 *e*P **P** **21 50 20.6 -0.4**
CN2 pmax pmax
comp=Z,20nm,1.1s
BNX BinXian 79.81 325 ⇓P **P** **21 50 21.9 +0.6**
BNX pmax pmax
comp=Z,36nm,0.9s
BNX pmax pmax
comp=Z,130nm,4.4s
KVN Kaiserville 79.82 43 P **P** **21 50 22.3 +0.5**
I04A Tendick Farm, 79.83 38 P **P** **21 50 22.7 +1.2**
baz=233
TPH Tonopah 79.88 45 P **P** **21 50 22.7 +0.6**
TPH IAmb IAmb 21 50 23.6
comp=Z,15nm,0.9s
TPNV Topopah Spring 79.95 46 P **P** **21 50 23.1 +0.6**
TPNV Topopah Spring 79.95 46 P **P** **21 50 23.7 +1.2**
baz=239
214A Organ Pipe Nat 79.98 52 P **P** **21 50 22.9 +0.3**
214A Organ Pipe Nat 79.98 52 P **P** **21 50 24.3 +1.8**
baz=242
MOD Modoc Plateau 79.99 40 P **P** **21 50 22.9 +0.3**
O19K Port Alsworth 80.03 12 P **P** **21 50 21.5 -0.6**
CNPM China Poot 80.08 14 P **P** **21 50 22.2 -0.2**
CNPM IAmb IAmb 21 50 23.6
comp=Z,20nm,1.2s
K05A Summer Lake 80.10 39 P **P** **21 50 23.4 +0.3**
K05A IAmb IAmb 21 50 25.4
comp=Z,9.2nm,1.0s
PDMCI Parker Dam,Lak 80.12 49 P **P** **21 50 25.0 +1.8**
baz=241
J05D Fort Rock, OR 80.22 39 P **P** **21 50 24.9 +1.2**
baz=234
SHPR Sheep Range 80.48 47 P **P** **21 50 26.1 +0.8**
H04A Detroit Lake 80.49 37 P **P** **21 50 24.9 0.0**
H04A IAmb IAmb 21 50 26.3
comp=Z,7.8nm,1.0s
PINE Pine Mountain 80.69 38 P **P** **21 50 26.4 +0.2**
PINE IAmb IAmb 21 50 28.4
comp=Z,12nm,1.1s
W13A Hualapai Mount 80.69 49 P **P** **21 50 27.0 +0.6**
W13A IAmb IAmb 21 50 34.3
comp=Z,3.0nm,0.3s
Y14A Wickenburg 80.77 50 P **P** **21 50 27.2 +0.6**
I05D Terrebonne, OR 80.77 38 P **P** **21 50 27.9 +1.5**
baz=234
E03A Lebam 80.84 35 P **P** **21 50 27.5 +1.0**
MA2 Magadan 80.92 345 P **P** **21 50 26.4 -0.3**
MA2 IAmb IAmb 21 50 27.2
comp=Z,5.1nm,0.9s
PRN Pahroc Range 81.01 46 P **P** **21 50 28.4 +0.5**
PRN IAmb IAmb 21 50 30.4
comp=Z,9.0nm,1.0s
R11A Troy Canyon, C 81.12 45 P **P** **21 50 29.0 +0.4**
R11A Troy Canyon, C 81.12 45 P **P** **21 50 29.3 +0.7**
baz=239
BMN Battle Mountai 81.13 43 P **P** **21 50 29.3 +0.8**
BMN IAmb IAmb 21 50 30.5
comp=Z,11nm,1.1s
Q23K Middleton Isla 81.19 16 P **P** **21 50 28.8 +0.7**
Q23K Middleton Isla 81.19 16 P **P** **21 50 29.4 +1.3**
baz=211
MID Middleton Isla 81.19 16 P **P** **21 50 28.5 +0.4**
WVOR Wild Horse Val 81.31 40 P **P** **21 50 30.1 +0.7**
WVOR IAmb IAmb 21 50 31.4
comp=Z,13nm,1.1s
GAMB Gambell 81.35 3 P **P** **21 50 29.3 +0.5**
GAMB IAmb IAmb 21 50 30.3
comp=Z,6.6nm,0.9s
GAMB Gambell 81.35 3 P **P** **21 50 28.9 +0.1**
baz=186
SPCR Spurr Chakacha 81.38 13 P **P** **21 50 27.9 -1.3**
baz=205
M19K Big River Lodg 81.59 11 P **P** **21 50 30.0 -0.1**
baz=203
TUC Tucson 81.67 52 P **P** **21 50 32.1 +0.8**
TUC IAmb IAmb 21 50 34.3
comp=Z,6.2nm,1.0s
TUC Tucson 81.67 52 P **P** **21 50 33.3 +1.9**
baz=243
I07A Izee 81.71 39 P **P** **21 50 31.4 +0.1**
I07A IAmb IAmb 21 50 33.4
comp=Z,6.0nm,0.9s
L19K White Mountain 81.77 11 IAmb IAmb 21 50 32.5
comp=Z,9.4nm,1.1s
L19K White Mountain 81.77 11 P **P** **21 50 31.6 +0.5**
baz=203
RC01 Rabbit Creek A 81.82 14 P **P** **21 50 31.0 -0.3**
baz=208
J08A Circle Bar Ran 81.92 40 P **P** **21 50 33.1 +0.7**
J08A IAmb IAmb 21 50 34.4
comp=Z,9.9nm,1.1s
LCMT Little Creek M 82.07 47 P **P** **21 50 34.4 +1.0**
LCMT IAmb IAmb 21 50 35.6
comp=Z,4.9nm,1.0s
X16A Lo Mia Camp, P 82.14 50 P **P** **21 50 35.0 +1.2**
X16A IAmb IAmb 21 50 36.5
comp=Z,6.7nm,0.9s
L20K Farewell, AK 82.22 11 P **P** **21 50 33.2 -0.2**
baz=204
IPM Ipoh 82.25 277 P **P** **21 50 35.1 +0.5**
IPM IAmb IAmb 21 50 36.1
comp=Z,12nm,0.9s
CCUT Cedar City 82.25 47 P **P** **21 50 35.4 +1.0**
CCUT IAmb IAmb 21 50 36.9
comp=Z,5.9nm,1.0s
GLI Glacier Island 82.25 15 P **P** **21 50 33.1 -0.4**
GLI Glacier Island 82.25 15 P **P** **21 50 32.9 -0.6**
baz=210
TTA Tatalina 82.26 10 P **P** **21 50 34.3 +0.7**
TTA IAmb IAmb 21 50 34.5
comp=Z,5.0nm,0.9s
TTA Tatalina 82.26 10 P **P** **21 50 33.9 +0.3**
baz=202,SNR=5.4
EYAK Cordova Ski Ar 82.31 16 P **P** **21 50 35.2 +1.4**
baz=211
M22K Willow 82.32 13 P **P** **21 50 33.7 -0.1**
baz=207
CRAG Craig 82.35 24 P **P** **21 50 34.7 +0.6**
baz=223
KNB Kanab 82.37 47 P **P** **21 50 35.8 +0.9**
PSUT Pine Spring 82.39 46 P **P** **21 50 35.5 +0.5**
KNK Knik Glacier 82.40 14 P **P** **21 50 33.8 -0.5**
baz=209
319A Douglas 82.40 54 P **P** **21 50 34.9 -0.2**
319A IAmb IAmb 21 50 38.1
comp=Z,12nm,1.1s
SZCU Shurtz Canyon 82.46 47 P **P** **21 50 36.2 +0.7**
SZCU IAmb IAmb 21 50 38.5
comp=Z,6.9nm,1.2s
U15A North Rim 82.46 48 P **P** **21 50 36.4 +0.9**
U15A IAmb IAmb 21 50 38.2
comp=Z,12nm,1.0s
ELK Elko 82.58 43 P **P** **21 50 36.2 +0.3**
comp=Z,3.5nm,0.9s,baz=247,slow=6.4,SNR=9.9
ELK Elko 82.58 43 P **P** **21 50 36.0 0.0**
ELK IAmb IAmb 21 50 37.8
comp=Z,5.5nm,1.0s
ANM Nome 82.59 6 P **P** **21 50 34.9 -0.2**
ANM IAmb IAmb 21 50 36.2
comp=Z,8.7nm,1.2s
ANM Nome 82.59 6 P **P** **21 50 34.3 -0.8**
baz=193
B05A Bryant 82.67 34 P **P** **21 50 36.0 +0.1**
baz=233
WUAZ Wupatki 82.69 49 P **P** **21 50 36.9 +0.3**
WUAZ IAmb IAmb 21 50 39.1
comp=Z,8.9nm,1.1s
WUAZ Wupatki 82.69 49 P **P** **21 50 37.7 +1.1**
baz=242
G08A Pilot Rock 82.71 38 P **P** **21 50 36.7 +0.4**
G08A IAmb IAmb 21 50 38.2
comp=Z,5.8nm,1.1s
DIV Divide 82.80 15 P **P** **21 50 36.4 0.0**
DIV IAmb IAmb 21 50 37.0
comp=Z,11nm,0.8s
LTY Liberty 82.85 36 P **P** **21 50 36.7 -0.2**
CUT Chulitna 82.87 13 P **P** **21 50 36.6 0.0**
baz=207
E07A Sunnyside 82.91 36 P **P** **21 50 37.3 +0.1**
E07A IAmb IAmb 21 50 38.5
comp=Z,5.6nm,0.8s
PPLA Purkeypile 82.92 12 P **P** **21 50 36.9 -0.2**
baz=205
PKCU Pink Cliffs 82.93 47 P **P** **21 50 38.6 +0.7**
PKCU IAmb IAmb 21 50 41.7
comp=Z,7.3nm,1.0s
BMRM Bremner River 82.96 16 P **P** **21 50 37.1 -0.1**
BMRM IAmb IAmb 21 50 37.5
comp=Z,7.7nm,0.8s
BMRM Bremner River 82.96 16 P **P** **21 50 37.0 -0.2**
baz=212
K20K Telida 82.99 11 P **P** **21 50 36.7 -0.5**
K20K IAmb IAmb 21 50 38.3
comp=Z,12nm,0.9s
K20K Telida 82.99 11 P **P** **21 50 36.8 -0.4**
baz=203,SNR=7.6
HAWA Hanford 83.00 37 P **P** **21 50 38.1 +0.5**
HAWA IAmb IAmb 21 50 39.5
comp=Z,5.5nm,0.7s
SCM Sheep Creek Mo 83.03 14 P **P** **21 50 37.1 -0.3**
SCM Sheep Creek Mo 83.03 14 P **P** **21 50 36.7 -0.8**
baz=210
KLU Klutina 83.07 15 P **P** **21 50 36.4 -1.3**
baz=211
MTPU Mount Pierson 83.30 47 P **P** **21 50 39.8 0.0**
MTPU IAmb IAmb 21 50 42.8
comp=Z,8.2nm,1.1s
WRAK Wrangell Islan 83.34 24 P **P** **21 50 39.0 -0.1**
TNA Tin City 83.36 4 P **P** **21 50 39.4 +0.5**
TNA IAmb IAmb 21 50 40.4
comp=Z,13nm,1.1s
TNA Tin City 83.36 4 P **P** **21 50 38.8 -0.1**
baz=190
CAST Castle Rocks 83.42 12 IAmb IAmb 21 50 38.8
comp=Z,12nm,0.8s
CAST Castle Rocks 83.42 12 P **P** **21 50 37.3 -2.1**
baz=205,SNR=9.9
BMO Blue Mountains 83.44 39 P **P** **21 50 40.2 +0.2**
BJT Baijiatuan 83.50 315 P **P** **21 50 40.7 +0.5**
BJT IAmb IAmb 21 50 42.1
comp=Z,7.9nm,1.0s
N25K Chitina, Valde 83.50 16 P **P** **21 50 40.4 +0.5**
N25K IAmb IAmb 21 50 40.4
comp=Z,8.9nm,0.7s
N25K Chitina, Valde 83.50 16 P **P** **21 50 39.8 -0.1**
baz=212
BJI Beijing 83.51 315 P **P** **21 50 41.4 +1.1**
BJI pmax pmax
comp=Z,8.0nm,1.0s
MSU Marysvale 83.53 46 P **P** **21 50 41.2 +0.4**
M24K Tolsona, Glenn 83.54 15 P **P** **21 50 40.5 +0.5**
M24K Tolsona, Glenn 83.54 15 P **P** **21 50 40.5 +0.5**
baz=211
GLB Gilahina Butte 83.57 16 P **P** **21 50 40.0 -0.2**
GLB IAmb IAmb 21 50 40.9
comp=Z,12nm,1.0s
MFID Camas Ranch 83.58 41 P **P** **21 50 41.0 +0.3**
MFID IAmb IAmb 21 50 42.7
comp=Z,7.1nm,1.1s
WAT6 Susitna Watana 83.58 14 P **P** **21 50 39.7 -0.6**
baz=209,SNR=5.2
WAT1 Susitna Watana 83.62 13 P **P** **21 50 40.3 -0.1**
baz=208
D08A Wollman Farm, 83.72 36 P **P** **21 50 40.7 -0.5**
D08A IAmb IAmb 21 50 43.1
comp=Z,6.5nm,1.1s
J20K Nowinta River 83.73 10 P **P** **21 50 40.9 0.0**
J20K IAmb IAmb 21 50 41.9
comp=Z,9.1nm,1.1s
J20K Nowinta River 83.73 10 P **P** **21 50 40.6 -0.2**
baz=203,SNR=6.4
KTH Kantishna Hill 83.77 12 IAmb IAmb 21 50 41.6
comp=Z,10nm,1.0s
CHUM Lake Minchumin 83.80 11 P **P** **21 50 40.2 -1.0**
baz=205
TRF Thorofare Moun 83.80 12 P **P** **21 50 40.1 -1.4**
baz=207,SNR=11
BARN Barnard Glacie 83.84 17 P **P** **21 50 41.9 +0.2**
DUG Dugway, Tooele 83.91 45 P **P** **21 50 43.4 +1.0**
baz=241
ENH Enshi 84.02 304 P **P** **21 50 43.5 +0.4**
HARP HAARP 84.04 15 P **P** **21 50 41.8 -0.7**
baz=212
MAW Mawson 84.04 200 P **P** **21 50 41.5 -0.9**
comp=Z,1.6nm,0.6s,baz=98,slow=7.1,SNR=1.4
RND Reindeer 84.06 13 P **P** **21 50 42.2 -0.4**
F10A Beach Ranch, E 84.10 38 P **P** **21 50 43.1 -0.1**
F10A IAmb IAmb 21 50 44.5
comp=Z,9.0nm,1.0s
DHY Denali Highway 84.10 14 P **P** **21 50 42.3 -0.6**
DHY IAmb IAmb 21 50 42.9
comp=Z,7.2nm,1.1s
DHY Denali Highway 84.10 14 P **P** **21 50 42.3 -0.6**
baz=210
B08A Colville Reser 84.22 35 P **P** **21 50 44.1 +0.4**
BPAW Bear Paw Mtn. 84.25 12 P **P** **21 50 43.6 +0.2**
BPAW Bear Paw Mtn. 84.25 12 P **P** **21 50 42.3 -1.1**
baz=206
MCK McKinley 84.33 13 IAmb IAmb 21 50 44.3
comp=Z,11nm,1.0s
MCK McKinley 84.33 13 P **P** **21 50 43.2 -0.7**
baz=208
PLID Pearl Lake 84.35 39 P **P** **21 50 44.9 +0.3**
Q16A Castle Valley 84.42 46 P **P** **21 50 46.1 +1.0**
PAX Paxson 84.45 15 P **P** **21 50 44.0 -0.5**
PAX IAmb IAmb 21 50 44.8
comp=Z,4.8nm,0.9s
PAX Paxson 84.45 15 P **P** **21 50 44.0 -0.5**
baz=211
SKAG Skagway 84.52 21 P **P** **21 50 46.1 +1.3**
SKAG IAmb IAmb 21 50 51.6
comp=Z,8.4nm,1.0s
HLID Hailey 84.54 41 P **P** **21 50 45.8 +0.3**
HLID IAmb IAmb 21 50 47.7
comp=Z,4.0nm,0.9s
HLID Hailey 84.54 41 P **P** **21 50 46.6 +1.1**
baz=239,SNR=6.6
GSI Gunungsitoli 84.55 273 P **P** **21 50 46.5 +0.5**
TMUT Trail Mountain 84.57 46 P **P** **21 50 46.3 +0.3**
HVU Hansel Valley 84.70 43 P **P** **21 50 46.6 +0.2**
YUK3 Moose Creek 84.76 17 P **P** **21 50 46.0 -0.2**
baz=216
M27K Edge Creek, AK 84.84 16 P **P** **21 50 46.9 +0.3**
M27K IAmb IAmb 21 50 48.1
comp=Z,13nm,1.1s
M27K Edge Creek, AK 84.84 16 P **P** **21 50 46.7 +0.2**
baz=215
HYT Haines Junctio 84.87 19 P **P** **21 50 45.8 -0.9**
baz=219
SRU San Rafael Swe 84.95 46 P **P** **21 50 47.9 +0.2**
L26K Log Cabin Wild 85.02 15 P **P** **21 50 47.3 +0.1**
baz=213
I21K Tanana 85.04 11 IAmb IAmb 21 50 48.5
comp=Z,5.3nm,1.0s
I21K Tanana 85.04 11 P **P** **21 50 47.3 +0.1**
baz=205
WRH Wood River Hil 85.16 13 IAmb IAmb 21 50 48.9
comp=Z,14nm,1.2s
BVCY Beaver Creek 85.17 17 P **P** **21 50 48.3 +0.4**
baz=216
RIDG Independent Ri 85.26 14 P **P** **21 50 48.1 -0.3**
baz=212
H21K Melozitna Rive 85.33 10 P **P** **21 50 48.7 +0.1**
H21K Melozitna Rive 85.33 10 P **P** **21 50 48.8 +0.1**
baz=204
HDA Harding Lake 85.35 13 IAmb IAmb 21 50 49.2
comp=Z,6.5nm,0.8s
HDA Harding Lake 85.35 13 P **P** **21 50 48.1 -0.7**
baz=210,SNR=6.5
DOT Dot Lake 85.37 15 P **P** **21 50 48.3 -0.6**
DOT IAmb IAmb 21 50 49.7
comp=Z,5.5nm,0.8s
CCB Clear Creek Bu 85.38 13 IAmb IAmb 21 50 49.0
comp=Z,6.5nm,0.9s
NEW Newport 85.40 36 P **P** **21 50 49.7 +0.3**
baz=237
L27K Beaver Creek, 85.44 16 P **P** **21 50 49.3 +0.1**
baz=215
XLT XiLinHaoTe 85.47 319 ⇑*i*P **P** **21 50 50.8 +0.9**
XLT pmax pmax
comp=Z,13nm,0.9s
XLT pmax pmax
comp=Z,120nm,4.2s
I23K Minto, Yukon-K 85.50 12 P **P** **21 50 49.7 +0.3**
baz=208
MNTX Cornudas Mount 85.56 55 P **P** **21 50 50.7 +0.2**
MNTX Cornudas Mount 85.56 55 P **P** **21 50 52.2 +1.6**
baz=246
MDM Murphy Dome 85.56 12 P **P** **21 50 48.6 -1.2**
MDM IAmb IAmb 21 50 49.9
comp=Z,12nm,1.2s
TCOL CIGO, UAF Yank 85.56 13 P **P** **21 50 49.6 -0.2**
baz=209
COLA College 85.57 13 P **P** **21 50 49.5 -0.3**
baz=209
WHY Whitehorse 85.58 20 P **P** **21 50 50.5 +0.4**
baz=221
SCRK Sand Creek 85.66 15 P **P** **21 50 50.4 -0.1**
SCRK IAmb IAmb 21 50 51.2
comp=Z,3.5nm,0.9s
SCRK Sand Creek 85.66 15 P **P** **21 50 49.6 -0.9**
baz=213
IL31 85.68 13 IAmb IAmb 21 50 50.4
comp=Z,4.7nm,0.9s
ILAR Eielson Array 85.68 13 P **P** **21 50 49.6 -0.7**
comp=Z,1.4nm,0.4s,baz=226,slow=5.3,SNR=25
POKR Poker Plat Res 85.87 13 P **P** **21 50 50.9 -0.3**
baz=210
J25K Salcha River, 85.88 14 P **P** **21 50 51.5 +0.1**
baz=211
TX31 Lajitas Ar. Si 85.99 58 P **P** **21 50 53.9 +1.2**
TX32 Lajitas Array 85.99 58 P **P** **21 50 53.9 +1.2**
TX32 IAmb IAmb 21 50 55.8
comp=Z,11nm,1.1s
TXAR Lajitas Array 85.99 58 P **P** **21 50 54.6 +1.9**
comp=Z,3.8nm,0.9s,baz=222,slow=5.9,SNR=30
TXAR Lajitas Array 85.99 58 P **P** **21 50 54.5 +1.7**
XAN Xi'an 86.00 307 P **P** **21 50 54.1 +1.5**
XAN pP PcP 21 50 58.9 +4.5
XAN pmax pmax
comp=Z,20nm,1.1s
PV15 Paradox Valley 86.03 48 P **P** **21 50 52.0 -1.0**
PV15 pP pP 21 52 39.5 -12
ANMO Albuquerque 86.06 52 P **P** **21 50 54.2 +1.1**
comp=Z,2.7nm,1.0s,baz=220,slow=7.0,SNR=5.0
ANMO Albuquerque 86.06 52 P **P** **21 50 53.0 -0.1**
ANMO IAmb IAmb 21 50 56.6
comp=Z,3.3nm,1.0s
ANMO Albuquerque 86.06 52 P **P** **21 50 55.0 +1.9**
baz=245
MCMT McKenzie Canyo 86.15 41 P **P** **21 50 53.9 +0.6**
BILL Bilibino 86.17 354 P **P** **21 50 52.5 -0.1**
BILL IAmb IAmb 21 50 53.7
comp=Z,8.0nm,1.0s
J26L Joseph Creek 86.20 14 P **P** **21 50 53.1 +0.1**
baz=213

H24K	**Noodor Dome**	**86.41**	**12**	P		**P**	**21 50 52.7**	**-1.1**
	baz=209							
M30M	**Minto, Yukon**	**86.45**	**18**	P		**P**	**21 50 53.7**	**-0.4**
	baz=219							
MSO	**Missoula**	**86.48**	**38**	P		**P**	**21 50 54.6**	**-0.1**
	baz=240							
REDW	**Red Top Meadow**	**86.71**	**43**	P		**P**	**21 50 56.4**	**+0.4**
REDW				IAmb		IAmb	21 50 58.2	
	comp=Z,6.2nm,1.1s							
M31M	**Drury Creek, Y**	**86.89**	**19**	P		**P**	**21 50 56.3**	**+0.2**
	baz=222							
DAWY	**Dawson**	**86.89**	**16**	P		**P**	**21 50 56.6**	**+0.5**
	baz=217							
MOOW	**Moose Ponds**	**86.96**	**42**	IAmb		IAmb	21 51 01.3	
	comp=Z,3.3nm,1.1s							
S22A	**4UR Ranch, Cre**	**86.96**	**49**	P		**P**	**21 50 58.1**	**+0.6**
	baz=245							
HHC	**Hu-ho-hao-te**	**87.00**	**314**	*e*P		**P**	**21 51 01.2**	**+3.9**
HHC				pmax		pmax		
	comp=Z,21nm,0.9s							
HHC				pmax		pmax		
	comp=Z,93nm,4.6s							
HHC				LR		LR		
	comp=N,96nm,14.0s							
HHC				LR		LR		
	comp=E,170nm,14.6s							
HHC				LR		LR		
	comp=Z,200nm,14.6s							
EGAK	**Eagle**	**87.02**	**15**	P		**P**	**21 50 56.7**	**+0.1**
	baz=215							
FLWY	**Flagg Ranch**	**87.14**	**42**	P		**P**	**21 50 58.4**	**+0.4**
FLWY				IAmb		IAmb	21 51 00.5	
	comp=Z,6.7nm,0.9s							
COLD	**Coldfoot**	**87.20**	**11**	P		**P**	**21 50 57.6**	**+0.2**
COLD				IAmb		IAmb	21 50 58.7	
	comp=Z,5.8nm,0.9s							
COLD	**Coldfoot**	**87.20**	**11**	P		**P**	**21 50 57.7**	**+0.2**
	baz=207							
BOZ	**Bozeman (W)**	**87.27**	**40**	P		**P**	**21 50 58.9**	**+0.4**
	baz=241							
BW06	**Boulder Array**	**87.27**	**43**	P		**P**	**21 50 59.9**	**+1.2**
	baz=243							
PD31	**Pinedale Array**	**87.27**	**43**	P		**P**	**21 50 58.8**	**+0.1**
PDAR	**Pinedale Array**	**87.27**	**43**	P		**P**	**21 50 58.8**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=224,slow=3.9,SNR=12							
H17A	**Grant Village**	**87.37**	**42**	P		**P**	**21 51 00.8**	**+1.6**
H17A				IAmb		IAmb	21 51 02.3	
	comp=Z,6.5nm,0.9s							
H17A	**Grant Village**	**87.37**	**42**	P		**P**	**21 51 01.1**	**+2.0**
	baz=242							
TGTN	**Hyland Airport**	**88.44**	**22**	P		**P**	**21 51 04.7**	**+1.3**
	baz=227							
MSTX	**Muleshoe**	**88.46**	**54**	P		**P**	**21 51 04.8**	**+0.5**
	baz=248							
RLMT	**Red Lodge**	**88.53**	**41**	P		**P**	**21 51 05.9**	**+1.4**
	baz=243							
TOLK	**Toolik Lake Re**	**88.57**	**10**	P		**P**	**21 51 03.8**	**-0.1**
	baz=207							
Q24A	**Divide**	**88.66**	**48**	P		**P**	**21 51 06.9**	**+1.6**
	baz=246							
CMAR	**Chiang Mai Arr**	**88.67**	**290**	P		**P**	**21 51 06.5**	**+1.0**
	comp=Z,3.2nm,0.9s,baz=107,slow=2.8,SNR=18							
CMAR	**Chiang Mai Arr**	**88.67**	**290**	P		**P**	**21 51 06.6**	**+1.2**
CHTO	**Chiang Mai**	**88.78**	**290**	P		**P**	**21 51 06.6**	**+0.6**
CHTO				IAmb		IAmb	21 51 07.9	
	comp=Z,3.6nm,0.8s							
N23A	**Red Feather La**	**88.90**	**46**	P		**P**	**21 51 07.8**	**+1.5**
	baz=245							
PZH	**PanZhiHua**	**88.91**	**298**	P		**P**	**21 51 07.9**	**+1.3**
PZH				pmax		pmax		
	comp=Z,8.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,90nm,4.2s							
JCT	**Junction City**	**89.53**	**58**	P		**P**	**21 51 10.0**	**+0.7**
	baz=249							
ABTX	**Abilene, Hawle**	**90.41**	**56**	P		**P**	**21 51 14.4**	**+1.2**
	baz=249							
TROLL	**Troll, Antarti**	**90.55**	**180**	P		**P**	**21 51 13.3**	**0.0**
SNAA	**Sanae**	**90.84**	**179**	P		**P**	**21 51 14.7**	**+0.1**
VNA3	**Neumayer Olymp**	**90.99**	**176**	P		**P**	**21 51 15.3**	**+0.1**
INK	**Inuvik**	**91.69**	**15**	P		**P**	**21 51 17.3**	**-0.9**
	comp=Z,4.5nm,0.9s,baz=211,slow=3.0,SNR=6.1							
INK	**Inuvik**	**91.69**	**15**	P		**P**	**21 51 17.6**	**-0.6**
INK				IAmb		IAmb	21 51 19.5	
	comp=Z,4.8nm,1.0s							
INK	**Inuvik**	**91.69**	**15**	P		**P**	**21 51 17.7**	**-0.5**
	baz=222							
ULN	**Ulaanbaatar**	**92.88**	**320**	P		**P**	**21 51 24.9**	**+0.5**
SONM	**Songino Array**	**93.27**	**319**	P		**P**	**21 51 26.0**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=145,slow=3.6,SNR=5.9							
YKA	**Yellowknife Ar**	**94.17**	**25**	P		**P**	**21 51 29.5**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=242,slow=4.4,SNR=21							
C36M	**Paulatuk**	**94.90**	**17**	P		**P**	**21 51 33.2**	**+0.3**
	baz=231							
TIXI	**Tiksi**	**95.88**	**345**	P		**P**	**21 51 36.1**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=90,slow=24,SNR=7.2							
A36M	**Sachs Harbour**	**96.28**	**15**	P		**P**	**21 51 39.1**	**0.0**
A36M	**Sachs Harbour**	**96.28**	**15**	P		**P**	**21 51 39.2**	**+0.2**
	baz=230							
GOMU	**GeErMu**	**97.58**	**305**	P		Pdif	21 51 46.0	-0.2
GOMU				pP		P	21 51 50.9	+4.7
GOMU				sP		PcP	21 51 52.2	+6.0
GOMU				pmax		pmax		
	comp=Z,1.0nm,0.5s							
GOMU				pmax		pmax		
	comp=Z,53nm,5.8s							
MKAR	**Makanchi Array**	**108.86**	**314**	PKiKP		**PKiKP**	**21 56 36.1**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=62,slow=2.7,SNR=5.4							
KURBB	**Kurchatov Arra**	**111.60**	**318**	PKiKP		**PKiKP**	**21 56 40.9**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=99,slow=2.1,SNR=8.5							
BVAR	**Borovoye Array**	**116.56**	**321**	PKP		**PKPdf**	**21 56 50.8**	**-0.7**
	comp=Z,0.9nm,0.4s							
ARU	**Arti**	**122.57**	**326**	PKP		**PKPdf**	**21 57 02.6**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=12,slow=3.3,SNR=7.6							
AKTO	**Aktyubinsk**	**124.59**	**320**	PKP		**PKPdf**	**21 57 06.6**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=80,slow=1.4,SNR=6.0							
ARCES	**ARCESS Array B**	**126.05**	**350**	PKP		**PKPdf**	**21 57 08.8**	**-0.5**
	comp=Z,7.0nm,1.0s,baz=57,slow=3.5,SNR=8.1							
BELG	**Belogornoye**	**130.00**	**325**	PKP		**PKPdf**	**21 57 17.2**	**0.0**
	comp=Z,11nm,0.9s,baz=98,slow=4.5,SNR=7.7							
FINES	**FINESS Array B**	**132.91**	**344**	PKP		**PKPdf**	**21 57 22.5**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=34,slow=0.5,SNR=4.3							
FINES				SKPbc		**SKPab**	**22 00 01.9**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=64,slow=6.3,SNR=3.6							
AKASG	**Malin Array Be**	**140.28**	**332**	PKP		**PKPdf**	**21 57 36.2**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=48,slow=2.6,SNR=2.9							
SORM	**Soroca**	**142.51**	**330**	⇑P		**PKPdf**	**21 57 37.3**	**-3.1**
MILM	**Milestii Mici**	**143.13**	**328**	⇑P		PKPab	21 57 39.4	+0.1
BSEG	**Bad Segeberg**	**143.15**	**351**	*e*PKPbc		PKPab	21 57 39.3	+0.1
	baz=26,slow=3.8							
LEOM	**Leova**	**143.72**	**328**	⇑P		**PKPdf**	**21 57 42.3**	**-0.2**
ILGA	**Ilgaz**	**143.80**	**317**			**PKPdf**	**21 57 43.2**	**0.0**
VASR	**Vaslui**	**143.83**	**329**	⇑P		**PKPdf**	**21 57 42.6**	**-0.2**
RUE	**Ruedersdorf**	**143.93**	**347**	*e*PKPbc		PKPab	21 57 42.4	+0.3
	baz=26,slow=3.8							
VLDR	**Vladesti**	**144.23**	**328**	⇓P		**PKPab**	**21 57 44.3**	**+0.8**
TLCR		**144.29**	**326**	⇑P		**PKPdf**	**21 57 43.6**	**-0.1**
VARL	**Varlezi**	**144.31**	**328**	⇑P		**PKPab**	**21 57 43.8**	**-0.1**
BUR08	**Bucovina Ar. S**	**144.32**	**332**			**PKPab**	**21 57 44.0**	**+0.1**
BURAR	**Bucovina Array**	**144.33**	**332**	⇓P		**PKPab**	**21 57 44.4**	**+0.4**
BURAR	**Bucovina Array**	**144.33**	**332**	⇑P		**PKPab**	**21 57 44.1**	**+0.1**
GHRR		**144.42**	**328**	⇑P		**PKPab**	**21 57 45.2**	**+1.0**
RETH	**Rethem/Aller,**	**144.45**	**352**	*e*PKPbc		**PKPdf**	**21 57 43.9**	**+0.2**
	baz=26,slow=3.8							
TESR	**Tescani**	**144.48**	**330**	⇓P		**PKPab**	**21 57 44.4**	**-0.1**
BRTR	**Keskin Array B**	**144.51**	**315**	PKP		**PKPdf**	**21 57 44.4**	**0.0**
	comp=Z,7.1nm,0.8s,baz=123,slow=3.1,SNR=42							
KOLS	**Kolonicke sedl**	**144.52**	**336**	*e*PKP		**PKPab**	**21 57 44.9**	**+0.3**
JURR	**Jurilovca**	**144.53**	**326**	⇑P		**PKPab**	**21 57 44.6**	**-0.1**
FLTG	**Flechtingen**	**144.56**	**350**	*e*PKPbc		PKPbc	21 57 43.9	-0.1
	baz=26,slow=3.8							
NRDL	**Niedersach Rie**	**144.58**	**351**	*e*PKPbc		PKPbc	21 57 44.2	+0.2
	baz=26,slow=3.8							
CFR	**Carcaliu**	**144.65**	**327**	⇓P		PKPbc	21 57 44.8	+0.2
TPGR	**Topolog**	**144.72**	**326**	⇑P		**PKPab**	**21 57 45.4**	**0.0**
ODBI	**Odobesti**	**144.81**	**328**	⇓P		**PKPab**	**21 57 47.1**	**+1.4**
ASSE	**Asse, Remlinge**	**144.84**	**350**	*e*PKPbc		PKPbc	21 57 45.1	+0.3
	baz=26,slow=3.8							
CRVS	**Cervenica-Dubn**	**144.86**	**337**	*e*PKP		**PKPab**	**21 57 45.9**	**0.0**
VRI	**Vrincioaia**	**144.90**	**329**	⇓P		PKPbc	21 57 45.6	+0.3
PLOR	**Plostina**	**144.94**	**329**	⇑P		PKPbc	21 57 45.8	+0.3
TIRR	**Tirgusor**	**144.98**	**326**	⇓P		PKPbc	21 57 45.9	+0.3
TIRR	**Tirgusor**	**144.98**	**326**			**PKPab**	**21 57 46.7**	**+0.2**
BMR	**Baia Mare**	**145.03**	**334**	⇓P		**PKPab**	**21 57 46.4**	**-0.2**
TRPA	**Tarpa**	**145.07**	**335**	⇑P		**PKPab**	**21 57 46.3**	**-0.3**
TRPA	**Tarpa**	**145.07**	**335**	PKP		**PKPbc**	**21 57 46.0**	**+0.3**
HARR	**Harsova**	**145.09**	**326**	⇓P		**PKPab**	**21 57 47.1**	**+0.3**
ARCR	**ARCALIA**	**145.12**	**332**	⇓P		**PKPab**	**21 57 46.5**	**-0.4**
OSTC	**Ostas**	**145.12**	**343**	*e*PKP		**PKPab**	**21 57 46.5**	**-0.3**
CHVC	**Chvalec**	**145.13**	**344**	*e*PKP		**PKPab**	**21 57 46.5**	**-0.4**
COVR	**Voineasa-Covas**	**145.17**	**329**	⇓P		**PKPdf**	**21 57 43.0**	**-2.2**
CLZ	**Clausthal**	**145.17**	**350**	*e*PKPbc		PKPbc	**21 57 46.3**	**+0.4**
	baz=26,slow=3.8							
OZUR		**145.19**	**330**	⇓P		**PKPab**	**21 57 46.9**	**-0.4**
CLL	**Collm**	**145.19**	**347**	⇓/PKPbc		PKPbc	**21 57 45.8**	**-0.2**
	comp=Z,21nm,0.8s							
CLL				⇓/*ix*		x	21 57 47.5	
	comp=Z,15nm,0.9s							
CLL	**Collm**	**145.19**	**347**	*e*PKPbc		**PKPbc**	**21 57 46.2**	**+0.2**
	baz=26,slow=3.8							
UPC	**Upice**	**145.22**	**344**	*e*PKP		**PKPbc**	**21 57 46.4**	**+0.3**
DPC	**Dobruska-Polom**	**145.27**	**343**	*e*PKP		**PKPbc**	**21 57 46.9**	**+0.6**
MANR	**Mangalia**	**145.31**	**325**	⇑P		**PKPbc**	**21 57 46.8**	**+0.2**
LANS	**Liptovska Anna**	**145.36**	**339**	*e*PKP		**PKPab**	**21 57 48.1**	**+0.2**
KRLC	**Kraliky**	**145.39**	**343**	*e*PKP		**PKPbc**	**21 57 47.2**	**+0.5**
BRG	**Berggiesshubel**	**145.40**	**346**	*e*PKP		**PKPbc**	**21 57 47.1**	**+0.5**
BRG				Amp			21 57 48.6	
	comp=Z,14nm,0.9s							
BRG	**Berggiesshubel**	**145.40**	**346**	*e*PKPbc		**PKPbc**	**21 57 47.1**	**+0.5**
	baz=26,slow=3.8							
NEHR	**Nehoiu**	**145.42**	**329**	⇓P		**PKPab**	**21 57 48.8**	**+0.6**
MORC	**Moravsky Berou**	**145.43**	**342**	⇓P		**PKPbc**	**21 57 46.9**	**+0.1**
MORC	**Moravsky Berou**	**145.43**	**342**			**PKPbc**	**21 57 47.2**	**+0.4**
MORC	**Moravsky Berou**	**145.43**	**342**	*e*PKP		**PKPbc**	**21 57 47.2**	**+0.4**
DOPP	**Dopca**	**145.47**	**330**	⇑P		**PKPab**	**21 57 48.3**	**-0.1**
FBE	**Freiberg**	**145.48**	**347**	*e*PKPbc		**PKPab**	**21 57 47.7**	**-0.5**
	baz=26,slow=3.8							
GTTG	**Gottingen**	**145.52**	**351**	*e*PKPbc		**PKPbc**	**21 57 47.4**	**+0.5**
	baz=26,slow=3.8							
NEUB	**Neuenburg**	**145.53**	**348**	*e*PKPbc		**PKPbc**	**21 57 47.4**	**+0.5**
	baz=26,slow=3.8							
MLR	**Muntele Rosu**	**145.55**	**329**	⇓P		**PKPab**	**21 57 48.2**	**-0.7**
MLR	**Muntele Rosu**	**145.55**	**329**			**PKPbc**	**21 57 47.9**	**+0.5**
PVCC	**Panska Ves**	**145.57**	**345**	*e*PKP		**PKPab**	**21 57 47.9**	**-0.6**
MESR	**Meseseni**	**145.67**	**334**	⇑P		**PKPbc**	**21 57 48.2**	**+0.7**
MDUB	**Mudurnu**	**145.73**	**318**			**PKPbc**	**21 57 48.7**	**+0.6**
SECR		**145.81**	**328**	⇑P		**PKPbc**	**21 57 48.7**	**+0.7**
LTVH	**Ltavrtes, Hu**	**145.92**	**335**	⇑P		**PKPab**	**21 57 49.7**	**-0.3**
LTVH	**Ltavrtes, Hu**	**145.92**	**335**	PKP		**PKPab**	**21 57 49.7**	**-0.3**
VOIR		**146.02**	**330**	⇓P		**PKPab**	**21 57 50.2**	**-0.5**
DRGR		**146.06**	**333**	⇓P		**PKPbc**	**21 57 49.2**	**+0.5**
PRU	**Pruhonice**	**146.07**	**345**	*e*PKP		**PKPbc**	**21 57 49.2**	**+0.7**
VRAC	**Vranov**	**146.13**	**342**	⇓P		**PKPbc**	**21 57 49.5**	**+0.8**
VRAC	**Vranov**	**146.13**	**342**	*e*PKP		**PKPbc**	**21 57 49.3**	**+0.5**
VYHS	**Vyhne**	**146.14**	**339**	*e*PKP		**PKPbc**	**21 57 49.6**	**+0.8**
PLN	**Plauen**	**146.15**	**348**	*e*PKPbc		**PKPbc**	**21 57 49.2**	**+0.5**
	baz=26,slow=3.8							
TANN	**Tannenbergstha**	**146.15**	**347**	*e*PKPbc		**PKPbc**	**21 57 49.3**	**+0.4**
	baz=26,slow=3.8							
JAVC	**Velka Javorina**	**146.20**	**341**	*e*PKP		**PKPab**	**21 57 50.5**	**-0.7**
KOLL	**Kolacno**	**146.21**	**340**	*e*PKP		**PKPbc**	**21 57 49.9**	**+0.9**
GUNZ	**Gunzen**	**146.23**	**347**	*e*PKPbc		**PKPbc**	**21 57 49.6**	**+0.6**
	baz=26,slow=3.8							
PSZ	**Piszkesteto**	**146.25**	**337**	⇑P		**PKPbc**	**21 57 49.9**	**+0.6**
PSZ	**Piszkesteto**	**146.25**	**337**			**PKPbc**	**21 57 49.6**	**+0.4**
PSZ	**Piszkesteto**	**146.25**	**337**	PKP		**PKPbc**	**21 57 50.0**	**+0.8**
ARR	**Arges**	**146.27**	**330**	⇑P		**PKPab**	**21 57 50.6**	**-1.0**
NKC	**Novy Kostel**	**146.33**	**347**	*e*PKP		**PKPbc**	**21 57 49.8**	**+0.5**
KRUC	**Moravsky**	**146.41**	**342**	*e*PKP		**PKPbc**	**21 57 49.9**	**+0.4**
PBCC	**Pribram**	**146.49**	**345**	*e*PKP		**PKPbc**	**21 57 49.8**	**+0.1**
BORA	**Eskisehir**	**146.53**	**317**			**PKPbc**	**21 57 50.3**	**0.0**
MANZ	**Manzenberg**	**146.63**	**347**	*e*PKPbc		**PKPbc**	**21 57 50.7**	**+0.6**
	baz=26,slow=3.8							
MODS	**Modra-Piesok**	**146.76**	**341**	*e*PKP		**PKiKP**	**21 57 51.8**	**-0.7**
ROTZ	**Rotzenmuhle**	**146.82**	**347**	*e*PKPbc		**PKPbc**	**21 57 51.1**	**+0.5**
	baz=26,slow=3.8							
SRO	**Srobarova**	**146.90**	**339**	*e*PKP		**PKiKP**	**21 57 52.2**	**-0.6**
MEM	**Membach**	**146.93**	**355**	*d*PKiKP		**PKPbc**	**21 57 51.2**	**+0.4**
BTNL	**Ternell**	**146.94**	**355**	*d*PKP		**PKPbc**	**21 57 51.0**	**0.0**
BSTI	**Sart Tilman**	**146.99**	**355**	*d*PKiKP		**PKPbc**	**21 57 51.5**	**+0.5**
GRF	**Grafenberg Arr**	**147.09**	**348**	*e*PKPbc		**PKPbc**	**21 57 52.1**	**+0.8**
	baz=26,slow=3.8							
GRF				*e*PKPab		PKPab	**21 57 55.3**	**+0.6**
KHC	**Kasperske Hory**	**147.10**	**345**	*e*PKP		**PKPbc**	**21 57 51.9**	**+0.5**
KHC				*ex*		x	21 57 54.9	
CKRC	**Cesky Krumlov**	**147.21**	**344**	*e*PKP		**PKPbc**	**21 57 52.0**	**+0.3**
CSKK	**Cskako**	**147.31**	**339**	PKP		**PKPbc**	**21 57 52.8**	**+0.8**
BMRD	**Maredsous**	**147.33**	**356**	*d*PKiKP		**PKPbc**	**21 57 52.7**	**+0.8**
GEC2	**GERESS Array S**	**147.34**	**345**			**PKPbc**	**21 57 52.5**	**+0.3**
GEC2	**GERESS Array S**	**147.34**	**345**	*e*PKPbc		**PKPbc**	**21 57 52.5**	**+0.3**
	baz=26,slow=3.8							
GERES	**GERESS Array B**	**147.34**	**345**	PKPbc		**PKPbc**	**21 57 52.7**	**+0.5**
	comp=Z,4.5nm,0.7s,baz=323,slow=2.0,SNR=38							
VLAD	**Vladila**	**147.38**	**329**	⇓P		**PKPbc**	**21 57 52.7**	**+0.5**
BZS	**Buzias**	**147.43**	**353**	⇓P		**PKPdf**	**21 57 49.9**	**+0.9**
DOU	**Doubses**	**147.55**	**356**	*d*PKiKP		**PKiKP**	**21 57 53.4**	**-0.7**
EGYH	**Egyhazaskeszo**	**147.58**	**340**	PKP		**PKiKP**	**21 57 54.2**	**0.0**
CONA	**Conrad Observa**	**147.59**	**342**	*i* P		**PKiKP**	**21 57 53.8**	**-0.6**
	comp=Z,8.8nm,0.8s,SNR=9.2							
RONA	**Rosalia, Austr**	**147.66**	**341**	*i* P		**PKiKP**	**21 57 53.9**	**-0.6**
	comp=Z,8.7nm,0.8s,SNR=6.1							
HERR	**Herculane**	**147.67**	**332**	⇓P		**PKPbc**	**21 57 53.2**	**+0.2**
MPLH	**Magyarpolny**	**147.72**	**339**	PKP		**PKiKP**	**21 57 53.8**	**-0.7**
WLF	**Walferdange**	**147.85**	**354**	*e*PKPbc		**PKiKP**	**21 57 54.3**	**-0.4**
	baz=26,slow=3.8							
WLF	**Walferdange**	**147.85**	**354**	*d*PKiKP		**PKiKP**	**21 57 54.0**	**-0.7**
MDVR	**Moldovita**	**148.06**	**332**	⇑P		**PKPdf**	**21 57 49.4**	**-0.7**
MOA	**Molln**	**148.11**	**344**	*e*P		**PKPbc**	**21 57 54.6**	**+0.6**
	comp=Z,1.9nm,0.6s							
MORH	**Mrgy, Hungar**	**148.15**	**337**	⇓P		**PKPbc**	**21 57 54.0**	**-0.1**
MORH	**Mrgy, Hungar**	**148.15**	**337**	PKP		**PKPbc**	**21 57 54.4**	**+0.3**
ARSA	**Arzberg**	**148.30**	**342**	*e*P		**PKPbc**	**21 57 54.7**	**+0.1**
	comp=Z,2.2nm,0.7s							
STU	**Stuttgart**	**148.34**	**350**	*e*PKPbc		**PKiKP**	**21 57 55.3**	**-0.5**
	baz=26,slow=3.8							
BIOA	**Bad Ischl, Aus**	**148.42**	**344**	*e*P		**PKPbc**	**21 57 54.9**	**+0.1**
	comp=Z,1.1nm,0.3s							
KOVH	**Kovagotottos**	**148.46**	**338**	PKP		**PKPbc**	**21 57 55.2**	**+0.3**
BLKB	**Belogradchik**	**148.51**	**330**	⇑P		**PKPbc**	**21 57 55.6**	**+0.4**
FUR	**Furstenfeldbru**	**148.53**	**347**	*e*PKPbc		**PKiKP**	**21 57 55.7**	**-0.5**
	baz=26,slow=3.8							
FRGS	**Fruska Gora**	**148.58**	**335**	⇓P		**PKPbc**	**21 57 54.8**	**-0.5**
FRGS	**Fruska Gora**	**148.58**	**335**	*e*P		**PKPbc**	**21 57 53.7**	**-1.6**
RJOB	**Jochberg**	**148.59**	**345**	*e*PKPbc		**PKPbc**	**21 57 55.4**	**+0.1**
	baz=26,slow=3.8							
ALN	**Alexandroupoli**	**148.63**	**323**	PKPab		**PKPab**	**21 58 01.7**	**+0.4**
BFO	**Black Forest**	**148.90**	**351**			**PKiKP**	**21 57 56.5**	**-0.4**
BFO	**Black Forest**	**148.90**	**351**	*e*PKPbc		**PKPbc**	**21 57 56.2**	**+0.3**
	baz=26,slow=3.8							
BOVS	**Bovsan**	**148.96**	**331**	⇓P		**PKPbc**	**21 57 55.9**	**-0.3**
SOKA	**Soboth**	**148.96**	**342**	*i* P		**PKPbc**	**21 57 56.1**	**-0.2**
	comp=Z,1.0nm,0.3s,SNR=5.6							
VTS	**Vitosha**	**148.97**	**328**	⇓P		**PKPbc**	**21 57 56.7**	**+0.2**
VTS	**Vitosha**	**148.97**	**328**	PKPab		**PKPab**	**21 58 03.9**	**+1.1**
KBA	**Koelnbreinsper**	**149.07**	**344**	*e*P		**PKPbc**	**21 57 56.1**	**-0.5**
	comp=Z,2.2nm,0.2s							
SMTH	**Samothraki Isl**	**149.20**	**323**	P		**PKPbc**	**21 57 54.8**	**-2.1**
UBR	**Ueberruh**	**149.23**	**349**	*e*PKPbc		**PKPbc**	**21 57 56.9**	**+0.1**
	baz=26,slow=3.8							
OBKA	**Obir**	**149.25**	**342**	*e*P		**PKPbc**	**21 57 56.4**	**-0.6**
	comp=Z,0.4nm,0.4s							
OBKA				*e*P		**PKPab**	**21 58 03.9**	**+0.2**
	comp=Z,2.4nm,0.8s							
WATA	**Walderalm**	**149.25**	**346**	*e*P		**PKPbc**	**21 57 57.2**	**+0.1**
	comp=Z,1.9nm,0.3s							
RETA	**Reutte**	**149.28**	**348**	*e*P		**PKPbc**	**21 57 57.4**	**+0.4**
	comp=Z,0.8nm,0.2s							
DOBS	**Dobrina**	**149.30**	**341**	*i* PKPbc		**PKPbc**	**21 57 56.9**	**-0.1**
WTTA	**Wattenberg**	**149.31**	**346**	*i* P		**PKPbc**	**21 57 57.4**	**+0.2**
	comp=Z,8.8nm,0.2s,SNR=7.5							
MOTA	**Moosalm**	**149.35**	**347**	*i* P		**PKPbc**	**21 57 57.4**	**+0.2**
	comp=Z,2.4nm,0.3s,SNR=6.2							
DIVS	**Divibare**	**149.36**	**333**	*e*P		**PKPbc**	**21 57 57.2**	**-0.1**
MYKA	**Terra Mystica**	**149.40**	**343**	*e*P		**PKPbc**	**21 57 56.8**	**-0.5**
	comp=Z,2.7nm,0.3s,SNR=5.1							
KAVA	**Kavala**	**149.43**	**324**	P		**PKPbc**	**21 57 57.2**	**-0.2**
SQTA	**Sankt Quirin**	**149.44**	**347**	*i* P		**PKPbc**	**21 57 57.7**	**+0.3**
	comp=Z,2.4nm,0.3s,SNR=5.9							
PRK	**Paraskevi**	**149.53**	**320**	P		**PKPbc**	**21 57 56.6**	**-1.1**
NVR	**Nevrokopi**	**149.55**	**325**	P		**PKPbc**	**21 57 56.3**	**-1.5**
VNDS	**Vrh nad Dolski**	**149.58**	**342**	*i* PKPbc		**PKPbc**	**21 57 57.7**	**0.0**
THAS	**Thassos island**	**149.58**	**324**	P		**PKPbc**	**21 57 56.2**	**-1.6**
ABTA	**Abtaersbach**	**149.59**	**345**	*i* P		**PKPbc**	**21 57 57.6**	**-0.1**
	comp=Z,5.8nm,0.6s,SNR=9.9							
CRES	**Cresnjev**	**149.59**	**340**	*e*P		**PKPbc**	**21 57 57.9**	**+0.2**
DAVA	**Damuels**	**149.65**	**349**	*e*P		**PKiKP**	**21 57 58.4**	**-0.3**
	comp=Z,1.9nm,0.3s							
LJU	**Ljubljana**	**149.68**	**342**	*e*P		**PKPbc**	**21 57 58.0**	**+0.1**
LJU	**Ljubljana**	**149.68**	**342**	*i* PKPbc		**PKPbc**	**21 57 58.0**	**+0.2**
FETA	**Feichten**	**149.74**	**347**	*i* P		**PKiKP**	**21 57 58.6**	**-0.3**
	comp=Z,6.8nm,0.9s,SNR=5.7							
LIA	**Limnos Island**	**149.78**	**322**	P		**PKPbc**	**21 57 57.3**	**-1.0**
BBLS	**Lazići**	**149.80**	**334**	*e*P		**PKPdf**	**21 57 46.1**	**-6.8**
SIGR	**SIGRI**	**149.81**	**320**	P		**PKPbc**	**21 57 56.6**	**-1.8**
KOKK	**Kokkinochori,**	**149.84**	**325**	P		**PKPbc**	**21 57 56.0**	**-2.4**
BLY	**Banja Luka**	**149.94**	**337**	*e*P		**PKPdf**	**21 57 55.3**	**+2.3**
CEY	**Cerknica**	**149.99**	**342**	*e*P		**PKPbc**	**21 57 58.5**	**-0.2**
RUDO	**Rudo**	**150.01**	**333**	*e*P		**PKPbc**	**21 57 58.4**	**-0.4**
KNT	**Kendrikon**	**150.19**	**326**	P		**PKPdf**	**21 57 56.4**	**+2.9**
TRI	**Trieste**	**150.21**	**342**	PKPab		**PKPab**	**21 58 05.8**	**-1.8**
MGRS	**Mrkonjic Grad**	**150.26**	**337**	*e*P		**PKPab**	**21 58 08.5**	**+0.6**
SKDS	**Skadanscina**	**150.28**	**342**	*e*P		**PKPbc**	**21 57 59.1**

W35A	Tecumseh	0.59	157	Pg	Pg	22 27 41.4	+0.1		
TUL1	Leonard	1.13	79	Pg	Pg	22 27 51.3	-0.1		
TUL1	Leonard	1.13	79	P	Pg	22 27 51.3	-0.1		
	baz=258,SNR=55								
X34A	Smith Ranch, M	1.23	207	Pg	Pb	22 27 53.0	-0.5		
T35A	Sooner Cattle	1.32	23	Pn	Pb	22 27 55.2	+0.2		
T35B	Sooner Cattle	1.32	23	P	Pb	22 27 55.1	+0.2		
	baz=203,SNR=384								
U32A	Winter Ranch,	1.64	295	Pn	Pb	22 28 00.1	-0.4		
U32A	Winter Ranch,	1.64	295	P	Pb	22 28 00.1	-0.4		
	baz=115								
U32A				S	Sg	22 28 22.7	+0.1		
	baz=115								
WMOK	Wichita Mounta	1.64	235		Pn	22 27 59.1	-0.1		
WMOK	Wichita Mounta	1.64	235	P	Pn	22 27 59.2	-0.1		
	baz=54,SNR=1000								
WMOK				S	Sn	22 28 20.8	+0.2		
	baz=54								
X37A	Clayton	1.84	127		Pn	22 28 03.0	+1.1		
X37A				IAmb_Lg		22 28 32.5			
	comp=Z,546nm,0.7s								
X37A	Clayton	1.84	127	P	Pn	22 28 03.0	+1.1		
	baz=307,SNR=174								
X37A				S	Sg	22 28 28.2	-0.6		
	baz=307								
Z35A	Perchaven, San	2.37	182		Pn	22 28 09.5	+0.4		
Z35A				IAmb_Lg		22 28 45.2			
	comp=Z,786nm,1.2s								
Z35A	Perchaven, San	2.37	182	P	Pn	22 28 09.9	+0.8		
	baz=1.6								
Z35A				S	Sn	22 28 40.5	+2.0		
	baz=1.6								
HHAR	Hobbs	2.67	77		Pn	22 28 14.6	+1.3		
W39A	Magazine	2.80	99		Pn	22 28 16.2	+1.1		
W39A	Magazine	2.80	99	P	Pn	22 28 16.2	+1.1		
	baz=281,SNR=33								
W39A				S	Sn	22 28 50.5	+1.5		
	baz=281								
R32A	Long Quarter,	2.99	336		Pg	22 28 26.7	-0.4		
R32A				IAmb_Lg		22 29 12.2			
	comp=Z,361nm,0.8s								
R32A	Long Quarter,	2.99	336	P	Pn	22 28 19.1	+1.4		
	baz=156								
R32A				S	Sn	22 28 55.3	+1.5		
	baz=156								
Z38A	Mt. Pleasant	3.02	143		Pn	22 28 18.7	+0.6		
Z38A				IAmb_Lg		22 29 10.4			
	comp=Z,382nm,0.7s								
Z38A	Mt. Pleasant	3.02	143	P	Pn	22 28 19.2	+1.0		
	baz=324								
Z38A				S	Sn	22 28 55.7	+1.0		
	baz=324								
KSU1	Kansas State U	3.42	7		Pn	22 28 24.8	+1.2		
KSU1				IAmb_Lg		22 29 26.1			
	comp=Z,334nm,0.7s								
KSU1	Kansas State U	3.42	7	Pn	Pn	22 28 24.6	+0.9		
KSU1	Kansas State U	3.42	7	P	Pn	22 28 24.9	+1.3		
	baz=188								
KSU1				S	Sn	22 29 07.2	+2.7		
	baz=188								
U40A	Yellville	3.55	78		Pn	22 28 25.9	+0.5		
U40A	Yellville	3.55	78	P	Pn	22 28 26.5	+1.1		
	baz=260,SNR=62								
U40A				P	Pn	22 28 26.5	+1.1		
	baz=260,SNR=62								
U40A				S	Sn	22 29 10.5	+2.9		
	baz=260								
U40A				S	Sn	22 29 10.5	+2.9		
	baz=260								
S39A	Bolivar	3.66	56		Pn	22 28 28.4	+1.4		
S39A				IAmb_Lg		22 29 36.4			
	comp=Z,496nm,0.9s								
S39A	Bolivar	3.66	56	P	Pn	22 28 28.3	+1.3		
	baz=238,SNR=10								
S39A				S	Sn	22 29 12.2	+1.7		
	baz=238								
ABTX	Abilene, Hawle	3.70	215	Pn	Pn	22 28 26.2	-1.3		
ABTX	Abilene, Hawle	3.70	215	P	Pn	22 28 27.6	+0.1		
	baz=33,SNR=87								
ABTX				S	Sn	22 29 12.0	+0.6		
	baz=33								
WHTX	Lake Whitney,	3.71	184		Pn	22 28 27.1	-0.5		
WHTX	Lake Whitney,	3.71	184	P	Pn	22 28 27.8	+0.2		
	baz=3.6,SNR=7.5								
WHTX				S	Sn	22 29 12.8	+1.2		
	baz=3.6								
CBKS	Cedar Bluff	3.73	327	Pn	Pn	22 28 29.4	+1.5		
CBKS				IAmb_Lg		22 29 38.3			
	comp=Z,350nm,0.7s								
CBKS	Cedar Bluff	3.73	327	P	Pn	22 28 29.1	+1.2		
	baz=146								
X40A	Basin Creek Fa	3.74	108		Pn	22 28 29.3	+1.3		
X40A				IAmb_Lg		22 29 37.6			
	comp=Z,360nm,0.8s								
X40A	Basin Creek Fa	3.74	108	P	Pn	22 28 29.3	+1.3		
	baz=290,SNR=18								
X40A				P	Pn	22 28 29.3	+1.3		
	baz=290,SNR=18								
237A	Washetta, Mont	3.86	163		Pn	22 28 29.2	-0.4		
237A				IAmb_Lg		22 29 41.2			
	comp=Z,337nm,0.8s								
237A	Washetta, Mont	3.86	163	P	Pn	22 28 30.0	+0.4		
	baz=343,SNR=5.8								
WLAR	White Oak Lake	3.89	120		Pn	22 28 30.7	+0.7		
WLAR				IAmb_Lg		22 29 31.0			
	comp=Z,238nm,0.9s								
WHAR	Wooly Hollow	3.99	95	Pn	Pn	22 28 31.9	+0.4		
WHAR				IAmb_Lg		22 29 48.2			
	comp=Z,308nm,0.9s								
W41B	Gary Mavity, V	4.04	96		Pn	22 28 33.1	+1.0		
W41B				IAmb_Lg		22 29 48.0			
	comp=Z,360nm,0.8s								
W41B	Gary Mavity, V	4.04	96	P	Pn	22 28 33.3	+1.2		
	baz=278,SNR=43								
UALR	University of	4.04	102	Pn	Pn	22 28 33.2	+1.0		
UALR				IAmb_Lg		22 29 47.2			
	comp=Z,443nm,0.8s								
FCAR	Ozark Folk Cen	4.09	86		Pn	22 28 33.4	+0.6		
FCAR				IAmb_Lg		22 29 51.8			
	comp=Z,563nm,0.8s								
MGMO	Mountain Grove	4.20	68		Pn	22 28 35.0	+0.6		
MGMO				IAmb_Lg		22 29 53.1			
	comp=Z,461nm,0.8s								
Z41A	Richland Creek	4.34	123	Pn	Pn	22 28 36.4	+0.1		
Z41A				IAmb_Lg		22 30 00.5			
	comp=Z,287nm,1.1s								
Z41A	Richland Creek	4.34	123	P	Pn	22 28 36.9	+0.5		
	baz=305								
Z41A				P	Pn	22 28 36.9	+0.5		
	baz=305								
R40A	Maddies Statio	4.69	55		Pn	22 28 42.2	+1.2		
R40A				IAmb_Lg		22 30 08.7			
	comp=Z,344nm,0.7s								
R40A	Maddies Statio	4.69	55	P	Pn	22 28 42.0	+1.0		
	baz=238,SNR=9.6								
CCAR	Cane Creek	4.77	110	Pn	Pn	22 28 42.7	+0.5		
CCAR				IAmb_Lg		22 30 08.9			
	comp=Z,221nm,0.7s								
P38A	Dawn	4.86	35	Pn	Pn	22 28 44.2	+0.9		
P38A				IAmb_Lg		22 30 13.2			
	comp=Z,464nm,0.9s								
P38A	Dawn	4.86	35	P	Pn	22 28 44.0	+0.6		
	baz=217								
LCAR	Lake Charles	4.88	84	Pn	Pn	22 28 44.3	+0.5		
LCAR				IAmb_Lg		22 30 12.6			
	comp=Z,244nm,0.8s								
435B	Jarrell	4.92	184		Pn	22 28 43.6	-0.6		
435B				IAmb_Lg		22 30 18.5			
	comp=Z,254nm,0.7s								
MSTX	Muleshoe	4.93	251	Pn	Pn	22 28 44.1	-0.4		
MSTX				IAmb_Lg		22 30 19.1			
	comp=Z,181nm,0.8s								
N33A	J Bar K, Exete	5.03	357	Pn	Pn	22 28 47.8	+2.0		
N35A	Tabor	5.29	13		Pn	22 28 49.7	+0.4		
CCM	Cathedral Cave	5.29	62	IAmb_Lg		22 30 23.5			
	comp=Z,287nm,0.8s								
CCM	Cathedral Cave	5.29	62	P	Pn	22 28 50.1	+0.8		
	baz=245								
KSCO	Kaye Shedlock'	5.47	309	Pn	Pn	22 28 53.6	+1.7		
KSCO				IAmb_Lg		22 30 39.3			
	comp=Z,258nm,0.9s								
KSCO	Kaye Shedlock'	5.47	309	P	Pn	22 28 53.1	+1.2		
	baz=126								
P40A	Paris	5.57	45		Pn	22 28 54.5	+1.3		
P40A				IAmb_Lg		22 30 40.9			
	comp=Z,468nm,0.8s								
P40A	Paris	5.57	45	P	Pn	22 28 53.8	+0.6		
	baz=228								
143A	Socs Landing,	5.63	120		Pn	22 28 55.6	+1.6		
JCT	Junction City	5.66	204	Pn	Pn	22 28 54.3	-0.2		
JCT	Junction City	5.66	204	P	Pn	22 28 54.2	-0.4		
	baz=22,SNR=7.3								
FVM	French Village	5.86	65	IAmb_Lg		22 30 42.9			
	comp=Z,210nm,0.7s								
FVM	French Village	5.86	65	P	Pn	22 28 57.7	+0.6		
	baz=249								
342A	Flagon Creek P	5.91	136	Pn	Pn	22 28 57.2	-0.6		
342A				IAmb_Lg		22 30 45.6			
	comp=Z,166nm,1.3s								
MET	Memphis--Engin	5.92	94	IAmb_Lg		22 30 47.3			
	comp=Z,342nm,1.0s								
N38A	Joes South For	5.94	30		Pn	22 28 59.3	+1.0		
N38A				IAmb_Lg		22 30 50.9			
	comp=Z,292nm,0.8s								
N38A	Joes South For	5.94	30	P	Pn	22 28 59.0	+0.7		
	baz=212,SNR=7.4								
441A	DeRidder	5.95	145	Pn	Pn	22 28 58.3	-0.2		
T25A	Trinidad	6.02	286	Pn	Pn	22 29 00.2	+0.6		
T25A				IAmb_Lg		22 30 45.2			
	comp=Z,185nm,0.8s								
PVMO	Portageville	6.08	81	Pn	Pn	22 29 00.7	+0.5		
L34A	Svendsen Farm,	6.28	5	Pn	Pn	22 29 04.0	+1.0		
OXF	Oxford	6.46	98	Pn	Pn	22 29 06.2	+0.8		
OXF				IAmb_Lg		22 31 05.1			
	comp=Z,228nm,0.9s								
OXF	Oxford	6.46	98	P	Pn	22 29 05.8	+0.5		
	baz=282								
OGNE	Ogallala	6.49	325	Pn	Pn	22 29 07.2	+1.3		
OGNE				IAmb_Lg		22 31 07.5			
	comp=Z,382nm,0.8s								
Y45A	Yeager Farm, C	6.53	104	Pn	Pn	22 29 07.0	+0.7		
Y45A				IAmb_Lg		22 31 16.1			
	comp=Z,167nm,0.8s								
W45A	Hickory Valley	6.53	92	Pn	Pn	22 29 06.6	+0.3		
W45A	Hickory Valley	6.53	92	P	Pn	22 29 06.8	+0.4		
	baz=277								
S44A	Carbondale	6.65	70	P	Pn	22 29 09.1	+1.1		
	baz=255								
735A	Kenedy	6.85	185	Pn	Pn	22 29 11.7	+0.9		
735A				IAmb_Lg		22 31 26.1			
	comp=Z,116nm,0.8s								
735A	Kenedy	6.85	185	P	Pn	22 29 11.7	+0.9		
	baz=4.3								
SCIA	State Center	6.92	25		Pn	22 29 12.8	+1.1		
SCIA				IAmb_Lg		22 31 24.4			
	comp=Z,176nm,0.8s								
SDCO	Great Sand Dun	7.01	289		Pn	22 29 14.5	+1.3		
SDCO	Great Sand Dun	7.01	289	P	Pn	22 29 14.3	+1.2		
	baz=105								
K31A	O'Neill	7.02	350	Pn	Pn	22 29 14.4	+1.3		
N41A	Harden Midland	7.04	43	Pn	Pn	22 29 14.7	+1.4		
N41A	Harden Midland	7.04	43	P	Pn	22 29 14.5	+1.2		
	baz=226								
Q24A	Divide	7.15	299		Pn	22 29 15.8	+0.6		
Q24A				IAmb_Lg		22 31 34.1			
	comp=Z,117nm,0.8s								
P43A	Skaggs, Pawnee	7.22	55	Pn	Pn	22 29 16.9	+1.2		
P43A	Skaggs, Pawnee	7.22	55	P	Pn	22 29 16.5	+0.7		
	baz=239								
Q44A	Meyer Farm, Va	7.23	61	Pn	Pn	22 29 17.8	+1.8		
Q44A				IAmb_Lg		22 31 39.3			
	comp=Z,229nm,0.8s								
146A	Union	7.37	112	Pn	Pn	22 29 18.2	+0.2		
PLAL	Pickwick Lake	7.45	93		Pn	22 29 20.4	+1.4		
WVT	Waverly	7.58	84	IAmb_Lg		22 31 45.5			
	comp=Z,127nm,0.7s								
833A	Chaparral WMA,	7.60	195	Pn	Pn	22 29 21.5	+0.4		
833A				IAmb_Lg		22 31 46.7			
	comp=Z,111nm,0.9s								
833A	Chaparral WMA,	7.60	195	P	Pn	22 29 21.4	+0.4		
	baz=14								
ANMO	Albuquerque	7.64	267	Pn	Pn	22 29 20.6	-1.2		
	comp=Z,0.2nm,0.3s,baz=71,slow=16,SNR=2.5								
ANMO				Pg	Pb	22 29 44.5	+1.7		
	comp=Z,0.4nm,0.3s,baz=124,slow=11,SNR=6.0								
ANMO				Lg	Lg	22 31 27.2			
	comp=Z,5.3nm,0.3s,baz=140,slow=21,SNR=5.5								
ANMO				LR	LR	22 31 54.2			
	comp=Z,44nm,21.3s,baz=88,slow=35								
K38A	Parkersburg	7.72	25		Pn	22 29 23.3	+0.5		
K38A				IAmb_Lg		22 31 45.2			
	comp=Z,214nm,1.0s								
K38A	Parkersburg	7.72	25	P	Pn	22 29 23.1	+0.4		
	baz=208								
ISCO	Idaho Springs	7.85	304		Pn	22 29 25.4	+0.6		
ISCO	Idaho Springs	7.85	304	P	Pn	22 29 25.1	+0.4		
	baz=119								
L40A	Anamosa	7.86	34	Pn	Pn	22 29 25.0	+0.5		
L40A				IAmb_Lg		22 31 52.4			
	comp=Z,170nm,0.8s								
HDIL	Hopedale	7.86	50		Pn	22 29 24.9	+0.3		
HDIL	Hopedale	7.86	50	P	Pn	22 29 25.5	+0.9		
	baz=234								
Z47A	Carrollton	7.91	106	Pn	Pn	22 29 25.7	+0.4		
MNTX	Cornudas Mount	7.93	242	Pn	Pn	22 29 25.8	+0.1		
MNTX				IAmb_Lg		22 31 56.1			
	comp=Z,114nm,1.1s								
MNTX	Cornudas Mount	7.93	242	P	Pn	22 29 25.7	0.0		
	baz=58								
BNM	Barren Site	7.93	261		Pn	22 29 25.7	-0.2		
USIN	University of	7.94	71		Lg	22 31 40.5			
ECSD	EROS Data Cent	8.03	3	Pn	Pn	22 29 28.0	+1.1		
ECSD				IAmb_Lg		22 31 59.9			
	comp=Z,93nm,0.8s								
ECSD	EROS Data Cent	8.03	3	P	Pn	22 29 27.6	+0.7		
	baz=183								
Y22D	IRIS PASSCAL I	8.19	261	IAmb_Lg		22 32 08.3			
	comp=Z,194nm,0.9s								
X48A	Hartselle	8.38	96	Pn	Pn	22 29 31.8	+0.1		
X48A	Hartselle	8.38	96	P	Pn	22 29 31.7	0.0		
	baz=281								
TX31	Lajitas Ar. Si	8.40	223		Pn	22 29 31.6	-0.5		
TX31	Lajitas Ar. Si	8.40	223	P	Pn	22 29 31.7	-0.5		
	baz=39,SNR=6.5								
TXAR	Lajitas Array	8.40	223	Pn	Pn	22 29 29.7	-2.4		
	comp=Z,0.7nm,0.3s,baz=52,slow=12,SNR=29								
TXAR				Lg	Lg	22 31 44.6			
	comp=Z,4.0nm,0.3s,baz=283,slow=32,SNR=2.2								
TXAR				LR	LR	22 32 37.0			
	comp=Z,30nm,22.0s,baz=45,slow=37								
TXAR	Lajitas Array	8.40	223	Pn	Pn	22 29 31.2	-0.9		
TX32	Lajitas Array	8.40	223	Pn	Pn	22 29 31.6	-0.5		
PHWY	Pilot Hill	8.58	313		Pn	22 29 35.5	+0.8		
PHWY				IAmb_Lg		22 32 19.4			
	comp=Z,148nm,1.1s								
L42A	Oliver, Polo	8.58	41	Pn	Pn	22 29 35.5	+1.0		
L42A				IAmb_Lg		22 32 04.3			
	comp=Z,221nm,0.9s								
L42A	Oliver, Polo	8.58	41	P	Pn	22 29 35.5	+1.0		
	baz=225								
N23A	Red Feather La	8.63	310	Pn	Pn	22 29 36.9	+1.4		
N23A				IAmb_Lg		22 32 21.1			
	comp=Z,169nm,0.8s								
I37A	Lemond, Waseca	8.79	18	IAmb_Lg		22 32 25.2			
	comp=Z,131nm,0.8s								
LRAL	Lakeview Retre	8.81	105	Pn	Pn	22 29 38.1	+0.4		
LRAL	Lakeview Retre	8.81	105	P	Pn	22 29 38.0	+0.4		
	baz=290								
SUSD	Miller	8.84	352	IAmb_Lg		22 32 22.4			
	comp=Z,238nm,0.7s								
JFWS	Jewell Farm	8.97	35		Pn	22 29 39.9	0.0		
JFWS				IAmb_Lg		22 32 40.6			
	comp=Z,174nm,0.8s								
JFWS	Jewell Farm	8.97	35	P	Pn	22 29 39.7	-0.1		
	baz=219								
Y49A	Blount Mountai	9.03	99	Pn	Pn	22 29 40.8	+0.1		
M44A	Midewin, Midew	9.12	49	Pn	Pn	22 29 43.0	+1.2		
M44A				IAmb_Lg		22 32 25.8			
	comp=Z,216nm,0.8s								
BLO	Bloomington	9.14	65		Pn	22 29 43.7	+1.6		
SWET	Sewanee	9.17	90	Pn	Pn	22 29 43.6	+0.9		
I40A	Norwalk	9.60	30		Pn	22 29 48.0	-0.4		
I40A				IAmb_Lg		22 32 46.9			
	comp=Z,83nm,0.7s								
I40A	Norwalk	9.60	30	P	Pn	22 29 47.9	-0.5		
	baz=214,SNR=9.6								
L44A	Lake County Fo	9.67	45	IAmb_Lg		22 32 51.7			
	comp=Z,196nm,0.7s								
W50A	Signal Mountai	9.68	90	Pn	Pn	22 29 50.4	+0.8		
RSSD	Black Hills	9.93	330	IAmb_Lg		22 33 04.5			
	comp=Z,96nm,0.8s								
P48A	Milroy	10.04	65	Pn	Pn	22 29 53.8	-0.6		
SPMN	Marine on St.	10.07	18	Pn	Pn	22 29 55.0	+0.1		
X51A	Calhoun	10.14	93	Pn	Pn	22 29 54.6	-1.2		
F33A	5 Mile Ranch,	10.15	3		Pn	22 29 56.5	+0.6		
Z51A	Franklin	10.17	100	Pn	Pn	22 29 55.9	-0.4		
CPCT	Cooper Cave	10.29	88		Pn	22 29 59.1	+1.2		
I42A	Draeger Farm,	10.34	35	Pn	Pn	22 29 58.1	-0.5		
V51A	Loudon	10.41	86	Pn	Pn	22 30 00.6	+1.0		
F36A	Milaca	10.51	14	Pn	Pn	22 30 00.5	-0.5		
X18A	Snowflake	10.55	267	Pn	Pn	22 30 00.7	-0.9		
TKL	Tuckaleechee C	10.88	86	Pn	Pn	22 30 06.9	+0.8		
	comp=Z,0.4nm,0.3s,baz=331,slow=10,SNR=1.4								
TKL				Sn	Sn	22 32 10.5	+2.3		
	comp=Z,1.3nm,0.3s,baz=360,slow=19,SNR=1.8								
TKL				Lg	Lg	22 33 09.8			
	comp=Z,4.8nm,0.3s,baz=166,slow=14,SNR=4.9								
TKL	Tuckaleechee C	10.88	86	Pn	Pn	22 30 06.7	+0.6		
G40A	Rib Lake	10.92	27		Pn	22 30 05.7	-0.8		
Y52A	Lilburn	10.92	96	Pn	Pn	22 30 06.5	-0.1		
352A	Blakely	11.03	109	Pn	Pn	22 30 08.9	+0.8		
S51A	Beattyville	11.06	76	Pn	Pn	22 30 09.2	+0.7		
H43A	Windswept, Lux	11.32	36	Pn	Pn	22 30 11.3	-0.7		
N49A	Columbus Grove	11.44	59	Pn	Pn	22 30 15.2	+1.5		
Q51A	Peebles	11.48	69	Pn	Pn	22 30 14.2	0.0		
GOGA	Godfrey	11.52	98	Pn	Pn	22 30 14.7	0.0		
PD31	Pinedale Array	11.92	310	Pn	Pn	22 30 19.9	-0.4		
PDAR	Pinedale Array	11.92	310	Pn	Pn	22 30 20.0	-0.4		
	comp=Z,0.4nm,0.3s,baz=124,slow=13,SNR=6.1								
PDAR				Pg		22 31 05.8			
	comp=Z,0.4nm,0.3s,baz=120,slow=17,SNR=4.1								
PDAR				Lg	Lg	22 33 36.9			
	comp=Z,0.6nm,0.3s,baz=108,slow=28,SNR=1.6								
PDAR				LR	LR	22 35 14.1			
	comp=Z,54nm,20.4s,baz=116,slow=39								
553A	Crawfordville	12.01	114	Pn	Pn	22 30 23.0	+1.4		
COWI	Conover	12.02	28		Pn	22 30 21.0	-0.6		
Q52A	Bidwell	12.29	70	Pn	Pn	22 30 25.6	+0.3		
B35A	Bob, Littlefor	12.90	10	Pn	Pn	22 30 32.3	-1.2		
EYMN	Ely	12.94	17	Pn	Pn	22 30 32.4	-1.7		
ULM	Lac du Bonnet	14.57	3	Pn	Pn	22 30 52.4	-4.0		
	comp=Z,0.4nm,0.3s,baz=176,slow=8.1,SNR=3.9								
ULM				Sn	Sn	22 33 24.8	-13		
	comp=Z,0.4nm,0.3s,baz=237,slow=17,SNR=1.5								
ULM				Lg	Lg	22 35 02.9			
	comp=Z,0.5nm,0.3s,baz=275,slow=20,SNR=3.6								
ELK	Elko	15.07	295	LR	LR	22 37 29.3			
	comp=Z,48nm,19.2s,baz=71,slow=40								
LPIG	La Paz	16.22	228	LR	LR	22 37 12.9			
	comp=Z,38nm,19.5s,baz=302,slow=36								
SADO	Sadowa	16.44	51	Pn	Pn	22 31 19.8	-1.2		
	comp=Z,0.3nm,0.3s,baz=267,slow=17,SNR=1.9								
SADO				Sn	Sn	22 34 16.5	-7.1		
	comp=Z,0.8nm,0.3s,baz=275,slow=14,SNR=1.5								
SADO				Lg	Lg	22 36 01.4			
	comp=Z,0.4nm,0.3s,baz=299,slow=9.9,SNR=1.9								
SADO				LR	LR	22 38 00.3			
	comp=Z,60nm,21.5s,baz=168,slow=38								
SADO	Sadowa	16.44	51	IAmb	IAmb	22 31 31.0			
	comp=Z,12nm,0.9s								
NVAR	Mina Array Bea	17.10	285	Pn	Pn	22 31 29.6	0.0		
	comp=Z,0.0nm,0.3s,baz=101,slow=12,SNR=1.4								
NEW	Newport	19.37	317	LR	LR	22 39 25.3			
	comp=Z,53nm,21.5s,baz=88,slow=37								
ILAR	Eielson Array	41.38	330	P	P	22 35 16.9	+0.6		
	comp=Z,0.3nm,0.7s,baz=118,slow=7.1,SNR=2.7								

*NEIC **07** 22:35:18.6±2.1, 15°.6S±0°.1×177°.6W±0°.1, h424km±9km, mb4.0/30, Error ellipse: s-maj=23.7km s-min=14.9km az=138.0*

*IDC **07** 22:35:19.3±2.4, 15°.27S×177°.84W, h426km±28km, mb3.2/7, mb1 3.5/8, mb1mx3.3/29, mbtmp4.0/8, Error ellipse: s-maj=82.2km s-min=17.5km az=150.0*

ISC 07 22:35:18.6±0.5, 15°.4S±0°.1×177°.7W±0°.1, h424km, n51, σ1§39/50, mb3.9/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.67	240	P	P	22 36 39.0	+0.6
	7.9nm,0.3s,baz=91,slow=14,SNR=7.5						
MSVF	Nonsavu	4.67	240	P	P	22 36 39.3	+0.9
AFI	Afiamalu	5.94	76	P	P	22 36 46.9	-4.5
NIUE	Niue	8.28	117	P	P	22 37 19.1	+2.2
OUZ	Omahuta	21.21	200	P	P	22 39 31.8	-0.6
OUZ				IAmb	IAmb	22 39 31.9	
	comp=Z,5.3nm,0.7s						
KHZ	Kahutara	27.94	194	P	P	22 40 28.4	-4.1
LTZ	Lake Taylor	28.60	196	P	P	22 40 35.9	-2.4
LTZ				IAmb	IAmb	22 40 44.8	
	comp=Z,5.5nm,0.8s						
TOO	Toolangi	39.28	229	P	P	22 42 09.3	+0.4
TOO				IAmb	IAmb	22 42 13.6	
	comp=Z,8.6nm,1.1s						
STKA	Stephens Creek	40.45	239	P	P	22 42 18.7	+0.2
	comp=Z,1.7nm,0.6s,baz=58,slow=6.1,SNR=3.7						
POHA	Pohakuloa	41.20	33	P	P	22 42 26.8	+1.9
BBOO	Buckleboo	45.22	239	P	P	22 42 55.2	-1.1
WB0	Warramunga Arr	45.74	257	P	P	22 42 59.9	-0.6
WB2	Warramunga

comp=Z,3.0nm,0.9s,baz=52,slow=1.5,SNR=1.3
BRTR Keskin Array B 143.45 318 PKP PKPbc 22 54 03.3 +1.0
comp=Z,1.7nm,0.8s,baz=67,slow=3.2,SNR=12
GERES GERESS Array B 145.37 347 PKPbc **PKPdf 22 54 07.5 +0.4**
comp=Z,0.3nm,0.4s,baz=31,slow=2.3,SNR=4.5

IDC 07 22:51:44.4±5.6, 39°13N×110°69E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.1/52, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=117.3km s-min=23.7km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.25**	**342**	Pn	Pn	22 54 00.9	+1.8
	0.1nm,0.3s,baz=161,slow=12,SNR=5.0						
SONM				Sn	Sn	22 55 42.8	-1.1
	0.1nm,0.3s,baz=174,slow=16,SNR=3.2						
SONM				Lg	Lg	22 56 37.1	
	0.1nm,0.3s,baz=155,slow=28,SNR=6.7						
MKAR	**Makanchi Array**	**22.07**	**300**	P	P	22 56 40.7	-0.1
	0.1nm,0.7s,baz=97,slow=11,SNR=2.1						
CMAR	**Chiang Mai Arr**	**22.98**	**210**	P	P	22 56 50.5	-0.2
	1.0nm,0.8s,baz=14,slow=9.6,SNR=7.7						

IDC 07 22:57:21.3±3.4, 5°44S×147°05E, h205km±31km, mb3.3/2, mb1 3.7/3, mb1mx3.1/46, mbtmp4.0/3, Error ellipse: s-maj=77.9km s-min=17.5km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.00**	**219**	P	P	23 01 27.7	0.0
	2.2nm,0.3s,baz=46,slow=11,SNR=92						
WRA				S	S	23 04 50.0	-2.4
	0.1nm,0.3s,baz=41,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**22.11**	**214**	P	P	23 02 00.2	-0.1
	5.2nm,0.5s,baz=48,slow=8.1,SNR=70						
ASAR				S	S	23 05 53.1	+4.2
	2.0nm,0.8s,baz=32,slow=23,SNR=13						
MKAR	**Makanchi Array**	**77.10**	**320**	P	P	23 08 51.8	-0.2
	0.2nm,0.6s,baz=98,slow=6.5,SNR=2.3						
TORD	**Torodi Ar. Bea**	**145.00**	**285**	PKPbc	PKPbc	23 16 33.5	-1.4
	0.6nm,0.9s,baz=88,slow=3.6,SNR=1.7						

*IDC **07** 23:02:29.8±0.9, 13°90S×166°59E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/43, mbtmp4.0/8, ML3.7/1, MS3.6/11, Ms1 3.6/11, ms1mx3.2/62, Error ellipse: s-maj=31.4km s-min=20.5km az=114.0*
*NEIC **07** 23:02:34.9±2.6, 14°01S±0°08×166°8E±0°1, h34km±7km, mb4.5/10, Error ellipse: s-maj=19.5km s-min=11.5km az=75.0*
ISC 07 23:02:34.4±0.8, 14°01S±0°07×166°8E±0°1, h35km, n37, σ1s93/32, mb4.3/12, MS3.8/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.48**	**165**	Pn	**Pn**	**23 02 56.6**	**-2.0**
SANVU					**Sn**	**23 03 16.7**	**0.0**
KOUNC	**Koumac, New Ca**	**6.94**	**200**		**Pn**	**23 04 13.5**	**-0.2**
KOUNC				Sn	**Sn**	**23 05 28.3**	**-3.0**
MARNC	**Mare, Loyalty**	**7.52**	**171**	Pn	**Pn**	**23 04 17.8**	**-3.9**
DZM	**Mont Dzumac**	**8.03**	**182**	Pn	**Pn**	**23 04 28.8**	**+0.1**
	1.0nm,0.3s,baz=179,slow=23,SNR=2.1						
DZM				Sn	**Sn**	**23 06 03.1**	**+4.8**
	1.0nm,0.3s,baz=108,slow=20,SNR=1.5						
DZM				LR	LR	23 07 28.7	
	comp=Z,182nm,18.7s,baz=98,slow=37						
DZM	**Mont Dzumac**	**8.03**	**182**	*e*Pn	**Pn**	**23 04 27.1**	**-1.6**
	17nm,0.4s						
DZM				*e*Sn	**Sn**	**23 05 56.4**	**-1.9**
	22nm,0.8s						
DZM	**Mont Dzumac**	**8.03**	**182**	Pn	**Pn**	**23 04 27.9**	**-0.8**
ONTNC	**Ouen Toro**	**8.26**	**182**	Pn	**Pn**	**23 04 32.8**	**+1.0**
OUENC	**Ouen Island, N**	**8.37**	**180**	Pn	**Pn**	**23 04 33.4**	**+0.2**
PINNC	**Pines Island,**	**8.58**	**176**	Pn	**Pn**	**23 04 37.2**	**+1.0**
PMG	**Port Moresby**	**19.78**	**281**	LR	LR	23 13 27.5	
	comp=Z,83nm,18.3s,baz=78,slow=34						
CTA	**Charters Tower**	**20.55**	**250**	LR	LR	23 14 14.4	
	comp=Z,137nm,18.4s,baz=80,slow=35						
RAO	**Raoul Island**	**20.74**	**139**	LR	LR	23 14 06.7	
	comp=Z,531nm,20.0s,baz=160,slow=33						
URZ	**Urewera**	**25.82**	**161**	P	**P**	**23 08 04.6**	**+2.2**
	2.4nm,0.4s,baz=93,slow=18,SNR=1.8						
BKZ	**Black Stump Fm**	**26.48**	**163**	P	**P**	**23 08 09.5**	**+1.1**
BKZ				IAmb	IAmb	23 08 28.6	
	comp=Z,11nm,1.1s						
KHZ	**Kahutara**	**28.90**	**170**	P	**P**	**23 08 29.3**	**-0.6**
STKA	**Stephens Creek**	**29.13**	**228**	P	**P**	**23 08 32.4**	**+0.1**
	comp=Z,4.7nm,0.5s,baz=45,slow=8.8,SNR=14						
STKA				LR	LR	23 19 45.9	
	comp=Z,203nm,18.4s,baz=32,slow=36						
STKA	**Stephens Creek**	**29.13**	**228**	P	**P**	**23 08 33.0**	**+0.8**
LBZ	**Lake Benmore**	**30.41**	**175**	P	**P**	**23 08 44.8**	**+1.4**
LBZ				IAmb	IAmb	23 08 49.9	
	comp=Z,9.4nm,0.9s						
WKZ	**Wanaka**	**30.77**	**177**	P	**P**	**23 08 49.9**	**+3.3**
WRA	**Warramunga Arr**	**31.58**	**255**	P	**P**	**23 08 52.5**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=84,slow=8.5,SNR=5.4						
WRA				LR	LR	23 20 15.2	
	comp=Z,128nm,20.3s,baz=133,slow=34						
ASAR	**Alice Springs**	**32.52**	**248**	P	**P**	**23 09 01.0**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=75,slow=9.1,SNR=24						
ASAR				LR	LR	23 21 21.1	
	comp=Z,116nm,19.1s,baz=140,slow=35						
FORT	**Forrest**	**39.29**	**238**	P	**P**	**23 10 00.1**	**-0.1**
FORT				IAmb	IAmb	23 10 11.6	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.72**	**258**	LR	LR	23 25 13.4	
	comp=Z,117nm,18.6s,baz=146,slow=34						
OHAK	**Old Harbor**	**78.28**	**21**	P	**P**	**23 14 30.0**	**-0.4**
OHAK				IAmb	IAmb	23 14 32.3	
	comp=Z,10nm,1.2s						
P18K	**Big Mountain,**	**79.34**	**19**	P	**P**	**23 14 32.4**	**-3.9**
P18K				IAmb	IAmb	23 14 39.5	
	comp=Z,6.6nm,1.1s						
N19K	**Bonanza Creek**	**80.70**	**18**	P	**P**	**23 14 44.6**	**+0.9**
N19K				IAmb	IAmb	23 14 44.7	
	comp=Z,1.3nm,0.9s						
SONM	**Songino Array**	**81.66**	**324**	P	**P**	**23 14 49.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=127,slow=4.3,SNR=4.0						
SONM	**Songino Array**	**81.66**	**324**	IAmb	IAmb	23 14 54.2	
	comp=Z,0.6nm,1.0s						
IMAR	**Indian Mountai**	**84.99**	**15**	P	**P**	**23 15 07.9**	**+2.2**
ILAR	**Eielson Array**	**85.98**	**18**	P	**P**	**23 15 11.5**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=236,slow=5.2,SNR=13						
NVAR	**Mina Array Bea**	**87.14**	**49**	LR	LR	23 48 43.4	
	comp=Z,48nm,18.2s,baz=185,slow=32						
TIXI	**Tiksi**	**89.18**	**349**	LR	LR	23 55 12.4	
	comp=Z,15nm,18.2s,baz=185,slow=36						
ELK	**Elko**	**90.14**	**48**	LR	LR	23 52 21.3	
	comp=Z,32nm,18.1s,baz=222,slow=33						
YKA	**Yellowknife Ar**	**97.11**	**27**	P	Pdif	23 16 03.6	+0.8
	comp=Z,0.1nm,0.4s,baz=259,slow=4.8,SNR=1.9						
ARCES	**ARCESS Array B**	**119.45**	**345**	PKP	**PKiKP**	**23 21 20.3**	**+0.6**
	comp=Z,3.9nm,0.8s,baz=60,slow=2.5,SNR=14						
FINES	**FINESS Array B**	**124.89**	**338**	PKP	**PKiKP**	**23 21 31.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=98,slow=2.7,SNR=9.5						
ESDC	**Sonseca Array**	**153.18**	**344**	PKPbc	**PKPbc**	**23 22 28.1**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=5.0,slow=3.4,SNR=3.4						

DJA 07 23:06:22.8±0.3, 4°S±4°, 13°0E±°, h105km±5km, M3.9/6, mb4.0/6, MLv3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.91**	**320**	P	Pn	23 06 44.0	+1.3
MSAI				S	Sn	23 06 58.4	+0.8
AAI	**Ambon**	**1.36**	**285**	P	Pn	23 06 48.5	+0.8
AAI				S	Sn	23 07 07.1	+0.6
SWI	**Sorong**	**3.62**	**29**	P	Pn	23 07 16.7	-0.2
LBMI	**Labuha**	**3.94**	**329**	P	Pn	23 07 21.2	-0.1
SANI	**Sanana**	**4.04**	**299**	P	Pn	23 07 21.2	-1.4
PWJI	**Pagerwojo**	**18.04**	**257**	P	Pn	23 10 27.3	+0.4
	14nm,1.1s						

*IDC **07** 23:21:18.1±4.2, 16°19S×71°30W, h134km±35km, mb3.0/2, mb1 3.1/5, mb1mx3.0/33, mbtmp3.4/5, MS2.6/3, Ms1 2.6/3, ms1mx2.5/16, Error ellipse: s-maj=51.1km s-min=26.9km az=106.0*
ISC 07 23:21:17.7±1.5, 16°08S±0°09×71°5W±0°2, h133km, n11, σ2s80/13, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**2.51**	**155**	*e*P	**Pn**	**23 21 55.3**	**-2.8**
AP01				*e*S	**Sn**	**23 22 33.0**	**+3.8**
AP01				IAML		23 22 41.7	
	comp=N,1μm,0.6s						
PB12	**IPOC Station P**	**2.74**	**157**	*e*P	**Pn**	**23 21 58.5**	**-2.6**
PB12				*e*S	**Sn**	**23 22 39.2**	**+4.6**
PB12				IAML		23 22 44.7	
	comp=E,171nm,0.4s						
PB16	**IPOC Station P**	**2.91**	**141**	*e*P	**Pn**	**23 22 03.9**	**+0.2**
PB16				IAML		23 22 52.9	
	comp=E,72nm,0.6s						
LPAZ	**La Paz**	**3.19**	**94**	P	**Pn**	**23 22 07.0**	**-0.5**
	comp=E,1.5nm,0.3s,baz=281,slow=13,SNR=18						
LPAZ				LR	LR	23 23 35.0	
	comp=E,35nm,20.7s,baz=262,slow=45						
PB11	**IPOC Station P**	**4.04**	**155**	*e*P	**Pn**	**23 22 16.0**	**-2.1**
GO01	**Chusmiza**	**4.16**	**149**	*e*P	**Pn**	**23 22 19.9**	**-0.2**
NNA	**Nana**	**6.63**	**307**	LR	LR	23 25 16.6	
	comp=E,62nm,19.5s,baz=132,slow=35						
LVC	**Limon Verde**	**6.92**	**160**	P	**Pn**	**23 22 55.2**	**-1.8**
	comp=E,2.2nm,0.3s,baz=336,slow=9.6,SNR=17						
LVC				S	**Sn**	**23 24 11.6**	**-2.9**
	baz=171,slow=19,SNR=1.6						
LVC				LR	LR	23 25 57.1	
	comp=E,109nm,19.1s,baz=306,slow=41						
SIV	**San Ignacio**	**9.98**	**91**	P	**Pn**	**23 23 34.5**	**-3.3**
	comp=E,0.1nm,0.3s,baz=263,slow=7.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**77.92**	**72**	P	**P**	**23 33 01.6**	**+0.1**
	comp=E,0.3nm,0.7s,baz=270,slow=4.3,SNR=5.1						
YKA	**Yellowknife Ar**	**85.31**	**341**	P	**P**	**23 33 40.2**	**+1.0**
	comp=E,0.3nm,0.8s,baz=128,slow=4.8,SNR=3.7						

*IDC **07** 23:54:59.8±0.8, 8°44N×71°39W, h0km, mb3.7/9, mb1 4.0/11, mb1mx3.8/37, mbtmp3.8/11, ML2.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/71, Error ellipse: s-maj=21.4km s-min=9.6km az=154.0*
*NEIC **07** 23:55:03.7±1.5, 8°69N±0°07×71°31W±0°02, h12km±5km, mb4.3/13, Error ellipse: s-maj=10.5km s-min=1.4km az=161.0*
*FUNV **07** 23:55:03.6, 8°49N×71°47W, h5km, MW4.2*
ISC 07 23:55:01.5±1.1, 8°59N±0°02×71°36W±0°02, h6km±8km, n94, σ1s91/139, mb4.1/13, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.59**	**121**	*e*P	**Pg**	**23 55 13.5**	**+0.6**
SOCV				*e*S	**Sg**	**23 55 20.2**	**-0.3**
SDV	**Santo Domingo**	**0.78**	**68**	Pg	**Pg**	**23 55 17.4**	**+1.0**
	44nm,0.3s,baz=263,slow=5.8,SNR=317						
SDV				LR	LR	23 55 19.8	
	comp=Z,44nm,20.1s,baz=242,slow=23						
SDV				Lg	Lg	23 55 28.0	
	220nm,0.3s,baz=257,slow=19,SNR=30						
SDV	**Santo Domingo**	**0.78**	**68**		**Pg**	**23 55 17.3**	**+0.8**
SDV					**Sg**	**23 55 26.4**	**-0.2**
SDV	**Santo Domingo**	**0.78**	**68**	*e*P	**Pg**	**23 55 17.5**	**+1.0**
SDV				*e*S	**Sg**	**23 55 28.3**	**+1.7**
CAPV	**Capacho**	**1.19**	**233**	*e*P	**Pg**	**23 55 23.1**	**-1.2**
CAPV				*e*S	**Sg**	**23 55 37.6**	**-2.2**
PAMC	**Pamplona, Colo**	**1.82**	**227**	*e*P	**Pn**	**23 55 35.4**	**+1.6**
PAMC				*e*S	**Sb**	**23 55 60.1**	**+1.3**
MCQV	**Machiques**	**1.85**	**321**	*e*P	**Pb**	**23 55 35.7**	**-0.2**
MCQV				*e*S	**Sb**	**23 55 59.7**	**+0.3**
OCAC	**Ocana**	**1.97**	**260**	Pn	**Pn**	**23 55 36.2**	**+0.6**
OCAC				Sn	**Sb**	**23 56 03.1**	**+0.3**
OCAC	**Ocana**	**1.97**	**260**	*e*P	**Pn**	**23 55 36.6**	**+0.9**
OCAC				*e*S	**Sn**	**23 56 02.2**	**+1.4**
CURV	**Curarigua**	**1.98**	**44**	*e*S	**Sg**	**23 56 05.9**	**+0.8**
SANV	**Sanarito**	**2.02**	**63**	*e*P	**Pb**	**23 55 39.7**	**+0.9**
SANV				*e*S	**Sg**	**23 56 06.4**	**-0.1**
TAMC	**Tame, Arauca**	**2.19**	**191**	*e*P	**Pn**	**23 55 40.0**	**+1.4**
TAMC				*e*S	**Sb**	**23 56 10.9**	**+1.9**
LL6C	**La Loma 6 Bece**	**2.20**	**301**	*e*P	**Pn**	**23 55 40.1**	**+1.4**
LL6C				*e*S	**Sb**	**23 56 10.2**	**+0.8**
LL1C	**La Loma 1 Cana**	**2.36**	**294**	*e*S	**Sb**	**23 56 13.9**	**-0.2**
DABV	**Dabajuro**	**2.42**	**17**	*e*P	**Pb**	**23 55 44.3**	**-1.4**
DABV				*e*S	**Sb**	**23 56 15.8**	**+0.1**
DABV	**Dabajuro**	**2.42**	**17**	*e*P	**Pn**	**23 55 44.2**	**-1.4**
DABV				*e*S	**Sb**	**23 56 15.6**	**-0.2**
ELOV	**Elorza**	**2.44**	**130**	*e*P	**Pn**	**23 55 44.3**	**+2.3**
ELOV				*e*S	**Sn**	**23 56 16.2**	**+4.0**
ELOV	**Elorza**	**2.44**	**130**	*e*P	**Pn**	**23 55 43.7**	**+1.7**
ELOV				*e*S	**Sn**	**23 56 12.9**	**+0.6**
SIQV	**Siquisique**	**2.55**	**37**	*e*P	**Pb**	**23 55 46.8**	**-1.1**
SIQV				*e*S	**Sb**	**23 56 19.0**	**-0.6**
BARC	**Barichara**	**2.68**	**222**	*e*P	**Pn**	**23 55 47.1**	**+1.6**
BARC				*e*S	**Sb**	**23 56 23.1**	**-0.5**
CRJC	**Cerrejon, Guaj**	**2.84**	**328**	*e*P	**Pn**	**23 55 48.7**	**+1.1**
CRJC				*e*S	**Sn**	**23 56 24.2**	**+2.0**
MAPV	**Macapo**	**3.12**	**67**	*e*P	**Pn**	**23 55 54.4**	**+3.0**
MAPV				*e*S	**Sn**	**23 56 32.1**	**+3.0**
URIC	**Uribia, Colomb**	**3.15**	**349**	Pn	**Pn**	**23 55 51.7**	**-0.1**
URIC	**Uribia, Colomb**	**3.15**	**349**	*e*P	**Pb**	**23 55 58.7**	**+0.7**
URIC				*e*S	**Sn**	**23 56 29.7**	**-0.1**
RUSC	**La Rusia**	**3.18**	**213**	*e*P	**Pn**	**23 55 53.9**	**+1.2**
RUSC				*e*S	**Sb**	**23 56 40.7**	**+2.7**
JACV	**Jacura**	**3.52**	**45**	*e*P	**Pn**	**23 56 00.2**	**+3.4**
JACV				*e*S	**Sn**	**23 56 41.3**	**+2.5**
ZARC	**Zaragoza, Cauc**	**3.63**	**253**	Pn	**Pn**	**23 55 58.5**	**+0.2**
ZARC	**Zaragoza, Cauc**	**3.63**	**253**	*e*P	**Pn**	**23 55 57.8**	**-0.6**
ZARC				*e*S	**Sn**	**23 56 44.6**	**+3.0**
PTBC	**PUERTO BERRIO,**	**3.68**	**237**	*e*P	**Pn**	**23 55 58.5**	**-0.7**
PTBC				*e*S	**Sb**	**23 56 48.7**	**-3.4**
SMRC	**Santa Marta, M**	**3.81**	**312**	*e*P	**Pn**	**23 56 03.5**	**+2.7**
SMRC				*e*S	**Sn**	**23 56 44.2**	**-1.7**
TURV	**Turiamo**	**3.93**	**62**	*e*P	**Pn**	**23 56 05.1**	**+2.6**
TURV				*e*S	**Sn**	**23 56 50.9**	**+1.8**
BENV	**Beln**	**3.96**	**70**	*e*P	**Pn**	**23 56 05.4**	**+2.4**
BENV				*e*S	**Sn**	**23 56 51.4**	**+1.7**
SPBC	**San Pablo de B**	**3.97**	**223**	*e*P	**Pn**	**23 56 03.8**	**+0.7**
SPBC				*e*S	**Sn**	**23 56 52.6**	**+2.4**
SJCC	**San Jacinto, C**	**3.98**	**289**		**Pn**	**23 56 04.8**	**+1.5**
SJCC	**San Jacinto, C**	**3.98**	**289**	*e*P	**Pn**	**23 56 05.5**	**+2.1**
SJCC				*e*S	**Sn**	**23 56 54.8**	**+4.4**
UREC	**San Jos de Ur**	**4.21**	**259**	*e*P	**Pn**	**23 56 07.8**	**+1.4**
UREC				*e*S	**Sn**	**23 56 59.0**	**+2.9**
MOTC	**Monteria, Cord**	**4.26**	**273**	*e*P	**Pn**	**23 56 07.4**	**+0.4**
MOTC				*e*S	**Sn**	**23 56 59.9**	**+2.8**
PTGC	**Puerto Gaitan,**	**4.43**	**190**	*e*P	**Pn**	**23 56 11.9**	**+2.5**
PTGC				*e*S	**Sb**	**23 57 20.0**	**+6.3**
CHIC	**Chingaza**	**4.59**	**211**	*e*P	**Pn**	**23 56 11.2**	**-0.8**
CHIC				*e*S	**Sn**	**23 57 07.5**	**+1.7**
NORC	**Norcasia**	**4.60**	**229**	*e*P	**Pn**	**23 56 11.0**	**-0.8**
NORC				*e*S	**Sn**	**23 57 08.7**	**+3.1**
ROSC	**El Rosal**	**4.75**	**218**	Pn	**Pn**	**23 56 11.8**	**-2.2**
	1.6nm,0.3s,baz=53,slow=19,SNR=1.5						
ROSC				Sn	**Sn**	**23 57 12.4**	**+2.7**
	2.4nm,0.3s,baz=49,slow=20,SNR=1.5						
ROSC				Lg	Lg	23 57 36.0	
	3.0nm,0.3s,baz=37,slow=20,SNR=1.6						
ROSC	**El Rosal**	**4.75**	**218**		**Pn**	**23 56 17.2**	**+3.1**
HELC	**Santa Helena**	**4.77**	**240**	*e*P	**Pn**	**23 56 14.7**	**+0.3**
HELC				*e*S	**Sn**	**23 57 16.4**	**+6.1**
PAYV	**Puerto Ayacuch**	**4.84**	**130**	*e*P	**Pn**	**23 56 15.4**	**+0.3**
PAYV				*e*S	**Sn**	**23 57 09.4**	**-2.2**
FUNV	**FUNVISIS**	**4.86**	**67**	*e*P	**Pn**	**23 56 17.9**	**+2.5**
FUNV				*e*S	**Sn**	**23 57 12.8**	**+0.6**
CACV	**CAICARA DEL OR**	**4.88**	**102**	*e*P	**Pn**	**23 56 24.4**	**-3.1**
CACV				*e*S	**Sb**	**23 57 24.8**	**-1.8**
VILC	**Villavicencio,**	**5.02**	**208**	*e*P	**Pn**	**23 56 17.5**	**-0.1**
VILC				*e*S	**Sn**	**23 57 18.3**	**+2.2**
MERV	**Las Mercedes**	**5.05**	**82**	*e*P	**Pn**	**23 56 19.6**	**+1.7**
MERV				*e*S	**Sn**	**23 57 16.6**	**0.0**
GUY2C	**Guyana, Caldas**	**5.20**	**230**	*e*P	**Pn**	**23 56 20.4**	**+0.1**
GUY2C				*e*S	**Sn**	**23 57 26.8**	**+5.9**
CBOC	**Ciudad Bolivar**	**5.35**	**240**	*e*P	**Pn**	**23 56 24.4**	**+2.2**
BIRV	**Birongo**	**5.36**	**69**		**Pn**	**23 56 24.3**	**+2.1**
BIRV	**Birongo**	**5.36**	**69**	*e*P	**Pn**	**23 56 24.4**	**+2.2**
BIRV				*e*S	**Sn**	**23 57 23.3**	**-1.0**
ANIL	**Santa Ana**	**5.72**	**225**	*e*P	**Pn**	**23 56 28.2**	**+0.8**
ANIL				*e*S	**Sn**	**23 57 36.9**	**+3.3**
ORTC	**Ortega, Tolima**	**6.05**	**220**	*e*P	**Pn**	**23 56 32.6**	**+0.9**
ORTC				*e*S	**Sn**	**23 57 43.1**	**+1.8**
PRGV	**PARIAGUAN**	**6.64**	**88**	*e*P	**Pn**	**23 56 40.9**	**+1.0**
PRGV				*e*S	**Sn**	**23 57 53.7**	**-2.2**
PCRV	**Puerto La Cruz**	**6.82**	**76**	*e*P	**Pn**	**23 56 45.0**	**+2.6**
PCRV				*e*S	**Sn**	**23 57 59.2**	**-1.2**
MACC	**Macarena, Meta**	**6.87**	**201**	*e*P	**Pn**	**23 56 41.6**	**-1.3**
MACC				*e*S	**Sn**	**23 57 57.6**	**-3.8**
MLPR	**Magueyes Islan**	**10.22**	**24**	Pn	**Pn**	**23 57 27.4**	**-1.5**
DR12	**Loma Pena Alta**	**10.32**	**11**	Pn	**Pn**	**23 57 30.6**	**+0.3**
CELP	**Cerrillos**	**10.51**	**26**	Pn	**Pn**	**23 57 31.9**	**-1.0**
PDPR	**Patillas Dam,**	**10.71**	**28**	Pn	**Pn**	**23 57 34.9**	**-0.7**
SJG	**San Juan**	**10.73**	**28**	Pn	**Pn**	**23 57 37.3**	**+1.4**
	2.1nm,0.3s,baz=211,slow=18,SNR=2.6						
SJG	**San Juan**	**10.73**	**28**	Pn	**Pn**	**23 57 33.4**	**-2.5**
HUMP	**Col San Antoni**	**10.90**	**29**	Pn	**Pn**	**23 57 37.7**	**-0.5**
STVI	**Saint Thomas**	**11.53**	**32**	Pn	**Pn**	**23 57 46.9**	**+0.1**
FDF	**Fort de France**	**11.71**	**58**	Pn	**Pn**	**23 57 48.3**	**-1.1**
ANWB	**Willy Bob**	**12.97**	**45**	Pn	**Pn**	**23 58 06.5**	**-0.1**
CMIG	**Matias Romero**	**24.42**	**293**	LR	LR	00 10 48.3	
	comp=Z,38nm,18.5s,baz=212,slow=39						
LPAZ	**La Paz**	**24.93**	**173**	P	**P**	**00 00 25.0**	**-1.4**
	0.9nm,0.7s,baz=333,slow=4.5,SNR=2.4						
LPAZ	**La Paz**	**24.93**	**173**	P	**P**	**00 00 28.2**	**+1.7**
TXAR	**Lajitas Array**	**36.66**	**309**	P	**P**	**00 02 08.7**	**-0.8**
	0.1nm,0.4s,baz=130,slow=9.5,SNR=2.4						
SCHQ	**Schefferville**	**46.26**	**4**	P	**P**	**00 03 28.1**	**+0.4**
	4.0nm,0.9s,baz=166,slow=4.2,SNR=3.0						
PD31	**Pinedale Array**	**47.72**	**322**	P	**P**	**00 03 39.2**	**-0.4**
PD31				IAmb	IAmb	00 03 48.1	
	comp=Z,2.4nm,1.1s						
PDAR	**Pinedale Array**	**47.72**	**322**	P	**P**	**00 03 40.1**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=128,slow=9.9,SNR=12						
PDAR	**Pinedale Array**	**47.72**	**322**	P	**P**	**00 03 39.6**	**0.0**
NVAR	**Mina Array Bea**	**51.53**	**313**	P	**P**	**00 04 09.0**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=116,slow=6.1,SNR=3.0						
YKA	**Yellowknife Ar**	**62.23**	**339**	P	**P**	**00 05 23.7**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=126,slow=7.1,SNR=19						
ESDC	**Sonseca Array**	**67.19**	**51**	P	**P**	**00 05 57.2**	**+0.3**
	comp=Z,4.3nm,1.4s,baz=270,slow=5.1,SNR=4.7						
ESDC	**Sonseca Array**	**67.19**	**51**	IAmb	IAmb	00 05 58.6	
	comp=Z,1.6nm,1.1s						
M30M	**Minto, Yukon**	**71.22**	**334**	P	**P**	**00 06 22.4**	**+1.0**
M30M				IAmb	IAmb	00 06 29.4	
	comp=Z,6.9nm,1.3s						
TORD	**Torodi Ar. Bea**	**71.68**	**79**	P	**P**	**00 06 23.9**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=283,slow=4.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**71.68**	**79**	IAmb	IAmb	00 06 26.7	
	comp=Z,1.4nm,0.9s						
INK	**Inuvik**	**71.97**	**340**	P	**P**	**00 06 26.0**	**+0.3**
INK				IAmb	IAmb	00 06 31.6	
	comp=Z,4.5nm,1.5s						
EPYK	**Eagle Plains**	**72.42**	**337**	P	**P**	**00 06 29.0**	**+0.4**
BCAR	**Beaver Creek A**	**73.56**	**333**	P	**P**	**00 06 36.4**	**+1.0**
BMAR	**Burnt Mountain**	**75.69**	**338**	P	**P**	**00 06 48.4**	**+0.7**
ILAR	**Eielson Array**	**76.11**	**335**	P	**P**	**00 06 49.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=118,slow=5.2,SNR=2.8						
BPAW	**Bear Paw Mtn.**	**77.79**	**334**	P	**P**	**00 07 00.0**	**+0.5**
BPAW				IAmb	IAmb	00 07 12.0	
	comp=Z,1.9nm,1.2s						
NC303	**NORSAR Array S**	**79.02**	**29**	P	**P**	**00 07 06.5**	**+0.1**
IMAR	**Indian Mountai**	**79.10**	**336**	P	**P**	**00 07 07.3**	**+0.5**
J20K	**Nowinta River**	**79.17**	**334**	P	**P**	**00 07 02.2**	**+0.1**
J20K				IAmb	IAmb	00 07 09.0	
	comp=Z,4.4nm,1.2s						
P18K	**Big Mountain,**	**79.54**	**329**	P	**P**	**00 07 08.2**	**-1.1**
ASAR	**Alice Springs**	**151.55**	**235**	PKPbc	**PKPbc**	**00 14 55.9**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=120,slow=2.8,SNR=7.7						
WRA	**Warramunga Arr**	**152.70**	**243**	PKPbc	**PKPbc**	**00 14 59.0**	**-1.4**
	comp=Z,0.7nm,0

s-min=11.2km az=17.0

ISC 08 00:10:51.3±0.4,**64°69N**±0.02×**17°46W**±0.02,**h10**km,**n87**, σ1**858**/103,**mb4.4**/24,**MS3.7**/3,**Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.11**	**22**	P	**Pg**	**00 10 53.2**	**-1.0**
	baz=17						
IVON	**Vonarskard**	**0.13**	**264**	P	**Pg**	**00 10 53.0**	**-1.3**
	baz=268						
IVON				S	**Sg**	**00 10 55.5**	**-1.0**
	baz=268						
IURH	**Urdarhals**	**0.19**	**45**	P	**Pg**	**00 10 54.4**	**-1.0**
	baz=42						
IURH				S	**Sg**	**00 10 57.5**	**-0.7**
	baz=42						
IGRF	**Grimsfjall**	**0.29**	**163**	P	**Pg**	**00 10 56.0**	**-1.2**
	baz=164						
IGRF				S	**Sg**	**00 10 59.8**	**-1.4**
	baz=164						
IHUS	**Husbondi**	**0.40**	**192**	P	**Pg**	**00 10 57.9**	**-1.3**
	baz=194						
IHUS				S	**Sg**	**00 11 03.2**	**-1.3**
	baz=194						
ISKR	**Skrokkalda**	**0.42**	**253**	P	**Pg**	**00 10 58.2**	**-1.3**
	baz=254						
ISKR				S	**Sg**	**00 11 03.9**	**-1.0**
	baz=254						
THOR	**Thorvaldshraun**	**0.42**	**53**	P	**Pg**	**00 10 58.1**	**-1.3**
	baz=52						
THOR				S	**Sg**	**00 11 04.1**	**-0.9**
	baz=52						
IKRE	**Kreppuhraun**	**0.47**	**78**	P	**Pg**	**00 10 58.8**	**-1.7**
	baz=76						
IKRE				S	**Sg**	**00 11 06.1**	**-0.7**
	baz=76						
IJOK	**Jokulheimar**	**0.50**	**222**	P	**Pg**	**00 10 59.7**	**-1.3**
	baz=223						
IJOK				S	**Sg**	**00 11 06.7**	**-0.8**
	baz=223						
IASK	**Askja**	**0.51**	**43**	P	**Pg**	**00 10 59.5**	**-1.6**
	baz=42						
IASK				S	**Sg**	**00 11 06.8**	**-1.0**
	baz=42						
IMKO	**Mokollar**	**0.56**	**58**	P	**Pg**	**00 11 00.6**	**-1.6**
	baz=57						
IMKO				S	**Sb**	**00 11 09.5**	**-1.9**
	baz=57						
ISVA	**Svartarkot**	**0.66**	**8**	P	**Pg**	**00 11 02.4**	**-1.6**
	baz=6.9						
IIEY	**Innrieyrar**	**0.66**	**206**	P	**Pg**	**00 11 02.3**	**-1.7**
	baz=207						
IIEY				S	**Sg**	**00 11 11.1**	**-1.5**
	baz=207						
IKSK	**Karasker**	**0.68**	**140**	P	**Pg**	**00 11 02.0**	**-2.4**
	baz=140						
IKSK				S	**Sg**	**00 11 11.7**	**-1.6**
	baz=140						
IHAE	**Haedir**	**0.69**	**162**	P	**Pg**	**00 11 02.5**	**-2.1**
	baz=163						
IHAE				S	**Sg**	**00 11 11.9**	**-1.8**
	baz=163						
IKAL	**Kalfafell**	**0.75**	**188**	P	**Pg**	**00 11 03.8**	**-1.9**
	baz=188						
IKAL				S	**Sg**	**00 11 13.6**	**-1.8**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.75**	**80**	P	**Pg**	**00 11 03.3**	**-2.5**
	baz=79						
IVSH				S	**Sg**	**00 11 14.1**	**-1.5**
	baz=79						
IVAT	**Vatnsfell**	**0.81**	**232**	P	**Pg**	**00 11 05.0**	**-1.8**
	baz=233						
IVAT				S	**Sg**	**00 11 15.8**	**-1.5**
	baz=233						
IFAG	**Fagurholsmyri**	**0.89**	**156**	P	**Pg**	**00 11 06.1**	**-2.2**
	baz=156						
IFAG				S	**Sg**	**00 11 17.7**	**-2.2**
	baz=156						
ISTE	**Stelbrattur**	**0.94**	**281**	P	**Pg**	**00 11 06.9**	**-2.5**
	baz=282						
ISTE				S	**Sg**	**00 11 20.1**	**-1.5**
	baz=282						
IMEL	**Melhnausar**	**0.95**	**21**	P	**Pg**	**00 11 07.0**	**-2.5**
	baz=20						
IMEL				S	**Sg**	**00 11 19.9**	**-2.0**
	baz=20						
IKVO	**Krokottuvotn**	**1.06**	**13**	P	**Pg**	**00 11 08.9**	**-2.8**
	baz=13						
IGRS	**Grimsstaoir**	**1.11**	**30**	P	**Pb**	**00 11 09.9**	**-2.7**
	baz=30						
IGRS				S	**Sb**	**00 11 26.0**	**-1.0**
	baz=30						
ISLY	**Slysaalda**	**1.13**	**221**	P	**Pb**	**00 11 10.4**	**-2.5**
	baz=221						
IRJU	**Rjupnafell**	**1.20**	**207**	P	**Pb**	**00 11 11.5**	**-2.4**
	baz=207						
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pn**	**00 11 11.3**	**-2.8**
	baz=8.2						
IGHA	**Grjothals**	**1.21**	**16**	P	**Pn**	**00 11 11.4**	**-2.9**
	baz=15						
IGRA	**Granastaoir**	**1.24**	**358**	P	**Pn**	**00 11 11.9**	**-2.7**
	baz=358						
IDIM	**Dimmadalss**	**1.30**	**10**	P	**Pn**	**00 11 12.8**	**-2.7**
	baz=9.3						
IHVO	**Lagu-Hvolar**	**1.31**	**208**	P	**Pn**	**00 11 13.6**	**-2.0**
	baz=209						
IHLA	**Hella**	**1.32**	**343**	P	**Pn**	**00 11 13.6**	**-2.1**
	baz=343						
BORG	**Borgarnes**	**1.66**	**274**	Pg	**Pn**	**00 11 19.1**	**-1.3**
	32nm,0.3s,baz=100,slow=9.8,SNR=69						
BORG				Lg	Lg	00 11 42.0	
	10.0nm,0.3s,baz=202,slow=24,SNR=8.9						
BORG	**Borgarnes**	**1.66**	**274**	Pn	**Pn**	**00 11 19.3**	**-1.1**
SCO	**Scoresbysund**	**6.07**	**346**		**Pn**	**00 12 21.7**	**+0.8**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**00 12 20.0**	**-0.9**
DBG	**Daneborg**	**9.71**	**356**	*e*P	Pn	00 13 22.4	+12
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**00 13 39.7**	**+0.8**
	baz=320,slow=13,SNR=8.5						
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**00 13 39.9**	**+1.0**
CLL	**Collm**	**20.70**	**116**	*i* P	Pn	00 15 34.0	+0.4
	comp=Z,12nm,1.6s						
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**00 15 57.4**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=324,slow=9.8,SNR=2.6						
SCHQ	**Schefferville**	**26.05**	**271**	P	**P**	**00 16 25.2**	**+0.8**
	comp=Z,3.6nm,1.1s,baz=9.5,slow=6.1,SNR=1.6						
SCHQ	**Schefferville**	**26.05**	**271**	P	**P**	**00 16 24.5**	**+0.1**
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**00 16 28.2**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=349,slow=9.5,SNR=2.2						
CART	**Cartagena**	**28.85**	**152**	P	**P**	**00 16 49.6**	**+0.1**
PKME	**Peaks-Kenny Pk**	**34.22**	**261**	P	**P**	**00 17 36.8**	**+0.2**
ALN	**Alexandroupoli**	**34.39**	**112**	P	**P**	**00 17 40.3**	**+2.1**
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**00 18 14.6**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=350,slow=7.6,SNR=3.7						
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**00 18 13.9**	**+0.7**
KSCT	**Kent School, K**	**38.87**	**262**	P	**P**	**00 18 14.3**	**-2.0**
KSCT				IAmb	IAmb	00 18 17.0	
	comp=Z,12nm,1.1s						
YKA	**Yellowknife Ar**	**39.21**	**313**	P	**P**	**00 18 20.2**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=48,slow=7.5,SNR=1.8						
YKA				LR	LR	00 34 00.6	
	comp=Z,38nm,18.1s,baz=315,slow=36						
PAL	**Palisades**	**39.65**	**261**	P	**P**	**00 18 23.7**	**+0.9**
PAL				IAmb	IAmb	00 18 26.6	
	comp=Z,21nm,0.9s						
AKAS	**Kas**	**39.82**	**112**	P	**P**	**00 18 25.3**	**+0.8**
MMNY	**Mt. Morris Dam**	**39.94**	**267**	P	**P**	**00 18 22.8**	**-2.5**
MMNY				IAmb	IAmb	00 18 25.5	
	comp=Z,15nm,1.1s						
MVL	**Millersville**	**41.52**	**263**	P	**P**	**00 18 37.0**	**-1.3**
MVL				IAmb	IAmb	00 18 47.1	
	comp=Z,15nm,1.1s						
EYMN	**Ely**	**41.59**	**283**	P	**P**	**00 18 38.7**	**-0.2**
EYMN				IAmb	IAmb	00 18 56.4	
	comp=Z,5.7nm,0.9s						
ABKAR	**Akbulak array**	**41.97**	**73**	P	**P**	**00 18 44.0**	**+2.1**
AAM	**Ann Arbor**	**42.76**	**272**	P	**P**	**00 18 47.4**	**-1.0**
AAM				IAmb	IAmb	00 18 51.4	
	comp=Z,23nm,1.0s						
M50A	**Fremont**	**43.23**	**270**	P	**P**	**00 18 52.0**	**-0.2**
MCWV	**Mont Chateau**	**43.30**	**266**	P	**P**	**00 18 52.1**	**-0.7**
MCWV				IAmb	IAmb	00 19 11.7	
	comp=Z,5.0nm,0.8s						
R55A	**Marlinton**	**44.56**	**265**	P	**P**	**00 19 03.8**	**+0.8**
R55A				IAmb	IAmb	00 19 22.7	
	comp=Z,8.8nm,1.1s						
M31M	**Drury Creek, Y**	**45.07**	**324**	P	**P**	**00 19 07.0**	**+0.3**
U59A	**Littleton**	**45.20**	**261**	P	**P**	**00 19 07.8**	**-0.2**
U59A				IAmb	IAmb	00 19 23.8	
	comp=Z,9.2nm,1.1s						
M44A	**Midewin, Midew**	**45.39**	**275**	P	**P**	**00 19 08.3**	**-1.2**
L42A	**Oliver, Polo**	**45.58**	**277**	P	**P**	**00 19 10.1**	**-0.9**
L42A				IAmb	IAmb	00 19 25.6	
	comp=Z,16nm,1.1s						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**00 19 13.1**	**+1.6**
	comp=Z,1.0nm,1.1s,baz=23,slow=7.2,SNR=4.5						
CCB	**Clear Creek Bu**	**45.97**	**333**	P	**P**	**00 19 13.3**	**-0.5**
GHAJ	**Ghor Haditha**	**46.52**	**110**	P	**P**	**00 19 19.9**	**+1.4**
GHAJ				IAmb	IAmb	00 19 34.2	
	comp=Z,6.7nm,0.9s						
BWN	**Browne**	**46.72**	**333**	P	**P**	**00 19 20.1**	**+0.4**
DLBC	**Dease Lake**	**47.07**	**318**	P	**P**	**00 19 23.1**	**+0.5**
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**00 19 27.3**	**+0.6**
KMSC	**Kings Mountain**	**47.74**	**264**	P	**P**	**00 19 27.7**	**-0.3**
KURK	**Kurchatov**	**48.09**	**58**	P	**P**	**00 19 33.0**	**+2.5**
GLI	**Glacier Island**	**49.21**	**330**	P	**P**	**00 19 40.3**	**+1.3**
WVT	**Waverly**	**49.69**	**271**	P	**P**	**00 19 41.3**	**-1.7**
WVT				IAmb	IAmb	00 19 46.0	
	comp=Z,8.1nm,1.0s						
Y52A	**Lilburn**	**50.00**	**266**	P	**P**	**00 19 44.2**	**-1.1**
Y52A				IAmb	IAmb	00 19 53.7	
	comp=Z,4.4nm,1.1s						
FPAL	**Fort Paine**	**50.08**	**267**	P	**P**	**00 19 46.0**	**0.0**
FPAL				IAmb	IAmb	00 20 03.0	
	comp=Z,2.8nm,0.5s						
KKAR	**Karatay Array**	**51.26**	**70**	P	**P**	**00 19 56.2**	**+1.5**
Q19K	**Cape Douglas,**	**52.33**	**333**	P	**P**	**00 20 03.1**	**+0.5**
R32A	**Long Quarter,**	**52.40**	**282**	P	**P**	**00 20 01.4**	**-2.0**
R32A				IAmb	IAmb	00 20 03.5	
	comp=Z,5.4nm,0.7s						
MKAR	**Makanchi Array**	**52.70**	**58**	P	**P**	**00 20 06.8**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=320,slow=3.2,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**53.15**	**156**	P	**P**	**00 20 11.0**	**+1.9**
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**00 20 09.3**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=332,slow=10,SNR=4.5						
PD31	**Pinedale Array**	**53.18**	**293**	P	**P**	**00 20 08.1**	**-1.2**
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**00 20 11.0**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=46,slow=6.4,SNR=7.7						
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**00 20 08.8**	**-0.5**
ELK	**Elko**	**57.12**	**296**	LR	LR	00 45 28.4	
	comp=Z,53nm,18.7s,baz=32,slow=36						
DBIC	**Dimbokro**	**58.61**	**165**	LR	LR	00 44 22.7	
	comp=Z,58nm,21.4s,baz=257,slow=34						

*IDC **08** 00:24:04.8±3.3,36°01N×71°21E,h64km±28km,mb3.6/16, mb1 3.7/19,mb1mx3.5/45,mbtmp3.9/19,ML3.9/4,MS3.9/1, Ms1 3.9/1,ms1mx2.6/85,Error ellipse: s-maj=23.5km s-min=16.1km az=175.0*

*NNC **08** 00:24:09.5±6.0,36°77N×70°09E,h0km,mb4.5,mpv4.3, Error ellipse: s-maj=48.0km s-min=47.3km az=31.0*

*MOS **08** 00:24:10.4±1.2,36°51N×71°26E,h102km,mb4.2/14,Error ellipse: s-maj=7.5km s-min=4.1km az=84.7*

*NEIC **08** 00:24:11.9±2.3,36°44N±0°04×71°03E±0°07,h107km±5km, mb4.2/34,Error ellipse: s-maj=8.2km s-min=4.8km az=68.0*

*BJI **08** 00:24:12.6±0.0,36°52N×71°36E,h107km,mb4.4/14, mB4.7/5*

ISC 08 00:24:10.5±0.4,**36°37N**±0°05×**71°08E**±0°04,**h100**km,**n183**, σ1**979**/182,**mb4.1**/36,**6C-10D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.47**	**223**	PN	**Pn**	**00 24 51.3**	**+1.9**
KBL	**Kabul**	**2.47**	**223**	Pn	**Pn**	**00 24 51.3**	**+1.9**
GAR	**Garm**	**2.69**	**347**		**Pn**	**00 24 52.4**	**+0.1**
CHGR	**Chuyangaron**	**2.75**	**327**	PN	**Pn**	**00 24 52.7**	**-0.3**
CHGR	**Chuyangaron**	**2.75**	**327**	Pn	**Pn**	**00 24 52.7**	**-0.3**
DRK	**Karamyk**	**3.15**	**10**		**Pn**	**00 24 59.5**	**+0.9**
NIL	**Nilore**	**3.25**	**146**	PN	**Pn**	**00 25 02.1**	**+2.5**
NIL	**Nilore**	**3.25**	**146**	Pn	**Pn**	**00 25 02.1**	**+2.5**
BTK	**Batken**	**3.69**	**357**	PN	**Pn**	**00 25 06.5**	**+1.0**
BTK	**Batken**	**3.69**	**357**		**Pn**	**00 25 06.5**	**+1.0**
JMU	**Jammu**	**4.82**	**138**	*e*P	**Pn**	**00 25 21.9**	**+1.1**
JMU				*e*S	**Sn**	**00 26 11.4**	**-4.0**
KSH	**Kashi**	**4.98**	**49**	P	Pn	00 25 19.0	-4.0
KSH				S	Sn	00 26 09.7	-10
KSH				smax	smax		
	comp=N,180nm,0.4s						
KSH				smax	smax		
	comp=E,120nm,0.5s						
THN	**Thein Dam**	**5.49**	**134**	*e*P	**Pn**	**00 25 30.5**	**+0.7**
THN				*e*S	**Sn**	**00 26 30.7**	**-0.9**
IUG	**Iuzhnay**	**5.82**	**352**	*e*PN	**Pn**	**00 25 33.9**	**-0.5**
IUG	**Iuzhnay**	**5.82**	**352**	*e*P	**Pn**	**00 25 34.0**	**-0.5**
	baz=350						
AML	**Almayashu**	**6.10**	**19**	P	**Pn**	**00 25 38.1**	**-0.4**
	SNR=201						
UCH	**Uchtor**	**6.42**	**23**	P	**Pn**	**00 25 42.6**	**-0.3**
	SNR=38						
DZA	**Taraz**	**6.51**	**2**	*e*PN	**Pn**	**00 25 43.4**	**-0.3**
DZA	**Taraz**	**6.51**	**2**	*e*P	**Pn**	**00 25 43.5**	**-0.3**
	baz=360						
EKS2	**Erkin-Say**	**6.62**	**18**	P	**Pn**	**00 25 45.0**	**-0.2**
	SNR=15						
BHK	**Bhakra**	**6.64**	**137**	*e*P	**Pn**	**00 25 45.7**	**+0.1**
BHK				*e*S	**Sn**	**00 26 57.7**	**-2.1**
BRLS	**Boroldaу**	**6.72**	**352**	*e*PN	**Pn**	**00 25 43.2**	**-3.3**
BRLS	**Boroldaу**	**6.72**	**352**	*e*P	**Pn**	**00 25 43.3**	**-3.3**
	baz=349						
KK31	**Karatay Array**	**6.74**	**356**	PN	**Pn**	**00 25 45.9**	**-0.9**
KK31	**Karatay Array**	**6.74**	**356**	Pn	**Pn**	**00 25 45.9**	**-0.9**
KK31	**Karatay Array**	**6.74**	**356**	P	**Pn**	**00 25 46.0**	**-0.8**
	12nm,0.3s,baz=176,slow=12,SNR=198						
KK31				S	**Sn**	**00 26 57.2**	**-4.7**
	4.0nm,0.3s,baz=188,slow=22,SNR=6.8						
KKAR	**Karatay Array**	**6.74**	**356**	PN	**Pn**	**00 25 45.8**	**-1.0**
KKAR	**Karatay Array**	**6.74**	**356**	Pn	**Pn**	**00 25 45.8**	**-1.0**
AAK	**Ala-Archa**	**6.79**	**22**	P	**Pn**	**00 25 47.6**	**-0.1**
	SNR=57						
AAK	**Ala-Archa**	**6.79**	**22**	P	**Pn**	**00 25 47.6**	**-0.1**
	11nm,0.3s,baz=176,slow=6.4,SNR=141						
AAK				S	**Sn**	**00 26 59.7**	**-3.8**
	2.1nm,0.3s,baz=342,slow=22,SNR=8.3						
AAK	**Ala-Archa**	**6.79**	**22**	*de*PN	**Pn**	**00 25 47.4**	**-0.2**
AAK				pmax	pmax		
	comp=Z,31nm,0.8s						
KBK	**Karagaybulak**	**6.95**	**24**	P	**Pn**	**00 25 49.8**	**-0.1**
	SNR=11						
FRU1	**Bishkek**	**6.99**	**22**	PN	**Pn**	**00 25 50.8**	**+0.5**
FRU1	**Bishkek**	**6.99**	**22**		**Pn**	**00 25 50.8**	**+0.5**
ULHL	**Ulahol**	**7.10**	**33**	P	**Pn**	**00 25 51.3**	**-0.6**
	SNR=8.9						
BOOM	**Boomskoye usch**	**7.17**	**30**	PN	**Pn**	**00 25 52.6**	**-0.3**
BOOM	**Boomskoye usch**	**7.17**	**30**	Pn	**Pn**	**00 25 52.6**	**-0.3**
CHMS	**Chumysh**	**7.20**	**22**	P	**Pn**	**00 25 52.7**	**-0.3**
	SNR=16						
SMLA	**Simla**	**7.28**	**134**	*e*P	**Pn**	**00 25 54.2**	**0.0**
SMLA				*e*S	**Sn**	**00 27 11.7**	**-3.6**
SMLA				IAML		00 27 14.0	
	comp=N,81nm,0.2s						
SMLA				IAML		00 27 15.2	
	comp=E,66nm,0.1s						
USP	**Ospenovka**	**7.37**	**20**	P	**Pn**	**00 25 55.1**	**-0.3**
	SNR=24						
TKM2	**Tokmak 2**	**7.41**	**27**	P	**Pn**	**00 25 55.7**	**-0.4**
	SNR=32						
KDJ	**Kajisay**	**7.45**	**38**	PN	**Pn**	**00 25 56.4**	**-0.2**
KDJ	**Kajisay**	**7.45**	**38**	Pn	**Pn**	**00 25 56.4**	**-0.2**
TARG	**Taragay, Kyrgy**	**7.48**	**42**		**Pn**	**00 25 56.7**	**-0.6**
HRA	**Herat**	**7.49**	**257**	Pn	**Pn**	**00 25 57.5**	**+0.3**
SGDS	**Sogindy**	**7.58**	**20**	*e*PN	**Pn**	**00 25 56.3**	**-1.9**
SGDS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SGDS	**Sogindy**	**7.58**	**20**	*e*P	**Pn**	**00 25 56.4**	**-1.9**
	comp=Z,2.9nm,0.7s,baz=18						
TNSS	**Tian-Shan**	**8.04**	**32**	*e*PN	**Pn**	**00 26 03.0**	**-1.9**
TNSS	**Tian-Shan**	**8.04**	**32**	*e*P	**Pn**	**00 26 03.0**	**-1.9**
	baz=31						
MDOK	**Medeo**	**8.19**	**32**	*e*PN	**Pn**	**00 26 04.7**	**-1.9**
MDOK	**Medeo**	**8.19**	**32**	*e*P	**Pn**	**00 26 04.8**	**-1.9**
	baz=30						
MDOK	**Medeo**	**8.19**	**32**	P	**Pn**	**00 26 10.3**	**+3.7**
	comp=Z,4.9nm,0.6s						
MDOK				S	Sn	00 27 49.6	+12
	comp=Z,6.7nm,0.8s						
KUU	**Kurty**	**8.52**	**27**	*e*PN	**Pn**	**00 26 09.1**	**-1.9**
KUU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KUU	**Kurty**	**8.52**	**27**	*e*P	**Pn**	**00 26 09.1**	**-1.9**
	comp=Z,1.7nm,0.5s,baz=25						
CHKK	**Chushkaly**	**8.73**	**29**	*e*PN	**Pn**	**00 26 11.5**	**-2.4**
CHKK	**Chushkaly**	**8.73**	**29**	*e*P	**Pn**	**00 26 11.5**	**-2.4**
	baz=28						
SATY	**Saty**	**8.74**	**38**	*e*PN	**Pn**	**00 26 12.2**	**-1.9**
SATY	**Saty**	**8.74**	**38**	*e*P	**Pn**	**00 26 12.3**	**-1.9**
	baz=36						
BTLS	**Baital**	**8.95**	**14**	*e*PN	**Pn**	**00 26 15.3**	**-1.4**
BTLS	**Baital**	**8.95**	**14**	*e*P	**Pn**	**00 26 15.4**	**-1.4**
	baz=12						
SHLS	**Shalkode**	**9.35**	**41**	*e*P	**Pn**	**00 26 23.2**	**+0.8**
SHLS	**Shalkode**	**9.35**	**41**	*e*P	**Pn**	**00 26 23.2**	**+0.8**
	baz=41						
GEYT	**Alibeck**	**10.46**	**282**	P	**Pn**	**00 26 33.8**	**-3.7**
	comp=Z,1.0nm,0.3s,baz=102,slow=12,SNR=14						
GEYT				S	**Sn**	**00 28 25.6**	**-7.2**
	comp=Z,1.4nm,0.3s,baz=104,slow=17,SNR=3.1						
GEYT	**Alibeck**	**10.46**	**282**	Pn	**Pn**	**00 26 36.7**	**-0.8**
GYA0B	**ALIBECK ARRAY**	**10.46**	**282**	Pn	**Pn**	**00 26 36.0**	**-1.5**
OTUK	**Ortayu**	**11.90**	**4**	⇑P	**Pn**	**00 26 52.9**	**-3.8**
	comp=Z,5.0nm,0.8s						
OTUK				⇓S	**Sn**	**00 29 10.3**	**+2.8**
	comp=Z,5.2nm,0.8s						
PYUN	**Piuthan**	**13.02**	**126**	*e*P	Pn	00 27 08.5	-3.3
	comp=Z,17nm,0.4s						
MAKZ	**Makanchi**	**13.22**	**35**	P	**Pn**	**00 27 13.1**	**-1.1**
MAKZ	**Makanchi**	**13.22**	**35**	Pn	**Pn**	**00 27 13.1**	**-1.1**
MK31	**Makanchi Array**	**13.36**	**35**	⇑*e*P	**Pn**	**00 27 14.3**	**-1.7**
MK31	**Makanchi Array**	**13.36**	**35**		**Pn**	**00 27 14.9**	**-1.0**
MK31				P	**P**	**00 27 21.7**	**-0.2**
MKAR	**Makanchi Array**	**13.36**	**35**	P	**Pn**	**00 27 14.3**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=221,slow=16,SNR=6.6						
MKAR	**Makanchi Array**	**13.36**	**35**	P	**Pn**	**00 27 14.2**	**-1.8**
MKAR	**Makanchi Array**	**13.36**	**35**	P	**Pn**	**00 27 14.2**	**-1.8**
DANN	**Dangsing**	**13.36**	**123**	*e*P	Pn	00 27 13.6	-2.8
GKN	**Gorkha**	**14.18**	**122**	*e*P	Pn	00 27 24.4	-2.5
	comp=Z,32nm,0.4s						
BHPL	**Bhopal**	**14.19**	**156**	*e*P	Pn	00 27 22.0	-4.9
BHPL				*e*S	Sn	00 29 50.4	-13
WMQ	**Urumqi**	**14.72**	**55**	*e*P	**Pn**	**00 27 34.2**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,14nm,1.1s						
PKIN	**Phulchoki**	**14.97**	**122**	*e*P	**Pn**	**00 27 34.1**	**-3.0**
	comp=Z,15nm,0.4s						
PKI	**Pulchoki**	**14.98**	**122**	*e*P	**Pn**	**00 27 34.6**	**-2.7**
KURBB	**Kurchatov Arra**	**15.22**	**18**	P	**Pn**	**00 27 35.5**	**-4.4**
	comp=Z,0.0nm,0.3s,baz=207,slow=10,SNR=4.1						
AB31	**Akbulak array**	**15.23**	**331**	P	**Pn**	**00 27 37.5**	**-2.4**
	comp=Z,4.6nm,0.5s,baz=143,slow=12,SNR=168						
ABKAR	**Akbulak array**	**15.23**	**331**	Pn	**Pn**	**00 27 37.7**	**-2.3**
KURK	**Kurchatov**	**15.33**	**18**	⇑*e*P	**Pn**	**00 27 41.8**	**+0.6**
KURK	**Kurchatov**	**15.33**	**18**	P	**Pn**	**00 27 42.7**	**+1.5**
JIRN	**Jiri**	**15.47**	**120**	*e*P	**Pn**	**00 27 41.9**	**-1.6**
	comp=Z,26nm,0.5s						
SEM	**Semipalatinsk**	**15.51**	**22**	*e*P	**Pn**	**00 27 42.2**	**-1.5**
SEM				*e*S	**Sn**	**00 30 34.4**	**-0.8**
SEM	**Semipalatinsk**	**15.51**	**22**	*e*P	**Pn**	**00 27 42.3**	**-1.5**
	baz=22						
SEM				*e*S	**Sn**	**00 30 34.4**	**-0.8**
	baz=22						
RAMN	**Ramite**	**16.19**	**121**	*e*P	**Pn**	**00 27 50.2**	**-2.2**
	comp=Z,11nm,0.3s						
BRVK	**Borovoye**	**16.69**	**358**	⇓*e*P	**Pn**	**00 27 58.1**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**16.69**	**358**	P	**Pn**	**00 27 57.8**	**-0.3**
AKTO	**Aktyubinsk**	**16.92**	**330**	P	**Pn**	**00 27 59.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=141,slow=15,SNR=13						
LKRN	**Lenkeran, Azer**	**17.84**	**284**	P	**Pn**	**00 28 16.6**	**+4.5**
LSA	**Lhasa**	**18.08**	**106**	P	**P**	**00 28 16.0**	**+1.2**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.4s						
LSA	**Lhasa**	**18.08**	**106**	P	**P**	**00 28 16.0**	**+1.2**
LSA				IAmb	IAmb	00 28 22.7	
	comp=Z,8.3nm,0.4s						
GOMU	**GeErMu**	**19.13**	**83**	P	P	00 28 19.7	-6.4
GOMU				pP	Pn	00 28 22.9	-5.1
GOMU				sP	pP	00 28 24.9	-21
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,54nm,6.0s						
SEKA	**Sheki**	**19.21**	**292**	P	**Pn**	**00 28 29.9**	**+1.3**
MNGR	**Mingechevir, A**	**19.25**	**290**	P	**Pn**	**00 28 31.9**	**+3.0**
GANJ	**Ganja**	**19.82**	**290**	P	**Pn**	**00 28 38.0**	**+2.4**
ZAA0	**Zalesovo Array**	**20.00**	**24**	P	**P**	**00 28 34.5**	**-0.4**
ZALV	**Zalesovo Beam**	**20.00**	**24**	P	**P**	**00 28 33.6**	**-1.4**
	comp=Z,2.8nm,0.5s,baz=216,slow=11,SNR=17						
ZALV	**Zalesovo Beam**	**20.00

MNK				*i* SS	SS	00 38 29.4	-16		
MNK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
MNK				pmax	pmax				
	comp=E,2.0nm,1.1s								
MNK				pmax	pmax				
	comp=N,19nm,1.1s								
MNK				MLR	MLR				
	comp=E,8.0nm,11.0s								
MNK				MLR	MLR				
	comp=Z,82nm,12.0s								
MNK				MLR	MLR				
	comp=N,44nm,10.0s								
MNK	**Minsk**	**34.64**	**315**	*i* P	P	00 30 35.9	-14		
	comp=E,2.0nm,1.1s								
MNK				*i* P	P	00 30 35.9	-14		
	comp=N,19nm,1.1s								
MNK				*i* P	P	00 30 35.9	-14		
	comp=Z,6.0nm,1.0s,baz=282								
MNK				*i* pP	pP	00 30 58.6	-15		
MNK				*i* PP	PnPn	00 31 56.1	-13		
MNK				*i* S	S	00 35 59.9	-12		
MNK				*i* sS	sS	00 36 40.7	-12		
MNK				*i* SS	**SnSn**	**00 38 29.5**	**-5.1**		
MNK				*i* LR	LR	00 40 55.3			
MNK				*i* LRM	MLR	00 46 21.0			
	comp=E,8.0nm,10.8s								
MNK				*i* LRM	MLR	00 46 26.9			
	comp=Z,82nm,12.1s								
MNK				*i* LRM	MLR	00 46 38.4			
	comp=N,44nm,9.6s								
MLR	**Muntele Rosu**	**34.90**	**299**	P	**P**	**00 30 52.8**	**+0.3**		
MLR				pmax	pmax				
	comp=Z,6.0nm,1.1s								
MLR	**Muntele Rosu**	**34.90**	**299**	P	**P**	**00 30 52.8**	**+0.3**		
MLR				IAmb	IAmb	00 30 56.4			
	comp=Z,5.9nm,1.1s								
BURAR	**Bucovina Array**	**35.41**	**303**	P	**P**	**00 30 57.6**	**+0.8**		
BUR08	**Bucovina Ar. S**	**35.42**	**303**	P	**P**	**00 30 58.2**	**+1.3**		
PABE	**Paberze**	**37.05**	**316**	P	**P**	**00 31 11.0**	**+0.5**		
PABE				IAmb	IAmb	00 31 29.8			
	comp=Z,3.7nm,0.8s								
FIA1	**FINESS Array S**	**37.62**	**326**	P	**P**	**00 31 16.2**	**+1.0**		
FINES	**FINESS Array B**	**37.63**	**326**	P	**P**	**00 31 16.3**	**+1.1**		
	comp=Z,2.3nm,0.6s,baz=109,slow=8.9,SNR=11								
FINES	**FINESS Array B**	**37.63**	**326**	P	**P**	**00 31 16.4**	**+1.2**		
ARCES	**ARCESS Array B**	**41.29**	**338**	P	**P**	**00 31 47.2**	**+1.6**		
	comp=Z,3.9nm,0.9s,baz=110,slow=8.5,SNR=14								
ARCES	**ARCESS Array B**	**41.29**	**338**	P	**P**	**00 31 46.6**	**+1.0**		
ARCES	**ARCESS Array B**	**41.29**	**338**	P	**P**	**00 31 46.6**	**+1.0**		
NC405	**NORSAR Array S**	**44.29**	**323**	P	**P**	**00 32 10.9**	**+1.0**		
NC602	**NORSAR Array S**	**44.33**	**323**	P	**P**	**00 32 10.9**	**+0.6**		
NC303	**NORSAR Array S**	**44.47**	**323**	P	**P**	**00 32 12.5**	**+1.2**		
NB201	**NORSAR Array S**	**44.48**	**323**	P	**P**	**00 32 12.1**	**+0.6**		
NB2	**NORSAR Subarra**	**44.52**	**323**	P	**P**	**00 32 12.4**	**+0.6**		
	comp=Z,1.5nm,0.5s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**00 32 12.2**	**+0.4**		
	comp=Z,2.4nm,0.6s,baz=106,slow=7.2,SNR=9.6								
GRFO	**Grafenberg**	**44.59**	**307**	P	**P**	**00 32 12.7**	**+0.2**		
GRFO				pmax	pmax				
	comp=Z,6.0nm,1.1s								
GRFO	**Grafenberg**	**44.59**	**307**	P	**P**	**00 32 12.7**	**+0.2**		
GRFO				IAmb	IAmb	00 32 24.9			
	comp=Z,5.8nm,1.1s								
NAO01	**NORSAR Array S**	**44.66**	**323**	P	**P**	**00 32 13.5**	**+0.6**		
NAO01				IAmb	IAmb	00 32 32.9			
	comp=Z,4.4nm,0.9s								
NBO00	**NORSAR Array S**	**44.73**	**323**	P	**P**	**00 32 14.1**	**+0.6**		
TJN	**Taejon**	**44.75**	**72**	⇓*e*P	P	00 32 10.6	-3.3		
NC204	**NORSAR Array S**	**44.76**	**323**	P	**P**	**00 32 14.7**	**+0.9**		
TIXI	**Tiksi**	**45.87**	**22**	⇓*e*P	**P**	**00 32 22.3**	**+0.1**		
TIXI				pmax	pmax				
	comp=Z,5.0nm,2.5s								
SPITS	**Spitsbergen Ar**	**47.63**	**347**	P	**P**	**00 32 37.5**	**+1.5**		
SPITS				pmax	pmax				
	comp=Z,17nm,1.1s								
UCC	**Uccle**	**48.80**	**309**	P	**P**	**00 32 46.0**	**+0.7**		
UCC				pmax	pmax				
	comp=Z,2.0nm,0.9s								
UCC	**Uccle**	**48.80**	**309**	P	**P**	**00 32 46.0**	**+0.7**		
UCC				IAmb	IAmb	00 32 48.9			
	comp=Z,2.4nm,0.9s								
ESK	**Eskdalemuir**	**52.45**	**316**	P	**P**	**00 33 13.6**	**+1.0**		
ESK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
ESK	**Eskdalemuir**	**52.45**	**316**	P	**P**	**00 33 13.6**	**+1.0**		
MBAR	**Mbarara**	**52.49**	**235**	*ce*P	**P**	**00 33 14.1**	**+0.5**		
MBAR				pmax	pmax				
	comp=Z,10.0nm,1.7s								
BORG	**Borgarnes**	**58.75**	**330**	LR	LR	00 59 05.2			
	comp=Z,90nm,18.1s,baz=21,slow=36								
TOA0	**Torodi Ar. Sit**	**65.78**	**269**	P	**P**	**00 34 44.2**	**-1.0**		
TOA0				IAmb	IAmb	00 35 04.0			
	comp=Z,3.2nm,1.1s								
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**00 34 43.3**	**-1.9**		
	comp=Z,1.7nm,0.7s,baz=46,slow=5.7,SNR=23								
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**00 34 44.1**	**-1.1**		
TORD				IAmb	IAmb	00 34 45.9			
	comp=Z,1.0nm,0.7s								
KOWA	**Kowa**	**69.64**	**273**	P	**P**	**00 35 08.7**	**-0.8**		
KOWA				IAmb	IAmb	00 35 11.4			
	comp=Z,3.2nm,1.1s								
TOLK	**Toolik Lake Re**	**71.03**	**15**	P	**P**	**00 35 17.5**	**+0.4**		
IMAR	**Indian Mountai**	**72.27**	**18**	P	**P**	**00 35 24.1**	**-0.5**		
C36M	**Paulatuk**	**74.00**	**6**	P	**P**	**00 35 34.9**	**+0.3**		
C36M				IAmb	IAmb	00 35 36.0			
	comp=Z,6.6nm,1.1s								
INK	**Inuvik**	**74.02**	**9**	P	**P**	**00 35 35.9**	**+1.1**		
	comp=Z,0.5nm,0.4s,baz=135,slow=4.3,SNR=2.6								
INK	**Inuvik**	**74.02**	**9**	P	**P**	**00 35 36.0**	**+1.2**		
M19K	**Big River Lodg**	**75.39**	**20**	P	**P**	**00 35 43.7**	**+0.8**		
M19K				IAmb	IAmb	00 35 44.3			
	comp=Z,2.6nm,0.9s								
SVW2	**Sparrevohn**	**75.70**	**21**	P	P	00 35 39.4	-5.3		
SVW2				IAmb	IAmb	00 35 51.1			
	comp=Z,3.5nm,1.2s								
BMRM	**Bremner River**	**78.72**	**17**	P	**P**	**00 36 03.8**	**+2.2**		
OHAK	**Old Harbor**	**79.54**	**23**	P	**P**	**00 36 08.5**	**+2.5**		
OHAK				IAmb	IAmb	00 36 09.6			
	comp=Z,5.0nm,1.0s								
YKA	**Yellowknife Ar**	**81.37**	**3**	P	**P**	**00 36 15.8**	**+0.1**		
	comp=Z,0.6nm,0.4s,baz=352,slow=5.3,SNR=17								
YKA	**Yellowknife Ar**	**81.37**	**3**	P	**P**	**00 36 16.1**	**+0.4**		
WB0	**Warramunga Arr**	**81.78**	**122**	P	**P**	**00 36 18.6**	**+0.1**		
WB0				IAmb	IAmb	00 36 30.9			
	comp=Z,2.8nm,0.9s								
WRA	**Warramunga Arr**	**81.87**	**122**	P	**P**	**00 36 16.3**	**-2.7**		
	comp=Z,0.3nm,0.7s,baz=324,slow=5.1,SNR=1.8								
ASAR	**Alice Springs**	**84.13**	**125**	P	P	00 36 27.4	-3.1		
	comp=Z,0.3nm,0.6s,baz=311,slow=5.3,SNR=5.7								

*JMA **08** 00:46:48.2±0.1,36°.41N×141°.10E,h45km±2km,M3.5*
JMA Felt I J1.
*IDC **08** 00:46:52.4±4.9,36°.38N×140°.99E,h75km±46km,mb3.1/3,*
mb1 3.3/4,mb1mx3.0/28,mbtmp3.3/4,ML2.6/1,MS3.1/1,
Ms1 3.1/1,ms1mx2.3/20,Error ellipse: s-maj=41.1km
s-min=30.4km az=105.0
ISC 08 00:46:48.0±1.3,36°.45N±0°.07×141°.16E±0°.09,h32km,n18,
σ0s94/15,mb3.4/3,4C-3D,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.47**	**256**	⇑P	**Pb**	**00 46 58.4**	**+0.3**
JHYU				S	**Sn**	**00 47 05.3**	**-0.5**
JHO	**Hitachi**	**0.50**	**288**	⇑P	**Pn**	**00 46 58.7**	**-0.2**
JHO				S	**Sn**	**00 47 06.0**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.71**	**336**	⇓P	**Pb**	**00 47 02.0**	**0.0**
JYT	**Yasato**	**0.81**	**254**	⇑P	**Pn**	**00 47 02.6**	**-0.6**
JFK	**Kawauchi**	**0.94**	**346**	⇓P	**Pn**	**00 47 05.1**	**+0.1**
JFT	**Otama**	**1.25**	**328**	⇓P	**Pb**	**00 47 10.7**	**-0.3**
JFT				S	**Sb**	**00 47 26.4**	**-0.4**
JAG	**Ashikaga**	**1.38**	**269**	⇑P	**Pn**	**00 47 10.9**	**0.0**
MJAR	**Matsushiro Arr**	**2.38**	**273**	P	**Pn**	**00 47 25.8**	**+1.1**
	1.5nm,0.3s,baz=81,slow=9.8,SNR=17						
MJAR				S	**Sn**	**00 47 54.9**	**+2.0**
	1.0nm,0.3s,baz=98,slow=18,SNR=5.3						
JCJ	**Chichijima**	**9.37**	**174**	LR	LR	00 53 10.8	
	comp=Z,121nm,19.4s,baz=94,slow=41						
SONM	**Songino Array**	**27.94**	**305**	P	**P**	**00 52 34.0**	**-1.4**
	0.3nm,0.6s,baz=90,slow=7.2,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.03**	**119**	T	T	01 22 39.6	
	baz=312,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.04**	**120**	T	T	01 22 38.8	
	baz=312,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	01 22 39.6	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**28.72**	**122**	T	T	01 23 30.4	
	baz=314,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.72**	**122**	T	T	01 23 30.4	
	baz=314,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.74**	**122**	T	T	01 23 29.9	
	baz=314,slow=75,SNR=11						
ILAR	**Eielson Array**	**50.09**	**32**	P	**P**	**00 55 40.9**	**+1.3**
	0.4nm,0.7s,baz=274,slow=6.6,SNR=4.9						
WRA	**Warramunga Arr**	**56.46**	**188**	P	**P**	**00 56 26.1**	**-0.7**
	0.3nm,0.7s,baz=5.0,slow=7.4,SNR=2.0						

ATH 08 01:02:16.7,40°.00N×21°.21E,h22km±3km,ML1.3/4,Error ellipse: s-maj=3.8km s-min=1.0km az=314.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PENT	**Pentalofos**	**0.20**	**344**	P	Pb	01 02 22.1	-0.5
PENT				S	Sb	01 02 26.0	-0.6
NEST	**Nestorio**	**0.43**	**343**	P	Pb	01 02 25.6	-0.1
NEST				S	Sb	01 02 31.8	0.0
NEST				AML	AML	01 02 36.0	
	comp=E,182μm,0.3s						
NEST				AML	AML	01 02 37.1	
	comp=N,107μm,0.3s						
JAN	**Janina**	**0.44**	**219**	P	Pb	01 02 25.1	-0.7
JAN				S	Sb	01 02 32.7	+0.7
JAN				AML	AML	01 02 34.4	
	comp=N,78μm,0.2s						
JAN				AML	AML	01 02 37.1	
	comp=E,96μm,0.4s						
KZN	**Kozani**	**0.53**	**55**	P	Pb	01 02 27.2	-0.2
KZN				S	Sb	01 02 35.5	+0.8
KZN				AML	AML	01 02 39.4	
	comp=N,74μm,0.1s						
KZN				AML	AML	01 02 39.6	
	comp=E,102μm,0.1s						
THL	**Klokotos Trika**	**0.76**	**125**	P	Pb	01 02 31.3	+0.1
THL				S	Sb	01 02 41.6	+0.5
THL				AML	AML	01 02 45.6	
	comp=E,42μm,0.1s						
THL				AML	AML	01 02 46.6	
	comp=N,61μm,0.2s						
FNA	**Florina**	**0.79**	**9**	P	Pn	01 02 32.5	-0.2
FNA				S	Sb	01 02 42.5	+0.3
IGT	**Igoumenitsa**	**0.82**	**236**	P	Pn	01 02 33.4	+0.3
TYRN	**Tyrnavos**	**0.84**	**110**	P	Pb	01 02 32.5	-0.1
TYRN				S	Sn	01 02 45.7	+0.7
EVR	**Evrytania**	**1.18**	**157**	P	Pb	01 02 38.6	+0.2
MAKR	**Makrakomi, Fth**	**1.22**	**144**	P	Pb	01 02 40.2	+1.1
AGG	**Agios Georgios**	**1.31**	**138**	P	Pb	01 02 41.8	+1.2

*ATH **08** 01:02:33.8,41°.66N×20°.36E,h6km±2km,ML2.5/10,Error*
ellipse: s-maj=4.1km s-min=1.5km az=184.0
*SKO **08** 01:02:34.5,41°.56N×20°.32E,h15km*
*THE **08** 01:02:35.5,41°.55N×20°.38E,h0km±3km,ML2.6/3,Error*
ellipse: s-maj=3.8km s-min=0.9km az=318.0
*PDG **08** 01:02:35.8±0.6,41°.61N×20°.34E,h6km±1km,ML2.9/13,*
Error ellipse: s-maj=0.8km s-min=0.8km az=0.0
*TIR **08** 01:02:35.4,42°.03N×20°.49E,h3km±3km,Md3.0,Ml2.8*
*BEO **08** 01:02:36.1±0.2,41°.55N×20°.36E,h8km±4km,ML2.6/17*
ISC 08 01:02:35.2±1.0,41°.54N±0°.02×20°.37E±0°.02,h5km±9km,
n130,σ1s13/176,15C-8D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.16**	**19**	P	**Pg**	**01 02 38.2**	**-0.2**
PHP				S	**Sg**	**01 02 41.0**	**+0.5**
	10μm,0.3s						
TIR	**Tirane**	**0.43**	**244**	⇓P	**Pg**	**01 02 42.8**	**-0.7**
TIR				⇓S	**Sg**	**01 02 50.6**	**+1.6**
TIR	**Tirane**	**0.43**	**244**	*e*Pg	**Pg**	**01 02 43.1**	**-0.3**
TIR				*e*Sg	**Sg**	**01 02 50.7**	**+1.6**
TIR	**Tirane**	**0.43**	**244**	P	**Pg**	**01 02 43.2**	**-0.2**
TIR	**Tirane**	**0.43**	**244**	P	**Pg**	**01 02 43.1**	**-0.3**
TIR				S	**Sg**	**01 02 50.6**	**+1.6**
	808nm,0.6s						
TIR	**Tirane**	**0.43**	**244**	⇑*i*Pg	**Pg**	**01 02 42.9**	**-0.5**
OHR	**Ohrid**	**0.53**	**143**	*e*Pg	**Pb**	**01 02 46.4**	**-0.7**
OHR				*e*Sg	**Sb**	**01 02 55.6**	**+0.5**
OHR	**Ohrid**	**0.53**	**143**	*i* Pg	**Pb**	**01 02 46.4**	**-0.7**
OHR				*i* Sg	**Sb**	**01 02 55.6**	**+0.5**
OHR				*e*Lg	Lg	01 02 55.8	
	comp=N,167nm,0.3s						
SKO	**Skopje**	**0.91**	**61**	*i* Pg	**Pb**	**01 02 53.0**	**-0.5**
SKO				*i* Sg	**Sb**	**01 03 06.2**	**+0.3**
ULC	**Ulcinj**	**0.95**	**297**	⇑*i*Pg	**Pg**	**01 02 52.3**	**-1.1**
ULC				*i* Sg	**Sg**	**01 03 06.5**	**+0.8**
FNA	**Florina**	**1.07**	**135**	P	**Pg**	**01 02 54.9**	**-0.8**
FNA				S	**Sn**	**01 03 11.9**	**-0.3**
FNA				AML	AML	01 03 16.4	
	comp=E,1081μm,0.5s						
FNA				AML	AML	01 03 19.4	
	comp=N,772μm,0.4s						
FNA	**Florina**	**1.07**	**135**	P	**Pg**	**01 02 55.3**	**-0.4**
FNA				S	**Sn**	**01 03 11.7**	**-0.5**
	comp=N,458nm,0.4s						
FNA	**Florina**	**1.07**	**135**	*i* Pg	**Pg**	**01 02 55.5**	**-0.2**
DRME	**Dracevica, Mon**	**1.10**	**307**	*e*Pn	**Pg**	**01 02 55.7**	**-0.6**
DRME	**Dracevica, Mon**	**1.10**	**307**	*e*Pg	**Pg**	**01 02 55.0**	**-1.3**
DRME				*i* Sg	**Sb**	**01 03 11.5**	**+0.1**
PVY	**Plav**	**1.10**	**344**	⇓*i*Pg	**Pg**	**01 02 54.8**	**-1.6**
PVY				*i* Sg	**Sb**	**01 03 11.2**	**-0.4**
PDG	**Podgorica**	**1.22**	**317**	⇓P	**Pg**	**01 02 57.2**	**-1.4**
PDG				⇓S	**Sn**	**01 03 16.6**	**+0.7**
PDG	**Podgorica**	**1.22**	**317**	*e*Pg	**Pg**	**01 02 56.9**	**-1.7**
PDG				*e*Sg	**Sb**	**01 03 15.1**	**+0.2**
PDG	**Podgorica**	**1.22**	**317**	*e*Pn	**Pg**	**01 02 57.1**	**-1.5**
PDG	**Podgorica**	**1.22**	**317**	*i* Pg	**Pg**	**01 02 57.5**	**-1.1**
TTG	**Podgorica**	**1.22**	**317**	⇑*i*Pg	**Pg**	**01 02 57.1**	**-1.5**
TTG				*i* Sg	**Sb**	**01 03 15.4**	**+0.5**
NEST	**Nestorio**	**1.23**	**155**	P	**Pn**	**01 03 00.1**	**+0.8**
NEST				AML	AML	01 03 28.4	
	comp=E,318μm,0.5s						
NEST				AML	AML	01 03 31.2	
	comp=N,265μm,0.3s						
BUM	**Brajici-Budva**	**1.34**	**305**	*e*Pg	**Pn**	**01 02 59.4**	**-1.3**
BUM				*i* Sg	**Sn**	**01 03 19.7**	**+0.7**
STIP	**Stip**	**1.37**	**83**	*i* Pn	**Pg**	**01 03 03.8**	**+2.3**
BEY	**Berane**	**1.38**	**345**	*i* Pn	**Pn**	**01 03 00.3**	**-1.0**
IVA	**Berane**	**1.38**	**345**	*e*Pg	**Pn**	**01 02 59.9**	**-1.4**
IVA				*i* Sg	**Sn**	**01 03 20.5**	**+0.5**
KOME	**Kolasin**	**1.46**	**334**	*e*Pg	**Pn**	**01 03 01.2**	**-1.2**
KOME				*i* Sg	**Sg**	**01 03 23.1**	**+1.0**
CEME	**Cevo**	**1.48**	**313**	⇑*i*Pg	**Pn**	**01 03 01.8**	**-0.8**
CEME				*i* Sg	**Sg**	**01 03 24.0**	**+1.2**
NKME	**Niksic**	**1.62**	**320**	⇓*i*Pg	**Pn**	**01 03 04.3**	**-0.2**
NKME				*i* Sg	**Sg**	**01 03 28.1**	**+0.8**
KZN	**Kozani**	**1.62**	**139**	P	**Pg**	**01 03 06.2**	**-0.1**
KZN				AML	AML	01 03 37.2	
	comp=E,236μm,0.4s						
KZN				AML	AML	01 03 37.6	
	comp=N,187μm,0.4s						
GRG	**Griva**	**1.64**	**110**	P	**Pb**	**01 03 05.3**	**-0.6**
GRG				AML	AML	01 03 34.4	
	comp=E,260μm,0.6s						
GRG				AML	AML	01 03 34.6	
	comp=N,266μm,0.6s						
GRG	**Griva**	**1.64**	**110**	P	**Pb**	**01 03 05.0**	**-0.9**
NKY	**Niksic**	**1.64**	**322**	⇑*i*Pg	**Pn**	**01 03 04.6**	**-0.2**
NKY				*i* Sg	**Sg**	**01 03 28.5**	**+0.7**
VAY	**Valandovo**	**1.67**	**97**	*e*Pg	**Pb**	**01 03 05.9**	**-0.5**
VAY				*e*Sg	**Sg**	**01 03 30.2**	**+1.5**
VAY	**Valandovo**	**1.67**	**97**	*i* Pn	**Pb**	**01 03 06.1**	**-0.3**
BARS	**Barje**	**1.67**	**39**	*e*Pn	**Pb**	**01 03 05.5**	**-1.0**
BARS	**Barje**	**1.67**	**39**	*e*Pn	Pg	01 03 20.3	+13
BARS				*e*Sn	**Sg**	**01 03 28.3**	**-0.5**
BARS				*e*Sn	Sb	01 03 54.8	+27
HCY	**Herceg Novi**	**1.67**	**304**	*e*Pn	**Pn**	**01 03 05.2**	**+0.1**
HCY	**Herceg Novi**	**1.67**	**304**	⇑*i*Pn	**Pn**	**01 03 05.3**	**+0.1**
HCY				*i* Sn	**Sg**	**01 03 29.6**	**+0.7**
SJES	**Sjenica**	**1.75**	**350**	*e*Pn	**Pn**	**01 03 06.6**	**+0.2**
SJES				*e*Sn	**Sn**	**01 03 29.1**	**0.0**
SELS	**Selova**	**1.77**	**18**	*e*Pn	**Pn**	**01 03 05.9**	**-0.7**
SELS				*e*Sn	**Sb**	**01 03 30.0**	**-0.7**
BOSS	**Bosilegrad**	**1.84**	**58**	*e*Pn	**Pn**	**01 03 07.6**	**+0.1**
BOSS				*e*Sn	**Sn**	**01 03 31.0**	**-0.2**
KEK	**Kerkira**	**1.87**	**194**	P	**Pb**	**01 03 09.2**	**-0.8**
KEK				AML	AML	01 03 45.2	
	comp=N,143μm,1.0s						
KEK				AML	AML	01 03 46.2	
	comp=E,138μm,0.6s						
TREB	**Trebinje**	**1.91**	**309**	*e*Pn	**Pn**	**01 03 09.1**	**+0.6**
TREB				*e*Sn	**Sn**	**01 03 33.4**	**+0.4**
TREB	**Trebinje**	**1.91**	**309**	*e*Pn	**Pb**	**01 03 09.7**	**-0.9**
JAN	**Janina**	**1.91**	**169**	P	**Pg**	**01 03 11.7**	**-0.2**
BRY	**Bratogost**	**1.93**	**316**	*e*Pn	**Pb**	**01 03 10.0**	**-1.0**
BRY	**Bratogost**	**1.93**	**316**	⇑*i*Pn	**Pn**	**01 03 09.3**	**+0.5**
BRY				*i* Sn	**Sb**	**01 03 35.5**	**+0.1**
PLE	**Pljevlja**	**1.93**	**338**	*e*Pn	**Pn**	**01 03 09.3**	**+0.4**
PLE				*i* Sn	**Sb**	**01 03 35.6**	**0.0**
UPM	**Unac-Piva**	**1.99**	**327**	*e*Pn	**Pb**	**01 03 12.3**	**+0.3**
UPM	**Unac-Piva**	**1.99**	**327**	⇑*i*Pn	**Pn**	**01 03 10.1**	**+0.4**
UPM				*i* Sn	**Sb**	**01 03 37.0**	**-0.2**
IGT	**Igoumenitsa**	**2.00**	**181**	P	**Pb**	**01 03 12.1**	**-0.1**
IGT				AML	AML	01 03 47.6	
	comp=E,107μm,0.9s						
IGT				AML	AML	01 03 52.4	
	comp=N,151μm,0.5s						
DBRK	**Dubrovnik**	**2.01**	**305**	*e*Pn	**Pn**	**01 03 10.5**	**+0.7**
DBRK				Sn	**Sb**	**01 03 37.3**	**-0.2**
IVAS	**Ivanjica**	**2.04**	**355**	*e*Pn	**Pb**	**01 03 10.0**	**-1.4**
IVAS				*e*Sn	**Sn**	**01 03 35.6**	**-0.7**
LIT	**Litokhoron**	**2.15**	**131**	P	**Pb**	**01 03 13.5**	**-1.2**
LIT				AML	AML	01 03 59.0	
	comp=N,85μm,1.0s						
LIT				AML	AML	01 04 01.2	
	comp=E,75μm,0.6s						
RUDO	**Rudo**	**2.21**	**341**	*e*Pn	**Pn**	**01 03 12.7**	**+0.1**
BOVS	**Bovan**	**2.32**	**25**	⇑P	**Pn**	**01 03 13.9**	**-0.1**
SOH	**Sokhos**	**2.36**	**107**	P	**Pb**	**01 03 16.9**	**-1.4**
SOH				AML	AML	01 03 56.8	
	comp=E,79μm,0.5s						
SOH				AML	AML	01 03 58.1	
	comp=N,99μm,0.5s						
GRUS	**Gruza**	**2.36**	**6**	*e*Pn	**Pn**	**01 03 14.8**	**+0.1**
VTS	**Vitosha**	**2.39**	**62**	⇓P	**Pn**	**01 03 15.2**	**0.0**
VTS	**Vitosha**	**2.39**	**62**	*e*Pn	**Pn**	**01 03 15.1**	**0.0**
VTS				*e*Sn	**Sn**	**01 03 44.1**	**-0.8**
STON	**Ston**	**2.39**	**305**	*e*Pn	**Pn**	**01 03 15.9**	**+0.8**
STON	**Ston**	**2.39**	**305**	*e*Pn	**Pn**	**01 03 16.0**	**+1.0**
STON				Sn	**Sn**	**01 03 46.3**	**+1.6**
BBLS	**Lazići**	**2.43**	**343**	*e*Pn	**Pn**	**01 03 16.4**	**+0.7**
BBLS				*e*Sn	**Sn**	**01 03 46.8**	**+0.8**
BBLS	**Lazići**	**2.43**	**343**	*e*Pn	**Pn**	**01 03 16.6**	**+0.9**
SRS	**Serrai**	**2.46**	**99**	P	**Pn**	**01 03 17.2**	**+1.2**
SRS				AML	AML	01 04 00.7	
	comp=E,38μm,0.5s						
SRS				AML	AML	01 04 02.1	
	comp=N,50μm,0.6s						
DIVS	**Divibare**	**2.58**	**354**	*e*Pn	**Pn**	**01 03 17.7**	**0.0**
DIVS				*e*Sn	**Sn**	**01 03 49.5**	**+0.1**
DIVS	**Divibare**	**2.58**	**354**	*e*Pn	**Pn**	**01 03 17.4**	**-0.3**
PLG	**Polygyros**	**2.60**	**116**	P	**Pb**	**01 03 19.9**	**-2.4**
NVR	**Nevrokopi**	**2.63**	**93**	P	**Pn**	**01 03 19.7**	**+1.3**
NVR				AML	AML	01 04 02.2	
	comp=N,55μm,0.5s						
NVR				AML	AML	01 04 06.4	
	comp=E,57μm,0.7s						
ZAGS	**Zajecar**	**2.66**	**30**	*e*Pn	**Pn**	**01 03 18.1**	**-0.6**
TRUS	**Trudelj**	**2.69**	**0**	*e*Pn	**Pn**	**01 03 19.2**	**+0.1**
TRUS				*e*Sn	**Sn**	**01 03 52.5**	**+0.5**
BLKB	**Belogradchik**	**2.69**	**38**	⇑P	**Pn**	**01 03 17.7**	**-1.5**
LKD2	**Lefkada island**	**2.75**	**175**	P	**Pn**	**01 03 21.9**	**+1.8**
KOKK	**Kokkinochori,**	**2.83**	**104**	P	**Pn**	**01 03 22.2**	**+1.1**
MAKR	**Makrakomi, Fth**	**2.86**	**151**	P	**Pb**	**01 03 24.8**	**-1.9**
LSTV	**Lastovo**	**2.87**	**297**	Sn	**Sn**	**01 03 57.9**	**+1.4**
LSTV	**Lastovo**	**2.87**	**297**	*e*Pn	**Pn**	**01 03 21.3**	**-0.3**
MATE	**Matera**	**2.91**	**253**	⇑P	**Pn**	**01 03 20.6**	**-1.6**
EVGI	**Lefkada island**	**2.92**	**176**	P	**Pn**	**01 03 24.2**	**+1.8**
AGG	**Agios Georgios**	**2.92**	**149**	P	**Pb**	**01 03 24.9**	**-3.0**
PAIG	**Paliouri**	**2.98**	**122**	P	**Pn**	**01 03 25.4**	**+2.2**
KUBS	**Kucevo**	**3.03**	**18**	*e*Pn	**Pn**	**

PRK	**Paraskevi**	**0.17**	**123**	P	**Pg**	**01 41 29.6**	**+0.3**		
PRK				S	**Sg**	**01 41 32.7**	**+0.3**		
	comp=N,8μm,0.3s								
SIGR	**SIGRI**	**0.22**	**234**	P	**Pb**	**01 41 29.9**	**0.0**		
SIGR				S	**Sb**	**01 41 33.1**	**-0.2**		
SIGR				AML	AML	01 41 33.9			
	comp=N,7154μm,0.6s								
SIGR				AML	AML	01 41 34.7			
	comp=E,5014μm,0.3s								
SIGR	**SIGRI**	**0.22**	**234**	P	**Pb**	**01 41 29.9**	**0.0**		
SIGR				S	**Sb**	**01 41 32.9**	**-0.4**		
	comp=E,3μm,0.5s								
SIGR	**SIGRI**	**0.22**	**234**	PG	**Pb**	**01 41 29.9**	**0.0**		
SIGR				SG	**Sb**	**01 41 33.3**	**0.0**		
BOZC	**Bozcaada**	**0.50**	**357**	PG	**Pg**	**01 41 34.9**	**0.0**		
BOZC				SG	**Sb**	**01 41 42.4**	**+0.4**		
EZN	**Ezine**	**0.52**	**21**	P	**Pb**	**01 41 35.3**	**0.0**		
EZN				S	**Sb**	**01 41 43.0**	**+0.6**		
	comp=E,590nm,0.4s								
EZN	**Ezine**	**0.52**	**21**	PG	**Pb**	**01 41 35.2**	**0.0**		
BAYC	**CANAKKALE_Bayr**	**0.54**	**41**	P	**Pg**	**01 41 34.8**	**-0.7**		
BAYC				S	**Sb**	**01 41 42.8**	**-0.1**		
BAYC				*i* AML	AML	01 41 45.0			
	comp=E,208nm,0.1s								
BAYC				*i* AML	AML	01 41 47.0			
	comp=E,291nm,0.4s								
DKL	**Dikili**	**0.69**	**113**	PG	**Pg**	**01 41 38.1**	**-0.2**		
ECEA	**Canakkale, Ece**	**0.71**	**5**	P	**Pb**	**01 41 37.9**	**-0.6**		
ECEA				S	**Sg**	**01 41 48.5**	**+0.4**		
ECEA				*i* AML	AML	01 41 52.0			
	comp=E,258nm,0.4s								
ECEA				*i* AML	AML	01 41 52.0			
	comp=E,284nm,0.2s								
BUHA	**Balikesir, Bur**	**0.78**	**78**	P	**Pb**	**01 41 39.2**	**-0.6**		
BUHA				S	**Sb**	**01 41 49.7**	**-0.4**		
BUHA				*i* AML	AML	01 41 53.0			
	comp=E,680nm,0.5s								
BUHA				*i* AML	AML	01 41 54.0			
	comp=E,374nm,0.4s								
FOCM	**Foa**	**0.80**	**141**	PG	**Pg**	**01 41 40.3**	**-0.1**		
ZEDA	**zmir-Bergama**	**0.86**	**116**	P	**Pb**	**01 41 40.9**	**-0.2**		
ZEDA				S	**Sg**	**01 41 52.8**	**+0.1**		
ZEDA				*i* AML	AML	01 41 55.0			
	comp=E,118nm,0.3s								
GOKA	**anakkale-Gk**	**0.86**	**351**	P	**Pb**	**01 41 41.1**	**0.0**		
GOKA				S	**Sg**	**01 41 52.7**	**-0.2**		
GOKA				*i* AML	AML	01 41 55.0			
	comp=E,389nm,0.5s								
LIA	**Limnos Island**	**0.89**	**309**	P	**Pg**	**01 41 42.2**	**0.0**		
LIA				S	**Sn**	**01 41 54.9**	**+0.1**		
LIA				AML	AML	01 41 55.8			
	comp=E,1657μm,0.4s								
LIA				AML	AML	01 41 56.0			
	comp=N,1007μm,0.3s								
LIA	**Limnos Island**	**0.89**	**309**	P	**Pg**	**01 41 42.3**	**+0.1**		
LIA				S	**Sn**	**01 41 54.9**	**+0.1**		
	comp=N,668nm,0.3s								
CHOS	**Chios island**	**0.95**	**181**	P	**Pb**	**01 41 42.4**	**-0.3**		
CHOS				AML	AML	01 41 58.4			
	comp=N,817μm,0.2s								
CHOS				AML	AML	01 41 58.6			
	comp=E,1232μm,0.2s								
CHOS	**Chios island**	**0.95**	**181**	P	**Pb**	**01 41 42.4**	**-0.3**		
CHOS				S	**Sn**	**01 41 57.3**	**+0.9**		
	comp=E,512nm,0.2s								
URLA	**Izmir**	**1.06**	**158**	PG	**Pb**	**01 41 44.2**	**-0.3**		
GELI	**Tayfur-Gelibol**	**1.10**	**16**	PN	**Pg**	**01 41 45.7**	**-0.3**		
ZEYE	**Izmir, Urla-Ze**	**1.15**	**163**	P	**Pn**	**01 41 45.2**	**-0.7**		
ZEYE				S	**Sb**	**01 41 59.3**	**-1.2**		
LPK	**Lapseki**	**1.15**	**26**	PN	**Pg**	**01 41 46.6**	**-0.5**		
SMTH	**Samothraki Isl**	**1.21**	**339**	P	**Pb**	**01 41 47.2**	**+0.1**		
SMTH				S	**Sg**	**01 42 03.4**	**-0.5**		
SMTH				AML	AML	01 42 05.2			
	comp=E,254μm,0.2s								
SMTH				AML	AML	01 42 06.4			
	comp=N,328μm,0.3s								
SMTH	**Samothraki Isl**	**1.21**	**339**	P	**Pb**	**01 41 47.2**	**+0.1**		
SMTH				S	**Sg**	**01 42 03.7**	**-0.2**		
	comp=N,145nm,0.3s								
STEP	**BALIKESIR_Sava**	**1.27**	**88**	P	**Pg**	**01 41 48.6**	**-0.6**		
STEP				S	**Sn**	**01 42 04.1**	**0.0**		
STEP				*i* AML	AML	01 42 09.0			
	comp=N,132nm,0.3s								
STEP				*i* AML	AML	01 42 10.0			
	comp=N,114nm,0.4s								
CAVK	**Edirne/Enez-Ca**	**1.35**	**3**	P	**Pb**	**01 41 49.2**	**-0.3**		
CAVK				S	**Sg**	**01 42 07.5**	**-1.0**		
ERIK	**Erikli-Kesan**	**1.37**	**14**	PN	**Pb**	**01 41 50.2**	**+0.4**		
ENEZ	**Enez**	**1.40**	**2**	P	**Pb**	**01 41 50.1**	**-0.2**		
ENEZ				S	**Sg**	**01 42 09.6**	**-0.3**		
	comp=N,170nm,0.5s								
ENEZ	**Enez**	**1.40**	**2**	PN	**Pb**	**01 41 50.3**	**0.0**		
KRBG	**Karabiga-Canak**	**1.41**	**41**	PN	**Pb**	**01 41 50.1**	**-0.3**		
GONE	**Gonen-Balikesi**	**1.42**	**60**	PN	**Pb**	**01 41 50.7**	**0.0**		
DGB	**zmir**	**1.43**	**154**	P	**Pb**	**01 41 50.6**	**-0.2**		
KNL	**Balıkesir**	**1.45**	**50**	P	**Pb**	**01 41 51.5**	**+0.4**		
KNL				S	**Sg**	**01 42 10.8**	**-0.7**		
KNL				*i* AML	AML	01 42 13.0			
	comp=N,132nm,0.4s								
KNL				*i* AML	AML	01 42 13.0			
	comp=N,106nm,0.3s								
ALN	**Alexandroupoli**	**1.56**	**359**	P	**Pn**	**01 41 52.1**	**+0.6**		
ALN	**Alexandroupoli**	**1.56**	**359**	P	**Pn**	**01 41 51.9**	**+0.4**		
ALN				S	**Sb**	**01 42 12.1**	**-0.2**		
	comp=N,60nm,0.5s								
ALN	**Alexandroupoli**	**1.56**	**359**	PN	**Pb**	**01 41 52.6**	**-0.4**		
RKY	**Sarkoy-Tekirda**	**1.58**	**32**	PN	**Pb**	**01 41 53.2**	**-0.3**		
MAR6	**Marsite Statio**	**1.64**	**33**	PN	**Pb**	**01 41 53.9**	**-0.5**		
THAS	**Thassos island**	**1.64**	**321**	P	**Pn**	**01 41 53.6**	**+0.8**		
THAS				S	**Sb**	**01 42 15.0**	**+0.1**		
THAS				AML	AML	01 42 20.4			
	comp=N,174μm,0.4s								
THAS				AML	AML	01 42 20.7			
	comp=E,231μm,0.3s								
THAS	**Thassos island**	**1.64**	**321**	P	**Pn**	**01 41 53.5**	**+0.8**		
THAS				S	**Sb**	**01 42 14.6**	**-0.3**		
	comp=E,98nm,0.3s								
EDC	**Edincik**	**1.70**	**53**	PN	**Pb**	**01 41 54.2**	**-1.2**		
GZKV	**Gazikoy-Tekird**	**1.70**	**34**	PN	**Pb**	**01 41 54.8**	**-0.6**		
KYMI	**Kymi, Euboea I**	**1.70**	**246**	P	**Pn**	**01 41 53.2**	**-0.3**		
UKOP	**Uzunkopru-Edir**	**1.83**	**13**	PN	**Pb**	**01 41 56.8**	**-0.9**		
RDO	**Rodhopi**	**1.85**	**347**	P	**Pn**	**01 41 56.6**	**+1.0**		
RDO	**Rodhopi**	**1.85**	**347**	PN	**Pn**	**01 41 56.6**	**+1.0**		
GCAM	**G?zelcaml?**	**1.87**	**151**	PN	**Pb**	**01 41 57.2**	**-1.1**		
OUR	**Ouranopolis**	**1.90**	**302**	PN	**Pb**	**01 41 58.0**	**-0.8**		
MANT	**Manisa**	**2.11**	**113**	P	**Pb**	**01 42 03.4**	**+0.9**		
KULA	**Kula-Manisa**	**2.17**	**112**	PN	**Pn**	**01 42 01.3**	**+1.3**		
SIMA	**Simav-Kutahya**	**2.26**	**96**	PN	**Pn**	**01 42 02.7**	**+1.4**		
KIRK	**Kırklareli**	**2.56**	**17**	P	**Pb**	**01 42 09.4**	**-0.6**		

NEIC ***08*** *01:45:04.8±1.1, 33°.18N±0°.02×118°.05W±0°.05, h13km±8km, Error ellipse: s-maj=6.0km s-min=2.5km az=80.0*
ANF ***08*** *01:45:05.3±0.2, 33°.22N×118°.01W, h19km±1km, ML3.1/23, Error ellipse: s-maj=1.5km s-min=1.2km az=5.0*
PAS ***08*** *01:45:05.7±1.6, 33°.19N±0°.03×118°.03W±0°.05, h18km±6km, ML3.2/318, ML2.9/48(NEIC), Error ellipse: s-maj=6.7km s-min=3.4km az=51.0*

ISC 08 01:45:04.8±1.1, 33°.20N±0°.03×118°.04W±0°.02, h12km±10km, n51, σ0 55/67, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIS	**Catalina Islan**	**0.37**	**303**	P	**Pb**	**01 45 13.0**	**-0.3**
	baz=123,SNR=91						
CIS				S	**Sb**	**01 45 18.7**	**-0.4**
	baz=123						
SCI2	**San Clemente I**	**0.48**	**243**	P	**Pb**	**01 45 16.0**	**+0.9**
	baz=64,SNR=26						
SCI2				S	**Sb**	**01 45 23.1**	**+1.0**
	baz=64						
FMP	**Fort Macarthur**	**0.55**	**338**	P	**Pg**	**01 45 15.8**	**+0.3**
	baz=157,SNR=22						
FMP				S	**Sb**	**01 45 24.4**	**+0.2**
	baz=157						
ELS	**Elsinore Mount**	**0.68**	**49**		**Pg**	**01 45 18.1**	**+0.1**
ELS				IAML		01 45 27.5	
	comp=N,950nm,0.3s						
ELS				IAML		01 45 27.9	
	comp=E,955nm,0.3s						
MURC	**Murrieta**	**0.81**	**60**	P	**Pg**	**01 45 20.5**	**0.0**
	baz=240,SNR=74						
MURC				S	**Sg**	**01 45 30.6**	**-0.5**
	baz=240						
109C	**Camp Elliot, M**	**0.85**	**111**		**Pg**	**01 45 20.9**	**-0.2**
109C	**Camp Elliot, M**	**0.85**	**111**	P	**Pg**	**01 45 20.9**	**-0.2**
	baz=292,SNR=23						
109C				S	**Sg**	**01 45 32.3**	**+0.1**
	baz=292						
GVRC	**Garvey Reservo**	**0.85**	**356**		**Pb**	**01 45 21.8**	**+0.4**
RSBC	**Riverside Bore**	**0.97**	**38**		**Pb**	**01 45 23.1**	**-0.4**
PASC	**Pasadena Art C**	**0.97**	**353**		**Pb**	**01 45 23.3**	**-0.3**
PASC				IAML		01 45 38.5	
	comp=N,204nm,0.3s						
DECC	**Green Verdugo**	**1.08**	**347**	P	**Pb**	**01 45 25.2**	**-0.2**
	baz=167,SNR=7.2						
DECC				S	**Sb**	**01 45 39.6**	**+0.1**
	baz=167						
TJX	**Tijuana**	**1.08**	**129**		**Pn**	**01 45 25.8**	**+0.1**
BFSC	**Mount Baldy Ra**	**1.08**	**17**	P	**Pb**	**01 45 24.8**	**-0.7**
	baz=197,SNR=171						
BFSC				S	**Sb**	**01 45 39.1**	**-0.6**
	baz=197						
SNCC	**San Nicolas Is**	**1.24**	**273**		**Pg**	**01 45 28.4**	**-0.3**
SNCC				IAML		01 45 48.0	
	comp=N,174nm,0.3s						
SNCC				IAML		01 45 49.5	
	comp=E,205nm,0.2s						
SNCC	**San Nicolas Is**	**1.24**	**273**	P	**Pb**	**01 45 28.0**	**-0.1**
	baz=92						
SNCC				S	**Sg**	**01 45 45.0**	**+0.1**
	baz=92						
BAR	**Barrett**	**1.26**	**114**		**Pn**	**01 45 27.9**	**-0.4**
TKX	**Tecate**	**1.36**	**117**		**Pn**	**01 45 29.8**	**+0.1**
PFO	**Pinyon Flats O**	**1.39**	**72**	Pn	**Pn**	**01 45 30.4**	**+0.4**
PFO				IAML		01 45 48.7	
	comp=E,217nm,0.3s						
PFO				IAML		01 45 49.1	
	comp=E,175nm,0.3s						
PFO	**Pinyon Flats O**	**1.39**	**72**	P	**Pn**	**01 45 29.2**	**-0.8**
	baz=253,SNR=35						
PFO				Sb	**Sn**	**01 45 47.9**	**-0.4**
	baz=253						
MONP2	**Monument Peak**	**1.39**	**102**	P	**Pn**	**01 45 28.9**	**-1.3**
	baz=283,SNR=24						
MONP2				S	**Sn**	**01 45 48.0**	**-0.6**
	baz=283						
BBRC	**Big Bear Solar**	**1.41**	**41**	Pb	**Pn**	**01 45 30.9**	**+0.4**
	baz=221						
BBRC				Sb	**Sn**	**01 45 49.2**	**+0.1**
	baz=221						
CBX	**Cerro Bola**	**1.46**	**127**		**Pn**	**01 45 30.1**	**-1.0**
CBX				IAML		01 45 53.5	
	comp=N,332nm,0.3s						
CBX				IAML		01 45 54.6	
	comp=E,314nm,0.3s						
OSI	**Osito Audit: C**	**1.52**	**338**	Sb	**Sg**	**01 45 53.6**	**-0.2**
	baz=158						
EDW2	**Edwards Air Fo**	**1.68**	**1**	P	**Pn**	**01 45 33.8**	**-0.2**
	baz=181,SNR=46						
EDW2				Sb	**Sb**	**01 45 57.2**	**+0.5**
	baz=181						
IKP	**In-Ko-Pah, Jac**	**1.71**	**108**	P	**Pn**	**01 45 34.1**	**-0.4**
	baz=289,SNR=25						
IKP				Sb	**Sb**	**01 45 58.0**	**+0.2**
	baz=289						
RMX	**La Rumorosa**	**1.76**	**109**	Pn	**Pn**	**01 45 35.9**	**+0.8**
YUH	**Yuha Desert**	**1.86**	**107**	Pn	**Pn**	**01 45 36.9**	**+0.4**
YUH				IAML		01 46 04.6	
	comp=N,124nm,0.1s						
YUH				IAML		01 46 05.8	
	comp=E,141nm,0.4s						
BELC	**Belle Mtn. Jos**	**1.88**	**64**	Pb	**Pb**	**01 45 39.2**	**0.0**
	baz=245						
BELC				Sb	**Sb**	**01 46 03.0**	**+0.3**
	baz=245						
RRX	**Edison Barstow**	**1.88**	**27**	Pb	**Pb**	**01 45 39.5**	**+0.5**
	baz=207						
RRX				Sb	**Sb**	**01 46 03.2**	**+0.6**
	baz=207						
SWSC	**Sam W. Stewart**	**1.90**	**97**	Pb	**Pb**	**01 45 39.4**	**+0.1**
	baz=278						
SWSC				Sb	**Sb**	**01 46 03.8**	**+0.8**
	baz=278						
CCAC	**Calif City Air**	**1.95**	**1**	Pn	**Pn**	**01 45 37.5**	**-0.1**
CCAC				IAML		01 46 11.8	
	comp=E,74nm,0.7s						
BCW	**Bitter Crk WRg**	**2.08**	**327**		**Pn**	**01 45 39.4**	**-0.1**
BCW				IAML		01 46 16.7	
	comp=N,130nm,0.5s						
GSC	**Goldstone, Bar**	**2.33**	**26**		**Pn**	**01 45 43.6**	**+0.6**
GSC				IAML		01 46 19.7	
	comp=N,63nm,0.5s						
GSC				IAML		01 46 23.8	
	comp=E,81nm,0.5s						
GSC	**Goldstone, Bar**	**2.33**	**26**	Pb	**Pb**	**01 45 47.0**	**+0.2**
	baz=206						
ISA	**Isabella, Lake**	**2.48**	**352**	Pn	**Pn**	**01 45 45.2**	**+0.1**
GMRC	**Granite Mounta**	**2.53**	**51**	Pb	**Pb**	**01 45 50.4**	**+0.2**
	baz=232						
IRM	**Iron Mountain**	**2.60**	**68**	Pb	**Pb**	**01 45 51.8**	**+0.5**
	baz=249,SNR=14						
SMMC	**Simmler**	**2.66**	**323**	P	**Pn**	**01 45 47.4**	**-0.1**
	baz=142						
GLA	**Glamis**	**2.70**	**92**	Pn	**Pn**	**01 45 47.4**	**-0.6**
GLA				IAML		01 46 36.7	
	comp=E,50nm,0.6s						
GLA				IAML		01 46 41.0	
	comp=N,30nm,0.7s						
TUQ	**Turquoise Moun**	**2.83**	**38**	Pb	**Pb**	**01 45 56.3**	**+0.9**
	baz=218,SNR=20						
MPMC	**Manual Prospec**	**2.89**	**9**	Pb	**Pb**	**01 45 56.6**	**+0.3**
	baz=189						
QSM	**Queen of Sheba**	**2.92**	**19**	Pn	**Pn**	**01 45 50.9**	**-0.1**
QSM				IAML		01 46 40.6	
	comp=E,28nm,0.6s						
QSM				IAML		01 46 41.4	
	comp=N,27nm,0.4s						
PAGB	**Antelope Grade**	**3.11**	**325**	Pn	**Pn**	**01 45 53.4**	**-0.3**
GWY	**Greenwater Val**	**3.19**	**20**	Pn	**Pn**	**01 45 54.2**	**-0.6**
GWY				IAML		01 46 52.2	
	comp=N,20nm,0.5s						
GWY				IAML		01 46 52.4	
	comp=E,30nm,0.6s						
W13A	**Hualapai Mount**	**3.93**	**60**		**Pn**	**01 46 04.1**	**-1.0**
TPNV	**Topopah Spring**	**4.02**	**21**		**Pn**	**01 46 06.0**	**-0.3**
LCH	**Last Change Ra**	**4.04**	**4**	Pn	**Pn**	**01 46 07.3**	**+0.8**
SHPR	**Sheep Range**	**4.06**	**35**	Pn	**Pn**	**01 46 08.1**	**+1.3**
OMMB	**Old Mammoth Mi**	**4.47**	**350**	Pn	**Pn**	**01 46 12.8**	**+0.2**
SAO	**San Andreas Ge**	**4.52**	**323**	Pn	**Pn**	**01 46 12.2**	**-0.8**
PRN	**Pahroc Range**	**4.86**	**29**	Pn	**Pn**	**01 46 19.1**	**+1.3**

DNK ***08*** *02:00:16.7±0.7, 60°.32N×16°.24E, h0km, ML2.0(UPP), Explosion*
BER ***08*** *02:00:16.5±1.0, 60°.25N×16°.65E, h0km, ML1.4*
IDC ***08*** *02:00:16.4±1.9, 60°.16N×16°.15E, h0km, mb1 3.5/2, mb1mx3.0/29, mbtmp3.5/2, ML1.8/3, Error ellipse: s-maj=31.4km s-min=9.0km az=2.0*
UPP ***08*** *02:00:16.5±0.1, 60°.30N×16°.27E, h0km, ML2.0, Explosion*
HEL ***08*** *02:00:17.1±0.1, 60°.31N×16°.25E, h0km, ML2.0, ML2.0(UPP), Explosion*
HEL ***08*** *02:00:17.4, 60°.33N×16°.23E, h0km, ML2.0, Explosion*

ISC 08 02:00:16.0±0.7, 60°.35N±0°.02×16°.23E±0°.02, h0km, n52, σ0 80/70, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSTU	**Oestervaala**	**0.46**	**104**	P	**Pg**	**02 00 24.8**	**-0.1**
OSTU				S	**Sg**	**02 00 31.6**	**+0.8**
OSTU	**Oestervaala**	**0.46**	**104**	P	**Pg**	**02 00 24.8**	**-0.1**
OSTU				S	**Sg**	**02 00 31.6**	**+0.8**
OSTU	**Oestervaala**	**0.46**	**104**	*i* P	**Pg**	**02 00 24.8**	**-0.1**
OSTU				*i* S	**Sg**	**02 00 31.6**	**+0.8**
BACU	**Backbrunna**	**0.66**	**138**	P	**Pg**	**02 00 28.2**	**-0.4**
BACU	**Backbrunna**	**0.66**	**138**	P	**Pg**	**02 00 28.2**	**-0.4**
BACU	**Backbrunna**	**0.66**	**138**	*i* P	**Pg**	**02 00 28.2**	**-0.4**
FIBU	**Brunna**	**0.72**	**128**	P	**Pg**	**02 00 29.1**	**-0.6**
FIBU	**Brunna**	**0.72**	**128**	P	**Pg**	**02 00 29.1**	**-0.6**
IGGU	**Iggoen**	**0.75**	**45**	P	**Pb**	**02 00 31.3**	**-0.7**
IGGU	**Iggoen**	**0.75**	**45**	*i* P	**Pb**	**02 00 31.3**	**-0.7**
IGGU	**Iggoen**	**0.75**	**45**	*i* P	**Pb**	**02 00 31.3**	**-0.7**
FLYU	**Flymyra**	**0.85**	**104**	P	**Pg**	**02 00 31.9**	**-0.4**
FLYU	**Flymyra**	**0.85**	**104**	P	**Pg**	**02 00 31.9**	**-0.4**
FLYU	**Flymyra**	**0.85**	**104**	*i* P	**Pg**	**02 00 31.9**	**-0.4**
UPP	**Uppsala**	**0.85**	**124**	P	**Pg**	**02 00 31.7**	**-0.6**
UPP	**Uppsala**	**0.85**	**124**	*i* P	**Pg**	**02 00 31.7**	**-0.6**
FORU	**Forsmark**	**0.97**	**87**	P	**Pg**	**02 00 34.5**	**0.0**
FORU	**Forsmark**	**0.97**	**87**	P	**Pg**	**02 00 34.5**	**0.0**
FORU	**Forsmark**	**0.97**	**87**	*e*P	**Pg**	**02 00 34.5**	**0.0**
NRAU	**Nora**	**0.98**	**218**	P	**Pg**	**02 00 34.5**	**-0.3**
NRAU	**Nora**	**0.98**	**218**	P	**Pg**	**02 00 34.5**	**-0.3**
NRAU	**Nora**	**0.98**	**218**	*e*P	**Pg**	**02 00 34.5**	**-0.3**
ROTU	**Roteberg**	**1.10**	**349**	P	**Pg**	**02 00 37.0**	**0.0**
ROTU	**Roteberg**	**1.10**	**349**	P	**Pg**	**02 00 37.0**	**0.0**
ROTU	**Roteberg**	**1.10**	**349**	*e*P	**Pg**	**02 00 37.0**	**0.0**
ESKU	**Eskilstuna**	**1.12**	**176**	P	**Pg**	**02 00 37.0**	**-0.4**
ESKU	**Eskilstuna**	**1.12**	**176**	P	**Pg**	**02 00 37.0**	**-0.4**
ESKU	**Eskilstuna**	**1.12**	**176**	*e*P	**Pg**	**02 00 37.0**	**-0.4**
GRAU	**Graesoe**	**1.15**	**90**	P	**Pg**	**02 00 37.3**	**-0.6**
GRAU	**Graesoe**	**1.15**	**90**	P	**Pg**	**02 00 37.3**	**-0.6**
GRAU	**Graesoe**	**1.15**	**90**	*e*P	**Pg**	**02 00 37.3**	**-0.6**
HFC2	**Hagfors New Ar**	**1.28**	**262**	*e*P	**Pg**	**02 00 40.1**	**-0.5**
HFC2				*e*S	**Sg**	**02 00 56.9**	**-0.3**
NRTU	**Norrtaelje**	**1.38**	**118**	*e*P	**Pb**	**02 00 42.3**	**-0.3**
HUDU	**Hudiksvall**	**1.46**	**17**	P	**Pn**	**02 00 43.6**	**0.0**
HUDU				S	**Sg**	**02 01 03.0**	**0.0**
HUDU	**Hudiksvall**	**1.46**	**17**	P	**Pn**	**02 00 43.6**	**0.0**
HUDU				S	**Sg**	**02 01 03.0**	**0.0**
HUDU	**Hudiksvall**	**1.46**	**17**	*e*P	**Pn**	**02 00 43.6**	**0.0**
HUDU				*e*S	**Sg**	**02 01 03.0**	**0.0**
ARNU	**Arnoeviken**	**1.46**	**22**	P	**Pg**	**02 00 43.9**	**-0.1**
ARNU	**Arnoeviken**	**1.46**	**22**	P	**Pg**	**02 00 43.9**	**-0.1**
ARNU	**Arnoeviken**	**1.46**	**22**	*e*P	**Pb**	**02 00 44.1**	**0.0**
ARNU				*e*S	**Sg**	**02 01 02.8**	**-0.1**
AAL	**Aland**	**1.88**	**93**	*e*P	**Pb**	**02 00 50.0**	**-1.2**
AAL				*e*S	**Sb**	**02 01 14.8**	**-0.4**
NC602	**NORSAR Array S**	**2.35**	**282**	*e*P	**Pb**	**02 00 57.6**	**-1.6**
NC602				*e*S	**Sb**	**02 01 27.7**	**-1.0**
NC602				IAML		02 01 30.2	
	comp=Z,3.9nm,0.2s						
NB201	**NORSAR Array S**	**2.53**	**288**	*e*P	**Pn**	**02 00 59.9**	**+1.6**
NB201				*e*S	**Sb**	**02 01 33.3**	**-0.6**
NB201				IAML		02 01 39.8	
	comp=Z,2.3nm,0.5s						
NC303	**NORSAR Array S**	**2.54**	**292**	*e*P	**Pn**	**02 00 59.6**	**+1.1**
NC303				*e*S	**Sn**	**02 01 32.2**	**+2.1**
NC303				IAML		02 01 37.1	
	comp=Z,5.0nm,0.3s						
NOA	**NORSAR Array B**	**2.56**	**288**	Pn	**Pn**	**02 00 59.1**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=109,slow=19,SNR=18						
NOA				Lg	Lg	02 01 37.5	
	comp=Z,0.1nm,0.3s,baz=98,slow=9.2,SNR=1.8						
RAF	**Rauma**	**2.81**	**74**	*e*PB	**Pb**	**02 01 05.6**	**-1.3**
RAF				*e*SB	**Sb**	**02 01 41.1**	**-0.7**
RAF				MSG		02 01 42.9	
	comp=Z,2.3nm,0.1s						
STRU	**Stroemstad**	**2.88**	**245**	*e*P	**Pn**	**02 01 03.8**	**+0.8**
STRU				*e*S	**Sn**	**02 01 38.4**	**+0.1**
KONO	**Kongsberg**	**3.41**	**261**	*e*P	**Pn**	**02 01 12.3**	**+2.0**
KONO				*e*S	**Sn**	**02 01 52.5**	**+1.2**
SKAR	**Skarslia**	**3.93**	**278**	*e*P	**Pn**	**02 01 19.1**	**+1.5**
SKAR				*e*S	**Sn**	**02 02 05.1**	**+0.7**
SKAR				IAML		02 02 17.8	
	comp=Z,2.1nm,0.9s						
KEF	**Keuruu**	**4.55**	**63**	*e*S	**Sn**	**02 02 18.4**	**-1.3**
KEF				MSN		02 02 40.6	
	comp=Z,0.6nm,0.3s						
FIA0	**FINESS Array S**	**4.93**	**73**	*e*P	**Pn**	**02 01 33.2**	**+1.9**
FIA0				*e*S	**Sn**	**02 02 29.0**	**0.0**
FIA0				MSN		02 02 55.9	
	comp=Z,0.7nm,0.2s						
FINES	**FINESS Array B**	**4.93**	**73**	Pn	**Pn**	**02 01 32.9**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=262,slow=13,SNR=7.1						
FINES				Sn	**Sn**	**02 02 30.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=267,slow=23,SNR=1.4						
FINES				Lg	Lg	02 02 48.0	
	comp=Z,0.2nm,0.3s,baz=258,slow=19,SNR=2.5						
ARCES	**ARCESS Array B**	**10.01**	**19**	Pn	**Pn**	**02 02 40.3**	**-0.6**
	baz=203,slow=14,SNR=1.2						

NNC ***08*** *02:19:51.1±2.2, 36°.56N×70°.29E, h0km, mb5.2, mpv5.2, Error ellipse: s-maj=20.6km s-min=15.0km az=163.0*
BJI ***08*** *02:19:51.9±0.0, 36°.32N×70°.93E, h87km, mb4.6/36, mB4.6/21, Ms4.0/9, Ms7 3.7/6*
SOME ***08*** *02:19:52.2, 37°.67N×71°.10E, h0km*
MOS ***08*** *02:19:52.4±0.9, 36°.27N×70°.99E, h104km, mb4.5/39, Error ellipse: s-maj=6.4km s-min=3.5km az=81.3*
NEIC ***08*** *02:19:53.9±1.9, 36°.24N±0°.05×70°.76E±0°.07, h108km±6km, mb4.5/56, Error ellipse: s-maj=8.9km s-min=6.7km az=106.0*
GCMT ***08*** *02:19:53.9±0.3, 36°.12N±0°.02×70°.87E±0°.03, h102km±6km, MW4.7/79, Moment Tensor Solution. s10,c11; s79,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.55±.10; Mθθ-0.86±.10; Mφφ0.31±.09; Mrθ1.29±.05; Mrφ-0.70±.12; Mθφ-0.18±.05; Best double couple: M0 1.65000×10^16 NP1:φs207.00000°, δ31.00000°, λ23.00000°. NP2: φs97.00000°, δ78.00000°, λ119.

DZA **Taraz** 6.67 3 *e*PN Pn 02 21 28.1 +0.2
DZA **Taraz** 6.67 3 *e*P Pn 02 21 30.2 +2.3
188nm,0.0s
DZA *e*S Sn 02 22 40.6 -1.8
1µm,0.2s
DZA **Taraz** 6.67 3 *e*P Pn 02 21 28.1 +0.2
baz=2.1
MRKS **Merke** 6.77 15 *e*P Pn 02 21 32.6 +3.3
100nm,0.1s
MRKS *e*S Sn 02 22 44.9 -0.1
1µm,0.2s
EKS2 **Erkin-Say** 6.82 19 P Pn 02 21 29.2 -0.8
SNR=26
BRLS **Borolday** 6.84 354 *e*PN Pn 02 21 26.7 -3.6
BRLS **Borolday** 6.84 354 *e*P Pn 02 21 30.9 +0.7
28nm,0.1s
BRLS *e*S Sn 02 22 41.9 -4.8
193nm,0.0s
BRLS **Borolday** 6.84 354 *e*P Pn 02 21 26.8 -3.6
baz=352
KK31 **Karatay Array** 6.88 358 PN Pn 02 21 31.1 +0.3
KK31 **Karatay Array** 6.88 358 Pn Pn 02 21 31.1 +0.3
KK31 **Karatay Array** 6.88 358 P Pn 02 21 31.0 +0.3
52nm,0.3s,baz=185,slow=12,SNR=1614
KK31 ⇑S Sn 02 22 44.5 -2.9
161nm,0.5s,baz=177,slow=16,SNR=4.1
KKAR **Karatay Array** 6.88 358 PN Pn 02 21 31.0 +0.2
KKAR **Karatay Array** 6.88 358 Pn Pn 02 21 30.9 +0.2
AAK **Ala-Archa** 7.00 23 P Pn 02 21 33.8 +1.3
SNR=208
AAK **Ala-Archa** 7.00 23 P Pn 02 21 33.9 +1.3
42nm,0.3s,baz=189,slow=5.7,SNR=387
AAK S Sn 02 22 49.1 -1.6
61nm,0.3s,baz=133,slow=22,SNR=23
AAK **Ala-Archa** 7.00 23 *d i*PN Pn 02 21 33.6 +1.1
AAK pmax pmax
comp=Z,62nm,0.6s
AAK **Ala-Archa** 7.00 23 Pn Pn 02 21 33.7 +1.1
AAK **Ala-Archa** 7.00 23 P Pn 02 21 33.6 +1.1
AAK S Sn 02 22 48.2 -2.5
AAK **Ala-Archa** 7.00 23 *i* P Pn 02 21 33.8 +1.3
SNR=278
KBK **Karagaybulak** 7.17 25 P Pn 02 21 36.3 +1.5
SNR=75
FRU1 **Bishkek** 7.20 23 PN Pn 02 21 37.4 +2.2
FRU1 **Bishkek** 7.20 23 Pn 02 21 37.4 +2.2
HRA **Herat** 7.26 258 Pn Pn 02 21 36.1 -0.1
SMLA **Simla** 7.32 132 *e*P Pn 02 21 35.6 -1.2
SMLA *e*S Sn 02 22 54.8 -3.5
SMLA IAML 02 22 58.0
comp=E,1µm,0.3s
SMLA IAML 02 22 58.2
comp=N,1µm,0.5s
ULHL **Ulahol** 7.33 33 P Pn 02 21 38.2 +1.2
SNR=36
BOOM **Boomskoye usch** 7.40 31 PN Pn 02 21 39.5 +1.5
BOOM **Boomskoye usch** 7.40 31 Pn Pn 02 21 39.5 +1.5
CHMS **Chumysh** 7.41 23 P Pn 02 21 38.7 +0.7
SNR=91
USP **Ospenovka** 7.58 21 P Pn 02 21 40.8 +0.5
SNR=84
TKM2 **Tokmak 2** 7.63 27 P Pn 02 21 42.0 +0.8
SNR=26
KDJ **Kajisay** 7.68 38 PN Pn 02 21 43.0 +1.2
KDJ **Kajisay** 7.68 38 Pn Pn 02 21 43.0 +1.2
TARG **Taragay, Kyrgy** 7.72 42 Pn 02 21 43.7 +1.1
SGDS **Sogindy** 7.79 21 *e*PN Pn 02 21 41.9 -1.2
SGDS pmax pmax
comp=Z,12nm,0.5s
SGDS **Sogindy** 7.79 21 *e*P Pn 02 21 42.0 -1.2
comp=Z,12nm,0.5s,baz=20
SGDS *e*S Sn 02 23 07.6 -2.0
baz=20
TNSS **Tian-Shan** 8.27 33 *e*PN Pn 02 21 50.0 -0.1
TNSS **Tian-Shan** 8.27 33 *e*P Pn 02 21 50.0 -0.1
baz=32
MDOK **Medeo** 8.42 33 *e*PN Pn 02 21 51.7 -0.1
MDOK **Medeo** 8.42 33 *e*P Pn 02 21 51.8 -0.1
baz=32
MDOK **Medeo** 8.42 33 P Pn 02 21 53.7 +1.8
comp=Z,104nm,0.6s
MDOK S Sn 02 23 31.5 +6.3
comp=Z,157nm,1.4s
DDI **Dehra Dun** 8.43 132 *e*P Pn 02 21 50.4 -1.6
DDI *e*S Sn 02 23 19.1 -6.3
DDI IAML 02 23 25.0
comp=N,1µm,0.3s
DDI IAML 02 23 26.0
comp=E,1µm,0.3s
KUU **Kurty** 8.74 27 *e*PN Pn 02 21 54.9 -1.2
KUU pmax pmax
comp=Z,9.0nm,0.6s
KUU **Kurty** 8.74 27 *e*P Pn 02 21 55.0 -1.2
comp=Z,9.1nm,0.6s,baz=27
CHKK **Chushkaly** 8.96 30 *e*PN Pn 02 21 58.6 -0.5
CHKK **Chushkaly** 8.96 30 *e*P Pn 02 21 58.7 -0.4
baz=30
SATY **Saty** 8.98 38 *e*PN Pn 02 21 58.0 -1.4
SATY pmax pmax
comp=Z,17nm,1.0s
SATY **Saty** 8.98 38 *e*P Pn 02 21 58.0 -1.4
comp=Z,17nm,1.0s,baz=38
BTLS **Baital** 9.14 14 *e*P Pn 02 22 00.3 -1.1
BTLS pmax pmax
comp=Z,5.0nm,0.5s
BTLS **Baital** 9.14 14 *e*P Pn 02 22 00.4 -1.1
comp=Z,4.6nm,0.5s,baz=14
NDI **New Delhi** 9.24 143 *e*P Pn 02 22 01.4 -1.7
NDI *e*P Pn 02 22 01.5 -1.5
NDI *e*S Sn 02 23 37.1 -8.2
UZB **Uzynbulak** 9.35 40 *e*P Pn 02 22 03.2 -1.4
UZB pmax pmax
comp=Z,12nm,0.6s
UZB **Uzynbulak** 9.35 40 *e*P Pn 02 22 03.2 -1.4
comp=Z,12nm,0.6s,baz=40
KUDL **Kundal** 9.37 148 *e*P Pn 02 22 02.4 -2.3
KUDL *e*S Sn 02 23 38.5 -10
AYAN **Aya Nagar** 9.37 144 *e*P Pn 02 22 03.2 -1.5
AYAN *e*S Sn 02 23 40.5 -7.8
KPKS **Kokpek** 9.41 37 *e*P Pn 02 22 03.7 -1.6
KPKS **Kokpek** 9.41 37 *e*P Pn 02 22 03.7 -1.6
baz=37
SONA **Sohna** 9.54 145 *e*P Pn 02 22 05.3 -1.8
SONA *e*S Sn 02 23 45.9 -6.6
SHLS **Shalkode** 9.59 41 *e*P Pn 02 22 09.3 +1.5
SHLS pmax pmax
comp=Z,6.0nm,0.9s
SHLS **Shalkode** 9.59 41 *e*P Pn 02 22 09.3 +1.5
comp=Z,6.0nm,0.9s,baz=42
ARXS **Arharly** 9.60 32 *e*P Pn 02 22 08.1 +0.3
PDGK **Podgornoye** 9.73 41 ⇓P Pn 02 22 11.9 +2.3
comp=Z,103nm,1.1s
AJM **Ajmer** 10.24 160 *e*P Pn 02 22 14.7 -2.0
AJM *e*S Sn 02 24 02.1 -7.5
GEYT **Alibeck** 10.31 283 P Pn 02 22 14.5 -3.0
comp=Z,4.8nm,0.3s,baz=97,slow=12,SNR=18
GEYT S Sn 02 24 03.8 -7.3
comp=Z,9.0nm,0.3s,baz=106,slow=14,SNR=4.1
GEYT **Alibeck** 10.31 283 Pn Pn 02 22 16.6 -0.9
GYA0B **ALIBECK ARRAY** 10.31 283 Pn Pn 02 22 16.6 -0.9
GYA0B **ALIBECK ARRAY** 10.31 283 ⇓P Pn 02 22 14.6 -2.9
GYA0B ⇑S Sn 02 24 02.9 -8.2
PTH **Pithoragarh** 10.31 128 *e*P Pn 02 22 14.8 -2.9
PTH *e*S Sn 02 24 02.0 -9.5
LGTI **Lohaghat** 10.40 128 *e*P Pn 02 22 14.9 -3.8
LGTI *e*S Sn 02 24 02.5 -11
TDK **Taldyqorghan** 10.48 31 *e*P Pn 02 22 19.0 -0.7
TDK **Taldyqorghan** 10.48 31 *e*P Pn 02 22 19.1 -0.7
baz=31
OTUK **Ortayu** 12.06 5 ⇑P Pn 02 22 39.4 -1.6
comp=Z,11nm,0.6s
OTUK ⇓S Sn 02 24 54.3 +0.8
comp=Z,176nm,1.4s
JHNI **Jhansi** 12.59 146 *e*P Pn 02 22 44.7 -3.4
JHNI *e*S Sn 02 24 53.7 -13
PYUN **Piuthan** 13.09 125 *e*P Pn 02 22 51.3 -3.6
comp=Z,90nm,0.3s
DANN **Dangsing** 13.45 122 *e*P Pn 02 22 56.4 -3.3
comp=Z,172nm,0.4s
MAKZ **Makanchi** 13.46 35 P Pn 02 22 58.7 -0.7
MAKZ **Makanchi** 13.46 35 Pn 02 22 58.7 -0.7
MK31 **Makanchi Array** 13.59 35 *d i*P Pn 02 23 00.4 -0.8
MK31 **Makanchi Array** 13.59 35 ⇑P P 02 23 04.0 -2.7
comp=Z,8.1nm,0.4s,baz=220,slow=13,SNR=293
MKAR **Makanchi Array** 13.59 35 P Pn 02 23 01.4 +0.2
comp=Z,1.5nm,0.3s,baz=223,slow=15,SNR=54
MKAR S Sn 02 25 31.3 +0.8
baz=240,slow=25,SNR=0.7
MKAR **Makanchi Array** 13.59 35 Pn Pn 02 23 00.1 -1.1
BRZS **Berezniki** 13.82 5 *e*P Pn 02 23 02.6 -1.5
BRZS **Berezniki** 13.82 5 *e*P Pn 02 23 02.6 -1.5
baz=4.6
BHPL **Bhopal** 14.14 154 *e*P Pn 02 23 05.1 -3.4
BHPL *e*S Sn 02 25 31.5 -13
VLK **Valmikinagar** 14.19 125 *e*P Pn 02 23 04.6 -4.4
GKN **Gorkha** 14.27 121 *e*P Pn 02 23 07.0 -3.2
comp=Z,80nm,0.3s
ALBI **Allahabad** 14.38 136 *e*P Pn 02 23 07.2 -4.3
ALBI *e*S Sn 02 25 30.9 -19
DMN **Daman** 14.84 121 *e*P Pn 02 23 13.2 -4.4
comp=Z,66nm,0.4s
KKN **Kakani** 14.85 120 *e*P Pn 02 23 15.5 -2.1
WMQ **Urumqi** 14.96 54 *e*P Pn 02 23 18.1 -0.8
WMQ S Sn 02 26 02.7 -1.2
WMQ pmax pmax
comp=Z,50nm,0.7s
WMQ pmax pmax
comp=Z,260nm,5.9s
PKIN **Phulchoki** 15.06 121 *e*P Pn 02 23 18.1 -2.3
comp=Z,113nm,0.4s
PKI **Pulchoki** 15.07 121 *e*P Pn 02 23 17.5 -3.1
comp=Z,81nm,0.5s
GUN **Gumba** 15.19 119 *e*P Pn 02 23 18.8 -3.4
comp=Z,58nm,0.3s
AB31 **Akbulak array** 15.27 332 ⇑P Pn 02 23 20.6 -2.0
comp=Z,21nm,0.5s,baz=143,slow=11,SNR=918
AB31 ⇑S Sn 02 26 04.8 -6.2
comp=Z,16nm,0.5s,baz=154,slow=22,SNR=7.4
ABKAR **Akbulak array** 15.27 332 Pn Pn 02 23 20.5 -2.0
ZSN **Zaisan** 15.30 39 *e*P Pn 02 23 21.1 -2.0
ZSN **Zaisan** 15.30 39 *e*P Pn 02 23 21.2 -2.0
baz=38
KURBB **Kurchatov Arra** 15.43 19 P Pn 02 23 22.9 -1.6
comp=Z,0.4nm,0.3s,baz=207,slow=11,SNR=30
KURBB S Sn 02 26 17.7 +2.9
baz=209,slow=24,SNR=1.6
KURBB **Kurchatov Arra** 15.43 19 ⇑P P 02 23 26.4 -0.6
comp=Z,80nm,1.3s
KURBB ⇑S S 02 26 19.8 -4.6
comp=Z,94nm,1.4s
KURK **Kurchatov** 15.53 19 *d i*P Pn 02 23 25.2 -0.7
KURK pmax pmax
comp=Z,91nm,1.7s
KURK **Kurchatov** 15.53 19 Pn Pn 02 23 25.8 -0.1
KURK **Kurchatov** 15.53 19 P Pn 02 23 25.6 -0.3
KURK S Sn 02 26 11.5 -6.0
JIRN **Jiri** 15.56 119 *e*P Pn 02 23 24.0 -2.9
comp=Z,149nm,0.3s
SEM **Semipalatinsk** 15.72 23 *e*P Pn 02 23 26.9 -1.6
SEM pmax pmax
comp=Z,17nm,0.8s
SEM **Semipalatinsk** 15.72 23 *e*P Pn 02 23 27.0 -1.6
comp=Z,17nm,0.8s,baz=22
BANOM **Banah** 16.12 235 P P 02 23 34.6 -0.3
BANOM **Banah** 16.12 235 *i* P P 02 23 34.4 -0.6
SNR=9.4
SHME **Shamm** 16.14 235 P P 02 23 36.0 +0.8
SHME **Shamm** 16.14 235 *i* P P 02 23 35.1 0.0
SNR=5.8
RAMN **Ramite** 16.29 120 *e*P Pn 02 23 32.8 -2.9
comp=Z,101nm,0.3s
AKL **Akola** 16.38 159 *e*P Pn 02 23 35.8 -1.0
MASF **Masafi** 16.59 233 P P 02 23 41.0 +0.8
MSFE **Esma-Masafi** 16.60 233 P Pn 02 23 39.3 -0.2
WSAR **Wadi Sarin** 16.71 223 P Pn 02 23 39.4 -1.3
comp=Z,0.7nm,0.3s,baz=54,slow=12,SNR=2.0
WSAR S Sn 02 26 38.7 -7.5
comp=Z,0.3nm,0.3s,baz=172,slow=18,SNR=1.4
WSAR LR LR 02 31 46.2
comp=Z,81nm,19.5s,baz=85,slow=43
BVAR **Borovoye Array** 16.80 359 P Pn 02 23 41.9 +0.2
BVAR S Sn 02 26 39.8 -8.2
TAPN **Taplejung** 16.83 117 *e*P Pn 02 23 39.8 -2.7
comp=Z,88nm,0.3s
BRVK **Borovoye** 16.84 359 *ce*P Pn 02 23 41.5 -0.6
BRVK pmax pmax
comp=Z,79nm,1.7s
BRVK **Borovoye** 16.84 359 Pn Pn 02 23 40.6 -1.5
BRVK **Borovoye** 16.84 359 P Pn 02 23 40.3 -1.8
UOSS **Minazif** 16.86 232 P P 02 23 43.3 +0.2
UOSS **Minazif** 16.86 232 P Pn 02 23 41.8 -0.9
ODAN **Odare** 16.90 119 *e*P Pn 02 23 41.5 -1.8
comp=Z,59nm,0.4s
AKTO **Aktyubinsk** 16.96 331 P Pn 02 23 43.6 0.0
comp=Z,3.4nm,0.3s,baz=139,slow=14,SNR=67
AKTO S Sn 02 26 38.0 -14
comp=Z,0.4nm,0.3s,baz=136,slow=21,SNR=2.1
HATD **Hatta, Dubai** 17.00 232 P Pn 02 23 43.9 -0.4
WBK **Wadi Bani Khal** 17.04 220 P P 02 23 46.7 +1.6
ASHO **Ashiyiah** 17.14 232 P P 02 23 47.3 +1.1
SNR=6.0
ASHO **Ashiyiah** 17.14 232 *i* P P 02 23 46.2 -0.1
SNR=7.2
SMDO **Samad** 17.17 224 P P 02 23 47.2 +0.5
HOQ **Hoqain** 17.19 227 P P 02 23 48.7 +2.0
JLN **Jalan Bani Buh** 17.19 218 P P 02 23 48.1 +1.4
SNR=6.2
FAQ **Al Faqa, Dubai** 17.40 233 P Pn 02 23 50.4 +1.3
FAQ **Al Faqa, Dubai** 17.40 233 P Pn 02 23 49.3 +0.2
ASUD **Al Ashush, Dub** 17.65 233 P Pn 02 23 52.8 +0.6
ASUD **Al Ashush, Dub** 17.65 233 P Pn 02 23 52.3 0.0
JMDO **Jabal Madar** 17.69 222 P Pn 02 23 54.1 +1.4
ALNE **Al Ain** 17.79 231 P Pn 02 23 55.3 +1.4
SNR=5.8
ALNE **Al Ain** 17.79 231 *i* P Pn 02 23 53.8 -0.1
SNR=8.9
ARQ **Araqi** 17.84 228 P Pn 02 23 59.1 +4.5
SNR=7.3
BSY **Bisya** 17.90 225 P Pn 02 23 58.0 +2.7
SNR=5.7
BOK **Bokaro** 17.95 130 *e*P P 02 23 54.7 -0.3
BOK *e*S S 02 27 00.5 -15
LSA **Lhasa** 18.23 105 P Pn 02 23 59.9 +0.3
LSA pmax pmax
comp=Z,13nm,0.7s
LSA **Lhasa** 18.23 105 Pn Pn 02 23 59.9 +0.3
LSA IAmb IAmb 02 24 03.1
comp=Z,12nm,0.7s
LSA **Lhasa** 18.23 105 P P 02 23 59.0 +0.4
LSA pmax pmax
comp=Z,14nm,1.4s
MHTO **MHTO** 18.90 220 P Pn 02 24 11.0 +3.9
SNR=7.1
JRN **Qarnain Island** 19.11 239 P Pn 02 24 10.4 +0.8
UMZA **Um Al Zommool** 19.14 230 P Pn 02 24 11.2 +1.3
MZWR **Madinat Zayed** 19.20 234 P Pn 02 24 10.8 +0.1
GOMU **GeErMu** 19.34 83 P P 02 24 10.8 +0.2
GOMU S S 02 27 43.0 -1.4
GOMU pmax pmax
comp=Z,18nm,1.0s
GOMU pmax pmax
comp=Z,81nm,4.5s
GOMU LR LR
comp=Z,87nm,8.3s
GOMU LR LR
comp=Z,51nm,7.9s
GOMU LR LR
comp=Z,86nm,7.7s
GHRH **Al-Ghuwayriyah** 19.67 244 P Pn 02 24 16.4 +0.3
SHMA **Al-Shehemyia** 19.89 244 P Pn 02 24 18.2 -0.5
HYBB **Hyderabad (bro** 19.94 158 *e*P P 02 24 17.6 +0.7
HYBB IVmB_BB 02 24 18.7
comp=Z,430nm,2.4s
HYBB *e*pP sP 02 24 44.5 -4.4
HYBB *e*S S 02 27 57.4 +1.5
HYBB IVMs_BB IVMs_BB 02 29 00.6
comp=Z,100nm,3.6s
MZR **Muzera** 19.99 234 P Pn 02 24 22.2 +2.2
SNR=5.7
MZR **Muzera** 19.99 234 *i* P P 02 24 16.2 -1.1
SNR=16
ZAA0 **Zalesovo Array** 20.22 24 P P 02 24 19.5 0.0
ZALV **Zalesovo Beam** 20.22 24 P P 02 24 20.5 +1.0
comp=Z,110nm,0.4s,baz=217,slow=11,SNR=390
ZALV S S 02 27 57.5 -3.3
comp=Z,1.5nm,0.5s,baz=225,slow=20,SNR=1.8
ZALV **Zalesovo Beam** 20.22 24 P P 02 24 19.6 +0.1
GROC **Groznyy** 20.44 298 *e*P Pn 02 24 25.2 +0.2
GROC *e*S S 02 28 07.9 +2.5
GROC pmax pmax
comp=Z,8.0nm,0.4s
GNI **Garni** 20.86 289 P P 02 24 27.5 +0.8
comp=Z,16nm,0.7s,baz=66,slow=2.0,SNR=20
GNI **Garni** 20.86 289 *d i*P Pn 02 24 29.7 -0.4
GNI pmax pmax
comp=Z,34nm,1.3s
GNI **Garni** 20.86 289 P P 02 24 28.2 +1.4
GNI IAmb IAmb 02 24 32.2
comp=Z,24nm,0.9s
GNI **Garni** 20.86 289 P Pn 02 24 29.3 -0.8
SHL **Shillong** 20.91 115 P P 02 24 27.7 +0.3
SHL pmax pmax
comp=Z,52nm,1.0s
SHL **Shillong** 20.91 115 P P 02 24 27.7 +0.3
SHL **Shillong** 20.91 115 P P 02 24 28.1 +0.8
SNR=13
SVE **Sverdlovsk** 21.73 345 ⇑*e*P P 02 24 37.4 +1.8
SVE *e*S S 02 28 31.1 +0.9
SVE pmax pmax
comp=Z,64nm,1.5s
ZEI **Tsey** 21.74 296 *e*P P 02 24 37.9 +1.7
ZEI pmax pmax
comp=Z,5.0nm,0.8s
ARU **Arti** 21.85 341 P P 02 24 38.7 +1.8
comp=Z,5.6nm,0.5s,baz=154,slow=5.5,SNR=27
ARU S S 02 28 33.0 +0.5
comp=Z,1.1nm,0.4s,baz=110,slow=19,SNR=1.6
ARU LR LR 02 33 29.7
comp=Z,109nm,18.4s,baz=152,slow=37
ARU **Arti** 21.85 341 *d i*P P 02 24 37.0 0.0
ARU pmax pmax
comp=Z,106nm,1.7s
ARU **Arti** 21.85 341 P P 02 24 36.8 -0.2
ONI **Oni** 22.04 295 P P 02 24 39.9 +0.7
ONI pmax pmax
comp=Z,9.0nm,0.7s
ONI **Oni** 22.04 295 P P 02 24 39.9 +0.7
NCK **Nalchik** 22.08 298 ⇑*e*P P 02 24 41.7 +2.2
NCK pmax pmax
comp=Z,19nm,0.7s
KBZ **Khabaz** 22.61 298 P P 02 24 44.9 -0.2
comp=Z,2.9nm,0.9s,baz=111,slow=8.4,SNR=8.5
KBZ S S 02 28 53.4 +7.8
comp=Z,1.1nm,0.7s,baz=117,slow=22,SNR=1.4
KBZ **Khabaz** 22.61 298 ⇓*e*P P 02 24 47.5 +2.4
KBZ pmax pmax
comp=Z,4.0nm,0.8s
GOF **Gofitskoye** 22.78 301 ⇑*e*P P 02 24 59.3 +13
GOF pmax pmax
comp=Z,37nm,1.5s
KVAR **Kislovodsk Arr** 22.80 298 S S 02 28 56.1 +7.4
comp=Z,3.4nm,0.7s,baz=151,slow=7.9,SNR=2.4
KIV **Kislovodsk** 22.80 298 *e*P P 02 24 49.5 +2.4
KIV *e*S S 02 28 51.0 +2.2
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV **Kislovodsk** 22.80 298 P P 02 24 46.5 -0.6
KIV **Kislovodsk** 22.80 298 P P 02 24 49.5 +2.4
DOK **Doka** 22.91 224 P P 02 24 51.8 +3.5
GURO **Guroymak-BITLI** 22.97 284 P P 02 24 49.1 +0.2
BELG **Belogornoye** 23.03 322 P P 02 24 50.4 +1.4
comp=Z,12nm,0.5s,baz=0.5,slow=0.6,SNR=14
BELG **Belogornoye** 23.03 322 *d i*P P 02 24 50.3 +1.3
BELG pmax pmax
comp=Z,6.0nm,1.2s
GTA **Gaotai** 23.07 73 *e*P P 02 24 51.5 +1.7
GTA pmax pmax
comp=Z,19nm,1.1s
DMTO **DMTO** 23.19 222 P P 02 24 54.5 +3.6
WHFO **Wadi Hawf** 23.67 224 P P 02 24 58.0 +2.7
RBK **Rabkut** 23.77 223 P P 02 24 58.8 +2.6
ABTO **Aybut** 24.39 224 P P 02 25 05.2 +3.3
RAYN **Ar Rayn** 25.27 247 P P 02 25 08.3 -1.5
RAYN pmax pmax
comp=Z,4.0nm,0.6s
RAYN **Ar Rayn** 25.27 247 P P 02 25 08.3 -1.5
RAYN **Ar Rayn** 25.27 247 P P 02 25 12.0 +2.2
RAYN **Ar Rayn** 25.27 247 *i* P P 02 25 09.2 -0.7
SNR=12
MOY **Mondy** 26.39 45 *e*P P 02 25 23.4 +3.6
MOY pmax pmax
comp=Z,11nm,1.8s
KIRV **Kirov** 26.43 335 P P 02 25 21.2 +1.4
comp=Z,21nm,0.5s,baz=139,slow=3.9,SNR=11
KIRV **Kirov** 26.43 335 *de*P P 02 25 21.5 +1.6
ANN **Anapa** 26.66 299 *e*P P 02 25 24.3 +2.3
ANN *e**PP pP 02 25 49.7 +5.0
ANN *e*S S 02 29 52.3 +2.4
ANN pmax pmax
comp=Z,7.0nm,0.8s
ZAK **Zakamensk** 27.27 49 *e*P P 02 25 28.3 +0.7
ZAK pmax pmax
comp=Z,7.0nm,1.5s
CD2 **Chengdu** 27.85 91 P P 02 25 35.7 +2.7
SONM **Songino Array** 28.60 55 P P 02 25 39.9 +0.4
comp=Z,1.8nm,0.7s,baz=258,slow=10,SNR=15
SONM LR LR 02 38 55.4
comp=Z,114nm,19.3s,baz=232,slow=40
SONM **Songino Array** 28.60 55 P P 02 25 40.6 +1.0
ULN **Ulaanbaatar** 29.04 55 ⇓*e*P P 02 25 44.5 +1.0
ULN pmax pmax
comp=Z,3.0nm,0.7s
BR131 **Keskin Array S** 29.40 288 ⇑*e*P P 02 25 47.4 +0.7
BRTR **Keskin Array B** 29.40 288 P P 02 25 47.5 +0.7
comp=Z,1.0nm,0.7s,baz=90,slow=8.0,SNR=8.7
BRTR pP pP 02 26 13.5 +3.9
comp=Z,0.7nm,0.5s,baz=98,slow=9.1,SNR=4.7
BRTR **Keskin Array B** 29.40 288 *ce*P P 02 25 49.0 +2.3
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR **Keskin Array B** 29.40 288 P P 02 25 47.2 +0.4
PRGR **Permogore** 29.97 336 *e*P P 02 25 51.1 -0.2
PRGR pmax pmax
comp=Z,5.0nm,0.5s
OBN **Obninsk** 30.07 320 P P 02 25 52.3 +0.1
comp=Z,2.8nm,0.5s,baz=105,slow=22,SNR=3.5
OBN **Obninsk** 30.07 320 ⇑*e*P P 02 25 53.8 +1.6
OBN *e**PP pP 02 26 15.1 +0.2
OBN *e* 02 26 51.3
OBN *e*S S 02 30 47.2 +4.0
OBN pmax pmax
comp=Z,40nm,2.5s
OBN **Obninsk** 30.07 320 P P 02 25 51.9 -0.3
PALK **Pallekele** 30.19 160 P P 02 25 54.1 +0.3
comp=Z,3.0nm,0.5s,baz=94,slow=8.7,SNR=5.1
PALK **Pallekele** 30.19 160 P P 02 25 54.6 +0.8
PALK pmax pmax
comp=Z,11nm,1.3s
PALK **Pallekele** 30.19 160 P P 02 25 54.6 +0.8
PALK IAmb IAmb 02 25 56.0
comp=Z,10nm,1.3s
CHTO **Chiang Mai** 30.20 118 P P 02 25 55.2 +1.3
CHTO pmax pmax
comp=Z,5.0nm,0.5s
CHTO **Chiang Mai** 30.20 118 P P 02 25 55.2 +1.3
CHTO IAmb IAmb 02 25 55.6
comp=Z,4.6nm,0.5s
CMAR **Chiang Mai Arr** 30.44 118 P P 02 25 54.8 -1.2
comp=Z,1.8nm,0.3s,baz=294,slow=8.4,SNR=13
CMAR LR LR 02 41 58.0
comp=Z,14nm,18.9s,baz=320,slow=44
CMAR **Chiang Mai Arr** 30.44 118 *ce*P P 02 25 57.2 +1.3
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR **Chiang Mai Arr** 30.44 118 P P 02 25 56.2 +0.3
PBA **Port Blair** 31.45 136 P P 02 26 05.8 +1.0
KLMR **Klimovskoe** 31.66 331 *e*P P 02 26 06.5 +0.4
KLMR *e**PP pP 02 26 31.3 +2.2
KLMR *e**SP sP 02 26 44.9 +4.2
KLMR pmax pmax
comp=Z,9.0nm,0.9s
KLMR **Klimovskoe** 31.66 331 *e*P P 02 26 06.6 +0.4
KLMR AMP 02 26 09.0
comp=Z,9.0nm,0.9s
KLMR *ep*P pP 02 26 31.4 +2.3
KLMR *es*P sP 02 26 45.0 +4.2
GYA **Guiyang** 31.95 98 *e*P P 02 26 12.2 +2.9
GYA pmax pmax
comp=Z,11nm,0.8s
AKASG **Malin Array Be** 33.02 309 P P 02 26 18.5 +0.3
AKASG LR LR 02 43 44.9
comp=Z,136nm,18.7s,baz=167,slow=43
AKASG **Malin Array Be** 33.02 309 *ce*P P 02 26 19.2 +1.0
AKASG pmax pmax

		comp=Z,3.0nm,0.5s							
AKASG	**Malin Array Be**	**33.02 309**		IAmb	IAmb	02 26 20.6			
	comp=Z,1.3nm,0.8s								
AKBB	**Malin Array Si**	**33.02 309**⇑	*eP*	**P**		**02 26 19.4**	**+1.2**		
AKBB			pmax	pmax					
	comp=Z,3.0nm,0.6s								
AKBB	**Malin Array Si**	**33.02 309**		P	**P**	**02 26 19.1**	**+0.9**		
AKBB				IAmb	IAmb	02 26 21.9			
	comp=Z,3.8nm,0.6s								
NRIK	**Noril'sk**	**34.42 10**		P	**P**	**02 26 31.2**	**+1.1**		
	comp=Z,9.6nm,0.5s,baz=210,slow=4.8,SNR=13								
NRIK				LR	LR	02 41 36.7			
	comp=Z,50nm,21.5s,baz=212,slow=38								
NRIK	**Noril'sk**	**34.42 10**	*c iP*		**P**	**02 26 31.5**	**+1.4**		
NRIK				pmax	pmax				
	comp=Z,15nm,0.7s								
NRIK	**Noril'sk**	**34.42 10**		P	**P**	**02 26 30.7**	**+0.6**		
MNK	**Minsk**	**34.61 316**	*i P*		P	02 26 24.4	-7.5		
MNK			*i* *PP		pP	02 26 46.3	-8.6		
MNK			*i S		**S**	**02 31 46.1**	**-7.7**		
MNK			*i* *SS		sS	02 32 30.1	-4.6		
MNK			*i* SS		**SnSn**	**02 34 12.3**	**-3.6**		
MNK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
MNK				pmax	pmax				
	comp=E,3.0nm,1.1s								
MNK				pmax	pmax				
	comp=N,9.0nm,0.8s								
MNK				MLR	MLR				
	comp=E,20nm,17.0s								
MNK				MLR	MLR				
	comp=N,169nm,20.0s								
MNK				MLR	MLR				
	comp=Z,121nm,18.0s								
MNK	**Minsk**	**34.61 316**	*i P*		P	02 26 24.5	-7.4		
	comp=E,3.0nm,1.1s								
MNK			*i P*		P	02 26 24.5	-7.4		
	comp=N,9.0nm,0.8s								
MNK			*i P*		P	02 26 24.5	-7.4		
	comp=Z,5.0nm,1.0s,baz=104								
MNK			*i* pP		pP	02 26 46.4	-8.6		
MNK			*i* PP		**PnPn**	**02 27 45.0**	**-5.6**		
MNK			*i S		**S**	**02 31 46.1**	**-7.7**		
MNK			*i* sS		sS	02 32 30.1	-4.6		
MNK			*i* SS		**SnSn**	**02 34 12.4**	**-3.6**		
MNK			*i* LRM		MLR	02 41 35.5			
	comp=E,20nm,16.8s								
MNK			*i* LRM		MLR	02 41 46.5			
	comp=N,169nm,20.0s								
MNK			*i* LRM		MLR	02 42 02.8			
	comp=Z,121nm,18.1s								
MLR	**Muntele Rosu**	**34.80 300**		P	**P**	**02 26 34.5**	**+0.6**		
	comp=Z,5.0nm,0.7s,baz=273,slow=2.8,SNR=12								
MLR				LR	LR	02 43 35.1			
	comp=Z,78nm,18.9s,baz=106,slow=41								
MLR	**Muntele Rosu**	**34.80 300**		P	**P**	**02 26 35.6**	**+1.7**		
MLR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MLR	**Muntele Rosu**	**34.80 300**		P	**P**	**02 26 35.6**	**+1.7**		
MLR				IAmb	IAmb	02 26 38.9			
	comp=Z,6.5nm,0.8s								
HNS	**HongShan**	**34.91 75**	⇑	P	**P**	**02 26 37.1**	**+2.4**		
HNS				pmax	pmax				
	comp=Z,9.0nm,1.1s								
ATD	**Arta Tunnel**	**35.25 233**		LR	LR	02 41 49.1			
	comp=Z,58nm,18.5s,baz=36,slow=37								
BURAR	**Bucovina Array**	**35.33 303**		P	**P**	**02 26 38.2**	**-0.1**		
BOD	**Bodaibo**	**35.65 39**	*eP*		**P**	**02 26 40.6**	**-0.2**		
BOD				pmax	pmax				
	comp=Z,9.0nm,1.5s								
IDI	**Anoyia**	**37.03 283**		P	**P**	**02 26 53.4**	**+0.4**		
FINES	**FINESS Array B**	**37.64 326**		P	**P**	**02 26 58.5**	**+0.8**		
	comp=Z,3.1nm,0.4s,baz=120,slow=9.7,SNR=42								
FINES	**FINESS Array B**	**37.64 326**	*i P*		**P**	**02 26 59.2**	**+1.5**		
FINES				pmax	pmax				
	comp=Z,3.0nm,0.4s								
LVZ	**Lovozero**	**37.67 339**⇑	*i P*		**P**	**02 26 59.3**	**+1.4**		
LVZ				pmax	pmax				
	comp=Z,18nm,1.4s								
LVZ	**Lovozero**	**37.67 339**		P	**P**	**02 26 59.5**	**+1.6**		
APA	**Apatity**	**37.84 338**⇓	*i P*		**P**	**02 27 01.1**	**+1.8**		
APA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
APA				MLR	MLR				
	comp=Z,800nm,13.0s								
NJ2	**Nanjing**	**39.64 82**	*eP*		P	02 27 07.3	-7.5		
NJ2				pmax	pmax				
	comp=Z,11nm,0.5s								
VRAC	**Vranov**	**41.06 306**		LR	LR	02 46 02.9			
	comp=Z,113nm,18.7s,baz=10.0,slow=38								
ARA0	**ARCESS Array S**	**41.35 338**	*eP*		**P**	**02 27 30.2**	**+1.8**		
ARCES	**ARCESS Array B**	**41.35 338**		P	**P**	**02 27 30.1**	**+1.7**		
	comp=Z,5.6nm,0.4s,baz=112,slow=7.7,SNR=49								
ARCES				pP	**pP**	**02 27 54.1**	**+2.1**		
	comp=Z,3.1nm,0.5s,baz=113,slow=9.2,SNR=2.8								
BLEU	**Blekinge**	**41.68 317**	*i P*		**P**	**02 27 33.5**	**+2.3**		
BLEU				*eP*	**P**	**02 27 33.8**	**+2.6**		
KTK1	**Kautokeino**	**41.82 336**	*eP*		**P**	**02 27 33.8**	**+1.6**		
CN2	**Changchun**	**41.85 62**	*eP*		P	02 27 40.5	+7.7		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
BSD	**Bornholm Skovb**	**42.11 315**	*eP*		**P**	**02 27 38.6**	**+3.9**		
PSI	**Prapat**	**42.17 136**		LR	LR	02 49 06.8			
	comp=Z,29nm,18.3s,baz=264,slow=42								
HAMF	**Hammerfest**	**42.44 339**	*eP*		**P**	**02 27 38.7**	**+1.5**		
DEL	**Delary**	**42.77 317**	*i P*		**P**	**02 27 42.4**	**+2.3**		
JETT	**Jettan, Norway**	**42.96 337**	*eP*		**P**	**02 27 43.4**	**+1.9**		
LUNU	**Lund**	**42.97 316**	*i P*		**P**	**02 27 44.5**	**+2.8**		
GERES	**GERESS Array B**	**42.98 306**		P	**P**	**02 27 42.9**	**+0.8**		
	comp=Z,0.4nm,0.4s,baz=70,slow=7.7,SNR=5.0								
BORU	**Boraas**	**43.45 318**	*i P*		**P**	**02 27 47.9**	**+2.4**		
TRO	**Tromso**	**43.47 336**	*eP*		**P**	**02 27 47.1**	**+1.6**		
FAUS	**Fauske**	**43.99 333**	*eP*		**P**	**02 27 51.4**	**+1.7**		
MOR8	**Moi Rana**	**43.99 331**	*eP*		**P**	**02 27 50.3**	**+0.5**		
STEI	**Steigen**	**44.16 333**	*eP*		**P**	**02 27 52.7**	**+1.7**		
YAK	**Yakutsk**	**44.27 35**	*c iP*		**P**	**02 27 51.3**	**-0.7**		
YAK				pmax	pmax				
	comp=Z,13nm,0.6s								
NC602	**NORSAR Array S**	**44.33 323**	*eP*		**P**	**02 27 54.0**	**+1.5**		
STRU	**Stroemstad**	**44.37 320**	*eP*		**P**	**02 27 54.7**	**+1.9**		
NC303	**NORSAR Array S**	**44.47 323**		P	**P**	**02 27 54.2**	**+0.5**		
NC303				IAmb	IAmb	02 28 23.3			
	comp=Z,10nm,0.9s								
NB2	**NORSAR Subarra**	**44.52 323**		P	**P**	**02 27 53.7**	**-0.4**		
	comp=Z,2.6nm,0.4s,baz=99,slow=7.9								
NB2	**NORSAR Subarra**	**44.52 323**		P	**P**	**02 27 53.7**	**-0.4**		
	baz=99,slow=7.9								
NOA	**NORSAR Array B**	**44.52 323**		P	**P**	**02 27 53.8**	**-0.4**		
	comp=Z,1.1nm,0.4s,baz=106,slow=7.1,SNR=22								
WTTA	**Wattenberg**	**44.54 303**	*eP*		**P**	**02 27 55.9**	**+1.2**		
	comp=Z,1.4nm,0.4s								
KONS	**Konsvik**	**44.59 331**	*eP*		**P**	**02 27 56.7**	**+2.2**		
NSS	**Namsos**	**44.66 328**	*eP*		**P**	**02 27 55.8**	**+0.7**		
OSL	**Oslo**	**44.67 322**	*eP*		**P**	**02 27 56.2**	**+1.0**		
SQTA	**Sankt Quirin**	**44.84 303**	*eP*		**P**	**02 27 57.0**	**+0.1**		
	comp=Z,1.1nm,0.3s								
MOTA	**Moosalm**	**44.89 304**	*eP*		**P**	**02 27 57.9**	**+0.5**		
	comp=Z,2.9nm,0.6s								
TJN	**Taejon**	**44.98 72**⇑	*eP*		**P**	**02 27 56.5**	**-1.5**		
KS19	**Wonju Array Si**	**45.03 71**		P	**P**	**02 27 59.3**	**+0.9**		
KS19				IAmb	IAmb	02 28 02.4			
	comp=Z,12nm,1.2s								
KSAR	**Wonju Array Be**	**45.07 71**		P	**P**	**02 27 59.5**	**+0.8**		
KSAR	**Wonju Array Be**	**45.07 71**		P	**P**	**02 27 59.5**	**+0.8**		
KSRS	**Korea Array**	**45.09 71**		P	**P**	**02 27 59.0**	**+0.1**		
	comp=Z,3.2nm,0.5s,baz=277,slow=6.4,SNR=13								
KSRS	**Korea Array**	**45.09 71**		P	**P**	**02 27 59.0**	**+0.1**		
FETA	**Feichten**	**45.19 303**	*eP*		**P**	**02 28 01.4**	**+1.7**		
	comp=Z,1.1nm,0.4s								
KONO	**Kongsberg**	**45.22 321**	*eP*		**P**	**02 27 59.7**	**+0.1**		
KLR	**Kul'dur**	**45.41 54**		P	**P**	**02 28 01.6**	**+0.3**		
	comp=Z,1.2nm,0.4s,baz=283,slow=9.1,SNR=6.6								
KLR				LR	LR	02 48 38.5			
	comp=Z,60nm,21.2s,baz=298,slow=38								
KLR	**Kul'dur**	**45.41 54**	*de*	P	**P**	**02 28 01.9**	**+0.6**		
KLR				pmax	pmax				
	comp=Z,8.0nm,1.3s								
BJO1	**Bjornoya**	**45.49 343**	*eP*		**P**	**02 28 01.4**	**-0.1**		
DOMB	**Dombas**	**45.64 324**	*eP*		**P**	**02 28 04.3**	**+1.3**		
HOMB	**Homborsund**	**45.74 319**	*eP*		**P**	**02 28 05.5**	**+1.8**		
SKAR	**Skarslia**	**45.92 323**	*eP*		**P**	**02 28 06.4**	**+1.2**		
TIXI	**Tiksi**	**46.08 22**		P	**P**	**02 28 06.6**	**+0.4**		
	comp=Z,8.0nm,0.3s,baz=268,slow=11,SNR=19								
TIXI				LR	LR	02 47 27.1			
	comp=Z,53nm,20.4s,baz=188,slow=36								
TIXI	**Tiksi**	**46.08 22**⇑	*iP*		**P**	**02 28 05.9**	**-0.3**		
TIXI				pmax	pmax				
	comp=Z,27nm,1.7s								
TIXI	**Tiksi**	**46.08 22**		P	**P**	**02 28 06.1**	**-0.1**		
TIXI				IAmb	IAmb	02 28 08.7			
	comp=Z,12nm,0.9s								
AKN	**Aaknes**	**46.62 325**	*eP*		**P**	**02 28 09.9**	**-0.7**		
SENIN	**Lac Senin/Sane**	**47.63 303**		P	**P**	**02 28 18.5**	**-0.4**		
SENIN				IAmb	IAmb	02 28 22.4			
	comp=Z,3.9nm,0.8s								
SPA0	**Spitsbergen Ar**	**47.73 347**	*eP*		**P**	**02 28 19.1**	**+0.1**		
SPITS	**Spitsbergen Ar**	**47.73 347**		LR	LR	02 50 58.6			
	comp=Z,82nm,19.5s,baz=153,slow=39								
JNU	**Nakatsue**	**48.79 75**		P	**P**	**02 28 27.6**	**-0.2**		
KBS	**Kingsbay**	**48.85 347**	*eP*		**P**	**02 28 30.6**	**+3.0**		
KBS	**Kingsbay**	**48.85 347**	*eP*		**P**	**02 28 28.9**	**+1.3**		
KEST	**Kesra**	**49.00 289**		P	**P**	**02 28 30.0**	**+0.6**		
	comp=Z,6.2nm,0.9s,baz=324,slow=19,SNR=1.8								
MBAR	**Mbarara**	**52.24 235**		P	**P**	**02 28 53.9**	**-0.2**		
	comp=Z,1.6nm,0.2s,baz=333,slow=18,SNR=1.1								
YSS	**Yuzh-Sakhalins**	**53.09 55**⇑	*iP*		**P**	**02 29 00.2**	**+0.5**		
YSS				pmax	pmax				
	comp=Z,10.0nm,0.6s								
MJAR	**Matsushiro Arr**	**53.17 68**		P	**P**	**02 29 00.3**	**-0.3**		
	comp=Z,1.8nm,0.3s,baz=290,slow=6.7,SNR=4.8								
NOR	**Nord**	**54.05 350**	*eP*		**P**	**02 29 08.4**	**+2.1**		
MA2	**Magadan**	**54.66 38**⇓	*eP*		**P**	**02 29 11.2**	**+0.2**		
MA2				pmax	pmax				
	comp=Z,11nm,1.7s								
MA2	**Magadan**	**54.66 38**		P	**P**	**02 29 10.1**	**-0.9**		
MA2				IAmb	IAmb	02 29 13.5			
	comp=Z,7.1nm,1.2s								
SEY	**Seymchan**	**54.72 34**⇓	*eP*		**P**	**02 29 11.9**	**+0.5**		
SEY				pmax	pmax				
	comp=Z,10.0nm,1.1s								
DAG	**Danmarks Havn**	**54.96 344**	*i P*		**P**	**02 29 13.0**	**+0.1**		
DAG				IAmb	IAmb	02 29 15.8			
	comp=Z,6.5nm,0.6s								
DBG	**Daneborg**	**55.80 341**	*i P*		**P**	**02 29 21.4**	**+2.4**		
ESDC	**Sonseca Array**	**57.47 298**		P	**P**	**02 29 31.4**	**0.0**		
	comp=Z,0.5nm,0.6s,baz=54,slow=7.2,SNR=6.3								
ESDC				pP	**pP**	**02 29 59.3**	**+2.9**		
	comp=Z,0.6nm,0.5s,baz=55,slow=7.7,SNR=2.9								
BORG	**Borgarnes**	**58.78 330**		LR	LR	02 58 48.7			
	comp=Z,69nm,19.1s,baz=57,slow=40								
BILL	**Bilibino**	**58.91 26**⇓	*eP*		**P**	**02 29 40.5**	**-0.4**		
BILL			*e*	*P	**pP**	**02 30 05.5**	**-0.7**		
BILL			*e*			02 31 51.8			
BILL			*e*	PPP	PPP	02 33 17.5			
BILL			*e*	S	S	02 37 50.9	+12		
BILL				pmax	pmax				
	comp=Z,14nm,1.7s								
BILL	**Bilibino**	**58.91 26**		P	**P**	**02 29 41.4**	**+0.4**		
TOA0	**Torodi Ar. Sit**	**65.58 269**		P	**P**	**02 30 24.1**	**-2.2**		
TOA0				IAmb	IAmb	02 30 28.3			
	comp=Z,3.5nm,0.6s								
TORD	**Torodi Ar. Bea**	**65.58 269**		P	**P**	**02 30 24.0**	**-2.2**		
	comp=Z,2.4nm,0.4s,baz=47,slow=5.7,SNR=109								
TORD				pP	**pP**	**02 30 54.0**	**+1.9**		
	comp=Z,2.4nm,0.6s,baz=38,slow=5.7,SNR=3.6								
TORD	**Torodi Ar. Bea**	**65.58 269**		P	**P**	**02 30 23.9**	**-2.3**		
SFJD	**Kangerlussuaq**	**67.97 339**		LR	LR	03 03 36.1			
	comp=Z,61nm,18.6s,baz=86,slow=38								
BLWY	**Bulawayo**	**68.83 223**	*i P*		**P**	**02 30 47.6**	**+0.9**		
BLWY	**Bulawayo**	**68.83 223**	*i P*		**P**	**02 30 47.6**	**+0.9**		
MATP	**Matopo**	**69.12 223**	*i P*		**P**	**02 30 48.7**	**+0.2**		
MATP	**Matopo**	**69.12 223**	*i P*		**P**	**02 30 48.7**	**+0.2**		
KOWA	**Kowa**	**69.45 273**		P	**P**	**02 30 49.2**	**-1.4**		
KOWA				IAmb	IAmb	02 31 01.9			
	comp=Z,14nm,1.5s								
MOPA	**Mopani**	**70.14 218**	*i P*		**P**	**02 30 54.8**	**+0.2**		
MOPA	**Mopani**	**70.14 218**	*i P*		**P**	**02 30 54.8**	**+0.2**		
ANM	**Nome**	**70.34 22**		P	**P**	**02 30 55.0**	**-0.2**		
ANM				pmax	pmax				
	comp=Z,5.0nm,1.3s								
ANM	**Nome**	**70.34 22**		P	**P**	**02 30 55.0**	**-0.2**		
TOLK	**Toolik Lake Re**	**71.22 15**		P	**P**	**02 31 01.2**	**+0.6**		
A36M	**Sachs Harbour**	**71.49 5**		IAmb	IAmb	02 31 05.6			
	comp=Z,9.6nm,0.8s								
CNG	**Changalane**	**72.08 216**	*i P*		**P**	**02 31 04.5**	**-1.7**		
CNG	**Changalane**	**72.08 216**	*i P*		**P**	**02 31 04.5**	**-1.7**		
COLD	**Coldfoot**	**72.27 16**		IAmb	IAmb	02 31 09.8			
	comp=Z,4.8nm,0.9s								
IMAR	**Indian Mountai**	**72.47 18**		P	**P**	**02 31 07.8**	**-0.3**		
J20K	**Nowinta River**	**73.83 19**		P	**P**	**02 31 16.7**	**+0.6**		
J20K				IAmb	IAmb	02 31 17.6			
	comp=Z,4.3nm,0.7s								
INK	**Inuvik**	**74.20 9**		P	**P**	**02 31 18.4**	**+0.3**		
	comp=Z,5.5nm,0.5s,baz=351,slow=7.2,SNR=33								
INK				LR	LR	03 06 12.4			
	comp=Z,25nm,20.9s,baz=64,slow=37								
INK	**Inuvik**	**74.20 9**		P	**P**	**02 31 18.7**	**+0.6**		
INK				IAmb	IAmb	02 31 21.3			
	comp=Z,7.2nm,0.7s								
LBTB	**Lobatse**	**74.39 222**	*i P*		**P**	**02 31 20.1**	**+0.1**		
LBTB	**Lobatse**	**74.39 222**	*i P*		**P**	**02 31 20.1**	**+0.1**		
K20K	**Telida**	**74.52 19**		IAmb	IAmb	02 31 21.6			
	comp=Z,5.2nm,0.8s								
DBIC	**Dimbokro**	**74.56 267**		P	**P**	**02 31 19.3**	**-1.8**		
	comp=Z,1.6nm,0.5s,baz=39,slow=5.4,SNR=1.9								
BPAW	**Bear Mtn.**	**74.70 18**		IAmb	IAmb	02 31 25.1			
	comp=Z,9.2nm,1.5s								
NEA2	**Nenana**	**74.74 17**		IAmb	IAmb	02 31 23.9			
	comp=Z,6.6nm,1.0s								
COLA	**College**	**74.78 16**⇑	*iP*		**P**	**02 31 22.7**	**+1.2**		
COLA				pmax	pmax				
	comp=Z,7.0nm,0.9s								
COLA	**College**	**74.78 16**		P	**P**	**02 31 21.8**	**+0.2**		
COLA				IAmb	IAmb	02 31 22.8			
	comp=Z,6.7nm,0.7s								
CAST	**Castle Rocks**	**74.98 18**		IAmb	IAmb	02 31 24.0			
	comp=Z,14nm,1.3s								
IL31		**75.08 16**		P	**P**	**02 31 23.0**	**-0.3**		
ILAR	**Eielson Array**	**75.08 16**		P	**P**	**02 31 22.6**	**-0.7**		
	comp=Z,1.2nm,0.6s,baz=316,slow=4.5,SNR=13								
I29M	**Ogilvie Camp,**	**76.23 12**		P	**P**	**02 31 30.0**	**+0.1**		
I29M				IAmb	IAmb	02 31 32.4			
	comp=Z,6.3nm,0.8s								
DHY	**Denali Highway**	**76.43 17**		IAmb	IAmb	02 31 34.1			
	comp=Z,4.4nm,0.9s								
PAX	**Paxson**	**76.96 16**		IAmb	IAmb	02 31 45.7			
	comp=Z,11nm,1.5s								
DAWY	**Dawson**	**77.22 13**		IAmb	IAmb	02 31 42.0			
	comp=Z,9.7nm,1.3s								
BOSA	**Boshof**	**77.45 220**		P	**P**	**02 31 36.8**	**-0.5**		
	comp=Z,1.0nm,0.4s,baz=32,slow=3.9,SNR=16								
BOSA	**Boshof**	**77.45 220**		IAmb	IAmb	02 31 44.6			
	comp=Z,12nm,1.4s								
BOSA	**Boshof**	**77.45 220**	*i P*		**P**	**02 31 36.8**	**-0.5**		
BOSA	**Boshof**	**77.45 220**	*i P*		**P**	**02 31 36.8**	**-0.5**		
YKA	**Yellowknife Ar**	**81.53 3**		P	**P**	**02 31 58.5**	**-0.3**		
	comp=Z,4.6nm,0.5s,baz=351,slow=5.4,SNR=74								
WRA	**Warramunga Arr**	**81.95 122**		P	**P**	**02 32 00.2**	**-1.5**		
	comp=Z,2.3nm,0.3s,baz=325,slow=4.9,SNR=46								
WRAB	**Tennant Creek**	**81.95 122**⇑	*eP*		**P**	**02 32 02.0**	**+0.3**		
WRAB				pmax	pmax				
	comp=Z,3.0nm,0.5s								
DLBC	**Dease Lake**	**84.09 11**		P	**P**	**02 32 11.7**	**-0.6**		
	comp=Z,2.2nm,0.6s,baz=56,slow=3.6,SNR=2.0								
AS31	**Alice Springs**	**84.20 125**		P	**P**	**02 32 14.0**	**+0.8**		
ASAR	**Alice Springs**	**84.20 125**		P	**P**	**02 32 11.9**	**-1.3**		
	comp=Z,3.0nm,0.5s,baz=310,slow=5.0,SNR=39								
ASAR				pP	**pP**	**02 32 42.2**	**+1.9**		
	comp=Z,2.8nm,0.9s,baz=322,slow=5.4,SNR=4.8								
ASAR	**Alice Springs**	**84.20 125**		P	**P**	**02 32 13.5**	**+0.2**		
ASAR	**Alice Springs**	**84.20 125**		P	**P**	**02 32 13.5**	**+0.2**		
PMG	**Port Moresby**	**84.65 106**	*c iP*		**P**	**02 32 16.9**	**+1.2**		
PMG				pmax	pmax				
	comp=Z,19nm,1.2s								
CTA	**Charters Tower**	**90.54 115**		P	**P**	**02 32 43.0**	**-0.9**		
	comp=Z,2.3nm,0.4s,baz=321,slow=6.5,SNR=2.2								

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.63**	**340**	P	P	02 23 09.1	-8.5
	74nm,0.3s,baz=123,slow=22,SNR=26						
MSVF	**Nonsavu**	**4.63**	**340**	P	**P**	**02 23 15.3**	**-2.4**
GLKZ	**Green Lake**	**7.42**	**164**	P	**P**	**02 23 40.0**	**-1.1**
NIUE	**Niue**	**10.18**	**75**	P	**P**	**02 24 05.8**	**-2.2**
MARNC	**Mare, Loyalty**	**10.86**	**271**	P	**P**	**02 24 13.0**	**-1.7**
MARNC	**Mare, Loyalty**	**10.86**	**271**	P	**P**	**02 24 15.1**	**+0.4**
AFI	**Afiamalu**	**11.51**	**46**	P	**P**	**02 24 17.0**	**-4.4**
	6.4nm,0.3s,baz=25,slow=4.8,SNR=7.1						
AFI	**Afiamalu**	**11.51**	**46**	P	**P**	**02 24 17.8**	**-3.6**
OUENC	**Ouen Island, N**	**11.91**	**266**	P	**P**	**02 24 25.4**	**+0.2**
DZM	**Mont Dzumac**	**12.29**	**268**	P	**P**	**02 24 26.8**	**-2.4**
	1.6nm,0.3s,baz=81,slow=18,SNR=14						
DZM	**Mont Dzumac**	**12.29**	**268**	P	**P**	**02 24 27.8**	**-1.3**
DZM	**Mont Dzumac**	**12.29**	**268**	P	**P**	**02 24 29.1**	**-0.1**
NOUC	**Port Laguerre**	**12.42**	**268**	P	**P**	**02 24 30.0**	**-0.4**
OUZ	**Omahuta**	**14.10**	**201**	P	**P**	**02 24 49.4**	**+2.4**
OUZ	**Omahuta**	**14.10**	**201**	P	**P**	**02 24 50.1**	**+3.1**
WCZ	**Waipu Caves**	**14.54**	**198**	P	**P**	**02 24 53.6**	**+2.5**
KUZ	**Kuaotunu**	**14.97**	**192**	P	**P**	**02 24 57.4**	**+2.3**
MBAZ	**Motutapu North**	**15.18**	**195**	P	**P**	**02 24 59.8**	**+2.9**
WTAZ	**Waiatarua**	**15.41**	**196**	P	**P**	**02 25 01.9**	**+2.7**
MXZ	**Matakaoa Point**	**15.43**	**184**	P	**P**	**02 24 57.8**	**-1.5**
MXZ				S	S	**02 27 34.1**	**-1.7**
MKAZ	**Moumakai**	**15.44**	**194**	P	**P**	**02 25 01.3**	**+1.9**
AWAZ	**Awhitu Peninsu**	**15.52**	**195**	P	**P**	**02 25 02.5**	**+2.4**
HAZ	**Te Kaha**	**15.67**	**186**	P	**P**	**02 25 00.5**	**-1.0**
HAZ				S	S	**02 27 33.3**	**-6.4**
PKGZ	**Pakihiroa**	**15.77**	**185**	P	**P**	**02 25 02.9**	**+0.3**
RUGZ	**Raukumara Rang**	**15.88**	**186**	P	**P**	**02 25 02.2**	**-1.4**
RUGZ				S	S	**02 27 38.5**	**-5.1**
TOZ	**Tahuroa Road**	**15.97**	**192**	P	**P**	**02 25 06.2**	**+1.9**
KMRZ	**Kaimai**	**16.00**	**191**	P	**P**	**02 25 06.9**	**+2.3**
TWGZ	**Tauwhareparae**	**16.07**	**185**	P	**P**	**02 25 05.5**	**+0.2**
TWGZ				S	S	**02 27 44.2**	**-2.2**
URZ	**Urewera**	**16.23**	**187**	P	**P**	**02 25 05.3**	**-1.4**
	3.7nm,0.3s,baz=242,slow=3.6,SNR=20						
URZ				S	S	**02 27 47.5**	**-1.5**
	1.5nm,0.3s,baz=256,slow=22,SNR=11						
URZ	**Urewera**	**16.23**	**187**	P	**P**	**02 25 04.8**	**-1.9**
URZ				S	S	**02 27 43.9**	**-5.1**
URZ	**Urewera**	**16.23**	**187**	P	**P**	**02 25 05.0**	**-1.7**
MWZ	**Matawai**	**16.26**	**186**	P	**P**	**02 25 05.6**	**-1.4**
MWZ				S	S	**02 27 48.8**	**-0.8**
BKZ	**Black Stump Fm**	**17.21**	**188**	P	**P**	**02 25 14.6**	**-1.0**
BFZ	**Birch Farm**	**18.73**	**188**	P	**P**	**02 25 28.6**	**-0.8**
SNZO	**South Karori**	**19.59**	**191**	P	**P**	**02 25 36.7**	**-0.5**
QRZ	**Quartz Range**	**19.61**	**196**	P	**P**	**02 25 38.7**	**+1.3**
KHZ	**Kahutara**	**20.88**	**193**	P	**P**	**02 25 47.9**	**-0.9**
EIDS	**Eidsvold**	**26.37**	**257**	P	**P**	**02 26 37.7**	**0.0**
EIDS				IAmb	IAmb	02 26 40.3	
	comp=Z,9.9nm,1.1s						
CTA	**Charters Tower**	**31.23**	**267**	P	**P**	**02 27 20.8**	**+1.0**
	comp=Z,8.6nm,0.5s,baz=88,slow=11,SNR=17						
CTAO	**Charters Tower**	**31.23**	**267**	P	**P**	**02 27 19.9**	**+0.1**
TOO	**Toolangi**	**33.21**	**235**	P	**P**	**02 27 36.1**	**-0.3**
STKA	**Stephens Creek**	**35.16**	**246**	P	**P**	**02 27 53.6**	**+1.0**
	comp=Z,6.6nm,0.5s,baz=96,slow=10,SNR=26						
STKA	**Stephens Creek**	**35.16**	**246**	P	**P**	**02 27 52.5**	**-0.1**
BBOO	**Buckleboo**	**39.91**	**245**	P	**P**	**02 28 31.2**	**0.0**
BBOO				IAmb	IAmb	02 28 35.8	
	comp=Z,7.0nm,0.9s						
AS31	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.30**	**343**		**Pn**	**03 24 25.3**	**+0.2**
M22K	**Willow**	**0.30**	**343**		**Sn**	**03 24 32.1**	**+0.9**
M22K	**Willow**	**0.30**	**343**	P	**Pn**	**03 24 25.4**	**+0.2**
	baz=163,SNR=1000						
M22K				S	**Sn**	**03 24 32.2**	**+0.9**
	baz=163						
FIS	**Fire Island**	**0.35**	**203**		**Pn**	**03 24 26.9**	**+1.2**
FIS				IAML		03 24 35.7	
	comp=E,41μm,0.6s						
FIS				IAML		03 24 35.7	
	comp=N,31μm,0.6s						
FIS	**Fire Island**	**0.35**	**203**		**Sn**	**03 24 33.0**	**+0.9**
RC01	**Rabbit Creek A**	**0.39**	**166**		**Pn**	**03 24 26.5**	**+0.4**
RC01				IAML		03 24 34.3	
	comp=E,23μm,0.4s						
RC01				IAML		03 24 35.4	
	comp=N,19μm,0.3s						
RC01	**Rabbit Creek A**	**0.39**	**166**		**Sn**	**03 24 33.9**	**+0.9**
RC01	**Rabbit Creek A**	**0.39**	**166**	P	**Pn**	**03 24 26.6**	**+0.4**
	baz=346,SNR=632						
RC01				S	**Sn**	**03 24 34.0**	**+1.1**
	baz=346						
PMR	**Palmer**	**0.41**	**71**		**Pn**	**03 24 26.5**	**+0.2**
PMR	**Palmer**	**0.41**	**71**		**Sn**	**03 24 34.0**	**+0.7**
PMR	**Palmer**	**0.41**	**71**	P	**Pn**	**03 24 26.5**	**+0.2**
	baz=251,SNR=1000						
PMR				S	**Sn**	**03 24 33.9**	**+0.7**
	baz=251						
GHO	**Glory Hole Cre**	**0.57**	**57**		**Pn**	**03 24 28.9**	**+0.3**
GHO					**Sn**	**03 24 38.3**	**+1.2**
KNK	**Knik Glacier**	**0.71**	**94**		**Pn**	**03 24 31.0**	**+0.7**
KNK				IAML		03 24 44.7	
	comp=E,17μm,0.3s						
KNK	**Knik Glacier**	**0.71**	**94**		**Sn**	**03 24 41.8**	**+1.6**
KNK	**Knik Glacier**	**0.71**	**94**	P	**Pn**	**03 24 31.0**	**+0.7**
	baz=274,SNR=773						
KNK				S	**Sn**	**03 24 41.7**	**+1.6**
	baz=274						
SML	**Sawmill**	**0.84**	**65**		**Pn**	**03 24 32.4**	**+0.3**
SML				IAML		03 24 45.7	
	comp=E,9μm,0.7s						
SML				IAML		03 24 47.3	
	comp=N,7μm,0.6s						
SML	**Sawmill**	**0.84**	**65**		**Sn**	**03 24 44.6**	**+1.3**
SML	**Sawmill**	**0.84**	**65**	P	**Pn**	**03 24 32.4**	**+0.3**
	baz=246,SNR=607						
SML				S	**Sn**	**03 24 44.1**	**+0.8**
	baz=246						
STLK	**Strandline Lak**	**0.91**	**273**		**Pn**	**03 24 33.8**	**+0.7**
CAPN	**Captain Cook N**	**0.92**	**221**	Pn	**Pn**	**03 24 34.7**	**+1.7**
CAPN	**Captain Cook N**	**0.92**	**221**	P	**Pn**	**03 24 34.9**	**+1.9**
	baz=40						
CUT	**Chulitna**	**0.95**	**351**		**Pn**	**03 24 34.0**	**+0.5**
CUT				IAML		03 24 50.0	
	comp=N,9μm,0.5s						
CUT	**Chulitna**	**0.95**	**351**		**Sn**	**03 24 47.0**	**+1.1**
CUT	**Chulitna**	**0.95**	**351**	P	**Pn**	**03 24 34.1**	**+0.5**
	baz=170,SNR=338						
CUT				S	**Sn**	**03 24 47.1**	**+1.1**
	baz=170						
SLKM	**Skilak Lake**	**0.97**	**188**		**Pn**	**03 24 34.1**	**+0.2**
SLKM					**Sn**	**03 24 48.2**	**+1.8**
PWL	**Port Wells**	**0.99**	**127**	Pn	**Pn**	**03 24 34.7**	**+0.7**
PWL	**Port Wells**	**0.99**	**127**		**Sn**	**03 24 47.9**	**+1.1**
PWL	**Port Wells**	**0.99**	**127**	P	**Pn**	**03 24 34.8**	**+0.7**
	baz=309,SNR=691						
PWL				S	**Sn**	**03 24 48.6**	**+1.7**
	baz=309						
O22K	**Cooper Landing**	**0.99**	**174**		**Pn**	**03 24 34.6**	**+0.5**
O22K	**Cooper Landing**	**0.99**	**174**	P	**Pn**	**03 24 34.5**	**+0.5**
	baz=354,SNR=114						
O22K				S	**Sn**	**03 24 48.7**	**+1.8**
	baz=354						
SPCG	**Spurr Capps Gl**	**1.02**	**261**		**Pn**	**03 24 35.3**	**+0.8**
SPCG					**Sn**	**03 24 49.2**	**+1.4**
SPU	**Mount Spurr**	**1.06**	**255**	Pn	**Pn**	**03 24 35.9**	**+0.8**
CKT	**Bend**	**1.13**	**257**		**Pn**	**03 24 36.8**	**+0.8**
SPCR	**Spurr Chakacha**	**1.13**	**257**		**Pn**	**03 24 36.7**	**+0.7**
SPCR	**Spurr Chakacha**	**1.13**	**257**	P	**Pn**	**03 24 36.7**	**+0.7**
	baz=76,SNR=446						
SPCR				S	**Sn**	**03 24 51.8**	**+1.4**
	baz=76						
SPBG	**Spurr Blockage**	**1.19**	**261**		**Pn**	**03 24 37.8**	**+0.9**
SPBG					**Sn**	**03 24 53.9**	**+2.0**
SCM	**Sheep Creek Mo**	**1.30**	**72**		**Pn**	**03 24 39.6**	**+1.3**
SCM	**Sheep Creek Mo**	**1.30**	**72**	P	**Pn**	**03 24 39.5**	**+1.1**
	baz=254,SNR=654						
SCM				S	**Sn**	**03 24 56.9**	**+2.4**
	baz=254						
SEW	**Seward**	**1.39**	**170**		**Pn**	**03 24 39.9**	**+0.4**
SEW	**Seward**	**1.39**	**170**	P	**Pn**	**03 24 39.6**	**+0.1**
	baz=350						
GLI	**Glacier Island**	**1.50**	**112**		**Pn**	**03 24 41.6**	**+0.7**
GLI	**Glacier Island**	**1.50**	**112**	P	**Pn**	**03 24 41.6**	**+0.7**
	baz=294						
GLI				S	**Sn**	**03 25 01.1**	**+1.8**
	baz=294						
WAT1	**Susitna Watana**	**1.52**	**25**		**Pn**	**03 24 42.4**	**+1.1**
WAT1	**Susitna Watana**	**1.52**	**25**	P	**Pn**	**03 24 42.4**	**+1.1**
	baz=206						
WAT1				S	**Sn**	**03 25 01.5**	**+1.7**
	baz=206						
WAT6	**Susitna Watana**	**1.52**	**42**		**Pn**	**03 24 42.4**	**+0.9**
WAT6					**Sn**	**03 25 02.4**	**+2.2**
WAT6	**Susitna Watana**	**1.52**	**42**	P	**Pn**	**03 24 42.4**	**+0.9**
	baz=223,SNR=205						
WAT6				S	**Sn**	**03 25 01.8**	**+1.6**
	baz=223						
RDJH	**Redoubt Jeurge**	**1.65**	**239**		**Pn**	**03 24 44.3**	**+1.1**
JPK	**Jack Peak**	**1.67**	**103**		**Pn**	**03 24 44.4**	**+1.1**
RSO	**Redoubt South**	**1.70**	**235**		**Pn**	**03 24 44.9**	**+0.9**
RDWB	**Redoubt West**	**1.72**	**237**		**Pn**	**03 24 45.3**	**+1.1**
RDWB					**Sn**	**03 25 07.3**	**+2.3**
RED	**Redoubt Volcan**	**1.74**	**234**		**Pn**	**03 24 45.3**	**+1.0**
VMT	**TAPS Tl Valdez**	**1.77**	**101**		**Pn**	**03 24 45.7**	**+1.1**
BRLK	**Bradley Lake**	**1.77**	**196**		**Pn**	**03 24 45.5**	**+0.8**
BRLK				IAML		03 25 10.5	
	comp=E,2μm,0.5s						
BRLK				IAML		03 25 11.5	
	comp=N,1μm,0.4s						
BRSE	**Bradley Lake S**	**1.77**	**193**		**Pn**	**03 24 45.3**	**+0.5**
BRSE	**Bradley Lake S**	**1.77**	**193**	P	**Pn**	**03 24 45.3**	**+0.5**
	baz=13,SNR=53						
PPLA	**Purkeypile**	**1.78**	**325**		**Pn**	**03 24 46.2**	**+1.1**
PPLA	**Purkeypile**	**1.78**	**325**	P	**Pn**	**03 24 46.1**	**+1.1**
	baz=143						
PPLA				S	**Sn**	**03 25 08.1**	**+1.6**
	baz=143						
FID	**Port Fidalgo**	**1.83**	**112**		**Pn**	**03 24 45.9**	**+0.4**
FID					**Sn**	**03 25 08.8**	**+1.4**
FID	**Port Fidalgo**	**1.83**	**112**	IAML		03 25 15.7	
	comp=N,4μm,0.3s						
M24K	**Tolsona, Glenn**	**1.90**	**69**		**Pn**	**03 24 47.9**	**+1.4**
M24K	**Tolsona, Glenn**	**1.90**	**69**		**Sn**	**03 25 11.5**	**+2.2**
M24K	**Tolsona, Glenn**	**1.90**	**69**	P	**Pn**	**03 24 48.5**	**+1.9**
	baz=252,SNR=476						
O20K	**Slope Mountain**	**1.92**	**225**		**Pn**	**03 24 48.4**	**+1.6**
O20K	**Slope Mountain**	**1.92**	**225**	P	**Pn**	**03 24 48.3**	**+1.6**
	baz=43,SNR=40						
KLU	**Klutina**	**1.93**	**87**		**Pn**	**03 24 47.8**	**+0.9**
KLU				IAML		03 25 12.8	
	comp=E,2μm,0.5s						
KLU				IAML		03 25 18.7	
	comp=N,3μm,0.4s						
KLU	**Klutina**	**1.93**	**87**	P	**Pn**	**03 24 47.8**	**+0.9**
	baz=271,SNR=247						
KLU				S	**Sn**	**03 25 11.8**	**+1.9**
	baz=271						
TRF	**Thorofare Moun**	**2.00**	**355**		**Pn**	**03 24 49.3**	**+1.3**
TRF				IAML		03 25 25.7	
	comp=N,2μm,1.0s						
TRF				IAML		03 25 26.1	
	comp=E,1μm,0.6s						
TRF	**Thorofare Moun**	**2.00**	**355**	P	**Pn**	**03 24 49.3**	**+1.3**
	baz=175,SNR=96						
HOM	**Homer**	**2.00**	**206**		**Pn**	**03 24 49.4**	**+1.5**
HOM					**Sn**	**03 25 14.3**	**+2.7**
HOM	**Homer**	**2.00**	**206**	P	**Pn**	**03 24 49.0**	**+1.2**
	baz=24						
DHY	**Denali Highway**	**2.01**	**35**		**Pn**	**03 24 49.3**	**+1.2**
DHY				IAML		03 25 21.2	
	comp=E,1μm,0.9s						
DHY	**Denali Highway**	**2.01**	**35**	P	**Pn**	**03 24 49.2**	**+1.1**
	baz=217,SNR=178						
RND	**Reindeer**	**2.01**	**14**	Pn	**Pn**	**03 24 49.4**	**+1.3**
RND	**Reindeer**	**2.01**	**14**		**Sn**	**03 25 14.3**	**+2.3**
DIV	**Divide**	**2.04**	**98**		**Pn**	**03 24 48.9**	**+0.5**
CNPM	**China Poot**	**2.05**	**199**		**Pn**	**03 24 49.4**	**+0.9**
CNPM	**China Poot**	**2.05**	**199**	IAML		03 25 18.9	
	comp=E,2μm,0.6s						
CNPM				IAML		03 25 21.3	
	comp=N,3μm,0.4s						
IVE	**Iliamna Volcan**	**2.10**	**227**		**Pn**	**03 24 50.4**	**+1.0**
IVE					**Sn**	**03 25 17.2**	**+3.0**
L20K	**Farewell, AK**	**2.12**	**300**		**Pn**	**03 24 50.7**	**+1.1**
L20K	**Farewell, AK**	**2.12**	**300**	P	**Pn**	**03 24 50.7**	**+1.1**
	baz=117,SNR=424						
L20K				S	**Sn**	**03 25 16.7**	**+2.0**
	baz=117						
KTH	**Kantishna Hill**	**2.14**	**348**		**Pn**	**03 24 51.3**	**+1.4**
KTH	**Kantishna Hill**	**2.14**	**348**	IAML		03 25 19.0	
	comp=E,2μm,0.5s						
KTH				IAML		03 25 20.5	
	comp=N,1μm,0.6s						
M19K	**Big River Lodg**	**2.17**	**284**		**Pn**	**03 24 51.3**	**+1.1**
M19K					**Sn**	**03 25 18.3**	**+2.5**
M19K	**Big River Lodg**	**2.17**	**284**	IAML		03 25 19.8	
	comp=E,995nm,0.4s						
M19K	**Big River Lodg**	**2.17**	**284**	P	**Pn**	**03 24 51.2**	**+1.1**
	baz=100						
M19K				S	**Sn**	**03 25 18.1**	**+2.3**
	baz=100						
CAST	**Castle Rocks**	**2.20**	**334**		**Pn**	**03 24 51.5**	**+0.8**
CAST	**Castle Rocks**	**2.20**	**334**	IAML		03 25 19.7	
	comp=E,756nm,0.5s						
CAST	**Castle Rocks**	**2.20**	**334**	P	**Pn**	**03 24 52.3**	**+1.7**
	baz=152						
CAST				S	**Sn**	**03 25 18.7**	**+2.1**
	baz=152						
PS11	**TAPS Pump St11**	**2.21**	**72**		**Pn**	**03 24 52.8**	**+2.0**
EYAK	**Cordova Ski Ar**	**2.24**	**112**	Pn	**Pn**	**03 24 51.3**	**+0.3**
EYAK	**Cordova Ski Ar**	**2.24**	**112**		**Sn**	**03 25 19.5**	**+2.0**
EYAK	**Cordova Ski Ar**	**2.24**	**112**	P	**Pn**	**03 24 51.4**	**+0.3**
	baz=296,SNR=33						
PS12	**TAPS Pump St12**	**2.30**	**88**		**Pn**	**03 24 52.4**	**+0.4**
N19K	**Bonanza Creek**	**2.30**	**255**	Pn	**Pn**	**03 24 53.4**	**+1.3**
N19K	**Bonanza Creek**	**2.30**	**255**	P	**Pn**	**03 24 53.4**	**+1.3**
	baz=72,SNR=186						
MCK	**McKinley**	**2.32**	**11**		**Pn**	**03 24 54.4**	**+2.1**
MCK	**McKinley**	**2.32**	**11**	IAML		03 25 33.6	
	comp=N,893nm,1.1s						
MCK				IAML		03 25 35.1	
	comp=E,933nm,0.6s						
MCK	**McKinley**	**2.32**	**11**	P	**Pn**	**03 24 53.8**	**+1.5**
	baz=192,SNR=113						
MCK				S	**Sn**	**03 25 22.2**	**+2.6**
	baz=192						
P19K	**Oil Pt**	**2.44**	**223**		**Pn**	**03 24 55.5**	**+1.6**
P19K	**Oil Pt**	**2.44**	**223**	IAML		03 25 32.3	
	comp=E,2μm,0.4s						
L19K	**White Mountain**	**2.44**	**289**	Pn	**Pn**	**03 24 55.4**	**+1.5**
L19K				IAML		03 25 25.4	
	comp=N,709nm,0.6s						
L19K				IAML		03 25 43.7	
	comp=E,641nm,0.8s						
L19K	**White Mountain**	**2.44**	**289**	P	**Pn**	**03 24 55.3**	**+1.4**
	baz=105,SNR=1000						
L19K				S	**Sn**	**03 25 24.4**	**+1.8**
	baz=105						
HARP	**HAARP**	**2.45**	**65**		**Pn**	**03 24 55.8**	**+1.8**
HARP					**Sn**	**03 25 25.3**	**+2.7**
HARP	**HAARP**	**2.45**	**65**	P	**Pn**	**03 24 55.8**	**+1.8**
	baz=249,SNR=172						
N25K	**Chitina, Valde**	**2.56**	**85**		**Pn**	**03 24 56.2**	**+0.6**
N25K	**Chitina, Valde**	**2.56**	**85**	IAML		03 25 38.9	
	comp=N,1μm,0.5s						
N25K				IAML		03 25 46.8	
	comp=E,879nm,0.7s						
N25K	**Chitina, Valde**	**2.56**	**85**	P	**Pn**	**03 24 56.2**	**+0.6**
	baz=269,SNR=254						
PAX	**Paxson**	**2.58**	**52**	Pn	**Pn**	**03 24 58.3**	**+2.4**
PAX	**Paxson**	**2.58**	**52**	P	**Pn**	**03 24 58.0**	**+2.1**
	baz=236,SNR=114						
BMRM	**Bremner River**	**2.63**	**99**	Pn	**Pn**	**03 24 56.9**	**+0.4**
BMRM				IAML		03 25 39.5	
	comp=E,2μm,0.6s						
BMRM				IAML		03 25 42.1	
	comp=N,1μm,0.5s						
BMRM	**Bremner River**	**2.63**	**99**	P	**Pn**	**03 24 56.7**	**+0.1**
	baz=283						
CHUM	**Lake Minchumin**	**2.66**	**337**	P	**Pn**	**03 24 57.8**	**+0.9**
	baz=155						
BPAW	**Bear Paw Mtn.**	**2.69**	**350**	Pn	**Pn**	**03 24 58.1**	**+0.7**
BPAW	**Bear Paw Mtn.**	**2.69**	**350**	P	**Pn**	**03 24 58.0**	**+0.7**
	baz=169,SNR=84						
K20K	**Telida**	**2.70**	**316**		**Pn**	**03 24 58.4**	**+0.9**
K20K	**Telida**	**2.70**	**316**	IAML		03 25 38.2	
	comp=E,897nm,0.6s						
K20K	**Telida**	**2.70**	**316**	P	**Pn**	**03 24 58.5**	**+1.0**
	baz=133,SNR=326						
MID	**Middleton Isla**	**2.71**	**137**	Pn	**Pn**	**03 24 58.5**	**+0.9**
MID				IAML		03 25 52.0	
	comp=E,1μm,1.0s						
MID				IAML		03 25 56.0	
	comp=N,825nm,0.7s						
BWN	**Browne**	**2.73**	**4**		**Pn**	**03 24 60.0**	**+2.2**
BWN	**Browne**	**2.73**	**4**	IAML		03 25 48.4	
	comp=N,1μm,0.7s						
BWN				IAML		03 26 00.0	
	comp=E,849nm,0.8s						
SVW2	**Sparrevohn**	**2.75**	**265**		**Pn**	**03 24 59.2**	**+1.0**
SVW2				IAML		03 25 45.1	
	comp=N,510nm,0.8s						
PS10	**TAPS Pump St10**	**2.76**	**43**		**Pn**	**03 25 00.5**	**+2.2**
GLB	**Gilahina Butte**	**2.94**	**88**		**Pn**	**03 25 01.5**	**+0.7**
GLB	**Gilahina Butte**	**2.94**	**88**	IAML		03 25 49.0	
	comp=E,736nm,0.5s						
GLB				IAML		03 25 55.3	
	comp=N,812nm,0.7s						
HMT	**Hamilton**	**3.00**	**110**	Pn	**Pn**	**03 25 01.2**	**-0.4**
N18K	**Kilae Creek**	**3.00**	**257**	Pn	**Pn**	**03 25 02.3**	**+0.7**
N18K	**Kilae Creek**	**3.00**	**257**	P	**Pn**	**03 25 02.5**	**+0.9**
	baz=72,SNR=129						
WRH	**Wood River Hil**	**3.13**	**15**		**Pn**	**03 25 04.3**	**+1.0**
VRDI	**Verde Repeater**	**3.13**	**92**		**Pn**	**03 25 03.7**	**+0.1**
VRDI	**Verde Repeater**	**3.13**	**92**	IAML		03 25 53.0	
	comp=N,546nm,0.4s						
Q19K	**Cape Douglas,**	**3.15**	**218**	Pn	**Pn**	**03 25 04.3**	**+0.6**
Q19K	**Cape Douglas,**	**3.15**	**218**	P	**Pn**	**03 25 04.5**	**+0.9**
	baz=35						
NEA2	**Nenana**	**3.16**	**7**		**Pn**	**03 25 04.5**	**+0.6**
NEA2	**Nenana**	**3.16**	**7**	P	**Pn**	**03 25 04.4**	**+0.5**
	baz=187,SNR=15						
TTA	**Tatalina**	**3.20**	**300**	Pn	**Pn**	**03 25 05.4**	**+0.9**
TTA				IAML		03 26 00.9	
	comp=E,454nm,0.8s						
TTA	**Tatalina**	**3.20**	**300**	P	**Pn**	**03 25 05.2**	**+0.8**
	baz=115,SNR=302						
HDA	**Harding Lake**	**3.25**	**23**		**Pn**	**03 25 07.3**	**+2.3**
HDA	**Harding Lake**	**3.25**	**23**	IAML		03 26 04.8	
	comp=N,724nm,0.7s						
HDA				IAML		03 26 05.5	
	comp=E,390nm,0.7s						
HDA	**Harding Lake**	**3.25**	**23**	P	**Pn**	**03 25 06.7**	**+1.6**
	baz=206,SNR=60						
MENT	**Mentasta**	**3.27**	**60**		**Pn**	**03 25 06.9**	**+1.7**
RIDG	**Independent Ri**	**3.28**	**44**		**Pn**	**03 25 07.3**	**+1.9**
RIDG	**Independent Ri**	**3.28**	**44**	IAML		03 25 55.4	
	comp=N,797nm,0.7s						
RIDG				IAML		03 25 59.0	
	comp=E,937nm,0.7s						
RIDG	**Independent Ri**	**3.28**	**44**	P	**Pn**	**03 25 07.1**	**+1.6**
	baz=228,SNR=82						
SUCK	**Suckling Hills**	**3.33**	**112**	Pn	**Pn**	**03 25 06.7**	**+0.6**
SUCK				IAML		03 26 04.1	
	comp=N,644nm,0.5s						
SUCK				IAML		03 26 21.8	
	comp=E,398nm,1.0s						
CCB	**Clear Creek Bu**	**3.34**	**16**		**Pn**	**03 25 07.5**	**+1.3**
J20K	**Nowinta River**	**3.34**	**326**	Pn	**Pn**	**03 25 07.1**	**+0.9**
J20K				IAML		03 25 47.3	
	comp=E,763nm,0.8s						
J20K	**Nowinta River**	**3.34**	**326**	P	**Pn**	**03 25 06.8**	**+0.7**
	baz=143,SNR=514						
P18K	**Big Mountain,**	**3.35**	**234**	Pn	**Pn**	**03 25 06.8**	**+0.4**
P18K	**Big Mountain,**	**3.35**	**234**	P	**Pn**	**03 25 06.8**	**+0.4**
	baz=50						
KHIT	**Khitrov Hills**	**3.42**	**105**		**Pn**	**03 25 07.5**	**+0.1**
L26K	**Log Cabin Wild**	**3.46**	**60**		**Pn**	**03 25 08.9**	**+1.0**
	comp=N,762nm,0.5s						
L26K				IAML		03 26 07.5	
	comp=E,802nm,0.6s						
L26K	**Log Cabin Wild**	**3.46**	**60**	P	**Pn**	**03 25 09.5**	**+1.6**
	baz=246,SNR=105						
DOT	**Dot Lake**	**3.49**	**49**		**Pn**	**03 25 10.1**	**+1.7**
TCOL	**CIGO, UAF Yank**	**3.55**	**14**		**Pn**	**03 25 10.5**	**+1.5**
TCOL	**CIGO, UAF Yank**	**3.55**	**14**	P	**Pn**	**03 25 10.2**	**+1.2**
	baz=196,SNR=39						
COLA	**College**	**3.55**	**15**	Pn	**Pn**	**03 25 10.2**	**+1.1**
COLA	**College**	**3.55**	**15**	P	**Pn**	**03 25 10.3**	**+1.2**
	baz=196						
MDM	**Murphy Dome**	**3.59**	**12**	Pn	**Pn**	**03 25 10.9**	**+1.2**
IL31		**3.59**	**21**		**Pn**	**03 25 10.6**	**+0.9**
ILAR	**Eielson Array**	**3.59**	**21**	Pn	**Pn**	**03 25 10.7**	**+0.9**
	comp=E,2.9nm,0.3s,baz=200,slow=14,SNR=79						
ILAR				Sn	**Sn**	**03 25 53.5**	**+2.6**
	comp=E,25nm,0.3s,baz=204,slow=22,SNR=6.2						
ILAR	**Eielson Array**	**3.59**	**21**	Pn	**Pn**	**03 25 10.4**	**+0.6**
WAX	**Waxell Ridge**	**3.60**	**103**		**Pn**	**03 25 10.0**	**+0.1**
BALM	**Baldy**	**3.69**	**93**		**Pn**	**03 25 11.5**	**+0.3**
I23K	**Minto, Yukon-K**	**3.71**	**4**		**Pn**	**03 25 12.3**	**+1.1**
I23K	**Minto, Yukon-K**	**3.71**	**4**	IAML		03 26 21.4	
	comp=E,203nm,1.1s						
I23K				IAML		03 26 23.9	
	comp=N,223nm,0.8s						
I23K	**Minto, Yukon-K**	**3.71**	**4**	P	**Pn**	**03 25 12.5**	**+1.2**
	baz=184,SNR=83						
SNH	**Sunshine Point**	**3.71**	**107**	Pn	**Pn**	**03 25 14.1**	**+2.7**
SNH				IAML		03 26 18.0	
	comp=E,414nm,1.2s						
SNH				IAML		03 26 24.8	
	comp=N,372nm,1.1s						
KIAG	**Kiagna River**	**3.71**	**95**		**Pn**	**03 25 11.6**	**+0.2**
SCRK	**Sand Creek**	**3.72**	**45**		**Pn**	**03 25 13.0**	**+1.4**
SCRK	**Sand Creek**	**3.72**	**45**	IAML		03 26 12.8	
	comp=N,296nm,0.6s						
SCRK				IAML		03 26 15.8	
	comp=E,442nm,0.7s						
SCRK	**Sand Creek**	**3.72**	**45**	P	**Pn**	**03 25 12.7**	**+1.2**
	baz=230,SNR=38						
J25K	**Salcha River,**	**3.78**	**31**		**Pn**	**03 25 14.4**	**+2.0**
J25K	**Salcha River,**	**3.78**	**31**	IAML		03 26 04.7	
	comp=E,390nm,0.5s						
J25K				IAML		03 26 08.3	
	comp=N,191nm,0.5s						
J25K	**Salcha River,**	**3.78**	**31**	P	**Pn**	**03 25 14.3**	**+1.9**
	baz=215,SNR=61						
ISLE	**Juniper Island**	**3.80**	**100**		**Pn**	**03 25 13.5**	**+0.9**
ISLE	**Juniper Island**	**3.80**	**100**	IAML		03 26 23.6	
	comp=E,577nm,0.8s						
POKR	**Poker Plat Res**	**3.83**	**16**		**Pn**	**03 25 15.0**	**+2.0**
POKR	**Poker Plat Res**	**3.83**	**16**	P	**Pn**	**03 25 15.0**	**+2.0**
	baz=198,SNR=19						
I21K	**Tanana**	**3.84**	**347**	Pn	**Pn**	**03 25 14.5**	**+1.4**
I21K	**Tanana**	**3.84**	**347**	P	**Pn**	**03 25 14.3**	**+1.2**
	baz=165,SNR=62						
M27K	**Edge Creek, AK**	**3.92**	**73**		**Pn**	**03 25 16.0**	**+1.7**
M27K	**Edge Creek, AK**	**3.92**	**73**	IAML		03 26 24.2	
	comp=E,172nm,0.8s						
M27K				IAML		03 26 24.3	
	comp=N,277nm,1.0s						
M27K	**Edge Creek, AK**	**3.92**	**73**	P	**Pn**	**03 25 16.0**	**+1.7**
	baz=260,SNR=27						
PS07	**TAPS Pump Stn7**	**3.93**	**10**		**Pn**	**03 25 16.7**	**+2.4**
KDAK	**Kodiak Island**	**3.93**	**201**	Pn	**Pn**	**03 25 13.5**	**-0.8**
	comp=N,3.1nm,0.3s,baz=61,slow=6.7,SNR=57						
KDAK				Sn	**Sn**	**03 25 56.0**	**-3.2**
	comp=N,12nm,0.3s,baz=9.5,slow=22,SNR=2.0						
KDAK				Lg	Lg	03 26 12.3	
	comp=N,21nm,0.3s,baz=211,slow=19,SNR=8.1						
KDAK				LR	LR	03 27 08.9	
	comp=N,179nm,18.7s,baz=58,slow=42						
KDAK	**Kodiak Island**	**3.93**	**201**	Pn	**Pn**	**03 25 14.2**	**-0.2**
KDAK				IAML		03 26 17.9	
	comp=N,344nm,0.7s						
KDAK				IAML		03 26 18.2	
	comp=N,399nm,0.8s						
KDAK	**Kodiak Island**	**3.93**	**201**	P	**Pn**	**03 25 14.1**	**-0.2**
	baz=19						
BARN	**Barnard Glacie**	**4.02**	**92**		**Pn**	**03 25 17.1**	**+1.4**
BARN	**Barnard Glacie**	**4.02**	**92**	IAML		03 26 19.5	
	comp=E,293nm,0.5s						
BARN				IAML		03 26 22.4	
	comp=N,315nm,0.8s						
L27K	**Beaver Creek,**	**4.11**	**64**		**Pn**	**03 25 18.3**	**+1.4**
L27K	**Beaver Creek,**	**4.11**	**64**	IAML		03 26 27.0	
	comp=N,211nm,0.7s						
L27K	**Beaver Creek,**	**4.11**	**64**	P	**Pn**	**03 25 18.1**	**+1.2**
	baz=251,SNR=10						
BCAR	**Beaver Creek A**	**4.13**	**64**		**Pn**	**03 25 18.1**	**+0.9**
YAH	**Yahtse**	**4.15**	**102**		**Pn**	**03 25 18.9**	**+1.3**
YAH	**Yahtse**	**4.15**	**102**	IAML		03 26 25.6	
	comp=N,343nm,0.6s						
YAH				IAML		03 26 27.8	
	comp=E,341nm,0.7s						
KABU	**Katmai Buttres**	**4.19**	**222**		**Pn**	**03 25 19.1**	**+1.2**
J26L	**Joseph Creek**	**4.21**	**41**	P	**Pn**	**03 25 19.6**	**+1.3**
	baz=226,SNR=147						
YUK2	**White River**	**4.35**	**82**		**Pn**	**03 25 20.9**	**+0.7**
H23K	**Yukon River**	**4.38**	**2**		**Pn**	**03 25 22.4**	**+1.9**
H23K	**Yukon River**	**4.38**	**2**	P	**Pn**	**03 25 22.0**	**+1.5**
	baz=182,SNR=19						
BVCY

baz=25
BMAR **Burnt Mountain** 6.42 19 Pn Pn 03 25 49.6 +1.1
BM01 **Burnt Mountain** 6.45 19 Pn 03 25 49.9 +1.1
I29M **Ogilvie Camp,** 6.52 48 Pn 03 25 51.7 +1.9
N31M **Braeburn, Yuko** 6.78 84 Pn Pn 03 25 54.7 +1.3
N31M **Braeburn, Yuko** 6.78 84 P Pn 03 25 54.4 +1.0
baz=276
TOLK **Toolik Lake Re** 7.21 1 Pn 03 26 01.3 +2.0
TOLK **Toolik Lake Re** 7.21 1 P Pn 03 26 01.3 +2.0
baz=181,SNR=8.8
SKAG **Skagway** 7.49 99 Pn Pn 03 26 03.9 +0.7
SKAG **Skagway** 7.49 99 P Pn 03 26 04.2 +1.0
baz=292
EPYK **Eagle Plains** 7.61 44 Pn 03 26 06.5 +1.6
ANM **Nome** 7.67 301 Pn 03 26 05.7 +0.1
ANM **Nome** 7.67 301 P Pn 03 26 06.4 +0.8
baz=107,SNR=37
BESE **Bessie Mountai** 8.09 104 Pn Pn 03 26 10.2 -1.1
JIS **Juneau Island** 8.45 105 Pn 03 26 16.8 +0.6
RDOG **Red Dog Mine** 8.61 326 Pn 03 26 20.2 +1.8
RDOG **Red Dog Mine** 8.61 326 P Pn 03 26 20.6 +2.2
baz=134
TNA **Tin City** 9.01 305 Pn 03 26 25.9 +2.0
TNA **Tin City** 9.01 305 P Pn 03 26 25.2 +1.3
baz=109,SNR=37
INK **Inuvik** 9.75 38 Pn Pn 03 26 32.9 -1.2
comp=E,0.1nm,0.3s,baz=250,slow=13,SNR=2.0
INK Sn Sn 03 28 22.1 +0.1
comp=E,0.6nm,0.3s,baz=356,slow=23,SNR=1.8
INK Lg Lg 03 29 21.8
comp=E,0.3nm,0.3s,baz=74,slow=3.5,SNR=4.6
INK LR LR 03 30 40.3
comp=E,74nm,19.3s,baz=338,slow=40
INK **Inuvik** 9.75 38 Pn Pn 03 26 36.3 +2.3
INK **Inuvik** 9.75 38 P Pn 03 26 36.1 +2.1
baz=233
GAMB **Gambell** 10.27 293 Pn Pn 03 26 42.7 +1.6
DLBC **Dease Lake** 10.42 98 Pn Pn 03 26 44.2 +0.9
comp=E,0.4nm,0.3s,baz=296,slow=12,SNR=6.1
DLBC LR LR 03 30 59.9
comp=E,189nm,18.1s,baz=314,slow=38
C36M **Paulatuk** 13.24 43 Pn Pn 03 27 21.0 -0.7
A36M **Sachs Harbour** 14.22 32 Pn 03 27 34.2 -0.7
BBB **Bella Bella** 15.06 118 LR LR 03 33 58.9
comp=E,20nm,18.1s,baz=8.0,slow=38
YKA **Yellowknife Ar** 16.51 71 Pn Pn 03 28 03.7 -0.9
comp=E,0.3nm,0.3s,baz=280,slow=11,SNR=36
YKA **Yellowknife Ar** 16.51 71 Pn Pn 03 28 03.0 -1.6
PGC **Sidney** 19.68 119 Pn 03 28 44.0 +0.6
PGC IAmb IAmb 03 28 49.7
comp=Z,11nm,1.1s
EDM **Edmonton** 21.14 96 P P 03 28 58.8 +1.3
EDM IAmb IAmb 03 29 02.2
comp=Z,16nm,0.9s
SHEM **Shemya Is, Ala** 21.14 262 LR LR 03 36 43.8
comp=Z,30nm,21.4s,baz=347,slow=35
E03A **Lebam** 21.30 122 P P 03 29 01.5 +2.3
E03A IAmb IAmb 03 29 05.3
comp=Z,16nm,1.1s
B08A **Colville Reser** 21.69 113 P P 03 29 04.5 +1.2
LTY **Liberty** 21.95 117 P P 03 29 07.9 +1.7
NEW **Newport** 22.74 110 P P 03 29 16.1 +1.4
comp=Z,2.3nm,0.6s,baz=301,slow=6.1,SNR=7.7
NEW LR LR 03 37 27.4
comp=Z,76nm,18.4s,baz=342,slow=35
NEW **Newport** 22.74 110 P P 03 29 16.0 +1.4
NEW **Newport** 22.74 110 P P 03 29 16.2 +1.4
baz=318,SNR=5.6
HOOD **Mount Hood Mea** 23.08 121 P P 03 29 19.4 +1.1
HOOD IAmb IAmb 03 29 21.2
comp=Z,19nm,1.3s
RES **Resolute Bay** 23.25 33 P P 03 29 18.1 -1.5
comp=Z,0.7nm,0.5s,baz=327,slow=18,SNR=2.4
H04A **Detroit Lake** 23.39 123 P P 03 29 23.0 +1.9
H04A IAmb IAmb 03 29 23.3
comp=Z,4.6nm,0.6s
WALA **Waterton Lakes** 23.63 105 P P 03 29 24.6 +1.1
WALA IAmb IAmb 03 29 25.5
comp=Z,5.5nm,0.7s
G08A **Pilot Rock** 24.23 118 P P 03 29 29.9 +0.8
F10A **Beach Ranch, E** 24.44 114 P P 03 29 32.1 +1.1
J04D **Umpqua Nationa** 24.62 125 P P 03 29 35.1 +2.3
PINE **Pine Mountain** 24.62 123 P P 03 29 34.6 +1.8
PINE IAmb IAmb 03 29 36.5
comp=Z,10nm,1.1s
J05D **Fort Rock, OR** 24.93 124 P P 03 29 37.7 +2.2
baz=327,SNR=5.0
I07A **Izee** 24.98 120 P P 03 29 37.8 +1.9
I07A IAmb IAmb 03 29 40.3
comp=Z,6.2nm,0.8s
MSO **Missoula** 25.25 109 P P 03 29 39.3 +1.0
BMO **Blue Mountains** 25.28 116 P P 03 29 39.3 +0.7
PLID **Pearl Lake** 25.67 114 P P 03 29 43.4 +1.1
YBH **Yreka Blue Hor** 25.67 128 P P 03 29 43.5 +1.3
comp=Z,2.9nm,1.0s,baz=329,slow=3.7,SNR=6.7
YBH LR LR 03 38 05.6
comp=Z,26nm,21.7s,baz=352,slow=32
YBH **Yreka Blue Hor** 25.67 128 IAmb IAmb 03 29 54.2
comp=Z,10nm,1.5s
M02C **Callahan** 25.91 128 P P 03 29 46.4 +2.1
M02C IAmb IAmb 03 29 54.6
comp=Z,9.0nm,1.4s
SEY **Seymchan** 26.18 299 P P 03 29 45.5 -1.0
comp=Z,0.4nm,0.3s,baz=66,slow=20,SNR=2.1
SEY LR LR 03 39 54.3
comp=Z,64nm,21.5s,baz=6.0,slow=36
EGMT **Eagleton** 26.31 102 P P 03 29 48.5 +0.7
EGMT **Eagleton** 26.31 102 P P 03 29 48.7 +0.9
baz=316,SNR=7.7
N02D **Trinity Center** 26.33 129 P P 03 29 50.0 +1.9
N02D IAmb IAmb 03 29 51.9
comp=Z,6.5nm,0.6s
LRM **Limekiln Ridge** 26.69 109 P P 03 29 52.9 +1.4
FCC **Fort Churchill** 27.24 70 P P 03 29 56.7 +0.7
FCC IAmb IAmb 03 29 57.1
comp=Z,4.0nm,0.8s
HLID **Hailey** 27.57 114 P P 03 30 00.2 +0.9
BEKR **Beckworth** 28.18 126 P P 03 30 06.1 +1.3
YHH **Holmes Hill** 28.20 108 P P 03 30 07.0 +1.8
YHH IAmb IAmb 03 30 07.6
comp=Z,2.6nm,0.6s
MA2 **Magadan** 28.38 293 LR LR 03 43 19.4
comp=Z,27nm,18.4s,baz=116,slow=40
RLMT **Red Lodge** 28.68 106 P P 03 30 11.1 +1.8
RLMT IAmb IAmb 03 30 12.7
comp=Z,6.8nm,0.9s
RLMT **Red Lodge** 28.68 106 P P 03 30 10.9 +1.6
baz=319,SNR=5.8
PETK **Petropavlovsk-** 28.77 277 LR LR 03 41 11.3
comp=Z,40nm,21.6s,baz=96,slow=35
TPAW **Teton Pass** 29.17 110 P P 03 30 14.9 +1.2
TPAW IAmb IAmb 03 30 16.6
comp=Z,3.8nm,0.7s
ELK **Elko** 29.51 119 P P 03 30 18.9 +2.2
comp=Z,2.1nm,0.8s,baz=317,slow=8.8,SNR=8.8
ELK LR LR 03 41 30.1
comp=Z,35nm,18.2s,baz=20,slow=35
ELK **Elko** 29.51 119 P P 03 30 18.4 +1.7
HVU **Hansel Valley** 29.72 114 P P 03 30 20.3 +1.8
HVU IAmb IAmb 03 30 21.3
comp=Z,3.0nm,0.8s
KVN **Kaiserville** 29.77 124 P P 03 30 20.7 +1.8
NVAR **Mina Array Bea** 30.23 125 P P 03 30 24.5 +1.5
comp=Z,1.9nm,0.7s,baz=312,slow=9.3,SNR=15
NVAR **Mina Array Bea** 30.23 125 P P 03 30 24.6 +1.6
NV11 **Mina Array Sit** 30.28 125 P P 03 30 25.2 +1.8
NV11 IAmb IAmb 03 30 26.4
comp=Z,3.8nm,1.1s
PD31 **Pinedale Array** 30.37 109 P P 03 30 25.5 +1.2
PD31 IAmb IAmb 03 30 26.7
comp=Z,5.1nm,1.4s
PDAR **Pinedale Array** 30.37 109 P P 03 30 25.3 +1.1
comp=Z,1.8nm,0.6s,baz=318,slow=4.7,SNR=20
PDAR PcP PcP 03 33 24.0 +0.9
comp=Z,0.1nm,0.5s,baz=42,slow=1.5,SNR=1.8
PDAR **Pinedale Array** 30.37 109 P P 03 30 25.2 +1.0
TPH **Tonopah** 30.96 124 P P 03 30 31.2 +1.8
R11A **Troy Canyon, C** 31.39 122 P P 03 30 33.9 +0.7
R11A **Troy Canyon, C** 31.39 122 P P 03 30 34.6 +1.4
baz=329,SNR=5.5
ULM **Lac du Bonnet** 31.41 86 P P 03 30 32.8 -0.3
comp=Z,10.0nm,0.9s,baz=305,slow=8.2,SNR=10
ULM LR LR 03 43 46.3
comp=Z,70nm,20.4s,baz=290,slow=37
ULM **Lac du Bonnet** 31.41 86 P P 03 30 33.4 +0.3

RSSD **Black Hills** 31.87 102 P P 03 30 39.3 +1.8
RWWY **Rawlins** 32.28 108 P P 03 30 42.1 +0.9
RWWY IAmb IAmb 03 30 42.9
comp=Z,3.9nm,0.7s
P18A **Preston Nutter** 32.59 114 P P 03 30 45.8 +1.9
P18A IAmb IAmb 03 30 47.9
comp=Z,2.4nm,0.6s
AGMN **Agassiz Nation** 32.74 89 P P 03 30 45.7 +0.9
AGMN **Agassiz Nation** 32.74 89 P P 03 30 45.7 +0.9
baz=314,SNR=6.0
QSM **Queen of Sheba** 32.93 125 P P 03 30 48.5 +2.0
QSM IAmb IAmb 03 30 49.6
comp=Z,6.2nm,1.2s
O20A **White River Ci** 33.06 111 P P 03 30 49.5 +1.6
O20A IAmb IAmb 03 31 17.3
comp=Z,2.4nm,0.8s
PV13 **Radium Mtn., P** 34.42 114 P P 03 31 01.0 +1.2
WUAZ **Wupatki** 35.55 119 P P 03 31 11.2 +1.8
S22A **4UR Ranch, Cre** 35.65 112 P P 03 31 12.4 +2.0
S22A IAmb IAmb 03 31 33.0
comp=Z,3.3nm,1.2s
YAK **Yakutsk** 35.77 307 LR LR 03 47 01.0
comp=Z,39nm,18.6s,baz=92,slow=38
SCHQ **Schefferville** 41.51 60 P P 03 31 58.8 -0.2
comp=Z,0.9nm,0.5s,baz=72,slow=20,SNR=0.9
SCHQ **Schefferville** 41.51 60 IAmb IAmb 03 32 09.9
comp=Z,7.6nm,1.1s
SADO **Sadowa** 43.27 79 LR LR 03 49 43.7
comp=Z,78nm,18.7s,baz=186,slow=35
PBMO **Poplar Bluff** 44.06 96 P P 03 32 19.5 -0.4
TX31 **Lajitas Ar. Si** 44.16 115 P P 03 32 22.4 +1.6
TX31 IAmb IAmb 03 32 37.9
comp=Z,9.4nm,1.3s
TXAR **Lajitas Array** 44.16 115 P P 03 32 22.2 +1.4
comp=Z,0.9nm,0.6s,baz=328,slow=6.3,SNR=13
TXAR **Lajitas Array** 44.16 115 P P 03 32 22.4 +1.5
JCT **Junction City** 44.89 110 P P 03 32 27.3 +0.7
T50A **Nancy** 46.55 91 P P 03 32 38.9 -0.6
TKL **Tuckaleechee C** 48.16 91 LR LR 03 54 02.5
comp=Z,96nm,19.5s,baz=348,slow=37
KSRS **Korea Array** 54.31 284 P P 03 33 37.5 -0.6
comp=Z,4.1nm,0.7s,baz=28,slow=7.1,SNR=12
KSRS LR LR 03 58 16.6
comp=Z,16nm,18.9s,baz=160,slow=38
KSAR **Wonju Array Be** 54.34 284 P P 03 33 38.6 +0.3
SONM **Songino Array** 55.13 307 P P 03 33 43.7 -0.4
comp=Z,3.7nm,0.8s,baz=37,slow=7.5,SNR=20
SONM LR LR 03 56 42.2
comp=Z,73nm,19.4s,baz=351,slow=35
SONM **Songino Array** 55.13 307 P P 03 33 43.8 -0.3
SONM IAmb IAmb 03 33 45.0
comp=Z,3.9nm,0.9s
ZALV **Zalesovo Beam** 57.06 325 P P 03 33 55.7 -1.9
comp=Z,0.7nm,0.3s,baz=23,slow=7.8,SNR=3.5
FINES **FINESS Array B** 57.38 2 P P 03 33 58.4 -1.3
comp=Z,1.5nm,0.8s,baz=1.9,slow=8.5,SNR=1.2
KONO **Kongsberg** 58.18 12 P P 03 34 08.4 +3.0
HHC **Hu-ho-hao-te** 58.82 299 eP P 03 34 15.7 +5.4
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.7s
EKA **Eskdalemuir Ar** 60.63 21 P P 03 34 20.9 -1.5
comp=Z,0.2nm,0.3s,baz=330,slow=5.5,SNR=5.6
MK31 **Makanchi Array** 64.20 323 P P 03 34 44.9 -1.4
MKAR **Makanchi Array** 64.20 323 P P 03 34 44.4 -1.9
comp=Z,1.1nm,0.5s,baz=43,slow=6.7,SNR=15
MKAR **Makanchi Array** 64.20 323 P P 03 34 44.9 -1.4
AKTO **Aktyubinsk** 66.23 341 P P 03 34 57.8 -1.5
comp=Z,1.1nm,0.5s,baz=61,slow=4.8,SNR=5.1
ABKAR **Akbulak array** 67.05 339 P P 03 35 04.4 -0.2
TATO **Taipei** 67.72 281 P P 03 35 08.3 -0.9
AKASG **Malin Array Be** 68.18 1 P P 03 35 10.0 -1.7
comp=Z,1.2nm,0.5s,baz=2.6,slow=6.5,SNR=6.1
TARG **Taragay, Kyrgy** 70.12 324 P P 03 35 24.9 +0.4
TARG IAmb IAmb 03 35 37.5
comp=Z,1.7nm,0.8s
AAK **Ala-Archa** 70.19 327 P P 03 35 24.2 -0.3
AAK IAmb IAmb 03 35 24.5
comp=Z,2.4nm,0.7s
KKAR **Karatay Array** 70.75 330 P P 03 35 26.3 -1.4
KBZ **Khabaz** 74.64 350 P P 03 35 49.2 -1.5
comp=Z,0.6nm,0.7s,baz=6.3,slow=9.2,SNR=2.3
PZH **PanZhiHua** 75.28 298 P P 03 35 57.3 +2.4
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
ESDC **Sonseca Array** 75.48 26 P P 03 35 55.7 -0.1
comp=Z,0.5nm,0.6s,baz=334,slow=6.8,SNR=2.0
ROSC **El Rosal** 78.91 100 P P 03 36 17.3 +1.7
BRTR **Keskin Array B** 79.12 357 P P 03 36 14.8 -1.4
comp=Z,0.3nm,0.8s,baz=1.2,slow=4.2,SNR=2.3
BRTR **Keskin Array B** 79.12 357 P P 03 36 16.7 +0.4
CMAR **Chiang Mai Arr** 83.58 297 P P 03 36 38.1 -1.9
comp=Z,1.4nm,0.5s,baz=8.8,slow=5.7,SNR=8.1
CMAR **Chiang Mai Arr** 83.58 297 P P 03 36 38.8 -1.2

*IDC **08** 03:24:45.0±1.4,34.˚18N×25.˚11E,h0km,mb3.6/3, mb1 3.7/6,mb1mx3.4/47,mbtmp3.6/6,ML3.5/3,Error ellipse: s-maj=37.9km s-min=24.2km az=146.0*
*ATH **08** 03:24:47.0,34.˚22N×25.˚07E,h24km±4km,ML3.1/4,Error ellipse: s-maj=5.6km s-min=2.0km az=340.0*
*GII **08** 03:24:51.2±0.0,33.˚86N×25.˚58E,h1km*
ISC 08 03:24:46.0±2.2,34.˚18N±0.˚09×25.˚13E±0.˚05,h7km±15km, n20,σ1°07/26,mb3.5/3,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.88**	**343**	P	**Pg**	**03 25 03.4**	**+0.5**
SIVA				S	**Sg**	**03 25 14.3**	**-0.2**
SIVA				AML	AML	03 25 18.9	
	comp=N,2920μm,0.4s						
SIVA				AML	AML	03 25 21.8	
	comp=E,4258μm,0.5s						
TMBK	**Timbaki Herakl**	**0.94**	**341**	P	**Pg**	**03 25 04.2**	**0.0**
TMBK				S	**Sg**	**03 25 17.1**	**+0.6**
TMBK				AML	AML	03 25 19.4	
	comp=E,2462μm,0.4s						
TMBK				AML	AML	03 25 24.7	
	comp=N,2983μm,0.5s						
GVD	**Gavdhos**	**1.09**	**308**	P	**Pg**	**03 25 06.2**	**-0.7**
GVD				S	**Sg**	**03 25 21.0**	**0.0**
GVD				AML	AML	03 25 24.7	
	comp=N,2254μm,0.3s						
GVD				AML	AML	03 25 25.0	
	comp=E,2802μm,0.3s						
KSTL	**Kastelli Herak**	**1.13**	**357**	P	**Pg**	**03 25 06.6**	**-1.1**
KSTL				S	**Sg**	**03 25 20.1**	**-2.2**
IDI	**Anoyia**	**1.13**	**350**	P	**Pg**	**03 25 07.0**	**-0.7**
IDI				S	**Sg**	**03 25 22.3**	**0.0**
IDI				AML	AML	03 25 27.1	
	comp=E,498μm,0.5s						
IDI				AML	AML	03 25 28.3	
	comp=N,402μm,0.4s						
ZKR	**Zakros**	**1.30**	**43**	P	**Pg**	**03 25 11.7**	**+0.8**
IMMV	**Iera Moni Meta**	**1.59**	**324**	P	**Pn**	**03 25 14.9**	**+0.2**
HMDT	**Nahal Hemdat**	**8.92**	**100**	Pn	**Pn**	**03 26 55.9**	**+0.6**
DSI	**Dead Sea**	**9.00**	**104**	Pn	**Pn**	**03 26 57.9**	**+1.4**
DSI				Sn	**Sn**	**03 28 35.1**	**-3.1**
KRMI	**Paran Flat**	**9.08**	**114**	Pn	**Pn**	**03 26 58.7**	**+1.1**
PRNI	**Paran**	**9.19**	**112**	Pn	**Pn**	**03 27 00.0**	**+1.0**
GHAJ	**Ghor Haditha**	**9.24**	**105**	Pn	**Pn**	**03 26 59.4**	**-0.4**
MBRI	**Mt Berech**	**9.38**	**115**	Pn	**Pn**	**03 27 02.0**	**+0.2**
EIL	**Elat**	**9.47**	**116**	Pn	**Pn**	**03 27 02.6**	**-0.4**
	comp=N,0.5nm,0.3s,baz=195,slow=5.1,SNR=4.2						
EIL	**Elat**	**9.47**	**116**	Pn	**Pn**	**03 27 02.5**	**-0.4**
KBZ	**Khabaz**	**16.76**	**50**	Pn	**P**	**03 28 44.4**	**+0.9**
	comp=N,0.1nm,0.3s,baz=178,slow=8.3,SNR=3.6						
GERES	**GERESS Array B**	**16.94**	**333**	Pn	**Pn**	**03 28 44.7**	**+1.1**
	comp=N,0.1nm,0.3s,baz=153,slow=12,SNR=4.7						
TORD	**Torodi Ar. Bea**	**29.85**	**231**	P	**P**	**03 30 54.1**	**-0.1**
	comp=N,0.2nm,0.4s,baz=31,slow=8.5,SNR=8.8						
MKAR	**Makanchi Array**	**44.34**	**56**	P	**P**	**03 32 57.4**	**+0.5**
	comp=N,0.4nm,0.5s,baz=273,slow=6.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**45.70**	**45**	P	**P**	**03 33 07.2**	**-0.3**
	comp=N,0.7nm,0.5s,baz=272,slow=9.0,SNR=0.9						

*TUL **08** 03:43:49.3±0.9,35.˚66N±0.˚02×97.˚18W±0.˚02,h5km,ML2.7, mb_Lg2.2/15(NEIC),Error ellipse: s-maj=2.6km s-min=1.6km az=154.0*
NEIC 08 03:43:49.5±0.8,35.˚66N±0.˚02×97.˚18W±0.˚02,h7km±5km,
Error ellipse: s-maj=2.8km s-min=1.6km az=154.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.01**	**233**	Pg	Pg	03 43 50.2	-0.6
OK005				Sg	Sg	03 43 51.3	-0.4
FNO	**Franklin**	**0.45**	**204**	Pg	Pg	03 43 57.8	-0.2
W35A	**Tecumseh**	**0.57**	**154**	Pg	Pg	03 44 00.2	-0.2
TUL1	**Leonard**	**1.15**	**77**	Pg	Pg	03 44 10.7	-0.8
X34A	**Smith Ranch, M**	**1.19**	**207**	Pg	Pg	03 44 12.0	-0.3
T35A	**Sooner Cattle**	**1.36**	**23**	Pn	Pn	03 44 14.5	-0.4
WMOK	**Wichita Mounta**	**1.61**	**235**	Pn	Pn	03 44 18.1	-0.2
WMOK					Sn	03 44 39.0	-0.2
U32A	**Winter Ranch,**	**1.64**	**296**	Pn	Pn	03 44 18.7	-0.1
X37A	**Clayton**	**1.83**	**125**		Pn	03 44 21.9	+0.7
Z35A	**Perchaven, San**	**2.33**	**182**	IAmb_Lg		03 45 07.8	
	comp=Z,14nm,1.1s						
HHAR	**Hobbs**	**2.70**	**76**	Pn	Pn	03 44 34.2	+1.0
HHAR				IAmb_Lg		03 45 13.8	
	comp=Z,5.8nm,0.7s						
W39A	**Magazine**	**2.81**	**99**	Pn	Pn	03 44 34.1	-0.6
MIAR	**Mount Ida**	**3.16**	**110**	Pn	Pn	03 44 39.4	-0.1
U40A	**Yellville**	**3.57**	**78**	Pn	Pn	03 44 45.2	-0.1
S39A	**Bolivar**	**3.70**	**56**	Pn	Pn	03 44 48.3	+1.3
S39A				IAmb_Lg		03 45 49.6	
	comp=Z,6.0nm,0.8s						
CBKS	**Cedar Bluff**	**3.75**	**328**	IAmb_Lg		03 45 54.1	
	comp=Z,8.8nm,0.8s						
X40A	**Basin Creek Fa**	**3.75**	**107**	Pn	Pn	03 44 47.9	+0.2
X40A				IAmb_Lg		03 45 51.8	
	comp=Z,7.1nm,0.8s						
W41B	**Gary Mavity, V**	**4.05**	**95**	Pn	Pn	03 44 52.3	+0.5

*IDC **08** 04:11:04.2±1.2,4.˚22N×126.˚81E,h0km,mb4.0/7, mb1 4.1/7,mb1mx3.7/58,mbtmp4.0/7,MS3.2/7,Ms1 3.2/7, ms1mx2.8/83,Error ellipse: s-maj=107.3km s-min=16.0km az=70.0*
*DJA **08** 04:11:07.9±1.9,4.˚1N±13.˚3×12.˚7E±.˚7,h16km±6km,M4.3/8, mb4.3/5,mB4.8/3,MLv4.3/8,Mw(mB)4.1/3*
*NEIC **08** 04:11:12.4±1.8,4.˚1N±0.˚1×126.˚7E±0.˚1,h62km±11km, mb4.3/16,Error ellipse: s-maj=20.4km s-min=13.8km az=57.0*
ISC 08 04:11:09.3±0.8,4.˚21N±0.˚09×126.˚79E±0.˚10,h36km,n44, σ0°98/35,mb4.2/13,MS3.1/4,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.36**	**248**	P	**Pn**	**04 11 31.1**	**-0.6**
KCP	**Kidapawan**	**3.26**	**329**	||eP	Pn	04 12 02.9	+5.0
KCP					/S	Sn	04 12 47.6	+12
TNTI	**Ternate**	**3.46**	**170**	Pn	**Pn**	**04 12 02.1**	**+1.5**
TNTI	**Ternate**	**3.46**	**170**	P	**Pn**	**04 12 01.3**	**+0.6**
GTOI	**Gorontalo**	**5.18**	**227**	P	**Pn**	**04 12 26.0**	**+1.7**
	0.1nm180nm16nm,0.7s						
MRSI	**Marisa**	**6.10**	**233**	P	**Pn**	**04 12 38.7**	**+1.8**
	0.2nm815nm56nm,0.5s						
SANI	**Sanana**	**6.27**	**187**	P	**Pn**	**04 12 39.6**	**+0.4**
	0.1nm15nm,0.5s						
LUWI	**Luwuk**	**6.58**	**218**		**Pn**	**04 12 44.4**	**+0.9**
SIJI	**Sorong**	**6.74**	**138**	LR	LR	04 15 31.4	
	comp=Z,139nm,20.9s,baz=337,slow=40						
TOLI2	**Tolitoli**	**6.74**	**243**		**Pn**	**04 12 47.9**	**+2.1**
KAPI	**Kappang**	**11.55**	**218**	LR	LR	04 18 54.6	
	comp=Z,72nm,19.6s,baz=55,slow=41						
SBUM	**Sibu**	**14.65**	**264**	Pn	**Pn**	**04 14 33.2**	**-0.9**
JAY	**Jayapura**	**15.43**	**115**	LR	LR	04 20 31.9	
	comp=Z,74nm,20.4s,baz=338,slow=37						
KSM	**Kuching**	**16.68**	**261**	Pn	**Pn**	**04 14 59.7**	**-0.7**
MTN	**Manton Dam**	**17.48**	**166**		**Pn**	**04 15 10.7**	**+0.3**
LEM	**Lembang**	**22.05**	**240**	LR	LR	04 27 28.5	
	comp=Z,45nm,18.1s,baz=324,slow=45						
FITZ	**Fitzroy Crossi**	**22.19**	**183**	P	**P**	**04 16 03.0**	**+0.4**
	1.7nm,0.5s,baz=1.1,slow=9.6,SNR=8.4						
FITZ	**Fitzroy Crossi**	**22.19**	**183**	P	**P**	**04 16 00.1**	**-2.5**
PMG	**Port Moresby**	**24.39**	**124**	LR	LR	04 26 29.4	
	comp=Z,53nm,18.1s,baz=143,slow=38						
WB0	**Warramunga Arr**	**24.97**	**163**	P	**P**	**04 16 30.4**	**+0.8**
WB0				IAmb	IAmb	04 16 43.7	
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**25.11**	**163**	P	**P**	**04 16 30.7**	**-0.2**
WRAB				IAmb	IAmb	04 17 11.0	
	comp=Z,8.9nm,0.7s						
WRA	**Warramunga Arr**	**25.12**	**163**	P	**P**	**04 16 31.4**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=335,slow=11,SNR=29						
WB2	**Warramunga Arr**	**25.12**	**163**	P	**P**	**04 16 30.8**	**-0.2**
WB2				IAmb	IAmb	04 16 50.0	
	comp=Z,11nm,1.1s						
PSI	**Prapat**	**27.85**	**268**	LR	LR	04 29 05.1	
	comp=Z,59nm,18.9s,baz=90,slow=39						
AS31	**Alice Springs**	**28.56**	**166**	P	**P**	**04 17 01.6**	**-0.4**
ASAR	**Alice Springs**	**28.56**	**166**	P	**P**	**04 17 02.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=344,slow=6.8,SNR=3.5						
FORT	**Forrest**	**34.81**	**178**	P	**P**	**04 17 57.0**	**+0.3**
BBOO	**Buckleboo**	**37.85**	**167**	P	**P**	**04 18 22.1**	**-0.6**
STKA	**Stephens Creek**	**38.55**	**160**	P	**P**	**04 18 28.1**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=326,slow=6.9,SNR=9.3						
STKA	**Stephens Creek**	**38.55**	**160**	P	**P**	**04 18 27.5**	**-1.1**
STKA				IAmb	IAmb	04 18 32.1	
	comp=Z,6.8nm,2.0s						
SHL	**Shillong**	**39.64**	**306**	P	**P**	**04 18 37.8**	**-0.3**
PALK	**Pallekele**	**45.94**	**276**	LR	LR	04 41 47.7	
	comp=Z,41nm,18.2s,baz=253,slow=40						
SONM	**Songino Array**	**46.87**	**341**	P	**P**	**04 19 37.2**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=159,slow=9.4,SNR=4.0						
SONM	**Songino Array**	**46.87**	**341**	IAmb	IAmb	04 20 29.1	
	comp=Z,7.1nm,1.8s						
MK31	**Makanchi Array**	**57.20**	**325**	P	**P**	**04 20 53.1**	**+0.2**
MK31				IAmb	IAmb	04 21 30.6	
	comp=Z,3.4nm,1.5s						
MKAR	**Makanchi Array**	**57.20**	**325**	P	**P**	**04 20 53.2**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=121,slow=8.4,SNR=13						
MKAR	**Makanchi Array**	**57.20**	**325**	P	**P**	**04 20 52.6**	**-0.3**
MAKZ	**Makanchi**	**57.39**	**325**	P	**P**	**04 20 53.9**	**-0.3**
MAKZ				IAmb	IAmb	04 21 21.4	
	comp=Z,2.5nm,1.1s						
KDJ	**Kajisay**	**58.03**	**318**	P	**P**	**04 20 59.5**	**+0.5**
KURBB	**Kurchatov Arra**	**61.37**	**327**	P	**P**	**04 21 21.8**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=127,slow=6.5,SNR=16						
KURK	**Kurchatov**	**61.37**	**327**	P	**P**	**04 21 21.9**	**+0.4**
KURK				IAmb	IAmb	04 21 22.7	
	comp=Z,2.5nm,0.6s						
KKAR	**Karatay Array**	**62.92**	**317**	P	**P**	**04 21 33.2**	**+1.0**
ABKAR	**Akbulak array**	**71.82**	**321**	P	**P**	**04 22 28.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.83**	**288**	PKP	**PKPdf**	**04 30 01.2**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=19,slow=1.6,SNR=2.2						

IDC 08 04:13:07.3±4.9,22.˚62S×179.˚01W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.8/44,mbtmp4.2/3,Error ellipse: s-maj=175.2km s-min=65.6km az=144.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.06**	**247**	P	P	04 20 09.4	-1.3
	1.3nm,0.5s,baz=100,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**43.16**	**259**	P	P	04 21 09.5	-0.6
	2.6nm,0.9s,baz=98,slow=8.2,SNR=16						
WRA	**Warramunga Arr**	**43.42**	**264**	P	P	04 21 13.2	+1.0
	3.4nm,0.6s,baz=99,slow=8.0,SNR=44						
BRTR	**Keskin Array B**	**147.51**	**309**	PKPbc	PKPbc	04 32 53.1	-0.7
	0.4nm,0.5s,baz=74,slow=4.3,SNR=2.7						

IDC 08 04:25:13.9±2.7,22.˚83S×148.˚67E,h0km,mb3.8/1, mb1 3.5/5,mb1mx3.4/38,mbtmp3.4/5,ML3.3/4,MS2.8/1, Ms1 2.8/1,ms1mx2.3/51,Error ellipse: s-maj=32.9km s-min=24.7km az=104.0,Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**3.53**	**320**	Pn	Pn	04 26 11.8	+1.7
	2.

ASAR	**Alice Springs**	**13.60**	**264**	Pn	Pn	04 28 28.8	+0.6
	0.1nm,0.3s,baz=88,slow=13,SNR=3.1						
ASAR				Sn	Sn	04 30 52.6	-7.7
	0.0nm,0.3s,baz=85,slow=22,SNR=3.5						
ASAR				Lg	Lg	04 32 27.3	
	0.1nm,0.3s,baz=84,slow=29,SNR=5.7						
WRA	**Warramunga Arr**	**13.66**	**279**	Pn	Pn	04 28 26.9	-2.1
	0.1nm,0.3s,baz=100,slow=11,SNR=8.9						
WRA				Lg	Lg	04 32 25.9	
	0.1nm,0.3s,baz=108,slow=29,SNR=6.3						
DZM	**Mont Dzumac**	**16.45**	**91**	LR	LR	04 34 55.7	
	comp=Z,36nm,21.2s,baz=38,slow=35						
SONM	**Songino Array**	**79.93**	**333**	P	P	04 37 24.2	-0.6
	0.6nm,0.7s,baz=126,slow=3.7,SNR=2.2						

*IDC **08** 04:35:03.0±0.7,36°.50S×45°.61W,h0km,mb4.0/10, mb1 4.2/10,mb1mx4.0/33,mbtmp4.0/10,MS3.6/12, Ms1 3.5/12,ms1mx3.2/52,Error ellipse: s-maj=32.5km s-min=18.2km az=50.0*

*NEIC **08** 04:35:03.1±2.9,36°.29S±0°.08×45°.5W±0°.1,h10km±1km, mb4.5/37,Error ellipse: s-maj=16.9km s-min=12.5km az=65.0*

ISC 08 04:35:04.3±0.5,**36°.33S**±0°.07×**45°.78W**±0°.08,**h10**km,**n89, σ2s16/77,mb4.4/20,MS3.7/10,South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLTB	**Pedras Altas**	**7.93**	**303**	Pn	**Pn**	**04 36 59.9**	**+0.3**
PLTB				Sn	**Sn**	**04 38 27.2**	**-2.2**
PLTB	**Pedras Altas**	**7.93**	**303**	*e*P	Pn	04 36 57.6	-2.0
CNLB	**Canela**	**8.19**	**327**	*e*P	**Pn**	**04 37 02.8**	**-0.4**
TER01	**Tubaro-SC**	**8.27**	**339**	*e*P	**Pn**	**04 37 03.0**	**-1.3**
CPSB	**Cacapava Do Su**	**8.71**	**310**	*e*P	**Pn**	**04 37 08.6**	**-1.7**
ITAB	**Concordia**	**10.55**	**327**	Pn	**Pn**	**04 37 35.1**	**-0.4**
ITAB				Sn	**Sn**	**04 39 27.7**	**-6.0**
ITAB	**Concordia**	**10.55**	**327**	*e*P	**Pn**	**04 37 34.2**	**-1.3**
ITQB	**Itaqui**	**11.26**	**303**		**Pn**	**04 37 45.0**	**-0.3**
ITQB	**Itaqui**	**11.26**	**303**	*e*P	Pn	04 37 43.5	-1.7
PTGB	**Pitanga**	**12.77**	**333**	*e*P	**Pn**	**04 38 04.0**	**-2.0**
VAO	**Valinhos**	**13.32**	**355**	*e*P	**Pn**	**04 38 14.9**	**+1.4**
FRTB	**Fartura**	**13.35**	**345**	*e*P	**Pn**	**04 38 13.6**	**-0.2**
RCLB	**Rio Claro- Sao**	**13.94**	**353**	*e*P	**Pn**	**04 38 22.8**	**+0.8**
CPUP	**Villa Florida**	**14.01**	**312**	Pn	**Pn**	**04 38 20.8**	**-2.1**
	0.8nm,0.3s,baz=138,slow=9.6,SNR=13						
CPUP				Sn	Sn	04 40 52.4	-6.1
	0.5nm,0.3s,baz=112,slow=13,SNR=2.0						
CPUP				LR	LR	04 43 34.7	
	comp=Z,56nm,20.5s,baz=164,slow=36						
CPUP	**Villa Florida**	**14.01**	**312**	Pn	Pn	04 38 20.7	-2.2
CPUP	**Villa Florida**	**14.01**	**312**	*e*P	Pn	04 38 20.2	-2.7
VAS01	**Vassouras-RJ**	**14.14**	**9**	*e*P	**P**	**04 38 28.9**	**-3.5**
TRCB	**Terra Rica**	**14.73**	**334**	*e*P	**Pn**	**04 38 31.6**	**-1.3**
TRCB				*e*S	Sn	04 41 05.2	-11
CAM01	**Campos-RJ**	**14.89**	**15**	*e*P	**P**	**04 38 40.2**	**-0.4**
BSCB	**Bom Sucesso**	**15.30**	**4**	*e*P	**P**	**04 38 43.4**	**-1.9**
BB19B	**Bebedouro**	**15.39**	**350**	*e*P	**Pn**	**04 38 42.5**	**+0.8**
PCMB	**Pacaembu**	**15.42**	**340**	*e*P	**Pn**	**04 38 41.6**	**-0.5**
ALF01	**Guarapari-ES**	**16.27**	**17**	*e*P	**P**	**04 39 00.4**	**+4.5**
EFI	**East Falkland**	**17.67**	**206**	Pn	**Pn**	**04 39 09.5**	**-0.8**
EFI				IAmb	IAmb	04 39 28.5	
	comp=Z,74nm,1.2s						
SJMB	**Sao Joao De Ma**	**18.02**	**14**	*e*P	**P**	**04 39 21.6**	**+6.2**
AQDB	**Aquidauana**	**18.02**	**329**	Pn	**Pn**	**04 39 12.4**	**-2.5**
AQDB	**Aquidauana**	**18.02**	**329**	*e*P	**Pn**	**04 39 14.2**	**-0.7**
DIAM	**Diamantina, MG**	**18.06**	**6**	*e*P	**P**	**04 39 20.4**	**+4.4**
IPMB	**Ipameri, GO**	**18.40**	**353**	*e*P	**P**	**04 39 21.7**	**+2.1**
ZON	**Zonda**	**19.57**	**277**	P	**P**	**04 39 34.0**	**+1.6**
PLCA	**Paso Flores**	**19.85**	**250**	P	**P**	**04 39 40.1**	**+4.7**
	comp=Z,0.1nm,0.3s,baz=90,slow=9.5,SNR=18						
PLCA				S	S	04 43 09.4	-10
	comp=Z,0.1nm,0.3s,baz=174,slow=21,SNR=1.6						
PLCA				LR	LR	04 47 33.5	
	comp=Z,183nm,18.2s,baz=155,slow=38						
PLCA	**Paso Flores**	**19.85**	**250**	P	**P**	**04 39 35.8**	**+0.3**
PLCA				IAmb	IAmb	04 39 40.9	
	comp=Z,12nm,0.9s						
LMEL	**Las Melosas**	**20.13**	**270**	P	**P**	**04 39 39.1**	**+0.5**
BO02	**Sierra Bellavi**	**20.39**	**267**	P	**P**	**04 39 42.4**	**+1.1**
BO02				IAmb	IAmb	04 39 58.5	
	comp=Z,26nm,1.2s						
BO04	**La Punta**	**20.42**	**269**	P	**P**	**04 39 42.9**	**+1.2**
BO04				IAmb	IAmb	04 39 58.0	
	comp=Z,27nm,1.2s						
BDFB	**Brasilia**	**20.70**	**354**	P	**P**	**04 39 46.4**	**+1.6**
	comp=Z,1.7nm,0.6s,baz=136,slow=14,SNR=4.0						
BO01	**Tunca**	**20.71**	**268**	P	**P**	**04 39 45.7**	**+0.9**
MT01	**Popeta**	**20.97**	**269**	P	**P**	**04 39 46.2**	**-1.4**
MT01				IAmb	IAmb	04 39 48.6	
	comp=Z,20nm,1.2s						
ROC1	**El Roble**	**21.01**	**272**	P	**P**	**04 39 47.2**	**-1.0**
ROC1				IAmb	IAmb	04 39 52.3	
	comp=Z,20nm,0.8s						
LL02	**Futaleuf**	**21.13**	**243**	P	**P**	**04 39 50.5**	**+1.3**
LL02				IAmb	IAmb	04 40 08.9	
	comp=Z,18nm,1.2s						
CO01	**Juntas del Tor**	**21.29**	**280**	P	**P**	**04 39 53.4**	**+2.1**
CO01				IAmb	IAmb	04 39 56.7	
	comp=Z,12nm,0.9s						
CO03	**El Pedregal**	**21.43**	**278**	P	**P**	**04 39 51.4**	**-1.3**
CO03				IAmb	IAmb	04 40 02.8	
	comp=Z,20nm,1.1s						
CO02	**Combarbal**	**21.55**	**276**	P	**P**	**04 39 53.2**	**-0.7**
CO02				IAmb	IAmb	04 40 00.7	
	comp=Z,37nm,0.9s						
COYC	**Coyhaique**	**21.83**	**237**	P	**P**	**04 39 57.9**	**+1.2**
COYC				IAmb	IAmb	04 40 01.2	
	comp=Z,27nm,1.2s						
AC02	**Maricunga**	**21.98**	**289**	P	**P**	**04 39 59.9**	**+0.9**
AC02				IAmb	IAmb	04 40 05.4	
	comp=Z,14nm,1.0s						
CO06	**Fray Jorge**	**22.25**	**277**	P	**P**	**04 40 01.6**	**+0.2**
GO02	**Mina Guanaco**	**23.23**	**292**	P	**P**	**04 40 14.6**	**+2.6**
LVC	**Limon Verde**	**24.26**	**298**	LR	LR	04 50 26.9	
	comp=Z,62nm,19.0s,baz=159,slow=38						
SIV	**San Ignacio**	**24.40**	**322**	P	**P**	**04 40 26.0**	**+3.0**
	comp=Z,2.6nm,0.8s,baz=166,slow=7.0,SNR=10						
PB07	**IPOC Station P**	**25.52**	**298**	P	**P**	**04 40 33.1**	**-0.1**
PB08	**IPOC Station P**	**26.05**	**302**	P	**P**	**04 40 37.1**	**-1.2**
PB08				IAmb	IAmb	04 40 42.5	
	comp=Z,7.4nm,0.7s						
NBLA	**Lagarto - SE**	**26.24**	**18**	*e*P	P	04 40 50.5	+11
GO01	**Chusmiza**	**26.40**	**303**	P	**P**	**04 40 43.5**	**+1.9**
GO01				IAmb	IAmb	04 40 47.5	
	comp=Z,7.9nm,0.7s						
VILB	**Vilhena**	**26.64**	**327**	*e*P	**P**	**04 40 47.0**	**+3.8**
LPAZ	**La Paz**	**28.15**	**309**	P	**P**	**04 40 58.8**	**+1.3**
	comp=Z,2.2nm,0.7s,baz=117,slow=7.1,SNR=11						
LPAZ	**La Paz**	**28.15**	**309**	P	**P**	**04 40 58.6**	**+1.1**
LPAZ	**La Paz**	**28.15**	**309**	*e*P	**P**	**04 40 59.2**	**+1.7**
RCBR	**Riachuelo**	**31.68**	**19**	LR	LR	04 53 20.4	
	comp=Z,83nm,18.2s,baz=323,slow=34						
ETMB	**Extrema**	**32.25**	**320**	*e*P	**P**	**04 41 35.8**	**+2.8**
MCPB	**Macapa, AP**	**36.26**	**349**	*e*P	**P**	**04 42 12.2**	**+4.5**
SNAA	**Sanae**	**41.71**	**161**	P	**P**	**04 42 51.8**	**-1.1**
	comp=Z,5.6nm,1.0s,baz=320,slow=13,SNR=1.3						
ZARC	**Zaragoza, Cauc**	**51.43**	**322**	P	**P**	**04 44 08.2**	**-1.6**
URIC	**Uribia, Colomb**	**53.79**	**328**	P	**P**	**04 44 24.7**	**-2.4**
QSPA	**South Pole Qui**	**53.93**	**180**	P	**P**	**04 44 27.0**	**-0.9**
RPN	**Rapa Nui**	**53.98**	**261**	LR	LR	05 03 42.9	
	comp=Z,20nm,18.4s,baz=72,slow=32						
SUR	**Sutherland**	**54.14**	**107**	LR	LR	05 02 08.0	
	comp=Z,46nm,18.1s,baz=203,slow=30						
SUR	**Sutherland**	**54.14**	**107**	P	P	04 44 25.6	-4.3
TSUM	**Tsumeb**	**57.66**	**91**	LR	LR	05 03 58.7	
	comp=Z,54nm,18.5s,baz=156,slow=30						
BOSA	**Boshof**	**59.22**	**105**	P	**P**	**04 45 04.7**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=243,slow=11,SNR=1.6						
BOSA				LR	LR	05 07 09.3	
	comp=Z,56nm,18.2s,baz=190,slow=33						
LBTB	**Lobatse**	**61.19**	**101**	P	**P**	**04 45 18.2**	**-1.3**
	comp=Z,3.5nm,0.8s,baz=207,slow=7.1,SNR=4.4						
LBTB	**Lobatse**	**61.19**	**101**	P	**P**	**04 45 16.4**	**-3.1**
MAW	**Mawson**	**63.53**	**156**	P	**P**	**04 45 33.9**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=273,slow=13,SNR=2.7						
MAW	**Mawson**	**63.53**	**156**	P	**P**	**04 45 32.3**	**-2.0**
MAW				IAmb	IAmb	04 45 34.9	
	comp=Z,3.1nm,1.2s						
KOWA	**Kowa**	**64.11**	**46**	P	**P**	**04 45 36.3**	**-2.6**
SBA	**Scott Base**	**64.39**	**187**	P	**P**	**04 45 41.0**	**+1.1**
SBA				IAmb	IAmb	04 45 43.0	
	comp=Z,5.7nm,0.8s						
VNDA	**Vanda**	**65.16**	**186**	P	**P**	**04 45 46.6**	**+1.7**
	comp=Z,4.0nm,0.8s,baz=170,slow=4.8,SNR=16						
VNDA	**Vanda**	**65.16**	**186**	P	**P**	**04 45 46.1**	**+1.1**
VNDA				IAmb	IAmb	04 45 47.9	
	comp=Z,5.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**66.52**	**52**	P	**P**	**04 45 54.9**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=232,slow=5.3,SNR=4.1						
TORD				LR	LR	05 10 36.4	
	comp=Z,68nm,18.1s,baz=226,slow=32						
TORD	**Torodi Ar. Bea**	**66.52**	**52**	P	**P**	**04 45 50.9**	**-3.6**
LSZ	**Lusaka**	**68.31**	**93**	LR	LR	05 11 00.2	
	comp=Z,53nm,19.0s,baz=158,slow=32						
MBAR	**Mbarara**	**78.79**	**82**	LR	LR	05 14 07.4	
	comp=Z,66nm,19.9s,baz=53,slow=30						
MDT	**Midelt**	**78.83**	**34**	LR	LR	05 18 56.7	
	comp=Z,43nm,20.7s,baz=286,slow=33						
ESDC	**Sonseca Array**	**84.87**	**31**	P	**P**	**04 47 41.0**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=229,slow=4.9,SNR=3.0						
TXAR	**Lajitas Array**	**84.99**	**312**	P	**P**	**04 47 41.9**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=138,slow=6.0,SNR=7.1						
TXAR	**Lajitas Array**	**84.99**	**312**	P	**P**	**04 47 41.2**	**+1.2**
ASAR	**Alice Springs**	**120.33**	**180**	PKP	**PKPdf**	**04 53 55.8**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=162,slow=1.6,SNR=16						
WRA	**Warramunga Arr**	**124.04**	**180**	PKP	**PKPdf**	**04 54 02.9**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=195,slow=1.7,SNR=10						
ILAR	**Eielson Array**	**126.84**	**328**	PKP	**PKPdf**	**04 54 07.8**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=158,slow=2.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**141.85**	**47**	PKP	**PKPdf**	**04 54 34.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=289,slow=4.4,SNR=2.1						

*PRU **08** 04:36:08.7±0.0,51°.56N×16°.14E,h0km*
*VIE **08** 04:36:08.6±1.3,51°.51N×16°.70E,h0km,mb2.3/2,ml2.6/3, Error ellipse: s-maj=13.6km s-min=10.3km az=110.0 52 km NNW of Wroclaw Suspected Mining induced.*

ISC 08 04:36:07.9±1.3,**51°.56N**±0°.06×**16°.17E**±0°.03,**h0**km,**n23, σ0s71/41,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**174**	*e*Pg	**Pb**	**04 36 22.8**	**-0.6**
KSP				*e*Sg	**Sb**	**04 36 32.5**	**-1.3**
CHVC	**Chvalec**	**0.97**	**184**	*e*PG	**Pb**	**04 36 27.7**	**0.0**
CHVC				*e*SG	**Sb**	**04 36 40.1**	**-1.0**
	comp=Z,25nm,0.5s						
OSTC	**Ostas**	**1.00**	**178**	*e*SG	**Sb**	**04 36 41.5**	**-0.4**
	comp=Z,36nm,0.5s						
UPC	**Upice**	**1.06**	**186**	*e*PG	**Pb**	**04 36 28.8**	**-0.3**
UPC				*e*SG	**Sb**	**04 36 42.5**	**-1.0**
	comp=Z,44nm,0.4s						
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*PG	**Pb**	**04 36 31.6**	**-0.2**
DPC				*e*SG	**Sb**	**04 36 47.5**	**-0.5**
	comp=Z,19nm,0.5s						
PVCC	**Panska Ves**	**1.45**	**225**	*e*PG	**Pb**	**04 36 35.8**	**+0.1**
PVCC				*e*SG	**Sn**	**04 36 55.3**	**+0.3**
	comp=Z,80nm,0.2s						
KRLC	**Kraliky**	**1.54**	**165**	*e*PG	**Pb**	**04 36 37.1**	**-0.2**
KRLC				*e*SG	**Sg**	**04 36 56.7**	**-0.5**
	comp=Z,18nm,0.3s						
BRG	**Berggiesshubel**	**1.56**	**245**	Pg	**Pb**	**04 36 37.6**	**0.0**
BRG				Sg	**Sg**	**04 36 58.1**	**+0.1**
BRG				Amp		04 36 59.0	
	comp=Z,33nm,0.4s						
PRU	**Pruhonice**	**1.88**	**214**	*e*PG	**Pb**	**04 36 42.6**	**-0.5**
PRU				*e*SG	**Sg**	**04 37 08.1**	**-0.3**
	comp=Z,13nm,0.4s						
MORC	**Moravsky Berou**	**1.99**	**153**	*e*PN	**Pn**	**04 36 42.3**	**-0.5**
MORC				*e*SG	**Sb**	**04 37 10.3**	**+0.1**
CLL	**Collm**	**2.00**	**264**	*e*Pn	**Pn**	**04 36 42.0**	**-0.9**
CLL				*i* Pg	**Pb**	**04 36 45.0**	**-0.1**
CLL				*i* x	x	04 36 48.8	
CLL				*i* x	x	04 37 01.1	
CLL				*e*Sg	**Sb**	**04 37 11.0**	**+0.4**
	comp=Z,22nm,0.4s						
OKC	**Ostrava-Krasne**	**2.13**	**143**	*e*SG	**Sg**	**04 37 16.3**	**-0.1**
VRAC	**Vranov**	**2.27**	**173**	*e*PN	**Pn**	**04 36 47.6**	**+0.9**
VRAC				*e*SG	**Sg**	**04 37 20.2**	**-0.6**
KRUC	**Moravsky**	**2.50**	**177**	*e*SG	**Sg**	**04 37 27.6**	**-0.7**
OJC	**Ojcow**	**2.66**	**119**	*e*Pg	**Pg**	**04 36 58.8**	**0.0**
OJC				*e*Sg	**Sg**	**04 37 33.8**	**+0.5**
NKC	**Novy Kostel**	**2.71**	**242**	*e*PN	**Pn**	**04 36 52.7**	**0.0**
NKC				*e*PG	**Pg**	**04 37 09.7**	**-0.1**
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN	**Pn**	**04 36 55.5**	**-0.5**
KHC				*e*PG	**Pb**	**04 37 02.5**	**+1.2**
KHC				*e*SG	**Sg**	**04 37 43.5**	**+1.0**
	comp=Z,5.8nm,0.4s						
CKRC	**Cesky Krumlov**	**2.99**	**204**	*e*PG	**Pb**	**04 37 03.0**	**+0.9**
CKRC				*e*SG	**Sg**	**04 37 43.0**	**-1.0**
	comp=Z,6.4nm,0.4s						
LANS	**Liptovska Anna**	**3.20**	**138**	*e*SG	**Sg**	**04 37 51.1**	**+0.3**
MODS	**Modra-Piesok**	**3.27**	**167**	*e*SG	**Sg**	**04 37 53.2**	**+0.4**
CONA	**Conrad Observa**	**3.64**	**183**	*e*Pn	**Pn**	**04 37 07.5**	**+1.9**
	comp=Z,0.4nm,0.1s						
CONA				*e*Sg	**Sg**	**04 38 05.8**	**+1.0**
	comp=Z,3.6nm,0.3s						
MOA	**Molln**	**3.91**	**199**	*e*Pn	**Pn**	**04 37 10.1**	**+0.8**
	comp=Z,1.5nm,0.2s						
ARSA	**Arzberg**	**4.33**	**186**	*e*Sg	**Sg**	**04 38 26.8**	**-0.2**
	comp=Z,1.4nm,0.3s						

*PRU **08** 04:39:00.0±0.0,51°.43N×16°.16E,h0km*
*VIE **08** 04:39:00.5±2.0,51°.32N×16°.64E,h0km,mb2.5/1,ml2.7/2, Error ellipse: s-maj=16.2km s-min=10.0km az=129.0 36 km NW of Wroclaw Suspected Mining induced.*

ISC 08 04:38:58.5±1.3,**51°.48N**±0°.06×**16°.21E**±0°.03,**h0**km,**n21, σ0s88/40,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**175**	*e*Pg	**Pg**	**04 39 11.1**	**+0.3**
KSP				*e*Sg	**Sg**	**04 39 19.3**	**+0.2**
CHVC	**Chvalec**	**0.90**	**186**	*e*PG	**Pg**	**04 39 15.9**	**+0.2**
CHVC				*e*SG	**Sg**	**04 39 27.9**	**+0.5**
	comp=Z,35nm,0.4s						
OSTC	**Ostas**	**0.93**	**180**	*e*PG	**Pg**	**04 39 16.6**	**+0.4**
OSTC				*e*SG	**Sg**	**04 39 28.7**	**+0.5**
	comp=Z,42nm,0.2s						
UPC	**Upice**	**0.98**	**187**	*e*PG	**Pg**	**04 39 17.2**	**-0.1**
UPC				*e*SG	**Sg**	**04 39 30.1**	**0.0**
	comp=Z,91nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**176**	*e*PG	**Pg**	**04 39 20.0**	**-0.2**
DPC				*e*SG	**Sg**	**04 39 34.3**	**-0.7**
	comp=Z,28nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**228**	*e*PG	**Pg**	**04 39 25.3**	**-0.1**
PVCC				*e*SG	**Sn**	**04 39 44.5**	**-0.1**
	comp=Z,64nm,0.3s						
KRLC	**Kraliky**	**1.46**	**165**	*e*PG	**Pn**	**04 39 25.9**	**-0.2**
KRLC				*e*SG	**Sg**	**04 39 44.5**	**-0.7**
	comp=Z,26nm,0.5s						
BRG	**Berggiesshubel**	**1.55**	**248**	Pg	**Pb**	**04 39 27.8**	**-0.2**
BRG				Sg	**Sn**	**04 39 48.3**	**+0.2**
BRG				Amp		04 39 48.9	
	comp=Z,18nm,0.3s						
PRU	**Pruhonice**	**1.83**	**216**	*e*PG	**Pb**	**04 39 32.3**	**-0.6**
PRU				*e*SG	**Sb**	**04 39 56.0**	**-0.3**
	comp=Z,16nm,0.4s						
MORC	**Moravsky Berou**	**1.91**	**153**	*e*PN	**Pn**	**04 39 31.2**	**-1.1**
MORC				*e*SG	**Sn**	**04 39 55.9**	**-1.2**
CLL	**Collm**	**2.01**	**266**	*e*Pg	**Pg**	**04 39 37.0**	**-0.1**
CLL				*e*Sg	**Sb**	**04 40 02.0**	**+0.5**
	comp=Z,17nm,0.6s						
VRAC	**Vranov**	**2.19**	**173**	*e*PN	**Pn**	**04 39 36.3**	**+0.1**
VRAC				*e*SG	**Sb**	**04 40 06.4**	**-0.3**
KRUC	**Moravsky**	**2.43**	**177**	*e*SG	**Sb**	**04 40 14.7**	**+1.3**
OJC	**Ojcow**	**2.60**	**118**	*e*Pg	**Pg**	**04 39 48.5**	**+0.1**
OJC				*e*Sg	**Sg**	**04 40 23.0**	**+0.9**
NKC	**Novy Kostel**	**2.69**	**244**	*e*PN	**Pn**	**04 39 43.7**	**+0.7**
NKC				*e*PG	**Pg**	**04 39 49.8**	**-0.2**
NKC				*e*SG	**Sg**	**04 40 25.2**	**+0.4**
	comp=Z,15nm,0.3s						
KHC	**Kasperske Hory**	**2.90**	**217**	*e*PN	**Pn**	**04 39 46.3**	**+0.4**
KHC				*e*PG	**Pb**	**04 39 51.6**	**+0.6**
KHC				*e*SN	**Sn**	**04 40 20.5**	**-0.9**
KHC				*e*SG	**Sg**	**04 40 30.3**	**-1.1**
	comp=Z,6.4nm,0.5s						
CKRC	**Cesky Krumlov**	**2.93**	**205**	*e*SG	**Sg**	**04 40 30.3**	**-2.3**
	comp=Z,8.4nm,0.4s						
LANS	**Liptovska Anna**	**3.13**	**137**	*e*SG	**Sg**	**04 40 37.9**	**-1.2**
MODS	**Modra-Piesok**	**3.19**	**167**	*e*SG	**Sg**	**04 40 43.8**	**+2.9**
CONA	**Conrad Observa**	**3.56**	**184**	*e*Sg	**Sg**	**04 40 54.2**	**+1.3**
	comp=Z,4.7nm,0.3s						
MOA	**Molln**	**3.85**	**200**	*i* Pn	**Pn**	**04 39 59.3**	**+0.4**
	comp=Z,0.3nm,0.1s						
MOA				*e*Sg	**Sg**	**04 41 03.0**	**+0.9**
	comp=Z,6.2nm,0.5s						

*IDC **08** 05:11:34.7±1.4,23°.67N×115°.62W,h0km,mb4.0/9, mb1 4.1/16,mb1mx4.0/49,mbtmp3.9/16,ML3.9/7,MS3.6/13, Ms1 3.6/13,ms1mx3.2/72,Error ellipse: s-maj=33.1km s-min=16.7km az=56.0*

*NEIC **08** 05:11:38.0±1.6,23°.70N±0°.09×115°.6W±0°.1,h10km±1km, mb4.2/39,Md4.3/8(MEX),Error ellipse: s-maj=18.3km s-min=13.3km az=224.0*

*MEX **08** 05:11:43.3±0.7,24°.13N×115°.40W,h10km,MD4.3*

ISC 08 05:11:36.2±0.8,**23°.72N**±0°.09×**115°.65W**±0°.07,**h10**km, **n223,σ1s77/219,mb4.2/10,MS3.7/9,Off west coast of Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**4.72**	**40**		**Pn**	**05 12 46.6**	**-1.0**
SRIG	**Santa Rosalia**	**4.72**	**40**	*i* P	Pn	05 12 46.6	-1.0
SRIG				*i* S	Sn	05 13 34.2	-8.2
LPIG	**La Paz**	**4.90**	**85**	Pn	**Pn**	**05 12 50.4**	**+0.4**
	44nm,0.3s,baz=296,slow=2.8,SNR=21						
LPIG				LR	LR	05 13 39.8	
	comp=Z,104nm,18.0s,baz=252,slow=26						
LPIG				Sn	**Sn**	**05 13 43.3**	**-3.5**
	18nm,0.3s,baz=1.3,slow=3.1,SNR=2.2						
LPIG	**La Paz**	**4.90**	**85**		**Pn**	**05 12 50.4**	**+0.4**
LPIG					**Sn**	**05 13 44.7**	**-2.1**
LPIG	**La Paz**	**4.90**	**85**	*i* P	**Pn**	**05 12 50.4**	**+0.4**
LPIG				*i* S	**Sn**	**05 13 44.7**	**-2.1**
SLBS	**Sierra La Lagu**	**5.23**	**89**	Pn	**Pn**	**05 12 55.4**	**+0.8**
SLBS	**Sierra La Lagu**	**5.23**	**89**		**Sn**	**05 13 52.9**	**-2.1**
SLBS	**Sierra La Lagu**	**5.23**	**89**	*i* P	**Pn**	**05 12 55.8**	**+1.2**
SLBS				*i* S	**Sn**	**05 13 52.9**	**-2.1**
TSIG	**Topolobambo**	**6.30**	**71**	*i* P	**Pn**	**05 13 07.0**	**-2.2**
TSIG				*i* S	**Sn**	**05 14 16.8**	**-4.4**
214A	**Organ Pipe Nat**	**8.58**	**16**	Pn	**Pn**	**05 13 41.2**	**+0.6**
214A	**Organ Pipe Nat**	**8.58**	**16**	P	**Pn**	**05 13 41.5**	**+0.9**
	baz=198						
CBX	**Cerro Bola**	**8.61**	**354**		**Pn**	**05 13 41.0**	**0.0**
YUH	**Yuha Desert**	**8.89**	**359**	Pn	**Pn**	**05 13 46.4**	**+1.5**
IKP	**In-Ko-Pah, Jac**	**8.90**	**357**	P	**Pn**	**05 13 46.0**	**+1.0**
	baz=177						
BAR	**Barrett**	**8.97**	**354**	Pn	**Pn**	**05 13 46.0**	**+0.1**
MONP2	**Monument Peak**	**9.16**	**356**	P	**Pn**	**05 13 49.7**	**+1.0**
	baz=176						
113A	**Mohawk Valley,**	**9.16**	**10**	Pn	**Pn**	**05 13 49.0**	**+0.4**
GLA	**Glamis**	**9.32**	**4**	Pn	**Pn**	**05 13 52.0**	**+1.3**
319A	**Douglas**	**9.49**	**35**	Pn	**Pn**	**05 13 54.0**	**+0.9**
TUC	**Tucson**	**9.57**	**26**	P	**Pn**	**05 13 56.2**	**+1.9**
	baz=208						
TPFO	**Pinon Flats**	**9.87**	**356**	P	**Pn**	**05 13 59.8**	**+1.4**
	baz=176						
PFO	**Pinyon Flats O**	**9.88**	**356**	Pn	**Pn**	**05 13 59.9**	**+1.4**
	0.2nm,0.3s,baz=164,slow=11,SNR=4.2						
BC3	**Big Chuckawall**	**9.90**	**1**	P	**Pn**	**05 14 01.7**	**+3.0**
	baz=181						
MURC	**Murrieta**	**9.94**	**352**	P	**Pn**	**05 14 01.6**	**+2.5**
	baz=172						
ELS	**Elsinore Mount**	**10.01**	**351**	Pn	**Pn**	**05 14 02.9**	**+2.6**
BLYC	**Blythe**	**10.04**	**5**	Pn	**Pn**	**05 14 01.7**	**+1.2**
BELC	**Belle Mtn. Jos**	**10.25**	**358**	P	**Pn**	**05 14 06.6**	**+3.1**
	baz=178						
IRM	**Iron Mountain**	**10.41**	**2**	P	**Pn**	**05 14 08.8**	**+3.1**
	baz=182						
Y14A	**Wickenburg**	**10.44**	**12**		**Pn**	**05 14 08.5**	**+2.4**
BFSC	**Mount Baldy

MSTX	**Muleshoe**	**15.20**	**45**	P		**Pn**	**05 15 13.2**	**+2.1**
	baz=231,SNR=5.4							
833A	**Chaparral WMA,**	**15.31**	**69**	Pn		**Pn**	**05 15 14.2**	**+1.7**
833A				IAmb		IAmb	05 15 26.7	
	comp=Z,22nm,1.1s							
833A	**Chaparral WMA,**	**15.31**	**69**	P		**Pn**	**05 15 13.8**	**+1.3**
	baz=256							
YERR	**Yerington**	**15.52**	**349**			**Pn**	**05 15 16.9**	**+1.5**
JCT	**Junction City**	**15.63**	**61**	Pn		**Pn**	**05 15 17.2**	**+0.6**
JCT	**Junction City**	**15.63**	**61**	P		**Pn**	**05 15 19.5**	**+2.8**
	baz=248,SNR=5.0							
S22A	**4UR Ranch, Cre**	**15.89**	**26**	P		**P**	**05 15 24.1**	**+0.1**
	baz=211,SNR=5.2							
SDCO	**Great Sand Dun**	**16.46**	**30**	Pn		**Pn**	**05 15 29.1**	**+1.5**
SDCO	**Great Sand Dun**	**16.46**	**30**	P		**P**	**05 15 31.0**	**+0.7**
	baz=215,SNR=5.1							
T25A	**Trinidad**	**16.50**	**33**	Pn		**Pn**	**05 15 28.7**	**+0.7**
T25A				IAmb		IAmb	05 15 34.4	
	comp=Z,22nm,1.2s							
T25A	**Trinidad**	**16.50**	**33**	P		**Pn**	**05 15 30.3**	**+2.3**
	baz=219							
P18A	**Preston Nutter**	**16.50**	**15**	Pn		**Pn**	**05 15 29.4**	**+1.2**
P18A				IAmb		IAmb	05 15 35.3	
	comp=Z,17nm,1.3s							
DUG	**Dugway, Tooele**	**16.60**	**8**	Pn		**Pn**	**05 15 30.4**	**+1.2**
DUG	**Dugway, Tooele**	**16.60**	**8**	P		**Pn**	**05 15 31.7**	**+2.5**
	baz=189,SNR=7.8							
ABTX	**Abilene, Hawle**	**16.65**	**54**	P		**P**	**05 15 32.2**	**0.0**
ABTX				IAmb		IAmb	05 15 36.6	
	comp=Z,31nm,1.2s							
ABTX	**Abilene, Hawle**	**16.65**	**54**	P		**Pn**	**05 15 30.8**	**+0.9**
	baz=242							
BMN	**Battle Mountai**	**16.71**	**356**	P		**Pn**	**05 15 32.6**	**+1.9**
ELK	**Elko**	**16.98**	**1**	P		**Pn**	**05 15 35.6**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=182,slow=7.5,SNR=5.3							
ELK	**Elko**	**16.98**	**1**			**Pn**	**05 15 36.0**	**+1.9**
SMCO	**Snowmass**	**17.08**	**24**	P		**P**	**05 15 38.2**	**+0.9**
SMCO				IAmb		IAmb	05 15 46.6	
	comp=Z,23nm,1.2s							
JLU	**Jordanelle**	**17.20**	**11**	P		**P**	**05 15 40.5**	**+2.1**
JLU				IAmb		IAmb	05 15 43.4	
	comp=Z,22nm,1.4s							
CTU	**Camp Tracy**	**17.24**	**10**	P		**P**	**05 15 40.3**	**+1.5**
O20A	**White River Ci**	**17.52**	**19**	P		**P**	**05 15 44.6**	**+2.6**
O20A				IAmb		IAmb	05 15 51.6	
	comp=Z,31nm,1.1s							
O20A	**White River Ci**	**17.52**	**19**	P		**P**	**05 15 43.9**	**+2.0**
	baz=203,SNR=15							
435B	**Jarrell**	**17.52**	**62**	P		**P**	**05 15 42.5**	**+0.7**
435B				IAmb		IAmb	05 15 50.9	
	comp=Z,26nm,1.1s							
RDMU	**Red Mountain**	**17.56**	**16**	P		**P**	**05 15 44.2**	**+1.8**
Q24A	**Divide**	**17.62**	**28**	P		**P**	**05 15 44.9**	**+1.6**
Q24A				IAmb		IAmb	05 15 52.6	
	comp=Z,15nm,0.9s							
Q24A	**Divide**	**17.62**	**28**	P		**P**	**05 15 44.9**	**+1.6**
	baz=213							
WHTX	**Lake Whitney,**	**18.06**	**59**	P		**P**	**05 15 50.1**	**+2.3**
WHTX				IAmb		IAmb	05 15 56.8	
	comp=Z,14nm,0.8s							
WHTX	**Lake Whitney,**	**18.06**	**59**	P		**Pn**	**05 15 48.4**	**+1.1**
	baz=247							
ISCO	**Idaho Springs**	**18.14**	**26**	P		**Pn**	**05 15 49.9**	**+1.3**
ISCO	**Idaho Springs**	**18.14**	**26**	P		**P**	**05 15 51.2**	**+2.3**
	baz=211,SNR=7.5							
HWUT	**Hardware Ranch**	**18.16**	**10**			**P**	**05 15 51.0**	**+2.0**
WMOK	**Wichita Mounta**	**18.34**	**49**	P		**Pn**	**05 15 51.9**	**+1.2**
	baz=238							
M02C	**Callahan**	**18.62**	**343**	P		**P**	**05 15 53.5**	**-0.5**
	baz=159							
M04C	**Macdoel**	**18.74**	**345**	P		**P**	**05 15 54.0**	**-1.3**
	baz=162							
KSCO	**Kaye Shedlock'**	**18.83**	**33**			**Pn**	**05 15 58.4**	**+1.5**
KSCO				IAmb		IAmb	05 16 03.8	
	comp=Z,36nm,1.4s							
KSCO	**Kaye Shedlock'**	**18.83**	**33**	P		**P**	**05 15 57.6**	**+1.2**
	baz=220							
X34A	**Smith Ranch, M**	**18.93**	**51**			**Pn**	**05 15 59.3**	**+1.3**
N23A	**Red Feather La**	**18.96**	**23**			**Pn**	**05 16 00.2**	**+1.6**
N23A				IAmb		IAmb	05 16 06.3	
	comp=Z,24nm,1.4s							
N23A	**Red Feather La**	**18.96**	**23**	P		**P**	**05 15 59.3**	**+1.3**
	baz=208,SNR=6.5							
BW06	**Boulder Array**	**19.65**	**13**	P		**P**	**05 16 06.4**	**+0.9**
	baz=197,SNR=6.9							
PDAR	**Pinedale Array**	**19.65**	**13**	P		**P**	**05 16 06.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=187,slow=10,SNR=19							
PDAR	**Pinedale Array**	**19.65**	**13**	P		**P**	**05 16 05.9**	**+0.4**
HLID	**Hailey**	**19.82**	**3**	P		**P**	**05 16 08.3**	**+1.2**
	baz=183							
J05D	**Fort Rock, OR**	**20.05**	**348**	P		**P**	**05 16 10.4**	**+0.8**
	baz=165							
TPAW	**Teton Pass**	**20.09**	**10**	P		**P**	**05 16 11.2**	**+0.9**
TPAW				IAmb		IAmb	05 16 15.6	
	comp=Z,20nm,1.4s							
NATX	**Nacogdoches**	**20.21**	**62**	P		Pn	05 16 13.6	+0.4
CBKS	**Cedar Bluff**	**20.23**	**38**	P		**P**	**05 16 12.9**	**+1.3**
	baz=226							
K22A	**Casper**	**20.34**	**20**	P		**P**	**05 16 14.1**	**+1.2**
	baz=205							
CMIG	**Matias Romero**	**20.54**	**105**	P		**P**	**05 16 13.9**	**-1.1**
	comp=Z,3.4nm,1.0s,baz=302,slow=13,SNR=2.3							
J01E	**Myrtle Point**	**20.56**	**343**	P		**P**	**05 16 15.9**	**+0.8**
	baz=158							
I03D	**Drain, OR**	**20.91**	**344**	P		**P**	**05 16 18.7**	**-0.1**
	baz=160							
TUL1	**Leonard**	**21.03**	**50**	P		**P**	**05 16 21.3**	**+1.0**
	baz=240							
I05D	**Terrebonne, OR**	**21.09**	**349**	P		**P**	**05 16 21.2**	**+0.4**
	baz=165							
MCMT	**McKenzie Canyo**	**21.18**	**6**	P		**P**	**05 16 24.8**	**+2.8**
H04D	**Lebanon**	**21.55**	**346**	P		**P**	**05 16 25.6**	**-0.1**
	baz=162							
RLMT	**Red Lodge**	**21.97**	**12**	P		**P**	**05 16 30.9**	**+0.4**
	baz=196							
342A	**Flagon Creek P**	**22.01**	**65**	P		**P**	**05 16 32.5**	**+1.7**
MIAR	**Mount Ida**	**22.05**	**56**	P		**P**	**05 16 31.9**	**+0.8**
MIAR				IAmb		IAmb	05 16 41.2	
	comp=Z,16nm,1.1s							
MIAR	**Mount Ida**	**22.05**	**56**	P		**P**	**05 16 30.8**	**-0.3**
	baz=246							
BOZ	**Bozeman (W)**	**22.07**	**8**	P		**P**	**05 16 31.9**	**+0.4**
	baz=190							
WLAR	**White Oak Lake**	**22.08**	**58**	P		**P**	**05 16 33.4**	**+1.9**
W39A	**Magazine**	**22.16**	**54**	P		**P**	**05 16 32.4**	**+0.1**
	baz=245							
Z41A	**Richland Creek**	**22.17**	**60**	P		**P**	**05 16 32.9**	**+0.4**
	baz=250							
KSU1	**Kansas State U**	**22.27**	**42**	P		**P**	**05 16 34.3**	**+0.7**
KSU1	**Kansas State U**	**22.27**	**42**	P		**P**	**05 16 33.9**	**+0.4**
	baz=232							
RSSD	**Black Hills**	**22.47**	**22**	P		**P**	**05 16 36.6**	**+0.7**
	baz=209							
X40A	**Basin Creek Fa**	**22.59**	**57**	P		**P**	**05 16 36.9**	**0.0**
	baz=248							
MSO	**Missoula**	**23.10**	**3**	P		**P**	**05 16 42.6**	**+0.3**
	baz=184							
W41B	**Gary Mavity, V**	**23.30**	**55**	P		**P**	**05 16 44.2**	**-0.1**
	baz=247							
U40A	**Yellville**	**23.34**	**52**	P		**P**	**05 16 45.0**	**+0.2**
	baz=244							
E04D	**Cinebar**	**23.45**	**348**	P		**P**	**05 16 45.5**	**-0.3**
	baz=164							
LAO	**LASA Array**	**24.14**	**16**	P		**P**	**05 16 52.8**	**+0.4**
	baz=201,SNR=6.9							
NEW	**Newport**	**24.52**	**358**	P		**P**	**05 16 55.3**	**-0.5**
	baz=177							
EGMT	**Eagleton**	**24.70**	**9**	P		**P**	**05 16 58.1**	**+0.5**
	baz=193,SNR=5.3							
B05A	**Bryant**	**25.02**	**350**	P		**P**	**05 17 00.5**	**+0.2**
	baz=166							
PETF	**Flores**	**25.08**	**101**	P		**P**	**05 17 01.5**	**+0.3**
OXF	**Oxford**	**25.25**	**59**	P		**P**	**05 17 02.5**	**0.0**
	baz=252							
CCM	**Cathedral Cave**	**25.25**	**50**	P		**P**	**05 17 02.7**	**+0.1**
	baz=242							
ECSD	**EROS Data Cent**	**25.36**	**33**	P		**P**	**05 17 04.5**	**+1.0**
	baz=224							
DGMT	**Dagmar**	**26.31**	**17**	P		**P**	**05 17 13.1**	**+1.0**
	baz=204							
LRAL	**Lakeview Retre**	**26.79**	**63**	P		**P**	**05 17 16.4**	**-0.2**
	baz=257							
WVT	**Waverly**	**26.99**	**56**	P		**P**	**05 17 18.4**	**0.0**
	baz=250							
AGMN	**Agassiz Nation**	**29.11**	**28**	P		**P**	**05 17 36.9**	**-0.2**
	baz=220							
TKL	**Tuckaleechee C**	**30.00**	**59**	P		**P**	**05 17 45.0**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=225,slow=10.0,SNR=1.8							
TKL					LR	LR	05 28 48.5	
	comp=Z,57nm,19.7s,baz=266,slow=34							
ULM	**Lac du Bonnet**	**30.64**	**25**	P		**P**	**05 17 49.7**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=219,slow=11,SNR=3.1							
ULM					LR	LR	05 28 50.8	
	comp=Z,74nm,18.5s,baz=28,slow=34							
KMSC	**Kings Mountain**	**31.83**	**61**	P		**P**	**05 18 00.8**	**-0.6**
	baz=258							
P52A	**Corning**	**32.41**	**53**	P		**P**	**05 18 05.8**	**-0.6**
	baz=251							
SSPA	**Standing Stone**	**35.81**	**53**	P		**P**	**05 18 35.3**	**-0.6**
	baz=254							
SADO	**Sadowa**	**36.34**	**46**	LR		LR	05 33 52.1	
	comp=Z,105nm,18.6s,baz=200,slow=37							
YKA	**Yellowknife Ar**	**38.76**	**1**	P		**P**	**05 19 00.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=183,slow=8.1,SNR=9.7							
YKA					PcP	**PcP**	**05 21 12.7**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=174,slow=2.7,SNR=6.2							
OTAV	**Otavalo**	**42.97**	**118**	P		**P**	**05 19 38.9**	**+2.4**
OTAV				IAmb		IAmb	05 19 47.9	
	comp=Z,6.5nm,0.9s							
L26K	**Log Cabin Wild**	**43.44**	**342**	P		**P**	**05 19 38.0**	**-1.1**
	baz=142							
RIDG	**Independent Ri**	**44.42**	**342**	P		**P**	**05 19 45.1**	**-2.0**
	baz=140							
J26L	**Joseph Creek**	**44.67**	**343**	P		**P**	**05 19 48.9**	**-0.2**
	baz=142							
EPYK	**Eagle Plains**	**44.70**	**348**	P		**P**	**05 19 48.7**	**-0.4**
	baz=152							
J25K	**Salcha River,**	**45.24**	**342**	P		**P**	**05 19 53.4**	**-0.2**
	baz=140							
SDV	**Santo Domingo**	**45.45**	**101**	P		**P**	**05 19 55.0**	**-1.0**
	comp=Z,7.4nm,1.0s,baz=320,slow=7.2,SNR=3.0							
SDV	**Santo Domingo**	**45.45**	**101**	P		**P**	**05 19 58.4**	**+2.4**
MCK	**McKinley**	**45.64**	**340**	P		**P**	**05 19 56.4**	**-0.3**
	baz=135							
ILAR	**Eielson Array**	**45.79**	**342**	P		**P**	**05 19 57.8**	**0.0**
	comp=Z,0.9nm,0.9s,baz=145,slow=6.2,SNR=5.8							
INK	**Inuvik**	**45.92**	**351**	P		**P**	**05 19 58.9**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=138,slow=7.1,SNR=6.4							
INK	**Inuvik**	**45.92**	**351**	IAmb		IAmb	05 20 00.4	
	comp=Z,4.6nm,1.1s							
INK	**Inuvik**	**45.92**	**351**	P		**P**	**05 19 58.7**	**-0.1**
	baz=157							
PPLA	**Purkeypile**	**46.14**	**338**	P		**P**	**05 20 00.4**	**-0.3**
	baz=131							
NEA2	**Nenana**	**46.30**	**341**	P		**P**	**05 20 01.8**	**0.0**
	baz=136							
CAST	**Castle Rocks**	**46.45**	**338**	P		**P**	**05 20 02.4**	**-0.6**
	baz=131							
I23K	**Minto, Yukon-K**	**46.78**	**341**	P		**P**	**05 20 04.8**	**-0.7**
	baz=136							
CHUM	**Lake Minchumin**	**46.84**	**339**	P		**P**	**05 20 04.5**	**-1.6**
	baz=131							
H24K	**Noodor Dome**	**46.87**	**342**	P		**P**	**05 20 04.8**	**-1.5**
	baz=138							
K20K	**Telida**	**47.09**	**338**	P		**P**	**05 20 07.0**	**-1.1**
	baz=129							
H23K	**Yukon River**	**47.33**	**342**	P		**P**	**05 20 08.9**	**-0.9**
	baz=136							
SCHQ	**Schefferville**	**47.51**	**36**	LR		LR	05 40 39.9	
	comp=Z,140nm,19.0s,baz=188,slow=37							
TTA	**Tanlina**	**47.53**	**336**	P		**P**	**05 20 10.0**	**-1.6**
	baz=126							
I21K	**Tanana**	**47.60**	**340**	P		**P**	**05 20 09.9**	**-2.0**
	baz=133							
H21K	**Melozitna Rive**	**48.18**	**340**	P		**P**	**05 20 15.2**	**-1.3**
	baz=132							
UNV	**Unalaska Valle**	**48.31**	**322**	P		**P**	**05 20 14.8**	**-2.9**
	baz=108							
A36M	**Sachs Harbour**	**48.60**	**356**	P		**P**	**05 20 17.9**	**-1.6**
	baz=138							
TOLK	**Toolik Lake Re**	**49.40**	**344**	P		**P**	**05 20 22.8**	**-3.0**
	baz=138							
NIKH	**Nikolski High**	**49.41**	**320**	P		**P**	**05 20 21.8**	**-4.3**
	baz=105							
SPIA	**Saint Paul Isl**	**51.34**	**325**	P		**P**	**05 20 37.9**	**-2.7**
	baz=107							
ANM	**Nome**	**51.93**	**335**	P		**P**	**05 20 42.3**	**-2.6**
	baz=117							
NNA	**Nana**	**51.96**	**129**	LR		LR	05 37 51.6	
	comp=Z,57nm,18.8s,baz=300,slow=30							
PPT	**Papeete**	**52.74**	**222**	LR		LR	05 36 48.7	
	comp=Z,84nm,18.2s,baz=1.5,slow=29							
SFJD	**Kangerlussuaq**	**58.67**	**25**	LR		LR	05 49 00.0	
	comp=Z,108nm,18.4s,baz=198,slow=38							
LPAZ	**La Paz**	**61.12**	**126**	P		**P**	**05 21 51.3**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=288,slow=6.4,SNR=3.9							
LPAZ					LR	LR	05 44 06.0	
	comp=Z,62nm,18.8s,baz=134,slow=32							
LPAZ	**La Paz**	**61.12**	**126**	IAmb		IAmb	05 22 01.5	
	comp=Z,1.8nm,0.8s							
RAR	**Rarotonga**	**61.97**	**227**	LR		LR	05 42 34.1	
	comp=Z,54nm,20.9s,baz=64,slow=30							
CPUP	**Villa Florida**	**75.20**	**128**	P		**P**	**05 23 20.1**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=270,slow=2.0,SNR=3.0							
CPUP	**Villa Florida**	**75.20**	**128**	IAmb		IAmb	05 23 23.2	
	comp=Z,6.4nm,1.3s							

DJA 08 05:18:40.8±0.5, 9°S±4°×117°9E±°, h53km±7km, M3.8/7, mb3.9/1, MLv3.7/7, Sumba region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.30**	**184**	P		Pn	05 18 51.2	+0.9
WBSI				S		Sn	05 19 00.2	+3.1
PLAI	**Plampang**	**1.69**	**287**	P		Pn	05 19 07.7	-0.3
PLAI				S		Sn	05 19 28.6	+0.1
BSSI	**Bau Bau, Buton**	**3.35**	**19**	P		Pn	05 19 30.1	-0.6
BSSI				S		Sn	05 20 08.6	-0.7
BKSI	**Bulukumba**	**4.05**	**10**	P		Pn	05 19 40.4	0.0
BATI	**Baumata**	**4.28**	**102**	P		Pn	05 19 43.7	+0.2
GMJI	**Gumukmas**	**5.99**	**280**	P		Pn	05 20 07.4	+0.5

*IDC **08** 05:20:12.7±1.1, 20°.91N×146°.21E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.5/44, mbtmp3.6/9, Error ellipse: s-maj=36.6km s-min=23.0km az=85.0*

ISC 08 05:20:17.7±1.0, 20°.9N±0°.2×146°.2E±0°.2, h34km, n9, σ1§19/9, mb3.6/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KSRS	**Korea Array**	**22.89**	**320**	P		**P**	**05 25 18.2**	**-0.2**
	1.5nm,0.7s,baz=152,slow=10,SNR=6.0							
KLR	**Kul'dur**	**30.53**	**341**	P		**P**	**05 26 27.3**	**-0.4**
	1.2nm,0.8s,baz=176,slow=14,SNR=5.0							
WRA	**Warramunga Arr**	**42.23**	**197**	P		**P**	**05 28 07.6**	**-0.2**
	0.4nm,0.6s,baz=20,slow=8.8,SNR=2.7							
ASAR	**Alice Springs**	**45.90**	**196**	P		**P**	**05 28 37.4**	**+0.1**
	0.1nm,0.3s,baz=14,slow=8.6,SNR=2.1							
ZALV	**Zalesovo Beam**	**56.58**	**322**	P		**P**	**05 29 55.8**	**-1.2**
	0.3nm,0.3s,baz=108,slow=9.3,SNR=1.5							
MKAR	**Makanchi Array**	**57.31**	**313**	P		**P**	**05 30 03.2**	**+0.9**
	0.2nm,0.5s,baz=110,slow=9.2,SNR=3.1							
YKA	**Yellowknife Ar**	**75.82**	**28**	P		**P**	**05 32 02.1**	**+1.9**
	0.4nm,0.6s,baz=288,slow=5.6,SNR=7.5							
NVAR	**Mina Array Bea**	**81.40**	**52**	P		**P**	**05 32 30.2**	**-1.5**
	0.6nm,0.7s,baz=260,slow=5.4,SNR=2.0							
FINES	**FINESS Array B**	**85.09**	**335**	P		**P**	**05 32 50.2**	**+0.3**
	0.6nm,0.5s,baz=88,slow=4.3,SNR=4.7							

TAP 08 05:31:07.4, 23°.98N×121°.68E, h10km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HWA	**Hwalien**	**0.07**	**268**	*e*P		Pg	05 31 10.6	+1.1
	baz=266							
TWD	**Chiawan**	**0.12**	**324**	*e*P		Pg	05 31 11.1	+0.8
	baz=327							
TWD				*e*S		Sg	05 31 13.0	+0.7
	baz=327							
TEYL	**Yanliau Villag**	**0.13**	**213**	*e*P		Pg	05 31 11.6	+1.3
	baz=222							
ETM	**Tongmen**	**0.17**	**265**	*e*P		Pg	05 31 11.4	+0.5
	baz=265							
ETL	**Fush Village**	**0.19**	**345**	*e*P		Pg	05 31 12.2	+0.9
	baz=344							
NACB	**Ninganchiao**	**0.21**	**339**	*e*P		Pg	05 31 12.4	+0.8
	baz=339							
NACB				*e*S		Sg	05 31 15.2	+0.6
	baz=339							
ESL	**Shilin**	**0.28**	**234**	*e*P		Pg	05 31 13.7	+0.7
	baz=232							
ESL				*e*S		Sg	05 31 17.1	+0.5
	baz=232							
ETLH	**Xiulin Townshi**	**0.29**	**322**	P		Pb	05 31 14.1	-0.7
	baz=321							
WHF	**Hehuan Shan**	**0.41**	**294**	*e*P		Pg	05 31 16.1	+0.5
	baz=293							
WHF				*e*S		Sg	05 31 21.4	+0.3
	baz=293							
ENA	**Nanau**	**0.45**	**8**	*e*P		Pb	05 31 17.2	-0.3
	baz=8.0							
ENA				*e*S		Sb	05 31 23.7	-0.6
	baz=8.0							
OWD	**Renai**	**0.46**	**267**	*e*P		Pb	05 31 17.4	-0.2
	baz=266							
OWD				*e*S		Sg	05 31 22.7	+0.2
	baz=266							
CHGB	**Renai**	**0.47**	**280**	P		Pb	05 31 17.4	-0.5
	baz=280							
FUSS	**Fushou**	**0.48**	**304**	*e*P		Pg	05 31 16.6	-0.2
	baz=304							
WUSB	**Renai**	**0.51**	**272**	*e*P		Pb	05 31 18.4	-0.1
	baz=271							
NNSB	**Datong**	**0.52**	**329**	*e*P		Pb	05 31 19.0	+0.2
	baz=329							
NNSB				*e*S		Sg	05 31 25.1	+0.7
	baz=329							
TWT	**Tachien**	**0.53**	**301**	*e*P		Pb	05 31 19.3	+0.3
	baz=299							
VWDT	**VWDT**	**0.54**	**245**	*e*P		Pb	05 31 19.1	+0.2
	baz=245							
VWDT				*e*S		Sb	05 31 26.3	-0.5
	baz=245							
LATG	**Datong**	**0.57**	**346**	*e*P		Pg	05 31 18.8	+0.3
	baz=346							
NDT	**Datong Townshi**	**0.64**	**347**	*e*P		Pg	05 31 20.0	+0.2
	baz=346							
NDT				*e*S		Sb	05 31 29.7	0.0
	baz=346							
NDS	**Dongshan**	**0.65**	**3**	*e*P		Pb	05 31 21.1	+0.2
	baz=3.0							
NDS				*e*S		Sb	05 31 31.3	+1.2
	baz=3.0							
SSLB	**Suanglung**	**0.69**	**254**	*e*P		Pb	05 31 21.5	0.0
	baz=253							
YHNB	**Yeheng**	**0.74**	**338**	*e*P		Pb	05 31 22.2	-0.3
	baz=338							
FUSB	**Fushanzhiwuyua**	**0.78**	**354**	*e*P		Pb	05 31 23.8	+0.7
	baz=354							
FUSB				*e*S		Sb	05 31 34.5	+0.6
	baz=354							

JMA 08 05:31:14.1±0.2, 24°.88N×123°.37E, h28km, M2.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.53**	**218**	P		Pb	05 31 24.7	-0.2
YOJ				*e*S		Sb	05 31 31.8	-0.5
JYNG	**Yonagunijimaku**	**0.58**	**222**	P		Pb	05 31 25.4	-0.3
JYNG				S		Sb	05 31 33.4	-0.2
IRIF	**Iriomote-Funau**	**0.63**	**149**	P		Pb	05 31 26.5	-0.2
IRIF				*e*S		Sb	05 31 34.7	-0.5
JKRS	**Kuro-shima**	**0.86**	**138**	P		Pn	05 31 30.2	-0.2
JKRS				S		Sb	05 31 41.7	0.0
JIJ	**Ishigaki jima**	**0.87**	**126**	P		Pn	05 31 29.9	-0.6
JIJ				S		Sb	05 31 40.7	-1.2
JISG	**Ishigakijimahi**	**0.90**	**109**	P		Pn	05 31 30.6	-0.3
HATJ	**Hateruma jima**	**0.91**	**154**	P		Pn	05 31 31.0	0.0
HATJ				S		Sb	05 31 42.8	-0.2
JTJ	**Tarama**	**1.23**	**101**	S		Sb	05 31 52.0	-0.3

*MOS **08** 05:50:41.4±1.8, 43°.40N×147°.58E, h58km, mb4.2/1, Error ellipse: s-maj=14.3km s-min=11.0km az=130.7*
*JMA **08** 05:50:45.9±0.2, 43°.48N×147°.20E, h51km, M3.5*
*SKHL **08** 05:50:46.6±0.3, 43°.70N×147°.20E, h75km±5km, mb4.3/4*

ISC 08 05:50:45.3±1.5, 43°.47N±0°.08×147°.27E±0°.08, h58km±10km, n39, σ1§18/56, 2C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SHO	**Shikotan**	**0.51**	**321**	*d* iPN		**Pn**	**05 50 57.6**	**+0.3**
SHO				*e*S		**Sn**	**05 51 05.9**	**0.0**
SHO				pmax		pmax		
	comp=Z,220nm,0.5s							
SHO				pmax		pmax		
	comp=E,64nm,0.1s							
SHO				pmax		pmax		
	comp=N,57nm,0.4s							
SHO				smax		smax		
	comp=N,5μm,0.2s							
SHO				smax		smax		
	comp=E,4μm,0.2s							
SHO	**Shikotan**	**0.51**	**321**	*i* P		**Pn**	**05 50 57.6**	**+0.3**
SHO				AMB		AMB	05 50 58.1	
	comp=E,220nm,0.3s							
SHO				*e*S		**Sn**	**05 51 06.0**	**0.0**
SHO				A		A	05 51 06.6	
	comp=E,5μm,0.3s							
SHO				A		A	05 51 06.6	
	comp=E,4μm,0.3s							
NEM2	**Nemuro 2**	**1.12**	**265**	P		**Pn**	**05 51 05.0**	**+0.2**
NEM2				*e*S		**Sn**	**05 51 18.7**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.13**	**265**	⇓ *i* PN		**Pn**	**05 51 05.0**	**0.0**
NMR				*e*S		**Sn**	**05 51 18.3**	**-1.3**
NMR	**Nemuro--Hokkai**	**1.13**	**265**	*i* P		**Pn**	**05 51 05.0**	**0.0**
NMR				*e*S		**Sn**	**05 51 18.9**	**-0.7**
YUK	**Yuzh-Kuril'

AKK	**Akkeshi**	**1.83**	**256**	*e*P		**Pn**	**05 51 14.8**	**+0.3**
AKK				*e*S		**Sn**	**05 51 35.9**	**-0.6**
JNK	**Nakash**	**1.86**	**274**	P		**Pn**	**05 51 14.9**	**+0.1**
JNK				*e*S		**Sn**	**05 51 36.3**	**-0.9**
JAK	**Akkeshi**	**1.94**	**257**	P		**Pn**	**05 51 16.1**	**+0.2**
JAK				*e*S		**Sn**	**05 51 38.1**	**-1.1**
JTKR	**Abashiri--Toko**	**2.49**	**283**	P		**Pn**	**05 51 24.2**	**+0.8**
JAR	**Ashorobuto**	**2.56**	**267**	P		**Pn**	**05 51 25.3**	**+0.9**
JAR				*e*S		**Sn**	**05 51 54.3**	**0.0**
JOB	**Onbets**	**2.58**	**258**	P		**Pn**	**05 51 25.3**	**+0.7**
JOB				*e*S		**Sn**	**05 51 54.8**	**+0.1**
JMP	**Maruseppu**	**2.88**	**282**	P		**Pn**	**05 51 30.2**	**+1.4**
JCH	**Churui**	**2.99**	**255**	P		**Pn**	**05 51 30.8**	**+0.5**
JCH				*e*S		**Sn**	**05 52 02.9**	**-2.0**
JKK2	**Kamakawa 2**	**3.31**	**278**	P		**Pn**	**05 51 36.2**	**+1.6**
ERM	**Erimo**	**3.36**	**246**⇓	*e*PN		**Pn**	**05 51 37.2**	**+1.9**
JFR	**Furan**	**3.43**	**266**	P		**Pn**	**05 51 37.9**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.53**	**252**	P		**Pn**	**05 51 38.1**	**+0.5**
JSE	**Soyaes**	**3.68**	**295**	P		**Pn**	**05 51 40.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.72**	**319**	*e*PN		**Pn**	**05 51 55.9**	**+2.0**
YSS	**Yuzh-Sakhalins**	**4.72**	**319**	*e*P		**Pn**	**05 51 54.0**	**+0.1**
MAJO	**Matsushiro**	**9.81**	**228**	*i* PN		**Pn**	**05 53 02.0**	**-1.6**
MAJO				pmax	pmax			
	comp=Z,3.0nm,0.3s							
VLA	**Vladivostok**	**11.22**	**273**⇑	*e*PN		**Pn**	**05 53 26.7**	**+3.8**
VLA				pmax	pmax			
	comp=Z,52nm,0.6s							
ZEA	**Zeya**	**16.70**	**315**	*e*P		**Pn**	**05 54 31.8**	**-3.4**
ZEA				pmax	pmax			
	comp=N,20nm,0.3s							
ZEA				pmax	pmax			
	comp=Z,20nm,0.4s							
SEY	**Seymchan**	**19.72**	**7**	*i* P		**P**	**05 55 11.1**	**+1.3**
SEY				pmax	pmax			
	comp=Z,8.0nm,2.2s							
SEY	**Seymchan**	**19.72**	**7**	*e*P		**P**	**05 55 11.1**	**+1.3**
TIXI	**Tiksi**	**29.65**	**348**	*i* P		**P**	**05 56 45.7**	**+0.9**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.8s							
TIXI	**Tiksi**	**29.65**	**348**	*e*P		**P**	**05 56 45.7**	**+0.9**
MKAR	**Makanchi Array**	**44.79**	**298**	*i* P		**P**	**05 58 52.7**	**-0.4**
MKAR	**Makanchi Array**	**44.79**	**298**	*e*P		**P**	**05 58 52.7**	**-0.4**

*IDC **08** 05:51:05.8±1.1,9.°95N×74.°15W,h0km,mb3.6/3,mb1 3.9/5, mb1mx3.5/44,mbtmp3.6/5,ML2.2/2,Error ellipse: s-maj=45.4km s-min=22.3km az=65.0*

*RSNC **08** 05:51:08.3±2.0,9.°95N×73.°96W,h0km±7km,ML3.2,Mw3.8*

ISC 08 05:51:06.5±1.2,10'.04N±0'.03×73.°97W±0.03,h2km±9km, n34,σ2°.20/61,mb3.6/3,5C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LL5C	**La Loma 5 El P**	**0.38**	**140**⇑	*e*P		**Pg**	**05 51 13.8**	**0.0**
LL5C				*i*			05 51 18.8	
	comp=Z,3μm,0.4s							
LL1C	**La Loma 1 Cana**	**0.64**	**141**⇑	*i*P		**Pg**	**05 51 18.5**	**-0.3**
LL1C				*e*S		**Sg**	**05 51 27.0**	**-0.2**
LL1C				*i*			05 51 35.4	
	comp=Z,4μm,0.4s							
LL6C	**La Loma 6 Bece**	**0.75**	**114**⇑	*i*P		**Pg**	**05 51 21.3**	**+0.3**
LL6C				*e*S		**Sg**	**05 51 30.9**	**+0.2**
LL6C				*i*			05 51 32.1	
	comp=Z,431nm,0.1s							
CVALL	**Valledupar, Ce**	**0.84**	**56**⇑	*i*P		**Pb**	**05 51 24.9**	**+1.0**
CVALL				*e*S		**Sn**	**05 51 37.6**	**-0.8**
SMRC	**Santa Marta, M**	**1.14**	**347**	*e*P		**Pn**	**05 51 30.7**	**+1.1**
SMRC				*e*S		**Sn**	**05 51 47.6**	**+1.7**
SMRC				*i*			05 51 50.5	
	comp=Z,202nm,0.4s							
SJCC	**San Jacinto, C**	**1.20**	**263**⇓	*i*P		**Pg**	**05 51 29.3**	**-0.3**
SJCC				*e*S		**Sg**	**05 51 45.3**	**+0.1**
SJCC				*i*			05 51 53.6	
	comp=Z,230nm,0.5s							
CRJC	**Cerrejon, Guaj**	**1.44**	**48**⇑	*e*P		**Pb**	**05 51 34.5**	**+0.3**
CRJC				*e*S		**Sn**	**05 51 56.0**	**+2.5**
OCAC	**Ocana**	**1.90**	**160**	*e*P		**Pn**	**05 51 38.3**	**-1.9**
OCAC				*e*S		**Sn**	**05 52 02.5**	**-2.4**
OCAC				*i*			05 52 05.5	
	comp=Z,544nm,0.7s							
MOTC	**Monteria, Cord**	**2.09**	**233**	*e*P		**Pn**	**05 51 43.0**	**+0.4**
MOTC				*e*S		**Sn**	**05 52 09.2**	**-0.2**
URIC	**Uribia, Colomb**	**2.55**	**49**	*e*P		**Pn**	**05 51 49.7**	**+0.8**
URIC				*e*S		**Sg**	**05 52 29.8**	**+1.4**
URIC				*i*			05 52 31.8	
	comp=Z,318nm,0.3s							
ZARC	**Zaragoza, Cauc**	**2.68**	**199**	*e*P		**Pn**	**05 51 51.1**	**+0.3**
ZARC				*e*S		**Sn**	**05 52 23.7**	**-0.2**
ZARC				*i*			05 52 31.2	
	comp=Z,154nm,0.5s							
UREC	**San Jos de Ur**	**2.75**	**214**	*e*P		**Pn**	**05 51 51.9**	**+0.1**
UREC				*e*S		**Sn**	**05 52 25.8**	**+0.2**
UREC				*i*			05 52 32.3	
	comp=Z,42nm,0.5s							
PAMC	**Pamplona, Colo**	**2.96**	**155**	*e*P		**Pn**	**05 51 55.5**	**+0.4**
PAMC				*e*S		**Sn**	**05 52 30.6**	**-0.9**
PAMC				*i*			05 52 50.5	
	comp=Z,81nm,0.8s							
SDV	**Santo Domingo**	**3.48**	**109**	Pn		**Pn**	**05 52 03.1**	**+1.1**
	comp=Z,3.6nm,0.3s,baz=320,slow=6.1,SNR=111							
SDV				Sn		**Sn**	**05 52 43.0**	**-1.0**
	comp=Z,4.4nm,0.3s,baz=270,slow=22,SNR=1.9							
SDV	**Santo Domingo**	**3.48**	**109**	*e*P		**Pn**	**05 52 02.9**	**+0.9**
SDV				*e*S		**Sg**	**05 52 55.5**	**-3.1**
SDV				*i*			05 53 11.8	
	comp=Z,66nm,0.5s							
PTBC	**PUERTO BERRIO,**	**3.51**	**188**	*e*P		**Pn**	**05 52 01.6**	**-0.6**
PTBC				*e*S		**Sn**	**05 52 44.4**	**-0.1**
PTBC				*i*			05 52 54.6	
	comp=Z,103nm,0.4s							
BARC	**Barichara**	**3.51**	**167**	*e*P		**Pn**	**05 52 02.3**	**-0.1**
BARC				*e*S		**Sn**	**05 52 44.6**	**-0.1**
BARC				*i*			05 53 01.0	
	comp=Z,68nm,0.5s							
HELC	**Santa Helena**	**4.13**	**202**	*e*P		**Pn**	**05 52 13.7**	**+2.7**
HELC				*e*S		**Sb**	**05 53 08.6**	**-2.1**
HELC				*i*			05 53 19.0	
	comp=Z,21nm,0.6s							
TAMC	**Tame, Arauca**	**4.18**	**149**	*e*P		**Pn**	**05 52 14.4**	**+3.0**
TAMC				*e*S		**Sb**	**05 53 14.7**	**+2.7**
TAMC				*i*			05 53 43.1	
	comp=Z,33nm,0.7s							
RUSC	**La Rusia**	**4.21**	**168**	*e*P		**Pn**	**05 52 15.6**	**+3.3**
RUSC				*e*S		**Sn**	**05 53 06.2**	**+3.8**
RUSC				*i*			05 53 20.1	
	comp=Z,29nm,0.4s							
SPBC	**San Pablo de B**	**4.36**	**181**	*e*P		**Pn**	**05 52 14.3**	**+0.3**
SPBC				*e*S		**Sn**	**05 53 09.7**	**+4.2**
NORC	**Norcasia**	**4.54**	**191**	*e*P		**Pn**	**05 52 20.6**	**+4.2**
NORC				*e*S		**Sn**	**05 53 15.6**	**+5.8**
NORC				*i*			05 53 31.4	
	comp=Z,22nm,0.6s							
CBOC	**Ciudad Bolivar**	**4.62**	**206**	*e*P		**Pn**	**05 52 19.3**	**+1.7**
CBOC				*e*S		**Sb**	**05 53 23.3**	**-1.4**
CBOC				*i*			05 53 39.8	
	comp=Z,11nm,0.6s							
GUY2C	**Guyana, Caldas**	**4.98**	**196**	*e*P		**Pn**	**05 52 23.7**	**+0.9**
GUY2C				*e*S		**Sb**	**05 53 32.7**	**-2.8**
GUY2C				*i*			05 53 46.5	
	comp=Z,31nm,0.7s							
ROSC	**El Rosal**	**5.18**	**184**	Pn		**Pn**	**05 52 24.4**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=56,slow=21,SNR=2.5							
ROSC				Sn		**Sn**	**05 53 30.5**	**+4.4**
	comp=Z,3.4nm,0.3s,baz=187,slow=23,SNR=2.3							
ROSC	**El Rosal**	**5.18**	**184**	*e*P		**Pn**	**05 52 28.6**	**+3.1**
ROSC				*e*S		**Sb**	**05 53 36.9**	**-4.2**
ROSC				*i*			05 53 48.6	
	comp=Z,14nm,0.5s							
CHIC	**Chingaza**	**5.38**	**177**	*e*P		**Pn**	**05 52 29.2**	**+0.9**
CHIC				*e*S		**Sn**	**05 53 36.1**	**+5.0**
CHIC				*i*			05 53 51.2	
	comp=Z,12nm,0.4s							
ANIL	**Santa Ana**	**5.70**	**195**	*e*P		Pn	05 52 39.7	+7.1
ANIL				*e*S		**Sb**	**05 53 58.7**	**+2.9**
ANIL				*i*			05 54 19.2	
	comp=Z,17nm,0.3s							
ORTC	**Ortega, Tolima**	**6.22**	**192**	*e*P		**Pn**	**05 52 42.5**	**+3.0**
ORTC				*e*S		**Sb**	**05 54 11.6**	**+0.9**
LPAZ	**La Paz**	**26.79**	**167**	P		**P**	**05 56 47.6**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=5.2,slow=11,SNR=4.2							
PDAR	**Pinedale Array**	**45.01**	**323**	P		**P**	**05 59 21.6**	**-2.3**
	comp=Z,0.3nm,0.8s,baz=129,slow=8.5,SNR=2.4							
YKA	**Yellowknife Ar**	**59.97**	**340**	P		**P**	**06 01 14.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=130,slow=7.1,SNR=22							
ASAR	**Alice Springs**	**150.16**	**239**	PKPbc		**PKPbc**	**06 10 58.6**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=107,slow=2.3,SNR=5.7							
WRA	**Warramunga Arr**	**150.98**	**247**	PKPbc		**PKPbc**	**06 11 01.1**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=100,slow=3.1,SNR=5.2							

*IDC **08** 06:11:31.1±3.0,6.°48S×147.°48E,h66km±21km,mb3.7/4, mb1 3.9/6,mb1mx3.5/28,mbtmp3.9/6,MS2.8/2,Ms1 2.8/2, ms1mx2.4/65,Error ellipse: s-maj=32.1km s-min=20.0km az=116.0*

ISC 08 06:11:30.3±1.3,6.°4S±0'.1×147.°5E±0'.2,h63km,n9, σ0°89/12,mb3.8/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.00**	**186**	P		**Pn**	**06 12 16.3**	**+0.8**
	22nm,0.3s,baz=26,slow=9.3,SNR=23							
PMG				S		**Sn**	**06 12 49.8**	**-0.5**
	24nm,0.3s,baz=215,slow=22,SNR=9.8							
PMG				LR		LR	06 13 10.4	
	comp=Z,119nm,19.1s,baz=50,slow=34							
WRA	**Warramunga Arr**	**18.55**	**222**	P		**P**	**06 15 42.2**	**+0.1**
	0.5nm,0.3s,baz=51,slow=11,SNR=20							
WRA				S		Sn	06 18 58.4	-11
	0.1nm,0.3s,baz=41,slow=22,SNR=1.6							
WRA				PcP		**PcP**	**06 20 08.6**	**-1.0**
	0.0nm,0.3s,baz=32,slow=1.7,SNR=2.3							
ASAR	**Alice Springs**	**21.56**	**216**	P		**P**	**06 16 15.3**	**+0.5**
	1.3nm,0.6s,baz=52,slow=8.4,SNR=24							
ASAR				S		**S**	**06 20 09.7**	**-0.9**
	0.7nm,0.9s,baz=34,slow=22,SNR=3.3							
ASAR				ScP		**ScP**	**06 23 48.7**	**+1.7**
	0.1nm,0.4s,baz=44,slow=4.4,SNR=5.6							
FITZ	**Fitzroy Crossi**	**24.26**	**239**	P		**P**	**06 16 42.0**	**+0.2**
	3.6nm,0.7s,baz=49,slow=4.2,SNR=20							
STKA	**Stephens Creek**	**25.93**	**191**	P		**P**	**06 16 56.4**	**-0.4**
	1.2nm,0.4s,baz=1.9,slow=7.1,SNR=6.8							
KAPI	**Kappang**	**27.62**	**271**	LR		LR	06 30 43.7	
	comp=Z,27nm,18.6s,baz=180,slow=42							
VNDA	**Vanda**	**71.48**	**177**	P		**P**	**06 22 44.1**	**+0.2**
	1.1nm,0.5s,baz=337,slow=6.8,SNR=15							
TORD	**Torodi Ar. Bea**	**145.65**	**284**	PKPbc		**PKPdf**	**06 31 02.8**	**+0.1**
	2.3nm,0.6s,baz=79,slow=4.2,SNR=21							
BDFB	**Brasilia**	**153.26**	**145**	PKPbc		**PKPbc**	**06 31 21.3**	**-1.1**
	2.6nm,0.6s,baz=135,slow=1.5,SNR=4.9							

*INMG **08** 06:13:26.0±0.6,36.°68N×10.°98W,h4km±10km,ML1.9, Error ellipse: s-maj=10.8km s-min=2.9km az=78.0*

CNRM 08 06:13:26.9,36.°31N×10.°26W,h0km,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.41**	**54**	*e*Sn		Sn	06 14 18.4	+5.2
PTEO	**Sao Teotonio**	**1.74**	**44**	*e*Pn		Pn	06 13 59.0	+0.6
PTEO				*e*Sn		Sg	06 14 23.3	+0.5
PBDV	**Barranco-do-Ve**	**2.09**	**63**	*e*Sn		Sg	06 14 35.4	+1.5
PCVE	**Castro Verde**	**2.21**	**53**	*e*Pn		Pn	06 14 06.2	+1.3
PCVE				*e*Sn		Sb	06 14 36.0	+0.3
PNCL	**Nicolau / Gran**	**2.27**	**37**	*e*Pn		Pn	06 14 04.3	-1.3
PNCL				*e*Sn		Sn	06 14 33.2	-1.1
PNCL				A		A	06 14 37.6	
	2.9nm,0.4s							
PVAQ	**Vaqueiros**	**2.31**	**61**	*e*Pn		Pb	06 14 08.7	-0.7
PVAQ				*e*Sn		Sg	06 14 40.3	-0.8
PVAQ	**Vaqueiros**	**2.31**	**61**	P		Pn	06 14 04.5	-1.7
PVAQ				S		Sn	06 14 35.4	+0.1
EVO	**Evora**	**2.85**	**38**	*e*Sn		Sn	06 14 46.8	-1.8
EVO				A		A	06 14 49.9	
	6.9nm,0.3s							
PBAR	**Barrancos**	**3.17**	**53**	*e*Sn		Sn	06 14 58.4	+1.8
PMTG	**Montargil**	**3.19**	**30**	*e*Sn		Sn	06 14 52.5	-4.6
PSBE	**So Bento**	**3.40**	**19**	*e*Sn		Sn	06 14 55.0	-7.3
PMRV	**Marv??o**	**3.85**	**35**	*e*Pn		Pn	06 14 24.8	-2.6
PMRV				*e*Sn		Sn	06 15 08.8	-4.6
OUK	**Oukaimeden**	**5.46**	**158**	P		Pn	06 14 50.5	+0.6
OUK				S		Sn	06 15 53.6	0.0
MD31	**MD31**	**5.69**	**126**	P		Pn	06 14 55.6	+2.9
MD31				S		Sn	06 16 00.1	+1.4
MDT	**Midelt**	**5.82**	**125**	P		Pn	06 14 56.7	+2.2
MDT				S		Sn	06 16 03.7	+1.7
OUZM	**OUZ**	**6.12**	**151**	P		Pn	06 14 58.5	-0.2
OUZM				S		Sn	06 16 10.2	+0.6

*SOME **08** 06:28:08.5,41.°27N×71.°03E,h15km*

*NNC **08** 06:28:09.3±3.5,41.°23N×71.°13E,h0km,mb3.6,mpv3.1, Error ellipse: s-maj=27.5km s-min=11.7km az=9.0*

ISC 08 06:28:10.8±2.2,41.°4N±0'.1×71.°07E±0'.04,h10km,n12, σ1°90/21,2C,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IUG	**luzhnay**	**1.07**	**314**	*e*P		**Pb**	**06 28 29.7**	**-1.8**
	201nm,0.1s							
IUG				*e*S		**Sb**	**06 28 44.7**	**-1.0**
	13nm,0.0s							
IUG	**luzhnay**	**1.07**	**314**	P		**Pn**	**06 28 33.5**	**+1.4**
	102nm,0.2s							
IUG				S		**Sn**	**06 28 50.7**	**+3.6**
	26nm,0.2s							
KK31	**Karatay Array**	**1.75**	**347**	⇑Pn		**Pb**	**06 28 42.9**	**-0.1**
	3.9nm,0.4s,baz=160,slow=14,SNR=37							
KK31				⇑Sn		**Sg**	**06 29 10.1**	**+3.1**
	2.6nm,0.3s,baz=161,slow=28,SNR=10.0							
BRLS	**Borolday**	**1.86**	**331**	*e*P		**Pn**	**06 28 42.1**	**-0.8**
	2.2nm,0.2s							
BRLS				*e*S		**Sn**	**06 29 05.5**	**-1.0**
	1.6nm,0.3s							
BRLS	**Borolday**	**1.86**	**331**	P		**Pn**	**06 28 42.1**	**-0.8**
	2.2nm,0.2s							
BRLS				S		**Sn**	**06 29 05.5**	**-1.0**
	1.6nm,0.3s							
MRKS	**Merke**	**2.09**	**49**	*e*P		**Pb**	**06 28 49.4**	**+0.5**
	3.2nm,0.1s							
MRKS				*e*S		**Sg**	**06 29 19.1**	**+1.0**
	7.1nm,0.1s							
MRKS	**Merke**	**2.09**	**49**	Pg		**Pg**	**06 28 50.8**	**-0.1**
	5.3nm,0.5s							
MRKS				Lg		Lg	06 29 20.4	
	7.1nm,0.5s							
SGDS	**Sogindy**	**3.34**	**51**	*e*P		**Pb**	**06 29 11.4**	**+1.3**
	1.3nm,0.1s							
SGDS				*e*S		**Sg**	**06 29 56.1**	**-1.9**
	1.5nm,0.1s							
SGDS	**Sogindy**	**3.34**	**51**	Pg		**Pb**	**06 29 11.4**	**+1.3**
	1.4nm,0.4s							
SGDS				Lg		Lg	06 29 56.0	
	1.1nm,0.5s							
KST	**Kastek**	**3.99**	**64**	*e*P		**Pb**	**06 29 22.9**	**+1.7**
	0.7nm,0.3s							
KST				*e*S		**Sg**	**06 30 16.0**	**-2.9**
	2.0nm,0.1s							
KRBS	**Karabastau**	**4.10**	**55**	*e*P		**Pb**	**06 29 24.9**	**+1.8**
	0.8nm,0.0s							
KRBS				*e*S		**Sg**	**06 30 19.4**	**-3.1**
	1.0nm,0.1s							
KRBS	**Karabastau**	**4.10**	**55**	Pg		**Pb**	**06 29 23.9**	**+0.8**
	0.8nm,0.7s							
KRBS				Lg		Lg	06 30 17.9	
	0.8nm,0.5s							

IDC 08 06:54:10.4±2.0,5.°64S×142.°65E,h0km,mb3.4/2, mb1 3.7/5,mb1mx3.4/30,mbtmp3.5/5,ML3.4/3,Error ellipse: s-maj=49.7km s-min=25.3km az=96.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**3.66**	**328**	Pn		Pn	06 55 09.2	+0.9
	2.6nm,0.3s,baz=185,slow=11,SNR=6.8							
JAY				Sn		Sn	06 55 54.1	+1.8
	2.6nm,0.3s,baz=292,slow=22,SNR=2.0							
WRA	**Warramunga Arr**	**16.36**	**209**	Pn		Pn	06 58 00.2	-1.5
	0.1nm,0.3s,baz=27,slow=13,SNR=8.2							
WRA				Sn		Sn	07 00 56.0	-8.0
	0.1nm,0.3s,baz=21,slow=23,SNR=4.3							
ASAR	**Alice Springs**	**19.81**	**204**	P		Pn	06 58 44.1	0.0
	0.1nm,0.3s,baz=32,slow=9.9,SNR=12							
FITZ	**Fitzroy Crossi**	**20.72**	**232**	P		P	06 58 51.8	-0.9
	1.6nm,1.0s,baz=44,slow=13,SNR=2.8							
ILAR	**Eielson Array**	**86.88**	**24**	P		P	07 06 56.2	-0.5
	0.2nm,0.7s,baz=259,slow=5.6,SNR=2.1							

*IDC **08** 07:03:44.8±0.9,14.°07S×166.°57E,h0km,mb4.3/15, mb1 4.4/16,mb1mx4.2/45,mbtmp4.3/16,ML4.1/1,MS3.9/21, Ms1 3.9/21,ms1mx3.6/62,Error ellipse: s-maj=27.9km s-min=16.8km az=110.0*

*NEIC **08** 07:03:50.5±1.6,14.°01S±0'.09×166.°6E±0'.1,h35km±2km, mb4.7/25,Error ellipse: s-maj=21.0km s-min=14.6km az=78.0*

ISC 08 07:03:51.2±0.4,14°.08S±0'.06×166°.47E±0'.09,h43km,n84, σ1°56/70,mb4.5/33,MS3.9/20,1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**1.54**	**153**	Pn		**Pn**	**07 04 14.7**	**-1.4**
KOUNC	**Koumac, New Ca**	**6.77**	**198**	Pn		**Pn**	**07 05 27.2**	**-0.9**
MARNC	**Mare, Loyalty**	**7.51**	**169**	Pn		**Pn**	**07 05 37.5**	**-0.7**
HNR	**Honiara**	**7.88**	**305**	LR		LR	07 08 08.0	
	comp=Z,342nm,19.6s,baz=136,slow=33							
DZM	**Mont Dzumac**	**7.95**	**180**	Pn		**Pn**	**07 05 44.0**	**-0.3**
	2.7nm,0.3s,baz=344,slow=10.0,SNR=21							
DZM				Sn		**Sn**	**07 07 12.4**	**-0.7**
	baz=150,slow=23,SNR=1.6							
DZM				LR		LR	07 08 08.9	
	comp=Z,300nm,21.3s,baz=14,slow=33							
DZM	**Mont Dzumac**	**7.95**	**180**	*e*Pn		**Pn**	**07 05 44.6**	**+0.2**
	42nm,0.5s							
DZM				*e*Sn		**Sn**	**07 07 10.7**	**-2.4**
	47nm,0.8s							
DZM				*e*LR		LR	07 07 40.1	
	comp=Z,628nm,25.0s							
DZM	**Mont Dzumac**	**7.95**	**180**	Pn		**Pn**	**07 05 44.1**	**-0.3**
ONTNC	**Ouen Toro**	**8.19**	**180**	Pn		**Pn**	**07 05 48.3**	**+0.8**
OUENC	**Ouen Island, N**	**8.30**	**178**	Pn		**Pn**	**07 05 49.5**	**+0.3**
MSVF	**Nonsavu**	**11.72**	**110**	LR		LR	07 10 08.3	
	comp=Z,676nm,19.7s,baz=4.9,slow=33							
PMG	**Port Moresby**	**19.46**	**282**	LR		LR	07 14 51.4	
	comp=Z,373nm,18.1s,baz=30,slow=34							
CTA	**Charters Tower**	**20.22**	**250**	P		**P**	**07 08 23.6**	**+0.8**
	8.3nm,0.9s,baz=84,slow=13,SNR=5.9							
CTA				LR		LR	07 15 22.2	
	comp=Z,274nm,19.1s,baz=66,slow=34							
AFI	**Afiamalu**	**21.11**	**92**	LR		LR	07 14 40.2	
	comp=Z,254nm,21.3s,baz=258,slow=31							
OUZ	**Omahuta**	**22.01**	**164**	P		**P**	**07 08 42.5**	**+0.6**
OUZ				IAmb		IAmb	07 08 50.4	
	comp=Z,30nm,1.1s							
BKZ	**Black Stump Fm**	**26.51**	**162**	P		**P**	**07 09 24.6**	**-0.2**
STKA	**Stephens Creek**	**28.84**	**228**	P		**P**	**07 09 46.4**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=55,slow=10.0,SNR=6.0							
STKA				LR		LR	07 21 25.9	
	comp=Z,394nm,18.7s,baz=47,slow=37							
RPZ	**Rata Peaks**	**29.80**	**173**	LR		LR	07 22 01.8	
	comp=Z,381nm,18.0s,baz=354,slow=37							
WB0	**Warramunga Arr**	**31.17**	**255**	P		**P**	**07 10 05.4**	**-1.1**
WB0				IAmb		IAmb	07 10 13.4	
	comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**31.24**	**255**	P		**P**	**07 10 05.9**	**-1.1**
	comp=Z,2.8nm,0.8s,baz=84,slow=8.7,SNR=13							
WRA				LR		LR	07 22 04.8	
	comp=Z,298nm,19.3s,baz=97,slow=35							
WRA	**Warramunga Arr**	**31.24**	**255**	P		**P**	**07 10 06.4**	**-0.6**
ASAR	**Alice Springs**	**32.19**	**248**	P		**P**	**07 10 14.3**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=74,slow=9.7,SNR=22							
ASAR				LR		LR	07 23 16.1	
	comp=Z,216nm,18.1s,baz=115,slow=36							
H11S2	**WAKE ISLAND Hy**	**32.36**	**0**	T		T	07 44 36.2	
	baz=183,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**32.37**	**0**	T		T	07 44 33.0	
	baz=183							
H11S1	**WAKE ISLAND Hy**	**32.38**	**0**	T		T	07 44 42.0	
	baz=183							
RAR	**Rarotonga**	**32.89**	**107**	LR		LR	07 20 48.0	
	comp=Z,124nm,21.5s,baz=278,slow=31							
BBOO	**Buckleboo**	**33.38**	**231**	P		**P**	**07 10 25.9**	**+0.3**
BBOO				IAmb		IAmb	07 10 47.8	
	comp=Z,12nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**33.58**	**1**	T		T	07 46 05.0	
	baz=188							
H11N3	**WAKE ISLAND Hy**	**33.58**	**1**	T		T	07 46 03.3	
	baz=188							
H11N2	**WAKE ISLAND Hy**	**33.60**	**1**	T		T	07 46 11.7	
	baz=188							
KNRA	**Kununurra**	**36.45**	**263**	P		**P**	**07 10 51.6**	**-0.6**
SIJI	**Sorong**	**37.21**	**288**	LR		LR	07 27 17.8	
	comp=Z,217nm,18.8s,baz=90,slow=38							
FORT	**Forrest**	**38.97**	**238**	P		**P**	**07 11 13.

GOMU				pP	pP	07 16 25.1	-3.6	
GOMU				sP	sP	07 16 28.4	-4.5	
GOMU				pmax	pmax			
	comp=Z,1.0nm,0.5s							
GOMU				pmax	pmax			
	comp=Z,52nm,4.6s							
RND	**Reindeer**	**84.56**	**19**	P	**P**	**07 16 19.1**	**-0.5**	
DHY	**Denali Highway**	**84.79**	**19**	P	**P**	**07 16 20.6**	**-0.3**	
DHY				IAmb	IAmb	07 16 46.1		
	comp=Z,8.2nm,1.4s							
IMAR	**Indian Mountai**	**85.14**	**15**	P	**P**	**07 16 22.6**	**+0.3**	
HDA	**Harding Lake**	**85.87**	**18**	P	**P**	**07 16 25.3**	**-0.7**	
MDM	**Murphy Dome**	**85.88**	**18**	P	**P**	**07 16 25.2**	**-0.9**	
IL31		**86.15**	**18**	P	**P**	**07 16 26.4**	**-1.0**	
IL31				IAmb	IAmb	07 16 27.5		
	comp=Z,4.6nm,0.9s							
ILAR	**Eielson Array**	**86.15**	**18**	P	**P**	**07 16 26.7**	**-0.7**	
	comp=Z,2.5nm,0.8s,baz=241,slow=5.3,SNR=22							
ILAR				LR	LR	07 50 45.4		
	comp=Z,94nm,18.9s,baz=212,slow=33							
ILAR	**Eielson Array**	**86.15**	**18**	P	**P**	**07 16 26.5**	**-0.9**	
J25K	**Salcha River,**	**86.50**	**19**	P	**P**	**07 16 29.1**	**-0.1**	
J25K				IAmb	IAmb	07 16 30.0		
	comp=Z,3.6nm,0.8s							
BBB	**Bella Bella**	**86.67**	**34**	LR	LR	07 55 07.2		
	comp=Z,42nm,18.0s,baz=259,slow=36							
TIXI	**Tiksi**	**89.18**	**349**	P	**P**	**07 16 40.7**	**-1.0**	
TIXI				IAmb	IAmb	07 16 42.3		
	comp=Z,2.1nm,0.7s							
WMQ	**Urumqi**	**91.72**	**315**	*eP*	**P**	**07 16 55.7**	**+1.3**	
MK31	**Makanchi Array**	**96.20**	**317**	P	**P**	**07 17 15.1**	**+0.2**	
MKAR	**Makanchi Array**	**96.20**	**317**	P	**P**	**07 17 15.6**	**+0.8**	
	comp=Z,1.0nm,0.8s,baz=101,slow=6.3,SNR=9.7							
MKAR	**Makanchi Array**	**96.20**	**317**	P	**P**	**07 17 14.9**	**+0.1**	
ZALV	**Zalesovo Beam**	**96.41**	**324**	P	**P**	**07 17 15.3**	**-0.2**	
	comp=Z,1.0nm,0.7s,baz=97,slow=7.6,SNR=5.1							
YKA	**Yellowknife Ar**	**97.33**	**27**	P	**P**	**07 17 18.4**	**-1.1**	
	comp=Z,0.5nm,0.8s,baz=253,slow=4.6,SNR=7.4							
LPAZ	**La Paz**	**118.19**	**117**	PKP	**PKPdf**	**07 22 34.1**	**-1.3**	
	comp=Z,0.9nm,0.9s,baz=308,slow=3.3,SNR=3.5							
MNK	**Minsk**	**128.37**	**331**	*i* PKP	**PKPdf**	**07 22 49.4**	**-3.6**	
	comp=E,1.0nm,0.6s							
MNK				*i* PKP	**PKPdf**	**07 22 49.4**	**-3.6**	
	comp=N,26nm,0.8s							
MNK				*i* PKP	**PKPdf**	**07 22 49.4**	**-3.6**	
	comp=Z,11nm,0.7s,baz=234							
MNK				*i* PP	**PP**	**07 24 53.2**	**-4.5**	
MNK				*i* PPP	PPP	07 27 37.8		
MNK				*i* SKS	**SKSdf**	**07 30 01.1**	**-0.1**	
MNK				*i* PS	**PS**	**07 35 07.3**	**+1.5**	
MNK				*i* SS	**SS**	**07 42 09.3**	**-0.6**	
MNK				*i* SSS	SSS	07 46 53.3		
MNK				*i* LR	LR	08 13 18.3		
MNK				*i* LRM	MLR	08 18 13.4		
	comp=Z,116nm,17.2s							
MNK				*i* LRM	MLR	08 19 02.0		
	comp=N,336nm,20.4s							
MNK				*i* LRM	MLR	08 19 03.9		
	comp=E,34nm,21.7s							

NNC ***08*** *07:07:50.0±0.8,50.01N×78.76E,h0km,mb2.9,mpv2.5, Error ellipse: s-maj=16.8km s-min=5.0km az=76.0, Suspected Mining explosion.*

IDC ***08*** *07:07:51.8±4.2,50.02N×78.67E,h0km,mb1 2.6/2, mb1mx2.6/49,mbtmp2.6/2,ML2.3/2, Error ellipse: s-maj=62.2km s-min=26.0km az=79.0*

ISC 08 07:07:50.6±1.0,**49.99N**±0.06×**78.77E**±0.10,**h0km**,**n9**, σ1**84**/11,**9C-2D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.65**	**347**	⇑P	**Pg**	**07 08 02.2**	**-0.8**
	7.5nm,0.3s						
KURBB				⇑S	**Sg**	**07 08 11.8**	**+0.4**
	22nm,0.3s						
KURK	**Kurchatov**	**0.73**	**353**	⇑P	**Pg**	**07 08 03.5**	**-1.1**
	2.6nm,0.3s						
KURK				⇑S	**Sb**	**07 08 14.5**	**-2.2**
	4.5nm,0.4s						
MAKZ	**Makanchi**	**3.84**	**145**	⇑Pg	**Pb**	**07 08 58.9**	**-0.2**
	0.5nm,0.5s						
MAKZ				⇑Lg	Lg	07 09 50.3	
	2.4nm,0.6s						
MK31	**Makanchi Array**	**3.97**	**142**	⇑Pn	**Pn**	**07 08 54.4**	**+1.7**
	baz=5.0,slow=3.9,SNR=25						
MK31				⇓Pg	**Pb**	**07 09 03.4**	**+2.0**
	0.1nm,0.2s,baz=323,slow=14,SNR=10						
MK31				Lg	Lg	07 09 56.4	
	2.4nm,0.5s,baz=326,slow=27,SNR=13						
MKAR	**Makanchi Array**	**3.97**	**142**	Pn	**Pn**	**07 08 54.6**	**+1.9**
	0.2nm,0.3s,baz=321,slow=10,SNR=36						
MKAR				Pg	**Pg**	**07 09 03.9**	**-2.7**
	0.4nm,0.3s,baz=329,slow=14,SNR=5.1						
MKAR				Lg	Lg	07 09 57.1	
	1.2nm,0.3s,baz=322,slow=28,SNR=16						
OTUK	**Ortayu**	**4.57**	**250**	⇓Pn	**Pn**	**07 09 01.7**	**+0.8**
	0.7nm,0.3s						
OTUK				⇑Lg	Lg	07 10 13.2	
	1.9nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.45**	**41**	*i*		07 40 20.0	
	baz=225,slow=316,SNR=1.3						
ZALV	**Zalesovo Beam**	**5.45**	**41**	Pn	**Pn**	**07 09 14.3**	**+1.4**
	0.5nm,0.3s,baz=229,slow=14,SNR=2.8						
BRVK	**Borovoye**	**6.12**	**303**	⇑Lg	Lg	07 10 24.5	
	27nm,1.5s						

IDC ***08*** *07:10:05.4±0.7,35.45N×3.85W,h0km,mb4.1/13, mb1 4.2/17,mb1mx4.0/49,mbtmp4.0/17,ML3.9/4,MS3.6/12, Ms1 3.6/12,ms1mx3.1/99,Error ellipse: s-maj=22.2km s-min=11.9km az=101.0*

CNRM ***08*** *07:10:06.7,35.53N×3.77W,h24km,ml4.2*

MDD ***08*** *07:10:06.8±0.3,35.46N×3.82W,h0km, mb_Lg3.8/22, Error ellipse: s-maj=3.0km s-min=2.0km az=2.0*

CRAAG ***08*** *07:10:07.8,35.56N×3.79W,Ml3.9*

IGIL ***08*** *07:10:07.4,35.46N×3.82W,h2km,ML3.3*

INMG ***08*** *07:10:07.4±1.3,35.47N×3.82W,h2km±3km,MD3.5,ML3.5, Error ellipse: s-maj=2.4km s-min=2.0km az=7.0*

LDG ***08*** *07:10:08.3±0.2,35.45N×3.77W,h2km, Ml3.4/4, Error ellipse: s-maj=5.6km s-min=2.9km az=178.0*

NEIC ***08*** *07:10:08.0±1.6,35.5N±0.1×3.80W±0.07,h10km±1km, mb4.3/13,Error ellipse: s-maj=19.1km s-min=8.9km az=165.0*

ISC 08 07:10:06.9±1.0,**35.49N**±0.02×**3.79W**±0.02,**h9**km±7km, **n157**,σ1**61**/216,**mb4.2**/16,**MS3.6**/9,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.30**	**205**	P	**Pg**	**07 10 13.4**	**+0.5**
PALE				S	**Sg**	**07 10 17.8**	**+0.8**
PVLZ	**Pæan de**	**0.53**	**233**	P	**Pg**	**07 10 17.3**	**+0.2**
PVLZ				S	**Sg**	**07 10 24.8**	**+0.7**
EMEL	**Melilla**	**0.70**	**106**	Pg	**Pg**	**07 10 20.4**	**-0.1**
EMEL				Sg	**Sg**	**07 10 28.9**	**-0.8**
EALB	**Alboran**	**0.76**	**54**	Pg	**Pg**	**07 10 21.7**	**+0.2**
EALB				Sg	**Sg**	**07 10 32.3**	**+1.0**
EALB				*i* Vmb_Lg		07 10 33.1	
AKLM	**AKL**	**0.98**	**184**	P	**Pg**	**07 10 25.5**	**-0.4**
AKLM				S	**Sg**	**07 10 37.5**	**-1.2**
TAF	**Taforalt**	**1.31**	**121**	P	**Pg**	**07 10 29.2**	**-2.9**
TAF				S	**Sg**	**07 10 48.1**	**-1.0**
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pg**	**07 10 29.3**	**-2.9**
SMIR				S	**Sg**	**07 10 44.5**	**-4.7**
CHEFC	**Chefchaouen**	**1.33**	**254**	P	**Pg**	**07 10 31.1**	**-1.3**
CHEFC				S	Sn	07 11 05.7	+16
EMIJ	**Mijas**	**1.33**	**323**	Pg	**Pg**	**07 10 30.5**	**-2.1**
EMIJ				Sg	**Sg**	**07 10 50.0**	**+0.1**
EMIJ				*i* Vmb_Lg		07 10 56.9	
ECEU	**Ceuta**	**1.36**	**288**	Pg	**Pg**	**07 10 30.2**	**-2.8**
ECEU				Sg	**Sg**	**07 10 48.7**	**-1.9**
ECEU				*i* Vmb_Lg		07 10 50.0	
EMAL	**Malaga-Limoner**	**1.37**	**338**	P	**Pn**	**07 10 31.1**	**-1.1**
EMAL				S	**Sg**	**07 10 50.7**	**-0.2**
ELGU	**Los Guajares,**	**1.38**	**5**	Pg	**Pn**	**07 10 31.1**	**-1.3**
ELGU				Sg	**Sg**	**07 10 51.8**	**+0.6**
ELGU				*i* Vmb_Lg		07 11 04.1	
JBK	**JBK**	**1.53**	**139**	P	**Pn**	**07 10 32.2**	**-2.4**
JBK				S	**Sn**	**07 10 52.5**	**-2.2**
EBER	**Berja**	**1.58**	**27**	Pg	**Pn**	**07 10 34.0**	**-1.2**
EBER				Sg	**Sn**	**07 10 56.7**	**+0.8**
EBER				*i* Vmb_Lg		07 10 58.5	
EGOR	**Sierra Gorda,**	**1.63**	**351**	Pn	**Pn**	**07 10 35.9**	**-0.1**
EGOR				Sn	**Sn**	**07 10 58.1**	**+0.8**
EGOR				*i* Vmb_Lg		07 11 11.9	
EQUE	**Quentar**	**1.73**	**9**	Pn	**Pn**	**07 10 37.2**	**-0.1**
EQUE				Sn	**Sn**	**07 11 00.3**	**+0.7**
EQUE				*i* Vmb_Lg		07 11 18.2	
LIJA	**Lijar**	**1.92**	**318**	P	**Pn**	**07 10 41.5**	**+1.6**
LIJA				S	**Sb**	**07 11 08.0**	**+1.6**
ENIJ	**Nijar**	**1.95**	**40**	Pn	**Pn**	**07 10 39.9**	**-0.4**
ENIJ				*i* Vmb_Lg		07 11 05.2	
ENIJ				Sn	**Sn**	**07 11 05.4**	**+0.5**
LCRM	**LCR**	**2.01**	**206**	P	**Pn**	**07 10 40.0**	**-1.2**
LCRM				S	**Sn**	**07 11 07.3**	**+0.8**
CNIL	**Conil**	**2.04**	**296**	P	**Pn**	**07 10 43.0**	**+1.6**
ESPR	**Espera**	**2.17**	**310**	Pn	**Pn**	**07 10 42.5**	**-0.6**
ESPR				Sn	**Sn**	**07 11 10.1**	**0.0**
ESPR				*i* Vmb_Lg		07 11 31.8	
SFS	**San Fernando**	**2.19**	**297**	Pn	**Pn**	**07 10 42.6**	**-0.9**
OTSS	**Djebel Tessala**	**2.45**	**94**	P	**Pb**	**07 10 52.0**	**+0.8**
USTO	**Oran**	**2.65**	**84**	P	**Pb**	**07 10 54.0**	**-0.5**
CZD	**Col de Zad**	**2.67**	**203**	P	**Pn**	**07 10 50.1**	**-0.3**
MD31	**MD31**	**2.74**	**197**	P	**Pn**	**07 10 51.1**	**-0.1**
EADA	**Adamuz**	**2.74**	**347**	Pn	**Pn**	**07 10 52.0**	**+0.8**
EADA				Sn	**Sn**	**07 11 25.5**	**+1.1**
EADA				Sg	**Sb**	**07 11 32.4**	**+2.5**
EADA				*i* Vmb_Lg		07 11 41.3	
MDT	**Midelt**	**2.76**	**195**	Pn	**Pn**	**07 10 51.0**	**-0.5**
	3.4nm,0.3s,baz=182,slow=9.0,SNR=62						
MDT				LR	LR	07 11 21.6	
	comp=Z,123nm,18.9s,baz=229,slow=28						
MDT				Lg	Lg	07 11 30.5	
	23nm,0.3s,baz=263,slow=23,SNR=6.7						
MDT	**Midelt**	**2.76**	**195**	P	**Pn**	**07 10 50.9**	**-0.6**
TDRA	**Tendrara**	**2.85**	**149**	P	**Pn**	**07 10 52.2**	**-0.5**
ARNO	**Arenosillo**	**2.87**	**305**	P	**Pn**	**07 10 54.1**	**+1.3**
ARNO				S	**Sn**	**07 11 27.5**	**0.0**
ECAB	**El Cabril**	**2.89**	**334**	Pn	**Pn**	**07 10 53.5**	**+0.4**
ECAB				Pg	**Pb**	**07 10 58.5**	**-0.2**
ECAB				Sn	**Sn**	**07 11 27.6**	**-0.5**
ECAB				Sg	**Sb**	**07 11 37.0**	**+2.8**
ECAB				*i* Vmb_Lg		07 11 49.8	
ODJA	**Bouhanifia**	**2.97**	**92**	P	**Pn**	**07 10 55.0**	**+0.7**
CART	**Cartagena**	**3.06**	**46**	P	**Pn**	**07 10 52.9**	**-2.6**
CART				S	**Sn**	**07 11 27.3**	**-5.0**
CART	**Cartagena**	**3.06**	**46**	Pn	**Pn**	**07 10 52.7**	**-2.8**
CART	**Cartagena**	**3.06**	**46**	P	**Pn**	**07 10 54.4**	**-1.2**
CART				S	**Sn**	**07 11 26.2**	**-6.1**
ZHG	**ZHG**	**3.12**	**230**	P	**Pn**	**07 10 55.4**	**-1.0**
EMIN	**Mina Concepcio**	**3.25**	**315**	Pn	**Pn**	**07 10 57.7**	**-0.4**
EMIN				Sn	**Sn**	**07 11 34.5**	**-2.3**
EMIN				*i* Vmb_Lg		07 11 36.4	
OJBR	**Djebel Berber**	**3.37**	**87**	P	Pn	07 10 49.0	-11
EGRO	**El Granado**	**3.61**	**305**	Pn	**Pn**	**07 11 02.8**	**-0.2**
EGRO				Pg	**Pb**	**07 11 10.5**	**-0.4**
EGRO				Sn	**Sn**	**07 11 41.4**	**-4.3**
EGRO				*i* Vmb_Lg		07 11 47.2	
ETOB	**Tobarra**	**3.62**	**29**	Pn	**Pn**	**07 11 03.8**	**+0.5**
ETOB				Sn	**Sn**	**07 11 45.9**	**-0.2**
ETOB				*i* Vmb_Lg		07 12 10.0	
OKGL	**Djebel Kef Gue**	**3.64**	**80**	P	Pn	07 10 56.0	-7.5
OJGS	**Djebel Guires**	**3.70**	**89**	P	Pn	07 10 52.0	-12
PVAQ	**Vaqueiros**	**3.70**	**302**	*e*Pn	**Pn**	**07 11 04.1**	**-0.2**
PVAQ				*e*Sn	**Sn**	**07 11 46.1**	**-1.9**
PVAQ				A	A	07 11 47.4	
	132nm,0.4s						
PVAQ	**Vaqueiros**	**3.70**	**302**		**Pn**	**07 11 03.6**	**-0.6**
PVAQ	**Vaqueiros**	**3.70**	**302**	P	**Pn**	**07 11 03.9**	**-0.4**
PVAQ				S	**Sn**	**07 11 46.0**	**-2.0**
AVE	**Averroes**	**3.71**	**235**	P	**Pb**	**07 11 13.5**	**+0.8**
AVE				S	**Sn**	**07 11 52.1**	**+3.7**
AVE	**Averroes**	**3.71**	**235**	P	**Pn**	**07 11 04.1**	**-0.3**
PBAR	**Barrancos**	**3.74**	**317**	*e*Pn	**Pn**	**07 11 04.7**	**-0.1**
PBAR				*e*Sn	**Sn**	**07 11 48.3**	**-0.6**
PBAR				A	A	07 12 09.6	
	51nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.77**	**299**	*e*Pn	**Pn**	**07 11 05.1**	**-0.2**
PBDV				*e*Sn	**Sn**	**07 11 46.9**	**-3.0**
PBDV				A	A	07 11 51.8	
	67nm,0.5s						
FIGM	**Figuig**	**3.96**	**147**	P	**Pn**	**07 11 07.3**	**-0.7**
PCVE	**Castro Verde**	**4.04**	**303**	*e*Pn	**Pn**	**07 11 08.8**	**-0.1**
PCVE				*e*Sn	**Sn**	**07 11 55.4**	**-0.9**
PCVE				A	A	07 12 08.1	
	50nm,0.5s						
PAB	**San Pablo**	**4.07**	**354**		**Pn**	**07 11 10.0**	**+0.6**
PAB	**San Pablo**	**4.07**	**354**	Pn	**Pn**	**07 11 09.9**	**+0.4**
PAB				Sn	**Sn**	**07 11 57.1**	**-0.1**
PAB				*i* Vmb_Lg		07 12 36.4	
PBEJ	**Beja**	**4.14**	**309**	*e*Pn	**Pn**	**07 11 11.1**	**+0.8**
PBEJ				*e*Sn	**Sn**	**07 11 58.1**	**-0.7**
PBEJ				A	A	07 12 00.0	
	33nm,0.7s						
EBAD	**Badajoz**	**4.15**	**323**	Pn	**Pn**	**07 11 10.5**	**0.0**
EBAD				Sn	**Sn**	**07 11 57.1**	**-2.1**
EBAD				*i* Vmb_Lg		07 12 04.2	
ESDC	**Sonseca Array**	**4.18**	**358**	Pn	**Pn**	**07 11 11.9**	**+1.1**
	4.4nm,0.3s,baz=178,slow=12,SNR=103						
ESDC				Lg	Lg	07 12 18.4	
	3.2nm,0.3s,baz=178,slow=25,SNR=4.7						
ESDC	**Sonseca Array**	**4.18**	**358**		**Pn**	**07 11 11.5**	**+0.7**
ESBB	**Sonseca Array**	**4.18**	**358**		**Pn**	**07 11 11.7**	**+0.8**
MORF	**Marmelete**	**4.32**	**296**	*e*P	**Pn**	**07 11 12.2**	**-0.7**
MORF				*e*S	**Sn**	**07 11 59.4**	**-4.0**
MORF				IAML		07 12 04.1	
	comp=N,63nm,0.3s						
MORF	**Marmelete**	**4.32**	**296**	*e*Pn	**Pn**	**07 11 12.9**	**0.0**
MORF				*e*Sn	**Sn**	**07 12 01.6**	**-1.8**
MORF				A	A	07 12 04.9	
	comp=N,39nm,0.5s						
PFVI	**Vila Bisbo**	**4.39**	**293**	*e*Pn	**Pn**	**07 11 14.4**	**+0.7**
PFVI				*e*Sn	**Sn**	**07 12 01.9**	**-3.1**
PFVI				A	A	07 12 09.9	
	comp=N,70nm,0.6s						
PFVI	**Vila Bisbo**	**4.39**	**293**	P	**Pn**	**07 11 14.0**	**+0.3**
PTEO	**Sao Teotonio**	**4.47**	**299**	*e*Pn	**Pn**	**07 11 15.0**	**+0.1**
PTEO				*e*Sn	**Sn**	**07 12 05.1**	**-2.0**
PTEO				A	A	07 12 25.7	
	comp=N,60nm,0.6s						
PESTR	**Estremoz**	**4.54**	**319**	*e*Pn	**Pn**	**07 11 16.4**	**+0.6**
PESTR				*e*Sn	**Sn**	**07 12 07.5**	**-1.1**
PESTR				A	A	07 12 18.4	
	comp=N,43nm,0.4s						
PESTR	**Estremoz**	**4.54**	**319**		**Pn**	**07 11 16.1**	**+0.4**
PESTR	**Estremoz**	**4.54**	**319**	P	**Pn**	**07 11 16.6**	**+0.8**
EVO	**Evora**	**4.54**	**313**	P	**Pn**	**07 11 16.1**	**+0.3**
EVO				S	**Sn**	**07 12 06.5**	**-2.3**
EVO	**Evora**	**4.54**	**313**	*e*Pn	**Pn**	**07 11 16.3**	**+0.4**
EVO				*e*Sn	**Sn**	**07 12 07.4**	**-1.4**
EVO				A	A	07 12 15.7	
	comp=N,52nm,0.5s						
SRHM	**Skhour des Reh**	**4.56**	**230**	P	**Pn**	**07 11 15.3**	**-0.8**
PNCL	**Nicolau / Gran**	**4.62**	**306**	*e*Pn	**Pn**	**07 11 16.7**	**-0.2**
PNCL				*e*Sn	**Sn**	**07 12 08.7**	**-1.9**
PNCL				A	A	07 12 12.5	
	comp=N,33nm,0.7s						
UCM	**Universidad Co**	**4.83**	**5**	P	**Pn**	**07 11 21.1**	**+1.3**
UCM				S	**Sn**	**07 12 14.2**	**-1.6**
PMRV	**Marv??o**	**4.86**	**325**	*e*Pn	**Pn**	**07 11 20.9**	**+0.6**
PMRV				*e*Sn	**Sn**	**07 12 15.6**	**-1.1**
PMRV				A	A	07 12 21.0	
	comp=N,23nm,1.0s						
EPLA	**Plasencia**	**4.91**	**339**	Pn	**Pn**	**07 11 21.3**	**+0.3**
EPLA				Sn	**Sn**	**07 12 17.4**	**-0.5**
EPLA				*i* Vmb_Lg		07 12 54.4	
TZRR	**Tazzarine**	**4.93**	**198**	P	**Pn**	**07 11 21.4**	**+0.1**
PMTG	**Montargil**	**5.03**	**317**	*e*Pn	**Pn**	**07 11 23.0**	**+0.5**
PMTG				*e*Sn	**Sn**	**07 12 19.3**	**-1.4**
PMTG				A	A	07 12 20.0	
	comp=N,36nm,0.5s						
GUD	**Guadarrama**	**5.15**	**357**	Pn	**Pn**	**07 11 25.1**	**+0.8**
GUD				*i* Vmb_Lg		07 13 05.1	
PACT	**Alcochete**	**5.19**	**311**	*e*Pn	**Pn**	**07 11 25.6**	**+0.9**
PACT				*e*Sn	**Sn**	**07 12 23.1**	**-1.6**
PACT				A	A	07 12 39.9	
	comp=N,70nm,0.8s						
OUZM	**OUZ**	**5.21**	**209**	P	**Pn**	**07 11 25.1**	**0.0**
PCBR	**Castelo Branco**	**5.24**	**327**	*e*Pn	**Pn**	**07 11 26.2**	**+0.8**
PCBR				*e*Sn	**Sn**	**07 12 24.9**	**-0.9**
PCBR				A	A	07 12 33.6	
	comp=N,33nm,0.5s						
PMST	**Lisbon--Monsan**	**5.39**	**308**	*e*Pn	**Pn**	**07 11 28.4**	**+0.9**
EIBI	**Ibiza**	**5.40**	**48**	Pn	**Pn**	**07 11 27.9**	**+0.3**
EIBI				Sn	**Sn**	**07 12 27.5**	**-2.4**
EIBI				*i* Vmb_Lg		07 12 29.1	
OUK	**Oukaimeden**	**5.47**	**220**	P	**Pn**	**07 11 27.9**	**-1.1**
ETOR	**Torete**	**5.49**	**14**	Pn	**Pn**	**07 11 29.6**	**+0.7**
ETOR				Sn	**Sn**	**07 12 31.8**	**-0.5**
ETOR				*i* Vmb_Lg		07 13 26.6	
ZGR	**Zagora**	**5.58**	**197**	P	**Pn**	**07 11 30.0**	**-0.2**
PMAFR	**Mafra**	**5.58**	**310**	*e*Pn	**Pn**	**07 11 30.7**	**+0.5**
PMAFR				*e*Sn	**Sn**	**07 12 32.6**	**-1.9**
PMAFR				A	A	07 13 04.8	
	comp=N,62nm,0.6s						
PSBE	**So Bento**	**5.65**	**317**	*e*Pn	**Pn**	**07 11 31.9**	**+0.7**
PSBE				*e*Sn	**Sn**	**07 12 34.3**	**-1.9**
MTE	**Manteigas**	**5.73**	**330**	*e*Pn	**Pn**	**07 11 31.8**	**-0.4**
MTE				*e*Sn	**Sn**	**07 12 36.8**	**-1.3**
MTE				A	A	07 13 05.7	
	comp=N,53nm,0.6s						
MTE	**Manteigas**	**5.73**	**330**		**Pn**	**07 11 32.5**	**+0.4**
PCAS	**Casmilo, Conde**	**5.89**	**322**	*e*Pn	**Pn**	**07 11 35.4**	**+1.1**
PCAS				*e*Sn	**Sn**	**07 12 40.1**	**-1.8**
PCAS				A	A	07 13 06.1	
	comp=N,38nm,0.7s						
PVIS	**Viseu**	**6.14**	**329**	*e*Pn	**Pn**	**07 11 38.9**	**+1.1**
PVIS				*e*Sn	**Sn**	**07 12 47.1**	**-1.1**
PVIS				A	A	07 12 58.3	
	comp=N,33nm,0.5s						
EAH	**EAH**	**6.18**	**233**	P	**Pn**	**07 11 37.7**	**-0.6**
MVO	**Moncorvo**	**6.21**	**337**	*e*Pn	**Pn**	**07 11 40.0**	**+1.2**
MVO				*e*Sn	**Sn**	**07 12 48.9**	**-1.0**
MVO				A	A	07 13 01.4	
	comp=N,55nm,0.6s						
TTIG	**Tnine Tigouga,**	**6.29**	**220**	P	**Pn**	**07 11 37.7**	**-2.4**
ERTA	**Horta de San J**	**6.34**	**29**	Pn	**Pn**	**07 11 42.3**	**+1.6**
PVRL	**Vila Real**	**6.55**	**333**	*e*Pn	**Pn**	**07 11 44.3**	**+0.9**
PVRL				*e*Sn	**Sn**	**07 12 56.7**	**-1.5**
POLO	**Lamas de Olo**	**6.66**	**333**	*e*Pn	**Pn**	**07 11 46.1**	**+1.1**
POLO				*e*Sn	**Sn**	**07 12 59.2**	**-1.9**
POLO				A	A	07 13 13.5	
	comp=N,16nm,0.6s						
PBRG	**Braganca**	**6.71**	**341**	*e*Pn	**Pn**	**07 11 47.0**	**+1.3**
PBRG				*e*Sn	**Sn**	**07 13 00.6**	**-1.7**
PBRG				A	A	07 13 08.9	
	comp=N,19nm,0.6s						
ETOS	**Mallorca**	**6.75**	**49**	Pn	**Pn**	**07 11 47.8**	**+1.5**
PCAB	**Cabril**	**7.04**	**333**	*e*Pn	**Pn**	**07 11 51.5**	**+1.3**
PCAB				*e*Sn	**Sn**	**07 13 07.9**	**-2.4**
PCAB				A	A	07 13 45.1	
	comp=N,27nm,0.6s						
ELOB	**Lobios**	**7.19**	**334**	Pn	**Pn**	**07 11 53.1**	**+0.8**
PGAV	**Gavieira, Arco**	**7.35**	**333**	*e*Pn	**Pn**	**07 11 55.8**	**+1.3**
PGAV				*e*Sn	**Sn**	**07 13 15.5**	**-2.6**
PGAV				A	A	07 13 28.2	
	comp=N,17nm,0.6s						
ETSF	**Etsaut**	**7.81**	**18**	*e*Pn	**Pn**	**07 12 02.4**	**+1.7**
ETSF				*e*Sn	**Sn**	**07 13 25.3**	**-4.0**
	comp=N,3.0nm,0.4s						
SJPF	**Ste Jean**	**7.86**	**14**	*e*Pn	**Pn**	**07 12 02.5**	**+1.0**
SJPF				*e*Sn	**Sn**	**07 13 26.6**	**-4.0**
	comp=N,1.7nm,0.3s						
EARI	**Arriondas**	**7.88**	**352**	Pn	**Pn**	**07 12 03.2**	**+1.5**
EPF	**Esparros**	**8.18**	**22**	*e*Pn	**Pn**	**07 12 07.0**	**+1.2**
EPF				*e*Sn	**Sn**	**07 13 34.0**	**-4.3**
	comp=N,3.2nm,0.2s						
MTLF	**Montolieu**	**9.11**	**29**	*e*Pn	**Pn**	**07 12 18.5**	**0.0**
LFF	**La Frestale**	**10.05**	**19**	*e*Pn	**Pn**	**07 12 31.5**	**+0.1**
CAF	**Calviac**	**10.43**	**24**	*e*Pn	**Pn**	**07 12 36.5**	**-0.1**
CAF				*e*Sn	**Sn**	**07 14 27.9**	**-5.6**
	comp=N,1.3nm,0.1s						
KEST	**Kesra**	**10.69**	**85**	LR	LR	07 17 22.8	
	comp=N,174nm,20.6s,baz=326,slow=41						
MFF	**Saint Martin d**	**11.43**	**13**	*e*Pn	**Pn**	**07 12 50.4**	**+0.1**
TCF	**Toulx Ste Croi**	**11.69**	**21**	*e*Pn	**Pn**	**07 12 54.1**	**+0.2**
BGF	**Bois d'Agland**	**12.13**	**22**	*e*Pn	**Pn**	**07 12 59.8**	**0.0**
PGF	**Pioggiola**	**12.18**	**51**	*e*Pn	**Pn**	**07 13 02.4**	**+1.8**
QUIF	**Quistinic**	**12.42**	**2**	*e*Pn	**Pn**	**07 13 03.9**	**+0.1**
SSF	**Saint Saulge**	**12.78**	**23**	*e*Pn	**Pn**	**07 13 08.6**	**-0.2**
ROSF	**Rostrenen**	**12.84

comp=Z,1.3nm,0.7s,baz=283,slow=4.4,SNR=4.5

SFS ***08*** *07:14:08.0, 35˚.44N×3˚.78W, h34km, ML2.9, ALBORAN SUR*

MDD ***08*** *07:14:08.2±0.6, 35˚.45N×3˚.79W, h34km±2km, mb_Lg2.9/6, Error ellipse: s-maj=5.9km s-min=4.5km az=163.0*

INMG ***08*** *07:14:08.7±1.2, 35˚.49N×3˚.77W, h14km±10km, ML2.4, Error ellipse: s-maj=6.3km s-min=3.2km az=89.0*

ISC 08 07:14:07.8±1.4, 35˚.42N±0'.05×3˚.74W±0'.04, h34km±3km, n16, σ1§28/29, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.52**	**241**	P		**Pb**	**07 14 18.3**	**-0.6**
PVLZ				S		**Sb**	**07 14 24.7**	**-1.7**
EMEL	**Melilla**	**0.65**	**101**	Pg		**Pn**	**07 14 21.0**	**+0.4**
EMEL				Sg		**Sn**	**07 14 30.8**	**+1.1**
EMEL				*i* Vmb_Lg			07 14 32.7	
EALB	**Alboran**	**0.77**	**48**	Pg		**Pn**	**07 14 22.0**	**-0.3**
EALB				Sg		**Sn**	**07 14 32.4**	**-0.3**
EALB				*i* Vmb_Lg			07 14 33.1	
EMlJ	**Mijas**	**1.41**	**324**	Pn		**Pn**	**07 14 29.9**	**-1.2**
EMlJ				Sn		**Sn**	**07 14 47.3**	**-1.3**
EMlJ				*i* Vmb_Lg			07 14 54.6	
ECEU	**Ceuta**	**1.41**	**290**	Pg		Pb	07 14 39.3	+5.6
ECEU				Sg		**Sn**	**07 14 47.3**	**-1.3**
ECEU				*i* Vmb_Lg			07 14 48.8	
ELGU	**Los Guajares,**	**1.44**	**4**	Pn		**Pn**	**07 14 30.6**	**-1.0**
ELGU				Sn		**Sn**	**07 14 47.7**	**-1.7**
ELGU				*i* Vmb_Lg			07 14 53.3	
EMAL	**Malaga-Limoner**	**1.45**	**338**	P		**Pb**	**07 14 36.1**	**+1.8**
EMAL				S		**Sb**	**07 14 51.2**	**-1.1**
EBER	**Berja**	**1.62**	**25**	Pn		**Pn**	**07 14 32.9**	**-1.3**
EBER				Sn		**Sn**	**07 14 53.4**	**-0.6**
EBER				*i* Vmb_Lg			07 14 57.7	
PVAQ	**Vaqueiros**	**3.77**	**303**	*e*Pn		**Pn**	**07 15 04.6**	**+1.1**
PVAQ				*e*Sn		**Sn**	**07 15 46.1**	**-0.5**
PVAQ				A		A	07 15 47.4	
	6.0nm,0.6s							
PBAR	**Barrancos**	**3.81**	**317**	*e*Pn		**Pn**	**07 15 05.7**	**+1.6**
PBAR				*e*Sn		**Sn**	**07 15 47.5**	**-0.2**
PBAR				A		A	07 15 59.5	
	3.2nm,0.8s							
PBDV	**Barranco-do-Ve**	**3.84**	**299**	*e*Pn		**Pn**	**07 15 06.0**	**+1.5**
PBDV				*e*Sn		**Sn**	**07 15 47.7**	**-0.7**
PCVE	**Castro Verde**	**4.10**	**304**	*e*Pn		**Pn**	**07 15 09.1**	**+1.0**
PCVE				*e*Sn		**Sn**	**07 15 55.0**	**+0.1**
PCVE				A		A	07 16 07.2	
	5.2nm,1.0s							
PESTR	**Estremoz**	**4.61**	**319**	*e*Sn		**Sn**	**07 16 07.6**	**+0.2**
PNCL	**Nicolau / Gran**	**4.69**	**306**	*e*Pn		**Pn**	**07 15 17.4**	**+1.3**
PNCL				*e*Sn		**Sn**	**07 16 08.3**	**-1.0**
PNCL				A		A	07 16 11.7	
	3.2nm,0.3s							
PMRV	**Marv??o**	**4.94**	**325**	*e*Pn		**Pn**	**07 15 22.0**	**+2.4**
PMTG	**Montargil**	**5.10**	**317**	*e*Pn		**Pn**	**07 15 23.8**	**+2.0**
PMTG				*e*Sn		**Sn**	**07 16 18.9**	**-0.6**
PMTG				A		A	07 16 19.8	
	3.9nm,0.7s							

IDC ***08*** *07:17:19.2±0.5, 60˚.13S×30˚.74W, h0km, mb4.5/13, mb1 4.5/13, mb1mx4.4/19, mbtmp4.4/13, MS4.4/38, Ms1 4.4/38, ms1mx4.3/46, Error ellipse: s-maj=22.0km s-min=15.2km az=63.0*

NEIC ***08*** *07:17:20.2±1.8, 59˚.88S±0˚.09×29˚.6W±0˚.2, h17km±3km, mb5.3/57, Ms_20 4.9/31, Error ellipse: s-maj=15.3km s-min=11.2km az=58.0*

BJI ***08*** *07:17:22.0±0.0, 60˚.00S×29˚.60W, h16km, mB5.4/6, Ms5.2/10, MS7 4.9/10*

GCMT ***08*** *07:17:25.2±0.2, 60˚.46S±0˚.01×30˚.71W±0˚.02, h17km, MW5.1/127, Moment Tensor Solution. s57,c71; s127,c190; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.98±.15; Mθθ-1.20±.13; Mϕϕ2.18±.12; Mrθ2.08±.36; Mθϕ5.45±.11; Mϕr2.49±.35; Best double couple: Mo6.33500×10¹⁶ NP1:ϕ349.00000°, δ73.00000°, λ167.00000°. NP2:ϕ83.00000°, δ78.00000°, λ18.00000°. Principal axes: T 7.4420, Plg21.0000°, Azm307.0000°; N -2.2120, Plg69.0000°, Azm117.0000°; P -5.2280, Plg3.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 07:17:20.1±0.3, 59˚.96S±0˚.07×29˚.87W±0˚.08, h10km, n206, σ1§65/158, mb5.2/35, MS4.6/56, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.74**	**325**	Pn		**Pn**	**07 18 59.0**	**+0.1**
VNA1	**Neumayer--Stat**	**13.90**	**149**	P		**Pn**	**07 20 34.6**	**-2.2**
VNA3	**Neumayer Olymp**	**13.95**	**152**	P		**Pn**	**07 20 34.5**	**-3.1**
VNA2	**Neumayer--Watz**	**14.30**	**149**	P		**Pn**	**07 20 38.9**	**-3.4**
	baz=303,slow=16							
SNAA	**Sanae**	**15.93**	**148**	P		**Pn**	**07 21 02.8**	**-1.3**
SNAA	**Sanae**	**15.93**	**148**	Pn		**Pn**	**07 21 03.0**	**-1.0**
	9.1nm,0.3s,baz=301,slow=14,SNR=127							
SNAA				Sn		Sn	07 23 45.9	-14
	0.3nm,0.3s,baz=196,slow=21,SNR=1.2							
SNAA				LR		LR	07 25 49.6	
	comp=Z,2μm,20.9s,baz=320,slow=32							
SNAA	**Sanae**	**15.93**	**148**	Pn		**Pn**	**07 21 02.4**	**-1.6**
SNAA				IAmb		IAmb	07 21 10.0	
	comp=Z,354nm,1.9s							
PMSA	**Palmer Station**	**16.42**	**238**	LR		LR	07 26 24.0	
	comp=Z,2μm,19.6s,baz=80,slow=34							
PMSA	**Palmer Station**	**16.42**	**238**	Pn		**Pn**	**07 21 11.2**	**+0.9**
PMSA				IAmb		IAmb	07 21 19.3	
	comp=Z,392nm,1.7s							
TROLL	**Troll, Antarti**	**17.55**	**146**	P		**Pn**	**07 21 23.1**	**-1.6**
EFI	**East Falkland**	**17.76**	**285**	P		**Pn**	**07 21 27.6**	**+0.5**
EFI				IAmb		IAmb	07 22 23.9	
	comp=Z,386nm,2.0s							
USHA	**Ushuaia**	**21.17**	**267**	LR		LR	07 27 58.0	
	comp=Z,2μm,18.9s,baz=114,slow=31							
MG05	**Puerto Natales**	**24.94**	**270**	P		**P**	**07 22 44.0**	**+0.8**
MG05				IAmb		IAmb	07 22 50.5	
	comp=Z,113nm,1.6s							
COYC	**Coyhaique**	**28.73**	**281**	P		**P**	**07 23 19.3**	**+1.9**
COYC				IAmb		IAmb	07 23 20.7	
	comp=Z,49nm,1.4s							
SYO	**Syowa Base**	**29.57**	**137**	*i*P		**P**	**07 23 21.0**	**-3.5**
AY01	**Puyuhuapi**	**29.84**	**282**	P		**P**	**07 23 28.8**	**+1.7**
AY01				IAmb		IAmb	07 23 30.8	
	comp=Z,70nm,1.8s							
QSPA	**South Pole Qui**	**30.28**	**180**	P		**P**	**07 23 28.9**	**-2.2**
	comp=Z,5.4nm,0.8s,baz=182,slow=2.0,SNR=16							
QSPA				LR		LR	07 34 31.0	
	comp=Z,530nm,21.0s,baz=192,slow=34							
QSPA	**South Pole Qui**	**30.28**	**180**	P		**P**	**07 23 30.6**	**-0.5**
PLCA	**Paso Flores**	**31.60**	**289**	P		P	07 23 39.0	-3.9
	comp=Z,6.1nm,1.1s,baz=141,slow=10,SNR=4.0							
PLCA				LR		LR	07 36 16.1	
	comp=Z,1μm,18.2s,baz=142,slow=36							
PLCA	**Paso Flores**	**31.60**	**289**	P		**P**	**07 23 42.5**	**-0.4**
PLCA				IAmb		IAmb	07 23 45.6	
	comp=Z,55nm,1.6s							
PLCA	**Paso Flores**	**31.60**	**289**	*e*P		**P**	**07 23 43.1**	**+0.2**
PLTB	**Pedras Altas**	**32.33**	**320**	P		**P**	**07 23 48.9**	**-0.3**
PLTB				IAmb		IAmb	07 23 55.1	
	comp=Z,48nm,1.2s							
PLTB	**Pedras Altas**	**32.33**	**320**	*e*P		**P**	**07 23 48.5**	**-0.7**
LR03	**Panguipulli**	**33.32**	**288**	P		**P**	**07 23 59.4**	**+1.6**
LR03				IAmb		IAmb	07 24 00.1	
	comp=Z,30nm,1.1s							
CPSB	**Cacapava Do Su**	**33.53**	**321**	*e*P		**P**	**07 23 59.9**	**+0.2**
LR04	**Corral**	**33.64**	**287**	P		**P**	**07 24 00.2**	**-0.4**
LC01	**Cunco**	**33.68**	**290**	P		**P**	**07 24 01.8**	**+0.8**
TER01	**Tubaro-SC**	**34.05**	**329**	*e*P		**P**	**07 24 03.6**	**-0.7**
ITQB	**Itaqui**	**35.25**	**317**	P		**P**	**07 24 13.2**	**-1.4**
ITQB				IAmb		IAmb	07 24 20.7	
	comp=Z,86nm,1.4s							
ITQB	**Itaqui**	**35.25**	**317**	*e*P		**P**	**07 24 14.1**	**-0.6**
ITAB	**Concordia**	**36.10**	**325**	*e*P		**P**	**07 24 22.1**	**+0.1**
BO02	**Sierra Bellavi**	**36.50**	**295**	P		**P**	**07 24 25.7**	**+0.3**
GO05	**Huala**	**36.85**	**294**	P		**P**	**07 24 27.6**	**-0.7**
GO05				IAmb		IAmb	07 24 33.5	
	comp=Z,41nm,1.3s							
BO01	**Tunca**	**36.98**	**295**	P		**P**	**07 24 29.3**	**0.0**
BO01				IAmb		IAmb	07 24 34.1	
	comp=Z,70nm,1.6s							
LMEL	**Las Melosas**	**37.03**	**297**	P		**P**	**07 24 30.2**	**+0.2**
TIJ01	**Guaruva-PR**	**37.08**	**331**	*e*P		**P**	**07 24 29.1**	**-1.3**
BO04	**La Punta**	**37.09**	**296**	P		**P**	**07 24 29.9**	**-0.6**
BO04				IAmb		IAmb	07 24 34.9	
	comp=Z,77nm,1.6s							
MT03	**Universidad Ad**	**37.47**	**297**	P		**P**	**07 24 34.2**	**+0.5**
MT03				IAmb		IAmb	07 24 39.2	
	comp=Z,122nm,1.6s							
MT05	**Renca**	**37.65**	**296**	P		**P**	**07 24 34.9**	**-0.3**
PET01	**Itanhaem-SP**	**37.67**	**333**	*e*P		**P**	**07 24 34.4**	**-0.9**
VA05	**Santo Domingo**	**37.83**	**295**	P		**P**	**07 24 36.8**	**+0.3**
PEL	**Peldehue**	**37.84**	**297**	P		**P**	**07 24 36.3**	**-0.5**
MAW	**Mawson**	**37.90**	**141**	P		**P**	**07 24 37.4**	**+0.5**
	comp=Z,10nm,0.9s,baz=254,slow=12,SNR=7.2							
MAW				LR		LR	07 39 37.2	
	comp=Z,809nm,18.1s,baz=242,slow=35							
MAW	**Mawson**	**37.90**	**141**	P		**P**	**07 24 36.5**	**-0.3**
MT02	**Curacav**	**37.95**	**296**	P		**P**	**07 24 36.1**	**-1.5**
VA03	**San Esteban**	**38.10**	**297**	P		**P**	**07 24 37.5**	**-1.5**
ROC1	**El Roble**	**38.13**	**296**	P		**P**	**07 24 38.8**	**-0.7**
ZON	**Zonda**	**38.31**	**300**	P		**P**	**07 24 39.3**	**-1.5**
ZON				IAmb		IAmb	07 24 45.6	
	comp=Z,113nm,1.8s							
PTGB	**Pitanga**	**38.47**	**326**	*e*P		**P**	**07 24 41.9**	**-0.2**
CPUP	**Villa Florida**	**38.57**	**318**	P		**P**	**07 24 42.0**	**-0.9**
	comp=Z,7.4nm,0.6s,baz=162,slow=5.8,SNR=14							
CPUP				LR		LR	07 38 56.0	
	comp=Z,692nm,21.7s,baz=160,slow=34							
CPUP	**Villa Florida**	**38.57**	**318**	P		**P**	**07 24 41.6**	**-1.2**
CPUP	**Villa Florida**	**38.57**	**318**	*e*P		**P**	**07 24 41.9**	**-0.9**
VAO	**Valinhos**	**38.84**	**334**	*e*P		**P**	**07 24 44.9**	**-0.4**
VAS01	**Vassouras-RJ**	**38.85**	**340**	*e*P		**P**	**07 24 44.8**	**-0.5**
RCLB	**Rio Claro- Sao**	**39.53**	**334**	*e*P		**P**	**07 24 51.7**	**+0.7**
CO01	**Juntas del Tor**	**40.28**	**300**	P		**P**	**07 24 56.3**	**-1.1**
CO01				IAmb		IAmb	07 25 03.5	
	comp=Z,117nm,1.6s							
BSCB	**Bom Sucesso**	**40.35**	**338**	*e*P		**P**	**07 24 57.7**	**-0.1**
GO04	**Tololo Observa**	**40.42**	**299**	P		**P**	**07 24 59.1**	**+0.5**
GO04				IAmb		IAmb	07 25 04.2	
	comp=Z,87nm,1.5s							
BB19B	**Bebedouro**	**41.06**	**333**	*e*P		**P**	**07 25 04.0**	**+0.3**
PCMB	**Pacaembu**	**41.21**	**329**	*e*P		**P**	**07 25 05.1**	**+0.2**
RIB01	**Linhares ES**	**41.30**	**345**	*e*P		**P**	**07 25 06.2**	**+0.6**
LCO	**Las Campanas**	**41.37**	**300**	P		**P**	**07 25 04.7**	**-1.8**
LCO				IAmb		IAmb	07 25 11.2	
	comp=Z,184nm,1.9s							
SJMB	**Sao Joao De Ma**	**42.01**	**344**	*e*P		**P**	**07 25 11.7**	**+0.2**
AC04	**Llanos de Chal**	**42.23**	**300**	P		**P**	**07 25 13.1**	**-0.1**
AC04				IAmb		IAmb	07 25 18.4	
	comp=Z,120nm,1.2s							
VNDA	**Vanda**	**42.58**	**184**	P		**P**	**07 25 15.2**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=187,slow=6.6,SNR=21							
VNDA	**Vanda**	**42.58**	**184**	P		**P**	**07 25 15.6**	**+0.2**
AC02	**Maricunga**	**42.60**	**303**	P		**P**	**07 25 16.0**	**-0.7**
AC02				IAmb		IAmb	07 25 22.8	
	comp=Z,101nm,1.4s							
NAN01	**Guarapari, ES**	**42.71**	**346**	*e*P		**P**	**07 25 18.0**	**+0.8**
DIAM	**Diamantina, MG**	**42.79**	**341**	*e*P		**P**	**07 25 19.4**	**+1.5**
ITRB	**Iturana**	**42.81**	**331**	*e*P		**P**	**07 25 19.2**	**+1.3**
SUR	**Sutherland**	**43.09**	**73**	LR		LR	07 39 39.3	
	comp=Z,426nm,19.4s,baz=212,slow=31							
SUR	**Sutherland**	**43.09**	**73**	P		**P**	**07 25 17.0**	**-3.3**
SUR				IAmb		IAmb	07 26 41.6	
	comp=Z,59nm,1.5s							
AQDB	**Aquidauana**	**43.52**	**324**	P		**P**	**07 25 21.8**	**-1.9**
AQDB	**Aquidauana**	**43.52**	**324**	*e*P		**P**	**07 25 22.7**	**-1.0**
GUA01	**Guaratinga, BA**	**43.92**	**346**	*e*P		**P**	**07 25 26.5**	**-0.4**
IPMB	**Ipameri, GO**	**43.97**	**334**	*e*P		**P**	**07 25 28.6**	**+1.3**
GO02	**Mina Guanaco**	**44.27**	**304**	P		**P**	**07 25 28.2**	**-1.8**
GO02				IAmb		IAmb	07 25 35.3	
	comp=Z,104nm,1.4s							
PP1B	**Ponte de Pedra**	**46.01**	**326**	*e*P		**P**	**07 25 44.2**	**+0.6**
JANB	**Januaria**	**46.07**	**340**	*e*P		**P**	**07 25 44.6**	**+0.5**
BDFB	**Brasilia**	**46.20**	**335**	P		**P**	**07 25 46.1**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=130,slow=6.0,SNR=7.0							
BDFB				LR		LR	07 45 23.3	
	comp=Z,194nm,18.5s,baz=146,slow=36							
BDFB	**Brasilia**	**46.20**	**335**	P		**P**	**07 25 44.8**	**-0.4**
BDFB	**Brasilia**	**46.20**	**335**	*e*P		**P**	**07 25 47.0**	**+1.8**
LVC	**Limon Verde**	**46.26**	**306**	LR		LR	07 44 08.9	
	comp=Z,456nm,21.8s,baz=188,slow=35							
LVC	**Limon Verde**	**46.26**	**306**	*e*P		**P**	**07 25 45.5**	**-0.4**
PB02	**IPOC Station P**	**47.81**	**306**	P		**P**	**07 25 56.4**	**-1.4**
SALV	**Santo Antonio**	**47.85**	**326**	*e*P		**P**	**07 25 59.0**	**+1.0**
BOSA	**Boshof**	**48.35**	**75**	P		P	07 26 06.5	+4.7
	comp=Z,1.9nm,0.9s,baz=349,slow=14,SNR=1.4							
BOSA				LR		LR	07 42 23.8	
	comp=Z,284nm,21.6s,baz=216,slow=31							
PATCX	**Punta Patache**	**48.36**	**306**	P		**P**	**07 26 01.2**	**-0.8**
SDBA	**SAO DESIDERIO**	**48.76**	**340**	*e*P		**P**	**07 26 06.8**	**+1.8**
NBLA	**Lagarto - SE**	**49.23**	**350**	*e*P		**P**	**07 26 09.3**	**+0.7**
PTLB	**Pontes e Lacer**	**49.31**	**322**	*e*P		**P**	**07 26 08.4**	**-0.7**
SIV	**San Ignacio**	**49.42**	**319**	LR		LR	07 46 55.0	
	comp=Z,597nm,19.5s,baz=153,slow=36							
NBPN	**Ponta Novo - B**	**49.62**	**347**	*e*P		**P**	**07 26 12.3**	**+0.7**
PEXB	**Peixe**	**49.69**	**336**	*e*P		**P**	**07 26 13.2**	**+1.1**
PB16	**IPOC Station P**	**50.34**	**308**	P		**P**	**07 26 16.1**	**-1.6**
NBAN	**Anadia - AL**	**50.42**	**352**	*e*P		**P**	**07 26 18.8**	**+1.2**
SNDB	**Serra Nova Dou**	**50.48**	**332**	*e*P		**P**	**07 26 18.8**	**+0.8**
NBRF	**Rio Formoso -**	**51.33**	**353**	*e*P		**P**	**07 26 24.2**	**-0.2**
LBTB	**Lobatse**	**51.53**	**73**	P		**P**	**07 26 30.4**	**+4.4**
	comp=Z,2.3nm,0.7s,baz=207,slow=11,SNR=2.1							
LBTB				LR		LR	07 44 27.8	
	comp=Z,417nm,20.4s,baz=212,slow=31							
LPAZ	**La Paz**	**51.66**	**311**	P		**P**	**07 26 26.7**	**-1.0**
	comp=Z,5.4nm,0.7s,baz=130,slow=4.3,SNR=20							
LPAZ				LR		LR	07 51 35.5	
	comp=Z,213nm,19.0s,baz=148,slow=40							
LPAZ	**La Paz**	**51.66**	**311**	*e*P		**P**	**07 26 27.1**	**-0.6**
VILB	**Vilhena**	**51.99**	**321**	*e*P		**P**	**07 26 28.8**	**-0.7**
H10S2	**ASCENSION HYDR**	**52.17**	**19**	T		T	08 23 37.0	
	baz=190,slow=74,SNR=78							
H10S3	**ASCENSION HYDR**	**52.18**	**19**	T		T	08 23 39.8	
	baz=30,slow=74,SNR=183							
PDRB	**Porto dos Gac**	**52.22**	**326**	*e*P		**P**	**07 26 30.3**	**-0.9**
CLDB	**Colider**	**52.67**	**327**	*e*P		**P**	**07 26 35.8**	**+1.4**
SMTB	**Santa Maria do**	**52.71**	**338**	*e*P		**P**	**07 26 36.1**	**+1.3**
NBMA	**Muriti-CE**	**52.91**	**349**	*e*P		**P**	**07 26 36.3**	**0.0**
ASCN	**Ascension**	**53.23**	**19**	P		**P**	**07 26 35.2**	**-3.4**
H10N1	**ASCENSION HYDR**	**53.29**	**19**	T		T	08 24 56.0	
	baz=189,slow=75,SNR=135							
H10N3	**ASCENSION HYDR**	**53.29**	**19**	T		T	08 25 11.8	
	baz=189,slow=75,SNR=208							
H10N2	**ASCENSION HYDR**	**53.31**	**19**	T		T	08 24 58.4	
	baz=189,slow=75,SNR=153							
RCBR	**Riachuelo**	**54.20**	**353**	LR		LR	07 44 51.4	
	comp=Z,283nm,21.2s,baz=326,slow=30							
PRPB	**Parauapebas**	**55.77**	**336**	*e*P		**P**	**07 26 57.9**	**+0.8**
NBPS	**Pedro II PI**	**56.14**	**346**	*e*P		**P**	**07 27 01.5**	**+1.8**
NPGB	**Novo Progresso**	**56.22**	**329**	*e*P		**P**	**07 26 59.4**	**-0.8**
ETMB	**Extrema**	**56.92**	**316**	*e*P		**P**	**07 27 04.0**	**-1.3**
NBMO	**Morrinhos-CE**	**57.05**	**348**	*e*P		**P**	**07 27 06.8**	**+0.6**
NNA	**Nana**	**59.05**	**303**	LR		LR	07 53 25.3	
	comp=Z,205nm,18.2s,baz=144,slow=37							
TMAB	**Tom-Au,PA,Br**	**59.14**	**339**	*e*P		**P**	**07 27 22.4**	**+1.7**
MALB	**Monte Alegre**	**60.94**	**332**	*e*P		**P**	**07 27 33.3**	**+0.2**
LSZ	**Lusaka**	**61.11**	**69**	LR		LR	07 50 45.4	
	comp=Z,729nm,19.7s,baz=203,slow=33							
LSZ	**Lusaka**	**61.11**	**69**	IAMs_20		IAMs_20	07 50 24.4	
	comp=Z,899nm,19.0s							
MCPB	**Macapa, AP**	**61.89**	**335**	*e*P		**P**	**07 27 40.4**	**+0.9**
VOI	**Vohitsoka**	**64.64**	**90**	P		**P**	**07 27 56.5**	**-1.4**
MCQ	**Macquarie Isla**	**65.67**	**186**	P		**P**	**07 28 04.1**	**+0.1**
MCRA	**Macar, Loja**	**67.21**	**304**	P		**P**	**07 28 12.7**	**-1.8**
MDP	**Montagnes des**	**67.31**	**335**	LR		LR	07 55 48.0	
	comp=Z,230nm,21.1s,baz=176,slow=34							
LIC	**Lamto**	**68.85**	**27**	*e*P		P	07 28 34.1	+9.5
	comp=Z,57nm,1.7s							
KIC	**Kosan Boka**	**69.05**	**27**	*e*P		P	07 28 35.1	+9.3
	comp=Z,7.0nm,0.7s							
TIC	**Toumodi**	**69.26**	**27**	*e*P		P	07 28 36.4	+9.2
DBIC	**Dimbokro**	**69.32**	**27**	P		**P**	**07 28 30.4**	**+2.9**
	comp=Z,6.7nm,1.0s,baz=210,slow=11,SNR=3.1							
DBIC				LR		LR	07 51 43.2	
	comp=Z,348nm,21.9s,baz=194,slow=30							
OTAV	**Otavalo**	**70.78**	**307**	P		**P**	**07 28 37.0**	**0.0**
OTAV	**Otavalo**	**70.78**	**307**	*e*P		**P**	**07 28 36.6**	**-0.5**
ROSC	**El Rosal**	**73.42**	**313**	LR		LR	08 03 42.4	
	comp=Z,234nm,18.9s,baz=182,slow=38							
MBAR	**Mbarara**	**75.17**	**64**	LR		LR	07 59 22.5	
	comp=Z,233nm,18.7s,baz=192,slow=33							
RPZ	**Rata Peaks**	**75.26**	**196**	LR		LR	08 00 12.7	
	comp=Z,228nm,18.5s,baz=174,slow=34							
SDV	**Santo Domingo**	**75.88**	**318**	LR		LR	08 02 51.0	
	comp=Z,373nm,21.3s,baz=153,slow=36							
SDV	**Santo Domingo**	**75.88**	**318**	P		**P**	**07 29 05.7**	**-1.1**
SDV				IAmb		IAmb	07 29 12.4	
	comp=Z,28nm,1.1s							
SDV	**Santo Domingo**	**75.88**	**318**	*e*P		**P**	**07 29 07.0**	**+0.1**
ZARC	**Zaragoza, Cauc**	**76.06**	**314**	P		**P**	**07 29 06.5**	**-1.1**
OCAC	**Ocana**	**76.20**	**316**	P		**P**	**07 29 06.7**	**-1.9**
KIBK	**Kibwezi**	**77.06**	**72**	IAMs_20		IAMs_20	07 58 27.5	
	comp=Z,594nm,20.0s							
TOA0	**Torodi Ar. Sit**	**77.16**	**32**	P		**P**	**07 29 12.0**	**-1.8**
TOA0				pP		**pP**	**07 29 16.7**	**+0.5**
TOA0				IAmb		IAmb	07 29 23.2	
	comp=Z,14nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.16**	**32**	P		**P**	**07 29 15.7**	**+2.0**
	comp=Z,14nm,1.0s,baz=197,slow=4.9,SNR=25							
TORD				LR		LR	07 56 59.5	
	comp=Z,112nm,21.2s,baz=228,slow=31							
KMBO	**Kilima Mbogo**	**77.74**	**71**	LR		LR	08 01 35.4	
	comp=Z,322nm,18.6s,baz=218,slow=34							
URZ	**Urewera**	**79.63**	**201**	LR		LR	08 01 23.2	
	comp=Z,207nm,19.0s,baz=209,slow=33							
LODK	**Lodwar**	**80.84**	**67**	IAMs_20		IAMs_20	08 02 18.5	
	comp=Z,571nm,20.0s							
DRK0	**Durika**	**80.91**	**307**	P		**P**	**07 29 33.4**	**-1.1**
TOO	**Toolangi**	**82.74**	**176**	P		**P**	**07 29 42.1**	**-1.8**
CUPR	**Culebra, Puert**	**83.13**	**326**	P		**P**	**07 29 44.4**	**-1.5**
CUPR				IAmb		IAmb	07 29 52.0	
	comp=Z,23nm,0.9s							
SJG	**San Juan**	**83.18**	**325**	LR		LR	08 06 09.2	
	comp=Z,203nm,21.9s,baz=162,slow=35							
FURI	**Furi**	**87.19**	**67**	IAMs_20		IAMs_20	08 05 08.7	
	comp=Z,619nm,21.0s							
STKA	**Stephens Creek**	**88.23**	**173**	LR		LR	08 07 12.3	
	comp=Z,227nm,20.9s,baz=198,slow=34							
PPT2	**Papeete2**	**88.75**	**236**	*e*LR		LR	07 58 33.5	
	comp=Z,647nm,30.5s,baz=157							
PPT	**Papeete**	**88.77**	**236**	LR		LR	08 01 36.2	
	comp=Z,228nm,20.0s,baz=152,slow=30							
RAR	**Rarotonga**	**89.44**	**226**	LR		LR	08 04 23.2	
	comp=Z,193nm,18.6s,baz=190,slow=32							
ATD	**Arta Tunnel**	**91.44**	**69**	LR		LR	08 09 32.8	
	comp=Z,230nm,18.9s,baz=186,slow=34							
TAOE	**Nuku Hiva Isla**	**92.30**	**248**	*e*LR		LR	08 00 10.0	
	comp=Z,237nm,26.9s,baz=154							
MDT	**Midelt**	**94.76**	**21**	LR		LR	08 10 02.7	
	comp=Z,195nm,18.8s,baz=180,slow=33							
ASAR	**Alice Springs**	**95.62**	**165**	P		**P**	**07 30 46.5**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=179,slow=4.1,SNR=9.4							
ASAR				PP		**PP**	**07 34 36.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=194,slow=5.6,SNR=2.0							
ASAR				PKKP		PKKPbc	07 47 41.8	+8.4
	comp=Z,0.2nm,0.4s,baz=14,slow=2.9,SNR=4.1							
ASAR				LR		LR	08 10 29.7	
	comp=Z,179nm,21.9s,baz=176,slow=33							
DZM	**Mont Dzumac**	**97.18**	**195**	LR		LR	08 09 24.1	
	comp=Z,209nm,20.1s,baz=208,slow=32							
DZM	**Mont Dzumac**	**97.18**	**195**	*e*LR		LR	08 02 32.2	
	comp=Z,386nm,22.8s							
KOUNC	**Koumac, New Ca**	**

M30M	**Minto, Yukon**	**146.49**	**307**			**PKPdf**	**07 37 00.3**	**+1.7**
INK	**Inuvik**	**147.83**	**317**	PKPbc		**PKPdf**	**07 37 02.3**	**+1.8**
	comp=Z,5.8nm,1.0s,baz=61,slow=2.8,SNR=13							
HNS	**HongShan**	**148.12**	**119**	⇑PKPbc		**PKiKP**	**07 37 07.8**	**+0.8**
BTO	**Baotou**	**148.57**	**110**	*e*PKPbc		**PKPbc**	**07 37 07.8**	**+1.3**
HHC	**Hu-ho-hao-te**	**149.49**	**111**	*e*PKPbc		**PKPdf**	**07 37 04.7**	**+0.4**
BJI	**Beijing**	**150.95**	**118**	PKPbc		**PKiKP**	**07 37 14.9**	**+2.2**
ILAR	**Eielson Array**	**151.50**	**307**	PKPbc		**PKPbc**	**07 37 11.6**	**-1.1**
	comp=Z,7.5nm,1.0s,baz=152,slow=1.5,SNR=26							
SONM	**Songino Array**	**152.07**	**96**	PKP		**PKPdf**	**07 37 10.8**	**+2.7**
	comp=Z,0.4nm,0.5s,baz=146,slow=2.8,SNR=2.2							
SONM				PKPbc		**PKPbc**	**07 37 15.4**	**+0.7**
	comp=Z,18nm,1.5s,baz=135,slow=0.6,SNR=12							
KSRS	**Korea Array**	**153.38**	**138**	PKP		**PKPdf**	**07 37 12.6**	**+2.5**
	comp=Z,0.7nm,0.5s,baz=0.0,slow=0.4,SNR=2.1							
KSRS				PKPbc		**PKiKP**	**07 37 18.6**	**+0.8**
	comp=Z,2.9nm,1.1s,baz=27,slow=0.5,SNR=2.6							

IDC 08 07:20:23.2±1.8, 0.79N×128.99E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/33, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=61.9km s-min=24.8km az=53.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.81**	**126**	Pn	Pn	07 21 09.9	+0.4
	3.4nm,0.3s,baz=345,slow=24,SNR=4.8						
SIJI				Sn	Sn	07 21 43.6	-0.5
	0.7nm,0.3s,baz=142,slow=23,SNR=1.5						
WRA	**Warramunga Arr**	**21.26**	**166**	P	P	07 25 11.0	-0.3
	0.2nm,0.6s,baz=347,slow=13,SNR=1.7						
ASAR	**Alice Springs**	**24.78**	**169**	P	P	07 25 47.2	+0.2
	1.1nm,0.6s,baz=350,slow=11,SNR=16						
H11S3	**WAKE ISLAND Hy**	**40.96**	**62**	T	T	08 11 36.4	
	baz=248,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**40.98**	**62**	T	T	08 11 36.2	
	baz=248,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**40.98**	**62**	T	T	08 11 35.4	
	baz=248,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**41.59**	**61**	T	T	08 12 19.6	
	baz=247,slow=75,SNR=88						
H11N2	**WAKE ISLAND Hy**	**41.60**	**61**	T	T	08 12 21.1	
	baz=247,slow=75,SNR=77						
H11N3	**WAKE ISLAND Hy**	**41.61**	**61**	T	T	08 12 21.0	
	baz=247,slow=75,SNR=105						
MKAR	**Makanchi Array**	**61.24**	**325**	P	P	07 30 40.1	-0.1
	0.2nm,0.5s,baz=129,slow=6.8,SNR=2.9						

*EST **08** 07:20:22.3±0.1, 59.3°N×27.7°E, h0km, ML1.7(HEL), Explosion*
*LVSN **08** 07:20:23.0±1.9, 59.1°N×27.8°E, h0km±457km, ML2.3*
*UPP **08** 07:20:24.9±3.4, 60.2°N×27.8°E, h0km, ML1.7, Suspected explosion*

HEL 08 07:20:23.3±0.2, 59.3°N×27.5°E, h0km, ML2.0, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EE05	**Udria, Vaivara**	**0.24**	**48**	*e*P	Pg	07 20 25.6	-2.2
EE05				*e*S	Sg	07 20 28.2	-2.8
EE03	**Tooma soojaam,**	**0.76**	**242**	*e*P	Pg	07 20 37.2	-0.6
EE03				*e*SB	Sg	07 20 48.7	+1.0
ARBE	**Arbavere**	**0.84**	**285**	*e*P	Pg	07 20 38.7	-0.6
ARBE				*e*S	Sg	07 20 50.1	-0.1
VSU	**Vasula**	**0.89**	**210**	*e*P	Pg	07 20 38.6	-1.6
VSU	**Vasula**	**0.89**	**210**	*e*S	Sg	07 20 51.1	-0.7
VSU	**Vasula**	**0.89**	**210**	*e*P	Pg	07 20 39.3	-1.0
VSU				*e*SB	Sg	07 20 51.8	+0.1
VJF	**Virojoki**	**1.31**	**360**	*e*P	Pg	07 20 45.6	-2.8
VJF				*e*SB	Sg	07 21 03.1	-2.3
EE02	**Kiisa, Saku**	**1.48**	**270**	*e*P	Pn	07 20 49.7	-1.5
EE02				*e*PG	Pg	07 20 50.5	-1.1
EE02				*e*SB	Sg	07 21 10.4	-0.4
PVF	**Pernaja**	**1.57**	**328**	*e*PG	Pn	07 20 51.5	-0.9
PVF				MSG		07 21 10.5	
	comp=Z,7.8nm,0.2s						
PVF				*e*S	Sn	07 21 11.8	-1.7
MEF	**Metsahovi**	**1.89**	**303**	*e*P	Pn	07 20 56.5	-0.3
MEF	**Metsahovi**	**1.89**	**303**	*e*P	Pn	07 20 57.6	+0.8
MEF				AML	AML	07 20 57.9	
	comp=E,24nm,0.1s						
MEF				AML	AML	07 20 57.9	
	comp=Z,20nm,0.2s						
MEF				*e*S	Sb	07 21 22.4	-0.2
MEF				AML	AML	07 21 23.8	
	comp=N,25nm,0.3s						
MEF	**Metsahovi**	**1.89**	**303**	*e*PG	Pn	07 20 57.5	+0.8
MEF				*e*SG	Sb	07 21 22.2	-0.5
MEF				MSG		07 21 23.1	
	comp=Z,4.4nm,0.1s						
NUR	**Nurmijrvi**	**1.95**	**312**	*e*PG	Pn	07 20 58.3	+0.7
NUR				*e*SG	Sb	07 21 23.9	-0.6
NUR				MSG		07 21 25.2	
	comp=Z,3.4nm,0.1s						
MTSE	**Matsula**	**2.01**	**257**	*e*P	Pn	07 20 58.8	+0.4
MTSE	**Matsula**	**2.01**	**257**	*e*P	Pn	07 20 59.6	+1.1
MTSE				*e*S	Sb	07 21 26.4	+0.1
MTSE	**Matsula**	**2.01**	**257**	*e*PG	Pn	07 20 59.5	+1.1
MTSE				*e*SG	Sb	07 21 26.1	-0.2
EE01	**Perakula, Nova**	**2.03**	**271**	*e*P	Pn	07 20 59.3	+0.6
EE01				*e*PG	Pb	07 20 59.8	-1.2
EE01				*e*SG	Sb	07 21 26.9	+0.1
RUFX	**Ruokolahti**	**2.31**	**17**	*e*P	Pn	07 21 01.1	-1.5
FIA0	**FINESS Array S**	**2.34**	**342**	*e*P	Pn	07 21 02.2	-0.8
FIA0				*e*PB	Pb	07 21 03.6	-2.7
FIA0				*e*SG	Sb	07 21 35.2	-0.5
FIA0				MSG		07 21 35.4	
	comp=Z,2.4nm,0.1s						
FIA1	**FINESS Array S**	**2.34**	**342**	*e*P	Pn	07 21 02.1	-0.8
FIA1				*e*PB	Pb	07 21 03.6	-2.7
FIA1				MSG		07 21 35.3	
	comp=Z,2.1nm,0.1s						
EE06	**Soera, Palade,**	**2.45**	**266**	*e*P	Pn	07 21 05.0	+0.6
EE06				*e*SB	Sb	07 21 38.9	0.0
KAF	**Kangasniemi**	**2.96**	**348**	*e*PB	Pn	07 21 13.5	+2.1
SLIT	**Slitere, Latvi**	**3.21**	**242**	AML	AML	07 22 02.4	
	comp=N,80nm,0.6s						
SLIT				AML	AML	07 22 13.4	
	comp=E,81nm,0.6s						
SLIT				AML	AML	07 22 20.2	
	comp=Z,78nm,0.6s						
SLIT	**Slitere, Latvi**	**3.21**	**242**	*e*SB	Sb	07 22 00.4	-0.2
KEF	**Keuruu**	**3.23**	**337**	MSG		07 21 58.1	
	comp=Z,1.9nm,0.2s						
RAF	**Rauma**	**3.42**	**304**	*e*P	Pn	07 21 17.9	+0.2
RAF	**Rauma**	**3.42**	**304**	*e*P	Pn	07 21 18.6	+0.9
RAF				AML	AML	07 21 55.0	
	comp=Z,4.6nm,0.8s						
RAF				AML	AML	07 22 16.2	
	comp=N,3.6nm,0.3s						
RAF				AML	AML	07 22 18.2	
	comp=E,4.8nm,0.5s						
RAF	**Rauma**	**3.42**	**304**	*e*P	Pn	07 21 18.6	+0.8
SUF	**Sumiainen**	**3.57**	**349**	*e*P	Pn	07 21 19.2	-0.6
SUF				*e*SG	Sb	07 22 12.8	+1.8
AAL	**Aland**	**3.96**	**287**	*e*P	Pn	07 21 27.1	+2.0
AAL	**Aland**	**3.96**	**287**	P	Pn	07 21 25.4	+0.3
IDID	**Didziasalis**	**3.96**	**187**	*e*P	Pb	07 21 29.7	-4.1
PABE	**Paberze**	**4.22**	**209**	AML	AML	07 21 16.6	
	comp=E,23nm,0.5s						
PABE				AML	AML	07 21 18.6	
	comp=Z,17nm,0.1s						
PABE				AML	AML	07 21 54.5	
	comp=N,18nm,0.5s						
GRAU	**Graesoe**	**4.70**	**287**	P	Pn	07 21 34.9	-0.4
FLYU	**Flymyra**	**4.99**	**285**	P	Pn	07 21 38.3	-1.1
FLYU				S	Sn	07 22 36.9	-0.8
FIBU	**Brunna**	**5.24**	**282**	P	Pn	07 21 43.8	+1.0
BACU	**Backbrunna**	**5.36**	**281**	P	Pn	07 21 45.7	+1.2
OSTU	**Oestervaala**	**5.38**	**285**	P	Pn	07 21 45.4	+0.8
VIKU	**Vikbolandet**	**5.69**	**267**	*e*P	Pn	07 21 48.1	-0.9

*CNRM **08** 07:22:06.1, 35.7°N×3.7°W, h10km, ml1.9*
*MDD **08** 07:22:07.4±1.0, 35.4°N×3.8°W, h34km±5km, mb_Lg2.5/3, Error ellipse: s-maj=14.0km s-min=4.7km az=164.0*

ISC 08 07:22:06.4±1.2, 35.5°N±0.0°×3.8°W±0.0°, h20km±5km, n11, σ0.9s96/17, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.34**	**196**	P	**Pb**	**07 22 13.7**	**0.0**
PALE				S	**Sb**	**07 22 17.7**	**-0.9**
PVLZ	**Peæn de**	**0.54**	**226**	P	**Pb**	**07 22 17.9**	**+0.7**
PVLZ				S	**Sb**	**07 22 25.0**	**+0.6**
EMEL	**Melilla**	**0.75**	**109**	Pg	**Pb**	**07 22 20.5**	**-0.3**
EMEL				Sg	**Sn**	**07 22 31.4**	**-1.2**
EALB	**Alboran**	**0.76**	**58**	Pg	**Pb**	**07 22 21.4**	**+0.5**
EALB				Sg	**Sn**	**07 22 32.3**	**-0.4**
EALB				*i* Vmb_Lg		07 22 35.8	
SMIR	**Smir Dam**	**1.27**	**277**	P	**Pn**	**07 22 29.0**	**0.0**
EMIJ	**Mijas**	**1.27**	**323**	Sg	**Sb**	**07 22 47.4**	**+1.7**
EMIJ				*i* Vmb_Lg		07 22 50.9	
ECEU	**Ceuta**	**1.31**	**286**	Pg	**Pn**	**07 22 28.2**	**-1.3**
ECEU				*i* Vmb_Lg		07 22 38.8	
ECEU				Sg	**Sn**	**07 22 44.8**	**-1.6**
TAF	**Taforalt**	**1.37**	**122**	P	**Pn**	**07 22 30.3**	**-0.1**
JBK	**JBK**	**1.59**	**139**	P	**Pb**	**07 22 35.6**	**+0.4**
JBK				S	**Sn**	**07 22 53.5**	**0.0**
MD31	**MD31**	**2.78**	**196**	P	**Pn**	**07 22 50.7**	**+0.9**
MDT	**Midelt**	**2.80**	**194**	P	**Pb**	**07 22 56.0**	**+0.3**

*TUL **08** 07:31:56.2±1.2, 35.6°N±0.0°×97.1°W±0.0°, h5km±5km, ML2.7, mb_Lg2.4/18(NEIC), Error ellipse: s-maj=2.9km s-min=1.4km az=145.0*
*ANF **08** 07:31:56.5±0.3, 35.7°N×97.1°W, h5km, ML2.7/8, Error ellipse: s-maj=3.7km s-min=2.5km az=1.0*

NEIC 08 07:31:56.6±1.1, 35.68N±0.02°×97.19W±0.02, h7km±4km, Error ellipse: s-maj=3.0km s-min=1.5km az=153.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.02**	**177**	Pg	Pg	07 31 57.4	-0.5
OK005				Sg	Sg	07 31 58.1	-0.6
OK001	**Jones High Sch**	**0.14**	**215**	Pg	Pg	07 31 59.4	-0.1
OK001				Sg	Sg	07 32 01.5	0.0
FNO	**Franklin**	**0.45**	**202**		Pg	07 32 05.1	-0.2
W35A	**Tecumseh**	**0.58**	**153**	Pg	Pg	07 32 07.3	-0.5
TUL1	**Leonard**	**1.16**	**78**	Pg	Pg	07 32 18.0	-0.9
TUL1	**Leonard**	**1.16**	**78**	P	Pg	07 32 17.3	-1.6
	baz=258						
TUL1				S	Sg	07 32 33.4	-0.6
	baz=258						
X34A	**Smith Ranch, M**	**1.19**	**206**	Pg	Pg	07 32 18.8	-0.7
T35A	**Sooner Cattle**	**1.36**	**24**	Pn	Pn	07 32 21.0	-1.0
T35B	**Sooner Cattle**	**1.36**	**24**	P	Pn	07 32 21.2	-0.8
	baz=203						
T35B				S	Sg	07 32 40.1	-0.1
	baz=203						
WMOK	**Wichita Mounta**	**1.60**	**235**	Pn	Pn	07 32 25.2	-0.2
WMOK	**Wichita Mounta**	**1.60**	**235**	P	Pn	07 32 25.1	-0.2
	baz=54						
U32A	**Winter Ranch,**	**1.63**	**296**	Pn	Pn	07 32 26.0	+0.3
U32A	**Winter Ranch,**	**1.63**	**296**	P	Pn	07 32 26.0	+0.3
	baz=115						
U32A				S	Sg	07 32 49.1	+0.2
	baz=115						
X37A	**Clayton**	**1.84**	**125**	Pn	Pn	07 32 28.7	0.0
X37A				IAmb_Lg		07 32 55.4	
	comp=Z,12nm,0.7s						
X37A	**Clayton**	**1.84**	**125**	P	Pn	07 32 28.9	+0.3
	baz=306						
Z35A	**Perchaven, San**	**2.34**	**181**	Pn	Pn	07 32 36.4	+0.9
Z35A				IAmb_Lg		07 33 11.4	
	comp=Z,12nm,0.8s						
W39A	**Magazine**	**2.82**	**99**	Pn	Pn	07 32 42.2	+0.1
W39A				IAmb_Lg		07 33 31.5	
	comp=Z,7.4nm,0.8s						
W39A	**Magazine**	**2.82**	**99**	P	Pn	07 32 42.3	+0.1
	baz=280						
W39A				S	Sn	07 33 16.6	+0.2
	baz=280						
MIAR	**Mount Ida**	**3.17**	**110**	Pn	Pn	07 32 47.8	+0.8
MIAR	**Mount Ida**	**3.17**	**110**	P	Pn	07 32 47.8	+0.9
	baz=292						
U40A	**Yellville**	**3.58**	**78**	IAmb_Lg		07 33 47.1	
	comp=Z,14nm,1.2s						
ABTX	**Abilene, Hawle**	**3.66**	**214**	IAmb_Lg		07 33 56.0	
	comp=Z,5.2nm,0.8s						
S39A	**Bolivar**	**3.71**	**56**	IAmb_Lg		07 33 56.6	
	comp=Z,8.4nm,0.9s						
S39A	**Bolivar**	**3.71**	**56**	P	Pb	07 33 03.1	+0.7
	baz=238						
X40A	**Basin Creek Fa**	**3.77**	**107**	IAmb_Lg		07 33 58.7	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	**4.02**	**94**	Pn	Pn	07 32 58.4	-0.2
W41B	**Gary Mavity, V**	**4.07**	**96**	Pn	Pn	07 32 59.0	-0.3
FCAR	**Ozark Folk Cen**	**4.13**	**86**	Pn	Pn	07 33 00.0	-0.1
FCAR				IAmb_Lg		07 34 10.3	
	comp=Z,10nm,0.9s						
MGMO	**Mountain Grove**	**4.24**	**68**	IAmb_Lg		07 34 15.0	
	comp=Z,12nm,0.8s						
R40A	**Maddies Statio**	**4.73**	**55**	Pn	Pn	07 33 06.9	-1.4
PBMO	**Poplar Bluff**	**5.58**	**77**	Pn	Pn	07 33 20.2	+0.2

IDC 08 07:43:16.3±2.6, 54.2°N×86.4°E, h0km, mb1 3.0/2, mb1mx2.9/58, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=20.4km s-min=12.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**256**	*i*		07 50 00.0	
	baz=73,slow=327,SNR=7.6						
ZALV	**Zalesovo Beam**	**0.98**	**256**	Pg	Pg	07 43 33.4	-1.7
	1.1nm,0.3s,baz=74,slow=17,SNR=13						
ZALV				Lg	Lg	07 43 48.9	
	3.8nm,0.3s,baz=80,slow=29,SNR=13						
KURBB	**Kurchatov Arra**	**6.01**	**237**	Pn	Pn	07 44 47.8	+1.3
	0.1nm,0.3s,baz=54,slow=14,SNR=7.7						
KURBB				Lg	Lg	07 46 29.3	
	0.0nm,0.3s,baz=60,slow=32,SNR=5.0						
MKAR	**Makanchi Array**	**7.87**	**201**	Pn	Pn	07 45 12.8	+0.9
	0.2nm,0.3s,baz=26,slow=14,SNR=8.8						
MKAR				Lg	Lg	07 47 27.7	
	0.1nm,0.3s,baz=25,slow=32,SNR=6.6						

*FUNV **08** 07:49:12.2, 8.3°N×71.7°W, h5km, MW3.0*

ISC 08 07:49:10.9±1.5, 8.45N±0.06°×71.66W±0.04, h0km±13km, n12, σ1.3s34/21, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.87**	**228**	*e*P	**Pg**	**07 49 27.1**	**-0.5**
CAPV				*e*S	**Sb**	**07 49 38.7**	**-2.5**
SDV	**Santo Domingo**	**1.10**	**67**	*e*P	**Pg**	**07 49 32.0**	**-0.1**
SDV				*e*S	**Sg**	**07 49 46.6**	**+0.1**
PAMC	**Pamplona, Colo**	**1.51**	**223**	*e*P	**Pg**	**07 49 40.7**	**+0.9**
PAMC				*e*S	**Sn**	**07 50 01.6**	**+1.4**
PAMC				*i*		07 50 05.4	
	comp=N,48nm,0.3s						
OCAC	**Ocana**	**1.66**	**263**	*e*P	**Pn**	**07 49 41.9**	**+0.6**
OCAC				*e*S	**Sb**	**07 50 03.7**	**-0.2**
OCAC				*i*		07 50 06.8	
	comp=Z,82nm,0.2s						
MCQV	**Machiques**	**1.81**	**332**	*e*S	**Sn**	**07 50 08.3**	**+1.3**
CURV	**Curarigua**	**2.29**	**47**	*e*S	**Sn**	**07 50 20.7**	**+1.8**
SANV	**Sanarito**	**2.34**	**63**	*e*P	**Pn**	**07 49 52.7**	**+1.9**
SANV				*e*S	**Sn**	**07 50 21.5**	**+1.1**
DABV	**Dabajuro**	**2.66**	**22**	*e*P	**Pn**	**07 49 55.1**	**+0.1**
DABV				*e*S	**Sn**	**07 50 28.5**	**+0.5**
CRJC	**Cerrejon, Guaj**	**2.83**	**335**	*e*P	**Pn**	**07 49 56.0**	**-1.4**
SIQV	**Siquisique**	**2.85**	**40**	*e*P	**Pn**	**07 49 58.6**	**+0.9**
SIQV				*e*S	**Sn**	**07 50 33.2**	**+0.5**
MAPV	**Macapo**	**3.45**	**66**	*e*P	**Pn**	**07 50 06.4**	**+0.5**
MAPV				*e*S	**Sn**	**07 50 45.6**	**-1.9**
BENV	**Beln**	**4.28**	**69**	*e*P	**Pn**	**07 50 16.9**	**-0.5**
BENV				*e*S	**Sn**	**07 51 06.4**	**-1.8**

*INMG **08** 08:05:37.7±1.3, 35.4°N×3.7°W, h0km, ML2.2, Error ellipse: s-maj=3.6km s-min=2.9km az=41.0*
*CNRM **08** 08:05:37.8, 35.4°N×3.7°W, h23km, ml2.2*
*MDD **08** 08:05:38.1±0.9, 35.3°N×3.7°W, h35km±19km, mb_Lg2.7/5, Error ellipse: s-maj=11.1km s-min=5.1km az=172.0*
*SFS **08** 08:05:38.0, 35.3°N×3.7°W, h35km, ML2.7, ALBORAN SUR*

ISC 08 08:05:37.2±1.0, 35.4°N±0.0°×3.7°W±0.0°, h17km±8km, n24, σ0.9s97/43, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.31**	**216**	P	**Pg**	**08 05 43.5**	**-0.3**
PALE				S	**Sg**	**08 05 48.3**	**-0.1**
PVLZ	**Peæn de**	**0.56**	**238**	P	**Pg**	**08 05 47.9**	**-0.4**
PVLZ				S	**Sg**	**08 05 54.9**	**-0.9**
EMEL	**Melilla**	**0.65**	**105**	Pg	**Pb**	**08 05 50.4**	**+0.4**
EMEL				Sg	**Sb**	**08 05 59.5**	**+0.8**
EALB	**Alboran**	**0.73**	**50**	Pg	**Pb**	**08 05 51.3**	**-0.1**
EALB				Sg	**Sn**	**08 06 03.2**	**-0.3**
EALB				*i* Vmb_Lg		08 06 05.4	
TAF	**Taforalt**	**1.25**	**121**	P	**Pn**	**08 06 00.1**	**+0.1**
TAF				S	**Sg**	**08 06 18.9**	**+1.1**
SMIR	**Smir Dam**	**1.37**	**279**	P	**Pn**	**08 06 00.1**	**-1.5**
SMIR				S	**Sg**	**08 06 21.7**	**+0.2**
CHEFC	**Chefchaouen**	**1.37**	**255**	P	**Pb**	**08 06 02.4**	**0.0**
CHEFC				S	**Sn**	**08 06 18.1**	**-1.3**
EMIJ	**Mijas**	**1.39**	**322**	Pg	**Pn**	**08 06 02.2**	**+0.4**
EMIJ				Sg	**Sn**	**08 06 19.1**	**-0.6**
EMIJ				*i* Vmb_Lg		08 06 30.3	
ELGU	**Los Guajares,**	**1.40**	**3**	Pg	**Pn**	**08 06 00.4**	**-1.6**
ELGU				Sg	**Sn**	**08 06 17.7**	**-2.4**
ELGU				*i* Vmb_Lg		08 06 25.8	
EMAL	**Malaga-Limoner**	**1.41**	**336**	P	**Pg**	**08 06 04.9**	**+0.5**
EMAL				S	**Sb**	**08 06 20.8**	**0.0**
JBK	**JBK**	**1.48**	**140**	P	**Pn**	**08 06 02.8**	**-0.3**
JBK				S	**Sn**	**08 06 20.1**	**-2.0**
EBER	**Berja**	**1.58**	**25**	Pg	**Pn**	**08 06 03.6**	**-0.9**
EBER				Sg	**Sn**	**08 06 23.7**	**-1.0**
EBER				*i* Vmb_Lg		08 06 44.2	
EGOR	**Sierra Gorda,**	**1.67**	**349**	Pn	**Pn**	**08 06 05.9**	**+0.1**
EGOR				Sn	**Sn**	**08 06 24.4**	**-0.5**
EGOR				*i* Vmb_Lg		08 06 35.5	
MD31	**MD31**	**2.73**	**199**	P	**Pn**	**08 06 21.3**	**+0.9**
MD31				S	**Sn**	**08 06 53.1**	**+0.1**
MDT	**Midelt**	**2.75**	**196**	P	**Pn**	**08 06 20.9**	**+0.3**
MDT				S	**Sn**	**08 06 53.5**	**+0.2**
ZHG	**ZHG**	**3.15**	**231**	P	**Pn**	**08 06 25.6**	**-0.4**
ZHG				S	**Sn**	**08 07 03.0**	**-0.2**
PVAQ	**Vaqueiros**	**3.76**	**302**	*e*Pn	**Pn**	**08 06 34.9**	**+0.6**
PVAQ				*e*Sn	**Sn**	**08 07 18.1**	**-0.1**
PVAQ				A	A	08 07 18.9	
	3.8nm,0.4s						
PVAQ	**Vaqueiros**	**3.76**	**302**	P	**Pn**	**08 06 34.3**	**-0.1**
PVAQ				S	**Sn**	**08 07 16.3**	**-1.8**
PBAR	**Barrancos**	**3.79**	**316**	*e*Sn	**Sn**	**08 07 19.7**	**+0.7**
PBAR				A	A	08 07 27.3	
	2.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.83**	**299**	*e*Pn	**Pn**	**08 06 35.7**	**+0.3**
PCVE	**Castro Verde**	**4.09**	**303**	*e*Pn	**Pn**	**08 06 40.5**	**+1.5**
PCVE				A	A	08 07 43.1	
	4.4nm,0.7s						
PESTR	**Estremoz**	**4.59**	**319**	*e*Sn	**Sn**	**08 07 39.4**	**+0.7**
PNCL	**Nicolau / Gran**	**4.67**	**306**	*e*Pn	**Pn**	**08 06 48.1**	**+1.2**
PNCL				*e*Sn	**Sn**	**08 07 40.8**	**0.0**
PNCL				A	A	08 07 56.7	
	3.5nm,0.5s						
PMRV	**Marv??o**	**4.92**	**325**	*e*Pn	**Pn**	**08 06 52.4**	**+2.1**

IDC 08 08:10:35.6±3.7, 53.8°N×87.5°E, h0km, mb1 2.6/2, mb1mx2.6/34, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=37.0km s-min=17.9km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**288**	*i*		08 20 54.7	
	baz=106,slow=331,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.64**	**288**	Pg	Pn	08 11 04.6	-1.0
	0.1nm,0.3s,baz=110,slow=13,SNR=6.2						
ZALV				Lg	Lg	08 11 27.3	
	0.4nm,0.3s,baz=115,slow=26,SNR=2.9						
KURBB	**Kurchatov Arra**	**6.20**	**246**	Pn	Pn	08 12 09.3	+1.0
	0.0nm,0.3s,baz=62,slow=14,SNR=5.3						
MKAR	**Makanchi Array**	**7.46**	**208**	Pn	Pn	08 12 26.6	+0.9
	0.1nm,0.3s,baz=15,slow=12,SNR=2.3						

*SNET **08** 08:11:16.4±0.9, 14.2°N×91.3°W, h9km±11km, ML3.1*
*GCG **08** 08:11:18.1±0.3, 14.4°N×91.6°W, h38km±6km, MD3.5*

ISC 08 08:11:07.5±2.9, 13.83N±0.1°×91.9W±0.1°, h20km±5km, n11, σ1.9s23/19, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.73**	**17**	*e*P	**Pn**	**08 11 24.0**	**+1.2**
RTAL				*e*S	**Sg**	**08 11 30.8**	**-0.9**
STG3	**Santiaguito 3,**	**0.94**	**21**	⇓*e*P	**Pn**	**08 11 27.0**	**+1.1**
FUG	**Fuego 3**	**1.22**	**59**	*e*P	**Pg**	**08 11 31.7**	**+0.6**
FUG				*e*S	**Sb**	**08 11 44.6**	**-0.7**
PCG	**Pacaya**	**1.39**	**66**	*e*S	**Sn**	**08 11 50.8**	**+0.7**
HUEH	**Huehuetenango**	**1.54**	**15**	*e*P	**Pb**	**08 11 35.5**	**0.0**
HUEH				*e*S	**Sn**	**08 11 51.1**	**-2.5**
NBG	**Las Nubes**	**1.70**	**63**	*e*P	**Pg**	**08 11 40.2**	**-0.2**
NBG				*e*S	**Sb**	**08 12 00.9**	**+1.4**
NUBE	**Las Nubes**	**2.08**	**88**	*e*P	**Pb**	**08 11 44.6**	**-0.1**
NUBE				*e*S	**Sn**	**08 12 06.4**	**-0.5**
NUBE				IAML		08 12 12.4	
	comp=Z,85nm,0.3s						
SLOZ	**Alcaldia de Sa**	**2.08**	**84**	*e*P	**Pb

KURBB	**Kurchatov Arra**	**6.64**	**239**	⇓Sn	**Sn**	**08 20 25.1**	**-1.9**
	4.1nm,0.7s							
KURBB				⇑Lg	Lg	08 21 02.9		
	6.4nm,0.8s							
MK31	**Makanchi Array**	**8.29**	**206**	⇓Sn	**Sn**	**08 21 02.2**	**-5.6**
	1.0nm,0.7s,baz=24,slow=26,SNR=6.8							
MK31				⇓Lg	Lg	08 21 49.9		
	2.6nm,0.9s,baz=22,slow=30,SNR=4.4							
MKAR	**Makanchi Array**	**8.29**	**206**	Pn	**Pn**	**08 19 35.2**	**+1.7**
	0.2nm,0.3s,baz=28,slow=14,SNR=5.8							
MKAR				Sn	**Sn**	**08 21 08.2**	**+0.4**
	0.1nm,0.3s,baz=26,slow=28,SNR=9.5							
MKAR				Lg	Lg	08 21 55.0		
	0.1nm,0.3s,baz=19,slow=27,SNR=2.4							
MAKZ	**Makanchi**	**8.36**	**207**	⇑Sn	**Sn**	**08 21 09.2**	**-0.3**
	2.7nm,0.9s							
MAKZ				⇑Lg	Lg	08 21 54.2		
	3.2nm,1.1s							

*IDC **08** 08:31:11.7±1.4,22˚.47N×121˚.70E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.5/61,mbtmp3.7/7,Error ellipse: s-maj=55.5km s-min=21.1km az=64.0*
*NEIC **08** 08:31:15.4±2.0,22˚.47N±0˚.05×121˚.06E±0˚.07,h16km±5km, mb4.1/3,ML4.4(TAP),Error ellipse: s-maj=8.8km s-min=7.3km az=75.0*
*TAP **08** 08:31:15.4,22˚.47N×120˚.99E,h15km,ML4.2,B*
*JMA **08** 08:31:16.0±0.8,22˚.79N×121˚.22E,h0km,M4.2*
*NIED **08** 08:31:16.1,22˚.79N×121˚.22E,h0km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr1.11; Mθθ-0.24; Mφφ-0.87; Mrθ2.11; Mθφ-0.70; Mφr1.06; Fault plane solution: M₀2.66000×10¹⁵ NP1:φs59.00000°, δ78.00000°,λ104.00000°. NP2:φs190.00000°,δ18.00000°, λ42.00000°.*

ISC 08 08:31:14.3±0.8,22˚.41N±0˚.02×121˚.11E±0˚.02,h14km±5km, n135,σ1$22/204,mb3.6/10,23C-13D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.20**	**254**	⇑*iP*		**Pg**	**08 31 19.4**	**+0.5**
	baz=216							
TAW				*i* S		**Sg**	**08 31 22.3**	**+0.2**
	baz=216							
TAWH	**Dawu Township**	**0.22**	**250**	⇑*iP*		**Pg**	**08 31 19.7**	**+0.5**
	baz=217							
TAWH				*i* S		**Sg**	**08 31 22.6**	**+0.2**
	baz=217							
ECL	**Taimali**	**0.23**	**322**	⇓*iP*		**Pg**	**08 31 19.4**	**0.0**
	baz=349							
ECL				*i* S		**Sg**	**08 31 21.9**	**-0.9**
	baz=349							
EAST	**Anshuo**	**0.24**	**263**	⇑*iP*		**Pg**	**08 31 19.8**	**+0.1**
	baz=236							
EAST				*i* S		**Sg**	**08 31 22.7**	**-0.4**
	baz=236							
TTN	**Taitung**	**0.34**	**6**	⇑*iP*		**Pb**	**08 31 23.1**	**+0.9**
	baz=28							
TTN				*e*S		**Sb**	**08 31 28.9**	**+1.4**
	baz=28							
SLIU	**Shizi**	**0.35**	**235**	⇑*iP*		**Pb**	**08 31 22.0**	**-0.3**
	baz=215							
SLIU				*e*S		**Sb**	**08 31 26.4**	**-1.3**
	baz=215							
TWGBT	**Beinan**	**0.40**	**357**	⇑*iP*		**Pb**	**08 31 22.7**	**-0.6**
	baz=13							
TWGBT				*e*S		**Sg**	**08 31 28.0**	**+0.1**
	baz=13							
TWG	**Pinlang**	**0.41**	**356**			**Pb**	**08 31 22.6**	**-0.8**
LDUT	**Ludao**	**0.42**	**52**	⇑*iP*		**Pn**	**08 31 25.2**	**-0.8**
	baz=65							
LDUT				*e*S		**Sb**	**08 31 31.8**	**+2.0**
	baz=65							
SCZT	**Fangliau**	**0.45**	**265**	⇑*iP*		**Pb**	**08 31 23.0**	**-1.1**
	baz=254							
SCZT				*i* S		**Sg**	**08 31 28.2**	**-1.2**
	baz=254							
SMST	**Manzhou Townsh**	**0.47**	**213**	⇑*iP*		**Pn**	**08 31 24.9**	**-1.7**
	baz=198							
SMST				*e*S		**Sb**	**08 31 31.6**	**+0.6**
	baz=198							
MASBT	**Mashibuluo**	**0.48**	**294**	⇓*iP*		**Pg**	**08 31 23.1**	**-0.8**
	baz=294							
MASBT				*i* S		**Sg**	**08 31 27.9**	**-2.4**
	baz=294							
LONT	**Longtian**	**0.49**	**3**	⇑*iP*		**Pb**	**08 31 24.2**	**-0.6**
	baz=17							
LONT				*e*S		**Sg**	**08 31 29.7**	**-1.0**
	baz=17							
SSPT	**Xinbi**	**0.50**	**278**	⇓*iP*		**Pb**	**08 31 24.1**	**-0.9**
	baz=273							
SSPT				*e*S		**Sg**	**08 31 30.3**	**-0.7**
	baz=273							
TSMG	**Majia**	**0.52**	**304**	⇓*iP*		**Pg**	**08 31 23.6**	**-0.9**
	baz=307							
TSMG				*e*S		**Sg**	**08 31 29.0**	**-2.5**
	baz=307							
HEN	**Hengchun**	**0.53**	**220**	⇑*iP*		**Pn**	**08 31 26.2**	**-1.2**
	baz=206							
HEN				*e*S		**Sn**	**08 31 34.4**	**-1.8**
	baz=206							
TWKBT	**Hengchun**	**0.54**	**210**	*eP*		**Pn**	**08 31 26.4**	**-1.3**
	baz=197							
TWKBT				*e*S		**Sn**	**08 31 36.0**	**-0.6**
	baz=197							
TSEB	**Hengchuen, Pin**	**0.55**	**201**	*eP*		**Pn**	**08 31 27.0**	**-0.7**
	baz=192							
TSEB				*e*S		**Sn**	**08 31 37.1**	**+0.4**
	baz=192							
TWK1	**Hengchun**	**0.55**	**211**	*eP*		**Pn**	**08 31 26.6**	**-1.1**
	baz=197							
TWK1				*e*S		**Sn**	**08 31 35.0**	**-1.6**
	baz=197							
SSD	**Sandimen**	**0.55**	**307**	⇓*iP*		**Pg**	**08 31 24.1**	**-1.0**
	baz=311							
SSD				*e*S		**Sg**	**08 31 29.8**	**-2.7**
	baz=311							
LAY	**Lan-yu**	**0.56**	**132**	*eP*		**Pn**	**08 31 27.1**	**-0.8**
	baz=129							
LAY				*e*S		**Sn**	**08 31 37.5**	**+0.6**
	baz=129							
EDH	**Donghe**	**0.58**	**18**	⇑P		**Pb**	**08 31 26.3**	**-0.1**
	baz=30							
EDH				*e*S		**Sb**	**08 31 34.8**	**+0.2**
	baz=30							
LYUB	**Lan-yu**	**0.60**	**133**	*eP*		**Pb**	**08 31 26.7**	**0.0**
	baz=130							
LYUB				*e*S		**Sb**	**08 31 34.7**	**-0.3**
	baz=130							
TSPT	**Pingtung City**	**0.62**	**295**	*eP*		**Pb**	**08 31 26.4**	**-0.6**
	baz=294							
SGLT	**Jiouru**	**0.65**	**299**	*eP*		**Pg**	**08 31 26.3**	**-0.7**
	baz=299							
WLCH	**Liuqiu**	**0.68**	**265**	*eP*		**Pn**	**08 31 30.2**	**+0.7**
	baz=259							
WLCH				*e*S		**Sn**	**08 31 41.4**	**+1.5**
	baz=259							
ECS	**Chishang**	**0.69**	**9**	*eP*		**Pb**	**08 31 27.6**	**-0.6**
	baz=19							
ECS				*e*S		**Sb**	**08 31 37.2**	**-0.2**
	baz=19							
TWP	**Hsiaoliuchiu**	**0.69**	**265**	*eP*		**Pn**	**08 31 30.2**	**+0.5**
	baz=258							
TWP				*e*S		**Sn**	**08 31 42.7**	**+2.5**
	baz=258							
CHKT	**Chengkung**	**0.72**	**19**	⇑P		**Pb**	**08 31 28.5**	**-0.3**
	baz=29							
CHKT				*e*S		**Sb**	**08 31 38.4**	**-0.1**
	baz=29							
SCST	**Cishan**	**0.73**	**310**	⇓*iP*		**Pb**	**08 31 28.7**	**-0.3**
	baz=312							
SCST				*e*S		**Sg**	**08 31 37.5**	**-0.8**
	baz=312							
TWM1	**Shoushan**	**0.75**	**303**	⇓P		**Pb**	**08 31 29.4**	**+0.2**
	baz=304							
KAU	**Kaohsiung**	**0.75**	**282**	*eP*		**Pn**	**08 31 31.0**	**+0.4**
	baz=279							
KAU				*e*S		**Sn**	**08 31 43.6**	**+1.9**
	baz=279							
ELDTW	**Lidau**	**0.78**	**354**	⇑P		**Pg**	**08 31 28.6**	**-0.9**
	baz=3.0							
ELDTW				*e*S		**Sg**	**08 31 39.1**	**-0.6**
	baz=3.0							
FULB	**Fuli**	**0.80**	**12**	⇑*iP*		**Pg**	**08 31 29.4**	**-0.5**
	baz=21							
FULB				*e*S		**Sg**	**08 31 40.4**	**-0.1**
	baz=21							
STYH	**Taoyuan**	**0.81**	**338**	⇑P		**Pb**	**08 31 30.1**	**-0.2**
	baz=345							
STYH				*e*S		**Sg**	**08 31 39.7**	**-1.1**
	baz=345							
STYT	**Tauyuan**	**0.81**	**337**	⇓*iP*		**Pb**	**08 31 29.9**	**-0.4**
	baz=343							
STYT				*e*S		**Sg**	**08 31 39.2**	**-1.6**
	baz=343							
WSSB	**Gushan**	**0.81**	**286**	*eP*		**Pn**	**08 31 31.9**	**+0.5**
	baz=285							
SGST	**Jiashian**	**0.82**	**324**	⇓P		**Pg**	**08 31 29.2**	**-1.1**
	baz=329							
SGST				*e*S		**Sg**	**08 31 39.2**	**-1.9**
	baz=329							
SHHT	**Tainan City**	**0.93**	**311**	⇓*eP*		**Pn**	**08 31 33.7**	**+0.8**
	baz=313							
SHHT				*e*S		**Sn**	**08 31 47.3**	**+1.3**
	baz=313							
CHN1	**Nanshi**	**0.94**	**325**	*eP*		**Pn**	**08 31 32.8**	**-0.3**
	baz=329							
CHN1				*e*S		**Sb**	**08 31 44.2**	**-0.5**
	baz=329							
WTP	**Ta-pu**	**0.94**	**331**	⇓*eP*		**Pn**	**08 31 32.8**	**-0.5**
	baz=336							
WTP				*e*S		**Sb**	**08 31 45.5**	**+0.5**
	baz=336							
EYUL	**Yuli**	**0.95**	**12**	*eP*		**Pg**	**08 31 31.4**	**-1.4**
	baz=19							
EYUL				*e*S		**Sn**	**08 31 46.2**	**-0.4**
	baz=19							
CHN3	**Shinhua**	**0.95**	**314**	*eP*		**Pn**	**08 31 34.2**	**+0.9**
	baz=316							
CHN3				*e*S		**Sn**	**08 31 48.9**	**+2.2**
	baz=316							
TWF1	**Yuli**	**0.95**	**11**	*eP*		**Pg**	**08 31 30.5**	**-2.3**
	baz=18							
TWF1				*e*S		**Sn**	**08 31 47.3**	**+0.6**
	baz=18							
ECBN	**Changbin**	**0.95**	**19**	*eP*		**Pb**	**08 31 31.7**	**-1.1**
	baz=27							
ECBN				*e*S		**Sg**	**08 31 43.9**	**-1.4**
	baz=27							
SNST	**Tainan City**	**0.98**	**325**	⇓*eP*		**Pn**	**08 31 33.8**	**+0.1**
	baz=329							
SNST				*e*S		**Sn**	**08 31 46.6**	**-0.8**
	baz=329							
TPUB	**Ta-pu**	**0.99**	**334**			**Pn**	**08 31 33.6**	**-0.2**
TPUB	**Ta-pu**	**0.99**	**334**	⇑*eP*		**Pn**	**08 31 33.7**	**-0.2**
	baz=338							
TPUB				*e*S		**Sb**	**08 31 46.4**	**+0.3**
	baz=338							
YULB	**Yu-li**	**0.99**	**10**			**Pg**	**08 31 31.0**	**-2.5**
YULB	**Yu-li**	**0.99**	**10**	⇑*eP*		**Pg**	**08 31 31.1**	**-2.5**
	baz=17							
TWK	**Hsinying**	**1.02**	**326**	*eP*		**Pn**	**08 31 34.3**	**0.0**
	baz=330							
TWK				*e*S		**Sn**	**08 31 47.9**	**-0.6**
	baz=330							
CHN4	**Tsaushan**	**1.05**	**333**	⇑*eP*		**Pn**	**08 31 34.8**	**+0.2**
	baz=338							
CHN4				*e*S		**Sn**	**08 31 49.0**	**-0.1**
	baz=338							
HGSD	**Ruisui**	**1.11**	**15**	*eP*		**Pg**	**08 31 33.8**	**-2.1**
	baz=21							
ALS	**Alishan**	**1.13**	**346**	⇑*eP*		**Pg**	**08 31 35.4**	**-0.7**
	baz=351							
ALS				*e*S		**Sn**	**08 31 51.1**	**-0.3**
	baz=351							
SCLT	**Jiali**	**1.13**	**312**	*eP*		**Pn**	**08 31 35.9**	**+0.2**
	baz=314							
SCLT				*e*S		**Sn**	**08 31 50.9**	**-0.2**
	baz=314							
ICHU	**Yijhu**	**1.21**	**321**	*eP*		**Pb**	**08 31 35.9**	**-1.2**
	baz=324							
ICHU				*e*S		**Sb**	**08 31 52.1**	**-0.4**
	baz=324							
CHN5	**Tsauling**	**1.24**	**342**	*eP*		**Pg**	**08 31 37.9**	**-0.4**
	baz=346							
CHN5				*e*S		**Sn**	**08 31 55.0**	**+1.1**
	baz=346							
CHY	**Chiayi**	**1.25**	**330**	*eP*		**Pg**	**08 31 38.1**	**-0.3**
	baz=333							
CHY				*e*S		**Sn**	**08 31 54.4**	**+0.4**
	baz=333							
CHN2	**Minshiung**	**1.26**	**333**	*eP*		**Pg**	**08 31 38.2**	**-0.3**
	baz=336							
CHN2				*e*S		**Sn**	**08 31 55.7**	**+1.5**
	baz=336							
EGFH	**Guangfu**	**1.28**	**13**	*eP*		**Pg**	**08 31 38.4**	**-0.7**
	baz=19							
VWDT	**VWDT**	**1.33**	**1**	⇑*eP*		**Pn**	**08 31 37.6**	**-0.9**
	baz=6.0							
VWDT				*e*S		**Sg**	**08 32 00.4**	**+3.0**
	baz=6.0							
TEGC	**Jichi Village**	**1.35**	**17**	*eP*		**Pn**	**08 31 38.2**	**-0.5**
	baz=23							
TEGC				*e*S		**Sb**	**08 31 54.3**	**-2.3**
	baz=23							
WGK	**Gukeng**	**1.36**	**338**	*eP*		**Pg**	**08 31 39.6**	**-1.0**
	baz=342							
WSL	**Shuilin Townsh**	**1.37**	**324**	*eP*		**Pb**	**08 31 39.3**	**-0.5**
	baz=326							
WDLH	**Douliu**	**1.37**	**338**	*eP*		**Pg**	**08 31 40.1**	**-0.7**
	baz=341							
WDLH				*e*S		**Sg**	**08 31 58.3**	**-0.4**
	baz=341							
SSLB	**Suanglung**	**1.37**	**354**			**Pn**	**08 31 39.0**	**-0.1**
SSLB	**Suanglung**	**1.37**	**354**	*eP*		**Pn**	**08 31 38.8**	**-0.4**
	baz=359							
SSLB				*e*S		**Sg**	**08 31 59.1**	**+0.4**
	baz=359							
ESL	**Shilin**	**1.43**	**12**	*eP*		**Pn**	**08 31 39.5**	**-0.4**
	baz=17							
WTK	**Tuku**	**1.43**	**333**	*eP*		**Pb**	**08 31 40.2**	**-0.6**
	baz=336							
WTK				*e*S		**Sn**	**08 31 58.1**	**-0.3**
	baz=336							
WJS	**Zhushan**	**1.44**	**346**	*eP*		**Pg**	**08 31 41.5**	**-0.6**
	baz=350							
WJS				*e*S		**Sg**	**08 32 00.2**	**-0.7**
	baz=350							
SMLT	**Sun Moon Lake**	**1.47**	**353**	*eP*		**Pb**	**08 31 41.2**	**-0.4**
	baz=357							
SMLT				*e*S		**Sg**	**08 32 03.4**	**+1.4**
	baz=357							
TYC	**Yuchr**	**1.50**	**351**	⇑*eP*		**Pg**	**08 31 42.5**	**-0.7**
	baz=356							
TYC				*e*S		**Sg**	**08 32 03.1**	**+0.4**
	baz=356							
WNT	**Mingjian**	**1.51**	**345**	*eP*		**Pg**	**08 31 42.5**	**-0.8**
	baz=349							
OWD	**Renai**	**1.53**	**2**	*eP*		**Pn**	**08 31 40.8**	**-0.7**
	baz=7.0							
OWD				*e*S		**Sg**	**08 32 05.2**	**+1.3**
	baz=7.0							
WUSB	**Renai**	**1.57**	**0**	*eP*		**Pn**	**08 31 41.9**	**-0.1**
	baz=4.0							
WUSB				*e*S		**Sn**	**08 32 01.3**	**-0.9**
	baz=4.0							
WDGT	**Dungji**	**1.58**	**303**	*eP*		**Pn**	**08 31 40.8**	**-1.1**
	baz=303							
WDGT				*e*S		**Sn**	**08 31 59.2**	**-2.9**
	baz=303							
WRL	**Guolierlin Hig**	**1.62**	**336**	*eP*		**Pn**	**08 31 42.9**	**+0.3**
	baz=339							
CHGB	**Renai**	**1.64**	**2**	*eP*		**Pn**	**08 31 42.8**	**-0.2**
	baz=6.0							
CHGB				*e*S		**Sg**	**08 32 07.5**	**+0.2**
	baz=6.0							
WCS	**Beigang Elemen**	**1.65**	**354**	*eP*		**Pb**	**08 31 44.4**	**-0.1**
	baz=357							
WCS				*e*S		**Sb**	**08 32 05.3**	**+0.3**
	baz=357							
WWF	**Wufeng**	**1.66**	**347**	*eP*		**Pg**	**08 31 45.3**	**-1.0**
	baz=350							
TWD	**Chiawan**	**1.72**	**15**	*eP*		**Pn**	**08 31 42.8**	**-1.0**
	baz=19							
WHF	**Hehuan Shan**	**1.73**	**5**	*eP*		**Pn**	**08 31 43.5**	**-0.9**
	baz=9.0							
WCHH	**Zhanghua**	**1.73**	**343**	*eP*		**Pn**	**08 31 44.5**	**+0.5**
	baz=346							
VCHM	**Qimei**	**1.74**	**297**	⇓*eP*		**Pn**	**08 31 42.9**	**-1.2**
	baz=297							
VCHM				*e*S		**Sn**	**08 32 03.1**	**-3.0**
	baz=297							
TCU	**Taichung**	**1.77**	**347**	*eP*		**Pb**	**08 31 46.5**	**-0.1**
	baz=350							
PHUB	**P'eng-hu**	**1.79**	**308**	*eP*		**Pn**	**08 31 43.4**	**-1.4**
	baz=309							
PHUB				*e*S		**Sn**	**08 32 04.6**	**-2.7**
	baz=309							
NACB	**Ninganchiao**	**1.81**	**14**			**Pn**	**08 31 42.8**	**-2.3**
NACB	**Ninganchiao**	**1.81**	**14**	*eP*		**Pn**	**08 31 42.9**	**-2.2**
	baz=18							
ETLH	**Xiulin Townshi**	**1.82**	**11**	*eP*		**Pn**	**08 31 43.2**	**-2.1**
	baz=15							
FUSS	**Fushou**	**1.83**	**4**	*eP*		**Pn**	**08 31 44.1**	**-1.5**
	baz=8.0							
FUSS				*e*S		**Sb**	**08 32 11.3**	**+0.6**
	baz=8.0							
TDCB	**Techi**	**1.83**	**1**	*eP*		**Pn**	**08 31 45.6**	**+0.1**
	baz=5.0							
TWT	**Tachien**	**1.83**	**2**	*eP*		**Pn**	**08 31 45.6**	**0.0**
	baz=5.0							
PNG	**Penghu**	**1.83**	**309**	*eP*		**Pn**	**08 31 44.5**	**-0.9**
	baz=310							
PNG				*e*S		**Sn**	**08 32 05.7**	**-2.8**
	baz=310							
WHP	**Taichung City**	**1.86**	**355**	⇑*eP*		**Pb**	**08 31 48.2**	**0.0**
	baz=359							
WHP				*e*S		**Sg**	**08 32 13.5**	**-0.7**
	baz=359							
TWQ1	**Liyutan**	**1.95**	**351**	*eP*		**Pb**	**08 31 49.0**	**-0.7**
	baz=354							
TWQ1				*e*S		**Sb**	**08 32 14.2**	**+0.3**
	baz=354							
WDJ	**Dajia District**	**1.97**	**348**	*eP*		**Pb**	**08 31 49.0**	**-1.0**
	baz=350							
WDJ				*e*S		**Sg**	**08 32 16.3**	**-1.5**
	baz=350							
NSY	**Sanyi**	**2.02**	**351**	*eP*		**Pb**	**08 31 49.7**	**-1.1**
	baz=354							
NSY				*e*S		**Sb**	**08 32 16.7**	**+0.8**
	baz=354							
NNSB	**Datong**	**2.02**	**7**	*eP*		**Pg**	**08 31 51.7**	**-1.4**
	baz=10.0							
LATG	**Datong**	**2.15**	**10**	*eP*		**Pb**	**08 31 52.7**	**-0.3**
	baz=13							
YHNB	**Yeheng**	**2.26**	**6**			**Pn**	**08 31 51.7**	**+0.4**
YHNB	**Yeheng**	**2.26**	**6**	*eP*		**Pn**	**08 31 51.8**	**+0.4**
	baz=9.0							
NSK	**Sanguang**	**2.26**	**6**	*eP*		**Pn**	**08 31 51.9**	**+0.5**
	baz=9.0							
TATO	**Taipei**	**2.57**	**8**			**Pn**	**08 31 57.1**	**+1.5**
YOJ	**Yonaguni jima**	**2.69**	**40**	P		**Pn**	**08 31 57.6**	**+0.5**
YOJ	**Yonaguni jima**	**2.69**	**40**			**Pn**	**08 31 57.6**	**+0.5**
HATJ	**Hateruma jima**	**2.97**	**56**	P		**Pn**	**08 32 01.5**	**+0.4**
HATJ				*e*S		**Sn**	**08 32 35.8**	**-0.7**
KNMB	**Chin-men Tao**	**3.22**	**310**	Pn		**Pn**	**08 32 04.2**	**-0.3**
JKRS	**Kuro-shima**	**3.23**	**55**	P		**Pn**	**08 32 05.4**	**+0.8**
JIJ	**Ishigaki jima**	**3.40**	**55**	P		**Pn**	**08 32 07.0**	**0.0**
JIJ				*e*S		**Sn**	**08 32 44.8**	**-2.3**
JISG	**Ishigakijimahi**	**3.65**	**53**	P		**Pn**	**08 32 10.7**	**+0.3**
JISG				*e*S		**Sn**	**08 32 50.9**	**-2.4**
JTJ	**Tarama**	**3.98**	**55**	P		**Pn**	**08 32 15.9**	**+1.0**
JTJ				*e*S		**Sn**	**08 33 00.7**	**-0.6**
JIRB	**Irabujima**	**4.44**	**56**	P		**Pn**	**08 32 22.4**	**+1.2**
JMJ2	**Miyako jima3**	**4.51**	**58**	P		**Pn**	**08 32 23.3**	**+1.0**
HKPS	**Hong Kong Po S**	**6.45**	**270**	Pn		**Pn**	**08 32 46.3**	**-2.7**
JTU	**Tsushima**	**14.09**	**29**	Pn		**Pn**	**08 34 34.1**	**+0.5**
TJN	**Taejon**	**14.94**	**20**	Pn		**Pn**	**08 34 43.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**21.13**	**263**	P		**P**	**08 36 04.8**	**+5.7**
	1.2nm,0.4s,baz=61,slow=9.4,SNR=1.6							
SONM	**Songino Array**	**27.97**	**339**	P		**P**	**08 37 05.8**	**+1.2**
	0.8nm,0.7s,baz=144,slow=10,SNR=4.1							
MK31	**Makanchi Array**	**39.57**	**317**	P		**P**	**08 38 45.5**	**+0.4**
MK31				IAmb		IAmb	08 39 42.0	
	comp=Z,1.6nm,1.0s							
MKAR	**Makanchi Array**	**39.57**	**317**	P		**P**	**08 38 46.4**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=102,slow=11,SNR=5.3							
MKAR	**Makanchi Array**	**39.57**	**317**	P		**P**	**08 38 45.8**	**+0.7**
PETK	**Petropavlovsk-**	**41.38**	**33**	P		**P**	**08 39 00.2**	**+0.3**
ZAA0	**Zalesovo Array**	**41.70**	**328**	P		**P**	**08 39 02.1**	**-0.4**
ZAA0				IAmb		IAmb	08 39 11.2	
	comp=Z,5.4nm,1.4s							
ZALV	**Zalesovo Beam**	**41.70**	**328**	P		**P**	**08 39 05.5**	**+3.0**
	comp=Z,0.9nm,0.4s,baz=118,slow=7.2,SNR=2.3							
ZALV	**Zalesovo Beam**	**41.70**	**328**	P		**P**	**08 39 02.1**	**-0.4**
H11N1	**WAKE ISLAND Hy**	**42.69**	**85**	T		T	09 24 54.8	
	baz=282,slow=74,SNR=20							
H11N2	**WAKE ISLAND Hy**	**42.69**	**85**	T		T	09 24 55.0	
	baz=282,slow=74,SNR=43							
H11N3	**WAKE ISLAND Hy**	**42.70**	**85**	T		T	09 24 55.7	
	baz=282,slow=74,SNR=33							
H11S3	**WAKE ISLAND Hy**	**42.76**	**87**	T		T	09 25 00.7	
	baz=284,slow=75,SNR=72							
H11S1	**WAKE ISLAND Hy**	**42.77**	**87**	T		T	09 25 02.8	
	baz=284,slow=75,SNR=28							
H11S2	**WAKE ISLAND Hy**	**42.78**	**87**	T		T	09 25 02.7	
	baz=284,slow=75,SNR=29							
KURBB	**Kurchatov Arra**	**43.42**	**321**	P		**P**	**08 39 17.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=122,slow=7.3,SNR=2.2							
WRA	**Warramunga Arr**	**44.04**	**162**	P		**P**	**08 39 19.9**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=343,slow=8.7,SNR=4.0							
WB2	**Warramunga Arr**	**44.04**	**162**	P		**P**	**08 39 21.3**	**-0.6**
WB2				IAmb		IAmb	08 40 33.7	
	comp=Z,20nm,1.8s							
ASAR	**Alice Springs**	**47.47**	**164**	P		**P**	**08 39 47.9**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=353,slow=12,SNR=1.7							

IDC 08 08:33:51.9±2.9,53˚.67N×87˚.06E,h0km,mb1 2.9/2, mb1mx2.7/59,mbtmp2.9/2,ML2.5/2,Error ellipse: s-maj=29.5km s-min=16.4km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**283**	*i*			08 42 20.0	
	baz=102,slow=330,SNR=2.8							
ZALV	**Zalesovo Beam**	**1.35**	**283**	Pg		Pg	08 34 16.6	-1.2
	1.2nm,0.3s,baz=101,slow=16,SNR=17							
ZALV				Lg		Lg	08 34 34.6	
	1.5nm,0.3s,baz=107,slow=28,SNR=12							
ZALV				Rg		Rg	08 34 45.9	
	2.1nm,0.3s,baz=108,slow=28,SNR=7.8							
KURBB	**Kurchatov Arra**	**6.07**	**243**	Pn		Pn	08 35 24.9	+2.1
	0.1nm,0.3s,baz=59,slow=13,SNR=3.6							
MKAR	**Makanchi Array**	**7.53**	**206**	Pn		Pn	08 35 43.6	+0.7
	0.1nm,0.3s,baz=28,slow=14,SNR=7.4							

**IDC 08 08:34:31.1±3.5,55˚.51N×86˚.30E,h0km,mb1 2.8/2, mb1mx2.7/60,mb

IDC 08 08:38:03.6±6.6, 5°51'S×146°79'E, h185km×72km, mb3.0/3, mb1 3.1/5, mb1mx2.7/43, mbtmp3.4/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=90.1km s-min=26.3km az=140.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.89**	**175**	P	Pn	08 39 04.2	+0.6
	1.2nm,0.3s,baz=330,slow=14,SNR=1.0						
PMG				S	Sn	08 39 50.7	+0.1
	3.8nm,0.3s,baz=187,slow=22,SNR=7.6						
WRA	**Warramunga Arr**	**18.78**	**219**	P	P	08 42 09.6	+0.5
	0.1nm,0.3s,baz=45,slow=9.8,SNR=7.7						
ASAR	**Alice Springs**	**21.91**	**213**	P	P	08 42 43.4	+1.1
	0.1nm,0.3s,baz=47,slow=8.4,SNR=2.2						
FITZ	**Fitzroy Crossi**	**24.15**	**237**	P	P	08 43 01.9	-1.0
	1.1nm,0.5s,baz=60,slow=8.6,SNR=6.9						
JOW	**Kunigami**	**36.81**	**332**	LR	LR	08 59 12.9	
	comp=Z,52nm,21.1s,baz=156,slow=34						
ILAR	**Eielson Array**	**85.11**	**23**	P	P	08 50 18.5	0.0
	0.4nm,0.6s,baz=249,slow=4.3,SNR=6.7						

KRSZO 08 08:40:31.4, 46°18N×18°29E, h0km, Explosion. GT info : GT2 explosion locality : Koml ll., Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOVH	**Kovagotottos**	**0.16**	**237**	Pg	Pg	08 40 36.1	+1.6
KOVH				Lg	Lg	08 40 38.9	
KOVH	**Kovagotottos**	**0.16**	**237**	P	Pg	08 40 36.1	+1.6
KOVH				S	Sg	08 40 38.9	+2.3
MORH	**Mrgy, Hungar**	**0.25**	**81**	Pg	Pg	08 40 38.4	+2.2
MORH				Lg	Lg	08 40 42.1	
MORH	**Mrgy, Hungar**	**0.25**	**81**	P	Pg	08 40 38.4	+2.2
MORH				S	Sg	08 40 42.1	+2.7
TIH	**Tihany**	**0.78**	**339**	Lg	Lg	08 40 53.8	
TIH	**Tihany**	**0.78**	**339**	S	Sg	08 40 53.8	-2.5

IDC 08 08:40:49.2±2.5, 54°04N×86°47E, h0km, mb1 3.1/2, mb1mx2.9/55, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=21.8km s-min=12.8km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**265**	*i*		08 47 52.5	
	baz=81,slow=333,SNR=6.1						
ZALV	**Zalesovo Beam**	**0.98**	**265**	Pg	Pg	08 41 06.8	-1.1
	0.9nm,0.3s,baz=86,slow=17,SNR=10						
ZALV				Lg	Lg	08 41 22.0	
	1.5nm,0.3s,baz=89,slow=28,SNR=4.8						
ZALV				Rg	Rg	08 41 27.2	
	3.6nm,0.5s,baz=82,slow=24,SNR=15						
KURBB	**Kurchatov Arra**	**5.95**	**238**	Pn	Pn	08 42 19.3	+0.9
	0.2nm,0.3s,baz=54,slow=13,SNR=5.2						
MKAR	**Makanchi Array**	**7.73**	**202**	Pn	Pn	08 42 44.1	+1.2
	0.3nm,0.3s,baz=26,slow=14,SNR=12						

RSNC 08 08:41:11.2±1.1, 6°81N×73°13W, h144km±4km, ML3.2, Mw3.7, 6C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**195**	⇓*i* P	Pn	08 41 30.8	-0.3
BARC				*e*S	Sn	08 41 45.8	-0.4
BARC				*i*		08 41 47.5	
	comp=Z,461nm,0.1s						
PAMC	**Pamplona, Colo**	**0.68**	**39**	⇑*i* P	Pn	08 41 33.6	+0.1
PAMC				*e*S	Sn	08 41 50.6	+0.2
PAMC				*i*		08 41 52.8	
	comp=Z,386nm,0.5s						
RUSC	**La Rusia**	**0.91**	**177**	*i* P	Pn	08 41 34.7	-0.5
RUSC				*e*S	Sn	08 41 53.0	-0.4
RUSC				*i*		08 41 55.2	
	comp=Z,153nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P	Pn	08 41 37.3	-1.4
PTBC				*e*S	Sn	08 41 58.4	-1.3
PTBC				*i*		08 42 04.3	
	comp=Z,144nm,0.3s						
TAMC	**Tame, Arauca**	**1.38**	**105**	⇓*i* P	Pn	08 41 39.2	+0.2
TAMC				*e*S	Sn	08 41 59.6	-0.6
TAMC				*i*		08 41 59.7	
	comp=Z,106nm,0.4s						
OCAC	**Ocana**	**1.44**	**352**	⇑*e*P	Pn	08 41 38.8	-1.0
OCAC				*e*S	Sn	08 42 01.5	-0.2
OCAC				*i*		08 42 03.6	
	comp=Z,361nm,0.2s						
SPBC	**San Pablo de B**	**1.48**	**219**	*e*P	Pn	08 41 39.5	-0.7
SPBC				*e*S	Sn	08 42 01.9	-0.4
SPBC				*i*		08 42 06.4	
	comp=Z,313nm,0.2s						
NORC	**Norcasia**	**2.13**	**235**	⇑*e*P	Pn	08 41 46.7	-0.8
NORC				*e*S	Sn	08 42 15.6	+0.2
NORC				*i*		08 42 23.8	
	comp=Z,125nm,0.4s						
CHIC	**Chingaza**	**2.24**	**196**	*e*P	Pn	08 41 48.9	-0.4
CHIC				*e*S	Sn	08 42 17.9	-0.6
CHIC				*i*		08 42 21.9	
	comp=Z,145nm,0.6s						
ROSC	**El Rosal**	**2.29**	**211**	*e*P	Pn	08 41 50.2	+0.4
ROSC				*e*S	Sn	08 42 20.7	+1.3
ROSC				*i*		08 42 25.3	
	comp=Z,340nm,0.6s						
HELC	**Santa Helena**	**2.46**	**256**	*e*P	Pn	08 41 51.4	-0.5
HELC				*e*S	Sn	08 42 23.3	+0.1
HELC				*i*		08 42 28.4	
	comp=Z,96nm,0.3s						
UREC	**San Jos de Ur**	**2.57**	**292**	*e*P	Pn	08 41 50.6	-2.3
UREC				*e*S	Sn	08 42 22.3	-2.6
UREC				*i*		08 42 34.6	
	comp=Z,86nm,0.2s						
SOCV	**Socops**	**2.69**	**57**	⇑*i* P	Pn	08 41 53.6	-0.8
SOCV				*e*S	Sn	08 42 25.3	-2.4
GUY2C	**Guyana, Caldas**	**2.73**	**235**	*e*P	Pn	08 41 54.7	-0.6
GUY2C				*e*S	Sn	08 42 31.4	+2.2
GUY2C				*i*		08 42 36.8	
	comp=Z,125nm,0.4s						
LL1C	**La Loma 1 Cana**	**2.75**	**351**	*e*P	Pn	08 41 55.6	+0.4
LL1C				*e*S	Sn	08 42 30.7	+1.5
PTGC	**Puerto Gaitan,**	**2.77**	**159**	*e*P	Pn	08 41 53.9	-1.5
PTGC				*e*S	Sn	08 42 27.4	-2.2
PTGC				*i*		08 42 30.2	
	comp=Z,81nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.92**	**357**	*e*P	Pn	08 41 55.2	-2.0
LL6C				*i*		08 42 37.9	
	comp=Z,60nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*e*P	Pn	08 41 58.1	-0.6
CBOC				*e*S	Sn	08 42 35.3	-0.1
CBOC				*i*		08 42 43.1	
	comp=Z,26nm,0.4s						
MOTC	**Monteria, Cord**	**3.19**	**308**	*e*P	Pn	08 41 57.8	-3.0
MOTC				*e*S	Sn	08 42 36.7	-2.4
MOTC				*i*		08 42 51.6	
	comp=Z,43nm,0.4s						
SDV	**Santo Domingo**	**3.22**	**50**	⇑*e*P	Pn	08 42 00.2	-1.2
SDV				*e*S	Sn	08 42 37.5	-2.7
SDV				*i*		08 42 40.8	
	comp=Z,28nm,0.4s						
ANIL	**Santa Ana**	**3.23**	**225**	*e*P	Pn	08 42 01.9	+0.4
ANIL				*e*S	Sn	08 42 42.4	+2.0
ORTC	**Ortega, Tolima**	**3.57**	**216**	*e*P	Pn	08 42 05.0	-0.7
ORTC				*e*S	Sn	08 42 47.7	-0.3
ORTC				*i*		08 42 51.6	
	comp=Z,72nm,0.3s						
PLMC	**San Jos del P**	**3.66**	**239**	⇑*e*P	Pn	08 42 06.2	-0.8
PLMC				*e*S	Sn	08 42 48.0	-2.2
PLMC				*i*		08 42 58.2	
	comp=Z,22nm,0.2s						
SJCC	**San Jacinto, C**	**3.68**	**327**	*e*P	Pn	08 42 04.4	-2.9
SJCC				*e*S	Sn	08 42 46.7	-4.0
SJCC				*i*		08 42 58.0	
	comp=Z,33nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	*e*P	Pn	08 42 11.1	-2.9
CRJC				*e*S	Sn	08 42 58.5	-4.3
CRJC				*i*		08 43 05.9	
	comp=Z,59nm,0.3s						
GUVC	**San Jose del G**	**4.26**	**173**	*e*P	Pn	08 42 12.6	-2.2
GUVC				*e*S	Sn	08 43 01.3	-2.9
GUVC				*i*		08 43 06.1	
	comp=Z,56nm,0.3s						
MACC	**Macarena, Meta**	**4.69**	**189**	*e*P	Pn	08 42 17.8	-2.6
MACC				*e*S	Sn	08 43 09.6	-4.7
MARP	**Paez Belalcaza**	**4.84**	**216**	*e*P	Pn	08 42 22.0	-0.7
MARP				*e*S	Sn	08 43 15.6	-2.8
PCON	**Cinco Dias**	**5.51**	**216**	*e*P	Pn	08 42 31.5	-0.5
POPC	**Popayan, Colom**	**5.52**	**220**	*e*P	Pn	08 42 30.3	-1.4

IDC 08 08:58:16.3±8.2, 5°15S×144°19E, h82km±84km, mb3.0/3, mb1 3.4/5, mb1mx3.0/35, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=59.7km s-min=28.0km az=156.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.15**	**145**	P	Pn	08 59 29.3	-1.7
	1.1nm,0.3s,baz=330,slow=16,SNR=1.3						
PMG				S	Sn	09 00 30.2	+1.0
	1.7nm,0.3s,baz=296,slow=22,SNR=2.7						
WRA	**Warramunga Arr**	**17.55**	**212**	P	Pn	09 02 15.8	+0.1
	0.1nm,0.3s,baz=32,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**20.91**	**207**	P	P	09 02 52.8	+0.5
	0.2nm,0.4s,baz=40,slow=8.7,SNR=1.4						
FITZ	**Fitzroy Crossi**	**22.23**	**233**	P	P	09 03 06.0	-0.5
	0.7nm,0.4s,baz=40,slow=10,SNR=5.6						
ILAR	**Eielson Array**	**85.82**	**24**	P	P	09 10 46.8	+0.3
	0.3nm,0.6s,baz=241,slow=7.1,SNR=2.6						

*IDC **08** 09:03:07.1±0.7, 2°98S×100°05E, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.1/56, mbtmp4.3/21, ML3.9/2, MS3.5/11, Ms1 3.5/11, ms1mx3.1/87, Error ellipse: s-maj=23.9km s-min=12.7km az=52.0*

*DJA **08** 09:03:10.0±0.6, 3°S×3°×10°0E±°, h22km±3km, M4.7/18, mb4.8/7, mB5.1/5, MLv4.7/18, Mw(mB)4.5/5*

*NEIC **08** 09:03:12.7±1.6, 2°91S±0°09×100°14E±0°05, h32km±6km, mb4.5/29, Error ellipse: s-maj=13.7km s-min=5.0km az=204.0*

ISC 08 09:03:11.1±0.6, 3°02S±0°06×100°03E±0°07, h27km, n103, σ1s09/96, mb4.5/43, MS3.6/13, 1C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.26**	**356**	P	Pn	09 03 17.4	-1.8
PPSI				S	Sb	09 03 22.5	+0.3
KRJI	**Kerinci**	**1.71**	**57**	P	Pn	09 03 38.6	-0.6
SISI	**Saibi**	**1.93**	**331**	P	Pn	09 03 41.6	-0.5
SISI				S	Sn	09 04 05.4	-0.1
MASI	**Maura Aman, Be**	**2.21**	**93**	P	Pn	09 03 45.4	-0.7
PPI	**Padang Panjang**	**2.58**	**8**	P	Pn	09 03 50.5	-0.6
PPI				S	Sn	09 04 21.8	+0.3
MNAI	**Manna**	**3.21**	**115**	Pn	Pn	09 03 59.9	0.0
MNAI	**Manna**	**3.21**	**115**	P	Pn	09 03 59.8	0.0
BKNI	**Bangkinang**	**3.48**	**17**	Pn	Pn	09 04 02.5	-0.9
BKNI	**Bangkinang**	**3.48**	**17**	P	Pn	09 04 02.7	-0.8
RGRI	**Rengat**	**3.52**	**41**	P	Pn	09 04 03.5	-0.5
MNSI	**Mandailing Nat**	**3.82**	**353**	P	Pn	09 04 07.1	-1.1
JMBI	**JAMBI**	**3.87**	**69**	P	Pn	09 04 09.0	+0.2
MDSI	**Maura Dua**	**4.39**	**109**	P	Pn	09 04 16.8	+0.8
LWLI	**Liwa**	**4.48**	**116**	P	Pn	09 04 18.4	+1.0
PMBI	**Palembang**	**4.74**	**89**	Pn	Pn	09 04 18.4	-2.4
GSI	**Gunungsitoli**	**4.95**	**330**	Pn	Pn	09 04 22.7	-1.1
GSI	**Gunungsitoli**	**4.95**	**330**	P	Pn	09 04 22.6	-1.1
KLSI		**4.97**	**110**	P	Pn	09 04 24.3	+0.2
KASI	**Kota Agung**	**5.10**	**119**	P	Pn	09 04 25.2	-0.6
	0.7nm1μm73nm,0.6s						
DSRI	**Dabo**	**5.20**	**61**	P	Pn	09 04 25.9	-1.3
RPSI	**Rantau Prapat**	**5.79**	**349**		Pn	09 04 34.1	-1.1
PSI	**Prapat**	**5.89**	**349**	Pn	Pn	09 04 34.1	-2.6
	1.9nm,0.3s,baz=153,slow=4.1,SNR=4.8						
PSI				LR	LR	09 07 04.9	
	comp=Z,248nm,21.3s,baz=214,slow=41						
TPRI	**Tanjung Pinang**	**5.96**	**49**	P	Pn	09 04 37.5	-0.2
	0.7nm76nm,0.7s						
MYKOM	**Kota Tinggi**	**6.12**	**39**	Pn	Pn	09 04 39.3	-0.5
CGJI	**Cibinong**	**6.68**	**122**	P	Pn	09 04 46.2	-1.3
	0.3nm1μm49nm,0.6s						
IPM	**Ipoh**	**7.52**	**8**	Pn	Pn	09 05 00.5	+1.4
KULM	**Kulim**	**8.28**	**4**	Pn	Pn	09 05 08.4	-1.1
CMJI	**Cimerak**	**9.62**	**120**	P	Pn	09 05 26.2	-1.7
UGM	**Wanagama**	**11.52**	**115**	Pn	Pn	09 05 53.3	-0.6
JAGI	**Jajag, Banyuwa**	**15.05**	**112**	Pn	Pn	09 06 41.2	-1.0
KAPI	**Kappang**	**19.77**	**96**	P	Pn	09 07 40.4	-0.6
	0.6nm,0.3s,baz=260,slow=13,SNR=5.6						
KAPI	**Kappang**	**19.77**	**96**	P	P	09 07 38.1	-1.3
CMAR	**Chiang Mai Arr**	**21.37**	**357**	P	P	09 07 54.6	-2.0
	2.3nm,0.4s,baz=186,slow=10,SNR=7.1						
CMAR				LR	LR	09 16 21.7	
	comp=Z,99nm,18.9s,baz=190,slow=37						
H08S2	**Diego Garcia H**	**27.79**	**259**	T	T	09 38 04.2	
	baz=81,slow=75,SNR=1317						
H08S3	**Diego Garcia H**	**27.80**	**259**	T	T	09 38 04.3	
	baz=81,slow=75,SNR=3996						
H08S1	**Diego Garcia H**	**27.81**	**259**	T	T	09 38 06.9	
	baz=81,slow=75,SNR=1437						
KMI	**Kunming**	**28.10**	**5**	⇓P	P	09 09 04.5	+3.4
KMI				pP	pP	09 09 08.7	-0.3
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMI				LR	LR		
	comp=N,150nm,14.7s						
KMI				LR	LR		
	comp=E,100nm,11.5s						
KMI				LR	LR		
	comp=Z,210nm,14.7s						
FITZ	**Fitzroy Crossi**	**29.23**	**123**	P	P	09 09 10.2	-0.8
	comp=Z,0.8nm,0.6s,baz=319,slow=11						
FITZ				LR	LR	09 22 15.2	
	comp=Z,134nm,19.6s,baz=320,slow=39						
PZH	**PanZhiHua**	**29.40**	**3**	P	P	09 09 16.1	+3.6
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
KNRA	**Kununurra**	**30.96**	**116**	P	P	09 09 25.1	-1.1
KNRA				IAmb	IAmb	09 09 53.8	
	comp=Z,7.5nm,1.1s						
LSA	**Lhasa**	**33.63**	**346**	P	P	09 09 49.2	-0.8
LSA				IAmb	IAmb	09 10 02.2	
	comp=Z,6.4nm,0.8s						
H01W3	**Cape Leeuwin H**	**34.30**	**159**	T	T	09 45 57.1	
	baz=335,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**34.32**	**159**	T	T	09 45 58.0	
	baz=335,slow=76,SNR=22						
H01W1	**Cape Leeuwin H**	**34.32**	**159**	T	T	09 45 54.1	
	baz=335,slow=76,SNR=17						
WHN	**Wuhan**	**36.07**	**21**	⇓P	P	09 10 16.7	+6.1
WB0	**Warramunga Arr**	**37.44**	**119**	P	P	09 10 22.7	+0.2
WB0				IAmb	IAmb	09 10 32.2	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**37.46**	**119**	P	P	09 10 22.1	-0.6
	comp=Z,0.8nm,0.5s,baz=296,slow=7.7,SNR=26						
WRA				PcP	PcP	09 12 41.5	+0.5
	comp=Z,0.4nm,0.5s,baz=322,slow=1.4,SNR=1.3						
WRA				LR	LR	09 27 39.9	
	comp=Z,70nm,19.6s,baz=292,slow=39						
WRA	**Warramunga Arr**	**37.46**	**119**	P	P	09 10 22.8	+0.2
WRAB	**Tennant Creek**	**37.47**	**119**	P	P	09 10 22.9	+0.2
WRAB				IAmb	IAmb	09 10 31.8	
	comp=Z,7.4nm,1.1s						
WB2	**Warramunga Arr**	**37.47**	**119**	P	P	09 10 22.4	-0.4
WB2				IAmb	IAmb	09 10 34.2	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**37.64**	**119**	P	P	09 10 23.6	-0.6
XAN	**Xi'an**	**37.81**	**12**	Pg	P	09 10 19.0	-6.3
XAN				Sg		09 10 45.8	
XAN				smax	smax		
	comp=N,23nm,0.9s						
XAN				smax	smax		
	comp=E,16nm,1.1s						
AS31	**Alice Springs**	**38.64**	**125**	P	P	09 10 32.7	+0.1
ASAR	**Alice Springs**	**38.64**	**125**	P	P	09 10 32.8	+0.2
	comp=E,1.8nm,0.5s,baz=298,slow=7.6,SNR=26						
ASAR				PcP	PcP	09 12 45.5	+0.9
	comp=E,0.4nm,0.5s,baz=326,slow=2.7,SNR=2.2						
ASAR				LR	LR	09 28 29.0	
	comp=E,112nm,19.8s,baz=322,slow=39						
LYN	**LuoYang**	**39.16**	**16**	⇑P	P	09 10 36.6	-0.1
LYN				pP	pP	09 10 43.8	-1.0
LYN				pmax	pmax		
	comp=Z,30nm,0.7s						
LYN				pmax	pmax		
	comp=Z,120nm,5.5s						
LYN				LR	LR		
	comp=E,180nm,14.1s						
LYN				LR	LR		
	comp=Z,190nm,17.7s						
NJ2	**Nanjing**	**39.20**	**26**	*e*P	P	09 10 37.6	+0.6
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GOMU	**GeErMu**	**39.32**	**353**	P	P	09 10 41.0	+2.6
GOMU				pP	pP	09 10 44.9	-1.6
GOMU				sP	sP	09 10 45.7	-3.9
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GOMU				pmax	pmax		
	comp=Z,52nm,4.6s						
JAY	**Jayapura**	**40.63**	**90**	LR	LR	09 31 39.2	
	comp=Z,38nm,18.5s,baz=332,slow=42						
NIL	**Nilore**	**44.37**	**327**	P	P	09 11 18.5	-0.9
NIL				IAmb	IAmb	09 11 29.9	
	comp=Z,7.2nm,0.7s						
BBOO	**Buckleboo**	**44.90**	**135**	P	P	09 11 23.2	-0.4
BBOO				IAmb	IAmb	09 11 35.3	
	comp=Z,13nm,1.4s						
HHC	**Hu-ho-hao-te**	**44.92**	**12**	*e*P	P	09 11 25.7	+2.0
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,71nm,4.7s						
JNU	**Nakatsue**	**46.29**	**37**	P	P	09 11 33.1	-1.5
	comp=Z,8.1nm,0.9s,baz=116,slow=2.8,SNR=6.0						
JNU	**Nakatsue**	**46.29**	**37**	P	P	09 11 33.5	-1.2
KSH	**Kashi**	**47.76**	**335**	P	P	09 11 45.7	-0.4
KSH				pP	pP	09 11 53.9	-0.1
KSH				PcP	PcP	09 13 14.3	-0.7
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				LR	LR		
	comp=N,600nm,15.8s						
KSH				LR	LR		
	comp=E,460nm,16.1s						
KSRS	**Korea Array**	**47.88**	**30**	P	P	09 11 45.4	-1.5
	comp=E,2.9nm,1.0s,baz=219,slow=8.6,SNR=6.5						
WMQ	**Urumqi**	**47.93**	**348**	*e*P	P	09 11 48.6	+1.3
WMQ				pP	pP	09 11 56.2	+0.7
WMQ				sP	sP	09 12 04.6	+6.0
WMQ				pmax	pmax		
	comp=Z,21nm,0.9s						
STKA	**Stephens Creek**	**48.46**	**131**	P	P	09 11 52.3	+0.7
	comp=Z,1.9nm,0.7s,baz=307,slow=6.2,SNR=8.0						
STKA				LR	LR	09 33 57.5	
	comp=Z,73nm,20.8s,baz=360,slow=38						
STKA	**Stephens Creek**	**48.46**	**131**	P	P	09 11 51.8	+0.3
XLT	**XiLinHaoTe**	**48.89**	**15**	*e*P	P	09 11 54.2	-0.5
XLT				pP	sP	09 12 03.7	-2.2
XLT				sP	pP	09 12 06.2	+3.3
XLT				pmax	pmax		
	comp=Z,13nm,0.8s						
XLT				pmax	pmax		
	comp=Z,82nm,4.9s						
TARG	**Taragay, Kyrgy**	**48.91**	**338**	P	P	09 11 57.4	+2.1
TARG				IAmb	IAmb	09 12 16.7	
	comp=Z,3.3nm,0.7s						
KDJ	**Kajisay**	**49.49**	**338**	P	P	09 12 00.8	+1.4
KDJ				IAmb	IAmb	09 12 02.0	
	comp=Z,6.9nm,0.9s						
BOOM	**Boomskoye usch**	**50.28**	**337**	P	P	09 12 06.2	+0.8
BOOM				IAmb	IAmb	09 12 16.0	
	comp=Z,4.2nm,0.8s						
SONM	**Songino Array**	**50.95**	**6**	P	P	09 12 10.9	+0.5
	comp=Z,9.1nm,0.8s,baz=187,slow=9.0,SNR=43						
SONM				PcP	PcP	09 13 26.8	+0.4
	comp=Z,1.6nm,0.6s,baz=191,slow=4.3,SNR=2.9						
SONM	**Songino Array**	**50.95**	**6**	P	P	09 12 10.8	+0.5
AAK	**Ala-Archa**	**50.98**	**336**	LR	LR	09 38 22.4	
	comp=Z,51nm,18.4s,baz=150,slow=42						
ULN	**Ulaanbaatar**	**51.05**	**6**	P	P	09 12 11.6	+0.4
ULN				IAmb	IAmb	09 12 12.5	
	comp=Z,8.2nm,0.8s						
CN2	**Changchun**	**51.91**	**23**	*e*P	P	09 12 16.4	-1.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MK31	**Makanchi Array**	**52.02**	**345**	P	P	09 12 18.7	+0.5
MK31				IAmb	IAmb	09 12 19.6	
	comp=Z,7.0nm,0.7s						
MKAR	**Makanchi Array**	**52.02**	**345**	P	P	09 12 18.8	+0.6
	comp=Z,10.0nm,0.6s,baz=148,slow=8.2,SNR=118						
MAKZ	**Makanchi**	**52.11**	**344**	P	P	09 12 19.6	+0.7
MAKZ				IAmb	IAmb	09 12 20.2	
	comp=Z,4.8nm,0.8s						
MJAR	**Matsushiro Arr**	**53.05**	**39**	P	P	09 12 24.5	-1.6
	comp=Z,2.1nm,0.8s,baz=201,slow=7.4,SNR=2.4						
MJAR	**Matsushiro Arr**	**53.05**	**39**	IAmb	IAmb	09 12 25.0	
	comp=Z,2.1nm,0.9s						
USA0B	**Ussuriysk Arra**	**55.04**	**28**	P	P	09 12 39.9	-0.5
USRK	**Ussuriysk Ar.**	**55.04**	**28**	P	P	09 12 40.1	-0.3
	comp=Z,8.9nm,0.8s,baz=224,slow=6.2,SNR=9.7						
USRK	**Ussuriysk Ar.**	**55.04**	**28**	P	P	09 12 39.9	-0.5
KURBB	**Kurchatov Arra**	**56.53**	**344**	P	P	09 12 51.1	+0.1
	comp=Z,4.6nm,0.8s,baz=162,slow=6.9,SNR=7.2						
KURK	**Kurchatov**	**56.59**	**344**	P	P	09 12 51.6	+0.2
ZAA0	**Zalesovo Array**	**58.17**	**349**	P	P	09 13 01.6	-0.9
ZALV	**Zalesovo Beam**	**58.17**	**349**	P	P	09 13 02.5	0.0
	comp=Z,5.1nm,0.7s,baz=176,slow=5.6,SNR=22						
ZALV	**Zalesovo Beam**	**58.17**	**349**	P	P	09 13 02.1	-0.3
BRVK	**Borovoye**	**61.21**	**340**	P	P	09 13 22.9	-0.5
BRVK				IAmb	IAmb	09 13 27.6	
	comp=Z,4.0nm,1.2s						
ABKAR	**Akbulak array**	**62.55**	**332**	P	P	09 13 32.2	-0.3
AKTO	**Aktyubinsk**	**64.26**	**332**	P	P	09 13 43.8	-0.1
	comp=Z,0.7nm,0.4s,baz=135,slow=5.7,SNR=2.1						
KBZ	**Khabaz**	**69.09**	**319**	P	P	09 14 15.6	+0.8
	comp=Z,1.6nm,0.7s,baz=111,slow=6.3,SNR=5.1						
MMAI	**Mount Meron Ar**	**70.66**	**306**	LR	LR	09 45 55.8	
	comp=Z,36nm,19.4s,baz=217,slow=36						
BRTR	**Keskin Array B**	**74.03**	**313**	P	P	09 14 44.4	-0.5
	comp=Z,0.6nm,0.4s,baz=142,slow=11,SNR=5.1						
BOSA	**Boshof**	**75.19**	**241**	P	P	09 14 50.9	-0.9
	comp=Z,2.1nm,0.9s,baz=80,slow=6.1,SNR=1.5						
TIXI	**Tiksi**	**76.86**	**9**	LR	LR	09 52 02.7	
	comp=

UPD2 Meteti 1.72 321 eP Pn 09 12 10.2 -1.7
UPD2 eS Sn 09 12 32.8 +0.1
UPD2 i 09 12 39.0
comp=Z,2µm,0.6s
UPD2 Meteti 1.72 321 eP Pn 09 12 10.5 -1.5
UPD2 eS Sn 09 12 34.5 +1.7
LCBC Los crdobas, 1.73 18⇓eP Pn 09 12 11.4 -0.6
LCBC eS Sn 09 12 35.5 +2.6
LCBC i 09 12 45.1
comp=Z,710nm,0.3s
LCBC Los crdobas, 1.73 18 eS Sn 09 12 36.4 +3.5
MOTC Monteria, Cord 1.99 38⇓eP Pn 09 12 13.7 -2.0
MOTC eS Sn 09 12 38.1 -1.4
MOTC i 09 12 44.8
comp=Z,318nm,0.5s
ZARC Zaragoza, Cauc 2.06 82 Pn 09 12 15.4 -1.3
ZARC Zaragoza, Cauc 2.06 82⇑iP Sn 09 12 15.3 -1.3
ZARC eS Sn 09 12 40.1 -1.1
ZARC i 09 12 44.5
comp=Z,3µm,0.6s
PIZC Pizarro, Choco 2.27 191 eP Pn 09 12 18.1 -1.5
PIZC eS Sn 09 12 46.6 +0.3
PIZC i 09 12 48.1
comp=Z,230nm,0.5s
PLMC San Jos del P 2.37 165⇓iP Pn 09 12 17.1 -3.9
PLMC eS Sn 09 12 43.8 -5.1
PLMC i 09 12 57.3
comp=Z,636nm,0.4s
GUY2C Guyana, Caldas 2.50 142⇓iP Pn 09 12 22.4 -0.8
GUY2C eS Sn 09 12 52.0 -0.7
GUY2C i 09 13 15.6
comp=Z,390nm,0.7s
PTBC PUERTO BERRIO, 2.53 105⇓iP Pn 09 12 22.4 -0.7
PTBC eS Sn 09 12 53.1 +0.3
PTBC i 09 13 04.4
comp=Z,956nm,0.7s
NORC Norcasia 2.61 129 eP Pn 09 12 24.0 -0.2
NORC eS Sn 09 12 55.7 +0.9
NORC i 09 13 03.1
comp=Z,444nm,0.4s
CHPO Chepo, Panama 2.92 312 eP Pn 09 12 27.9 -0.5
CHPO eS Sn 09 13 02.8 +0.4
TABO3 Taboga, Panama 3.05 301 eP Pn 09 12 30.9 +0.6
ANIL Santa Ana 3.09 151 eP Pn 09 12 30.6 -0.5
UPA Univ. de Panam 3.13 304 eP Pn 09 12 30.1 -1.3
UPA eS Sn 09 13 06.6 -1.0
UPA i 09 13 08.3
comp=Z,108nm,0.5s
UPA Univ. de Panam 3.13 304 eP Pn 09 12 30.0 -1.3
UPA eS Sn 09 13 07.9 +0.3
SJCC San Jacinto, C 3.17 33 Pn Pn 09 12 29.9 -2.1
SJCC San Jacinto, C 3.17 33⇓iP Pn 09 12 29.6 -2.4
SJCC eS Sn 09 13 02.0 -6.7
SJCC i 09 13 13.8
comp=Z,153nm,0.4s
SPBC San Pablo de B 3.22 119⇓eP Pn 09 12 33.1 +0.4
SPBC eS Sn 09 13 16.6 +6.7
SPBC i 09 13 32.0
comp=Z,258nm,0.5s
ARRA3 Arraijan, Pana 3.23 303 eP Pn 09 12 32.4 -0.3
ARRA3 eS Sn 09 13 08.6 -1.3
ACHO3 Achotines, Los 3.24 274⇓eP Pn 09 12 32.6 -0.2
ACHO3 eS Sn 09 13 08.1 -2.0
YOTC Yotoco, Valle 3.25 170⇓eP Pn 09 12 29.8 -3.4
YOTC eS Sn 09 13 06.0 -4.7
YOTC i 09 13 10.6
comp=Z,461nm,0.9s
CHOR3 La Chorrera 3.28 301 eP Pn 09 12 33.0 -0.4
GAMB1 Gamboa 3.35 305⇓eP Pn 09 12 34.5 +0.1
AZU Azuero 3.38 280⇑iP Pn 09 12 34.4 -0.3
AZU eS Sn 09 13 12.1 -1.6
AZU i 09 13 21.2
comp=Z,521nm,0.4s
AZU Azuero 3.38 280⇑iP Pn 09 12 34.5 -0.2
AZU iS Sn 09 13 12.0 -1.6
ZANG Zanguenga, Cho 3.40 301 eP Pn 09 12 34.5 -0.5
ZANG eS Sn 09 13 16.2 +2.1
FRIJ El Hiral 3.43 306⇓eP Pn 09 12 34.9 -0.5
BCIP Isla Barro Col 3.49 304 Pn Pn 09 12 35.6 -0.6
BCIP Isla Barro Col 3.49 304 eP Pn 09 12 35.1 -1.1
BCIP eS Sn 09 13 14.9 -1.4
BCIP i 09 13 28.9
comp=Z,169nm,0.7s
BCIP Isla Barro Col 3.49 304 eP Pn 09 12 35.3 -0.9
ROSC El Rosal 3.49 132 P Pn 09 12 38.6 +1.9
comp=Z,41nm,0.3s,baz=208,slow=9.1,SNR=59
ROSC S Sn 09 13 18.2 +1.2
comp=Z,34nm,0.3s,baz=349,slow=23,SNR=4.1
ROSC El Rosal 3.49 132 Pn Pn 09 12 37.5 +0.8
ROSC El Rosal 3.49 132⇓iP Pn 09 12 38.5 +1.9
ROSC eS Sn 09 13 27.9 +11
ROSC i 09 13 48.0
comp=Z,218nm,0.6s
CHIT3 Chitre 3.55 282⇑iP Pn 09 12 36.8 -0.3
CHIT3 iS Sn 09 13 15.3 -2.5
ORTC Ortega, Tolima 3.67 153⇓eP Pn 09 12 39.3 +0.4
ORTC eS Sn 09 13 24.9 +3.9
ORTC i 09 13 33.5
comp=Z,152nm,0.5s
OCAC Ocana 3.71 74 Pn Pn 09 12 38.7 -0.7
OCAC Ocana 3.71 74 eP Pn 09 12 38.4 -1.1
OCAC eS Sn 09 13 21.1 -0.9
BARC Barichara 3.76 99 eP Pn 09 12 40.9 +0.8
BARC i 09 13 35.8
comp=Z,391nm,0.2s
CRIS3 El Cristo, Coc 3.81 286⇓eP Pn 09 12 40.2 -0.5
CACAO El Cacao, Vera 3.92 272 eP Pn 09 12 41.3 -0.8
CACAO i 09 13 30.1
comp=Z,76nm,0.7s
CACAO El Cacao, Vera 3.92 272⇑eP Pn 09 12 41.3 -0.8
CACAO eS Sn 09 13 25.4 -1.5
RUSC La Rusia 4.03 109 eP Pn 09 12 44.6 +0.5
RUSC eS Sn 09 13 31.7 +1.4
RUSC i 09 13 49.9
comp=Z,292nm,0.6s
CALO3 Calobre, Verag 4.04 286 eP Pn 09 12 44.1 +0.2
CHIC Chingaza 4.07 129 eP Pn 09 12 46.1 +1.5
CHIC eS Sn 09 13 43.8 +12
CHIC i 09 14 02.7
comp=Z,142nm,0.7s
PAMC Pamplona, Colo 4.18 88 eP Pn 09 12 47.2 +1.0
PAMC eS Sn 09 13 34.6 +0.4
PAMC i 09 13 57.2
comp=Z,356nm,0.8s
GMAL Guarumal, Vera 4.32 278 eP Pn 09 12 48.1 +0.5
GMAL eS Sn 09 13 36.8 0.0
GMAL i 09 13 44.2
comp=Z,191nm,0.1s
GMAL Guarumal, Vera 4.32 278⇓eP Pn 09 12 48.1 +0.5
GMAL iS Sn 09 13 36.8 0.0
MARP Paez Belalcaza 4.44 168 eP Pn 09 12 49.6 0.0
MARP eS Sn 09 13 40.4 +0.2
POPC Popayan, Colom 4.64 177 eP Pn 09 12 51.0 -1.4
POPC eS Sn 09 13 43.7 -1.4
BETC Betania 4.73 162 eP Pn 09 12 54.7 +1.3
BETC eS Sn 09 13 50.7 +3.6
SMRC Santa Marta, M 4.74 34 eP Pn 09 12 54.5 +1.0
SMRC eS Sn 09 13 45.4 -1.9
SMRC i 09 13 51.1
comp=Z,35nm,0.5s
PCON Cinco Dias 4.88 174 eP Pn 09 12 57.0 +1.1
PCON eS Sn 09 13 51.8 +0.5
PCON i 09 14 06.2
comp=Z,54nm,0.5s
SOTA Rioblanco 5.05 177 eP Pn 09 12 58.6 +0.4
SOTA eS Sn 09 13 54.7 -0.8
SOTA i 09 14 15.9
comp=Z,56nm,0.7s
TAMC Tame, Arauca 5.15 98 eP Pn 09 12 59.4 +0.3
TAMC eS Sn 09 13 58.3 +1.0
TAMC i 09 14 27.1
comp=Z,108nm,0.7s
CHIR3 Chiriqui UPA, 5.49 283⇑eP Pn 09 13 05.1 +1.3
CRJC Cerrejon, Guaj 5.50 46 eP Pn 09 13 01.3 -2.6
CRJC eS Sn 09 14 00.0 -5.9
CRJC i 09 14 07.3
comp=Z,144nm,0.6s
DVD David 5.62 283⇑eP Pn 09 13 06.0 +0.5
PTGC Puerto Gaitan, 5.62 122 eP Pn 09 13 05.3 -0.2
PTGC i 09 14 08.2
comp=Z,185nm,0.9s
PTGC eS Sn 09 14 08.6 -0.3
LNBQ3 Los Naranjos, 5.69 286⇓eP Pn 09 13 07.7 +1.0

MACC Macarena, Meta 5.89 149 eP Pn 09 13 09.7 +0.5
BRU2 Volcan 5.93 286 Pn 09 13 11.4 +1.4
BRU2 Volcan 5.93 286⇓eP Pn 09 13 10.6 +0.6
BRU2 eS Sn 09 14 14.2 -2.6
GCUF Volcan Galeras 5.96 184 eP Pn 09 13 11.2 +0.5
SOCV Socops 6.10 80 eP Pn 09 13 11.9 -0.2
SOCV eS Sn 09 14 17.0 -3.7
GUVC San Jose del G 6.30 137 eP Pn 09 13 14.6 -0.3
SDV Santo Domingo 6.44 75 P Pn 09 13 16.7 -0.3
comp=Z,13nm,0.3s,baz=198,slow=4.3,SNR=60
SDV S Sn 09 14 25.7 -3.6
comp=Z,54nm,0.3s,baz=9.3,slow=17,SNR=12
SDV LR LR 09 16 01.8
comp=Z,309nm,19.0s,baz=267,slow=41
SDV Santo Domingo 6.44 75 Pn Pn 09 13 16.4 -0.6
SDV Santo Domingo 6.44 75 eP Pn 09 13 16.3 -0.7
SDV eS Sn 09 14 25.5 -3.9
SDV i 09 14 28.6
comp=Z,126nm,0.3s
SDV Santo Domingo 6.44 75 eP Pn 09 13 16.5 -0.6
TULM Tulcn-Chalpat 6.51 188 Pn 09 13 20.4 +2.2
TULM Tulcn-Chalpat 6.51 188 eP Pn 09 13 19.4 +1.2
DRK0 Durika 6.59 288 Pn 09 13 19.0 0.0
DRK0 Durika 6.59 288⇑eP Pn 09 13 16.9 -2.1
URIC Uribia, Colomb 6.60 47 Pn 09 13 18.0 -1.0
URIC Uribia, Colomb 6.60 47 eP Pn 09 13 18.4 -0.6
URIC eS Sn 09 14 28.9 -4.0
SRBA San Rafael, Bu 6.69 288 Pn 09 13 20.8 +0.5
RIOS Rincon, Osa 6.70 283 Pn 09 13 21.0 +0.6
BATAN Batan 7.00 295 Pn Pn 09 13 24.6 0.0
PEZE Perez Zeledon, 7.03 288 Pn 09 13 25.8 +0.8
OTAV Otavalo 7.09 193 Pn 09 13 26.7 +0.5
OTAV Otavalo 7.09 193 eP Pn 09 13 26.9 +0.8
PAC1 Pacto, Paraso 7.14 195 eP Pn 09 13 25.9 -0.8
PAC1 eS Sn 09 14 40.5 -6.2
PTLC Puerto Leguiza 7.30 163 eP Pn 09 13 31.8 +3.1
PTLC i 09 15 15.6
comp=Z,10nm,0.6s
CVTR Volcan Turrial 7.32 293 Pn 09 13 29.9 +0.6
RIMA Rio Macho 7.33 291 Pn 09 13 29.6 +0.4
HDC Heredia 7.64 292 Pn 09 13 34.0 +0.6
HDC Heredia 7.64 292⇓iP Pn 09 13 34.0 +0.6
JACO JACO, Garabito 8.04 288 Pn Pn 09 13 40.1 +1.3
COVE Coope Vega, Sa 8.18 296 Pn 09 13 40.9 +0.3
CAO2 Cobano, Puntar 8.47 287 Pn Pn 09 13 46.0 +1.4
JTS Las Juntas de 8.51 292 P Pn 09 13 46.2 +0.9
comp=Z,1.9nm,0.3s,baz=13,slow=21,SNR=7.2
JTS Las Juntas de 8.51 292 Pn Pn 09 13 46.8 +1.5
JTS Las Juntas de 8.51 292⇑eP Pn 09 13 46.4 +1.1
ESPN Las Esperanzas 8.80 305 Pn Pn 09 13 48.6 -0.6
DUNO Dulce Nombre, 8.95 289 Pn Pn 09 13 52.4 +1.2
HATO Hato, Curacao 9.27 57 Pn Pn 09 13 53.6 -2.0
BOAB BOACO BROADBAN 10.07 302 Pn Pn 09 14 06.7 +0.1
BOSC San Juan Bosco 10.41 189 Pn 09 14 12.5 +1.1
MCJ Malvern 10.68 356 iP Pn 09 14 15.6 +0.7
MCJ iP 09 14 16.7
HOJ Hope 10.73 1 iP Pn 09 14 15.6 -0.1
GWJ Greenwich 10.80 1 iP Pn 09 14 17.6 +0.9
STH Stony Hill 10.80 1 iP Pn 09 14 15.9 -0.7
MTDJ Mount Denham 10.97 357 Pn Pn 09 14 18.0 -1.0
BIRV Birongo 11.01 72 Pn Pn 09 14 16.3 -3.2
JAKH Jacmel 11.77 21 Pn 09 14 28.7 -1.2
MCRA Macar, Loja 11.89 195 Pn 09 14 32.5 +0.9
LGNH Logne 11.99 20 Pn Pn 09 14 31.9 -1.0
GTBY Guantanamo Bay 12.76 8 Pn Pn 09 14 44.6 +1.2
SDDR Presa de Saban 12.92 25 Pn 09 14 45.2 -0.4
TBTG Tabatinga, AM 13.30 148 eP Pn 09 14 51.1 +0.3
DR12 Loma Pena Alta 13.65 32 Pn 09 14 52.1 -3.4
PCDR Punta Cana, DR 13.97 36 Pn Pn 09 14 58.1 -1.8
SJG San Juan 15.08 43 LR LR 09 22 05.6
comp=Z,84nm,18.9s,baz=208,slow=42
CZSB Cruzeiro do Su 15.42 164 eP Pn 09 15 19.9 +0.8
SMRT St. Maarten 17.26 50 Pn Pn 09 15 38.8 -3.6
SMRT IAmb IAmb 09 15 45.5
comp=Z,36nm,1.1s
MPOM Morne Pois Mar 17.32 64 Pn Pn 09 15 39.8 -3.3
NNA Nana 19.07 180 LR LR 09 25 45.6
comp=Z,57nm,20.5s,baz=354,slow=44
MACA Manacapuru-AM 19.20 122 eP P 09 16 03.6 -1.1
CMIG Matias Romero 20.11 301 LR LR 09 25 19.8
comp=Z,101nm,20.9s,baz=125,slow=40
ITTB Itaituba 24.06 118 eP P 09 16 55.3 -0.5
MDP Montagnes des 24.22 94 LR LR 09 26 50.1
comp=Z,180nm,20.6s,baz=302,slow=38
MALB Monte Alegre 24.33 111 eP P 09 16 58.8 +0.6
LPAZ La Paz 24.91 160 P P 09 17 04.4 +0.3
comp=Z,0.6nm,0.4s,baz=323,slow=10,SNR=6.2
LPAZ La Paz 24.91 160 P P 09 17 02.9 -1.2
LPAZ La Paz 24.91 160 eP P 09 17 04.6 +0.5
VILB Vilhena 26.02 140 eP P 09 17 15.3 +1.7
PB16 IPOC Station P 26.41 164 P P 09 17 16.2 -1.5
PB12 IPOC Station P 26.47 166 P P 09 17 17.6 0.0
PB12 IAmb IAmb 09 17 23.7
comp=Z,20nm,1.4s
LRAL Lakeview Retre 27.35 341 P P 09 17 27.0 +1.7
PDRB Porto dos Gac 27.44 133 eP P 09 17 26.0 +1.7
CLDB Colider 27.65 130 eP P 09 17 29.4 +1.2
146A Union 27.71 338 P P 09 17 27.2 -1.3
146A IAmb IAmb 09 17 27.8
comp=Z,7.3nm,0.7s
PB11 IPOC Station P 27.74 165 P P 09 17 29.8 +0.7
PB11 IAmb IAmb 09 17 47.5
comp=Z,10nm,1.0s
GO01 Chusmiza 27.77 164 P P 09 17 29.6 -0.2
Z47A Carrollton 27.86 340 P P 09 17 30.8 +1.0
SIV San Ignacio 27.88 146 P P 09 17 31.7 +1.4
comp=Z,0.6nm,0.6s,baz=319,slow=13,SNR=2.1
SIV LR LR 09 29 18.6
comp=Z,81nm,18.5s,baz=294,slow=38
Y49A Blount Mountai 27.94 343 P P 09 17 32.1 +1.6
Y49A IAmb IAmb 09 17 58.6
comp=Z,12nm,1.4s
BG3 Lake Jocassee 28.20 350 P P 09 17 32.2 -0.7
BG3 IAmb IAmb 09 17 47.7
comp=Z,29nm,1.5s
CPCT Cooper Cave 28.96 347 P P 09 17 39.3 -0.4
CPCT IAmb IAmb 09 17 50.5
comp=Z,12nm,1.4s
PB01 IPOC Station P 29.01 166 P P 09 17 40.8 +0.5
PB01 IAmb IAmb 09 17 42.3
comp=Z,9.1nm,0.9s
PB02 IPOC Station P 29.18 166 P P 09 17 43.5 +1.7
PB02 IAmb IAmb 09 17 51.4
comp=Z,27nm,1.5s
PLAL Pickwick Lake 29.49 341 P P 09 17 45.8 +1.5
PLAL IAmb IAmb 09 17 51.2
comp=Z,16nm,1.4s
PB09 IPOC Station P 29.79 166 P P 09 17 49.0 +1.7
PB09 IAmb IAmb 09 18 14.4
comp=Z,8.2nm,1.0s
W45A Hickory Valley 30.02 340 P P 09 17 49.7 +0.7
PRPB Paraupebas 30.13 116 eP P 09 17 50.1 -0.2
LVC Limon Verde 30.65 165 P P 09 17 56.4 +1.2
comp=Z,2.7nm,0.6s,baz=342,slow=7.8,SNR=3.5
LVC LR LR 09 33 26.4
comp=Z,89nm,19.3s,baz=198,slow=42
LVC Limon Verde 30.65 165 IAmb IAmb 09 18 23.7
comp=Z,10nm,1.4s
LVC Limon Verde 30.65 165 eP P 09 17 56.6 +1.5
SALV Santo Antonio 31.13 138 eP P 09 17 59.6 +0.6
W41B Gary Mavity, V 31.20 335 P P 09 17 59.9 +0.5
W41B IAmb IAmb 09 18 12.1
comp=Z,7.9nm,1.4s
WHAR Wooly Hollow 31.31 335 P P 09 18 00.8 +0.3
WHAR IAmb IAmb 09 18 18.4
comp=Z,11nm,1.3s
FCAR Ozark Folk Cen 31.77 336 P P 09 18 05.0 +0.5
FCAR IAmb IAmb 09 18 05.0
comp=Z,4.8nm,0.7s
W39A Magazine 31.88 333 P P 09 18 06.0 +0.6
W39A IAmb IAmb 09 18 07.9
comp=Z,18nm,1.5s
PBMO Poplar Bluff 31.91 339 P P 09 18 06.2 +0.5
Z35A Perchaven, San 32.11 327 P P 09 18 07.0 -0.5
Z35A IAmb IAmb 09 18 09.5
comp=Z,6.8nm,0.6s
X37A Clayton 32.12 331 P P 09 18 07.8 +0.3
USIN University of 32.13 344 P P 09 18 08.8 +1.2
SIUC Southern Illin 32.36 342 P P 09 18 10.8 +1.3
SIUC IAmb IAmb 09 18 11.0
comp=Z,9.7nm,0.7s
P53A Whipple 32.39 354 P P 09 18 09.7 -0.1
U40A Yellville 32.46 336 P P 09 18 10.8 +0.2

U40A IAmb IAmb 09 18 11.7
comp=Z,9.4nm,0.7s
P52A Corning 32.62 353 P P 09 18 13.7 +1.8
HHAR Hobbs 32.86 334 P P 09 18 14.1 0.0
HHAR IAmb IAmb 09 18 14.6
comp=Z,4.0nm,0.8s
MGMO Mountain Grove 32.92 337 P P 09 18 15.0 +0.4
MGMO IAmb IAmb 09 18 15.9
comp=Z,16nm,1.5s
OLIL Olney 32.97 344 P P 09 18 15.9 +1.0
FVM French Village 32.99 340 P P 09 18 16.0 +0.8
W35A Tecumseh 33.32 329 P P 09 18 18.0 0.0
W35A IAmb IAmb 09 18 24.7
comp=Z,5.1nm,0.9s
CCM Cathedral Cave 33.34 339 P P 09 18 18.5 +0.3
TUL1 Leonard 33.39 331 P P 09 18 18.6 -0.1
TUL1 IAmb IAmb 09 18 19.6
comp=Z,8.8nm,1.1s
TXAR Lajitas Array 33.45 315 P P 09 18 17.8 -1.5
comp=Z,0.4nm,0.9s,baz=116,slow=8.5,SNR=3.5
TXAR PcP PcP 09 21 00.2 +0.3
comp=Z,0.9nm,0.8s,baz=144,slow=6.3,SNR=8.4
TXAR Lajitas Array 33.45 315 P P 09 18 19.4 0.0
P46A Rosedale 33.57 346 P P 09 18 20.5 +0.4
FNO Franklin 33.66 329 P P 09 18 20.8 -0.3
S39A Bolivar 33.80 336 P P 09 18 22.0 -0.3
S39A IAmb IAmb 09 18 22.8
comp=Z,4.1nm,0.8s
N51A Ashland 33.92 353 P P 09 18 24.7 +1.5
R40A Maddies Statio 33.92 338 P P 09 18 23.1 -0.1
PEXB Peixe 34.32 124 eP P 09 18 27.0 0.0
MSTX Muleshoe 35.77 322 P P 09 18 39.6 +0.1
MSTX IAmb IAmb 09 18 40.0
comp=Z,7.5nm,0.9s
LPIG La Paz 36.13 301 LR LR 09 36 15.6
comp=Z,42nm,19.4s,baz=218,slow=41
KSU1 Kansas State U 36.37 334 P P 09 18 43.7 -0.6
KSU1 IAmb IAmb 09 18 44.5
comp=Z,9.5nm,0.8s
L40A Anamosa 36.95 342 P P 09 18 49.2 -0.1
L40A IAmb IAmb 09 18 50.7
comp=Z,13nm,1.1s
SDBA SAO DESIDERIO 37.32 121 eP P 09 18 53.0 +0.3
N35A Tabor 37.44 336 P P 09 18 52.8 -0.6
JFWS Jewell Farm 37.45 344 P P 09 18 53.1 -0.3
ANMO Albuquerque 38.72 320 P P 09 19 06.1 +1.6
JANB Januaria 39.17 124 eP P 09 19 07.5 -0.8
NBPB Pedra_Branca-C 39.35 108 eP P 09 19 09.8 0.0
I37A Lemond, Waseca 39.40 341 P P 09 19 10.1 +0.3
SDCO Great Sand Dun 39.95 324 P P 09 19 16.2 +1.4
F36A Milaca 41.10 342 P P 09 19 24.1 +0.2
F36A IAmb IAmb 09 19 37.5
comp=Z,8.2nm,1.2s
ISCO Idaho Springs 41.41 326 P P 09 19 28.5 +1.6
X16A Lo Mia Camp, P 41.76 315 P P 09 19 31.3 +1.6
PV15 Paradox Valley 42.12 322 P P 09 19 34.4 +1.7
PV15 IAmb IAmb 09 19 35.4
comp=Z,7.0nm,0.9s
PV13 Radium Mtn., P 42.21 322 P P 09 19 34.7 +1.3
WUAZ Wupatki 42.31 317 P P 09 19 35.6 +1.5
EYMN Eyre 42.45 345 P P 09 19 34.8 -0.1
EYMN IAmb IAmb 09 19 48.1
comp=Z,17nm,1.3s
RCBR Riachuelo 42.92 107 LR LR 09 39 09.8
comp=Z,128nm,21.3s,baz=100,slow=38
B35A Bob, Littlefor 43.42 344 P P 09 19 42.7 0.0
B35A IAmb IAmb 09 19 53.9
comp=Z,5.3nm,0.8s
PDAR Pinedale Array 45.61 326 P P 09 20 01.1 +0.6
comp=Z,1.0nm,0.8s,baz=134,slow=8.5,SNR=8.2
PDAR PcP PcP 09 21 37.6 -0.7
comp=Z,0.4nm,0.6s,baz=131,slow=4.5,SNR=4.8
PDAR Pinedale Array 45.61 326 P P 09 19 60.0 -0.6
ULM Lac du Bonnet 45.73 343 P P 09 20 00.2 -0.9
comp=Z,2.9nm,0.6s,baz=142,slow=8.9,SNR=4.5
ULM Lac du Bonnet 45.73 343 IAmb IAmb 09 20 12.1
comp=Z,4.7nm,0.8s
DUG Dugway, Tooele 45.91 321 P P 09 20 04.4 +1.5
HWUT Hardware Ranch 46.01 324 P P 09 20 04.3 +0.6
HWUT IAmb IAmb 09 20 23.2
comp=Z,6.1nm,1.4s
BGU Big Grassy Mou 46.47 322 P P 09 20 07.7 +0.4
BGU IAmb IAmb 09 20 08.6
comp=Z,5.7nm,1.3s
R11A Troy Canyon, C 46.68 318 P P 09 20 10.6 +1.6
SNOW Snow King Moun 46.72 326 P P 09 20 10.0 +0.6
LOHW Long Hollow 46.74 326 P P 09 20 10.0 +0.5
TPH Tonopah 47.65 316 P P 09 20 17.4 +0.8
YHL Hebgen Lake 47.87 327 P P 09 20 19.5 +1.3
YHL IAmb IAmb 09 20 20.5
comp=Z,6.5nm,1.2s
PLCA Paso Flores 48.06 173 P P 09 20 19.6 +0.1
comp=Z,1.4nm,0.8s,baz=318,slow=14,SNR=2.2
SCHQ Schefferville 48.17 8 P P 09 20 19.6 -0.6
comp=Z,2.5nm,0.8s,baz=174,slow=9.2,SNR=1.6
SCHQ Schefferville 48.17 8 IAmb IAmb 09 20 35.9
comp=Z,12nm,1.4s
NVAR Mina Array Bea 48.56 316 P P 09 20 24.4 +0.7
comp=Z,1.1nm,0.8s,baz=124,slow=7.3,SNR=10.0
NVAR PcP PcP 09 21 49.4 +0.4
comp=Z,1.5nm,0.6s,baz=130,slow=4.2,SNR=15
NVAR Mina Array Bea 48.56 316 P P 09 20 24.1 +0.4
NVAR PcP PcP 09 21 49.8 +0.8
BOZ Bozeman (W) 48.59 328 P P 09 20 24.7 +1.0
MCMT McKenzie Canyo 48.76 326 P P 09 20 26.7 +1.6
BMN Battle Mountai 48.84 319 P P 09 20 25.9 +0.2
BMN IAmb IAmb 09 20 27.1
comp=Z,3.9nm,1.0s
HLID Hailey 48.87 324 P P 09 20 26.1 +0.2
HRY Holter Researc 49.44 329 P P 09 20 30.9 +0.8
YERR Yerington 49.47 316 P P 09 20 30.7 +0.1
MFID Camas Ranch 49.61 323 P P 09 20 31.9 +0.4
MFID IAmb IAmb 09 20 33.3
comp=Z,3.1nm,0.8s
PLID Pearl Lake 50.69 325 P P 09 20 39.9 +0.1
PLID IAmb IAmb 09 20 40.2
comp=Z,6.2nm,1.4s
WVOR Wild Horse Val 50.80 321 P P 09 20 40.6 +0.1
WVOR IAmb IAmb 09 20 41.8
comp=Z,3.7nm,0.8s
J08A Circle Bar Ran 51.19 322 P P 09 20 43.6 +0.2
J08A IAmb IAmb 09 20 44.2
comp=Z,3.0nm,0.8s
L04D Klamath Falls 53.05 319 P P 09 20 57.6 +0.3
L04D IAmb IAmb 09 21 06.7
comp=Z,10nm,1.2s
YBH Yreka Blue Hor 53.10 318 LR LR 09 47 34.6
comp=Z,36nm,18.3s,baz=128,slow=40
YBH Yreka Blue Hor 53.10 318 P P 09 20 56.6 -0.9
FCC Fort Churchill 53.10 349 P P 09 20 56.9 -0.2
FCC IAmb IAmb 09 20 57.3
comp=Z,3.7nm,0.8s
HOOD Mount Hood Mea 54.16 322 P P 09 21 06.6 +1.3
H04A Detroit Lake 54.16 321 P P 09 21 05.3 +0.1
H04A IAmb IAmb 09 21 30.6
comp=Z,11nm,1.4s
EDM Edmonton 54.58 334 P P 09 21 07.4 -0.7
EDM IAmb IAmb 09 21 07.8
comp=Z,3.9nm,0.6s
E03A Lebam 55.92 323 P P 09 21 19.0 +1.1
NLWA Neilton Lookou 56.52 323 P P 09 21 23.8 +1.6
NLWA IAmb IAmb 09 21 48.0
comp=Z,7.1nm,1.2s
YKA Yellowknife Ar 61.64 341 P P 09 21 56.7 -0.6
comp=Z,2.0nm,0.6s,baz=131,slow=6.9,SNR=47
YKA Yellowknife Ar 61.64 341 P P 09 21 57.3 0.0
M31M Drury Creek, Y 68.89 335 P P 09 22 45.8 +1.5
M30M Minto, Yukon 70.06 335 P P 09 22 51.7 +0.2
A36M Sachs Harbour 71.11 346 P P 09 22 56.8 -0.9
A36M IAmb IAmb 09 22 58.0
comp=Z,5.0nm,0.8s
INK Inuvik 71.41 341 P P 09 22 59.3 -0.3
comp=Z,0.7nm,0.5s,baz=107,slow=5.7,SNR=9.0
BCAR Beaver Creek A 72.37 334 P P 09 23 06.9 +1.4
L27K Beaver Creek, 72.39 334 P P 09 23 07.1 +1.4
L27K IAmb IAmb 09 23 07.5
comp=Z,4.1nm,0.8s
EGAK Eagle 72.70 336 P P 09 23 08.2 +0.8
EGAK IAmb IAmb 09 23 09.4
comp=Z,5.1nm,1.1s
BMRM Bremner River 72.99 332 P P 09 23 11.4 +2.2
N25K Chitina, Valde 73.17 332 P P 09 23 11.8 +1.5
DOT Dot Lake 73.53 335 P P 09 23 13.5 +1.1
DOT IAmb IAmb 09 23 14.0

	comp=Z,8.7nm,0.8s							
RIDG	**Independent Ri**	**73.89**	**335**	P	**P**	**09 23 14.6**	**+0.1**
RIDG				IAmb	IAmb	09 23 16.7	
	comp=Z,6.4nm,1.0s							
J25K	**Salcha River,**	**74.36**	**335**	P	**P**	**09 23 17.9**	**+0.7**
J25K				IAmb	IAmb	09 23 18.3	
	comp=Z,3.7nm,0.8s							
SCM	**Sheep Creek Mo**	**74.48**	**332**	P	**P**	**09 23 19.0**	**+1.0**
KNK	**Knik Glacier**	**74.91**	**332**	P	**P**	**09 23 21.2**	**+0.8**
KNK				IAmb	IAmb	09 23 43.6	
	comp=Z,13nm,1.3s							
SML	**Sawmill**	**74.94**	**332**	P	**P**	**09 23 21.4**	**+0.8**
HDA	**Harding Lake**	**74.96**	**335**	P	**P**	**09 23 21.1**	**+0.5**
HDA				IAmb	IAmb	09 23 21.6	
	comp=Z,6.6nm,1.0s							
ILAR	**Eielson Array**	**75.03**	**335**	P	**P**	**09 23 21.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=111,slow=4.4,SNR=11							
ILAR	**Eielson Array**	**75.03**	**335**	P	**P**	**09 23 21.7**	**+0.6**
TORD	**Torodi Ar. Bea**	**77.35**	**78**	P	**P**	**09 23 34.3**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=267,slow=5.8,SNR=1.8							
TORD	**Torodi Ar. Bea**	**77.35**	**78**	IAmb	IAmb	09 23 43.2		
	comp=Z,2.0nm,0.9s							
ARCES	**ARCESS Array B**	**87.61**	**20**	LR	LR	10 02 25.3		
	comp=Z,58nm,18.8s,baz=263,slow=35							
MKAR	**Makanchi Array**	**123.14**	**17**	PKP	**PKPdf**	**09 30 33.3**	**-3.1**
	comp=Z,0.2nm,0.5s,baz=300,slow=1.9,SNR=4.2							
STKA	**Stephens Creek**	**136.56**	**230**	PKP	**PKPdf**	**09 31 02.2**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=114,slow=4.7,SNR=3.2							
ASAR	**Alice Springs**	**146.20**	**238**	PKPbc	**PKPdf**	**09 31 19.6**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=120,slow=4.1,SNR=30							
PZH	**PanZhiHua**	**146.46**	**2**	PKPbc	**PKPdf**	**09 31 20.1**	**-0.1**
WRA	**Warramunga Arr**	**147.16**	**244**	PKPbc	**PKPdf**	**09 31 21.1**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=100,slow=3.6,SNR=19							
WRA	**Warramunga Arr**	**147.16**	**244**		**PKPdf**	**09 31 21.4**	**0.0**

*REN **08** 09:23:04.5±1.6,36°.50N±0°.03×113°.44W±0°.02,h2km±7km, Error ellipse: s-maj=3.6km s-min=2.8km az=183.0*

*NEIC **08** 09:23:04.7±1.4,36°.50N±0°.02×113°.46W±0°.02,h4km±7km, ML3.4/131,ML3.5/6(REN), Error ellipse: s-maj=4.0km s-min=1.3km az=210.0*

*ANF **08** 09:23:05.2±1.2,36°.49N×113°.50W,h8km±10km,ML3.7/35, Error ellipse: s-maj=2.5km s-min=1.6km az=152.0*

*IDC **08** 09:23:07.5±1.2,36°.78N×113°.57W,h0km,mb2.9/1, mb1 3.3/4,mb1mx3.2/52,mbtmp2.9/4,ML3.5/3,Error ellipse: s-maj=16.5km s-min=10.9km az=19.0*

ISC 08 09:23:04.8±0.8,36°.48N±0°.02×113°.50W±0°.02,h10km, n114,σ1§12/129,Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCMT	**Little Creek M**	**0.57**	**21**		**Pg**	**09 23 15.3**	**-0.7**
LCMT	**Little Creek M**	**0.57**	**21**	Sg	**Sg**	**09 23 22.3**	**-1.2**
LCMT				IAML		09 23 22.4	
	comp=E,11μm,0.3s						
LCMT				IAML		09 23 23.6	
	comp=N,6μm,0.2s						
ICU	**Indian Springs**	**0.76**	**333**		**Pg**	**09 23 18.7**	**-0.7**
ICU					**Sg**	**09 23 29.3**	**0.0**
KNB	**Kanab**	**0.76**	**45**	Pg	**Pg**	**09 23 18.5**	**-1.1**
KNB				Sg	**Sg**	**09 23 27.9**	**-1.7**
KNB				IAML		09 23 30.5	
	comp=N,2μm,0.6s						
KNB				IAML		09 23 32.1	
	comp=E,2μm,0.3s						
U15A	**North Rim**	**0.97**	**92**	Pg	**Pg**	**09 23 22.4**	**-1.1**
U15A				Sg	**Sg**	**09 23 34.6**	**-1.6**
U15A				IAML		09 23 34.9	
	comp=E,2μm,0.6s						
U15A				IAML		09 23 37.4	
	comp=N,1μm,0.3s						
CCUT	**Cedar City**	**1.08**	**6**		**Pg**	**09 23 24.7**	**-0.8**
CCUT	**Cedar City**	**1.08**	**6**	Sg	**Sg**	**09 23 38.2**	**-1.4**
CCUT				IAML		09 23 38.8	
	comp=E,2μm,0.3s						
CCUT				IAML		09 23 39.3	
	comp=N,1μm,0.3s						
SZCU	**Shurtz Canyon**	**1.16**	**16**		**Pb**	**09 23 25.7**	**-1.5**
SZCU				Sg	**Sg**	**09 23 40.5**	**-1.9**
SHPR	**Sheep Range**	**1.34**	**272**		**Pn**	**09 23 30.0**	**+0.3**
SHPR				Sg	**Sn**	**09 23 48.5**	**+0.7**
SHPR				IAML		09 23 49.2	
	comp=N,569nm,0.8s						
SHPR				IAML		09 23 49.4	
	comp=E,687nm,0.5s						
PKCU	**Pink Cliffs**	**1.35**	**44**	Pn	**Pn**	**09 23 29.4**	**-0.6**
W13A	**Hualapai Mount**	**1.41**	**193**	Pn	**Pn**	**09 23 30.8**	**+0.1**
W13A				IAML		09 23 52.0	
	comp=E,539nm,0.8s						
W13A				IAML		09 23 56.2	
	comp=N,831nm,0.7s						
PRN	**Pahroc Range**	**1.55**	**307**		**Pn**	**09 23 33.1**	**+0.5**
PRN				IAML		09 23 55.3	
	comp=N,672nm,0.3s						
PRN				IAML		09 24 08.2	
	comp=E,639nm,0.6s						
MTPU	**Mount Pierson**	**1.88**	**33**		**Pn**	**09 23 38.3**	**+0.9**
NEE2	**Needles Airpor**	**1.94**	**209**	P	**Pn**	**09 23 37.6**	**-0.2**
NEE2	baz=29,SNR=12			Sb	**Sg**	**09 24 07.4**	**+0.4**
	baz=29						
WUAZ	**Wupatki**	**1.97**	**118**	Pn	**Pn**	**09 23 39.4**	**+1.0**
WUAZ	**Wupatki**	**1.97**	**118**	P	**Pn**	**09 23 38.1**	**-0.3**
WUAZ	baz=301,SNR=427			S	**Sn**	**09 24 04.4**	**+1.2**
	baz=301						
PSUT	**Pine Spring**	**2.07**	**352**		**Pn**	**09 23 40.1**	**+0.2**
PSUT				IAML		09 24 12.6	
	comp=E,309nm,0.5s						
PSUT				IAML		09 24 15.9	
	comp=N,275nm,0.9s						
S11A	**Rachel**	**2.15**	**304**		**Pn**	**09 23 41.6**	**+0.8**
S11A				IAML		09 24 20.3	
	comp=E,327nm,0.7s						
S11A				IAML		09 24 26.4	
	comp=N,303nm,0.5s						
TUQ	**Turquoise Moun**	**2.23**	**243**	P	**Pn**	**09 23 42.1**	**+0.2**
	baz=61,SNR=58						
TUQ				Sb	**Sg**	**09 24 16.4**	**+0.1**
	baz=61						
PDMCI	**Parker Dam,Lak**	**2.23**	**194**	P	**Pn**	**09 23 42.5**	**+0.6**
	baz=14						
PDMCI				Sb	**Sg**	**09 24 15.6**	**-0.9**
	baz=14						
TPNV	**Topopah Spring**	**2.26**	**283**	Pn	**Pn**	**09 23 43.5**	**+1.0**
TPNV				IAML		09 24 18.8	
	comp=N,309nm,0.5s						
TPNV				IAML		09 24 20.1	
	comp=N,234nm,0.4s						
TPNV	**Topopah Spring**	**2.26**	**283**	P	**Pn**	**09 23 43.2**	**+0.8**
	baz=100,SNR=68						
TPNV				S	**Sn**	**09 24 11.9**	**+1.4**
	baz=100						
MSU	**Marysvale**	**2.29**	**27**		**Pn**	**09 23 44.1**	**+1.3**
TCRU	**Three Creeks R**	**2.29**	**21**		**Pn**	**09 23 44.0**	**+1.1**
TCRU				IAML		09 24 16.3	
	comp=E,408nm,0.5s						
SHOC	**Shoshone, Teco**	**2.32**	**256**	P	**Pn**	**09 23 43.8**	**+0.7**
	baz=74,SNR=112						
SHOC				Sb	**Sg**	**09 24 18.3**	**-1.1**
	baz=74						
GMRC	**Granite Mounta**	**2.44**	**227**	P	**Pn**	**09 23 44.9**	**0.0**
	baz=46,SNR=54						
GMRC				Sb	**Sg**	**09 24 22.4**	**-0.8**
	baz=46						
R11A	**Troy Canyon, C**	**2.50**	**319**		**Pn**	**09 23 45.8**	**0.0**
R11A	**Troy Canyon, C**	**2.50**	**319**	P	**Pn**	**09 23 45.4**	**-0.4**
	baz=137,SNR=14						
R11A				Sb	**Sb**	**09 24 22.8**	**+1.9**
	baz=137						
Y14A	**Wickenburg**	**2.56**	**171**		**Pn**	**09 23 46.3**	**-0.2**
Y14A				IAML		09 24 28.3	
	comp=E,247nm,0.3s						
Y14A				IAML		09 24 30.0	
	comp=N,173nm,0.6s						
GWY	**Greenwater Val**	**2.58**	**264**		**Pn**	**09 23 47.5**	**+0.7**
GWY				IAML		09 24 28.2	
	comp=E,240nm,0.6s						
GWY				IAML		09 24 35.8	
	comp=N,186nm,0.7s						
X16A	**Lo Mia Camp, P**	**2.65**	**140**	Pn	**Pn**	**09 23 49.5**	**+1.7**
IRM	**Iron Mountain**	**2.68**	**211**	P	**Pn**	**09 23 47.8**	**-0.2**
	baz=30,SNR=6.9						
IRM				Sb	**Sg**	**09 24 29.5**	**-1.3**
	baz=30						
FURC	**Furnace Creek,**	**2.71**	**271**	Sb	**Sg**	**09 24 30.3**	**-1.7**
	baz=88						
QSM	**Queen of Sheba**	**2.77**	**260**	Pn	**Pn**	**09 23 50.3**	**+1.0**
QSM				IAML		09 24 34.3	
	comp=E,94nm,0.8s						
QSM				IAML		09 24 39.2	
	comp=N,153nm,0.7s						
HEC	**Hector,Ludlow**	**2.84**	**235**	P	**Pn**	**09 23 50.2**	**0.0**
	baz=54,SNR=9.4						
BLYC	**Blythe**	**2.85**	**198**	Pn	**Pn**	**09 23 50.8**	**+0.5**
BLYC				IAML		09 24 41.8	
	comp=E,155nm,0.4s						
BLYC				IAML		09 24 42.0	
	comp=N,174nm,0.6s						
GSC	**Goldstone, Bar**	**2.93**	**247**		**Pn**	**09 23 52.1**	**+0.5**
GSC				IAML		09 24 40.5	
	comp=E,131nm,0.5s						
GSC				IAML		09 24 41.7	
	comp=N,84nm,1.0s						
GSC	**Goldstone, Bar**	**2.93**	**247**	P	**Pn**	**09 23 51.9**	**+0.3**
	baz=65,SNR=21						
Q16A	**Castle Valley**	**3.06**	**36**		**Pn**	**09 23 53.4**	**0.0**
Q16A				IAML		09 24 40.1	
	comp=E,191nm,0.5s						
Q16A				IAML		09 24 42.6	
	comp=N,156nm,0.7s						
GRAC	**Grapevine Rang**	**3.15**	**281**		**Pn**	**09 23 55.9**	**+1.4**
GRAC				IAML		09 24 51.2	
	comp=N,159nm,0.6s						
BELC	**Belle Mtn. Jos**	**3.21**	**220**	P	**Pn**	**09 23 55.7**	**+0.2**
	baz=39,SNR=24						
BC3	**Big Chuckawall**	**3.24**	**210**	P	**Pn**	**09 23 55.8**	**-0.1**
	baz=30,SNR=9.6						
MPMC	**Manual Prospec**	**3.25**	**264**	P	**Pn**	**09 23 56.7**	**+0.6**
	baz=81,SNR=135						
RRX	**Edison Barstow**	**3.27**	**242**	P	**Pn**	**09 23 56.7**	**+0.6**
	baz=60						
W18A	**Petrified Fore**	**3.34**	**113**		**Pn**	**09 23 59.5**	**+2.1**
W18A				IAML		09 25 00.5	
	comp=E,156nm,0.5s						
TMUT	**Trail Mountain**	**3.35**	**32**		**Pn**	**09 23 58.5**	**+1.1**
TMUT				IAML		09 24 49.6	
	comp=N,152nm,0.7s						
TPH	**Tonopah**	**3.37**	**299**		**Pn**	**09 23 58.2**	**+0.4**
LCH	**Last Change Ra**	**3.41**	**284**		**Pn**	**09 23 59.3**	**+1.1**
LCH				IAML		09 24 56.7	
	comp=E,48nm,0.4s						
X18A	**Snowflake**	**3.48**	**123**	Pn	**Pn**	**09 24 01.2**	**+1.9**
SRU	**San Rafael Swe**	**3.53**	**41**		**Pn**	**09 24 01.2**	**+1.4**
LRMC	**Laurel Mtn Rad**	**3.54**	**255**	P	**Pn**	**09 24 00.4**	**+0.5**
	baz=72,SNR=9.9						
BBRC	**Big Bear Solar**	**3.57**	**233**	P	**Pn**	**09 24 00.8**	**+0.4**
	baz=51,SNR=13						
GLA	**Glamis**	**3.59**	**198**		**Pn**	**09 24 01.0**	**+0.5**
GLA	**Glamis**	**3.59**	**198**	P	**Pn**	**09 24 01.1**	**+0.5**
	baz=18,SNR=10						
GLA				Sb	**Sg**	**09 24 57.2**	**-2.8**
	baz=18						
NLU	**North Lily Min**	**3.65**	**17**	Pn	**Pn**	**09 24 03.0**	**+1.5**
P17A	**Butcher Ranch,**	**3.70**	**35**		**Pn**	**09 24 02.7**	**+0.5**
P17A				IAML		09 24 59.4	
	comp=N,85nm,0.9s						
P17A				IAML		09 25 00.7	
	comp=E,107nm,0.6s						
DUG	**Dugway, Tooele**	**3.75**	**8**	Pn	**Pn**	**09 24 01.4**	**-1.5**
DUG				IAML		09 25 08.2	
	comp=E,48nm,1.1s						
DUG				IAML		09 25 11.9	
	comp=E,43nm,1.1s						
DUG	**Dugway, Tooele**	**3.75**	**8**	P	**Pn**	**09 24 02.9**	**+0.1**
	baz=188						
DUG				Sb	**Sb**	**09 24 59.5**	**+2.7**
	baz=188						
PFO	**Pinyon Flats O**	**3.75**	**221**	Pn	**Pn**	**09 24 03.1**	**+0.2**
PFO	**Pinyon Flats O**	**3.75**	**221**	P	**Pn**	**09 24 03.0**	**+0.1**
	baz=40,SNR=12						
CCAC	**Calif City Air**	**3.90**	**252**		**Pn**	**09 24 05.8**	**+1.0**
CCAC				IAML		09 25 24.7	
	comp=E,59nm,0.9s						
CCAC				IAML		09 25 26.6	
	comp=N,59nm,1.4s						
EDW2	**Edwards Air Fo**	**3.99**	**248**	P	**Pn**	**09 24 06.4**	**+0.3**
	baz=65						
SWSC	**Sam W. Stewart**	**4.00**	**209**	P	**Pn**	**09 24 06.5**	**+0.4**
	baz=28						
P18A	**Preston Nutter**	**4.06**	**38**		**Pn**	**09 24 08.8**	**+1.5**
P18A				IAML		09 25 13.7	
	comp=N,85nm,0.8s						
BFSC	**Mount Baldy Ra**	**4.07**	**238**	P	**Pn**	**09 24 07.8**	**+0.5**
	baz=56,SNR=8.6						
MVCO	**Mesa Verde**	**4.07**	**78**	Pn	**Pn**	**09 24 07.6**	**+0.2**
MVCO	**Mesa Verde**	**4.07**	**78**	P	**Pn**	**09 24 08.9**	**+1.5**
	baz=262						
PV23	**Carpenter Ridg**	**4.08**	**60**	Pn	**Pn**	**09 24 08.7**	**+1.3**
PV13	**Radium Mtn., P**	**4.09**	**64**		**Pn**	**09 24 09.0**	**+1.4**
ISA	**Isabella, Lake**	**4.11**	**260**	Pn	**Pn**	**09 24 08.3**	**+0.5**
ISA	**Isabella, Lake**	**4.11**	**260**	P	**Pn**	**09 24 08.4**	**+0.5**
	baz=77						
MURC	**Murrieta**	**4.18**	**228**	P	**Pn**	**09 24 09.2**	**+0.6**
	baz=46,SNR=11						
NV11	**Mina Array Sit**	**4.19**	**299**		**Pn**	**09 24 09.5**	**+0.6**
ELS	**Elsinore Mount**	**4.29**	**230**		**Pn**	**09 24 10.7**	**+0.5**
ELS				IAML		09 25 21.9	
	comp=N,26nm,0.9s						
NVAR	**Mina Array Bea**	**4.29**	**298**	Pn	**Pn**	**09 24 11.2**	**+0.7**
	comp=N,2.2nm,0.3s,baz=125,slow=15,SNR=60						
NVAR				Lg	Lg	09 25 18.3	
	comp=N,2.1nm,0.3s,baz=120,slow=30,SNR=2.5						
MONP2	**Monument Peak**	**4.31**	**215**	P	**Pn**	**09 24 11.1**	**+0.4**
	baz=33,SNR=5.8						
YUH	**Yuha Desert**	**4.31**	**208**	Pn	**Pn**	**09 24 10.7**	**+0.2**
LHV	**Little Huntoon**	**4.37**	**295**		**Pn**	**09 24 12.4**	**+1.2**
LHV				IAML		09 25 29.8	
	comp=E,44nm,0.8s						
LHV				IAML		09 25 37.2	
	comp=N,36nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**4.38**	**210**	P	**Pn**	**09 24 12.2**	**+0.7**
	baz=29,SNR=5.4						
MLAC	**Mammoth, Mammo**	**4.42**	**287**	P	**Pn**	**09 24 12.7**	**+0.5**
	baz=103						
BGU	**Big Grassy Mou**	**4.46**	**5**	Pn	**Pn**	**09 24 11.9**	**-0.7**
KVN	**Kaiserville**	**4.46**	**307**		**Pn**	**09 24 12.8**	**+0.1**
PASC	**Pasadena Art C**	**4.47**	**240**	Pn	**Pn**	**09 24 12.3**	**-0.3**
PASC				IAML		09 25 41.1	
	comp=E,21nm,1.1s						
ELK	**Elko**	**4.47**	**343**	Pn	**Pn**	**09 24 12.9**	**0.0**
RYN	**Ryan**	**4.54**	**300**		**Pn**	**09 24 14.4**	**+0.7**
RYN				IAML		09 25 30.5	
	comp=N,30nm,0.5s						
RYN				IAML		09 25 32.0	
	comp=E,32nm,0.6s						
ARVC	**Arvin**	**4.54**	**254**	P	**Pn**	**09 24 14.2**	**+0.6**
	baz=71,SNR=5.8						
214A	**Organ Pipe Nat**	**4.54**	**173**	P	**Pn**	**09 24 14.8**	**+1.1**
	baz=354						
OMMB	**Old Mammoth Mi**	**4.55**	**286**	Pn	**Pn**	**09 24 14.8**	**+0.8**
BAR	**Barrett**	**4.61**	**216**		**Pn**	**09 24 15.0**	**+0.5**
BAR				IAML		09 25 33.8	
	comp=E,23nm,0.9s						
109C	**Camp Elliot, M**	**4.65**	**221**	Pn	**Pn**	**09 24 15.9**	**+0.8**
109C				IAML		09 25 36.9	
	comp=N,36nm,0.6s						
109C				IAML		09 25 37.4	
	comp=E,29nm,1.4s						
109C	**Camp Elliot, M**	**4.65**	**221**	P	**Pn**	**09 24 16.2**	**+1.1**
	baz=39						
TKX	**Tecate**	**4.67**	**214**	Pn	**Pn**	**09 24 16.2**	**+0.9**
TKX				IAML		09 25 51.0	
	comp=N,56nm,0.1s						
TKX				IAML		09 26 49.9	
	comp=E,33nm,0.1s						
TUC	**Tucson**	**4.72**	**151**	Pn	**Pn**	**09 24 17.1**	**+0.9**
TUC	**Tucson**	**4.72**	**151**	P	**Pn**	**09 24 16.8**	**+0.6**
	baz=333						
CBX	**Cerro Bola**	**4.91**	**213**		**Pn**	**09 24 20.2**	**+1.4**
CBX				IAML		09 25 50.5	
	comp=E,17nm,0.8s						
BMN	**Battle Mountai**	**4.91**	**325**	Pn	**Pn**	**09 24 19.4**	**+0.5**
BMN				IAML		09 25 38.6	
	comp=E,21nm,1.0s						
BMN				IAML		09 25 39.5	
	comp=N,20nm,1.0s						
CIS	**Catalina Islan**	**5.07**	**234**	P	**Pn**	**09 24 20.8**	**-0.1**
	baz=51						
RDMU	**Red Mountain**	**5.12**	**36**		**Pn**	**09 24 21.7**	**0.0**
RDMU				IAML		09 25 40.6	
	comp=E,33nm,0.6s						
RDMU				IAML		09 25 43.7	
	comp=N,40nm,1.0s						
YERR	**Yerington**	**5.20**	**301**		**Pn**	**09 24 23.6**	**+0.8**
YERR				IAML		09 25 59.0	
	comp=E,17nm,0.5s						
YERR				IAML		09 26 00.5	
	comp=N,14nm,0.6s						
CCX	**Cicese**	**5.29**	**211**		**Pn**	**09 24 26.4**	**+2.5**
CCX				IAML		09 25 55.3	
	comp=E,12nm,0.6s						
CCX				IAML		09 25 58.4	
	comp=N,12nm,1.0s						
HWUT	**Hardware Ranch**	**5.34**	**16**	Pn	**Pn**	**09 24 28.1**	**+3.3**
HWUT				IAML		09 25 53.9	
	comp=N,14nm,1.2s						
O20A	**White River Ci**	**5.51**	**47**	Pn	**Pn**	**09 24 28.5**	**+1.3**
LENM	**Lemitar**	**5.81**	**111**	Pn	**Pn**	**09 24 30.6**	**-0.6**
SMCO	**Snowmass**	**5.82**	**60**		**Pn**	**09 24 33.2**	**+1.6**
ANMO	**Albuquerque**	**5.93**	**103**	Pn	**Pn**	**09 24 34.1**	**+1.3**
319A	**Douglas**	**6.18**	**144**	Pn	**Pn**	**09 24 37.8**	**+1.6**
PD31	**Pinedale Array**	**6.98**	**25**	Pn	**Pn**	**09 24 50.3**	**+3.0**
PDAR	**Pinedale Array**	**6.98**	**25**	Pn	**Pn**	**09 24 50.5**	**+3.2**
	comp=N,0.2nm,0.3s,baz=189,slow=13,SNR=13						
PDAR				Lg	Lg	09 26 40.4	
	comp=N,0.3nm,0.3s,baz=188,slow=18,SNR=1.0						
PDAR	**Pinedale Array**	**6.98**	**25**	Pn	**Pn**	**09 24 47.7**	**+0.4**
ISCO	**Idaho Springs**	**7.04**	**60**		**Pn**	**09 24 50.0**	**+1.8**
Q24A	**Divide**	**7.07**	**67**	Pn	**Pn**	**09 24 48.6**	**+0.1**
K22A	**Casper**	**8.18**	**39**		**Pn**	**09 25 05.0**	**+1.3**
TXAR	**Lajitas Array**	**10.90**	**128**	Pn	Pn	09 25 53.3	+12
	comp=N,0.0nm,0.3s,baz=305,slow=14,SNR=2.1						
TXAR				Lg	Lg	09 28 53.6	
	comp=N,0.1nm,0.3s,baz=312,slow=30,SNR=4.3						
YKA	**Yellowknife Ar**	**26.05**	**359**	P	**P**	**09 28 37.5**	**-0.5**
	comp=N,0.2nm,0.6s,baz=178,slow=9.9,SNR=3.5						

*IDC **08** 09:25:26.7±1.1,60°.43S×49°.43W,h0km,mb4.1/8, mb1 4.1/8,mb1mx3.9/20,mbtmp4.1/8,MS3.6/7,Ms1 3.6/7, ms1mx3.2/46,Error ellipse: s-maj=44.2km s-min=21.6km az=50.0*

*NEIC **08** 09:25:29.4±1.7,60°.4S±0°.1×49°.1W±0°.3,h10km±1km, mb4.6/13,Error ellipse: s-maj=21.9km s-min=18.8km az=254.0*

ISC 08 09:25:28.9±0.7,60°.3S±0°.1×49°.2W±0°.1,h10km,n30, σ0§93/22,mb4.4/10,MS3.5/7,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**9.14**	**54**	Pn	**Pn**	**09 27 40.1**	**-0.5**
SNAA	**Sanae**	**21.33**	**141**	P	**P**	**09 30 15.7**	**+0.1**
	8.9nm,0.9s,baz=280,slow=11,SNR=5.3						
SNAA				LR	LR	09 37 46.3	
	comp=Z,204nm,18.0s,baz=358,slow=35						
SNAA	**Sanae**	**21.33**	**141**	P	**P**	**09 30 14.7**	**-0.8**
SNAA				IAmb	IAmb	09 30 28.1	
	comp=Z,31nm,1.5s						
PLCA	**Paso Flores**	**23.66**	**316**	P	**P**	**09 30 40.1**	**-0.1**
	comp=Z,3.2nm,1.1s,baz=122,slow=1.3,SNR=4.4						
PLCA	**Paso Flores**	**23.66**	**316**	P	**P**	**09 30 41.5**	**+1.2**
PLCA				IAmb	IAmb	09 30 49.7	
	comp=Z,17nm,1.3s						
QSPA	**South Pole Qui**	**29.91**	**180**	P	**P**	**09 31 37.1**	**+0.5**
QSPA				IAmb	IAmb	09 31 42.0	
	comp=Z,10.0nm,0.9s						
MT09	**Talagante**	**30.14**	**322**	P	**P**	**09 31 38.2**	**-0.6**
CPUP	**Villa Florida**	**34.44**	**347**	LR	LR	09 46 01.5	
	comp=Z,54nm,19.6s,baz=182,slow=36						
AC02	**Maricunga**	**36.15**	**329**	P	**P**	**09 32 30.9**	**-0.8**
AC02				IAmb	IAmb	09 32 42.7	
	comp=Z,6.4nm,0.9s						
LVC	**Limon Verde**	**40.15**	**331**	LR	LR	09 52 08.3	
	comp=Z,44nm,18.5s,baz=195,slow=40						
MAW	**Mawson**	**43.15**	**149**	LR	LR	09 50 09.3	
	comp=Z,270nm,18.4s,baz=214,slow=34						
SIV	**San Ignacio**	**45.10**	**344**	P	**P**	**09 33 45.5**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=156,slow=9.4,SNR=7.6						
SIV				LR	LR	09 53 10.3	
	comp=Z,51nm,18.2s,baz=118,slow=37						
LPAZ	**La Paz**	**46.07**	**334**	P	**P**	**09 33 52.7**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=201,slow=3.5,SNR=4.1						
LPAZ				LR	LR	09 54 16.3	
	comp=Z,39nm,18.4s,baz=214,slow=38						
NNA	**Nana**	**52.39**	**325**	LR	LR	09 55 33.7	
	comp=Z,43nm,19.4s,baz=186,slow=34						
SUR	**Sutherland**	**52.67**	**91**	P	**P**	**09 34 43.6**	**+0.3**
	comp=Z,5.0nm,1.0s,baz=240,slow=9.6,SNR=1.7						
H10S2	**ASCENSION HYDR**	**57.37**	**42**	T	T	10 37 45.2	
	baz=200,slow=74,SNR=13						
H10S3	**ASCENSION HYDR**	**57.37**	**42**	T	T	10 37 45.2	
	baz=20,slow=74,SNR=27						
H10N3	**ASCENSION HYDR**	**58.47**	**41**	T	T	10 39 07.3	
	baz=199,slow=75,SNR=64						
H10N1	**ASCENSION HYDR**	**58.47**	**41**	T	T	10 39 07.8	
	baz=199,slow=75,SNR=38						
H10N2	**ASCENSION HYDR**	**58.48**	**41**	T	T	10 39 08.6	
	baz=199,slow=75,SNR=52						
MCRA	**Macar, Loja**	**60.53**	**324**	P	**P**	**09 35 39.8**	**+0.7**
DBIC	**Dimbokro**	**75.31**	**46**	P	**P**	**09 37 12.8**	**+0.8**
	comp=Z,5.0nm,1.1s,baz=192,slow=4.2,SNR=1.9						
TORD	**Torodi Ar. Bea**	**83.69**	**49**	P	**P**	**09 37 58.4**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=209,slow=5.6,SNR=23						
TORD	**Torodi Ar. Bea**	**83.69**	**49**	P	**P**	**09 37 58.5**	**+1.0**
ASAR	**Alice Springs**	**96.28**	**183**	P	**P**	**09 38 57.2**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=173,slow=4.1,SNR=1.6						
ILAR	**Eielson Array**	**144.32**	**313**	PKP	**PKPab**	**09 45 00.4**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=154,slow=2.1,SNR=4.8						
MKAR	**Makanchi Array**	**148.94**	**94**	PKPbc	**PKPbc**	**09 45 13.9**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=238,slow=2.9,SNR=5.3						
MKAR	**Makanchi Array**	**148

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.80**	**43**		Pg	09 37 25.8	-0.3
T35A				Sg	Sg	09 37 36.5	0.0
FNO	**Franklin**	**1.08**	**189**		Pg	09 37 30.8	-0.7
W35A	**Tecumseh**	**1.20**	**167**		Pg	09 37 32.7	-1.1
TUL1	**Leonard**	**1.21**	**110**		Pg	09 37 33.2	-0.7
U32A	**Winter Ranch,**	**1.46**	**272**		Pn	09 37 37.6	+0.1
X34A	**Smith Ranch, M**	**1.80**	**197**		Pn	09 37 42.3	0.0
WMOK	**Wichita Mounta**	**2.05**	**220**		Pn	09 37 45.4	-0.2
WMOK				IAmb_Lg		09 38 21.2	
	comp=Z,20nm,0.8s						
X37A	**Clayton**	**2.29**	**139**		Pn	09 37 50.1	+1.2
R32A	**Long Quarter,**	**2.41**	**330**	Pn	Pn	09 37 50.7	0.0
HHAR	**Hobbs**	**2.63**	**90**		Pn	09 37 55.0	+1.4
CBKS	**Cedar Bluff**	**3.20**	**322**	IAmb_Lg		09 38 59.5	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**3.38**	**65**	IAmb_Lg		09 39 03.5	
	comp=Z,17nm,0.8s						
WHAR	**Wooly Hollow**	**4.12**	**103**	IAmb_Lg		09 39 23.7	
	comp=Z,22nm,1.0s						
W41B	**Gary Mavity, V**	**4.18**	**105**	IAmb_Lg		09 39 25.7	
	comp=Z,18nm,0.7s						
ABTX	**Abilene, Hawle**	**4.21**	**209**	IAmb_Lg		09 39 30.8	
	comp=Z,13nm,0.8s						
P38A	**Dawn**	**4.38**	**40**	IAmb_Lg		09 39 34.5	
	comp=Z,20nm,0.7s						
R40A	**Maddies Statio**	**4.39**	**62**	IAmb_Lg		09 39 32.4	
	comp=Z,16nm,0.8s						

IDC 08 09:39:50.5±3.1, 53°.63N×87°.95E, h0km, mb1 3.2/2, mb1mx3.0/52, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=28.7km s-min=16.9km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**281**	*i*		09 52 02.6	
	baz=95,slow=335,SNR=12						
ZALV	**Zalesovo Beam**	**1.89**	**281**	Pg	Pn	09 40 24.2	+0.2
	2.4nm,0.3s,baz=104,slow=16,SNR=14						
ZALV				Lg	Lg	09 40 50.8	
	6.2nm,0.3s,baz=100,slow=25,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.53**	**246**	Pn	Pn	09 41 28.4	+0.7
	0.1nm,0.3s,baz=61,slow=14,SNR=5.5						
KURBB				Lg	Lg	09 43 16.9	
	0.1nm,0.3s,baz=63,slow=33,SNR=6.6						
MKAR	**Makanchi Array**	**7.74**	**210**	Pn	Pn	09 41 45.7	+1.3
	0.2nm,0.3s,baz=26,slow=14,SNR=9.1						
MKAR				Lg	Lg	09 43 53.9	
	0.1nm,0.3s,baz=40,slow=28,SNR=2.5						

IDC 08 09:43:14.0±3.2, 53°.61N×87°.99E, h0km, mb1 3.0/2, mb1mx2.9/48, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=30.1km s-min=19.2km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**281**	*i*		09 55 49.3	
	baz=96,slow=332,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.91**	**281**	Pn	Pn	09 43 48.0	+0.3
	1.6nm,0.3s,baz=98,slow=16,SNR=8.1						
ZALV				Lg	Lg	09 44 14.7	
	3.2nm,0.3s,baz=103,slow=24,SNR=19						
KURBB	**Kurchatov Arra**	**6.55**	**247**	Pn	Pn	09 44 52.1	+0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=5.8						
KURBB				Lg	Lg	09 46 40.1	
	0.1nm,0.3s,baz=58,slow=33,SNR=5.8						
MKAR	**Makanchi Array**	**7.74**	**210**	Pn	Pn	09 45 08.8	+0.9
	0.1nm,0.3s,baz=30,slow=12,SNR=1.9						

*NNC **08** 09:47:27.7±3.5, 54°.07N×86°.50E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=30.7km s-min=16.5km az=28.0, Suspected Mining explosion.*
*IDC **08** 09:47:28.6±2.6, 54°.07N×86°.53E, h0km, mb1 3.5/2, mb1mx3.1/46, mbtmp3.5/2, ML3.3/2, Error ellipse: s-maj=22.1km s-min=13.8km az=48.0*
ISC 08 09:47:29.7±4.1, 54°.0N±0°.2×86°.3E±0°.2, h0km, n9, σ1°52/12, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**265**	*i*		09 54 34.1	
	baz=82,slow=331,SNR=5.0						
ZAA0	**Zalesovo Array**	**0.89**	**265**	⇑P	**Pg**	**09 47 46.2**	**-0.5**
	0.4nm,0.3s						
ZAA0				⇑S	**Sb**	**09 48 01.2**	**+0.8**
	1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**0.89**	**265**	Pg	**Pb**	**09 47 46.5**	**-1.4**
	2.8nm,0.3s,baz=84,slow=16,SNR=28						
ZALV				Lg	Lg	09 48 02.6	
	3.8nm,0.3s,baz=89,slow=30,SNR=12						
ZALV				Rg	Rg	09 48 07.6	
	44nm,1.1s,baz=90,slow=27,SNR=5.6						
KURK	**Kurchatov**	**5.77**	**238**	⇑Pn	**Pn**	**09 48 58.2**	**+1.7**
	2.2nm,0.8s						
KURK				⇓Lg	Lg	09 50 36.8	
	5.8nm,0.9s						
KURBB	**Kurchatov Arra**	**5.88**	**238**	Pn	**Pn**	**09 48 59.6**	**+1.8**
	0.4nm,0.3s,baz=55,slow=13,SNR=14						
KURBB				Lg	Lg	09 50 40.6	
	0.0nm,0.3s,baz=37,slow=50,SNR=1.6						
KURBB	**Kurchatov Arra**	**5.88**	**238**	⇑Pn	**Pn**	**09 48 59.1**	**+1.2**
	2.4nm,0.3s						
KURBB				⇓Lg	Lg	09 50 38.3	
	3.0nm,0.7s						
MK31	**Makanchi Array**	**7.70**	**201**	⇓Pn	**Pn**	**09 49 23.8**	**+0.8**
	0.2nm,0.2s,baz=25,slow=13,SNR=25						
MK31				⇑Sn	**Sn**	**09 50 48.1**	**-2.7**
	0.3nm,0.5s,baz=34,slow=28,SNR=3.5						
MKAR	**Makanchi Array**	**7.70**	**201**	Pn	**Pn**	**09 49 23.9**	**+0.9**
	0.8nm,0.3s,baz=25,slow=14,SNR=29						
MKAR				Sn	**Sn**	**09 50 51.7**	**+0.9**
	0.1nm,0.3s,baz=31,slow=29,SNR=6.2						
MKAR				Lg	Lg	09 51 32.5	
	0.0nm,0.3s,baz=36,slow=30,SNR=1.9						
MAKZ	**Makanchi**	**7.75**	**203**	⇑Pn	**Pn**	**09 49 24.4**	**+0.7**
	0.5nm,0.6s						
MAKZ				⇑Sn	**Sn**	**09 50 52.6**	**+0.4**
	0.6nm,0.5s						

*IDC **08** 09:48:05.1±1.4, 14°.10S×166°.73E, h0km, mb4.1/7, mb1 4.3/8, mb1mx3.9/36, mbtmp4.1/8, ML3.4/1, MS3.6/10, Ms1 3.6/10, ms1mx3.1/65, Error ellipse: s-maj=35.0km s-min=27.5km az=120.0*
*NEIC **08** 09:48:09.9±2.1, 14°.2S±0°.1×166°.9E±0°.1, h35km±2km, mb4.3/13, Error ellipse: s-maj=23.0km s-min=17.6km az=84.0*
ISC 08 09:48:10.1±1.1, 14°.2S±0°.1×166°.8E±0°.1, h35km, n29, σ0°97/23, mb4.2/12, MS3.7/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.34**	**164**	Pn	**Pn**	**09 48 31.8**	**-0.5**
KOUNC	**Koumac, New Ca**	**6.80**	**200**	Pn	**Pn**	**09 49 48.1**	**+0.7**
MARNC	**Mare, Loyalty**	**7.38**	**171**	Pn	**Pn**	**09 49 55.5**	**+0.1**
DZM	**Mont Dzumac**	**7.88**	**183**	Pn	**Pn**	**09 50 02.2**	**-0.2**
DZM	0.5nm,0.3s,baz=49,slow=6.0,SNR=9.4			Sn	**Sn**	**09 51 30.4**	**-0.1**
	0.5nm,0.3s,baz=115,slow=21,SNR=1.8						
DZM				LR	LR	09 52 48.5	
	comp=Z,145nm,18.7s,baz=343,slow=36						
MSVF	**Nonsavu**	**11.38**	**110**	LR	LR	09 54 33.2	
	comp=Z,330nm,18.1s,baz=189,slow=34						
CTA	**Charters Tower**	**20.51**	**250**	P	**P**	**09 52 44.7**	**-0.7**
	12nm,1.1s,baz=60,slow=14,SNR=3.8						
CTA				LR	LR	09 59 45.1	
	comp=Z,148nm,18.1s,baz=86,slow=34						
STKA	**Stephens Creek**	**29.04**	**228**	P	**P**	**09 54 07.6**	**+0.6**
	3.1nm,0.7s,baz=45,slow=8.1,SNR=14						
STKA				LR	LR	10 05 45.6	
	comp=Z,143nm,18.5s,baz=28,slow=37						
STKA	**Stephens Creek**	**29.04**	**228**	IAmb	IAmb	09 54 08.4	
	comp=Z,1.0nm,0.8s						
WR0	**Warramunga Arr**	**31.36**	**255**	P	**P**	**09 54 26.5**	**-1.2**
WR0				IAmb	IAmb	09 54 44.4	
	comp=Z,6.3nm,1.4s						
WB0	**Warramunga Arr**	**31.48**	**255**	P	**P**	**09 54 27.5**	**-1.3**
WB0				IAmb	IAmb	09 54 43.0	
	comp=Z,5.1nm,1.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**31.53**	**255**	P	**P**	**09 54 28.4**	**-0.9**
WB2				IAmb	IAmb	09 54 28.6	
	comp=Z,4.7nm,1.1s						
WRAB	**Tennant Creek**	**31.53**	**255**	P	**P**	**09 54 27.8**	**-1.5**
WRAB				IAmb	IAmb	09 54 27.9	
	comp=Z,5.0nm,1.0s						
WRA	**Warramunga Arr**	**31.54**	**255**	P	**P**	**09 54 27.9**	**-1.4**
	comp=Z,2.2nm,0.9s,baz=86,slow=9.3,SNR=14						
WRA				LR	LR	10 06 28.8	
	comp=Z,62nm,18.7s,baz=90,slow=35						
AS31	**Alice Springs**	**32.47**	**248**	P	**P**	**09 54 36.0**	**-1.4**
ASAR	**Alice Springs**	**32.47**	**248**	P	**P**	**09 54 36.2**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=74,slow=9.4,SNR=23						
BBOO	**Buckleboo**	**33.59**	**231**	P	**P**	**09 54 48.0**	**+0.9**
MTN	**Manton Dam**	**34.70**	**268**	P	**P**	**09 54 56.5**	**-0.4**
MTN				IAmb	IAmb	09 55 10.5	
	comp=Z,6.2nm,0.9s						
FORT	**Forrest**	**39.22**	**238**	P	**P**	**09 55 35.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.69**	**259**	LR	LR	10 10 56.3	
	comp=Z,86nm,19.4s,baz=140,slow=35						
FITZ	**Fitzroy Crossi**	**39.69**	**259**	P	**P**	**09 55 38.8**	**-0.5**
FITZ				IAmb	IAmb	09 55 39.3	
	comp=Z,4.4nm,0.9s						
BATI	**Baumata**	**42.32**	**270**	LR	LR	10 12 50.4	
	comp=Z,146nm,18.3s,baz=320,slow=35						
MORW	**Morawa**	**49.12**	**244**	P	**P**	**09 56 54.6**	**0.0**
VNDA	**Vanda**	**63.42**	**181**	P	**P**	**09 58 36.5**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=28,slow=5.1,SNR=3.7						
VNDA	**Vanda**	**63.42**	**181**	IAmb	IAmb	09 58 37.7	
	comp=Z,2.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**74.31**	**294**	P	**P**	**09 59 46.4**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=134,slow=3.9,SNR=2.2						
CMAR	**Chiang Mai Arr**	**74.31**	**294**	P	**P**	**09 59 44.2**	**-0.3**
ILAR	**Eielson Array**	**86.12**	**18**	P	**P**	**10 00 46.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=236,slow=5.4,SNR=6.8						
ILAR				LR	LR	10 35 19.0	
	comp=Z,34nm,19.4s,baz=88,slow=33						
ELK	**Elko**	**90.23**	**48**	LR	LR	10 42 06.8	
	comp=Z,37nm,18.1s,baz=324,slow=36						
ANMO	**Albuquerque**	**95.34**	**55**	LR	LR	10 43 59.6	
	comp=Z,28nm,18.3s,baz=22,slow=35						

*IDC **08** 09:58:58.8±3.7, 35°.87N×69°.98E, h100km±33km, mb3.5/8, mb1 3.6/12, mb1mx3.3/62, mbtmp3.9/12, MS3.2/2, Ms1 3.2/2, ms1mx2.5/81, Error ellipse: s-maj=28.0km s-min=21.6km az=2.0*
*NNC **08** 09:59:02.8±5.1, 36°.69N×69°.82E, h0km, mb4.5, mpv4.4, Error ellipse: s-maj=41.1km s-min=35.9km az=176.0*
*NEIC **08** 09:59:03.3±1.4, 36°.30N±0°.06×69°.83E±0°.07, h120km±12km, mb4.0/5, Error ellipse: s-maj=9.0km s-min=8.5km az=184.0*
ISC 08 09:59:01.6±0.6, 36°.25N±0°.05×69°.82E±0°.05, h100km, n63, σ1°81/69, mb3.6/8, 6C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.82**	**201**	Pn	**Pn**	**09 59 35.3**	**+3.1**
CHGR	**Chuyangaron**	**2.46**	**348**	Pn	**Pn**	**09 59 42.4**	**+2.0**
GAR	**Garm**	**2.78**	**8**		**Pn**	**09 59 46.4**	**+1.9**
DRK	**Karamyk**	**3.59**	**25**		**Pn**	**09 59 56.4**	**+0.9**
NIL	**Nilore**	**3.83**	**132**	Pn	**Pn**	**09 59 59.9**	**+1.3**
BTK	**Batken**	**3.88**	**11**	Pn	**Pn**	**10 00 00.9**	**+1.6**
KSH	**Kashi**	**5.86**	**54**	P	**Pn**	**10 00 23.4**	**-2.7**
KSH				S	Sn	10 01 22.0	-10
KSH				smax	smax		
	comp=N,270nm,0.8s						
KSH				smax	smax		
	comp=E,140nm,0.6s						
THN	**Thein Dam**	**6.18**	**126**	*e*S	**Sn**	**10 01 36.3**	**-3.5**
AML	**Almayashu**	**6.60**	**26**	P	**Pn**	**10 00 36.8**	**+0.4**
	SNR=34						
KK31	**Karatay Array**	**6.87**	**4**	Pn	**Pn**	**10 00 40.4**	**+0.7**
KK31	**Karatay Array**	**6.87**	**4**	⇑P	**Pn**	**10 00 40.1**	**+0.5**
	comp=E,3.1nm,0.3s,baz=192,slow=16,SNR=33						
KK31				⇑S	**Sn**	**10 01 56.5**	**+0.2**
	comp=E,6.9nm,0.3s,baz=198,slow=27,SNR=8.3						
KKAR	**Karatay Array**	**6.87**	**4**	Pn	**Pn**	**10 00 40.3**	**+0.7**
KKAR	**Karatay Array**	**6.87**	**4**	Pn	**Pn**	**10 00 40.4**	**+0.7**
UCH	**Uchtor**	**6.99**	**30**	P	**Pn**	**10 00 42.8**	**+1.0**
	SNR=74						
EKS2	**Erkin-Say**	**7.10**	**24**	P	**Pn**	**10 00 44.6**	**+1.6**
	SNR=8.0						
AAK	**Ala-Archa**	**7.33**	**28**	P	**Pn**	**10 00 47.1**	**+0.9**
	SNR=24						
AAK	**Ala-Archa**	**7.33**	**28**	P	**Pn**	**10 00 47.1**	**+0.9**
	comp=E,7.8nm,0.3s,baz=206,slow=7.1,SNR=26						
AAK				S	**Sn**	**10 02 05.9**	**-2.0**
	comp=E,3.2nm,0.3s,baz=142,slow=18,SNR=9.4						
AAK	**Ala-Archa**	**7.33**	**28**	Pn	**Pn**	**10 00 47.0**	**+0.8**
KBK	**Karagaybulak**	**7.53**	**30**	P	**Pn**	**10 00 51.1**	**+2.3**
	SNR=6.8						
CHMS	**Chumysh**	**7.74**	**28**	P	**Pn**	**10 00 53.3**	**+1.7**
	SNR=17						
CHMS	**Chumysh**	**7.74**	**28**	⇑P	**Pn**	**10 00 52.3**	**+0.7**
	comp=E,27nm,0.7s						
CHMS				⇓S	**Sn**	**10 02 15.1**	**-2.5**
	comp=E,20nm,0.6s						
BOOM	**Boomskoye usch**	**7.83**	**35**	Pn	**Pn**	**10 00 54.3**	**+1.4**
USP	**Ospenovka**	**7.88**	**26**	P	**Pn**	**10 00 54.5**	**+1.0**
	SNR=22						
SMLA	**Simla**	**7.97**	**128**	*e*P	**Pn**	**10 00 53.7**	**-1.0**
SMLA				*e*S	Sn	10 02 16.2	-7.0
SMLA				IAML		10 02 19.4	
	comp=N,35nm,0.1s						
SMLA				IAML		10 02 20.0	
	comp=E,42nm,0.4s						
TKM2	**Tokmak 2**	**8.02**	**32**	P	**Pn**	**10 00 55.6**	**+0.1**
	SNR=27						
TKM2	**Tokmak 2**	**8.02**	**32**	⇑P	**Pn**	**10 00 55.8**	**+0.3**
	comp=E,20nm,0.6s						
TKM2				⇓S	**Sn**	**10 02 21.0**	**-3.6**
	comp=E,16nm,0.9s						
KDJ	**Kajisay**	**8.19**	**42**	Pn	**Pn**	**10 00 56.9**	**-1.0**
TARG	**Taragay, Kyrgy**	**8.28**	**46**	Pn	**Pn**	**10 00 58.6**	**-0.7**
MDOK	**Medeo**	**8.87**	**37**	P	**Pn**	**10 01 07.5**	**+0.4**
	comp=E,14nm,0.8s						
MDOK				S	**Sn**	**10 02 49.3**	**+4.0**
	comp=E,14nm,1.1s						
GEYT	**Alibeck**	**9.50**	**284**	P	**Pn**	**10 01 16.4**	**+0.9**
	comp=E,0.9nm,0.3s,baz=169,slow=14,SNR=2.0						
GEYT				S	**Sn**	**10 02 59.0**	**-1.5**
	comp=E,1.2nm,0.3s,baz=194,slow=29,SNR=2.4						
GEYT	**Alibeck**	**9.50**	**284**		**Pn**	**10 01 15.8**	**+0.3**
KUDL	**Kundal**	**9.86**	**143**	*e*P	**Pn**	**10 01 17.9**	**-2.4**
KUDL				*e*S	Sn	10 02 58.8	-10
OTUK	**Ortayu**	**12.13**	**8**	⇓P	**Pn**	**10 01 49.5**	**-1.4**
	comp=E,2.3nm,0.6s						
OTUK				⇓S	**Sn**	**10 03 59.3**	**-4.9**
	comp=E,8.1nm,1.0s						
JHNI	**Jhansi**	**13.09**	**143**	*e*P	**Pn**	**10 02 01.1**	**-2.6**
JHNI				*e*S	Sn	10 04 12.2	-16
PYUN	**Piuthan**	**13.79**	**122**	*e*P	**Pn**	**10 02 16.4**	**+3.4**
	comp=E,3.4nm,0.3s						
MAKZ	**Makanchi**	**13.92**	**37**		**Pn**	**10 02 13.7**	**-0.7**
MK31	**Makanchi Array**	**14.06**	**38**	Pn	**Pn**	**10 02 15.6**	**-0.6**
MKAR	**Makanchi Array**	**14.06**	**38**	P	**Pn**	**10 02 15.0**	**-1.3**
	comp=E,0.2nm,0.3s,baz=233,slow=15,SNR=8.6						
MKAR				S	**Sn**	**10 04 50.4**	**-0.6**
	comp=E,0.1nm,0.3s,baz=234,slow=14,SNR=1.2						
MKAR	**Makanchi Array**	**14.06**	**38**	Pn	**Pn**	**10 02 15.8**	**-0.5**
DANN	**Dangsing**	**14.17**	**120**	*e*P	**Pn**	**10 02 21.2**	**+3.2**
	comp=E,6.2nm,0.3s						
BHPL	**Bhopal**	**14.54**	**151**	*e*P	**Pn**	**10 02 25.2**	**+2.6**
BHPL				*e*S	Sn	10 04 49.7	-13
AB31	**Akbulak array**	**14.87**	**334**	⇑P	**Pn**	**10 02 26.4**	**-0.1**
	comp=E,0.6nm,0.3s,baz=159,slow=13,SNR=60						
AB31				⇑S	**Sn**	**10 05 09.0**	**-1.4**
	comp=E,1.4nm,0.5s,baz=158,slow=23,SNR=7.2						
ABKAR	**Akbulak array**	**14.87**	**334**	Pn	**Pn**	**10 02 26.1**	**-0.4**
GKN	**Gorkha**	**14.99**	**119**	*e*P	**P**	**10 02 31.8**	**+0.3**
	comp=E,6.1nm,0.3s						
KKN	**Kakani**	**15.57**	**118**	*e*P	**P**	**10 02 39.9**	**+1.9**
	comp=E,27nm,0.5s						
KURBB	**Kurchatov Arra**	**15.68**	**21**	P	**Pn**	**10 02 37.1**	**+0.4**
	comp=E,0.3nm,0.3s,baz=210,slow=10,SNR=33						
PKIN	**Phulchoki**	**15.79**	**119**	*e*P	**P**	**10 02 42.7**	**+2.3**
	comp=E,23nm,0.5s						
KURK	**Kurchatov**	**15.79**	**21**		**Pn**	**10 02 37.6**	**-0.5**
KURK				IAmb	IAmb	10 02 41.2	
	comp=Z,6.8nm,1.1s						
PKI	**Pulchoki**	**15.80**	**119**	*e*P	**P**	**10 02 42.6**	**+2.0**
	comp=Z,34nm,0.6s						
WSAR	**Wadi Sarin**	**16.18**	**220**	LR	LR	10 10 33.9	
	comp=Z,24nm,21.4s,baz=311,slow=44						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**16.30**	**117**	*e*P	**P**	**10 02 49.1**	**+2.9**
	comp=Z,16nm,0.4s						
BRVK	**Borovoye**	**16.81**	**1**		**Pn**	**10 02 50.6**	**-0.1**
ZAA0	**Zalesovo Array**	**20.55**	**26**	P	**P**	**10 03 31.7**	**-0.3**
ZAA0				IAmb	IAmb	10 03 32.2	
	comp=Z,12nm,0.5s						
ZALV	**Zalesovo Beam**	**20.55**	**26**	P	**P**	**10 03 31.6**	**-0.4**
	comp=Z,12nm,0.4s,baz=219,slow=11,SNR=56						
ARU	**Arti**	**21.58**	**343**	P	**P**	**10 03 45.1**	**+2.2**
	comp=Z,1.0nm,0.4s,baz=126,slow=3.8,SNR=6.3						
RAYN	**Ar Rayn**	**24.53**	**246**	P	**P**	**10 04 12.0**	**+0.1**
RAYN				IAmb	IAmb	10 04 13.5	
	comp=Z,2.3nm,0.9s						
FINES	**FINESS Array B**	**37.17**	**327**	P	**P**	**10 06 03.7**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=118,slow=21,SNR=1.6						
FINES				LR	LR	10 24 09.1	
	comp=Z,140nm,20.0s,baz=192,slow=40						
ARCES	**ARCESS Array B**	**41.02**	**338**	P	**P**	**10 06 35.3**	**+0.7**
	comp=Z,3.5nm,0.9s,baz=98,slow=8.7,SNR=4.6						
NB2	**NORSAR Subarra**	**44.01**	**323**	P	**P**	**10 06 58.1**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**44.01**	**323**	P	**P**	**10 06 58.2**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=98,slow=8.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**64.76**	**268**	P	**P**	**10 09 27.0**	**-2.7**
	comp=Z,0.5nm,0.4s,baz=50,slow=5.9,SNR=7.4						
WRA	**Warramunga Arr**	**82.67**	**121**	P	P	10 11 09.9	-4.4
	comp=Z,0.8nm,1.1s,baz=324,slow=4.9,SNR=2.7						
ASAR	**Alice Springs**	**84.90**	**124**	P	P	10 11 22.1	-3.5
	comp=Z,0.1nm,0.3s,baz=306,slow=4.7,SNR=1.3						

*IDC **08** 09:59:29.6±1.9, 14°.01S×166°.53E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/38, mbtmp3.9/5, ML3.9/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/62, Error ellipse: s-maj=49.9km s-min=31.7km az=125.0*
*NOU **08** 09:59:33.9, 14°.36S×166°.69E, h4km, MLv4.4/8, Vanuatu Islands*
*NEIC **08** 09:59:34.4±2.0, 14°.2S±0°.1×166°.77E±0°.05, h35km±2km, mb4.4/12, Error ellipse: s-maj=19.2km s-min=7.9km az=357.0*
ISC 08 09:59:34.2±1.1, 14°.2S±0°.1×166°.8E±0°.1, h35km, n25, σ1°01/24, mb4.2/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.33**	**161**	Pn	**Pn**	**09 59 55.7**	**-0.6**
SANVU	**Saraoutou**	**1.33**	**161**	P	**Pn**	**09 59 56.0**	**-0.2**
KOUNC	**Koumac, New Ca**	**6.76**	**200**		**Pn**	**10 01 11.0**	**+0.2**
KOUNC	**Koumac, New Ca**	**6.76**	**200**	P	**Pn**	**10 01 11.8**	**+0.9**
MARNC	**Mare, Loyalty**	**7.36**	**171**	Pn	**Pn**	**10 01 19.1**	**0.0**
DZM	**Mont Dzumac**	**7.85**	**182**	Pn	**Pn**	**10 01 27.0**	**+1.0**
	1.7nm,0.3s,baz=10,slow=18,SNR=16						
DZM				Sn	**Sn**	**10 02 53.5**	**-0.2**
	baz=333,slow=23,SNR=1.6						
DZM				LR	LR	10 04 17.9	
	comp=Z,188nm,18.7s,baz=111,slow=36						
DZM	**Mont Dzumac**	**7.85**	**182**	P	**Pn**	**10 01 26.3**	**+0.3**
NOUC	**Port Laguerre**	**7.88**	**183**	P	**Pn**	**10 01 26.8**	**+0.4**
MSVF	**Nonsavu**	**11.42**	**109**	LR	LR	10 05 50.9	
	comp=Z,120nm,19.6s,baz=163,slow=33						
RAO	**Raoul Island**	**20.64**	**139**	LR	LR	10 09 59.4	
	comp=Z,79nm,18.9s,baz=118,slow=30						
NIUE	**Niue**	**22.86**	**105**	P	**P**	**10 04 34.9**	**+0.3**
STKA	**Stephens Creek**	**28.98**	**228**	P	**P**	**10 05 31.5**	**+0.9**
	1.3nm,0.7s,baz=32,slow=9.5,SNR=4.0						
WR0	**Warramunga Arr**	**31.29**	**255**	P	**P**	**10 05 50.2**	**-1.0**
WR0				IAmb	IAmb	10 05 52.1	
	comp=Z,6.5nm,1.4s						
WB0	**Warramunga Arr**	**31.41**	**255**	P	**P**	**10 05 51.2**	**-1.1**
WB0				IAmb	IAmb	10 06 09.9	
	comp=Z,6.9nm,1.4s						
WB2	**Warramunga Arr**	**31.47**	**255**	P	**P**	**10 05 51.1**	**-1.6**
WRAB	**Tennant Creek**	**31.47**	**255**	P	**P**	**10 05 51.3**	**-1.5**
WRAB				IAmb	IAmb	10 05 55.4	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**31.48**	**255**	P	**P**	**10 05 51.7**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=86,slow=9.3,SNR=9.1						
ASAR	**Alice Springs**	**32.41**	**248**	P	**P**	**10 06 00.1**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=74,slow=9.6,SNR=19						
ASAR	**Alice Springs**	**32.41**	**248**	P	**P**	**10 05 58.5**	**-2.5**
BBOO	**Buckleboo**	**33.53**	**231**	P	**P**	**10 06 11.6**	**+1.0**
BBOO				IAmb	IAmb	10 06 16.0	
	comp=Z,18nm,1.5s						
FORT	**Forrest**	**39.15**	**238**	P	**P**	**10 06 58.5**	**-0.2**
FORT				IAmb	IAmb	10 06 59.7	
	comp=Z,8.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.63**	**259**		**P**	**10 07 03.2**	**+0

S39A				IAmb_Lg			10 02 38.4		
	comp=Z,30nm,1.2s								
WHTX	**Lake Whitney,**	**3.69**	**184**	Sb	**Sb**		**10 02 24.8**	**+3.0**	
	baz=3.7								
CBKS	**Cedar Bluff**	**3.74**	**327**	IAmb_Lg			10 02 31.8		
	comp=Z,14nm,0.8s								
X40A	**Basin Creek Fa**	**3.74**	**107**	Pn	**Pn**		**10 01 30.6**	**+1.2**	
WLAR	**White Oak Lake**	**3.88**	**120**	Pn	**Pn**		**10 01 30.3**	**-1.0**	
WHAR	**Wooly Hollow**	**3.99**	**94**	Pn	**Pn**		**10 01 33.6**	**+0.8**	
WHAR				IAmb_Lg			10 02 39.4		
	comp=Z,33nm,1.2s								
W41B	**Gary Mavity, V**	**4.04**	**96**		**Pn**		**10 01 34.3**	**+0.8**	
W41B				IAmb_Lg			10 02 40.5		
	comp=Z,23nm,0.8s								
UALR	**University of**	**4.04**	**102**	Pn	**Pn**		**10 01 34.2**	**+0.7**	
UALR				IAmb_Lg			10 02 46.4		
	comp=Z,32nm,0.9s								
FCAR	**Ozark Folk Cen**	**4.10**	**86**	IAmb_Lg			10 02 45.7		
	comp=Z,32nm,0.9s								
MGMO	**Mountain Grove**	**4.21**	**68**	IAmb_Lg			10 02 44.7		
	comp=Z,30nm,0.8s								
R40A	**Maddies Statio**	**4.70**	**55**	IAmb_Lg			10 03 09.1		
	comp=Z,20nm,0.8s								
P38A	**Dawn**	**4.87**	**35**	IAmb_Lg			10 03 16.8		
	comp=Z,16nm,0.7s								
435B	**Jarrell**	**4.90**	**184**	IAmb_Lg			10 03 20.6		
	comp=Z,20nm,0.8s								
MSTX	**Muleshoe**	**4.92**	**251**	IAmb_Lg			10 03 09.5		
	comp=Z,10nm,0.8s								
CCM	**Cathedral Cave**	**5.30**	**62**	IAmb_Lg			10 03 22.6		
	comp=Z,16nm,0.7s								
KSCO	**Kaye Shedlock'**	**5.48**	**309**	IAmb_Lg			10 03 39.8		
	comp=Z,10nm,0.7s								
PBMO	**Poplar Bluff**	**5.55**	**77**	IAmb_Lg			10 03 30.6		
	comp=Z,27nm,0.8s								
P40A	**Paris**	**5.58**	**45**	IAmb_Lg			10 03 39.9		
	comp=Z,13nm,1.0s								
JCT	**Junction City**	**5.65**	**204**	IAmb_Lg			10 03 34.1		
	comp=Z,14nm,0.8s								
BGNE	**Belgrade**	**5.77**	**353**	IAmb_Lg			10 03 44.5		
	comp=Z,26nm,0.7s								
FVM	**French Village**	**5.87**	**65**	IAmb_Lg			10 03 49.5		
	comp=Z,14nm,0.8s								
N38A	**Joes South For**	**5.96**	**30**	IAmb_Lg			10 03 55.2		
	comp=Z,19nm,0.7s								
T25A	**Trinidad**	**6.03**	**286**	IAmb_Lg			10 03 48.0		
	comp=Z,11nm,0.8s								
W45A	**Hickory Valley**	**6.53**	**92**	IAmb_Lg			10 04 01.1		
	comp=Z,23nm,0.7s								
N41A	**Harden Midland**	**7.05**	**43**	IAmb_Lg			10 04 14.6		
	comp=Z,23nm,0.8s								
Q24A	**Divide**	**7.16**	**300**	IAmb_Lg			10 04 25.6		
	comp=Z,7.3nm,0.8s								
Q44A	**Meyer Farm, Va**	**7.24**	**61**	IAmb_Lg			10 04 34.5		
	comp=Z,15nm,0.8s								
OLIL	**Olney**	**7.84**	**64**	IAmb_Lg			10 04 53.5		
	comp=Z,18nm,0.8s								
ECSD	**EROS Data Cent**	**8.05**	**3**	IAmb_Lg			10 04 55.6		
	comp=Z,6.6nm,1.0s								

*NEIC **08** 10:06:20.3±1.5,58.˚76N±0.˚04×154.˚7W±0.˚1,h137km±6km, Error ellipse: s-maj=8.1km s-min=5.7km az=116.0*
*ANF **08** 10:06:21.3±0.3,58.˚79N×154.˚48W,h118km±4km,ML3.7/32, Error ellipse: s-maj=3.1km s-min=2.7km az=108.0*
*AEIC **08** 10:06:21±1.6,58.˚76N±0.˚04×154.˚6W±0.˚1,h127km±5km, ML3.3,mb3.8/2(NEIC),ML3.5/78(NEIC),Error ellipse: s-maj=8.3km s-min=6.1km az=101.0*
*IDC **08** 10:06:21.8±4.8,58.˚90N×154.˚38W,h112km±18km,mb3.3/2, mb1 3.5/5,mb1mx3.1/59,mbtmp3.7/5,Error ellipse: s-maj=75.3km s-min=22.9km az=76.0*

ISC 08 10:06:20.5±0.8,58.˚78N±0.˚03×154.˚57W±0.˚04, h133km±6km,n238,σ1%07/256,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
Q19K	**Cape Douglas,**	**0.50**	**73**			**Pn**	**10 06 40.1**	**+0.2**
Q19K	**Cape Douglas,**	**0.50**	**73**			**Sn**	**10 06 54.5**	**-0.1**
Q19K	**Cape Douglas,**	**0.50**	**73**	IAML			10 06 42.3	
	comp=E,192nm,0.5s							
Q19K				IAML			10 06 43.2	
	comp=N,204nm,0.6s							
Q19K	**Cape Douglas,**	**0.50**	**73**	P		**Pn**	**10 06 39.8**	**-0.1**
	baz=251,SNR=45							
Q19K				S		**Sn**	**10 06 53.7**	**-0.9**
	baz=251							
KCG	**Knife Ck. Glac**	**0.56**	**211**			**Pn**	**10 06 42.3**	**+2.1**
KABU	**Katmai Buttres**	**0.64**	**216**			**Pn**	**10 06 40.9**	**+0.1**
P18K	**Big Mountain,**	**0.70**	**331**			**Pn**	**10 06 40.7**	**-0.5**
P18K						**Sn**	**10 06 55.1**	**-1.8**
P18K	**Big Mountain,**	**0.70**	**331**	P		**Pn**	**10 06 40.7**	**-0.5**
	baz=152							
P18K				S		**Sn**	**10 06 55.1**	**-1.8**
	baz=152							
AUQ	**Augustine Qik'**	**0.83**	**46**			**Pn**	**10 06 42.8**	**+0.7**
AUL	**Augustine Lava**	**0.84**	**44**			**Pn**	**10 06 42.9**	**+0.7**
AU22	**Augustine Moun**	**0.86**	**46**			**Pn**	**10 06 43.1**	**+0.8**
P19K	**Oil Pt**	**1.11**	**38**			**Pn**	**10 06 45.5**	**+0.9**
P19K				IAML			10 07 04.6	
	comp=N,485nm,0.6s							
P19K	**Oil Pt**	**1.11**	**38**			**Sn**	**10 07 03.9**	**+0.8**
P19K	**Oil Pt**	**1.11**	**38**	IAML			10 06 47.9	
	comp=E,480nm,0.4s							
O19K	**Port Alsworth**	**1.42**	**5**			**Pn**	**10 06 47.9**	**0.0**
O19K						**Sn**	**10 07 08.0**	**-0.7**
O19K	**Port Alsworth**	**1.42**	**5**	IAML			10 07 09.3	
	comp=N,335nm,0.4s							
O19K	**Port Alsworth**	**1.42**	**5**	P		**Pn**	**10 06 47.8**	**0.0**
	baz=186,SNR=31							
O19K				S		**Sn**	**10 07 07.9**	**-0.7**
	baz=186							
PLK5	**Peulik 5**	**1.45**	**238**			**Pn**	**10 06 48.8**	**+0.7**
KDAK	**Kodiak Island**	**1.45**	**133**	P		**Pn**	**10 06 48.2**	**0.0**
	comp=N,15nm,0.3s,baz=360,slow=9.4,SNR=352							
KDAK				S		**Sn**	**10 07 08.3**	**-0.9**
	comp=N,107nm,0.3s,baz=0.0,slow=20,SNR=18							
KDAK	**Kodiak Island**	**1.45**	**133**			**Pn**	**10 06 48.2**	**0.0**
KDAK				IAML			10 07 09.9	
	comp=N,579nm,0.3s							
KDAK				IAML			10 07 10.7	
	comp=N,666nm,0.4s							
KDAK	**Kodiak Island**	**1.45**	**133**	P		**Pn**	**10 06 48.1**	**0.0**
	baz=314							
KDAK				S		**Sn**	**10 07 08.2**	**-1.1**
	baz=314							
IVE	**Iliamna Volcan**	**1.47**	**32**			**Pn**	**10 06 49.2**	**+0.7**
O20K	**Slope Mountain**	**1.64**	**36**			**Pn**	**10 06 51.1**	**+0.7**
O20K						**Sn**	**10 07 13.7**	**+0.5**
OHAK	**Old Harbor**	**1.71**	**156**			**Pn**	**10 06 50.8**	**-0.2**
OHAK	**Old Harbor**	**1.71**	**156**	IAML			10 07 14.3	
	comp=N,369nm,0.4s							
OHAK				IAML			10 07 14.8	
	comp=E,280nm,0.3s							
OHAK	**Old Harbor**	**1.71**	**156**	P		**Pn**	**10 06 50.8**	**-0.2**
	baz=336,SNR=6.8							
OHAK				S		**Sn**	**10 07 13.0**	**-1.3**
	baz=336							
HOM	**Homer**	**1.74**	**58**			**Pn**	**10 06 52.5**	**+1.1**
HOM						**Sn**	**10 07 15.9**	**+0.8**
HOM	**Homer**	**1.74**	**58**	IAML			10 07 16.4	
	comp=N,718nm,0.6s							
HOM				IAML			10 07 16.6	
	comp=E,553nm,0.6s							
HOM	**Homer**	**1.74**	**58**	P		**Pn**	**10 06 52.1**	**+0.7**
	baz=240							
HOM				S		**Sn**	**10 07 15.5**	**+0.4**
	baz=240							
CNPM	**China Poot**	**1.87**	**65**			**Pn**	**10 06 53.6**	**+0.6**
CNPM	**China Poot**	**1.87**	**65**	IAML			10 07 19.2	
	comp=N,341nm,0.4s							
CNPM				IAML			10 07 20.3	
	comp=E,286nm,0.4s							
RED	**Redoubt Volcan**	**1.88**	**28**			**Pn**	**10 06 53.9**	**+0.7**
RSO	**Redoubt South**	**1.92**	**28**			**Pn**	**10 06 54.6**	**+0.9**
RDWB	**Redoubt West**	**1.92**	**26**			**Pn**	**10 06 54.4**	**+0.6**
RDWB						**Sn**	**10 07 19.0**	**-0.3**
NCT	**North Crescent**	**1.97**	**24**			**Pn**	**10 06 54.9**	**+0.7**
N18K	**Kilae Creek**	**2.02**	**341**			**Pn**	**10 06 55.2**	**+0.4**
N18K	**Kilae Creek**	**2.02**	**341**	P		**Pn**	**10 06 55.2**	**+0.4**
	baz=161,SNR=8.4							
N18K				S		**Sn**	**10 07 19.9**	**-1.1**
	baz=161							
RDJH	**Redoubt Jeurge**	**2.02**	**25**			**Pn**	**10 06 55.6**	**+0.7**
RDJH						**Sn**	**10 07 21.2**	**-0.2**
N19K	**Bonanza Creek**	**2.04**	**1**			**Pn**	**10 06 55.7**	**+0.7**
	baz=182,SNR=33							
N19K				S		**Sn**	**10 07 20.9**	**-0.7**
	baz=182							
DFR	**Drift River**	**2.05**	**27**			**Pn**	**10 06 55.8**	**+0.6**
BRLK	**Bradley Lake**	**2.13**	**61**			**Pn**	**10 06 56.2**	**0.0**
BRLK	**Bradley Lake**	**2.13**	**61**			**Sn**	**10 07 22.6**	**-1.0**
BRLK				IAML			10 07 24.8	
	comp=E,220nm,0.1s							
BRLK				IAML			10 07 25.1	
	comp=N,302nm,0.1s							
BRSE	**Bradley Lake S**	**2.19**	**62**			**Pn**	**10 06 57.0**	**+0.1**
BRSE	**Bradley Lake S**	**2.19**	**62**	P		**Pn**	**10 06 56.9**	**+0.1**
	baz=245							
BRSE				S		**Sn**	**10 07 24.0**	**-0.7**
	baz=245							
SII	**Sitkinak Islan**	**2.24**	**175**			**Pn**	**10 06 57.5**	**-0.1**
SII	**Sitkinak Islan**	**2.24**	**175**	IAML			10 07 25.5	
	comp=E,559nm,0.3s							
SII				IAML			10 07 25.8	
	comp=N,335nm,0.2s							
SII	**Sitkinak Islan**	**2.24**	**175**	P		**Pn**	**10 06 57.4**	**-0.1**
	baz=354,SNR=10							
SII				S		**Sn**	**10 07 24.7**	**-1.3**
	baz=354							
SVW2	**Sparrevohn**	**2.38**	**348**			**Pn**	**10 06 59.6**	**+0.4**
CAPN	**Captain Cook N**	**2.64**	**39**	Pn		**Pn**	**10 07 03.8**	**+1.4**
CAPN				IAML			10 07 39.6	
	comp=E,356nm,0.9s							
CAPN				IAML			10 07 49.2	
	comp=N,338nm,0.7s							
CAPN	**Captain Cook N**	**2.64**	**39**	S		**Sn**	**10 07 35.7**	**+1.1**
	baz=222							
SPCR	**Spurr Chakacha**	**2.70**	**25**			**Pn**	**10 07 04.3**	**+1.0**
SPCR	**Spurr Chakacha**	**2.70**	**25**	S		**Sn**	**10 07 36.5**	**+0.1**
	baz=207							
SPBG	**Spurr Blockage**	**2.72**	**23**			**Pn**	**10 07 04.8**	**+1.2**
SLKM	**Skilak Lake**	**2.80**	**50**			**Pn**	**10 07 05.5**	**+0.9**
SLKM						**Sn**	**10 07 37.5**	**-1.1**
SPCG	**Spurr Capps Gl**	**2.82**	**26**			**Pn**	**10 07 05.5**	**+0.6**
SEW	**Seward**	**2.93**	**61**			**Pn**	**10 07 06.4**	**+0.2**
SEW	**Seward**	**2.93**	**61**	P		**Pn**	**10 07 06.3**	**+0.2**
	baz=245							
SEW				S		**Sn**	**10 07 39.5**	**-1.9**
	baz=245							
O22K	**Cooper Landing**	**2.99**	**53**			**Pn**	**10 07 07.9**	**+1.0**
O22K	**Cooper Landing**	**2.99**	**53**	P		**Pn**	**10 07 07.5**	**+0.5**
	baz=237							
O22K				S		**Sn**	**10 07 42.1**	**-0.7**
	baz=237							
CHIR	**Chirikof Islan**	**3.02**	**191**			**Pn**	**10 07 06.9**	**-0.5**
CHIR						**Sn**	**10 07 41.2**	**-2.5**
CHIR	**Chirikof Islan**	**3.02**	**191**	IAML			10 07 42.9	
	comp=N,330nm,0.5s							
CHIR				IAML			10 07 42.9	
	comp=E,173nm,0.6s							
CHIR	**Chirikof Islan**	**3.02**	**191**	P		**Pn**	**10 07 06.9**	**-0.5**
	baz=10							
CHIR				S		**Sn**	**10 07 40.9**	**-2.7**
	baz=10							
STLK	**Strandline Lak**	**3.05**	**25**			**Pn**	**10 07 09.2**	**+1.4**
M19K	**Big River Lodg**	**3.13**	**2**			**Pn**	**10 07 09.6**	**+0.8**
M19K	**Big River Lodg**	**3.13**	**2**	P		**Pn**	**10 07 09.6**	**+0.8**
	baz=182							
M19K				S		**Sn**	**10 07 45.9**	**-0.3**
	baz=182							
FIS	**Fire Island**	**3.22**	**41**			**Pn**	**10 07 11.4**	**+1.4**
FIS				IAML			10 07 59.4	
	comp=N,175nm,1.3s							
FIS				IAML			10 08 01.8	
	comp=E,207nm,1.1s							
RC01	**Rabbit Creek A**	**3.36**	**44**			**Pn**	**10 07 12.0**	**+0.3**
RC01	**Rabbit Creek A**	**3.36**	**44**	IAML			10 07 51.9	
	comp=N,178nm,0.2s							
RC01				IAML			10 07 52.5	
	comp=E,180nm,0.3s							
RC01	**Rabbit Creek A**	**3.36**	**44**	P		**Pn**	**10 07 12.0**	**+0.3**
	baz=228							
RC01				S		**Sn**	**10 07 50.0**	**-1.4**
	baz=228							
L19K	**White Mountain**	**3.41**	**358**			**Pn**	**10 07 13.3**	**+0.8**
L19K	**White Mountain**	**3.41**	**358**	P		**Pn**	**10 07 13.3**	**+0.8**
	baz=178,SNR=21							
L19K				S		**Sn**	**10 07 53.0**	**+0.2**
	baz=178							
M22K	**Willow**	**3.71**	**35**			**Pn**	**10 07 16.8**	**+0.5**
M22K	**Willow**	**3.71**	**35**	P		**Pn**	**10 07 16.9**	**+0.5**
	baz=218							
M22K				S		**Sn**	**10 07 58.1**	**-1.5**
	baz=218							
L20K	**Farewell, AK**	**3.72**	**5**			**Pn**	**10 07 17.3**	**+0.7**
L20K	**Farewell, AK**	**3.72**	**5**	P		**Pn**	**10 07 17.2**	**+0.7**
	baz=186							
PWL	**Port Wells**	**3.77**	**54**			**Pn**	**10 07 17.2**	**0.0**
PWL	**Port Wells**	**3.77**	**54**	P		**Pn**	**10 07 17.2**	**0.0**
	baz=239,SNR=6.3							
PWL				S		**Sn**	**10 07 58.6**	**-2.6**
	baz=239							
PMR	**Palmer**	**3.91**	**42**			**Pn**	**10 07 18.4**	**-0.6**
PMR	**Palmer**	**3.91**	**42**	P		**Pn**	**10 07 18.5**	**-0.5**
	baz=226							
PMR				S		**Sn**	**10 08 00.9**	**-3.5**
	baz=226							
KNK	**Knik Glacier**	**4.04**	**47**			**Pn**	**10 07 20.6**	**-0.1**
KNK	**Knik Glacier**	**4.04**	**47**	IAML			10 08 06.1	
	comp=N,139nm,0.4s							
KNK				IAML			10 08 07.0	
	comp=E,142nm,0.7s							
KNK	**Knik Glacier**	**4.04**	**47**	P		**Pn**	**10 07 20.5**	**-0.2**
	baz=232							
KNK				S		**Sn**	**10 08 04.3**	**-3.1**
	baz=232							
GHO	**Glory Hole Cre**	**4.11**	**41**			**Pn**	**10 07 21.0**	**-0.7**
GHO	**Glory Hole Cre**	**4.11**	**41**	IAML			10 08 08.4	
	comp=E,122nm,0.7s							
GHO				IAML			10 08 09.2	
	comp=N,101nm,0.3s							
CUT	**Chulitna**	**4.21**	**28**			**Pn**	**10 07 23.1**	**+0.2**
CUT				IAML			10 08 15.2	
	comp=N,125nm,0.4s							
CUT	**Chulitna**	**4.21**	**28**	P		**Pn**	**10 07 22.4**	**-0.5**
	baz=212							
CUT				S		**Sn**	**10 08 09.5**	**-1.9**
	baz=212							
TTA	**Tatalina**	**4.22**	**351**			**Pn**	**10 07 23.8**	**+0.7**
TTA	**Tatalina**	**4.22**	**351**	P		**Pn**	**10 07 23.6**	**+0.4**
	baz=170,SNR=8.3							
Q23K	**Middleton Isla**	**4.29**	**78**			**Pn**	**10 07 25.1**	**+1.2**
Q23K	**Middleton Isla**	**4.29**	**78**	P		**Pn**	**10 07 24.6**	**+0.7**
	baz=265							
PPLA	**Purkeypile**	**4.29**	**15**			**Pn**	**10 07 25.1**	**+1.0**
PPLA	**Purkeypile**	**4.29**	**15**	P		**Pn**	**10 07 25.4**	**+1.3**
	baz=197							
MID	**Middleton Isla**	**4.29**	**78**			**Pn**	**10 07 24.5**	**+0.5**
GLI	**Glacier Island**	**4.32**	**58**			**Pn**	**10 07 24.2**	**-0.2**
GLI				IAML			10 08 13.4	
	comp=N,100nm,0.6s							
GLI	**Glacier Island**	**4.32**	**58**	P		**Pn**	**10 07 24.0**	**-0.4**
	baz=244							
GLI				S		**Sn**	**10 08 10.4**	**-3.6**
	baz=244							
SML	**Sawmill**	**4.34**	**43**			**Pn**	**10 07 24.2**	**-0.5**
SML				IAML			10 08 12.7	
	comp=E,53nm,0.9s							
SML				IAML			10 08 15.3	
	comp=N,53nm,1.1s							
SML	**Sawmill**	**4.34**	**43**	P		**Pn**	**10 07 24.0**	**-0.7**
	baz=228							
FID	**Port Fidalgo**	**4.54**	**61**			**Pn**	**10 07 26.6**	**-0.8**
K20K	**Telida**	**4.60**	**3**			**Pn**	**10 07 28.5**	**+0.4**
K20K	**Telida**	**4.60**	**3**	IAML			10 08 54.2	
	comp=E,14nm,4.0s							
K20K				IAML			10 10 14.8	
	comp=N,13nm,4.4s							
K20K	**Telida**	**4.60**	**3**	P		**Pn**	**10 07 28.2**	**+0.1**
	baz=183,SNR=5.5							
JPK	**Jack Peak**	**4.61**	**57**			**Pn**	**10 07 29.0**	**+0.6**
SCM	**Sheep Creek Mo**	**4.72**	**47**			**Pn**	**10 07 29.7**	**-0.2**
SCM	**Sheep Creek Mo**	**4.72**	**47**	IAML			10 08 26.0	
	comp=E,78nm,0.3s							
SCM				IAML			10 08 28.1	
	comp=N,82nm,0.5s							
SCM	**Sheep Creek Mo**	**4.72**	**47**	P		**Pn**	**10 07 29.8**	**0.0**
	baz=233							
CAST	**Castle Rocks**	**4.80**	**13**	Pn		**Pn**	**10 07 31.9**	**+1.0**
CAST				IAML			10 08 15.9	
	comp=N,12nm,4.1s							
CAST				IAML			10 09 46.6	
	comp=E,13nm,4.8s							
CAST	**Castle Rocks**	**4.80**	**13**	P		**Pn**	**10 07 31.6**	**+0.7**
	baz=196,SNR=14							
EYAK	**Cordova Ski Ar**	**4.81**	**65**			**Pn**	**10 07 31.1**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.81**	**65**	P		**Pn**	**10 07 31.2**	**+0.3**
	baz=252							
DIV	**Divide**	**5.01**	**58**			**Pn**	**10 07 34.6**	**+0.9**
WAT1	**Susitna Watana**	**5.01**	**33**			**Pn**	**10 07 33.2**	**-0.5**
WAT1	**Susitna Watana**	**5.01**	**33**	P		**Pn**	**10 07 33.2**	**-0.5**
	baz=219							
WAT6	**Susitna Watana**	**5.08**	**38**			**Pn**	**10 07 34.0**	**-0.5**
WAT6	**Susitna Watana**	**5.08**	**38**	P		**Pn**	**10 07 34.1**	**-0.5**
	baz=224							
KTH	**Kantishna Hill**	**5.10**	**19**			**Pn**	**10 07 35.1**	**+0.2**
KTH	**Kantishna Hill**	**5.10**	**19**	IAML			10 08 33.8	
	comp=E,20nm,0.5s							
KTH				IAML			10 08 34.2	
	comp=N,26nm,0.4s							
KLU	**Klutina**	**5.10**	**54**			**Pn**	**10 07 35.0**	**0.0**
KLU	**Klutina**	**5.10**	**54**	P		**Pn**	**10 07 34.8**	**-0.1**
	baz=242,SNR=9.6							
TRF	**Thorofare Moun**	**5.12**	**22**			**Pn**	**10 07 35.6**	**+0.3**
TRF	**Thorofare Moun**	**5.12**	**22**	IAML			10 08 33.4	
	comp=E,44nm,0.4s							
TRF	**Thorofare Moun**	**5.12**	**22**	P		**Pn**	**10 07 35.5**	**+0.3**
	baz=206							
CHUM	**Lake Minchumin**	**5.23**	**11**			**Pn**	**10 07 37.6**	**+1.1**
CHUM	**Lake Minchumin**	**5.23**	**11**	P		**Pn**	**10 07 37.5**	**+1.0**
	baz=193							
GOAT	**Goat Mountain**	**5.30**	**66**			**Pn**	**10 07 38.0**	**+0.5**
M24K	**Tolsona, Glenn**	**5.33**	**48**			**Pn**	**10 07 38.2**	**+0.3**
M24K	**Tolsona, Glenn**	**5.33**	**48**	P		**Pn**	**10 07 38.1**	**+0.3**
	baz=235							
RND	**Reindeer**	**5.40**	**28**			**Pn**	**10 07 38.5**	**-0.4**
J20K	**Nowinta River**	**5.42**	**2**			**Pn**	**10 07 40.0**	**+0.9**
J20K	**Nowinta River**	**5.42**	**2**	P		**Pn**	**10 07 39.5**	**+0.5**
	baz=182							
HMT	**Hamilton**	**5.47**	**69**	Pn		**Pn**	**10 07 41.0**	**+1.2**
BMRM	**Bremner River**	**5.47**	**62**			**Pn**	**10 07 40.3**	**+0.4**
BMRM	**Bremner River**	**5.47**	**62**	P		**Pn**	**10 07 40.2**	**+0.4**
	baz=251							
DHY	**Denali Highway**	**5.55**	**36**			**Pn**	**10 07 40.5**	**-0.5**
DHY	**Denali Highway**	**5.55**	**36**	P		**Pn**	**10 07 40.3**	**-0.7**
	baz=222							
PS11	**TAPS Pump St11**	**5.58**	**50**			**Pn**	**10 07 41.7**	**+0.4**
BPAW	**Bear Paw Mtn.**	**5.60**	**16**			**Pn**	**10 07 41.8**	**+0.2**
BPAW	**Bear Paw Mtn.**	**5.60**	**16**	P		**Pn**	**10 07 41.4**	**-0.2**
	baz=200							
MCK	**McKinley**	**5.66**	**26**			**Pn**	**10 07 42.2**	**0.0**
MCK	**McKinley**	**5.66**	**26**	P		**Pn**	**10 07 42.0**	**-0.2**
	baz=211							
N25K	**Chitina, Valde**	**5.72**	**56**			**Pn**	**10 07 43.7**	**+0.6**
N25K	**Chitina, Valde**	**5.72**	**56**	P		**Pn**	**10 07 43.8**	**+0.6**
	baz=245,SNR=5.9							
HARP	**HAARP**	**5.88**	**48**			**Pn**	**10 07 45.7**	**+0.4**
HARP	**HAARP**	**5.88**	**48**	P		**Pn**	**10 07 45.3**	**0.0**
	baz=236							
BWN	**Browne**	**5.93**	**22**			**Pn**	**10 07 46.1**	**+0.2**
KHIT	**Khitrov Hills**	**5.98**	**69**			**Pn**	**10 07 47.4**	**+0.6**
GLB	**Gilahina Butte**	**6.00**	**59**			**Pn**	**10 07 47.5**	**+0.6**
GCSA	**Galena City Sc**	**6.08**	**351**	P		**Pn**	**10 07 48.0**	**+0.1**
	baz=169,SNR=8.1							
VRDI	**Verde Repeater**	**6.09**	**62**			**Pn**	**10 07 48.8**	**+0.6**
PAX	**Paxson**	**6.11**	**43**			**Pn**	**10 07 48.7**	**+0.3**
PAX	**Paxson**	**6.11**	**43**	P		**Pn**	**10 07 48.3**	**-0.2**
	baz=231							
SNH	**Sunshine Point**	**6.14**	**72**	Pn		**Pn**	**10 07 50.4**	**+1.7**
WAX	**Waxell Ridge**	**6.18**	**69**	Pn		**Pn**	**10 07 50.4**	**+1.1**
PS10	**TAPS Pump St10**	**6.31**	**39**			**Pn**	**10 07 51.6**	**+0.5**
NEA2	**Nenana**	**6.39**	**22**			**Pn**	**10 07 51.1**	**-0.9**
NEA2	**Nenana**	**6.39**	**22**	P		**Pn**	**10 07 50.9**	**-1.1**
	baz=207,SNR=12							
ISLE	**Juniper Island**	**6.45**	**68**	Pn		**Pn**	**10 07 54.0**	**+0.9**
WRH	**Wood River Hil**	**6.49**	**26**			**Pn**	**10 07 52.1**	**-1.2**
KIAG	**Kiagna River**	**6.51**	**66**			**Pn**	**10 07 54.5**	**+0.5**
I21K	**Tanana**	**6.53**	**10**			**Pn**	**10 07 54.6**	**+0.6**
I21K	**Tanana**	**6.53**	**10**	P		**Pn**	**10 07 54.1**	**+0.1**
	baz=192,SNR=12							
BALM	**Baldy**	**6.55**	**65**			**Pn**	**10 07 55.1**	**+0.8**
BAGL	**Bagley Icefiel**	**6.55**	**70**			**Pn**	**10 07 56.0**	**+1.7**
CCB	**Clear Creek Bu**	**6.70**	**26**			**Pn**	**10 07 54.9**	**-1.3**
YAH	**Yahtse**	**6.70**	**71**			**Pn**	**10 07 58.1**	**+1.6**
HDA	**Harding Lake**	**6.71**	**30**			**Pn**	**10 07 55.7**	**-0.7**
HDA	**Harding Lake**	**6.71**	**30**	P		**Pn**	**10 07 55.4**	**-0.9**
	baz=216							
MENT	**Mentasta**	**6.74**	**47**	Pn		**Pn**	**10 07 57.3**	**+0.5**
GRNC	**Granite Creek**	**6.76**	**68**	Pn		**Pn**	**10 07 58.7**	**+1.4**
RIDG	**Independent Ri**	**6.83**	**39**			**Pn**	**10 07 58.6**	**+0.6**
RIDG	**Independent Ri**	**6.83**	**39**	P		**Pn**	**10 07 58.3**	**+0.

M31M	**Drury Creek, Y**	**10.51**	**62**	Pn	**Pn**	**10 08 49.4**	**+2.0**
JIS	**Juneau Island**	**10.56**	**84**	Pn	**Pn**	**10 08 50.7**	**+2.7**
EPYK	**Eagle Plains**	**11.16**	**40**	Pn	**Pn**	**10 08 57.3**	**+1.3**
CRAG	**Craig**	**12.10**	**97**	Pn	**Pn**	**10 09 09.8**	**+1.5**
WRAK	**Wrangell Islan**	**12.14**	**92**	Pn	**Pn**	**10 09 09.5**	**+0.7**
DLBC	**Dease Lake**	**12.78**	**81**	P	**P**	**10 09 21.5**	**-1.5**
	comp=E,1.8nm,0.3s,baz=265,slow=6.4,SNR=36						
DLBC				S	**Sn**	**10 11 37.4**	**-0.6**
	comp=E,0.1nm,0.3s,baz=169,slow=16,SNR=1.8						
DLBC	**Dease Lake**	**12.78**	**81**		**P**	**10 09 21.6**	**-1.4**
INK	**Inuvik**	**13.30**	**35**	P	**Pn**	**10 09 24.4**	**+0.8**
	comp=E,0.3nm,0.3s,baz=207,slow=12,SNR=11						
C36M	**Paulatuk**	**16.80**	**39**	P	**P**	**10 10 07.2**	**-0.1**
C36M				IAmb	IAmb	10 10 08.2	
	comp=Z,3.0nm,0.5s						
C36M	**Paulatuk**	**16.80**	**39**	P	**P**	**10 10 06.4**	**-0.8**
	baz=246,SNR=5.4						
A36M	**Sachs Harbour**	**17.72**	**30**	P	**P**	**10 10 17.2**	**-0.1**
A36M				IAmb	IAmb	10 10 21.2	
	comp=Z,3.7nm,0.7s						
YKA	**Yellowknife Ar**	**19.71**	**62**	P	**Pn**	**10 10 40.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=277,slow=10.0,SNR=40						
YKA	**Yellowknife Ar**	**19.71**	**62**	P	**P**	**10 10 39.8**	**+0.7**
PDAR	**Pinedale Array**	**31.93**	**100**	P	**P**	**10 12 36.8**	**+3.4**
	comp=Z,0.2nm,0.6s,baz=304,slow=4.9,SNR=1.9						
SCHQ	**Schefferville**	**44.91**	**55**	P	**P**	**10 14 22.6**	**+1.2**
	comp=Z,2.5nm,0.8s,baz=300,slow=6.6,SNR=6.3						

*IDC **08** 10:08:12.3±1.9, 14°02'S×166°51'E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/36, mbtmp3.8/4, ML3.8/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/60, Error ellipse: s-maj=50.7km s-min=32.9km az=128.0*

*NEIC **08** 10:08:16.2±2.6, 14°2S±0°.1×166°.8E±0°.1, h27km±9km, mb4.4/7, Error ellipse: s-maj=15.8km s-min=14.4km az=188.0*

ISC 08 10:08:17.0±1.3, 14°2S±0°.1×166°.8E±0°.2, h35km, n18, σ1§10/15, mb4.1/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.31**	**162**	Pn	**Pn**	**10 08 38.4**	**-0.3**
KOUNC	**Koumac, New Ca**	**6.75**	**200**	Pn	**Pn**	**10 09 54.8**	**+1.2**
MARNC	**Mare, Loyalty**	**7.34**	**171**	Pn	**Pn**	**10 10 03.0**	**+1.3**
DZM	**Mont Dzumac**	**7.83**	**182**	Pn	**Pn**	**10 10 09.8**	**+1.2**
	1.4nm,0.3s,baz=12,slow=19,SNR=11						
DZM				Sn	**Sn**	**10 11 35.3**	**-0.8**
	0.3nm,0.3s,baz=90,slow=15,SNR=1.6						
OUENC	**Ouen Island, N**	**8.17**	**180**	Pn	**Pn**	**10 10 12.8**	**-0.3**
HNR	**Honiara**	**8.19**	**305**	LR	LR	10 13 43.6	
	comp=Z,94nm,18.1s,baz=146,slow=42						
STKA	**Stephens Creek**	**28.98**	**228**	LR	LR	10 25 21.3	
	comp=Z,94nm,19.7s,baz=42,slow=36						
WB0	**Warramunga Arr**	**31.43**	**255**	P	**P**	**10 14 34.2**	**-1.1**
WB0				IAmb	IAmb	10 14 34.7	
	comp=Z,2.8nm,0.7s						
WB2	**Warramunga Arr**	**31.48**	**255**	P	**P**	**10 14 34.7**	**-1.0**
WB2				IAmb	IAmb	10 14 58.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**31.49**	**255**	P	**P**	**10 14 34.4**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=87,slow=9.1,SNR=9.7						
WRA	**Warramunga Arr**	**31.49**	**255**	IAmb	IAmb	10 14 41.1	
	comp=Z,0.2nm,1.3s						
AS31	**Alice Springs**	**32.42**	**248**	P	**P**	**10 14 42.7**	**-1.3**
AS31				IAmb	IAmb	10 15 04.1	
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**32.42**	**248**	P	**P**	**10 14 42.6**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=73,slow=9.4,SNR=20						
BBOO	**Buckleboo**	**33.53**	**231**	P	**P**	**10 14 54.4**	**+0.9**
BBOO				IAmb	IAmb	10 15 12.3	
	comp=Z,14nm,1.4s						
KNRA	**Kununurra**	**36.73**	**263**	P	**P**	**10 15 20.4**	**-0.8**
KNRA				IAmb	IAmb	10 15 37.1	
	comp=Z,9.2nm,1.2s						
FITZ	**Fitzroy Crossi**	**39.64**	**259**	LR	LR	10 31 40.5	
	comp=Z,62nm,18.6s,baz=145,slow=36						
MORW	**Morawa**	**49.07**	**244**	P	**P**	**10 17 01.2**	**+0.1**
ILAR	**Eielson Array**	**86.17**	**18**	P	**P**	**10 20 54.6**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=234,slow=5.0,SNR=5.2						

*MDD **08** 10:14:42.9±0.4, 35°50N×3°76W, h0km±3km, mb_Lg2.8/20, Error ellipse: s-maj=3.1km s-min=2.1km az=170.0*

*CNRM **08** 10:14:43.7, 35°50N×3°79W, h0km, ml3.1*

*INMG **08** 10:14:44.6±1.5, 35°35N×3°70W, h31km, ML2.6, Error ellipse: s-maj=5.0km s-min=3.1km az=16.0*

*SFS **08** 10:14:44.0, 35°29N×3°80W, h30km, ML3.2, ALHUCEMAS (MARRUECOS)*

ISC 08 10:14:43.5±1.0, 35°47N±0°.02×3°78W±0°.02, h18km±6km, n61, σ1§43/115, 2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.29**	**207**	P	**Pg**	**10 14 49.7**	**-0.1**
PALE	**Palemas**	**0.29**	**207**	P	**Pb**	**10 14 50.1**	**0.0**
PALE				S	**Sg**	**10 14 54.7**	**+0.7**
PVLZ	**Peæn de**	**0.52**	**235**	P	**Pg**	**10 14 53.6**	**-0.3**
PVLZ				S	**Sg**	**10 15 01.2**	**+0.3**
GOG	**Mont Gurugu**	**0.69**	**111**	P	**Pb**	**10 14 57.0**	**0.0**
GOG				S	**Sn**	**10 15 08.0**	**-0.8**
GOG	**Mont Gurugu**	**0.69**	**111**	P	**Pg**	**10 14 56.1**	**-0.9**
GOG				S	**Sb**	**10 15 06.4**	**+0.2**
EMEL	**Melilla**	**0.69**	**104**	Pg	**Pg**	**10 14 56.3**	**-0.8**
EMEL				Sg	**Sg**	**10 15 05.0**	**-1.3**
TAF	**Taforalt**	**1.30**	**120**	P	**Pg**	**10 15 09.0**	**+0.5**
TAF	**Taforalt**	**1.30**	**120**	P	**Pn**	**10 15 05.4**	**-1.4**
TAF				S	**Sg**	**10 15 27.8**	**+2.3**
SMIR	**Smir Dam**	**1.32**	**280**	P	**Pn**	**10 15 05.3**	**-1.8**
SMIR				S	**Sb**	**10 15 22.0**	**-2.4**
CHEFC	**Chefchaouen**	**1.33**	**255**	P	**Pg**	**10 15 09.0**	**-0.2**
CHEFC	**Chefchaouen**	**1.33**	**255**	P	**Pn**	**10 15 07.9**	**+0.6**
CHEFC				S	**Sb**	**10 15 24.9**	**+0.2**
EMIJ	**Mijas**	**1.36**	**324**	Pn	**Pn**	**10 15 06.6**	**-1.0**
EMIJ				Sn	**Sb**	**10 15 23.9**	**-1.5**
EMIJ				*i* Vmb_Lg		10 15 27.4	
ECEU	**Ceuta**	**1.37**	**289**	Sn	**Sb**	**10 15 22.5**	**-3.3**
ELGU	**Los Guajares,**	**1.40**	**5**	Pn	**Pn**	**10 15 07.6**	**-0.7**
ELGU				Sn	**Sb**	**10 15 24.1**	**-2.7**
ELGU				*i* Vmb_Lg		10 15 27.9	
JBK	**JBK**	**1.51**	**138**	P	**Pg**	**10 15 12.0**	**-0.6**
JBK	**JBK**	**1.51**	**138**	P	**Pn**	**10 15 08.2**	**-1.6**
JBK				S	**Sn**	**10 15 26.7**	**-2.5**
EBER	**Berja**	**1.59**	**27**	Pn	**Pn**	**10 15 10.1**	**-1.0**
EBER				Sn	**Sn**	**10 15 30.6**	**-0.7**
EBER				*i* Vmb_Lg		10 15 34.7	
EGOR	**Sierra Gorda,**	**1.66**	**351**	Pn	**Pn**	**10 15 12.0**	**+0.1**
EGOR				Pg	**Pg**	**10 15 14.7**	**-0.7**
EGOR				Sn	**Sn**	**10 15 32.7**	**0.0**
EGOR				Sg	**Sg**	**10 15 35.3**	**-1.7**
EGOR				*i* Vmb_Lg		10 15 39.1	
EJIF	**Jimena Fronter**	**1.68**	**306**	Pn	**Pn**	**10 15 13.0**	**+0.9**
EJIF				Pg	**Pg**	**10 15 14.7**	**-1.2**
EQUE	**Quentar**	**1.75**	**9**	Pg	**Pb**	**10 15 14.5**	**-0.7**
EQUE				Sg	**Sn**	**10 15 35.1**	**0.0**
EQUE				*i* Vmb_Lg		10 15 37.8	
ENIJ	**Nijar**	**1.96**	**40**	Pn	**Pn**	**10 15 15.1**	**-0.9**
ENIJ				Sn	**Sn**	**10 15 38.0**	**-2.2**
ENIJ				*i* Vmb_Lg		10 15 40.7	
LCRM	**LCR**	**1.99**	**207**	P	**Pg**	**10 15 21.0**	**-0.8**
LCRM	**LCR**	**1.99**	**207**	P	**Pn**	**10 15 17.1**	**+0.6**
LCRM				S	**Sb**	**10 15 46.6**	**+2.7**
ESPR	**Espera**	**2.18**	**310**	Pg	**Pn**	**10 15 20.7**	**+1.8**
ESPR				Sg	**Sb**	**10 15 50.9**	**+1.7**
ESPR				*i* Vmb_Lg		10 15 55.6	
CZD	**Col de Zad**	**2.65**	**204**	P	**Pn**	**10 15 27.4**	**+1.8**
CZD				S	**Sn**	**10 15 56.5**	**-0.9**
MD31	**MD31**	**2.72**	**198**	P	**Pn**	**10 15 28.1**	**+1.7**
MD31				S	**Sn**	**10 15 59.0**	**0.0**
MDT	**Midelt**	**2.74**	**195**	P	**Pn**	**10 15 28.5**	**+1.8**
MDT				S	**Sn**	**10 16 00.1**	**+0.7**
EADA	**Adamuz**	**2.77**	**347**	Pn	**Pn**	**10 15 28.0**	**+1.0**
EADA				Sn	**Sn**	**10 15 59.6**	**-0.4**
EADA				*i* Vmb_Lg		10 16 07.4	
TDRA	**Tendrara**	**2.83**	**149**	P	**Pn**	**10 15 29.8**	**+1.8**
TDRA				S	**Sn**	**10 16 02.1**	**+0.5**
ECAB	**El Cabril**	**2.91**	**334**	Pn	**Pn**	**10 15 30.2**	**+1.2**
ECAB				Sn	**Sn**	**10 16 04.0**	**+0.4**
ECAB				Sg	**Sb**	**10 16 10.8**	**+0.5**
ECAB				*i* Vmb_Lg		10 16 15.8	
EZAR	**Zarzadilla de**	**2.93**	**34**	Sn	**Sn**	**10 16 02.5**	**-1.5**
EMIN	**Mina Concepcio**	**3.27**	**315**	Pn	**Pn**	**10 15 34.1**	**+0.2**
EMIN				Sn	**Sn**	**10 16 12.0**	**-0.3**
EMIN				*i* Vmb_Lg		10 16 18.2	
EGRO	**El Granado**	**3.62**	**306**	Pn	**Pn**	**10 15 38.6**	**-0.2**
EGRO				Sn	**Sn**	**10 16 19.2**	**-1.9**
EGRO				*i* Vmb_Lg		10 16 22.4	
ETOB	**Tobarra**	**3.63**	**29**	Pn	**Pn**	**10 15 41.0**	**+2.0**
ETOB				Sn	**Sn**	**10 16 22.1**	**+0.6**
ETOB				*i* Vmb_Lg		10 16 24.3	
PVAQ	**Vaqueiros**	**3.71**	**302**	*e*Pn	**Pn**	**10 15 40.6**	**+0.6**
PVAQ				*e*Sn	**Sn**	**10 16 22.4**	**-0.9**
PVAQ				A	A	10 16 23.4	
	16nm,0.5s						
PVAQ	**Vaqueiros**	**3.71**	**302**	P	**Pn**	**10 15 39.8**	**-0.2**
PVAQ				S	**Sn**	**10 16 21.8**	**-1.5**
PBAR	**Barrancos**	**3.76**	**317**	*e*Pn	**Pn**	**10 15 41.2**	**+0.6**
PBAR				*e*Sn	**Sn**	**10 16 24.6**	**+0.2**
PBAR				A	A	10 16 39.3	
	4.7nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.79**	**299**	*e*Pn	**Pn**	**10 15 41.2**	**+0.2**
PBDV				*e*Sn	**Sn**	**10 16 24.5**	**-0.7**
PBDV				A	A	10 16 26.9	
	8.2nm,0.4s						
PCVE	**Castro Verde**	**4.05**	**303**	*e*Pn	**Pn**	**10 15 45.7**	**+1.1**
PCVE				*e*Sn	**Sn**	**10 16 31.2**	**-0.4**
PCVE				A	A	10 16 37.9	
	7.2nm,0.4s						
PAB	**San Pablo**	**4.09**	**354**	Pn	**Pn**	**10 15 46.6**	**+1.3**
PAB				Sn	**Sn**	**10 16 32.8**	**+0.1**
PAB				Sg	**Sb**	**10 16 47.3**	**+3.1**
PAB				*i* Vmb_Lg		10 16 52.1	
PAB	**San Pablo**	**4.09**	**354**	P	**Pn**	**10 15 47.2**	**+2.0**
PAB	**San Pablo**	**4.09**	**354**	P	**Pn**	**10 15 47.2**	**+2.0**
EBAD	**Badajoz**	**4.17**	**323**	Pn	**Pn**	**10 15 46.9**	**+0.6**
EBAD				Sn	**Sn**	**10 16 33.4**	**-1.2**
EBAD				*i* Vmb_Lg		10 16 39.0	
ESDC	**Sonseca Array**	**4.20**	**358**	Pn	**Pn**	**10 15 48.2**	**+1.5**
ESDC				Sn	**Sn**	**10 16 34.5**	**-0.8**
ESDC				Sg	**Sb**	**10 16 50.3**	**+3.0**
ESDC				*i* Vmb_Lg		10 16 55.3	
MORF	**Marmelete**	**4.34**	**296**	*e*Pn	**Pn**	**10 15 49.8**	**+1.2**
MORF				*e*Sn	**Sn**	**10 16 38.4**	**-0.3**
MORF				A	A	10 16 42.4	
	9.4nm,0.4s						
PFVI	**Vila Bisbo**	**4.40**	**294**	*e*Pn	**Pn**	**10 15 50.1**	**+0.7**
PFVI				*e*Sn	**Sn**	**10 16 39.0**	**-1.2**
PFVI				A	A	10 16 57.6	
	16nm,0.6s						
PTEO	**Sao Teotonio**	**4.49**	**299**	*e*Pn	**Pn**	**10 15 52.2**	**+1.6**
PTEO				*e*Sn	**Sn**	**10 16 42.1**	**-0.3**
PTEO				A	A	10 16 45.6	
	9.1nm,0.4s						
PESTR	**Estremoz**	**4.55**	**319**	*e*Pn	**Pn**	**10 15 52.8**	**+1.2**
PESTR				*e*Sn	**Sn**	**10 16 43.8**	**-0.3**
PESTR				A	A	10 16 49.3	
	4.4nm,0.7s						
PNCL	**Nicolau / Gran**	**4.63**	**306**	*e*Pn	**Pn**	**10 15 52.8**	**+0.2**
PNCL				*e*Sn	**Sn**	**10 16 45.1**	**-0.9**
PNCL				A	A	10 16 47.8	
	5.0nm,0.6s						
PMRV	**Marv??o**	**4.88**	**325**	*e*Pn	**Pn**	**10 15 57.5**	**+1.4**
PMRV				*e*Sn	**Sn**	**10 16 52.4**	**+0.2**
PMRV				A	A	10 17 16.5	
	3.1nm,0.4s						
PMTG	**Montargil**	**5.05**	**317**	*e*Pn	**Pn**	**10 15 59.5**	**+1.2**
PMTG				*e*Sn	**Sn**	**10 16 55.8**	**-0.3**
GUD	**Guadarrama**	**5.17**	**357**	Pn	**Pn**	**10 16 01.7**	**+1.5**
GUD				Sn	**Sn**	**10 16 57.7**	**-1.8**
GUD				Sg	**Sb**	**10 17 18.4**	**+3.0**
GUD				*i* Vmb_Lg		10 17 29.3	
PACT	**Alcochete**	**5.21**	**311**	*e*Pn	**Pn**	**10 16 01.7**	**+1.2**
PCBR	**Castelo Branco**	**5.26**	**327**	*e*Pn	**Pn**	**10 16 02.8**	**+1.6**
PCBR				*e*Sn	**Sn**	**10 16 59.9**	**-1.4**
PCBR				A	A	10 17 17.6	
	3.3nm,0.9s						
ETOR	**Torete**	**5.51**	**14**	Pn	**Pn**	**10 16 06.7**	**+2.0**
ETOR				Sn	**Sn**	**10 17 04.7**	**-3.0**
ETOR				Sg	**Sb**	**10 17 28.8**	**+3.8**
ETOR				*i* Vmb_Lg		10 17 33.2	
PSBE	**So Bento**	**5.67**	**317**	*e*Pn	**Pn**	**10 16 08.3**	**+1.4**
MVO	**Moncorvo**	**6.23**	**337**	*e*Pn	**Pn**	**10 16 16.2**	**+1.6**
MVO				A	A	10 17 30.3	
	4.3nm,0.5s						
POLO	**Lamas de Olo**	**6.68**	**333**	*e*Pn	**Pn**	**10 16 22.9**	**+2.0**
POLO				*e*Sn	**Sn**	**10 17 36.6**	**0.0**
POLO				A	A	10 17 42.8	
	1.8nm,0.7s						
PBRG	**Braganca**	**6.74**	**341**	*e*Pn	**Pn**	**10 16 23.5**	**+2.0**
ELOB	**Lobios**	**7.21**	**334**	Pn	**Pn**	**10 16 29.3**	**+1.2**
ELOB				Sn	**Sn**	**10 17 48.7**	**-0.8**
PGAV	**Gavieira, Arco**	**7.37**	**333**	*e*Pn	**Pn**	**10 16 32.4**	**+2.1**

*OTT **08** 10:21:32.5±0.3, 74°32N×73°03W, h18km, ML3.9/3, 240km northeast from Pond Inlet, Nu Baffin Bay Seismic Zone.*

*DNK **08** 10:21:33.0±3.0, 74°43N×73°38W, h30km±22km, ML3.0*

ISC 08 10:21:28.0±0.7, 74°31N±0°.05×73°26W±0°.05, h10km, n16, σ4§03/27, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TULEG	**Thule**	**2.50**	**25**	*i* P	**Pn**	**10 22 11.2**	**+2.6**
TULEG				*e*S	**Sn**	**10 22 36.9**	**-2.3**
TULEG				IAML		10 22 38.9	
	comp=Z,507nm,0.2s						
CLRN	**Clyde River**	**4.11**	**158**	PN	**Pn**	**10 22 35.0**	**+4.2**
CLRN				SN	**Sn**	**10 23 17.7**	**-1.1**
CLRN				Trac		10 23 21.1	
	comp=Z,52nm,0.1s						
UPNV	**Upernavik**	**5.10**	**99**	*i* P	**Pn**	**10 22 47.2**	**+2.9**
UPNV				*e*S	**Sn**	**10 23 38.6**	**-4.4**
UPNV				IAML		10 23 46.5	
	comp=Z,48nm,0.2s						
RES	**Resolute Bay**	**5.80**	**284**	PN	**Pn**	**10 22 58.5**	**+4.7**
RES				SN	**Sn**	**10 24 00.5**	**+0.2**
RES				Trac		10 24 04.9	
	comp=Z,14nm,0.1s						
EUNU	**Eureka**	**6.44**	**339**	PN	**Pn**	**10 23 06.2**	**+3.4**
EUNU				SN	**Sn**	**10 24 13.9**	**-2.4**
EUNU				Trac		10 24 32.5	
	comp=Z,819nm,3.7s						
NUUG	**Nuugaatsiaq**	**6.51**	**105**	*i* P	**Pn**	**10 23 07.4**	**+3.8**
NUUG				*e*S	**Sn**	**10 24 15.2**	**-2.6**
NUUG				IAML		10 24 17.5	
	comp=Z,20nm,0.4s						
ILULI	**Ilulissat**	**8.57**	**115**	PN	**Pn**	**10 23 35.5**	**+3.5**
ILULI				SN	**Sn**	**10 25 04.0**	**-4.5**
ILULI				Trac		10 25 26.8	
	comp=Z,52nm,0.5s						
FRB	**Frobisher Bay**	**10.75**	**169**	PN	**Pn**	**10 24 04.0**	**+2.3**
FRB				SN	**Sn**	**10 25 56.6**	**-5.2**
FRB				Trac		10 26 15.3	
	comp=Z,8.7nm,0.3s						
ICESG	**Greenland Ices**	**11.63**	**100**	*i* P	**Pn**	**10 24 17.2**	**+3.1**
ICESG				*e*S	Sn	10 26 13.5	-10
NOR	**Nord**	**13.13**	**33**	*i* P	**Pn**	**10 24 33.2**	**-0.9**
DAG	**Danmarks Havn**	**13.42**	**54**	*i* P	**Pn**	**10 24 37.8**	**-0.3**
DBG	**Daneborg**	**13.96**	**64**	*i* P	**Pn**	**10 24 43.8**	**-1.7**
KUKN	**Kugluktuk,NWT**	**14.71**	**265**	PN	**Pn**	**10 24 57.8**	**+2.0**
KUKN				SN	**Sn**	**10 27 32.1**	**-6.5**
KUKN				Trac		10 27 39.6	
	comp=Z,276nm,3.4s						
A36M	**Sachs Harbour**	**14.84**	**287**	PN	**Pn**	**10 25 01.1**	**+3.6**
A36M				SN	**Sn**	**10 27 35.1**	**-6.4**
A36M				Trac		10 27 56.4	
	comp=Z,139nm,3.0s						
C36M	**Paulatuk**	**16.12**	**278**	PN	**Pn**	**10 25 16.9**	**+2.7**
C36M				SN	**Sn**	**10 28 04.4**	**-8.3**
C36M				Trac		10 28 10.9	
	comp=Z,320nm,4.5s						
INK	**Inuvik**	**19.36**	**283**	PN	**Pn**	**10 25 58.0**	**+3.7**
INK				Trac		10 29 36.1	
	comp=Z,260nm,5.0s						

*IDC **08** 10:31:26.0±2.2, 5°54S×131°57E, h0km, mb3.1/1, mb1 3.5/5, mb1mx3.4/30, mbtmp3.4/5, ML3.2/4, Error ellipse: s-maj=102.2km s-min=25.2km az=85.0*

ISC 08 10:31:30.8±0.8, 5°38S±0°.07×131°.8E±0°.1, h35km, n13, σ2§12/14, Banda Sea

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

BNDI	**Bandanaira**	**2.08**	**294**	P	**Pn**	**10 32 03.7**	**+0.5**
SIJI	**Sorong**	**4.51**	**353**	Pn	**Pn**	**10 32 37.8**	**+1.0**
	1.1nm,0.3s,baz=189,slow=8.5,SNR=18						
SIJI				Sn	**Sn**	**10 33 25.8**	**-2.3**
	1.3nm,0.3s,baz=197,slow=23,SNR=7.6						
KDU	**Kakadu**	**7.29**	**175**	P	**Pn**	**10 33 14.7**	**-0.2**
KNRA	**Kununurra**	**10.66**	**196**	P	**Pn**	**10 34 00.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**14.00**	**205**	Pn	**Pn**	**10 34 42.5**	**-4.4**
	0.1nm,0.3s,baz=27,slow=14,SNR=14						
FITZ				Sn		10 37 05.5	-16
	0.2nm,0.3s,baz=142,slow=12,SNR=1.6						
COEN	**Coen**	**14.07**	**128**	P	**Pn**	**10 34 50.0**	**+2.2**
WRA	**Warramunga Arr**	**14.68**	**171**	Pn	**Pn**	**10 34 53.2**	**-2.9**
	0.1nm,0.3s,baz=351,slow=13,SNR=1.8						
WRA				Sn	Sn	10 37 27.2	-11
	0.3nm,0.3s,baz=353,slow=23,SNR=8.4						
PMG	**Port Moresby**	**15.74**	**106**	P	**P**	**10 35 13.1**	**-0.5**
	25nm,1.0s						
ASAR	**Alice Springs**	**18.29**	**174**	P	**P**	**10 35 40.0**	**-1.9**
	0.1nm,0.3s,baz=352,slow=10,SNR=8.6						
WRKA	**Warakurna**	**19.83**	**189**	P	**Pn**	**10 35 59.7**	**-0.8**
MULG	**Mulgathing**	**24.86**	**175**	P	**P**	**10 36 51.8**	**+1.6**
FORT	**Forrest**	**25.51**	**188**	P	**P**	**10 36 57.7**	**+1.6**
	15nm,2.5s						
MKAR	**Makanchi Array**	**67.89**	**326**	P	**P**	**10 42 26.4**	**+0.6**
	0.1nm,0.5s,baz=117,slow=6.1,SNR=1.8						

*IDC **08** 10:47:26.5±0.7, 6°75N×72°95W, h165km±7km, mb3.4/11, mb1 3.7/13, mb1mx3.5/35, mbtmp4.0/13, Error ellipse: s-maj=17.5km s-min=7.9km az=127.0*

*RSNC **08** 10:47:26.9±1.1, 6°83N×73°16W, h153km±4km, ML4.0, Mw4.2, Fault plane solution: NP1:φ8 117.00000°, δ81.00000°, λ-142.00000°.*

*NEIC **08** 10:47:27.1±2.6, 6°84N±0°.06×73°09W±0°.08, h150km±5km, mb4.3/67, Error ellipse: s-maj=11.1km s-min=9.1km az=92.0*

ISC 08 10:47:26.4±0.6, 6°83N±0°.03×73°11W±0°.03, h154km±5km, n146, σ1§56/185, mb4.2/42, 9C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**196**	⇓*i* P	**Pn**	**10 47 47.6**	**0.0**
BARC				*e*S	**Sn**	**10 48 03.0**	**-0.9**
BARC				*i*		10 48 05.5	
	comp=Z,4μm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**39**	⇑*i* P	**Pn**	**10 47 50.5**	**+0.8**
PAMC				*e*S	**Sn**	**10 48 07.7**	**+0.3**
PAMC				*i*		10 48 10.9	
	comp=Z,2μm,0.5s						
RUSC	**La Rusia**	**0.93**	**178**	⇓*i* P	**Pn**	**10 47 51.5**	**-0.1**
RUSC				*e*S	**Sn**	**10 48 10.3**	**-0.6**
RUSC				*i*		10 48 14.4	
	comp=Z,506nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*P	**Pn**	**10 47 54.1**	**-0.8**
PTBC				*e*S	**Sn**	**10 48 15.1**	**-1.6**
PTBC				*i*		10 48 21.8	
	comp=Z,1μm,0.4s						
TAMC	**Tame, Arauca**	**1.37**	**106**	⇑*i* P	**Pn**	**10 47 56.0**	**+1.0**
TAMC				*i*		10 48 17.0	
	comp=Z,785nm,0.4s						
TAMC				*e*S	**Sn**	**10 48 17.8**	**+0.9**
OCAC	**Ocana**	**1.42**	**352**	Pn	**Pn**	**10 47 55.6**	**0.0**
OCAC	**Ocana**	**1.42**	**352**	⇑*e*P	**Pn**	**10 47 55.6**	**0.0**
OCAC				*e*S	**Sn**	**10 48 18.8**	**-0.1**
OCAC				*i*		10 48 21.3	
	comp=Z,3μm,0.2s						
SPBC	**San Pablo de B**	**1.51**	**219**	*e*P	**Pn**	**10 47 56.5**	**0.0**
SPBC				*e*S	**Sn**	**10 48 18.6**	**-1.0**
SPBC				*i*		10 48 23.3	
	comp=Z,2μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**		**Pn**	**10 47 59.7**	**-0.4**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P	**Pn**	**10 48 00.2**	**+0.1**
ZARC				*e*S	**Sn**	**10 48 25.6**	**-0.4**
ZARC				*i*		10 48 30.9	
	comp=Z,2μm,0.3s						
NORC	**Norcasia**	**2.15**	**234**	⇑*e*P	**Pn**	**10 48 03.4**	**-0.2**
NORC				*e*S	**Sn**	**10 48 31.5**	**-0.8**
NORC				*i*		10 48 37.2	
	comp=Z,763nm,0.2s						
CHIC	**Chingaza**	**2.27**	**196**	⇓*e*P	**Pn**	**10 48 05.5**	**+0.1**
CHIC				*e*S	**Sn**	**10 48 35.2**	**-0.2**
CHIC				*i*		10 48 45.3	
	comp=Z,793nm,0.4s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**10 48 07.4**	**+1.5**
	comp=Z,330nm,0.3s,baz=107,slow=18,SNR=433						
ROSC				S	**Sn**	**10 48 38.3**	**+2.1**
	comp=Z,526nm,0.3s,baz=88,slow=22,SNR=7.5						
ROSC	**El Rosal**	**2.31**	**211**		**Pn**	**10 48 07.2**	**+1.4**
ROSC	**El Rosal**	**2.31**	**

YOTC Yotoco, Valle 4.28 229 *e*P Pn **10 48 30.1 -0.5**
YOTC *e*S Sn **10 49 15.3 -5.3**
SMRC Santa Marta, M 4.45 346 *e*P Pn **10 48 32.8 +0.2**
SMRC *e*S Sn **10 49 20.9 -3.4**
SMRC *i* 10 49 24.9
comp=Z,139nm,0.2s
PIZC Pizarro, Choco 4.61 247 *e*P Pn **10 48 36.0 +1.2**
PIZC *e*S Sn **10 49 30.1 +2.0**
PIZC *i* 10 49 42.9
comp=Z,81nm,0.6s
PTAC Punta Ardita, 4.67 274 *e*P Pn **10 48 34.3 -1.3**
MACC Macarena, Meta 4.71 189 *e*P Pn **10 48 34.8 -1.3**
MACC *e*S Sn **10 49 26.0 -4.5**
MACC *i* 10 49 32.3
comp=Z,205nm,0.5s
BETC Betania 4.73 210 *e*P Pn **10 48 35.8 -0.6**
BETC *e*S Sn **10 49 24.5 -6.5**
BETC *i* 10 49 39.8
comp=Z,137nm,0.5s
MARP Paez Belalcaza 4.87 216 *e*P Pn **10 48 38.8 +0.3**
MARP *e*S Sn **10 49 32.0 -2.6**
URIC Uribia, Colomb 4.97 13 Pn Pn **10 48 38.1 -1.4**
URIC Uribia, Colomb 4.97 13 *e*P Pn **10 48 38.2 -1.3**
URIC *e*S Sn **10 49 32.7 -3.9**
URIC *i* 10 49 40.6
comp=Z,71nm,0.5s
GARC Garzon, Huila 5.18 207 *e*P Pn **10 48 41.6 -1.0**
GARC *e*S Sn **10 49 38.0 -4.1**
GARC *i* 10 49 42.3
comp=Z,230nm,0.3s
PCON Cinco Dias 5.54 216 *e*P Pn **10 48 48.8 +1.2**
PCON *e*S Sn **10 49 45.5 -5.5**
PCON *i* 10 50 27.9
comp=Z,54nm,0.4s
POPC Popayan, Colom 5.54 220⇑ *e*P Pn **10 48 47.0 -0.3**
POPC *e*S Sn **10 49 49.2 -1.5**
SOTA Rioblanco 5.82 217 *e*P Pn **10 48 52.3 +1.1**
SOTA *e*S Sn **10 49 55.8 -1.8**
SOTA *i* 10 50 09.1
comp=Z,46nm,0.5s
GCUF Volcan Galeras 6.98 217 *e*P Pn **10 49 07.5 +0.7**
GCUF *e*S Sn **10 50 22.6 -2.8**
TULM Tulcn-Chalpat 7.65 218 Pn Pn **10 49 16.4 +0.7**
BIRV Birongo 7.68 61 Pn Pn **10 49 13.8 -1.7**
OTAV Otavalo 8.44 219 Pn **10 49 26.3 +0.2**
DRK0 Durika 10.32 284 Pn Pn **10 49 51.2 +0.3**
SRBA San Rafael, Bu 10.42 284 Pn Pn **10 49 53.6 +1.5**
BOSC San Juan Bosco 11.27 209 Pn Pn **10 50 05.0 +1.6**
CMJ Castle Mountai 11.68 345 *i* P Pn **10 50 10.9 +2.4**
STH Stony Hill 11.75 342 *i* P Pn **10 50 12.2 +2.9**
MCJ Malvern 11.90 338 *i* P Pn **10 50 13.5 +2.2**
JTS Las Juntas de 12.20 287 Pn Pn **10 50 14.8 -0.5**
SDDR Presa de Saban 12.21 8 Pn Pn **10 50 14.2 -1.2**
CRPR Cabo Rojo, PR 12.56 27 Pn Pn **10 50 19.0 -0.8**
PDPR Patillas Dam, 13.10 31 Pn Pn **10 50 25.8 -0.9**
GCPR Guaynabo City 13.31 30 Pn Pn **10 50 28.5 -1.0**
CBYP Canovanas 13.39 31 Pn Pn **10 50 29.4 -1.2**
LPAZ La Paz 23.49 168 P P **10 52 21.1 -1.9**
comp=Z,0.9nm,0.3s,baz=347,slow=9.4,SNR=11
LPAZ La Paz 23.49 168 P P **10 52 21.0 -2.1**
Y49A Blount Mountai 29.58 337 P P **10 53 16.8 -0.1**
Y49A IAmb IAmb 10 53 17.2
comp=Z,6.1nm,1.1s
FPAL Fort Paine 29.89 339 P P **10 53 20.0 +0.4**
FPAL IAmb IAmb 10 53 20.3
comp=Z,11nm,1.2s
X48A Hartselle 30.35 337 P P **10 53 24.9 +1.3**
X48A IAmb IAmb 10 53 26.0
comp=Z,5.5nm,0.9s
CPCT Cooper Cave 30.36 341 P P **10 53 25.6 +1.9**
CPCT IAmb IAmb 10 53 39.4
comp=Z,8.3nm,1.2s
W50A Signal Mountai 30.39 340 P P **10 53 25.9 +1.9**
W50A IAmb IAmb 10 53 31.3
comp=Z,18nm,1.5s
T57A Hurt 30.55 350 P P **10 53 25.6 +0.3**
V51A Loudon 30.63 342 P P **10 53 27.4 +1.3**
V48A Smith Brothers 31.41 338 P P **10 53 35.0 +2.1**
V48A IAmb IAmb 10 53 36.4
comp=Z,7.6nm,0.8s
WVT Waverly 32.13 337 P P **10 53 40.5 +1.2**
WLAR White Oak Lake 32.52 328 P P **10 53 41.4 -1.2**
WHAR Wooly Hollow 33.37 331 P P **10 53 50.2 +0.3**
WHAR IAmb IAmb 10 53 50.9
comp=Z,3.5nm,0.6s
PBMO Poplar Bluff 33.74 335 P P **10 53 54.5 +1.3**
PBMO IAmb IAmb 10 53 55.0
comp=Z,7.7nm,0.7s
FCAR Ozark Folk Cen 33.77 332 P P **10 53 53.8 +0.3**
FCAR IAmb IAmb 10 54 02.7
comp=Z,8.5nm,1.4s
SIUC Southern Illin 34.05 337 P P **10 53 56.9 +1.0**
U40A Yellville 34.49 331 P P **10 54 00.3 +0.5**
FVM French Village 34.77 336 P P **10 54 02.0 -0.1**
FVM IAmb IAmb 10 54 04.3
comp=Z,7.9nm,0.8s
CCM Cathedral Cave 35.17 335 P P **10 54 06.1 +0.6**
CCM IAmb IAmb 10 54 07.1
comp=Z,12nm,1.0s
SFIN Lafayette 35.68 342 P P **10 54 09.0 -0.8**
S39A Bolivar 35.79 332 P P **10 54 10.9 0.0**
S39A IAmb IAmb 10 54 12.1
comp=Z,3.0nm,0.7s
R40A Maddies Statio 35.81 334 P P **10 54 10.9 0.0**
R40A IAmb IAmb 10 54 11.8
comp=Z,3.7nm,0.6s
TXAR Lajitas Array 36.46 312 P P **10 54 17.5 +0.7**
comp=Z,0.6nm,0.6s,baz=123,slow=7.6,SNR=2.6
N38A Joes South For 38.30 335 P P **10 54 32.4 +0.4**
N38A IAmb IAmb 10 54 32.6
comp=Z,14nm,1.2s
MNTX Cornudas Mount 38.97 314 P P **10 54 39.3 +1.6**
MNTX IAmb IAmb 10 54 39.9
comp=Z,3.6nm,1.1s
JFWS Jewell Farm 38.99 340 P P **10 54 38.0 +0.3**
E46A Sault Ste Mari 40.56 348 P P **10 54 51.8 +1.3**
BATG Bathurst New B 40.75 7 P P **10 54 53.2 +1.1**
SPMN Marine on St. 41.90 339 P P **10 55 02.8 +1.2**
SPMN IAmb IAmb 10 55 18.4
comp=Z,12nm,1.2s
ECSD EROS Data Cent 42.15 334 P P **10 55 02.4 -1.2**
ECSD IAmb IAmb 10 55 04.9
comp=Z,5.5nm,1.4s
SDCO Great Sand Dun 42.55 321 P P **10 55 08.7 +1.5**
S22A 4UR Ranch, Cre 43.38 320 P P **10 55 15.6 +1.5**
EYMN Ely 43.87 342 P P **10 55 17.5 +0.2**
PV13 Radium Mtn., P 44.90 319 P P **10 55 27.7 +1.7**
B35A Bob, Littlefor 44.94 341 P P **10 55 26.0 +0.1**
B35A IAmb IAmb 10 55 34.1
comp=Z,11nm,1.2s
WUAZ Wupatki 45.22 315 P P **10 55 30.0 +1.5**
KNB Kanab 46.98 316 P P **10 55 44.3 +2.0**
ULM Lac du Bonnet 47.28 340 P P **10 55 43.5 -0.6**
comp=Z,3.9nm,0.5s,baz=148,slow=8.6,SNR=4.8
ULM Lac du Bonnet 47.28 340 IAmb IAmb 10 55 44.4
comp=Z,4.5nm,0.6s
MSU Marysvale 47.30 318 P P **10 55 46.2 +1.4**
PDAR Pinedale Array 48.08 324 P P **10 55 50.9 +0.2**
comp=Z,0.6nm,0.5s,baz=124,slow=8.3,SNR=6.9
PDAR Pinedale Array 48.08 324 P P **10 55 50.1 -0.6**
SCHQ Schefferville 48.13 5 P P **10 55 51.0 +0.4**
comp=Z,1.5nm,0.5s,baz=185,slow=11,SNR=1.5
SCHQ Schefferville 48.13 5 IAmb IAmb 10 56 20.4
comp=Z,13nm,1.4s
BGU Big Grassy Mou 49.14 320 P P **10 55 59.4 +0.6**
BGU IAmb IAmb 10 56 00.0
comp=Z,2.2nm,0.6s
DGMT Dagmar 49.15 333 P P **10 55 59.6 +1.1**
REDW Red Top Meadow 49.19 324 P P **10 56 00.1 +0.9**
REDW IAmb IAmb 10 56 00.5
comp=Z,2.3nm,0.7s
LOHW Long Hollow 49.20 324 P P **10 56 00.2 +1.0**
TPAW Teton Pass 49.33 324 P P **10 56 00.8 +0.5**
TPAW IAmb IAmb 10 56 03.4
comp=Z,7.4nm,1.4s
MOOW Moose Ponds 49.36 324 P P **10 56 00.1 -0.4**
RLMT Red Lodge 49.38 327 P P **10 56 01.4 +0.9**
GCMT Greycliff 50.02 327 P P **10 56 06.4 +1.1**
YHH Holmes Hill 50.05 325 P P **10 56 07.1 +1.3**
BOZ Bozeman (W) 50.98 326 P P **10 56 13.5 +1.0**
MCMT McKenzie Canyo 51.22 324 P P **10 56 15.8 +1.4**
NVAR Mina Array Bea 51.48 315 P P **10 56 17.2 +0.7**
comp=Z,0.3nm,0.6s,baz=120,slow=8.4,SNR=4.4

EGMT Eagleton 51.51 329 P P **10 56 17.4 +1.1**
EGMT IAmb IAmb 10 56 40.7
comp=Z,4.9nm,1.2s
HRY Holter Researc 51.77 327 P P **10 56 19.1 +0.8**
FCC Fort Churchill 54.27 347 P P **10 56 35.0 -1.2**
FCC IAmb IAmb 10 56 40.3
comp=Z,5.9nm,1.4s
F10A Beach Ranch, E 54.42 323 P P **10 56 38.0 +0.3**
I07A Izee 54.87 320 P P **10 56 41.4 +0.4**
I07A IAmb IAmb 10 56 43.1
comp=Z,2.6nm,1.1s
G08A Pilot Rock 55.12 322 P P **10 56 43.6 +0.8**
G08A IAmb IAmb 10 56 44.3
comp=Z,3.3nm,1.1s
PINE Pine Mountain 55.65 319 P P **10 56 48.0 +1.3**
PINE IAmb IAmb 10 56 48.7
comp=Z,3.2nm,0.8s
YBH Yreka Blue Hor 55.94 317 P P **10 56 47.9 -0.8**
comp=Z,0.7nm,0.5s,baz=127,slow=4.2,SNR=5.7
EDM Edmonton 56.62 332 P P **10 56 52.9 -0.3**
H04A Detroit Lake 56.85 320 P P **10 56 55.2 +0.2**
H04A IAmb IAmb 10 56 59.1
comp=Z,6.0nm,1.1s
YKA Yellowknife Ar 63.26 340 P P **10 57 38.0 -0.2**
comp=Z,2.3nm,0.5s,baz=133,slow=6.6,SNR=87
DLBC Dease Lake 67.32 331 P P **10 58 05.5 +0.9**
N31M Braeburn, Yuko 71.19 333 P P **10 58 30.3 +2.0**
M30M Minto, Yukon 72.03 334 P P **10 58 34.4 +1.1**
M30M IAmb IAmb 10 58 35.0
comp=Z,3.9nm,1.1s
A36M Sachs Harbour 72.43 345 P P **10 58 35.5 +0.1**
A36M IAmb IAmb 10 58 36.0
comp=Z,5.2nm,0.8s
INK Inuvik 73.03 340 P P **10 58 39.1 +0.1**
comp=Z,0.4nm,0.4s,baz=104,slow=6.9,SNR=3.7
INK Inuvik 73.03 340 IAmb IAmb 10 59 06.1
comp=Z,4.3nm,1.4s
EPYK Eagle Plains 73.38 338 P P **10 58 41.7 +0.5**
EPYK IAmb IAmb 10 58 47.7
comp=Z,8.5nm,1.4s
TORD Torodi Ar. Bea 73.73 78 P P **10 58 42.3 -1.8**
comp=Z,0.1nm,0.3s,baz=286,slow=6.1,SNR=1.5
M27K Edge Creek, AK 74.20 333 P P **10 58 47.4 +1.2**
M27K IAmb IAmb 10 58 55.6
comp=Z,16nm,1.5s
BCAR Beaver Creek A 74.36 334 P P **10 58 47.0 +0.1**
ILAR Eielson Array 76.96 335 P P **10 59 01.4 -0.3**
comp=Z,0.2nm,0.4s,baz=100,slow=4.8,SNR=3.7
M22K Willow 77.87 332 P P 10 59 11.7 +4.9
ASAR Alice Springs 149.12 234 PKPbc **PKPdf 11 06 55.9 +2.8**
comp=Z,0.7nm,0.5s,baz=116,slow=3.4,SNR=11
WRA Warramunga Arr 150.35 241 PKPbc **PKPbc 11 06 59.2 -1.2**
comp=Z,0.4nm,0.3s,baz=106,slow=2.9,SNR=20

*TUL **08** 10:49:15.4±1.1,35.66N±0.01×97.17W±0.01,h6km±5km, ML3.1,mb_Lg2.6/30(NEIC),Error ellipse: s-maj=1.6km s-min=1.3km az=156.0*
NEIC 08 10:49:15.7±1.1,35.66N±0.02×97.17W±0.02,h12km±2km, Error ellipse: s-maj=2.7km s-min=1.6km az=139.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.02**	**259**	Pg	Pg	10 49 16.6	-1.3
OK005				Sg	Sg	10 49 17.4	-1.9
OK001	**Jones High Sch**	**0.14**	**225**	Pg	Pg	10 49 18.6	-0.4
OK001				Sg	Sg	10 49 21.0	-0.4
FNO	**Franklin**	**0.44**	**205**	Pg	Pg	10 49 24.3	-0.1
FNO				Sg	Sg	10 49 30.9	+0.6
W35A	**Tecumseh**	**0.56**	**154**	Pg	Pg	10 49 26.4	-0.2
W35A				Sg	Sg	10 49 34.5	+0.5
TUL1	**Leonard**	**1.15**	**77**		Pb	10 49 36.4	-1.1
TUL1				Sg	Sb	10 49 52.3	-0.1
X34A	**Smith Ranch, M**	**1.19**	**207**		Pn	10 49 38.1	0.0
T35A	**Sooner Cattle**	**1.36**	**23**	Pn	Pn	10 49 40.3	-0.3
WMOK	**Wichita Mounta**	**1.61**	**236**	Pn	Pn	10 49 44.4	+0.5
U32A	**Winter Ranch,**	**1.65**	**296**		Pn	10 49 45.2	+0.7
X37A	**Clayton**	**1.82**	**125**	Pn	Pn	10 49 47.2	+0.3
X37A				IAmb_Lg		10 50 14.4	
comp=Z,23nm,0.9s							
Z35A	**Perchaven, San**	**2.32**	**182**	IAmb_Lg		10 50 34.0	
comp=Z,24nm,1.2s							
HHAR	**Hobbs**	**2.69**	**76**		Pn	10 49 59.8	+1.0
W39A	**Magazine**	**2.81**	**98**	Pn	Pn	10 50 00.7	+0.3
Z38A	**Mt. Pleasant**	**3.00**	**142**	Pn	Pn	10 50 01.7	-1.3
Z38A				IAmb_Lg		10 50 57.3	
comp=Z,14nm,0.8s							
R32A	**Long Quarter,**	**3.02**	**336**	Pn	Pn	10 50 02.3	-1.1
MIAR	**Mount Ida**	**3.15**	**110**	Pn	Pn	10 50 04.6	-0.5
KSU1	**Kansas State U**	**3.47**	**7**	IAmb_Lg		10 51 11.3	
comp=Z,9.8nm,0.8s							
ABTX	**Abilene, Hawle**	**3.66**	**215**	Pn	Pn	10 50 12.2	+0.1
X40A	**Basin Creek Fa**	**3.74**	**107**	Pn	Pn	10 50 13.9	+0.6
CBKS	**Cedar Bluff**	**3.76**	**328**	Pn	Pn	10 50 12.9	-0.6
CBKS				IAmb_Lg		10 51 24.4	
comp=Z,14nm,0.8s							
WHAR	**Wooly Hollow**	**4.00**	**94**	Pn	Pn	10 50 17.8	+1.0
UALR	**University of**	**4.05**	**101**	Pn	Pn	10 50 17.0	-0.5
W41B	**Gary Mavity, V**	**4.05**	**95**	Pn	Pn	10 50 18.2	+0.7
W41B				IAmb_Lg		10 51 23.3	
comp=Z,11nm,0.9s							
FCAR	**Ozark Folk Cen**	**4.11**	**85**	Pn	Pn	10 50 20.0	+1.7
FCAR				IAmb_Lg		10 51 24.6	
comp=Z,10nm,0.7s							
MGMO	**Mountain Grove**	**4.23**	**68**	Pn	Pn	10 50 20.4	+0.4
MGMO				IAmb_Lg		10 51 32.6	
comp=Z,14nm,0.8s							
R40A	**Maddies Statio**	**4.72**	**55**	IAmb_Lg		10 51 43.4	
comp=Z,14nm,1.1s							
435B	**Jarrell**	**4.87**	**184**	IAmb_Lg		10 51 56.5	
comp=Z,9.7nm,0.8s							
P38A	**Dawn**	**4.90**	**35**	Pn	Pn	10 50 27.7	-1.5
MSTX	**Muleshoe**	**4.91**	**252**	Pn	Pn	10 50 27.7	-1.7
T42A	**Van Buren**	**5.09**	**73**	IAmb_Lg		10 52 07.6	
comp=Z,9.7nm,0.8s							
P40A	**Paris**	**5.61**	**45**	IAmb_Lg		10 52 18.0	
comp=Z,13nm,0.9s							
JCT	**Junction City**	**5.62**	**204**	IAmb_Lg		10 52 23.2	
comp=Z,13nm,1.1s							
FVM	**French Village**	**5.89**	**65**	IAmb_Lg		10 52 26.9	
comp=Z,10nm,0.9s							
N38A	**Joes South For**	**5.99**	**30**	IAmb_Lg		10 52 27.6	
comp=Z,11nm,0.7s							
T25A	**Trinidad**	**6.02**	**286**	IAmb_Lg		10 52 42.9	
comp=Z,8.1nm,1.1s							

*NNC **08** 10:49:20.7±0.3,43.63N×77.90E,h0km,mb3.2,mpv3.5, Error ellipse: s-maj=2.6km s-min=1.6km az=168.0*
*SOME **08** 10:49:21.4,43.60N×77.85E,h20km*
*KRNET **08** 10:49:21.5±0.1,43.62N×77.85E,h19km,mb2.7*
ISC 08 10:49:21.9±0.9,43.63N±0.02×77.87E±0.01,h11km±7km, n61,σ1s34/113,26C-8D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.26**	**123**⇓	*e*P	**Pg**	**10 49 27.6**	**+0.3**
KURS	54nm,0.1s			*e*S	**Sg**	**10 49 32.0**	**+1.2**
	324nm,0.3s						
KURS	**Kuram**	**0.26**	**123**	P	**Pg**	**10 49 27.6**	**+0.3**
KURS	54nm,0.1s			S	**Sg**	**10 49 32.0**	**+1.2**
	508nm,0.4s						
ARXS	**Arharly**	**0.58**	**357**	*e*P	**Pg**	**10 49 33.0**	**-0.3**
ARXS	79nm,0.1s			*e*S	**Sg**	**10 49 41.5**	**+0.5**
	123nm,0.1s						
ARXS	**Arharly**	**0.58**	**357**	P	**Pg**	**10 49 33.0**	**-0.3**
ARXS	79nm,0.1s			S	**Sg**	**10 49 41.5**	**+0.5**
	118nm,0.1s						
BLB	**Baldybastay**	**0.64**	**43**⇓	*e*P	**Pg**	**10 49 33.6**	**-0.8**
BLB	321nm,0.1s			*e*S	**Sg**	**10 49 42.1**	**-0.7**
	933nm,0.2s						
BLB	**Baldybastay**	**0.64**	**43**	P	**Pg**	**10 49 33.6**	**-0.8**
BLB	321nm,0.1s			S	**Sg**	**10 49 42.1**	**-0.7**
	986nm,0.2s						
CHKK	**Chushkaly**	**0.68**	**289**	*e*P	**Pg**	**10 49 34.6**	**-0.5**
CHKK	13nm,0.0s			*e*S	**Sg**	**10 49 44.2**	**+0.2**
	386nm,0.2s						
KOTS	**Kotyrbulak**	**0.68**	**235**	*e*P	**Pg**	**10 49 34.8**	**-0.3**
KOTS	43nm,0.2s			*e*S	**Sg**	**10 49 44.5**	**+0.3**
	313nm,0.2s						
KOTS	**Kotyrbulak**	**0.68**	**235**	P	**Pg**	**10 49 34.8**	**-0.3**
KOTS	43nm,0.2s			S	**Sg**	**10 49 44.5**	**+0.3**
	236nm,0.3s						
SATY	**Saty**	**0.69**	**146**	*e*P	**Pg**	**10 49 34.4**	**-1.0**
SATY	70nm,0.1s			*e*S	**Sg**	**10 49 44.0**	**-0.4**
	201nm,0.0s						
SATY	**Saty**	**0.69**	**146**	P	**Pg**	**10 49 34.4**	**-1.0**
SATY	70nm,0.1s			S	**Sg**	**10 49 44.0**	**-0.4**
	201nm,0.2s						
MDOK	**Medeo**	**0.76**	**232**⇓	*e*P	**Pg**	**10 49 36.1**	**-0.6**
MDOK	71nm,0.2s			*e*S	**Sg**	**10 49 46.8**	**+0.1**
	114nm,0.2s						
MDOK	**Medeo**	**0.76**	**232**	⇑P	**Pg**	**10 49 36.1**	**-0.6**
MDOK	16nm,0.2s			⇓S	**Sg**	**10 49 46.7**	**+0.1**
	84nm,0.6s						
MDOK	**Medeo**	**0.76**	**232**	Pg	**Pg**	**10 49 36.1**	**-0.6**
MDOK	71nm,0.2s			Lg	Lg	10 49 46.8	
	114nm,0.2s						
AAA	**Alma-Ata**	**0.82**	**239**	*e*P	**Pg**	**10 49 36.3**	**-1.4**
AAA	22nm,0.0s			*e*S	**Sg**	**10 49 47.4**	**-1.0**
	108nm,0.0s						
ANVS	**Anan'yevo**	**0.86**	**190**⇑	*i*P	**Pg**	**10 49 37.3**	**-1.2**
ANVS	baz=89			⇑*i*S	**Sg**	**10 49 48.9**	**-0.9**
	baz=89						
KTBS	**Karatobe**	**0.87**	**276**⇑	*e*P	**Pg**	**10 49 37.8**	**-0.8**
KTBS	34nm,0.1s			*e*S	**Sg**	**10 49 50.2**	**+0.1**
	152nm,0.1s						
KTBS	**Karatobe**	**0.87**	**276**	P	**Pg**	**10 49 37.8**	**-0.8**
KTBS	35nm,0.2s			S	**Sg**	**10 49 50.2**	**+0.1**
	96nm,0.2s						
TNSS	**Tian-Shan**	**0.90**	**229**	*e*P	**Pg**	**10 49 38.4**	**-1.0**
TNSS	44nm,0.2s			*e*S	**Sg**	**10 49 50.9**	**-0.2**
	71nm,0.2s						
TNSS	**Tian-Shan**	**0.90**	**229**	P	**Pg**	**10 49 38.4**	**-1.0**
TNSS	44nm,0.2s			S	**Sg**	**10 49 50.9**	**-0.2**
	54nm,0.3s						
UZB	**Uzynbulak**	**0.97**	**120**	*e*P	**Pg**	**10 49 38.9**	**-1.7**
UZB	14nm,0.1s			*e*S	**Sg**	**10 49 51.4**	**-1.8**
	153nm,0.0s						
UZB	**Uzynbulak**	**0.97**	**120**	P	**Pg**	**10 49 38.9**	**-1.7**
UZB	14nm,0.1s			S	**Sg**	**10 49 51.4**	**-1.8**
	100nm,0.2s						
KUU	**Kurty**	**1.14**	**284**	*e*P	**Pb**	**10 49 42.3**	**-1.4**
KUU	9.8nm,0.2s			*e*S	**Sb**	**10 49 57.7**	**-0.8**
	87nm,0.2s						
KUU	**Kurty**	**1.14**	**284**	P	**Pb**	**10 49 42.3**	**-1.4**
KUU	9.8nm,0.2s			S	**Sb**	**10 49 57.7**	**-0.8**
	87nm,0.2s						
MTBS	**Maitube**	**1.17**	**245**	*e*P	**Pb**	**10 49 42.8**	**-1.3**
MTBS	47nm,0.1s			*e*S	**Sb**	**10 49 58.6**	**-0.6**
	55nm,0.1s						
MTBS	**Maitube**	**1.17**	**245**	P	**Pb**	**10 49 42.8**	**-1.3**
MTBS	47nm,0.2s			S	**Sb**	**10 49 58.6**	**-0.6**
	38nm,0.4s						
PDGK	**Podgornoye**	**1.22**	**104**	P	**Pn**	**10 49 42.8**	**-2.1**
PDGK	9.1nm,0.2s			S	**Sb**	**10 49 58.4**	**-2.3**
	34nm,0.5s						
PDGK	**Podgornoye**	**1.22**	**104**	⇓P	**Pn**	**10 49 42.7**	**-2.2**
PDGK	4.7nm,0.2s			⇑S	**Sb**	**10 49 58.6**	**-2.0**
	57nm,0.6s						
SHLS	**Shalkode**	**1.25**	**112**	*e*P	**Pg**	**10 49 48.9**	**+2.9**
SHLS	4.4nm,0.2s			*e*S	**Sg**	**10 50 08.6**	**+6.4**
	61nm,0.1s						
SHLS	**Shalkode**	**1.25**	**112**	P	**Pg**	**10 49 48.9**	**+2.9**
SHLS	4.4nm,0.1s			S	**Sg**	**10 50 08.6**	**+6.4**
	49nm,0.4s						
TDK	**Taldyqorghan**	**1.42**	**15**	*e*P	**Pn**	**10 49 47.2**	**-0.4**
TDK	24nm,0.1s			*e*S	**Sn**	**10 50 06.0**	**-0.4**
	198nm,0.0s						
TDK	**Taldyqorghan**	**1.42**	**15**	P	**Pn**	**10 49 47.2**	**-0.4**
TDK	24nm,0.1s			S	**Sn**	**10 50 06.0**	**-0.4**
	146nm,0.3s						
DJR	**Jarkent**	**1.55**	**62**	*e*P	**Pn**	**10 49 49.2**	**-0.3**
DJR	8.6nm,0.1s			*e*S	**Sn**	**10 50 09.4**	**-0.3**
	40nm,0.1s						
DJR	**Jarkent**	**1.55**	**62**	P	**Pn**	**10 49 49.2**	**-0.3**
DJR	11nm,0.2s			S	**Sn**	**10 50 09.4**	**-0.3**
	22nm,0.2s						
DGS	**Degeres**	**1.58**	**256**	*e*P	**Pn**	**10 49 49.9**	**0.0**
DGS	17nm,0.1s			*e*S	**Sn**	**10 50 10.8**	**+0.5**
	70nm,0.1s						
DGS	**Degeres**	**1.58**	**256**	P	**Pn**	**10 49 49.9**	**0.0**
DGS	18nm,0.4s			S	**Sn**	**10 50 10.8**	**+0.5**
	92nm,0.8s						
KDJ	**Kajisay**	**1.58**	**199**⇑	*i*P	**Pn**	**10 49 50.3**	**+0.3**
KDJ	baz=98			⇑*i*S	**Sn**	**10 50 11.0**	**+0.4**
	baz=98						
KRBS	**Karabastau**	**1.60**	**273**	*e*P	**Pn**	**10 49 49.9**	**-0.2**
KRBS	26nm,0.2s			*e*S	**Sn**	**10 50 11.1**	**+0.3**
	85nm,0.3s						
KRBS	**Karabastau**	**1.60**	**273**	P	**Pn**	**10 49 49.9**	**-0.2**
KRBS	26nm,0.2s			S	**Sn**	**10 50 11.1**	**+0.3**
	85nm,0.3s						
TKM2	**Tokmak 2**	**1.81**	**248**⇑	*i*P	**Pn**	**10 49 53.9**	**+0.8**
TKM2	baz=48			⇑*i*S	**Sb**	**10 50 17.9**	**+0.1**
	baz=48						
TKM2	**Tokmak 2**	**1.81**	**248**	⇑P	**Pn**	**10 49 53.1**	**0.0**
TKM2	4.8nm,0.3s			⇑S	**Sb**	**10 50 18.2**	**+0.4**
	6.4nm,0.2s						
KTMS	**Ketmen**	**1.81**	**95**	*e*P	**Pn**	**10 49 52.5**	**-0.6**
KTMS	4.7nm,0.0s			*e*S	**Sn**	**10 50 15.4**	**-0.7**
	20nm,0.0s						
KTMS	**Ketmen**	**1.81**	**95**	P	**Pn**	**10 49 52.5**	**-0.6**
KTMS	4.7nm,0.6s			S	**Sn**	**10 50 15.4**	**-0.7**
	13nm,0.3s						
BOOM	**Boomskoye usch**	**1.82**	**232**⇑	*i*P	**Pn**	**10 49 54.2**	**+0.9**
BOOM	baz=32			⇑*i*S	**Sb**	**10 50 17.8**	**-0.3**
	baz=32						
ULHL	**Ulahol**	**1.83**	**221**⇑	*i*P	**Pn**	**10 49 54.4**	**+0.9**
ULHL	baz=21			⇑*i*S	**Sb**	**10 50 18.6**	**+0.1**
	baz=21						
KAPS	**Kapalarasan**	**1.97**	**32**	*e*P	**Pn**	**10 49 56.5**	**+1.3**
KAPS	2.9nm,0.0s			*e*S	**Sb**	**10 50 22.1**	**-0.2**
	65nm,0.1s						
KAPS	**Kapalarasan**	**1.97**	**32**	Pg	**Pn**	**10 49 56.5**	**+1.3**
KAPS	3.8nm,0.4s			Lg	Lg	10 50 22.1	
	56nm,0.3s						
CHMS	**Chumysh**	**2.37**	**256**⇑	*i*P	**Pn**	**10 50 01.6**	**+1.0**
CHMS	baz=56			⇑*i*S	**Sn**	**10 50 31.0**	**+1.4**
	baz=56						

CHMS	**Chumysh**	**2.37**	**256**	⇓Pn	**Pn**	**10 50 02.2**	**+1.6**
	3.3nm,0.5s							
CHMS				⇑Sn	**Sb**	**10 50 33.9**	**+0.3**
	3.6nm,0.2s							
SGDS	**Sogindy**	**2.37**	**267**	*eP*	**Pb**	**10 50 03.5**	**-1.0**
	2.4nm,0.0s							
SGDS				*eS*	**Sb**	**10 50 33.9**	**+0.1**
	11nm,0.1s							
SGDS	**Sogindy**	**2.37**	**267**	Pg	**Pb**	**10 50 03.6**	**-1.0**
	2.6nm,0.3s							
SGDS				Lg	Lg	10 50 33.8		
	8.8nm,0.4s							
AAK	**Ala-Archa**	**2.67**	**249**	⇑*eP*	**Pn**	**10 50 06.0**	**+1.1**
	baz=49							
AAK				⇑*iS*	**Sn**	**10 50 38.5**	**+1.3**
	baz=49							
UCH	**Uchtor**	**2.84**	**242**	⇑*iP*	**Pn**	**10 50 08.4**	**+0.9**
	baz=42							
UCH				⇑*iS*	**Sn**	**10 50 43.0**	**+1.1**
	baz=42							
BTLS	**Baital**	**3.09**	**299**	*eP*	**Pb**	**10 50 16.1**	**-0.7**
	1.0nm,0.1s							
BTLS				*eS*	**Sb**	**10 50 55.3**	**+0.9**
	3.2nm,0.2s							
BTLS	**Baital**	**3.09**	**299**	Pg	**Pb**	**10 50 16.1**	**-0.7**
	1.0nm,0.2s							
BTLS				Lg	Lg	10 50 55.3		
	1.8nm,0.3s							
MRKS	**Merke**	**3.51**	**257**	*eP*	**Pb**	**10 50 23.8**	**-0.3**
	0.6nm,0.1s							
MRKS				*eS*	**Sb**	**10 51 08.8**	**+2.0**
	3.2nm,0.0s							
MAKZ	**Makanchi**	**4.30**	**41**	⇑Pn	**Pn**	**10 50 29.1**	**+1.9**
	0.4nm,0.4s							
MAKZ				⇓Lg	Lg	10 51 36.9		
	1.0nm,0.4s							
MK31	**Makanchi Array**	**4.44**	**43**	Pn	**Pn**	**10 50 29.2**	**0.0**
	baz=220,slow=12,SNR=4.1							
MK31				⇓Lg	Lg	10 51 41.1		
	0.9nm,0.4s,baz=224,slow=28,SNR=6.7							
KK31	**Karatay Array**	**5.39**	**267**	⇑Pg	**Pb**	**10 50 58.6**	**+2.5**
	0.2nm,0.3s,baz=80,slow=16,SNR=7.9							
KK31				⇑Lg	Lg	10 52 13.4		
	2.0nm,0.5s,baz=80,slow=28,SNR=6.2							
KURK	**Kurchatov**	**7.11**	**4**	⇑Lg	Lg	10 53 07.5		
	1.2nm,0.6s							

*SOME **08** 10:53:52.4, 40˚.93N × 70˚.03E, h10km*
*KRNET **08** 10:53:52.8±0.1, 41˚.03N × 70˚.15E, h13km, mb2.6*
ISC 08 10:53:52.9±1.9**, 40˚.99N**±0˚.04×**70˚.14E**±0˚.08**, h9**km±13km**, n9, σ0ˢ89/18, 9C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.93**	**54**	⇑*iP*	**Pg**	**10 54 09.9**	**-0.9**
	baz=60						
TRKS				⇑*iS*	**Sg**	**10 54 22.3**	**-0.6**
	baz=60						
BTK	**Batken**	**1.06**	**151**	⇑*eP*	**Pn**	**10 54 13.8**	**-0.3**
	baz=52						
BTK				⇑*iS*	**Sn**	**10 54 29.2**	**+0.2**
	baz=52						
IUG	**Iuzhnay**	**1.16**	**356**	*eP*	**Pn**	**10 54 14.9**	**-0.6**
	88nm,0.1s						
IUG				*eS*	**Sn**	**10 54 30.9**	**-0.7**
	29nm,0.1s						
ARK	**Arkit**	**1.59**	**59**	⇑*iP*	**Pb**	**10 54 22.3**	**-0.3**
	baz=60						
ARK				⇑*iS*	**Sb**	**10 54 43.9**	**+1.0**
	baz=60						
DRK	**Karamyk**	**1.97**	**139**	⇓*iP*	**Pg**	**10 54 30.2**	**-0.5**
	baz=40						
DRK				⇓*iS*	**Sg**	**10 54 57.5**	**+1.3**
	baz=40						
BRLS	**Borolday**	**2.06**	**354**	*eP*	**Pn**	**10 54 27.6**	**0.0**
	3.4nm,0.1s						
BRLS				*eS*	**Sn**	**10 54 52.8**	**-0.6**
	11nm,0.1s						
OHH	**Osh**	**2.06**	**102**	⇑*iP*	**Pb**	**10 54 30.6**	**0.0**
	baz=3.0						
OHH				⇑*iS*	**Sg**	**10 54 58.6**	**-0.5**
	baz=3.0						
KK31	**Karatay Array**	**2.13**	**7**	Pn	**Pb**	**10 54 32.5**	**+0.7**
	5.8nm,0.8s,baz=190,slow=16,SNR=23						
KK31				⇑Sn	**Sg**	**10 55 02.3**	**+0.8**
	8.4nm,0.7s,baz=189,slow=26,SNR=8.3						
MRKS	**Merke**	**2.90**	**52**	*eP*	**Pg**	**10 54 48.4**	**-0.1**
	2.5nm,0.0s						
MRKS				*eS*	**Sg**	**10 55 28.0**	**+2.0**
	6.5nm,0.1s						

IDC 08 10:57:26.0±2.2**, 54˚.64N** × **83˚.75E, h0**km**, mb1 2.7**/2**, mb1mx2.7**/42**, mbtmp2.7**/2**, ML2.5**/2**, Error ellipse: s-maj=18.5km s-min=10.9km az=171.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**137**	*i*		11 02 20.0	
	baz=319,slow=325,SNR=0.9						
ZALV	**Zalesovo Beam**	**0.94**	**137**	Pg	Pg	10 57 43.4	-0.5
	8.7nm,0.3s,baz=315,slow=16,SNR=52						
ZALV				Lg	Lg	10 57 57.5	
	12nm,0.3s,baz=318,slow=30,SNR=38						
KURBB	**Kurchatov Arra**	**5.13**	**220**	Pn	Pn	10 58 44.0	0.0
	0.1nm,0.3s,baz=40,slow=13,SNR=6.6						
KURBB				Lg	Lg	11 00 08.5	
	0.1nm,0.3s,baz=59,slow=42,SNR=4.5						
MKAR	**Makanchi Array**	**7.91**	**187**	Pn	Pn	10 59 22.5	+0.3
	0.1nm,0.3s,baz=11,slow=12,SNR=5.7						

IDC 08 11:08:48.5±1.9**, 14˚.07S** × **166˚.54E, h0**km**, mb3.5**/3**, mb1 3.8**/4**, mb1mx3.5**/34**, mbtmp3.6**/4**, ML3.2**/1**, Error ellipse: s-maj=55.2km s-min=34.1km az=127.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.96**	**181**	Pn	Pn	11 10 45.6	-0.1
	0.3nm,0.3s,baz=23,slow=21,SNR=1.8						
WRA	**Warramunga Arr**	**31.31**	**255**	P	P	11 15 10.8	+0.1
	0.5nm,0.8s,baz=86,slow=9.2,SNR=2.7						
ASAR	**Alice Springs**	**32.26**	**248**	P	P	11 15 19.0	-0.1
	0.1nm,0.3s,baz=75,slow=9.5,SNR=6.6						
ILAR	**Eielson Array**	**86.12**	**18**	P	P	11 21 30.9	0.0
	0.4nm,0.8s,baz=235,slow=5.4,SNR=5.1						

IDC 08 11:11:56.4±2.1**, 14˚.00S** × **166˚.47E, h0**km**, mb3.4**/3**, mb1 3.7**/4**, mb1mx3.5**/42**, mbtmp3.4**/4**, ML2.9**/1**, Error ellipse: s-maj=55.9km s-min=37.0km az=125.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.03**	**180**	Pn	Pn	11 13 54.4	0.0
	0.2nm,0.3s,baz=15,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**31.26**	**255**	P	P	11 18 18.3	+0.1
	0.4nm,0.9s,baz=85,slow=9.3,SNR=2.2						
ASAR	**Alice Springs**	**32.22**	**248**	P	P	11 18 26.5	-0.1
	0.2nm,0.5s,baz=75,slow=9.1,SNR=4.7						
ILAR	**Eielson Array**	**86.08**	**18**	P	P	11 24 38.7	0.0
	0.3nm,0.8s,baz=231,slow=5.7,SNR=2.1						

*IDC **08** 11:14:47.0±5.6, 1˚.48S × 99˚.74E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/61, mbtmp3.4/4, Error ellipse: s-maj=289.9km s-min=25.8km az=54.0*
*DJA **08** 11:14:52.2±0.8, 2˚.5S × 104˚.0E±˚, h30km±14km, M3.9/6, MLv3.9/6*
ISC 08 11:14:51.6±1.0**, 1˚.60S**±0˚.06×**99˚.53E**±0˚.06**, h30**km**, n19, σ1ˢ08/16, mb3.4/4, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.52**	**302**	P	**Pn**	**11 15 03.8**	**+0.8**
SISI				S	**Sn**	**11 15 12.1**	**+1.3**
PPSI	**Pulau Pagai**	**1.25**	**157**	P	**Pn**	**11 15 13.0**	**-0.1**
PPI	**Padang Panjang**	**1.43**	**37**	P	**Pn**	**11 15 15.7**	**+0.1**
PPI				S	**Sn**	**11 15 34.0**	**+0.7**
KRJI	**Kerinci**	**1.99**	**104**	P	**Pn**	**11 15 24.9**	**+1.5**
KRJI				S	**Sn**	**11 15 48.7**	**+1.3**
MNSI	**Mandailing Nat**	**2.38**	**1**	P	**Pn**	**11 15 30.0**	**+1.3**
BKNI	**Bangkinang**	**2.44**	**38**	P	**Pn**	**11 15 29.1**	**-0.3**
MASI	**Maura Aman, Be**	**3.11**	**120**	P	**Pn**	**11 15 40.1**	**+1.4**
MNAI	**Manna**	**4.38**	**129**	P	**Pn**	**11 15 57.1**	**+0.9**
H08S2	**Diego Garcia H**	**27.60**	**257**	T	T	11 49 09.1	
	baz=79,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**27.60**	**257**	T	T	11 49 08.5	
	baz=79,slow=76,SNR=17						
H08S1	**Diego Garcia H**	**27.61**	**257**	T	T	11 49 05.3	
	baz=79,slow=76,SNR=17						
H01W3	**Cape Leeuwin H**	**35.80**	**159**	T	T	11 59 38.8	
	baz=335,slow=76,SNR=5.6						
H01W2	**Cape Leeuwin H**	**35.81**	**159**	T	T	11 59 39.5	
	baz=335,slow=76,SNR=5.4						
H01W1	**Cape Leeuwin H**	**35.82**	**159**	T	T	11 59 40.1	
	baz=335,slow=76,SNR=3.9						
WRA	**Warramunga Arr**	**38.60**	**121**	P	**P**	**11 22 10.8**	**-1.6**
	0.3nm,0.9s,baz=300,slow=9.4,SNR=1.7						
ASAR	**Alice Springs**	**39.87**	**126**	P	**P**	**11 22 22.3**	**-0.6**
	0.1nm,0.3s,baz=291,slow=7.9,SNR=1.4						
MKAR	**Makanchi Array**	**50.52**	**345**	P	**P**	**11 23 46.9**	**-0.3**
	0.5nm,0.5s,baz=157,slow=8.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**56.69**	**350**	P	**P**	**11 24 31.4**	**-0.8**
	0.5nm,0.3s,baz=165,slow=6.2,SNR=4.6						
TXAR	**Lajitas Array**	**144.67**	**36**	PKP	**PKPab**	**11 34 24.6**	**-0.3**
	0.3nm,0.4s,baz=214,slow=0.5,SNR=10						

*IDC **08** 11:23:12.6±1.7, 1˚.86S × 121˚.45E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/43, mbtmp3.5/4, ML3.6/1, MS2.5/1, Ms1 2.5/1, ms1mx2.1/40, Error ellipse: s-maj=44.4km s-min=26.4km az=84.0*
*DJA **08** 11:23:14.7±0.3, 2˚.5S × 121˚.1E±˚, h10km, M4.0/11, mb4.3/1, MLv3.8/11*
ISC 08 11:23:17.9±1.1**, 1˚.90S**±0˚.05×**121˚.29E**±0˚.08**, h35**km**, n14, σ1ˢ78/15, mb3.3/3, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.04**	**20**	P	**Pn**	**11 23 35.0**	**-1.1**
LUWI	**Luwuk**	**1.71**	**60**	P	**Pn**	**11 23 44.9**	**-0.3**
TTSI	**Tana Toraja**	**1.86**	**232**	P	**Pn**	**11 23 46.1**	**-1.3**
MRSI	**Marisa**	**2.44**	**15**	P	**Pn**	**11 23 54.3**	**-1.1**
SPSI	**Sidrap Palu**	**2.56**	**216**	P	**Pn**	**11 23 55.8**	**-1.1**
MPSI	**Mapaga**	**2.62**	**328**	P	**Pn**	**11 23 57.2**	**-0.6**
BNSI	**Bone**	**2.75**	**205**	P	**Pn**	**11 23 58.8**	**-0.8**
GTOI	**Gorontalo**	**3.04**	**34**	P	**Pn**	**11 24 03.9**	**+0.3**
KAPI	**Kappang**	**3.46**	**206**	Pn	**Pn**	**11 24 08.1**	**-1.2**
	5.6nm,0.3s,baz=28,slow=15,SNR=4.4						
KAPI				Sn	**Sn**	**11 24 54.0**	**+4.9**
	4.6nm,0.3s,baz=65,slow=18,SNR=6.3						
KAPI				LR	LR	11 25 34.1	
	comp=Z,67nm,18.3s,baz=32,slow=40						
BKSI	**Bulukumba**	**3.60**	**199**	P	**Pn**	**11 24 10.5**	**-0.7**
BSSI	**Bau Bau, Buton**	**4.29**	**191**	P	**Pn**	**11 24 18.8**	**-2.0**
WRA	**Warramunga Arr**	**22.01**	**145**	P	**P**	**11 28 08.2**	**-1.2**
	1.4nm,1.1s,baz=325,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**24.85**	**152**	P	**P**	**11 28 36.8**	**-0.6**
	0.6nm,0.6s,baz=327,slow=8.5,SNR=9.0						
SONM	**Songino Array**	**51.21**	**347**	P	**P**	**11 32 18.0**	**-0.1**
	0.3nm,0.4s,baz=167,slow=8.3,SNR=2.5						

TEH 08 11:25:21.0, 33˚.82N × **48˚.71E, h8**km**, ML3.7, Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSAM	**Samen**	**0.40**	**347**	*e*Pg	Pb	11 25 30.1	-0.5
HSAM				*e*Sg	Sb	11 25 36.9	-0.2
IDOB	**Doab**	**0.44**	**266**	*e*Pg	Pb	11 25 31.2	-0.1
IKFM	**Kafar-mosalman**	**0.78**	**248**	*e*Pg	Pb	11 25 37.0	+0.2
IBZA	**Bozab**	**0.96**	**313**	*e*Pg	Pb	11 25 40.2	+0.1
KHMZ	**Khomeyn**	**1.04**	**94**	*e*Pg	Pg	11 25 39.9	-1.2
HAGD	**Aghdareh**	**1.06**	**19**	*e*Pg	Pg	11 25 40.9	-0.6
HAGD				*e*		11 25 58.3	
	comp=Z,44μm,0.2s						
ASAO	**Ashtian**	**1.31**	**56**	*e*Pg	Pn	11 25 45.2	-0.7
KER	**Kermanshah**	**1.43**	**294**	*e*Pg	Pg	11 25 49.5	+1.1
KCHF	**Cheshme Sefid,**	**1.46**	**289**	*e*Pn	Pg	11 25 49.0	0.0
KCHF				*e*		11 26 18.5	
	comp=Z,13μm,0.4s						
DHL1	**Dehloran**	**1.65**	**227**	*e*Pn	Pg	11 25 53.3	+0.7
IGHG	**Ghaleghazi**	**1.85**	**287**	*e*Pn	Pb	11 25 55.7	+0.5
IGHG				*e*		11 26 36.6	
	comp=Z,8μm,0.6s						
IDHR	**Dehrash**	**2.12**	**295**	*e*Pn	Pb	11 26 00.5	+0.7
IDHR				*e*		11 26 42.6	
	comp=Z,7μm,0.4s						
IPIR	**Pirpir**	**2.15**	**121**	*e*Pn	Pb	11 25 59.8	-0.6
IPIR				*e*		11 26 40.3	
	comp=Z,4μm,0.6s						
AMIS	**Naft Sefid**	**2.20**	**167**	*e*Pn	Pb	11 26 00.4	-0.7
GHVR	**GHOM**	**2.24**	**72**	*e*Pg	Pb	11 26 01.1	-0.8
SHK1	**Shahrekord**	**2.35**	**129**	*e*Pn	Pb	11 26 02.9	-0.9
SHK1				*e*		11 26 42.5	
	comp=Z,2μm,0.6s						
IKLH	**Kolahrood**	**2.45**	**101**	*e*Pn	Pb	11 26 04.8	-0.6
IKLH				*e*		11 26 44.0	
	comp=Z,3μm,0.4s						
IHSB	**Hasanabad**	**2.66**	**52**	*e*		11 26 47.7	
	comp=Z,4μm,0.5s						
IHSB				*e*Pn	Pb	11 26 08.1	-0.9
THKV	**Tehran--Karaj**	**2.75**	**40**	*e*Pn	Pn	11 26 07.4	+1.7
IVRN	**Varamin**	**2.76**	**64**	*e*		11 26 48.4	
	comp=Z,4μm,0.3s						
IVRN				*e*Pn	Pb	11 26 08.9	-1.7
IGZV	**Ghazvin**	**2.85**	**25**	*e*Pn	Pb	11 26 10.3	-1.9
IGZV				*e*		11 26 57.9	
	comp=Z,2μm,0.8s						
ZNJK	**Zanjan**	**2.85**	**360**	*e*Pn	Pb	11 26 11.9	-0.4
KRSH	**Karshahi**	**2.85**	**86**	*e*Pn	Pb	11 26 10.9	-1.4
IBRJ	**Brojen**	**2.87**	**131**	*e*Pn	Pb	11 26 10.6	-2.1
IBRJ				*e*		11 27 05.7	
	comp=Z,1μm,0.9s						
CHTH	**Charan**	**2.88**	**43**	*e*Pn	Pb	11 26 10.9	-1.9
TEHA	**Amirabad Tehra**	**2.93**	**48**	*e*	Sg	11 26 54.4	-0.7
	comp=Z,4μm,0.3s						
ISFB	**Sefidab**	**2.98**	**79**	*e*Pn	Pb	11 26 11.7	-2.7
QALM	**Alamut, Qazvin**	**3.05**	**31**	*e*Pn	Pb	11 26 13.8	-2.0
IGAR	**Gharneh**	**3.13**	**116**	*e*Pn	Pn	11 26 13.6	+2.7
IGAR				*e*		11 26 21.9	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**3.17**	**106**	*e*Pn	Pb	11 26 14.7	-3.0
IZEF				*e*		11 27 03.4	
	comp=Z,1μm,0.8s						
DAMV	**Damavand**	**3.24**	**55**	*e*Pn	Pn	11 26 15.1	+2.7
IDMV	**Damavand**	**3.25**	**56**	*e*Pn	Pb	11 26 16.0	-3.2
IDMV				*e*		11 27 21.5	
	comp=Z,2μm,0.7s						
NASN	**Na'in**	**3.58**	**105**	*e*Pn	Pn	11 26 19.0	+1.8
KLNJ	**Kolanjah**	**3.71**	**138**	*e*Pn	Pn	11 26 21.2	+2.2
KLNJ				*e*		11 27 31.3	
	comp=Z,823nm,0.8s						
IFIR	**Firoozkooh**	**3.80**	**60**	*e*Pn	Pn	11 26 22.8	+2.7
IFIR				*e*		11 27 25.1	
	comp=Z,997nm,1.0s						
ISRB	**Sarab**	**4.09**	**348**	*e*Pn	Pn	11 26 27.0	+2.9
ANAR	**Anarak**	**4.24**	**97**	*e*Pn	Pn	11 26 28.9	+2.8
ISHM	**Shahmirzad**	**4.26**	**61**	*e*Pn	Pn	11 26 29.7	+3.2
ISHM				*e*		11 27 43.3	
	comp=Z,2μm,0.4s						
IAZR	**Azarshahr**	**4.45**	**331**	*e*Pn	Pn	11 26 33.2	+4.2
GRMI	**Germi**	**5.02**	**353**	*e*Pn	Pn	11 26 41.4	+4.6
YZKH	**Yazd**	**5.14**	**104**	*e*Pn	Pn	11 26 40.0	+1.6
AHBU	**AHRAM**	**5.41**	**155**	*e*Pn	Pn	11 26 44.6	+2.6
SHRO	**Shahrood**	**6.38**	**68**	*e*Pn	Pn	11 26 58.0	+2.5
TNSJ	**Nastanj**	**6.57**	**87**	*e*Pn	Pn	11 27 01.1	+3.0
TPRV	**Parvadeh(Tabas**	**6.72**	**95**	*e*Pn	Pn	11 27 02.5	+2.4
TABS	**Tabas**	**7.01**	**89**	*e*Pn	Pn	11 27 06.1	+2.0
TKDS	**Koohdasht(Taba**	**7.01**	**89**	*e*Pn	Pn	11 27 07.4	+3.2
BSRN	**Basiran**	**8.95**	**99**	*e*Pn	Pn	11 27 32.4	+1.6

*UUSS **08** 11:26:53.0±1.5, 37˚.15N±0˚.03×112˚.98W±0˚.02, h22km±1km, ML2.6/6, ML2.5/79(NEIC), Error ellipse: s-maj=4.7km s-min=3.3km az=213.0*
NEIC 08 11:26:53.1±1.4**, 37˚.15N**±0˚.02×**112˚.96W**±0˚.03**, h21**km±8km**, Error ellipse: s-maj=4.4km s-min=2.6km az=221.0, Utah**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNB	**Kanab**	**0.17**	**139**		Pb	11 26 58.1	-1.1
KNB					Sb	11 27 01.6	-1.8
KNB	**Kanab**	**0.17**	**139**	IAML		11 27 01.8	
	comp=N,1μm,0.4s						
KNB				IAML		11 27 01.8	
	comp=E,1μm,0.3s						
ZNPU	**Zion National**	**0.25**	**328**		Pb	11 26 59.1	-0.3
ZNPU					Sb	11 27 03.6	-0.3
LCMT	**Little Creek M**	**0.26**	**240**		Pb	11 26 59.4	-0.1
LCMT					Sb	11 27 03.8	-0.2
LCMT	**Little Creek M**	**0.26**	**240**	IAML		11 27 04.3	
	comp=N,2μm,0.2s						
LCMT				IAML		11 27 04.4	
	comp=E,2μm,0.1s						
EKU	**East Kanab**	**0.38**	**101**		Pb	11 27 01.2	+0.1
BHU	**Blowhard Mount**	**0.45**	**10**		Pb	11 27 02.7	+0.1
BHU					Sb	11 27 09.4	+0.5
SZCU	**Shurtz Canyon**	**0.46**	**347**		Pb	11 27 02.3	-0.3
SZCU					Sb	11 27 08.9	-0.2
SZCU	**Shurtz Canyon**	**0.46**	**347**	IAML		11 27 09.0	
	comp=N,5μm,0.1s						
CCUT	**Cedar City**	**0.52**	**322**		Pb	11 27 03.5	-0.1
CCUT					Sb	11 27 10.8	+0.1
CCUT	**Cedar City**	**0.52**	**322**	IAML		11 27 11.0	
	comp=E,211nm,0.5s						
CCUT				IAML		11 27 11.1	
	comp=N,178nm,0.2s						
PKCU	**Pink Cliffs**	**0.60**	**60**		Pb	11 27 05.1	0.0
PKCU	**Pink Cliffs**	**0.60**	**60**	IAML		11 27 14.5	
	comp=N,631nm,0.4s						
PKCU				IAML		11 27 16.4	
	comp=E,620nm,0.3s						
ARUT	**Antelope Range**	**0.75**	**329**		Pb	11 27 07.4	-0.1
ICU	**Indian Springs**	**0.77**	**271**		Pb	11 27 07.3	-0.5
U15A	**North Rim**	**0.90**	**143**		Pb	11 27 10.3	+0.2
U15A				IAML		11 27 22.4	
	comp=N,187nm,0.4s						
U15A				IAML		11 27 27.9	
	comp=E,99nm,0.5s						
DWU	**Dry Willow Pea**	**0.96**	**358**		Pb	11 27 11.0	-0.1
BTU	**Barney Top**	**1.06**	**55**		Pn	11 27 13.4	+0.4
MTPU	**Mount Pierson**	**1.09**	**34**		Pn	11 27 13.4	0.0
MTPU	**Mount Pierson**	**1.09**	**34**	IAML		11 27 28.5	
	comp=E,71nm,0.4s						
MTPU				IAML		11 27 29.2	
	comp=N,80nm,0.3s						
MSU	**Marysvale**	**1.50**	**24**		Pn	11 27 19.0	+0.1
TCRU	**Three Creeks R**	**1.52**	**15**		Pb	11 27 21.3	+0.7
TCRU				IAML		11 27 40.8	
	comp=N,43nm,0.7s						
TCRU				IAML		11 27 41.0	
	comp=E,61nm,0.3s						
PSUT	**Pine Spring**	**1.56**	**333**		Pb	11 27 20.8	-0.5
PSUT				IAML		11 27 43.1	
	comp=E,49nm,1.0s						
PRN	**Pahroc Range**	**1.69**	**279**		Pn	11 27 21.3	-0.2
PRN				IAML		11 27 48.2	
	comp=E,90nm,0.5s						
PRN				IAML		11 27 48.9	
	comp=N,74nm,0.4s						
SHPR	**Sheep Range**	**1.88**	**251**	Pn	Pn	11 27 24.0	-0.1
SHPR				IAML		11 27 53.1	
	comp=N,33nm,0.6s						
SHPR				IAML		11 27 53.3	
	comp=E,39nm,0.3s						
WUAZ	**Wupatki**	**2.07**	**141**	Pn	Pn	11 27 28.3	+1.6
W13A	**Hualapai Mount**	**2.18**	**200**		Pn	11 27 29.5	+1.2
W13A				IAML		11 28 04.0	
	comp=E,19nm,0.3s						
Q16A	**Castle Valley**	**2.26**	**38**		Pn	11 27 31.2	+1.8
S11A	**Rachel**	**2.27**	**283**	Pn	Pb	11 27 32.2	-1.3
S11A				IAML		11 28 05.3	
	comp=N,64nm,0.7s						
S11A				IAML		11 28 06.2	
	comp=E,70nm,0.8s						
R11A	**Troy Canyon, C**	**2.40**	**301**	Pn	Pn	11 27 31.5	+0.2
TMUT	**Trail Mountain**	**2.55**	**32**	Pn	Pn	11 27 34.9	+1.4
TMUT				IAML		11 28 14.3	
	comp=N,17nm,0.4s						
TMUT				IAML		11 28 19.8	
	comp=E,14nm,1.1s						
TPNV	**Topopah Spring**	**2.64**	**267**	Pn	Pn	11 27 35.5	+0.9
TPNV				IAML		11 28 21.2	
	comp=E,14nm,0.5s						
SRU	**San Rafael Swe**	**2.75**	**44**	Pn	Pn	11 27 34.4	-1.7
SRU				IAML		11 28 23.6	
	comp=N,12nm,0.9s						
NLU	**North Lily Min**	**2.89**	**14**	Pn	Pn	11 27 38.9	+0.8
X16A	**Lo Mia Camp, P**	**2.99**	**155**	Pn	Pn	11 27 38.2	-1.2
X16A				IAML		11 28 31.5	
	comp=E,11nm,0.4s						
DUG	**Dugway, Tooele**	**3.05**	**2**	Pn	Pn	11 27 39.8	-0.3
GWY	**Greenwater Val**	**3.13**	**253**	Pn	Pn	11 27 41.5	+0.1
GWY				IAML		11 28 37.4	
	comp=N,12nm,0.5s						
GWY				IAML		11 28 39.4	
	comp=E,12nm,0.8s						
W18A	**Petrified Fore**	**3.30**	**127**	Pn	Pn	11 27 43.7	0.0
W18A				IAML		11 28 43.4	
	comp=N,21nm,0.6s						
QSM	**Queen of Sheba**	**3.36**	**251**	Pn	Pn	11 27 43.5	-0.9
QSM				IAML		11 28 41.2	
	comp=E,6.4nm,0.5s						
PV23	**Carpenter Ridg**	**3.39**	**66**	Pn	Pn	11 27 45.1	+0.1
PV13	**Radium Mtn., P**	**3.44**	**72**	Pn	Pn	11 27 45.1	-0.5
PV11	**David Mesa, Pa**	**3.44**	**69**	Pn	Pn	11 27 43.3	-2.3
PV04	**Paradox Valley**	**3.45**	**68**	Pn	Pn	11 27 46.6	+0.9
TPH	**Tonopah**	**3.51**	**287**	Pn	Pn	11 27 45.5	-1.1
MVCO	**Mesa Verde**	**3.56**	**88**	Pn	Pn	11 27 46.9	-0.5
MVCO				IAML		11 28 51.4	
	comp=E,20nm,0.8s					

EZN	Ezine	1.45	348	PN	Pg	11 32 17.8	+0.2
BOZC	Bozcaada	1.52	341	PN	Pg	11 32 18.8	-0.2
KULA	Kula-Manisa	1.54	85	PN	Pg	11 32 19.3	-0.1
LPK	Lapseki	1.96	1	PN	Pb	11 32 25.0	-0.7
GELI	Tayfur-Gelibol	2.00	355	PN	Pb	11 32 25.6	-0.7
KRBG	Karabiga-Canak	2.04	13	PN	Pb	11 32 26.2	-0.8

*KRSC **08** 11:52:50.4±2.4, 48°.19N×156°.51E, h16km±34km, ML4.0*
*SKHL **08** 11:52:51.0±0.4, 48°.20N×154°.90E, h56km±4km, mb4.6/6*
*IDC **08** 11:52:55.2±3.3, 48°.40N×154°.71E, h64km±31km, mb3.3/7, mb1 3.7/9, mb1mx3.4/39, mbtmp3.7/9, ML3.3/2, MS2.8/3, Ms1 2.8/3, ms1mx2.4/50, Error ellipse: s-maj=33.1km s-min=18.4km az=138.0*

ISC 08 11:52:51.0±0.8, 48°.2N±0'.1×155°.0E±0'.1, h33km, n48, σ1s60/55, mb3.8/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	2.62	15	eP	Pn	11 53 29.8	-1.1
SKR				eS	Sn	11 53 59.7	-1.9
SKR	**Severo-Kuril's**	2.62	15	eP	Pn	11 53 30.3	-0.6
SKR				AMB	AMB	11 53 31.3	
	100nm,0.4s						
SKR				eS	Sn	11 53 59.3	-2.3
SKR				A	A	11 54 02.6	
	240nm,0.4s						
SKR				A	A	11 54 02.6	
	200nm,0.4s						
PAU	**Pauzhetka**	3.50	19	eP	Pn	11 53 43.5	+0.4
PAU	**Pauzhetka**	3.50	19	eP	Pn	11 53 42.9	-0.2
PAU				AMB	AMB	11 53 46.8	
	80nm,0.7s						
PAU				eS	Sn	11 54 21.5	-1.8
PAU				A	A	11 54 28.2	
	140nm,0.3s						
PAU				A	A	11 54 28.2	
	110nm,0.3s						
KDTR	**Khodutka, Kamc**	4.15	27	eP	Pn	11 53 51.3	-0.6
KDTR				eS	Sn	11 54 37.6	-1.6
MIPR	**Malaya Ipel'ka**	4.27	14	eP	Pn	11 53 54.5	+0.9
ASAK	**Asacha**	4.61	22	eP	Pn	11 53 59.2	+0.9
MTVR	**Mutnovka**	4.78	24	eP	Pn	11 54 01.1	+0.4
MTVR				eS	Sn	11 54 53.5	-1.4
GRL	**Gorelyy**	4.81	23	eP	Pn	11 54 02.3	+1.2
RUS	**Russkaya**	4.83	26	eP	Pn	11 54 00.5	-0.7
RUS				eS	Sn	11 54 53.7	-2.1
APC	**Apacha**	4.96	15	eP	Pn	11 54 05.2	+2.2
KRMR	**Karymshinskiy**	5.08	22	eP	Pn	11 54 05.7	+1.1
PETK	**Petropavlovsk-**	5.24	18	P	Pn	11 54 08.0	+1.1
	1.9nm,0.3s,baz=189,slow=16,SNR=19						
PETK				LR	LR	11 56 22.9	
	comp=Z,81nm,18.1s,baz=243,slow=41						
PET	**Petropavlovsk**	5.39	24	eP	Pn	11 54 09.1	+0.2
PET				eS	Sn	11 55 09.2	-0.5
PET	**Petropavlovsk**	5.39	24	eP	Pn	11 54 09.2	+0.3
PET				AMB	AMB	11 54 09.7	
	30nm,0.6s						
PET				eS	Sn	11 55 08.9	-0.8
PET				A	A	11 55 18.8	
	40nm,0.6s						
PET				A	A	11 55 18.8	
	30nm,0.6s						
DALK	**Dalny**	5.42	25	eP	Pn	11 54 09.6	+0.2
DALK				eS	Sn	11 55 09.6	-0.9
UGLR	**Uglovaya**	5.60	24	eP	Pn	11 54 13.0	+1.1
KOK	**Koryaka**	5.62	23	eP	Pn	11 54 13.8	+1.5
AVH	**Avacha**	5.63	23	eP	Pn	11 54 13.7	+1.4
SMAR	**Somma**	5.64	24	eP	Pn	11 54 13.5	+0.9
KRER	**Koryakskii**	5.67	23	eP	Pn	11 54 14.3	+1.4
SDLR	**Sedlovina**	5.68	24	eP	Pn	11 54 13.4	+0.4
KUR	**Kuril'sk**	5.73	242	eP	Pn	11 54 14.3	+0.7
KUR				AMB	AMB	11 54 16.9	
	90nm,0.8s						
KUR				eS	Sn	11 55 16.3	-1.9
KUR				A	A	11 55 27.7	
	50nm,0.5s						
KUR				A	A	11 55 27.7	
	60nm,0.5s						
GNL	**Ganaly**	5.84	17	eP	Pn	11 54 17.1	+1.9
SPN	**Mys Shipunski**	5.88	31	eP	Pn	11 54 14.8	-0.8
SPN				eS	Sn	11 55 18.3	-3.4
SHO	**Shikotan**	7.14	236	eP	Pn	11 54 32.5	-0.5
SHO				AMB	AMB	11 54 34.3	
	10.0nm,0.3s						
SHO				eS	Sn	11 55 51.2	-1.7
SHO				A	A	11 55 52.2	
	10.0nm,0.3s						
SHO				A	A	11 55 52.2	
	10.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	7.59	240	eP	Pn	11 54 40.2	+1.0
YUK				AMB	AMB	11 54 41.6	
	30nm,0.3s						
YUK				eS	Sn	11 56 01.3	-2.7
YUK				A	A	11 56 05.6	
	60nm,0.6s						
YUK				A	A	11 56 05.6	
	60nm,0.6s						
MKZ	**Mys Kozlova**	7.65	31	eP	Pn	11 54 38.0	-1.9
TUMD	**Tumrok D**	7.80	23	P	Pn	11 54 43.9	+1.9
TUMR	**Tumrok**	7.81	22	P	Pn	11 54 45.0	+2.8
NMR	**Nemuro--Hokkai**	8.07	237	eP	Pn	11 54 44.4	-1.4
NMR				eS	Sn	11 56 11.8	-4.1
KBTR	**Krutoberegovo**	9.37	28	eP	Pn	11 55 02.9	-0.5
ASAJ	**Asahikawa**	9.53	249	P	Pn	11 55 08.6	+2.9
	0.5nm,0.3s,baz=83,slow=20,SNR=6.8						
SHEM	**Shemya Is, Ala**	12.97	62	P	Pn	11 55 53.3	+0.5
	2.2nm,0.3s,baz=264,slow=18,SNR=5.1						
SHEM				LR	LR	12 00 42.8	
	comp=Z,27nm,20.4s,baz=14,slow=36						
KLR	**Kul'dur**	15.40	283	LR	LR	12 02 12.0	
	comp=Z,56nm,18.5s,baz=74,slow=37						
KSRS	**Korea Array**	22.47	252	P	P	11 57 48.7	+1.5
	0.8nm,0.6s,baz=45,slow=9.7,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	29.95	157	T	T	12 30 36.0	
	baz=345,slow=76,SNR=103						
H11N1	**WAKE ISLAND Hy**	29.96	157	T	T	12 30 41.0	
	baz=345,slow=76,SNR=200						
H11N3	**WAKE ISLAND Hy**	29.96	157	T	T	12 30 40.5	
	baz=345,slow=76,SNR=80						
H11S1	**WAKE ISLAND Hy**	31.07	158	T	T	12 32 03.8	
	baz=345,slow=76,SNR=1024						
H11S3	**WAKE ISLAND Hy**	31.08	158	T	T	12 32 01.4	
	baz=345,slow=76,SNR=1398						
H11S2	**WAKE ISLAND Hy**	31.09	158	T	T	12 32 01.2	
	baz=345,slow=76,SNR=1292						
MKAR	**Makanchi Array**	47.45	297	P	P	12 01 20.0	-2.2
	0.7nm,0.5s,baz=68,slow=8.8,SNR=11						
YKA	**Yellowknife Ar**	49.01	38	P	P	12 01 35.2	+1.2
	0.4nm,0.9s,baz=296,slow=6.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	53.96	257	P	P	12 02 12.1	+0.5
	0.3nm,0.3s,baz=32,slow=7.2,SNR=5.8						
WRA	**Warramunga Arr**	70.28	201	P	P	12 04 01.7	+0.9
	1.6nm,0.7s,baz=16,slow=6.4,SNR=10						
ASAR	**Alice Springs**	73.97	200	P	P	12 04 24.7	+1.8
	0.7nm,0.5s,baz=14,slow=5.4,SNR=12						
TXAR	**Lajitas Array**	75.67	62	P	P	12 04 34.3	+1.3
	0.2nm,0.8s,baz=320,slow=2.7,SNR=2.2						

*IDC **08** 12:12:13.6±1.6, 1°.05N×121°.02E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/33, mbtmp3.8/6, ML3.7/2, MS3.1/3, Ms1 3.1/3, ms1mx2.5/82, Error ellipse: s-maj=73.8km s-min=25.7km az=66.0*
*DJA **08** 12:12:15.1±0.4, 1°.N±3°×12°.0E±°, h10km, M4.2/11, mb4.4/2, mB4.7/1, MLv4.1/11, Mw(mB)3.9/1*
*NEIC **08** 12:12:19.4±2.3, 0°.98N±0°.09×120°.8E±0°.1, h44km±9km, mb4.0/8, Error ellipse: s-maj=17.0km s-min=12.2km az=65.0*

ISC 08 12:12:18.5±1.0, 0°.84N±0°.07×120°.48E±0°.08, h32km, n27, σ1s81/24, mb4.0/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	0.41	49		Pb	12 12 27.4	-0.3
MPSI	**Mapaga**	0.77	229	P	Pn	12 12 22.1	-11
MRSI	**Marisa**	1.51	104	P	Pb	12 12 47.1	+1.2
APSI	**Ampana**	2.10	146	P	Pn	12 12 52.9	+1.4
GTOI	**Gorontalo**	2.54	95	P	Pn	12 12 59.3	+1.7
LUWI	**Luwuk**	2.96	129	Pn	Pn	12 13 02.5	-0.8
LUWI	**Luwuk**	2.96	129	P	Pn	12 13 05.9	+2.5
TTSI	**Tana Toraja**	3.92	190	P	Pn	12 13 16.8	+0.3
MYLDM	**Lahad Datu**	4.74	335		Pn	12 13 27.0	-0.8
SPSI	**Sidrap Palu**	4.83	188	P	Pn	12 13 29.1	+0.1
BNSI	**Bone**	5.22	184	P	Pn	12 13 32.2	-2.2
	0.2nm700nm41nm,0.7s						
KAPI	**Kappang**	5.86	187	Pn	Pn	12 13 45.3	+2.0
	3.1nm,0.3s,baz=18,slow=14,SNR=4.4						
KAPI				LR	LR	12 16 02.7	
	comp=Z,143nm,21.1s,baz=29,slow=37						
BKSI	**Bulukumba**	6.13	183	P	Pn	12 13 45.4	-1.6
TNTI	**Ternate**	6.89	91	Pn	Pn	12 13 53.6	-3.8
BATI	**Baumata**	11.43	164	LR	LR	12 19 23.7	
	comp=Z,146nm,19.8s,baz=132,slow=37						
LEM	**Lembang**	14.92	239	LR	LR	12 22 53.1	
	comp=Z,50nm,18.9s,baz=84,slow=41						
KNRA	**Kununurra**	18.34	154	Pn	Pn	12 16 31.5	+0.9
KNRA				IAmb	IAmb	12 16 35.8	
	comp=Z,8.6nm,1.0s						
FITZ	**Fitzroy Crossi**	19.50	165	P	P	12 16 42.5	-0.6
	comp=Z,0.1nm,0.3s,baz=15,slow=9.5,SNR=5.8						
WB0	**Warramunga Arr**	24.61	147	P	P	12 17 33.6	-2.6
WB0				IAmb	IAmb	12 17 38.4	
	comp=Z,9.0nm,1.4s						
WRAB	**Tennant Creek**	24.73	147	P	P	12 17 34.5	-2.7
WRAB				IAmb	IAmb	12 17 59.0	
	comp=Z,7.7nm,1.4s						
WRA	**Warramunga Arr**	24.73	147	P	P	12 17 34.7	-2.5
	comp=Z,1.2nm,0.6s,baz=333,slow=9.5,SNR=13						
WB2	**Warramunga Arr**	24.73	147	P	P	12 17 35.3	-1.9
WR0	**Warramunga Arr**	24.85	147	P	P	12 17 37.0	-1.3
WR0				IAmb	IAmb	12 17 51.0	
	comp=Z,3.8nm,0.9s						
ASAR	**Alice Springs**	27.64	153	P	P	12 18 03.1	-0.4
	comp=Z,0.8nm,0.6s,baz=335,slow=9.6,SNR=4.9						
BBOO	**Buckleboo**	36.56	158	P	P	12 19 21.1	-0.4
STKA	**Stephens Creek**	38.20	150	P	P	12 19 36.3	+0.9
	comp=Z,1.3nm,0.5s,baz=330,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	56.59	329	P	P	12 21 58.9	+0.6
	comp=Z,0.8nm,0.9s,baz=134,slow=8.3,SNR=3.2						

*IDC **08** 12:19:49.4±0.9, 0°.82N×125°.84E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/36, mbtmp4.1/9, ML3.9/1, MS3.2/4, Ms1 3.2/4, ms1mx2.6/79, Error ellipse: s-maj=51.0km s-min=15.4km az=77.0*
*DJA **08** 12:19:53.1±0.3, 1°.N±4°×12°.6E±°, h10km, M4.3/10, mb4.5/2, mB4.7/1, MLv4.2/10, Mw(mB)3.9/1*
*NEIC **08** 12:19:55.7±1.7, 0°.87N±0°.09×126°.27E±0°.06, h35km±2km, mb4.4/15, Error ellipse: s-maj=14.9km s-min=9.4km az=186.0*

ISC 08 12:19:55.9±0.6, 0°.83N±0°.06×126°.22E±0°.05, h44km, n47, σ1s27/45, mb4.4/16, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	1.14	93		Pn	12 20 15.3	-0.2
TNTI	**Ternate**	1.14	93	P	Pn	12 20 15.4	-0.1
TNTI				S	Sn	12 20 32.9	+2.9
LBMI	**Labuha**	1.94	139	P	Pn	12 20 26.2	-0.2
KMSI	**Cibinong**	2.26	264	P	Pn	12 20 28.5	-2.2
SANI	**Sanana**	2.87	185	P	Pn	12 20 38.0	-1.2
GTOI	**Gorontalo**	3.22	267	P	Pn	12 20 44.1	+0.2
GTOI				S	Sn	12 21 25.0	+3.9
LUWI	**Luwuk**	3.92	242	Pn	Pn	12 20 54.9	+1.3
LUWI	**Luwuk**	3.92	242	P	Pn	12 20 53.0	-0.6
MRSI	**Marisa**	4.30	265	P	Pn	12 20 58.2	-0.6
APSI	**Ampana**	4.89	249	P	Pn	12 21 05.8	-1.1
SIJI	**Sorong**	5.32	109	LR	LR	12 23 42.0	
	comp=Z,175nm,18.9s,baz=62,slow=41						
TOLI2	**Tolitoli**	5.45	273	Pn	Pn	12 21 13.9	-0.7
TTSI	**Tana Toraja**	7.47	239	P	Pn	12 21 43.0	+0.6
MYLDM	**Lahad Datu**	8.84	299		Pn	12 22 02.9	+1.7
BATI	**Baumata**	11.26	193	LR	LR	12 27 44.9	
	comp=Z,127nm,21.7s,baz=44,slow=43						
MTN	**Manton Dam**	14.43	160	Pn	Pn	12 23 17.8	+0.3
KNRA	**Kununurra**	16.59	171	Pn	P	12 23 46.1	-1.4
KNRA				IAmb	IAmb	12 23 50.8	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	18.82	182	P	P	12 24 11.6	-0.5
	comp=Z,0.3nm,0.3s,baz=22,slow=8.9,SNR=12						
FITZ				LR	LR	12 32 45.8	
	comp=Z,40nm,18.5s,baz=133,slow=41						
FITZ	**Fitzroy Crossi**	18.82	182	P	Pn	12 24 12.0	-0.9
WB0	**Warramunga Arr**	21.98	159	P	P	12 24 46.2	-0.1
WB0				IAmb	IAmb	12 24 51.4	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	22.12	159	P	P	12 24 47.6	-0.2
WRAB				IAmb	IAmb	12 24 52.6	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	22.13	159	P	P	12 24 47.7	-0.2
	comp=Z,11nm,0.8s,baz=338,slow=11,SNR=91						
WRA	**Warramunga Arr**	22.13	159	P	P	12 24 46.2	-1.7
WB2	**Warramunga Arr**	22.13	159	P	P	12 24 47.8	-0.2
WB2				IAmb	IAmb	12 24 52.7	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	22.21	159	P	P	12 24 48.6	-0.2
WR0				IAmb	IAmb	12 24 50.0	
	comp=Z,6.1nm,0.7s						
COEN	**Coen**	22.31	132	P	P	12 24 49.2	-0.7
COEN				IAmb	IAmb	12 25 11.2	
	comp=Z,22nm,1.4s						
PSA00	**Pilbara Seismi**	23.12	195	P	P	12 24 59.1	+0.8
AS31	**Alice Springs**	25.47	163	P	P	12 25 20.3	+0.3
AS31				IAmb	IAmb	12 25 23.0	
	comp=Z,3.7nm,0.3s						
ASAR	**Alice Springs**	25.47	163	P	P	12 25 20.6	+0.5
	comp=Z,2.5nm,0.5s,baz=347,slow=13,SNR=79						
ASAR	**Alice Springs**	25.47	163	P	P	12 25 20.1	+0.1
JOW	**Kunigami**	25.93	4	LR	LR	12 35 00.2	
	comp=Z,99nm,20.0s,baz=115,slow=35						
FORT	**Forrest**	31.48	177	P	P	12 26 14.3	+0.7
BBOO	**Buckleboo**	34.73	165	P	P	12 26 42.2	+0.3
STKA	**Stephens Creek**	35.64	157	P	P	12 26 50.5	+0.7
	comp=Z,7.7nm,0.7s,baz=351,slow=7.8,SNR=11						
STKA	**Stephens Creek**	35.64	157	IAmb	IAmb	12 26 50.9	
	comp=Z,0.7nm,0.7s						
USRK	**Ussuriysk Ar.**	43.48	6	P	P	12 27 55.6	+0.7
	comp=Z,2.1nm,0.5s,baz=176,slow=7.2,SNR=4.6						
PETK	**Petropavlovsk-**	58.29	22	P	P	12 29 47.4	+1.4
	comp=Z,1.6nm,0.7s,baz=162,slow=2.9,SNR=7.6						
PETK	**Petropavlovsk-**	58.29	22	P	P	12 29 46.8	+0.7
MKAR	**Makanchi Array**	59.66	326	P	P	12 29 53.8	-1.9
	comp=Z,2.4nm,0.7s,baz=124,slow=9.5,SNR=19						
MKAR	**Makanchi Array**	59.66	326	P	P	12 29 53.7	-2.0
KSH	**Kashi**	59.76	316	P	P	12 29 58.1	+1.4
KSH				sP	sP	12 30 16.0	+2.1
MAKZ	**Makanchi**	59.84	326	P	P	12 29 55.1	-1.9
MAKZ				IAmb	IAmb	12 29 57.5	
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	62.94	334	P	P	12 30 16.6	-1.1
	comp=Z,0.6nm,0.5s,baz=170,slow=9.0,SNR=3.7						
KURK	**Kurchatov**	63.91	328	P	P	12 30 24.2	0.0
KURK				IAmb	IAmb	12 30 24.5	
	comp=Z,3.5nm,0.7s						
KKAR	**Karatay Array**	65.02	318	P	P	12 30 31.1	-0.6
ABKAR	**Akbulak array**	74.07	321	P	P	12 31 25.6	-1.7
ILAR	**Eielson Array**	87.92	25	P	P	12 32 39.9	-0.8
	comp=Z,0.2nm,0.4s,baz=244,slow=4.8,SNR=1.8						

*NNC **08** 12:22:30.6±5.4, 42°.52N×83°.43E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=55.2km s-min=32.5km az=137.0*

SOME 08 12:22:01.2, 39°.55N×81°.53E, h5km, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	3.93	337	eP	Pb	12 23 11.0	+0.1
	2.7nm,0.0s						
SHLS				eS	Sb	12 24 01.9	+3.1
	20nm,0.1s						
UZB	**Uzynbulak**	4.06	333	eP	Pg	12 23 16.3	-2.7
	2.9nm,0.0s						
UZB				eS	Sg	12 24 10.0	-1.6
	6.2nm,0.1s						
PDGK	**Podgornoye**	4.08	339	⇓Pn	Pg	12 23 18.8	-0.5
	4.9nm,0.7s						
PDGK				⇑Lg	Lg	12 24 08.5	
	21nm,0.8s						
SATY	**Saty**	4.22	327	eP	Pb	12 23 18.9	+2.8
	1.5nm,0.0s						
SATY				eS	Sg	12 24 14.9	-1.9
	6.8nm,0.0s						
KPKS	**Kokpek**	4.46	332	eP	Pb	12 23 23.1	+3.0
	1.3nm,0.1s						
KPKS				eS	Sg	12 24 22.0	-2.4
	4.3nm,0.3s						
BLB	**Baldybastay**	5.08	334	eP	Pb	12 23 34.6	+3.9
	1.5nm,0.0s						
BLB				eS	Sg	12 24 41.6	-2.8
	5.7nm,0.2s						
ARXS	**Arharly**	5.42	331	eP	Pg	12 23 41.7	-3.3
	0.9nm,0.1s						
ARXS				eS	Sg	12 24 54.1	-1.0
	6.4nm,0.2s						
MAKZ	**Makanchi**	7.26	2	⇑Pn	Pn	12 23 40.5	-7.5
	2.0nm,0.5s						
MAKZ				⇑Lg	Lg	12 24 48.7	
	7.6nm,1.2s						
MK31	**Makanchi Array**	7.26	4	⇓Pn	Pn	12 23 37.7	-10
	1.0nm,0.4s,baz=153,slow=17,SNR=8.9						
MK31				Lg	Lg	12 24 46.4	
	9.4nm,0.7s,baz=161,slow=29,SNR=6.2						

*NOU **08** 12:23:39.9, 43°.31S×173°.07E, h58km, MLv3.9/8, Off E. Coast of S. Island, N.Z.*
*WEL **08** 12:23:39.9±0.7, 43°.S±3°×17°.3E±°, h6km±6km, M3.4/8, ML3.6/8, MLv3.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=127.0*

ISC 08 12:23:38.9±1.0, 43°.21S±0°.04×172°.92E±0°.04, h17km±8km, n91, σ0s88/97, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMCZ	**Amberley**	0.20	280	P	Pg	12 23 43.8	0.0
GVZ	**Greta Valley S**	0.26	18	P	Pg	12 23 44.9	+0.2
GVZ				S	Sg	12 23 48.6	-0.1
OKCZ	**Okains Bay**	0.52	169	P	Pn	12 23 52.5	+0.9
MQZ	**McQueen's Vall**	0.53	202	P	Pn	12 23 51.6	-0.1
MQZ				S	Sn	12 23 59.8	-0.5
LTZ	**Lake Taylor**	0.64	312	P	Pg	12 23 51.0	-0.6
LTZ				S	Sg	12 23 58.8	-1.4
OXZ	**Oxford**	0.66	260	P	Pb	12 23 52.4	+0.4
OXZ				S	Sb	12 24 01.0	+0.2
AKCZ	**Akaroa Harbour**	0.66	181	P	Pn	12 23 54.2	+0.7
RACZ	**Rakaia**	0.77	228	P	Pn	12 23 55.1	+0.1
KHZ	**Kahutara**	0.92	30	P	Pb	12 23 56.7	+0.4
KHZ				S	Sg	12 24 09.3	+0.5
KHZ	**Kahutara**	0.92	30	P	Pn	12 23 57.4	+0.4
MHCZ	**Mount Hutt**	1.04	252	P	Pn	12 23 59.0	+0.3
MHCZ				S	Sb	12 24 11.2	-0.6
WACZ	**Wakanui South**	1.07	227	P	Pb	12 23 59.5	+0.4
INZ	**Inchbonnie**	1.19	294	P	Pn	12 24 00.1	-0.7
RPZ	**Rata Peaks**	1.45	249	P	Pn	12 24 04.3	-0.1
RPZ	**Rata Peaks**	1.45	249	P	Pn	12 24 04.2	-0.2
THZ	**Tophouse**	1.45	359	P	Pn	12 24 04.2	-0.2
ARCZ	**Arundel**	1.47	239	P	Pn	12 24 04.6	0.0
WVZ	**Waitaha Valley**	1.61	274	P	Pn	12 24 06.6	+0.1
BSWZ	**Blackbirch Sta**	1.66	26	P	Pn	12 24 07.6	+0.5
DSZ	**Denniston Nort**	1.69	330	P	Pn	12 24 07.6	-0.1
CMWZ	**Cape Campbell**	1.75	34	P	Pn	12 24 09.2	+0.7
TMZ	**Timaru**	1.81	229	P	Pn	12 24 09.8	+0.4
MRNZ	**Matariki Terra**	1.82	356	P	Pn	12 24 10.0	+0.5
GCSZ	**Gaunt Creek Bo**	1.90	266	P	Pn	12 24 11.2	+0.7
TUWZ	**Tuamarina**	1.94	23	P	Pn	12 24 11.2	+0.1
NNZ	**Nelson**	2.02	10	P	Pn	12 24 12.6	+0.4
TKNZ	**Takaka Hill**	2.18	1	P	Pn	12 24 15.9	+1.5
TCW	**Tory Channel**	2.24	27	P	Pn	12 24 14.8	-0.4
FOZ	**Fox Glacier**	2.29	261	P	Pn	12 24 17.2	+1.3
LBZ	**Lake Benmore**	2.30	238	P	Pn	12 24 16.7	+0.6
SNZO	**South Karori**	2.32	35	P	Pn	12 24 16.1	-0.1
WEL	**Wellington**	2.37	36	P	Pn	12 24 16.6	-0.3
QRZ	**Quartz Range**	2.40	353	P	Pn	12 24 17.8	+0.3
QRZ	**Quartz Range**	2.40	353	P	Pn	12 24 18.5	+1.0
ODZ	**Otahua Downs**	2.46	221	P	Pn	12 24 18.6	+0.4
ODZ	**Otahua Downs**	2.46	221	P	Pn	12 24 17.9	-0.3
MSWZ	**Moikau Station**	2.49	45	P	Pn	12 24 18.0	-0.7
DUWZ	**D'Urville Isla**	2.52	17	P	Pn	12 24 18.9	-0.2
PAWZ	**Paruwai Farm**	2.61	46	P	Pn	12 24 19.4	-0.9
CAW	**Cannon Point**	2.64	38	P	Pn	12 24 20.1	-0.6
KIW	**Kapiti Island**	2.78	33	P	Pn	12 24 22.3	-0.3
MTW	**Mount Morrison**	2.81	44	P	Pn	12 24 22.1	-1.0
OGWZ	**Otaki Gorge**	2.92	36	P	Pn	12 24 24.0	-0.6
TMWZ	**Te Maipa**	3.05	47	P	Pn	12 24 26.8	+0.4
JCZ	**Jackson Bay**	3.12	253	P	Pn	12 24 27.7	+0.3
HHSZ	**Highcliff Hill**	3.15	211	P	Pn	12 24 28.4	+0.7
MRZ	**Mangatainoka R**	3.23	39	P	Pn	12 24 27.8	-1.1
WKZ	**Wanaka**	3.25	239	P	Pn	12 24 29.1	0.0
EAZ	**Earnscleugh**	3.29	231	P	Pn	12 24 29.8	+0.1
BFZ	**Birch Farm**	3.54	46	P	Pn	12 24 31.8	-1.3
BFZ	**Birch Farm**	3.54	46	P	Pn	12 24 32.5	-0.5
TUZ	**Tuapeka**	3.61	220	P	Pn	12 24 34.7	+0.6
ANWZ	**Angora Road**	3.82	45	P	Pn	12 24 36.7	-0.3
TSZ	**Takapari Road**	3.89	37	P	Pn	12 24 36.6	-1.4
MSZ	**Milford Sound**	3.89	246	P	Pn	12 24 37.1	-0.8
LREZ	**Lake Rotokare**	3.91	17	P	Pn	12 24 39.6	+1.4
PREZ	**Palmer Road**	3.98	14	P	Pn	12 24 40.6	+1.4
KHEZ	**Kahui Hut**	4.00	12	P	Pn	12 24 41.3	+1.8
NBEZ

*NCEDC **08** 12:58:31.0±2.4, 38.83N×122.85W±0.03, h2km±6km, Mwr3.8/4, ML3.2/108(NEIC), Error ellipse: s-maj=3.5km s-min=2.7km az=56.0*

*NEIC **08** 12:58:31, 38.83N×122.85W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-3.48; $M_{\theta\theta}$-1.94; $M_{\phi\phi}$5.43; $M_{r\theta}$-2.88; $M_{r\phi}$-0.03; $M_{\theta\phi}$0.56; Fault plane solution: $M_0$5.59000×10^{14} NP1:ϕ_s148.31000°, δ59.34000°, λ-134.54000°. NP2:ϕ_s30.91000°, δ52.18000°, λ-40.21000°. Principal axes: T 5.4678, Plg4.0000°, Azm268.0000°; N 0.2439, Plg37.0000°, Azm175.0000°; P -5.7117, Plg53.0000°, Azm4.0000°;*

ISC 08 12:58:30.6±0.9, 38.82N±0.02×122.83W±0.03, h9km±6km, n104, σ1^{9}08/107, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.03**	**120**		**Pg**	**12 58 32.2**	**-0.3**
GDXM				IAML		12 58 33.1	
	comp=E,39μm,0.3s						
GDXM				Sg	**Sg**	**12 58 33.1**	**-0.6**
GCRM	**Castle Rock Sp**	**0.10**	**119**		**Pg**	**12 58 33.5**	**+0.4**
GPMM	**Pine Mountain**	**0.10**	**285**		**Pg**	**12 58 32.9**	**-0.3**
GSGM	**Seigler Mounta**	**0.10**	**63**		**Pg**	**12 58 33.9**	**+0.8**
HOPS	**Hopland Field**	**0.26**	**312**	Pg	**Pg**	**12 58 36.2**	**+0.4**
HOPS				Sg	**Sg**	**12 58 40.1**	**+0.8**
MNRC	**McLaughlin Min**	**0.30**	**79**		**Pb**	**12 58 38.0**	**-0.2**
CVS	**Carmenet Viney**	**0.56**	**149**		**Pb**	**12 58 42.2**	**-0.3**
MCCM	**Marconi Confer**	**0.68**	**184**		**Pb**	**12 58 44.9**	**+0.4**
MCCM				Sg	**Sb**	**12 58 54.4**	**+0.4**
MCCM				IAML		12 58 58.3	
	comp=E,1μm,0.8s						
MCCM				IAML		12 59 03.9	
	comp=N,2μm,0.8s						
GNAM	**Navarro Ridge**	**0.73**	**301**		**Pb**	**12 58 45.5**	**-0.1**
GASB	**Alder Springs**	**0.84**	**6**		**Pn**	**12 58 48.2**	**-0.4**
SUTB	**Sutter Butte**	**0.91**	**63**		**Pb**	**12 58 48.4**	**-0.1**
HERB	**Hercules**	**0.92**	**151**		**Pn**	**12 58 49.5**	**-0.2**
BRK	**Berkeley--Havi**	**1.04**	**155**		**Pn**	**12 58 51.2**	**-0.2**
KCPM	**Cahto Peak**	**1.04**	**326**		**Pb**	**12 58 50.8**	**-0.1**
KCPM				IAML		12 59 11.1	
	comp=N,1μm,0.9s						
BL67	**Building 67, L**	**1.05**	**154**		**Pn**	**12 58 51.3**	**-0.2**
VAK	**Adit at Lawren**	**1.05**	**154**		**Pb**	**12 58 50.7**	**-0.1**
BKS	**Berkeley--Byer**	**1.05**	**154**		**Pb**	**12 58 50.8**	**-0.2**
FARB	**Farallon Islan**	**1.13**	**187**		**Pg**	**12 58 51.9**	**-0.4**
BDM	**Black Diamond**	**1.15**	**139**		**Pn**	**12 58 52.7**	**-0.1**
KBSM	**Bell Springs**	**1.25**	**332**		**Pg**	**12 58 54.1**	**-0.5**
ORV	**Oroville**	**1.26**	**54**		**Pg**	**12 58 53.7**	**-1.1**
ORV	**Oroville**	**1.26**	**54**		**Pg**	**12 58 54.0**	**-0.8**
ORV				IAML		12 59 13.9	
	comp=N,71nm,0.8s						
ORV				IAML		12 59 18.9	
	comp=E,82nm,0.9s						
O02D	**Mt. Diablo Mer**	**1.35**	**1**		**Pg**	**12 58 57.1**	**+0.5**
O02D				IAML		12 59 02.6	
	comp=N,434nm,0.8s						
WENL	**Wente Vineyard**	**1.46**	**145**		**Pb**	**12 58 58.0**	**0.0**
LTCM	**Tuscan Springs**	**1.49**	**21**		**Pn**	**12 58 58.0**	**+0.5**
JRSC	**Jasper Ridge**	**1.49**	**162**		**Pn**	**12 58 57.1**	**-0.4**
KMRM	**Mail Ridge**	**1.56**	**334**		**Pn**	**12 58 58.9**	**+0.4**
KMRM				IAML		12 59 35.4	
	comp=E,438nm,1.7s						
KMRM				IAML		12 59 37.4	
	comp=N,565nm,1.7s						
LCMM	**Colby Mountain**	**1.66**	**37**		**Pn**	**12 59 00.2**	**+0.1**
O03E	**Paynes Creek**	**1.67**	**28**	Pn	**Pb**	**12 59 00.9**	**-0.6**
KSMM	**Slide Mountain**	**1.72**	**323**		**Pn**	**12 59 00.8**	**+0.1**
COSM	**Mount Oso**	**1.74**	**138**		**Pn**	**12 59 01.3**	**+0.2**
MHC	**Mount Hamilton**	**1.75**	**147**		**Pn**	**12 59 01.5**	**+0.4**
KCRM	**Chalk Rock**	**1.78**	**335**		**Pn**	**12 59 01.9**	**+0.3**
KMPM	**Mount Pierce**	**1.88**	**328**		**Pn**	**12 59 04.3**	**+1.3**
KMPM				IAML		12 59 50.2	
	comp=N,270nm,1.3s						
KMPM				IAML		12 59 52.1	
	comp=E,350nm,2.0s						
LMEM	**Manzanita Entr**	**1.97**	**29**		**Pb**	**12 59 05.8**	**-0.9**
CMB	**Columbia Colle**	**2.07**	**112**		**Pn**	**12 59 06.3**	**+0.7**
CMB	**Columbia Colle**	**2.07**	**112**		**Pn**	**12 59 06.4**	**+0.8**
CMB				IAML		12 59 36.8	
	comp=N,181nm,0.8s						
CMB				IAML		12 59 38.2	
	comp=E,108nm,1.0s						
RUBR	**Rubicon Trail**	**2.10**	**83**		**Pb**	**12 59 08.0**	**-0.9**
HCOM	**Corn Cob Canyo**	**2.12**	**155**		**Pn**	**12 59 06.0**	**-0.3**
EMB	**Emerald Bay**	**2.13**	**85**		**Pb**	**12 59 08.3**	**-1.2**
N02D	**Trinity Center**	**2.15**	**2**		**Pb**	**12 59 09.1**	**-0.7**
HFEM	**San Felipe**	**2.15**	**148**		**Pn**	**12 59 06.9**	**+0.2**
BEKR	**Beckworth**	**2.18**	**61**		**Pb**	**12 59 09.1**	**-1.2**
BEKR				IAML		12 59 45.0	
	comp=E,119nm,0.7s						
JCC	**Jacoby Creek,**	**2.20**	**335**		**Pn**	**12 59 08.5**	**+1.2**
JCC				IAML		13 00 09.0	
	comp=E,141nm,2.9s						
JCC				IAML		13 00 12.9	
	comp=N,114nm,1.8s						
MPK	**Martis Peak**	**2.23**	**77**		**Pb**	**12 59 09.9**	**-1.3**
HATC	**Hat Creek Radi**	**2.25**	**27**		**Pb**	**12 59 10.8**	**-0.6**
HSFM	**Saint Francis**	**2.26**	**152**		**Pn**	**12 59 08.8**	**+0.6**
SAO	**San Andreas Ge**	**2.33**	**152**		**Pn**	**12 59 09.1**	**0.0**
SAO	**San Andreas Ge**	**2.33**	**152**	Pn	**Pn**	**12 59 08.8**	**-0.3**
BLRM	**Lewis Ranch**	**2.48**	**150**		**Pn**	**12 59 11.3**	**+0.2**
SCZ	**Santa Cruz**	**2.49**	**153**		**Pn**	**12 59 10.9**	**-0.3**
KRPM	**Rodgers**	**2.51**	**339**	Pn	**Pb**	**12 59 14.3**	**-1.5**
KRPM				IAML		12 59 32.9	
	comp=E,87nm,1.2s						
KRPM				IAML		13 00 33.0	
	comp=N,125nm,1.9s						
VCNR	**Virginia City**	**2.52**	**78**		**Pn**	**12 59 13.8**	**+2.0**
VCNR				IAML		12 59 28.8	
	comp=E,172nm,0.8s						
VCNR				IAML		12 59 30.6	
	comp=N,153nm,0.9s						
PNTR	**Pine Nut**	**2.53**	**83**		**Pb**	**12 59 14.3**	**-2.0**
BJCM	**Johnson Can.**	**2.54**	**153**		**Pn**	**12 59 11.4**	**-0.5**
M02C	**Callahan**	**2.57**	**360**		**Pb**	**12 59 15.4**	**-1.4**
HAST	**Hastings Reser**	**2.63**	**157**		**Pn**	**12 59 12.4**	**-0.9**
BBGB	**Big Mountain B**	**2.65**	**147**	Pn	**Pn**	**12 59 14.5**	**+0.9**
BSMM	**Soledad Missio**	**2.67**	**155**		**Pn**	**12 59 13.6**	**-0.3**
YERR	**Yerington**	**2.80**	**86**		**Pn**	**12 59 17.9**	**+2.1**
PAHR	**Pah Rah Range**	**2.81**	**71**		**Pn**	**12 59 17.4**	**+1.6**
PAHR				IAML		12 59 33.3	
	comp=E,76nm,1.2s						
PAHR				IAML		13 00 26.0	
	comp=N,81nm,1.9s						
YBH	**Yreka Blue Hor**	**2.91**	**2**		**Pn**	**12 59 17.9**	**+0.7**
M04C	**Macdoel**	**3.05**	**14**		**Pn**	**12 59 19.9**	**+0.8**
M04C				IAML		13 00 22.0	
	comp=E,52nm,1.6s						
PMPB	**Monarch Peak**	**3.06**	**148**		**Pn**	**12 59 19.7**	**+0.6**
PMPB				IAML		13 00 06.4	
	comp=N,92nm,1.6s						
PMPB				IAML		13 00 44.0	
	comp=E,79nm,1.0s						
OMMB	**Old Mammoth Mi**	**3.24**	**111**	Pn	**Pn**	**12 59 24.3**	**+2.4**
OMMB				IAML		13 00 10.5	
	comp=E,63nm,1.0s						
OMMB				IAML		13 00 13.3	
	comp=N,66nm,1.5s						
RYN	**Ryan**	**3.37**	**92**		**Pn**	**12 59 24.4**	**+0.9**
RYN				IAML		12 59 54.0	
	comp=N,48nm,0.8s						
RYN				IAML		13 00 25.3	
	comp=E,57nm,1.7s						
L02E	**Cave Junction**	**3.38**	**350**	Pn	**Pn**	**12 59 26.2**	**+2.6**
L04D	**Klamath Falls**	**3.42**	**6**	Pn	**Pn**	**12 59 25.2**	**+1.1**
LHV	**Little Huntoon**	**3.44**	**98**		**Pn**	**12 59 27.0**	**+2.8**
NVAR	**Mina Array Bea**	**3.56**	**95**		**Pn**	**12 59 28.2**	**+2.0**
MOD	**Modoc Plateau**	**3.63**	**31**	Pn	**Pn**	**12 59 29.4**	**+2.3**
NV11	**Mina Array Sit**	**3.68**	**95**	Pn	**Pn**	**12 59 29.5**	**+1.7**
NV11				IAML		13 00 41.6	
	comp=N,46nm,1.5s						
NV11				IAML		13 00 41.6	
	comp=E,51nm,1.8s						
KVN	**Kaiserville**	**3.69**	**85**	Pn	**Pn**	**12 59 29.1**	**+1.1**
KVN				IAML		12 59 53.5	
	comp=E,34nm,1.0s						
KVN				IAML		13 00 42.1	
	comp=N,37nm,1.0s						
PAGB	**Antelope Grade**	**3.71**	**146**		**Pn**	**12 59 30.0**	**+2.0**
PAGB				IAML		13 00 51.5	
	comp=E,36nm,2.0s						
HUMO	**Hull Mountain**	**3.78**	**359**	Pn	**Pn**	**12 59 30.7**	**+1.6**
K05A	**Summer Lake**	**4.17**	**20**	Pn	**Pn**	**12 59 33.9**	**-0.6**
K05A				IAML		13 01 24.6	
	comp=N,22nm,4.8s						
K05A				IAML		13 01 32.6	
	comp=E,27nm,3.4s						
DBO	**Dodson Butte**	**4.30**	**356**	Pn	**Pn**	**12 59 35.7**	**-0.6**
DBO				IAML		13 00 09.7	
	comp=N,23nm,1.8s						
DBO				IAML		13 01 07.3	
	comp=E,22nm,3.1s						
LCH	**Last Change Ra**	**4.39**	**110**		**Pn**	**12 59 37.8**	**+0.4**
LCH				IAML		13 01 03.9	
	comp=E,25nm,1.7s						
Q09A	**Carvers**	**4.41**	**88**		**Pn**	**12 59 37.2**	**-0.6**
J01E	**Myrtle Point**	**4.42**	**349**	Pn	**Pn**	**12 59 39.2**	**+1.5**
J01E				IAML		13 01 45.2	
	comp=E,32nm,1.6s						
J01E				IAML		13 02 11.6	
	comp=N,28nm,3.5s						
J04D	**Umpqua Nationa**	**4.45**	**7**	Pn	**Pn**	**12 59 36.2**	**-2.2**
TPH	**Tonopah**	**4.46**	**98**		**Pn**	**12 59 37.8**	**-0.8**
BMN	**Battle Mountai**	**4.62**	**68**		**Pn**	**12 59 41.1**	**+0.4**
ISA	**Isabella, Lake**	**4.69**	**131**	Pn	**Pn**	**12 59 43.6**	**+2.0**
ISA				IAML		13 01 09.9	
	comp=N,17nm,0.9s						
ISA				IAML		13 01 11.0	
	comp=E,25nm,1.7s						
BCW	**Bitter Crk WRg**	**4.74**	**144**	Pn	**Pn**	**12 59 42.5**	**+0.2**
BCW				IAML		13 01 55.9	
	comp=N,30nm,1.8s						
WVOR	**Wild Horse Val**	**4.81**	**40**	Pn	**Pn**	**12 59 45.9**	**+2.5**
WVOR				IAML		13 01 36.0	
	comp=N,13nm,4.6s						
WVOR				IAML		13 01 47.5	
	comp=N,14nm,3.4s						
PINE	**Pine Mountain**	**5.17**	**15**	Pn	**Pn**	**12 59 47.9**	**-0.4**
PINE				IAML		13 00 47.6	
	comp=N,17nm,4.0s						
PINE				IAML		13 02 18.7	
	comp=E,13nm,4.9s						
CCAC	**Calif City Air**	**5.31**	**132**		**Pn**	**12 59 50.0**	**-0.1**
QSM	**Queen of Sheba**	**5.53**	**119**	Pn	**Pn**	**12 59 52.4**	**-0.8**
GWY	**Greenwater Val**	**5.56**	**116**	Pn	**Pn**	**12 59 52.8**	**-0.8**
J08A	**Circle Bar Ran**	**5.60**	**35**	Pn	**Pn**	**12 59 55.0**	**+0.9**
R11A	**Troy Canyon, C**	**5.69**	**92**		**Pn**	**12 59 56.6**	**+1.1**
S11A	**Rachel**	**5.69**	**100**	Pn	**Pn**	**12 59 56.2**	**+0.8**
GSC	**Goldstone, Bar**	**5.96**	**124**		**Pn**	**12 59 57.9**	**-1.1**
ELK	**Elko**	**6.15**	**69**	Pn	**Pn**	**13 00 03.1**	**+1.3**
PRN	**Pahroc Range**	**6.29**	**101**	Pn	**Pn**	**13 00 04.0**	**+0.4**
SHPR	**Sheep Range**	**6.50**	**108**	Pn	**Pn**	**13 00 05.3**	**-1.3**
ELS	**Elsinore Mount**	**6.76**	**138**	Pn	**Pn**	**13 00 10.6**	**+0.6**
MFID	**Camas Ranch**	**7.00**	**47**	Pn	**Pn**	**13 00 13.6**	**+0.3**
PSUT	**Pine Spring**	**7.02**	**90**	Pn	**Pn**	**13 00 15.0**	**+1.2**
PFO	**Pinyon Flats O**	**7.31**	**133**	Pn	**Pn**	**13 00 19.5**	**+1.8**
LCMT	**Little Creek M**	**7.79**	**100**	Pn	**Pn**	**13 00 25.9**	**+1.7**
NLU	**North Lily Min**	**8.40**	**79**	Pn	**Pn**	**13 00 32.4**	**-0.3**
GLA	**Glamis**	**8.67**	**129**	Pn	**Pn**	**13 00 37.0**	**+0.8**

*NIED **08** 13:00:12.9, 38.39N×141.91E, h16km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.36; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$0.20; $M_{r\theta}$0.71; $M_{r\phi}$-1.28; $M_{\theta\phi}$-0.18; Fault plane solution: $M_0$1.55000×10^{14} NP1:ϕ_s95.00000°, δ80.00000°, λ149.00000°. NP2:ϕ_s191.00000°, δ59.00000°, λ11.00000°.*

*JMA **08** 13:00:12.8, 38.39N×141.91E, h16km±1km, M4.0*

JMA Felt I J1.

*IDC **08** 13:00:20.9±2.7, 38.70N×141.76E, h68km±27km, mb3.3/4, mb1 3.5/6, mb1mx3.1/50, mbtmp3.5/6, Error ellipse: s-maj=38.2km s-min=11.8km az=116.0*

ISC 08 13:00:11.8±1.8, 38.34N±0.04×141.91E±0.07, h6km±11km, n21, σ1^{9}42/25, mb3.7/4, 3C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.35**	**265**	⇑P	**Pb**	**13 00 20.1**	**-0.4**
JIKH				S	**Sb**	**13 00 25.0**	**-1.3**
JIO	**Ouri**	**0.46**	**284**	⇓P	**Pg**	**13 00 21.7**	**+1.1**
JIO				S	**Sg**	**13 00 27.6**	**+1.0**
JKMT	**Kesennumamotoy**	**0.58**	**324**	⇓P	**Pg**	**13 00 23.4**	**+0.4**
JKMT				S	**Sg**	**13 00 30.7**	**+0.2**
OFUJ	**Ofunato**	**0.76**	**346**	⇑P	**Pg**	**13 00 26.3**	**-0.1**
OFUJ				S	**Sg**	**13 00 35.9**	**-0.4**
JMK	**Ichinoseki**	**0.81**	**319**	⇓P	**Pg**	**13 00 27.6**	**+0.1**
JMK				S	**Sg**	**13 00 38.0**	**0.0**
JOU	**Okura**	**0.98**	**272**	P	**Pb**	**13 00 31.4**	**+0.1**
JOU				S	**Sb**	**13 00 44.4**	**-0.1**
JMM	**Marumori**	**1.00**	**242**	⇑P	**Pg**	**13 00 31.0**	**-0.1**
JMM				S	**Sb**	**13 00 44.3**	**-0.8**
JOM	**Ohasama**	**1.23**	**337**	S	**Sg**	**13 00 50.1**	**-1.2**
JFK	**Kawauchi**	**1.27**	**220**	P	**Pg**	**13 00 35.1**	**-1.2**
JFK				S	**Sg**	**13 00 51.6**	**-1.2**
MJAR	**Matsushiro Arr**	**3.45**	**240**	P	**Pb**	**13 01 13.2**	**-0.2**
	0.5nm,0.3s,baz=45,slow=17,SNR=10						
MJAR				S	**Sb**	**13 01 54.6**	**-1.1**
	0.4nm,0.3s,baz=65,slow=18,SNR=2.3						
ASAJ	**Asahikawa**	**5.79**	**5**	P	**Pn**	**13 01 38.9**	**+0.6**
	0.7nm,0.3s,baz=201,slow=8.2,SNR=9.1						
ASAJ				S	**Sn**	**13 02 42.1**	**-2.9**
	baz=179,slow=18,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**28.51**	**124**	T	T	13 36 01.3	
	baz=316,slow=75,SNR=561						
H11N1	**WAKE ISLAND Hy**	**28.52**	**124**	T	T	13 36 03.8	
	baz=316,slow=75,SNR=611						
H11N3	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	13 36 02.5	
	baz=316,slow=75,SNR=390						
H11S1	**WAKE ISLAND Hy**	**29.27**	**126**	T	T	13 37 11.9	
	baz=318,slow=76,SNR=186						
H11S3	**WAKE ISLAND Hy**	**29.27**	**126**	T	T	13 37 00.5	
	baz=318,slow=76,SNR=247						
H11S2	**WAKE ISLAND Hy**	**29.29**	**126**	T	T	13 37 13.2	
	baz=318,slow=76,SNR=103						
KURBB	**Kurchatov Arra**	**45.52**	**307**	P	**P**	**13 08 30.9**	**-1.1**
	0.3nm,0.3s,baz=82,slow=8.1,SNR=3.5						
ILAR	**Eielson Array**	**48.18**	**33**	P	**P**	**13 08 52.0**	**-0.6**
	0.3nm,0.7s,baz=274,slow=5.5,SNR=4.2						
WRA	**Warramunga Arr**	**58.41**	**188**	P	**P**	**13 10 11.6**	**+3.2**
	0.8nm,0.3s,baz=5.1,slow=7.2,SNR=35						
ASAR	**Alice Springs**	**62.14**	**188**	P	**P**	**13 10 37.1**	**+3.3**
	0.2nm,0.5s,baz=8.0,slow=6.5,SNR=5.6						

*NNC **08** 13:01:27.2±0.9, 49.98N×78.61E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=17.4km s-min=4.5km az=82.0, Suspected Mining explosion.*

*IDC **08** 13:01:28.6±1.0, 50.06N×78.72E, h0km, mb1 2.9/2, mb1mx2.8/51, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=14.0km s-min=6.2km az=67.0*

ISC 08 13:01:28.5±1.0, 50.00N±0.06×78.67E±0.10, h0km, n9, σ0^{9}91/13, 7C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.63**	**352**	Pg	**Pg**	**13 01 39.6**	**-0.9**
	2.0nm,0.3s,baz=166,slow=19,SNR=144						
KURBB				Lg	Lg	13 01 48.6	
	2.4nm,0.3s,baz=168,slow=30,SNR=21						
KURBB	**Kurchatov Arra**	**0.63**	**352**	⇓P	**Pg**	**13 01 39.6**	**-0.9**
	8.8nm,0.3s						
KURBB				⇓S	**Sg**	**13 01 49.3**	**+0.7**
	73nm,0.5s						
KURK	**Kurchatov**	**0.71**	**357**	⇑P	**Pg**	**13 01 41.0**	**-1.2**
	5.9nm,0.4s						
KURK				⇑S	**Sg**	**13 01 52.3**	**+0.9**
	6.2nm,0.5s						
MAKZ	**Makanchi**	**3.88**	**144**	⇓Pn	**Pn**	**13 02 29.2**	**-0.2**
	0.7nm,0.6s						
MAKZ				⇑Lg	Lg	13 03 31.6	
	3.0nm,0.6s						
MK31	**Makanchi Array**	**4.01**	**142**	⇑Pn	**Pn**	**13 02 31.7**	**+0.4**
	0.1nm,0.1s,baz=323,slow=10.0,SNR=24						
MK31				⇑Pg	**Pb**	**13 02 39.6**	**-0.5**
	0.1nm,0.1s,baz=322,slow=12,SNR=14						
MK31				Lg	Lg	13 03 36.6	
	2.1nm,0.5s,baz=328,slow=26,SNR=11						
MKAR	**Makanchi Array**	**4.01**	**142**	Pn	**Pn**	**13 02 31.8**	**+0.5**
	0.3nm,0.3s,baz=322,slow=10.0,SNR=35						
MKAR				Pg	**Pb**	**13 02 39.3**	**-0.8**
	0.6nm,0.3s,baz=321,slow=16,SNR=14						
MKAR				Sn	**Sn**	**13 03 20.5**	**+1.5**
	0.3nm,0.3s,baz=316,slow=27,SNR=5.6						
MKAR				Lg	Lg	13 03 32.9	
	0.8nm,0.3s,baz=328,slow=26,SNR=15						
OTUK	**Ortayu**	**4.52**	**249**	⇑Pn	**Pn**	**13 02 38.5**	**+0.3**
	1.0nm,0.3s						
OTUK				⇑Lg	Lg	13 03 47.3	
	3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**5.48**	**42**	Pn	**Pn**	**13 02 51.8**	**+0.5**
	0.8nm,0.3s,baz=232,slow=14,SNR=9.6						
ZALV				Lg	Lg	13 04 20.0	
	0.2nm,0.3s,baz=218,slow=28,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**5.48**	**42**	*i*		13 31 25.0	
	baz=224,slow=321,SNR=4.5						

NNC 08 13:03:38.1±2.5, 48.53N×77.81E, h0km, mb3.6, mpv3.1, 7C-1D, Error ellipse: s-maj=21.6km s-min=16.1km az=68.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.15**	**12**	⇑Pn	Pn	13 04 15.7	+0.5
	14nm,0.8s						
KURBB				⇑Sn	Sn	13 04 43.7	+1.1
	11nm,0.8s						
KURK	**Kurchatov**	**2.25**	**13**	⇑Pn	Pn	13 04 17.9	+1.3
	8.9nm,0.7s						
KURK				⇑Sn	Sn	13 04 45.4	+0.3
	9.7nm,1.0s						
MAKZ	**Makanchi**	**3.30**	**120**	⇓Lg	Lg	13 05 20.3	
	3.2nm,0.8s						
MK31	**Makanchi Array**	**3.49**	**118**	⇑Lg	Lg	13 05 28.8	
	3.0nm,0.7s,baz=314,slow=28,SNR=7.1						
OTUK	**Ortayu**	**3.66**	**268**	⇑Lg	Lg	13 05 31.4	
	7.2nm,0.9s						
BRVK	**Borovoye**	**6.58**	**316**	⇑Lg	Lg	13 07 06.4	
	3.4nm,0.9s						

*IDC **08** 13:19:08.6±1.0, 19.91N×122.30E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/42, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=33.1km s-min=19.8km az=68.0*

*NEIC **08** 13:19:13.7±1.7, 20.05N±0.03×122.2E±0.1, h35km±2km, mb4.1/8, Error ellipse: s-maj=23.4km s-min=3.1km az=78.0*

ISC 08 13:19:13.6±0.9, 20.0N±0.1×122.2E±0.1, h35km, n30, σ0^{9}95/24, mb3.8/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**3.00**	**339**	Pn	**Pn**	**13 19 57.2**	**-1.5**
YULB	**Yu-li**	**3.48**	**346**	Pn	**Pn**	**13 20 03.7**	**-1.7**
TPUB	**Ta-pu**	**3.60**	**336**		**Pn**	**13 20 06.0**	**-1.0**
SSLB	**Suanglung**	**3.95**	**343**		**Pn**	**13 20 11.6**	**-0.2**
NACB	**Ninganchiao**	**4.20**	**352**	Pn	**Pn**	**13 20 14.5**	**-0.6**
YHNB	**Yeheng**	**4.71**	**351**		**Pn**	**13 20 22.8**	**+0.5**
JOW	**Kunigami**	**8.79**	**38**	Pn	**Pn**	**13 21 18.2**	**0.0**
	1.4nm,0.3s,baz=249,slow=14,SNR=8.7						
JOW	**Kunigami**	**8.79**	**38**	Pn	**Pn**	**13 21 17.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**22.02**	**270**	P	**P**	**13 24 06.2**	**+1.0**
	0.6nm,0.6s,baz=65,slow=9.1,SNR=4.0						
FITZ	**Fitzroy Crossi**	**38.01**	**175**	P	**P**	**13 26 28.3**	**-0.2**
FITZ				IAmb	IAmb	13 26 48.9	
	comp=Z,3.4nm,1.1s						
WB0	**Warramunga Arr**	**41.28**	**162**	P	**P**	**13 26 54.8**	**-1.0**
WB0				IAmb	IAmb	13 27 00.2	
	comp=Z,7.2nm,1.1s						
WRAB	**Tennant Creek**	**41.43**	**163**	P	**P**	**13 26 55.5**	**-1.4**
WRAB				IAmb	IAmb	13 27 04.1	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**41.43**	**163**	P	**P**	**13 26 55.9**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=341,slow=9.1,SNR=13						
WRA	**Warramunga Arr**	**41.43**	**163**	P	**P**	**13 26 56.4**	**-0.6**
WB2	**Warramunga Arr**	**41.44**	**163**	P	**P**	**13 26 56.7**	**-0.4**
WR0	**Warramunga Arr**	**41.51**	**162**	P	**P**	**13 26 57.0**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**41.92**	**84**	T	T	14 12 18.4	
	baz=280,slow=74,SNR=28						
H11N1	**WAKE ISLAND Hy**	**41.93**	**82**	T	T	14 12 23.3	
	baz=279,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**41.93**	**82**	T	T	14 12 26.1	
	baz=279,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**41.94**	**84**	T	T	14 12 09.9	
	baz=280,slow=74,SNR=44						
H11S2	**WAKE ISLAND Hy**	**41.94**	**84**	T	T	14 12 19.7	
	baz=280,slow=74,SNR=25						
H11N3	**WAKE ISLAND Hy**	**41.95**	**82**	T	T	14 12 19.9	
	baz=279,slow=75,SNR=12						
MK31	**Makanchi Array**	**42.05**	**319**	P	**P**	**13 27 01.8**	**-0.1**
MKAR	**Makanchi Array**	**42.05**	**319**	P	**P**	**13 27 02.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=109,slow=9.3,SNR=6.9						
MKAR	**Makanchi Array**	**42.05**	**319**	P	**P**	**13 27 01.3**	**-0.6**
ZALV	**Zalesovo Beam**	**44.29**	**329**	P	**P**	**13 27 20.9**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=113,slow=9.6,SNR=5.2						
AS31	**Alice Springs**	**44.87**	**165**		**P**	**13 27 26.2**	**+1.4**
AS31				IAmb	IAmb	13 27 29.2	
	comp=Z,0.8nm,0.

baz=314,slow=76,SNR=22
TIXI **Tiksi** **35.84 354** LR LR 13 46 01.0
comp=Z,56nm,18.5s,baz=182,slow=36
ILAR **Eielson Array** **50.21 32** P **P** **13 33 30.7 +0.1**
0.5nm,0.6s,baz=266,slow=6.3,SNR=6.3
WRA **Warramunga Arr** **56.42 187** P **P** **13 34 16.6 -0.1**
0.1nm,0.4s,baz=0.4,slow=7.4,SNR=1.2

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*GCG **08** 14:05:02.5±0.5, 13°.17N×89°.81W, h16km±76km, MD4.2*
*SNET **08** 14:05:02.0±0.9, 13°.18N×89°.64W, h37km±16km, ML4.1*
*UCR **08** 14:05:02.6±1.1, 13°.22N×89°.63W, h38km±14km, ML4.1, mb4.3(NEIC)*
*INET **08** 14:05:02.5±0.9, 13°.15N×89°.56W, h40km±12km, MW3.9*
*NEIC **08** 14:05:03.8±1.4, 13°.29N±0°.07×89°.50W±0°.06, h64km±12km, mb4.3/5, Md4.2(SNET), Error ellipse: s-maj=11.1km s-min=8.6km az=197.0*
*IDC **08** 14:05:04.8±2.7, 13°.68N×89°.04W, h61km±24km, mb3.6/5, mb1 3.9/7, mb1mx3.5/32, mbtmp4.0/7, ML3.5/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/59, Error ellipse: s-maj=52.2km s-min=17.7km az=44.0*
ISC 08 14:05:01.8±0.8, 13°.20N±0°.05×89°.58W±0°.04, h47km±6km, n113, σ1§45/124, mb4.3/5, MS3.2/5, 8C-24D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LALI	**Alcalde de L**	**0.38**	**41**	⇓*iP*		**Pn**	**14 05 12.1**	**+0.7**
LALI				*eS*		**Sn**	**14 05 19.0**	**+0.7**
LALI	**Alcalde de L**	**0.38**	**41**	⇓*iP*		**Pn**	**14 05 12.1**	**+0.7**
LALI				*eS*		**Sn**	**14 05 19.0**	**+0.7**
LALI	**Alcalde de L**	**0.38**	**41**	*eP*		**Pn**	**14 05 12.1**	**+0.7**
SNET	**Serv Nac Est T**	**0.59**	**35**	Pn		**Pn**	**14 05 14.7**	**+0.6**
SNET	**Serv Nac Est T**	**0.59**	**35**	⇓*iP*		**Pn**	**14 05 14.7**	**+0.6**
SNET				*eS*		**Sn**	**14 05 24.3**	**+1.4**
SNET				IAML			14 05 25.7	
	comp=Z,6μm,0.3s							
SNET	**Serv Nac Est T**	**0.59**	**35**	⇓*iP*		**Pn**	**14 05 14.7**	**+0.6**
SNET				*eS*		**Sn**	**14 05 24.3**	**+1.4**
SNET				IAML			14 05 25.7	
	comp=Z,6μm,0.3s							
SNET	**Serv Nac Est T**	**0.59**	**35**	*eP*		**Pn**	**14 05 14.6**	**+0.5**
SNET				*eS*		**Sn**	**14 05 24.5**	**+1.6**
BOQS	**Boqueron**	**0.61**	**29**	⇓*iP*		**Pn**	**14 05 15.2**	**+0.8**
BOQS	**Boqueron**	**0.61**	**29**	⇓*iP*		**Pn**	**14 05 15.2**	**+0.8**
UEES	**Universidad Ev**	**0.61**	**33**	⇓*iP*		**Pn**	**14 05 15.1**	**+0.7**
UEES				IAML			14 05 31.0	
	comp=Z,6μm,0.3s							
UEES	**Universidad Ev**	**0.61**	**33**	⇓*iP*		**Pn**	**14 05 15.1**	**+0.7**
UEES				IAML			14 05 31.0	
	comp=Z,6μm,0.3s							
CEVE	**Cerro Verde**	**0.62**	**356**	⇑*iP*		**Pn**	**14 05 15.2**	**+0.6**
CEVE	**Cerro Verde**	**0.62**	**356**	⇑*iP*		**Pn**	**14 05 15.2**	**+0.6**
SBLS	**San Blas**	**0.64**	**356**	⇑*eP*		**Pn**	**14 05 15.3**	**+0.5**
SBLS	**San Blas**	**0.64**	**356**	⇑*eP*		**Pn**	**14 05 15.3**	**+0.5**
LFRS	**El Faro**	**0.66**	**50**	⇓*iP*		**Pn**	**14 05 15.7**	**+0.7**
LFRS	**El Faro**	**0.66**	**50**	⇓*iP*		**Pn**	**14 05 15.7**	**+0.7**
SNJE	**San Jose**	**0.67**	**358**	*eP*		**Pn**	**14 05 15.7**	**+0.5**
SNJE	**San Jose**	**0.67**	**358**	*eP*		**Pn**	**14 05 15.7**	**+0.5**
SJTE	**Alcalda de S**	**0.69**	**54**	⇓*iP*		**Pn**	**14 05 16.2**	**+0.8**
SJTE	**Alcalda de S**	**0.69**	**54**	⇓*iP*		**Pn**	**14 05 16.2**	**+0.8**
LFU	**La Fuente**	**0.71**	**40**	⇑*iP*		**Pn**	**14 05 16.7**	**+1.1**
LFU	**La Fuente**	**0.71**	**40**	⇑*iP*		**Pn**	**14 05 16.7**	**+1.1**
NUBE	**Las Nubes**	**0.72**	**345**	⇑*iP*		**Pn**	**14 05 16.1**	**+0.2**
NUBE				IAML			14 05 28.3	
	comp=Z,7μm,0.2s							
NUBE	**Las Nubes**	**0.72**	**345**	⇑*iP*		**Pn**	**14 05 16.1**	**+0.2**
NUBE				IAML			14 05 28.3	
	comp=Z,7μm,0.2s							
LBRS	**Las Brisas**	**0.75**	**44**	*i P*		**Pn**	**14 05 17.2**	**+1.1**
LBRS	**Las Brisas**	**0.75**	**44**	*i P*		**Pn**	**14 05 17.2**	**+1.1**
COEG	**Centro de Oper**	**0.80**	**58**	⇓*iP*		**Pn**	**14 05 17.7**	**+0.9**
COEG				IAML			14 05 18.7	
	comp=Z,11μm,0.3s							
COEG	**Centro de Oper**	**0.80**	**58**	⇓*iP*		**Pn**	**14 05 17.7**	**+0.9**
COEG				IAML			14 05 18.7	
	comp=Z,11μm,0.3s							
PAVA	**Las Pavas**	**0.81**	**51**	⇓*eP*		**Pn**	**14 05 18.2**	**+1.3**
PAVA	**Las Pavas**	**0.81**	**51**	⇓*eP*		**Pn**	**14 05 18.2**	**+1.3**
PAVA	**Las Pavas**	**0.81**	**51**	*eP*		**Pn**	**14 05 18.2**	**+1.3**
SNVI	**San Vicente**	**0.83**	**60**	⇓*iP*		**Pn**	**14 05 18.2**	**+1.0**
SNVI	**San Vicente**	**0.83**	**60**	⇓*iP*		**Pn**	**14 05 18.2**	**+1.0**
SLOZ	**Alcaldia de Sa**	**0.84**	**347**	*eP*		**Pn**	**14 05 17.9**	**+0.6**
COEB	**Comit de Eme**	**1.06**	**74**	*eP*		**Pn**	**14 05 21.0**	**+0.5**
COEB				IAML			14 05 41.9	
	comp=Z,3μm,0.3s							
COEB	**Comit de Eme**	**1.06**	**74**	*eP*		**Pn**	**14 05 21.0**	**+0.5**
COEB				IAML			14 05 41.9	
	comp=Z,3μm,0.3s							
COEB	**Comit de Eme**	**1.06**	**74**	*eP*		**Pn**	**14 05 20.9**	**+0.5**
PQSS	**Presa 15 de Se**	**1.08**	**67**	*eP*		**Pn**	**14 05 21.5**	**+1.0**
PQSS	**Presa 15 de Se**	**1.08**	**67**	*eP*		**Pn**	**14 05 21.5**	**+1.0**
MTO3	**Montecristo**	**1.21**	**10**	Pn		**Pn**	**14 05 23.4**	**+1.0**
MTO3	**Montecristo**	**1.21**	**10**	⇓*iP*		**Pn**	**14 05 23.5**	**+1.0**
MTO3	**Montecristo**	**1.21**	**10**	⇓*iP*		**Pn**	**14 05 23.5**	**+1.0**
MTO3	**Montecristo**	**1.21**	**10**	*eP*		**Pn**	**14 05 23.5**	**+1.0**
MTO3				*eS*		**Sn**	**14 05 40.1**	**+2.2**
PACA	**Pacayal**	**1.25**	**78**	*eP*		**Pn**	**14 05 24.8**	**+1.8**
PACA	**Pacayal**	**1.25**	**78**	*eP*		**Pn**	**14 05 24.8**	**+1.8**
LCY	**Lacayo**	**1.27**	**80**	*i P*		**Pn**	**14 05 24.5**	**+1.3**
LCY	**Lacayo**	**1.27**	**80**	*i P*		**Pn**	**14 05 24.5**	**+1.3**
JUCU	**Jucuarɲn**	**1.30**	**88**	⇓*eP*		**Pn**	**14 05 23.9**	**+0.4**
JUCU				IAML			14 05 48.0	
	comp=Z,4μm,0.3s							
JUCU	**Jucuarɲn**	**1.30**	**88**	⇓*eP*		**Pn**	**14 05 23.9**	**+0.4**
JUCU				IAML			14 05 48.0	
	comp=Z,4μm,0.3s							
JUCU	**Jucuarɲn**	**1.30**	**88**	*eP*		**Pn**	**14 05 23.8**	**+0.2**
ESQI	**Esquipulas**	**1.37**	**10**	Pn		**Pn**	**14 05 25.9**	**+1.3**
ESQI	**Esquipulas**	**1.37**	**10**	*i P*		**Pn**	**14 05 26.0**	**+1.3**
ESQI				*eS*		**Sn**	**14 05 44.1**	**+2.5**
PCG	**Pacaya**	**1.55**	**320**	*eP*		**Pn**	**14 05 28.5**	**+1.4**
PCG				*eS*		**Sn**	**14 05 45.7**	**-0.5**
NBG	**Las Nubes**	**1.57**	**332**	*eP*		**Pn**	**14 05 29.1**	**+1.7**
NBG				*eS*		**Sn**	**14 05 50.3**	**+3.6**
LCND	**La Caada**	**1.65**	**86**	⇓*iP*		**Pn**	**14 05 29.4**	**+1.1**
LCND	**La Caada**	**1.65**	**86**	⇓*iP*		**Pn**	**14 05 29.4**	**+1.1**
FUG	**Fuego 3**	**1.74**	**315**	*eP*		**Pn**	**14 05 30.4**	**+0.6**
MRL	**Marmol**	**1.87**	**357**	*eP*		**Pn**	**14 05 34.8**	**+3.3**
CSGN	**Cosiguina Volc**	**1.98**	**96**	*eP*		**Pn**	**14 05 32.8**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.40**	**69**	Pn		**Pn**	**14 05 39.7**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.40**	**69**	*eP*		**Pn**	**14 05 39.5**	**+0.8**
RTAL	**Retalhuleu**	**2.44**	**303**	Pn		**Pn**	**14 05 41.7**	**+2.6**
STG3	**Santiaguito 3,**	**2.45**	**308**	*eP*		**Pn**	**14 05 40.3**	**+0.9**
STG3				*eS*		**Sn**	**14 06 06.1**	**-2.1**
CRIN	**San Cristobal**	**2.52**	**101**	Pn		**Pn**	**14 05 40.7**	**+0.5**
CRIN	**San Cristobal**	**2.52**	**101**	*eP*		**Pn**	**14 05 40.7**	**+0.5**
HUEH	**Huehuetenango**	**2.81**	**319**	Pn		**Pn**	**14 05 46.4**	**+1.9**
CNGN	**Cerro Negro**	**2.90**	**104**	Pn		**Pn**	**14 05 46.2**	**+0.8**
CNGN	**Cerro Negro**	**2.90**	**104**	*eP*		**Pn**	**14 05 48.0**	**+2.5**
MOMN	**Momotombo**	**3.07**	**105**	*eP*		**Pn**	**14 05 47.5**	**-0.3**
COPN	**Copaltepe**	**3.09**	**109**	*eP*		**Pn**	**14 05 49.8**	**+1.7**
MATN	**Matagalpa**	**3.57**	**94**	Pn		**Pn**	**14 05 55.0**	**+0.2**
MATN	**Matagalpa**	**3.57**	**94**	*eP*		**Pn**	**14 05 55.0**	**+0.2**
BOAB	**BOACO BROADBAN**	**3.89**	**101**	Pn		**Pn**	**14 05 59.1**	**+0.1**
BOAB	**BOACO BROADBAN**	**3.89**	**101**	*eP*		**Pn**	**14 05 58.3**	**-0.7**
ACON	**Acoyapa**	**4.47**	**105**			**Pn**	**14 06 07.6**	**+0.5**
HZTE	**Horizontes, Gu**	**4.62**	**122**	Pn		**Pn**	**14 06 10.3**	**+1.2**
GBS3	**Finca Las Img**	**4.70**	**120**	*eP*		**Pn**	**14 06 12.8**	**+2.6**
LAPC	**Finca la Perla**	**4.72**	**120**	*eP*		**Pn**	**14 06 12.9**	**+2.4**
GB1A	**Boringuen Arri**	**4.73**	**120**	*eP*		**Pn**	**14 06 13.4**	**+2.8**
ORTG	**Ortega, Santa**	**4.92**	**125**	Pn		**Pn**	**14 06 15.0**	**+1.6**
GUAI	**GUAI**	**4.94**	**126**	*eP*		**Pn**	**14 06 15.3**	**+1.9**
COLC	**Colonia**	**4.97**	**120**	*eP*		**Pn**	**14 06 17.2**	**+3.3**
DUNO	**Dulce Nombre,**	**5.07**	**127**	Pn		**Pn**	**14 06 16.5**	**+1.3**
ESPN	**Las Esperanzas**	**5.25**	**100**			**Pn**	**14 06 18.6**	**+0.9**
JTS	**Las Juntas de**	**5.38**	**122**	P		**Pn**	**14 06 21.2**	**+1.7**
	comp=Z,5.6nm,0.3s,baz=0.9,slow=18,SNR=15							
JTS				S		**Sn**	**14 07 19.6**	**-0.6**
	comp=Z,2.3nm,0.3s,baz=331,slow=19,SNR=1.0							
JTS	**Las Juntas de**	**5.38**	**122**	Pn		**Pn**	**14 06 20.7**	**+1.2**
CAO2	**Cobano, Puntar**	**5.61**	**128**			**Pn**	**14 06 24.1**	**+1.5**
JACO	**JACO, Garabito**	**5.97**	**126**			**Pn**	**14 06 29.6**	**+2.0**
CMIG	**Matias Romero**	**6.42**	**308**	P		**Pn**	**14 06 34.8**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=157,slow=13,SNR=13							
CMIG				S		**Sn**	**14 07 45.0**	**-0.7**
	comp=Z,4.2nm,0.3s,baz=279,slow=19,SNR=7.2							
RIMA	**Rio Macho**	**6.56**	**121**			**Pn**	**14 06 37.6**	**+1.6**
PEZE	**Perez Zeledon,**	**6.92**	**123**			**Pn**	**14 06 43.3**	**+2.5**
SRBA	**San Rafael, Bu**	**7.26**	**122**			**Pn**	**14 06 47.8**	**+2.3**
DRK0	**Durika**	**7.34**	**122**			**Pn**	**14 06 48.6**	**+2.0**
RIOS	**Rincon, Osa**	**7.45**	**126**			**Pn**	**14 06 50.0**	**+2.1**

ROSC	**El Rosal**	**17.20**	**117**	LR	LR		14 16 35.2	
	comp=Z,103nm,20.1s,baz=122,slow=41							
SDV	**Santo Domingo**	**19.08**	**101**	P		**P**	**14 09 20.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=287,slow=4.0,SNR=3.9							
TX32	**Lajitas Array**	**20.70**	**323**	P		**P**	**14 09 39.3**	**+1.0**
TXAR	**Lajitas Array**	**20.70**	**323**	P		**P**	**14 09 40.6**	**+2.3**
	comp=Z,1.6nm,0.7s,baz=147,slow=11,SNR=20							
TXAR				pP		**sP**	**14 09 52.2**	**-3.0**
	comp=Z,1.4nm,0.7s,baz=148,slow=10,SNR=9.0							
TXAR	**Lajitas Array**	**20.70**	**323**	P		**P**	**14 09 38.4**	**+0.1**
TX31	**Lajitas Ar. Si**	**20.70**	**323**	P		**P**	**14 09 40.3**	**+2.0**
TX31				IAmb	IAmb		14 09 41.8	
	comp=Z,7.9nm,0.9s							
PFO	**Pinyon Flats O**	**31.79**	**314**	LR	LR		14 25 30.2	
	comp=Z,32nm,21.1s,baz=138,slow=38							
PDAR	**Pinedale Array**	**34.15**	**333**	LR	LR		14 27 50.9	
	comp=Z,30nm,20.3s,baz=98,slow=40							
REDW	**Red Top Meadow**	**35.20**	**333**	P		**P**	**14 11 51.9**	**+0.2**
REDW				IAmb	IAmb		14 12 18.8	
	comp=Z,5.6nm,1.3s							
ELK	**Elko**	**35.46**	**325**	LR	LR		14 28 16.2	
	comp=Z,40nm,20.2s,baz=112,slow=39							
NVAR	**Mina Array Bea**	**35.78**	**320**	P		**P**	**14 11 58.4**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=137,slow=8.3,SNR=6.5							
NVAR				pP		**pP**	**14 12 11.8**	**+2.6**
	comp=Z,3.0nm,0.7s,baz=135,slow=8.5,SNR=18							
NVAR				PcP		**PcP**	**14 14 24.2**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=140,slow=3.5,SNR=1.5							
NVAR				pPcP			14 14 38.9	
	comp=Z,0.5nm,0.8s,baz=118,slow=5.2,SNR=2.9							
NVAR				ScP		**ScP**	**14 18 07.5**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=161,slow=3.8,SNR=2.6							
NVAR				LR	LR		14 27 17.5	
	comp=Z,36nm,18.1s,baz=24,slow=37							
YBH	**Yreka Blue Hor**	**40.45**	**321**	LR	LR		14 30 33.9	
	comp=Z,67nm,21.1s,baz=148,slow=38							
SCHQ	**Schefferville**	**45.19**	**18**	P		**P**	**14 13 11.1**	**-2.9**
	comp=Z,1.8nm,0.7s,baz=207,slow=4.5,SNR=1.5							
SCHQ	**Schefferville**	**45.19**	**18**	P		**P**	**14 13 11.6**	**-2.5**
YKA	**Yellowknife Ar**	**52.36**	**346**	P		**P**	**14 14 07.4**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=143,slow=7.8,SNR=10							
ARCES	**ARCESS Array B**	**86.15**	**19**	P		**P**	**14 17 34.8**	**-2.9**
	comp=Z,4.6nm,1.0s,baz=283,slow=4.5,SNR=2.3							
WRA	**Warramunga Arr**	**137.47**	**255**	PKP		**PKiKP**	**14 24 24.1**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=86,slow=2.3,SNR=2.7							
CMAR	**Chiang Mai Arr**	**147.44**	**345**	PKPbc		**PKPdf**	**14 24 39.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=342,slow=3.2,SNR=2.8							

JMA 08 14:19:25.5±0.1, 38°.30N×144°.23E, h41km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.15**	**292**	P		Pn	14 20 00.0	+1.2
JIKH	**Ishinomakikobu**	**2.17**	**271**	P		Pn	14 20 00.2	+1.0
JIKH				S		Sn	14 20 26.0	+1.1
JKMT	**Kesennumamotoy**	**2.22**	**284**	P		Pn	14 20 00.9	+1.1
JKMT				S		Sn	14 20 27.7	+1.7
JIO	**Ouri**	**2.27**	**275**	P		Pn	14 20 01.7	+1.2
JIO				S		Sn	14 20 28.9	+1.7
MIYJ	**Miyakonagasawa**	**2.27**	**305**	P		Pn	14 20 01.7	+1.2
MIYJ				S		Sn	14 20 28.3	+1.0
JMK	**Ichinoseki**	**2.45**	**286**	P		Pn	14 20 04.5	+1.6
JMK				S		Sn	14 20 33.5	+2.0
JOM	**Ohasama**	**2.57**	**298**	P		Pn	14 20 06.4	+1.7
JOM				*eS*		Sn	14 20 36.9	+2.2
JANG	**Nango**	**2.95**	**315**	P		Pn	14 20 11.5	+1.6
JANG				S		Sn	14 20 45.0	+0.9
JYK	**Kaneyama**	**3.10**	**283**	P		Pn	14 20 13.5	+1.7
JYK				*eS*		Sn	14 20 50.7	+3.1
JFT	**Otama**	**3.18**	**257**	P		Pn	14 20 15.1	+2.1
JFT				S		Sn	14 20 51.9	+2.3
JCH	**Churui**	**4.36**	**352**	*eS*		Sn	14 21 16.3	-2.4
JRY	**Ryogami san**	**4.83**	**243**	P		Pn	14 20 36.7	+1.0

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*MOS **08** 14:20:44.8±0.9, 45°.54N×150°.99E, h116km, mb4.0/1, Error ellipse: s-maj=35.2km s-min=13.3km az=139.1*
*IDC **08** 14:20:50.1±4.2, 46°.25N×149°.84E, h166km±44km, mb2.9/5, mb1 3.2/7, mb1mx3.0/49, mbtmp3.5/7, Error ellipse: s-maj=68.7km s-min=17.8km az=130.0*
*SKHL **08** 14:20:50.0±0.7, 45°.90N×149°.80E, h164km±3km, mb4.4/4, msha5.1/4*
*JMA **08** 14:20:52.7±0.6, 45°.52N×149°.82E, h161km, M3.7*
ISC 08 14:20:47.8±0.8, 45°.8N±0°.2×150°.2E±0°.1, h152km, n33, σ2§06/40, mb3.3/5, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.73**	**252**	*c iPN*		**Pn**	**14 21 21.9**	**+2.0**
KUR				*eS*		Sn	14 21 52.5	+7.9
KUR				pmax	pmax			
	comp=Z,127nm,0.5s							
KUR				pmax	pmax			
	comp=N,42nm,0.2s							
KUR				smax	smax			
	comp=N,68nm,0.4s							
KUR				smax	smax			
	comp=E,22nm,0.2s							
KUR	**Kuril'sk**	**1.73**	**252**	*i P*		**Pn**	**14 21 21.9**	**+2.0**
KUR				AMB	AMB		14 21 22.4	
	comp=E,160nm,0.5s							
KUR				*eS*		**Sn**	**14 21 47.3**	**+2.7**
KUR				A	A		14 21 53.4	
	comp=E,70nm,0.3s							
KUR				A	A		14 21 53.4	
	comp=E,50nm,0.3s							
SHO	**Shikotan**	**3.07**	**233**	*c iPN*		**Pn**	**14 21 37.5**	**+1.5**
SHO				*i S*		**Sn**	**14 22 14.0**	**+0.6**
SHO				pmax	pmax			
	comp=Z,51nm,0.3s							
SHO				pmax	pmax			
	comp=E,27nm,0.2s							
SHO				pmax	pmax			
	comp=N,20nm,0.3s							
SHO				smax	smax			
	comp=N,88nm,0.4s							
SHO				smax	smax			
	comp=E,35nm,0.2s							
SHO	**Shikotan**	**3.07**	**233**	*i P*		**Pn**	**14 21 37.8**	**+1.8**
SHO				AMB	AMB		14 21 38.2	
	comp=E,30nm,0.3s							
SHO				*i S*		**Sn**	**14 22 14.5**	**+1.1**
SHO				A	A		14 22 16.0	
	comp=E,90nm,0.4s							
SHO				A	A		14 22 16.0	
	comp=E,60nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.54**	**242**	*d iPN*		**Pn**	**14 21 44.2**	**+2.1**
YUK				*i S*		**Sn**	**14 22 26.6**	**+2.4**
YUK				pmax	pmax			
	comp=Z,181nm,0.1s							
YUK				pmax	pmax			
	comp=N,38nm,0.2s							
YUK				pmax	pmax			
	comp=E,42nm,0.2s							
YUK				smax	smax			
	comp=E,150nm,0.2s							
YUK				smax	smax			
	comp=N,84nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.54**	**242**	*i P*		**Pn**	**14 21 44.3**	**+2.1**
YUK				AMB	AMB		14 21 45.1	
	comp=N,20nm,0.3s							
YUK				*i S*		**Sn**	**14 22 26.0**	**+1.8**
YUK				A	A		14 22 30.2	
	comp=N,80nm,0.4s							
YUK				A	A		14 22 30.2	
	comp=N,150nm,0.4s							
RUSJ	**Misakicho**	**3.90**	**246**	PN		Pn	14 21 51.4	+4.7
RUSJ				S		Sn	14 22 39.9	+7.5
GLVR	**Golovnino**	**3.91**	**240**	*e*PN		**Pn**	**14 21 48.6**	**+1.7**
GLVR				*eS*		**Sn**	**14 22 34.0**	**+1.2**
GLVR				pmax	pmax			
	comp=N,49nm,0.2s							
GLVR				pmax	pmax			
	comp=Z,142nm,0.2s							
GLVR				smax	smax			
	comp=E,89nm,0.2s							
GLVR				smax	smax			
	comp=N,183nm,0.3s							
GLVR	**Golovnino**	**3.91**	**240**	*eP*		**Pn**	**14 21 48.6**	**+1.7**
GLVR				AMB	AMB		14 21 48.9	
	comp=N,10.0nm,0.2s							
GLVR				*eS*		**Sn**	**14 22 34.0**	**+1.2**
GLVR				A	A		14 22 36.8	
	comp=N,180nm,0.3s							
GLVR				A	A		14 22 36.8	
	comp=N,90nm,0.3s							
NEM2	**Nemuro 2**	**4.00**	**234**	P		**Pn**	**14 21 48.8**	**+0.8**
NEM2				*eS*		**Sn**	**14 22 32.3**	**-2.5**
NMR	**Nemuro--Hokkai**	**4.00**	**234**	⇓*iPN*		**Pn**	**14 21 48.9**	**+0.8**
NMR				*i S*		**Sn**	**14 22 33.3**	**-1.7**
NMR	**Nemuro--Hokkai**	**4.00**	**234**	*i P*		**Pn**	**14 21 48.8**	**+0.7**
JNK	**Nakash**	**4.49**	**243**	P		**Pn**	**14 21 55.8**	**+1.4**
AKK	**Akkeshi**	**4.73**	**236**	*eP*		**Pn**	**14 21 59.0**	**+1.4**
AKK				*erx*		rx	14 22 49.1	
JAK	**Akkeshi**	**4.83**	**237**	P		**Pn**	**14 21 59.3**	**+0.4**
JAK				*eS*		**Sn**	**14 22 51.6**	**-2.8**
JAR	**Ashorobuto**	**5.23**	**244**	P		**Pn**	**14 22 06.0**	**+1.8**
JOB	**Onbets**	**5.40**	**240**	P		**Pn**	**14 22 07.1**	**+0.7**
JOB				*eS*		**Sn**	**14 23 05.0**	**-2.9**
JCH	**Churui**	**5.85**	**240**	P		**Pn**	**14 22 12.7**	**+0.3**
JCH				*eS*		**Sn**	**14 23 14.5**	**-4.1**
JNBK	**Urakawa-nobuka**	**6.41**	**239**	P		**Pn**	**14 22 19.0**	**-0.9**
JNBK				*eS*		**Sn**	**14 23 26.9**	**-5.1**
PAU	**Pauzhetka**	**7.17**	**35**	*erx*		rx	14 22 29.3	
JANG	**Nango**	**8.34**	**233**	P		**Pn**	**14 22 43.7**	**-2.0**
PETK	**Petropavlovsk-**	**8.80**	**31**	P		**Pn**	**14 22 50.4**	**-1.3**
	comp=N,0.5nm,0.3s,baz=180,slow=8.6,SNR=15							
PET	**Petropavlovsk**	**9.10**	**34**	*eP*		Pn	14 23 01.6	+6.0
KSRS	**Korea Array**	**18.58**	**251**	P		**Pn**	**14 24 53.8**	**-1.3**
	comp=N,0.2nm,0.3s,baz=56,slow=11,SNR=4.9							
H11N2	**WAKE ISLAND Hy**	**29.41**	**147**	T		T	14 58 01.2	
	baz=335,slow=75,SNR=6.3							
H11N1	**WAKE ISLAND Hy**	**29.43**	**147**	T		T	14 58 05.2	
	baz=335,slow=75,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**29.43**	**147**	T		T	14 58 02.5	
	baz=335,slow=75,SNR=6.0							
ILAR	**Eielson Array**	**38.55**	**38**	P		**P**	**14 27 54.7**	**-0.4**
	comp=N,0.3nm,0.8s,baz=267,slow=6.0,SNR=2.0							
MKAR	**Makanchi Array**	**45.58**	**297**	PcP		**PcP**	**14 30 26.9**	**-1.3**
	comp=N,0.2nm,0.6s,baz=72,slow=4.3,SNR=2.3							
YKA	**Yellowknife Ar**	**52.89**	**35**	P		**P**	**14 29 46.5**	**-1.0**
	comp=N,0.2nm,0.4s,baz=298,slow=7.0,SNR=3.5							
PDAR	**Pinedale Array**	**66.94**	**52**	P		**P**	**14 31 23.9**	**-0.1**
	comp=N,0.2nm,0.5s,baz=309,slow=4.5,SNR=4.6							
WRA	**Warramunga Arr**	**66.98**	**196**	P		**P**	**14 31 26.5**	**+2.4**
	comp=N,0.3nm,0.5s,baz=8.8,slow=6.8,SNR=1.5							
ASAR	**Alice Springs**	**70.69**	**196**	P		**P**	**14 31 50.7**	**+3.8**
	comp=N,0.3nm,0.5s,baz=7.6,slow=5.9,SNR=7.1							

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*NNC **08** 14:30:41.0±1.1, 37°.25N×70°.67E, h0km, mb5.5, mpv5.3, Error ellipse: s-maj=10.6km s-min=7.8km az=141.0*
*MOS **08** 14:30:42.8±1.0, 36°.91N×71°.24E, h85km, mb4.8/56, Error ellipse: s-maj=4.8km s-min=3.2km az=86.8*
*BJI **08** 14:30:42.4±0.0, 36°.89N×71°.19E, h82km, mb4.9/48, mB4.9/30, Ms4.4/26, Ms7 4.0/24*
*IDC **08** 14:30:43.5±0.7, 36°.80N×71°.23E, h83km±5km, mb4.4/52, mb1 4.5/56, mb1mx4.4/74, mbtmp4.7/56, MS3.7/32, Ms1 3.7/32, ms1mx3.5/87, Error ellipse: s-maj=9.1km s-min=7.4km az=20.0*
*NEIC **08** 14:30:43.8±2.0, 36°.90N±0°.05×71°.07E±0°.07, h76km±5km, mb4.9/99, Error ellipse: s-maj=8.5km s-min=7.9km az=69.0*
*GCMT **08** 14:30:45.8±0.3, 36°.85N±0°.02×71°.16E±0°.02, h82km±3km, MW4.8/90, Moment

ULHL Ulahol 6.64 34 P Pn 14 32 21.3 +3.1
SNR=48
BOOM Boomskoye usch 6.70 32 PN Pn 14 32 21.6 +2.5
BOOM Boomskoye usch 6.70 32 Pn Pn 14 32 21.6 +2.5
CHMS Chumysh 6.71 23 P Pn 14 32 21.0 +2.0
SNR=261
CHMS Chumysh 6.71 23 ⇑Pn Pn 14 32 18.8 -0.2
comp=Z,233nm,0.6s
CHMS ⇓Sn Sn 14 33 34.2 +0.3
comp=Z,268nm,0.8s
CHMS ⇓Lg Lg 14 34 09.1
comp=Z,422nm,0.9s
USP Ospenovka 6.88 21 P Pn 14 32 23.0 +1.7
SNR=24
TKM2 Tokmak 2 6.93 28 P Pn 14 32 24.5 +2.3
SNR=15
TKM2 Tokmak 2 6.93 28 PN Pn 14 32 23.3 +1.1
TKM2 Tokmak 2 6.93 28 ⇑Pn Pn 14 32 23.3 +1.1
comp=Z,176nm,0.9s
TKM2 ⇓Sn Sn 14 33 42.0 +2.4
comp=Z,258nm,1.1s
TKM2 ⇑Lg Lg 14 34 17.1
comp=Z,401nm,1.2s
BHK Bhakra 6.95 140 *e*P Pn 14 32 23.0 +0.7
BHK *e*S Sn 14 33 37.5 -2.4
KDJ Kajisay 7.00 40 PN Pn 14 32 25.5 +2.3
KDJ Kajisay 7.00 40 Pn Pn 14 32 25.5 +2.3
TARG Taragay, Kyrgy 7.06 45 Pn Pn 14 32 26.8 +2.7
SGDS Sogindy 7.08 21 *e*PN Pn 14 32 22.6 -1.5
SGDS pmax pmax
comp=Z,32nm,0.7s
SGDS Sogindy 7.08 21 *e*P Pn 14 32 22.7 -1.5
comp=Z,32nm,0.7s,baz=21
SMLA Simla 7.57 137 *e*P Pn 14 32 31.5 +0.7
SMLA *e*S Sn 14 33 51.7 -3.3
SMLA IAML 14 33 57.8
comp=N,2μm,0.7s
SMLA IAML 14 33 58.1
comp=E,1μm,0.4s
TNSS Tian-Shan 7.58 34 *e*PN Pn 14 32 31.4 +0.1
TNSS Tian-Shan 7.58 34 *e*P Pn 14 32 31.4 +0.1
baz=34
HRA Herat 7.70 254 Pn Pn 14 32 32.9 +0.2
MDOK Medeo 7.73 34 PN Pn 14 32 35.4 +2.4
MDOK Medeo 7.73 34 *e*P Pn 14 32 32.5 -0.5
baz=34
MDOK Medeo 7.73 34 ⇓Pn Pn 14 32 35.4 +2.4
comp=E,73nm,0.7s
MDOK ⇑Lg Lg 14 34 44.0
comp=E,263nm,0.9s
KNDC Almaty 7.73 33 ⇑Pn Pn 14 32 35.6 +2.5
comp=E,331nm,0.8s
KNDC ⇓Lg Lg 14 34 44.3
comp=E,2μm,1.2s
KUU Kurty 8.04 28 *e*PN Pn 14 32 36.0 -1.2
KUU Kurty 8.04 28 *e*P Pn 14 32 36.0 -1.2
baz=28
CHKK Chushkaly 8.26 31 *e*PN Pn 14 32 38.9 -1.2
CHKK Chushkaly 8.26 31 *e*P Pn 14 32 39.0 -1.2
baz=31
BTLS Baital 8.45 14 *e*PN Pn 14 32 41.3 -1.4
BTLS pmax pmax
comp=Z,8.0nm,0.6s
BTLS Baital 8.45 14 *e*P Pn 14 32 41.3 -1.4
comp=Z,7.8nm,0.6s,baz=14
DDI Dehra Dun 8.68 137 *e*P Pn 14 32 47.7 +1.8
DDI *e*S Sn 14 34 18.2 -3.9
DDI *e*S Sn 14 34 18.5 -3.7
DDI IAML 14 34 22.5
comp=N,2μm,0.3s
DDI IAML 14 34 28.0
comp=E,1μm,0.4s
ARXS Arharly 8.90 32 *e*PN Pn 14 32 49.8 +0.8
SHLS Shalkode 8.92 43 *e*P Pn 14 32 53.3 +4.0
SHLS pmax pmax
comp=Z,19nm,0.8s
SHLS Shalkode 8.92 43 *e*P Pn 14 32 53.3 +4.0
comp=Z,19nm,0.8s,baz=44
PDGK Podgornoye 9.05 42 PN Pn 14 32 52.2 +1.1
PDGK Podgornoye 9.05 42 ⇓Pn Pn 14 32 52.3 +1.1
comp=Z,52nm,0.7s
PDGK ⇑Lg Lg 14 35 29.0
comp=Z,492nm,1.2s
NDI New Delhi 9.60 146 *e*P Pn 14 32 59.0 +0.5
NDI *e*P Pn 14 33 01.0 +2.5
NDI *e*S Sn 14 34 37.4 -7.4
NDI *e*S Sn 14 34 40.0 -4.7
AYAN Aya Nagar 9.74 147 *e*P Pn 14 32 59.2 -1.1
AYAN *e*S Sn 14 34 42.8 -5.1
KUDL Kundal 9.77 151 *e*P Pn 14 32 59.6 -1.3
TDK Taldyqorghan 9.78 32 *e*P Pn 14 33 01.1 +0.2
TDK Taldyqorghan 9.78 32 *e*P Pn 14 33 01.1 +0.2
baz=32
SONA Sohna 9.92 148 *e*P Pn 14 33 02.0 -0.9
SONA *e*S Sn 14 34 45.0 -7.5
GEYT Alibeck 10.46 280 P Pn 14 33 04.6 -5.6
comp=Z,9.2nm,0.3s,baz=108,slow=13,SNR=63
GEYT S Sn 14 34 55.9 -10
comp=Z,8.2nm,0.3s,baz=150,slow=15,SNR=3.9
GEYT LR LR 14 38 41.5
comp=Z,545nm,20.6s,baz=88,slow=46
GEYT Alibeck 10.46 280 Pn Pn 14 33 05.1 -5.1
GYA0B ALIBECK ARRAY 10.46 280 Pn Pn 14 33 04.9 -5.3
GYA0B ALIBECK ARRAY 10.46 280 ⇑Pn Pn 14 33 05.4 -4.9
GYA0B ⇑Lg Lg 14 34 53.8
PTH Pithoragarh 10.50 131 *e*P Pn 14 33 09.8 -1.1
PTH *e*S Sn 14 34 58.4 -8.4
LGTI Lohaghat 10.59 132 *e*P Pn 14 33 10.0 -2.0
LGTI *e*S Sn 14 34 58.9 -10
AJM Ajmer 10.76 163 *e*P Pn 14 33 13.8 -0.5
AJM *e*S Sn 14 35 02.0 -11
OTUK Ortayu 11.40 4 P Pn 14 33 21.5 -1.5
MAKZ Makanchi 12.77 36 P Pn 14 33 40.8 -0.6
MAKZ Makanchi 12.77 36 Pn Pn 14 33 40.8 -0.6
MAKZ Makanchi 12.77 36 ⇑Pn Pn 14 33 41.0 -0.4
comp=Z,47nm,0.8s
MK31 Makanchi Array 12.90 36 *c* iP Pn 14 33 43.6 +0.3
MK31 Makanchi Array 12.90 36 Pn Pn 14 33 43.0 -0.3
MK31 Makanchi Array 12.90 36 Pn Pn 14 33 43.3 0.0
comp=Z,29nm,0.7s,baz=218,slow=12,SNR=316
MKAR Makanchi Array 12.90 36 P Pn 14 33 43.0 -0.3
comp=Z,2.8nm,0.3s,baz=220,slow=12,SNR=213
JHNI Jhansi 12.98 149 *e*P Pn 14 33 42.1 -2.3
JHNI *e*S Sn 14 35 55.8 -11
BRZS Berezniki 13.15 4 *e*P Pn 14 33 42.9 -3.7
BRZS pmax pmax
comp=Z,28nm,1.0s
BRZS Berezniki 13.15 4 *e*P Pn 14 33 43.0 -3.7
comp=Z,28nm,1.0s,baz=4.0
PYUN Piuthan 13.24 128 *e*P Pn 14 33 45.0 -3.0
comp=Z,161nm,0.3s
DANN Dangsing 13.56 125 *e*P Pn 14 33 49.8 -2.6
comp=Z,75nm,0.3s
KOLN Koldanda 13.85 127 *e*P Pn 14 33 53.4 -2.7
comp=Z,112nm,0.3s
VLK Valmikinagar 14.34 128 *e*P Pn 14 33 59.5 -2.7
VLK *e*S Sn 14 36 29.0 -11
GKN Gorkha 14.37 124 *e*P Pn 14 33 59.4 -3.4
comp=Z,163nm,0.5s
BHPL Bhopal 14.60 157 *e*P Pn 14 34 03.7 -2.0
BHPL *e*S Sn 14 36 35.2 -11
ZSN Zaisan 14.63 39 *e*P Pn 14 34 03.9 -1.9
ZSN Zaisan 14.63 39 *e*P Pn 14 34 04.0 -1.9
baz=40
ALBI Allahabad 14.66 139 *e*S Sn 14 36 34.5 -13
KURBB Kurchatov Arra 14.73 19 P Pn 14 34 03.7 -3.3
comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=32
KURBB S Sn 14 36 49.0 0.0
baz=202,slow=26,SNR=2.9
KURBB LR LR 14 39 50.2
comp=Z,161nm,20.4s,baz=179,slow=37
KURBB Kurchatov Arra 14.73 19 ⇑Pn Pn 14 34 08.1 +1.0
comp=Z,46nm,0.6s
KURBB ⇑Lg Lg 14 38 24.7
comp=Z,183nm,1.3s
KURK Kurchatov 14.83 19 *ce*P Pn 14 34 07.3 -1.1
KURK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 14.83 19 Pn Pn 14 34 06.9 -1.5
KURK Kurchatov 14.83 19 ⇓Pn Pn 14 34 08.1 -0.4
comp=Z,44nm,1.1s
KURK ⇑Lg Lg 14 38 25.0
comp=Z,85nm,1.2s
AB31 Akbulak array 14.84 330 P Pn 14 34 05.0 -3.6
AB31 Akbulak array 14.84 330 Pn Pn 14 34 05.0 -3.6
comp=Z,26nm,0.5s,baz=145,slow=11,SNR=1653
ABKAR Akbulak array 14.84 330 Pn Pn 14 34 04.8 -3.7
ABKAR Akbulak array 14.84 330 Pn Pn 14 34 05.0 -3.5
KKN Kakani 14.94 123 *e*P Pn 14 34 07.7 -2.5
DMN Daman 14.94 124 *e*P Pn 14 34 06.9 -3.4
comp=Z,58nm,0.4s
SEM Semipalatinsk 15.02 23 *e*P Pn 14 34 07.9 -3.2
SEM Semipalatinsk 15.02 23 *e*P Pn 14 34 07.9 -3.2
baz=23
PKIN Phulchoki 15.16 124 *e*P Pn 14 34 09.2 -3.8
comp=Z,116nm,0.4s
PKI Pulchoki 15.17 124 *e*P Pn 14 34 09.4 -3.8
comp=Z,73nm,0.4s
GUN Gumba 15.27 122 *e*P Pn 14 34 12.0 -2.5
JBP Jabalpur 15.62 149 *ex* P 14 34 20.8 -0.3
JBP ⇓*e*P P 14 34 20.8 -0.3
JBP *e*S Sn 14 36 57.8 -13
JIRN Jiri 15.64 122 *e*P Pn 14 34 16.6 -2.6
comp=Z,378nm,0.5s
BRVK Borovoye 16.20 358 *d* iP Pn 14 34 23.6 -2.1
BRVK Borovoye 16.20 358 Pn 14 34 24.1 -1.6
BRVK IAmb IAmb 14 34 30.0
comp=Z,39nm,0.7s
BRVK Borovoye 16.20 358 P Pn 14 34 23.8 -1.9
BRVK Borovoye 16.20 358 ⇑Pn Pn 14 34 23.3 -2.4
comp=Z,32nm,0.7s
BRVK ⇑Sn Sn 14 37 21.9 -2.8
comp=Z,93nm,1.2s
RAMN Ramite 16.38 123 *e*P Pn 14 34 25.7 -2.6
comp=Z,143nm,0.4s
AKTO Aktyubinsk 16.55 329 P Pn 14 34 27.5 -2.5
comp=Z,4.8nm,0.3s,baz=134,slow=13,SNR=46
AKTO S Sn 14 37 19.4 -14
comp=Z,0.8nm,0.3s,baz=66,slow=18,SNR=2.9
AKTO LR LR 14 41 18.5
comp=Z,269nm,21.6s,baz=142,slow=38
BANOM Banah 16.73 234 P P 14 34 33.2 -0.4
SHME Shamm 16.75 234 P P 14 34 33.3 -0.4
TAPN Taplejung 16.88 119 *e*P Pn 14 34 32.0 -2.7
comp=Z,162nm,0.5s
ODAN Odare 16.97 121 *e*P Pn 14 34 33.4 -2.3
WSAR Wadi Sarin 17.38 222 P P 14 34 41.0 +0.4
comp=Z,1.7nm,0.3s,baz=84,slow=5.4,SNR=14
WSAR LR LR 14 42 33.3
comp=Z,138nm,21.2s,baz=77,slow=41
UOSS Minazif 17.49 231 P Pn 14 34 41.3 -0.5
HATD Hatta, Dubai 17.62 231 P Pn 14 34 45.6 +2.2
ASHO Ashiyiah 17.77 231 P Pn 14 34 45.1 -0.1
SNR=13
ASHO Ashiyiah 17.77 231 *i* P P 14 34 44.8 -0.2
SNR=12
LKRN Lenkeran, Azer 17.81 283 P Pn 14 34 47.3 +1.7
FAQ Al Faqa, Dubai 18.02 232 P Pn 14 34 48.1 -0.1
LSA Lhasa 18.13 107 P Pn 14 34 50.0 0.0
LSA pmax pmax
comp=Z,58nm,0.7s
LSA Lhasa 18.13 107 P Pn 14 34 50.0 0.0
LSA IAmb IAmb 14 34 55.0
comp=Z,58nm,0.7s
LSA Lhasa 18.13 107 P P 14 34 49.3 -0.1
LSA pmax pmax
comp=Z,24nm,1.1s
LSA Lhasa 18.13 107 P Pn 14 34 50.1 0.0
BOK Bokaro 18.15 132 *e*P P 14 34 47.6 -1.5
BOK *e*S S 14 37 53.6 -18
ALNE Al Ain 18.41 230 P Pn 14 34 53.4 +0.4
SNR=18
ALNE Al Ain 18.41 230 *i* P Pn 14 34 52.6 -0.4
SNR=6.2
POO Poona 18.41 172 *e*P P 14 34 50.0 -2.1
comp=Z,100nm,1.2s
POO *i* S S 14 38 05.0 -13
ARQ Araqi 18.49 227 P Pn 14 34 54.4 +0.5
BSY Bisya 18.56 225 P Pn 14 34 55.5 +0.7
SNR=5.9
GOMU GeErMu 18.99 85 P Pn 14 35 00.3 +0.2
GOMU S S 14 38 23.6 -6.5
GOMU pmax pmax
comp=Z,47nm,1.3s
GOMU pmax pmax
comp=Z,110nm,5.2s
GOMU LR LR
comp=Z,90nm,5.4s
GOMU LR LR
comp=Z,120nm,6.4s
GOMU LR LR
comp=Z,120nm,6.7s
SEKA Sheki 19.12 290 P Pn 14 35 01.9 +0.5
MAK Makhachkala 19.14 296 *e*P P 14 34 58.9 -0.8
MAK *e*S S 14 38 32.2 -0.2
MAK pmax pmax
comp=Z,238nm,1.6s
MAK MLR MLR
comp=Z,256nm,15.0s
MNGR Mingechevir, A 19.17 289 P Pn 14 35 02.5 +0.6
ZAA0 Zalesovo Array 19.52 25 P P 14 35 04.2 +0.4
ZAA0 IAmb IAmb 14 35 09.2
comp=Z,57nm,0.8s
ZALV Zalesovo Beam 19.52 25 P P 14 35 03.7 -0.1
comp=Z,9.4nm,0.3s,baz=215,slow=10,SNR=109
ZALV S S 14 38 37.1 -2.8
comp=Z,0.2nm,0.3s,baz=218,slow=20,SNR=3.6
ZALV LR LR 14 43 18.5
comp=Z,196nm,18.4s,baz=209,slow=39
ZALV Zalesovo Beam 19.52 25 *i* P P 14 35 03.7 -0.1
ZALV pmax pmax
comp=Z,34nm,0.4s
ZALV Zalesovo Beam 19.52 25 P P 14 35 04.1 +0.3
MHTO MHTO 19.57 220 P Pn 14 35 06.7 0.0
SNR=9.8
JRN Qarnain Island 19.69 238 P P 14 35 04.9 -1.0
GANJ Ganja 19.74 289 P Pn 14 35 08.9 +0.3
UMZA Um Al Zommool 19.77 229 P P 14 35 07.1 +0.3
KHOR Al-Khor Airpor 20.18 242 P P 14 35 11.9 +0.6
GHRH Al-Ghuwayriyah 20.22 243 P P 14 35 12.1 +0.4
NAX Nakhchivan 20.36 284 P Pn 14 35 14.9 -1.0
GROC Groznyy 20.41 296 *e*P Pn 14 35 15.4 -1.0
GROC *e**SP sP 14 35 42.2 +1.7
GROC pmax pmax
comp=Z,47nm,0.7s
SHMA Al-Shehemyia 20.43 243 P P 14 35 14.3 +0.4
HYBB Hyderabad (bro 20.43 160 *e*P Pn 14 35 16.1 -0.8
HYBB IVmB_BB 14 35 19.0
comp=Z,228nm,0.7s
HYBB *es*P sP 14 35 41.2 -0.7
HYBB *e*S S 14 39 01.4 +3.0
HYBB IVMs_BB IVMs_BB 14 41 44.2
comp=Z,179nm,3.9s
MZR Muzera 20.61 233 P P 14 35 14.3 -1.6
MZR S S 14 38 55.4 -6.4
MZR Muzera 20.61 233 P P 14 35 14.6 -1.3
SAKB Bahrain 20.66 244 P P 14 35 16.5 0.0
SHL Shillong 20.93 117 P P 14 35 20.7 +1.2
SHL pmax pmax
comp=Z,212nm,1.1s
SHL Shillong 20.93 117 P P 14 35 20.6 +1.2
SHL Shillong 20.93 117 *e*S S 14 38 59.7 -8.7
SHL Shillong 20.93 117 P P 14 35 20.5 +1.0
SNR=85
GNI Garni 20.93 287 P Pn 14 35 21.6 -1.1
comp=Z,22nm,0.8s,baz=100,slow=2.0,SNR=14
GNI LR LR 14 46 56.2
comp=Z,81nm,19.1s,baz=88,slow=46
GNI Garni 20.93 287 *de*P Pn 14 35 21.9 -0.9
GNI pmax pmax
comp=Z,46nm,0.9s
GNI Garni 20.93 287 P P 14 35 20.5 +1.0
GNI IAmb IAmb 14 35 44.7
comp=Z,107nm,1.4s
GNI Garni 20.93 287 P P 14 35 19.6 +0.1
TRNA Turayna 20.95 240 P P 14 35 17.8 -1.7
SVE Sverdlovsk 21.19 344 *e*P P 14 35 22.8 +1.0
SVE *e*S S 14 39 13.2 +0.5
SVE pmax pmax
comp=Z,33nm,0.9s
SVE MLR MLR
comp=Z,446nm,11.0s
ARU Arti 21.34 340 P P 14 35 23.8 +0.4
comp=Z,12nm,0.5s,baz=136,slow=6.3,SNR=28
ARU S S 14 39 11.4 -4.3
comp=Z,2.0nm,0.5s,baz=73,slow=19,SNR=2.0
ARU LR LR 14 44 44.5
comp=Z,373nm,20.7s,baz=144,slow=39
ARU Arti 21.34 340 *de*P P 14 35 23.9 +0.4
ARU pmax pmax
comp=Z,61nm,1.0s
ARU Arti 21.34 340 P P 14 35 23.9 +0.4
ARU IAmb IAmb 14 35 28.9
comp=Z,44nm,0.7s
ZEI Tsey 21.73 294 *e*P P 14 35 28.1 +0.1
ZEI pmax pmax
comp=Z,11nm,0.8s
ONI Oni 22.04 294 P P 14 35 32.4 +1.3
ONI pmax pmax
comp=Z,25nm,1.1s
ONI Oni 22.04 294 P P 14 35 32.4 +1.3
NCK Nalchik 22.04 296 *i* P P 14 35 32.7 +1.6
NCK pmax pmax
comp=Z,41nm,0.8s
GEVA Gevas 22.31 282 P P 14 35 36.7 +2.5
KBZ Khabaz 22.58 296 P P 14 35 36.1 -0.6
comp=Z,7.3nm,0.8s,baz=109,slow=9.8,SNR=15
KBZ LR LR 14 45 38.8
comp=Z,112nm,20.7s,baz=80,slow=40
KBZ Khabaz 22.58 296 *ce*P P 14 35 37.0 +0.3
KBZ pmax pmax
comp=Z,8.0nm,0.9s
GTA Gaotai 22.61 75 ⇑P P 14 35 38.3 +0.9
GTA pmax pmax
comp=Z,180nm,4.4s
GTA LR LR
comp=Z,240nm,18.7s
GTA LR LR
comp=Z,320nm,17.9s
GTA LR LR
comp=Z,410nm,16.7s
NEY Neytrino 22.64 295 *i* P P 14 35 39.0 +1.3
NEY pmax pmax
comp=Z,4.0nm,1.0s
GOF Gofitskoye 22.70 300 ⇑*e*P P 14 35 39.7 +1.7
GOF pmax pmax
comp=Z,19nm,0.9s
BELG Belogornoye 22.71 321 P P 14 35 37.5 -0.5
comp=Z,63nm,1.0s,baz=147,slow=4.7,SNR=14
BELG LR LR 14 46 04.7
comp=Z,170nm,20.8s,baz=139,slow=40
BELG Belogornoye 22.71 321 *i* P P 14 35 38.7 +0.7
BELG pmax pmax
comp=Z,15nm,1.0s
SHA1 Shidzhatmaz 22.75 296 *i* P P 14 35 39.2 +0.3
KVAR Kislovodsk Arr 22.75 297 P P 14 35 40.4 +1.7
comp=Z,2.3nm,0.3s,baz=72,slow=19,SNR=1.7
KVAR S S 14 39 41.8 +0.3
baz=56,slow=18
KIV Kislovodsk 22.76 297 *e*P P 14 35 39.3 +0.5
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,79nm,14.0s
DOK Doka 23.57 224 P P 14 35 47.1 +0.5
SNR=5.9
WHFO Wadi Hawf 24.33 224 P P 14 35 53.3 -0.2
SNR=37
RBK Rabkut 24.43 222 P P 14 35 54.3 0.0
SOC Sochi 24.86 295 *e*P P 14 35 57.5 -0.5
SOC *e*S S 14 40 15.5 +0.5
SOC *e*SS SnSn 14 41 11.8 +1.2
SOC pmax pmax
comp=Z,15nm,0.8s
ABTO Aybut 25.05 224 P P 14 36 00.1 0.0
SNR=6.4
VRH Novokhopyorsk 25.37 314 *e*P P 14 36 04.4 +1.8
VRH pmax pmax
comp=Z,10.0nm,0.5s
MOY Mondy 25.74 45 *e*P P 14 36 07.8 +1.7
MOY pmax pmax
comp=Z,34nm,1.4s
RAYN Ar Rayn 25.79 246 P P 14 36 07.1 +0.4
RAYN pmax pmax
comp=Z,12nm,0.9s
RAYN Ar Rayn 25.79 246 P P 14 36 07.1 +0.4
RAYN Ar Rayn 25.79 246 P P 14 36 06.6 -0.1
RAYN Ar Rayn 25.79 246 *i* P P 14 36 06.6 -0.1
SNR=15
KIRV Kirov 25.98 334 P P 14 36 08.7 +0.7
comp=Z,11nm,0.6s,baz=155,slow=2.0,SNR=3.7
KIRV pP pP 14 36 28.0 +0.6
comp=Z,40nm,0.8s,baz=138,slow=16,SNR=4.1
KIRV sP sP 14 36 37.7 +0.4
comp=Z,23nm,0.6s,baz=136,slow=2.4,SNR=2.9
KIRV Kirov 25.98 334 *ce*P P 14 36 08.9 +0.9
LZH Lanzhou 26.20 82 ⇑P P 14 36 12.4 +1.9
LZH pmax pmax
comp=Z,20nm,1.4s
LZH LR LR
comp=Z,230nm,14.6s
LZH LR LR
comp=Z,220nm,14.1s
LZH LR LR
comp=Z,170nm,13.6s
ANN Anapa 26.60 298 *e*P P 14 36 14.0 +0.2
ANN *e**PP pP 14 36 33.2 +0.3
ANN *e*S S 14 40 44.8 +2.2
ANN pmax pmax
comp=Z,16nm,0.8s
ZAK Zakamensk 26.63 49 *e*P P 14 36 15.1 +1.0
ZAK pmax pmax
comp=Z,25nm,1.3s
VORD Divnogorie 26.71 312 *e*P P 14 36 16.4 +1.7
VORD pmax pmax
comp=Z,9.0nm,0.6s
VSR Storozhevoye 26.87 312 *e*P P 14 36 18.1 +2.0
VSR pmax pmax
comp=Z,8.0nm,0.5s
LPSR Galich'ya Gora 27.50 315 *e*P P 14 36 21.9 +0.1
LPSR pmax pmax
comp=Z,8.0nm,0.6s
CD2 Chengdu 27.59 93 P P 14 36 25.1 +2.2
CD2 pmax pmax
comp=Z,10.0nm,0.6s
IRK Irkutsk 27.83 46 *e*P P 14 36 24.9 +0.1
IRK pmax pmax
comp=Z,31nm,1.6s
SONM Songino Array 28.00 56 P P 14 36 27.5 +1.1
comp=Z,25nm,0.8s,baz=258,slow=9.8,SNR=110
SONM LR LR 14 49 19.6
comp=Z,160nm,21.7s,baz=207,slow=40
SONM Songino Array 28.00 56 P P 14 36 28.0 +1.6
SONM pmax pmax
comp=Z,23nm,0.8s
SONM Songino Array 28.00 56 P P 14 36 28.0 +1.6
SONM IAmb IAmb 14 36 29.0
comp=Z,23nm,0.8s
ULN Ulaanbaatar 28.44 56 *ce*P P 14 36 31.6 +1.3
ULN pmax pmax
comp=Z,30nm,0.8s
ULN Ulaanbaatar 28.44 56 P P 14 36 31.3 +0.9
ULN IAmb IAmb 14 36 32.7
comp=Z,24nm,0.7s
ULN Ulaanbaatar 28.44 56 P P 14 36 31.7 +1.3
ULN Ulaanbaatar 28.44 56 ⇓P P 14 36 32.2 +1.8
ULN pP pP 14 36 47.6 -2.7
ULN sP sP 14 37 02.7 +2.3
BR131 Keskin Array S 29.48 287 *i* P P 14 36 40.6 +1.0
BR131 Keskin Array S 29.48 287 P P 14 36 40.2 +0.6
BRTR Keskin Array B 29.48 287 P P 14 36 40.6 +1.0
comp=Z,2.5nm,0.8s,baz=109,slow=8.7,SNR=11
BRTR pP pP 14 36 59.3 +0.4
comp=Z,1.9nm,0.6s,baz=100,slow=8.9,SNR=4.5
BRTR LR LR 14 51 03.4
comp=Z,113nm,19.1s,baz=121,slow=41
BRTR Keskin Array B 29.48 287 *i* P P 14 36 40.9 +1.3
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 29.48 287 P P 14 36 38.7 -0.9
MOS Moscow 29.48 321 *e*P P 14 36 38.8 -0.4
MOS *e* 14 36 57.9
MOS *e* 14 37 40.2
PRGR Permogore 29.50 335 *e*P P 14 36 38.2 -1.2
PRGR pmax pmax
comp=Z,12nm,1.0s
OBN Obninsk 29.77 319 *ce*P P 14 36 42.3 +0.5
OBN *e* 14 37 43.6
OBN *e*SS SS 14 43 09.0 -32
OBN pmax pmax
comp=Z,6.0nm,0.3s
OBN MLR MLR
comp=Z,175nm,26.0s
CHTO Chiang Mai 30.25 119 P P 14 36 48.3 +1.8
CHTO pmax pmax

comp=Z,17nm,1.4s
CHTO Chiang Mai 30.25 119 P **P** **14 36 48.3 +1.8**
CHTO Chiang Mai 30.25 119 P **P** **14 36 48.7 +2.2**
CHTO Chiang Mai 30.25 119 P **P** **14 36 48.5 +2.0**
CM31 Chiang Mai Arr 30.49 119 P **P** **14 36 50.6 +2.0**
CMAR Chiang Mai Arr 30.49 119 P **P** **14 36 49.5 +0.9**
comp=Z,3.5nm,0.8s,baz=306,slow=8.7,SNR=27
CMAR ScP **ScP** **14 43 21.6 +0.3**
comp=Z,0.3nm,0.3s,baz=325,slow=1.4,SNR=4.1
CMAR Chiang Mai Arr 30.49 119 *i* P **P** **14 36 50.5 +1.9**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 30.49 119 P **P** **14 36 50.6 +2.0**
PALK Pallekele 30.70 161 P **P** **14 36 51.0 +0.5**
comp=Z,2.6nm,0.4s,baz=0.0,slow=7.1,SNR=4.2
PALK LR LR 14 49 21.3
comp=Z,166nm,18.5s,baz=93,slow=36
PALK Pallekele 30.70 161 P **P** **14 36 51.0 +0.5**
PALK Pallekele 30.70 161 ⇓P **P** **14 36 51.6 +1.1**
PALK ⇓X 14 36 57.5
PALK pP **sP** **14 37 15.7 -4.7**
XAN Xi'an 30.73 84 P **P** **14 36 52.0 +1.3**
XAN pmax pmax
comp=Z,19nm,0.8s
EIL Elat 31.01 267 LR LR 14 50 32.7
comp=Z,66nm,18.0s,baz=90,slow=38
KLMR Klimovskoe 31.24 330 *e*P **P** **14 36 53.7 -1.1**
KLMR *e**PP **pP** **14 37 12.7 -1.7**
KLMR *e* 14 37 56.9
KLMR *e* 14 39 46.7
KLMR pmax pmax
comp=Z,16nm,0.9s
KLMR Klimovskoe 31.24 330 *e*P **P** **14 36 53.7 -1.1**
KLMR AMP 14 36 56.6
comp=Z,16nm,0.9s
KLMR *e*pP **pP** **14 37 12.8 -1.7**
KLMR *e*PP **PnPn** **14 37 56.9 -2.9**
KLMR *e*PcP **PcP** **14 39 46.7 -0.6**
ENH Enshi 32.42 90 P **P** **14 37 06.4 +0.9**
ENH IAmb IAmb 14 37 18.8
comp=Z,41nm,1.5s
ENH Enshi 32.42 90 P **P** **14 37 07.2 +1.7**
ENH X 14 37 13.3
ENH pP **pP** **14 37 27.2 +1.5**
AKASG Malin Array Be 32.84 308 P **P** **14 37 09.0 +0.1**
comp=Z,6.9nm,0.6s,baz=80,slow=7.0,SNR=25
AKASG pP **pP** **14 37 29.0 +0.5**
comp=Z,3.7nm,0.5s,baz=81,slow=7.0,SNR=4.5
AKASG PP **PP** **14 38 23.8 -0.6**
comp=Z,2.3nm,0.6s,baz=94,slow=12,SNR=5.6
AKASG ScP **ScP** **14 43 27.9 -0.7**
comp=Z,0.1nm,0.3s,baz=90,slow=1.9,SNR=1.1
AKASG LR LR 14 52 05.4
comp=Z,112nm,18.4s,baz=104,slow=39
AKASG Malin Array Be 32.84 308 P **P** **14 37 08.8 -0.1**
AKBB Malin Array Si 32.84 308 *ce*P **P** **14 37 09.6 +0.7**
AKBB Malin Array Si 32.84 308 P **P** **14 37 09.2 +0.2**
AKBB IAmb IAmb 14 37 10.8
comp=Z,8.1nm,0.8s
TIRR Tirgusor 33.02 297 P **P** **14 37 11.7 +1.1**
LYN LuoYang 33.41 81 *e*P **P** **14 37 16.1 +2.0**
LYN S S 14 42 38.5 +9.1
LYN LR LR
comp=Z,200nm,15.9s
LYN LR LR
comp=Z,240nm,22.6s
NRIK Noril'sk 33.74 10 P **P** **14 37 17.6 +1.0**
comp=Z,5.2nm,0.5s,baz=205,slow=6.9,SNR=8.8
NRIK LR LR 14 52 46.5
comp=Z,181nm,20.2s,baz=218,slow=39
NRIK Noril'sk 33.74 10 *ce*P **P** **14 37 17.5 +1.0**
NRIK pmax pmax
comp=Z,16nm,1.1s
NRIK Noril'sk 33.74 10 P **P** **14 37 17.2 +0.7**
NRIK IAmb IAmb 14 37 40.8
comp=Z,12nm,0.8s
VRI Vrincioaia 34.18 299 P **P** **14 37 22.2 +1.5**
TESR Tescani 34.23 301 P **P** **14 37 22.2 +1.1**
MNK Minsk 34.35 315 *i* P P 14 37 12.9 -9.1
MNK *i* *PP pP 14 37 31.7 -10
MNK *i* S **S** **14 42 35.0 -8.5**
MNK *i* *SS sS 14 43 08.2 -10
MNK *i* SS **SnSn** **14 44 53.6 -7.4**
MNK pmax pmax
comp=N,28nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.7s
MNK MLR MLR
comp=E,30nm,20.0s
MNK MLR MLR
comp=Z,437nm,19.0s
MNK MLR MLR
comp=N,194nm,15.0s
MNK Minsk 34.35 315 *i* LRM MLR 14 53 31.9
comp=N,194nm,15.3s
MNK Minsk 34.35 315 *i* P P 14 37 12.9 -9.1
comp=E,2.0nm,0.8s
MNK Minsk 34.35 315 *i* P P 14 37 12.9 -9.1
comp=N,28nm,0.9s
MNK Minsk 34.35 315 *i* P P 14 37 12.9 -9.1
comp=Z,12nm,0.7s,baz=281
MNK Minsk 34.35 315 *i* pP pP 14 37 31.8 -10
MNK Minsk 34.35 315 *i* PP PP 14 38 30.0 -11
MNK Minsk 34.35 315 *i* S **S** **14 42 35.1 -8.5**
MNK Minsk 34.35 315 *i* sS sS 14 43 08.2 -10
MNK Minsk 34.35 315 *i* SS SS 14 44 53.7 -21
MNK Minsk 34.35 315 *i* LR LR 14 51 30.9
MNK Minsk 34.35 315 *i* LRM MLR 14 53 25.5
comp=E,30nm,19.8s
MNK Minsk 34.35 315 *i* LRM MLR 14 53 28.7
comp=Z,437nm,19.2s
MLR Muntele Rosu 34.74 299 ⇑P **P** **14 37 27.6 +2.0**
MLR Muntele Rosu 34.74 299 P **P** **14 37 27.2 +1.5**
comp=Z,6.6nm,0.8s,baz=95,slow=5.3,SNR=7.5
MLR LR LR 14 54 12.6
comp=Z,110nm,19.0s,baz=82,slow=40
MLR Muntele Rosu 34.74 299 P **P** **14 37 27.5 +1.9**
MLR pmax pmax
comp=Z,23nm,1.3s
MLR Muntele Rosu 34.74 299 P **P** **14 37 27.5 +1.9**
MLR IAmb IAmb 14 37 50.9
comp=Z,23nm,1.3s
BOD Bodaibo 34.97 39 *e*P **P** **14 37 27.9 +0.7**
BOD pmax pmax
comp=Z,22nm,1.5s
NACGM Naroch 35.06 315 *e*P **P** **14 37 29.0 +0.9**
BURAR Bucovina Array 35.22 302 ⇓P **P** **14 37 31.0 +1.3**
BURAR Bucovina Array 35.22 302 P **P** **14 37 29.4 -0.2**
BUR08 Bucovina Ar. S 35.23 303 P **P** **14 37 30.4 +0.6**
VOIR 35.37 299 ⇓P **P** **14 37 32.6 +1.6**
VSU Vasula 36.00 321 *i* P **P** **14 37 35.7 -0.3**
VSU pmax pmax
comp=Z,54nm,0.9s
VSU Vasula 36.00 321 *e*P **P** **14 37 36.7 +0.6**
WHN Wuhan 36.21 87 ⇓P **P** **14 37 40.0 +1.8**
WHN pP **pP** **14 37 59.4 +0.6**
WHN pmax pmax
comp=Z,28nm,0.7s
TIA Tai'an 36.63 77 ⇑P **P** **14 37 42.6 +0.8**
TIA pmax pmax
comp=Z,10.0nm,1.2s
TIA pmax pmax
comp=Z,160nm,5.1s
TIA LR LR
comp=Z,300nm,17.7s
TIA LR LR
comp=Z,400nm,20.5s
TIA LR LR
comp=Z,410nm,19.1s
KWP Kalwaria Pacla 36.92 306 P **P** **14 37 45.9 +1.8**
KWP pmax pmax
comp=Z,166nm,1.1s
KWP Kalwaria Pacla 36.92 306 P **P** **14 37 45.9 +1.8**
VTS Vitosha 36.93 294 P **P** **14 37 46.1 +1.8**
HIA Hailar 36.95 55 P **P** **14 37 46.4 +2.0**
HIA pP **pP** **14 37 59.9 -4.9**
TRPA Tarpa 37.02 303 P **P** **14 37 45.4 +0.5**
TRPA Tarpa 37.02 303 P **P** **14 37 46.7 +1.8**
LVZ Lovozero 37.18 338 P **P** **14 37 46.7 +0.7**
LVZ pmax pmax
comp=Z,68nm,1.5s
LVZ Lovozero 37.18 338 P **P** **14 37 46.7 +0.7**
LVZ Lovozero 37.18 338 P **P** **14 37 46.6 +0.6**
LVZ pP **pP** **14 38 04.2 -1.8**
LVZ sP **sP** **14 38 16.4 +0.7**
KOLS Kolonicke sedl 37.20 305 *e*P **P** **14 37 47.7 +1.3**
KOLS Kolonicke sedl 37.20 305 *e*P **P** **14 37 47.7 +1.3**
BLKB Belogradchik 37.21 296 ⇑P **P** **14 37 47.8 +1.2**
UBPT Khong Chiam 37.25 116 P **P** **14 37 47.8 +0.6**
UBPT IAmb IAmb 14 37 48.4
comp=Z,16nm,0.8s
FIA1 FINESS Array S 37.27 326 P **P** **14 37 46.2 -0.6**
FIA1 IAmb IAmb 14 38 08.6
comp=Z,10nm,0.9s
FINES FINESS Array B 37.27 326 P **P** **14 37 47.2 +0.4**
comp=Z,4.6nm,0.6s,baz=123,slow=8.8,SNR=9.4
FINES FINESS Array B 37.27 326 *i* P **P** **14 37 47.5 +0.7**
FINES pmax pmax
comp=Z,5.0nm,0.6s
APA Apatity 37.36 337 ⇓*i* P P 14 38 00.4 +13
APA pmax pmax
comp=Z,4.0nm,1.0s
APA MLR MLR
comp=Z,800nm,10.0s
MTSE Matsula 37.54 321 *e*P **P** **14 37 50.0 +1.0**
MDVR Moldovita 37.78 298 ⇑P **P** **14 37 51.8 +0.4**
NIE Niedzica 38.49 305 *e*P **P** **14 37 59.7 +2.4**
OJC Ojcow 38.81 307 *e*P **P** **14 38 00.6 +0.7**
OJC Ojcow 38.81 307 P **P** **14 38 00.1 +0.1**
OJC pmax pmax
comp=Z,9.0nm,0.9s
OJC Ojcow 38.81 307 P **P** **14 38 00.1 +0.1**
OJC IAmb IAmb 14 38 01.6
comp=Z,8.6nm,0.9s
DIVS Divibare 39.08 297 P **P** **14 38 03.4 +1.1**
DIVS IAmb IAmb 14 38 04.6
comp=Z,13nm,1.1s
AAL Aland 39.78 322 *e*P **P** **14 38 09.0 +1.2**
MORH Mrgy, Hungar 39.78 301 P **P** **14 38 08.6 +0.5**
JAVC Velka Javorina 40.23 305 *e*P **P** **14 38 14.8 +2.9**
MORC Moravsky Berou 40.27 306 P **P** **14 38 13.7 +1.5**
MORC Moravsky Berou 40.27 306 P **P** **14 38 12.9 +0.7**
MORC pmax pmax
comp=Z,8.0nm,1.1s
MORC Moravsky Berou 40.27 306 P **P** **14 38 12.9 +0.7**
MORC Moravsky Berou 40.27 306 *e*P **P** **14 38 12.9 +0.7**
KEV Kevo 40.52 338 P **P** **14 38 14.0 +0.2**
KEV pmax pmax
comp=Z,14nm,1.0s
KEV Kevo 40.52 338 P **P** **14 38 14.0 +0.2**
KEV IAmb IAmb 14 38 16.8
comp=Z,14nm,1.0s
KRLC Kraliky 40.75 307 *e*P **P** **14 38 16.8 +0.7**
KRLC Kraliky 40.75 307 *e*P **P** **14 38 16.8 +0.7**
ARA0 ARCESS Array S 40.87 337 *e*P **P** **14 38 17.6 +0.8**
ARCES ARCESS Array B 40.87 337 P **P** **14 38 17.0 +0.3**
comp=Z,17nm,0.8s,baz=112,slow=7.7,SNR=32
ARCES LR LR 14 55 57.7
comp=Z,282nm,18.7s,baz=126,slow=37
ARCES ARCESS Array B 40.87 337 P **P** **14 38 17.9 +1.2**
ARCES pmax pmax
comp=Z,28nm,1.0s
ARCES ARCESS Array B 40.87 337 P **P** **14 38 17.9 +1.2**
VRAC Vranov 40.92 305 P **P** **14 38 18.2 +0.8**
comp=Z,5.4nm,0.6s,baz=88,slow=8.4,SNR=7.3
VRAC LR LR 14 56 30.6
comp=Z,82nm,21.7s,baz=53,slow=38
VRAC Vranov 40.92 305 *e*P **P** **14 38 18.5 +1.1**
DPC Dobruska-Polom 41.04 307 *e*P **P** **14 38 19.7 +1.3**
DPC Dobruska-Polom 41.04 307 *e*P **P** **14 38 19.7 +1.3**
KRUC Moravsky 41.06 305 *e*P **P** **14 38 19.5 +0.9**
VIKU Vikbolandet 41.16 319 *e*P **P** **14 38 18.6 -0.6**
RONA Rosalia, Austr 41.24 303 *i* P **P** **14 38 21.0 +0.9**
comp=Z,7.0nm,0.9s
CN2 Changchun 41.30 63 *e*P **P** **14 38 21.3 +0.7**
CN2 S **S** **14 44 25.1 -3.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
KTK1 Kautokeino 41.35 336 *e*P **P** **14 38 21.2 +0.6**
CONA Conrad Observa 41.51 303 *e*P **P** **14 38 23.7 +1.3**
comp=Z,7.6nm,0.8s,SNR=6.1
ZEA Zeya 41.71 48 *e*P **P** **14 38 26.0 +2.2**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.9s
BSD Bornholm Skovb 41.87 314 *e*P **P** **14 38 25.0 0.0**
HAMF Hammerfest 41.95 338 *e*P **P** **14 38 26.6 +1.1**
SOKA Soboth 42.21 302 *e*P **P** **14 38 29.2 +1.1**
comp=Z,14nm,1.5s,SNR=6.6
IPM Ipoh 42.27 133 P **P** **14 38 29.1 +0.3**
IPM IAmb IAmb 14 38 30.3
comp=Z,20nm,1.0s
IPM Ipoh 42.27 133 P **P** **14 38 29.4 +0.6**
BNX BinXian 42.37 60 ⇓P **P** **14 38 30.5 +1.2**
BNX pmax pmax
comp=Z,33nm,1.0s
BNX pmax pmax
comp=Z,380nm,4.6s
JETT Jettan, Norway 42.49 336 *e*P **P** **14 38 31.0 +1.0**
DEL Delary 42.51 316 *e*P **P** **14 38 30.1 -0.1**
DEL Delary 42.51 316 *i* P **P** **14 38 31.0 +0.8**
OBKA Obir 42.56 301 *i* P **P** **14 38 32.1 +1.1**
comp=Z,12nm,1.6s
MOA Molln 42.59 303 *e*P **P** **14 38 31.6 +0.5**
comp=Z,6.9nm,1.1s
GERES GERESS Array B 42.85 305 P **P** **14 38 34.2 +1.0**
comp=Z,1.0nm,0.7s,baz=95,slow=8.4,SNR=7.9
GERES GERESS Array B 42.85 305 P **P** **14 38 33.5 +0.2**
HFS Hagfors 42.88 322 P **P** **14 38 33.3 +0.1**
comp=Z,5.6nm,0.6s,baz=128,slow=9.3,SNR=9.0
HFS pP **pP** **14 38 53.8 +0.2**
comp=Z,6.9nm,0.6s,baz=180,slow=2.9,SNR=5.6
HFS LR LR 14 57 16.5
comp=Z,159nm,21.2s,baz=92,slow=37
KHC Kasperske Hory 42.90 305 *e*P **P** **14 38 32.1 -1.5**
KHC Kasperske Hory 42.90 305 P **P** **14 38 34.3 +0.7**
KHC Kasperske Hory 42.90 305 *e*P **P** **14 38 32.1 -1.5**
GSI Gunungsitoli 42.96 139 P **P** **14 38 35.7 +1.3**
GSI Gunungsitoli 42.96 139 P **P** **14 38 36.0 +1.6**
comp=Z,45nm,1.1s
GSI Gunungsitoli 42.96 139 P **P** **14 38 36.4 +2.0**
TRO Tromso 43.00 336 *e*P **P** **14 38 34.9 +0.8**
BIOA Bad Ischl, Aus 43.02 303 *i* P **P** **14 38 35.1 +0.5**
comp=Z,4.0nm,0.9s
CLL Collm 43.09 309 *i* P **P** **14 38 35.5 +0.5**
CLL Collm 43.09 309 *i* P **P** **14 38 35.5 +0.5**
BORU Boraas 43.16 318 *e*P **P** **14 38 35.7 +0.2**
KBA KoeInbreinsper 43.30 302 *e*P **P** **14 38 38.0 +0.9**
comp=Z,6.3nm,1.2s
FAUS Fauske 43.55 332 *e*P **P** **14 38 39.1 +0.6**
MOR8 Moi Rana 43.58 330 *e*P **P** **14 38 38.6 -0.1**
YAK Yakutsk 43.58 36 *e*P **P** **14 38 38.7 -0.1**
YAK *e**PP **sP** **14 39 08.5 -0.6**
YAK *e*S **S** **14 45 00.7 -1.1**
YAK *e**SS **sS** **14 45 35.8 -1.3**
YAK *e* 14 48 32.6
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,98nm,3.0s
YAK pmax pmax
comp=N,36nm,2.9s
YAK smax smax
comp=E,33nm,1.8s
YAK smax smax
comp=N,28nm,1.5s
YAK Yakutsk 43.58 36 P **P** **14 38 38.7 -0.1**
YAK Yakutsk 43.58 36 ⇓P **P** **14 38 39.4 +0.6**
YAK X 14 38 50.3
STEI Steigen 43.72 333 *e*P **P** **14 38 40.9 +1.0**
NC405 NORSAR Array S 43.95 323 P **P** **14 38 42.1 +0.2**
NC405 IAmb IAmb 14 38 42.2
comp=Z,41nm,1.4s
NC602 NORSAR Array S 44.00 322 *e*P **P** **14 38 42.6 +0.4**
NB201 NORSAR Array S 44.15 323 P **P** **14 38 43.9 +0.4**
KONS Konsvik 44.17 331 *e*P **P** **14 38 43.1 -0.4**
NB2 NORSAR Subarra 44.18 323 P **P** **14 38 43.4 -0.4**
comp=Z,5.3nm,0.6s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.18 323 P **P** **14 38 43.4 -0.4**
baz=96,slow=7.9
NOA NORSAR Array B 44.18 323 P **P** **14 38 43.6 -0.1**
comp=Z,5.3nm,0.7s,baz=96,slow=7.9,SNR=32
NOA LR LR 14 57 58.8
comp=Z,70nm,19.9s,baz=90,slow=37
NSS Namsos 44.27 328 *e*P **P** **14 38 45.6 +1.3**
LOF Lofoten 44.39 333 *e*P **P** **14 38 44.9 -0.3**
WTTA Wattenberg 44.43 303 *i* P **P** **14 38 46.2 +0.1**
comp=Z,6.7nm,0.9s
WATA Walderalm 44.46 303 *e*P **P** **14 38 47.1 +0.9**
comp=Z,7.4nm,1.0s
MNSI Mandailing Nat 44.46 137 P **P** **14 38 47.7 +1.3**
comp=Z,0umcomp=Z,37nm,0.7s
KS19 Wonju Array Si 44.55 71 P **P** **14 38 48.1 +1.1**
KS19 IAmb IAmb 14 38 49.2
comp=Z,16nm,1.1s
KSAR Wonju Array Be 44.59 71 P **P** **14 38 47.3 +0.1**
KSAR Wonju Array Be 44.59 71 P **P** **14 38 47.3 +0.1**
KSRS Korea Array 44.61 71 P **P** **14 38 47.3 -0.1**
comp=Z,4.7nm,0.8s,baz=281,slow=6.3,SNR=14
SQTA Sankt Quirin 44.72 303 *e*P **P** **14 38 48.8 +0.5**
comp=Z,5.0nm,0.7s
MOTA Moosalm 44.77 303 *e*P **P** **14 38 48.9 +0.1**
comp=Z,8.0nm,0.9s
KLR Kul'dur 44.80 54 *ce*P **P** **14 38 49.7 +0.9**
KLR pmax pmax
comp=Z,21nm,1.3s
KONO Kongsberg 44.90 321 *ce*P **P** **14 38 49.8 +0.4**
KONO pmax pmax
comp=Z,46nm,2.5s
KONO Kongsberg 44.90 321 P **P** **14 38 49.9 +0.4**
KONO IAmb IAmb 14 38 50.3
comp=Z,10nm,0.8s
KONO Kongsberg 44.90 321 *e*P **P** **14 38 49.2 -0.2**
FETA Feichten 45.08 303 *i* P **P** **14 38 51.2 -0.1**
comp=Z,6.8nm,1.3s
DOMB Dombas 45.29 324 *e*P **P** **14 38 53.6 +1.1**
TIXI Tiksi 45.38 22 P **P** **14 38 53.3 +0.3**
comp=Z,31nm,0.4s,baz=270,slow=20,SNR=350
TIXI S **S** **14 45 27.7 +0.1**
comp=Z,5.6nm,0.8s,baz=88,slow=23,SNR=32
TIXI Tiksi 45.38 22 *ce*P **P** **14 38 53.3 +0.3**
TIXI pmax pmax
comp=Z,77nm,0.8s
TIXI Tiksi 45.38 22 P **P** **14 38 53.7 +0.6**
TIXI Tiksi 45.38 22 ⇑P **P** **14 38 53.6 +0.6**
TIXI X 14 38 56.5
TIXI pP **pP** **14 39 14.8 +0.9**
SKAR Skarslia 45.59 322 *e*P **P** **14 38 56.0 +1.1**
DAVA Damuels 45.60 303 *i* P **P** **14 38 55.7 +0.3**
comp=Z,14nm,0.9s
DAVOX Davos/Dischmat 45.70 303 P **P** **14 38 55.9 -0.2**
comp=Z,3.4nm,0.6s,baz=125,slow=9.6,SNR=7.9
DAVOX LR LR 15 01 26.9
comp=Z,99nm,18.1s,baz=84,slow=40
USRK Ussuriysk Ar. 45.85 61 P **P** **14 38 56.7 -0.4**
comp=Z,5.7nm,0.8s,baz=282,slow=9.5,SNR=5.6
VLA Vladivostok 46.03 63 *i* P **P** **14 38 59.0 +0.5**
VLA pmax pmax
comp=Z,41nm,0.8s
MYKOM Kota Tinggi 46.10 132 P **P** **14 39 00.3 +0.9**
MYKOM IAmb IAmb 14 39 01.5
comp=Z,20nm,1.0s
SNART Snartemo 46.13 319 *e*P **P** **14 39 00.5 +1.4**
BLS5 Blasjo 46.50 320 *e*P **P** **14 39 03.3 +1.2**
LODK Lodwar 46.81 233 P **P** **14 39 05.5 +0.5**
RGRI Rengat 46.94 135 P **P** **14 39 15.3 +9.4**
BER Bergen 47.05 322 *e*P **P** **14 39 07.5 +1.2**
ASK Askoy 47.12 322 *e*P **P** **14 39 08.0 +1.2**
SPA0 Spitsbergen Ar 47.17 347 *e*P **P** **14 39 08.1 +1.0**
SPITS Spitsbergen Ar 47.17 347 P **P** **14 39 08.7 +1.7**
comp=Z,7.3nm,0.7s,baz=124,slow=12,SNR=8.6
SPITS LR LR 15 01 43.3
comp=Z,135nm,18.5s,baz=170,slow=39
SPITS Spitsbergen Ar 47.17 347 P **P** **14 39 09.0 +1.9**
SPITS pmax pmax
comp=Z,22nm,1.2s
SENIN Lac Senin/Sane 47.52 303 P **P** **14 39 10.1 -0.3**
SENIN IAmb IAmb 14 39 11.6
comp=Z,12nm,0.9s
GRNR Gornyy 47.56 51 ⇑*i* P **P** **14 39 11.2 +0.8**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
KRJI Kerinci 47.89 137 P **P** **14 39 21.5 +8.1**
KBS Kingsbay 48.29 347 *ce*P **P** **14 39 16.2 +0.6**
KBS pmax pmax
comp=Z,33nm,1.7s
KBS Kingsbay 48.29 347 P **P** **14 39 17.1 +1.5**
KBS Kingsbay 48.29 347 *e*P **P** **14 39 15.6 -0.1**
KBS Kingsbay 48.29 347 P **P** **14 39 17.6 +2.0**
KBS pP **pP** **14 39 38.7 +2.3**
DSRI Dabo 48.34 133 P **P** **14 39 17.3 +0.5**
comp=Z,22nm,1.1s
JNU Nakatsue 48.35 76 P **P** **14 39 18.1 +1.3**
JNU IAmb IAmb 14 39 27.5
comp=Z,20nm,1.1s
JNU Nakatsue 48.35 76 P **P** **14 39 19.1 +2.3**
KEST Kesra 49.07 288 P **P** **14 39 23.3 +1.0**
comp=Z,4.0nm,0.5s,baz=336,slow=4.6,SNR=5.6
KEST Kesra 49.07 288 P **P** **14 39 22.6 +0.3**
KMBO Kilima Mbogo 49.19 228 P **P** **14 39 23.9 +0.3**
comp=Z,1.3nm,0.4s,baz=42,slow=14,SNR=2.6
KMBO LR LR 15 02 41.2
comp=Z,32nm,19.1s,baz=88,slow=39
JHS Saijyo 49.38 73 P **P** **14 39 24.7 +0.1**
JHS IAmb IAmb 14 39 38.8
comp=Z,17nm,1.2s
KSM Kuching 50.41 125 P **P** **14 39 33.8 +1.2**
KSM IAmb IAmb 14 39 34.9
comp=Z,18nm,1.0s
KSM Kuching 50.41 125 P **P** **14 39 34.5 +1.9**
PPBI Pangkal Pinang 50.61 132 P **P** **14 39 34.5 +0.4**
SBUM Sibu 50.96 122 P **P** **14 39 37.6 +0.9**
SBUM IAmb IAmb 14 39 39.5
comp=Z,18nm,1.0s
KLSI 51.85 136 P **P** **14 39 40.8 -2.5**
EKA Eskdalemuir Ar 52.13 316 P **P** **14 39 44.9 -0.1**
comp=Z,5.7nm,0.8s,baz=87,slow=7.5,SNR=8.7
EKA LR LR 15 03 20.8
comp=Z,98nm,19.0s,baz=92,slow=38
STKI Sintang 52.23 125 P **P** **14 39 47.8 +1.6**
JMIC Jan Mayen 52.31 336 LR LR 15 02 47.0
comp=Z,30nm,19.7s,baz=62,slow=37
YSS Yuzh-Sakhalins 52.48 55 *ce*P **P** **14 39 48.2 +0.5**
YSS pmax pmax
comp=Z,48nm,1.7s
YSS Yuzh-Sakhalins 52.48 55 P **P** **14 39 48.3 +0.7**
YSS Yuzh-Sakhalins 52.48 55 P **P** **14 39 48.8 +1.1**
YSS Yuzh-Sakhalins 52.48 55 P **P** **14 39 49.1 +1.4**
YSS X 14 39 57.2
YSS pP **pP** **14 40 05.2 -3.8**
MJB9 Matsu-Tunnel 52.67 69 P **P** **14 39 49.6 +0.3**
MJB9 IAmb IAmb 14 39 50.2
comp=Z,12nm,0.9s
MAJO Matsushiro 52.67 69 P **P** **14 39 49.5 +0.2**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAJO Matsushiro 52.67 69 P **P** **14 39 49.5 +0.2**
MAJO IAmb IAmb 14 39 50.2
comp=Z,12nm,0.9s
MAJO Matsushiro 52.67 69 P **P** **14 39 49.2 -0.1**
MAJO Matsushiro 52.67 69 P **P** **14 39 49.2 -0.1**
MAJO X 14 39 57.7
MAJO sP **sP** **14 40 24.2 +3.8**
MJAR Matsushiro Arr 52.67 69 P **P** **14 39 48.9 -0.4**
comp=Z,8.1nm,1.0s,baz=290,slow=8.4,SNR=12
MJAR Matsushiro Arr 52.67 69 P **P** **14 39 49.3 0.0**
MJAR pmax pmax
comp=Z,6.0nm,1.0s
MJAR Matsushiro Arr 52.67 69 P **P** **14 39 49.3 0.0**
JEW Eniwo 52.84 60 P **P** **14 39 51.1 +0.7**
MBAR Mbarara 52.85 234 P **P** **14 39 51.1 +0.1**
comp=Z,11nm,0.2s,baz=41,slow=8.1,SNR=6.0
MBAR LR LR 15 04 25.0
comp=Z,46nm,18.1s,baz=40,slow=38
MBAR Mbarara 52.85 234 *ce*P **P** **14 39 51.9 +1.0**
MBAR Mbarara 52.85 234 P **P** **14 39 50.6 -0.3**
NOR Nord 53.47 349 *e*P **P** **14 39 51.5 -3.0**

MYLDM	**Lahad Datu**	53.47	114	P		**P**		14 39 58.3 +2.9
MA2	**Magadan**	53.98	38	*i* P		**P**		14 39 59.3 +0.8
MA2				pmax		pmax		
	comp=Z,6.0nm,1.0s							
SEY	**Seymchan**	54.03	34	*i* P		**P**		14 39 59.5 +0.8
SEY				pmax		pmax		
	comp=Z,9.0nm,1.2s							
TNG	**Tangerang**	54.14	135	P		**P**		14 39 56.0 -4.2
JYT	**Yasato**	54.27	68	P		**P**		14 40 01.0 +0.1
DAG	**Danmarks Havn**	54.42	344	*i* P		**P**		14 40 02.0 +0.6
DBG	**Daneborg**	55.29	341	*i* P		**P**		14 40 08.4 +0.7
UWJI	**Ujung Watu**	56.88	131	P		**P**		14 40 19.7 -0.1
	comp=Z,6µmcomp=Z,45nm,0.8s							
BBKI	**Banjar Baru**	57.08	125	P		**P**		14 40 23.1 +1.8
ESDC	**Sonseca Array**	57.43	298	P		**P**		14 40 23.7 +0.2
	comp=Z,4.2nm,0.8s,baz=56,slow=7.2,SNR=18							
ESDC	**Sonseca Array**	57.43	298	P		**P**		14 40 23.7 +0.2
ESDC				IAmb		IAmb		14 40 24.8
	comp=Z,16nm,1.4s							
MPSI	**Mapaga**	57.81	117	P		**P**		14 40 27.1 +0.7
	comp=Z,38nm,1.2s							
TOLI2	**Tolitoli**	57.90	116	P		**P**		14 40 28.1 +1.1
TOLI2				IAmb		IAmb		14 40 29.0
	comp=Z,9.2nm,0.8s							
BILL	**Bilibino**	58.21	26	*d* iP		**P**		14 40 29.5 +1.0
BILL				*e*				14 41 15.4
BILL				*e*S		**S**		**14 48 16.4 -7.3**
BILL				pmax		pmax		
	comp=Z,22nm,1.7s							
BILL	**Bilibino**	58.21	26	P		**P**		14 40 29.4 +1.0
BILL				IAmb		IAmb		14 40 30.7
	comp=Z,14nm,1.1s							
BILL	**Bilibino**	58.21	26	‖P		**P**		14 40 29.5 +1.0
BILL				‖X				14 40 40.3
BILL				pP		**pP**		**14 40 53.1 +3.0**
BILL				sP		**sP**		**14 41 00.8 +1.2**
BORG	**Borgarnes**	58.37	330	LR		LR		15 06 48.7
	comp=Z,58nm,18.5s,baz=36,slow=37							
MRSI	**Marisa**	59.18	116	P		**P**		14 40 36.4 +0.5
	comp=Z,830nmcomp=Z,99nm,1.0s							
PETK	**Petropavlovsk-**	59.60	44	P		**P**		14 40 36.9 -1.4
	comp=Z,3.7nm,1.1s,baz=286,slow=10,SNR=3.7							
TTSI	**Tana Toraja**	60.14	120	P		**P**		14 40 45.4 +2.9
	comp=Z,23nm,1.0s							
PET	**Petropavlovsk**	60.16	44	*ce*P		P		14 40 37.2 -4.9
PET				pmax		pmax		
	comp=Z,19nm,2.5s							
KMSI	**Cibinong**	60.59	114	P		P		14 40 51.2 +5.6
KAPI	**Kappang**	61.51	122	P		**P**		14 40 51.5 -0.3
	comp=Z,14nm,1.1s,baz=48,slow=4.8,SNR=3.6							
EUNU	**Eureka**	62.66	356	P		**P**		14 41 00.1 +1.4
VOI	**Vohitsoka**	62.83	206	P		**P**		14 41 02.0 +1.4
SANI	**Sanana**	63.84	115	P		**P**		14 41 07.0 -0.3
SANI	**Sanana**	63.84	115	P		**P**		14 41 08.2 +0.9
LSZ	**Lusaka**	65.82	226	LR		LR		15 13 28.5
	comp=Z,31nm,21.3s,baz=8.5,slow=39							
TOA0	**Torodi Ar. Sit**	65.88	269	P		**P**		14 41 19.3 -1.3
TOA0	**Torodi Ar. Sit**	65.88	269	P		**P**		14 41 19.3 -1.3
	SNR=5.5							
TOA0				P		**P**		14 41 19.4 -1.3
	SNR=6.5							
TORD	**Torodi Ar. Bea**	65.88	269	P		**P**		14 41 19.0 -1.7
	comp=Z,5.1nm,0.6s,baz=48,slow=5.8,SNR=57							
TORD				LR		LR		15 14 34.5
	comp=Z,33nm,18.9s,baz=240,slow=40							
TORD	**Torodi Ar. Bea**	65.88	269	P		**P**		14 41 19.2 -1.4
SIJI	**Sorong**	66.98	110	P		**P**		14 41 27.3 -0.3
	comp=Z,20nm,0.9s,baz=317,slow=6.1,SNR=6.6							
SFJD	**Kangerlussuaq**	67.47	339	LR		LR		15 11 17.1
	comp=Z,88nm,19.4s,baz=79,slow=36							
RDOG	**Red Dog Mine**	67.86	19	P		**P**		14 41 32.4 -0.1
	baz=316							
BATI	**Baumata**	67.93	123	P		**P**		14 41 32.8 -0.8
	comp=Z,9.8nm,0.4s,baz=276,slow=9.2,SNR=4.5							
GAMB	**Gambell**	68.11	25	P		**P**		14 41 34.7 +0.8
	baz=310							
TNA	**Tin City**	68.16	23	P		**P**		14 41 35.4 +1.1
	baz=312							
RES	**Resolute Bay**	68.35	356	P		**P**		14 41 36.5 +1.2
	comp=Z,1.0nm,0.7s,baz=3.4,slow=17							
RES	**Resolute Bay**	68.35	356	P		**P**		14 41 36.6 +1.3
RES				pmax		pmax		
	comp=Z,4.0nm,1.1s							
RES	**Resolute Bay**	68.35	356	P		**P**		14 41 36.5 +1.3
BLWY	**Bulawayo**	69.49	223	*i* P		**P**		14 41 43.8 +0.5
BLWY	**Bulawayo**	69.49	223	*i* P		**P**		14 41 43.8 +0.5
ANM	**Nome**	69.64	23	P		**P**		14 41 44.4 +0.9
ANM				pmax		pmax		
	comp=Z,10.0nm,1.1s							
ANM	**Nome**	69.64	23	P		**P**		14 41 44.4 +0.9
ANM				IAmb		IAmb		14 41 53.9
	comp=Z,9.7nm,1.1s							
ANM	**Nome**	69.64	23	P		**P**		14 41 44.7 +1.2
	baz=315							
KOWA	**Kowa**	69.71	273	P		**P**		14 41 44.0 -0.7
KOWA				IAmb		IAmb		14 41 45.0
	comp=Z,11nm,0.6s							
KOWA	**Kowa**	69.71	273	‖P		**P**		14 41 43.9 -0.7
KOWA				pP		**pP**		**14 42 05.0 -1.4**
KOWA				sP		**sP**		**14 42 14.7 -0.8**
MATP	**Matopo**	69.78	223	*i* P		**P**		14 41 45.4 +0.4
MATP	**Matopo**	69.78	223	*i* P		**P**		14 41 45.4 +0.4
TOLK	**Toolik Lake Re**	70.53	15	P		**P**		14 41 50.2 +1.2
TOLK	**Toolik Lake Re**	70.53	15	P		**P**		14 41 49.8 +0.8
	baz=326							
MOPA	**Mopani**	70.82	218	*i* P		**P**		14 41 52.1 +0.9
MOPA	**Mopani**	70.82	218	*i* P		**P**		14 41 52.1 +0.9
A36M	**Sachs Harbour**	70.83	5	P		**P**		14 41 51.5 +1.0
A36M	**Sachs Harbour**	70.83	5	P		**P**		14 41 51.6 +1.0
	baz=346,SNR=33							
COLD	**Coldfoot**	71.58	16	P		**P**		14 41 56.4 +1.2
COLD				IAmb		IAmb		14 41 57.7
	comp=Z,23nm,1.0s							
COLD	**Coldfoot**	71.58	16	P		**P**		14 41 56.0 +0.8
	baz=326							
IMAR	**Indian Mountai**	71.78	18	P		**P**		14 41 56.7 +0.3
GCSA	**Galena City Sc**	71.96	20	P		**P**		14 41 58.3 +0.8
	baz=321							
BMAR	**Burnt Mountain**	72.55	14	P		**P**		14 42 02.3 +1.3
I21K	**Tanana**	72.86	18	P		**P**		14 42 03.6 +0.7
	baz=325							
H23K	**Yukon River**	72.90	16	P		**P**		14 42 04.1 +1.0
	baz=327,SNR=11							
SPIA	**Saint Paul Isl**	73.01	30	P		**P**		14 42 05.8 +1.9
	baz=313							
J20K	**Nowinta River**	73.13	19	P		**P**		14 42 05.2 +0.7
	baz=324,SNR=8.6							
H24K	**Noodor Dome**	73.25	16	P		**P**		14 42 06.7 +1.4
H24K				IAmb		IAmb		14 42 07.5
	comp=Z,12nm,0.9s							
H24K	**Noodor Dome**	73.25	16	P		**P**		14 42 06.0 +0.8
	baz=328,SNR=11							
C36M	**Paulatuk**	73.50	6	P		**P**		14 42 06.9 +0.3
	baz=347,SNR=28							
I23K	**Minto, Yukon-K**	73.51	17	P		**P**		14 42 07.3 +0.6
	baz=327,SNR=8.3							
INK	**Inuvik**	73.52	9	P		**P**		14 42 07.6 +1.0
	comp=Z,40nm,1.0s,baz=354,slow=7.8,SNR=46							
INK	**Inuvik**	73.52	9	P		**P**		14 42 08.2 +1.5
INK				pmax		pmax		
	comp=Z,31nm,0.8s							
INK	**Inuvik**	73.52	9	P		**P**		14 42 08.2 +1.5
INK	**Inuvik**	73.52	9	P		**P**		14 42 07.5 +0.9
	baz=340,SNR=23							
TTA	**Tatalina**	73.62	20	P		**P**		14 42 08.3 +0.8
	baz=322							
K20K	**Telida**	73.82	19	P		**P**		14 42 09.3 +0.7
	baz=324,SNR=8.7							
CHUM	**Lake Minchumin**	73.84	18	P		**P**		14 42 09.5 +0.8
	baz=325							
POKR	**Poker Plat Res**	73.97	16	P		**P**		14 42 10.2 +0.7
	baz=329,SNR=5.6							
BPAW	**Bear Paw Mtn.**	74.00	18	P		**P**		14 42 10.6 +0.9
	baz=326,SNR=8.0							
NEA2	**Nenana**	74.04	17	P		**P**		14 42 10.0 +0.1
	baz=328,SNR=16							
PSA00	**Pilbara Seismi**	74.05	133	P		**P**		14 42 10.8 +0.4
TCOL	**CIGO, UAF Yank**	74.08	16	P		**P**		14 42 10.4 +0.4
	baz=328,SNR=9.2							
COLA	**College**	74.08	16	P		**P**		14 42 10.6 +0.6
	baz=328							
CAST	**Castle Rocks**	74.29	19	P		**P**		14 42 11.7 +0.4
	baz=325,SNR=17							
IL31		74.39	16	P		**P**		14 42 12.0 +0.2
IL31				IAmb		IAmb		14 42 12.8
	comp=Z,9.8nm,1.0s							
ILAR	**Eielson Array**	74.39	16	P		**P**		14 42 11.9 +0.1
	comp=Z,7.6nm,0.9s,baz=317,slow=4.7,SNR=53							
ILAR				PP		**PP**		**14 44 59.8 +1.6**
	comp=Z,1.5nm,0.8s,baz=317,slow=8.7,SNR=5.9							
ILAR	**Eielson Array**	74.39	16	P		**P**		14 42 12.5 +0.7
ILAR	**Eielson Array**	74.39	16	P		**P**		14 42 12.5 +0.7
L19K	**White Mountain**	74.55	21	P		**P**		14 42 13.6 +0.8
	baz=323							
L20K	**Farewell, AK**	74.58	20	P		**P**		14 42 13.5 +0.5
	baz=324,SNR=6.5							
HDA	**Harding Lake**	74.68	16	P		**P**		14 42 13.6 +0.1
	baz=329							
PPLA	**Purkeypile**	74.69	19	P		**P**		14 42 14.2 +0.4
	baz=325							
TRF	**Thorofare Moun**	74.71	18	P		**P**		14 42 13.9 -0.1
	baz=327							
MCK	**McKinley**	74.80	17	P		**P**		14 42 14.5 +0.2
	baz=328							
J25K	**Salcha River,**	74.85	15	P		**P**		14 42 14.5 -0.1
	baz=330,SNR=8.8							
DBIC	**Dimbokro**	74.88	267	P		**P**		14 42 15.0 -0.4
	comp=Z,2.0nm,0.5s,baz=120,slow=5.6,SNR=4.4							
DBIC				LR		LR		15 22 23.6
	comp=Z,40nm,19.5s,baz=89,slow=41							
DBIC	**Dimbokro**	74.88	267	P		**P**		14 42 14.9 -0.6
DBIC				IAmb		IAmb		14 42 37.3
	comp=Z,26nm,1.4s							
MTN	**Manton Dam**	74.94	119	P		**P**		14 42 15.6 -0.1
KIC	**Kosan Boka**	74.96	267	*e*P		**P**		14 42 14.3 -1.7
	comp=Z,6.1nm,0.6s							
FITZ	**Fitzroy Crossi**	74.98	127	P		**P**		14 42 15.4 -0.4
	comp=Z,4.6nm,0.8s,baz=308,slow=3.7,SNR=11							
FITZ	**Fitzroy Crossi**	74.98	127	P		**P**		14 42 16.5 +0.6
TIC	**Toumodi**	75.02	267	*e*P		**P**		14 42 14.7 -1.6
LBTB	**Lobatse**	75.06	222	P		**P**		14 42 16.9 +0.6
LBTB				pmax		pmax		
	comp=Z,16nm,1.0s							
LBTB	**Lobatse**	75.06	222	P		**P**		14 42 16.9 +0.6
LBTB				IAmb		IAmb		14 42 17.6
	comp=Z,16nm,1.0s							
LBTB	**Lobatse**	75.06	222	*i* P		**P**		14 42 17.5 +1.2
LBTB	**Lobatse**	75.06	222	*i* P		**P**		14 42 17.5 +1.2
JAY	**Jayapura**	75.26	105	P		**P**		14 42 17.4 -0.3
	comp=Z,25nm,1.3s,baz=14,slow=3.9,SNR=3.7							
LIC	**Lamto**	75.27	267	*e*P		**P**		14 42 16.1 -1.7
	comp=Z,18nm,1.5s							
KNRA	**Kununurra**	75.29	123	P		**P**		14 42 17.9 +0.2
KNRA	**Kununurra**	75.29	123	P		**P**		14 42 18.1 +0.4
J26L	**Joseph Creek**	75.33	15	P		**P**		14 42 17.6 +0.3
	baz=332,SNR=9.8							
N18K	**Kilae Creek**	75.45	22	P		**P**		14 42 18.8 +0.8
	baz=323							
I29M	**Ogilvie Camp,**	75.54	12	P		**P**		14 42 18.8 +0.2
I29M				IAmb		IAmb		14 42 19.9
	comp=Z,20nm,0.9s							
I29M	**Ogilvie Camp,**	75.54	12	P		**P**		14 42 18.7 +0.2
	baz=336,SNR=16							
EGAK	**Eagle**	75.56	14	P		**P**		14 42 19.4 +0.9
EGAK				IAmb		IAmb		14 42 20.3
	comp=Z,12nm,1.1s							
EGAK	**Eagle**	75.56	14	P		**P**		14 42 18.9 +0.4
	baz=334,SNR=5.1							
WAT1	**Susitna Watana**	75.66	18	P		**P**		14 42 19.1 -0.2
	baz=328							
SCRK	**Sand Creek**	75.70	15	P		**P**		14 42 19.9 +0.3
	baz=332,SNR=8.8							
RIDG	**Independent Ri**	75.73	16	P		**P**		14 42 19.9 +0.2
	baz=331							
DHY	**Denali Highway**	75.73	17	P		**P**		14 42 20.0 +0.2
	baz=329							
N19K	**Bonanza Creek**	75.76	21	P		**P**		14 42 20.6 +0.7
	baz=324							
WAT6	**Susitna Watana**	76.07	17	P		**P**		14 42 22.1 +0.3
	baz=329							
PAX	**Paxson**	76.26	16	P		**P**		14 42 22.9 +0.1
	baz=331,SNR=6.7							
DAWY	**Dawson**	76.53	13	P		**P**		14 42 24.9 +0.8
DAWY				IAmb		IAmb		14 42 25.8
	comp=Z,13nm,0.9s							
DAWY	**Dawson**	76.53	13	P		**P**		14 42 24.6 +0.4
	baz=335,SNR=9.7							
PMR	**Palmer**	76.57	19	P		**P**		14 42 25.0 +0.7
	baz=328							
SML	**Sawmill**	76.59	18	P		**P**		14 42 24.9 +0.4
	baz=328							
L26K	**Log Cabin Wild**	76.68	15	P		**P**		14 42 25.5 +0.5
	baz=332							
P18K	**Big Mountain,**	76.68	22	P		**P**		14 42 25.6 +0.5
	baz=324							
SCM	**Sheep Creek Mo**	76.81	18	P		**P**		14 42 26.2 +0.3
	baz=329							
HARP	**HAARP**	76.83	16	P		**P**		14 42 27.0 +1.1
	baz=331,SNR=6.4							
RC01	**Rabbit Creek A**	76.84	19	P		**P**		14 42 26.5 +0.6
	baz=328							
M24K	**Tolsona, Glenn**	76.85	17	P		**P**		14 42 26.7 +0.6
	baz=330,SNR=5.3							
KNK	**Knik Glacier**	76.89	18	P		**P**		14 42 26.5 +0.3
	baz=328							
L27K	**Beaver Creek,**	76.97	15	P		**P**		14 42 27.1 +0.5
	baz=334,SNR=6.9							
BCAR	**Beaver Creek A**	76.97	15	P		**P**		14 42 27.6 +0.9
O22K	**Cooper Landing**	77.36	19	P		**P**		14 42 29.7 +0.9
	baz=328							
PWL	**Port Wells**	77.40	19	P		**P**		14 42 30.0 +0.9
	baz=329							
KLU	**Klutina**	77.45	17	P		**P**		14 42 30.0 +0.6
	baz=330							
M27K	**Edge Creek, AK**	77.59	15	P		**P**		14 42 30.5 +0.3
	baz=334,SNR=7.1							
N25K	**Chitina, Valde**	77.66	17	P		**P**		14 42 31.6 +1.0
	baz=331							
GLI	**Glacier Island**	77.69	18	P		**P**		14 42 31.7 +1.1
	baz=330							
BRSE	**Bradley Lake S**	77.70	20	P		**P**		14 42 31.4 +0.7
	baz=327							
BVCY	**Beaver Creek**	77.75	15	P		**P**		14 42 31.5 +0.5
	baz=334							
SEW	**Seward**	77.75	20	P		**P**		14 42 31.8 +0.8
	baz=328							
MORW	**Morawa**	77.93	141	P		**P**		14 42 32.4 +0.1
MORW				IAmb		IAmb		14 42 33.3
	comp=Z,14nm,0.9s							
BOSA	**Boshof**	78.13	220	P		**P**		14 42 33.4 -0.2
	comp=Z,14nm,0.9s,baz=63,slow=6.4,SNR=13							
BOSA	**Boshof**	78.13	220	P		**P**		14 42 33.6 0.0
BOSA				pmax		pmax		
	comp=Z,21nm,1.1s							
BOSA	**Boshof**	78.13	220	P		**P**		14 42 33.6 0.0
BOSA				IAmb		IAmb		14 42 34.3
	comp=Z,21nm,1.1s							
BOSA	**Boshof**	78.13	220	*i* P		**P**		14 42 34.4 +0.8
BOSA	**Boshof**	78.13	220	*i* P		**P**		14 42 34.4 +0.8
EYAK	**Cordova Ski Ar**	78.31	18	P		**P**		14 42 35.2 +1.1
	baz=331							
M30M	**Minto, Yukon**	78.37	13	P		**P**		14 42 35.2 +0.8
	baz=338							
YUK3	**Moose Creek**	78.40	15	P		**P**		14 42 35.7 +0.8
	baz=335							
KDAK	**Kodiak Island**	78.80	22	P		**P**		14 42 36.7 -0.1
	comp=Z,5.2nm,0.7s,baz=330,slow=4.8,SNR=10.0							
KDAK	**Kodiak Island**	78.80	22	P		**P**		14 42 37.0 +0.2
KDAK	**Kodiak Island**	78.80	22	P		**P**		14 42 37.0 +0.2
KDAK				IAmb		IAmb		14 42 51.1
	comp=Z,31nm,1.3s							
OHAK	**Old Harbor**	79.05	23	P		**P**		14 42 39.3 +1.1
	baz=325							
M31M	**Drury Creek, Y**	79.13	12	P		**P**		14 42 39.1 +0.5
	baz=340							
YUK4	**Talbot Arm**	79.16	14	P		**P**		14 42 39.7 +0.7
	baz=336							
N31M	**Braeburn, Yuko**	79.56	13	P		**P**		14 42 42.2 +1.2
	baz=338							
HYT	**Haines Junctio**	79.86	14	P		**P**		14 42 44.5 +1.7
HYT				IAmb		IAmb		14 42 45.1
	comp=Z,19nm,1.0s							
HYT	**Haines Junctio**	79.86	14	P		**P**		14 42 43.6 +0.9
	baz=337							
WHY	**Whitehorse**	80.50	13	P		**P**		14 42 46.7 +0.6
	baz=339							
TGTN	**Hyland Airport**	80.68	9	P		**P**		14 42 47.8 +0.8
	baz=344							
YKA	**Yellowknife Ar**	80.87	3	P		**P**		14 42 48.5 +0.6
	comp=Z,24nm,0.8s,baz=348,slow=5.3,SNR=295							
YKA	**Yellowknife Ar**	80.87	3	P		**P**		14 42 48.0 +0.1
SKAG	**Skagway**	81.54	13	P		**P**		14 42 52.5 +1.0
	baz=339							
WRKA	**Warakurna**	81.73	130	P		**P**		14 42 52.7 -0.3
SCHQ	**Schefferville**	81.82	337	P		**P**		14 42 54.8 +1.7
	comp=Z,2.3nm,0.7s,baz=39,slow=6.5,SNR=1.6							
WB0	**Warramunga Arr**	81.97	122	P		**P**		14 42 53.3 -1.0
WB0				IAmb		IAmb		14 42 54.0
	comp=Z,9.5nm,0.8s							
WRA	**Warramunga Arr**	82.05	122	P		**P**		14 42 53.5 -1.2
	comp=Z,7.7nm,0.5s,baz=324,slow=4.9,SNR=155							
WRA	**Warramunga Arr**	82.05	122	P		**P**		14 42 54.3 -0.5
WRA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
WRA	**Warramunga Arr**	82.05	122	P		**P**		14 42 54.3 -0.5
WRAB	**Tennant Creek**	82.05	122	P		**P**		14 42 53.6 -1.1
WRAB				pmax		pmax		
	comp=Z,15nm,0.6s							
WRAB	**Tennant Creek**	82.05	122	P		**P**		14 42 53.6 -1.1
WRAB	**Tennant Creek**	82.05	122	P		**P**		14 42 54.2 -0.6
WB2	**Warramunga Arr**	82.06	122	P		**P**		14 42 53.6 -1.2
WR0	**Warramunga Arr**	82.20	122	P		**P**		14 42 53.7 -1.9
WR0				IAmb		IAmb		14 42 55.2
	comp=Z,9.9nm,0.8s							
DLBC	**Dease Lake**	83.41	11	P		**P**		14 43 02.0 +0.7
	comp=Z,4.6nm,0.9s,baz=307,slow=7.6,SNR=6.6							
SUR	**Sutherland**	83.44	221	LR		LR		15 22 29.7
	comp=Z,35nm,19.0s,baz=107,slow=37							
FCC	**Fort Churchill**	83.94	352	P		**P**		14 43 05.2 +1.3
FCC				pmax		pmax		
	comp=Z,16nm,1.0s							
FCC	**Fort Churchill**	83.94	352	P		**P**		14 43 05.2 +1.3
FCC				IAmb		IAmb		14 43 06.0
	comp=Z,16nm,0.9s							
AS31	**Alice Springs**	84.33	125	P		**P**		14 43 06.0 -0.5
ASAR	**Alice Springs**	84.33	125	P		**P**		14 43 05.3 -1.2
	comp=Z,10.0nm,0.7s,baz=311,slow=4.9,SNR=112							
ASAR	**Alice Springs**	84.33	125	P		**P**		14 43 06.0 -0.5
ASAR	**Alice Springs**	84.33	125	P		**P**		14 43 06.0 -0.5
FORT	**Forrest**	85.81	134	P		**P**		14 43 13.1 -0.5
FORT	**Forrest**	85.81	134	P		**P**		14 43 13.3 -0.3
QIS	**Mount Isa**	86.10	119	P		**P**		14 43 14.4 -0.9
FFC	**Flin Flon**	88.59	356	P		**P**		14 43 27.9 +1.1
FFC				pmax		pmax		
	comp=Z,18nm,0.9s							
FFC	**Flin Flon**	88.59	356	P		**P**		14 43 27.9 +1.1
MULG	**Mulgathing**	89.04	130	P		**P**		14 43 28.6 -0.6
CTA	**Charters Tower**	90.55	115	P		**P**		14 43 36.0 -0.5
	comp=Z,3.2nm,0.6s,baz=321,slow=8.1,SNR=2.0							
CTA	**Charters Tower**	90.55	115	P		**P**		14 43 36.0 -0.5
BBOO	**Buckleboo**	92.02	130	P		**P**		14 43 44.0 +0.9
BBOO				IAmb		IAmb		14 44 02.1
	comp=Z,8.7nm,1.2s							
ULM	**Lac du Bonnet**	92.51	352	P		**P**		14 43 45.1 -0.1
	comp=Z,6.8nm,0.8s,baz=347,slow=5.4,SNR=6.6							
LBNH	**Lisbon**	92.62	334	P		**P**		14 43 49.3 +3.4
	baz=29							
A04D	**Lummi Island**	93.90	9	P		**P**		14 43 53.0 +1.4
	baz=349							
HRV	**Adam Dziewonsk**	94.01	333	P		**P**		14 43 55.0 +2.8
	baz=29							
EYMN	**Ely**	94.16	348	P		**P**		14 43 54.0 +1.1
	baz=14							
B05A	**Bryant**	94.42	9	P		**P**		14 43 54.8 +0.8
	baz=350							
AGMN	**Agassiz Nation**	94.43	351	P		**P**		14 43 55.6 +1.5
	baz=10							
L61B	**Northampton**	94.46	334	P		**P**		14 43 57.4 +3.1
	baz=28							
STKA	**Stephens Creek**	94.88	126	P		**P**		14 43 56.4 +0.2
	comp=Z,1.0nm,0.5s,baz=341,slow=12,SNR=4.5							
STKA	**Stephens Creek**	94.88	126	P		**P**		14 43 56.2 +0.1
NEW	**Newport**	94.92	6	P		**P**		14 43 57.6 +1.3
	comp=Z,2.3nm,0.7s,baz=284,slow=4.2,SNR=2.7							
NEW	**Newport**	94.92	6	P		**P**		14 43 57.7 +1.3
	baz=353							
DGMT	**Dagmar**	94.94	357	P		**P**		14 43 58.1 +1.6
	baz=3.8							
EGMT	**Eagleton**	95.48	1	P		**P**		14 43 59.9 +0.9
	baz=359							
BINY	**Binghamton**	95.80	336	P		**P**		14 44 03.3 +2.9
	baz=26							
BOZ	**Bozeman (W)**	97.88

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.86**	**68**	⇓*i*P	**Pb**	**14 38 28.5**	**+0.5**
CO02				*e*S	**Sg**	**14 38 37.5**	**-0.5**
CO02				IAML		14 38 39.5	
	comp=N,7μm,0.2s						
CO06	**Fray Jorge**	**0.90**	**16**	*e*P	**Pn**	**14 38 30.3**	**+0.3**
CO06				*i* S	**Sb**	**14 38 42.0**	**+0.9**
CO06				IAML		14 38 43.2	
	comp=E,3μm,0.6s						
VA06	**Catapilco**	**1.15**	**152**	⇓*i*P	**Pn**	**14 38 35.1**	**+1.6**
VA06				*i* S	**Sn**	**14 38 49.6**	**-0.3**
VA06				IAML		14 38 53.0	
	comp=E,3μm,0.7s						
CO03	**El Pedregal**	**1.27**	**57**	⇓*i*P	**Pb**	**14 38 34.9**	**-0.1**
CO03				*i* S	**Sg**	**14 38 50.0**	**-1.2**
CO03				IAML		14 38 53.1	
	comp=E,1μm,0.4s						
ROCH	**El Roble**	**1.63**	**152**	⇓*e*P	**Pg**	**14 38 42.4**	**+0.9**
ROCH				*e*S	**Sg**	**14 39 04.5**	**+1.9**
ROCH				IAML		14 39 08.6	
	comp=N,1μm,0.3s						
GO04	**Tololo Observa**	**1.67**	**36**	*e*P	**Pb**	**14 38 41.6**	**-0.4**
GO04				*e*S	**Sn**	**14 39 01.9**	**-1.2**
VA03	**San Esteban**	**1.69**	**137**	*e*P	**Pg**	**14 38 42.9**	**+0.2**
VA03				*e*S	**Sb**	**14 39 04.2**	**+0.1**
VA03				IAML		14 39 07.3	
	comp=E,3μm,0.2s						
CO05	**La Serena**	**1.72**	**20**	*e*P	**Pg**	**14 38 43.3**	**+0.1**
CO05				*e*S	**Sn**	**14 39 03.7**	**-0.2**
CO05				IAML		14 39 07.2	
	comp=E,721nm,0.4s						
MT02	**Curacav**	**1.84**	**159**	*e*P	**Pg**	**14 38 45.3**	**-0.3**
MT02				*e*S	**Sg**	**14 39 09.9**	**+0.4**
PEL	**Peldehue**	**1.92**	**147**	*e*P	**Pg**	**14 38 46.7**	**-0.3**
PEL				*e*S	**Sb**	**14 39 10.4**	**0.0**
PEL				IAML		14 39 15.6	
	comp=N,692nm,0.3s						
MT05	**Renca**	**2.10**	**152**	*e*P	**Pg**	**14 38 50.2**	**-0.5**
MT05				*e*S	**Sb**	**14 39 16.3**	**+0.3**
MT05				IAML		14 39 28.0	
	comp=E,960nm,0.1s						
VA05	**Santo Domingo**	**2.13**	**173**	IAML		14 39 26.1	
	comp=E,953nm,0.2s						
CO01	**Juntas del Tor**	**2.22**	**46**	*e*P	**Pb**	**14 38 50.0**	**-1.2**
CO01				*e*S	**Sn**	**14 39 16.9**	**+0.3**
CO01				IAML		14 39 19.4	
	comp=E,432nm,0.2s						
FCH	**Farellones**	**2.26**	**143**	*e*P	**Pb**	**14 38 51.8**	**-0.2**
FCH				*e*S	**Sb**	**14 39 19.2**	**-1.5**
FCH				IAML		14 39 25.6	
	comp=E,451nm,0.2s						
MT03	**Universidad Ad**	**2.29**	**149**	*e*P	**Pb**	**14 38 52.3**	**-0.2**
MT03				IAML		14 39 30.6	
	comp=E,931nm,0.3s						
MT09	**Talagante**	**2.37**	**161**	*e*P	**Pb**	**14 38 53.7**	**-0.1**
MT09				*e*S	**Sn**	**14 39 21.3**	**+1.2**
MT09				IAML		14 39 30.7	
	comp=E,412nm,0.4s						
MT01	**Popeta**	**2.39**	**166**	*e*P	**Pb**	**14 38 53.8**	**-0.2**
MT01				IAML		14 39 34.0	
	comp=E,225nm,0.4s						
BO04	**La Punta**	**2.69**	**156**	*e*P	**Pn**	**14 38 55.8**	**+1.1**
BO04				*e*S	**Sb**	**14 39 30.1**	**-2.5**
BO04				IAML		14 39 39.5	
	comp=N,287nm,0.3s						
LMEL	**Las Melosas**	**2.73**	**148**	*e*P	**Pb**	**14 38 58.4**	**-1.4**
LMEL				*e*S	**Sb**	**14 39 31.6**	**-2.2**
LMEL				IAML		14 39 41.7	
	comp=N,481nm,0.6s						
LCO	**Las Campanas**	**2.73**	**23**	*e*P	**Pn**	**14 38 56.6**	**+1.1**
BO01	**Tunca**	**2.93**	**166**	*e*P	**Pb**	**14 39 01.4**	**-1.9**
BO01				IAML		14 39 50.3	
	comp=E,101nm,0.3s						
BO02	**Sierra Bellavi**	**3.38**	**164**	*e*P	**Pb**	**14 39 07.8**	**-3.3**
H03N1	**Juan Fernandez**	**6.20**	**250**	T	T	14 46 27.5	
	baz=79,slow=73,SNR=985						
H03N3	**Juan Fernandez**	**6.21**	**250**	T	T	14 46 26.9	
	baz=79,slow=73,SNR=1155						
H03N2	**Juan Fernandez**	**6.21**	**250**	T	T	14 46 28.2	
	baz=79,slow=73,SNR=921						
PLCA	**Paso Flores**	**9.24**	**173**	Pn	**Pn**	**14 40 27.7**	**+3.0**
	comp=E,0.1nm,0.3s,baz=321,slow=14,SNR=1.7						
PLCA				Lg	Lg	14 43 02.2	
	comp=E,0.1nm,0.3s,baz=312,slow=20,SNR=1.3						
TORD	**Torodi Ar. Bea**	**83.29**	**70**	P	**P**	**14 50 38.4**	**-0.7**
	comp=E,0.7nm,0.7s,baz=240,slow=3.9,SNR=4.2						
KURBB	**Kurchatov Arra**	**150.98**	**40**	PKPbc	**PKPbc**	**14 58 04.2**	**-0.2**
	comp=E,0.2nm,0.4s,baz=305,slow=3.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**158.02**	**30**	PKPbc	**PKiKP**	**14 58 07.2**	**+0.1**
	comp=E,2.1nm,0.5s,baz=300,slow=1.6,SNR=9.8						

*IDC **08** 14:39:26.7±1.8,1°.58N×127°.09E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.5/66,mbtmp3.7/5,ML3.4/1,MS3.5/1, Ms1 3.5/1,ms1mx2.5/65,Error ellipse: s-maj=122.4km s-min=21.4km az=70.0*

*DJA **08** 14:39:41.3±0.8,1°.N±4°×12°.7E±°,h121km±12km,M3.6/7, MLv3.6/7*

ISC 08 14:39:41.0±1.2,1°.36N±0°.08×126°.9E±0°.1,h103km,n12, σ2^{s}40/11,mb3.6/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.74**	**143**	P	**Pn**	**14 40 01.0**	**+2.0**
LBMI	**Labuha**	**2.07**	**164**	P	**Pn**	**14 40 16.4**	**+1.8**
LBMI				S	**Sn**	**14 40 42.4**	**+2.1**
SGSI	**Sangihe**	**2.69**	**329**	P	**Pn**	**14 40 24.6**	**+1.8**
KMSI	**Cibinong**	**3.04**	**255**	P	**Pn**	**14 40 30.8**	**+3.4**
SANI	**Sanana**	**3.52**	**195**	P	**Pn**	**14 40 34.4**	**+0.6**
GTOI	**Gorontalo**	**3.98**	**260**	P	**Pn**	**14 40 39.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.38**	**184**	P	**P**	**14 43 56.1**	**-2.8**
	0.1nm,0.3s,baz=18,slow=8.5,SNR=1.3						
WRA	**Warramunga Arr**	**22.39**	**161**	P	**P**	**14 44 27.7**	**-3.4**
	1.2nm,0.4s,baz=341,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.79**	**165**	P	**P**	**14 45 02.5**	**-0.1**
	0.5nm,0.8s,baz=343,slow=11,SNR=1.6						
PSI	**Prapat**	**28.02**	**273**	LR	LR	14 58 03.3	
	comp=Z,91nm,18.5s,baz=312,slow=40						
MKAR	**Makanchi Array**	**59.60**	**326**	P	**P**	**14 49 33.1**	**-1.0**
	0.3nm,0.3s,baz=116,slow=7.9,SNR=6.8						
KURBB	**Kurchatov Arra**	**63.83**	**328**	P	P	14 49 58.6	-3.8
	0.5nm,0.5s,baz=126,slow=6.3,SNR=2.1						

*NEIC **08** 14:42:20.7±1.3,20°.5S±0°.2×177°.70W±0°.08,h501km±9km, mb4.1/19,Error ellipse: s-maj=22.3km s-min=9.0km az=194.0*

*IDC **08** 14:42:22.0±2.7,20°.65S×177°.96W,h495km±25km,mb3.1/7, mb1 3.2/9,mb1mx3.0/52,mbtmp3.9/9,Error ellipse: s-maj=32.9km s-min=19.5km az=96.0*

ISC 08 14:42:20.5±0.7,20°.5S±0°.1×177°.7W±0°.1,h500km,n35, σ1^{s}10/37,mb4.0/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.85**	**304**	P	**P**	**14 43 46.7**	**+0.3**
	2.7nm,0.3s,baz=159,slow=14,SNR=4.0						
MSVF	**Nonsavu**	**4.85**	**304**	P	**P**	**14 43 46.1**	**-0.3**
NIUE	**Niue**	**7.46**	**81**	P	**P**	**14 44 11.1**	**-0.4**
OUZ	**Omahuta**	**16.56**	**206**	P	**P**	**14 45 47.5**	**+0.7**
URZ	**Urewera**	**18.27**	**193**	P	**P**	**14 46 03.7**	**+0.4**
	0.3nm,0.3s,baz=351,slow=12,SNR=1.6						
URZ				S	**S**	**14 49 03.5**	**-1.3**
	0.1nm,0.3s,baz=146,slow=22,SNR=2.1						
WHZ	**Wether Hill Ro**	**27.95**	**202**	P	**P**	**14 47 31.0**	**+1.2**
ARMA	**Armidale**	**29.32**	**244**	P	**P**	**14 47 42.0**	**-0.1**
ARMA				IAmb	IAmb	14 47 43.8	
	comp=Z,14nm,1.2s						
CAN	**Canberra**	**32.74**	**236**	P	**P**	**14 48 09.1**	**-2.3**
CAN				IAmb	IAmb	14 48 16.7	
	comp=Z,17nm,1.4s						
CTA	**Charters Tower**	**33.76**	**264**	P	**P**	**14 48 20.0**	**-0.2**
	comp=Z,5.7nm,1.0s,baz=94,slow=12,SNR=5.9						
TOO	**Toolangi**	**36.12**	**234**	P	**P**	**14 48 39.1**	**-0.7**
STKA	**Stephens Creek**	**38.04**	**244**	P	**P**	**14 48 55.7**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=90,slow=8.1,SNR=4.5						
STKA	**Stephens Creek**	**38.04**	**244**	P	**P**	**14 48 55.7**	**+0.1**
BBOO	**Buckleboo**	**42.80**	**244**	P	**P**	**14 49 33.5**	**-0.2**
BBOO				IAmb	IAmb	14 49 34.0	
	comp=Z,8.0nm,0.8s						
WR0	**Warramunga Arr**	**44.68**	**262**	P	**P**	**14 49 47.8**	**-0.8**
WR0				IAmb	IAmb	14 50 02.7	
	comp=Z,5.2nm,1.4s						
AS31	**Alice Springs**	**44.79**	**257**	P	**P**	**14 49 49.6**	**+0.2**
ASAR	**Alice Springs**	**44.79**	**257**	P	**P**	**14 49 48.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=99,slow=7.6,SNR=25						
ASAR				PcP	**pP**	**14 51 22.2**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=103,slow=4.1,SNR=2.1						
ASAR	**Alice Springs**	**44.79**	**257**	P	**P**	**14 49 48.6**	**-0.8**
WB0	**Warramunga Arr**	**44.85**	**262**	P	**P**	**14 49 49.1**	**-0.8**
WB0				IAmb	IAmb	14 50 01.8	
	comp=Z,4.8nm,1.3s						
WB2	**Warramunga Arr**	**44.86**	**262**	P	**P**	**14 49 49.4**	**-0.6**
WB2				IAmb	IAmb	14 50 08.9	
	comp=Z,3.8nm,1.1s						
WRAB	**Tennant Creek**	**44.86**	**262**	P	**P**	**14 49 49.1**	**-0.8**
WRAB				IAmb	IAmb	14 49 55.7	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**44.87**	**262**	P	**P**	**14 49 48.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=97,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**44.87**	**262**	P	**P**	**14 49 49.1**	**-1.0**
FORT	**Forrest**	**49.55**	**247**	P	**P**	**14 50 24.9**	**-0.2**
KNRA	**Kununurra**	**50.93**	**266**	P	**P**	**14 50 34.6**	**-0.9**
KNRA				IAmb	IAmb	14 50 39.0	
	comp=Z,11nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.30**	**262**	P	**P**	**14 50 53.1**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=97,slow=8.1,SNR=2.2						
FITZ	**Fitzroy Crossi**	**53.30**	**262**	P	**P**	**14 50 53.3**	**+0.8**
MORW	**Morawa**	**60.09**	**248**	P	**P**	**14 51 38.3**	**-0.9**
MORW				IAmb	IAmb	14 51 54.0	
	comp=Z,23nm,1.4s						
TOLI2	**Tolitoli**	**63.87**	**282**	P	**P**	**14 52 04.0**	**0.0**
TOLI2				IAmb	IAmb	14 52 22.4	
	comp=Z,7.3nm,1.0s						
QSPA	**South Pole Qui**	**69.58**	**180**	P	**P**	**14 52 39.6**	**+0.9**
QSPA				IAmb	IAmb	14 53 03.9	
	comp=Z,8.4nm,1.4s						
IL31		**88.24**	**13**	P	**P**	**14 54 15.7**	**-1.7**
ILAR	**Eielson Array**	**88.24**	**13**	P	**P**	**14 54 19.5**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=211,slow=5.5,SNR=5.4						
CMAR	**Chiang Mai Arr**	**90.37**	**289**	P	**P**	**14 54 31.2**	**+2.7**
	comp=Z,0.6nm,0.7s,baz=123,slow=3.3,SNR=5.1						
HRA	**Herat**	**125.72**	**298**		**PKPdf**	**15 00 24.5**	**-1.0**
ABKAR	**Akbulak array**	**126.26**	**317**		**PKPdf**	**15 00 24.0**	**-1.8**
ABKAR	**Akbulak array**	**126.26**	**317**		**PKPdf**	**15 00 24.5**	**-1.3**

*IDC **08** 14:46:29.4±8.3,35°.93N×70°.84E,h62km±40km,mb3.5/3, mb1 3.6/7,mb1mx3.2/74,mbtmp3.7/7,ML3.4/4,Error ellipse: s-maj=109.8km s-min=32.4km az=161.0*

*NNC **08** 14:46:36.8±1.1,36°.77N×70°.86E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=9.7km s-min=8.7km az=124.0*

ISC 08 14:46:35.7±1.9,36°.5N±0°.2×70°.5E±0°.1,h100km,n10, σ1^{s}66/15,3C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.64**	**0**	⇓P	**Pn**	**14 48 11.4**	**+0.7**
	1.3nm,0.3s,baz=180,slow=12,SNR=37						
KK31				S	**Sn**	**14 49 25.7**	**+0.9**
	2.9nm,0.3s,baz=194,slow=24,SNR=7.8						
AAK	**Ala-Archa**	**6.90**	**25**	P	**Pn**	**14 48 14.4**	**+0.1**
	1.2nm,0.3s,baz=194,slow=7.5,SNR=14						
AAK				S	**Sn**	**14 49 29.9**	**-1.4**
	2.1nm,0.3s,baz=132,slow=22,SNR=21						
CHMS	**Chumysh**	**7.31**	**25**	⇓P	**Pn**	**14 48 19.5**	**-0.3**
	0.6nm,0.2s						
CHMS				⇑S	**Sn**	**14 49 39.6**	**-1.5**
	12nm,0.6s						
TKM2	**Tokmak 2**	**7.56**	**30**	⇑P	**Pn**	**14 48 22.6**	**-0.7**
	4.4nm,0.6s						
TKM2				⇑S	**Sn**	**14 49 46.0**	**-1.4**
	14nm,1.1s						
GEYT	**Alibeck**	**9.99**	**282**	P	**Pn**	**14 48 54.8**	**-1.5**
	0.3nm,0.3s,baz=126,slow=14,SNR=1.7						
GEYT				S	**Sn**	**14 50 43.9**	**-2.6**
	1.0nm,0.3s,baz=105,slow=20,SNR=2.6						
MKAR	**Makanchi Array**	**13.56**	**37**	P	**Pn**	**14 49 42.1**	**-1.8**
	0.1nm,0.3s,baz=225,slow=12,SNR=5.8						
AKTO	**Aktyubinsk**	**16.62**	**331**	P	**P**	**14 50 25.4**	**+2.1**
	0.3nm,0.3s,baz=124,slow=11,SNR=4.7						
ZALV	**Zalesovo Beam**	**20.12**	**25**	P	**P**	**14 51 00.8**	**-0.7**
	3.1nm,0.4s,baz=222,slow=11,SNR=17						
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**14 54 11.2**	**+2.5**
	2.2nm,0.8s,baz=106,slow=9.6,SNR=1.8						
YKA	**Yellowknife Ar**	**81.31**	**2**	P	**P**	**14 58 41.7**	**+1.1**
	0.1nm,0.5s,baz=352,slow=5.0,SNR=2.2						

*MOS **08** 14:48:33.2±0.9,16°.88N×146°.61E,h11km,mb5.1/41, MS4.5/5,Error ellipse: s-maj=9.4km s-min=5.0km az=106.0*

*NEIC **08** 14:48:35.6±2.0,16°.80N±0°.08×146°.7E±0°.1,h10km±1km, mb5.1/59,Error ellipse: s-maj=18.8km s-min=13.1km az=293.0*

*BJI **08** 14:48:36.0±0.0,16°.80N×146°.90E,h35km,mb4.6/52, mB4.9/29,Ms4.5/43,Ms7 4.3/41*

*IDC **08** 14:48:37.2±2.2,16°.91N×146°.63E,h26km±14km,mb4.6/46, mb1 4.7/47,mb1mx4.7/65,mbtmp4.8/47,ML4.6/1,MS4.3/61, Ms1 4.3/61,ms1mx4.2/72,Error ellipse: s-maj=12.5km s-min=7.9km az=95.0*

*GCMT **08** 14:48:38.7±0.3,16°.97N±0°.02×146°.95E±0°.02,h28km±1km, MW5.0/76,Moment Tensor Solution. s37,c49; s76,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.63±.12; $M_{\theta\theta}$-0.40±.07; $M_{\phi\phi}$-1.23±.08; $M_{r\theta}$1.76±.16; $M_{\theta\phi}$-0.01±.05; $M_{\phi r}$-2.88±.19; Best double couple: M_o3.64400×10^{16} NP1:ϕ_s1.00000°,δ12.00000°,λ119.00000°. NP2: ϕ_s151.00000°,δ79.00000°,λ84.00000°. Principal axes: T 3.9500, Plg55.0000°, Azm54.0000°; N -0.6080, Plg6.0000°, Azm153.0000°; P -3.3370, Plg34.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 14:48:38.5±0.4,16°.80N±0°.03×146°.82E±0°.05,h36km±1km, n544,σ1^{s}46/543,mb5.0/133,MS4.4/80,16C-6D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.71**	**211**	Pn	**Pn**	**14 49 33.0**	**-0.3**
	43nm,0.3s,baz=28,slow=6.6,SNR=24						
GUMO				Sn	**Sn**	**14 50 13.3**	**-2.4**
	75nm,0.3s,baz=348,slow=21,SNR=5.9						
GUMO				LR	LR	14 51 01.3	
	comp=Z,5μm,20.8s,baz=78,slow=39						
GUMO	**Guam**	**3.71**	**211**	P	**Pn**	**14 49 33.1**	**-0.2**
GUMO	**Guam**	**3.71**	**211**	Pn	**Pn**	**14 49 33.1**	**-0.2**
GUMO	**Guam**	**3.71**	**211**	P	**Pn**	**14 49 35.4**	**+2.1**
JCJ	**Chichijima**	**11.11**	**338**	Pn	**Pn**	**14 51 16.9**	**+2.1**
	4.7nm,0.3s,baz=224,slow=17,SNR=1.7						
JCJ				Sn	**Sn**	**14 53 13.6**	**-4.2**
	2.7nm,0.3s,baz=266,slow=23,SNR=1.3						
PATS	**Pohnpei**	**14.97**	**130**	Pn	**Pn**	**14 52 04.8**	**-2.8**
H11S3	**WAKE ISLAND Hy**	**19.01**	**82**	T	T	15 14 02.0	
	baz=271,slow=76						
H11S1	**WAKE ISLAND Hy**	**19.02**	**82**	T	T	15 14 01.4	
	baz=271,slow=76						
H11S2	**WAKE ISLAND Hy**	**19.02**	**82**	T	T	15 14 08.1	
	baz=271,slow=76						
H11N1	**WAKE ISLAND Hy**	**19.28**	**78**	T	T	15 14 18.8	
	baz=265,slow=74,SNR=294						
H11N2	**WAKE ISLAND Hy**	**19.29**	**78**	T	T	15 14 19.0	
	baz=265,slow=74,SNR=149						
H11N3	**WAKE ISLAND Hy**	**19.29**	**78**	T	T	15 14 20.8	
	baz=265,slow=74,SNR=248						
JOW	**Kunigami**	**19.88**	**303**	P	**Pn**	**14 53 08.3**	**-0.2**
	2.1nm,0.3s,baz=138,slow=7.6,SNR=17						
JOW				LR	LR	14 59 25.8	
	comp=Z,2μm,21.7s,baz=126,slow=33						
JOW	**Kunigami**	**19.88**	**303**		**Pn**	**14 53 08.4**	**-0.2**
JOW				IAmb	IAmb	14 53 11.1	
	comp=Z,56nm,0.7s						
JOW	**Kunigami**	**19.88**	**303**	P	**Pn**	**14 53 09.3**	**+0.7**
JAY	**Jayapura**	**20.12**	**198**	P	Pn	14 53 11.4	-0.1
	comp=Z,98nm,0.9s,baz=32,slow=5.7,SNR=13						
JAY				LR	LR	15 00 20.8	
	comp=Z,910nm,21.2s,baz=24,slow=35						
JAY	**Jayapura**	**20.12**	**198**	P	Pn	14 53 11.9	+0.4
	comp=Z,602nmcomp=Z,73nm,1.0s						
JYT	**Yasato**	**20.23**	**344**	P	**P**	**14 53 07.4**	**-3.0**
JGF	**Kuroka**	**20.54**	**338**	P	**P**	**14 53 13.5**	**-0.3**
BAKI	**Biak**	**20.77**	**212**	P	Pn	14 53 18.9	-0.1
MJAR	**Matsushiro Arr**	**21.09**	**340**	P	**P**	**14 53 19.3**	**-0.6**
	comp=Z,4.7nm,0.5s,baz=176,slow=11,SNR=14						
MJAR	**Matsushiro Arr**	**21.09**	**340**	P	**P**	**14 53 18.8**	**-1.0**
MAJO	**Matsushiro**	**21.09**	**340**	*i* P	**P**	**14 53 18.4**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,41nm,2.3s						
MAJO	**Matsushiro**	**21.09**	**340**	P	**P**	**14 53 18.6**	**-1.2**
MAJO	**Matsushiro**	**21.09**	**340**	P	**P**	**14 53 20.3**	**+0.5**
MJB9	**Matsu-Tunnel**	**21.10**	**340**	P	**P**	**14 53 18.7**	**-1.2**
SRPI	**Serui, Papua**	**21.29**	**210**	P	**P**	**14 53 23.9**	**+1.8**
	comp=Z,132nm,1.0s						
RABL	**Rabaul**	**21.52**	**165**	P	**P**	**14 53 28.3**	**+3.8**
KRVT	**Keravat (AS076**	**21.59**	**166**	P	**P**	**14 53 27.1**	**+1.8**
	comp=Z,53nm,1.0s,baz=300,slow=20,SNR=3.4						
KRVT				LR	LR	15 01 01.1	
	comp=Z,350nm,21.7s,baz=127,slow=34						
JNU	**Nakatsue**	**21.70**	**321**	P	**P**	**14 53 27.1**	**+0.7**
	comp=Z,9.2nm,0.9s,baz=126,slow=4.9,SNR=6.2						
JNU	**Nakatsue**	**21.70**	**321**	P	**P**	**14 53 25.8**	**-0.6**
JNU	**Nakatsue**	**21.70**	**321**	P	**P**	**14 53 28.9**	**+2.5**
WAMI	**Wamena**	**22.06**	**202**	P	P	14 53 43.6	+13
JSD	**Sado**	**22.45**	**342**	P	**P**	**14 53 33.4**	**-1.0**
JSD				IAmb	IAmb	14 53 38.3	
	comp=Z,49nm,0.8s						
DAV	**Davao City (W)**	**22.90**	**248**	LR	LR	15 00 42.3	
	comp=Z,1μm,21.2s,baz=58,slow=32						
SWI	**Sorong**	**23.32**	**223**	P	**P**	**14 53 43.4**	**-0.1**
	comp=Z,1μmcomp=Z,121nm,1.2s						
SIJI	**Sorong**	**23.32**	**223**	P	**P**	**14 53 43.6**	**+0.1**
	comp=Z,69nm,0.7s,baz=46,slow=9.3,SNR=19						
SIJI				LR	LR	15 01 28.1	
	comp=Z,631nm,21.5s,baz=22,slow=33						
JTM	**Tenmabayashi**	**24.41**	**349**	P	**P**	**14 53 54.2**	**+0.7**
YHNB	**Yeheng**	**25.02**	**292**	P	**P**	**14 53 59.5**	**+0.2**
YHNB	**Yeheng**	**25.02**	**292**	P	**P**	**14 54 00.7**	**+1.3**
SSLB	**Suanglung**	**25.21**	**290**	P	**P**	**14 54 00.0**	**-1.0**
SSLB				IAmb	IAmb	14 54 08.7	
	comp=Z,28nm,0.9s						
SSLB	**Suanglung**	**25.21**	**290**	P	**P**	**14 54 02.2**	**+1.2**
LBMI	**Labuha**	**25.76**	**230**	P	**P**	**14 54 05.9**	**-0.1**
	comp=Z,41nm,0.8s						
PMG	**Port Moresby**	**26.04**	**179**	P	**P**	**14 54 09.1**	**+0.6**
	comp=Z,27nm,0.8s,baz=2.5,slow=11,SNR=7.9						
PMG				LR	LR	15 05 39.3	
	comp=Z,374nm,18.5s,baz=348,slow=39						
PMG	**Port Moresby**	**26.04**	**179**	*ce*P	**P**	**14 54 08.0**	**-0.5**
PMG				pmax	pmax		
	comp=Z,30nm,1.0s						
PMG	**Port Moresby**	**26.04**	**179**	P	**P**	**14 54 07.0**	**-1.5**
PMG				IAmb	IAmb	14 54 27.2	
	comp=Z,40nm,1.0s						
PMG	**Port Moresby**	**26.04**	**179**	P	**P**	**14 54 10.2**	**+1.7**
KSRS	**Korea Array**	**26.48**	**325**	P	**P**	**14 54 10.6**	**-1.7**
	comp=Z,5.9nm,0.7s,baz=142,slow=8.1,SNR=29						
KSRS				ScP	**ScP**	**15 01 15.2**	**+1.1**
	comp=Z,1.3nm,1.0s,baz=117,slow=4.2,SNR=2.7						
MSAI	**Masohi**	**26.71**	**223**	P	**P**	**14 54 17.4**	**+2.8**
	comp=Z,403nmcomp=Z,9.9nm,0.8s						
AAI	**Ambon**	**27.45**	**224**	P	**P**	**14 54 21.5**	**+0.3**
	comp=Z,66nm,0.7s						
ASAJ	**Asahikawa**	**27.46**	**353**	P	**P**	**14 54 20.5**	**-0.5**
	comp=Z,83nm,1.2s,baz=212,slow=9.3,SNR=18						
KMSI	**Cibinong**	**27.68**	**237**	P	P	14 54 33.6	+10
SANI	**Sanana**	**27.82**	**230**	P	**P**	**14 54 23.9**	**-0.6**
	comp=Z,28nm,0.8s						
SANI	**Sanana**	**27.82**	**230**	P	**P**	**14 54 25.6**	**+1.1**
HNR	**Honiara**	**29.12**	**153**	LR	LR	15 05 39.6	
	comp=Z,672nm,20.8s,baz=338,slow=35						
NJ2	**Nanjing**	**29.53**	**306**	*e*P	**P**	**14 54 41.3**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,540nm,18.9s						
NJ2				LR	LR		
	comp=Z,590nm,16.1s						
NJ2				LR	LR		
	comp=Z,900nm,19.1s						
USRK	**Ussuriysk Ar.**	**30.05**	**338**	P	**P**	**14 54 42.9**	**-1.2**
	comp=Z,3.2nm,0.6s,baz=103,slow=12,SNR=3.2						
USRK	**Ussuriysk Ar.**	**30.05**	**338**	P	**P**	**14 54 43.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**30.05**	**338**	P	**P**	**14 54 43.2**	**-0.9**
YSS	**Yuzh-Sakhalins**	**30.25**	**354**	*eP*	**P**	**14 54 46.3**	**+0.5**
YSS				*eS*	**S**	**14 59 41.6**	**-1.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS	**Yuzh-Sakhalins**	**30.25**	**354**	P	**P**	**14 54 45.8**	**0.0**
YSS				IAmb	IAmb	14 55 02.7	
	comp=Z,32nm,1.2s						
COEN	**Coen**	**30.77**	**187**	P	**P**	**14 54 50.0**	**-0.7**
COEN				IAmb	IAmb	14 54 53.6	
	comp=Z,26nm,0.8s						
MPSI	**Mapaga**	**31.17**	**241**	P	**P**	**14 54 57.9**	**+3.7

comp=Z,10.0nm,1.0s
BATI Baumata 35.28 222 P **P** **14 55 28.4 -1.7**
comp=Z,38nm,0.8s,baz=28,slow=0.8,SNR=6.6
BATI LR LR 15 11 00.5
comp=Z,246nm,19.1s,baz=59,slow=38
MTKI Muara Teweh, K 36.09 244 P P 14 55 31.1 -6.0
ENH Enshi 36.59 298 P **P** **14 55 39.7 -1.6**
CTA Charters Tower 36.66 181 P **P** **14 55 43.3 +1.4**
comp=Z,6.5nm,1.0s,baz=330,slow=8.1,SNR=2.6
CTA LR LR 15 10 23.2
comp=Z,258nm,21.5s,baz=12,slow=36
KNRA Kununurra 36.87 210 P **P** **14 55 41.8 -1.8**
KNRA IAmb IAmb 14 55 44.6
comp=Z,43nm,0.9s
KNRA Kununurra 36.87 210 P **P** **14 55 43.6 0.0**
PEA0B Petropavlovsk- 37.22 11 *i* P **P** **14 55 47.2 +0.9**
PETK Petropavlovsk- 37.22 11 P **P** **14 55 47.0 +0.8**
comp=Z,2.4nm,0.8s,baz=185,slow=11,SNR=2.7
PETK PcP **PcP** **14 58 05.0 -0.6**
comp=Z,12nm,0.9s,baz=180,slow=4.5,SNR=11
PET Petropavlovsk 37.32 12 *eP* **P** **14 55 49.3 +2.2**
PET *e* 14 57 14.8
PET *e* 14 58 06.3
PET *eS* **S** **15 01 34.8 +2.6**
PET *eSS* **SnSn** **15 04 12.1 +2.0**
PET pmax pmax
comp=Z,19nm,0.9s
PET pmax pmax
comp=Z,100nm,14.7s
PET MLR MLR
comp=Z,1μm,16.0s
PET MLR MLR
comp=Z,800nm,16.0s
PET Petropavlovsk 37.32 12 P **P** **14 55 50.0 +2.9**
comp=Z,69nm,1.0s
XLT XiLinHaoTe 37.48 323 *eP* **P** **14 55 51.8 +3.1**
XLT pP sP 14 56 02.3 -0.1
XLT sP pwP 14 56 06.8 +3.8
XLT S **S** **15 01 37.2 +2.2**
XLT sS ScP 15 01 53.6 +2.3
XLT pmax pmax
comp=Z,8.0nm,1.1s
XLT pmax pmax
comp=Z,170nm,5.9s
XLT LR LR
comp=Z,460nm,17.7s
XLT LR LR
comp=Z,630nm,16.8s
QIS Mount Isa 37.80 191 P **P** **14 55 53.0 +1.5**
WB0 Warramunga Arr 38.34 199 P **P** **14 55 56.0 -0.1**
WB0 IAmb IAmb 14 55 58.2
comp=Z,21nm,0.8s
GYA Guiyang 38.41 291 ⇓P **P** **14 55 58.3 +1.4**
GYA pmax pmax
comp=Z,14nm,0.6s
WR0 Warramunga Arr 38.47 199 P **P** **14 55 56.6 -0.6**
WR0 IAmb IAmb 14 55 59.4
comp=Z,19nm,0.7s
WRAB Tennant Creek 38.51 199*ceP* **P** **14 55 57.2 -0.3**
WRAB pmax pmax
comp=Z,49nm,1.3s
WRAB Tennant Creek 38.51 199 P **P** **14 55 57.5 0.0**
WRAB IAmb IAmb 14 55 59.7
comp=Z,29nm,0.9s
WRAB Tennant Creek 38.51 199 P **P** **14 55 57.9 +0.4**
WB2 Warramunga Arr 38.52 199 P **P** **14 55 57.9 +0.4**
WB2 IAmb IAmb 14 55 59.8
comp=Z,42nm,1.1s
WRA Warramunga Arr 38.52 199 P **P** **14 55 57.5 -0.1**
comp=Z,22nm,0.8s,baz=31,slow=8.9,SNR=75
WRA PcP **PcP** **14 58 10.1 +0.1**
comp=Z,1.2nm,0.4s,baz=17,slow=3.3,SNR=5.4
WRA S **S** **15 01 45.9 -5.2**
comp=Z,0.7nm,1.0s,baz=14,slow=17,SNR=2.8
WRA LR LR 15 11 51.1
comp=Z,665nm,22.0s,baz=26,slow=36
WRA Warramunga Arr 38.52 199 P **P** **14 55 56.7 -0.9**
HHC Hu-ho-hao-te 38.69 316 *eP* **P** **14 56 00.7 +1.7**
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,63nm,7.1s
HHC LR LR
comp=Z,320nm,14.9s
HHC LR LR
comp=Z,290nm,17.7s
HHC LR LR
comp=Z,460nm,18.6s
KSM Kuching 39.02 251 P **P** **14 56 03.4 +1.5**
HIA Hailar 39.13 332 P **P** **14 56 02.7 +0.2**
HIA pmax pmax
comp=Z,12nm,0.7s
HIA Hailar 39.13 332 P **P** **14 56 02.7 +0.2**
ZEA Zeya 39.89 342 *eP* **P** **14 56 06.8 -1.9**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
FITZ Fitzroy Crossi 40.47 212 P **P** **14 56 13.3 -0.5**
comp=Z,18nm,0.9s,baz=38,slow=8.0,SNR=29
FITZ LR LR 15 14 24.7
comp=Z,219nm,19.6s,baz=33,slow=38
FITZ Fitzroy Crossi 40.47 212 P **P** **14 56 13.8 0.0**
CD2 Chengdu 41.56 298 P **P** **14 56 22.4 -0.4**
CD2 S **S** **15 02 37.1 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,500nm,20.4s
CD2 LR LR
comp=Z,490nm,21.6s
KMI Kunming 41.84 289 ⇓P P 14 56 30.5 +5.1
KMI pP sP 14 56 38.5 -1.0
KMI S **S** **15 02 41.7 +0.5**
KMI SS **SS** **15 05 43.1 -5.1**
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI LR LR
comp=Z,300nm,20.3s
KMI LR LR
comp=Z,330nm,19.1s
KMI LR LR
comp=Z,350nm,20.7s
ASAR Alice Springs 42.16 198 P **P** **14 56 27.7 0.0**
comp=Z,4.7nm,1.0s,baz=19,slow=12,SNR=33
ASAR PcP **PcP** **14 58 22.6 +0.8**
comp=Z,2.3nm,0.6s,baz=28,slow=2.7,SNR=6.5
ASAR ScP **ScP** **15 02 11.4 +1.9**
comp=Z,0.9nm,0.8s,baz=22,slow=3.5,SNR=5.0
ASAR S **S** **15 02 45.1 -0.2**
comp=Z,1.2nm,0.8s,baz=14,slow=19,SNR=6.3
ASAR LR LR 15 14 16.6
comp=Z,561nm,21.2s,baz=20,slow=36
ASAR Alice Springs 42.16 198 P **P** **14 56 28.0 +0.3**
UWJI Ujung Watu 42.32 240 P **P** **14 56 31.5 +2.4**
comp=Z,5μmcomp=Z,71nm,0.8s
PWJI Pagerwojo 42.52 237 P **P** **14 56 29.8 -1.0**
comp=Z,85nm,0.8s
LZH Lanzhou 42.60 305 *eP* **P** **14 56 29.4 -2.0**
LZH sP sP 14 56 43.0 -2.4
LZH pmax pmax
comp=Z,18nm,1.4s
LZH LR LR
comp=Z,370nm,15.7s
LZH LR LR
comp=Z,540nm,16.3s
LZH LR LR
comp=Z,600nm,15.2s
MA2 Magadan 42.81 3 P **P** **14 56 32.9 +0.4**
comp=Z,44nm,0.8s,baz=178,slow=7.6,SNR=38
MA2 PcP **PcP** **14 58 24.0 +0.7**
comp=Z,15nm,0.8s,baz=132,slow=4.6,SNR=5.7
MA2 Magadan 42.81 3*ceP* **P** **14 56 33.4 +0.9**
MA2 pmax pmax
comp=Z,61nm,1.0s
MA2 Magadan 42.81 3 P **P** **14 56 33.8 +1.3**
MA2 IAmb IAmb 14 56 36.0
comp=Z,41nm,0.8s
MA2 Magadan 42.81 3 P **P** **14 56 34.0 +1.5**
PZH PanZhiHua 42.81 291 ⇑P **P** **14 56 33.7 +0.5**
PZH pP **pP** **14 56 42.0 -0.7**
PZH PP **PP** **14 58 17.9 +5.0**
PZH S **S** **15 02 56.6 +1.3**
PZH SS **SS** **15 06 05.2 -2.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,140nm,6.7s

PZH LR LR
comp=Z,660nm,19.2s
PZH LR LR
comp=Z,760nm,19.3s
PZH LR LR
comp=Z,720nm,18.8s
RMQ Roma 43.07 177 P **P** **14 56 36.8 +1.8**
DZM Mont Dzumac 43.15 153 LR LR 15 13 17.2
comp=Z,670nm,19.8s,baz=18,slow=34
DZM Mont Dzumac 43.15 153 *e*LR LR 15 09 01.3
comp=Z,2μm,23.9s
QLP Quilpie 43.20 183 P **P** **14 56 35.6 -0.4**
KPJI Karang Pucung 44.49 240 P **P** **14 56 46.9 +0.2**
comp=Z,40nm,0.9s
INKA Innaminka 44.67 188 P **P** **14 56 50.7 +2.9**
ULN Ulaanbaatar 44.92 322*ceP* **P** **14 56 49.7 -0.2**
ULN pmax pmax
comp=Z,37nm,1.3s
DSRI Dabo 45.04 252 P **P** **14 56 53.1 +2.0**
comp=Z,13nm,1.1s
SONM Songino Array 45.29 322 P **P** **14 56 52.0 -0.7**
comp=Z,20nm,0.6s,baz=135,slow=8.2,SNR=76
SONM PcP **PcP** **14 58 31.1 -1.0**
comp=Z,3.5nm,0.9s,baz=156,slow=3.9,SNR=3.7
SONM ScP **ScP** **15 02 22.3 +0.1**
comp=Z,0.9nm,0.9s,baz=123,slow=5.3,SNR=2.6
SONM Songino Array 45.29 322 P **P** **14 56 52.8 0.0**
SONM IAmb IAmb 14 56 55.0
comp=Z,25nm,0.8s
WRKA Warakurna 45.34 204 P **P** **14 56 53.8 +0.5**
CHTO Chiang Mai 45.52 280 P **P** **14 56 55.8 +0.9**
CMAR Chiang Mai Arr 45.56 280 P **P** **14 56 55.5 +0.3**
comp=Z,10nm,0.9s,baz=71,slow=6.3,SNR=44
CMAR LR LR 15 17 20.5
comp=Z,195nm,18.3s,baz=90,slow=38
OOD Oodnadatta 45.63 194 P **P** **14 56 56.3 +0.9**
MSVF Nonsavu 46.08 137 LR LR 15 13 16.3
comp=Z,285nm,19.4s,baz=315,slow=32
SEY Seymchan 46.24 4 P **P** **14 56 59.9 0.0**
comp=Z,17nm,0.9s,baz=179,slow=7.4,SNR=49
SEY PcP **PcP** **14 58 34.9 -0.1**
comp=Z,9.1nm,1.0s,baz=207,slow=2.3,SNR=4.0
SEY Seymchan 46.24 4*ceP* **P** **14 57 00.4 +0.5**
SEY pmax pmax
comp=Z,20nm,1.0s
PSA00 Pilbara Seismi 46.41 216 P **P** **14 56 59.7 -2.0**
PSA00 Pilbara Seismi 46.41 216 P **P** **14 57 04.2 +2.5**
IPM Ipoh 46.52 260 P **P** **14 57 03.6 +0.8**
GTA Gaotai 46.56 309 *eP* **P** **14 57 05.5 +2.6**
GTA pP pP 14 57 12.1 -0.4
GTA sP pwP 14 57 17.4 +0.1
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA Gaotai 46.56 309 *eP* **P** **14 57 05.2 +2.3**
GTA pP pP 14 57 12.2 -0.3
GTA sP pwP 14 57 17.5 +0.2
GTA PcP **PcP** **14 58 36.4 -0.4**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,71nm,6.0s
GTA LR LR
comp=Z,300nm,20.3s
GTA LR LR
comp=Z,360nm,19.1s
GTA LR LR
comp=Z,410nm,16.7s
BLSI Bandar Lampung 46.63 245 P **P** **14 57 03.7 +0.1**
comp=Z,75nm,1.0s
KLSI 46.76 247 P **P** **14 57 04.0 -0.6**
comp=Z,318nmcomp=Z,42nm,0.9s
YAK Yakutsk 46.77 349 *eP* **P** **14 57 03.1 -0.9**
YAK *e* 14 58 36.1
YAK *e* 14 58 52.9
YAK *eS* **S** **15 03 52.4 +1.0**
YAK *eSS* **SS** **15 07 16.0 -2.0**
YAK pmax pmax
comp=Z,71nm,0.9s
YAK pmax pmax
comp=N,11nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.7s
YAK pmax pmax
comp=Z,93nm,3.7s
YAK pmax pmax
comp=N,36nm,3.0s
YAK pmax pmax
comp=E,61nm,3.3s
YAK smax smax
comp=E,89nm,3.7s
YAK smax smax
comp=N,66nm,3.0s
CGJI Ibinong 46.85 244 P **P** **14 57 04.5 -0.9**
comp=N,50nm,1.1s
RGRI Rengat 47.03 253 P P 14 57 19.8 +13
LWLI Liwa 47.50 247 P **P** **14 57 09.9 -0.7**
comp=N,130nm,0.8s
BOD Bodaibo 47.66 337 *eP* **P** **14 57 10.1 -1.0**
BOD pmax pmax
comp=Z,10.0nm,0.9s
LCRK Leigh Creek 47.70 190 P **P** **14 57 12.9 +1.3**
CMSA Cobar Meteorol 48.07 181 P **P** **14 57 16.9 +2.4**
ZAK Zakamensk 48.30 324 *eP* **P** **14 57 14.8 -1.5**
ZAK pmax pmax
comp=Z,21nm,1.1s
MULG Mulgathing 48.40 195 P **P** **14 57 17.4 +0.4**
STKA Stephens Creek 48.66 186 P **P** **14 57 19.2 +0.2**
comp=Z,8.1nm,0.7s,baz=350,slow=9.3,SNR=22
STKA LR LR 15 20 35.6
comp=Z,378nm,18.2s,baz=7.7,slow=39
STKA Stephens Creek 48.66 186 *i* P **P** **14 57 19.0 0.0**
STKA Stephens Creek 48.66 186 P **P** **14 57 20.6 +1.5**
XMIS Christmas Isla 48.91 239 P **P** **14 57 19.5 -1.8**
PSI Prapat 49.05 259 P **P** **14 57 22.5 -0.1**
comp=Z,10.0nm,0.7s,baz=74,slow=6.9,SNR=7.3
PSI LR LR 15 16 18.7
comp=Z,612nm,21.9s,baz=106,slow=34
MNSI Mandailing Nat 49.14 256 P **P** **14 57 25.5 +2.4**
comp=Z,1μmcomp=Z,16nm,0.8s
GOMU GeErMu 49.77 303 P **P** **14 57 27.9 -0.2**
GOMU pmax pmax
comp=Z,2.0nm,1.1s
GOMU pmax pmax
comp=Z,74nm,6.3s
GOMU LR LR
comp=Z,120nm,20.3s
GOMU LR LR
comp=Z,160nm,21.0s
GOMU LR LR
comp=Z,290nm,20.6s
MOY Mondy 50.18 324 *eP* **P** **14 57 32.0 +1.4**
MOY pmax pmax
comp=Z,10.0nm,1.4s
NAPP Napperby 50.39 189 P **P** **14 57 34.4 +2.2**
comp=Z,25nm,0.8s
BBOO Buckleboo 50.40 192 P **P** **14 57 32.9 +0.6**
BBOO Buckleboo 50.40 192 P **P** **14 57 33.4 +1.1**
SISI Saibi 50.40 254 P **P** **14 57 33.4 +0.7**
comp=Z,25nm,0.8s
HTT Hallett 50.52 189 P **P** **14 57 33.9 +0.7**
FORT Forrest 50.63 201 P **P** **14 57 34.4 +0.4**
FORT Forrest 50.63 201 P **P** **14 57 36.1 +2.0**
GSI Gunungsitoli 50.83 258 P **P** **14 57 36.1 +0.1**
comp=Z,1μmcomp=Z,155nm,0.9s
GSI Gunungsitoli 50.83 258 P **P** **14 57 36.7 +0.7**
SPIA Saint Paul Isl 51.47 28 P **P** **14 57 39.9 -0.2**
baz=237
UNV Unalaska Valle 51.62 33 P **P** **14 57 41.0 -0.3**
baz=243
BILL Bilibino 52.70 9*deP* **P** **14 57 48.8 -0.3**
BILL *e* 14 58 57.7
BILL *e* 14 59 45.7
BILL *e*PPP PPP 15 01 02.2
BILL *eS* **S** **15 05 21.7 +7.5**
BILL pmax pmax
comp=Z,70nm,1.3s
ARPS Mount Arapiles 53.49 185 P **P** **14 57 57.2 +2.0**
MORW Morawa 54.44 213 P **P** **14 58 01.2 -1.2**
MORW Morawa 54.44 213 P **P** **14 58 02.3 -0.1**
GAMB Gambell 54.81 21 P **P** **14 58 05.0 +0.4**
baz=231
BLDU Ballidu 55.34 212 P **P** **14 58 08.8 0.0**
KLBR Kellerberrin 55.62 210 P **P** **14 58 09.8 -1.0**
TIXI Tiksi 55.87 353 P **P** **14 58 10.4 -1.6**
comp=Z,5.1nm,0.7s,baz=90,slow=20,SNR=25

TIXI Tiksi 55.87 353*ce*P **P** **14 58 11.4 -0.6**
TIXI pmax pmax
comp=Z,13nm,1.3s
TIXI Tiksi 55.87 353 P **P** **14 58 11.3 -0.6**
WMQ Urumqi 56.36 312 *eP* **P** **14 58 15.3 -0.9**
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ LR LR
comp=Z,420nm,19.7s
WMQ LR LR
comp=Z,210nm,20.7s
RAO Raoul Island 57.06 143 LR LR 15 18 34.4
comp=Z,204nm,21.8s,baz=144,slow=31
TNA Tin City 57.20 21 P **P** **14 58 21.7 +0.2**
baz=234
ANM Nome 57.52 22 P **P** **14 58 25.3 +1.4**
ANM pmax pmax
comp=Z,11nm,0.9s
ANM Nome 57.52 22 P **P** **14 58 25.3 +1.4**
ANM IAmb IAmb 14 58 26.1
comp=Z,11nm,0.9s
ANM Nome 57.52 22 P **P** **14 58 24.9 +1.0**
baz=237,SNR=8.3
CHIR Chirikof Islan 58.19 34 P **P** **14 58 28.4 -0.3**
baz=252
ZSN Zaisan 58.90 316 *eP* **P** **14 58 32.9 -1.0**
ZSN Zaisan 58.90 316 *eP* **P** **14 58 32.9 -1.0**
baz=316
SII Sitkinak Islan 59.17 34 P **P** **14 58 36.2 +0.6**
baz=253
N18K Kilae Creek 59.68 29 P **P** **14 58 40.2 +1.2**
baz=249,SNR=7.3
OHAK Old Harbor 59.84 33 P **P** **14 58 41.0 +0.9**
baz=254
SVW2 Sparrevohn 59.97 28 P **P** **14 58 42.3 +1.3**
SVW2 IAmb IAmb 14 58 44.4
comp=Z,8.8nm,0.9s
ZAA0 Zalesovo Array 60.17 323 P **P** **14 58 41.8 -0.7**
ZAA0 IAmb IAmb 14 58 42.8
comp=Z,7.8nm,0.8s
ZALV Zalesovo Beam 60.17 323 P **P** **14 58 41.4 -1.0**
comp=Z,7.9nm,0.9s,baz=103,slow=6.7,SNR=21
ZALV PKPPKP **P'P'df** **15 28 05.1 -4.7**
comp=Z,0.9nm,0.8s,baz=266,slow=2.3,SNR=2.1
ZALV Zalesovo Beam 60.17 323 *i* P **P** **14 58 41.7 -0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 60.17 323 P **P** **14 58 41.8 -0.7**
RDOG Red Dog Mine 60.24 19 P **P** **14 58 43.3 +0.6**
baz=238
O19K Port Alsworth 60.24 30 P **P** **14 58 43.0 +0.2**
baz=251
KDAK Kodiak Island 60.36 32 P **P** **14 58 43.5 -0.2**
comp=Z,5.2nm,0.8s,baz=209,slow=2.0,SNR=8.0
KDAK Kodiak Island 60.36 32 P **P** **14 58 44.1 +0.4**
baz=254
N19K Bonanza Creek 60.37 29 P **P** **14 58 45.3 +1.4**
N19K IAmb IAmb 14 58 46.1
comp=Z,10nm,0.8s
N19K Bonanza Creek 60.37 29 P **P** **14 58 44.9 +1.0**
baz=250,SNR=7.0
TTA Tatalina 60.46 26 P **P** **14 58 45.1 +0.7**
TTA pmax pmax
comp=Z,12nm,1.0s
TTA Tatalina 60.46 26 P **P** **14 58 45.1 +0.7**
TTA IAmb IAmb 14 58 47.5
comp=Z,12nm,1.0s
TTA Tatalina 60.46 26 P **P** **14 58 44.7 +0.3**
baz=248,SNR=8.2
MK31 Makanchi Array 60.55 315 *i* P **P** **14 58 44.5 -0.7**
MK31 Makanchi Array 60.55 315 P **P** **14 58 44.9 -0.3**
MKAR Makanchi Array 60.55 315 P **P** **14 58 43.5 -1.8**
comp=Z,3.6nm,0.8s,baz=95,slow=8.6,SNR=31
MKAR PcP **PcP** **14 59 28.9 -0.6**
comp=Z,4.1nm,0.8s,baz=109,slow=3.6,SNR=8.4
MKAR ScP **ScP** **15 03 28.1 -0.1**
comp=Z,0.6nm,0.8s,baz=108,slow=4.7,SNR=3.8
MKAR LR LR 15 26 03.5
comp=Z,220nm,21.1s,baz=85,slow=37
MKAR PKP2bc 15 28 14.6
comp=Z,0.7nm,1.0s,baz=264,slow=2.9,SNR=2.7
MKAR Makanchi Array 60.55 315 P **P** **14 58 43.7 -1.6**
L19K White Mountain 60.68 27 P **P** **14 58 47.1 +1.3**
L19K IAmb IAmb 14 58 48.0
comp=Z,14nm,1.1s
L19K White Mountain 60.68 27 P **P** **14 58 45.6 -0.3**
baz=249,SNR=5.6
MAKZ Makanchi 60.76 315 P **P** **14 58 46.2 -0.5**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 60.76 315 P **P** **14 58 46.2 -0.5**
GCSA Galena City Sc 60.82 24 P **P** **14 58 47.3 +0.6**
baz=246
L20K Farewell, AK 61.21 27 P **P** **14 58 49.5 +0.1**
baz=250
J20K Nowinta River 61.70 25 P **P** **14 58 54.2 +1.5**
baz=249,SNR=21
URZ Urewera 61.71 153 LR LR 15 25 03.3
comp=Z,157nm,18.7s,baz=29,slow=35
BRSE Bradley Lake S 61.82 31 P **P** **14 58 53.5 -0.1**
baz=254
PPLA Purkeypile 62.09 27 P **P** **14 58 57.1 +1.6**
PPLA IAmb IAmb 14 58 58.3
comp=Z,16nm,0.9s
PPLA Purkeypile 62.09 27 P **P** **14 58 56.1 +0.6**
baz=252,SNR=5.6
SHLS Shalkode 62.25 310 *eP* **P** **14 58 53.9 -3.0**
SHLS Shalkode 62.25 310 *eP* **P** **14 58 54.0 -3.0**
baz=310
CAST Castle Rocks 62.30 26 P **P** **14 58 57.2 +0.4**
baz=251,SNR=22
SEM Semipalatinsk 62.33 318 *eP* **P** **14 58 55.9 -1.5**
SEM Semipalatinsk 62.33 318 *eP* **P** **14 58 55.9 -1.5**
baz=318
CHUM Lake Minchumin 62.35 26 P **P** **14 58 58.4 +1.3**
baz=251,SNR=12
O22K Cooper Landing 62.51 30 P **P** **14 58 59.3 +1.1**
baz=255
IMAR Indian Mountai 62.52 23 P **P** **14 58 59.0 +0.8**
SEW Seward 62.54 30 P **P** **14 58 58.7 +0.3**
baz=256
UZB Uzynbulak 62.57 310 *eP* **P** **14 58 57.3 -1.8**
UZB Uzynbulak 62.57 310 *eP* **P** **14 58 57.3 -1.8**
baz=310
RC01 Rabbit Creek A 62.66 29 P **P** **14 58 59.0 -0.2**
baz=255
M22K Willow 62.67 29 P **P** **14 58 58.3 -0.8**
baz=254
I21K Tanana 62.92 25 P **P** **14 59 02.0 +1.2**
baz=251,SNR=19
BPAW Bear Paw Mtn. 62.98 26 P **P** **14 59 01.7 +0.4**
baz=252,SNR=29
SATY Saty 63.02 310 *eP* **P** **14 59 00.3 -1.8**
SATY Saty 63.02 310 *eP* **P** **14 59 00.4 -1.8**
baz=310
TRF Thorofare Moun 63.08 27 P **P** **14 59 01.7 -0.4**
baz=253,SNR=6.2
PMR Palmer 63.08 29 P **P** **14 59 01.6 -0.3**
baz=255
TDK Taldyqorghan 63.10 312 *eP* **P** **14 59 01.3 -1.2**
TDK pmax pmax
comp=Z,7.0nm,0.5s
TDK Taldyqorghan 63.10 312 *eP* **P** **14 59 01.4 -1.1**
comp=Z,7.5nm,0.5s,baz=312
PWL Port Wells 63.27 30 P **P** **14 59 02.8 -0.5**
baz=256,SNR=5.6
KNK Knik Glacier 63.34 29 P **P** **14 59 03.5 -0.2**
baz=256,SNR=5.5
KURK Kurchatov 63.39 319*ceP* **P** **14 59 03.0 -1.2**
KURK pmax pmax
comp=Z,25nm,1.3s
KURK Kurchatov 63.39 319 P **P** **14 59 02.8 -1.4**
KURK IAmb IAmb 14 59 05.1
comp=Z,15nm,0.8s
KURBB Kurchatov Arra 63.44 319 P **P** **14 59 02.8 -1.7**
comp=Z,18nm,0.8s,baz=97,slow=7.0,SNR=113
KURBB LR LR 15 27 26.6
comp=Z,533nm,20.2s,baz=70,slow=37
SML Sawmill 63.50 29 P **P** **14 59 04.7 -0.2**
baz=256,SNR=8.6
WAT1 Susitna Watana 63.66 28 P **P** **14 59 05.2 -0.6**
baz=255
MCK McKinley 63.74 27 P **P** **14 59 06.0 -0.3**
baz=254
NRIK Noril'sk 63.75 340 P **P** **14 59 05.0 -1.2**
comp=Z,18nm,0.9s,baz=111,slow=8.8,SNR=20
NRIK Noril'sk 63.75 340*ceP* **P** **14 59 05.2 -1.1**

NRIK pmax pmax
comp=Z,20nm,0.9s
NRIK Noril'sk 63.75 340 P P 14 59 05.7 -0.6
A21K Barrow 63.77 17 P P 14 59 06.5 +0.2
baz=243
GLI Glacier Island 63.86 30 P P 14 59 06.4 -0.8
baz=257
NEA2 Nenana 63.92 26 P P 14 59 07.2 -0.3
baz=254,SNR=6.2
Q23K Middleton Isla 63.92 32 P P 14 59 07.2 -0.3
baz=259
I23K Minto, Yukon-K 63.96 25 P P 14 59 08.3 +0.7
baz=253,SNR=22
WAT6 Susitna Watana 63.96 28 P P 14 59 07.7 -0.3
baz=256,SNR=8.5
SCM Sheep Creek Mo 63.97 29 P P 14 59 07.9 -0.1
baz=257,SNR=9.1
MDOK Medeo 64.02 310 eP P 14 59 07.4 -1.3
MDOK Medeo 64.02 310 eP P 14 59 07.4 -1.3
baz=310
CHKK Chushkaly 64.07 311 eP P 14 59 08.0 -0.9
CHKK Chushkaly 64.07 311 eP P 14 59 08.0 -0.9
baz=311
H23K Yukon River 64.09 24 P P 14 59 09.5 +0.9
baz=253,SNR=12
TNSS Tian-Shan 64.09 310 eP P 14 59 07.8 -1.7
TNSS Tian-Shan 64.09 310 eP P 14 59 07.9 -1.7
baz=310
AAA Alma-Ata 64.11 310 eP P 14 59 07.4 -1.8
AAA Alma-Ata 64.11 310 eP P 14 59 07.5 -1.8
baz=310
RPZ Rata Peaks 64.18 161 LR LR 15 25 12.6
comp=Z,107nm,20.3s,baz=338,slow=34
DHY Denali Highway 64.24 27 P P 14 59 09.6 -0.3
baz=256,SNR=8.5
COLD Coldfoot 64.28 23 P P 14 59 09.7 -0.1
baz=251,SNR=16
EYAK Cordova Ski Ar 64.44 30 P P 14 59 11.1 +0.2
baz=259
COLA College 64.50 25 *i* P P 14 59 10.7 -0.5
COLA pmax pmax
comp=Z,13nm,1.1s
KUU Kurty 64.54 311 eP P 14 59 10.2 -1.8
KUU pmax pmax
comp=Z,10.0nm,0.8s
KUU Kurty 64.54 311 eP P 14 59 10.2 -1.8
comp=Z,10nm,0.8s,baz=311
KLU Klutina 64.55 29 P P 14 59 11.2 -0.5
baz=258
M24K Tolsona, Glenn 64.56 29 P P 14 59 11.2 -0.6
baz=258
POKR Poker Plat Res 64.73 25 P P 14 59 12.3 -0.5
baz=255,SNR=9.5
H24K Noodor Dome 64.75 24 P P 14 59 13.0 0.0
baz=254,SNR=18
HDA Harding Lake 64.76 26 P P 14 59 12.3 -0.6
baz=256,SNR=8.5
KSH Kashi 64.84 306 P P 14 59 17.0 +2.9
KSH pP sP 14 59 27.6 -0.6
KSH pmax pmax
comp=Z,9.0nm,0.7s
IL31 64.87 26 P P 14 59 12.6 -1.0
ILAR Eielson Array 64.87 26 P P 14 59 12.1 -1.6
comp=Z,17nm,1.0s,baz=255,slow=4.5,SNR=67
ILAR Eielson Array 64.87 26 P P 14 59 12.9 -0.8
ILAR Eielson Array 64.87 26 P P 14 59 12.9 -0.8
HYBB Hyderabad (bro 64.91 282 eP P 14 59 14.2 -0.7
HYBB eS S **15 07 55.7 +1.4**
HYBB IVMs_BB IVMs_BB 15 14 39.5
comp=Z,121nm,5.2s
TOLK Toolik Lake Re 64.96 21 P P 14 59 15.1 +0.8
TOLK lAmb lAmb 14 59 21.9
comp=Z,18nm,0.9s
TOLK Toolik Lake Re 64.96 21 P P 14 59 14.5 +0.2
baz=251,SNR=18
PAX Paxson 65.07 28 P P 14 59 15.4 +0.3
baz=258,SNR=10
BMRM Bremner River 65.07 30 P P 14 59 15.1 0.0
baz=260
HARP HAARP 65.09 28 P P 14 59 14.9 -0.2
baz=258
PALK Pallekele 65.12 270 LR LR 15 24 36.5
comp=Z,184nm,20.9s,baz=170,slow=33
N25K Chitina, Valde 65.19 29 P P 14 59 15.4 -0.5
baz=259
J25K Salcha River, 65.47 26 P P 14 59 17.3 -0.4
baz=257,SNR=7.3
RIDG Independent Ri 65.50 27 P P 14 59 17.9 0.0
baz=258,SNR=20
SGDS Sogindy 65.78 311 eP P 14 59 18.9 -1.2
SGDS Sogindy 65.78 311 eP P 14 59 19.0 -1.2
baz=310
AAK Ala-Archa 65.89 310 P P 14 59 19.3 -1.7
comp=Z,1.9nm,0.7s,baz=128,slow=2.3,SNR=7.3
AAK PKP2ab 15 28 07.3
comp=Z,0.3nm,0.4s,baz=270,slow=3.0,SNR=4.6
AAK LR LR 15 29 55.7
comp=Z,265nm,19.2s,baz=87,slow=38
AAK Ala-Archa 65.89 310 *ce*P P **14 59 20.9 0.0**
AAK pmax pmax
comp=Z,3.0nm,1.0s
SCRK Sand Creek 65.92 27 P P 14 59 20.6 -0.1
baz=259,SNR=20
L26K Log Cabin Wild 66.03 28 P P 14 59 21.4 +0.1
baz=260,SNR=6.5
BTLS Baital 66.19 312 eP P 14 59 20.7 -1.9
BTLS Baital 66.19 312 eP P 14 59 20.7 -1.9
baz=312
J26L Joseph Creek 66.21 26 P P 14 59 22.6 +0.2
baz=259,SNR=34
BMAR Burnt Mountain 66.42 23 P P 14 59 24.7 +1.0
M27K Edge Creek, AK 66.59 29 P P 14 59 24.9 -0.1
baz=262
L27K Beaver Creek, 66.72 28 P P 14 59 25.8 +0.2
baz=261,SNR=8.6
BVCY Beaver Creek 67.06 29 P P 14 59 27.8 0.0
baz=262
BRZS Berezniki 67.15 318 eP P 14 59 27.7 -0.9
BRZS Berezniki 67.15 318 eP P 14 59 27.8 -0.9
baz=318
YUK3 Moose Creek 67.17 30 P P 14 59 28.5 -0.3
baz=263
EGAK Eagle 67.28 26 P P 14 59 29.5 +0.3
baz=261,SNR=10
PNL Peninsula 67.46 32 P P 14 59 30.2 -0.2
baz=265
DAWY Dawson 67.94 27 P P 14 59 34.6 +1.2
DAWY Dawson 67.94 27 P P 14 59 33.8 +0.4
baz=263,SNR=16
YUK4 Talbot Arm 67.98 30 P P 14 59 34.5 +0.6
baz=265
YUK6 Outpost Mounta 68.09 31 P P 14 59 34.7 +0.1
baz=265
DZA Taraz 68.21 310 eP P 14 59 34.9 -0.6
DZA Taraz 68.21 310 eP P 14 59 35.0 -0.6
baz=310
PCHI Peechi 68.47 275 eP P 14 59 39.2 +1.7
PCHI eS S 15 08 21.9 -16
J29M Klondike Camp 68.49 27 P P 14 59 37.6 +0.7
baz=264
HYT Haines Junctio 68.50 31 P P 14 59 39.0 +2.0
HYT Haines Junctio 68.50 31 P P 14 59 38.0 +1.0
baz=266,SNR=10
I29M Ogilvie Camp, 68.55 26 P P 14 59 37.6 +0.4
baz=264,SNR=12
BRVK Borovoye 68.68 321 *ce*P P **14 59 37.4 -0.8**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 68.80 310 P P 14 59 38.7 -0.5
KKAR Karatay Array 68.80 310 P P 14 59 38.7 -0.5
M30M Minto, Yukon 68.96 29 P P 14 59 40.1 +0.3
baz=266,SNR=8.3
IUG luzhnay 69.22 309 eP P 14 59 41.6 -0.2
IUG luzhnay 69.22 309 eP P 14 59 41.7 -0.2
baz=309
BRLS Borolday 69.30 310 eP P 14 59 42.6 +0.3
BRLS pmax pmax
comp=Z,6.0nm,0.6s
BRLS Borolday 69.30 310 eP P 14 59 42.6 +0.3
comp=Z,5.8nm,0.6s,baz=310
N31M Braeburn, Yuko 69.37 30 P P 14 59 42.1 -0.2
baz=267,SNR=8.3
SIT Sitka 69.47 35 P P 14 59 42.9 0.0
baz=269
SKAG Skagway 69.51 32 P P 14 59 43.1 -0.1
baz=268
WHY Whitehorse 69.77 31 P P 14 59 44.6 -0.3
baz=268,SNR=6.2
M31M Drury Creek, Y 70.06 29 P P 14 59 47.0 +0.4
baz=268,SNR=8.3
INK Inuvik 70.69 23 LR LR 15 31 38.8
comp=Z,90nm,19.6s,baz=236,slow=36
INK Inuvik 70.69 23 P P 14 59 50.5 +0.2
INK pmax pmax
comp=Z,17nm,0.9s
INK Inuvik 70.69 23 P P 14 59 50.5 +0.2
INK lAmb lAmb 14 59 56.7
comp=Z,17nm,0.8s
INK Inuvik 70.69 23 P P 14 59 50.3 +0.1
baz=267
PPT Papeete 71.33 116 LR LR 15 24 27.4
comp=Z,518nm,20.2s,baz=323,slow=30
PPT2 Papeete2 71.34 116 *eS* **S 15 09 12.0 +1.1**
comp=Z,68nm,23.8s
PPT2 Papeete2 71.34 116 *e*LR LR 15 21 58.5
comp=Z,832nm,21.5s,baz=292
DLBC Dease Lake 72.28 33 P P 15 00 01.2 +1.1
DLBC lAmb lAmb 15 00 03.4
comp=Z,31nm,1.3s
TGTN Hyland Airport 72.97 30 P P 15 00 05.4 +1.2
baz=274,SNR=9.3
A36M Sachs Harbour 73.51 19 P P 15 00 06.9 -0.2
baz=274
SVE Sverdlovsk 74.04 325 *eP* **P 15 00 09.4 -1.0**
C36M Paulatuk 74.10 22 P P 15 00 10.5 0.0
baz=275
ARU Arti 75.22 325 P P 15 00 16.0 -1.4
comp=Z,0.9nm,0.3s,baz=100,slow=2.5,SNR=8.0
ARU LR LR 15 34 56.0
comp=Z,139nm,18.3s,baz=87,slow=37
ARU Arti 75.22 325 *d* **iP P 15 00 16.9 -0.4**
ARU S S **15 09 56.8 +3.1**
ARU SS SS **15 14 44.6 +1.4**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ABKAR Akbulak array 75.45 317 P P 15 00 17.3 -1.4
AKTO Aktyubinsk 76.49 319 P P 15 00 23.8 -0.9
comp=Z,1.8nm,0.7s,baz=85,slow=10,SNR=3.5
AKTO LR LR 15 37 04.1
comp=Z,164nm,18.2s,baz=80,slow=38
TAOE Nuku Hiva Isla 76.56 104 *eS* **S 15 10 07.4 -2.6**
comp=Z,314nm,28.9s
TAOE Nuku Hiva Isla 76.56 104 *e*LR LR 15 24 14.9
comp=Z,652nm,25.5s,baz=298
D03D Eldon 77.86 44 P P 15 00 31.0 -1.4
baz=282,SNR=7.8
A04D Lummi Island 77.87 43 P P 15 00 32.1 -0.4
baz=282,SNR=6.2
I02E Swisshome, OR 78.03 47 P P 15 00 32.4 -1.0
baz=282
J01E Myrtle Point 78.17 48 P P 15 00 33.0 -1.2
baz=282
B05A Bryant 78.36 43 P P 15 00 33.8 -1.4
baz=282
E04D Cinebar 78.41 45 P P 15 00 34.6 -0.9
baz=282
K02D Willamette Mer 78.45 49 P P 15 00 34.7 -1.2
baz=282,SNR=5.3
I03D Drain, OR 78.47 48 P P 15 00 35.2 -0.7
baz=282
L02E Cave Junction 78.61 49 P P 15 00 36.6 -0.1
baz=282,SNR=6.4
H04D Lebanon 78.72 47 P P 15 00 37.1 -0.2
baz=282
GEYT Alibeck 78.88 306 P P 15 00 38.3 0.0
comp=Z,4.2nm,1.0s,baz=71,slow=6.2,SNR=4.3
GEYT LR LR 15 37 27.3
comp=Z,232nm,21.7s,baz=91,slow=37
I04A Tendick Farm, 79.11 48 P P 15 00 39.4 -0.2
baz=283,SNR=7.2
YKA Yellowknife Ar 79.15 28 P P 15 00 39.2 0.0
comp=Z,12nm,0.8s,baz=286,slow=5.4,SNR=104
YKA LR LR 15 34 57.6
comp=Z,378nm,20.3s,baz=310,slow=35
C06D Leavenworth 79.23 43 P P 15 00 40.7 +0.7
baz=283
F05D White Salmon 79.31 45 P P 15 00 40.5 0.0
baz=283
M02C Callahan 79.33 50 P P 15 00 40.3 -0.5
baz=283,SNR=7.2
YBH Yreka Blue Hor 79.36 50 P P 15 00 41.5 +0.6
comp=Z,12nm,0.9s,baz=288,slow=2.7,SNR=14
YBH LR LR 15 28 54.8
comp=Z,322nm,20.8s,baz=289,slow=30
J04D Umpqua Nationa 79.45 48 P P 15 00 41.3 -0.3
baz=283,SNR=7.0
N02D Trinity Center 79.53 50 P P 15 00 40.7 -1.2
baz=283
L04D Klamath Falls 79.54 49 P P 15 00 41.0 -1.0
baz=283,SNR=7.2
G05D Wamic, OR 79.55 46 P P 15 00 41.1 -0.8
baz=283
KIRV Kirov 79.63 328 LR LR 15 37 19.4
comp=Z,281nm,21.1s,baz=68,slow=37
O02D Mt. Diablo Mer 79.65 51 P P 15 00 40.8 -1.8
baz=283,SNR=7.3
I05D Terrebonne, OR 79.74 47 P P 15 00 41.5 -1.4
baz=284
K04D Chiloquin, OR 79.85 49 P P 15 00 41.9 -1.8
baz=284
M04C Macdoel 79.98 49 P P 15 00 43.4 -1.0
baz=284,SNR=13
J05D Fort Rock, OR 80.06 48 P P 15 00 43.6 -1.2
baz=284,SNR=22
O03E Paynes Creek 80.36 51 P P 15 00 45.2 -1.2
baz=284
PRGR Permogore 80.58 332 *eP* **P 15 00 46.6 -0.4**
PRGR pmax pmax
comp=Z,7.0nm,1.1s
RES Resolute Bay 81.00 14 P P 15 00 49.7 +0.7
RES pmax pmax
comp=Z,25nm,1.0s
RES Resolute Bay 81.00 14 P P 15 00 49.7 +0.7
RES lAmb lAmb 15 00 51.6
comp=Z,25nm,1.0s
SPITS Spitsbergen Ar 81.20 351 P P 15 00 48.9 -1.2
comp=Z,15nm,1.1s,baz=120,slow=5.1,SNR=12
NOR Nord 81.42 358 *eP* **P 15 00 50.5 -0.7**
NEW Newport 81.59 42 LR LR 15 31 21.9
comp=Z,286nm,20.1s,baz=296,slow=31
NEW Newport 81.59 42 P P 15 00 52.8 0.0
baz=286,SNR=12
WSAR Wadi Sarin 81.92 292 LR LR 15 37 42.9
comp=Z,124nm,21.6s,baz=114,slow=36
BELG Belogornoye 82.35 322 P P 15 00 55.0 -1.5
comp=Z,39nm,0.9s,baz=98,slow=2.8,SNR=21
BELG LR LR 15 38 11.1
comp=Z,159nm,19.8s,baz=147,slow=36
BELG Belogornoye 82.35 322 *i* **P P 15 00 55.8 -0.7**
BELG pmax pmax
comp=Z,9.0nm,1.0s
SMMC Simmler 83.00 55 P P 15 01 00.6 +0.2
baz=286,SNR=8.5
PLID Pearl Lake 83.22 45 lAmb lAmb 15 01 02.7
comp=Z,7.7nm,1.0s
PLID P P **15 01 02.7 +1.2**
MLAC Mammoth, Mammo 83.27 53 P P 15 01 01.6 -0.4
baz=286,SNR=6.8
NVAR Mina Array Bea 83.46 52 P P 15 01 03.6 +0.7
comp=Z,12nm,0.9s,baz=263,slow=5.7,SNR=62
NVAR LR LR 15 31 16.9
comp=Z,187nm,21.6s,baz=298,slow=31
SBC Santa Barbara 83.46 56 P P 15 01 02.4 -0.3
baz=286
VES Vestal, Richgr 83.57 55 P P 15 01 03.4 +0.2
baz=286
KLMR Klimovskoe 83.62 332 *eP* **P 15 00 59.8 -3.2**
KLMR pmax pmax
comp=Z,15nm,1.2s
KLMR Klimovskoe 83.62 332 *eP* **P 15 00 59.8 -3.2**
KLMR AMP 15 01 03.7
comp=Z,15nm,1.2s
ARVC Arvin 83.97 55 P P 15 01 05.4 +0.1
baz=286
MSO Missoula 84.07 43 P P 15 01 06.2 +0.5
baz=288
ISA Isabella, Lake 84.10 55 P P 15 01 06.7 +0.7
baz=286,SNR=9.0
CWC Cottonwood Cre 84.19 54 P P 15 01 06.9 +0.3
baz=287
TULEG Thule 84.44 8 *eP* **P 15 01 07.4 +0.6**
GRAC Grapevine Rang 84.58 53 P P 15 01 09.0 +0.6
baz=287,SNR=5.8
ARCES ARCESS Array B 84.62 342 P P 15 01 07.2 -0.7
comp=Z,6.1nm,0.8s,baz=60,slow=5.3,SNR=12
ARCES ARCESS Array B 84.62 342 P P 15 01 08.0 +0.1
ARCES pmax pmax
comp=Z,19nm,1.3s
ARCES ARCESS Array B 84.62 342 P P 15 01 08.0 +0.1
ARCES lAmb lAmb 15 01 32.7
comp=Z,19nm,1.3s
EDW2 Edwards Air Fo 84.70 55 P P 15 01 09.5 +0.4
baz=287,SNR=16
MPMC Manual Prospec 84.75 54 P P 15 01 09.5 0.0
baz=287,SNR=24
HLID Hailey 84.77 46 P P 15 01 09.7 +0.3
baz=288,SNR=14
LRMC Laurel Mtn Rad 84.77 55 P P 15 01 09.8 +0.3
baz=287,SNR=11
CIS Catalina Islan 84.78 57 P P 15 01 09.6 +0.1
baz=287,SNR=7.2
SCI2 San Clemente I 84.80 57 P P 15 01 09.6 +0.1
baz=287
ELK Elko 85.05 49 LR LR 15 32 09.5
comp=Z,428nm,21.2s,baz=298,slow=31
ELK Elko 85.05 49 P P 15 01 11.8 +0.9
ELK pmax pmax
comp=Z,26nm,1.2s
ELK Elko 85.05 49 P P 15 01 11.8 +0.9
FURC Furnace Creek, 85.12 54 P P 15 01 12.0 +1.0
baz=287
BFSC Mount Baldy Ra 85.15 56 P P 15 01 12.2 +0.7
baz=287
MAK Makhachkala 85.34 313 *eP* **P 15 01 10.8 -1.2**
MAK *e* 15 11 32.9
MAK pmax pmax
comp=Z,150nm,1.2s
MAK MLR MLR
comp=Z,158nm,16.0s
TPNV Topopah Spring 85.45 53 P P 15 01 13.0 0.0
baz=288
GSC Goldstone, Bar 85.51 55 P P 15 01 13.0 -0.1
baz=287,SNR=5.5
R11A Troy Canyon, C 85.53 51 P P 15 01 13.2 -0.1
baz=288,SNR=26
MURC Murrieta 85.70 56 P P 15 01 13.9 -0.2
baz=287
SHOC Shoshone, Teco 85.74 54 P P 15 01 14.2 0.0
baz=288
109C Camp Elliot, M 85.98 57 P P 15 01 16.3 +0.8
baz=287
BOZ Bozeman (W) 85.99 44 P P 15 01 15.5 +0.1
baz=290,SNR=16
HEC Hector,Ludlow 86.02 55 P P 15 01 15.9 +0.2
baz=288,SNR=8.3
TUQ Turquoise Moun 86.15 54 P P 15 01 16.3 -0.1
baz=288
DAG Danmarks Havn 86.21 357 *i* **P P 15 01 14.0 -1.7**
PFO Pinyon Flats O 86.28 56 LR LR 15 44 52.7
comp=Z,154nm,18.0s,baz=310,slow=39
PFO Pinyon Flats O 86.28 56 P P 15 01 17.2 +0.1
baz=288,SNR=13
TPFO Pinon Flats 86.29 56 P P 15 01 16.9 -0.2
baz=288,SNR=13
EGMT Eagleton 86.35 41 P P 15 01 17.3 +0.3
baz=291
MONP2 Monument Peak 86.53 57 P P 15 01 18.2 -0.2
baz=288,SNR=12
BELC Belle Mtn. Jos 86.53 56 P P 15 01 17.8 -0.6
baz=288,SNR=11
GMRC Granite Mounta 86.56 55 P P 15 01 18.2 -0.2
baz=288,SNR=12
IKP In-Ko-Pah, Jac 86.86 57 P P 15 01 19.9 +0.1
baz=288,SNR=9.3
DUG Dugway, Tooele 86.98 49 P P 15 01 20.5 +0.1
baz=290
SWSC Sam W. Stewart 87.01 57 P P 15 01 20.8 +0.3
baz=288
BC3 Big Chuckawall 87.07 56 P P 15 01 21.3 +0.4
baz=288,SNR=11
H17A Grant Village 87.11 44 P P 15 01 22.1 +1.0
baz=291,SNR=15
IRM Iron Mountain 87.16 55 P P 15 01 21.7 +0.4
baz=288,SNR=8.1
MOOW Moose Ponds 87.22 45 P P 15 01 23.1 +1.5
MOOW lAmb lAmb 15 01 24.4
comp=Z,9.1nm,1.1s
NEE2 Needles Airpor 87.38 55 P P 15 01 23.0 +0.7
baz=289
OBN Obninsk 87.44 327 *de*P P **15 01 21.5 -0.5**
OBN *e* 15 04 46.9
OBN *e*PPP PPP 15 06 41.0
OBN *e*S **SKSac 15 11 47.6 +0.6**
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,307nm,19.0s
VORR Voronezh 87.46 324 *eP* **P 15 01 21.1 -1.1**
VORR pmax pmax
comp=Z,50nm,0.4s
RLMT Red Lodge 87.71 43 P P 15 01 24.3 +0.4
baz=292,SNR=7.6
GLA Glamis 87.76 56 P P 15 01 23.7 -0.5
baz=289
ZEI Tsey 87.89 314 *eP* **P 15 01 22.2 -2.6**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
PDMCI Parker Dam,Lak 87.90 55 P P 15 01 25.6 +0.8
baz=289,SNR=11
GNI Garni 88.23 311 LR LR 15 45 15.0
comp=Z,111nm,18.5s,baz=83,slow=39
KBZ Khabaz 88.24 315 P P 15 01 24.6 -1.5
comp=Z,10.0nm,0.9s,baz=149,slow=2.3,SNR=21
KBZ LR LR 15 45 26.3
comp=Z,237nm,19.1s,baz=61,slow=39
KBZ Khabaz 88.24 315 *ce*P P **15 01 24.8 -1.3**
KBZ pmax pmax
comp=Z,12nm,0.9s
KVAR Kislovodsk Arr 88.29 316 LR LR 15 44 02.7
comp=Z,151nm,19.7s,baz=274,slow=38
KIV Kislovodsk 88.30 316 *eP* **P 15 01 25.4 -1.1**
KIV pmax pmax
comp=Z,14nm,1.1s
BW06 Boulder Array 88.38 46 P P 15 01 27.5 +0.4
baz=292
PDAR Pinedale Array 88.38 46 P P 15 01 26.9 -0.2
comp=Z,0.7nm,0.8s,baz=260,slow=4.1,SNR=5.1
PDAR LR LR 15 33 19.7
comp=Z,184nm,21.8s,baz=321,slow=30
PDAR Pinedale Array 88.38 46 P P 15 01 28.4 +1.3
SHA1 Shidzhatmaz 88.39 315 *i* **P P 15 01 25.8 -1.4**
NEY Neytrino 88.53 315 *i* **P P 15 01 26.0 -1.8**
NEY pmax pmax
comp=Z,2.0nm,0.7s
U15A North Rim 88.63 52 P P 15 01 30.2 +1.7
DBG Daneborg 88.72 356 *eP* **P 15 01 25.4 -2.4**
FIA1 FINESS Array S 89.04 336 P P 15 01 28.2 -1.3
FIA1 lAmb lAmb 15 01 29.9
comp=Z,13nm,1.2s
FINES FINESS Array B 89.05 336 P P 15 01 28.2 -1.4
comp=Z,2.2nm,0.4s,baz=74,slow=4.7,SNR=17
FINES LR LR 15 44 31.1
comp=Z,111nm,18.3s,baz=50,slow=38
FINES FINESS Array B 89.05 336 P P 15 01 28.4 -1.1
FINES FINESS Array B 89.05 336 P P 15 01 28.4 -1.1
LAO LASA Array 89.08 41 P P 15 01 30.6 +0.5
baz=294
SOCY Socotra 89.20 282 P P 15 01 30.1 -1.3
SOCY lAmb lAmb 15 01 52.5
comp=Z,14nm,1.2s
DGMT Dagmar 89.59 39 P P 15 01 33.0 +0.5
baz=295
WUAZ Wupatki 89.64 53 P P 15 01 34.1 +1.0
baz=290,SNR=22
214A Organ Pipe Nat 89.72 57 P P 15 01 34.6 +1.2
baz=290,SNR=9.8
O20A White River Ci 90.28 48 P P 15 01 36.6 +0.5
baz=292
K22A Casper 90.49 45 P P 15 01 37.8 +0.8
baz=294
W18A Petrified Fore 91.03 53 P P 15 01 39.7 +0.1
baz=291,SNR=9.2
MVCO Mesa Verde 91.19 51 P P 15 01 41.1 +0.7
baz=292
TUC Tucson 91.22 56 P P 15 01 41.3 +0.9
baz=291
RSSD Black Hills 91.54 43 P P 15 01 41.7 -0.2
baz=295
N23A Red Feather La 91.59 46 P P 15 01 42.5 +0.3
baz=294
MNK Minsk 92.12 329 *i* P P 15 01 38.0 -6.0
MNK *i* 15 05 17.6

MNK				*i* S		**SKSac**	**15 12 08.1**	**-6.2**
MNK				*i* PS		**PS**	**15 13 53.6**	**-4.5**
MNK				*i* SS		**SS**	**15 18 47.4**	**-5.2**
MNK				pmax	pmax			
	comp=Z,11nm,0.8s							
MNK				pmax	pmax			
	comp=N,19nm,0.8s							
MNK				pmax	pmax			
	comp=E,1.0nm,0.6s							
MNK				MLR	MLR			
	comp=E,21nm,18.0s							
MNK				MLR	MLR			
	comp=N,293nm,22.0s							
MNK				MLR	MLR			
	comp=Z,287nm,22.0s							
MNK	**Minsk**	**92.12**	**329**	*i* P	P		15 01 38.1	-5.9
	comp=E,1.0nm,0.6s							
MNK				*i* P	P		15 01 38.1	-5.9
	comp=N,19nm,0.8s							
MNK				*i* P	P		15 01 38.1	-5.9
	comp=Z,11nm,0.8s,baz=237							
MNK				*i* PP	**PP**		**15 05 17.6**	**-6.0**
MNK				*i* PPP	PPP		15 07 17.5	
MNK				*i* S	**SKSac**		**15 12 08.2**	**-6.2**
MNK				*i* PS	**PS**		**15 13 53.6**	**-4.5**
MNK				*i* SS	**SS**		**15 18 47.5**	**-5.2**
MNK				*i* SSS	SSS		15 22 22.8	
MNK				*i* LR	LR		15 42 36.9	
MNK				*i* LRM	MLR		15 44 37.7	
	comp=E,21nm,17.9s							
MNK				*i* LRM	MLR		15 44 37.7	
	comp=N,293nm,21.7s							
MNK				*i* LRM	MLR		15 44 43.4	
	comp=Z,287nm,22.4s							
S22A	**4UR Ranch, Cre**	**92.21**	**50**	P	**P**		**15 01 45.4**	**+0.2**
	baz=293							
ISCO	**Idaho Springs**	**92.26**	**47**	P	**P**		**15 01 45.8**	**+0.3**
	baz=294							
NACGM	**Naroch**	**92.43**	**330**	*e*P	**P**		**15 01 44.2**	**-1.3**
MDND	**Maddock**	**92.62**	**38**	P	**P**		**15 01 47.4**	**+0.9**
	baz=299							
Q24A	**Divide**	**92.93**	**48**	P	**P**		**15 01 48.4**	**-0.1**
	baz=294							
SDCO	**Great Sand Dun**	**93.18**	**49**	P	**P**		**15 01 50.0**	**+0.4**
	baz=294							
AKASG	**Malin Array Be**	**93.47**	**326**	P	**P**		**15 01 47.5**	**-2.9**
	comp=Z,0.3nm,0.4s,baz=50,slow=4.6,SNR=1.7							
AKASG				LR	LR		15 45 57.9	
	comp=Z,182nm,21.9s,baz=50,slow=37							
121A	**Cookes Peak, D**	**93.50**	**55**	P	**P**		**15 01 51.7**	**+0.6**
	baz=292							
ULM	**Lac du Bonnet**	**93.54**	**35**	P	**P**		**15 01 50.7**	**0.0**
	comp=Z,1.6nm,0.4s,baz=328,slow=5.4,SNR=4.3							
ULM				LR	LR		15 37 39.0	
	comp=Z,250nm,21.1s,baz=285,slow=31							
ANMO	**Albuquerque**	**93.59**	**52**	LR	LR		15 37 33.9	
	comp=Z,145nm,21.5s,baz=311,slow=31							
ANMO	**Albuquerque**	**93.59**	**52**	*ce*P	**P**		**15 01 50.4**	**-1.1**
ANMO				pmax	pmax			
	comp=Z,10.0nm,1.3s							
ANMO	**Albuquerque**	**93.59**	**52**	P	**P**		**15 01 51.8**	**+0.3**
	baz=293							
T25A	**Trinidad**	**94.22**	**49**	P	**P**		**15 01 53.7**	**-0.7**
	baz=295							
LPIG	**La Paz**	**94.49**	**63**	LR	LR		15 35 18.9	
	comp=Z,392nm,21.7s,baz=287,slow=30							
HFS	**Hagfors**	**94.53**	**339**	LR	LR		15 47 42.8	
	comp=Z,179nm,19.2s,baz=37,slow=38							
VNDA	**Vanda**	**94.54**	**177**	LR	LR		15 43 19.8	
	comp=Z,92nm,18.8s,baz=337,slow=35							
AGMN	**Agassiz Nation**	**94.57**	**37**	P	**P**		**15 01 56.0**	**+0.6**
	baz=302							
NOA	**NORSAR Array B**	**94.71**	**340**	P	**P**		**15 01 54.2**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=41,slow=4.8,SNR=3.6							
NOA				PP	**PP**		**15 05 41.9**	**-1.9**
	comp=Z,0.7nm,0.9s,baz=59,slow=6.0,SNR=3.5							
NOA				LR	LR		15 46 52.5	
	comp=Z,132nm,21.9s,baz=20,slow=37							
FRB	**Frobisher Bay**	**95.17**	**15**	LR	LR		15 45 20.5	
	comp=Z,121nm,20.0s,baz=356,slow=36							
SFJD	**Kangerlussuaq**	**95.45**	**7**	LR	LR		15 44 19.6	
	comp=Z,140nm,21.9s,baz=338,slow=35							
MNTX	**Cornudas Mount**	**95.70**	**55**	P	**P**		**15 02 01.4**	**+0.4**
	baz=294							
BR131	**Keskin Array S**	**96.20**	**315**	*i* P	**P**		**15 02 01.4**	**-1.9**
BRTR	**Keskin Array B**	**96.20**	**315**	P	**P**		**15 02 01.2**	**-2.0**
	comp=Z,2.9nm,0.8s,baz=96,slow=3.7,SNR=13							
BRTR				LR	LR		15 50 45.5	
	comp=Z,88nm,19.0s,baz=40,slow=39							
MMAI	**Mount Meron Ar**	**97.94**	**308**	LR	LR		15 53 44.3	
	comp=Z,53nm,18.3s,baz=223,slow=40							
TXAR	**Lajitas Array**	**98.01**	**56**	P	Pdif		15 02 12.7	+1.0
	comp=Z,1.2nm,0.9s,baz=243,slow=5.5,SNR=7.5							
TXAR				LR	LR		15 47 23.9	
	comp=Z,218nm,18.0s,baz=300,slow=36							
MLR	**Muntele Rosu**	**98.14**	**322**	LR	LR		15 49 17.4	
	comp=Z,103nm,18.8s,baz=80,slow=37							
WMOK	**Wichita Mounta**	**99.37**	**49**	P	**Pdif**		**15 02 17.0**	**-0.5**
	baz=298							
EIL	**Elat**	**99.73**	**305**	LR	LR		15 52 37.9	
	comp=Z,64nm,18.5s,baz=87,slow=39							
ATD	**Arta Tunnel**	**99.77**	**285**	LR	LR		15 46 31.7	
	comp=Z,14nm,20.5s,baz=106,slow=35							
CLL	**Collm**	**101.11**	**333**	*e*PP	**PP**		**15 06 32.0**	**-0.9**
CLL				Lm	MLR		15 51 00.0	
	comp=Z,200nm,19.5s							
GERES	**GERESS Array B**	**102.52**	**330**	PP	**PP**		**15 06 42.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=59,slow=8.3,SNR=4.4							
SYO	**Syowa Base**	**111.73**	**202**	*e*Pdiff	**Pdif**		**15 03 14.0**	**+2.5**
ESDC	**Sonseca Array**	**117.55**	**335**	PKKPab	PKKPab		15 17 49.9	+1.1
	comp=Z,2.1nm,0.9s,baz=213,slow=4.4,SNR=6.6							
MDT	**Midelt**	**123.60**	**331**	PKKPab	PKKPab		15 17 25.8	+3.3
	comp=Z,4.0nm,0.7s,baz=253,slow=6.1,SNR=3.8							
BOSA	**Boshof**	**125.29**	**247**	PKP	**PKPdf**		**15 07 36.4**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=225,slow=2.9,SNR=3.3							
ZARC	**Zaragoza, Cauc**	**132.23**	**63**	PKPdf	**PKiKP**		**15 07 50.5**	**-0.2**
TORD	**Tordi Ar. Bea**	**134.47**	**309**	PKP	**PKPdf**		**15 07 53.7**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=36,slow=1.3,SNR=4.7							
TORD	**Tordi Ar. Bea**	**134.47**	**309**		**PKPdf**		**15 07 54.0**	**+0.2**
SDV	**Santo Domingo**	**135.01**	**58**	PKP	**PKPdf**		**15 07 55.4**	**+0.3**
	comp=Z,2.9nm,0.4s,baz=286,slow=8.7,SNR=4.7							
PLCA	**Paso Flores**	**139.92**	**134**	PKP	**PKiKP**		**15 08 05.3**	**-0.4**
	comp=Z,6.6nm,0.9s,baz=219,slow=7.5,SNR=8.8							
PLCA	**Paso Flores**	**139.92**	**134**	PKPdf	**PKiKP**		**15 08 05.7**	**+0.1**
LCO	**Las Campanas**	**143.51**	**116**	PKIKP	**PKPdf**		**15 08 10.1**	**-0.1**
LCO	**Las Campanas**	**143.51**	**116**	PKPdf	**PKPdf**		**15 08 10.1**	**-0.1**
DBIC	**Dimbokro**	**143.55**	**308**	PKhKP	PKPpre		15 08 06.8	
	comp=Z,4.0nm,0.6s,baz=23,slow=5.6,SNR=6.4							
DBIC	**Dimbokro**	**143.55**	**308**	PKIKP	PKPbc		15 08 08.7	+1.0
DBIC	**Dimbokro**	**143.55**	**308**		PKPbc		15 08 08.7	+1.0
KIC	**Kosan Boka**	**143.66**	**307**	*e*P	PKPab		15 08 06.6	-0.7
	comp=Z,9.3nm,0.8s							
TIC	**Toumodi**	**143.69**	**308**	*e*P	PKPab		15 08 05.6	-1.8
LIC	**Lamto**	**143.97**	**307**	*e*P	PKPab		15 08 07.8	-0.6
	comp=Z,14nm,1.1s							
TA01	**Diego Aracena**	**144.79**	**102**	PKPdf	PKPbc		15 08 11.6	+0.2
GO02	**Mina Guanaco**	**145.09**	**110**		**PKPdf**		**15 08 13.6**	**+0.4**
PB11	**IPOC Station P**	**145.28**	**101**		**PKPdf**		**15 08 14.8**	**+1.4**
LPAZ	**La Paz**	**146.51**	**94**	PKPbc	**PKPbc**		**15 08 17.8**	**+0.1**
	comp=Z,24nm,1.0s,baz=328,slow=3.0,SNR=39							
MDP	**Montagnes des**	**150.95**	**43**	PKPbc	**PKiKP**		**15 08 29.0**	**-0.1**
	comp=Z,35nm,0.9s,baz=321,slow=2.6,SNR=8.0							
SIV	**San Ignacio**	**153.23**	**92**	PKP	**PKPdf**		**15 08 26.9**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=271,slow=4.9,SNR=6.0							
SIV				PKPbc	**PKiKP**		**15 08 34.3**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=235,slow=1.5,SNR=15							
SIV				PKPab	**PKPab**		**15 08 46.0**	**+0.6**
	comp=Z,7.2nm,0.9s,baz=299,slow=4.6,SNR=11							
CPUP	**Villa Florida**	**155.66**	**117**	PKPab	**PKPab**		**15 08 57.0**	**+1.6**
	comp=Z,12nm,0.9s,baz=260,slow=5.0,SNR=17							
CPUP	**Villa Florida**	**155.66**	**117**	PKIKP	**PKPdf**		**15 08 28.5**	**-0.6**
CPUP	**Villa Florida**	**155.66**	**117**	PKPdf	**PKPdf**		**15 08 28.5**	**-0.6**
CPUP				PKPab	**PKPab**		**15 08 57.7**	**+2.3**
BDFB	**Brasilia**	**165.70**	**87**	PKP	**PKPdf**		**15 08 40.1**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=71,slow=5.1,SNR=4.9							
BDFB				PKPab	**PKPab**		**15 09 41.1**	**+1.5**
	comp=Z,2.3nm,0.7s,baz=274,slow=6.0,SNR=3.9							

*TUL **08** 14:52:15.4±0.6, 35°.66N±0°.02×97°.18W±0°.01, h6km±5km, ML2.8, mb_Lg2.2/11(NEIC), Error ellipse: s-maj=2.5km s-min=1.4km az=173.0*

NEIC 08 14:52:15.9±0.6, 35°.66N±0°.03×97°.19W±0°.02, h6km±5km, Error ellipse: s-maj=4.8km s-min=0.9km az=145.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.00**	**209**	Pg	Pg	14 52 16.5	-0.6
OK005				Sg	Sg	14 52 17.3	-0.6
OK001	**Jones High Sch**	**0.13**	**220**	Pg	Pg	14 52 18.6	-0.1
FNO	**Franklin**	**0.43**	**203**	Pg	Pg	14 52 24.2	-0.2
FNO				Sg	Sg	14 52 30.6	+0.6
W35A	**Tecumseh**	**0.57**	**153**	Pg	Pg	14 52 26.3	-0.5
TUL1	**Leonard**	**1.16**	**77**	Pg	Pg	14 52 37.0	-1.3
X34A	**Smith Ranch, M**	**1.18**	**207**	Pg	Pg	14 52 37.9	-0.6
T35A	**Sooner Cattle**	**1.37**	**23**		Pn	14 52 40.1	-1.4
WMOK	**Wichita Mounta**	**1.59**	**235**		Pn	14 52 43.9	-0.8
U32A	**Winter Ranch,**	**1.64**	**297**	Pn	Pn	14 52 45.0	-0.3
U32A				lAmb_Lg		14 53 06.1	
	comp=Z,11nm,1.1s						
X37A	**Clayton**	**1.83**	**125**	Pn	Pn	14 52 47.9	0.0
W39A	**Magazine**	**2.82**	**98**	Pn	Pn	14 53 01.5	0.0
W39A				lAmb_Lg		14 53 47.7	
	comp=Z,9.7nm,0.9s						
MIAR	**Mount Ida**	**3.16**	**109**	Pn	Pn	14 53 06.5	+0.2
U40A	**Yellville**	**3.58**	**78**	Pn	Pn	14 53 11.6	-0.5
S39A	**Bolivar**	**3.71**	**56**	Pn	Pn	14 53 13.0	-0.8
CBKS	**Cedar Bluff**	**3.75**	**328**	Pn	Pn	14 53 13.6	-0.7
X40A	**Basin Creek Fa**	**3.76**	**107**	Pn	Pn	14 53 13.4	-1.0
WHAR	**Wooly Hollow**	**4.02**	**94**	Pn	Pn	14 53 17.5	-0.4
W41B	**Gary Mavity, V**	**4.06**	**95**	Pn	Pn	14 53 18.6	0.0
MGMO	**Mountain Grove**	**4.24**	**68**	Pn	Pn	14 53 22.0	+0.9
MGMO				lAmb_Lg		14 54 28.9	
	comp=Z,7.8nm,0.7s						
R40A	**Maddies Statio**	**4.74**	**55**	Pn	Pn	14 53 27.7	-0.1
LCAR	**Lake Charles**	**4.92**	**83**	Pn	Pn	14 53 29.0	-1.4
CCM	**Cathedral Cave**	**5.33**	**62**	Pn	Pn	14 53 34.0	-2.0
PBMO	**Poplar Bluff**	**5.58**	**76**	Pn	Pn	14 53 38.9	-0.5
P40A	**Paris**	**5.62**	**45**	Pn	Pn	14 53 40.1	+0.1
FVM	**French Village**	**5.90**	**65**	Pn	Pn	14 53 41.8	-2.1
FVM				lAmb_Lg		14 55 30.3	
	comp=Z,8.3nm,0.9s						
T25A	**Trinidad**	**6.01**	**286**	Pn	Pn	14 53 45.8	+0.2

*GUC **08** 14:54:55.0±0.6, 27°.01S×69°.47W, h115km±3km, ML3.9*
*IDC **08** 14:54:55.7±8.6, 26°.92S×69°.07W, h107km±61km, mb3.7/2, mb1 3.5/4, mb1mx3.3/29, mbtmp3.9/4, Error ellipse: s-maj=72.2km s-min=44.8km az=30.0*

ISC 08 14:54:54.4±0.8, 26°.99S±0°.04×69°.50W±0°.06, h116km±7km, n20, σ0°.94/29, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC02	**Maricunga**	**0.36**	**65**	*i* P	**Pn**	**14 55 11.6**	**-0.2**
AC02				*i* S	**Sn**	**14 55 23.6**	**-1.2**
AC02				IAML		14 55 24.2	
	comp=E,16μm,0.3s						
AC06	**Mina Casimiro**	**0.85**	**244**	*i* P	**Pn**	**14 55 15.0**	**+0.4**
AC06				*e*S	**Sn**	**14 55 30.1**	**+0.2**
AC06				IAML		14 55 31.8	
	comp=E,2μm,0.4s						
GO03	**Copiap**	**0.89**	**227**	*i* P	**Pn**	**14 55 15.2**	**+0.1**
GO03				*e*S	**Sn**	**14 55 30.9**	**+0.1**
GO03				IAML		14 55 31.5	
	comp=E,5μm,0.3s						
AC01	**Pan de Azucar**	**1.29**	**310**	*e*P	**Pn**	**14 55 20.3**	**+1.1**
AC01				*e*S	**Sn**	**14 55 39.1**	**+1.0**
AC01				IAML		14 55 41.5	
	comp=E,2μm,0.4s						
GO02	**Mina Guanaco**	**1.82**	**357**	*i* P	**Pn**	**14 55 26.7**	**+0.9**
GO02				*e*S	**Sn**	**14 55 50.1**	**+0.5**
GO02				IAML		14 55 57.4	
	comp=N,446nm,0.6s						
AC04	**Llanos de Chal**	**1.85**	**229**	*e*P	**Pn**	**14 55 26.4**	**+0.6**
AC04				*e*S	**Sn**	**14 55 50.2**	**+0.5**
AC04				IAML		14 55 53.9	
	comp=E,2μm,0.3s						
VCA	**Vinchina**	**2.08**	**147**	*i* P	**Pn**	**14 55 30.1**	**+1.3**
VCA				*e*S	**Sn**	**14 55 55.7**	**+0.5**
VCA				IAML		14 55 57.8	
	comp=E,958nm,0.3s						
LCO	**Las Campanas**	**2.28**	**208**	*e*P	**Pn**	**14 55 31.4**	**0.0**
LCO				*e*S	**Sn**	**14 56 00.1**	**+0.3**
CO01	**Juntas del Tor**	**3.02**	**190**	*e*P	**Pn**	**14 55 42.1**	**+1.0**
GO04	**Tololo Observa**	**3.37**	**200**	*e*P	**Pn**	**14 55 44.9**	**-0.7**
PB10	**IPOC Station P**	**3.59**	**344**	*e*P	**Pn**	**14 55 48.1**	**-0.3**
PB15	**IPOC Station P**	**3.76**	**0**	*e*P	**Pn**	**14 55 51.3**	**+0.4**
CO06	**Fray Jorge**	**4.12**	**207**	*e*P	**Pn**	**14 55 53.9**	**-1.6**
SLA	**San Lorenzo**	**4.25**	**59**	*i* P	**Pn**	**14 55 58.6**	**+1.3**
LVC	**Limon Verde**	**4.39**	**7**	P	**Pn**	**14 55 59.2**	**-0.3**
	comp=E,2.5nm,0.3s,baz=187,slow=11,SNR=12						
LVC				S	**Sn**	**14 56 49.0**	**-0.9**
	comp=E,5.5nm,0.3s,baz=47,slow=23,SNR=9.2						
SIV	**San Ignacio**	**13.46**	**37**	P	**Pn**	**14 57 59.8**	**-1.0**
	comp=E,0.2nm,0.3s,baz=216,slow=14,SNR=2.2						
BDFB	**Brasilia**	**22.94**	**65**	P	**P**	**14 59 47.1**	**-1.7**
	comp=E,1.9nm,0.5s,baz=212,slow=9.5,SNR=3.9						
TORD	**Tordi Ar. Bea**	**79.73**	**70**	P	**P**	**15 06 50.1**	**+0.3**
	comp=E,1.4nm,0.7s,baz=257,slow=5.3,SNR=7.0						
ZALV	**Zalesovo Beam**	**147.08**	**28**	PKPbc	**PKPbc**	**15 14 24.8**	**+1.5**
	comp=E,0.5nm,0.6s,baz=296,slow=4.3,SNR=4.3						
MKAR	**Makanchi Array**	**150.25**	**41**	PKPbc	**PKPbc**	**15 14 32.8**	**+1.1**
	comp=E,0.8nm,0.7s,baz=322,slow=2.6,SNR=10						

IDC 08 14:55:27.4±7.7, 26°.76S×69°.41W, h120km±60km, mb3.6/1, mb1 3.5/2, mb1mx3.2/29, mbtmp3.9/2, Error ellipse: s-maj=83.7km s-min=59.7km az=117.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.15**	**6**	P	Pn	14 56 30.1	+0.7
	3.3nm,0.3s,baz=201,slow=8.1,SNR=4.5						
LVC				S	Sn	14 57 17.3	-0.1
	9.5nm,0.3s,baz=105,slow=23,SNR=5.9						
TORD	**Tordi Ar. Bea**	**79.58**	**70**	P	P	15 07 21.4	-0.3
	0.9nm,0.6s,baz=258,slow=5.5,SNR=4.2						
WRA	**Warramunga Arr**	**128.18**	**209**	PKP	PKPdf	15 14 19.2	-1.1
	0.5nm,1.0s,baz=166,slow=1.9,SNR=1.8						
ZALV	**Zalesovo Beam**	**146.84**	**28**	PKPbc	PKPbc	15 14 54.3	-1.0
	1.9nm,0.8s,baz=316,slow=4.1,SNR=6.3						
MKAR	**Makanchi Array**	**150.03**	**41**	PKPbc	PKPbc	15 15 04.2	+0.4
	1.1nm,0.7s,baz=319,slow=1.9,SNR=12						

*IDC **08** 15:09:34.9±2.4, 8°.25S×112°.81E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.2/58, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=136.6km s-min=26.8km az=50.0*
*DJA **08** 15:09:43.0±1.6, 9°.S±8°×11°.2E±°, h29km±13km, M3.4/10, MLv3.4/10*

ISC 08 15:09:42.1±1.1, 9°.0S±0°.1×112°.45E±0°.05, h35km, n17, σ1°.23/16, mb3.4/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.13**	**325**	P	**Pn**	**15 10 02.6**	**+1.1**
GMJI	**Gumukmas**	**1.20**	**55**	P	**Pn**	**15 10 03.0**	**+0.6**
PCJI	**Pacitan**	**1.48**	**301**	P	**Pn**	**15 10 07.7**	**+1.5**
BLJI	**Banyuglugur**	**1.66**	**43**	P	**Pn**	**15 10 09.7**	**+1.0**
JAGI	**Jajag, Banyuwa**	**1.75**	**74**	P	**Pn**	**15 10 11.6**	**+1.6**
GRJI	**Gresik**	**2.04**	**1**	P	**Pn**	**15 10 14.4**	**+0.4**
ABJI	**Asem Bagus**	**2.11**	**57**	P	**Pn**	**15 10 16.7**	**+1.7**
UGM	**Wanagama**	**2.18**	**299**	P	**Pn**	**15 10 17.6**	**+1.7**
KMMI	**Kalianget**	**2.42**	**38**	P	**Pn**	**15 10 19.6**	**+0.4**
IGBI	**Denpasar**	**2.66**	**87**	P	**Pn**	**15 10 24.0**	**+1.4**
UWJI	**Ujung Watu**	**2.94**	**329**	P	**Pn**	**15 10 26.8**	**+0.5**
KPJI	**Karang Pucung**	**3.84**	**295**	P	**Pn**	**15 10 39.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.70**	**127**	Pn	**Pn**	**15 13 20.0**	**-0.8**
	0.1nm,0.3s,baz=309,slow=8.2,SNR=6.9						
FITZ				Sn	Sn	15 16 00.5	-13
	0.1nm,0.3s,baz=94,slow=22,SNR=1.8						
WRA	**Warramunga Arr**	**23.80**	**120**	P	**P**	**15 14 50.5**	**-1.5**
	0.8nm,0.6s,baz=296,slow=12,SNR=10						
ASAR	**Alice Springs**	**25.19**	**128**	P	**P**	**15 15 03.6**	**-1.1**
	0.6nm,1.0s,baz=305,slow=9.2,SNR=6.5						
STKA	**Stephens Creek**	**35.37**	**134**	P	**P**	**15 16 34.7**	**+0.1**
	0.3nm,0.2s,baz=333,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**61.68**	**337**	P	P	15 19 51.3	-5.4
	0.1nm,0.4s,baz=142,slow=7.2,SNR=2.3						

*IDC **08** 15:13:11.5±1.4, 17°.74S×178°.19W, h550km±16km, mb3.4/9, mb1 3.5/12, mb1mx3.1/53, mbtmp4.3/12, Error ellipse: s-maj=26.1km s-min=18.9km az=149.0*

ISC 08 15:13:11.2±0.9, 17°.8S±0°.2×178°.1W±0°.1, h550km, n15, σ0°.74/15, mb4.1/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.63**	**270**	P	**P**	**15 14 31.2**	**+0.7**
	2.2nm,0.3s,baz=136,slow=12,SNR=9.0						
AFI	**Afiamalu**	**7.21**	**59**	P	**P**	**15 15 01.6**	**+0.1**
	1.6nm,0.3s,baz=144,slow=23,SNR=1.9						
DZM	**Mont Dzumac**	**15.12**	**251**	P	**P**	**15 16 23.4**	**+1.3**
	0.3nm,0.3s,baz=96,slow=19,SNR=2.1						
URZ	**Urewera**	**20.86**	**191**	P	**P**	**15 17 14.2**	**-0.7**
	1.1nm,0.3s,baz=342,slow=3.2,SNR=1.0						
HNR	**Honiara**	**22.83**	**288**	P	**P**	**15 17 32.2**	**-0.7**
	104nm,0.4s,baz=130,slow=3.8,SNR=6.0						
CTA	**Charters Tower**	**33.73**	**260**	P	**P**	**15 19 06.7**	**-0.9**
	5.2nm,0.9s,baz=189,slow=7.1,SNR=2.2						
PMG	**Port Moresby**	**34.69**	**279**	P	**P**	**15 19 15.8**	**+0.2**
	17nm,1.0s,baz=104,slow=15,SNR=2.6						
STKA	**Stephens Creek**	**38.93**	**241**	P	**P**	**15 19 51.0**	**+0.7**
	2.2nm,0.5s,baz=95,slow=11,SNR=10						
WRA	**Warramunga Arr**	**44.91**	**259**	P	**P**	**15 20 36.4**	**-1.2**
	2.1nm,0.7s,baz=86,slow=7.2,SNR=50						
ASAR	**Alice Springs**	**45.08**	**254**	P	**P**	**15 20 38.6**	**-0.3**
	14nm,0.4s,baz=88,slow=8.2,SNR=494						
ASAR				PcP	**PcP**	**15 22 08.6**	**+0.7**
	0.5nm,0.5s,baz=84,slow=4.0,SNR=3.7						
SIJI	**Sorong**	**52.45**	**283**	P	**P**	**15 21 33.5**	**-0.1**
	7.8nm,0.6s,baz=122,slow=13,SNR=4.5						
FITZ	**Fitzroy Crossi**	**53.31**	**260**	P	**P**	**15 21 39.5**	**-0.1**
	0.8nm,0.4s,baz=70,slow=3.5,SNR=10.0						
ILAR	**Eielson Array**	**85.67**	**13**	P	**P**	**15 24 51.4**	**-0.2**
	0.2nm,0.4s,baz=226,slow=5.0,SNR=1.8						
BRTR	**Keskin Array B**	**144.85**	**315**	PKP	PKPbc	15 31 46.9	+0.1
	0.3nm,0.4s,baz=153,slow=0.3,SNR=2.3						
GERES	**GERESS Array B**	**147.52**	**345**	PKPbc	**PKPbc**	**15 31 54.1**	**+0.2**
	0.2nm,0.3s,baz=46,slow=2.8,SNR=1.6						

*IDC **08** 15:14:35.3±1.7, 7°.30S×107°.64E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.4/63, mbtmp3.9/4, Error ellipse: s-maj=41.6km s-min=8.5km az=76.0*
*DJA **08** 15:14:35.2±0.3, 7°.S±5°×10°.8E±°, h10km, M3.8/10, MLv3.8/10*
*NEIC **08** 15:14:39.9±2.0, 7°.80S±0°.06×107°.57E±0°.06, h10km±2km, mb4.1/12, Error ellipse: s-maj=12.3km s-min=7.5km az=41.0*

ISC 08 15:14:36.1±0.7, 7°.31S±0°.05×107°.58E±0°.03, h10km, n33, σ1°.46/32, mb4.2/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.45**	**270**	P	**Pg**	**15 14 44.5**	**-0.3**
LEM	**Lembang**	**0.48**	**5**	Pg	**Pg**	**15 14 43.7**	**-1.7**
	356nm,0.3s,baz=182,slow=6.1,SNR=164						
LEM				Lg	Lg	15 14 51.4	
	624nm,0.3s,baz=258,slow=21,SNR=14						
LEM				LR	LR	15 15 10.8	
	comp=Z,1μm,20.3s,baz=87,slow=75						
LEM	**Lembang**	**0.48**	**5**	P	**Pg**	**15 14 43.5**	**-2.0**
CMJI	**Cimerak**	**0.98**	**119**	P	**Pg**	**15 14 52.8**	**-2.2**
SKJI	**Sukabumi**	**1.06**	**286**	P	**Pg**	**15 14 55.0**	**-1.4**
DBJI	**Dramaga**	**1.11**	**312**	P	**Pb**	**15 14 56.2**	**-1.2**
KPJI	**Karang Pucung**	**1.34**	**91**	P	**Pn**	**15 14 59.2**	**-1.7**
CGJI	**Cibinong**	**1.99**	**290**	P	**Pn**	**15 15 09.4**	**-0.5**
SMRI	**Semarang**	**2.85**	**85**	Pn	**Pb**	**15 15 26.1**	**-1.1**
UGM	**Wanagama**	**2.98**	**102**		**Pn**	**15 15 23.7**	**+0.2**
UGM	**Wanagama**	**2.98**	**102**	P	**Pn**	**15 15 22.0**	**-1.5**
KASI	**Kota Agung**	**3.54**	**300**	P	**Pn**	**15 15 31.1**	**0.0**
PCJI	**Pacitan**	**3.67**	**104**	P	**Pn**	**15 15 32.9**	**-0.1**
XMIS	**Christmas Isla**	**3.68**	**211**	Pn	**Pn**	**15 15 30.6**	**-2.5**
KLSI		**3.

SBF	**Sospel**	**1.79**	**357**	*e*P	**Pg**	**15 17 19.4**	**-0.7**
SBF				*e*Sn	**Sb**	**15 17 40.1**	**-0.9**
	comp=N,36nm,0.3s						
MVIF	**Mont Vial**	**1.84**	**351**	Pn	**Pg**	**15 17 21.4**	**+0.2**
TURF	**col de Turini**	**1.90**	**357**	Pn	**Pb**	**15 17 20.9**	**+0.3**
TURF				Sn	**Sn**	**15 17 42.6**	**+0.4**
SAOF	**Saorge**	**1.91**	**0**	Pn	**Pb**	**15 17 20.8**	**+0.2**
SAOF				Sn	**Sn**	**15 17 42.2**	**0.0**
SAOF	**Saorge**	**1.91**	**0**	P	**Pb**	**15 17 21.2**	**+0.6**
MGRO	**Montegrosso**	**1.97**	**5**	P	**Pb**	**15 17 21.8**	**0.0**
SPIF	**crte de Spivo**	**1.99**	**353**	Pn	**Pg**	**15 17 23.0**	**-1.0**
SPIF				Sn	**Sn**	**15 17 45.1**	**+0.7**
RORO	**Rocca Rossa**	**2.07**	**10**	P	**Pb**	**15 17 22.9**	**-0.4**
CELB	**S.Piero in Cam**	**2.08**	**70**	P	**Pn**	**15 17 22.0**	**+1.4**
CELB				S	**Sn**	**15 17 45.4**	**-1.1**
CELB	**S.Piero in Cam**	**2.08**	**70**	P	**Pn**	**15 17 22.6**	**+2.0**
ISO	**Isola**	**2.14**	**350**	Pn	**Pb**	**15 17 25.3**	**+0.8**
ISO				Sn	**Sb**	**15 17 49.4**	**-1.6**
ENR	**Entracque**	**2.15**	**357**	P	**Pb**	**15 17 24.8**	**0.0**
STV	**Sant Anna di V**	**2.17**	**356**	P	**Pb**	**15 17 25.0**	**-0.2**
OGDI	**Digne**	**2.23**	**336**	Pn	**Pg**	**15 17 27.5**	**-1.1**
BSTF	**la Bastide-des**	**2.28**	**323**	Pn	**Pb**	**15 17 26.9**	**0.0**
BSTF				Sn	**Sn**	**15 17 52.6**	**+1.2**
QLNO	**Quiliano**	**2.32**	**14**	P	**Pb**	**15 17 26.7**	**-0.9**
DGI	**Dorgali Grotta**	**2.34**	**138**	P	**Pn**	**15 17 25.7**	**+1.5**
DGI				S	**Sn**	**15 17 51.1**	**-1.9**
SMRF	**Simiane la Rot**	**2.39**	**323**	*e*Pn	**Pn**	**15 17 25.7**	**+0.9**
SMRF	**Simiane la Rot**	**2.39**	**323**	*e*P	**Pb**	**15 17 28.6**	**-0.2**
SMRF				*e*Sn	**Sn**	**15 17 54.4**	**+0.3**
	comp=N,14nm,0.3s						
RUSF	**Rustrel**	**2.40**	**322**	Pn	**Pb**	**15 17 29.7**	**+0.6**
SURF	**Saint Ours**	**2.46**	**348**	Pn	**Pb**	**15 17 30.6**	**+0.5**
SURF				Sn	**Sb**	**15 17 58.9**	**-1.6**
CASP	**Castiglione de**	**2.55**	**73**	P	**Pn**	**15 17 28.8**	**+1.7**
PCP	**Piancastagn**	**2.57**	**16**	P	**Pn**	**15 17 29.7**	**+2.4**
MSSA	**Maissana**	**2.66**	**32**	P	**Pn**	**15 17 30.9**	**+2.3**
TRIF	**Trifonti**	**2.68**	**66**	P	**Pn**	**15 17 30.5**	**+1.6**
MBDF	**Montbardon**	**2.71**	**348**	*e*P	**Pb**	**15 17 33.3**	**-1.0**
MBDF				*e*Sn	**Sn**	**15 18 02.2**	**+0.1**
	comp=N,6.3nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.09**	**337**	*e*P	**Pb**	**15 17 38.9**	**-1.9**
ORIF				*e*Sn	**Sn**	**15 18 11.3**	**-0.1**
	comp=N,2.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.09**	**337**	Pn	**Pb**	**15 17 39.1**	**-1.7**
LASF	**Ste Croix**	**3.36**	**308**	*e*P	**Pn**	**15 17 41.4**	**+3.2**
LASF				*e*Sn	**Sn**	**15 18 18.2**	**+0.1**
	comp=N,10nm,0.3s						
LPG	**La Plagne**	**3.47**	**351**	*e*P	**Pb**	**15 17 44.1**	**-3.2**
LPG				*e*Sn	**Sn**	**15 18 20.5**	**-0.6**
	comp=N,2.9nm,0.4s						
VIVF	**Saint-Julien-l**	**3.48**	**324**	*e*P	**Pb**	**15 17 44.5**	**-2.9**
VIVF				*e*Sn	**Sn**	**15 18 20.9**	**-0.1**
	comp=N,3.5nm,0.3s						
LPL	**La Plagne**	**3.49**	**350**	*e*P	**Pn**	**15 17 44.0**	**+3.9**
LPL				*e*Sn	**Sn**	**15 18 20.8**	**-0.7**
	comp=N,3.8nm,0.4s						
FNEB	**Nbias**	**4.11**	**283**	Pn	**Pn**	**15 17 51.0**	**+2.5**
MTLF	**Montolieu**	**4.13**	**290**	*e*P	**Pn**	**15 17 51.1**	**+2.4**
MTLF				*e*Sn	**Sn**	**15 18 35.9**	**-1.1**
	comp=N,7.9nm,0.3s						
LBL	**Lubilhac**	**4.44**	**317**	Pn	**Pn**	**15 17 56.4**	**+3.4**
CAF	**Calviac**	**4.90**	**307**	*e*P	**Pn**	**15 18 02.6**	**+3.2**
CAF				*e*Sn	**Sn**	**15 18 54.8**	**-1.3**
	comp=N,3.1nm,0.3s						
EPF	**Esparros**	**5.41**	**283**	*e*Pn	**Pn**	**15 18 06.1**	**-0.3**
EPF	**Esparros**	**5.41**	**283**	*e*P	**Pn**	**15 18 10.6**	**+4.2**
EPF				*e*Sn	**Sn**	**15 19 05.9**	**-2.7**
	comp=N,2.4nm,0.3s						
RJF	**Les Rejaudoux**	**5.43**	**308**	*e*Pn	**Pn**	**15 18 07.0**	**+0.3**
RJF	**Les Rejaudoux**	**5.43**	**308**	*e*P	**Pn**	**15 18 10.4**	**+3.7**
RJF				*e*Sn	**Sn**	**15 19 07.3**	**-1.9**
	comp=N,2.0nm,0.3s						
ETSF	**Etsaut**	**6.05**	**281**	*e*P	Pn	15 18 20.6	+5.4
ETSF				*e*Sn	**Sn**	**15 19 21.4**	**-3.1**
	comp=N,2.4nm,0.4s						

*DNK **08** 15:17:06.0±2.3,51°.62N×16°.91E, h2km, ML2.7*
*IPEC **08** 15:17:06.3±0.3,51°.49N×16°.31E, h0km, ML3.0/3, Error ellipse: s-maj=2.9km s-min=1.7km az=69.0*
*IDC **08** 15:17:07.1±0.6,51°.44N×16°.05E, h0km, mb3.7/6, mb1 3.7/14, mb1mx3.5/54, mbtmp3.6/14, ML3.3/8, MS3.6/2, Ms1 3.6/2, ms1mx2.5/96, Error ellipse: s-maj=11.7km s-min=6.2km az=104.0*
*MCSM **08** 15:17:07.5±0.5,51°.N×3°×1°6E±°, h3km±2km, ML3.8*
*VIE **08** 15:17:08.9±0.6,51°.30N×16°.22E, h0km, mb3.1/14, ml3.3/11, ms3.8/1, Error ellipse: s-maj=7.3km s-min=3.3km az=62.0 59 km WNW of Wroclaw Suspected Mining induced.*

ISC 08 15:17:05.5±0.5, 51°.52N±0°.03×16°.16E±0°.02, h0km, n107, σ1s55/163, mb3.6/6, 8C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**173**	*i* Pg	**Pg**	**15 17 18.9**	**+0.3**
KSP				*e*Sg	**Sg**	**15 17 26.9**	**-0.5**
KSP	**Ksiaz**	**0.68**	**173**	Pg	**Pg**	**15 17 18.7**	**+0.1**
KSP				Sg	**Sg**	**15 17 27.3**	**-0.1**
CHVC	**Chvalec**	**0.94**	**184**	*e*PG	**Pg**	**15 17 24.0**	**+0.6**
CHVC				*e*SG	**Sg**	**15 17 35.2**	**-0.3**
OSTC	**Ostas**	**0.96**	**178**	*e*PG	**Pg**	**15 17 24.5**	**+0.5**
OSTC				*e*SG	**Sg**	**15 17 36.3**	**-0.2**
	comp=Z,240nm,0.6s						
UPC	**Upice**	**1.02**	**185**	*e*PG	**Pg**	**15 17 25.3**	**+0.3**
UPC				*e*SG	**Sg**	**15 17 38.0**	**-0.2**
	comp=Z,524nm,0.5s						
UPC	**Upice**	**1.02**	**185**	Pg	**Pg**	**15 17 25.2**	**+0.3**
DPC	**Dobruska-Polom**	**1.18**	**175**	*e*PG	**Pg**	**15 17 27.7**	**-0.3**
DPC				*e*SG	**Sg**	**15 17 42.8**	**-0.4**
	comp=Z,238nm,0.5s						
DPC	**Dobruska-Polom**	**1.18**	**175**	Pg	**Pg**	**15 17 27.7**	**-0.3**
PVCC	**Panska Ves**	**1.41**	**226**	*e*PG	**Pb**	**15 17 33.5**	**+0.8**
PVCC				*e*SG	**Sn**	**15 17 52.6**	**+0.9**
	comp=Z,669nm,0.5s						
KRLC	**Kraliky**	**1.50**	**164**	*e*PG	**Pn**	**15 17 33.5**	**-0.2**
KRLC				*e*SG	**Sg**	**15 17 52.1**	**-1.5**
	comp=Z,142nm,0.5s						
RUE	**Ruedersdorf**	**1.76**	**304**	*e*P	**Pn**	**15 17 37.1**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.83**	**209**	Pn	**Pn**	**15 17 38.3**	**+0.1**
PRU	**Pruhonice**	**1.84**	**214**	*e*PN	**Pn**	**15 17 38.6**	**+0.2**
PRU				*e*PG	**Pb**	**15 17 40.5**	**+0.4**
PRU				*e*SG	**Sb**	**15 18 04.0**	**+0.3**
	comp=Z,152nm,0.5s						
PRU	**Pruhonice**	**1.84**	**214**	Pn	**Pn**	**15 17 38.4**	**0.0**
RAC	**Raciborz**	**1.93**	**137**	*e*PG	**Pg**	**15 17 42.6**	**0.0**
RAC				*e*SG	**Sg**	**15 18 07.2**	**-0.4**
MORC	**Moravsky Berou**	**1.96**	**153**	⇓P	**Pn**	**15 17 39.5**	**-0.5**
MORC				⇑S	Sn	15 17 56.3	-8.9
MORC	**Moravsky Berou**	**1.96**	**153**	*e*Pn	**Pn**	**15 17 39.5**	**-0.5**
	baz=336						
MORC				*e*Sg	**Sn**	**15 18 05.4**	**+0.2**
	92nm,0.6s,baz=336						
CLL	**Collm**	**1.99**	**265**	*e*Pn	**Pn**	**15 17 41.0**	**+0.6**
CLL				*e*Pg	**Pg**	**15 17 44.0**	**+0.4**
CLL				*i* Sg	**Sg**	**15 18 11.9**	**+2.6**
	comp=Z,105nm,0.6s						
VRAC	**Vranov**	**2.23**	**173**	⇑P	**Pn**	**15 17 43.9**	**+0.1**
VRAC				⇓S	Sn	15 17 59.5	-12
VRAC	**Vranov**	**2.23**	**173**	Pn	**Pn**	**15 17 43.7**	**0.0**
	comp=Z,7.6nm,0.3s,baz=340,slow=14,SNR=21						
VRAC				Sn	**Sn**	**15 18 12.5**	**+0.5**
	comp=Z,15nm,0.3s,baz=103,slow=16,SNR=11						
VRAC	**Vranov**	**2.23**	**173**	*e*Pn	**Pn**	**15 17 43.9**	**+0.1**
	baz=355						
VRAC				*e*Sg	**Sb**	**15 18 14.8**	**-0.1**
	comp=Z,83nm,0.5s,baz=355						
TREC	**Trest**	**2.27**	**191**	*e*PG	**Pb**	**15 17 48.0**	**+0.7**
TREC				*e*SG	**Sb**	**15 18 17.2**	**+1.3**
	comp=Z,63nm,0.3s						
KRUC	**Moravsky**	**2.46**	**176**	*e*Pn	**Pn**	**15 17 47.2**	**+0.3**
	baz=359						
KRUC				*e*Sg	**Sb**	**15 18 22.4**	**+0.8**
	comp=Z,88nm,0.8s,baz=359						
OJC	**Ojcow**	**2.65**	**118**	Pn	**Pn**	**15 17 48.1**	**-1.4**
OJC				*e*Pg	**Pg**	**15 17 56.4**	**+0.1**
OJC				*e*Sg	**Sg**	**15 18 30.6**	**0.0**
NKC	**Novy Kostel**	**2.68**	**243**	*e*PN	**Pn**	**15 17 51.2**	**+1.3**
NKC				*e*PG	**Pg**	**15 17 57.8**	**+1.0**
NKC				*e*SG	**Sg**	**15 18 33.5**	**+2.0**
	comp=Z,146nm,0.7s						
NKC	**Novy Kostel**	**2.68**	**243**	Pn	**Pn**	**15 17 51.2**	**+1.3**
JAVC	**Velka Javorina**	**2.83**	**159**	*e*Pn	**Pn**	**15 17 52.0**	**-0.1**
	baz=342						
KHC	**Kasperske Hory**	**2.91**	**216**	*e*PN	**Pn**	**15 17 53.3**	**+0.2**
KHC				*e*PG	**Pg**	**15 17 59.9**	**-1.3**
KHC				*e*SG	**Sg**	**15 18 37.3**	**-1.5**
	comp=Z,79nm,0.8s						
KHC	**Kasperske Hory**	**2.91**	**216**	Pn	**Pn**	**15 17 53.3**	**+0.2**
CKRC	**Cesky Krumlov**	**2.95**	**204**	*e*PN	**Pn**	**15 17 54.9**	**+1.2**
CKRC				*e*PG	**Pg**	**15 18 00.7**	**-1.4**
CKRC				*e*SG	**Sg**	**15 18 39.1**	**-1.2**
	comp=Z,129nm,0.9s						
CKRC	**Cesky Krumlov**	**2.95**	**204**	Pn	**Pn**	**15 17 54.7**	**+1.0**
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**15 17 56.2**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=37,slow=14,SNR=70						
GERES				Sn	**Sn**	**15 18 32.5**	**-1.3**
	comp=Z,8.1nm,0.3s,baz=34,slow=26,SNR=5.1						
GERES				Lg	Lg	15 18 42.4	
	comp=Z,19nm,0.3s,baz=34,slow=28,SNR=9.5						
LANS	**Liptovska Anna**	**3.18**	**137**	*e*PN	**Pn**	**15 17 57.3**	**+0.5**
LANS				*e*PG	**Pg**	**15 18 07.2**	**+0.7**
LANS				*e*SG	**Sg**	**15 18 47.2**	**-0.5**
MODS	**Modra-Piesok**	**3.23**	**167**	*e*PN	**Pn**	**15 17 59.5**	**+2.0**
MODS				*e*PG	**Pg**	**15 18 06.8**	**-0.6**
MODS				*e*SG	**Sg**	**15 18 48.9**	**-0.4**
KOLL	**Kolacno**	**3.28**	**153**	*e*PN	**Pn**	**15 17 58.8**	**+0.7**
KOLL				*e*PG	**Pg**	**15 18 08.2**	**-0.2**
NIE	**Niedzica**	**3.38**	**127**	*e*Pn	**Pn**	**15 18 01.6**	**+2.0**
NIE				*e*Pg	**Pg**	**15 18 10.5**	**+0.2**
NIE				*e*Sg	**Sg**	**15 18 54.0**	**-0.1**
ZST	**Bratislava**	**3.38**	**169**	*e*PG	**Pg**	**15 18 09.5**	**-0.8**
ZST				*e*SG	**Sg**	**15 18 52.2**	**-1.9**
VYHS	**Vyhne**	**3.49**	**149**	*e*PN	**Pn**	**15 18 01.3**	**+0.3**
VYHS				*e*PG	**Pg**	**15 18 12.5**	**+0.2**
VYHS				*e*SG	**Sg**	**15 18 57.3**	**-0.2**
CONA	**Conrad Observa**	**3.60**	**183**	*i* Pn	**Pn**	**15 18 03.1**	**+0.5**
	comp=Z,3.4nm,0.3s,SNR=6.4						
CONA				*e*Sg	**Sg**	**15 19 00.3**	**-0.8**
	comp=Z,62nm,0.4s						
BSD	**Bornholm Skovb**	**3.68**	**349**	*e*P	**Pn**	**15 18 04.0**	**+0.4**
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**15 18 04.0**	**+0.4**
BSD				*e*S	**Sn**	**15 18 49.1**	**+1.5**
BSD				IAML		15 18 50.5	
	comp=Z,9.9nm,0.4s						
RONA	**Rosalia, Austr**	**3.83**	**179**	*i* Pn	**Pn**	**15 18 06.2**	**+0.5**
	comp=Z,1.9nm,0.2s						
SOP	**Sopron**	**3.85**	**176**	P	**Pn**	**15 18 08.6**	**+2.6**
STHS	**Stebnicka Huta**	**3.87**	**121**	*e*PN	**Pn**	**15 18 07.1**	**+0.8**
STHS				*e*PG	**Pg**	**15 18 20.9**	**+1.2**
MOA	**Molln**	**3.87**	**199**	*i* Pn	**Pn**	**15 18 07.0**	**+0.7**
	comp=Z,9.8nm,0.3s,SNR=22						
MOA				Sg	**Sg**	**15 19 09.7**	**-0.2**
	comp=Z,121nm,0.9s						
ARSA	**Arzberg**	**4.29**	**186**	*i* Pn	**Pn**	**15 18 13.3**	**+1.2**
	comp=Z,4.2nm,0.3s,SNR=4.5						
ARSA				*e*Sg	**Sg**	**15 19 23.7**	**+0.3**
	comp=Z,29nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.30**	**125**	*e*PN	**Pn**	**15 18 12.9**	**+0.8**
CRVS				*e*PG	**Pg**	**15 18 27.8**	**0.0**
CRVS				*e*SG	**Sg**	**15 19 25.7**	**+2.2**
PSZ	**Piszkesteto**	**4.34**	**145**	⇓P	**Pn**	**15 18 13.7**	**+0.9**
PSZ	**Piszkesteto**	**4.34**	**145**	Pn	**Pn**	**15 18 13.5**	**+0.7**
MPLH	**Magyarpolny**	**4.45**	**168**	P	**Pn**	**15 18 14.0**	**-0.2**
KOLS	**Kolonicke sedl**	**4.70**	**121**	*e*PN	**Pn**	**15 18 17.9**	**+0.2**
KOLS				*e*PG	**Pg**	**15 18 38.5**	**+2.9**
KOLS				*e*SG	**Sg**	**15 19 37.0**	**+0.5**
BLEU	**Blekinge**	**4.80**	**358**	*e*P	**Pn**	**15 18 20.6**	**+1.6**
BLEU				*e*S	**Sn**	**15 19 11.1**	**-4.1**
KBA	**Koelnbreinsper**	**4.81**	**204**	*i* Pn	**Pn**	**15 18 20.4**	**+1.0**
	comp=Z,5.6nm,0.3s,SNR=4.2						
KBA				*e*Sg	**Sg**	**15 19 39.7**	**-0.3**
	comp=Z,38nm,0.7s						
SOKA	**Soboth**	**4.90**	**189**	*i* Pn	**Pn**	**15 18 20.7**	**+0.2**
	comp=Z,0.5nm,0.2s,SNR=4.2						
SOKA				Sg	**Sg**	**15 19 40.6**	**-2.3**
	comp=Z,9.3nm,0.5s						
DEL	**Delary**	**5.14**	**346**	*e*P	**Pn**	**15 18 24.4**	**+0.7**
DEL	**Delary**	**5.14**	**346**	*i* P	**Pn**	**15 18 24.0**	**+0.3**
DEL				*e*S	**Sn**	**15 19 21.3**	**-2.3**
WATA	**Walderalm**	**5.14**	**217**	*i* Pn	**Pn**	**15 18 25.5**	**+1.6**
	comp=Z,9.9nm,0.5s,SNR=6.3						
WATA				*e*Sg	**Sg**	**15 19 48.5**	**-2.2**
	comp=Z,11nm,0.4s						
WTTA	**Wattenberg**	**5.18**	**216**	*i* Pn	**Pn**	**15 18 26.4**	**+2.0**
	comp=Z,8.3nm,0.5s,SNR=6.2						
WTTA				*e*Sg	**Sg**	**15 19 50.0**	**-1.9**
	comp=Z,15nm,0.5s						
MOTA	**Moosalm**	**5.32**	**220**	*e*Pn	**Pn**	**15 18 27.4**	**+1.0**
	comp=Z,2.4nm,0.3s,SNR=4.0						
MOTA				*e*Sg	**Sg**	**15 19 54.1**	**-2.3**
	comp=Z,20nm,0.6s						
ABTA	**Abfaltersbach**	**5.34**	**208**	*i* Pn	**Pn**	**15 18 28.4**	**+1.8**
	comp=Z,3.0nm,0.4s						
ABTA				*e*Sg	**Sg**	**15 19 54.1**	**-2.9**
	comp=Z,23nm,0.8s						
MORH	**Mrgy, Hungar**	**5.56**	**162**	⇑P	**Pn**	**15 18 28.7**	**-0.7**
KOVH	**Kovagotottos**	**5.58**	**166**	Pn	**Pn**	**15 18 30.6**	**+0.8**
CRES	**Cresnjev**	**5.72**	**185**	*i* Pn	**Pn**	**15 18 33.2**	**+1.6**
FETA	**Feichten**	**5.73**	**220**	Sg	**Sg**	**15 20 09.3**	**-0.3**
	comp=Z,9.1nm,0.6s						
VISS	**Visnje**	**5.79**	**189**	*i* Pn	**Pn**	**15 18 33.7**	**+1.1**
FABU	**Falkenberg**	**5.85**	**341**	*e*P	**Pn**	**15 18 34.2**	**+0.8**
FABU				*e*S	**Sn**	**15 19 39.7**	**-1.4**
GBRS	**Gornja Briga**	**6.06**	**189**	*i* Pn	**Pn**	**15 18 37.5**	**+1.2**
DAVOX	**Davos/Dischmat**	**6.28**	**223**	Pn	**Pn**	**15 18 40.5**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=356,slow=14,SNR=4.3						
DAVOX				Lg	Lg	15 20 24.2	
	comp=Z,0.6nm,0.3s,baz=198,slow=20,SNR=3.2						
BORU	**Boraas**	**6.44**	**344**	*e*P	**Pn**	**15 18 42.7**	**+1.3**
BZS	**Buzias**	**6.93**	**146**	⇑P	**Pn**	**15 18 49.3**	**+1.1**
VIKU	**Vikbolandet**	**7.00**	**2**	*e*P	**Pn**	**15 18 50.4**	**+1.1**
BURAR	**Bucovina Array**	**7.07**	**120**	⇑P	Pn	15 18 57.8	+7.5
BURAR	**Bucovina Array**	**7.07**	**120**	Pn	**Pn**	**15 18 50.5**	**+0.2**
NACGM	**Naroch**	**7.22**	**58**	*e*P	**Pn**	**15 18 51.1**	**-1.1**
	baz=251						
MDVR	**Moldovita**	**7.70**	**149**	⇑P	**Pn**	**15 18 59.5**	**+0.6**
MDVR				⇓S	Sn	15 20 00.3	-26
HERR	**Herculane**	**7.85**	**145**	⇓P	**Pn**	**15 19 01.4**	**+0.5**
AK22	**Malin Array Si**	**8.16**	**90**	Pn	**Pn**	**15 19 05.5**	**+0.4**
AK13	**Malin Array Si**	**8.18**	**91**	Pn	**Pn**	**15 19 05.7**	**+0.3**
AK23	**Malin Array Si**	**8.19**	**90**	Pn	**Pn**	**15 19 06.8**	**+1.2**
AK16	**Malin Array Si**	**8.20**	**91**	Pn	**Pn**	**15 19 06.8**	**+1.2**
AK16				pP	**Pn**	**15 19 07.8**	**+2.2**
AK14	**Malin Array Si**	**8.21**	**91**	Pn	**Pn**	**15 19 06.7**	**+0.9**
AK11	**Malin Array Si**	**8.24**	**91**	Pn	**Pn**	**15 19 06.7**	**+0.6**
AK03	**Malin Array Si**	**8.26**	**90**	Pn	**Pn**	**15 19 07.8**	**+1.3**
AK03				pP	**Pn**	**15 19 08.7**	**+2.2**
AK02	**Malin Array Si**	**8.26**	**91**	Pn	**Pn**	**15 19 06.8**	**+0.3**
AKASG	**Malin Array Be**	**8.27**	**91**	Pn	**Pn**	**15 19 05.5**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=281,slow=12,SNR=8.2						
AKASG				Sn	**Sn**	**15 20 32.6**	**-7.9**
	comp=Z,1.2nm,0.3s,baz=271,slow=25,SNR=4.2						
AKASG				Lg	Lg	15 21 31.7	
	baz=280,slow=27,SNR=4.0						
AKBB	**Malin Array Si**	**8.27**	**91**	Pn	**Pn**	**15 19 06.9**	**+0.3**
AK07	**Malin Array Si**	**8.28**	**92**	Pn	**Pn**	**15 19 07.7**	**+0.9**
AK09	**Malin Array Si**	**8.32**	**91**	Pn	**Pn**	**15 19 08.2**	**+0.9**
TESR	**Tescani**	**8.52**	**122**	⇓P	Pn	15 19 16.0	+5.9
HFS	**Hagfors**	**8.74**	**352**	Pn	**Pn**	**15 19 14.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=257,slow=13,SNR=1.3						
HFS				Sn	**Sn**	**15 20 49.2**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=228,slow=17,SNR=1.1						
MLR	**Muntele Rosu**	**8.86**	**129**	⇑P	**Pn**	**15 19 18.5**	**+3.6**
AAL	**Aland**	**8.94**	**12**	*e*P	**Pn**	**15 19 16.1**	**+0.3**
PLOR	**Plostina**	**8.96**	**125**	⇑P	Pn	15 19 21.6	+5.5
MEF	**Metsahovi**	**9.86**	**25**	*e*P	**Pn**	**15 19 28.8**	**+0.4**
NOA	**NORSAR Array B**	**9.93**	**346**	Pn	**Pn**	**15 19 27.8**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=158,slow=12,SNR=6.3						
NOA				Sn	**Sn**	**15 21 15.0**	**-6.3**
	comp=Z,0.0nm,0.3s,baz=219,slow=22,SNR=1.7						
RAF	**Rauma**	**10.02**	**16**	*e*P	**Pn**	**15 19 29.9**	**-0.6**
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**15 19 47.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=212,slow=11,SNR=14						
FINES				Sn	**Sn**	**15 21 49.6**	**-6.3**
	comp=Z,0.6nm,0.3s,baz=202,slow=21,SNR=5.4						
EKA	**Eskdalemuir Ar**	**12.13**	**296**	Pn	**Pn**	**15 19 57.4**	**-2.1**
	baz=103,slow=13,SNR=2.9						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P**	**15 21 21.9**	**-2.2**
	baz=192,slow=13,SNR=16						
ARU	**Arti**	**25.11**	**62**	P	**P**	**15 22 32.9**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=259,slow=10,SNR=3.9						
EIL	**Elat**	**25.93**	**140**	LR	LR	15 34 18.7	
	comp=Z,43nm,18.1s,baz=265,slow=40						
AKTO	**Aktyubinsk**	**26.12**	**76**	P	**P**	**15 22 42.7**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=256,slow=7.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**40.02**	**202**	P	**P**	**15 24 43.0**	**+1.0**
	comp=Z,1.1nm,1.0s,baz=8.6,slow=7.0,SNR=4.1						
SONM	**Songino Array**	**54.88**	**55**	P	**P**	**15 26 40.5**	**+2.9**
	comp=Z,0.5nm,0.7s,baz=303,slow=8.0,SNR=4.0						
YKA	**Yellowknife Ar**	**59.86**	**336**	P	**P**	**15 27 14.6**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=26,slow=7.1,SNR=7.1						
TSUM	**Tsumeb**	**70.43**	**179**	LR	LR	16 03 24.6	
	comp=Z,104nm,18.2s,baz=150,slow=40						
PDAR	**Pinedale Array**	**74.95**	**322**	P	**P**	**15 28 50.2**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=28,slow=4.1,SNR=3.1						

*ATH **08** 15:17:33.4,38°.64N×26°.00E, h30km, ML3.3/15, Error ellipse: s-maj=1.9km s-min=0.7km az=87.0*
*ISK **08** 15:17:33.5,38°.67N×25°.98E, h13km, ML3.7/19*
*IDC **08** 15:17:33.3±1.5,38°.60N×26°.04E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/49, mbtmp3.5/5, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/71, Error ellipse: s-maj=23.9km s-min=21.5km az=121.0*
*THE **08** 15:17:34.5,38°.67N×25°.93E, h7km±1km, ML3.3/10, Error ellipse: s-maj=1.7km s-min=0.6km az=83.0*
*DDA **08** 15:17:34.5±0.0,38°.65N×25°.95E, h21km±1km, MW3.7*

ISC 08 15:17:33.4±1.1, 38°.66N±0°.02×25°.99E±0°.02, h5km±9km, n140, σ0s84/170, mb3.6/3, 1C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.28**	**169**	P	**Pb**	**15 17 40.7**	**-0.3**
CHOS				S	**Sb**	**15 17 45.2**	**-0.8**
CHOS				AML	AML	15 17 45.7	
	comp=N,66734µm,0.6s						
CHOS				AML	AML	15 17 46.5	
CHOS	**Chios island**	**0.28**	**169**	P	**Pb**	**15 17 40.7**	**-0.3**
CHOS				S	**Sb**	**15 17 45.2**	**-0.8**
	comp=N,52µm,0.4s						
SIGR	**SIGRI**	**0.56**	**350**	P	**Pb**	**15 17 45.0**	**-0.7**
SIGR				AML	AML	15 17 56.3	
	comp=N,7786µm,0.4s						
SIGR				AML	AML	15 17 56.9	
	comp=E,17152µm,0.5s						
SIGR	**SIGRI**	**0.56**	**350**	P	**Pb**	**15 17 45.0**	**-0.7**
SIGR				S	**Sg**	**15 17 52.4**	**+1.0**
	comp=E,6µm,0.5s						
SIGR	**SIGRI**	**0.56**	**350**	PG	**Pb**	**15 17 45.0**	**-0.7**
SIGR				SG	**Sb**	**15 17 52.7**	**-1.2**
URLA	**Izmir**	**0.56**	**122**	PG	**Pb**	**15 17 45.2**	**-0.6**
URLA				SG	**Sb**	**15 17 53.1**	**-1.1**
URLA	**Izmir**	**0.56**	**122**	P	**Pb**	**15 17 45.5**	**-0.4**
URLA				S	**Sb**	**15 17 53.0**	**-1.2**
FOCM	**Foa**	**0.58**	**85**	PG	**Pb**	**15 17 45.3**	**-0.8**
ZEYE	**Izmir, Urla-Ze**	**0.59**	**136**	P	**Pb**	**15 17 45.7**

MANT	**Manisa**	**2.02**	**94**	P	**Pn**	**15 18 08.0**	**-0.4**
MANT				S	**Sg**	**15 18 38.1**	**-0.3**
CAVK	**Edirne/Enez-Ca**	**2.03**	**4**	P	**Pn**	**15 18 07.7**	**-0.6**
ERIK	**Erikli-Kesan**	**2.05**	**11**	PN	**Pn**	**15 18 08.3**	**-0.2**
ENEZ	**Enez**	**2.08**	**4**	PN	**Pn**	**15 18 08.6**	**-0.3**
KULA	**Kula-Manisa**	**2.10**	**93**	PN	**Pn**	**15 18 09.6**	**+0.3**
DURS	**Dursunbey**	**2.15**	**63**	P	**Pn**	**15 18 09.2**	**-0.7**
VILL	**Villia**	**2.16**	**258**	P	**Pn**	**15 18 09.8**	**-0.3**
DEMI	**Demirci**	**2.17**	**79**	P	**Pn**	**15 18 10.0**	**-0.2**
THAS	**Thassos island**	**2.17**	**334**	P	**Pn**	**15 18 09.5**	**-0.7**
THAS				AML	AML	15 18 49.7	
	comp=E,303µm,0.6s						
THAS				AML	AML	15 18 51.7	
	comp=N,315µm,0.9s						
THAS	**Thassos island**	**2.17**	**334**	P	**Pn**	**15 18 09.5**	**-0.7**
THAS				S	**Sn**	**15 18 37.0**	**-0.5**
	comp=N,152nm,0.8s						
VIL2	**Platees**	**2.18**	**259**	P	**Pn**	**15 18 09.8**	**-0.6**
VIL2				AML	AML	15 18 50.2	
	comp=E,718µm,0.7s						
VIL2				AML	AML	15 18 50.3	
	comp=N,380µm,0.7s						
PAIG	**Paliouri**	**2.19**	**306**	P	**Pn**	**15 18 10.5**	**+0.1**
PAIG	**Paliouri**	**2.19**	**306**	P	**Pn**	**15 18 10.5**	**+0.1**
EDC	**Edincik**	**2.22**	**40**	PN	**Pn**	**15 18 10.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.22**	**24**	PN	**Pn**	**15 18 10.5**	**-0.5**
SART	**Tekirdag**	**2.22**	**24**	P	**Pn**	**15 18 10.0**	**-1.0**
KESN	**Edirne-Kesan**	**2.23**	**14**	P	**Pn**	**15 18 10.4**	**-0.9**
ALN	**Alexandroupoli**	**2.23**	**1**	P	**Pn**	**15 18 10.4**	**-0.6**
ALN				AML	AML	15 18 51.0	
	comp=E,363µm,0.6s						
ALN				AML	AML	15 18 53.8	
	comp=N,377µm,0.7s						
ALN	**Alexandroupoli**	**2.23**	**1**	P	**Pn**	**15 18 10.4**	**-0.6**
ALN	**Alexandroupoli**	**2.23**	**1**	PN	**Pn**	**15 18 10.8**	**-0.2**
CMBO	**Columbo, Santo**	**2.24**	**192**	P	**Pn**	**15 18 10.7**	**-0.4**
CMBO	**Columbo, Santo**	**2.24**	**192**	P	**Pn**	**15 18 10.7**	**-0.4**
MAR6	**Marsite Statio**	**2.27**	**25**	PN	**Pn**	**15 18 11.7**	**+0.2**
OUR	**Ouranopolis**	**2.28**	**318**	P	**Pn**	**15 18 11.4**	**-0.3**
OUR	**Ouranopolis**	**2.28**	**318**	P	**Pn**	**15 18 11.4**	**-0.3**
THR8	**Santorini-Mono**	**2.29**	**190**	P	**Pn**	**15 18 10.9**	**-0.9**
THR8	**Santorini-Mono**	**2.29**	**190**	P	**Pn**	**15 18 10.9**	**-0.9**
XOR	**Xorichti**	**2.29**	**289**	P	**Pn**	**15 18 11.9**	**+0.1**
XOR	**Xorichti**	**2.29**	**289**	P	**Pn**	**15 18 11.9**	**+0.1**
THR3	**Thira Island,**	**2.30**	**192**	P	**Pn**	**15 18 11.4**	**-0.5**
THR3	**Thira Island,**	**2.30**	**192**	P	**Pn**	**15 18 11.4**	**-0.5**
THR5	**Thira Island,**	**2.30**	**193**	P	**Pn**	**15 18 11.2**	**-0.7**
THR5	**Thira Island,**	**2.30**	**193**	P	**Pn**	**15 18 11.2**	**-0.7**
MRMT	**Marmara Adasi**	**2.30**	**32**	PN	**Pn**	**15 18 12.1**	**0.0**
DAT	**Datca**	**2.31**	**146**	PN	**Pn**	**15 18 11.9**	**-0.3**
DAT	**Datca**	**2.31**	**146**	P	**Pn**	**15 18 11.3**	**-0.9**
MULA	**Mugla, Merkez-**	**2.32**	**127**	P	**Pn**	**15 18 11.8**	**-0.5**
ATAL	**Atalanti**	**2.32**	**272**	P	**Pn**	**15 18 12.7**	**+0.5**
ATAL	**Atalanti**	**2.32**	**272**	P	**Pn**	**15 18 12.7**	**+0.5**
GZKV	**Gazikoy-Tekird**	**2.33**	**26**	PN	**Pn**	**15 18 12.4**	**+0.1**
MHLO	**Agia Marina, M**	**2.34**	**213**	P	**Pn**	**15 18 11.4**	**-1.0**
MHLO				AML	AML	15 18 56.0	
	comp=N,3268µm,0.7s						
MHLO				AML	AML	15 18 58.0	
	comp=E,2606µm,0.7s						
MHLO	**Agia Marina, M**	**2.34**	**213**	P	**Pn**	**15 18 11.4**	**-1.0**
YER	**Yerkesik**	**2.37**	**129**	PN	**Pn**	**15 18 13.3**	**+0.3**
USAK	**Uak-Merkez**	**2.37**	**88**	P	**Pn**	**15 18 09.7**	**-3.3**
SIMA	**Simav-Kutahya**	**2.38**	**79**	PN	**Pn**	**15 18 13.3**	**+0.2**
RDO	**Rodhopi**	**2.50**	**352**	P	**Pn**	**15 18 14.4**	**-0.3**
RDO				AML	AML	15 19 06.2	
	comp=E,237µm,0.7s						
RDO				AML	AML	15 19 08.3	
	comp=N,246µm,0.8s						
RDO	**Rodhopi**	**2.50**	**352**	P	**Pn**	**15 18 14.4**	**-0.3**
KAVA	**Kavala**	**2.59**	**335**	P	**Pn**	**15 18 15.7**	**-0.2**
KAVA	**Kavala**	**2.59**	**335**	P	**Pn**	**15 18 15.8**	**-0.2**
TURN	**Turunc**	**2.60**	**136**	PN	**Pn**	**15 18 15.7**	**-0.4**
TURN	**Turunc**	**2.60**	**136**	P	**Pn**	**15 18 16.7**	**+0.7**
TAVA	**DENIZLI_Tavas**	**2.60**	**116**	P	**Pn**	**15 18 15.8**	**-0.4**
GDZ	**Gediz**	**2.76**	**80**	P	**Pn**	**15 18 18.8**	**+0.3**
PASA	**Karahalli, USA**	**2.77**	**95**	P	**Pn**	**15 18 18.9**	**+0.5**
DALY	**Dalyan (Mula)**	**2.80**	**130**	PN	**Pn**	**15 18 19.7**	**+0.8**
ULDT	**Uludag**	**2.85**	**58**	P	**Pb**	**15 18 25.7**	**+0.8**
AGG	**Agios Georgios**	**2.88**	**278**	P	**Pn**	**15 18 19.1**	**-0.9**
AGG	**Agios Georgios**	**2.88**	**278**	P	**Pn**	**15 18 19.1**	**-0.9**
AVDN	**Avdancik/Bursa**	**2.95**	**55**	P	**Pg**	**15 18 28.5**	**-1.5**
HORT	**Hortiatis**	**2.95**	**312**	P	**Pn**	**15 18 21.8**	**+0.8**
IGD	**Bursa**	**2.96**	**56**	P	**Pb**	**15 18 27.8**	**+1.2**
CAEL	**Denizli, Camel**	**3.05**	**119**	P	Pg	15 18 36.7	+4.8
GOLH	**Golhisar**	**3.16**	**116**	P	**Pn**	**15 18 25.1**	**+1.1**
KARP	**Karpathos**	**3.25**	**163**	P	**Pn**	**15 18 24.9**	**-0.1**
KARP	**Karpathos**	**3.25**	**163**	P	**Pn**	**15 18 24.9**	**-0.1**
KZIL	**AFYON_Kizioren**	**3.29**	**96**	P	**Pn**	**15 18 26.1**	**+0.4**
KTHA	**Kythira Island**	**3.34**	**225**	P	**Pn**	**15 18 25.6**	**-0.7**
KTHA	**Kythira Island**	**3.34**	**225**	P	**Pn**	**15 18 25.6**	**-0.7**
KNT	**Kendrikon**	**3.44**	**317**	P	**Pn**	**15 18 28.8**	**+1.1**
IDI	**Anoyia**	**3.48**	**195**	P	**Pn**	**15 18 27.6**	**-0.7**
IDI	**Anoyia**	**3.48**	**195**	P	**Pn**	**15 18 27.6**	**-0.7**
STIP	**Stip**	**4.20**	**317**	*i* Pn	**Pn**	**15 18 38.2**	**+0.1**
BRTR	**Keskin Array B**	**6.04**	**77**	Pn	**Pn**	**15 19 04.3**	**+0.8**
	comp=N,0.6nm,0.3s,baz=256,slow=13,SNR=14						
BRTR				Sn	**Sn**	**15 20 08.6**	**-4.5**
	comp=N,0.1nm,0.3s,baz=262,slow=24,SNR=1.6						
BRTR				Lg	Lg	15 20 45.4	
	baz=256,slow=28,SNR=1.3						
VOIR		**6.81**	**354**	⇑P	**Pn**	**15 19 12.9**	**-1.0**
MLR	**Muntele Rosu**	**6.82**	**360**	Pn	**Pn**	**15 19 15.6**	**+1.4**
	comp=N,1.0nm,0.3s,baz=194,slow=4.2,SNR=5.3						
MLR				Lg	Lg	15 21 12.4	
	comp=N,0.3nm,0.3s,baz=273,slow=16,SNR=2.2						
COVR	**Voineasa-Covas**	**7.18**	**1**	⇓P	**Pn**	**15 19 17.7**	**-1.4**
MMAI	**Mount Meron Ar**	**9.49**	**124**	Sn	**Sn**	**15 21 34.9**	**-3.0**
	comp=N,0.7nm,0.3s,baz=286,slow=23,SNR=2.1						
OBN	**Obninsk**	**17.94**	**20**	LR	LR	15 28 53.1	
	comp=N,26nm,18.4s,baz=253,slow=38						
TORD	**Torodi Ar. Bea**	**33.31**	**227**	P	**P**	**15 24 13.1**	**+0.9**
	comp=N,0.4nm,0.5s,baz=31,slow=8.9,SNR=3.2						
MKAR	**Makanchi Array**	**41.37**	**60**	P	**P**	**15 25 22.8**	**+2.5**
	comp=N,0.2nm,0.6s,baz=268,slow=7.7,SNR=2.7						
LBTB	**Lobatse**	**63.34**	**180**	LR	LR	15 59 02.4	
	comp=N,80nm,21.6s,baz=86,slow=39						
CMAR	**Chiang Mai Arr**	**65.57**	**85**	P	**P**	**15 28 18.2**	**-0.2**
	comp=N,0.5nm,0.4s,baz=303,slow=7.7,SNR=5.3						

*DDA **08** 15:22:33.8±0.0,38.67N×25.97E,h7km±3km,ML2.0*
*ATH **08** 15:22:33.8,38.67N×26.04E,h27km±2km,ML2.6/5,Error ellipse: s-maj=2.8km s-min=1.4km az=268.0*
*ISK **08** 15:22:33.6,38.66N×26.04E,h5km,ML2.8/4*
*THE **08** 15:22:34.8,38.69N×26.00E,h8km±1km,ML2.4/5,Error ellipse: s-maj=1.8km s-min=0.6km az=84.0*

ISC 08 15:22:34.3±1.1,38.68N±0.02×26.02E±0.03,h16km±9km, n30,σ0952/49,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.29**	**175**	P	**Pb**	**15 22 41.1**	**-0.2**
CHOS				S	**Sb**	**15 22 45.2**	**-0.8**
CHOS				AML	AML	15 22 46.8	
	comp=E,5042µm,0.2s						
CHOS				AML	AML	15 22 46.8	
	comp=N,2574µm,0.2s						
CHOS	**Chios island**	**0.29**	**175**	P	**Pb**	**15 22 41.1**	**-0.2**
CHOS				S	**Sb**	**15 22 45.2**	**-0.8**
	comp=N,2µm,0.2s						
PSRA	**Psara**	**0.38**	**249**	P	**Pb**	**15 22 43.6**	**+0.9**
PSRA				S	**Sb**	**15 22 48.6**	**+0.2**
PSRA				AML	AML	15 22 49.1	
	comp=N,2929µm,0.3s						
PSRA				AML	AML	15 22 49.3	
	comp=E,4098µm,0.1s						
SIGR	**SIGRI**	**0.55**	**346**	P	**Pb**	**15 22 45.4**	**-0.1**
SIGR				S	**Sg**	**15 22 52.7**	**+0.3**
SIGR				AML	AML	15 22 56.9	
	comp=N,703µm,0.2s						
SIGR				AML	AML	15 22 57.2	
	comp=E,825µm,0.3s						
SIGR	**SIGRI**	**0.55**	**346**	P	**Pb**	**15 22 45.4**	**-0.1**
SIGR				S	**Sg**	**15 22 52.7**	**+0.3**
	comp=E,382nm,0.2s						
SIGR	**SIGRI**	**0.55**	**346**	PG	**Pb**	**15 22 45.4**	**-0.1**
SIGR				SG	**Sn**	**15 22 55.3**	**-0.9**
URLA	**Izmir**	**0.55**	**125**	PG	**Pg**	**15 22 45.1**	**-0.1**
URLA				SG	**Sb**	**15 22 53.6**	**+0.3**
URLA	**Izmir**	**0.55**	**125**	P	**Pb**	**15 22 45.3**	**-0.3**
URLA				*i* AML	AML	15 22 56.0	
	comp=E,87nm,0.8s						
ZEYE	**Izmir, Urla-Ze**	**0.58**	**139**	P	**Pb**	**15 22 46.1**	**+0.1**
ZEYE				S	**Sb**	**15 22 54.0**	**-0.1**
ZEYE				*i* AML	AML	15 22 58.0	
	comp=E,86nm,0.2s						
ZEYE				*i* AML	AML	15 23 01.0	
	comp=E,92nm,0.3s						
PRK	**Paraskevi**	**0.60**	**19**	P	**Pb**	**15 22 46.9**	**+0.6**
PRK				S	**Sb**	**15 22 54.7**	**+0.1**
PRK				AML	AML	15 22 59.3	
	comp=E,1016µm,0.4s						
PRK				AML	AML	15 22 59.9	
	comp=N,843µm,0.4s						
PRK	**Paraskevi**	**0.60**	**19**	P	**Pb**	**15 22 46.9**	**+0.6**
PRK				S	**Sb**	**15 22 54.7**	**+0.1**
	comp=N,465nm,0.4s						
GPNR	**Gulpinar-Canak**	**0.78**	**6**	PG	**Pb**	**15 22 50.1**	**+0.6**
DKL	**Dikili**	**0.79**	**60**	PG	**Pb**	**15 22 49.9**	**+0.2**
DKL				SG	**Sn**	**15 23 02.1**	**-0.2**
AYVA	**Ayvalik**	**0.81**	**40**	P	**Pg**	**15 22 49.8**	**-0.3**
AYVA				*i* AML	AML	15 23 05.0	
	comp=N,52nm,0.9s						
KOCA	**Canakkale, Ayv**	**0.82**	**6**	P	**Pg**	**15 22 49.6**	**-0.7**
KOCA				S	**Sn**	**15 23 02.5**	**-0.7**
KOCA				*i* AML	AML	15 23 05.0	
	comp=N,106nm,0.4s						
KOCA				*i* AML	AML	15 23 05.0	
	comp=N,77nm,0.7s						
ZEDA	**zmir-Bergama**	**0.87**	**71**	P	**Pn**	**15 22 51.7**	**-0.2**
ZEDA				S	**Sn**	**15 23 04.4**	**+0.1**
ZEDA				*i* AML	AML	15 23 05.0	
	comp=N,47nm,0.7s						
DGB	**zmir**	**0.92**	**133**	P	**Pg**	**15 22 52.1**	**0.0**
DGB				S	**Sn**	**15 23 04.8**	**-0.7**
DGB				*i* AML	AML	15 23 06.0	
	comp=N,57nm,0.3s						
DGB				*i* AML	AML	15 23 06.0	
	comp=N,43nm,0.6s						
BAYC	**CANAKKALE_Bayr**	**1.14**	**21**	P	**Pn**	**15 22 55.6**	**+0.1**
BAYC				S	**Sb**	**15 23 09.5**	**-0.6**
BUHA	**Balikesir, Bur**	**1.16**	**45**	P	**Pg**	**15 22 56.2**	**-0.4**
BUHA				S	**Sn**	**15 23 12.0**	**+0.5**
SMG	**Samos**	**1.17**	**146**	P	**Pn**	**15 22 56.1**	**+0.1**
SMG				AML	AML	15 23 15.1	
	comp=E,527µm,0.5s						
SMG				AML	AML	15 23 15.4	
	comp=N,359µm,0.7s						
SMG	**Samos**	**1.17**	**146**	P	**Pn**	**15 22 56.1**	**+0.1**
SMG				S	**Sn**	**15 23 13.6**	**+2.1**
	comp=N,222nm,0.6s						
EZN	**Ezine**	**1.17**	**12**	P	**Pg**	**15 22 56.5**	**-0.3**
LIA	**Limnos Island**	**1.38**	**332**	P	**Pn**	**15 22 58.5**	**-0.3**
LIA	**Limnos Island**	**1.38**	**332**	P	**Pn**	**15 22 58.5**	**-0.3**
LIA				S	**Sn**	**15 23 17.0**	**+0.2**
	comp=N,48nm,0.5s						
KARY	**Karystos**	**1.40**	**243**	P	**Pn**	**15 22 59.1**	**-0.1**
KARY	**Karystos**	**1.40**	**243**	P	**Pn**	**15 22 59.1**	**-0.1**
KARY				S	**Sg**	**15 23 19.8**	**+0.3**
APE	**Apeiranthos**	**1.66**	**194**	P	**Pn**	**15 23 02.5**	**-0.2**
APE	**Apeiranthos**	**1.66**	**194**	P	**Pn**	**15 23 02.5**	**-0.2**
ALN	**Alexandroupoli**	**2.21**	**0**	P	**Pn**	**15 23 10.9**	**+0.6**
ALN	**Alexandroupoli**	**2.21**	**0**	P	**Pn**	**15 23 10.9**	**+0.6**

*NEIC **08** 15:23:23.1±2.0,3.04S±0.10×67.6E±0.1,h10km±1km, mb4.4/9,Error ellipse: s-maj=19.7km s-min=15.8km az=246.0*
*IDC **08** 15:23:24.5±3.3,3.04S×67.50E,h0km,mb3.8/6,mb1 4.0/6, mb1mx3.5/55,mbtmp3.8/6,Error ellipse: s-maj=90.0km s-min=29.4km az=69.0*

ISC 08 15:23:23.4±0.8,3.03S±0.1×67.5E±0.1,h10km,n23, σ2933/20,mb4.2/10,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAAM	**Kaadhehdhoo**	**6.50**	**58**	Pn	**Pn**	**15 24 55.1**	**-3.9**
DGAR	**Diego Garcia**	**6.58**	**132**	Pn	**Pn**	**15 24 58.0**	**-2.2**
H08S3	**Diego Garcia H**	**6.74**	**133**	T	T	15 31 55.0	
	baz=312,slow=75,SNR=4.6						
H08S1	**Diego Carcia H**	**6.75**	**133**	T	T	15 31 50.0	
	baz=312,slow=75,SNR=6.8						
H08S2	**Diego Garcia H**	**6.76**	**133**	T	T	15 31 51.2	
	baz=312,slow=75,SNR=4.3						
HMDM	**Hanimaadhoo**	**11.25**	**30**	Pn	**Pn**	**15 26 03.6**	**-0.8**
SOCY	**Socotra**	**20.22**	**319**	P	**P**	**15 27 59.5**	**+0.7**
ATD	**Arta Tunnel**	**28.47**	**301**	P	**P**	**15 29 16.1**	**-2.9**
KULM	**Kulim**	**34.11**	**76**	P	**P**	**15 30 07.0**	**-1.7**
KULM				IAmb	IAmb	15 30 18.6	
	comp=Z,7.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.59**	**54**	P	**P**	**15 30 41.2**	**+2.7**
	comp=Z,1.7nm,0.7s,baz=246,slow=11,SNR=15						
CMAR	**Chiang Mai Arr**	**37.59**	**54**	P	**P**	**15 30 36.9**	**-1.6**
CHTO	**Chiang Mai**	**37.78**	**54**	P	**P**	**15 30 38.6**	**-1.5**
CHTO				IAmb	IAmb	15 30 43.6	
	comp=Z,5.4nm,0.8s						
GAR	**Garm**	**41.89**	**3**	P	**P**	**15 31 13.0**	**-1.1**
GAR				IAmb	IAmb	15 31 20.1	
	comp=Z,9.1nm,1.1s						
MKAR	**Makanchi Array**	**51.29**	**13**	P	**P**	**15 32 30.1**	**+2.6**
	comp=Z,0.3nm,0.5s,baz=194,slow=7.7,SNR=5.9						
TSUM	**Tsumeb**	**51.35**	**248**	P	**P**	**15 32 27.3**	**-1.4**
TSUM				IAmb	IAmb	15 32 38.5	
	comp=Z,2.7nm,0.8s						
ABKAR	**Akbulak array**	**52.48**	**354**	P	**P**	**15 32 37.9**	**+1.5**
ZALV	**Zalesovo Beam**	**58.58**	**12**	P	**P**	**15 33 22.9**	**+2.8**
	comp=Z,1.3nm,0.8s,baz=204,slow=6.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**58.58**	**12**	P	**P**	**15 33 20.0**	**-0.1**
SONM	**Songino Array**	**60.98**	**29**	P	**P**	**15 33 40.5**	**+3.4**
	comp=Z,1.3nm,0.7s,baz=221,slow=7.1,SNR=6.7						
SONM	**Songino Array**	**60.98**	**29**	P	**P**	**15 33 37.6**	**+0.5**
SONM				IAmb	IAmb	15 33 41.9	
	comp=Z,4.4nm,1.4s						
KNRA	**Kununurra**	**61.53**	**106**	P	**P**	**15 33 41.3**	**+0.2**
ASAR	**Alice Springs**	**67.19**	**114**	P	**P**	**15 34 21.0**	**+2.7**
	comp=Z,0.6nm,0.8s,baz=275,slow=6.0,SNR=6.0						
WRA	**Warramunga Arr**	**67.20**	**110**	P	**P**	**15 34 21.4**	**+3.0**
	comp=Z,1.1nm,1.0s,baz=282,slow=6.5,SNR=6.1						

TAP 08 15:27:32.0,24.04N×122.29E,h21km,ML2.4,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.57**	**299**	*e*P	Pb	15 27 43.8	+0.3
	baz=298						
EWUT	**Wuta**	**0.62**	**311**	P	Pb	15 27 44.4	+0.1
	baz=311						
EWUT				S	Sb	15 27 53.2	+0.6
	baz=311						
ENA	**Nanau**	**0.63**	**308**	*e*P	Pb	15 27 45.1	+0.6
	baz=308						
ENA				*e*S	Sb	15 27 54.0	+1.0
	baz=308						
TWD	**Chiawan**	**0.63**	**274**	*e*P	Pn	15 27 45.2	-0.6
	baz=274						
TWD				*e*S	Sn	15 27 54.6	-0.6
	baz=274						
NACB	**Ninganchiao**	**0.65**	**282**	P	Pb	15 27 45.3	+0.6
	baz=282						
NACB				S	Sn	15 27 55.0	-0.6
	baz=282						
TEYL	**Yanliau Villag**	**0.65**	**255**	*e*P	Pb	15 27 44.6	-0.2
	baz=258						
TEYL				*e*S	Sn	15 27 55.4	-0.2
	baz=258						
TWC	**Suao**	**0.70**	**325**	*e*P	Pb	15 27 45.1	-0.4
	baz=325						
TWC				*e*S	Sb	15 27 54.0	-0.8
	baz=325						
ETM	**Tongmen**	**0.73**	**265**	*e*P	Pb	15 27 46.2	+0.1
	baz=264						
ETM				*e*S	Sb	15 27 56.6	+0.9
	baz=264						
ETLH	**Xiulin Townshi**	**0.76**	**283**	*e*P	Pn	15 27 47.2	-0.4
	baz=283						
ETLH				S	Sn	15 27 58.2	-0.2
	baz=283						
NDS	**Dongshan**	**0.79**	**319**	P	Pb	15 27 47.3	+0.2
	baz=318						
NDS				*e*S	Sn	15 27 58.8	-0.4
	baz=318						
ESL	**Shilin**	**0.81**	**254**	*e*P	Pb	15 27 47.3	-0.2
	baz=254						
ESL				*e*S	Sn	15 27 59.0	-0.6
	baz=254						
LATG	**Datong**	**0.85**	**306**	P	Pn	15 27 48.7	-0.2
	baz=305						
LATG				*e*S	Sb	15 27 59.7	+0.4
	baz=305						
TWE	**Neicheng**	**0.89**	**320**	*e*P	Pb	15 27 48.4	-0.4
	baz=320						
TWE				*e*S	Sn	15 28 01.3	-0.2
	baz=320						
ENTT	**Nioudou**	**0.89**	**313**	*e*P	Pn	15 27 49.6	+0.3
	baz=312						
ENTT				*e*S	Sn	15 28 01.9	+0.2
	baz=312						
NDT	**Datong Townshi**	**0.91**	**309**	*e*P	Pn	15 27 50.1	+0.5
	baz=308						
NDT				*e*S	Sb	15 28 00.5	-0.2
	baz=308						
NNSB	**Datong**	**0.91**	**296**	*e*P	Pn	15 27 49.9	+0.1
	baz=295						
NNSB				*e*S	Sn	15 28 02.5	+0.1
	baz=295						
NTC	**Toucheng**	**0.92**	**333**	*e*P	Pn	15 27 50.3	+0.6
	baz=332						
NTC				*e*S	Sb	15 28 01.0	0.0
	baz=332						
NNS	**Nan Shan**	**0.93**	**296**	*e*P	Pn	15 27 50.9	+0.9
	baz=295						
NNS				S	Sn	15 28 02.8	+0.1
	baz=295						
WHF	**Hehuan Shan**	**0.94**	**277**	*e*P	Pn	15 27 50.3	-0.2
	baz=276						
WHF				*e*S	Sn	15 28 03.2	-0.3
	baz=276						
HGSD	**Ruisui**	**0.96**	**236**	*e*P	Pn	15 27 50.2	0.0
	baz=235						
HGSD				*e*S	Sb	15 28 02.5	+0.4
	baz=235						
FUSB	**Fushanzhiwuyua**	**0.96**	**319**	*e*P	Pn	15 27 51.0	+0.6
	baz=318						
FUSB				*e*S	Sn	15 28 04.3	+0.8
	baz=318						
FUSS	**Fushou**	**0.98**	**283**	*e*P	Pb	15 27 49.9	-0.5
	baz=282						
TWB1	**Santiao Chiao**	**1.01**	**344**	*e*P	Pb	15 27 49.9	-0.9
	baz=344						
CHGB	**Renai**	**1.02**	**272**	P	Pn	15 27 51.3	0.0
	baz=271						
CHGB				*e*S	Sn	15 28 05.8	+0.7
	baz=271						
OWD	**Renai**	**1.02**	**266**	*e*P	Pb	15 27 51.2	+0.1
	baz=265						
OWD				*e*S	Sb	15 28 04.0	-0.1
	baz=265						
TIPB	**Shuangxi**	**1.02**	**336**	*e*P	Pn	15 27 51.6	+0.4
	baz=335						
TIPB				*e*S	Sb	15 28 04.3	+0.2
	baz=335						
NWLT	**Wulai**	**1.03**	**316**	*e*P	Pn	15 27 52.3	+1.0
	baz=315						
NWLT				*e*S	Sn	15 28 05.0	-0.1
	baz=315						
YHNB	**Yeheng**	**1.04**	**307**	*e*P	Pn	15 27 52.1	+0.6
	baz=307						
YHNB				*e*S	Sn	15 28 06.1	+0.6
	baz=307						
ECBN	**Changbin**	**1.05**	**227**	*e*P	Pb	15 27 52.0	+0.5
	baz=227						
ECBN				*e*S	Sb	15 28 04.0	-0.8
	baz=227						
NSK	**Sanguang**	**1.06**	**307**	*e*P	Pb	15 27 53.1	+1.3
	baz=307						
NSK				*e*S	Sn	15 28 06.4	+0.5
	baz=307						
WUSB	**Renai**	**1.07**	**268**	P	Pb	15 27 52.1	+0.1
	baz=267						
WUSB				*e*S	Sn	15 28 06.8	+0.5
	baz=267						
VWDT	**VWDT**	**1.09**	**255**	*e*P	Pb	15 27 52.4	+0.3
	baz=255						
VWDT				*e*S	Sn	15 28 07.2	+0.8
	baz=255						
YULB	**Yu-li**	**1.11**	**235**	*e*P	Pn	15 27 52.4	0.0
	baz=234						
YULB				*e*S	Sb	15 28 05.9	-0.7
	baz=234						
SXI1	**Grass Mountain**	**1.12**	**340**	*e*P	Pb	15 27 52.7	-0.1
	baz=340						
SXI1				*e*S	Sn	15 28 07.7	+0.3
	baz=340						
EYUL	**Yuli**	**1.12**	**233**	*e*P	Pb	15 27 52.8	+0.1
	baz=232						
EYUL				*e*S	Sn	15 28 07.9	+0.6
	baz=232						
NWF	**Wu-fen Shan**	**1.13**	**336**	*e*P	Pb	15 27 53.2	+0.2
	baz=335						
NWF				*e*S	Sn	15 28 07.5	-0.1
	baz=335						
WFSB	**Wu-fen Shan**	**1.13**	**336**	P	Pb	15 27 53.2	+0.3
	baz=335						
WFSB				*e*S	Sb	15 28 05.8	-1.3
	baz=335						
TWF1	**Yuli**	**1.14**	**233**	*e*P	Pn	15 27 52.6	-0.1
	baz=232						
TWF1				*e*S	Sb	15 28 07.2	-0.1
	baz=232						
TWA	**Mucha**	**1.14**	**326**	*e*S	Sn	15 28 09.4	+1.7
	baz=325						
NFF	**Wufeng Townshi**	**1.22**	**299**	*e*P	Pb	15 27 55.6	+1.1
	baz=299						
NFF				*e*S	Sn	15 28 11.8	+1.9
	baz=299						
YM01	**YM01**	**1.28**	**330**	*e*P	Pb	15 27 56.4	+0.8

	4.0nm,0.3s						
PDGK				Lg	Lg	15 37 55.6	
	6.0nm,0.4s						
PDGK	**Podgornoye**	**3.44**	**264**	⇓Pn	**Pn**	**15 37 14.6**	**+2.3**
	5.0nm,0.4s						
PDGK				⇑Lg	Lg	15 38 02.7	
	14nm,0.6s						
SHLS	**Shalkode**	**3.49**	**262**	*eP*	**Pn**	**15 37 12.4**	**-0.5**
	12nm,0.1s						
SHLS				*eS*	**Sn**	**15 37 50.8**	**-3.0**
	55nm,0.4s						
SHLS	**Shalkode**	**3.49**	**262**	Pg	**Pn**	**15 37 12.4**	**-0.5**
	12nm,0.1s						
SHLS				Lg	Lg	15 37 50.8	
	55nm,0.4s						
ZSN	**Zaisan**	**3.72**	**7**	*eP*	**Pb**	**15 37 25.8**	**+1.0**
	5.3nm,0.2s						
ZSN				*eS*	**Sb**	**15 38 12.8**	**+3.5**
	15nm,0.3s						
KAPS	**Kapalarasan**	**3.77**	**295**	*eP*	**Pb**	**15 37 25.9**	**+0.3**
	3.7nm,0.1s						
KAPS				*eS*	**Sb**	**15 38 13.1**	**+2.2**
	34nm,0.3s						
KAPS	**Kapalarasan**	**3.77**	**295**	Pg	**Pb**	**15 37 25.2**	**-0.4**
	12nm,0.4s						
KAPS				Lg	Lg	15 38 12.9	
	34nm,0.3s						
UZB	**Uzynbulak**	**3.80**	**262**	*eP*	**Pb**	**15 37 23.8**	**-2.5**
	4.5nm,0.1s						
UZB				*eS*	**Sb**	**15 38 09.8**	**-2.2**
	8.4nm,0.2s						
UZB	**Uzynbulak**	**3.80**	**262**	Pg	**Pb**	**15 37 23.8**	**-2.5**
	3.6nm,0.1s						
UZB				Lg	Lg	15 38 10.9	
	14nm,0.2s						
KPKS	**Kokpek**	**4.00**	**268**	*eP*	**Pb**	**15 37 27.6**	**-2.0**
	4.6nm,0.1s						
KPKS				*eS*	**Sb**	**15 38 16.1**	**-1.5**
	26nm,0.1s						
BLB	**Baldybastay**	**4.13**	**277**	*eP*	**Pb**	**15 37 30.8**	**-1.0**
	9.4nm,0.1s						
BLB				*eS*	**Sb**	**15 38 21.6**	**+0.2**
	37nm,0.3s						
BLB	**Baldybastay**	**4.13**	**277**	Pg	**Pb**	**15 37 29.5**	**-2.4**
	9.4nm,0.1s						
BLB				Lg	Lg	15 38 19.5	
	37nm,0.3s						
SATY	**Saty**	**4.26**	**262**	*eP*	**Pb**	**15 37 32.9**	**-1.2**
	3.0nm,0.1s						
SATY				*eS*	**Sb**	**15 38 25.5**	**+0.3**
	12nm,0.2s						
SATY	**Saty**	**4.26**	**262**	Pg	**Pb**	**15 37 32.9**	**-1.2**
	5.7nm,0.3s						
SATY				Lg	Lg	15 38 27.1	
	18nm,0.2s						
TDK	**Taldyqorghan**	**4.32**	**289**	*eP*	**Pb**	**15 37 36.2**	**+1.3**
	8.8nm,0.1s						
TDK				*eS*	**Sb**	**15 38 30.4**	**+3.8**
	43nm,0.0s						
TDK	**Taldyqorghan**	**4.32**	**289**	Pg	**Pb**	**15 37 36.2**	**+1.3**
	13nm,0.3s						
TDK				Lg	Lg	15 38 30.4	
	45nm,0.3s						
KURS	**Kuram**	**4.37**	**268**	*eP*	**Pb**	**15 37 34.6**	**-1.2**
	2.9nm,0.1s						
KURS				*eS*	**Sb**	**15 38 28.1**	**-0.1**
	4.4nm,0.1s						
KURS	**Kuram**	**4.37**	**268**	Pg	**Pb**	**15 37 37.3**	**+1.4**
	3.3nm,0.2s						
KURS				Lg	Lg	15 38 32.9	
	8.9nm,0.6s						
ARXS	**Arharly**	**4.60**	**278**	*eP*	**Pb**	**15 37 39.2**	**-0.7**
	4.9nm,0.2s						
ARXS				*eS*	**Sb**	**15 38 36.1**	**+1.2**
	20nm,0.1s						
ARXS	**Arharly**	**4.60**	**278**	Pg	**Pb**	**15 37 40.0**	**+0.1**
	4.9nm,0.2s						
ARXS				Lg	Lg	15 38 37.7	
	27nm,0.4s						
KOTS	**Kotyrbulak**	**5.17**	**267**	*eP*	**Pb**	**15 37 49.8**	**+0.2**
	1.9nm,0.1s						
KOTS				*eS*	**Sb**	**15 38 53.8**	**+2.6**
	15nm,0.4s						
KOTS	**Kotyrbulak**	**5.17**	**267**	Pg	**Pb**	**15 37 50.8**	**+1.3**
	3.4nm,0.5s						
KOTS				Lg	Lg	15 38 55.6	
	15nm,0.4s						
MDOK	**Medeo**	**5.22**	**266**	*eP*	**Pb**	**15 37 49.3**	**-1.2**
	1.6nm,0.3s						
MDOK				*eS*	**Sb**	**15 38 53.6**	**+0.8**
	3.2nm,0.3s						
MDOK	**Medeo**	**5.22**	**266**	⇑Pg	Pb	15 37 55.6	+5.1
	3.9nm,1.0s						
MDOK				⇓Lg	Lg	15 38 58.4	
	4.7nm,0.6s						
MDOK	**Medeo**	**5.22**	**266**	Pg	**Pb**	**15 37 49.3**	**-1.2**
	1.6nm,0.3s						
MDOK				Lg	Lg	15 38 52.3	
	4.0nm,0.5s						
TNSS	**Tian-Shan**	**5.32**	**265**	*eP*	**Pb**	**15 37 52.4**	**+0.2**
	0.8nm,0.0s						
TNSS				*eS*	**Sb**	**15 38 58.9**	**+3.2**
	1.8nm,0.2s						
TNSS	**Tian-Shan**	**5.32**	**265**	Pg	**Pb**	**15 37 53.5**	**+1.3**
	1.9nm,0.4s						
TNSS				Lg	Lg	15 39 01.3	
	2.6nm,0.3s						
MTBS	**Maitube**	**5.68**	**266**	*eP*	**Pb**	**15 37 59.6**	**+1.5**
	1.7nm,0.2s						
MTBS				*eS*	**Sb**	**15 39 11.1**	**+5.3**
	5.5nm,0.4s						
MTBS	**Maitube**	**5.68**	**266**	Pg	**Pb**	**15 37 59.6**	**+1.5**
	1.7nm,0.2s						
MTBS				Lg	Lg	15 39 11.1	
	5.5nm,0.4s						
TKM2	**Tokmak 2**	**6.31**	**265**	⇑Pn	Pn	15 37 57.8	+5.9
	1.7nm,0.7s						
TKM2				⇓Sn	**Sn**	**15 39 06.7**	**+3.1**
	3.0nm,0.7s						
TKM2				⇓Lg	Lg	15 39 33.1	
	3.9nm,0.6s						
KURBB	**Kurchatov Arra**	**7.86**	**333**	⇑Lg	Lg	15 40 12.2	
	9.8nm,0.6s						
KURK	**Kurchatov**	**7.91**	**333**	⇑Lg	Lg	15 40 14.1	
	3.1nm,0.6s						

IDC 08 16:03:12.7±10.0,**13°22S**×**167°07E**,**h233**km±112km,
mb3.0/3,**mb1 3.3**/4,**mb1mx3.0**/31,**mbtmp3.6**/4,**Error ellipse: s-maj=114.2km s-min=28.9km az=158.0,**
Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.82**	**184**	P	Pn	16 05 16.7	+0.1
	0.2nm,0.3s,baz=18,slow=20,SNR=2.2						
DZM				S	S	16 06 48.8	-7.6
	baz=314,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**32.04**	**254**	P	P	16 09 17.7	-0.2
	0.1nm,0.4s,baz=86,slow=9.4,SNR=1.5						
ASAR	**Alice Springs**	**33.06**	**247**	P	P	16 09 26.7	0.0
	0.5nm,0.5s,baz=77,slow=9.1,SNR=15						
ILAR	**Eielson Array**	**85.16**	**18**	P	P	16 15 22.1	-0.2
	0.4nm,0.4s,baz=237,slow=5.3,SNR=13						
ARCES	**ARCESS Array B**	**118.75**	**346**	PKP	PKiKP	16 21 32.7	+0.1
	2.1nm,0.9s,baz=58,slow=2.5,SNR=6.6						

*NEIC **08** 16:05:45.6±1.8,51°.4N±0°.1×174°.10W±0°.07,h41km±99km, Error ellipse: s-maj=21.7km s-min=5.7km az=190.0*
*AEIC **08** 16:05:46±1.8,51°.53N±0°.06×174°.22W±0°.03,h45km±10km, MLH3.0/17, Error ellipse: s-maj=9.0km s-min=1.6km az=193.0*
*IDC **08** 16:05:54.1±8.1,52°.08N×174°.41W,h81km±73km,mb3.2/3, mb1 3.4/5,mb1mx3.1/46,mbtmp3.5/5,ML3.1/2,Error ellipse: s-maj=75.3km s-min=27.7km az=179.0*
ISC 08 16:05:49.0±2.5,**51°.7N**±0°.2×**174°.28W**±0°.10,**h49**km±18km,
n20,σ1§**60**/22,**mb3.6**/3,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.55**	**5**		**Pn**	**16 05 59.6**	**-1.2**
ATKA					**Sn**	**16 06 09.0**	**-0.2**
KOFP	**Korovin Flat P**	**0.63**	**10**		**Pn**	**16 06 01.2**	**-0.6**
KOFP					**Sn**	**16 06 13.2**	**+2.1**
GSMY	**Great Sitkin M**	**1.17**	**290**		**Pn**	**16 06 07.2**	**-1.7**
GSTR	**Great Sitkin T**	**1.19**	**292**		**Pn**	**16 06 08.2**	**-1.0**
GSTR					**Sn**	**16 06 24.8**	**+0.6**
GSCK	**Great Sitkin C**	**1.22**	**288**		**Pn**	**16 06 08.3**	**-1.3**
GSTD	**Great Sitkin T**	**1.22**	**290**		**Pn**	**16 06 08.1**	**-1.7**
GSTD					**Sn**	**16 06 28.1**	**+2.9**
ADK	**Adak**	**1.51**	**280**		**Pn**	**16 06 11.5**	**-2.1**
KIWB	**Kanaga Island**	**1.79**	**277**		**Pn**	**16 06 16.3**	**-1.1**
KIMD	**Kanaga Island**	**1.84**	**274**		**Pn**	**16 06 16.4**	**-1.6**
TAPA	**Tanaga Point A**	**2.20**	**276**		**Pn**	**16 06 22.1**	**-1.0**
TAFP	**Tanaga Falls P**	**2.31**	**278**		**Pn**	**16 06 23.8**	**-0.8**
TAFP					**Sn**	**16 06 54.3**	**+2.6**
TASE	**Tanaga Southea**	**2.34**	**276**		**Pn**	**16 06 24.2**	**-0.7**
PETK	**Petropavlovsk-**	**17.13**	**286**	P	**P**	**16 09 46.4**	**+0.8**
	0.1nm,0.3s,baz=90,slow=16,SNR=1.4						
ILAR	**Eielson Array**	**19.30**	**37**	P	**P**	**16 10 08.5**	**-0.9**
	0.3nm,0.3s,baz=235,slow=8.6,SNR=19						
H11N2	**WAKE ISLAND Hy**	**35.12**	**212**	T	T	16 50 30.4	
	baz=16						
H11N3	**WAKE ISLAND Hy**	**35.13**	**212**	T	T	16 50 35.4	
	baz=16						
H11N1	**WAKE ISLAND Hy**	**35.14**	**212**	T	T	16 50 32.6	
	baz=16						
PDAR	**Pinedale Array**	**43.52**	**75**	P	**P**	**16 13 49.5**	**+1.8**
	1.7nm,1.2s,baz=276,slow=4.0,SNR=2.2						
ARCES	**ARCESS Array B**	**58.26**	**352**	P	**P**	**16 15 37.2**	**-0.5**
	2.1nm,0.8s,baz=13,slow=8.4,SNR=1.2						
MKAR	**Makanchi Array**	**62.03**	**311**	P	**P**	**16 16 02.8**	**-1.1**
	0.1nm,0.5s,baz=48,slow=5.9,SNR=5.5						

*IDC **08** 16:14:56.5±6.4, 15°.28S×167°.75E,h190km±61km, mb3.0/3, mb1 3.3/4,mb1mx3.1/24,mbtmp3.6/4,Error ellipse: s-maj=62.9km s-min=33.2km az=162.0*
*NOU **08** 16:15:03.6, 15°.84S×167°.96E,h143km, MLv4.6/10, Vanuatu Islands*
ISC 08 16:14:56.5±1.2,**15°.44S**±0°.09×**168°.2E**±0°.2,**h200**km,**n10**,
σ1§**26**/13,**mb3.3**/3,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.92**	**269**	P	**Pn**	**16 15 26.7**	**+1.0**
DVP	**Devils Point**	**2.28**	**179**	P	**Pn**	**16 15 37.1**	**-0.8**
RTV	**Rentapao**	**2.36**	**174**	P	**Pn**	**16 15 38.4**	**-0.4**
KOUNC	**Koumac, New Ca**	**6.28**	**215**	P	**Pn**	**16 16 28.0**	**+0.7**
DZM	**Mont Dzumac**	**6.79**	**194**	P	**Pn**	**16 16 35.2**	**+1.1**
	0.7nm,0.3s,baz=84,slow=10,SNR=14						
DZM				S	**Sn**	**16 17 53.1**	**+1.4**
	0.1nm,0.3s,baz=135,slow=22,SNR=1.4						
DZM	**Mont Dzumac**	**6.79**	**194**	P	**Pn**	**16 16 35.0**	**+0.9**
WRA	**Warramunga Arr**	**32.49**	**257**	P	**P**	**16 21 06.3**	**-2.3**
	0.2nm,0.4s,baz=84,slow=8.3,SNR=1.8						
WRA				PcP	**PcP**	**16 23 50.3**	**-0.4**
	0.4nm,0.9s,baz=92,slow=3.4,SNR=2.0						
ASAR	**Alice Springs**	**33.23**	**250**	P	**P**	**16 21 13.3**	**-1.6**
	0.3nm,0.3s,baz=73,slow=9.4,SNR=11						
ASAR				PcP	**PcP**	**16 23 52.4**	**-0.3**
	0.1nm,0.3s,baz=82,slow=2.8,SNR=1.7						
ILAR	**Eielson Array**	**86.94**	**18**	P	**P**	**16 27 19.7**	**+1.3**
	0.3nm,0.6s,baz=232,slow=4.4,SNR=1.6						
ARCES	**ARCESS Array B**	**121.15**	**346**	PKP	**PKiKP**	**16 33 25.1**	**+0.2**
	5.0nm,1.1s,baz=41,slow=1.5,SNR=7.1						

IDC 08 16:47:20.0±5.8,**2°.30S**×**100°.52E**,**h0**km,**mb3.5**/4,
mb1 3.6/4,**mb1mx3.3**/49,**mbtmp3.5**/4,**Error ellipse: s-maj=286.3km s-min=23.9km az=53.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.41**	**258**	T	T	17 22 27.7	
	baz=81,slow=75,SNR=5.2						
H08S3	**Diego Garcia H**	**28.42**	**258**	T	T	17 22 34.0	
	baz=81,slow=75,SNR=5.5						
H08S1	**Diego Carcia H**	**28.43**	**258**	T	T	17 22 34.3	
	baz=81,slow=75,SNR=5.8						
WRA	**Warramunga Arr**	**37.40**	**120**	P	P	16 54 34.5	-0.5
	0.3nm,0.8s,baz=295,slow=8.7,SNR=4.8						
ASAR	**Alice Springs**	**38.66**	**126**	P	P	16 54 46.0	+0.3
	0.2nm,0.4s,baz=304,slow=8.9,SNR=5.2						
MKAR	**Makanchi Array**	**51.45**	**344**	P	P	16 56 27.2	+0.1
	0.4nm,0.4s,baz=154,slow=8.3,SNR=9.1						
ZALV	**Zalesovo Beam**	**57.55**	**349**	P	P	16 57 10.9	-0.3
	0.4nm,0.4s,baz=170,slow=8.8,SNR=4.5						

*IDC **08** 16:52:18.7±2.9,21°.64N×143°.13E,h317km±58km,mb2.7/4, mb1 3.0/6,mb1mx2.7/55,mbtmp3.6/6,Error ellipse: s-maj=141.2km s-min=24.3km az=76.0*
ISC 08 16:52:18.0±2.3,**21°.69N**±0°.09×**143°.1E**±0°.7,**h311**km,**n6**,
σ1§**42**/7,**mb2.9**/3,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.44**	**352**	P	**Pn**	**16 53 42.7**	**+1.6**
	4.5nm,0.3s,baz=243,slow=18,SNR=8.5						
JCJ				S	**S**	**16 54 46.1**	**-1.8**
	3.2nm,0.3s,baz=253,slow=19,SNR=1.8						
MJAR	**Matsushiro Arr**	**15.39**	**345**	P	**Pn**	**16 55 39.6**	**-1.0**
	0.1nm,0.3s,baz=166,slow=7.7,SNR=2.0						
KSRS	**Korea Array**	**20.46**	**323**	P	**P**	**16 56 33.7**	**+0.9**
	0.5nm,0.5s,baz=146,slow=10,SNR=1.7						
WRA	**Warramunga Arr**	**42.25**	**192**	P	**P**	**16 59 41.4**	**-0.3**
	0.4nm,0.5s,baz=16,slow=9.7,SNR=8.8						
FITZ	**Fitzroy Crossi**	**43.07**	**205**	P	**P**	**16 59 48.0**	**-0.2**
	1.5nm,1.0s,baz=17,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**45.96**	**192**	P	**P**	**17 00 10.6**	**-0.3**
	0.2nm,0.7s,baz=11,slow=10,SNR=4.3						

*IDC **08** 17:16:39.9±2.0,31°.30S×177°.51W,h0km, mb4.1/4, mb1 4.3/6,mb1mx3.9/46,mbtmp4.1/6,ML3.8/2,Error ellipse: s-maj=48.4km s-min=28.7km az=124.0*
*NEIC **08** 17:16:42.6±2.6,31°.13S±0°.06×177°.8W±0°.2,h10km±2km, mb4.6/11,Error ellipse: s-maj=28.3km s-min=8.6km az=100.0*
ISC 08 17:16:43.8±1.4,**31°.21S**±0°.07×**177°.7W**±0°.2,**h27**km,**n31**,
σ1§**49**/35,**mb4.5**/9,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.96**	**354**	Pn	**Pn**	**17 17 15.1**	**-0.3**
	35nm,0.3s,baz=139,slow=20,SNR=2.0						
RAO				Sn	**Sn**	**17 17 37.6**	**-1.5**
	302nm,0.3s,baz=126,slow=22,SNR=5.2						
RAO	**Raoul Island**	**1.96**	**354**		**Pn**	**17 17 14.4**	**-1.0**
RAO				Sn	**Sn**	**17 17 37.1**	**-2.0**
MXZ	**Matakaoa Point**	**7.16**	**207**	Pn	**Pn**	**17 18 26.6**	**0.0**
MXZ				Sn	**Sn**	**17 19 47.5**	**+0.4**
URZ	**Urewera**	**8.24**	**210**	Pn	**Pn**	**17 18 39.4**	**-2.2**
	1.0nm,0.3s,baz=106,slow=15,SNR=7.4						
URZ				Sn	**Sn**	**17 20 11.2**	**-2.5**
	3.2nm,0.3s,baz=191,slow=20,SNR=15						
URZ	**Urewera**	**8.24**	**210**		**Pn**	**17 18 41.0**	**-0.5**
URZ					**Sn**	**17 20 13.3**	**-0.4**
BKZ	**Black Stump Fm**	**9.26**	**209**	Pn	**Pn**	**17 18 55.7**	**+0.1**
BFZ	**Birch Farm**	**10.66**	**206**	Pn	**Pn**	**17 19 14.8**	**+0.2**
SNZO	**South Karori**	**11.80**	**209**	Pn	**Pn**	**17 19 30.2**	**-0.1**
KHZ	**Kahutara**	**13.21**	**210**	Pn	**Pn**	**17 19 48.0**	**-1.5**
LTZ	**Lake Taylor**	**14.06**	**212**	Pn	**Pn**	**17 19 56.6**	**-4.6**
WHZ	**Wether Hill Ro**	**18.43**	**213**	P	**P**	**17 20 54.4**	**-2.7**
WHZ					IAmb	IAmb	17 21 42.3	
	comp=Z,42nm,1.3s						
CTA	**Charters Tower**	**34.22**	**280**	P	**P**	**17 23 29.6**	**+2.2**
	comp=Z,6.4nm,0.8s,baz=109,slow=7.6,SNR=5.6						
CTAO	**Charters Tower**	**34.22**	**280**	P	**P**	**17 23 29.6**	**+2.2**
CTAO					IAmb	IAmb	17 23 32.1	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**34.58**	**258**	P	**P**	**17 23 32.9**	**+2.5**
	comp=Z,2.2nm,0.8s,baz=87,slow=8.0,SNR=4.3						
STKA	**Stephens Creek**	**34.58**	**258**	P	**P**	**17 23 31.1**	**+0.7**
BBOO	**Buckleboo**	**39.03**	**255**	P	**P**	**17 24 08.8**	**+0.6**
BBOO					IAmb	IAmb	17 25 33.0	
	comp=Z,36nm,1.8s						
ASAR	**Alice Springs**	**43.36**	**268**	P	**P**	**17 24 44.5**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=107,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**43.36**	**268**	P	**P**	**17 24 43.1**	**-0.9**
WR0	**Warramunga Arr**	**44.24**	**273**	P	**P**	**17 24 51.5**	**+0.4**
WR0					IAmb	IAmb	17 24 55.4	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**44.41**	**273**	P	**P**	**17 24 52.4**	**0.0**
WB2					IAmb	IAmb	17 26 27.5	
	comp=Z,17nm,1.6s						
WRAB	**Tennant Creek**	**44.41**	**273**	P	**P**	**17 24 52.3**	**-0.2**
WRAB					IAmb	IAmb	17 26 00.2	
	comp=Z,9.8nm,1.3s						
WRA	**Warramunga Arr**	**44.42**	**273**	P	**P**	**17 24 52.9**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=111,slow=8.0,SNR=39						
WRA	**Warramunga Arr**	**44.42**	**273**	P	**P**	**17 24 51.9**	**-0.6**
WB0	**Warramunga Arr**	**44.45**	**273**	P	**P**	**17 24 52.8**	**+0.1**
WB0					IAmb	IAmb	17 25 02.5	
	comp=Z,21nm,1.9s						
FITZ	**Fitzroy Crossi**	**52.65**	**270**	P	**P**	**17 25 55.8**	**-0.1**
CASY	**Casey**	**54.56**	**208**	P	**P**	**17 26 10.7**	**+1.5**
QSPA	**South Pole Qui**	**58.90**	**180**	P	P	17 26 45.7	+5.5
MKAR	**Makanchi Array**	**118.51**	**310**	PKP	**PKiKP**	**17 35 29.0**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=82,slow=1.5,SNR=2.1						
FINES	**FINESS Array B**	**146.00**	**340**	PKPbc	**PKPab**	**17 36 21.1**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=46,slow=4.3,SNR=12						
FINES	**FINESS Array B**	**146.00**	**340**		**PKPbc**	**17 36 20.5**	**+0.1**
AKASG	**Malin Array Be**	**152.12**	**322**	PKPbc	**PKiKP**	**17 36 37.1**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=47,slow=3.0,SNR=2.5						

*IDC **08** 17:18:36.4±1.3, 12°.43N×123°.94E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.5/47,mbtmp3.7/6,Error ellipse: s-maj=51.7km s-min=19.0km az=53.0*
*MAN **08** 17:18:38.0, 12°.35N×123°.71E,h8km,mb5.2,ML4.1,MS4.3, Hypocentre not reviewed by the ISC*
MAN INTENSITY IV - MASBATE CITY AND MOBO MASBATE; BATUAN MASBATE; BULAN SORSOGON; INTENSITY III - MILAGROS USON SAN FERNANDO AND SAN JACINTO MASBATE; INTENSITY II - DIMASALANG MASBATE.
ISC 08 17:18:37.9±2.7,**12°.39N**±0°.04×**123°.75E**±0°.07,**h7**km±17km,
n20,σ1§**52**/25,**mb3.8**/6,**3C-7D**,**Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**1.28**	**230**	*eP*	**Pn**	**17 19 00.7**	**-1.5**
RCP				*eS*	**Sg**	**17 19 18.3**	**-0.8**
GQP	**Guinayangan**	**1.97**	**320**	*eP*	**Pn**	**17 19 11.8**	**+0.2**
GQP				*eS*	**Sn**	**17 19 37.3**	**+0.7**
LLP	**Lapu-Lapu**	**2.07**	**174**	*iP*	**Pn**	**17 19 12.2**	**-0.9**
LLP				*iS*	**Sn**	**17 19 38.7**	**-0.5**
MSLP	**Maasin**	**2.50**	**154**	*eP*	**Pn**	**17 19 18.9**	**0.0**
TBP	**Tagbilaran**	**2.69**	**178**	*eP*	**Pn**	**17 19 20.5**	**-1.0**
TBP				*iS*	**Sn**	**17 19 53.1**	**-1.3**
LQP	**Lukban**	**2.75**	**309**	*eP*	**Pn**	**17 19 22.8**	**+0.2**
LQP				*iS*	**Sn**	**17 19 55.1**	**-1.1**
CNOP	**Candoni, Negro**	**2.77**	**203**	*eP*	**Pn**	**17 19 23.5**	**+0.8**
CNOP				*eS*	**Sn**	**17 20 01.1**	**+4.7**
SNPH	**Sibulan**	**3.07**	**189**	*iP*	**Pn**	**17 19 26.7**	**-0.2**
SNPH				*iS*	**Sn**	**17 20 03.6**	**-0.3**
TGY	**Tagaytay City**	**3.22**	**302**	Pg	**Pb**	**17 19 37.2**	**+1.7**
	62nm,0.3s,baz=68,slow=3.6,SNR=4.5						
PCPH	**Palayan**	**4.07**	**321**	*eP*	**Pb**	**17 19 49.6**	**-0.2**
BIPH	**Bislig**	**4.91**	**148**	*eP*	**Pn**	**17 19 53.6**	**+1.5**
BIPH				*eS*	**Sn**	**17 20 51.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**24.64**	**287**	P	**P**	**17 24 00.1**	**+0.6**
	0.2nm,0.4s,baz=101,slow=9.3,SNR=3.5						
WRA	**Warramunga Arr**	**33.78**	**162**	P	**P**	**17 25 18.9**	**-1.8**
	0.6nm,0.6s,baz=344,slow=9.4,SNR=3.0						
ASAR	**Alice Springs**	**37.19**	**164**	P	**P**	**17 25 49.0**	**-0.9**
	1.6nm,0.7s,baz=338,slow=6.3,SNR=12						
H11N1	**WAKE ISLAND Hy**	**42.01**	**74**	T	T	18 10 21.8	
	baz=267,slow=74,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**42.01**	**74**	T	T	18 10 23.3	
	baz=267,slow=74,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**42.02**	**74**	T	T	18 10 23.7	
	baz=267,slow=74,SNR=5.6						
STKA	**Stephens Creek**	**47.22**	**159**	P	**P**	**17 27 12.5**	**+0.9**
	1.2nm,0.5s,baz=335,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**48.85**	**323**	P	**P**	**17 27 25.2**	**+1.0**
	0.9nm,0.9s,baz=115,slow=9.4,SNR=4.7						
YKA	**Yellowknife Ar**	**92.82**	**23**	P	**P**	**17 31 49.2**	**-1.9**
	0.1nm,0.5s,baz=300,slow=4.5,SNR=2.4						

*IDC **08** 17:27:01.8±1.2,3°.56N×126°.39E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.6/41,mbtmp3.7/6,ML3.8/1,Error ellipse: s-maj=68.6km s-min=21.4km az=65.0*
ISC 08 17:27:08.8±1.3,**3°.6N**±0°.2×**126°.5E**±0°.2,**h53**km,**n6**,σ0§**87**/9,
mb3.6/5,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.48**	**133**	Pn	**Pn**	**17 28 41.9**	**+0.2**
	1.9nm,0.3s,baz=331,slow=19,SNR=11						
SIJI				Sn	**Sn**	**17 29 54.0**	**-0.4**
	0.2nm,0.3s,baz=162,slow=21,SNR=1.2						
FITZ	**Fitzroy Crossi**	**21.54**	**182**	P	**P**	**17 31 52.8**	**-1.0**
	0.8nm,0.3s,baz=13,slow=11,SNR=13						
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**17 32 22.8**	**-1.4**
	0.8nm,0.4s,baz=344,slow=9.9,SNR=18						
WRA				PcP	**PcP**	**17 36 01.7**	**+0.5**
	0.5nm,1.1s,baz=334,slow=2.4,SNR=1.4						
ASAR	**Alice Springs**	**28.00**	**165**	P	**P**	**17 32 55.6**	**+0.7**
	0.2nm,0.3s,baz=351,slow=14,SNR=6.0						
ASAR				PcP	**PcP**	**17 36 09.9**	**+0.8**
	0.4nm,0.4s,baz=353,slow=2.3,SNR=8.5						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**17 34 22.4**	**0.0**
	0.9nm,0.5s,baz=333,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**17 36 52.8**	**-0.4**
	0.4nm,0

PSRA					AML	AML	18 19 39.6	
	comp=N,4917µm,0.3s							
PSRA					AML	AML	18 19 39.7	
	comp=E,6426µm,0.2s							
SIGR	**SIGRI**	**0.55**	**349**		P	**Pg**	**18 19 36.1**	**-0.1**
SIGR					S	**Sg**	**18 19 43.6**	**0.0**
SIGR					AML	AML	18 19 47.5	
	comp=E,1668µm,0.4s							
SIGR					AML	AML	18 19 47.7	
	comp=N,1245µm,0.2s							
SIGR	**SIGRI**	**0.55**	**349**		P	**Pg**	**18 19 36.0**	**-0.1**
SIGR					S	**Sg**	**18 19 43.6**	**0.0**
	comp=N,722nm,0.2s							
SIGR	**SIGRI**	**0.55**	**349**		PG	**Pg**	**18 19 36.1**	**-0.1**
SIGR					SG	**Sg**	**18 19 43.7**	**+0.1**
URLA	**Izmir**	**0.56**	**123**		PG	**Pg**	**18 19 36.0**	**-0.3**
URLA					SG	**Sg**	**18 19 44.1**	**+0.2**
URLA	**Izmir**	**0.56**	**123**		P	**Pg**	**18 19 36.0**	**-0.3**
URLA					*i* AML	AML	18 19 44.0	
	comp=N,142nm,0.4s							
FOCM	**Foa**	**0.58**	**85**		PG	**Pg**	**18 19 36.1**	**-0.5**
FOCM					SG	**Sb**	**18 19 44.7**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**0.59**	**137**		P	**Pg**	**18 19 36.6**	**-0.1**
ZEYE					*i* AML	AML	18 19 45.0	
	comp=N,127nm,0.4s							
ZEYE					*i* AML	AML	18 19 49.0	
	comp=N,175nm,0.4s							
PRK	**Paraskevi**	**0.62**	**21**		P	**Pb**	**18 19 37.9**	**+0.3**
PRK					S	**Sb**	**18 19 46.9**	**+0.9**
PRK					AML	AML	18 19 50.1	
	comp=E,1654µm,0.4s							
PRK					AML	AML	18 19 50.7	
	comp=N,1342µm,0.3s							
PRK	**Paraskevi**	**0.62**	**21**		P	**Pb**	**18 19 37.9**	**+0.3**
PRK					S	**Sb**	**18 19 46.9**	**+0.9**
	comp=N,752nm,0.3s							
GPNR	**Gulpinar-Canak**	**0.80**	**8**		PG	**Pg**	**18 19 40.2**	**-0.5**
DKL	**Dikili**	**0.82**	**60**		PG	**Pb**	**18 19 41.0**	**0.0**
AYVA	**Ayvalik**	**0.84**	**40**		P	**Pb**	**18 19 41.4**	**0.0**
AYVA					*i* AML	AML	18 19 55.0	
	comp=N,104nm,0.2s							
AYVA					*i* AML	AML	18 19 58.0	
	comp=N,66nm,0.3s							
KOCA	**Canakkale, Ayv**	**0.84**	**8**		P	**Pg**	**18 19 40.9**	**-0.6**
KOCA					S	**Sn**	**18 19 54.2**	**-0.2**
KOCA					*i* AML	AML	18 19 57.0	
	comp=N,152nm,0.4s							
KOCA					*i* AML	AML	18 19 58.0	
	comp=N,112nm,0.4s							
ZEDA	**zmir-Bergama**	**0.90**	**70**		P	**Pb**	**18 19 42.7**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.16**	**22**		P	**Pb**	**18 19 45.9**	**-0.8**
BAYC					S	**Sb**	**18 20 01.0**	**-0.5**
SMG	**Samos**	**1.17**	**145**		P	**Pn**	**18 19 46.5**	**-0.3**
SMG					AML	AML	18 20 05.6	
	comp=E,739µm,0.6s							
SMG					AML	AML	18 20 05.8	
	comp=N,420µm,0.4s							
SMG	**Samos**	**1.17**	**145**		P	**Pn**	**18 19 46.5**	**-0.3**
SMG					S	**Sg**	**18 20 03.1**	**+0.2**
	comp=N,290nm,0.5s							
BOZC	**Bozcaada**	**1.18**	**2**		PN	**Pn**	**18 19 46.8**	**-0.1**
BOZC	**Bozcaada**	**1.18**	**2**		P	**Pn**	**18 19 46.8**	**-0.1**
BOZC					S	**Sg**	**18 20 03.0**	**-0.2**
BOZC					*i* AML	AML	18 20 05.0	
	comp=N,55nm,0.3s							
BOZC					*i* AML	AML	18 20 07.0	
	comp=N,56nm,0.6s							
BUHA	**Balikesir, Bur**	**1.19**	**45**		P	**Pg**	**18 19 47.7**	**-0.4**
BUHA					S	**Sb**	**18 20 02.6**	**+0.2**
BUHA					*i* AML	AML	18 20 07.0	
	comp=N,40nm,0.6s							
BUHA					*i* AML	AML	18 20 08.0	
	comp=N,42nm,0.5s							
EZN	**Ezine**	**1.19**	**13**		P	**Pn**	**18 19 47.0**	**0.0**
EZN					S	**Sg**	**18 20 03.3**	**-0.3**
	comp=N,92nm,0.3s							
EZN	**Ezine**	**1.19**	**13**		PN	**Pn**	**18 19 47.0**	**0.0**
GCAM	**G?zelcaml?**	**1.37**	**134**		P	**Pg**	**18 19 52.1**	**+0.5**
GCAM					*i* AML	AML	18 20 14.0	
	comp=N,43nm,0.4s							
KARY	**Karystos**	**1.38**	**243**		P	**Pn**	**18 19 49.6**	**-0.1**
KARY					S	**Sn**	**18 20 06.6**	**-0.9**
KARY	**Karystos**	**1.38**	**243**		P	**Pn**	**18 19 49.6**	**-0.1**
KARY					S	**Sn**	**18 20 06.6**	**-0.9**
	comp=N,32nm,0.3s							
LIA	**Limnos Island**	**1.38**	**333**		P	**Pn**	**18 19 49.8**	**+0.2**
LIA					S	**Sn**	**18 20 07.8**	**+0.2**
LIA					AML	AML	18 20 11.1	
	comp=E,173µm,0.3s							
LIA					AML	AML	18 20 11.3	
	comp=N,149µm,0.3s							
LIA	**Limnos Island**	**1.38**	**333**		P	**Pn**	**18 19 49.9**	**+0.2**
LIA					S	**Sn**	**18 20 07.8**	**+0.2**
	comp=N,80nm,0.3s							
STEP	**BALIKESIR_Sava**	**1.52**	**62**		P	**Pn**	**18 19 52.2**	**+0.5**
STEP					S	**Sb**	**18 20 11.8**	**-0.3**
STEP					*i* AML	AML	18 20 18.0	
	comp=N,41nm,0.4s							
APE	**Apeiranthos**	**1.64**	**193**		P	**Pn**	**18 19 53.3**	**0.0**
APE	**Apeiranthos**	**1.64**	**193**		P	**Pn**	**18 19 53.3**	**0.0**
APE					S	**Sn**	**18 20 14.2**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.77**	**12**		PN	**Pn**	**18 19 55.6**	**+0.5**
AYDN	**Tasoluk**	**1.79**	**123**		P	**Pg**	**18 19 58.9**	**-0.8**
LPK	**Lapseki**	**1.81**	**19**		PN	**Pn**	**18 19 55.9**	**+0.3**
SMTH	**Samothraki Isl**	**1.84**	**349**		P	**Pn**	**18 19 55.7**	**-0.3**
SMTH	**Samothraki Isl**	**1.84**	**349**		P	**Pn**	**18 19 55.7**	**-0.3**
SMTH					S	**Sn**	**18 20 19.7**	**+0.8**
	comp=N,25nm,0.5s							
KRBG	**Karabiga-Canak**	**2.00**	**30**		PN	**Pn**	**18 19 58.9**	**+0.7**
ERIK	**Erikli-Kesan**	**2.04**	**11**		PN	**Pn**	**18 19 59.6**	**+0.8**
ALN	**Alexandroupoli**	**2.23**	**1**		P	**Pn**	**18 20 01.3**	**-0.1**
ALN	**Alexandroupoli**	**2.23**	**1**		P	**Pn**	**18 20 01.3**	**-0.1**
ALN					S	**Sn**	**18 20 28.9**	**+0.4**
	comp=N,35nm,1.8s							
ALN	**Alexandroupoli**	**2.23**	**1**		PN	**Pn**	**18 20 01.9**	**+0.5**

*IDC **08** 18:25:32.8±1.0, 15°.16S×66°.77E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/37, mbtmp3.6/7, MS3.5/12, Ms1 3.5/12, ms1mx3.1/78, Error ellipse: s-maj=33.9km s-min=28.6km az=25.0*

ISC 08 18:25:35.3±1.0, 15°.2S±0°.2×66°.8E±0°.2, h16km, n25, σ0°50/8, mb3.7/7, MS3.5/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**9.35**	**37**	T	T	18 37 07.7	
	baz=216,slow=76,SNR=43						
H08S2	**Diego Garcia H**	**9.36**	**38**	T	T	18 37 07.7	
	baz=216,slow=76,SNR=41						
H08S3	**Diego Garcia H**	**9.37**	**37**	T	T	18 37 08.0	
	baz=216,slow=76,SNR=47						
PALK	**Pallekele**	**26.24**	**33**	LR	LR	18 39 23.2	
	comp=Z,71nm,18.4s,baz=305,slow=32						
PSI	**Prapat**	**36.51**	**63**	LR	LR	18 44 03.8	
	comp=Z,90nm,20.6s,baz=268,slow=30						
LSZ	**Lusaka**	**37.18**	**265**	LR	LR	18 46 42.5	
	comp=Z,106nm,18.7s,baz=138,slow=34						
MBAR	**Mbarara**	**38.40**	**289**	LR	LR	18 46 45.9	
	comp=Z,63nm,18.1s,baz=125,slow=33						
LBTB	**Lobatse**	**39.74**	**249**	LR	LR	18 46 25.1	
	comp=Z,79nm,19.1s,baz=92,slow=32						
BOSA	**Boshof**	**40.56**	**244**	P	**P**	**18 33 14.3**	**0.0**
	2.9nm,0.9s,baz=31,slow=8.2,SNR=2.7						
BOSA				LR	LR	18 48 58.5	
	comp=Z,83nm,18.1s,baz=160,slow=35						
LEM	**Lembang**	**40.90**	**83**	LR	LR	18 48 29.2	
	comp=Z,45nm,18.3s,baz=192,slow=34						
SUR	**Sutherland**	**45.03**	**239**	LR	LR	18 50 07.8	
	comp=Z,83nm,19.3s,baz=100,slow=33						
CMAR	**Chiang Mai Arr**	**46.07**	**45**	LR	LR	18 50 58.4	
	comp=Z,24nm,20.0s,baz=225,slow=33						
H01W3	**Cape Leeuwin H**	**46.72**	**124**	T	T	19 23 51.9	
	baz=283						
H01W2	**Cape Leeuwin H**	**46.72**	**124**	T	T	19 23 55.1	
	baz=283,slow=74,SNR=12						
H01W1	**Cape Leeuwin H**	**46.74**	**124**	T	T	19 23 55.1	
	baz=283,slow=74,SNR=12						
KAPI	**Kappang**	**53.02**	**85**	LR	LR	18 56 34.9	
	comp=Z,26nm,18.0s,baz=310,slow=35						
BATI	**Baumata**	**55.62**	**92**	LR	LR	18 56 06.0	
	comp=Z,24nm,18.2s,baz=143,slow=33						
FITZ	**Fitzroy Crossi**	**56.30**	**102**	LR	LR	18 57 34.6	
	comp=Z,41nm,19.0s,baz=196,slow=34						
MKAR	**Makanchi Array**	**63.24**	**12**	P	**P**	**18 36 02.6**	**-0.3**
	0.2nm,0.6s,baz=211,slow=8.5,SNR=3.8						
ASAR	**Alice Springs**	**63.41**	**109**	P	**P**	**18 36 04.1**	**-0.6**
	0.2nm,0.3s,baz=267,slow=5.9,SNR=4.9						
WRA	**Warramunga Arr**	**64.25**	**105**	P	**P**	**18 36 10.7**	**+0.5**
	0.6nm,1.0s,baz=271,slow=5.8,SNR=4.9						
KURBB	**Kurchatov Arra**	**66.32**	**8**	P	**P**	**18 36 23.2**	**+0.4**
	0.2nm,0.6s,baz=213,slow=6.6,SNR=2.0						
ZALV	**Zalesovo Beam**	**70.56**	**11**	P	**P**	**18 36 49.1**	**-0.2**
	0.3nm,0.5s,baz=201,slow=7.7,SNR=1.7						
ESDC	**Sonseca Array**	**85.37**	**313**	P	**P**	**18 38 11.8**	**-0.3**
	0.6nm,0.6s,baz=102,slow=4.0,SNR=5.3						
PDAR	**Pinedale Array**	**152.31**	**354**	PKPbc	**PKiKP**	**18 45 31.9**	**+0.6**
	0.4nm,0.6s,baz=66,slow=2.3,SNR=5.9						

*IDC **08** 18:30:32.5±1.1, 14°.17N×146°.11E, h63km±7km, mb3.4/8, mb1 3.5/8, mb1mx3.3/44, mbtmp3.7/8, MS3.2/1, Ms1 3.2/1, ms1mx2.3/40, Error ellipse: s-maj=22.9km s-min=8.6km az=139.0*

ISC 08 18:30:29.5±1.1, 14°.2N±0°.2×146°.3E±0°.2, h37km, n9, σ0°95/13, mb3.7/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.49**	**245**	P	**Pn**	**18 30 54.3**	**+0.5**
	97nm,0.3s,baz=60,slow=5.9,SNR=66						
GUMO				S	**Sn**	**18 31 12.0**	**0.0**
	260nm,0.3s,baz=359,slow=22,SNR=27						
GUMO				LR	LR	18 31 31.7	
	comp=Z,71nm,20.7s,baz=85,slow=44						
WRA	**Warramunga Arr**	**35.92**	**199**	P	**P**	**18 37 26.5**	**0.0**
	0.4nm,0.6s,baz=14,slow=8.1,SNR=7.0						
ASAR	**Alice Springs**	**39.54**	**198**	P	**P**	**18 37 56.8**	**-0.4**
	0.3nm,0.7s,baz=17,slow=13,SNR=7.1						
CMAR	**Chiang Mai Arr**	**45.51**	**282**	P	**P**	**18 38 45.8**	**0.0**
	0.4nm,0.7s,baz=69,slow=6.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**61.91**	**324**	P	**P**	**18 40 45.4**	**+0.2**
	0.5nm,0.5s,baz=107,slow=7.7,SNR=2.5						
ZALV				LR	LR	19 06 24.7	
	comp=Z,19nm,18.4s,baz=7.0,slow=35						
MKAR	**Makanchi Array**	**61.99**	**316**	P	**P**	**18 40 46.0**	**0.0**
	0.5nm,0.3s,baz=93,slow=8.2,SNR=22						
MKAR				pP	**pwP**	**18 41 02.9**	**+1.2**
	0.3nm,0.4s,baz=91,slow=8.7,SNR=3.4						
KURBB	**Kurchatov Arra**	**65.03**	**319**	P	**P**	**18 41 05.7**	**-0.2**
	0.3nm,0.3s,baz=98,slow=7.0,SNR=8.8						
KURBB				pP	**pwP**	**18 41 21.9**	**-0.3**
	0.4nm,0.4s,baz=100,slow=7.1,SNR=2.2						
YKA	**Yellowknife Ar**	**81.68**	**28**	P	**P**	**18 42 43.8**	**0.0**
	0.1nm,0.4s,baz=286,slow=5.8,SNR=2.8						
YKA				pP	**pwP**	**18 43 02.4**	**+2.0**
	0.2nm,0.5s,baz=286,slow=5.5,SNR=2.4						
FINES	**FINESS Array B**	**91.16**	**335**	P	**P**	**18 43 28.6**	**-1.8**
	0.8nm,0.7s,baz=57,slow=5.1,SNR=3.3						

IDC 08 18:35:36.5±2.6, 47°.38N×156°.18E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.1/43, mbtmp3.3/3, ML1.8/1, Error ellipse: s-maj=66.2km s-min=42.4km az=179.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.81**	**9**	Pn	Pn	18 37 03.9	0.0
	0.1nm,0.3s,baz=181,slow=14,SNR=6.0						
MKAR	**Makanchi Array**	**48.50**	**298**	P	P	18 44 20.7	-0.1
	0.1nm,0.4s,baz=74,slow=7.6,SNR=3.9						
TXAR	**Lajitas Array**	**75.35**	**63**	P	P	18 47 21.9	0.0
	0.3nm,0.6s,baz=308,slow=4.4,SNR=4.2						

WEL 08 18:51:44.5±0.4, 44°.5±3°.3×17°.3E±°, h5km, M3.5/8, ML3.7/8, MLv3.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=27.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.19**	**144**	P	Pg	18 51 48.6	+0.4
MQZ				S	Sg	18 51 51.7	+1.0
RACZ	**Rakaia**	**0.31**	**237**	P	Pg	18 51 51.3	+0.7
RACZ				S	Sg	18 51 56.2	+1.4
AMCZ	**Amberley**	**0.39**	**16**	P	Pg	18 51 52.6	+0.5
OXZ	**Oxford**	**0.41**	**304**	P	Pg	18 51 52.2	-0.1
OXZ				S	Sg	18 51 58.1	+0.4
AKCZ	**Akaroa Harbour**	**0.43**	**137**	P	Pg	18 51 53.2	+0.3
AKCZ				S	Sg	18 51 59.5	+0.9
OKCZ	**Okains Bay**	**0.44**	**113**	P	Pg	18 51 53.5	+0.5
WACZ	**Wakanui South**	**0.62**	**231**	P	Pb	18 51 57.1	-0.6
MHCZ	**Mount Hutt**	**0.68**	**272**	P	Pg	18 51 58.1	+0.5
MHCZ				S	Sb	18 52 07.8	-0.8
GVZ	**Greta Valley S**	**0.70**	**34**	P	Pg	18 51 58.3	+0.3
GVZ				S	Sb	18 52 08.9	-0.4
LTZ	**Lake Taylor**	**0.79**	**348**	P	Pg	18 51 59.7	+0.1
ARUZ	**Arundel**	**1.04**	**247**	P	Pg	18 52 03.9	-0.5
RPZ	**Rata Peaks**	**1.06**	**261**	P	Pg	18 52 04.3	-0.5
INZ	**Inchbonnie**	**1.13**	**317**	P	Pg	18 52 05.6	-0.6
TMZ	**Timaru**	**1.36**	**232**	P	Pn	18 52 09.0	-1.2
KHZ	**Kahutara**	**1.37**	**34**	P	Pn	18 52 07.9	-2.3
WVZ	**Waitaha Valley**	**1.37**	**290**	P	Pn	18 52 10.4	+0.1
GCSZ	**Gaunt Creek Bo**	**1.60**	**278**	P	Pn	18 52 13.5	0.0
THZ	**Tophouse**	**1.82**	**10**	P	Pn	18 52 14.4	-2.0
LBZ	**Lake Benmore**	**1.87**	**243**	P	Pn	18 52 17.3	+0.2
DSZ	**Denniston Nort**	**1.88**	**344**	P	Pn	18 52 15.7	-1.6
FOZ	**Fox Glacier**	**1.95**	**270**	P	Pn	18 52 18.3	0.0
ODZ	**Otahua Downs**	**2.00**	**221**	P	Pn	18 52 17.3	-1.7
BSWZ	**Blackbirch Sta**	**2.10**	**29**	P	Pn	18 52 18.8	-1.5
MRNZ	**Matariki Terra**	**2.16**	**5**	P	Pn	18 52 20.0	-1.2
TUWZ	**Tuamarina**	**2.38**	**27**	P	Pn	18 52 22.8	-1.3
NNZ	**Nelson**	**2.42**	**16**	P	Pn	18 52 23.3	-1.5
TKNZ	**Takaka Hill**	**2.54**	**8**	P	Pn	18 52 26.2	-0.2
TCW	**Tory Channel**	**2.69**	**30**	P	Pn	18 52 28.9	+0.5
HHSZ	**Highcliff High**	**2.70**	**210**	P	Pn	18 52 28.0	-0.6
QRZ	**Quartz Range**	**2.73**	**0**	P	Pn	18 52 27.0	-2.0
JCZ	**Jackson Bay**	**2.74**	**258**	P	Pn	18 52 28.9	-0.3
WKZ	**Wanaka**	**2.81**	**242**	P	Pn	18 52 30.6	+0.5
EAZ	**Earnscleugh**	**2.84**	**233**	P	Pn	18 52 28.7	-1.7
DUWZ	**D'Urville Isla**	**2.95**	**21**	P	Pn	18 52 32.4	+0.5
MSWZ	**Moikau Station**	**2.95**	**44**	P	Pn	18 52 28.0	-4.0
CAW	**Cannon Point**	**3.10**	**39**	P	Pn	18 52 31.0	-3.1
TUZ	**Tuapeka**	**3.15**	**219**	P	Pn	18 52 34.1	-0.7
MLZ	**Mavora Lakes**	**3.62**	**238**	P	Pn	18 52 41.4	+0.1
TIWZ	**Tintock**	**3.75**	**43**	P	Pn	18 52 41.4	-1.6
SYZ	**Scrubby Hill**	**3.82**	**217**	P	Pn	18 52 44.0	+0.1
BFZ	**Birch Farm**	**4.00**	**45**	P	Pn	18 52 43.7	-2.7
PREZ	**Palmer Road**	**4.39**	**17**	P	Pn	18 52 51.8	0.0
KHEZ	**Kahui Hut**	**4.41**	**15**	P	Pn	18 52 52.3	+0.2
PKE	**Pukeiti**	**4.50**	**15**	P	Pn	18 52 53.1	-0.2
TUVZ	**Tukino**	**4.89**	**30**	P	Pn	18 52 55.4	-3.4
OTVZ	**Oturere**	**4.99**	**30**	P	Pn	18 52 58.7	-1.5
KARZ	**Kaharoa**	**6.21**	**28**	P	Pn	18 53 16.6	-0.3
TGRZ	**Tauranga**	**6.48**	**27**	P	Pn	18 53 18.7	-1.9

ASRS 08 18:51:58.3±0.3, 52°N±2°×9°6E±°, h5km, MLh3.5/12, Error ellipse: s-maj=3.9km s-min=2.5km az=33.1, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**0.92**	**254**	Pg	Pn	18 52 19.7	+1.8
KZLR				Sg	Sn	18 52 31.8	+0.2
KNGR	**Kungurtug, Tuv**	**1.71**	**142**	Pg	Pg	18 52 32.6	+1.5
KNGR				Sg	Sg	18 52 54.9	+1.6
ERNS	**Erzin**	**1.77**	**195**	Pg	Pg	18 52 33.7	+1.5
ERNS				Sg	Sg	18 52 55.3	+0.2
DJOS	**Djoyskaya Sosn**	**2.87**	**288**	Pg	Pg	18 52 53.8	+0.6
DJOS				Sg	Sg	18 53 34.4	+4.2
CERR	**Cheremushki**	**2.87**	**290**	Pg	Pg	18 52 53.6	+0.3
CERR				Sg	Sg	18 53 34.6	+4.2
DJO	**Djoy, Khakassi**	**2.97**	**288**	Pg	Pg	18 52 53.8	-1.3
DJO				Sg	Sg	18 53 35.8	+2.3
MINR	**Mina**	**3.10**	**342**	Pg	Pg	18 52 57.1	-0.6
MINR				Sg	Sg	18 53 45.8	+8.0
MOY	**Mondy**	**3.19**	**93**	Pg	Pg	18 52 59.4	0.0
MOY				Sg	Sg	18 53 41.0	+0.3
SHRR	**Shira**	**4.26**	**309**	Pg	Pg	18 53 21.8	+1.9
SHRR				Sg	Sg	18 54 17.8	+2.7
LUZB	**Luzhba, Kemero**	**4.56**	**295**	Pg	Pg	18 53 25.5	0.0
LUZB				Sg	Sg	18 54 25.1	+0.6
SHTK	**Zheleznogorsk-**	**4.57**	**344**	Pg	Pb	18 53 22.2	+3.3
SHTK				Sg	Sg	18 54 22.3	-2.6
ZAK	**Zakamensk**	**4.92**	**106**	Pg	Pg	18 53 31.5	-1.0
ZAK				Sg	Sg	18 54 33.6	-2.6
TASR	**Tashtagol**	**4.96**	**282**	Sg	Sg	18 54 39.1	+1.6
CUR	**Chagan-Uzun**	**5.11**	**251**	Sg	Sg	18 54 38.9	-3.2
ULGR	**Ulagan, Altay**	**5.15**	**258**	Pg	Pg	18 53 39.3	+2.5
ULGR				Sg	Sg	18 54 42.9	-0.5
ARTR	**Artybash**	**5.33**	**272**	Pg	Pg	18 53 40.3	+0.1

*IDC **08** 18:56:20.1±25.0, 23°.24S×173°.71W, h0km, mb4.4/4, mb1 4.6/4, mb1mx3.9/37, mbtmp4.4/4, MS4.2/2, Ms1 4.2/2, ms1mx3.1/49, Error ellipse: s-maj=460.5km s-min=142.0km az=78.0*

*NEIC **08** 18:57:57.5±1.2, 24°.15S±0°.1×179°.8W±0°.2, h591km±13km, mb4.2/18, Error ellipse: s-maj=29.8km s-min=6.6km az=115.0*

ISC 08 18:57:50.8±1.3, 24°.1S±0°.2×179°.7W±0°.2, h512km, n28, σ1°14/26, mb4.2/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.79**	**270**	P	**P**	**19 03 34.5**	**+1.5**
	7.9nm,0.3s,baz=93,slow=10,SNR=33						
CTA	**Charters Tower**	**31.79**	**270**	P	**P**	**19 03 34.5**	**+1.5**
CTAO	**Charters Tower**	**31.79**	**270**	P	**P**	**19 03 34.4**	**+1.5**
KRVT	**Keravat (AS076**	**33.63**	**301**	LR	LR	19 19 06.8	
	comp=Z,550nm,18.9s,baz=264,slow=36						
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**	**19 03 59.0**	**-0.5**
	1.1nm,0.4s,baz=91,slow=9.4,SNR=5.6						
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**	**19 03 59.0**	**-0.5**
COEN	**Coen**	**36.45**	**279**	P	**P**	**19 04 14.6**	**+2.4**
BBOO	**Buckleboo**	**39.66**	**247**	P	**P**	**19 04 36.7**	**-1.5**
BBOO				IAmb	IAmb	19 04 45.9	
	comp=Z,35nm,1.8s						
AS31	**Alice Springs**	**42.31**	**261**	P	**P**	**19 04 59.5**	**0.0**
ASAR	**Alice Springs**	**42.32**	**261**	P	**P**	**19 04 59.5**	**0.0**
	comp=Z,0.8nm,0.3s,baz=91,slow=7.4,SNR=37						
ASAR	**Alice Springs**	**42.32**	**261**	P	**P**	**19 04 59.2**	**-0.3**
WR0	**Warramunga Arr**	**42.52**	**266**	P	**P**	**19 05 01.3**	**+0.2**
WR0				IAmb	IAmb	19 05 01.5	
	comp=Z,11nm,1.6s						
WB2	**Warramunga Arr**	**42.70**	**266**	P	**P**	**19 05 02.5**	**0.0**
WB2				IAmb	IAmb	19 05 03.2	
	comp=Z,6.9nm,1.1s						
WRAB	**Tennant Creek**	**42.70**	**266**	P	**P**	**19 05 02.7**	**+0.2**
WRAB				IAmb	IAmb	19 05 27.0	
	comp=Z,7.8nm,1.2s						
WB0	**Warramunga Arr**	**42.70**	**266**	P	**P**	**19 05 02.2**	**-0.3**
WB0				IAmb	IAmb	19 05 03.6	
	comp=Z,5.0nm,0.8s						
WRA	**Warramunga Arr**	**42.71**	**266**	P	**P**	**19 05 02.6**	**0.0**
	comp=Z,3.5nm,0.4s,baz=103,slow=7.8,SNR=94						
WRA	**Warramunga Arr**	**42.71**	**266**	P	**P**	**19 05 01.2**	**-1.4**
FORT	**Forrest**	**46.55**	**250**	P	**P**	**19 05 30.7**	**-1.3**
FORT				IAmb	IAmb	19 05 49.2	
	comp=Z,18nm,1.2s						
MTN	**Manton Dam**	**47.78**	**274**	P	**P**	**19 05 41.5**	**0.0**
MTN				IAmb	IAmb	19 05 54.8	
	comp=Z,14nm,1.2s						
KNRA	**Kununurra**	**49.00**	**270**	P	**P**	**19 05 51.6**	**+1.0**
KNRA				IAmb	IAmb	19 05 52.4	
	comp=Z,9.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.13**	**266**	P	**P**	**19 06 06.2**	**-0.1**
MIDW	**Midway**	**52.03**	**3**	P	**P**	**19 06 13.3**	**+0.9**
MORW	**Morawa**	**57.11**	**250**	P	**P**	**19 06 47.8**	**-0.6**
MORW				IAmb	IAmb	19 06 55.8	
	comp=Z,24nm,1.4s						
CASY	**Casey**	**60.09**	**206**	P	**P**	**19 07 07.9**	**+0.2**
CASY				IAmb	IAmb	19 07 11.8	
	comp=Z,24nm,1.6s						
QSPA	**South Pole Qui**	**66.01**	**180**	P	**P**	**19 07 46.7**	**+0.7**
JNU	**Nakatsue**	**73.87**	**318**	LR	LR	19 37 06.7	
	comp=Z,91nm,19.2s,baz=174,slow=32						
KSAR	**Wonju Array Be**	**78.60**	**320**	P	**P**	**19 08 57.5**	**-1.6**
KS19	**Wonju Array Si**	**78.65**	**320**	P	**P**	**19 08 57.1**	**-2.4**

*IDC **08** 18:58:37.9±8.6, 44°.77N×145°.33E, h492km±109km, mb2.6/3, mb1 2.8/4, mb1mx2.5/43, mbtmp3.4/4, Error ellipse: s-maj=440.0km s-min=29.0km az=168.0*

*JMA **08** 18:58:40.5±0.4, 46°.47N×144°.80E, h390km, M3.4*

ISC 08 18:58:39.1±1.0, 46°.42N±0°.09×144°.8E±0°.1, h400km, n15, σ1°44/21, mb2.7/3, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**2.14**	**228**

comp=Z,2µm,18.2s,baz=30,slow=35
DZM Mont Dzumac 3.88 196 *e*Pn **Pn 19 06 15.5 -2.5**
189nm,0.7s
DZM *e*Sn **Sn 19 06 58.9 -4.0**
774nm,0.8s
DZM Mont Dzumac 3.88 196 Pn 19 06 15.4 -2.5
DZM Sn **Sn 19 06 58.4 -4.6**
DZM Mont Dzumac 3.88 196 P **Pn 19 06 16.3 -1.7**
NOUC Port Laguerre 3.95 198 P **Pn 19 06 17.3 -1.5**
ONTNC Ouen Toro 4.11 195 P **Pn 19 06 19.9 -1.1**
OUENC Ouen Island, N 4.13 190 P **Pn 19 06 20.3 -1.0**
PINNC Pines Island, 4.26 182 P **Pn 19 06 21.3 -1.8**
MSVF Nonsavu 9.94 88 Pn **Pn 19 07 44.4 +3.2**
1.0nm,0.3s,baz=275,slow=9.7,SNR=8.1
MSVF LR LR 19 10 25.6
comp=Z,534nm,18.4s,baz=268,slow=31
MSVF Nonsavu 9.94 88 *i*P **Pn 19 07 45.5 +4.3**
MSVF Nonsavu 9.94 88 Pn **Pn 19 07 42.8 +1.6**
HNR Honiara 11.56 319 Pn **Pn 19 08 01.7 -1.6**
21nm,0.3s,baz=173,slow=3.6,SNR=8.7
HNR Honiara 11.56 319 P **Pn 19 08 01.7 -1.6**
HNR Honiara 11.56 319 Pn 19 07 57.5 -5.8
LHI Lord Howe Isla 15.24 209 P **Pn 19 08 54.3 +0.9**
baz=16,SNR=4.3
EIDS Eidsvold 16.87 243 P **P 19 09 16.4 +0.2**
baz=17,SNR=5.2
RAO Raoul Island 17.11 132 LR LR 19 14 23.9
comp=Z,823nm,20.4s,baz=128,slow=32
ARMA Armidale 18.87 227 P **Pn 19 09 41.7 +2.6**
baz=19,SNR=4.0
ARMA Armidale 18.87 227 P 19 09 36.1 -2.3
RMQ Roma 19.22 242 P **Pn 19 09 43.9 +0.7**
baz=20,SNR=47
CTA Charters Tower 20.25 262 P **P 19 09 54.0 +0.5**
83nm,0.9s,baz=88,slow=11,SNR=32
CTA Charters Tower 20.25 262 P Pn 19 09 55.6 0.0
baz=21
CTA Charters Tower 20.25 262 P **P 19 09 54.1 +0.5**
CTA Charters Tower 20.25 262 P 19 09 54.0 +0.5
AFI Afiamalu 20.27 80 LR LR 19 16 46.0
comp=Z,204nm,18.3s,baz=237,slow=34
KRVT Keravat (AS076 20.66 311 P **P 19 09 57.3 -0.6**
33nm,0.8s,baz=134,slow=4.5,SNR=9.2
KRVT Keravat (AS076 20.66 311 P P 19 09 57.3 -0.6
MGCD Mangrove Creek 20.95 222 P Pn 19 10 05.5 +2.0
baz=21,SNR=9.1
URZ Urewera 21.52 159 P **P 19 10 08.5 +1.6**
14nm,0.7s,baz=351,slow=6.3,SNR=11
URZ LR LR 19 17 14.8
comp=Z,655nm,19.2s,baz=22,slow=33
URZ Urewera 21.52 159 P **P 19 10 05.4 -1.5**
URZ IAmb IAmb 19 10 28.9
comp=Z,96nm,1.1s
PMG Port Moresby 21.73 291 P **P 19 10 09.7 +0.2**
comp=Z,32nm,1.0s,baz=135,slow=5.6,SNR=6.1
PMG Port Moresby 21.73 291 P P 19 10 09.7 +0.2
MTSU Mount Surprise 22.13 267 P **P 19 10 13.8 0.0**
baz=23,SNR=21
BKZ Black Stump Fm 22.15 161 P **P 19 10 12.1 -1.7**
BKZ IAmb IAmb 19 10 25.1
comp=Z,94nm,1.2s
QLP Quilpie 23.09 245 P **P 19 10 23.5 -0.3**
baz=24,SNR=27
CNB Canberra Magne 23.42 220 P **P 19 10 28.7 +1.5**
baz=24,SNR=17
CAN Canberra 23.65 221 P **P 19 10 27.8 -1.5**
CAN pmax pmax
comp=Z,86nm,1.3s
CAN Canberra 23.65 221 P **P 19 10 27.8 -1.5**
CAN IAmb IAmb 19 10 39.6
comp=Z,86nm,1.3s
CMSA Cobar Meteorol 23.78 232 P **P 19 10 31.0 +0.4**
baz=24,SNR=21
COEN Coen 23.87 277 P **P 19 10 29.4 -2.2**
COEN IAmb IAmb 19 10 45.3
comp=Z,57nm,1.3s
RPZ Rata Peaks 25.47 174 LR LR 19 20 29.8
comp=Z,283nm,18.4s,baz=343,slow=36
QIS Mount Isa 26.50 261 P **P 19 10 54.7 -0.9**
baz=27,SNR=7.9
STKA Stephens Creek 27.07 235 P **P 19 11 00.8 +0.3**
comp=Z,37nm,0.9s,baz=64,slow=8.2,SNR=50
STKA LR LR 19 21 04.3
comp=Z,548nm,20.1s,baz=53,slow=35
STKA Stephens Creek 27.07 235 P **P 19 11 00.8 +0.3**
baz=28,SNR=52
STKA Stephens Creek 27.07 235*d i*P **P 19 11 00.5 0.0**
STKA Stephens Creek 27.07 235 P **P 19 10 59.8 -0.7**
TOO Toolangi 27.26 221 P **P 19 11 02.9 +0.7**
baz=28
TOO Toolangi 27.26 221 P **P 19 11 00.9 -1.3**
TOO pmax pmax
comp=Z,36nm,1.3s
TOO Toolangi 27.26 221 P **P 19 11 00.9 -1.3**
TOO IAmb IAmb 19 11 51.0
comp=Z,36nm,1.3s
ARPS Mount Arapiles 29.18 226 P **P 19 11 19.7 +0.4**
baz=30,SNR=5.1
MOO Moorlands 29.65 211 P **P 19 11 23.9 +0.5**
baz=30,SNR=5.1
HTT Hallett 29.75 234 P **P 19 11 24.7 +0.2**
baz=30,SNR=6.2
RAR Rarotonga 30.79 101 LR LR 19 21 55.1
comp=Z,148nm,21.3s,baz=268,slow=32
WR0 Warramunga Arr 31.27 262 P **P 19 11 35.5 -2.5**
WB0 Warramunga Arr 31.41 262 P **P 19 11 37.4 -1.9**
WC3 Warramunga Arr 31.42 262 P **P 19 11 37.5 -1.9**
baz=32
WB2 Warramunga Arr 31.44 262 P **P 19 11 37.5 -2.0**
WRAB Tennant Creek 31.45 262 *i*P **P 19 11 38.5 -1.1**
WRAB pmax pmax
comp=Z,10.0nm,1.0s
WRAB Tennant Creek 31.45 262 P **P 19 11 37.3 -2.3**
WRAB IAmb IAmb 19 12 39.6
comp=Z,14nm,0.6s
WRAB Tennant Creek 31.45 262 ⇑P **P 19 11 37.6 -1.9**
WRA Warramunga Arr 31.46 262 P **P 19 11 37.9 -1.8**
comp=Z,5.5nm,0.8s,baz=83,slow=6.0,SNR=26
WRA Warramunga Arr 31.46 262 *i*P **P 19 11 37.9 -1.8**
WRA pmax pmax
comp=Z,6.0nm,0.9s
WRA Warramunga Arr 31.46 262 P **P 19 11 36.9 -2.8**
BBOO Buckleboo 31.77 237 P **P 19 11 42.2 0.0**
baz=32,SNR=16
BBOO Buckleboo 31.77 237 P **P 19 11 41.4 -0.9**
BBOO IAmb IAmb 19 11 44.6
comp=Z,29nm,0.8s
AS31 Alice Springs 31.87 255 P **P 19 11 41.4 -1.9**
ASAR Alice Springs 31.87 255 P **P 19 11 41.9 -1.4**
comp=Z,22nm,0.8s,baz=83,slow=8.8,SNR=92
ASAR Alice Springs 31.87 255 P **P 19 11 41.3 -2.0**
ASAR Alice Springs 31.87 255 P **P 19 11 41.3 -2.0**
ASPA Alice Springs 31.88 255 P **P 19 11 42.2 -1.1**
baz=32
BAKI Biak 35.30 295 P **P 19 12 12.0 -1.2**
comp=Z,49nm,0.9s
WRKA Warakurna 37.05 253 P **P 19 12 27.1 -1.0**
baz=38,SNR=14
KNRA Kununurra 37.21 268 P **P 19 12 28.1 -1.4**
baz=38,SNR=12
KNRA Kununurra 37.21 268 P **P 19 12 25.9 -3.6**
FORT Forrest 37.87 243 P **P 19 12 34.6 -0.3**
baz=38,SNR=8.6
FORT Forrest 37.87 243 P **P 19 12 32.9 -2.0**
SWI Sorong 39.69 292 P **P 19 12 49.5 -0.8**
comp=Z,25nm,0.9s
FITZ Fitzroy Crossi 39.81 264 P **P 19 12 50.8 -0.6**
baz=40,SNR=60
FITZ Fitzroy Crossi 39.81 264 P **P 19 12 51.0 -0.4**
PPT2 Papeete2 40.66 96 *e*S **S 19 19 05.0 -2.5**
comp=Z,157nm,23.5s
PPT2 *e*LR LR 19 24 06.7
comp=Z,675nm,29.5s
PPT Papeete 40.66 96 LR LR 19 29 15.9
comp=Z,117nm,18.3s,baz=216,slow=35
LBMI Labuha 43.13 290 P **P 19 13 19.0 +0.4**
comp=Z,17nm,1.4s
BATI Baumata 43.27 275 P **P 19 13 20.7 +0.9**
comp=Z,20nm,1.0s
SANI Sanana 43.89 287 P **P 19 13 25.2 +0.4**
comp=Z,444nmcomp=Z,27nm,1.0s
PSA00 Pilbara Seismi 44.89 258 P **P 19 13 31.7 -1.0**
PSA00 IAmb IAmb 19 13 44.1
comp=Z,25nm,1.0s
PSA00 Pilbara Seismi 44.89 258 P **P 19 13 31.3 -1.5**
PSA00 IAmb IAmb 19 13 44.2

comp=Z,13nm,1.1s
MBWA Marble Bar 45.03 258 P **P 19 13 33.5 -0.4**
MBWA pP **sP 19 13 42.0 +1.0**
MBWA sP **pwP 19 13 44.8 -2.0**
MEEK Meekatharra 45.80 250 P **P 19 13 39.7 -0.3**
baz=46,SNR=12
MORW Morawa 48.10 247 P **P 19 13 57.3 -0.6**
baz=49
MORW Morawa 48.10 247 P **P 19 13 57.1 -0.7**
MORW IAmb IAmb 19 14 09.7
comp=Z,24nm,1.1s
TAOE Nuku Hiva Isla 51.48 87 *e*LR LR 19 29 08.5
comp=Z,512nm,27.7s
JHJ Hachijo jima 2 57.66 332 LR LR 19 37 56.5
comp=Z,45nm,20.8s,baz=107,slow=34
VNDA Vanda 59.29 181 P **P 19 15 19.8 +0.7**
comp=Z,1.1nm,1.0s,baz=343,slow=5.7,SNR=4.1
VNDA LR LR 19 37 43.3
comp=Z,86nm,20.2s,baz=55,slow=33
VNDA Vanda 59.29 181 P **P 19 15 19.6 +0.6**
VNDA pmax pmax
comp=Z,6.0nm,1.1s
VNDA Vanda 59.29 181 P **P 19 15 19.6 +0.6**
SBA Scott Base 59.56 180 P **P 19 15 22.4 +1.6**
SBA pmax pmax
comp=Z,16nm,0.9s
SBA Scott Base 59.56 180 P **P 19 15 22.4 +1.6**
SBA IAmb IAmb 19 15 30.8
comp=Z,16nm,0.9s
SBA Scott Base 59.56 180 ⇓P **P 19 15 23.8 +2.9**
SBA ⇓pP **sP 19 15 30.0 +1.4**
CASY Casey 60.35 203 P **P 19 15 25.4 -1.1**
MJAR Matsushiro Arr 61.24 333 LR LR 19 39 38.7
comp=Z,49nm,21.5s,baz=158,slow=34
CCD Concordia, Ant 61.46 192 P **P 19 15 36.0 +1.6**
CCD pP **sP 19 15 42.2 0.0**
ASAJ Asahikawa 66.23 341 LR LR 19 39 52.3
comp=Z,129nm,20.8s,baz=171,slow=31
TJN Taejon 66.39 325*ce*P **P 19 16 06.9 +0.1**
QIZ Qiongzhong 67.80 300 P **P 19 16 17.2 +1.1**
QIZ S **S 19 25 18.7 +5.4**
QIZ pmax pmax
comp=Z,130nm,7.2s
QIZ LR LR
comp=Z,110nm,15.7s
QIZ LR LR
comp=Z,97nm,18.6s
QIZ LR LR
comp=Z,100nm,17.5s
NJ2 Nanjing 68.50 317 *e*P **P 19 16 22.0 +1.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
YSS Yuzh-Sakhalins 68.74 342 *e*P **P 19 16 22.6 +1.2**
YSS *e*S **S 19 25 21.7 -1.6**
YSS MLR MLR
comp=Z,300nm,17.0s
PSI Prapat 70.76 280 LR LR 19 49 55.3
comp=Z,129nm,19.1s,baz=124,slow=38
SHEM Shemya Is, Ala 70.98 4 LR LR 19 42 46.8
comp=Z,163nm,20.3s,baz=266,slow=32
PET Petropavlovsk 71.48 354 *e*P P 19 16 43.5 +5.5
PET *e*S **S 19 25 59.2 +4.0**
PET MLR MLR
comp=Z,100nm,16.0s
PEA0B Petropavlovsk- 71.66 354 *i*P **P 19 16 38.3 -0.9**
PEA0B Petropavlovsk- 71.66 354 P **P 19 16 37.8 -1.4**
PEA0B IAmb IAmb 19 16 49.4
comp=Z,39nm,1.6s
PETK Petropavlovsk- 71.66 354 P **P 19 16 38.9 -0.3**
comp=Z,4.4nm,0.9s,baz=122,slow=5.4,SNR=7.2
PETK LR LR 19 42 07.9
comp=Z,78nm,20.3s,baz=157,slow=31
PETK Petropavlovsk- 71.66 354 P **P 19 16 37.6 -1.6**
PETK Petropavlovsk- 71.66 354 P **P 19 16 37.6 -1.6**
QSPA South Pole Qui 71.72 180 LR LR 19 44 13.4
comp=Z,169nm,19.3s,baz=4.0,slow=32
QSPA South Pole Qui 71.72 180 P **P 19 16 39.3 -0.4**
QSPA South Pole Qui 71.72 180 P **P 19 16 42.0 +2.3**
QSPA pP **sP 19 16 48.2 +0.6**
CN2 Changchun 72.89 329 *e*P P 19 16 51.7 +4.9
CN2 pmax pmax
comp=Z,10.0nm,0.5s
BNX BinXian 73.45 332 ⇑P **P 19 16 51.2 +1.2**
BNX pmax pmax
comp=Z,210nm,7.3s
ENH Enshi 73.92 310 P **P 19 16 50.2 -2.9**
GYA Guiyang 74.05 305 ⇑P **P 19 16 56.2 +2.1**
GYA pmax pmax
comp=Z,8.0nm,1.0s
KLR Kul'dur 74.42 336*ce*P **P 19 16 56.4 +0.8**
KLR pmax pmax
comp=Z,22nm,1.5s
HNS HongShan 74.51 319 ⇓P **P 19 16 58.4 +2.0**
HNS pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 76.37 313 P **P 19 17 09.1 +1.8**
XAN pmax pmax
comp=Z,11nm,1.0s
KMI Kunming 76.49 302 ⇑P **P 19 17 10.0 +1.6**
KMI pP sP 19 17 17.7 +1.0
KMI pmax pmax
comp=Z,9.0nm,0.8s
CM31 Chiang Mai Arr 76.73 295 P **P 19 17 07.5 -2.1**
CMAR Chiang Mai Arr 76.73 295 P **P 19 17 10.8 +1.3**
comp=Z,2.5nm,0.9s,baz=132,slow=4.4,SNR=13
CMAR Chiang Mai Arr 76.73 295*ce*P **P 19 17 10.8 +1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 76.73 295 P **P 19 17 07.8 -1.8**
XLT XiLinHaoTe 77.81 325 *e*P **P 19 17 19.4 +4.2**
XLT pP pwP 19 17 27.3 +0.3
XLT sP PcP 19 17 29.6 +4.5
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,220nm,5.5s
PZH PanZhiHua 77.93 303 P **P 19 17 16.6 +0.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.5s
CD2 Chengdu 78.47 308 P **P 19 17 21.0 +1.9**
CD2 S **S 19 27 17.1 +2.9**
CD2 SS **SS 19 32 19.8 +1.7**
CD2 pmax pmax
comp=Z,20nm,0.5s
HHC Hu-ho-hao-te 78.54 320 *e*P **P 19 17 20.0 +0.7**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.7s
MAW Mawson 78.69 202 P **P 19 17 21.8 +2.2**
comp=Z,6.2nm,0.9s,baz=82,slow=11,SNR=5.1
MAW LR LR 19 47 22.8
comp=Z,117nm,20.6s,baz=127,slow=32
MAW Mawson 78.69 202 P **P 19 17 22.1 +2.4**
baz=79,SNR=5.8
MAW Mawson 78.69 202 P **P 19 17 19.1 -0.5**
MAW pmax pmax
comp=Z,7.0nm,1.1s
MAW Mawson 78.69 202 P **P 19 17 19.1 -0.5**
MA2 Magadan 78.84 351 LR LR 19 46 18.8
comp=Z,120nm,21.0s,baz=160,slow=31
ZEA Zeya 79.72 337 *e*P **P 19 17 26.5 +1.2**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
LZH Lanzhou 80.99 313 *e*P **P 19 17 37.5 +4.7**
LZH pP pwP 19 17 44.2 -2.4
LZH sS sS 19 27 58.5 +8.6
LZH pmax pmax
comp=Z,12nm,1.5s
SEY Seymchan 81.88 353*ce*P **P 19 17 35.9 -0.7**
SEY pmax pmax
comp=Z,9.0nm,1.3s
KDAK Kodiak Island 82.70 20 LR LR 19 50 56.9
comp=Z,102nm,18.4s,baz=230,slow=33
BELA Belgrano 2 83.13 175 P **P 19 17 43.4 +0.2**
GAMB Gambell 83.41 9 P **P 19 17 44.7 +0.1**
baz=200
P19K Oil Pt 83.99 19 P **P 19 17 48.9 +1.2**
baz=217
O19K Port Alsworth 84.10 18 P **P 19 17 47.9 -0.3**
baz=216
SVW2 Sparrevohn 84.47 17 P **P 19 17 49.5 -0.6**
SVW2 IAmb IAmb 19 17 51.4

comp=Z,16nm,1.3s
O20K Slope Mountain 84.52 19 P **P 19 17 50.2 -0.2**
baz=218
N19K Bonanza Creek 84.55 18 P **P 19 17 49.0 -1.6**
N19K Bonanza Creek 84.55 18 P **P 19 17 50.1 -0.5**
baz=216
RSO Redoubt South 84.78 19 P **P 19 17 50.7 -1.2**
BRSE Bradley Lake S 84.84 20 P **P 19 17 52.9 +0.9**
baz=219
ANM Nome 85.21 11 P **P 19 17 54.6 +0.9**
baz=206
SYO Syowa Base 85.37 197⇓ *e*P **P 19 17 53.6 -1.0**
SYO Syowa Base 85.37 197⇑ *e*PcP **PcP 19 17 57.4 -0.3**
GTA Gaotai 85.39 314 ⇓P **P 19 17 57.7 +2.3**
GTA pP sP 19 18 04.8 +1.0
GTA sP pwP 19 18 08.4 -0.9
GTA S **S 19 28 29.0 +3.7**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,95nm,6.0s
GTA LR LR
comp=Z,120nm,15.9s
GTA LR LR
comp=Z,150nm,16.3s
GTA LR LR
comp=Z,130nm,16.7s
M19K Big River Lodg 85.46 17 P **P 19 17 55.6 +0.5**
baz=216
YAK Yakutsk 85.55 343 LR LR 19 56 51.1
comp=Z,72nm,18.2s,baz=94,slow=36
YAK Yakutsk 85.55 343 *e*P **P 19 17 55.2 -0.3**
YAK *e* 19 18 03.2
YAK *e**PP **pwP 19 18 09.5 +2.0**
YAK *e* 19 21 12.6
YAK *e*S **SKSac 19 28 15.9 -3.1**
YAK *e*SS **SS 19 33 59.2 -2.9**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,64nm,3.4s
YAK pmax pmax
comp=N,34nm,3.3s
YAK pmax pmax
comp=E,44nm,3.2s
YAK smax smax
comp=N,35nm,3.5s
YAK smax smax
comp=E,43nm,3.3s
L19K White Mountain 85.56 17 P **P 19 17 55.1 -0.5**
L19K IAmb IAmb 19 17 57.9
comp=Z,20nm,1.2s
L19K White Mountain 85.56 17 P **P 19 17 55.9 +0.3**
baz=216
SONM Songino Array 85.58 324 P **P 19 17 56.7 +0.6**
comp=Z,1.5nm,0.9s,baz=144,slow=4.6,SNR=5.8
SONM Songino Array 85.58 324 P **P 19 17 56.7 +0.6**
TNA Tin City 85.67 10 P **P 19 17 55.0 -1.0**
TNA IAmb IAmb 19 17 59.1
comp=Z,14nm,0.9s
TNA Tin City 85.67 10 P **P 19 17 56.4 +0.4**
baz=203
TTA Tatalina 85.87 16 P **P 19 17 55.3 -1.8**
TTA pmax pmax
comp=Z,30nm,1.6s
TTA Tatalina 85.87 16 P **P 19 17 55.3 -1.8**
TTA Tatalina 85.87 16 P **P 19 17 57.6 +0.4**
baz=214
L20K Farewell, AK 86.07 17 P **P 19 17 58.3 +0.2**
baz=216
BILL Bilibino 86.13 359*ce*P **P 19 17 58.3 +0.1**
BILL *e* 19 21 24.8
BILL *e*PPP PPP 19 23 14.7
BILL pmax pmax
comp=Z,17nm,1.3s
BILL Bilibino 86.13 359 P **P 19 17 58.0 -0.2**
KMRM Mail Ridge 86.36 46 P **P 19 17 59.7 -0.4**
SAO San Andreas Ge 86.39 50 P **P 19 17 59.2 -1.1**
SAO pmax pmax
comp=Z,7.0nm,0.8s
SAO San Andreas Ge 86.39 50 P **P 19 17 59.2 -1.1**
SAO IAmb IAmb 19 18 01.2
comp=Z,6.7nm,0.8s
PWL Port Wells 86.47 20 P **P 19 17 59.8 -0.3**
baz=222
KHMM Horse Mountain 86.65 45 P **P 19 18 01.5 -0.1**
KHMM IAmb IAmb 19 18 04.6
comp=Z,8.9nm,0.7s
K20K Telida 86.73 16 P **P 19 18 02.3 +1.0**
baz=216
O02D Mt. Diablo Mer 86.97 46 P **P 19 18 03.7 +0.5**
baz=243
CAST Castle Rocks 87.32 17 P **P 19 18 02.7 -1.5**
baz=218
J20K Nowinta River 87.38 16 P **P 19 18 03.0 -1.4**
J20K Nowinta River 87.38 16 P **P 19 18 04.4 0.0**
baz=216
N02D Trinity Center 87.38 45 P **P 19 18 05.0 -0.1**
baz=243
M02C Callahan 87.47 45 P **P 19 18 04.2 -1.3**
M02C IAmb IAmb 19 18 08.5
comp=Z,5.5nm,0.8s
M02C Callahan 87.47 45 P **P 19 18 06.1 +0.6**
baz=243
GOMU GeErMu 87.52 309 P **P 19 18 05.2 -1.0**
GOMU pP sP 19 18 16.9 +2.3
GOMU sP pwP 19 18 19.2 -0.9
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,78nm,5.0s
K02D Willamette Mer 87.53 43 P **P 19 18 05.5 -0.3**
baz=242
ORV Oroville 87.58 47 P **P 19 18 05.1 -0.9**
ORV pmax pmax
comp=Z,6.0nm,1.1s
ORV Oroville 87.58 47 P **P 19 18 05.1 -0.9**
CHUM Lake Minchumin 87.62 17 P **P 19 18 04.3 -1.3**
baz=218
CMB Columbia Colle 87.70 49 P **P 19 18 06.3 -0.4**
CMB pmax pmax
comp=Z,8.0nm,0.8s
CMB Columbia Colle 87.70 49 P **P 19 18 06.3 -0.4**
CMB IAmb IAmb 19 18 07.3
comp=Z,8.2nm,0.8s
YBH Yreka Blue Hor 87.72 45 LR LR 19 48 11.3
comp=Z,124nm,21.6s,baz=246,slow=29
YBH Yreka Blue Hor 87.72 45 P **P 19 18 06.1 -0.7**
YBH pmax pmax
comp=Z,11nm,1.5s
YBH Yreka Blue Hor 87.72 45 P **P 19 18 06.0 -0.7**
YBH IAmb IAmb 19 18 22.4
comp=Z,11nm,1.5s
TRF Thorofare Moun 87.85 18 P **P 19 18 06.1 -0.8**
baz=220
WAT6 Susitna Watana 87.95 19 P **P 19 18 07.6 +0.2**
baz=222
HUMO Hull Mountain 87.96 44 P **P 19 18 07.7 -0.1**
HUMO IAmb IAmb 19 18 11.5
comp=Z,5.4nm,0.9s
ISA Isabella, Lake 88.11 52 P **P 19 18 08.6 -0.1**
ISA pmax pmax
comp=Z,7.0nm,1.1s
ISA Isabella, Lake 88.11 52 P **P 19 18 08.6 -0.1**
ISA IAmb IAmb 19 18 09.1
comp=Z,7.0nm,1.1s
ISA Isabella, Lake 88.11 52 P **P 19 18 08.8 +0.1**
baz=246
EDW2 Edwards Air Fo 88.15 52 P **P 19 18 08.5 -0.4**
baz=246
I03D Drain, OR 88.20 43 P **P 19 18 09.3 +0.5**
baz=243
L04D Klamath Falls 88.21 44 P **P 19 18 09.2 +0.1**
baz=243
N25K Chitina, Valde 88.25 21 P **P 19 18 09.4 +0.7**
baz=225
M04C Macdoel 88.33 45 P **P 19 18 09.7 +0.1**
baz=244
DHY Denali Highway 88.43 19 P **P 19 18 10.0 +0.3**
baz=222
MCK McKinley 88.46 18 P **P 19 18 10.0 +0.4**
baz=221

MPK	**Martis Peak**	**88.49**	**48**	P		**P**	**19 18 09.6**	**-1.1**
BEKR	**Beckworth**	**88.50**	**47**	P		**P**	**19 18 09.1**	**-1.5**
BEKR				IAmb		IAmb	19 18 26.0	
	comp=Z,10nm,1.2s							
OMMB	**Old Mammoth Mi**	**88.52**	**50**	P		**P**	**19 18 09.2**	**-1.7**
OMMB				IAmb		IAmb	19 18 26.9	
	comp=Z,8.2nm,1.4s							
MONP2	**Monument Peak**	**88.57**	**55**	P		**P**	**19 18 10.7**	**-0.4**
	baz=247							
LRMC	**Laurel Mtn Rad**	**88.63**	**52**	P		**P**	**19 18 11.0**	**-0.2**
	baz=246							
ZAK	**Zakamensk**	**88.67**	**325**	*e*P		**P**	**19 18 11.9**	**+0.9**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.5s							
PNTR	**Pine Nut**	**88.71**	**48**	P		**P**	**19 18 10.5**	**-1.1**
PNTR				IAmb		IAmb	19 18 12.6	
	comp=Z,7.8nm,0.8s							
CWC	**Cottonwood Cre**	**88.72**	**51**	P		**P**	**19 18 11.7**	**0.0**
	baz=246							
I21K	**Tanana**	**88.74**	**16**	P		**P**	**19 18 10.4**	**-0.4**
	baz=218							
PFO	**Pinyon Flats O**	**88.82**	**54**	LR		LR	19 51 05.8	
	comp=Z,102nm,19.6s,baz=250,slow=31							
H21K	**Melozitna Rive**	**88.91**	**15**	P		**P**	**19 18 12.9**	**+1.2**
	baz=217							
YERR	**Yerington**	**88.92**	**48**	P		**P**	**19 18 12.2**	**-0.4**
YERR				IAmb		IAmb	19 18 13.6	
	comp=Z,8.3nm,1.2s							
MPMC	**Manual Prospec**	**89.00**	**51**	P		**P**	**19 18 12.6**	**-0.4**
	baz=247							
NEA2	**Nenana**	**89.07**	**17**	P		**P**	**19 18 13.0**	**+0.5**
	baz=221							
PAHR	**Pah Rah Range**	**89.12**	**48**	P		**P**	**19 18 13.0**	**-0.4**
PAHR				IAmb		IAmb	19 18 14.5	
	comp=Z,14nm,1.3s							
LHV	**Little Huntoon**	**89.14**	**49**	P		**P**	**19 18 13.4**	**0.0**
GSC	**Goldstone, Bar**	**89.21**	**52**	P		**P**	**19 18 13.8**	**-0.2**
	baz=247							
RYN	**Ryan**	**89.28**	**49**	P		**P**	**19 18 13.6**	**-0.7**
TROLL	**Troll, Antarti**	**89.32**	**185**	P		**P**	**19 18 15.5**	**+1.6**
BELC	**Belle Mtn. Jos**	**89.32**	**54**	P		**P**	**19 18 14.5**	**0.0**
	baz=248							
NVAR	**Mina Array Bea**	**89.36**	**49**	P		**P**	**19 18 14.3**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=227,slow=7.9,SNR=18							
NVAR				LR		LR	19 52 26.7	
	comp=Z,82nm,18.4s,baz=236,slow=32							
NVAR	**Mina Array Bea**	**89.36**	**49**	P		**P**	**19 18 14.1**	**-0.6**
K05A	**Summer Lake**	**89.37**	**44**	P		**P**	**19 18 14.6**	**-0.1**
J05D	**Fort Rock, OR**	**89.39**	**44**	P		**P**	**19 18 14.8**	**+0.2**
	baz=244							
MOD	**Modoc Plateau**	**89.41**	**45**	P		**P**	**19 18 14.4**	**-0.4**
QSM	**Queen of Sheba**	**89.43**	**52**	P		**P**	**19 18 13.9**	**-0.9**
QSM				IAmb		IAmb	19 18 29.9	
	comp=Z,14nm,1.5s							
NV11	**Mina Array Sit**	**89.47**	**49**	P		**P**	**19 18 14.9**	**-0.3**
NV11				IAmb		IAmb	19 18 16.2	
	comp=Z,14nm,1.4s							
HDA	**Harding Lake**	**89.55**	**18**	P		**P**	**19 18 14.0**	**-0.6**
	baz=223							
BBB	**Bella Bella**	**89.56**	**34**	LR		LR	19 51 01.6	
	comp=Z,48nm,20.6s,baz=290,slow=31							
BC3	**Big Chuckawall**	**89.61**	**54**	P		**P**	**19 18 15.9**	**0.0**
	baz=248							
GWY	**Greenwater Val**	**89.66**	**52**	P		**P**	**19 18 15.6**	**-0.5**
GWY				IAmb		IAmb	19 18 24.2	
	comp=Z,14nm,1.6s							
RIDG	**Independent Ri**	**89.69**	**19**	P		**P**	**19 18 15.9**	**+0.4**
	baz=225							
KVN	**Kaiserville**	**89.76**	**49**	P		**P**	**19 18 15.2**	**-1.3**
KVN				pmax		pmax		
	comp=Z,24nm,1.5s							
KVN	**Kaiserville**	**89.76**	**49**	P		**P**	**19 18 15.2**	**-1.3**
PINE	**Pine Mountain**	**89.81**	**43**	P		**P**	**19 18 16.2**	**-0.5**
PINE				IAmb		IAmb	19 18 17.4	
	comp=Z,8.3nm,0.9s							
IL31		**89.83**	**18**	P		**P**	**19 18 14.2**	**-1.7**
IL31				IAmb		IAmb	19 18 17.1	
	comp=Z,5.6nm,0.9s							
ILAR	**Eielson Array**	**89.83**	**18**	P		**P**	**19 18 14.4**	**-1.6**
	comp=Z,3.3nm,0.7s,baz=238,slow=5.8,SNR=22							
ILAR				LR		LR	19 55 56.6	
	comp=Z,106nm,18.1s,baz=178,slow=34							
ILAR	**Eielson Array**	**89.83**	**18**	P		**P**	**19 18 14.3**	**-1.7**
ILAR	**Eielson Array**	**89.83**	**18**	P		**P**	**19 18 14.3**	**-1.7**
DOT	**Dot Lake**	**89.88**	**19**	P		**P**	**19 18 15.6**	**-0.7**
GMRC	**Granite Mounta**	**89.88**	**53**	P		**P**	**19 18 16.9**	**-0.3**
	baz=248							
H23K	**Yukon River**	**89.89**	**16**	P		**P**	**19 18 16.0**	**-0.3**
	baz=220							
TUQ	**Turquoise Moun**	**89.93**	**53**	P		**P**	**19 18 17.2**	**-0.1**
	baz=248							
E04D	**Cinebar**	**90.00**	**40**	P		**P**	**19 18 17.9**	**+0.7**
	baz=243							
SCRK	**Sand Creek**	**90.13**	**19**	P		**P**	**19 18 16.6**	**-0.9**
	baz=225							
J25K	**Salcha River,**	**90.16**	**18**	P		**P**	**19 18 16.7**	**-1.0**
J25K				IAmb		IAmb	19 18 17.4	
	comp=Z,10nm,1.4s							
J25K	**Salcha River,**	**90.16**	**18**	P		**P**	**19 18 16.7**	**-1.0**
	baz=224							
TPNV	**Topopah Spring**	**90.27**	**51**	P		**P**	**19 18 18.6**	**-0.3**
TPNV				pmax		pmax		
	comp=Z,9.0nm,1.2s							
TPNV	**Topopah Spring**	**90.27**	**51**	P		**P**	**19 18 18.6**	**-0.3**
TPNV				IAmb		IAmb	19 18 19.9	
	comp=Z,8.5nm,1.2s							
LPIG	**La Paz**	**90.41**	**65**	LR		LR	19 53 41.0	
	comp=Z,150nm,18.2s,baz=224,slow=32							
J26L	**Joseph Creek**	**90.63**	**19**	P		**P**	**19 18 19.5**	**-0.4**
	baz=226							
VNA3	**Neumayer Olymp**	**90.64**	**181**	P		**P**	**19 18 21.1**	**+1.2**
WVOR	**Wild Horse Val**	**90.76**	**45**	P		**P**	**19 18 20.6**	**-0.5**
WVOR				pmax		pmax		
	comp=Z,12nm,1.2s							
WVOR	**Wild Horse Val**	**90.76**	**45**	P		**P**	**19 18 20.6**	**-0.5**
WVOR				IAmb		IAmb	19 18 22.2	
	comp=Z,12nm,1.2s							
PDMCI	**Parker Dam,Lak**	**90.86**	**54**	P		**P**	**19 18 21.7**	**+0.2**
	baz=248							
I07A	**Izee**	**90.87**	**44**	P		**P**	**19 18 21.1**	**-0.4**
I07A				IAmb		IAmb	19 18 22.1	
	comp=Z,8.0nm,0.9s							
VNA2	**Neumayer--Watz**	**90.91**	**182**	P		**P**	**19 18 22.3**	**+1.1**
	baz=154,slow=2.0							
BMN	**Battle Mountai**	**90.93**	**48**	P		**P**	**19 18 21.6**	**-0.3**
BMN				pmax		pmax		
	comp=Z,15nm,1.3s							
BMN	**Battle Mountai**	**90.93**	**48**	P		**P**	**19 18 21.6**	**-0.3**
B05A	**Bryant**	**91.06**	**39**	P		**P**	**19 18 22.6**	**+0.5**
	baz=244							
J08A	**Circle Bar Ran**	**91.25**	**45**	P		**P**	**19 18 23.1**	**-0.2**
R11A	**Troy Canyon, C**	**91.29**	**50**	P		**P**	**19 18 23.3**	**-0.4**
	baz=248							
PRN	**Pahroc Range**	**91.33**	**51**	P		**P**	**19 18 23.6**	**-0.3**
PRN				IAmb		IAmb	19 18 25.0	
	comp=Z,13nm,1.2s							
M30M	**Minto, Yukon**	**91.63**	**22**	P		**P**	**19 18 24.7**	**+0.2**
	baz=232							
E07A	**Sunnyside**	**91.69**	**41**	P		**P**	**19 18 24.8**	**-0.3**
E07A				IAmb		IAmb	19 18 27.7	
	comp=Z,6.4nm,0.9s							
G08A	**Pilot Rock**	**91.72**	**43**	P		**P**	**19 18 25.2**	**-0.3**
G08A				IAmb		IAmb	19 18 26.3	
	comp=Z,7.9nm,0.9s							
HAWA	**Hanford**	**91.82**	**41**	P		**P**	**19 18 25.5**	**-0.2**
DLBC	**Dease Lake**	**91.95**	**28**	LR		LR	19 58 47.1	
	comp=Z,126nm,18.4s,baz=257,slow=35							
ELK	**Elko**	**92.44**	**48**	LR		LR	19 51 36.2	
	comp=Z,76nm,20.4s,baz=242,slow=30							
ELK	**Elko**	**92.44**	**48**	P		**P**	**19 18 28.3**	**-0.7**
ELK				pmax		pmax		
	comp=Z,3.0nm,1.1s							
ELK	**Elko**	**92.44**	**48**	P		**P**	**19 18 28.3**	**-0.7**
LCMT	**Little Creek M**	**92.53**	**52**	P		**P**	**19 18 28.9**	**-0.5**
CCUT	**Cedar City**	**92.63**	**51**	P		**P**	**19 18 29.4**	**-0.6**
CCUT				IAmb		IAmb	19 18 48.1	
	comp=Z,4.9nm,0.6s							
I29M	**Ogilvie Camp,**	**92.87**	**20**	P		**P**	**19 18 28.9**	**-1.3**
	baz=230							
TIXI	**Tiksi**	**93.55**	**349**	*i* P		**P**	**19 18 31.8**	**-1.2**
TIXI				pmax		pmax		
	comp=Z,1.0nm,1.2s							
NEW	**Newport**	**94.07**	**40**	LR		LR	20 00 42.3	
	comp=Z,40nm,18.4s,baz=334,slow=35							
HYBB	**Hyderabad (bro**	**94.49**	**287**	*e*P		**P**	**19 18 36.6**	**-2.1**
HYBB				*e*PP		**PP**	**19 22 23.6**	**-3.2**
HYBB				*e*SKSac		**SKSac**	**19 29 10.7**	**-2.5**
WMQ	**Urumqi**	**95.47**	**314**	*e*P		**P**	**19 18 44.3**	**+1.6**
INK	**Inuvik**	**96.17**	**19**	LR		LR	19 58 23.2	
	comp=Z,92nm,18.4s,baz=213,slow=33							
INK	**Inuvik**	**96.17**	**19**	P		**P**	**19 18 45.5**	**+0.4**
	baz=235							
ANMO	**Albuquerque**	**97.05**	**56**	LR		LR	19 57 43.4	
	comp=Z,36nm,18.6s,baz=257,slow=32							
PDAR	**Pinedale Array**	**97.13**	**47**	P		**P**	**19 18 49.2**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=226,slow=6.1,SNR=2.8							
PDAR				LR		LR	20 01 25.5	
	comp=Z,47nm,18.1s,baz=249,slow=35							
PDAR	**Pinedale Array**	**97.13**	**47**	P		**P**	**19 18 49.2**	**-1.2**
TXAR	**Lajitas Array**	**97.69**	**62**	LR		LR	19 58 13.0	
	comp=Z,74nm,18.0s,baz=244,slow=32							
C36M	**Paulatuk**	**99.65**	**20**	P		**Pdif**	**19 18 59.9**	**-0.8**
	baz=244							
MKAR	**Makanchi Array**	**100.02**	**316**	P		**Pdif**	**19 19 03.2**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=115,slow=5.5,SNR=2.5							
MKAR				PKKPbc		**PKKPbc**	**19 35 20.8**	**-2.5**
	comp=Z,0.3nm,0.7s,baz=276,slow=3.9,SNR=4.0							
MKAR	**Makanchi Array**	**100.02**	**316**	P		**Pdif**	**19 19 03.2**	**+0.2**
YKA	**Yellowknife Ar**	**100.57**	**27**	P		**Pdif**	**19 19 04.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=255,slow=4.7,SNR=12							
YKA	**Yellowknife Ar**	**100.57**	**27**	P		**Pdif**	**19 19 04.7**	**-0.3**
YKA	**Yellowknife Ar**	**100.57**	**27**	P		**Pdif**	**19 19 04.7**	**-0.3**
ARU	**Arti**	**115.61**	**324**	PKP		**PKPdf**	**19 23 59.8**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=26,slow=4.3,SNR=3.9							
ARU	**Arti**	**115.61**	**324**	PKIKP		**PKPdf**	**19 23 59.8**	**+0.2**
SPITS	**Spitsbergen Ar**	**118.53**	**354**	PKP		**PKiKP**	**19 24 05.1**	**+0.4**
	comp=Z,8.0nm,1.0s,baz=64,slow=9.8,SNR=1.6							
SPITS	**Spitsbergen Ar**	**118.53**	**354**	PKIKP		**PKiKP**	**19 24 05.1**	**+0.4**
SPITS	**Spitsbergen Ar**	**118.53**	**354**			**PKiKP**	**19 24 05.1**	**+0.4**
BELG	**Belogornoye**	**122.55**	**321**	PKP		**PKPdf**	**19 24 12.0**	**-1.0**
	comp=Z,11nm,0.9s,baz=145,slow=5.0,SNR=4.8							
BELG	**Belogornoye**	**122.55**	**321**	PKIKP		**PKPdf**	**19 24 12.0**	**-1.0**
ARCES	**ARCESS Array B**	**123.80**	**345**	PKP		**PKPdf**	**19 24 14.5**	**-0.5**
	comp=Z,3.1nm,1.0s,baz=64,slow=2.1,SNR=1.5							
ARCES	**ARCESS Array B**	**123.80**	**345**	PKIKP		**PKPdf**	**19 24 14.5**	**-0.5**
KLMR	**Klimovskoe**	**124.02**	**332**	*e*PKIKP		**PKPdf**	**19 24 14.9**	**-0.6**
KLMR				pmax		pmax		
	comp=Z,16nm,1.4s							
KLMR	**Klimovskoe**	**124.02**	**332**	*e*PKPdf		**PKPdf**	**19 24 15.0**	**-0.6**
KLMR				AMP			19 24 25.1	
	comp=Z,16nm,1.4s							
GNI	**Garni**	**126.58**	**307**	PKP		**PKiKP**	**19 24 21.8**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=22,slow=19,SNR=1.5							
GNI	**Garni**	**126.58**	**307**	PKIKP		**PKiKP**	**19 24 21.8**	**-0.1**
ZEI	**Tsey**	**126.85**	**310**	*i* PKIKP		**PKPdf**	**19 24 21.0**	**-0.9**
ZEI				pmax		pmax		
	comp=Z,4.0nm,1.4s							
KBZ	**Khabaz**	**127.41**	**311**	*c i*PKIKP		**PKiKP**	**19 24 24.8**	**+1.7**
KBZ				pmax		pmax		
	comp=Z,2.0nm,1.1s							
KIV	**Kislovodsk**	**127.52**	**312**	*i* PKIKP		**PKiKP**	**19 24 24.2**	**+0.7**
KIV				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,68nm,23.0s							
SHA1	**Shidzhatmaz**	**127.58**	**311**	*i* PKIKP		**PKPdf**	**19 24 23.3**	**0.0**
VORR	**Voronezh**	**127.74**	**322**	*e*PKIKP		**PKiKP**	**19 24 23.4**	**-0.2**
VORR				pmax		pmax		
	comp=Z,50nm,0.4s							
OBN	**Obninsk**	**127.90**	**327**	*e*PKIKP		**PKiKP**	**19 24 23.7**	**0.0**
OBN				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BDFB	**Brasilia**	**131.30**	**132**	PKP		**PKPdf**	**19 24 30.7**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=314,slow=20,SNR=2.0							
BDFB	**Brasilia**	**131.30**	**132**	PKIKP		**PKPdf**	**19 24 30.7**	**-0.4**
AKASG	**Malin Array Be**	**133.86**	**324**	PKP		**PKPdf**	**19 24 34.8**	**+0.2**
	comp=Z,0.2nm,0.2s,baz=50,slow=2.8,SNR=4.1							
AKASG	**Malin Array Be**	**133.86**	**324**	PKIKP		**PKPdf**	**19 24 34.8**	**+0.2**
AKASG	**Malin Array Be**	**133.86**	**324**			**PKPdf**	**19 24 34.8**	**+0.2**
UZH	**Uzhgorod**	**138.78**	**325**	*e*PKIKP		**PKiKP**	**19 24 52.4**	**+6.4**
UZH				*e*			19 25 04.2	
CLL	**Collm**	**141.45**	**334**	*e*PKIKP		**PKPdf**	**19 24 48.0**	**-0.6**
CLL	**Collm**	**141.45**	**334**	*e*PKPdf		**PKPdf**	**19 24 48.0**	**-0.6**
CLL				*ep*PKPdf		**sPKPdf**	**19 24 58.0**	**+1.0**
CKRC	**Cesky Krumlov**	**142.70**	**331**	*e*PKP		**PKPdf**	**19 24 52.2**	**+1.2**
KHC	**Kasperske Hory**	**142.81**	**332**	*e*PKIKP		**PKPdf**	**19 24 52.3**	**+1.1**
KHC	**Kasperske Hory**	**142.81**	**332**	*e*PKP		**PKPdf**	**19 24 52.3**	**+1.1**
GERES	**GERESS Array B**	**142.97**	**331**	PKhKP		PKPpre	19 24 48.9	
	comp=Z,0.8nm,0.8s,baz=110,slow=1.1,SNR=5.6							
MOA	**Molln**	**143.41**	**330**	*e*P		PKPbc	19 24 50.5	+1.1
	comp=Z,6.6nm,1.6s							
SOKA	**Soboth**	**143.83**	**328**	*e*P		PKPbc	19 24 51.4	+0.6
	comp=Z,5.0nm,1.1s							
KBA	**Koelnbreinsper**	**144.39**	**329**	*e*P		**PKPdf**	**19 24 54.2**	**0.0**
	comp=Z,5.3nm,1.1s							
ABTA	**Abfaltersbach**	**145.03**	**330**	*e*P		**PKPbc**	**19 24 53.9**	**-0.7**
	comp=Z,17nm,1.1s							
WATA	**Walderalm**	**145.04**	**331**	*e*P		**PKPdf**	**19 24 55.3**	**0.0**
	comp=Z,3.6nm,0.6s							
WTTA	**Wattenberg**	**145.07**	**331**	*e*P		**PKPab**	**19 24 55.0**	**+0.2**
	comp=Z,30nm,2.0s							
MOTA	**Moosalm**	**145.25**	**332**	*e*P		**PKPdf**	**19 24 56.1**	**+0.4**
	comp=Z,14nm,0.9s,SNR=7.1							
RETA	**Reutte**	**145.29**	**332**	*e*P		**PKPdf**	**19 24 56.3**	**+0.7**
	comp=Z,13nm,1.2s							
SQTA	**Sankt Quirin**	**145.29**	**331**	*e*P		**PKPdf**	**19 24 56.3**	**+0.7**
	comp=Z,12nm,0.9s,SNR=6.2							
FETA	**Feichten**	**145.66**	**332**	*e*P		**PKPab**	**19 24 56.9**	**-0.1**
	comp=Z,17nm,0.9s							
DAVA	**Damuels**	**145.84**	**333**	*i* P		**PKPab**	**19 24 58.4**	**+0.7**
	comp=Z,22nm,1.4s							
DAVOX	**Davos/Dischmat**	**146.22**	**332**	PKPbc		**PKPab**	**19 24 59.0**	**-0.1**
	comp=Z,7.3nm,0.7s,baz=34,slow=6.0,SNR=7.9							
DAVOX	**Davos/Dischmat**	**146.22**	**332**	PKP2		**PKPab**	**19 24 59.0**	**-0.1**
DAVOX	**Davos/Dischmat**	**146.22**	**332**			**PKPab**	**19 24 59.0**	**-0.1**
ESDC	**Sonseca Array**	**157.51**	**343**	PKPab		**PKPab**	**19 25 43.1**	**-2.9**
	comp=Z,2.4nm,1.2s,baz=35,slow=4.7,SNR=3.2							
TORD	**Torodi Ar. Bea**	**165.51**	**251**	PKP		**PKPdf**	**19 25 23.9**	**+0.7**
	comp=Z,1.4nm,1.0s,baz=96,slow=1.4,SNR=3.7							
TORD				PKPab		**PKPab**	**19 26 21.1**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=109,slow=5.2,SNR=6.5							
TORD	**Torodi Ar. Bea**	**165.51**	**251**			pPKPdf	19 25 28.5	-1.1

WEL ***08*** *19:09:22.1±0.6,44°S±6°×17°2E±°, h5km, M3.4/6, ML3.6/6, MLv3.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=41.9*
NOU ***08*** *19:09:23.0,43°31S×172°38E, h0km, MLv3.5/4, South Island, New Zealand*
ISC 08 19:09:21.7±0.9, 43°52.52S±0°0.03×172°57.57E±0°0.03, h14km±8km, n43, σ1s09/49, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.20**	**162**	P	**Pg**	**19 09 26.4**	**+0.2**
MQZ				S	**Sg**	**19 09 29.4**	**+0.2**
AMCZ	**Amberley**	**0.35**	**10**	P	**Pg**	**19 09 30.4**	**+0.8**
RACZ	**Rakaia**	**0.38**	**236**	P	**Pg**	**19 09 29.1**	**-0.2**
OKCZ	**Okains Bay**	**0.41**	**120**	P	**Pg**	**19 09 31.3**	**+0.6**
AKCZ	**Akaroa Harbour**	**0.43**	**145**	P	**Pg**	**19 09 31.0**	**+0.7**
OXZ	**Oxford**	**0.43**	**296**	P	**Pg**	**19 09 30.0**	**-0.3**
OXZ				S	**Sg**	**19 09 35.8**	**-0.4**
GVZ	**Greta Valley S**	**0.65**	**32**	P	**Pn**	**19 09 36.2**	**-0.2**
GVZ				S	**Sn**	**19 09 46.6**	**+0.2**
WACZ	**Wakanui South**	**0.68**	**231**	P	**Pg**	**19 09 34.9**	**0.0**
WACZ				S	**Sg**	**19 09 44.1**	**+0.3**
MHCZ	**Mount Hutt**	**0.73**	**269**	P	**Pb**	**19 09 35.9**	**-0.3**
LTZ	**Lake Taylor**	**0.77**	**343**	P	**Pb**	**19 09 37.5**	**+0.7**
LTZ				S	**Sb**	**19 09 48.4**	**+1.2**
ARCZ	**Arundel**	**1.10**	**247**	P	**Pg**	**19 09 41.7**	**-1.2**
RPZ	**Rata Peaks**	**1.12**	**259**	P	**Pg**	**19 09 42.1**	**-1.2**
RPZ	**Rata Peaks**	**1.12**	**259**	P	**Pb**	**19 09 42.8**	**0.0**
INZ	**Inchbonnie**	**1.15**	**314**	P	**Pn**	**19 09 43.4**	**+0.2**
INZ				S	**Sn**	**19 09 59.3**	**+0.5**
KHZ	**Kahutara**	**1.31**	**33**	P	**Pb**	**19 09 45.8**	**+0.2**
KHZ	**Kahutara**	**1.31**	**33**	P	**Pn**	**19 09 45.9**	**+0.4**
WVZ	**Waitaha Valley**	**1.41**	**288**	P	**Pb**	**19 09 47.6**	**-0.1**
TMZ	**Timaru**	**1.42**	**232**	P	**Pn**	**19 09 47.0**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**1.65**	**276**	P	**Pn**	**19 09 50.7**	**+0.5**
THZ	**Tophouse**	**1.77**	**8**	P	**Pn**	**19 09 52.2**	**+0.3**
DSZ	**Denniston Nort**	**1.86**	**342**	P	**Pn**	**19 09 53.5**	**+0.3**
LBZ	**Lake Benmore**	**1.93**	**243**	P	**Pn**	**19 09 54.4**	**+0.3**
FOZ	**Fox Glacier**	**2.00**	**269**	P	**Pn**	**19 09 56.0**	**+1.0**
BSWZ	**Blackbirch Sta**	**2.04**	**29**	P	**Pn**	**19 09 56.6**	**+1.0**
ODZ	**Otahua Downs**	**2.06**	**222**	P	**Pn**	**19 09 55.1**	**-0.7**
ODZ	**Otahua Downs**	**2.06**	**222**	P	**Pb**	**19 09 59.9**	**+1.1**
MRNZ	**Matariki Terra**	**2.12**	**4**	P	**Pn**	**19 09 57.8**	**+1.1**
TKNZ	**Takaka Hill**	**2.50**	**7**	P	**Pn**	**19 10 03.8**	**+1.9**
TCW	**Tory Channel**	**2.63**	**29**	P	**Pn**	**19 10 06.1**	**+2.4**
QRZ	**Quartz Range**	**2.69**	**359**	P	**Pn**	**19 10 04.7**	**+0.2**
QRZ	**Quartz Range**	**2.69**	**359**	P	**Pn**	**19 10 04.7**	**+0.2**
HHSZ	**Highcliff Hill**	**2.75**	**210**	P	**Pn**	**19 10 03.7**	**-1.7**
JCZ	**Jackson Bay**	**2.80**	**257**	P	**Pn**	**19 10 06.6**	**+0.6**
DUWZ	**D'Urville Isla**	**2.90**	**21**	P	**Pb**	**19 10 10.9**	**-2.2**
EAZ	**Earnscleugh**	**2.90**	**233**	P	**Pn**	**19 10 06.5**	**-0.9**
CAW	**Cannon Point**	**3.04**	**38**	P	**Pn**	**19 10 08.7**	**-0.5**
TUZ	**Tuapeka**	**3.21**	**220**	P	**Pn**	**19 10 12.0**	**+0.4**
MLZ	**Mavora Lakes**	**3.69**	**238**	P	**Pn**	**19 10 18.4**	**+0.2**
SYZ	**Scrubby Hill**	**3.88**	**218**	P	**Pn**	**19 10 20.0**	**-0.8**
BFZ	**Birch Farm**	**3.94**	**45**	P	**Pn**	**19 10 21.5**	**-0.1**
DVHZ	**Dannevirke**	**4.19**	**41**	P	**Pb**	**19 10 31.3**	**-3.9**
PKE	**Pukeiti**	**4.45**	**14**	P	**Pn**	**19 10 31.2**	**+2.5**
PNHZ	**Pukenui**	**4.51**	**38**	P	**Pn**	**19 10 29.9**	**+0.3**

TUL ***08*** *19:11:30.7±1.4,36°45N±0°02×98°77W±0°03, h6km±3km, ML2.6, mb_Lg2.3/5(NEIC), Error ellipse: s-maj=3.0km s-min=2.3km az=88.0*
NEIC 08 19:11:30.4±1.2, 36°47N±0°02×98°78W±0°03, h11km±3km, Error ellipse: s-maj=3.6km s-min=2.5km az=83.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.20**	**244**	Pg	Pg	19 11 34.9	+0.2
U32A				Sg	Sg	19 11 38.1	+0.5
FNO	**Franklin**	**1.65**	**137**	Pn	Pn	19 11 59.2	-0.1
WMOK	**Wichita Mounta**	**1.73**	**180**		Pn	19 12 00.8	+0.4
X34A	**Smith Ranch, M**	**2.02**	**157**	Pn	Pn	19 12 04.2	-0.2
W35A	**Tecumseh**	**2.03**	**130**	Pn	Pn	19 12 03.4	-1.2
CBKS	**Cedar Bluff**	**2.46**	**342**	Pn	Pn	19 12 09.9	-0.7
X37A	**Clayton**	**3.35**	**123**	Pn	Pn	19 12 23.2	+0.4
KSCO	**Kaye Shedlock'**	**3.97**	**311**	IAmb_Lg		19 13 35.9	
	comp=Z,13nm,0.7s						
W39A	**Magazine**	**4.25**	**106**	Pn	Pn	19 12 33.4	-1.7
W39A				IAmb_Lg		19 13 53.0	
	comp=Z,4.2nm,0.7s						
X40A	**Basin Creek Fa**	**5.24**	**110**	Pn	Pn	19 12 46.9	-1.8
MGMO	**Mountain Grove**	**5.27**	**81**	Pn	Pn	19 12 49.4	+0.3
W41B	**Gary Mavity, V**	**5.46**	**102**	Pn	Pn	19 12 50.0	-1.8

IDC ***08*** *19:13:58.1±0.9, 18°30S×167°58E, h0km, mb4.3/10, mb1 4.5/13, mb1mx4.2/33, mbtmp4.4/13, ML4.1/1, Error ellipse: s-maj=29.0km s-min=17.8km az=148.0*
NEIC ***08*** *19:14:00.1±1.9, 18°32S±0°05×167°6E±0°1, h16km±4km, mb4.7/27, Error ellipse: s-maj=18.2km s-min=7.5km az=95.0*
NOU ***08*** *19:14:22.0, 16°68S×167°61E, h27km, MLv4.4/4, Vanuatu Islands*
ISC 08 19:14:00.9±0.5, 18°34S±0°04×167°56E±0°08, h25km, n61, σ1s28/62, mb4.6/21, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.90**	**353**		**Pn**	**19 14 43.5**	**-2.0**
SANVU				Sn	**Sn**	**19 15 16.8**	**-2.8**
SANVU	**Saraoutou**	**2.90**	**353**	P	**Pn**	**19 14 44.1**	**-1.4**
DZM	**Mont Dzumac**	**3.85**	**196**	Pn	**Pn**	**19 14 58.3**	**-0.4**
	14nm,0.3s,baz=64,slow=10.0,SNR=94						
DZM				Sn	**Sn**	**19 15 40.4**	**-2.8**
	81nm,0.3s,baz=104,slow=22,SNR=12						
DZM	**Mont Dzumac**	**3.85**	**196**		**Pn**	**19 14 57.6**	**-1.1**
DZM					**Sn**	**19 15 39.7**	**-3.6**
MSVF	**Nonsavu**	**10.00**	**88**	Pn	**Pn**	**19 16 23.3**	**+0.2**
	baz=246,slow=15,SNR=4.0						
MSVF	**Nonsavu**	**10.00**	**88**		**Pn**	**19 16 21

comp=Z,8.5nm,0.9s
DAVOX **Davos/Dischmat** 146.21 332 PKPbc **PKiKP** 19 33 41.5 -1.1
comp=Z,3.1nm,0.7s,baz=48,slow=5.2,SNR=6.6
TORD **Torodi Ar. Bea** 165.45 251 PKPab **PKPab** 19 35 02.5 +0.2
comp=Z,0.8nm,1.0s,baz=83,slow=4.8,SNR=2.7

NEIC 08 19:17:30.7±0.7, 36°.45N±0°.02×98°.77W±0°.01, h4km±2km, ML2.4/48, Error ellipse: s-maj=2.6km s-min=1.3km az=184.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.20**	**249**	Pg	Pg	19 17 34.5	-0.2
U32A				Sg	Sg	19 17 37.8	+0.5
U32A				IAML		19 17 38.0	
	comp=N,779nm,0.3s						
WMOK	**Wichita Mounta**	**1.71**	**180**	Pn	Pn	19 18 00.4	-0.9

*JMA **08** 19:34:54.6±0.2, 24°.27N×121°.71E, h71km±3km, M2.9*
*TAP **08** 19:34:54.3, 24°.14N×121°.68E, h31km, ML3.7, C*
ISC 08 19:34:54.6±0.8, 24°.12N±0°.02×121°.71E±0°.02, h30km±3km, n137, σ0♀92/222, 8C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.08**	**296**	⇑*i*P	**Pb**	**19 34 59.7**	**-0.2**
	baz=276						
ETL				S	**Sb**	**19 35 03.9**	**+0.4**
	baz=276						
TWD	**Chiawan**	**0.11**	**247**	⇑*i*P	**Pb**	**19 34 59.9**	**0.0**
	baz=242						
TWD				S	**Sn**	**19 35 04.0**	**+0.4**
	baz=242						
NACB	**Ninganchiao**	**0.11**	**297**	⇓*i*P	**Pb**	**19 34 59.8**	**-0.2**
	baz=283						
NACB				S	**Sn**	**19 35 03.8**	**+0.1**
	baz=283						
HWA	**Hwalien**	**0.17**	**212**	*e*P	**Pb**	**19 35 00.8**	**+0.3**
	baz=210						
HWA				*e*S	**Sn**	**19 35 06.1**	**+1.7**
	baz=210						
EHP	**Heping Village**	**0.19**	**10**	⇑P	**Pb**	**19 35 00.5**	**-0.3**
	baz=12						
EHP				*e*S	**Sn**	**19 35 05.5**	**+0.6**
	baz=12						
ETLH	**Xiulin Townshi**	**0.22**	**293**	⇓*i*P	**Pb**	**19 35 00.7**	**-0.4**
	baz=284						
ETLH				*e*S	**Sb**	**19 35 04.9**	**-0.7**
	baz=284						
ENA	**Nanau**	**0.31**	**6**	⇑*i*P	**Pb**	**19 35 01.8**	**-0.4**
	baz=6.0						
ENA				*e*S	**Sb**	**19 35 07.2**	**0.0**
	baz=6.0						
EWUT	**Wuta**	**0.33**	**12**	⇑*i*P	**Pb**	**19 35 02.2**	**-0.3**
	baz=11						
EWUT				S	**Sb**	**19 35 07.9**	**+0.1**
	baz=11						
ESL	**Shilin**	**0.40**	**219**	*i* P	**Pb**	**19 35 02.5**	**-0.9**
	baz=226						
ESL				*e*S	**Sb**	**19 35 08.8**	**-0.5**
	baz=226						
WHF	**Hehuan Shan**	**0.40**	**273**	⇓*i*P	**Pb**	**19 35 03.2**	**-0.6**
	baz=271						
WHF				*e*S	**Sb**	**19 35 09.5**	**-0.7**
	baz=271						
NNSB	**Datong**	**0.42**	**316**	⇓*i*P	**Pb**	**19 35 03.4**	**-0.5**
	baz=315						
NNSB				*e*S	**Sb**	**19 35 09.7**	**-0.6**
	baz=315						
NNS	**Nan Shan**	**0.44**	**316**	⇓*i*P	**Pb**	**19 35 03.6**	**-0.6**
	baz=316						
NNS				*i* S	**Sb**	**19 35 10.1**	**-0.6**
	baz=316						
FUSS	**Fushou**	**0.44**	**287**	⇓*i*P	**Pb**	**19 35 03.9**	**-0.4**
	baz=288						
FUSS				*e*S	**Sb**	**19 35 10.6**	**-0.3**
	baz=288						
LATG	**Datong**	**0.44**	**338**	⇓*i*P	**Pb**	**19 35 03.5**	**-0.7**
	baz=338						
LATG				*e*S	**Sb**	**19 35 10.1**	**-0.7**
	baz=338						
CHGB	**Renai**	**0.49**	**263**	⇓*i*P	**Pb**	**19 35 04.5**	**-0.5**
	baz=256						
CHGB				*i* S	**Sb**	**19 35 11.6**	**-0.5**
	baz=256						
TWC	**Suao**	**0.50**	**15**	⇑*i*P	**Pb**	**19 35 04.8**	**-0.2**
	baz=13						
TWC				*e*S	**Sb**	**19 35 12.3**	**+0.1**
	baz=13						
NDS	**Dongshan**	**0.51**	**1**	⇓*i*P	**Pb**	**19 35 04.7**	**-0.5**
	baz=356						
NDS				*e*S	**Sb**	**19 35 11.8**	**-0.6**
	baz=356						
NDT	**Datong Townshi**	**0.51**	**340**	⇓*i*P	**Pb**	**19 35 04.7**	**-0.5**
	baz=339						
NDT				*e*S	**Sb**	**19 35 11.7**	**-0.8**
	baz=339						
OWD	**Renai**	**0.51**	**251**	⇓*i*P	**Pb**	**19 35 04.7**	**-0.6**
	baz=249						
OWD				*e*S	**Sb**	**19 35 11.4**	**-1.2**
	baz=249						
TDCB	**Techi**	**0.52**	**285**	⇓*i*P	**Pb**	**19 35 05.0**	**-0.4**
	baz=280						
TDCB				*e*S	**Sb**	**19 35 12.0**	**-0.8**
	baz=280						
EGFH	**Guangfu**	**0.52**	**209**	*e*P	**Pb**	**19 35 04.1**	**-1.2**
	baz=217						
EGFH				*e*S	**Sb**	**19 35 11.4**	**-1.2**
	baz=217						
ENTT	**Nioudou**	**0.53**	**346**	⇓*i*P	**Pb**	**19 35 04.9**	**-0.7**
	baz=347						
ENTT				*e*S	**Sb**	**19 35 12.3**	**-0.7**
	baz=347						
WUSB	**Renai**	**0.55**	**257**	⇓*i*P	**Pb**	**19 35 05.4**	**-0.6**
	baz=250						
WUSB				*e*S	**Sb**	**19 35 13.0**	**-0.7**
	baz=250						
TWE	**Neicheng**	**0.60**	**357**	⇓*i*P	**Pb**	**19 35 06.0**	**-0.6**
	baz=354						
TWE				*e*S	**Sb**	**19 35 14.4**	**-0.4**
	baz=354						
YHNB	**Yeheng**	**0.62**	**331**	⇓*i*P	**Pb**	**19 35 06.5**	**-0.6**
	baz=322						
YHNB				S	**Sb**	**19 35 14.4**	**-1.2**
	baz=322						
VWDT	**VWDT**	**0.63**	**235**	P	**Pb**	**19 35 06.5**	**-0.7**
	baz=229						
VWDT				*e*S	**Sb**	**19 35 15.0**	**-0.8**
	baz=229						
NSK	**Sanguang**	**0.64**	**330**	⇓*i*P	**Pb**	**19 35 06.6**	**-0.7**
	baz=321						
NSK				*e*S	**Sb**	**19 35 14.9**	**-1.1**
	baz=321						
ILA	**Ilan**	**0.64**	**4**	*e*P	**Pb**	**19 35 07.2**	**-0.1**
	baz=358						
ILA				*e*S	**Sn**	**19 35 16.7**	**-0.1**
	baz=358						
FUSB	**Fushanzhiwuyua**	**0.64**	**350**	*e*P	**Pb**	**19 35 06.6**	**-0.8**
	baz=345						
FUSB				*e*S	**Sb**	**19 35 15.0**	**-1.2**
	baz=345						
HGSD	**Ruisui**	**0.68**	**202**	*e*P	**Pb**	**19 35 07.2**	**-0.8**
	baz=214						
NWLT	**Wulai**	**0.68**	**344**	P	**Pb**	**19 35 07.2**	**-0.8**
	baz=339						
NWLT				*e*S	**Sb**	**19 35 16.3**	**-0.8**
	baz=339						
EHY	**Hungye**	**0.71**	**210**	*e*P	**Pn**	**19 35 06.3**	**-2.2**
	baz=208						
WHP	**Taichung City**	**0.71**	**283**	⇓*i*P	**Pb**	**19 35 08.1**	**-0.4**
	baz=275						
WHP				*e*S	**Sb**	**19 35 17.9**	**-0.1**
	baz=275						
WCS	**Beigang Elemen**	**0.73**	**265**	*e*P	**Pn**	**19 35 08.0**	**-0.8**
	baz=260						
WCS				*e*S	**Sb**	**19 35 17.1**	**-1.4**
	baz=260						
NFF	**Wufeng Townshi**	**0.74**	**314**	⇓P	**Pn**	**19 35 08.5**	**-0.6**
	baz=318						
NFF				*e*S	**Sb**	**19 35 17.7**	**-1.1**
	baz=318						
NTC	**Toucheng**	**0.74**	**9**	*e*P	**Pb**	**19 35 09.9**	**+0.9**
	baz=360						
EGS		**0.75**	**16**	*e*P	**Pb**	**19 35 09.7**	**+0.6**
	baz=10.0						
EGS				*e*S	**Sn**	**19 35 20.2**	**+0.8**
	baz=10.0						
SSLB	**Suanglung**	**0.76**	**244**	⇑*i*P	**Pn**	**19 35 08.5**	**-0.9**
	baz=244						
SSLB				*e*S	**Sb**	**19 35 17.8**	**-1.7**
	baz=244						
SMLT	**Sun Moon Lake**	**0.77**	**252**	⇑*i*P	**Pn**	**19 35 09.0**	**-0.6**
	baz=248						
SMLT				*e*S	**Sb**	**19 35 18.9**	**-0.9**
	baz=248						
TYC	**Yuchr**	**0.81**	**255**	*e*P	**Pn**	**19 35 09.3**	**-0.6**
	baz=247						
TYC				*e*S	**Sb**	**19 35 19.4**	**-1.2**
	baz=247						
LIOB	**Emei**	**0.82**	**310**	⇓*i*P	**Pn**	**19 35 10.3**	**+0.2**
	baz=309						
LIOB				*e*S	**Sn**	**19 35 21.2**	**0.0**
	baz=309						
YULB	**Yu-li**	**0.82**	**207**	*e*P	**Pn**	**19 35 07.8**	**-2.3**
	baz=207						
NSTT	**Nanjuang**	**0.82**	**308**	⇓*i*P	**Pn**	**19 35 10.2**	**+0.1**
	baz=307						
NSTT				*e*S	**Sb**	**19 35 20.6**	**-0.4**
	baz=307						
EYUL	**Yuli**	**0.85**	**205**	*e*P	**Pn**	**19 35 10.4**	**-0.1**
	baz=214						
NHDH	**Xindian Distri**	**0.85**	**349**	P	**Pn**	**19 35 10.5**	**-0.1**
	baz=338						
NHDH				*e*S	**Sn**	**19 35 21.8**	**-0.3**
	baz=338						
TIPB	**Shuangxi**	**0.85**	**7**	*e*P	**Pn**	**19 35 10.2**	**-0.4**
	baz=356						
TIPB				*e*S	**Sb**	**19 35 22.1**	**0.0**
	baz=356						
TWA	**Mucha**	**0.86**	**353**	P	**Pn**	**19 35 10.5**	**-0.3**
	baz=352						
TWA				*e*S	**Sn**	**19 35 22.0**	**-0.3**
	baz=352						
TWQ1	**Liyutan**	**0.88**	**285**	*e*P	**Pb**	**19 35 11.6**	**+0.3**
	baz=284						
TWQ1				*e*S	**Sb**	**19 35 23.4**	**+0.6**
	baz=284						
NSY	**Sanyi**	**0.91**	**289**	P	**Pb**	**19 35 12.2**	**+0.4**
	baz=288						
NSY				*e*S	**Sb**	**19 35 25.0**	**+1.3**
	baz=288						
TWB1	**Santiao Chiao**	**0.92**	**16**	*e*P	**Pn**	**19 35 11.5**	**0.0**
	baz=15						
TWB1				*e*S	**Sn**	**19 35 23.4**	**-0.3**
	baz=15						
NMLH	**Miaoli**	**0.93**	**297**	*e*P	**Pb**	**19 35 12.2**	**0.0**
	baz=295						
NMLH				*e*S	**Sb**	**19 35 25.1**	**+0.9**
	baz=295						
TAP	**Taipei**	**0.93**	**349**	*e*P	**Pb**	**19 35 12.1**	**-0.1**
	baz=347						
TAP				*e*S	**Sb**	**19 35 24.3**	**+0.1**
	baz=347						
SBCB	**Hsinchu**	**0.94**	**316**	*e*P	**Pb**	**19 35 12.4**	**+0.1**
	baz=314						
SBCB				S	**Sb**	**19 35 25.8**	**+1.5**
	baz=314						
TCU	**Taichung**	**0.94**	**272**	P	**Pb**	**19 35 12.7**	**+0.3**
	baz=271						
TCU				*e*S	**Sb**	**19 35 26.8**	**+2.3**
	baz=271						
WJS	**Zhushan**	**0.94**	**252**	*e*P	**Pn**	**19 35 12.4**	**+0.6**
	baz=252						
WJS				*e*S	**Sb**	**19 35 25.5**	**+0.9**
	baz=252						
NWF	**Wu-fen Shan**	**0.95**	**4**	*e*P	**Pn**	**19 35 12.1**	**+0.2**
	baz=349						
NWF				*e*S	**Sn**	**19 35 24.4**	**-0.1**
	baz=349						
HSN	**Hsinchu**	**0.95**	**315**	*e*P	**Pn**	**19 35 12.3**	**+0.4**
	baz=317						
HSN				S	**Sb**	**19 35 26.0**	**+1.2**
	baz=317						
NCUH	**Zhongli**	**0.97**	**331**	*e*P	**Pn**	**19 35 12.2**	**+0.1**
	baz=328						
NCUH				*e*S	**Sb**	**19 35 25.5**	**+0.3**
	baz=328						
NCU	**National Centr**	**0.97**	**331**	*e*P	**Pn**	**19 35 11.6**	**-0.6**
	baz=328						
NCU				*e*S	**Sb**	**19 35 26.0**	**+0.8**
	baz=328						
SXI1	**Grass Mountain**	**0.98**	**9**	*e*P	**Pn**	**19 35 12.4**	**0.0**
	baz=353						
SXI1				*e*S	**Sb**	**19 35 27.1**	**+1.4**
	baz=353						
FULB	**Fuli**	**0.99**	**202**	*e*P	**Pn**	**19 35 11.7**	**-0.8**
	baz=215						
WDJ	**Dajia District**	**1.00**	**283**	P	**Pn**	**19 35 13.0**	**+0.5**
	baz=282						
WDJ				*e*S	**Sb**	**19 35 28.0**	**+1.9**
	baz=282						
TWS1	**Kuangyinshan**	**1.01**	**345**	*e*P	**Pn**	**19 35 12.7**	**0.0**
	baz=353						
TWS1				*e*S	**Sb**	**19 35 26.5**	**+0.1**
	baz=353						
ALS	**Alishan**	**1.02**	**234**	P	**Pn**	**19 35 13.1**	**-0.1**
	baz=226						
ALS				*e*S	**Sn**	**19 35 26.4**	**-0.3**
	baz=226						
YM01	**YM01**	**1.03**	**353**	*e*P	**Pn**	**19 35 13.0**	**0.0**
	baz=352						
WCHH	**Zhanghua**	**1.05**	**268**	P	**Pb**	**19 35 14.3**	**+0.2**
	baz=267						
WCHH				*e*S	**Sb**	**19 35 29.1**	**+1.6**
	baz=267						
NTST	**Danshui**	**1.06**	**347**	*e*P	**Pn**	**19 35 13.4**	**-0.1**
	baz=354						
NTST				*e*S	**Sb**	**19 35 28.3**	**+0.3**
	baz=354						
CHKT	**Chengkung**	**1.06**	**197**	*e*P	**Pn**	**19 35 12.9**	**-0.6**
	baz=181						
ANP	**Anpu**	**1.07**	**351**	*e*P	**Pn**	**19 35 13.5**	**-0.2**
	baz=350						
ELDTW	**Leidau**	**1.12**	**214**	*e*P	**Pn**	**19 35 13.6**	**-0.8**
	baz=205						
WDLH	**Douliu**	**1.15**	**248**	*e*P	**Pn**	**19 35 15.5**	**+0.8**
	baz=249						
WDLH				*e*S	**Sb**	**19 35 32.5**	**+2.0**
	baz=249						
JYNG	**Yonagunijimaku**	**1.18**	**74**	P	**Pn**	**19 35 15.1**	**+0.1**
JYNG				*e*S	**Sn**	**19 35 30.4**	**+0.3**
EDH	**Donghe**	**1.20**	**198**	*e*P	**Pn**	**19 35 14.7**	**-0.7**
	baz=210						
WRL	**Guolierlin Hig**	**1.23**	**260**	*e*P	**Pn**	**19 35 16.6**	**+0.8**
	baz=261						
WRL				*e*S	**Sn**	**19 35 32.3**	**+0.9**
	baz=261						
YOJ	**Yonaguni jima**	**1.24**	**74**	P	**Pn**	**19 35 15.9**	**0.0**
YOJ				*e*S	**Sn**	**19 35 31.8**	**+0.2**
CHN2	**Minshiung**	**1.27**	**243**	P	**Pb**	**19 35 18.2**	**+0.3**
	baz=244						
CHN2				*e*S	**Sb**	**19 35 35.5**	**+1.7**
	baz=244						
STYH	**Taoyuan**	**1.27**	**222**	*e*P	**Pn**	**19 35 16.7**	**+0.3**
	baz=223						
CHN4	**Tsaushan**	**1.28**	**233**	P	**Pn**	**19 35 17.6**	**+1.2**
	baz=235						
CHN4				*e*S	**Sb**	**19 35 35.4**	**+1.4**
	baz=235						
WTK	**Tuku**	**1.28**	**251**	*e*P	**Pb**	**19 35 17.7**	**-0.4**
	baz=242						
WTK				*e*S	**Sb**	**19 35 35.2**	**+1.1**
	baz=242						
TPUB	**Ta-pu**	**1.28**	**231**	P	**Pn**	**19 35 17.4**	**+1.0**
	baz=230						
TPUB				*e*S	**Sb**	**19 35 34.5**	**+0.3**
	baz=230						
LONT	**Longtian**	**1.32**	**204**	*e*P	**Pn**	**19 35 15.3**	**-1.7**
	baz=188						
CHY	**Chiayi**	**1.33**	**242**	*e*P	**Pn**	**19 35 18.0**	**+0.9**
	baz=244						
CHY				*e*S	**Sb**	**19 35 37.6**	**+2.1**
	baz=244						
WTCT	**Ta-ch'eng**	**1.33**	**259**	*e*P	**Pn**	**19 35 17.7**	**+0.7**
	baz=260						
WTCT				*e*S	**Sn**	**19 35 34.5**	**+0.8**
	baz=260						
WTP	**Ta-pu**	**1.33**	**229**	*e*P	**Pn**	**19 35 18.1**	**+0.9**
	baz=231						
TWK	**Hsinying**	**1.40**	**233**	P	**Pn**	**19 35 19.1**	**+0.9**
	baz=236						
TWK				*e*S	**Sb**	**19 35 38.7**	**+1.0**
	baz=236						
TWGBT	**Beinan**	**1.42**	**204**	*e*P	**Pn**	**19 35 16.1**	**-2.2**
	baz=189						
CHN1	**Nanshi**	**1.43**	**229**	*e*P	**Pn**	**19 35 19.4**	**+1.0**
	baz=232						
CHN1				*e*S	**Sb**	**19 35 38.2**	**-0.2**
	baz=232						
SNST	**Tainan City**	**1.43**	**231**	*e*P	**Pn**	**19 35 19.7**	**+1.2**
	baz=234						
WSF	**Szhu**	**1.44**	**251**	*e*P	**Pn**	**19 35 19.9**	**+1.3**
	baz=252						
WSF				*e*S	**Sb**	**19 35 39.2**	**+0.5**
	baz=252						
TTN	**Taitung**	**1.46**	**201**	*e*P	**Pn**	**19 35 19.6**	**+0.8**
	baz=203						
LDUT	**Ludao**	**1.46**	**189**	*e*P	**Pn**	**19 35 17.2**	**-1.7**
	baz=177						
SGST	**Jiashian**	**1.46**	**225**	*e*P	**Pn**	**19 35 18.9**	**0.0**
	baz=216						
WSL	**Shuilin Townsh**	**1.48**	**246**	P	**Pn**	**19 35 20.6**	**+1.4**
	baz=248						
WSL				*e*S	**Sb**	**19 35 39.9**	**0.0**
	baz=248						
ICHU	**Yijhu**	**1.51**	**240**	P	**Pn**	**19 35 21.0**	**+1.4**
	baz=231						
ICHU				*e*S	**Sb**	**19 35 40.3**	**-0.4**
	baz=231						
CHN8	**Yiju**	**1.57**	**241**	*e*P	**Pn**	**19 35 21.6**	**+1.2**
	baz=232						
CHN8				*e*S	**Sb**	**19 35 42.7**	**+0.2**
	baz=232						
CHN3	**Shinhua**	**1.61**	**230**	*e*P	**Pb**	**19 35 22.8**	**-0.8**
	baz=234						
SCST	**Cishan**	**1.66**	**222**	*e*P	**Pn**	**19 35 23.1**	**+1.4**
	baz=227						
SCST				*e*S	**Sb**	**19 35 46.2**	**+1.3**
	baz=227						
SHHT	**Tainan City**	**1.66**	**229**	*e*P	**Pn**	**19 35 23.3**	**+1.7**
	baz=233						
ECL	**Taimali**	**1.67**	**205**	*e*P	**Pn**	**19 35 21.1**	**-0.7**
	baz=192						
SSD	**Sandimen**	**1.69**	**216**	*e*P	**Pn**	**19 35 23.3**	**+1.2**
	baz=207						
TSMG	**Majia**	**1.71**	**215**	*e*P	**Pn**	**19 35 24.0**	**+1.6**
	baz=219						
TWM1	**Shoushan**	**1.75**	**223**	*e*P	**Pb**	**19 35 25.9**	**-0.1**
	baz=226						
MASBT	**Mashibuluo**	**1.80**	**213**	*e*P	**Pn**	**19 35 24.0**	**+0.4**
	baz=218						
IRIF	**Iriomote-Funau**	**1.86**	**83**	P	**Pn**	**19 35 24.4**	**0.0**
IRIF				S	**Sn**	**19 35 47.0**	**+0.1**
EAST	**Anshuo**	**1.90**	**205**	*e*P	**Pn**	**19 35 26.4**	**+1.4**
	baz=194						
TAW	**Tawu**	**1.91**	**203**	*e*P	**Pn**	**19 35 25.4**	**+0.3**
	baz=190						
HATJ	**Hateruma jima**	**1.92**	**92**	P	**Pn**	**19 35 25.9**	**+0.7**
HATJ				*e*S	**Sn**	**19 35 48.9**	**+0.5**
TAWH	**Dawu Township**	**1.93**	**203**	*e*P	**Pn**	**19 35 26.1**	**+0.7**
	baz=192						
SSPT	**Xinbi**	**1.94**	**213**	*e*P	**Pn**	**19 35 27.2**	**+1.7**
	baz=195						
SCZT	**Fangliau**	**2.01**	**210**	*e*P	**Pn**	**19 35 28.0**	**+1.5**
	baz=193						
PNG	**Penghu**	**2.04**	**255**	*e*P	**Pn**	**19 35 26.8**	**-0.1**
	baz=257						
PHUB	**P'eng-hu**	**2.04**	**253**	*e*P	**Pn**	**19 35 26.3**	**-0.7**
	baz=255						
WDGT	**Dungji**	**2.06**	**246**	*e*P	**Pn**	**19 35 27.6**	**+0.5**
	baz=247						
SLIU	**Shizi**	**2.07**	**204**	*e*P	**Pn**	**19 35 29.3**	**+2.0**
	baz=191						
LAY	**Lan-yu**	**2.08**	**184**	*e*P	**Pn**	**19 35 26.1**	**-1.4**
	baz=181						
JKRS	**Kuro-shima**	**2.11**	**86**	P	**Pn**	**19 35 28.4**	**+0.6**
JKRS				*e*S	**Sn**	**19 35 54.1**	**+1.1**
LYUB	**Lan-yu**	**2.11**	**183**	*e*P	**Pn**	**19 35 25.4**	**-2.5**
	baz=180						
WLCH	**Liuqiu**	**2.14**	**215**	*e*P	**Pn**	**19 35 30.5**	**+2.2**
	baz=236						
VWUC	**VWUC**	**2.23**	**293**	*e*P	**Pn**	**19 35 28.3**	**-1.2**
	baz=291						
JIJ	**Ishigaki jima**	**2.24**	**83**	P	**Pn**	**19 35 29.6**	**0.0**
JIJ				S	**Sn**	**19 35 55.4**	**-0.9**
VCHM	**Qimei**	**2.28**	**247**	*e*P	**Pn**	**19 35 29.7**	**-0.5**
	baz=238						
HEN	**Hengchun**	**2.29**	**203**	*e*P	**Pn**	**19 35 32.6**	**+2.3**
	baz=192						
TWK1	**Hengchun**	**2.32**	**201**	*e*P	**Pn**	**19 35 30.5**	**-0.3**
	baz=192						
TWKBT	**Hengchun**	**2.32**	**201**	*e*P	**Pn**	**19 35 29.2**	**-1.6**
	baz=191						
JISG	**Ishigakijimahi**	**2.42**	**78**	P	**Pn**	**19 35 31.9**	**-0.2**
JISG				S	**Sn**	**19 36 00.4**	**-0.4**
MATB	**Ma-tsu**	**2.57**	**322**	*e*P	**Pn**	**19 35 33.2**	**-1.0**
	baz=317						
JTJ	**Tarama**	**2.78**	**79**	P	**Pn**	**19 35 37.7**	**+0.6**
JTJ				*e*S	**Sn**	**19 36 09.7**	**0.0**
KNM	**Kinmen**	**3.00**	**276**	*e*P	**Pn**	**19 35 40.8**	**+0.7**
	baz=276						
KNMB	**Chin-men Tao**	**3.04**	**277**	*e*P	**Pn**	**19 35 39.2**	**-1.5**
	baz=277						
XPSS	**Dashiqiu**	**3.11**	**334**	*e*P	**Pn**	**19 35 40.4**	**-1.3**
	baz=328						
MHZQ	**Yeshan**	**3.12**	**310**	*e*P	**Pn**	**19 35 40.5**	**-1.3**
	baz=306						
JIRB	**Irabujima**	**3.24**	**77**	P	**Pn**	**19 35 44.0**	**+0.6**
JIRB				S	**Sn**	**19 36 20.7**	**-0.2**
JIKM	**Ikemajima**	**3.32**	**75**	*e*S	**Sn**	**19 36 23.0**	**-0.1**
JMJ2	**Miyako jima3**	**3.36**	**79**	P	**Pn**	**19 35 46.3**	**+1.3**
JMJ2				*e*S	**Sn**	**19 36 25.0**	**+1.1**
JOGS	**Gusukube**	**3.43**	**79**	*e*S	**Sn**	**19 36 26.5**	**+0.7**
AXDP	**Jialang**	**3.49**	**284**	*e*P	**Pn**	**19 35 46.1**	**-0.7**
	baz=283						
ZPLA	**Ao Xicun**	**3.62**	**268**	*e*P	**Pn**	**19 35 47.6**	**-1.0**
	baz=268						

*IDC **08** 19:56:52.6±0.9, 4°.76N×126°.38E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/58, mbtmp4.0/10, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/79, Error ellipse: s-maj=80.6km s-min=15.5km az=69.0*
*NEIC **08** 19:57:00.1±2.3, 4°.72N±0°.08×126°.61E±0°.10, h57km±7km, mb4.2/21, Error ellipse: s-maj=16.0km s-min=8.5km az=53.0*
ISC 08 19:57:01.9±0.5, 4°.65N±0°.06×126°.59E±0°.10, h85km, n39, σ1♀56/39, mb4.1/17, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.60**	**337**		Pn	19 57 51.2	+9.2
KCP	**Kidapawan**	**2.78**	**328**	⇑*e*P	**Pn**	**19 57 42.2**	**-2.2**
TNTI	**Ternate**	**3.93**	**169**	Pn	**Pn**	**19 57 58.8**	**-1.2**
TOLI2	**Tolitoli**	**6.78**	**239**	Pn	**Pn**	**19 58 37.6**	**-1.3**
SIJI	**Sorong**	**7.20**	**139**	Pn	**Pn**	**19 58 42.5**	**-2.1**
	1.0nm,0.3s,baz=320,slow=17,SNR=5.7						
SIJI				Sn	**Sn**	**20 00 01.4**	**-3.5**
	baz=236,slow=23,SNR=1.5						
KAPI	**Kappang**	**11.78**	**216**	LR	LR	20 04 40.2	
	comp=Z,72nm,18.4s,baz=41,slow=40						
MTN	**Manton Dam**	**17.96**	**165**	P	**P**	**20 01 03.9**	**-1.6**
MTN				IAmb	IAmb	20 01 09.3	
	comp=Z,32nm,1.6s						
TPUB	**Ta-pu**	**19.41**	**343**		**P**	**20 01 18.0**	**-3.4**
TPUB				IAmb	IAmb	20 01 55.3	
	comp=Z,20nm,1.1s						
KNRA	**Kununurra**	**20.31**	**174**	P	**P**	**20 01 30.5**	**-0.7**
UGM	**Wanagama**	**20.32**	**232**	P	**P**	**20 01 30.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**22.62**	**182**	P	**P**	**20 01 56.9**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=355,slow=9.0,SNR=5.6						
FITZ	**Fitzroy Crossi**	**22.62**	**182**	P	**P**	**20 01 56.2**	**+0.3**
FITZ				IAmb	IAmb	20 02 32.4	
	comp=Z,8.7nm,1.5s						
WB0	**Warramunga Arr**	**25.45**	**163**	P	**P**	**20 02 22.6**	**+0.5**
WB0				IAmb	IAmb	20 02 24.8	
	comp=Z,4.

MJAR				IAmb	IAmb	20 04 04.7	
	comp=Z,7.0nm,1.6s						
STKA	**Stephens Creek**	**39.03**	**160**	P	**P**	**20 04 24.1**	**+3.6**
	comp=Z,1.3nm,0.5s,baz=334,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**39.03**	**160**	P	**P**	**20 04 22.9**	**+2.5**
ARMA	**Armidale**	**42.31**	**147**	P	**P**	**20 04 48.8**	**+1.2**
ULN	**Ulaanbaatar**	**46.21**	**342**	P	**P**	**20 05 19.6**	**+1.1**
ULN				IAmb	IAmb	20 05 20.7	
	comp=Z,3.5nm,1.4s						
SONM	**Songino Array**	**46.39**	**341**	P	**P**	**20 05 20.1**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=160,slow=7.6,SNR=4.3						
SONM	**Songino Array**	**46.39**	**341**	P	**P**	**20 05 21.0**	**+1.1**
MK31	**Makanchi Array**	**56.73**	**325**	P	**P**	**20 06 36.2**	**-0.7**
MK31				IAmb	IAmb	20 06 36.8	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**56.73**	**325**	P	**P**	**20 06 36.4**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=123,slow=8.5,SNR=5.6						
MKAR	**Makanchi Array**	**56.73**	**325**	P	**P**	**20 06 36.1**	**-0.8**
MAKZ	**Makanchi**	**56.91**	**325**	P	**P**	**20 06 38.2**	**0.0**
MAKZ				IAmb	IAmb	20 06 49.7	
	comp=Z,3.2nm,1.4s						
ZALV	**Zalesovo Beam**	**59.71**	**333**	P	**P**	**20 06 59.0**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=127,slow=7.2,SNR=2.6						
KURK	**Kurchatov**	**60.90**	**327**	P	**P**	**20 07 07.4**	**+1.8**
BTK	**Batken**	**61.19**	**314**	P	**P**	**20 07 08.8**	**+0.8**
BTK				IAmb	IAmb	20 07 36.5	
	comp=Z,3.0nm,1.4s						
NIUE	**Niue**	**66.75**	**113**	P	**P**	**20 07 44.6**	**-0.1**
TIXI	**Tiksi**	**66.93**	**1**	P	**P**	**20 07 44.5**	**-0.3**
TIXI				IAmb	IAmb	20 07 45.1	
	comp=Z,1.4nm,0.6s						
ABKAR	**Akbulak array**	**71.35**	**321**	P	**P**	**20 08 11.8**	**-0.9**
GAMB	**Gambell**	**73.62**	**24**	P	**P**	**20 08 26.4**	**+0.7**
ARCES	**ARCESS Array B**	**89.54**	**340**	P	**P**	**20 09 49.4**	**-0.1**
	comp=Z,7.3nm,1.2s,baz=76,slow=7.5,SNR=1.4						
FINES	**FINESS Array B**	**90.96**	**332**	P	**P**	**20 09 56.6**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=64,slow=6.5,SNR=7.6						

IDC 08 19:58:33.0±5.6, 15°38S×66°17E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/47, mbtmp3.5/4, Error ellipse: s-maj=153.3km s-min=42.4km az=67.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**46.62**	**45**	P	P	20 07 03.3	0.0
	0.3nm,0.3s,baz=232,slow=8.8,SNR=1.4						
MKAR	**Makanchi Array**	**63.57**	**12**	P	P	20 09 05.3	0.0
	0.3nm,0.6s,baz=213,slow=6.9,SNR=2.6						
ASAR	**Alice Springs**	**63.88**	**109**	P	P	20 09 08.1	0.0
	0.4nm,0.6s,baz=271,slow=6.4,SNR=4.3						
WRA	**Warramunga Arr**	**64.74**	**105**	P	P	20 09 13.6	-0.1
	0.5nm,0.8s,baz=270,slow=6.0,SNR=2.5						

IDC 08 19:59:19.1±1.6, 15°20S×66°80E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/46, mbtmp3.6/6, Error ellipse: s-maj=61.9km s-min=30.5km az=44.0

ISC 08 19:59:21.7±1.6, 15°2S±0°4×66°8E±0°3, h16km, n11, σ0$88/8, mb3.7/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.32**	**37**	T	T	20 10 51.9	
	baz=216						
H08S2	**Diego Garcia H**	**9.33**	**37**	T	T	20 10 53.0	
	baz=216						
H08S3	**Diego Garcia H**	**9.34**	**37**	T	T	20 10 53.3	
	baz=216						
MKAR	**Makanchi Array**	**63.24**	**12**	P	**P**	**20 09 48.2**	**-1.2**
	0.3nm,0.6s,baz=205,slow=6.4,SNR=3.0						
ASAR	**Alice Springs**	**63.35**	**109**	P	**P**	**20 09 50.6**	**-0.1**
	0.5nm,0.9s,baz=269,slow=6.4,SNR=6.1						
WRA	**Warramunga Arr**	**64.19**	**105**	P	**P**	**20 09 56.5**	**+0.2**
	0.4nm,0.7s,baz=272,slow=6.3,SNR=2.4						
ZALV	**Zalesovo Beam**	**70.56**	**11**	P	**P**	**20 10 37.1**	**+1.4**
	0.4nm,0.4s,baz=202,slow=6.2,SNR=4.6						
SONM	**Songino Array**	**72.00**	**27**	P	**P**	**20 10 45.0**	**+0.2**
	0.2nm,0.5s,baz=228,slow=5.6,SNR=1.6						
ESDC	**Sonseca Array**	**85.42**	**313**	P	**P**	**20 11 59.0**	**+0.2**
	0.9nm,0.9s,baz=104,slow=4.2,SNR=7.2						
YKA	**Yellowknife Ar**	**132.74**	**1**	PKP	**PKPdf**	**20 18 34.8**	**-0.7**
	0.1nm,0.3s,baz=355,slow=1.3,SNR=2.1						
PDAR	**Pinedale Array**	**152.33**	**354**	PKPbc	**PKPbc**	**20 19 17.3**	**-0.2**
	0.3nm,0.5s,baz=114,slow=2.2,SNR=1.2						

IDC 08 20:00:21.3±1.3, 15°23S×66°70E, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.5/45, mbtmp3.6/9, MS3.7/2, Ms1 3.7/2, ms1mx3.0/45, Error ellipse: s-maj=43.8km s-min=25.8km az=29.0

ISC 08 20:00:24.4±1.3, 15°2S±0°3×66°7E±0°2, h19km, n13, σ0$56/11, mb3.8/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**26.32**	**33**	LR	LR	20 14 12.4	
	comp=Z,225nm,19.8s,baz=310,slow=32						
CMAR	**Chiang Mai Arr**	**46.15**	**45**	P	**P**	**20 08 48.7**	**+0.7**
	0.4nm,0.3s,baz=236,slow=7.5,SNR=5.0						
GEYT	**Alibeck**	**53.49**	**352**	LR	LR	20 31 31.5	
	comp=Z,39nm,18.3s,baz=146,slow=35						
BRTR	**Keskin Array B**	**62.76**	**332**	P	**P**	**20 10 48.5**	**-0.1**
	0.3nm,0.5s,baz=167,slow=7.0,SNR=2.5						
MKAR	**Makanchi Array**	**63.32**	**12**	P	**P**	**20 10 51.2**	**-0.9**
	0.4nm,0.8s,baz=201,slow=5.9,SNR=2.8						
ASAR	**Alice Springs**	**63.44**	**109**	P	**P**	**20 10 53.2**	**-0.3**
	0.4nm,0.8s,baz=267,slow=5.4,SNR=2.9						
WRA	**Warramunga Arr**	**64.28**	**105**	P	**P**	**20 10 59.0**	**-0.1**
	1.7nm,1.0s,baz=261,slow=7.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**70.22**	**290**	P	**P**	**20 11 36.8**	**+0.1**
	0.9nm,1.1s,baz=93,slow=5.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**70.63**	**11**	P	**P**	**20 11 37.6**	**-0.8**
	0.4nm,0.5s,baz=198,slow=6.0,SNR=1.5						
SONM	**Songino Array**	**72.10**	**27**	P	**P**	**20 11 47.8**	**+0.2**
	0.3nm,0.7s,baz=212,slow=5.1,SNR=2.2						
AKASG	**Malin Array Be**	**73.40**	**336**	P	**P**	**20 11 55.1**	**+0.1**
	0.1nm,0.2s,baz=138,slow=4.8,SNR=1.5						
PDAR	**Pinedale Array**	**152.38**	**354**	PKPbc	**PKiKP**	**20 20 20.0**	**0.0**
	0.3nm,0.6s,baz=54,slow=2.3,SNR=1.8						
TXAR	**Lajitas Array**	**163.39**	**329**	PKPab	**PKPab**	**20 21 18.1**	**+0.7**
	0.2nm,0.7s,baz=21,slow=5.8,SNR=1.8						

IDC 08 20:02:05.9±2.8, 15°24S×66°49E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/40, mbtmp3.5/5, Error ellipse: s-maj=82.8km s-min=38.9km az=60.0

ISC 08 20:02:07.0±2.7, 15°3S±0°3×66°4E±0°5, h10km, n9, σ1$05/6, mb3.6/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.64**	**39**	T	T	20 13 41.1	
	baz=217,slow=75,SNR=6.0						
H08S2	**Diego Garcia H**	**9.65**	**39**	T	T	20 13 46.7	
	baz=217,slow=75,SNR=5.5						
H08S3	**Diego Garcia H**	**9.66**	**39**	T	T	20 13 42.1	
	baz=217,slow=75,SNR=7.8						
CMAR	**Chiang Mai Arr**	**46.38**	**45**	P	**P**	**20 10 34.8**	**+0.9**
	0.4nm,0.4s,baz=234,slow=11,SNR=1.9						
MKAR	**Makanchi Array**	**63.41**	**12**	P	**P**	**20 12 36.6**	**-0.1**
	0.4nm,0.8s,baz=199,slow=6.4,SNR=2.7						
ASAR	**Alice Springs**	**63.71**	**109**	P	**P**	**20 12 39.0**	**-0.3**
	0.3nm,0.7s,baz=265,slow=6.3,SNR=1.9						
WRA	**Warramunga Arr**	**64.55**	**105**	P	**P**	**20 12 44.7**	**-0.1**
	1.3nm,1.1s,baz=274,slow=5.3,SNR=3.3						
SONM	**Songino Array**	**72.26**	**27**	P	**P**	**20 13 31.5**	**-1.2**
	0.2nm,0.6s,baz=233,slow=7.0,SNR=1.5						
PDAR	**Pinedale Array**	**152.38**	**354**	PKPbc	**PKiKP**	**20 22 05.2**	**+1.0**
	0.4nm,0.6s,baz=70,slow=1.7,SNR=2.5						

SFS 08 20:13:46.0, 35°36N×3°75W, h21km, ML2.7, ALHUCEMAS (MARRUECOS)
INMG 08 20:13:46.7±1.7, 35°43N×3°76W, h16km±5km, ML2.5, Error ellipse: s-maj=3.6km s-min=3.6km az=141.0
MDD 08 20:13:46.7±0.4, 35°36N×3°75W, h21km, mb_Lg3.0/23, Error ellipse: s-maj=3.7km s-min=2.2km az=176.0
CNRM 08 20:13:46.1, 35°44N×3°70W, h22km, ml3.3

ISC 08 20:13:46.4±0.9, 35°39N±0°02×3°75W±0°02, h27km±8km, n62, σ1$64/119, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.24**	**222**	P	**Pb**	**20 13 52.4**	**-0.4**
PALE				S	**Sb**	**20 13 57.6**	**+0.6**
PVLZ	**Peæn de**	**0.51**	**244**	P	**Pb**	**20 13 56.7**	**0.0**
PVLZ				S	**Sb**	**20 14 04.0**	**+0.2**
GOG	**Mont Gurugu**	**0.64**	**105**	P	**Pb**	**20 13 58.7**	**-0.3**
GOG				S	**Sb**	**20 14 06.9**	**-0.7**
EMEL	**Melilla**	**0.65**	**98**	Pg	**Pb**	**20 13 59.0**	**-0.2**
EMEL				Sg	**Sb**	**20 14 08.0**	**+0.1**
EALB	**Alboran**	**0.80**	**46**	Pg	**Pb**	**20 14 00.6**	**-1.0**
EALB				Sg	**Sb**	**20 14 11.4**	**-0.6**
EALB				*i* Vmb_Lg		20 14 12.8	
TAF	**Taforalt**	**1.23**	**118**	P	**Pn**	**20 14 08.0**	**0.0**
TAF				S	**Sn**	**20 14 25.1**	**+1.4**
CHEFC	**Chefchaouen**	**1.34**	**258**	P	**Pn**	**20 14 10.3**	**+0.9**
CHEFC				S	**Sn**	**20 14 27.0**	**+0.6**
ECEU	**Ceuta**	**1.42**	**291**	Pn	**Pn**	**20 14 08.9**	**-1.6**
ECEU				Sn	**Sn**	**20 14 25.6**	**-2.7**
ECEU				*i* Vmb_Lg		20 14 27.9	
JBK	**JBK**	**1.43**	**137**	P	**Pn**	**20 14 10.8**	**0.0**
JBK				S	**Sn**	**20 14 28.4**	**-0.5**
EMIJ	**Mijas**	**1.44**	**325**	Pn	**Pn**	**20 14 09.2**	**-1.5**
EMIJ				Sn	**Sn**	**20 14 27.3**	**-1.4**
EMIJ				*i* Vmb_Lg		20 14 36.9	
ELGU	**Los Guajares,**	**1.48**	**4**	Pn	**Pn**	**20 14 09.8**	**-1.5**
ELGU				Sn	**Sn**	**20 14 27.9**	**-1.9**
ELGU				*i* Vmb_Lg		20 14 31.0	
EBER	**Berja**	**1.65**	**24**	Pn	**Pn**	**20 14 12.5**	**-1.3**
EBER				Sn	**Sn**	**20 14 34.7**	**+0.4**
EBER				*i* Vmb_Lg		20 14 39.0	
EGOR	**Sierra Gorda,**	**1.74**	**350**	Pn	**Pn**	**20 14 14.6**	**-0.3**
EGOR				Sn	**Sn**	**20 14 36.2**	**-0.2**
EGOR				*i* Vmb_Lg		20 14 42.4	
EJIF	**Jimena Fronter**	**1.75**	**308**	Pn	**Pn**	**20 14 14.5**	**-0.5**
EJIF				Sn	**Sn**	**20 14 36.5**	**0.0**
EQUE	**Quentar**	**1.82**	**8**	Pn	**Pn**	**20 14 16.4**	**+0.3**
EQUE				Sn	**Sn**	**20 14 38.2**	**-0.3**
EQUE				*i* Vmb_Lg		20 14 41.2	
LCRM	**LCR**	**1.94**	**209**	P	**Pb**	**20 14 23.0**	**+1.9**
LCRM	**LCR**	**1.94**	**209**	P	**Pb**	**20 14 21.2**	**+0.2**
LCRM				S	**Sb**	**20 14 46.6**	**+1.8**
ENIJ	**Nijar**	**2.01**	**38**	Pn	**Pn**	**20 14 17.3**	**-1.2**
ENIJ				Sn	**Sn**	**20 14 41.9**	**-0.9**
ENIJ				*i* Vmb_Lg		20 14 48.6	
ESPR	**Espera**	**2.26**	**311**	Pn	**Pn**	**20 14 21.7**	**-0.2**
ESPR				Sn	**Sn**	**20 14 48.6**	**-0.3**
ESPR				*i* Vmb_Lg		20 14 57.2	
MD31	**MD31**	**2.66**	**199**	P	**Pn**	**20 14 29.2**	**+1.6**
MD31				S	**Sb**	**20 15 02.3**	**-3.2**
MDT	**Midelt**	**2.67**	**196**	P	**Pn**	**20 14 30.4**	**+2.7**
MDT				S	**Sb**	**20 15 03.6**	**-2.3**
EADA	**Adamuz**	**2.85**	**347**	Pn	**Pn**	**20 14 30.8**	**+0.7**
EADA				Sn	**Sn**	**20 15 03.2**	**-0.4**
EADA				*i* Vmb_Lg		20 15 14.1	
EZAR	**Zarzadilla de**	**2.98**	**33**	Pn	**Pn**	**20 14 31.5**	**-0.5**
EZAR				Sn	**Sn**	**20 15 06.0**	**-0.8**
ECAB	**El Cabril**	**3.00**	**334**	Pn	**Pn**	**20 14 33.0**	**+0.8**
ECAB				Sn	**Sn**	**20 15 07.5**	**+0.3**
ECAB				*i* Vmb_Lg		20 15 16.7	
CART	**Cartagena**	**3.11**	**44**	P	**Pn**	**20 14 34.4**	**+0.7**
CART				S	**Sn**	**20 15 07.5**	**-2.5**
EMIN	**Mina Concepcio**	**3.34**	**316**	Pn	**Pn**	**20 14 36.2**	**-0.7**
EMIN				Sn	**Sn**	**20 15 13.8**	**-1.9**
EMIN				*i* Vmb_Lg		20 15 21.3	
ETOB	**Tobarra**	**3.69**	**28**	Pn	**Pn**	**20 14 43.4**	**+1.6**
ETOB				Sn	**Sn**	**20 15 23.6**	**-0.8**
ETOB				*i* Vmb_Lg		20 15 30.2	
EGRO	**El Granado**	**3.69**	**306**	Pn	**Pn**	**20 14 41.2**	**-0.5**
EGRO				Sn	**Sn**	**20 15 22.3**	**-2.1**
EGRO				*i* Vmb_Lg		20 15 26.2	
PVAQ	**Vaqueiros**	**3.78**	**303**	*e*Pn	**Pn**	**20 14 42.6**	**-0.3**
PVAQ				*e*Sn	**Sn**	**20 15 24.3**	**-2.2**
PVAQ				A	A	20 15 26.1	
	14nm,0.5s						
PVAQ	**Vaqueiros**	**3.78**	**303**	P	**Pn**	**20 14 43.3**	**+0.4**
PBAR	**Barrancos**	**3.83**	**317**	*e*Pn	**Pn**	**20 14 43.6**	**0.0**
PBAR				*e*Sn	**Sn**	**20 15 25.9**	**-1.9**
PBAR				A	A	20 15 32.1	
	3.9nm,0.7s						
PBDV	**Barranco-do-Ve**	**3.85**	**300**	*e*Pn	**Pn**	**20 14 43.9**	**0.0**
PBDV				*e*Sn	**Sn**	**20 15 27.6**	**-0.7**
PBDV				A	A	20 15 31.8	
	7.1nm,0.3s						
PCVE	**Castro Verde**	**4.12**	**304**	*e*Pn	**Pn**	**20 14 47.4**	**-0.1**
PCVE				*e*Sn	**Sn**	**20 15 33.4**	**-1.4**
PCVE				A	A	20 15 37.4	
	6.3nm,0.6s						
PAB	**San Pablo**	**4.17**	**354**	Pn	**Pn**	**20 14 49.0**	**+0.6**
PAB				Pg	**Pb**	**20 14 59.1**	**0.0**
PAB				*i* Vmb_Lg		20 15 34.0	
PAB				Sn	**Sn**	**20 15 34.4**	**-1.9**
PAB				Sg	**Sb**	**20 15 53.4**	**+4.3**
PBEJ	**Beja**	**4.23**	**310**	*e*Pn	**Pn**	**20 14 49.7**	**+0.6**
PBEJ				*e*Sn	**Sn**	**20 15 35.8**	**-1.7**
EBAD	**Badajoz**	**4.25**	**323**	Pn	**Pn**	**20 14 48.7**	**-0.7**
EBAD				Pg	**Pb**	**20 15 01.0**	**+0.6**
EBAD				Sn	**Sn**	**20 15 35.0**	**-3.2**
EBAD				*i* Vmb_Lg		20 15 41.0	
ESDC	**Sonseca Array**	**4.28**	**358**	Pn	**Pn**	**20 14 50.6**	**+0.8**
ESDC				Sn	**Sn**	**20 15 36.7**	**-2.1**
ESDC				*i* Vmb_Lg		20 15 56.5	
MORF	**Marmelete**	**4.40**	**297**	*e*Pn	**Pn**	**20 14 51.6**	**+0.2**
PFVI	**Vila Bisbo**	**4.46**	**294**	*e*Pn	**Pn**	**20 14 52.0**	**-0.2**
PFVI				*e*Sn	**Sn**	**20 15 41.0**	**-2.2**
PFVI				A	A	20 15 58.8	
	14nm,0.5s						
PTEO	**Sao Teotonio**	**4.55**	**300**	*e*Pn	**Pn**	**20 14 53.8**	**+0.3**
PTEO				*e*Sn	**Sn**	**20 15 44.4**	**-1.1**
PTEO				A	A	20 15 49.7	
	11nm,0.4s						
PESTR	**Estremoz**	**4.63**	**320**	*e*Pn	**Pn**	**20 14 56.4**	**+1.8**
PESTR				*e*Sn	**Sn**	**20 15 47.0**	**-0.5**
PESTR				A	A	20 16 02.6	
	5.3nm,0.4s						
PESTR	**Estremoz**	**4.63**	**320**	P	**Pn**	**20 14 56.4**	**+1.8**
EVO	**Evora**	**4.64**	**314**	P	Pn	20 14 50.4	-4.3
EVO				S	**Sn**	**20 15 44.1**	**-3.5**
EVO	**Evora**	**4.64**	**314**	*e*Pn	**Pn**	**20 14 54.7**	**0.0**
EVO				*e*Sn	**Sn**	**20 15 45.0**	**-2.6**
PNCL	**Nicolau / Gran**	**4.70**	**307**	*e*Pn	**Pn**	**20 14 55.5**	**-0.1**
PNCL				*e*Sn	**Sn**	**20 15 47.9**	**-1.3**
PNCL				A	A	20 16 07.2	
	5.6nm,0.6s						
ECHE	**Chera**	**4.74**	**27**	Pn	**Pn**	**20 14 57.1**	**+1.1**
ECHE				*i* Vmb_Lg		20 17 25.3	
UCM	**Universidad Co**	**4.92**	**4**	P	**Pn**	**20 14 59.8**	**+1.2**
UCM				S	**Sb**	**20 16 11.3**	**+0.7**
PMRV	**Marv??o**	**4.96**	**325**	*e*Pn	**Pn**	**20 15 00.3**	**+1.1**
PMRV				*e*Sn	**Sn**	**20 15 53.6**	**-2.1**
PMRV				A	A	20 16 19.8	
	3.1nm,0.5s						
EPLA	**Plasencia**	**5.02**	**339**	Pn	**Pn**	**20 14 59.8**	**-0.1**
EPLA				Pg	**Pb**	**20 15 13.8**	**+0.4**
EPLA				Sn	**Sn**	**20 15 54.2**	**-2.8**
EPLA				*i* Vmb_Lg		20 18 09.8	
PMTG	**Montargil**	**5.12**	**317**	*e*Pn	**Pn**	**20 15 02.0**	**+0.7**
PMTG				*e*Sn	**Sn**	**20 15 57.6**	**-2.0**
PMTG				A	A	20 15 58.6	
	6.7nm,0.5s						
OUZM	**OUZ**	**5.14**	**210**	P	**Pn**	**20 15 04.2**	**+2.5**
GUD	**Guadarrama**	**5.25**	**357**	Pn	**Pn**	**20 15 03.6**	**+0.3**
GUD				Pg	**Pb**	**20 15 17.1**	**-0.5**
GUD				Sn	**Sn**	**20 15 60.0**	**-3.0**
PACT	**Alcochete**	**5.28**	**311**	*e*Pn	**Pn**	**20 15 04.4**	**+0.9**
PACT				*e*Sn	**Sn**	**20 16 02.8**	**-0.7**
PCBR	**Castelo Branco**	**5.34**	**327**	*e*Pn	**Pn**	**20 15 05.1**	**+0.8**
PCBR				*e*Sn	**Sn**	**20 16 02.2**	**-2.7**
OUK	**Oukaimeden**	**5.42**	**221**	P	**Pn**	**20 15 06.8**	**+1.1**
ETOR	**Torete**	**5.58**	**13**	Pn	**Pn**	**20 15 08.4**	**+0.7**
ETOR				Pg	**Pb**	**20 15 24.0**	**+0.9**
ETOR				Sn	**Sn**	**20 16 06.9**	**-4.1**
ETOR				Sg	**Sb**	**20 16 35.2**	**+5.7**
ETOR				*i* Vmb_Lg		20 17 02.3	
PSBE	**So Bento**	**5.75**	**317**	*e*Pn	**Pn**	**20 15 11.8**	**+1.8**
TTIG	**Tnine Tigouga,**	**6.24**	**221**	P	**Pn**	**20 15 17.4**	**+0.5**
MVO	**Moncorvo**	**6.31**	**337**	*e*Pn	**Pn**	**20 15 19.1**	**+1.3**
PVRL	**Vila Real**	**6.65**	**333**	*e*Sn	**Sn**	**20 16 36.1**	**-1.2**
POLO	**Lamas de Olo**	**6.76**	**333**	*e*Pn	**Pn**	**20 15 25.1**	**+1.1**
POLO				*e*Sn	**Sn**	**20 16 36.2**	**-4.0**
PBRG	**Braganca**	**6.82**	**341**	*e*Pn	**Pn**	**20 15 26.1**	**+1.4**
PBRG				*e*Sn	**Sn**	**20 16 45.1**	**+3.7**

IDC 08 20:24:04.2±4.4, 14°59S×166°88E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.7/3, Error ellipse: s-maj=230.9km s-min=33.0km az=145.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.50**	**256**	P	P	20 30 27.9	-0.3
	0.7nm,0.3s,baz=86,slow=8.5,SNR=43						
ASAR	**Alice Springs**	**32.38**	**249**	P	P	20 30 36.6	+0.8
	0.3nm,0.8s,baz=75,slow=9.7,SNR=2.2						
ILAR	**Eielson Array**	**86.51**	**18**	P	P	20 36 49.5	+0.9
	0.3nm,0.5s,baz=236,slow=5.4,SNR=6.4						
ARCES	**ARCESS Array B**	**120.02**	**345**	PKP	PKPdf	20 42 54.5	-1.9
	1.5nm,0.9s,baz=48,slow=1.5,SNR=1.1						

NEIC 08 20:30:15.6±1.2, 35°96N±0°01×96°75W±0°02, h6km±2km, Error ellipse: s-maj=2.2km s-min=1.7km az=124.0
TUL 08 20:30:15.6±1.2, 35°94N±0°01×96°76W±0°02, h3km±3km, ML3.0, mb_Lg2.6/24(NEIC), Error ellipse: s-maj=2.3km s-min=1.9km az=108.0
ANF 08 20:30:16.1±1.0, 35°98N×96°72W, h6km, ML2.7/5, Error ellipse: s-maj=9.5km s-min=6.1km az=60.0

ISC 08 20:30:15.1±1.1, 35°98N±0°03×96°78W±0°03, h8km±12km, n38, σ1$15/37, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.47**	**226**	Pg	**Pg**	**20 30 24.6**	**+0.3**
OK005				Sg	**Sg**	**20 30 30.7**	**+0.4**
OK001	**Jones High Sch**	**0.59**	**225**	Sg	**Sg**	**20 30 35.0**	**+0.6**
TUL1	**Leonard**	**0.80**	**95**	Pg	**Pg**	**20 30 30.4**	**-0.2**
TUL1				Sg	**Sg**	**20 30 40.6**	**-0.5**
TUL1	**Leonard**	**0.80**	**95**	P	**Pg**	**20 30 30.6**	**0.0**
	baz=274,SNR=17						
TUL1				S	**Sg**	**20 30 41.0**	**-0.1**
	baz=274						
W35A	**Tecumseh**	**0.83**	**185**		**Pg**	**20 30 30.4**	**-0.7**
W35A				Sg	**Sg**	**20 30 41.6**	**-0.3**
FNO	**Franklin**	**0.88**	**215**	Pg	**Pg**	**20 30 31.9**	**-0.3**
FNO				Sg	**Sg**	**20 30 43.6**	**0.0**
T35B	**Sooner Cattle**	**0.96**	**13**	P	**Pb**	**20 30 34.5**	**+0.5**
	baz=191,SNR=24						
T35B				S	**Sb**	**20 30 47.5**	**+0.7**
	baz=191						
X34A	**Smith Ranch, M**	**1.63**	**212**		**Pb**	**20 30 45.1**	**-0.3**
X37A	**Clayton**	**1.81**	**140**	Pn	**Pb**	**20 30 47.7**	**-0.8**
X37A				lAmb_Lg		20 31 15.3	
	comp=Z,43nm,0.7s						
X37A	**Clayton**	**1.81**	**140**	P	**Pb**	**20 30 47.7**	**-0.8**
	baz=321						
X37A				S	**Sb**	**20 31 10.8**	**-0.4**
	baz=321						
U32A	**Winter Ranch,**	**1.84**	**283**		**Pb**	**20 30 49.0**	**-0.1**
U32A	**Winter Ranch,**	**1.84**	**283**	P	**Pb**	**20 30 49.0**	**-0.1**
	baz=102						
U32A				S	**Sg**	**20 31 13.6**	**-0.7**
	baz=102						
WMOK	**Wichita Mounta**	**2.05**	**233**		**Pn**	**20 30 51.0**	**+1.1**
HHAR	**Hobbs**	**2.32**	**82**		**Pn**	**20 30 54.9**	**+1.3**
W39A	**Magazine**	**2.56**	**107**	Pn	**Pn**	**20 30 58.3**	**+1.3**
Z35A	**Perchaven, San**	**2.67**	**189**	Pn	**Pn**	**20 30 58.9**	**+0.4**
Z35A	**Perchaven, San**	**2.67**	**189**	P	**Pn**	**20 30 59.5**	**+1.0**
	baz=8.8						
KSU1	**Kansas State U**	**3.12**	**2**	Pn	**Pn**	**20 31 05.5**	**+0.9**
KSU1				lAmb_Lg		20 32 01.7	
	comp=Z,28nm,0.8s						
KSU1	**Kansas State U**	**3.12**	**2**		**Pn**	**20 31 05.6**	**+1.1**
KSU1	**Kansas State U**	**3.12**	**2**	lAmb_Lg		20 31 39.3	
	comp=Z,28nm,0.7s						
U40A	**Yellville**	**3.20**	**82**	Pn	**Pn**	**20 31 07.0**	**+1.3**
U40A	**Yellville**	**3.20**	**82**	lAmb_Lg		20 32 45.0	
	comp=Z,11nm,0.8s						
X40A	**Basin Creek Fa**	**3.56**	**114**	Pn	**Pn**	**20 31 12.1**	**+1.5**
X40A				lAmb_Lg		20 32 16.9	
	comp=Z,12nm,1.1s						
CBKS	**Cedar Bluff**	**3.68**	**321**	lAmb_Lg		20 32 13.3	
	comp=Z,18nm,1.0s						
CBKS	**Cedar Bluff**	**3.68**	**321**		**Pn**	**20 31 09.4**	**-2.9**
WHAR	**Wooly Hollow**	**3.72**	**99**		**Pn**	**20 31 13.5**	**+0.6**
W41B	**Gary Mavity, V**	**3.78**	**101**	Pn	**Pn**	**20 31 14.5**	**+0.8**
MGMO	**Mountain Grove**	**3.81**	**71**	lAmb_Lg		20 32 26.4	

ODZ IAmb IAmb 21 06 54.6
comp=Z,23nm,1.2s
CMWZ Cape Campbell 32.93 279 P **P** **21 06 48.5 -0.7**
OXZ Oxford 32.97 275 P **P** **21 06 48.1 -1.6**
OXZ IAmb IAmb 21 07 15.1
comp=Z,22nm,1.2s
MCQ Macquarie Isla 33.08 249 P **P** **21 06 51.1 +0.6**
RPZ Rata Peaks 33.23 274 LR LR 21 16 56.3
comp=Z,593nm,22.0s,baz=134,slow=30
WKZ Wanaka 33.57 271 P **P** **21 06 53.5 -1.4**
WKZ IAmb IAmb 21 07 15.4
comp=Z,42nm,1.2s
BKZ Black Stump Fm 33.63 285 P **P** **21 06 53.9 -1.5**
BKZ IAmb IAmb 21 07 13.4
comp=Z,44nm,1.5s
URZ Urewera 33.99 287 LR LR 21 17 44.4
comp=Z,648nm,21.0s,baz=188,slow=31
URZ Urewera 33.99 287 P **P** **21 06 57.9 -0.6**
URZ IAmb IAmb 21 07 09.6
comp=Z,32nm,1.4s
FOZ Fox Glacier 34.01 273 P **P** **21 06 57.8 -0.9**
PMSA Palmer Station 34.90 133 LR LR 21 17 04.4
comp=Z,888nm,22.0s,baz=252,slow=29
HIZ Hauiti 34.96 284 P **P** **21 07 06.1 -0.9**
BELA Belgrano 2 37.12 160 P **P** **21 07 24.8 -0.2**
MG03 Isla Dawson 37.61 115 P **P** **21 07 29.9 +0.5**
MG03 IAmb IAmb 21 07 51.8
comp=Z,61nm,1.4s
RPN Rapa Nui 37.61 48 LR LR 21 19 10.8
comp=Z,987nm,19.2s,baz=205,slow=30
MG05 Puerto Natales 37.89 110 P **P** **21 07 30.5 -1.2**
MG05 IAmb IAmb 21 07 52.1
comp=Z,62nm,1.4s
USHA Ushuaia 38.02 117 LR LR 21 18 28.8
comp=Z,864nm,20.9s,baz=214,slow=29
OUZ Omahuta 38.13 286 P **P** **21 07 32.4 -1.6**
RAO Raoul Island 38.87 301 LR LR 21 20 11.9
comp=Z,199nm,18.9s,baz=64,slow=31
RAR Rarotonga 39.46 330 LR LR 21 19 22.3
comp=Z,590nm,19.2s,baz=158,slow=29
GO08 Villa O'Higgin 39.85 106 P **P** **21 07 50.6 +2.4**
PPT2 Papeete2 40.97 346 *e*S **S** **21 14 13.3 +3.6**
comp=Z,290nm,26.2s
PPT2 *e*LR LR 21 18 54.5
comp=Z,3µm,27.8s
PPT Papeete 40.99 346 LR LR 21 20 51.2
comp=Z,803nm,18.9s,baz=178,slow=30
COYC Coyhaique 42.01 103 P **P** **21 08 06.6 +0.5**
VAH Vaihoa 43.07 349 *e*T T 21 54 02.3
comp=Z,6.0nm,0.2s
LL02 Futaleuf 43.76 101 P **P** **21 08 20.6 +0.3**
NIUE Niue 44.65 318 P **P** **21 08 26.3 -1.3**
EFI East Falkland 44.86 119 P **P** **21 08 30.3 +1.4**
EFI IAmb IAmb 21 08 31.6
comp=Z,43nm,1.1s
LL04 Puerto Octay 45.09 98 P **P** **21 08 30.4 -0.5**
LL04 IAmb IAmb 21 08 31.5
comp=Z,25nm,1.5s
CASY Casey 45.39 212 P **P** **21 08 34.2 +1.3**
LR03 Panguipulli 46.04 97 P **P** **21 08 39.1 +0.6**
PLCA Paso Flores 46.19 100 P **P** **21 08 39.9 +0.1**
comp=Z,4.7nm,1.1s,baz=199,slow=10,SNR=5.1
PLCA LR LR 21 22 48.4
comp=Z,446nm,21.4s,baz=214,slow=29
PLCA Paso Flores 46.19 100 P **P** **21 08 40.2 +0.4**
PLCA IAmb IAmb 21 08 40.8
comp=Z,24nm,1.4s
LC01 Cunco 46.83 97 P **P** **21 08 44.1 -0.6**
LC01 IAmb IAmb 21 08 48.2
comp=Z,19nm,1.1s
H03S2 Juan Fernandez 46.88 86 T T 21 58 54.0
baz=217
H03S1 Juan Fernandez 46.88 86 T T 21 58 45.8
baz=217
H03S3 Juan Fernandez 46.90 86 T T 21 58 53.0
baz=217
VNA2 Neumayer--Watz 47.09 161 P **P** **21 08 44.8 -1.5**
baz=211,slow=8.0
VNA1 Neumayer--Stat 47.17 160 P **P** **21 08 46.0 -0.9**
H03N3 Juan Fernandez 47.17 86 T T 21 59 13.6
baz=220,slow=72,SNR=116
H03N2 Juan Fernandez 47.18 86 T T 21 59 12.5
baz=220,slow=72,SNR=46
H03N1 Juan Fernandez 47.19 86 T T 21 59 16.4
baz=220,slow=72,SNR=62
SNAA Sanae 47.21 163 P **P** **21 08 46.0 -1.3**
SNAA Sanae 47.21 163 LR LR 21 26 02.8
comp=Z,547nm,21.4s,baz=200,slow=33
SNAA Sanae 47.21 163 P **P** **21 08 49.7 +2.4**
SNAA IAmb IAmb 21 09 04.8
comp=Z,13nm,1.2s
BI05 Punta Hualpn 47.73 94 P **P** **21 08 52.9 +1.2**
TAOE Nuku Hiva Isla 49.02 360 *e*S **S** **21 16 11.8 +5.4**
comp=Z,216nm,26.2s
TAOE *e*LR LR 21 22 43.2
comp=Z,2µm,27.4s
ML02 Panimavida 49.41 94 P **P** **21 09 05.2 +0.6**
AFI Afiamalu 50.08 318 LR LR 21 24 25.4
comp=Z,285nm,21.1s,baz=172,slow=29
BO02 Sierra Bellavi 50.48 94 P **P** **21 09 12.4 -0.5**
BO02 IAmb IAmb 21 09 34.6
comp=Z,28nm,1.3s
MSVF Nonsavu 50.68 305 LR LR 21 25 54.0
comp=Z,456nm,21.8s,baz=158,slow=30
MSVF Nonsavu 50.68 305 P **P** **21 09 13.7 -0.8**
MSVF IAmb IAmb 21 09 20.7
comp=Z,22nm,1.2s
VA05 Santo Domingo 50.91 92 P **P** **21 09 15.6 -0.4**
VA05 IAmb IAmb 21 09 29.5
comp=Z,39nm,1.2s
MT09 Talagante 51.15 93 P **P** **21 09 17.9 -0.2**
MT09 IAmb IAmb 21 09 39.4
comp=Z,28nm,1.2s
BO04 La Punta 51.19 94 P **P** **21 09 17.9 -0.3**
BO04 IAmb IAmb 21 09 34.0
comp=Z,28nm,1.4s
MT02 Curacav 51.47 93 P **P** **21 09 21.7 +1.4**
MT02 IAmb IAmb 21 09 43.9
comp=Z,65nm,1.5s
LMEL Las Melosas 51.51 94 P **P** **21 09 21.2 +0.4**
LMEL IAmb IAmb 21 09 37.9
comp=Z,18nm,1.0s
MT05 Renca 51.58 93 P **P** **21 09 20.9 -0.2**
PEL Peldehue 51.80 93 P **P** **21 09 22.6 -0.2**
PEL IAmb IAmb 21 09 26.0
comp=Z,51nm,1.2s
HOPE Hope Point 52.22 134 P **P** **21 09 26.2 +0.7**
DZM Mont Dzumac 52.44 290 LR LR 21 28 19.5
comp=Z,210nm,19.0s,baz=114,slow=32
DZM Mont Dzumac 52.44 290 *e*S S 21 17 03.4 +10
comp=Z,101nm,23.1s
DZM *e*LR LR 21 24 22.3
comp=Z,635nm,24.4s
CO02 Combarbal 53.14 91 P **P** **21 09 33.7 +0.9**
SYO Syowa Base 53.30 180 *jiP* **P** **21 09 32.4 -0.9**
MAW Mawson 53.58 191 LR LR 21 30 20.5
comp=Z,886nm,19.4s,baz=174,slow=34
MAW Mawson 53.58 191 P **P** **21 09 35.6 +0.2**
CO01 Juntas del Tor 54.58 91 P **P** **21 09 44.4 +0.8**
STKA Stephens Creek 57.60 261 P **P** **21 10 06.4 +1.6**
comp=Z,4.4nm,1.1s,baz=124,slow=6.3,SNR=5.7
STKA LR LR 21 30 58.7
comp=Z,176nm,20.1s,baz=180,slow=32
EIDS Eidsvold 57.73 273 P **P** **21 10 05.2 -0.5**
EIDS IAmb IAmb 21 10 09.9
comp=Z,20nm,1.5s
GO02 Mina Guanaco 58.69 88 P **P** **21 10 12.6 -0.3**
GO02 IAmb IAmb 21 10 40.4
comp=Z,28nm,1.4s
BBOO Buckleboo 59.75 256 P **P** **21 10 20.1 +0.4**
BBOO IAmb IAmb 21 10 22.5
comp=Z,15nm,1.2s
PB15 IPOC Station P 60.33 87 P **P** **21 10 24.3 +0.2**
PB15 IAmb IAmb 21 10 27.6
comp=Z,30nm,1.3s
PB06 IPOC Station P 60.69 86 P **P** **21 10 25.8 -0.7**
PB06 IAmb IAmb 21 10 26.3
comp=Z,21nm,1.1s
LVC Limon Verde 61.12 87 LR LR 21 29 35.1
comp=Z,108nm,18.5s,baz=214,slow=29
LVC Limon Verde 61.12 87 P **P** **21 10 29.8 +0.1**
LVC IAmb IAmb 21 10 33.5
comp=Z,25nm,1.3s
PB07 IPOC Station P 61.32 85 P **P** **21 10 31.2 +0.4**
PB07 IAmb IAmb 21 10 34.0
comp=Z,18nm,1.0s
XMAS Kiritimati 61.46 340 P **P** **21 10 31.5 0.0**
PLTB Pedras Altas 61.84 105 P **P** **21 10 33.5 -0.5**
PLTB IAmb IAmb 21 10 35.8
comp=Z,14nm,1.2s
ITQB Itaqui 61.94 102 P **P** **21 10 34.8 +0.1**
ITQB IAmb IAmb 21 10 37.8
comp=Z,25nm,1.1s
PB01 IPOC Station P 62.09 85 P **P** **21 10 35.8 -0.1**
PB01 IAmb IAmb 21 11 01.1
comp=Z,15nm,1.2s
TA02 Huaiquique 62.38 84 P **P** **21 10 38.0 +0.3**
PB08 IPOC Station P 63.01 85 P **P** **21 10 43.3 +1.0**
PB11 IPOC Station P 63.05 84 P **P** **21 10 41.6 -0.8**
PB11 IAmb IAmb 21 10 46.0
comp=Z,17nm,1.1s
GO01 Chusmiza 63.37 85 P **P** **21 10 45.0 +0.1**
CPUP Villa Florida 64.25 99 P **P** **21 10 48.2 -1.9**
comp=Z,2.2nm,0.6s,baz=235,slow=12,SNR=5.0
CPUP LR LR 21 34 37.9
comp=Z,165nm,19.5s,baz=212,slow=32
CPUP Villa Florida 64.25 99 P **P** **21 10 50.1 0.0**
PB16 IPOC Station P 64.31 84 P **P** **21 10 51.2 0.0**
PB16 IAmb IAmb 21 10 55.6
comp=Z,9.7nm,1.0s
CTA Charters Tower 64.59 273 LR LR 21 34 51.8
comp=Z,143nm,20.1s,baz=117,slow=32
FORT Forrest 65.45 251 P **P** **21 10 58.4 +0.6**
FORT IAmb IAmb 21 11 03.5
comp=Z,15nm,0.8s
NNA Nana 65.80 73 LR LR 21 32 39.2
comp=Z,254nm,21.0s,baz=207,slow=30
NNA Nana 65.80 73 P **P** **21 10 59.2 -1.0**
ITAB Concordia 66.24 104 P **P** **21 11 03.1 +0.2**
ITAB IAmb IAmb 21 11 05.7
comp=Z,29nm,1.4s
HNR Honiara 66.42 291 P **P** **21 11 04.4 +0.2**
LPAZ La Paz 66.73 83 P **P** **21 11 07.0 +0.1**
comp=Z,7.3nm,1.1s,baz=198,slow=4.4,SNR=14
LPAZ LR LR 21 33 18.6
comp=Z,81nm,21.2s,baz=206,slow=30
LPAZ La Paz 66.73 83 P **P** **21 11 07.1 +0.1**
LPAZ IAmb IAmb 21 11 11.3
comp=Z,23nm,1.4s
AS31 Alice Springs 68.22 260 P **P** **21 11 16.1 +0.5**
ASAR Alice Springs 68.22 260 P **P** **21 11 15.3 -0.3**
comp=Z,9.3nm,1.1s,baz=144,slow=6.5,SNR=35
ASAR LR LR 21 36 49.7
comp=Z,320nm,20.6s,baz=154,slow=32
ASAR Alice Springs 68.22 260 P **P** **21 11 15.6 0.0**
H01W1 Cape Leeuwin H 68.75 238 T T 22 26 55.9
baz=145
H01W2 Cape Leeuwin H 68.75 238 T T 22 26 58.9
baz=145,slow=74
H01W3 Cape Leeuwin H 68.77 238 T T 22 26 55.5
baz=145,slow=74
PAYG Puerto Ayora 69.25 55 P **P** **21 11 21.3 -0.8**
PAF Port-aux-Franc 70.16 200 P **P** **21 11 28.5 +1.3**
SIV San Ignacio 70.72 89 LR LR 21 38 27.2
comp=Z,98nm,18.8s,baz=252,slow=32
MCRA Macar, Loja 70.78 66 P **P** **21 11 30.8 -0.8**
MCRA IAmb IAmb 21 11 35.3
comp=Z,32nm,1.4s
WR0 Warramunga Arr 70.92 263 P **P** **21 11 32.9 +0.6**
WR0 IAmb IAmb 21 11 54.0
comp=Z,12nm,1.2s
WB2 Warramunga Arr 71.04 263 P **P** **21 11 33.3 +0.3**
WRA Warramunga Arr 71.04 263 P **P** **21 11 33.4 +0.3**
comp=Z,6.1nm,1.0s,baz=146,slow=5.4,SNR=17
WRA LR LR 21 39 50.2
comp=Z,190nm,19.0s,baz=194,slow=33
WRA Warramunga Arr 71.04 263 P **P** **21 11 33.1 0.0**
WRAB Tennant Creek 71.05 263 P **P** **21 11 32.6 -0.4**
COEN Coen 71.30 274 P **P** **21 11 33.5 -1.1**
COEN IAmb IAmb 21 11 36.2
comp=Z,17nm,1.1s
BOSC San Juan Bosco 72.55 67 P **P** **21 11 42.1 -0.2**
BOSC IAmb IAmb 21 11 46.6
comp=Z,33nm,1.3s
MORW Morawa 72.75 243 P **P** **21 11 43.2 +0.1**
MORW IAmb IAmb 21 11 45.7
comp=Z,33nm,1.4s
PMG Port Moresby 73.00 280 LR LR 21 41 08.6
comp=Z,144nm,18.4s,baz=154,slow=34
KRVT Keravat (AS076 74.79 287 LR LR 21 40 38.1
comp=Z,62nm,20.1s,baz=258,slow=32
FITZ Fitzroy Crossi 77.13 257 LR LR 21 42 59.3
comp=Z,136nm,18.5s,baz=150,slow=33
PSA00 Pilbara Seismi 77.17 250 P **P** **21 12 08.5 -0.4**
BDFB Brasilia 77.94 100 LR LR 21 44 01.8
comp=Z,332nm,18.2s,baz=168,slow=34
MTN Manton Dam 78.63 264 P **P** **21 12 17.5 +0.6**
MTN IAmb IAmb 21 12 22.9
comp=Z,29nm,1.3s
DRK0 Durika 81.21 57 P **P** **21 12 31.5 +0.4**
JTS Las Juntas de 81.37 55 LR LR 21 40 12.5
comp=Z,572nm,20.4s,baz=207,slow=30
JTS Las Juntas de 81.37 55 P **P** **21 12 32.0 +0.3**
JTS IAmb IAmb 21 12 37.5
comp=Z,32nm,1.4s
ROSC El Rosal 81.51 67 LR LR 21 42 01.8
comp=Z,301nm,19.0s,baz=225,slow=31
ROSC El Rosal 81.51 67 P **P** **21 12 33.3 +0.4**
ROSC IAmb IAmb 21 12 35.8
comp=Z,12nm,0.8s
JAY Jayapura 82.20 278 LR LR 21 45 23.7
comp=Z,75nm,22.0s,baz=245,slow=33
CNGN Cerro Negro 82.60 52 P **P** **21 12 37.9 -0.2**
ACON Acoyapa 82.77 54 P **P** **21 12 38.3 -0.7**
ACON IAmb IAmb 21 12 43.8
comp=Z,14nm,0.9s
MTO3 Montecristo 83.22 49 P **P** **21 12 41.5 0.0**
ZARC Zaragoza, Cauc 83.55 65 P **P** **21 12 42.4 -0.7**
CMIG Matias Romero 83.56 43 LR LR 21 42 10.2
comp=Z,279nm,19.3s,baz=202,slow=30
BATI Baumata 84.77 259 LR LR 21 46 53.4
comp=Z,312nm,20.6s,baz=190,slow=33
OCAC Ocana 84.94 66 P **P** **21 12 49.8 -0.6**
OCAC IAmb IAmb 21 12 53.6
comp=Z,14nm,1.3s
LPIG La Paz 85.47 27 LR LR 21 42 10.0
comp=Z,459nm,20.8s,baz=212,slow=29
SDV Santo Domingo 86.81 68 LR LR 21 45 50.5
comp=Z,139nm,20.9s,baz=204,slow=32
SDV Santo Domingo 86.81 68 P **P** **21 12 57.7 -2.0**
SDV IAmb IAmb 21 13 02.3
comp=Z,18nm,1.2s
SUR Sutherland 88.54 164 LR LR 21 49 58.0
comp=Z,273nm,19.3s,baz=188,slow=34
SIJI Sorong 88.60 271 LR LR 21 51 12.8
comp=Z,96nm,19.7s,baz=154,slow=34
KAPI Kappang 91.20 259 LR LR 21 52 25.0
comp=Z,111nm,18.0s,baz=160,slow=34
TXAR Lajitas Array 92.17 31 LR LR 21 46 20.0
comp=Z,107nm,20.5s,baz=192,slow=30
RCBR Riachuelo 92.50 105 LR LR 21 51 35.6
comp=Z,273nm,20.4s,baz=194,slow=33
BOSA Bosnof 92.84 167 LR LR 21 54 14.1
comp=Z,410nm,18.1s,baz=192,slow=35
PFO Pinyon Flats O 93.38 20 LR LR 21 46 10.7
comp=Z,528nm,20.3s,baz=202,slow=30
GUMO Guam 93.71 290 LR LR 21 49 14.0
comp=Z,42nm,20.8s,baz=102,slow=31
LEM Lembang 95.82 247 LR LR 21 48 49.7
comp=Z,96nm,21.9s,baz=152,slow=30
LBTB Lobatse 96.43 167 LR LR 21 56 30.7
comp=Z,217nm,18.2s,baz=180,slow=35
LCH Last Change Ra 96.71 18 P **P** **21 13 41.6 -3.4**
LCH IAmb IAmb 21 13 43.9
comp=Z,3.9nm,1.0s
ANMO Albuquerque 96.78 27 LR LR 21 49 24.7
comp=Z,375nm,19.7s,baz=200,slow=30
SJG San Juan 96.93 67 LR LR 21 54 22.6
comp=Z,63nm,18.2s,baz=244,slow=34
NVAR Mina Array Bea 97.77 17 LR LR 21 48 57.6
comp=Z,504nm,19.9s,baz=186,slow=30
DAV Davao City (W) 98.29 270 LR LR 21 56 46.9
comp=Z,46nm,20.7s,baz=132,slow=34
H10S3 ASCENSION HYDR 99.99 125 T T 23 05 38.4
baz=13,slow=74,SNR=18
H10S2 ASCENSION HYDR 99.99 125 T T 23 05 37.1
baz=207,slow=74,SNR=12
H10N3 ASCENSION HYDR 101.05 125 T T 23 06 56.8
baz=206,slow=75,SNR=39
H10N1 ASCENSION HYDR 101.06 125 T T 23 06 58.1
baz=206,slow=75,SNR=44
H10N2 ASCENSION HYDR 101.07 125 T T 23 06 58.1
baz=206,slow=75,SNR=33
JNU Nakatsue 116.97 290 PKP **PKiKP** **21 18 59.8 +0.5**
comp=Z,5.8nm,1.1s,baz=145,slow=7.5,SNR=4.1
PETK Petropavlovsk- 121.74 321 PKP **PKPdf** **21 19 07.8 0.0**
comp=Z,0.5nm,0.4s,baz=223,slow=7.9,SNR=1.4
YKA Yellowknife Ar 121.75 14 PKP **PKPdf** **21 19 07.1 -0.4**
comp=Z,0.6nm,0.7s,baz=180,slow=2.3,SNR=8.6
NJ2 Nanjing 122.31 280 *e*PKP **PKiKP** **21 19 10.0 +0.3**
ILAR Eielson Array 122.56 357 PKP **PKiKP** **21 19 09.4 +0.2**
comp=Z,5.7nm,0.9s,baz=222,slow=1.6,SNR=39
IMAR Indian Mountai 124.09 353 **PKiKP** **21 19 13.6 +1.4**
BMAR Burnt Mountain 125.16 358 PKPdf **PKiKP** **21 19 14.9 +0.6**
TORD Torodi Ar. Bea 126.75 131 PKP **PKPdf** **21 19 17.0 -1.6**
comp=Z,1.6nm,1.0s,baz=189,slow=1.6,SNR=7.3
PZH PanZhiHua 126.99 261 PKP **PKiKP** **21 19 19.4 0.0**
HHC Hu-ho-hao-te 132.78 281 *e*PKP **PKiKP** **21 19 32.3 +1.7**
SONM Songino Array 140.28 285 PKP **PKPdf** **21 19 41.3 -1.8**
comp=Z,0.1nm,0.4s,baz=160,slow=4.6,SNR=2.6
TIXI Tiksi 143.72 328 PKPdf PKPbc 21 19 46.7 +0.8
RAYN Ar Rayn 145.33 189 PKPdf **PKPdf** **21 19 52.7 0.0**
ESDC Sonseca Array 146.52 104 PKPbc **PKPbc** **21 19 55.7 0.0**
comp=Z,1.4nm,1.0s,baz=234,slow=7.1,SNR=5.9
ESDC Sonseca Array 146.52 104 **PKPbc** **21 19 56.0 +0.2**
NIL Nilore 146.96 237 **PKPbc** **21 19 56.6 -0.6**
WMQ Urumqi 147.51 265 *e*PKPbc **PKPab** **21 19 59.7 -0.8**
KBL Kabul 149.55 232 **PKPbc** **21 20 04.5 +0.4**
KSH Kashi 150.44 247 PKPbc **PKPbc** **21 20 06.2 +0.2**
KSH PP PP 21 23 50.6 +8.3
KSH AMB AMB
comp=Z,290nm,6.5s
HRA Herat 152.07 222 **PKPbc** **21 20 10.1 0.0**
MK31 Makanchi Array 152.33 265 **PKiKP** **21 20 10.6 +0.3**
MKAR Makanchi Array 152.33 265 PKPbc **PKPbc** **21 20 09.0 -1.0**
comp=Z,3.8nm,1.0s,baz=122,slow=4.4,SNR=18
MKAR Makanchi Array 152.33 265 **PKPbc** **21 20 09.4 -0.6**
AAK Ala-Archa 153.52 250 **PKiKP** **21 20 14.3 +1.2**
AAK PKPab **PKPab** **21 20 25.9 +0.4**
ZALV Zalesovo Beam 154.96 280 PKPab **PKPab** **21 20 30.1 -1.0**
comp=Z,4.1nm,0.8s,baz=124,slow=3.9,SNR=14
ZALV Zalesovo Beam 154.96 280 PKPab **PKPab** **21 20 30.5 -0.5**
NRIK Noril'sk 156.76 318 PKPab **PKPab** **21 20 39.1 +0.7**
comp=Z,1.7nm,0.4s,baz=73,slow=5.7,SNR=6.1
FETA Feichten 159.25 109 *e*P **PKPab** **21 20 51.3 +1.3**
comp=Z,8.6nm,1.3s
RETA Reutte 159.58 108 *e*P **PKPab** **21 20 51.8 +0.5**
comp=Z,5.1nm,0.9s
SQTA Sankt Quirin 159.62 109 *e*P **PKPab** **21 20 51.7 +0.1**
comp=Z,9.0nm,1.3s
MOTA Moosalm 159.66 109 *e*P **PKPab** **21 20 51.7 0.0**
comp=Z,9.6nm,1.4s
WTTA Wattenberg 159.87 110 *e*P **PKPab** **21 20 52.9 +0.2**
comp=Z,7.0nm,1.0s
WATA Walderalm 159.89 110 *e*P **PKPab** **21 20 53.7 +0.9**
comp=Z,8.5nm,1.2s
ABTA Abfaltersbach 159.95 112 *e*P **PKPab** **21 20 53.5 +0.6**
comp=Z,11nm,1.3s
OBKA Obir 160.77 116 *e*P **PKPab** **21 20 57.4 +0.9**
comp=Z,14nm,1.4s
BRTR Keskin Array B 161.26 165 PKPab **PKPab** **21 20 59.0 +0.1**
comp=Z,2.0nm,1.0s,baz=187,slow=5.0,SNR=5.9
GERES GERESS Array B 161.95 109 PKPab **PKPab** **21 21 00.6 -1.1**
comp=Z,0.4nm,0.8s,baz=230,slow=6.1,SNR=3.1
KHC Kasperske Hory 162.08 108 *e*PKPab **PKPab** **21 21 04.0 +1.9**
KHC *ex* x 21 21 10.1
CONA Conrad Observa 162.41 114 *e*P **PKPab** **21 21 01.6 -2.0**
comp=Z,9.9nm,1.5s
MLR Muntele Rosu 164.79 139 PKPab **PKPab** **21 21 13.1 -1.1**
AKASG Malin Array Be 170.37 135 PKPab **PKPab** **21 21 36.7 -1.9**
comp=Z,0.2nm,0.2s,baz=214,slow=4.1,SNR=6.4

*CNRM **08** 21:06:32.8, 35.44N×3.76W, h22km, ml2.5*
*SFS **08** 21:06:33.0, 35.41N×3.77W, h18km, ML2.2, ALBORAN SUR*
*MDD **08** 21:06:33.4±0.5, 35.42N×3.77W, h18km±5km, mb_Lg2.2/9, Error ellipse: s-maj=5.9km s-min=2.7km az=170.0*
*INMG **08** 21:06:35.6±1.8, 35.44N×3.86W, h12km±16km, ML2.1, Error ellipse: s-maj=8.4km s-min=5.3km az=89.0*
ISC 08 21:06:32.6±1.2, 35.45N±0.03×3.75W±0.02, h18km±6km, n30, σ1s22/57, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PALE	**Palemas**	**0.28**	**213**	P	**Pb**	**21 06 39.4**	**+0.2**
PALE				S	**Sg**	**21 06 43.0**	**-0.1**
PVLZ	**Peæn de**	**0.53**	**238**	P	**Pg**	**21 06 42.9**	**-0.4**
PVLZ				S	**Sb**	**21 06 51.0**	**+0.3**
GOG	**Mont Gurugu**	**0.66**	**110**	P	**Pb**	**21 06 46.5**	**+0.9**
GOG				S	**Sb**	**21 06 54.4**	**0.0**
EMEL	**Melilla**	**0.67**	**103**	Pg	**Pb**	**21 06 46.6**	**+0.9**
EMEL				Sg	**Sb**	**21 06 55.6**	**+1.0**
EALB	**Alboran**	**0.76**	**50**	Pg	**Pb**	**21 06 47.9**	**+0.7**
EALB				Sg	**Sb**	**21 06 57.8**	**+0.6**
EALB				*i* Vmb_Lg		21 06 59.4	
TAF	**Taforalt**	**1.27**	**120**	P	**Pn**	**21 06 56.5**	**+1.0**
TAF				S	**Sb**	**21 07 12.1**	**+0.1**
CHEFC	**Chefchaouen**	**1.35**	**256**	P	**Pb**	**21 06 57.5**	**+0.1**
CHEFC				S	**Sn**	**21 07 12.9**	**-1.2**
SMIR	**Smir Dam**	**1.35**	**280**	P	**Pn**	**21 06 55.9**	**-0.6**
SMIR				S	**Sb**	**21 07 14.8**	**+0.5**
EMIJ	**Mijas**	**1.39**	**323**	Pn	**Pn**	**21 06 56.8**	**-0.3**
EMIJ				Sn	**Sn**	**21 07 14.6**	**-0.4**
EMIJ				*i* Vmb_Lg		21 07 21.3	
ECEU	**Ceuta**	**1.40**	**289**	Pn	**Pn**	**21 06 55.5**	**-1.7**
ECEU				Sn	**Sn**	**21 07 13.3**	**-2.0**
ECEU				*i* Vmb_Lg		21 07 16.7	
ELGU	**Los Guajares,**	**1.42**	**4**	Pn	**Pn**	**21 06 57.0**	**-0.6**
ELGU				Sn	**Sn**	**21 07 14.4**	**-1.4**
ELGU				*i* Vmb_Lg		21 07 19.0	
JBK	**JBK**	**1.48**	**139**	P	**Pn**	**21 06 57.6**	**-1.0**
JBK				S	**Sn**	**21 07 16.5**	**-1.1**
EBER	**Berja**	**1.60**	**26**	Pn	**Pn**	**21 07 00.4**	**+0.2**
EBER				Sn	**Sn**	**21 07 20.1**	**-0.4**
EBER				*i* Vmb_Lg		21 07 43.9	
EGOR	**Sierra Gorda,**	**1.68**	**350**	Pn	**Pn**	**21 07 00.3**	**-0.9**
EGOR				Sn	**Sn**	**21 07 20.4**	**-2.0**
EGOR				*i* Vmb_Lg		21 07 33.6	
EQUE	**Quentar**	**1.77**	**8**	Sn	**Sn**	**21 07 24.8**	**+0.3**
ENIJ	**Nijar**	**1.96**	**39**	Pn	**Pn**	**21 07 04.3**	**-0.7**
ENIJ				Sn	**Sn**	**21 07 28.2**	**-1.0**
ENIJ				*i* Vmb_Lg		21 07 31.6	
LCRM	**LCR**	**1.99**	**208**	P	**Pn**	**21 07 05.7**	**+0.2**
LCRM				S	**Sb**	**21 07 34.2**	**+1.4**
MD31	**MD31**	**2.71**	**198**	P	**Pn**	**21 07 15.3**	**-0.1**
MD31				S	**Sn**	**21 07 48.0**	**+0.1**
MDT	**Midelt**	**2.73**	**195**	P	**Pn**	**21 07 14.5**	**-1.1**
EADA	**Adamuz**	**2.79**	**346**	Pn	**Pn**	**21 07 17.7**	**+1.3**
EADA				Sn	**Sn**	**21 07 48.1**	**-1.6**
EADA				*i* Vmb_Lg		21 07 59.8	
EZAR	**Zarzadilla de**	**2.93**	**34**	Pn	**Pn**	**21 07 17.8**	**-0.5**
EZAR				Sn	**Sn**	**21 07 51.4**	**-1.7**
ECAB	**El Cabril**	**2.94**	**333**	Pn	**Pn**	**21 07 18.4**	**-0.1**
ECAB				Sn	**Sn**	**21 07 51.4**	**-1.9**
ETOB	**Tobarra**	**3.64**	**28**	Pn	**Pn**	**21 07 28.6**	**+0.5**
ETOB				Sn	**Sn**	**21 08 10.3**	**-0.3**
PVAQ	**Vaqueiros**	**3.75**	**302**	*e*Pn	**Pn**	**21 07 31.6**	**+2.1**
PVAQ				*e*Sn	**Sn**	**21 08 12.7**	**-0.5**
PVAQ				A	A	21 08 14.8	
	2.7nm,0.9s						
PBAR	**Barrancos**	**3.79**	**317**	*e*Pn	**Pn**	**21 07 32.6**	**+2.5**
PBAR				*e*Sn	**Sn**	**21 08 15.2**	**+1.0**
PBAR				A	A	21 08 33.0	
	1.6nm,0.8s						
PBDV	**Barranco-do-Ve**	**3.82**	**299**	*e*Pn	**Pn**	**21 07 32.8**	**+2.2**
PBDV				*e*Sn	**Sn**	**21 08 14.5**	**-0.5**
PAB	**San Pablo**	**4.11**	**354**	Pn	**Pn**	**21 07 34.5**	**-0.1**
PAB				Sn	**Sn**	**21 08 19.9**	**-2.5**
EBAD	**Badajoz**	**4.20**	**323**	Pn	**Pn**	**21 07 36.3**	**+0.5**
EBAD				Sn	**Sn**	**21 08 22.1**	**-2.3**
PNCL	**Nicolau / Gran**	**4.66**	**306**	*e*Pn	**Pn**	**21 07 43.8**	**+1.7**
PNCL				*e*Sn	**Sn**	**21 08 35.8**	**0.0**
PMRV	**Marv??o**	**4.91**	**325**	*e*Pn	**Pn**	**21 07 48.4**	**+2.8**

*MEX **08** 21:31:49.8±1.3, 14.58N×94.37W, h16km±19km, MD4.1*
*IDC **08** 21:31:49.4±4.4, 15.20N×93.50W, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/35, mbtmp3.4/5, ML3.4/2, MS4.1/1, Ms1 4.1/1, ms1mx2.8/39, Error ellipse: s-maj=156.2km s-min=49.3km az=44.0*
ISC 08 21:31:47.1±1.1, 14.70N±0.07×94.19W±0.04, h10km, n18, σ2s44/27, mb3.6/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.37**	**43**	*e*P	**Pg**	**21 32 13.8**	**+0.5**
PCIG				*e*S	**Sn**	**21 32 32.2**	**+1.8**
CARR	**Arriaga**	**1.56**	**10**	*e*P	**Pb**	**21 32 15.1**	**-1.0**
CARR				*i* S	**Sg**	**21 32 35.3**	**-2.1**
THIG		**1.87**	**83**	*e*P	**Pb**	**21 32 19.9**	**-1.5**
THIG				*i* S	**Sg**	**21 32 46.7**	**-0.5**
PATR	**El Naranjo**	**1.93**	**77**	*e*P	**Pb**	**21 32 20.9**	**-1.6**
PATR				*i* S	**Sg**	**21 32 47.0**	**-2.2**
PAVE	**Pavencul**	**2.00**	**76**	*e*P	**Pb**	**21 32 22.9**	**-0.9**
PAVE				*i* S	**Sg**	**21 32 47.9**	**-3.6**
CHUJ	**Union Juarez**	**2.05**	**79**	*e*P	**Pb**	**21 32 23.4**	**-1.1**
CHUJ				*i* S	**Sg**	**21 32 50.4**	**-2.6**
HUIG	**Huatulco**	**2.14**	**300**	*e*P	**Pn**	**21 32 21.2**	**-1.7**
HUIG				*e*S	**Sn**	**21 32 43.2**	**-6.3**
TGIG		**2.31**	**26**	*e*P	**Pg**	**21 32 29.3**	**-2.0**
CMIG	**Matias Romero**	**2.47**	**344**	Pn	**Pn**	**21 32 28.7**	**+1.2**
	8.0nm,0.3s,baz=176,slow=13,SNR=48						
CMIG				Sn	**Sn**	**21 32 57.9**	**+0.2**
	32nm,0.3s,baz=45,slow=17,SNR=7.9						
CMIG				LR	LR	21 33 08.9	
	comp=Z,54nm,21.3s,baz=222,slow=34						
CMIG	**Matias Romero**	**2.47**	**344**	*e*P	**Pn**	**21 32 28.6**	**+1.2**
CMIG				*i* S	**Sn**	**21 32 55.5**	**-2.2**
CCIG	**Comitan**	**2.52**	**51**	*e*P	**Pg**	**21 32 32.6**	**-2.9**
CCIG				*i* S	**Sg**	**21 33 06.0**	**-2.3**
UXUV	**UXUV**	**2.60**	**1**	*e*P	**Pb**	**21 32 32.4**	**-1.5**
PEIG	**Puerto Escondi**	**3.14**	**295**	*e*P	**Pn**	**21 32 35.2**	**-1.4**
PEIG				*i* S	Sn	21 33 05.9	-8.3
TXAR	**Lajitas Array**	**17.00**	**331**	Pn	**P**	**21 35 49.2**	**+2.2**
	0.0nm,0.3s,baz=147,slow=12,SNR=1.8						
PDAR	**Pinedale Array**	**30.94**	**338**	LR	LR	21 53 01.7	
	comp=Z,336nm,18.4s,baz=214,slow=41						
NVAR	**Mina Array Bea**	**31.82**	**322**	P	**P**	**21 38 16.7**	**+4.4**
	0.7nm,0.8s,baz=143,slow=6.5,SNR=4.9						
YKA	**Yellowknife Ar**	**49.88**	**348**	P	**P**	**21 40 41.9**	**+1.5**
	0.4nm,0.5s,baz=153,slow=7.2,SNR=5.5						
ILAR	**Eielson Array**	**61.37**	**337**	P	**P**	**21 42 04.9**	**+1.9**
	0.4nm,0.8s,baz=141,slow=6.0,SNR=3.6						

OMAN 08 21:34:45.6±0.7, 18°64N×60°32E, h40km±121km, ml3.6/8, Error ellipse: s-maj=22.7km s-min=14.6km az=339.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM**	**2.92**	**296**	P	Pn	21 35 27.9	-1.7
	SNR=88						
DQM				S	Sn	21 36 02.7	-0.8
MHTO	**MHTO**	**3.22**	**317**	P	Pn	21 35 33.7	0.0
MHTO				S	Sn	21 36 09.7	-1.1
JLN	**Jalan Bani Buh**	**3.60**	**346**	P	Pn	21 35 38.4	-0.4
	SNR=78						
JLN				S	Sn	21 36 19.8	-0.3
WBK	**Wadi Bani Khal**	**4.15**	**342**	P	Pn	21 35 47.0	+0.5
	SNR=30						
JMDO	**Jabal Madar**	**4.25**	**331**	P	Pn	21 35 48.5	+0.6
	SNR=9.7						
JMDO				S	Sn	21 36 37.7	+1.4
SMDO	**Samad**	**4.88**	**335**	P	Pn	21 35 57.0	+0.3
	SNR=70						
SMDO				S	Sn	21 36 52.2	+0.2
BSY	**Bisya**	**5.02**	**325**	P	Pn	21 35 58.5	0.0
BSY				S	Sn	21 36 56.6	+1.3
BIDO	**Bidbid**	**5.27**	**337**	P	Pn	21 36 02.6	+0.7
BIDO				S	Sn	21 37 02.8	+1.4
HOQ	**Hoqain**	**5.67**	**331**	P	Pn	21 36 08.1	+0.8
	SNR=12						
HOQ				S	Sn	21 37 11.1	0.0
ARQ	**Araqi**	**5.87**	**323**	P	Pn	21 36 10.2	+0.1
	SNR=9.0						
ARQ				S	Sn	21 37 17.5	+1.3

*IDC **08** 21:38:07.4±4.4, 37°16N×72°36E, h190km±39km, mb3.0/3, mb1 3.1/9, mb1mx2.8/44, mbtmp3.7/9, Error ellipse: s-maj=38.1km s-min=28.6km az=172.0*
*NNC **08** 21:38:09.8±5.1, 37°76N×71°99E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=40.4km s-min=29.1km az=6.0*
*NEIC **08** 21:38:10.6±1.4, 37°52N±0°07×72°3E±0°1, h188km±8km, mb4.1/11, Error ellipse: s-maj=13.5km s-min=10.2km az=100.0*
ISC 08 21:38:09.6±0.6, 37°41N±0°06×72°28E±0°07, h200km, n47, σ1s70/52, mb3.9/9, 1C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**2.11**	**350**	Pn	**Pn**	**21 38 49.1**	**-0.3**
GAR	**Garm**	**2.22**	**316**		**Pn**	**21 38 49.9**	**-0.6**
CHGR	**Chuyangaron**	**2.77**	**298**	Pn	**Pn**	**21 38 55.9**	**-0.7**
BTK	**Batken**	**2.89**	**337**	Pn	**Pn**	**21 38 58.2**	**+0.3**
NIL	**Nilore**	**3.83**	**168**	Pn	**Pn**	**21 39 11.7**	**+2.3**
KBL	**Kabul**	**3.88**	**224**	Pn	**Pn**	**21 39 11.6**	**+1.4**
AML	**Almayashu**	**4.84**	**13**	P	**Pn**	**21 39 21.8**	**-0.5**
	SNR=28						
UCH	**Uchtor**	**5.11**	**19**	P	**Pn**	**21 39 25.4**	**-0.4**
	SNR=12						
EKS2	**Erkin-Say**	**5.37**	**12**	P	**Pn**	**21 39 29.2**	**+0.4**
	SNR=29						
AAK	**Ala-Archa**	**5.49**	**17**	P	**Pn**	**21 39 30.4**	**0.0**
	SNR=21						
AAK	**Ala-Archa**	**5.49**	**17**	P	**Pn**	**21 39 30.4**	**0.0**
	3.7nm,0.3s,baz=176,slow=6.4,SNR=68						
AAK				S	**Sn**	**21 40 30.4**	**-3.9**
	1.2nm,0.3s,baz=150,slow=20,SNR=11						
KBK	**Karagaybulak**	**5.63**	**20**	P	**Pn**	**21 39 33.1**	**+0.9**
	SNR=6.3						
THN	**Thein Dam**	**5.71**	**149**	*e*P	**Pn**	**21 39 34.2**	**+1.2**
THN				*e*S	**Sn**	**21 40 37.6**	**-1.3**
BOOM	**Boomskoye usch**	**5.80**	**28**	Pn	**Pn**	**21 39 33.4**	**-1.0**
KK31	**Karatay Array**	**5.85**	**347**	Pn	**Pn**	**21 39 34.0**	**-0.8**
KK31	**Karatay Array**	**5.85**	**347**	P	**Pn**	**21 39 33.8**	**-1.0**
	4.0nm,0.5s,baz=148,slow=9.3,SNR=38						
KK31				⇓S	**Sn**	**21 40 36.4**	**-6.0**
	7.1nm,0.3s,baz=174,slow=24,SNR=8.8						
KKAR	**Karatay Array**	**5.85**	**347**	Pn	**Pn**	**21 39 33.9**	**-0.9**
KKAR	**Karatay Array**	**5.85**	**347**	Pn	**Pn**	**21 39 34.0**	**-0.9**
CHMS	**Chumysh**	**5.90**	**18**	P	**Pn**	**21 39 36.0**	**+0.6**
	SNR=6.8						
KDJ	**Kajisay**	**6.04**	**37**	Pn	**Pn**	**21 39 37.3**	**-0.2**
TKM2	**Tokmak 2**	**6.06**	**24**	P	**Pn**	**21 39 37.6**	**-0.1**
	SNR=9.7						
TKM2	**Tokmak 2**	**6.06**	**24**	⇓P	**Pn**	**21 39 37.4**	**-0.4**
	6.8nm,0.8s						
TKM2				⇓S	**Sn**	**21 40 46.8**	**-0.8**
	2.1nm,0.6s						
MDOK	**Medeo**	**6.81**	**31**	P	**Pn**	**21 39 47.3**	**0.0**
	5.5nm,0.5s						
MDOK				S	**Sn**	**21 41 07.2**	**+2.3**
	3.8nm,1.1s						
SMLA	**Simla**	**7.45**	**146**	*e*P	**Pn**	**21 39 56.2**	**+0.5**
SMLA				*e*S	**Sn**	**21 41 15.8**	**-4.2**
SMLA				IAML		21 41 19.5	
	comp=N,19nm,0.3s						
SMLA				IAML		21 41 20.0	
	comp=E,26nm,0.5s						
MKAR	**Makanchi Array**	**11.96**	**35**	P	**Pn**	**21 40 54.1**	**+0.3**
	comp=E,0.0nm,0.3s,baz=208,slow=9.6,SNR=2.9						
KURBB	**Kurchatov Arra**	**13.95**	**17**	P	**P**	**21 41 20.9**	**+0.3**
	comp=E,0.1nm,0.3s,baz=203,slow=11,SNR=13						
KURK	**Kurchatov**	**14.06**	**17**	Pn	**Pn**	**21 41 20.2**	**+0.2**
ABKAR	**Akbulak array**	**14.84**	**327**		**P**	**21 41 30.4**	**-0.1**
ABKAR	**Akbulak array**	**14.84**	**327**		**P**	**21 41 30.5**	**0.0**
BVAR	**Borovoye Array**	**15.68**	**356**	P	**Pn**	**21 41 39.4**	**-0.3**
BRVK	**Borovoye**	**15.71**	**356**		**Pn**	**21 41 40.4**	**+0.2**
AKTO	**Aktyubinsk**	**16.55**	**326**	P	**Pn**	**21 41 50.9**	**+0.6**
	comp=E,0.4nm,0.3s,baz=123,slow=8.5,SNR=7.3						
ZAA0	**Zalesovo Array**	**18.67**	**24**	P	**P**	**21 42 13.0**	**+0.6**
ZAA0				IAmb	IAmb	21 42 14.0	
	comp=Z,3.2nm,0.6s						
ZALV	**Zalesovo Beam**	**18.67**	**24**	P	**P**	**21 42 13.2**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=222,slow=10,SNR=14						
ZALV	**Zalesovo Beam**	**18.67**	**24**	P	**P**	**21 42 12.8**	**+0.5**
NB201	**NORSAR Array S**	**44.25**	**322**	P	**P**	**21 45 59.3**	**+0.5**
NB201				IAmb	IAmb	21 46 21.9	
	comp=Z,21nm,1.4s						
CASP	**Castiglione de**	**46.38**	**297**	P	P	21 46 21.6	+5.8
TUE	**Stuetta**	**46.56**	**302**	P	**P**	**21 46 20.9**	**+3.5**
TUE				IAmb	IAmb	21 46 28.8	
	comp=Z,9.5nm,1.3s						
SPB2	**Spitsbergen Ar**	**46.85**	**346**	P	**P**	**21 46 17.7**	**-1.2**
BFO	**Black Forest**	**46.86**	**305**	P	**P**	**21 46 20.3**	**+0.8**
BFO				IAmb	IAmb	21 46 22.6	
	comp=Z,6.1nm,1.2s						
TORD	**Torodi Ar. Bea**	**66.77**	**269**	P	**P**	**21 48 39.0**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=39,slow=5.2,SNR=6.9						
TOLK	**Toolik Lake Re**	**69.78**	**15**	P	**P**	**21 48 59.2**	**+1.5**
TOLK				IAmb	IAmb	21 49 05.7	
	comp=Z,3.0nm,1.3s						
POKR	**Poker Plat Res**	**73.21**	**16**	P	**P**	**21 49 22.2**	**+4.1**
POKR				IAmb	IAmb	21 49 24.6	
	comp=Z,2.9nm,0.6s						
PPLA	**Purkeypile**	**73.89**	**20**	P	**P**	**21 49 23.2**	**+0.9**
EGAK	**Eagle**	**74.82**	**14**	P	**P**	**21 49 30.3**	**+2.9**
EGAK				IAmb	IAmb	21 49 30.9	
	comp=Z,5.9nm,1.2s						
YKA	**Yellowknife Ar**	**80.29**	**3**	P	**P**	**21 49 57.7**	**0.0**
	comp=Z,0.1nm,0.4s,baz=350,slow=5.5,SNR=4.5						
WRA	**Warramunga Arr**	**81.61**	**123**	P	**P**	**21 50 03.2**	**-2.1**
	comp=Z,0.3nm,0.8s,baz=317,slow=4.3,SNR=1.6						

*CNRM **08** 22:17:09.7, 35°52N×3°82W, h15km, ml3.0*
*SFS **08** 22:17:11.0, 35°43N×3°77W, h18km, ML2.5, ALBORAN SUR*
*MDD **08** 22:17:11.6±0.4, 35°43N×3°77W, h18km±5km, mb_Lg2.5/15, Error ellipse: s-maj=5.7km s-min=2.2km az=169.0*
*INMG **08** 22:17:11.7±1.9, 35°38N×3°73W, h27km±9km, ML2.3, Error ellipse: s-maj=4.4km s-min=4.1km az=10.0*
ISC 08 22:17:10.2±1.1, 35°48N±0°03×3°80W±0°02, h14km±9km, n50, σ1s33/91, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.29**	**204**	P	**Pb**	**22 17 17.1**	**-0.2**
PALE				S	**Sb**	**22 17 22.0**	**+0.2**
PALE	**Palemas**	**0.29**	**204**	P	**Pb**	**22 17 17.0**	**-0.2**
PALE				S	**Sg**	**22 17 20.8**	**+0.4**
PVLZ	**Peæn de**	**0.51**	**234**	P	**Pb**	**22 17 21.0**	**0.0**
PVLZ				S	**Sb**	**22 17 28.5**	**+0.2**
GOG	**Mont Gurugu**	**0.70**	**111**	P	**Pg**	**22 17 23.7**	**-0.2**
GOG				S	**Sg**	**22 17 33.0**	**-0.3**
GOG	**Mont Gurugu**	**0.70**	**111**	P	**Pg**	**22 17 24.0**	**+0.1**
GOG				S	**Sg**	**22 17 32.1**	**-1.1**
EMEL	**Melilla**	**0.71**	**104**	Pg	**Pg**	**22 17 24.1**	**0.0**
EMEL				Sg	**Sg**	**22 17 32.9**	**-0.5**
EALB	**Alboran**	**0.77**	**53**	Pg	**Pb**	**22 17 25.5**	**+0.1**
EALB				Sg	**Sb**	**22 17 36.1**	**+0.4**
EALB				*i* Vmb_Lg		22 17 37.2	
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pn**	**22 17 34.0**	**0.0**
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pn**	**22 17 32.6**	**-1.4**
SMIR				S	**Sn**	**22 17 49.7**	**-1.6**
TAF	**Taforalt**	**1.31**	**120**	P	**Pn**	**22 17 34.1**	**-0.1**
TAF				S	**Sg**	**22 17 53.0**	**+0.4**
CHEFC	**Chefchaouen**	**1.32**	**254**	P	**Pn**	**22 17 34.3**	**0.0**
CHEFC				S	**Sn**	**22 17 49.7**	**-1.9**
EMIJ	**Mijas**	**1.34**	**324**	Pn	**Pn**	**22 17 34.8**	**+0.2**
EMIJ				Sn	**Sn**	**22 17 51.6**	**-0.6**
EMIJ				*i* Vmb_Lg		22 18 00.6	
ECEU	**Ceuta**	**1.35**	**288**	Pn	**Pn**	**22 17 33.8**	**-0.9**
ECEU				Sn	**Sn**	**22 17 50.7**	**-1.7**
ECEU				*i* Vmb_Lg		22 17 52.6	
ELGU	**Los Guajares,**	**1.39**	**6**	Pn	**Pn**	**22 17 34.5**	**-0.7**
ELGU				Sn	**Sn**	**22 17 52.6**	**-0.9**
ELGU				*i* Vmb_Lg		22 17 54.3	
JBK	**JBK**	**1.52**	**138**	P	**Pg**	**22 17 40.0**	**+0.4**
JBK	**JBK**	**1.52**	**138**	P	**Pb**	**22 17 38.6**	**+0.2**
JBK				S	**Sn**	**22 17 56.9**	**0.0**
EBER	**Berja**	**1.59**	**27**	Pn	**Pn**	**22 17 38.2**	**0.0**
EBER				Sn	**Sn**	**22 17 58.2**	**-0.4**
EBER				*i* Vmb_Lg		22 18 01.6	
EGOR	**Sierra Gorda,**	**1.65**	**351**	Pn	**Pn**	**22 17 39.6**	**+0.7**
EGOR				Sn	**Sn**	**22 18 00.5**	**+0.6**
EGOR				*i* Vmb_Lg		22 18 11.7	
EJIF	**Jimena Fronter**	**1.67**	**306**	Pn	**Pn**	**22 17 39.6**	**+0.6**
EJIF				Sn	**Sn**	**22 18 00.3**	**+0.1**
EQUE	**Quentar**	**1.75**	**9**	Pn	**Pn**	**22 17 41.1**	**+0.9**
EQUE				Sn	**Sn**	**22 18 02.6**	**+0.4**
EQUE				*i* Vmb_Lg		22 18 13.9	
SICH	**Sidi Chahed**	**1.86**	**223**	P	**Pn**	**22 17 42.5**	**+0.9**
SICH				S	**Sb**	**22 18 06.3**	**-0.7**
ENIJ	**Nijar**	**1.97**	**40**	Pn	**Pn**	**22 17 42.4**	**-0.7**
ENIJ				Sn	**Sn**	**22 18 05.9**	**-1.7**
ENIJ				*i* Vmb_Lg		22 18 06.1	
LCRM	**LCR**	**1.99**	**206**	P	**Pg**	**22 17 48.0**	**-0.5**
LCRM	**LCR**	**1.99**	**206**	P	**Pb**	**22 17 45.3**	**-1.0**
LCRM				S	**Sg**	**22 18 12.8**	**-1.6**
ESPR	**Espera**	**2.17**	**310**	Pn	**Pn**	**22 17 46.7**	**+0.8**
ESPR				Sn	**Sn**	**22 18 11.4**	**-1.2**
ESPR				*i* Vmb_Lg		22 18 27.1	
MD31	**MD31**	**2.73**	**197**	P	**Pn**	**22 17 54.6**	**+1.0**
MD31				S	**Sn**	**22 18 27.0**	**+0.5**
MDT	**Midelt**	**2.74**	**194**	P	**Pn**	**22 17 54.5**	**+0.6**
MDT				S	**Sn**	**22 18 28.2**	**+1.4**
EADA	**Adamuz**	**2.75**	**347**	Pn	**Pn**	**22 17 55.0**	**+1.9**
EADA				Sn	**Sn**	**22 18 25.6**	**-1.4**
EADA				*i* Vmb_Lg		22 18 35.3	
ECAB	**El Cabril**	**2.90**	**334**	Pn	**Pn**	**22 17 56.6**	**+0.6**
ECAB				Sn	**Sn**	**22 18 29.0**	**-1.6**
ECAB				*i* Vmb_Lg		22 18 45.0	
EZAR	**Zarzadilla de**	**2.93**	**35**	Pn	**Pn**	**22 17 56.7**	**+0.3**
EZAR				Sn	**Sn**	**22 18 30.6**	**-0.8**
EMIN	**Mina Concepcio**	**3.25**	**315**	Pn	**Pn**	**22 18 01.8**	**+1.0**
EMIN				Sn	**Sn**	**22 18 37.2**	**-2.1**
EGRO	**El Granado**	**3.61**	**306**	Pn	**Pn**	**22 18 06.4**	**+0.7**
EGRO				Sn	**Sn**	**22 18 47.2**	**-0.9**
ETOB	**Tobarra**	**3.63**	**29**	Pn	**Pn**	**22 18 06.8**	**+0.7**
ETOB				Sn	**Sn**	**22 18 46.8**	**-2.0**
PVAQ	**Vaqueiros**	**3.70**	**302**	*e*Pn	**Pn**	**22 18 07.9**	**+1.0**
PVAQ				*e*Sn	**Sn**	**22 18 49.2**	**-1.1**
PVAQ				A	A	22 18 50.5	
	4.3nm,0.5s						
PVAQ	**Vaqueiros**	**3.70**	**302**	P	**Pn**	**22 18 08.0**	**+1.1**
PVAQ				S	**Sn**	**22 18 49.0**	**-1.3**
PBAR	**Barrancos**	**3.74**	**317**	*e*Pn	**Pn**	**22 18 08.7**	**+1.2**
PBAR				*e*Sn	**Sn**	**22 18 51.7**	**+0.3**
PBAR				A	A	22 18 53.1	
	2.3nm,0.5s						
PCVE	**Castro Verde**	**4.04**	**303**	*e*Pn	**Pn**	**22 18 12.7**	**+1.2**
PCVE				*e*Sn	**Sn**	**22 18 59.2**	**+0.6**
PCVE				A	A	22 19 00.4	
	3.5nm,0.6s						
PAB	**San Pablo**	**4.08**	**354**	Pn	**Pn**	**22 18 14.0**	**+1.7**
PAB				Sn	**Sn**	**22 18 58.9**	**-1.0**
PBEJ	**Beja**	**4.14**	**309**	*e*Pn	**Pn**	**22 18 14.4**	**+1.4**
EBAD	**Badajoz**	**4.16**	**323**	Pn	**Pn**	**22 18 14.2**	**+1.0**
EBAD				Sn	**Sn**	**22 18 59.5**	**-2.1**
EBAD				*i* Vmb_Lg		22 19 08.1	
ESDC	**Sonseca Array**	**4.19**	**358**	Pn	**Pn**	**22 18 15.4**	**+1.6**
ESDC				Sn	**Sn**	**22 19 00.4**	**-2.1**
PTEO	**Sao Teotonio**	**4.47**	**299**	*e*Pn	**Pn**	**22 18 19.5**	**+1.9**
PTEO				*e*Sn	**Sn**	**22 19 08.1**	**-1.3**
PTEO				A	A	22 19 14.8	
	8.3nm,0.6s						
PESTR	**Estremoz**	**4.54**	**319**	*e*Pn	**Pn**	**22 18 20.5**	**+2.0**
PESTR				*e*Sn	**Sn**	**22 19 13.4**	**+2.3**
PESTR				A	A	22 19 36.3	
	2.9nm,0.8s						
EVO	**Evora**	**4.55**	**313**	*e*Sn	**Sn**	**22 19 09.8**	**-1.4**
PNCL	**Nicolau / Gran**	**4.62**	**306**	*e*Pn	**Pn**	**22 18 20.2**	**+0.7**
PNCL				*e*Sn	**Sn**	**22 19 12.6**	**-0.3**
PNCL				A	A	22 19 22.8	
	2.6nm,0.8s						
PMRV	**Marv??o**	**4.87**	**325**	*e*Pn	**Pn**	**22 18 25.2**	**+2.2**
PMTG	**Montargil**	**5.03**	**317**	*e*Pn	**Pn**	**22 18 27.7**	**+2.5**
PMTG				*e*Sn	**Sn**	**22 19 21.2**	**-1.9**
OUZM	**OUZ**	**5.19**	**209**	P	**Pn**	**22 18 29.1**	**+1.6**
PMAFR	**Mafra**	**5.59**	**310**	*e*Sn	**Sn**	**22 19 42.4**	**+5.6**
PSBE	**So Bento**	**5.66**	**317**	*e*Pn	**Pn**	**22 18 36.8**	**+2.9**

*TAP **08** 22:22:49.0, 24°11N×122°24E, h10km±1km, ML2.9, D*
*JMA **08** 22:22:48.3±0.3, 24°26N×122°09E, h55km, M2.5*
ISC 08 22:22:47.8±1.2, 24°16N±0°03×122°29E±0°02, h5km±10km, n66, σ0s79/110, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.54**	**302**	*i* P	**Pb**	**22 22 60.0**	**+0.1**
	baz=308						
EWUT				*i* S	**Sb**	**22 23 08.8**	**+0.8**
	baz=308						
ENA	**Nanau**	**0.56**	**298**	*i* P	**Pb**	**22 23 00.2**	**0.0**
	baz=304						
ENA				S	**Sb**	**22 23 09.3**	**+0.7**
	baz=304						
TWC	**Suao**	**0.60**	**319**	*i* P	**Pb**	**22 23 01.1**	**+0.3**
	baz=324						
TWC				*e*S	**Sb**	**22 23 08.9**	**-0.8**
	baz=324						
NACB	**Ninganchiao**	**0.63**	**271**	*e*P	**Pb**	**22 23 01.5**	**+0.1**
	baz=275						
TWD	**Chiawan**	**0.64**	**263**	*e*P	**Pb**	**22 23 01.4**	**-0.1**
	baz=266						
JYNG	**Yonagunijimaku**	**0.67**	**64**	P	**Pn**	**22 23 03.5**	**-0.5**
JYNG				S	**Sn**	**22 23 14.7**	**-0.2**
NDS	**Dongshan**	**0.70**	**312**	P	**Pn**	**22 23 03.3**	**-1.2**
	baz=317						
NDS				S	**Sn**	**22 23 13.2**	**-2.5**
	baz=317						
YOJ	**Yonaguni jima**	**0.73**	**65**	P	**Pn**	**22 23 04.7**	**-0.1**
YOJ				*e*S	**Sn**	**22 23 16.7**	**+0.4**
ETLH	**Xiulin Townshi**	**0.73**	**274**	P	**Pb**	**22 23 03.3**	**+0.1**
	baz=277						
ETLH				*e*S	**Sb**	**22 23 13.9**	**+0.3**
	baz=277						
LATG	**Datong**	**0.79**	**299**	P	**Pb**	**22 23 04.7**	**+0.6**
	baz=302						
TWE	**Neicheng**	**0.79**	**315**	P	**Pn**	**22 23 05.3**	**-0.4**
	baz=319						
TWE				*e*S	**Sn**	**22 23 16.4**	**-1.6**
	baz=319						
NTC	**Toucheng**	**0.81**	**329**	*i* P	**Pn**	**22 23 05.8**	**-0.1**
	baz=333						
NTC				*e*S	**Sn**	**22 23 16.1**	**-2.2**
	baz=333						
ENTT	**Nioudou**	**0.81**	**306**	*i* P	**Pn**	**22 23 05.4**	**-0.6**
	baz=310						
ENTT				S	**Sb**	**22 23 15.7**	**-0.1**
	baz=310						
NDT	**Datong Townshi**	**0.83**	**302**	P	**Pn**	**22 23 06.0**	**-0.2**
	baz=306						
NDT				*e*S	**Sb**	**22 23 16.5**	**+0.2**
	baz=306						
ESL	**Shilin**	**0.85**	**246**	P	**Pg**	**22 23 04.3**	**+0.1**
	baz=247						
ESL				S	**Sg**	**22 23 15.6**	**+0.4**
	baz=247						
NNSB	**Datong**	**0.87**	**288**	P	**Pb**	**22 23 05.8**	**+0.3**
	baz=291						
NNSB				S	**Sb**	**22 23 18.3**	**+0.9**
	baz=291						
FUSB	**Fushanzhiwuyua**	**0.87**	**313**	P	**Pn**	**22 23 06.6**	**-0.3**
	baz=317						
FUSB				*e*S	**Sn**	**22 23 19.1**	**-1.0**
	baz=317						
TWB1	**Santiao Chiao**	**0.89**	**342**	P	**Pn**	**22 23 07.7**	**+0.6**
	baz=346						
TWB1				S	**Sn**	**22 23 19.3**	**-1.0**
	baz=346						
TIPB	**Shuangxi**	**0.91**	**333**	P	**Pn**	**22 23 07.4**	**0.0**
	baz=336						
TIPB				*e*S	**Sn**	**22 23 19.5**	**-1.4**
	baz=336						
EGFH	**Guangfu**	**0.92**	**238**	*e*S	**Sg**	**22 23 17.7**	**+0.2**
	baz=239						
WHF	**Hehuan Shan**	**0.93**	**269**	*e*P	**Pg**	**22 23 06.1**	**+0.3**
	baz=271						
WHF				*e*S	**Sb**	**22 23 20.2**	**+0.6**
	baz=271						
NWLT	**Wulai**	**0.94**	**311**	P	**Pn**	**22 23 07.9**	**+0.1**
	baz=314						
NWLT				S	**Sn**	**22 23 20.5**	**-1.2**
	baz=314						
FUSS	**Fushou**	**0.95**	**276**	*e*P	**Pg**	**22 23 06.1**	**-0.1**
	baz=278						
YHNB	**Yeheng**	**0.97**	**302**	P	**Pn**	**22 23 07.8**	**-0.4**
	baz=305						
YHNB				S	**Sn**	**22 23 22.1**	**-0.5**
	baz=305						
NSK	**Sanguang**	**0.99**	**302**	P	**Pn**	**22 23 08.1**	**-0.4**
	baz=305						
NSK				*e*S	**Sb**	**22 23 21.0**	**+0.1**
	baz=305						
SXI1	**Grass Mountain**	**1.00**	**338**	P	**Pn**	**22 23 08.4**	**-0.3**
	baz=341						
SXI1				S	**Sn**	**22 23 23.5**	**+0.2**
	baz=341						
NWF	**Wu-fen Shan**	**1.02**	**333**	P	**Pn**	**22 23 08.9**	**0.0**
	baz=336						
NWF				S	**Sn**	**22 23 23.3**	**-0.4**
	baz=336						
TWT	**Tachien**	**1.02**	**276**	P	**Pb**	**22 23 08.6**	**+0.5**
	baz=277						
TWT				*e*S	**Sb**	**22 23 22.5**	**+0.6**
	baz=277						
CHGB	**Renai**	**1.02**	**265**	*e*P	**Pg**	**22 23 07.6**	**+0.2**
	baz=266						
HGSD	**Ruisui**	**1.03**	**230**	*e*P	**Pg**	**22 23 07.5**	**-0.1**
	baz=230						
TDCB	**Techi**	**1.03**	**275**	*e*P	**Pb**	**22 23 08.3**	**0.0**
	baz=277						
OWD	**Renai**	**1.03**	**259**	P	**Pg**	**22 23 07.6**	**-0.1**
	baz=260						
OWD				S	**Sg**	**22 23 20.5**	**-0.6**
	baz=260						
TWA	**Mucha**	**1.04**	**322**	P	**Pn**	**22 23 10.2**	**+1.1

TPUB	**Ta-pu**	**1.74**	**241**	*eP*		**Pn**	**22 23 19.2**	**+0.4**
	baz=241							
TPUB				*eS*		**Sn**	**22 23 41.0**	**-0.4**
	baz=241							
CHN4	**Tsaushan**	**1.75**	**243**	*eP*		**Pn**	**22 23 19.7**	**+0.8**
	baz=243							
CHN4				*eS*		**Sn**	**22 23 41.6**	**+0.1**
	baz=243							
WRL	**Guolierlin Hig**	**1.76**	**262**	*eS*		**Sn**	**22 23 42.0**	**0.0**
	baz=262							
WTP	**Ta-pu**	**1.78**	**240**	*eP*		**Pn**	**22 23 20.5**	**+1.2**
	baz=239							
WTP				*eS*		**Sn**	**22 23 42.6**	**+0.1**
	baz=239							
CHN1	**Nanshi**	**1.88**	**239**	*eP*		**Pn**	**22 23 21.6**	**+0.9**
	baz=239							
CHN1				*eS*		**Sn**	**22 23 44.7**	**-0.1**
	baz=239							
SNST	**Tainan City**	**1.89**	**241**	*eS*		**Sn**	**22 23 44.8**	**-0.2**
	baz=240							
SGST	**Jiashian**	**1.89**	**236**	*eP*		**Pn**	**22 23 20.9**	**0.0**
	baz=235							
SGST				*eS*		**Sn**	**22 23 44.2**	**-1.0**
	baz=235							
JISG	**Ishigakijimahi**	**1.90**	**77**	*eS*		**Sn**	**22 23 45.5**	**+0.3**
JTJ	**Tarama**	**2.25**	**77**	S		**Sn**	**22 23 53.4**	**-0.7**
SCZT	**Fangliau**	**2.35**	**221**	*eP*		**Pn**	**22 23 27.9**	**+0.8**
	baz=220							
SCZT				*eS*		**Sn**	**22 23 56.5**	**+0.2**
	baz=220							
PHUB	**P'eng-hu**	**2.57**	**256**	*eS*		**Sn**	**22 23 59.9**	**-1.9**
	baz=256							
XPSS	**Dashiqiu**	**3.35**	**326**	*eP*		**Pn**	**22 23 40.5**	**-0.3**
	baz=326							

*IDC **08** 22:34:03.7±1.6, 34°.53N×23°.68E, h0km, mb3.5/2, mb1 3.3/5, mb1mx3.2/31, mbtmp3.2/5, ML3.8/2, Error ellipse: s-maj=45.8km s-min=25.1km az=135.0*
*ISK **08** 22:34:06.5, 34°.43N×23°.63E, h23km, ML3.8/6*
*ATH **08** 22:34:06.7, 34°.46N×23°.58E, h29km±1km, ML3.4/7, Error ellipse: s-maj=3.5km s-min=1.9km az=18.0*
*THE **08** 22:34:07.4, 34°.43N×23°.60E, h11km±1km, ML3.1/8, Error ellipse: s-maj=1.6km s-min=1.1km az=18.0*
*DDA **08** 22:34:19.0±0.0, 34°.92N×24°.46E, h42km, ML3.3*
ISC 08 22:34:07.9±1.6, 34°48N±0°.07×23°.65E±0°.04, h31km±7km, n62, σ1°89/79, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.51**	**45**	P	**Pn**	**22 34 18.4**	**-0.6**
GVD				S	**Sn**	**22 34 26.9**	**+0.3**
GVD				AML	AML	22 34 28.9	
	comp=N,8542μm,0.3s						
GVD				AML	AML	22 34 29.3	
	comp=E,9375μm,0.3s						
GVD	**Gavdhos**	**0.51**	**45**	P	**Pn**	**22 34 18.4**	**-0.6**
GVD				S	**Sn**	**22 34 26.9**	**+0.3**
	comp=E,4μm,0.3s						
GVD	**Gavdhos**	**0.51**	**45**	PG	**Pn**	**22 34 18.4**	**-0.6**
GVD				SG	**Sn**	**22 34 26.8**	**+0.2**
GVDS	**Gavdos**	**0.51**	**45**	P	**Pb**	**22 34 17.8**	**-0.8**
GVDS				S	**Sn**	**22 34 26.8**	**0.0**
	comp=E,3μm,0.3s						
KNDR	**Palaiochora Ch**	**0.75**	**2**	P	**Pn**	**22 34 22.5**	**+0.2**
KNDR	**Palaiochora Ch**	**0.75**	**2**	P	**Pn**	**22 34 22.5**	**+0.2**
KNDR				S	**Sn**	**22 34 34.9**	**+2.3**
	comp=E,450nm,0.6s						
KNDR	**Palaiochora Ch**	**0.75**	**2**	PG	**Pn**	**22 34 22.6**	**+0.3**
KNDR				SG	**Sn**	**22 34 34.4**	**+1.8**
IMMV	**Iera Moni Meta**	**1.01**	**16**	P	**Pb**	**22 34 26.8**	**-0.2**
IMMV				S	**Sn**	**22 34 41.7**	**+2.5**
IMMV				AML	AML	22 34 45.4	
	comp=N,2820μm,0.4s						
IMMV				AML	AML	22 34 46.1	
	comp=E,3120μm,0.5s						
IMMV	**Iera Moni Meta**	**1.01**	**16**	P	**Pb**	**22 34 26.8**	**-0.2**
IMMV				S	**Sn**	**22 34 41.7**	**+2.5**
	comp=E,1μm,0.6s						
IMMV	**Iera Moni Meta**	**1.01**	**16**	PG	**Pb**	**22 34 26.9**	**-0.1**
IMMV				SG	**Sn**	**22 34 40.9**	**+1.8**
RODP	**Rodopos**	**1.08**	**5**	PN	**Pb**	**22 34 27.5**	**-0.6**
CHAN	**Chania**	**1.08**	**17**	P	**Pb**	**22 34 28.0**	**-0.1**
CHAN				AML	AML	22 34 47.7	
	comp=E,2869μm,0.6s						
CHAN				AML	AML	22 34 48.2	
	comp=N,2164μm,0.7s						
TMBK	**Timbaki Herakl**	**1.09**	**57**	P	**Pb**	**22 34 28.6**	**+0.3**
TMBK				AML	AML	22 34 51.1	
	comp=N,3321μm,1.0s						
TMBK				AML	AML	22 34 54.2	
	comp=E,2864μm,0.7s						
TMBK	**Timbaki Herakl**	**1.09**	**57**	P	**Pb**	**22 34 28.6**	**+0.3**
TMBK				S	**Sn**	**22 34 44.3**	**+3.3**
	comp=E,525nm,0.8s						
SIVA	**Sivas**	**1.09**	**61**	P	**Pb**	**22 34 28.6**	**+0.3**
SIVA				S	**Sn**	**22 34 44.8**	**+3.7**
SIVA				AML	AML	22 34 48.2	
	comp=E,4753μm,0.6s						
SIVA				AML	AML	22 34 52.5	
	comp=N,4225μm,0.7s						
SIVA	**Sivas**	**1.09**	**61**	P	**Pb**	**22 34 29.1**	**+0.8**
SIVA				S	**Sn**	**22 34 44.8**	**+3.7**
PRNS	**Prines Rethymn**	**1.12**	**38**	P	**Pn**	**22 34 27.5**	**0.0**
PRNS				S	**Sb**	**22 34 44.5**	**+1.4**
	comp=N,402nm,0.8s						
IDI	**Anoyia**	**1.30**	**51**	P	**Pb**	**22 34 31.0**	**-0.8**
IDI				AML	AML	22 34 54.7	
	comp=N,642μm,0.5s						
IDI				AML	AML	22 35 02.3	
	comp=E,452μm,0.7s						
IDI	**Anoyia**	**1.30**	**51**	P	**Pb**	**22 34 31.0**	**-0.8**
IDI	**Anoyia**	**1.30**	**51**	PN	**Pn**	**22 34 30.1**	**+0.1**
ANKY	**Antikythira Is**	**1.41**	**348**	P	**Pb**	**22 34 32.4**	**-1.3**
ANKY	**Antikythira Is**	**1.41**	**348**	P	**Pb**	**22 34 32.4**	**-1.3**
ANKY				S	**Sb**	**22 34 52.6**	**+1.4**
	comp=E,330nm,0.8s						
KSTL	**Kastelli Herak**	**1.43**	**55**	P	**Pb**	**22 34 36.1**	**+2.2**
HRKL	**Herakleio**	**1.45**	**55**	P	**Pb**	**22 34 34.5**	**+0.2**
HRKL				AML	AML	22 35 09.2	
	comp=E,4959μm,0.6s						
HRKL				AML	AML	22 35 20.4	
	comp=N,4726μm,1.3s						
HRKL	**Herakleio**	**1.45**	**55**	P	**Pb**	**22 34 33.9**	**-0.4**
HRKL				S	**Sb**	**22 34 52.9**	**+0.4**
	comp=N,820nm,0.9s						
HRKL	**Herakleio**	**1.45**	**55**	PN	**Pn**	**22 34 32.4**	**+0.4**
KTHA	**Kythira Island**	**1.83**	**345**	P	**Pb**	**22 34 38.6**	**-2.2**
KTHA	**Kythira Island**	**1.83**	**345**	P	**Pb**	**22 34 38.6**	**-2.2**
KTHR	**Kythira**	**1.85**	**344**	P	**Pn**	**22 34 38.3**	**+0.8**
KTHR	**Kythira**	**1.85**	**344**	P	**Pn**	**22 34 38.3**	**+0.8**
ZKR	**Zakros**	**2.21**	**73**	P	**Pb**	**22 34 44.4**	**-2.7**
ZKR	**Zakros**	**2.21**	**73**	P	**Pb**	**22 34 44.4**	**-2.7**
ZKR	**Zakros**	**2.21**	**73**	PN	**Pn**	**22 34 43.2**	**+0.8**
VLI	**Veliai**	**2.30**	**346**	P	**Pb**	**22 34 45.9**	**-2.9**
APE	**Apeiranthos**	**3.00**	**30**	PN	**Pn**	**22 34 55.0**	**+1.7**
APE	**Apeiranthos**	**3.00**	**30**	P	**Pn**	**22 34 52.7**	**-0.7**
APE				S	**Sn**	**22 35 23.1**	**-5.1**
ITM	**Ithomi**	**3.03**	**333**	P	**Pn**	**22 34 55.3**	**+1.6**
ITM	**Ithomi**	**3.03**	**333**	P	**Pn**	**22 34 55.3**	**+1.6**
KARP	**Karpathos**	**3.07**	**69**	P	**Pn**	**22 34 55.7**	**+1.5**
KARP	**Karpathos**	**3.07**	**69**	P	**Pn**	**22 34 55.8**	**+1.5**
KARP	**Karpathos**	**3.07**	**69**	PN	**Pn**	**22 34 55.6**	**+1.3**
TURN	**Turunc**	**4.39**	**57**	PN	**Pn**	**22 35 14.3**	**+2.0**
TURN	**Turunc**	**4.39**	**57**	P	**Pn**	**22 35 12.4**	**+0.1**
TURN				S	**Sn**	**22 35 54.6**	**-7.7**
TURN				*i* AML	AML	22 36 18.0	
	comp=N,47nm,2.5s						
YER	**Yerkesik**	**4.60**	**54**	PN	**Pn**	**22 35 17.4**	**+2.0**
YER	**Yerkesik**	**4.60**	**54**	P	**Pn**	**22 35 16.4**	**+1.1**
YER				S	Sn	22 35 59.2	-8.5
DALY	**Dalyan (Mula)**	**4.69**	**59**	PN	**Pn**	**22 35 18.7**	**+2.2**
FETY	**Fethiye**	**4.92**	**63**	PN	**Pn**	**22 35 20.6**	**+0.8**
FETY	**Fethiye**	**4.92**	**63**	P	**Pn**	**22 35 15.8**	**-3.9**
FETY				S	Sn	22 35 58.8	-17
AKAS	**Kas**	**5.17**	**69**	PN	**Pn**	**22 35 25.4**	**+2.1**
AKAS	**Kas**	**5.17**	**69**	P	**Pn**	**22 35 23.8**	**+0.6**
AKAS				S	Sn	22 36 13.3	-8.6
AKAS				*i* AML	AML	22 36 25.0	
	comp=N,57nm,2.0s						
AKAS				*i* AML	AML	22 36 34.0	
	comp=N,54nm,1.0s						
TAVA	**DENIZLI_Tavas**	**5.20**	**54**	P	**Pn**	**22 35 24.8**	**+1.1**

TAVA					S	Sn	22 36 08.8	-14
CAME	**Cameli-Denizli**	**5.21**	**60**		PN	**Pn**	**22 35 25.6**	**+1.7**
CAEL	**Denizli, Camel**	**5.31**	**59**		P	**Pn**	**22 35 24.7**	**-0.5**
CAEL				*i*	AML	AML	22 36 32.0	
	comp=N,74nm,2.3s							
CAEL				*i*	AML	AML	22 36 34.0	
	comp=N,73nm,2.0s							
GOLH	**Golhisar**	**5.53**	**59**		P	**Pn**	**22 35 28.9**	**+0.7**
GOLH					S	Sn	22 36 14.1	-17
GOLH				*i*	AML	AML	22 36 34.0	
	comp=N,49nm,2.4s							
ELL	**Elmali**	**5.58**	**64**		PN	**Pn**	**22 35 31.2**	**+2.4**
AKUM	**Antalya-Kumluc**	**5.77**	**70**		P	**Pn**	**22 35 30.9**	**-0.4**
AKUM				*i*	AML	AML	22 37 03.0	
	comp=N,29nm,3.3s							
AKUM				*i*	AML	AML	22 37 16.0	
	comp=N,19nm,2.3s							
KEPZ	**Antalya-Kepez**	**6.91**	**67**		P	**Pn**	**22 35 47.4**	**+0.4**
KEPZ					S	Sn	22 36 46.9	-18
BRTR	**Keskin Array B**	**9.54**	**54**		Pn	**Pn**	**22 36 25.3**	**+2.1**
	comp=N,0.0nm,0.3s,baz=236,slow=12,SNR=2.1							
GERES	**GERESS Array B**	**16.14**	**336**		Pn	**Pn**	**22 37 52.6**	**+0.1**
	comp=N,0.1nm,0.3s,baz=147,slow=11,SNR=1.5							
AKASG	**Malin Array Be**	**16.71**	**12**		Pn	**Pn**	**22 37 58.4**	**-1.2**
	comp=N,0.5nm,0.3s,baz=208,slow=9.4,SNR=2.3							
TORD	**Torodi Ar. Bea**	**29.11**	**228**		P	**P**	**22 40 07.0**	**+1.1**
	comp=N,0.2nm,0.5s,baz=41,slow=9.0,SNR=5.1							
MKAR	**Makanchi Array**	**45.18**	**56**		P	**P**	**22 42 21.2**	**-0.6**
	comp=N,0.5nm,0.6s,baz=273,slow=6.5,SNR=9.7							

*IDC **08** 22:45:54.8±2.8, 20°.80S×177°.55W, h471km±24km, mb3.5/7, mb1 3.6/10, mb1mx3.3/31, mbtmp4.3/10, Error ellipse: s-maj=34.5km s-min=23.0km az=122.0*
*NEIC **08** 22:45:54.8±1.4, 20°.6S±0°.1×177°.6W±0°.1, h467km±11km, mb4.2/31, Error ellipse: s-maj=19.9km s-min=19.0km az=110.0*
ISC 08 22:45:53.7±0.7, 20°68S±0°09×177°6W±0°.1, h450km, n52, σ1°14/52, mb4.1/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.05**	**305**	P	**P**	**22 47 22.1**	**+3.4**
	2.4nm,0.3s,baz=106,slow=23,SNR=4.9						
MSVF	**Nonsavu**	**5.05**	**305**	P	**P**	**22 47 21.1**	**+2.3**
AFI	**Afiamalu**	**8.72**	**40**	P	**P**	**22 47 57.4**	**+0.2**
MARNC	**Mare, Loyalty**	**13.45**	**264**	P	**P**	**22 48 49.7**	**+1.5**
LIFNC	**LIFOU**	**14.19**	**267**	P	**P**	**22 48 55.3**	**-0.9**
DZM	**Mont Dzumac**	**14.94**	**262**	P	**P**	**22 49 05.0**	**+0.7**
	0.2nm,0.3s,baz=145,slow=18,SNR=2.1						
DZM	**Mont Dzumac**	**14.94**	**262**	P	**P**	**22 49 05.4**	**+1.1**
SANVU	**Saraoutou**	**15.36**	**287**	P	**P**	**22 49 06.7**	**-2.1**
KOUNC	**Koumac, New Ca**	**16.97**	**267**	P	**P**	**22 49 25.5**	**-0.2**
KOUNC				IAmb	IAmb	22 49 35.5	
	comp=Z,9.5nm,0.9s						
URZ	**Urewera**	**18.11**	**194**	P	**P**	**22 49 36.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=159,slow=16,SNR=2.0						
URZ	**Urewera**	**18.11**	**194**	P	**P**	**22 49 37.1**	**-0.2**
URZ				IAmb	IAmb	22 49 54.1	
	comp=Z,5.3nm,0.9s						
BFZ	**Birch Farm**	**20.62**	**193**	P	**P**	**22 50 03.1**	**+2.6**
QRZ	**Quartz Range**	**21.77**	**201**	P	**P**	**22 50 11.3**	**+0.3**
THZ	**Tophouse**	**22.50**	**199**	P	**P**	**22 50 17.4**	**-0.3**
THZ				IAmb	IAmb	22 50 29.1	
	comp=Z,14nm,1.2s						
EIDS	**Eidsvold**	**29.17**	**255**	P	**P**	**22 51 17.0**	**0.0**
EIDS				IAmb	IAmb	22 51 18.7	
	comp=Z,4.9nm,1.0s						
TOO	**Toolangi**	**36.10**	**234**	P	**P**	**22 52 16.2**	**+0.1**
TOO				IAmb	IAmb	22 52 28.7	
	comp=Z,11nm,1.1s						
TAU	**Tasmania Unive**	**36.77**	**225**	P	**P**	**22 52 20.4**	**-1.0**
COEN	**Coen**	**37.98**	**274**	P	**P**	**22 52 30.7**	**-1.1**
COEN				IAmb	IAmb	22 52 50.0	
	comp=Z,9.1nm,1.0s						
STKA	**Stephens Creek**	**38.06**	**244**	P	**P**	**22 52 31.9**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=97,slow=9.0,SNR=7.3						
STKA	**Stephens Creek**	**38.06**	**244**	P	**P**	**22 52 31.4**	**-0.9**
BBOO	**Buckleboo**	**42.81**	**244**	P	**P**	**22 53 09.8**	**-0.7**
BBOO				IAmb	IAmb	22 53 10.6	
	comp=Z,3.5nm,0.8s						
JAY	**Jayapura**	**44.46**	**288**	P	**P**	**22 53 23.3**	**-0.4**
	comp=Z,7.1nm,0.5s,baz=124,slow=18,SNR=2.1						
WR0	**Warramunga Arr**	**44.77**	**262**	P	**P**	**22 53 25.1**	**-0.9**
WR0				IAmb	IAmb	22 53 26.7	
	comp=Z,7.7nm,1.1s						
AS31	**Alice Springs**	**44.85**	**257**	P	**P**	**22 53 26.2**	**-0.5**
ASAR	**Alice Springs**	**44.85**	**257**	P	**P**	**22 53 26.2**	**-0.4**
	comp=Z,5.6nm,0.5s,baz=95,slow=7.9,SNR=90						
ASAR				PcP	**pwP**	**22 54 58.5**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=101,slow=4.0,SNR=4.7						
ASAR	**Alice Springs**	**44.85**	**257**	P	**P**	**22 53 26.1**	**-0.6**
WB0	**Warramunga Arr**	**44.93**	**262**	P	**P**	**22 53 26.6**	**-0.7**
WB0				IAmb	IAmb	22 53 27.1	
	comp=Z,6.3nm,0.5s						
WB2	**Warramunga Arr**	**44.94**	**262**	P	**P**	**22 53 26.4**	**-1.0**
WB2				IAmb	IAmb	22 53 27.3	
	comp=Z,7.0nm,0.9s						
WRA	**Warramunga Arr**	**44.95**	**262**	P	**P**	**22 53 26.6**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=96,slow=7.4,SNR=65						
WRA	**Warramunga Arr**	**44.95**	**262**	P	**P**	**22 53 26.7**	**-0.8**
MTN	**Manton Dam**	**49.55**	**271**	P	**P**	**22 54 01.8**	**-0.5**
MTN				IAmb	IAmb	22 54 16.9	
	comp=Z,10nm,1.1s						
FORT	**Forrest**	**49.58**	**247**	P	**P**	**22 54 01.8**	**-0.5**
FORT				IAmb	IAmb	22 54 13.0	
	comp=Z,9.9nm,0.9s						
KNRA	**Kununurra**	**51.03**	**266**	P	**P**	**22 54 12.9**	**-0.3**
KNRA				IAmb	IAmb	22 54 13.8	
	comp=Z,9.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.38**	**262**	P	**P**	**22 54 29.8**	**-0.3**
PSA00	**Pilbara Seismi**	**58.00**	**257**	P	**P**	**22 55 01.7**	**-0.8**
MORW	**Morawa**	**60.11**	**248**	P	**P**	**22 55 15.2**	**-1.4**
MORW				IAmb	IAmb	22 55 22.0	
	comp=Z,8.4nm,1.1s						
KAPI	**Kappang**	**62.68**	**275**	P	**P**	**22 55 32.5**	**-1.3**
KAPI				IAmb	IAmb	22 55 44.6	
	comp=Z,7.2nm,0.9s						
GIRL	**Giralia**	**62.87**	**254**	P	**P**	**22 55 34.9**	**+0.1**
CASY	**Casey**	**63.97**	**205**	P	**P**	**22 55 40.8**	**-0.3**
TOLI2	**Tolitoli**	**64.02**	**282**	P	**P**	**22 55 42.2**	**-0.1**
TOLI2				IAmb	IAmb	22 55 57.4	
	comp=Z,7.9nm,1.0s						
QSPA	**South Pole Qui**	**69.39**	**180**	P	**P**	**22 56 16.1**	**+1.1**
QSPA				IAmb	IAmb	22 56 17.0	
	comp=Z,3.0nm,0.8s						
KKM	**Kota Kinabalu**	**70.17**	**285**	P	**P**	**22 56 20.1**	**-0.5**
ADK	**Adak**	**72.25**	**1**	P	**P**	**22 56 30.5**	**-1.3**
KSRS	**Korea Array**	**77.28**	**318**	P	**P**	**22 57 00.7**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=54,slow=15,SNR=2.2						
BELA	**Belgrano 2**	**79.33**	**173**	P	**P**	**22 57 11.2**	**+0.2**
ILAR	**Eielson Array**	**88.40**	**13**	P	**P**	**22 57 55.7**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=213,slow=5.7,SNR=4.6						
CMAR	**Chiang Mai Arr**	**90.53**	**289**	P	**P**	**22 58 07.9**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=122,slow=3.3,SNR=4.1						
MKAR	**Makanchi Array**	**111.60**	**313**	PKiKP	**PKiKP**	**23 03 35.3**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=30,slow=1.2,SNR=4.3						
AKASG	**Malin Array Be**	**143.35**	**331**	PKP	PKPab	23 04 32.3	-1.2
	comp=Z,0.1nm,0.3s,baz=40,slow=4.6,SNR=5.9						
BRTR	**Keskin Array B**	**147.24**	**312**	PKPbc	**PKPdf**	**23 04 45.3**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=144,slow=3.4,SNR=2.2						
CLL	**Collm**	**148.32**	**347**	*i* PKPbc	**PKPbc**	**23 04 48.2**	**+0.1**
GERES	**GERESS Array B**	**150.47**	**345**	PKPbc	**PKPbc**	**23 04 52.1**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=45,slow=0.6,SNR=3.8						

IDC 08 23:00:46.1±1.9, 4°.84N×123°.78E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.6/4, Error ellipse: s-maj=155.2km s-min=23.1km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.87**	**175**	P	P	23 05 51.8	+0.5
	1.3nm,1.0s,baz=342,slow=9.6,SNR=1.3						
WRA	**Warramunga Arr**	**26.73**	**157**	P	P	23 06 27.8	+0.2
	0.5nm,0.3s,baz=335,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**30.01**	**161**	P	P	23 06 56.2	-0.6
	0.4nm,0.5s,baz=341,slow=7.0,SNR=5.6						
MKAR	**Makanchi Array**	**54.98**	**326**	P	P	23 10 19.2	-0.1
	0.4nm,0.3s,baz=125,slow=7.8,SNR=12						

*CNRM **08** 23:08:19.8, 35°.50N×3°.77W, h19km, ml2.5*
*SFS **08** 23:08:21.0, 35°.48N×3°.77W, h13km, ML2.0, ALBORAN SUR*
*MDD **08** 23:08:21.3±0.5, 35°.49N×3°.78W, h14km±7km, mb_Lg2.0/10, Error ellipse: s-maj=7.9km s-min=2.6km az=163.0*
ISC 08 23:08:19.2±1.7, 35°51N±0°.02×3°75W±0°.03, h15km±13km, n28, σ1°01/53, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.33**	**208**	P	**Pb**	**23 08 27.0**	**+0.2**
PALE				S	**Sb**	**23 08 31.0**	**-0.9**
PVLZ	**Peæn de**	**0.56**	**234**	P	**Pb**	**23 08 31.1**	**+0.4**
PVLZ				S	**Sb**	**23 08 38.8**	**+0.3**
GOG	**Mont Gurugu**	**0.68**	**114**	P	**Pn**	**23 08 33.6**	**-0.8**
GOG				S	**Sb**	**23 08 42.4**	**+0.4**
EMEL	**Melilla**	**0.68**	**107**	Pg	**Pn**	**23 08 33.6**	**-0.7**
EMEL				Sg	**Sn**	**23 08 43.6**	**-1.1**
EALB	**Alboran**	**0.73**	**53**	Pg	**Pn**	**23 08 35.0**	**+0.1**
EALB				Sg	**Sn**	**23 08 44.8**	**-1.0**
EALB				*i* Vmb_Lg		23 08 46.7	
TAF	**Taforalt**	**1.29**	**122**	P	**Pn**	**23 08 42.9**	**+0.1**
TAF				S	**Sg**	**23 09 01.4**	**+0.4**
SMIR	**Smir Dam**	**1.34**	**278**	P	**Pb**	**23 08 44.0**	**0.0**
SMIR				S	**Sn**	**23 09 00.1**	**-0.9**
EMIJ	**Mijas**	**1.34**	**322**	Pn	**Pb**	**23 08 44.2**	**+0.1**
EMIJ				*i* Vmb_Lg		23 09 59.0	
EMIJ				Sn	**Sb**	**23 09 01.1**	**0.0**
CHEFC	**Chefchaouen**	**1.36**	**253**	P	**Pb**	**23 08 44.4**	**0.0**
CHEFC				S	**Sg**	**23 09 02.4**	**-0.7**
ELGU	**Los Guajares,**	**1.36**	**4**	Pn	**Pb**	**23 08 44.2**	**-0.3**
ELGU				Sn	**Sn**	**23 09 01.6**	**-0.1**
ELGU				*i* Vmb_Lg		23 09 06.8	
ECEU	**Ceuta**	**1.38**	**287**	Pn	**Pn**	**23 08 42.9**	**-1.1**
ECEU				Sn	**Sn**	**23 09 00.1**	**-1.9**
ECEU				*i* Vmb_Lg		23 09 02.1	
JBK	**JBK**	**1.52**	**140**	P	**Pn**	**23 08 45.9**	**-0.2**
JBK				S	**Sn**	**23 09 05.4**	**-0.3**
EBER	**Berja**	**1.55**	**26**	Pn	**Pn**	**23 08 47.1**	**+0.5**
EBER				Sn	**Sn**	**23 09 06.3**	**-0.3**
EBER				*i* Vmb_Lg		23 09 10.6	
EGOR	**Sierra Gorda,**	**1.63**	**350**	Pn	**Pb**	**23 08 49.1**	**+0.1**
EGOR				Sn	**Sn**	**23 09 07.8**	**-0.5**
EGOR				*i* Vmb_Lg		23 09 21.1	
EJIF	**Jimena Fronter**	**1.68**	**305**	Pn	**Pb**	**23 08 50.2**	**+0.3**
EJIF				Sn	**Sn**	**23 09 09.4**	**-0.1**
EQUE	**Quentar**	**1.71**	**8**	Pn	**Pn**	**23 08 48.4**	**-0.2**
EQUE				Sn	**Sn**	**23 09 10.5**	**+0.1**
EQUE				*i* Vmb_Lg		23 09 24.0	
ENIJ	**Nijar**	**1.92**	**40**	Pn	**Pn**	**23 08 51.9**	**+0.5**
ENIJ				Sn	**Sn**	**23 09 15.6**	**+0.2**
ENIJ				*i* Vmb_Lg		23 09 15.9	
LCRM	**LCR**	**2.03**	**207**	P	**Pb**	**23 08 55.1**	**-0.9**
LCRM				S	**Sb**	**23 09 20.9**	**-0.2**
ESPR	**Espera**	**2.18**	**309**	Sn	**Sn**	**23 09 21.4**	**-0.4**
ESPR				*i* Vmb_Lg		23 09 28.2	
EADA	**Adamuz**	**2.74**	**346**	Pn	**Pb**	**23 09 05.7**	**-2.2**
EADA				Sn	**Sn**	**23 09 35.8**	**+0.2**
MD31	**MD31**	**2.76**	**198**	P	**Pn**	**23 09 02.9**	**-0.1**
MD31				S	**Sn**	**23 09 36.5**	**+0.3**
MDT	**Midelt**	**2.78**	**195**	P	**Pn**	**23 09 03.3**	**0.0**
MDT				S	**Sn**	**23 09 37.3**	**+1.2**
ECAB	**El Cabril**	**2.89**	**333**	Pn	**Pn**	**23 09 05.5**	**+0.6**
ECAB				Sn	**Sn**	**23 09 39.2**	**-0.2**
EMIN	**Mina Concepcio**	**3.26**	**315**	Sn	**Sn**	**23 09 48.3**	**-0.1**
ETOB	**Tobarra**	**3.59**	**29**	Pn	**Pn**	**23 09 17.0**	**+2.5**
ETOB				Sn	**Sn**	**23 09 57.2**	**+0.4**
PAB	**San Pablo**	**4.06**	**353**	Pn	**Pn**	**23 09 23.8**	**+2.9**
PAB				Sn	**Sn**	**23 10 06.5**	**-1.8**
EBAD	**Badajoz**	**4.16**	**322**	Pn	**Pn**	**23 09 23.3**	**+1.0**
EBAD				Sn	**Sn**	**23 10 08.8**	**-1.8**
OUZM	**OUZ**	**5.23**	**210**	P	**Pn**	**23 09 39.8**	**+2.7**

*NOU **08** 23:44:19.8, 17°.63S×174°.99W, h51km, mb5.0/15, Tonga Islands*
*NEIC **08** 23:44:22.7±1.8, 17°.37S±0°.07×174°.45W±0°.08, h132km±7km, mb4.5/46, Error ellipse: s-maj=10.9km s-min=9.9km az=118.0*
*IDC **08** 23:44:23.2±2.3, 17°.44S×174°.45W, h144km±21km, mb3.9/13, mb1 4.1/14, mb1mx3.9/37, mbtmp4.3/14, MS3.4/4, Ms1 3.4/4, ms1mx2.8/63, Error ellipse: s-maj=23.1km s-min=12.4km az=121.0*
**ISC 08 23:44:22.6±0.4, 17°45S±0

ARHZ	**Aropaoanui**	**22.98**	**197**	P		**P**	**23 49 18.5**	**+3.4**
HIZ	**Hauiti**	**22.98**	**202**	P		**P**	**23 49 15.5**	**+0.5**
BKZ	**Black Stump Fm**	**23.03**	**198**	P		**P**	**23 49 15.6**	**0.0**
BKZ				IAmb		IAmb	23 49 23.8	
	comp=Z,11nm,0.8s							
BKZ	**Black Stump Fm**	**23.03**	**198**	P		**P**	**23 49 16.2**	**+0.6**
BKZ				S		**S**	**23 53 14.7**	**-1.0**
BKZ	**Black Stump Fm**	**23.03**	**198**	P		**P**	**23 49 16.2**	**+0.6**
	comp=Z,79nm,1.5s							
MCHZ	**McNeill Hill**	**23.23**	**198**	P		**P**	**23 49 19.5**	**+2.1**
ETVZ	**East Tongariro**	**23.25**	**200**	P		**P**	**23 49 20.7**	**+3.0**
OTVZ	**Oturere**	**23.29**	**200**	P		**P**	**23 49 18.1**	**0.0**
WNVZ	**Wahianoa**	**23.46**	**200**	P		**P**	**23 49 19.4**	**-0.3**
PPTF	**Pamatai, Papee**	**23.73**	**94**	P		**P**	**23 49 21.9**	**-0.3**
BFZ	**Birch Farm**	**24.51**	**197**	P		**P**	**23 49 29.7**	**+0.7**
BFZ				IAmb		IAmb	23 49 44.6	
	comp=Z,24nm,1.0s							
BFZ	**Birch Farm**	**24.51**	**197**	P		**P**	**23 49 31.9**	**+3.0**
	comp=Z,25nm,1.1s							
MSWZ	**Moikau Station**	**25.47**	**198**	P		**P**	**23 49 38.9**	**+1.1**
SNZO	**South Karori**	**25.54**	**199**	P		**P**	**23 49 38.9**	**+0.6**
PLWZ	**Palliser**	**25.61**	**198**	P		**P**	**23 49 39.7**	**+0.7**
QRZ	**Quartz Range**	**25.86**	**203**	P		**P**	**23 49 43.8**	**+2.6**
QRZ	**Quartz Range**	**25.86**	**203**	P		**P**	**23 49 44.1**	**+2.9**
	comp=Z,159nm,1.1s							
TUWZ	**Tuamarina**	**25.90**	**200**	P		**P**	**23 49 43.6**	**+2.1**
NNZ	**Nelson**	**25.90**	**201**	P		**P**	**23 49 43.7**	**+2.2**
NNZ				IAmb		IAmb	23 49 55.9	
	comp=Z,22nm,1.1s							
BSWZ	**Blackbirch Sta**	**26.18**	**200**	P		**P**	**23 49 46.8**	**+2.8**
THZ	**Tophouse**	**26.55**	**201**	P		**P**	**23 49 49.0**	**+1.6**
THZ				IAmb		IAmb	23 49 56.7	
	comp=Z,34nm,1.2s							
KHZ	**Kahutara**	**26.92**	**200**	P		**P**	**23 49 53.1**	**+2.4**
KHZ				IAmb		IAmb	23 49 55.5	
	comp=Z,19nm,0.9s							
KHZ	**Kahutara**	**26.92**	**200**	P		**P**	**23 49 54.1**	**+3.5**
	comp=Z,28nm,2.3s							
LTZ	**Lake Taylor**	**27.67**	**201**	P		**P**	**23 49 59.2**	**+1.8**
LHI	**Lord Howe Isla**	**27.79**	**235**	P		**P**	**23 50 00.0**	**+1.4**
	comp=Z,72nm,2.2s							
OXZ	**Oxford**	**28.23**	**201**	P		**P**	**23 50 04.6**	**+2.3**
MQZ	**McQueen's Vall**	**28.36**	**200**	P		**P**	**23 50 07.7**	**+4.2**
MQZ				IAmb		IAmb	23 50 22.9	
	comp=Z,10nm,1.1s							
RPZ	**Rata Peaks**	**28.91**	**202**	P		**P**	**23 50 09.9**	**+1.5**
	comp=Z,13nm,0.7s,baz=16,slow=18,SNR=1.8							
RPZ	**Rata Peaks**	**28.91**	**202**	P		**P**	**23 50 10.9**	**+2.5**
FOZ	**Fox Glacier**	**29.22**	**204**	P		**P**	**23 50 11.3**	**+0.3**
WHZ	**Wether Hill Ro**	**31.92**	**204**	P		**P**	**23 50 37.1**	**+2.2**
WHZ				IAmb		IAmb	23 50 46.5	
	comp=Z,16nm,1.0s							
ARMA	**Armidale**	**33.45**	**241**	P		**P**	**23 50 49.0**	**+0.4**
ARMA				IAmb		IAmb	23 50 50.0	
	comp=Z,4.9nm,0.9s							
COEN	**Coen**	**40.88**	**269**	P		**P**	**23 51 50.8**	**-0.5**
COEN				IAmb		IAmb	23 52 04.4	
	comp=Z,6.5nm,0.9s							
STKA	**Stephens Creek**	**42.16**	**242**	P		**P**	**23 52 01.6**	**0.0**
	comp=Z,3.4nm,0.7s,baz=92,slow=8.5,SNR=7.5							
STKA	**Stephens Creek**	**42.16**	**242**	P		**P**	**23 52 02.4**	**+0.8**
LCRK	**Leigh Creek**	**44.85**	**244**	P		**P**	**23 52 23.6**	**+0.5**
	comp=Z,14nm,0.9s							
OOD	**Oodnadatta**	**46.89**	**248**	P		**P**	**23 52 40.7**	**+1.5**
	comp=Z,10nm,0.9s							
BBOO	**Buckleboo**	**46.93**	**241**	P		**P**	**23 52 39.6**	**+0.1**
BBOO				IAmb		IAmb	23 52 39.7	
	comp=Z,5.3nm,0.8s							
BBOO	**Buckleboo**	**46.93**	**241**	P		**P**	**23 52 40.4**	**+1.0**
WR0	**Warramunga Arr**	**48.23**	**259**	P		**P**	**23 52 49.5**	**-0.2**
WB0	**Warramunga Arr**	**48.39**	**259**	P		**P**	**23 52 50.8**	**-0.1**
WB2	**Warramunga Arr**	**48.41**	**259**	P		**P**	**23 52 50.6**	**-0.4**
WB2				IAmb		IAmb	23 52 51.3	
	comp=Z,3.1nm,0.6s							
MULG	**Mulgathing**	**48.42**	**245**	P		**P**	**23 52 53.0**	**+2.1**
	comp=Z,12nm,1.5s							
WRA	**Warramunga Arr**	**48.42**	**259**	P		**P**	**23 52 50.8**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=97,slow=6.9,SNR=53							
WRA	**Warramunga Arr**	**48.42**	**259**	P		**P**	**23 52 50.7**	**-0.4**
AS31	**Alice Springs**	**48.54**	**254**	P		**P**	**23 52 52.2**	**+0.2**
AS31				IAmb		IAmb	23 52 53.1	
	comp=Z,3.9nm,0.6s							
ASAR	**Alice Springs**	**48.55**	**254**	P		**P**	**23 52 51.9**	**-0.1**
	comp=Z,12nm,0.6s,baz=89,slow=8.5,SNR=207							
ASAR				PcP		**PcP**	**23 54 16.0**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=87,slow=8.1,SNR=0.9							
ASAR	**Alice Springs**	**48.55**	**254**	P		**P**	**23 52 52.4**	**+0.4**
FORT	**Forrest**	**53.61**	**244**	P		**P**	**23 53 30.0**	**+0.3**
FORT				IAmb		IAmb	23 53 45.7	
	comp=Z,12nm,0.9s							
KNRA	**Kununurra**	**54.29**	**263**	P		**P**	**23 53 35.2**	**+0.4**
KNRA				IAmb		IAmb	23 53 43.2	
	comp=Z,7.9nm,0.9s							
FITZ	**Fitzroy Crossi**	**56.83**	**259**	P		**P**	**23 53 53.6**	**+0.7**
SBA	**Scott Base**	**61.14**	**184**	P		**P**	**23 54 23.9**	**+2.3**
SBA				IAmb		IAmb	23 54 24.8	
	comp=Z,3.3nm,0.8s							
VNDA	**Vanda**	**61.25**	**186**	P		**P**	**23 54 22.7**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=5.3,slow=6.9,SNR=6.4							
VNDA	**Vanda**	**61.25**	**186**	P		**P**	**23 54 23.7**	**+1.3**
TOLI2	**Tolitoli**	**66.36**	**279**	P		**P**	**23 54 57.9**	**+0.9**
TOLI2				IAmb		IAmb	23 55 00.3	
	comp=Z,4.1nm,0.7s							
QSPA	**South Pole Qui**	**72.61**	**180**	P		**P**	**23 55 35.4**	**+0.8**
QSPA				IAmb		IAmb	23 55 35.7	
	comp=Z,3.8nm,0.8s							
SNCC	**San Nicolas Is**	**72.72**	**46**	P		**P**	**23 55 36.8**	**+1.2**
SNCC				IAmb		IAmb	23 55 38.2	
	comp=Z,15nm,0.8s							
PETK	**Petropavlovsk-**	**74.27**	**343**	P		**P**	**23 55 44.2**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=109,slow=8.3,SNR=5.3							
NVAR	**Mina Array Bea**	**76.52**	**42**	P		**P**	**23 55 58.6**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=222,slow=8.5,SNR=6.4							
NVAR				LR		LR	00 21 08.7	
	comp=Z,33nm,20.4s,baz=282,slow=29							
KSRS	**Korea Array**	**76.92**	**316**	P		**P**	**23 56 01.7**	**+2.1**
	comp=Z,1.1nm,0.7s,baz=136,slow=31,SNR=2.2							
TPNV	**Topopah Spring**	**77.02**	**44**	P		**P**	**23 56 02.0**	**+1.5**
NJ2	**Nanjing**	**80.60**	**308**	*eP*		**P**	**23 56 19.0**	**-0.9**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PLID	**Pearl Lake**	**81.75**	**38**	P		**P**	**23 56 26.9**	**+0.9**
BELA	**Belgrano 2**	**82.12**	**172**	P		**P**	**23 56 26.9**	**-0.4**
BELA				IAmb		IAmb	23 56 27.7	
	comp=Z,4.4nm,0.9s							
N25K	**Chitina, Valde**	**82.30**	**14**	P		**P**	**23 56 28.9**	**+0.6**
J20K	**Nowinta River**	**82.87**	**9**	P		**P**	**23 56 31.9**	**+0.8**
MCK	**McKinley**	**83.31**	**11**	P		**P**	**23 56 33.8**	**+0.4**
MCK				IAmb		IAmb	23 56 35.2	
	comp=Z,8.5nm,0.9s							
DOT	**Dot Lake**	**84.22**	**13**	P		**P**	**23 56 38.1**	**+0.1**
DOT				IAmb		IAmb	23 56 39.5	
	comp=Z,6.4nm,1.0s							
SEY	**Seymchan**	**84.23**	**345**	P		**P**	**23 56 37.5**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=129,slow=6.5,SNR=10							
PDAR	**Pinedale Array**	**84.45**	**42**	P		**P**	**23 56 39.3**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=216,slow=2.9,SNR=1.1							
IMAR	**Indian Mountai**	**84.63**	**8**	P		**P**	**23 56 40.8**	**+0.8**
IL31		**84.64**	**11**	P		**P**	**23 56 40.0**	**0.0**
ILAR	**Eielson Array**	**84.64**	**11**	P		**P**	**23 56 39.3**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=228,slow=6.4,SNR=12							
ILAR				LR		LR	00 29 56.1	
	comp=Z,18nm,19.4s,baz=329,slow=32							
ILAR	**Eielson Array**	**84.64**	**11**	P		**P**	**23 56 40.4**	**+0.3**
J25K	**Salcha River,**	**84.80**	**12**	P		**P**	**23 56 41.9**	**+0.9**
HHC	**Hu-ho-hao-te**	**89.68**	**313**	*eP*		**P**	**23 57 07.7**	**+2.6**
HHC				pmax		pmax		
	comp=Z,13nm,0.9s							
HHC				pmax		pmax		
	comp=Z,110nm,6.7s							
INK	**Inuvik**	**90.49**	**14**	LR		LR	00 32 45.3	
	comp=Z,29nm,18.9s,baz=82,slow=32							
PZH	**PanZhiHua**	**92.30**	**297**	P		**P**	**23 57 18.3**	**+0.7**
PZH				pmax		pmax		
	comp=Z,7.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,100nm,5.1s							
YKA	**Yellowknife Ar**	**92.37**	**24**	P		**P**	**23 57 16.9**	**0.0**
	comp=Z,0.2nm,0.7s,baz=236,slow=4.4,SNR=3.1							
LZH	**Lanzhou**	**93.63**	**307**	*eP*		**P**	**23 57 26.0**	**+2.5**
LZH				pP		pwP	23 58 04.6	+3.9
LZH				sP		sP	23 58 18.6	+5.7
LZH				pmax		pmax		
	comp=Z,11nm,1.4s							
ARCES	**ARCESS Array B**	**126.48**	**351**	PKP		**PKPdf**	**00 03 08.5**	**0.0**
	comp=Z,2.1nm,0.9s,baz=107,slow=1.3,SNR=5.1							
CLL	**Collm**	**145.70**	**352**	*i* PKPbc		**PKPbc**	**00 03 45.8**	**+0.8**
	comp=Z,5.0nm,0.9s							
DPC	**Dobruska-Polom**	**146.06**	**348**	*e*PKP		**PKPab**	**00 03 47.7**	**+0.7**
KRLC	**Kraliky**	**146.22**	**347**	*e*PKP		**PKPbc**	**00 03 47.9**	**+1.2**
BRTR	**Keskin Array B**	**147.06**	**318**	PKPbc		**PKPbc**	**00 03 49.3**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=137,slow=4.3,SNR=3.1							
KHC	**Kasperske Hory**	**147.73**	**350**	*e*PKP		**PKPbc**	**00 03 52.3**	**+1.4**
GERES	**GERESS Array B**	**147.99**	**350**	PKPbc		**PKPbc**	**00 03 51.6**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=30,slow=8.0,SNR=2.8							
TORD	**Torodi Ar. Bea**	**174.33**	**138**	PKPab		**PKPab**	**00 05 48.4**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=252,slow=2.4,SNR=2.6							

CNRM ***08*** *23:44:39.7, 35.52N×3.77W, h14km, ml2.6*
SFS ***08*** *23:44:40.0, 35.30N×3.73W, h25km, ML2.4, ALHUCEMAS (MARRUECOS)*
MDD ***08*** *23:44:40.6±0.5, 35.31N×3.74W, h25km±8km, mb_Lg2.4/14, Error ellipse: s-maj=10.3km s-min=2.5km az=167.0*
INMG ***08*** *23:44:41.3±1.7, 35.40N×3.73W, h21km±10km, ML2.2, Error ellipse: s-maj=7.9km s-min=5.2km az=145.0*

ISC 08 23:44:40.0±1.0, 35.51N±0.02×3.77W±0.02, h14km±8km, n45, σ1.09 s, 81, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**206**	P		**Pg**	**23 44 46.6**	**0.0**
PALE	**Palemas**	**0.32**	**206**	P		**Pg**	**23 44 46.6**	**0.0**
PALE				S		**Sg**	**23 44 51.3**	**+0.2**
PVLZ	**Peæn de**	**0.55**	**233**	P		**Pg**	**23 44 50.7**	**-0.1**
PVLZ				S		**Sg**	**23 44 57.9**	**-0.2**
GOG	**Mont Gurugu**	**0.69**	**114**	P		**Pg**	**23 44 53.2**	**-0.3**
GOG				S		**Sb**	**23 45 04.0**	**+0.7**
GOG	**Mont Gurugu**	**0.69**	**114**	P		**Pb**	**23 44 53.8**	**-0.1**
GOG				S		**Sg**	**23 45 02.0**	**-0.6**
EMEL	**Melilla**	**0.69**	**107**	Pg		**Pg**	**23 44 53.5**	**0.0**
EMEL				Sg		**Sg**	**23 45 02.1**	**-0.5**
EALB	**Alboran**	**0.74**	**54**	Pg		**Pb**	**23 44 55.1**	**+0.5**
EALB				Sg		**Sn**	**23 45 05.9**	**-1.0**
EALB				*i* Vmb_Lg			23 45 06.5	
TAF	**Taforalt**	**1.30**	**121**	P		**Pg**	**23 45 05.0**	**-0.2**
TAF	**Taforalt**	**1.30**	**121**	P		**Pg**	**23 45 04.9**	**-0.3**
TAF				S		**Sg**	**23 45 21.7**	**-0.4**
SMIR	**Smir Dam**	**1.33**	**278**	P		**Pn**	**23 45 03.0**	**-1.1**
SMIR	**Smir Dam**	**1.33**	**278**	S		**Sn**	**23 45 21.8**	**+0.1**
EMIJ	**Mijas**	**1.34**	**323**	Pn		**Pn**	**23 45 04.1**	**-0.1**
EMIJ				Sn		**Sn**	**23 45 22.1**	**+0.3**
EMIJ				*i* Vmb_Lg			23 45 27.4	
CHEFC	**Chefchaouen**	**1.35**	**253**	P		**Pn**	**23 45 04.6**	**+0.2**
ELGU	**Los Guajares,**	**1.36**	**5**	Pn		**Pn**	**23 45 04.1**	**-0.7**
ELGU				Sn		**Sg**	**23 45 24.4**	**+0.3**
ELGU				*i* Vmb_Lg			23 45 26.2	
ECEU	**Ceuta**	**1.37**	**287**	Pn		**Pn**	**23 45 02.9**	**-1.8**
ECEU				Sn		**Sn**	**23 45 20.3**	**-2.3**
ECEU				*i* Vmb_Lg			23 45 21.4	
JBK	**JBK**	**1.53**	**139**	P		**Pg**	**23 45 09.0**	**-0.4**
JBK	**JBK**	**1.53**	**139**	P		**Pn**	**23 45 06.8**	**-0.2**
JBK				S		**Sb**	**23 45 27.6**	**+0.1**
EBER	**Berja**	**1.56**	**27**	Pn		**Pn**	**23 45 07.5**	**0.0**
EBER				Sn		**Sn**	**23 45 27.0**	**-0.6**
EBER				*i* Vmb_Lg			23 45 29.6	
EGOR	**Sierra Gorda,**	**1.63**	**350**	Pn		**Pn**	**23 45 08.5**	**+0.1**
EGOR				Sn		**Sb**	**23 45 30.3**	**0.0**
EGOR				*i* Vmb_Lg			23 45 47.5	
EJIF	**Jimena Fronter**	**1.67**	**305**	Pn		**Pb**	**23 45 11.0**	**+0.4**
EJIF				Sn		**Sb**	**23 45 32.2**	**+0.7**
EQUE	**Quentar**	**1.72**	**9**	Pn		**Pb**	**23 45 10.9**	**-0.5**
EQUE				Sn		**Sb**	**23 45 32.2**	**-0.7**
EQUE				*i* Vmb_Lg			23 45 35.3	
SICH	**Sidi Chahed**	**1.89**	**223**	P		**Pn**	**23 45 12.6**	**+0.7**
SICH				S		**Sb**	**23 45 37.5**	**-0.4**
ENIJ	**Nijar**	**1.93**	**40**	Pn		**Pn**	**23 45 12.0**	**-0.5**
ENIJ				Sn		**Sn**	**23 45 35.4**	**-1.2**
ENIJ				*i* Vmb_Lg			23 45 36.2	
LCRM	**LCR**	**2.03**	**207**	P		**Pg**	**23 45 18.0**	**-0.9**
LCRM	**LCR**	**2.03**	**207**	P		**Pn**	**23 45 14.6**	**+0.8**
LCRM				S		**Sb**	**23 45 41.2**	**-0.6**
ESPR	**Espera**	**2.17**	**309**	Sn		**Sn**	**23 45 42.8**	**+0.4**
ESPR				*i* Vmb_Lg			23 45 51.0	
EADA	**Adamuz**	**2.74**	**346**	Pn		**Pn**	**23 45 25.1**	**+1.5**
EADA				*i* Vmb_Lg			23 45 55.9	
EADA				Sn		**Sn**	**23 45 58.6**	**+2.2**
MD31	**MD31**	**2.76**	**198**	P		**Pn**	**23 45 24.2**	**+0.3**
MD31				S		**Sn**	**23 45 56.8**	**-0.2**
MDT	**Midelt**	**2.77**	**195**	P		**Pn**	**23 45 24.7**	**+0.6**
MDT				S		**Sn**	**23 46 00.0**	**+2.6**
ECAB	**El Cabril**	**2.89**	**333**	Pn		**Pn**	**23 45 25.7**	**0.0**
ECAB				Sn		**Sn**	**23 46 02.2**	**+2.0**
ECAB				*i* Vmb_Lg			23 46 04.9	
EZAR	**Zarzadilla de**	**2.89**	**35**	Pn		**Pn**	**23 45 25.8**	**0.0**
EZAR				Sn		**Sn**	**23 45 60.0**	**-0.4**
EMIN	**Mina Concepcio**	**3.25**	**315**	Pn		**Pn**	**23 45 31.1**	**+0.6**
EMIN				Sn		**Sn**	**23 46 07.1**	**-1.9**
ETOB	**Tobarra**	**3.60**	**29**	Pn		**Pn**	**23 45 37.5**	**+2.0**
ETOB				Sn		**Sn**	**23 46 16.7**	**-1.1**
PVAQ	**Vaqueiros**	**3.71**	**302**	*e*Pn		**Pn**	**23 45 37.5**	**+0.7**
PVAQ				*e*Sn		**Sn**	**23 46 19.4**	**-0.9**
PVAQ				A		A	23 46 46.9	
	2.9nm,0.9s							
PVAQ	**Vaqueiros**	**3.71**	**302**	P		**Pn**	**23 45 36.1**	**-0.8**
PBAR	**Barrancos**	**3.74**	**316**	*e*Pn		**Pn**	**23 45 36.6**	**-0.7**
PBAR				*e*Sn		**Sn**	**23 46 21.3**	**+0.2**
PBAR				A		A	23 46 21.8	
	4.9nm,0.7s							
PBDV	**Barranco-do-Ve**	**3.78**	**299**	*e*Pn		**Pn**	**23 45 37.0**	**-0.9**
PBDV				*e*Sn		**Sn**	**23 46 22.1**	**-0.1**
PBDV				A		A	23 46 42.5	
	3.4nm,0.6s							
PCVE	**Castro Verde**	**4.04**	**303**	*e*Pn		**Pn**	**23 45 42.9**	**+1.4**
PCVE				*e*Sn		**Sn**	**23 46 28.1**	**-0.5**
PCVE				A		A	23 46 29.8	
	2.5nm,0.5s							
PAB	**San Pablo**	**4.06**	**354**	Pn		**Pn**	**23 45 43.4**	**+1.6**
PAB				Sn		**Sn**	**23 46 29.2**	**+0.1**
EBAD	**Badajoz**	**4.16**	**322**	Pn		**Pn**	**23 45 43.9**	**+0.9**
EBAD				Sn		**Sn**	**23 46 29.2**	**-2.1**
EBAD				*i* Vmb_Lg			23 46 37.6	
ESDC	**Sonseca Array**	**4.17**	**358**	Pn		**Pn**	**23 45 44.4**	**+1.2**
ESDC				Sn		**Sn**	**23 46 31.7**	**-0.1**
PTEO	**Sao Teotonio**	**4.48**	**298**	*e*Pn		**Pn**	**23 45 50.2**	**+2.7**
PTEO				*e*Sn		**Sn**	**23 46 38.4**	**-1.0**
PESTR	**Estremoz**	**4.54**	**319**	*e*Pn		**Pn**	**23 45 51.9**	**+3.6**
PESTR				*e*Sn		**Sn**	**23 46 40.9**	**+0.1**
PESTR				A		A	23 46 44.8	
	2.4nm,0.5s							
PNCL	**Nicolau / Gran**	**4.62**	**306**	*e*Pn		**Pn**	**23 45 50.3**	**+0.9**
PNCL				*e*Sn		**Sn**	**23 46 41.8**	**-1.1**
PNCL				A		A	23 46 52.2	
	3.2nm,0.6s							
PMRV	**Marv??o**	**4.86**	**325**	*e*Pn		**Pn**	**23 45 54.2**	**+1.4**
PMRV				*e*Sn		**Sn**	**23 46 47.1**	**-1.8**

IDC ***09*** *00:09:19.9±0.6, 31.10N×141.61E, h0km, mb4.1/18, mb1 4.2/22, mb1mx4.1/40, mbtmp4.1/22, ML3.7/4, MS3.1/7, Ms1 3.1/7, ms1mx2.7/89, Error ellipse: s-maj=21.4km s-min=13.7km az=74.0*
JMA ***09*** *00:09:21.9±0.2, 31.23N×141.76E, h21km, M4.4*
NIED ***09*** *00:09:21.9, 31.23N×141.76E, h21km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr1.92; Mθθ-0.17; Mφφ-1.76; Mrθ-0.63; Mθφ0.45; Mrφ2.34; Fault plane solution: M0 3.08000×10^15 NP1: φs345.00000°, δ71.00000°, λ90.00000°. NP2: φs166.00000°, δ19.00000°, λ91.00000°.*
MOS ***09*** *00:09:22.8±0.9, 31.06N×141.56E, h35km, mb4.5/30 Error ellipse: s-maj=13.3km s-min=6.9km az=114.0*
NEIC ***09*** *00:09:26.0±0.9, 31.07N±0.08×141.7E±0.1, h48km±6km, mb4.6/74, Error ellipse: s-maj=14.1km s-min=12.2km az=79.0*

ISC 09 00:09:24.5±0.3, 31.07N±0.04×141.72E±0.06, h37km, n185, σ1.22 s, 188, mb4.5/70, MS3.4/6, 7C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.17**	**310**	P		**Pn**	**00 09 57.0**	**-1.1**
JHJ2	**Mitsune**	**2.60**	**322**	P		**Pn**	**00 10 02.6**	**-1.4**
JHJ2				*e*S		**Sn**	**00 10 32.8**	**-1.5**
JHJ	**Hachijo jima 2**	**2.63**	**322**	Pn		**Pn**	**00 10 02.7**	**-1.6**
	14nm,0.3s,baz=59,slow=23,SNR=14							
JHJ				LR		LR	00 10 30.9	
	comp=Z,106nm,20.3s,baz=92,slow=28							
JHJ				Sn		**Sn**	**00 10 31.6**	**-3.3**
	39nm,0.3s,baz=76,slow=23,SNR=6.3							
BSO1	**Boso 1**	**3.63**	**350**	P		**Pn**	**00 10 16.5**	**-1.1**
BSO1				S		**Sn**	**00 10 56.4**	**-2.5**
BSO3	**Boso 3**	**3.86**	**345**	P		**Pn**	**00 10 20.0**	**-1.0**
BSO3				*e*S		**Sn**	**00 11 03.0**	**-2.0**
CBIJ	**Chichi jima**	**3.98**	**174**	P		**Pn**	**00 10 25.7**	**+2.8**
JCJ	**Chichijima**	**3.98**	**174**	Pn		**Pn**	**00 10 24.7**	**+1.9**
	22nm,0.3s,baz=11,slow=17,SNR=11							
JCJ				Sn		**Sn**	**00 11 06.3**	**-2.0**
	13nm,0.3s,baz=302,slow=23,SNR=1.3							
BSO4	**Boso 4**	**4.08**	**344**	*e*S		**Sn**	**00 11 08.9**	**-1.8**
JOD2	**Odawara 2**	**4.73**	**333**	P		**Pn**	**00 10 32.0**	**-1.3**
JOD2				*e*S		**Sn**	**00 11 25.0**	**-1.9**
JHU	**Hanno**	**5.19**	**338**	P		**Pn**	**00 10 39.1**	**-0.4**
JHU				*e*S		**Sn**	**00 11 37.1**	**-1.0**
JRY	**Ryogami san**	**5.47**	**335**	P		**Pn**	**00 10 43.6**	**+0.2**
JRY				*e*S		**Sn**	**00 11 43.8**	**-1.3**
JHO	**Hitachi**	**5.61**	**350**	P		**Pn**	**00 10 43.6**	**-1.7**
JAG	**Ashikaga**	**5.67**	**341**	P		**Pn**	**00 10 45.6**	**-0.5**
MJAR	**Matsushiro Arr**	**6.19**	**333**	Pn		**Pn**	**00 10 53.2**	**-0.1**
	1.3nm,0.3s,baz=17,slow=22,SNR=17							
MJAR				Sn		**Sn**	**00 12 02.4**	**-0.5**
	0.2nm,0.3s,baz=8.5,slow=33,SNR=4.4							
MJAR	**Matsushiro Arr**	**6.19**	**333**	Pn		**Pn**	**00 10 53.9**	**+0.5**
MAJO	**Matsushiro**	**6.20**	**333**	P		**Pn**	**00 10 54.7**	**+1.3**
MAJO	**Matsushiro**	**6.20**	**333**			**Pn**	**00 10 54.7**	**+1.3**
MJB9	**Matsu-Tunnel**	**6.20**	**333**	Pn		**Pn**	**00 10 54.7**	**+1.3**
JNU	**Nakatsue**	**9.42**	**285**	Pn		**Pn**	**00 11 38.7**	**+1.0**
	0.3nm,0.3s,baz=333,slow=11,SNR=2.6							
ERM	**Erimo**	**10.99**	**6**	*i* P		**Pn**	**00 11 57.8**	**-1.2**
ERM	**Erimo**	**10.99**	**6**	Pn		**Pn**	**00 11 57.4**	**-1.6**
JOW	**Kunigami**	**12.51**	**254**	LR		LR	00 16 54.5	
	comp=Z,130nm,19.0s,baz=89,slow=37							
KSRS	**Korea Array**	**13.06**	**303**	Pn		**Pn**	**00 12 30.7**	**+3.3**
	0.3nm,0.3s,baz=113,slow=13,SNR=6.0							
KSRS				LR		LR	00 17 30.1	
	comp=Z,82nm,18.2s,baz=130,slow=38							
YSS	**Yuzh-Sakhalins**	**15.89**	**3**	*eP*		Pn	00 12 53.4	-12
CN2	**Changchun**	**18.09**	**319**	*eP*		**P**	**00 13 33.0**	**+0.2**
CN2				*e*S		**Sn**	**00 16 49.6**	**-3.7**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CN2				pmax		pmax		
	comp=Z,100nm,6.0s							
CN2				LR		LR		
	comp=N,100nm,10.0s							
CN2				LR		LR		
	comp=E,100nm,10.0s							
CN2				LR		LR		
	comp=Z,200nm,13.0s							
NJ2	**Nanjing**	**19.51**	**279**	*eP*		**P**	**00 13 48.8**	**+0.3**
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
KLR	**Kul'dur**	**19.65**	**340**	P		**P**	**00 13 48.0**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=76,slow=5.4,SNR=4.0							
KLR	**Kul'dur**	**19.65**	**340**	*ceP*		**P**	**00 13 47.9**	**-2.0**
KLR				pmax		pmax		
	comp=Z,8.0nm,1.7s							
HIA	**Hailar**	**24.60**	**324**	*i* P		**P**	**00 14

ZALV	**Zalesovo Beam**	**46.28**	**317**	P	**P**	**00 17 46.8**	**+0.6**		
	comp=Z,0.9nm,0.5s,baz=98,slow=11,SNR=6.4								
ZALV				PcP	**PcP**	**00 19 21.9**	**+0.9**		
	comp=Z,1.2nm,0.6s,baz=106,slow=2.2,SNR=5.1								
ZALV	**Zalesovo Beam**	**46.28**	**317**	P	**P**	**00 17 46.2**	**+0.1**		
ZALV	**Zalesovo Beam**	**46.28**	**317**	P	**P**	**00 17 46.2**	**+0.1**		
MKAR	**Makanchi Array**	**47.70**	**307**	P	**P**	**00 17 57.4**	**-0.1**		
	comp=Z,1.7nm,0.6s,baz=89,slow=9.5,SNR=18								
MKAR	**Makanchi Array**	**47.70**	**307**	P	**P**	**00 17 56.9**	**-0.6**		
MKAR	**Makanchi Array**	**47.70**	**307**	P	**P**	**00 17 56.9**	**-0.6**		
MAKZ	**Makanchi**	**47.92**	**307**	P	**P**	**00 17 58.1**	**-1.0**		
MAKZ				pmax	pmax				
	comp=Z,2.0nm,0.9s								
MAKZ	**Makanchi**	**47.92**	**307**	P	**P**	**00 17 58.1**	**-1.0**		
NRIK	**Noril'sk**	**48.83**	**338**	*ce*P	**P**	**00 18 05.5**	**-0.2**		
NRIK				pmax	pmax				
	comp=Z,2.0nm,1.0s								
KURK	**Kurchatov**	**49.97**	**312**	*ce*P	**P**	**00 18 14.9**	**+0.2**		
KURK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KURK	**Kurchatov**	**49.97**	**312**	P	**P**	**00 18 14.4**	**-0.3**		
KURK				IAmb	IAmb	00 18 15.2			
	comp=Z,3.6nm,0.8s								
KURBB	**Kurchatov Arra**	**50.03**	**312**	P	**P**	**00 18 15.0**	**-0.1**		
	comp=Z,2.4nm,0.6s,baz=90,slow=7.6,SNR=44								
SVW2	**Sparrevohn**	**50.21**	**34**	P	**P**	**00 18 16.6**	**+0.3**		
SVW2				IAmb	IAmb	00 18 22.7			
	comp=Z,9.4nm,1.3s								
Q19K	**Cape Douglas,**	**50.97**	**37**	P	**P**	**00 18 22.8**	**+0.6**		
WB0	**Warramunga Arr**	**51.03**	**189**	P	**P**	**00 18 23.0**	**+0.1**		
WB0				IAmb	IAmb	00 18 24.2			
	comp=Z,11nm,0.6s								
OHAK	**Old Harbor**	**51.08**	**39**	P	**P**	**00 18 22.8**	**-0.1**		
GSI	**Gunungsitoli**	**51.16**	**243**	P	**P**	**00 18 22.9**	**-1.2**		
WRAB	**Tennant Creek**	**51.20**	**189**	*ce*P	**P**	**00 18 26.3**	**+2.1**		
WRAB				pmax	pmax				
	comp=Z,17nm,2.5s								
WR0	**Warramunga Arr**	**51.20**	**189**	P	**P**	**00 18 24.0**	**-0.3**		
WR0				IAmb	IAmb	00 18 25.5			
	comp=Z,6.6nm,0.5s								
WB2	**Warramunga Arr**	**51.21**	**189**	P	**P**	**00 18 24.3**	**0.0**		
WB2				IAmb	IAmb	00 18 27.4			
	comp=Z,6.9nm,0.8s								
WRA	**Warramunga Arr**	**51.21**	**189**	P	**P**	**00 18 25.1**	**+0.8**		
	comp=Z,4.6nm,0.4s,baz=5.3,slow=7.6,SNR=97								
WRA	**Warramunga Arr**	**51.21**	**189**	P	**P**	**00 18 24.6**	**+0.3**		
IMAR	**Indian Mountai**	**51.72**	**28**	P	**P**	**00 18 28.5**	**+0.9**		
KDJ	**Kajisay**	**51.86**	**301**	P	**P**	**00 18 28.1**	**-1.2**		
KDJ				pmax	pmax				
	comp=Z,27nm,1.1s								
KDJ	**Kajisay**	**51.86**	**301**	P	**P**	**00 18 28.1**	**-1.2**		
MCK	**McKinley**	**53.52**	**31**	P	**P**	**00 18 41.6**	**+0.6**		
MCK				pmax	pmax				
	comp=Z,8.0nm,1.5s								
MCK	**McKinley**	**53.52**	**31**	P	**P**	**00 18 41.5**	**+0.6**		
MCK				IAmb	IAmb	00 18 58.6			
	comp=Z,8.0nm,1.5s								
TOLK	**Toolik Lake Re**	**53.70**	**25**	P	**P**	**00 18 42.3**	**0.0**		
TOLK				IAmb	IAmb	00 18 47.8			
	comp=Z,4.1nm,1.2s								
XMIS	**Christmas Isla**	**53.89**	**226**	P	**P**	**00 18 43.4**	**-0.9**		
ILAR	**Eielson Array**	**54.46**	**30**	P	**P**	**00 18 48.2**	**+0.3**		
	comp=Z,0.4nm,0.6s,baz=265,slow=7.0,SNR=4.2								
M24K	**Tolsona, Glenn**	**54.75**	**33**	P	**P**	**00 18 50.2**	**+0.2**		
M24K				IAmb	IAmb	00 18 58.0			
	comp=Z,14nm,1.1s								
AS31	**Alice Springs**	**54.93**	**189**	P	**P**	**00 18 52.2**	**+0.5**		
AS31				IAmb	IAmb	00 18 55.5			
	comp=Z,2.7nm,0.5s								
ASAR	**Alice Springs**	**54.93**	**189**	P	**P**	**00 18 52.6**	**+0.9**		
	comp=Z,3.4nm,0.4s,baz=1.6,slow=5.6,SNR=78								
ASAR	**Alice Springs**	**54.93**	**189**	P	**P**	**00 18 51.8**	**+0.1**		
ASAR	**Alice Springs**	**54.93**	**189**	P	**P**	**00 18 51.8**	**+0.1**		
DIV	**Divide**	**54.96**	**34**	P	**P**	**00 18 51.9**	**+0.3**		
DIV				IAmb	IAmb	00 18 58.2			
	comp=Z,5.8nm,1.1s								
BMAR	**Burnt Mountain**	**55.48**	**27**	P	**P**	**00 18 55.6**	**+0.4**		
N25K	**Chitina, Valde**	**55.51**	**34**	P	**P**	**00 18 56.3**	**+0.7**		
N25K				IAmb	IAmb	00 19 12.1			
	comp=Z,6.4nm,1.3s								
TGL	**Tana Glacier**	**56.41**	**35**	P	**P**	**00 19 02.5**	**+0.4**		
TGL				IAmb	IAmb	00 19 03.2			
	comp=Z,15nm,1.2s								
KK31	**Karatay Array**	**56.49**	**304**	P	**P**	**00 19 02.3**	**-0.5**		
KK31				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KK31	**Karatay Array**	**56.49**	**304**	P	**P**	**00 19 02.3**	**-0.5**		
KK31				IAmb	IAmb	00 19 04.2			
	comp=Z,2.4nm,0.7s								
KKAR	**Karatay Array**	**56.49**	**304**	P	**P**	**00 19 02.7**	**-0.1**		
KKAR	**Karatay Array**	**56.49**	**304**	P	**P**	**00 19 02.7**	**-0.1**		
BCAR	**Beaver Creek A**	**56.74**	**32**	P	**P**	**00 19 05.1**	**+0.8**		
EIDS	**Eidsvold**	**56.83**	**170**	P	**P**	**00 19 04.8**	**-0.4**		
EIDS				IAmb	IAmb	00 19 16.6			
	comp=Z,12nm,1.1s								
NIL	**Nilore**	**56.91**	**292**	P	**P**	**00 19 05.6**	**-0.4**		
NIL				pmax	pmax				
	comp=Z,4.0nm,0.7s								
NIL	**Nilore**	**56.91**	**292**	P	**P**	**00 19 05.6**	**-0.4**		
NIL				IAmb	IAmb	00 19 08.0			
	comp=Z,3.6nm,0.7s								
GRNC	**Granite Creek**	**56.94**	**35**	P	**P**	**00 19 06.4**	**+0.4**		
GRNC				IAmb	IAmb	00 19 09.4			
	comp=Z,11nm,1.2s								
POHA	**Pohakuloa**	**57.14**	**85**	P	**P**	**00 19 08.8**	**+0.8**		
UWB	**Uwekahuna B**	**57.49**	**86**	P	**P**	**00 19 10.0**	**-0.4**		
I29M	**Ogilvie Camp,**	**58.08**	**29**	P	**P**	**00 19 13.8**	**+0.1**		
I29M				IAmb	IAmb	00 19 23.3			
	comp=Z,5.8nm,0.9s								
CHGR	**Chuyangaron**	**58.62**	**299**	P	**P**	**00 19 17.8**	**-0.2**		
SVE	**Sverdlovsk**	**59.86**	**321**	*e*P	**P**	**00 19 27.1**	**+1.0**		
SVE				pmax	pmax				
	comp=Z,9.0nm,0.8s								
KBL	**Kabul**	**59.95**	**294**	P	**P**	**00 19 27.0**	**-0.4**		
KBL				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KBL	**Kabul**	**59.95**	**294**	P	**P**	**00 19 27.0**	**-0.4**		
KBL				IAmb	IAmb	00 19 28.9			
	comp=Z,2.3nm,0.8s								
ARU	**Arti**	**61.07**	**321**	*c i*P	**P**	**00 19 34.6**	**+0.3**		
ARU						00 20 13.8			
ARU				S	**S**	**00 27 55.1**	**+4.6**		
ARU				SS	**SS**	**00 31 52.7**	**+2.7**		
ARU				pmax	pmax				
	comp=Z,10.0nm,0.7s								
ARU	**Arti**	**61.07**	**321**	P	**P**	**00 19 34.3**	**0.0**		
ARU				IAmb	IAmb	00 19 35.5			
	comp=Z,10nm,0.8s								
ABKAR	**Akbulak array**	**62.07**	**313**	P	**P**	**00 19 40.5**	**-0.7**		
WRAK	**Wrangell Islan**	**62.57**	**39**	P	**P**	**00 19 45.3**	**+0.9**		
STKA	**Stephens Creek**	**62.60**	**180**	P	**P**	**00 19 46.4**	**+1.6**		
	comp=Z,1.4nm,0.4s,baz=348,slow=4.6,SNR=3.3								
SPB2	**Spitsbergen Ar**	**66.42**	**349**	P	**P**	**00 20 10.2**	**+1.0**		
GEYT	**Alibeck**	**67.05**	**301**	P	**P**	**00 20 13.4**	**-0.6**		
GYA0B	**ALIBECK ARRAY**	**67.05**	**301**	P	**P**	**00 20 13.7**	**-0.3**		
GYA0B				IAmb	IAmb	00 20 24.8			
	comp=Z,5.1nm,0.9s								
LVZ	**Lovozero**	**67.67**	**337**	P	**P**	**00 20 17.4**	**0.0**		
LVZ				pmax	pmax				
	comp=Z,9.0nm,1.1s								
LVZ	**Lovozero**	**67.67**	**337**	P	**P**	**00 20 17.4**	**0.0**		
LVZ				IAmb	IAmb	00 20 28.6			
	comp=Z,8.9nm,1.1s								
NIUE	**Niue**	**68.13**	**130**	P	**P**	**00 20 20.5**	**-0.4**		
TOO	**Toolangi**	**68.37**	**177**	P	**P**	**00 20 22.4**	**+0.4**		
TOO				pmax	pmax				
	comp=Z,13nm,1.2s								
TOO	**Toolangi**	**68.37**	**177**	P	**P**	**00 20 22.4**	**+0.4**		
TOO				IAmb	IAmb	00 20 28.9			
	comp=Z,13nm,1.1s								
CBB	**Campbell River**	**68.64**	**44**	P	**P**	**00 20 22.0**	**-1.7**		
YKA	**Yellowknife Ar**	**68.86**	**29**	P	**P**	**00 20 25.6**	**+0.7**		
	comp=Z,0.4nm,0.6s,baz=297,slow=6.5,SNR=7.2								
YKA	**Yellowknife Ar**	**68.86**	**29**	P	**P**	**00 20 24.0**	**-0.9**		
ARCES	**ARCESS Array B**	**69.67**	**340**	P	**P**	**00 20 31.1**	**+1.2**		
	comp=Z,5.8nm,1.1s,baz=358,slow=16,SNR=2.0								
OBN	**Obninsk**	**73.06**	**325**	LR	LR	00 53 37.2			
	comp=Z,11nm,21.4s,baz=182,slow=36								
KMPM	**Mount Pierce**	**73.50**	**53**	P	**P**	**00 20 52.0**	**-1.5**		
KMPM				IAmb	IAmb	00 20 53.0			
	comp=Z,25nm,1.3s								
YBH	**Yreka Blue Hor**	**73.85**	**51**	LR	LR	00 47 06.8			
	comp=Z,37nm,20.7s,baz=332,slow=31								
FINES	**FINESS Array B**	**74.22**	**333**	P	**P**	**00 20 58.5**	**+1.4**		
	comp=Z,1.0nm,0.5s,baz=82,slow=4.0,SNR=15								
NEW	**Newport**	**74.27**	**43**	P	**P**	**00 20 57.1**	**-0.7**		
NEW				pmax	pmax				
	comp=Z,5.0nm,1.3s								
NEW	**Newport**	**74.27**	**43**	P	**P**	**00 20 57.1**	**-0.7**		
NEW				IAmb	IAmb	00 21 01.3			
	comp=Z,4.9nm,1.2s								
KBZ	**Khabaz**	**75.03**	**312**	P	**P**	**00 21 02.7**	**+0.6**		
	comp=Z,3.3nm,0.8s,baz=64,slow=3.1,SNR=14								
KBZ	**Khabaz**	**75.03**	**312**	*ce*P	**P**	**00 21 02.5**	**+0.3**		
KBZ				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KIV	**Kislovodsk**	**75.06**	**312**	*e*P	**P**	**00 21 02.7**	**+0.2**		
KIV				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KIV	**Kislovodsk**	**75.06**	**312**	P	**P**	**00 21 02.4**	**-0.1**		
KIV				IAmb	IAmb	00 21 18.0			
	comp=Z,4.9nm,1.0s								
ONI	**Oni**	**75.22**	**311**	P	**P**	**00 21 03.9**	**+0.5**		
ONI				pmax	pmax				
	comp=Z,3.0nm,1.1s								
ONI	**Oni**	**75.22**	**311**	P	**P**	**00 21 03.9**	**+0.5**		
MOD	**Modoc Plateau**	**75.36**	**50**	P	**P**	**00 21 04.2**	**-0.2**		
GNI	**Garni**	**75.53**	**308**	P	**P**	**00 21 04.7**	**-0.7**		
GNI				pmax	pmax				
	comp=Z,5.0nm,1.1s								
GNI	**Garni**	**75.53**	**308**	P	**P**	**00 21 04.7**	**-0.7**		
GNI				IAmb	IAmb	00 21 17.7			
	comp=Z,5.4nm,1.1s								
WALA	**Waterton Lakes**	**75.72**	**41**	P	**P**	**00 21 06.5**	**+0.2**		
MXZ	**Matakaoa Point**	**76.36**	**151**	P	**P**	**00 21 08.7**	**-0.9**		
PAHR	**Pah Rah Range**	**77.03**	**51**	P	**P**	**00 21 12.7**	**-1.2**		
CMB	**Columbia Colle**	**77.17**	**53**	P	**P**	**00 21 15.1**	**+0.5**		
CMB				pmax	pmax				
	comp=Z,2.0nm,1.2s								
CMB	**Columbia Colle**	**77.17**	**53**	P	**P**	**00 21 15.1**	**+0.5**		
BMN	**Battle Mountai**	**78.11**	**50**	P	**P**	**00 21 20.0**	**+0.1**		
BMN				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BMN	**Battle Mountai**	**78.11**	**50**	P	**P**	**00 21 20.0**	**+0.1**		
GURO	**Guroymak-BITLI**	**78.14**	**308**	P	**P**	**00 21 20.1**	**0.0**		
BSWZ	**Blackbirch Sta**	**78.26**	**156**	P	**P**	**00 21 20.6**	**+0.4**		
LRM	**Limekiln Ridge**	**78.27**	**43**	P	**P**	**00 21 20.8**	**0.0**		
PAGB	**Antelope Grade**	**78.40**	**55**	P	**P**	**00 21 21.8**	**+0.3**		
PAGB				IAmb	IAmb	00 21 25.6			
	comp=Z,3.7nm,0.8s								
AKASG	**Malin Array Be**	**79.19**	**323**	P	**P**	**00 21 25.7**	**+0.2**		
	comp=Z,0.8nm,0.4s,baz=49,slow=5.6,SNR=7.9								
NB2	**NORSAR Subarra**	**79.79**	**338**	P	**P**	**00 21 28.6**	**0.0**		
	comp=Z,5.4nm,1.2s,baz=42,slow=5.3								
NOA	**NORSAR Array B**	**79.79**	**338**	P	**P**	**00 21 29.0**	**+0.4**		
	comp=Z,0.4nm,0.9s,baz=44,slow=2.5,SNR=3.8								
NOA	**NORSAR Array B**	**79.79**	**338**	P	**P**	**00 21 29.0**	**+0.4**		
QSM	**Queen of Sheba**	**80.65**	**54**	P	**P**	**00 21 33.5**	**-0.1**		
GWY	**Greenwater Val**	**80.67**	**53**	P	**P**	**00 21 33.5**	**-0.4**		
PRN	**Pahroc Range**	**81.13**	**52**	P	**P**	**00 21 35.7**	**-0.6**		
PRN				IAmb	IAmb	00 21 43.5			
	comp=Z,5.9nm,1.4s								
PDAR	**Pinedale Array**	**81.69**	**45**	P	**P**	**00 21 41.0**	**+1.7**		
	comp=Z,0.1nm,0.4s,baz=55,slow=35,SNR=2.3								
BR131	**Keskin Array S**	**83.02**	**312**	P	**P**	**00 21 45.8**	**-0.4**		
BR131				pmax	pmax				
	comp=Z,3.0nm,1.0s								
BR131	**Keskin Array S**	**83.02**	**312**	P	**P**	**00 21 45.8**	**-0.4**		
BR131				IAmb	IAmb	00 21 48.3			
	comp=Z,3.3nm,0.9s								
BRTR	**Keskin Array B**	**83.02**	**312**	P	**P**	**00 21 47.2**	**+1.0**		
	comp=Z,1.3nm,0.8s,baz=101,slow=3.3,SNR=8.8								
BRTR	**Keskin Array B**	**83.02**	**312**	P	**P**	**00 21 45.8**	**-0.4**		
BUR08	**Bucovina Ar. S**	**83.15**	**322**	P	**P**	**00 21 46.6**	**-0.1**		
BUR08				IAmb	IAmb	00 21 56.2			
	comp=Z,3.9nm,1.2s								
BURAR	**Bucovina Array**	**83.16**	**322**	P	**P**	**00 21 45.5**	**-1.2**		
RAYN	**Ar Rayn**	**83.19**	**293**	P	**P**	**00 21 47.4**	**+0.1**		
RAYN				pmax	pmax				
	comp=Z,6.0nm,0.8s								
RAYN	**Ar Rayn**	**83.19**	**293**	P	**P**	**00 21 47.4**	**+0.1**		
RAYN				IAmb	IAmb	00 21 49.3			
	comp=Z,6.4nm,0.8s								
RGN	**Rugen**	**83.87**	**333**	P	**P**	**00 21 50.8**	**+0.7**		
OJC	**Ojcow**	**84.14**	**327**	P	**P**	**00 21 49.6**	**-2.0**		
OJC				pmax	pmax				
	comp=Z,4.0nm,0.9s								
OJC	**Ojcow**	**84.14**	**327**	P	**P**	**00 21 49.5**	**-2.0**		
OJC				IAmb	IAmb	00 21 53.0			
	comp=Z,3.6nm,0.9s								
N23A	**Red Feather La**	**84.97**	**45**	P	**P**	**00 21 56.0**	**-0.3**		
N23A				IAmb	IAmb	00 22 04.2			
	comp=Z,7.8nm,1.4s								
TXAR	**Lajitas Array**	**93.54**	**53**	P	**P**	**00 22 39.5**	**+2.5**		
	comp=Z,0.7nm,0.6s,baz=309,slow=4.3,SNR=5.2								
N41A	**Harden Midland**	**93.60**	**37**	P	**P**	**00 22 35.9**	**-1.0**		
TORD	**Torodi Ar. Bea**	**121.64**	**313**	PKP	**PKPdf**	**00 28 15.2**	**+0.3**		
	comp=Z,0.6nm,1.0s,baz=45,slow=4.0,SNR=2.5								
LPAZ	**La Paz**	**149.08**	**68**	PKPbc	**PKPbc**	**00 29 11.3**	**+1.2**		
	comp=Z,1.2nm,0.7s,baz=338,slow=3.9,SNR=4.5								

JMA 09 00:16:16.4±0.5, 45°.57N×146°.38E, h297km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.25**	**192**	P	Pn	00 17 04.5	-0.5
NEM2				*e*S	S	00 17 42.7	-1.1
JNK	**Nakash**	**2.31**	**211**	P	Pn	00 17 06.4	+0.8
JTKR	**Abashiri--Toko**	**2.38**	**229**	P	Pn	00 17 06.4	+0.3
JAK	**Akkeshi**	**2.84**	**206**	P	Pn	00 17 10.5	+0.1
JAK				*e*S	S	00 17 52.5	-1.1
JAR	**Ashorobuto**	**2.94**	**220**	P	Pn	00 17 12.3	+0.9
JCH	**Churui**	**3.67**	**217**	P	Pn	00 17 19.0	+0.1
JCH				*e*S	S	00 18 08.9	-2.0
JNBK	**Urakawa-nobuka**	**4.21**	**220**	P	Pn	00 17 24.4	-0.3
JOT	**Ohata**	**5.71**	**225**	P	Pn	00 17 41.8	-0.3
JOT				*e*S	S	00 18 47.0	-4.1
JOM	**Ohasama**	**7.16**	**213**	*e*S	S	00 19 20.3	-2.9

*AEIC **09** 00:18:32.2±1.5, 55°.91N±0°.10×160°.0W±0°.1, h8km±7km, Error ellipse: s-maj=16.4km s-min=5.3km az=144.0*
*NEIC **09** 00:18:32.5±1.7, 55°.99N±0°.07×160°.10W±0°.04, h10km±2km, ML3.2/8, ML3.1(AEIC), Error ellipse: s-maj=11.4km s-min=3.5km az=354.0*
*IDC **09** 00:18:35.2±4.7, 55°.64N×159°.47W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/53, mbtmp3.4/4, ML3.1/2, MS2.4/1, Ms1 2.4/1, ms1mx2.2/49, Error ellipse: s-maj=70.9km s-min=36.7km az=88.0*

ISC 09 00:18:32.5±0.8, 55°.98N±0°.06×160°.13W±0°.06, h10km, n38, σ1°.04/38, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNFG	**Fog Glacier, M**	**0.44**	**47**		**Pg**	**00 18 41.1**	**-0.1**
VNHG	**Veniaminof 1**	**0.59**	**66**		**Pg**	**00 18 42.4**	**-1.6**
SDPT	**Sand Point**	**0.66**	**197**		**Pg**	**00 18 44.2**	**-1.1**
PS1A	**Pavlof South-1**	**1.07**	**239**		**Pn**	**00 18 53.6**	**+0.1**
PVV	**Pavlof Volcano**	**1.12**	**238**		**Pb**	**00 18 54.0**	**+0.2**
BLHA	**Black Hill**	**1.13**	**256**		**Pb**	**00 18 54.2**	**+0.2**
PS4A	**Pavlof South-4**	**1.17**	**238**		**Pb**	**00 18 54.6**	**-0.1**
HAG	**Hague Volcano**	**1.21**	**237**		**Pn**	**00 18 55.5**	**+0.2**
ANPB	**Aniakchak Plen**	**1.32**	**51**		**Pn**	**00 18 56.0**	**-0.9**
AZAC	**Aniakchak**	**1.40**	**48**		**Pn**	**00 18 57.4**	**-0.7**
ANNW	**Aniakchak Nort**	**1.45**	**46**		**Pn**	**00 18 58.4**	**-0.4**
FALS	**False Pass**	**2.19**	**240**	Pn	**Pn**	**00 19 04.7**	**-4.1**
ISLZ	**Isanotski Laza**	**2.40**	**240**		**Pn**	**00 19 12.3**	**+0.5**
CHIR	**Chirikof Islan**	**2.54**	**92**		**Pn**	**00 19 13.5**	**-0.2**
KABU	**Katmai Buttres**	**3.50**	**47**		**Pn**	**00 19 27.3**	**+0.3**
OHAK	**Old Harbor**	**3.98**	**69**		**Pn**	**00 19 33.7**	**+0.2**
OHAK				IAML		00 20 56.9	
	comp=N,39nm,4.1s						
UNV	**Unalaska Valle**	**4.25**	**242**	Pn	**Pn**	**00 19 36.8**	**-0.4**
P18K	**Big Mountain,**	**4.31**	**36**	Pn	**Pn**	**00 19 38.4**	**+0.3**
P18K				IAML		00 20 32.6	
	comp=N,24nm,3.0s						
P18K				IAML		00 22 16.7	
	comp=E,23nm,3.8s						
KDAK	**Kodiak Island**	**4.52**	**63**	Pn	**Pn**	**00 19 41.3**	**+0.5**
	comp=E,1.7nm,0.3s,baz=238,slow=7.0,SNR=24						
KDAK				Sn	**Sn**	**00 20 31.9**	**-1.4**
	comp=E,0.3nm,0.3s,baz=355,slow=5.8,SNR=1.5						
KDAK				LR	LR	00 21 30.2	
	comp=E,45nm,18.9s,baz=271,slow=40						
KDAK	**Kodiak Island**	**4.52**	**63**	IAML		00 20 57.9	
	comp=E,31nm,3.1s						
KDAK	**Kodiak Island**	**4.52**	**63**	Pn	**Pn**	**00 19 41.1**	**+0.3**
Q19K	**Cape Douglas,**	**4.58**	**47**	Pn	**Pn**	**00 19 42.6**	**+0.8**
O18K	**Koktuh Hills**	**4.69**	**32**	Pn	**Pn**	**00 19 43.1**	**-0.1**
N18K	**Kilae Creek**	**5.21**	**24**	Pn	**Pn**	**00 19 50.8**	**+0.4**
O19K	**Port Alsworth**	**5.23**	**34**	Pn	**Pn**	**00 19 50.2**	**-0.4**
SVW2	**Sparrevohn**	**5.66**	**23**	Pn	**Pn**	**00 19 56.6**	**+0.1**
N19K	**Bonanza Creek**	**5.68**	**29**	Pn	**Pn**	**00 19 57.4**	**+0.5**
SPIA	**Saint Paul Isl**	**5.72**	**286**	Pn	**Pn**	**00 19 55.9**	**-1.4**
RSO	**Redoubt South**	**5.95**	**38**	Pn	**Pn**	**00 20 01.5**	**+0.8**
M19K	**Big River Lodg**	**6.64**	**24**	Pn	**Pn**	**00 20 10.5**	**+0.5**
L19K	**White Mountain**	**6.78**	**21**	Pn	**Pn**	**00 20 12.8**	**+0.8**
TTA	**Tatalina**	**7.28**	**15**	Pn	**Pn**	**00 20 18.5**	**-0.3**
K20K	**Telida**	**8.00**	**20**	Pn	**Pn**	**00 20 27.7**	**-1.0**
PPLA	**Purkeypile**	**8.02**	**27**	Pn	**Pn**	**00 20 29.9**	**+0.8**
J20K	**Nowinta River**	**8.74**	**17**	Pn	**Pn**	**00 20 37.2**	**-1.5**
ILAR	**Eielson Array**	**10.96**	**31**	Pn	**Pn**	**00 21 09.3**	**+0.2**
	comp=E,0.1nm,0.3s,baz=217,slow=12,SNR=8.5						
YKA	**Yellowknife Ar**	**23.74**	**55**	P	**P**	**00 23 45.7**	**+1.3**
	comp=E,0.5nm,0.8s,baz=272,slow=9.0,SNR=5.7						
NVAR	**Mina Array Bea**	**32.77**	**105**	P	**P**	**00 25 07.1**	**+1.4**
	comp=E,0.3nm,0.3s,baz=315,slow=10,SNR=2.4						

*BJI **09** 00:22:12.0±0.0, 38°.60N×147°.60E, h10km, mb4.5/23, mB4.7/17, Ms4.1/12, Ms7 4.0/12*
*NEIC **09** 00:22:13.7±2.4, 38°.59N±0°.08×147°.6E±0°.1, h10km±1km, mb4.7/51, Error ellipse: s-maj=15.3km s-min=12.5km az=137.0*
*IDC **09** 00:22:46.4±0.9, 39°.55N×143°.49E, h0km, mb4.0/14, mb1 4.1/20, mb1mx3.9/48, mbtmp4.0/20, ML3.3/5, MS3.5/14, Ms1 3.5/14, ms1mx3.1/92, Error ellipse: s-maj=22.8km s-min=16.1km az=97.0*
*NIED **09** 00:22:47.3, 39°.59N×143°.56E, h24km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.45; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$-1.24; $M_{r\theta}$0.74; $M_{r\phi}$-0.85; $M_{\theta\phi}$1.20; Fault plane solution: $M_0$2.12000×10^{15} NP1:ϕ_s31.00000°, δ66.00000°, λ92.00000°. NP2:ϕ_s207.00000°, δ24.00000°, λ86.00000°.*
*JMA **09** 00:22:47.3±0.2, 39°.59N×143°.56E, h24km±4km, M4.6*

ISC 09 00:22:47.2±2.4, 39°.60N±0°.05×143°.44E±0°.08, h5km±12km, n83, σ1°.61/63, mb4.3/27, MS3.8/15, 2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.25**	**269**	P	**Pg**	**00 23 10.9**	**-0.4**
MIYJ				*e*S	**Sg**	**00 23 27.6**	**+0.1**
JTH	**Tanohata**	**1.26**	**286**	P	**Pg**	**00 23 10.9**	**-0.5**
JTH				*e*S	**Sg**	**00 23 28.2**	**+0.4**
JKEN	**Kujiedanarisaw**	**1.46**	**295**	P	**Pn**	**00 23 13.6**	**-0.6**
OFUJ	**Ofunato**	**1.47**	**250**	P	**Pn**	**00 23 13.9**	**-0.4**
OFUJ				*e*S	**Sn**	**00 23 33.9**	**0.0**
JOM	**Ohasama**	**1.67**	**266**	P	**Pn**	**00 23 17.3**	**+0.2**
JOM				*e*S	**Sn**	**00 23 39.3**	**+0.5**
JANG	**Nango**	**1.67**	**298**	P	**Pn**	**00 23 16.3**	**-0.8**
JMK	**Ichinoseki**	**1.84**	**250**	P	**Pn**	**00 23 19.4**	**-0.1**
JMK				S	**Sn**	**00 23 42.6**	**-0.5**
JIO	**Ouri**	**1.99**	**236**	P	**Pn**	**00 23 21.1**	**-0.4**
JIO				*e*S	**Sn**	**00 23 47.3

LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN LR LR
comp=Z,210nm,14.5s
LYN LR LR
comp=Z,400nm,14.2s
LYN LR LR
comp=Z,390nm,14.3s
WHN Wuhan 25.38 258 ⇓P **P 00 28 15.5 +0.2**
GUMO Guam 25.94 177 LR LR 00 37 14.8
comp=Z,34nm,21.1s,baz=108,slow=34
ULN Ulaanbaatar 27.35 300 P **P 00 28 27.6 -5.6**
ULN pP 00 28 27.8 -6.3
ULN IAmb IAmb 00 28 34.6
comp=Z,6.3nm,1.0s
SONM Songino Array 27.79 299 P **P 00 28 37.9 +0.7**
comp=Z,2.6nm,0.8s,baz=91,slow=7.8,SNR=15
SONM LR LR 00 40 16.9
comp=Z,170nm,19.3s,baz=132,slow=38
SONM Songino Array 27.79 299 P **P 00 28 32.5 -4.7**
H11N2 WAKE ISLAND Hy 28.27 128 T T 00 59 34.4
baz=318,slow=75,SNR=96
H11N1 WAKE ISLAND Hy 28.28 128 T T 00 59 35.1
baz=318,slow=75,SNR=127
H11N3 WAKE ISLAND Hy 28.29 128 T T 00 59 40.6
baz=318,slow=75,SNR=94
H11S1 WAKE ISLAND Hy 29.09 130 T T 01 00 41.1
baz=319,slow=75,SNR=13
H11S3 WAKE ISLAND Hy 29.09 130 T T 01 00 43.0
baz=319,slow=75,SNR=5.8
H11S2 WAKE ISLAND Hy 29.11 130 T T 01 00 44.9
baz=319,slow=75,SNR=8.7
ENH Enshi 29.21 262 P P 00 28 41.3 -8.4
ENH IAmb IAmb 00 28 50.1
comp=Z,18nm,1.1s
LZH Lanzhou 31.29 276 *e*P P 00 29 01.1 -7.2
LZH sP sP 00 29 09.1 -0.5
LZH pmax pmax
comp=Z,10.0nm,1.5s
LZH pmax pmax
comp=Z,56nm,4.3s
LZH LR LR
comp=Z,170nm,14.6s
LZH LR LR
comp=Z,260nm,15.7s
LZH LR LR
comp=Z,220nm,15.7s
GTA Gaotai 33.41 284 *e*P **P 00 29 27.9 +1.0**
GTA sP sP 00 29 34.2 +6.0
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,35nm,8.8s
GTA LR LR
comp=N,120nm,15.1s
GTA LR LR
comp=E,240nm,16.7s
GTA LR LR
comp=Z,270nm,15.9s
PZH PanZhiHua 36.99 262 P P 00 29 50.8 -7.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,40nm,3.8s
TNA Tin City 37.84 31 IAmb IAmb 00 29 26.3
comp=Z,4.9nm,1.0s
GOMU GeErMu 38.15 281 P **P 00 30 08.5 +0.7**
GOMU pP pP 00 30 12.0 +3.2
GOMU sP sP 00 30 13.8 +4.7
GOMU PP **PnPn 00 31 39.2 +2.9**
GOMU PcP PP 00 31 55.3 +20
GOMU pmax pmax
comp=Z,8.0nm,1.0s
GOMU pmax pmax
comp=Z,85nm,7.6s
WMQ Urumqi 41.16 295 *e*P **P 00 30 30.5 -2.0**
WMQ pmax pmax
comp=Z,14nm,0.9s
ZAA0 Zalesovo Array 41.42 310 P P 00 30 25.4 -8.9
ZALV Zalesovo Beam 41.42 310 P **P 00 30 34.1 -0.2**
comp=Z,2.4nm,0.8s,baz=81,slow=7.6,SNR=11
ZALV Zalesovo Beam 41.42 310 P P 00 30 26.1 -8.3
NRIK Noril'sk 41.64 334 P **P 00 30 38.3 +2.3**
comp=Z,1.5nm,0.3s,baz=334,slow=5.0,SNR=1.8
MK31 Makanchi Array 44.16 300 P P 00 30 49.4 -7.4
MK31 IAmb IAmb 00 30 57.6
comp=Z,4.7nm,0.9s
MKAR Makanchi Array 44.16 300 P **P 00 30 56.9 +0.2**
comp=Z,3.6nm,0.8s,baz=82,slow=9.3,SNR=30
MKAR Makanchi Array 44.16 300 P P 00 30 49.4 -7.4
KURK Kurchatov 45.65 306 P P 00 30 59.6 -8.8
KURK IAmb IAmb 00 31 09.2
comp=Z,8.0nm,0.9s
ILAR Eielson Array 46.48 34 P **P 00 31 15.0 +0.2**
comp=Z,0.4nm,0.7s,baz=247,slow=6.7,SNR=2.6
KKAR Karatay Array 53.25 299 P P 00 31 56.4 -10
WRA Warramunga Arr 59.84 190 P **P 00 32 52.8 -0.9**
comp=Z,0.4nm,0.5s,baz=7.2,slow=6.9,SNR=6.9
YKA Yellowknife Ar 60.79 31 P **P 00 33 00.5 +0.7**
comp=Z,0.1nm,0.4s,baz=134,slow=28,SNR=3.0
ARCES ARCESS Array B 62.16 339 LR LR 01 03 48.5
comp=Z,57nm,18.1s,baz=340,slow=40
ASAR Alice Springs 63.57 190 P **P 00 33 18.5 -0.2**
comp=Z,0.5nm,0.8s,baz=14,slow=8.0,SNR=5.4
FINES FINESS Array B 67.28 332 P **P 00 33 42.5 +0.1**
comp=Z,1.4nm,0.9s,baz=104,slow=8.0,SNR=3.3
KVAR Kislovodsk Arr 70.42 311 P **P 00 34 04.0 +1.5**
comp=Z,2.7nm,0.9s,baz=257,slow=19,SNR=3.5
KBZ Khabaz 70.44 311 P **P 00 34 02.6 +0.3**
comp=Z,2.5nm,0.9s,baz=64,slow=5.7,SNR=7.0
HFS Hagfors 72.40 336 LR LR 01 10 40.2
comp=Z,71nm,18.6s,baz=22,slow=40
NB2 NORSAR Subarra 72.43 338 P **P 00 34 13.9 -0.3**
comp=Z,2.5nm,1.0s,baz=38,slow=6.2
NOA NORSAR Array B 72.43 338 P **P 00 34 13.5 -0.6**
comp=Z,1.6nm,0.8s,baz=37,slow=5.9,SNR=6.7
NOA LR LR 01 10 06.4
comp=Z,38nm,18.0s,baz=25,slow=39
AKASG Malin Array Be 73.23 323 P **P 00 34 18.5 -0.6**
comp=Z,0.6nm,0.5s,baz=49,slow=6.6,SNR=2.4
FRB Frobisher Bay 73.91 14 LR LR 01 10 16.7
comp=Z,46nm,18.2s,baz=196,slow=38
PPT Papeete 84.39 118 LR LR 01 04 28.1
comp=Z,18nm,20.6s,baz=337,slow=30
DAVOX Davos/Dischmat 84.53 330 LR LR 01 16 53.9
comp=Z,46nm,18.7s,baz=14,slow=38
ESDC Sonseca Array 95.66 335 LR LR 01 27 43.4
comp=Z,26nm,19.9s,baz=24,slow=41

*IDC **09** 00:26:48.3±1.6, 18°.74N×39°.41E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/39, mbtmp3.9/11, MS3.5/23, Ms1 3.5/23, ms1mx3.2/84, Error ellipse: s-maj=37.8km s-min=23.3km az=161.0*
*NEIC **09** 00:26:50.6±1.2, 18°.78N±0°.08×39°.52E±0°.03, h10km±1km, mb4.4/47, Error ellipse: s-maj=13.4km s-min=3.5km az=198.0*
ISC 09 00:26:49.9±0.5, 18°.72N±0°.07×39°.53E±0°.08, h10km, n85, σ0s94/66, mb4.3/34, MS3.4/21, Red Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FURI	**Furi**	**9.80**	**185**	Pn		**Pn**	**00 29 12.5**	**+1.3**
GHAJ	**Ghor Haditha**	**13.03**	**345**	Pn		**Pn**	**00 29 55.8**	**+0.8**
MMAI	**Mount Meron Ar**	**14.71**	**346**	LR		LR	00 35 25.0	
	comp=Z,86nm,21.3s,baz=318,slow=35							
SOCY	**Socotra**	**15.37**	**113**	Pn		**Pn**	**00 30 25.5**	**-1.5**
SOCY				IAmb		IAmb	00 30 41.3	
	comp=Z,11nm,1.1s							
LODK	**Lodwar**	**15.74**	**196**	Pn		**Pn**	**00 30 32.4**	**+0.4**
UOSS	**Minazif**	**16.66**	**65**	Pn		**Pn**	**00 30 42.5**	**-1.1**
CSS	**Mathiatis**	**17.09**	**342**	Pn		**Pn**	**00 30 47.7**	**-1.3**
KMBO	**Kilima Mbogo**	**19.85**	**187**	LR		LR	00 38 19.0	
	comp=Z,111nm,19.6s,baz=282,slow=35							
GURO	**Guroymak-BITLI**	**19.88**	**6**	P		**P**	**00 31 21.0**	**-0.4**
BNN	**Bunyan**	**20.31**	**352**	P		**P**	**00 31 25.5**	**-0.7**
BNN				IAmb		IAmb	00 31 28.0	
	comp=Z,17nm,1.1s							
KIBK	**Kibwezi**	**20.98**	**184**	P		**P**	**00 31 34.1**	**+0.5**
IDI	**Anoyia**	**20.99**	**325**	P		**P**	**00 31 33.4**	**-0.1**
IDI				IAmb		IAmb	00 31 36.4	
	comp=Z,49nm,1.4s							
MBAR	**Mbarara**	**21.06**	**205**	LR		LR	00 39 09.3	
	comp=Z,82nm,19.7s,baz=47,slow=35							
BR131	**Keskin Array S**	**21.54**	**348**	P		**P**	**00 31 39.1**	**-0.4**
BR131				IAmb		IAmb	00 31 40.7	
	comp=Z,8.8nm,0.9s							
BRTR	**Keskin Array B**	**21.54**	**348**	P		**P**	**00 31 39.5**	**+0.1**
	comp=Z,5.0nm,1.0s,baz=166,slow=13,SNR=22							
BRTR				LR		LR	00 40 38.0	
	comp=Z,53nm,18.1s,baz=157,slow=39							
GNI	**Garni**	**21.82**	**11**	P		**P**	**00 31 43.2**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=263,slow=16,SNR=2.1							
GNI				LR		LR	00 40 45.8	
	comp=Z,91nm,21.0s,baz=208,slow=38							
GNI	**Garni**	**21.82**	**11**	P		**P**	**00 31 42.1**	**-0.3**
KARS	**Kars**	**22.04**	**7**	P		**P**	**00 31 45.1**	**+0.3**
MDUB	**Mudurnu**	**22.83**	**343**	P		**P**	**00 31 52.9**	**-0.3**
MDUB				IAmb		IAmb	00 32 05.3	
	comp=Z,22nm,0.9s							
BZK	**Bozkurt**	**23.64**	**350**	P		**P**	**00 31 57.5**	**-3.7**
ONI	**Oni**	**24.02**	**7**	P		**P**	**00 32 04.0**	**-1.1**
ONI				IAmb		IAmb	00 32 08.1	
	comp=Z,11nm,1.5s							
GEYT	**Alibeck**	**25.09**	**36**	LR		LR	00 41 35.3	
	comp=Z,72nm,19.8s,baz=220,slow=35							
KBZ	**Khabaz**	**25.09**	**6**	P		**P**	**00 32 15.3**	**+0.7**
	comp=Z,2.4nm,1.0s,baz=185,slow=5.4,SNR=4.2							
KBZ				LR		LR	00 41 24.0	
	comp=Z,64nm,19.1s,baz=218,slow=35							
KIV	**Kislovodsk**	**25.30**	**5**	P		**P**	**00 32 16.7**	**+0.1**
KIV				IAmb		IAmb	00 32 20.2	
	comp=Z,13nm,1.3s							
KVAR	**Kislovodsk Arr**	**25.30**	**5**	LR		LR	00 42 03.7	
	comp=Z,48nm,18.9s,baz=87,slow=36							
BURAR	**Bucovina Array**	**31.10**	**341**	P		**P**	**00 33 07.5**	**-1.0**
BUR08	**Bucovina Ar. S**	**31.13**	**341**	P		**P**	**00 33 08.8**	**+0.1**
KEST	**Kesra**	**31.57**	**309**	P		**P**	**00 33 11.8**	**-0.9**
KEST				IAmb		IAmb	00 33 29.4	
	comp=Z,12nm,1.3s							
AQU	**L'Aquila**	**32.34**	**322**	P		**P**	**00 33 18.3**	**-1.1**
AKASG	**Malin Array Be**	**32.95**	**348**	P		**P**	**00 33 22.7**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=169,slow=7.1,SNR=4.1							
AKASG				LR		LR	00 49 12.4	
	comp=Z,33nm,18.3s,baz=60,slow=41							
PSZ	**Piszkesteto**	**33.23**	**336**	P		**P**	**00 33 26.7**	**-0.4**
PSZ				IAmb		IAmb	00 33 41.2	
	comp=Z,8.0nm,1.5s							
MURB	**Monte Urbino**	**33.41**	**323**	P		**P**	**00 33 29.1**	**+0.3**
GAR	**Garm**	**33.45**	**46**	P		**P**	**00 33 28.4**	**-0.8**
GAR				IAmb		IAmb	00 33 35.3	
	comp=Z,10nm,1.4s							
KWP	**Kalwaria Pacla**	**33.67**	**340**	P		**P**	**00 33 30.8**	**-0.1**
CASP	**Castiglione de**	**34.10**	**321**	P		**P**	**00 33 33.9**	**-0.8**
OSSC	**Osservatorio P**	**34.31**	**322**	P		**P**	**00 33 36.5**	**-0.1**
OSSC				IAmb		IAmb	00 33 37.7	
	comp=Z,7.3nm,1.0s							
TRI	**Trieste**	**34.34**	**327**	P		**P**	**00 33 36.0**	**-0.7**
TRI				IAmb		IAmb	00 33 44.7	
	comp=Z,7.2nm,0.9s							
AKTO	**Aktyubinsk**	**34.91**	**21**	LR		LR	00 51 05.7	
	comp=Z,41nm,18.0s,baz=182,slow=42							
LSZ	**Lusaka**	**35.58**	**199**	LR		LR	00 50 18.6	
	comp=Z,111nm,19.6s,baz=132,slow=40							
KKAR	**Karatay Array**	**35.67**	**40**	P		**P**	**00 33 48.5**	**+0.1**
GEC2	**GERESS Array S**	**36.58**	**331**	P		**P**	**00 33 56.2**	**+0.1**
GEC2				IAmb		IAmb	00 33 59.7	
	comp=Z,6.5nm,1.4s							
GERES	**GERESS Array B**	**36.58**	**331**	P		**P**	**00 33 54.8**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=133,slow=7.8,SNR=6.9							
GERES	**GERESS Array B**	**36.58**	**331**	P		**P**	**00 33 54.5**	**-1.5**
TOA0	**Torodi Ar. Sit**	**36.75**	**267**	P		**P**	**00 33 56.9**	**-1.0**
TOA0				IAmb		IAmb	00 33 58.8	
	comp=Z,4.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**36.75**	**267**	P		**P**	**00 33 57.2**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=80,slow=8.8,SNR=23							
TORD				LR		LR	00 49 26.9	
	comp=Z,95nm,18.5s,baz=238,slow=37							
TORD	**Torodi Ar. Bea**	**36.75**	**267**	P		**P**	**00 33 57.0**	**-0.8**
TORD				IAmb		IAmb	00 33 59.2	
	comp=Z,3.6nm,1.1s							
NACGM	**Naroch**	**37.41**	**348**	*e*P		**P**	**00 34 05.8**	**+2.9**
SUW	**Suwalki**	**37.41**	**344**	P		**P**	**00 34 02.5**	**-0.4**
SUW				IAmb		IAmb	00 34 08.5	
	comp=Z,13nm,1.1s							
BOOM	**Boomskoye usch**	**38.84**	**44**	P		**P**	**00 34 16.0**	**+0.6**
BOOM				IAmb		IAmb	00 34 24.9	
	comp=Z,14nm,1.1s							
BFO	**Black Forest**	**38.87**	**327**	P		**P**	**00 34 15.8**	**+0.5**
BFO				IAmb		IAmb	00 34 18.8	
	comp=Z,8.9nm,1.4s							
TARG	**Taragay, Kyrgy**	**39.78**	**46**	P		**P**	**00 34 22.9**	**-0.7**
TARG				IAmb		IAmb	00 34 28.0	
	comp=Z,6.0nm,1.1s							
CART	**Cartagena**	**40.00**	**307**	P		**P**	**00 34 26.0**	**+1.0**
ARU	**Arti**	**40.27**	**16**	P		**P**	**00 34 27.0**	**+0.1**
KIRV	**Kirov**	**40.46**	**8**	LR		LR	00 52 32.4	
	comp=Z,54nm,18.6s,baz=249,slow=38							
WLF	**Walferdange**	**40.82**	**327**	P		**P**	**00 34 31.8**	**+0.2**
WLF				IAmb		IAmb	00 34 47.1	
	comp=Z,6.4nm,1.1s							
ESDC	**Sonseca Array**	**42.82**	**309**	LR		LR	00 52 18.8	
	comp=Z,26nm,18.9s,baz=49,slow=36							
KURK	**Kurchatov**	**44.44**	**35**	P		**P**	**00 35 01.1**	**+0.2**
KURK				IAmb		IAmb	00 35 03.4	
	comp=Z,6.8nm,1.4s							
MK31	**Makanchi Array**	**44.77**	**41**	P		**P**	**00 35 03.8**	**+0.1**
MK31				IAmb		IAmb	00 35 06.0	
	comp=Z,3.6nm,1.2s							
MKAR	**Makanchi Array**	**44.77**	**41**	P		**P**	**00 35 04.8**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=243,slow=5.3,SNR=7.8							
MKAR	**Makanchi Array**	**44.77**	**41**	P		**P**	**00 35 03.6**	**0.0**
DBIC	**Dimbokro**	**44.80**	**260**	LR		LR	00 52 52.7	
	comp=Z,86nm,19.3s,baz=104,slow=35							
DBIC	**Dimbokro**	**44.80**	**260**	P		**P**	**00 35 03.9**	**-0.4**
WMQ	**Urumqi**	**47.34**	**47**	*e*P		**P**	**00 35 24.0**	**0.0**
WMQ				pP		sP	00 35 30.8	+3.1
WMQ				pmax		pmax		
	comp=Z,13nm,0.7s							
BOSA	**Boshof**	**49.04**	**197**	LR		LR	00 56 20.6	
	comp=Z,119nm,19.8s,baz=44,slow=36							
ZAA0	**Zalesovo Array**	**49.35**	**34**	P		**P**	**00 35 38.9**	**-0.4**
ZAA0				IAmb		IAmb	00 35 40.2	
	comp=Z,3.4nm,0.9s							
ZALV	**Zalesovo Beam**	**49.35**	**34**	P		**P**	**00 35 39.5**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=251,slow=9.1,SNR=9.4							
ZALV	**Zalesovo Beam**	**49.35**	**34**	P		**P**	**00 35 38.9**	**-0.3**
SUR	**Sutherland**	**53.88**	**200**	LR		LR	01 00 42.0	
	comp=Z,96nm,18.3s,baz=68,slow=38							
CMAR	**Chiang Mai Arr**	**56.07**	**80**	LR		LR	01 05 18.5	
	comp=Z,5.9nm,18.3s,baz=290,slow=41							
PZH	**PanZhiHua**	**57.48**	**70**	P		**P**	**00 36 41.0**	**+1.3**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,80nm,6.5s							
SONM	**Songino Array**	**60.88**	**45**	P		**P**	**00 37 03.4**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=259,slow=7.1,SNR=6.1							
SCO	**Scoresbysund**	**63.09**	**341**	P		**P**	**00 37 17.5**	**+0.4**
HHC	**Hu-ho-hao-te**	**64.55**	**53**	*e*P		**P**	**00 37 27.8**	**+0.3**
HHC				pmax		pmax		
	comp=Z,21nm,1.0s							
HHC				pmax		pmax		
	comp=Z,270nm,5.7s							
XMIS	**Christmas Isla**	**71.36**	**108**	P		**P**	**00 38 09.3**	**-1.3**
NJ2	**Nanjing**	**71.48**	**62**	*e*P		**P**	**00 38 11.2**	**+0.2**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
TIXI	**Tiksi**	**72.17**	**19**	P		**P**	**00 38 14.8**	**+0.4**
TIXI				IAmb		IAmb	00 38 15.6	
	comp=Z,1.8nm,1.0s							
ILULI	**Ilulissat**	**72.89**	**338**	P		**P**	**00 38 19.0**	**+0.3**
CN2	**Changchun**	**74.40**	**49**	*e*P		P	00 38 22.9	-5.3
CN2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KLR	**Kul'dur**	**77.47**	**42**	LR		LR	01 16 34.5	
	comp=Z,31nm,19.6s,baz=340,slow=38							
KSRS	**Korea Array**	**77.62**	**55**	P		**P**	**00 38 46.4**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=279,slow=5.8,SNR=1.8							
ASAJ	**Asahikawa**	**86.16**	**45**	LR		LR	01 22 00.6	
	comp=Z,35nm,18.4s,baz=180,slow=38							
MDP	**Montagnes des**	**90.44**	**275**	LR		LR	01 18 39.2	
	comp=Z,39nm,19.4s,baz=73,slow=34							
JCJ	**Chichijima**	**92.32**	**61**	LR		LR	01 26 41.6	
	comp=Z,184nm,19.0s,baz=114,slow=39							
ILAR	**Eielson Array**	**96.62**	**3**	P		**P**	**00 40 19.6**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=345,slow=2.8,SNR=4.1							
SHEM	**Shemya Is, Ala**	**98.70**	**26**	LR		LR	01 29 43.2	
	comp=Z,17nm,18.2s,baz=220,slow=38							

IDC 09 00:33:49.8±4.2, 6°.59S×148°.44E, h0km, mb3.0/1, mb1 3.4/2, mb1mx3.2/23, mbtmp3.1/2, ML2.8/1, Error ellipse: s-maj=152.7km s-min=51.2km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.07**	**225**	P		P	00 38 12.6	-1.4
	0.0nm,0.3s,baz=51,slow=11,SNR=1.8							
ASAR	**Alice Springs**	**21.99**	**218**	P		P	00 38 46.7	+1.0
	0.5nm,0.6s,baz=51,slow=8.9,SNR=9.9							
TORD	**Torodi Ar. Bea**	**146.62**	**284**	PKPbc		PKPdf	00 53 33.6	+0.6
	0.3nm,1.0s,baz=78,slow=3.6,SNR=1.5							

*IPEC **09** 01:04:59.5±0.4, 51°.51N×16°.25E, h0km±2km, ML1.9/3, Error ellipse: s-maj=3.8km s-min=1.8km az=57.0*
*IDC **09** 01:05:01.7±1.4, 51°.30N×16°.42E, h0km, mb1 3.8/2, mb1mx3.2/26, mbtmp3.8/2, ML2.4/3, Error ellipse: s-maj=46.3km s-min=11.0km az=119.0*
*PRU **09** 01:05:01.3±0.0, 51°.43N×16°.19E, h0km*
ISC 09 01:04:59.5±0.9, 51°.52N±0°.04×16°.25E±0°.03, h0km, n21, σ0s73/40, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**178**	*e*Pg		**Pg**	**01 05 12.6**	**+0.2**
KSP				*e*Sg		**Sg**	**01 05 20.7**	**-0.4**
CHVC	**Chvalec**	**0.94**	**188**	*e*PG		**Pg**	**01 05 17.6**	**+0.2**
CHVC				*e*SG		**Sg**	**01 05 29.0**	**-0.6**
OSTC	**Ostas**	**0.96**	**181**	*e*PG		**Pg**	**01 05 18.1**	**+0.2**
OSTC				*e*SG		**Sg**	**01 05 30.0**	**-0.3**
	comp=Z,20nm,0.5s							
UPC	**Upice**	**1.02**	**189**	*e*PG		**Pg**	**01 05 18.8**	**-0.2**
UPC				*e*SG		**Sg**	**01 05 31.6**	**-0.6**
	comp=Z,60nm,0.4s							
DPC	**Dobruska-Polom**	**1.17**	**178**	*e*PG		**Pg**	**01 05 21.3**	**-0.6**
DPC				*e*SG		**Sg**	**01 05 35.7**	**-1.3**
	comp=Z,22nm,0.5s							
PVCC	**Panska Ves**	**1.45**	**228**	*e*PG		**Pn**	**01 05 26.7**	**-0.3**
PVCC				*e*SG		**Sg**	**01 05 45.7**	**-0.4**
	comp=Z,72nm,0.2s							
KRLC	**Kraliky**	**1.48**	**167**	*e*PG		**Pn**	**01 05 26.9**	**-0.5**
KRLC				*e*SG		**Sg**	**01 05 46.2**	**-0.8**
	comp=Z,8.2nm,0.2s							
PRU	**Pruhonice**	**1.88**	**216**	*e*PG		**Pb**	**01 05 34.1**	**-0.5**
PRU				*e*SG		**Sb**	**01 05 58.1**	**-0.5**
	comp=Z,10nm,0.2s							
MORC	**Moravsky Berou**	**1.93**	**154**	*e*Pn		**Pn**	**01 05 33.2**	**-0.4**
	baz=335							
MORC				*e*Sg		**Sb**	**01 05 59.9**	**-0.2**
	6.1nm,0.4s,baz=335							
CLL	**Collm**	**2.04**	**265**	*e*Pn		**Pn**	**01 05 35.0**	**-0.1**
CLL				*e*Pg		**Pb**	**01 05 38.0**	**+0.5**
CLL				*ex*		x	01 05 41.0	
CLL				*ex*		x	01 05 53.0	
CLL				*e*Sg		**Sg**	**01 06 05.0**	**-0.1**
	comp=Z,8.0nm,0.5s							
OKC	**Ostrava-Krasne**	**2.07**	**144**	*e*SG		**Sb**	**01 06 04.3**	**+0.2**
VRAC	**Vranov**	**2.22**	**174**	*e*Pn		**Pn**	**01 05 37.4**	**-0.2**
	baz=354							
VRAC				*e*Sg		**Sb**	**01 06 08.8**	**+0.3**
	comp=Z,6.2nm,0.3s,baz=354							
PBCC	**Pribram**	**2.33**	**219**	*e*SG		**Sb**	**01 06 11.8**	**+0.2**
KRUC	**Moravsky**	**2.46**	**178**	*e*Pn		**Pn**	**01 05 40.7**	**-0.1**
	baz=358							
KRUC				*e*Sg		**Sb**	**01 06 16.3**	**+0.9**
	comp=Z,5.6nm,0.4s,baz=358							
OJC	**Ojcow**	**2.60**	**119**	*e*Pg		**Pg**	**01 05 49.0**	**-0.2**
OJC				*e*Sg		**Sg**	**01 06 24.3**	**+1.5**
NKC	**Novy Kostel**	**2.73**	**243**	*e*PN		**Pn**	**01 05 44.7**	**+0.1**
NKC				*e*PG		**Pg**	**01 05 51.1**	**-0.7**
NKC				*e*SG		**Sg**	**01 06 26.2**	**-0.9**
	comp=Z,8.5nm,0.4s							
KHC	**Kasperske Hory**	**2.94**	**217**	*e*PN		**Pn**	**01 05 47.8**	**+0.3**
KHC				*e*PG		**Pb**	**01 05 53.4**	**+0.7**
KHC				*e*SG		**Sb**	**01 06 31.4**	**+2.2**
	comp=Z,4.5nm,0.3s							
CKRC	**Cesky Krumlov**	**2.97**	**206**	*e*SG		**Sb**	**01 06 31.9**	**+1.7**
GERES	**GERESS Array B**	**3.13**	**212**	Pn		**Pn**	**01 05 50.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=39,slow=14,SNR=7.4							
GERES				Pg		**Pb**	**01 05 57.1**	**+0.9**
	comp=Z,3.1nm,0.3s,baz=31,slow=18,SNR=38							
GERES				Lg		Lg	01 06 35.9	
	comp=Z,2.2nm,0.3s,baz=34,slow=26,SNR=8.3							
FINES	**FINESS Array B**	**11.32**	**25**	Pn		**Pn**	**01 07 41.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=214,slow=11,SNR=3.7							
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn		**Pn**	**01 09 18.4**	**+0.3**
	baz=197,slow=11,SNR=4.0							

*CNRM **09** 01:22:12.1, 35°.52N×3°.74W, h8km, ml2.5*
*SFS **09** 01:22:13.0, 35°.41N×3°.70W, h33km, ML2.0, ALBORAN SUR*
*MDD **09** 01:22:13.4±0.6, 35°.42N×3°.71W, h33km±2km, mb_Lg2.1/4, Error ellipse: s-maj=5.9km s-min=5.2km az=1.0*
ISC 09 01:22:13.0±1.1, 35°.44N±0°.04×3°.74W±0°.03, h33km±4km, n16, σ1s46/27, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**216**	P		**Pb**	**01 22 19.2**	**-1.3**
PALE				S		**Sn**	**01 22 23.9**	**-1.5**
PVLZ	**Peæn de**	**0.53**	**240**	P		**Pb**	**01 22 23.8**	**-0.3**
PVLZ				S		**Sb**	**01 22 30.7**	**-0.9**
GOG	**Mont Gurugu**	**0.65**	**110**	P		**Pb**	**01 22 25.5**	**-0.6**
GOG				S		**Sb**	**01 22 33.5**	**-1.4**
EMEL	**Melilla**	**0.66**	**102**	Pg		**Pb**	**01 22 25.9**	**-0.2**
EMEL				Sg		**Sb**	**01 22 33.8**	**-1.3**
EALB	**Alboran**	**0.76**	**49**	Pg		**Pn**	**01 22 27.6**	**+0.2**
EALB				Sg		**Sn**	**01 22 36.5**	**-1.3**
EALB				*i* Vmb_Lg			01 22 38.3	
TAF	**Taforalt**	**1.26**	**120**	P		**Pb**	**01 22 36.5**	**+0.3**
TAF				S		**Sb**	**01 22 55.9**	**+3.8**
CHEFC	**Chefchaouen**	**1.35**	**256**	P		**Pb**	**01 22 37.2**	**-0.6**
CHEFC				S		**Sb**	**01 22 55.2**	**+0.4**
SMIR	**Smir Dam**	**1.36**	**281**	S		**Sb**	**01 22 58.2**	**+3.3**
EMIJ	**Mijas**	**1.40**	**324**	Pn		**Pn**	**01 22 37.3**	**+1.0**
EMIJ				Sn		**Sn**	**01 22 53.7**	**+0.1**
EMIJ				*i* Vmb_Lg			01 22 54.9	
ELGU	**Los Guajares,**	**1.42**	**4**	Pn		**Pn**	**01 22 35.9**	**-0.7**
ELGU				Sn		**Sn**	**01 22 53.3**	**-1.0**
ELGU				*i* Vmb_Lg			01 22 58.9	
JBK	**JBK**	**1.47**	**139**	P		**Pb**	**01 22 40.3**	**+0.4**
EBER	**Berja**	**1.61**	**25**	Pg		**Pn**	**01 22 39.9**	**+0.7**

s-min=2.2km az=168.0
NEIC 09 01:27:32.0±0.9, 36°391N±0.007×98°13W±0.002, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.6km az=256.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.70	269		Pg	01 27 44.8	-0.7
FNO	Franklin	1.28	152	Pn	Pg	01 27 55.8	-0.7
W35A	Tecumseh	1.60	140	Pn	Pb	01 28 01.7	-0.4
WMOK	Wichita Mounta	1.73	198		Pn	01 28 03.4	+0.6
X34A	Smith Ranch, M	1.80	172		Pb	01 28 05.6	+0.1
TUL1	Leonard	1.95	104	Pn	Pn	01 28 05.8	0.0
TUL1	comp=Z,37nm,1.2s			IAmb_Lg		01 28 36.7	
CBKS	Cedar Bluff	2.73	333	Pn	Pn	01 28 16.1	-0.5
X37A	Clayton	2.88	128	Pn	Pn	01 28 18.4	-0.2
KSU1	Kansas State U	2.96	24	Pn	Pn	01 28 18.5	-1.2
KSU1	comp=Z,15nm,0.9s			IAmb_Lg		01 29 13.5	
HHAR	Hobbs	3.39	91	Pn	Pn	01 28 25.6	0.0
W39A	Magazine	3.73	107	Pn	Pn	01 28 30.3	0.0
ABTX	Abilene, Hawle	3.96	199	Pn	Pn	01 28 33.9	+0.5
U40A	Yellville	4.26	89	Pn	Pn	01 28 37.2	-0.3
U40A	comp=Z,13nm,0.9s			IAmb_Lg		01 29 50.2	
KSCO	Kaye Shedlock'	4.42	308	IAmb_Lg		01 29 56.2	
X40A	comp=Z,9.2nm,0.7s Basin Creek Fa	4.72	112	Pn	Pn	01 28 44.2	+0.3
X40A	comp=Z,9.1nm,0.8s			IAmb_Lg		01 30 03.0	
P38A	Dawn	4.86	47	Pn	Pn	01 28 46.5	+0.7
WHAR	Wooly Hollow	4.87	101	Pn	Pn	01 28 46.5	+0.6
T25A	Trinidad	5.10	280	Pn	Pn	01 28 50.4	+1.2
T25A	comp=Z,10nm,0.9s			IAmb_Lg		01 30 13.1	
LCAR	Lake Charles	5.65	91	Pn	Pn	01 28 56.7	+0.1
JCT	Junction City	6.06	194	IAmb_Lg		01 30 52.2	
PBMO	comp=Z,6.7nm,0.8s Poplar Bluff	6.21	84	IAmb_Lg		01 30 50.3	
N23A	comp=Z,8.3nm,0.8s Red Feather La	7.59	309	IAmb_Lg		01 31 43.4	
	comp=Z,8.2nm,1.1s						

*IDC **09** 01:36:10.7±0.8, 38°.60N×24°.36E, h0km, mb3.8/14, mb1 3.9/22, mb1mx3.7/57, mbtmp3.7/22, ML3.3/8, MS3.1/8, Ms1 3.1/8, ms1mx2.7/89, Error ellipse: s-maj=14.7km s-min=13.2km az=131.0*
*ATH **09** 01:36:11.3, 38°.63N×24°.45E, h26km±1km, ML3.8/3, Error ellipse: s-maj=1.6km s-min=1.1km az=283.0*
*ISK **09** 01:36:11.3, 38°.62N×24°.53E, h8km, ML3.8/37*
*NEIC **09** 01:36:12.8±1.6, 38°.61N±0°.03×24°.44E±0°.07, h10km±1km, mb4.0/4, ML3.7(THE), Error ellipse: s-maj=8.8km s-min=4.4km az=94.0*
*THE **09** 01:36:12.5, 38°.60N×24°.45E, h9km, ML3.7/23, Error ellipse: s-maj=0.9km s-min=0.4km az=194.0*
*DDA **09** 01:36:15.0±0.0, 38°.66N×24°.54E, h36km, MW3.9*
ISC 09 01:36:12.8±0.8, 38°.61N±0°.02×24°.46E±0°.02, h14km±6km, n274, σ0°96/318, mb3.9/15, MS3.0/5, 32C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYMI	Kymi, Euboea I	0.28	276	P	Pg	01 36 18.1	-0.5
KYMI				S	Sg	01 36 22.9	+0.4
KYMI	comp=N,42078μm,0.4s			AML	AML	01 36 23.7	
KYMI	comp=E,30600μm,0.4s			AML	AML	01 36 23.9	
KYMI	Kymi, Euboea I	0.28	276	P	Pg	01 36 18.4	-0.2
KYMI	comp=E,15μm,0.5s			S	Sg	01 36 23.0	+0.4
SKY	Skiros Island	0.28	15	P	Pg	01 36 18.3	-0.4
SKY				S	Sg	01 36 22.4	-0.2
SKY	comp=E,67517μm,0.4s			AML	AML	01 36 22.9	
SKY	comp=N,74888μm,0.3s			AML	AML	01 36 23.1	
SKY	Skiros Island	0.28	15	P	Pg	01 36 18.3	-0.4
SKY	comp=N,36μm,0.3s			S	Sg	01 36 22.6	0.0
KARY	Karystos	0.57	182	P	Pg	01 36 23.3	-0.6
KARY	Karystos	0.57	182	P	Pg	01 36 23.4	-0.6
KARY				S	Sg	01 36 31.5	-0.1
DION	Dionisos Attik	0.67	218	P	Pg	01 36 25.2	-0.7
DION	Dionisos Attik	0.67	218	P	Pg	01 36 25.1	-0.7
DION	comp=N,72μm,0.4s			S	Sg	01 36 35.2	+0.6
ALNA	Alonissos	0.71	320	P	Pg	01 36 26.0	-0.6
ALNA				S	Sg	01 36 35.3	-0.6
ALNA	comp=E,15094μm,0.7s			AML	AML	01 36 37.8	
ALNA	comp=N,14824μm,0.5s			AML	AML	01 36 39.4	
PTL	Penteli	0.73	220	P	Pg	01 36 26.1	-0.8
PTL	Penteli	0.73	220	P	Pg	01 36 26.0	-0.8
PTL	comp=N,15μm,0.5s			S	Sg	01 36 36.2	-0.2
ATHU	Athens Univers	0.83	220	P	Pg	01 36 27.8	-1.1
ATHU	Athens Univers	0.83	220	P	Pg	01 36 27.7	-1.1
ATHU	comp=N,5μm,0.5s			S	Sg	01 36 39.1	-0.6
ATH	Athens Observa	0.86	223	P	Pg	01 36 28.5	-0.8
ATH	Athens Observa	0.86	223	P	Pg	01 36 28.6	-0.8
ATH	comp=N,13μm,0.5s			S	Sg	01 36 40.6	-0.1
PSRA	Psara	0.87	94	P	Pb	01 36 29.8	+0.1
VLY	Voula,Athens	0.92	215	P	Pg	01 36 30.0	-0.4
VLY	Voula,Athens	0.92	215	P	Pg	01 36 29.2	-1.3
VLY	comp=N,14μm,0.7s			S	Sg	01 36 42.3	-0.1
VILL	Villia	1.00	244	P	Pg	01 36 30.8	-1.3
VILL				S	Sb	01 36 45.7	+0.7
VIL2	comp=N,16μm,0.6s Platees	1.01	248	P	Pg	01 36 30.8	-1.5
EFSA	Agios Efstrati	1.02	24	P	Pg	01 36 31.7	-0.7
ATAL	Atalanti	1.13	275	P	Pb	01 36 33.0	-1.1
ATAL	Atalanti	1.13	275	P	Pb	01 36 32.6	-1.5
ATAL	comp=N,3μm,0.9s			S	Sb	01 36 49.0	+0.4
LKR	Lokris	1.14	273	P	Pb	01 36 33.0	-1.3
LKR	Lokris	1.14	273	P	Pb	01 36 32.8	-1.5
LKR	comp=N,2μm,0.5s			S	Sg	01 36 49.3	-0.4
NEO	Neokhori	1.19	306	P	Pb	01 36 34.5	-0.7
NEO	Neokhori	1.19	306	P	Pb	01 36 34.4	-0.7
NEO	comp=N,2μm,0.5s			S	Sn	01 36 51.8	+0.7
TNSA	Tinos	1.20	152	P	Pn	01 36 34.3	-0.9
XOR	Xorichti	1.24	308	P	Pn	01 36 34.9	-0.9
XOR	Xorichti	1.24	308	P	Pn	01 36 34.9	-0.9
XOR	comp=N,2μm,0.5s			S	Sg	01 36 52.3	-0.6
SIGR	SIGRI	1.25	61	P	Pn	01 36 34.7	-1.1
SIGR	SIGRI	1.25	61	P	Pn	01 36 34.7	-1.1
SIGR	comp=N,3μm,0.5s			S	Sn	01 36 52.6	+0.2
SIGR	SIGRI	1.25	61	PN	Pn	01 36 34.7	-1.1
SIGR				SN	Sb	01 36 51.6	-0.4
CHOS	Chios island	1.27	99	P	Pn	01 36 35.5	-0.7
CHOS	Chios island	1.27	99	P	Pn	01 36 35.5	-0.7
CHOS	comp=N,3μm,0.6s			S	Sb	01 36 53.1	+0.2
LIA	Limnos Island	1.41	23	P	Pn	01 36 36.7	-1.3
LIA	Limnos Island	1.41	23	P	Pn	01 36 36.7	-1.3
LIA	comp=N,2μm,0.5s			S	Sb	01 36 56.9	+0.2
PAIG	Paliouri	1.45	336	P	Pn	01 36 37.7	-0.9
PAIG	Paliouri	1.45	336	P	Pn	01 36 37.8	-0.9
PAIG	comp=N,1μm,0.8s			S	Sg	01 36 58.8	-0.7
THAL	Thalero	1.52	249	P	Pn	01 36 40.0	+0.4
THAL	comp=N,5μm,0.5s			S	Sn	01 36 59.1	-0.1
PRK	Paraskevi	1.55	65	P	Pn	01 36 40.4	+0.4
PRK	comp=N,3μm,0.8s			S	Sn	01 37 00.4	+0.4
GPNR	Gulpinar-Canak	1.56	56	PN	Pn	01 36 38.9	-1.2
GPNR				SN	Sn	01 36 59.0	-1.1
GPNR	Gulpinar-Canak	1.56	56	P	Pn	01 36 37.6	-2.5
KOCA	Canakkale, Ayv	1.59	55	P	Pn	01 36 39.5	-1.0
KOCA				S	Sn	01 36 58.1	-2.7
KRND	KRANIDI	1.60	221	P	Pn	01 36 40.0	-0.7
KRND	comp=N,2μm,0.5s			S	Sn	01 37 01.3	+0.2
ZEYE	Izmir, Urla-Ze	1.65	102	P	Pn	01 36 40.6	-0.7
URLA	Izmir	1.70	98	PN	Pn	01 36 41.3	-0.7
URLA	Izmir	1.70	98	P	Pn	01 36 41.8	-0.2
URLA				S	Sg	01 37 08.2	+0.8
AGG	Agios Georgios	1.71	285	P	Pn	01 36 41.8	-0.5
AGG	Agios Georgios	1.71	285	P	Pn	01 36 42.4	+0.1
AGG	comp=N,662nm,0.8s			S	Sn	01 37 03.8	-0.2
AGG	Agios Georgios	1.71	285	PN	Pn	01 36 42.8	+0.5
AGG				SN	Sb	01 37 05.7	+0.2
AGG	Agios Georgios	1.71	285		Pb	01 36 43.4	-0.7
BOZC	Bozcaada	1.75	45	PN	Pn	01 36 41.7	-1.0
BOZC				SN	Sn	01 37 04.0	-0.8
BOZC	Bozcaada	1.75	45	P	Pn	01 36 41.5	-1.3
BOZC				S	Sn	01 37 01.8	-3.1
APE	Apeiranthos	1.75	151	⇓P	Pn	01 36 42.7	-0.1
APE	Apeiranthos	1.75	151	P	Pn	01 36 42.1	-0.8
APE	Apeiranthos	1.75	151	PN	Pn	01 36 42.6	-0.2
APE	Apeiranthos	1.75	151	P	Pn	01 36 42.0	-0.8
APE				S	Sn	01 37 02.9	-2.2
OUR	Ouranopolis	1.77	348	P	Pn	01 36 42.1	-0.8
OUR	Ouranopolis	1.77	348	P	Pn	01 36 42.2	-0.8
OUR				S	Sb	01 37 06.2	-0.7
OUR	Ouranopolis	1.77	348	PN	Pn	01 36 42.4	-0.5
FOCM	Foa	1.78	86	PN	Pn	01 36 42.3	-0.9
MAKR	Makrakomi, Fth	1.86	283	P	Pn	01 36 44.8	+0.5
AYVA	Ayvalik	1.88	67	P	Pn	01 36 44.0	-0.5
EZN	Ezine	1.90	49	P	Pn	01 36 43.4	-1.3
EZN	comp=N,735nm,0.8s			S	Sn	01 37 09.3	+0.9
EZN	Ezine	1.90	49	PN	Pn	01 36 43.6	-1.1
EZN				SN	Sn	01 37 07.8	-0.6
EZN	Ezine	1.90	49	P	Pn	01 36 43.1	-1.6
EZN				S	Sn	01 37 07.3	-1.1
KLV	Kalavryta, Ach	1.90	254	P	Pn	01 36 44.6	-0.2
KLV	Kalavryta, Ach	1.90	254	P	Pn	01 36 44.7	-0.2
KLV	comp=N,572nm,0.9s			S	Sn	01 37 07.5	-1.1
MHLO	Agia Marina, M	1.91	181	P	Pn	01 36 44.7	-0.3
MHLO				S	Sn	01 37 09.5	+0.6
LRSO	Larissa Observ	1.93	304	P	Pn	01 36 45.5	+0.3
PLG	Polygyros	1.93	336	P	Pn	01 36 44.3	-1.0
PLG	comp=N,408nm,0.9s			S	Sn	01 37 08.7	-0.7
GOKA	anakkale-Gk	1.94	35	P	Pn	01 36 44.2	-1.1
ECEA	Canakkale, Ece	1.96	42	P	Pn	01 36 45.6	0.0
ECEA				S	Sn	01 37 08.4	-1.6
DKL	Dikili	1.97	76	PN	Pn	01 36 44.7	-1.0
DKL	Dikili	1.97	76	P	Pn	01 36 44.5	-1.2
DKL				S	Sn	01 37 07.0	-3.2
BAYC	CANAKKALE_Bayr	1.98	54	P	Pn	01 36 44.5	-1.4
LAKA	Lakka	1.98	260	P	Pn	01 36 46.4	+0.5
DGB	zmir	1.99	105	P	Pn	01 36 45.6	-0.3
DGB				S	Sb	01 37 14.3	+1.0
THAS	Thassos island	2.01	6	P	Pn	01 36 45.0	-1.3
EFP	Efpalio	2.01	266	P	Pn	01 36 46.6	+0.3
SMTH	Samothraki Isl	2.04	24	P	Pn	01 36 44.9	-1.8
ZEDA	zmir-Bergama	2.08	79	P	Pn	01 36 46.3	-0.9
ZEDA				S	Sn	01 37 10.4	-2.6
EVR	Evrytania	2.09	279	P	Pn	01 36 48.1	+0.5
UPR	University Cam	2.12	262	P	Pn	01 36 48.8	+1.0
THL	Klokotos Trika	2.13	297	P	Pn	01 36 47.9	0.0
LIT	Litokhoron	2.13	315	P	Pn	01 36 47.8	-0.3
LIT	Litokhoron	2.13	315		Pn	01 36 48.4	+0.4
BUHA	Balikesir, Bur	2.23	66	P	Pn	01 36 49.8	+0.5
KOKK	Kokkinochori,	2.24	351	P	Pn	01 36 48.8	-0.6
VLI	Veliai	2.24	213	P	Pn	01 36 49.0	-0.4
HORT	Hortiatis	2.25	333	P	Pn	01 36 49.8	+0.1
HORT	Hortiatis	2.25	333	PN	Pn	01 36 49.9	+0.2
DRO	Drossia	2.26	254	P	Pn	01 36 50.2	+0.5
CMBO	Columbo, Santo	2.26	160	P	Pn	01 36 49.8	+0.1
THR2	Thira island,	2.29	160	P	Pn	01 36 49.9	-0.3
THR2	Thira Island,	2.30	162	P	Pn	01 36 49.8	-0.5
THR3	Thira Island,	2.32	161	P	Pn	01 36 50.2	-0.3
THR8	Santorini-Mono	2.34	159	P	Pn	01 36 51.6	+0.8
THR6	Thira Island,	2.37	161	P	Pn	01 36 51.0	-0.2
GCAM	G?zelcaml?	2.37	112	PN	Pn	01 36 50.5	-0.7
GCAM	G?zelcaml?	2.37	112	P	Pn	01 36 50.9	-0.3
SOH	Sokhos	2.37	339	P	Pn	01 36 51.1	-0.2
GELI	Tayfur-Gelibol	2.37	40	PN	Pn	01 36 50.7	-0.6
GELI				SN	Sn	01 37 19.3	-1.0
KAVA	Kavala	2.39	1	P	Pn	01 36 50.6	-0.9
RLS	Riolos of Patr	2.42	258	P	Pn	01 36 52.8	+0.9
ITM	Ithomi	2.46	235	P	Pn	01 36 53.5	+1.0
ITM	Ithomi	2.46	235		Pn	01 36 53.2	+0.8
DDIM	Aydin, Didim	2.48	117	P	Pn	01 36 52.6	-0.2
DDIM				S	Sn	01 37 19.6	-3.3
ENEZ	Enez	2.50	31	P	Pn	01 36 51.7	-1.3
ENEZ	Enez	2.50	31	PN	Pn	01 36 52.6	-0.4
LPK	Lapseki	2.51	45	PN	Pn	01 36 52.4	-0.8
LPK				SN	Sn	01 37 02.6	-1.0
ALN	Alexandroupoli	2.59	28	P	Pn	01 36 53.3	-1.1
ALN	Alexandroupoli	2.59	28	PN	Pn	01 36 53.9	-0.5
ALN	Alexandroupoli	2.59	28		Pn	01 36 54.4	0.0
SRS	Serrai	2.59	345	P	Pn	01 36 53.9	-0.5
ERIK	Erikli-Kesan	2.60	37	PN	Pn	01 36 54.1	-0.3
ERIK	Erikli-Kesan	2.60	37	P	Pn	01 36 53.1	-1.3
AKHS	Akhisar	2.64	83	P	Pn	01 36 52.6	-2.4
STEP	BALIKESIR_Sava	2.66	72	P	Pb	01 37 01.1	+1.0
RDO	Rodhopi	2.67	18	P	Pn	01 36 53.9	-1.5
BALY	Balya	2.71	64	P	Pn	01 36 55.4	-0.6
BODT	Bodrum	2.73	123	PN	Pn	01 36 56.1	-0.2
BODT	Bodrum	2.73	123	P	Pn	01 36 55.9	-0.4
KPRO	Kipourio	2.75	300	P	Pn	01 36 57.6	+1.0
NVR	Nevrokopi	2.78	351	P	Pn	01 36 56.4	-0.5
KNT	Kendrikon	2.82	335	P	Pn	01 36 57.8	+0.3
KNT	Kendrikon	2.82	335	PN	Pn	01 36 57.9	+0.4
BDRM	Kayabasi	2.82	122	P	Sg	01 36 57.4	-0.1
BDRM				S	Sg	01 37 42.4	-1.0
KRBG	Karabiga-Canak	2.83	50	PN	Pn	01 36 57.0	-0.6
KRBG	Karabiga-Canak	2.83	50	P	Pn	01 36 56.8	-0.8
GRG	Griva	2.83	327	P	Pn	01 36 58.1	+0.4
GRG	Griva	2.83	327	PN	Pn	01 36 57.9	+0.2
AYDN	Tasoluk	2.86	108	P	Pn	01 36 57.6	-0.4
ANKY	Antikythira Is	2.88	199	P	Pn	01 36 58.1	-0.2
GONE	Gonen-Balikesi	2.89	59	PN	Pn	01 36 57.8	-0.6
MLSB	Milas	2.93	115	PN	Pn	01 36 58.6	-0.4
MLSB	Milas	2.93	115	P	Pn	01 36 59.2	+0.2
RKY	Sarkoy-Tekirda	2.96	44	PN	Pn	01 36 58.7	-0.7
RKY	Sarkoy-Tekirda	2.96	44	P	Pn	01 36 58.7	-0.7
MAR6	Marsite Statio	3.02	45	PN	Pn	01 36 59.9	-0.2
UKOP	Uzunkopru-Edir	3.02	33	PN	Pn	01 36 59.6	-0.7
VAY	Valandovo	3.08	332	*e*Pn	Pn	01 37 01.9	+0.9
GZKV	Gazikoy-Tekird	3.08	45	PN	Pn	01 37 00.8	-0.2
RODP	Rodopos	3.09	191	PN	Pn	01 37 01.7	+0.5
DAT	Datca	3.10	126	PN	Pn	01 37 01.1	-0.4
DAT	Datca	3.10	126	P	Pn	01 37 01.6	+0.1
DAT				S	Sb	01 37 49.1	+3.4
MRMT	Marmara Adasi	3.14	50	PN	Pn	01 37 01.5	-0.4
EDC	Edincik	3.16	56	PN	Pn	01 37 02.0	-0.1
EDC	Edincik	3.16	56	P	Pn	01 37 02.0	-0.1
IMMV	Iera Moni Meta	3.16	187	PN	Pn	01 37 03.1	+0.9
DURS	Dursunbey	3.28	71	P	Pn	01 37 03.2	-0.7
KULA	Kula-Manisa	3.30	90	PN	Pn	01 37 03.7	-0.4
KULA	Kula-Manisa	3.30	90	P	Pn	01 37 04.3	+0.2
HRKL	Herakleio	3.33	171	PN	Pn	01 37 04.3	-0.1
IDI	Anoyia	3.33	174	⇑P	Pn	01 37 04.6	+0.1
IDI	Anoyia	3.33	174	PN	Pn	01 37 04.0	-0.5
IDI	Anoyia	3.33	174	Pn	Pn	01 37 04.1	-0.5
MULA	Mugla, Merkez-	3.34	113	P	Pn	01 37 05.1	+0.4
DEMI	Demirci	3.35	81	P	Pn	01 37 05.1	+0.2
TKR	Tekirdag	3.36	44	PN	Pn	01 37 04.5	-0.4
YER	Yerkesik	3.37	115	PN	Pn	01 37 04.8	-0.2
YER	Yerkesik	3.37	115	P	Pn	01 37 05.7	+0.7
KNDR	Palaiochora Ch	3.42	191	PN	Pn	01 37 06.8	+1.1
KBN	Korca	3.48	307		Pn	01 37 07.1	+0.5
PLD	Plovdiv	3.50	3	PN	Pn	01 37 07.0	+0.2
TURN	Turunc	3.52	120	PN	Pn	01 37 07.2	+0.2
TURN	Turunc	3.52	120	P	Pn	01 37 06.2	-0.8
STIP	Stip	3.54	331	*e*Pn	Pn	01 37 07.6	+0.3
SIMA	Simav-Kutahya	3.56	81	PN	Pn	01 37 07.6	-0.2
SIMA	Simav-Kutahya	3.56	81	P	Pn	01 37 07.6	-0.2
USAK	Uak-Merkez	3.57	87	P	Pn	01 37 08.7	+0.9
EDRB	Edirne	3.68	28	P	Pn	01 37 08.0	-1.3
EDRB	Edirne	3.68	28	PN	Pn	01 37 09.5	+0.2
TAVA	DENIZLI_Tavas	3.70	107	P	Pn	01 37 08.2	-1.5
KARP	Karpathos	3.74	144	PN	Pn	01 37 10.5	+0.3
KARP	Karpathos	3.74	144	Pn	Pn	01 37 09.8	-0.3
ZKR	Zakros	3.76	157	PN	Pn	01 37 11.0	+0.6
OHR	Ohrid	3.77	313	*e*Pn	Pn	01 37 13.6	+3.1
GVD	Gavdhos	3.77	185	PN	Pn	01 37 11.6	+1.1
DALY	Dalyan (Mula)	3.78	117	PN	Pn	01 37 10.5	-0.1
MDNY	Mudanya-Bursa	3.85	61	PN	Pn	01 37 11.4	-0.2
GEDZ	Gediz	3.89	82	PN	Pn	01 37 12.2	-0.1
SLVT	Silivri	3.90	47	PN	Pn	01 37 12.4	+0.1
GDZ	Gediz	3.95	81	P	Pn	01 37 14.0	+0.8
PASA	Karahalli, USA	3.96	92	P	Pn	01 37 13.4	+0.3
TVSB	Tavsanli	3.99	76	PN	Pn	01 37 13.5	-0.1
CTKS	Kestanelik-??a	4.07	49	PN	Pn	01 37 14.5	-0.2
VTS	Vitosha	4.11	347	⇑P	Pn	01 37 15.8	+0.4
VTS	Vitosha	4.11	347	Pn	Pn	01 37 14.9	-0.5
TRML	Termal-Yalova	4.16	60	PN	Pn	01 37 15.8	0.0
FETY	Fethiye	4.17	117	P	Pn	01 37 18.3	+2.3
BGKT	Bogazkoy	4.20	51	PN	Pn	01 37 16.6	+0.2
GOLH	Golhisar	4.26	107	P	Pn	01 37 19.3	+1.9
YLV	Yalova	4.27	61	PN	Pn	01 37 17.9	+0.4
KAVV	Kandilli-Istan	4.31	54	PN	Pn	01 37 18.3	+0.4
ISK	Istanbul-Kandi	4.31	54	PN	Pn	01 37 18.5	+0.6
KLYT	Kilyos	4.41	52	PN	Pn	01 37 19.9	+0.7
KZIL	AFYON_Kizioren	4.48	93	P	Pn	01 37 21.9	+1.6
ELL	Elmali	4.71	112	Pn	Pn	01 37 25.1	+1.6
BLKB	Belogradchik	5.19	346	⇑P	Pn	01 37 30.7	+0.7
VLAD	Vladila	5.39	360	⇓P	Pn	01 37 33.0	+0.2
PDG	Podgorica	5.50	316	⇓P	Pn	01 37 34.9	+0.6
PDG	Podgorica	5.50	316	Pn	Pn	01 37 35.2	+0.9
MDUB	Mudurnu	5.53	68	Pn	Pn	01 37 36.4	+1.6
TIP	Timpagrande	6.03	278	⇑P	Pn	01 37 43.2	+1.5
TIP	Timpagrande	6.03	278		Pn	01 37 42.4	+0.7
HERR	Herculane	6.45	347	⇑P	Pn	01 37 47.8	+0.5
MDVR	Moldovita	6.50	342	⇑P	Pn	01 37 49.7	+1.6
TLBR	Topalu	6.51	23	⇑P	Pn	01 37 49.2	+1.0
TIRR	Tirgusor	6.56	26	⇑P	Pn	01 37 48.7	0.0
ARR	Arges	6.76	1	⇑P	Pn	01 37 51.8	+0.2
VOIR		6.84	4	⇑P	Pn	01 37 53.0	+0.3
LOT	Lotru	6.86	356	⇑P	Pn	01 37 53.3	+0.3
GZR	Gura Zlata	6.90	350	⇑P	Pn	01 37 54.1	+0.6
TPGR	Topolog	6.91	24	⇑P	Pn	01 37 53.6	0.0
NEHR	Nehoiu	6.95	11	⇑P	Pn	01 37 55.5	+1.2
MLR	Muntele Rosu	6.97	9	⇑P	Pn	01 37 54.7	+0.1
MLR	Muntele Rosu	6.97	9	Pn	Pn	01 37 55.1	+0.5
MLR	comp=N,0.6nm,0.3s,baz=182,slow=7.9,SNR=9.8			Sn	Sn	01 39 12.5	-1.2
MLR	baz=83,slow=18,SNR=1.5			Lg	Lg	01 39 56.3	
MLR	comp=N,0.0nm,0.3s,baz=127,slow=23,SNR=1.8			LR	LR	01 41 11.1	
BRTR	comp=N,129nm,18.1s,baz=266,slow=41			LR	LR	01 41 11.1	
BRTR	Keskin Array B	7.22	78	Pn	Pn	01 37 58.7	+0.7
BZS	Buzias	7.32	344	⇑P	Pn	01 38 00.7	+1.5
COVR	Voineasa-Covas	7.35	10	⇑P	Pn	01 38 00.3	+0.6
DEV	Deva	7.36	352	⇑P	Pn	01 38 00.8	+1.0
DOPR	Dopca	7.39	5	⇑P	Pn	01 38 00.6	+0.4
FRGS	Fruska Gora	7.41	334	⇑P	Pn	01 38 01.8	+1.4
PLOR	Plostina	7.42	12	⇑P	Pn	01 38 01.9	+1.2
VRI	Vrincioaia	7.45	12	⇑P	Pn	01 38 01.4	+0.4
VLDR	Vladesti	7.72	19	⇑P	Pn	01 38 05.4	+0.7
SIRR	Siria	7.93	346	⇑P	Pn	01 38 09.4	+1.7
VAE	Valguarnera	8.01	265	Pn	Pn	01 38 07.5	-1.3
VAE	comp=N,0.8nm,0.3s,baz=114,slow=14,SNR=1.6			Sn	Sn	01 39 38.3	-0.8
TESR	comp=N,0.4nm,0.3s,baz=157,slow=10,SNR=1.3 Tescani	8.06	11	⇑P	Pn	01 38 10.1	+0.6
DRGR		8.28	352	⇑P	Pn	01 38 14.3	+1.8
ARCR	ARCALIA	8.47	360	⇑P	Pn	01 38 15.4	+0.3
GIRR	Girov	8.48	10	⇑P	Pn	01 38 15.1	0.0
MORH	Mrgy, Hungar	8.73	332	P	Pn	01 38 19.2	+0.6
KOVH	Kovagotottos	8.83	330	P	Pn	01 38 21.6	+1.6
BURAR	Bucovina Array	9.02	3	⇑P	Pn	01 38 24.2	+1.5
BURAR	Bucovina Array	9.02	3	Pn	Pn	01 38 22.9	+0.2
TRPA	Tarpa	9.62	352	⇑P	Pn	01 38 31.9	+1.1
CSKK	Cskako	9.86	335	P	Pn	01 38 37.8	+3.8
SORM	Soroca	9.94	15	⇑P	Pn	01 38 36.4	+1.3
MMAI	Mount Meron Ar	10.49	119	Pn	Pn	01 38 42.6	-0.3
AKASG	comp=N,0.3nm,0.3s,baz=340,slow=12,SNR=1.5 Malin Array Be	12.56	14	Pn	Pn	01 39 10.9	0.0
AKASG	comp=N,0.6nm,0.3s,baz=198,slow=12,SNR=2.2			LR	LR	01 44 03.8	
GERES	comp=N,50nm,19.5s,baz=190,slow=38 GERESS Array B	12.84

THIG *i* S **Sn** **02 05 38.9 -3.5**
STG3 Santiaguito 3, 1.03 41⇑ *e*P **Pn** **02 05 31.6 +0.7**
CHUJ Union Juarez 1.16 8 *i* P **Pn** **02 05 32.4 -0.4**
CHUJ *e*S **Sn** **02 05 49.8 +2.2**
PATR El Naranjo 1.18 2 *i* P **Pn** **02 05 32.6 -0.4**
PATR *e*S **Sn** **02 05 46.3 -1.6**
PAVE Pavencul 1.26 4 *i* P **Pn** **02 05 33.7 -0.4**
PAVE *i* S **Sn** **02 05 49.6 -0.2**
FUG Fuego 3 1.48 70⇑ *e*P **Pn** **02 05 37.8 +0.7**
HUEH Huehuetenango 1.57 28 **Pn** **02 05 39.8 +1.5**
PCG Pacaya 1.68 74 *e*P **Pn** **02 05 41.3 +1.4**
NBG Las Nubes 1.98 71⇓ *e*P **Pn** **02 05 46.5 +2.5**
PCIG 1.98 333 *i* P **Pn** **02 05 42.8 -1.0**
PCIG *i* S **Sn** **02 06 03.3 -4.2**
CCIG Comitan 2.34 3 *e*P **Pn** **02 05 51.5 +2.6**
CCIG *e*S **Sn** **02 06 22.2 +5.7**
SLOZ Alcaldia de Sa 2.42 88 *e*S **Sn** **02 06 19.1 +0.7**
LOAL Lomas de Alarc 2.42 88 *e*S **Sn** **02 06 18.6 +0.2**
LOAL Lomas de Alarc 2.42 88 *e*S **Sn** **02 06 18.6 +0.2**
NUBE Las Nubes 2.42 90 *e*P **Pn** **02 05 50.2 +0.1**
NUBE IAML 02 06 28.3
comp=Z,276nm,0.5s
NUBE Las Nubes 2.42 90 *e*P **Pn** **02 05 50.2 +0.1**
NUBE IAML 02 06 28.3
comp=Z,276nm,0.5s
RTR El Retiro 2.56 91 *e*P **Pn** **02 05 52.6 +0.7**
RTR El Retiro 2.56 91 *e*P **Pn** **02 05 52.6 +0.7**
CEVE Cerro Verde 2.58 92 *e*P **Pn** **02 05 52.8 +0.5**
CEVE *e*S **Sn** **02 06 24.3 +1.8**
CEVE IAML 02 06 34.5
comp=Z,934nm,0.4s
CEVE Cerro Verde 2.58 92 *e*P **Pn** **02 05 52.8 +0.5**
CEVE *e*S **Sn** **02 06 24.3 +1.8**
CEVE IAML 02 06 34.5
comp=Z,934nm,0.4s
SBLS San Blas 2.58 92 *e*P **Pn** **02 05 52.0 -0.2**
SBLS San Blas 2.58 92 *e*P **Pn** **02 05 52.0 -0.2**
SNJE San Jose 2.59 91 *e*P **Pn** **02 05 52.2 -0.3**
SNJE San Jose 2.59 91 *e*P **Pn** **02 05 52.2 -0.3**
MRL Marmol 2.76 65 *e*P **Pn** **02 05 57.3 +2.6**
MTO3 Montecristo 2.87 80 **Pn** **02 05 55.7 -0.5**
MTO3 Montecristo 2.87 80 *e*P **Pn** **02 05 56.4 +0.2**
MTO3 Montecristo 2.87 80 *e*P **Pn** **02 05 56.4 +0.2**
ESQI Esquipulas 2.91 77 **Pn** **02 05 56.7 0.0**
TGIG 2.94 344 *e*P **Pn** **02 05 57.5 +0.4**
TGIG *i* S **Sn** **02 06 29.6 -1.7**
SNET Serv Nac Est T 2.97 94 **Pn** **02 05 57.2 -0.3**
LFRS El Faro 3.14 95 *e*P **Pn** **02 05 58.5 -1.3**
LFRS El Faro 3.14 95 *e*P **Pn** **02 05 58.5 -1.3**
SJTE Alcalda de S 3.19 95 *e*P **Pn** **02 06 00.2 -0.4**
SJTE Alcalda de S 3.19 95 *e*P **Pn** **02 06 00.2 -0.4**
PAVA Las Pavas 3.25 93 *e*P **Pn** **02 06 00.8 -0.7**
PAVA Las Pavas 3.25 93 *e*P **Pn** **02 06 00.8 -0.7**
COEG Centro de Oper 3.31 95 *e*P **Pn** **02 06 00.8 -1.5**
COEG IAML 02 06 54.3
comp=Z,292nm,0.5s
COEG Centro de Oper 3.31 95 *e*P **Pn** **02 06 00.8 -1.5**
COEG IAML 02 06 54.3
comp=Z,292nm,0.5s
SCLA Alcaldia de Sa 3.45 93 *e*P **Pn** **02 06 04.3 +0.1**
SCLA Alcaldia de Sa 3.45 93 *e*P **Pn** **02 06 04.3 +0.1**
PETF Flores 3.77 38 **Pn** **02 06 09.5 +1.1**
UXUV UXUV 3.82 332 *e*P **Pn** **02 06 09.9 +0.8**
UXUV *i* S **Sn** **02 06 51.6 -1.1**
CMIG Matias Romero 4.02 322 Pn **Pn** **02 06 11.5 -0.4**
comp=Z,3.3nm,0.3s,baz=162,slow=11,SNR=26
CMIG Sn **Sn** **02 07 05.2 +7.4**
comp=Z,14nm,0.3s,baz=59,slow=22,SNR=6.2
CMIG Lg Lg 02 07 15.0
comp=Z,30nm,0.3s,baz=224,slow=23,SNR=6.0
CMIG Matias Romero 4.02 322 *e*P **Pn** **02 06 11.2 -0.7**
CMIG *e*S **Sn** **02 06 55.8 -2.0**
HUIG Huatulco 4.13 297 *e*P Pn 02 06 11.2 -2.2
HUIG *i* S **Sn** **02 06 59.4 -1.1**
TUIG Tuzandepetl 4.57 333 *e*P **Pn** **02 06 17.9 -1.5**
TUIG *e*S **Sn** **02 07 11.3 +0.1**
TGUH Tegucigalpa,Un 4.86 88 Pn **Pn** **02 06 23.3 -0.2**
NEUV Arroyo Zacate 5.06 318 *e*P **Pn** **02 06 25.3 -0.9**
NEUV *e*S **Sn** **02 07 20.9 -2.5**
PEIG Puerto Escondi 5.13 294 *e*P Pn 02 06 25.6 -1.6
PEIG *i* S **Sn** **02 07 24.4 -0.9**
CRIN San Cristobal 5.23 103 **Pn** **02 06 29.0 +0.4**
CNGN Cerro Negro 5.62 104 **Pn** **02 06 33.2 -0.7**
MATN Matagalpa 6.26 98 **Pn** **02 06 42.7 0.0**
BOAB BOACO BROADBAN 6.60 102 Pn **Pn** **02 06 46.7 -0.7**
JAUV Jalcomulco 6.93 322 *e*P **Pn** **02 06 49.7 -2.2**
JAUV *e*S **Sn** **02 08 07.4 -2.1**
ACON Acoyapa 7.19 105 **Pn** **02 06 55.7 +0.2**
HZTE Horizontes, Gu 7.27 115 Pn **Pn** **02 06 56.7 +0.1**
ORTG Ortega, Santa 7.55 117 **Pn** **02 07 01.5 +1.0**
DUNO Dulce Nombre, 7.66 119 **Pn** **02 07 03.4 +1.5**
ESPN Las Esperanzas 7.96 102 **Pn** **02 07 06.6 +0.6**
JTS Las Juntas de 8.03 116 Pn **Pn** **02 07 03.8 -3.1**
comp=Z,0.5nm,0.3s,baz=24,slow=17,SNR=1.7
JTS Sn **Sn** **02 08 34.9 -1.7**
comp=Z,1.0nm,0.3s,baz=6.8,slow=21,SNR=0.7
JTS Lg Lg 02 09 07.6
comp=Z,0.3nm,0.3s,baz=157,slow=19,SNR=2.2
JTS Las Juntas de 8.03 116 **Pn** **02 07 08.1 +1.1**
RIMA Rio Macho 9.22 116 **Pn** **02 07 24.0 +0.5**
SRBA San Rafael, Bu 9.91 117 Pn **Pn** **02 07 33.7 +0.9**
RIOS Rincon, Osa 10.04 120 **Pn** **02 07 35.3 +0.7**
833A Chaparral WMA, 15.77 336 IAmb IAmb 02 09 07.5
comp=Z,37nm,1.3s
833A Chaparral WMA, 15.77 336 P **Pn** **02 08 53.4 +1.1**
baz=154,SNR=6.9
HKT Hockley 16.27 349 Pn **Pn** **02 08 56.8 -1.8**
JCT Junction City 17.87 338 **Pn** **02 09 18.4 -0.3**
NATX Nacogdoches 17.88 353 **P** **02 09 19.8 +0.8**
NATX IAmb IAmb 02 09 29.3
comp=Z,49nm,1.5s
ZARC Zaragoza, Cauc 18.27 109 **P** **02 09 23.1 -0.3**
VBMS Vicksburg 18.27 5 **P** **02 09 22.1 -1.3**
WHTX Lake Whitney, 18.59 346 P **Pn** **02 09 29.1 +1.7**
baz=164
TX31 Lajitas Ar. Si 18.61 327 P **Pn** **02 09 28.9 +1.2**
TX31 IAmb IAmb 02 09 32.3
comp=Z,37nm,1.1s
TX32 Lajitas Array 18.61 327 P **Pn** **02 09 28.6 +0.9**
TXAR Lajitas Array 18.61 327 P **Pn** **02 09 29.8 +2.1**
comp=Z,0.2nm,0.3s,baz=152,slow=11,SNR=33
TXAR Lajitas Array 18.61 327 P **Pn** **02 09 28.6 +0.9**
352A Blakely 18.72 20 IAmb IAmb 02 09 35.3
comp=Z,77nm,1.4s
GUY2C Guyana, Caldas 18.77 116 *e*P **P** **02 09 29.1 -0.5**
250A Grady 18.79 16 IAmb IAmb 02 09 45.9
comp=Z,44nm,1.4s
PTBC PUERTO BERRIO, 19.00 111 *e*P **P** **02 09 31.2 -0.4**
POPC Popayan, Colom 19.12 125 *e*P **Pn** **02 09 34.6 +0.4**
TIGA Tifton 19.16 23 IAmb IAmb 02 09 50.9
comp=Z,42nm,0.9s
TIGA Tifton 19.16 23 P **Pn** **02 09 35.1 +0.9**
baz=206
Z41A Richland Creek 19.24 359 IAmb IAmb 02 09 40.2
comp=Z,29nm,1.0s
Z41A Richland Creek 19.24 359 P **Pn** **02 09 36.5 +1.3**
baz=178
SOTA Rioblanco 19.42 126 *e*P **Pn** **02 09 43.0 +4.9**
ORTC Ortega, Tolima 19.53 119 *e*P **P** **02 09 36.5 -0.9**
Z47A Carrollton 19.56 11 P **P** **02 09 37.4 -0.1**
Z47A IAmb IAmb 02 09 40.6
comp=Z,28nm,0.8s
LRAL Lakeview Retre 19.61 13 P **P** **02 09 37.2 -0.9**
LRAL Lakeview Retre 19.61 13 P **Pn** **02 09 39.7 +0.1**
baz=195
WLAR White Oak Lake 19.68 358 P **P** **02 09 36.9 -1.9**
WLAR IAmb IAmb 02 09 44.7
comp=Z,63nm,1.5s
SPBC San Pablo de B 19.72 113 *e*P **Pn** **02 09 40.1 -1.1**
ABTX Abilene, Hawle 19.78 341 P **Pn** **02 09 42.5 +0.8**
baz=158,SNR=7.5
LPIG La Paz 19.80 303 LR LR 02 17 34.0
comp=Z,268nm,18.2s,baz=156,slow=37
Z35A Perchaven, San 19.83 348 IAmb IAmb 02 09 49.9
comp=Z,26nm,0.9s
ROSC El Rosal 19.87 115 P **P** **02 09 39.2 -2.3**
comp=Z,0.5nm,0.3s,baz=243,slow=23,SNR=1.5
ROSC El Rosal 19.87 115 P **P** **02 09 40.9 -0.6**
ROSC IAmb IAmb 02 09 47.3
comp=Z,36nm,1.2s
152A Waverly Hall 19.89 19 IAmb IAmb 02 09 49.3
comp=Z,20nm,1.1s
BARC Barichara 20.14 109 *e*P **Pn** **02 09 46.0 -0.4**

CHIC Chingaza 20.49 115 *e*P Pn 02 09 49.7 -0.8
RUSC La Rusia 20.51 111 *e*P **P** **02 09 47.4 -1.2**
OXF Oxford 20.65 7 P **P** **02 09 49.5 +0.2**
baz=188
UALR University of 20.75 360 IAmb IAmb 02 10 12.9
comp=Z,16nm,0.8s
X37A Clayton 20.75 353 **P** **02 09 50.8 +0.3**
X37A IAmb IAmb 02 10 01.9
comp=Z,47nm,1.3s
W41B Gary Mavity, V 21.15 0 P **P** **02 09 56.7 +1.9**
baz=180
X34A Smith Ranch, M 21.18 347 **P** **02 09 55.6 +0.5**
X34A IAmb IAmb 02 10 05.8
comp=Z,16nm,0.9s
Y52A Lilburn 21.20 19 IAmb IAmb 02 10 23.4
comp=Z,24nm,1.0s
W39A Magazine 21.21 357 P **P** **02 09 57.6 +2.1**
baz=176
SC01 Santiago de lo 21.34 72 P **P** **02 09 56.4 -0.6**
MNTX Cornudas Mount 21.38 328 P **P** **02 09 58.3 +1.0**
MNTX Cornudas Mount 21.38 328 P **P** **02 09 59.0 +1.7**
baz=143
TAMC Tame, Arauca 21.48 108 *e*P **P** **02 09 59.0 +0.5**
WMOK Wichita Mounta 21.53 345 P **P** **02 09 59.7 +0.8**
baz=163
FNO Franklin 21.73 349 **P** **02 10 01.2 +0.3**
SDV Santo Domingo 21.79 101 P **P** **02 09 58.0 -4.0**
comp=Z,1.6nm,0.6s,baz=100,slow=23,SNR=2.1
SDV Santo Domingo 21.79 101 P **P** **02 10 00.9 -1.1**
SWET Sewanee 21.95 14 IAmb IAmb 02 10 19.1
comp=Z,12nm,0.8s
LCAR Lake Charles 22.07 2 P **P** **02 10 04.2 -0.4**
MSTX Muleshoe 22.10 336 P **P** **02 10 06.3 +1.2**
baz=152,SNR=13
TUL1 Leonard 22.11 352 IAmb IAmb 02 10 23.2
comp=Z,14nm,0.8s
V48A Smith Brothers 22.26 12 IAmb IAmb 02 10 07.2
comp=Z,16nm,0.9s
HHAR Hobbs 22.30 356 IAmb IAmb 02 10 26.3
comp=Z,19nm,1.4s
WVT Waverly 22.46 9 P **P** **02 10 08.2 -0.6**
WVT Waverly 22.46 9 P **P** **02 10 08.2 -0.6**
baz=191
CPCT Cooper Cave 22.53 17 P **P** **02 10 08.4 -1.2**
CPCT IAmb IAmb 02 10 24.8
comp=Z,20nm,1.3s
CLTN Cedars of Leba 22.70 13 IAmb IAmb 02 10 11.9
comp=Z,9.9nm,0.8s
PBMO Poplar Bluff 22.81 4 P **P** **02 10 12.1 -0.4**
TKL Tuckaleechee C 22.94 18 P **P** **02 10 10.0 -3.9**
comp=Z,2.7nm,0.6s,baz=102,slow=21,SNR=1.9
TKL LR LR 02 20 51.9
comp=Z,563nm,18.4s,baz=210,slow=42
TKL Tuckaleechee C 22.94 18 IAmb IAmb 02 10 43.1
comp=Z,11nm,0.9s
U49A Red Boiling Sp 23.23 13 IAmb IAmb 02 10 16.6
comp=Z,15nm,0.8s
V53A Saluda 23.26 20 IAmb IAmb 02 10 45.5
comp=Z,14nm,0.9s
121A Cookes Peak, D 23.31 325 IAmb IAmb 02 10 42.6
comp=Z,16nm,1.0s
121A Cookes Peak, D 23.31 325 P **P** **02 10 20.6 +2.7**
baz=139,SNR=11
KMSC Kings Mountain 23.31 23 P **P** **02 10 17.4 -0.2**
baz=208
T47A Sharon Grove 23.42 10 IAmb IAmb 02 10 18.4
comp=Z,17nm,0.9s
TZTN Tazewell 23.83 18 IAmb IAmb 02 10 25.0
comp=Z,32nm,1.4s
TZTN Tazewell 23.83 18 P **P** **02 10 22.0 -0.6**
baz=201
SIUC Southern Illin 23.84 6 P **P** **02 10 21.8 -0.8**
CCM Cathedral Cave 24.04 2 P **P** **02 10 23.9 -0.6**
CCM Cathedral Cave 24.04 2 P **P** **02 10 24.4 -0.1**
baz=182
BAUV El Baul 24.26 99 P **P** **02 10 25.9 -0.8**
ANMO Albuquerque 24.53 331 P **P** **02 10 30.6 +1.3**
comp=Z,4.5nm,0.8s,baz=140,slow=10,SNR=18
ANMO Albuquerque 24.53 331 P **P** **02 10 31.1 +1.8**
ANMO Albuquerque 24.53 331 P **P** **02 10 31.4 +2.1**
baz=145
TUC Tucson 24.91 320 P **P** **02 10 34.6 +2.0**
TUC Tucson 24.91 320 P **P** **02 10 34.9 +2.3**
baz=133
KSU1 Kansas State U 25.36 352 IAmb IAmb 02 10 38.9
comp=Z,11nm,0.9s
SJG San Juan 25.44 77 LR LR 02 21 27.4
comp=Z,279nm,19.6s,baz=266,slow=39
T25A Trinidad 25.52 337 IAmb IAmb 02 10 43.4
comp=Z,17nm,1.1s
T25A Trinidad 25.52 337 P **P** **02 10 40.9 +2.6**
baz=152,SNR=11
CBKS Cedar Bluff 25.64 346 IAmb IAmb 02 10 41.6
comp=Z,14nm,0.8s
X18A Snowflake 26.00 325 IAmb IAmb 02 10 52.9
comp=Z,17nm,1.4s
P48A Milroy 26.13 12 IAmb IAmb 02 10 42.9
comp=Z,13nm,0.9s
SDCO Great Sand Dun 26.47 336 P **P** **02 10 48.7 +1.8**
baz=150
S22A 4UR Ranch, Cre 27.02 334 IAmb IAmb 02 10 55.3
comp=Z,9.5nm,0.9s
S22A 4UR Ranch, Cre 27.02 334 P **P** **02 10 54.3 +2.5**
baz=148,SNR=14
MVCO Mesa Verde 27.33 331 P **P** **02 10 57.1 +2.5**
baz=144
GLA Glamis 28.00 317 P **P** **02 11 02.2 +1.9**
GLA IAmb IAmb 02 11 04.4
comp=Z,7.8nm,1.2s
ISCO Idaho Springs 28.31 338 P **P** **02 11 07.0 +3.6**
baz=152
PV23 Carpenter Ridg 28.57 332 P **P** **02 11 06.7 +1.0**
BC3 Big Chuckawall 28.78 317 P **P** **02 11 10.1 +2.7**
baz=128
KNB Kanab 29.41 325 IAmb IAmb 02 11 23.5
comp=Z,6.8nm,1.0s
PFO Pinyon Flats O 29.42 316 LR LR 02 23 21.1
comp=Z,139nm,18.9s,baz=122,slow=37
O20A White River Ci 29.62 335 P **P** **02 11 17.3 +2.4**
baz=147
NNA Nana 29.96 149 LR LR 02 21 27.4
comp=Z,105nm,18.0s,baz=311,slow=33
Q16A Castle Valley 29.96 330 IAmb IAmb 02 11 29.5
comp=Z,21nm,1.5s
SZCU Shurtz Canyon 29.97 326 IAmb IAmb 02 11 29.2
comp=Z,11nm,1.3s
P18A Preston Nutter 30.08 332 IAmb IAmb 02 11 29.8
comp=Z,14nm,1.4s
CCUT Cedar City 30.09 325 P **P** **02 11 20.9 +1.7**
CCUT IAmb IAmb 02 11 30.4
comp=Z,7.3nm,1.2s
P17A Butcher Ranch, 30.19 331 IAmb IAmb 02 11 30.4
comp=Z,11nm,1.1s
TMUT Trail Mountain 30.28 330 IAmb IAmb 02 11 32.4
comp=Z,6.7nm,1.0s
RDMU Red Mountain 30.55 334 IAmb IAmb 02 11 26.1
comp=Z,9.0nm,1.1s
RWWY Rainy 30.55 338 IAmb IAmb 02 11 34.1
comp=Z,8.9nm,1.2s
GWY Greenwater Val 31.13 320 P **P** **02 11 30.4 +2.2**
GWY IAmb IAmb 02 11 38.9
comp=Z,6.0nm,1.3s
TPNV Topopah Spring 31.36 321 P **P** **02 11 33.3 +3.0**
baz=131
MPMC Manual Prospec 31.57 319 P **P** **02 11 34.3 +2.2**
baz=128
CTU Camp Tracy 31.63 331 IAmb IAmb 02 11 42.5
comp=Z,7.5nm,1.0s
RSSD Black Hills 31.72 344 P **P** **02 11 34.6 +1.2**
RSSD Black Hills 31.72 344 P **P** **02 11 34.0 +0.6**
baz=158
HWUT Hardware Ranch 32.27 332 IAmb IAmb 02 11 42.1
comp=Z,8.7nm,1.2s
PDAR Pinedale Array 32.37 336 P **P** **02 11 40.0 +0.8**
comp=Z,1.3nm,0.9s,baz=142,slow=7.5,SNR=8.8
PDAR PcP **PcP** **02 14 28.2 +1.9**
comp=Z,0.7nm,0.7s,baz=148,slow=3.8,SNR=4.7
PDAR Pinedale Array 32.37 336 P **P** **02 11 40.1 +1.0**
BW06 Boulder Array 32.37 336 P **P** **02 11 40.8 +1.6**
baz=147
LCH Last Change Ra 32.39 320 IAmb IAmb 02 11 50.2
comp=Z,6.3nm,1.4s
BGU Big Grassy Mou 32.42 330 IAmb IAmb 02 11 49.6
comp=Z,5.8nm,1.0s
SADO Sadowa 32.70 17 LR LR 02 26 42.6
comp=Z,528nm,18.4s,baz=196,slow=40
HVU Hansel Valley 32.96 331 IAmb IAmb 02 11 54.3
comp=Z,12nm,1.1s
AHID Auburn Hatcher 33.00 334 IAmb IAmb 02 11 47.3
comp=Z,8.7nm,1.0s
ELK Elko 33.40 327 LR LR 02 27 41.8
comp=Z,183nm,18.7s,baz=148,slow=40
NV11 Mina Array Sit 33.47 322 IAmb IAmb 02 12 00.1
comp=Z,14nm,1.4s
LOHW Long Hollow 33.49 336 IAmb IAmb 02 11 51.8
comp=Z,6.5nm,0.9s
NVAR Mina Array Bea 33.55 321 P **P** **02 11 52.9 +3.3**
comp=Z,3.8nm,0.7s,baz=137,slow=8.6,SNR=24
NVAR PcP **PcP** **02 14 31.2 +1.5**
comp=Z,1.5nm,0.9s,baz=108,slow=2.9,SNR=4.7
NVAR LR LR 02 27 20.8
comp=Z,226nm,19.3s,baz=110,slow=40
MOOW Moose Ponds 33.66 336 IAmb IAmb 02 11 53.1
comp=Z,4.3nm,1.0s
KVN Kaiserville 33.83 322 IAmb IAmb 02 12 02.3
comp=Z,6.7nm,1.1s
H17A Grant Village 34.14 336 P **P** **02 11 57.6 +3.0**
baz=147
BMN Battle Mountai 34.25 325 IAmb IAmb 02 11 59.2
comp=Z,5.0nm,0.9s
RLMT Red Lodge 34.27 338 P **P** **02 11 56.8 +1.1**
baz=150
YFT Old Faithful 34.29 336 P **P** **02 11 57.2 +1.3**
YFT IAmb IAmb 02 11 60.0
comp=Z,14nm,1.4s
YERR Yerington 34.47 321 IAmb IAmb 02 12 12.2
comp=Z,9.0nm,1.4s
YMR Madison River 34.52 336 IAmb IAmb 02 12 07.7
comp=Z,11nm,1.2s
YHL Hebgen Lake 34.76 336 IAmb IAmb 02 12 05.0
comp=Z,4.1nm,0.8s
PAHR Pah Rah Range 35.02 322 IAmb IAmb 02 12 12.5
comp=Z,7.1nm,1.2s
HLID Hailey 35.10 332 IAmb IAmb 02 12 06.1
comp=Z,6.9nm,0.9s
HLID Hailey 35.10 332 P **P** **02 12 05.2 +2.4**
baz=140
BOZ Bozeman (W) 35.55 336 P **P** **02 12 08.6 +2.0**
baz=146
MFID Camas Ranch 35.66 330 IAmb IAmb 02 12 19.3
comp=Z,11nm,1.2s
DLMT Dillon 35.74 335 IAmb IAmb 02 12 11.7
comp=Z,8.8nm,1.0s
LRM Limekiln Ridge 36.06 336 P **P** **02 12 12.2 +1.0**
ULM Lac du Bonnet 36.34 356 LR LR 02 30 21.6
comp=Z,132nm,18.5s,baz=204,slow=42
WVOR Wild Horse Val 36.40 326 IAmb IAmb 02 12 22.4
comp=Z,5.1nm,0.9s
EGMT Eagleton 36.96 340 P **P** **02 12 19.9 +1.3**
baz=151
PLID Pearl Lake 37.01 332 P **P** **02 12 20.3 +1.1**
PLID IAmb IAmb 02 12 25.2
comp=Z,9.0nm,1.0s
MSO Missoula 37.48 335 IAmb IAmb 02 12 25.5
comp=Z,6.8nm,1.1s
MSO Missoula 37.48 335 P **P** **02 12 24.6 +1.6**
baz=144
I07A Izee 37.99 328 IAmb IAmb 02 12 30.8
comp=Z,13nm,1.2s
LPAZ La Paz 38.35 141 P **P** **02 12 30.4 -0.9**
comp=Z,0.8nm,0.7s,baz=44,slow=25,SNR=1.7
LPAZ LR LR 02 27 39.9
comp=Z,65nm,18.0s,baz=299,slow=35
NEW Newport 39.94 334 LR LR 02 31 42.6
comp=Z,196nm,18.4s,baz=138,slow=40
NEW Newport 39.94 334 P **P** **02 12 44.6 +1.1**
baz=141
HOOD Mount Hood Mea 39.96 327 IAmb IAmb 02 12 54.6
comp=Z,17nm,0.8s
EDM Edmonton 42.61 341 P **P** **02 13 06.4 +1.0**
EDM IAmb IAmb 02 13 07.4
comp=Z,8.9nm,0.6s
SIV San Ignacio 42.84 133 P **P** **02 13 07.2 -0.6**
comp=Z,3.1nm,0.7s,baz=301,slow=8.5,SNR=17
SIV PcP **PcP** **02 14 58.9 +0.4**
comp=Z,1.5nm,0.8s,baz=319,slow=2.7,SNR=3.9
LVC Limon Verde 42.93 147 LR LR 02 30 09.7
comp=Z,74nm,18.3s,baz=294,slow=35
LLLB Lillooet 43.76 333 P **P** **02 13 16.0 +1.3**
LLLB IAmb IAmb 02 13 25.8
comp=Z,11nm,1.0s
RPN Rapa Nui 44.05 202 LR LR 02 26 46.6
comp=Z,96nm,21.0s,baz=66,slow=29
SCHQ Schefferville 45.38 20 P **P** **02 13 23.0 -4.5**
comp=Z,2.9nm,0.7s,baz=242,slow=6.0,SNR=4.3
SCHQ PcP **PcP** **02 15 06.3 -0.2**
comp=Z,2.0nm,0.7s,baz=224,slow=18,SNR=1.7
SCHQ LR LR 02 33 29.6
comp=Z,498nm,19.5s,baz=221,slow=38
BBB Bella Bella 47.69 331 LR LR 02 37 22.5
comp=Z,97nm,18.9s,baz=144,slow=40
YKA Yellowknife Ar 51.03 347 P **P** **02 14 11.2 +0.2**
comp=Z,10nm,0.7s,baz=150,slow=7.5,SNR=160
YKA PcP **PcP** **02 15 27.2 +0.6**
comp=Z,2.1nm,0.8s,baz=148,slow=3.8,SNR=12
FRB Frobisher Bay 52.44 13 LR LR 02 38 34.0
comp=Z,390nm,18.4s,baz=192,slow=38
CPUP Villa Florida 52.51 140 P **P** **02 14 24.4 +1.9**
comp=Z,1.3nm,0.7s,baz=333,slow=16,SNR=2.9
CPUP LR LR 02 38 13.3
comp=Z,45nm,19.2s,baz=311,slow=38
CPUP Villa Florida 52.51 140 IAmb IAmb 02 14 26.1
comp=Z,8.9nm,1.5s
DLBC Dease Lake 52.60 336 P **P** **02 14 23.8 +0.8**
TAOE Nuku Hiva Isla 52.62 247 *e*LR LR 02 29 25.2
comp=Z,64nm,26.3s
BDFB Brasilia 52.71 122 P **P** **02 14 22.4 -2.0**
comp=Z,2.4nm,0.7s,baz=242,slow=6.0,SNR=5.3
BDFB Brasilia 52.71 122 IAmb IAmb 02 14 24.4
comp=Z,3.6nm,0.9s
WRGLY Wrigley 53.88 343 P **P** **02 14 33.6 +1.5**
baz=142
TGTN Hyland Airport 54.09 340 P **P** **02 14 36.2 +2.4**
baz=135
RKT Rikitea 55.70 229 *e*T T 03 14 18.3
MMPY Sheldon Lake, 55.87 339 P **P** **02 14 48.7 +2.1**
baz=132
M30M Minto, Yukon 57.82 337 P **P** **02 15 02.1 +1.7**
baz=126
PLCA Paso Flores 58.00 161 LR LR 02 35 41.5
comp=Z,74nm,18.1s,baz=253,slow=32
RCBR Riachuelo 59.28 106 P **P** **02 15 10.6 -0.9**
comp=Z,7.8nm,0.8s,baz=52,slow=6.8,SNR=4.1
RCBR LR LR 02 42 59.4
comp=Z,129nm,18.0s,baz=86,slow=39
RCBR Riachuelo 59.28 106 IAmb IAmb 02 15 19.5
comp=Z,19nm,1.2s
DAWY Dawson 59.64 338 P **P** **02 15 13.8 +0.8**
baz=124
SFJD Kangerlussuaq 59.66 18 LR LR 02 41 58.6
comp=Z,236nm,19.2s,baz=212,slow=37
BCAR Beaver Creek A 59.99 336 P **P** **02 15 16.5 +1.0**
L27K Beaver Creek, 60.01 336 IAmb IAmb 02 15 27.1
comp=Z,4.6nm,0.9s
L27K Beaver Creek, 60.01 336 P **P** **02 15 17.2 +1.6**
baz=122,SNR=7.3
N25K Chitina, Valde 60.41 334 P **P** **02 15 20.6 +2.2**
baz=118,SNR=5.2
INK Inuvik 60.43 344 LR LR 02 45 44.9
comp=Z,73nm,18.2s,baz=92,slow=40
INK Inuvik 60.43 344 P **P** **02 15 19.2 +0.9**
baz=133,SNR=12
EGAK Eagle 60.67 338 P **P** **02 15 21.0 +0.9**
baz=123
RES Resolute Bay 60.76 359 LR LR 02 45 14.7
comp=Z,97nm,20.0s,baz=94,slow=40
KLU Klutina 60.92 334 P **P** **02 15 23.5 +1.6**
baz=116
HARP HAARP 61.01 335 P **P** **02 15 24.6 +2.2**
baz=118
SCRK Sand Creek 61.30 337 P **P** **02 15 26.1 +1.6**
baz=120
PAX Paxson 61.40 335 P **P** **02 15 26.4 +1.2**
baz=118,SNR=7.1
J26L Joseph Creek 61.41 337 P **P** **02 15 26.6 +1.4**
baz=120
RIDG Independent Ri 61.52 336 P **P** **02 15 27.4 +1.4**
baz=119
KNK Knik Glacier 61.98 333 P **P** **02 15 30.3 +1.2**
baz=114
J25K Salcha River, 62.14 337 IAmb IAmb 02 15 43.0
comp=Z,5.2nm,1.0s
J25K Salcha River, 62.14 337 P **P** **02 15 31.4 +1.3**
baz=119

WAT6	**Susitna Watana**	**62.16**	**334**	P		**P**	**02 15 31.7**	**+1.3**
	baz=115							
KDAK	**Kodiak Island**	**62.63**	**328**	LR		LR	02 43 07.0	
	comp=Z,75nm,18.6s,baz=139,slow=36							
IL31		**62.79**	**337**	P		**P**	**02 15 35.3**	**+1.0**
ILAR	**Eielson Array**	**62.79**	**337**	P		**P**	**02 15 35.0**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=130,slow=5.0,SNR=32							
ILAR				LR		LR	02 44 50.3	
	comp=Z,65nm,18.6s,baz=166,slow=38							
ILAR	**Eielson Array**	**62.79**	**337**	P		**P**	**02 15 35.3**	**+0.9**
MCK	**McKinley**	**63.14**	**335**	P		**P**	**02 15 37.5**	**+0.7**
	baz=115							
BMAR	**Burnt Mountain**	**63.26**	**340**	P		**P**	**02 15 38.7**	**+1.3**
NEA2	**Nenana**	**63.56**	**336**	P		**P**	**02 15 40.2**	**+0.7**
	baz=115							
TRF	**Thorofare Moun**	**63.58**	**335**	P		**P**	**02 15 40.7**	**+0.9**
	baz=113							
H24K	**Noodor Dome**	**63.65**	**338**	P		**P**	**02 15 41.1**	**+1.0**
	baz=117							
I23K	**Minto, Yukon-K**	**63.91**	**337**	P		**P**	**02 15 42.8**	**+1.1**
	baz=115,SNR=5.9							
BPAW	**Bear Paw Mtn.**	**64.12**	**335**	P		**P**	**02 15 43.8**	**+0.6**
	baz=113,SNR=5.5							
CAST	**Castle Rocks**	**64.32**	**334**	P		**P**	**02 15 44.8**	**+0.3**
	baz=111,SNR=5.9							
N19K	**Bonanza Creek**	**64.50**	**331**	P		**P**	**02 15 46.5**	**+0.6**
	baz=108							
PPT	**Papeete**	**64.62**	**243**	LR		LR	02 39 06.7	
	comp=Z,62nm,18.1s,baz=2.0,slow=31							
PPT2	**Papeete2**	**64.63**	**243**	*e*LR		LR	02 35 02.1	
	comp=Z,79nm,25.0s							
L20K	**Farewell, AK**	**64.76**	**333**	P		**P**	**02 15 48.1**	**+0.7**
	baz=109							
I21K	**Tanana**	**64.93**	**336**	IAmb		IAmb	02 15 51.2	
	comp=Z,4.6nm,0.9s							
I21K	**Tanana**	**64.93**	**336**	P		**P**	**02 15 49.2**	**+0.8**
	baz=112							
COLD	**Coldfoot**	**65.09**	**339**	P		**P**	**02 15 51.1**	**+1.7**
	baz=115							
K20K	**Telida**	**65.14**	**334**	P		**P**	**02 15 50.3**	**+0.5**
	baz=109							
H21K	**Melozitna Rive**	**65.43**	**337**	IAmb		IAmb	02 15 53.3	
	comp=Z,4.6nm,0.9s							
H21K	**Melozitna Rive**	**65.43**	**337**	P		**P**	**02 15 52.1**	**+0.5**
	baz=112							
J20K	**Nowinta River**	**65.44**	**335**	P		**P**	**02 15 52.1**	**+0.4**
	baz=110							
TOLK	**Toolik Lake Re**	**65.49**	**340**	IAmb		IAmb	02 15 53.9	
	comp=Z,4.3nm,0.8s							
TOLK	**Toolik Lake Re**	**65.49**	**340**	P		**P**	**02 15 53.6**	**+1.5**
	baz=116							
TTA	**Tatalina**	**65.84**	**333**	P		**P**	**02 15 54.9**	**+0.5**
TTA	**Tatalina**	**65.84**	**333**	P		**P**	**02 15 54.8**	**+0.4**
	baz=107							
BORG	**Borgarnes**	**69.38**	**26**	LR		LR	02 48 49.3	
	comp=Z,57nm,18.9s,baz=296,slow=38							
DAG	**Danmarks Havn**	**72.79**	**13**	*i* P		**P**	**02 16 35.0**	**-2.1**
ESDC	**Sonseca Array**	**79.97**	**52**	P		**P**	**02 17 15.9**	**-2.7**
	comp=Z,1.5nm,0.8s,baz=302,slow=6.3,SNR=7.1							
ESDC	**Sonseca Array**	**79.97**	**52**	IAmb		IAmb	02 17 23.5	
	comp=Z,1.6nm,1.1s							
SPITS	**Spitsbergen Ar**	**80.20**	**11**	LR		LR	02 55 50.4	
	comp=Z,186nm,18.0s,baz=30,slow=38							
MDT	**Midelt**	**80.66**	**59**	LR		LR	02 49 02.8	
	comp=Z,47nm,18.9s,baz=274,slow=33							
BILL	**Billbino**	**81.42**	**338**	P		**P**	**02 17 26.9**	**+1.2**
NB2	**NORSAR Subarra**	**84.33**	**28**	P		**P**	**02 17 40.4**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=291,slow=5.3							
NOA	**NORSAR Array B**	**84.33**	**28**	P		**P**	**02 17 40.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=290,slow=5.3,SNR=5.2							
NOA				LR		LR	02 53 38.4	
	comp=Z,47nm,21.8s,baz=285,slow=35							
HFS	**Hagfors**	**85.79**	**29**	LR		LR	02 57 27.9	
	comp=Z,56nm,18.1s,baz=292,slow=37							
ARCES	**ARCESS Array B**	**86.22**	**18**	P		**P**	**02 17 50.2**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=288,slow=3.7,SNR=4.5							
ARCES				LR		LR	02 55 38.4	
	comp=Z,101nm,21.0s,baz=298,slow=35							
DAVOX	**Davos/Dischmat**	**88.09**	**42**	LR		LR	02 51 18.5	
	comp=Z,43nm,21.6s,baz=304,slow=32							
TIXI	**Tiksi**	**90.27**	**348**	P		**P**	**02 18 09.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**90.65**	**76**	P		**P**	**02 18 11.2**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=293,slow=6.0,SNR=1.5							
FINES	**FINESS Array B**	**90.67**	**25**	LR		LR	02 59 09.8	
	comp=Z,59nm,18.1s,baz=282,slow=36							
VRAC	**Vranov**	**91.41**	**38**	LR		LR	02 56 03.0	
	comp=Z,42nm,21.7s,baz=278,slow=34							
NRIK	**Noril'sk**	**96.94**	**0**	LR		LR	03 07 06.1	
	comp=Z,172nm,18.3s,baz=342,slow=38							
YAK	**Yakutsk**	**97.43**	**341**	LR		LR	03 07 20.0	
	comp=Z,22nm,21.4s,baz=88,slow=38							
AKASG	**Malin Array Be**	**97.93**	**33**	LR		LR	03 05 48.4	
	comp=Z,21nm,18.3s,baz=284,slow=37							
MLR	**Muntele Rosu**	**98.72**	**39**	LR		LR	03 06 29.6	
	comp=Z,30nm,18.1s,baz=332,slow=38							
OBN	**Obninsk**	**98.86**	**27**	LR		LR	03 05 30.5	
	comp=Z,16nm,18.2s,baz=16,slow=37							
SONM	**Songino Array**	**116.29**	**346**	PKP		**PKPdf**	**02 23 53.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=354,slow=1.4,SNR=2.7							
MKAR	**Makanchi Array**	**119.36**	**4**	PKP		**PKPdf**	**02 23 58.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=6.7,slow=4.2,SNR=4.1							
BOSA	**Boshof**	**120.57**	**115**	PKP		**PKPdf**	**02 24 01.2**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=188,slow=14,SNR=2.8							
WRA	**Warramunga Arr**	**135.12**	**256**	PKhKP		PKPpre	02 24 26.8	
	comp=Z,0.6nm,0.6s,baz=87,slow=3.4,SNR=5.8							
ASAR	**Alice Springs**	**135.39**	**250**	PKP		**PKPdf**	**02 24 30.7**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=119,slow=1.2,SNR=3.1							
ASAR	**Alice Springs**	**135.39**	**250**			**PKPdf**	**02 24 29.1**	**-0.6**
PZH	**PanZhiHua**	**137.56**	**341**	PKP		**PKPdf**	**02 24 35.0**	**+1.2**
CHTO	**Chiang Mai**	**145.63**	**341**			**PKPdf**	**02 24 48.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**145.97**	**341**	PKPbc		**PKPab**	**02 24 50.4**	**+0.4**
	comp=Z,11nm,0.7s,baz=339,slow=3.7,SNR=40							
CMAR	**Chiang Mai Arr**	**145.97**	**341**	PKPbc		**PKPdf**	**02 24 49.5**	**+0.7**

IDC 09 02:18:52.6±18.0,**19°13N**×**109°25W**,**h0**km,**mb3.0**/2,
mb1 3.5/3,**mb1mx3.5**/23,**mbtmp3.1**/3,**ML3.3**/1,**MS3.4**/1,
Ms1 3.4/1,**ms1mx2.6**/16,**Error ellipse: s-maj=345.3km**
s-min=97.3km az=149.0,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TXAR	**Lajitas Array**	**11.36**	**26**	Pn		Pn	02 21 37.5	+1.2
	0.0nm,0.3s,baz=202,slow=14,SNR=6.2							
PDAR	**Pinedale Array**	**23.57**	**359**	P		P	02 24 05.1	0.0
	0.1nm,0.4s,baz=172,slow=7.3,SNR=1.9							
ROSC	**El Rosal**	**36.90**	**108**	LR		LR	02 39 40.6	
	comp=Z,52nm,18.6s,baz=38,slow=34							
YKA	**Yellowknife Ar**	**43.48**	**356**	P		P	02 26 57.2	-0.1
	0.2nm,0.8s,baz=169,slow=8.2,SNR=3.5							
H03N2	**Juan Fernandez**	**59.75**	**151**	T		T	03 34 39.6	
	baz=329,slow=77,SNR=6.7							
H03N1	**Juan Fernandez**	**59.76**	**151**	T		T	03 34 46.6	
	baz=329,slow=77,SNR=16							
H03N3	**Juan Fernandez**	**59.77**	**151**	T		T	03 34 44.0	
	baz=329,slow=77,SNR=9.8							

*WEL **09** 02:53:05.7±1.0,35°S±9°×18°E±1°,1,h159*km*±20*km*,*
M4.0/12,ML4.1/13,MLv4.0/12,Error ellipse: s-maj=0.0km
s-min=0.0km az=92.6
*IDC **09** 02:53:06.3±7.7,35°37S×179°63E,h106*km*±73*km*,mb3.7/2,*
mb1 3.9/3,mb1mx3.2/34,mbtmp4.0/3,ML3.8/1,Error
ellipse: s-maj=75.2km s-min=50.2km az=172.0
ISC 09 02:53:07.2±1.8,**35°51S**±0.0°×**179.8E**±0.1,**h150**km,**n27,**
σ1°40/41,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.38**	**210**	P		**Pn**	**02 53 45.8**	**-1.1**
MXZ				S		**Sn**	**02 54 15.7**	**-1.8**
WMGZ	**Waiomatatini S**	**2.56**	**206**	P		**Pn**	**02 53 49.6**	**+0.6**
WMGZ				S		**Sn**	**02 54 23.7**	**+2.2**
PKGZ	**Pakihiroa**	**2.75**	**210**	P		**Pn**	**02 53 50.9**	**-0.6**
PKGZ				S		**Sn**	**02 54 25.4**	**-0.4**
HAZ	**Te Kaha**	**2.77**	**215**	P		**Pn**	**02 53 50.8**	**-0.9**
HAZ				S		**Sn**	**02 54 28.1**	**+2.0**
PUZ	**Puketiti**	**2.84**	**206**	P		**Pn**	**02 53 52.3**	**-0.3**
PUZ				S		**Sn**	**02 54 27.5**	**-0.3**
RUGZ	**Raukumara Rang**	**2.99**	**214**	P		**Pn**	**02 53 53.7**	**-0.9**
RUGZ				S		**Sn**	**02 54 32.6**	**+1.4**
WHRZ	**Whale Island**	**3.27**	**223**	P		**Pn**	**02 53 59.2**	**+1.2**
WHRZ				S		**Sn**	**02 54 37.0**	**-0.3**
TKGZ	**Te Karaka**	**3.32**	**208**	P		**Pn**	**02 53 57.8**	**-0.8**
TKGZ				S		**Sn**	**02 54 38.3**	**-0.2**
MWZ	**Matawai**	**3.36**	**212**	P		**Pn**	**02 53 58.4**	**-0.8**
MWZ				S		**Sn**	**02 54 40.2**	**+0.7**
URZ	**Urewera**	**3.50**	**218**	P		**Pn**	**02 53 59.6**	**-1.3**
	7.5nm,0.3s,baz=280,slow=1.4,SNR=47							
URZ				S		**Sn**	**02 54 40.4**	**-2.1**
	10nm,0.3s,baz=221,slow=22,SNR=9.8							
URZ	**Urewera**	**3.50**	**218**	P		**Pn**	**02 53 59.6**	**-1.3**
URZ				S		**Sn**	**02 54 40.6**	**-1.9**
KUZ	**Kuaotunu**	**3.54**	**248**	P		**Pn**	**02 53 59.2**	**-2.2**
RIGZ	**Rimuhau**	**3.59**	**207**	P		**Pn**	**02 54 01.0**	**-1.1**
RIGZ				S		**Sn**	**02 54 45.2**	**+0.5**
PRGZ	**Paritu Road**	**3.74**	**204**	P		**Pn**	**02 54 01.7**	**-2.4**
PRGZ				S		**Sn**	**02 54 48.6**	**+0.4**
SNGZ	**Shannon Statio**	**3.82**	**210**	P		**Pn**	**02 54 04.2**	**-0.8**
SNGZ				S		**Sn**	**02 54 49.7**	**-0.4**
MUGZ	**Murupara**	**3.83**	**219**	P		**Pn**	**02 54 03.8**	**-1.4**
MUGZ				S		**Sn**	**02 54 50.9**	**+0.5**
RAHZ	**Arahi**	**4.04**	**212**	P		**Pn**	**02 54 07.5**	**-0.4**
RAHZ				S		**Sn**	**02 54 54.9**	**-0.3**
MKAZ	**Moumakai**	**4.08**	**246**	P		**Pn**	**02 54 10.0**	**+1.5**
TOZ	**Tahuroa Road**	**4.12**	**236**	P		**Pn**	**02 54 08.3**	**-0.6**
WCZ	**Waipu Caves**	**4.47**	**263**	P		**Pn**	**02 54 11.2**	**-2.4**
KAHZ	**Kahuranaki**	**4.87**	**208**	P		**Pn**	**02 54 16.6**	**-2.3**
KAHZ				S		**Sn**	**02 55 16.0**	**+1.2**
ASAR	**Alice Springs**	**41.30**	**274**	P		**P**	**03 00 39.2**	**+1.1**
	0.5nm,0.4s,baz=114,slow=7.8,SNR=11							
WRA	**Warramunga Arr**	**42.76**	**279**	P		**P**	**03 00 52.8**	**+2.8**
	2.2nm,0.5s,baz=119,slow=7.6,SNR=34							
H03N3	**Juan Fernandez**	**79.39**	**123**	T		T	04 33 28.5	
	baz=237,slow=72,SNR=4.8							
H03N2	**Juan Fernandez**	**79.39**	**123**	T		T	04 33 29.6	
	baz=237,slow=72,SNR=3.5							
H03N1	**Juan Fernandez**	**79.41**	**123**	T		T	04 33 29.9	
	baz=237,slow=72,SNR=5.4							
FINES	**FINESS Array B**	**149.17**	**335**	PKPbc		**PKPab**	**03 12 40.4**	**-1.6**
	0.8nm,0.5s,baz=25,slow=4.6,SNR=10							

*MDD **09** 03:02:02.4±1.4,36°.53N×9°.91W,h8*km*±32*km*,mb_Lg1.9/3,*
Error ellipse: s-maj=40.4km s-min=9.7km az=38.0
*IGIL **09** 03:02:06.6,36°.52N×9°.94W,h32*km*,ML1.5*
*INMG **09** 03:02:06.9±1.5,36°.52N×9°.94W,h31*km*,ML1.8,Error*
ellipse: s-maj=7.6km s-min=5.0km az=75.0
*CNRM **09** 03:02:11.2,35°.84N×9°.73W,h50*km*,ml3.3*
ISC 09 03:02:02.6±1.5,**36°42N**±0°.04×**9°93W**±0°.09,**h82**km±19km,
n30,σ1°82/50,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.14**	**51**	*e*P		**Pn**	**03 02 24.3**	**+0.9**
PFVI				*e*S		**Sn**	**03 02 36.8**	**-2.2**
MORF	**Marmelete**	**1.36**	**49**	*e*P		**Pn**	**03 02 27.3**	**+1.1**
MORF				*e*S		**Sn**	**03 02 42.5**	**-1.5**
MORF				IAML			03 02 44.0	
	comp=E,6.7nm,0.1s							
MORF	**Marmelete**	**1.36**	**49**	*e*S		**Sn**	**03 02 43.9**	**-0.1**
PTEO	**Sao Teotonio**	**1.48**	**40**	*e*P		**Pn**	**03 02 28.8**	**+1.0**
PTEO				*e*S		**Sn**	**03 02 45.2**	**-1.6**
PTEO				A		A	03 02 45.6	
	comp=E,8.7nm,0.7s							
PBDV	**Barranco-do-Ve**	**1.80**	**62**	*e*Pn		**Pn**	**03 02 33.0**	**+1.0**
PBDV				*e*Sn		**Sn**	**03 02 54.7**	**+0.4**
PCVE	**Castro Verde**	**1.94**	**51**	*e*Pn		**Pn**	**03 02 35.9**	**+2.2**
PCVE				*e*Sn		**Sn**	**03 02 57.5**	**0.0**
PCVE				A		A	03 03 11.6	
	comp=E,2.1nm,0.6s							
PNCL	**Nicolau / Gran**	**2.03**	**33**	*e*Pn		**Pn**	**03 02 36.2**	**+1.3**
PNCL				*e*Sn		**Sn**	**03 02 57.9**	**-1.6**
PNCL				A		A	03 03 07.5	
	comp=E,3.8nm,0.6s							
PVAQ	**Vaqueiros**	**2.03**	**60**	*e*Pn		**Pn**	**03 02 36.8**	**+1.9**
PVAQ				*e*Sn		**Sn**	**03 02 59.1**	**-0.5**
PVAQ				A		A	03 03 11.6	
	comp=E,2.9nm,0.7s							
PBEJ	**Beja**	**2.30**	**45**	*e*Sn		**Sn**	**03 03 05.5**	**-0.6**
PBEJ				A		A	03 03 09.2	
	comp=E,2.6nm,0.6s							
PMST	**Lisbon--Monsan**	**2.39**	**14**	*e*Sn		**Sn**	**03 03 06.5**	**-1.7**
PACT	**Alcochete**	**2.50**	**20**	*e*Pn		**Pn**	**03 02 43.3**	**+2.1**
PACT				*e*Sn		**Sn**	**03 03 09.9**	**-0.9**
PMAFR	**Mafra**	**2.58**	**11**	*e*Pn		**Pn**	**03 02 43.8**	**+1.4**
PMAFR				*e*Sn		**Sn**	**03 03 11.3**	**-1.6**
PMAFR				A		A	03 03 21.8	
	comp=E,10nm,0.7s							
PBAR	**Barrancos**	**2.90**	**52**	*e*Pn		**Pn**	**03 02 48.9**	**+2.3**
PBAR				*e*Sn		**Sn**	**03 03 20.9**	**+0.5**
PBAR				A		A	03 03 29.4	
	comp=E,1.6nm,0.8s							
PMTG	**Montargil**	**2.97**	**27**	*e*Pn		**Pn**	**03 02 49.4**	**+1.8**
PMTG				*e*Sn		**Sn**	**03 03 20.4**	**-1.8**
PMTG				A		A	03 03 21.1	
	comp=E,3.3nm,0.8s							
PESTR	**Estremoz**	**3.07**	**37**	*e*Sn		**Sn**	**03 03 23.2**	**-1.5**
PESTR				A		A	03 03 36.6	
	comp=E,2.0nm,0.6s							
PSBE	**So Bento**	**3.22**	**16**	*e*Pn		**Pn**	**03 02 52.8**	**+1.8**
PSBE				*e*Sn		**Sn**	**03 03 25.9**	**-2.3**
PSBE				A		A	03 03 28.6	
	comp=E,7.7nm,0.7s							
EBAD	**Badajoz**	**3.29**	**44**	Pn		**Pn**	**03 02 52.1**	**+0.2**
EBAD				Sn		**Sn**	**03 03 27.7**	**-2.2**
EBAD				*i* Vmb_Lg			03 03 30.2	
PMRV	**Marv??o**	**3.61**	**33**	*e*Pn		**Pn**	**03 02 57.9**	**+1.6**
PMRV				*e*Sn		**Sn**	**03 03 35.6**	**-2.2**
PMRV				A		A	03 03 39.2	
	comp=E,1.7nm,0.6s							
PCAS	**Casmilo, Conde**	**3.80**	**17**	*e*Sn		**Sn**	**03 03 40.6**	**-1.7**
ECAB	**El Cabril**	**3.96**	**64**	Pn		**Pn**	**03 03 01.5**	**+0.4**
ECAB				Sn		**Sn**	**03 03 45.3**	**-1.1**
ECAB				*i* Vmb_Lg			03 04 01.1	
PVIS	**Viseu**	**4.58**	**20**	*e*Sn		**Sn**	**03 04 00.7**	**-0.7**
LCRM	**LCR**	**4.98**	**122**	P		**Pn**	**03 03 16.0**	**+1.0**
LCRM				S		**Sn**	**03 04 10.8**	**-0.5**
PVRL	**Vila Real**	**5.15**	**19**	*e*Sn		**Sn**	**03 04 13.7**	**-1.6**
POLO	**Lamas de Olo**	**5.22**	**18**	*e*Sn		**Sn**	**03 04 15.2**	**-1.9**
MVO	**Moncorvo**	**5.25**	**25**	*e*Sn		**Sn**	**03 04 16.1**	**-1.8**
OUK	**Oukaimeden**	**5.48**	**161**	P		**Pn**	**03 03 24.6**	**+2.6**
OUK				S		**Sn**	**03 04 19.2**	**-4.6**
MD31	**MD31**	**5.54**	**128**	P		**Pn**	**03 03 23.2**	**+0.6**
MD31				S		**Sn**	**03 04 22.3**	**-2.8**
MDT	**Midelt**	**5.67**	**128**	P		**Pn**	**03 03 26.9**	**+2.4**
MDT				S		**Sn**	**03 04 25.8**	**+2.5**
TTIG	**Tnine Tigouga,**	**5.99**	**168**	P		**Pn**	**03 03 28.7**	**-0.1**
TTIG				S		Sn	03 04 26.8	-9.2
OUZM	**OUZ**	**6.10**	**153**	P		**Pn**	**03 03 33.8**	**+3.5**
OUZM				S		**Sn**	**03 04 37.6**	**-1.1**

IDC 09 03:12:05.1±1.8,**4°36S**×**151°49E**,**h75**km±33km,**mb3.3**/3,
mb1 3.5/3,**mb1mx3.2**/28,**mbtmp3.6**/3,**Error ellipse:**
s-maj=89.6km s-min=24.5km az=124.0,New Britain
region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.54**	**85**	P		Pn	03 12 20.0	+1.3
	130nm,0.3s,baz=312,slow=0.7,SNR=44							
KRVT				S		Sn	03 12 30.7	+1.9
	121nm,0.3s,baz=220,slow=22,SNR=8.0							
WRA	**Warramunga Arr**	**22.78**	**226**	P		P	03 17 02.4	+0.7
	0.8nm,0.4s,baz=52,slow=10,SNR=10							
ASAR	**Alice Springs**	**25.62**	**220**	P		P	03 17 28.0	+0.3
	0.4nm,0.6s,baz=52,slow=9.4,SNR=7.0							
ZALV	**Zalesovo Beam**	**80.06**	**327**	P		P	03 24 06.9	+0.4
	0.3nm,0.4s,baz=103,slow=6.5,SNR=2.1							
TORD	**Torodi Ar. Bea**	**148.93**	**288**	PKPbc		PKPbc	03 31 44.1	-1.4
	0.3nm,0.4s,baz=70,slow=2.4,SNR=14							

WEL 09 03:54:49.3,41°S±6°×17°4E±°,h65km±9km,**M3.2/9,ML3.6/9,**
MLv3.2/9,Error ellipse: s-maj=0.0km s-min=0.0km
az=144.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NNZ	**Nelson**	**0.16**	**241**	P		Pn	03 54 59.5	+0.5
NNZ				S		Sn	03 55 07.7	+1.6
TUWZ	**Tuamarina**	**0.41**	**136**	P		Pn	03 55 01.1	+0.5
TUWZ				S		Sn	03 55 10.0	+1.0
DUWZ	**D'Urville Isla**	**0.43**	**39**	P		Pn	03 55 01.4	+0.4
DUWZ				S		Sn	03 55 11.1	+1.6
TKNZ	**Takaka Hill**	**0.47**	**283**	P		Pn	03 55 01.7	+0.4
TKNZ				S		Sn	03 55 11.3	+1.2
TCW	**Tory Channel**	**0.54**	**98**	P		Pn	03 55 02.5	+0.5
TCW				S		Sn	03 55 12.1	+0.8
BSWZ	**Blackbirch Sta**	**0.62**	**158**	P		Pn	03 55 03.2	+0.3
MRNZ	**Matariki Terra**	**0.66**	**247**	P		Pn	03 55 03.6	+0.3
MRNZ				S		Sn	03 55 14.8	+1.1
CMWZ	**Cape Campbell**	**0.78**	**142**	P		Pn	03 55 05.6	+0.9
THZ	**Tophouse**	**0.80**	**218**	P		Pn	03 55 05.0	+0.1
THZ				S		Sn	03 55 17.6	+1.0
QRZ	**Quartz Range**	**0.84**	**291**	P		Pn	03 55 05.3	-0.2
QRZ				S		Sn	03 55 17.6	+0.1
WEL	**Wellington**	**0.92**	**99**	P		Pn	03 55 06.5	0.0
WEL				S		Sn	03 55 19.2	0.0
BHW	**Baring Head**	**1.02**	**106**	P		Pn	03 55 07.1	-0.6
BHW				S		Sn	03 55 20.3	-1.1
KIW	**Kapiti Island**	**1.05**	**75**	P		Pn	03 55 08.1	-0.1
CAW	**Cannon Point**	**1.14**	**89**	P		Pn	03 55 08.5	-0.7
CAW				S		Sn	03 55 23.7	-0.4
OGWZ	**Otaki Gorge**	**1.26**	**76**	P		Pn	03 55 10.2	-0.6
KHZ	**Kahutara**	**1.27**	**181**	P		Pn	03 55 10.5	-0.5
MSWZ	**Moikau Station**	**1.30**	**103**	P		Pn	03 55 10.6	-0.7
PLWZ	**Palliser**	**1.34**	**109**	P		Pn	03 55 10.8	-1.2
PAWZ	**Paruwai Farm**	**1.42**	**100**	P		Pn	03 55 11.7	-1.4
DSZ	**Denniston Nort**	**1.46**	**245**	P		Pn	03 55 12.6	-0.8
MTW	**Mount Morrison**	**1.46**	**91**	P		Pn	03 55 12.0	-1.5
HOWZ	**Holdsworth Sta**	**1.50**	**81**	P		Pn	03 55 12.6	-1.4
MRZ	**Mangatainoka R**	**1.60**	**73**	P		Pn	03 55 13.9	-1.5
TRWZ	**Traveller**	**1.62**	**100**	P		Pn	03 55 19.8	+4.1
NMEZ	**Namu Road**	**1.74**	**8**	P		Pn	03 55 18.0	+0.7
TMWZ	**Te Maipa**	**1.76**	**90**	P		Pn	03 55 15.7	-1.8
WAZ	**Wanganui**	**1.76**	**39**	P		Pn	03 55 18.2	+0.7
POWZ	**Post Office Ro**	**1.83**	**67**	P		Pn	03 55 16.7	-1.8
PREZ	**Palmer Road**	**1.85**	**14**	P		Pn	03 55 19.4	+0.6
GVZ	**Greta Valley S**	**1.87**	**192**	P		Pn	03 55 18.5	-0.5
KHEZ	**Kahui Hut**	**1.88**	**11**	P		Pn	03 55 19.6	+0.4
NBEZ	**Newall Road No**	**1.88**	**7**	P		Pn	03 55 19.8	+0.6
LTZ	**Lake Taylor**	**1.90**	**210**	P		Pn	03 55 18.5	-1.0
NEZ	**North Egmont**	**1.91**	**12**	P		Pn	03 55 20.1	+0.4
PRWZ	**Pori Road**	**1.92**	**73**	P		Pn	03 55 17.9	-1.7
PKE	**Pukeiti**	**1.97**	**10**	P		Pn	03 55 20.9	+0.5
CPWZ	**Castlepoint**	**2.01**	**84**	P		Pn	03 55 19.9	-0.9
DREZ	**Durham Road**	**2.01**	**14**	P		Pn	03 55 21.4	+0.5
BFZ	**Birch Farm**	**2.08**	**78**	P		Pn	03 55 19.7	-2.2
TSZ	**Takapari Road**	**2.12**	**60**	P		Pn	03 55 20.5	-1.9
DVHZ	**Dannevirke**	**2.15**	**68**	P		Pn	03 55 20.4	-2.4
VRZ	**Vera Road**	**2.21**	**25**	P		Pn	03 55 24.2	+0.6
INZ	**Inchbonnie**	**2.24**	**224**	P		Pn	03 55 23.3	-0.7
MTVZ	**Mangateitei**	**2.28**	**40**	P		Pn	03 55 24.3	-0.4
PKVZ	**Pokaka**	**2.30**	**37**	P		Pn	03 55 24.5	-0.4
ANWZ	**Angora Road**	**2.31**	**74**	P		Pn	03 55 22.7	-2.2
PNHZ	**Pukenui**	**2.35**	**59**	P		Pn	03 55 23.3	-2.3
TRVZ	**Turoa**	**2.38**	**40**	P		Pn	03 55 20.8	-0.4
WNVZ	**Wahianoa**	**2.39**	**41**	P		Pn	03 55 25.8	-0.4
MOVZ	**Moawhango**	**2.41**	**45**	P		Pn	03 55 25.2	-1.2
WHVZ	**Whangaehu Hut**	**2.42**	**41**	P		Pn	03 55 26.4	-0.3
FWVZ	**Far West T-bar**	**2.42**	**40**	P		Pn	03 55 26.3	-0.4
WPHZ	**Waipukur

MKZ	Mys Kozlova	3.00	35	*e*P	Pn	04 03 39.8	+0.6
MKZ				*e*S	Sn	04 04 12.7	-1.7
TUMD	Tumrok D	3.22	17	*e*P	Pn	04 03 43.5	+1.3
TUMR	Tumrok	3.26	14	*e*P	Pn	04 03 45.0	+2.2
ESO	Esso	3.80	359	*e*P	Pn	04 03 51.4	+1.4
KBTR	Krutoberegovo	4.72	29	*e*P	Pn	04 04 03.7	+1.3
SHEM	Shemya Is, Ala	9.38	80	P	Pn	04 05 08.5	+2.9
	1.5nm,0.3s,baz=81,slow=4.0,SNR=4.0						
SHEM				S	Sn	04 06 47.0	-2.2
	2.6nm,0.3s,baz=89,slow=12,SNR=2.3						
TIXI	Tiksi	23.63	337	P	P	04 07 54.5	-0.8
	3.8nm,0.5s,baz=92,slow=23,SNR=17						
H11N2	WAKE ISLAND Hy	32.96	166	T	T	04 44 32.8	
	baz=351,slow=76,SNR=46						
H11N3	WAKE ISLAND Hy	32.97	166	T	T	04 44 36.3	
	baz=351,slow=76,SNR=35						
H11N1	WAKE ISLAND Hy	32.97	166	T	T	04 44 40.6	
	baz=351,slow=76,SNR=34						
H11S1	WAKE ISLAND Hy	34.13	167	T	T	04 46 09.9	
	baz=352,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy	34.14	167	T	T	04 46 02.6	
	baz=352,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	34.15	167	T	T	04 46 04.6	
	baz=352,slow=76,SNR=4.2						
INK	Inuvik	35.11	37	P	P	04 09 38.4	+1.5
	0.4nm,0.4s,baz=284,slow=8.3,SNR=4.2						
YKA	Yellowknife Ar	44.41	41	P	P	04 10 55.6	+1.7
	0.2nm,0.8s,baz=296,slow=7.2,SNR=3.2						
MKAR	Makanchi Array	47.85	296	P	P	04 11 18.6	-2.5
	0.6nm,0.5s,baz=60,slow=7.0,SNR=8.4						
ARCES	ARCESS Array B	53.95	342	P	P	04 12 06.6	+0.1
	5.0nm,0.9s,baz=27,slow=8.1,SNR=2.4						
FINES	FINESS Array B	60.68	336	P	P	04 12 53.1	-0.7
	1.8nm,1.0s,baz=40,slow=7.2,SNR=1.2						
NB2	NORSAR Subarra	64.23	343	P	P	04 13 17.1	-0.4
	comp=Z,0.5nm,0.5s,baz=24,slow=6.9						
NOA	NORSAR Array B	64.23	343	P	P	04 13 17.2	-0.3
	comp=Z,0.8nm,0.6s,baz=27,slow=6.5,SNR=7.1						
AKASG	Malin Array Be	69.02	328	P	P	04 13 46.4	-1.6
	comp=Z,0.3nm,0.3s,baz=29,slow=6.1,SNR=2.6						
GERES	GERESS Array B	75.09	337	P	P	04 14 24.1	-0.4
	comp=Z,0.3nm,0.5s,baz=64,slow=6.2,SNR=4.2						
H03N2	Juan Fernandez	135.00	89	T	T	06 52 32.9	
	baz=314,slow=77,SNR=26						
H03N1	Juan Fernandez	135.02	89	T	T	06 52 33.8	
	baz=314,slow=77,SNR=33						
H03N3	Juan Fernandez	135.02	89	T	T	06 52 35.5	
	baz=314,slow=77,SNR=22						

*IDC **09** 04:04:28.9±1.4,20.˝72S×178.˝50W,h587km±15km, mb3.5/16,mb1 3.6/20,mb1mx3.5/46,mbtmp4.5/20,Error ellipse: s-maj=25.0km s-min=11.8km az=153.0*
*NEIC **09** 04:04:28.5±1.5,20.˝7S±0.˝2×178.˝5W±0.˝1,h576km±8km, mb4.4/15,Error ellipse: s-maj=29.0km s-min=16.2km az=161.0*

ISC 09 04:04:28.3±0.7,20.˝6S±0.˝2×178.˝44W±0.˝10,h587km,n70, σ1⇑11/72,mb4.3/25,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.40	310	P		P	04 05 57.4	+1.6
	10nm,0.3s,baz=150,slow=9.0,SNR=16							
MSVF	Nonsavu	4.40	310	P		P	04 05 54.0	-1.9
AFI	Afiamalu	9.23	45	P		P	04 06 39.9	+0.5
	4.1nm,0.3s,baz=190,slow=6.1,SNR=4.5							
AFI				S		S	04 08 21.9	-5.0
	18nm,0.3s,baz=228,slow=14,SNR=8.1							
AFI	Afiamalu	9.23	45			S	04 08 23.4	-3.5
MARNC	Mare, Loyalty	12.66	264	P		P	04 07 12.5	-1.2
DZM	Mont Dzumac	14.16	262	P		P	04 07 27.9	-1.1
	0.5nm,0.3s,baz=90,slow=19,SNR=1.6							
RAR	Rarotonga	17.45	95	P		P	04 08 00.4	+0.9
	0.7nm,0.3s,baz=233,slow=7.7,SNR=3.6							
CTA	Charters Tower	33.07	265	P		P	04 10 17.2	+0.3
	4.7nm,0.4s,baz=93,slow=11,SNR=18							
CTAO	Charters Tower	33.07	265	P		P	04 10 17.0	+0.1
STKA	Stephens Creek	37.36	244	P		P	04 10 52.4	+0.1
	1.7nm,0.5s,baz=92,slow=12,SNR=7.4							
STKA	Stephens Creek	37.36	244	P		P	04 10 52.6	+0.3
BBOO	Buckleboo	42.12	244	P		P	04 11 29.7	-0.6
BBOO				IAmb	IAmb		04 11 30.1	
	comp=Z,6.1nm,0.5s							
JAY	Jayapura	43.70	289	P		P	04 11 43.1	+0.2
	comp=Z,16nm,0.5s,baz=137,slow=2.4,SNR=6.9							
WR0	Warramunga Arr	43.98	262	P		P	04 11 44.2	-0.8
WR0				IAmb	IAmb		04 11 45.7	
	comp=Z,12nm,1.2s							
AS31	Alice Springs	44.09	257	P		P	04 11 45.5	-0.3
ASAR	Alice Springs	44.09	257	P		P	04 11 45.4	-0.4
	comp=Z,9.0nm,0.5s,baz=97,slow=7.5,SNR=190							
ASAR				PcP		PcP	04 13 18.0	+0.1
	comp=Z,1.6nm,0.6s,baz=110,slow=3.8,SNR=7.4							
ASAR				S		S	04 17 34.7	-2.1
	comp=Z,1.5nm,0.8s,baz=93,slow=15,SNR=6.4							
ASAR	Alice Springs	44.09	257	P		P	04 11 44.8	-0.9
WB2	Warramunga Arr	44.16	262	P		P	04 11 45.5	-0.8
WB2				IAmb	IAmb		04 11 46.3	
	comp=Z,16nm,1.1s							
WRA	Warramunga Ar	44.17	262	P		P	04 11 45.8	-0.6
	comp=Z,5.1nm,0.4s,baz=98,slow=7.9,SNR=139							
WRA				PcP		PcP	04 13 18.4	+0.2
	comp=Z,0.2nm,0.4s,baz=101,slow=2.7,SNR=1.4							
MTN	Manton Dam	48.75	271	P		P	04 12 20.4	-0.6
MTN				IAmb	IAmb		04 12 21.2	
	comp=Z,11nm,0.8s							
FORT	Forrest	48.86	247	P		P	04 12 21.0	-0.5
KNRA	Kununurra	50.24	266	P		P	04 12 31.3	-0.6
KNRA				IAmb	IAmb		04 12 32.8	
	comp=Z,7.4nm,0.7s							
FITZ	Fitzroy Crossi	52.60	263	P		P	04 12 48.9	0.0
	comp=Z,3.2nm,0.5s,baz=73,slow=3.5,SNR=26							
SIJI	Sorong	52.88	285	P		P	04 12 51.4	+0.5
	comp=Z,18nm,0.6s,baz=94,slow=8.9,SNR=6.7							
PSA00	Pilbara Seismi	57.23	257	P		P	04 13 20.8	-0.3
PSA00				IAmb	IAmb		04 13 21.0	
	comp=Z,7.4nm,0.8s							
MORW	Morawa	59.40	248	P		P	04 13 35.0	-0.5
MORW				IAmb	IAmb		04 13 45.6	
	comp=Z,33nm,1.5s							
JHJ	Hachijo jima 2	66.70	322	P		P	04 14 23.4	+1.5
	comp=Z,53nm,0.8s,baz=240,slow=22,SNR=1.9							
JNU	Nakatsue	72.09	317	P		P	04 14 53.7	-0.5
	comp=Z,5.6nm,0.9s,baz=138,slow=5.4,SNR=5.5							
PETK	Petropavlovsk-	76.30	345	P		P	04 15 17.9	+0.5
	comp=Z,3.1nm,0.6s,baz=134,slow=8.5,SNR=6.5							
KSRS	Korea Array	76.72	319	P		P	04 15 21.3	+1.3
	comp=Z,1.2nm,0.6s,baz=133,slow=5.3,SNR=4.3							
KSAR	Wonju Array Be	76.73	319	P		P	04 15 21.3	+1.2
NVAR	Mina Array Bea	81.41	44	P		P	04 15 47.0	+1.9
	comp=Z,0.1nm,0.3s,baz=230,slow=7.0,SNR=2.4							
KLR	Kul'dur	82.44	330	P		P	04 15 51.2	+1.5
	comp=Z,0.8nm,0.6s,baz=67,slow=3.5,SNR=4.8							
ENH	Enshi	85.78	304	P		P	04 16 07.2	+0.6
SEY	Seymchan	86.42	347	P		P	04 16 09.8	+1.1
	comp=Z,2.6nm,0.5s,baz=137,slow=5.1,SNR=15							
ILAR	Eielson Array	88.54	13	P		P	04 16 19.0	+0.3
	comp=Z,0.9nm,0.5s,baz=217,slow=5.1,SNR=16							
ILAR	Eielson Array	88.54	13	P		P	04 16 19.0	+0.3
PD31	Pinedale Array	89.34	43	P		P	04 16 23.8	+0.5
PDAR	Pinedale Array	89.34	43	P		P	04 16 24.9	+1.6
	comp=Z,0.4nm,0.5s,baz=200,slow=4.5,SNR=4.8							
CMAR	Chiang Mai Arr	89.77	290	P		P	04 16 26.9	+1.4
	comp=Z,1.9nm,0.4s,baz=123,slow=3.1,SNR=12							
CHTO	Chiang Mai	89.90	290	P		P	04 16 24.8	-1.3
CHTO				IAmb	IAmb		04 16 28.5	
	comp=Z,3.4nm,0.7s							
MKAR	Makanchi Array	110.99	313	PKiKP		PKiKP	04 21 54.8	-0.8
	comp=Z,0.3nm,0.4s,baz=77,slow=2.3,SNR=7.0							
ARCES	ARCESS Array B	128.98	349	PKP		PKPdf	04 22 29.1	-0.3
	comp=Z,1.2nm,0.5s,baz=3.1,slow=2.0,SNR=9.0							
FINES	FINESS Array B	135.79	343	PKP		PKiKP	04 22 43.9	-0.2
	comp=Z,1.2nm,0.9s,baz=94,slow=2.9,SNR=6.4							
NB2	NORSAR Subarra	139.07	353	PKP		PKPdf	04 22 40.2	-8.3
	comp=Z,1.3nm,0.9s,baz=21,slow=3.7							
NOA	NORSAR Array B	139.07	353	PKhKP		PKPpre	04 22 41.4	
	comp=Z,0.3nm,0.6s,baz=19,slow=3.8,SNR=3.6							
NOA				PKP		PKiKP	04 22 50.5	-0.5
	comp=Z,0.4nm,0.8s,baz=12,slow=4.0,SNR=1.4							
SUW	Suwalki	142.82	339	PKPdf		PKPdf	04 22 53.9	-1.4
LODK	Lodwar	142.91	247			PKPdf	04 22 55.4	-1.5
AKASG	Malin Array Be	142.93	331	PKhKP		PKPpre	04 22 53.0	
	comp=Z,6.8nm,0.4s,baz=43,slow=4.3,SNR=55							
BNN	Bunyan	145.40	309	PKPbc		PKPbc	04 23 02.5	+0.7
BR131	Keskin Array S	146.63	312			PKPbc	04 23 04.9	-0.4
BRTR	Keskin Array B	146.63	312	PKPbc		PKPbc	04 23 05.2	-0.1
	comp=Z,2.0nm,0.6s,baz=132,slow=4.0,SNR=12							
BURAR	Bucovina Array	146.98	330	PKPbc		PKiKP	04 23 08.2	+0.5
OSTC	Ostas	147.98	342	*e*PKP		PKPbc	04 23 09.1	+0.9
CLL	Collm	148.10	346			PKPbc	04 23 08.4	0.0
DPC	Dobruska-Polom	148.13	342	*e*PKP		PKPbc	04 23 09.3	+0.6
KRLC	Kraliky	148.24	341	*e*PKP		PKPbc	04 23 09.5	+0.6
PRU	Pruhonice	148.95	344	*e*PKP		PKPbc	04 23 10.8	+0.2
PRU				*ex*		x	04 23 18.2	
KHC	Kasperske Hory	149.99	344			PKiKP	04 23 13.9	+0.1
KHC	Kasperske Hory	149.99	344	*e*PKP		PKPbc	04 23 13.5	+0.3
KHC				*ex*		x	04 23 22.5	
CKRC	Cesky Krumlov	150.08	343	*e*PKP		PKPbc	04 23 13.9	+0.5
GERES	GERESS Array B	150.22	344	PKPbc		PKPbc	04 23 14.1	+0.3
	comp=Z,1.3nm,0.6s,baz=0.0,slow=0.1,SNR=8.3							
CONA	Conrad Observa	150.42	340	*i* P		PKiKP	04 23 15.2	+0.4
	comp=Z,2.8nm,0.6s							
RONA	Rosalia, Austr	150.49	340	*i* P		PKiKP	04 23 15.2	+0.4
	comp=Z,4.1nm,0.5s							
MOA	Molln	150.97	342	*i* P		PKPbc	04 23 15.8	+0.3
	comp=Z,1.0nm,0.5s							
RETA	Reutte	152.19	347	*i* P		PKPbc	04 23 18.5	+0.3
	comp=Z,1.4nm,0.6s							
WTTA	Wattenberg	152.21	345	*i* P		PKPbc	04 23 18.8	+0.4
	comp=Z,2.1nm,0.4s							
MOTA	Moosalm	152.25	346	*i* P		PKPbc	04 23 18.7	+0.2
	comp=Z,0.8nm,0.5s							
SQTA	Sankt Quirin	152.35	346	*i* P		PKPbc	04 23 19.0	+0.3
	comp=Z,2.1nm,0.7s							
ABTA	Abfaltersbach	152.47	344	*i* P		PKPbc	04 23 18.7	-0.2
	comp=Z,2.9nm,0.7s							

*NEIC **09** 04:09:45.9±1.3,5.˝66S±0.˝07×148.˝34E±0.˝07,h56km±6km, mb4.4/15,Error ellipse: s-maj=12.3km s-min=8.3km az=131.0*
*IDC **09** 04:09:47.4±2.7,5.˝63S×148.˝20E,h70km±28km,mb4.0/10, mb1 4.2/14,mb1mx3.9/37,mbtmp4.3/14,MS3.4/5, Ms1 3.4/5,ms1mx2.9/47,Error ellipse: s-maj=30.3km s-min=16.6km az=124.0*

ISC 09 04:09:45.5±0.6,5.˝57S±0.˝06×148.˝27E±0.˝08,h50km,n41, σ1⇑33/40,mb4.4/16,MS3.2/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MANU	Manus Island	3.62	346	Pn		Pn	04 10 40.3	+1.3
KRVT	Keravat (AS076	3.95	72	P		Pn	04 10 46.8	+3.2
	5.7nm,0.3s,baz=221,slow=9.4,SNR=4.8							
PMG	Port Moresby	3.97	196	P		Pn	04 10 44.3	+0.5
	1.9nm,0.3s,baz=24,slow=13,SNR=11							
PMG				S		Sn	04 11 32.7	+3.6
	2.8nm,0.3s,baz=35,slow=17,SNR=3.4							
PMG	Port Moresby	3.97	196			Pn	04 10 43.5	-0.4
RABL	Rabaul	4.12	71	Pn		Pn	04 10 45.2	-0.8
SIJI	Sorong	17.60	285	P		Pn	04 13 48.1	+0.7
	1.5nm,0.3s,baz=188,slow=22,SNR=1.7							
WB0	Warramunga Arr	19.53	222	P		P	04 14 08.9	-0.1
WR0	Warramunga Arr	19.57	222	P		P	04 14 08.4	-0.9
WR0				IAmb	IAmb		04 14 09.9	
	comp=Z,15nm,0.9s							
WB2	Warramunga Arr	19.68	222	P		P	04 14 10.2	-0.4
WB2				IAmb	IAmb		04 14 11.1	
	comp=Z,20nm,0.8s							
WRA	Warramunga Ar	19.69	222	P		P	04 14 10.2	-0.5
	comp=Z,0.6nm,0.3s,baz=49,slow=11,SNR=57							
AS31	Alice Springs	22.69	216	P		P	04 14 42.2	-0.9
ASAR	Alice Springs	22.70	216	P		P	04 14 42.0	-1.1
	comp=Z,25nm,0.8s,baz=54,slow=8.3,SNR=66							
ASAR				S		S	04 18 51.7	+3.6
	comp=Z,2.6nm,1.1s,baz=33,slow=19,SNR=4.4							
ASAR				LR	LR		04 23 53.8	
	comp=Z,47nm,20.6s,baz=118,slow=37							
ASAR	Alice Springs	22.70	216	P		P	04 14 41.4	-1.7
DZM	Mont Dzumac	24.05	135	LR	LR		04 22 29.2	
	comp=Z,150nm,19.8s,baz=208,slow=32							
FITZ	Fitzroy Crossi	25.36	239	P		P	04 15 07.0	-1.1
	comp=Z,21nm,0.9s,baz=81,slow=7.0,SNR=27							
FITZ				LR	LR		04 26 59.0	
	comp=Z,77nm,19.0s,baz=121,slow=41							
FITZ	Fitzroy Crossi	25.36	239	P		P	04 15 06.9	-1.3
STKA	Stephens Creek	26.91	193	P		P	04 15 22.3	+0.4
	comp=Z,3.9nm,0.9s,baz=20,slow=16,SNR=5.4							
FORT	Forrest	31.46	215	P		P	04 16 01.6	-0.8
BKZ	Black Stump Fm	42.06	147	P		P	04 17 30.7	-1.8
BKZ				IAmb	IAmb		04 17 48.6	
	comp=Z,14nm,1.5s							
CMAR	Chiang Mai Arr	54.16	297	P		P	04 19 07.0	+0.7
	comp=Z,1.1nm,0.4s,baz=112,slow=5.0,SNR=6.0							
SONM	Songino Array	64.65	330	P		P	04 20 18.0	-0.2
	comp=Z,1.2nm,0.8s,baz=155,slow=4.9,SNR=8.4							
SONM	Songino Array	64.65	330	P		P	04 20 19.0	+0.8
SONM				IAmb	IAmb		04 20 21.1	
	comp=Z,3.9nm,1.2s							
YAK	Yakutsk	68.91	351	LR	LR		04 49 50.4	
	comp=Z,8.8nm,19.8s,baz=267,slow=35							
MK31	Makanchi Array	77.97	320	P		P	04 21 38.0	-0.6
MKAR	Makanchi Array	77.97	320	P		P	04 21 38.0	-0.5
	comp=Z,1.7nm,1.0s,baz=102,slow=8.8,SNR=7.1							
MKAR	Makanchi Array	77.97	320	P		P	04 21 36.9	-1.7
TIXI	Tiksi	78.11	354	P		P	04 21 39.6	+0.8
TIXI				IAmb	IAmb		04 21 41.5	
	comp=Z,5.7nm,1.4s							
MAKZ	Makanchi	78.18	320	P		P	04 21 39.4	-0.3
MAKZ				IAmb	IAmb		04 21 46.3	
	comp=Z,2.8nm,0.5s							
ZALV	Zalesovo Beam	79.32	327	P		P	04 21 44.8	-0.9
	comp=Z,1.6nm,0.7s,baz=104,slow=6.1,SNR=7.2							
ZALV	Zalesovo Beam	79.32	327	P		P	04 21 44.6	-1.2
NIL	Nilore	80.70	305	P		P	04 21 53.5	-0.2
NIL				IAmb	IAmb		04 22 04.6	
	comp=Z,3.9nm,0.8s							
KURK	Kurchatov	81.62	323	P		P	04 21 57.7	-0.5
KURK				IAmb	IAmb		04 21 58.7	
	comp=Z,7.9nm,1.3s							
ILAR	Eielson Array	84.59	23	P		P	04 22 13.7	+0.5
	comp=Z,0.9nm,1.1s,baz=268,slow=5.9,SNR=5.2							
KKAR	Karatay Array	84.89	314	P		P	04 22 13.7	-1.5
NRIK	Noril'sk	85.26	342	P		P	04 22 16.1	-0.3
	comp=Z,2.2nm,0.5s,baz=124,slow=5.4,SNR=5.1							
NRIK	Noril'sk	85.26	342	P		P	04 22 16.9	+0.4
BRVK	Borovoye	87.24	324	P		P	04 22 26.0	-0.5
BRVK				IAmb	IAmb		04 22 36.4	
	comp=Z,4.2nm,1.4s							
YKA	Yellowknife Ar	98.21	28	P		P	04 23 16.3	-0.7
	comp=Z,0.1nm,0.4s,baz=263,slow=4.9,SNR=3.7							
KIRV	Kirov	99.34	328	LR	LR		05 10 08.6	
	comp=Z,37nm,18.8s,baz=54,slow=36							
TOA0	Torodi Ar. Sit	146.20	285	PKPbc		PKPdf	04 29 19.3	-1.0
TORD	Torodi Ar. Bea	146.20	285	PKPbc		PKPdf	04 29 19.4	-1.0
	comp=Z,0.7nm,0.8s,baz=74,slow=3.0,SNR=4.1							

*NNC **09** 04:10:58.5±4.7,36.˝60N×70.˝15E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=38.1km s-min=27.1km az=171.0*

ISC 09 04:11:05.0±3.0,36.˝5N±0.˝2×70.˝6E±0.˝1,h204km,n12, σ1⇑51/17,6C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	Almayashu	6.09	22	P		Pn	04 12 32.1	-1.6
	SNR=30							
UCH	Uchtor	6.45	27	P		Pn	04 12 37.2	-1.2
	SNR=14							
KK31	Karatay Array	6.56	359	⇓P		Pn	04 12 37.2	-2.3
	1.6nm,0.2s,baz=188,slow=13,SNR=56							
KK31				⇑S		S	04 13 53.6	-0.8
	10nm,0.6s,baz=192,slow=26,SNR=12							
EKS2	Erkin-Say	6.60	21	P		Pn	04 12 39.5	-0.5
	SNR=7.2							
AAK	Ala-Archa	6.80	25	P		Pn	04 12 41.9	-0.8
	SNR=8.8							
CHMS	Chumysh	7.21	25	P		Pn	04 12 46.9	-1.0
	SNR=5.2							
CHMS	Chumysh	7.21	25	⇑P		Pn	04 12 46.7	-1.1
	9.4nm,0.7s							
CHMS				⇓S		S	04 14 09.3	-0.4
	6.1nm,0.6s							
USP	Ospenovka	7.37	23	P		Pn	04 12 49.5	-0.4
	SNR=11							
TKM2	Tokmak 2	7.45	30	P		Pn	04 12 50.6	-0.7
	SNR=6.8							
TKM2	Tokmak 2	7.45	30	⇑P		Pn	04 12 50.3	-0.9
	3.3nm,0.6s							
TKM2				⇑S		S	04 14 17.5	+1.8
	5.6nm,1.0s							
AB31	Akbulak array	14.90	332	⇓P		P	04 14 25.7	-0.6
	5.1nm,0.6s,baz=147,slow=10,SNR=81							
AB31				⇑S		S	04 17 10.4	-0.3
	0.5nm,0.5s,baz=152,slow=25,SNR=4.1							
AKTO	Aktyubinsk	16.59	331	⇑P		Pn	04 14 48.3	+2.3
	3.2nm,0.8s							
AKTO				⇓S		S	04 17 50.8	+2.9
	2.1nm,0.7s							

*NNC **09** 04:37:47.8±2.7,37.˝30N×76.˝06E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=21.0km s-min=16.5km az=163.0*
*IDC **09** 04:37:51.5±5.2,37.˝20N×76.˝09E,h98km±39km,mb3.4/6, mb1 3.5/10,mb1mx3.3/37,mbtmp3.7/10,Error ellipse: s-maj=39.8km s-min=23.5km az=179.0*

ISC 09 04:37:51.3±0.7,37.˝20N±0.˝06×76.˝28E±0.˝08,h100km,n32, σ1⇑76/39,mb3.4/6,5C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	4.30	216	P		Pn	04 38 57.3	+2.6
CEP	Cherat	4.90	228	P		Pn	04 39 03.9	+1.0
UCH	Uchtor	5.21	345	P		Pn	04 39 08.1	+0.9
	SNR=10							
AML	Almayashu	5.32	339	P		Pn	04 39 08.8	+0.2
	SNR=16							
KBK	Karagaybulak	5.55	350	P		Pn	04 39 14.8	+3.2
	SNR=10							
AAK	Ala-Archa	5.60	346	P		Pn	04 39 15.2	+2.8
	SNR=6.0							
AAK	Ala-Archa	5.60	346	P		Pn	04 39 13.6	+1.3
	2.0nm,0.3s,baz=166,slow=11,SNR=11							
AAK				S		Sn	04 40 14.2	-1.2
	1.8nm,0.3s,baz=180,slow=20,SNR=5.3							
TKM2	Tokmak 2	5.74	355	P		Pn	04 39 16.8	+2.6
	SNR=10							
TKM2	Tokmak 2	5.74	355	⇑Pn		Pn	04 39 14.1	-0.1
	3.0nm,0.4s							
TKM2				⇑Sn		Sn	04 40 20.3	+1.4
	6.0nm,0.7s							
THW	Thamme Wali	5.76	222	P		Pn	04 39 14.9	+0.5
MDOK	Medeo	5.99	5	⇓Pn		Pn	04 39 17.9	+0.4
	5.2nm,0.6s							
MDOK				⇓Sn		Sn	04 40 26.0	+1.2
	13nm,1.0s							
USP	Ospenovka	6.21	348	P		Pn	04 39 21.9	+1.4
	SNR=5.5							
PDGK	Podgornoye	6.60	21	⇓Pn		Pn	04 39 25.7	-0.1
	13nm,0.8s							
PDGK				⇓Sn		Sn	04 40 42.5	+2.9
	11nm,0.7s							
KK31	Karatay Array	7.37	325	⇑Pn		Pn	04 39 33.1	-3.1
	1.3nm,0.3s,baz=138,slow=11,SNR=30							
KK31				⇑Sn		Sn	04 40 57.0	-1.1
	5.6nm,0.5s,baz=129,slow=21,SNR=9.0							
MK31	Makanchi Array	10.58	23	⇑Pn		Pn	04 40 18.5	-1.3
	0.4nm,0.3s,baz=199,slow=12,SNR=21							
MK31				⇓Sn		Sn	04 42 19.0	+2.8
	1.7nm,0.8s,baz=170,slow=26,SNR=5.2							
MKAR	Makanchi Array	10.58	23	P		Pn	04 40 19.1	-0.6
	0.6nm,0.3s,baz=202,slow=14,SNR=21							
MKAR				S		Sn	04 42 11.5	-4.7
	0.1nm,0.3s,baz=197,slow=15,SNR=2.8							
PYUN	Piuthan	10.69	146	*e*P		Pn	04 40 20.6	-1.0
	24nm,0.4s							
DANN	Dangsing	10.83	142	*e*P		Pn	04 40 22.7	-1.0
	108nm,0.4s							
KOLN	Koldanda	11.24	145	*e*P		Pn	04 40 28.6	-0.5
PKIN	Phulchoki	12.30	139	*e*P		Pn	04 40 43.4	+0.2
	20nm,0.4s							
PKI	Pulchoki	12.31	139	*e*P		Pn	04 40 43.2	-0.2
	17nm,0.4s							
JIRN	Jiri	12.66	136	*e*P		Pn	04 40 48.2	+0.1
	44nm,0.4s							
KURBB	Kurchatov Arra	13.52	6	P		Pn	04 40 56.0	-2.8
	0.0nm,0.3s,baz=189,slow=12,SNR=5.6							
ZALV	Zalesovo Beam	17.76	17	P		P	04 41 51.2	-0.2
	0.4nm,0.3s,baz=211,slow=9.2,SNR=11							
AKTO	Aktyubinsk	18.61	321	P		Pn	04 42 00.

X37A	**Clayton**	**1.96**	**121**	P		**Pn**	**04 59 41.8**	**+0.3**
	baz=302							
X37A				Sb		**Sb**	**05 00 08.8**	**+0.4**
	baz=302							
Z35A	**Perchaven, San**	**2.28**	**177**			**Pn**	**04 59 45.5**	**-0.4**
Z35A	**Perchaven, San**	**2.28**	**177**	S		**Sb**	**05 00 16.5**	**-1.2**
	baz=357							
HHAR	**Hobbs**	**2.89**	**76**			**Pn**	**04 59 54.7**	**+0.4**
W39A	**Magazine**	**2.99**	**97**			**Pn**	**04 59 54.6**	**-1.0**
W39A				lAmb_Lg			05 00 46.0	
	comp=Z,18nm,0.7s							
W39A	**Magazine**	**2.99**	**97**	P		**Pn**	**04 59 55.2**	**-0.5**
	baz=279							
W39A				S		**Sn**	**05 00 31.7**	**-0.2**
	baz=279							
ABTX	**Abilene, Hawle**	**3.51**	**213**	Pn		**Pn**	**05 00 02.6**	**-0.3**
KSU1	**Kansas State U**	**3.54**	**10**	Pn		**Pn**	**05 00 03.4**	**+0.2**
WHTX	**Lake Whitney,**	**3.61**	**181**	Pn		**Pn**	**05 00 03.8**	**-0.4**
WHTX	**Lake Whitney,**	**3.61**	**181**	Sb		**Sb**	**05 00 58.4**	**+2.3**
	baz=0.9							
U40A	**Yellville**	**3.77**	**77**	Pn		**Pn**	**05 00 05.7**	**-0.7**
S39A	**Bolivar**	**3.88**	**57**	P		**Pb**	**05 00 16.9**	**+0.3**
	baz=238							
X40A	**Basin Creek Fa**	**3.92**	**105**	Pn		**Pn**	**05 00 07.6**	**-0.8**
X40A				lAmb_Lg			05 01 14.3	
	comp=Z,29nm,0.9s							
X40A	**Basin Creek Fa**	**3.92**	**105**	P		**Pb**	**05 00 19.4**	**+2.2**
	baz=288							
X40A				P		**Pb**	**05 00 19.4**	**+2.2**
	baz=288							
WHAR	**Wooly Hollow**	**4.19**	**93**	Pn		**Pn**	**05 00 11.7**	**-0.5**
WHAR				lAmb_Lg			05 01 18.3	
	comp=Z,16nm,1.0s							
UALR	**University of**	**4.23**	**100**	Pn		**Pn**	**05 00 12.2**	**-0.5**
W41B	**Gary Mavity, V**	**4.24**	**94**			**Pn**	**05 00 11.8**	**-1.0**
W41B				lAmb_Lg			05 01 21.7	
	comp=Z,14nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.31**	**85**	Pn		**Pn**	**05 00 12.8**	**-1.0**
FCAR				lAmb_Lg			05 01 22.0	
	comp=Z,13nm,0.8s							
MGMO	**Mountain Grove**	**4.42**	**68**	Pn		**Pn**	**05 00 14.7**	**-0.7**
MGMO				lAmb_Lg			05 01 31.4	
	comp=Z,32nm,0.7s							
Z41A	**Richland Creek**	**4.47**	**120**	lAmb_Lg			05 01 35.2	
	comp=Z,12nm,1.0s							
MSTX	**Muleshoe**	**4.71**	**251**	Pn		**Pn**	**05 00 18.7**	**-0.7**
MSTX				lAmb_Lg			05 01 41.8	
	comp=Z,11nm,0.9s							
435B	**Jarrell**	**4.82**	**182**	lAmb_Lg			05 01 47.4	
	comp=Z,17nm,0.9s							
R40A	**Maddies Statio**	**4.91**	**55**	Pn		**Pn**	**05 00 22.2**	**+0.2**
R40A				lAmb_Lg			05 01 44.9	
	comp=Z,19nm,0.7s							
P38A	**Dawn**	**5.05**	**36**	Pn		**Pn**	**05 00 23.5**	**-0.5**
P38A				lAmb_Lg			05 01 57.3	
	comp=Z,13nm,0.7s							
LCAR	**Lake Charles**	**5.10**	**83**	Pn		**Pn**	**05 00 24.2**	**-0.5**
LCAR				lAmb_Lg			05 01 56.1	
	comp=Z,10nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.37**	**311**	lAmb_Lg			05 02 07.7	
	comp=Z,30nm,1.3s							
JCT	**Junction City**	**5.50**	**202**	lAmb_Lg			05 02 06.1	
	comp=Z,15nm,1.0s							
CCM	**Cathedral Cave**	**5.51**	**62**	Pn		**Pn**	**05 00 30.5**	**+0.2**
CCM				lAmb_Lg			05 02 00.2	
	comp=Z,15nm,0.8s							
P40A	**Paris**	**5.78**	**46**	Pn		**Pn**	**05 00 33.5**	**-0.6**
BGNE	**Belgrade**	**5.82**	**354**	lAmb_Lg			05 02 27.1	
	comp=Z,32nm,0.8s							
T25A	**Trinidad**	**5.85**	**287**	Pn		**Pn**	**05 00 33.6**	**-1.6**
T25A				lAmb_Lg			05 02 19.4	
	comp=Z,9.3nm,0.9s							
FVM	**French Village**	**6.08**	**65**	lAmb_Lg			05 02 26.1	
	comp=Z,14nm,0.8s							
N38A	**Joes South For**	**6.13**	**31**	lAmb_Lg			05 02 30.4	
	comp=Z,19nm,0.7s							
L34A	**Svendsen Farm,**	**6.40**	**7**	lAmb_Lg			05 02 42.8	
	comp=Z,27nm,0.8s							
OGNE	**Ogallala**	**6.45**	**327**	lAmb_Lg			05 02 44.4	
	comp=Z,21nm,0.8s							
W45A	**Hickory Valley**	**6.73**	**91**	lAmb_Lg			05 02 52.3	
	comp=Z,12nm,0.7s							
Q24A	**Divide**	**7.02**	**301**	lAmb_Lg			05 02 51.5	
	comp=Z,6.9nm,0.7s							
K31A	**O'Neill**	**7.08**	**352**	lAmb_Lg			05 02 57.6	
	comp=Z,22nm,0.7s							
Q44A	**Meyer Farm, Va**	**7.45**	**61**	lAmb_Lg			05 03 19.2	
	comp=Z,16nm,0.7s							
O44A	**Mansfield**	**8.39**	**55**	lAmb_Lg			05 03 35.4	
	comp=Z,18nm,0.8s							
N23A	**Red Feather La**	**8.54**	**311**	lAmb_Lg			05 03 49.7	
	comp=Z,9.9nm,1.1s							

*INET **09** 05:03:18.7±0.7, 12°.87N×89°.09W, h15$^{km}_{\pm}$28^{km}, MW2.9*
*UCR **09** 05:03:20.5±1.1, 12°.97N×89°.05W, h35$^{km}_{\pm}$999^{km}, ML3.6*
*SNET **09** 05:03:20.4±1.1, 12°.97N×89°.05W, h35$^{km}_{\pm}$761^{km}, ML3.6*

ISC 09 05:03:18.8±1.7, 12°.88N±0°.07×89°.08W±0°.04, h28$^{km}_{\pm}$12^{km}, n54, σ0°30/86, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
SJTE	**Alcalda de S**	**0.73**	**5**	*e*P		**Pb**	**05 03 33.1**	**0.0**
SJTE				*e*S		**Sb**	**05 03 43.0**	**+0.1**
SJTE	**Alcalda de S**	**0.73**	**5**	*e*P		**Pb**	**05 03 33.1**	**0.0**
SJTE				*e*S		**Sb**	**05 03 43.0**	**+0.1**
LFRS	**El Faro**	**0.74**	**1**	*i* P		**Pb**	**05 03 33.2**	**0.0**
LFRS	**El Faro**	**0.74**	**1**	*i* P		**Pb**	**05 03 33.2**	**0.0**
COEG	**Centro de Oper**	**0.76**	**15**	*e*P		**Pb**	**05 03 33.2**	**-0.3**
COEG				*e*S		**Sb**	**05 03 43.9**	**+0.3**
COEG	**Centro de Oper**	**0.76**	**15**	*e*P		**Pb**	**05 03 33.2**	**-0.3**
COEG				*e*S		**Sb**	**05 03 43.9**	**+0.3**
COEB	**Comit de Eme**	**0.81**	**41**	*e*P		**Pn**	**05 03 34.7**	**+0.2**
COEB				*e*S		**Sn**	**05 03 45.6**	**-0.1**
COEB				IAML			05 03 48.2	
	comp=Z,2μm,0.2s							
COEB	**Comit de Eme**	**0.81**	**41**	*e*P		**Pn**	**05 03 34.7**	**+0.2**
COEB				*e*S		**Sn**	**05 03 45.6**	**-0.1**
COEB				*e*S		**Sb**	**05 03 45.8**	**+0.6**
COEB				IAML			05 03 48.2	
	comp=Z,2μm,0.2s							
COEB	**Comit de Eme**	**0.81**	**41**	*e*P		**Pb**	**05 03 34.5**	**0.0**
SNET	**Serv Nac Est T**	**0.82**	**350**	*e*P		**Pb**	**05 03 34.3**	**-0.2**
SNET				*e*S		**Sb**	**05 03 44.8**	**-0.4**
SNET	**Serv Nac Est T**	**0.82**	**350**	*e*P		**Pb**	**05 03 34.3**	**-0.2**
SNET				*e*S		**Sb**	**05 03 44.8**	**-0.4**
SNET	**Serv Nac Est T**	**0.82**	**350**	*e*P		**Pb**	**05 03 34.3**	**-0.2**
PAVA	**Las Pavas**	**0.84**	**9**	*e*P		**Pn**	**05 03 34.7**	**-0.2**
PAVA				*e*S		**Sb**	**05 03 46.1**	**+0.2**
PAVA	**Las Pavas**	**0.84**	**9**	*e*P		**Pn**	**05 03 34.7**	**-0.2**
PAVA				*e*S		**Sb**	**05 03 46.1**	**+0.2**
PAVA	**Las Pavas**	**0.84**	**9**	*e*P		**Pn**	**05 03 34.6**	**-0.2**
UEES	**Universidad Ev**	**0.85**	**349**	*e*P		**Pn**	**05 03 34.9**	**-0.1**
UEES				*e*S		**Sb**	**05 03 46.4**	**+0.3**
UEES	**Universidad Ev**	**0.85**	**349**	*e*P		**Pn**	**05 03 34.9**	**-0.1**
UEES				*e*S		**Sb**	**05 03 46.4**	**+0.3**
LBRS	**Las Brisas**	**0.85**	**2**	*e*P		**Pb**	**05 03 35.2**	**0.0**
LBRS	**Las Brisas**	**0.85**	**2**	*e*P		**Pb**	**05 03 35.2**	**0.0**
LFU	**La Fuente**	**0.86**	**358**	*e*P		**Pn**	**05 03 35.2**	**0.0**
LFU				*e*S		**Sn**	**05 03 47.2**	**+0.3**
LFU	**La Fuente**	**0.86**	**358**	*e*P		**Pn**	**05 03 35.2**	**0.0**
LFU				*e*S		**Sn**	**05 03 47.2**	**+0.3**
BOQS	**Boqueron**	**0.87**	**347**	*e*P		**Pn**	**05 03 35.3**	**-0.1**
BOQS				*e*S		**Sb**	**05 03 47.2**	**+0.2**
BOQS	**Boqueron**	**0.87**	**347**	*e*P		**Pn**	**05 03 35.3**	**-0.1**
BOQS				*e*S		**Sb**	**05 03 47.2**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.89**	**23**	*i* P		**Pn**	**05 03 35.5**	**0.0**
SCLA				*e*S		**Sb**	**05 03 47.1**	**0.0**
SCLA	**Alcaldia de Sa**	**0.89**	**23**	*i* P		**Pn**	**05 03 35.5**	**0.0**
SCLA				*e*S		**Sb**	**05 03 47.1**	**0.0**
JUCU	**Jucuar¡n**	**0.89**	**65**	*e*P		**Pn**	**05 03 35.4**	**-0.2**
JUCU				*e*S		**Sb**	**05 03 46.9**	**-0.4**
JUCU	**Jucuar¡n**	**0.89**	**65**	*e*P		**Pn**	**05 03 35.4**	**-0.2**
JUCU				*e*S		**Sb**	**05 03 46.9**	**-0.4**
JUCU	**Jucuar¡n**	**0.89**	**65**	*e*P		**Pn**	**05 03 35.2**	**-0.3**
LCY	**Lacayo**	**0.94**	**55**	*e*P		**Pb**	**05 03 36.4**	**-0.1**
LCY	**Lacayo**	**0.94**	**55**	*e*P		**Pb**	**05 03 36.4**	**-0.1**
PACA	**Pacayal**	**0.94**	**51**	*e*P		**Pb**	**05 03 36.6**	**0.0**
PACA				*e*S		**Sn**	**05 03 49.2**	**+0.3**
PACA	**Pacayal**	**0.94**	**51**	*e*P		**Pb**	**05 03 36.6**	**0.0**
PACA				*e*S		**Sn**	**05 03 49.2**	**+0.3**
VSM	**San Miguel**	**0.95**	**55**	*e*P		**Pb**	**05 03 36.9**	**0.0**
VSM	**San Miguel**	**0.95**	**55**	*e*P		**Pb**	**05 03 36.9**	**0.0**
CEVE	**Cerro Verde**	**1.08**	**331**	*e*P		**Pn**	**05 03 38.4**	**0.0**
CEVE				*e*S		**Sb**	**05 03 53.4**	**+0.4**
CEVE				IAML			05 03 58.5	
	comp=Z,1μm,0.3s							
CEVE	**Cerro Verde**	**1.08**	**331**	*e*P		**Pn**	**05 03 38.4**	**0.0**
CEVE				*e*S		**Sb**	**05 03 53.4**	**+0.4**
CEVE				IAML			05 03 58.5	
	comp=Z,1μm,0.3s							
SBLS	**San Blas**	**1.09**	**331**	*e*P		**Pb**	**05 03 39.0**	**-0.2**
SBLS	**San Blas**	**1.09**	**331**	*e*P		**Pb**	**05 03 39.0**	**-0.2**
SNJE	**San Jose**	**1.11**	**333**	*e*P		**Pb**	**05 03 39.1**	**-0.4**
SNJE	**San Jose**	**1.11**	**333**	*e*P		**Pb**	**05 03 39.1**	**-0.4**
RTR	**El Retiro**	**1.15**	**331**	*e*P		**Pb**	**05 03 39.9**	**-0.4**
RTR	**El Retiro**	**1.15**	**331**	*e*P		**Pb**	**05 03 39.9**	**-0.4**
NUBE	**Las Nubes**	**1.23**	**326**	*e*P		**Pn**	**05 03 40.6**	**+0.4**
NUBE				*e*S		**Sn**	**05 03 55.5**	**-0.4**
NUBE	**Las Nubes**	**1.23**	**326**	*e*P		**Pn**	**05 03 40.6**	**+0.4**
NUBE				*e*S		**Sn**	**05 03 55.5**	**-0.4**
LCND	**La Caada**	**1.23**	**70**	*e*P		**Pn**	**05 03 40.5**	**+0.3**
LCND				*e*S		**Sn**	**05 03 55.9**	**-0.1**
LCND	**La Caada**	**1.23**	**70**	*e*P		**Pn**	**05 03 40.5**	**+0.3**
LCND				*e*S		**Sn**	**05 03 55.9**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.33**	**329**	*e*P		**Pn**	**05 03 42.3**	**+0.7**
SLOZ				*e*S		**Sn**	**05 03 58.7**	**+0.3**
CSGN	**Cosiguina Volc**	**1.48**	**86**	*e*P		**Pn**	**05 03 43.6**	**-0.1**
MTO3	**Montecristo**	**1.54**	**350**	*e*P		**Pn**	**05 03 44.6**	**+0.1**
MTO3				*e*S		**Sn**	**05 04 03.3**	**-0.5**
MTO3	**Montecristo**	**1.54**	**350**	*e*P		**Pn**	**05 03 44.6**	**+0.1**
MTO3				*e*S		**Sn**	**05 04 03.3**	**-0.5**
MTO3	**Montecristo**	**1.54**	**350**	*e*P		**Pn**	**05 03 44.7**	**+0.1**
ESQI	**Esquipulas**	**1.69**	**351**	*e*P		**Pn**	**05 03 47.2**	**+0.6**
CRIN	**San Cristobal**	**1.99**	**95**	*e*P		**Pn**	**05 03 51.6**	**+1.0**
BOAB	**BOACO BROADBAN**	**2.36**	**97**	*e*P		**Pn**	**05 04 08.9**	**-0.5**

*LDG **09** 05:05:37.5±0.1, 42°.79N×2°.84E, h2^{km}, Ml3.0/33, Error ellipse: s-maj=1.3km s-min=1.0km az=136.0*
*MRB **09** 05:05:37.5±0.3, 42°.81N×2°.85E, h4$^{km}_{\pm}$5^{km}, ML2.5/22, Error ellipse: s-maj=2.4km s-min=1.4km az=247.0*
*STR **09** 05:05:38.3±0.3, 43°N±3°×$^{\circ}_{\pm}$, h16$^{km}_{\pm}$5^{km}, MLv2.8/11, preliminary*

ISC 09 05:05:36.7±0.9, 42°.84N±0°.02×2°.85E±0°.01, h17$^{km}_{\pm}$8^{km}, n98, σ1°19/178, 2C-4D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
FILF	**Fillols**	**0.35**	**218**	⇓P		**Pb**	**05 05 44.8**	**+0.4**
FILF				S		**Sb**	**05 05 50.7**	**+1.0**
SJAF	**Saint Jean de**	**0.35**	**176**	Pg		**Pg**	**05 05 43.6**	**-0.4**
SJAF				Sg		**Sg**	**05 05 48.3**	**-0.7**
SJAF	**Saint Jean de**	**0.35**	**176**	⇓P		**Pg**	**05 05 43.6**	**-0.4**
SJAF				S		**Sg**	**05 05 48.4**	**-0.7**
FNEB	**Nbias**	**0.55**	**278**	Pg		**Pb**	**05 05 48.1**	**+0.2**
FNEB	**Nbias**	**0.55**	**278**	P		**Pb**	**05 05 48.4**	**+0.5**
FNEB				S		**Sb**	**05 05 56.0**	**+0.6**
	90nm,0.5s							
CPAL	**Palau Saverder**	**0.57**	**156**	P		**Pg**	**05 05 47.6**	**-0.4**
CPAL				S		**Sg**	**05 05 55.6**	**-0.1**
	96nm,0.2s							
CBEU	**Beuda**	**0.59**	**192**	⇑P		**Pg**	**05 05 48.2**	**-0.2**
CBEU				S		**Sg**	**05 05 56.0**	**-0.3**
	304nm,0.2s							
MTLF	**Montolieu**	**0.69**	**318**	*e*Pg		**Pb**	**05 05 50.6**	**+0.4**
MTLF	**Montolieu**	**0.69**	**318**	*e*Pn		**Pn**	**05 05 52.9**	**+1.3**
MTLF				*e*Sg		**Sb**	**05 06 00.3**	**+0.9**
	32nm,0.2s							
MTLF				*e*Sn		**Sn**	**05 06 04.0**	**+2.1**
	320nm,0.2s							
MTLF	**Montolieu**	**0.69**	**318**	Pg		**Pb**	**05 05 50.6**	**+0.4**
MTLF				Sg		**Sb**	**05 06 00.3**	**+0.9**
CLLI	**Llivia**	**0.74**	**241**	⇓P		**Pg**	**05 05 50.9**	**-0.2**
CLLI				S		**Sb**	**05 06 01.2**	**+0.3**
CBRU	**Bruguera**	**0.74**	**222**	⇓P		**Pg**	**05 05 50.9**	**-0.2**
CBRU				S		**Sg**	**05 06 00.7**	**-0.2**
	97nm,0.4s							
CCAS	**Cassa de la Se**	**0.95**	**177**	P		**Pb**	**05 05 54.7**	**0.0**
CCAS				S		**Sg**	**05 06 07.8**	**+0.2**
	136nm,0.3s							
PAND	**Andorre**	**1.01**	**252**	Pg		**Pn**	**05 05 56.3**	**+0.1**
PAND				Sg		**Sn**	**05 06 10.3**	**+0.1**
ARBS	**La Rabassa**	**1.03**	**248**	P		**Pn**	**05 05 56.8**	**+0.2**
ARBS				S		**Sn**	**05 06 11.0**	**+0.2**
	71nm,0.4s							
CORI	**Orista**	**1.04**	**215**	⇑P		**Pn**	**05 05 56.6**	**+0.1**
CORI				S		**Sg**	**05 06 10.7**	**+0.1**
	125nm,0.3s							
CFON	**Fontmartina**	**1.11**	**196**	P		**Pn**	**05 05 57.8**	**+0.2**
CFON				S		**Sg**	**05 06 12.9**	**+0.1**
	236nm,0.3s							
CEST	**Esterri de Car**	**1.20**	**259**	P		**Pb**	**05 05 59.5**	**+0.5**
CEST				S		**Sg**	**05 06 16.1**	**+0.7**
	66nm,0.3s							
CORG	**Organya**	**1.28**	**242**	S		**Sg**	**05 06 18.4**	**+0.2**
MLS	**Moulis**	**1.29**	**276**	Pg		**Pg**	**05 06 01.7**	**0.0**
MLS				Sg		**Sg**	**05 06 20.6**	**+2.1**
MLS	**Moulis**	**1.29**	**276**	P		**Pb**	**05 06 01.2**	**+0.6**
MLS				S		**Sg**	**05 06 19.1**	**+0.6**
	52nm,0.3s							
CSOR	**Sort**	**1.35**	**251**	P		**Pg**	**05 06 02.3**	**-0.4**
CSOR				S		**Sg**	**05 06 20.3**	**+0.1**
	43nm,0.4s							
LASF	**Ste Croix**	**1.44**	**30**	*e*Pn		**Pb**	**05 06 02.8**	**-0.3**
LASF	**Ste Croix**	**1.44**	**30**	*e*Pg		**Pg**	**05 06 04.7**	**+0.2**
LASF				*e*Sg		**Sg**	**05 06 24.8**	**+1.5**
	54nm,0.3s							
LASF	**Ste Croix**	**1.44**	**30**	Pg		**Pg**	**05 06 04.7**	**+0.2**
LASF				Sg		**Sg**	**05 06 24.8**	**+1.5**
CARA	**Val d'Aran**	**1.50**	**266**	S		**Sg**	**05 06 25.3**	**+0.2**
	110nm,0.3s							
CTRE	**Tremp**	**1.61**	**252**	P		**Pb**	**05 06 06.8**	**+0.7**
CTRE				S		**Sg**	**05 06 28.4**	**-0.4**
	22nm,0.4s							
EPF	**Esparros**	**1.85**	**277**	*e*Pn		**Pn**	**05 06 08.0**	**+0.3**
EPF	**Esparros**	**1.85**	**277**	*e*Pg		**Pg**	**05 06 11.7**	**-0.6**
EPF				*e*Sg		**Sb**	**05 06 34.2**	**+1.2**
	32nm,0.2s							
MONQ	**Montcuq**	**1.95**	**322**	Pn		**Pb**	**05 06 11.2**	**-0.4**
MONQ				Pg		**Pg**	**05 06 14.1**	**0.0**
ECHI	**Chisagues Biel**	**1.96**	**266**	S		**Sb**	**05 06 36.6**	**+0.4**
	13nm,0.3s							
CGAR	**Garraf**	**2.00**	**220**	S		**Sn**	**05 06 29.6**	**-4.8**
	75nm,0.4s							
VIEF	**Viey**	**2.08**	**272**	Pn		**Pb**	**05 06 15.1**	**+1.1**
CAF	**Calviac**	**2.17**	**345**	*e*Pn		**Pb**	**05 06 14.0**	**-1.5**
CAF	**Calviac**	**2.17**	**345**	*e*Pg		**Pg**	**05 06 18.6**	**+0.4**
CAF				*e*Sn		**Sn**	**05 06 40.0**	**+1.5**
CAF				*e*Sg		**Sg**	**05 06 46.9**	**+0.6**
	38nm,0.3s							
RUSF	**Rustrel**	**2.22**	**59**	Pn		**Pb**	**05 06 14.6**	**-1.8**
RUSF				Pg		**Pg**	**05 06 20.9**	**+1.6**
BSTF	**la Bastide-des**	**2.29**	**62**	Pn		**Pn**	**05 06 15.2**	**+1.5**
BSTF				Pg		**Pg**	**05 06 21.1**	**+0.4**
SMRF	**Simiane la Rot**	**2.29**	**59**	*e*Pn		**Pn**	**05 06 14.8**	**+1.0**
SMRF	**Simiane la Rot**	**2.29**	**59**	*e*Pg		**Pg**	**05 06 20.4**	**-0.2**
SMRF				*e*Sn		**Sn**	**05 06 42.6**	**+1.0**
SMRF				*e*Sg		**Sg**	**05 06 51.1**	**+0.7**
	20nm,0.3s							
LBL	**Lubilhac**	**2.41**	**7**	Pn		**Pn**	**05 06 16.1**	**+0.6**
LBL				Pg		**Pg**	**05 06 22.4**	**-0.6**
VIVF	**Saint-Julien-l**	**2.41**	**33**	*e*Pn		**Pn**	**05 06 16.1**	**+0.7**
VIVF	**Saint-Julien-l**	**2.41**	**33**	*e*Pg		**Pg**	**05 06 23.1**	**+0.1**
VIVF				*e*Sn		**Sn**	**05 06 45.8**	**+1.2**
VIVF				*e*Sg		**Sg**	**05 06 55.2**	**+0.9**
	19nm,0.3s							
MLYF	**Mely**	**2.42**	**61**	Pn		**Pn**	**05 06 17.4**	**+1.9**
MLYF				Pg		**Pg**	**05 06 24.9**	**+1.8**
CANF	**Canfranc**	**2.48**	**269**	Pg		**Pb**	**05 06 21.8**	**+1.0**
ETSF	**Etsaut**	**2.50**	**273**	*e*Pg		**Pb**	**05 06 22.6**	**+1.3**
ETSF				*e*Sg		**Sb**	**05 06 54.0**	**+2.2**
	12nm,0.3s							
LFF	**La Frestale**	**2.60**	**325**	*e*Pn		**Pn**	**05 06 19.3**	**+1.4**
LFF	**La Frestale**	**2.60**	**325**	*e*Pg		**Pg**	**05 06 25.9**	**-0.6**
LFF				*e*Sn		**Sn**	**05 06 49.1**	**0.0**
LFF				*e*Sg		**Sg**	**05 07 00.1**	**-0.1**
	43nm,0.3s							
ATE	**Arette**	**2.62**	**277**	Pg		**Pb**	**05 06 23.3**	**+0.2**
RJF	**Les Rejaudoux**	**2.65**	**339**	*e*Pn		**Pn**	**05 06 19.7**	**+1.1**
RJF	**Les Rejaudoux**	**2.65**	**339**	*e*Pg		**Pg**	**05 06 27.4**	**-0.1**
RJF				*e*Sn		**Sn**	**05 06 51.8**	**+1.4**
RJF				*e*Sg		**Sg**	**05 07 02.7**	**+0.9**
	26nm,0.3s							
LMR	**La Mourre**	**2.73**	**78**	*e*Pn		**Pn**	**05 06 20.5**	**+0.8**
LMR	**La Mourre**	**2.73**	**78**	*e*Pg		**Pg**	**05 06 28.4**	**-0.6**
LMR				*e*Sn		**Sn**	**05 06 51.9**	**-0.4**
LMR				*e*Sg		**Sg**	**05 07 03.1**	**-1.2**
	9.6nm,0.3s							
CMAS	**Mas de Barbera**	**2.83**	**223**	P		**Pn**	**05 06 23.2**	**+2.0**
FRF	**La Foret Royal**	**2.87**	**74**	*e*Pn		**Pn**	**05 06 22.5**	**+0.8**
FRF	**La Foret Royal**	**2.87**	**74**	*e*Pg		**Pg**	**05 06 30.9**	**-0.8**
FRF				*e*Sn		**Sn**	**05 06 56.7**	**+0.9**
FRF				*e*Sg		**Sg**	**05 07 08.3**	**-0.6**
	12nm,0.3s							
SJPF	**Ste Jean**	**3.00**	**277**	*e*Pn		**Pn**	**05 06 24.0**	**+0.5**
SJPF	**Ste Jean**	**3.00**	**277**	*e*Pg		**Pb**	**05 06 30.6**	**+0.9**
SJPF				*e*Sn		**Sn**	**05 06 57.5**	**-1.6**
SJPF				*e*Sg		**Sb**	**05 07 09.7**	**+3.7**
	4.1nm,0.3s							
ORIF	**Oris-en-Rattie**	**3.02**	**45**	*e*Pn		**Pn**	**05 06 25.2**	**+1.3**
ORIF	**Oris-en-Rattie**	**3.02**	**45**	*e*Pg		**Pg**	**05 06 34.3**	**-0.3**
ORIF				*e*Sn		**Sn**	**05 06 59.4**	**-0.3**
ORIF				*e*Sg		**Sg**	**05 07 15.2**	**+1.4**
	3.5nm,0.3s							
MBDF	**Montbardon**	**3.41**	**55**	*e*Pn		**Pn**	**05 06 31.2**	**+1.9**
MBDF	**Montbardon**	**3.41**	**55**	*e*Pg		**Pg**	**05 06 41.5**	**-0.6**
MBDF				*e*Sn		**Sn**	**05 07 10.1**	**+0.7**
	1.2nm,0.2s							
SPIF	**crte de Spivo**	**3.42**	**68**	Pn		**Pn**	**05 06 31.2**	**+1.8**
TCF	**Toulx Ste Croi**	**3.48**	**353**	*e*Pn		**Pn**	**05 06 31.6**	**+1.5**
TCF	**Toulx Ste Croi**	**3.48**	**353**	*e*Pg		**Pg**	**05 06 43.4**	**0.0**
TCF				*e*Sn		**Sn**	**05 07 11.9**	**+0.9**
TCF				*e*Sg		**Sg**	**05 07 28.4**	**-0.1**
	19nm,0.4s							
SBF	**Sospel**	**3.50**	**71**	*e*Pn		**Pn**	**05 06 31.5**	**+1.1**
SBF	**Sospel**	**3.50**	**71**	*e*Pg		**Pg**	**05 06 42.2**	**-1.5**
SBF				*e*Sn		**Sn**	**05 07 10.2**	**-1.2**
SBF				*e*Sg		**Sg**	**05 07 27.4**	**-1.7**
	12nm,0.4s							
TURF	**col de Turini**	**3.50**	**69**	Pn		**Pn**	**05 06 32.4**	**+1.9**
SAOF	**Saorge**	**3.62**	**70**	Pn		**Pn**	**05 06 33.7**	**+1.8**
BGF	**Bois d'Agland**	**3.72**	**360**	*e*Pn		**Pn**	**05 06 34.7**	**+1.3**
BGF	**Bois d'Agland**	**3.72**	**360**	*e*Pg		**Pg**	**05 06 47.7**	**-0.3**
BGF				*e*Sg		**Sg**	**05 07 34.7**	**-1.5**
	33nm,0.4s							
LPG	**La Plagne**	**3.87**	**45**	*e*Pn		**Pn**	**05 06 36.9**	**+1.2**
LPG				*e*Sn		**Sn**	**05 07 19.3**	**-1.6**
LPG				*e*Sg		**Sg**	**05 07 40.2**	**-0.7**
	1.3nm,0.4s							
LPL	**La Plagne**	**3.87**	**45**	*e*Pn		**Pn**	**05 06 36.8**	**+1.2**
LPL				*e*Sn		**Sn**	**05 07 22.3**	**+1.5**
LPL				*e*Sg		**Sg**	**05 07 41.5**	**+0.5**
	1.6nm,0.4s							
SMF	**Signal de Mont**	**3.88**	**10**	*e*Pn		**Pn**	**05 06 35.9**	**+0.4**
SMF	**Signal de Mont**	**3.88**	**10**	*e*Pg		**Pg**	**05 06 50.3**	**-0.6**
SMF				*e*Sg		**Sg**	**05 07 40.8**	**-0.3**
	8.3nm,0.4s							
AVF	**Avril s

ARBS **La Rabassa** **1.03 251** P **Pg** **05 06 43.5 +0.2**
ARBS S **Sg** **05 06 57.4 +0.6**
42nm,0.3s
CFON **Fontmartina** **1.07 197** P **Pg** **05 06 44.4 +0.3**
CFON S **Sg** **05 06 58.9 +0.8**
153nm,0.3s
CEST **Esterri de Car** **1.20 262** P **Pg** **05 06 46.5 0.0**
CEST S **Sg** **05 07 02.4 +0.2**
38nm,0.3s
CORG **Organya** **1.27 245** P **Pg** **05 06 47.7 -0.1**
CORG S **Sg** **05 07 04.6 +0.2**
MLS **Moulis** **1.31 278** Pg **Pg** **05 06 48.7 +0.2**
MLS Sg **Sg** **05 07 06.7 +1.0**
MLS **Moulis** **1.31 278** P **Pg** **05 06 48.2 -0.4**
MLS S **Sg** **05 07 06.1 +0.4**
25nm,0.4s
EMIR **Miracle** **1.32 229** Pn **Pg** **05 06 48.8 0.0**
EMIR Sg **Sg** **05 07 06.8 +0.9**
EMIR **Miracle** **1.32 229** Pn **Pg** **05 06 48.8 0.0**
EMIR Sg **Sg** **05 07 06.8 +0.9**
EMIR *i* Vmb_Lg 05 07 10.8
CSOR **Sort** **1.34 253** P **Pg** **05 06 48.9 -0.3**
CSOR S **Sg** **05 07 06.5 -0.2**
23nm,0.3s
LASF **Ste Croix** **1.48 29** *e*Pg **Pg** **05 06 52.2 +0.4**
LASF *e*Sn **Sb** **05 07 09.5 +0.8**
LASF *e*Sg **Sg** **05 07 11.6 +0.5**
22nm,0.4s
LASF **Ste Croix** **1.48 29** Pg **Pg** **05 06 52.2 +0.4**
CARA **Val d'Aran** **1.51 268** P **Pg** **05 06 51.7 -0.6**
CARA S **Sg** **05 07 11.8 -0.2**
89nm,0.2s
CTRE **Tremp** **1.61 254** P **Pb** **05 06 53.2 +0.7**
CTRE S **Sg** **05 07 14.4 -0.9**
12nm,0.4s
CAVN **Les Avellanes** **1.81 241** P **Pb** **05 06 55.9 +0.1**
CAVN S **Sb** **05 07 19.3 +1.1**
59nm,0.3s
FMON **Montouss** **1.82 280** S **Sb** **05 07 19.9 +1.5**
11nm,0.3s
EPF **Esparros** **1.87 278** *e*Pg **Pg** **05 06 59.2 0.0**
EPF *e*Sn **Sn** **05 07 18.6 +1.1**
16nm,0.2s
EPOB **Poblet** **1.95 223** S **Sb** **05 07 22.9 +0.6**
18nm,0.4s
EPOB **Poblet** **1.95 223** Sn **Sb** **05 07 22.7 +0.4**
EPOB *i* Vmb_Lg 05 07 26.9
ECHI **Chisagues Biel** **1.97 267** P **Pb** **05 06 58.4 -0.3**
ECHI S **Sb** **05 07 23.7 +0.8**
7.4nm,0.3s
CGAR **Garraf** **1.97 221** P **Pn** **05 06 53.6 -2.2**
CGAR S **Sn** **05 07 15.0 -5.0**
52nm,0.3s
PYLO **Lourdes** **2.16 279** S **Sb** **05 07 27.9 -0.4**
12nm,0.3s
CAF **Calviac** **2.21 345** *e*Sg **Sg** **05 07 34.3 -0.2**
15nm,0.2s
SMRF **Simiane la Rot** **2.31 58** *e*Sg **Sg** **05 07 37.1 -0.4**
12nm,0.3s
VIVF **Saint-Julien-l** **2.45 32** *e*Sg **Sg** **05 07 41.9 -0.1**
11nm,0.3s
ERTA **Horta de San J** **2.63 227** Sg **Sg** **05 07 47.0 -0.8**
ERTA *i* Vmb_Lg 05 07 52.1
ATE **Arette** **2.63 278** S **Sb** **05 07 39.3 -2.5**
3.8nm,0.7s
LFF **La Frestale** **2.64 325** *e*Sg **Sg** **05 07 47.8 -0.4**
24nm,0.3s
RJF **Les Rejaudoux** **2.70 339** *e*Sg **Sg** **05 07 49.7 -0.3**
9.7nm,0.2s
LMR **La Mourre** **2.73 77** *e*Sn **Sn** **05 07 38.9 +0.3**
4.1nm,0.2s
FRF **La Foret Royal** **2.88 73** *e*Sn **Sn** **05 07 42.5 +0.2**
5.6nm,0.3s
SBF **Sospel** **3.51 71** *e*Sg **Sg** **05 08 14.4 -1.5**
4.4nm,0.3s
MFF **Saint Martin d** **4.38 332** *e*Sg **Sg** **05 08 42.4 -1.3**
2.5nm,0.2s
PGF **Pioggiola** **4.53 91** *e*Pn **Pn** **05 07 31.5 +0.5**
PGF *e*Sn **Sn** **05 08 20.0 -3.3**

NOU 09 05:18:20.3,17°11S×167°86E,h31km,MLv4.1/16,
Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.69**	**153**	P	Pn	05 18 34.2	+0.3
RTV	**Rentapao**	**0.87**	**142**	P	Pb	05 18 36.8	-0.1
SANVU	**Saraoutou**	**1.77**	**339**	P	Pn	05 18 48.5	-0.3
MARNC	**Mare, Loyalty**	**4.35**	**178**	P	Pn	05 19 24.3	0.0
KOUNC	**Koumac, New Ca**	**4.81**	**224**	P	Pn	05 19 30.8	+0.1
YATNC	**Mamie plateau,**	**5.01**	**190**	P	Pn	05 19 32.7	-0.7
DZM	**Mont Dzumac**	**5.11**	**195**	P	Pn	05 19 34.4	-0.5
NOUC	**Port Laguerre**	**5.18**	**196**	P	Pn	05 19 35.7	0.0
ONTNC	**Ouen Toro**	**5.34**	**194**	P	Pn	05 19 38.1	+0.2
OUENC	**Ouen Island, N**	**5.37**	**190**	P	Pn	05 19 37.9	-0.4

*IDC **09** 05:22:56.1±1.5,4°13N×126°45E,h0km,mb3.4/5,*
mb1 3.6/5,mb1mx3.4/49,mbtmp3.5/5,Error ellipse:
s-maj=107.5km s-min=20.2km az=72.0
ISC 09 05:22:59.3±1.4,4°4N±0°2×127°8E±0°3,h35km,n6,σ1§94/7,
mb3.5/5,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.74**	**313⇑**	*e*P	**Pn**	**05 23 55.0**	**+0.3**
KCP				*i* S	**Sn**	**05 24 38.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**22.48**	**185**	P	**P**	**05 27 53.9**	**-2.0**
	1.7nm,0.9s,baz=9.5,slow=9.9,SNR=5.9						
WRA	**Warramunga Arr**	**25.05**	**165**	P	**P**	**05 28 22.9**	**+2.4**
	0.9nm,0.5s,baz=338,slow=1.1,SNR=13						
ASAR	**Alice Springs**	**28.54**	**168**	P	**P**	**05 28 53.7**	**+1.7**
	0.1nm,0.4s,baz=348,slow=7.9,SNR=1.8						
SONM	**Songino Array**	**47.01**	**340**	P	**P**	**05 31 26.6**	**-0.7**
	0.4nm,0.3s,baz=156,slow=7.6,SNR=4.0						
MKAR	**Makanchi Array**	**57.62**	**325**	P	**P**	**05 32 45.1**	**-0.9**
	0.2nm,0.4s,baz=137,slow=8.4,SNR=7.1						

*SJA **09** 05:49:14.5±0.8,30°23S×71°64W,h13km±6km,ML4.0,*
MW3.9
*NEIC **09** 05:49:16±1.7,30°26S±0°03×71°66W±0°06,h30km±6km,*
mb4.1/2,ML4.2(GUC),Error ellipse: s-maj=8.2km
s-min=4.2km az=98.0
*GUC **09** 05:49:16.7±0.7,30°34S×71°49W,h18km±2km,ML4.2*
*IDC **09** 05:49:20.7±3.3,30°06S×71°37W,h52km±27km,mb3.6/3,*
mb1 3.7/8,mb1mx3.5/26,mbtmp3.7/8,ML3.6/5,Error
ellipse: s-maj=55.0km s-min=22.0km az=104.0
ISC 09 05:49:15.6±1.0,30°26S±0°02×71°67W±0°04,h28km±8km,
n90,σ2§09/129,mb3.7/3,3C-4D,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.41**	**176**	Pg	**Pb**	**05 49 24.9**	**+0.4**
CO06				Sg	**Sb**	**05 49 30.8**	**+0.2**
CO06	**Fray Jorge**	**0.41**	**176**	⇓*i*P	**Pb**	**05 49 24.9**	**+0.4**
CO06				*e*S	**Sb**	**05 49 30.6**	**+0.1**
CO06				IAML		05 49 31.7	
	comp=N,28μm,0.3s						
CO05	**La Serena**	**0.51**	**47**		**Pn**	**05 49 26.7**	**-0.3**
CO05				Sg	**Sn**	**05 49 33.6**	**-1.1**
CO05	**La Serena**	**0.51**	**47**	⇑*i*P	**Pn**	**05 49 26.7**	**-0.3**
CO05				*e*S	**Sn**	**05 49 33.6**	**-1.1**
CO05				IAML		05 49 34.4	
	comp=N,18μm,0.3s						
GO04	**Tololo Observa**	**0.76**	**83**		**Pn**	**05 49 30.5**	**-0.2**
GO04				Sg	**Sn**	**05 49 40.6**	**-0.7**
GO04	**Tololo Observa**	**0.76**	**83**	⇓*i*P	**Pn**	**05 49 30.5**	**-0.2**
GO04				*e*S	**Sb**	**05 49 40.4**	**0.0**
GO04				IAML		05 49 48.4	
	comp=N,22μm,0.4s						
CO03	**El Pedregal**	**1.02**	**124**		**Pn**	**05 49 33.9**	**-0.3**
CO03					**Sb**	**05 49 46.8**	**-0.9**
CO03	**El Pedregal**	**1.02**	**124**	⇓*i*P	**Pn**	**05 49 33.9**	**-0.3**
CO03				*e*S	**Sb**	**05 49 45.9**	**-1.9**
CO03				IAML		05 49 47.1	
	comp=E,8μm,0.2s						
CO02	**Combarbal**	**1.10**	**149**		**Pn**	**05 49 35.5**	**+0.2**
CO02	**Combarbal**	**1.10**	**149**	⇓*i*P	**Pn**	**05 49 35.4**	**+0.2**
CO02				*e*S	**Sn**	**05 49 49.5**	**-0.1**
CO02				IAML		05 49 53.8	
	comp=E,23μm,0.3s						
CO02	**Combarbal**	**1.10**	**149**	*e*P	**Pn**	**05 49 35.0**	**-0.3**
CO02				*e*P	**Sb**	**05 49 49.9**	**-0.2**
CO02				*e*S	**Sn**	**05 49 50.0**	**+0.4**
CO02				IAML		05 49 50.9	
	comp=Z,4μm,0.8s						
CO01	**Juntas del Tor**	**1.39**	**79**	Pn	**Pb**	**05 49 40.8**	**-0.2**
CO01	**Juntas del Tor**	**1.39**	**79**	⇑*i*P	**Pb**	**05 49 40.7**	**-0.4**
CO01				*e*S	**Sb**	**05 49 58.5**	**-0.1**
LCO	**Las Campanas**	**1.50**	**34**		**Pn**	**05 49 41.7**	**+0.7**
LCO	**Las Campanas**	**1.50**	**34**	⇑*e*P	**Pn**	**05 49 41.6**	**+0.6**
LCO				*e*S	**Sn**	**05 50 00.5**	**+0.6**
LCO	**Las Campanas**	**1.50**	**34**	*e*P	**Pb**	**05 49 42.0**	**-1.0**
AROD	**Rodeo**	**1.90**	**88**	*e*P	**Pb**	**05 49 49.7**	**0.0**
AROD				*e*P	**Pb**	**05 49 49.8**	**0.0**
AROD				*e*S	**Sb**	**05 50 14.2**	**+1.0**
AC04	**Llanos de Chal**	**2.12**	**14**		**Pn**	**05 49 49.9**	**+0.7**
AC04	**Llanos de Chal**	**2.12**	**14**	*e*P	**Pb**	**05 49 53.6**	**+0.3**
AC04				*e*S	**Sb**	**05 50 18.9**	**-0.2**
AC04				IAML		05 50 24.9	
	comp=N,1μm,0.5s						
AC04	**Llanos de Chal**	**2.12**	**14**	*e*P	**Pn**	**05 49 49.9**	**+0.7**
AC04				*e*S	**Sn**	**05 50 13.2**	**-1.3**
AC04				IAML		05 50 27.2	
	comp=Z,624nm,0.8s						
ACDV	**Cuesta del Vie**	**2.21**	**88**	*e*P	**Pb**	**05 49 54.9**	**0.0**
ACDV				*e*P	**Pn**	**05 49 55.0**	**+4.5**
ACDV				*e*S	**Sb**	**05 50 23.6**	**+1.8**
ACDV				IAML		05 50 25.6	
	comp=Z,617nm,0.6s						
ACCO	**Cerro Coronel**	**2.27**	**99**	*e*P	**Pb**	**05 49 55.0**	**-1.1**
ACCO				*e*S	**Sb**	**05 50 22.7**	**-1.1**
VA06	**Catapilco**	**2.31**	**172**	Pn	**Pn**	**05 49 52.6**	**+0.7**
VA06	**Catapilco**	**2.31**	**172**	*e*P	**Pb**	**05 49 54.9**	**-1.7**
VA06				*e*S	**Sb**	**05 50 24.8**	**+0.1**
VA06				IAML		05 50 31.4	
	comp=E,2μm,0.5s						
RTLS	**Leoncito**	**2.54**	**128**	*e*P	**Pn**	**05 49 53.2**	**-2.1**
RTLS				*e*P	**Pb**	**05 49 58.9**	**-1.9**
RTLS				*e*S	**Sn**	**05 50 28.2**	**+2.7**
RTLS				IAML		05 50 45.7	
	comp=Z,396nm,0.3s						
VA03	**San Esteban**	**2.67**	**159**		**Pn**	**05 49 58.9**	**+2.0**
VA03	**San Esteban**	**2.67**	**159**	*e*P	**Pb**	**05 50 00.2**	**-2.6**
VA03				*e*S	**Sb**	**05 50 33.6**	**-1.5**
VA03				IAML		05 50 41.1	
	comp=E,1μm,0.3s						
VA03	**San Esteban**	**2.67**	**159**	*e*P	**Pn**	**05 49 58.9**	**+2.0**
VA03				*e*S	**Sb**	**05 50 31.7**	**-3.3**
VA03				IAML		05 50 44.0	
	comp=Z,699nm,0.9s						
VA01	**Torpederas**	**2.75**	**180**		**Pn**	**05 49 58.0**	**+0.2**
ROCH	**El Roble**	**2.76**	**168**	*e*P	**Pn**	**05 50 01.3**	**+3.2**
ROCH				*e*S	**Sb**	**05 50 36.3**	**-1.4**
ROCH				IAML		05 50 44.1	
	comp=N,1μm,0.5s						
AUSP	**Uspallata**	**2.76**	**136**	*e*P	**Pb**	**05 50 01.8**	**-2.6**
AUSP				*e*S	**Sb**	**05 50 36.7**	**-1.2**
ROC1	**El Roble**	**2.76**	**169**		**Pn**	**05 49 58.4**	**+0.1**
ROC1	**El Roble**	**2.76**	**169**	*e*P	**Pn**	**05 49 57.0**	**-1.3**
ROC1				*e*S	**Sb**	**05 50 36.5**	**-1.4**
GO03	**Copiap**	**2.94**	**26**		**Pn**	**05 50 01.1**	**+0.5**
GO03	**Copiap**	**2.94**	**26**	*e*P	**Pn**	**05 50 02.1**	**+1.6**
GO03				*e*S	**Sb**	**05 50 47.7**	**+4.8**
RTLL	**Cerro Villicun**	**2.94**	**112**	*e*P	**Pb**	**05 50 04.0**	**-3.4**
RTLL				*e*S	**Sn**	**05 50 31.7**	**-3.3**
RTLL				*e*S	**Sb**	**05 50 38.7**	**-4.2**
PEL	**Peldehue**	**2.99**	**164**	*e*P	**Pb**	**05 50 05.7**	**-2.5**
PEL				*e*S	**Sb**	**05 50 41.7**	**-2.6**
PEL				IAML		05 50 53.7	
	comp=E,601nm,0.4s						
PEL	**Peldehue**	**2.99**	**164**	*e*P	**Pn**	**05 50 03.2**	**+2.0**
PEL				*e*S	**Sb**	**05 50 41.7**	**-2.6**
MT02	**Curacav**	**3.02**	**172**		**Pn**	**05 50 02.4**	**+0.8**
AC06	**Mina Casimiro**	**3.12**	**22**		**Pn**	**05 50 03.6**	**+0.6**
MT05	**Renca**	**3.22**	**166**		**Pn**	**05 50 05.7**	**+1.4**
MT05	**Renca**	**3.22**	**166**	*e*P	**Pn**	**05 50 07.8**	**+3.5**
MT05				*e*S	**Sb**	**05 50 46.9**	**-3.9**
MT05				IAML		05 50 58.9	
	comp=E,1μm,0.4s						
ASAL	**Salagasta**	**3.35**	**135**	*e*P	**Pn**	**05 50 10.0**	**+3.8**
ASAL				*e*S	**Sb**	**05 50 53.7**	**-1.0**
MT03	**Universidad Ad**	**3.37**	**163**		**Pn**	**05 50 08.3**	**+1.8**
VCA	**Vinchina**	**3.38**	**64**	*e*P	**Pb**	**05 50 11.8**	**-3.1**
VCA				*e*P	**Pn**	**05 50 12.0**	**+5.3**
VCA				*e*S	**Sn**	**05 50 49.7**	**+3.8**
VCA				*e*S	**Sb**	**05 50 53.2**	**-2.4**
VCA				IAML		05 51 05.0	
	comp=Z,937nm,0.4s						
VA05	**Santo Domingo**	**3.38**	**179**		**Pn**	**05 50 06.7**	**+0.1**
VA05	**Santo Domingo**	**3.38**	**179**	*e*P	**Pn**	**05 50 10.1**	**+3.5**
VA05				*e*S	**Sn**	**05 50 50.8**	**+5.0**
VA05				IAML		05 51 04.5	
	comp=E,564nm,0.4s						
ARCO	**CERRO ARCO**	**3.47**	**138**	*e*P	**Pn**	**05 50 12.0**	**+4.1**
ARCO				*e*S	Sb	05 51 09.9	+12
ARCO				IAML		05 51 11.7	
	comp=Z,193nm,0.8s						
MT09	**Talagante**	**3.55**	**171**		**Pn**	**05 50 10.2**	**+1.2**
MT09	**Talagante**	**3.55**	**171**	*e*P	**Pn**	**05 50 12.7**	**+3.7**
MT09				*e*S	**Sb**	**05 50 56.4**	**-4.1**
MT09				IAML		05 51 08.8	
	comp=N,575nm,0.5s						
MT01	**Popeta**	**3.61**	**175**		**Pn**	**05 50 10.7**	**+1.0**
AVFE	**Valle Fertil**	**3.66**	**97**	*e*P	**Pn**	**05 50 13.6**	**+3.2**
AVFE				*e*S	**Sb**	**05 50 59.2**	**-4.2**
AVFE				IAML		05 51 17.7	
	comp=Z,236nm,0.9s						
AAGR	**Agrelo**	**3.71**	**140**	*e*P	**Pn**	**05 50 15.4**	**+4.3**
AAGR				*e*S	**Sb**	**05 51 07.2**	**+2.2**
LMEL	**Las Melosas**	**3.78**	**161**		**Pn**	**05 50 12.2**	**0.0**
BO04	**La Punta**	**3.82**	**167**	Pn	**Pn**	**05 50 14.0**	**+1.4**
AC02	**Maricunga**	**4.08**	**34**		**Pn**	**05 50 18.6**	**+2.0**
BO01	**Tunca**	**4.14**	**173**	Pn	**Pn**	**05 50 17.9**	**+0.8**
ACLC	**CERRO LA CRUZ**	**4.18**	**80**	*e*P	**Pn**	**05 50 21.1**	**+3.4**
ACLC				IAML		05 51 28.8	
	comp=Z,235nm,0.8s						
AC01	**Pan de Azucar**	**4.21**	**13**	Pn	**Pn**	**05 50 17.0**	**-1.0**
ACHE	**Chepes**	**4.40**	**103**	*e*S	**Sn**	**05 51 16.0**	**+4.9**
APLL	**PUNTA DE LOS L**	**4.44**	**93**	*e*P	**Pn**	**05 50 24.5**	**+3.2**
APLL				*e*S	**Sn**	**05 51 08.7**	**-3.3**
BO02	**Sierra Bellavi**	**4.58**	**171**		**Pn**	**05 50 24.2**	**+1.1**
GO05	**Huala**	**4.74**	**183**		**Pn**	**05 50 24.6**	**-0.6**
GO05	**Huala**	**4.74**	**183**	*e*P	**Pn**	**05 50 24.6**	**-0.6**
GO05				*e*S	**Sb**	**05 51 38.2**	**+3.7**
GO02	**Mina Guanaco**	**5.40**	**20**		**Pn**	**05 50 34.4**	**-0.3**
GO02	**Mina Guanaco**	**5.40**	**20**	*e*P	**Pn**	**05 50 35.0**	**+0.3**
GO02				*e*S	**Sb**	**05 51 53.2**	**-0.8**
FSA	**Cafayete**	**6.50**	**52**	*e*P	**Pn**	**05 50 47.7**	**-1.9**
FSA				*e*P	**Pn**	**05 50 53.0**	**+3.3**
H03N1	**Juan Fernandez**	**6.93**	**241**	T	T	05 57 55.0	
	baz=70,slow=72,SNR=6127						
H03N2	**Juan Fernandez**	**6.95**	**241**	T	T	05 57 55.8	
	baz=70,slow=72,SNR=3929						
H03N3	**Juan Fernandez**	**6.95**	**241**	T	T	05 57 54.5	
	baz=70,slow=72,SNR=4735						
LVC	**Limon Verde**	**8.01**	**19**	P	**Pn**	**05 51 09.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=235,slow=17,SNR=2.0						
LVC				S	**Sn**	**05 52 38.2**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=128,slow=19,SNR=1.3						
LVC	**Limon Verde**	**8.01**	**19**	Pn	**Pn**	**05 51 09.0**	**-1.6**
PB04	**IPOC Station P**	**8.01**	**10**	Pn	**Pn**	**05 51 09.6**	**-0.8**
LC01	**Cunco**	**8.61**	**181**	Pn	**Pn**	**05 51 18.0**	**-0.4**
PLCA	**Paso Flores**	**10.48**	**175**	P	Pn	05 51 51.0	+6.9
	comp=Z,0.1nm,0.3s,baz=350,slow=14,SNR=1.7						
ITQB	**Itaqui**	**13.05**	**91**	Pn	**Pn**	**05 52 18.6**	**-0.7**
CPUP	**Villa Florida**	**13.22**	**76**	P	**Pn**	**05 52 21.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=244,slow=15,SNR=1.7						
CPUP	**Villa Florida**	**13.22**	**76**	Pn	**Pn**	**05 52 20.8**	**-0.8**
LPAZ	**La Paz**	**14.28**	**14**	P	**Pn**	**05 52 38.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=202,slow=6.0,SNR=5.8						
LPAZ	**La Paz**	**14.28**	**14**	Pn	**Pn**	**05 52 36.8**	**+0.1**
PLTB	**Pedras Altas**	**15.56**	**100**	Pn	**Pn**	**05 52 52.3**	**-0.8**
PLTB				IAmb	IAmb	05 53 02.4	
	comp=Z,20nm,1.5s						
SIV	**San Ignacio**	**17.21**	**37**	P	**P**	**05 53 15.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=213,slow=10,SNR=17						
USHA	**Ushuaia**	**24.66**	**176**	P	**P**	**05 54 38.0**	**+4.2**
	comp=Z,6.2nm,0.9s,baz=353,slow=12,SNR=1.5						
BDFB	**Brasilia**	**26.12**	**61**	P	**P**	**05 54 47.2**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=235,slow=12,SNR=3.6						
152A	**Waverly Hall**	**63.80**	**348**	P	**P**	**05 59 44.7**	**-0.5**

TORD **Torodi Ar. Bea** **82.64** **70** P **P** **06 01 37.3** **+0.5**
comp=Z,0.2nm,0.3s,baz=242,slow=6.1,SNR=5.3
H11S2 **WAKE ISLAND Hyl** **26.08** **272** T T 08 26 55.0
baz=115,slow=75,SNR=26
H11S1 **WAKE ISLAND Hyl** **26.08** **272** T T 08 26 56.9
baz=115,slow=75,SNR=42
H11S3 **WAKE ISLAND Hyl** **26.08** **272** T T 08 26 56.3
baz=115,slow=75,SNR=50
ZALV **Zalesovo Beam** **150.86** **29** PKPbc **PKiKP** **06 09 05.7** **+0.1**
comp=Z,1.4nm,0.7s,baz=298,slow=3.2,SNR=7.0

*IDC **09** 06:22:34.7±2.2,85°85N×19°55E,h0km,mb3.3/2,*
mb1 3.7/5,mb1mx3.2/52,mbtmp3.6/5,ML3.2/3,MS3.3/1,
Ms1 3.3/1,ms1mx2.3/62,Error ellipse: s-maj=82.6km
s-min=21.4km az=77.0
*IEPN **09** 06:22:38.0,85°82N×26°60E,h10km*
ISC 09 06:22:41.1±3.2,85°3N±0°2×21°95E±0°08,h10km,n31,
σ1§36/34,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.41**	**132**	*e*P	**Pn**	**06 24 02.2**	**+0.6**
ZFI2				*e*S	**Sn**	**06 25 01.9**	**-1.9**
ZFI	**Zemlya Franca-**	**5.41**	**132**	*e*P	**Pn**	**06 24 02.1**	**+0.5**
ZFI				*e*S	**Sn**	**06 25 02.1**	**-1.8**
	13nm,2.6s						
NOR	**Nord**	**5.61**	**250**	Pn	**Pn**	**06 24 00.3**	**-4.0**
NOR	**Nord**	**5.61**	**250**	*e*P	Pn	06 23 54.4	-10
KBS	**Kingsbay**	**6.57**	**197**	Pn	**Pn**	**06 24 16.8**	**-0.7**
KBS				Sn	**Sn**	**06 25 32.8**	**+0.5**
KBS	**Kingsbay**	**6.57**	**197**	*i* P	**Pn**	**06 24 17.6**	**+0.2**
KBS	**Kingsbay**	**6.57**	**197**	*e*P	**Pn**	**06 24 16.7**	**-0.8**
KBS				*e*S	**Sn**	**06 25 32.4**	**+0.2**
KBS				IAML		06 25 34.0	
	comp=Z,2.5nm,0.8s						
KBS	**Kingsbay**	**6.57**	**197**	*e*P	**Pn**	**06 24 16.8**	**-0.7**
KBS				*e*S	**Sn**	**06 25 30.6**	**-1.6**
SPA0	**Spitsbergen Ar**	**7.23**	**189**	Pn	**Pn**	**06 24 26.5**	**-0.1**
	baz=18,slow=14						
SPA0	**Spitsbergen Ar**	**7.23**	**189**	Pn	**Pn**	**06 24 26.5**	**-0.1**
	baz=18,slow=14						
SPA0				*e*S	**Sn**	**06 25 48.1**	**-0.5**
SPA0				IAML		06 25 54.5	
	comp=Z,3.4nm,0.8s						
SPA0	**Spitsbergen Ar**	**7.23**	**189**	*e*P	**Pn**	**06 24 26.3**	**-0.3**
SPA0				*e*S	**Sn**	**06 25 48.2**	**-0.4**
SPITS	**Spitsbergen Ar**	**7.23**	**189**	Pn	**Pn**	**06 24 27.2**	**+0.5**
	baz=17,slow=15,SNR=25						
BRBB	**Barentsburg B**	**7.35**	**193**	Pn	**Pn**	**06 24 29.5**	**+1.3**
BRBB				Sn	**Sn**	**06 25 52.8**	**+1.3**
BRBB	**Barentsburg B**	**7.35**	**193**	*e*P	**Pn**	**06 24 29.2**	**+1.0**
BRBB				*e*S	**Sn**	**06 25 52.6**	**+1.1**
BRBA	**Barentsburg A**	**7.39**	**193**	Pn	**Pn**	**06 24 30.1**	**+1.4**
BRBA	**Barentsburg A**	**7.39**	**193**	*e*P	**Pn**	**06 24 28.9**	**+0.2**
BRBA				IAML		06 25 57.1	
	comp=Z,5.6nm,0.9s						
HSPB	**Hornsund (broa**	**8.43**	**190**	Pn	**Pn**	**06 24 45.4**	**+2.4**
HSPB	**Hornsund (broa**	**8.43**	**190**	*e*P	**Pn**	**06 24 43.5**	**+0.6**
HSPB	**Hornsund (broa**	**8.43**	**190**	*e*P	**Pn**	**06 24 45.2**	**+2.2**
HOPEN	**Hopen**	**8.89**	**175**	Pn	**Pn**	**06 24 49.8**	**+0.6**
HOPEN	**Hopen**	**8.89**	**175**	*e*P	**Pn**	**06 24 49.7**	**+0.6**
HOPEN	**Hopen**	**8.89**	**175**	*e*P	**Pn**	**06 24 49.5**	**+0.3**
HOPEN				*e*S	**Sn**	**06 26 26.7**	**-2.4**
DAG	**Danmarks Havn**	**10.21**	**238**	*i* P	Pn	06 24 57.0	-10
DAG	**Danmarks Havn**	**10.21**	**238**	*e*P	Pn	06 24 58.0	-9.2
ARA0	**ARCESS Array S**	**15.90**	**175**	Pn	**Pn**	**06 26 25.8**	**+1.3**
	baz=6.4,slow=12						
ARA0	**ARCESS Array S**	**15.90**	**175**	Pn	**Pn**	**06 26 25.8**	**+1.3**
	baz=6.4,slow=12						
ARCES	**ARCESS Array B**	**15.90**	**175**	Pn	**Pn**	**06 26 24.2**	**-0.2**
	baz=0.0,slow=9.9,SNR=11						
RES	**Resolute Bay**	**18.02**	**310**	P	Pn	06 26 38.9	-12
	comp=Z,0.1nm,0.3s,baz=13,slow=12,SNR=2.0						
ILAR	**Eielson Array**	**30.00**	**350**	P	P	06 28 39.2	-10
	comp=Z,0.3nm,0.8s,baz=355,slow=9.1,SNR=4.4						
YKA	**Yellowknife Ar**	**31.23**	**322**	P	P	06 28 51.1	-8.9
	comp=Z,0.3nm,0.8s,baz=7.8,slow=9.2,SNR=5.2						
PDAR	**Pinedale Array**	**50.63**	**314**	LR	LR	06 54 30.5	
	comp=Z,29nm,18.4s,baz=66,slow=38						

*DJA **09** 06:23:13.3±1.1,5°N±6°×9°6E±°,h10km,M4.0/6,MLv4.0/6*
*IDC **09** 06:23:23.3±1.8,2°22N×96°12E,h0km,mb3.5/3,mb1 3.7/4,*
mb1mx3.2/52,mbtmp3.5/4,ML3.1/1,Error ellipse:
s-maj=36.1km s-min=24.2km az=6.0
ISC 09 06:23:10.8±2.8,5°0N±0°1×95°9E±0°2,h10km,n10,σ1§69/8,
mb3.5/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.11**	**77**	P	**Pb**	**06 23 32.1**	**-0.1**
LHMI				S	**Sb**	**06 23 44.9**	**-1.9**
KCSI	**Kotacane, Aceh**	**2.39**	**127**	P	**Pn**	**06 23 52.4**	**+2.3**
KCSI				S	**Sn**	**06 24 20.1**	**+0.6**
PSI	**Prapat**	**3.74**	**125**	Pn	**Pn**	**06 24 10.5**	**+1.6**
	2.8nm,0.3s,baz=317,slow=17,SNR=7.1						
PSI				Lg	Lg	06 24 54.0	
	3.2nm,0.3s,baz=358,slow=17,SNR=1.8						
GSI	**Gunungsitoli**	**4.03**	**155**	P	**Pb**	**06 24 20.7**	**-1.3

*IDC **09** 06:45:16.4±2.3,6˚.16N×125˚.71E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.3/52, mbtmp3.6/4, Error ellipse: s-maj=138.3km s-min=27.7km az=68.0*
*MAN **09** 06:45:33.2,6˚.24N×126˚.24E, h112km, mb4.4, ML3.3, MS3.0, Hypocentre not reviewed by the ISC*
ISC 09 06:45:28.8±1.2,**6˚.0N**±0.1×**125˚.6E**±0˚.3,**h100**km,**n5,** σ1**s73**/6,**mb3.4/4,1C,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**2.26**	**191**	⇑eP	**Pn**	**06 46 06.5**	**+1.8**
BIPH				eS	**Sn**	**06 46 30.5**	**-1.7**
FITZ	**Fitzroy Crossi**	**23.98**	**180**	P	**P**	**06 50 35.0**	**+0.8**
	1.1nm,0.6s,baz=4.6,slow=9.7,SNR=11						
WRA	**Warramunga Arr**	**27.21**	**162**	P	**P**	**06 51 02.2**	**-1.2**
	0.3nm,0.4s,baz=338,slow=9.9,SNR=6.4						
ASAR	**Alice Springs**	**30.62**	**165**	P	**P**	**06 51 33.0**	**-0.6**
	0.8nm,0.4s,baz=339,slow=6.9,SNR=18						
MKAR	**Makanchi Array**	**55.03**	**325**	P	**P**	**06 54 49.5**	**-0.6**
	0.1nm,0.3s,baz=111,slow=9.2,SNR=1.8						

IDC 09 06:49:29.8±17.0,**25˚.00S×71˚.14E, h0km, mb3.5**/3, **mb1 3.7**/3,**mb1mx3.2**/42,**mbtmp3.5**/3,**Error ellipse: s-maj=578.3km s-min=46.2km az=50.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.30**	**4**	T	T	07 10 08.3	
	baz=183,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**17.31**	**5**	T	T	07 10 12.9	
	baz=183,slow=76,SNR=8.6						
H08S3	**Diego Garcia H**	**17.32**	**4**	T	T	07 10 10.9	
	baz=183,slow=76,SNR=12						
ASAR	**Alice Springs**	**56.73**	**103**	P	P	06 59 15.1	-0.7
	0.5nm,0.8s,baz=257,slow=6.4,SNR=4.2						
WRA	**Warramunga Arr**	**58.17**	**99**	P	P	06 59 26.4	+0.5
	0.8nm,0.8s,baz=254,slow=7.3,SNR=6.3						
MKAR	**Makanchi Array**	**72.16**	**8**	P	P	07 00 56.2	0.0
	0.1nm,0.5s,baz=194,slow=5.3,SNR=1.8						

*NOU **09** 06:56:49.3,38˚.52S×176˚.51E, h158km, MLv4.3/9, North Island, New Zealand*
*WEL **09** 06:56:54.3±0.6, 38˚.3±˚×17˚.6E±˚, h106km±5km, M3.0/57, ML2.8/31, MLv3.0/57, Error ellipse: s-maj=0.0km s-min=0.0km az=116.3*
ISC 09 06:56:55.2±1.2,**38˚.45S**±0˚.04×**176˚.24E**±0˚.04,**h100**km, **n169,** σ1**s64**/153,**North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRRZ	**Handcock Road**	**0.07**	**35**	P	**Pn**	**06 57 10.2**	**+1.0**
WPRZ	**Whakapapaterin**	**0.09**	**217**	P	**Pn**	**06 57 10.2**	**+1.0**
HSRZ	**Hossack Road**	**0.13**	**4**	P	**Pn**	**06 57 10.1**	**+0.8**
PRRZ	**Plateau Road**	**0.14**	**114**	P	**Pn**	**06 57 10.0**	**+0.8**
PRRZ				S	**Sn**	**06 57 23.1**	**+3.4**
ALRZ	**Allen Road**	**0.14**	**144**	P	**Pn**	**06 57 10.7**	**+1.4**
HLRZ	**Highlands Stat**	**0.21**	**26**	P	**Pn**	**06 57 10.4**	**+0.9**
RRRZ	**Republican Roa**	**0.24**	**65**	P	**Pn**	**06 57 10.1**	**+0.5**
RRRZ				S	**Sn**	**06 57 22.7**	**+2.3**
UTU	**Utuhina**	**0.27**	**353**	P	**Pn**	**06 57 10.3**	**+0.6**
TARZ	**Mount Tarawera**	**0.30**	**46**	P	**Pn**	**06 57 10.3**	**+0.4**
WHTZ	**Whakaora**	**0.31**	**224**	P	**Pn**	**06 57 11.5**	**+1.5**
KUTZ	**Kaahu Road**	**0.33**	**262**	P	**Pn**	**06 57 10.9**	**+0.9**
NGRZ	**Ngongotaha**	**0.34**	**354**	P	**Pn**	**06 57 10.5**	**+0.4**
OMRZ	**Omania**	**0.35**	**18**	P	**Pn**	**06 57 10.3**	**+0.1**
OMRZ				S	**Sn**	**06 57 24.0**	**+2.7**
MKRZ	**Makatiti**	**0.36**	**31**	P	**Pn**	**06 57 11.0**	**+0.8**
MRHZ	**Matea Rd**	**0.41**	**160**	P	**Pn**	**06 57 11.6**	**+1.0**
MRHZ				S	**Sn**	**06 57 25.0**	**+3.1**
MUGZ	**Murupara**	**0.42**	**95**	P	**Pn**	**06 57 10.6**	**+0.1**
KARZ	**Kaharoa**	**0.42**	**1**	P	**Pn**	**06 57 10.6**	**0.0**
HATZ	**Hinemaiaia**	**0.46**	**194**	P	**Pn**	**06 57 11.8**	**+1.0**
HATZ				S	**Sn**	**06 57 25.1**	**+2.7**
WATZ	**Wairara**	**0.47**	**236**	P	**Pn**	**06 57 11.9**	**+1.0**
EDRZ	**Edgecumbe**	**0.52**	**50**	P	**Pn**	**06 57 11.0**	**-0.3**
RATZ	**Rangitukua**	**0.56**	**221**	P	**Pn**	**06 57 12.5**	**+1.0**
TLZ	**Tolley Road**	**0.56**	**282**	P	**Pn**	**06 57 12.1**	**+0.6**
MARZ	**Manawahe**	**0.57**	**37**	P	**Pn**	**06 57 11.4**	**-0.2**
RITZ	**Rihia Road**	**0.61**	**209**	P	**Pn**	**06 57 13.3**	**+1.4**
RTZ	**Ruatahuna**	**0.61**	**106**	P	**Pn**	**06 57 12.2**	**+0.2**
RTZ				S	**Sn**	**06 57 26.4**	**+2.0**
MTHZ	**Maungataniwha**	**0.63**	**131**	P	**Pn**	**06 57 12.8**	**+0.7**
MTHZ				S	**Sn**	**06 57 27.0**	**+2.3**
KMRZ	**Kaimai**	**0.64**	**339**	P	**Pn**	**06 57 12.0**	**-0.2**
KMRZ				S	**Sn**	**06 57 26.5**	**+1.6**
OPRZ	**Ohinepanea**	**0.65**	**23**	P	**Pn**	**06 57 11.7**	**-0.5**
OPRZ				S	**Sn**	**06 57 25.8**	**+0.9**
KATZ	**Kakaramea**	**0.68**	**218**	P	**Pn**	**06 57 13.5**	**+0.9**
URZ	**Urewera**	**0.71**	**75**	P	**Pn**	**06 57 12.0**	**-0.7**
URZ				S	**Sn**	**06 57 25.9**	**0.0**
URZ	**Urewera**	**0.71**	**75**	P	**Pn**	**06 57 12.0**	**-0.7**
TGRZ	**Tauranga**	**0.71**	**2**	P	**Pn**	**06 57 12.2**	**-0.6**
TGRZ				S	**Sn**	**06 57 27.4**	**+1.5**
BKZ	**Black Stump Fm**	**0.75**	**164**	P	**Pn**	**06 57 13.9**	**+0.7**
BKZ	**Black Stump Fm**	**0.75**	**164**	P	**Pn**	**06 57 13.9**	**+0.7**
NTVZ	**North Tongarir**	**0.79**	**214**	P	**Pn**	**06 57 14.5**	**+0.9**
TMVZ	**Te Maari**	**0.79**	**212**	P	**Pn**	**06 57 14.5**	**+0.9**
NMHZ	**Naumai**	**0.79**	**146**	P	**Pn**	**06 57 15.0**	**+1.4**
KRVZ	**Karewarewa**	**0.80**	**215**	P	**Pn**	**06 57 14.6**	**+0.8**
ETVZ	**East Tongariro**	**0.80**	**211**	P	**Pn**	**06 57 14.7**	**+0.9**
RAHZ	**Arahi**	**0.82**	**126**	P	**Pn**	**06 57 14.6**	**+0.8**
WTVZ	**West Tongariro**	**0.84**	**217**	P	**Pn**	**06 57 14.9**	**+0.8**
NNVZ	**North Ngauruho**	**0.84**	**215**	P	**Pn**	**06 57 15.1**	**+0.9**
OTVZ	**Oturere**	**0.84**	**212**	P	**Pn**	**06 57 15.2**	**+1.0**
SNVZ	**South Ngauruho**	**0.87**	**212**	P	**Pn**	**06 57 15.6**	**+1.1**
NGZ	**Ngauruhoe**	**0.88**	**214**	P	**Pn**	**06 57 15.6**	**+1.0**
TWVZ	**Taurewa**	**0.88**	**225**	P	**Pn**	**06 57 15.3**	**+0.7**
TOZ	**Tahuroa Road**	**0.92**	**321**	P	**Pn**	**06 57 14.4**	**-0.3**
SNGZ	**Shannon Statio**	**0.93**	**112**	P	**Pn**	**06 57 15.3**	**+0.4**
TUVZ	**Tukino**	**0.94**	**209**	P	**Pn**	**06 57 16.2**	**+1.0**
FWVZ	**Far West T-bar**	**0.97**	**213**	P	**Pn**	**06 57 16.4**	**+0.8**
WHVZ	**Whangaehu Hut**	**0.98**	**211**	P	**Pn**	**06 57 16.6**	**+0.9**
KWHZ	**Kaweka Forest**	**0.99**	**172**	P	**Pn**	**06 57 16.4**	**+0.8**
WHHZ	**Waihua**	**1.00**	**129**	P	**Pn**	**06 57 14.3**	**-1.4**
TRVZ	**Turoa**	**1.01**	**212**	P	**Pn**	**06 57 16.8**	**+0.8**
ARHZ	**Aropaoanui**	**1.01**	**144**	P	**Pn**	**06 57 16.7**	**+1.0**
WNVZ	**Wahianoa**	**1.01**	**209**	P	**Pn**	**06 57 16.8**	**+0.8**
MWZ	**Matawai**	**1.02**	**84**	P	**Pn**	**06 57 15.1**	**-0.8**
MOVZ	**Moawhango**	**1.03**	**201**	P	**Pn**	**06 57 16.6**	**+0.5**
BHHZ	**Black Hill Sta**	**1.05**	**187**	P	**Pn**	**06 57 16.9**	**+0.6**
MCHZ	**McNeill Hill**	**1.06**	**160**	P	**Pn**	**06 57 17.5**	**+1.2**
HIZ	**Hauiti**	**1.08**	**266**	P	**Pn**	**06 57 17.0**	**+0.4**
HIZ	**Hauiti**	**1.08**	**266**	P	**Pn**	**06 57 17.1**	**+0.5**
PKVZ	**Pokaka**	**1.09**	**219**	P	**Pn**	**06 57 17.5**	**+0.8**
MTVZ	**Mangateitei**	**1.11**	**212**	P	**Pn**	**06 57 17.8**	**+0.8**
MYRZ	**Mayor Island**	**1.16**	**0**	P	**Pn**	**06 57 16.4**	**-1.1**
KRHZ	**Kereru**	**1.20**	**175**	P	**Pn**	**06 57 18.4**	**+0.4**
RIGZ	**Rimuhau**	**1.23**	**103**	P	**Pn**	**06 57 18.0**	**-0.3**
RUGZ	**Raukumara Rang**	**1.23**	**68**	P	**Pn**	**06 57 16.3**	**-2.1**
KNZ	**Kokohu**	**1.27**	**118**	P	**Pn**	**06 57 18.5**	**-0.1**
TKGZ	**Te Karaka**	**1.27**	**90**	P	**Pn**	**06 57 18.3**	**-0.4**
VRZ	**Vera Road**	**1.34**	**239**	P	**Pn**	**06 57 20.1**	**+0.6**
PRGZ	**Paritu Road**	**1.38**	**111**	P	**Pn**	**06 57 19.7**	**-0.3**
CKHZ	**Cape Kidnapper**	**1.38**	**152**	P	**Pn**	**06 57 20.6**	**+0.6**
HAZ	**Te Kaha**	**1.40**	**61**	P	**Pn**	**06 57 18.1**	**-2.1**
KAHZ	**Kahuranaki**	**1.44**	**160**	P	**Pn**	**06 57 21.1**	**+0.4**
PNHZ	**Pukenui**	**1.47**	**181**	P	**Pn**	**06 57 20.9**	**-0.2**
MKAZ	**Moumakai**	**1.59**	**327**	P	**Pn**	**06 57 21.3**	**-1.2**
MHEZ	**Mangahewa**	**1.62**	**247**	P	**Pn**	**06 57 23.8**	**+0.8**
WPHZ	**Waipukurau**	**1.62**	**174**	P	**Pn**	**06 57 22.8**	**-0.3**
TSZ	**Takapari Road**	**1.63**	**187**	P	**Pn**	**06 57 23.0**	**-0.1**
WAZ	**Wangaruiti**	**1.63**	**216**	P	**Pn**	**06 57 23.5**	**+0.4**
PUZ	**Puketiti**	**1.64**	**77**	P	**Pn**	**06 57 21.6**	**-1.6**
PXZ	**Pawanui**	**1.66**	**163**	P	**Pn**	**06 57 23.2**	**-0.2**
KUZ	**Kuaotunu**	**1.75**	**346**	P	**Pn**	**06 57 22.6**	**-1.9**
LREZ	**Lake Rotokare**	**1.75**	**234**	P	**Pn**	**06 57 25.4**	**+0.8**
DREZ	**Durham Road**	**1.75**	**244**	P	**Pn**	**06 57 25.2**	**+0.6**
ETAZ	**East Tamaki Re**	**1.81**	**325**	P	**Pn**	**06 57 24.1**	**-1.3**
PRHZ	**Porangahau**	**1.85**	**170**	P	**Pn**	**06 57 25.3**	**-0.5**
PREZ	**Palmer Road**	**1.85**	**240**	P	**Pn**	**06 57 27.3**	**+1.4**
DVHZ	**Dannevirke**	**1.85**	**182**	P	**Pn**	**06 57 25.0**	**-0.9**
MXZ	**Matakaoa Point**	**1.86**	**62**	P	**Pn**	**06 57 24.5**	**-1.5**
NEZ	**North Egmont**	**1.86**	**243**	P	**Pn**	**06 57 26.7**	**+0.6**
WIAZ	**Waiheke Island**	**1.87**	**332**	P	**Pn**	**06 57 24.6**	**-1.5**
AWAZ	**Awhitu Peninsu**	**1.87**	**317**	P	**Pn**	**06 57 24.7**	**-1.4**
OHWZ	**Ohakea**	**1.90**	**202**	P	**Pn**	**06 57 26.6**	**+0.1**
PKE	**Pukeiti**	**1.91**	**246**	P	**Pn**	**06 57 26.9**	**+0.3**
KHEZ	**Kahui Hut**	**1.93**	**243**	P	**Pn**	**06 57 27.4**	**+0.4**
EPAZ	**Eden Park BICE**	**1.96**	**322**	P	**Pn**	**06 57 25.8**	**-1.5**
POWZ	**Post Office Ro**	**1.98**	**190**	P	**Pn**	**06 57 26.6**	**-0.9**
MBAZ	**Motutapu North**	**1.98**	**327**	P	**Pn**	**06 57 26.1**	**-1.5**
HBAZ	**Herne Bay Bore**	**1.99**	**323**	P	**Pn**	**06 57 26.1**	**-1.5**
WTAZ	**Waiatarua**	**2.00**	**318**	P	**Pn**	**06 57 26.6**	**-1.3**
ANWZ	**Angora Road**	**2.02**	**175**	P	**Pn**	**06 57 27.4**	**-0.7**
NBEZ	**Newall Road No**	**2.02**	**245**	P	**Pn**	**06 57 28.4**	**+0.4**
NMEZ	**Namu Road**	**2.08**	**242**	P	**Pn**	**06 57 29.3**	**+0.5**
PRWZ	**Pori Road**	**2.12**	**185**	P	**Pn**	**06 57 28.5**	**-0.8**
RVAZ	**Riverhead Bore**	**2.13**	**321**	P	**Pn**	**06 57 27.7**	**-1.7**
ABAZ	**Army Bay**	**2.15**	**328**	P	**Pn**	**06 57 28.3**	**-1.5**
BFZ	**Birch Farm**	**2.23**	**180**	P	**Pn**	**06 57 29.5**	**-1.3**
MRZ	**Mangatainoka R**	**2.27**	**193**	P	**Pn**	**06 57 29.8**	**-1.5**
GRZ	**Great Barrier**	**2.28**	**344**	P	**Pn**	**06 57 29.4**	**-2.0**
TIWZ	**Tintock**	**2.34**	**186**	P	**Pn**	**06 57 30.9**	**-1.4**
CPWZ	**Castlepoint**	**2.46**	**181**	P	**Pn**	**06 57 32.8**	**-1.0**
OGWZ	**Otaki Gorge**	**2.51**	**199**	P	**Pn**	**06 57 32.7**	**-1.7**
HOWZ	**Holdsworth Sta**	**2.51**	**193**	P	**Pn**	**06 57 32.5**	**-2.0**
KIW	**Kapiti Island**	**2.62**	**203**	P	**Pn**	**06 57 33.8**	**-2.2**
TMWZ	**Te Maipa**	**2.67**	**186**	P	**Pn**	**06 57 34.5**	**-2.1**
MTW	**Mount Morrison**	**2.77**	**192**	P	**Pn**	**06 57 35.4**	**-2.5**
CAW	**Cannon Point**	**2.81**	**198**	P	**Pn**	**06 57 36.0**	**-2.4**
DUWZ	**D'Urville Isla**	**2.96**	**216**	P	**Pn**	**06 57 37.7**	**-2.6**
TRWZ	**Traveller**	**2.98**	**188**	P	**Pn**	**06 57 38.2**	**-2.5**
PAWZ	**Paruwai Farm**	**3.00**	**192**	P	**Pn**	**06 57 38.1**	**-2.9**
WEL	**Wellington**	**3.05**	**201**	P	**Pn**	**06 57 38.9**	**-2.8**
MSWZ	**Moikau Station**	**3.06**	**194**	P	**Pn**	**06 57 38.9**	**-2.9**
SNZO	**South Karori**	**3.10**	**202**	P	**Pn**	**06 57 39.3**	**-2.9**
BHW	**Baring Head**	**3.14**	**199**	P	**Pn**	**06 57 39.8**	**-3.0**
TCW	**Tory Channel**	**3.15**	**208**	P	**Pn**	**06 57 40.0**	**-2.9**
PLWZ	**Palliser**	**3.21**	**193**	P	**Pn**	**06 57 40.5**	**-3.3**
TUWZ	**Tuamarina**	**3.46**	**210**	P	**Pn**	**06 57 43.8**	**-3.3**
NNZ	**Nelson**	**3.54**	**218**	P	**Pn**	**06 57 44.7**	**-3.4**
TKNZ	**Takaka Hill**	**3.61**	**223**	P	**Pn**	**06 57 46.1**	**-3.1**
CMWZ	**Cape Campbell**	**3.65**	**205**	P	**Pn**	**06 57 46.9**	**-2.8**
QRZ	**Quartz Range**	**3.72**	**229**	P	**Pn**	**06 57 47.6**	**-3.0**
QRZ	**Quartz Range**	**3.72**	**229**	P	**Pn**	**06 57 47.6**	**-3.0**
BSWZ	**Blackbirch Sta**	**3.73**	**208**	P	**Pn**	**06 57 47.3**	**-3.5**
OUZ	**Omahuta**	**3.85**	**326**	P	**Pn**	**06 57 51.2**	**-1.2**
OUZ	**Omahuta**	**3.85**	**326**	P	**Pn**	**06 57 50.8**	**-1.6**
MRNZ	**Matariki Terra**	**3.98**	**221**	P	**Pn**	**06 57 50.6**	**-3.5**
THZ	**Tophouse**	**4.18**	**217**	P	**Pn**	**06 57 53.1**	**-3.8**
KHZ	**Kahutara**	**4.47**	**207**	P	Pn	06 57 56.5	-4.2
KHZ	**Kahutara**	**4.47**	**207**	P	**Pn**	**06 57 56.6**	**-4.1**
DSZ	**Denniston Nort**	**4.73**	**224**	P	Pn	06 58 00.1	-4.2
GVZ	**Greta Valley S**	**5.13**	**207**	P	Pn	06 58 04.9	-4.8
LTZ	**Lake Taylor**	**5.28**	**214**	P	Pn	06 58 08.4	-5.3
AMCZ	**Amberley**	**5.45**	**209**	P	Pn	06 58 09.3	-4.7
INZ	**Inchbonnie**	**5.62**	**219**	P	Pn	06 58 11.4	-4.8
OKCZ	**Okains Bay**	**5.79**	**203**	P	Pn	06 58 13.5	-5.2
OXZ	**Oxford**	**5.82**	**212**	P	Pn	06 58 12.5	-6.5
MQZ	**McQueen's Vall**	**5.91**	**206**	P	Pn	06 58 13.7	-6.5
AKCZ	**Akaroa Harbour**	**5.97**	**204**	P	Pn	06 58 15.6	-5.5
RACZ	**Rakaia**	**6.12**	**209**	P	Pn	06 58 16.8	-6.2
WVZ	**Waitaha Valley**	**6.23**	**220**	P	Pn	06 58 18.9	-5.7
WACZ	**Wakanui South**	**6.42**	**210**	P	Pn	06 58 21.3	-5.7
RPZ	**Rata Peaks**	**6.56**	**215**	P	Pn	06 58 24.3	-4.7
RPZ	**Rata Peaks**	**6.56**	**215**	P	Pn	06 58 24.3	-4.8
GCSZ	**Gaunt Creek Bo**	**6.61**	**221**	P	Pn	06 58 24.2	-5.6
ARCZ	**Arundel**	**6.69**	**213**	P	Pn	06 58 25.3	-5.5
FOZ	**Fox Glacier**	**7.03**	**222**	P	Pn	06 58 29.1	-6.3
TMZ	**Timaru**	**7.12**	**212**	P	Pn	06 58 29.9	-6.7
LBZ	**Lake Benmore**	**7.47**	**216**	P	Pn	06 58 35.9	-5.6
OTZ	**Chatham Island**	**7.55**	**137**	P	**Pn**	**06 58 30.1**	**-3.5**
ODZ	**Otahua Downs**	**7.80**	**211**	P	Pn	06 58 39.7	-6.3
ODZ	**Otahua Downs**	**7.80**	**211**	P	Pn	06 58 39.7	-6.3
JCZ	**Jackson Bay**	**7.94**	**223**	P	Pn	06 58 40.7	-7.3
WKZ	**Wanaka**	**8.36**	**218**	P	Pn	06 58 47.5	-6.0
EAZ	**Earnscleugh**	**8.52**	**215**	P	Pn	06 58 49.5	-6.3
TUZ	**Tuapeka**	**8.96**	**211**	P	Pn	06 58 56.2	-5.4
MLZ	**Mavora Lakes**	**9.19**	**219**	P	**Pn**	**06 59 01.0**	**-3.8**
SYZ	**Scrubby Hill**	**9.63**	**211**	P	Pn	06 59 05.4	-5.3

*IDC **09** 07:12:01.6±0.5,26˚.70S×176˚.38W, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.5/41, mbtmp4.5/19, ML4.7/2, MS4.4/55, Ms1 4.4/55, ms1mx4.4/62, Error ellipse: s-maj=18.2km s-min=15.0km az=110.0*
*GCMT **09** 07:12:06.3±0.2,26˚.73S±0˚.02×175˚.90W±0˚.01, h19km, MW5.1/117, Moment Tensor Solution. s80,c106; s117,c174; Duration: 0 Moment tensor: Scale 1016Nm; Mrr5.22±.16; Mθθ-0.06±.11; Mϕϕ-5.17±.11; Mrθ0.53±.25; Mθϕ-0.55±.07; Mrϕ2.94±.21; Best double couple: M☉6.01800×1016 NP1☉s184.00000˚, δ30.00000˚, λ86.00000˚. NP2☉s8.00000˚, δ60.00000˚, λ92.00000˚. Principal axes: T 6.0170, Plg75.0000˚, Azm284.0000˚; N -0.0030, Plg2.0000˚, Azm187.0000˚; P -6.0190, Plg15.0000˚, Azm97.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 07:12:08.3±1.7,26˚.85S±0˚.08×176˚.38W±0˚.05, h40km±5km, mb5.0/37, Ms_20 4.7/38 Error ellipse: s-maj=12.3km s-min=5.4km az=190.0*
ISC 09 07:12:06.9±0.4,**27˚.11S**±0˚.05×**176˚.41W**±0˚.07,**h35**km, **h36**km:**pP-P,n186,**σ2**s82**/136,**mb5.0**/41,**MS4.5**/72,**4C-8D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.52**	**212**	Pn	Pn	07 12 49.7	+4.5
	353nm,0.3s,baz=72,slow=19,SNR=18						
RAO				Sn	Sn	07 13 26.7	+12
	721nm,0.3s,baz=51,slow=22,SNR=7.0						
RAO				LR	LR	07 13 38.5	
	comp=Z,2μm,18.6s,baz=148,slow=34						
RAO	**Raoul Island**	**2.52**	**212**	Pn	**Pn**	**07 12 48.9**	**+3.6**
RIZ	**Raoul Island**	**2.52**	**212**	P	Pn	07 12 50.5	+5.3
RIZ				S	Sn	07 13 26.2	+12
GLKZ	**Green Lake**	**2.53**	**211**	P	Pn	07 12 50.1	+4.7
GLKZ				S	Sn	07 13 25.3	+10
MSVF	**Nonsavu**	**10.64**	**330**	Pn	**Pn**	**07 14 36.0**	**-1.0**
	1.2nm,0.3s,baz=150,slow=12,SNR=7.3						
MSVF				LR	LR	07 18 06.1	
	comp=Z,3μm,19.9s,baz=133,slow=35						
MSVF	**Nonsavu**	**10.64**	**330**	Pn	**Pn**	**07 14 35.8**	**-1.1**
MXZ	**Matakaoa Point**	**11.34**	**202**	S	**Sn**	**07 16 49.3**	**-2.4**
WMGZ	**Waiomatatini S**	**11.54**	**201**	P	Pn	07 14 41.5	-7.6
WMGZ				S	**Sn**	**07 16 55.6**	**-1.0**
PKGZ	**Pakihiroa**	**11.71**	**202**	P	Pn	07 14 44.2	-7.3
PKGZ				S	**Sn**	**07 16 55.9**	**-5.0**
URZ	**Urewera**	**12.38**	**204**	Pn	Pn	07 14 54.9	-5.7
	0.3nm,0.3s,baz=21,slow=17,SNR=1.7						
URZ				Sn	**Sn**	**07 17 17.7**	**+0.4**
	3.6nm,0.3s,baz=233,slow=22,SNR=12						
AFI	**Afiamalu**	**13.83**	**19**	Pn	Pn	07 15 07.5	-13
	5.0nm,0.3s,baz=95,slow=5.3,SNR=5.7						
AFI				Sn	Sn	07 17 23.8	-29
	1.9nm,0.3s,baz=70,slow=22,SNR=1.5						
BHHZ	**Black Hill Sta**	**13.85**	**205**	P	**Pn**	**07 15 22.8**	**+2.1**
BHHZ				S	**Sn**	**07 17 49.2**	**-4.0**
WNVZ	**Wahianoa**	**13.89**	**207**	P	**P**	**07 15 25.6**	**-3.5**
WNVZ				S	**Sn**	**07 17 53.1**	**-1.3**
PXZ	**Pawanui**	**14.05**	**202**	P	**Pn**	**07 15 21.7**	**-1.6**
PXZ				S	**Sn**	**07 17 52.1**	**-5.9**
PRHZ	**Porangahau**	**14.34**	**202**	P	**Pn**	**07 15 25.7**	**-1.6**
PRHZ				S	**Sn**	**07 17 58.9**	**-6.1**
BFZ	**Birch Farm**	**14.84**	**202**	P	**Pn**	**07 15 30.9**	**-3.1**
BFZ				S	**Sn**	**07 18 08.9**	**-8.4**
HOWZ	**Holdsworth Sta**	**15.29**	**204**	P	**Pn**	**07 15 36.5**	**-3.5**
HOWZ				S	**Sn**	**07 18 20.7**	**-7.5**
TMWZ	**Te Maipa**	**15.34**	**202**	P	**P**	**07 15 42.5**	**-2.5**
TMWZ				S	Sn	07 18 17.6	-12
OGWZ	**Otaki Gorge**	**15.34**	**205**	P	**P**	**07 15 43.6**	**-1.4**
OGWZ				S	**Sn**	**07 18 19.2**	**-10**
TRWZ	**Traveller**	**15.67**	**203**	P	**P**	**07 15 49.9**	**+1.3**
TRWZ				S	**Sn**	**07 18 29.8**	**-7.6**
MSWZ	**Moikau Station**	**15.84**	**204**	P	**P**	**07 15 50.1**	**-0.5**
MSWZ				S	**Sn**	**07 18 32.3**	**-9.2**
BHW	**Baring Head**	**15.97**	**204**	P	**Pn**	**07 15 45.9**	**-2.9**
PLWZ	**Palliser**	**15.97**	**203**	P	**Pn**	**07 15 47.5**	**-1.4**
PLWZ				S	**Sn**	**07 18 34.5**	**-10**
RAR	**Rarotonga**	**16.27**	**72**	Pn	Pn	07 15 40.0	-13
	4.7nm,0.3s,baz=239,slow=5.4,SNR=10						
RAR				Sn	Sn	07 18 23.0	-29
	1.3nm,0.3s,baz=104,slow=22,SNR=2.7						
RAR				LR	LR	07 22 40.0	
	comp=Z,473nm,18.1s,baz=252,slow=40						
TUWZ	**Tuamarina**	**16.34**	**207**	P	**Pn**	**07 15 53.2**	**-0.3**
TUWZ				S	**Sn**	**07 18 44.5**	**-9.2**
DZM	**Mont Dzumac**	**16.37**	**284**	Pn	**P**	**07 15 58.3**	**+1.5**
	0.1nm,0.3s,baz=92,slow=18,SNR=6.6						
DZM				LR	LR	07 21 09.3	
	comp=Z,3μm,18.9s,baz=138,slow=34						
DZM	**Mont Dzumac**	**16.37**	**284**	*e*Pn	**Pn**	**07 15 54.5**	**+0.3**
	129nm,1.6s						
DZM				*e*LR	LR	07 19 41.9	
	comp=Z,4μm,23.9s						
QRZ	**Quartz Range**	**16.45**	**211**	P	**Pn**	**07 15 54.9**	**-0.1**
QRZ				S	**Sn**	**07 18 52.9**	**-3.6**
RPZ	**Rata Peaks**	**19.43**	**208**	P	**Pn**	**07 16 34.3**	**+2.8**
	0.7nm,0.3s,baz=27,slow=4.0,SNR=5.2						
RPZ				S	S	07 19 56.0	-12
	0.1nm,0.3s,baz=36,slow=22,SNR=1.4						
RPZ				LR	LR	07 23 44.0	
	comp=Z,597nm,21.4s,baz=18,slow=36						
RPZ	**Rata Peaks**	**19.43**	**208**	IAmb	IAmb	07 16 41.8	
	comp=Z,24nm,1.3s						
FOZ	**Fox Glacier**	**19.82**	**211**	IAMs_20	IAMs_20	07 25 12.4	
	comp=Z,4μm,18.0s						
MLZ	**Mavora Lakes**	**22.02**	**210**	IAMs_20	IAMs_20	07 26 05.4	
	comp=Z,3μm,19.0s						
WHZ	**Wether Hill Ro**	**22.50**	**209**	IAMs_20	IAMs_20	07 27 04.3	
	comp=Z,2μm,18.0s						
DCZ	**Deep Cove**	**22.53**	**211**	IAMs_20	IAMs_20	07 26 08.0	
	comp=Z,2μm,20.0s						
PAE	**Paea**	**26.48**	**75**	*e*T	T	07 44 29.0	
	comp=Z,7.8nm,0.3s						
PPT2	**Papeete2**	**26.52**	**75**	*e*LR	LR	07 23 59.9	
	comp=Z,2μm,28.0s,baz=244						
PPT2	**Papeete2**	**26.52**	**75**	*e*T	T	07 44 32.3	
	comp=Z,4.9nm,0.4s						
PPT	**Papeete**	**26.53**	**75**	P	**P**	**07 17 39.8**	**-1.6**
	comp=Z,11nm,0.8s,baz=260,slow=18,SNR=2.1						
PPT				LR	LR	07 25 29.0	
	comp=Z,540nm,19.5s,baz=246,slow=31						
HNR	**Honiara**	**28.42**	**304**

JNU	**Nakatsue**	**78.07 317**	IAmb	IAmb	07 24 02.2			
	comp=Z,46nm,1.3s							
SSLB	**Suanglung**	**78.84 304**	IAMs_20	IAMs_20	07 57 00.4			
	comp=Z,322nm,20.0s							
YHNB	**Yeheng**	**79.05 305**	IAMs_20	IAMs_20	07 52 58.9			
	comp=Z,391nm,21.0s							
ASAJ	**Asahikawa**	**80.20 331**	LR	LR	07 58 05.5			
	comp=Z,199nm,18.3s,baz=124,slow=35							
SYO	**Syowa Base**	**80.62 192**⇓	*e*PcP	**PcP**	**07 24 22.1**	**-0.2**		
SYO	**Syowa Base**	**80.62 192**⇓	*e*pP	pP	07 24 28.9	+3.6		
H03S2	**Juan Fernandez**	**81.11 123**	T	T	08 53 30.7			
	baz=241,SNR=8.1							
H03S1	**Juan Fernandez**	**81.12 123**	T	T	08 53 33.0			
	baz=241,SNR=9.8							
H03S3	**Juan Fernandez**	**81.13 123**	T	T	08 53 31.9			
	baz=241,SNR=10							
QZH	**Quanzhou**	**81.26 304**	P	**P**	**07 24 19.2**	**-0.4**		
QZH			S	**S**	**07 34 27.5**	**-0.2**		
QZH			LR	LR				
	comp=Z,180nm,14.1s							
QZH			LR	LR				
	comp=Z,160nm,19.4s							
QZH			LR	LR				
	comp=Z,220nm,16.5s							
H03N3	**Juan Fernandez**	**81.28 123**	T	T	08 53 39.6			
	baz=232,slow=78,SNR=4.9							
H03N2	**Juan Fernandez**	**81.28 123**	T	T	08 53 41.0			
	baz=232,slow=78,SNR=6.2							
H03N1	**Juan Fernandez**	**81.30 123**	T	T	08 53 49.2			
	baz=232,slow=78,SNR=5.6							
SNAA	**Sanae**	**81.39 178**	P	**P**	**07 24 22.2**	**+2.5**		
	comp=Z,7.3nm,0.9s,baz=204,slow=8.2,SNR=4.0							
SNAA			LR	LR	08 00 33.9			
	comp=Z,239nm,18.0s,baz=152,slow=36							
SNAA	**Sanae**	**81.39 178**	IAmb	IAmb	07 24 30.1			
	comp=Z,23nm,1.3s							
LPIG	**La Paz**	**81.61 58**	LR	LR	07 52 22.0			
	comp=Z,178nm,20.1s,baz=238,slow=30							
MYKOM	**Kota Tinggi**	**81.68 276**	IAMs_20	IAMs_20	08 05 35.8			
	comp=Z,267nm,19.0s							
SAO	**San Andreas Ge**	**81.90 42**	P	**P**	**07 24 22.8**	**0.0**		
KSRS	**Korea Array**	**82.78 319**	P	**P**	**07 24 27.2**	**-0.1**		
	comp=Z,2.4nm,0.8s,baz=138,slow=5.9,SNR=12							
KSRS			LR	LR	07 59 30.7			
	comp=Z,101nm,18.6s,baz=140,slow=34							
KSAR	**Wonju Array Be**	**82.80 318**	P	**P**	**07 24 26.8**	**-0.6**		
PFO	**Pinyon Flats O**	**82.95 47**	LR	LR	07 57 25.4			
	comp=Z,214nm,18.1s,baz=237,slow=33							
ISA	**Isabella, Lake**	**82.98 44**	P	**P**	**07 24 28.6**	**+0.2**		
ISA			IAmb	IAmb	07 24 40.1			
	comp=Z,23nm,1.4s							
KMRM	**Mail Ridge**	**82.99 38**		**P**	**07 24 28.6**	**+0.2**		
PETK	**Petropavlovsk-**	**83.00 345**	P	**P**	**07 24 26.2**	**-1.9**		
	comp=Z,5.8nm,1.0s,baz=116,slow=6.8,SNR=8.8							
PETK			LR	LR	07 55 07.8			
	comp=Z,170nm,21.9s,baz=152,slow=31							
PETK	**Petropavlovsk-**	**83.00 345**	P	**P**	**07 24 26.7**	**-1.4**		
CMB	**Columbia Colle**	**83.38 41**	P	**P**	**07 24 29.5**	**-0.9**		
O02D	**Mt. Diablo Mer**	**83.47 38**	P	**P**	**07 24 30.8**	**-0.1**		
BKNI	**Bangkinang**	**83.51 274**	IAMs_20	IAMs_20	08 04 18.4			
	comp=Z,467nm,18.0s							
PLCA	**Paso Flores**	**83.72 133**	P	**P**	**07 24 36.0**	**+3.5**		
	comp=Z,4.3nm,1.0s,baz=242,slow=5.2,SNR=3.8							
PLCA			LR	LR	07 53 55.4			
	comp=Z,178nm,18.8s,baz=252,slow=30							
O03E	**Paynes Creek**	**84.09 39**	P	**P**	**07 24 33.5**	**-0.7**		
O03E			IAmb	IAmb	07 24 49.4			
	comp=Z,12nm,1.1s							
QSM	**Queen of Sheba**	**84.17 45**	P	**P**	**07 24 33.9**	**-0.6**		
QSM			IAmb	IAmb	07 24 35.0			
	comp=Z,11nm,1.0s							
MPK	**Martis Peak**	**84.43 40**	P	**P**	**07 24 35.4**	**-0.7**		
YBH	**Yreka Blue Hor**	**84.58 37**	LR	LR	07 57 00.8			
	comp=Z,77nm,19.0s,baz=202,slow=32							
NVAR	**Mina Array Bea**	**84.88 42**	P	**P**	**07 24 36.8**	**-1.5**		
	comp=Z,2.1nm,1.0s,baz=221,slow=8.0,SNR=7.6							
NVAR			LR	LR	07 56 11.1			
	comp=Z,160nm,18.9s,baz=229,slow=31							
NVAR	**Mina Array Bea**	**84.88 42**	P	**P**	**07 24 37.1**	**-1.2**		
NJ2	**Nanjing**	**85.20 310**	*e*P	**P**	**07 24 41.3**	**+1.6**		
NJ2			pmax	pmax				
	comp=Z,20nm,0.5s							
USRK	**Ussuriysk Ar.**	**85.22 326**	LR	LR	07 56 14.6			
	comp=Z,147nm,21.4s,baz=137,slow=31							
MOD	**Modoc Plateau**	**86.02 38**	P	**P**	**07 24 43.3**	**-0.6**		
MOD			IAmb	IAmb	07 24 55.0			
	comp=Z,8.6nm,1.1s							
KULM	**Kulim**	**86.12 278**	IAMs_20	IAMs_20	08 09 50.3			
	comp=Z,312nm,18.0s							
PSI	**Prapat**	**86.51 275**	LR	LR	08 05 24.8			
	comp=Z,465nm,19.3s,baz=128,slow=37							
KDAK	**Kodiak Island**	**86.90 13**	LR	LR	08 00 55.5			
	comp=Z,147nm,18.4s,baz=223,slow=34							
WHN	**Wuhan**	**87.51 306**	⇓P	**P**	**07 24 52.0**	**+0.9**		
WHN			pP	**sP**	**07 25 04.1**	**-0.5**		
ELK	**Elko**	**88.17 42**	LR	LR	07 58 52.9			
	comp=Z,196nm,18.8s,baz=226,slow=32							
CN2	**Changchun**	**88.39 322**	*e*P	**P**	**07 24 54.6**	**-0.4**		
CN2			S	**S**	**07 35 37.1**	**-0.7**		
CN2			pmax	pmax				
	comp=Z,10.0nm,1.2s							
CN2			pmax	pmax				
	comp=Z,100nm,3.0s							
CN2			LR	LR				
	comp=Z,100nm,10.0s							
CN2			LR	LR				
	comp=Z,100nm,10.0s							
CN2			LR	LR				
	comp=Z,200nm,15.1s							
KLR	**Kul'dur**	**88.92 329**	P	**P**	**07 24 56.9**	**-0.5**		
	comp=Z,1.3nm,0.8s,baz=124,slow=3.1,SNR=3.6							
KLR			LR	LR	07 57 29.4			
	comp=Z,187nm,21.8s,baz=164,slow=31							
G08A	**Pilot Rock**	**89.00 37**	P	**P**	**07 24 58.9**	**+0.9**		
G08A			IAmb	IAmb	07 25 09.3			
	comp=Z,7.9nm,1.0s							
TXAR	**Lajitas Array**	**89.43 57**	LR	LR	07 56 58.3			
	comp=Z,106nm,21.3s,baz=226,slow=30							
BMO	**Blue Mountains**	**89.60 38**	IAMs_20	IAMs_20	08 07 52.2			
	comp=Z,308nm,19.0s							
CMIG	**Matias Romero**	**90.39 71**	LR	LR	07 58 04.0			
	comp=Z,101nm,18.5s,baz=246,slow=31							
ANMO	**Albuquerque**	**90.43 51**	LR	LR	07 58 29.4			
	comp=Z,201nm,19.5s,baz=235,slow=31							
PLID	**Pearl Lake**	**90.47 38**	P	**P**	**07 25 03.8**	**-1.3**		
PLID			IAmb	IAmb	07 25 16.6			
	comp=Z,7.7nm,1.1s							
PLID			IAMs_20	IAMs_20	08 03 04.0			
	comp=Z,334nm,20.0s							
MA2	**Magadan**	**90.51 344**	LR	LR	07 58 35.7			
	comp=Z,123nm,21.7s,baz=142,slow=31							
ENH	**Enshi**	**90.92 304**	P	**P**	**07 25 07.6**	**+0.3**		
LYN	**LuoYang**	**91.02 309**	⇑P	**P**	**07 25 08.1**	**+0.5**		
LYN			SKS	**SKSac**	**07 35 38.8**	**+1.8**		
LYN			S	**S**	**07 35 59.9**	**-2.8**		
LYN			pmax	pmax				
	comp=Z,10.0nm,0.8s							
LYN			pmax	pmax				
	comp=Z,140nm,6.5s							
LYN			LR	LR				
	comp=Z,200nm,13.7s							
LYN			LR	LR				
	comp=Z,240nm,18.0s							
HNS	**HongShan**	**91.05 312**	⇓P	**P**	**07 25 08.6**	**+1.0**		
NEW	**Newport**	**91.89 35**	LR	LR	08 01 36.2			
	comp=Z,92nm,19.2s,baz=200,slow=32							
PDAR	**Pinedale Array**	**92.79 43**	LR	LR	08 01 25.0			
	comp=Z,119nm,19.1s,baz=235,slow=32							
NNA	**Nana**	**92.95 105**	LR	LR	07 59 04.6			
	comp=Z,106nm,19.5s,baz=244,slow=30							
SEY	**Seymchan**	**93.11 346**	P	**P**	**07 25 15.1**	**-1.5**		
	comp=Z,1.5nm,0.6s,baz=146,slow=5.5,SNR=2.6							
SEY			LR	LR	08 03 44.3			
	comp=Z,197nm,19.4s,baz=328,slow=34							
KMI	**Kunming**	**93.60 296**	⇑P	**P**	**07 25 22.5**	**+2.5**		
KMI			pmax	pmax				
	comp=Z,18nm,1.2s							
CMAR	**Chiang Mai Arr**	**93.65 289**	P	**P**	**07 25 21.0**	**+0.9**		
	comp=Z,0.9nm,0.3s,baz=136,slow=3.0,SNR=13							
CHTO	**Chiang Mai**	**93.81 289**	P	**P**	**07 25 21.9**	**+1.1**		
CHTO			IAmb	IAmb	07 25 22.6			
	comp=Z,7.4nm,1.1s							
LVC	**Limon Verde**	**94.27 118**	LR	LR	07 58 28.4			
	comp=Z,137nm,21.1s,baz=254,slow=30							
ILAR	**Eielson Array**	**94.42 12**	P	**P**	**07 25 20.3**	**-2.2**		
	comp=Z,0.6nm,1.0s,baz=225,slow=3.7,SNR=3.3							
HIA	**Hailar**	**94.88 324**	IAMs_20	IAMs_20	08 04 11.7			
	comp=Z,263nm,20.0s							
HHC	**Hu-ho-hao-te**	**94.97 314**	*e*P	**P**	**07 25 26.4**	**+0.6**		
HHC			sS	sS	07 36 54.5	-0.3		
HHC			pmax	pmax				
	comp=Z,13nm,0.9s							
HHC			pmax	pmax				
	comp=Z,76nm,4.6s							
HHC			LR	LR				
	comp=Z,180nm,14.6s							
HHC			LR	LR				
	comp=Z,120nm,15.2s							
HHC			LR	LR				
	comp=Z,160nm,15.2s							
PZH	**PanZhiHua**	**95.04 297**	P	**P**	**07 25 27.2**	**+0.7**		
PZH			S	**S**	**07 36 36.4**	**-2.6**		
PZH			pmax	pmax				
	comp=Z,10.0nm,0.7s							
PZH			pmax	pmax				
	comp=Z,90nm,6.5s							
PZH			LR	LR				
	comp=Z,340nm,19.0s							
PZH			LR	LR				
	comp=Z,320nm,20.1s							
PZH			LR	LR				
	comp=Z,140nm,12.6s							
CD2	**Chengdu**	**95.53 302**	P	**P**	**07 25 30.8**	**+2.3**		
JTS	**Las Juntas de**	**95.90 82**	LR	LR	08 00 28.4			
	comp=Z,188nm,19.0s,baz=164,slow=30							
CBKS	**Cedar Bluff**	**97.03 50**	IAMs_20	IAMs_20	08 03 27.1			
	comp=Z,357nm,20.0s							
LZH	**Lanzhou**	**97.89 306**	*e*P	Pdif	07 25 46.3	+7.0		
LZH			pmax	pmax				
	comp=Z,15nm,1.4s							
LZH			LR	LR				
	comp=Z,150nm,19.5s							
LZH			LR	LR				
	comp=Z,240nm,19.5s							
LZH			LR	LR				
	comp=Z,310nm,20.6s							
LPAZ	**La Paz**	**98.18 113**	LR	LR	08 01 00.5			
	comp=Z,100nm,20.8s,baz=224,slow=30							
INK	**Inuvik**	**100.25 15**	LR	LR	08 08 54.9			
	comp=Z,71nm,18.1s,baz=188,slow=34							
YKA	**Yellowknife Ar**	**101.88 25**	P	**Pdif**	**07 25 55.6**	**-0.6**		
	comp=Z,0.1nm,0.7s,baz=235,slow=5.2,SNR=3.0							
PALK	**Pallekele**	**104.72 271**	IAMs_20	IAMs_20	08 14 17.0			
	comp=Z,226nm,19.0s							
WMQ	**Urumqi**	**112.27 309**	*e*PKP	**PKiKP**	**07 30 39.0**	**+0.1**		
MKAR	**Makanchi Array**	**116.70 311**	PKP	**PKPdf**	**07 30 45.2**	**-2.0**		
	comp=Z,0.6nm,0.8s,baz=74,slow=3.3,SNR=5.3							
KSH	**Kashi**	**119.73 302**	PKP	**PKiKP**	**07 30 58.7**	**+5.2**		
KSH			sPKP		07 31 09.2			
NC303	**NORSAR Array S**	**145.48 353**		**PKPdf**	**07 31 39.6**	**-1.0**		
NC405	**NORSAR Array S**	**145.56 353**		**PKPdf**	**07 31 40.1**	**-0.7**		
NB2	**NORSAR Subarra**	**145.68 353**	PKP	**PKPdf**	**07 31 39.2**	**-1.8**		
	comp=Z,50nm,1.7s,baz=9.9,slow=2.5							
NB2	**NORSAR Subarra**	**145.68 353**	PKP	**PKPdf**	**07 31 39.2**	**-1.8**		
	baz=9.9,slow=2.5							
NOA	**NORSAR Array B**	**145.68 353**	PKPbc	**PKPdf**	**07 31 39.5**	**-1.5**		
	comp=Z,6.8nm,1.0s,baz=12,slow=2.4,SNR=10							
HFS	**Hagfors**	**146.26 351**	PKPbc	**PKPdf**	**07 31 41.1**	**-0.9**		
	comp=Z,2.4nm,0.7s,baz=20,slow=43,SNR=4.5							
NACGM	**Naroch**	**147.48 335**	*e*PKP	**PKPbc**	**07 31 45.9**	**-0.8**		
AKASG	**Malin Array Be**	**149.41 327**	PKPbc	**PKPbc**	**07 31 50.4**	**-1.5**		
	comp=Z,1.0nm,0.5s,baz=47,slow=3.0,SNR=14							
AKASG	**Malin Array Be**	**149.41 327**		**PKPbc**	**07 31 49.8**	**-2.1**		
AKBB	**Malin Array Si**	**149.41 327**		**PKPbc**	**07 31 50.6**	**-1.3**		
EKA	**Eskdalemuir Ar**	**151.37 8**	PKPbc	**PKiKP**	**07 31 57.7**	**+0.8**		
	comp=Z,1.2nm,0.6s,baz=302,slow=1.3,SNR=4.2							
BRTR	**Keskin Array B**	**152.07 304**	PKPbc	**PKPbc**	**07 31 57.5**	**-1.2**		
	comp=Z,1.1nm,0.8s,baz=90,slow=1.4,SNR=5.3							
BRTR	**Keskin Array B**	**152.07 304**	PKPdf	**PKPdf**	**07 31 50.5**	**-1.6**		
BRTR			PKPbc	**PKPbc**	**07 31 58.7**	**-0.1**		
BRTR				**sPKPdf**	**07 32 06.8**	**+1.0**		
TORD	**Torodi Ar. Bea**	**166.00 172**	PKP	**PKPdf**	**07 32 08.2**	**-0.7**		
	comp=Z,1.1nm,1.0s,baz=291,slow=1.6,SNR=3.9							
TORD			PKPab	**PKPab**	**07 33 09.2**	**+0.4**		
	comp=Z,4.0nm,0.8s,baz=187,slow=4.5,SNR=10							

TEH ***09*** *07:14:01.0,32.38N×47.01E,h7km,ML3.2*
ISN ***09*** *07:14:06.3±1.2,32.36N×47.01E,h8km,ML3.2*
ISC 09 07:14:02.3±1.0,32.45N±0.05×47.02E±0.05,h10km,n28,
σ1°33/29,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.32**	**44**	*e*		07 14 14.2	
	comp=N,63μm,0.3s						
DHL1				*e*Pg	**Pg**	**07 14 08.8**	**+0.1**
RAFI	**Al-Rafai**	**1.06**	**227**	*e*Pg	**Pn**	**07 14 24.0**	**+0.8**
	baz=50						
RAFI				*e*Sg	**Sn**	**07 14 39.0**	**+1.1**
RAFI				AML	AML	07 14 46.1	
	comp=E,580nm,0.7s						
IKFM	**Kafar-mosalman**	**1.28**	**33**	*e*Pg	**Pb**	**07 14 26.5**	**0.0**
IKFM				*e*		07 14 53.5	
	comp=Z,7μm,0.6s						
IDOB	**Doab**	**1.65**	**36**	*e*Pn	**Pb**	**07 14 33.2**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.82**	**1**	*e*Pn	**Pg**	**07 14 36.7**	**-0.5**
IGHG	**Ghaleghazi**	**1.91**	**349**	*e*Pn	**Pb**	**07 14 36.5**	**-0.9**
IGHG				*e*		07 15 22.0	
	comp=Z,3μm,0.8s						
KER	**Kermanshah**	**1.93**	**3**	*e*Pn	**Pb**	**07 14 38.2**	**+0.5**
BMDN	**Meydan**	**1.95**	**51**	*e*Pn	**Pb**	**07 14 36.8**	**-1.2**
AMIS	**Naft Sefid**	**2.08**	**112**	*e*Pn	**Pb**	**07 14 38.5**	**-1.7**
AMIS				*e*		07 15 23.5	
	comp=Z,2μm,0.5s						
IBZA	**Bozab**	**2.13**	**19**	*e*Pn	**Pb**	**07 14 40.1**	**-1.1**
IBZA				*e*		07 14 46.2	
	comp=Z,1μm,0.3s						
HSAM	**Samen**	**2.20**	**37**	*e*Pn	**Pb**	**07 14 40.6**	**-1.8**
IDHR	**Dehrash**	**2.30**	**347**	*e*Pn	**Pb**	**07 14 42.7**	**-1.4**
IDHR				*e*		07 15 23.8	
	comp=Z,1μm,0.4s						
ILIN	**Lien**	**2.46**	**359**	*e*Pn	**Pn**	**07 14 44.6**	**+1.8**
ILIN				*e*		07 15 27.2	
	comp=Z,775nm,0.6s						
HAGD	**Aghdareh**	**2.95**	**36**	*e*Pn	**Pn**	**07 14 51.7**	**+2.2**
HAGD				*e*		07 15 28.3	
	comp=Z,661nm,0.4s						
ASAO	**Ashtian**	**3.27**	**49**	*e*Pn	**Pn**	**07 14 55.5**	**+1.6**
IPIR	**Pirpir**	**3.28**	**85**	*e*Pn	**Pn**	**07 14 55.5**	**+1.4**
IPIR				*e*		07 15 53.1	
	comp=Z,414nm,0.6s						
IRAZ	**Razeghan**	**3.81**	**39**	*e*Pn	**Pn**	**07 15 02.8**	**+1.5**
QAMS	**Qamsar**	**3.89**	**70**	*e*Pn	**Pn**	**07 15 04.4**	**+1.9**
QAMS				*e*		07 15 53.4	
	comp=Z,614nm,0.4s						
IKLH	**Kolahrood**	**3.94**	**76**	*e*Pn	**Pn**	**07 15 04.4**	**+1.3**
IKLH				*e*		07 15 53.5	
	comp=Z,218nm,0.3s						
GHVR	**GHOM**	**4.11**	**59**	*e*Pn	**Pn**	**07 15 06.4**	**+1.1**
IQOM	**Qom**	**4.14**	**54**	*e*Pn	**Pn**	**07 15 05.6**	**-0.2**
KLNJ	**Kolanjah**	**4.16**	**109**	*e*Pn	**Pn**	**07 15 06.5**	**+0.3**
KLNJ				*e*		07 16 30.9	
	comp=Z,216nm,0.9s						
ZNJK	**Zanjan**	**4.43**	**18**	*e*Pn	**Pn**	**07 15 07.1**	**-2.7**
IZEF	**Zefreh**	**4.50**	**83**	*e*Pn	**Pn**	**07 15 11.9**	**+1.0**
KRSH	**Karshahi**	**4.55**	**69**	*e*Pn	**Pn**	**07 15 12.4**	**+1.0**
IRAM	**Ramesheh**	**4.60**	**97**	*e*Pn	**Pn**	**07 15 12.8**	**+0.7**
ISFB	**Sefidab**	**4.76**	**65**	*e*Pn	**Pn**	**07 15 15.0**	**+0.7**
DAMV	**Damavand**	**5.19**	**51**	*e*Pn	**Pn**	**07 15 20.5**	**+0.2**

IDC ***09*** *07:15:07.4±0.6,4.16S×78.20W,h0km,mb4.6/20,*
mb1 4.8/22,mb1mx4.6/45,mbtmp4.6/22,ML3.6/2,MS4.0/22,
Ms1 4.0/22,ms1mx3.7/63,Error ellipse: s-maj=21.6km
s-min=12.4km az=51.0
ARE ***09*** *07:15:08.3±3.2,4.20S±0.05×78.38W±0.05,h19km±2km,*
Error ellipse: s-maj=0.0km s-min=0.0km az=134.0
NEIC ***09*** *07:15:13.0±2.3,4.31S±0.06×78.34W±0.06,h39km±6km,*
mb4.9/98,ML4.9(ARE),Error ellipse: s-maj=9.4km
s-min=7.4km az=51.0
BJI ***09*** *07:15:14.1±0.0,4.30S×78.20W,h30km,mB5.2/2,Ms5.2/3,*
Ms7 4.9/3
VAO ***09*** *07:15:14.2±0.4,4.21S×77.99W,h33km,mb4.8*
ISC 09 07:15:13.0±0.4,4.24S±0.05×78.20W±0.06,h42km±3km,
h42km:pP-P,n376,σ1°14/380,mb4.8/55,MS4.0/21,3C-5D,
Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRA	**Macar, Loja**	**1.76**	**266**		**Pn**	**07 15 37.4**	**-3.6**
MCRA					Sn		**Sn**	**07 15 58.6**	**-3.7**
ARNL	**Arenillas**	**1.99**	**290**				**Pn**	**07 15 42.0**	**-2.1**
ARNL					Sn		**Sn**	**07 16 06.1**	**-1.7**
CUSE	**Cuicocha Este**	**4.52**	**357**	*e*P			**Pn**	**07 16 23.1**	**+3.7**
TULM	**Tulcn-Chalpat**	**4.94**	**5**				**Pn**	**07 16 26.7**	**+1.5**
TULM	**Tulcn-Chalpat**	**4.94**	**5**	*e*P			**Pn**	**07 16 27.6**	**+2.4**
CMBC	**Cumbal**	**5.16**	**4**	*e*P			**Pn**	**07 16 31.1**	**+2.9**
GCUF	**Volcan Galeras**	**5.50**	**9**	*e*P			**Pn**	**07 16 35.5**	**+2.7**
PTLC	**Puerto Leguiza**	**5.54**	**38**	*e*P			**Pn**	**07 16 28.4**	**-4.8**
CZSB	**Cruzeiro do Su**	**6.47**	**123**	*e*P			**Pn**	**07 16 44.6**	**-1.2**
POPC	**Popayan, Colom**	**6.90**	**13**	*e*P			**Pn**	**07 16 52.7**	**+0.7**
GARC	**Garzon, Huila**	**6.93**	**23**	*e*P			**Pn**	**07 16 50.6**	**-1.8**
BETC	**Betania**	**7.41**	**22**	*e*P			**Pn**	**07 16 57.2**	**-1.5**
MACC	**Macarena, Meta**	**7.69**	**35**	*e*P			**Pn**	**07 17 00.1**	**-2.5**
NNA	**Nana**	**7.81**	**170**	Pn			**Pn**	**07 17 03.9**	**-0.4**
	3.8nm,0.3s,baz=340,slow=11,SNR=25								
NNA					Sn		**Sn**	**07 18 31.0**	**-0.5**
	2.3nm,0.3s,baz=97,slow=12,SNR=1.9								
NNA					Lg		Lg	07 19 23.3	
	3.6nm,0.3s,baz=232,slow=13,SNR=4.7								
YOTC	**Yotoco, Valle**	**8.38**	**13**	*e*P			**Pn**	**07 17 10.8**	**-1.3**
ORTC	**Ortega, Tolima**	**8.61**	**20**	*e*P			**Pn**	**07 17 15.7**	**+0.4**
PLMC	**San Jos del P**	**9.28**	**12**	*e*P			**Pn**	**07 17 23.7**	**-0.8**
ROSC	**El Rosal**	**9.81**	**23**	Pn			**Pn**	**07 17 34.0**	**+2.0**
	1.9nm,0.3s,baz=194,slow=14,SNR=9.4								
ROSC					Lg		Lg	07 20 15.0	
	6.7nm,0.3s,baz=226,slow=23,SNR=2.8								
ROSC	**El Rosal**	**9.81**	**23**				**Pn**	**07 17 34.7**	**+2.6**
ROSC	**El Rosal**	**9.81**	**23**	*e*P			**Pn**	**07 17 29.5**	**-2.5**
GUY2C	**Guyana, Caldas**	**9.82**	**17**	*e*P			**Pn**	**07 17 30.8**	**-1.4**
CHIC	**Chingaza**	**9.88**	**27**	*e*P			**Pn**	**07 17 33.2**	**+0.3**
CBOC	**Ciudad Bolivar**	**10.27**	**12**	*e*P			**Pn**	**07 17 35.8**	**-2.3**
PTGC	**Puerto Gaitan,**	**10.34**	**36**	*e*P			**Pn**	**07 17 37.4**	**-1.5**
SPBC	**San Pablo de B**	**10.65**	**23**	*e*P			**Pn**	**07 17 44.9**	**+1.6**
RUSC	**La Rusia**	**11.29**	**27**	*e*P			**Pn**	**07 17 52.7**	**+0.5**
ZARC	**Zaragoza, Cauc**	**12.12**	**16**	Pn			**Pn**	**07 18 04.0**	**+0.7**
UREC	**San Jos de Ur**	**12.20**	**13**	*e*P			**Pn**	**07 18 03.2**	**-1.2**
PAMC	**Pamplona, Colo**	**12.74**	**26**	*e*P			**Pn**	**07 18 11.4**	**-0.8**
OCAC	**Ocana**	**13.32**	**21**				**Pn**	**07 18 20.1**	**+0.3**
OCAC	**Ocana**	**13.32**	**21**	*e*P			**Pn**	**07 18 16.3**	**-3.5**
BRU2	**Volcan**	**13.70**	**341**				**Pn**	**07 18 24.3**	**-0.7**
DRK0	**Durika**	**14.32**	**339**				**Pn**	**07 18 31.6**	**-1.9**
SRBA	**San Rafael, Bu**	**14.34**	**339**				**Pn**	**07 18 32.4**	**-1.2**
SJCC	**San Jacinto, C**	**14.36**	**12**	Pn			**Pn**	**07 18 34.4**	**+0.6**
PEZE	**Perez Zeledon,**	**14.59**	**338**				**Pn**	**07 18 36.2**	**-0.7**
RIMA	**Rio Macho**	**15.02**	**338**				**Pn**	**07 18 42.6**	**-0.1**
SDV	**Santo Domingo**	**15.06**	**30**	Pn			**Pn**	**07 18 42.0**	**-1.3**
	1.0nm,0.3s,baz=225,slow=9.9,SNR=9.5								
SDV					LR		LR	07 25 19.6	
	comp=Z,221nm,19.9s,baz=226,slow=41								
SDV	**Santo Domingo**	**15.06**	**30**	Pn			**Pn**	**07 18 42.1**	**-1.3**
SDV	**Santo Domingo**	**15.06**	**30**	*e*P			**Pn**	**07 18 42.3**	**-1.1**
HDC	**Heredia**	**15.32**	**337**	Pn			**Pn**	**07 18 45.6**	**-1.1**
HDC					IAmb		IAmb	07 18 54.0	
	comp=Z,108nm,1.5s								
LPAZ	**La Paz**	**15.53**	**141**	Pn			**Pn**	**07 18 46.5**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=333,slow=11,SNR=4.7								
LPAZ					LR		LR	07 26 07.6	
	comp=Z,1μm,21.1s,baz=301,slow=42								
LPAZ	**La Paz**	**15.53**	**141**	Pn			**Pn**	**07 18 48.2**	**-1.6**
LPAZ	**La Paz**	**15.53**	**141**	*e*P			**Pn**	**07 18 49.8**	**0.0**
JTS	**Las Juntas de**	**15.93**	**335**	Pn			**Pn**	**07 18 55.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=274,slow=5.7,SNR=8.3								
JTS	**Las Juntas de**	**15.93**	**335**				**Pn**	**07 18 53.5**	**-0.8**
COVE	**Coope Vega, Sa**	**16.09**	**337**				**Pn**	**07 18 54.8**	**-1.7**
PB12	**IPOC Station P**	**16.23**	**152**				**Pn**	**07 18 59.0**	**+0.7**
PB12					IAmb		IAmb	07

BDFB Brasilia 31.76 113 *e*P P 07 21 33.9 +0.1
PTGB Pitanga 32.35 132 *e*P P 07 21 38.6 -0.2
IPMB Ipameri, GO 32.36 117 *e*P P 07 21 38.8 -0.1
ITQB Itaqui 32.51 143 P P 07 21 40.2 +0.2
ITQB Itaqui 32.51 143 *e*P P 07 21 39.9 -0.1
BB19B Bebedouro 33.33 123 *e*P P 07 21 46.6 -0.7
FRTB Fartura 33.55 127 *e*P P 07 21 49.1 -0.1
ITAB Concordia 33.79 135 *e*P P 07 21 51.0 -0.1
SDBA SAO DESIDERIO 33.90 106 *e*P P 07 21 52.1 -0.2
ROSB Rosrio 34.03 89 *e*P P 07 21 53.3 -0.2
RCLB Rio Claro- Sao 34.75 124 *e*P P 07 22 00.2 +0.5
LC01 Cunco 34.98 171 P P 07 22 01.7 +0.4
LC01 IAmb IAmb 07 22 03.0
comp=Z,24nm,1.2s
CPSB Cacapava Do Su 34.98 141 *e*P P 07 22 01.9 +0.4
JANB Januaria 35.04 110 *e*P P 07 22 02.1 -0.1
VAO Valinhos 35.48 125 *e*P P 07 22 06.2 +0.2
PLTB Pedras Altas 35.82 143 *e*P P 07 22 08.8 +0.2
PET01 Itanhaem-SP 35.83 127 *e*P P 07 22 08.5 -0.4
BSCB Bom Sucesso 36.49 120 *e*P P 07 22 14.5 -0.2
DIAM Diamantina, MG 36.53 115 *e*P P 07 22 15.5 +0.4
NBPS Pedro II - PI 36.65 92 *e*P P 07 22 16.3 +0.2
PARB Paraibuna 36.74 124 *e*P P 07 22 16.5 -0.2
PLCA Paso Flores 36.98 170 P P 07 22 18.7 +0.2
comp=Z,4.0nm,1.0s,baz=7.5,slow=6.4,SNR=4.0
PLCA Paso Flores 36.98 170 *e*P P 07 22 19.4 +0.9
PLCA Paso Flores 36.98 170 ⇓P P 07 22 19.1 +0.6
GOGA Godfrey 37.78 353 P P 07 22 24.8 -0.4
baz=172,SNR=5.5
MAN01 Angra dos Reis 37.92 122 *e*P P 07 22 25.9 -0.8
LRAL Lakeview Retre 38.00 348 P P 07 22 25.8 -1.3
LRAL IAmb IAmb 07 22 27.6
comp=Z,20nm,0.9s
LRAL Lakeview Retre 38.00 348 P P 07 22 26.1 -1.0
baz=166,SNR=8.9
NBMO Morrinhos-CE 38.08 90 *e*P P 07 22 28.0 -0.1
NBPN Ponto Novo - B 38.21 102 *e*P P 07 22 28.1 -1.1
NBPB Pedra_Branca-C 38.49 94 *e*P P 07 22 32.2 +0.6
SJMB Sao Joao De Ma 38.90 115 *e*P P 07 22 35.1 +0.1
DUB01 Friburgo-RJ 38.97 120 *e*P P 07 22 36.4 +0.8
NATX Nacogdoches 39.08 337 P P 07 22 35.9 -0.3
baz=154
GDU01 Guandu, BA 39.24 106 *e*P P 07 22 38.4 +0.6
KMSC Kings Mountain 39.28 356 P P 07 22 37.8 -0.1
baz=175
NBMA Muriti-CE 39.34 96 *e*P P 07 22 39.5 +0.7
Y45A Yeager Farm, C 39.39 345 P P 07 22 37.8 -1.0
435B Jarrell 39.45 333 P P 07 22 39.9 +0.6
435B IAmb IAmb 07 22 41.3
comp=Z,14nm,0.8s
435B Jarrell 39.45 333 P P 07 22 40.3 +1.0
baz=149
CMC01 Camacan, BA 39.61 109 *e*P P 07 22 41.0 +0.2
GUA01 Guaratinga, BA 39.61 111 *e*P P 07 22 41.3 +0.4
NAN01 Guarapari, ES 39.63 113 *e*P P 07 22 40.8 -0.3
237A Washetta, Mont 39.74 336 P P 07 22 42.7 +0.9
RIB01 Linhares ES 39.80 115 *e*P P 07 22 42.4 -0.1
SWET Sewanee 39.91 350 P P 07 22 41.8 -1.4
SWET IAmb IAmb 07 22 43.2
comp=Z,23nm,0.9s
OXF Oxford 39.97 346 P P 07 22 43.2 -0.3
baz=163
TKL Tuckaleechee C 40.03 353 LR LR 07 39 55.4
comp=Z,196nm,19.0s,baz=169,slow=37
WHTX Lake Whitney, 40.42 334 P P 07 22 47.6 +0.2
baz=150,SNR=7.2
U56A King 40.43 357 P P 07 22 47.4 0.0
U56A IAmb IAmb 07 22 50.0
comp=Z,19nm,0.9s
NBLA Lagarto - SE 40.58 102 *e*P P 07 22 48.3 -0.6
TZTN Tazewell 40.88 353 P P 07 22 50.3 -0.8
baz=172
T59A Double "B" Far 41.00 1 P P 07 22 52.6 +0.6
T59A IAmb IAmb 07 22 53.1
comp=Z,16nm,0.8s
UALR University of 41.03 342 P P 07 22 51.2 -1.1
UALR IAmb IAmb 07 22 52.7
comp=Z,18nm,0.9s
T57A Hurt 41.04 359 P P 07 22 51.9 -0.5
U49A Red Boiling Sp 41.16 351 P P 07 22 52.2 -1.1
U49A IAmb IAmb 07 22 53.3
comp=Z,23nm,1.2s
WVT Waverly 41.16 348 P P 07 22 51.2 -2.1
baz=166
WVT Waverly 41.16 348 ⇓P P 07 22 51.2 -2.1
WVT X 07 22 59.1
WVT pP sP 07 23 10.8 +0.3
WVT sP pP 07 23 15.3 +10
W41B Gary Mavity, V 41.37 342 P P 07 22 54.4 -0.7
baz=159,SNR=6.5
TXAR Lajitas Array 41.37 325 P P 07 22 55.6 +0.2
comp=Z,1.9nm,0.9s,baz=149,slow=9.2,SNR=11
TXAR PcP PcP 07 24 54.5 +1.3
comp=Z,2.4nm,0.9s,baz=148,slow=7.4,SNR=8.1
COYC Coyhaique 41.52 174 P P 07 22 55.9 -0.3
COYC IAmb IAmb 07 22 59.4
comp=Z,31nm,1.4s
COYC Coyhaique 41.52 174 P P 07 22 57.2 +1.0
COYC X 07 23 03.8
COYC pP sP 07 23 12.5 -0.6
JSRW J. Sargeant Re 41.72 0 P P 07 22 58.6 +0.7
W39A Magazine 41.87 341 P P 07 22 59.3 0.0
baz=157,SNR=7.3
ABTX Abilene, Hawle 41.93 333 P P 07 23 00.5 +0.6
baz=147
NBAN Anadia - AL 41.94 100 *e*P P 07 23 00.8 +0.7
RCBR Riachuelo 42.16 94 LR LR 07 43 18.9
comp=Z,579nm,18.8s,baz=68,slow=40
RCBR Riachuelo 42.16 94 *e*P P 07 23 03.2 +1.2
RCBR Riachuelo 42.16 94 P P 07 23 05.6 +3.6
RCBR pP sP 07 23 19.4 +0.7
RCBR sP pP 07 23 27.5 +14
CBN Corbin Frederi 42.23 1 P P 07 23 03.1 +1.0
baz=181
U40A Yellville 42.65 342 P P 07 23 04.8 -0.8
baz=158,SNR=12
NBRF Rio Formoso - 43.00 98 *e*P P 07 23 10.5 +1.7
TUL1 Leonard 43.21 339 P P 07 23 10.0 -0.1
baz=154,SNR=9.3
WMOK Wichita Mounta 43.34 335 P P 07 23 10.5 -0.8
WMOK Wichita Mounta 43.34 335 P P 07 23 11.5 +0.2
baz=150,SNR=7.4
CCM Cathedral Cave 43.79 345 P P 07 23 13.6 -1.2
CCM Cathedral Cave 43.79 345 P P 07 23 13.2 -1.5
baz=161
CCM Cathedral Cave 43.79 345 P P 07 23 13.2 -1.5
CCM pP pP 07 23 23.1 -3.8
CCM sP sP 07 23 33.5 +1.6
P52A Corning 43.81 356 P P 07 23 13.5 -1.3
P52A Corning 43.81 356 P P 07 23 13.8 -1.0
baz=174
MNTX Cornudas Mount 44.13 326 P P 07 23 17.8 +0.2
baz=140,SNR=13
O56A Blue Knob Stat 44.29 360 P P 07 23 18.8 0.0
O56A Blue Knob Stat 44.29 360 P P 07 23 19.4 +0.7
baz=180,SNR=9.0
O53A New Philadelph 44.36 357 P P 07 23 18.8 -0.5
baz=176
ACSO Alum Creek Sta 44.47 355 P P 07 23 19.2 -1.0
baz=173,SNR=5.6
MSTX Muleshoe 44.53 330 P P 07 23 21.3 +0.4
baz=144
SSPA Standing Stone 44.66 0 P P 07 23 22.2 +0.6
SSPA Standing Stone 44.66 0 P P 07 23 22.0 +0.4
baz=181
SSPA Standing Stone 44.66 0 ⇑P P 07 23 22.3 +0.6
LUPA Lehigh Univers 44.70 3 P P 07 23 22.8 +0.9
O48B Farmland 44.74 352 P P 07 23 20.3 -2.0
baz=170
N59A State Game Lan 44.99 3 P P 07 23 25.5 +1.2
baz=184,SNR=7.4
N54A Moraine State 45.01 358 P P 07 23 24.3 -0.2
baz=178
M54A Oil Creek Stat 45.55 358 P P 07 23 28.2 -0.5
baz=178
HDIL Hopedale 45.73 348 P P 07 23 28.0 -2.1
baz=165
121A Cookes Peak, D 46.11 325 P P 07 23 33.7 +0.2
121A IAmb IAmb 07 23 50.4
comp=Z,17nm,1.0s
121A Cookes Peak, D 46.11 325 P P 07 23 35.0 +1.5
baz=137,SNR=10
L56A Greenwood 46.16 1 P P 07 23 33.8 +0.2
BINY Binghamton 46.26 2 P P 07 23 34.6 +0.2
BINY Binghamton 46.26 2 P P 07 23 35.3 +0.9
baz=183,SNR=8.4
KSU1 Kansas State U 46.36 340 P P 07 23 34.8 -0.4
KSU1 Kansas State U 46.36 340 P P 07 23 34.7 -0.4
baz=154,SNR=8.5
ANMO Albuquerque 47.17 328 P P 07 23 42.5 +0.7
comp=Z,10.0nm,1.0s,baz=149,slow=9.1,SNR=6.6
ANMO Albuquerque 47.17 328 P P 07 23 42.4 +0.5
ANMO IAmb IAmb 07 23 44.1
comp=Z,10nm,0.9s
ANMO Albuquerque 47.17 328 P P 07 23 42.6 +0.8
baz=140
ANMO Albuquerque 47.17 328 P P 07 23 42.2 +0.4
ANMO pP sP 07 24 03.7 +4.6
ANMO sP pP 07 24 16.0 +22
CBKS Cedar Bluff 47.24 337 P P 07 23 42.5 +0.4
CBKS Cedar Bluff 47.24 337 P P 07 23 43.2 +1.1
baz=150
TUC Tucson 47.74 322 P P 07 23 46.9 +0.7
TUC IAmb IAmb 07 23 48.2
comp=Z,11nm,0.8s
TUC Tucson 47.74 322 P P 07 23 46.8 +0.7
baz=134
TUC Tucson 47.74 322 P P 07 23 46.9 +0.7
TUC pP sP 07 24 04.3 +0.7
T25A Trinidad 47.87 332 P P 07 23 48.2 +1.0
T25A IAmb IAmb 07 24 01.7
comp=Z,16nm,1.3s
T25A Trinidad 47.87 332 P P 07 23 48.6 +1.3
baz=144,SNR=7.7
LBNH Lisbon 48.59 6 P P 07 23 53.7 +1.3
baz=188
KSCO Kaye Shedlock' 48.59 335 P P 07 23 54.0 +1.3
baz=147
LONY Lake Ozonia 48.75 3 P P 07 23 54.3 +0.7
baz=185
214A Organ Pipe Nat 48.77 320 P P 07 23 55.2 +1.1
baz=131
SADO Sadowa 48.80 359 LR LR 07 45 24.4
comp=Z,110nm,19.6s,baz=172,slow=37
SDCO Great Sand Dun 48.87 331 P P 07 23 55.8 +0.8
baz=143,SNR=19
W18A Petrified Fore 49.10 325 P P 07 23 57.7 +1.0
baz=137
S22A 4UR Ranch, Cre 49.52 330 P P 07 24 01.2 +1.1
baz=141
MVCO Mesa Verde 49.97 328 P P 07 24 03.8 +0.5
baz=139
WUAZ Wupatki 50.32 325 P P 07 24 06.5 +0.5
WUAZ Wupatki 50.32 325 P P 07 24 07.4 +1.4
baz=135,SNR=22
ECSD EROS Data Cent 50.56 343 P P 07 24 06.4 -1.0
baz=156,SNR=5.6
ISCO Idaho Springs 50.56 333 P P 07 24 08.6 +0.7
baz=144
SPMN Marine on St. 50.94 347 P P 07 24 08.6 -1.7
baz=161
BLYC Blythe 51.03 321 P P 07 24 11.6 +0.4
BLYC IAmb IAmb 07 24 21.2
comp=Z,13nm,1.3s
SWSC Sam W. Stewart 51.34 319 P P 07 24 14.7 +1.2
baz=129
IKP In-Ko-Pah, Jac 51.37 318 P P 07 24 15.5 +1.7
baz=129
W13A Hualapai Mount 51.53 322 P P 07 24 15.3 +0.1
W13A IAmb IAmb 07 24 17.7
comp=Z,12nm,0.9s
BC3 Big Chuckawall 51.57 320 P P 07 24 16.5 +1.2
baz=130
N23A Red Feather La 51.59 333 P P 07 24 15.8 +0.2
baz=144
IRM Iron Mountain 51.69 321 P P 07 24 17.3 +1.2
baz=130,SNR=11
MONP2 Monument Peak 51.72 318 P P 07 24 17.4 +0.8
baz=128
O20A White River Ci 52.07 331 P P 07 24 20.0 +0.9
baz=141
BELC Belle Mtn. Jos 52.14 320 P P 07 24 20.8 +1.2
baz=130,SNR=6.1
PFO Pinyon Flats O 52.19 319 P P 07 24 20.6 +0.7
comp=Z,5.5nm,0.9s,baz=112,slow=6.2,SNR=13
PFO Pinyon Flats O 52.19 319 P P 07 24 20.3 +0.3
PFO Pinyon Flats O 52.19 319 P P 07 24 20.9 +0.9
baz=129,SNR=6.8
PFO Pinyon Flats O 52.19 319 P P 07 24 21.1 +1.1
PFO X 07 24 29.9
PFO pP sP 07 24 37.6 +0.2
PFO sP pP 07 24 43.3 +11
KNB Kanab 52.20 325 P P 07 24 21.1 +1.0
PKCU Pink Cliffs 52.21 326 P P 07 24 21.1 +0.8
GMRC Granite Mounta 52.42 321 P P 07 24 22.9 +1.3
baz=130,SNR=11
MURC Murrieta 52.67 319 P P 07 24 24.6 +1.2
baz=128
ELS Elsinore Mount 52.85 319 P P 07 24 24.9 +0.1
HEC Hector,Ludlow 52.88 320 P P 07 24 26.4 +1.4
baz=130,SNR=25
CCUT Cedar City 52.88 325 P P 07 24 26.3 +1.1
BBRC Big Bear Solar 52.90 319 P P 07 24 27.2 +1.8
baz=129
MSU Marysvale 52.90 327 P P 07 24 26.4 +1.2
TUQ Turquise Moun 53.00 321 P P 07 24 27.1 +1.2
baz=130,SNR=11
RDMU Red Mountain 53.05 330 P P 07 24 26.5 +0.2
RDMU IAmb IAmb 07 24 28.0
comp=Z,12nm,0.9s
BFSC Mount Baldy Ra 53.36 319 P P 07 24 29.9 +1.3
baz=128,SNR=8.1
RSSD Black Hills 53.45 337 P P 07 24 29.7 +0.5
RSSD IAmb IAmb 07 24 32.3
comp=Z,13nm,1.1s
RSSD Black Hills 53.45 337 P P 07 24 29.8 +0.5
baz=148
RSSD Black Hills 53.45 337 ⇑P P 07 24 30.2 +0.9
RSSD pP sP 07 24 48.0 +1.3
GSC Goldstone, Bar 53.47 321 P P 07 24 30.4 +1.0
GSC IAmb IAmb 07 24 32.1
comp=Z,12nm,0.9s
GSC Goldstone, Bar 53.47 321 P P 07 24 31.0 +1.6
baz=130,SNR=19
SHOC Shoshone, Teco 53.52 321 P P 07 24 31.1 +1.5
baz=130,SNR=11
PRN Patroc Range 53.77 324 P P 07 24 33.0 +1.4
EDW2 Edwards Air Fo 53.97 319 P P 07 24 34.2 +1.1
baz=128,SNR=8.3
TPNV Topopah Spring 54.18 322 P P 07 24 36.2 +1.5
baz=131,SNR=6.4
MPMC Manual Prospec 54.38 321 P P 07 24 35.9 -0.2
baz=129,SNR=5.3
DUG Dugway, Tooele 54.45 328 P P 07 24 37.3 +0.9
baz=136,SNR=7.2
AGMN Agassiz Nation 54.56 346 P P 07 24 36.4 -0.5
baz=158,SNR=12
R11A Troy Canyon, C 54.71 324 P P 07 24 39.6 +1.1
baz=132,SNR=7.7
BW06 Boulder Array 54.73 332 P P 07 24 38.2 -0.3
baz=141,SNR=7.0
PDAR Pinedale Array 54.73 332 P P 07 24 38.4 -0.2
comp=Z,3.6nm,0.9s,baz=130,slow=8.0,SNR=26
PDAR PcP PcP 07 25 41.1 +0.2
comp=Z,3.4nm,0.9s,baz=131,slow=4.1,SNR=5.1
ISA Isabella, Lake 54.76 320 P P 07 24 38.6 -0.2
baz=128
CWC Cottonwood Cre 54.99 321 P P 07 24 42.1 +1.5
baz=129
VES Vestal, Richgr 55.26 320 P P 07 24 37.2 -5.1
baz=128
TIN Tinemaha, Big 55.47 321 P P 07 24 44.9 +1.0
baz=129
ULM Lac du Bonnet 56.38 346 P P 07 24 48.4 -1.6
comp=Z,12nm,1.0s,baz=164,slow=9.3,SNR=10
RLMT Red Lodge 56.43 334 P P 07 24 50.8 0.0
baz=142,SNR=9.4
HLID Hailey 57.69 329 P P 07 25 00.3 +0.6
baz=136,SNR=14
BOZ Bozeman (W) 57.85 333 P P 07 25 00.3 -0.4
BOZ IAmb IAmb 07 25 02.6
comp=Z,9.9nm,0.9s
BOZ Bozeman (W) 57.85 333 P P 07 25 01.2 +0.5
baz=140,SNR=18
EGMT Eagleton 58.93 336 P P 07 25 08.3 +0.2
baz=143,SNR=12
SCHQ Schefferville 59.62 8 P P 07 25 12.9 +0.3
comp=Z,6.7nm,1.0s,baz=210,slow=4.6,SNR=3.6
SCHQ LR LR 07 50 06.1
comp=Z,22nm,21.4s,baz=168,slow=35
MSO Missoula 59.84 332 P P 07 25 15.2 +0.8
baz=138,SNR=14
JTMT Jette 60.68 333 P P 07 25 20.6 +0.4
JTMT IAmb IAmb 07 25 21.8
comp=Z,8.3nm,0.9s
J04D Umpqua Nationa 61.65 325 P P 07 25 27.8 +0.9
baz=128
FFC Flin Flon 61.99 345 P P 07 25 28.8 0.0
FFC IAmb IAmb 07 25 30.1
comp=Z,10nm,1.2s
FFC Flin Flon 61.99 345 ⇑P P 07 25 28.8 0.0
FFC X 07 25 35.6
FFC pP pP 07 25 40.3 -1.0
FFC sP sP 07 25 47.7 +1.4
K02D Willamette Mer 62.22 324 P P 07 25 31.9 +1.3
baz=127
NEW Newport 62.37 332 P P 07 25 31.6 +0.2
baz=135
FRB Frobisher Bay 68.19 5 LR LR 07 57 32.3
comp=Z,82nm,20.1s,baz=183,slow=37
BBB Bella Bella 70.27 330 LR LR 08 01 06.6
comp=Z,152nm,18.1s,baz=286,slow=39
PPT Papeete 70.98 253 LR LR 07 50 34.8
comp=Z,160nm,18.2s,baz=132,slow=30
YKA Yellowknife Ar 72.08 343 P P 07 26 32.2 -0.4
comp=Z,5.8nm,0.8s,baz=138,slow=5.8,SNR=89
LIC Lamto 73.79 82 *e*P P 07 26 43.2 -0.6
comp=Z,41nm,2.0s
TIC Toumodi 73.84 82 *e*P P 07 26 44.3 +0.2
DBIC Dimbokro 74.01 82 P P 07 26 45.7 +0.7
comp=Z,8.1nm,0.8s,baz=271,slow=5.9,SNR=7.9
DBIC LR LR 07 57 47.7
comp=Z,151nm,19.9s,baz=280,slow=35
DBIC Dimbokro 74.01 82 P P 07 26 45.4 +0.3
DBIC IAmb IAmb 07 27 02.3
comp=Z,22nm,1.2s
KIC Kosan Boka 74.09 82 *e*P P 07 26 45.4 -0.2
comp=Z,11nm,0.6s
DLBC Dease Lake 74.83 335 P P 07 26 50.3 +1.3
DLBC IAmb IAmb 07 26 51.8
comp=Z,15nm,1.2s
WRGLY Wrigley 75.38 341 P P 07 26 53.6 +1.6
baz=133
KOWA Kowa 75.81 74 P P 07 26 55.6 +0.1
KOWA IAmb IAmb 07 27 07.6
comp=Z,12nm,1.1s
MMPY Sheldon Lake, 77.76 338 P P 07 27 06.5 +0.9
baz=126
FARO Faro, Yukon 78.34 337 P P 07 27 09.7 +0.9
baz=124
M31M Drury Creek, Y 78.74 337 P P 07 27 11.6 +0.7
baz=122
RES Resolute Bay 79.45 356 P P 07 27 14.0 -0.5
comp=Z,4.6nm,1.0s,baz=173,slow=8.5,SNR=7.6
C36M Paulatuk 79.76 345 P P 07 27 15.3 -1.0
baz=134
M30M Minto, Yukon 79.89 336 P P 07 27 17.5 +0.3
baz=120
YUK4 Talbot Arm 80.05 335 P P 07 27 19.7 +1.3
baz=118
RAR Rarotonga 80.63 249 LR LR 07 56 01.6
comp=Z,76nm,22.0s,baz=96,slow=30
ESDC Sonseca Array 80.65 49 P P 07 27 21.6 -0.3
comp=Z,3.7nm,1.1s,baz=269,slow=6.2,SNR=8.6
ESDC LR LR 08 01 48.8
comp=Z,37nm,18.8s,baz=216,slow=35
ESDC Sonseca Array 80.65 49 P P 07 27 22.7 +0.8
TOA0 Torodi Ar. Sit 81.15 76 P P 07 27 23.9 -1.0
TOA0 IAmb IAmb 07 27 37.9
comp=Z,10nm,1.1s
TORD Torodi Ar. Bea 81.15 76 P P 07 27 24.7 -0.2
comp=Z,2.8nm,0.9s,baz=292,slow=6.8,SNR=11
TORD LR LR 08 05 04.2
comp=Z,116nm,18.0s,baz=224,slow=37
TORD Torodi Ar. Bea 81.15 76 P P 07 27 24.4 -0.5
SNAA Sanae 81.41 162 P P 07 27 25.4 +0.1
SNAA IAmb IAmb 07 27 27.1
comp=Z,18nm,1.2s
DAWY Dawson 81.64 337 P P 07 27 26.6 +0.1
baz=118
INK Inuvik 81.79 342 P P 07 27 27.4 +0.2
comp=Z,16nm,1.0s,baz=108,slow=6.3,SNR=36
INK Inuvik 81.79 342 P P 07 27 27.7 +0.5
INK IAmb IAmb 07 27 29.4
comp=Z,16nm,1.0s
INK Inuvik 81.79 342 P P 07 27 27.6 +0.5
baz=124,SNR=23
EPYK Eagle Plains 81.79 340 P P 07 27 27.6 +0.3
baz=121
I29M Ogilvie Camp, 81.85 338 P P 07 27 28.3 +0.7
baz=119,SNR=6.0
A36M Sachs Harbour 81.86 347 P P 07 27 27.4 -0.1
baz=133,SNR=39
M27K Edge Creek, AK 81.88 335 P P 07 27 29.1 +1.2
baz=116
MCARA McCarthy VSAT 81.96 334 P P 07 27 29.6 +1.4
baz=114
L27K Beaver Creek, 82.16 336 P P 07 27 30.1 +0.8
baz=116
EGAK Eagle 82.65 337 P P 07 27 32.0 +0.2
baz=117
L26K Log Cabin Wild 82.77 335 P P 07 27 33.0 +0.5
baz=114
KLU Klutina 83.28 333 P P 07 27 35.4 +0.2
baz=112
SCRK Sand Creek 83.42 336 P P 07 27 36.3 +0.3
baz=114,SNR=8.1
J26L Joseph Creek 83.47 337 P P 07 27 36.3 +0.2
baz=114,SNR=16
PAX Paxson 83.64 335 P P 07 27 36.0 -1.0
baz=112,SNR=7.0
RIDG Independent Ri 83.68 336 P P 07 27 38.0 +0.8
baz=113,SNR=5.6
J25K Salcha River, 84.23 336 P P 07 27 40.6 +0.6
baz=113,SNR=9.8
WAT6 Susitna Watana 84.47 334 P P 07 27 41.7 +0.3
baz=110,SNR=6.2
HDA Harding Lake 84.79 336 P P 07 27 43.1 +0.3
baz=111,SNR=8.6
ILAR Eielson Array 84.89 336 P P 07 27 43.3 +0.1
comp=Z,6.8nm,0.9s,baz=128,slow=3.3,SNR=41
ILAR PP PP 07 30 60.0 -0.2
comp=Z,3.7nm,1.0s,baz=110,slow=6.7,SNR=16
CCB Clear Creek Bu 85.22 336 P P 07 27 44.4 -0.4
COLA College 85.32 336 P P 07 27 45.2 -0.1
COLA IAmb IAmb 07 27 54.1
comp=Z,9.9nm,1.1s
MDM Murphy Dome 85.50 336 P P 07 27 45.8 -0.5
H24K Noodor Dome 85.66 337 P P 07 27 48.1 +1.0
baz=110,SNR=11
NEA2 Nenana 85.71 336 P P 07 27 46.2 -1.1
NEA2 Nenana 85.71 336 P P 07 27 47.7 +0.4
baz=109,SNR=12
QSPA South Pole Qui 85.84 180 P P 07 27 48.1 0.0
I23K Minto, Yukon-K 86.01 336 P P 07 27 49.1 +0.3
baz=109,SNR=5.5
BPAW Bear Paw Mtn. 86.35 335 P P 07 27 50.8 +0.2
baz=108,SNR=8.4
PPLA Purkeypile 86.52 334 P P 07 27 51.4 -0.1
baz=106
CAST Castle Rocks 86.62 334 P P 07 27 50.9 -1.0
CAST Castle Rocks 86.62 334 P P 07 27 51.6 -0.3
baz=106,SNR=7.3
CHUM Lake Minchumin 86.85 335 P P 07 27 52.8 -0.1
baz=106
COLD Coldfoot 87.00 338 P P 07 27 54.0 +0.4
COLD Coldfoot 87.00 338 P P 07 27 54.9 +1.3
baz=108,SNR=14
I21K Tanana 87.08 336 P P 07 27 54.2 +0.2
baz=107
TOLK Toolik Lake Re 87.23 340 P P 07 27 55.5 +0.8
baz=109
J20K Nowinta River 87.70 335 P P 07 27 57.3 +0.2
baz=105
IMAR Indian Mountai 88.00 337 P P 07 27 58.1 -0.4
VNDA Vanda 92.10 191 P P 07 28 15.6 -1.8
TSUM Tsumeb 94.07 110 LR LR 08 09 41.7
comp=Z,240nm,18.6s,baz=167,slow=35
SYO Syowa Base 95.69 161⇓*e*PcP P 07 28 34.2 +0.2
BOSA Boshof 99.73 120 LR LR 08 12 09.4
comp=Z,205nm,19.6s,baz=212,slow=34
STKA Stephens Creek 127.83 224 PKP PKiKP 07 34 15.4 0.0
comp=Z,2.5nm,0.9s,baz=141,slow=4.9,SNR=3.5
ZALV Zalesovo Beam 128.54 13 PKP PKPdf 07 34 15.7 +0.2
comp=Z,6.2nm,1.0s,baz=324,slow=2.0,SNR=9.5
SONM Songino Array 136.39 356 PKP PKPdf 07 34 30.6 0.0
comp=Z,1.2nm,0.9s,baz=351,slow=1.9,SNR=3.8
KSH Kashi 137.81 30 PKP PKiKP 07 34 37.0 +1.5

ASAR	**Alice Springs**	**138.18**	**227**	PKhKP	PKPpre	07 34 26.9			
	comp=Z,0.7nm,0.9s,baz=115,slow=3.8,SNR=5.4								
ASAR				PKP	**PKPdf**	**07 34 35.0**	**+0.4**		
	comp=Z,2.1nm,1.0s,baz=151,slow=2.4,SNR=8.4								
WMQ	**Urumqi**	**138.66**	**15**	*e*PKP	**PKPdf**	**07 34 35.8**	**+0.9**		
KSRS	**Korea Array**	**139.21**	**328**	PKP	**PKPdf**	**07 34 36.3**	**+0.4**		
	comp=Z,2.6nm,0.9s,baz=8.9,slow=0.6,SNR=7.6								
WRA	**Warramunga Arr**	**140.00**	**232**	PKhKP	PKPpre	07 34 30.3			
	comp=Z,1.0nm,0.8s,baz=121,slow=2.4,SNR=5.4								
WRA				PKP	**PKPdf**	**07 34 38.0**	**0.0**		
	comp=Z,2.6nm,0.9s,baz=126,slow=1.3,SNR=10								
HHC	**Hu-ho-hao-te**	**142.51**	**348**	*e*PKP	**PKPdf**	**07 34 41.6**	**-0.4**		
HHC				LR	LR				
	comp=Z,140nm,15.9s								
HHC				LR	LR				
	comp=Z,150nm,15.9s								
HHC				LR	LR				
	comp=Z,170nm,15.2s								
GTA	**Gaotai**	**144.94**	**3**	*e*PKPbc	**PKPdf**	**07 34 46.0**	**-0.3**		
HNS	**HongShan**	**144.94**	**342**	⇓PKPbc	PKPbc	07 34 45.5	+0.1		
NJ2	**Nanjing**	**148.04**	**332**	*e*PKPbc	**PKPdf**	**07 34 51.1**	**-0.4**		
LZH	**Lanzhou**	**148.25**	**357**	*e*PKPbc	**PKPdf**	**07 34 53.2**	**+1.2**		
LZH				PKPab	**pPKPdf**	**07 35 02.3**	**-3.3**		
LZH				pPKP	pPKPbc	07 35 05.0	-3.8		
LZH				sPKP		07 35 09.9			
LYN	**LuoYang**	**148.25**	**343**	⇓PKPbc	**PKPbc**	**07 34 55.5**	**+0.3**		
XAN	**Xi'an**	**149.62**	**348**	PKPbc	**PKiKP**	**07 34 59.4**	**-0.4**		
XAN				pPKP	PKPab	07 35 05.7	+1.9		
PYUN	**Piuthan**	**150.27**	**35**	*e*P	**PKiKP**	**07 35 01.5**	**0.0**		
	comp=Z,14nm,0.7s								
DANN	**Dangsing**	**150.51**	**34**	*e*P	**PKiKP**	**07 35 02.4**	**+0.3**		
	comp=Z,79nm,0.9s								
GKN	**Gorkha**	**151.26**	**33**	*e*P	**PKiKP**	**07 35 03.7**	**+0.2**		
GUN	**Gumba**	**152.00**	**31**	*e*P	**PKiKP**	**07 35 05.7**	**+0.4**		
JIRN	**Jiri**	**152.36**	**31**	*e*P	**PKPbc**	**07 35 05.6**	**-0.2**		
	comp=Z,4.5nm,0.4s								
PZH	**PanZhiHua**	**157.86**	**0**	PKP	**PKPdf**	**07 35 05.0**	**-1.2**		
CMAR	**Chiang Mai Arr**	**165.59**	**11**	PKPab	**PKPab**	**07 36 13.1**	**+0.5**		
	comp=Z,0.8nm,0.3s,baz=328,slow=5.2,SNR=4.2								

IDC 09 07:21:25.0±8.4,**18°.94S**×**176°.93W**,**h0**km,**mb3.5**/3, **mb1 3.8**/3,**mb1mx3.6**/30,**mbtmp3.5**/3,**MS3.9**/1,**Ms1 3.9**/1, **ms1mx3.1**/39,**Error ellipse: s-maj=369.6km s-min=38.3km az=143.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.94**	**194**	LR	LR	07 32 12.3	
	comp=Z,365nm,19.1s,baz=44,slow=32						
WRA	**Warramunga Arr**	**45.83**	**260**	P	P	07 29 49.1	0.0
	0.4nm,0.8s,baz=96,slow=7.5,SNR=2.0						
ASAR	**Alice Springs**	**45.87**	**255**	P	P	07 29 49.3	-0.2
	0.5nm,0.6s,baz=90,slow=8.7,SNR=9.1						
ILAR	**Eielson Array**	**86.58**	**12**	P	P	07 34 09.7	0.0
	0.2nm,0.4s,baz=220,slow=5.1,SNR=6.8						

*THE **09** 07:23:32.3,37°.54N×19°.69E,h1km±1km,ML4.2/16,Error ellipse: s-maj=1.8km s-min=1.0km az=247.0*

*ATH **09** 07:23:33.0,37°.56N×19°.82E,h14km±3km,ML3.9/7,Error ellipse: s-maj=6.7km s-min=1.8km az=57.0*

*IDC **09** 07:23:32.9±0.6,37°.68N×19°.96E,h0km,mb4.1/23, mb1 4.2/35,mb1mx4.1/58,mbtmp4.1/35,ML3.8/11,MS3.6/9, Ms1 3.6/9,ms1mx3.0/97,Error ellipse: s-maj=14.4km s-min=11.7km az=163.0*

*MOS **09** 07:23:35.1±1.2,37°.77N×19°.86E,h24km,mb4.5/15,Error ellipse: s-maj=7.3km s-min=4.2km az=60.6*

*MED_RC **09** 07:23:35.0±0.7,37°.62N×19°.87E,h18km±2km,MW4.4/5, Moment Tensor Solution.Mantle waves: s5,c8; Duration: 1s1 Moment tensor: Scale 10^15^Nm; Mrr4.32±1.05; Mθθ0.14±.68; Mϕϕ-4.46±.60; Mrθ0.54±.99; Mϕθ0.82±.55; Mϕr-1.72±.70; Best double couple: M○4.81000×10^15^ NP1:ϕs167.00000°,δ56.00000°,λ87.00000°. NP2: ϕs353.00000°,δ34.00000°,λ95.00000°. Principal axes: T 4.6800, Plg79.0000°, Azm65.0000°; N 0.2700, Plg3.0000°, Azm169.0000°; P -4.9500, Plg11.0000°, Azm260.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

*NEIC **09** 07:23:36.5±2.4,37°.68N±0°.07×19°.85E±0°.06,h23km±6km, mb4.5/16,ML3.9(ATH),ML4.2(THE) Error ellipse: s-maj=9.7km s-min=7.0km az=195.0*

*PDG **09** 07:23:36.7±0.2,37°.85N×19°.82E,h26km±2km,ML4.0/11, Error ellipse: s-maj=2.4km s-min=0.8km az=90.0*

ISC 09 07:23:36.2±1.2,**37°.66N**±0°.03×**19°.84E**±0°.03,**h23**km,±8km, **n310**,σ**t**§**70**/355,**mb4.3**/38,**MS3.8**/6,**49C-31D**,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.67**	**37**	P	**Pb**	**07 23 48.0**	**-1.3**
KEF3	**Kipouria, Keph**	**0.67**	**37**	P	**Pb**	**07 23 47.9**	**-1.4**
KEF3				S	**Sn**	**07 24 00.9**	**+0.8**
	44μm,0.5s						
DMLN	**Damoulianata-K**	**0.71**	**36**	P	**Pb**	**07 23 48.1**	**-1.9**
DMLN				S	**Sn**	**07 24 02.2**	**+1.0**
	23μm,0.7s						
ARGA	**Argostoli. Kep**	**0.72**	**44**	P	**Pb**	**07 23 48.4**	**-1.7**
PSDA	**Pessada-Kefalo**	**0.74**	**52**	P	**Pb**	**07 23 48.3**	**-2.1**
PSDA				S	**Sb**	**07 24 00.0**	**-0.1**
KEF4	**Livadi, Kephal**	**0.75**	**38**	P	**Pb**	**07 23 48.8**	**-1.9**
KEF4	**Livadi, Kephal**	**0.75**	**38**	P	**Pb**	**07 23 48.6**	**-2.0**
KEF4				S	**Sn**	**07 24 03.4**	**+1.3**
	65μm,0.4s						
VLS	**Valsamata**	**0.79**	**49**	P	**Pb**	**07 23 48.9**	**-2.3**
VLS				AML	AML	07 24 08.0	
	comp=N,19345μm,0.3s						
VLS				AML	AML	07 24 11.5	
	comp=E,21528μm,0.5s						
VLS	**Valsamata**	**0.79**	**49**	P	**Pb**	**07 23 48.8**	**-2.4**
VLS				S	**Sn**	**07 24 03.5**	**+0.6**
	comp=E,10μm,0.4s						
LTHK	**Lithakia**	**0.79**	**86**	P	**Pb**	**07 23 49.0**	**-2.3**
LTHK	**Lithakia**	**0.79**	**86**	P	**Pb**	**07 23 48.9**	**-2.4**
LTHK				S	**Sn**	**07 24 03.2**	**+0.2**
ZAK2	**Zakynthos**	**0.85**	**81**	P	**Pb**	**07 23 50.8**	**-1.5**
ZAK2				S	**Sn**	**07 24 06.4**	**+1.9**
	comp=E,67μm,0.5s						
FSK	**Fiskardo**	**0.98**	**35**	P	**Pn**	**07 23 54.7**	**+0.2**
FSK				S	**Sn**	**07 24 09.8**	**+2.1**
	comp=E,8μm,0.5s						
EVGI	**Lefkada island**	**1.15**	**34**	P	**Pn**	**07 23 56.0**	**-1.0**
EVGI	**Lefkada island**	**1.15**	**34**	P	**Pn**	**07 23 57.0**	**+0.1**
EVGI				S	**Sn**	**07 24 16.2**	**+4.2**
	comp=E,2μm,0.3s						
DRAG	**Dragano-Lefkad**	**1.17**	**29**	P	**Pn**	**07 23 56.8**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.17**	**29**	P	**Pn**	**07 23 57.0**	**-0.2**
DRAG				S	**Sn**	**07 24 17.0**	**+4.5**
	comp=E,10μm,0.3s						
NYDR	**Nydri-Lefkada**	**1.25**	**33**	P	**Pb**	**07 23 59.0**	**0.0**
NYDR	**Nydri-Lefkada**	**1.25**	**33**	P	**Pn**	**07 23 57.5**	**-0.7**
NYDR				S	**Sb**	**07 24 17.7**	**+3.0**
	comp=E,6μm,0.7s						
LKD2	**Lefkada island**	**1.30**	**30**	P	**Pb**	**07 23 59.4**	**-0.6**
LKD2				AML	AML	07 24 26.6	
	comp=N,12082μm,0.7s						
LKD2				AML	AML	07 24 28.5	
	comp=E,11397μm,0.6s						
LKD2	**Lefkada island**	**1.30**	**30**	P	**Pb**	**07 23 59.3**	**-0.6**
LKD2				S	**Sb**	**07 24 19.6**	**+3.5**
	comp=E,6μm,0.6s						
TSLK	**Tsoukalades, L**	**1.33**	**29**	P	**Pb**	**07 24 00.4**	**0.0**
TSLK	**Tsoukalades, L**	**1.33**	**29**	P	**Pb**	**07 23 59.9**	**-0.5**
TSLK				S	**Sb**	**07 24 21.1**	**+4.1**
	comp=E,7μm,0.5s						
RLS	**Riolos of Patr**	**1.35**	**72**	P	**Pn**	**07 23 59.2**	**-0.3**
RLS				AML	AML	07 24 27.8	
	comp=N,6567μm,0.6s						
RLS				AML	AML	07 24 37.6	
	comp=E,7933μm,1.0s						
RLS	**Riolos of Patr**	**1.35**	**72**	P	**Pn**	**07 23 59.1**	**-0.5**
RLS				S	**Sb**	**07 24 19.9**	**+2.3**
	comp=E,7μm,1.0s						
DRO	**Drossia**	**1.51**	**78**	P	**Pn**	**07 24 02.3**	**+0.5**
DRO				AML	AML	07 24 46.5	
	comp=N,13262μm,0.7s						
DRO				AML	AML	07 24 51.6	
	comp=E,6090μm,0.7s						
DRO	**Drossia**	**1.51**	**78**	P	**Pn**	**07 24 02.0**	**+0.2**
DRO				S	**Sb**	**07 24 25.0**	**+2.7**
	comp=E,5μm,1.0s						
UPR	**University Cam**	**1.66**	**67**	P	**Pb**	**07 24 05.7**	**-0.4**
UPR				S	**Sb**	**07 24 28.4**	**+1.9**
PYL	**PYLOS**	**1.70**	**116**	P	**Pn**	**07 24 03.5**	**-0.9**
PYL				AML	AML	07 24 50.6	
	comp=N,2660μm,0.7s						
PYL				AML	AML	07 24 53.2	
	comp=E,2770μm,0.8s						
PYL	**PYLOS**	**1.70**	**116**	P	**Pn**	**07 24 03.7**	**-0.7**
PYL				S	**Sn**	**07 24 25.9**	**+0.4**
ITM	**Ithomi**	**1.73**	**106**	P	**Pn**	**07 24 04.5**	**-0.4**
ITM				AML	AML	07 24 51.9	
	comp=E,4845μm,0.7s						
ITM				AML	AML	07 24 52.2	
	comp=N,3805μm,0.9s						
ITM	**Ithomi**	**1.73**	**106**	P	**Pn**	**07 24 04.1**	**-0.8**
ITM				S	**Sn**	**07 24 27.5**	**+1.3**
	comp=N,2μm,0.8s						
ITM	**Ithomi**	**1.73**	**106**		**Pn**	**07 24 04.4**	**-0.4**
ITM	**Ithomi**	**1.73**	**106**	⇓P	**Pn**	**07 24 04.4**	**-0.4**
LAKA	**Lakka**	**1.79**	**71**	P	**Pn**	**07 24 06.5**	**+0.8**
EFP	**Efpalio**	**1.80**	**64**	P	**Pn**	**07 24 06.8**	**+1.0**
EFP				AML	AML	07 24 46.9	
	comp=E,5311μm,0.5s						
EFP				AML	AML	07 24 47.5	
	comp=N,5679μm,1.1s						
EFP	**Efpalio**	**1.80**	**64**	P	**Pn**	**07 24 06.6**	**+0.8**
KLV	**Kalavryta, Ach**	**1.87**	**78**	P	**Pn**	**07 24 07.6**	**+0.8**
KLV	**Kalavryta, Ach**	**1.87**	**78**	P	**Pn**	**07 24 07.5**	**+0.7**
KLV				S	**Sb**	**07 24 33.4**	**+0.8**
	comp=N,2μm,1.1s						
ALIK	**Aliki, Aigiali**	**1.89**	**71**	P	**Pn**	**07 24 07.5**	**+0.4**
IGT	**Igoumenitsa**	**1.91**	**12**	P	**Pn**	**07 24 06.9**	**-0.4**
IGT				S	**Sb**	**07 24 34.3**	**+0.6**
	comp=N,2μm,0.5s						
EVR	**Evrytania**	**1.99**	**50**	P	**Pn**	**07 24 09.9**	**+1.4**
KEK	**Kerkira**	**2.05**	**359**	P	**Pn**	**07 24 09.0**	**-0.2**
KEK	**Kerkira**	**2.05**	**359**	⇓P	**Pn**	**07 24 09.2**	**0.0**
JAN	**Janina**	**2.14**	**21**	P	**Pn**	**07 24 10.0**	**-0.6**
SRN	**Sarande**	**2.22**	**3**	P	**Pn**	**07 24 11.3**	**-0.2**
MAKR	**Makrakomi, Fth**	**2.25**	**53**	P	**Pn**	**07 24 13.6**	**+1.6**
THAL	**Thalero**	**2.27**	**80**	P	**Pn**	**07 24 12.6**	**+0.4**
AGG	**Agios Georgios**	**2.38**	**55**	P	**Pn**	**07 24 15.0**	**+1.1**
AGG	**Agios Georgios**	**2.38**	**55**	P	**Pn**	**07 24 14.8**	**+0.9**
AGG	**Agios Georgios**	**2.38**	**55**	P	**Pn**	**07 24 15.2**	**+1.4**
AGG	**Agios Georgios**	**2.38**	**55**	Pn	**Pn**	**07 24 15.2**	**+1.4**
AGG	**Agios Georgios**	**2.38**	**55**	⇓P	**Pn**	**07 24 15.2**	**+1.4**
THL	**Klokotos Trika**	**2.55**	**41**	P	**Pn**	**07 24 17.6**	**+1.5**
LSK	**Leskovik**	**2.55**	**13**	P	**Pn**	**07 24 16.7**	**+0.5**
KPRO	**Kipourio**	**2.58**	**27**	P	**Pn**	**07 24 18.2**	**+1.6**
SCTE	**Santa Cesarea**	**2.63**	**336**	Pn	**Pn**	**07 24 17.3**	**0.0**
KRND	**KRANIDI**	**2.65**	**95**	P	**Pn**	**07 24 18.3**	**+0.9**
VLI	**Veliai**	**2.65**	**110**	P	**Pn**	**07 24 18.2**	**+0.8**
LKR	**Lokris**	**2.68**	**67**	P	**Pn**	**07 24 17.9**	**0.0**
ATAL	**Atalanti**	**2.71**	**67**	P	**Pn**	**07 24 17.9**	**-0.4**
VILL	**Villia**	**2.79**	**79**	P	**Pn**	**07 24 19.4**	**-0.1**
VLO	**Vlora**	**2.81**	**355**	P	**Pn**	**07 24 19.3**	**-0.4**
VLO	**Vlora**	**2.81**	**355**		**Pn**	**07 24 19.3**	**-0.4**
TIP	**Timpagrande**	**2.85**	**303**	⇑P	**Pn**	**07 24 20.5**	**+0.1**
TIP				⇓S	**Sn**	**07 24 56.0**	**+1.9**
TIP	**Timpagrande**	**2.85**	**303**		**Pn**	**07 24 20.7**	**+0.3**
TIP	**Timpagrande**	**2.85**	**303**	⇑P	**Pn**	**07 24 20.5**	**+0.1**
NEST	**Nestorio**	**2.91**	**19**	P	**Pn**	**07 24 22.4**	**+1.3**
KZN	**Kozani**	**3.04**	**29**	P	**Pn**	**07 24 24.1**	**+1.2**
XOR	**Xorichti**	**3.13**	**56**	P	**Pn**	**07 24 24.0**	**-0.1**
CEL	**Celeste**	**3.17**	**282**	Pn	**Pn**	**07 24 24.5**	**-0.2**
CEL	**Celeste**	**3.17**	**282**	⇑P	**Pn**	**07 24 25.4**	**+0.7**
LIT	**Litokhoron**	**3.20**	**40**	P	**Pn**	**07 24 25.2**	**+0.2**
LIT	**Litokhoron**	**3.20**	**40**	P	**Pn**	**07 24 25.4**	**+0.4**
LIT	**Litokhoron**	**3.20**	**40**	Pn	**Pn**	**07 24 25.4**	**+0.4**
LIT	**Litokhoron**	**3.20**	**40**	⇓P	**Pn**	**07 24 25.9**	**+0.9**
DION	**Dionisos Attik**	**3.27**	**81**	P	**Pn**	**07 24 25.4**	**-0.6**
FNA	**Florina**	**3.34**	**20**	P	**Pn**	**07 24 28.0**	**+1.0**
OHR	**Ohrid**	**3.52**	**12**	*i* P	**Pn**	**07 24 31.8**	**+2.2**
TIR	**Tirane**	**3.68**	**0**	⇑P	**Pn**	**07 24 31.8**	**+0.2**
TIR	**Tirane**	**3.68**	**0**	P	**Pn**	**07 24 31.9**	**+0.2**
TIR	**Tirane**	**3.68**	**0**		**Pn**	**07 24 31.9**	**+0.2**
TIR	**Tirane**	**3.68**	**0**	⇑P	**Pn**	**07 24 32.5**	**+0.8**
MATE	**Matera**	**3.85**	**322**	⇑P	**Pn**	**07 24 34.6**	**+0.6**
MATE	**Matera**	**3.85**	**322**	⇑P	**Pn**	**07 24 34.2**	**+0.3**
VAY	**Valandovo**	**4.22**	**29**	⇑*i* P	**Pn**	**07 24 39.4**	**+0.4**
VAE	**Valguarnera**	**4.32**	**269**	Pn	**Pn**	**07 24 42.1**	**+1.7**
	comp=N,4.3nm,0.3s,baz=27,slow=11,SNR=4.8						
VAE				Sn	**Sn**	**07 25 30.6**	**+0.5**
	comp=N,19nm,0.3s,baz=358,slow=8.3,SNR=5.7						
ULC	**Ulcinj**	**4.32**	**354**	*e*Pn	**Pn**	**07 24 39.2**	**-1.3**
ULC				*i* Sn	**Sn**	**07 25 27.0**	**-3.1**
MRVN	**Minervino Murg**	**4.41**	**321**	⇑P	**Pn**	**07 24 41.5**	**-0.2**
STIP	**Stip**	**4.42**	**23**	*i* P	**Pn**	**07 24 43.8**	**+2.1**
SKO	**Skopje**	**4.48**	**15**	*i* P	**Pn**	**07 24 42.6**	**0.0**
DRME	**Dracevica, Mon**	**4.55**	**354**	*e*Pn	**Pn**	**07 24 42.3**	**-1.2**
DRME	**Dracevica, Mon**	**4.55**	**354**	*e*Pn	**Pn**	**07 24 42.8**	**-0.7**
DRME				*i* Sn	**Sn**	**07 25 32.5**	**-3.2**
APE	**Apeiranthos**	**4.57**	**96**	⇑*e*P	**Pn**	**07 24 43.7**	**-0.3**
BUM	**Brajici-Budva**	**4.69**	**351**	⇑*i*Pn	**Pn**	**07 24 44.9**	**-0.7**
BUM				*i* Sn	**Sn**	**07 25 35.9**	**-3.4**
IDI	**Anoyia**	**4.71**	**119**	⇑P	**Pn**	**07 24 46.1**	**+0.3**
IDI				⇓S	**Sn**	**07 25 42.0**	**+2.2**
IDI	**Anoyia**	**4.71**	**119**		**Pn**	**07 24 44.9**	**-1.0**
IDI	**Anoyia**	**4.71**	**119**	⇑P	**Pn**	**07 24 49.1**	**+3.2**
PDG	**Podgorica**	**4.78**	**355**	⇑P	**Pn**	**07 24 46.6**	**-0.2**
PDG				⇑S	**Sn**	**07 25 41.9**	**+0.4**
PDG	**Podgorica**	**4.78**	**355**	Pn	**Pn**	**07 24 46.7**	**-0.2**
PDG	**Podgorica**	**4.78**	**355**	*e*Pn	**Pn**	**07 24 45.7**	**-1.1**
PDG	**Podgorica**	**4.78**	**355**	⇑P	**Pn**	**07 24 46.5**	**-0.2**
TTG	**Podgorica**	**4.78**	**355**	⇑*i*Pn	**Pn**	**07 24 46.3**	**-0.5**
TTG				*i* Sn	**Sn**	**07 25 38.1**	**-3.3**
KKB	**Krupnik**	**4.89**	**30**	*i* P	**Pn**	**07 24 48.5**	**+0.3**
HCY	**Herceg Novi**	**4.89**	**348**	*e*Pn	**Pn**	**07 24 46.6**	**-1.7**
HCY	**Herceg Novi**	**4.89**	**348**	⇓*i*Pn	**Pn**	**07 24 47.7**	**-0.6**
HCY				*i* Sn	**Sn**	**07 25 40.6**	**-3.5**
PVY	**Plav**	**4.93**	**1**	⇓*i*Pn	**Pn**	**07 24 48.3**	**-0.6**
PVY				*i* Sn	**Sn**	**07 25 41.6**	**-3.6**
CEME	**Cevo**	**4.93**	**352**	*e*Pn	**Pn**	**07 24 47.4**	**-1.5**
CEME				*i* Sn	**Sn**	**07 25 41.6**	**-3.6**
MMB	**Musomiste**	**4.94**	**36**	*i* P	**Pn**	**07 24 49.0**	**0.0**
NKME	**Niksic**	**5.14**	**353**	⇓*i*Pn	**Pn**	**07 24 51.2**	**-0.6**
NKME				*i* Sn	**Sn**	**07 25 46.7**	**-3.7**
SGRT	**San Giovanni R**	**5.16**	**324**		**Pn**	**07 24 50.5**	**+0.4**
TREB	**Trebinje**	**5.18**	**348**	*e*Pn	**Pn**	**07 24 50.5**	**-1.7**
KOME	**Kolasin**	**5.19**	**357**	⇓*i*Pn	**Pn**	**07 24 51.8**	**-0.6**
KOME				*i* Sn	**Sn**	**07 25 47.8**	**-3.8**
IVA	**Berane**	**5.20**	**0**	*e*Pn	**Pn**	**07 24 52.0**	**-0.7**
IVA				*i* Sn	**Sn**	**07 25 48.2**	**-3.8**
PAOL	**Paolisi**	**5.29**	**311**	Pn	**Pn**	**07 24 55.6**	**+1.8**
BRY	**Bratogost**	**5.33**	**350**	*e*Pn	**Pn**	**07 24 52.4**	**-2.0**
BRY	**Bratogost**	**5.33**	**350**	⇑*i*Pn	**Pn**	**07 24 53.3**	**-1.1**
BRY				*i* Sn	**Sn**	**07 25 51.0**	**-4.1**
STON	**Ston**	**5.45**	**343**	*e*Pn	**Pn**	**07 24 54.2**	**-1.8**
RZN	**Rozhen**	**5.51**	**42**	*i* P	**Pn**	**07 24 57.1**	**+0.2**
UPM	**Unac-Piva**	**5.58**	**353**	*e*Pn	**Pn**	**07 24 57.1**	**-0.8**
UPM	**Unac-Piva**	**5.58**	**353**	⇑*i*Pn	**Pn**	**07 24 57.2**	**-0.7**
UPM				*i* Sn	**Sn**	**07 25 57.1**	**-4.3**
VTS	**Vitosha**	**5.59**	**27**	⇑P	**Pn**	**07 24 58.5**	**+0.4**
VTS	**Vitosha**	**5.59**	**27**	P	**Pn**	**07 24 58.4**	**+0.4**
VTS	**Vitosha**	**5.59**	**27**	Pn	**Pn**	**07 24 58.4**	**+0.4**
VTS	**Vitosha**	**5.59**	**27**	⇑P	**Pn**	**07 24 58.4**	**+0.4**
VTS	**Vitosha**	**5.59**	**27**	*i* P	**Pn**	**07 24 58.2**	**+0.2**
RDO	**Rodhopi**	**5.62**	**50**	⇓P	**Pn**	**07 24 58.8**	**+0.6**
ALN	**Alexandroupoli**	**5.80**	**54**	P	**Pn**	**07 25 02.4**	**+1.7**
ALN	**Alexandroupoli**	**5.80**	**54**	Pn	**Pn**	**07 25 02.4**	**+1.7**
ALN	**Alexandroupoli**	**5.80**	**54**	⇓P	**Pn**	**07 25 01.9**	**+1.1**
KDZ	**Kurdzhali**	**5.86**	**45**	P	**Pn**	**07 25 00.6**	**-1.0**
PGB	**Panagyurishte**	**5.90**	**33**	*i* P	**Pn**	**07 25 02.4**	**+0.2**
RUDO	**Rudo**	**5.96**	**357**	*e*Pn	**Pn**	**07 25 01.5**	**-1.5**
BBLS	**Lazići**	**6.21**	**357**	*e*Pn	**Pn**	**07 25 06.3**	**-0.1**
KARP	**Karpathos**	**6.26**	**108**	Pn	**Pn**	**07 25 09.7**	**+2.6**
BLKB	**Belogradchik**	**6.33**	**19**	⇑P	**Pn**	**07 25 07.6**	**-0.5**
MPEP	**Malo Peshtene**	**6.42**	**26**	P	**Pn**	**07 25 10.5**	**+1.3**
DIVS	**Divibare**	**6.43**	**1**		**Pn**	**07 25 08.7**	**-0.8**
DIVS	**Divibare**	**6.43**	**1**	*e*Pn	**Pn**	**07 25 08.0**	**-1.5**
DIVS	**Divibare**	**6.43**	**1**	⇑P	**Pn**	**07 25 08.3**	**-1.2**
SRKY	**Kupres RS**	**6.71**	**343**	*e*Pn	**Pn**	**07 25 13.4**	**0.0**
MGRS	**Mrkonjic Grad**	**7.06**	**344**	*e*Pn	**Pn**	**07 25 18.3**	**+0.2**
MDVR	**Modrovita**	**7.25**	**11**	⇑P	**Pn**	**07 25 20.7**	**0.0**
SZH	**Strazhica**	**7.27**	**38**	P	**Pn**	**07 25 20.8**	**-0.2**
NRCA	**Norcia**	**7.29**	**317**		**Pn**	**07 25 22.8**	**+1.5**
BLY	**Banja Luka**	**7.36**	**345**	*e*Pn	**Pn**	**07 25 23.0**	**+0.9**
HERR	**Herculane**	**7.47**	**14**	⇓P	**Pn**	**07 25 24.3**	**+0.7**
FRGS	**Fruska Gora**	**7.49**	**360**	⇑P	**Pn**	**07 25 23.8**	**-0.2**
FRGS	**Fruska Gora**	**7.49**	**360**	*e*Pn	**Pn**	**07 25 21.2**	**-2.8**
GZR	**Gura Zlata**	**8.03**	**15**	⇑P	**Pn**	**07 25 31.3**	**-0.2**
BZS	**Buzias**	**8.06**	**9**	⇓P	**Pn**	**07 25 32.3**	**+0.6**
ELL	**Elmali**	**8.09**	**93**	P	**Pn**	**07 25 34.1**	**+1.8**
ELL	**Elmali**	**8.09**	**93**	Pn	**Pn**	**07 25 34.1**	**+1.8**
ARR	**Arges**	**8.49**	**24**	⇑P	**Pn**	**07 25 38.1**	**+0.3**
KOVH	**Kovagotottos**	**8.52**	**352**	P	**Pn**	**07 25 36.6**	**-1.4**
MORH	**Mrgy, Hungar**	**8.59**	**354**	*e*Pn	**Pn**	**07 25 34.9**	**-4.1**
MORH	**Mrgy, Hungar**	**8.59**	**354**	P	**Pn**	**07 25 37.4**	**-1.6**
KEST	**Kesra**	**8.64**	**260**	Pn	**Pn**	**07 25 41.6**	**+1.7**
	comp=N,0.9nm,0.3s,baz=206,slow=13,SNR=5.2						
KEST				Sn	**Sn**	**07 27 15.3**	**-1.4**
	comp=N,0.3nm,0.3s,baz=304,slow=18,SNR=1.6						
VOIR		**8.69**	**25**	⇓P	**Pn**	**07 25 41.3**	**+0.7**
CRES	**Cresnjev**	**8.79**	**340**	*e*Pn	**Pn**	**07 25 40.7**	**-1.1**
CRES	**Cresnjev**	**8.79**	**340**	*i* Pn	**Pn**	**07 25 41.0**	**-0.8**
ISR	**Istrita**	**8.99**	**32**	⇓P	**Pn**	**07 25 44.8**	**+0.2**
SKDS	**Skadanscina**	**9.00**	**333**	*e*Pn	**Pn**	**07 25 44.1**	**-0.6**
CEY	**Cerknica**	**9.03**	**335**	*e*Pn	**Pn**	**07 25 45.0**	**0.0**
MLR	**Muntele Rosu**	**9.06**	**28**	⇑P	**Pn**	**07 25 45.2**	**-0.4**
MLR	**Muntele Rosu**	**9.06**	**28**	Pn	**Pn**	**07 25 47.4**	**+1.8**
	comp=N,0.8nm,0.3s,baz=177,slow=12,SNR=16						
MLR				LR	LR	07 30 06.9	
	comp=N,166nm,18.6s,baz=192,slow=44						
NEHR	**Nehoiu**	**9.14**	**30**	⇓P	**Pn**	**07 25 47.4**	**+0.7**
DOPR	**Dopca**	**9.27**	**25**	⇑P	**Pn**	**07 25 48.2**	**-0.3**
GROS	**Grobnik**	**9.36**	**341**	*i* Pn	**Pn**	**07 25 48.2**	**-1.5**
DRGR		**9.37**	**12**	⇓P	**Pn**	**07 25 49.4**	**-0.3**
OZUR		**9.52**	**26**	⇑P	**Pn**	**07 25 51.8**	**0.0**
PLOR	**Plostina**	**9.63**	**30**	⇓P	**Pn**	**07 25 53.7**	**+0.4**
TPGR	**Topolog**	**9.66**	**39**	⇑P	**Pn**	**07 25 53.6**	**-0.1**
OBKA	**Obir**	**9.67**	**338**	*i* Pn	**Pn**	**07 25 54.9**	**+1.0**
	comp=N,1.3nm,0.2s						
OBKA				*e*Sn	**Sn**	**07 27 38.7**	**-3.2**
	comp=N,17nm,0.6s						
VRI	**Vrincioaia**	**9.68**	**30**	⇓P	**Pn**	**07 25 53.7**	**-0.2**
SOKA	**Soboth**	**9.69**	**340**	*i* Pn	**Pn**	**07 25 53.2**	**-0.9**
	comp=N,12nm,0.5s,SNR=9.3						
SOKA				*i* Sn	**Sn**	**07 27 35.1**	**-7.2**
	comp=N,4.0nm,

VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 19.26 39 *eP* **P 07 27 57.8 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 19.52 75 P **P 07 28 02.3 +0.3**
baz=299,slow=7.4,SNR=4.9
GNI LR LR 07 36 12.8
comp=Z,140nm,18.0s,baz=282,slow=39
GNI Garni 19.52 75⇑ *eP* **P 07 28 02.3 +0.3**
GNI pmax pmax
comp=Z,11nm,0.7s
GNI Garni 19.52 75 IAmb IAmb 07 28 04.5
comp=Z,12nm,0.8s
VORR Voronezh 19.56 38 *eP* **P 07 27 56.7 -5.4**
VORR pmax pmax
comp=Z,80nm,0.4s
LPSR Galich'ya Gora 20.02 36 *eP* **P 07 28 06.1 -1.0**
LPSR pmax pmax
comp=Z,40nm,0.8s
VRH Novokhopyorsk 20.57 42 *eP* **P 07 28 12.7 -0.4**
VRH pmax pmax
comp=Z,10.0nm,0.6s
BTLR Botlikh 20.73 68⇓ *eP* **P 07 28 14.9 -0.2**
BTLR pmax pmax
comp=Z,11nm,0.5s
PBRG Braganca 20.82 290 *eP* Pn 07 28 18.1 -0.4
OBN Obninsk 20.83 28⇓ *eP* **P 07 28 15.9 0.0**
OBN *e* 07 28 28.5
OBN *eS* **S 07 32 05.4 -1.6**
OBN *eSS* **SnSn 07 32 32.3 +4.7**
OBN pmax pmax
comp=Z,7.0nm,0.9s
MVO Moncorvo 21.02 288 *eP* **P 07 28 20.6 +2.4**
comp=Z,40nm,1.4s
PBAR Barrancos 21.19 280 *eP* **P 07 28 21.1 +1.2**
VSU Vasula 21.30 10 *d iP* **P 07 28 21.1 +0.2**
VSU pmax pmax
comp=Z,154nm,0.8s
VSU Vasula 21.30 10 ⇓P **P 07 28 21.1 +0.2**
PMRV Marv??o 21.34 283 *eP* **P 07 28 23.2 +1.6**
PCBR Castelo Branco 21.39 284 *eP* **P 07 28 24.3 +2.3**
comp=Z,31nm,1.8s
MTE Manteigas 21.41 286 *eP* **P 07 28 22.9 +0.5**
MOS Moscow 21.70 28 *eP* **P 07 28 27.9 +2.7**
EVO Evora 21.91 281 *eP* **P 07 28 28.7 +1.0**
HFS Hagfors 22.83 352 P **P 07 28 37.1 -0.2**
comp=Z,3.8nm,0.6s,baz=27,slow=32,SNR=12
EKA Eskdalemuir Ar 23.55 326 P **P 07 28 45.0 +0.4**
comp=Z,6.0nm,0.8s,baz=126,slow=11,SNR=11
EKA Eskdalemuir Ar 23.55 326 P **P 07 28 45.0 +0.4**
NAO01 NORSAR Array S 23.88 349 P **P 07 28 47.5 -0.2**
NB201 NORSAR Array S 24.02 350 P **P 07 28 50.0 +0.9**
NB2 NORSAR Subarra 24.02 350 P **P 07 28 48.4 -0.7**
comp=Z,6.8nm,1.0s,baz=161,slow=9.3
NOA NORSAR Array B 24.02 350 P **P 07 28 48.5 -0.7**
comp=Z,3.6nm,0.8s,baz=161,slow=9.1,SNR=19
NBO00 NORSAR Array S 24.08 349 P **P 07 28 50.1 +0.5**
NBO00 IAmb IAmb 07 28 56.0
comp=Z,16nm,1.0s
FINES FINESS Array B 24.12 7 P **P 07 28 49.4 -0.5**
comp=Z,4.7nm,0.8s,baz=174,slow=10.0,SNR=11
FIA1 FINESS Array S 24.12 7 **P 07 28 48.6 -1.4**
FIA1 IAmb IAmb 07 28 53.0
comp=Z,16nm,1.1s
NC303 NORSAR Array S 24.18 350 P **P 07 28 50.5 0.0**
BELG Belogornoye 24.35 44 P **P 07 28 51.0 -1.1**
comp=Z,16nm,0.6s,baz=301,slow=4.8,SNR=6.7
BELG Belogornoye 24.35 44 *ceP* **P 07 28 51.2 -0.9**
BELG pmax pmax
comp=Z,4.0nm,0.8s
KLMR Klimovskoe 26.32 22 *eP* **P 07 29 08.0 -1.9**
KLMR *e* 07 29 48.0
KLMR pmax pmax
comp=Z,11nm,0.6s
KLMR Klimovskoe 26.32 22 *eP* **P 07 29 08.0 -1.9**
KLMR AMP 07 29 11.5
comp=Z,11nm,0.6s
KLMR *e*PP **PnPn 07 29 48.1 -1.3**
KIRV Kirov 28.38 33⇓ *eP* **P 07 29 27.2 -1.2**
PRGR Permogore 28.86 25 *eP* **P 07 29 31.8 -0.8**
PRGR pmax pmax
comp=Z,7.0nm,0.9s
TORD Torodi Ar. Bea 29.29 218 P **P 07 29 37.7 +0.9**
comp=Z,1.3nm,0.5s,baz=31,slow=9.4,SNR=8.5
TORD LR LR 07 41 23.1
comp=Z,60nm,18.6s,baz=231,slow=36
AKTO Aktyubinsk 29.92 52 P **P 07 29 40.6 -1.6**
comp=Z,1.4nm,0.6s,baz=256,slow=9.2,SNR=4.8
AKTO LR LR 07 43 10.9
comp=Z,32nm,20.6s,baz=310,slow=40
ABKAR Akbulak array 30.98 55 P **P 07 29 49.8 -1.7**
ARU Arti 31.80 41 *c iP* **P 07 29 57.9 -0.8**
ARU S **S 07 35 08.7 +1.3**
ARU pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 32.08 4 P **P 07 30 00.4 -0.6**
comp=Z,2.2nm,0.8s,baz=184,slow=12,SNR=7.8
SVE Sverdlovsk 33.02 41 *eP* **P 07 30 08.7 -0.6**
BRVK Borovoye 37.80 49⇑ *eP* **P 07 30 50.4 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.5s
DBIC Dimbokro 38.15 222 P **P 07 30 54.7 +0.9**
comp=Z,5.9nm,0.8s,baz=34,slow=6.5,SNR=5.0
KKAR Karatay Array 38.50 66 P **P 07 30 54.7 -1.9**
KKAR Karatay Array 38.50 66 P **P 07 30 54.6 -1.9**
AAK Ala-Archa 41.46 65⇑ *eP* **P 07 31 22.7 +1.4**
AAK pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 46.03 58 *c iP* **P 07 31 56.3 -1.5**
MK31 Makanchi Array 46.03 58 **P 07 31 56.0 -1.8**
MK31 IAmb IAmb 07 31 57.1
comp=Z,2.7nm,0.7s
MKAR Makanchi Array 46.03 58 P **P 07 31 56.5 -1.4**
comp=Z,2.8nm,0.6s,baz=279,slow=6.9,SNR=25
MKAR Makanchi Array 46.03 58 P **P 07 31 56.2 -1.7**
MKAR Makanchi Array 46.03 58 **P 07 31 56.2 -1.7**
ZAA0 Zalesovo Array 46.44 48 **P 07 31 59.2 -1.6**
ZALV Zalesovo Beam 46.44 48 P **P 07 31 59.8 -1.1**
comp=Z,7.2nm,0.7s,baz=276,slow=8.5,SNR=30
ZALV Zalesovo Beam 46.44 48 P **P 07 31 59.5 -1.4**
ZALV Zalesovo Beam 46.44 48 **P 07 31 59.5 -1.4**
NRIK Noril'sk 47.50 26 P **P 07 32 09.7 +0.7**
comp=Z,5.3nm,0.7s,baz=249,slow=3.7,SNR=9.5
NRIK LR LR 07 53 00.6
comp=Z,49nm,18.7s,baz=64,slow=37
NRIK Noril'sk 47.50 26 *d iP* **P 07 32 10.3 +1.4**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
GOMU GeErMu 58.39 67 P **P 07 33 29.5 -0.7**
GOMU pP pP 07 33 33.2 -3.3
GOMU sP sP 07 33 35.2 -3.6
GOMU pmax pmax
comp=Z,2.0nm,0.3s
GOMU pmax pmax
comp=Z,95nm,6.8s
SCHQ Schefferville 58.47 317 P **P 07 33 30.5 +0.4**
comp=Z,4.2nm,0.7s,baz=60,slow=5.6,SNR=9.2
RES Resolute Bay 60.11 344 P **P 07 33 42.2 +1.2**
comp=Z,1.0nm,0.9s,baz=39,slow=13,SNR=2.2
RES Resolute Bay 60.11 344 IAmb IAmb 07 34 06.6
comp=Z,5.7nm,1.4s
TIXI Tiksi 60.32 20 P **P 07 33 42.7 +0.2**
comp=Z,0.5nm,0.3s,baz=266,slow=23,SNR=3.8
TIXI Tiksi 60.32 20⇑ *eP* **P 07 33 42.8 +0.2**
TIXI pmax pmax
comp=Z,5.0nm,2.0s
TIXI Tiksi 60.32 20 IAmb IAmb 07 33 51.8
comp=Z,4.3nm,1.4s
SONM Songino Array 61.20 50 P **P 07 33 48.6 -0.5**
comp=Z,1.9nm,1.0s,baz=286,slow=7.4,SNR=7.9
ULN Ulaanbaatar 61.59 50⇓ *eP* **P 07 33 51.5 -0.3**
ULN pmax pmax
comp=Z,3.0nm,0.9s
YAK Yakutsk 65.82 29⇑ *eP* **P 07 34 19.5 +0.3**
YAK pmax pmax
comp=Z,12nm,0.5s
CMAR Chiang Mai Arr 70.50 81 P **P 07 34 49.0 -0.2**
comp=Z,2.6nm,0.6s,baz=308,slow=7.6,SNR=14
YKA Yellowknife Ar 73.69 340 P **P 07 35 08.2 +0.6**
comp=Z,0.7nm,0.8s,baz=34,slow=5.6,SNR=12
YKA Yellowknife Ar 73.69 340 *i P* **P 07 35 08.1 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.8s
KLR Kul'dur 74.61 39 P **P 07 35 13.7 +0.5**
comp=Z,1.9nm,0.8s,baz=289,slow=7.4,SNR=4.3
KLR Kul'dur 74.61 39⇑ *eP* **P 07 35 12.4 -0.9**
KLR pmax pmax
comp=Z,8.0nm,1.9s
MA2 Magadan 74.98 23⇑ *eP* **P 07 35 15.8 +0.6**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
ULM Lac du Bonnet 75.79 323 LR LR 08 08 36.7
comp=Z,156nm,19.4s,baz=268,slow=36
ILAR Eielson Array 77.37 354 P **P 07 35 30.1 +1.5**
comp=Z,0.4nm,0.8s,baz=356,slow=4.5,SNR=5.7
TKL Tuckaleechee C 78.40 306 LR LR 08 10 47.2
comp=Z,96nm,18.2s,baz=264,slow=36
KSRS Korea Array 80.07 50 P **P 07 35 43.8 -0.2**
comp=Z,0.4nm,0.3s,baz=309,slow=6.1,SNR=1.5
BDFB Brasilia 82.81 244 LR LR 08 11 57.9
comp=Z,120nm,21.1s,baz=323,slow=35
PDAR Pinedale Array 87.67 325 P **P 07 36 23.6 +0.5**
comp=Z,0.3nm,0.8s,baz=63,slow=10,SNR=2.1
TXAR Lajitas Array 94.93 313 P **P 07 36 58.7 +1.8**
comp=Z,0.2nm,0.6s,baz=64,slow=3.2,SNR=3.9
WRA Warramunga Arr 121.06 92 PKP **PKPdf 07 42 27.1 -0.1**
comp=Z,0.5nm,0.9s,baz=329,slow=1.8,SNR=2.6
ASAR Alice Springs 122.66 96 PKP **PKPdf 07 42 30.3 +0.1**
comp=Z,0.5nm,0.7s,baz=330,slow=1.9,SNR=7.5

ATH ***09*** *07:26:41.9, 37.46N×19.65E, h8km±3km, ML3.2/1, Error ellipse: s-maj=7.3km s-min=2.8km az=49.0*
THE ***09*** *07:26:42.8, 37.52N×19.68E, h0km±2km, ML3.5/5, Error ellipse: s-maj=3.5km s-min=1.6km az=204.0*
ISC 09 07:26:42.5±3.0, 37.49N±0.09×19.7E±0.1, h3km±12km, n25, σ0s51/34, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.88**	**36**	P	**Pg**	**07 26 59.4**	**+0.1**
KEF3	**Kipouria, Keph**	**0.88**	**36**	P	**Pg**	**07 26 59.4**	**+0.1**
KEF3				S	**Sb**	**07 27 12.1**	**-0.4**
	5μm,0.4s						
DMLN	**Damoulianata-K**	**0.92**	**35**	P	**Pg**	**07 26 59.7**	**-0.5**
DMLN	**Damoulianata-K**	**0.92**	**35**	P	**Pg**	**07 26 59.6**	**-0.5**
DMLN				S	**Sg**	**07 27 12.4**	**+0.4**
	2μm,0.4s						
LTHK	**Lithakia**	**0.93**	**76**	P	**Pg**	**07 27 00.6**	**+0.2**
LTHK	**Lithakia**	**0.93**	**76**	P	**Pg**	**07 27 00.5**	**+0.2**
LTHK				S	**Sb**	**07 27 14.0**	**0.0**
PSDA	**Pessada-Kefalo**	**0.94**	**48**	P	**Pg**	**07 26 59.8**	**-0.7**
PSDA				S	**Sb**	**07 27 14.5**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.94**	**48**	P	**Pg**	**07 26 59.6**	**-0.9**
PSDA				S	**Sb**	**07 27 14.1**	**-0.2**
KEF4	**Livadi, Kephal**	**0.96**	**37**	P	**Pg**	**07 27 00.1**	**-0.7**
KEF4				S	**Sg**	**07 27 14.2**	**+0.9**
	7μm,0.5s						
VLS	**Valsamata**	**0.98**	**46**	P	**Pg**	**07 27 00.5**	**-0.9**
VLS				AML	AML	07 27 16.9	
	comp=N,3249μm,0.4s						
VLS				AML	AML	07 27 22.8	
	comp=E,2304μm,0.4s						
VLS	**Valsamata**	**0.98**	**46**	P	**Pg**	**07 27 00.3**	**-1.0**
VLS				S	**Sb**	**07 27 15.4**	**-0.2**
	comp=E,1μm,0.5s						
FSK	**Fiskardo**	**1.18**	**35**	P	**Pg**	**07 27 05.5**	**+0.3**
FSK	**Fiskardo**	**1.18**	**35**	P	**Pg**	**07 27 04.4**	**-0.8**
EVGI	**Lefkada island**	**1.36**	**34**	P	**Pn**	**07 27 08.1**	**-0.2**
EVGI	**Lefkada island**	**1.36**	**34**	P	**Pb**	**07 27 08.6**	**0.0**
EVGI				S	**Sn**	**07 27 26.8**	**-0.1**
	comp=E,748nm,0.4s						
DRAG	**Dragano-Lefkad**	**1.38**	**30**	P	**Pb**	**07 27 09.0**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.38**	**30**	P	**Pn**	**07 27 08.7**	**+0.1**
DRAG				S	**Sn**	**07 27 28.0**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.45**	**33**	P	**Pg**	**07 27 10.5**	**+0.2**
LKD2	**Lefkada island**	**1.50**	**30**	P	**Pg**	**07 27 11.3**	**+0.1**
RLS	**Riolos of Patr**	**1.51**	**68**	P	**Pn**	**07 27 10.8**	**+0.3**
TSLK	**Tsoukalades, L**	**1.53**	**29**	P	**Pg**	**07 27 11.9**	**0.0**
DRO	**Drossia**	**1.66**	**73**	P	**Pb**	**07 27 14.1**	**+0.3**
LAKA	**Lakka**	**1.96**	**67**	P	**Pb**	**07 27 18.4**	**-0.3**
EFP	**Efpalio**	**1.98**	**61**	P	**Pb**	**07 27 18.4**	**-0.7**
KLV	**Kalavryta, Ach**	**2.02**	**73**	P	**Pb**	**07 27 19.2**	**-0.7**

IDC ***09*** *07:46:38.7±1.6, 41.33S×173.85E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.3/37, mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=40.6km s-min=14.9km az=130.0*
NOU ***09*** *07:46:44.1, 41.63S×174.14E, h57km, MLv4.3/9, Cook Strait, New Zealand*
WEL ***09*** *07:46:44.6, 41.5±4.4×17.4E±.1, h39km±5km, M3.9/13, ML4.2/13, MLv3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=126.3*
ISC 09 07:46:44.1±1.0, 41.59S±0.03×174.03E±0.03, h47km±6km, n136, σ1s36/143, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.17**	**223**	P	**Pn**	**07 46 52.5**	**+0.6**
BSWZ				S	**Sn**	**07 46 58.1**	**+0.7**
TUWZ	**Tuamarina**	**0.17**	**338**	P	**Pn**	**07 46 51.4**	**-0.5**
TUWZ				S	**Sn**	**07 46 55.7**	**-1.7**
CMWZ	**Cape Campbell**	**0.21**	**139**	P	**Pn**	**07 46 54.1**	**+1.9**
TCW	**Tory Channel**	**0.42**	**26**	P	**Pn**	**07 46 53.9**	**-0.3**
TCW				S	**Sn**	**07 47 00.0**	**-1.4**
SNZO	**South Karori**	**0.58**	**61**	P	**Pn**	**07 46 57.0**	**+0.9**
NNZ	**Nelson**	**0.62**	**307**	P	**Pn**	**07 46 55.7**	**-0.9**
WEL	**Wellington**	**0.63**	**61**	P	**Pn**	**07 46 57.8**	**+1.0**
WEL				S	**Sn**	**07 47 07.3**	**+1.4**
BHW	**Baring Head**	**0.66**	**74**	P	**Pn**	**07 46 58.3**	**+1.2**
BHW				S	**Sn**	**07 47 08.4**	**+1.9**
DUWZ	**D'Urville Isla**	**0.79**	**354**	P	**Pn**	**07 46 58.0**	**-0.9**
THZ	**Tophouse**	**0.86**	**258**	P	**Pn**	**07 47 00.2**	**+0.3**
KHZ	**Kahutara**	**0.90**	**204**	P	**Pn**	**07 47 02.3**	**+1.9**
KHZ	**Kahutara**	**0.90**	**204**	P	**Pn**	**07 47 02.3**	**+1.9**
CAW	**Cannon Point**	**0.92**	**59**	P	**Pn**	**07 47 01.4**	**+0.8**
CAW				S	**Sn**	**07 47 14.6**	**+1.9**
PLWZ	**Palliser**	**0.92**	**89**	P	**Pn**	**07 47 01.6**	**+0.9**
MSWZ	**Moikau Station**	**0.93**	**80**	P	**Pn**	**07 47 01.7**	**+0.9**
MRNZ	**Matariki Terra**	**0.97**	**281**	P	**Pn**	**07 47 01.5**	**+0.1**
TKNZ	**Takaka Hill**	**0.98**	**304**	P	**Pn**	**07 47 01.2**	**-0.2**
TKNZ				S	**Sn**	**07 47 13.6**	**-0.7**
KIW	**Kapiti Island**	**0.99**	**43**	P	**Pn**	**07 47 02.4**	**+0.9**
PAWZ	**Paruwai Farm**	**1.07**	**79**	P	**Pn**	**07 47 03.2**	**+0.5**
OGWZ	**Otaki Gorge**	**1.16**	**48**	P	**Pn**	**07 47 04.6**	**+0.8**
MTW	**Mount Morrison**	**1.19**	**69**	P	**Pn**	**07 47 04.7**	**+0.4**
TRWZ	**Traveller**	**1.26**	**82**	P	**Pn**	**07 47 05.7**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.32**	**59**	P	**Pn**	**07 47 06.3**	**+0.2**
QRZ	**Quartz Range**	**1.37**	**304**	P	**Pn**	**07 47 07.5**	**+0.8**
QRZ	**Quartz Range**	**1.37**	**304**	P	**Pn**	**07 47 07.7**	**+1.0**
TMWZ	**Te Maipa**	**1.48**	**72**	P	**Pn**	**07 47 08.3**	**0.0**
MRZ	**Mangatainoka R**	**1.49**	**52**	P	**Pn**	**07 47 08.7**	**+0.2**
GVZ	**Greta Valley S**	**1.56**	**208**	P	**Pn**	**07 47 10.6**	**+1.2**
TIWZ	**Tintock**	**1.62**	**60**	P	**Pn**	**07 47 10.1**	**-0.1**
DSZ	**Denniston Nort**	**1.68**	**264**	P	**Pn**	**07 47 12.3**	**+1.3**
OHWZ	**Ohakea**	**1.69**	**36**	P	**Pn**	**07 47 11.9**	**+0.8**
LTZ	**Lake Taylor**	**1.77**	**227**	P	**Pn**	**07 47 13.4**	**+1.1**
CPWZ	**Castlepoint**	**1.77**	**68**	P	**Pn**	**07 47 12.5**	**+0.2**
POWZ	**Post Office Ro**	**1.78**	**48**	P	**Pn**	**07 47 12.4**	**0.0**
PRWZ	**Pori Road**	**1.80**	**55**	P	**Pn**	**07 47 12.5**	**0.0**
AMCZ	**Amberley**	**1.89**	**212**	P	**Pn**	**07 47 14.5**	**+0.7**
BFZ	**Birch Farm**	**1.90**	**62**	P	**Pn**	**07 47 13.4**	**-0.7**
BFZ	**Birch Farm**	**1.90**	**62**	P	**Pn**	**07 47 13.7**	**-0.4**
WAZ	**Wanganui**	**1.97**	**22**	P	**Pn**	**07 47 17.0**	**+2.0**
DVHZ	**Dannevirke**	**2.07**	**52**	P	**Pn**	**07 47 15.7**	**-0.6**
TSZ	**Takapari Road**	**2.12**	**44**	P	**Pn**	**07 47 16.9**	**-0.2**
LREZ	**Lake Rotokare**	**2.15**	**8**	P	**Pn**	**07 47 19.8**	**+2.4**
ANWZ	**Angora Road**	**2.17**	**59**	P	**Pn**	**07 47 16.8**	**-0.8**
NMEZ	**Namu Road**	**2.18**	**357**	P	**Pn**	**07 47 20.3**	**+2.5**
INZ	**Inchbonnie**	**2.23**	**239**	P	**Pn**	**07 47 19.6**	**+1.1**
OKCZ	**Okains Bay**	**2.25**	**198**	P	**Pn**	**07 47 19.0**	**+0.2**
PREZ	**Palmer Road**	**2.25**	**3**	P	**Pn**	**07 47 21.0**	**+2.2**
OXZ	**Oxford**	**2.28**	**220**	P	**Pn**	**07 47 19.0**	**-0.1**
KHEZ	**Kahui Hut**	**2.29**	**360**	P	**Pn**	**07 47 21.3**	**+1.8**
NEZ	**North Egmont**	**2.32**	**1**	P	**Pn**	**07 47 21.5**	**+1.6**
NBEZ	**Newall Road No**	**2.32**	**357**	P	**Pn**	**07 47 21.5**	**+1.7**
MQZ	**McQueen's Vall**	**2.34**	**205**	P	**Pn**	**07 47 19.5**	**-0.6**
PNHZ	**Pukenui**	**2.35**	**45**	P	**Pn**	**07 47 19.6**	**-0.6**
PRHZ	**Porangahau**	**2.38**	**57**	P	**Pn**	**07 47 19.4**	**-1.1**
WPHZ	**Waipukurau**	**2.38**	**51**	P	**Pn**	**07 47 19.8**	**-0.8**
PKE	**Pukeiti**	**2.40**	**359**	P	**Pn**	**07 47 22.4**	**+1.6**
DREZ	**Durham Road**	**2.40**	**3**	P	**Pn**	**07 47 23.0**	**+2.1**
AKCZ	**Akaroa Harbour**	**2.42**	**200**	P	**Pn**	**07 47 21.1**	**-0.1**
MTVZ	**Mangateitei**	**2.46**	**27**	P	**Pn**	**07 47 23.2**	**+1.4**
PKVZ	**Pokaka**	**2.51**	**24**	P	**Pn**	**07 47 24.0**	**+1.6**
MHEZ	**Mangahewa**	**2.52**	**5**	P	**Pn**	**07 47 24.9**	**+2.4**
VRZ	**Vera Road**	**2.53**	**13**	P	**Pn**	**07 47 24.3**	**+1.7**
MOVZ	**Moawhango**	**2.55**	**32**	P	**Pn**	**07 47 23.5**	**+0.6**
RACZ	**Rakaia**	**2.55**	**213**	P	**Pn**	**07 47 22.3**	**-0.6**
WNVZ	**Wahianoa**	**2.56**	**28**	P	**Pn**	**07 47 24.5**	**+1.3**
TRVZ	**Turoa**	**2.57**	**27**	P	**Pn**	**07 47 24.5**	**+1.2**
WHVZ	**Whangaehu Hut**	**2.59**	**28**	P	**Pn**	**07 47 25.8**	**+2.0**
FWVZ	**Far West T-bar**	**2.61**	**27**	P	**Pn**	**07 47 25.1**	**+1.2**
BHHZ	**Black Hill Sta**	**2.61**	**37**	P	**Pn**	**07 47 24.1**	**+0.3**
TUVZ	**Tukino**	**2.63**	**29**	P	**Pn**	**07 47 27.8**	**+3.7**
KRHZ	**Kereru**	**2.64**	**43**	P	**Pn**	**07 47 23.5**	**-0.6**
PXZ	**Pawanui**	**2.66**	**55**	P	**Pn**	**07 47 23.0**	**-1.4**
NGZ	**Ngauruhoe**	**2.69**	**27**	P	**Pn**	**07 47 26.1**	**+1.1**
SNVZ	**South Ngauruho**	**2.70**	**28**	P	**Pn**	**07 47 26.4**	**+1.3**
OTVZ	**Oturere**	**2.73**	**28**	P	**Pn**	**07 47 26.5**	**+1.0**
TWVZ	**Taurewa**	**2.74**	**24**	P	**Pn**	**07 47 27.7**	**+2.1**
NNVZ	**North Ngauruho**	**2.74**	**27**	P	**Pn**	**07 47 26.7**	**+1.0**
WTVZ	**West Tongariro**	**2.75**	**26**	P	**Pn**	**07 47 26.6**	**+0.9**
ETVZ	**East Tongariro**	**2.77**	**28**	P	**Pn**	**07 47 27.2**	**+1.2**
KRVZ	**Karewarewa**	**2.78**	**27**	P	**Pn**	**07 47 27.5**	**+1.3**
TMVZ	**Te Maari**	**2.78**	**28**	P	**Pn**	**07 47 27.4**	**+1.1**
NTVZ	**North Tongarir**	**2.79**	**27**	P	**Pn**	**07 47 27.4**	**+1.0**
KAHZ	**Kahuranaki**	**2.81**	**51**	P	**Pn**	**07 47 25.4**	**-1.2**
KWHZ	**Kaweka Forest**	**2.83**	**41**	P	**Pn**	**07 47 27.0**	**+0.2**
WACZ	**Wakanui South**	**2.85**	**214**	P	**Pn**	**07 47 26.5**	**-0.5**
WVZ	**Waitaha Valley**	**2.86**	**238**	P	**Pn**	**07 47 28.9**	**+1.8**
KATZ	**Kakaramea**	**2.91**	**27**	P	**Pn**	**07 47 31.1**	**+3.2**
MCHZ	**McNeill Hill**	**2.95**	**44**	P	**Pn**	**07 47 28.4**	**-0.1**
RITZ	**Rihia Road**	**2.96**	**29**	P	**Pn**	**07 47 32.3**	**+3.7**
RPZ	**Rata Peaks**	**3.05**	**225**	Pn	**Pn**	**07 47 29.9**	**+0.1**
	1.4nm,0.3s,baz=326,slow=2.1,SNR=8.7						
RPZ				Pg		07 47 37.5	
	18nm,0.3s,baz=359,slow=3.5,SNR=76						
RPZ				Sn	**Sn**	**07 48 04.2**	**-0.9**
	8.8nm,0.3s,baz=124,slow=24,SNR=18						
RPZ				Lg	Lg	07 48 18.4	
	8.8nm,0.3s,baz=124,slow=23,SNR=7.9						
RPZ	**Rata Peaks**	**3.05**	**225**	P	**Pn**	**07 47 30.5**	**+0.6**
BKZ	**Black Stump Fm**	**3.07**	**39**	P	**Pn**	**07 47 29.0**	**-1.0**
BKZ	**Black Stump Fm**	**3.07**	**39**	P	**Pn**	**07 47 29.5**	**-0.6**
HIZ	**Hauiti**	**3.14**	**12**	P	**Pn**	**07 47 32.4**	**+1.4**
HIZ	**Hauiti**	**3.14**	**12**	P	**Pn**	**07 47 31.9**	**+0.9**
ARCZ	**Arundel**	**3.16**	**221**	P	**Pn**	**07 47 31.2**	**-0.1**
WATZ	**Wairara**	**3.16**	**25**	P	**Pn**	**07 47 35.0**	**+3.7**
GCSZ	**Gaunt Creek Bo**	**3.24**	**237**	P	**Pn**	**07 47 35.7**	**+3.4**
NMHZ	**Naumai**	**3.27**	**41**	P	**Pn**	**07 47 32.4**	**-0.5**
MRHZ	**Matea Rd**	**3.31**	**34**	P	**Pn**	**07 47 32.4**	**-0.9**
TLZ	**Tolley Road**	**3.46**	**20**	P	**Pn**	**07 47 36.6**	**+1.1**
MTHZ	**Maungataniwha**	**3.48**	**39**	P	**Pn**	**07 47 35.8**	**+0.1**
TMZ	**Timaru**	**3.56**	**217**	P	**Pn**	**07 47 36.2**	**-0.7**
PRRZ	**Plateau Road**	**3.58**	**31**	P	**Pn**	**07 47 38.7**	**+1.6**
FOZ	**Fox Glacier**	**3.67**	**237**	P	**Pn**	**07 47 39.1**	**+0.9**
MUGZ	**Murupara**	**3.75**	**35**	P	**Pn**	**07 47 40.1**	**+0.6**
LBZ	**Lake Benmore**	**3.97**	**224**	P	**Pn**	**07 47 42.7**	**+0.3**
TOZ	**Tahuroa Road**	**4.02**	**17**	P	**Pn**	**07 47 43.6**	**+0.6**
RIGZ	**Rimuhau**	**4.06**	**46**	P	**Pn**	**07 47 41.4**	**-2.2**
URZ	**Urewera**	**4.08**	**36**	Pn	**Pn**	**07 47 42.6**	**-1.3**
	0.9nm,0.3s,baz=248,slow=5.7,SNR=13						
URZ				Pg		07 47 50.4	
	2.7nm,0.3s,baz=244,slow=6.8,SNR=13						
URZ				Sn	**Sn**	**07 48 27.5**	**-3.0**
	7.8nm,0.3s,baz=98,slow=14,SNR=7.2						
URZ	**Urewera**	**4.08**	**36**	P	**Pn**	**07 47 43.2**	**-0.8**
MWZ	**Matawai**	**4.22**	**41**	P	**Pn**	**07 47 43.7**	**-2.2**
ODZ	**Otahua Downs**	**4.24**	**214**	P	**Pn**	**07 47 45.3**	**-0.9**
ODZ	**Otahua Downs**	**4.24**	**214**	P	**Pn**	**07 47 45.6**	**-0.5**
AWAZ	**Awhitu Peninsu**	**4.55**	**6**	P	**Pn**	**07 47 51.6**	**+1.3**
MKAZ	**Moumakai**	**4.57**	**11**	P	**Pn**	**07 47 51.2**	**+0.7**
RUGZ	**Raukumara Rang**	**4.58**	**39**	P	**Pn**	**07 47 49.6**	**-1.4**
JCZ	**Jackson Bay**	**4.59**	**235**	P	**Pn**	**07 47 51.5**	**+0.5**
WTAZ	**Waiatarua**	**4.67**	**5**	P	**Pn**	**07 47 53.8**	**+1.7**
ETAZ	**East Tamaki Re**	**4.68**	**9**	P	**Pn**	**07 47 53.6**	**+1.4**
HAZ	**Te Kaha**	**4.80**	**38**	P	**Pn**	**07 47 52.1**	**-1.7**
RVAZ	**Riverhead Bore**	**4.83**	**5**	P	**Pn**	**07 47 55.6**	**+1.4**
MBAZ	**Motutapu North**	**4.86**	**8**	P	**Pn**	**07 47 56.5**	**+1.8**
WIAZ	**Waiheke Island**	**4.87**	**10**	P	**Pn**	**07 47 56.4**	**+1.7**
WKZ	**Wanaka**	**4.89**	**227**	P	Pn	07 48 01.3	+6.3
EAZ	**Earnscleugh**	**5.01**	**222**	P	**Pn**	**07 47 57.0**	**+0.4**
KUZ	**Kuaotunu**	**5.01**	**16**	P	**Pn**	**07 47 57.3**	**+0.5**
ABAZ	**Army Bay**	**5.02**	**7**	P	**Pn**	**07 47 58.5**	**+1.6**
TUZ	**Tuapeka**	**5.40**	**215**	P	**Pn**	**07 48 01.7**	**-0.3**
MLZ	**Mavora Lakes**	**5.72**	**227**	P	Pn	07 48 13.5	+7.0
OUZ	**Omahuta**	**6.37**	**357**	P	**Pn**	**07 48 16.8**	**+1.5**
OUZ	**Omahuta**	**6.37**	**357**	P	**Pn**	**07 48 16.2**	**+0.9**
CTZ	**Chatham Island**	**7.22**	**110**	P	**Pn**	**07 48 27.1**	**+0.2**
ASAR	**Alice Springs**	**37.83**	**286**	P	**P**	**07 53 55.1**	**-1.0**
	0.3nm,0.5s,baz=130,slow=7.1,SNR=9.9						
WRA	**Warramunga Arr**	**39.89**	**290**	P	**P**	**07 54 12.6**	**-0.9**
	0.5nm,0.4s,baz=127,slow=8.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**150.88**	**195**	PKPbc	**PKPbc**	**

JAGI	Jajag, Banyuwa	3.67	264			Pn	08 21 08.4	-1.0
MMRI	Maumere	4.38	97			Pn	08 21 19.4	+0.1
BATI	Baumata	6.12	110	Pn	Pn	Pn	08 21 42.2	-0.8
	10nm,0.3s,baz=2.3,slow=10,SNR=2.4							
BATI				Sn	Sn	Sn	08 22 55.2	+3.3
	6.5nm,0.3s,baz=252,slow=9.9,SNR=1.3							
BATI				LR	LR	LR	08 24 32.2	
	comp=Z,522nm,21.1s,baz=356,slow=43							
BKB	Balikpapan	6.87	352			Pn	08 21 54.9	+1.5
UGM	Wanagama	7.25	271	Pn	Pn	Pn	08 21 58.3	-0.4
FITZ	Fitzroy Crossi	12.50	143	Pn	Pn	Pn	08 23 09.6	-1.0
	0.3nm,0.3s,baz=337,slow=7.0,SNR=11							
FITZ				Sn	Sn	Sn	08 25 23.6	-5.1
	0.8nm,0.3s,baz=104,slow=20,SNR=3.4							
FITZ				LR	LR	LR	08 28 54.9	
	comp=Z,211nm,18.1s,baz=328,slow=42							
FITZ	Fitzroy Crossi	12.50	143	Pn	Pn	Pn	08 23 09.8	-0.8
KNRA	Kununurra	13.06	126	Pn	Pn	Pn	08 23 17.3	-1.0
MBWA	Marble Bar	13.11	172	Pn	Pn	Pn	08 23 18.1	-0.8
MYLDM	Lahad Datu	13.21	3	Pn	Pn	Pn	08 23 19.2	-1.2
PSA00	Pilbara Seismi	13.53	172	Pn	Pn	Pn	08 23 24.6	0.0
PSA00	Pilbara Seismi	13.53	172	P	Pn	Pn	08 23 24.7	0.0
MTN	Manton Dam	13.89	111	Pn	Pn	Pn	08 23 28.2	-1.5
MTN	Manton Dam	13.89	111	P	Pn	Pn	08 23 28.4	-1.2
GIRL	Giralia	14.86	193	Pn	Pn	Pn	08 23 42.0	-0.8
GIRL	Giralia	14.86	193	P	Pn	Pn	08 23 42.1	-0.7
KDU	Kakadu	15.09	109	P	Pn	Pn	08 23 43.8	-2.1
SIJI	Sorong	15.19	62	Pn	Pn	Pn	08 23 48.9	+1.8
	0.7nm,0.3s,baz=252,slow=19,SNR=2.5							
DAV	Davao City (W)	16.93	27	LR	LR	LR	08 31 19.9	
	comp=Z,166nm,19.9s,baz=184,slow=40							
MEEK	Meekatharra	18.45	178	P	P	P	08 24 28.5	+0.7
WRKA	Warakurna	19.57	151	P	Pn	P	08 24 41.8	+0.1
WB0	Warramunga Arr	19.79	128	P	P	P	08 24 41.9	-0.7
WB0				IAmb	IAmb	IAmb	08 24 49.5	
	comp=Z,28nm,0.9s							
WRA	Warramunga Arr	19.84	128	P	P	P	08 24 42.9	-0.3
	comp=Z,0.9nm,0.3s,baz=302,slow=13,SNR=41							
WRA				S	S	S	08 28 14.7	-10
	comp=Z,0.1nm,0.3s,baz=307,slow=24,SNR=2.3							
WRA				LR	LR	LR	08 32 47.1	
	comp=Z,162nm,19.7s,baz=216,slow=38							
WRA	Warramunga Arr	19.84	128	P	P	P	08 24 43.6	+0.4
WRAB	Tennant Creek	19.84	128	P	P	P	08 24 43.5	+0.2
WRAB				IAmb	IAmb	IAmb	08 24 50.3	
	comp=Z,27nm,0.8s							
WB2	Warramunga Arr	19.85	128	P	P	P	08 24 43.6	+0.3
WB2				IAmb	IAmb	IAmb	08 24 50.2	
	comp=Z,29nm,0.8s							
WR0	Warramunga Arr	20.01	128	P	P	P	08 24 45.2	+0.2
WR0				IAmb	IAmb	IAmb	08 24 51.4	
	comp=Z,39nm,0.8s							
MORW	Morawa	20.92	184			P	08 24 56.1	+1.3
MORW				IAmb	IAmb	IAmb	08 25 06.5	
	comp=Z,34nm,1.3s							
MORW	Morawa	20.92	184	P	P	P	08 24 55.8	+1.0
RPSI	Rantau Prapat	21.71	299	P	P	P	08 25 03.9	+0.6
PSI	Prapat	21.76	299	P	P	P	08 25 03.9	-0.1
	comp=Z,6.1nm,0.9s,baz=152,slow=8.4,SNR=2.7							
PSI				LR	LR	LR	08 35 36.2	
	comp=Z,202nm,18.1s,baz=134,slow=43							
AS31	Alice Springs	21.83	137	P	P	P	08 25 05.3	+0.7
ASAR	Alice Springs	21.83	137	P	P	P	08 25 05.2	+0.6
	comp=Z,27nm,1.0s,baz=323,slow=11,SNR=104							
ASAR				S	S	S	08 28 58.7	-5.5
	comp=Z,0.3nm,0.7s,baz=307,slow=22,SNR=1.4							
BLDU	Ballidu	22.42	183	P	P	P	08 25 11.2	+0.3
KLBR	Kellerberrin	23.37	180	P	P	P	08 25 20.7	+0.1
QIS	Mount Isa	24.41	123	P	P	P	08 25 31.4	+0.8
FORT	Forrest	24.50	158	P	P	P	08 25 33.0	+1.8
FORT	Forrest	24.50	158	P	P	P	08 25 32.8	+1.6
NWAO	Narrogin (SRO)	24.71	181	P	P	P	08 25 32.6	-0.5
COEN	Coen	25.52	105	P	P	P	08 25 41.2	+0.4
COEN	Coen	25.52	105	P	P	P	08 25 41.1	+0.4
OOD	Oodnadatta	25.85	141	P	P	P	08 25 44.3	+0.8
MULG	Mulgathing	26.79	148	P	P	P	08 25 53.0	+1.0
MTSU	Mount Surprise	27.61	114	P	P	P	08 26 00.7	+1.2
LCRK	Leigh Creek	29.29	142	P	P	P	08 26 15.3	+1.0
BBOO	Buckleboo	29.82	148	P	P	P	08 26 19.6	+0.5
BBOO				IAmb	IAmb	IAmb	08 26 33.8	
	comp=Z,21nm,1.2s							
BBOO	Buckleboo	29.82	148	P	P	P	08 26 19.7	+0.7
CTA	Charters Tower	29.96	116	P	P	P	08 26 20.4	-0.1
	comp=Z,8.6nm,0.7s,baz=288,slow=14,SNR=8.2							
HTT	Hallett	31.85	145	P	P	P	08 26 38.6	+1.6
CMAR	Chiang Mai Arr	32.32	325	P	P	P	08 26 41.4	+0.3
	comp=Z,1.9nm,0.3s,baz=147,slow=6.2,SNR=12							
CMAR				LR	LR	LR	08 41 01.4	
	comp=Z,85nm,18.2s,baz=325,slow=39							
STKA	Stephens Creek	32.37	140	P	P	P	08 26 42.5	+1.0
	comp=Z,5.3nm,0.5s,baz=314,slow=9.6,SNR=22							
STKA				LR	LR	LR	08 39 52.2	
	comp=Z,111nm,18.6s,baz=212,slow=36							
STKA	Stephens Creek	32.37	140	P	P	P	08 26 42.5	+1.0
STKA	Stephens Creek	32.37	140	P	P	P	08 26 42.7	+1.2
JOW	Kunigami	36.17	16	LR	LR	LR	08 41 34.7	
	comp=Z,65nm,21.2s,baz=248,slow=36							
TOO	Toolangi	38.56	144	P	P	P	08 27 36.9	+2.2
TOO				IAmb	IAmb	IAmb	08 28 00.7	
	comp=Z,19nm,1.4s							
ARMA	Armidale	38.61	130	P	P	P	08 27 38.4	+3.1
ARMA				IAmb	IAmb	IAmb	08 27 53.0	
	comp=Z,16nm,1.2s							
CAN	Canberra	39.33	138	P	P	P	08 27 42.9	+1.7
JNU	Nakatsue	42.84	16	P	P	P	08 28 09.0	-0.9
	comp=Z,6.0nm,0.8s,baz=227,slow=19,SNR=2.5							
JNU	Nakatsue	42.84	16	IAmb	IAmb	IAmb	08 28 15.1	
	comp=Z,7.1nm,0.8s							
KSRS	Korea Array	46.29	11	P	P	P	08 28 36.4	-1.0
	comp=Z,3.4nm,1.0s,baz=193,slow=9.2,SNR=9.5							
USRK	Ussuriysk Ar.	53.61	13	P	P	P	08 29 32.9	0.0
	comp=Z,4.2nm,0.6s,baz=190,slow=7.3,SNR=7.0							
USRK	Ussuriysk Ar.	53.61	13	P	P	P	08 29 34.0	+1.1
ULN	Ulaanbaatar	56.54	351	P	P	P	08 29 55.1	+1.0
SONM	Songino Array	56.61	351	P	P	P	08 29 55.5	+0.9
	comp=Z,4.0nm,0.6s,baz=168,slow=9.1,SNR=20							
SONM	Songino Array	56.61	351			P	08 29 56.3	+1.6
SONM				IAmb	IAmb	IAmb	08 30 03.5	
	comp=Z,3.8nm,0.8s							
BKZ	Black Stump Fm	60.75	130	P	P	P	08 30 25.3	+1.6
MK31	Makanchi Array	63.15	333	P	P	P	08 30 39.7	+0.2
MK31				IAmb	IAmb	IAmb	08 30 43.1	
	comp=Z,5.5nm,1.1s							
MKAR	Makanchi Array	63.15	333	P	P	P	08 30 39.8	+0.3
	comp=Z,3.6nm,0.7s,baz=143,slow=7.6,SNR=34							
MKAR	Makanchi Array	63.15	333	P	P	P	08 30 39.6	+0.1
AAK	Ala-Archa	64.10	326	P	P	P	08 30 46.4	+0.4
GAR	Garm	64.33	320	P	P	P	08 30 46.5	-1.1
KKAR	Karatay Array	66.66	324	P	P	P	08 31 02.4	0.0
ZAA0	Zalesovo Array	67.81	340	P	P	P	08 31 09.5	+0.1
ZAA0				IAmb	IAmb	IAmb	08 31 09.8	
	comp=Z,3.5nm,0.7s							
ZALV	Zalesovo Beam	67.81	340	P	P	P	08 31 08.5	-0.9
	comp=Z,3.2nm,0.6s,baz=152,slow=4.9,SNR=16							
ZALV	Zalesovo Beam	67.81	340	P	P	P	08 31 08.1	-1.2
MAW	Mawson	69.69	200	P	P	P	08 31 21.6	+0.7
	comp=Z,8.2nm,0.8s,baz=78,slow=19,SNR=4.7							
MAW	Mawson	69.69	200	IAmb	IAmb	IAmb	08 31 22.9	
	comp=Z,2.4nm,0.9s							
MA2	Magadan	72.40	17	P	P	P	08 31 38.1	+0.7
	comp=Z,1.8nm,0.3s,baz=172,slow=5.7,SNR=4.8							
MA2	Magadan	72.40	17	IAmb	IAmb	IAmb	08 31 39.4	
	comp=Z,5.2nm,0.7s							
VNDA	Vanda	73.04	171	P	P	P	08 31 42.2	+1.1
	comp=Z,1.3nm,1.0s,baz=327,slow=8.4,SNR=2.8							
SEY	Seymchan	75.61	16	P	P	P	08 31 56.2	+0.1
	comp=Z,1.3nm,0.7s,baz=199,slow=11,SNR=4.2							
ABKAR	Akbulak array	76.18	325	P	P	P	08 31 59.1	-0.6
ABKAR	Akbulak array	76.18	325	P	P	P	08 31 58.5	-1.1
ABKAR				IAmb	IAmb	IAmb	08 32 09.1	
	comp=Z,4.1nm,0.9s							
TIXI	Tiksi	79.92	4	P	P	P	08 32 19.0	-1.0
TIXI				IAmb	IAmb	IAmb	08 32 19.7	
	comp=Z,4.2nm,0.7s							
BOSA	Boshof	88.43	241	P	P	P	08 33 04.5	+0.2
	comp=Z,1.4nm,0.7s,baz=101,slow=5.2,SNR=1.8							
BOSA	Boshof	88.43	241	IAmb	IAmb	IAmb	08 33 12.0	
	comp=Z,9.8nm,1.4s							
TORD	Torodi Ar. Bea	117.17	281	PKP	PKPdf	PKPdf	08 38 55.7	-1.9
	comp=Z,0.6nm,0.8s,baz=68,slow=1.0,SNR=3.5							
NVAR	Mina Array Bea	121.33	50	PKP	PKPdf	PKPdf	08 39 05.1	-0.2
	comp=Z,0.5nm,0.8s,baz=217,slow=2.9,SNR=4.3							
TXAR	Lajitas Array	135.70	56	PKP	PKPdf	PKPdf	08 39 32.9	+0.1
	comp=Z,0.2nm,0.7s,baz=224,slow=2.5,SNR=2.6							
CPUP	Villa Florida	145.45	188	PKPbc	PKPbc	PKPbc	08 39 50.4	+0.2
	comp=Z,5.3nm,0.7s,baz=155,slow=2.6,SNR=12							
BDFB	Brasilia	152.56	211	PKPbc	PKPbc	PKPbc	08 40 09.2	+0.1
	comp=Z,2.5nm,0.7s,baz=233,slow=4.9,SNR=5.0							
LPAZ	La Paz	155.05	166	PKPab	PKPab	PKPab	08 40 30.6	+0.1
	comp=Z,2.1nm,0.9s,baz=139,slow=8.5,SNR=5.7							

IDC ***09*** *08:24:24.1±0.8, 37.37°N×141.49°E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.6/46, mbtmp3.6/11, ML3.4/3, MS4.4/1, Ms1 4.4/1, ms1mx2.5/90 Error ellipse: s-maj=25.2km s-min=17.4km az=123.0*

JMA ***09*** *08:24:28.0±0.1, 37.38°N×141.37°E, h34km±1km, M3.9 Broadband fault plane solution: P waves. NP1: ϕs204.00000°, δ64.00000°, λ-73.00000°. NP2: ϕs350.00000°, δ31.00000°, λ-120.00000°. Principal axes: T Plg17.0000°, Azm282.0000°; N Plg15.0000°, Azm17.0000°; P Plg67.0000°, Azm145.0000°;*

JMA Felt II J1.

NIED ***09*** *08:24:28.1, 37.38°N×141.37°E, h34km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.03; Mθθ0.23; Mϕϕ2.80; Mrθ2.72; Mθϕ0.37; Mϕr2.33; Fault plane solution: Mw4.57000×10¹⁴ NP1: ϕs217.00000°, δ71.00000°, λ-73.00000°. NP2: ϕs354.00000°, δ25.00000°, λ-130.00000°.*

ISC 09 08:24:25.7±1.7, 37.33N±0.04×141.37E±0.06, h14km±10km, n34, σ0.89/36, mb3.6/8, 10C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.39	275	⇑P		Pn		08 24 36.9	-0.1
JFK				S		Sn		08 24 42.8	-1.5
ONAJ	Iwakimizuishiy	0.51	243	⇑P		Pn		08 24 38.8	+0.2
ONAJ				S		Sn		08 24 46.1	-1.1
JMST	Minamisoumatoc	0.55	316	⇑P		Pn		08 24 38.5	-0.6
JMST				S		Sb		08 24 45.5	+0.7
JFFD	Fukushimafurud	0.69	250	⇑P		Pn		08 24 41.4	+0.4
JFFD				S		Sn		08 24 50.7	-0.8
JMM	Marumori	0.70	320	⇑P		Pn		08 24 40.6	-0.6
JMM				eS		Sb		08 24 49.6	+0.4
JFT	Otama	0.84	283	⇑P		Pn		08 24 44.0	+0.8
JFT				S		Sn		08 24 55.1	-0.2
JHO	Hitachi	0.96	222	⇑P		Pn		08 24 44.9	+0.1
JHO				S		Sg		08 24 57.1	+0.2
JIO	Ouri	1.12	359	P		Pn		08 24 46.4	-0.6
JIO				S		Sb		08 24 59.5	-1.8
JOU	Okura	1.17	332	⇑P		Pb		08 24 48.3	+0.5
JOU				S		Sb		08 25 02.9	+0.1
JFY	Yanaizu	1.32	274	⇑P		Pg		08 24 51.3	+0.1
JFY				eS		Sg		08 25 08.7	+0.2
JYS	Shirataka	1.36	311	⇑P		Pb		08 24 51.5	+0.5
JYS				eS		Sg		08 25 09.6	0.0
MJAR	Matsushiro Arr	2.65	254	Pn		Pb		08 25 10.8	-2.2
	1.4nm,0.3s,baz=67,slow=19,SNR=36								
MJAR				Sn		Sb		08 25 45.3	-0.1
	1.8nm,0.3s,baz=60,slow=24,SNR=5.3								
JHJ	Hachijo jima 2	4.40	198	Pn		Pn		08 25 33.9	+1.8
	16nm,0.3s,baz=52,slow=23,SNR=8.8								
JHJ				Sn		Sn		08 26 21.4	-1.7
	14nm,0.3s,baz=30,slow=18,SNR=1.6								
ASAJ	Asahikawa	6.84	7	Pn		Pn		08 26 05.4	-0.2
	0.7nm,0.3s,baz=204,slow=20,SNR=1.8								
KSRS	Korea Array	10.70	275	LR		LR		08 30 31.3	
	comp=Z,45nm,19.0s,baz=80,slow=34								
H11N2	WAKE ISLAND Hy	28.33	121	T		T		09 00 30.9	
	baz=314,slow=75,SNR=59								
H11N1	WAKE ISLAND Hy	28.34	121	T		T		09 00 31.6	
	baz=314,slow=75,SNR=69								
H11N3	WAKE ISLAND Hy	28.35	121	T		T		09 00 32.2	
	baz=314,slow=75,SNR=62								
H11S1	WAKE ISLAND Hy	29.05	123	T		T		09 01 24.6	
	baz=316,slow=74								
H11S3	WAKE ISLAND Hy	29.05	123	T		T		09 00 57.1	
	baz=316								
H11S2	WAKE ISLAND Hy	29.07	123	T		T		09 00 54.4	
	baz=316,slow=74								
ZALV	Zalesovo Beam	41.69	312	P		P		08 32 14.5	+0.8
	1.2nm,0.5s,baz=91,slow=8.6,SNR=2.1								
MKAR	Makanchi Array	43.93	302	P		P		08 32 31.8	-0.2
	1.1nm,0.6s,baz=88,slow=10,SNR=4.0								
ILAR	Eielson Array	49.26	32	P		P		08 33 12.7	-0.9
	0.5nm,1.0s,baz=267,slow=6.2,SNR=1.7								
WRA	Warramunga Arr	57.35	188	P		P		08 34 13.5	0.0
	0.7nm,0.6s,baz=4.7,slow=7.4,SNR=10								
ASAR	Alice Springs	61.08	188	P		P		08 34 39.9	+0.6
	0.4nm,0.7s,baz=6.8,slow=7.4,SNR=3.8								
YKA	Yellowknife Ar	63.57	30	P		P		08 34 55.6	+0.1
	0.1nm,0.7s,baz=307,slow=7.4,SNR=3.8								
MSVF	Nonsiku	64.76	141	LR		LR		09 00 07.0	
	comp=Z,286nm,19.6s,baz=163,slow=33								
PDAR	Pinedale Array	77.48	45	P		P		08 36 21.9	+0.8
	0.3nm,0.6s,baz=280,slow=5.4,SNR=2.6								
TXAR	Lajitas Array	89.97	52	P		P		08 37 26.0	+1.0
	0.2nm,0.5s,baz=285,slow=2.0,SNR=5.6								
LPAZ	La Paz	146.57	59	PKPbc		PKPbc		08 44 08.2	+0.3
	0.7nm,0.3s,baz=276,slow=12,SNR=7.6								
H03N2	Juan Fernandez	147.09	96	T		T		11 28 59.6	
	baz=287,slow=72								
H03N3	Juan Fernandez	147.10	96	T		T		11 28 56.2	
	baz=287,slow=72								
H03N1	Juan Fernandez	147.11	95	T		T		11 28 57.2	
	baz=287,slow=72								

DJA ***09*** *08:42:33.2±0.5, 6°S±3°×147°E±°, h28km±4km, M5.2/24, mB5.5/11, mb5.3/24, MLv5.4/3, Mw(mB)5.0/11*

IDC ***09*** *08:42:34.1±1.2, 6.02°S×147.85E, h45km±11km, mb4.5/27, mb1 4.7/32, mb1mx4.6/46, mbtmp4.8/32, ML5.0/4, MS4.2/49, Ms1 4.2/49, ms1mx4.1/68, Error ellipse: s-maj=12.4km s-min=8.2km az=108.0*

NEIC ***09*** *08:42:36.2±2.2, 6.05S±0.06×147.89E±0.07, h54km±6km, mb4.9/59, Error ellipse: s-maj=10.1km s-min=8.6km az=108.0*

BJI ***09*** *08:42:36.5±0.0, 6.00S×147.80E, h55km, mb4.7/43, mB5.0/24, Ms4.6/20, Ms7 4.3/20*

GCMT ***09*** *08:42:38.2±0.2, 6.08S±0.01×147.79E±0.01, h34km±1km, MW5.2/109, Moment Tensor Solution. s81,c112; s109,c182; Duration: 1ŧ0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.14±.02; Mθθ-0.54±.02; Mϕϕ0.68±.02; Mrθ-0.03±.02; Mθϕ0.51±.01; Mϕr-0.03±.02; Best double couple: M0.79500×10¹⁷ NP1:ϕs155.00000°, δ87.00000°, λ180.00000°. NP2:ϕs245.00000°, δ90.00000°, λ3.00000°. Principal axes: T 0.8660, Plg2.0000°, Azm110.0000°; N -0.1430, Plg87.0000°, Azm246.0000°; P -0.7230, Plg2.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 08:42:36.2±0.3, 6.11S±0.04×147.88E±0.04, h60km, n261, σ1.82/253, mb4.9/72, MS4.3/53, 19C-45D, Fault plane solution: NP1:ϕs258.20996°, δ81.41404°, λ-14.66525°. NP2:ϕs350.44736°, δ75.50272°, λ-171.12943°. Principal axes: T Plg4.0971°, Azm304.9096°; N Plg73.0539°, Azm48.5060°; P Plg16.4142°, Azm213.7005°; **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.35	192	P		Pn		08 43 26.1	0.0
	300nm,0.3s,baz=33,slow=5.6,SNR=172								
PMG				S		Sn		08 44 04.2	-0.5
	141nm,0.3s,baz=145,slow=23,SNR=3.3								
PMG	Port Moresby	3.35	192	P		Pn		08 43 26.7	+0.6
MANU	Manus Island	4.07	353	Pn		Pn		08 43 33.9	-2.2
KRVT	Keravat (AS076	4.50	67	P		Pn		08 43 40.6	-1.2
	58nm,0.3s,baz=310,slow=0.7,SNR=32								
KRVT				S		Sn		08 44 32.4	-0.5
	baz=184,slow=13,SNR=1.6								
KRVT				LR		LR		08 45 40.7	
	comp=Z,3μm,18.4s,baz=43,slow=42								
RABL	Rabaul	4.67	66	Pn		Pn		08 43 44.1	-0.1
JAY	Jayapura	8.00	296	P		Pn		08 44 30.3	+0.4
	10nm,0.3s,baz=156,slow=8.6,SNR=23								
JAY				S		Sn		08 46 02.5	+3.5
	baz=360,slow=22,SNR=1.2								
JAY				LR		LR		08 47 25.3	
	comp=Z,1μm,21.5s,baz=86,slow=37								
COEN	Coen	9.07	210	P		Pn		08 44 44.3	-0.3
	baz=9.1								
COEN				S		Sn		08 46 23.8	-1.3
	baz=9.1								
COEN	Coen	9.07	210	Pn		Pn		08 44 44.2	-0.3
COEN	Coen	9.07	210	P		Pn		08 44 44.5	0.0
MTSU	Mount Surprise	12.45	196	P		Pn		08 45 31.2	+0.6
	baz=13,SNR=60								
MTSU	Mount Surprise	12.45	196	P		Pn		08 45 31.0	+0.3
CTA	Charters Tower	13.98	186	P		Pn		08 45 50.9	-0.6
	1.6nm,0.3s,baz=13,slow=13,SNR=13								
CTA				LR		LR		08 50 57.8	
	comp=Z,2μm,20.6s,baz=4.0,slow=36								
CTA	Charters Tower	13.98	186	P		Pn		08 45 52.7	+1.2
QIS	Mount Isa	16.45	208	P		Pn		08 46 23.3	0.0
	baz=17,SNR=74								
QIS	Mount Isa	16.45	208	P		Pn		08 46 23.5	+0.2
KDU	Kakadu	16.54	246	P		Pn		08 46 22.9	-1.5
	baz=16,SNR=113								
KDU	Kakadu	16.54	246	P		Pn		08 46 23.0	-1.4
RK1H	Rockhampton Ha	17.36	172	P		P		08 46 36.8	+1.8
SIJI	Sorong	17.38	287	P		Pn		08 46 32.9	-1.9
	3.6nm,0.3s,baz=93,slow=9.6,SNR=19								
SIJI				LR		LR		08 54 12.0	
	comp=Z,1μm,19.4s,baz=90,slow=40								
MTN	Manton Dam	17.82	247	P		P		08 46 39.7	-0.5
	baz=18,SNR=7.3								
MTN	Manton Dam	17.82	247			P		08 46 39.3	-0.9
MTN	Manton Dam	17.82	247	P		Pn		08 46 40.8	+0.7
	66nm,1.1s								
WB0	Warramunga Arr	18.88	223	P		P		08 46 51.4	-0.4
WB0				IAmb		IAmb		08 46 54.7	
	comp=Z,157nm,1.1s								
WR0	Warramunga Arr	18.91	222	P		P		08 46 51.7	-0.5
WRAB	Tennant Creek	19.02	222	P		P		08 46 52.6	-0.8
WC3	Warramunga Arr	19.02	222	P		P		08 46 52.3	-1.1
	baz=19								
WB2	Warramunga Arr	19.02	222	P		P		08 46 52.3	-1.1
WRA	Warramunga Arr	19.03	223	P		P		08 46 52.4	-1.1
	comp=Z,11nm,0.3s,baz=47,slow=12,SNR=253								
WRA				PcP		PcP		08 51 17.8	+1.0
	comp=Z,0.3nm,0.3s,baz=28,slow=1.8,SNR=4.7								
WRA				ScP		ScP		08 54 50.0	+2.4
	baz=48,slow=3.3,SNR=5.4								
WRA				LR		LR		08 55 17.5	
	comp=Z,2μm,19.0s,baz=39,slow=40								
WRA	Warramunga Arr	19.03	223	P		P		08 46 52.6	-0.9
EIDS	Eidsvold	19.39	171	P		Pn		08 46 59.7	+0.7
	baz=20,SNR=30								
EIDS	Eidsvold	19.39	171	P		Pn		08 46 58.8	-0.2
EIDS				IAmb		IAmb		08 47 02.8	
	comp=Z,103nm,0.9s								
EIDS	Eidsvold	19.39	171	P		Pn		08 46 59.9	+0.9
	comp=Z,117nm,0.9s								
GUMO	Guam	19.80	351	LR		LR		08 53 38.4	
	comp=Z,311nm,20.7s,baz=174,slow=34								
GUMO	Guam	19.80	351	P		P		08 47 00.6	-1.3
RMQ	Roma	20.28	178	P		Pn		08 47 09.2	-0.3
	baz=20,SNR=72								
RMQ	Roma	20.28	178	P		Pn		08 47 09.3	-0.2
QLP	Quilpie	20.65	189	P		P		08 47 12.3	+1.2
	baz=21,SNR=146								
QLP	Quilpie	20.65	189	P		P		08 47 12.5	+1.5
KNRA	Kununurra	21.02	242	P		P		08 47 13.7	-1.4
	baz=21,SNR=114								
KNRA	Kununurra	21.02	242	P		P		08 47 14.3	-0.8
KNRA				IAmb		IAmb		08 47 37.6	
	comp=Z,85nm,0.8s								
KNRA	Kununurra	21.02	242	P		P		08 47 13.6	-1.6
SANVU	Saraoutou	21.11	118	P		P		08 47 17.3	+1.3
SANVU	Saraoutou	21.11	118	P		P		08 47 20.0	+4.0
	comp=Z,149nm,0.9s								
AS31	Alice Springs	22.03	216	P		P		08 47 26.1	+0.2
AS31				IAmb		IAmb		08 47 33.0	
	comp=Z,37nm,0.8s								
ASAR	Alice Springs	22.04	216	P		P		08 47 25.6	-0.4
	comp=Z,56nm,0.4s,baz=50,slow=8.9,SNR=505								
ASAR				S		S		08 51 24.5	-1.3
	comp=Z,3.2nm,0.7s,baz=31,slow=22,SNR=3.8								
ASAR				ScP		ScP		08 54 56.3	+1.6
	comp=Z,1.9nm,0.7s,baz=37,slow=2.5,SNR=4.4								
ASAR				LR		LR		08

CAN	**Canberra**	**29.09 178**	P	**P**	**08 48 32.8 +1.6**			
CAN	**Canberra**	**29.09 178**	P	**P**	**08 48 33.0 +1.8**			
CNB	**Canberra Magne**	**29.09 178**	P	**P**	**08 48 32.9 +1.6**			
	baz=29,SNR=13							
CNB	**Canberra Magne**	**29.09 178**	P	**P**	**08 48 32.9 +1.6**			
TWOA	**Tennyson Woods**	**30.03 195**	P	**P**	**08 48 40.7 +1.2**			
FORT	**Forrest**	**30.80 215**	P	**P**	**08 48 46.5 +0.1**			
	baz=31,SNR=58							
FORT	**Forrest**	**30.80 215**	P	**P**	**08 48 46.8 +0.4**			
FORT	**Forrest**	**30.80 215**	P	**P**	**08 48 46.5 +0.1**			
ARPS	**Mount Arapiles**	**31.01 189**	P	**P**	**08 48 49.6 +1.4**			
	baz=31,SNR=12							
ARPS	**Mount Arapiles**	**31.01 189**	P	**P**	**08 48 50.4 +2.3**			
MBWA	**Marble Bar**	**31.10 239**	P	**P**	**08 48 48.8 -0.3**			
MBWA			pP	**pP**	**08 49 00.6 -4.1**			
MBWA			sP	**sP**	**08 49 04.5 -7.5**			
PSA00	**Pilbara Seismi**	**31.17 238**	P	**P**	**08 48 50.5 +0.7**			
PSA00			IAmb	IAmb	08 48 50.8			
	comp=Z,23nm,0.9s							
PSA00	**Pilbara Seismi**	**31.17 238**	P	**P**	**08 48 50.1 +0.3**			
PSA00			IAmb	IAmb	08 48 50.8			
	comp=Z,61nm,0.8s							
PSA00	**Pilbara Seismi**	**31.17 238**	P	**P**	**08 48 49.4 -0.4**			
TOO	**Toolangi**	**31.39 184**	P	**P**	**08 48 53.4 +1.9**			
	baz=32,SNR=5.1							
TOO	**Toolangi**	**31.39 184**	P	**P**	**08 48 52.2 +0.7**			
TOO			IAmb	IAmb	08 48 54.2			
	comp=Z,20nm,1.1s							
TOO	**Toolangi**	**31.39 184**	P	**P**	**08 48 54.5 +3.0**			
	comp=Z,22nm,1.8s							
BRAT	**Ballarat**	**31.50 186**	P	**P**	**08 48 55.5 +3.1**			
	comp=Z,12nm,1.1s							
JAGI	**Jajag, Banyuwa**	**33.53 264**	P	**P**	**08 49 06.4 -4.2**			
	comp=Z,38nm,1.2s							
MEEK	**Meekatharra**	**34.56 230**	P	**P**	**08 49 19.2 -0.1**			
	baz=35,SNR=122							
MEEK	**Meekatharra**	**34.56 230**	P	**P**	**08 49 19.5 +0.2**			
MOO	**Moorlands**	**36.19 181**	P	**P**	**08 49 35.3 +2.3**			
	baz=36							
GIRL	**Giralia**	**36.37 240**	P	**P**	**08 49 34.2 -0.7**			
	baz=36,SNR=5.3							
GIRL	**Giralia**	**36.37 240**	P	**P**	**08 49 35.6 +0.7**			
GIRL	**Giralia**	**36.37 240**	P	**P**	**08 49 34.2 -0.7**			
TAU	**Tasmania Unive**	**36.65 181**	P	**P**	**08 49 38.2 +1.2**			
OUZ	**Omahuta**	**37.41 144**	P	**P**	**08 49 46.0 +2.4**			
MORW	**Morawa**	**37.76 229**	P	**P**	**08 49 46.7 +0.1**			
	baz=38,SNR=22							
MORW	**Morawa**	**37.76 229**	P	**P**	**08 49 46.8 +0.1**			
MORW	**Morawa**	**37.76 229**	P	**P**	**08 49 46.7 +0.1**			
JOW	**Kunigami**	**37.86 331**	LR	LR	09 02 44.1			
	comp=Z,296nm,21.6s,baz=108,slow=32							
KLBR	**Kellerberrin**	**37.90 224**	P	**P**	**08 49 47.4 -0.4**			
	baz=38,SNR=55							
KLBR	**Kellerberrin**	**37.90 224**	P	**P**	**08 49 47.3 -0.4**			
BLDU	**Ballidu**	**38.09 226**	P	**P**	**08 49 49.1 -0.3**			
	baz=38,SNR=25							
BLDU	**Ballidu**	**38.09 226**	P	**P**	**08 49 49.1 -0.3**			
NWAO	**Narrogin (SRO)**	**39.04 223**	P	**P**	**08 49 57.6 +0.3**			
NWAO			pP	**pP**	**08 50 10.3 -2.6**			
MUN	**Mundaring**	**39.20 225**	P	**P**	**08 49 59.0 +0.3**			
	baz=39,SNR=15							
MUN	**Mundaring**	**39.20 225**	P	**P**	**08 49 58.8 +0.1**			
JHJ	**Hachijo jima 2**	**39.77 349**	LR	LR	09 06 38.9			
	comp=Z,226nm,18.1s,baz=181,slow=36							
LEM	**Lembang**	**40.01 267**	LR	LR	09 10 48.7			
	comp=Z,181nm,19.2s,baz=32,slow=42							
RKGY	**Rocky Gully**	**40.22 221**	P	**P**	**08 50 07.8 +0.7**			
	baz=40,SNR=9.7							
RKGY	**Rocky Gully**	**40.22 221**	P	**P**	**08 50 07.7 +0.6**			
AFI	**Afiamalu**	**40.42 104**	LR	LR	09 03 34.1			
	comp=Z,478nm,20.9s,baz=260,slow=31							
QRZ	**Quartz Range**	**41.00 151**	P	**P**	**08 50 17.5 +4.1**			
URZ	**Urewera**	**41.55 145**	LR	LR	09 06 15.9			
	comp=Z,919nm,19.4s,baz=308,slow=34							
BKZ	**Black Stump Fm**	**41.83 146**	P	**P**	**08 50 22.0 +1.7**			
TUWZ	**Tuamarina**	**42.15 151**	P	**P**	**08 50 24.7 +2.0**			
JNU	**Nakatsue**	**42.23 339**	P	**P**	**08 50 21.6 -1.9**			
	comp=Z,7.7nm,0.8s,baz=130,slow=6.0,SNR=5.1							
JNU	**Nakatsue**	**42.23 339**	P	**P**	**08 50 23.6 +0.1**			
SNZO	**South Karori**	**42.43 150**	P	**P**	**08 50 29.1 +4.0**			
RPZ	**Rata Peaks**	**42.63 155**	LR	LR	09 05 59.0			
	comp=Z,662nm,20.9s,baz=323,slow=33							
RPZ	**Rata Peaks**	**42.63 155**	P	**P**	**08 50 28.0 +1.2**			
RPZ			IAmb	IAmb	08 50 40.2			
	comp=Z,18nm,0.9s							
RPZ	**Rata Peaks**	**42.63 155**	P	**P**	**08 50 29.6 +2.9**			
KHZ	**Kahutara**	**42.71 152**	P	**P**	**08 50 29.4 +2.1**			
BFZ	**Birch Farm**	**42.77 148**	P	**P**	**08 50 29.1 +1.3**			
BFZ			IAmb	IAmb	08 50 55.7			
	comp=Z,24nm,1.1s							
BFZ	**Birch Farm**	**42.77 148**	P	**P**	**08 50 29.8 +2.0**			
LBZ	**Lake Benmore**	**42.83 156**	P	**P**	**08 50 29.9 +1.5**			
LBZ			IAmb	IAmb	08 50 32.2			
	comp=Z,20nm,1.0s							
MJAR	**Matsushiro Arr**	**43.39 349**	P	**P**	**08 50 31.1 -1.8**			
	comp=Z,12nm,0.9s,baz=190,slow=20,SNR=13							
MJAR	**Matsushiro Arr**	**43.39 349**	P	**P**	**08 50 31.9 -1.0**			
MAJO	**Matsushiro**	**43.39 349**	P	**P**	**08 50 31.8 -1.1**			
MAJO			IAmb	IAmb	08 50 44.0			
	comp=Z,35nm,1.1s							
MAJO	**Matsushiro**	**43.39 349**	P	**P**	**08 50 32.3 -0.5**			
MAJO			X		08 50 36.2			
MAJO			pP	**pP**	**08 50 48.8 +0.8**			
MJB9	**Matsu-Tunnel**	**43.39 349**	P	**P**	**08 50 32.5 -0.4**			
MJB9			IAmb	IAmb	08 50 43.9			
	comp=Z,33nm,1.0s							
ODZ	**Otahua Downs**	**43.56 157**	P	**P**	**08 50 36.9 +2.7**			
QIZ	**Qiongzhong**	**45.04 305**	P	**P**	**08 50 49.4 +3.0**			
QIZ			S	**S**	**08 57 26.4 +5.2**			
QIZ			LR	LR				
	comp=Z,290nm,18.3s							
QIZ			LR	LR				
	comp=Z,150nm,27.9s							
QIZ			LR	LR				
	comp=Z,290nm,18.5s							
NJ2	**Nanjing**	**46.96 326**	*e*P	**P**	**08 51 04.4 +3.1**			
NJ2			pmax	pmax				
	comp=Z,11nm,0.6s							
KSRS	**Korea Array**	**47.17 338**	P	**P**	**08 51 02.1 -0.7**			
	comp=Z,5.7nm,1.0s,baz=152,slow=8.1,SNR=12							
KSRS			LR	LR	09 08 44.6			
	comp=Z,268nm,21.1s,baz=150,slow=33							
KSAR	**Wonju Array Be**	**47.18 338**	P	**P**	**08 51 03.2 +0.3**			
PSI	**Prapat**	**49.68 279**	LR	LR	09 15 10.4			
	comp=Z,206nm,18.7s,baz=131,slow=39							
ASAJ	**Asahikawa**	**50.22 355**	LR	LR	09 11 22.3			
	comp=Z,88nm,21.6s,baz=133,slow=34							
USRK	**Ussuriysk Ar.**	**52.09 346**	P	**P**	**08 51 39.9 -0.2**			
	comp=Z,4.7nm,0.7s,baz=202,slow=8.1,SNR=5.6							
USRK			LR	LR	09 12 26.6			
	comp=Z,102nm,18.8s,baz=149,slow=34							
LYN	**LuoYang**	**52.47 323**	*e*P	**P**	**08 51 47.0 +3.9**			
LYN			S	**S**	**08 59 10.5 +5.3**			
LYN			LR	LR				
	comp=Z,290nm,16.3s							
LYN			LR	LR				
	comp=Z,250nm,16.1s							
LYN			LR	LR				
	comp=Z,440nm,19.4s							
HNS	**HongShan**	**53.21 327**	⇑P	**P**	**08 51 47.8 -0.7**			
HNS			S	**S**	**08 59 10.7 -4.5**			
HNS			pmax	pmax				
	comp=Z,13nm,0.9s							
HNS			LR	LR				
	comp=Z,500nm,21.6s							
HNS			LR	LR				
	comp=Z,250nm,21.6s							
CN2	**Changchun**	**53.66 340**	*e*P	**P**	**08 51 51.4 -0.3**			
CN2			S	**S**	**08 59 19.6 -1.5**			
CN2			pmax	pmax				
	comp=Z,10.0nm,1.0s							
CN2			pmax	pmax				
	comp=Z,200nm,7.0s							
CN2			LR	LR				
	comp=Z,200nm,16.0s							
CN2			LR	LR				
	comp=Z,200nm,16.0s							
CN2			LR	LR				
	comp=Z,200nm,19.2s							
CMAR	**Chiang Mai Arr**	**54.08 298**	P	**P**	**08 51 54.5 -0.7**			
	comp=Z,2.4nm,0.4s,baz=115,slow=6.4,SNR=1.6							
CMAR	**Chiang Mai Arr**	**54.08 298**	P	**P**	**08 51 56.1 +0.9**			
XAN	**Xi'an**	**54.33 320**	P	**P**	**08 51 56.3 -0.5**			
XAN			pP	pP	08 52 11.2 -1.2			
XAN			pmax	pmax				
	comp=Z,8.0nm,1.1s							
BNX	**BinXian**	**54.77 343**	⇓P	**P**	**08 51 59.8 +0.1**			
BNX			pmax	pmax				
	comp=Z,17nm,0.6s							
BNX			pmax	pmax				
	comp=Z,170nm,4.6s							
PZH	**PanZhiHua**	**55.22 308**	P	P	08 52 11.1 +7.6			
PZH			pmax	pmax				
	comp=Z,10.0nm,0.5s							
PZH			pmax	pmax				
	comp=Z,110nm,4.5s							
CD2	**Chengdu**	**55.98 314**	P	**P**	**08 52 13.6 +4.8**			
CD2			pmax	pmax				
	comp=Z,10.0nm,0.7s							
CD2			LR	LR				
	comp=Z,250nm,18.1s							
CD2			LR	LR				
	comp=Z,250nm,15.7s							
KLR	**Kul'dur**	**56.88 347**	P	**P**	**08 52 14.2 -0.6**			
	comp=Z,4.3nm,0.8s,baz=206,slow=2.5,SNR=12							
HHC	**Hu-ho-hao-te**	**57.39 328**	*e*P	**P**	**08 52 22.2 +3.5**			
HHC			pmax	pmax				
	comp=Z,13nm,1.1s							
HHC			pmax	pmax				
	comp=Z,110nm,4.6s							
HHC			LR	LR				
	comp=Z,170nm,14.6s							
HHC			LR	LR				
	comp=Z,290nm,15.2s							
HHC			LR	LR				
	comp=Z,290nm,15.9s							
LZH	**Lanzhou**	**58.87 319**	⇓P	P	08 52 34.1 +4.9			
LZH			pmax	pmax				
	comp=Z,20nm,1.5s							
LZH			LR	LR				
	comp=Z,270nm,17.9s							
LZH			LR	LR				
	comp=Z,220nm,16.3s							
LZH			LR	LR				
	comp=Z,310nm,17.5s							
PEA0B	**Petropavlovsk-**	**59.58 7**	P	**P**	**08 52 34.5 +1.0**			
PETK	**Petropavlovsk-**	**59.58 7**	LR	LR	09 14 13.8			
	comp=Z,333nm,21.9s,baz=193,slow=32							
PET	**Petropavlovsk**	**59.62 8**	P	**P**	**08 52 34.3 +0.6**			
PET			IAmb	IAmb	08 52 35.3			
	comp=Z,15nm,1.0s							
PET	**Petropavlovsk**	**59.62 8**	P	**P**	**08 52 34.9 +1.2**			
DRV	**Dumont d'Urvil**	**60.70 184**	⇑P	**P**	**08 52 42.7 +1.7**			
DRV			pP	**sP**	**08 53 00.8 -2.7**			
DRV			sP	**sP**	**08 53 00.8 -2.7**			
PPT	**Papeete**	**62.02 107**	LR	LR	09 14 16.9			
	comp=Z,98nm,21.6s,baz=287,slow=31							
PPT2	**Papeete2**	**62.02 107**	*e*S	**S**	**09 01 10.2 -1.4**			
PPT2			*e*LQ	LQ	09 08 44.0			
	comp=Z,325nm,24.5s							
PPT2			*e*LR	LR	09 11 23.5			
	comp=Z,310nm,23.5s							
SHEM	**Shemya Is, Ala**	**62.70 18**	P	**P**	**08 52 54.2 -0.5**			
	comp=Z,22nm,0.8s,baz=331,slow=22,SNR=2.1							
SHEM			LR	LR	09 17 55.6			
	comp=Z,62nm,18.4s,baz=229,slow=34							
GTA	**Gaotai**	**63.39 320**	⇓P	**P**	**08 53 00.4 +0.7**			
GTA			pP	pP	08 53 15.6 0.0			
GTA			sP	sP	08 53 24.0 +1.7			
GTA			pmax	pmax				
	comp=Z,6.0nm,1.0s							
PMOR	**Pomariorio Ree**	**63.57 104**	*e*P	**P**	**08 53 03.9 +2.7**			
	comp=Z,87nm,1.1s							
ULN	**Ulaanbaatar**	**64.63 331**	P	**P**	**08 53 08.6 +0.8**			
ULN			IAmb	IAmb	08 53 08.9			
	comp=Z,9.4nm,0.8s							
ULN	**Ulaanbaatar**	**64.63 331**	P	**P**	**08 53 08.0 +0.3**			
ULN			X		08 53 11.8			
ULN			pP	**pP**	**08 53 23.9 +0.2**			
SONM	**Songino Array**	**64.93 330**	P	**P**	**08 53 08.5 -1.1**			
	comp=Z,7.2nm,1.0s,baz=147,slow=6.3,SNR=23							
SONM			LR	LR	09 20 22.7			
	comp=Z,235nm,21.1s,baz=162,slow=35							
SONM			PKP2bc		09 21 58.3			
	comp=Z,1.2nm,0.9s,baz=316,slow=8.3,SNR=5.6							
SONM	**Songino Array**	**64.93 330**	P	**P**	**08 53 09.7 0.0**			
GOMU	**GeErMu**	**65.10 315**	P	P	08 53 23.7 +12			
GOMU			pP	pP	08 53 27.2 0.0			
GOMU			sP	sP	08 53 29.2 -4.6			
GOMU			PcP	**PcP**	**08 53 49.5 +5.9**			
GOMU			PP	PP	08 55 58.1 +23			
GOMU			S	**S**	**09 01 56.9 +7.1**			
GOMU			sS	sS	09 02 13.9 -2.6			
CASY	**Casey**	**65.39 196**	P	**P**	**08 53 12.4 +0.3**			
CASY			IAmb	IAmb	08 53 26.7			
	comp=Z,18nm,1.2s							
MA2	**Magadan**	**65.52 2**	P	**P**	**08 53 12.1 -0.9**			
	comp=Z,11nm,0.9s,baz=158,slow=5.9,SNR=9.0							
MA2			LR	LR	09 23 24.1			
	comp=Z,71nm,18.4s,baz=169,slow=37							
MA2	**Magadan**	**65.52 2**	P	**P**	**08 53 12.4 -0.6**			
MA2			pP	**pP**	**08 53 24.6 -4.4**			
PALK	**Pallekele**	**68.33 280**	LR	LR	09 26 37.6			
	comp=Z,63nm,20.7s,baz=219,slow=39							
SEY	**Seymchan**	**68.93 2**	P	**P**	**08 53 33.6 -0.9**			
	comp=Z,6.9nm,0.9s,baz=185,slow=4.9,SNR=19							
YAK	**Yakutsk**	**69.39 351**	P	**P**	**08 53 35.6 -1.7**			
	comp=Z,7.2nm,0.4s,baz=87,slow=1.4,SNR=1.8							
YAK			LR	LR	09 20 20.7			
	comp=Z,93nm,21.9s,baz=162,slow=33							
CCD	**Concordia, Ant**	**70.36 187**	⇓P	**P**	**08 53 44.8 +1.0**			
TAOE	**Nuku Hiva Isla**	**71.31 97**	*e*S	**S**	**09 03 02.0 -2.1**			
	comp=Z,63nm,29.5s							
TAOE	**Nuku Hiva Isla**	**71.31 97**	*e*LR	LR	09 15 37.1			
	comp=Z,115nm,21.0s							
VNDA	**Vanda**	**71.75 177**	P	**P**	**08 53 50.5 -1.1**			
	comp=Z,5.3nm,0.8s,baz=332,slow=7.3,SNR=22							
VNDA			LR	LR	09 23 28.5			
	comp=Z,230nm,18.8s,baz=350,slow=34							
VNDA	**Vanda**	**71.75 177**	P	**P**	**08 53 53.1 +1.5**			
WMQ	**Urumqi**	**73.45 319**	*e*P	**P**	**08 54 04.8 +2.4**			
WMQ			LR	LR				
	comp=Z,63nm,24.3s							
MK31	**Makanchi Array**	**78.14 320**	P	**P**	**08 54 27.9 -1.1**			
MKAR	**Makanchi Array**	**78.14 320**	P	**P**	**08 54 27.7 -1.3**			
	comp=Z,2.8nm,0.8s,baz=105,slow=6.3,SNR=16							
MKAR			PKKPbc	**PKKPbc**	**09 13 28.6 -1.6**			
	comp=Z,0.3nm,0.8s,baz=297,slow=1.3,SNR=3.7							
MKAR			LR	LR	09 27 00.9			
	comp=Z,69nm,21.8s,baz=108,slow=34							
MKAR	**Makanchi Array**	**78.14 320**	P	**P**	**08 54 27.6 -1.5**			
TIXI	**Tiksi**	**78.61 354**	P	**P**	**08 54 29.6 -1.5**			
	comp=Z,2.1nm,0.4s,baz=270,slow=21,SNR=5.9							
ZAA0	**Zalesovo Array**	**79.57 328**	P	**P**	**08 54 34.2 -2.5**			
ZALV	**Zalesovo Beam**	**79.57 328**	P	**P**	**08 54 34.3 -2.4**			
	comp=Z,4.2nm,0.6s,baz=105,slow=5.3,SNR=19							
ZALV			LR	LR	09 30 45.7			
	comp=Z,146nm,19.8s,baz=97,slow=36							
ZALV	**Zalesovo Beam**	**79.57 328**	P	**P**	**08 54 35.4 -1.3**			
KDAK	**Kodiak Island**	**79.58 28**	LR	LR	09 24 26.0			
	comp=Z,134nm,20.0s,baz=268,slow=32							
KSH	**Kashi**	**80.11 312**	P	**P**	**08 54 41.5 +1.4**			
KSH			sP	sP	08 55 04.0 +1.0			
KSH			pmax	pmax				
	comp=Z,3.0nm,0.6s							
NIL	**Nilore**	**80.71 305**	P	**P**	**08 54 43.3 0.0**			
NIL			IAmb	IAmb	08 55 01.4			
	comp=Z,10nm,0.8s							
RDOG	**Red Dog Mine**	**81.59 17**	P	**P**	**08 54 47.6 +0.4**			
MAW	**Mawson**	**82.48 203**	P	**P**	**08 54 52.5 +0.6**			
	comp=Z,5.4nm,0.8s,baz=143,slow=5.1,SNR=2.9							
MAW			LR	LR	09 30 24.0			
	comp=Z,111nm,19.8s,baz=86,slow=35							
CAST	**Castle Rocks**	**82.59 23**	P	**P**	**08 54 53.0 +0.4**			
QSPA	**South Pole Qui**	**83.86 180**	P	**P**	**08 55 00.1 +0.8**			
	comp=Z,19nm,0.7s,baz=356,slow=1.0,SNR=94							
QSPA			LR	LR	09 32 50.5			
	comp=Z,186nm,18.4s,baz=12,slow=36							
QSPA	**South Pole Qui**	**83.86 180**	P	**P**	**08 55 00.1 +0.8**			
QSPA			IAmb	IAmb	08 55 01.2			
	comp=Z,19nm,0.8s							
RND	**Reindeer**	**83.86 24**	P	**P**	**08 54 58.1 -1.1**			
RND			IAmb	IAmb	08 55 15.0			
	comp=Z,7.4nm,0.7s							
MCK	**McKinley**	**83.98 24**	P	**P**	**08 54 59.3 -0.4**			
MCK			IAmb	IAmb	08 55 04.4			
	comp=Z,9.9nm,0.9s							
DHY	**Denali Highway**	**84.32 24**	P	**P**	**08 55 02.0 +0.4**			
DHY			IAmb	IAmb	08 55 04.4			
	comp=Z,7.0nm,0.8s							
TCOL	**CIGO, UAF Yank**	**84.91 23**	P	**P**	**08 55 03.6 -0.7**			
TCOL			IAmb	IAmb	08 55 04.9			
	comp=Z,7.3nm,0.8s							
KKAR	**Karatay Array**	**85.00 314**	P	**P**	**08 55 04.8 -0.5**			
HDA	**Harding Lake**	**85.06 23**	P	**P**	**08 55 04.0 -1.2**			
IL31		**85.24 23**	P	**P**	**08 55 03.5 -2.4**			
IL31			IAmb	IAmb	08 55 05.8			
	comp=Z,7.2nm,0.7s							
ILAR	**Eielson Array**	**85.24 23**	P	**P**	**08 55 03.5 -2.5**			
	comp=Z,5.4nm,0.7s,baz=252,slow=4.4,SNR=71							
ILAR			LR	LR	09 28 21.8			
	comp=Z,100nm,21.5s,baz=186,slow=32							
ILAR	**Eielson Array**	**85.24 23**	P	**P**	**08 55 04.5 -1.5**			
NRIK	**Noril'sk**	**85.65 342**	P	**P**	**08 55 06.7 -1.2**			
	comp=Z,3.0nm,0.7s,baz=121,slow=5.4,SNR=5.4							
NRIK			LR	LR	09 32 30.3			
	comp=Z,85nm,20.1s,baz=134,slow=35							
NRIK	**Noril'sk**	**85.65 342**	P	**P**	**08 55 07.1 -0.9**			
NRIK			IAmb	IAmb	08 55 28.4			
	comp=Z,7.8nm,0.9s							
SCRK	**Sand Creek**	**86.07 24**	P	**P**	**08 55 10.6 +0.2**			
L27K	**Beaver Creek,**	**86.64 25**	P	**P**	**08 55 13.4 +0.3**			
BCAR	**Beaver Creek A**	**86.66 25**	P	**P**	**08 55 13.3 +0.1**			
BMAR	**Burnt Mountain**	**87.19 21**	P	**P**	**08 55 16.6 +1.0**			
EGAK	**Eagle**	**87.51 24**	P	**P**	**08 55 17.0 -0.2**			
EGAK			IAmb	IAmb	08 55 37.6			
	comp=Z,7.8nm,0.8s							
DAWY	**Dawson**	**88.00 25**	P	**P**	**08 55 20.4 +0.8**			
DAWY			IAmb	IAmb	08 55 48.8			
	comp=Z,14nm,1.3s							
DLBC	**Dease Lake**	**91.03 31**	LR	LR	09 29 05.6			
	comp=Z,108nm,21.4s,baz=274,slow=31							
BBB	**Bella Bella**	**91.11 38**	LR	LR	09 28 57.5			
	comp=Z,129nm,21.4s,baz=292,slow=31							
INK	**Inuvik**	**91.44 21**	P	**P**	**08 55 34.8 -0.6**			
	comp=Z,2.3nm,1.1s,baz=224,slow=8.0,SNR=5.9							
INK			LR	LR	09 32 13.4			
	comp=Z,100nm,19.5s,baz=266,slow=33							
INK	**Inuvik**	**91.44 21**	IAmb	IAmb	08 55 59.4			
	comp=Z,4.7nm,1.1s							
GEYT	**Allbeck**	**93.53 308**	LR	LR	09 39 00.2			
	comp=Z,57nm,20.7s,baz=105,slow=36							
YBH	**Yreka Blue Hor**	**93.58 49**	LR	LR	09 33 00.1			
	comp=Z,146nm,19.5s,baz=272,slow=32							
AKTO	**Aktyubinsk**	**94.58 320**	LR	LR	09 42 03.0			
	comp=Z,61nm,18.0s,baz=87,slow=38							
ARU	**Arti**	**94.67 326**	LR	LR	09 38 03.2			
	comp=Z,74nm,20.8s,baz=101,slow=35							
A36M	**Sachs Harbour**	**94.80 18**		pP	08 56 06.8 -0.9			
BELA	**Belgrano 2**	**96.12 179**	P	**P**	**08 55 57.6 +0.7**			
BELA			IAmb	IAmb	08 55 58.8			
	comp=Z,6.9nm,0.9s							
NVAR	**Mina Array Bea**	**96.74 52**	P	**P**	**08 56 00.4 -0.4**			
	comp=Z,0.8nm,0.9s,baz=258,slow=6.5,SNR=5.3							
NEW	**Newport**	**97.85 42**	LR	LR	09 34 07.7			
	comp=Z,66nm,21.9s,baz=266,slow=32							
PFO	**Pinyon Flats O**	**98.05 57**	LR	LR	09 35 46.3			
	comp=Z,103nm,18.2s,baz=280,slow=33							
RPN	**Rapa Nui**	**98.52 118**	LR	LR	09 34 43.3			
	comp=Z,57nm,19.5s,baz=266,slow=32							
YKA	**Yellowknife Ar**	**98.86 28**	P	**P**	**08 56 08.2 -1.3**			
	comp=Z,0.7nm,0.9s,baz=272,slow=4.6,SNR=11							
YKA			PKKPbc	**PKKPbc**	**09 12 38.4 -0.8**			
	comp=Z,0.2nm,0.6s,baz=87,slow=2.9,SNR=6.9							
YKA			LR	LR	09 37 32.3			
	comp=Z,90nm,20.6s,baz=314,slow=33							
ELK	**Elko**	**99.16 50**	LR	LR	09 37 23.9			
	comp=Z,108nm,18.5s,baz=266,slow=33							
KIRV	**Kirov**	**99.60 328**	LR	LR	09 41 19.5			
	comp=Z,196nm,21.4s,baz=90,slow=35							
PDAR	**Pinedale Array**	**103.34 48**	Pdiff	**Pdif**	**08 56 29.2 -1.0**			
	comp=Z,0.5nm,0.7s,baz=238,slow=3.1,SNR=6.0							
TXAR	**Lajitas Array**	**109.05 61**	PKKPab	PKKPab	09 12 18.3 -1.2			
	comp=Z,0.5nm,0.9s,baz=99,slow=5.8,SNR=4.4							
FINES	**FINESS Array B**	**110.16 334**	Pdiff	**Pdif**	**08 56 57.7 -2.0**			
	comp=Z,0.7nm,0.7s,baz=44,slow=6.6,SNR=1.5							
U40A	**Yellville**	**117.05 52**		**PKPdf**	**09 01 14.4 -0.5**			
PLCA	**Paso Flores**	**121.55 146**	PKP	**PKPdf**	**09 01 23.4 -0.1**			
	comp=Z,3.3nm,0.7s,baz=246,slow=2.4,SNR=11							
GERES	**GERESS Array B**	**122.49 326**	PKP	**PKPdf**	**09 01 23.8 -1.3**			
	comp=Z,0.2nm,0.3s,baz=157,slow=1.0,SNR=5.2							
SCHQ	**Schefferville**	**124.00 23**	PKP	**PKPdf**	**09 01 26.1 -1.5**			
	comp=Z,3.3nm,0.8s,baz=25,slow=4.9,SNR=5.1							
ROSC	**El Rosal**	**137.98 90**	PKP	**PKPdf**	**09 01 55.2 -0.5**			
	comp=Z,5.9nm,0.4s,baz=354,slow=23,SNR=4.5							
LPAZ	**La Paz**	**137.99 122**	PKhKP	PKPpre	09 01 48.2			
	comp=Z,1.4nm,0.7s,baz=196,slow=2.7,SNR=6.3							
CPUP	**Villa Florida**	**139.53 144**	PKP	**P

METMA	**Mettma DE**		**1.69**	**284**	*e*Pg		**Pg**	08 52 13.1	**-0.3**
METMA					*e*Sg		**Sg**	08 52 35.2	**-0.2**
SULZ	**Cheisacher**		**1.76**	**277**	*e*Sg		**Sg**	08 52 37.8	**+0.3**
BERGE	**Lenzkirch (DE)**		**1.78**	**288**	*e*Pg		**Pg**	08 52 15.3	**+0.1**
BERGE					*e*Sg		**Sg**	08 52 37.9	**-0.3**
KBA	**Koelnbreinsper**		**1.83**	**97**	*e*Pg		**Pg**	08 52 16.4	**+0.1**
	3.3nm,0.3s								
KBA					*e*Sg		**Sg**	08 52 40.5	**+0.4**
	11nm,0.4s								
BFO	**Black Forest**		**1.87**	**303**	*e*Pg		**Pg**	08 52 17.3	**+0.4**
BFO					*e*Sn		**Sn**	08 52 35.4	**-0.3**
BFO					*e*Sg		**Sg**	08 52 41.7	**+0.5**
BALST	**Balsthal**		**2.03**	**271**	*e*Pg		**Pg**	08 52 19.9	**-0.1**
BALST					*e*Sg		**Sg**	08 52 46.0	**-0.4**
BIOA	**Bad Ischl, Aus**		**2.03**	**79**	*e*Sg		**Sg**	08 52 48.6	**+2.2**
	12nm,0.4s								
MOA	**Molln**		**2.48**	**77**	*e*Pg		**Pg**	08 52 27.5	**-1.0**
	0.7nm,0.2s								
MOA					*e*Sg		**Sg**	08 53 01.4	**+0.7**
	3.5nm,0.2s								
MOA	**Molln**		**2.48**	**77**	*e*Pg		**Pg**	08 52 27.5	**-1.0**
MOA					*e*Sg		**Sg**	08 53 00.8	**+0.2**
GEC2	**GERESS Array S**		**2.52**	**52**	*e*Pg		**Pg**	08 52 28.8	**-0.6**
GEC2					*e*Sg		**Sg**	08 53 01.2	**-0.8**
ROTZ	**Rotzenmuhle**		**2.63**	**22**	*e*Pg		**Pg**	08 52 31.6	**+0.1**
ROTZ					*e*Sg		**Sg**	08 53 03.7	**-1.9**
HINF	**Hinteralfeld**		**2.64**	**282**	*e*Pg		**Sn**	08 52 53.8	**-0.8**
HINF					*e*Sg		**Sg**	08 53 03.6	**-2.1**
	6.8nm,0.3s								
HAU	**Haudompre**		**3.00**	**284**	*e*Pg		**Sn**	08 53 00.4	**-3.2**
HAU					*e*Sg		**Sg**	08 53 15.0	**-2.5**
	9.6nm,0.3s								
CABF	**La Chapelle**		**3.23**	**259**	*e*Pn		**Sn**	08 53 01.1	**-8.2**
CABF	**La Chapelle**		**3.23**	**259**	*e*Pg		**Sn**	08 53 05.5	**-3.8**
CABF					*e*Sg		**Sg**	08 53 23.4	**-1.3**
PAGF	**Fort de Pagny**		**3.55**	**292**	*e*Sg		**Sg**	08 53 34.3	**-0.6**
	4.2nm,0.3s								
SAVF	**Savonnieres en**		**3.95**	**291**	*e*Sg		**Sg**	08 53 46.9	**-0.8**
	5.1nm,0.4s								
MEZF	**Maizieres J'vi**		**3.96**	**289**	*e*Sg		**Sg**	08 53 46.1	**-2.0**
	5.1nm,0.4s								
CLL	**Collm**		**4.25**	**20**	*e*Sg		**Sg**	08 53 57.0	**-0.4**
BGF	**Bois d'Agland**		**5.42**	**265**	*e*Pn		**Pg**	08 53 29.4	**+4.6**
BGF					*e*Sn		**Sn**	08 54 08.2	**+5.0**
	6.5nm,0.4s								

*CNRM **09** 09:16:02.2, 35°.59N×3°.66W, h18km, ml2.0*
*SFS **09** 09:16:05.0, 35°.42N×3°.59W, h36km, ML2.5, ALBORAN SUR*
*MDD **09** 09:16:05.2±0.9, 35°.42N×3°.60W, h36km±22km, mb_Lg2.5/3, Error ellipse: s-maj=11.6km s-min=5.1km az=160.0*
ISC 09 09:16:03.7±1.0, 35°.51N±0°.04×3°.62W±0°.03, h16km±9km, n16, σ1§54/30, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALE	**Palemas**	**0.39**	**222**	P		**Pg**	**09 16 11.9**	**+0.1**
PALE				S		**Sg**	**09 16 16.9**	**-0.4**
EMEL	**Melilla**	**0.58**	**111**	Pg		**Pg**	**09 16 15.5**	**+0.3**
EMEL				Sg		**Sg**	**09 16 22.9**	**0.0**
GOG	**Mont Gurugu**	**0.59**	**119**	P		**Pg**	**09 16 15.2**	**-0.1**
GOG				S		**Sg**	**09 16 21.4**	**-1.8**
EALB	**Alboran**	**0.64**	**48**	Pg		**Pn**	**09 16 17.9**	**-0.2**
EALB				Sg		**Sn**	**09 16 27.2**	**-0.6**
EALB				*i* Vmb_Lg			09 16 28.0	
PVLZ	**Peæn de**	**0.65**	**239**	P		**Pg**	**09 16 16.9**	**+0.4**
PVLZ				S		**Sg**	**09 16 26.1**	**+1.0**
TAF	**Taforalt**	**1.21**	**125**	P		**Pn**	**09 16 26.5**	**+0.6**
ELGU	**Los Guajares,**	**1.35**	**360**	Pg		**Pn**	**09 16 28.3**	**+0.3**
ELGU				Sg		**Sb**	**09 16 44.1**	**-1.7**
ELGU				*i* Vmb_Lg			09 16 47.3	
EMIJ	**Mijas**	**1.41**	**319**	Pg		**Pn**	**09 16 27.9**	**-0.7**
EMIJ				Sg		**Sn**	**09 16 45.7**	**-1.1**
EMIJ				*i* Vmb_Lg			09 16 50.6	
SMIR	**Smir Dam**	**1.45**	**277**	P		**Pn**	**09 16 27.5**	**-1.6**
SMIR				S		**Sn**	**09 16 42.7**	**-5.0**
JBK	**JBK**	**1.46**	**143**	P		**Pn**	**09 16 30.3**	**+0.8**
JBK				S		**Sn**	**09 16 47.9**	**-0.5**
CHEFC	**Chefchaouen**	**1.46**	**254**	P		**Pn**	**09 16 29.8**	**+0.3**
EBER	**Berja**	**1.50**	**23**	Pg		**Pb**	**09 16 31.2**	**-0.1**
EBER				Sg		**Sn**	**09 16 49.4**	**-0.1**
EADA	**Adamuz**	**2.76**	**344**	Pn		**Pn**	**09 16 49.3**	**+2.1**
EADA				Sn		**Sn**	**09 17 22.3**	**+2.1**
MD31	**MD31**	**2.80**	**200**	P		**Pn**	**09 16 49.5**	**+1.6**
MD31				S		**Sn**	**09 17 22.2**	**+0.8**
PVAQ	**Vaqueiros**	**3.80**	**301**	*e*Pn		**Pn**	**09 17 02.6**	**+1.0**
PVAQ				*e*Sn		**Sn**	**09 17 46.5**	**+0.5**
PVAQ				A		A	09 17 48.1	
	1.9nm,0.6s							
PBAR	**Barrancos**	**3.82**	**315**	*e*Pn		**Pn**	**09 17 04.7**	**+2.9**
PBAR				A		A	09 17 38.0	
	1.4nm,0.6s							
PBAR				*e*Sn		**Sn**	**09 17 47.3**	**+1.0**

*NEIC **09** 09:17:56.4±1.2, 18°.5S±0°.1×173°.48W±0°.03, h10km±1km, mb4.6/21, Error ellipse: s-maj=17.5km s-min=5.4km az=183.0*
*IDC **09** 09:17:57.0±0.6, 18°.24S×173°.99W, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.1/55, mbtmp4.1/18, ML4.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/69, Error ellipse: s-maj=23.9km s-min=14.3km az=129.0*
ISC 09 09:18:01.8±0.5, 18°.2S±0°.1×174°.0W±0°.1, h35km, n73, σ1§07/60, mb4.5/24, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIUE	**Niue**	**3.94**	**103**			Pn	09 18 49.5	-10
NIUE				Sn		Sn	09 19 26.6	-18
AFI	**Afiamalu**	**4.79**	**27**	Pn		**Pn**	**09 19 09.5**	**-2.0**
	3.8nm,0.3s,baz=119,slow=22,SNR=5.5							
AFI				Sn		Sn	09 19 55.5	-10
	37nm,0.3s,baz=120,slow=17,SNR=8.8							
AFI				LR		LR	09 20 37.3	
	comp=Z,140nm,21.8s,baz=228,slow=33							
AFI	**Afiamalu**	**4.79**	**27**			**Pn**	**09 19 09.2**	**-2.3**
MSVF	**Nonsavu**	**7.60**	**272**	Pn		**Pn**	**09 19 49.1**	**-1.1**
	1.4nm,0.3s,baz=210,slow=22,SNR=2.1							
URZ	**Urewera**	**21.42**	**199**	P		**P**	**09 22 46.2**	**-0.4**
	15nm,0.6s,baz=333,slow=1.7,SNR=14							
URZ	**Urewera**	**21.42**	**199**	P		**P**	**09 22 43.3**	**-3.3**
PAE	**Paea**	**23.22**	**92**	*e*T		T	09 45 58.3	
	4.5nm,0.3s							
PPT2	**Papeete2**	**23.23**	**92**	*e*LR		LR	09 28 27.1	
	comp=Z,127nm,23.2s							
PPT2	**Papeete2**	**23.23**	**92**	*e*T		T	09 46 00.8	
	3.4nm,0.3s							
VAH	**Vaihoa**	**25.41**	**87**	*e*T		T	09 48 48.4	
	4.7nm,0.3s							
RPZ	**Rata Peaks**	**28.37**	**203**	P		**P**	**09 23 53.1**	**+0.5**
	1.9nm,0.4s,baz=45,slow=19,SNR=1.3							
ARMA	**Armidale**	**33.47**	**242**	P		**P**	**09 24 37.2**	**-0.6**
ARMA				IAmb		IAmb	09 24 54.7	
	comp=Z,11nm,1.4s							
TAOE	**Nuku Hiva Isla**	**34.13**	**79**	*e*T		T	09 59 48.5	
	comp=Z,40nm,0.4s							
RKT	**Rikitea**	**36.75**	**104**	*e*T		T	10 02 32.6	
	comp=Z,2.2nm,0.3s							
CTA	**Charters Tower**	**37.55**	**261**	P		**P**	**09 25 13.4**	**+0.5**
	comp=Z,8.0nm,0.7s,baz=99,slow=9.1,SNR=13							
CTAO	**Charters Tower**	**37.55**	**261**	P		**P**	**09 25 14.1**	**+1.2**
CTAO				IAmb		IAmb	09 25 15.3	
	comp=Z,7.3nm,0.7s							
TOO	**Toolangi**	**40.29**	**233**	P		**P**	**09 25 35.7**	**0.0**
TOO				IAmb		IAmb	09 25 40.2	
	comp=Z,15nm,1.3s							
STKA	**Stephens Creek**	**42.19**	**242**	P		**P**	**09 25 50.4**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=90,slow=9.0,SNR=8.0							
STKA	**Stephens Creek**	**42.19**	**242**	P		**P**	**09 25 50.7**	**-0.7**
BBOO	**Buckleboo**	**46.95**	**242**	P		**P**	**09 26 29.2**	**-0.2**
WR0	**Warramunga Arr**	**48.52**	**259**	P		**P**	**09 26 41.8**	**+0.1**
WR0				IAmb		IAmb	09 26 54.3	
	comp=Z,5.7nm,1.1s							
WB0	**Warramunga Arr**	**48.68**	**259**	P		**P**	**09 26 43.0**	**0.0**
WB2	**Warramunga Arr**	**48.70**	**259**	P		**P**	**09 26 43.4**	**+0.3**
WRAB	**Tennant Creek**	**48.70**	**259**	P		**P**	**09 26 43.3**	**+0.2**
WRA	**Warramunga Arr**	**48.71**	**259**	P		**P**	**09 26 43.0**	**-0.2**
	comp=Z,4.5nm,0.5s,baz=98,slow=5.8,SNR=108							
WRA	**Warramunga Arr**	**48.71**	**259**	P		**P**	**09 26 43.2**	**0.0**
AS31	**Alice Springs**	**48.75**	**254**	P		**P**	**09 26 44.0**	**+0.5**
ASAR	**Alice Springs**	**48.76**	**254**	P		**P**	**09 26 43.8**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=90,slow=7.7,SNR=70							

FORT	**Forrest**		**53.68**	**245**	P		**P**	**09 27 19.8**	**-0.5**
FORT					IAmb		IAmb	09 27 26.4	
	comp=Z,10nm,0.8s								
KNRA	**Kununurra**		**54.64**	**263**	P		**P**	**09 27 28.6**	**+1.1**
KNRA					IAmb		IAmb	09 27 32.2	
	comp=Z,9.6nm,1.0s								
VNDA	**Vanda**		**60.52**	**186**	P		**P**	**09 28 09.0**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=340,slow=6.4,SNR=3.6								
QSPA	**South Pole Qui**		**71.83**	**180**	P		**P**	**09 29 20.9**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=83,slow=8.1,SNR=3.7								
QSPA	**South Pole Qui**		**71.83**	**180**	P		**P**	**09 29 17.5**	**-3.3**
QSPA					IAmb		IAmb	09 29 22.1	
	comp=Z,4.7nm,1.0s								
PETK	**Petropavlovsk-**		**75.15**	**343**	P		**P**	**09 29 41.4**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=161,slow=9.2,SNR=4.0								
NVAR	**Mina Array Bea**		**76.80**	**42**	P		**P**	**09 29 50.9**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=224,slow=9.7,SNR=4.9								
TXAR	**Lajitas Array**		**82.65**	**56**	P		**P**	**09 30 23.6**	**+1.6**
	comp=Z,0.4nm,0.9s,baz=212,slow=8.5,SNR=3.8								
H03S2	**Juan Fernandez**		**84.11**	**124**	T		T	11 03 06.6	
	baz=249								
H03S1	**Juan Fernandez**		**84.13**	**124**	T		T	11 03 07.6	
	baz=249								
H03S3	**Juan Fernandez**		**84.13**	**124**	T		T	11 03 05.8	
	baz=249								
H03N2	**Juan Fernandez**		**84.23**	**123**	T		T	11 03 12.5	
	baz=256,slow=72,SNR=5.1								
H03N3	**Juan Fernandez**		**84.23**	**123**	T		T	11 03 16.4	
	baz=256,slow=72,SNR=5.1								
H03N1	**Juan Fernandez**		**84.24**	**123**	T		T	11 03 09.5	
	baz=256,slow=72,SNR=5.5								
PDAR	**Pinedale Array**		**84.73**	**42**	P		**P**	**09 30 32.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=240,slow=7.2,SNR=2.8								
WRH	**Wood River Hil**		**84.82**	**11**	P		**P**	**09 30 33.2**	**+1.0**
WRH					IAmb		IAmb	09 30 33.9	
	comp=Z,6.4nm,1.0s								
CCB	**Clear Creek Bu**		**85.03**	**11**	P		**P**	**09 30 33.8**	**+0.6**
CCB					IAmb		IAmb	09 30 34.5	
	comp=Z,4.0nm,0.8s								
SEY	**Seymchan**		**85.09**	**345**	P		**P**	**09 30 34.4**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=137,slow=8.3,SNR=5.3								
TCOL	**CIGO, UAF Yank**		**85.23**	**11**	P		**P**	**09 30 33.9**	**-0.3**
COLA	**College**		**85.23**	**11**	P		**P**	**09 30 33.0**	**-1.2**
ILAR	**Eielson Array**		**85.31**	**11**	P		**P**	**09 30 35.0**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=234,slow=6.3,SNR=19								
ILAR	**Eielson Array**		**85.31**	**11**	P		**P**	**09 30 34.2**	**-0.5**
INK	**Inuvik**		**91.13**	**14**	P		**P**	**09 31 03.3**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=186,slow=8.1,SNR=4.6								
INK	**Inuvik**		**91.13**	**14**	P		**P**	**09 31 01.1**	**-1.2**
INK					IAmb		IAmb	09 31 03.5	
	comp=Z,3.4nm,1.3s								
YKA	**Yellowknife Ar**		**92.90**	**24**	P		**P**	**09 31 11.1**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=238,slow=4.6,SNR=8.0								
A36M	**Sachs Harbour**		**95.77**	**14**	P		**P**	**09 31 22.1**	**-1.5**
A36M					IAmb		IAmb	09 31 25.9	
	comp=Z,2.3nm,0.8s								
MKAR	**Makanchi Array**		**112.39**	**314**	PKiKP		**PKiKP**	**09 36 34.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=96,slow=0.3,SNR=8.2								
MKAR	**Makanchi Array**		**112.39**	**314**	PKiKP		**PKiKP**	**09 36 34.4**	**+0.3**
FINES	**FINESS Array B**		**134.56**	**347**	PKP		**PKiKP**	**09 37 17.2**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=104,slow=3.9,SNR=4.2								
CLL	**Collm**		**146.53**	**352**	*i* PKPbc		**PKiKP**	**09 37 41.0**	**-1.2**
	comp=Z,7.0nm,0.9s								
BRTR	**Keskin Array B**		**147.93**	**318**	PKPbc		**PKiKP**	**09 37 45.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=152,slow=3.6,SNR=5.0								
GERES	**GERESS Array B**		**148.83**	**350**	PKPbc		**PKiKP**	**09 37 47.6**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=52,slow=2.2,SNR=6.4								
CONA	**Conrad Observa**		**149.31**	**347**	*i* P		**PKiKP**	**09 37 48.7**	**+0.6**
	comp=Z,5.4nm,1.0s								
RONA	**Rosalia, Austr**		**149.43**	**346**	*i* P		**PKiKP**	**09 37 49.4**	**+1.1**
	comp=Z,4.2nm,0.9s								
RETA	**Reutte**		**150.56**	**353**	*i* P		**PKiKP**	**09 37 52.1**	**+1.3**
	comp=Z,6.8nm,1.3s								
KBA	**Koelnbreinsper**		**150.60**	**350**	*i* P		**PKiKP**	**09 37 51.8**	**+0.8**
	comp=Z,2.9nm,0.8s								
WATA	**Walderalm**		**150.62**	**352**	*i* P		**PKiKP**	**09 37 51.8**	**+0.9**
	comp=Z,4.4nm,0.9s								
MOTA	**Moosalm**		**150.66**	**353**	*i* P		**PKiKP**	**09 37 52.4**	**+1.3**
	comp=Z,11nm,1.2s								
SOKA	**Soboth**		**150.67**	**347**	*i* P		**PKiKP**	**09 37 52.0**	**+1.1**
	comp=Z,4.7nm,1.0s								
WTTA	**Wattenberg**		**150.68**	**352**	*e*P		**PKiKP**	**09 37 52.2**	**+1.1**
	comp=Z,7.8nm,0.7s								
SQTA	**Sankt Quirin**		**150.77**	**353**	*e*P		**PKiKP**	**09 37 51.6**	**+0.4**
	comp=Z,4.4nm,0.9s								
DAVA	**Damuels**		**150.85**	**355**	*e*P		**PKiKP**	**09 37 52.3**	**+0.9**
	comp=Z,10nm,1.2s								
FETA	**Feichten**		**151.03**	**353**	*i* P		**PKiKP**	**09 37 52.2**	**+0.3**
	comp=Z,6.4nm,0.9s								
ABTA	**Abfaltersbach**		**151.06**	**351**	*i* P		**PKiKP**	**09 37 52.2**	**+0.4**
	comp=Z,6.3nm,0.7s								
TORD	**Torodi Ar. Bea**		**173.45**	**140**	PKPab		**PKPab**	**09 39 37.6**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=222,slow=1.9,SNR=2.3								

*KRNET **09** 09:21:59.6±0.1, 39°.19N×72°.45E, h19km, mb2.6*
*NNC **09** 09:22:07.0±5.6, 39°.49N×72°.16E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=41.0km s-min=21.3km az=6.0*
*SOME **09** 09:22:16.0, 39°.85N×72°.25E, h10km*
ISC 09 09:22:08.7±1.1, 39°.64N±0°.04×72°.07E±0°.04, h10km, n19, σ2§19/33, 13C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DRK	**Karamyk**	**0.27**	**232**	⇑*e*P		**Pg**	**09 22 10.7**	**-3.5**
	baz=0.0							
DRK				⇑*i*S		**Sg**	**09 22 19.4**	**+1.5**
	baz=0.0							
OHH	**Osh**	**1.03**	**32**	⇑*i*P		**Pg**	**09 22 24.7**	**-3.9**
	baz=11							
OHH				⇑*i*S		**Sb**	**09 22 42.6**	**+0.2**
	baz=11							
BTK	**Batken**	**1.05**	**294**	⇑*i*P		**Pg**	**09 22 27.5**	**-1.4**
	baz=5.0							
BTK				⇑*i*S		**Sn**	**09 22 47.7**	**+3.4**
	baz=5.0							
TRKS	**Terek-Say**	**2.01**	**340**	⇑*i*P		**Pn**	**09 22 41.8**	**-1.1**
	baz=37							
TRKS				⇑*i*S		**Sg**	**09 23 12.7**	**-0.7**
	baz=37							
ARK	**Arkit**	**2.15**	**358**	⇑*i*P		**Pn**	**09 22 43.6**	**-1.2**
	baz=52							
ARK				⇑*i*S		**Sg**	**09 23 16.5**	**-1.4**
	baz=52							
IUG	**Iuzhnay**	**2.94**	**329**	*e*P		**Pg**	**09 23 05.9**	**+0.9**
	229nm,0.7s							
IUG				*e*S		**Sg**	**09 23 42.4**	**-0.8**
	31nm,0.4s							
IUG	**Iuzhnay**	**2.94**	**329**	Pg		**Pb**	**09 23 00.5**	**-0.8**
	7.2nm,0.4s							
IUG				Lg		Lg	09 23 41.6	
	27nm,0.5s							
MRKS	**Merke**	**3.22**	**15**	*e*P		**Pg**	**09 23 10.1**	**-0.2**
	7.8nm,0.5s							
MRKS				*e*S		**Sg**	**09 23 49.1**	**-2.9**
	12nm,0.4s							
MRKS	**Merke**	**3.22**	**15**	Pg		**Pb**	**09 23 04.7**	**-1.3**
	8.6nm,0.4s							
MRKS				Lg		Lg	09 23 49.2	
	12nm,0.5s							
KK31	**Karatay Array**	**3.65**	**342**	⇓Pn		**Pn**	**09 23 08.1**	**+2.8**
	0.8nm,0.3s,baz=149,slow=12,SNR=15							
KK31				⇑Sn		**Sb**	**09 23 57.0**	**-0.7**
	2.1nm,0.3s,baz=149,slow=25,SNR=5.1							
KK31				⇓Lg		Lg	09 24 11.7	
	2.4nm,0.4s							
BRLS	**Borolday**	**3.78**	**334**	*e*P		**Pg**	**09 23 21.7**	**+0.6**
	1.9nm,0.1s							
BRLS				*e*S		**Sg**	**09 24 08.9**	**-1.1**
	5.2nm,0.2s							
BRLS	**Borolday**	**3.78**	**334**	Pg		**Pb**	**09 23 13.6**	**-1.9**
	4.5nm,0.3s							
BRLS				Lg		Lg	09 24 04.2	
	4.1nm,0.3s							
TKM2	**Tokmak 2**	**4.21**	**38**	⇑Pn		**Pn**	**09 23 16.1**	**+2.9**
	1.9nm,0.6s							
TKM2				⇑Sn		**Sn**	**09 24 07.5**	**+4.9**
	2.2nm,0.5s							
TKM2				⇓Lg		Lg	09 24 25.5	
	2.9nm,0.7s							
SGDS	**Sogindy**	**4.26**	**26**	*e*P		**Pg**	**09 23 31.0**	**+0.7**
	1.8nm,0.3s							
SGDS				*e*S		**Sg**	**09 24 24.7**	**-0.8**
	5.1nm,0.4s							
KST	**Kastek**	**4.48**	**40**	*e*P		**Pg**	**09 23 35.4**	**+0.8**
	1.5nm,0.2s							
KST				*e*S		**Sg**	**09 24 32.9**	**+0.3**
	6.5nm,0.1s							
KST	**Kastek**	**4.48**	**40**	Pg		**Pb**	**09 23 28.1**	**+0.5**
	1.0nm,0.3s							
KST				Lg		Lg	09 24 28.5	
	4.1nm,0.3s							
DGS	**Degeres**	**4.54**	**37**	*e*P		**Pg**	**09 23 34.0**	**-1.7**
	4.2nm,0.4s							
DGS				*e*S		**Sg**	**09 24 29.9**	**-4.7**
	8.5nm,0.8s							
DGS	**Degeres**	**4.54**	**37**	Pg		**Pb**	**09 23 28.8**	**+0.2**
	4.2nm,0.4s							
DGS				Lg		Lg	09 24 29.9	
	8.5nm,0.8s							
BTLS	**Baital**	**5.59**	**15**	*e*P		**Pg**	**09 23 54.7**	**-1.0**
	0.9nm,0.3s							
BTLS				*e*S		**Sg**	**09 25 05.1**	**-2.9**
	2.8nm,0.5s							

*IDC **09** 09:24:38.9±0.9, 26°.76S×176°.47W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/42, mbtmp4.0/8, ML4.0/1, MS3.5/7, Ms1 3.5/7, ms1mx3.0/67, Error ellipse: s-maj=29.1km s-min=25.7km az=131.0*
*NEIC **09** 09:24:44.8±0.8, 26°.8S±0°.1×176°.3W±0°.2, h35km±2km, mb4.4/10, Error ellipse: s-maj=27.9km s-min=18.8km az=297.0*
ISC 09 09:24:43.4±0.7, 26°.7S±0°.1×176°.4W±0°.2, h29km, n35, σ1§17/31, mb4.2/12, MS3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**2.83**	**207**	Pn		**Pn**	**09 25 23.2**	**-3.5**
	23nm,0.3s,baz=78,slow=20,SNR=1.7							
RAO				Sn		**Sn**	**09 26 03.7**	**+3.8**
	62nm,0.3s,baz=238,slow=23,SNR=1.6							
RAO	**Raoul Island**	**2.83**	**207**			**Pn**	**09 25 26.5**	**-0.2**
URZ	**Urewera**	**12.72**	**204**	LR		LR	09 32 20.2	
	comp=Z,242nm,18.2s,baz=33,slow=36							
URZ	**Urewera**	**12.72**	**204**	Pn		**Pn**	**09 27 40.3**	**-1.9**
AFI	**Afiamalu**	**13.48**	**20**	Pn		Pn	09 27 47.1	-5.8
	1.2nm,0.3s,baz=258,slow=20,SNR=1.4							
AFI				Sn		Sn	09 30 05.5	-16
	2.0nm,0.3s,baz=33,slow=22,SNR=1.2							
RAR	**Rarotonga**	**16.18**	**74**	LR		LR	09 33 31.3	
	comp=Z,43nm,21.8s,baz=261,slow=33							
DZM	**Mont Dzumac**	**16.27**	**283**	LR		LR	09 33 16.1	
	comp=Z,205nm,20.8s,baz=200,slow=32							
PPT	**Papeete**	**26.45**	**75**	LR		LR	09 38 53.8	
	comp=Z,62nm,18.4s,baz=277,slow=32							
CTA	**Charters Tower**	**34.78**	**273**	LR		LR	09 43 56.7	
	comp=Z,150nm,18.6s,baz=86,slow=33							
STKA	**Stephens Creek**	**36.79**	**252**	P		**P**	**09 31 48.4**	**-0.4**
	0.3nm,0.3s,baz=122,slow=13,SNR=1.2							
STKA				LR		LR	09 45 21.1	
	comp=Z,192nm,18.4s,baz=67,slow=34							
AS31	**Alice Springs**	**44.81**	**263**	P		**P**	**09 32 55.1**	**+0.1**
ASAR	**Alice Springs**	**44.82**	**263**	P		**P**	**09 32 54.6**	**-0.5**
	0.6nm,0.5s,baz=100,slow=7.6,SNR=7.1							
ASAR				PcP		**PcP**	**09 34 37.4**	**+0.6**
	0.4nm,0.8s,baz=114,slow=4.1,SNR=2.0							
ASAR				LR		LR	09 49 25.7	
	comp=Z,73nm,20.7s,baz=150,slow=33							
WR0	**Warramunga Arr**	**45.29**	**268**	P		**P**	**09 32 59.1**	**+0.3**
WR0				IAmb		IAmb	09 33 26.8	
	comp=Z,5.9nm,1.2s							
WB2	**Warramunga Arr**	**45.47**	**268**	P		**P**	**09 33 00.2**	**-0.1**
WB2				IAmb		IAmb	09 33 02.3	
	comp=Z,3.3nm,0.6s							
WRAB	**Tennant Creek**	**45.47**	**268**	P		**P**	**09 33 00.5**	**+0.2**
WRAB				IAmb		IAmb	09 33 13.0	
	comp=Z,7.7nm,1.3s							
WRA	**Warramunga Arr**	**45.48**	**268**	P		**P**	**09 32 59.9**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=108,sl

L26K	**Log Cabin Wild**	**4.88 224**	P	**Pn**	**09 49 49.1**	**+0.9**
	baz=38					
H24K	**Noodor Dome**	**4.92 265**	P	**Pn**	**09 49 49.4**	**+0.6**
	baz=75					
POKR	**Poker Plat Res**	**4.99 256**	P	**Pn**	**09 49 50.7**	**+1.0**
	baz=66					
POKR			S	**Sn**	**09 50 48.2**	**+0.5**
	baz=66					
M27K	**Edge Creek, AK**	**5.09 213**	P	**Pn**	**09 49 51.5**	**+0.3**
	baz=28					
HDA	**Harding Lake**	**5.14 248**	P	**Pn**	**09 49 52.3**	**+0.6**
	baz=59					
C36M	**Paulatuk**	**5.16 54**	Pn	**Pn**	**09 49 52.1**	**+0.2**
C36M			Sn	**Sn**	**09 50 47.8**	**-4.0**
C36M	**Paulatuk**	**5.16 54**	P	**Pn**	**09 49 52.3**	**+0.4**
	baz=244					
COLA	**College**	**5.25 255**	P	**Pn**	**09 49 54.2**	**+0.9**
	baz=64					
N31M	**Braeburn, Yuko**	**5.26 179**	Pn	**Pn**	**09 49 55.3**	**+1.8**
N31M			Sg	**Sg**	**09 51 22.8**	**-0.1**
YUK3	**Moose Creek**	**5.35 204**	Pn	**Pn**	**09 49 55.1**	**+0.3**
YUK3	**Moose Creek**	**5.35 204**	P	**Pn**	**09 49 55.7**	**+0.9**
	baz=20					
YUK2	**White River**	**5.41 206**	Pn	**Pn**	**09 49 56.0**	**+0.5**
YUK4	**Talbot Arm**	**5.54 194**	Pn	**Pn**	**09 49 55.2**	**-2.2**
YUK4	**Talbot Arm**	**5.54 194**	P	**Pn**	**09 49 57.1**	**-0.2**
	baz=11					
TOLK	**Toolik Lake Re**	**5.55 296**	P	**Pn**	**09 50 00.3**	**+2.9**
	baz=104					
TOLK			S	**Sn**	**09 51 02.5**	**+1.0**
	baz=104					
PAX	**Paxson**	**5.55 232**	P	**Pn**	**09 49 58.5**	**+1.0**
	baz=43					
H23K	**Yukon River**	**5.58 267**	P	**Pn**	**09 49 58.3**	**+0.5**
	baz=75					
COLD	**Coldfoot**	**5.63 282**	Pn	**Pn**	**09 50 00.2**	**+1.7**
COLD			Sn	**Sn**	**09 51 01.8**	**-1.7**
COLD	**Coldfoot**	**5.63 282**	P	**Pn**	**09 50 00.2**	**+1.7**
	baz=89					
YUK5	**Granite Creek**	**5.68 190**	Pn	**Pn**	**09 50 00.3**	**+0.9**
YUK8	**Steele Glacier**	**5.72 199**	Pn	**Pn**	**09 50 01.2**	**+1.2**
I23K	**Minto, Yukon-K**	**5.73 260**	P	**Pn**	**09 50 00.5**	**+0.7**
	baz=68					
YUK6	**Outpost Mounta**	**5.91 192**	Pn	**Pn**	**09 50 03.5**	**+1.1**
YUK6	**Outpost Mounta**	**5.91 192**	P	**Pn**	**09 50 03.8**	**+1.4**
	baz=9.7					
HYT	**Haines Junctio**	**5.97 188**	Pn	**Pn**	**09 50 04.5**	**+1.3**
DHY	**Denali Highway**	**6.10 238**	P	**Pn**	**09 50 06.1**	**+1.1**
	baz=48					
WHY	**Whitehorse**	**6.11 175**	Pn	**Pn**	**09 50 06.9**	**+1.8**
TGTN	**Hyland Airport**	**6.19 144**	Pn	**Pn**	**09 50 08.0**	**+1.7**
MCK	**McKinley**	**6.24 247**	P	**Pn**	**09 50 07.1**	**+0.2**
	baz=56					
YUK7	**Dusty Glacier**	**6.30 190**	Pn	**Pn**	**09 50 08.7**	**+0.8**
A36M	**Sachs Harbour**	**6.48 31**	Pn	**Pn**	**09 50 11.4**	**+1.4**
A36M			Sn	**Sn**	**09 51 19.8**	**-4.4**
A36M	**Sachs Harbour**	**6.48 31**	P	**Pn**	**09 50 10.9**	**+0.9**
	baz=220					
GRNC	**Granite Creek**	**6.55 206**	Pn	**Pn**	**09 50 13.0**	**+1.7**
TRF	**Thorofare Moun**	**6.90 248**	P	**Pn**	**09 50 16.8**	**+0.7**
	baz=56					
H21K	**Melozitna Rive**	**6.92 269**	P	**Pn**	**09 50 16.7**	**+0.5**
	baz=74					
KUKN	**Kugluktuk,NWT**	**8.12 73**	Pn	**Pn**	**09 50 31.6**	**-1.0**
KUKN			Sn	Sn	09 51 57.1	-7.5

NEIC ***09*** *09:52:19.0±0.7, 3.6N±0.1×122.5E±0.0, 6, h573km±12km, mb4.3/19, Error ellipse: s-maj=21.3km s-min=5.7km az=195.0*

IDC ***09*** *09:52:19.4±1.9, 3.5N×122.7E, 6, h585km±23km, mb2.8/6, mb1 3.0/6, mb1mx2.6/47, mbtmp3.8/6, Error ellipse: s-maj=95.2km s-min=13.3km az=66.0*

ISC 09 09:52:20.6±0.8, 3.3N±0.1×122.1E±0.2, h604km, n30, σ1§45/34, mb4.1/14, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TOLI2	**Tolitoli**	**2.58**	**212**	P	P	**P**	**09 53 35.6**	**-2.3**
TOLI2				S	S	**S**	**09 54 38.5**	**-2.3**
MYLDM	**Lahad Datu**	**4.07**	**297**	P	P	**P**	**09 53 44.3**	**-2.5**
LUWI	**Luwuk**	**4.38**	**172**	P	P	**P**	**09 53 46.4**	**-2.8**
TNTI	**Ternate**	**5.81**	**116**	P	P	P	09 53 54.1	-6.3
MTN	**Manton Dam**	**18.38**	**151**	P	P	**P**	**09 55 58.7**	**-0.8**
MTN				IAmb	IAmb	IAmb	09 56 17.1	
	comp=Z,12nm,1.1s							
KNRA	**Kununurra**	**19.99**	**161**	P	P	**P**	**09 56 13.7**	**-0.4**
KNRA				IAmb	IAmb	IAmb	09 56 22.0	
	comp=Z,11nm,1.1s							
FITZ	**Fitzroy Crossi**	**21.57**	**171**	P	P	**P**	**09 56 28.9**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=354,slow=11,SNR=2.3							
FITZ	**Fitzroy Crossi**	**21.57**	**171**	P	P	**P**	**09 56 29.1**	**+0.8**
FITZ				IAmb	IAmb	IAmb	09 56 42.5	
	comp=Z,8.0nm,1.4s							
PSA00	**Pilbara Seismi**	**24.85**	**185**	P	P	**P**	**09 56 58.9**	**+1.6**
WB0	**Warramunga Arr**	**25.92**	**153**	P	P	**P**	**09 57 05.8**	**-1.0**
WB0				IAmb	IAmb	IAmb	09 57 06.7	
	comp=Z,4.2nm,0.8s							
WRAB	**Tennant Creek**	**26.04**	**153**	P	P	**P**	**09 57 07.1**	**-0.8**
WRAB				IAmb	IAmb	IAmb	09 57 24.4	
	comp=Z,18nm,1.6s							
WRA	**Warramunga Arr**	**26.05**	**153**	P	P	**P**	**09 57 06.8**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=336,slow=9.6,SNR=31							
WRA				S	S	**S**	**10 00 54.6**	**-3.4**
	comp=Z,0.5nm,0.7s,baz=344,slow=16,SNR=3.1							
WRA				ScP	ScP	**ScP**	**10 02 59.6**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=349,slow=2.6,SNR=4.2							
WRA	**Warramunga Arr**	**26.05**	**153**	P	P	**P**	**09 57 06.3**	**-1.6**
WB2	**Warramunga Arr**	**26.05**	**153**	P	P	**P**	**09 57 07.0**	**-0.9**
WB2				IAmb	IAmb	IAmb	09 57 18.0	
	comp=Z,9.0nm,1.2s							
WR0	**Warramunga Arr**	**26.15**	**153**	P	P	**P**	**09 57 07.7**	**-1.1**
WR0				IAmb	IAmb	IAmb	09 58 02.3	
	comp=Z,12nm,1.6s							
ASAR	**Alice Springs**	**29.18**	**157**	P	P	**P**	**09 57 35.4**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=340,slow=7.2,SNR=14							
ASAR				S	S	**S**	**10 01 47.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=351,slow=22,SNR=2.4							
ASAR				ScP	ScP	**ScP**	**10 03 09.5**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=345,slow=3.2,SNR=2.4							
MORW	**Morawa**	**32.74**	**190**	P	P	**P**	**09 58 07.5**	**+2.1**
FORT	**Forrest**	**34.38**	**171**	P	P	**P**	**09 58 20.1**	**+1.1**
FORT				IAmb	IAmb	IAmb	09 59 50.6	
	comp=Z,26nm,1.4s							
BBOO	**Buckleboo**	**38.28**	**161**	P	P	**P**	**09 58 51.7**	**+0.7**
BBOO				IAmb	IAmb	IAmb	09 59 07.1	
	comp=Z,19nm,1.4s							
STKA	**Stephens Creek**	**39.60**	**154**	P	P	**P**	**09 59 02.0**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=328,slow=7.7,SNR=3.0							
STKA	**Stephens Creek**	**39.60**	**154**	P	P	**P**	**09 59 02.2**	**+0.6**
CAN	**Canberra**	**45.96**	**149**	P	P	**P**	**09 59 51.4**	**+0.3**
SONM	**Songino Array**	**46.37**	**345**	P	P	**P**	**09 59 53.6**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=165,slow=6.0,SNR=1.9							
MK31	**Makanchi Array**	**55.35**	**328**	P	P	**P**	**10 00 59.7**	**+0.9**
MKAR	**Makanchi Array**	**55.35**	**328**	P	P	**P**	**10 00 59.6**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=124,slow=7.8,SNR=15							
MKAR	**Makanchi Array**	**55.35**	**328**	P	P	**P**	**10 00 59.5**	**+0.7**
MAKZ	**Makanchi**	**55.53**	**327**	P	P	**P**	**10 01 00.9**	**+0.9**
KURK	**Kurchatov**	**59.69**	**330**	P	P	**P**	**10 01 28.7**	**+0.7**
KURK				IAmb	IAmb	IAmb	10 03 06.2	
	comp=Z,12nm,1.9s							
BKZ	**Black Stump Fm**	**65.42**	**136**	P	P	**P**	**10 02 04.9**	**-0.2**
VNDA	**Vanda**	**83.64**	**172**	P	P	**P**	**10 03 47.3**	**+1.1**
VNDA				IAmb	IAmb	IAmb	10 03 51.2	
	comp=Z,9.8nm,1.7s							

MOS ***09*** *09:58:59.8±0.8, 9.2S×158.9E, h15km, mb4.8/20, Error ellipse: s-maj=10.7km s-min=9.0km az=39.8*

IDC ***09*** *09:58:59.1±0.4, 9.2S×159.0E, h0km, mb4.4/24, mb1 4.5/27, mb1mx4.4/50, mbtmp4.4/27, ML4.4/3, MS4.5/5, Ms1 4.5/5, ms1mx3.8/57, Error ellipse: s-maj=13.2km s-min=11.5km az=11.0*

BJI ***09*** *09:59:00.0±0.0, 9.2S×159.2E, h5km, mb4.6/31, mB4.9/27, Ms4.8/19, Ms7 4.4/21*

NEIC ***09*** *09:59:01.5±1.4, 9.2S×159.0E±0.9×04E±0.0, 3, h10km±1km, mb5.0/63, Error ellipse: s-maj=15.1km s-min=3.4km az=191.0*

GCMT ***09*** *09:59:03.5±0.2, 9.4S×158.8E±0.0, 2×58, h23km, MW5.2/94, Moment Tensor Solution. s49,c65; s94,c134; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 5.03±.23; Mθθ -1.80±.18; Mϕϕ -3.23±.16; Mrθ -0.28±.26; Mϕθ 2.48±.12;*

2016 APR

Mo~4.27±.25; Best double couple: Mo=6.58700×10^16 NP1: φ=305.00000°, δ=31.00000°, λ=54.00000°. NP2: φ=166.00000°, δ=65.00000°, λ=110.00000°. Principal axes: T 7.0190, Plg64.0000°, Azm109.0000°; N -0.8640, Plg18.0000°, Azm337.0000°; P -6.1550, Plg18.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 09 09:59:03.5±0.3, 9.2S±0.0×159.0E±0.0, 5, h27km, n197, σ1§43/205, mb4.8/76, MS4.6/8, 11C-10D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
HNR	**Honiara**	**0.86**	**100**	P	Pn	**Pn**	**09 59 19.4**	**-0.4**
	2μm,0.3s,baz=213,slow=9.5,SNR=261							
HNR				Sn		**Sn**	**09 59 33.4**	**+1.8**
	5μm,0.3s,baz=282,slow=24,SNR=17							
HNR	**Honiara**	**0.86**	**100**	P		**Pn**	**09 59 19.2**	**-0.7**
HNR	**Honiara**	**0.86**	**100**			**Pn**	**09 59 19.2**	**-0.7**
HNR	**Honiara**	**0.86**	**100**	P		**Pn**	**09 59 20.0**	**+0.1**
KRVT	**Keravat (AS076**	**8.58**	**305**	Pn		**Pn**	**10 01 08.4**	**+2.3**
	3.1nm,0.3s,baz=295,slow=13,SNR=1.7							
KRVT				LR		LR	10 04 29.9	
	comp=Z,2μm,21.4s,baz=267,slow=39							
SANVU	**Saraoutou**	**10.02**	**128**			Pn	10 01 19.3	-6.4
SANVU	**Saraoutou**	**10.02**	**128**	P		**Pn**	**10 01 28.0**	**+2.3**
PMG	**Port Moresby**	**11.77**	**268**	LR		LR	10 06 00.6	
	comp=Z,4μm,20.6s,baz=95,slow=36							
KOUNC	**Koumac, New Ca**	**12.27**	**156**	Pn		**Pn**	**10 01 56.6**	**0.0**
LIFNC	**LIFOU**	**13.87**	**146**	Pn		**Pn**	**10 02 16.3**	**-2.1**
NOUC	**Port Laguerre**	**14.51**	**152**	P		**Pn**	**10 02 29.9**	**+2.8**
DZM	**Mont Dzumac**	**14.54**	**152**	Pn		**Pn**	**10 02 28.8**	**+1.0**
	0.7nm,0.3s,baz=307,slow=19,SNR=6.9							
DZM	**Mont Dzumac**	**14.54**	**152**	Pn		**Pn**	**10 02 28.0**	**+0.2**
DZM	**Mont Dzumac**	**14.54**	**152**	P		**P**	**10 02 31.7**	**-2.4**
PATS	**Pohnpei**	**16.04**	**357**	P		**Pn**	**10 02 46.6**	**-0.7**
	baz=16							
PATS	**Pohnpei**	**16.04**	**357**	Pn		**Pn**	**10 02 46.2**	**-1.1**
PATS				IAmb		IAmb	10 02 59.6	
	comp=Z,178nm,1.1s							
PATS	**Pohnpei**	**16.04**	**357**	P		**Pn**	**10 02 45.4**	**-1.9**
RK1H	**Rockhampton Ha**	**16.26**	**209**	P		**P**	**10 02 53.6**	**+0.7**
COEN	**Coen**	**16.26**	**252**	P		**Pn**	**10 02 50.6**	**+0.4**
	baz=16							
COEN	**Coen**	**16.26**	**252**			**Pn**	**10 02 50.7**	**+0.4**
COEN	**Coen**	**16.26**	**252**	P		**P**	**10 02 52.9**	**-0.2**
CTA	**Charters Tower**	**16.40**	**228**	Pn		**Pn**	**10 02 50.3**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=42,slow=15,SNR=7.9							
CTA				LR		LR	10 08 50.2	
	comp=Z,1μm,18.5s,baz=32,slow=36							
MTSU	**Mount Surprise**	**16.82**	**237**	P		**Pn**	**10 02 57.6**	**+0.3**
	baz=17,SNR=4.7							
EIDS	**Eidsvold**	**17.71**	**204**	P		**P**	**10 03 08.5**	**-0.6**
JAY	**Jayapura**	**19.47**	**289**	P		**P**	**10 03 27.8**	**-0.8**
	comp=Z,2.4nm,0.3s,baz=110,slow=6.7,SNR=8.7							
JAY				LR		LR	10 11 23.4	
	comp=Z,1μm,18.6s,baz=71,slow=38							
JAY	**Jayapura**	**19.47**	**289**	P		**P**	**10 03 25.9**	**-2.7**
	comp=Z,638nmcomp=Z,33nm,1.4s							
RMQ	**Roma**	**19.71**	**208**	P		**Pn**	**10 03 32.9**	**+0.3**
	baz=22,SNR=14							
RMQ	**Roma**	**19.71**	**208**	P		**Pn**	**10 03 35.7**	**+3.1**
MSVF	**Nonsavu**	**20.24**	**116**	P		**P**	**10 03 38.3**	**+1.3**
	comp=Z,6.2nm,0.4s,baz=247,slow=11,SNR=3.6							
MSVF	**Nonsavu**	**20.24**	**116**	↑*e*P		**P**	**10 03 36.9**	**-0.1**
MSVF					pmax	pmax		
	comp=Z,22nm,1.1s							
MSVF	**Nonsavu**	**20.24**	**116**	P		**P**	**10 03 37.1**	**+0.2**
MSVF				IAmb		IAmb	10 03 43.2	
	comp=Z,67nm,1.3s							
QIS	**Mount Isa**	**21.88**	**237**	P		**P**	**10 03 54.3**	**-0.3**
	baz=22,SNR=17							
ARMA	**Armidale**	**22.15**	**197**	P		**P**	**10 03 59.4**	**+1.9**
	baz=22,SNR=4.8							
ARMA	**Armidale**	**22.15**	**197**	P		**P**	**10 03 56.7**	**-0.8**
ARMA	**Armidale**	**22.15**	**197**	P		**P**	**10 04 01.4**	**+3.9**
	comp=Z,17nm,1.2s							
QLP	**Quilpie**	**22.22**	**217**	P		**P**	**10 03 59.3**	**+1.1**
	baz=22,SNR=12							
WR0	**Warramunga Arr**	**25.98**	**243**	P		**P**	**10 04 33.2**	**-1.0**
WR0				IAmb		IAmb	10 04 46.1	
	comp=Z,74nm,1.6s							
WB0	**Warramunga Arr**	**26.04**	**244**	P		**P**	**10 04 33.7**	**-1.2**
WC3	**Warramunga Arr**	**26.12**	**243**	P		**P**	**10 04 34.7**	**-0.8**
	baz=26							
WRAB	**Tennant Creek**	**26.13**	**243**	↑*i*P		**P**	**10 04 34.5**	**-1.2**
WRAB					pmax	pmax		
	comp=Z,43nm,2.7s							
WRAB	**Tennant Creek**	**26.13**	**243**	P		**P**	**10 04 34.8**	**-0.9**
WB2	**Warramunga Arr**	**26.14**	**243**	P		**P**	**10 04 34.7**	**-1.0**
WB2				IAmb		IAmb	10 04 41.3	
	comp=Z,60nm,1.5s							
WRA	**Warramunga Arr**	**26.15**	**243**	P		**P**	**10 04 34.5**	**-1.4**
	comp=Z,5.5nm,0.6s,baz=71,slow=9.8,SNR=62							
WRA				PcP		**PcP**	**10 08 03.3**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=75,slow=3.5,SNR=3.3							
WRA				LR		LR	10 14 32.1	
	comp=Z,1μm,19.8s,baz=59,slow=36							
WRA	**Warramunga Arr**	**26.15**	**243**	P		**P**	**10 04 33.6**	**-2.2**
WRA					pmax	pmax		
	comp=Z,2.0nm,1.6s							
WRA	**Warramunga Arr**	**26.15**	**243**	P		**P**	**10 04 33.6**	**-2.2**
KDU	**Kakadu**	**26.34**	**260**	P		**P**	**10 04 36.9**	**-0.6**
	baz=26,SNR=11							
KDU	**Kakadu**	**26.34**	**260**	P		**P**	**10 04 38.4**	**+0.9**
CNB	**Canberra Magne**	**27.39**	**197**	P		**P**	**10 04 48.4**	**+1.5**
	baz=28							
MTN	**Manton Dam**	**27.65**	**260**	P		**P**	**10 04 46.7**	**-2.7**
MTN				IAmb		IAmb	10 04 53.1	
	comp=Z,57nm,1.8s							
STKA	**Stephens Creek**	**27.73**	**213**	P		**P**	**10 04 48.6**	**-1.3**
	comp=Z,8nm,0.5s,baz=313,slow=22,SNR=15							
STKA	**Stephens Creek**	**27.73**	**213**	P		**P**	**10 04 50.0**	**+0.1**
	baz=28,SNR=12							
STKA	**Stephens Creek**	**27.73**	**213**	↑*e*P		**P**	**10 04 49.5**	**-0.4**
STKA	**Stephens Creek**	**27.73**	**213**	P		**P**	**10 04 49.1**	**-0.7**
AS31	**Alice Springs**	**27.99**	**236**	P		**P**	**10 04 50.6**	**-1.8**
ASAR	**Alice Springs**	**27.99**	**236**	P		**P**	**10 04 50.4**	**-2.1**
	comp=Z,3.1nm,0.8s,baz=65,slow=9.1,SNR=20							
ASAR				PcP		**PcP**	**10 08 07.2**	**0.0**
	comp=Z,0.4nm,0.5s,baz=82,slow=2.6,SNR=2.2							
ASAR	**Alice Springs**	**27.99**	**236**	P		**P**	**10 04 50.6**	**-1.8**
ASAR	**Alice Springs**	**27.99**	**236**	P		**P**	**10 04 50.6**	**-1.8**
KNTN	**Kanton**	**29.73**	**79**	P		**P**	**10 05 06.0**	**-1.9**
KNRA	**Kununurra**	**30.26**	**255**	P		**P**	**10 05 12.0**	**-0.5**
	baz=30,SNR=7.5							
KNRA	**Kununurra**	**30.26**	**255**	P		**P**	**10 05 12.0**	**-0.5**
KNRA				IAmb		IAmb	10 05 18.2	
	comp=Z,12nm,0.7s							
HTT	**Hallett**	**30.37**	**215**	P		**P**	**10 05 13.9**	**+0.5**
	baz=30,SNR=3.1							
TOO	**Toolangi**	**30.72**	**201**	P		**P**	**10 05 16.0**	**-0.4**
TOO					pmax	pmax		
	comp=Z,58nm,2.0s							
TOO	**Toolangi**	**30.72**	**201**	P		**P**	**10 05 16.0**	**-0.4**
TOO				IAmb		IAmb	10 05 48.2	
	comp=Z,58nm,2.0s							
NIUE	**Niue**	**31.53**	**111**	P		**P**	**10 05 25.5**	**+1.8**
	baz=32,SNR=6.1							
NIUE	**Niue**	**31.53**	**111**			**P**	**10 05 23.9**	**+0.2**
BBOO	**Buckleboo**	**31.63**	**219**	P		**P**	**10 05 23.9**	**-0.6**
	baz=32,SNR=11							
BBOO	**Buckleboo**	**31.63**	**219**	P		**P**	**10 05 23.9**	**-0.6**
LBMI	**Labuha**	**32.59**	**283**	P		**P**	**10 05 36.2**	**+3.1**
	comp=Z,843nmcomp=Z,28nm,1.4s							
WRKA	**Warakurna**	**33.21**	**238**	P		**P**	**10 05 36.7**	**-1.8**
	baz=33,SNR=12							
BKZ	**Black Stump Fm**	**33.59**	**155**	P		**P**	**10 05 42.5**	**+0.9**
BKZ				IAmb		IAmb	10 06 52.0	
	comp=Z,16nm,0.9s							
FITZ	**Fitzroy Crossi**	**33.61**	**251**	P		**P**	**10 05 41.0**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=80,slow=6.0,SNR=17							
FITZ	**Fitzroy Crossi**	**33.61**	**251**	P		**P**	**10 05 41.1**	**-0.9**
	baz=34,SNR=5.6							
FITZ	**Fitzroy Crossi**	**33.61**	**251**	P		**P**	**10 05 41.5**	**-0.5**
FITZ				IAmb		IAmb	10 05 44.9	
	comp=Z,33nm,1.7s							
SANI	**Sanana**	**33.69**	**280**	P		**P**	**10 05 44.8**	**+2.1**
	comp=Z,22nm,1.3s							
RPZ	**Rata Peaks**	**35.85**	**165**	P		**P**	**10 06 00.1**	**-0.9**
	comp=Z,7.8nm,0.8s,baz=54,slow=5.8,SNR=2.9							
MMRI	**Maumere**	**36.40**	**268**	P		**P**	**10 06 07.7**	**+1.6**
	comp=Z,2μmcomp=Z,30nm,1.4s							
APSI	**Ampana**	**38.17**	**280**	P		**P**	**10 06 23.0**	**+1.9**
	comp=Z,15nm,1.2s							
BNSI	**Bone**	**38.99**	**274**	P		**P**	**10 06 26.8**	**-1.2**
	comp=Z,24nm,0.7s							
KAPI	**Kappang**	**39.24**	**273**	P		**P**	**10 06 29.3**	**-0.8**
	comp=Z,8.8nm,0.6s,baz=111,slow=9.6,SNR=1.3							
KAPI	**Kappang**	**39.24**	**273**	*de*P		**P**	**10 06 29.4**	**-0.8**
KAPI					pmax	pmax		
	comp=Z,18nm,1.1s							
TOLI2	**Tolitoli**	**39.53**	**283**	P		**P**	**10 06 28.8**	**-3.7**
PSA00	**Pilbara Seismi**	**39.63**	**247**	P		**P**	**10 06 32.5**	**-0.8**
PSA00				IAmb		IAmb	10 06 36.6	
	comp=Z,44nm,1.8s							
MEEK	**Meekatharra**	**41.97**	**240**	P		**P**	**10 06 52.0**	**-0.5**
	baz=42,SNR=24							
MORW	**Morawa**	**44.85**	**238**	P		**P**	**10 07 15.5**	**-0.2**
MAJO	**Matsushiro**	**49.63**	**338**	*e*P		**P**	**10 07 51.5**	**-1.3**
MAJO					pmax	pmax		
	comp=Z,4.0nm,1.2s							
JNU	**Nakatsue**	**50.00**	**329**	P		**P**	**10 07 55.5**	**-0.2**
	comp=Z,6.0nm,0.9s,baz=82,slow=9.3,SNR=2.3							
TJN	**Taejon**	**54.34**	**329**	↑*e*P		**P**	**10 08 28.0**	**+0.1**
KSRS	**Korea Array**	**54.90**	**330**	P		**P**	**10 08 32.2**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=143,slow=8.6,SNR=4.4							
KSAR	**Wonju Array Be**	**54.91**	**330**	P		**P**	**10 08 32.5**	**+0.5**
KSAR	**Wonju Array Be**	**54.91**	**330**	P		**P**	**10 08 32.5**	**+0.5**
NJ2	**Nanjing**	**56.27**	**319**	*e*P		**P**	**10 08 43.0**	**+1.1**
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.6s							
CN2	**Changchun**	**61.02**	**333**	*e*P		**P**	**10 09 18.8**	**+4.0**
CN2				S		**S**	**10 17 29.1**	**-2.7**
CN2					pmax	pmax		
	comp=Z,10.0nm,1.2s							
CN2					pmax	pmax		
	comp=Z,200nm,5.5s							
CN2					LR	LR		
	comp=Z,300nm,15.1s							
CN2					LR	LR		
	comp=Z,200nm,15.1s							
CN2					LR	LR		
	comp=Z,200nm,14.0s							
PSI	**Prapat**	**61.14**	**278**	P		**P**	**10 09 16.9**	**+0.7**
	comp=Z,3.5nm,0.3s,baz=129,slow=4.7,SNR=4.8							
PEA0B	**Petropavlovsk-**	**62.16**	**359**	*e*P		**P**	**10 09 22.5**	**+0.3**
PETK	**Petropavlovsk-**	**62.16**	**359**	P		**P**	**10 09 21.6**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=185,slow=8.8,SNR=5.9							
PETK	**Petropavlovsk-**	**62.16**	**359**	P		**P**	**10 09 21.3**	**-0.9**
PETK	**Petropavlovsk-**	**62.16**	**359**	P		**P**	**10 09 21.3**	**-0.9**
HNS	**HongShan**	**62.30**	**321**	⇑P		**P**	**10 09 20.0**	**-3.5**
HNS				S		**S**	**10 17 45.0**	**-3.1**
HNS					pmax	pmax		
	comp=Z,12nm,1.5s							
HNS					LR	LR		
	comp=E,640nm,22.6s							
HNS					LR	LR		
	comp=Z,290nm,19.6s							
KLR	**Kul'dur**	**63.02**	**340**	P		**P**	**10 09 27.0**	**-1.0**
	comp=Z,1.4nm,1.0s,baz=225,slow=1.4,SNR=3.2							
KLR	**Kul'dur**	**63.02**	**340**	*e*P		**P**	**10 09 27.9**	**-0.1**
KLR					pmax	pmax		
	comp=Z,11nm,1.7s							
CMAR	**Chiang Mai Arr**	**65.42**	**295**	P		**P**	**10 09 44.9**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=128,slow=5.7,SNR=5.9							
CMAR	**Chiang Mai Arr**	**65.42**	**295**	P		**P**	**10 09 44.5**	**+0.1**
CHTO	**Chiang Mai**	**65.54**	**296**	P		**P**	**10 09 45.0**	**-0.2**
CHTO					pmax	pmax		
	comp=Z,13nm,1.1s							
CHTO	**Chiang Mai**	**65.54**	**296**	P		**P**	**10 09 45.0**	**-0.2**
CHTO				IAmb		IAmb	10 10 03.1	
	comp=Z,13nm,1.1s							
XLT	**XiLinHaoTe**	**65.73**	**327**	*e*P		**P**	**10 09 49.6**	**+3.5**
XLT				pP		pP	10 09 53.5	-1.0
XLT				sP		sP	10 09 56.6	-1.1
XLT				S		**S**	**10 18 29.9**	**-0.9**
XLT					pmax	pmax		
	comp=Z,14nm,1.4s							
XLT					pmax	pmax		
	comp=Z,240nm,6.2s							
XLT					LR	LR		
	comp=Z,29nm,12.9s							
XLT					LR	LR		
	comp=Z,250nm,16.6s							
XLT					LR	LR		
	comp=Z,220nm,20.2s					

BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 77.30 3 P P 10 10 54.5 -0.7
BILL lAmb lAmb 10 11 09.4
comp=Z,11nm,1.0s
PALK Pallekele 79.81 279 eP P 10 11 10.3 +0.1
PALK pmax pmax
comp=Z,6.0nm,0.9s
PALK Pallekele 79.81 279 P P 10 11 08.0 -2.2
PALK lAmb lAmb 10 11 16.1
comp=Z,31nm,1.4s
KNGR Kungurtug, Tuv 79.87 325 eP P 10 11 10.7 +0.8
QSPA South Pole Qui 80.70 180 P P 10 11 13.9 -0.3
comp=Z,3.8nm,0.7s,baz=360,slow=1.4,SNR=21
QSPA South Pole Qui 80.70 180 P P 10 11 14.9 +0.7
K20K Telida 80.72 19 P P 10 11 15.9 +1.8
K20K lAmb lAmb 10 13 02.5
comp=Z,29nm,1.7s
RC01 Rabbit Creek A 80.76 23 P P 10 11 15.8 +1.5
CAST Castle Rocks 81.42 20 P P 10 11 18.0 +0.2
CAST lAmb lAmb 10 13 48.8
comp=Z,37nm,2.0s
MCK McKinley 82.71 21 P P 10 11 24.9 +0.4
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 82.71 21 P P 10 11 24.9 +0.4
TIXI Tiksi 83.22 351 P P 10 11 25.2 -1.8
comp=Z,0.8nm,0.3s,baz=93,slow=23,SNR=4.1
TIXI Tiksi 83.22 351 eP P 10 11 25.4 -1.6
TIXI pmax pmax
comp=Z,6.0nm,1.6s
TIXI Tiksi 83.22 351 P P 10 11 26.8 -0.2
TIXI lAmb lAmb 10 11 39.8
comp=Z,20nm,2.0s
WMQ Urumqi 83.26 316 eP P 10 11 29.8 +1.9
WMQ LR LR
comp=Z,470nm,16.1s
WMQ LR LR
comp=Z,130nm,18.9s
CCB Clear Creek Bu 83.66 20 P P 10 11 29.6 +0.3
CCB lAmb lAmb 10 11 58.8
comp=Z,28nm,2.0s
MDM Murphy Dome 83.71 20 P P 10 11 30.3 +0.6
MDM lAmb lAmb 10 12 27.3
comp=Z,12nm,1.3s
COLA College 83.78 20 eP P 10 11 29.2 -0.8
COLA pmax pmax
comp=Z,4.0nm,1.0s
H23K Yukon River 83.82 19 P P 10 11 31.0 +0.7
HYBB Hyderabad (bro 83.84 289 eP P 10 11 31.0 -0.4
IL31 84.05 20 P P 10 11 31.1 -0.2
IL31 lAmb lAmb 10 12 14.1
comp=Z,15nm,1.4s
ILAR Eielson Array 84.05 20 P P 10 11 30.9 -0.6
comp=Z,1.3nm,0.5s,baz=246,slow=4.9,SNR=41
MENT Mentasta 84.14 23 P P 10 11 33.0 +1.0
MENT lAmb lAmb 10 11 44.0
comp=Z,12nm,1.2s
DOT Dot Lake 84.41 22 P P 10 11 33.6 +0.3
J25K Salcha River, 84.49 21 P P 10 11 34.0 +0.3
J25K lAmb lAmb 10 11 45.4
comp=Z,18nm,1.5s
M27K Edge Creek, AK 84.55 24 P P 10 11 34.8 +0.7
SCRK Sand Creek 84.62 22 P P 10 11 35.3 +0.9
SCRK lAmb lAmb 10 11 49.7
comp=Z,7.8nm,1.1s
PCHI Peechi 84.63 282 eP P 10 11 39.5 +4.1
PCHI eS S 10 22 03.4 +1.7
HYT Haines Junctio 85.60 26 P P 10 11 40.1 +0.7
HYT lAmb lAmb 10 12 02.5
comp=Z,18nm,1.2s
DAWY Dawson 86.39 23 P P 10 11 43.8 +0.6
DAWY lAmb lAmb 10 12 07.1
comp=Z,13nm,1.4s
I29M Ogilvie Camp, 87.43 22 P P 10 11 48.5 +0.3
I29M lAmb lAmb 10 11 59.4
comp=Z,8.3nm,1.1s
MK31 Makanchi Array 87.80 318 dP P 10 11 49.7 -0.7
MK31 Makanchi Array 87.80 318 P P 10 11 49.4 -1.0
MK31 lAmb lAmb 10 11 54.9
comp=Z,10nm,1.6s
MKAR Makanchi Array 87.80 318 P P 10 11 49.9 -0.5
comp=Z,1.3nm,0.5s,baz=96,slow=5.9,SNR=20
MAKZ Makanchi 88.01 318 P P 10 11 51.1 -0.3
MAKZ pmax pmax
comp=Z,7.0nm,1.4s
MAKZ Makanchi 88.01 318 P P 10 11 51.1 -0.3
MAKZ lAmb lAmb 10 12 33.5
comp=Z,7.3nm,1.4s
ZALV Zalesovo Beam 88.35 325 P P 10 11 51.4 -1.3
comp=Z,0.4nm,0.4s,baz=98,slow=6.9,SNR=2.4
ZALV Zalesovo Beam 88.35 325 P P 10 11 51.1 -1.7
ZALV Zalesovo Beam 88.35 325 P P 10 11 51.1 -1.7
BCW Bitter Crk WRg 88.37 54 P P 10 11 53.7 +0.2
BEKR Beckworth 88.72 49 P P 10 11 54.5 -0.6
109C Camp Elliot, M 89.83 57 P P 10 12 00.0 -0.2
109C lAmb lAmb 10 12 02.4
comp=Z,6.7nm,0.9s
NVAR Mina Array Bea 89.97 51 P P 10 12 01.7 +0.6
comp=Z,2.1nm,0.9s,baz=242,slow=6.8,SNR=14
NV11 Mina Array Sit 90.09 51 P P 10 12 02.3 +0.8
KVN Kaiserville 90.25 51 P P 10 12 02.4 0.0
KVN pmax pmax
comp=Z,4.0nm,1.0s
KVN Kaiserville 90.25 51 P P 10 12 02.4 0.0
KSH Kashi 90.58 310 P P 10 12 09.2 +5.4
KSH pP sP 10 12 14.8 -0.4
KSH S S 10 23 08.9 +11
KSH pmax pmax
comp=Z,4.0nm,0.7s
QSM Queen of Sheba 90.61 54 P P 10 12 04.2 +0.4
QSM lAmb lAmb 10 12 26.5
comp=Z,7.4nm,1.3s
J08A Circle Bar Ran 90.86 46 P P 10 12 05.2 +0.2
KURK Kurchatov 91.14 321 eP P 10 12 04.5 -1.4
KURK pmax pmax
comp=Z,2.0nm,1.1s
F10A Beach Ranch, E 92.25 44 P P 10 12 11.8 +0.5
F10A lAmb lAmb 10 12 42.2
comp=Z,8.4nm,1.4s
PRN Pahroc Range 92.31 53 P P 10 12 11.5 -0.3
PRN lAmb lAmb 10 12 35.9
comp=Z,9.1nm,1.4s
BELA Belgrano 2 92.64 177 P P 10 12 11.7 -0.8
ELK Elko 92.73 49 P P 10 12 14.8 +0.9
ELK pmax pmax
comp=Z,6.0nm,1.5s
ELK Elko 92.73 49 P P 10 12 14.8 +0.9
HLID Hailey 93.80 47 P P 10 12 19.3 +0.7
YKA Yellowknife Ar 96.46 28 P P 10 12 30.0 0.0
comp=Z,0.4nm,0.7s,baz=263,slow=4.7,SNR=13
BRVK Borovoye 96.63 323 eP P 10 12 31.1 0.0
BRVK pmax pmax
comp=Z,5.0nm,1.3s
PDAR Pinedale Array 97.22 48 P Pdif 10 12 35.0 +0.6
comp=Z,0.5nm,0.8s,baz=168,slow=2.7,SNR=3.9
SNAA Sanae 98.33 186 eP P 10 12 36.4 -2.1
SNAA pmax pmax
comp=Z,6.0nm,1.1s
FINES FINESS Array B 117.65 337 PKP PKPdf 10 17 46.2 -0.6
comp=Z,2.3nm,0.9s,baz=100,slow=5.8,SNR=5.8
FINES PP PP 10 18 55.9 -3.5
comp=Z,0.5nm,0.4s,baz=66,slow=4.7,SNR=6.7
FINES FINESS Array B 117.65 337 PKIKP PKPdf 10 17 46.1 -0.8
FINES FINESS Array B 117.65 337 PKPdf 10 17 46.1 -0.8
AKASG Malin Array Be 121.74 325 PKP PKPdf 10 17 54.1 -0.9
comp=Z,0.6nm,0.4s,baz=64,slow=2.2,SNR=5.6
AKASG Malin Array Be 121.74 325 PKIKP PKPdf 10 17 53.4 -1.7
AKASG Malin Array Be 121.74 325 PKPdf 10 17 53.4 -1.7
NB2 NORSAR Subarra 123.15 342 PKPdf PKPdf 10 17 56.7 -0.8
comp=Z,0.4nm,0.7s,baz=39,slow=1.9
NOA NORSAR Array B 123.15 342 PKP PKPdf 10 17 56.8 -0.8
comp=Z,1.1nm,0.8s,baz=42,slow=1.8,SNR=7.0
LPAZ La Paz 126.81 118 PKP PKiKP 10 18 06.9 -0.1
comp=Z,1.7nm,0.9s,baz=2.2,slow=4.2,SNR=5.4
CLL Collm 129.72 333 ePKIKP PKiKP 10 18 16.0 +4.9
GERES GERESS Array B 131.07 330 PKP PKPdf 10 18 13.2 +0.1
comp=Z,1.1nm,0.8s,baz=186,slow=1.2,SNR=5.6
ESDC Sonseca Array 146.17 336 PKPbc PKPdf 10 18 40.8 -0.1
comp=Z,0.9nm,0.9s,baz=69,slow=2.1,SNR=4.0
TORD Torodi Ar. Bea 157.50 282 PKP PKPdf 10 18 58.3 -0.1
comp=Z,0.4nm,0.8s,baz=109,slow=3.5,SNR=2.5
TORD PKPab PKPab 10 19 30.4 +0.3
comp=Z,3.6nm,1.2s,baz=31,slow=3.8,SNR=5.6

*IDC **09** 10:03:11.7±0.5,26.71S±0.71°×176.29W,h0km,mb4.5/20, mb1 4.7/21,mb1mx4.6/39,mbtmp4.5/21,ML5.4/1,MS4.8/49, Ms1 4.8/49,ms1mx4.8/59,Error ellipse: s-maj=18.1km s-min=15.2km az=114.0*

*NEIC **09** 10:03:16.9±1.7,26.87S±0.08°×176.1W±0.1,h35km±1km, mb5.0/83,Error ellipse: s-maj=19.8km s-min=13.6km az=99.0*

*GCMT **09** 10:03:16.9±0.1,26.85S±0.01°×175.90W±0.01,h16km, MW5.4/140,Moment Tensor Solution. s114,c187; s140,c261; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr1.28±.02; Mθθ-0.09±.01; Mφφ-1.19±.02; Mrθ0.34±.04; Mθφ-0.41±.01; Mφr1.03±.04; Best double couple: Mo1.69400×10^17 NP1:φs198.00000°,δ25.00000°, λ90.00000°. NP2:φs18.00000°,δ65.00000°,λ90.00000°. Principal axes: T 1.6720, Plg70.0000°, Azm288.0000°; N 0.0490, Plg0.0000°, Azm18.0000°; P -1.7170, Plg20.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **09** 10:03:18.3±0.0,26.89S×176.77W,h38km,mb5.1/26, mB5.5/25,Ms5.1/29,Ms7 4.9/28*

ISC 09 10:03:17.7±0.5,26.87S±0.05°×176.20W±0.06,h43km±3km, h43km:pP-P,n277,σ1§69/240,mb4.9/70,MS4.9/61,7C-4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.82**	**212**	Pn		**Pn**	**10 03 60.0**	**-0.2**
	600nm,0.3s,baz=51,slow=4.8,SNR=24							
RAO				Sn		**Sn**	**10 04 34.2**	**+1.3**
	302nm,0.3s,baz=300,slow=20,SNR=4.5							
RAO				LR		LR	10 04 39.7	
	comp=Z,6μm,18.1s,baz=148,slow=30							
RAO	**Raoul Island**	**2.82**	**212**			**Pn**	**10 04 00.8**	**+0.5**
RIZ	**Raoul Island**	**2.82**	**212**	P		**Pn**	**10 03 59.7**	**-0.6**
RIZ				S		**Sn**	**10 04 36.6**	**+3.6**
GLKZ	**Green Lake**	**2.83**	**212**	P		**Pn**	**10 04 00.5**	**+0.2**
GLKZ				S		**Sn**	**10 04 35.7**	**+2.5**
MSVF	**Nonsavu**	**10.53**	**329**	Pn		**Pn**	**10 05 46.8**	**+0.7**
	0.6nm,0.3s,baz=145,slow=12,SNR=4.9							
MSVF				LR		LR	10 09 19.8	
	comp=Z,9μm,18.6s,baz=147,slow=36							
MSVF	**Nonsavu**	**10.53**	**329**	Pn		**Pn**	**10 05 47.4**	**+1.3**
OUZ	**Omahuta**	**12.07**	**224**	P		**Pn**	**10 06 10.0**	**+3.0**
URZ	**Urewera**	**12.68**	**205**	Pn		Pn	10 06 07.1	-8.2
	0.6nm,0.3s,baz=28,slow=8.7,SNR=1.8							
URZ				Sn		Sn	10 08 25.5	-10
	2.9nm,0.3s,baz=180,slow=22,SNR=8.5							
KUTZ	**Kaahu Road**	**13.39**	**208**	P		**P**	**10 06 37.7**	**+4.1**
AFI	**Afiamalu**	**13.54**	**19**	Pn		Pn	10 06 19.6	-7.8
	7.3nm,0.3s,baz=115,slow=2.1,SNR=11							
AFI				Sn		Sn	10 08 34.1	-22
	1.8nm,0.3s,baz=147,slow=22,SNR=1.8							
HIZ	**Hauiti**	**13.83**	**211**	P		**Pn**	**10 06 33.9**	**+2.9**
OTVZ	**Oturere**	**14.02**	**207**	P		**P**	**10 06 40.2**	**-0.6**
OTVZ				S		**Sn**	**10 09 00.4**	**-7.8**
SNVZ	**South Ngauruho**	**14.05**	**207**	P		**P**	**10 06 40.6**	**-0.5**
BHHZ	**Black Hill Sta**	**14.15**	**205**	P		**P**	**10 06 40.2**	**-1.9**
BHHZ				S		Sn	10 08 58.3	-13
PXZ	**Pawanui**	**14.34**	**202**	P		**Pn**	**10 06 39.8**	**+1.8**
PXZ				S		Sn	10 09 03.0	-13
PNHZ	**Pukenui**	**14.47**	**204**	P		**P**	**10 06 44.0**	**-1.6**
PNHZ				S		Sn	10 09 05.5	-13
TSZ	**Takapari Road**	**14.68**	**204**	P		**Pn**	**10 06 42.6**	**0.0**
PKE	**Pukeiti**	**14.78**	**211**	P		**Pn**	**10 06 43.4**	**-0.5**
DVHZ	**Dannevirke**	**14.82**	**203**	P		**P**	**10 06 50.7**	**+1.2**
DVHZ				S		Sn	10 09 13.0	-14
ANWZ	**Angora Road**	**14.86**	**202**	P		**P**	**10 06 51.0**	**+1.1**
ANWZ				S		Sn	10 09 17.6	-11
PRWZ	**Pori Road**	**15.12**	**203**	P		**Pn**	**10 06 45.5**	**-2.8**
PRWZ				S		Sn	10 09 19.8	-15
MRZ	**Mangatainoka R**	**15.35**	**204**	P		Pn	10 06 43.5	-7.9
MRZ				S		Sn	10 09 25.5	-15
HOWZ	**Holdsworth Sta**	**15.58**	**204**	P		**P**	**10 06 57.4**	**-0.6**
HOWZ				S		Sn	10 09 29.1	-17
TMWZ	**Te Maipa**	**15.63**	**203**	P		**P**	**10 06 59.4**	**+0.9**
TMWZ				S		Sn	10 09 32.0	-15
OGWZ	**Otaki Gorge**	**15.64**	**205**	P		**Pn**	**10 06 51.8**	**-3.3**
OGWZ				S		Sn	10 09 32.1	-15
MTW	**Mount Morrison**	**15.81**	**204**	P		**Pn**	**10 06 57.6**	**+0.3**
MTW				S		Sn	10 09 36.2	-15
CAW	**Cannon Point**	**15.93**	**205**	P		**Pn**	**10 06 54.0**	**-4.8**
CAW				S		Sn	10 09 37.8	-16
TRWZ	**Traveller**	**15.96**	**203**	P		**P**	**10 07 02.2**	**0.0**
TRWZ				S		Sn	10 09 38.3	-17
RAR	**Rarotonga**	**16.02**	**73**	Pn		Pn	10 06 50.4	-10
	11nm,0.3s,baz=208,slow=7.9,SNR=24							
RAR				Sn		Sn	10 09 32.1	-25
	2.5nm,0.3s,baz=321,slow=22,SNR=2.4							
RAR				LR		LR	10 12 30.8	
	comp=Z,2μm,18.6s,baz=246,slow=35							
RAR	**Rarotonga**	**16.02**	**73**	P		Pn	10 06 50.7	-9.4
RAR	**Rarotonga**	**16.02**	**73**	pmax		pmax		
	comp=Z,411nm,2.0s							
RAR	**Rarotonga**	**16.02**	**73**			Pn	10 06 50.7	-9.4
PAWZ	**Paruwai Farm**	**16.04**	**203**	P		**Pn**	**10 07 00.0**	**-0.1**
PAWZ				S		Sn	10 09 41.2	-16
MSWZ	**Moikau Station**	**16.13**	**204**	P		**Pn**	**10 07 00.5**	**-0.9**
BHW	**Baring Head**	**16.26**	**205**	P		**P**	**10 07 04.3**	**-1.2**
PLWZ	**Palliser**	**16.26**	**203**	P		**Pn**	**10 07 03.8**	**+0.7**
DZM	**Mont Dzumac**	**16.50**	**283**	Pn		**P**	**10 07 10.2**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=105,slow=13,SNR=5.3							
DZM				LR		LR	10 12 21.5	
	comp=Z,9μm,18.9s,baz=112,slow=34							
DZM	**Mont Dzumac**	**16.50**	**283**	*e*Pn		**P**	**10 07 11.0**	**+2.6**
	comp=Z,193nm,1.6s							
DZM				*e*LR		LR	10 11 06.6	
	comp=Z,13μm,24.1s							
TUWZ	**Tuamarina**	**16.64**	**207**	P		**Pn**	**10 07 02.9**	**-4.8**
NNZ	**Nelson**	**16.70**	**208**	P		**Pn**	**10 07 03.8**	**-4.7**
THZ	**Tophouse**	**17.35**	**208**	P		**Pn**	**10 07 12.9**	**-3.7**
RPZ	**Rata Peaks**	**19.73**	**208**	P		**P**	**10 07 40.1**	**-3.6**
	comp=Z,0.6nm,0.3s,baz=315,slow=20,SNR=1.2							
RPZ				S		S	10 11 03.7	-20
	comp=Z,0.4nm,0.3s,baz=186,slow=22,SNR=2.1							
RPZ				LR		LR	10 15 55.8	
	comp=Z,4μm,20.1s,baz=8.0,slow=38							
ODZ	**Otahua Downs**	**20.98**	**207**	P		**P**	**10 07 57.1**	**-0.1**
PAE	**Paea**	**26.24**	**75**	*e*T		T	10 35 16.8	
	comp=Z,3.5nm,0.2s							
PPT2	**Papeete2**	**26.27**	**75**	*e*LR		LR	10 15 09.5	
	comp=Z,6μm,28.0s							
PPT2	**Papeete2**	**26.27**	**75**	*e*T		T	10 35 20.5	
	comp=Z,3.4nm,0.2s							
PPT	**Papeete**	**26.29**	**75**	LR		LR	10 16 27.7	
	comp=Z,1μm,20.8s,baz=248,slow=30							
ARMA	**Armidale**	**28.40**	**255**	P		**P**	**10 09 08.3**	**0.0**
HNR	**Honiara**	**28.44**	**303**	LR		LR	10 19 00.6	
	comp=Z,3μm,18.8s,baz=155,slow=34							
VAH	**Vaihoa**	**29.00**	**72**	*e*T		T	10 38 43.3	
	comp=Z,7.7nm,0.2s							
EIDS	**Eidsvold**	**29.37**	**265**	P		**P**	**10 09 17.8**	**+1.0**
CAN	**Canberra**	**30.84**	**246**	P		**P**	**10 09 28.5**	**-1.3**
CAN				lAmb		lAmb	10 09 47.0	
	comp=Z,29nm,1.5s							
TAU	**Tasmania Unive**	**33.63**	**232**	P		**P**	**10 09 55.0**	**+0.9**
TOO	**Toolangi**	**33.91**	**242**	P		**P**	**10 09 55.9**	**-0.8**
CTA	**Charters Tower**	**34.99**	**273**	P		**P**	**10 10 06.7**	**+0.5**
	comp=Z,7.8nm,0.7s,baz=117,slow=9.7,SNR=12							
CTA				LR		LR	10 23 28.9	
	comp=Z,6μm,18.4s,baz=108,slow=35							
CTAO	**Charters Tower**	**34.99**	**273**	P		**P**	**10 10 05.8**	**-0.4**
CTAO				lAmb		lAmb	10 10 20.2	
	comp=Z,10nm,0.8s							
CTAO	**Charters Tower**	**34.99**	**273**	P		**P**	**10 10 06.7**	**+0.5**
STKA	**Stephens Creek**	**36.95**	**252**	P		**P**	**10 10 23.3**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=94,slow=11,SNR=5.3							
STKA				LR		LR	10 24 33.7	
	comp=Z,5μm,18.1s,baz=84,slow=35							
STKA	**Stephens Creek**	**36.95**	**252**	P		**P**	**10 10 22.9**	**+0.1**
RKT	**Rikitea**	**37.44**	**94**	*e*T		T	10 49 17.7	
	comp=Z,4.0nm,0.4s							
KRVT	**Keravat (AS076**	**37.73**	**301**	LR		LR	10 24 53.6	
	comp=Z,1μm,20.4s,baz=252,slow=35							
TAOE	**Nuku Hiva Isla**	**38.52**	**69**	*e*S		**S**	**10 16 23.6**	**-5.7**
	comp=Z,396nm,25.5s							
TAOE				*e*LR		LR	10 20 46.9	
	comp=Z,2μm,27.6s							
PMG	**Port Moresby**	**38.72**	**290**	LR		LR	10 24 28.5	
	comp=Z,3μm,19.1s,baz=134,slow=33							

COEN Coen 40.00 280 P P 10 10 49.1 +0.5
COEN lAmb lAmb 10 10 59.7
comp=Z,24nm,1.1s
BBOO Buckleboo 41.55 250 P P 10 11 00.5 -0.7
AS31 Alice Springs 45.00 263 P P 10 11 28.1 -1.2
ASAR Alice Springs 45.00 263 P P 10 11 28.1 -1.2
comp=Z,5.8nm,0.8s,baz=95,slow=6.9,SNR=37
ASAR PcP PcP 10 13 09.5 -0.3
comp=Z,1.0nm,0.6s,baz=111,slow=2.8,SNR=1.6
ASAR S S 10 17 59.6 -5.5
comp=Z,0.1nm,0.3s,baz=96,slow=16,SNR=1.7
ASAR LR LR 10 29 31.6
comp=Z,3μm,18.4s,baz=114,slow=35
WR0 Warramunga Arr 45.49 268 P P 10 11 31.9 -1.3
WR0 lAmb lAmb 10 11 36.0
comp=Z,11nm,0.7s
WB2 Warramunga Arr 45.67 268 P P 10 11 33.2 -1.3
WB2 lAmb lAmb 10 11 36.9
comp=Z,16nm,0.7s
WRAB Tennant Creek 45.67 268 P P 10 11 33.2 -1.3
WRAB lAmb lAmb 10 11 36.8
comp=Z,17nm,0.7s
WRAB Tennant Creek 45.67 268 ||P P 10 11 34.1 -0.5
WRAB pP sP 10 11 49.7 -0.8
WRA Warramunga Arr 45.68 268 P P 10 11 33.0 -1.6
comp=Z,12nm,0.7s,baz=107,slow=6.0,SNR=63
WRA PcP PcP 10 13 12.8 +0.6
comp=Z,1.8nm,0.7s,baz=100,slow=3.8,SNR=2.7
WRA S S 10 18 15.9 +1.0
comp=Z,0.9nm,0.9s,baz=105,slow=15,SNR=4.5
WRA LR LR 10 30 54.8
comp=Z,2μm,18.4s,baz=106,slow=36
WRA Warramunga Arr 45.68 268 P P 10 11 32.8 -1.8
WB0 Warramunga Arr 45.69 268 P P 10 11 33.1 -1.6
WB0 lAmb lAmb 10 11 37.0
comp=Z,18nm,0.7s
JAY Jayapura 47.83 293 LR LR 10 30 52.8
comp=Z,2μm,19.9s,baz=174,slow=35
FORT Forrest 48.57 252 P P 10 11 56.0 -1.0
MTN Manton Dam 51.12 275 P P 10 12 16.9 +0.3
SSA Scott Base 51.67 185 P P 10 12 21.1 +1.4
SBA Scott Base 51.67 185 P P 10 12 23.5 +3.7
SBA pP pP 10 12 31.5 +0.8
VNDA Vanda 51.76 186 P P 10 12 21.7 +1.2
comp=Z,2.4nm,0.9s,baz=352,slow=8.3,SNR=5.0
VNDA LR LR 10 30 39.1
comp=Z,959nm,20.4s,baz=22,slow=32
VNDA Vanda 51.76 186 P P 10 12 20.5 +0.1
KNRA Kununurra 52.13 271 P P 10 12 23.2 -0.9
FITZ Fitzroy Crossi 54.05 266 LR LR 10 34 05.6
comp=Z,1μm,19.5s,baz=102,slow=34
FITZ Fitzroy Crossi 54.05 266 P P 10 12 37.8 -0.4
FITZ lAmb lAmb 10 12 41.9
comp=Z,8.7nm,0.8s
GUMO Guam 55.20 312 LR LR 10 33 50.9
comp=Z,844nm,21.4s,baz=129,slow=33
SIJI Sorong 56.62 288 P P 10 12 55.9 -0.9
comp=Z,19nm,0.7s,baz=103,slow=7.0,SNR=7.6
SIJI LR LR 10 37 09.6
comp=Z,2μm,19.5s,baz=106,slow=36
CCD Concordia, Ant 56.77 196 ||P P 10 12 59.3 +1.9
CCD pP sP 10 13 10.7 -2.3
PSA00 Pilbara Seismi 58.03 260 P P 10 13 05.2 -1.4
PSA00 lAmb lAmb 10 13 30.6
comp=Z,17nm,1.4s
BATI Baumata 58.87 274 LR LR 10 39 15.1
comp=Z,4μm,18.7s,baz=142,slow=37
RPN Rapa Nui 58.90 107 LR LR 10 32 31.4
comp=Z,606nm,21.1s,baz=251,slow=30
CASY Casey 58.99 207 P P 10 13 13.5 +0.9
CASY Casey 58.99 207 ||P P 10 13 13.7 +1.1
CASY pP sP 10 13 26.5 -1.7
MORW Morawa 59.12 251 P P 10 13 12.8 -1.3
MORW lAmb lAmb 10 13 32.6
comp=Z,19nm,1.2s
QSPA South Pole Qui 63.23 180 P P 10 13 43.1 +1.6
comp=Z,24nm,0.9s,baz=65,slow=1.1,SNR=23
QSPA LR LR 10 38 27.2
comp=Z,2μm,19.4s,baz=40,slow=33
QSPA South Pole Qui 63.23 180 P P 10 13 43.1 +1.6
QSPA South Pole Qui 63.23 180 ||P P 10 13 43.5 +2.0
QSPA pP sP 10 13 56.2 -1.0
QSPA sP PcP 10 14 09.8 -8.8
KAPI Kappang 64.63 278 LR LR 10 42 41.7
comp=Z,632nm,18.3s,baz=138,slow=37
DAV Davao City (W) 65.67 292 LR LR 10 42 41.7
comp=Z,346nm,18.1s,baz=142,slow=36
TOLI2 Tolitoli 66.63 284 P P 10 14 03.6 -0.7
TOLI2 lAmb lAmb 10 14 16.7
comp=Z,7.9nm,0.7s
JCJ Chichijima 66.94 320 LR LR 10 41 19.8
comp=Z,431nm,18.9s,baz=144,slow=34
UGM Wanagama 71.57 270 P P 10 14 35.3 +0.3
JHJ Hachijo jima 2 72.86 322 LR LR 10 44 20.3
comp=Z,331nm,18.7s,baz=138,slow=34
LEM Lembang 74.63 270 LR LR 10 48 14.8
comp=Z,2μm,19.4s,baz=122,slow=36
PMSA Palmer Station 74.83 156 LR LR 10 40 16.5
comp=Z,624nm,19.6s,baz=247,slow=30
KSM Kuching 75.98 279 P P 10 14 59.7 -1.0
KSM lAmb lAmb 10 15 11.5
comp=Z,16nm,1.0s
INU Inuyama 76.04 322 P P 10 15 00.8 +0.2
INU lAmb lAmb 10 15 03.7
comp=Z,12nm,0.9s
JGF Kuroka 76.05 323 P P 10 15 00.7 +0.1
JGF lAmb lAmb 10 15 03.4
comp=Z,7.8nm,0.7s
MJAR Matsushiro Arr 76.29 324 P P 10 15 01.2 -0.8
comp=Z,7.1nm,0.8s,baz=74,slow=6.7,SNR=15
MJAR LR LR 10 43 35.9
comp=Z,441nm,22.0s,baz=137,slow=32
MJAR Matsushiro Arr 76.29 324 P P 10 15 01.4 -0.6
MJAR lAmb lAmb 10 15 13.8
comp=Z,20nm,1.5s
MAJO Matsushiro 76.29 324 P P 10 15 02.0 0.0
MAJO lAmb lAmb 10 15 04.9
comp=Z,13nm,0.8s
MJB9 Matsu-Tunnel 76.30 324 P P 10 15 02.3 +0.2
MJB9 lAmb lAmb 10 15 04.9
comp=Z,12nm,0.8s
JSU Suzuyama 77.19 315 P P 10 15 07.5 +0.3
JHS Saijyo 77.99 320 P P 10 15 12.2 +0.7
JNU Nakatsue 78.02 317 P P 10 15 10.6 -1.3
comp=Z,11nm,0.9s,baz=94,slow=5.2,SNR=9.0
JNU Nakatsue 78.02 317 P P 10 15 11.8 0.0
JNU lAmb lAmb 10 15 34.4
comp=Z,28nm,1.3s
KLSI 78.15 271 P P 10 15 12.1 -0.9
comp=Z,7.8nm,0.8s
SHEM Shemya Is, Ala 79.71 354 LR LR 10 47 43.0
comp=Z,722nm,18.6s,baz=166,slow=34
ASAJ Asahikawa 80.08 331 P P 10 15 22.7 -0.1
comp=Z,11nm,0.8s,baz=191,slow=13,SNR=4.8
ASAJ LR LR 10 49 55.7
comp=Z,596nm,18.3s,baz=196,slow=35
KSI Kapahiang 80.52 271 P P 10 15 26.9 +0.9
H03S2 Juan Fernandez baz=242 81.09 123 T T 11 44 42.0
H03S1 Juan Fernandez baz=242 81.10 123 T T 11 44 44.9
H03S3 Juan Fernandez baz=242 81.10 123 T T 11 44 44.6
H03N3 Juan Fernandez baz=240 81.26 123 T T 11 44 54.9
H03N2 Juan Fernandez baz=240 81.26 123 T T 11 44 57.6
H03N1 Juan Fernandez baz=240 81.27 123 T T 11 44 56.5
QZH Quanzhou 81.28 304 ||P P 10 15 30.1 +0.5
QZH S S 10 25 35.8 -1.4
QZH pmax pmax
comp=Z,280nm,6.9s
QZH LR LR
comp=Z,290nm,15.2s
QZH LR LR
comp=Z,280nm,13.7s
QZH LR LR
comp=Z,360nm,16.6s
TROLL Troll, Antarti 81.39 180 P P 10 15 30.4 +0.7
TROLL Troll, Antarti 81.39 180 pP pP 10 15 42.9 +1.7
SNAA Sanae 81.62 178 P P 10 15 33.0 +2.1
SNAA Sanae 81.62 178 pP pP 10 15 42.9 +0.5
SNAA Sanae 81.62 178 LR LR 10 51 08.8
comp=Z,419nm,18.0s,baz=188,slow=35
SNAA Sanae 81.62 178 P P 10 15 31.1 +0.2

SNAA					IAmb	IAmb	10 15 45.6		
	comp=Z,10nm,0.8s								
VNA3	**Neumayer Olymp**	**81.70**	**176**		P	**P**	**10 15 32.1**	**+0.9**	
VNA3	**Neumayer Olymp**	**81.70**	**176**		pP	pP	10 15 44.5	+1.7	
VNA2	**Neumayer--Watz**	**82.16**	**176**		P	**P**	**10 15 35.6**	**+2.0**	
	baz=164,slow=4.0								
VNA2	**Neumayer--Watz**	**82.16**	**176**		pP	pP	10 15 46.5	+1.3	
MURC	**Murrieta**	**82.17**	**46**		P	**P**	**10 15 35.3**	**+1.1**	
	baz=230								
MONP2	**Monument Peak**	**82.22**	**47**		P	**P**	**10 15 36.0**	**+1.3**	
	baz=231								
BFSC	**Mount Baldy Ra**	**82.28**	**45**		P	**P**	**10 15 35.5**	**+0.7**	
	baz=230								
VNA1	**Neumayer--Stat**	**82.38**	**176**		P	**P**	**10 15 36.0**	**+1.3**	
VNA1	**Neumayer--Stat**	**82.38**	**176**		pP	pP	10 15 47.8	+1.5	
VES	**Vestal, Richgr**	**82.42**	**44**		P	**P**	**10 15 36.2**	**+0.9**	
	baz=229								
EDW2	**Edwards Air Fo**	**82.47**	**45**		P	**P**	**10 15 37.3**	**+1.5**	
	baz=230								
ISA	**Isabella, Lake**	**82.68**	**44**		P	**P**	**10 15 35.9**	**-0.9**	
ISA					IAmb	IAmb	10 15 50.5		
	comp=Z,13nm,1.2s								
ISA	**Isabella, Lake**	**82.68**	**44**		P	**P**	**10 15 38.2**	**+1.4**	
	baz=229								
KSRS	**Korea Array**	**82.72**	**318**		P	**P**	**10 15 36.7**	**-0.2**	
	comp=Z,3.7nm,0.8s,baz=134,slow=5.7,SNR=12								
KSRS					LR	LR	10 50 34.0		
	comp=Z,305nm,18.6s,baz=115,slow=34								
KSAR	**Wonju Array Be**	**82.74**	**318**		P	**P**	**10 15 37.2**	**+0.2**	
PEA0B	**Petropavlovsk-**	**82.82**	**344**		P	**P**	**10 15 37.1**	**0.0**	
PEA0B					IAmb	IAmb	10 15 51.5		
	comp=Z,18nm,1.1s								
PETK	**Petropavlovsk-**	**82.82**	**344**		P	**P**	**10 15 36.8**	**-0.3**	
	comp=Z,5.6nm,0.9s,baz=150,slow=10,SNR=5.5								
PETK					LR	LR	10 49 12.0		
	comp=Z,424nm,19.3s,baz=156,slow=33								
PETK	**Petropavlovsk-**	**82.82**	**344**		P	**P**	**10 15 37.1**	**0.0**	
CMB	**Columbia Colle**	**83.08**	**41**		P	**P**	**10 15 38.8**	**0.0**	
CMB					IAmb	IAmb	10 15 52.2		
	comp=Z,14nm,1.3s								
O02D	**Mt. Diablo Mer**	**83.16**	**38**		IAmb	IAmb	10 15 57.1		
	comp=Z,16nm,1.1s								
O02D	**Mt. Diablo Mer**	**83.16**	**38**		P	**P**	**10 15 40.8**	**+1.5**	
	baz=226								
BELC	**Belle Mtn. Jos**	**83.19**	**47**		P	**P**	**10 15 40.5**	**+0.9**	
	baz=231								
BC3	**Big Chuckawall**	**83.33**	**47**		P	**P**	**10 15 41.9**	**+1.5**	
	baz=232								
CWC	**Cottonwood Cre**	**83.42**	**44**		P	**P**	**10 15 42.3**	**+1.5**	
	baz=230								
ORV	**Oroville**	**83.46**	**39**		P	**P**	**10 15 39.0**	**-1.7**	
GSC	**Goldstone, Bar**	**83.49**	**45**		P	**P**	**10 15 42.6**	**+1.6**	
	baz=230								
HEC	**Hector,Ludlow**	**83.49**	**46**		P	**P**	**10 15 42.3**	**+1.2**	
	baz=231								
MPMC	**Manual Prospec**	**83.54**	**44**		P	**P**	**10 15 43.4**	**+1.9**	
	baz=230								
PLCA	**Paso Flores**	**83.74**	**133**		P	**P**	**10 15 43.2**	**+0.8**	
	comp=Z,2.1nm,0.9s,baz=244,slow=10,SNR=3.1								
PLCA					LR	LR	10 47 34.3		
	comp=Z,554nm,18.1s,baz=247,slow=32								
N02D	**Trinity Center**	**83.76**	**38**		P	**P**	**10 15 41.7**	**-0.6**	
N02D	**Trinity Center**	**83.76**	**38**		P	**P**	**10 15 43.9**	**+1.6**	
	baz=226								
O03E	**Paynes Creek**	**83.79**	**39**		P	**P**	**10 15 40.9**	**-1.6**	
O03E	**Paynes Creek**	**83.79**	**39**		P	**P**	**10 15 44.0**	**+1.5**	
	baz=227								
IRM	**Iron Mountain**	**83.84**	**47**		P	**P**	**10 15 44.0**	**+1.2**	
	baz=232								
113A	**Mohawk Valley,**	**83.91**	**49**		P	**P**	**10 15 42.4**	**-0.7**	
M02C	**Callahan**	**83.97**	**37**		P	**P**	**10 15 45.2**	**+1.8**	
	baz=226								
FURC	**Furnace Creek,**	**84.19**	**44**		P	**P**	**10 15 45.8**	**+1.3**	
	baz=230								
SHOC	**Shoshone, Teco**	**84.20**	**45**		P	**P**	**10 15 45.4**	**+0.8**	
	baz=231								
GRAC	**Grapevine Rang**	**84.22**	**44**		IAmb	IAmb	10 15 58.0		
	comp=Z,20nm,1.3s								
GRAC	**Grapevine Rang**	**84.22**	**44**		P	**P**	**10 15 46.4**	**+1.7**	
	baz=230								
PNTR	**Pine Nut**	**84.24**	**41**		IAmb	IAmb	10 16 12.1		
	comp=Z,12nm,1.1s								
LHV	**Little Huntoon**	**84.34**	**42**		IAmb	IAmb	10 16 02.6		
	comp=Z,19nm,1.3s								
YERR	**Yerington**	**84.38**	**41**		IAmb	IAmb	10 16 00.1		
	comp=Z,17nm,1.4s								
RYN	**Ryan**	**84.57**	**42**		IAmb	IAmb	10 16 00.1		
	comp=Z,16nm,1.4s								
NVAR	**Mina Array Bea**	**84.57**	**42**		P	**P**	**10 15 47.6**	**+1.0**	
	comp=Z,0.8nm,0.7s,baz=222,slow=9.1,SNR=7.9								
NVAR	**Mina Array Bea**	**84.57**	**42**		P	**P**	**10 15 45.8**	**-0.9**	
NV11	**Mina Array Sit**	**84.66**	**42**		P	**P**	**10 15 46.7**	**-0.4**	
NV11					IAmb	IAmb	10 15 59.8		
	comp=Z,8.2nm,1.1s								
L04D	**Klamath Falls**	**84.83**	**37**		P	**P**	**10 15 49.2**	**+1.4**	
	baz=226								
QIZ	**Qiongzhong**	**84.96**	**294**		P	**P**	**10 15 49.4**	**+0.6**	
QIZ					S	**S**	**10 26 13.7**	**-1.1**	
QIZ					pmax	pmax			
	comp=Z,290nm,8.8s								
QIZ					LR	LR			
	comp=Z,170nm,19.1s								
QIZ					LR	LR			
	comp=Z,230nm,17.5s								
QIZ					LR	LR			
	comp=Z,230nm,15.9s								
Y14A	**Wickenburg**	**85.12**	**48**		P	**P**	**10 15 48.6**	**-0.8**	
USRK	**Ussuriysk Ar.**	**85.13**	**325**		LR	LR	10 47 27.9		
	comp=Z,506nm,21.9s,baz=142,slow=31								
NJ2	**Nanjing**	**85.19**	**309**		*e*P	**P**	**10 15 51.9**	**+2.3**	
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.6s								
NJ2					LR	LR			
	comp=Z,450nm,17.7s								
NJ2					LR	LR			
	comp=Z,380nm,15.7s								
NJ2					LR	LR			
	comp=Z,490nm,18.6s								
J04D	**Umpqua Nationa**	**85.64**	**36**		P	**P**	**10 15 53.9**	**+2.0**	
	baz=226								
TUC	**Tucson**	**85.67**	**51**		P	**P**	**10 15 50.6**	**-1.5**	
TUC					IAmb	IAmb	10 16 05.1		
	comp=Z,7.1nm,1.1s								
I04A	**Tendick Farm,**	**85.86**	**36**		P	**P**	**10 15 53.7**	**+0.9**	
	baz=226								
PRN	**Pahroc Range**	**85.91**	**44**		P	**P**	**10 15 53.2**	**-0.1**	
J05D	**Fort Rock, OR**	**86.14**	**37**		P	**P**	**10 15 55.3**	**+1.0**	
	baz=227								
R11A	**Troy Canyon, C**	**86.17**	**43**		P	**P**	**10 15 55.6**	**+1.0**	
	baz=231								
X16A	**Lo Mia Camp, P**	**86.45**	**49**		IAmb	IAmb	10 16 13.1		
	comp=Z,6.7nm,1.1s								
PSI	**Prapat**	**86.68**	**275**		LR	LR	10 56 26.8		
	comp=Z,1μm,19.5s,baz=128,slow=37								
CCUT	**Cedar City**	**87.06**	**45**		IAmb	IAmb	10 16 12.5		
	comp=Z,9.2nm,1.4s								
U15A	**North Rim**	**87.07**	**46**		IAmb	IAmb	10 16 13.2		
	comp=Z,15nm,1.4s								
KNB	**Kanab**	**87.08**	**46**		IAmb	IAmb	10 16 15.5		
	comp=Z,6.1nm,1.0s								
WUAZ	**Wupatki**	**87.14**	**48**		P	**P**	**10 15 58.7**	**-0.7**	
WUAZ					IAmb	IAmb	10 16 13.2		
	comp=Z,11nm,1.3s								
WHN	**Wuhan**	**87.52**	**306**	⇑	P	**P**	**10 16 02.4**	**+1.3**	
WHN					pP	**pP**	**10 16 13.0**	**0.0**	
WHN					SKS	**SKSac**	**10 26 22.4**	**-3.2**	
WHN					S	**S**	**10 26 41.5**	**+2.2**	
WHN					pmax	pmax			
	comp=Z,37nm,0.9s								
WHN					LR	LR			
	comp=Z,770nm,15.4s								
WHN					LR	LR			
	comp=Z,510nm,12.8s								
WHN					LR	LR			
	comp=Z,2μm,24.9s								
CN2	**Changchun**	**88.32**	**322**		*e*P	**P**	**10 16 00.1**	**-4.5**	
CN2	**Changchun**	**88.32**	**322**		*e*S	**S**	**10 26 41.1**	**-5.2**	
CN2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
CN2					pmax	pmax			
	comp=Z,100nm,3.0s								
CN2					LR	LR			
	comp=N,200nm,17.0s								
CN2					LR	LR			
	comp=E,300nm,17.0s								
CN2					LR	LR			
	comp=Z,300nm,21.0s								
G08A	**Pilot Rock**	**88.69**	**36**		P	**P**	**10 16 05.3**	**-1.2**	
TIA	**Tai'an**	**88.76**	**312**	⇑	P	**P**	**10 16 09.2**	**+2.3**	
TIA					S	S	10 26 38.8	-12	
TIA					pmax	pmax			
	comp=Z,4.0nm,0.4s								
TIA					pmax	pmax			
	comp=Z,260nm,8.2s								
TIA					LR	LR			
	comp=Z,260nm,19.8s								
TIA					LR	LR			
	comp=Z,220nm,9.6s								
TIA					LR	LR			
	comp=Z,250nm,15.2s								
KLR	**Kul'dur**	**88.81**	**329**		P	**P**	**10 16 07.8**	**+1.0**	
	comp=Z,3.1nm,0.8s,baz=123,slow=2.4,SNR=14								
KLR					LR	LR	10 49 47.7		
	comp=Z,426nm,21.5s,baz=153,slow=32								
MNTX	**Cornudas Mount**	**89.14**	**54**		P	**P**	**10 16 07.8**	**-1.0**	
TXAR	**Lajitas Array**	**89.14**	**56**		P	**P**	**10 16 09.4**	**+0.5**	
	comp=Z,0.5nm,0.8s,baz=222,slow=8.0,SNR=5.6								
TXAR					LR	LR	10 49 02.0		
	comp=Z,289nm,21.2s,baz=234,slow=31								
TXAR	**Lajitas Array**	**89.14**	**56**		P	**P**	**10 16 07.7**	**-1.3**	
BBB	**Bella Bella**	**89.25**	**27**		LR	LR	10 49 08.6		
	comp=Z,214nm,19.8s,baz=245,slow=31								
TMUT	**Trail Mountain**	**89.46**	**45**		IAmb	IAmb	10 16 26.6		
	comp=Z,8.7nm,0.9s								
D08A	**Wollman Farm,**	**89.88**	**35**		P	**P**	**10 16 11.0**	**-0.8**	
HVU	**Hansel Valley**	**89.97**	**42**		P	**P**	**10 16 11.0**	**-1.6**	
HVU					IAmb	IAmb	10 16 26.9		
	comp=Z,5.9nm,1.0s								
F10A	**Beach Ranch, E**	**90.06**	**37**		IAmb	IAmb	10 16 24.9		
	comp=Z,12nm,1.1s								
CMIG	**Matias Romero**	**90.14**	**71**		LR	LR	10 49 13.9		
	comp=Z,250nm,18.7s,baz=248,slow=31								
PLID	**Pearl Lake**	**90.16**	**38**		P	**P**	**10 16 13.0**	**-0.5**	
PLID					IAmb	IAmb	10 16 26.6		
	comp=Z,12nm,1.2s								
MA2	**Magadan**	**90.33**	**344**		LR	LR	10 53 27.0		
	comp=Z,316nm,18.8s,baz=158,slow=33								
M22K	**Willow**	**90.78**	**12**		P	**P**	**10 16 18.4**	**+2.8**	
	baz=203								
TTA	**Tatalina**	**90.92**	**9**		P	**P**	**10 16 18.2**	**+1.8**	
	baz=198								
LYN	**LuoYang**	**91.02**	**309**	⇑	P	**P**	**10 16 18.7**	**+1.2**	
LYN					pmax	pmax			
	comp=Z,290nm,6.1s								
LYN					LR	LR			
	comp=Z,410nm,14.5s								
LYN					LR	LR			
	comp=Z,260nm,13.7s								
LYN					LR	LR			
	comp=Z,520nm,20.6s								
HNS	**HongShan**	**91.03**	**312**	⇑	P	**P**	**10 16 18.7**	**+1.3**	
HNS					pmax	pmax			
	comp=Z,9.0nm,0.7s								
HNS					pmax	pmax			
	comp=Z,290nm,8.8s								
HNS					LR	LR			
	comp=Z,280nm,20.1s								
HNS					LR	LR			
	comp=Z,260nm,19.1s								
HNS					LR	LR			
	comp=Z,420nm,18.1s								
GYA	**Guiyang**	**91.19**	**299**	⇑	P	**P**	**10 16 20.0**	**+1.3**	
GYA					S	**S**	**10 27 11.9**	**-2.2**	
GYA					LR	LR			
	comp=Z,180nm,12.4s								
GYA					LR	LR			
	comp=Z,260nm,20.2s								
GYA					LR	LR			
	comp=Z,340nm,18.9s								
BMRM	**Bremner River**	**91.22**	**15**		P	**P**	**10 16 19.2**	**+1.4**	
	baz=208								
SCM	**Sheep Creek Mo**	**91.40**	**13**		P	**P**	**10 16 20.0**	**+1.3**	
	baz=205								
S22A	**4UR Ranch, Cre**	**91.41**	**48**		P	**P**	**10 16 19.9**	**+0.3**	
	baz=237								
NEW	**Newport**	**91.59**	**35**		LR	LR	10 51 01.4		
	comp=Z,447nm,20.3s,baz=237,slow=31								
CTG	**Chitna Glacier**	**92.00**	**16**		P	**P**	**10 16 22.9**	**+1.3**	
	baz=211								
TRF	**Thorofare Moun**	**92.32**	**11**		P	**P**	**10 16 24.0**	**+1.0**	
	baz=203								
J20K	**Nowinta River**	**92.38**	**9**		P	**P**	**10 16 24.2**	**+1.2**	
	baz=200								
PDAR	**Pinedale Array**	**92.48**	**43**		P	**P**	**10 16 24.9**	**+0.5**	
	comp=Z,0.5nm,0.8s,baz=151,slow=3.4,SNR=5.3								
NNA	**Nana**	**92.83**	**105**		LR	LR	10 50 14.3		
	comp=Z,292nm,19.9s,baz=250,slow=30								
SEY	**Seymchan**	**92.92**	**346**		P	**P**	**10 16 25.9**	**+0.4**	
	comp=Z,1.8nm,0.7s,baz=152,slow=5.4,SNR=9.9								
SEY					LR	LR	10 53 25.1		
	comp=Z,572nm,20.1s,baz=152,slow=32								
XAN	**Xi'an**	**93.26**	**307**		P	**P**	**10 16 31.2**	**+3.3**	
XAN					pP	pP	10 16 40.5	+0.7	
XAN					pmax	pmax			
	comp=Z,6.0nm,0.8s								
KMI	**Kunming**	**93.66**	**296**	⇑	P	**P**	**10 16 31.6**	**+1.4**	
KMI					pmax	pmax			
	comp=Z,19nm,1.2s								
CMAR	**Chiang Mai Arr**	**93.75**	**289**		P	**P**	**10 16 30.5**	**0.0**	
	comp=Z,5.1nm,0.8s,baz=142,slow=3.6,SNR=11								
CHTO	**Chiang Mai**	**93.91**	**289**		P	**P**	**10 16 31.3**	**+0.1**	
CHTO					IAmb	IAmb	10 16 35.2		
	comp=Z,5.7nm,0.7s								
ILAR	**Eielson Array**	**94.15**	**12**		P	**P**	**10 16 31.0**	**-0.2**	
	comp=Z,1.1nm,0.7s,baz=222,slow=4.3,SNR=13								
LVC	**Limon Verde**	**94.22**	**118**		LR	LR	10 49 15.0		
	comp=Z,354nm,21.2s,baz=258,slow=29								
J25K	**Salcha River,**	**94.30**	**13**		IAmb	IAmb	10 17 00.1		
	comp=Z,9.3nm,1.4s								
J25K	**Salcha River,**	**94.30**	**13**		P	**P**	**10 16 32.2**	**+0.2**	
	baz=207								
J26L	**Joseph Creek**	**94.57**	**14**		P	**P**	**10 16 34.4**	**+1.2**	
	baz=209								
HHC	**Hu-ho-hao-te**	**94.94**	**314**		*e*P	**P**	**10 16 38.5**	**+2.9**	
HHC					S	**S**	**10 27 46.3**	**-0.3**	
HHC					pmax	pmax			
	comp=Z,10.0nm,0.9s								
HHC					pmax	pmax			
	comp=Z,170nm,5.6s								
HHC					LR	LR			
	comp=Z,270nm,17.6s								
HHC					LR	LR			
	comp=Z,280nm,17.1s								
HHC					LR	LR			
	comp=Z,400nm,17.1s								
PZH	**PanZhiHua**	**95.10**	**297**		P	**P**	**10 16 37.7**	**+1.1**	
PZH					S	**S**	**10 27 48.6**	**-0.1**	
PZH					pmax	pmax			
	comp=Z,10.0nm,0.5s								
PZH					pmax	pmax			
	comp=Z,140nm,7.3s								
PZH					LR	LR			
	comp=Z,170nm,20.6s								
PZH					LR	LR			
	comp=Z,250nm,19.0s								
PZH					LR	LR			
	comp=Z,270nm,20.1s								
JTS	**Las Juntas de**	**95.68**	**81**		LR	LR	10 51 28.8		
	comp=Z,462nm,18.8s,baz=46,slow=30								
RSSD	**Black Hills**	**96.59**	**44**		P	**P**	**10 16 43.2**	**0.0**	
RSSD					IAmb	IAmb	10 16 55.6		
	comp=Z,7.6nm,1.1s								
LZH	**Lanzhou**	**97.89**	**306**		*e*P	**P**	**10 16 48.9**	**-0.3**	
LZH					pP	pP	10 17 00.4	-0.7	
LZH					sP	pwP	10 17 05.6	+0.1	
LZH					sS	sS	10 28 32.7	+0.1	
LZH					pmax	pmax			
	comp=Z,14nm,1.4s								
LZH					LR	LR			
	comp=Z,230nm,17.9s								
LZH					LR	LR			
	comp=Z,520nm,17.3s								
LZH					LR	LR			
	comp=Z,560nm,17.9s								
LPAZ	**La Paz**	**98.10**	**113**		LR	LR	10 52 09.0		
	comp=Z,247nm,21.4s,baz=227,slow=30								
YAK	**Yakutsk**	**98.60**	**337**		LR	LR	10 58 45.7		
	comp=Z,256nm,20.5s,baz=105,slow=34								
INK	**Inuvik**	**99.97**	**15**		LR	LR	10 58 45.0		
	comp=Z,210nm,18.6s,baz=204,slow=33								
YKA	**Yellowknife Ar**	**101.59**	**25**		P	**Pdif**	**10 17 03.8**	**-0.9**	
	comp=Z,0.3nm,0.9s,baz=245,slow=4.0,SNR=4.1								
YKA					PKiKP	**PKiKP**	**10 21 28.4**	**+0.2**	
	comp=Z,0.3nm,0.8s,baz=246,slow=1.6,SNR=5.6								
GOMU	**GeErMu**	**104.56**	**303**		Pdif	**Pdif**	**10 17 16.8**	**-2.3**	
GOMU					AMB	AMB			
	comp=Z,74nm,4.2s								
GOMU					LR	LR			
	comp=Z,120nm,16.3s								
GOMU					LR	LR			
	comp=Z,230nm,19.6s								
GOMU					LR	LR			
	comp=Z,230nm,19.2s								
WMQ	**Urumqi**	**112.26**	**309**		*e*PKP	**PKiKP**	**10 21 51.4**	**+2.7**	
WMQ					LR	LR			
	comp=Z,610nm,19.5s								
WMQ					LR	LR			
	comp=Z,600nm,24.5s								
WMQ					LR	LR			
	comp=Z,130nm,16.1s								
EMPR	**Esperanza - Ma**	**115.28**	**81**			**PKPdf**	**10 21 53.7**	**-1.4**	
ZALV	**Zalesovo Beam**	**116.42**	**319**		PKP	**PKPdf**	**10 21 55.5**	**-0.8**	
	comp=Z,17nm,0.7s,baz=73,slow=1.1,SNR=7.6								
ZALV	**Zalesovo Beam**	**116.42**	**319**			**PKPdf**	**10 21 55.7**	**-0.5**	
MK31	**Makanchi Array**	**116.68**	**311**			**PKPdf**	**10 21 56.6**	**-0.5**	
MKAR	**Makanchi Array**	**116.68**	**311**		PKP	**PKPdf**	**10 21 56.5**	**-0.6**	
	comp=Z,1.6nm,0.7s,baz=75,slow=1.6,SNR=17								
MAKZ	**Makanchi**	**116.89**	**311**			**PKPdf**	**10 21 56.9**	**-0.6**	
GAR	**Garm**	**123.99**	**300**			**PKiKP**	**10 22 12.1**	**+0.3**	
KBL	**Kabul**	**124.23**	**295**			**PKPdf**	**10 22 12.0**	**-0.2**	
KKAR	**Karatay Array**	**124.38**	**305**			**PKPdf**	**10 22 11.9**	**-0.1**	
ARCES	**ARCESS Array B**	**135.45**	**349**		PKP	**PKPdf**	**10 22 32.6**	**+0.5**	
	comp=Z,4.2nm,0.9s,baz=343,slow=3.8,SNR=4.5								
KLMR	**Klimovskoe**	**138.33**	**335**		*e*PKPdf	**PKiKP**	**10 22 41.8**	**+2.0**	
KLMR					AMP		10 22 53.5		
	comp=Z,11nm,1.2s								
FINES	**FINESS Array B**	**142.31**	**343**		PKhKP	PKPpre	10 22 40.1		
	comp=Z,1.4nm,0.8s,baz=32,slow=5.0,SNR=6.4								
KBZ	**Khabaz**	**144.31**	**308**		PKP	**PKPdf**	**10 22 48.3**	**-0.7**	
	comp=Z,2.6nm,0.7s,baz=163,slow=1.9,SNR=7.1								
VSU	**Vasula**	**144.57**	**339**		*e*P	**PKPab**	**10 22 47.6**	**+0.1**	
MTSE	**Matsula**	**145.23**	**342**		*e*P	**PKPab**	**10 22 49.9**	**0.0**	
NB2	**NORSAR Subarra**	**145.47**	**354**		PKP	**PKPdf**	**10 22 50.2**	**-0.3**	
	comp=Z,3.9nm,0.7s,baz=10,slow=3.8								
NOA	**NORSAR Array B**	**145.47**	**354**		PKPbc	**PKPdf**	**10 22 50.2**	**-0.3**	
	comp=Z,5.2nm,0.8s,baz=9.4,slow=2.4,SNR=32								
UPP	**Uppsala**	**145.67**	**348**		*e*P	**PKPab**	**10 22 52.2**	**+0.7**	
IDID	**Didziasalis**	**147.04**	**336**		*e*P	**PKPbc**	**10 22 56.1**	**+0.8**	
VIKU	**Vikbolandet**	**147.11**	**348**		*e*P	**PKPdf**	**10 22 52.0**	**-1.2**	
IIGN	**Ignalina**	**147.20**	**336**		*e*P	**PKPab**	**10 22 56.8**	**-0.8**	
NACGM	**Naroch**	**147.34**	**335**		*e*PKP	**PKPbc**	**10 22 57.2**	**+0.9**	
AKASG	**Malin Array Be**	**149.31**	**328**		PKPbc	**PKPbc**	**10 23 00.6**	**-0.9**	
	comp=Z,5.9nm,0.7s,baz=41,slow=3.7,SNR=26								
BRTR	**Keskin Array B**	**152.09**	**305**		PKPbc	**PKPbc**	**10 23 08.6**	**-0.1**	
	comp=Z,2.9nm,0.8s,baz=48,slow=1.8,SNR=12								
BRTR	**Keskin Array B**	**152.09**	**305**			**PKiKP**	**10 23 11.2**	**+2.2**	
BRTR					PKPab	**pPKPbc**	**10 23 21.0**	**+0.2**	
CLL	**Collm**	**154.61**	**346**		*e*(PKPdf)	**PKPdf**	**10 23 08.0**	**+2.9**	
CLL					*i* PKPbc	**PKiKP**	**10 23 14.3**	**+0.7**	
	comp=Z,5.0nm,0.9s								
CLL					*i* sPKPdf	**sPKPdf**	**10 23 19.6**	**-1.8**	
CLL					*e*PKPab	**PKPab**	**10 23 27.0**	**-1.3**	
	comp=Z,5.0nm,1.0s								
CLL					*i* pPKPab	**pPKPab**	**10 23 39.4**	**-0.8**	
CLL					*e*PP	**PP**	**10 27 06.0**	**+2.7**	
CLL					*e*PPP	PPP	10 30 48.0		
CLL					*e*PSKS		10 37 24.0		
CLL					*e*PPS	PPS	10 40 12.0		
CLL					*e*SS	SS	10 46 46.0	+5.4	
CLL					*e*SSS	SSS	10 52 36.0		
CLL					*e*(SSSS)		10 56 18.0		
CLL					Lm	MLR	11 39 00.0		
	comp=N,300nm,20.2s								
CLL					Lm	MLR	11 39 00.0		
	comp=E,100nm,21.5s								
CLL					Lm	MLR	11 39 00.0		
	comp=Z,400nm,18.8s								
GERES	**GERESS Array B**	**156.75**	**343**		PKPab	**PKPab**	**10 23 35.8**	**-1.9**	
	comp=Z,1.0nm,0.7s,baz=28,slow=4.4,SNR=4.0								
GERES	**GERESS Array B**	**156.75**	**343**			**PKPab**	**10 23 35.6**	**-2.1**	
TORD	**Torodi Ar. Bea**	**166.21**	**171**		PKP	**PKPdf**	**10 23 18.6**	**-0.3**	
	comp=Z,0.6nm,0.7s,baz=311,slow=1.0,SNR=3.9								
TORD					PKPab	**PKPab**	**10 24 20.4**	**+0.9**	
	comp=Z,3.1nm,0.7s,baz=190,slow=4.1,SNR=11								

UPA ***09*** *10:27:22.6±0.7,9.°41N×83.°82W,h14km±3km,MW3.8*
INET ***09*** *10:27:22.1±1.0,9.°40N×83.°79W,h45km±10km,MW2.3*

ISC 09 10:27:22.0±1.2,9.°33N±0.°05×83.°88W±0.°06,h30km±14km, n14,σ0°878/20,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEZE	**Perez Zeledon,**	**0.20**	**76**	*e*P	**Pn**	**10 27 30.7**	**+1.5**
CDM	**Cerro de Muert**	**0.25**	**28**	*e*P	**Pn**	**10 27 30.9**	**+0.8**
RIMA	**Rio Macho**	**0.43**	**2**	*e*P	**Pn**	**10 27 31.9**	**-0.5**
DRK0	**Durika**	**0.63**	**96**	*e*P	**Pn**	**10 27 34.5**	**-0.5**
DRK0				*e*S	**Sn**	**10 27 43.7**	**-0.5**
DRK0	**Durika**	**0.63**	**96**	*e*P	**Pn**	**10 27 34.4**	**-0.7**
HDC	**Heredia**	**0.70**	**341**	*e*P	**Pb**	**10 27 35.5**	**-0.4**
H

	comp=Z,5.2nm,1.2s							
QSPA	**South Pole Qui**	**75.78**	**180**	P	**P**	**10 50 30.4**	**+0.8**
QSPA				IAmb	IAmb	10 50 39.2	
	comp=Z,9.7nm,1.4s							
BILL	**Bilibino**	**82.06**	**360**	P	**P**	**10 51 04.1**	**+0.5**
BILL				IAmb	IAmb	10 51 04.8	
	comp=Z,3.6nm,0.5s							
CAST	**Castle Rocks**	**83.65**	**17**	P	**P**	**10 51 11.8**	**-0.2**
CAST				IAmb	IAmb	10 51 33.9	
	comp=Z,3.7nm,1.2s							
J20K	**Nowinta River**	**83.67**	**16**	P	**P**	**10 51 13.5**	**+1.4**
RND	**Reindeer**	**84.60**	**18**	P	**P**	**10 51 16.4**	**-0.6**
I21K	**Tanana**	**85.04**	**16**	P	**P**	**10 51 19.5**	**+0.6**
I21K				IAmb	IAmb	10 51 51.4	
	comp=Z,5.5nm,1.4s							
ILAR	**Eielson Array**	**86.19**	**18**	P	**P**	**10 51 24.2**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=243,slow=5.1,SNR=27							
ILAR	**Eielson Array**	**86.19**	**18**	P	**P**	**10 51 24.4**	**-0.3**
MKAR	**Makanchi Array**	**96.59**	**316**	P	**P**	**10 52 13.7**	**0.0**
	comp=Z,0.1nm,0.4s,baz=93,slow=6.4,SNR=2.3							
YKA	**Yellowknife Ar**	**97.30**	**27**	P	**P**	**10 52 15.8**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=257,slow=4.9,SNR=5.6							
ARCES	**ARCESS Array B**	**119.69**	**345**	PKP	**PKPdf**	**10 57 32.8**	**-0.3**
	comp=Z,7.2nm,1.1s,baz=28,slow=4.6,SNR=5.5							
ARCES	**ARCESS Array B**	**119.69**	**345**		**PKPdf**	**10 57 32.6**	**-0.5**
FINES	**FINESS Array B**	**125.13**	**338**	PKP	**PKPdf**	**10 57 43.6**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=85,slow=3.1,SNR=1.8							
FINES	**FINESS Array B**	**125.13**	**338**		**PKiKP**	**10 57 44.3**	**+0.2**
NOA	**NORSAR Array B**	**130.06**	**345**	PKP	**PKPdf**	**10 57 53.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=37,slow=2.6,SNR=1.5							
KEST	**Kesra**	**150.59**	**321**	PKPbc	**PKiKP**	**10 58 37.8**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=18,slow=3.2,SNR=1.5							

IDC 09 10:39:44.7±4.8, 31°04'N×141°47'E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/46, mbtmp3.5/5, ML2.3/1, Error ellipse: s-maj=186.4km s-min=24.0km az=70.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.13**	**335**	Pn	Pn	10 41 14.7	-1.8
	0.1nm,0.3s,baz=155,slow=9.1,SNR=4.6						
MJAR				Sn	Sn	10 42 21.3	-6.0
	0.1nm,0.3s,baz=116,slow=23,SNR=1.5						
SONM	**Songino Array**	**31.53**	**312**	P	P	10 46 09.7	+1.1
	0.5nm,0.4s,baz=111,slow=7.9,SNR=1.9						
MKAR	**Makanchi Array**	**47.55**	**307**	P	P	10 48 21.7	-0.3
	0.2nm,0.4s,baz=91,slow=9.1,SNR=4.3						
WRA	**Warramunga Arr**	**51.15**	**189**	P	P	10 48 49.5	-0.1
	0.4nm,0.6s,baz=5.2,slow=7.7,SNR=8.5						
ASAR	**Alice Springs**	**54.87**	**188**	P	P	10 49 16.7	-0.4
	0.1nm,0.3s,baz=13,slow=8.8,SNR=1.9						

*STR **09** 10:39:46.2±2.2, 47°N±11°×1°1E±1°2, h7km, MLv2.1/4, preliminary*

VIE 09 10:39:49.1±0.2, 47°33'N×10°69'E, h6km±2km, mb1.3/3, ml1.9/12, Error ellipse: s-maj=1.1km s-min=0.8km az=6.0 9 km NNW of Imst, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RETA	**Reutte**	**0.17**	**17**	*i* Pg	Pg	10 39 52.6	+0.1
	4.3nm,0.1s,SNR=57						
RETA				*i* Sg	Sg	10 39 55.4	+0.5
	83nm,0.1s,SNR=43						
MOTA	**Moosalm**	**0.28**	**86**	*i* Pg	Pg	10 39 54.7	0.0
	15nm,0.1s,SNR=34						
MOTA				*i* Sg	Sg	10 39 59.4	+1.0
	49nm,0.1s						
FETA	**Feichten**	**0.31**	**175**	*i* Pg	Pg	10 39 55.3	+0.1
	1.7nm,0.1s,SNR=15						
FETA				*i* Sg	Sg	10 40 00.1	+0.8
	5.0nm,0.1s						
SQTA	**Sankt Quirin**	**0.37**	**107**	*e*Pg	Pg	10 39 56.4	+0.1
	3.0nm,0.1s,SNR=9.8						
SQTA				*i* Sg	Sg	10 40 01.8	+0.6
	14nm,0.1s,SNR=19						
DAVA	**Damuels**	**0.55**	**266**	*e*Pg	Pg	10 39 59.8	0.0
	5.4nm,0.1s,SNR=8.8						
DAVA				*e*Sg	Sg	10 40 08.1	+1.0
	12nm,0.2s,SNR=6.8						
WATA	**Walderalm**	**0.60**	**89**	*i* Pg	Pg	10 40 00.5	-0.2
	0.6nm,0.1s						
WATA				*e*Sg	Sg	10 40 09.3	+0.7
	7.2nm,0.2s,SNR=5.9						
WTTA	**Wattenberg**	**0.65**	**95**	*e*Pg	Pg	10 40 01.3	-0.4
	0.5nm,0.1s						
WTTA				*e*Sg	Sg	10 40 11.0	+1.0
	5.0nm,0.2s,SNR=6.9						
GUT	**Gutenstein**	**1.30**	**306**	Pg	Pn	10 40 13.8	-0.1
GUT	**Gutenstein**	**1.30**	**306**	Sn	Sn	10 40 31.3	-0.2
ABTA	**Abfaltersbach**	**1.37**	**114**	*i* Pg	Pg	10 40 16.1	+0.6
	0.1nm,0.1s						
ABTA				*e*Sg	Sn	10 40 33.8	+0.4
	2.1nm,0.3s						
ZUR	**Degenried**	**1.44**	**272**	Sn	Sg	10 40 36.3	+1.0
ZUR	**Degenried**	**1.44**	**272**	Pg	Pg	10 40 16.5	-0.1
SLE	**Schleitheim**	**1.55**	**287**	Pn	Pn	10 40 17.0	-0.4
SLE	**Schleitheim**	**1.55**	**287**	Pg	Pg	10 40 19.0	+0.1
SLE	**Schleitheim**	**1.55**	**287**	Sn	Sb	10 40 38.5	+0.3
SULZ	**Cheisacher**	**1.76**	**277**	Pn	Pn	10 40 18.2	-2.0
SULZ	**Cheisacher**	**1.76**	**277**	Sn	Sg	10 40 45.5	-0.2
KBA	**Koelnbreinsper**	**1.83**	**97**	*i* Pg	Pg	10 40 24.1	-0.1
	0.6nm,0.1s						
KBA				*e*Sg	Sg	10 40 48.9	+1.1
	1.9nm,0.2s						
BALST	**Balsthal**	**2.04**	**271**	Pn	Pg	10 40 27.5	-0.7

ZUR 09 10:39:50.3, 46°78N×9°83E, h4km±1km, MLh1.7/3, 1D, Error ellipse: s-maj=4.5km s-min=0.9km az=248.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAVOX	**Davos/Dischmat**	**0.03**	**92**	⇓Pg	Pg	10 39 51.6	+0.2
DAVOX				Sg	Sg	10 39 52.5	+0.3
SVAM	**Vaz, Muldain**	**0.23**	**247**	Pg	Pg	10 39 54.9	+0.2
SVAM				Sg	Sg	10 39 58.2	+0.5

*IDC **09** 10:55:13.1±1.6, 50°79N×178°16W, h0km, mb3.6/7, mb1 3.9/10, mb1mx3.6/83, mbtmp3.7/10, ML3.5/3, Error ellipse: s-maj=50.6km s-min=18.0km az=179.0*
*NEIC **09** 10:55:19.4±1.0, 51°2N±0°2×178°28W±0°07, h30km±23km, Error ellipse: s-maj=25.2km s-min=6.6km az=179.0*
*AEIC **09** 10:55:19±1.2, 51°20N±0°06×178°22W±0°06, h23km±4km, ML3.3, Error ellipse: s-maj=9.2km s-min=4.4km az=162.0*

ISC 09 10:55:19.5±1.0, 51°2N±0°1×178°26W±0°04, h35km, n37, σ0°83/32, mb3.7/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAKI	**Gareloi-Kavalg**	**0.51**	**318**		**Pn**	**10 55 29.9**	**-0.4**
TAFL	**Tanaga Flats**	**0.63**	**21**		**Pn**	**10 55 31.6**	**-0.3**
GALAA	**Gareloi Lava P**	**0.67**	**332**		**Pn**	**10 55 33.0**	**+0.5**
TASE	**Tanaga Southea**	**0.68**	**12**		**Pn**	**10 55 32.7**	**+0.1**
GAEA	**Gareloi East**	**0.68**	**334**		**Pn**	**10 55 33.1**	**+0.4**
TAPA	**Tanaga Point A**	**0.70**	**24**		**Pn**	**10 55 32.7**	**-0.3**
GASW	**Gareloi Southw**	**0.71**	**329**		**Pn**	**10 55 33.3**	**+0.2**
TAFP	**Tanaga Falls P**	**0.75**	**13**		**Pn**	**10 55 33.6**	**0.0**
KIMD	**Kanaga Island**	**0.87**	**47**		**Pn**	**10 55 34.6**	**-0.7**
KIWB	**Kanaga Island**	**0.97**	**45**		**Pn**	**10 55 36.1**	**-0.5**
KIKV	**Kanaga Island**	**0.98**	**44**		**Pn**	**10 55 36.6**	**-0.2**
KICM	**Kanaga Island**	**1.00**	**41**		**Pn**	**10 55 37.4**	**+0.3**
ADK	**Adak**	**1.22**	**54**		**Pn**	**10 55 39.4**	**+0.6**
ADK				Sg	**Sn**	**10 55 55.9**	**+0.7**
GSCK	**Great Sitkin C**	**1.56**	**57**		**Pn**	**10 55 45.3**	**+0.6**
GSTD	**Great Sitkin T**	**1.59**	**55**		**Pn**	**10 55 45.9**	**+0.7**
GSMY	**Great Sitkin M**	**1.63**	**57**		**Pn**	**10 55 46.0**	**+0.4**
GSTR	**Great Sitkin T**	**1.65**	**55**		**Pn**	**10 55 45.7**	**-0.4**
ATKA	**Atka Island**	**2.73**	**66**		**Pn**	**10 56 02.0**	**+1.2**
KOKL	**Mount Kliuchef**	**2.78**	**64**		**Pn**	**10 56 03.3**	**+1.8**
SHEM	**Shemya Is, Ala**	**4.97**	**291**	Pn	**Pn**	**10 56 31.7**	**+0.1**
	0.9nm,0.3s,baz=255,slow=22,SNR=2.2						
SHEM				Sn	Sn	10 57 39.2	+11
	2.2nm,0.3s,baz=293,slow=21,SNR=1.5						
SMY	**Shemya**	**4.97**	**291**		**Pn**	**10 56 32.0**	**+0.4**
KDAK	**Kodiak Island**	**16.26**	**56**	Pn	**Pn**	**10 59 03.2**	**-1.7**
	0.3nm,0.3s,baz=234,slow=2.2,SNR=9.6						
SEY	**Seymchan**	**19.62**	**318**	P	**Pn**	**10 59 46.8**	**+0.7**
	0.2nm,0.3s,baz=86,slow=21,SNR=5.1						
ILAR	**Eielson Array**	**21.20**	**38**	P	**P**	**11 00 03.5**	**+1.8**
	0.3nm,0.6s,baz=243,slow=9.6,SNR=6.5						
KLR	**Kul'dur**	**31.56**	**286**	P	**P**	**11 01 38.4**	**+0.1**
	3.5nm,0.5s,baz=75,slow=7.4,SNR=18						
H11N2	**WAKE ISLAND Hy**	**33.49**	**206**	T	T	11 37 26.2	
	baz=18,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**33.50**	**206**	T	T	11 37 26.5	
	baz=18,slow=75,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**33.51**	**206**	T	T	11 37 27.3	
	baz=18,slow=75,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**34.71**	**206**	T	T	11 39 00.8	
	baz=18,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**34.72**	**206**	T	T	11 38 51.1	
	baz=18,slow=76,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**34.72**	**206**	T	T	11 39 07.9	
	baz=18,slow=76,SNR=7.7						
YKA	**Yellowknife Ar**	**35.13**	**46**	P	**P**	**11 02 09.8**	**+0.6**
	0.4nm,0.6s,baz=283,slow=8.8,SNR=7.0						
NEW	**Newport**	**38.64**	**70**	P	**P**	**11 02 38.4**	**-0.8**
	1.0nm,0.8s,baz=269,slow=8.5,SNR=2.1						
PDAR	**Pinedale Array**	**46.05**	**72**	P	**P**	**11 03 38.0**	**-1.9**
	0.8nm,0.7s,baz=304,slow=2.6,SNR=8.8						
TXAR	**Lajitas Array**	**58.35**	**81**	P	**P**	**11 05 10.9**	**-0.3**
	0.1nm,0.5s,baz=301,slow=7.3,SNR=2.0						
BRTR	**Keskin Array B**	**58.27**	**336**	P	**P**	**11 07 52.6**	**0.0**
	0.8nm,0.8s,baz=35,slow=5.3,SNR=3.6						
BOSA	**Boshof**	**151.36**	**313**	PKPbc	**PKiKP**	**11 15 09.7**	**-0.1**
	1.0nm,0.5s,baz=322,slow=3.0,SNR=3.9						

*IDC **09** 10:56:39.5±5.4, 35°69N×70°01E, h124km±33km, mb3.3/6, mb1 3.5/11, mb1mx3.2/75, mbtmp3.8/11, Error ellipse: s-maj=67.5km s-min=23.0km az=152.0*
*NNC **09** 10:56:51.7±4.0, 37°30N×69°29E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=44.0km s-min=17.8km az=160.0*

ISC 09 10:56:44.8±0.6, 36°38N±0°05×69°76E±0°06, h150km, n37, σ2°72/45, mb3.3/5, 6C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.10**	**145**	P	**Pn**	**10 57 33.9**	**+0.3**
CEP				S	**Sn**	**10 58 09.0**	**-2.3**
THW	**Thamme Wali**	**3.94**	**155**	P	**Pn**	**10 57 43.9**	**-0.4**
CHCP	**Chirah Chowk**	**3.96**	**132**	P	**Pn**	**10 57 45.0**	**+0.4**
AML	**Almayashu**	**6.50**	**27**	P	**Pn**	**10 58 20.4**	**+1.9**
	SNR=73						
KK31	**Karatay Array**	**6.74**	**5**	⇑P	**Pn**	**10 58 23.1**	**+1.8**
	5.6nm,0.3s,baz=200,slow=13,SNR=88						
KK31				S	**Sn**	**10 59 31.4**	**-5.6**
	4.1nm,0.2s,baz=193,slow=24,SNR=6.9						
UCH	**Uchtor**	**6.90**	**31**	P	**Pn**	**10 58 25.7**	**+1.8**
	SNR=39						
EKS2	**Erkin-Say**	**7.00**	**25**	P	**Pn**	**10 58 27.2**	**+2.4**
	SNR=9.9						
AAK	**Ala-Archa**	**7.24**	**29**	P	**Pn**	**10 58 30.3**	**+2.1**
	SNR=27						
AAK	**Ala-Archa**	**7.24**	**29**	P	**Pn**	**10 58 30.0**	**+1.8**
	8.2nm,0.3s,baz=222,slow=15,SNR=49						
AAK				S	**Sn**	**10 59 49.0**	**-0.2**
	4.2nm,0.3s,baz=95,slow=21,SNR=18						
KBK	**Karagaybulak**	**7.44**	**31**	P	**Pn**	**10 58 33.7**	**+2.9**
	SNR=10						
CHMS	**Chumysh**	**7.65**	**29**	P	**Pn**	**10 58 35.5**	**+2.0**
	SNR=24						
CHMS	**Chumysh**	**7.65**	**29**	⇓P	**Pn**	**10 58 35.3**	**+1.8**
	25nm,0.5s						
CHMS				⇓S	**Sn**	**11 00 00.0**	**+1.3**
	30nm,0.6s						
ULHL	**Ulahol**	**7.72**	**39**	P	**Pn**	**10 58 36.4**	**+1.8**
	SNR=6.2						
USP	**Ospennovka**	**7.78**	**26**	P	**Pn**	**10 58 36.9**	**+1.6**
	SNR=59						
TKM2	**Tokmak 2**	**7.93**	**33**	P	**Pn**	**10 58 39.2**	**+1.8**
	SNR=13						
TKM2	**Tokmak 2**	**7.93**	**33**	⇑P	**Pn**	**10 58 39.0**	**+1.6**
	7.0nm,0.5s						
TKM2				⇑S	**Sn**	**11 00 05.9**	**0.0**
	12nm,0.7s						
MDOK	**Medeo**	**8.79**	**37**	P	**Pn**	**10 58 51.8**	**+3.0**
	7.2nm,0.6s						
GEYT	**Alibeck**	**9.42**	**283**	P	**Pn**	**10 58 57.6**	**+0.5**
	1.8nm,0.3s,baz=116,slow=10,SNR=9.3						
GEYT				S	**Sn**	**11 00 44.0**	**+2.5**
	1.3nm,0.3s,baz=333,slow=45,SNR=3.4						
GYA0B	**ALIBECK ARRAY**	**9.42**	**283**	⇓P	Pn	10 59 03.8	+6.7
GYA0B				⇑S	**Sn**	**11 00 42.7**	**+1.2**
OTUK	**Ortayu**	**12.01**	**8**	⇓P	**Pn**	**10 59 32.5**	**+1.5**
	6.5nm,0.7s						
PYUN	**Piuthan**	**13.90**	**123**	*e*P	**Pn**	**10 59 54.6**	**-1.1**
	16nm,0.3s						
MKAR	**Makanchi Array**	**13.99**	**38**	P	**Pn**	**10 59 56.7**	**+0.2**
	0.1nm,0.3s,baz=206,slow=13,SNR=3.1						
DANN	**Dangsing**	**14.28**	**120**	*e*P	**Pn**	**10 59 58.8**	**-1.7**
	11nm,0.2s						
KOLN	**Koldanda**	**14.53**	**122**	*e*P	**P**	**11 00 03.3**	**-2.7**
	5.9nm,0.3s						
AB31	**Akbulak array**	**14.73**	**334**	⇑P	**P**	**11 00 07.2**	**-0.6**
	7.3nm,0.7s,baz=150,slow=12,SNR=134						
AB31				⇓S	**Sn**	**11 02 41.6**	**-7.4**
	2.1nm,0.5s,baz=165,slow=21,SNR=8.3						
KURBB	**Kurchatov Arra**	**15.58**	**21**	P	**Pn**	**11 00 13.6**	**-2.5**
	0.0nm,0.3s,baz=214,slow=12,SNR=4.4						
GUN	**Gumba**	**16.04**	**117**	*e*P	**P**	**11 00 22.3**	**-0.6**
	25nm,0.4s						
AKTO	**Aktyubinsk**	**16.40**	**333**	P	**Pn**	**11 00 29.7**	**+3.4**
	0.6nm,0.3s,baz=127,slow=10,SNR=9.2						
AKTO				S	**S**	**11 03 26.0**	**-2.3**
	0.3nm,0.3s,baz=219,slow=22,SNR=7.0						
AKTO	**Aktyubinsk**	**16.40**	**333**	⇓P	**Pn**	**11 00 31.5**	**+5.3**
	2.0nm,0.5s						
AKTO				⇑S	**S**	**11 03 21.4**	**-6.9**
	6.3nm,1.0s						
JIRN	**Jiri**	**16.41**	**117**	*e*P	**P**	**11 00 26.7**	**-0.3**
	16nm,0.3s						
BVAR	**Borovoye Array**	**16.65**	**1**	P	**Pn**	**11 00 33.1**	**+3.9**
ZALV	**Zalesovo Beam**	**20.45**	**26**	P	Pn	11 01 13.2	-0.9
	5.4nm,0.4s,baz=224,slow=10,SNR=18						
ARCES	**ARCESS Array B**	**40.88**	**338**	P	**P**	**11 04 14.4**	**+2.8**
	3.7nm,1.0s,baz=108,slow=8.6,SNR=1.6						
TORD	**Torodi Ar. Bea**	**64.71**	**268**	P	**P**	**11 07 05.6**	**-1.5**
	0.2nm,0.4s,baz=57,slow=5.4,SNR=2.7						
INK	**Inuvik**	**74.18**	**9**	P	**P**	**11 08 06.3**	**+1.9**
	0.3nm,0.5s,baz=345,slow=2.7,SNR=3.9						
ILAR	**Eielson Array**	**75.16**	**15**	P	**P**	**11 08 09.5**	**-0.7**
	0.3nm,0.8s,baz=322,slow=3.8,SNR=2.4						
YKA	**Yellowknife Ar**	**81.40**	**2**	P	**P**	**11 08 46.7**	**+2.3**
	0.2nm,0.5s,baz=349,slow=5.6,SNR=6.3						

*IDC **09** 11:03:21.2±1.6, 6°23S×147°62E, h55km±14km, mb3.7/9, mb1 4.0/15, mb1mx3.8/44, mbtmp4.1/15, MS3.6/9, Ms1 3.6/9, ms1mx3.2/63, Error ellipse: s-maj=22.6km s-min=11.8km az=96.0*
*NEIC **09** 11:03:25.2±1.5, 6°30S±0°07×147°4E±0°1, h76km±7km, mb4.2/25, Error ellipse: s-maj=15.2km s-min=9.9km az=96.0*

ISC 09 11:03:22.4±0.5, 6°29S±0°06×147°53E±0°08, h63km, n69, σ1°20/66, mb4.2/16, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.12**	**187**	P	**Pn**	**11 04 09.5**	**+0.3**
	7.7nm,0.3s,baz=336,slow=10.0,SNR=19						
PMG				S	**Sn**	**11 04 46.4**	**+1.2**
	30nm,0.3s,baz=228,slow=20,SNR=9.6						
PMG	**Port Moresby**	**3.12**	**187**		**Pn**	**11 04 09.2**	**0.0**
PMG	**Port Moresby**	**3.12**	**187**	P	**Pn**	**11 04 09.8**	**+0.6**
MANU	**Manus Island**	**4.22**	**358**	Pn	**Pn**	**11 04 26.6**	**+2.3**
KRVT	**Keravat (AS076**	**4.90**	**66**	P	**Pn**	**11 04 32.8**	**-0.7**
	9.2nm,0.3s,baz=149,slow=1.9,SNR=8.9						
RABL	**Rabaul**	**5.07**	**66**	Pn	Pn	11 04 42.3	+6.4
RABL	**Rabaul**	**5.07**	**66**	P	Pn	11 04 44.7	+8.8
	262nm,0.5s						
JAY	**Jayapura**	**7.76**	**299**	P	**Pn**	**11 05 14.3**	**+1.5**
	1.1nm,0.3s,baz=122,slow=15,SNR=2.5						
COEN	**Coen**	**8.74**	**209**	Pn	**Pn**	**11 05 27.8**	**+1.6**
CTA	**Charters Tower**	**13.77**	**185**	P	**Pn**	**11 06 33.6**	**-1.2**
	0.1nm,0.3s,baz=23,slow=9.0,SNR=2.3						
SIJI	**Sorong**	**17.09**	**288**	P	**Pn**	**11 07 17.9**	**+0.6**
	0.8nm,0.3s,baz=123,slow=17,SNR=1.9						
MTN	**Manton Dam**	**17.42**	**247**	P	**P**	**11 07 22.9**	**+1.1**
MTN				IAmb	IAmb	11 07 30.5	
	comp=Z,15nm,1.2s						
WB0	**Warramunga Arr**	**18.50**	**222**	P	**Pn**	**11 07 35.4**	**+0.9**
WR0	**Warramunga Arr**	**18.54**	**222**	P	**P**	**11 07 34.5**	**+0.4**
WR0				IAmb	IAmb	11 07 38.5	
	comp=Z,6.0nm,0.7s						
WRAB	**Tennant Creek**	**18.65**	**222**	P	**P**	**11 07 35.5**	**+0.2**
WB2	**Warramunga Arr**	**18.65**	**222**	P	**P**	**11 07 35.7**	**+0.3**
WRA	**Warramunga Arr**	**18.66**	**222**	P	**P**	**11 07 35.4**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=48,slow=11,SNR=23						
WRA				S	**Sn**	**11 10 59.7**	**-5.0**
	comp=Z,0.0nm,0.3s,baz=44,slow=20,SNR=3.9						
WRA				PcP	**PcP**	**11 12 01.6**	**-0.3**
	baz=34,slow=2.0,SNR=4.7						
WRA				ScP	**ScP**	**11 15 33.9**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=34,slow=2.2,SNR=6.0						
WRA	**Warramunga Arr**	**18.66**	**222**	P	**P**	**11 07 35.9**	**+0.4**
EIDS	**Eidsvold**	**19.28**	**170**		**Pn**	**11 07 43.7**	**0.0**
EIDS				IAmb	IAmb	11 07 44.0	
	comp=Z,6.8nm,0.7s						
GUMO	**Guam**	**19.92**	**352**	LR	LR	11 13 42.4	
	comp=Z,123nm,21.3s,baz=130,slow=31						
RMQ	**Roma**	**20.12**	**177**	P	**P**	**11 07 52.6**	**+1.3**
QLP	**Quilpie**	**20.42**	**188**	P	**P**	**11 07 55.7**	**+1.1**
KNRA	**Kununurra**	**20.63**	**242**	P	**P**	**11 07 56.6**	**-0.3**
KNRA				IAmb	IAmb	11 07 57.4	
	comp=Z,8.6nm,0.9s						
AS31	**Alice Springs**	**21.68**	**216**	P	**P**	**11 08 09.1**	**+1.0**
AS31				IAmb	IAmb	11 08 11.9	
	comp=Z,4.3nm,0.4s						
ASAR	**Alice Springs**	**21.68**	**216**	P	**P**	**11 08 08.6**	**+0.4**
	comp=Z,4.4nm,0.5s,baz=52,slow=8.2,SNR=76						
ASAR				S	**S**	**11 12 02.0**	**-3.0**
	comp=Z,0.5nm,0.8s,baz=32,slow=24,SNR=2.1						
ASAR				ScP	**ScP**	**11 15 41.0**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=46,slow=3.1,SNR=11						
ASAR				LR	LR	11 17 15.5	
	comp=Z,105nm,21.8s,baz=306,slow=38						
ASAR	**Alice Springs**	**21.68**	**216**	P	**P**	**11 08 08.3**	**+0.1**
INKA	**Innaminka**	**22.29**	**196**	P	**P**	**11 08 16.2**	**+1.7**
OOD	**Oodnadatta**	**24.16**	**206**	P	**P**	**11 08 33.1**	**+0.3**
ARMA	**Armidale**	**24.31**	**171**	P	**P**	**11 08 34.7**	**+0.4**
ARMA				IAmb	IAmb	11 08 37.7	
	comp=Z,9.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.36**	**239**	P	**P**	**11 08 35.2**	**+0.4**
	comp=Z,9.5nm,0.6s,baz=53,slow=8.1,SNR=46						
FITZ	**Fitzroy Crossi**	**24.36**	**239**	P	**P**	**11 08 35.8**	**+1.0**
FITZ				IAmb	IAmb	11 08 37.3	
	comp=Z,14nm,0.9s						
CMSA	**Cobar Meteorol**	**25.18**	**184**	P	**P**	**11 08 42.9**	**+0.9**
LCRK	**Leigh Creek**	**25.58**	**199**	P	**P**	**11 08 45.7**	**0.0**
STKA	**Stephens Creek**	**26.05**	**192**	P	**P**	**11 08 49.7**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=356,slow=8.0,SNR=9.4						
STKA				LR	LR	11 19 09.6	
	comp=Z,155nm,18.8s,baz=23,slow=36						
STKA	**Stephens Creek**	**26.05**	**192**	P	**P**	**11 08 50.0**	**+0.1**
STKA	**Stephens Creek**	**26.05**	**192**	P	**P**	**11 08 49.9**	**-0.1**
WRKA	**Warakurna**	**26.20**	**223**	P	**P**	**11 08 51.1**	**-0.4**
MULG	**Mulgathing**	**27.02**	**206**	P	**P**	**11 08 58.6**	**-0.1**
BBOO	**Buckleboo**	**28.47**	**201**	P	**P**	**11 09 11.6**	**0.0**
BBOO				IAmb	IAmb	11 09 11.8	
	comp=Z,13nm,1.1s						
CAN	**Canberra**	**28.92**	**178**	P	**P**	**11 09 15.8**	**+0.1**
CAN				IAmb	IAmb	11 09 21.2	
	comp=Z,7.1nm,1.1s						
FORT	**Forrest**	**30.45**	**214**	P	**P**	**11 09 29.3**	**+0.1**
PSA00	**Pilbara Seismi**	**30.78**	**238**	P	**P**	**11 09 32.2**	**0.0**
PSA00				IAmb	IAmb	11 09 49.9	
	comp=Z,11nm,1.1s						
TOO	**Toolangi**	**31.19**	**183**	P	**P**	**11 09 36.1**	**+0.4**
TOO				IAmb	IAmb	11 10 00.1	
	comp=Z,6.6nm,1.0s						
GIRL	**Giralia**	**35.97**	**240**	P	**P**	**11 10 13.6**	**-3.9**
MORW	**Morawa**	**37.37**	**229**	P	**P**	**11 10 29.4**	**+0.2**
JOW	**Kunigami**	**37.84**	**331**	LR	LR	11 23 40.0	
	comp=Z,63nm,19.1s,baz=308,slow=32						
URZ	**Urewera**	**41.61**	**144**	LR	LR	11 26 37.7	
	comp=Z,72nm,18.6s,baz=26,slow=34						
TUWZ	**Tuamarina**	**42.17**	**150**	P	**P**	**11 11 09.6**	**+0.7**
RPZ	**Rata Peaks**	**42.62**	**

VCES				S		**Sb**	**11 27 35.0**	**-0.5**
BRRN	**Barrancas-Volc**	**1.66**	**335**	P		**Pn**	**11 27 15.0**	**+0.6**
TAMB	**Tambo**	**1.70**	**340**	P		**Pn**	**11 27 15.0**	**0.0**
BMOR	**Cotopaxi Volca**	**1.70**	**336**	P		**Pn**	**11 27 15.0**	**0.0**
SLOR	**San Lorenzo -**	**1.72**	**335**	P		**Pb**	**11 27 16.0**	**-1.1**
BTAM	**Cotopaxi Volca**	**1.73**	**339**	P		**Pn**	**11 27 16.0**	**+0.6**
SRAM	**San Ramn-Vol**	**1.73**	**333**	P		**Pn**	**11 27 16.0**	**+0.8**
BREF	**Cotopaxi Volca**	**1.75**	**338**	P		**Pn**	**11 27 16.0**	**+0.3**
BVC2	**Cotopaxi Volca**	**1.75**	**339**	P		**Pn**	**11 27 16.0**	**+0.3**
VC1	**Cotopaxi 1**	**1.76**	**339**	P		**Pn**	**11 27 16.0**	**+0.2**
BNAS	**Cotopaxi Volca**	**1.77**	**337**	P		**Pn**	**11 27 16.0**	**+0.2**
CAMI	**Rancho Maria**	**1.77**	**336**	P		**Pn**	**11 27 16.0**	**+0.2**
LOJ1	**Universidad t**	**1.77**	**199**	P		Pg	11 27 26.0	+5.9
NAS2	**Nasa**	**1.78**	**337**	P		**Pn**	**11 27 17.0**	**+0.9**
ISUC	**Cotopaxi Ecuad**	**1.80**	**336**	P		**Pn**	**11 27 17.0**	**+0.8**
SUCR	**Mariscal Sucre**	**1.80**	**337**	P		**Pn**	**11 27 17.0**	**+0.7**
ANTM	**Antisana-La Mi**	**1.81**	**346**	P		**Pn**	**11 27 16.0**	**-0.4**
PAST	**Pastocalle**	**1.82**	**332**	P		**Pb**	**11 27 18.0**	**-0.7**
AMIL	**Milagro (Trans**	**1.82**	**275**	P		**Pg**	**11 27 19.0**	**-1.9**
ANTS	**Antisana-Sarah**	**1.83**	**348**	P		**Pn**	**11 27 17.0**	**+0.1**
ILLI	**Illinizas Sur**	**1.84**	**329**	P		**Pb**	**11 27 18.0**	**-1.2**
ANTG	**Antisana-Guama**	**1.85**	**345**	P		**Pn**	**11 27 17.0**	**0.0**
ANTI	**Antisana**	**1.88**	**348**	P		**Pn**	**11 27 17.0**	**-0.5**
TOMA	**Boca Toma-Volc**	**1.91**	**340**	P		**Pb**	**11 27 19.0**	**-1.3**
APS4	**Papallacta**	**1.95**	**350**	P		**Pn**	**11 27 18.0**	**-0.2**
AV05	**Acelerografo,**	**2.09**	**2**	P		**Pn**	**11 27 20.0**	**+0.1**
GYE3	**Ecuador-Guayaq**	**2.12**	**274**	P		**Pb**	**11 27 23.0**	**-0.7**
AGUAY	**Guayaquil**	**2.19**	**276**	P		**Pg**	**11 27 28.0**	**+0.1**
CIVI	**Edificio de In**	**2.19**	**341**	P		**Pb**	**11 27 25.0**	**-0.1**
EPNL	**EPN Laboratori**	**2.19**	**341**	P		**Pb**	**11 27 24.0**	**-1.1**
CONE	**Cono NE Rev Vo**	**2.22**	**3**	P		**Pn**	**11 27 21.0**	**-0.9**
GGPT	**Toaza - Volcan**	**2.23**	**338**	P		**Pb**	**11 27 24.0**	**-1.7**
JUA2	**San Juan 2**	**2.23**	**338**	P		**Pb**	**11 27 24.0**	**-1.9**
HPAL	**Hacienda Las P**	**2.25**	**337**	P		**Pn**	**11 27 24.0**	**+1.7**
FENY	**Casa Vinicio C**	**2.25**	**342**	P		**Pb**	**11 27 25.0**	**-1.1**
GGPC	**Guagua Pichinc**	**2.26**	**339**	P		**Pn**	**11 27 24.0**	**+1.3**
TERV	**Terraza Guagua**	**2.27**	**339**	P		**Pb**	**11 27 25.0**	**-1.5**
PINO	**Pino**	**2.29**	**339**	P		**Pb**	**11 27 25.0**	**-1.8**
AV11	**Acelerografo,**	**2.29**	**345**	P		**Pb**	**11 27 25.0**	**-1.7**
YANA	**Yana**	**2.31**	**340**	P		**Pn**	**11 27 25.0**	**+1.7**
CAYR	**Refugio Cayamb**	**2.31**	**354**	P		**Pn**	**11 27 24.0**	**+0.5**
ANGU	**Angureal**	**2.34**	**354**	P		**Pn**	**11 27 25.0**	**+1.1**
CAYA	**Cayambe**	**2.37**	**355**	P		**Pn**	**11 27 25.0**	**+0.9**
AV03	**Acelerografo,**	**2.38**	**11**	P		**Pn**	**11 27 24.0**	**+0.1**
APR1	**Acelerografo,**	**2.39**	**340**	P		**Pb**	**11 27 27.0**	**-1.5**
PULU	**Pululahua**	**2.42**	**343**	P		**Pb**	**11 27 27.0**	**-2.0**
ASDO	**Santo Domingo**	**2.43**	**326**	P		**Pb**	**11 27 28.0**	**-1.0**
ISPG	**Isla Puna-Puer**	**2.48**	**254**	P		**Pg**	**11 27 31.0**	**-2.5**
GONZ	**Gonzanam**	**2.51**	**220**	P		**Pb**	**11 27 31.0**	**+0.5**
ARNL	**Arenillas**	**2.60**	**242**	Pn		**Pb**	**11 27 31.2**	**-0.6**
ARNL	**Arenillas**	**2.60**	**242**	P		**Pb**	**11 27 31.0**	**-0.8**
CUSW	**Cuicocha Oeste**	**2.63**	**347**	P		**Pb**	**11 27 31.0**	**-1.6**
AAT1	**Ecuador-Atunta**	**2.65**	**351**	P		**Pb**	**11 27 32.0**	**-0.9**
CUIC	**Cuicocha-Domo**	**2.65**	**347**	P		**Pn**	**11 27 29.0**	**+1.1**
CUSE	**Cuicocha Este**	**2.66**	**346**	*eP*		**Pb**	**11 27 31.9**	**-1.3**
CUSE				*eS*		**Sb**	**11 28 07.5**	**+1.9**
CUSE				*i*			11 28 15.6	
	comp=Z,919nm,0.4s							
CUSE	**Cuicocha Este**	**2.66**	**346**	P		**Pn**	**11 27 30.0**	**+1.9**
YAHU	**Yahuarcocha**	**2.67**	**354**	P		**Pn**	**11 27 30.0**	**+1.8**
COTA	**Cotacachi**	**2.68**	**348**	P		**Pn**	**11 27 31.0**	**+2.6**
BONI	**La Bonita**	**2.75**	**5**	P		**Pn**	**11 27 28.0**	**-1.1**
URCU	**Urcuqui**	**2.76**	**350**	P		**Pn**	**11 27 31.0**	**+1.5**
FLF1	**Flavio Alfaro-**	**2.83**	**313**	P		**Pb**	**11 27 33.0**	**-2.7**
BV15	**Puerto Quito-O**	**2.84**	**329**	P		**Pn**	**11 27 30.0**	**+1.9**
ZUMB	**Zumba**	**2.89**	**208**	P		**Pb**	**11 27 34.0**	**-2.8**
MAG1	**Magdalena**	**2.98**	**318**	P		**Pb**	**11 27 38.0**	**-0.4**
MCRA	**Macar, Loja**	**2.99**	**227**	Pn		**Pb**	**11 27 35.5**	**-3.0**
TULM	**Tulcn-Chalpat**	**3.00**	**360**	Pn		**Pn**	**11 27 33.8**	**+1.0**
TULM	**Tulcn-Chalpat**	**3.00**	**360**	*eP*		**Pn**	**11 27 30.0**	**-2.7**
TULM	**Tulcn-Chalpat**	**3.00**	**360**	P		**Pn**	**11 27 34.0**	**+1.3**
LNGL	**El Angel-Carch**	**3.03**	**356**	P		**Pn**	**11 27 35.0**	**+1.8**
CHL1	**Volc¡n Chiles**	**3.08**	**357**	P		**Pn**	**11 27 36.0**	**+2.1**
CHL2	**Volc¡n Chiles**	**3.09**	**357**	P		**Pn**	**11 27 35.0**	**+1.0**
ECEN	**Cerro Negro**	**3.11**	**356**	P		**Pn**	**11 27 37.0**	**+2.6**
CHMA	**Chilma**	**3.16**	**355**	P		**Pn**	**11 27 37.0**	**+2.2**
CMBC	**Cumbal**	**3.22**	**359**	*eP*		**Pb**	**11 27 40.6**	**-2.1**
CAB1	**Cabo Pasado-Ma**	**3.26**	**306**	P		**Pb**	**11 27 41.0**	**-2.1**
CCUFI	**Cufio, Nario**	**3.53**	**7**	*eP*		**Pn**	**11 27 44.7**	**+4.6**
CCUFI				*eS*		**Sb**	**11 28 31.4**	**+0.7**
GCUF	**Volcan Galeras**	**3.53**	**7**	*eP*		**Pn**	**11 27 40.8**	**+0.7**
GCUF				*eS*		**Sb**	**11 28 31.3**	**+0.6**
GCUF				*i*			11 28 41.1	
	comp=Z,843nm,0.5s							
CPAS2	**Pasto**	**3.54**	**9**	*eP*		**Pb**	**11 27 45.0**	**-3.1**
CPAS2				*eS*		**Sb**	**11 28 31.0**	**+0.2**
PTLC	**Puerto Leguiza**	**3.86**	**51**	*eP*		Pn	11 27 38.7	-5.6
CRUC	**La Cruz**	**3.93**	**12**	*eP*		**Pn**	**11 27 45.0**	**-0.5**
CRUC				*eS*		**Sb**	**11 28 42.3**	**+0.2**
CRUC				*i*			11 28 55.3	
	comp=Z,315nm,0.3s							
SOTA	**Rioblanco**	**4.56**	**15**	*eP*		**Pn**	**11 27 52.1**	**-2.2**
MARP	**Paez Belalcaza**	**5.42**	**20**	*eP*		**Pn**	**11 28 05.5**	**-0.5**
MARP				*eS*		**Sb**	**11 29 28.0**	**+2.9**
MARP				*i*			11 29 52.9	
	comp=Z,74nm,0.7s							
BETC	**Betania**	**5.47**	**25**	*eP*		**Pn**	**11 28 05.9**	**-0.5**
BETC				*eS*		**Sb**	**11 29 32.0**	**+5.8**
BETC				*i*			11 29 48.9	
	comp=Z,382nm,0.5s							
MACC	**Macarena, Meta**	**5.91**	**42**	*eP*		**Pn**	**11 28 10.4**	**-2.0**
YOTC	**Yotoco, Valle**	**6.41**	**13**	*eP*		**Pn**	**11 28 20.9**	**+1.6**
ORTC	**Ortega, Tolima**	**6.67**	**22**	*eP*		**Pn**	**11 28 26.6**	**+3.8**
GUVC	**San Jose del G**	**7.05**	**47**	*eP*		**Pn**	**11 28 28.6**	**+0.5**
ANIL	**Santa Ana**	**7.15**	**19**	*eP*		**Pn**	**11 28 32.1**	**+2.4**
ANIL				*i*			11 30 46.7	
	comp=Z,268nm,0.5s							
CZSB	**Cruzeiro do Su**	**7.39**	**137**	*eP*		**Pn**	**11 28 31.3**	**-1.4**
GUY2C	**Guyana, Caldas**	**7.85**	**18**	*eP*		**Pn**	**11 28 40.1**	**+0.6**
ROSC	**El Rosal**	**7.89**	**26**	P		**Pn**	**11 28 42.6**	**+2.7**
	comp=Z,2.2nm,0.3s,baz=156,slow=20,SNR=2.1							
ROSC				LR		LR	11 31 48.0	
	comp=Z,392nm,19.5s,baz=31,slow=38							
ROSC	**El Rosal**	**7.89**	**26**	Pn		**Pn**	**11 28 40.9**	**+1.0**
TBTG	**Tabatinga, AM**	**8.08**	**104**	*eP*		Pn	11 28 38.2	-4.0
TBTG	**Tabatinga, AM**	**8.08**	**104**	*eP*		**Pn**	**11 28 40.2**	**-1.9**
NORC	**Norcasia**	**8.34**	**20**	*eP*		**Pn**	**11 28 46.8**	**+1.0**
SPBC	**San Pablo de B**	**8.72**	**25**	*eP*		**Pn**	**11 28 51.6**	**+0.5**
PTBC	**PUERTO BERRIO,**	**9.39**	**21**	*eP*		**Pn**	**11 29 00.2**	**+0.1**
RUSC	**La Rusia**	**9.39**	**30**	*eP*		**Pn**	**11 28 59.3**	**-1.4**
NNA	**Nana**	**9.67**	**175**	P		**Pn**	**11 29 04.4**	**+0.3**
	comp=Z,15nm,0.3s,baz=338,slow=13,SNR=13							
NNA				S		**Sn**	**11 30 47.3**	**-4.9**
	comp=Z,7.1nm,0.3s,baz=285,slow=23,SNR=2.8							
NNA				LR		LR	11 33 11.3	
	comp=Z,480nm,18.9s,baz=337,slow=39							
NNA	**Nana**	**9.67**	**175**	Pn		**Pn**	**11 29 04.2**	**+0.2**
ZARC	**Zaragoza, Cauc**	**10.16**	**17**	Pn		**Pn**	**11 29 12.3**	**+1.6**
ZARC	**Zaragoza, Cauc**	**10.16**	**17**	*eP*		**Pn**	**11 29 09.8**	**-0.9**
OCAC	**Ocana**	**11.38**	**23**	Pn		**Pn**	**11 29 27.6**	**0.0**
SDV	**Santo Domingo**	**13.20**	**33**	P		**Pn**	**11 29 52.4**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=256,slow=11,SNR=9.4							
SDV				LR		LR	11 35 46.9	
	comp=Z,858nm,18.0s,baz=210,slow=41							
SDV	**Santo Domingo**	**13.20**	**33**	Pn		**Pn**	**11 29 53.2**	**+0.7**
SDV	**Santo Domingo**	**13.20**	**33**	*eP*		**Pn**	**11 29 54.0**	**+1.4**
ETMB	**Extrema**	**13.70**	**123**	*eP*		Pn	11 29 54.3	-4.9
BAUV	**El Baul**	**14.80**	**41**	Pn		**Pn**	**11 30 12.6**	**-1.6**
LPAZ	**La Paz**	**16.83**	**146**	P		**P**	**11 30 43.9**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=339,slow=10,SNR=6.1							
LPAZ				LR		LR	11 39 08.4	
	comp=Z,256nm,21.5s,baz=312,slow=44							
LPAZ	**La Paz**	**16.83**	**146**			**Pn**	**11 30 38.8**	**-2.4**
MACA	**Manacapuru-AM**	**17.09**	**93**	*eP*		**Pn**	**11 30 42.5**	**-1.4**
BIRV	**Birongo**	**17.10**	**42**	P		**Pn**	**11 30 42.8**	**-1.2**
BIRV				IAmb		IAmb	11 31 08.1	
	comp=Z,29nm,1.0s							
BOAV	**Boa Vista**	**17.87**	**75**	*eP*		**P**	**11 30 57.8**	**+3.7**
PB16	**IPOC Station P**	**17.88**	**154**	P		**P**	**11 30 56.1**	**+1.4**
PB08	**IPOC Station P**	**19.63**	**155**	P		**P**	**11 31 11.9**	**-1.9**
PB08				IAmb		IAmb	11 31 25.4	
	comp=Z,14nm,0.9s							
SIV	**San Ignacio**	**21.35**	**131**	P		**P**	**11 31 31.8**	**-0.3**
	comp=Z,4.9nm,0.7s,baz=325,slow=12,SNR=17							
SIV				LR		LR	11 39 49.5	
	comp=Z,189nm,19.6s,baz=308,slow=37							
LVC	**Limon Verde**	**21.95**	**158**	P		**P**	**11 31 41.1**	**+2.3**
	comp=Z,6.3nm,0.8s,baz=340,slow=6.7,SNR=5.3							
LVC				LR		LR	11 42 30.1	
	comp=Z,182nm,18.5s,baz=330,slow=43							
LVC	**Limon Verde**	**21.95**	**158**	P		**P**	**11 31 36.6**	**-2.2**
LVC				IAmb		IAmb	11 31 60.0	
	comp=Z,15nm,1.0s							
ITTB	**Itaituba**	**22.10**	**96**	*eP*		**P**	**11 31 39.7**	**-0.5**
DR12	**Loma Pena Alta**	**22.53**	**21**	P		**P**	**11 31 44.8**	**+0.1**
PTLB	**Pontes e Lacer**	**22.55**	**126**	*eP*		**P**	**11 31 43.9**	**-1.0**
PDRB	**Porto dos Gac**	**22.83**	**115**	*eP*		**P**	**11 31 47.6**	**-0.4**
NPGB	**Novo Progresso**	**22.83**	**103**	*eP*		**P**	**11 31 47.4**	**-0.6**
SJG	**San Juan**	**23.30**	**29**	P		**P**	**11 31 52.2**	**-0.4**
	comp=Z,14nm,0.8s,baz=270,slow=4.0,SNR=1.9							
SJG				LR		LR	11 41 50.9	
	comp=Z,226nm,20.3s,baz=208,slow=39							
CLDB	**Colider**	**23.42**	**112**	*eP*		**P**	**11 31 54.0**	**0.0**
CBYP	**Canovanas**	**23.57**	**29**	P		**P**	**11 31 57.8**	**+2.4**
CBYP				IAmb		IAmb	11 32 10.0	
	comp=Z,19nm,1.1s							
CMIG	**Matias Romero**	**25.62**	**319**	P		**P**	**11 32 14.7**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=150,slow=12,SNR=2.0							
MDP	**Montagnes des**	**26.16**	**74**	LR		LR	11 43 07.6	
	comp=Z,142nm,18.8s,baz=230,slow=38							
AQDB	**Aquidauana**	**28.11**	**132**	*eP*		**P**	**11 32 37.1**	**+0.4**
CPUP	**Villa Florida**	**30.93**	**142**	LR		LR	11 48 27.4	
	comp=Z,129nm,18.4s,baz=324,slow=42							
IPMB	**Ipameri, GO**	**32.92**	**120**	*eP*		**P**	**11 33 21.6**	**+2.2**
PLCA	**Paso Flores**	**38.81**	**171**	P		**P**	**11 34 09.2**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=352,slow=14,SNR=4.6							
PLCA	**Paso Flores**	**38.81**	**171**	P		**P**	**11 34 10.0**	**+0.4**
WVT	**Waverly**	**39.37**	**347**	P		**P**	**11 34 16.5**	**+2.3**
TXAR	**Lajitas Array**	**40.05**	**324**	P		**P**	**11 34 21.5**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=140,slow=7.2,SNR=6.4							
TXAR				PcP		**PcP**	**11 36 25.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=150,slow=7.3,SNR=4.1							
TXAR	**Lajitas Array**	**40.05**	**324**	P		**P**	**11 34 22.6**	**+2.6**
ANMO	**Albuquerque**	**45.78**	**327**	P		**P**	**11 35 08.3**	**+1.7**
ANMO				IAmb		IAmb	11 35 14.4	
	comp=Z,4.7nm,1.1s							
TUC	**Tucson**	**46.50**	**321**			**P**	**11 35 14.8**	**+2.6**
SDCO	**Great Sand Dun**	**47.40**	**330**	P		**P**	**11 35 21.2**	**+1.8**
SDCO				IAmb		IAmb	11 35 25.9	
	comp=Z,5.7nm,1.4s							
PV13	**Radium Mtn., P**	**49.43**	**328**	P		**P**	**11 35 38.0**	**+3.0**
PV13				IAmb		IAmb	11 35 40.5	
	comp=Z,4.0nm,0.9s							
PDAR	**Pinedale Array**	**53.24**	**331**	P		**P**	**11 36 03.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=126,slow=7.5,SNR=3.8							
PDAR				PcP		**PcP**	**11 37 10.5**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=156,slow=4.6,SNR=2.0							
ULM	**Lac du Bonnet**	**54.61**	**346**	P		**P**	**11 36 15.3**	**+2.3**
ULM				IAmb		IAmb	11 36 37.1	
	comp=Z,2.9nm,0.7s							
NVAR	**Mina Array Bea**	**55.12**	**322**	P		**P**	**11 36 18.2**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=132,slow=6.3,SNR=9.5							
NVAR	**Mina Array Bea**	**55.12**	**322**	P		**P**	**11 36 18.7**	**+1.5**
I07A	**Izee**	**59.35**	**326**	P		**P**	**11 36 49.8**	**+2.9**
I07A				IAmb		IAmb	11 36 59.2	
	comp=Z,3.3nm,1.2s							
YKA	**Yellowknife Ar**	**70.37**	**343**	P		**P**	**11 37 57.2**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=140,slow=6.1,SNR=15							
YKA	**Yellowknife Ar**	**70.37**	**343**	P		**P**	**11 37 58.3**	**+0.2**
DBIC	**Dimbokro**	**73.33**	**82**	P		**P**	**11 38 15.1**	**-1.9**
	comp=Z,4.6nm,0.7s,baz=260,slow=5.7,SNR=5.6							
DBIC	**Dimbokro**	**73.33**	**82**			**P**	**11 38 18.1**	**+1.2**
KOWA	**Kowa**	**74.89**	**74**	P		**P**	**11 38 25.1**	**-0.9**
BELA	**Belgrano 2**	**78.87**	**172**	P		**P**	**11 38 46.9**	**-0.3**
ESDC	**Sonseca Array**	**79.07**	**49**	P		**P**	**11 38 48.1**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=260,slow=6.3,SNR=7.2							
ESDC	**Sonseca Array**	**79.07**	**49**	P		**P**	**11 38 47.6**	**-1.6**
ESDC				IAmb		IAmb	11 38 52.8	
	comp=Z,4.0nm,1.3s							
A36M	**Sachs Harbour**	**80.08**	**347**	P		**P**	**11 38 53.5**	**-0.3**
INK	**Inuvik**	**80.09**	**342**	P		**P**	**11 38 54.5**	**+0.5**
TOA0	**Torodi Ar. Sit**	**80.28**	**76**	P		**P**	**11 38 52.8**	**-3.4**
TOA0				IAmb		IAmb	11 38 58.7	
	comp=Z,4.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**80.28**	**76**	P		**P**	**11 38 53.6**	**-2.6**
	comp=Z,0.8nm,0.4s,baz=284,slow=5.8,SNR=14							
TORD	**Torodi Ar. Bea**	**80.28**	**76**	P		**P**	**11 38 53.9**	**-2.3**
TORD				IAmb		IAmb	11 38 58.6	
	comp=Z,3.3nm,1.2s							
BCAR	**Beaver Creek A**	**80.57**	**335**	P		**P**	**11 38 59.1**	**+2.3**
EGAK	**Eagle**	**81.04**	**337**	P		**P**	**11 38 59.2**	**0.0**
EGAK				IAmb		IAmb	11 39 05.6	
	comp=Z,5.7nm,1.1s							
SNAA	**Sanae**	**83.11**	**162**	P		**P**	**11 39 10.2**	**+0.1**
IL31		**83.30**	**336**	P		**P**	**11 39 11.4**	**+0.4**
IL31				IAmb		IAmb	11 39 20.9	
	comp=Z,3.1nm,1.1s							
ILAR	**Eielson Array**	**83.30**	**336**	P		**P**	**11 39 10.7**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=155,slow=5.5,SNR=9.0							
ILAR	**Eielson Array**	**83.30**	**336**	P		**P**	**11 39 11.2**	**+0.1**
BMAR	**Burnt Mountain**	**83.39**	**339**	P		**P**	**11 39 12.0**	**+0.5**
IMAR	**Indian Mountai**	**86.40**	**337**	P		**P**	**11 39 26.3**	**-0.3**
QSPA	**South Pole Qui**	**87.77**	**180**	P		**P**	**11 39 34.3**	**+0.8**
VNDA	**Vanda**	**94.07**	**191**	P		**P**	**11 40 04.1**	**+1.7**
VNDA				IAmb		IAmb	11 40 19.1	
	comp=Z,2.5nm,1.3s							
ZALV	**Zalesovo Beam**	**126.57**	**13**	PKP		**PKPdf**	**11 45 46.9**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=321,slow=2.1,SNR=4.0							
ZALV	**Zalesovo Beam**	**126.57**	**13**			**PKPdf**	**11 45 47.6**	**-0.2**
KURK	**Kurchatov Arra**	**127.80**	**19**			**PKiKP**	**11 45 51.8**	**+1.0**
KURBB	**Kurchatov Arra**	**127.85**	**19**	PKP		**PKPdf**	**11 45 49.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=343,slow=2.8,SNR=5.4							
MKAR	**Makanchi Array**	**132.41**	**18**	PKP		**PKPdf**	**11 45 58.0**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=298,slow=3.1,SNR=2.6							
ASAR	**Alice Springs**	**139.79**	**228**	PKP		**PKPdf**	**11 46 11.5**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=120,slow=1.5,SNR=3.1							
WRA	**Warramunga Arr**	**141.50**	**233**	PKhKP		PKPpre	11 46 10.6	
	comp=Z,0.3nm,0.5s,baz=118,slow=3.1,SNR=2.0							

IDC 09 11:33:01.3±2.4, 6°64S×129°32E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/33, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=148.0km s-min=32.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.09**	**160**	Pn		Pn	11 36 22.4	0.0
	0.2nm,0.3s,baz=343,slow=12,SNR=12							
WRA				Sn		Sn	11 38 46.0	-14
	0.4nm,0.3s,baz=339,slow=18,SNR=8.7							
ASAR	**Alice Springs**	**17.49**	**166**	P		Pn	11 37 06.9	0.0
	0.2nm,0.3s,baz=340,slow=9.9,SNR=32							
ASAR				S		Sn	11 40 06.8	-15
	0.1nm,0.3s,baz=328,slow=17,SNR=1.7							
MKAR	**Makanchi Array**	**67.56**	**327**	P		P	11 43 59.7	0.0
	0.3nm,0.6s,baz=120,slow=7.1,SNR=3.6							

*SOME **09** 11:37:12.5, 41°52N×74°27E, h5km*
*KRNET **09** 11:37:13.5±0.1, 41°65N×74°36E, h14km, mb2.5*
*NNC **09** 11:37:14.8±1.1, 41°61N×74°44E, h0km, mb2.7, mpv2.7, Error ellipse: s-maj=7.2km s-min=5.2km az=172.0*

ISC 09 11:37:13.7±1.3, 41°62N±0°04×74°34E±0°03, h6km±15km, n19, σ1§23/35, 7C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UCH	**Uchtor**	**0.62**	**12**	⇑*i*P		**Pg**	**11 37 24.9**	**-0.9**
	baz=11							
UCH				⇑*i*S		**Sg**	**11 37 33.4**	**-0.6**
	baz=11							
AAK	**Ala-Archa**	**1.03**	**6**	⇓*i*P		**Pg**	**11 37 32.4**	**-1.0**
AAK	baz=6.0			⇓*i*S		**Sg**	**11 37 46.0**	**-0.8**
	baz=6.0							
MRKS	**Merke**	**1.40**	**324**	*eP*		**Pg**	**11 37 40.3**	**-0.2**
	1.9nm,0.5s							
MRKS				*eS*		**Sg**	**11 38 00.6**	**+1.9**
	4.5nm,0.3s							
MRKS	**Merke**	**1.40**	**324**	P		**Pg**	**11 37 42.0**	**+1.5**
	2.8nm,0.3s							
MRKS				S		**Sg**	**11 38 00.6**	**+1.9**
	4.6nm,0.5s							
CHMS	**Chumysh**	**1.41**	**12**	⇓P		**Pg**	**11 37 40.7**	**-0.1**
	0.5nm,0.3s							
CHMS				⇓S		**Sg**	**11 38 00.4**	**+1.2**
	1.1nm,0.5s							
BOOM	**Boomskoye usch**	**1.48**	**53**	⇑*i*P		**Pn**	**11 37 40.8**	**-0.2**
BOOM	baz=54			⇑*i*S		**Sg**	**11 38 00.7**	**-0.5**
	baz=54							
TKM2	**Tokmak 2**	**1.60**	**35**	⇑P		**Pb**	**11 37 43.0**	**-0.8**
	0.6nm,0.2s							
TKM2				⇓S		**Sg**	**11 38 04.9**	**-0.3**
	1.0nm,0.3s							
OHH	**Osh**	**1.60**	**228**	⇑*i*P		**Pg**	**11 37 44.1**	**-0.4**
	baz=27							
OHH	baz=27			⇑*i*S		**Sg**	**11 38 06.5**	**+1.2**
USP	**Ospenovka**	**1.65**	**4**	⇓*i*P		**Pb**	**11 37 43.6**	**-1.0**
	baz=4.0							
USP	baz=4.0			⇓*i*S		**Sb**	**11 38 05.5**	**-0.2**
SGDS	**Sogindy**	**1.85**	**7**	*eP*		**Pg**	**11 37 48.7**	**-0.4**
	2.4nm,0.2s							
SGDS	2.9nm,0.4s			*eS*		**Sg**	**11 38 14.9**	**+1.9**
SGDS	**Sogindy**	**1.85**	**7**	P		**Pg**	**11 37 48.7**	**-0.4**
	2.3nm,0.2s							
SGDS	2.7nm,0.4s			S		**Sg**	**11 38 12.4**	**-0.6**
KST	**Kastek**	**1.86**	**40**	*eP*		**Pg**	**11 37 49.6**	**+0.1**
	1.2nm,0.2s							
KST	5.1nm,0.4s			*eS*		**Sg**	**11 38 16.4**	**+2.8**
KRBS	**Karabastau**	**2.30**	**25**	*eP*		**Pb**	**11 37 56.4**	**+0.7**
	3.8nm,0.2s							
KRBS	2.9nm,0.4s			*eS*		**Sg**	**11 38 28.2**	**+0.7**
KRBS	**Karabastau**	**2.30**	**25**	Pg		**Pg**	**11 37 56.5**	**-1.2**
	3.8nm,0.2s							
KRBS	2.9nm,0.4s			Lg		Lg	11 38 25.4	
TNSS	**Tian-Shan**	**2.40**	**53**	*eP*		**Pg**	**11 37 58.6**	**-1.1**
	1.8nm,0.2s							
TNSS	2.9nm,1.7s			*eS*		**Sg**	**11 38 32.0**	**+1.3**
TNSS	**Tian-Shan**	**2.40**	**53**	Pg		**Pb**	**11 37 58.3**	**+0.8**
	2.1nm,0.2s							
TNSS	1.1nm,0.6s			Lg		Lg	11 38 28.4	
KTBS	**Karatobe**	**2.71**	**39**	*eP*		**Pb**	**11 38 03.8**	**+1.1**
	1.6nm,0.3s							
KTBS	5.9nm,0.4s			*eS*		**

URZ	**Urewera**	**12.72**	**204**			**Pn**	12 04 06.9	**-0.1**
AFI	**Afiamalu**	**13.48**	**19**	Pn		Pn	12 04 08.2	-9.3
	1.8nm,0.3s,baz=277,slow=18,SNR=1.5							
AFI				Sn		Sn	12 06 26.9	-19
	0.8nm,0.3s,baz=194,slow=19,SNR=1.9							
RAR	**Rarotonga**	**16.07**	**73**	Pn		Pn	12 04 42.4	-9.5
	1.0nm,0.3s,baz=241,slow=16,SNR=2.8							
RAR				Sn		Sn	12 07 24.3	-25
	0.5nm,0.3s,baz=193,slow=20,SNR=1.9							
RAR				LR		LR	12 09 45.4	
	comp=Z,62nm,21.4s,baz=255,slow=32							
MSWZ	**Moikau Station**	**16.18**	**203**	P		**Pn**	**12 04 52.8**	**-0.5**
DZM	**Mont Dzumac**	**16.41**	**283**	LR		LR	12 10 10.5	
	comp=Z,166nm,18.5s,baz=208,slow=34							
CTA	**Charters Tower**	**34.92**	**273**	LR		LR	12 20 10.7	
	comp=Z,171nm,18.2s,baz=83,slow=33							
STKA	**Stephens Creek**	**36.90**	**252**	LR		LR	12 22 15.1	
	comp=Z,133nm,18.2s,baz=72,slow=34							
COEN	**Coen**	**39.92**	**280**	P		**P**	**12 08 40.1**	**+0.5**
COEN				IAmb		IAmb	12 08 45.9	
	comp=Z,15nm,1.1s							
BBOO	**Buckleboo**	**41.52**	**250**	P		**P**	**12 08 52.4**	**-0.3**
BBOO				IAmb		IAmb	12 09 14.2	
	comp=Z,16nm,1.4s							
AS31	**Alice Springs**	**44.94**	**263**	P		**P**	**12 09 19.5**	**-0.9**
ASAR	**Alice Springs**	**44.94**	**263**	P		**P**	**12 09 19.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=101,slow=8.0,SNR=8.5							
WR0	**Warramunga Arr**	**45.43**	**268**	P		**P**	**12 09 23.0**	**-1.3**
WB2	**Warramunga Arr**	**45.60**	**268**	P		**P**	**12 09 25.3**	**-0.4**
WB2				IAmb		IAmb	12 09 44.8	
	comp=Z,6.1nm,1.2s							
WRAB	**Tennant Creek**	**45.60**	**268**	P		**P**	**12 09 25.0**	**-0.7**
WRAB				IAmb		IAmb	12 09 43.1	
	comp=Z,10nm,1.5s							
WRA	**Warramunga Arr**	**45.61**	**268**	P		**P**	**12 09 25.2**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=107,slow=5.6,SNR=35							
WRA				S		**S**	**12 16 08.0**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=109,slow=13,SNR=1.5							
WRA	**Warramunga Arr**	**45.61**	**268**	P		**P**	**12 09 25.4**	**-0.3**
WB0	**Warramunga Arr**	**45.62**	**268**	P		**P**	**12 09 25.6**	**-0.2**
WB0				IAmb		IAmb	12 09 38.5	
	comp=Z,5.1nm,1.1s							
VNDA	**Vanda**	**51.84**	**186**	P		**P**	**12 10 13.6**	**+0.9**
VNDA				IAmb		IAmb	12 10 42.2	
	comp=Z,4.7nm,1.4s							
KNRA	**Kununurra**	**52.06**	**271**	P		**P**	**12 10 14.1**	**-1.2**
KNRA				IAmb		IAmb	12 10 40.6	
	comp=Z,15nm,1.3s							
FITZ	**Fitzroy Crossi**	**53.98**	**266**	P		**P**	**12 10 30.0**	**+0.6**
FITZ				IAmb		IAmb	12 10 41.8	
	comp=Z,3.9nm,1.1s							
PSA00	**Pilbara Seismi**	**57.98**	**260**	P		**P**	**12 10 56.8**	**-1.2**
BATI	**Baumata**	**58.79**	**274**	LR		LR	12 35 40.5	
	comp=Z,70nm,18.3s,baz=158,slow=35							
MORW	**Morawa**	**59.08**	**251**	P		**P**	**12 11 03.8**	**-1.8**
QSPA	**South Pole Qui**	**63.32**	**180**	P		**P**	**12 11 35.4**	**+1.5**
	comp=Z,3.9nm,0.9s,baz=86,slow=1.5,SNR=7.3							
QSPA	**South Pole Qui**	**63.32**	**180**	P		**P**	**12 11 35.4**	**+1.5**
QSPA				IAmb		IAmb	12 11 57.0	
	comp=Z,3.3nm,1.0s							
JNU	**Nakatsue**	**77.91**	**317**	P		**P**	**12 13 01.8**	**-1.2**
	comp=Z,8.9nm,1.1s,baz=39,slow=5.1,SNR=4.8							
SNAA	**Sanae**	**81.71**	**178**	P		**P**	**12 13 22.6**	**-0.5**
KSRS	**Korea Array**	**82.61**	**318**	P		**P**	**12 13 29.1**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=139,slow=5.6,SNR=4.8							
NVAR	**Mina Array Bea**	**84.56**	**42**	P		**P**	**12 13 38.5**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=220,slow=9.1,SNR=5.0							
CMAR	**Chiang Mai Arr**	**93.65**	**289**	P		**P**	**12 14 23.3**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=127,slow=3.7,SNR=6.0							
CMAR	**Chiang Mai Arr**	**93.65**	**289**	P		**P**	**12 14 22.9**	**+1.1**
ILAR	**Eielson Array**	**94.08**	**12**	P		**P**	**12 14 21.6**	**-1.1**
	comp=Z,1.0nm,1.1s,baz=198,slow=8.5,SNR=2.5							
MKAR	**Makanchi Array**	**116.57**	**311**	PKP		**PKPdf**	**12 19 47.1**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=58,slow=4.6,SNR=3.6							
MKAR	**Makanchi Array**	**116.57**	**311**			**PKPdf**	**12 19 48.6**	**-0.2**
NB2	**NORSAR Subarra1**	**145.37**	**354**	PKP		**PKPbc**	**12 20 41.7**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=8.7,slow=3.7							
NOA	**NORSAR Array B**	**145.37**	**354**	PKPbc		**PKPbc**	**12 20 41.9**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=9.5,slow=2.4,SNR=8.6							
BRTR	**Keskin Array B**	**151.98**	**305**	PKPbc		**PKiKP**	**12 21 01.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=92,slow=1.2,SNR=2.7							
TORD	**Torodi Ar. Bea**	**166.31**	**172**	PKPab		**PKPab**	**12 22 12.2**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=167,slow=4.4,SNR=4.0							
TORD	**Torodi Ar. Bea**	**166.31**	**172**	PKPdf		**PKPdf**	**12 21 11.3**	**+0.5**
TORD						**PKPab**	**12 22 11.5**	**-0.3**

*INMG **09** 12:15:17.9±1.5,35˚.49N×3˚.82W,h0km, ML2.2, Error ellipse: s-maj=3.5km s-min=2.6km az=48.0*
*CNRM **09** 12:15:17.2,35˚.50N×3˚.76W,h26km, ml2.8*
*MDD **09** 12:15:18.5±0.4,35˚.52N×3˚.80W,h0km, mb_Lg2.7/11, Error ellipse: s-maj=3.4km s-min=2.8km az=168.0*
*SFS **09** 12:15:18.0,35˚.52N×3˚.79W, ML2.7, ALBORAN SUR*
ISC 09 12:15:15.3±1.3,35˚.43N±0˚.02×3˚.75W±0˚.02,h2km±11km, n45,σ1°76/76,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.26**	**215**	P		Pb	**12 15 24.5**	**+1.7**
PALE				S		**Sb**	**12 15 27.8**	**0.0**
PVLZ	**Peæn de**	**0.52**	**240**	P		**Pb**	**12 15 28.2**	**+1.1**
PVLZ				S		**Sb**	**12 15 34.8**	**-0.3**
GOG	**Mont Gurugu**	**0.65**	**109**	P		**Pn**	**12 15 31.7**	**0.0**
GOG				S		**Sb**	**12 15 39.3**	**+0.1**
EMEL	**Melilla**	**0.67**	**101**	Pg		**Pn**	**12 15 31.2**	**-0.6**
EMEL				Sg		**Sb**	**12 15 40.9**	**+1.5**
EALB	**Alboran**	**0.77**	**49**	Pg		**Pb**	**12 15 32.4**	**+0.8**
EALB				Sg		**Sb**	**12 15 43.3**	**+0.8**
EALB				*i* Vmb_Lg			12 15 43.5	
TAF	**Taforalt**	**1.26**	**119**	P		**Pn**	**12 15 41.3**	**+1.2**
CHEFC	**Chefchaouen**	**1.34**	**256**	P		**Pb**	**12 15 43.1**	**+1.8**
SMIR	**Smir Dam**	**1.35**	**281**	P		**Pn**	**12 15 40.2**	**-1.1**
SMIR				S		**Sg**	**12 15 55.2**	**-3.5**
EMIJ	**Mijas**	**1.40**	**324**	Pg		**Pn**	**12 15 42.1**	**+0.1**
EMIJ				Sg		**Sg**	**12 16 00.2**	**-0.1**
EMIJ				*i* Vmb_Lg			12 16 04.8	
ECEU	**Ceuta**	**1.40**	**290**	Pg		**Pn**	**12 15 41.6**	**-0.4**
ECEU				Sg		**Sg**	**12 15 59.3**	**-1.1**
ECEU				*i* Vmb_Lg			12 15 59.6	
ELGU	**Los Guajares,**	**1.44**	**4**	Pg		**Pn**	**12 15 41.4**	**-1.2**
ELGU				Sg		**Sg**	**12 15 59.5**	**-2.0**
ELGU				*i* Vmb_Lg			12 16 02.6	
JBK	**JBK**	**1.47**	**138**	P		**Pg**	**12 15 43.9**	**+0.5**
JBK				S		**Sg**	**12 15 59.6**	**-2.9**
EBER	**Berja**	**1.62**	**25**	Pg		**Pn**	**12 15 45.0**	**-0.2**
EBER				Sg		**Sb**	**12 16 07.0**	**-0.1**
EBER				*i* Vmb_Lg			12 16 07.6	
EQUE	**Quentar**	**1.79**	**8**	Pn		**Pb**	**12 15 49.1**	**+0.2**
EQUE				Sn		**Sn**	**12 16 08.5**	**-2.2**
EQUE				*i* Vmb_Lg			12 16 12.1	
EQUE				Sg		**Sg**	**12 16 12.6**	**-0.2**
LCRM	**LCR**	**1.97**	**208**	P		**Pn**	**12 15 50.6**	**+0.7**
OZD	**Col de Zad**	**2.62**	**004**	P		**Pn**	**12 15 59.8**	**+0.8**
MD31	**MD31**	**2.69**	**198**	P		**Pn**	**12 16 01.2**	**+1.4**
MDT	**Midelt**	**2.71**	**195**	P		**Pn**	**12 16 01.8**	**+1.8**
TDRA	**Tendrara**	**2.78**	**149**	P		**Pn**	**12 16 02.0**	**+0.9**
EADA	**Adamuz**	**2.81**	**347**	Pn		**Pn**	**12 16 02.4**	**+1.1**
EADA				Sn		**Sn**	**12 16 36.3**	**+0.5**
EADA				*i* Vmb_Lg			12 16 40.1	
EADA				Sg		**Sb**	**12 16 42.9**	**+1.7**
ECAB	**El Cabril**	**2.96**	**334**	Pn		**Pn**	**12 16 05.1**	**+1.7**
ECAB				Sn		**Sn**	**12 16 39.0**	**-0.5**
ECAB				Sg		**Sg**	**12 16 48.0**	**-2.4**
ECAB				*i* Vmb_Lg			12 16 53.0	
CART	**Cartagena**	**3.09**	**45**	P		**Pn**	**12 16 04.1**	**-1.0**
CART				S		**Sn**	**12 16 37.7**	**-4.9**
ZHG	**ZHG**	**3.10**	**231**	P		**Pn**	**12 16 06.5**	**+1.1**
EMIN	**Mina Concepcio**	**3.31**	**316**	Pn		**Pn**	**12 16 08.7**	**+0.5**
EMIN				Sn		**Sn**	**12 16 47.7**	**-0.4**
EMIN				*i* Vmb_Lg			12 16 54.8	
ETOB	**Tobarra**	**3.66**	**28**	Pn		**Pn**	**12 16 15.8**	**+2.7**
ETOB				Sn		**Sn**	**12 16 59.4**	**+2.5**
ETOB				*i* Vmb_Lg			12 18 47.0	
EGRO	**El Granado**	**3.66**	**306**	Pn		**Pn**	**12 16 14.1**	**+1.0**
EGRO				*i* Vmb_Lg			12 16 57.4	
EGRO				Sn		**Sn**	**12 16 57.9**	**+1.0**
PVAQ	**Vaqueiros**	**3.75**	**303**	*e*Pn		**Pn**	**12 16 14.8**	**+0.5**
PVAQ				*e*Sn		**Sn**	**12 16 57.1**	**-2.0**
PVAQ				A		A	12 16 59.0	
	4.6nm,0.4s							
PVAQ	**Vaqueiros**	**3.75**	**303**	P		**Pn**	**12 16 15.1**	**+0.8**
PBAR	**Barrancos**	**3.80**	**317**	*e*Pn		**Pn**	**12 16 16.6**	**+1.7**
PBAR				*e*Sn		**Sn**	**12 16 58.2**	**-2.0**
PBAR				A		A	12 17 03.2	
	2.4nm,0.7s							
PBDV	**Barranco-do-Ve**	**3.83**	**299**	*e*Pn		**Pn**	**12 16 16.8**	**+1.5**
PBDV				*e*Sn		**Sn**	**12 16 58.2**	**-2.7**
PBDV				A		A	12 17 10.7	
	4.4nm,0.7s							
PCVE	**Castro Verde**	**4.09**	**304**	*e*Pn		**Pn**	**12 16 19.4**	**+0.5**
PCVE				*e*Sn		**Sn**	**12 17 05.9**	**-1.5**
PCVE				A		A	12 17 09.5	
	2.8nm,0.6s							
PBEJ	**Beja**	**4.20**	**309**	*e*Sn		**Sn**	**12 17 09.2**	**-0.8**
MORF	**Marmelete**	**4.37**	**297**	*e*Pn		**Pn**	**12 16 23.4**	**+0.6**
MORF				*e*Sn		**Sn**	**12 17 11.4**	**-3.0**
MORF				A		A	12 17 13.1	
	3.5nm,0.2s							
PFVI	**Vila Bisbo**	**4.43**	**294**	*e*Sn		**Sn**	**12 17 12.4**	**-3.5**
PTEO	**Sao Teotonio**	**4.53**	**299**	*e*Pn		**Pn**	**12 16 26.6**	**+1.7**
PTEO				*e*Sn		**Sn**	**12 17 16.4**	**-1.7**
PTEO				A		A	12 17 38.9	
	7.5nm,0.8s							
PESTR	**Estremoz**	**4.60**	**319**	*e*Pn		**Pn**	**12 16 26.9**	**+1.0**
PESTR				*e*Sn		**Sn**	**12 17 17.2**	**-2.7**
PESTR				A		A	12 17 28.8	
	3.7nm,0.9s							
EVO	**Evora**	**4.60**	**313**	*e*Pn		**Pn**	**12 16 26.3**	**+0.3**
EVO				*e*Sn		**Sn**	**12 17 18.1**	**-1.9**
PNCL	**Nicolau / Gran**	**4.67**	**306**	*e*Pn		**Pn**	**12 16 27.9**	**+1.0**
PNCL				*e*Sn		**Sn**	**12 17 20.2**	**-1.6**
PNCL				A		A	12 17 22.0	
	1.9nm,0.2s							
PMRV	**Marv??o**	**4.93**	**325**	*e*Pn		**Pn**	**12 16 31.4**	**+0.9**
PMRV				*e*Sn		**Sn**	**12 17 26.1**	**-2.0**
PMRV				A		A	12 17 30.8	
	1.6nm,0.5s							
PMTG	**Montargil**	**5.09**	**317**	*e*Pn		**Pn**	**12 16 34.1**	**+1.5**
PMTG				*e*Sn		**Sn**	**12 17 30.5**	**-1.5**
PCBR	**Castelo Branco**	**5.30**	**327**	*e*Pn		**Pn**	**12 16 40.0**	**+4.5**
PSBE	**So Bento**	**5.72**	**317**	*e*Pn		**Pn**	**12 16 43.7**	**+2.4**
PCAS	**Casmilo, Conde**	**5.95**	**322**	*e*Pn		Pn	12 16 50.1	+5.6
MVO	**Moncorvo**	**6.28**	**337**	*e*Pn		**Pn**	**12 16 52.3**	**+3.3**
PBRG	**Braganca**	**6.78**	**341**	*e*Pn		**Pn**	**12 16 57.1**	**+1.2**

*IDC **09** 12:20:05.6±1.0,32˚.86S×178˚.75W,h0km,mb4.3/5, mb1 4.5/7,mb1mx4.1/36,mbtmp4.4/7,ML4.4/2,MS3.5/4, Ms1 3.5/4,ms1mx2.8/61,Error ellipse: s-maj=29.3km s-min=21.8km az=110.0*
*NEIC **09** 12:20:07.6±2.0,32˚.90S±0˚.07×178˚.8W±0˚.1,h4km±4km, mb4.6/20,Error ellipse: s-maj=16.1km s-min=10.2km az=100.0*
*WEL **09** 12:20:10.8±0.6,33˚S±7˚×17˚9W±1˚8,h33km,M4.4/22, mB5.0/15,ML5.0/30,MLv4.8/22,Mw(mB)4.3/15, Error ellipse: s-maj=0.0km s-min=0.0km az=110.9*
ISC 09 12:20:10.1±0.6,33˚.02S±0˚.05×178˚.51W±0˚.10,h32km, n123,σ1°79/144,mb4.6/15,MS3.5/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.78**	**8**	P		**Pn**	**12 21 05.5**	**-0.6**
GLKZ				S		**Sn**	**12 21 47.7**	**-1.8**
RAO	**Raoul Island**	**3.79**	**8**	Pn		**Pn**	**12 21 04.2**	**-2.1**
	45nm,0.3s,baz=144,slow=8.5,SNR=5.6							
RAO				Sn		**Sn**	**12 21 49.8**	**0.0**
	114nm,0.3s,baz=47,slow=18,SNR=6.0							
RAO	**Raoul Island**	**3.79**	**8**			**Pn**	**12 21 05.7**	**-0.6**
RIZ	**Raoul Island**	**3.80**	**8**	P		**Pn**	**12 21 07.2**	**+0.9**
RIZ				S		**Sn**	**12 21 50.3**	**+0.4**
MXZ	**Matakaoa Point**	**5.22**	**209**	Pn		**Pn**	**12 21 27.9**	**+1.9**
MXZ	**Matakaoa Point**	**5.22**	**209**	P		**Pn**	**12 21 26.6**	**+0.6**
MXZ				S		**Sn**	**12 22 26.5**	**+1.4**
WMGZ	**Waiomatatini S**	**5.41**	**207**	P		**Pn**	**12 21 28.8**	**+0.3**
WMGZ				S		**Sn**	**12 22 32.1**	**+2.5**
PKGZ	**Pakihiroa**	**5.60**	**209**	P		**Pn**	**12 21 30.5**	**-0.7**
PKGZ				S		**Sn**	**12 22 32.9**	**-1.5**
HAZ	**Te Kaha**	**5.61**	**212**	P		**Pn**	**12 21 32.0**	**+0.7**
HAZ				S		**Sn**	**12 22 34.0**	**-0.6**
PUZ	**Puketiti**	**5.69**	**207**	P		**Pn**	**12 21 32.5**	**+0.2**
PUZ				S		**Sn**	**12 22 36.2**	**+0.3**
RUGZ	**Raukumara Rang**	**5.83**	**211**	P		**Pn**	**12 21 34.6**	**+0.2**
RUGZ				S		**Sn**	**12 22 41.0**	**+0.8**
TKGZ	**Te Karaka**	**6.16**	**208**	P		**Pn**	**12 21 38.9**	**+0.1**
TKGZ				S		**Sn**	**12 22 46.6**	**-1.7**
MWZ	**Matawai**	**6.20**	**210**	P		**Pn**	**12 21 38.5**	**-0.9**
MWZ				S		**Sn**	**12 22 48.7**	**-0.6**
MARZ	**Manawahe**	**6.32**	**217**	P		**Pn**	**12 21 44.6**	**+3.6**
URZ	**Urewera**	**6.33**	**213**	Pn		**Pn**	**12 21 40.6**	**-0.5**
	5.3nm,0.3s,baz=264,slow=3.7,SNR=40							
URZ				Sn		**Sn**	**12 22 50.4**	**-1.8**
	7.3nm,0.3s,baz=139,slow=21,SNR=6.4							
URZ	**Urewera**	**6.33**	**213**			**Pn**	**12 21 42.2**	**+1.2**
URZ	**Urewera**	**6.33**	**213**	P		**Pn**	**12 21 40.8**	**-0.3**
URZ				S		**Sn**	**12 22 51.0**	**-1.2**
EDRZ	**Edgecumbe**	**6.38**	**216**	P		**Pn**	**12 21 44.2**	**+2.2**
RIGZ	**Rimuhau**	**6.43**	**207**	P		**Pn**	**12 21 42.2**	**-0.4**
RIGZ				S		**Sn**	**12 22 52.8**	**-2.0**
KARZ	**Kaharoa**	**6.57**	**219**	P		**Pn**	**12 21 47.2**	**+2.7**
PRGZ	**Paritu Road**	**6.58**	**205**	P		**Pn**	**12 21 44.2**	**-0.3**
PRGZ				S		**Sn**	**12 22 57.8**	**-0.5**
TARZ	**Mount Tarawera**	**6.60**	**217**	P		**Pn**	**12 21 48.2**	**+3.3**
MUGZ	**Murupara**	**6.66**	**214**	P		**Pn**	**12 21 45.6**	**0.0**
MUGZ				S		**Sn**	**12 22 58.0**	**-2.5**
SNGZ	**Shannon Statio**	**6.66**	**209**	P		**Pn**	**12 21 45.9**	**+0.2**
SNGZ				S		**Sn**	**12 23 00.9**	**+0.3**
RRRZ	**Republican Roa**	**6.67**	**216**	P		**Pn**	**12 21 48.2**	**+2.3**
RTZ	**Ruatahuna**	**6.68**	**212**	P		**Pn**	**12 21 45.3**	**-0.7**
RTZ				S		**Sn**	**12 22 58.5**	**-2.5**
PRRZ	**Plateau Road**	**6.86**	**216**	P		**Pn**	**12 21 49.7**	**+1.3**
PRRZ				S		**Sn**	**12 23 06.3**	**+1.0**
RARZ	**Arahi**	**6.88**	**210**	P		**Pn**	**12 21 49.9**	**+1.2**
RAHZ				S		**Sn**	**12 23 04.4**	**-1.5**
OUZ	**Omahuta**	**6.91**	**249**			**Pn**	**12 21 52.0**	**+3.0**
MTHZ	**Maungataniwha**	**6.93**	**212**	P		**Pn**	**12 21 49.9**	**+0.4**
MTHZ				S		**Sn**	**12 23 04.0**	**-3.3**
WHHZ	**Waihua**	**6.96**	**208**	P		**Pn**	**12 21 49.7**	**0.0**
WHHZ				S		**Sn**	**12 23 04.7**	**-3.1**
NMHZ	**Naumai**	**7.15**	**211**	P		**Pn**	**12 21 53.2**	**+0.7**
NMHZ				S		**Sn**	**12 23 12.0**	**-0.6**
TLZ	**Tolley Road**	**7.18**	**221**	P		**Pn**	**12 21 56.4**	**+3.6**
ARHZ	**Aropaoanui**	**7.21**	**209**	P		**Pn**	**12 21 53.5**	**+0.3**
ARHZ				S		**Sn**	**12 23 10.6**	**-3.4**
BKZ	**Black Stump Fm**	**7.34**	**212**			**Pn**	**12 21 55.0**	**-0.1**
BKZ	**Black Stump Fm**	**7.34**	**212**	P		**Pn**	**12 21 53.5**	**-1.6**
BKZ				S		**Sn**	**12 23 13.2**	**-4.2**
WATZ	**Wairara**	**7.35**	**218**	P		**Pn**	**12 21 57.1**	**+2.0**
MCHZ	**McNeill Hill**	**7.49**	**210**	P		**Pn**	**12 21 54.8**	**-2.3**
MCHZ				S		**Sn**	**12 23 19.6**	**-1.2**
CKHZ	**Cape Kidnapper**	**7.52**	**207**	P		**Pn**	**12 21 58.2**	**+0.7**
CKHZ				S		**Sn**	**12 23 18.7**	**-2.9**
KWHZ	**Kaweka Forest**	**7.59**	**211**	P		**Pn**	**12 21 57.4**	**-1.1**
KWHZ				S		**Sn**	**12 23 20.1**	**-3.3**
TMVZ	**Te Maari**	**7.67**	**216**	P		**Pn**	**12 21 59.5**	**-0.2**
NTVZ	**North Tongarir**	**7.68**	**216**	P		**Pn**	**12 22 00.5**	**+0.8**
HIZ	**Hauiti**	**7.69**	**223**	Pn		**Pn**	**12 22 02.0**	**+2.3**
HIZ	**Hauiti**	**7.69**	**223**	P		**Pn**	**12 22 02.5**	**+2.8**
ETVZ	**East Tongariro**	**7.69**	**216**	P		**Pn**	**12 21 59.7**	**-0.2**
KAHZ	**Kahuranaki**	**7.71**	**208**	P		**Pn**	**12 21 58.5**	**-1.7**
KAHZ				S		**Sn**	**12 23 22.9**	**-3.6**
OTVZ	**Oturere**	**7.73**	**216**	P		**Pn**	**12 22 00.6**	**+0.1**
NGZ	**Ngauruhoe**	**7.77**	**216**	P		**Pn**	**12 22 01.8**	**+0.7**
KRHZ	**Kereru**	**7.79**	**211**	P		**Pn**	**12 21 59.9**	**-1.3**
KRHZ				S		**Sn**	**12 23 23.9**	**-4.4**
BHHZ	**Black Hill Sta**	**7.80**	**213**	P		**Pn**	**12 22 00.9**	**-0.5**
BHHZ				S		**Sn**	**12 22 02.7**	**-2.9**
TUVZ	**Tukino**	**7.82**	**215**	P		**Pn**	**12 22 02.7**	**+1.0**
FWVZ	**Far West T-bar**	**7.86**	**216**	P		**Pn**	**12 22 03.4**	**+1.1**
MOVZ	**Moawhango**	**7.88**	**214**	P		**Pn**	**12 22 03.2**	**+0.7**
WNVZ	**Wahianoa**	**7.89**	**215**	P		**Pn**	**12 22 03.5**	**+0.8**
PXZ	**Pawanui**	**7.92**	**207**	P		**Pn**	**12 22 02.4**	**-0.6**
PKVZ	**Pokaka**	**7.99**	**217**	P		**Pn**	**12 22 04.3**	**+0.3**
MTVZ	**Mangateitei**	**8.00**	**216**	P		**Pn**	**12 22 03.7**	**-0.4**
PNHZ	**Pukenui**	**8.09**	**210**	P		**Pn**	**12 22 04.0**	**-1.4**
VRZ	**Vera Road**	**8.17**	**220**	P		**Pn**	**12 22 07.4**	**+1.0**
PRHZ	**Porangahau**	**8.21**	**207**	P		**Pn**	**12 22 05.5**	**-1.5**
DVHZ	**Dannevirke**	**8.43**	**209**	P		**Pn**	**12 22 08.0**	**-1.9**
ANWZ	**Angora Road**	**8.44**	**207**	P		**Pn**	**12 22 09.1**	**-1.0**
WAZ	**Wanganui**	**8.52**	**216**	P		**Pn**	**12 22 10.7**	**-0.6**
NEZ	**North Egmont**	**8.64**	**222**	P		**Pn**	**12 22 15.6**	**+2.7**
PKE	**Pukeiti**	**8.65**	**222**	P		**Pn**	**12 22 16.1**	**+3.2**
BFZ	**Birch Farm**	**8.72**	**207**	Pn		**Pn**	**12 22 12.1**	**-1.9**
BFZ	**Birch Farm**	**8.72**	**207**	P		**Pn**	**12 22 11.0**	**-2.9**
PRWZ	**Pori Road**	**8.72**	**209**	P		**Pn**	**12 22 13.4**	**-0.6**
MRZ	**Mangatainoka R**	**8.97**	**210**	P		**Pn**	**12 22 14.4**	**-3.0**
TMWZ	**Te Maipa**	**9.22**	**207**	P		**Pn**	**12 22 18.3**	**-2.6**
OGWZ	**Otaki Gorge**	**9.28**	**211**	P		**Pn**	**12 22 18.7**	**-2.9**
PAWZ	**Paruwai Farm**	**9.64**	**208**	P		**Pn**	**12 22 24.4**	**-2.2**
TUWZ	**Tuamarina**	**10.32**	**213**	Pn		Pn	12 22 30.9	-4.9
RPZ	**Rata Peaks**	**13.44**	**214**	Pn		Pn	12 23 11.3	-7.2
	0.3nm,0.3s,baz=0.6,slow=18,SNR=1.1							
RPZ				Sn		Sn	12 25 31.6	-15
	0.6nm,0.3s,baz=161,slow=22,SNR=1.4							
RPZ	**Rata Peaks**	**13.44**	**214**			Pn	12 23 13.3	-5.3
DZM	**Mont Dzumac**	**17.21**	**306**	LR		LR	12 29 09.8	
	comp=Z,114nm,18.9s,baz=150,slow=32							
EIDS	**Eidsvold**	**27.55**	**278**	P		**P**	**12 25 53.9**	**-0.3**
EIDS				IAmb		IAmb	12 25 59.3	
	comp=Z,8.7nm,1.1s							
STKA	**Stephens Creek**	**33.55**	**261**	LR		LR	12 39 44.5	
	comp=Z,84nm,18.3s,baz=203,slow=35							
BBOO	**Buckleboo**	**37.91**	**258**	P		**P**	**12 27 23.4**	**-1.1**
BBOO				IAmb		IAmb	12 27 28.0	
	comp=Z,9.3nm,1.1s							
COEN	**Coen**	**39.65**	**289**	P		**P**	**12 27 39.2**	**+0.1**
COEN				IAmb		IAmb	12 27 59.0	
	comp=Z,30nm,1.4s							
AS31	**Alice Springs**	**42.60**	**270**	P		**P**	**12 28 01.6**	**-1.9**
ASAR	**Alice Springs**	**42.60**	**270**	P		**P**	**12 28 02.1**	**-1.3**
	comp=Z,4.3nm,0.6s,baz=110,slow=7.9,SNR=56							
ASAR				PcP		**PcP**	**12 29 54.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=119,slow=4.2,SNR=1.8							
ASAR	**Alice Springs**	**42.60**	**270**	P		**P**	**12 28 02.5**	**-1.0**
WR0	**Warramunga Arr**	**43.65**	**275**	P		**P**	**12 28 11.0**	**-1.0**
WB2	**Warramunga Arr**	**43.82**	**275**	P		**P**	**12 28 11.6**	**-1.7**
WB2				IAmb		IAmb	12 28 12.5	
	comp=Z,8.5nm,0.6s							
WRAB	**Tennant Creek**	**43.83**	**275**	P		**P**	**12 28 11.2**	**-2.1**
WRAB				IAmb		IAmb	12 28 12.4	
	comp=Z,7.1nm,0.7s							
WRA	**Warramunga Arr**	**43.83**	**275**	P		**P**	**12 28 11.8**	**-1.5**
	comp=Z,6.2nm,0.5s,baz=114,slow=7.8,SNR=142							
WRA				PcP		**PcP**	**12 29 59.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=119,slow=3.0,SN

MRKS					Lg	Lg	12 54 13.9		
	12nm,0.6s								
UCH	**Uchtor**	**3.51**	**68**	⇑*e*P		**Pn**	**12 53 37.9**	**+1.6**
	baz=70								
UCH				⇑*i*S		**Sn**	**12 54 19.5**	**+1.5**
	baz=70								
SGDS	**Sogindy**	**4.15**	**52**	*e*P		**Pb**	**12 53 56.3**	**+1.9**
	0.8nm,0.3s								
SGDS				*e*S		**Sg**	**12 54 50.9**	**-3.6**
	1.6nm,0.6s								
SGDS	**Sogindy**	**4.15**	**52**	Pg		**Pb**	**12 53 56.8**	**+2.4**
	1.6nm,0.5s								
SGDS				Lg		Lg	12 54 50.0		
	2.5nm,0.7s								
TKM2	**Tokmak 2**	**4.50**	**63**	⇑Pg		**Pb**	**12 54 02.7**	**+2.1**
	12nm,1.4s								
TKM2				⇓Lg		Lg	12 55 01.8		
	3.6nm,0.7s								
KST	**Kastek**	**4.80**	**63**	*e*P		**Pb**	**12 54 08.7**	**+3.1**
	1.4nm,0.4s								
KST				*e*S		**Sg**	**12 55 12.7**	**-2.7**
	4.8nm,0.8s								
KST	**Kastek**	**4.80**	**63**	Pg		**Pg**	**12 54 10.0**	**-3.2**
	1.0nm,0.2s								
KST				Lg		Lg	12 55 12.7		
	3.3nm,0.7s								
BTLS	**Baital**	**4.96**	**34**	*e*P		**Pg**	**12 54 12.2**	**-4.1**
	0.8nm,0.1s								
BTLS				*e*S		**Sg**	**12 55 18.4**	**-2.2**
	1.6nm,0.1s								
BTLS	**Baital**	**4.96**	**34**	Pg		**Pg**	**12 54 13.0**	**-3.3**
	1.2nm,0.4s								
BTLS				Lg		Lg	12 55 18.0		
	1.2nm,0.6s								

IDC ***09*** *13:00:32.1±1.3, 18°44′N×145°39′E, h270km±13km, mb3.5/22, mb1 3.7/28, mb1mx3.5/73, mbtmp4.2/28, Error ellipse: s-maj=14.0km s-min=8.0km az=86.0*

NEIC ***09*** *13:00:32.7±1.2, 18°43′N±0°08′×145°5′E±0°1, h277km±9km, mb4.2/40, Error ellipse: s-maj=18.6km s-min=11.7km az=88.0*

ISC 09 13:00:32.3±0.5, 18°41′N±0°05′×145°39′E±0°10, h277km, n73, σ1§23/78, mb4.0/36, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.82**	**186**	P			**Pn**	**13 01 48.5**	**+1.6**
	21nm,0.3s,baz=24,slow=16,SNR=6.6								
GUMO				S			**S**	**13 02 45.9**	**-0.7**
	11nm,0.3s,baz=169,slow=23,SNR=1.7								
GUMO	**Guam**	**4.82**	**186**				**Pn**	**13 01 46.5**	**-0.4**
JCJ	**Chichijima**	**9.14**	**342**	P			**Pn**	**13 02 40.7**	**+0.9**
	15nm,0.3s,baz=273,slow=22,SNR=9.7								
JCJ				S			**S**	**13 04 22.2**	**-1.2**
	6.9nm,0.3s,baz=271,slow=23,SNR=1.7								
JCJ	**Chichijima**	**9.14**	**342**				**Pn**	**13 02 40.2**	**+0.3**
JHJ	**Hachijo jima 2**	**15.49**	**342**	P			**P**	**13 03 56.9**	**+0.9**
	9.7nm,0.3s,baz=74,slow=23,SNR=8.2								
JHJ				S			**S**	**13 06 43.6**	**-1.6**
	17nm,0.3s,baz=235,slow=24,SNR=6.3								
JOW	**Kunigami**	**1.87**	**301**	P			**P**	**13 04 23.8**	**+1.8**
	2.5nm,0.3s,baz=140,slow=13,SNR=7.2								
JOW	**Kunigami**	**17.87**	**301**	P			**P**	**13 04 24.1**	**+2.1**
MJAR	**Matsushiro Arr**	**19.14**	**342**	P			**P**	**13 04 33.6**	**-1.9**
	0.3nm,0.3s,baz=202,slow=3.9,SNR=12								
MJAR				S			**S**	**13 07 53.2**	**-4.2**
	0.1nm,0.3s,baz=160,slow=22,SNR=4.2								
MJAR	**Matsushiro Arr**	**19.14**	**342**	P			**P**	**13 04 33.7**	**-1.7**
MAJO	**Matsushiro**	**19.14**	**342**	P			**P**	**13 04 34.1**	**-1.4**
MAJO				IAmb		IAmb		13 04 48.1	
	comp=Z,4.9nm,0.7s								
MJB9	**Matsu-Tunnel**	**19.15**	**342**	P			**P**	**13 04 34.2**	**-1.3**
MJB9				IAmb		IAmb		13 04 48.0	
	comp=Z,4.8nm,0.6s								
JNU	**Nakatsue**	**19.60**	**321**	P			**P**	**13 04 39.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=31,slow=5.9,SNR=1.7								
JMM	**Marumori**	**19.80**	**349**	P			**P**	**13 04 42.4**	**0.0**
JMM				IAmb		IAmb		13 04 43.5	
	comp=Z,9.0nm,0.6s								
JSD	**Sado**	**20.53**	**344**	P			**P**	**13 04 47.0**	**-3.0**
JSD				IAmb		IAmb		13 04 49.8	
	comp=Z,17nm,1.1s								
YOJ	**Yonaguni jima**	**21.67**	**290**	P			**P**	**13 04 59.5**	**-1.8**
NACB	**Ninganchiao**	**22.89**	**289**	P			**P**	**13 05 12.7**	**+0.4**
YULB	**Yu-li**	**23.04**	**287**	P			**P**	**13 05 14.4**	**+0.7**
YULB				IAmb		IAmb		13 05 20.4	
	comp=Z,11nm,0.7s								
YHNB	**Yeheng**	**23.17**	**290**	P			**P**	**13 05 15.6**	**+0.6**
SSLB	**Suanglung**	**23.40**	**287**	P			**P**	**13 05 17.9**	**+0.8**
TPUB	**Ta-pu**	**23.63**	**286**	P			**P**	**13 05 18.8**	**-0.3**
KSRS	**Korea Array**	**24.38**	**325**	P			**P**	**13 05 26.4**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=142,slow=8.9,SNR=11								
MYLDM	**Lahad Datu**	**29.36**	**247**	P			**P**	**13 06 10.6**	**+0.4**
MYLDM				IAmb		IAmb		13 06 24.4	
	comp=Z,6.3nm,0.8s								
TOLI2	**Tolitoli**	**29.64**	**237**	P			**P**	**13 06 11.1**	**-1.6**
TOLI2				IAmb		IAmb		13 06 15.5	
	comp=Z,5.0nm,0.9s								
KKM	**Kota Kinabalu**	**30.98**	**250**	P			**P**	**13 06 23.9**	**-0.7**
KLR	**Kul'dur**	**32.66**	**343**	P			**P**	**13 06 38.1**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=157,slow=9.7,SNR=5.2								
MTN	**Manton Dam**	**34.09**	**205**	P			**P**	**13 06 52.0**	**+0.8**
PETK	**Petropavlovsk-**	**35.94**	**13**	P			**P**	**13 07 08.0**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=191,slow=7.0,SNR=1.9								
SBUM	**Sibu**	**36.16**	**248**	P			**P**	**13 07 09.7**	**+0.7**
KNRA	**Kununurra**	**37.62**	**297**	P			**P**	**13 07 22.5**	**+1.3**
UBPT	**Khong Chiam**	**38.28**	**272**	P			**P**	**13 07 27.3**	**+0.6**
WB0	**Warramunga Arr**	**39.44**	**196**	P			**P**	**13 07 36.6**	**+0.4**
WB0				IAmb		IAmb		13 07 37.2	
	comp=Z,5.0nm,0.6s								
WR0	**Warramunga Arr**	**39.59**	**196**	P			**P**	**13 07 37.8**	**+0.5**
WRAB	**Tennant Creek**	**39.61**	**196**	P			**P**	**13 07 38.2**	**+0.6**
WRAB				IAmb		IAmb		13 07 38.7	
	comp=Z,7.9nm,0.6s								
WB2	**Warramunga Arr**	**39.62**	**196**	P			**P**	**13 07 38.2**	**+0.5**
WB2				IAmb		IAmb		13 07 38.8	
	comp=Z,6.9nm,0.6s								
WRA	**Warramunga Arr**	**39.62**	**196**	P			**P**	**13 07 37.9**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=37,slow=9.6,SNR=54								
WRA	**Warramunga Arr**	**39.62**	**196**	P			**P**	**13 07 38.3**	**+0.6**
SANVU	**Saraoutou**	**39.92**	**146**	P			**P**	**13 07 39.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**41.14**	**209**	P			**P**	**13 07 50.3**	**+0.2**
MA2	**Magadan**	**41.30**	**4**	P			**P**	**13 07 51.3**	**+0.5**
	comp=Z,3.2nm,0.6s,baz=151,slow=9.3,SNR=4.7								
SONM	**Songino Array**	**43.19**	**322**	P			**P**	**13 08 07.1**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=141,slow=7.4,SNR=4.2								
ASAR	**Alice Springs**	**43.29**	**195**	P			**P**	**13 08 07.5**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=16,slow=7.1,SNR=14								
ASAR				S			**S**	**13 14 10.4**	**-3.1**
	comp=Z,0.7nm,0.9s,baz=19,slow=18,SNR=4.0								
CHTO	**Chiang Mai**	**43.92**	**278**	P			**P**	**13 08 12.9**	**+0.5**
CHTO				IAmb		IAmb		13 08 14.1	
	comp=Z,4.7nm,0.6s								
CM31	**Chiang Mai Arr**	**43.97**	**278**	P			**P**	**13 08 13.3**	**+0.5**
CM31				IAmb		IAmb		13 08 15.2	
	comp=Z,14nm,1.0s								
CMAR	**Chiang Mai Arr**	**43.97**	**278**	P			**P**	**13 08 14.3**	**+1.5**
	comp=Z,7.2nm,0.6s,baz=69,slow=6.5,SNR=52								
CMAR	**Chiang Mai Arr**	**43.97**	**278**	P			**P**	**13 08 13.5**	**+0.7**
SEY	**Seymchan**	**44.75**	**5**	P			**P**	**13 08 18.9**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=167,slow=8.6,SNR=7.9								
KULM	**Kulim**	**45.55**	**259**	P			**P**	**13 08 26.5**	**+1.3**
KULM				IAmb		IAmb		13 08 27.9	
	comp=Z,14nm,0.8s								
GSI	**Gunungsitoli**	**49.87**	**256**	P			**P**	**13 08 57.4**	**-0.9**
STKA	**Stephens Creek**	**50.13**	**184**	P			**P**	**13 08 59.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=357,slow=9.6,SNR=5.4								
FORT	**Forrest**	**51.66**	**199**	P			**P**	**13 09 11.3**	**+0.1**
FORT				IAmb		IAmb		13 09 14.5	
	comp=Z,9.7nm,1.0s								
BBOO	**Buckleboo**	**51.70**	**190**	P			**P**	**13 09 11.0**	**-0.6**
TIXI	**Tiksi**	**54.12**	**354**	P			**P**	**13 09 27.9**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=93,slow=22,SNR=7.3								
TIXI	**Tiksi**	**54.12**	**354**	P			**P**	**13 09 28.3**	**-0.3**
ZALV	**Zalesovo Beam**	**58.07**	**323**	P			**P**	**13 09 55.5**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=111,slow=8.1,SNR=4.7								
MKAR	**Makanchi Array**	**58.45**	**314**	P			**P**	**13 10 00.1**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=86,slow=7.9,SNR=12								
MKAR	**Makanchi Array**	**58.45**	**314**	P			**P**	**13 10 00.5**	**+1.0**
KURK	**Kurchatov**	**61.29**	**318**	P			**P**	**13 10 19.0**	**+0.4**
KURBB	**Kurchatov Arra**	**61.34**	**318**	P			**P**	**13 10 19.5**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=97,slow=7.2,SNR=33								
CAST	**Castle Rocks**	**61.49**	**27**	P			**P**	**13 10 19.9**	**+0.1**
CAST				IAmb		IAmb		13 10 21.8	
	comp=Z,6.1nm,0.8s								
ILAR	**Eielson Array**	**64.03**	**26**	P			**P**	**13 10 35.9**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=247,slow=5.6,SNR=27								
ILAR	**Eielson Array**	**64.03**	**26**	P			**P**	**13 10 33.1**	**-3.3**
DOT	**Dot Lake**	**65.04**	**28**	P			**P**	**13 10 43.2**	**+0.2**
DOT				IAmb		IAmb		13 10 44.3	
	comp=Z,3.7nm,0.7s								
BVAR	**Borovoye Array**	**66.51**	**320**	P			**P**	**13 10 52.9**	**+0.4**
	comp=Z,2.0nm,0.5s								
INK	**Inuvik**	**69.75**	**23**	P			**P**	**13 11 12.7**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=291,slow=5.3,SNR=18								
INK	**Inuvik**	**69.75**	**23**	P			**P**	**13 11 12.8**	**+0.5**
INK				IAmb		IAmb		13 11 13.5	
	comp=Z,3.2nm,0.8s								
DLBC	**Dease Lake**	**71.70**	**33**	P			**P**	**13 11 25.7**	**+1.5**
	comp=Z,2.5nm,0.9s,baz=343,slow=1.7,SNR=3.8								
A36M	**Sachs Harbour**	**72.45**	**19**	P			**P**	**13 11 28.5**	**+0.2**
A36M				IAmb		IAmb		13 11 35.0	
	comp=Z,3.7nm,1.1s								
C36M	**Paulatuk**	**73.13**	**22**	P			**P**	**13 11 32.5**	**+0.2**
C36M				IAmb		IAmb		13 11 33.2	
	comp=Z,4.4nm,0.9s								
YKA	**Yellowknife Ar**	**78.38**	**28**	P			**P**	**13 12 02.2**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=291,slow=5.9,SNR=12								
ARCES	**ARCESS Array B**	**82.68**	**342**	P			**P**	**13 12 24.6**	**0.0**
	comp=Z,2.8nm,1.0s,baz=69,slow=6.6,SNR=3.6								
NVAR	**Mina Array Bea**	**83.55**	**52**	P			**P**	**13 12 31.5**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=276,slow=6.1,SNR=9.6								
FINES	**FINESS Array B**	**87.03**	**335**	P			**P**	**13 12 44.7**	**-1.6**
	comp=Z,10.0nm,1.3s,baz=57,slow=4.8,SNR=11								
LPAZ	**La Paz**	**147.96**	**91**	PKPbc			**PKiKP**	**13 19 48.8**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=14,slow=3.3,SNR=5.8								

PDG ***09*** *13:02:32.8±0.5, 45°.94′N×15°.66′E, h11km, ML3.8/13, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*

IDC ***09*** *13:02:33.1±1.0, 45°.97′N×15°.70′E, h0km, mb3.7/5, mb1 3.7/13, mb1mx3.5/61, mbtmp3.6/13, ML4.0/6, MS2.9/5, Ms1 2.9/5, ms1mx2.5/99, Error ellipse: s-maj=13.3km s-min=9.8km az=43.0*

LJU ***09*** *13:02:33.1, 45°.92′N×15°.60′E, h8km, ML3.4*

IASPEI ***09*** *13:02:33.0±0.8, 45°.93′N±0°.02′×15°.62′E±0°.01, h8km±5km, mb3.8/5, Error ellipse: s-maj=2.2km s-min=2.1km az=146.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

VIE ***09*** *13:02:33.1±0.2, 45°.94′N×15°.61′E, h6km±1km, mb3.3/20, ml3.7/19, Error ellipse: s-maj=1.8km s-min=1.2km az=98.0 11 km ESE of Krsko*

LDG ***09*** *13:02:33.2±0.1, 45°.98′N×15°.70′E, h7km, Ml3.5/16, Error ellipse: s-maj=2.6km s-min=1.9km az=165.0*

BEO ***09*** *13:02:33.3±0.4, 46°.02′N×15°.65′E, h13km±3km, ML3.7/19*

ROM ***09*** *13:02:33.0±0.1, 45°.914′N±0°.004′×15°.591′E±0°.005, h6km, ML3.7/18, Error ellipse: s-maj=0.5km s-min=0.3km az=11.0*

KRSZO ***09*** *13:02:33.2±0.6, 45°.93′N×15°.64′E, h11km±2km, ML4.0/45, Error ellipse: s-maj=1.8km s-min=1.6km az=152.0*

PRU ***09*** *13:02:34.0±0.0, 46°.03′N×15°.65′E, h0km, M4.1*

RHSSO ***09*** *13:02:34.0±0.2, 45°.90′N×15°.60′E, h6km±1km, ML3.8/21*

BGR ***09*** *13:02:35.5±0.4, 45°.96′N×15°.66′E, h5km, ML3.8/14, Error ellipse: s-maj=6.7km s-min=5.6km az=165.0*

ISC 09 13:02:33.1±0.7, 45°93′N±0°01′×15°62′E±0°01, h9km±4km, n375, σ1§53/554, mb3.8/5, 34C-39D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GCIS	**Gornji Cirnik**	**0.07**	**176**	⇓*i*Pg			**Pg**	**13 02 34.9**	**-0.2**
GCIS				*i* Sg			**Sg**	**13 02 36.2**	**-0.3**
GCIS				IAML				13 02 36.9	
	comp=Z,13μm,0.1s								
GOLS	**Golise**	**0.08**	**2**	⇓*i*Pg			**Pg**	**13 02 35.1**	**-0.1**
GOLS				*i* Sg			**Sg**	**13 02 36.7**	**-0.1**
GOLS				IAML				13 02 37.7	
	comp=Z,17μm,0.1s								
CESS	**Cesta pri Krsk**	**0.12**	**290**	⇑*i*Pg			**Pg**	**13 02 35.6**	**-0.1**
CESS				*i* Sg			**Sg**	**13 02 37.5**	**-0.2**
CESS				IAML				13 02 38.9	
	comp=Z,19μm,0.3s								
CRES	**Cresnjev**	**0.16**	**227**	⇓*i*Pg			**Pg**	**13 02 36.2**	**-0.2**
CRES				*e*Sg			**Sg**	**13 02 38.6**	**-0.1**
CRES	**Cresnjev**	**0.16**	**227**	⇓*i*Pg			**Pg**	**13 02 36.2**	**-0.2**
CRES				*i* Sg			**Sg**	**13 02 38.6**	**-0.1**
CRES				IAML				13 02 39.8	
	comp=Z,10μm,0.2s								
CRES	**Cresnjev**	**0.16**	**227**	Pg			**Pg**	**13 02 36.3**	**-0.2**
	comp=Z,198nm,SNR=1000								
LEGS	**Legarje**	**0.21**	**274**	⇑*i*Pg			**Pg**	**13 02 37.3**	**-0.1**
LEGS				*i* Sg			**Sg**	**13 02 41.0**	**+0.6**
DOBS	**Dobrina**	**0.24**	**334**	⇓*i*Pg			**Pg**	**13 02 38.3**	**+0.3**
DOBS				*i* Sg			**Sg**	**13 02 42.0**	**+0.8**
DOBS				IAML				13 02 42.2	
	comp=Z,6μm,0.1s								
PTJ	**Puntijarka**	**0.24**	**96**	*e*Pg			**Pg**	**13 02 38.8**	**+0.7**
PTJ				Sg			**Sg**	**13 02 42.6**	**+1.2**
PTJ	**Puntijarka**	**0.24**	**96**	x			x	13 02 38.9	
	comp=Z,26nm,SNR=436								
ZAG	**Zagreb**	**0.28**	**113**	⇑*i*Pg			**Pb**	**13 02 39.8**	**-0.4**
ZAG				*e*Sg			**Sb**	**13 02 44.5**	**-0.5**
ZAG	**Zagreb**	**0.28**	**113**	*i* Pg			**Pb**	**13 02 39.8**	**-0.4**
ZAG				Sg			**Sb**	**13 02 44.3**	**-0.8**
ZAG	**Zagreb**	**0.28**	**113**	⇑P			**Pb**	**13 02 39.8**	**-0.4**
ZAG				S			**Sb**	**13 02 44.2**	**-0.9**
ZAG				AML		AML			
	comp=E,51550μm,0.4s								
ZAG				AML		AML			
	comp=N,43900μm,1.4s								
ZAG	**Zagreb**	**0.28**	**113**	Pg			**Pb**	**13 02 39.8**	**-0.4**
	comp=Z,59nm,SNR=329								
OZLJ	**Ozalj**	**0.34**	**199**	*e*Pg			**Pg**	**13 02 39.9**	**+0.2**
OZLJ				Sg			**Sg**	**13 02 44.9**	**+0.8**
LOBO	**Lobor**	**0.38**	**55**	*i* Pg			**Pb**	**13 02 41.5**	**-0.6**
LOBO				Sg			**Sg**	**13 02 46.6**	**+0.9**
PDKS	**Podkum**	**0.45**	**287**	⇑*i*Pg			**Pg**	**13 02 42.2**	**+0.3**
PDKS				*i* Sg			**Sg**	**13 02 48.1**	**+0.3**
PDKS				IAML				13 02 49.6	
	comp=Z,1μm,0.2s								
BOJS	**Bojanci**	**0.50**	**211**	*e*Pg			**Pg**	**13 02 42.7**	**-0.1**
BOJS	**Bojanci**	**0.50**	**211**	P			**Pg**	**13 02 42.7**	**-0.1**
BOJS				S			**Sg**	**13 02 50.4**	**+1.0**
BOJS				AML		AML			
	comp=E,25750μm,1.0s								
BOJS				AML		AML			
	comp=N,19250μm,0.8s								
BOJS	**Bojanci**	**0.50**	**211**	*i* Pg			**Pg**	**13 02 42.3**	**-0.5**
BOJS				*i* Sg			**Sg**	**13 02 49.6**	**+0.2**
BOJS				IAML				13 02 51.9	
	comp=Z,1μm,0.2s								
GROS	**Grobnik**	**0.53**	**351**	⇓*i*Pg			**Pg**	**13 02 43.8**	**+0.4**
GROS				*i* Sg			**Sg**	**13 02 51.3**	**+0.8**
GROS				IAML				13 02 52.4	
	comp=Z,829nm,0.1s								
VISS	**Visnje**	**0.56**	**257**	⇑*i*Pg			**Pg**	**13 02 43.8**	**-0.1**
VISS				*i*				13 02 44.0	
VISS				*i* Sg			**Sg**	**13 02 51.1**	**-0.1**
VISS				IAML				13 02 53.6	
	comp=Z,862nm,0.2s								
KALN	**Kalnik**	**0.61**	**71**	*e*Pg			**Pb**	**13 02 46.1**	**+0.1**
KALN				Sg			**Sb**	**13 02 54.7**	**-0.1**
VNDS	**Vrh nad Dolski**	**0.66**	**285**	⇑*i*Pg			**Pg**	**13 02 45.9**	**+0.1**
VNDS				*i* Sg			**Sg**	**13 02 55.5**	**+1.0**
VNDS				IAML				13 03 00.5	
	comp=Z,1μm,0.3s								
KOGS	**Kog**	**0.68**	**40**	⇓P			**Pb**	**13 02 46.9**	**-0.1**
KOGS				S			**Sb**	**13 02 57.2**	**+0.7**
KOGS				AML		AML			
KOGS				AML		AML			
KOGS	**Kog**	**0.68**	**40**	⇓*i*Pg			**Pb**	**13 02 46.9**	**-0.1**
KOGS				*i* Sg			**Sb**	**13 02 56.6**	**+0.1**
KOGS				IAML				13 03 00.8	
	comp=Z,6μm,0.3s								
KOGS	**Kog**	**0.68**	**40**	Pb			**Pb**	**13 02 46.9**	**-0.1**
	comp=Z,174nm,SNR=897								
GBRS	**Gornja Briga**	**0.70**	**235**	⇓*i*Pg			**Pg**	**13 02 46.5**	**0.0**
GBRS				IAML				13 03 00.0	
	comp=Z,709nm,0.2s								
LJU	**Ljubljana**	**0.77**	**279**	*e*Pg			**Pg**	**13 02 47.8**	**-0.1**
LJU				*e*Sg			**Sg**	**13 02 58.4**	**+0.5**
LJU	**Ljubljana**	**0.77**	**279**	⇑*i*Pg			**Pg**	**13 02 47.8**	**-0.1**
LJU				*e*Sg			**Sb**	**13 02 59.1**	**-0.2**
LJU	**Ljubljana**	**0.77**	**279**	P			**Pg**	**13 02 47.6**	**-0.3**
LJU				AML		AML			
	comp=E,34300μm,0.3s								
LJU				AML		AML			
	comp=N,31000μm,0.3s								
LJU	**Ljubljana**	**0.77**	**279**	⇑*i*Pg			**Pg**	**13 02 47.9**	**-0.1**
LJU				*i* Sg			**Sb**	**13 02 59.4**	**+0.2**
LJU				IAML				13 03 03.0	
	comp=Z,436nm,0.2s								
PERS	**Pernice**	**0.78**	**334**	⇓*i*Pg			**Pg**	**13 02 48.3**	**+0.1**
GBAS	**Gorenja Brezov**	**0.82**	**270**	⇑*i*Pg			**Pg**	**13 02 48.7**	**-0.2**
GBAS				IAML				13 03 05.5	
	comp=Z,480nm,0.2s								
SOKA	**Soboth**	**0.85**	**331**	*e*Pg			**Pg**	**13 02 49.5**	**+0.1**
	comp=Z,560nm,0.3s,SNR=420								
SOKA				*e*Sg			**Sg**	**13 03 00.0**	**-0.4**
	comp=Z,653nm,0.3s								
MOSL	**Moslavina**	**0.86**	**112**	*e*Pg			**Pn**	**13 02 50.9**	**-0.4**
MOSL				Sg			**Sb**	**13 03 02.2**	**+0.4**
CEY	**Cerknica**	**0.86**	**257**	*e*Pg			**Pg**	**13 02 49.3**	**-0.3**
CEY				*e*Sg			**Sb**	**13 03 02.8**	**+1.0**
CEY	**Cerknica**	**0.86**	**257**	⇑*i*Pg			**Pg**	**13 02 49.2**	**-0.3**
CEY				*e*Sg			**Sg**	**13 03 01.4**	**+0.7**
CEY	**Cerknica**	**0.86**	**257**	⇑*i*Pg			**Pg**	**13 02 49.2**	**-0.3**
CEY				*i* Sg			**Sb**	**13 03 02.3**	**+0.5**
CEY				IAML				13 03 06.0	
	comp=Z,1μm,0.4s								
MOZS	**Mozjanca**	**0.89**	**294**	⇓*i*Pg			**Pg**	**13 02 50.2**	**0.0**
MOZS				*e*Sg			**Sb**	**13 03 03.9**	**+1.1**
MOZS				IAML				13 03 07.0	
	comp=Z,1μm,0.3s								
OBKA	**Obir**	**0.94**	**308**	*i* Pg			**Pg**	**13 02 51.2**	**0.0**
	comp=Z,168nm,0.1s,SNR=384								
OBKA				*e*Sg			**Sb**	**13 03 04.5**	**+0.3**
	comp=Z,990nm,0.2s								
OBKA	**Obir**	**0.94**	**308**	⇓*i*Pg			**Pg**	**13 02 51.1**	**0.0**
OBKA				*e*Sg			**Sg**	**13 03 03.9**	**+0.5**
OBKA	**Obir**	**0.94**	**308**	Pb			**Pg**	**13 02 51.1**	**0.0**
	comp=Z,6.7nm,SNR=160								
OBKA	**Obir**	**0.94**	**308**	*e*Pg			**Pg**	**13 02 51.1**	**0.0**
OBKA				*e*Sg			**Sb**	**13 03 04.3**	**0.0**
CRNS	**Crni Vrh**	**0.96**	**279**	⇑*i*Pg			**Pg**	**13 02 51.2**	**-0.3**
CRNS				*i* Sg			**Sn**	**13 03 06.5**	**-0.1**
CRNS				IAML				13 03 07.9	
	comp=Z,741nm,0.2s								
KNDS	**Knezji Dol**	**0.96**	**245**	*i* Pg			**Pg**	**13 02 50.9**	**-0.6**
KNDS				IAML				13 03 09.4	
	comp=Z,1μm,0.5s								
BEHE	**Becsehely**	**0.96**	**56**	*e*Pg			**Pn**	**13 02 52.6**	**-0.2**
BEHE				*e*Sg			**Sb**	**13 03 05.9**	**+1.0**
BEHE	**Becsehely**	**0.96**	**56**	Pg			**Pn**	**13 02 52.6**	**-0.2**
	comp=Z,20nm,SNR=227								
BEHE	**Becsehely**	**0.96**	**56**	P			**Pn**	**13 02 52.6**	**-0.2**
A250A	**Rusevo Krmpots**	**0.99**	**211**	*e*Pg			**Pg**	**13 02 51.6**	**-0.4**
A250A				Sg			**Sg**	**13 03 05.4**	**+0.6**
RIY	**Rijeka**	**1.00**	**233**	*e*Pg			**Pg**	**13 02 52.0**	**-0.3**
RIY				*e*Sg			**Sb**	**13 03 06.3**	**+0.3**
RIY	**Rijeka**	**1.00**	**233**	⇓*i*Pg			**Pg**	**13 02 51.7**	**-0.6**
RIY				*e*Sg			**Sg**	**13 03 04.9**	**-0.5**
RIY	**Rijeka**	**1.00**	**233**	*e*Pg			**Pg**	**13 02 52.5**	**+0.2**
RIY				Sg			**Sg**	**13 03 05.1**	**-0.2**
PLIT	**Plitvice**	**1.06**	**180**	*i* Pg			**Pg**	**13 02 52.9**	**-

comp=N,2505µm,0.6s
BLY AML AML
comp=E,2630µm,0.7s
BLY AML AML
comp=N,2515µm,0.6s
BLY AML AML
comp=E,2685µm,0.7s
BLY Banja Luka 1.62 137 Pn **Pn 13 03 01.9 +0.1**
comp=Z,5.1nm,SNR=144
A252A Venje 1.64 107 *i* Pn **Pn 13 03 02.2 +0.1**
A252A Sn **Sg 13 03 26.0 +0.2**
PTCC Patocco-Chiusa 1.64 287 P **Pn 13 03 02.4 +0.1**
PTCC S **Sn 13 03 24.3 +0.7**
PTCC AML AML
comp=N,1108µm,0.8s
PTCC AML AML
comp=E,1420µm,0.4s
VINO Villanova 1.66 282 P **Pn 13 03 03.1 +0.7**
VINO S **Sb 13 03 25.5 +0.6**
VINO AML AML
comp=E,767µm,0.6s
VINO AML AML
comp=N,720µm,0.4s
BRJN Brijuni 1.67 233 *e*Pn **Pn 13 03 03.5 +0.9**
BRJN Sn **Sb 13 03 26.2 +1.1**
BRJN Brijuni 1.67 233 P **Pn 13 03 03.4 +0.9**
VIRC Vir 1.69 194 *e*Pn **Pb 13 03 04.7 +0.4**
VIRC Sn **Sg 13 03 27.2 -0.1**
KOVH Kovagotottos 1.73 84 Pg **Pn 13 03 02.5 -0.9**
comp=Z,1.8nm,SNR=72
KOVH Kovagotottos 1.73 84 P **Pn 13 03 02.5 -0.9**
GEPF Gemona 1.76 282 P **Pn 13 03 04.8 +1.1**
GEPF AML AML
comp=E,2035µm,0.7s
GEPF AML AML
comp=N,1298µm,0.6s
MPLH Magyarpolny 1.81 46 Pn **Pn 13 03 04.1 -0.3**
comp=Z,1.7nm,SNR=57
MPLH Magyarpolny 1.81 46 P **Pn 13 03 04.1 -0.3**
RONA Rosalia, Austr 1.83 14 *e*Pn **Pn 13 03 05.2 +0.5**
comp=Z,177nm,0.3s,SNR=77
RONA *e*Sn **Sn 13 03 28.7 +0.7**
comp=Z,309nm,0.5s
MGRS Mrkonjic Grad 1.84 145 *e*Pn **Pn 13 03 05.9 +1.1**
MGRS *e*Sn **Sb 13 03 29.4 -0.6**
MPRI Monte Prat 1.86 280 P **Pn 13 03 06.2 +1.0**
MPRI AML AML
comp=E,1455µm,1.6s
MPRI AML AML
comp=N,2365µm,1.6s
SOP Sopron 1.86 20 Pn **Pn 13 03 05.5 +0.3**
comp=Z,1.8nm,SNR=44
SOP Sopron 1.86 20 P **Pn 13 03 05.5 +0.3**
EGYH Egyhazaskeszo 1.89 38 Pn **Pn 13 03 05.9 +0.2**
comp=Z,3.8nm,SNR=50
EGYH Egyhazaskeszo 1.89 38 P **Pn 13 03 05.9 +0.2**
A266A Gyulaj 1.93 71 Pn **Pn 13 03 05.2 -0.9**
comp=Z,3.4nm,SNR=24
ZOU Zoufplan 1.94 290 P **Pn 13 03 07.4 +1.0**
ZOU AML AML
comp=E,1284µm,1.1s
ZOU AML AML
comp=N,978µm,0.6s
KBA Koelnbreinsper 1.94 307 *e*Pn **Pn 13 03 07.3 +0.9**
comp=N,71nm,0.3s,SNR=147
KBA Sn **Sn 13 03 32.3 +1.2**
comp=N,102nm,0.4s
KBA Koelnbreinsper 1.94 307 *e*Pn **Pn 13 03 07.4 +0.9**
CLUD Cludinico 1.97 286 P **Pn 13 03 07.5 +0.7**
CLUD AML AML
comp=N,860µm,0.9s
CLUD AML AML
comp=E,742µm,0.7s
DUGI Dugi Otok 1.98 192 *e*Pn **Pb 13 03 08.8 -0.5**
DUGI Sn **Sb 13 03 33.4 -0.7**
CONA Conrad Observa 2.00 5 *e*Pn **Pn 13 03 07.8 +0.6**
comp=E,46nm,0.2s,SNR=52
CONA *e*Sn **Sn 13 03 33.1 +0.7**
comp=E,127nm,0.4s
CONA Conrad Observa 2.00 5 Pn **Pn 13 03 07.8 +0.6**
comp=Z,1.4nm,SNR=36
KIJV Kijevo 2.01 164 *i* Pn **Pn 13 03 08.5 +1.3**
KIJV Sn **Sb 13 03 34.4 -0.5**
MORI Morici 2.07 178 *i* Pn **Pb 13 03 10.1 -0.6**
MORI Sn **Sb 13 03 37.1 +0.5**
FVI Forni Avoltri 2.08 290 P **Pn 13 03 08.9 +0.7**
FVI AML AML
comp=E,312µm,1.4s
FVI AML AML
comp=N,336µm,1.3s
DOB Doboj 2.12 124 *e*Pn **Pn 13 03 09.4 +0.7**
DOB *e*Sn **Sn 13 03 35.9 +0.7**
MORH Mrgy, Hungar 2.12 81 ⇑P **Pn 13 03 08.0 -0.8**
MORH ⇓S **Sn 13 03 35.3 +0.1**
MORH Mrgy, Hungar 2.12 81 *e*Pn **Pn 13 03 07.7 -1.0**
MORH *e*Sn **Sn 13 03 33.4 -1.8**
MORH Mrgy, Hungar 2.12 81 *e*Sn **Sb 13 03 37.0 -1.2**
MORH Mrgy, Hungar 2.12 81 Pb **Pn 13 03 07.9 -0.8**
comp=Z,1.0nm,SNR=44
MORH Mrgy, Hungar 2.12 81 P **Pn 13 03 07.9 -0.8**
MOA Molln 2.13 335 *i* Pn **Pn 13 03 09.7 +0.8**
comp=Z,43nm,0.3s,SNR=51
MOA *e*Sn **Sn 13 03 36.8 +1.4**
comp=Z,64nm,0.3s
MOA Molln 2.13 335 *e*Pn **Pn 13 03 10.5 +1.6**
SRKY Kupres RS 2.16 149 ⇑*i* Pn **Pn 13 03 10.7 +1.3**
SRKY *e*Sn **Sn 13 03 36.9 +0.5**
POLC Polcenigo 2.18 274 P **Pn 13 03 10.4 +0.9**
POLC AML AML
comp=N,2905µm,0.4s
POLC AML AML
comp=E,2375µm,0.4s
A268A Rede 2.18 46 Pn **Pn 13 03 09.1 -0.4**
comp=Z,1.1nm,SNR=25
A267A Kaloz 2.22 62 Pg **Pg 13 03 17.6 +2.0**
comp=Z,2.1nm,SNR=12
BIOA Bad Ischl, Aus 2.22 323 *e*Pn **Pn 13 03 11.1 +0.9**
comp=Z,94nm,0.4s,SNR=50
CIMO Cimolais 2.24 281 P **Pn 13 03 10.7 +0.3**
CIMO AML AML
CIMO AML AML
ZIRJ Zirje 2.28 180 *e*Pn **Pb 13 03 13.0 -1.4**
ZIRJ Sn **Sb 13 03 42.3 -0.4**
ABTA Abfaltersbach 2.30 292 *e*Pn **Pn 13 03 12.4 +1.1**
comp=Z,79nm,0.6s,SNR=31
ABTA Sn **Sn 13 03 41.6 +1.8**
comp=Z,210nm,0.7s
CSKK Cskako 2.31 51 Pg **Pn 13 03 11.6 +0.2**
comp=Z,8.8nm,SNR=22
CSKK Cskako 2.31 51 P **Pn 13 03 11.6 +0.2**
VARN Col Varnada, M 2.45 273 P **Pn 13 03 13.6 +0.2**
VARN AML AML
comp=E,2420µm,1.1s
VARN AML AML
comp=N,1490µm,0.3s
ZST Bratislava 2.48 24 Pn **Pn 13 03 14.2 +0.5**
comp=Z,11nm,SNR=11
ZST Bratislava 2.48 24 *e*PN **Pn 13 03 14.1 +0.5**
ZST *e*PG **Pg 13 03 20.9 +0.3**
ZST *e*SN **Sn 13 03 42.6 -1.4**
ZST *e*SG **Sg 13 03 54.6 +1.9**
A269A Baj 2.55 47 Pn **Pn 13 03 15.2 +0.6**
comp=Z,0.9nm,SNR=23
SRO Srobarova 2.63 44 Pn **Pn 13 03 16.0 +0.3**
comp=Z,4.9nm,SNR=32
SRO Srobarova 2.63 44 *e*PN **Pn 13 03 16.1 +0.3**
SRO *e*SN **Sn 13 03 48.4 +0.5**
RJOB Jochberg 2.65 314 *e*Pn **Pn 13 03 17.8 +1.8**
RISI Rein 2.65 294 P **Pn 13 03 16.9 +0.7**
RISI AML AML
comp=E,953µm,0.7s
RISI AML AML
comp=N,1008µm,0.4s
RICI Ricice 2.67 156 *e*Pn **Pn 13 03 18.3 +2.1**
RICI Sn **Sb 13 03 51.9 -2.0**
MODS Modra-Piesok 2.69 24 Pn **Pn 13 03 16.7 +0.2**
comp=Z,570nm,SNR=18
MODS Modra-Piesok 2.69 24 *e*PN **Pn 13 03 16.6 0.0**
MODS *e*PG **Pg 13 03 25.3 +0.7**
MODS *e*SN **Sn 13 03 47.6 -1.7**
MODS *e*SG **Sg 13 04 01.0 +1.6**
CTI Castel Tesino 2.77 274 P **Pn 13 03 18.0 +0.3**
CTI AML AML
comp=N,891µm,0.3s
CTI AML AML
comp=E,704µm,0.4s
BUD Budapest 2.81 55 Pg **Pg 13 03 25.9 -1.0**
comp=Z,0.5nm,SNR=9.2
BUD Budapest 2.81 55 P **Pg 13 03 25.9 -1.0**
BLJ Bijeljina 2.82 113 *e*Pn **Pn 13 03 19.2 +0.9**
BLJ *e*Sn **Sn 13 03 53.0 +0.7**
HVAR Hvar 2.82 168 *e*Pn **Pn 13 03 20.4 +2.1**
HVAR Sn **Sn 13 03 54.4 +1.9**
HVAR Hvar 2.82 168 P **Pn 13 03 19.6 +1.3**
MAKA Makarska 2.83 159 *e*Pn **Pn 13 03 20.6 +2.2**
MAKA Sn **Sn 13 03 54.6 +2.0**
TEOL Teolo 2.83 260 AML AML
comp=E,2050µm,0.5s
TEOL AML AML
comp=N,2260µm,0.9s
SMOL Smolenice 2.86 25 *e*PN **Pn 13 03 19.2 +0.3**
SMOL *e*PG **Pg 13 03 28.1 +0.3**
PP3 Marolino 2.93 210 AML AML
comp=E,918µm,0.8s
PP3 AML AML
comp=N,847µm,0.7s
KOSI Kohlern 2.99 282 P **Pn 13 03 21.9 +1.1**
KOSI AML AML
comp=E,686µm,0.6s
KOSI AML AML
comp=N,524µm,1.0s
FSSB Fossombrone 3.02 223 P **Pn 13 03 21.8 +0.7**
FSSB AML AML
comp=E,582µm,0.4s
FSSB AML AML
comp=N,919µm,0.4s
CKRC Cesky Krumlov 3.02 343 *e*PN **Pn 13 03 22.1 +0.9**
CKRC Cesky Krumlov 3.02 343 Pn **Pn 13 03 22.0 +0.9**
comp=Z,1.8nm,SNR=19
FRGS Fruska Gora 3.04 103 ⇑P **Pn 13 03 20.3 -1.1**
FRGS ⇑S **Sn 13 03 58.2 +0.2**
FRGS Fruska Gora 3.04 103 *e*Pn **Pn 13 03 20.4 -1.1**
FRGS *e*Sn **Sn 13 03 57.8 -0.2**
FRGS Fruska Gora 3.04 103 *e*Sn **Sn 13 03 58.6 +0.6**
WTTA Wattenberg 3.05 297 *i* Pn **Pn 13 03 23.2 +1.6**
comp=Z,5.1nm,0.2s,SNR=16
WTTA Wattenberg 3.05 297 P **Pn 13 03 22.8 +1.1**
WTTA AML AML
comp=E,366µm,0.8s
WTTA AML AML
comp=N,409µm,1.0s
WTTA Wattenberg 3.05 297 *e*Pn **Pn 13 03 23.3 +1.6**
MPAG Monte Paganucc 3.08 222 P **Pn 13 03 22.5 +0.6**
MPAG AML AML
comp=E,404µm,0.5s
MPAG AML AML
comp=N,359µm,0.8s
ROSI Rosskopf 3.08 290 P **Pn 13 03 22.8 +0.7**
ROSI AML AML
comp=E,408µm,1.4s
ROSI AML AML
comp=N,533µm,1.1s
ABSI Aberstueckl 3.08 286 P **Pn 13 03 23.1 +1.0**
ABSI AML AML
comp=E,785µm,0.6s
ABSI AML AML
comp=N,899µm,0.6s
TEKS Tekeris 3.09 115 *e*Pn **Pn 13 03 21.5 -0.6**
TEKS *e*Sn **Sn 13 03 57.3 -1.8**
TEKS Tekeris 3.09 115 *e*Pn **Pn 13 03 23.5 +1.4**
TEKS *e*Sn **Sn 13 04 00.4 +1.3**
DOSS Dosso del Somm 3.10 271 P **Pn 13 03 22.6 +0.3**
DOSS AML AML
comp=E,874µm,0.4s
DOSS AML AML
comp=E,876µm,0.6s
DOSS AML AML
comp=N,826µm,0.6s
DOSS AML AML
comp=N,902µm,0.4s
WATA Walderalm 3.12 298 *i* Pn **Pn 13 03 24.4 +1.8**
comp=N,8.7nm,0.2s,SNR=8.6
WATA *e*Sn **Sn 13 04 02.7 +2.6**
comp=N,60nm,0.5s
CPGN Carpegna, Ital 3.17 229 S **Sb 13 04 07.0 -1.5**
KRUC Moravsky 3.17 9 *e*PN **Pn 13 03 23.7 +0.5**
KRUC *e*SN **Sn 13 04 00.5 -0.7**
KRUC *e*SG **Sg 13 04 17.2 +2.3**
KRUC Moravsky 3.17 9 Pn **Pn 13 03 23.6 +0.5**
comp=Z,0.5nm,SNR=10
GEC2 GERESS Array S 3.19 337 *e*Pn **Pn 13 03 24.5 +0.9**
GEC2 *e*Sg **Sg 13 04 14.1 -1.4**
GERES GERESS Array B 3.19 337 Pn **Pn 13 03 24.4 +0.9**
comp=Z,44nm,0.3s,baz=158,slow=14,SNR=686
GERES Sn **Sn 13 04 01.9 +0.2**
comp=Z,16nm,0.3s,baz=148,slow=24,SNR=5.5
GERES Lg Lg 13 04 15.5
comp=Z,14nm,0.3s,baz=151,slow=28,SNR=8.5
GERES LR LR 13 04 48.3
comp=Z,120nm,21.0s,baz=108,slow=42
ROVR Rover Verones 3.19 266 ⇑P **Pg 13 03 33.0 -1.3**
JAVC Velka Javorina 3.24 25 *e*PN **Pn 13 03 25.1 +0.9**
JAVC *e*SN **Sn 13 04 03.1 +0.2**
JAVC Velka Javorina 3.24 25 Pn **Pn 13 03 25.0 +0.8**
comp=Z,0.4nm,SNR=7.7
PIEI Pieia 3.25 224 P **Pn 13 03 24.6 +0.3**
PIEI AML AML
comp=E,304µm,0.4s
PIEI AML AML
comp=N,246µm,0.5s
KOLL Kolacno 3.25 35 *e*SN **Sn 13 04 00.5 -2.6**
LSTV Lastovo 3.29 163 *e*Pn **Pn 13 03 26.4 +1.6**
LSTV Sn **Sn 13 04 06.0 +1.9**
SQTA Sankt Quirin 3.30 295 *i* Pn **Pn 13 03 27.0 +1.9**
comp=N,11nm,0.3s,SNR=9.7
SQTA *i* Sn **Sn 13 04 08.0 +3.5**
comp=N,45nm,0.4s
PARC Parchiule 3.32 228 P **Pn 13 03 25.5 +0.2**
PARC AML AML
comp=E,188µm,0.8s
PARC AML AML
comp=N,230µm,1.4s
CSP1 Cessapalombo 3.33 212 P **Pn 13 03 25.5 +0.1**
LMD Lutirano 3.34 238 P **Pn 13 03 25.5 0.0**
LMD AML AML
comp=E,246µm,0.5s
LMD AML AML
comp=N,258µm,1.1s
TREC Trest 3.36 359 *e*PN **Pn 13 03 27.0 +1.2**
VYHS Vyhne 3.37 39 Pn **Pn 13 03 25.9 -0.1**
SNR=28
VYHS Vyhne 3.37 39 *e*PN **Pn 13 03 25.8 -0.1**
VYHS *e*SN **Sn 13 04 03.9 -2.2**
BBLS Lazići 3.39 126 *e*Pn **Pn 13 03 27.0 +0.7**
BBLS *e*Sn **Sn 13 04 05.9 -0.8**
BBLS Lazići 3.39 126 *e*Pn **Pn 13 03 27.2 +0.9**
BBLS *e*Sn **Sn 13 04 07.4 +0.7**
STON Ston 3.41 153 *e*Pn **Pn 13 03 28.4 +2.1**
STON *e*Sn **Sn 13 04 07.6 +0.8**
STON Ston 3.41 153 *e*Pn **Pn 13 03 27.2 +0.9**
STON *e*Sn **Sn 13 04 06.8 0.0**
STON Ston 3.41 153 *e*Pn **Pn 13 03 28.1 +1.8**
STON Sn **Sn 13 04 08.8 +1.9**
STON Ston 3.41 153 P **Pn 13 03 27.9 +1.5**
STON AML AML
comp=N,338µm,0.8s
STON AML AML
comp=E,409µm,0.6s
MOTA Moosalm 3.42 296 *i* Pn **Pn 13 03 26.8 +0.1**
comp=E,8.5nm,0.3s,SNR=7.3
MOTA *i* Sn **Sb 13 04 11.9 -3.7**
comp=E,20nm,0.3s
VRAC Vranov 3.44 11 ⇓P **Pn 13 03 27.3 +0.5**
VRAC Vranov 3.44 11 Pn **Pn 13 03 27.3 +0.5**
comp=E,12nm,0.3s,baz=202,slow=14,SNR=79
VRAC Sn **Sn 13 04 06.3 -1.4**
comp=E,3.3nm,0.3s,baz=289,slow=6.9,SNR=3.9
VRAC Lg Lg 13 04 22.4
comp=E,6.3nm,0.3s,baz=310,slow=12,SNR=3.4
VRAC LR LR 13 05 07.2
comp=E,136nm,19.1s,baz=260,slow=45
VRAC Vranov 3.44 11 *e*PN **Pn 13 03 27.3 +0.5**
VRAC *e*SN **Sn 13 04 05.9 -1.9**
VRAC Vranov 3.44 11 Pn **Pn 13 03 27.3 +0.5**
comp=Z,0.4nm,SNR=10
ASQU Asqua 3.46 233 P **Pn 13 03 27.3 +0.1**
ASQU AML AML
comp=N,242µm,0.7s
ASQU AML AML
comp=E,240µm,1.1s
KHC Kasperske Hory 3.48 337 *e*PN **Pn 13 03 28.4 +0.9**
KHC *e*SN **Sn 13 04 08.4 -0.5**
KHC *e*SG **Sb 13 04 20.0 +2.6**
CRE Caprese Michel 3.49 230 P **Pn 13 03 27.6 -0.1**
CRE AML AML
comp=E,212µm,0.8s
CRE AML AML
comp=N,209µm,0.4s
MAGA Magasa 3.49 269 P **Pn 13 03 28.7 +1.0**
MAGA AML AML
comp=N,886µm,0.4s
MAGA AML AML
comp=E,1340µm,0.5s
ZUGS Zugspitze, Sch 3.52 297 *e*Pn **Pn 13 03 30.6 +2.3**
RUDO Rudo 3.53 130 *e*Pn **Pn 13 03 28.7 +0.5**
RUDO *e*Sn **Sn 13 04 10.9 +0.8**
PSZ Piszkesteto 3.54 54 ⇑P **Pn 13 03 29.0 +0.7**
PSZ Piszkesteto 3.54 54 Pn **Pn 13 03 27.5 -0.8**
comp=Z,0.3nm,SNR=11
PSZ Piszkesteto 3.54 54 P **Pn 13 03 27.5 -0.8**
FETA Feichten 3.55 290 *i* Pn **Pn 13 03 30.6 +2.1**
comp=Z,4.8nm,0.4s
FETA *i* Sn **Sn 13 04 14.6 +3.9**
comp=Z,16nm,0.5s
SALO Salr 3.58 267 P **Pn 13 03 29.0 +0.2**
MOSI Grossmontoni 3.58 283 P **Pn 13 03 29.0 0.0**
ATTE AVT- Monte Tez 3.60 222 P **Pn 13 03 28.9 -0.2**
ATTE AML AML
comp=N,220µm,0.6s
ATTE AML AML
comp=E,241µm,1.1s
UPM Unac-Piva 3.60 138 *e*Pn **Pn 13 03 30.5 +1.3**
UPM *e*Sn **Sn 13 04 11.8 -0.2**
UPM Unac-Piva 3.60 138 ⇓*i* Pn **Pn 13 03 29.9 +0.7**
UPM *i* Sn **Sn 13 04 13.5 +1.5**
DIVS Divibare 3.60 119 *e*Pn **Pn 13 03 29.5 +0.3**
DIVS *e*Sn **Sn 13 04 10.8 -1.1**
DIVS Divibare 3.60 119 ⇑*i* Pn **Pn 13 03 29.4 +0.3**
DIVS *e*Sn **Sn 13 04 12.0 +0.1**
DIVS Divibare 3.60 119 P **Pn 13 03 29.5 +0.3**
DIVS AML AML
comp=E,118µm,0.9s
DIVS AML AML
comp=N,130µm,0.6s
BRY Bratogost 3.68 144 *e*Pn **Pn 13 03 31.8 +1.5**
BRY *e*Sn **Sn 13 04 14.5 +0.6**
BRY Bratogost 3.68 144 *e*Pn **Pn 13 03 31.1 +0.8**
BRY *i* Sn **Sn 13 04 15.6 +1.7**
RETA Reutte 3.69 297 *i* Pn **Pn 13 03 31.7 +1.4**
comp=N,6.4nm,0.3s
RETA *i* Sn **Sn 13 04 16.8 +2.9**
comp=N,39nm,0.7s
CAFI Castiglion Fio 3.69 226 P **Pn 13 03 30.1 -0.2**
CAFI AML AML
comp=N,198µm,0.8s
CAFI AML AML
comp=E,200µm,0.6s
WET Wettzell 3.71 331 *e*Pn **Pn 13 03 31.3 +0.7**
WET *e*Pg **Pg 13 03 45.2 +1.1**
FUR Furstenfeldbru 3.71 308 *e*Pg **Pg 13 03 43.1 -1.1**
FUR *e*Sn **Sn 13 04 14.5 -0.1**
FUR *e*Sg **Sg 13 04 32.0 -0.3**
DBRK Dubrovnik 3.73 150 *e*Pn **Pn 13 03 32.8 +1.9**
DBRK Sn **Sn 13 04 18.2 +3.2**
PLE Pljevlja 3.74 133 ⇑*i* Pn **Pn 13 03 31.8 +0.7**
PLE *i* Sn **Sn 13 04 17.0 +1.6**
TREB Trebinje 3.77 148 *e*Pn **Pn 13 03 33.5 +2.2**
TREB *e*Sn **Sn 13 04 15.7 -0.1**
TREB Trebinje 3.77 148 *e*Pn **Pn 13 03 32.6 +1.3**
TREB *e*Sn **Sn 13 04 16.2 +0.4**
TRUS Trudelj 3.80 115 *e*Pn **Pn 13 03 31.7 -0.1**
TRUS *e*Sn **Sn 13 04 14.9 -1.7**
RM33 Pellescritta (3.84 208 P **Pn 13 03 33.7 +1.3**
RM33 AML AML
comp=E,186µm,1.5s
RM33 AML AML
comp=N,228µm,0.7s
PBCC Pribram 3.91 344 *e*PN **Pn 13 03 34.4 +1.1**
AQU L'Aquila 3.92 205 *e*Pn **Pn 13 03 34.0 +0.5**
T0110 Collepietro 3.94 200 P **Pn 13 03 35.1 +1.3**
T0110 AML AML
comp=N,321µm,0.7s
T0110 AML AML
comp=E,290µm,0.6s
FAGN Fagnano 3.95 203 P **Pn 13 03 34.3 +0.4**
FAGN AML AML
comp=E,500µm,0.5s
FAGN AML AML
comp=N,376µm,0.6s
OBER Oberstdorf 3.95 294 *e*Pn **Pn 13 03 35.7 +1.7**
OBER *e*Sg **Sg 13 04 42.7 +2.8**
NKME Niksic 3.97 142 *e*Pn **Pn 13 03 34.9 +0.7**
NKME *i* Sn **Sn 13 04 22.4 +1.6**
IVAS Ivanjica 4.00 125 *e*Pn **Pn 13 03 35.1 +0.5**
IVAS *e*Sn **Sn 13 04 19.6 -2.0**
LPEL Lama dei Pelig 4.02 195 P **Pn 13 03 35.6 +0.7**
LPEL AML AML
comp=N,164µm,0.7s
LPEL AML AML
comp=E,173µm,0.8s
HCY Herceg Novi 4.05 148 *e*Pn **Pn 13 03 36.5 +1.2**
HCY *e*Sn **Sn 13 04 23.1 +0.2**
HCY Herceg Novi 4.05 148 *e*Pn **Pn 13 03 36.1 +0.8**
HCY *i* Sn **Sn 13 04 24.5 +1.6**
MORC Moravsky Berou 4.06 18 ⇓P **Pn 13 03 36.0 +0.6**
MORC Moravsky Berou 4.06 18 *e*PN **Pn 13 03 36.0 +0.6**
MORC *e*SN **Sn 13 04 21.2 -1.8**
MORC Moravsky Berou 4.06 18 Pn **Pn 13 03 36.0 +0.6**
comp=Z,0.2nm,SNR=3.8
DAVOX Davos/Dischmat 4.06 284 Pn **Pn 13 03 38.1 +2.5**
comp=Z,2.9nm,0.3s,baz=76,slow=16,SNR=28
DAVOX Sn **Sn 13 04 27.5 +4.1**
comp=Z,3.5nm,0.3s,baz=217,slow=24,SNR=1.9
DAVOX Lg Lg 13 04 44.3
comp=Z,1.9nm,0.3s,baz=152,slow=18,SNR=3.5
SJES Sjenica 4.10 129 *e*Pn **Pn 13 03 37.0 +1.0**
SJES *e*Sn **Sn 13 04 23.3 -0.9**
INTR Introdacqua 4.11 198 ⇓P **Pn 13 03 37.8 +1.7**
INTR AML AML
comp=E,188µm,0.8s
INTR AML AML
comp=N,488µm,1.0s
PRU Pruhonice 4.12 350 *e*PN **Pn 13 03 37.1 +0.9**
PRU Pruhonice 4.12 350 Pn **Pn 13 03 37.1 +0.9**
comp=Z,0.4nm,SNR=12
CEME Cevo 4.13 144 ⇓*i* Pn **Pn 13 03 37.3 +0.9**
CEME *i* Sn **Sn 13 04 26.5 +1.6**
LANS Liptovska Anna 4.14 38 *e*PN **Pn 13 03 37.8 +1.3**
GRUS Gruza 4.16 118 *e*Pn **Pn 13 03 37.6 +0.9**
GRUS *e*Sn **Sn 13 04 24.9 -0.5**
KOME Kolasin 4.16 136 ⇓*i* Pn **Pn 13 03 37.6 +0.8**
KOME *i* Sn **Sn 13 04 27.0 +1.4**
UBR Ueberruh 4.17 297 *e*Pn **Pn 13 03 38.4 +1.5**
APRC Apricena 4.18 181 P **Pn 13 03 37.2 +0.2**
APRC AML AML
comp=N,262µm,1.4s
APRC AML AML
comp=E,268µm,0.8s
SGRT San Giovanni R 4.18 179 P **Pn 13 03 37.3 +0.2**
SGRT AML AML
comp=N,260µm,0.7s
SGRT AML AML
comp=E,287µm,0.7s
DAVA Damuels 4.18 291 *i* Pn **Pn 13 03 38.7 +1.6**
comp=E,3.6nm,0.1s,SNR=7.1
DAVA *i* Sn **Sn 13 04 28.7 +2.5**
comp=E,29nm,0.4s
DAVA Damuels 4.18 291 *e*Pn **Pn 13 03 38.8 +1.6**
DAVA *e*Sg **Sg 13 04 49.3 +2.0**
KECS Kecovo 4.18 51 *e*PN **Pn 13 03 37.2 +0.1**
BZS Buzias 4.21 92 ⇓P **Pn 13 03 37.0 -0.4**
BZS Buzias 4.21 92 Pn **Pb 13 03 44.0 -3.3**
SIRR Siria 4.21 83 ⇑P **Pn 13 03 38.3 +0.8**
SIRR Siria 4.21 83 Pb **Pn 13 03 37.9 +0.4**
comp=Z,0.2nm,SNR=8.0
KRLC Kraliky 4.22 10 *e*SN **Sn 13 04 25.4 -1.6**
IVA Berane 4.33 133 ⇓*i* Pn **Pn 13 03 39.9 +0.7**
IVA *i* Sn **Sn 13 04 31.1 +1.3**
BUM Brajici-Budva 4.33 146 *e*Pn **Pn 13 03 39.9 +0.7**
BUM *i* Sn **Sn 13 04 31.2 +1.4**
PDG Podgorica 4.37 142 ⇑P **Pn 13 03 40.4 +0.8**
PDG Podgorica 4.37 142 *e*Pn **Pn 13 03 40.0 +0.4**
PDG *e*Sn **Sn 13 04 30.1 -0.6**

TTG	**Podgorica**	**4.37**	**142**	*e*Pn		**Pn**	**13 03 40.4**	**+0.8**
TTG				*i* Sn		**Sn**	**13 04 32.0**	**+1.3**
NORI	**Noerdlinger Ri**	**4.39**	**311**	*e*Pn		**Pn**	**13 03 40.7**	**+0.7**
NORI				*e*Pg		**Pg**	**13 03 58.3**	**+1.1**
NORI				*e*Sn		**Sn**	**13 04 30.6**	**-0.7**
DPC	**Dobruska-Polom**	**4.44**	**6**	*e*PN		**Pn**	**13 03 41.7**	**+1.0**
MDVR	**Moldovita**	**4.45**	**103**	⇓P		**Pn**	**13 03 40.5**	**-0.2**
PLONS	**Plons/SG**	**4.45**	**287**	*e*Pn		**Pn**	**13 03 42.5**	**+1.7**
DRME	**Dracevica, Mon**	**4.54**	**144**	*e*Pn		**Pn**	**13 03 42.8**	**+0.8**
DRME				*e*Sn		**Sn**	**13 04 34.9**	**0.0**
DRME	**Dracevica, Mon**	**4.54**	**144**	*e*Pn		**Pn**	**13 03 42.8**	**+0.8**
DRME				*i* Sn		**Sn**	**13 04 36.2**	**+1.3**
KUBS	**Kucevo**	**4.54**	**107**	*e*Pn		**Pn**	**13 03 40.9**	**-1.1**
PVY	**Plav**	**4.57**	**135**	*e*Pn		**Pn**	**13 03 43.2**	**+0.7**
PVY				*i* Sn		**Sn**	**13 04 36.7**	**+1.0**
UPC	**Upice**	**4.58**	**3**	*e*PN		**Pn**	**13 03 43.7**	**+1.1**
OSTC	**Ostas**	**4.64**	**5**	*e*PN		**Pn**	**13 03 44.4**	**+1.0**
CHVC	**Chvalec**	**4.67**	**3**	*e*PN		**Pn**	**13 03 44.8**	**+1.1**
NIE	**Niedzica**	**4.71**	**41**	Pn		**Pn**	**13 03 46.4**	**+2.1**
	comp=Z,0.1nm,SNR=3.1							
NIE	**Niedzica**	**4.71**	**41**	*e*Sn		**Sn**	**13 04 38.8**	**-0.2**
ULC	**Ulcinj**	**4.75**	**145**	*e*Pn		**Pn**	**13 03 45.7**	**+0.8**
ULC				*i* Sn		**Sn**	**13 04 41.3**	**+1.1**
SELS	**Selova**	**4.77**	**123**	*e*Pn		**Pn**	**13 03 45.7**	**+0.5**
GRFO	**Grafenberg**	**4.79**	**323**	*e*Pg		**Pg**	**13 04 04.4**	**-0.3**
GRFO				*e*Sg		**Sg**	**13 05 10.1**	**+3.4**
GRF	**Grafenberg Arr**	**4.79**	**323**	*e*Pg		**Pg**	**13 04 04.3**	**-0.4**
GRF				*e*Sg		**Sg**	**13 05 10.7**	**+4.0**
NKC	**Novy Kostel**	**4.80**	**335**	*e*PN		**Pn**	**13 03 45.6**	**+0.1**
WILA	**Wila**	**4.85**	**290**	*e*Pn		**Pn**	**13 03 47.5**	**+1.1**
HERR	**Herculane**	**4.90**	**100**	⇑P		**Pn**	**13 03 47.5**	**+0.6**
BOVS	**Bovan**	**4.90**	**116**	⇓P		**Pn**	**13 03 47.4**	**+0.4**
KSP	**Ksiaz**	**4.93**	**5**	*e*Pn		**Pn**	**13 03 47.9**	**+0.5**
KSP				*e*Sg		**Sg**	**13 05 11.6**	**+0.2**
CRVS	**Cervenica-Dubn**	**4.95**	**51**	*e*PN		**Pn**	**13 03 49.7**	**+2.1**
CRVS				*e*PG		**Pg**	**13 04 09.7**	**+1.8**
DRGR		**4.98**	**78**	⇑P		**Pn**	**13 03 49.1**	**+1.0**
DRGR		**4.98**	**78**	*e*Pn		**Pn**	**13 03 47.6**	**-0.5**
DRGR				*e*Sn		**Sn**	**13 04 42.0**	**-3.9**
DRGR		**4.98**	**78**	Pb		**Pn**	**13 03 49.2**	**+1.0**
	comp=Z,0.1nm,SNR=3.2							
DJES	**Djerdap**	**5.03**	**102**	⇓P		**Pn**	**13 03 49.4**	**+0.7**
EMING	**Emmingen-Lipti**	**5.04**	**295**	*e*Pn		**Pn**	**13 03 49.2**	**+0.3**
EMING				*e*Sn		**Sn**	**13 04 45.1**	**-2.2**
GZR	**Gura Zlata**	**5.05**	**94**	⇓P		**Pn**	**13 03 49.4**	**+0.5**
GZR	**Gura Zlata**	**5.05**	**94**	Pn		**Pn**	**13 03 49.1**	**+0.2**
	comp=Z,13nm,0.9s,SNR=8.2							
OJC	**Ojcow**	**5.12**	**32**	*e*Sn		**Sn**	**13 04 45.5**	**-3.6**
ZAGS	**Zajecar**	**5.16**	**112**	*e*Pn		**Pn**	**13 03 50.3**	**-0.1**
MCRV	**Calabrutti - M**	**5.16**	**184**	P		**Pb**	**13 04 05.8**	**+2.3**
STU	**Stuttgart**	**5.21**	**305**	*e*Pn		**Pn**	**13 03 53.5**	**+2.3**
TRPA	**Tarpa**	**5.21**	**63**	Pg		**Pg**	**13 04 14.8**	**+1.9**
	comp=Z,0.1nm,SNR=3.4							
TRPA	**Tarpa**	**5.21**	**63**	P		**Pg**	**13 04 14.8**	**+1.9**
SLE	**Schleitheim**	**5.22**	**293**	*e*Pn		**Pn**	**13 03 51.5**	**+0.1**
SLE				*e*Sn		**Sn**	**13 04 49.5**	**-2.2**
NOCI	**Noci**	**5.25**	**168**	⇓P		**Pn**	**13 03 52.4**	**+0.6**
MATE	**Matera**	**5.34**	**171**	⇑P		**Pn**	**13 03 53.5**	**+0.6**
METMA	**Mettma DE**	**5.36**	**292**	*e*Pn		**Pn**	**13 03 53.2**	**-0.1**
METMA				*e*Sn		**Sn**	**13 04 51.8**	**-3.3**
MIGL	**Miglionico**	**5.36**	**173**	⇓P		**Pn**	**13 03 53.8**	**+0.5**
LTRZ	**Laterza**	**5.40**	**170**	⇓P		**Pn**	**13 03 54.3**	**+0.5**
SULZ	**Cheisacher**	**5.40**	**290**	*e*Pn		**Pn**	**13 03 54.8**	**+0.9**
MOX	**Moxa**	**5.42**	**332**	*e*Pn		**Pn**	**13 03 54.3**	**+0.3**
MOX				*e*Sg		**Sg**	**13 05 22.2**	**-4.7**
BARS	**Barje**	**5.42**	**123**	*e*Pn		Pn	13 03 45.5	-8.6
BARS	**Barje**	**5.42**	**123**	*e*Pn		**Pn**	**13 03 54.7**	**+0.6**
BERGE	**Lenzkirch (DE)**	**5.46**	**293**	*e*Pn		**Pn**	**13 04 54.5**	**-0.1**
BERGE				*e*Sn		**Sn**	**13 04 53.8**	**-3.8**
SRE	**Strehaia**	**5.50**	**101**	⇓P		**Pn**	**13 03 56.0**	**+0.8**
BFO	**Black Forest**	**5.52**	**298**	*e*Sn		**Sn**	**13 04 56.1**	**-3.0**
TIR	**Tirane**	**5.52**	**145**	⇓P		**Pn**	**13 03 56.2**	**+0.7**
BLKB	**Belogradchik**	**5.53**	**112**	⇑P		**Pn**	**13 03 56.5**	**+0.9**
BALST	**Balsthal**	**5.64**	**287**	*e*Pn		**Pn**	**13 03 57.6**	**+0.6**
BALST				*e*Sn		**Sn**	**13 04 59.0**	**-2.9**
CLL	**Collm**	**5.65**	**343**	*e*Pn		**Pn**	**13 03 57.0**	**-0.2**
CLL				*i* x		x	13 03 58.9	
CLL				*i* x		x	13 04 00.6	
CLL				*e*Pg		**Pg**	**13 04 21.0**	**-0.2**
CLL				*i* x		x	13 04 25.8	
CLL				*ex*		x	13 04 42.0	
CLL				*e*Sn		**Sn**	**13 04 54.0**	**-8.2**
CLL				*e*Sg		**Sg**	**13 05 33.0**	**-1.4**
	comp=Z,134nm,1.0s							
MILB	**Miltenberg**	**5.77**	**315**	*e*Pn		**Pn**	**13 03 59.9**	**+1.1**
MILB				*e*Sn		**Sn**	**13 05 01.8**	**-3.3**
PGF	**Pioggiola**	**5.84**	**237**	*e*Pn		**Pn**	**13 03 58.6**	**-1.3**
PGF				*e*Sn		**Sn**	**13 05 03.4**	**-3.6**
	comp=Z,17nm,0.8s							
BOSS	**Bosilegrad**	**6.01**	**122**	*e*Pn		**Pn**	**13 04 02.6**	**+0.4**
SALB	**San Lorenzo Be**	**6.08**	**175**	⇓P		**Pn**	**13 04 04.0**	**+0.8**
SBF	**Sospel**	**6.17**	**253**	*e*Pn		**Pn**	**13 04 02.2**	**-2.2**
SBF				*e*Sn		**Sn**	**13 05 11.3**	**-3.9**
	comp=Z,11nm,0.4s							
CDF	**Champ du Feu**	**6.21**	**297**	*e*Pn		**Pn**	**13 04 03.9**	**-1.0**
CDF				*e*Sn		**Sn**	**13 05 10.8**	**-5.2**
	comp=Z,6.1nm,0.4s							
ECH	**Echery**	**6.21**	**295**	*e*Pn		**Pn**	**13 04 04.7**	**-0.2**
ECH				*e*Sn		**Sn**	**13 05 13.5**	**-2.6**
SCTE	**Santa Cesarea**	**6.22**	**159**	⇑P		**Pn**	**13 04 05.3**	**+0.3**
LPL	**La Plagne**	**6.24**	**269**	*e*Pn		**Pn**	**13 04 04.2**	**-1.3**
HINF	**Hinteralfeld**	**6.30**	**291**	*e*Pn		**Pn**	**13 04 05.5**	**-0.7**
HINF				*e*Sn		**Sn**	**13 05 13.3**	**-4.9**
	comp=Z,20nm,0.4s							
ARR	**Arges**	**6.34**	**92**	⇓P		**Pn**	**13 04 07.3**	**+0.4**
MBDF	**Montbardon**	**6.35**	**262**	*e*Pn		**Pn**	**13 04 06.8**	**-0.2**
VTS	**Vitosha**	**6.39**	**119**	⇓P		**Pn**	**13 04 08.7**	**+1.1**
TNS	**Taunus Mts**	**6.44**	**314**	*e*Pn		**Pn**	**13 04 08.9**	**+0.8**
TNS				*e*Sn		**Sn**	**13 05 17.1**	**-4.6**
VOIR		**6.62**	**91**	⇑P		**Pn**	**13 04 11.8**	**+1.1**
CABF	**La Chapelle**	**6.64**	**279**	*e*Pn		**Pn**	**13 04 09.9**	**-1.0**
CABF				*e*Sn		**Sn**	**13 05 22.0**	**-4.8**
	comp=Z,2.1nm,0.3s							
HAU	**Haudompre**	**6.67**	**291**	*e*Pn		**Pn**	**13 04 11.2**	**-0.1**
HAU				*e*Sn		**Sn**	**13 05 22.3**	**-5.2**
	comp=Z,22nm,0.4s							
ABH	**Alteburg**	**6.71**	**309**	*e*Pn		**Pn**	**13 04 12.9**	**+1.1**
ABH				*e*Sn		**Sn**	**13 05 23.2**	**-5.1**
BURAR	**Bucovina Array**	**6.80**	**72**	⇓P		**Pn**	**13 04 13.5**	**+0.4**
TIP	**Timpagrande**	**6.80**	**173**	⇓P		**Pn**	**13 04 14.1**	**+1.0**
FRF	**La Foret Royal**	**6.82**	**253**	*e*Pn		**Pn**	**13 04 11.6**	**-1.6**
FRF				*e*Sn		**Sn**	**13 05 26.6**	**-4.3**
	comp=Z,4.0nm,0.3s							
ORIF	**Oris-en-Rattie**	**6.93**	**265**	*e*Pn		**Pn**	**13 04 14.0**	**-0.9**
ORIF				*e*Sn		**Sn**	**13 05 29.3**	**-4.6**
	comp=Z,8.8nm,0.4s							
LMR	**La Mourre**	**7.00**	**251**	*e*Pn		**Pn**	**13 04 14.5**	**-1.2**
LMR				*e*Sn		**Sn**	**13 05 31.0**	**-4.5**
	comp=Z,3.8nm,0.4s							
RIVT	**Riveris**	**7.05**	**306**	*e*Pn		**Pn**	**13 04 18.6**	**+2.1**
RIVT				*e*Sn		**Sn**	**13 05 31.4**	**-5.3**
PAGF	**Fort de Pagny**	**7.23**	**295**	*e*Pn		**Pn**	**13 04 17.9**	**-1.0**
MLR	**Muntele Rosu**	**7.24**	**90**	⇓P		**Pn**	**13 04 19.8**	**+0.6**
MLR	**Muntele Rosu**	**7.24**	**90**	Pn		**Pn**	**13 04 20.1**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=315,slow=13,SNR=7.8							
MLR				Lg		Lg	13 06 20.6	
	comp=Z,0.2nm,0.3s,baz=160,slow=4.4,SNR=3.1							
SMRF	**Simiane la Rot**	**7.39**	**258**	*e*Pn		**Pn**	**13 04 18.9**	**-2.3**
VIVF	**Saint-Julien-l**	**7.78**	**266**	*e*Pn		**Pn**	**13 04 25.5**	**-1.0**
SMF	**Signal de Mont**	**8.19**	**279**	*e*Pn		**Pn**	**13 04 30.5**	**-1.6**
SMF				*e*Sn		**Sn**	**13 05 59.0**	**-5.8**
	comp=Z,3.7nm,0.4s							
LOR	**Lormes**	**8.21**	**284**	*e*Pn		**Pn**	**13 04 33.1**	**+0.7**
	baz=103							
LOR				*e*Sn		**Sn**	**13 05 59.2**	**-6.0**
	comp=Z,2.9nm,0.3s							
GIVF	**Givet**	**8.35**	**304**	*e*Sn		**Sn**	**13 06 02.0**	**-6.6**
	comp=Z,8.1nm,0.4s							
SSF	**Saint Saulge**	**8.44**	**282**	*e*Pn		**Pn**	**13 04 34.0**	**-1.4**
AVF	**Avril sur Loir**	**8.53**	**280**	*e*Pn		**Pn**	**13 04 35.4**	**-1.3**
LASF	**Ste Croix**	**8.54**	**262**	*e*Pn		**Pn**	**13 04 35.7**	**-1.2**
BAIF	**Baives**	**8.69**	**302**	*e*Sn		**Sn**	**13 06 10.4**	**-6.6**
	comp=Z,1.9nm,0.3s							
BGF	**Bois d'Agland**	**8.88**	**279**	*e*Pn		**Pn**	**13 04 40.2**	**-1.3**
HYF	**Humbligny**	**9.04**	**283**	*e*Pn		**Pn**	**13 04 42.0**	**-1.7**
TCF	**Toulx Ste Croi**	**9.32**	**277**	*e*Pn		**Pn**	**13 04 46.4**	**-1.3**
KEST	**Kesra**	**11.24**	**207**	LR		LR	13 08 54.8	
	comp=Z,51nm,19.5s,baz=303,slow=34							
SJPF	**Ste Jean**	**12.35**	**263**	*e*Sn		**Sn**	**13 07 38.7**	**-8.1**
	comp=Z,1.1nm,0.3s							
HFS	**Hagfors**	**14.27**	**356**	LR		LR	13 11 53.7	
	comp=Z,79nm,19.7s,baz=238,slow=39							

EKA	**Eskdalemuir Ar**	**15.13**	**315**	Pn		**Pn**	**13 06 07.8**	**+1.0**
	baz=121,slow=14,SNR=4.5							
NB2	**NORSAR Subarra**	**15.35**	**352**	P		**P**	**13 06 15.7**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=168,slow=11							
NOA	**NORSAR Array B**	**15.35**	**352**	P		**Pn**	**13 06 08.6**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=165,slow=11,SNR=2.0							
NOA				LR		LR	13 12 42.6	
	comp=Z,39nm,18.4s,baz=190,slow=40							
ESDC	**Sonseca Array**	**15.66**	**253**	Pn		**P**	**13 06 17.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=63,slow=11,SNR=5.8							
FINES	**FINESS Array B**	**16.69**	**18**	Pn		**Pn**	**13 06 24.8**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=196,slow=14,SNR=1.7							
ARCES	**ARCESS Array B**	**24.18**	**8**	P		**P**	**13 07 50.5**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=172,slow=8.2,SNR=4.3							
ARU	**Arti**	**28.44**	**53**	P		**P**	**13 08 28.5**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=273,slow=8.7,SNR=4.2							
TORD	**Torodi Ar. Bea**	**34.74**	**204**	P		**P**	**13 09 24.4**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=8.0,slow=10.0,SNR=3.9							
MKAR	**Makanchi Array**	**44.74**	**64**	P		**P**	**13 10 47.6**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=286,slow=6.2,SNR=5.3							
SONM	**Songino Array**	**58.47**	**52**	P		**P**	**13 12 31.6**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=286,slow=7.3,SNR=2.3							

*IDC **09** 13:07:20.5±1.2,56°.65N×179°.78E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.7/62, mbtmp3.7/15, ML2.9/2, MS2.8/3, Ms1 2.9/3, ms1mx2.4/101, Error ellipse: s-maj=35.5km s-min=16.9km az=4.0*
*NEIC **09** 13:07:21.8±1.3, 56°.4N±0°.1×179°.8W±0°.2, h16km±5km, mb4.0/2, ML3.8/23(AEIC), Error ellipse: s-maj=16.7km s-min=15.3km az=97.0*
*AEIC **09** 13:07:25±2.5, 56°.0N±0°.1×179°.3W±0°.2, h20km±2km, Error ellipse: s-maj=20.2km s-min=16.9km az=284.0*

ISC 09 13:07:20.6±0.6,**56°.30N**±0°.06×**179°.93W**±0°.06,**h10km**,**n39,**
σ1°.**49**/44,**mb3.9**/14,**Bering Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GANO	**Gareloi North**	**4.54**	**171**			**Pn**	**13 08 30.8**	**+1.5**
TAFP	**Tanaga Falls P**	**4.56**	**165**			**Pn**	**13 08 30.9**	**+1.3**
TAFP						**Sn**	**13 09 20.9**	**-1.6**
GAEA	**Gareloi East**	**4.58**	**171**			**Pn**	**13 08 32.0**	**+2.1**
GALAA	**Gareloi Lava P**	**4.60**	**171**			**Pn**	**13 08 31.9**	**+1.7**
TASE	**Tanaga Southea**	**4.61**	**165**			**Pn**	**13 08 31.6**	**+1.3**
TASE						**Sn**	**13 09 21.7**	**-2.3**
TAPA	**Tanaga Point A**	**4.67**	**164**			**Pn**	**13 08 32.4**	**+1.3**
KIRH	**Kanaga Island**	**4.72**	**158**			**Pn**	**13 08 32.7**	**+1.0**
KIKV	**Kanaga Island**	**4.72**	**159**			**Pn**	**13 08 33.1**	**+1.4**
GSTD	**Great Sitkin T**	**4.80**	**151**			**Pn**	**13 08 33.3**	**+0.3**
GSTD						**Sn**	**13 09 26.0**	**-2.6**
KIMD	**Kanaga Island**	**4.82**	**160**			**Pn**	**13 08 34.4**	**+1.2**
ADK	**Adak**	**4.82**	**155**			**Pn**	**13 08 33.5**	**+0.4**
ADK						**Sn**	**13 09 26.3**	**-2.6**
GSCK	**Great Sitkin C**	**4.83**	**151**			**Pn**	**13 08 34.0**	**+0.6**
KOKL	**Mount Kliuchef**	**5.21**	**138**			**Pn**	**13 08 39.1**	**+0.5**
ATKA	**Atka Island**	**5.31**	**138**			**Pn**	**13 08 40.7**	**+0.9**
ATKA						**Sn**	**13 09 37.2**	**-3.7**
SPIA	**Saint Paul Isl**	**5.40**	**77**			**Sn**	**13 09 43.1**	**-0.1**
MSW	**Makushin Switc**	**7.91**	**102**			**Pn**	**13 09 14.7**	**-0.8**
UNV	**Unalaska Valle**	**8.09**	**102**			**Pn**	**13 09 17.4**	**-0.6**
AKGG	**Akutan Green G**	**8.24**	**99**			**Pn**	**13 09 19.8**	**-0.3**
PETK	**Petropavlovsk-**	**13.31**	**265**	Pn		**Pn**	**13 10 28.2**	**-1.1**
	0.1nm,0.3s,baz=80,slow=16,SNR=5.3							
PETK				LR		LR	13 15 19.4	
	comp=Z,29nm,18.2s,baz=88,slow=36							
MA2	**Magadan**	**15.83**	**294**	LR		LR	13 16 52.1	
	comp=Z,38nm,18.6s,baz=64,slow=37							
ILAR	**Eielson Array**	**18.12**	**49**	P		**P**	**13 11 33.2**	**+0.8**
	0.1nm,0.3s,baz=245,slow=9.8,SNR=7.0							
ILAR				LR		LR	13 19 28.3	
	comp=Z,38nm,18.2s,baz=183,slow=40							
ILAR	**Eielson Array**	**18.12**	**49**	P		**Pn**	**13 11 31.4**	**-0.6**
DAWY	**Dawson**	**21.26**	**52**	P		**P**	**13 12 06.8**	**+0.1**
DAWY				IAmb		IAmb	13 12 09.4	
	comp=Z,5.6nm,1.1s							
INK	**Inuvik**	**23.99**	**41**	P		**P**	**13 12 35.1**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=279,slow=11,SNR=8.8							
INK	**Inuvik**	**23.99**	**41**	P		**P**	**13 12 34.8**	**0.0**
INK				IAmb		IAmb	13 12 37.0	
	comp=Z,5.0nm,1.0s							
YKA	**Yellowknife Ar**	**32.50**	**52**	P		**P**	**13 13 51.8**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=288,slow=8.6,SNR=13							
NVAR	**Mina Array Bea**	**43.78**	**87**	P		**P**	**13 15 29.3**	**+2.9**
	comp=Z,0.2nm,0.5s,baz=301,slow=7.2,SNR=1.9							
NVAR				PcP		**PcP**	**13 17 14.8**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=316,slow=5.0,SNR=2.4							
SONM	**Songino Array**	**44.02**	**291**	PcP		**PcP**	**13 17 14.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=64,slow=3.4,SNR=3.7							
PDAR	**Pinedale Array**	**45.61**	**76**	P		**P**	**13 15 42.4**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=299,slow=2.0,SNR=8.3							
ARCES	**ARCESS Array B**	**53.12**	**349**	P		**P**	**13 16 36.0**	**-1.7**
	comp=Z,4.7nm,0.9s,baz=32,slow=8.6,SNR=2.1							
KURBB	**Kurchatov Arra**	**55.32**	**311**	P		**P**	**13 16 53.3**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=39,slow=7.5,SNR=3.3							
MKAR	**Makanchi Array**	**56.54**	**305**	P		**P**	**13 17 01.7**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=53,slow=5.6,SNR=2.0							
TXAR	**Lajitas Array**	**58.65**	**83**	P		**P**	**13 17 19.9**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=300,slow=4.7,SNR=6.9							
FINES	**FINESS Array B**	**60.83**	**346**	P		**P**	**13 17 30.8**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=6.7,slow=7.3,SNR=5.6							
NB2	**NORSAR Subarra**	**62.67**	**354**	P		**P**	**13 17 43.5**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=7.4,slow=6.9							
NOA	**NORSAR Array B**	**62.67**	**354**	P		**P**	**13 17 43.9**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=7.4,slow=6.6,SNR=3.5							
AKTO	**Aktyubinsk**	**63.31**	**323**	P		**P**	**13 17 48.9**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=18,slow=9.6,SNR=3.0							
CMAR	**Chiang Mai Arr**	**69.95**	**273**	P		**P**	**13 18 33.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=26,slow=8.4,SNR=1.1							
AKASG	**Malin Array Be**	**70.66**	**341**	P		**P**	**13 18 34.4**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=20,slow=5.9,SNR=3.7							

*IDC **09** 13:08:42.7±1.1, 26°.60S×176°.40W, h0km, mb3.9/5, mb1 4.2/8, mb1mx4.0/33, mbtmp4.1/8, ML4.0/3, MS3.5/8, Ms1 3.5/8, ms1mx3.0/65, Error ellipse: s-maj=38.7km s-min=20.8km az=120.0*

ISC 09 13:08:46.7±0.9,**26°.6S**±0°.1×**176°.3W**±0°.2,**h29km**,**n20,**
σ0°.**94**/14,**mb3.8**/5,**MS3.7**/5,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.00**	**208**	Pn		**Pn**	**13 09 32.3**	**0.0**
	49nm,0.3s,baz=73,slow=22,SNR=2.6							
RAO						Sn	**Sn**	**13 10 07.7**	**+0.4**
	90nm,0.3s,baz=240,slow=22,SNR=6.4							
URZ	**Urewera**	**12.88**	**204**	Pn		**Pn**	**13 11 47.3**	**-0.5**
	0.2nm,0.3s,baz=0.0,slow=12,SNR=1.0							
URZ						Sn	Sn	13 13 58.8	-11
	0.6nm,0.3s,baz=226,slow=21,SNR=6.5							
URZ						LR	LR	13 16 28.1	
	comp=Z,108nm,18.9s,baz=30,slow=36							
AFI	**Afiamalu**	**13.32**	**20**	Pn		**Pn**	**13 11 52.8**	**-1.1**
	1.4nm,0.3s,baz=222,slow=12,SNR=1.1							
AFI						Sn	Sn	13 14 04.8	-16
	0.6nm,0.3s,baz=96,slow=21,SNR=1.9							
RAR	**Rarotonga**	**16.05**	**74**	Pn		Pn	13 12 21.7	-8.7
	0.8nm,0.3s,baz=250,slow=15,SNR=2.1							
RAR						Sn	Sn	13 15 05.1	-22
	0.4nm,0.3s,baz=89,slow=19,SNR=1.6							
DZM	**Mont Dzumac**	**16.34**	**282**	LR		LR	13 17 49.1	
	comp=Z,182nm,18.1s,baz=143,slow=34							
RPZ	**Rata Peaks**	**19.92**	**208**	LR		LR	13 20 34.7	
	comp=Z,92nm,18.3s,baz=214,slow=36							
PPT	**Papeete**	**26.32**	**76**	LR		LR	13 22 09.0	
	comp=Z,49nm,19.1s,baz=254,slow=31							
CTA	**Charters Tower**	**34.87**	**273**	LR		LR	13 28 56.2	
	comp=Z,95nm,18.4s,baz=83,slow=35							
STKA	**Stephens Creek**	**36.93**	**252**	LR		LR	13 28 15.0	
	comp=Z,122nm,18.6s,baz=33,slow=32							
ASAR	**Alice Springs**	**44.93**	**262**	P		**P**	**13 16 58.6**	**-0.7**
	0.5nm,0.7s,baz=97,slow=8.7,SNR=5.4							
ASAR						LR	LR	13 33 59.5	
	comp=Z,97nm,18.8s,baz=144,slow=34							
WRA	**Warramunga Arr**	**45.58**	**268**	P		**P**	**13 17 03.7**	**-0.7**
	1.8nm,0.6s,baz=107,slow=7.4,SNR=17							
QSPA	**South Pole Qui**	**63.51**	**180**	LR		LR	13 44 18.0	
	comp=Z,74nm,19.1s,baz=244,slow=34							
KSRS	**Korea Array**	**82.45**	**318**	P		**P**	**13 21 06.5**	**+0.3**
	0.8nm,0.8s,baz=130,slow=6.0,SNR=2.7							
PETK	**Petropavlovsk-**	**82.53**	**345**	P		**P**	**13 21 07.2**	**+0.9**
	1.7nm,0.6s,baz=134,slow=4.2,SNR=5.9							
NVAR	**Mina Array Bea**	**84.44**	**42**	P		**P**	**13 21 17.7**	**+0.9**
	0.1nm,0.3s,baz=227,slow=5.9,SNR=3.6							
NB2	**NORSAR Subarra**	**145.18**	**354**	PKP		**PKPdf**	**13 28 20.8**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=10,slow=3.8							
NOA	**NORSAR Array B**	**145.18**	**354**	PKPbc		**PKPdf**	**13 28 20.9**	**-0.1**
	comp=Z,2.0nm,1.0s,baz=12,slow=2.5,SNR=5.7							
AKASG	**Malin Array Be**	**149.02**	**328**	PKPbc		**PKPbc**	**13 28 30.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=47,slow=4.2,SNR=1.6							
BRTR	**Keskin Array B**	**151.85**	**305**	PKPab		**PKPab**	**13 28 50.1**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=139,slow=2.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**166.50**	**172**	PKPab		**PKPab**	**13 29 51.2**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=169,slow=3.7,SNR=2.6							

*IDC **09** 13:12:47.9±2.2, 50°.03N×77°.90E, h0km, mb1 2.8/2, mb1mx2.7/48, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=24.6km s-min=8.5km az=93.0*
*NNC **09** 13:12:51.2±0.5, 50°.07N×78°.97E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=9.7km s-min=2.7km az=66.0, Suspected Mining explosion.*

ISC 09 13:12:52.3±1.0,**50°.05N**±0°.05×**78°.83E**±0°.07,**h0km**,**n17,**
σ0°.**92**/29,**21C-6D**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.57**	**339**	⇑P		**Pg**	**13 13 02.8**	**-0.4**
KUR07				⇑S		**Sg**	**13 13 11.5**	**+0.9**
KUR14	**Kurchatov Arra**	**0.58**	**345**	⇑P		**Pg**	**13 13 02.9**

KOLN	**Koldanda**	**1.50**	**275**	*e*Pg		**Pb**	**13 20 41.7**	**+0.2**
DANN	**Dangsing**	**1.53**	**298**	*e*Pg		**Pb**	**13 20 42.3**	**+0.4**
DANN				*e*Sg		**Sb**	**13 21 02.1**	**+0.7**
ODAN	**Odare**	**2.02**	**112**	*e*Pg		**Pb**	**13 20 50.7**	**+0.4**
ODAN				*e*Sg		**Sb**	**13 21 17.2**	**+1.7**
ODAN				*e*Sg		**Sb**	**13 21 17.2**	**+1.7**
PYUN	**Piuthan**	**2.09**	**283**	*e*Pg		**Pb**	**13 20 51.3**	**-0.1**
PYUN				*e*Sg		**Sb**	**13 21 19.4**	**+2.0**
	2µm,0.5s							
TAPN	**Taplejung**	**2.17**	**97**	*e*Pg		**Pb**	**13 20 52.9**	**+0.1**
TAPN				*e*Sg		**Sb**	**13 21 21.3**	**+1.6**
	980nm,0.5s							
GTK	**Tadong**	**2.96**	**95**	*e*P		**Pn**	**13 21 03.0**	**+2.7**
GTK				*e*S		**Sn**	**13 21 37.2**	**+1.4**
GTK				IAML			13 21 44.3	
	comp=N,300nm,0.4s							
GTK				IAML			13 21 51.8	
	comp=E,398nm,0.3s							
BOK	**Bokaro**	**3.86**	**172**	*e*P		**Pn**	**13 21 14.3**	**+1.6**
TURI	**Tura**	**4.97**	**114**	*e*P		**Pn**	**13 21 29.4**	**+1.5**
TURI				*e*S		**Sn**	**13 22 19.2**	**-6.1**
TURI				IAML			13 22 33.8	
	comp=E,189nm,0.3s							
LSA	**Lhasa**	**5.54**	**67**	Pn		**Pn**	**13 21 36.9**	**+0.7**
GUWA	**GUWAHATI**	**5.89**	**103**	*e*P		**Pn**	**13 21 43.9**	**+3.3**
GUWA				*e*S		**Sn**	**13 22 47.5**	**-0.6**
GUWA				IAML			13 22 50.6	
	comp=E,47nm,0.3s							
SHL	**Shillong**	**6.25**	**108**	*e*P		**Pn**	**13 21 46.2**	**+0.6**
SHL				*e*S		**Sn**	**13 22 54.6**	**-2.5**
JBP	**Jabalpur**	**6.54**	**228**	*e*x		x	13 21 54.2	
JBP				⇓*e*P		**P**	**13 21 54.2**	**+4.7**
JBP				*e*S		**Sn**	**13 23 03.0**	**-1.1**
DDI	**Dehra Dun**	**6.88**	**295**	*e*S		**Sn**	**13 23 11.9**	**-0.5**
DDI				IAML			13 23 14.1	
	comp=N,240nm,0.5s							
SMLA	**Simla**	**7.90**	**298**	*e*P		**Pn**	**13 22 08.6**	**+0.5**
SMLA				*e*S		**Sn**	**13 23 33.9**	**-3.4**
SMLA				IAML			13 23 37.0	
	comp=N,58nm,0.4s							
BHPL	**Bhopal**	**8.35**	**240**	*e*P		**Pn**	**13 22 12.1**	**-2.2**
BHPL				*e*S		**Sn**	**13 23 41.6**	**-7.0**
BHPL				IAML			13 23 44.8	
	comp=E,876nm,0.2s							
BHPL				IAML			13 23 44.8	
	comp=N,597nm,0.3s							
HYBB	**Hyderabad (bro**	**11.92**	**213**	*e*Pn		**Pn**	**13 23 04.4**	**+1.1**
HYBB				*e*Sn		**Sn**	**13 25 18.8**	**+2.5**
HYBB				IVMs_BB	IVMs_BB		13 26 45.2	
	comp=Z,116nm,4.9s							
CHCP	**Chirak Chowk**	**11.97**	**303**	P		**Pn**	**13 23 01.7**	**-2.2**
NIL	**Nilore**	**11.97**	**303**	Pn		**Pn**	**13 23 02.2**	**-1.7**
THW	**Thamme Wali**	**12.79**	**297**	P		**Pn**	**13 23 12.3**	**-2.9**
CEP	**Cherat**	**13.05**	**301**	P		**Pn**	**13 23 16.3**	**-2.6**
KSH	**Kashi**	**14.16**	**329**	P		**Pn**	**13 23 34.2**	**+0.3**
KSH				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TARG	**Taragay, Kyrgy**	**15.34**	**338**	Pn		**Pn**	**13 23 50.8**	**+0.7**
TARG				IAmb	IAmb		13 24 16.9	
	comp=Z,4.9nm,0.9s							
KBL	**Kabul**	**15.52**	**300**	P		**P**	**13 23 57.9**	**+1.2**
KBL				IAmb	IAmb		13 23 58.8	
	comp=Z,5.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**15.52**	**123**	Pn		**Pn**	**13 23 53.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=298,slow=12,SNR=2.0							
DRK	**Karamyk**	**16.29**	**320**	P		**Pn**	**13 24 02.6**	**+0.3**
GTA	**Gaotai**	**16.84**	**42**	*e*P		**P**	**13 24 11.8**	**+0.5**
GTA				sP		sP	13 24 18.2	+1.2
GTA				pmax	pmax			
	comp=Z,2.0nm,1.1s							
GAR	**Garm**	**16.86**	**316**	Pn		**Pn**	**13 24 09.2**	**-0.2**
GAR				IAmb	IAmb		13 24 27.5	
	comp=Z,14nm,1.4s							
AAK	**Ala-Archa**	**17.35**	**332**	P		**Pn**	**13 24 16.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=188,slow=17,SNR=1.5							
CHGR	**Chuyangaron**	**17.39**	**313**			**P**	**13 24 18.0**	**+0.7**
CHGR				IAmb	IAmb		13 24 21.4	
	comp=Z,9.2nm,0.7s							
LZH	**Lanzhou**	**17.85**	**57**	*e*P		**P**	13 24 32.4	+10
LZH				pP		sP	13 24 36.0	+7.8
LZH				pmax	pmax			
	comp=Z,13nm,1.5s							
MK31	**Makanchi Array**	**19.27**	**354**	P		**P**	**13 24 37.8**	**0.0**
MKAR	**Makanchi Array**	**19.27**	**354**	P		**P**	**13 24 38.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=178,slow=10,SNR=23							
MKAR	**Makanchi Array**	**19.27**	**354**	P		**P**	**13 24 38.3**	**+0.4**
MAKZ	**Makanchi**	**19.32**	**353**	P		**P**	**13 24 39.1**	**+0.7**
KKAR	**Karatay Array**	**19.54**	**326**	P		**P**	**13 24 41.0**	**+0.2**
KURBB	**Kurchatov Arra**	**23.53**	**349**	P		**P**	**13 25 24.2**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=172,slow=9.8,SNR=20							
KURK	**Kurchatov**	**23.60**	**349**	P		**P**	**13 25 23.3**	**-0.7**
KURK				IAmb	IAmb		13 25 29.3	
	comp=Z,4.4nm,0.9s							
SONM	**Songino Array**	**26.02**	**34**	P		**P**	**13 25 47.9**	**+1.5**
	comp=Z,2.5nm,0.8s,baz=208,slow=12,SNR=10.0							
SONM	**Songino Array**	**26.02**	**34**	P		**P**	**13 25 46.1**	**-0.4**
ZAA0	**Zalesovo Array**	**26.29**	**359**	P		**P**	**13 25 47.7**	**-0.9**
ZALV	**Zalesovo Beam**	**26.29**	**359**	P		**P**	**13 25 49.7**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=186,slow=12,SNR=5.6							
ZALV	**Zalesovo Beam**	**26.29**	**359**	P		**P**	**13 25 49.3**	**+0.7**
ULN	**Ulaanbaatar**	**26.37**	**34**	P		**P**	**13 25 50.4**	**+0.8**
ULN				IAmb	IAmb		13 25 54.1	
	comp=Z,4.3nm,0.8s							
ABKAR	**Akbulak array**	**29.09**	**325**	P		**P**	**13 26 13.1**	**-0.6**
USA0B	**Ussuriysk Arra**	**40.69**	**53**	P		**P**	**13 27 52.6**	**-1.2**
USA0B				IAmb	IAmb		13 27 59.2	
	comp=Z,5.2nm,0.8s							
AKASG	**Malin Array Be**	**47.85**	**315**	P		**P**	**13 28 49.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=74,slow=6.8,SNR=2.7							
TIXI	**Tiksi**	**50.12**	**17**	P		**P**	**13 29 08.7**	**+0.6**
TIXI				IAmb	IAmb		13 29 13.6	
	comp=Z,5.1nm,1.5s							
FINES	**FINESS Array B**	**51.48**	**328**	P		**P**	**13 29 17.5**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=130,slow=18,SNR=2.3							
ARCES	**ARCESS Array B**	**53.92**	**338**	P		**P**	**13 29 36.6**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=102,slow=7.9,SNR=7.9							
ARCES	**ARCESS Array B**	**53.92**	**338**	P		**P**	**13 29 37.1**	**+0.7**
NOA	**NORSAR Array B**	**58.56**	**327**	P		**P**	**13 30 09.4**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=90,slow=6.8,SNR=2.8							
KEST	**Kesra**	**63.67**	**298**	P		**P**	**13 30 44.0**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=90,slow=5.1,SNR=1.9							
WB0	**Warramunga Arr**	**66.92**	**129**	P		**P**	**13 31 05.9**	**-0.1**
WRA	**Warramunga Arr**	**67.01**	**129**	P		**P**	**13 31 06.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=322,slow=6.3,SNR=4.9							
WRA	**Warramunga Arr**	**67.01**	**129**	P		**P**	**13 31 06.0**	**-0.5**
WRAB	**Tennant Creek**	**67.01**	**129**	P		**P**	**13 31 05.9**	**-0.6**
AS31	**Alice Springs**	**69.29**	**133**	P		**P**	**13 31 20.8**	**-0.1**
AS31				IAmb	IAmb		13 31 45.5	
	comp=Z,1.0nm,1.2s							
ASAR	**Alice Springs**	**69.29**	**133**	P		**P**	**13 31 20.8**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=318,slow=6.4,SNR=14							
ASAR	**Alice Springs**	**69.29**	**133**	P		**P**	**13 31 19.7**	**-1.1**
ESDC	**Sonseca Array**	**72.40**	**306**	P		**P**	**13 31 38.6**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=63,slow=5.9,SNR=3.2							
TOLK	**Toolik Lake Re**	**75.98**	**18**	P		**P**	**13 32 00.7**	**+0.7**
TOLK				IAmb	IAmb		13 32 03.7	
	comp=Z,3.8nm,1.5s							
IMAR	**Indian Mountai**	**76.46**	**21**	P		**P**	**13 32 04.5**	**+1.8**
BMAR	**Burnt Mountain**	**78.18**	**18**	P		**P**	**13 32 14.1**	**+1.7**
TORD	**Torodi Ar. Bea**	**78.42**	**279**	P		**P**	**13 32 13.6**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=58,slow=3.0,SNR=4.9							
BCAR	**Beaver Creek A**	**82.20**	**20**	P		**P**	**13 32 35.8**	**+1.6**
YKA	**Yellowknife Ar**	**88.78**	**9**	P		**P**	**13 33 06.2**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=335,slow=5.0,SNR=2.9							

*NEIC **09** 13:43:41.1±0.9, 35°.55N±0°.02×97°.31W±0°.02, h8km±4km, mb_Lg2.6/29, Error ellipse: s-maj=3.0km s-min=2.3km az=115.0*
*ANF **09** 13:43:41.4±0.4, 35°.60N×97°.29W, h6km, ML3.1/9, Error ellipse: s-maj=4.6km s-min=3.3km az=10.0*
ISC 09 13:43:41.4±0.9, 35°.56N±0°.03×97°.32W±0°.03, h8km±6km, n33, σ0°69/29, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK001	**Jones High Sch**	**0.03**	**91**	Pg	**Pg**	**13 43 42.5**	**-0.5**
OK009	**Oakdale Elemen**	**0.08**	**284**	Pg	**Pg**	**13 43 43.5**	**0.0**
OK009				Sg	**Sg**	**13 43 45.6**	**+0.5**
OK005	**Luther M Schoo**	**0.14**	**49**	Pg	**Pg**	**13 43 44.6**	**+0.1**
OK005				Sg	**Sg**	**13 43 47.1**	**+0.4**
FNO	**Franklin**	**0.31**	**192**	Pg	**Pg**	**13 43 47.1**	**-0.5**
W35A	**Tecumseh**	**0.55**	**138**	Pg	**Pg**	**13 43 51.4**	**-0.6**
X34A	**Smith Ranch, M**	**1.04**	**204**	Pg	**Pg**	**13 44 00.9**	**-0.6**
TUL1	**Leonard**	**1.29**	**74**	Pn	**Pn**	**13 44 04.4**	**-1.4**
TUL1	**Leonard**	**1.29**	**74**	P	**Pn**	**13 44 04.2**	**-1.6**
	baz=254						
TUL1				S	**Sb**	**13 44 22.0**	**-0.8**
	baz=254						
WMOK	**Wichita Mounta**	**1.45**	**236**	P	**Pn**	**13 44 07.2**	**-0.7**
	baz=56						
T35B	**Sooner Cattle**	**1.50**	**26**	P	**Pn**	**13 44 08.4**	**-0.2**
	baz=206						
T35B				S	**Sg**	**13 44 29.2**	**-0.6**
	baz=206						
U32A	**Winter Ranch,**	**1.59**	**301**	P	**Pn**	**13 44 10.2**	**+0.4**
	baz=121						
U32A				S	**Sg**	**13 44 32.5**	**0.0**
	baz=121						
X37A	**Clayton**	**1.87**	**121**	Pn	**Pn**	**13 44 14.5**	**+0.8**
X37A	**Clayton**	**1.87**	**121**	P	**Pn**	**13 44 14.5**	**+0.8**
	baz=301						
X37A				S	**Sb**	**13 44 39.9**	**+0.6**
	baz=301						
Z35A	**Perchaven, San**	**2.23**	**178**	S	**Sb**	**13 44 49.1**	**-0.4**
	baz=359						
W39A	**Magazine**	**2.92**	**96**	Pn	**Pn**	**13 44 28.0**	**0.0**
W39A	**Magazine**	**2.92**	**96**	P	**Pn**	**13 44 28.2**	**+0.1**
	baz=278						
W39A				S	**Sn**	**13 45 04.4**	**+1.1**
	baz=278						
R32A	**Long Quarter,**	**3.06**	**339**	P	**Pg**	**13 44 39.7**	**-0.4**
	baz=158						
U40A	**Yellville**	**3.71**	**76**	Pn	**Pn**	**13 44 39.1**	**+0.1**
CBKS	**Cedar Bluff**	**3.77**	**330**	IAmb_Lg		13 45 46.8	
	comp=Z,17nm,0.8s						
X40A	**Basin Creek Fa**	**3.84**	**105**	IAmb_Lg		13 45 46.3	
	comp=Z,17nm,1.1s						
WHAR	**Wooly Hollow**	**4.12**	**92**	Pn	**Pn**	**13 44 44.8**	**+0.2**
W41B	**Gary Mavity, V**	**4.17**	**94**	IAmb_Lg		13 46 04.2	
	comp=Z,15nm,1.2s						
W41B	**Gary Mavity, V**	**4.17**	**94**	S	**Sn**	**13 45 35.1**	**+1.0**
	baz=277						
FCAR	**Ozark Folk Cen**	**4.24**	**84**	Pn	**Pn**	**13 44 46.5**	**+0.2**
FCAR				IAmb_Lg		13 45 53.8	
	comp=Z,10.0nm,0.7s						
MGMO	**Mountain Grove**	**4.38**	**67**	IAmb_Lg		13 46 06.1	
	comp=Z,16nm,0.8s						
Z41A	**Richland Creek**	**4.39**	**120**	IAmb_Lg		13 46 07.7	
	comp=Z,12nm,0.8s						
MSTX	**Muleshoe**	**4.76**	**252**	IAmb_Lg		13 46 13.5	
	comp=Z,6.6nm,0.7s						
R40A	**Maddies Statio**	**4.88**	**55**	IAmb_Lg		13 46 18.7	
	comp=Z,14nm,0.7s						
P38A	**Dawn**	**5.05**	**35**	IAmb_Lg		13 46 28.8	
	comp=Z,7.9nm,0.7s						
X43A	**Marvell**	**5.39**	**99**	IAmb_Lg		13 46 46.8	
	comp=Z,8.7nm,1.0s						
CCM	**Cathedral Cave**	**5.48**	**61**	IAmb_Lg		13 46 43.3	
	comp=Z,11nm,0.9s						
T25A	**Trinidad**	**5.93**	**287**	IAmb_Lg		13 46 53.3	
	comp=Z,9.8nm,0.8s						
SDCO	**Great Sand Dun**	**6.92**	**291**	Pn	**Pn**	**13 45 23.3**	**-0.1**

*IDC **09** 13:51:18.2±0.8, 13°.64N×120°.92E, h117km±7km, mb3.3/7, mb1 3.4/7, mb1mx3.1/48, mbtmp3.7/7, Error ellipse: s-maj=41.6km s-min=15.8km az=61.0*
*MAN **09** 13:51:20.1, 13°.69N×120°.64E, h94km, mb4.3, ML3.1, MS2.8, Hypocenter not reviewed by the ISC*
ISC 09 13:51:18.4±0.9, 13°.57N±0°.10×120°.76E±0°.09, h117km±6km, n13, σ1°50/18, mb3.4/7, 5C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.20**	**110**	⇑*e*P	**Pn**	**13 51 35.0**	**+0.3**
PGP				*i* S	**Sn**	**13 51 48.0**	**+1.0**
LUBP	**Lubang**	**0.53**	**288**	⇑*i*P	**Pn**	**13 51 35.9**	**-0.3**
LUBP				*i* S	**Sn**	**13 51 47.9**	**-1.7**
TGY	**Tagaytay City**	**0.55**	**18**	P	**Pn**	**13 51 37.3**	**+0.8**
	346nm,0.3s,baz=234,slow=1.9,SNR=24						
TGY				S	**Sn**	**13 51 50.0**	**-0.1**
	280nm,0.3s,baz=239,slow=24,SNR=6.9						
TGY	**Tagaytay City**	**0.55**	**18**	⇑*e*P	**Pn**	**13 51 37.3**	**+0.8**
TGY				*i* S	**Sn**	**13 51 51.1**	**+1.0**
LQP	**Lukban**	**0.93**	**54**	⇑*e*P	**Pn**	**13 51 41.4**	**+1.7**
LQP				*i* S	**Sn**	**13 51 51.6**	**-4.2**
PCPH	**Palayan**	**2.01**	**9**	⇑*e*P	**Pn**	**13 51 52.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**21.52**	**286**	P	**P**	**13 55 59.8**	**+1.5**
	1.4nm,0.7s,baz=96,slow=7.5,SNR=9.9						
WRA	**Warramunga Arr**	**35.88**	**158**	P	**P**	**13 58 06.5**	**-0.8**
	0.4nm,0.6s,baz=332,slow=10.0,SNR=6.0						
ASAR	**Alice Springs**	**39.18**	**161**	P	**P**	**13 58 35.0**	**0.0**
	0.2nm,0.5s,baz=337,slow=7.6,SNR=6.8						
MKAR	**Makanchi Array**	**46.17**	**324**	P	**P**	**13 59 31.6**	**+0.3**
	0.7nm,0.6s,baz=133,slow=8.8,SNR=7.7						
ZALV	**Zalesovo Beam**	**49.20**	**333**	P	**P**	**13 59 53.2**	**-1.3**
	1.0nm,0.3s,baz=116,slow=7.0,SNR=7.0						
KURBB	**Kurchatov Arra**	**50.33**	**326**	P	**P**	**14 00 03.2**	**+0.1**
	1.9nm,0.5s,baz=128,slow=8.3,SNR=17						
YKA	**Yellowknife Ar**	**92.87**	**22**	P	**P**	**14 04 17.8**	**+0.1**
	0.1nm,0.5s,baz=304,slow=4.0,SNR=3.1						

*NNC **09** 13:51:49.6±1.8, 38°.13N×72°.66E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=14.0km s-min=9.0km az=4.0*
*IDC **09** 13:52:02.1±7.1, 38°.80N×72°.65E, h106km±48km, mb3.2/4, mb1 3.2/10, mb1mx3.1/56, mbtmp3.5/10, MS2.9/1, Ms1 2.9/1, ms1mx2.2/50, Error ellipse: s-maj=59.9km s-min=28.3km az=6.0*
ISC 09 13:51:44.8±1.8, 37°.7N±0°.1×72°.51E±0°.09, h10km, n19, σ1°61/21, mb3.4/4, 4C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.20**	**16**	P	**Pn**	**13 53 03.3**	**+0.6**
	0.8nm,0.3s,baz=194,slow=3.8,SNR=9.9						
AAK				S	Sn	13 53 50.4	-12
	0.8nm,0.3s,baz=109,slow=5.2,SNR=4.1						
CHMS	**Chumysh**	**5.60**	**17**	⇓Pg	**Pb**	**13 53 23.4**	**+0.8**
	5.4nm,0.7s						
CHMS				⇓Lg	Lg	13 54 29.9	
	20nm,0.8s						
KK31	**Karatay Array**	**5.64**	**345**	⇑Pn	**Pn**	**13 53 09.0**	**+0.2**
	3.1nm,0.3s,baz=155,slow=11,SNR=80						
KK31				⇑Pg	**Pb**	**13 53 25.7**	**+2.3**
	8.8nm,0.6s,baz=157,slow=16,SNR=4.9						
KK31				⇓Sn	**Sn**	**13 54 11.9**	**-1.8**
	5.1nm,0.5s						
TKM2	**Tokmak 2**	**5.76**	**23**	⇑Pg	**Pb**	**13 53 26.6**	**+1.1**
	4.7nm,0.7s						
TKM2				⇓Lg	Lg	13 54 35.0	
	16nm,0.9s						
MDOK	**Medeo**	**6.50**	**31**	Pg	**Pb**	**13 53 40.2**	**+2.2**
	12nm,1.2s						
MDOK				Lg	Lg	13 55 00.4	
	27nm,1.4s						
PDGK	**Podgornoye**	**7.77**	**41**	⇓Pn	**Pn**	**13 53 38.4**	**+0.3**
	6.9nm,1.2s						
PDGK				⇓Lg	Lg	13 55 44.0	
	18nm,1.1s						
GEYT	**Alibeck**	**11.39**	**276**	LR	LR	14 00 19.4	
	comp=Z,61nm,18.5s,baz=91,slow=44						
MKAR	**Makanchi Array**	**11.65**	**35**	P	**Pn**	**13 54 31.7**	**+0.7**
	0.0nm,0.3s,baz=227,slow=15,SNR=5.3						
KURBB	**Kurchatov Arra**	**13.65**	**16**	P	Pn	13 54 55.1	-3.3
	0.0nm,0.3s,baz=203,slow=12,SNR=3.3						
AB31	**Akbulak array**	**14.72**	**326**	⇑Pn	**Pn**	**13 55 13.5**	**+0.5**
	1.7nm,0.7s,baz=145,slow=11,SNR=5.1						
AB31				Sn	**Sn**	**13 57 57.5**	**+1.4**
	0.9nm,0.6s,baz=141,slow=24,SNR=2.8						
BVAR	**Bovoye Array**	**15.43**	**355**	P	**Pn**	**13 55 19.1**	**-3.4**
AKTO	**Aktyubinsk**	**16.44**	**326**	P	**Pn**	**13 55 35.1**	**-0.3**
	0.4nm,0.3s,baz=122,slow=6.5,SNR=7.6						
AKTO	**Aktyubinsk**	**16.44**	**326**	⇓Pn	**Pn**	**13 55 35.6**	**+0.1**
	7.6nm,1.1s						
AKTO				⇓Sn	**Sn**	**13 58 37.3**	**-0.5**
	3.1nm,1.1s						
ZALV	**Zalesovo Beam**	**18.36**	**24**	P	**Pn**	**13 55 55.6**	**-3.9**
	0.2nm,0.3s,baz=212,slow=8.6,SNR=3.9						
SONM	**Songino Array**	**26.69**	**57**	P	**P**	**13 57 25.2**	**+1.1**
	0.7nm,0.7s,baz=284,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**37.21**	**325**	P	**P**	**13 58 56.0**	**0.0**
	0.6nm,0.4s,baz=118,slow=9.7,SNR=9.6						
NB2	**NORSAR Subarra**	**44.19**	**322**	P	**P**	**13 59 53.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**44.19**	**322**	P	**P**	**13 59 52.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=110,slow=7.6,SNR=2.6						
YKA	**Yellowknife Ar**	**80.02**	**3**	P	**P**	**14 03 53.3**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=348,slow=5.5,SNR=6.6						

*BJI **09** 14:07:45.9±0.0, 18°.95S×170°.11E, h267km, mb4.6/28, mB4.8/22*
*NEIC **09** 14:07:47.7±1.7, 19°.00S±0°.06×169°.57E±0°.07, h255km±5km, mb4.9/67, Error ellipse: s-maj=11.0km s-min=6.9km az=126.0*
*NOU **09** 14:07:48.2, 19°.02S×169°.52E, h256km, mb4.9/75, Vanuatu Islands*
*IDC **09** 14:07:48.3±0.9, 19°.07S×169°.49E, h257km±8km, mb4.3/27, mb1 4.5/31, mb1mx4.3/47, mbtmp5.0/31, Error ellipse: s-maj=9.6km s-min=8.5km az=99.0*
*BGR **09** 14:07:48.9±0.0, 18°.72S×171°.30E, h261km*
*GCMT **09** 14:07:50.7±0.4, 19°.18S±0°.03×169°.36E±0°.03, h260km±3km, MW5.0/57, Moment Tensor Solution. s24,c32; s57,c77; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.78±.16; Mθθ 0.49±.17; Mφφ -2.28±.16; Mre 1.51±.16; Mrθ -1.53±.14; Mθr -1.44±.15; Best double couple: Mo 3.58600×10^16 NP1: θs 55.00000°, δ47.00000°, λ132.00000°. NP2: φs 182.00000°, δ57.00000°, λ55.00000°. Principal axes: T 3.9620, Plg60.0000°, Azm37.0000°; N -0.7480, Plg29.0000°, Azm203.0000°; P -3.2100, Plg6.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 14:07:47.8±0.5, 19°.02S±0°.05×169°.47E±0°.05, h255km±4km, h255km:pP-P, n423, σ1°05/416, mb4.8/67, 2C-11D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.57**	**321**	P	**Pn**	**14 08 27.8**	**+0.6**
DVP	**Devils Point**	**1.77**	**316**	P	**Pn**	**14 08 29.8**	**+1.0**
LIFNC	**LIFOU**	**2.73**	**230**		**Pn**	**14 08 37.3**	**-0.5**
LIFNC	**LIFOU**	**2.73**	**230**	P	**Pn**	**14 08 37.4**	**-0.3**
MARNC	**Mare, Loyalty**	**2.80**	**209**		**Pn**	**14 08 37.6**	**-0.8**
YATNC	**Mamie plateau,**	**3.87**	**218**	P	**Pn**	**14 08 49.5**	**-0.8**
PINNC	**Pines Island,**	**4.05**	**208**		**Pn**	**14 08 52.0**	**-0.3**
PINNC	**Pines Island,**	**4.05**	**208**	P	**Pn**	**14 08 52.5**	**+0.2**
DZM	**Mont Dzumac**	**4.16**	**223**	P	**Pn**	**14 08 54.5**	**+0.8**
	15nm,0.3s,baz=59,slow=16,SNR=116						
DZM				S	**S**	**14 09 46.5**	**+0.3**
	15nm,0.3s,baz=148,slow=13,SNR=4.7						
DZM	**Mont Dzumac**	**4.16**	**223**	*e*Pn	**Pn**	**14 08 54.7**	**+1.0**
	357nm,0.7s						
DZM	**Mont Dzumac**	**4.16**	**223**	P	**Pn**	**14 08 54.7**	**+1.0**
SANVU	**Saraoutou**	**4.16**	**328**		**Pn**	**14 08 53.8**	**0.0**
SANVU	**Saraoutou**	**4.16**	**328**	P	**Pn**	**14 08 54.4**	**+0.6**
OUENC	**Ouen Island, N**	**4.18**	**216**		**Pn**	**14 08 53.8**	**-0.1**
OUENC	**Ouen Island, N**	**4.18**	**216**	P	**Pn**	**14 08 54.7**	**+0.8**
NOUC	**Port Laguerre**	**4.27**	**224**	P	**Pn**	**14 08 56.2**	**+1.3**
ONTNC	**Ouen Toro**	**4.32**	**220**		**Pn**	**14 08 56.5**	**+0.9**
ONTNC	**Ouen Toro**	**4.32**	**220**	P	**Pn**	**14 08 56.5**	**+0.9**
KOUNC	**Koumac, New Ca**	**5.12**	**252**		**Pn**	**14 09 07.5**	**+2.3**
KOUNC	**Koumac, New Ca**	**5.12**	**252**	P	**Pn**	**14 09 07.4**	**+2.3**
MSVF	**Nonsavu**	**8.24**	**82**	P	**Pn**	**14 09 46.3**	**+2.0**
	7.9nm,0.3s,baz=260,slow=11,SNR=34						
MSVF	**Nonsavu**	**8.24**	**82**		**Pn**	**14 09 45.9**	**+1.6**
NFK	**Norfolk Island**	**10.08**	**188**	P	**Pn**	**14 10 08.4**	**+1.2**
HNR	**Honiara**	**13.26**	**315**	P	**P**	**14 10 48.7**	**+0.5**
	26nm,0.3s,baz=206,slow=1.5,SNR=56						
HNR	**Honiara**	**13.26**	**315**	P	**P**	**14 10 49.1**	**+0.9**
FUNA	**Funafuti**	**14.06**	**43**		**Pn**	**14 10 55.5**	**-1.1**
RAO	**Raoul Island**	**15.36**	**134**	P	**P**	**14 11 10.2**	**-1.0**
	18nm,0.3s,baz=128,slow=22,SNR=2.4						
OUZ	**Omahuta**	**16.55**	**168**	Pn	**Pn**	**14 11 26.0**	**0.0**
OUZ				IAmb	IAmb	14 11 28.7	
	comp=Z,68nm,1.0s						
OUZ	**Omahuta**	**16.55**	**168**	P	**Pn**	**14 11 25.9**	**0.0**
EIDS	**Eidsvold**	**18.16**	**246**		**Pn**	**14 11 43.8**	**-1.1**
EIDS				IA

comp=Z,133nm,0.6s,baz=84,slow=9.0,SNR=2241
ASAR PcP **PcP** **14 16 37.3 -0.7**
comp=Z,1.7nm,0.9s,baz=92,slow=6.5,SNR=2.0
ASAR S **S** **14 19 01.9 -2.9**
comp=Z,3.0nm,0.8s,baz=83,slow=17,SNR=11
ASAR ScP **ScP** **14 19 58.8 +0.8**
comp=Z,3.0nm,0.8s,baz=90,slow=4.0,SNR=9.7
ASAR PKiKP **PKiKP** **14 24 00.9 -2.1**
comp=Z,0.4nm,0.6s,baz=86,slow=1.6,SNR=7.9
ASAR P3KPbc 14 45 09.9
comp=Z,0.5nm,0.8s,baz=262,slow=3.4,SNR=5.8
MULG Mulgathing 33.95 244 P **P** **14 14 07.6 +0.2**
KDU Kakadu 36.09 274 P **P** **14 14 25.8 0.0**
MTN Manton Dam 37.32 274 P **P** **14 14 36.0 -0.1**
MTN IAmb IAmb 14 14 37.0
comp=Z,44nm,0.7s
MTN Manton Dam 37.32 274 P **P** **14 14 36.5 +0.4**
WRKA Warakurna 38.53 253 P **P** **14 14 46.1 -0.1**
KNRA Kununurra 38.94 268 P **P** **14 14 49.3 -0.2**
KNRA IAmb IAmb 14 14 50.3
comp=Z,46nm,0.7s
KNRA Kununurra 38.94 268 P **P** **14 14 49.5 -0.1**
FORT Forrest 39.14 244 P **P** **14 14 50.4 -0.7**
FORT IAmb IAmb 14 14 51.7
comp=Z,16nm,0.8s
FORT Forrest 39.14 244 P **P** **14 14 50.9 -0.2**
FITZ Fitzroy Crossi 41.48 264 P **P** **14 15 11.2 +0.8**
comp=Z,40nm,0.7s,baz=106,slow=9.5
FITZ Fitzroy Crossi 41.48 264 P **P** **14 15 10.8 +0.4**
FITZ IAmb IAmb 14 15 12.0
comp=Z,41nm,0.7s
FITZ Fitzroy Crossi 41.48 264 P **P** **14 15 11.0 +0.6**
BATI Baumata 45.07 275 P **P** **14 15 40.2 +1.1**
comp=Z,31nm,0.7s,baz=117,slow=9.0
PSA00 Pilbara Seismi 46.46 258 P **P** **14 15 49.9 +0.1**
PSA00 IAmb IAmb 14 15 51.0
comp=Z,33nm,0.8s
PSA00 Pilbara Seismi 46.46 258 P **P** **14 15 49.0 -0.7**
PSA00 IAmb IAmb 14 15 51.0
comp=Z,13nm,0.8s
PSA00 Pilbara Seismi 46.46 258 P **P** **14 15 50.1 +0.3**
comp=Z,45nm,1.0s
MBWA Marble Bar 46.61 259 ⇓P **P** **14 15 51.1 +0.2**
MBWA pP **pwP** **14 16 48.6 -1.6**
MEEK Meekatharra 47.24 251 P **P** **14 15 55.7 0.0**
KLBR Kellerberrin 48.01 244 P **P** **14 16 00.7 -0.8**
RKGY Rocky Gully 48.83 240 P **P** **14 16 08.0 +0.2**
comp=Z,56nm,0.7s
BLDU Ballidu 48.88 246 P **P** **14 16 07.7 -0.5**
MUN Mundaring 49.34 244 P **P** **14 16 11.2 -0.4**
MORW Morawa 49.46 248 P **P** **14 16 11.9 -0.6**
MORW Morawa 49.46 248 P **P** **14 16 12.4 -0.2**
KAPI Kappang 50.40 279 P **P** **14 16 18.2 -1.6**
KAPI Kappang 50.40 279 P **P** **14 16 21.0 +1.2**
HON Honolulu 51.20 40 P **P** **14 16 24.8 -0.7**
KIP Kipapa 51.27 40 P **P** **14 16 26.4 +0.4**
GIRL Giralia 51.51 256 P **P** **14 16 27.8 -0.2**
TOLI2 Tolitoli 51.82 287 P **P** **14 16 29.9 -0.4**
TOLI2 Tolitoli 51.82 287 P **P** **14 16 30.7 +0.4**
UGM Wanagama 58.15 272 P **P** **14 17 14.0 -1.5**
UGM IAmb IAmb 14 17 17.0
comp=Z,28nm,0.9s
VNDA Vanda 58.66 182 P **P** **14 17 18.2 +0.2**
comp=Z,1.7nm,0.6s,baz=357,slow=7.2,SNR=13
VNDA Vanda 58.66 182 P **P** **14 17 18.1 +0.2**
SBA Scott Base 58.88 181 P **P** **14 17 20.4 +0.9**
SBA IAmb IAmb 14 17 21.6
comp=Z,14nm,0.8s
SBA Scott Base 58.88 181 P **P** **14 17 20.0 +0.5**
SBA pP **pP** **14 18 16.8 +0.9**
JHJ2 Mitsune 59.08 331 P **P** **14 17 21.1 -0.3**
CCD Concordia, Ant 61.16 192 P **P** **14 17 35.1 -0.4**
CCD pP **PcP** **14 18 16.1 +0.4**
KSM Kuching 61.54 282 P **P** **14 17 38.3 -0.3**
KSM IAmb IAmb 14 17 40.0
comp=Z,13nm,0.7s
MJAR Matsushiro Arr 62.66 332 P **P** **14 17 45.3 -0.2**
comp=Z,3.3nm,0.4s,baz=186,slow=20,SNR=11
MJAR Matsushiro Arr 62.66 332 P **P** **14 17 44.1 -1.4**
MAJO Matsushiro 62.66 332 P **P** **14 17 44.2 -1.3**
MAJO IAmb IAmb 14 17 46.4
comp=Z,17nm,1.1s
MAJO Matsushiro 62.66 332 P **P** **14 17 46.2 +0.7**
JNU Nakatsue 63.62 324 P **P** **14 17 51.9 0.0**
comp=Z,5.4nm,1.0s,baz=350,slow=5.2,SNR=5.1
JNU Nakatsue 63.62 324 P **P** **14 17 52.7 +0.8**
ASAJ Asahikawa 67.47 339 P **P** **14 18 17.8 +1.6**
comp=Z,12nm,0.8s,baz=255,slow=5.8,SNR=8.7
KSRS Korea Array 68.45 325 P **P** **14 18 24.3 +1.9**
comp=Z,2.1nm,0.9s,baz=134,slow=6.3,SNR=6.8
NJ2 Nanjing 70.20 316 *e*P **P** **14 18 35.3 +2.1**
NJ2 pmax pmax
comp=Z,12nm,0.6s
QSPA South Pole Qui 71.03 180 ⇑P **P** **14 18 37.5 -0.4**
QSPA ⇓pP **pP** **14 19 35.6 -0.8**
SHEM Shemya Is, Ala 71.56 3 P **P** **14 18 41.6 +0.7**
comp=Z,22nm,0.5s,baz=76,slow=5.9,SNR=8.6
ADK Adak 71.63 9 P **P** **14 18 39.6 -1.7**
USRK Ussuriysk Ar. 71.64 333 P **P** **14 18 42.3 +0.7**
comp=Z,9.1nm,1.0s,baz=163,slow=6.9,SNR=7.0
ATKA Atka Island 72.33 10 P **P** **14 18 45.9 +0.4**
PET Petropavlovsk 72.35 353 P **P** **14 18 45.4 -0.2**
PET IAmb IAmb 14 18 46.8
comp=Z,14nm,0.6s
PET Petropavlovsk 72.35 353 P **P** **14 18 46.4 +0.9**
PETK Petropavlovsk- 72.55 353 P **P** **14 18 47.2 +0.5**
comp=Z,25nm,0.9s,baz=167,slow=10.0,SNR=35
PETK Petropavlovsk- 72.55 353 P **P** **14 18 45.6 -1.1**
MDJ Mudanjiang 73.04 331 P **P** **14 18 50.6 +0.8**
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ pmax pmax
comp=Z,160nm,4.2s
NIKH Nikolski High 74.11 13 P **P** **14 18 55.4 -0.4**
NIKH Nikolski High 74.11 13 P **P** **14 18 55.8 0.0**
baz=201
CN2 Changchun 74.39 329 *e*P **P** **14 18 58.7 +1.1**
CN2 pmax pmax
comp=Z,20nm,0.9s
UNV Unalaska Valle 75.46 14 P **P** **14 19 01.6 -1.8**
UNV Unalaska Valle 75.46 14 P **P** **14 19 03.2 -0.3**
baz=203
UNV Unalaska Valle 75.46 14 P **P** **14 19 03.0 -0.5**
KLR Kul'dur 75.76 336 P **P** **14 19 06.8 +1.5**
comp=Z,6.7nm,0.8s,baz=125,slow=7,SNR=19
LYN LuoYang 75.97 314 *e*P **P** **14 19 07.6 +0.7**
KMI Kunming 78.35 302 ⇑P **P** **14 19 19.8 -0.7**
KMI pmax pmax
comp=Z,13nm,1.3s
CMAR Chiang Mai Arr 78.62 294 P **P** **14 19 23.1 +1.2**
comp=Z,0.9nm,0.3s,baz=134,slow=3.9,SNR=9.0
PZH PanZhiHua 79.78 303 Pg **P** **14 19 28.5 +0.3**
PZH smax smax
comp=N,10.0nm,0.4s
PZH smax smax
comp=E,10.0nm,0.5s
PZH PanZhiHua 79.78 303 P **P** **14 19 28.4 +0.3**
PZH pmax pmax
comp=E,10.0nm,0.9s
PZH pmax pmax
comp=E,130nm,5.7s
HHC Hu-ho-hao-te 80.20 319 *e*P **P** **14 19 31.5 +1.5**
HHC pmax pmax
comp=E,16nm,0.9s
HHC pmax pmax
comp=E,78nm,5.3s
OHAK Old Harbor 82.08 19 P **P** **14 19 38.2 -1.1**
OHAK Old Harbor 82.08 19 P **P** **14 19 40.4 +1.1**
baz=215
BELA Belgrano 2 82.30 175 P **P** **14 19 39.0 -1.4**
BELA IAmb IAmb 14 19 39.9
comp=Z,17nm,0.6s
KDAK Kodiak Island 82.75 19 P **P** **14 19 44.0 +1.2**
comp=Z,29nm,0.9s,baz=221,slow=12,SNR=5.3
SEY Seymchan 82.78 352 P **P** **14 19 43.3 +0.4**
comp=Z,3.9nm,0.9s,baz=144,slow=5.7,SNR=17
P18K Big Mountain, 83.29 17 P **P** **14 19 45.7 +0.1**
baz=213
Q19K Cape Douglas, 83.37 18 P **P** **14 19 45.9 -0.1**
Q19K Cape Douglas, 83.37 18 P **P** **14 19 46.0 +0.1**
baz=215
O18K Koktuh Hills 83.69 17 P **P** **14 19 47.4 -0.2**
O18K Koktuh Hills 83.69 17 P **P** **14 19 48.2 +0.6**
baz=213
GAMB Gambell 83.82 8 P **P** **14 19 47.4 -0.7**
GAMB IAmb IAmb 14 19 49.7
comp=Z,19nm,0.6s
GAMB Gambell 83.82 8 P **P** **14 19 49.1 +1.0**
baz=198
N18K Kilae Creek 84.19 16 P **P** **14 19 50.4 +0.3**
N18K IAmb IAmb 14 19 55.0
comp=Z,23nm,1.1s
N18K Kilae Creek 84.19 16 P **P** **14 19 50.8 +0.7**
baz=213
O19K Port Alsworth 84.22 17 P **P** **14 19 50.7 +0.6**
baz=214
SVW2 Sparrevohn 84.63 16 P **P** **14 19 52.5 +0.3**
SVW2 IAmb IAmb 14 19 54.4
comp=Z,18nm,1.2s
BRLK Bradley Lake 84.88 19 P **P** **14 19 53.9 +0.4**
BRLK IAmb IAmb 14 20 02.2
comp=Z,20nm,1.0s
ANM Nome 85.55 11 P **P** **14 19 54.8 -2.0**
ANM IAmb IAmb 14 19 58.6
comp=Z,11nm,0.7s
ANM Nome 85.55 11 P **P** **14 19 58.3 +1.6**
baz=204
L19K White Mountain 85.73 16 P **P** **14 19 58.0 +0.3**
L19K IAmb IAmb 14 20 01.4
comp=Z,25nm,0.9s
L19K White Mountain 85.73 16 P **P** **14 19 58.4 +0.7**
baz=214,SNR=11
SMMC Simmler 85.90 51 P **P** **14 20 00.8 +1.6**
baz=243
TNA Tin City 86.05 9 P **P** **14 19 59.0 -0.1**
TNA IAmb IAmb 14 20 01.4
comp=Z,26nm,1.0s
TNA Tin City 86.05 9 P **P** **14 20 00.7 +1.6**
baz=201
TTA Tatalina 86.07 15 P **P** **14 19 59.4 0.0**
TTA IAmb IAmb 14 20 01.5
comp=Z,8.2nm,0.8s
TTA Tatalina 86.07 15 P **P** **14 19 59.9 +0.5**
baz=212,SNR=5.1
O02D Mt. Diablo Mer 86.19 45 P **P** **14 20 02.3 +1.8**
baz=241
L20K Farewell, AK 86.23 16 P **P** **14 20 00.5 +0.4**
baz=214,SNR=12
L02E Cave Junction 86.61 43 P **P** **14 20 04.1 +1.6**
baz=241
N02D Trinity Center 86.63 45 P **P** **14 20 04.7 +2.1**
baz=241,SNR=13
DECC Green Verdugo 86.67 52 P **P** **14 20 04.0 +1.1**
baz=244
ARVC Arvin 86.67 51 P **P** **14 20 04.0 +1.0**
baz=244
M02C Callahan 86.73 44 P **P** **14 20 05.0 +1.9**
baz=241,SNR=17
VES Vestal, Richgr 86.80 50 P **P** **14 20 04.3 +0.8**
baz=244,SNR=7.5
K02D Willamette Mer 86.83 43 P **P** **14 20 04.9 +1.3**
baz=240,SNR=5.6
BILL Bilibino 86.84 359 P **P** **14 20 02.7 -0.2**
BILL IAmb IAmb 14 20 04.2
comp=Z,15nm,0.9s
PMR Palmer 86.85 18 P **P** **14 20 01.8 -1.3**
PMR IAmb IAmb 14 20 03.9
comp=Z,11nm,1.0s
K20K Telida 86.91 16 P **P** **14 20 02.5 -0.9**
K20K Telida 86.91 16 P **P** **14 20 03.5 +0.1**
baz=214
O03E Paynes Creek 86.91 46 P **P** **14 20 05.2 +1.2**
baz=242,SNR=19
YBH Yreka Blue Hor 86.99 44 P **P** **14 20 03.7 -0.7**
YBH IAmb IAmb 14 20 06.9
comp=Z,28nm,1.1s
109C Camp Elliot, M 87.02 54 P **P** **14 20 05.6 +1.0**
baz=245
GTA Gaotai 87.14 313 *e*P **P** **14 20 06.6 +1.4**
GTA pmax pmax
comp=Z,7.0nm,1.0s
BFSC Mount Baldy Ra 87.17 52 P **P** **14 20 06.1 +0.6**
baz=245,SNR=13
ISA Isabella, Lake 87.17 51 P **P** **14 20 03.5 -1.9**
ISA Isabella, Lake 87.17 51 P **P** **14 20 06.6 +1.2**
baz=244,SNR=25
SONM Songino Array 87.18 323 P **P** **14 20 06.0 +0.8**
comp=Z,7.2nm,0.8s,baz=140,slow=5.7,SNR=23
EDW2 Edwards Air Fo 87.19 52 P **P** **14 20 06.5 +1.0**
baz=244,SNR=24
MURC Murrieta 87.25 53 P **P** **14 20 06.7 +0.9**
baz=245,SNR=8.5
GCSA Galena City Sc 87.41 14 P **P** **14 20 06.1 +0.4**
baz=212
CAST Castle Rocks 87.47 16 P **P** **14 20 04.9 -1.2**
baz=216
L04D Klamath Falls 87.48 44 P **P** **14 20 08.0 +1.2**
baz=241,SNR=8.4
I03D Drain, OR 87.53 42 P **P** **14 20 08.0 +1.3**
baz=241
MONP2 Monument Peak 87.54 54 P **P** **14 20 08.5 +1.2**
baz=236,SNR=26
J20K Nowinta River 87.57 15 P **P** **14 20 06.4 -0.1**
J20K Nowinta River 87.57 15 P **P** **14 20 06.6 +0.2**
baz=214,SNR=6.8
M04C Macdoel 87.58 44 P **P** **14 20 08.5 +1.2**
baz=242,SNR=16
LRMC Laurel Mtn Rad 87.67 51 P **P** **14 20 08.9 +1.0**
baz=245,SNR=9.1
IKP In-Ko-Pah, Jac 87.68 54 P **P** **14 20 09.0 +1.2**
baz=246,SNR=11
CHUM Lake Minchumin 87.79 16 P **P** **14 20 08.5 +1.0**
baz=216
CWC Cottonwood Cre 87.79 50 P **P** **14 20 09.4 +0.9**
baz=244
PFO Pinyon Flats O 87.81 53 P **P** **14 20 09.5 +1.0**
baz=245,SNR=9.8
TIN Tinemaha, Big 87.95 50 P **P** **14 20 10.6 +1.5**
baz=244,SNR=5.8
TRF Thorofare Moun 87.98 17 P **P** **14 20 07.3 -1.4**
baz=218
WAT1 Susitna Watana 87.99 18 P **P** **14 20 11.8 +3.2**
baz=219
K04D Chiloquin, OR 88.04 44 P **P** **14 20 10.3 +1.0**
baz=242
SWSC Sam W. Stewart 88.04 54 P **P** **14 20 10.9 +1.4**
baz=246,SNR=7.6
MPMC Manual Prospec 88.06 51 P **P** **14 20 10.7 +0.9**
baz=245,SNR=26
J04D Umpqua Nationa 88.10 43 P **P** **14 20 11.2 +1.4**
baz=242,SNR=9.7
M24K Tolsona, Glenn 88.15 19 P P 14 20 14.2 +4.8
baz=221
I04A Tendick Farm, 88.17 42 P **P** **14 20 10.5 +0.6**
baz=241,SNR=6.1
GSC Goldstone, Bar 88.25 52 P **P** **14 20 11.6 +1.1**
baz=245,SNR=10.0
N25K Chitina, Valde 88.28 20 P **P** **14 20 09.4 -0.6**
baz=223
H04D Lebanon 88.31 41 P **P** **14 20 11.6 +1.1**
baz=241
BELC Belle Mtn. Jos 88.32 53 P **P** **14 20 12.0 +1.1**
baz=246,SNR=30
G03D McMinnville, O 88.32 41 P **P** **14 20 11.9 +1.5**
baz=241
NVAR Mina Array Bea 88.49 48 P **P** **14 20 12.7 +0.9**
comp=Z,11nm,0.9s,baz=227,slow=7.0,SNR=65
NVAR Mina Array Bea 88.49 48 P **P** **14 20 10.9 -0.9**
DHY Denali Highway 88.52 18 P **P** **14 20 10.4 -0.8**
baz=220
GRAC Grapevine Rang 88.55 50 P **P** **14 20 13.4 +1.5**
baz=245,SNR=8.2
MCK McKinley 88.58 17 P **P** **14 20 10.6 -0.7**
baz=219
BC3 Big Chuckawall 88.59 54 P **P** **14 20 13.6 +1.4**
baz=246,SNR=12
K05A Summer Lake 88.64 44 P **P** **14 20 12.5 +0.2**
J05D Fort Rock, OR 88.68 43 P **P** **14 20 13.8 +1.4**
baz=242,SNR=28
FURC Furnace Creek, 88.69 51 P **P** **14 20 13.6 +1.2**
baz=245,SNR=20
H04A Detroit Lake 88.73 42 P **P** **14 20 12.4 0.0**
H04A IAmb IAmb 14 20 13.7
comp=Z,20nm,0.8s
TROLL Troll, Antarti 88.77 184 P **P** **14 20 11.6 -0.8**
TROLL Troll, Antarti 88.77 184 pP pP 14 21 12.8 -0.8
E03A Lebam 88.79 39 P **P** **14 20 13.0 +0.4**
GLA Glamis 88.83 54 P **P** **14 20 15.0 +1.7**
baz=246,SNR=7.2
BARN Barnard Glacie 88.87 21 P **P** **14 20 12.2 -0.8**
BARN IAmb IAmb 14 20 13.6
comp=Z,12nm,0.8s
SHOC Shoshone, Teco 88.89 51 P **P** **14 20 14.5 +1.1**
baz=246,SNR=7.0
GMRC Granite Mounta 88.89 53 P **P** **14 20 14.9 +1.3**
baz=246,SNR=14
CTG Chitna Glacier 88.92 22 P **P** **14 20 12.7 -0.4**
baz=226
I21K Tanana 88.93 15 P **P** **14 20 12.7 -0.1**
baz=216,SNR=7.7
TUQ Turquoise Moun 88.96 52 P **P** **14 20 15.0 +1.1**
baz=246,SNR=15
IRM Iron Mountain 89.03 53 P **P** **14 20 15.3 +1.2**
baz=246,SNR=22
I05D Terrebonne, OR 89.11 42 P **P** **14 20 15.4 +1.2**
baz=242,SNR=6.8
H21K Melozitna Rive 89.12 15 P **P** **14 20 13.9 +0.2**
baz=215,SNR=5.4
GOMU GeErMu 89.31 309 P **P** **14 20 16.6 +0.8**
GOMU pmax pmax
comp=Z,43nm,4.8s
TPNV Topopah Spring 89.34 50 P **P** **14 20 14.3 -1.3**
TPNV Topopah Spring 89.34 50 P **P** **14 20 16.6 +0.9**
baz=246,SNR=28
SNAA Sanae 89.39 182 P **P** **14 20 14.0 -1.2**
E04D Cinebar 89.39 40 P **P** **14 20 17.0 +1.5**
baz=241,SNR=7.8
G05D Wamic, OR 89.54 41 P **P** **14 20 17.1 +0.9**
baz=242
WRAK Wrangell Islan 89.55 28 P **P** **14 20 16.7 +0.8**
baz=233
D03D Eldon 89.56 39 P **P** **14 20 17.6 +1.4**
baz=241,SNR=7.7
D04E Lakebay 89.57 39 P **P** **14 20 18.2 +1.9**
baz=241
HDA Harding Lake 89.66 17 P **P** **14 20 15.6 -0.7**
baz=221,SNR=9.8
M27K Edge Creek, AK 89.72 20 P **P** **14 20 16.8 0.0**
baz=225
L26K Log Cabin Wild 89.72 20 P **P** **14 20 16.3 -0.3**
baz=224,SNR=5.8
F05D White Salmon 89.75 41 P **P** **14 20 18.3 +1.1**
baz=242
TCOL CIGO, UAF Yank 89.77 17 P **P** **14 20 15.9 -0.9**
baz=220,SNR=7.1
RIDG Independent Ri 89.78 19 P **P** **14 20 16.3 -0.6**
baz=222,SNR=5.7
YUK3 Moose Creek 89.79 21 P **P** **14 20 16.8 -0.4**
baz=226
PDMCI Parker Dam,Lak 89.85 54 P **P** **14 20 19.5 +1.7**
baz=247,SNR=12
ILAR Eielson Array 89.96 17 P **P** **14 20 16.4 -1.3**
comp=Z,6.1nm,0.8s,baz=235,slow=5.3,SNR=52
214A Organ Pipe Nat 89.97 56 P **P** **14 20 20.2 +1.7**
baz=248
VNA3 Neumayer Olymp 89.97 180 P **P** **14 20 16.7 -1.2**
VNA3 Neumayer Olymp 89.97 180 pP pP 14 21 18.9 -0.3
H23K Yukon River 90.06 16 P **P** **14 20 21.6 +3.5**
baz=218
YUK4 Talbot Arm 90.13 22 P **P** **14 20 19.3 +0.4**
baz=228,SNR=5.4
SKAG Skagway 90.16 25 P **P** **14 20 19.2 +0.5**
baz=231
HYT Haines Junctio 90.20 23 P **P** **14 20 18.4 -0.7**
HYT IAmb IAmb 14 20 19.9
comp=Z,10nm,0.9s
HYT Haines Junctio 90.20 23 P **P** **14 20 19.2 +0.1**
baz=229,SNR=5.7
SCRK Sand Creek 90.21 19 P **P** **14 20 18.5 -0.5**
baz=223,SNR=7.1
L27K Beaver Creek, 90.23 20 P **P** **14 20 18.0 -1.0**
L27K Beaver Creek, 90.23 20 P **P** **14 20 18.6 -0.4**
baz=225
VNA2 Neumayer--Watz 90.27 181 P **P** **14 20 18.2 -1.0**
baz=182,slow=4.0
VNA2 Neumayer--Watz 90.27 181 pP pP 14 21 19.8 -0.8
J25K Salcha River, 90.27 18 P **P** **14 20 19.4 +0.1**
baz=222,SNR=6.8
R11A Troy Canyon, C 90.39 49 P **P** **14 20 21.3 +0.7**
baz=246,SNR=17
B05A Bryant 90.49 38 P **P** **14 20 21.8 +1.3**
baz=242,SNR=9.1
VNA1 Neumayer--Stat 90.56 181 P **P** **14 20 19.4 -1.1**
J26L Joseph Creek 90.72 18 P **P** **14 20 21.2 -0.1**
baz=224,SNR=7.1
COLD Coldfoot 91.01 15 P **P** **14 20 22.5 0.0**
COLD IAmb IAmb 14 20 24.1
comp=Z,7.5nm,0.8s
COLD Coldfoot 91.01 15 P **P** **14 20 23.2 +0.7**
baz=218
WHY Whitehorse 91.09 24 P **P** **14 20 23.0 -0.1**
baz=231,SNR=9.5
N31M Braeburn, Yuko 91.27 23 P **P** **14 20 23.9 0.0**
baz=230,SNR=8.7
M30M Minto, Yukon 91.60 22 P **P** **14 20 24.4 -1.0**
M30M IAmb IAmb 14 20 26.3
comp=Z,18nm,1.0s
M30M Minto, Yukon 91.60 22 P **P** **14 20 25.3 -0.1**
baz=230,SNR=17
EGAK Eagle 91.64 19 P **P** **14 20 25.4 -0.1**
baz=226,SNR=11
TUC Tucson 91.70 56 P **P** **14 20 28.1 +1.4**
baz=248
DAWY Dawson 91.71 20 P **P** **14 20 24.4 -1.4**
DAWY Dawson 91.71 20 P **P** **14 20 25.6 -0.3**
baz=227
DLBC Dease Lake 91.75 27 P **P** **14 20 26.6 +0.4**
comp=Z,15nm,0.9s,baz=237,slow=5.7,SNR=23
M31M Drury Creek, Y 92.23 23 P **P** **14 20 27.4 -0.9**
baz=232,SNR=8.7
TOLK Toolik Lake Re 92.27 14 P **P** **14 20 28.6 +0.3**
TOLK Toolik Lake Re 92.27 14 P **P** **14 20 28.8 +0.4**
baz=218
WUAZ Wupatki 92.41 53 P **P** **14 20 31.4 +1.4**
baz=248
MAYO Mayo, Yukon 92.58 21 P **P** **14 20 30.2 +0.3**
baz=230
FARO Faro, Yukon 92.64 23 P **P** **14 20 29.6 -0.6**
baz=233
I29M Ogilvie Camp, 92.93 19 P **P** **14 20 31.6 +0.1**
baz=228
DUG Dugway, Tooele 93.10 49 P **P** **14 20 33.8 +0.8**
baz=248
HLID Hailey 93.29 45 P **P** **14 20 34.7 +0.8**
baz=247
MMPY Sheldon Lake, 93.65 23 P **P** **14 20 35.0 +0.2**
baz=234
EPYK Eagle Plains 94.09 19 P **P** **14 20 36.6 -0.2**
baz=230
121A Cookes Peak, D 94.15 57 P **P** **14 20 39.0 +0.9**
baz=250
TGTN Hyland Airport 94.20 25 P **P** **14 20 37.7 +0.3**
baz=237
MNTX Cornudas Mount 95.80 59 P **P** **14 20 45.8 +0.4**
baz=251
BOZ Bozeman (W) 95.90 44 P **P** **14 20 46.1 +0.4**
baz=249
ANMO Albuquerque 95.99 55 P **P** **14 20 46.5 +0.1**
baz=251
INK Inuvik 96.27 18 P **P** **14 20 46.2 -0.3**
comp=Z,7.8nm,0.9s,baz=203,slow=5.8,SNR=17
INK Inuvik 96.27 18 P **P** **14 20 46.2 -0.3**
baz=233
PDAR Pinedale Array 96.30 47 P **P** **14 20 47.9 +0.2**
comp=Z,1.3nm,1.0s,baz=222,slow=3.8,SNR=7.6
PDAR PP **PP** **14 24 43.5 -1.5**
comp=Z,1.6nm,1.1s,baz=240,slow=5.0,SNR=6.7
PDAR Pinedale Array 96.30 47 P **P** **14 20 47.3 -0.4**
O20A White River Ci 96.35 50 P **P** **14 20 48.9 +1.0**
baz=250
TXAR Lajitas Array 96.47 61 P **P** **14 20 49.5 +1.0**
comp=Z,1.1nm,0.8s,baz=226,slow=5.6,SNR=14
TXAR PKKPbc **PKKPbc** **14 37 32.7 +0.1**
comp=Z,0.2nm,0.7s,baz=108,slow=2.0,SNR=4.0
S22A 4UR Ranch, Cre 96.61 52 P **P** **14 20 49.5 +0.3**
baz=251
WMQ Urumqi 97.21 314 *e*P **P** **14 20 51.6 +0.1**
WMQ pmax pmax
comp=Z,22nm,0.9s
C36M Paulatuk 99.72 19 Pdiff **Pdif** **14 21 01.9 0.0**
baz=242
YKA Yellowknife Ar 100.37 27 P **Pdif** **14 21 04.9 -0.2**
comp=Z,3.1nm,0.6s,baz=253,slow=4.6,SNR=48
YKA PP **PP** **14 25 11.1 -4.1**
comp=Z,0.5nm,1.0s,baz=243,slow=7.6,SNR=4.4
A36M Sachs Harbour 100.65 17 Pdiff **Pdif** **14 21 06.3 +0.3**
baz=241
MKAR Makanchi Array 101.74 316 P **Pdif** **14 21 13.2 +1.7**
comp=Z,1.3nm,0.7s,baz=100,slow=6.1,SNR=15
MKAR PKiKP **PKiKP** **14 25 32.4 -1.1**

comp=Z,0.6nm,0.8s,baz=94,slow=3.6,SNR=4.1
BOSA Boshof 121.36 217 PKP **PKPdf 14 26 10.6 -0.8**
comp=Z,1.6nm,0.7s,baz=184,slow=4.1,SNR=4.8
ARCES ARCESS Array B 124.91 345 PKP **PKPdf 14 26 16.1 -0.7**
comp=Z,1.9nm,0.4s,baz=76,slow=2.5,SNR=38
ARCES ARCESS Array B 124.91 345 PKPdf 14 26 15.9 -0.8
FINES FINESS Array B 130.47 338 PKP **PKPdf 14 26 27.2 -0.2**
comp=Z,2.1nm,0.9s,baz=114,slow=2.3,SNR=5.1
FINES SKPbc **SKPbc 14 29 26.2 -0.5**
comp=Z,2.2nm,0.5s,baz=62,slow=4.0,SNR=20
NB2 NORSAR Subarra135.29 345 PKP **PKPdf 14 26 36.6 0.0**
comp=Z,0.4nm,0.5s,baz=41,slow=2.6
NOA NORSAR Array B 135.29 345 PKP **PKPdf 14 26 37.1 +0.5**
comp=Z,0.7nm,0.7s,baz=29,slow=2.0,SNR=5.6
AKASG Malin Array Be 135.44 325 PKP **PKPdf 14 26 36.3 -0.8**
comp=Z,2.7nm,0.8s,baz=62,slow=2.4,SNR=5.5
AKASG SKPbc **SKPbc 14 29 43.7 -0.3**
comp=Z,1.5nm,0.6s,baz=51,slow=4.1,SNR=7.9
BRTR Keskin Array B 136.85 308 PKP **PKPdf 14 26 40.0 -0.3**
comp=Z,0.8nm,0.7s,baz=79,slow=2.6,SNR=4.2
EIL Elat 137.47 293 PKP **PKPdf 14 26 41.1 -0.5**
comp=Z,3.4nm,0.7s,baz=131,slow=8.5,SNR=3.8
DPC Dobruska-Polom 142.14 332 *e*PKP **PKPdf 14 26 45.0 -4.5**
FLTG Flechtingen 142.65 338 *e*PKPbc **PKPdf 14 26 46.6 -3.7**
baz=34,slow=3.1
VRAC Vranov 142.75 330 *e*PKP **PKPdf 14 26 47.7 -2.9**
VRAC *e* 14 38 33.2
CLL Collm 142.81 336 *e*PKPdf **PKPdf 14 26 47.0 -3.6**
comp=Z,5.0nm,0.7s
CLL *ep*PKPdf **pPKPdf 14 27 56.0 +0.7**
CLL Collm 142.81 336 *e*PKPbc **PKPdf 14 26 47.2 -3.4**
baz=34,slow=3.1
KRUC Moravsky 143.02 330 *e*PKP PKPab 14 26 47.7 +0.7
KRUC *e* 14 38 33.7
MODS Modra-Piesok 143.07 329 *e*PKP PKPbc 14 26 50.1 +1.3
NEUB Neuenburg 143.36 336 *e*PKPbc PKPbc 14 26 49.5 0.0
baz=34,slow=3.1
PBCC Pribram 143.65 333 *e*PKP PKPbc 14 26 50.4 +0.1
TANN Tannenbergstha 143.72 335 *e*PKPbc PKPbc 14 26 50.7 +0.1
baz=34,slow=3.1
GTTG Gottingen 143.75 338 *e*PKPbc PKPbc 14 26 50.9 +0.4
baz=34,slow=3.1
WERD Werda 143.76 335 *e*PKPbc PKPbc 14 26 50.9 +0.3
baz=34,slow=3.1
FRGS Fruska Gora 143.77 323 *e*P PKPab 14 26 49.2 -0.9
MORH Mrgy, Hungar 143.78 325 *e*P PKPab 14 26 50.5 +0.5
GUNZ Gunzen 143.81 335 *e*PKPbc PKPbc 14 26 51.2 +0.4
baz=34,slow=3.1
IBBN Ibbenbueren 143.83 341 *e*PKPbc PKPbc 14 26 50.8 0.0
baz=34,slow=3.1
WERN Wernitzgruen 143.86 335 *e*PKPbc PKPbc 14 26 51.4 +0.4
baz=34,slow=3.1
NKC Novy Kostel 143.87 335 *e*PKP PKPbc 14 26 51.1 +0.1
MOX Moxa 143.87 336 *e*PKPbc PKPbc 14 26 51.0 +0.1
baz=34,slow=3.1
RONA Rosalia, Austr 144.01 329 *i* P PKPbc 14 26 52.1 +0.6
comp=Z,29nm,1.2s,SNR=8.7
CONA Conrad Observa 144.07 329 *i* P PKPbc 14 26 51.9 +0.2
comp=Z,19nm,1.7s,SNR=7.3
CKRC Cesky Krumlov 144.15 332 *e*PKP PKPbc 14 26 51.9 0.0
MANZ Manzenberg 144.20 335 *e*PKPbc PKPbc 14 26 52.4 +0.4
baz=34,slow=3.1
KHC Kasperske Hory 144.24 333 *e*PKP PKPbc 14 26 52.3 +0.1
DIVS Divibare 144.28 321 PKPdf PKPbc 14 26 53.1 +0.6
DIVS Divibare 144.28 321 *e*P PKPbc 14 26 52.6 +0.1
TEKS Tekeris 144.29 322 *e*P **PKPab 14 26 51.7 -0.4**
ROTZ Rotzenmuhle 144.33 335 *e*PKPbc PKPbc 14 26 52.8 +0.5
baz=34,slow=3.1
UBBA Unterbreizbach 144.33 338 *e*PKPbc PKPbc 14 26 52.5 +0.3
baz=34,slow=3.1
GEC2 GERESS Array S 144.40 332 *e*PKPbc PKPbc 14 26 52.9 +0.2
baz=34,slow=3.1
GERES GERESS Array B 144.40 332 PKP **PKPab 14 26 52.6 +0.1**
comp=Z,8.3nm,0.8s,baz=48,slow=2.0,SNR=62
GERES GERESS Array B 144.40 332 PKPdf **PKPab 14 26 52.8 +0.2**
WET Wettzell 144.53 333 *e*PKPbc PKPbc 14 26 53.5 +0.5
baz=34,slow=3.1
KASTN Kahler Asten 144.56 339 *e*PKPbc PKPbc 14 26 53.2 +0.2
baz=34,slow=3.1
ARSA Arzberg 144.70 329 *e*P PKPbc 14 26 53.8 +0.2
comp=Z,16nm,1.1s,SNR=5.1
LIT Litokhoron 144.72 314 PKPdf PKPbc 14 26 53.3 -0.6
BUG Bochum--Univer 144.73 341 *e*PKPbc PKPbc 14 26 52.5 -0.9
baz=34,slow=3.1
BBLS Lazići 144.76 321 *e*P **PKPdf 14 26 54.4 +0.1**
GRF Grafenberg Arr 144.78 335 *e*PKPbc **PKPdf 14 26 54.5 +0.4**
baz=34,slow=3.1
MOA Molln 144.88 331 *i* P **PKPdf 14 26 54.5 +0.2**
comp=Z,28nm,0.9s,SNR=14
RUDO Rudo 144.92 321 *e*P PKPbc 14 26 54.0 -0.4
BIOA Bad Ischl, Aus 145.28 331 *i* P **PKPdf 14 26 55.4 +0.3**
comp=Z,7.9nm,0.9s
SOKA Soboth 145.34 329 *i* P **PKPdf 14 26 54.9 -0.4**
comp=Z,1.1nm,1.2s,SNR=6.8
TNS Taunus Mts 145.38 338 *e*PKPbc **PKPbc 14 26 56.0 +0.3**
baz=34,slow=3.1
BLY Banja Luka 145.50 324 *e*P **PKPbc 14 26 56.2 +0.1**
GCIS Gornji Cirnik 145.60 327 *i* PKPbc **PKPbc 14 26 56.5 +0.2**
RJOB Jochberg 145.63 332 *e*PKPbc **PKPbc 14 26 56.6 +0.1**
baz=34,slow=3.1
PDG Podgorica 145.66 319 *e*P **PKPbc 14 26 56.4 -0.2**
OBKA Obir 145.70 329 *i* P **PKPbc 14 26 56.9 +0.1**
comp=Z,7.6nm,1.1s
CRES Cresnjev 145.72 327 *e*P **PKPbc 14 26 56.6 -0.1**
BRY Bratogost 145.83 321 *e*P **PKPbc 14 26 57.1 -0.2**
BTNL Ternell 145.83 341 *d*PKPab **PKPbc 14 26 57.0 +0.1**
DRME Dracevica, Mon 145.84 319 *e*P **PKPdf 14 26 56.8 +0.7**
MEM Membach 145.85 341 *d*PKPab **PKPbc 14 26 56.7 -0.2**
MEM *d*PKiKP **PKiKP 14 26 59.3 -0.8**
KBA Koelnbreinsper 145.87 330 *i* P **PKPdf 14 26 56.7 +0.4**
comp=Z,6.8nm,0.7s
LJU Ljubljana 146.04 328 *e*P **PKPbc 14 26 57.4 -0.3**
LJU Ljubljana 146.04 328 *i* PKPbc **PKPbc 14 26 57.6 -0.1**
TREB Trebinje 146.05 320 *e*P **PKPdf 14 26 57.2 +0.7**
MYKA Terra Mystica 146.05 330 *i* P **PKPdf 14 26 57.0 +0.6**
comp=Z,6.3nm,0.6s
CRNS Crni Vrh 146.14 328 *i* PKPbc **PKPbc 14 26 57.6 -0.4**
CEY Cerknica 146.30 328 *e*P **PKPbc 14 26 58.0 -0.5**
STU Stuttgart 146.31 336 *e*PKPbc **PKPbc 14 26 58.8 +0.5**
baz=34,slow=3.1
WATA Walderalm 146.48 332 *i* P **PKPbc 14 26 58.7 -0.3**
comp=Z,5.3nm,0.5s
BMRD Maredsous 146.49 342 *d*PKPdf **PKPdf 14 26 56.5 -0.5**
BMRD *d*PKPab **PKPbc 14 26 59.4 +0.6**
ABTA Abfaltersbach 146.50 331 *i* P **PKPdf 14 26 58.1 +0.9**
comp=Z,22nm,1.2s
WTTA Wattenberg 146.50 332 *i* P **PKPbc 14 26 59.0 -0.2**
comp=Z,16nm,1.2s
RIY Rijeka 146.56 327 *e*P **PKPdf 14 26 58.2 +1.0**
WLF Walferdange 146.63 340 *e*PKPbc **PKPbc 14 27 00.1 +0.9**
baz=34,slow=3.1
WLF Walferdange 146.63 340 *d*PKPdf **PKPdf 14 26 56.5 -0.8**
WLF *d*PKPab **PKPbc 14 26 59.7 +0.5**
SKDS Skadanscina 146.64 328 *e*P **PKPdf 14 26 58.1 +0.7**
MOTA Moosalm 146.68 333 *i* P **PKPbc 14 26 59.4 -0.3**
comp=Z,18nm,0.8s,SNR=6.5
RETA Reutte 146.71 333 *i* P **PKPbc 14 26 59.4 -0.3**
comp=Z,4.8nm,0.6s
DOU Dourbes 146.72 342 *d*PKP **PKPbc 14 26 59.5 0.0**
SQTA Sankt Quirin 146.72 333 *e*P **PKPbc 14 26 59.7 -0.1**
comp=Z,20nm,0.7s,SNR=6.7
UBR Ueberruh 146.83 334 *e*PKPbc **PKPbc 14 27 00.1 +0.2**
baz=34,slow=3.1
BFO Black Forest 147.00 337 PKPbc 14 27 00.3 0.0
BFO Black Forest 147.00 337 *e*PKPbc **PKPbc 14 27 00.4 0.0**
baz=34,slow=3.1
FETA Feichten 147.09 333 *i* P **PKPbc 14 27 00.9 0.0**
comp=Z,14nm,0.7s,SNR=6.7
DAVA Damuels 147.24 334 *i* P **PKPbc 14 27 00.9 -0.3**
comp=Z,7.4nm,0.7s
CTI Castel Tesino 147.42 331 PKPbc 14 27 02.1 +0.5
AQU L'Aquila 149.14 324 *e*P **PKPbc 14 27 06.5 +0.4**
ESDC Sonseca Array 158.65 346 PKPab **PKPab 14 27 51.7 0.0**
comp=Z,2.0nm,1.1s,baz=0.3,slow=4.1,SNR=4.6
TORD Torodi Ar. Bea 166.89 245 PKP **PKPdf 14 27 23.1 -0.6**
comp=Z,3.0nm,0.9s,baz=88,slow=1.6,SNR=14
TORD PKPab **pPKPdf 14 28 26.9 -2.0**
comp=Z,1.2nm,1.1s,baz=112,slow=4.9,SNR=3.4

IDC ***09*** *14:16:30.9±1.2, 13°.06N×51°.29E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/53, mbtmp3.8/8, ML4.1/1, MS3.3/4, Ms1 3.3/4, ms1mx2.8/85, Error ellipse: s-maj=36.9km s-min=24.2km az=172.0*
ISC 09 14:16:32.5±1.2, 13°.1N±0°.2×51°.3E±0°.1, h10km, n11,
σ0s99/8, mb3.9/7, MS3.2/3, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**8.40**	**260**	Pn	**Pn**	**14 18 34.9**	**+0.4**
	2.1nm,0.3s,baz=107,slow=17,SNR=8.0						
ATD				LR	LR	14 20 57.8	
	comp=Z,80nm,19.6s,baz=104,slow=32						
GEYT	**Alibeck**	**25.45**	**13**	LR	LR	14 33 53.3	
	comp=Z,67nm,18.6s,baz=198,slow=41						
GNI	**Garni**	**27.54**	**349**	LR	LR	14 35 01.0	
	comp=Z,60nm,19.1s,baz=201,slow=40						
MKAR	**Makanchi Array**	**42.47**	**32**	P	**P**	**14 24 29.1**	**+1.3**
	0.4nm,0.5s,baz=218,slow=6.9,SNR=6.5						
TSUM	**Tsumeb**	**46.20**	**227**	LR	LR	14 44 38.4	
	comp=Z,89nm,18.1s,baz=92,slow=37						
TORD	**Torodi Ar. Bea**	**48.24**	**276**	P	**P**	**14 25 13.9**	**-0.1**
	1.1nm,0.7s,baz=89,slow=7.0,SNR=7.6						
ZALV	**Zalesovo Beam**	**48.55**	**26**	P	**P**	**14 25 16.1**	**+0.4**
	0.6nm,0.5s,baz=243,slow=6.5,SNR=4.4						
ESDC	**Sonseca Array**	**55.12**	**309**	P	**P**	**14 26 05.6**	**+0.5**
	1.0nm,0.7s,baz=88,slow=7.4,SNR=6.0						
NOA	**NORSAR Array B**	**55.96**	**338**	P	**P**	**14 26 09.3**	**-1.5**
	0.5nm,0.8s,baz=142,slow=6.7,SNR=1.2						
WRA	**Warramunga Arr**	**88.02**	**111**	P	**P**	**14 29 23.1**	**-0.5**
	0.7nm,1.1s,baz=299,slow=3.7,SNR=2.9						
ASAR	**Alice Springs**	**88.57**	**115**	P	**P**	**14 29 26.1**	**-0.1**
	0.5nm,1.0s,baz=291,slow=5.2,SNR=2.5						

NEIC ***09*** *14:18:48.5±2.9, 21°.7S±0°.1×170°.9E±0°.1, h10km±2km, mb4.4/11, Error ellipse: s-maj=25.8km s-min=17.0km az=24.0*
IDC ***09*** *14:18:52.2±1.9, 22°.19S×170°.45E, h0km, mb4.0/5, mb1 4.3/6, mb1mx3.9/31, mbtmp4.1/6, ML3.7/1, MS3.5/25, Ms1 3.5/25, ms1mx3.3/58, Error ellipse: s-maj=42.3km s-min=36.5km az=32.0*
NOU ***09*** *14:18:54.1, 21°.92S×170°.27E, h0km, ML4.4/13, Southeast of Loyalty Islands*
ISC 09 14:18:56.3±1.0, 21°.96S±0°.10×170°.22E±0°.10, h25km, n64,
σ1s37/43, mb4.3/10, MS3.5/23, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.09**	**283**	Pn	**Pn**	**14 19 29.8**	**-0.1**
MARNC	**Mare, Loyalty**	**2.09**	**283**	P	**Pn**	**14 19 29.7**	**-0.1**
PINNC	**Pines Island,**	**2.65**	**255**		**Pn**	**14 19 38.9**	**+1.5**
PINNC	**Pines Island,**	**2.65**	**255**	P	**Pn**	**14 19 38.6**	**+1.1**
LIFNC	**LIFOU**	**3.02**	**292**	Pn	**Pn**	**14 19 41.6**	**-1.0**
YATNC	**Mamie plateau,**	**3.09**	**268**	P	**Pn**	**14 19 44.6**	**+1.0**
OUENC	**Ouen Island, N**	**3.17**	**261**		**Pn**	**14 19 46.1**	**+1.5**
OUENC	**Ouen Island, N**	**3.17**	**261**	P	**Pn**	**14 19 46.1**	**+1.5**
DZM	**Mont Dzumac**	**3.51**	**268**	Pn	**Pn**	**14 19 50.7**	**+1.3**
	5.6nm,0.3s,baz=96,slow=18,SNR=226						
DZM				Sn	**Sn**	**14 20 31.7**	**+1.6**
	23nm,0.3s,baz=317,slow=23,SNR=19						
DZM	**Mont Dzumac**	**3.51**	**268**	*e*Pn	**Pn**	**14 19 50.4**	**+1.0**
	39nm,0.2s						
DZM				*e*Sn	**Sn**	**14 20 25.9**	**-4.2**
	255nm,0.5s						
DZM				*e*LR	LR	14 20 30.4	
	comp=Z,313nm,26.5s						
DZM	**Mont Dzumac**	**3.51**	**268**		**Pn**	**14 19 50.2**	**+0.8**
DZM	**Mont Dzumac**	**3.51**	**268**	P	**Pn**	**14 19 50.9**	**+1.5**
ONTNC	**Ouen Toro**	**3.51**	**264**		**Pn**	**14 19 50.5**	**+1.2**
ONTNC	**Ouen Toro**	**3.51**	**264**	P	**Pn**	**14 19 50.8**	**+1.5**
NOUC	**Port Laguerre**	**3.64**	**267**	P	**Pn**	**14 19 52.2**	**+1.1**
RTV	**Rentapao**	**4.48**	**338**	P	**Pn**	**14 20 03.1**	**+0.4**
DVP	**Devils Point**	**4.63**	**335**	P	**Pn**	**14 20 05.8**	**+1.1**
KOUNC	**Koumac, New Ca**	**5.71**	**283**		**Pn**	**14 20 19.9**	**+0.3**
KOUNC	**Koumac, New Ca**	**5.71**	**283**	P	**Pn**	**14 20 21.5**	**+1.9**
MSVF	**Nonsavu**	**8.48**	**62**	LR	LR	14 23 14.2	
	comp=Z,86nm,19.6s,baz=3.4,slow=31						
HNR	**Honiara**	**15.90**	**320**	LR	LR	14 27 54.5	
	comp=Z,210nm,21.8s,baz=111,slow=34						
URZ	**Urewera**	**17.29**	**161**	LR	LR	14 28 16.6	
	comp=Z,279nm,18.7s,baz=29,slow=33						
BKZ	**Black Stump Fm**	**17.97**	**164**	Pn	Pn	14 22 57.1	-7.4
BKZ				lAmb	lAmb	14 23 10.0	
	comp=Z,45nm,1.4s						
RPZ	**Rata Peaks**	**21.70**	**178**	P	**P**	**14 23 42.2**	**-3.3**
	comp=Z,6.9nm,0.9s,baz=26,slow=16,SNR=2.2						
RPZ				LR	LR	14 30 29.1	
	comp=Z,213nm,20.8s,baz=350,slow=32						
CTA	**Charters Tower**	**22.45**	**270**	LR	LR	14 32 11.7	
	comp=Z,143nm,18.6s,baz=92,slow=35						
PMG	**Port Moresby**	**25.43**	**296**	LR	LR	14 33 39.6	
	comp=Z,114nm,18.7s,baz=108,slow=34						
RAR	**Rarotonga**	**27.89**	**94**	LR	LR	14 34 14.9	
	comp=Z,29nm,20.3s,baz=268,slow=33						
AS31	**Alice Springs**	**33.46**	**260**	P	**P**	**14 25 32.2**	**-1.5**
ASAR	**Alice Springs**	**33.46**	**260**	P	**P**	**14 25 34.7**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=84,slow=8.7,SNR=12						
ASAR				LR	LR	14 38 14.5	
	comp=Z,69nm,18.5s,baz=120,slow=35						
ASAR	**Alice Springs**	**33.46**	**260**	P	**P**	**14 25 32.6**	**-1.1**
WB0	**Warramunga Arr**	**33.51**	**267**	P	**P**	**14 25 32.8**	**-1.3**
WB0				lAmb	lAmb	14 25 35.4	
	comp=Z,6.4nm,1.2s						
WB2	**Warramunga Arr**	**33.51**	**267**	P	**P**	**14 25 33.5**	**-0.6**
WB2				lAmb	lAmb	14 25 53.2	
	comp=Z,4.7nm,1.1s						
WRAB	**Tennant Creek**	**33.52**	**267**	P	**P**	**14 25 33.8**	**-0.3**
WRAB				lAmb	lAmb	14 25 39.5	
	comp=Z,6.6nm,1.3s						
WRA	**Warramunga Arr**	**33.52**	**267**	P	**P**	**14 25 34.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=99,slow=8.3,SNR=15						
WRA				LR	LR	14 39 00.7	
	comp=Z,127nm,19.0s,baz=58,slow=36						
WRA	**Warramunga Arr**	**33.52**	**267**	P	**P**	**14 25 33.5**	**-0.7**
JAY	**Jayapura**	**34.59**	**300**	LR	LR	14 38 06.4	
	comp=Z,58nm,20.9s,baz=60,slow=33						
PPT2	**Papeete2**	**38.01**	**91**	*e*LR	LR	14 36 33.2	
	comp=Z,109nm,28.8s						
MTN	**Manton Dam**	**38.29**	**277**	P	**P**	**14 26 13.7**	**-1.4**
MTN				lAmb	lAmb	14 26 38.5	
	comp=Z,9.5nm,1.1s						
FORT	**Forrest**	**38.60**	**248**	P	**P**	**14 26 17.1**	**-0.5**
KNRA	**Kununurra**	**39.65**	**272**	P	**P**	**14 26 26.9**	**+0.5**
KNRA				lAmb	lAmb	14 26 47.2	
	comp=Z,9.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**41.95**	**267**	P	**P**	**14 26 47.0**	**+1.6**
	comp=Z,3.4nm,0.7s,baz=119,slow=8.6,SNR=11						
FITZ				LR	LR	14 44 21.8	
	comp=Z,143nm,18.2s,baz=106,slow=36						
FITZ	**Fitzroy Crossi**	**41.95**	**267**	P	**P**	**14 26 45.8**	**+0.3**
FITZ				lAmb	lAmb	14 26 48.2	
	comp=Z,4.7nm,0.8s						
GUMO	**Guam**	**43.21**	**323**	LR	LR	14 41 27.0	
	comp=Z,45nm,21.6s,baz=132,slow=31						
SIJI	**Sorong**	**43.33**	**294**	LR	LR	14 43 34.6	
	comp=Z,53nm,19.7s,baz=178,slow=34						
BATI	**Baumata**	**46.07**	**277**	LR	LR	14 46 15.1	
	comp=Z,157nm,20.1s,baz=144,slow=36						
MBWA	**Marble Bar**	**46.79**	**261**	P	**P**	**14 27 23.6**	**-0.5**
KAPI	**Kappang**	**51.62**	**281**	LR	LR	14 52 10.2	
	comp=Z,24nm,18.2s,baz=127,slow=38						
VNDA	**Vanda**	**55.76**	**182**	LR	LR	14 48 53.2	
	comp=Z,89nm,18.9s,baz=322,slow=32						
JHJ	**Hachijo jima 2**	**62.00**	**331**	LR	LR	14 52 57.1	
	comp=Z,18nm,21.6s,baz=10.0,slow=33						
JOW	**Kunigami**	**63.26**	**318**	LR	LR	14 57 11.7	
	comp=Z,18nm,18.1s,baz=348,slow=36						
MJAR	**Matsushiro Arr**	**65.58**	**332**	LR	LR	14 52 35.3	
	comp=Z,20nm,21.6s,baz=144,slow=31						
PSI	**Prapat**	**73.78**	**280**	LR	LR	15 08 16.7	
	comp=Z,84nm,18.3s,baz=126,slow=40						
SHEM	**Shemya Is, Ala**	**74.45**	**2**	LR	LR	14 57 41.6	
	comp=Z,22nm,19.9s,baz=232,slow=31						
PETK	**Petropavlovsk-**	**75.54**	**352**	LR	LR	14 58 55.7	
	comp=Z,31nm,19.5s,baz=143,slow=32						
KLR	**Kul'dur**	**78.72**	**335**	LR	LR	15 03 07.3	
	comp=Z,26nm,19.9s,baz=136,slow=34						
CMAR	**Chiang Mai Arr**	**80.46**	**294**	P	**P**	**14 31 08.8**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=133,slow=4.6,SNR=8.6						
MA2	**Magadan**	**82.80**	**350**	LR	LR	15 02 05.3	
	comp=Z,51nm,19.9s,baz=160,slow=31						
YAK	**Yakutsk**	**89.73**	**342**	LR	LR	15 07 43.7	
	comp=Z,16nm,19.9s,baz=98,slow=33						
DPC	**Dobruska-Polom**	**145.04**	**331**	*e*PKP	**PKPdf**	**14 38 31.8**	**+0.4**
CLL	**Collm**	**145.76**	**334**	*i* PKPbc	**PKPdf**	**14 38 32.7**	**+0.2**
	comp=Z,8.0nm,1.0s						
PRU	**Pruhonice**	**146.10**	**332**	*e*PKP	**PKPbc**	**14 38 34.2**	**+0.1**
CKRC	**Cesky Krumlov**	**147.05**	**330**	*e*PKP	**PKPbc**	**14 38 37.1**	**+0.2**
CKRC				*ex*	x	14 38 45.2	
KHC	**Kasperske Hory**	**147.16**	**331**	*e*PKP	**PKPbc**	**14 38 37.3**	**+0.1**
KHC				*ex*	x	14 38 45.4	
GERES	**GERESS Array B**	**147.31**	**331**	PKPbc	**PKPbc**	**14 38 37.5**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=43,slow=4.4,SNR=12						

KRSC 09 14:51:48.6±1.1, 56°.17N×164°.20E, h24km±15km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.78**	**273**	*e*P	Pn	14 52 04.0	0.0
KBTR				*e*S	Sb	14 52 14.1	+0.6
KBG	**Krutoberegovo**	**0.84**	**276**	*e*P	Pb	14 52 04.6	+0.1
KBG				*e*S	Sn	14 52 16.0	-0.5
BKI	**Bering**	**1.40**	**133**	*e*P	Pb	14 52 14.2	+0.2
BKI				*e*S	Sb	14 52 32.2	+0.9
SMKR	**Semkarok**	**1.58**	**286**	*e*P	Pb	14 52 17.7	+0.6
SMKR				*e*S	Sb	14 52 36.5	-0.1
BDR	**Baidarnaya**	**1.71**	**285**	*e*P	Pb	14 52 19.4	0.0
BDR				*e*S	Sb	14 52 40.9	+0.3
SRKR	**Sorokina**	**1.75**	**287**	*e*P	Pb	14 52 19.8	-0.3
SRKR				*e*S	Sb	14 52 41.4	-0.3
MKZ	**Mys Kozlova**	**2.15**	**222**	*e*P	Pb	14 52 25.1	-1.7
MKZ				*e*S	Sn	14 52 49.8	+1.1
TUMD	**Tumrok D**	**2.36**	**247**	P	Pb	14 52 29.0	-1.5
TUMR	**Tumrok**	**2.46**	**250**	*e*P	Pb	14 52 30.8	-1.4
OSSR	**Ossora**	**3.15**	**349**	*e*P	Pn	14 52 37.3	+0.7
SDLR	**Sedlovina**	**4.23**	**229**	*e*P	Pn	14 52 55.1	+3.5
AVH	**Avacha**	**4.30**	**230**	P	Pn	14 52 57.7	+5.1
UGLR	**Uglovaya**	**4.31**	**229**	*e*P	Pn	14 52 56.2	+3.5
KOK	**Koryaka**	**4.33**	**230**	P	Pb	14 52 58.5	-5.5
ASAK	**Asacha**	**5.30**	**227**	*e*P	Pn	14 53 10.7	+4.5
KDTR	**Khodutka, Kamc**	**5.67**	**222**	*e*P	Pn	14 53 13.9	+2.7

IDC ***09*** *14:51:51.2±3.1, 28°.18S×176°.12W, h181km±24km, mb3.6/4, mb1 3.8/5, mb1mx3.4/33, mbtmp4.1/5, MS3.2/2, Ms1 3.2/2, ms1mx2.6/50, Error ellipse: s-maj=54.3km s-min=38.7km az=165.0*
ISC 09 14:51:57.2±1.4, 28°.12S±0°.10×178°.5W±0°.2, h150km, n29,
σ2s34/35, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**1.24**	**155**	P	**Pn**	**14 52 27.7**	**+3.6**
RIZ				S	**Sn**	**14 52 42.1**	**-2.7**
RAO	**Raoul Island**	**1.25**	**155**	P	**Pn**	**14 52 27.8**	**+3.6**
	1µm,0.3s,baz=86,slow=19,SNR=7.7						
RAO				S	**Sn**	**14 52 41.5**	**-3.5**
	4µm,0.3s,baz=76,slow=18,SNR=25						
GLKZ	**Green Lake**	**1.26**	**155**	P	**Pn**	**14 52 27.9**	**+3.6**
GLKZ				S	**Sn**	**14 52 42.1**	**-3.0**
MXZ	**Matakaoa Point**	**9.78**	**195**	P	Pn	14 54 20.2	+6.0
MXZ				S	**Sn**	**14 56 00.8**	**-1.7**
WMGZ	**Waiomatatini S**	**10.00**	**194**	P	**Pn**	**14 54 18.3**	**+1.2**
WMGZ				S	**Sn**	**14 56 07.2**	**-0.6**
HAZ	**Te Kaha**	**10.09**	**197**	P	**Pn**	**14 54 21.0**	**+2.7**
HAZ				S	**Sn**	**14 56 12.0**	**+2.0**
PUZ	**Puketiti**	**10.28**	**194**	P	**Pn**	**14 54 21.5**	**+0.7**
PUZ				S	**Sn**	**14 56 11.6**	**-2.9**
RUGZ	**Raukumara Rang**	**10.32**	**197**	P	**Pn**	**14 54 23.3**	**+1.9**
RUGZ				S	**Sn**	**14 56 14.8**	**-0.8**
MWZ	**Matawai**	**10.70**	**197**	P	**Pn**	**14 54 27.6**	**+1.1**
MWZ				S	**Sn**	**14 56 24.4**	**-0.4**
TKGZ	**Te Karaka**	**10.72**	**195**	P	**Pn**	**14 54 26.7**	**+0.1**
TKGZ				S	**Sn**	**14 56 22.7**	**-2.5**
URZ	**Urewera**	**10.75**	**199**	P	**Pn**	**14 54 29.2**	**+2.3**
	0.5nm,0.3s,baz=23,slow=13,SNR=11						
URZ				S	**Sn**	**14 56 25.4**	**-0.3**
	7.1nm,0.3s,baz=200,slow=18,SNR=18						
URZ	**Urewera**	**10.75**	**199**	P	**Pn**	**14 54 29.5**	**+2.6**
URZ				S	**Sn**	**14 56 25.1**	**-0.7**
RIGZ	**Rimuhau**	**11.00**	**195**	P	**Pn**	**14 54 32.0**	**+1.7**
RIGZ				S	**Sn**	**14 56 30.5**	**-1.4**
RTZ	**Ruatahuna**	**11.12**	**199**	P	**Pn**	**14 54 33.3**	**+1.4**
RTZ				S	**Sn**	**14 56 34.3**	**-0.4**
MTHZ	**Maungataniwha**	**11.38**	**199**	P	**Pn**	**14 54 38.0**	**+2.8**
MTHZ				S	**Sn**	**14 56 39.9**	**-1.1**
BKZ	**Black Stump Fm**	**11.77**	**199**	P	**Pn**	**14 54 41.8**	**+1.4**
BKZ				S	**Sn**	**14 56 48.2**	**-2.2**
KAHZ	**Kahuranaki**	**12.25**	**197**	P	**Pn**	**14 54 48.1**	**+1.5**
KAHZ				S	**Sn**	**14 56 59.5**	**-2.4**
DZM	**Mont Dzumac**	**14.88**	**291**	LR	LR	15 00 40.2	
	comp=Z,125nm,18.7s,baz=33,slow=31						
RAR	**Rarotonga**	**18.37**	**72**	LR	LR	15 01 28.2	
	comp=Z,44nm,18.7s,baz=234,slow=35						
CTA	**Charters Tower**	**33.03**	**276**	P	P	14 58 27.0	+8.5
	3.2nm,0.9s,baz=90,slow=8.0,SNR=5.8						
ASAR	**Alice Springs**	**42.81**	**265**	P	P	14 59 48.9	+8.5
	0.4nm,0.4s,baz=92,slow

BATI LR LR 15 19 32.8
comp=Z,106nm,19.5s,baz=16,slow=44
BATI Baumata 1.44 262 P **Pn 15 18 57.4 -0.3**
MMRI Maumere 3.15 295 P **Pn 15 19 20.4 -0.8**
WBSI Waikabubak, Su 5.65 273 P **Pn 15 19 53.5 -2.1**
43nm,0.7s
KAPI Kappang 7.27 313 LR LR 15 23 21.2
comp=Z,61nm,20.6s,baz=105,slow=41
PLAI Plampang 7.33 279 P **Pn 15 20 17.0 -1.7**
FITZ Fitzroy Crossi 8.06 176 Pn **Pn 15 20 31.6 +2.8**
1.0nm,0.3s,baz=356,slow=9.5,SNR=61
FITZ Sn **Sn 15 21 58.5 -0.2**
4.2nm,0.3s,baz=261,slow=9.3,SNR=19
WRA Warramunga Arr 13.30 139 Pn **Pn 15 21 41.9 +1.3**
0.8nm,0.3s,baz=313,slow=14,SNR=26
WRA Sn **Sn 15 24 05.6 -1.7**
1.1nm,0.3s,baz=308,slow=3.4,SNR=7.4
ASAR Alice Springs 15.97 149 Pn **Pn 15 22 17.6 +1.3**
0.3nm,0.3s,baz=322,slow=12,SNR=39
ASAR Sn **Sn 15 25 09.1 -3.3**
0.1nm,0.3s,baz=324,slow=23,SNR=7.8
JAY Jayapura 17.18 65 LR LR 15 29 21.9
comp=Z,42nm,18.6s,baz=325,slow=38
MKAR Makanchi Array 68.22 330 P **P 15 29 31.4 +0.2**
1.3nm,0.5s,baz=131,slow=7.5,SNR=24
ZALV Zalesovo Beam 72.25 336 P **P 15 29 56.3 +0.7**
0.5nm,0.4s,baz=129,slow=5.6,SNR=3.7

TAP 09 15:25:26.0,24.85N×121.98E,h15km±1km,ML1.3,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng** baz=273	**0.14**	**273**	*i* P	Pg	15 25 30.0	+0.2
NTC	baz=273			*e*S	Sb	15 25 33.3	+0.1
TWB1	**Santiao Chiao** baz=1.0	**0.16**	**1**	P	Pg	15 25 30.4	+0.3
TWB1	baz=1.0			S	Sg	15 25 32.8	-0.1
TIPB	**Shuangxi** baz=309	**0.19**	**311**	*i* P	Pb	15 25 31.2	-0.1
TIPB	baz=309			S	Sg	15 25 33.9	+0.2
ILA	**Ilan** baz=240	**0.23**	**250**	*e*P	Pb	15 25 31.7	-0.2
ILA	baz=240			*e*S	Sb	15 25 35.2	-0.5
SXI1	**Grass Mountain** baz=336	**0.27**	**338**	P	Pb	15 25 32.6	0.0
SXI1	baz=336			*e*S	Sb	15 25 36.6	-0.4
NWF	**Wu-fen Shan** baz=311	**0.29**	**321**	*e*P	Pb	15 25 33.1	+0.1
NWF	baz=311			*e*S	Sb	15 25 37.7	0.0
TWE	**Neicheng** baz=242	**0.31**	**247**	*e*P	Pb	15 25 33.0	-0.3
TWE	baz=242			*e*S	Sg	15 25 37.5	+0.4
FUSB	**Fushanzhiwuyua** baz=257	**0.37**	**257**	*e*P	Pg	15 25 33.8	+0.1
FUSB	baz=257			*e*S	Sb	15 25 40.4	+0.5
TWA	**Mucha** baz=290	**0.39**	**290**	*e*P	Pb	15 25 35.5	+0.9

*ISU **09** 15:31:44,39.78N×71.75E,h11km,Hypocentre not reviewed by the ISC*
*KRNET **09** 15:31:45.2±0.1,39.78N×71.66E,h11km,mb2.9*
*NNC **09** 15:31:48.6±2.9,39.92N×71.77E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=22.9km s-min=11.2km az=179.0*
*SOME **09** 15:31:48.9,39.88N×71.82E,h15km*
ISC 09 15:31:41.9±1.5,39.73N±0.05×71.72E±0.04,h6km±13km, n25,σ1§69/40,12C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAK	**Shakhimardan**	**0.22**	**4**	P		15 31 48.6	
SHAK				S		15 31 52.0	
DRK	**Karamyk** baz=59	**0.26**	**166**	⇑*i* P	Pn	**15 31 51.6**	**-1.0**
DRK	baz=59			⇑*i* S	Sb	**15 31 56.2**	**+2.2**
CHMI	**Chimion**	**0.56**	**344**	P		15 31 55.1	
CHMI				S		15 32 02.9	
BTK	**Batken** baz=93	**0.77**	**295**	⇑*i* P	Pn	**15 31 58.8**	**-0.5**
BTK	baz=93			⇑*i* S	Sb	**15 32 08.5**	**+0.1**
MINT	**Mingtut**	**0.93**	**322**	S		15 32 15.8	
OHH	**Osh** baz=49	**1.14**	**46**	⇑*i* P	Pn	**15 32 06.6**	**+2.2**
OHH	baz=49			⇑*i* S	Sn	**15 32 22.8**	**+2.4**
TRKS	**Terek-Say** baz=48	**1.85**	**346**	⇓*e*P	Pg	**15 32 17.4**	**+0.1**
TRKS	baz=48			⇓*e*S	Sg	**15 32 40.9**	**-0.4**
ARK	**Arkit** baz=6.0	**2.07**	**5**	⇓*i* P	Pg	**15 32 22.8**	**+1.2**
ARK	baz=6.0			⇓*i* S	Sg	**15 32 49.5**	**+1.1**
IUG	**luzhnay** 213nm,0.4s	**2.73**	**333**	*e*P	Pg	**15 32 36.4**	**+2.2**
IUG	56nm,0.6s			*e*S	Sg	**15 33 10.2**	**+0.7**
IUG	**luzhnay** 284nm,0.4s	**2.73**	**333**	Pg	Pg	**15 32 35.2**	**+1.0**
IUG	56nm,0.6s			Lg	Lg	15 33 10.2	
MRKS	**Merke** 3.4nm,0.7s	**3.21**	**20**	*e*P	Pg	**15 32 47.0**	**+3.4**
MRKS	17nm,0.3s			*e*S	Sg	**15 33 28.3**	**+3.1**
MRKS	**Merke** 3.4nm,0.7s	**3.21**	**20**	Pg	Pg	**15 32 46.7**	**+3.1**
MRKS	17nm,0.3s			Lg	Lg	15 33 29.0	
UCH	**Uchtor** baz=41	**3.27**	**39**	⇑*i* P	Pb	**15 32 39.2**	**-1.4**
UCH	baz=41			⇑*i* S	Sb	**15 33 19.4**	**-1.4**
EKS2	**Erkin-Say** baz=28	**3.31**	**27**	⇓*e*P	Pb	**15 32 39.6**	**-1.5**
EKS2	baz=28			⇓*i* S	Sb	**15 33 19.8**	**-1.9**
KK31	**Karatay Array** 0.1nm,0.2s,baz=167,slow=11,SNR=34	**3.49**	**345**	Pn	Pb	**15 32 41.5**	**-2.6**
KK31	3.0nm,0.4s,baz=154,slow=15,SNR=37			⇑Pg	Pg	**15 32 48.7**	**0.0**
KK31	1.4nm,0.3s,baz=157,slow=30,SNR=5.1			Lg	Lg	15 33 33.5	
CHMS	**Chumysh** 6.0nm,1.0s	**3.98**	**34**	⇑Pg	Pg	**15 32 55.0**	**-3.2**
CHMS	11nm,0.6s			⇑Lg	Lg	15 33 47.3	
SGDS	**Sogindy** 1.3nm,0.4s	**4.31**	**29**	*e*P	Pg	**15 33 05.0**	**+0.6**
SGDS	13nm,0.8s			*e*S	Sg	**15 33 59.5**	**-0.8**
SGDS	**Sogindy** 1.0nm,0.2s	**4.31**	**29**	Pg	Pg	**15 33 04.4**	**-0.1**
SGDS	13nm,0.8s			Lg	Lg	15 33 59.5	
TKM2	**Tokmak 2** 9.0nm,1.4s	**4.32**	**41**	⇑Pg	Pg	**15 33 03.3**	**-1.3**
TKM2	5.0nm,0.6s			⇓Lg	Lg	15 33 59.5	
DGS	**Degeres** 2.3nm,0.6s	**4.64**	**40**	*e*P	Pg	**15 33 11.2**	**+0.4**
DGS	9.5nm,1.0s			*e*S	Sg	**15 34 10.2**	**-0.7**
DGS	**Degeres** 2.3nm,0.6s	**4.64**	**40**	Pg	Pg	**15 33 10.5**	**-0.4**
DGS	9.5nm,1.0s			Lg	Lg	15 34 10.2	
KRBS	**Karabastau** 0.7nm,0.3s	**4.94**	**36**	*e*P	Pg	**15 33 17.0**	**+0.4**
KRBS	4.3nm,0.6s			*e*S	Sg	**15 34 19.6**	**-1.1**
KRBS	**Karabastau** 0.6nm,0.4s	**4.94**	**36**	Pg	Pg	**15 33 16.1**	**-0.5**
KRBS				Lg	Lg	15 34 19.6	
KOTS	**Kotyrbulak** 2.7nm,0.4s	**5.35**	**47**	*e*P	Pg	**15 33 26.4**	**+2.0**
KOTS	6.5nm,0.9s			*e*S	Sg	**15 34 35.6**	**+1.9**
KOTS	**Kotyrbulak** 2.7nm,0.4s	**5.35**	**47**	Pg	Pg	**15 33 25.7**	**+1.3**
KOTS	6.5nm,0.9s			Lg	Lg	15 34 35.6	
KTBS	**Karatobe** 0.6nm,0.5s	**5.44**	**41**	*e*P	Pg	**15 33 26.8**	**+0.7**
KTBS	5.7nm,0.7s			*e*S	Sg	**15 34 36.1**	**-0.4**
KTBS	**Karatobe** 0.4nm,0.2s	**5.44**	**41**	Pg	Pg	**15 33 25.7**	**-0.4**
KTBS	5.7nm,0.7s			Lg	Lg	15 34 36.1	
ARXS	**Arharly** 0.8nm,0.4s	**6.38**	**43**	Pg	Pg	**15 33 41.8**	**-2.3**
ARXS	4.2nm,0.9s			Lg	Lg	15 35 04.3	

*IDC **09** 15:32:27.2±1.2,0.97S×127.60E,h0km,mb4.4/3, mb1 4.4/7,mb1mx3.8/51,mbtmp4.2/7,ML4.0/4,MS3.1/5, Ms1 3.1/5,ms1mx2.7/73, Error ellipse: s-maj=27.6km s-min=21.1km az=55.0*
*DJA **09** 15:32:30.6±0.6,1°S±3°×12°8E±°,h11km±5km,M4.2/12, mb4.6/8,mB4.9/3,MLv4.0/12,Mw(mB)4.2/3*
*NEIC **09** 15:32:32.5±1.0,0.98S±0.08×127.78E±0.1,h41km±12km, mb4.1/11,Error ellipse: s-maj=16.2km s-min=10.9km az=89.0*
ISC 09 15:32:30.6±0.7,0.98S±0.05×127.73E±0.06,h31km,n42, σ1§82/42,mb4.2/6,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.41**	**326**	P	**Pb**	**15 32 37.9**	**-1.9**
TNTI	**Ternate**	**1.78**	**348**		**Pn**	**15 33 01.1**	**+1.8**
TNTI	**Ternate**	**1.78**	**348**	P	**Pn**	**15 33 00.8**	**+1.5**
SANI	**Sanana**	**2.04**	**239**	P	**Pn**	**15 33 01.6**	**-1.2**
MSAI	**Masohi**	**2.63**	**153**	P	**Pb**	**15 33 14.9**	**-2.3**
AAI	**Ambon**	**2.73**	**170**	P	**Pn**	**15 33 14.9**	**+2.6**
SWI	**Sorong**	**3.53**	**88**	P	**Pn**	**15 33 27.6**	**+4.2**
SIJI	**Sorong** 7.4nm,0.3s,baz=204,slow=13,SNR=22	**3.54**	**88**	Pn	**Pn**	**15 33 26.6**	**+3.1**
SIJI	3.9nm,0.3s,baz=231,slow=23,SNR=5.9			Sn	**Sb**	**15 34 11.3**	**-3.8**
SIJI	comp=Z,233nm,18.4s,baz=235,slow=45			LR	LR	15 35 11.6	
KMSI	**Cibinong**	**4.06**	**292**	P	**Pn**	**15 33 30.9**	**+0.3**
LUWI	**Luwuk**	**4.96**	**269**		**Pn**	**15 33 43.5**	**+0.5**
LUWI	**Luwuk**	**4.96**	**269**	P	**Pn**	**15 33 43.5**	**+0.5**
GTOI	**Gorontalo** 0.1nm226nm18nm,0.6s	**4.99**	**289**	P	**Pn**	**15 33 45.8**	**+2.4**
APSI	**Ampana** 3µm165nm,0.5s	**6.08**	**271**	P	**Pn**	**15 33 58.7**	**+0.3**
TOLI2	**Tolitoli**	**7.25**	**287**	Pn	**Pn**	**15 34 15.9**	**+1.3**
MPSI	**Mapaga** 0.1nm9.0nm,0.6s	**7.94**	**279**	P	**Pn**	**15 34 25.8**	**+1.8**
BNSI	**Bone** 19nm,0.7s	**8.34**	**246**	P	**Pn**	**15 34 30.2**	**+0.8**
SPSI	**Sidrap Palu** 1µm48nm,0.5s	**8.49**	**249**	P	**Pn**	**15 34 32.9**	**+1.4**
BKSI	**Bulukumba** 28nm,0.7s	**8.73**	**240**	P	**Pn**	**15 34 37.5**	**+2.6**
BSSI	**Bau Bau, Buton** 27nm,0.8s	**8.86**	**234**	P	**Pn**	**15 34 38.7**	**+2.1**
KAPI	**Kappang** 3.7nm,0.3s,baz=68,slow=9.6,SNR=10	**8.92**	**243**	Pn	**Pn**	**15 34 38.0**	**+0.6**
KAPI	1.1nm,0.3s,baz=143,slow=18,SNR=1.3			Sn	**Sn**	**15 36 13.1**	**-3.7**
KAPI	comp=Z,71nm,18.7s,baz=75,slow=40			LR	LR	15 38 16.9	
KAPI	**Kappang**	**8.92**	**243**	Pn	**Pn**	**15 34 39.6**	**+2.2**
MTN	**Manton Dam**	**12.26**	**164**	Pn	**Pn**	**15 35 25.2**	**+2.1**
KNRA	**Kununurra**	**14.64**	**176**	Pn	**Pn**	**15 35 55.5**	**-0.1**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=26,slow=12,SNR=5.7	**17.13**	**187**	P	**Pn**	**15 36 28.5**	**+0.7**
FITZ	comp=Z,29nm,20.7s,baz=12,slow=38			LR	LR	15 43 11.8	
WB0	**Warramunga Arr**	**19.77**	**161**	P	**P**	**15 36 58.5**	**+0.1**
WB0	comp=Z,8.6nm,0.9s			IAmb	IAmb	15 36 59.7	
WRAB	**Tennant Creek**	**19.92**	**161**	P	**P**	**15 36 59.9**	**0.0**
WRAB	comp=Z,8.2nm,0.9s			IAmb	IAmb	15 37 01.5	
WRA	**Warramunga Arr** comp=Z,0.7nm,0.3s,baz=344,slow=12,SNR=27	**19.92**	**161**	P	**P**	**15 37 00.0**	**0.0**
WRA	**Warramunga Arr**	**19.92**	**161**	P	**P**	**15 36 59.1**	**-0.9**
WB2	**Warramunga Arr**	**19.93**	**161**	P	**P**	**15 36 60.0**	**-0.1**
WB2	comp=Z,11nm,0.9s			IAmb	IAmb	15 37 01.6	
WR0	**Warramunga Arr**	**20.00**	**161**	P	**P**	**15 37 00.5**	**-0.4**
PMG	**Port Moresby** comp=Z,99nm,19.1s,baz=252,slow=41	**21.07**	**114**	LR	LR	15 47 00.0	
AS31	**Alice Springs**	**23.33**	**166**	P	**P**	**15 37 36.8**	**+0.4**
AS31	comp=Z,3.6nm,0.8s			IAmb	IAmb	15 37 37.9	
ASAR	**Alice Springs** comp=Z,13nm,0.9s,baz=345,slow=11,SNR=119	**23.33**	**166**	P	**P**	**15 37 37.0**	**+0.6**
ASAR	**Alice Springs**	**23.33**	**166**	P	**P**	**15 37 36.8**	**+0.4**
CTA	**Charters Tower** comp=Z,98nm,19.0s,baz=342,slow=41	**26.25**	**138**	LR	LR	15 50 25.7	
STKA	**Stephens Creek** comp=Z,12nm,0.8s,baz=322,slow=9.1,SNR=26	**33.40**	**158**	P	**P**	**15 39 08.8**	**+2.3**
STKA	**Stephens Creek**	**33.40**	**158**	P	**P**	**15 39 09.1**	**+2.6**
STKA	comp=Z,2.9nm,0.8s			IAmb	IAmb	15 39 10.3	
ARMA	**Armidale**	**37.04**	**144**	P	**P**	**15 39 38.1**	**+0.1**
JEW	**Eniwo**	**45.34**	**14**	P	**P**	**15 40 44.9**	**-1.0**
MK31	**Makanchi Array**	**61.99**	**326**	P	**P**	**15 42 48.2**	**+0.3**
MK31	comp=Z,1.9nm,1.1s			IAmb	IAmb	15 42 57.3	
MKAR	**Makanchi Array** comp=Z,0.8nm,0.6s,baz=122,slow=8.1,SNR=12	**61.99**	**326**	P	**P**	**15 42 48.3**	**+0.5**
MAKZ	**Makanchi**	**62.17**	**326**	P	**P**	**15 42 49.4**	**+0.3**
MAKZ	comp=Z,3.2nm,1.3s			IAmb	IAmb	15 43 18.2	

*KOLA **09** 15:34:06.7,67.60N×33.88E,h0km,ML2.4*
*HEL **09** 15:34:07.0±0.5,67.66N×33.85E,h0km,ML1.9,Explosion*
*IDC **09** 15:34:08.3±2.8,67.73N×33.58E,h0km,mb1 3.0/3, mb1mx2.9/50,mbtmp2.9/3,ML2.3/3,Error ellipse: s-maj=31.1km s-min=10.4km az=73.0*
ISC 09 15:34:06.0±1.2,67.70N±0.04×33.86E±0.06,h0km,n20, σ1§27/35,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.21**	**234**	P	**Pg**	**15 34 09.9**	**-0.1**
APA				S	**Sg**	**15 34 12.8**	**-0.1**
APA0	**Apatity Array**	**0.34**	**255**	P	**Pg**	**15 34 13.1**	**+0.5**
APA0				S	**Sg**	**15 34 17.3**	**+0.3**
TERR	**Teriberka**	**1.58**	**16**	P	**Pb**	**15 34 35.7**	**-0.4**
TERR				S	**Sg**	**15 34 58.0**	**+1.3**
VRF	**Varrio**	**1.62**	**274**	*e*P	**Pn**	**15 34 35.8**	**+0.1**
VRF				*e*S	**Sn**	**15 34 56.4**	**-1.0**
PRVG	**Vayda Guba**	**2.15**	**344**	P	**Pb**	**15 34 45.2**	**-0.5**
PRVG				S	**Sb**	**15 35 13.2**	**+0.3**
OLKF	**Oulanka, Finla**	**2.23**	**234**	*e*P	**Pn**	**15 34 45.1**	**+1.0**
OLKF				*e*S	**Sn**	**15 35 13.5**	**+1.2**
KU6	**Riekki**	**2.29**	**225**	*e*P	**Pn**	**15 34 45.4**	**+0.4**
KU6				*e*S	**Sn**	**15 35 15.3**	**+1.3**
MSF	**Maaselka**	**2.62**	**229**	*e*SG	**Sb**	**15 35 25.9**	**-0.4**
SGF	**Sodankyl**	**2.82**	**268**	*e*P	**Pn**	**15 34 52.6**	**+0.3**
SGF				*e*S	**Sn**	**15 35 27.4**	**+0.5**
KEV	**Kevo**	**3.24**	**313**	*e*P	**Pn**	**15 34 59.7**	**+1.6**
KEV				*e*S	**Sn**	**15 35 38.7**	**+1.4**
KEV	comp=Z,7.3nm,0.2s			MSG		15 35 39.4	
ARCES	**ARCESS Array B** baz=121,slow=15,SNR=131	**3.57**	**305**	Pn	**Pn**	**15 35 02.4**	**-0.2**
ARCES	baz=117,slow=15,SNR=13			Pg	**Pb**	**15 35 10.7**	**+0.7**
ARCES	baz=117,slow=24,SNR=15			Sn	**Sn**	**15 35 44.1**	**-1.4**
ARCES	baz=114,slow=24,SNR=7.0			Lg	Lg	15 35 56.4	
ARCES	**ARCESS Array B**	**3.57**	**305**	P	**Pn**	**15 35 02.1**	**-0.5**
ARCES				S	**Sn**	**15 35 45.4**	**0.0**
KLF	**Kolari**	**3.84**	**268**	*e*P	**Pn**	**15 35 07.6**	**+1.4**
TOF	**Tornio**	**4.09**	**251**	*e*PG	**Pb**	**15 35 18.6**	**-0.2**
TOF	comp=Z,0.9nm,0.2s			MSG		15 35 47.1	
OUL	**Oulu**	**4.14**	**234**	*e*PG	**Pb**	**15 35 21.6**	**+2.1**
PAJU	**Pajala**	**4.21**	**266**	*e*P	**Pn**	**15 35 11.7**	**+0.4**
OUF	**Merijarvi**	**5.00**	**232**	*e*PG	**Pb**	**15 35 35.6**	**+1.4**
OUF				*e*S	**Sn**	**15 36 19.0**	**-1.5**
KIF	**Kilpisjarvi**	**5.01**	**291**	*e*PB	**Pb**	**15 35 32.3**	**-2.1**
KIF				*e*S	**Sn**	**15 36 20.5**	**-0.2**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=4.8	**7.11**	**212**	Pn	**Pn**	**15 35 51.0**	**0.0**
FINES	comp=Z,0.2nm,0.3s,baz=26,slow=23,SNR=2.9			Sn	**Sn**	**15 37 09.1**	**-3.3**
FINES	comp=Z,0.3nm,0.3s,baz=15,slow=22,SNR=4.6			Lg	Lg	15 37 42.5	
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=46,slow=11,SNR=2.6	**11.79**	**246**	Pn	**Pn**	**15 36 52.1**	**-3.1**
NOA	comp=Z,0.0nm,0.3s,baz=45,slow=24,SNR=5.4			Lg	Lg	15 40 10.1	

IDC 09 15:40:51.9±79.0,12.96S×167.41E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.5/40,mbtmp3.7/3,Error ellipse: s-maj=1329.0km s-min=123.3km az=62.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.9nm,0.4s,baz=45,slow=12,SNR=4.7	**30.26**	**227**	P	P	15 47 04.7	-0.1
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=83,slow=8.9,SNR=5.2	**32.42**	**253**	P	P	15 47 24.4	+0.3
ASAR	**Alice Springs** 0.7nm,0.5s,baz=75,slow=9.3,SNR=25	**33.46**	**247**	P	P	15 47 32.8	-0.3

*TUL **09** 15:58:01.4±1.1,36.83N±0.02×98.01W±0.02,h6km±7km, ML3.0,mb_Lg2.8/47(NEIC),Error ellipse: s-maj=3.4km s-min=1.9km az=134.0*
NEIC 09 15:58:01.6±0.8,36.80N±0.03×98.02W±0.04,h10km±7km, Error ellipse: s-maj=6.3km s-min=2.0km az=136.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.90**	**242**	Pg	Pg	15 58 18.7	-0.2
T35A	**Sooner Cattle**	**1.21**	**84**	Pg	Pb	15 58 24.1	-0.6
R32A	**Long Quarter,**	**1.71**	**341**		Pb	15 58 32.5	-0.6
W35A	**Tecumseh**	**1.89**	**150**		Pb	15 58 35.2	-0.9
TUL1	**Leonard**	**2.00**	**116**	Pn	Pb	15 58 37.3	-0.9
WMOK	**Wichita Mounta**	**2.15**	**197**		Pb	15 58 39.3	-1.4
WMOK	comp=Z,35nm,0.8s			IAmb_Lg		15 59 10.6	
X34A	**Smith Ranch, M**	**2.20**	**176**		Pn	15 58 39.7	+1.5
X34A	comp=Z,52nm,0.8s			IAmb_Lg		15 59 16.1	
KSU1	**Kansas State U** comp=Z,39nm,0.9s	**2.55**	**25**	IAmb_Lg		15 59 21.9	
X37A	**Clayton** comp=Z,30nm,0.9s	**3.08**	**135**	IAmb_Lg		15 59 45.3	
HHAR	**Hobbs**	**3.32**	**98**	Pn	Pn	15 58 54.9	+1.1
W39A	**Magazine**	**3.79**	**114**		Pn	15 59 01.7	+1.6
S39A	**Bolivar**	**3.85**	**75**	Pn	Pn	15 59 01.7	+0.8
S39A	comp=Z,16nm,0.7s			IAmb_Lg		16 00 04.8	
U40A	**Yellville**	**4.18**	**95**	Pn	Pn	15 59 05.3	-0.1
KSCO	**Kaye Shedlock'**	**4.26**	**303**		Pn	15 59 09.4	+2.7
Z38A	**Mt. Pleasant**	**4.32**	**144**		Pn	15 59 06.0	-1.4
P38A	**Dawn** comp=Z,18nm,0.9s	**4.52**	**50**	IAmb_Lg		16 00 34.4	
MGMO	**Mountain Grove**	**4.62**	**84**		Pn	15 59 11.7	+0.2
MGMO	comp=Z,22nm,0.8s			IAmb_Lg		16 00 30.2	
R40A	**Maddies Static**	**4.80**	**70**		Pn	15 59 14.7	+0.7
X40A	**Basin Creek Fa**	**4.81**	**117**		Pn	15 59 14.9	+0.8
X40A	comp=Z,22nm,0.8s			IAmb_Lg		16 00 36.9	
FCAR	**Ozark Folk Cen** comp=Z,21nm,0.9s	**4.84**	**99**	IAmb_Lg		16 00 40.6	
WHAR	**Wooly Hollow**	**4.88**	**106**		Pn	15 59 15.1	0.0
W41B	**Gary Mavity, V** comp=Z,15nm,0.7s	**4.95**	**107**	IAmb_Lg		16 00 38.9	
UALR	**University of** comp=Z,19nm,1.0s	**5.04**	**112**	IAmb_Lg		16 00 49.9	
WLAR	**White Oak Lake** comp=Z,19nm,0.9s	**5.08**	**126**	IAmb_Lg		16 00 50.4	
T25A	**Trinidad** comp=Z,13nm,0.8s	**5.13**	**276**	IAmb_Lg		16 00 46.8	
P40A	**Paris** comp=Z,14nm,0.9s	**5.43**	**58**	IAmb_Lg		16 01 02.5	
N38A	**Joes South For** comp=Z,20nm,0.8s	**5.46**	**42**	IAmb_Lg		16 01 04.6	
CCM	**Cathedral Cave** comp=Z,9.0nm,0.8s	**5.53**	**75**	IAmb_Lg		16 01 06.3	
LCAR	**Lake Charles** comp=Z,12nm,0.8s	**5.58**	**95**	IAmb_Lg		16 00 59.2	
435B	**Jarrell** comp=Z,15nm,0.8s	**6.01**	**176**	IAmb_Lg		16 01 23.9	
PBMO	**Poplar Bluff** comp=Z,11nm,0.8s	**6.09**	**88**	IAmb_Lg		16 01 28.6	
FVM	**French Village** comp=Z,17nm,0.9s	**6.16**	**77**	IAmb_Lg		16 01 17.8	
X43A	**Marvell** comp=Z,15nm,0.8s	**6.24**	**109**	IAmb_Lg		16 01 21.3	
SLM	**Saint Louis** comp=Z,15nm,0.8s	**6.43**	**71**	IAmb_Lg		16 01 25.4	
JCT	**Junction City** comp=Z,14nm,0.9s	**6.48**	**194**	IAmb_Lg		16 01 35.3	
N23A	**Red Feather La** comp=Z,11nm,0.8s	**7.41**	**306**	IAmb_Lg		16 02 02.4	
RSSD	**Black Hills** comp=Z,5.3nm,0.8s	**8.63**	**330**	IAmb_Lg		16 02 52.1	

IDC 09 16:05:45.1±2.4,6.41S×129.86E,h0km,mb3.3/1, mb1 3.4/4,mb1mx3.1/39,mbtmp3.2/4,ML2.9/3,Error ellipse: s-maj=94.4km s-min=30.7km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.0nm,0.3s,baz=29,slow=12,SNR=1.6	**12.32**	**199**	Pn	Pn	16 08 43.0	+1.1
FITZ	0.1nm,0.3s,baz=66,slow=12,SNR=2.0			Sn	Sn	16 10 42.1	-18
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=344,slow=13,SNR=1.5	**14.13**	**163**	Pn	Pn	16 09 07.4	+0.6
WRA	0.1nm,0.3s,baz=320,slow=22,SNR=1.5			Sn	Sn	16 11 27.4	-17
ASAR	**Alice Springs** 0.1nm,0.3s,baz=340,slow=8.6,SNR=7.0	**17.59**	**168**	P	Pn	16 09 50.6	-1.2
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=124,slow=7.2,SNR=2.6	**67.66**	**327**	P	P	16 16 44.1	0.0

IDC 09 16:13:28.8±7.0,1.95N×128.43E,h178km±43km,mb3.2/4, mb1 3.3/5,mb1mx2.9/60,mbtmp3.6/5,Error ellipse: s-maj=83.8km s-min=55.6km az=115.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 0.9nm,0.3s,baz=270,slow=20,SNR=12	**3.99**	**135**	P	Pn	16 14 30.2	+0.5
SIJI	0.5nm,0.3s,baz=213,slow=23,SNR=1.6			S	Sn	16 15 01.3	-16
FITZ	**Fitzroy Crossi** 2.3nm,0.9s,baz=3.2,slow=12,SNR=2.2	**20.11**	**188**	P	P	16 17 48.5	-0.5
WRA	**Warramunga Arr** 1.1nm,0.5s,baz=347,slow=11,SNR=32	**22.52**	**165**	P	P	16 18 13.9	0.0
ASAR	**Alice Springs** 0.3nm,0.5s,baz=350,slow=8.0,SNR=12	**26.02**	**168**	P	P	16 18 45.6	0.0
ASAR	0.1nm,0.6s,baz=2.4,slow=2.2,SNR=1.2			PcP	PcP	16 22 08.0	-1.1
STKA	**Stephens Creek** 0.9nm,0.4s,baz=333,slow=9.0,SNR=6.4	**35.89**	**161**	P	P	16 20 12.2	+0.3

*IDC **09** 16:19:25.9±0.5,39.33N×73.45E,h0km,mb4.3/34, mb1 4.4/42,mb1mx4.3/68,mbtmp4.3/42,ML3.3/6,MS3.7/41, Ms1 3.7/41,ms1mx3.5/95,Error ellipse: s-maj=9.9km s-min=8.7km az=168.0*
*KRNET **09** 16:19:25.9±0.1,39.44N×73.54E,mb5.1*
*SOME **09** 16:19:26.2,39.53N×73.35E,h15km,MS4.0*
*NNC **09** 16:19:28.9±1.3,39.49N×73.30E,h0km,mb5.1,mpv4.8, Error ellipse: s-maj=11.0km s-min=6.5km az=168.0*

*BJI **09** 16:19:29.7±0.0,39˚.80N×73˚.78E,h10km,mb4.5/40, mB4.7/33,ML4.3/5,Ms4.2/32,Ms7 3.9/31*
*MOS **09** 16:19:31.9±1.0,39˚.54N×73˚.41E,h50km,mb4.7/38,Error ellipse: s-maj=5.3km s-min=3.4km az=83.6*
MOS Felt (V-VI) at Bor-Dyube, (V) at Kara-Kindik, Sary-Tash, (IV-V) at Nura, Irkeshtam, (IV) at Taldy-Suu, Archa-Bulak, (III) at Sopu-Korgon, Daraut-Korgon.
*NEIC **09** 16:19:33.4±2.1,39˚.48N±0˚.06×73˚.39E±0˚.09,h47km±6km, mb4.7/37,Error ellipse: s-maj=10.2km s-min=8.2km az=122.0*

ISC 09 16:19:28.2±0.7,39˚.37N±0˚.03×73˚.38E±0˚.02,h13km±4km, n407,σ2ˢ24/436,mb4.6/93,MS3.8/43,62C-59D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**1.23**	**276**	⇓*i*	**P**	**n**	**16 19 51.7 +0.4**
	baz=73						
DRK				⇓*i*	**S**	**g**	**16 20 10.1 +2.2**
	baz=73						
OHH	**Osh**	**1.24**	**339**	⇑*i*	**P**	**n**	**16 19 49.5 -1.8**
	baz=32						
OHH				⇑*i*	**S**	**b**	**16 20 06.3 -1.2**
	baz=32						
KSH	**Kashi**	**2.02**	**85**	Pg	**P**	**n**	**16 19 57.6 -4.4**
KSH				Sg	**S**	**n**	**16 20 25.5 -1.6**
KSH				smax	smax		
	comp=N,7μm,1.0s						
KSH				smax	smax		
	comp=E,3μm,0.9s						
BTK	**Batken**	**2.09**	**290**	⇑*e*P	**P**	**n**	**16 20 05.2 +2.2**
	baz=87						
BTK				⇑*i*S	**S**	**b**	**16 20 34.6 +2.7**
	baz=87						
GAR	**Garm**	**2.41**	**262**	⇑*i*P	**P**	**b**	**16 20 10.7 -0.7**
	baz=61						
GAR				⇑*i*S	**S**	**b**	**16 20 43.2 +2.2**
	baz=61						
GAR	**Garm**	**2.41**	**262**		**P**	**b**	**16 20 10.7 -0.7**
ARK	**Arkit**	**2.66**	**337**	⇓*e*P	**P**	**n**	**16 20 12.0 +1.2**
	baz=34						
ARK				⇓*i*S	**S**	**n**	**16 20 45.7 +2.8**
	baz=34						
TRKS	**Terek-Say**	**2.75**	**322**	⇑*e*P	**P**	**n**	**16 20 12.9 +0.7**
	baz=19						
TRKS				⇑*i*S	**S**	**n**	**16 20 47.4 +2.0**
	baz=19						
AML	**Almayashu**	**2.77**	**5**	P	**P**	**n**	**16 20 14.7 +2.0**
	SNR=156						
UCH	**Uchtor**	**2.99**	**16**	P	**P**	**n**	**16 20 17.9 +2.2**
	SNR=340						
UCH	**Uchtor**	**2.99**	**16**	⇓*i*P	**P**	**n**	**16 20 15.5 -0.1**
	baz=15						
UCH				⇓*i*S	**S**	**n**	**16 20 51.6 +0.1**
	baz=15						
EKS2	**Erkin-Say**	**3.31**	**5**	P	**P**	**n**	**16 20 22.3 +2.5**
	SNR=73						
EKS2	**Erkin-Say**	**3.31**	**5**	⇓*i*P	**P**	**n**	**16 20 19.8 +0.1**
	baz=3.0						
EKS2				⇓*i*S	**S**	**n**	**16 20 59.5 +0.5**
	baz=3.0						
CHGR	**Chuyangaron**	**3.36**	**259**	PN	**P**	**n**	**16 20 23.4 +2.9**
CHGR	**Chuyangaron**	**3.36**	**259**	⇓*e*P	**P**	**n**	**16 20 23.6 +3.1**
	baz=59						
CHGR				⇓*i*S	**S**	**b**	**16 21 05.8 -2.7**
	baz=59						
CHGR	**Chuyangaron**	**3.36**	**259**		**P**	**n**	**16 20 23.4 +2.9**
AAK	**Ala-Archa**	**3.38**	**14**	P	**P**	**n**	**16 20 23.5 +2.8**
	SNR=548						
AAK	**Ala-Archa**	**3.38**	**14**	Pn	**P**	**n**	**16 20 23.6 +2.8**
	46nm,0.3s,baz=182,slow=7.1,SNR=621						
AAK					Sn	**S**	**b**	**16 21 06.7 -2.2**
	66nm,0.3s,baz=359,slow=16,SNR=15						
AAK	**Ala-Archa**	**3.38**	**14**	⇑*e*P	**P**	**n**	**16 20 21.1 +0.4**
	baz=12						
AAK				⇑*i*S	**S**	**n**	**16 21 00.7 0.0**
	baz=12						
AAK	**Ala-Archa**	**3.38**	**14**		**P**	**n**	**16 20 23.4 +2.7**
MRKS	**Merke**	**3.38**	**358**	*e*P	**P**	**b**	**16 20 29.4 +1.4**
	97nm,0.6s						
MRKS				*e*S	**S**	**g**	**16 21 13.9 -2.8**
	942nm,0.6s						
MRKS	**Merke**	**3.38**	**358**	Pg	**P**	**b**	**16 20 25.7 -2.3**
	116nm,0.7s						
MRKS				Lg	Lg		16 21 07.9
	942nm,0.6s						
KBK	**Karagaybulak**	**3.50**	**19**	P	**P**	**n**	**16 20 25.1 +2.7**
	SNR=140						
KBK	**Karagaybulak**	**3.50**	**19**	⇑*e*P	**P**	**n**	**16 20 22.5 +0.1**
	baz=18						
KBK				⇑*i*S	**S**	**n**	**16 21 03.9 +0.2**
	baz=18						
FRU1	**Bishkek**	**3.57**	**15**	⇓*e*P	**P**	**n**	**16 20 23.6 +0.3**
	baz=13						
FRU1				⇓*e*S	**S**	**n**	**16 21 05.6 +0.3**
	baz=13						
ULHL	**Ulahol**	**3.61**	**36**	P	**P**	**n**	**16 20 26.9 +2.9**
	SNR=22						
TAS	**Tashkent**	**3.68**	**303**	PN	**P**	**n**	**16 20 27.6 +2.8**
TAS	**Tashkent**	**3.68**	**303**	⇓*i*P	**P**	**n**	**16 20 27.1 +2.3**
	baz=2.0						
TAS				⇓*e*S	**S**	**n**	**16 21 12.3 +4.2**
	baz=2.0						
TAS	**Tashkent**	**3.68**	**303**		**P**	**n**	**16 20 27.6 +2.8**
IUG	**Iuzhnay**	**3.77**	**319**	*e*PN	**P**	**n**	**16 20 26.7 +0.7**
IUG				*e*			16 21 10.1
IUG	**Iuzhnay**	**3.77**	**319**	*e*Pn	**P**	**n**	**16 20 26.7 +0.7**
	baz=317						
IUG				*e*Sn	**S**	**n**	**16 21 10.2 -0.1**
	baz=317						
CHMS	**Chumysh**	**3.77**	**15**	P	**P**	**n**	**16 20 28.6 +2.5**
	SNR=137						
CHMS	**Chumysh**	**3.77**	**15**	*i* PN	**P**	**n**	**16 20 28.6 +2.5**
CHMS				pmax	pmax		
	comp=Z,170nm,0.6s						
CHMS	**Chumysh**	**3.77**	**15**	⇓*i*P	**P**	**n**	**16 20 26.2 +0.1**
	baz=14						
CHMS				⇓*e*S	**S**	**n**	**16 21 10.0 -0.4**
	baz=14						
CHMS	**Chumysh**	**3.77**	**15**	⇑Pn	**P**	**n**	**16 20 28.5 +2.5**
	comp=Z,340nm,0.8s						
CHMS				⇑Lg	Lg		16 21 29.1
	comp=Z,381nm,0.7s						
DZA	**Taraz**	**3.85**	**337**	*e*PN	**P**	**n**	**16 20 28.9 +1.8**
DZA	**Taraz**	**3.85**	**337**	*e*Pn	**P**	**n**	**16 20 28.9 +1.8**
	baz=336						
TKM2	**Tokmak 2**	**3.93**	**25**	P	**P**	**n**	**16 20 30.6 +2.3**
	SNR=47						
TKM2	**Tokmak 2**	**3.93**	**25**	*i* PN	**P**	**n**	**16 20 30.6 +2.3**
TKM2				pmax	pmax		
	comp=Z,188nm,0.6s						
TKM2	**Tokmak 2**	**3.93**	**25**	⇑Pn	**P**	**n**	**16 20 30.6 +2.3**
	comp=Z,91nm,0.8s						
TKM2				⇓Pg	**Pg**	**n**	**16 20 43.3 -0.1**
	comp=Z,227nm,0.7s						
TKM2				⇑Lg	Lg		16 21 34.7
	comp=Z,654nm,0.9s						
USP	**Ospenovka**	**3.99**	**12**	P	**P**	**n**	**16 20 31.3 +2.3**
	SNR=41						
KST	**Kastek**	**4.16**	**27**	*e*P	**P**	**b**	**16 20 42.2 +0.9**
	comp=Z,324nm,0.8s						
KST				*e*S	**S**	**b**	**16 21 36.6 +5.2**
	comp=Z,489nm,0.9s						
KST	**Kastek**	**4.16**	**27**	Pg	**P**	**b**	**16 20 42.2 +0.9**
	comp=Z,324nm,0.8s						
KST				Lg	Lg		16 21 36.6
	comp=Z,489nm,0.9s						
SGDS	**Sogindy**	**4.19**	**13**	*e*PN	**P**	**n**	**16 20 33.2 +1.4**
SGDS	**Sogindy**	**4.19**	**13**	*e*P	**P**	**b**	**16 20 41.6 -0.2**
	comp=Z,154nm,1.0s						
SGDS				*e*S	**S**	**b**	**16 21 35.6 +3.3**
	comp=Z,294nm,1.2s						
SGDS	**Sogindy**	**4.19**	**13**	*e*Pn	**P**	**n**	**16 20 33.2 +1.4**
	baz=13						
SGDS				*e*Pg	**Pg**	**n**	**16 20 46.6 -1.9**
	baz=13						
SGDS	**Sogindy**	**4.19**	**13**	Pg	**P**	**b**	**16 20 41.9 +0.1**
	comp=Z,155nm,0.7s						
SGDS				Lg	Lg		16 21 35.6
	comp=Z,294nm,1.2s						
DGS	**Degeres**	**4.27**	**24**	*e*P	**P**	**b**	**16 20 44.1 +0.9**
	comp=Z,188nm,0.9s						
DGS				*e*S	**S**	**b**	**16 21 39.4 +4.7**
	comp=Z,366nm,1.1s						
DGS	**Degeres**	**4.27**	**24**	Pg	**P**	**b**	**16 20 45.2 +2.0**
	comp=Z,188nm,0.9s						
DGS				Lg	Lg		16 21 41.0
	comp=Z,366nm,1.1s						
KK31	**Karatay Array**	**4.31**	**331**	PN	**P**	**n**	**16 20 35.5 +2.0**
KK31	**Karatay Array**	**4.31**	**331**		**P**	**n**	**16 20 35.5 +2.0**
KK31	**Karatay Array**	**4.31**	**331**	Pn	**P**	**n**	**16 20 35.5 +2.0**
	comp=Z,38nm,0.4s,baz=151,slow=14,SNR=2528						
KK31				⇓Pg	**Pb**		**16 20 44.9 +1.1**
	comp=Z,251nm,0.7s,baz=157,slow=14,SNR=29						
KK31				⇓Sn	**Sn**		**16 21 26.7 +3.0**
	comp=Z,320nm,0.6s,baz=258,slow=50,SNR=4.5						
KK31				⇓Lg	Lg		16 21 40.8
	comp=Z,260nm,0.5s,baz=153,slow=31						
KKAR	**Karatay Array**	**4.31**	**331**	PN	**P**	**n**	**16 20 35.4 +1.9**
KKAR	**Karatay Array**	**4.31**	**331**		**P**	**n**	**16 20 35.4 +1.9**
KKAR	**Karatay Array**	**4.31**	**331**		**P**	**n**	**16 20 35.5 +2.0**
MTBS	**Maitube**	**4.41**	**30**	*e*P	**Pb**		**16 20 46.7 +1.2**
	comp=Z,246nm,0.9s						
MTBS				*e*S	**Sg**		**16 21 44.4 -5.3**
	comp=Z,323nm,1.0s						
MTBS	**Maitube**	**4.41**	**30**	Pg	**Pb**		**16 20 47.7 +2.2**
	comp=Z,173nm,0.9s						
MTBS				Lg	Lg		16 21 45.7
	comp=Z,323nm,1.0s						
BRLS	**Boroldaу**	**4.53**	**325**	*e*PN	**P**	**n**	**16 20 36.2 -0.3**
BRLS	**Boroldaу**	**4.53**	**325**	*e*P	**P**	**b**	**16 20 47.7 +0.2**
	comp=Z,174nm,0.7s						
BRLS				*e*S	**S**	**b**	**16 21 45.8 +3.7**
	comp=Z,469nm,0.9s						
BRLS	**Boroldaу**	**4.53**	**325**	*e*Pn	**P**	**n**	**16 20 36.2 -0.3**
	baz=321						
BRLS				*e*Pg	**P**	**b**	**16 20 51.0 +3.4**
	baz=321						
TNSS	**Tian-Shan**	**4.55**	**35**	*e*PN	**P**	**n**	**16 20 39.5 +2.4**
TNSS	**Tian-Shan**	**4.55**	**35**	*e*P	**P**	**b**	**16 20 50.4 +2.3**
	comp=Z,152nm,0.6s						
TNSS				*e*S	**S**	**g**	**16 21 50.0 -4.3**
	comp=Z,205nm,1.0s						
TNSS	**Tian-Shan**	**4.55**	**35**	*e*Pn	**P**	**n**	**16 20 39.5 +2.4**
	baz=36						
TNSS	**Tian-Shan**	**4.55**	**35**	Pg	**P**	**b**	**16 20 49.3 +1.2**
	comp=Z,127nm,0.6s						
TNSS				Lg	Lg		16 21 48.0
	comp=Z,205nm,1.0s						
KRBS	**Karabastau**	**4.66**	**21**	*e*P	**Pb**		**16 20 51.2 +1.4**
	comp=Z,141nm,0.8s						
KRBS				*e*S	**Sg**		**16 21 51.9 -5.8**
	comp=Z,281nm,1.1s						
KRBS	**Karabastau**	**4.66**	**21**	Pg	**Pb**		**16 20 52.0 +2.2**
	comp=Z,141nm,0.8s						
KRBS				Lg	Lg		16 21 52.8
	comp=Z,281nm,1.1s						
AAA	**Alma-Ata**	**4.67**	**34**	*e*PN	**P**	**n**	**16 20 40.4 +2.0**
AAA	**Alma-Ata**	**4.67**	**34**	*e*Pn	**P**	**n**	**16 20 40.5 +2.0**
	baz=34						
MDOK	**Medeo**	**4.70**	**35**	PN	**P**	**n**	**16 20 40.9 +2.1**
MDOK	**Medeo**	**4.70**	**35**	*e*P	**Pb**		**16 20 51.3 +0.9**
	comp=Z,172nm,0.6s						
MDOK				*e*S	**Sb**		**16 21 52.4 +5.5**
	comp=Z,447nm,1.2s						
MDOK	**Medeo**	**4.70**	**35**	*e*Pn	**Pn**		**16 20 40.1 +1.3**
	baz=36						
MDOK				*e*Pg	**Pg**		**16 20 55.8 -2.3**
	baz=36						
MDOK	**Medeo**	**4.70**	**35**	⇓Pn	**Pn**		**16 20 41.2 +2.4**
	comp=Z,210nm,0.8s						
MDOK				⇑Lg	Lg		16 21 59.5
	comp=Z,739nm,1.0s						
MDOK	**Medeo**	**4.70**	**35**	Pg	**Pb**		**16 20 52.3 +1.9**
	comp=Z,172nm,0.8s						
MDOK				Lg	Lg		16 21 53.2
	comp=Z,447nm,1.2s						
KNDC	**Almaty**	**4.70**	**34**	PN	**Pn**		**16 20 41.4 +2.5**
KNDC	**Almaty**	**4.70**	**34**	⇑Pn	**Pn**		**16 20 41.9 +3.0**
	comp=Z,557nm,0.9s						
KNDC				⇑Lg	Lg		16 21 59.6
	comp=Z,3μm,0.9s						
KOTS	**Kotyrbulak**	**4.78**	**35**	*e*P	**Pb**		**16 20 54.0 +2.1**
	comp=Z,212nm,0.7s						
KOTS				*e*S	**Sg**		**16 21 56.7 -5.0**
	comp=Z,1μm,1.1s						
KOTS	**Kotyrbulak**	**4.78**	**35**	Pg	**Pb**		**16 20 54.6 +2.7**
	comp=Z,212nm,0.7s						
KOTS				Lg	Lg		16 21 57.1
	comp=Z,1μm,1.1s						
KTBS	**Karatobe**	**5.00**	**29**	*e*P	**Pb**		**16 20 56.5 +0.9**
	comp=Z,115nm,1.9s						
KTBS				*e*S	**Sb**		**16 22 01.6 +6.0**
	comp=Z,559nm,1.1s						
KTBS	**Karatobe**	**5.00**	**29**	Pg	**Pb**		**16 20 57.4 +1.8**
	comp=Z,116nm,1.7s						
KTBS				Lg	Lg		16 22 02.2
	comp=Z,559nm,1.1s						
CHKK	**Chushkaly**	**5.24**	**30**	*e*PN	**P**	**n**	**16 20 47.7 +1.6**
CHKK	**Chushkaly**	**5.24**	**30**	*e*P	**Pb**		**16 20 60.0 +0.4**
	comp=Z,69nm,0.5s						
CHKK				*e*S	**Sb**		**16 22 08.4 +6.0**
	comp=Z,216nm,0.8s						
CHKK	**Chushkaly**	**5.24**	**30**	*e*P	**Pn**		**16 20 47.7 +1.6**
	baz=30						
CHKK	**Chushkaly**	**5.24**	**30**	Pg	**Pb**		**16 21 02.3 +2.7**
	comp=Z,53nm,0.8s						
CHKK				Lg	Lg		16 22 10.6
	comp=Z,279nm,1.1s						
SATY	**Saty**	**5.29**	**44**	*e*PN	**P**	**n**	**16 20 48.3 +1.3**
SATY	**Saty**	**5.29**	**44**	*e*P	**Pb**		**16 21 02.9 +2.3**
	comp=Z,275nm,0.6s						
SATY				*e*S	**Sg**		**16 22 12.7 -5.3**
	comp=Z,307nm,2.2s						
SATY	**Saty**	**5.29**	**44**	*e*Pn	**P**	**n**	**16 20 48.3 +1.3**
	baz=45						
SATY	**Saty**	**5.29**	**44**	Pg	**Pb**		**16 21 02.8 +2.3**
	comp=Z,254nm,0.8s						
SATY				Lg	Lg		16 22 11.2
	comp=Z,307nm,2.2s						
KURS	**Kuram**	**5.47**	**40**	*e*P	**Pb**		**16 21 06.1 +2.5**
	comp=Z,142nm,1.4s						
KURS				*e*S	**Sg**		**16 22 18.2 -5.5**
	comp=Z,269nm,1.9s						
KURS	**Kuram**	**5.47**	**40**	Pg	**Pb**		**16 21 07.8 +4.2**
	comp=Z,142nm,1.4s						
KURS				Lg	Lg		16 22 20.4
	comp=Z,269nm,1.9s						
CEP	**Cherat**	**5.66**	**193**	P	Pn		16 20 59.3 +7.2
UZB	**Uzynbulak**	**5.69**	**47**	*e*PN	**Pn**		**16 20 53.7 +1.2**
UZB				pmax	pmax		
	comp=Z,9.0nm,0.7s						
UZB	**Uzynbulak**	**5.69**	**47**	*e*Pn	**Pn**		**16 20 53.7 +1.2**
	comp=Z,9.1nm,0.7s,baz=47						
UZB	**Uzynbulak**	**5.69**	**47**	Pg	**Pb**		**16 21 11.7 +4.4**
	comp=Z,111nm,1.4s						
UZB				Lg	Lg		16 22 27.0
	comp=Z,262nm,1.3s						
BTLS	**Baital**	**5.69**	**5**	*e*PN	**Pn**		**16 20 53.8 +1.4**
BTLS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BTLS	**Baital**	**5.69**	**5**	*e*P	**Pb**		**16 21 07.9 +0.6**
	comp=Z,30nm,0.9s						
BTLS				*e*S	**Sb**		**16 22 21.2 +5.8**
	comp=Z,184nm,0.7s						
BTLS	**Baital**	**5.69**	**5**	*e*Pn	**Pn**		**16 20 53.8 +1.4**
	comp=Z,6.2nm,0.8s,baz=4.7						
BTLS				*e*Pg	**Pg**		**16 21 13.8 -3.4**
	baz=4.7						
CHCP	**Chirah Chowk**	**5.70**	**181**	P	Pn		16 20 58.8 +6.3
NIL	**Nilore**	**5.71**	**181**	PN	Pn		16 20 58.5 +5.9
NIL	**Nilore**	**5.71**	**181**	Pn	Pn		16 20 58.5 +5.8
KPKS	**Kokpek**	**5.72**	**43**	*e*PN	**Pn**		**16 20 54.3 +1.5**
KPKS	**Kokpek**	**5.72**	**43**	*e*P	**Pb**		**16 21 09.6 +1.8**
	comp=Z,111nm,0.6s						
KPKS				*e*S	**Sb**		**16 22 23.5 +7.3**
	comp=Z,154nm,0.6s						
KPKS	**Kokpek**	**5.72**	**43**	*e*Pn	**Pn**		**16 20 54.3 +1.5**
	baz=43						
ARXS	**Arharly**	**5.87**	**33**	*e*PN	**Pn**		**16 20 56.1 +1.1**
ARXS	**Arharly**	**5.87**	**33**	Pg	**Pb**		**16 21 13.2 +2.7**
	comp=Z,112nm,0.8s						
ARXS				Lg	Lg		16 22 29.5
	comp=Z,420nm,0.9s						
KBL	**Kabul**	**5.94**	**217**	PN	Pn		16 21 01.1 +5.2
KBL	**Kabul**	**5.94**	**217**		Pn		16 21 01.1 +5.2
SHLS	**Shalkode**	**5.95**	**48**	*e*PN	**Pn**		**16 21 00.7 +4.7**
SHLS				pmax	pmax		
	comp=Z,11nm,0.8s						
SHLS	**Shalkode**	**5.95**	**48**	*e*Pn	**Pn**		**16 21 00.7 +4.7**
	comp=Z,10nm,0.8s,baz=51						
SHLS				*e*Pg	**Pg**		**16 21 23.1 +1.1**
	baz=51						
SHLS	**Shalkode**	**5.95**	**48**	Pg	**Pg**		**16 21 22.4 +0.4**
	comp=Z,107nm,1.1s						
SHLS				Lg	Lg		16 22 45.0
	comp=Z,205nm,1.3s						
PDGK	**Podgornoye**	**6.07**	**47**	PN	**Pn**		**16 20 59.0 +1.3**
PDGK	**Podgornoye**	**6.07**	**47**	Pg	Pg		16 21 19.5 -4.9
	comp=Z,53nm,0.8s						
PDGK				Lg	Lg		16 22 39.7
	comp=Z,75nm,1.1s						
PDGK	**Podgornoye**	**6.07**	**47**	⇑Pn	**Pn**		**16 20 59.0 +1.3**
	comp=Z,56nm,0.8s						
PDGK				⇓Pg	**Pg**		**16 21 20.7 -3.7**
	comp=Z,111nm,0.7s						
PDGK				⇓Lg	Lg		16 22 40.7
	comp=Z,386nm,0.9s						
BLB	**Baldybastay**	**6.07**	**37**	Pg	**Pb**		**16 21 18.2 +4.3**
	comp=Z,155nm,0.6s						
BLB				Lg	Lg		16 22 38.1
	comp=Z,288nm,1.4s						
KTMS	**Ketmen**	**6.64**	**50**	Pg	Pg		16 21 29.8 -5.5
	comp=Z,42nm,0.8s						
KTMS				Lg	Lg		16 22 57.8
	comp=Z,47nm,1.3s						
THW	**Thamme Wali**	**6.69**	**192**	P	Pn		16 21 12.7 +6.5
JMU	**Jammu**	**6.75**	**169**	*e*S	**Sn**		**16 22 28.1 +4.5**
TDK	**Taldyqorghan**	**6.76**	**32**	*e*PN	**Pn**		**16 21 08.4 +1.4**
TDK				pmax	pmax		
	comp=Z,17nm,1.0s						
TDK	**Taldyqorghan**	**6.76**	**32**	*e*Pn	**Pn**		**16 21 08.4 +1.4**
	comp=Z,17nm,1.0s,baz=32						
TDK				*e*Pg	Pg		16 21 32.5 -5.0
	baz=32						
TDK	**Taldyqorghan**	**6.76**	**32**	Pg	**Pb**		**16 21 29.1 +3.7**
	comp=Z,116nm,0.7s						
TDK				Lg	Lg		16 22 56.6
	comp=Z,709nm,1.8s						
DJR	**Jarkent**	**6.89**	**42**	Pg	**Pb**		**16 21 32.2 +4.4**
	comp=Z,39nm,0.8s						
DJR				Lg	Lg		16 23 02.2
	comp=Z,122nm,1.5s						
THN	**Thein Dam**	**7.17**	**164**	*e*P	**Pn**		**16 21 16.8 +4.1**
KAPS	**Kapalarasan**	**7.39**	**35**	Pg	Pb		16 21 42.9 +6.7
	comp=Z,28nm,0.7s						
KAPS				Lg	Lg		16 23 20.2
	comp=Z,125nm,1.5s						
SARP	**Sargodha**	**7.45**	**185**	P	Pn		16 21 22.3 +5.8
BHK	**Bhakra**	**8.31**	**162**	*e*P	**Pn**		**16 21 28.3 0.0**
BHK				*e*S	**Sn**		**16 23 03.8 +1.8**
SMLA	**Simla**	**8.78**	**158**	*e*P	**Pn**		**16 21 37.9 +3.1**
SMLA				*e*S	**Sn**		**16 23 12.0 -1.6**
SMLA				IAML			16 23 26.0
	comp=E,196nm,0.6s						
SMLA				IAML			16 23 29.8
	comp=N,232nm,0.6s						
OTUK	**Ortayu**	**8.91**	**356**	P	**Pn**		**16 21 36.9 +0.4**
OTUK	**Ortayu**	**8.91**	**356**	⇑Pn	**Pn**		**16 21 37.0 +0.4**
	comp=N,16nm,0.8s						
OTUK				⇓Lg	Lg		16 24 08.7
	comp=N,236nm,1.0s						
MAKZ	**Makanchi**	**9.74**	**37**	P	**Pn**		**16 21 51.1 +3.2**
MAKZ	**Makanchi**	**9.74**	**37**	Pn	**Pn**		**16 21 51.1 +3.2**
MAKZ	**Makanchi**	**9.74**	**37**	⇑Pn	**Pn**		**16 21 50.2 +2.3**
	comp=N,20nm,1.1s						
MAKZ				⇓Lg	Lg		16 24 39.3
	comp=N,39nm,1.1s						
DDI	**Dehra Dun**	**9.80**	**156**	*e*P	**Pn**		**16 21 51.9 +3.0**
DDI				IAML			16 23 57.4
	comp=E,268nm,1.3s						
DDI				IAML			16 24 00.6
	comp=N,202nm,0.6s						
MK31	**Makanchi Array**	**9.88**	**38**	*de*P	**Pn**		**16 21 51.2 +1.4**
MK31	**Makanchi Array**	**9.88**	**38**		**Pn**		**16 21 51.5 +1.7**
MK31	**Makanchi Array**	**9.88**	**38**	Pn	**Pn**		**16 21 51.2 +1.4**
	comp=N,12nm,0.8s,baz=212,slow=12,SNR=70						
MK31				⇑Lg	Lg		16 24 37.4
	comp=N,31nm,0.8s,baz=211,slow=24,SNR=5.3						
MKAR	**Makanchi Array**	**9.88**	**38**	Pn	**Pn**		**16 21 50.9 +1.1**
	comp=N,0.2nm,0.3s,baz=209,slow=11,SNR=57						
MKAR				Lg	Lg		16 24 35.2
	comp=N,0.5nm,0.3s,baz=237,slow=21,SNR=2.7						
MKAR				LR	LR		16 26 11.5
	comp=N,284nm,21.9s,baz=222,slow=41						
MKAR	**Makanchi Array**	**9.88**	**38**		**Pn**		**16 21 51.2 +1.4**
HRA	**Herat**	**10.21**	**244**	Pn	**Pn**		**16 21 56.0 +1.4**
BRZS	**Berezniki**	**10.63**	**358**	*e*P	**Pn**		**16 21 59.8 -0.2**
BRZS	**Berezniki**	**10.63**	**358**	*e*Pn	**Pn**		**16 21 59.8 -0.2**
	baz=357						
NDI	**New Delhi**	**11.12**	**162**	*e*P	**Pn**		**16 22 10.5 +3.7**
NDI				*e*S	**Sn**		**16 24 06.8 -4.2**
PTH	**Pithoragarh**	**11.30**	**148**	*e*S	**Sn**		**16 24 10.2 -5.5**
KUDL	**Kundal**	**11.49**	**166**	*e*P	**Pn**		**16 22 12.9 +1.0**
WMQ	**Urumqi**	**11.61**	**63**	*e*P	**Pn**		**16 22 13.4 -0.1**
WMQ				pP			16 22 19.9
WMQ				pmax	pmax		
	comp=N,30nm,0.9s						
WMQ				pmax	pmax		
	comp=N,190nm,4.1s						
WMQ				LR	LR		
	comp=N,740nm,8.3s						
WMQ				LR	LR		
	comp=N,470nm,11.5s						
ZSN	**Zaisan**	**11.61**	**42**	*e*P	**Pn**		**16 22 14.4 +0.9**
ZSN	**Zaisan**	**11.61**	**42**	*e*Pn	**Pn**		**16 22 14.4 +0.9**
	baz=42						
KURBB	**Kurchatov Arra**	**11.83**	**16**	Pn	**Pn**		**16 22 15.4 -1.0**
	comp=N,0.1nm,0.3s,baz=207,slow=12,SNR=38						
KURBB				Lg	Lg		16 25 37.4
	comp=N,0.2nm,0.3s,baz=179,slow=28,SNR=3.9						
KURBB				LR	LR		16 26 57.3
	comp=N,381nm,18.4s,baz=180,slow=38						
KURBB	**Kurchatov Arra**	**11.83**	**16**	P	**Pn**		**16 22 16.1 -0.3**
KURBB	**Kurchatov Arra**	**11.83**	**16**	⇑Pn	**Pn**		**16 22 16.2 -0.3**
	comp=N,8.5nm,0.6s						
KURBB				⇑Lg	Lg		16 25 40.5
	comp=N,245nm,1.2s		

comp=Z,8.2nm,0.5s
PKIN Phulchoki 15.44 136 *e*P Pn **16 23 03.3 -2.6**
comp=Z,13nm,0.5s
PKI Pulchoki 15.45 136 *e*P Pn **16 23 04.6 -1.5**
comp=Z,27nm,0.6s
AKTO Aktyubinsk 15.49 321 Pn Pn **16 23 05.3 -0.9**
comp=Z,1.0nm,0.3s,baz=131,slow=14,SNR=32
AKTO Sn **Sn 16 25 48.6 -8.9**
comp=Z,0.2nm,0.3s,baz=108,slow=20,SNR=2.5
AKTO LR LR 16 29 34.1
comp=Z,231nm,19.4s,baz=136,slow=39
AKTO Aktyubinsk 15.49 321 ⇑Pn Pn **16 23 03.9 -2.3**
comp=Z,46nm,0.8s
AKTO ⇓Sn **Sn 16 25 56.3 -1.2**
comp=Z,27nm,0.8s
BHPL Bhopal 16.44 167 *e*P Pn **16 23 17.2 -1.4**
BHPL *e*S **Sn 16 26 14.4 -6.5**
ZAAO Zalesovo Array 16.53 24 Pn Pn **16 23 18.4 -1.1**
ZALV Zalesovo Beam 16.53 24 Pn Pn **16 23 18.7 -0.9**
comp=Z,0.6nm,0.3s,baz=213,slow=11,SNR=40
ZALV LR LR 16 29 48.5
comp=Z,176nm,19.1s,baz=226,slow=38
ZALV Zalesovo Beam 16.53 24 P Pn **16 23 18.3 -1.3**
ZALV Zalesovo Beam 16.53 24 Pn Pn **16 23 18.3 -1.3**
RAMN Ramite 16.59 134 *e*P Pn **16 23 21.0 +0.3**
comp=Z,24nm,0.5s
JBP Jabalpur 17.10 159 *ex* x 16 23 25.9
JBP *e*S **Sn 16 26 30.2 -6.6**
ODAN Odare 17.10 133 *e*P Pn **16 23 27.2 +0.1**
comp=Z,34nm,0.7s
GOMU GeErMu 17.23 94 P Pn **16 23 26.2 -2.7**
GOMU pP P 16 23 31.2 +0.8
GOMU pmax pmax
comp=Z,96nm,4.0s
GOMU LR LR
comp=Z,190nm,9.7s
GOMU LR LR
comp=Z,210nm,12.8s
GOMU LR LR
comp=Z,260nm,13.1s
BOK Bokaro 18.80 142 *e*S **Sn 16 27 07.7 -10**
SVE Sverdlovsk 19.38 339 *e*P Pn **16 23 55.0 +0.4**
SVE pmax pmax
comp=Z,19nm,1.1s
ARU Arti 19.68 335 P P **16 23 55.3 -1.4**
comp=Z,0.0nm,0.3s,baz=158,slow=7.9,SNR=16
ARU LR LR 16 31 49.1
comp=Z,91nm,20.4s,baz=122,slow=38
ARU Arti 19.68 335*c i*P P **16 23 57.3 +0.6**
ARU S S **16 27 37.9 -0.3**
ARU pmax pmax
comp=Z,12nm,0.7s
MAK Makhachkala 19.78 289 *e*P P **16 23 57.5 -0.4**
MAK *e*S S **16 27 38.3 -2.1**
MAK pmax pmax
comp=Z,216nm,1.4s
MAK MLR MLR
comp=Z,162nm,19.0s
UOSS Minazif 20.40 230 P Pn 16 24 06.8 -0.2
GTA Gaotai 20.41 81 ⇑P Pn 16 24 06.2 -1.0
GTA pP sP 16 24 12.9 +0.4
GTA sP pP 16 24 16.1 +6.0
GTA pmax pmax
comp=Z,23nm,0.9s
GTA pmax pmax
comp=Z,150nm,6.4s
GTA LR LR
comp=Z,200nm,14.3s
GTA LR LR
comp=Z,270nm,13.1s
GTA LR LR
comp=Z,290nm,15.1s
GROC Groznyy 21.04 289 *e*P P **16 24 12.8 +1.2**
GROC *e* 16 24 30.9
GROC *e*S **S 16 28 04.7 -0.8**
GROC pmax pmax
comp=Z,46nm,0.6s
GNI Garni 21.99 281 P P **16 24 22.7 +0.6**
comp=Z,13nm,0.6s,baz=127,slow=18,SNR=3.0
GNI Garni 21.99 281*de*P P **16 24 24.0 +1.9**
GNI pmax pmax
comp=Z,49nm,1.3s
GNI Garni 21.99 281 P P **16 24 23.7 +1.6**
BELG Belogornoye 22.02 315 P P **16 24 20.5 -1.5**
comp=Z,104nm,0.9s,baz=66,slow=20,SNR=12
BELG LR LR 16 34 17.8
comp=Z,135nm,19.6s,baz=153,slow=40
BELG Belogornoye 22.02 315*d i*P P **16 24 21.2 -0.8**
BELG pmax pmax
comp=Z,15nm,0.9s
ZEI Tsey 22.43 288 *e*P P **16 24 30.5 +3.7**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
NCK Nalchik 22.65 290⇓*e*P P **16 24 29.7 +0.8**
NCK pmax pmax
comp=Z,13nm,0.8s
ONI Oni 22.77 288 P P **16 24 31.9 +1.7**
ONI pmax pmax
comp=Z,42nm,0.7s
ONI Oni 22.77 288 P P **16 24 31.9 +1.7**
MOY Mondy 22.77 48 *e*P P **16 24 30.0 -0.3**
MOY pmax pmax
comp=Z,23nm,1.9s
GOF Gofitskoye 23.10 294⇑*e*P P **16 24 39.9 +6.4**
KBZ Khabaz 23.16 291 P P **16 24 33.9 -0.3**
comp=Z,2.3nm,0.8s,baz=110,slow=6.7,SNR=7.0
KBZ LR LR 16 36 39.9
comp=Z,94nm,18.4s,baz=84,slow=44
KBZ Khabaz 23.16 291⇓*e*P P **16 24 33.4 -0.7**
KBZ pmax pmax
comp=Z,12nm,1.5s
NEY Neytrino 23.29 290⇑*e*P P **16 24 37.1 +1.4**
NEY pmax pmax
comp=Z,7.0nm,1.1s
KVAR Kislovodsk Arr 23.30 291 P P **16 24 36.4 +0.6**
comp=Z,4.3nm,0.8s,baz=73,slow=19,SNR=2.9
KIV Kislovodsk 23.31 291 *e*P P **16 24 37.3 +1.5**
KIV *e*S S **16 28 49.1 +1.1**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,57nm,14.0s
KIV Kislovodsk 23.31 291 P P **16 24 36.2 +0.4**
ZAK Zakamensk 23.72 52 *e*P P **16 24 39.6 -0.3**
ZAK pmax pmax
comp=Z,17nm,1.4s
LZH Lanzhou 24.26 88 ⇓P P **16 24 48.5 +3.3**
LZH pP sP 16 24 55.3 +2.4
LZH sP pP 16 24 59.3 +8.7
LZH pmax pmax
comp=Z,36nm,1.4s
LZH LR LR
comp=Z,540nm,15.7s
LZH LR LR
comp=Z,360nm,14.1s
LZH LR LR
comp=Z,420nm,14.1s
KIRV Kirov 24.61 329⇑*e*P P **16 24 47.6 -0.2**
VRH Novokhopyorsk 25.02 309 *e*P P **16 24 51.8 +0.2**
VRH pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 25.21 60 P P **16 24 53.8 +0.2**
comp=Z,13nm,1.0s,baz=262,slow=8.3,SNR=50
SONM LR LR 16 35 34.2
comp=Z,396nm,20.4s,baz=234,slow=38
SONM Songino Array 25.21 60 P P **16 24 53.7 +0.2**
SONM pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 25.21 60 P P **16 24 53.7 +0.2**
SONM IAmb IAmb 16 24 56.1
comp=Z,13nm,0.9s
VSLR Vesyoloye 25.24 290⇓*e*P P **16 24 55.1 +1.4**
SOC Sochi 25.46 290 *e*P P **16 24 55.7 -0.1**
SOC *e*PPP PPP 16 25 41.7
SOC *e*S S **16 29 22.3 -0.1**
SOC *e*SS **SnSn 16 30 18.5 +3.6**
SOC *e*SSS SSS 16 30 35.8
SOC pmax pmax
comp=Z,14nm,0.7s
ULN Ulaanbaatar 25.65 60*ce*P P **16 24 57.8 +0.2**
ULN pmax pmax
comp=Z,23nm,1.7s
CD2 Chengdu 26.14 99 P P **16 25 05.0 +2.9**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 LR LR
comp=Z,30nm,14.3s
CD2 LR LR
comp=Z,260nm,14.6s
CD2 LR LR
comp=Z,270nm,14.3s
VORD Divnogorie 26.45 307 *e*P P **16 25 03.9 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 26.58 308 *e*P P **16 25 05.0 -0.8**
VSR pmax pmax
comp=Z,30nm,1.2s
VORR Voronezh 26.66 309 P P **16 25 03.6 -2.9**
VORR *SS sS 16 30 49.9 +60
VORR pmax pmax
comp=Z,13nm,1.4s
PZH PanZhiHua 26.92 110 P P **16 25 15.5 +6.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,80nm,4.1s
LPSR Galich'ya Gora 27.06 311 *e*P P **16 25 09.9 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
ANN Anapa 27.07 293 *e*P P **16 25 08.9 -1.4**
ANN *e**PP **pP 16 25 17.4 +1.7**
ANN *e*PPP PPP 16 26 01.7
ANN *e*S S **16 29 46.0 -1.8**
ANN pmax pmax
comp=Z,27nm,1.0s
PRGR Permogore 28.04 332 *e*P P **16 25 22.9 +4.2**
PRGR pmax pmax
comp=Z,2.0nm,0.4s
RAYN Ar Rayn 28.40 244 P P **16 25 24.2 +1.8**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 28.40 244 P P **16 25 24.2 +1.8**
MOS Moscow 28.74 317 *e*P P **16 25 24.8 -0.3**
HHC Hu-ho-hao-te 29.09 75 *e*P P **16 25 29.5 +1.0**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.6s
HHC LR LR
comp=Z,290nm,15.2s
HHC LR LR
comp=Z,190nm,14.6s
HHC LR LR
comp=Z,290nm,15.9s
OBN Obninsk 29.12 315⇑*e*P P **16 25 28.9 +0.5**
OBN *e* 16 26 22.3
OBN pmax pmax
comp=Z,43nm,2.5s
OBN MLR MLR
comp=Z,73nm,14.0s
KLMR Klimovskoe 30.00 327 *e*P P **16 25 38.7 +2.5**
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 30.00 327 *e*P P **16 25 38.7 +2.5**
KLMR AMP 16 25 44.5
comp=Z,15nm,1.3s
CMAR Chiang Mai Arr 30.39 126 P P **16 25 39.4 -0.7**
comp=Z,0.2nm,0.3s,baz=324,slow=8.9,SNR=1.5
CMAR LR LR 16 39 14.0
comp=Z,59nm,21.6s,baz=295,slow=39
BR131 Keskin Array S 30.47 284*d i*P P **16 25 42.0 +1.2**
BR131 Keskin Array S 30.47 284 P P **16 25 41.9 +1.2**
BR131 IAmb IAmb 16 25 49.6
comp=Z,13nm,0.8s
BRTR Keskin Array B 30.47 284 P P **16 25 41.1 +0.3**
comp=Z,3.6nm,0.6s,baz=89,slow=6.9,SNR=21
BRTR Keskin Array B 30.47 284 *i* P P **16 25 42.4 +1.6**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BRTR Keskin Array B 30.47 284 P P **16 25 42.0 +1.2**
NRIK Noril'sk 30.98 10 P P **16 25 45.0 +0.2**
comp=Z,5.8nm,0.9s,baz=197,slow=4.9,SNR=8.5
NRIK Noril'sk 30.98 10*d i*P P **16 25 45.4 +0.7**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
BOD Bodaibo 31.95 41 *e*P P **16 25 53.0 -0.4**
BOD pmax pmax
comp=Z,8.0nm,0.9s
PALK Pallekele 32.62 166 LR LR 16 39 02.0
comp=Z,135nm,18.0s,baz=100,slow=36
AKASG Malin Array Be 32.73 305 P P **16 26 00.5 +0.2**
comp=Z,1.6nm,0.5s,baz=79,slow=7.3,SNR=27
AKASG LR LR 16 41 52.1
comp=Z,186nm,18.4s,baz=72,slow=41
AKASG Malin Array Be 32.73 305 P P **16 26 00.5 +0.2**
AKBB Malin Array Si 32.73 305*ce*P P **16 26 00.6 +0.3**
AKBB Malin Array Si 32.73 305 P P **16 26 00.3 0.0**
AKBB IAmb IAmb 16 26 01.2
comp=Z,8.8nm,0.7s
EIL Elat 32.90 265 LR LR 16 42 12.2
comp=Z,176nm,18.9s,baz=75,slow=42
TPGR Topolog 33.47 294⇑P P **16 26 08.5 +1.6**
CFR Carcaliu 33.63 295⇓P P **16 26 09.5 +1.3**
WHN Wuhan 34.47 92⇑P P **16 26 17.6 +1.9**
WHN sP **sP 16 26 23.8 +0.3**
AKAS Kas 34.48 279 P P **16 26 15.3 -0.6**
TESR Tescani 34.53 297⇑P P **16 26 17.4 +1.3**
VRI Vrincioaia 34.54 296⇑P P **16 26 18.3 +2.2**
NACGM Naroch 34.58 312 *e*P P **16 26 20.2 +3.8**
PLOR Plostina 34.59 296⇓P P **16 26 18.6 +1.9**
IDID Didziasalis 34.66 313 *e*P P **16 26 18.5 +1.5**
ISR Istrita 34.76 295⇑P P **16 26 21.2 +3.1**
COVR Voineasa-Covas 34.91 296⇑P P **16 26 21.2 +1.9**
IIGN Ignalina 34.95 313 *e*P P **16 26 21.1 +1.5**
MLR Muntele Rosu 35.13 296⇑P P **16 26 24.3 +2.9**
MLR Muntele Rosu 35.13 296 P P **16 26 22.4 +1.0**
comp=Z,6.9nm,0.8s,baz=296,slow=0.1,SNR=14
MLR Muntele Rosu 35.13 296 P P **16 26 22.3 +0.9**
VSU Vasula 35.20 318⇓*e*P P **16 26 22.4 +0.8**
VSU pmax pmax
comp=Z,38nm,1.0s
VSU Vasula 35.20 318 *e*P P **16 26 23.2 +1.5**
BUR01 Bucovina Ar. S 35.41 300⇑P P **16 26 25.5 +1.8**
BURAR Bucovina Array 35.41 300 P P **16 26 24.1 +0.3**
BUR08 Bucovina Ar. S 35.42 300 P P **16 26 24.8 +0.9**
LVZ Lovozero 35.55 336⇑*e*P P **16 26 24.6 0.0**
LVZ pmax pmax
comp=Z,14nm,1.1s
VOIR 35.76 296 ⇓P P **16 26 27.9 +1.2**
APA Apatity 35.77 335⇓*i*P P **16 26 25.8 -0.7**
APA pmax pmax
comp=Z,4.0nm,1.0s
ARCR ARCALIA 36.04 299⇑P P **16 26 30.9 +1.8**
LVV L'vov 36.06 303 *e*P P **16 26 30.4 +1.2**
FIA1 FINESS Array S 36.23 323 P P **16 26 31.4 +1.0**
FIA1 IAmb IAmb 16 26 41.4
comp=Z,9.1nm,1.0s
FINES FINESS Array B 36.23 323 P P **16 26 31.4 +0.9**
comp=Z,4.7nm,0.4s,baz=110,slow=8.9,SNR=52
FINES LR LR 16 42 03.4
comp=Z,199nm,18.5s,baz=102,slow=37
PABE Paberze 36.25 313 *e*P P **16 26 32.0 +1.4**
MTSE Matsula 36.75 318 *e*P P **16 26 35.8 +0.9**
TRPA Tarpa 37.16 301⇑P P **16 26 40.2 +1.6**
TRPA Tarpa 37.16 301 P P **16 26 43.1 +4.6**
UZH Uzhgorod 37.27 302 *e*P P 16 26 49.2 +10
UZH *e* 16 27 01.5
UZH *e* 16 27 06.6
APE Apeiranthos 37.32 282⇓P P **16 26 41.8 +1.7**
NJ2 Nanjing 37.33 87 *e*P P **16 26 40.9 +0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
GZR Gura Zlata 37.35 296⇓P P **16 26 41.3 +1.0**
VTS Vitosha 37.54 292⇓P P **16 26 44.2 +2.1**
HERR Herculane 37.69 295⇑P P **16 26 44.2 +1.1**
BLKB Belogradchik 37.74 293⇓P P **16 26 45.6 +2.0**
SIRR Siria 37.99 298⇓P P **16 26 47.7 +2.1**
BZS Buzias 38.12 297⇑P P **16 26 48.7 +2.0**
MDVR Moldovita 38.20 295⇓P P **16 26 49.2 +1.8**
KLNR Kaliningrad 38.36 311*de*P P **16 26 50.1 +1.5**
KLNR pmax pmax
comp=Z,66nm,0.9s
ZEA Zeya 38.77 50 *e*P P **16 26 53.2 +1.1**
KEV Kevo 38.89 336 P P **16 26 52.3 -0.6**
KEV pmax pmax
comp=Z,31nm,1.3s
KEV Kevo 38.89 336 P P **16 26 52.2 -0.6**
PSZ Piszkesteto 38.95 301⇓P P **16 26 55.2 +1.4**
AGG Agios Georgios 39.13 286 P P **16 26 55.3 0.0**
AGG pmax pmax
comp=Z,15nm,1.3s
AGG Agios Georgios 39.13 286 P P **16 26 55.3 0.0**
AGG IAmb IAmb 16 27 24.0
comp=Z,15nm,1.3s
ARCES ARCESS Array B 39.26 336 P P **16 26 56.9 +0.8**
comp=Z,4.4nm,0.6s,baz=108,slow=8.1,SNR=20
ARCES ARCESS Array B 39.26 336 P P **16 26 56.9 +0.8**
ARCES IAmb IAmb 16 27 08.6
comp=Z,16nm,1.1s
FRGS Fruska Gora 39.45 296⇑P P **16 26 58.6 +0.7**
MORH Mrgy, Hungar 40.06 298⇑P P **16 27 03.8 +0.9**
MORH Mrgy, Hungar 40.06 298 P P **16 27 06.6 +3.7**
MORC Moravsky Berou 40.25 304⇑P P **16 27 06.7 +2.1**
MORC Moravsky Berou 40.25 304 *e*P P **16 27 05.7 +1.1**
JAVC Velka Javorina 40.29 302 *e*P P **16 27 06.9 +2.0**
PDG Podgorica 40.45 292⇓P P **16 27 08.1 +2.0**
KOVH Kovagotottos 40.45 298 P P 16 27 11.7 +5.5
YAK Yakutsk 40.55 37 P P **16 27 06.2 -0.5**
comp=Z,5.8nm,0.6s,baz=248,slow=5.1,SNR=8.7
YAK LR LR 16 45 02.2
comp=Z,75nm,18.9s,baz=211,slow=38
YAK Yakutsk 40.55 37*ce*P P **16 27 05.8 -0.9**
YAK pmax pmax
comp=Z,13nm,0.7s
KRLC Kraliky 40.70 304 *e*P P **16 27 08.9 +0.6**
KRLC Kraliky 40.70 304 *e*P P **16 27 08.9 +0.6**
VRAC Vranov 40.93 303 LR LR 16 45 35.5
comp=Z,102nm,18.0s,baz=273,slow=38
VRAC Vranov 40.93 303 *e*P P **16 27 11.6 +1.5**
DPC Dobruska-Polom 40.96 305 *e*P P **16 27 11.5 +1.1**
DPC Dobruska-Polom 40.96 305 *e*P P **16 27 11.5 +1.1**
KRUC Moravsky 41.09 303 *e*P P **16 27 13.1 +1.7**
CHVC Chvalec 41.10 305 *e*P P **16 27 13.2 +1.6**
CONA Conrad Observa 41.62 301 *i* P P **16 27 17.3 +1.4**
comp=Z,7.3nm,1.2s
KLR Kul'dur 41.97 57 P P **16 27 18.4 -0.2**
comp=Z,3.1nm,0.7s,baz=282,slow=9.0,SNR=8.6
KLR LR LR 16 45 56.4
comp=Z,140nm,18.5s,baz=277,slow=38
KLR Kul'dur 41.97 57⇑*e*P P **16 27 18.7 +0.1**
KLR pmax pmax
comp=Z,9.0nm,1.7s
ARSA Arzberg 41.98 300 *i* P P **16 27 19.0 +0.3**
comp=Z,3.3nm,1.1s
HFS Hagfors 42.03 320 LR LR 16 45 37.2
comp=Z,124nm,21.9s,baz=104,slow=37
PRU Pruhonice 42.15 305 *e*P P **16 27 23.3 +3.2**
PRU Pruhonice 42.15 305 *e*P P **16 27 23.3 +3.2**
KSRS Korea Array 42.24 75 P P **16 27 20.6 -0.3**
comp=Z,1.6nm,0.9s,baz=262,slow=7.4,SNR=4.1
KSRS LR LR 16 47 43.1
comp=Z,121nm,18.0s,baz=285,slow=40
TIXI Tiksi 42.41 23 P P **16 27 21.4 -0.5**
comp=Z,4.4nm,0.6s,baz=267,slow=23,SNR=34
TIXI Tiksi 42.41 23*ce*P P **16 27 21.3 -0.6**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 42.41 23 P P **16 27 21.5 -0.5**
SOKA Soboth 42.42 300 *e*P P **16 27 23.6 +1.1**
comp=Z,8.0nm,1.2s
CKRC Cesky Krumlov 42.49 303 *e*P P 16 27 28.1 +5.2
MOA Molln 42.70 302 *e*P P **16 27 24.5 -0.1**
comp=Z,3.8nm,1.0s
OBKA Obir 42.78 300 *e*P P **16 27 29.3 +3.9**
comp=Z,8.6nm,1.1s
GERES GERESS Array B 42.88 303 P P **16 27 27.7 +1.5**
comp=Z,2.2nm,0.5s,baz=62,slow=9.2,SNR=22
GERES LR LR 16 48 49.9
comp=Z,103nm,18.1s,baz=343,slow=41
GERES GERESS Array B 42.88 303 P P **16 27 28.2 +2.0**
KHC Kasperske Hory 42.91 304⇑*e*P P **16 27 24.9 -1.4**
KHC pmax pmax
comp=Z,6.0nm,1.1s
KHC Kasperske Hory 42.91 304 P P **16 27 27.3 +1.0**
KHC Kasperske Hory 42.91 304 *e*P P **16 27 27.7 +1.4**
CLL Collm 42.92 307 *e*P P **16 27 28.0 +1.7**
CLL *e* 16 29 19.0
CLL Collm 42.92 307 *e*P P **16 27 28.0 +1.7**
CLL *ex* x 16 27 34.0
CLL *e*PP **PP 16 29 07.0 +1.2**
CLL *ex* x 16 29 12.0
CLL *e*PPP 16 29 19.0
CLL *es*PP 16 29 24.0
NC405 NORSAR Array S 43.04 321 P P **16 27 27.8 +0.7**
USRK Ussuriysk Ar. 43.17 64 P P **16 27 27.9 -0.6**
comp=Z,0.9nm,0.5s,baz=241,slow=5.9,SNR=1.8
USRK LR LR 16 48 20.0
comp=Z,94nm,18.1s,baz=277,slow=40
PSI Prapat 43.18 141 P P **16 27 30.4 +1.6**
comp=Z,3.2nm,0.5s,baz=347,slow=10,SNR=5.7
PSI LR LR 16 47 30.9
comp=Z,57nm,19.5s,baz=297,slow=39
NC303 NORSAR Array S 43.21 321 P P **16 27 29.0 +0.5**
NC303 IAmb IAmb 16 27 33.5
comp=Z,14nm,0.9s
RPSI Rantau Prapat 43.27 141 P P **16 27 30.4 +1.0**
NB2 NORSAR Subarra 43.28 321 P P **16 27 29.1 -0.1**
comp=Z,1.8nm,0.5s,baz=91,slow=7.9
NOA NORSAR Array B 43.28 321 P P **16 27 29.4 +0.2**
comp=Z,3.4nm,0.6s,baz=91,slow=7.9,SNR=25
NOA LR LR 16 45 31.0
comp=Z,83nm,18.9s,baz=85,slow=36
KBA Koelnbreinsper 43.47 301 *e*P P **16 27 32.9 +1.9**
comp=Z,5.0nm,1.5s
NBO00 NORSAR Array S 43.49 321 P P **16 27 31.1 +0.2**
NBO00 IAmb IAmb 16 27 44.3
comp=Z,21nm,1.2s
WTTA Wattenberg 44.56 301 *e*P P **16 27 41.3 +1.5**
comp=Z,8.8nm,1.3s
WATA Walderalm 44.58 301 *e*P P **16 27 42.5 +2.5**
comp=Z,4.6nm,0.6s
NRCA Norcia 44.70 295 P P **16 27 41.4 +0.5**
NRCA IAmb IAmb 16 27 47.5
comp=Z,7.6nm,0.6s
SQTA Sankt Quirin 44.85 301 *e*P P **16 27 46.2 +4.2**
comp=Z,2.9nm,0.6s
DAVA Damuels 45.72 302 *i* P P **16 27 49.5 +0.5**
comp=Z,7.5nm,0.6s
DAVOX Davos/Dischmat 45.84 301 LR LR 16 47 41.2
comp=Z,120nm,18.4s,baz=290,slow=37
JNU Nakatsue 46.12 79 P P **16 27 50.6 -1.6**
comp=Z,8.5nm,0.9s,baz=276,slow=3.8,SNR=5.4
YSS Yuzh-Sakhalins 49.66 57 *e*P P 16 28 26.2 +6.8
YSS MLR MLR
comp=Z,500nm,15.0s
YSS MLR MLR
comp=E,400nm,16.0s
MAJO Matsushiro 50.21 72⇓*e*P P **16 28 23.0 -0.7**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MAJO Matsushiro 50.21 72 P P **16 28 23.0 -0.7**
MAJO IAmb IAmb 16 28 30.1
comp=Z,7.3nm,0.8s
MJAR Matsushiro Arr 50.21 72 P P **16 28 22.9 -0.8**
comp=Z,3.2nm,0.8s,baz=338,slow=13,SNR=7.4
MJAR LR LR 16 50 53.9
comp=Z,35nm,18.9s,baz=277,slow=38
MJAR Matsushiro Arr 50.21 72 P P **16 28 21.1 -2.6**
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MJAR Matsushiro Arr 50.21 72 P P **16 28 21.1 -2.6**
MJAR IAmb IAmb 16 28 24.0
comp=Z,5.1nm,0.9s
ASAJ Asahikawa 50.48 61 LR LR 16 51 35.1
comp=Z,218nm,18.2s,baz=344,slow=38
MA2 Magadan 50.96 40 P P **16 28 28.3 -0.7**
comp=Z,4.9nm,0.8s,baz=330,slow=20,SNR=2.6
MA2 LR LR 16 51 02.7
comp=Z,78nm,20.0s,baz=271,slow=37
MA2 Magadan 50.96 40⇑*e*P P **16 28 28.0 -1.0**
MA2 pmax pmax
comp=Z,11nm,1.2s
SEY Seymchan 50.99 35 LR LR 16 49 21.2
comp=Z,47nm,20.5s,baz=274,slow=35
SEY Seymchan 50.99 35*de*P P **16 28 29.1 -0.1**
SEY pmax pmax
comp=Z,7.0nm,2.5s
JMM Marumori 51.55 69 P P **16 28 33.3 -0.5**
KMBO Kilima Mbogo 52.14 228 P P **16 28 39.9 +1.2**
comp=Z,0.8nm,0.3s,baz=68,slow=19,SNR=2.2
KMBO Kilima Mbogo 52.14 228⇓*e*P P **16 28 40.8 +2.1**
BILL Bilibino 55.21 27⇑*e*P P **16 29 00.7 +0.5**
BILL *e* 16 31 03.6
BILL pmax pmax

comp=Z,8.0nm,1.7s
BILL MLR MLR
comp=Z,61nm,16.0s
BILL Bilibino 55.21 27 P **P** **16 29 00.4 +0.2**
BILL IAmb IAmb 16 29 06.5
comp=Z,3.0nm,0.7s
MBAR Mbarara 55.69 235 LR LR 16 53 53.5
comp=Z,101nm,18.6s,baz=34,slow=37
LEM Lembang 55.82 138 LR LR 16 58 15.4
comp=Z,37nm,18.9s,baz=192,slow=42
PETK Petropavlovsk- 56.62 46 P **P** **16 29 11.6 +1.1**
comp=Z,3.6nm,0.9s,baz=279,slow=10,SNR=4.2
PETK LR LR 16 54 29.5
comp=Z,68nm,18.2s,baz=291,slow=37
BORG Borgarnes 57.09 329 LR LR 16 51 59.2
comp=Z,68nm,18.4s,baz=125,slow=34
PET Petropavlovsk 57.18 46|| *e*P **P** **16 29 12.7 -1.8**
PET pmax pmax
comp=Z,24nm,2.5s
ESDC Sonseca Array 57.80 297 P **P** **16 29 19.3 +0.1**
comp=Z,2.0nm,0.7s,baz=58,slow=6.9,SNR=13
KAPI Kappang 61.45 125 LR LR 16 58 44.6
comp=Z,18nm,18.7s,baz=268,slow=38
SFJD Kangerlussuaq 65.76 339 LR LR 16 58 08.5
comp=Z,57nm,19.6s,baz=96,slow=35
SIJI Sorong 66.27 112 LR LR 17 03 10.0
comp=Z,26nm,18.2s,baz=142,slow=40
TOA0 Torodi Ar. Sit 67.66 269 P **P** **16 30 25.1 0.0**
TOA0 IAmb IAmb 16 30 31.2
comp=Z,4.6nm,0.8s
TORD Torodi Ar. Bea 67.66 269 P **P** **16 30 24.8 -0.4**
comp=Z,1.4nm,0.5s,baz=51,slow=5.3,SNR=17
TORD Torodi Ar. Bea 67.66 269 P **P** **16 30 24.6 -0.6**
TOLK Toolik Lake Re 67.67 16 P **P** **16 30 24.5 0.0**
TOLK IAmb IAmb 16 30 30.2
comp=Z,5.5nm,0.7s
A36M Sachs Harbour 68.17 6 P **P** **16 30 26.8 -0.7**
J20K Nowinta River 70.21 20 P **P** **16 30 38.7 -1.5**
J20K IAmb IAmb 16 30 46.3
comp=Z,5.7nm,0.9s
INK Inuvik 70.77 10 P **P** **16 30 42.4 -1.2**
comp=Z,2.3nm,0.4s,baz=343,slow=8.7,SNR=8.5
INK LR LR 17 06 55.9
comp=Z,38nm,18.3s,baz=112,slow=40
INK Inuvik 70.77 10 P **P** **16 30 43.9 +0.3**
INK IAmb IAmb 16 30 52.5
comp=Z,5.8nm,0.8s
C36M Paulatuk 70.84 6 P **P** **16 30 43.1 -0.9**
C36M IAmb IAmb 16 30 50.8
comp=Z,7.2nm,0.7s
COLA College 71.20 17|| *e*P **P** **16 30 46.2 0.0**
COLA pmax pmax
comp=Z,12nm,1.9s
ILAR Eielson Array 71.50 17 P **P** **16 30 47.1 -1.0**
comp=Z,1.9nm,0.8s,baz=321,slow=5.1,SNR=20
ILAR LR LR 17 05 57.2
comp=Z,40nm,19.4s,baz=346,slow=39
ILAR Eielson Array 71.50 17 P **P** **16 30 47.5 -0.6**
DHY Denali Highway 72.83 18 P **P** **16 30 55.4 -0.9**
DHY IAmb IAmb 16 31 01.2
comp=Z,8.3nm,0.8s
DBIC Dimbokro 76.71 268 P **P** **16 31 19.9 +0.6**
comp=Z,1.7nm,0.7s,baz=0.0,slow=4.0,SNR=1.9
DBIC LR LR 17 10 24.0
comp=Z,55nm,18.4s,baz=36,slow=40
YKA Yellowknife Ar 78.28 4 P **P** **16 31 27.0 -0.3**
comp=Z,4.5nm,0.7s,baz=350,slow=5.8,SNR=53
BOSA Boshof 81.14 221 P **P** **16 31 44.1 +0.7**
comp=Z,3.4nm,1.0s,baz=26,slow=6.8,SNR=4.2
BOSA Boshof 81.14 221 P **P** **16 31 43.5 +0.1**
BOSA pmax pmax
comp=Z,12nm,1.4s
BOSA Boshof 81.14 221 P **P** **16 31 43.5 +0.1**
BOSA IAmb IAmb 16 31 47.7
comp=Z,12nm,1.4s
WRA Warramunga Arr 81.96 124 P **P** **16 31 46.9 -1.0**
comp=Z,0.9nm,0.7s,baz=325,slow=5.0,SNR=12
WRA Warramunga Arr 81.96 124 *i* P **P** **16 31 48.5 +0.7**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRAB Tennant Creek 81.96 124|| *e*P **P** **16 31 50.7 +2.9**
WRAB pmax pmax
comp=Z,3.0nm,0.8s
PMG Port Moresby 83.62 108 LR LR 17 13 50.1
comp=Z,18nm,19.2s,baz=262,slow=39
ASAR Alice Springs 84.40 127 P **P** **16 31 59.3 -1.1**
comp=Z,0.7nm,0.7s,baz=313,slow=5.0,SNR=13
SADO Sadowa 92.67 341 LR LR 17 17 36.0
comp=Z,32nm,18.8s,baz=212,slow=38
PDAR Pinedale Array 98.20 2 LR LR 17 24 19.8
comp=Z,27nm,18.6s,baz=31,slow=40
PLCA Paso Flores 152.47 255 PKPbc **PKPbc** **16 39 22.7 -1.2**
comp=Z,1.0nm,0.8s,baz=0.0,slow=12,SNR=1.3

*IDC **09** 16:22:33.0±1.5,34.96N×135.37E,h0km,mb3.3/1, mb1 3.3/5,mb1mx3.2/63,mbtmp3.4/5,ML3.0/4,MS2.4/3, Ms1 2.4/3,ms1mx2.2/39,Error ellipse: s-maj=28.6km s-min=12.5km az=157.0*

*NIED **09** 16:22:34.4,34.94N×135.42E,h14km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.38; $M_{\theta\theta}$0.95; $M_{\phi\phi}$-3.33; $M_{r\theta}$-0.98; $M_{r\phi}$0.74; $M_{\theta\phi}$-0.10; Fault plane solution: $M_0$3.18000×10^{14} NP1: ϕ_s196.00000°,δ51.00000°,λ128.00000°. NP2: ϕ_s325.00000°,δ52.00000°,λ53.00000°.*

*JMA **09** 16:22:34.4,34.94N×135.42E,h14km,M3.7 Broadband fault plane solution: P waves. NP1:ϕ_s315.00000°, δ61.00000°,λ57.00000°. NP2:ϕ_s188.00000°,δ43.00000°, λ134.00000°. Principal axes: T Plg60.0000°, Azm175.0000°; N Plg28.0000°, Azm333.0000°; P Plg10.0000°, Azm68.0000°;*

JMA Felt III J1.

ISC 09 16:22:33.9±1.1,34.96N±0.03×135.42E±0.03,h15km±9km, n16,σ1§16/29,5C-5D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JWT	**Wachi**	**0.33**	**358**	↑P		**Pb**	**16 22 41.4**	**-0.1**
JWT				S		**Sb**	**16 22 46.0**	**-0.6**
JHE	**Heguri**	**0.37**	**144**	↑P		**Pg**	**16 22 41.5**	**0.0**
JHE				S		**Sg**	**16 22 46.7**	**0.0**
JKS	**Kasai**	**0.47**	**273**	↓P		**Pb**	**16 22 43.6**	**-0.4**
JKS				S		**Sb**	**16 22 50.1**	**-0.6**
JAWN	**Awajishima-nag**	**0.63**	**222**	↓P		**Pb**	**16 22 46.4**	**-0.3**
JAWN				S		**Sb**	**16 22 55.2**	**-0.2**
JKY	**Yasaka**	**0.72**	**339**	↑P		**Pb**	**16 22 48.4**	**+0.2**
JKY				S		**Sb**	**16 22 58.0**	**+0.1**
JWY	**Kouya**	**0.75**	**169**	↑P		**Pg**	**16 22 48.1**	**-0.5**
JWY				S		**Sg**	**16 22 57.8**	**-0.7**
TSUJ	**Tsu 2**	**0.86**	**106**	↓P		**Pg**	**16 22 50.3**	**-0.3**
TSUJ				S		**Sg**	**16 23 01.6**	**-0.3**
JKSM	**Kasumi**	**0.88**	**316**	↓P		**Pb**	**16 22 51.1**	**+0.1**
JKSM				S		**Sb**	**16 23 03.0**	**+0.4**
JKN2	**Miekihoku**	**1.00**	**135**	↑P		**Pg**	**16 22 52.7**	**-0.7**
JKN2				S		**Sg**	**16 23 05.5**	**-1.0**
JAD	**Aida**	**1.03**	**270**	↓P		**Pg**	**16 22 52.9**	**-0.9**
JAD				S		**Sb**	**16 23 06.7**	**0.0**
MJAR	**Matsushiro Arr**	**2.77**	**54**	Pn		**Pn**	**16 23 19.7**	**+1.9**
	1.0nm,0.3s,baz=239,slow=15,SNR=47							
MJAR				Pg		**Pg**	**16 23 26.0**	**-1.0**
	4.4nm,0.3s,baz=257,slow=14,SNR=26							
MJAR				Lg		Lg	16 23 60.0	
	9.5nm,0.3s,baz=238,slow=32,SNR=19							
MJAR				LR		LR	16 24 21.7	
	comp=Z,33nm,20.5s,baz=243,slow=39							
JHJ	**Hachijo jima 2**	**4.06**	**116**	Pn		**Pn**	**16 23 36.5**	**+1.0**
	8.2nm,0.3s,baz=301,slow=9.6,SNR=6.9							
JHJ				Sn		**Sn**	**16 24 20.9**	**-1.9**
	4.0nm,0.3s,baz=65,slow=22,SNR=1.2							
JNU	**Nakatsue**	**4.19**	**245**	Pn		**Pn**	**16 23 38.2**	**+0.9**
	1.9nm,0.3s,baz=66,slow=19,SNR=13							
JNU				Pg		**Pb**	**16 23 50.2**	**+2.9**
	3.7nm,0.3s,baz=57,slow=13,SNR=11							
JNU				Sn		**Sn**	**16 24 23.1**	**-2.9**
	1.6nm,0.3s,baz=230,slow=16,SNR=1.8							
JNU				Lg		Lg	16 24 42.4	
	1.9nm,0.3s,baz=131,slow=9.8,SNR=3.7							
KSRS	**Korea Array**	**6.55**	**295**	Pn		**Pn**	**16 24 11.2**	**+1.4**
	0.1nm,0.3s,baz=109,slow=14,SNR=2.4							
KSRS				LR		LR	16 26 47.9	
	comp=Z,49nm,18.9s,baz=165,slow=39							
USRK	**Ussuriysk Ar.**	**9.60**	**345**	LR		LR	16 27 39.0	
	comp=Z,27nm,19.5s,baz=244,slow=32							
SONM	**Songino Array**	**25.12**	**310**	P		**P**	**16 27 58.8**	**+0.5**
	0.2nm,0.3s,baz=111,slow=7.9,SNR=1.5							

IDC 09 16:50:20.0±1.7,33.58N×125.40E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/41,mbtmp3.6/4,MS3.2/1,Ms1 3.2/1, ms1mx2.2/51,Error ellipse: s-maj=112.5km s-min=23.1km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.54**	**179**	P		P	16 55 11.7	+0.6
	1.0nm,0.5s,baz=359,slow=7.8,SNR=14							
WRA	**Warramunga Arr**	**24.97**	**160**	P		P	16 55 45.5	0.0
	0.7nm,0.3s,baz=338,slow=9.5,SNR=20							
ASAR	**Alice Springs**	**28.32**	**163**	P		P	16 56 15.4	-0.4
	0.2nm,0.4s,baz=342,slow=7.0,SNR=10							
ASAR				LR		LR	17 09 52.3	
	comp=Z,43nm,18.4s,baz=298,slow=41							
MKAR	**Makanchi Array**	**56.93**	**326**	P		P	17 00 07.0	-0.1
	0.3nm,0.4s,baz=119,slow=8.1,SNR=8.8							

*NIED **09** 16:53:36.9,34.94N×135.42E,h13km,MW3.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.32; $M_{\theta\theta}$0.11; $M_{\phi\phi}$-1.43; $M_{r\theta}$-0.39; $M_{r\phi}$0.47; $M_{\theta\phi}$-0.25; Fault plane solution: $M_0$1.52000×10^{14} NP1: ϕ_s326.00000°,δ46.00000°,λ62.00000°. NP2: ϕ_s183.00000°,δ51.00000°,λ116.00000°.*

JMA 09 16:53:36.9,34.94N×135.42E,h13km,M3.6,3C-7D Broadband fault plane solution: P waves. NP1: ϕ_s332.00000°,δ53.00000°,λ67.00000°. **NP2:** ϕ_s187.00000°,δ43.00000°,λ117.00000°. **Principal axes:** T Plg71.0000°, Azm184.0000°; N Plg18.0000°, Azm346.0000°; P Plg5.0000°, Azm78.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JWT	**Wachi**	**0.34**	**357**	↑P		Pg	16 53 43.9	0.0
JWT				S		Sg	16 53 48.4	-0.1
JHE	**Heguri**	**0.36**	**143**	↓P		Pg	16 53 44.1	-0.1
JHE				S		Sg	16 53 49.2	+0.2
JKS	**Kasai**	**0.47**	**275**	↓P		Pg	16 53 46.1	-0.2
JKS				S		Sg	16 53 52.6	0.0
JAWN	**Awajishima-nag**	**0.62**	**223**	↓P		Pg	16 53 48.8	-0.2
JAWN				S		Sg	16 53 57.5	+0.2
JKY	**Yasaka**	**0.73**	**339**	↑P		Pg	16 53 50.8	-0.4
JKY				S		Sg	16 54 00.6	-0.2
JWY	**Kouya**	**0.73**	**169**	↑P		Pg	16 53 50.5	-0.7
JWY				S		Sg	16 54 00.3	-0.5
TSUJ	**Tsu 2**	**0.85**	**105**	↓P		Pg	16 53 52.7	-0.7
TSUJ				S		Sg	16 54 04.0	-0.6
JKSM	**Kasumi**	**0.90**	**316**	↓P		Pg	16 53 53.5	-0.7
JKSM				S		Sg	16 54 05.3	-0.6
JKN2	**Miekihoku**	**0.99**	**135**	↓P		Pb	16 53 55.1	-0.8
JKN2				S		Sb	16 54 08.0	-0.9
JAD	**Aida**	**1.03**	**270**	↓P		Pb	16 53 55.3	-1.3
JAD				S		Sb	16 54 09.2	-0.8

*IDC **09** 17:03:15.2±1.0,38.84S×47.00E,h0km,mb3.7/6, mb1 4.0/6,mb1mx3.6/32,mbtmp3.8/6,MS3.6/6,Ms1 3.6/6, ms1mx3.1/67 Error ellipse: s-maj=65.8km s-min=23.9km az=23.0*

*NEIC **09** 17:03:18.9±1.0,38.7S±0.1×47.1E±0.2,h16km±4km, mb4.5/11,Error ellipse: s-maj=25.4km s-min=9.3km az=221.0*

ISC 09 17:03:17.2±0.7,38.8S±0.2×47.1E±0.2,h10km,n26, σ0§78/19,mb4.1/9,MS3.6/6,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VOI	**Vohitsoka**	**16.84**	**359**			**Pn**	**17 07 13.1**	**0.0**
VOI						IAmb	IAmb	17 07 45.6
	comp=Z,68nm,2.0s							
BOSA	**Boshof**	**20.76**	**293**	P		**P**	**17 07 58.3**	**0.0**
	comp=Z,2.3nm,0.8s,baz=116,slow=9.8,SNR=4.2							
LBTB	**Lobatse**	**22.76**	**301**	LR		LR	17 14 57.0	
	comp=Z,65nm,18.8s,baz=27,slow=31							
LSZ	**Lusaka**	**28.73**	**319**	LR		LR	17 18 32.6	
	comp=Z,179nm,18.4s,baz=151,slow=32							
TSUM	**Tsumeb**	**32.14**	**299**	LR		LR	17 21 05.4	
	comp=Z,55nm,19.0s,baz=156,slow=33							
MBAR	**Mbarara**	**40.86**	**335**	LR		LR	17 24 55.7	
	comp=Z,68nm,20.7s,baz=130,slow=32							
QSPA	**South Pole Qui**	**51.40**	**180**	P		**P**	**17 12 22.3**	**+0.3**
QSPA						IAmb	IAmb	17 12 28.9
	comp=Z,8.0nm,1.7s							
PMSA	**Palmer Station**	**63.70**	**206**	LR		LR	17 37 26.1	
	comp=Z,84nm,18.5s,baz=88,slow=32							
TORD	**Torodi Ar. Bea**	**66.82**	**311**	P		**P**	**17 14 09.1**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=141,slow=6.1,SNR=1.5							
TORD	**Torodi Ar. Bea**	**66.82**	**311**			IAmb	IAmb	17 14 34.4
	comp=Z,6.0nm,1.8s							
ASAR	**Alice Springs**	**73.22**	**107**	P		**P**	**17 14 49.2**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=236,slow=5.1,SNR=8.4							
STKA	**Stephens Creek**	**74.00**	**118**	P		**P**	**17 14 52.1**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=247,slow=12,SNR=1.7							
CMAR	**Chiang Mai Arr**	**74.83**	**51**	P		**P**	**17 14 58.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=223,slow=6.1,SNR=4.1							
WRA	**Warramunga Arr**	**75.72**	**104**	P		**P**	**17 15 03.9**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=228,slow=5.3,SNR=8.2							
WRA	**Warramunga Arr**	**75.72**	**104**	P		**P**	**17 15 03.6**	**+0.4**
WB2	**Warramunga Arr**	**75.72**	**104**	P		**P**	**17 15 03.3**	**0.0**
WB2						IAmb	IAmb	17 15 05.9
	comp=Z,6.9nm,1.2s							
WB0	**Warramunga Arr**	**75.86**	**104**	P		**P**	**17 15 03.8**	**-0.2**
GNI	**Garni**	**78.60**	**358**	LR		LR	17 51 00.6	
	comp=Z,43nm,18.1s,baz=326,slow=36							
CHGR	**Chuyangaron**	**79.70**	**17**	P		**P**	**17 15 25.4**	**+0.4**
KK31	**Karatay Array**	**84.25**	**17**	P		**P**	**17 15 48.4**	**-0.2**
KK31						IAmb	IAmb	17 15 57.0
	comp=Z,4.0nm,1.1s							
KKAR	**Karatay Array**	**84.25**	**17**	P		**P**	**17 15 48.3**	**-0.3**
KKAR						IAmb	IAmb	17 15 57.0
	comp=Z,4.0nm,1.1s							
KKAR	**Karatay Array**	**84.25**	**17**	P		**P**	**17 15 48.7**	**+0.1**
INK	**Inuvik**	**150.43**	**0**	PKPbc		**PKPbc**	**17 23 06.0**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=347,slow=4.2,SNR=5.2							
INK	**Inuvik**	**150.43**	**0**			**PKPdf**	**17 23 04.3**	**+1.9**
TXAR	**Lajitas Array**	**154.09**	**258**	PKPbc		**PKPbc**	**17 23 16.6**	**-0.8**
	comp=Z,1.2nm,1.1s,baz=142,slow=6.3,SNR=6.6							
TXAR	**Lajitas Array**	**154.09**	**258**			**PKPdf**	**17 23 10.0**	**+0.7**

*NOU **09** 17:11:11.4,37.11S×177.48E,h236km,MLv4.1/7,Off E. Coast of N. Island, N.Z.*

*WEL **09** 17:11:25.8±0.8,38.5S±5.1×17.7E±.1,h122km±7km,M2.6/20, MLv2.6/20,Error ellipse: s-maj=0.0km s-min=0.0km az=39.6*

ISC 09 17:11:19.1±2.1,37.58S±0.07×176.96E±0.07, h181km±10km,n102,σ2§08/113,North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.42**	**230**	P		**Pn**	**17 11 44.2**	**+0.6**
MARZ	**Manawahe**	**0.46**	**209**	P		**Pn**	**17 11 45.0**	**+1.2**
MARZ				S		**Sn**	**17 11 60.0**	**-3.1**
HAZ	**Te Kaha**	**0.68**	**105**	P		**Pn**	**17 11 46.3**	**+1.5**
RUGZ	**Raukumara Rang**	**0.69**	**124**	P		**Pn**	**17 11 45.9**	**+0.9**
RUGZ				S		**Sn**	**17 12 02.2**	**-2.8**
URZ	**Urewera**	**0.69**	**170**	P		**Pn**	**17 11 46.1**	**+1.2**
URZ				S		**Sn**	**17 12 01.7**	**-3.2**
URZ	**Urewera**	**0.69**	**170**	P		**Pn**	**17 11 46.1**	**+1.2**
OMRZ	**Omania**	**0.70**	**221**	P		**Pn**	**17 11 46.3**	**+1.4**
KARZ	**Kaharoa**	**0.72**	**232**	P		**Pn**	**17 11 46.1**	**+1.1**
KMRZ	**Kaimai**	**0.85**	**251**	P		**Pn**	**17 11 47.0**	**+1.2**
MWZ	**Matawai**	**0.88**	**149**	P		**Pn**	**17 11 47.6**	**+1.6**
MUGZ	**Murupara**	**0.91**	**189**	P		**Pn**	**17 11 47.9**	**+1.7**
MUGZ				S		**Sn**	**17 12 04.4**	**-3.0**
RTZ	**Ruatahuna**	**1.04**	**179**	P		**Pn**	**17 11 49.0**	**+1.8**
RTZ				S		**Sn**	**17 12 07.6**	**-1.6**
MXZ	**Matakaoa Point**	**1.07**	**90**	P		**Pn**	**17 11 50.4**	**+3.0**
ALRZ	**Allen Road**	**1.10**	**206**	P		**Pn**	**17 11 49.5**	**+1.9**
TKGZ	**Te Karaka**	**1.11**	**141**	P		**Pn**	**17 11 49.4**	**+1.7**
TKGZ				S		**Sn**	**17 12 08.9**	**-1.0**
PUZ	**Puketiti**	**1.14**	**116**	P		**Pn**	**17 11 50.2**	**+2.2**
TOZ	**Tahuroa Road**	**1.17**	**262**	P		**Pn**	**17 11 49.8**	**+1.7**
SNGZ	**Shannon Statio**	**1.24**	**166**	P		**Pn**	**17 11 51.0**	**+2.3**
SNGZ				S		**Sn**	**17 12 10.5**	**-1.4**
MTHZ	**Maungataniwha**	**1.28**	**184**	P		**Pn**	**17 11 51.5**	**+2.4**
MTHZ				S		**Sn**	**17 12 12.1**	**-0.4**
KUTZ	**Kaahu Road**	**1.28**	**224**	P		**Pn**	**17 11 51.2**	**+2.1**
KUZ	**Kuaotunu**	**1.29**	**310**	P		**Pn**	**17 11 50.8**	**+1.6**
RIGZ	**Rimuhau**	**1.29**	**151**	P		**Pn**	**17 11 52.0**	**+2.8**
RIGZ				S		**Sn**	**17 12 13.7**	**+1.0**
MRHZ	**Matea Rd**	**1.32**	**199**	P		**Pn**	**17 11 51.7**	**+2.1**
MRHZ				S		**Sn**	**17 12 12.7**	**-0.6**
RAHZ	**Arahi**	**1.34**	**176**	P		**Pn**	**17 11 52.8**	**+3.2**
TLZ	**Tolley Road**	**1.35**	**236**	P		**Pn**	**17 11 51.8**	**+2.0**
WATZ	**Wairara**	**1.48**	**220**	P		**Pn**	**17 11 53.3**	**+2.4**
MKAZ	**Moumakai**	**1.51**	**288**	P		**Pn**	**17 11 53.3**	**+2.2**
WHHZ	**Waihua**	**1.51**	**172**	P		**Pn**	**17 11 52.6**	**+1.4**
WHHZ				S		**Sn**	**17 12 14.4**	**-1.9**
NMHZ	**Naumai**	**1.52**	**184**	P		**Pn**	**17 11 54.3**	**+2.9**
KNZ	**Kokohu**	**1.55**	**159**	P		**Pn**	**17 11 54.0**	**+2.5**
RATZ	**Rangitukua**	**1.59**	**216**	P		**Pn**	**17 11 54.6**	**+2.6**
BKZ	**Black Stump Fm**	**1.63**	**193**	P		**Pn**	**17 11 54.3**	**+1.9**
BKZ	**Black Stump Fm**	**1.63**	**193**	P		**Pn**	**17 11 54.8**	**+2.4**
RITZ	**Rihia Road**	**1.64**	**211**	P		**Pn**	**17 11 55.4**	**+2.9**
WIAZ	**Waiheke Island**	**1.65**	**298**	P		**Pn**	**17 11 55.0**	**+2.4**
ARHZ	**Aropaoanui**	**1.68**	**179**	P		**Pn**	**17 11 56.7**	**+3.9**
ETAZ	**East Tamaki Re**	**1.74**	**290**	P		**Pn**	**17 11 56.1**	**+2.7**
NTVZ	**North Tongarir**	**1.82**	**213**	P		**Pn**	**17 11 57.5**	**+3.0**
TMVZ	**Te Maari**	**1.82**	**212**	P		**Pn**	**17 11 57.1**	**+2.7**
ETVZ	**East Tongariro**	**1.84**	**212**	P		**Pn**	**17 11 57.2**	**+2.6**
MCHZ	**McNeill Hill**	**1.88**	**186**	P		**Pn**	**17 11 58.1**	**+3.3**
OTVZ	**Oturere**	**1.88**	**212**	P		**Pn**	**17 11 57.8**	**+2.7**
KWHZ	**Kaweka Forest**	**1.89**	**193**	P		**Pn**	**17 11 57.4**	**+2.4**
HIZ	**Hauiti**	**1.91**	**240**	P		**Pn**	**17 11 58.0**	**+2.8**
HIZ	**Hauiti**	**1.91**	**240**	P		**Pn**	**17 11 57.8**	**+2.6**
TWVZ	**Tauhara**	**1.91**	**218**	P		**Pn**	**17 11 58.2**	**+2.9**
AWAZ	**Awhitu Peninsu**	**1.92**	**285**	P		**Pn**	**17 11 57.2**	**+2.0**
NGZ	**Ngauruhoe**	**1.92**	**213**	P		**Pn**	**17 11 58.4**	**+2.9**
TUVZ	**Tukino**	**1.97**	**211**	P		**Pn**	**17 11 58.5**	**+2.5**
FWVZ	**Far West T-bar**	**2.01**	**213**	P		**Pn**	**17 11 59.2**	**+2.7**
WHVZ	**Whangaehu Hut**	**2.01**	**212**	P		**Pn**	**17 11 59.0**	**+2.4**
BHHZ	**Black Hill Sta**	**2.03**	**200**	P		**Pn**	**17 11 58.6**	**+2.0**
WNVZ	**Wahianoa**	**2.05**	**211**	P		**Pn**	**17 11 59.3**	**+2.4**
MOVZ	**Moawhango**	**2.06**	**207**	P		**Pn**	**17 11 58.8**	**+1.9**
RVAZ	**Riverhead Bore**	**2.06**	**292**	P		**Pn**	**17 11 57.9**	**+1.0**
KRHZ	**Kereru**	**2.11**	**192**	P		**Pn**	**17 11 59.9**	**+2.5**
PKVZ	**Pokaka**	**2.13**	**216**	P		**Pn**	**17 12 00.3**	**+2.7**
MTVZ	**Mangateitei**	**2.15**	**212**	P		**Pn**	**17 12 00.4**	**+2.6**
KAHZ	**Kahuranaki**	**2.21**	**182**	P		**Pn**	**17 12 01.3**	**+2.7**
VRZ	**Vera Road**	**2.32**	**228**	P		**Pn**	**17 12 03.7**	**+4.0**
PNHZ	**Pukenui**	**2.41**	**194**	P		**Pn**	**17 12 02.8**	**+2.1**
PXZ	**Pawanui**	**2.45**	**182**	P		**Pn**	**17 12 03.8**	**+2.6**
WPHZ	**Waipukurau**	**2.52**	**189**	P		**Pn**	**17 12 04.1**	**+2.1**
TSZ	**Takapari Road**	**2.60**	**197**	P		**Pn**	**17 12 05.2**	**+2.3**
WAZ	**Wanganui**	**2.67**	**215**	P		**Pn**	**17 12 06.4**	**+2.6**
PRHZ	**Porangahau**	**2.70**	**185**	P		**Pn**	**17 12 06.4**	**+2.3**
DVHZ	**Dannevirke**	**2.79**	**193**	P		**Pn**	**17 12 07.0**	**+1.9**
NEZ	**North Egmont**	**2.81**	**232**	P		**Pn**	**17 12 10.1**	**+4.6**
ANWZ	**Angora Road**	**2.90**	**187**	P		**Pn**	**17 12 08.7**	**+2.2**
POWZ	**Post Office Ro**	**2.96**	**198**	P		**Pn**	**17 12 09.1**	**+1.9**
PRWZ	**Pori Road**	**3.07**	**194**	P		**Pn**	**17 12 10.7**	**+2.2**
BFZ	**Birch Farm**	**3.15**	**190**	P		**Pn**	**17 12 11.1**	**+1.5**
MRZ	**Mangatainoka R**	**3.26**	**199**	P		**Pn**	**17 12 12.0**	**+1.1**
TIWZ	**Tintock**	**3.30**	**194**	P		**Pn**	**17 12 13.1**	**+1.7**
CPWZ	**Castlepoint**	**3.38**	**190**	P		**Pn**	**17 12 14.6**	**+2.3**
HOWZ	**Holdsworth Sta**	**3.50**	**198**	P		**Pn**	**17 12 14.7**	**+0.9**
OGWZ	**Otaki Gorge**	**3.52**	**203**	P		**Pn**	**17 12 15.2**	**+1.1**
TMWZ	**Te Maipa**	**3.62**	**193**	P		**Pn**	**17 12 16.6**	**+1.2**
KIW	**Kapiti Island**	**3.64**	**205**	P		**Pn**	**17 12 16.7**	**+1.1**
MTW	**Mount Morrison**	**3.75**	**197**	P		**Pn**	**17 12 17.7**	**+0.7**
CANZ	**Cannon Point**	**3.82**	**202**	P		**Pn**	**17 12 18.4**	**+0.5**
DUWZ	**D'Urville Isla**	**3.99**	**215**	P		**Pn**	**17 12 20.9**	**+0.9**
MSWZ	**Moikau Station**	**4.05**	**198**	P		**Pn**	**17 12 21.4**	**+0.6**
WEL	**Wellington**	**4.07**	**204**	P		**Pn**	**17 12 21.9**	**+0.8**
BHW	**Baring Head**	**4.15**	**202**	P		**Pn**	**17 12 22.6**	**+0.5**
TCW	**Tory Channel**	**4.18**	**209**	P		**Pn**	**17 12 23.2**	**+0.8**
PLWZ	**Palliser**	**4.20**	**198**	P		**Pn**	**17 12 23.0**	**+0.3**
TUWZ	**Tuamarina**	**4.50**	**210**	P		**Pn**	**17 12 26.9**	**+0.4**
NNZ	**Nelson**	**4.57**	**216**	P		**Pn**	**17 12 28.1**	**+0.7**
QRZ	**Quartz Range**	**4.73**	**225**	P		**Pn**	**17 12 30.5**	**+1.0**
QRZ	**Quartz Range**	**4.73**	**225**	P		**Pn**	**17 12 30.8**	**+1.3**
MRNZ	**Matariki Terra**	**5.01**	**219**	P		**Pn**	**17 12 33.5**	**+0.3**
THZ	**Tophouse**	**5.22**	**216**	P		**Pn**	**17 12 36.4**	**+0.5**
KHZ	**Kahutara**	**5.50**	**207**	P		**Pn**	**17 12 39.8**	**+0.4**
KHZ	**Kahutara**	**5.50**	**207**	P		**Pn**	**17 12 40.1**	**+0.7**
GVZ	**Greta Valley S**	**6.16

PNCL	**Nicolau / Gran**	**4.65**	**305**	*e*Pn	**Pn**	17 16 40.9	**+1.9**
PNCL				*e*Sn	**Sn**	17 17 32.7	**+0.2**
PMRV	**Marv??o**	**4.88**	**324**	*e*Pn	Pb	17 16 48.3	-6.3

*KRNET **09** 17:22:26.5±0.1,40.°71N×77.°57E,mb3.5*
*SOME **09** 17:22:29.4,40.°93N×77.°57E,h0km*
*NNC **09** 17:22:30.7±0.7,40.°90N×77.°64E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=4.8km s-min=3.4km az=170.0

ISC 09 17:22:25.5±1.7,**40.°53N**±0.°08×**77.°55E**±0.°03,**h10**km,**n78,** σ1ᵗ**71**/114,**31C-10D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.62**	**350**	⇑*e*P	**Pn**	**17 22 54.1**	**-0.2**
KDJ	baz=49			⇑*e*S	**Sn**	**17 23 14.1**	**-1.3**
ULHL	**Ulahol**	**1.98**	**331**	P	**Pg**	**17 23 01.9**	**-1.4**
ULHL	SNR=75 baz=27			⇑*i*P	**Pb**	**17 23 00.9**	**-0.7**
ANVS	**Anan'yevo**	**2.25**	**2**	⇑*i*P	**Pb**	**17 23 04.7**	**-1.7**
ANVS	baz=2.0			⇑*i*S	**Sb**	**17 23 32.9**	**-1.5**
BOOM	**Boomskoye usch**	**2.30**	**329**	⇑*i*P	**Pb**	**17 23 05.7**	**-1.4**
BOOM	baz=26			⇑*i*S	**Sb**	**17 23 34.6**	**-1.1**
TNSS	**Tian-Shan**	**2.54**	**350**	*e*P	**Pb**	**17 23 11.4**	**-0.1**
TNSS	82nm,0.4s 59nm,0.3s			*e*S	**Sb**	**17 23 42.0**	**-0.9**
TNSS	**Tian-Shan**	**2.54**	**350**	Pg	**Pb**	**17 23 11.2**	**-0.3**
TNSS	82nm,0.4s 59nm,0.3s			Lg	Lg	17 23 41.3	
SATY	**Saty**	**2.61**	**14**	*e*P	**Pb**	**17 23 11.9**	**-0.5**
SATY	24nm,0.5s 159nm,0.5s			*e*S	**Sb**	**17 23 42.5**	**-2.0**
SATY	**Saty**	**2.61**	**14**	Pg	**Pb**	**17 23 11.9**	**-0.5**
SATY	24nm,0.5s 159nm,0.5s			Lg	Lg	17 23 42.1	
MDOK	**Medeo**	**2.66**	**352**	*e*P	**Pb**	**17 23 13.0**	**-0.2**
MDOK	60nm,0.4s 97nm,0.6s			*e*S	**Sb**	**17 23 44.5**	**-1.5**
MDOK	**Medeo**	**2.66**	**352**	⇑Pn	**Pb**	**17 23 10.7**	**-2.5**
MDOK	32nm,0.4s 85nm,0.6s			⇑Lg	Lg	17 23 45.2	
MDOK	**Medeo**	**2.66**	**352**	Pg	**Pb**	**17 23 13.0**	**-0.2**
MDOK	60nm,0.4s 97nm,0.6s			Lg	Lg	17 23 44.5	
AAA	**Alma-Ata**	**2.72**	**350**	*e*P	**Pb**	**17 23 15.0**	**+0.8**
AAA	214nm,0.2s 173nm,0.6s			*e*S	**Sb**	**17 23 48.1**	**+0.4**
AAA	**Alma-Ata**	**2.72**	**350**	Pg	**Pb**	**17 23 15.0**	**+0.8**
AAA	214nm,0.2s 173nm,0.6s			Lg	Lg	17 23 48.1	
KNDC	**Almaty**	**2.72**	**351**	⇑Pg	**Pb**	**17 23 13.9**	**-0.3**
KNDC	86nm,0.6s 253nm,0.5s			⇑Lg	Lg	17 23 48.0	
KOTS	**Kotyrbulak**	**2.72**	**353**	*e*P	**Pb**	**17 23 14.3**	**0.0**
KOTS	51nm,0.2s 126nm,0.5s			*e*S	**Sb**	**17 23 47.0**	**-0.9**
KOTS	**Kotyrbulak**	**2.72**	**353**	Pg	**Pb**	**17 23 14.3**	**0.0**
KOTS	51nm,0.2s 126nm,0.5s			Lg	Lg	17 23 47.0	
MTBS	**Maitube**	**2.73**	**343**	*e*P	**Pb**	**17 23 14.8**	**+0.4**
MTBS	65nm,0.3s 82nm,0.5s			*e*S	**Sb**	**17 23 47.8**	**-0.2**
MTBS	**Maitube**	**2.73**	**343**	Pg	**Pb**	**17 23 14.8**	**+0.4**
MTBS	65nm,0.3s 82nm,0.5s			Lg	Lg	17 23 47.8	
KST	**Kastek**	**2.78**	**335**	*e*P	**Pb**	**17 23 16.0**	**+0.7**
KST	38nm,0.4s 74nm,0.6s			*e*S	**Sb**	**17 23 49.3**	**-0.1**
KST	**Kastek**	**2.78**	**335**	Pg	**Pb**	**17 23 16.0**	**+0.7**
KST	38nm,0.4s 74nm,0.6s			Lg	Lg	17 23 49.3	
TKM2	**Tokmak 2**	**2.80**	**329**	P	**Pb**	**17 23 16.7**	**+1.0**
TKM2	SNR=9.1 **Tokmak 2**	**2.80**	**329**	⇑*i*P	**Pb**	**17 23 12.8**	**-2.9**
TKM2	baz=27			⇑*i*S	**Sb**	**17 23 46.6**	**-3.5**
TKM2	**Tokmak 2**	**2.80**	**329**	⇓Pn	**Pb**	**17 23 13.4**	**-2.3**
TKM2	8.3nm,0.4s 24nm,0.8s			⇑Lg	Lg	17 23 51.3	
UZB	**Uzynbulak**	**2.84**	**22**	*e*P	**Pb**	**17 23 15.9**	**-0.4**
UZB	16nm,0.4s 68nm,0.6s			*e*S	**Sb**	**17 23 49.0**	**-2.1**
UZB	**Uzynbulak**	**2.84**	**22**	Pg	**Pb**	**17 23 15.9**	**-0.4**
UZB	16nm,0.4s 68nm,0.6s			Lg	Lg	17 23 49.0	
UCH	**Uchtor**	**2.84**	**308**	P	**Pb**	**17 23 15.1**	**-1.4**
UCH	SNR=12 **Uchtor**	**2.84**	**308**	⇓*i*P	**Pb**	**17 23 14.3**	**-2.3**
UCH	baz=4.0			⇓*e*S	**Sb**	**17 23 49.2**	**-2.4**
KBK	baz=4.0 **Karagaybulak**	**2.88**	**318**	P	**Pg**	**17 23 19.2**	**-1.5**
KBK	SNR=20 **Karagaybulak**	**2.88**	**318**	⇑*i*P	**Pb**	**17 23 14.3**	**-2.8**
KBK	baz=16			⇑*i*S	**Sb**	**17 23 49.2**	**-3.3**
SHLS	baz=16 **Shalkode**	**2.99**	**28**	*e*P	**Pg**	**17 23 22.6**	**-0.1**
SHLS	9.1nm,0.2s 94nm,0.5s			*e*S	**Sg**	**17 24 01.0**	**-0.5**
SHLS	**Shalkode**	**2.99**	**28**	Pg	**Pg**	**17 23 22.7**	**-0.1**
SHLS	9.1nm,0.2s 94nm,0.5s			Lg	Lg	17 24 01.0	
KURS	**Kuram**	**2.99**	**9**	*e*P	**Pb**	**17 23 18.5**	**-0.4**
KURS	18nm,0.6s 46nm,0.5s			*e*S	**Sb**	**17 23 53.5**	**-2.0**
KURS	**Kuram**	**2.99**	**9**	Pg	**Pb**	**17 23 18.5**	**-0.4**
KURS	18nm,0.6s 46nm,0.5s			Lg	Lg	17 23 53.5	
DGS	**Degeres**	**3.02**	**335**	*e*P	**Pb**	**17 23 20.1**	**+0.8**
DGS	37nm,0.4s 46nm,0.7s			*e*S	**Sb**	**17 23 56.6**	**+0.3**
DGS	**Degeres**	**3.02**	**335**	Pg	**Pb**	**17 23 20.1**	**+0.8**
DGS	37nm,0.4s 46nm,0.7s			Lg	Lg	17 23 56.6	
KPKS	**Kokpek**	**3.05**	**16**	*e*P	**Pb**	**17 23 19.4**	**-0.6**
KPKS	22nm,0.4s 97nm,0.5s			*e*S	**Sb**	**17 23 55.0**	**-2.4**
AAK	**Ala-Archa**	**3.11**	**314**	P	**Pg**	**17 23 23.2**	**-1.8**
AAK	SNR=18 **Ala-Archa**	**3.11**	**314**	⇑*i*P	**Pb**	**17 23 17.7**	**-3.2**
AAK	baz=11			⇑*i*S	**Sn**	**17 23 54.9**	**+2.9**
PDGK	baz=11 **Podgornoye**	**3.15**	**27**	Pg	**Pb**	**17 23 21.7**	**0.0**
PDGK	8.3nm,0.2s 34nm,0.7s			Lg	Lg	17 23 59.2	
PDGK	**Podgornoye**	**3.15**	**27**	⇑Pn	**Pn**	**17 23 16.7**	**+1.4**
PDGK	12nm,0.6s 60nm,0.7s			⇑Lg	Lg	17 23 59.6	

FRU1	**Bishkek**	**3.16**	**317**	⇑*e*P	**Pb**	**17 23 18.4**	**-3.3**
FRU1	baz=15			⇑*i*S	**Sn**	**17 23 56.0**	**+3.0**
CHMS	baz=15 **Chumysh**	**3.23**	**321**	P	**Pg**	**17 23 25.0**	**-2.4**
CHMS	SNR=11 **Chumysh**	**3.23**	**321**	⇓*i*P	**Pn**	**17 23 19.0**	**+2.7**
CHMS	baz=18			⇓*e*S	**Sn**	**17 23 57.4**	**+2.5**
CHMS	**Chumysh**	**3.23**	**321**	⇑Pg	**Pb**	**17 23 24.7**	**+1.7**
CHMS	8.9nm,0.6s 17nm,0.6s			⇑Lg	Lg	17 24 05.1	
KTBS	**Karatobe**	**3.24**	**349**	*e*P	**Pb**	**17 23 23.1**	**-0.1**
KTBS	19nm,0.4s 50nm,0.6s			*e*S	**Sb**	**17 24 01.6**	**-1.1**
KTBS	**Karatobe**	**3.24**	**349**	Pg	**Pb**	**17 23 23.1**	**-0.1**
KTBS	19nm,0.4s 50nm,0.6s			Lg	Lg	17 24 01.6	
AML	**Almayashu**	**3.31**	**300**	P	**Pg**	**17 23 29.1**	**+0.2**
CHKK	SNR=9.4 **Chushkaly**	**3.35**	**353**	*e*P	**Pb**	**17 23 24.5**	**-0.4**
CHKK	34nm,0.3s 55nm,0.3s			*e*S	**Sb**	**17 24 04.0**	**-1.7**
CHKK	**Chushkaly**	**3.35**	**353**	Pg	**Pb**	**17 23 24.5**	**-0.4**
CHKK	34nm,0.3s 55nm,0.3s			Lg	Lg	17 24 04.0	
KRBS	**Karabastau**	**3.46**	**337**	*e*P	**Pb**	**17 23 27.8**	**+1.0**
KRBS	20nm,0.3s 33nm,0.7s			*e*S	**Sb**	**17 24 09.5**	**+0.6**
KRBS	**Karabastau**	**3.46**	**337**	Pg	**Pb**	**17 23 27.7**	**+1.0**
KRBS	20nm,0.3s 33nm,0.7s			Lg	Lg	17 24 09.5	
EKS2	**Erkin-Say**	**3.54**	**308**	P	**Pg**	**17 23 32.4**	**-0.8**
EKS2	SNR=16 **Erkin-Say**	**3.54**	**308**	⇑*e*P	**Pn**	**17 23 23.6**	**+3.0**
EKS2	baz=6.0 baz=6.0			⇑*e*S	**Sn**	**17 24 05.6**	**+3.1**
USP	**Ospenovka**	**3.56**	**321**	P	**Pb**	**17 23 30.2**	**+1.8**
USP	SNR=22 **Ospenovka**	**3.56**	**321**	⇓*e*P	**Pn**	**17 23 23.3**	**+2.5**
USP	baz=19			⇓*i*S	**Sn**	**17 24 05.2**	**+2.3**
KTMS	baz=19 **Ketmen**	**3.59**	**35**	*e*P	**Pb**	**17 23 30.1**	**+1.0**
KTMS	3.2nm,0.3s 27nm,0.8s			*e*S	**Sb**	**17 24 13.7**	**+1.0**
KTMS	**Ketmen**	**3.59**	**35**	Pg	**Pb**	**17 23 30.1**	**+1.0**
KTMS	3.2nm,0.3s 27nm,0.8s			Lg	Lg	17 24 13.7	
BLB	**Baldybastay**	**3.63**	**11**	*e*P	**Pb**	**17 23 29.6**	**-0.2**
BLB	26nm,0.4s 112nm,0.3s			*e*S	**Sb**	**17 24 12.8**	**-1.2**
BLB	**Baldybastay**	**3.63**	**11**	Pg	**Pb**	**17 23 29.6**	**-0.2**
BLB	26nm,0.4s 112nm,0.3s			Lg	Lg	17 24 12.8	
SGDS	**Sogindy**	**3.64**	**324**	*e*P	**Pb**	**17 23 31.8**	**+1.9**
SGDS	8.4nm,0.6s 15nm,0.9s			*e*S	**Sb**	**17 24 16.6**	**+2.5**
SGDS	**Sogindy**	**3.64**	**324**	Pg	**Pb**	**17 23 31.8**	**+1.9**
SGDS	8.4nm,0.6s 15nm,0.9s			Lg	Lg	17 24 16.6	
ARXS	**Arharly**	**3.69**	**3**	*e*P	**Pb**	**17 23 30.8**	**+0.1**
ARXS	13nm,0.5s 56nm,0.5s			*e*S	**Sb**	**17 24 15.3**	**-0.2**
ARXS	**Arharly**	**3.69**	**3**	Pg	**Pb**	**17 23 30.8**	**+0.1**
ARXS	13nm,0.5s 56nm,0.5s			Lg	Lg	17 24 15.3	
MRKS	**Merke**	**3.92**	**306**	*e*P	**Pg**	**17 23 39.5**	**-1.1**
MRKS	3.5nm,0.3s 26nm,0.5s			*e*S	**Sg**	**17 24 29.2**	**-2.2**
MRKS	**Merke**	**3.92**	**306**	Pg	**Pg**	**17 23 40.5**	**-0.1**
MRKS	4.5nm,0.4s 26nm,0.5s			Lg	Lg	17 24 30.9	
DJR	**Jarkent**	**4.15**	**23**	*e*P	**Pb**	**17 23 39.1**	**+0.5**
DJR	3.9nm,0.4s 26nm,0.3s			*e*S	**Sb**	**17 24 29.1**	**+0.4**
DJR	**Jarkent**	**4.15**	**23**	Pg	**Pb**	**17 23 39.1**	**+0.5**
DJR	3.9nm,0.4s 26nm,0.3s			Lg	Lg	17 24 29.1	
KAPS	**Kapalarasan**	**4.94**	**15**	*e*P	**Pb**	**17 23 53.9**	**+1.9**
KAPS	4.2nm,0.3s 13nm,0.7s			*e*S	**Sb**	**17 24 54.3**	**+2.9**
KAPS	**Kapalarasan**	**4.94**	**15**	Pg	**Pb**	**17 23 53.9**	**+1.9**
KAPS	4.2nm,0.3s 13nm,0.7s			Lg	Lg	17 24 54.3	
BTLS	**Baital**	**5.19**	**331**	*e*P	**Pb**	**17 23 59.2**	**+2.9**
BTLS	5.4nm,0.6s 8.1nm,0.8s			*e*S	**Sb**	**17 25 03.9**	**+5.2**
BTLS	**Baital**	**5.19**	**331**	Pg	**Pb**	**17 23 59.2**	**+2.9**
BTLS	5.4nm,0.6s 8.1nm,0.8s			Lg	Lg	17 25 03.9	
KK31	**Karatay Array**	**5.85**	**298**	⇑Pg	**Pg**	**17 24 16.2**	**-1.3**
KK31	1.4nm,0.7s,baz=109,slow=16,SNR=11 7.9nm,0.8s,baz=108,slow=29,SNR=10			⇑Lg	Lg	17 25 32.2	
IUG	**Iuzhnay**	**5.88**	**288**	*e*P	**Pg**	**17 24 16.1**	**-2.0**
IUG	72nm,0.7s 17nm,0.7s			*e*S	**Sg**	**17 25 32.7**	**-1.6**
IUG	**Iuzhnay**	**5.88**	**288**	Pg	**Pg**	**17 24 16.1**	**-2.0**
IUG	72nm,0.7s 17nm,0.7s			Lg	Lg	17 25 32.7	
MAKZ	**Makanchi**	**7.05**	**26**	⇑Pn	**Pn**	**17 24 08.6**	**-0.1**
MAKZ	1.5nm,1.1s 1.8nm,0.8s			⇓Lg	Lg	17 26 04.5	
MK31	**Makanchi Array**	**7.14**	**27**	Pn	**Pn**	**17 24 09.9**	**-0.1**
MK31	0.3nm,0.5s,baz=201,slow=12,SNR=11 0.8nm,0.6s,baz=207,slow=20,SNR=4.5			⇓Sn	**Sn**	**17 25 27.7**	**-3.5**
MK31	1.4nm,0.5s			⇑Lg	Lg	17 26 07.1	
OTUK	**Ortayu**	**8.56**	**336**	⇓Lg	Lg	17 26 53.9	

IDC 09 17:28:23.7±5.0,**5.°60S**×**147.°61E,h222**km±45km,**mb3.3**/2, **mb1 3.3**/4,**mb1mx2.9**/35,**mbtmp3.6**/4,**Error ellipse: s-maj=81.9km s-min=46.4km az=125.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.81**	**187**	P	Pn	17 29 25.8	+1.8
PMG	0.9nm,0.3s,baz=268,slow=21,SNR=6.6 5.9nm,0.3s,baz=211,slow=23,SNR=12			S	S	17 30 11.5	0.0
WRA	**Warramunga Arr**	**19.23**	**221**	P	P	17 32 30.8	-0.7
ASAR	0.3nm,0.3s,baz=37,slow=11,SNR=18 **Alice Springs**	**22.29**	**215**	P	P	17 33 03.9	+0.9
FITZ	0.7nm,0.6s,baz=56,slow=9.3,SNR=12 **Fitzroy Crossi**	**24.79**	**238**	P	P	17 33 25.9	+0.3
TORD	1.6nm,0.4s,baz=48,slow=12,SNR=22 **Torodi Ar. Bea**	**145.58**	**285**	PKPbc	PKPdf	17 47 35.2	-1.3
	0.4nm,0.9s,baz=90,slow=2.0,SNR=2.2						

*NOU **09** 17:28:53.1,38.°38S×175.°84E,h201km,MLv3.8/7,North Island, New Zealand*
*WEL **09** 17:28:59.6±1.0,38.°5S×17.°6E±.°,h142km±8km,M2.7/45, ML2.3/7,MLv2.7/45,Error ellipse: s-maj=0.0km*

s-min=0.0km az=140.1

ISC 09 17:28:54.1±1.6,**38.°52S**±0.°04×**175.°88E**±0.°05,**h187**km±9km, **n152,**σ1ᵗ**51**/159,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.06**	**309**	P	**Pn**	**17 29 19.7**	**+1.0**
WHTZ	**Whakaora**	**0.15**	**156**	P	**Pn**	**17 29 19.9**	**+1.1**
WATZ	**Wairara**	**0.22**	**212**	P	**Pn**	**17 29 20.0**	**+1.1**
WPRZ	**Whakapapatarin**	**0.22**	**89**	P	**Pn**	**17 29 19.8**	**+0.9**
GRRZ	**Galatos Road**	**0.25**	**46**	P	**Pn**	**17 29 19.9**	**+0.9**
TLZ	**Tolley Road**	**0.33**	**306**	P	**Pn**	**17 29 20.2**	**+1.0**
HRRZ	**Handcock Road**	**0.34**	**67**	P	**Pn**	**17 29 20.1**	**+0.9**
RATZ	**Rangitukua**	**0.35**	**194**	P	**Pn**	**17 29 20.3**	**+1.0**
HSRZ	**Hossack Road**	**0.36**	**54**	P	**Pn**	**17 29 20.1**	**+0.8**
ALRZ	**Allen Road**	**0.37**	**96**	P	**Pn**	**17 29 20.0**	**+0.7**
HATZ	**Hinemaiaia**	**0.40**	**155**	P	**Pn**	**17 29 20.3**	**+1.0**
PRRZ	**Plateau Road**	**0.41**	**87**	P	**Pn**	**17 29 20.1**	**+0.8**
UTU	**Utuhina**	**0.43**	**36**	P	**Pn**	**17 29 20.4**	**+0.9**
RITZ	**Rihia Road**	**0.45**	**182**	P	**Pn**	**17 29 21.0**	**+1.5**
HLRZ	**Highlands Stat**	**0.46**	**54**	P	**Pn**	**17 29 20.7**	**+1.1**
KATZ	**Kakaramea**	**0.47**	**198**	P	**Pn**	**17 29 21.1**	**+1.3**
NGRZ	**Ngongotaha**	**0.49**	**30**	P	**Pn**	**17 29 20.6**	**+0.8**
MRHZ	**Matea Rd**	**0.52**	**126**	P	**Pn**	**17 29 20.8**	**+0.9**
MRHZ				S	**Sn**	**17 29 37.0**	**-2.8**
RRRZ	**Republican Roa**	**0.53**	**70**	P	**Pn**	**17 29 20.7**	**+0.8**
OMRZ	**Omania**	**0.57**	**43**	P	**Pn**	**17 29 20.8**	**+0.7**
TARZ	**Mount Tarawera**	**0.57**	**60**	P	**Pn**	**17 29 21.0**	**+0.9**
KARZ	**Kaharoa**	**0.58**	**30**	P	**Pn**	**17 29 20.9**	**+0.8**
NTVZ	**North Tongarir**	**0.59**	**195**	P	**Pn**	**17 29 21.6**	**+1.4**
KRVZ	**Karewarewa**	**0.60**	**198**	P	**Pn**	**17 29 21.8**	**+1.6**
MKRZ	**Makatiti**	**0.60**	**50**	P	**Pn**	**17 29 21.6**	**+1.3**
TMVZ	**Te Maari**	**0.61**	**193**	P	**Pn**	**17 29 21.6**	**+1.3**
ETVZ	**East Tongariro**	**0.62**	**192**	P	**Pn**	**17 29 21.8**	**+1.4**
WTVZ	**West Tongariro**	**0.63**	**201**	P	**Pn**	**17 29 21.8**	**+1.4**
NNVZ	**North Ngauruho**	**0.64**	**199**	P	**Pn**	**17 29 22.0**	**+1.4**
TWVZ	**Taurewa**	**0.65**	**212**	P	**Pn**	**17 29 21.9**	**+1.4**
LIRZ	**Lichensteins R**	**0.66**	**38**	P	**Pn**	**17 29 21.3**	**+0.9**
OTVZ	**Otupere**	**0.66**	**195**	P	**Pn**	**17 29 21.9**	**+1.3**
KMRZ	**Kaimai**	**0.68**	**4**	P	**Pn**	**17 29 21.5**	**+0.9**
NGZ	**Ngauruhoe**	**0.69**	**198**	P	**Pn**	**17 29 22.0**	**+1.3**
MUGZ	**Murupara**	**0.70**	**86**	P	**Pn**	**17 29 21.3**	**+0.6**
TUVZ	**Tukino**	**0.76**	**193**	P	**Pn**	**17 29 22.7**	**+1.6**
FWVZ	**Far West T-bar**	**0.77**	**199**	P	**Pn**	**17 29 22.6**	**+1.3**
DRZ	**Dome Shelter**	**0.79**	**198**	P	**Pn**	**17 29 24.0**	**+2.5**
WHVZ	**Whangaehu Hut**	**0.79**	**197**	P	**Pn**	**17 29 22.8**	**+1.4**
EDRZ	**Edgecumbe**	**0.80**	**59**	P	**Pn**	**17 29 22.0**	**+0.8**
BKZ	**Black Stump Fm**	**0.80**	**143**	P	**Pn**	**17 29 22.7**	**+1.4**
BKZ				S	**Sn**	**17 29 39.8**	**-2.6**
BKZ	**Black Stump Fm**	**0.80**	**143**	P	**Pn**	**17 29 22.4**	**+1.2**
HIZ	**Hauiti**	**0.80**	**270**	P	**Pn**	**17 29 22.6**	**+1.4**
HIZ				S	**Sn**	**17 29 41.0**	**-1.0**
HIZ	**Hauiti**	**0.80**	**270**	P	**Pn**	**17 29 22.3**	**+1.1**
TRVZ	**Turoa**	**0.82**	**198**	P	**Pn**	**17 29 23.2**	**+1.6**
MTHZ	**Maungataniwha**	**0.82**	**114**	P	**Pn**	**17 29 22.8**	**+1.4**
MTHZ				S	**Sn**	**17 29 40.6**	**-1.9**
MARZ	**Manawahe**	**0.83**	**50**	P	**Pn**	**17 29 22.4**	**+0.9**
WNVZ	**Wahianoa**	**0.83**	**195**	P	**Pn**	**17 29 23.2**	**+1.6**
TOZ	**Tahuroa Road**	**0.84**	**339**	P	**Pn**	**17 29 22.7**	**+1.2**
TOZ				S	**Sn**	**17 29 41.6**	**-1.0**
TGRZ	**Tauranga**	**0.85**	**21**	P	**Pn**	**17 29 22.4**	**+0.9**
OPRZ	**Ohinepanea**	**0.86**	**38**	P	**Pn**	**17 29 22.4**	**+0.8**
RTZ	**Ruatahuna**	**0.87**	**96**	P	**Pn**	**17 29 22.8**	**+1.1**
RTZ				S	**Sn**	**17 29 41.6**	**-1.5**
PKVZ	**Pokaka**	**0.87**	**208**	P	**Pn**	**17 29 23.3**	**+1.6**
MOVZ	**Moawhango**	**0.89**	**186**	P	**Pn**	**17 29 23.2**	**+1.4**
MTVZ	**Mangateitei**	**0.92**	**200**	P	**Pn**	**17 29 23.6**	**+1.6**
NMHZ	**Naumai**	**0.92**	**129**	P	**Pn**	**17 29 24.4**	**+2.3**
NMHZ				S	**Sn**	**17 29 43.8**	**0.0**
BHHZ	**Black Hill Sta**	**0.97**	**172**	P	**Pn**	**17 29 23.9**	**+1.5**
KWHZ	**Kaweka Forest**	**0.99**	**155**	P	**Pn**	**17 29 24.4**	**+1.9**
URZ	**Urewera**	**1.00**	**75**	P	**Pn**	**17 29 23.1**	**+0.6**
URZ	**Urewera**	**1.00**	**75**	P	**Pn**	**17 29 22.9**	**+0.4**
RAHZ	**Rahi**	**1.02**	**113**	P	**Pn**	**17 29 24.7**	**+2.0**
VRZ	**Vera Road**	**1.06**	**235**	P	**Pn**	**17 29 24.8**	**+1.9**
MCHZ	**McNeill Hill**	**1.12**	**145**	P	**Pn**	**17 29 26.0**	**+2.6**
ARHZ	**Aropaoanui**	**1.14**	**131**	P	**Pn**	**17 29 25.9**	**+2.3**
SNGZ	**Shannon Statio**	**1.17**	**103**	P	**Pn**	**17 29 25.7**	**+1.9**
KRHZ	**Kereru**	**1.18**	**161**	P	**Pn**	**17 29 25.9**	**+2.0**
WHHZ	**Waihua**	**1.20**	**118**	P	**Pn**	**17 29 24.0**	**0.0**
MWZ	**Matawai**	**1.31**	**82**	P	**Pn**	**17 29 26.2**	**+1.2**
MHEZ	**Mangahewa**	**1.33**	**245**	P	**Pn**	**17 29 27.6**	**+2.5**
PNHZ	**Pukenui**	**1.41**	**170**	P	**Pn**	**17 29 27.8**	**+1.9**
WAZ	**Wanganui**	**1.41**	**209**	P	**Pn**	**17 29 27.9**	**+2.0**
CKHZ	**Cape Kidnapper**	**1.47**	**141**	P	**Pn**	**17 29 28.9**	**+2.6**
DREZ	**Durham Road**	**1.47**	**243**	P	**Pn**	**17 29 28.8**	**+2.5**
LREZ	**Lake Rotokare**	**1.48**	**230**	P	**Pn**	**17 29 29.0**	**+2.6**
KAHZ	**Kahuranaki**	**1.49**	**149**	P	**Pn**	**17 29 29.1**	**+2.5**
RIGZ	**Rimuhau**	**1.49**	**98**	P	**Pn**	**17 29 28.5**	**+2.0**
KNZ	**Kokohu**	**1.49**	**110**	P	**Pn**	**17 29 28.5**	**+2.0**
RUMZ	**Raukumara Rang**	**1.52**	**69**	P	**Pn**	**17 29 27.3**	**+0.4**
MKAZ	**Moumakai**	**1.53**	**338**	P	**Pn**	**17 29 28.4**	**+1.5**
TSZ	**Takapari Road**	**1.53**	**178**	P	**Pn**	**17 29 29.0**	**+2.0**
TKGZ	**Te Karaka**	**1.55**	**87**	P	**Pn**	**17 29 29.2**	**+2.2**
PREZ	**Palmer Road**	**1.57**	**238**	P	**Pn**	**17 29 29.9**	**+2.6**
NEZ	**North Egmont**	**1.58**	**241**	P	**Pn**	**17 29 30.0**	**+2.6**
WPHZ	**Waipukurau**	**1.60**	**164**	P	**Pn**	**17 29 29.7**	**+2.2**
PRGZ	**Paritu Road**	**1.62**	**105**	P	**Pn**	**17 29 29.8**	**+2.1**
PKE	**Pukeiti**	**1.62**	**245**	P	**Pn**	**17 29 30.2**	**+2.4**
KHEZ	**Kahui Hut**	**1.65**	**242**	P	**Pn**	**17 29 30.6**	**+2.5**
HAZ	**Te Kaha**	**1.69**	**64**	P	**Pn**	**17 29 29.1**	**+0.7**
PXZ	**Pawanui**	**1.69**	**153**	P	**Pn**	**17 29 30.7**	**+2.3**
OHWZ	**Ohakea**	**1.73**	**194**	P	**Pn**	**17 29 31.4**	**+2.5**
ETAZ	**East Tamaki Re**	**1.74**	**334**	P	**Pn**	**17 29 30.4**	**+1.5**
AWAZ	**Awhitu Peninsu**	**1.75**	**326**	P	**Pn**	**17 29 30.8**	**+1.7**
KUZ	**Kuaotunu**	**1.78**	**356**	P	**Pn**	**17 29 30.7**	**+1.3**
DVHZ	**Dannevirke**	**1.79**	**173**	P	**Pn**	**17 29 31.3**	**+1.9**
WIAZ	**Waiheke Island**	**1.83**	**341**	P	**Pn**	**17 29 31.5**	**+1.6**
PRHZ	**Porangahau**	**1.84**	**162**	P	**Pn**	**17 29 32.2**	**+2.3**
POWZ	**Post Office Ro**	**1.87**	**183**	P	**Pn**	**17 29 32.1**	**+1.9**
WTAZ	**Waiatarua**	**1.90**	**327**	P	**Pn**	**17 29 32.6**	**+2.0**
HBAZ	**Herne Bay Bore**	**1.90**	**331**	P	**Pn**	**17 29 32.3**	**+1.7**
MBAZ	**Motutapu North**	**1.92**	**336**	P	**Pn**	**17 29 32.3**	**+1.6**
PUZ	**Puketiti**	**1.93**	**77**	P	**Pn**	**17 29 32.2**	**+1.3**
ANWZ	**Angora Road**	**1.99**	**167**	P	**Pn**	**17 29 33.8**	**+2.3**
PRWZ	**Pori Road**	**2.03**	**178**	P	**Pn**	**17 29 34.0**	**+2.1**
RVAZ	**Riverhead Bore**	**2.03**	**329**	P	**Pn**	**17 29 33.7**	**+1.7**
ABAZ	**Army Bay**	**2.09**	**336**	P	**Pn**	**17 29 34.5**	**+1.8**
MXZ	**Matakaoa Point**	**2.14**	**64**	P	**Pn**	**17 29 34.9**	**+1.7**
MRZ	**Mangatainoka R**	**2.15**	**186**	P	**Pn**	**17 29 34.1**	**+0.9**
BFZ	**Birch Farm**	**2.17**	**173**	P	**Pn**	**17 29 35.3**	**+1.8**
BFZ	**Birch Farm**	**2.17**	**173**	P	**Pn**	**17 29 35.3**	**+1.8**
TIWZ	**Tintock**	**2.25**	**180**	P	**Pn**	**17 29 36.1**	**+1.7**
GRZ	**Great Barrier**	**2.29**	**351**	P	**Pn**	**17 29 36.7**	**+1.8**
OGWZ	**Otaki Gorge**	**2.35**	**193**	P	**Pn**	**17 29 37.2**	**+1.7**
CPWZ	**Castlepoint**	**2.40**	**174**	P	**Pn**	**17 29 38.3**	**+2.4**
KIW	**Kapiti Island**	**2.45**	**197**	P	**Pn**	**17 29 37.3**	**+1.3**
TMWZ	**Te Maipa**	**2.58**	**180**	P	**Pn**	**17 29 39.7**	**+1.6**
MTW	**Mount Morrison**	**2.65**	**186**	P	**Pn**	**17 29 40.0**	**+1.2**
CAW	**Cannon Point**	**2.66**	**193**	P	**Pn**	**17 29 40.2**	**+1.3**

WACZ	**Wakanui South**	**6.21**	**208**	P	**Pn**	**17 30 23.9**	**+0.1**
RPZ	**Rata Peaks**	**6.34**	**214**	P	**Pn**	**17 30 26.0**	**+0.6**
ARCZ	**Arundel**	**6.47**	**212**	P	**Pn**	**17 30 27.4**	**+0.2**
TMZ	**Timaru**	**6.90**	**210**	P	**Pn**	**17 30 33.1**	**+0.2**
ODZ	**Otahua Downs**	**7.60**	**209**	P	**Pn**	**17 30 42.3**	**+0.4**

*SJA **09** 17:29:58.3±0.8,30.67S×71.66W,h24km±4km,ML4.0, MW4.0*
*NEIC **09** 17:29:59.8±2.3,30.66S±0.04×72.01W±0.05,h18km±5km, Error ellipse: s-maj=6.7km s-min=5.8km az=101.0*
*IDC **09** 17:29:59.8±2.1,30.77S×71.42W,h0km,mb4.0/3, mb1 3.9/7,mb1mx3.7/29,mbtmp3.8/7,ML3.5/4,MS3.2/3, Ms1 3.2/3,ms1mx2.8/54,Error ellipse: s-maj=69.4km s-min=30.4km az=101.0*
*NEIC **09** 17:30:03,30.66S×71.76W,h30km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr4.47; Mθθ0.59; Mϕϕ-5.06; Mrθ0.55; Mθϕ-0.36; Mϕr-4.28; Fault plane solution: M0 6.46000×10^14^ NP1:ϕs175.76000°, δ66.19000°,λ82.85000°. NP2:ϕs13.02000°,δ24.80000°, λ105.75000°. Principal axes: T 6.1823, Plg68.0000°, Azm72.0000°; N 0.5193, Plg7.0000°, Azm179.0000°; P -6.7017, Plg21.0000°, Azm271.0000°;*
*GUC **09** 17:30:04.3±0.5,30.66S×71.71W,h33km±1km,ML4.3*

ISC 09 17:30:02.1±0.9, 30.70S±0.02×71.78W±0.05, h28km±6km, n99, σ2s34/113, mb3.9/3, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.13**	**77**			Pb	17 30 08.9	+1.5
CO06				Sg		**Sb**	**17 30 12.6**	**+1.7**
CO06	**Fray Jorge**	**0.13**	**77**	⇑*i*	*i*	Pb	17 30 09.2	+1.8
CO06				*i*	S	**Sb**	**17 30 12.7**	**+1.7**
CO06				IAML			17 30 13.1	
	comp=N,91μm,0.2s							
CO02	**Combarbal**	**0.83**	**127**			**Pn**	**17 30 19.4**	**+1.2**
CO02	**Combarbal**	**0.83**	**127**	*e*P		**Pn**	**17 30 19.5**	**+1.4**
CO02				*e*S		**Sn**	**17 30 30.5**	**+0.9**
CO02	**Combarbal**	**0.83**	**127**	*e*P		**Pb**	**17 30 14.0**	**-4.1**
CO02				IAML			17 30 31.6	
	comp=Z,3μm,0.2s							
CO05	**La Serena**	**0.91**	**31**			**Pb**	**17 30 19.8**	**+0.5**
CO05	**La Serena**	**0.91**	**31**	*e*P		**Pb**	**17 30 19.5**	**+0.2**
CO05				*i* S		**Sn**	**17 30 31.4**	**+0.1**
CO05				IAML			17 30 33.7	
	comp=N,7μm,0.3s							
CO03	**El Pedregal**	**0.95**	**99**			**Pb**	**17 30 20.8**	**+0.8**
GO04	**Tololo Observa**	**1.00**	**58**			**Pb**	**17 30 21.0**	**+0.1**
GO04	**Tololo Observa**	**1.00**	**58**	*e*P		**Pb**	**17 30 21.2**	**+0.3**
GO04				*e*S		**Sn**	**17 30 34.1**	**+0.3**
GO04				IAML			17 30 39.0	
	comp=N,21μm,0.5s							
GO04	**Tololo Observa**	**1.00**	**58**	*e*P		**Pn**	**17 30 16.0**	**-4.5**
GO04				*e*S		**Sn**	**17 30 36.5**	**+2.7**
CO01	**Juntas del Tor**	**1.62**	**64**	Pn		**Pb**	**17 30 31.5**	**-0.1**
CO01	**Juntas del Tor**	**1.62**	**64**	*e*P		**Pn**	**17 30 25.5**	**-3.6**
CO01	**Juntas del Tor**	**1.62**	**64**	*e*P		**Pn**	**17 30 25.5**	**-3.6**
CO01				*e*S		**Sn**	**17 30 47.5**	**-1.8**
VA06	**Catapilco**	**1.90**	**168**	Pn		**Pb**	**17 30 34.2**	**-1.9**
VA06	**Catapilco**	**1.90**	**168**	*e*P		**Pb**	**17 30 36.4**	**+0.3**
VA06				*e*S		**Sb**	**17 31 01.1**	**+1.8**
VA06				IAML			17 31 11.9	
	comp=N,2μm,0.5s							
LCO	**Las Campanas**	**1.93**	**29**			**Pn**	**17 30 34.3**	**+0.9**
LCO	**Las Campanas**	**1.93**	**29**	*e*P		**Pn**	**17 30 31.2**	**-2.1**
LCO	**Las Campanas**	**1.93**	**29**	*e*P		**Pn**	**17 30 31.0**	**-2.3**
AROD	**Rodeo**	**2.06**	**76**	*e*P		Pn	17 30 25.5	-10
AROD				*e*P		Pb	17 30 33.0	-6.1
AROD				*e*S		**Sb**	**17 31 06.9**	**+2.5**
VA03	**San Esteban**	**2.31**	**153**			**Pn**	**17 30 39.0**	**+0.7**
VA03	**San Esteban**	**2.31**	**153**	*e*P		**Pn**	**17 30 36.9**	**-1.4**
VA03	**San Esteban**	**2.31**	**153**	*e*P		**Pn**	**17 30 37.0**	**-1.4**
VA03				*e*S		**Sb**	**17 31 17.8**	**+6.5**
VA03				IAML			17 31 23.3	
	comp=Z,932nm,0.9s							
VA01	**Torpederas**	**2.32**	**177**			**Pn**	**17 30 39.8**	**+1.4**
ACCO	**Cerro Coronel**	**2.34**	**88**	*e*P		**Pn**	**17 30 36.9**	**-2.2**
ACCO				*e*P		Pb	17 30 37.0	-6.8
ACCO				*e*S		**Sb**	**17 31 17.5**	**+5.1**
ROCH	**El Roble**	**2.35**	**164**	*e*P		Pb	17 30 38.5	-5.5
ROCH				*e*P		**Pn**	**17 30 35.8**	**-3.3**
ROC1	**El Roble**	**2.36**	**164**			**Pn**	**17 30 39.4**	**+0.2**
RTLS	**Leoncito**	**2.39**	**118**	*e*P		**Pn**	**17 30 37.8**	**-1.9**
RTLS				*e*S		**Sb**	**17 31 17.5**	**+3.7**
RTLS				IAML			17 31 25.8	
	comp=Z,937nm,0.6s							
AUSP	**Uspallata**	**2.54**	**127**	*e*P		Pn	17 30 35.0	-6.8
AUSP				*e*P		Pb	17 30 40.3	-7.0
AUSP				*e*S		**Sb**	**17 31 23.1**	**+4.8**
AC04	**Llanos de Chal**	**2.56**	**14**	Pn		**Pn**	**17 30 41.0**	**-0.8**
AC04	**Llanos de Chal**	**2.56**	**14**	*e*P		**Pn**	**17 30 42.1**	**+0.3**
AC04				*e*S		**Sb**	**17 31 15.0**	**-3.5**
AC04				IAML			17 31 27.5	
	comp=Z,451nm,0.6s							
PEL	**Peldehue**	**2.60**	**159**			**Pn**	**17 30 41.4**	**-1.0**
MT02	**Curacav**	**2.61**	**168**			**Pn**	**17 30 41.8**	**-0.6**
MT02	**Curacav**	**2.61**	**168**	*e*P		**Pn**	**17 30 41.0**	**-1.4**
MT02	**Curacav**	**2.61**	**168**	*e*P		**Pn**	**17 30 42.0**	**-0.4**
MT02				*e*S		**Sb**	**17 31 25.0**	**+5.2**
MT02				IAML			17 31 31.6	
	comp=Z,319nm,0.6s							
MT05	**Renca**	**2.82**	**162**			**Pn**	**17 30 45.7**	**+0.3**
MT05	**Renca**	**2.82**	**162**	*e*P		**Pb**	**17 30 51.2**	**-0.7**
MT05				*e*S		**Sb**	**17 31 25.1**	**-1.0**
MT05				IAML			17 31 33.6	
	comp=E,2μm,0.4s							
RTLL	**Cerro Villicun**	**2.90**	**103**	*e*P		**Pn**	**17 30 44.0**	**-2.6**
FCH	**Farellones**	**2.91**	**155**	*e*P		**Pn**	**17 30 46.7**	**-0.2**
VA05	**Santo Domingo**	**2.95**	**177**			**Pn**	**17 30 48.6**	**+1.5**
MT03	**Universidad Ad**	**2.98**	**159**			**Pn**	**17 30 47.5**	**-0.2**
MT03	**Universidad Ad**	**2.98**	**159**	*e*P		**Pn**	**17 30 49.1**	**+1.4**
MT03	**Universidad Ad**	**2.98**	**159**	*e*P		**Pn**	**17 30 46.0**	**-1.7**
MT03				*e*P		**Pb**	**17 30 50.0**	**-4.7**
MT03				*e*S		**Sb**	**17 31 31.8**	**+1.0**
MT03				IAML			17 31 41.6	
	comp=Z,669nm,0.8s							
MT09	**Talagante**	**3.14**	**168**			**Pn**	**17 30 49.3**	**-0.6**
MT09	**Talagante**	**3.14**	**168**	*e*P		**Pn**	**17 30 49.2**	**-0.6**
ASAL	**Salagasta**	**3.14**	**128**	*e*P		Pn	17 30 43.5	-6.3
ASAL				*e*P		Pb	17 30 49.0	-8.3
ASAL				*e*S		**Sb**	**17 31 36.5**	**+1.4**
MT01	**Popeta**	**3.18**	**172**			**Pn**	**17 30 49.7**	**-1.1**
MT01	**Popeta**	**3.18**	**172**	*e*P		**Pn**	**17 30 49.6**	**-0.7**
MT01	**Popeta**	**3.18**	**172**	*e*P		**Pn**	**17 30 50.0**	**-0.4**
MT01				*e*S		**Sb**	**17 31 35.0**	**-1.4**
MT01				IAML			17 31 46.5	
	comp=Z,208nm,0.6s							
ARCO	**CERRO ARCO**	**3.23**	**132**	*e*P		**Pn**	**17 30 51.0**	**-0.1**
ARCO				*e*S		**Sb**	**17 31 43.5**	**+5.7**
ARCO				IAML			17 31 51.8	
	comp=Z,376nm,0.5s							
GO03	**Copiap**	**3.38**	**24**			**Pn**	**17 30 52.0**	**-1.1**
GO03	**Copiap**	**3.38**	**24**	*e*P		**Pn**	**17 30 51.8**	**-1.4**
GO03	**Copiap**	**3.38**	**24**	*e*P		**Pn**	**17 30 53.0**	**-0.1**
GO03				*e*S		**Sb**	**17 31 48.5**	**+6.4**
LMEL	**Las Melosas**	**3.41**	**157**			**Pn**	**17 30 53.4**	**-0.2**
BO04	**La Punta**	**3.42**	**164**	Pn		**Pn**	**17 30 52.9**	**-0.8**
BO04	**La Punta**	**3.42**	**164**	*e*P		**Pn**	**17 30 53.0**	**-0.8**
AAGR	**Agrelo**	**3.46**	**134**	*e*P		**Pn**	**17 30 53.5**	**-0.7**
AAGR				*e*S		**Sb**	**17 31 50.5**	**+6.2**
AC06	**Mina Casimiro**	**3.56**	**21**	Pn		**Pn**	**17 30 53.9**	**-1.6**
VCA	**Vinchina**	**3.67**	**59**	*e*P		**Pn**	**17 30 57.0**	**-0.3**
VCA	**Vinchina**	**3.67**	**59**	*e*P		**Pn**	**17 30 57.0**	**-0.3**
VCA				*e*S		**Sb**	**17 31 53.0**	**+2.3**
VCA				IAML			17 32 02.4	
	comp=Z,460nm,0.4s							
BO01	**Tunca**	**3.73**	**171**	Pn		**Pn**	**17 30 57.8**	**0.0**
BO01	**Tunca**	**3.73**	**171**	*e*P		**Pn**	**17 30 59.0**	**+1.2**
BO01				*e*S		**Sb**	**17 31 50.5**	**-1.4**
BO01				*e*S		Sn	17 31 57.8	+17
BO01				IAML			17 32 06.3	
	comp=Z,132nm,0.7s							
BO02	**Sierra Bellavi**	**4.16**	**169**			**Pn**	**17 31 03.5**	**-0.4**
BO02	**Sierra Bellavi**	**4.16**	**169**	*e*P		**Pn**	**17 31 04.3**	**+0.4**
BO02				*e*S		**Sn**	**17 31 55.6**	**+3.9**
BO02				IAML			17 32 12.6	
	comp=Z,200nm,0.5s							
GO05	**Huala**	**4.30**	**182**	Pn		**Pn**	**17 31 07.2**	**+1.5**
ACLC	**CERRO LA CRUZ**	**4.37**	**74**	*e*P		**Pn**	**17 31 04.2**	**-2.7**
ACLC				*e*S		**Sb**	**17 32 06.0**	**-4.7**
ACLC				IAML			17 32 14.7	
	comp=Z,322nm,0.4s							
AC02	**Maricunga**	**4.50**	**32**	Pn		**Pn**	**17 31 07.4**	**-1.5**
APLL	**PUNTA DE LOS L**	**4.54**	**87**	*e*P		**Pn**	**17 31 06.0**	**-3.0**
AC01	**Pan de Azucar**	**4.66**	**13**			**Pn**	**17 31 09.8**	**-0.9**
ML02	**Panimavida**	**5.06**	**177**			**Pn**	**17 31 14.4**	**-1.7**
GO02	**Mina Guanaco**	**5.85**	**20**			**Pn**	**17 31 23.7**	**-3.6**
PB14	**IPOC Station P**	**6.17**	**12**	Pn		**Pn**	**17 31 30.0**	**-1.8**
H03N1	**Juan Fernandez**	**6.64**	**244**	T		T	17 38 35.3	
	baz=72,slow=72,SNR=6683							
H03N3	**Juan Fernandez**	**6.66**	**244**	T		T	17 38 33.5	
	baz=72,slow=72,SNR=5232							
H03N2	**Juan Fernandez**	**6.66**	**244**	T		T	17 38 34.8	
	baz=72,slow=72,SNR=6951							
PB15	**IPOC Station P**	**7.74**	**16**	Pn		**Pn**	**17 31 50.5**	**-2.7**
LC01	**Cunco**	**8.18**	**181**	Pn		**Pn**	**17 31 57.1**	**-1.8**
PB06	**IPOC Station P**	**8.21**	**14**	Pn		**Pn**	**17 31 56.2**	**-3.3**
LVC	**Limon Verde**	**8.46**	**18**	Pn		**Pn**	**17 32 04.5**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=80,slow=12,SNR=1.3							
LVC				LR		LR	17 35 38.9	
	comp=Z,113nm,20.9s,baz=212,slow=40							
LVC	**Limon Verde**	**8.46**	**18**	Pn		**Pn**	**17 31 59.8**	**-3.3**
PB04	**IPOC Station P**	**8.46**	**10**	Pn		**Pn**	**17 32 02.0**	**-1.0**
PB07	**IPOC Station P**	**9.10**	**11**	Pn		**Pn**	**17 32 10.3**	**-1.5**
PB02	**IPOC Station P**	**9.49**	**11**	Pn		**Pn**	**17 32 14.8**	**-2.3**
PB01	**IPOC Station P**	**9.84**	**13**	Pn		**Pn**	**17 32 19.3**	**-2.6**
PLCA	**Paso Flores**	**10.06**	**175**	Pn		**Pn**	**17 32 25.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=2.6							
PLCA	**Paso Flores**	**10.06**	**175**	Pn		**Pn**	**17 32 24.7**	**-0.1**
ITQB	**Itaqui**	**13.15**	**89**	Pn		**Pn**	**17 33 05.2**	**-1.9**
LPAZ	**La Paz**	**14.73**	**14**	Pn		**Pn**	**17 33 30.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=243,slow=3.2,SNR=2.9							
SIV	**San Ignacio**	**17.62**	**36**	P		**P**	**17 34 06.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=218,slow=11,SNR=4.9							
NNA	**Nana**	**19.21**	**345**	LR		LR	17 39 43.2	
	comp=Z,42nm,20.1s,baz=341,slow=30							
BDFB	**Brasilia**	**26.41**	**61**	P		**P**	**17 35 35.6**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=190,slow=10.0,SNR=2.1							
MDP	**Montagnes des**	**40.03**	**31**	LR		LR	17 56 41.5	
	comp=Z,61nm,18.4s,baz=229,slow=40							
DBIC	**Dimbokro**	**73.93**	**72**	P		**P**	**17 41 35.6**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=240,slow=5.1,SNR=4.2							
TORD	**Torodi Ar. Bea**	**82.89**	**70**	P		**P**	**17 42 25.7**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=239,slow=4.7,SNR=12							
H11S2	**WAKE ISLAND Hyl**	**25.98**	**271**	T		T	20 07 48.4	
	baz=116,slow=75,SNR=30							
H11S1	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	20 07 50.4	
	baz=116,slow=75,SNR=33							
H11S3	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	20 07 50.9	
	baz=116,slow=75,SNR=56							
ZALV	**Zalesovo Beam**	**151.29**	**29**	PKPbc		**PKiKP**	**17 49 54.1**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=323,slow=3.7,SNR=8.6							
MKAR	**Makanchi Array**	**154.34**	**44**	PKPab		**PKPab**	**17 50 13.5**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=284,slow=5.8,SNR=2.3							

*IDC **09** 17:31:44.9±1.4,42.00N×75.91E,h0km,mb3.6/3, mb1 3.6/7,mb1mx3.4/46,mbtmp3.6/7,ML2.6/3,MS3.4/2, Ms1 3.4/2,ms1mx2.5/92,Error ellipse: s-maj=18.5km s-min=9.7km az=168.0*
*SOME **09** 17:31:46.8,42.13N×76.03E,h15km,MS2.8*
*KNET **09** 17:31:46.6±0.4,42.17N×75.97E,h13km±4km,ml3.6,Error ellipse: s-maj=3.9km s-min=2.9km az=29.0*
*KRNET **09** 17:31:46.4±0.1,42.11N×75.99E,h18km,mb4.2*
*NNC **09** 17:31:47.1±0.5,42.15N×75.98E,h0km,mb4.4,mpv4.5, Error ellipse: s-maj=3.5km s-min=1.8km az=5.0*
*MOS **09** 17:31:48.8±0.8,42.22N×75.88E,h19km,mb4.5/5,Error ellipse: s-maj=7.7km s-min=5.0km az=74.7*
MOS Felt (III) at Kara-Saz, Kara-Kungey,(II-III) at Kok-Zhar, Ak-Zhar.

ISC 09 17:31:47.3±0.9, 42.14N±0.03×76.04E±0.01, h9km±6km, n145, σ1s56/225, mb3.9/8, 49C-38D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.19**	**56**	P		**Pg**	**17 31 51.6**	**+0.3**
	596nm,0.1s,SNR=7874							
ULHL				⇑S		**Sg**	**17 31 54.6**	**+0.5**
	19μm,0.2s							
ULHL	**Ulahol**	**0.19**	**56**	⇑*i*P		**Pg**	**17 31 51.5**	**+0.2**
	baz=54							
ULHL				⇑*i*S		**Sg**	**17 31 54.9**	**+0.8**
	baz=54							
BOOM	**Boomskoye usch**	**0.35**	**349**	⇑*i*P		**Pg**	**17 31 54.1**	**-0.3**
	baz=54							
BOOM				⇑*i*S		**Sg**	**17 31 59.6**	**+0.4**
	baz=54							
TKM2	**Tokmak 2**	**0.84**	**338**	⇓P		**Pg**	**17 32 03.1**	**-0.6**
	1μm,0.2s,SNR=2627							
TKM2				⇓S		**Sg**	**17 32 14.8**	**+0.2**
	1μm,0.1s							
TKM2	**Tokmak 2**	**0.84**	**338**	*i* PG		**Pg**	**17 32 02.9**	**-0.7**
TKM2				pmax		pmax		
	comp=Z,329nm,0.2s							
TKM2	**Tokmak 2**	**0.84**	**338**	⇑*i*P		**Pg**	**17 32 02.7**	**-0.9**
	baz=40							
TKM2				⇑*i*S		**Sg**	**17 32 14.4**	**-0.2**
	baz=40							
TKM2	**Tokmak 2**	**0.84**	**338**	⇑P		**Pg**	**17 32 03.0**	**-0.6**
	comp=Z,329nm,0.2s							
TKM2				⇓S		**Sg**	**17 32 14.8**	**+0.2**
	comp=Z,354nm,0.3s							
KDJ	**Kajisay**	**0.85**	**90**	⇑*e*P		**Pb**	**17 32 03.4**	**-1.0**
	baz=89							
KDJ				⇑*i*S		**Sb**	**17 32 15.4**	**-0.7**
	baz=89							
KST	**Kastek**	**0.90**	**357**	⇓*e*P		**Pb**	**17 32 04.5**	**-0.8**
	comp=Z,510nm,0.2s							
KST				*e*S		**Sb**	**17 32 17.6**	**+0.1**
	comp=Z,678nm,0.2s							
KST	**Kastek**	**0.90**	**357**	P		**Pb**	**17 32 04.4**	**-0.8**
	comp=Z,510nm,0.2s							
KST				S		**Sb**	**17 32 17.3**	**-0.2**
	comp=Z,678nm,0.2s							
KBK	**Karagaybulak**	**0.95**	**303**	P		**Pg**	**17 32 04.9**	**-0.9**
	comp=Z,306nm,0.1s,SNR=1202							
KBK				⇓S		**Sg**	**17 32 17.7**	**-0.5**
	comp=Z,3μm,0.2s							
KBK	**Karagaybulak**	**0.95**	**303**	⇓*i*P		**Pg**	**17 32 04.2**	**-1.5**
	baz=5.0							
KBK				⇓*i*S		**Sg**	**17 32 17.0**	**-1.2**
	baz=5.0							
MTBS	**Maitube**	**1.03**	**16**	*e*P		**Pb**	**17 32 06.8**	**-0.6**
	comp=Z,204nm,0.3s							
MTBS				*e*S		**Sb**	**17 32 21.0**	**-0.1**
	comp=Z,1μm,0.2s							
MTBS	**Maitube**	**1.03**	**16**	P		**Pb**	**17 32 06.6**	**-0.8**
	comp=Z,204nm,0.3s							
MTBS				S		**Sb**	**17 32 20.6**	**-0.5**
	comp=Z,1μm,0.2s							
DGS	**Degeres**	**1.12**	**350**	*e*P		**Pg**	**17 32 08.2**	**-0.6**
	comp=Z,366nm,0.2s							
DGS				*e*S		**Sb**	**17 32 23.8**	**+0.1**
	comp=Z,763nm,0.3s							
DGS	**Degeres**	**1.12**	**350**	P		**Pg**	**17 32 08.1**	**-0.6**
	comp=Z,366nm,0.2s							
DGS				P		**Pg**	**17 32 08.2**	**-0.6**
	comp=Z,358nm,0.1s							
DGS				S		**Sb**	**17 32 23.5**	**-0.1**
	comp=Z,708nm,0.2s							
DGS				S		**Sb**	**17 32 23.5**	**-0.1**
	comp=Z,763nm,0.3s							
TNSS	**Tian-Shan**	**1.12**	**37**	*i* PG		**Pb**	**17 32 08.6**	**-0.5**
TNSS				*e*S		**Sn**	**17 32 24.4**	**-1.0**
TNSS	**Tian-Shan**	**1.12**	**37**	*e*P		**Pb**	**17 32 08.7**	**-0.5**
	comp=Z,998nm,0.3s							
TNSS				*e*S		**Sn**	**17 32 24.1**	**-1.3**
	comp=Z,980nm,0.4s							
TNSS	**Tian-Shan**	**1.12**	**37**	P		**Pb**	**17 32 08.7**	**-0.5**
	comp=Z,998nm,0.3s							
TNSS				S		**Sn**	**17 32 24.1**	**-1.3**
	comp=Z,980nm,0.4s							
TNSS	**Tian-Shan**	**1.12**	**37**	P		**Pn**	**17 32 08.9**	**-0.7**
	comp=Z,501nm,0.4s							
TNSS				S		**Sn**	**17 32 24.8**	**-0.6**
	comp=Z,848nm,0.3s							
UCH	**Uchtor**	**1.13**	**275**	⇓P		**Pg**	**17 32 07.3**	**-1.9**
	comp=Z,48nm,0.1s,SNR=78							
UCH				⇓S		**Sg**	**17 32 22.6**	**-1.3**
	comp=Z,291nm,0.2s							
UCH	**Uchtor**	**1.13**	**275**	⇑*i*P		**Pg**	**17 32 06.9**	**-2.3**
	baz=77							
UCH				⇑*i*S		**Sg**	**17 32 21.8**	**-2.1**
	baz=77							
FRU1	**Bishkek**	**1.23**	**303**	⇑*i*P		**Pg**	**17 32 09.3**	**-1.8**
	baz=6.0							
FRU1				⇑*i*S		**Sg**	**17 32 26.2**	**-0.9**
	baz=6.0							
AAK	**Ala-Archa**	**1.24**	**294**	P		**Pg**	**17 32 09.6**	**-1.7**
	comp=Z,208nm,0.1s,SNR=789							
AAK				⇓S		**Sg**	**17 32 25.8**	**-1.6**
	comp=Z,1μm,0.2s							
AAK	**Ala-Archa**	**1.24**	**294**	Pg		**Pg**	**17 32 09.6**	**-1.7**
	comp=Z,72nm,0.3s,baz=106,slow=4.8,SNR=1205							
AAK				Lg		Lg	17 32 24.8	
	comp=Z,310nm,0.3s,baz=310,slow=18,SNR=46							
AAK				LR		LR	17 32 51.2	
	comp=Z,139nm,18.1s,baz=158,slow=54							
AAK	**Ala-Archa**	**1.24**	**294**	*c* PG		**Pg**	**17 32 08.9**	**-2.3**
AAK	**Ala-Archa**	**1.24**	**294**	⇑*i*P		**Pg**	**17 32 09.1**	**-2.1**
	baz=96							
AAK				⇑*i*S		**Sg**	**17 32 25.4**	**-2.0**
	baz=96							
AAA	**Alma-Ata**	**1.25**	**31**	*d* PG		**Pn**	**17 32 11.4**	**+0.3**
AAA	**Alma-Ata**	**1.25**	**31**	*e*P		**Pn**	**17 32 11.4**	**+0.3**
	comp=Z,1μm,0.2s							
AAA				*e*S		**Sn**	**17 32 28.9**	**+0.8**
	comp=Z,2μm,0.3s							
AAA	**Alma-Ata**	**1.25**	**31**	P		**Pn**	**17 32 11.4**	**+0.3**
	comp=Z,1μm,0.2s							
AAA				S		**Sn**	**17 32 28.9**	**+0.8**
	comp=Z,2μm,0.3s							
MDOK	**Medeo**	**1.27**	**36**	*i* PG		**Pn**	**17 32 11.1**	**-0.3**
MDOK	**Medeo**	**1.27**	**36**	⇑*e*P		**Pn**	**17 32 11.2**	**-0.3**
	comp=Z,355nm,0.3s							
MDOK				*e*S		**Sn**	**17 32 28.6**	**-0.1**
	comp=Z,493nm,0.7s							
MDOK	**Medeo**	**1.27**	**36**	*i* P		**Pn**	**17 32 11.1**	**-0.3**
	baz=41							
MDOK	**Medeo**	**1.27**	**36**	⇑P		**Pn**	**17 32 11.0**	**-0.4**
	comp=Z,87nm,0.2s							
MDOK				⇑S		**Sn**	**17 32 28.3**	**-0.3**
	comp=Z,313nm,0.5s							
MDOK	**Medeo**	**1.27**	**36**	Pg		**Pn**	**17 32 11.2**	**-0.3**
	comp=Z,355nm,0.3s							
MDOK				Lg		Lg	17 32 28.6	
	comp=Z,493nm,0.7s							
KNDC	**Almaty**	**1.28**	**32**	PG		**Pn**	**17 32 11.8**	**+0.4**
KNDC				S		**Sn**	**17 32 29.9**	**+1.1**
KNDC	**Almaty**	**1.28**	**32**	⇓P		**Pn**	**17 32 11.9**	**+0.4**
	comp=Z,498nm,0.2s							
KNDC				⇑S		**Sn**	**17 32 29.9**	**+1.1**
	comp=Z,2μm,0.3s							
CHMS	**Chumysh**	**1.28**	**313**	⇓P		**Pn**	**17 32 10.4**	**-1.1**
	comp=Z,150nm,0.2s,SNR=146							
CHMS				⇓S		**Sg**	**17 32 27.0**	**-1.4**
	comp=Z,582nm,0.2s							
CHMS	**Chumysh**	**1.28**	**313**	*i* PG		**Pn**	**17 32 10.3**	**-1.1**
CHMS				pmax		pmax		
	comp=Z,87nm,0.4s							
CHMS	**Chumysh**	**1.28**	**313**	⇑*i*P		**Pn**	**17 32 09.9**	**-1.6**
	baz=14							
CHMS				⇑*i*S		**Sg**	**17 32 27.1**	**-1.4**
	baz=14							
CHMS	**Chumysh**	**1.28**	**313**	⇓P		**Pn**	**17 32 10.4**	**-1.1**
	comp=Z,87nm,0.4s							
CHMS				⇓S		**Sg**	**17 32 26.8**	**-1.6**
	comp=Z,196nm,0.2s							
KOTS	**Kotyrbulak**	**1.35**	**36**	*e*P		**Pb**	**17 32 12.9**	**-0.1**
	comp=Z,228nm,0.2s							
KOTS				*e*S		**Sn**	**17 32 31.6**	**+0.9**
	comp=Z,2μm,0.7s							
KOTS	**Kotyrbulak**	**1.35**	**36**	P		**Pb**	**17 32 12.8**	**-0.1**
	comp=Z,185nm,0.2s							
KOTS				P		**Pb**	**17 32 12.9**	**-0.1**
	comp=Z,228nm,0.2s							
KOTS				S		**Sn**	**17 32 31.4**	**+0.7**
	comp=Z,2μm,0.4s							
KOTS				S		**Sn**	**17 32 31.7**	**+0.9**
	comp=Z,2μm,0.7s							
ANVS	**Anan'yevo**	**1.37**	**61**	⇑*i*P		**Pb**	**17 32 12.3**	**-0.9**
	baz=61							
ANVS				⇑*i*S		**Sn**	**17 32 31.

KURS *e*S Sg 17 32 52.6 -1.2
comp=Z,521nm,0.8s
KURS Kuram 2.07 49 Pg Pg 17 32 25.2 -1.8
comp=Z,34nm,0.5s
KURS Lg Lg 17 32 52.6
comp=Z,521nm,0.8s
MRKS Merke 2.17 287 *e*P Pg 17 32 28.5 -0.3
comp=Z,187nm,0.4s
MRKS *e*S Sg 17 32 57.7 +0.8
comp=Z,783nm,0.3s
KPKS Kokpek 2.36 55 *e*PN Pb 17 32 29.5 -0.5
KPKS Kokpek 2.36 55 *e*P Pg 17 32 30.8 -1.7
comp=Z,120nm,0.2s
KPKS *e*S Sg 17 33 02.0 -1.1
comp=Z,848nm,0.7s
KPKS Kokpek 2.36 55 *e*Pn Pb 17 32 29.5 -0.5
baz=57
UZB Uzynbulak 2.42 64 *de*PN Pb 17 32 30.2 -1.0
UZB Uzynbulak 2.42 64 *e*P Pb 17 32 30.8 -0.4
comp=Z,43nm,0.4s
UZB *e*S Sg 17 33 02.4 -2.7
comp=Z,222nm,0.4s
UZB Uzynbulak 2.42 64⇓*e*Pn Pb 17 32 30.2 -1.0
baz=66
UZB Uzynbulak 2.42 64 Pg Pb 17 32 30.8 -0.4
comp=Z,43nm,0.4s
UZB Lg Lg 17 33 02.4
comp=Z,222nm,0.4s
ARXS Arharly 2.45 32 *e*PN Pb 17 32 30.4 -1.2
ARXS Arharly 2.45 32 *e*P Pb 17 32 31.3 -0.3
comp=Z,312nm,0.5s
ARXS *e*S Sg 17 33 03.4 -2.6
comp=Z,1µm,0.3s
ARXS Arharly 2.45 32 Pg Pb 17 32 31.3 -0.3
comp=Z,312nm,0.5s
ARXS Lg Lg 17 33 03.4
comp=Z,1µm,0.3s
KSH Kashi 2.62 181 P Pg 17 32 42.0 +4.4
KSH S Sg 17 33 21.3 +10
KSH pmax pmax
comp=Z,41nm,0.5s
KSH smax smax
comp=N,190nm,0.8s
KSH smax smax
comp=E,380nm,0.7s
BLB Baldybastay 2.65 42 *e*P Pb 17 32 34.5 -0.6
comp=E,199nm,0.3s
BLB *e*S Sg 17 33 09.0 -3.5
comp=E,1µm,0.3s
BLB Baldybastay 2.65 42 Pg Pb 17 32 34.5 -0.6
comp=E,199nm,0.3s
BLB Lg Lg 17 33 09.0
comp=E,1µm,0.3s
SHLS Shalkode 2.72 67 *de*PN Pg 17 32 38.4 -1.1
SHLS Shalkode 2.72 67 *e*P Pg 17 32 41.8 +2.2
comp=E,18nm,0.4s
SHLS *e*S Sg 17 33 21.3 +6.5
comp=E,154nm,0.7s
SHLS Shalkode 2.72 67⇓*e*Pn Pg 17 32 38.5 -1.1
baz=70
SHLS Shalkode 2.72 67 Pg Pg 17 32 41.7 +2.2
comp=E,18nm,0.4s
SHLS Lg Lg 17 33 21.3
comp=E,154nm,0.7s
PDGK Podgornoye 2.81 64 PN Pb 17 32 35.1 -2.6
PDGK 17 33 15.2
PDGK Podgornoye 2.81 64 Pg Pb 17 32 38.2 +0.4
comp=E,16nm,0.3s
PDGK Lg Lg 17 33 14.9
comp=E,96nm,0.6s
PDGK Podgornoye 2.81 64⇑Pn Pb 17 32 35.2 -2.6
comp=E,22nm,0.5s
PDGK ⇓Lg Lg 17 33 15.2
comp=E,139nm,0.5s
OHH Osh 2.93 238⇓*e*P Pn 17 32 34.0 -0.2
baz=38
OHH ⇓*i*S Sn 17 33 08.9 -0.7
baz=38
ARK Arkit 3.06 265⇑*e*P Pn 17 32 36.0 0.0
baz=65
ARK ⇑*i*S Sn 17 33 12.3 -0.4
baz=65
BTLS Baital 3.24 334 *e*PN Pn 17 32 40.3 +2.0
BTLS Baital 3.24 334 *e*P Pb 17 32 45.3 +0.3
comp=E,71nm,0.5s
BTLS *e*S Sb 17 33 27.3 +2.7
comp=E,60nm,0.4s
BTLS Baital 3.24 334 *e*Pn Pn 17 32 40.3 +2.0
baz=336
BTLS Baital 3.24 334 Pg Pb 17 32 45.3 +0.3
comp=E,71nm,0.5s
BTLS Lg Lg 17 33 27.3
comp=E,60nm,0.4s
TDK Taldyqorghan 3.34 30 *e*PN Pb 17 32 42.6 -4.1
TDK *e* 17 32 50.8
TDK Taldyqorghan 3.34 30 *e*P Pb 17 32 46.9 +0.2
comp=E,165nm,0.3s
TDK *e*S Sb 17 33 29.9 +2.4
comp=E,590nm,0.5s
TDK Taldyqorghan 3.34 30 *e*Pn Pb 17 32 42.7 -4.1
baz=32
TDK *e*Pg Pg 17 32 50.9 -0.4
baz=32
TDK Taldyqorghan 3.34 30 Pg Pb 17 32 46.9 +0.2
comp=E,165nm,0.3s
TDK Lg Lg 17 33 29.9
comp=E,590nm,0.5s
KTMS Ketmen 3.43 66 *e*P Pb 17 32 48.6 +0.1
comp=E,5.6nm,0.3s
KTMS *e*S Sg 17 33 32.8 -4.8
comp=E,58nm,0.3s
KTMS Ketmen 3.43 66 Pg Pb 17 32 48.6 +0.1
comp=E,5.6nm,0.3s
KTMS Lg Lg 17 33 32.8
comp=E,58nm,0.3s
DJR Jarkent 3.51 50 *e*P Pb 17 32 50.2 +0.5
comp=E,14nm,0.3s
DJR *e*S Sg 17 33 35.8 -4.3
comp=E,215nm,0.5s
DJR Jarkent 3.51 50 Pg Pb 17 32 50.2 +0.5
comp=E,14nm,0.3s
DJR Lg Lg 17 33 35.8
comp=E,215nm,0.5s
DZA Taraz 3.56 284 *e*PN Pn 17 32 43.7 +0.9
DZA Taraz 3.56 284 *e*P Pb 17 32 51.6 +1.2
DZA *e*S Sb 17 33 37.9 +4.2
DZA Taraz 3.56 284 *e*Pn Pn 17 32 43.7 +0.9
baz=284
TRKS Terek-Say 3.71 262⇑*i*P Pn 17 32 45.0 0.0
baz=61
TRKS ⇑*i*S Sn 17 33 27.9 -1.0
baz=61
KAPS Kapalarasan 3.96 36 *e*P Pb 17 32 58.3 +1.0
comp=E,59nm,0.5s
KAPS *e*S Sg 17 33 49.5 -4.9
comp=E,110nm,0.5s
KAPS Kapalarasan 3.96 36 Pg Pb 17 32 58.3 +1.0
comp=E,59nm,0.5s
KAPS Lg Lg 17 33 49.5
comp=E,110nm,0.5s
KK31 Karatay Array 4.19 285 PN Pn 17 32 53.0 +1.6
KK31 *e* 17 33 02.9
KK31 Karatay Array 4.19 285 Pn Pn 17 32 53.0 +1.6
comp=E,0.4nm,0.3s,baz=102,slow=13,SNR=407
KK31 ⇑Pg Pb 17 33 02.5 +1.3
comp=E,6.0nm,0.3s,baz=117,slow=12,SNR=150
KK31 ⇑Lg Lg 17 33 56.5
comp=E,49nm,0.5s,baz=104,slow=29,SNR=13
IUG Iuzhnay 4.46 272 *e*PN Pn 17 32 55.8 +0.5
IUG Iuzhnay 4.46 272 *e*Pn Pn 17 32 55.8 +0.5
baz=272
BRLS Borolday 4.66 283 *e*P Pb 17 33 12.6 +3.4
comp=E,3.3nm,0.4s
BRLS *e*S Sg 17 34 13.6 -3.4
comp=E,65nm,0.6s
MAKZ Makanchi 6.31 40 PN Pn 17 33 24.6 +4.0
MAKZ Makanchi 6.31 40 ⇑Pn Pn 17 33 24.6 +4.0
comp=E,8.9nm,0.5s
MAKZ ⇓Lg Lg 17 35 10.6
comp=E,15nm,0.6s
MK31 Makanchi Array 6.45 42 *ce*PN Pn 17 33 25.5 +3.0
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MK31 Makanchi Array 6.45 42 ⇑Pn Pn 17 33 26.6 +4.1
comp=Z,4.4nm,0.5s,baz=222,slow=15,SNR=4.8
MK31 ⇑Lg Lg 17 35 14.3
comp=Z,6.9nm,0.5s,baz=223,slow=23,SNR=4.3

MKAR Makanchi Array 6.45 42 Pn Pn 17 33 24.7 +2.2
comp=Z,1.9nm,0.3s,baz=220,slow=14,SNR=61
MKAR Sn Sn 17 34 39.8 +3.5
comp=Z,1.1nm,0.3s,baz=225,slow=24,SNR=5.7
MKAR Lg Lg 17 35 13.2
comp=Z,2.4nm,0.3s,baz=228,slow=27,SNR=5.0
OTUK Ortayu 6.64 338 PN Pn 17 33 26.7 +1.6
OTUK Ortayu 6.64 338 ⇓Pn Pn 17 33 28.0 +2.9
comp=Z,2.7nm,0.3s
OTUK ⇓Lg Lg 17 35 16.4
comp=Z,58nm,0.7s
BRZS Berezniki 8.18 345 *e*Pg Pg 17 34 17.7 -6.2
baz=345
KURBB Kurchatov Arra 8.66 11 Pn Pn 17 33 54.0 +1.3
comp=Z,0.1nm,0.3s,baz=195,slow=12,SNR=17
KURBB Pg Pg 17 34 23.3 -10
comp=Z,0.2nm,0.3s,baz=200,slow=18,SNR=5.8
KURBB Sn Sn 17 35 30.4 0.0
comp=Z,0.2nm,0.3s,baz=189,slow=22,SNR=5.9
KURBB Lg Lg 17 36 14.6
comp=Z,0.5nm,0.3s,baz=198,slow=29,SNR=4.9
KURBB Kurchatov Arra 8.66 11 P Pn 17 33 53.3 +0.6
KURBB Kurchatov Arra 8.66 11 ⇑Pn Pn 17 33 54.0 +1.3
comp=Z,2.2nm,0.5s
KURBB ⇓Lg Lg 17 36 25.0
comp=Z,86nm,0.8s
KURK Kurchatov 8.76 11⇑*e*P Pn 17 33 55.8 +1.7
KURK pmax pmax
comp=Z,1.0nm,1.4s
KURK Kurchatov 8.76 11 ⇑Lg Lg 17 36 26.2
comp=Z,46nm,0.7s
BRVK Borovoye 11.59 342⇑*e*P Pn 17 34 33.3 +0.5
BRVK pmax pmax
comp=Z,1.0nm,1.0s
BRVK Borovoye 11.59 342 ⇓Pn Pn 17 34 31.4 -1.4
comp=Z,1.0nm,0.6s
BRVK ⇓Lg Lg 17 37 56.9
comp=Z,37nm,1.1s
ZALV Zalesovo Beam 13.18 23 Pn Pn 17 34 55.6 +1.0
comp=Z,0.3nm,0.3s,baz=214,slow=14,SNR=4.8
ZALV Sn Sn 17 37 21.6 +0.5
comp=Z,0.4nm,0.3s,baz=220,slow=23,SNR=8.5
AB31 Akbulak array 13.29 308 *i*P Pn 17 34 53.5 -2.6
AB31 Akbulak array 13.29 308 ⇑Pn Pn 17 34 53.5 -2.6
comp=Z,0.8nm,0.5s,baz=119,slow=13,SNR=11
AB31 ⇑Sn Sn 17 37 24.0 +0.1
comp=Z,0.9nm,0.6s
GOMU GeErMu 15.72 106 P Pn 17 35 29.8 +0.5
GOMU pP pP 17 35 35.5 -1.3
GOMU sP sP 17 35 36.8 -1.5
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,110nm,5.2s
ARU Arti 18.20 328 Pn Pn 17 35 57.3 -2.8
comp=Z,0.0nm,0.3s,baz=85,slow=23,SNR=1.5
ARU Arti 18.20 328*d*iP Pn 17 35 59.5 -0.6
ARU S Sn 17 39 24.8 +1.6
ARU pmax pmax
comp=Z,2.0nm,0.8s
BELG Belogornoye 21.70 308⇓*e*P P 17 36 38.1 -0.3
BELG pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 22.13 65 LR LR 17 45 13.4
comp=Z,67nm,19.0s,baz=164,slow=36
VSLR Vesyoloye 26.32 285⇓*e*P P 17 37 23.6 +0.2
VORR Voronezh 26.65 304 *e*P P 17 37 27.4 +1.2
VORR pmax pmax
comp=Z,60nm,0.4s
PALK Pallekele 34.97 172⇓*e*P P 17 38 42.9 +3.0
PALK pmax pmax
comp=Z,7.0nm,1.0s
KHC Kasperske Hory 43.12 302⇓*e*P P 17 39 47.5 -0.3
KHC pmax pmax
comp=Z,2.0nm,0.8s
COLA College 67.94 19⇓*e*P P 17 42 47.5 +1.5
COLA pmax pmax
comp=Z,3.0nm,1.1s
ILAR Eielson Array 68.25 18 P P 17 42 48.0 0.0
comp=Z,0.4nm,0.7s,baz=322,slow=5.7,SNR=3.8
TORD Torodi Ar. Bea 69.72 270 P P 17 42 56.5 -1.3
comp=Z,0.5nm,0.5s,baz=59,slow=4.6,SNR=6.7
YKA Yellowknife Ar 75.36 5 P P 17 43 29.8 -0.9
comp=Z,0.3nm,0.6s,baz=348,slow=5.7,SNR=8.2
FITZ Fitzroy Crossi 75.40 132 LR LR 18 20 23.6
comp=Z,25nm,19.4s,baz=174,slow=39

NOU 09 17:55:46.8, 15.42S×167.51E, h12km, MLv4.0/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.30**	**265**	P	Pb	17 55 53.7	-0.4
DVP	**Devils Point**	**2.38**	**164**	P	Pn	17 56 25.7	0.0
DZM	**Mont Dzumac**	**6.69**	**189**	P	Pn	17 57 24.9	-0.2
PINNC	**Pines Island,**	**7.16**	**180**	P	Pn	17 57 30.9	-0.4

IDC 09 17:56:28.3±2.3, 16.60S×128.10E, h0km, mb3.1/1, mb1 3.1/3, mb1mx3.0/23, mbtmp2.9/3, ML2.6/2, Error ellipse: s-maj=117.5km s-min=31.6km az=48.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**6.80**	**120**	Pn	Pn	17 58 08.3	-1.0
	0.1nm,0.3s,baz=296,slow=13,SNR=1.1						
WRA				Sn	Sn	17 59 18.5	-9.1
	0.5nm,0.3s,baz=300,slow=21,SNR=7.1						
ASAR	**Alice Springs**	**8.89**	**143**	Pn	Pn	17 58 39.2	+1.0
	0.1nm,0.3s,baz=320,slow=12,SNR=8.8						
ASAR				Sn	Sn	18 00 09.1	-10
	0.3nm,0.3s,baz=321,slow=23,SNR=8.1						
MKAR	**Makanchi Array**	**75.35**	**329**	P	P	18 08 13.6	0.0
	0.2nm,0.8s,baz=139,slow=4.8,SNR=2.1						

*IDC **09** 18:13:35.1±2.0, 59.93N×153.05W, h95km±34km, mb3.2/2, mb1 3.5/6, mb1mx3.1/38, mbtmp3.7/6, Error ellipse: s-maj=32.0km s-min=18.0km az=121.0*
*NEIC **09** 18:13:35.6±1.1, 59.99N±0.04×152.86W±0.09, h112km±4km, Error ellipse: s-maj=6.7km s-min=5.1km az=109.0*
*AEIC **09** 18:13:36±1.5, 59.96N±0.04×152.96W±0.08, h107km±4km, ML3.0, ML3.3/118(NEIC), Error ellipse: s-maj=6.1km s-min=5.0km az=124.0*

ISC 09 18:13:35.8±0.9, 59.98N±0.04×152.88W±0.04, h113km±5km, n202, s0/79/213, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVE	**Iliamna Volcan**	**0.08**	**299**		Pn	18 13 50.7	-0.7
IVE					Sn	18 14 02.1	-1.1
O20K	**Slope Mountain**	**0.17**	**52**		Pn	18 13 51.2	-0.3
O20K					Sn	18 14 03.2	-0.1
O20K	**Slope Mountain**	**0.17**	**52**	P	Pn	18 13 51.2	-0.3
	baz=233						
O20K				S	Sn	18 14 03.2	-0.1
	baz=233						
OPT	**Oil Point**	**0.37**	**208**		Pn	18 13 51.8	-0.5
OPT	**Oil Point**	**0.37**	**208**	P	Pn	18 13 51.8	-0.5
	baz=24						
P19K	**Oil Pt**	**0.37**	**208**		Pn	18 13 51.7	-0.5
P19K	**Oil Pt**	**0.37**	**208**	P	Pn	18 13 51.7	-0.5
	baz=24						
RED	**Redoubt Volcan**	**0.44**	**7**		Pn	18 13 52.3	-0.4
RED					Sn	18 14 04.6	-0.8
RSO	**Redoubt South**	**0.49**	**8**		Pn	18 13 52.4	-0.7
RDWB	**Redoubt West**	**0.51**	**2**		Pn	18 13 52.8	-0.4
RDWB					Sn	18 14 05.2	-1.1
RDJH	**Redoubt Jeurge**	**0.61**	**4**		Pn	18 13 53.5	-0.3
RDJH					Sn	18 14 06.5	-1.0
DFR	**Drift River**	**0.62**	**9**		Pn	18 13 53.6	-0.3
AU22	**Augustine Moun**	**0.66**	**202**		Sn	18 14 07.2	-0.5
AUL	**Augustine Lava**	**0.66**	**205**		Pn	18 13 53.9	-0.2
AUL					Sn	18 14 07.3	-0.5
AUQ	**Augustine Qik'**	**0.68**	**203**		Pn	18 13 54.0	-0.3
HOM	**Homer**	**0.70**	**117**		Pn	18 13 54.5	+0.1
HOM					Sn	18 14 08.7	+0.3
HOM	**Homer**	**0.70**	**117**	P	Pn	18 13 54.5	+0.1
	baz=295						
HOM				S	Sn	18 14 08.7	+0.3
	baz=295						
O19K	**Port Alsworth**	**0.75**	**287**		Pn	18 13 54.2	-0.5

O19K Port Alsworth 0.75 287 P Pn 18 13 54.2 -0.5
baz=109
CNPM China Poot 0.95 118 Pn 18 13 56.5 -0.2
CNPM Sn 18 14 12.1 -0.4
CNPM China Poot 0.95 118 IAML 18 14 13.2
comp=N,782nm,0.3s
CNPM IAML 18 14 13.3
comp=E,1µm,0.5s
BRLK Bradley Lake 1.03 101 Pn 18 13 57.3 -0.2
BRLK Bradley Lake 1.03 101 Sn 18 14 13.9 0.0
BRLK Bradley Lake 1.03 101 IAML 18 14 14.6
comp=E,650nm,0.2s
BRLK IAML 18 14 15.0
comp=N,1µm,0.1s
BRSE Bradley Lake S 1.11 102 Pn 18 13 58.4 +0.1
BRSE Sn 18 14 15.0 -0.3
BRSE Bradley Lake S 1.11 102 P Pn 18 13 58.4 +0.1
baz=282
BRSE S Sn 18 14 15.0 -0.3
baz=282
Q19K Cape Douglas, 1.12 201 Pn 18 13 57.7 -0.8
Q19K IAML 18 14 13.4
comp=E,337nm,1.4s
Q19K Cape Douglas, 1.12 201 P Pn 18 13 57.8 -0.7
baz=18
N19K Bonanza Creek 1.15 317 Pn Pn 18 13 58.4 -0.5
N19K Bonanza Creek 1.15 317 P Pn 18 13 58.5 -0.5
baz=138
CAPN Captain Cook N 1.17 47 Pn 18 14 00.6 +1.8
CAPN Captain Cook N 1.17 47 P Pn 18 14 00.6 +1.8
baz=228
O18K Koktuh Hills 1.18 265 Pn 18 13 58.5 -0.6
O18K Koktuh Hills 1.18 265 P Pn 18 13 58.4 -0.6
baz=84
O18K S Sn 18 14 15.5 -1.2
baz=84
SPCR Spurr Chakacha 1.27 15 Pn 18 14 00.2 +0.1
SPCR Spurr Chakacha 1.27 15 P Pn 18 14 00.2 +0.1
baz=197
CKT Bend 1.27 15 Pn 18 14 00.4 +0.3
SPU Mount Spurr 1.27 18 Pn 18 13 60.0 -0.2
SPBG Spurr Blockage 1.31 11 Pn 18 14 01.0 +0.4
P18K Big Mountain, 1.33 245 Pn 18 13 59.8 -0.9
P18K Big Mountain, 1.33 245 P Pn 18 13 59.8 -0.9
baz=63
SPCG Spurr Capps Gl 1.38 18 Pn 18 14 01.4 -0.1
SLKM Skilak Lake 1.43 67 Pn 18 14 01.6 -0.3
STLK Strandline Lak 1.61 18 Pn 18 14 04.6 +0.5
N18K Kilae Creek 1.65 296 Sn 18 14 25.1 -1.4
N18K Kilae Creek 1.65 296 Pn 18 14 04.0 -0.5
N18K Kilae Creek 1.65 296 IAML 18 14 25.5
comp=N,48nm,1.5s
N18K IAML 18 14 50.6
comp=E,38nm,3.0s
N18K Kilae Creek 1.65 296 P Pn 18 14 04.1 -0.5
baz=115
N18K S Sn 18 14 25.1 -1.4
baz=115
O22K Cooper Landing 1.66 71 Pn 18 14 04.5 0.0
O22K Cooper Landing 1.66 71 P Pn 18 14 04.6 0.0
baz=253
SEW Seward 1.73 84 Pn Pn 18 14 05.2 -0.2
SEW Seward 1.73 84 P Pn 18 14 05.3 -0.2
baz=267
SVW2 Sparrevohn 1.74 311 Pn 18 14 05.0 -0.6
FIS Fire Island 1.76 47 Pn Pn 18 14 07.2 +1.4
FIS IAML 18 14 40.2
comp=N,375nm,0.8s
RC01 Rabbit Creek A 1.91 53 Pn 18 14 07.8 +0.1
RC01 Rabbit Creek A 1.91 53 IAML 18 14 33.5
comp=N,452nm,0.4s
RC01 Rabbit Creek A 1.91 53 P Pn 18 14 07.8 +0.1
baz=236
M19K Big River Lodg 2.07 340 Pn 18 14 09.6 0.0
M19K Big River Lodg 2.07 340 P Pn 18 14 09.7 0.0
baz=160
KABU Katmai Buttres 2.11 217 Pn 18 14 10.4 0.0
KDAK Kodiak Island 2.21 176 P Pn 18 14 10.0 -1.5
comp=N,18nm,0.3s,baz=16,slow=13,SNR=91
KDAK S Sn 18 14 36.5 -2.3
comp=N,9.7nm,0.3s,baz=342,slow=20,SNR=9.2
KDAK Kodiak Island 2.21 176 Pn Pn 18 14 10.2 -1.3
KDAK IAML 18 14 32.5
comp=N,81nm,3.3s
M22K Willow 2.23 36 Pn 18 14 11.5 -0.2
M22K Willow 2.23 36 P Pn 18 14 10.7 -1.1
baz=219
L19K White Mountain 2.41 337 Pn 18 14 13.8 -0.2
L19K White Mountain 2.41 337 P Pn 18 14 14.0 -0.1
baz=157
PWL Port Wells 2.42 67 Pn 18 14 13.2 -1.1
PWL IAML 18 14 43.7
comp=E,193nm,0.3s
PWL IAML 18 14 44.8
comp=N,263nm,0.4s
PMR Palmer 2.45 47 Pn 18 14 14.4 -0.2
PMR IAML 18 14 44.8
comp=N,134nm,0.3s
PMR IAML 18 14 49.3
comp=E,101nm,0.7s
PMR Palmer 2.45 47 P Pn 18 14 14.5 0.0
baz=230
L20K Farewell, AK 2.55 350 Pn 18 14 16.4 +0.4
L20K Farewell, AK 2.55 350 P Pn 18 14 16.4 +0.4
baz=170
KNK Knik Glacier 2.61 55 Pn 18 14 15.9 -0.7
KNK IAML 18 14 49.3
comp=E,222nm,0.2s
KNK Knik Glacier 2.61 55 P Pn 18 14 16.0 -0.7
baz=238
CUT Chulitna 2.74 26 Pn 18 14 19.2 +0.9
CUT Chulitna 2.74 26 P Pn 18 14 19.3 +0.9
baz=209
OHAK Old Harbor 2.77 185 Pn Pn 18 14 17.2 -1.6
OHAK IAML 18 15 06.1
comp=E,62nm,2.2s
OHAK IAML 18 15 16.9
comp=N,63nm,2.3s
OHAK Old Harbor 2.77 185 P Pn 18 14 17.3 -1.6
baz=3.4
SML Sawmill 2.88 49 Pn Pn 18 14 19.5 -0.8
SML IAML 18 14 55.0
comp=N,127nm,0.6s
SML IAML 18 14 55.7
comp=E,113nm,0.7s
SML Sawmill 2.88 49 P Pn 18 14 19.5 -0.8
baz=233
PPLA Purkeypile 2.95 6 Pn 18 14 22.1 +0.9
PPLA Purkeypile 2.95 6 P Pn 18 14 22.1 +0.9
baz=188
GLI Glacier Island 3.01 70 Pn Pn 18 14 21.1 -0.8
GLI Sn 18 14 54.7 -2.7
GLI IAML 18 14 57.1
comp=E,114nm,0.5s
GLI IAML 18 14 59.2
comp=N,67nm,0.6s
GLI Glacier Island 3.01 70 P Pn 18 14 21.2 -0.7
baz=255
FID Port Fidalgo 3.27 74 Pn Pn 18 14 24.1 -1.3
FID IAML 18 15 02.0
comp=E,80nm,0.3s
FID IAML 18 15 02.5
comp=N,95nm,0.4s
JPK Jack Peak 3.29 68 Pn 18 14 24.8 -0.9
SCM Sheep Creek Mo 3.29 53 Pn Pn 18 14 25.4 -0.2
SCM IAML 18 15 04.7
comp=E,114nm,0.5s
SCM IAML 18 15 06.7
comp=N,86nm,0.6s
TT01 Tatalina 3.30 334 Pn 18 14 25.4 -0.3
TTA Tatalina 3.32 334 Pn 18 14 25.5 -0.6
TTA Tatalina 3.32 334 P Pn 18 14 25.6 -0.5
baz=152
Q23K Middleton Isla 3.36 97 Pn Pn 18 14 26.6 +0.1
Q23K Middleton Isla 3.36 97 P Pn 18 14 26.4 0.0
baz=282
MID Middleton Isla 3.36 97 Pn Pn 18 14 26.6 +0.1
K20K Telida 3.44 351 Pn 18 14 27.9 +0.4
K20K Telida 3.44 351 P Pn 18 14 28.0 +0.4
baz=171
CAST Castle Rocks 3.47 6 Pn 18 14 28.2 +0.1
CAST Castle Rocks 3.47 6 P Pn 18 14 28.3 +0.3
baz=187
SII Sitkinak Islan 3.50 192 Pn Pn 18 14 27.6 -0.9
WAT1 Susitna Watana 3.54 34 Pn 18 14 29.0 0.0

WAT1	**Susitna Watana**	**3.54**	**34**	P		**Pn**	**18 14 29.0**	**0.0**
	baz=218							
EYAK	**Cordova Ski Ar**	**3.60**	**78**	Pn		**Pn**	**18 14 29.3**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.60**	**78**	P		**Pn**	**18 14 29.8**	**+0.1**
	baz=264							
WAT6	**Susitna Watana**	**3.60**	**41**			**Pn**	**18 14 29.6**	**-0.3**
WAT6	**Susitna Watana**	**3.60**	**41**	P		**Pn**	**18 14 29.6**	**-0.3**
	baz=226							
TRF	**Thorofare Moun**	**3.69**	**18**			**Pn**	**18 14 31.2**	**+0.1**
TRF					IAML		18 15 16.9	
	comp=N,40nm,0.6s							
TRF					IAML		18 15 19.9	
	comp=E,33nm,1.9s							
TRF	**Thorofare Moun**	**3.69**	**18**	P		**Pn**	**18 14 31.5**	**+0.3**
	baz=201							
DIV	**Divide**	**3.70**	**69**	Pn		**Pn**	**18 14 30.3**	**-0.8**
KTH	**Kantishna Hill**	**3.71**	**14**			**Pn**	**18 14 31.0**	**-0.2**
KTH					IAML		18 15 18.7	
	comp=E,23nm,1.5s							
KTH					IAML		18 15 22.4	
	comp=N,27nm,2.5s							
KLU	**Klutina**	**3.74**	**63**			**Pn**	**18 14 30.8**	**-0.9**
KLU	**Klutina**	**3.74**	**63**	P		**Pn**	**18 14 30.8**	**-0.9**
	baz=249							
M24K	**Tolsona, Glenn**	**3.90**	**54**			**Pn**	**18 14 33.6**	**-0.2**
M24K					IAML		18 15 03.8	
	comp=N,79nm,3.1s							
M24K					IAML		18 15 39.1	
	comp=E,74nm,1.3s							
M24K	**Tolsona, Glenn**	**3.90**	**54**	P		**Pn**	**18 14 34.1**	**+0.3**
	baz=240							
CHUM	**Lake Minchumin**	**3.93**	**4**			**Pn**	**18 14 34.4**	**+0.4**
CHUM	**Lake Minchumin**	**3.93**	**4**	P		**Pn**	**18 14 34.4**	**+0.4**
	baz=185							
RND	**Reindeer**	**3.94**	**27**			**Pn**	**18 14 34.1**	**-0.2**
RND					IAML		18 15 19.9	
	comp=E,18nm,0.5s							
DHY	**Denali Highway**	**4.07**	**38**			**Pn**	**18 14 36.0**	**-0.2**
DHY					IAML		18 15 24.5	
	comp=E,28nm,0.4s							
DHY					IAML		18 15 26.4	
	comp=N,32nm,0.3s							
DHY	**Denali Highway**	**4.07**	**38**	P		**Pn**	**18 14 36.0**	**-0.2**
	baz=223							
GOAT	**Goat Mountain**	**4.11**	**78**			**Pn**	**18 14 36.5**	**0.0**
MCK	**McKinley**	**4.20**	**25**			**Pn**	**18 14 38.0**	**+0.2**
MCK					IAML		18 15 45.0	
	comp=N,20nm,2.8s							
MCK					IAML		18 15 48.5	
	comp=E,16nm,1.7s							
MCK	**McKinley**	**4.20**	**25**	P		**Pn**	**18 14 38.3**	**+0.5**
	baz=206							
BMRM	**Bremner River**	**4.22**	**73**	Pn		**Pn**	**18 14 36.6**	**-1.4**
BMRM					IAML		18 15 32.3	
	comp=E,34nm,2.2s							
BMRM					IAML		18 15 53.4	
	comp=N,37nm,3.1s							
BMRM	**Bremner River**	**4.22**	**73**	P		**Pn**	**18 14 37.3**	**-0.8**
	baz=260							
BPAW	**Bear Paw Mtn.**	**4.23**	**11**			**Pn**	**18 14 38.0**	**-0.2**
BPAW					IAML		18 15 25.8	
	comp=N,14nm,1.6s							
BPAW					IAML		18 15 56.9	
	comp=E,18nm,2.8s							
BPAW	**Bear Paw Mtn.**	**4.23**	**11**	P		**Pn**	**18 14 38.4**	**+0.2**
	baz=194							
J20K	**Nowinta River**	**4.25**	**353**			**Pn**	**18 14 38.8**	**+0.3**
J20K					IAML		18 15 29.4	
	comp=E,14nm,3.4s							
J20K					IAML		18 15 41.6	
	comp=N,14nm,3.5s							
J20K	**Nowinta River**	**4.25**	**353**	P		**Pn**	**18 14 38.9**	**+0.4**
	baz=172							
N25K	**Chitina, Valde**	**4.38**	**65**	Pn		**Pn**	**18 14 39.3**	**-1.0**
N25K					IAML		18 15 28.9	
	comp=E,32nm,0.3s							
N25K					IAML		18 15 38.5	
	comp=N,30nm,3.0s							
N25K	**Chitina, Valde**	**4.38**	**65**	P		**Pn**	**18 14 39.2**	**-1.0**
	baz=252							
BWN	**Browne**	**4.50**	**19**			**Pn**	**18 14 42.3**	**+0.5**
BWN					IAML		18 16 03.9	
	comp=E,32nm,3.0s							
BWN					IAML		18 16 23.2	
	comp=N,39nm,2.6s							
PAX	**Paxson**	**4.65**	**47**			**Pn**	**18 14 43.4**	**-0.5**
PAX	**Paxson**	**4.65**	**47**	P		**Pn**	**18 14 43.9**	**0.0**
	baz=233							
GLB	**Gilahina Butte**	**4.69**	**68**	Pn		**Pn**	**18 14 43.5**	**-1.0**
GLB					IAML		18 15 31.9	
	comp=N,22nm,3.6s							
GLB					IAML		18 15 38.9	
	comp=E,18nm,0.4s							
VRDI	**Verde Repeater**	**4.81**	**71**	Pn		**Pn**	**18 14 44.9**	**-1.3**
VRDI					IAML		18 15 41.7	
	comp=N,19nm,0.4s							
VRDI					IAML		18 16 30.9	
	comp=E,19nm,3.0s							
KHIT	**Khitrov Hills**	**4.83**	**80**			**Pn**	**18 14 46.0**	**-0.3**
NEA2	**Nenana**	**4.96**	**19**			**Pn**	**18 14 47.7**	**-0.3**
NEA2	**Nenana**	**4.96**	**19**		IAML		18 16 32.7	
	comp=E,12nm,3.8s							
NEA2					IAML		18 17 01.4	
	comp=N,10nm,3.4s							
NEA2	**Nenana**	**4.96**	**19**	P		**Pn**	**18 14 47.7**	**-0.3**
	baz=203							
WAX	**Waxell Ridge**	**5.03**	**80**	Pn		**Pn**	**18 14 47.7**	**-1.2**
WRH	**Wood River Hil**	**5.03**	**24**			**Pn**	**18 14 48.6**	**-0.3**
WRH					IAML		18 16 20.3	
	comp=N,12nm,4.0s							
WRH					IAML		18 16 55.2	
	comp=E,14nm,3.5s							
SNH	**Sunshine Point**	**5.04**	**83**	Pn		**Pn**	**18 14 48.7**	**-0.4**
MCARA	**McCarthy VSAT**	**5.05**	**70**	Pn		**Pn**	**18 14 48.7**	**-0.4**
MCARA					IAML		18 16 11.1	
	comp=N,31nm,3.1s							
MCARA					IAML		18 16 13.7	
	comp=E,27nm,2.9s							
MCARA	**McCarthy VSAT**	**5.05**	**70**	P		**Pn**	**18 14 49.3**	**+0.1**
	baz=258							
TGL	**Tana Glacier**	**5.05**	**77**			**Pn**	**18 14 49.5**	**+0.2**
TGL	**Tana Glacier**	**5.05**	**77**	IAML			18 15 52.2	
	comp=E,30nm,3.0s							
TGL					IAML		18 16 45.3	
	comp=N,29nm,2.9s							
I21K	**Tanana**	**5.24**	**4**			**Pn**	**18 14 51.3**	**-0.4**
I21K					IAML		18 16 27.9	
	comp=E,17nm,2.9s							
I21K					IAML		18 17 12.7	
	comp=N,16nm,3.9s							
CCB	**Clear Creek Bu**	**5.25**	**25**			**Pn**	**18 14 51.2**	**-0.6**
CCB					IAML		18 15 52.2	
	comp=E,9.9nm,0.3s							
CCB					IAML		18 16 07.5	
	comp=N,8.7nm,4.5s							
PTPK	**Patty Peak**	**5.28**	**72**			**Pn**	**18 14 52.3**	**-0.1**
ISLE	**Juniper Island**	**5.28**	**79**	Pn		**Pn**	**18 14 51.8**	**-0.7**
KIAG	**Kiagna River**	**5.30**	**75**			**Pn**	**18 14 53.0**	**+0.3**
MENT	**Mentasta**	**5.30**	**52**			**Pn**	**18 14 52.1**	**-0.6**
BALM	**Baldy**	**5.32**	**74**			**Pn**	**18 14 52.9**	**0.0**
RIDG	**Independent Ri**	**5.36**	**42**			**Pn**	**18 14 53.4**	**0.0**
RIDG	**Independent Ri**	**5.36**	**42**	P		**Pn**	**18 14 53.5**	**+0.1**
	baz=229							
BAGL	**Bagley Icefiel**	**5.40**	**80**			**Pn**	**18 14 54.5**	**+0.5**
TCOL	**CIGO, UAF Yank**	**5.44**	**23**			**Pn**	**18 14 54.1**	**-0.3**
I23K	**Minto, Yukon-K**	**5.44**	**16**			**Pn**	**18 14 54.4**	**0.0**
I23K	**Minto, Yukon-K**	**5.44**	**16**	P		**Pn**	**18 14 54.6**	**+0.2**
	baz=199							
COLA	**College**	**5.44**	**23**			**Pn**	**18 14 54.1**	**-0.2**
MDM	**Murphy Dome**	**5.44**	**21**			**Pn**	**18 14 54.3**	**-0.2**
IL31		**5.56**	**28**			**Pn**	**18 14 55.3**	**-0.7**
ILAR	**Eielson Array**	**5.56**	**28**	P		**Pn**	**18 14 55.5**	**-0.5**
	comp=N,1.6nm,0.3s,baz=213,slow=14,SNR=71							
ILAR				S		**Sn**	**18 15 54.6**	**-3.9**
	comp=N,2.1nm,0.3s,baz=218,slow=22,SNR=12							
ILAR	**Eielson Array**	**5.56**	**28**			**Pn**	**18 14 55.1**	**-0.9**
DOT	**Dot Lake**	**5.57**	**45**	Pn		**Pn**	**18 14 56.1**	**-0.1**
YAH	**Yahtse**	**5.58**	**81**	Pn		**Pn**	**18 14 56.9**	**+0.4**
BARN	**Barnard Glacie**	**5.65**	**74**	Pn		**Pn**	**18 14 58.0**	**+0.5**
H21K	**Melozitna Rive**	**5.70**	**0**			**Pn**	**18 14 57.6**	**-0.3**
H21K	**Melozitna Rive**	**5.70**	**0**	P		**Pn**	**18 14 57.7**	**-0.3**
	baz=181							
POKR	**Poker Plat Res**	**5.74**	**24**			**Pn**	**18 14 58.1**	**-0.4**
CTG	**Chitna Glacier**	**5.79**	**75**	P		**Pn**	**18 14 59.9**	**+0.5**
	baz=265							
CTGM	**Chitina Glacie**	**5.80**	**75**	Pn		**Pn**	**18 15 00.2**	**+0.8**
SCRK	**Sand Creek**	**5.80**	**42**			**Pn**	**18 14 58.9**	**-0.5**
SCRK	**Sand Creek**	**5.80**	**42**	P		**Pn**	**18 14 58.9**	**-0.5**
	baz=230							
J25K	**Salcha River,**	**5.82**	**34**			**Pn**	**18 14 59.2**	**-0.4**
J25K	**Salcha River,**	**5.82**	**34**	P		**Pn**	**18 14 59.2**	**-0.4**
	baz=221							
TABL	**Table Mountain**	**5.87**	**80**	Pn		**Pn**	**18 15 00.7**	**+0.2**
LOGN	**Logan Glacier**	**5.95**	**77**	Pn		**Pn**	**18 15 01.8**	**+0.3**
IM03		**6.04**	**357**			**Pn**	**18 15 02.8**	**+0.3**
IMAR	**Indian Mountai**	**6.04**	**357**	Pn		**Pn**	**18 15 02.6**	**0.0**
H23K	**Yukon River**	**6.06**	**13**			**Pn**	**18 15 02.2**	**-0.6**
H23K	**Yukon River**	**6.06**	**13**	P		**Pn**	**18 15 03.2**	**+0.4**
	baz=196							
L27K	**Beaver Creek,**	**6.12**	**55**	Pn		**Pn**	**18 15 03.4**	**-0.3**
BCAR	**Beaver Creek A**	**6.14**	**55**	Pn		**Pn**	**18 15 02.8**	**-1.2**
J26L	**Joseph Creek**	**6.28**	**40**	P		**Pn**	**18 15 05.7**	**-0.3**
	baz=228							
H24K	**Noodor Dome**	**6.31**	**19**			**Pn**	**18 15 05.8**	**-0.4**
H24K	**Noodor Dome**	**6.31**	**19**	P		**Pn**	**18 15 06.0**	**-0.2**
	baz=204							
BCPM	**Bancas Point**	**6.65**	**84**	Pn		**Pn**	**18 15 11.4**	**+0.6**
PNL	**Peninsula**	**6.81**	**87**			**Pn**	**18 15 12.8**	**-0.1**
EGAK	**Eagle**	**7.26**	**44**	Pn		**Pn**	**18 15 17.0**	**-2.0**
COLD	**Coldfoot**	**7.37**	**8**	Pn		**Pn**	**18 15 19.7**	**-0.8**
DAWY	**Dawson**	**7.55**	**51**	Pn		**Pn**	**18 15 20.5**	**-2.5**
BM03	**Burnt Mountain**	**8.31**	**23**			**Pn**	**18 15 32.1**	**-1.2**
BMAR	**Burnt Mountain**	**8.33**	**23**	Pn		**Pn**	**18 15 31.7**	**-1.8**
N31M	**Braeburn, Yuko**	**8.51**	**72**	Pn		**Pn**	**18 15 34.9**	**-1.2**
TOLK	**Toolik Lake Re**	**8.81**	**8**	Pn		**Pn**	**18 15 40.8**	**+0.7**
TNA	**Tin City**	**8.86**	**316**	Pn		**Pn**	**18 15 39.6**	**-1.1**
SKAG	**Skagway**	**8.88**	**86**	Pn		**Pn**	**18 15 40.7**	**-0.4**
BESE	**Bessie Mountai**	**9.33**	**91**	Pn		**Pn**	**18 15 46.8**	**-0.4**
SIT	**Sitka**	**9.64**	**100**	Pn		**Pn**	**18 15 50.5**	**-0.7**
JIS	**Juneau Island**	**9.66**	**92**	Pn		**Pn**	**18 15 52.9**	**+1.4**
DLBC	**Dease Lake**	**11.80**	**88**	P		**Pn**	**18 16 22.7**	**+2.3**
	comp=N,0.4nm,0.3s,baz=154,slow=14,SNR=4.6							
YKA	**Yellowknife Ar**	**18.41**	**66**	P		**P**	**18 17 42.9**	**+1.1**
	comp=N,0.2nm,0.3s,baz=277,slow=9.9,SNR=26							
SEY	**Senchan**	**25.65**	**300**	P		**P**	**18 18 54.6**	**+0.1**
	comp=N,0.3nm,0.5s,baz=90,slow=20,SNR=1.7							
SONM	**Songino Array**	**54.85**	**306**	P		**P**	**18 22 55.1**	**+1.1**
	comp=N,0.5nm,0.5s,baz=54,slow=7.3,SNR=4.6							

IDC 09 18:20:10.3±2.1,11.13N×125.65E,h0km,mb3.2/3,
mb1 3.5/3,mb1mx3.2/26,mbtmp3.3/3,MS3.3/1,Ms1 3.3/1,
ms1mx2.3/27,Error ellipse: s-maj=170.3km
s-min=27.9km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.61**	**158**	P	P	18 25 11.7	-1.1
	0.5nm,0.4s,baz=336,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**25.92**	**162**	P	P	18 25 45.2	+0.8
	0.3nm,0.4s,baz=347,slow=11,SNR=7.7						
KRVT	**Keravat (AS076**	**26.90**	**102**	LR	LR	18 36 40.5	
	comp=Z,70nm,19.6s,baz=277,slow=37						
MKAR	**Makanchi Array**	**59.09**	**327**	P	P	18 30 12.5	-0.1
	0.1nm,0.3s,baz=124,slow=6.9,SNR=2.0						

JMA ***09*** *18:33:22.2±0.1,24.35N×122.51E,h70km±2km,M3.1*
TAP ***09*** *18:33:22.9,24.37N×122.50E,h71km,ML3.4,D*
ISC 09 18:33:23.0±1.2,24.33N±0.03×122.55E±0.02,h62km±8km,
n136,σ1102/258,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.39**	**71**	P	**Pn**	**18 33 34.4**	**+0.4**
JYNG				*e*S	**Sn**	**18 33 43.0**	**+1.0**
YOJ	**Yonaguni jima**	**0.45**	**73**	P	**Pn**	**18 33 34.9**	**+0.4**
YOJ				S	**Sn**	**18 33 43.7**	**+0.8**
YOJ	**Yonaguni jima**	**0.45**	**73**	P	**Pn**	**18 33 35.0**	**+0.4**
TWC	**Suao**	**0.69**	**294**	P	**Pn**	**18 33 37.2**	**0.0**
	baz=297						
TWC				S	**Sn**	**18 33 47.4**	**-0.3**
	baz=297						
EWUT	**Wuta**	**0.71**	**280**	P	**Pn**	**18 33 37.3**	**-0.1**
	baz=277						
EWUT				S	**Sn**	**18 33 48.1**	**+0.1**
	baz=277						
ENA	**Nanau**	**0.74**	**278**	P	**Pn**	**18 33 37.8**	**0.0**
	baz=275						
ENA				S	**Sn**	**18 33 48.8**	**+0.1**
	baz=275						
NDS	**Dongshan**	**0.81**	**292**	P	**Pn**	**18 33 38.8**	**0.0**
	baz=298						
NDS				S	**Sn**	**18 33 50.5**	**+0.2**
	baz=298						
NTC	**Toucheng**	**0.83**	**309**	P	**Pn**	**18 33 38.9**	**-0.1**
	baz=308						
NTC				S	**Sn**	**18 33 49.9**	**-0.9**
	baz=308						
TWB1	**Santiao Chiao**	**0.84**	**323**	*e*S	**Sn**	**18 33 50.5**	**-0.5**
	baz=331						
ILA	**Ilan**	**0.85**	**301**	*e*P	**Pn**	**18 33 39.2**	**+0.1**
	baz=308						
ILA				*e*S	**Sn**	**18 33 51.4**	**+0.4**
	baz=308						
ETL	**Fush Village**	**0.86**	**259**	*i* P	**Pn**	**18 33 39.2**	**-0.1**
	baz=255						
ETL				S	**Sn**	**18 33 50.7**	**-0.7**
	baz=255						
NACB	**Ninganchiao**	**0.88**	**260**	*i* P	**Pn**	**18 33 39.2**	**-0.4**
	baz=249						
NACB				S	**Sn**	**18 33 51.4**	**-0.4**
	baz=249						
TWE	**Neicheng**	**0.89**	**296**	*i* P	**Pn**	**18 33 39.9**	**+0.2**
	baz=300						
TWE				S	**Sn**	**18 33 51.9**	**-0.1**
	baz=300						
TWD	**Chiawan**	**0.90**	**254**	P	**Pn**	**18 33 39.5**	**-0.3**
	baz=251						
TWD				S	**Sn**	**18 33 51.8**	**-0.5**
	baz=251						
TIPB	**Shuangxi**	**0.92**	**315**	P	**Pn**	**18 33 39.7**	**-0.3**
	baz=307						
TIPB				S	**Sn**	**18 33 51.7**	**-1.0**
	baz=307						
HWA	**Hwalien**	**0.93**	**248**	*e*P	**Pn**	**18 33 39.6**	**-0.6**
	baz=244						
HWA				*e*S	**Sn**	**18 33 52.7**	**-0.1**
	baz=244						
ENTT	**Nioudou**	**0.94**	**289**	P	**Pn**	**18 33 40.9**	**+0.5**
	baz=293						
ENTT				S	**Sn**	**18 33 53.7**	**+0.5**
	baz=293						
LATG	**Datong**	**0.95**	**283**	P	**Pn**	**18 33 40.9**	**+0.3**
	baz=273						
LATG				S	**Sn**	**18 33 53.7**	**+0.1**
	baz=273						
FUSB	**Fushanzhiwuyua**	**0.97**	**296**	P	**Pn**	**18 33 40.9**	**+0.1**
	baz=302						
FUSB				S	**Sn**	**18 33 53.6**	**-0.4**
	baz=302						
SXI1	**Grass Mountain**	**0.98**	**322**	P	**Pn**	**18 33 40.5**	**-0.4**
	baz=326						
SXI1				S	**Sn**	**18 33 53.5**	**-0.6**
	baz=326						
ETLH	**Xiulin Townshi**	**0.98**	**263**	P	**Pn**	**18 33 40.7**	**-0.2**
	baz=254						
ETLH				S	**Sn**	**18 33 53.8**	**-0.4**
	baz=254						
NDT	**Datong Townshi**	**0.98**	**286**	P	**Pn**	**18 33 41.2**	**+0.4**
	baz=278						
NDT				S	**Sn**	**18 33 54.3**	**+0.3**
	baz=278						
NWF	**Wu-fen Shan**	**1.01**	**317**	P	**Pn**	**18 33 41.2**	**-0.2**
	baz=308						
NWF				S	**Sn**	**18 33 54.1**	**-0.9**
	baz=308						
NWLT	**Wulai**	**1.05**	**295**	P	**Pn**	**18 33 42.1**	**+0.4**
	baz=298						
NWLT				S	**Sn**	**18 33 55.5**	**-0.2**
	baz=298						
NNSB	**Datong**	**1.06**	**276**	P	**Pn**	**18 33 42.3**	**+0.2**
	baz=273						
NNSB				S	**Sn**	**18 33 55.9**	**-0.3**
	baz=273						
NNS	**Nan Shan**	**1.07**	**276**	P	**Pn**	**18 33 42.3**	**+0.1**
	baz=274						
NNS				S	**Sn**	**18 33 56.0**	**-0.4**
	baz=274						
IRIF	**Iriomote-Funau**	**1.08**	**89**	P	**Pn**	**18 33 42.2**	**+0.1**
IRIF				*e*S	**Sn**	**18 33 56.4**	**0.0**
YHNB	**Yeheng**	**1.12**	**288**	P	**Pn**	**18 33 43.0**	**+0.3**
	baz=278						
YHNB				S	**Sn**	**18 33 57.2**	**-0.2**
	baz=278						
NHDH	**Xindian Distri**	**1.12**	**304**	P	**Pn**	**18 33 42.4**	**-0.2**
	baz=311						
NHDH				S	**Sn**	**18 33 56.1**	**-1.2**
	baz=311						
NSK	**Sanguang**	**1.14**	**288**	P	**Pn**	**18 33 43.2**	**+0.2**
	baz=279						
NSK				S	**Sn**	**18 33 57.8**	**0.0**
	baz=279						
ESL	**Shilin**	**1.14**	**243**	P	**Pn**	**18 33 42.5**	**-0.4**
	baz=247						
ESL				S	**Sn**	**18 33 57.2**	**-0.6**
	baz=247						
TAP	**Taipei**	**1.18**	**307**	*e*P	**Pn**	**18 33 43.1**	**-0.3**
	baz=306						
TAP				*e*S	**Sn**	**18 33 57.4**	**-1.3**
	baz=306						
HATJ	**Hateruma jima**	**1.18**	**103**	P	**Pn**	**18 33 44.2**	**+0.7**
WHF	**Hehuan Shan**	**1.18**	**261**	P	**Pn**	**18 33 43.7**	**-0.2**
	baz=250						
WHF				S	**Sn**	**18 33 58.6**	**-0.8**
	baz=250						
FUSS	**Fushou**	**1.19**	**266**	P	**Pn**	**18 33 43.1**	**-0.8**
	baz=264						
FUSS				*e*S	**Sn**	**18 33 58.0**	**-1.4**
	baz=264						
YM01	**YM01**	**1.20**	**313**	P	**Pn**	**18 33 43.2**	**-0.6**
	baz=312						
YM01				S	**Sn**	**18 33 58.2**	**-1.2**
	baz=312						
EGFH	**Guangfu**	**1.22**	**237**	P	**Pn**	**18 33 43.6**	**-0.3**
	baz=230						
EGFH				S	**Sn**	**18 33 59.5**	**-0.1**
	baz=230						
TWT	**Tachien**	**1.25**	**267**	*e*P	**Pn**	**18 33 45.6**	**+1.1**
	baz=258						
TWT				*e*S	**Sn**	**18 34 00.9**	**+0.2**
	baz=258						
ANP	**Anpu**	**1.26**	**313**	*e*P	**Pn**	**18 33 44.1**	**-0.5**
	baz=303						
ANP				*e*S	**Sn**	**18 33 59.2**	**-1.6**
	baz=303						
TDCB	**Techi**	**1.27**	**267**	P	**Pn**	**18 33 45.3**	**+0.5**
	baz=259						
TDCB				S	**Sn**	**18 34 00.7**	**-0.3**
	baz=259						
CHGB	**Renai**	**1.28**	**258**	P	**Pn**	**18 33 45.3**	**+0.3**
	baz=248						
CHGB				S	**Sn**	**18 34 00.8**	**-0.6**
	baz=248						
TWS1	**Kuangyinshan**	**1.28**	**307**	P	**Pn**	**18 33 44.4**	**-0.4**
	baz=306						
TWS1				S	**Sn**	**18 34 00.3**	**-0.8**
	baz=306						
NTST	**Danshui**	**1.30**	**310**	*e*P	**Pn**	**18 33 44.8**	**-0.2**
	baz=309						
NTST				*e*S	**Sn**	**18 34 00.5**	**-1.0**
	baz=309						
OWD	**Renai**	**1.30**	**254**	P	**Pn**	**18 33 45.2**	**0.0**
	baz=251						
OWD				S	**Sn**	**18 34 01.2**	**-0.7**
	baz=251						
HGSD	**Ruisui**	**1.32**	**231**	P	**Pn**	**18 33 45.1**	**-0.2**
	baz=225						
HGSD				*e*S	**Sn**	**18 34 01.4**	**-0.7**
	baz=225						
NFF	**Wufeng Townshi**	**1.33**	**283**	P	**Pn**	**18 33 45.9**	**+0.4**
	baz=291						
NFF				S	**Sn**	**18 34 02.8**	**+0.3**
	baz=291						
JKRS	**Kuro-shima**	**1.34**	**94**	P	**Pn**	**18 33 46.1**	**+0.6**
JKRS				S	**Sn**	**18 34 03.3**	**+0.8**
WUSB	**Renai**	**1.35**	**256**	P	**Pn**	**18 33 46.0**	**+0.2**
	baz=248						
WUSB				S	**Sn**	**18 34 02.4**	**-0.4**
	baz=248						
EHY	**Hungye**	**1.39**	**234**	P	**Pn**	**18 33 45.7**	**-0.5**
	baz=231						
EHY				*e*S	**Sn**	**18 34 02.6**	**-1.1**
	baz=231						
NCU	**National Centr**	**1.39**	**298**	*e*P	**Pn**	**18 33 46.4**	**+0.2**
	baz=296						
NCU				*e*S	**Sn**	**18 34 03.9**	**+0.2**
	baz=296						
NCUH	**Zhongli**	**1.39**	**297**	*e*P	**Pn**	**18 33 46.4**	**+0.2**
	baz=296						
NCUH				*e*S	**Sn**	**18 34 03.6**	**-0.1**
	baz=296						
VWDT	**VWDT**	**1.41**	**246**	P	**Pn**	**18 33 46.9**	**+0.4**
	baz=237						
VWDT				S	**Sn**	**18 34 03.8**	**-0.2**
	baz=237						
LIOB	**Emei**	**1.43**	**283**	P	**Pn**	**18 33 47.2**	**+0.5**
	baz=292						
LIOB				S	**Sn**	**18 34 05.0**	**+0.3**
	baz=292						
NSTT	**Nanjuang**	**1.44**	**282**	P	**Pn**	**18 33 47.3**	**+0.4**
	baz=291						
NSTT				S	**Sn**	**18 34 05.0**	**+0.1**
	baz=291						
JIJ	**Ishigaki jima**	**1.46**	**88**	P	**Pn**	**18 33 47.0**	**-0.1**
JIJ				S	**Sn**	**18 34 04.7**	**-0.6**
WHP	**Taichung City**	**1.46**	**268**	*e*P	**Pn**	**18 33 48.6**	**+1.3**
	baz=262						
WHP				*e*S	**Sn**	**18 34 05.8**	**+0.2**
	baz=262						
YULB	**Yu-li**	**1.47**	**231**	P	**Pn**	**18 33 46.9**	**-0.5**
	baz=238						
YULB				*e*S	**Sn**	**18 34 04.7**	**-1.1**
	baz=238						
EYUL	**Yuli**	**1.49**	**229**	P	**Pn**	**18 33 47.5**	**0.0**
	baz=237						
EYUL				S	**Sn**	**18 34 05.5**	**-0.6**
	baz=237						
SBCB	**Hsinchu**	**1.49**	**288**	*e*P	**Pn**	**18 33 48.2**	**+0.6**
	baz=287						
SBCB				*e*S	**Sn**	**18 34 06.3**	**+0.1**
	baz=287						
HSN	**Hsinchu**	**1.51**	**289**	*e*S	**Sn**	**18 34 06.1**	**-0.5**
	baz=288						
WCS	**Beigang Elemen**	**1.52**	**260**	*e*P	**Pn**	**18 33 48.8**	**+0.9**
	baz=254						
WCS				*e*S	**Sn**	**18 34 06.5**	**-0.2**
	baz=254						
SSLB	**Suanglung**	**1.55**	**250**	P	**Pn**	**18 33 49.2**	**+0.8**
SSLB	**Suanglung**	**1.55**	**250**	P	**Pn**	**18 33 48.6**	**+0.2**
	baz=248						
SSLB				S	**Sn**	**18 34 07.4**	**-0.2**
	baz=248						
SMLT	**Sun Moon Lake**

WJS				*eS*	**Sn**	**18 34 14.5**	**+2.5**
	baz=248							
WDJ	**Dajia District**	**1.74**	**271**	*eP*	**Pn**	**18 33 51.3**	**+0.4**
	baz=279							
WDJ				*eS*	**Sn**	**18 34 11.8**	**-0.2**
	baz=279							
EDH	**Donghe**	**1.77**	**220**	*eP*	**Pn**	**18 33 50.5**	**-0.8**
	baz=214							
EDH				*eS*	**Sn**	**18 34 11.0**	**-1.8**
	baz=214							
ALS	**Alishan**	**1.79**	**243**	P	**Pn**	**18 33 52.7**	**+0.8**
	baz=235							
ALS				*eS*	**Sn**	**18 34 14.5**	**+0.7**
	baz=235							
ELDTW	**Lidau**	**1.80**	**231**	P	**Pn**	**18 33 51.6**	**-0.3**
	baz=229							
ELDTW				S	**Sn**	**18 34 12.9**	**-0.9**
	baz=229							
WCHH	**Zhanghua**	**1.83**	**263**	*eP*	**Pn**	**18 33 52.7**	**+0.5**
	baz=270							
WCHH				*eS*	**Sn**	**18 34 14.5**	**+0.2**
	baz=270							
CHN5	**Tsauling**	**1.86**	**247**	*eP*	**Pn**	**18 33 53.9**	**+1.2**
	baz=237							
CHN5				*eS*	**Sn**	**18 34 16.6**	**+1.5**
	baz=237							
LDUT	**Ludao**	**1.92**	**211**	P	**Pn**	**18 33 52.5**	**-0.9**
	baz=205							
LDUT				*eS*	**Sn**	**18 34 15.3**	**-1.2**
	baz=205							
LONT	**Longtian**	**1.92**	**223**	*eP*	**Pn**	**18 33 53.1**	**-0.3**
	baz=228							
LONT				*eS*	**Sn**	**18 34 16.3**	**-0.2**
	baz=228							
WDLH	**Douliu**	**1.94**	**251**	*eP*	**Pn**	**18 33 55.3**	**+1.6**
	baz=249							
WDLH				*eS*	**Sn**	**18 34 19.5**	**+2.5**
	baz=249							
STYH	**Taoyuan**	**1.99**	**235**	*eP*	**Pn**	**18 33 55.4**	**+1.0**
	baz=228							
STYH				*eS*	**Sn**	**18 34 18.2**	**0.0**
	baz=228							
JTJ	**Tarama**	**1.99**	**81**	P	**Pn**	**18 33 54.6**	**+0.3**
JTJ				S	**Sn**	**18 34 18.1**	**-0.1**
TWGBT	**Beinan**	**2.02**	**222**	*eP*	**Pn**	**18 33 54.0**	**-0.7**
	baz=226							
TWGBT				*eS*	**Sn**	**18 34 18.2**	**-0.7**
	baz=226							
TTN	**Taitung**	**2.02**	**220**	*eP*	**Pn**	**18 33 54.3**	**-0.5**
	baz=212							
TTN				*eS*	**Sn**	**18 34 18.2**	**-0.8**
	baz=212							
WRL	**Guolierlin Hig**	**2.03**	**258**	*eP*	**Pn**	**18 33 54.9**	**0.0**
	baz=256							
WRL				*eS*	**Sn**	**18 34 19.0**	**-0.1**
	baz=256							
TPUB	**Ta-pu**	**2.03**	**240**	P	**Pn**	**18 33 56.8**	**+1.9**
TPUB	**Ta-pu**	**2.03**	**240**	*eP*	**Pn**	**18 33 56.3**	**+1.3**
	baz=238							
TPUB				*eS*	**Sn**	**18 34 21.3**	**+2.0**
	baz=238							
CHN4	**Tsaushan**	**2.04**	**242**	*eP*	**Pn**	**18 33 57.0**	**+2.0**
	baz=232							
CHN4				*eS*	**Sn**	**18 34 22.1**	**+2.8**
	baz=232							
CHN2	**Minshiung**	**2.05**	**248**	*eS*	**Sn**	**18 34 21.3**	**+1.6**
	baz=238							
WTK	**Tuku**	**2.07**	**253**	*eP*	**Pn**	**18 33 55.9**	**+0.4**
	baz=263							
WTK				*eS*	**Sn**	**18 34 20.8**	**+0.6**
	baz=263							
CHY	**Chiayi**	**2.11**	**247**	*eS*	**Sn**	**18 34 21.8**	**+0.7**
	baz=245							
TWK	**Hsinying**	**2.16**	**241**	*eP*	**Pn**	**18 33 58.0**	**+1.3**
	baz=239							
TWK				*eS*	**Sn**	**18 34 24.6**	**+2.1**
	baz=239							
CHN1	**Nanshi**	**2.17**	**239**	*eP*	**Pn**	**18 33 58.8**	**+1.9**
	baz=236							
CHN1				*eS*	**Sn**	**18 34 24.3**	**+1.6**
	baz=236							
SNST	**Tainan City**	**2.18**	**240**	*eP*	**Pn**	**18 33 58.6**	**+1.8**
	baz=238							
SNST				*eS*	**Sn**	**18 34 24.1**	**+1.3**
	baz=238							
SGST	**Jiashian**	**2.19**	**236**	*eP*	**Pn**	**18 33 58.6**	**+1.6**
	baz=233							
SGST				*eS*	**Sn**	**18 34 24.6**	**+1.6**
	baz=233							
WSF	**Szhu**	**2.23**	**253**	*eP*	**Pn**	**18 33 58.1**	**+0.5**
	baz=262							
WSF				*eS*	**Sn**	**18 34 24.7**	**+0.5**
	baz=262							
ECL	**Taimali**	**2.26**	**221**	*eP*	**Pn**	**18 33 57.2**	**-0.9**
	baz=218							
ECL				*eS*	**Sn**	**18 34 23.5**	**-1.3**
	baz=218							
WSL	**Shuilin Townsh**	**2.27**	**250**	*eP*	**Pn**	**18 33 58.6**	**+0.5**
	baz=260							
WSL				*eS*	**Sn**	**18 34 26.6**	**+1.6**
	baz=260							
ICHU	**Yijhu**	**2.29**	**246**	*eP*	**Pn**	**18 33 59.4**	**+1.1**
	baz=233							
ICHU				*eS*	**Sn**	**18 34 26.9**	**+1.5**
	baz=233							
CHN8	**Yiju**	**2.35**	**246**	*eS*	**Sn**	**18 34 28.3**	**+1.4**
	baz=234							
SSD	**Sandimen**	**2.36**	**228**	*eP*	**Pn**	**18 34 00.7**	**+1.4**
	baz=226							
SSD				*eS*	**Sn**	**18 34 28.8**	**+1.6**
	baz=226							
SCST	**Cishan**	**2.37**	**233**	*eP*	**Pn**	**18 34 01.9**	**+2.5**
	baz=240							
SCST				*eS*	**Sn**	**18 34 30.6**	**+3.2**
	baz=240							
TSMG	**Majia**	**2.38**	**228**	*eP*	**Pn**	**18 34 01.3**	**+1.7**
	baz=225							
TSMG				*eS*	**Sn**	**18 34 29.6**	**+2.0**
	baz=225							
SHHT	**Tainan City**	**2.40**	**238**	*eP*	**Pn**	**18 34 01.7**	**+1.8**
	baz=246							
SHHT				*eS*	**Sn**	**18 34 31.4**	**+3.3**
	baz=246							
JIRB	**Irabujima**	**2.44**	**78**	P	**Pn**	**18 34 00.6**	**+0.1**
JIRB				S	**Sn**	**18 34 29.5**	**+0.2**
MASBT	**Mashibuluo**	**2.45**	**226**	*eP*	**Pn**	**18 34 01.3**	**+0.7**
	baz=224							
MASBT				*eS*	**Sn**	**18 34 29.0**	**-0.4**
	baz=224							
LAY	**Lan-yu**	**2.46**	**202**	*eP*	**Pn**	**18 33 59.1**	**-1.6**
	baz=197							
LAY				*eS*	**Sn**	**18 34 27.6**	**-2.0**
	baz=197							
TWM1	**Shoushan**	**2.46**	**233**	*eP*	**Pn**	**18 34 03.2**	**+2.5**
	baz=230							
LYUB	**Lan-yu**	**2.48**	**201**	*eP*	**Pn**	**18 34 00.0**	**-1.0**
	baz=203							
LYUB				*eS*	**Sn**	**18 34 26.9**	**-3.2**
	baz=203							
TAW	**Tawu**	**2.48**	**218**	*eS*	**Sn**	**18 34 29.4**	**-0.7**
	baz=221							
EAST	**Anshuo**	**2.49**	**219**	*eP*	**Pn**	**18 34 00.7**	**-0.4**
	baz=217							
EAST				*eS*	**Sn**	**18 34 29.1**	**-1.3**
	baz=217							
TAWH	**Dawu Township**	**2.50**	**218**	*eP*	**Pn**	**18 34 01.6**	**+0.4**
	baz=221							
TAWH				*eS*	**Sn**	**18 34 29.3**	**-1.3**
	baz=221							
SSPT	**Xinbi**	**2.58**	**225**	*eP*	**Pn**	**18 34 04.8**	**+2.4**
	baz=223							
SSPT				*eS*	**Sn**	**18 34 34.6**	**+1.9**
	baz=223							
SCZT	**Fangliau**	**2.63**	**223**	*eP*	**Pn**	**18 34 04.0**	**+0.9**
	baz=219							
SCZT				*eS*	**Sn**	**18 34 34.5**	**+0.6**
	baz=219							
SLIU	**Shizi**	**2.65**	**218**	*eP*	**Pn**	**18 34 03.3**	**0.0**
	baz=216							
SLIU				*eS*	**Sn**	**18 34 33.3**	**-0.9**
	baz=216							
WLCH	**Liuqiu**	**2.80**	**226**	*eP*	**Pn**	**18 34 07.8**	**+2.4**
	baz=223							
PHUB	**P'eng-hu**	**2.84**	**254**	*eP*	**Pn**	**18 34 05.3**	**-0.6**
	baz=252							
PHUB				*eS*	**Sn**	**18 34 38.1**	**-0.9**
	baz=252							
PNG	**Penghu**	**2.84**	**255**	*eP*	**Pn**	**18 34 06.1**	**+0.2**
	baz=253							
PNG				*eS*	**Sn**	**18 34 37.6**	**-1.3**
	baz=253							
HEN	**Hengchun**	**2.85**	**216**	*eP*	**Pn**	**18 34 07.1**	**+1.1**
	baz=205							
HEN				*eS*	**Sn**	**18 34 40.4**	**+1.2**
	baz=205							
WDGT	**Dungji**	**2.85**	**249**	*eP*	**Pn**	**18 34 05.5**	**-0.5**
	baz=246							
WDGT				*eS*	**Sn**	**18 34 38.2**	**-1.0**
	baz=246							
TWKBT	**Hengchun**	**2.86**	**214**	*eP*	**Pn**	**18 34 06.7**	**+0.4**
	baz=212							
TWKBT				*eS*	**Sn**	**18 34 39.4**	**-0.2**
	baz=212							
TWK1	**Hengchun**	**2.86**	**214**	*eP*	**Pn**	**18 34 06.5**	**+0.2**
	baz=212							
TWK1				*eS*	**Sn**	**18 34 38.3**	**-1.3**
	baz=212							
VWUC	**VWUC**	**2.89**	**284**	*eP*	**Pn**	**18 34 06.6**	**0.0**
	baz=282							
VWUC				*eS*	**Sn**	**18 34 39.0**	**-1.3**
	baz=282							
MATB	**Ma-tsu**	**2.97**	**308**	*eP*	**Pn**	**18 34 08.4**	**+0.7**
	baz=298							
MATB				*eS*	**Sn**	**18 34 41.4**	**-0.8**
	baz=298							
VCHM	**Qimei**	**3.06**	**249**	*eP*	**Pn**	**18 34 09.0**	**0.0**
	baz=247							
VCHM				*eS*	**Sn**	**18 34 43.1**	**-1.3**
	baz=247							
PTMZ	**Houxiangcun**	**3.19**	**284**	*eP*	**Pn**	**18 34 10.8**	**0.0**
	baz=282							
PTMZ				*eS*	**Sn**	**18 34 46.0**	**-1.6**
	baz=282							
LYJJ	**Jianjiangzhen**	**3.35**	**312**	*eP*	**Pn**	**18 34 13.5**	**+0.6**
	baz=310							
LYJJ				*eS*	**Sn**	**18 34 51.3**	**-0.2**
	baz=310							
XPSS	**Dashiqiu**	**3.35**	**321**	*eP*	**Pn**	**18 34 13.7**	**+0.9**
	baz=319							
MHZQ	**Yeshan**	**3.64**	**300**	*eP*	**Pn**	**18 34 17.3**	**+0.5**
	baz=298							
MHZQ				*eS*	**Sn**	**18 34 57.6**	**-0.9**
	baz=298							
KNM	**Kinmen**	**3.75**	**272**	*eP*	**Pn**	**18 34 20.7**	**+2.3**
	baz=280							
KNM				*eS*	**Sn**	**18 35 03.1**	**+1.8**
	baz=280							
KNMB	**Chin-men Tao**	**3.79**	**273**	*eP*	**Pn**	**18 34 19.1**	**+0.2**
	baz=280							
KNMB				*eS*	**Sn**	**18 35 00.7**	**-1.6**
	baz=280							
AXDP	**Jialang**	**4.20**	**279**	*eP*	**Pn**	**18 34 24.7**	**+0.1**
	baz=277							
AXDP				*eS*	**Sn**	**18 35 10.6**	**-1.7**
	baz=277							
ZPLA	**Ao Xicun**	**4.40**	**266**	*eP*	**Pn**	**18 34 27.5**	**+0.3**
	baz=264							
ZPLA				*eS*	**Sn**	**18 35 15.5**	**-1.7**
	baz=264							

IDC 09 18:40:57.9±3.1, 9°.84S×119°.92E, h0km, mb3.0/1, mb1 3.1/3, mb1mx3.0/38, mbtmp2.9/3, ML2.9/2, Error ellipse: s-maj=256.2km s-min=31.9km az=50.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.16**	**127**	P	Pn	18 44 59.8	+0.4
	0.1nm,0.3s,baz=305,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**19.17**	**138**	P	P	18 45 23.1	-0.2
	0.0nm,0.3s,baz=314,slow=11,SNR=1.8						
MKAR	**Makanchi Array**	**65.61**	**333**	P	P	18 51 43.7	0.0
	0.1nm,0.6s,baz=152,slow=6.5,SNR=1.4						

*IDC **09** 18:42:11.0±2.2, 36°.11N×142°.15E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.4/43, mbtmp3.6/7, ML3.0/3, Error ellipse: s-maj=48.1km s-min=25.6km az=84.0*
*JMA **09** 18:42:14.6±0.2, 36°.19N×141°.93E, h65km±5km, M3.1*
ISC 09 18:42:13.4±1.1, 36°.15N±0°.05×141°.99E±0°.07, h23km, n24, σ1$98/20, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.02**	**244**	P	**Pb**	**18 42 33.0**	**+0.6**
CHOJ				*eS*	**Sn**	**18 42 46.7**	**+0.8**
JHYU	**Hitachinakayam**	**1.15**	**280**	P	**Pb**	**18 42 34.5**	**-0.1**
JHYU				*eS*	**Sb**	**18 42 49.3**	**+0.2**
JIHU	**Itakohorinouch**	**1.20**	**262**	P	**Pb**	**18 42 35.7**	**+0.3**
JHO	**Hitachi**	**1.24**	**292**	P	**Pb**	**18 42 35.0**	**-1.1**
JFK	**Kawauchi**	**1.51**	**324**	P	**Pb**	**18 42 39.4**	**-1.4**
BSO1	**Boso 1**	**1.71**	**209**	P	**Pb**	**18 42 42.4**	**-1.3**
JFT	**Otama**	**1.90**	**316**	P	**Pb**	**18 42 45.9**	**-1.6**
JMM	**Marumori**	**1.96**	**331**	P	**Pb**	**18 42 46.5**	**-2.0**
JAG	**Ashikaga**	**2.07**	**278**	P	**Pb**	**18 42 47.1**	**-3.1**
JRY	**Ryogami san**	**2.50**	**268**	P	**Pb**	**18 42 53.4**	**-4.3**
JOD2	**Odawara 2**	**2.52**	**250**	P	**Pb**	**18 42 54.2**	**-3.8**
MJAR	**Matsushiro Arr**	**3.08**	**278**	Pn	**Pn**	**18 43 01.8**	**+1.2**
	1.0nm,0.3s,baz=102,slow=10,SNR=44						
MJAR				*Sn*	**Sn**	**18 43 36.9**	**+0.2**
	0.5nm,0.3s,baz=81,slow=15,SNR=5.1						
JHJ	**Hachijo jima 2**	**3.53**	**212**	Pn	**Pn**	**18 43 07.2**	**+0.4**
	5.0nm,0.3s,baz=332,slow=21,SNR=13						
JHJ				*Sn*	**Sn**	**18 43 45.5**	**-2.2**
	22nm,0.3s,baz=99,slow=22,SNR=9.4						
ASAJ	**Asahikawa**	**7.97**	**3**	Pn	**Pn**	**18 44 07.6**	**-0.2**
	0.2nm,0.3s,baz=236,slow=22,SNR=1.3						
H11N2	**WAKE ISLAND Hy 27.30**	**120**		T	T	19 16 38.8	
	baz=311,slow=74,SNR=4.9						
H11N1	**WAKE ISLAND Hy 27.31**	**120**		T	T	19 16 36.1	
	baz=311,slow=74,SNR=4.3						
H11N3	**WAKE ISLAND Hy 27.32**	**120**		T	T	19 16 38.5	
	baz=311,slow=74,SNR=4.2						
H11S1	**WAKE ISLAND Hy 27.99**	**122**		T	T	19 17 25.8	
	baz=314,slow=75,SNR=5.4						
H11S3	**WAKE ISLAND Hy 27.99**	**122**		T	T	19 17 26.8	
	baz=314,slow=75,SNR=7.3						
H11S2	**WAKE ISLAND Hy 28.01**	**122**		T	T	19 17 29.0	
	baz=314,slow=75,SNR=5.5						
SONM	**Songino Array**	**28.67**	**305**	P	**P**	**18 48 10.5**	**+2.0**
	1.0nm,0.9s,baz=96,slow=14,SNR=3.8						
ZALV	**Zalesovo Beam**	**42.85**	**313**	P	P	18 50 11.5	+2.0
	0.2nm,0.3s,baz=89,slow=8.3,SNR=2.1						
MKAR	**Makanchi Array**	**44.98**	**303**	P	P	18 50 29.8	+3.0
	0.4nm,0.7s,baz=86,slow=9.3,SNR=5.5						
WRA	**Warramunga Arr**	**56.25**	**189**	P	**P**	**18 51 52.9**	**+0.9**
	0.3nm,0.7s,baz=4.6,slow=7.7,SNR=1.7						

*PRE **09** 19:09:44.8±1.2, 26°.46S×27°.42E, h2km, ML2.5*
*BUL **09** 19:09:47.3±1.9, 26°.40S×27°.50E, h0km±15km, MD4.0*
*EAF **09** 19:09:47.3±1.9, 26°.40S×27°.50E, h0km±15km, MD3.7*
ISC 09 19:09:45.5±1.2, 26°.41S±0°.03×27°.44E±0°.03, h6km±10km, n24, σ1$73/48, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.52**	**188**	*eP*	**Pg**	**19 09 54.7**	**-0.8**
PRYS				*eS*	**Sg**	**19 10 00.8**	**-1.5**
PRYS				IAML		19 10 06.8	
	comp=Z,156nm,0.4s						
KSR	**Koster**	**0.74**	**319**	*eP*	**Pg**	**19 09 59.6**	**-0.2**
KSR				*eS*	**Sg**	**19 10 09.8**	**+0.4**
KSR				IAML		19 10 14.1	
	comp=Z,373nm,0.3s						
SLR	**Silverton**	**1.01**	**49**	*eP*	**Pg**	**19 10 05.6**	**+0.6**
SLR				*eS*	**Sb**	**19 10 19.7**	**+0.5**
SLR				IAML		19 10 25.8	
	comp=Z,97nm,0.4s						
SNKL	**Senekal, Frees**	**1.88**	**171**	*eP*	**Pn**	**19 10 18.9**	**+0.5**
SNKL				*eS*	**Sn**	**19 10 42.2**	**-0.3**
SNKL				IAML		19 10 46.9	
	comp=Z,123nm,1.3s						
SWZ	**Schweizer**	**2.03**	**247**	*eP*	**Pn**	**19 10 20.1**	**-0.3**
SWZ				*eS*	**Sn**	**19 10 46.1**	**-0.1**
SWZ				IAML		19 10 47.9	
	comp=Z,55nm,0.6s						
LBTB	**Lobatse**	**2.17**	**310**	*eP*	**Pn**	**19 10 23.7**	**+1.5**
LBTB				*eS*	**Sn**	**19 10 50.5**	**+1.1**
LBTB				IAML		19 10 53.3	
	comp=Z,118nm,0.2s						
LBTB	**Lobatse**	**2.17**	**310**	*i* P	**Pb**	**19 10 25.3**	**+0.1**
LBTB				*i* S	**Sb**	**19 10 52.8**	**+0.5**
CRLN	**Carolina, Mapu**	**2.36**	**80**	*eP*	**Pn**	**19 10 25.1**	**+0.2**
CRLN				*eS*	**Sn**	**19 10 55.8**	**+1.5**
CRLN				IAML		19 10 59.3	
	comp=Z,12nm,0.2s						
NWCL	**Newcastle**	**2.56**	**122**	*eP*	**Pn**	**19 10 28.8**	**+1.2**
NWCL				*eS*	**Sn**	**19 10 58.8**	**-0.3**
NWCL				IAML		19 11 08.8	
	comp=Z,24nm,0.4s						
BOSA	**Boshof**	**2.93**	**221**	*i* P	**Pn**	**19 10 33.2**	**+0.5**
BOSA				*i* S	**Sn**	**19 11 11.3**	**+3.0**
BOSA	**Boshof**	**2.93**	**221**	*i* P	**Pn**	**19 10 33.2**	**+0.5**
BOSA				*i* S	**Sn**	**19 11 11.3**	**+3.0**
POGA	**Pongola**	**3.92**	**105**	*eP*	**Pn**	**19 10 47.0**	**+0.7**
POGA				*eS*	**Sn**	**19 11 31.6**	**-1.1**
POGA				IAML		19 11 53.8	
	comp=Z,13nm,2.6s						
CNG	**Changalane**	**4.26**	**89**	*i* P	**Pn**	**19 10 52.1**	**+1.1**
CNG				*i* S	**Sn**	**19 11 40.4**	**-0.7**
CNG	**Changalane**	**4.26**	**89**	*i* P	**Pn**	**19 10 52.1**	**+1.1**
CNG				*i* S	**Sn**	**19 11 40.4**	**-0.7**
MOPA	**Mopani**	**4.61**	**52**	*i* P	**Pn**	**19 10 56.8**	**+1.1**
MOPA				*i* S	**Sn**	**19 11 47.6**	**-2.0**
MOPA	**Mopani**	**4.61**	**52**	*i* P	**Pn**	**19 10 56.8**	**+1.1**
MOPA				*i* S	**Sn**	**19 11 47.6**	**-2.0**
MSNA	**Messina**	**4.68**	**31**	*i* P	**Pn**	**19 10 58.3**	**+1.5**
MSNA				*i* S	**Sn**	**19 11 48.7**	**-2.8**
MSNA	**Messina**	**4.68**	**31**	*i* P	**Pn**	**19 10 58.3**	**+1.5**
MSNA				*i* S	**Sn**	**19 11 48.7**	**-2.8**
MATP	**Matopo**	**6.04**	**10**	*i* P	**Pn**	**19 11 16.7**	**+1.2**
MATP				*i* S	**Sn**	**19 12 21.6**	**-3.4**
MATP	**Matopo**	**6.04**	**10**	*i* P	**Pn**	**19 11 16.7**	**+1.2**
MATP				*i* S	**Sn**	**19 12 21.6**	**-3.4**
KEIM	**Keimoes**	**6.18**	**247**	*eP*	**Pn**	**19 11 16.9**	**-0.5**
KEIM				*eS*	**Sn**	**19 12 25.0**	**-3.4**
KEIM				IAML		19 12 57.2	
	comp=Z,18nm,6.9s						
BLWY	**Bulawayo**	**6.33**	**10**	*i* P	**Pn**	**19 11 20.8**	**+1.2**
BLWY				*i* S	**Sn**	**19 12 28.9**	**-3.5**
BLWY	**Bulawayo**	**6.33**	**10**	*i* P	**Pn**	**19 11 20.8**	**+1.2**
BLWY				*i* S	**Sn**	**19 12 28.9**	**-3.5**

*IDC **09** 19:15:39.3±1.7, 37°.77N×77°.52E, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.3/46, mbtmp3.5/8, ML3.2/3, Error ellipse: s-maj=28.8km s-min=25.7km az=52.0*
*NNC **09** 19:15:49.8±4.0, 38°.43N×77°.98E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=30.7km s-min=20.6km az=168.0*
ISC 09 19:15:46.9±2.1, 38°.2N±0°.1×78°.05E±0°.09, h10km, n18, σ1$93/20, mb3.5/5, 7C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDOK	**Medeo**	**4.99**	**352**	Pg	**Pg**	**19 17 18.5**	**-3.9**
	18nm,0.4s						
MDOK				Lg	Lg	19 18 22.8	
	53nm,0.8s						
TKM2	**Tokmak 2**	**5.05**	**339**	⇑Pg	**Pb**	**19 17 17.5**	**+2.1**
	8.6nm,0.7s						
TKM2				⇓Lg	Lg	19 18 24.8	
	14nm,0.7s						
KNDC	**Almaty**	**5.05**	**351**	⇑Pg	**Pg**	**19 17 21.1**	**-2.6**
	34nm,0.7s						
KNDC				⇓Lg	Lg	19 18 25.5	
	58nm,0.5s						
AAK	**Ala-Archa**	**5.17**	**330**	Pn	**Pn**	**19 17 05.1**	**+0.6**
	0.4nm,0.3s,baz=152,slow=7.6,SNR=11						
AAK				Pg	**Pb**	**19 17 18.5**	**+1.0**
	2.7nm,0.3s,baz=141,slow=9.2,SNR=22						
AAK				Lg	Lg	19 18 30.0	
	2.0nm,0.3s,baz=147,slow=14,SNR=1.7						
PDGK	**Podgornoye**	**5.21**	**12**	⇓Pn	**Pn**	**19 17 06.3**	**+1.3**
	3.0nm,0.4s						
PDGK				⇓Pg	**Pg**	**19 17 23.4**	**-3.3**
	8.1nm,0.6s						
PDGK				⇑Lg	Lg	19 18 32.1	
	42nm,0.9s						
CHMS	**Chumysh**	**5.38**	**333**	⇑Pg	**Pb**	**19 17 23.9**	**+2.8**
	6.2nm,0.6s						
CHMS				⇓Lg	Lg	19 18 35.5	
	33nm,0.9s						
KK31	**Karatay Array**	**7.52**	**313**	Pn	**Pn**	**19 17 38.0**	**+1.4**
	0.4nm,0.4s,baz=128,slow=13,SNR=8.0						
KK31				⇓Pg	Pb	19 18 02.7	+5.3
	0.7nm,0.5s,baz=129,slow=15,SNR=3.8						
KK31				⇓Sn	**Sn**	**19 19 00.7**	**-1.2**
	0.9nm,0.5s						
KK31				⇑Lg	Lg	19 19 42.2	
	4.6nm,0.8s,baz=120,slow=30,SNR=4.6						
MAKZ	**Makanchi**	**9.05**	**17**	⇑Pn	**Pn**	**19 17 57.9**	**+0.3**
	1.7nm,0.6s						
MAKZ				⇓Sn	**Sn**	**19 19 40.9**	**+1.4**
	1.4nm,0.7s						
MK31	**Makanchi Array**	**9.11**	**19**	Pn	**Pn**	**19 17 58.7**	**+0.3**
	0.6nm,0.3s,baz=202,slow=12,SNR=86						
MK31				⇑Sn	**Sn**	**19 19 42.4**	**+1.3**
	1.1nm,0.5s,baz=103,slow=41,SNR=6.4						
MKAR	**Makanchi Array**	**9.11**	**19**	Pn	**Pn**	**19 17 59.1**	**+0.6**
	1.3nm,0.3s,baz=203,slow=13,SNR=103						
MKAR				*Sn*	**Sn**	**19 19 42.4**	**+1.4**
	0.3nm,0.3s,baz=198,slow=21,SNR=3.1						
KURBB	**Kurchatov Arra**	**12.40**	**1**	Lg	Lg	19 22 28.4	
	0.1nm,0.3s,baz=182,slow=27,SNR=2.2						
BVAR	**Borovoye Array**	**15.72**	**343**	Pn	**Pn**	**19 19 30.1**	**+1.8**
ZALV	**Zalesovo Beam**	**16.40**	**14**	Pn	**Pn**	**19 19 36.2**	**-0.8**
	0.1nm,0.3s,baz=219,slow=11,SNR=4.9						
SONM	**Songino Array**	**22.73**	**56**	P	**P**	**19 20 49.2**	**+0.2**
	0.5nm,0.5s,baz=237,slow=9.5,SNR=4.0						
FINES	**FINESS Array B**	**39.33**	**323**	P	P	19 23 11.9	-3.9
	1.2nm,0.9s,baz=95,slow=8.0,SNR=3.7						
NOA	**NORSAR Array B**	**46.44**	**322**	P	P	19 24 06.7	-6.9
	0.2nm,0.6s,baz=90,slow=7.9,SNR=1.8						
TORD	**Torodi Ar. Bea**	**71.32**	**272**	P	P	19 26 57.6	-10
	0.2nm,0.4s,baz=42,slow=5.6,SNR=1.5						
YKA	**Yellowknife Ar**	**79.11**	**6**	P	**P**	**19 27 49.9**	**-1.3**
	0.2nm,0.4s,baz=344,slow=5.5,SNR=4.1						

*TUL **09** 19:27:21±1.3, 36°.879N±0°.007×97°.33W±0°.02, h6km±5km, ML2.6, mb_Lg2.2/13(NEIC), Error ellipse: s-maj=1.8km s-min=0.8km az=108.0*
NEIC 09 19:27:21.3±0.9, 36°.85N±0°.01×97°.35W±0°.01, h5km±6km, Error ellipse: s-maj=2.2km s-min=1.5km az=215.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**0.68**	**84**	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRKL	**Herakleio**	**0.31**	**251**	P	**Pb**	**19 27 57.5**	**+0.2**
HRKL				S	**Sb**	**19 28 01.7**	**-0.7**
HRKL				AML	AML	19 28 05.4	
	comp=N,44806μm,0.5s						
HRKL				AML	AML	19 28 06.2	
	comp=E,46238μm,0.3s						
HRKL	**Herakleio**	**0.31**	**251**	P	**Pb**	**19 27 57.2**	**-0.1**
HRKL				S	**Sb**	**19 28 02.1**	**-0.3**
	comp=E,8μm,0.4s						
HRKL	**Herakleio**	**0.31**	**251**	PG	**Pb**	**19 27 57.0**	**-0.3**
HRKL				SG	**Sb**	**19 28 01.8**	**-0.6**
IACM	**Heraklion**	**0.34**	**251**	P	**Pb**	**19 27 57.9**	**+0.2**
IACM				S	**Sb**	**19 28 02.8**	**-0.4**
IACM	**Heraklion**	**0.34**	**251**	P	**Pb**	**19 27 57.6**	**-0.1**
IACM				S	**Sb**	**19 28 02.7**	**-0.4**
KSTL	**Kastelli Herak**	**0.34**	**251**	P	**Pg**	**19 27 55.6**	**-0.8**
KSTL				S	**Sg**	**19 27 59.3**	**-1.5**
KSTL	**Kastelli Herak**	**0.34**	**251**	P	**Pg**	**19 27 55.6**	**-0.8**
KSTL				S	**Sg**	**19 27 59.1**	**-1.7**
FRMA	**Ierapetra Chan**	**0.46**	**151**	P	**Pb**	**19 28 00.1**	**+0.3**
FRMA				S	**Sb**	**19 28 07.2**	**+0.6**
FRMA				AML	AML	19 28 08.6	
	comp=E,6056μm,0.2s						
FRMA				AML	AML	19 28 08.8	
	comp=N,5539μm,0.2s						
FRMA	**Ierapetra Chan**	**0.46**	**151**	P	**Pb**	**19 28 00.1**	**+0.3**
FRMA				S	**Sb**	**19 28 07.2**	**+0.6**
	comp=N,992nm,0.2s						
IDI	**Anoyia**	**0.48**	**255**	P	**Pg**	**19 27 59.9**	**+0.9**
IDI				S	**Sg**	**19 28 06.5**	**+1.1**
	comp=N,6μm,0.2s						
IDI	**Anoyia**	**0.48**	**255**	PG	**Pg**	**19 28 00.0**	**+0.9**
IDI				SG	**Sg**	**19 28 06.6**	**+1.1**
SIVA	**Sivas**	**0.66**	**234**	P	**Pb**	**19 28 03.2**	**-0.1**
SIVA				S	**Sb**	**19 28 12.3**	**-0.2**
SIVA				AML	AML	19 28 12.7	
	comp=N,7636μm,0.2s						
SIVA				AML	AML	19 28 12.8	
	comp=E,7448μm,0.3s						
TMBK	**Timbaki Herakl**	**0.66**	**239**	P	**Pb**	**19 28 03.6**	**+0.3**
TMBK				S	**Sb**	**19 28 12.2**	**-0.3**
TMBK				AML	AML	19 28 14.5	
	comp=E,6661μm,0.4s						
TMBK				AML	AML	19 28 15.8	
	comp=N,9089μm,0.4s						
TMBK	**Timbaki Herakl**	**0.66**	**239**	P	**Pb**	**19 28 03.5**	**+0.3**
TMBK				S	**Sb**	**19 28 13.0**	**+0.5**
	comp=N,1μm,0.4s						
ZKR	**Zakros**	**0.69**	**115**	P	**Pb**	**19 28 03.7**	**0.0**
ZKR				S	**Sb**	**19 28 12.6**	**-0.6**
ZKR				AML	AML	19 28 13.6	
	comp=E,2376μm,0.5s						
ZKR				AML	AML	19 28 16.5	
	comp=N,1782μm,0.3s						
ZKR	**Zakros**	**0.69**	**115**	P	**Pb**	**19 28 03.6**	**-0.2**
ZKR				S	**Sb**	**19 28 12.7**	**-0.6**
	comp=N,1μm,0.2s						
ZKR	**Zakros**	**0.69**	**115**	PG	**Pb**	**19 28 03.5**	**-0.2**
ZKR				SG	**Sb**	**19 28 12.8**	**-0.5**
PRNS	**Prines Rethymn**	**0.78**	**267**	P	**Pn**	**19 28 06.9**	**+0.1**
THR6	**Thira Island,**	**0.94**	**357**	P	**Pn**	**19 28 09.0**	**+0.1**
SNT5	**Nea Kammeni, S**	**0.99**	**357**	P	**Pb**	**19 28 09.1**	**+0.2**
THR8	**Santorini-Mono**	**0.99**	**1**	P	**Pb**	**19 28 08.6**	**-0.3**
THR8	**Santorini-Mono**	**0.99**	**1**	P	**Pb**	**19 28 08.6**	**-0.3**
THR3	**Thira Island,**	**0.99**	**357**	P	**Pb**	**19 28 09.2**	**+0.2**
THR3	**Thira Island,**	**0.99**	**357**	P	**Pb**	**19 28 08.9**	**-0.1**
THR5	**Thira Island,**	**1.01**	**355**	P	**Pb**	**19 28 08.6**	**-0.6**
SAP3	**Santorini-Thir**	**1.02**	**355**	P	**Pb**	**19 28 09.4**	**-0.1**
SAP3				S	**Sn**	**19 28 24.9**	**+0.4**
SAP3				AML	AML	19 28 27.8	
	comp=E,8322μm,0.4s						
SAP3				AML	AML	19 28 28.4	
	comp=N,8260μm,0.4s						
SAP3	**Santorini-Thir**	**1.02**	**355**	P	**Pb**	**19 28 09.3**	**-0.1**
SAP3				S	**Sn**	**19 28 24.7**	**+0.2**
CMBO	**Columbo, Santo**	**1.06**	**358**	P	**Pb**	**19 28 09.8**	**-0.2**
CMBO	**Columbo, Santo**	**1.06**	**358**	P	**Pb**	**19 28 10.3**	**+0.3**
CMBO				S	**Sg**	**19 28 24.9**	**+1.2**
	comp=N,1μm,0.3s						
CHAN	**Chania**	**1.16**	**276**	P	**Pn**	**19 28 11.6**	**-0.3**
CHAN				S	**Sb**	**19 28 27.0**	**0.0**
CHAN				AML	AML	19 28 27.4	
	comp=N,1684μm,0.7s						
CHAN				AML	AML	19 28 30.9	
	comp=E,1685μm,0.3s						
IMMV	**Iera Moni Meta**	**1.21**	**273**	P	**Pb**	**19 28 13.0**	**+0.4**
IMMV				S	**Sb**	**19 28 28.0**	**-0.3**
IMMV				AML	AML	19 28 30.0	
	comp=E,2615μm,0.3s						
IMMV				AML	AML	19 28 30.5	
	comp=N,3137μm,0.5s						
IMMV	**Iera Moni Meta**	**1.21**	**273**	P	**Pb**	**19 28 13.0**	**+0.4**
IMMV				S	**Sn**	**19 28 28.8**	**-0.2**
	comp=N,1μm,0.4s						
IMMV	**Iera Moni Meta**	**1.21**	**273**	PN	**Pb**	**19 28 13.0**	**+0.4**
IMMV				SN	**Sn**	**19 28 28.9**	**-0.1**
GVDS	**Gavdos**	**1.26**	**244**	P	**Pb**	**19 28 13.6**	**+0.1**
GVDS				S	**Sg**	**19 28 31.7**	**+1.5**
	comp=N,500nm,0.5s						
GVD	**Gavdhos**	**1.26**	**243**	P	**Pb**	**19 28 13.8**	**+0.3**
GVD				AML	AML	19 28 37.0	
	comp=N,1944μm,0.5s						
GVD				AML	AML	19 28 39.8	
	comp=E,1597μm,0.4s						
GVD	**Gavdhos**	**1.26**	**243**	P	**Pb**	**19 28 13.9**	**+0.3**
GVD				S	**Sg**	**19 28 31.5**	**+1.2**
	comp=E,888nm,0.4s						
GVD	**Gavdhos**	**1.26**	**243**	PN	**Pb**	**19 28 13.5**	**0.0**
GVD				SN	**Sg**	**19 28 30.9**	**+0.6**
KARP	**Karpathos**	**1.40**	**84**	P	**Pn**	**19 28 14.4**	**-0.8**
KARP				AML	AML	19 28 38.0	
	comp=N,1913μm,0.4s						
KARP				AML	AML	19 28 38.4	
	comp=E,2125μm,0.4s						
KARP	**Karpathos**	**1.40**	**84**	P	**Pn**	**19 28 14.7**	**-0.5**
KARP				S	**Sb**	**19 28 33.5**	**-0.2**
	comp=E,1μm,0.4s						
KARP	**Karpathos**	**1.40**	**84**	PN	**Pn**	**19 28 15.0**	**-0.2**
RODP	**Rodopos**	**1.40**	**277**	P	**Pn**	**19 28 15.5**	**+0.3**
RODP				S	**Sn**	**19 28 33.6**	**-0.1**
	comp=E,258nm,0.5s						
RODP	**Rodopos**	**1.40**	**277**	PN	**Pn**	**19 28 15.6**	**+0.3**
RODP				SN	**Sn**	**19 28 33.6**	**-0.1**
KNDR	**Palaiochora Ch**	**1.46**	**263**	PN	**Pb**	**19 28 17.4**	**+0.5**
APE	**Apeiranthos**	**1.65**	**2**	P	**Pn**	**19 28 18.4**	**-0.4**
APE				S	**Sb**	**19 28 40.7**	**-0.5**
APE	**Apeiranthos**	**1.65**	**2**	PN	**Pb**	**19 28 19.7**	**-0.5**
ANKY	**Antikythira Is**	**1.81**	**285**	P	**Pn**	**19 28 21.2**	**+0.2**
ANKY	**Antikythira Is**	**1.81**	**285**	P	**Pn**	**19 28 21.1**	**+0.2**
ANKY				S	**Sb**	**19 28 45.7**	**-0.1**
KOSK	**Kos Island**	**1.82**	**42**	PN	**Pn**	**19 28 21.3**	**+0.4**
DAT	**Datca**	**2.16**	**52**	PN	**Pn**	**19 28 26.9**	**+1.1**
KTHR	**Kythira**	**2.17**	**294**	P	**Pn**	**19 28 25.7**	**-0.1**
BODT	**Bodrum**	**2.22**	**42**	PN	**Pn**	**19 28 28.0**	**+1.4**
VLI	**Veliai**	**2.42**	**303**	P	**Pn**	**19 28 29.0**	**-0.3**
SMG	**Samos**	**2.54**	**25**	P	**Pn**	**19 28 30.9**	**-0.1**
TURN	**Turunc**	**2.63**	**58**	PN	**Pn**	**19 28 33.5**	**+1.3**
YER	**Yerkesik**	**2.86**	**52**	PN	**Pn**	**19 28 36.8**	**+1.5**
DALY	**Dalyan (Mula)**	**2.94**	**61**	PN	**Pn**	**19 28 37.8**	**+1.4**
URLA	**Izmir**	**3.08**	**17**	PN	**Pn**	**19 28 40.2**	**+1.8**
ITM	**Ithomi**	**3.35**	**303**	PN	**Pn**	**19 28 43.9**	**+1.8**
BRTR	**Keskin Array B**	**7.79**	**54**	Pn	**Pn**	**19 29 41.4**	**-1.8**
	comp=E,0.0nm,0.3s,baz=234,slow=12,SNR=1.6						
HFS	**Hagfors**	**25.89**	**346**	LR	LR	19 44 46.0	
	comp=E,160nm,20.1s,baz=264,slow=39						
GEYT	**Ailbeck**	**26.24**	**75**	LR	LR	19 44 37.4	
	comp=E,34nm,18.8s,baz=144,slow=39						
TORD	**Torodi Ar. Bea**	**30.84**	**230**	P	**P**	**19 34 05.5**	**-0.5**
	comp=E,0.2nm,0.6s,baz=37,slow=9.8,SNR=1.9						
MKAR	**Makanchi Array**	**43.43**	**57**	P	**P**	**19 35 52.0**	**-0.6**
	comp=E,0.2nm,0.5s,baz=267,slow=7.4,SNR=6.0						
NRIK	**Noril'sk**	**47.55**	**25**	LR	LR	19 58 07.0	
	comp=E,69nm,18.0s,baz=58,slow=38						

*NEIC **09** 20:16:19.5±1.2, 20.4S±0.1×177.6W±0.2, h527km±8km, mb4.3/27, Error ellipse: s-maj=21.6km s-min=19.3km az=130.0*
*IDC **09** 20:16:19.1±4.0, 20.55S×177.56W, h530km±29km, mb3.4/9, mb1 3.5/11, mb1mx3.2/38, mbtmp4.2/11, Error ellipse: s-maj=67.5km s-min=21.2km az=137.0*

ISC 09 20:16:19.5±0.7, 20.4S±0.1×177.7W±0.1, h527km, n51, σ0s87/51, mb4.2/24, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.83**	**303**	P	**P**	**20 17 47.8**	**+1.1**
	5.0nm,0.3s,baz=216,slow=18,SNR=5.9						
MSVF	**Nonsavu**	**4.83**	**303**	P	**P**	**20 17 47.5**	**+0.8**
MARNC	**Mare, Loyalty**	**13.38**	**263**	P	**P**	**20 19 11.9**	**-0.6**
DZM	**Mont Dzumac**	**14.88**	**261**	P	**P**	**20 19 30.5**	**+2.2**
	0.3nm,0.3s,baz=82,slow=6.8,SNR=2.2						
DZM	**Mont Dzumac**	**14.88**	**261**	P	**P**	**20 19 30.2**	**+1.9**
URZ	**Urewera**	**18.34**	**193**	P	**P**	**20 20 01.0**	**-0.5**
EIDS	**Eidsvold**	**29.15**	**254**	P	**P**	**20 21 36.3**	**-1.7**
EIDS				IAmb	IAmb	20 21 47.8	
	comp=Z,8.1nm,1.1s						
ARMA	**Armidale**	**29.36**	**244**	P	**P**	**20 21 37.9**	**-2.1**
ARMA				IAmb	IAmb	20 21 41.1	
	comp=Z,6.1nm,1.0s						
CTA	**Charters Tower**	**33.79**	**264**	P	**P**	**20 22 17.9**	**+0.2**
	comp=Z,4.8nm,0.5s,baz=92,slow=10,SNR=15						
TOO	**Toolangi**	**36.18**	**234**	P	**P**	**20 22 37.9**	**+0.4**
STKA	**Stephens Creek**	**38.09**	**244**	P	**P**	**20 22 53.4**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=89,slow=8.8,SNR=8.1						
STKA	**Stephens Creek**	**38.09**	**244**	P	**P**	**20 22 53.2**	**0.0**
BBOO	**Buckleboo**	**42.84**	**243**	P	**P**	**20 23 30.9**	**-0.4**
BBOO				IAmb	IAmb	20 23 54.4	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**44.71**	**262**	P	**P**	**20 23 45.0**	**-0.9**
WR0				IAmb	IAmb	20 23 47.2	
	comp=Z,7.4nm,1.2s						
AS31	**Alice Springs**	**44.82**	**257**	P	**P**	**20 23 46.5**	**-0.2**
ASAR	**Alice Springs**	**44.82**	**257**	P	**P**	**20 23 46.5**	**-0.2**
	comp=Z,5.6nm,0.5s,baz=96,slow=7.6,SNR=142						
ASAR				PcP	**PcP**	**20 25 16.3**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=101,slow=4.9,SNR=2.5						
ASAR	**Alice Springs**	**44.82**	**257**	P	**P**	**20 23 46.2**	**-0.5**
WB2	**Warramunga Arr**	**44.89**	**262**	P	**P**	**20 23 46.6**	**-0.7**
WRA	**Warramunga Arr**	**44.90**	**262**	P	**P**	**20 23 46.6**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=96,slow=7.7,SNR=46						
WRA	**Warramunga Arr**	**44.90**	**262**	P	**P**	**20 23 46.5**	**-0.8**
MTN	**Manton Dam**	**49.45**	**270**	P	**P**	**20 24 21.1**	**-0.5**
MTN				IAmb	IAmb	20 24 21.6	
	comp=Z,19nm,1.0s						
FORT	**Forrest**	**49.59**	**247**	P	**P**	**20 24 21.9**	**-0.6**
FORT				IAmb	IAmb	20 24 36.2	
	comp=Z,14nm,1.1s						
KNRA	**Kununurra**	**50.95**	**266**	P	**P**	**20 24 32.2**	**-0.4**
KNRA				IAmb	IAmb	20 24 32.7	
	comp=Z,6.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.33**	**262**	P	**P**	**20 24 49.6**	**0.0**
	comp=Z,1.4nm,0.5s,baz=60,slow=4.4,SNR=8.6						
SIJI	**Sorong**	**53.50**	**285**	P	**P**	**20 24 50.8**	**-0.1**
	comp=Z,6.1nm,0.7s,baz=83,slow=7.1,SNR=5.4						
PSA00	**Pilbara Seismi**	**57.97**	**257**	P	**P**	**20 25 21.1**	**-0.8**
PSA00	**Pilbara Seismi**	**57.97**	**257**	P	**P**	**20 25 21.0**	**-0.9**
PSA00				IAmb	IAmb	20 25 50.7	
	comp=Z,5.1nm,0.9s						
CASY	**Casey**	**64.16**	**205**	P	**P**	**20 26 02.5**	**+0.7**
CASY				IAmb	IAmb	20 26 09.7	
	comp=Z,15nm,1.4s						
QSPA	**South Pole Qui**	**69.65**	**180**	P	**P**	**20 26 36.8**	**+1.0**
KKM	**Kota Kinabalu**	**70.02**	**285**	P	**P**	**20 26 38.6**	**-0.2**
UGM	**Wanagama**	**70.25**	**269**	P	**P**	**20 26 39.9**	**-0.3**
KSM	**Kuching**	**73.69**	**278**	P	**P**	**20 26 59.9**	**-0.2**
KSM				IAmb	IAmb	20 27 06.1	
	comp=Z,16nm,1.3s						
SSLB	**Suanglung**	**74.17**	**303**	P	**P**	**20 27 01.3**	**-1.4**
TPUB	**Ta-pu**	**74.17**	**303**	P	**P**	**20 27 01.2**	**-1.4**
TPUB				IAmb	IAmb	20 27 09.9	
	comp=Z,8.0nm,0.9s						
YHNB	**Yeheng**	**74.30**	**304**	P	**P**	**20 27 03.5**	**+0.1**
NVAR	**Mina Array Bea**	**80.76**	**43**	P	**P**	**20 27 37.7**	**-0.6**
IPM	**Ipoh**	**83.41**	**277**	P	**P**	**20 27 52.5**	**+0.4**
IPM				IAmb	IAmb	20 28 21.3	
	comp=Z,8.6nm,1.3s						
KULM	**Kulim**	**84.05**	**278**	P	**P**	**20 27 55.4**	**+0.2**
KULM				IAmb	IAmb	20 27 59.5	
	comp=Z,11nm,1.4s						
SEY	**Seymchan**	**86.36**	**347**	P	**P**	**20 28 05.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=73,slow=19,SNR=5.3						
WRH	**Wood River Hil**	**87.66**	**12**	P	**P**	**20 28 11.3**	**+0.1**
WRH				IAmb	IAmb	20 28 34.0	
	comp=Z,8.0nm,1.4s						
CCB	**Clear Creek Bu**	**87.87**	**12**	P	**P**	**20 28 12.1**	**-0.2**
CCB				IAmb	IAmb	20 28 17.6	
	comp=Z,4.0nm,1.3s						
H21K	**Melozitna Rive**	**87.87**	**10**	P	**P**	**20 28 13.0**	**+0.7**
H21K				IAmb	IAmb	20 28 28.1	
	comp=Z,6.5nm,1.5s						
IMAR	**Indian Mountai**	**88.02**	**10**	P	**P**	**20 28 13.3**	**+0.3**
ILAR	**Eielson Array**	**88.17**	**13**	P	**P**	**20 28 13.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=213,slow=5.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**90.36**	**289**	P	**P**	**20 28 26.9**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=136,slow=3.1,SNR=5.1						
AKASG	**Malin Array Be**	**143.08**	**331**	PKP	PKPab	20 34 50.4	-0.3
	comp=Z,1.1nm,0.4s,baz=43,slow=4.3,SNR=9.7						
BRTR	**Keskin Array B**	**147.00**	**313**	PKPbc	**PKPbc**	**20 35 03.0**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=117,slow=3.7,SNR=4.5						
BUR08	**Bucovina Ar. S**	**147.11**	**331**	PKPbc	**PKPbc**	**20 35 03.8**	**+0.4**
BURAR	**Bucovina Array**	**147.13**	**331**	PKPbc	**PKiKP**	**20 35 04.7**	**-0.5**
CLL	**Collm**	**148.04**	**347**	*i* PKPbc	**PKPbc**	**20 35 05.8**	**+0.3**
GERES	**GERESS Array B**	**150.19**	**345**	PKPbc	**PKPbc**	**20 35 10.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=2.5,slow=3.1,SNR=3.7						

*BER **09** 20:39:44.3±0.5, 71.12N×7.13W, h0km±502km, ML2.5, Confirmed Earthquake*

ISC 09 20:39:45.5±2.8, 71.36N±0.07×7.6W±0.2, h10km, n6, σ0s66/12, 4C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.42**	**220**	⇑*i* P	**Pg**	**20 39 53.7**	**-0.1**
JNW				*e*S	**Sg**	**20 39 59.8**	**+0.4**
JNW				IAML		20 40 02.2	
	comp=Z,328nm,0.3s						
JNE	**Jan Mayen East**	**0.43**	**212**	⇑*i* P	**Pg**	**20 39 53.3**	**-0.7**
JNE				*e*S	**Sg**	**20 40 00.1**	**+0.5**
JNE				IAML		20 40 00.8	
	comp=Z,432nm,0.2s						
JMIC	**Jan Mayen**	**0.47**	**219**	⇑*i* P	**Pg**	**20 39 54.0**	**-0.7**
JMIC				*e*S	**Sg**	**20 40 01.4**	**+0.5**
JMIC				IAML		20 40 02.4	
	comp=Z,236nm,0.1s						
JMI	**Jan Mayen**	**0.56**	**221**	⇑*i* P	**Pg**	**20 39 55.7**	**-0.8**
JMI				*e*S	**Sg**	**20 40 04.2**	**+0.4**
JMI				IAML		20 40 04.5	
	comp=Z,115nm,0.3s						
DBG	**Daneborg**	**4.76**	**314**	*e*P	**Pn**	**20 40 57.7**	**+0.4**
DBG				*e*S	**Sn**	**20 41 52.2**	**-0.3**
DAG	**Danmarks Havn**	**6.22**	**336**	*i* P	**Pn**	**20 41 18.0**	**+0.8**
DAG				*e*S	**Sn**	**20 42 27.4**	**-0.9**

*ATH **09** 20:48:37.1, 38.64N×26.03E, h29km±1km, ML2.5/5, Error ellipse: s-maj=2.2km s-min=1.3km az=265.0*
*THE **09** 20:48:37.3, 38.64N×25.84E, h18km±2km, ML2.4/4, Error ellipse: s-maj=5.8km s-min=1.1km az=257.0*
*DDA **09** 20:48:37.8±0.0, 38.67N×26.02E, h7km±4km, ML2.1*

ISC 09 20:48:37.3±1.1, 38.66N±0.02×26.02E±0.03, h13km±10km, n25, σ0s60/45, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.28**	**175**	P	**Pb**	**20 48 44.2**	**0.0**
CHOS				S	**Sb**	**20 48 48.1**	**-0.6**
CHOS				AML	AML	20 48 49.9	
	comp=E,4546μm,0.2s						
CHOS				AML	AML	20 48 49.9	
	comp=N,2161μm,0.2s						
CHOS	**Chios island**	**0.28**	**175**	P	**Pb**	**20 48 44.2**	**0.0**
CHOS				S	**Sb**	**20 48 48.4**	**-0.3**
	comp=N,2μm,0.2s						
PSRA	**Psara**	**0.38**	**252**	P	**Pb**	**20 48 46.5**	**+0.7**
PSRA				S	**Sb**	**20 48 51.8**	**+0.3**
PSRA				AML	AML	20 48 52.2	
	comp=N,2837μm,0.3s						
PSRA				AML	AML	20 48 52.4	
	comp=E,3571μm,0.2s						
URLA	**Izmir**	**0.54**	**124**	P	**Pb**	**20 48 48.8**	**+0.2**
URLA				S	**Sb**	**20 48 56.2**	**-0.2**
SIGR	**SIGRI**	**0.56**	**347**	P	**Pb**	**20 48 48.7**	**-0.4**
SIGR				AML	AML	20 49 00.3	
	comp=N,557μm,0.2s						
SIGR				AML	AML	20 49 00.5	
	comp=E,907μm,0.5s						
SIGR	**SIGRI**	**0.56**	**347**	P	**Pb**	**20 48 48.6**	**-0.4**
SIGR				S	**Sg**	**20 48 55.9**	**0.0**
	comp=E,368nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.57**	**138**	P	**Pb**	**20 48 49.5**	**+0.5**
ZEYE				S	**Sb**	**20 48 56.3**	**-0.8**
ZEYE				*i* AML	AML	20 49 01.0	
	comp=E,130nm,0.4s						
ZEYE				*i* AML	AML	20 49 01.0	
	comp=E,96nm,0.2s						
PRK	**Paraskevi**	**0.61**	**18**	P	**Pb**	**20 48 50.3**	**+0.4**
PRK				S	**Sb**	**20 48 59.9**	**+1.5**
PRK				AML	AML	20 49 02.6	
	comp=E,741μm,0.4s						
PRK				AML	AML	20 49 03.2	
	comp=N,630μm,0.3s						
PRK	**Paraskevi**	**0.61**	**18**	P	**Pb**	**20 48 50.3**	**+0.4**
PRK				S	**Sn**	**20 49 00.9**	**-0.5**
	comp=N,342nm,0.3s						
AYVA	**Ayvalik**	**0.83**	**39**	P	**Pb**	**20 48 53.5**	**0.0**
AYVA				S	**Sb**	**20 49 05.7**	**+1.1**
KOCA	**Canakkale, Ayv**	**0.84**	**6**	P	**Pb**	**20 48 53.6**	**-0.2**
KOCA				S	**Sb**	**20 49 06.1**	**+1.1**
KOCA				*i* AML	AML	20 49 07.0	
	comp=N,62nm,0.5s						
KOCA				*i* AML	AML	20 49 08.0	
	comp=N,74nm,0.7s						
ZEDA	**zmir-Bergama**	**0.88**	**69**	P	**Pn**	**20 48 55.3**	**0.0**
ZEDA				S	**Sb**	**20 49 06.8**	**+0.8**
DGB	**zmir**	**0.91**	**132**	P	**Pb**	**20 48 54.8**	**-0.1**
DGB				S	**Sb**	**20 49 06.8**	**-0.1**
DGB				*i* AML	AML	20 49 09.0	
	comp=N,43nm,1.2s						
SMG	**Samos**	**1.15**	**146**	P	**Pg**	**20 48 59.0**	**-0.4**
SMG				S	**Sg**	**20 49 14.0**	**-0.4**
SMG				AML	AML	20 49 18.3	
	comp=E,522μm,0.5s						
SMG				AML	AML	20 49 18.4	
	comp=N,232μm,0.3s						
SMG	**Samos**	**1.15**	**146**	P	**Pg**	**20 48 59.3**	**-0.1**
SMG				S	**Sn**	**20 49 14.3**	**-0.3**
	comp=N,188nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**1.15**	**21**	P	**Pn**	**20 48 59.2**	**+0.1**
BAYC				S	**Sb**	**20 49 12.2**	**-1.7**
BUHA	**Balikesir, Bur**	**1.17**	**44**	P	**Pb**	**20 48 58.7**	**-0.7**
BUHA				S	**Sn**	**20 49 15.7**	**+0.5**
BOZC	**Bozcaada**	**1.18**	**1**	P	**Pb**	**20 48 59.5**	**0.0**
BOZC				S	**Sb**	**20 49 13.9**	**-0.7**
BOZC				*i* AML	AML	20 49 21.0	
	comp=N,33nm,1.2s						
BOZC				*i* AML	AML	20 49 39.0	
	comp=N,41nm,1.1s						
GCAM	**G?zelcaml?**	**1.35**	**135**	P	**Pg**	**20 49 04.5**	**+1.2**
GCAM				S	**Sg**	**20 49 20.8**	**-0.2**
GCAM				*i* AML	AML	20 49 32.0	
	comp=N,23nm,0.5s						
LIA	**Limnos Island**	**1.40**	**332**	P	**Pn**	**20 49 02.4**	**0.0**
KARY	**Karystos**	**1.40**	**244**	P	**Pn**	**20 49 02.1**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.50**	**61**	P	**Pg**	**20 49 05.6**	**-0.6**
STEP				S	**Sg**	**20 49 25.6**	**-0.1**
APE	**Apeiranthos**	**1.64**	**194**	P	**Pn**	**20 49 06.1**	**+0.3**
AYDN	**Tasoluk**	**1.77**	**124**	P	**Pb**	**20 49 09.8**	**+0.1**
AYDN				S	**Sg**	**20 49 34.8**	**+0.5**
AYDN				*i* AML	AML	20 49 39.0	
	comp=N,16nm,1.6s						
ALN	**Alexandroupoli**	**2.23**	**0**	P	**Pn**	**20 49 14.0**	**+0.1**

*INET **09** 20:58:58.0±0.5, 13.46N×88.42W, h228km±9km, MW3.2*
*IDC **09** 20:59:00.0±5.9, 13.59N×88.26W, h171km±46km, mb3.3/9, mb1 3.5/10, mb1mx3.2/35, mbtmp3.7/10, Error ellipse: s-maj=44.2km s-min=32.6km az=152.0*
*UCR **09** 20:59:02.6±0.8, 13.38N×88.46W, h186km±7km, ML3.6, MW3.7*

ISC 09 20:59:01.7±0.8, 13.48N±0.09×88.51W±0.07, h195km±6km, n52, σ1s28/56, mb3.4/9, 6C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEB	**Comit de Eme**	**0.03**	**322**	*e*P	**Pn**	**20 59 27.6**	**+0.3**
COEB				IAML		20 59 29.1	
	comp=Z,846nm,0.5s						
COEB	**Comit de Eme**	**0.03**	**322**	*e*P	**Pn**	**20 59 27.6**	**+0.3**
COEB				IAML		20 59 29.1	
	comp=Z,846nm,0.5s						
COEB	**Comit de Eme**	**0.03**	**322**	*e*P	**Pn**	**20 59 27.7**	**+0.3**
SNVI	**San Vicente**	**0.34**	**293**	*e*P	**Pn**	**20 59 28.6**	**+0.7**
SNVI	**San Vicente**	**0.34**	**293**	*e*P	**Pn**	**20 59 28.6**	**+0.7**
COEG	**Centro de Oper**	**0.39**	**292**	*e*P	**Pn**	**20 59 28.2**	**+0.3**
COEG	**Centro de Oper**	**0.39**	**292**	*e*P	**Pn**	**20 59 28.2**	**+0.3**
COEG	**Centro de Oper**	**0.39**	**292**	*e*P	**Pn**	**20 59 28.4**	**+0.5**
PAVA	**Las Pavas**	**0.48**	**300**	⇑*i*P	**Pn**	**20 59 29.0**	**+0.8**
PAVA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.38**	**123**	P	**Pn**	**21 01 43.1**	**+0.2**
JYNG				*eS*	**Sn**	**21 01 54.6**	**+1.1**
YOJ	**Yonaguni jima**	**0.42**	**117**	P	**Pn**	**21 01 43.3**	**+0.1**
YOJ				S	**Sn**	**21 01 55.0**	**+1.0**
EGS	baz=285	**0.63**	**287**	*eP*	**Pn**	**21 01 45.5**	**+0.6**
TWB1	**Santiao Chiao** baz=300	**0.66**	**302**	*i* P	**Pn**	**21 01 44.6**	**-0.4**
TWB1				*i* S	**Sn**	**21 01 56.5**	**-0.8**
TWC	**Suao** baz=265	**0.68**	**266**	*i* P	**Pn**	**21 01 44.9**	**-0.3**
TWC				*i* S	**Sn**	**21 01 57.2**	**-0.5**
NTC	**Toucheng** baz=284	**0.72**	**286**	P	**Pn**	**21 01 45.2**	**-0.5**
NTC				S	**Sn**	**21 01 58.0**	**-0.4**
TIPB	**Shuangxi** baz=292	**0.77**	**294**	*i* P	**Pn**	**21 01 45.8**	**-0.3**
TIPB				S	**Sn**	**21 01 58.3**	**-0.9**
EWUT	**Wuta** baz=254	**0.78**	**254**	*eP*	**Pn**	**21 01 46.5**	**+0.3**
ILA	**Ilan** baz=276	**0.78**	**278**	P	**Pn**	**21 01 45.9**	**-0.3**
ILA				S	**Sn**	**21 01 59.3**	**-0.1**
SXI1	**Grass Mountain** baz=301	**0.79**	**304**	P	**Pn**	**21 01 46.0**	**-0.4**
SXI1				S	**Sn**	**21 01 59.1**	**-0.6**
NDS	**Dongshan** baz=267	**0.80**	**269**	P	**Pn**	**21 01 46.4**	**-0.1**
NDS				S	**Sn**	**21 01 59.4**	**-0.4**
ENA	**Nanau** baz=253	**0.81**	**254**	*i* P	**Pn**	**21 01 46.8**	**+0.2**
ENA				*eS*	**Sn**	**21 02 00.9**	**+0.9**
NWF	**Wu-fen Shan** baz=297	**0.85**	**299**	*i* P	**Pn**	**21 01 46.8**	**-0.3**
NWF				S	**Sn**	**21 02 00.1**	**-0.7**
TWE	**Neicheng** baz=273	**0.85**	**274**	*i* P	**Pn**	**21 01 46.8**	**-0.1**
TWE				*i* S	**Sn**	**21 02 00.5**	**-0.1**
WFSB	**Wu-fen Shan** baz=297	**0.85**	**299**	P	**Pn**	**21 01 46.5**	**-0.4**
WFSB				S	**Sn**	**21 01 60.0**	**-0.7**
TNOU	**National Taiwa** baz=301	**0.90**	**303**	*i* P	**Pn**	**21 01 46.7**	**-0.7**
TNOU				*i* S	**Sn**	**21 02 00.8**	**-0.7**
FUSB	**Fushanzhiwuyua** baz=275	**0.92**	**277**	P	**Pn**	**21 01 47.5**	**-0.3**
FUSB				S	**Sn**	**21 02 01.7**	**-0.5**
ENTT	**Nioudou** baz=268	**0.94**	**269**	*i* P	**Pn**	**21 01 48.3**	**+0.4**
ENTT				*eS*	**Sn**	**21 02 03.5**	**+1.1**
TWA	**Mucha** baz=288	**0.98**	**289**	*i* P	**Pn**	**21 01 47.9**	**-0.4**
TWA				*i* S	**Sn**	**21 02 02.4**	**-0.7**
LATG	**Datong** baz=262	**0.98**	**263**	*i* P	**Pn**	**21 01 48.9**	**+0.4**
LATG				*eS*	**Sn**	**21 02 04.3**	**+0.9**
NDT	**Datong Townshi** baz=266	**0.99**	**267**	*i* P	**Pn**	**21 01 49.1**	**+0.6**
NDT				*eS*	**Sn**	**21 02 04.5**	**+1.2**
NWLT	**Wulai** baz=276	**1.00**	**277**	*i* P	**Pn**	**21 01 48.4**	**-0.2**
ETL	**Fush Village** baz=241	**1.02**	**241**	P	**Pn**	**21 01 49.1**	**+0.3**
ETL				S	**Sn**	**21 02 03.7**	**-0.3**
NHDH	**Xindian Distri** baz=286	**1.02**	**288**	P	**Pn**	**21 01 48.1**	**-0.7**
NHDH				S	**Sn**	**21 02 03.0**	**-1.0**
NACB	**Ninganchiao** baz=242	**1.03**	**242**	*i* P	**Pn**	**21 01 48.4**	**-0.5**
NACB				*i* S	**Sn**	**21 02 04.2**	**0.0**
YM01	**YM01** baz=296	**1.05**	**298**	P	**Pn**	**21 01 49.2**	**0.0**
YM01				*eS*	**Sn**	**21 02 04.3**	**-0.4**
TWD	**Chiawan** baz=238	**1.08**	**238**	*i* P	**Pn**	**21 01 49.3**	**-0.2**
TWD				*i* S	**Sn**	**21 02 04.8**	**-0.3**
IRIF	**Iriomote-Funau**	**1.08**	**107**	P	**Pn**	**21 01 49.3**	**-0.2**
IRIF				*eS*	**Sn**	**21 02 05.7**	**+0.6**
ETLH	**Xiulin Townshi** baz=246	**1.11**	**246**	*i* P	**Pn**	**21 01 49.8**	**-0.1**
ETLH				*eS*	**Sn**	**21 02 05.7**	**-0.3**
YHNB	**Yeheng** baz=270	**1.11**	**271**	*i* P	**Pn**	**21 01 50.2**	**+0.3**
YHNB				*i* S	**Sn**	**21 02 05.9**	**-0.1**
NSK	**Sanguang** baz=270	**1.13**	**271**	*i* P	**Pn**	**21 01 50.2**	**+0.1**
NSK				*i* S	**Sn**	**21 02 06.2**	**-0.1**
NNSB	**Datong** baz=258	**1.13**	**259**	*i* P	**Pn**	**21 01 50.4**	**+0.2**
NNSB				S	**Sn**	**21 02 06.4**	**0.0**
NNS	**Nan Shan** baz=258	**1.14**	**259**	*i* P	**Pn**	**21 01 50.3**	**+0.1**
NNS				S	**Sn**	**21 02 06.4**	**-0.2**
TWS1	**Kuangyinshan** baz=291	**1.16**	**293**	*i* P	**Pn**	**21 01 50.1**	**-0.2**
TWS1				*eS*	**Sn**	**21 02 06.3**	**-0.5**
TEYL	**Yanliau Villag** baz=231	**1.20**	**229**	*i* P	**Pn**	**21 01 50.9**	**-0.1**
TEYL				*eS*	**Sn**	**21 02 08.1**	**+0.4**
ETM	**Tongmen** baz=236	**1.22**	**236**	*i* P	**Pn**	**21 01 50.9**	**-0.2**
ETM				*i* S	**Sn**	**21 02 08.1**	**0.0**
FUSS	**Fushou** baz=251	**1.30**	**252**	*i* P	**Pn**	**21 01 52.8**	**+0.4**
FUSS				S	**Sn**	**21 02 10.6**	**+0.4**
WHF	**Hehuan Shan** baz=247	**1.32**	**248**	*i* P	**Pn**	**21 01 52.7**	**0.0**
WHF				S	**Sn**	**21 02 10.3**	**-0.5**
NFF	**Wufeng Townshi** baz=268	**1.35**	**269**	P	**Pn**	**21 01 52.5**	**-0.2**
NFF				S	**Sn**	**21 02 10.8**	**-0.1**
TEGC	**Jichi Village** baz=226	**1.35**	**226**	P	**Pn**	**21 01 53.1**	**+0.4**
TEGC				S	**Sn**	**21 02 11.5**	**+0.6**
JKRS	**Kuro-shima**	**1.35**	**108**	P	**Pn**	**21 01 53.0**	**+0.3**
JKRS				*eS*	**Sn**	**21 02 11.8**	**+0.9**
ESL	**Shilin** baz=231	**1.35**	**232**	*i* P	**Pn**	**21 01 52.4**	**-0.3**
ESL				S	**Sn**	**21 02 10.4**	**-0.6**
TWT	**Tachien** baz=252	**1.36**	**253**	*i* P	**Pn**	**21 01 54.0**	**+1.1**
TWT				*i* S	**Sn**	**21 02 12.0**	**+0.7**
TDCB	**Techi** baz=252	**1.37**	**253**	P	**Pn**	**21 01 53.9**	**+0.7**
TDCB				*i* S	**Sn**	**21 02 11.7**	**+0.1**
CHGB	**Renai** baz=245	**1.43**	**246**	*i* P	**Pn**	**21 01 54.3**	**+0.4**
CHGB				S	**Sn**	**21 02 12.0**	**-0.9**
JIJ	**Ishigaki jima**	**1.44**	**101**	P	**Pn**	**21 01 53.5**	**-0.3**
JIJ				S	**Sn**	**21 02 12.5**	**-0.3**
LIOB	**Emei** baz=269	**1.44**	**270**	*i* P	**Pn**	**21 01 54.5**	**+0.7**
LIOB				S	**Sn**	**21 02 12.7**	**-0.1**
HSN1	**Hsinchu** baz=274	**1.44**	**275**	P	**Pn**	**21 01 53.9**	**+0.1**
HSN1				S	**Sn**	**21 02 13.2**	**+0.3**
EGFH	**Guangfu** baz=227	**1.45**	**228**	P	**Pn**	**21 01 53.7**	**-0.3**
EGFH				S	**Sn**	**21 02 13.5**	**+0.3**
NSTT	**Nanjuang** baz=268	**1.45**	**269**	P	**Pn**	**21 01 54.8**	**+0.9**
NSTT				*i* S	**Sn**	**21 02 12.6**	**-0.6**
OWD	**Renai** baz=241	**1.47**	**242**	*i* P	**Pn**	**21 01 54.6**	**+0.2**
OWD				S	**Sn**	**21 02 14.0**	**+0.2**
WUSB	**Renai** baz=244	**1.50**	**244**	*i* P	**Pn**	**21 01 55.3**	**+0.5**
WUSB				S	**Sn**	**21 02 14.9**	**+0.4**
WHP	**Taichung City** baz=255	**1.55**	**256**	*i* P	**Pn**	**21 01 56.3**	**+1.0**
WHP				*i* S	**Sn**	**21 02 16.4**	**+0.9**
JISG	**Ishigakijimahi**	**1.56**	**92**	P	**Pn**	**21 01 55.1**	**-0.2**
JISG				*eS*	**Sn**	**21 02 16.0**	**+0.5**
VWDT	**VWDT** baz=236	**1.61**	**236**	*i* P	**Pn**	**21 01 56.4**	**+0.6**
VWDT				S	**Sn**	**21 02 17.4**	**+0.9**
WPL	**Puli Township** baz=247	**1.63**	**247**	*i* P	**Pn**	**21 01 57.0**	**+0.9**
EHY	**Hungye** baz=225	**1.64**	**226**	*i* P	**Pn**	**21 01 55.8**	**-0.5**
NSY	**Sanyi** baz=261	**1.69**	**262**	*i* P	**Pn**	**21 01 57.5**	**+0.5**
NSY				*i* S	**Sn**	**21 02 19.0**	**+0.5**
SMLT	**Sun Moon Lake** baz=243	**1.73**	**244**	*eP*	**Pn**	**21 01 59.1**	**+1.5**
SMLT				*eS*	**Sn**	**21 02 20.8**	**+1.2**
SSLB	**Suanglung** baz=240	**1.73**	**240**	*eP*	**Pn**	**21 01 58.9**	**+1.3**
SSLB				*eS*	**Sn**	**21 02 21.9**	**+2.4**
EYUL	**Yuli** baz=222	**1.75**	**222**	P	**Pn**	**21 01 57.6**	**-0.2**
EYUL				*eS*	**Sn**	**21 02 19.4**	**-0.5**
TYC	**Yuchr** baz=244	**1.76**	**245**	*eP*	**Pn**	**21 01 59.3**	**+1.5**
TWF1	**Yuli** baz=222	**1.76**	**223**	P	**Pn**	**21 01 57.5**	**-0.4**
WWF	**Wufeng** baz=250	**1.84**	**251**	*i* P	**Pn**	**21 01 59.6**	**+0.8**
FULB	**Fuli** baz=219	**1.88**	**220**	*i* P	**Pn**	**21 01 59.7**	**+0.3**
FULB				S	**Sn**	**21 02 22.8**	**-0.1**
JTJ	**Tarama**	**1.92**	**90**	P	**Pn**	**21 02 00.2**	**+0.4**
CHKT	**Chengkung** baz=216	**1.92**	**216**	*eP*	**Pn**	**21 01 59.6**	**-0.3**
CHKT				*eS*	**Sn**	**21 02 22.1**	**-1.6**
ALS	**Alishan** baz=235	**2.00**	**236**	*eP*	**Pn**	**21 02 02.8**	**+1.6**
ALS				*eS*	**Sn**	**21 02 26.9**	**+0.9**
EDH	**Donghe** baz=215	**2.05**	**216**	P	**Pn**	**21 02 01.7**	**0.0**
EDH				*eS*	**Sn**	**21 02 25.6**	**-1.3**
ELDTW	**Lidau** baz=224	**2.06**	**225**	*i* P	**Pn**	**21 02 01.5**	**-0.3**
ELDTW				S	**Sn**	**21 02 26.8**	**-0.3**
LDUT	**Ludao** baz=208	**2.23**	**208**	P	**Pn**	**21 02 03.8**	**-0.2**
LDUT				*eS*	**Sn**	**21 02 30.1**	**-0.9**
STYT	**Tauyuan** baz=228	**2.25**	**229**	*eP*	**Pn**	**21 02 06.4**	**+2.1**
WTP	**Ta-pu** baz=232	**2.29**	**233**	*eP*	**Pn**	**21 02 06.9**	**+2.0**
ECL	**Taimali** baz=216	**2.54**	**217**	*eP*	**Pn**	**21 02 07.8**	**-0.4**
ECL				*eS*	**Sn**	**21 02 37.2**	**-1.3**
SSD	**Sandimen** baz=223	**2.62**	**224**	*eP*	**Pn**	**21 02 11.5**	**+2.3**
LAY	**Lan-yu** baz=200	**2.78**	**200**	P	**Pn**	**21 02 10.9**	**-0.4**
LAY				S	**Sn**	**21 02 42.7**	**-1.4**
LYUB	**Lan-yu** baz=200	**2.80**	**200**	*eP*	**Pn**	**21 02 10.8**	**-0.8**
LYUB				*eS*	**Sn**	**21 02 41.5**	**-3.2**
WDGT	**Dungji** baz=242	**3.03**	**243**	*i* P	**Pn**	**21 02 14.9**	**+0.4**
WDGT				*eS*	**Sn**	**21 02 48.9**	**-1.1**

KRSC 09 21:03:43.4±2.4, 48°.79N×156°.71E, h15^{km}±14^{km}, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.93**	**349**	*eP*	Pn	21 04 15.1	-0.5
PAU	**Pauzhetka**	**2.68**	**1**	*eP*	Pn	21 04 27.4	+1.5
PAU				*eS*	Sn	21 05 00.3	+2.3
KDTR	**Khodutka, Kamc**	**3.14**	**16**	*eP*	Pn	21 04 34.9	+2.6
KDTR				*eS*	Sn	21 05 13.6	-3.4
MIPR	**Malaya Ipel'ka**	**3.49**	**1**	*eP*	Pn	21 04 39.2	+2.1
ASAK	**Asacha**	**3.67**	**12**	*eP*	Pn	21 04 43.0	+3.3
MTVR	**Mutnovka**	**3.81**	**14**	*eP*	Pn	21 04 45.4	+3.8
RUS	**Russkaya**	**3.82**	**17**	*eP*	Pn	21 04 44.5	+2.9
RUS				*eS*	Sn	21 05 30.6	+4.4
GRL	**Gorelyy**	**3.86**	**12**	*eP*	Pn	21 04 46.4	+4.1
DALK	**Dalny**	**4.44**	**16**	*eP*	Pn	21 04 54.3	+4.3
UGLR	**Uglovaya**	**4.62**	**16**	*eP*	Pn	21 04 57.8	+5.1
AVH	**Avacha**	**4.66**	**15**	*eP*	Pn	21 04 58.8	+5.6
KOK	**Koryaka**	**4.67**	**14**	*eP*	Pn	21 04 58.3	+5.0
SMAR	**Somma**	**4.67**	**16**	*eP*	Pn	21 04 59.0	+5.6
SDLR	**Sedlovina**	**4.70**	**16**	*eP*	Pn	21 04 58.2	+4.4
KRER	**Koryakskii**	**4.70**	**15**	*eP*	Pb	21 05 00.0	-5.5
SPN	**Mys Shipunski**	**4.79**	**25**	*eP*	Pn	21 04 59.3	+4.3
GNL	**Ganaly**	**4.97**	**9**	*eP*	Pn	21 05 01.6	+4.1
KBTR	**Krutoberegovo**	**8.31**	**24**	*eP*	Pn	21 05 46.3	+3.1

IDC 09 21:25:06.6±3.1, 11°.64S×122°.18E, h0^{km}, mb3.4/1, mb1 3.3/3, mb1mx3.2/24, mbtmp3.1/3, ML2.7/2, Error ellipse: s-maj=242.4km s-min=35.1km az=49.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=306,slow=11,SNR=1.6	**14.31**	**127**	Pn	Pn	21 28 31.6	+0.9
ASAR	**Alice Springs** 0.0nm,0.3s,baz=316,slow=12,SNR=4.5	**16.35**	**139**	Pn	Pn	21 28 56.9	-0.8
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=137,slow=6.2,SNR=4.2	**68.23**	**332**	P	P	21 36 09.2	0.0

IDC 09 21:41:59.2±44.0, 15°.61S×174°.51W, h0^{km}, mb4.2/3, mb1 4.3/3, mb1mx3.6/34, mbtmp4.2/3, Error ellipse: s-maj=838.8km s-min=171.6km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.2nm,0.4s,baz=95,slow=8.3,SNR=5.8	**43.01**	**240**	P	P	21 50 01.3	+0.7
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=95,slow=7.6,SNR=10	**48.76**	**257**	P	P	21 50 45.6	-0.6
ASAR	**Alice Springs** 7.3nm,0.6s,baz=88,slow=8.0,SNR=130	**49.03**	**252**	P	P	21 50 48.0	-0.3

*IDC **09** 21:52:19.5±0.9, 14°.26S×166°.55E, h0^{km}, mb4.0/8, mb1 4.2/10, mb1mx4.0/38, mbtmp4.0/10, ML4.0/2, MS3.7/16, Ms1 3.7/16, ms1mx3.3/57, Error ellipse: s-maj=27.5km s-min=22.1km az=85.0*

*NEIC **09** 21:52:21.8±1.4, 14°.22S±0°.08×166°.69E±0°.09, h13^{km}±5^{km}, mb4.6/20, Error ellipse: s-maj=15.9km s-min=7.5km az=46.0*

ISC 09 21:52:24.2±0.6, 14°.27S±0°.07×166°.56E±0°.10, h28^{km}, n65, σ1°.45/52, mb4.4/18, MS3.9/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.32**	**152**	Pn	**Pn**	**21 52 45.0**	**-1.8**
SANVU				Sn	**Sn**	**21 53 03.4**	**-0.2**
KOUNC	**Koumac, New Ca**	**6.61**	**199**		**Pn**	**21 54 00.1**	**+0.5**
MARNC	**Mare, Loyalty**	**7.30**	**169**	Pn	**Pn**	**21 54 08.7**	**-0.5**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=321,slow=16,SNR=2.7	**7.76**	**181**	Pn	**Pn**	**21 54 13.7**	**-1.7**
DZM	comp=Z,246nm,21.1s,baz=275,slow=36			LR	LR	21 56 59.0	
DZM	**Mont Dzumac** 17nm,0.6s	**7.76**	**181**	*e*Pn	**Pn**	**21 54 15.4**	**-0.1**
DZM	22nm,0.8s			*e*Sn	**Sn**	**21 55 39.9**	**-2.6**
DZM	comp=Z,393nm,24.3s			*e*LR	LR	21 56 07.5	
DZM	**Mont Dzumac**	**7.76**	**181**	Pn	**Pn**	**21 54 15.2**	**-0.3**
HNR	**Honiara** 5.8nm,0.3s,baz=212,slow=13,SNR=1.3	**8.07**	**306**	Pn	**Pn**	**21 54 19.6**	**0.0**
OUENC	**Ouen Island, N**	**8.11**	**178**	Pn	**Pn**	**21 54 20.2**	**+0.1**
PINNC	**Pines Island,**	**8.34**	**174**	Pn	**Pn**	**21 54 24.0**	**+0.7**
MSVF	**Nonsavu** comp=Z,622nm,19.1s,baz=356,slow=33	**11.57**	**109**	LR	LR	21 58 39.6	
EIDS	**Eidsvold**	**18.26**	**230**	P	**Pn**	**21 56 35.6**	**-0.1**
CTA	**Charters Tower** comp=Z,194nm,18.6s,baz=74,slow=35	**20.24**	**251**	LR	LR	22 04 05.7	
URZ	**Urewera** 5.2nm,0.8s,baz=342,slow=20,SNR=2.4	**25.66**	**161**	P	**P**	**21 57 51.3**	**-0.3**
STKA	**Stephens Creek** 2.7nm,1.1s,baz=42,slow=14,SNR=3.1	**28.78**	**228**	P	**P**	**21 58 19.9**	**+0.1**
STKA	comp=Z,297nm,18.0s,baz=30,slow=37			LR	LR	22 09 55.7	
STKA	**Stephens Creek**	**28.78**	**228**	P	**P**	**21 58 19.9**	**+0.1**
LTZ	**Lake Taylor** comp=Z,20nm,1.4s	**28.83**	**171**	P	**P**	**21 58 19.9**	**-0.3**
LTZ				IAmb	IAmb	21 58 36.2	
RPZ	**Rata Peaks** comp=Z,111nm,18.4s,baz=352,slow=36	**29.59**	**173**	LR	LR	22 10 12.8	
WB0	**Warramunga Arr**	**31.21**	**255**	P	**P**	**21 58 40.4**	**-1.1**
WRA	**Warramunga Arr** comp=Z,1.4nm,0.9s,baz=84,slow=9.2,SNR=6.4	**31.28**	**255**	P	**P**	**21 58 40.3**	**-1.8**
ASAR	**Alice Springs** comp=Z,0.8nm,0.8s,baz=74,slow=9.6,SNR=10.0	**32.20**	**248**	P	**P**	**21 58 49.0**	**-1.2**
RAR	**Rarotonga** comp=Z,58nm,21.8s,baz=275,slow=32	**32.75**	**107**	LR	LR	22 09 41.5	
BBOO	**Buckleboo**	**33.33**	**231**	P	**P**	**21 58 59.7**	**-0.2**
KNRA	**Kununurra**	**36.51**	**263**	P	**P**	**21 59 26.6**	**-0.9**
KNRA	comp=Z,7.2nm,0.9s			IAmb	IAmb	21 59 41.4	
FORT	**Forrest**	**38.95**	**238**	P	**P**	**21 59 49.1**	**+1.1**
FORT	comp=Z,15nm,1.0s			IAmb	IAmb	22 00 03.4	
FITZ	**Fitzroy Crossi**	**39.43**	**259**	P	**P**	**21 59 51.9**	**-0.3**
PPT2	**Papeete2** comp=Z,108nm,24.8s	**42.24**	**101**	*e*LR	LR	22 12 11.5	
MORW	**Morawa**	**48.85**	**244**	P	**P**	**22 01 07.4**	**-0.2**
TAOE	**Nuku Hiva Isla** comp=Z,342nm,27.9s	**52.40**	**90**	*e*LR	LR	22 16 38.7	
MAJO	**Matsushiro** comp=Z,7.9nm,1.2s	**57.19**	**333**	P	**P**	**22 02 06.7**	**-2.2**
MAJO				IAmb	IAmb	22 02 35.1	
VNDA	**Vanda** comp=Z,1.3nm,1.0s,baz=17,slow=7.5,SNR=5.1	**63.30**	**181**	P	**P**	**22 02 49.9**	**-0.3**
VNDA	**Vanda**	**63.30**	**181**	P	**P**	**22 02 49.3**	**-0.8**
SBA	**Scott Base**	**63.59**	**180**	P	**P**	**22 02 52.4**	**+0.4**
SBA	comp=Z,4.1nm,0.8s			IAmb	IAmb	22 03 02.3	
CASY	**Casey** comp=Z,5.8nm,1.1s	**63.69**	**202**	P	**P**	**22 02 53.0**	**+0.2**
CASY				IAmb	IAmb	22 03 07.0	
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.3s,baz=131,slow=5.5,SNR=4.4	**74.14**	**294**	P	**P**	**22 03 58.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P	**P**	**22 03 57.7**	**-1.0**
MA2	**Magadan** comp=Z,20nm,19.8s,baz=288,slow=33	**74.70**	**352**	LR	LR	22 33 23.9	
QSPA	**South Pole Qui** comp=Z,7.9nm,1.0s	**75.75**	**180**	P	**P**	**22 04 07.7**	**+0.4**
QSPA				IAmb	IAmb	22 04 17.6	
SEY	**Seymchan** comp=Z,22nm,18.9s,baz=308,slow=34	**77.75**	**353**	LR	LR	22 35 41.6	
BILL	**Bilibino** comp=Z,3.8nm,1.0s	**82.08**	**360**	P	**P**	**22 04 42.0**	**+0.4**
BILL				IAmb	IAmb	22 04 55.6	
CAST	**Castle Rocks**	**83.76**	**17**	P	**P**	**22 04 49.4**	**-1.1**
IMAR	**Indian Mountai**	**85.30**	**15**	P	**P**	**22 04 58.8**	**+0.7**
YBH	**Yreka Blue Hor** comp=Z,41nm,18.3s,baz=352,slow=35	**85.58**	**45**	LR	LR	22 41 51.2	
WRH	**Wood River Hil**	**85.73**	**18**	P	**P**	**22 04 59.8**	**-0.5**
IL31		**86.31**	**18**	P	**P**	**22 05 02.0**	**-1.1**
ILAR	**Eielson Array** comp=Z,1.2nm,0.8s,baz=240,slow=4.8,SNR=10	**86.31**	**18**	P	**P**	**22 05 01.9**	**-1.3**
ILAR	comp=Z,58nm,18.4s,baz=202,slow=33			LR	LR	22 40 25.4	
ILAR	**Eielson Array**	**86.31**	**18**	P	**P**	**22 05 01.7**	**-1.4**
J25K	**Salcha River,**	**86.66**	**19**		**P**	**22 05 05.0**	**0.0**
J25K	comp=Z,2.6nm,0.9s			IAmb	IAmb	22 05 27.9	
BELA	**Belgrano 2** comp=Z,3.7nm,1.4s	**87.23**	**176**	P	**P**	**22 05 07.5**	**-0.1**
BELA				IAmb	IAmb	22 05 08.1	
PFO	**Pinyon Flats O** comp=Z,45nm,18.1s,baz=316,slow=33	**87.29**	**54**	LR	LR	22 40 17.8	
NVAR	**Mina Array Bea** comp=Z,86nm,18.2s,baz=242,slow=32	**87.49**	**49**	LR	LR	22 38 59.8	
LPIG	**La Paz** comp=Z,33nm,18.7s,baz=23,slow=32	**89.63**	**65**	LR	LR	22 40 39.6	
ELK	**Elko** comp=Z,44nm,18.1s,baz=284,slow=32	**90.49**	**48**	LR	LR	22 40 22.5	
TROLL	**Troll, Antarti**	**93.26**	**185**	P	**P**	**22 05 40.8**	**+4.6**
VNA3	**Neumayer Olymp**	**94.66**	**181**	P	**P**	**22 05 46.2**	**+3.8**
VNA2	**Neumayer--Watz** baz=298,slow=10.0	**94.91**	**182**	P	**P**	**22 05 45.5**	**+2.0**
PDAR	**Pinedale Array** comp=Z,55nm,18.3s,baz=38,slow=33	**95.14**	**47**	LR	LR	22 44 10.3	
ANMO	**Albuquerque** comp=Z,42nm,18.9s,baz=330,slow=32	**95.61**	**56**	LR	LR	22 43 00.2	
MKAR	**Makanchi Array** comp=Z,0.4nm,0.7s,baz=96,slow=7.4,SNR=6.0	**96.40**	**317**	P	**P**	**22 05 49.6**	**-1.1**
MKAR	**Makanchi Array**	**96.40**	**317**	P	**P**	**22 05 49.8**	**-1.0**
ARCES	**ARCESS Array B** comp=Z,2.5nm,1.0s,baz=0.0,slow=0.5,SNR=4.0	**119.64**	**345**	PKP	**PKiKP**	**22 11 11.3**	**+0.3**
FINES	**FINESS Array B** comp=Z,2.0nm,1.1s,baz=100,slow=4.5,SNR=2.4	**125.05**	**338**	PKP	**PKiKP**	**22 11 22.3**	**+0.4**
NB2	**NORSAR Subarra** comp=Z,0.3nm,0.6s,baz=40,slow=2.7	**130.00**	**345**	PKP	**PKiKP**	**22 11 36.7**	**+4.8**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.8s,baz=33,slow=2.0,SNR=1.1	**130.00**	**345**	PKP	**PKPdf**	**22 11 30.5**	**-0.6**
GERES	**GERESS Array B** comp=Z,0.1nm,0.3s,baz=5.4,slow=2.1,SNR=1.4	**138.93**	**333**	PKP	**PKiKP**	**22 11 49.8**	**-0.6**
DAVOX	**Davos/Dischmat** comp=Z,1.2nm,0.7s,baz=350,slow=22,SNR=3.1	**142.17**	**334**	PKP	**PKPdf**	**22 11 55.1**	**+0.8**

*IDC **09** 21:55:42.5±0.8, 36°.92N×97°.67W, h0^{km}, mb4.0/3, mb1 4.0/12, mb1mx3.7/64, mbtmp3.8/12, ML3.2/7, Error ellipse: s-maj=11.5km s-min=10.3km az=158.0*

*ANF **09** 21:55:43.6±1.0, 36°.90N×97°.66W, h4^{km}±8^{km}, ML5.0/29, Error ellipse: s-maj=3.0km s-min=2.2km az=148.0*

*TUL **09** 21:55:44.1±0.8, 36°.90N±0°.02×97°.68W±0°.03, h5^{km}±6^{km}, ML4.1, mb4.2/8(NEIC), mb_Lg4.0/111(NEIC), Mwr3.4/26(NEIC), Error ellipse: s-maj=4.2km s-min=2.1km az=222.0*

*NEIC **09** 21:55:44.7±0.9, 36°.88N±0°.03×97°.67W±0°.03, h1^{km}±7^{km}, Error ellipse: s-maj=4.6km s-min=3.3km az=210.0*

*NEIC **09** 21:55:44.1, 36°.90N×97°.68W, h3^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.10; $M_{\theta\theta}$1.05; $M_{\phi\phi}$-1.14; $M_{r\theta}$0.53; $M_{\theta\phi}$1.02; $M_{\phi r}$-0.50; Fault plane solution: $M_0$1.66000×10^{14} NP1:ϕ_s293.26000°, δ85.93000°, λ-23.75000°. NP2:ϕ_s25.05000°, δ66.32000°, λ-175.55000°. Principal axes: T 1.5217, Plg14.0000°, Azm342.0000°; N 0.2538, Plg66.0000°, Azm104.0000°; P*

-1.7755, Plg20.0000°, Azm247.0000°;
ISC 09 21:55:43.2±0.5,**36°90N**±0'02×**97°70W**±0'02,**h10**km,**n232,**
σ1**51**/255,**mb4.1/3,Oklahoma**

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.95**	**88**		**Pn**	**21 56 01.8**	**-0.8**
T35B	**Sooner Cattle**	**0.95**	**88**	P	**Pn**	**21 56 01.7**	**-0.9**
	baz=269,SNR=799						
T35B				S	**Sb**	**21 56 13.9**	**-0.5**
	baz=269						
U32A	**Winter Ranch,**	**1.17**	**244**		**Pg**	**21 56 06.2**	**+0.6**
U32A	**Winter Ranch,**	**1.17**	**244**	P	**Pg**	**21 56 06.3**	**+0.6**
	baz=64						
U32A				S	**Sn**	**21 56 22.0**	**+0.3**
	baz=64						
OK005	**Luther M Schoo**	**1.30**	**162**		**Pg**	**21 56 08.5**	**+0.3**
OK009	**Oakdale Elemen**	**1.33**	**170**		**Pg**	**21 56 08.9**	**+0.2**
OK001	**Jones High Sch**	**1.37**	**166**		**Pg**	**21 56 09.5**	**0.0**
FNO	**Franklin**	**1.65**	**172**		**Pg**	**21 56 13.9**	**-1.0**
R32A	**Long Quarter,**	**1.72**	**332**	Pn	**Pg**	**21 56 15.8**	**-0.5**
R32A				lAmb_Lg		21 56 39.4	
	comp=Z,585nm,0.8s						
R32A	**Long Quarter,**	**1.72**	**332**	P	**Pg**	**21 56 16.0**	**-0.3**
	baz=151,SNR=358						
R32A				S	**Sg**	**21 56 38.6**	**0.0**
	baz=151						
TUL1	**Leonard**	**1.82**	**122**		**Pb**	**21 56 16.3**	**-0.3**
TUL1	**Leonard**	**1.82**	**122**	P	**Pb**	**21 56 16.3**	**-0.3**
	baz=304,SNR=553						
TUL1				S	**Sg**	**21 56 40.6**	**-1.2**
	baz=304						
TUL1	**Leonard**	**1.82**	**122**	P	**Pb**	**21 56 16.3**	**-0.3**
	baz=304						
TUL1				Sb	**Sg**	**21 56 40.9**	**-0.9**
	baz=304						
W35A	**Tecumseh**	**1.86**	**159**		**Pb**	**21 56 17.0**	**-0.3**
X34A	**Smith Ranch, M**	**2.29**	**183**	Pn	**Pb**	**21 56 23.2**	**-1.4**
WMOK	**Wichita Mounta**	**2.33**	**203**		**Pb**	**21 56 23.5**	**-1.7**
WMOK	**Wichita Mounta**	**2.33**	**203**	P	**Pb**	**21 56 23.6**	**-1.7**
	baz=22,SNR=137						
WMOK				S	**Sb**	**21 56 52.9**	**-1.2**
	baz=22						
WMOK	**Wichita Mounta**	**2.33**	**203**	P	**Pb**	**21 56 23.5**	**-1.7**
	baz=22						
WMOK				Sn	**Sb**	**21 56 53.3**	**-0.7**
	baz=22						
WMOK				Sb	**Sg**	**21 56 55.9**	**-2.0**
	baz=22						
KSU1	**Kansas State U**	**2.36**	**21**		**Pb**	**21 56 24.1**	**-1.7**
KSU1	**Kansas State U**	**2.36**	**21**	P	**Pb**	**21 56 24.1**	**-1.7**
	baz=201,SNR=46						
KSU1				S	**Sb**	**21 56 54.1**	**-1.0**
	baz=201						
KSU1	**Kansas State U**	**2.36**	**21**	P	**Pb**	**21 56 24.1**	**-1.7**
	baz=201,SNR=47						
KSU1				Sb	**Sg**	**21 56 57.5**	**-1.6**
	baz=201						
CBKS	**Cedar Bluff**	**2.51**	**320**	Pn	**Pb**	**21 56 26.6**	**-1.7**
CBKS	**Cedar Bluff**	**2.51**	**320**	P	**Pb**	**21 56 26.8**	**-1.6**
	baz=139,SNR=71						
CBKS				S	**Sb**	**21 56 58.5**	**-0.7**
	baz=139						
CBKS	**Cedar Bluff**	**2.51**	**320**	Pn	**Pb**	**21 56 26.8**	**-1.6**
	baz=139,SNR=40						
CBKS				Pb	**Pg**	**21 56 29.4**	**-1.8**
	baz=139						
CBKS				Sb	**Sg**	**21 57 02.3**	**-1.4**
	baz=139						
X37A	**Clayton**	**2.98**	**140**	Pn	**Pn**	**21 56 32.2**	**+1.7**
X37A	**Clayton**	**2.98**	**140**	P	**Pn**	**21 56 32.4**	**+2.0**
	baz=322,SNR=43						
HHAR	**Hobbs**	**3.08**	**100**	Pn	**Pn**	**21 56 33.9**	**+1.9**
Z35A	**Perchaven, San**	**3.58**	**174**		**Pn**	**21 56 40.4**	**+1.7**
Z35A	**Perchaven, San**	**3.58**	**174**	P	**Pn**	**21 56 40.7**	**+2.0**
	baz=355,SNR=20						
Z35A				S	**Sn**	**21 57 23.4**	**+2.4**
	baz=355						
S39A	**Bolivar**	**3.58**	**76**		**Pn**	**21 56 39.9**	**+1.2**
S39A				lAmb_Lg		21 57 44.6	
	comp=Z,293nm,0.8s						
S39A	**Bolivar**	**3.58**	**76**	P	**Pn**	**21 56 39.9**	**+1.2**
	baz=258,SNR=79						
S39A				S	**Sn**	**21 57 22.8**	**+1.7**
	baz=258						
W39A	**Magazine**	**3.59**	**117**		**Pn**	**21 56 40.1**	**+1.2**
W39A				lAmb_Lg		21 57 43.9	
	comp=Z,548nm,0.9s						
W39A	**Magazine**	**3.59**	**117**	P	**Pn**	**21 56 40.3**	**+1.3**
	baz=300,SNR=59						
W39A				S	**Sn**	**21 57 22.4**	**+1.0**
	baz=300						
W39A	**Magazine**	**3.59**	**117**	Pn	**Pn**	**21 56 40.2**	**+1.2**
	baz=300						
W39A				Pb	**Pb**	**21 56 48.6**	**+1.8**
	baz=300						
W39A				Sb	**Sg**	**21 57 34.4**	**-4.3**
	baz=300						
N33B	**J Bar K, Exete**	**3.84**	**3**	P	**Pn**	**21 56 44.1**	**+1.7**
	baz=183						
N33A	**J Bar K, Exete**	**3.84**	**3**		**Pn**	**21 56 43.8**	**+1.4**
U40A	**Yellville**	**3.93**	**96**		**Pn**	**21 56 45.2**	**+1.6**
U40A				lAmb_Lg		21 57 52.5	
	comp=Z,436nm,0.7s						
U40A	**Yellville**	**3.93**	**96**	P	**Pn**	**21 56 45.0**	**+1.4**
	baz=279,SNR=122						
U40A				P	**Pn**	**21 56 45.0**	**+1.4**
	baz=279,SNR=122						
U40A				S	**Sn**	**21 57 31.1**	**+1.3**
	baz=279						
U40A				S	**Sn**	**21 57 31.1**	**+1.3**
	baz=279						
U40A	**Yellville**	**3.93**	**96**	P	**Pn**	**21 56 45.1**	**+1.4**
	baz=279,SNR=58						
U40A				S	**Sn**	**21 57 31.2**	**+1.3**
	baz=279						
MIAR	**Mount Ida**	**4.09**	**124**	Pn	**Pn**	**21 56 46.6**	**+0.8**
MIAR				lAmb_Lg		21 57 54.0	
	comp=Z,501nm,0.9s						
Z38A	**Mt. Pleasant**	**4.25**	**148**	Pn	**Pn**	**21 56 49.4**	**+1.4**
Z38A	**Mt. Pleasant**	**4.25**	**148**	P	**Pn**	**21 56 49.1**	**+1.1**
	baz=330						
P38A	**Dawn**	**4.26**	**49**	Pn	**Pn**	**21 56 49.5**	**+1.4**
P38A				lAmb_Lg		21 58 09.7	
	comp=Z,184nm,0.7s						
P38A	**Dawn**	**4.26**	**49**	P	**Pn**	**21 56 49.9**	**+1.8**
	baz=231						
N35A	**Tabor**	**4.27**	**21**		**Pn**	**21 56 49.7**	**+1.5**
N35A	**Tabor**	**4.27**	**21**	P	**Pn**	**21 56 50.3**	**+2.0**
	baz=202						
MGMO	**Mountain Grove**	**4.35**	**85**		**Pn**	**21 56 51.2**	**+1.8**
KSCO	**Kaye Shedlock'**	**4.43**	**300**	Pn	**Pn**	**21 56 52.7**	**+2.1**
KSCO				lAmb_Lg		21 58 13.3	
	comp=Z,392nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.43**	**300**	P	**Pn**	**21 56 52.7**	**+2.1**
	baz=117						
KSCO	**Kaye Shedlock'**	**4.43**	**300**	P	**Pn**	**21 56 52.9**	**+2.3**
	baz=117,SNR=20						
KSCO				Sb	**Sg**	**21 58 03.7**	**-1.8**
	baz=117						
BGNE	**Belgrade**	**4.52**	**356**	Pn	**Pn**	**21 56 53.4**	**+1.7**
BGNE				lAmb_Lg		21 58 18.8	
	comp=Z,388nm,0.7s						
BGNE	**Belgrade**	**4.52**	**356**	P	**Pn**	**21 56 53.7**	**+2.0**
	baz=175						
BGNE	**Belgrade**	**4.52**	**356**	P	**Pn**	**21 56 54.4**	**+2.7**
	baz=175,SNR=7.3						
R40A	**Maddies Statio**	**4.53**	**70**		**Pn**	**21 56 53.1**	**+1.3**
R40A				lAmb_Lg		21 58 09.7	
	comp=Z,254nm,0.7s						
R40A	**Maddies Statio**	**4.53**	**70**	P	**Pn**	**21 56 53.2**	**+1.3**
	baz=254,SNR=77						
ABTX	**Abilene, Hawle**	**4.55**	**201**		**Pn**	**21 56 53.7**	**+1.5**
ABTX	**Abilene, Hawle**	**4.55**	**201**	P	**Pn**	**21 56 53.3**	**+1.1**
	baz=20						
ABTX	**Abilene, Hawle**	**4.55**	**201**	P	**Pn**	**21 56 54.0**	**+1.9**
	baz=20						
FCAR	**Ozark Folk Cen**	**4.61**	**101**		**Pn**	**21 56 53.6**	**+0.7**
FCAR				lAmb_Lg		21 58 13.2	
	comp=Z,304nm,0.7s						
X40A	**Basin Creek Fa**	**4.63**	**120**		**Pn**	**21 56 54.5**	**+1.4**
X40A				lAmb_Lg		21 58 09.5	
	comp=Z,331nm,0.8s						
X40A	**Basin Creek Fa**	**4.63**	**120**	P	**Pn**	**21 56 54.5**	**+1.4**
	baz=303,SNR=114						
X40A				P	**Pn**	**21 56 54.5**	**+1.4**
	baz=303,SNR=114						
X40A	**Basin Creek Fa**	**4.63**	**120**	P	**Pn**	**21 56 54.7**	**+1.5**
	baz=303						
WHAR	**Wooly Hollow**	**4.66**	**108**	Pn	**Pn**	**21 56 54.2**	**+0.6**
W41B	**Gary Mavity, V**	**4.74**	**110**		**Pn**	**21 56 55.2**	**+0.6**
W41B				lAmb_Lg		21 58 18.4	
	comp=Z,348nm,0.7s						
W41B	**Gary Mavity, V**	**4.74**	**110**	P	**Pn**	**21 56 55.3**	**+0.6**
	baz=293,SNR=29						
W41B	**Gary Mavity, V**	**4.74**	**110**	P	**Pn**	**21 56 55.5**	**+0.8**
	baz=293,SNR=12						
W41B				Sb	**Sg**	**21 58 10.2**	**-5.1**
	baz=293						
UALR	**University of**	**4.84**	**114**	Pn	**Pn**	**21 56 56.9**	**+0.8**
UALR				lAmb_Lg		21 58 24.9	
	comp=Z,331nm,0.9s						
WHTX	**Lake Whitney,**	**4.90**	**178**		**Pn**	**21 56 58.3**	**+1.5**
WHTX	**Lake Whitney,**	**4.90**	**178**	P	**Pn**	**21 56 58.1**	**+1.2**
	baz=358,SNR=32						
WHTX	**Lake Whitney,**	**4.90**	**178**	P	**Pn**	**21 56 58.4**	**+1.5**
	baz=358						
WHTX				Sb	**Sn**	**21 57 54.1**	**+0.5**
	baz=358						
WLAR	**White Oak Lake**	**4.93**	**129**	Pn	**Pn**	**21 56 58.9**	**+1.6**
WLAR				lAmb_Lg		21 58 22.0	
	comp=Z,167nm,0.8s						
MSTX	**Muleshoe**	**5.07**	**236**	Pn	**Pn**	**21 57 00.4**	**+1.0**
MSTX	**Muleshoe**	**5.07**	**236**	P	**Pn**	**21 57 00.7**	**+1.4**
	baz=53,SNR=7.8						
MSTX	**Muleshoe**	**5.07**	**236**	P	**Pn**	**21 57 01.1**	**+1.7**
	baz=53,SNR=6.5						
MSTX				Sb	**Sg**	**21 58 21.5**	**-4.5**
	baz=53						
237A	**Washetta, Mont**	**5.12**	**162**		**Pn**	**21 57 00.6**	**+0.6**
237A	**Washetta, Mont**	**5.12**	**162**	P	**Pn**	**21 57 00.6**	**+0.6**
	baz=343,SNR=14						
L34A	**Svendsen Farm,**	**5.17**	**11**		**Pn**	**21 57 02.6**	**+2.1**
P40A	**Paris**	**5.17**	**58**		**Pn**	**21 57 01.6**	**+1.0**
P40A	**Paris**	**5.17**	**58**	P	**Pn**	**21 57 01.5**	**+0.9**
	baz=241,SNR=7.8						
N38A	**Joes South For**	**5.22**	**40**	Pn	**Pn**	**21 57 01.7**	**+0.4**
N38A				lAmb_Lg		21 58 42.5	
	comp=Z,274nm,0.8s						
N38A	**Joes South For**	**5.22**	**40**	P	**Pn**	**21 57 02.5**	**+1.2**
	baz=223						
CCM	**Cathedral Cave**	**5.26**	**75**	Pn	**Pn**	**21 57 02.7**	**+0.9**
CCM				lAmb_Lg		21 58 37.5	
	comp=Z,182nm,0.7s						
CCM	**Cathedral Cave**	**5.26**	**75**	P	**Pn**	**21 57 02.8**	**+1.0**
	baz=259,SNR=56						
CCM	**Cathedral Cave**	**5.26**	**75**	P	**Pn**	**21 57 02.8**	**+1.0**
	baz=259						
OGNE	**Ogallala**	**5.27**	**321**	Pn	**Pn**	**21 57 05.1**	**+3.0**
OGNE				lAmb_Lg		21 58 29.8	
	comp=Z,227nm,0.7s						
OGNE	**Ogallala**	**5.27**	**321**	P	Pn	21 57 06.1	+4.0
	baz=139,SNR=7.0						
OGNE				Sb	**Sg**	**21 58 28.2**	**-4.2**
	baz=139						
LCAR	**Lake Charles**	**5.33**	**97**	Pn	**Pn**	**21 57 04.0**	**+1.2**
LCAR				lAmb_Lg		21 58 37.9	
	comp=Z,138nm,0.7s						
LCAR	**Lake Charles**	**5.33**	**97**	P	**Pn**	**21 57 03.8**	**+1.0**
	baz=281,SNR=13						
T25A	**Trinidad**	**5.38**	**275**	Pn	**Pn**	**21 57 05.1**	**+1.4**
T25A				lAmb_Lg		21 58 43.7	
	comp=Z,183nm,0.8s						
T25A	**Trinidad**	**5.38**	**275**	P	**Pn**	**21 57 05.5**	**+1.8**
	baz=90,SNR=21						
T25A				Sb	**Sg**	**21 58 31.4**	**-4.5**
	baz=90						
Z41A	**Richland Creek**	**5.41**	**131**		**Pn**	**21 57 04.7**	**+0.9**
Z41A				lAmb_Lg		21 58 47.4	
	comp=Z,222nm,0.7s						
Z41A	**Richland Creek**	**5.41**	**131**	P	**Pn**	**21 57 04.8**	**+0.9**
	baz=314,SNR=14						
Z41A				P	**Pn**	**21 57 04.8**	**+0.9**
	baz=314,SNR=14						
Z41A	**Richland Creek**	**5.41**	**131**	P	**Pn**	**21 57 06.2**	**+2.3**
	baz=314						
Z41A				S	**Sn**	**21 58 06.7**	**+0.5**
	baz=314						
CCAR	**Cane Creek**	**5.68**	**120**	lAmb_Lg		21 58 57.0	
	comp=Z,227nm,0.8s						
NATX	**Nacogdoches**	**5.71**	**153**		**Pn**	**21 57 08.7**	**+0.8**
K31A	**O'Neill**	**5.78**	**352**	lAmb_Lg		21 58 51.4	
	comp=Z,321nm,0.7s						
PBMO	**Poplar Bluff**	**5.83**	**89**		**Pn**	**21 57 10.6**	**+0.9**
PBMO				lAmb_Lg		21 58 52.7	
	comp=Z,317nm,0.9s						
PBMO	**Poplar Bluff**	**5.83**	**89**	P	**Pn**	**21 57 10.3**	**+0.7**
	baz=273,SNR=6.0						
FVM	**French Village**	**5.89**	**77**		**Pn**	**21 57 11.3**	**+0.9**
FVM				lAmb_Lg		21 58 53.8	
	comp=Z,261nm,0.8s						
FVM	**French Village**	**5.89**	**77**	P	**Pn**	**21 57 11.2**	**+0.7**
	baz=262,SNR=11						
SCIA	**State Center**	**6.09**	**33**	lAmb_Lg		21 59 04.7	
	comp=Z,203nm,0.8s						
SCIA	**State Center**	**6.09**	**33**	S	**Sn**	**21 58 23.9**	**+0.9**
	baz=216						
435B	**Jarrell**	**6.10**	**179**		**Pn**	**21 57 14.1**	**+0.7**
435B				lAmb_Lg		21 59 01.2	
	comp=Z,226nm,0.9s						
435B	**Jarrell**	**6.10**	**179**	P	**Pn**	**21 57 14.3**	**+1.0**
	baz=359,SNR=8.2						
435B	**Jarrell**	**6.10**	**179**	P	**Pn**	**21 57 14.4**	**+1.0**
	baz=359						
435B				S	**Sn**	**21 58 22.5**	**-0.7**
	baz=359						
SLM	**Saint Louis**	**6.16**	**71**		**Pn**	**21 57 14.7**	**+0.5**
SLM				lAmb_Lg		21 58 56.0	
	comp=Z,284nm,0.9s						
Q24A	**Divide**	**6.24**	**292**		**Pn**	**21 57 17.3**	**+1.7**
Q24A				lAmb_Lg		21 59 06.8	
	comp=Z,134nm,0.8s						
Q24A	**Divide**	**6.24**	**292**	P	**Pn**	**21 57 17.5**	**+1.9**
	baz=107,SNR=7.8						
Q24A				S	**Sn**	**21 58 28.7**	**+1.5**
	baz=107						
GNAR	**Gosnell**	**6.26**	**96**	Pn	**Pn**	**21 57 15.7**	**+0.1**
SDCO	**Great Sand Dun**	**6.28**	**280**		**Pn**	**21 57 18.6**	**+2.4**
SDCO	**Great Sand Dun**	**6.28**	**280**	P	**Pn**	**21 57 18.5**	**+2.4**
	baz=95,SNR=9.8						
SDCO	**Great Sand Dun**	**6.28**	**280**	P	**Pn**	**21 57 18.9**	**+2.8**
	baz=95,SNR=28						
N41A	**Harden Midland**	**6.56**	**52**		**Pn**	**21 57 21.1**	**+1.5**
N41A				lAmb_Lg		21 59 13.6	
	comp=Z,173nm,0.7s						
JCT	**Junction City**	**6.63**	**196**	Pn	**Pn**	**21 57 21.5**	**+0.7**
JCT				lAmb_Lg		21 59 22.7	
	comp=Z,132nm,0.9s						
JCT	**Junction City**	**6.63**	**196**	P	**Pn**	**21 57 21.6**	**+0.8**
	baz=15						
143A	**Socs Landing,**	**6.65**	**127**	Pn	**Pn**	**21 57 22.3**	**+1.3**
143A				lAmb_Lg		21 59 31.3	
	comp=Z,178nm,0.8s						
S44A	**Carbondale**	**6.78**	**81**		**Pn**	**21 57 22.8**	**+0.2**
S44A	**Carbondale**	**6.78**	**81**	P	**Pn**	**21 57 22.9**	**+0.2**
	baz=266,SNR=22						
SIUC	**Southern Illin**	**6.81**	**81**		**Pn**	**21 57 23.7**	**+0.6**
ISCO	**Idaho Springs**	**6.86**	**297**	Pn	**Pn**	**21 57 26.2**	**+2.1**
ISCO				lAmb_Lg		21 59 28.3	
	comp=Z,113nm,0.7s						
ISCO	**Idaho Springs**	**6.86**	**297**	P	**Pn**	**21 57 26.0**	**+1.9**
	baz=112,SNR=15						
ISCO	**Idaho Springs**	**6.86**	**297**	P	**Pn**	**21 57 26.2**	**+2.1**
	baz=112,SNR=16						
ECSD	**EROS Data Cent**	**6.88**	**7**	Pn	**Pn**	**21 57 24.7**	**+0.7**
ECSD	**EROS Data Cent**	**6.88**	**7**	P	**Pn**	**21 57 24.8**	**+0.7**
	baz=187,SNR=28						
ECSD	**EROS Data Cent**	**6.88**	**7**	P	**Pn**	**21 57 24.9**	**+0.8**
	baz=187,SNR=12						
ECSD				S	**Sn**	**21 58 43.7**	**+1.3**
	baz=187						
K38A	**Parkersburg**	**6.88**	**32**	lAmb_Lg		21 59 32.7	
	comp=Z,273nm,0.9s						
P43A	**Skaggs, Pawnee**	**6.99**	**64**		**Pn**	**21 57 26.2**	**+0.6**
P43A	**Skaggs, Pawnee**	**6.99**	**64**	P	**Pn**	**21 57 26.2**	**+0.6**
	baz=249,SNR=14						
OXF	**Oxford**	**7.15**	**107**	Pn	**Pn**	**21 57 27.4**	**-0.4**
OXF	**Oxford**	**7.15**	**107**	P	**Pn**	**21 57 27.5**	**-0.3**
	baz=292,SNR=20						
OXF	**Oxford**	**7.15**	**107**	P	**Pn**	**21 57 28.2**	**+0.5**
	baz=292,SNR=24						
Q44A	**Meyer Farm, Va**	**7.15**	**71**	Pn	**Pn**	**21 57 28.6**	**+0.8**
Q44A				lAmb_Lg		21 59 40.0	
	comp=Z,258nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.15**	**71**	P	**Pn**	**21 57 28.6**	**+0.8**
	baz=256,SNR=26						
L40A	**Anamosa**	**7.19**	**42**		**Pn**	**21 57 28.6**	**+0.2**
L40A				lAmb_Lg		21 59 29.7	
	comp=Z,139nm,0.8s						
Y45A	**Yeager Farm, C**	**7.31**	**112**	lAmb_Lg		21 59 45.3	
	comp=Z,228nm,0.8s						
S22A	**4UR Ranch, Cre**	**7.33**	**279**	Pn	**Pn**	**21 57 32.6**	**+2.1**
ANMO	**Albuquerque**	**7.37**	**257**	Pn	**Pn**	**21 57 32.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=74,slow=13,SNR=2.4						
ANMO				Pg	**Pb**	**21 57 54.5**	**+3.3**
	comp=Z,1.4nm,0.3s,baz=74,slow=15,SNR=11						
ANMO				Lg	Lg	21 59 34.9	
	comp=Z,8.6nm,0.3s,baz=159,slow=21,SNR=7.9						
ANMO	**Albuquerque**	**7.37**	**257**		**Pn**	**21 57 33.8**	**+2.7**
PHWY	**Pilot Hill**	**7.47**	**308**		**Pn**	**21 57 34.0**	**+1.6**
PHWY				lAmb_Lg		21 59 42.1	
	comp=Z,109nm,0.9s						
HDIL	**Hopedale**	**7.51**	**58**		**Pn**	**21 57 32.9**	**+0.1**
HDIL				lAmb_Lg		21 59 53.2	
	comp=Z,215nm,0.8s						
HDIL	**Hopedale**	**7.51**	**58**	P	**Pn**	**21 57 33.4**	**+0.6**
	baz=244,SNR=13						
HDIL	**Hopedale**	**7.51**	**58**	P	**Pn**	**21 57 33.8**	**+1.0**
	baz=244,SNR=6.8						
VBMS	**Vicksburg**	**7.54**	**126**	lAmb_Lg		22 00 00.8	
	comp=Z,96nm,1.2s						
N23A	**Red Feather La**	**7.57**	**304**	Pn	**Pn**	**21 57 36.1**	**+2.3**
N23A				lAmb_Lg		21 59 59.1	
	comp=Z,141nm,0.7s						
N23A	**Red Feather La**	**7.57**	**304**	P	**Pn**	**21 57 37.2**	**+3.4**
	baz=119,SNR=13						
SUSD	**Miller**	**7.60**	**353**	lAmb_Lg		21 59 58.0	
	comp=Z,114nm,0.8s						
SMCO	**Snowmass**	**7.67**	**290**	Pn	**Pn**	**21 57 37.2**	**+1.9**
BNM	**Barren Site**	**7.78**	**252**	Pn	**Pn**	**21 57 39.4**	**+2.7**
I37A	**Lemond, Waseca**	**7.83**	**23**	lAmb_Lg		22 00 07.2	
	comp=Z,110nm,0.8s						
O44A	**Mansfield**	**7.93**	**63**		**Pn**	**21 57 38.9**	**+0.4**
WVT	**Waverly**	**7.98**	**93**	Pn	**Pn**	**21 57 39.4**	**+0.2**
WVT				lAmb_Lg		22 00 06.6	
	comp=Z,79nm,0.7s						
WVT	**Waverly**	**7.98**	**93**	P	**Pn**	**21 57 39.3**	**+0.2**
	baz=278						
735A	**Kenedy**	**8.02**	**181**	lAmb_Lg		22 00 19.9	
	comp=Z,86nm,1.0s						
PLAL	**Pickwick Lake**	**8.03**	**101**		**Pn**	**21 57 40.0**	**+0.1**
PLAL				lAmb_Lg		22 00 03.5	
	comp=Z,152nm,0.9s						
Y22D	**IRIS PASSCAL I**	**8.03**	**252**	lAmb_Lg		22 00 14.8	
	comp=Z,193nm,1.0s						
L42A	**Oliver, Polo**	**8.04**	**48**		**Pn**	**21 57 40.8**	**+0.9**
L42A				lAmb_Lg		22 00 05.3	
	comp=Z,214nm,1.1s						
L42A	**Oliver, Polo**	**8.04**	**48**	P	**Pn**	**21 57 40.8**	**+0.9**
	baz=233,SNR=12						
USIN	**University of**	**8.05**	**79**		**Pn**	**21 57 42.0**	**+1.8**
MNTX	**Cornudas Mount**	**8.20**	**233**	Pn	**Pn**	**21 57 43.4**	**+1.2**
MNTX	**Cornudas Mount**	**8.20**	**233**	P	**Pn**	**21 57 43.3**	**+1.0**
	baz=49,SNR=27						
MNTX	**Cornudas Mount**	**8.20**	**233**	P	**Pn**	**21 57 43.8**	**+1.5**
	baz=49,SNR=24						
146A	**Union**	**8.28**	**118**	lAmb_Lg		22 00 23.8	
	comp=Z,97nm,0.9s						
JFWS	**Jewell Farm**	**8.30**	**41**	Pn	**Pn**	**21 57 44.1**	**+0.6**
JFWS				lAmb_Lg		22 00 30.7	
	comp=Z,98nm,0.7s						
JFWS	**Jewell Farm**	**8.30**	**41**	P	**Pn**	**21 57 43.8**	**+0.2**
	baz=226,SNR=33						
JFWS	**Jewell Farm**	**8.30**	**41**	P	**Pn**	**21 57 44.2**	**+0.7**
	baz=226,SNR=8.9						
T47A	**Sharon Grove**	**8.48**	**86**		**Pn**	**21 57 47.1**	**+1.1**
RSSD	**Black Hills**	**8.68**	**328**	Pn	**Pn**	**21 57 51.3**	**+2.3**
RSSD	**Black Hills**	**8.68**	**328**	P	Pn	21 57 52.9	+3.9
	baz=144						
Z47A	**Carrollton**	**8.71**	**112**		**Pn**	**21 57 50.8**	**+1.6**
Z47A				lAmb_Lg		22 00 29.3	
	comp=Z,104nm,1.1s						
I40A	**Norwalk**	**8.83**	**35**	lAmb_Lg		22 00 36.8	
	comp=Z,72nm,0.8s						
K22A	**Casper**	**8.90**	**313**		**Pn**	**21 57 53.4**	**+1.5**
K22A				lAmb_Lg		22 00 36.4	
	comp=Z,98nm,0.8s						
K22A	**Casper**	**8.90**	**313**	P	**Pn**	**21 57 55.0**	**+3.1**
	baz=127,SNR=8.1						
SFIN	**Lafayette**	**8.99**	**64**	Pn	**Pn**	**21 57 53.8**	**+0.7**
SFIN	**Lafayette**	**8.99**	**64**	P	**Pn**	**21 57 54.6**	**+1.5**
	baz=250						
TX31	**Lajitas Ar. Si**	**9.05**	**215**	P	**Pn**	**21 57 55.0**	**+1.0**
	baz=32,SNR=5.5						
TXAR	**Lajitas Array**	**9.05**	**215**	Pn	**Pn**	**21 57 53.6**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=43,slow=12,SNR=23						
TXAR				Lg	Lg	22 00 22.5	
	comp=Z,1.2nm,0.3s,baz=326,slow=40,SNR=3.3						
TXAR	**Lajitas Array**	**9.05**	**215**		**Pn**	**21 57 54.1**	**+0.2**
TX32	**Lajitas Array**	**9.05**	**215**	Pn	**Pn**	**21 57 55.1**	**+1.1**
SPMN	**Marine on St.**	**9.10**	**22**	Pn	**Pn**	**21 57 55.5**	**+0.9**
BLO	**Bloomington**	**9.11**	**72**	Pn	**Pn**	**21 57 54.4**	**-0.2**
L44A	**Lake County Fo**	**9.21**	**52**	lAmb_Lg		22 00 37.9	
	comp=Z,167nm,1.0s						
K43A	**Burlington**	**9.25**	**48**	Pn	**Pn**	**21 57 57.1**	**+0.5**
K43A				lAmb_Lg		22 00 38.3	
	comp=Z,94nm,0.7s						
121A	**Cookes Peak, D**	**9.38**	**245**	Pn	**Pn**	**21 58 00.3**	**+1.8**
LRAL	**Lakeview

ELK	**Elko**	**14.21**	**291**	Pn		**Pn**	**21 59 05.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=31,slow=23,SNR=1.5							
N54A	**Moraine State**	**14.37**	**68**	P		**Pn**	**21 59 03.9**	**-2.7**
	baz=259							
ALLY	**Alegheny Colle**	**14.40**	**65**	Pn		**Pn**	**21 59 05.4**	**-1.6**
PLID	**Pearl Lake**	**16.04**	**306**	P		**P**	**21 59 33.0**	**+0.5**
MMNY	**Mt. Morris Dam**	**16.27**	**63**			**P**	**21 59 33.7**	**-1.1**
L56A	**Greenwood**	**16.39**	**65**			**P**	**21 59 36.6**	**+0.5**
L56A				IAmb		IAmb	21 59 55.2	
	comp=Z,23nm,1.4s							
NVAR	**Mina Array Bea**	**16.39**	**282**	Pn		**P**	**21 59 35.7**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=264,slow=32,SNR=2.6							
M57A	**Sunshine Farm,**	**16.56**	**68**	Pn		**Pn**	**21 59 35.3**	**-0.1**
M57A				IAmb		IAmb	21 59 53.2	
	comp=Z,10.0nm,0.6s							
N58A	**Sunbury**	**16.80**	**70**	Pn		**Pn**	**21 59 36.7**	**-1.8**
N58A				IAmb		IAmb	21 59 48.8	
	comp=Z,32nm,1.4s							
F10A	**Beach Ranch, E**	**17.19**	**308**	P		**P**	**21 59 46.9**	**+1.8**
F10A				IAmb		IAmb	21 59 51.2	
	comp=Z,12nm,0.7s							
BINY	**Binghamton**	**17.55**	**66**			**P**	**21 59 48.5**	**-0.4**
KSPA	**Keystone Colle**	**17.60**	**68**	Pn		**Pn**	**21 59 46.7**	**-1.8**
NEW	**Newport**	**18.21**	**315**	P		**P**	**21 59 58.2**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=115,slow=10,SNR=3.5							
YBH	**Yreka Blue Hor**	**19.92**	**292**	P		**Pn**	**22 00 17.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=99,slow=19,SNR=2.0							
YKA	**Yellowknife Ar**	**27.68**	**343**	P		**P**	**22 01 31.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=146,slow=9.0,SNR=1.4							
ILAR	**Eielson Array**	**40.13**	**330**	P		**P**	**22 03 20.2**	**+1.4**
	comp=Z,3.3nm,0.7s,baz=109,slow=6.3,SNR=31							
ARCES	**ARCESS Array B**	**66.10**	**19**	P		**P**	**22 06 29.4**	**-0.5**
	comp=Z,2.4nm,1.0s,baz=337,slow=5.9,SNR=1.3							

*IDC **09** 22:28:01.8±1.1, 11°.30N×140°.89E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/40, mbtmp3.6/7, MS3.6/1, Ms1 3.6/1, ms1mx2.4/56, Error ellipse: s-maj=53.1km s-min=24.1km az=93.0*

ISC 09 22:28:08.1±1.0, 11°.3N±0°.2×140°.9E±0°.4, h45km, n9, σ0s.83/8, mb3.7/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**15.80**	**4**	LR	LR	22 37 12.2	
	comp=Z,195nm,18.2s,baz=122,slow=35						
WRA	**Warramunga Arr**	**31.66**	**192**	P	**P**	**22 34 27.1**	**-0.2**
	0.4nm,0.6s,baz=10,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**35.37**	**191**	P	**P**	**22 34 59.6**	**0.0**
	0.1nm,0.4s,baz=19,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**60.49**	**318**	P	**P**	**22 38 14.0**	**+0.4**
	0.3nm,0.7s,baz=94,slow=8.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**61.28**	**326**	P	**P**	**22 38 18.9**	**+0.1**
	0.3nm,0.3s,baz=118,slow=5.4,SNR=2.0						
ILAR	**Eielson Array**	**72.34**	**25**	P	**P**	**22 39 28.3**	**-0.6**
	1.1nm,1.1s,baz=246,slow=6.2,SNR=2.9						
YKA	**Yellowknife Ar**	**86.70**	**27**	P	**P**	**22 40 47.8**	**+0.9**
	0.5nm,0.7s,baz=286,slow=5.0,SNR=7.3						
FINES	**FINESS Array B**	**91.57**	**334**	P	**P**	**22 41 08.8**	**-1.1**
	0.7nm,0.8s,baz=90,slow=5.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**132.77**	**300**	PKP	**PKiKP**	**22 47 21.3**	**+1.0**
	0.2nm,0.8s,baz=140,slow=3.8,SNR=1.7						

*IDC **09** 22:28:55.9±3.7, 5°.40S×80°.03W, h72km±36km, mb3.2/8, mb1 3.6/11, mb1mx3.5/27, mbtmp3.6/11, ML3.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/23, Error ellipse: s-maj=42.3km s-min=21.1km az=46.0*

*ARE **09** 22:28:55±2.8, 5°.23S±0°.06×80°.1W±0°.1, h57km±5km, Error ellipse: s-maj=14.4km s-min=7.9km az=81.0*

*NEIC **09** 22:28:56.9±2.5, 5°.29S±0°.02×80°.1W±0°.1, h74km±6km, mb4.3/27, ML4.3(ARE), Error ellipse: s-maj=17.3km s-min=2.6km az=81.0*

ISC 09 22:28:57.3±0.5, 5°.29S±0°.05×79°.9W±0°.1, h82km, n49, σ1s.70/51, mb4.1/17, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCRA	**Macar, Loja**	**0.92**	**355**	Pn	**Pn**	**22 29 14.2**	**-1.4**
MCRA				Sn	**Sn**	**22 29 27.2**	**-2.0**
ARNL	**Arenillas**	**1.74**	**354**	Pn	**Pn**	**22 29 24.1**	**-1.8**
ARNL				Sn	**Sn**	**22 29 42.4**	**-5.1**
BOSC	**San Juan Bosco**	**2.53**	**33**	Pn	**Pn**	**22 29 38.5**	**+2.0**
NNA	**Nana**	**7.30**	**156**	P	**Pn**	**22 30 40.6**	**-0.7**
	2.6nm,0.3s,baz=295,slow=19,SNR=2.3						
NNA				S	**Sn**	**22 31 55.8**	**-6.9**
	1.9nm,0.3s,baz=268,slow=22,SNR=1.5						
NNA	**Nana**	**7.30**	**156**	Pn	**Pn**	**22 30 41.4**	**+0.1**
ROSC	**El Rosal**	**11.49**	**29**	Pn	**Pn**	**22 31 35.3**	**-3.5**
SJCC	**San Jacinto, C**	**15.79**	**17**	Pn	**Pn**	**22 32 34.9**	**-0.2**
SJCC				IAmb	IAmb	22 32 43.0	
	comp=Z,12nm,0.9s						
LPAZ	**La Paz**	**15.88**	**134**	P	**Pn**	**22 32 36.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=354,slow=10,SNR=1.6						
LPAZ	**La Paz**	**15.88**	**134**	Pn	**Pn**	**22 32 37.9**	**+1.2**
PB16	**IPOC Station P**	**16.45**	**143**	Pn	**Pn**	**22 32 44.2**	**+0.5**
SDV	**Santo Domingo**	**16.83**	**33**	P	**Pn**	**22 32 48.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=259,slow=5.2,SNR=3.5						
SDV				LR	LR	22 40 14.6	
	comp=Z,60nm,20.9s,baz=90,slow=40						
SDV	**Santo Domingo**	**16.83**	**33**	Pn	**Pn**	**22 32 48.0**	**0.0**
BAUV	**El Baul**	**18.41**	**40**	P	**P**	**22 33 06.3**	**+0.1**
BAUV					IAmb	22 33 09.7	
	comp=Z,20nm,0.9s						
BIRV	**Birongo**	**20.71**	**41**	P	**P**	**22 33 31.9**	**+0.8**
BIRV					IAmb	IAmb	22 33 41.1
	comp=Z,25nm,1.2s						
SIV	**San Ignacio**	**21.30**	**121**	P	**P**	**22 33 35.9**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=313,slow=19,SNR=1.4						
AC02	**Maricunga**	**23.75**	**156**	P	**P**	**22 34 04.3**	**+1.4**
CBYP	**Canovanas**	**27.19**	**30**	P	**P**	**22 34 34.6**	**+1.2**
BBGH	**Gun Hill**	**27.25**	**48**	P	**P**	**22 34 36.2**	**+2.2**
MDP	**Montagnes des**	**29.09**	**70**	LR	LR	22 47 46.3	
	comp=Z,50nm,18.7s,baz=93,slow=39						
TXAR	**Lajitas Array**	**41.33**	**328**	P	**P**	**22 36 35.4**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=146,slow=12,SNR=5.1						
W39A	**Magazine**	**42.34**	**343**	P	**P**	**22 36 43.9**	**+0.6**
W39A				IAmb	IAmb	22 36 45.2	
	comp=Z,6.1nm,0.9s						
ANMO	**Albuquerque**	**47.21**	**330**	P	**P**	**22 37 21.8**	**-0.4**
ANMO				IAmb	IAmb	22 37 24.0	
	comp=Z,2.8nm,0.8s						
SDCO	**Great Sand Dun**	**49.01**	**333**	P	**P**	**22 37 36.6**	**+0.4**
SDCO				IAmb	IAmb	22 37 37.7	
	comp=Z,1.6nm,0.7s						
I45A	**Fountain**	**49.43**	**354**	P	**P**	**22 37 39.5**	**+0.6**
PDAR	**Pinedale Array**	**54.89**	**334**	P	**P**	**22 38 19.2**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=126,slow=9.3,SNR=3.5						
NVAR	**Mina Array Bea**	**56.22**	**324**	P	**P**	**22 38 29.5**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=135,slow=8.7,SNR=7.0						
YHL	**Hebgen Lake**	**57.26**	**334**	P	**P**	**22 38 37.3**	**+0.6**
YHL				IAmb	IAmb	22 38 38.8	
	comp=Z,2.4nm,0.7s						
MCMT	**McKenzie Canyo**	**57.99**	**333**	P	**P**	**22 38 42.2**	**+0.5**
WALA	**Waterton Lakes**	**61.72**	**335**	P	**P**	**22 39 07.5**	**+0.5**
WALA				IAmb	IAmb	22 39 08.2	
	comp=Z,2.5nm,0.7s						
ROSA	**Rosais**	**64.76**	**43**	P	**P**	**22 39 27.0**	**-0.2**
YKA	**Yellowknife Ar**	**72.61**	**344**	P	**P**	**22 40 14.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=143,slow=6.1,SNR=14						
BELA	**Belgrano 2**	**76.25**	**171**	P	**P**	**22 40 37.1**	**+0.6**
SNAA	**Sanae**	**80.94**	**162**	P	**P**	**22 41 03.3**	**+0.9**
SNAA				IAmb	IAmb	22 41 22.5	
	comp=Z,7.8nm,1.2s						
BCAR	**Beaver Creek A**	**82.42**	**336**	P	**P**	**22 41 10.6**	**+0.3**
A36M	**Sachs Harbour**	**82.50**	**347**	P	**P**	**22 41 09.8**	**-0.6**
A36M				IAmb	IAmb	22 41 10.7	
	comp=Z,4.4nm,0.8s						
ESDC	**Sonseca Array**	**82.60**	**49**	P	**P**	**22 41 13.8**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=269,slow=4.8,SNR=2.4						
TOA0	**Torodi Ar. Sit**	**83.02**	**76**	P	**P**	**22 41 15.3**	**+0.9**
TOA0				IAmb	IAmb	22 41 44.3	
	comp=Z,7.5nm,1.5s						
TORD	**Torodi Ar. Bea**	**83.02**	**76**	P	**P**	**22 41 15.4**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=276,slow=4.9,SNR=6.1						
TORD	**Torodi Ar. Bea**	**83.02**	**76**	P	**P**	**22 41 15.5**	**+1.2**
QSPA	**South Pole Qui**	**84.80**	**180**	P	**P**	**22 41 23.5**	**+1.0**
QSPA				IAmb	IAmb	22 41 24.7	
	comp=Z,2.3nm,0.8s						
ILAR	**Eielson Array**	**85.19**	**337**	P	**P**	**22 41 24.4**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=80,slow=1.0,SNR=2.5						
BMAR	**Burnt Mountain**	**85.42**	**340**	P	**P**	**22 41 25.4**	**0.0**
CAST	**Castle Rocks**	**86.84**	**335**	P	**P**	**22 41 31.9**	**-0.6**
J20K	**Nowinta River**	**87.94**	**335**	P	**P**	**22 41 37.0**	**-0.7**

IMAR	**Indian Mountai**	**88.30**	**337**	P		**P**	**22 41 38.5**	**-0.9**
ZALV	**Zalesovo Beam**	**129.91**	**12**	PKP		**PKiKP**	**22 47 57.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=20,slow=4.6,SNR=2.1							
MKAR	**Makanchi Array**	**135.88**	**18**	PKP		**PKiKP**	**22 48 10.5**	**0.0**
	comp=Z,0.3nm,1.0s,baz=284,slow=5.8,SNR=2.1							
ASAR	**Alice Springs**	**136.25**	**227**	PKP		**PKPdf**	**22 48 08.8**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=104,slow=1.2,SNR=4.9							
WRA	**Warramunga Arr**	**138.04**	**232**	PKP		**PKPdf**	**22 48 10.7**	**-2.9**
	comp=Z,0.4nm,0.8s,baz=121,slow=1.7,SNR=2.4							

*NNC **09** 22:31:38.1±3.7, 39°.43N×73°.52E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=28.0km s-min=13.8km az=174.0*

*SOME **09** 22:31:39.7, 39°.52N×73°.35E, h10km*

*KRNET **09** 22:31:39.7±0.1, 39°.48N×73°.36E, mb2.7*

ISC 09 22:31:40.6±1.8, 39°.43N±0°.08×73°.36E±0°.05, h10km, n19, σ2s.40/34, 12C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.18**	**338**	↑*i*P	**Pb**	**22 32 01.4**	**-1.7**
	baz=37						
OHH				↑*i*S	**Sg**	**22 32 17.3**	**-1.3**
	baz=37						
DRK	**Karamyk**	**1.21**	**273**	↑*i*P	**Pb**	**22 32 02.7**	**-1.1**
	baz=71						
DRK				↑*i*S	**Sn**	**22 32 19.9**	**-0.6**
	baz=71						
BTK	**Batken**	**2.06**	**289**	↑*e*P	**Pb**	**22 32 17.7**	**-0.4**
	baz=87						
BTK				↑*i*S	**Sg**	**22 32 44.7**	**-2.1**
	baz=87						
ARK	**Arkit**	**2.60**	**336**	↑*i*P	**Pn**	**22 32 24.3**	**+1.6**
	baz=36						
ARK				↑*i*S	**Sb**	**22 32 57.3**	**-2.0**
	baz=36						
TRKS	**Terek-Say**	**2.70**	**322**	↓*e*P	**Pn**	**22 32 25.0**	**+0.8**
	baz=21						
TRKS				↓*i*S	**Sn**	**22 32 58.1**	**+1.1**
	baz=21						
UCH	**Uchtor**	**2.93**	**17**	↓*i*P	**Pn**	**22 32 29.3**	**+1.7**
	baz=17						
UCH				↓*i*S	**Sn**	**22 33 05.1**	**+2.0**
	baz=17						
MRKS	**Merke**	**3.32**	**358**	*e*P	**Pb**	**22 32 40.8**	**+1.3**
	2.2nm,0.8s						
MRKS				*e*S	**Sg**	**22 33 24.4**	**-2.6**
	8.4nm,0.3s						
IUG	**Iuzhnay**	**3.71**	**318**	*e*P	**Pb**	**22 32 47.8**	**+1.6**
	56nm,0.7s						
IUG				*e*S	**Sg**	**22 33 36.5**	**-3.2**
	16nm,0.5s						
TKM2	**Tokmak 2**	**3.88**	**25**	↑Pg	**Pb**	**22 32 48.2**	**-0.9**
	2.5nm,0.8s						
TKM2				↑Lg	Lg	22 33 39.8	
	7.4nm,1.4s						
SGDS	**Sogindy**	**4.13**	**13**	*e*P	**Pb**	**22 32 53.1**	**-0.3**
	0.6nm,0.5s						
SGDS				*e*S	**Sb**	**22 33 45.7**	**+2.3**
	1.9nm,0.8s						
DGS	**Degeres**	**4.22**	**25**	*e*P	**Pb**	**22 32 57.0**	**+2.1**
	1.6nm,0.4s						
DGS				*e*S	**Sg**	**22 33 52.4**	**-3.6**
	4.4nm,0.8s						
DGS	**Degeres**	**4.22**	**25**	Pg	**Pb**	**22 32 53.0**	**-2.0**
	1.3nm,0.6s						
DGS				Lg	Lg	22 33 52.4	
	4.4nm,0.8s						
KK31	**Karatay Array**	**4.25**	**331**	↓Pn	**Pn**	**22 32 46.9**	**+1.5**
	0.2nm,0.4s,baz=124,slow=13,SNR=8.5						
KK31				↓Pg	**Pb**	**22 32 56.5**	**+1.1**
	0.4nm,0.4s,baz=147,slow=16,SNR=2.9						
KK31				↑Sn	**Sn**	**22 33 38.1**	**+3.0**
	1.0nm,0.4s,baz=140,slow=24,SNR=4.6						
KK31				↑Lg	Lg	22 33 52.0	
	2.3nm,0.5s,baz=151,slow=26,SNR=4.3						
BRLS	**Boroldav**	**4.47**	**325**	*e*P	**Pb**	**22 32 59.4**	**+0.2**
	1.0nm,0.3s						
BRLS				*e*S	**Sb**	**22 33 56.4**	**+3.2**
	4.8nm,0.7s						
BRLS	**Boroldav**	**4.47**	**325**	Pg	**Pb**	**22 32 55.3**	**-3.9**
	1.7nm,0.4s						
BRLS				Lg	Lg	22 33 56.4	
	4.8nm,0.7s						
KRBS	**Karabastau**	**4.60**	**21**	*e*P	**Pb**	**22 33 04.1**	**+2.6**
	1.1nm,0.3s						
KRBS				*e*S	**Sg**	**22 34 04.1**	**-4.2**
	2.9nm,0.8s						
KRBS	**Karabastau**	**4.60**	**21**	Pg	**Pb**	**22 32 59.9**	**-1.5**
	0.4nm,0.2s						
KRBS				Lg	Lg	22 34 04.1	
	2.9nm,0.8s						
KTBS	**Karatobe**	**4.95**	**29**	*e*P	**Pb**	**22 33 09.4**	**+2.0**
	1.2nm,0.3s						
KTBS				*e*S	**Sg**	**22 34 13.7**	**-5.8**
	3.8nm,0.8s						
KTBS	**Karatobe**	**4.95**	**29**	Pg	**Pb**	**22 33 06.4**	**-1.0**
	1.2nm,0.3s						
KTBS				Lg	Lg	22 34 14.9	
	3.8nm,0.8s						

*IDC **09** 23:06:18.1±0.9, 28°.24N×142°.88E, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.6/57, mbtmp3.8/14, ML3.5/2, MS3.5/4, Ms1 3.5/4, ms1mx2.6/90, Error ellipse: s-maj=27.3km s-min=13.8km az=95.0*

*NEIC **09** 23:06:20.3±0.8, 28°.27N±0°.07×142°.8E±0°.2, h10km±2km, mb4.3/9, Error ellipse: s-maj=26.9km s-min=10.9km az=96.0*

ISC 09 23:06:23.4±0.8, 28°.31N±0°.06×142°.8E±0°.1, h34km, n42, σ1s.00/35, mb4.0/16, MS4.2/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.31**	**203**	Pn	**Pn**	**23 06 44.5**	**-0.8**
	11nm,0.3s,baz=358,slow=22,SNR=11						
JCJ				Sn	**Sn**	**23 07 00.6**	**-1.0**
	42nm,0.3s,baz=287,slow=19,SNR=5.0						
JCJ	**Chichijima**	**1.31**	**203**		**Pn**	**23 06 44.2**	**-1.1**
JHJ	**Hachijo jima 2**	**5.43**	**333**	Pn	**Pn**	**23 07 42.9**	**+0.9**
	9.0nm,0.3s,baz=74,slow=23,SNR=1.5						
JHJ				Sn	**Sn**	**23 08 40.5**	**-2.8**
	7.4nm,0.3s,baz=244,slow=21,SNR=1.4						
MJAR	**Matsushiro Arr**	**9.06**	**336**	Pn	**Pn**	**23 08 32.0**	**+0.1**
	0.2nm,0.3s,baz=141,slow=10,SNR=3.6						
MJAR	**Matsushiro Arr**	**9.06**	**336**		**Pn**	**23 08 31.4**	**-0.4**
MAJO	**Matsushiro**	**9.06**	**336**	Pn	**Pn**	**23 08 31.9**	**+0.1**
JMM	**Marumori**	**9.67**	**351**	Pn	**Pn**	**23 08 39.0**	**-1.2**
KSRS	**Korea Array**	**15.43**	**310**	LR	LR	23 16 01.0	
	comp=Z,28nm,18.5s,baz=150,slow=37						
SSLB	**Suanglung**	**20.09**	**262**		Pn	23 10 56.6	+0.4
SSLB					IAmb	IAmb	23 11 04.4
	comp=Z,29nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**23.61**	**106**	T	T	23 36 11.3	
	baz=297,slow=74						
H11N1	**WAKE ISLAND Hy**	**23.62**	**106**	T	T	23 36 30.1	
	baz=297						
H11N3	**WAKE ISLAND Hy**	**23.63**	**106**	T	T	23 36 31.0	
	baz=297,slow=74						
H11S3	**WAKE ISLAND Hy**	**24.00**	**109**	T	T	23 35 05.8	
	baz=304,slow=76,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**24.00**	**109**	T	T	23 35 03.8	
	baz=304,slow=76,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**24.02**	**109**	T	T	23 35 05.0	
	baz=304,slow=76,SNR=5.7						
PEA0B	**Petropavlovsk-**	**27.13**	**20**	P	**P**	**23 12 02.9**	**-0.2**
PETK	**Petropavlovsk-**	**27.13**	**20**	P	**P**	**23 12 04.5**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=284,slow=6.9,SNR=2.1						
PETK	**Petropavlovsk-**	**27.13**	**20**	P	**P**	**23 12 03.4**	**+0.2**
SONM	**Songino Array**	**34.21**	**315**	P	**P**	**23 13 07.2**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=140,slow=11,SNR=1.7						
WR0	**Warramunga Arr**	**48.64**	**190**	P	**P**	**23 15 03.6**	**-0.5**
WR0				IAmb	IAmb	23 15 29.6	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**48.65**	**191**	P	**P**	**23 15 04.0**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=12,slow=8.5,SNR=12						
WRA	**Warramunga Arr**	**48.65**	**191**	P	**P**	**23 15 04.0**	**-0.2**
ZALV	**Zalesovo Beam**	**48.91**	**318**	P	**P**	**23 15 07.5**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=119,slow=6.7,SNR=2.1						
ZALV				PcP	**PcP**	**23 16 29.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=172,slow=3.7,SNR=1.8						
FITZ	**Fitzroy Crossi**	**49.02**	**202**	P	**P**	**23 15 07.3**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=31,slow=5.9,SNR=2.4						
FITZ	**Fitzroy Crossi**	**49.02**	**202**	P	**P**	**23 15 06.4**	**-0.6**
MK31	**Makanchi Array**	**50.10**	**309**	P	**P**	**23 15 14.4**	**-0.7**
MKAR	**Makanchi Array**	**50.10**	**309**	P	**P**	**23 15 16.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=81,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**50.10**	**309**	P	**P**	**23 15 15.4**	**+0.2**
ASAR	**Alice Springs**	**52.37**	**190**	P	**P**	**23 15 30.9**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=305,slow=8.1,SNR=1.8						
KURK	**Kurchatov**	**52.51**	**314**	P	**P**	**23 15 33.2**	**+0.1**
KURK				IAmb	IAmb	23 15 35.6	
	comp=Z,2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**52.56**	**314**	P	**P**	**23 15 34.2**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=92,slow=6.8,SNR=18						
BVAR	**Borovoye Array**	**57.50**	**317**	P	**P**	**23 16 08.8**	**-0.3**
	comp=Z,1.2nm,0.8s						
KK31	**Karatay Array**	**58.79**	**305**	P	**P**	**23 16 18.2**	**-0.2**
KK31				IAmb	IAmb	23 16 31.4	
	comp=Z,2.5nm,1.1s						
KKAR	**Karatay Array**	**58.79**	**305**	P	**P**	**23 16 19.1**	**+0.7**
STKA	**Stephens Creek**	**59.86**	**181**	LR	LR	23 41 15.3	
	comp=Z,24nm,19.2s,baz=213,slow=35						
ABKAR	**Akbulak array**	**64.62**	**314**	P	**P**	**23 16 58.1**	**+0.6**
ABKAR	**Akbulak array**	**64.62**	**314**	P	**P**	**23 16 58.7**	**+1.3**
ABKAR				IAmb	IAmb	23 17 09.0	
	comp=Z,2.7nm,1.3s						
YKA	**Yellowknife Ar**	**70.84**	**29**	P	**P**	**23 17 37.5**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=294,slow=6.3,SNR=2.5						
FINES	**FINESS Array B**	**77.08**	**334**	P	**P**	**23 18 11.7**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=86,slow=7.1,SNR=2.0						
FINES				LR	LR	23 54 06.0	
	comp=Z,95nm,18.4s,baz=263,slow=37						
FINES	**FINESS Array B**	**77.08**	**334**	P	**P**	**23 18 13.7**	**+0.8**
NVAR	**Mina Array Bea**	**79.38**	**52**	P	**P**	**23 18 25.0**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=270,slow=7.2,SNR=1.4						
SFJD	**Kangerlussuaq**	**84.45**	**5**	LR	LR	23 59 35.0	
	comp=Z,84nm,18.6s,baz=90,slow=38						

*IDC **09** 23:10:39.1±1.8, 2°.35N×125°.41E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/59, mbtmp3.5/4, Error ellipse: s-maj=126.1km s-min=24.1km az=67.0*

ISC 09 23:10:48.7±1.3, 2°.6N±0°.1×125°.9E±0°.6, h100km, n5, σ1s.87/6, mb3.3/3, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**4.45**	**350**	↑*e*P	**Pn**	**23 11 52.9**	**-1.1**
KCP				*e*S	**Sn**	**23 12 44.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.57**	**181**	P	**P**	**23 15 17.4**	**-2.1**
	1.1nm,0.8s,baz=8.3,slow=13,SNR=2.0						
WRA	**Warramunga Arr**	**23.90**	**160**	P	**P**	**23 15 54.0**	**+0.6**
	1.3nm,0.5s,baz=337,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**27.26**	**164**	P	**P**	**23 16 24.8**	**+1.0**
	0.4nm,0.4s,baz=345,slow=10,SNR=9.6						
MKAR	**Makanchi Array**	**57.99**	**326**	P	**P**	**23 20 32.8**	**+1.8**
	0.1nm,0.4s,baz=119,slow=7.3,SNR=6.0						

*UCR **09** 23:14:16.9±1.8, 12°.10N×84°.11W, h2km±16km, MW3.8*

*INET **09** 23:14:17.8±1.8, 12°.13N×84°.18W, h8km±9km, ML3.5*

ISC 09 23:14:16.2±1.6, 12°.13N±0°.06×84°.11W±0°.08, h10km, n24, σ0s.68/28, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESPN	**Las Esperanzas**	**0.20**	**290**	*e*P	**Pg**	**23 14 21.0**	**+0.7**
ESPN				*e*S	**Sg**	**23 14 24.1**	**+0.9**
ESPN				IAML		23 14 24.7	
	comp=E,22μm,0.4s						
ACON	**Acoyapa**	**1.05**	**261**	*e*P	**Pg**	**23 14 35.7**	**-0.7**
ACON				*e*S	**Sg**	**23 14 50.0**	**-0.1**
ACON	**Acoyapa**	**1.05**	**261**	*e*P	**Pg**	**23 14 35.6**	**-0.8**
ACON				*e*S	**Sg**	**23 14 49.7**	**-0.4**
ACON				IAML		23 14 50.6	
	comp=E,993nm,0.3s						
COVE	**Coope Vega, Sa**	**1.43**	**191**	*e*P	**Pn**	**23 14 42.6**	**+0.4**
BOAB	**BOACO BROADBAN**	**1.55**	**282**	*e*P	**Pn**	**23 14 43.6**	**-0.3**
CONN	**Concepcion**	**1.58**	**249**	*e*P	**Pn**	**23 14 44.3**	**0.0**
VMAR	**Armenia, Volca**	**1.64**	**217**	*e*P	**Pn**	**23 14 45.7**	**+0.6**
PTEN	**Parque Tenorio**	**1.64**	**211**	*i*P	**Pn**	**23 14 46.2**	**+1.0**
PTEN				*

	comp=N,770nm,0.4s							
URLA				*i* AML	AML	23 17 15.0		
	comp=N,541nm,0.7s							
ZEDA	**zmir-Bergama**	**0.89**	**329**	P	**Pg**	**23 16 58.3**	**0.0**	
ZEDA				S	**Sg**	**23 17 09.6**	**-0.3**	
ZEDA				*i* AML	AML	23 17 11.0		
	comp=N,1μm,0.4s							
ZEDA				*i* AML	AML	23 17 12.0		
	comp=N,610nm,0.4s							
FOCM	**Foa**	**0.89**	**305**	PG	**Pg**	**23 16 58.1**	**-0.2**	
DIDI	**Didim-Aydin**	**0.89**	**202**	PG	**Pg**	**23 16 58.3**	**-0.1**	
ZEYE	**Izmir, Urla-Ze**	**0.91**	**272**	P	**Pg**	**23 16 58.8**	**0.0**	
ZEYE				S	**Sg**	**23 17 10.2**	**-0.4**	
ZEYE				*i* AML	AML	23 17 13.0		
	comp=N,802nm,0.3s							
ZEYE				*i* AML	AML	23 17 14.0		
	comp=N,813nm,0.2s							
ZEYE				*i* AML	AML	23 17 14.0		
	comp=N,622nm,0.5s							
MLSB	**Milas**	**0.91**	**174**	PG	**Pb**	**23 16 59.3**	**0.0**	
MLSB				SG	**Sb**	**23 17 12.6**	**+1.0**	
DKL	**Dikili**	**1.05**	**326**	PG	**Pg**	**23 17 01.1**	**-0.3**	
MULA	**Mugla, Merkez-**	**1.08**	**151**	P	**Pn**	**23 17 02.5**	**-0.2**	
MULA				S	**Sb**	**23 17 16.3**	**-0.2**	
MULA				*i* AML	AML	23 17 20.0		
	comp=N,333nm,0.4s							
MULA				*i* AML	AML	23 17 20.0		
	comp=N,560nm,0.4s							
YKAV	**Yalikavak-Bodr**	**1.12**	**196**	PN	**Pg**	**23 17 02.6**	**-0.1**	
BDRM	**Kayabasi**	**1.15**	**189**	P	**Pg**	**23 17 02.6**	**-0.7**	
BDRM				S	**Sg**	**23 17 17.6**	**-0.6**	
STEP	**BALIKESIR_Sava**	**1.17**	**2**	P	**Pg**	**23 17 03.0**	**-0.7**	
STEP				S	**Sg**	**23 17 18.2**	**-0.7**	
STEP				*i* AML	AML	23 17 20.0		
	comp=N,392nm,0.5s							
STEP				*i* AML	AML	23 17 20.0		
	comp=N,565nm,0.3s							
STEP				*i* AML	AML	23 17 24.0		
	comp=N,574nm,0.8s							
BODT	**Bodrum**	**1.17**	**194**	P	**Pg**	**23 17 03.2**	**-0.6**	
BODT				S	**Sb**	**23 17 19.5**	**+0.4**	
BODT	**Bodrum**	**1.17**	**194**	PN	**Pg**	**23 17 03.2**	**-0.6**	
DEMI	**Demirci**	**1.18**	**44**	P	**Pb**	**23 17 04.0**	**+0.1**	
DEMI				S	**Sg**	**23 17 18.1**	**-1.0**	
DEMI				*i* AML	AML	23 17 21.0		
	comp=N,546nm,0.4s							
DEMI				*i* AML	AML	23 17 23.0		
	comp=N,396nm,0.5s							
YER	**Yerkesik**	**1.18**	**155**	P	**Pg**	**23 17 03.6**	**-0.2**	
YER				S	**Sb**	**23 17 19.3**	**+0.1**	
YER	**Yerkesik**	**1.18**	**155**	PN	**Pn**	**23 17 04.0**	**0.0**	
USAK	**Uak-Merkez**	**1.18**	**64**	P	**Pb**	**23 17 03.8**	**-0.1**	
USAK				S	**Sg**	**23 17 17.9**	**-1.4**	
TAVA	**DENIZLI_Tavas**	**1.24**	**126**	P	**Pg**	**23 17 04.6**	**-0.3**	
TAVA				S	**Sg**	**23 17 19.5**	**-1.5**	
CHOS	**Chios island**	**1.28**	**279**	P	**Pn**	**23 17 05.1**	**-0.3**	
CHOS				AML	AML	23 17 24.6		
	comp=E,2074μm,0.3s							
CHOS				AML	AML	23 17 24.6		
	comp=N,1074μm,0.4s							
CHOS	**Chios island**	**1.28**	**279**	P	**Pn**	**23 17 05.6**	**+0.2**	
CHOS				S	**Sg**	**23 17 22.6**	**+0.3**	
	comp=N,782nm,0.4s							
AYVA	**Ayvalik**	**1.34**	**326**	P	**Pn**	**23 17 06.4**	**+0.3**	
AYVA				S	**Sb**	**23 17 23.5**	**-0.3**	
AYVA				*i* AML	AML	23 17 26.0		
	comp=N,304nm,0.2s							
AYVA				*i* AML	AML	23 17 26.0		
	comp=N,583nm,0.3s							
AYVA				*i* AML	AML	23 17 26.0		
	comp=N,377nm,0.7s							
SIMA	**Simav-Kutahya**	**1.36**	**49**	PN	**Pn**	**23 17 05.8**	**-0.7**	
BUHA	**Balikesir, Bur**	**1.37**	**341**	P	**Pn**	**23 17 06.1**	**-0.6**	
BUHA				S	**Sb**	**23 17 23.9**	**-0.9**	
BUHA				*i* AML	AML	23 17 27.0		
	comp=N,504nm,0.4s							
BUHA				*i* AML	AML	23 17 27.0		
	comp=N,573nm,0.5s							
PASA	**Karahalli, USA**	**1.45**	**84**	P	**Pn**	**23 17 07.6**	**-0.1**	
PASA				S	**Sb**	**23 17 26.3**	**-0.7**	
KHL	**Karahalli**	**1.47**	**85**	PN	**Pn**	**23 17 08.4**	**+0.3**	
SHAP	**Saphane-Kutahy**	**1.47**	**56**	PN	**Pn**	**23 17 08.1**	**0.0**	
DAT	**Datca**	**1.48**	**183**	P	**Pn**	**23 17 07.5**	**-0.6**	
DAT	**Datca**	**1.48**	**183**	PN	**Pn**	**23 17 07.8**	**-0.3**	
DAT	**Datca**	**1.48**	**183**	P	**Pb**	**23 17 09.1**	**+0.2**	
DAT				S	**Sn**	**23 17 26.7**	**-0.9**	
TURN	**Turunc**	**1.50**	**162**	PN	**Pn**	**23 17 08.3**	**-0.1**	
TURN	**Turunc**	**1.50**	**162**	P	**Pn**	**23 17 08.1**	**-0.3**	
TURN				S	**Sg**	**23 17 31.3**	**+1.9**	
PRK	**Paraskevi**	**1.50**	**314**	P	**Pn**	**23 17 09.0**	**+0.6**	
PRK				S	**Sg**	**23 17 29.7**	**+0.1**	
PRK				AML	AML	23 17 33.0		
	comp=E,3907μm,0.8s							
PRK				AML	AML	23 17 33.5		
	comp=N,1934μm,0.3s							
PRK	**Paraskevi**	**1.50**	**314**	P	**Pn**	**23 17 09.1**	**+0.7**	
PRK				S	**Sg**	**23 17 30.4**	**+0.8**	
	comp=N,2μm,0.6s							
DURS	**Dursunbey**	**1.53**	**24**	P	**Pn**	**23 17 09.1**	**+0.2**	
DURS				S	**Sn**	**23 17 27.4**	**-1.6**	
DURS				*i* AML	AML	23 17 31.0		
	comp=N,451nm,0.3s							
DURS				*i* AML	AML	23 17 32.0		
	comp=N,237nm,0.4s							
DURS				*i* AML	AML	23 17 32.0		
	comp=N,284nm,0.5s							
BALY	**Balya**	**1.53**	**359**	P	**Pn**	**23 17 08.4**	**-0.5**	
BALY				S	**Sn**	**23 17 27.7**	**-1.4**	
BALY				*i* AML	AML	23 17 31.0		
	comp=N,361nm,0.5s							
BALY				*i* AML	AML	23 17 33.0		
	comp=N,405nm,0.5s							
KOSK	**Kos Island**	**1.55**	**201**	P	**Pn**	**23 17 08.4**	**-0.6**	
KOSK	**Kos Island**	**1.55**	**201**	P	**Pn**	**23 17 08.6**	**-0.4**	
KOSK				S	**Sb**	**23 17 30.1**	**+0.3**	
	comp=N,368nm,0.5s							
KOSK	**Kos Island**	**1.55**	**201**	PN	**Pn**	**23 17 08.3**	**-0.7**	
DST	**Dursunbey**	**1.58**	**28**	PN	**Pn**	**23 17 09.8**	**+0.2**	
DALY	**Dalyan (Mula)**	**1.59**	**150**	PN	**Pn**	**23 17 10.0**	**+0.3**	
GEDZ	**Gediz**	**1.61**	**58**	PN	**Pn**	**23 17 10.2**	**+0.3**	
GDZ	**Gediz**	**1.68**	**58**	P	**Pg**	**23 17 13.2**	**-0.2**	
GDZ				S	**Sn**	**23 17 32.1**	**-0.6**	
CAEL	**Denizli, Camel**	**1.70**	**129**	P	**Pg**	**23 17 15.1**	**+1.3**	
CAEL				S	**Sg**	**23 17 40.6**	**+4.6**	
GPNR	**Gulpinar-Canak**	**1.73**	**317**	PN	**Pn**	**23 17 11.6**	**+0.1**	
SIGR	**SIGRI**	**1.73**	**306**	P	**Pn**	**23 17 10.7**	**-0.9**	
SIGR				AML	AML	23 17 38.6		
	comp=E,1042μm,0.5s							
SIGR				AML	AML	23 17 40.3		
	comp=N,671μm,0.3s							
SIGR	**SIGRI**	**1.73**	**306**	P	**Pn**	**23 17 11.9**	**+0.3**	
SIGR				S	**Sb**	**23 17 35.3**	**+0.1**	
	comp=N,428nm,0.4s							
SIGR	**SIGRI**	**1.73**	**306**	PN	**Pn**	**23 17 11.9**	**+0.3**	
KOCA	**Canakkale, Ayv**	**1.76**	**318**	P	**Pb**	**23 17 13.4**	**-0.3**	
KOCA				S	**Sb**	**23 17 36.3**	**+0.4**	
KOCA				*i* AML	AML	23 17 39.0		
	comp=N,272nm,0.4s							
KOCA				*i* AML	AML	23 17 40.0		
	comp=N,389nm,0.4s							
KOCA				*i* AML	AML	23 17 41.0		
	comp=N,195nm,0.2s							
BAYC	**CANAKKALE_Bayr**	**1.76**	**331**	P	**Pb**	**23 17 13.3**	**-0.5**	
BAYC				S	**Sn**	**23 17 35.2**	**+0.6**	
BAYC				*i* AML	AML	23 17 38.0		
	comp=N,348nm,0.4s							
BAYC				*i* AML	AML	23 17 38.0		
	comp=N,224nm,0.4s							
BAYC				*i* AML	AML	23 17 39.0		
	comp=N,254nm,0.4s							
GOLH	**Golhisar**	**1.79**	**122**	P	**Pb**	**23 17 14.0**	**-0.3**	
GOLH				S	**Sg**	**23 17 38.4**	**-0.3**	
CAME	**Cameli-Denizli**	**1.81**	**133**	PN	**Pn**	**23 17 13.3**	**+0.5**	
GONE	**Gonen-Balikesi**	**1.84**	**1**	PN	**Pn**	**23 17 12.8**	**-0.3**	
TVSB	**Tavsanli**	**1.88**	**48**	PN	**Pn**	**23 17 13.7**	**0.0**	
BASM	**Basmaki-Afyon**	**1.91**	**98**	PN	**Pn**	**23 17 14.1**	**0.0**	
EZN	**Ezine**	**1.92**	**328**	P	**Pn**	**23 17 14.1**	**-0.1**	
EZN				S	**Sb**	**23 17 40.3**	**-0.4**	
	comp=N,292nm,0.6s							
EZN	**Ezine**	**1.92**	**328**	PN	**Pn**	**23 17 14.6**	**+0.4**	
FETY	**Fethiye**	**1.93**	**144**	P	**Pb**	**23 17 15.8**	**-0.9**	
FETY				S	**Sn**	**23 17 39.3**	**+0.5**	
FETY	**Fethiye**	**1.93**	**144**	PN	**Pn**	**23 17 15.1**	**+0.7**	
FETY	**Fethiye**	**1.93**	**144**	P	**Pb**	**23 17 15.8**	**-0.9**	
FETY				S	**Sb**	**23 17 40.2**	**-0.8**	
KZIL	**AFYON_Kizioren**	**1.95**	**88**	P	**Pn**	**23 17 14.9**	**+0.1**	
KZIL				S	**Sg**	**23 17 45.8**	**+1.8**	
BRDR	**BURDUR-Merkez**	**1.96**	**104**	P	**Pn**	**23 17 15.0**	**+0.1**	
APE	**Apeiranthos**	**2.04**	**237**	P	**Pn**	**23 17 14.8**	**-1.0**	
APE	**Apeiranthos**	**2.04**	**237**	PN	**Pn**	**23 17 15.9**	**+0.1**	
BOZC	**Bozcaada**	**2.06**	**323**	PN	**Pn**	**23 17 16.1**	**0.0**	
BOZC	**Bozcaada**	**2.06**	**323**	P	**Pb**	**23 17 19.2**	**+0.3**	
BOZC				S	**Sb**	**23 17 45.9**	**+1.3**	
BOZC				*i* AML	AML	23 17 48.0		
	comp=N,215nm,0.7s							
BOZC				*i* AML	AML	23 17 48.0		
	comp=N,289nm,0.5s							
BOZC				*i* AML	AML	23 17 49.0		
	comp=N,110nm,1.1s							
KNL	**Balıkesir**	**2.07**	**357**	P	**Pn**	**23 17 17.5**	**+1.3**	
KNL				S	**Sn**	**23 17 41.3**	**-0.8**	
KNL				*i* AML	AML	23 17 50.0		
	comp=N,116nm,0.3s							
KNL				*i* AML	AML	23 17 50.0		
	comp=N,177nm,0.6s							
ORLT	**Orhaneli**	**2.07**	**27**	PN	**Pn**	**23 17 16.9**	**+0.6**	
EDC	**Edincik**	**2.15**	**4**	PN	**Pn**	**23 17 16.7**	**-0.6**	
ECEA	**Canakkale, Ece**	**2.17**	**328**	P	**Pb**	**23 17 20.6**	**-0.1**	
ECEA				S	**Sb**	**23 17 49.1**	**+1.3**	
ECEA				*i* AML	AML	23 17 51.0		
	comp=N,313nm,0.4s							
ECEA				*i* AML	AML	23 17 52.0		
	comp=N,262nm,0.5s							
ECEA				*i* AML	AML	23 17 55.0		
	comp=N,135nm,0.6s							
ANDZ	**Kutahya, Merke**	**2.18**	**53**	P	**Pg**	**23 17 22.4**	**-0.6**	
ANDZ				S	**Sg**	**23 17 53.4**	**+2.2**	
KRBG	**Karabiga-Canak**	**2.20**	**353**	PN	**Pn**	**23 17 17.7**	**-0.3**	
ULDT	**Uludag**	**2.25**	**30**	P	**Pb**	**23 17 22.1**	**-0.1**	
ULDT				S	**Sb**	**23 17 50.8**	**+0.6**	
ULDT				*i* AML	AML	23 17 57.0		
	comp=N,232nm,0.7s							
ULDT				*i* AML	AML	23 17 59.0		
	comp=N,109nm,0.4s							
ULDT				*i* AML	AML	23 17 59.0		
	comp=N,205nm,0.6s							
LPK	**Lapseki**	**2.27**	**342**	PN	**Pn**	**23 17 19.2**	**+0.2**	
STBT	**Saitabat**	**2.29**	**32**	P	**Pg**	**23 17 24.4**	**-0.8**	
SHUT	**Suhut-Afyon**	**2.30**	**80**	PN	**Pn**	**23 17 19.9**	**+0.4**	
ELL	**Elmali**	**2.31**	**128**	PN	**Pn**	**23 17 20.2**	**+0.6**	
MDNY	**Mudanya-Bursa**	**2.36**	**23**	PN	**Pn**	**23 17 20.9**	**+0.7**	
GELI	**Tayfur-Gelibol**	**2.38**	**338**	PN	**Pn**	**23 17 20.8**	**+0.4**	
IGD	**Bursa**	**2.38**	**30**	P	**Pb**	**23 17 25.3**	**+1.0**	
MRMT	**Marmara Adasi**	**2.40**	**359**	PN	**Pn**	**23 17 20.8**	**0.0**	
GOKA	**anakkale-Gk**	**2.41**	**326**	P	**Pn**	**23 17 20.5**	**-0.3**	
GOKA				S	**Sn**	**23 17 47.8**	**-2.6**	
KORT	**Korkueli**	**2.45**	**119**	PN	**Pn**	**23 17 22.4**	**+0.8**	
RKY	**Sarkoy-Tekirda**	**2.51**	**352**	PN	**Pn**	**23 17 22.6**	**+0.3**	
AUBOZ	**BOZOYUK**	**2.51**	**47**	PN	**Pn**	**23 17 23.2**	**+0.8**	
MAR6	**Marsite Statio**	**2.52**	**353**	PN	**Pn**	**23 17 22.9**	**+0.5**	
KARY	**Karystos**	**2.55**	**267**	P	**Pn**	**23 17 23.3**	**+0.5**	
IZI	**Iznik**	**2.55**	**33**	PN	**Pn**	**23 17 23.4**	**+0.5**	
GZKV	**Gazikoy-Tekird**	**2.55**	**354**	PN	**Pn**	**23 17 23.3**	**+0.5**	
LIA	**Limnos Island**	**2.56**	**312**	P	**Pn**	**23 17 22.7**	**-0.3**	
LIA				S	**Sn**	**23 17 56.2**	**+1.8**	
BILE	**Bilecik/Merkez**	**2.60**	**41**	P	**Pb**	**23 17 29.4**	**+1.3**	
ERIK	**Erikli-Kesan**	**2.62**	**341**	PN	**Pn**	**23 17 24.6**	**+0.9**	
KURT	**Yalova, Merkez**	**2.67**	**26**	P	**Pb**	**23 17 29.9**	**+0.7**	
TRML	**Termal-Yalova**	**2.67**	**26**	PN	**Pn**	**23 17 25.3**	**+0.6**	
KARP	**Karpathos**	**2.68**	**189**	P	**Pn**	**23 17 24.1**	**-0.6**	
YLV	**Yalova**	**2.71**	**29**	PN	**Pn**	**23 17 25.9**	**+0.9**	
CAVK	**Edirne/Enez-Ca**	**2.74**	**336**	P	**Pn**	**23 17 26.4**	**+1.0**	
CAVK				S	**Sn**	**23 18 00.3**	**+1.6**	
CAVK				*i* AML	AML	23 18 08.0		
	comp=N,74nm,1.0s							
CAVK				*i* AML	AML	23 18 11.0		
	comp=N,133nm,0.6s							
CAVK				*i* AML	AML	23 18 16.0		
	comp=N,117nm,0.8s							
BORA	**Eskisehir**	**2.74**	**52**	PN	**Pn**	**23 17 25.3**	**-0.3**	
BORA	**Eskisehir**	**2.74**	**52**	P	**Pg**	**23 17 33.2**	**-0.6**	
ADVT	**Abdulvahap**	**2.75**	**35**	PN	**Pn**	**23 17 26.1**	**+0.6**	
ENEZ	**Enez**	**2.78**	**336**	PN	**Pn**	**23 17 26.7**	**+0.7**	
SMTH	**Samothraki Isl**	**2.80**	**325**	P	**Pn**	**23 17 26.0**	**-0.3**	
SMTH				AML	AML	23 18 11.1		
	comp=E,116μm,0.6s							
SMTH				AML	AML	23 18 20.3		
	comp=N,143μm,0.8s							
KYMI	**Kymi, Euboea I**	**2.83**	**280**	P	**Pn**	**23 17 26.9**	**+0.2**	
ALN	**Alexandroupoli**	**2.96**	**336**	P	**Pn**	**23 17 28.0**	**-0.5**	
ALN				AML	AML	23 18 16.9		
	comp=N,386μm,0.5s							
ALN				AML	AML	23 18 17.1		
ALN	**Alexandroupoli**	**2.96**	**336**	P	**Pn**	**23 17 29.0**	**+0.5**	
ALN	**Alexandroupoli**	**2.96**	**336**	PN	**Pn**	**23 17 29.2**	**+0.7**	
UKOP	**Uzunkopru-Edir**	**3.03**	**345**	PN	**Pn**	**23 17 30.1**	**+0.7**	
HRT	**Hereke**	**3.04**	**30**	PN	**Pn**	**23 17 30.5**	**+0.9**	
SLVT	**Silivri**	**3.05**	**8**	PN	**Pn**	**23 17 30.7**	**+1.0**	
KAVV	**Kandilli-Istan**	**3.05**	**20**	PN	**Pn**	**23 17 30.7**	**+1.0**	
ISK	**Istanbul-Kandi**	**3.05**	**20**	PN	**Pn**	**23 17 30.8**	**+1.1**	
BGKT	**Bogazkoy**	**3.09**	**16**	PN	**Pn**	**23 17 30.7**	**+0.4**	
CTKS	**Kestanelik-??a**	**3.10**	**12**	PN	**Pn**	**23 17 30.8**	**+0.5**	
GULT	**Gulveren**	**3.14**	**44**	PN	**Pn**	**23 17 32.0**	**+1.0**	
DOGA	**KONYA_Doganhis**	**3.16**	**91**	P	**Pn**	**23 17 32.6**	**+1.2**	
KLYT	**Kilyos**	**3.23**	**19**	PN	**Pn**	**23 17 32.9**	**+0.8**	
THAS	**Thassos island**	**3.31**	**317**	P	**Pn**	**23 17 32.5**	**-0.7**	
RDO	**Rodhopi**	**3.36**	**332**	P	**Pn**	**23 17 33.8**	**-0.2**	
RDO	**Rodhopi**	**3.36**	**332**	P	**Pn**	**23 17 34.2**	**+0.2**	
KIRK	**Kirklareli**	**3.60**	**353**	P	**Pn**	**23 17 36.2**	**-1.1**	
ARMN	**Kirklareli, Me**	**3.66**	**357**	P	**Pn**	**23 17 37.4**	**-0.7**	
PLG	**Polygyros**	**3.92**	**305**	P	**Pn**	**23 17 42.0**	**+0.3**	

*ANF **09** 23:32:32.9±0.3,35°.70N×97°.15W,h6km,ML2.9/8,Error ellipse: s-maj=3.0km s-min=2.4km az=171.0*
*NEIC **09** 23:32:33.2±0.6,35°.68N±0°.02×97°.18W±0°.02,h6km±7km, mb_Lg2.6/38,Error ellipse: s-maj=3.1km s-min=2.1km az=136.0*
*NEIC **09** 23:32:42.4±0.3,35°.664N±0°.010×97°.18W±0°.01,h3km±2km, mb_Lg2.6/37,Error ellipse: s-maj=1.6km s-min=1.5km az=108.0*

ISC 09 23:32:34.3±0.9, 35°.72N±0°.04×97°.17W±0°.03, h16km±6km, n63,σ1§64/34, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.06**	**197**	Pg	**Pg**	**23 32 34.2**	**-3.2**
OK005	**Luther M Schoo**	**0.06**	**197**	Pg	Pg	23 32 42.9	+5.6
OK005				Sg	**Sg**	**23 32 43.9**	**+4.5**
OK001	**Jones High Sch**	**0.18**	**213**	**Pg**	**Pg**	**23 32 36.3**	**-2.5**
OK001	**Jones High Sch**	**0.18**	**213**	Pg	Pg	23 32 45.0	+6.3
OK001				Sg	Sg	23 32 47.4	+5.6
FNO	**Franklin**	**0.50**	**203**	**Pg**	**Pg**	**23 32 41.8**	**-2.4**
W35A	**Tecumseh**	**0.61**	**157**	Pg	**Pg**	**23 32 43.8**	**-2.5**
TUL1	**Leonard**	**1.14**	**80**		**Pg**	**23 32 53.8**	**-2.4**
TUL1	**Leonard**	**1.14**	**80**	Pg	Pn	23 33 03.5	+7.9
TUL1	**Leonard**	**1.14**	**80**	P	**Pg**	**23 32 53.9**	**-2.4**
	baz=259						
TUL1				S	**Sg**	**23 33 09.7**	**-1.3**
	baz=259						
X34A	**Smith Ranch, M**	**1.24**	**206**		**Pg**	**23 32 55.6**	**-2.6**
T35A	**Sooner Cattle**	**1.31**	**24**	Pn	**Pn**	**23 32 57.6**	**-0.4**
T35A	**Sooner Cattle**	**1.31**	**24**	Pg	Pg	23 33 06.8	+7.3
T35B	**Sooner Cattle**	**1.31**	**24**	P	**Pn**	**23 32 57.7**	**-0.2**
	baz=204						
T35B				S	**Sg**	**23 33 16.6**	**-0.1**
	baz=204						
U32A	**Winter Ranch,**	**1.63**	**295**		**Pn**	**23 33 02.5**	**+0.1**
U32A	**Winter Ranch,**	**1.63**	**295**	P	**Pn**	**23 33 02.8**	**+0.4**
	baz=115						
U32A				Sb	**Sg**	**23 33 26.1**	**-0.7**
	baz=115						
WMOK	**Wichita Mounta**	**1.64**	**234**	Pn	**Pn**	**23 33 02.1**	**-0.5**
WMOK	**Wichita Mounta**	**1.64**	**234**	P	**Pn**	**23 33 02.1**	**-0.5**
	baz=54						
X37A	**Clayton**	**1.85**	**127**		**Pn**	**23 33 05.5**	**+0.1**
X37A				IAmb_Lg		23 33 32.4	
	comp=Z,33nm,1.1s						
X37A	**Clayton**	**1.85**	**127**	P	**Pn**	**23 33 05.7**	**+0.3**
	baz=307						
Z35A	**Perchaven, San**	**2.38**	**182**	Pn	**Pn**	**23 33 12.7**	**0.0**
Z35A				IAmb_Lg		23 33 52.9	
	comp=Z,35nm,1.3s						
Z35A	**Perchaven, San**	**2.38**	**182**	IAmb_Lg		23 34 00.5	
	comp=Z,28nm,1.3s						
HHAR	**Hobbs**	**2.68**	**77**		**Pn**	**23 33 17.4**	**+0.6**
W39A	**Magazine**	**2.81**	**100**	Pn	**Pn**	**23 33 18.8**	**+0.2**
W39A				IAmb_Lg		23 34 08.7	
	comp=Z,15nm,0.9s						
W39A	**Magazine**	**2.81**	**100**	IAmb_Lg		23 34 17.8	
	comp=Z,21nm,1.0s						
W39A	**Magazine**	**2.81**	**100**	P	**Pn**	**23 33 18.8**	**+0.2**
	baz=281						
R32A	**Long Quarter,**	**2.97**	**336**	IAmb_Lg		23 34 24.8	
	comp=Z,24nm,1.1s						
MIAR	**Mount Ida**	**3.17**	**111**	Pn	**Pn**	**23 33 23.8**	**+0.3**
MIAR				IAmb_Lg		23 34 20.0	
	comp=Z,15nm,0.9s						
KSU1	**Kansas State U**	**3.41**	**7**	IAmb_Lg		23 34 25.3	
	comp=Z,13nm,0.9s						
KSU1	**Kansas State U**	**3.41**	**7**	P	**Pb**	**23 33 36.3**	**+2.0**
	baz=188						
U40A	**Yellville**	**3.55**	**78**	Pn	**Pn**	**23 33 28.9**	**+0.1**
U40A	**Yellville**	**3.55**	**78**	IAmb_Lg		23 34 42.5	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**3.67**	**56**		**Pn**	**23 33 30.7**	**+0.3**
S39A				IAmb_Lg		23 34 40.3	
	comp=Z,16nm,0.9s						
ABTX	**Abilene, Hawle**	**3.71**	**214**		**Pn**	**23 33 31.4**	**+0.5**
CBKS	**Cedar Bluff**	**3.71**	**327**	IAmb_Lg		23 34 33.5	
	comp=Z,16nm,0.8s						
CBKS	**Cedar Bluff**	**3.71**	**327**	IAmb_Lg		23 34 45.8	
	comp=Z,16nm,0.8s						
WHTX	**Lake Whitney,**	**3.72**	**184**	Sb	**Sb**	**23 34 26.4**	**+1.8**
	baz=3.5						
X40A	**Basin Creek Fa**	**3.76**	**108**		**Pn**	**23 33 31.9**	**+0.3**
X40A				IAmb_Lg		23 34 34.4	
	comp=Z,17nm,1.0s						
WHAR	**Wooly Hollow**	**4.00**	**95**	Pn	**Pn**	**23 33 35.3**	**+0.3**
WHAR	**Wooly Hollow**	**4.00**	**95**	IAmb_Lg		23 34 48.4	
	comp=Z,10nm,1.0s						
W41B	**Gary Mavity, V**	**4.05**	**96**	Pn	**Pn**	**23 33 36.0**	**+0.3**
W41B	**Gary Mavity, V**	**4.05**	**96**	IAmb_Lg		23 34 57.8	
	comp=Z,18nm,1.1s						
UALR	**University of**	**4.06**	**102**	IAmb_Lg		23 34 45.3	
	comp=Z,16nm,1.0s						
UALR	**University of**	**4.06**	**102**	IAmb_Lg		23 34 54.3	
	comp=Z,16nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.10**	**86**	Pn	**Pn**	**23 33 37.0**	**+0.7**
FCAR				IAmb_Lg		23 34 50.4	
	comp=Z,14nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.10**	**86**	IAmb_Lg		23 34 57.9	
	comp=Z,16nm,1.1s						
MGMO	**Mountain Grove**	**4.20**	**69**	IAmb_Lg		23 34 51.0	
	comp=Z,17nm,0.8s						
MGMO	**Mountain Grove**	**4.20**	**69**	IAmb_Lg		23 34 59.8	
	comp=Z,11nm,0.8s						
R40A	**Maddies Statio**	**4.69**	**55**	IAmb_Lg		23 35 02.2	
	comp=Z,10nm,0.8s						
R40A	**Maddies Statio**	**4.69**	**55**	IAmb_Lg		23 35 08.3	
	comp=Z,13nm,1.2s						
P38A	**Dawn**	**4.85**	**35**		**Pn**	**23 33 48.1**	**+1.5**
P38A				IAmb_Lg		23 35 18.4	
	comp=Z,9.9nm,0.8s						
MSTX	**Muleshoe**	**4.93**	**251**	IAmb_Lg		23 35 11.6	
	comp=Z,11nm,1.2s						
435B	**Jarrell**	**4.93**	**184**	IAmb_Lg		23 35 14.9	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**5.29**	**62**	IAmb_Lg		23 35 32.5	
	comp=Z,11nm,0.7s						
CCM	**Cathedral Cave**	**5.29**	**62**	IAmb_Lg		23 35 29.7	
	comp=Z,12nm,0.9s						
PBMO	**Poplar Bluff**	**5.55**	**77**	IAmb_Lg		23 35 41.5	
	comp=Z,15nm,0.7s						
P40A	**Paris**	**5.57**	**45**	IAmb_Lg		23 35 36.2	
	comp=Z,11nm,0.7s						
P40A	**Paris**	**5.57**	**45**	IAmb_Lg		23 35 38.4	
	comp=Z,9.4nm,0.7s						
JCT	**Junction City**	**5.67**	**204**	IAmb_Lg		23 35 35.1	
	comp=Z,11nm,1.0s						
JCT	**Junction City**	**5.67**	**204**	IAmb_Lg		23 35 44.3	
	comp=Z,9.1nm,0.9s						
FVM	**French Village**	**5.86**	**65**	IAmb_Lg		23 35 45.0	
	comp=Z,9.3nm,0.7s						
T25A	**Trinidad**	**6.01**	**286**	IAmb_Lg		23 35 50.7

KULM					IAmb	IAmb	00 40 45.2		
	comp=Z,3.7nm,0.8s								
BELA	**Belgrano 2**	**78.29**	**175**		P	**P**	**00 40 56.9**	**-0.5**
BELA					IAmb	IAmb	00 41 16.2		
	comp=Z,5.4nm,1.4s								
CMAR	**Chiang Mai Arr**	**80.14**	**295**		P	**P**	**00 41 09.9**	**+1.4**
	comp=Z,2.7nm,0.3s,baz=146,slow=4.1,SNR=11								
CMAR	**Chiang Mai Arr**	**80.14**	**295**		P	**P**	**00 41 09.1**	**+0.7**
NVAR	**Mina Array Bea**	**91.29**	**48**		P	**P**	**00 42 04.0**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=229,slow=8.2,SNR=7.3								
OSTC	**Ostas**	**145.48**	**329**	*e*	PKP	**PKiKP**	**00 48 37.6**	**-2.1**
KRLC	**Kraliky**	**145.53**	**328**	*e*	PKP	**PKiKP**	**00 48 37.7**	**-2.2**
CHVC	**Chvalec**	**145.53**	**330**	*e*	PKP	**PKPab**	**00 48 36.7**	**+0.5**
DPC	**Dobruska-Polom**	**145.57**	**329**	*e*	PKP	**PKPab**	**00 48 37.5**	**+1.1**
UPC	**Upice**	**145.61**	**329**	*e*	PKP	**PKiKP**	**00 48 38.5**	**-1.5**
CLL	**Collm**	**146.37**	**333**	*e*	PKPbc	**PKiKP**	**00 48 40.0**	**-1.5**
PRU	**Pruhonice**	**146.65**	**330**	*e*	PKP	**PKiKP**	**00 48 41.0**	**-1.1**
NKC	**Novy Kostel**	**147.41**	**332**	*e*	PKP	**PKiKP**	**00 48 43.2**	**-0.5**
CKRC	**Cesky Krumlov**	**147.57**	**329**	*e*	PKP	PKPdf	00 48 30.5	-8.8
CKRC				*ex*		x	00 48 47.5		
KHC	**Kasperske Hory**	**147.70**	**330**	*e*	PKP	**PKiKP**	**00 48 43.7**	**-0.7**
GERES	**GERESS Array B**	**147.84**	**329**		PKPbc	**PKPbc**	**00 48 41.9**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=111,slow=2.4,SNR=5.7								

*IDC **10** 00:30:17.1±1.2, 48.°67S×105.°39E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.0/40, mbtmp4.2/7, MS3.8/24, Ms1 3.8/24, ms1mx3.5/54, Error ellipse: s-maj=54.8km s-min=17.7km az=115.0*
*NEIC **10** 00:30:19.8±1.9, 48.°78S±0.°10×105.°5E±0.°2, h10km±1km, mb4.5/13, Error ellipse: s-maj=23.9km s-min=16.1km az=75.0*
ISC 10 00:30:18.6±0.8, **48.°7S**±0.°1×**105.°3E**±0.°2, **h10**km, **n56**, σ0**s80**/32, **mb4.4**/11, **MS3.9**/24, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H01W2	**Cape Leeuwin H**	**15.25**	**29**	T		T	00 49 24.5	
	baz=203,slow=74,SNR=65							
H01W1	**Cape Leeuwin H**	**15.27**	**29**	T		T	00 49 25.3	
	baz=203,slow=74,SNR=63							
H01W3	**Cape Leeuwin H**	**15.27**	**29**	T		T	00 49 26.7	
	baz=203,slow=74,SNR=38							
CASY	**Casey**	**17.84**	**173**			**P**	**00 34 27.9**	**+0.6**
MORW	**Morawa**	**21.26**	**27**	P		**P**	**00 35 04.1**	**-0.8**
MORW				IAmb		IAmb	00 35 14.0	
	comp=Z,40nm,1.7s							
FORT	**Forrest**	**24.86**	**52**	P		**P**	**00 35 42.1**	**+0.9**
STKA	**Stephens Creek**	**32.00**	**72**	P		**P**	**00 36 43.3**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=225,slow=2.9,SNR=1.7							
STKA				LR		LR	00 47 18.7	
	comp=Z,236nm,21.4s,baz=209,slow=32							
STKA	**Stephens Creek**	**32.00**	**72**	P		**P**	**00 36 44.9**	**0.0**
ASAR	**Alice Springs**	**33.65**	**52**	P		**P**	**00 36 59.0**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=210,slow=8.0,SNR=24							
ASAR				PcP		**PcP**	**00 39 38.1**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=189,slow=2.1,SNR=2.6							
AS31	**Alice Springs**	**33.65**	**52**	P		**P**	**00 36 58.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**34.69**	**35**	P		**P**	**00 37 09.1**	**+0.7**
	comp=Z,3.4nm,1.1s,baz=192,slow=7.9,SNR=1.3							
FITZ				LR		LR	00 49 12.1	
	comp=Z,82nm,18.5s,baz=202,slow=33							
FITZ	**Fitzroy Crossi**	**34.69**	**35**	P		**P**	**00 37 09.3**	**+0.9**
FITZ				IAmb		IAmb	00 37 15.1	
	comp=Z,7.1nm,0.8s							
VNDA	**Vanda**	**35.85**	**162**	P		**P**	**00 37 18.2**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=287,slow=8.9,SNR=14							
VNDA				LR		LR	00 50 34.1	
	comp=Z,242nm,21.0s,baz=286,slow=34							
VNDA	**Vanda**	**35.85**	**162**	P		**P**	**00 37 18.1**	**+0.3**
VNDA				IAmb		IAmb	00 37 22.2	
	comp=Z,3.7nm,0.9s							
WRA	**Warramunga Arr**	**36.96**	**49**	P		**P**	**00 37 27.3**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=211,slow=9.7,SNR=7.5							
WRA				LR		LR	00 50 43.1	
	comp=Z,187nm,20.2s,baz=150,slow=33							
WB0	**Warramunga Arr**	**37.14**	**49**	P		**P**	**00 37 29.9**	**+0.4**
WB0				IAmb		IAmb	00 37 35.4	
	comp=Z,6.5nm,0.9s							
JAGI	**Jajag, Banyuwa**	**40.77**	**13**	P		**P**	**00 38 01.1**	**+1.2**
JAGI				IAmb		IAmb	00 38 21.6	
	comp=Z,25nm,1.2s							
QSPA	**South Pole Qui**	**41.44**	**180**	P		**P**	**00 38 05.1**	**0.0**
	comp=Z,7.2nm,0.7s,baz=301,slow=0.7,SNR=40							
QSPA				LR		LR	00 54 16.2	
	comp=Z,148nm,18.5s,baz=287,slow=35							
QSPA	**South Pole Qui**	**41.44**	**180**	P		**P**	**00 38 05.1**	**0.0**
QSPA				IAmb		IAmb	00 38 12.5	
	comp=Z,8.0nm,0.9s							
CTA	**Charters Tower**	**43.43**	**64**	LR		LR	00 55 51.6	
	comp=Z,147nm,18.7s,baz=256,slow=35							
RPZ	**Rata Peaks**	**44.50**	**109**	LR		LR	00 53 24.6	
	comp=Z,156nm,18.1s,baz=234,slow=31							
KAPI	**Kappang**	**45.23**	**20**	LR		LR	00 55 33.8	
	comp=Z,25nm,20.6s,baz=184,slow=34							
THZ	**Tophouse**	**46.69**	**108**	P		**P**	**00 38 48.1**	**+0.8**
H08S2	**Diego Garcia H**	**49.39**	**315**	T		T	01 31 47.8	
	baz=156							
H08S1	**Diego Garcia H**	**49.40**	**315**	T		T	01 31 49.5	
	baz=156							
H08S3	**Diego Garcia H**	**49.41**	**315**	T		T	01 31 49.8	
	baz=156							
SNAA	**Sanae**	**49.82**	**203**	P		**P**	**00 39 11.2**	**0.0**
	comp=Z,5.7nm,1.0s,baz=138,slow=13,SNR=6.1							
SNAA	**Sanae**	**49.82**	**203**	P		**P**	**00 39 11.4**	**+0.2**
URZ	**Urewera**	**51.33**	**107**	LR		LR	00 56 31.3	
	comp=Z,82nm,20.8s,baz=211,slow=31							
BELA	**Belgrano 2**	**51.33**	**190**	P		**P**	**00 39 21.8**	**-0.7**
BELA				IAmb		IAmb	00 39 29.2	
	comp=Z,5.2nm,0.9s							
PSI	**Prapat**	**51.59**	**352**	LR		LR	00 56 29.3	
	comp=Z,76nm,21.8s,baz=163,slow=31							
PMG	**Port Moresby**	**52.50**	**56**	LR		LR	00 59 32.7	
	comp=Z,52nm,20.9s,baz=232,slow=34							
DZM	**Mont Dzumac**	**54.79**	**84**	LR		LR	00 59 10.7	
	comp=Z,81nm,19.6s,baz=105,slow=32							
PALK	**Pallekele**	**59.77**	**331**	LR		LR	01 00 44.6	
	comp=Z,94nm,18.5s,baz=260,slow=31							
BOSA	**Boshof**	**62.78**	**257**	LR		LR	01 01 52.8	
	comp=Z,92nm,18.9s,baz=170,slow=30							
SUR	**Sutherland**	**63.08**	**251**	LR		LR	01 01 26.2	
	comp=Z,72nm,21.7s,baz=128,slow=30							
LBTB	**Lobatse**	**65.03**	**260**	LR		LR	01 03 17.0	
	comp=Z,76nm,20.3s,baz=134,slow=30							
PMSA	**Palmer Station**	**66.57**	**185**	LR		LR	01 10 26.6	
	comp=Z,139nm,18.6s,baz=100,slow=36							
CMAR	**Chiang Mai Arr**	**67.09**	**353**	LR		LR	01 08 57.1	
	comp=Z,15nm,19.0s,baz=185,slow=35							
LSZ	**Lusaka**	**70.21**	**269**	LR		LR	01 07 04.9	
	comp=Z,71nm,21.6s,baz=116,slow=31							
TSUM	**Tsumeb**	**74.36**	**259**	LR		LR	01 09 56.7	
	comp=Z,85nm,18.2s,baz=154,slow=32							
MBAR	**Mbarara**	**79.40**	**281**	LR		LR	01 11 52.9	
	comp=Z,72nm,19.7s,baz=133,slow=31							
PLCA	**Paso Flores**	**90.88**	**183**	LR		LR	01 23 01.4	
	comp=Z,45nm,18.6s,baz=167,slow=35							
AAK	**Ala-Archa**	**94.91**	**338**	LR		LR	01 22 07.0	
	comp=Z,54nm,18.7s,baz=330,slow=33							
RPN	**Rapa Nui**	**98.40**	**149**	LR		LR	01 19 39.9	
	comp=Z,28nm,21.7s,baz=275,slow=30							
BMAR	**Burnt Mountain**	**141.15**	**35**	PKPdf		**PKPdf**	**00 49 48.6**	**+0.7**
BCAR	**Beaver Creek A**	**141.65**	**43**	PKPdf		**PKiKP**	**00 49 50.8**	**-1.0**
O02D	**Mt. Diablo Mer**	**145.11**	**86**	PKPbc		**PKPab**	**00 49 55.5**	**+0.1**
INK	**Inuvik**	**145.36**	**34**	PKPbc		**PKPbc**	**00 49 54.7**	**-0.4**
	comp=Z,4.4nm,1.1s,baz=299,slow=4.3,SNR=4.0							
NVAR	**Mina Array Bea**	**147.17**	**92**	PKPbc		**PKPbc**	**00 50 02.2**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=230,slow=3.4,SNR=9.7							
NVAR	**Mina Array Bea**	**147.17**	**92**			**PKPdf**	**00 50 00.8**	**+1.3**
TXAR	**Lajitas Array**	**150.59**	**120**	PKPbc		**PKPbc**	**00 50 10.8**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=195,slow=6.2,SNR=14							
TXAR	**Lajitas Array**	**150.59**	**120**			**PKPbc**	**00 50 09.5**	**-1.1**
ANMO	**Albuquerque**	**152.85**	**109**	PKPbc		**PKiKP**	**00 50 16.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=138,slow=9.6,SNR=1.7							
YKA	**Yellowknife Ar**	**154.06**	**43**	PKPbc		**PKPbc**	**00 50 16.0**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=292,slow=2.4,SNR=7.3							
YKA	**Yellowknife Ar**	**154.06**	**43**			**PKPbc**	**00 50 16.3**	**-0.9**

*VAO **10** 00:29:58.0±0.5, 32.°82S×68.°83W, h10km, mb4.3*
*NEIC **10** 00:30:23.9±2.2, 31.°91S±0.°07×67.°54W±0.°05, h145km±7km, mb4.4/11, Md3.9(SJA), Error ellipse: s-maj=10.3km s-min=5.2km az=165.0*
*IDC **10** 00:30:24.4±1.1, 31.°90S×66.°96W, h133km±7km, mb3.8/5, mb1 3.6/8, mb1mx3.5/32, mbtmp4.0/8, MS2.9/1, Ms1 2.9/1, ms1mx2.5/52, Error ellipse: s-maj=44.8km s-min=18.7km az=114.0*
ISC 10 00:30:22.6±0.5, **31.°83S**±0.°06×**67.°52W**±0.°07, **h150**km, **n98**, σ2**s03**/100, **mb4.2**/8, **San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA03	**San Esteban**	**2.73**	**249**			**Pn**	**00 31 08.6**	**+1.9**
VA03				Sn		**Sn**	**00 31 37.4**	**-3.4**
CO01	**Juntas del Tor**	**2.88**	**309**	Pn		**Pn**	**00 31 11.9**	**+3.1**
CO03	**El Pedregal**	**2.89**	**289**			**Pn**	**00 31 11.6**	**+2.9**
PEL	**Peldehue**	**2.98**	**243**			**Pn**	**00 31 11.4**	**+1.6**
MT03	**Universidad Ad**	**3.02**	**236**			**Pn**	**00 31 11.9**	**+1.5**
LMEL	**Las Melosas**	**3.03**	**228**			**Pn**	**00 31 12.0**	**+1.5**
CO02	**Combarbal**	**3.04**	**281**			**Pn**	**00 31 12.9**	**+2.2**
MT05	**Renca**	**3.13**	**239**			**Pn**	**00 31 13.2**	**+1.5**
ROC1	**El Roble**	**3.17**	**248**			**Pn**	**00 31 11.1**	**-1.3**
GO04	**Tololo Observa**	**3.27**	**299**			**Pn**	**00 31 15.9**	**+2.3**
VA06	**Catapilco**	**3.29**	**256**	Pn		**Pn**	**00 31 14.1**	**+0.4**
MT02	**Curacav**	**3.38**	**244**			**Pn**	**00 31 15.1**	**+0.3**
BO04	**La Punta**	**3.38**	**230**	Pn		**Pn**	**00 31 15.8**	**+0.9**
MT09	**Talagante**	**3.51**	**235**			**Pn**	**00 31 17.1**	**+0.5**
VA01	**Torpederas**	**3.69**	**250**	Pn		**Pn**	**00 31 20.1**	**+1.3**
CO06	**Fray Jorge**	**3.71**	**287**	Pn		**Pn**	**00 31 19.8**	**+0.7**
CO05	**La Serena**	**3.72**	**300**			**Pn**	**00 31 20.9**	**+1.6**
MT01	**Popeta**	**3.74**	**236**			**Pn**	**00 31 19.4**	**-0.1**
VA05	**Santo Domingo**	**3.91**	**241**	Pn		**Pn**	**00 31 21.4**	**-0.2**
LCO	**Las Campanas**	**3.93**	**315**			**Pn**	**00 31 24.5**	**+2.3**
BO01	**Tunca**	**3.94**	**229**	Pn		**Pn**	**00 31 22.1**	**0.0**
BO02	**Sierra Bellavi**	**4.03**	**222**			**Pn**	**00 31 23.7**	**+0.4**
AC04	**Llanos de Chal**	**4.75**	**319**	Pn		**Pn**	**00 31 35.1**	**+2.3**
GO03	**Copiap**	**4.84**	**330**	Pn		**Pn**	**00 31 35.9**	**+1.9**
GO05	**Huala**	**4.87**	**228**	Pn		**Pn**	**00 31 32.5**	**-1.8**
ML02	**Panimavida**	**5.09**	**219**			**Pn**	**00 31 36.7**	**-0.5**
AC06	**Mina Casimiro**	**5.09**	**330**	Pn		**Pn**	**00 31 38.8**	**+1.4**
AC02	**Maricunga**	**5.17**	**344**	Pn		**Pn**	**00 31 41.2**	**+2.3**
AC01	**Pan de Azucar**	**6.27**	**334**	Pn		**Pn**	**00 31 54.3**	**+1.3**
BI05	**Punta Hualpn**	**6.79**	**222**	Pn		**Pn**	**00 31 56.2**	**-3.6**
GO02	**Mina Guanaco**	**6.89**	**344**	Pn		**Pn**	**00 32 02.7**	**+1.1**
PB14	**IPOC Station P**	**7.61**	**340**	Pn		**Pn**	**00 32 11.7**	**+0.5**
LC01	**Cuneo**	**7.90**	**206**	Pn		**Pn**	**00 32 12.1**	**-2.6**
PB15	**IPOC Station P**	**8.76**	**348**	Pn		**Pn**	**00 32 27.8**	**+1.4**
PLCA	**Paso Flores**	**9.22**	**195**	P		**Pn**	**00 32 30.8**	**-1.4**
	0.4nm,0.3s,baz=20,slow=17,SNR=7.4							
LVC	**Limon Verde**	**9.27**	**352**	P		**Pn**	**00 32 33.7**	**+0.4**
	0.7nm,0.3s,baz=206,slow=6.5,SNR=10							
LVC				S		**Sn**	**00 34 09.9**	**-6.4**
	0.3nm,0.3s,baz=127,slow=20,SNR=0.9							
LVC	**Limon Verde**	**9.27**	**352**	Pn		**Pn**	**00 32 34.4**	**+1.1**
ITQB	**Itaqui**	**9.62**	**80**	*e*P		**Pn**	**00 32 34.2**	**-3.3**
LL04	**Puerto Octay**	**9.88**	**202**			**Pn**	**00 32 37.1**	**-3.9**
LL03	**Petrohue**	**10.09**	**202**			**Pn**	**00 32 40.2**	**-3.4**
PB07	**IPOC Station P**	**10.28**	**348**	Pn		**Pn**	**00 32 45.2**	**-1.4**
CPUP	**Villa Florida**	**10.46**	**61**	P		**Pn**	**00 32 44.6**	**-4.0**
	0.2nm,0.3s,baz=231,slow=12,SNR=6.1							
CPUP				LR		LR	00 37 30.6	
	comp=Z,62nm,19.5s,baz=214,slow=42							
CPUP	**Villa Florida**	**10.46**	**61**	*e*P		**Pn**	**00 32 46.5**	**-2.2**
PB02	**IPOC Station P**	**10.68**	**348**	Pn		**Pn**	**00 32 50.7**	**-1.1**
PLTB	**Pedras Altas**	**11.84**	**93**	*e*P		Pn	00 33 01.4	-5.4
CPSB	**Cacapava Do Su**	**12.15**	**87**	*e*P		**Pn**	**00 33 06.4**	**-4.4**
ITAB	**Concordia**	**14.15**	**75**	Pn		**P**	**00 33 36.4**	**-3.0**
ITAB	**Concordia**	**14.15**	**75**	*e*P		**Pn**	**00 33 35.9**	**-0.5**
PTGB	**Pitanga**	**15.34**	**66**	*e*P		**P**	**00 33 52.5**	**-0.2**
LPAZ	**La Paz**	**15.48**	**358**	P		**P**	**00 33 56.5**	**+1.6**
	0.1nm,0.3s,baz=197,slow=11,SNR=2.7							
LPAZ	**La Paz**	**15.48**	**358**	*e*P		**Pn**	**00 33 48.8**	**-4.9**
TER01	**Tubaro-SC**	**16.24**	**83**	*e*P		**P**	**00 34 01.4**	**-1.1**
SIV	**San Ignacio**	**16.82**	**22**	P		**Pn**	**00 34 10.1**	**+0.6**
	0.2nm,0.3s,baz=209,slow=13,SNR=18							
FRTB	**Fartura**	**18.00**	**66**	*e*P		**Pn**	**00 34 23.6**	**+0.1**
PTLB	**Pontes e Lacer**	**18.01**	**27**	*e*P		**Pn**	**00 34 24.4**	**+0.8**
PP1B	**Ponte de Pedra**	**18.21**	**42**	*e*P		**Pn**	**00 34 27.4**	**+1.4**
PET01	**Itanhaem-SP**	**19.36**	**72**	*e*P		**Pn**	**00 34 37.7**	**-1.7**
VAO	**Valinhos**	**20.23**	**69**	*e*P		Pn	00 34 46.8	-2.9
MG03	**Isla Dawson**	**22.11**	**185**	P		**P**	**00 35 06.0**	**+0.3**
MG03				IAmb		IAmb	00 35 22.9	
	comp=Z,41nm,1.3s							
DSPA	**Despedida**	**22.12**	**181**	P		**P**	**00 35 07.0**	**+1.2**
PDRB	**Porto dos Gac**	**22.45**	**29**	*e*P		**P**	**00 35 10.6**	**+1.3**
MAN01	**Angra dos Reis**	**22.71**	**73**	*e*P		**P**	**00 35 12.8**	**+1.0**
BSCB	**Bom Sucesso**	**23.00**	**68**	*e*P		**P**	**00 35 15.3**	**+0.7**
USHA	**Ushuaia**	**23.00**	**181**	P		**P**	**00 35 17.4**	**+3.3**
	comp=Z,7.0nm,0.8s,baz=42,slow=12,SNR=2.0							
VAS01	**Vassouras-RJ**	**23.41**	**72**	*e*P		**P**	**00 35 18.8**	**+0.6**
BDFB	**Brasilia**	**23.98**	**52**	P		**P**	**00 35 23.9**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=226,slow=7.4,SNR=8.2							
BDFB	**Brasilia**	**23.98**	**52**	P		**P**	**00 35 23.0**	**-0.6**
BDFB				IAmb		IAmb	00 35 24.8	
	comp=Z,13nm,1.2s							
BDFB	**Brasilia**	**23.98**	**52**	*e*P		**P**	**00 35 24.5**	**+0.9**
DUB01	**Friburgo-RJ**	**24.37**	**73**	*e*P		**P**	**00 35 27.1**	**+0.1**
DIAM	**Diamantina, MG**	**25.38**	**64**	*e*P		**P**	**00 35 37.4**	**+1.1**
PEXB	**Peixe**	**26.43**	**46**	*e*P		**P**	**00 35 46.7**	**+1.1**
ALF01	**Guarapari-ES**	**26.43**	**72**	*e*P		**P**	**00 35 46.9**	**+1.4**
SJMB	**Sao Joao De Ma**	**27.08**	**67**	*e*P		**P**	**00 35 52.2**	**+0.9**
NPGB	**Novo Progresso**	**27.14**	**27**	*e*P		**P**	**00 35 53.9**	**+1.9**
NAN01	**Guarapari, ES**	**28.39**	**67**	*e*P		**P**	**00 36 03.3**	**+0.3**
SDBA	**SAO DESIDERIO**	**28.39**	**52**	*e*P		**P**	**00 36 04.4**	**+1.2**
GUA01	**Guaratinga, BA**	**29.37**	**65**	*e*P		**P**	**00 36 12.1**	**+0.4**
SMTB	**Santa Maria do**	**29.41**	**43**	*e*P		**P**	**00 36 14.2**	**+2.1**
CMC01	**Camacan, BA**	**30.32**	**64**	*e*P		**P**	**00 36 21.3**	**+1.2**
GDU01	**Guandu, BA**	**31.30**	**61**	*e*P		**P**	**00 36 29.1**	**+0.4**
NBPN	**Ponto Novo - B**	**32.75**	**56**	*e*P		**P**	**00 36 42.1**	**+0.7**
NBLA	**Lagarto - SE**	**34.39**	**60**	*e*P		**P**	**00 36 56.7**	**+1.1**
CELP	**Cerrillos**	**49.63**	**1**	P		**P**	**00 39 00.7**	**+1.8**
QSPA	**South Pole Qui**	**58.41**	**180**	P		**P**	**00 40 04.3**	**+2.1**
	comp=Z,1.1nm,0.6s,baz=139,slow=1.7,SNR=5.7							
QSPA	**South Pole Qui**	**58.41**	**180**	P		**P**	**00 40 04.2**	**+2.1**
QSPA				IAmb		IAmb	00 40 09.0	
	comp=Z,8.6nm,1.4s							
TXAR	**Lajitas Array**	**69.86**	**327**	pP		pP	00 41 53.2	-1.1
	comp=Z,0.2nm,0.6s,baz=162,slow=9.2,SNR=3.0							
DBIC	**Dimbokro**	**70.87**	**69**	P		**P**	**00 41 25.1**	**+1.5**
	comp=Z,3.8nm,0.8s,baz=196,slow=6.0,SNR=3.9							
DBIC	**Dimbokro**	**70.87**	**69**	P		**P**	**00 41 24.7**	**+1.2**
DBIC				IAmb		IAmb	00 41 26.2	
	comp=Z,5.6nm,0.9s							
TOA0	**Torodi Ar. Sit**	**79.88**	**68**	P		**P**	**00 42 17.0**	**+2.0**
TOA0				IAmb		IAmb	00 42 28.8	
	comp=Z,5.4nm,1.4s							
TORD	**Torodi Ar. Bea**	**79.88**	**68**	P		**P**	**00 42 16.8**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=280,slow=7.2,SNR=13							
TORD				pP		**pP**	**00 42 49.1**	**-3.2**
	comp=Z,0.4nm,0.7s,baz=286,slow=7.6,SNR=1.8							
TORD	**Torodi Ar. Bea**	**79.88**	**68**	P		**P**	**00 42 16.9**	**+1.8**
NVAR	**Mina Array Bea**	**84.39**	**322**			**P**	**00 42 40.4**	**+2.2**
GAR	**Garm**	**145.14**	**66**			**PKPab**	**00 49 42.6**	**+0.1**
BOOM	**Boomskoye usch**	**149.21**	**59**	PKPdf		**PKPdf**	**00 49 49.6**	**+0.6**
ZALV	**Zalesovo Beam**	**150.34**	**34**	PKPbc		**PKPab**	**00 49 58.9**	**-3.5**
	comp=Z,0.7nm,0.5s,baz=330,slow=2.4,SNR=6.5							
ZALV				pPKPbc		**pPKPbc**	**00 50 33.9**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=318,slow=2.0,SNR=2.5							
ZALV	**Zalesovo Beam**	**150.34**	**34**			**PKPab**	**00 49 58.6**	**-3.9**
MKAR	**Makanchi Array**	**152.48**	**48**	PKPbc		**PKiKP**	**00 50 03.5**	**+2.5**
	comp=Z,0.5nm,0.7s,baz=287,slow=1.4,SNR=5.6							
MKAR				pPKPbc		**pPKPbc**	**00 50 39.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=281,slow=2.0,SNR=4.0							
MKAR	**Makanchi Array**	**152.48**	**48**			**PKiKP**	**00 50 03.4**	**+2.4**

*IDC **10** 00:41:35.1±12.0, 48.°76N×149.°24E, h387km±188km, mb2.8/6, mb1 2.9/6, mb1mx2.7/38, mbtmp3.6/6, Error ellipse: s-maj=187.2km s-min=23.0km az=167.0*
ISC 10 00:41:31.3±7.6, **49.°N**±1.°×**149.°3E**±0.°3, **h350**km, **n7**, σ0**s34**/7, **mb3.1**/6, **Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZALV	**Zalesovo Beam**	**39.39**	**303**	P		**P**	**00 48 28.0**	**+0.1**
	0.4nm,0.3s,baz=69,slow=7.9,SNR=2.7							
INK	**Inuvik**	**41.45**	**33**	P		**P**	**00 48 44.8**	**+0.4**
	0.3nm,0.4s,baz=296,slow=4.7,SNR=4.7							
MKAR	**Makanchi Array**	**43.77**	**294**	P		**P**	**00 49 03.4**	**+0.1**
	0.7nm,0.5s,baz=68,slow=8.0,SNR=9.7							
YKA	**Yellowknife Ar**	**50.94**	**36**	P		**P**	**00 49 57.3**	**-0.3**
	0.1nm,0.4s,baz=302,slow=7.1,SNR=2.9							
FINES	**FINESS Array B**	**61.18**	**333**	P		**P**	**00 51 09.1**	**-0.2**
	0.7nm,0.4s,baz=45,slow=8.6,SNR=8.2							
NB2	**NORSAR Subarra**	**65.55**	**339**	P		**P**	**00 51 37.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=30,slow=6.2							
NOA	**NORSAR Array B**	**65.55**	**339**	P		**P**	**00 51 37.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=28,slow=6.5,SNR=4.1							

*HEL **10** 01:07:26.2±0.3, 67.°78N×20.°11E, h0km, ML1.9, Explosion*
*IDC **10** 01:07:27.4±1.3, 67.°78N×20.°39E, h0km, mb1 2.6/3, mb1mx2.5/36, mbtmp2.5/3, ML1.8/3, Error ellipse: s-maj=19.8km s-min=9.4km az=112.0*
ISC 10 01:07:26.9±1.2, **67.°81N**±0.°04×**20.°22E**±0.°06, **h0**km, **n19**, σ1**s12**/30, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LANU	**Lannavaara**	**0.71**	**69**	PG		**Pg**	**01 07 39.9**	**-0.6**
LANU				SG		**Sg**	**01 07 49.0**	**-0.7**
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P		**Pg**	**01 07 48.6**	**-1.7**
KIF	**Kilpisjarvi**	**1.22**	**10**	PG		**Pg**	**01 07 49.6**	**-0.7**
KIF				MSG			01 08 05.3	
	comp=Z,10nm,0.2s							
KIF				SG		**Sg**	**01 08 05.9**	**-0.2**
PAJU	**Pajala**	**1.37**	**124**	PN		**Pg**	**01 07 51.8**	**-1.3**
PAJU				SN		**Sg**	**01 08 10.3**	**-0.4**
HEF	**Hetta**	**1.42**	**63**	*e*P		**Pg**	**01 07 52.4**	**-1.8**
HEF	**Hetta**	**1.42**	**63**	PG		**Pg**	**01 07 52.7**	**-1.5**
HEF				MSG			01 08 10.5	
	comp=Z,6.2nm,0.2s							
HEF				SG		**Sn**	**01 08 13.2**	**-0.2**
KLF	**Kolari**	**1.55**	**110**	PG		**Pn**	**01 07 55.1**	**-0.7**
KLF				SN		**Sg**	**01 08 16.4**	**-0.3**
KALU	**Kalix**	**2.32**	**146**	PG		**Pn**	**01 08 07.3**	**+1.0**
	baz=332							
KALU				SG		**Sb**	**01 08 37.7**	**-0.8**
TOF	**Tornio**	**2.37**	**135**	PG		**Pn**	**01 08 08.3**	**+1.3**
TOF				MSG			01 08 36.7	
	comp=Z,5.0nm,0.2s							
TOF				SG		**Sb**	**01 08 40.7**	**+0.5**
SGF	**Sodankyl**	**2.44**	**96**

NGRK				*e*			01 15 44.6	
	comp=Z,1μm,0.3s							
MASF	**Masafi**	**2.20**	**187**	P		**Pb**	**01 15 15.9**	**-1.5**
MASF				S		**Sb**	**01 15 43.0**	**-1.5**
MSFE	**Esma-Masafi**	**2.21**	**187**	P		**Pb**	**01 15 16.6**	**-0.9**
KBAM	**BAM**	**2.34**	**48**	*e*Pn		**Pn**	**01 15 16.7**	**+0.8**
KBAM				*e*			01 15 57.9	
	comp=Z,426nm,0.3s							
KRBR	**Kerman**	**2.42**	**6**	*e*Pg		**Pb**	**01 15 19.6**	**-1.7**
TVBK	**TV Kerman**	**2.43**	**6**	*e*Pn		**Pn**	**01 15 18.7**	**+1.4**
TVBK				*e*			01 15 53.4	
	comp=Z,1μm,0.3s							
CHMN	**Cheshme madani**	**2.47**	**22**	*e*Pn		**Pn**	**01 15 18.5**	**+0.6**
CHMN				*e*			01 15 54.4	
	comp=Z,534nm,0.4s							
HATD	**Hatta, Dubai**	**2.75**	**186**	P		**Pn**	**01 15 23.1**	**+1.8**
HATD				S		**Sn**	**01 15 55.4**	**+1.1**
HATD	**Hatta, Dubai**	**2.75**	**186**	P		**Pb**	**01 15 24.7**	**-1.9**
KHGB	**Koh Gabri**	**2.80**	**0**	*e*Pn		**Pn**	**01 15 23.4**	**+1.1**
KHGB				*e*			01 15 32.4	
	comp=Z,268nm,0.8s							
ASHO	**Ashiyiah**	**2.89**	**187**	P		**Pn**	**01 15 25.1**	**+1.7**
	SNR=9.9							
ASHO	**Ashiyiah**	**2.89**	**187**	P		**Pn**	**01 15 24.5**	**+1.1**
QIR1	**Qir**	**3.16**	**287**	*e*Pn		**Pn**	**01 15 26.9**	**-0.3**
ALNE	**Al Ain**	**3.55**	**191**	P		**Pn**	**01 15 34.6**	**+2.1**
ALNE				S		**Sn**	**01 16 16.7**	**+2.4**
IMEH	**Mehriz**	**4.14**	**337**	*e*Pn		**Pn**	**01 15 41.5**	**+0.7**
IMEH				*e*			01 16 33.8	
	comp=Z,131nm,0.6s							
BSRN	**Basiran**	**4.96**	**27**	*e*Pn		**Pn**	**01 15 52.6**	**+0.7**
YZKH	**Yazd**	**5.08**	**342**	*e*Pn		**Pn**	**01 15 54.7**	**+1.2**
SHMA	**Al-Shehemyia**	**5.21**	**252**	P		**Pn**	**01 15 56.4**	**+1.2**
SRVN	**Saravan**	**5.27**	**90**	*e*Pn		**Pn**	**01 15 57.5**	**+1.3**
JMDO	**Jabal Madar**	**5.38**	**164**	P		**Pn**	**01 15 56.1**	**-1.5**
KLNJ	**Kolanjah**	**5.47**	**310**	*e*Pn		**Pn**	**01 16 00.3**	**+1.1**
IRAM	**Ramesheh**	**5.53**	**321**	*e*Pn		**Pn**	**01 16 01.5**	**+1.7**
SMRA	**Abu-Samra**	**5.80**	**242**	P		**Pn**	**01 16 02.6**	**-0.7**
SMRA				S		**Sn**	**01 17 09.4**	**-0.3**
JLN	**Jalan Bani Buh**	**6.01**	**153**	P		**Pn**	**01 16 05.2**	**-1.1**
JLN				S		**Sn**	**01 17 12.9**	**-2.1**
TABS	**Tabas**	**6.09**	**5**	*e*Pn		**Pn**	**01 16 08.0**	**+0.6**
MHTO	**MHTO**	**6.69**	**168**	P		**Pn**	**01 16 16.0**	**+0.4**
DOK	**Doka**	**9.16**	**194**	P		**Pn**	**01 16 48.6**	**-0.9**
WHFO	**Wadi Hawf**	**9.92**	**195**	P		**Pn**	**01 17 00.6**	**+0.6**
	SNR=8.4							

IDC ***10*** *01:45:01.0±2.9, 31.°00S×71.°47W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/52, Error ellipse: s-maj=108.2km s-min=37.5km az=8.0*
GUC ***10*** *01:45:07.2±0.6, 30.°72S×71.°37W, h43km±1km, ML4.0*
NEIC ***10*** *01:45:09.1±1.1, 30.°72S±0.°05×71.°5W±0.°1, h43km±2km, mb3.9/4, ML4.0(GUC), Error ellipse: s-maj=17.8km s-min=7.3km az=100.0*

ISC 10 01:45:08.7±0.8, 30.°71S±0.°03×71.°44W±0.°05, h44km±7km, n66, σ1♀15/77, mb3.8/4, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.17**	**282**		**Pn**	**01 45 17.1**	**+0.8**
CO06	**Fray Jorge**	**0.17**	**282**	⇑*iP*	**Pn**	**01 45 17.0**	**+0.8**
CO06				*eS*	**Sn**	**01 45 22.0**	**+0.5**
CO02	**Combarbal**	**0.62**	**143**		**Pn**	**01 45 21.3**	**0.0**
CO02	**Combarbal**	**0.62**	**143**	*eP*	**Pn**	**01 45 21.1**	**-0.2**
CO02				*eS*	**Sn**	**01 45 30.0**	**-0.3**
CO02				IAML		01 45 30.6	
	comp=N,93μm,0.2s						
CO03	**El Pedregal**	**0.66**	**102**		**Pn**	**01 45 21.6**	**-0.2**
CO03	**El Pedregal**	**0.66**	**102**	⇓*iP*	**Pn**	**01 45 21.6**	**-0.2**
CO03				*eS*	**Sn**	**01 45 30.4**	**-0.8**
CO03				IAML		01 45 31.8	
	comp=N,13μm,0.1s						
GO04	**Tololo Observa**	**0.77**	**46**		**Pn**	**01 45 23.7**	**+0.3**
GO04	**Tololo Observa**	**0.77**	**46**	*eP*	**Pn**	**01 45 23.4**	**0.0**
GO04				*eS*	**Sn**	**01 45 34.5**	**+0.5**
GO04				IAML		01 45 36.4	
	comp=N,18μm,0.2s						
CO05	**La Serena**	**0.81**	**12**		**Pn**	**01 45 24.6**	**+1.0**
CO05	**La Serena**	**0.81**	**12**	⇓*eP*	**Pn**	**01 45 24.5**	**+0.9**
CO05				*eS*	**Sn**	**01 45 35.0**	**+0.5**
CO01	**Juntas del Tor**	**1.37**	**58**	Pn	**Pn**	**01 45 32.8**	**+1.2**
CO01	**Juntas del Tor**	**1.37**	**58**	⇓*eP*	**Pn**	**01 45 32.8**	**+1.2**
CO01				*eS*	**Sn**	**01 45 50.5**	**+1.8**
CO01				IAML		01 45 51.4	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**1.81**	**21**		**Pn**	**01 45 38.4**	**+0.8**
LCO	**Las Campanas**	**1.81**	**21**	⇓*eP*	**Pn**	**01 45 38.6**	**+1.0**
LCO				*eS*	**Sn**	**01 46 01.6**	**+2.1**
VA06	**Catapilco**	**1.85**	**176**	Pn	**Pn**	**01 45 38.5**	**+0.6**
VA06	**Catapilco**	**1.85**	**176**	*eP*	**Pn**	**01 45 38.4**	**+0.5**
VA06				*eS*	**Sn**	**01 46 02.4**	**+2.3**
VA06				IAML		01 46 10.6	
	comp=N,1μm,0.3s						
VA03	**San Esteban**	**2.18**	**160**		**Pn**	**01 45 43.2**	**+0.5**
VA03	**San Esteban**	**2.18**	**160**	*eP*	**Pn**	**01 45 43.7**	**+1.1**
VA03				*eS*	**Sn**	**01 46 11.2**	**+2.8**
VA03				IAML		01 46 16.0	
	comp=E,1μm,0.2s						
ROCH	**El Roble**	**2.29**	**171**	*eP*	**Pn**	**01 45 45.0**	**+0.8**
ROCH				*eS*	**Sn**	**01 46 13.6**	**+2.4**
ROCH				IAML		01 46 27.2	
	comp=N,794nm,0.3s						
ROC1	**El Roble**	**2.29**	**171**		**Pn**	**01 45 43.4**	**-0.8**
VA01	**Torpederas**	**2.31**	**184**		**Pn**	**01 45 44.8**	**+0.5**
PEL	**Peldehue**	**2.51**	**165**		**Pn**	**01 45 46.4**	**-0.6**
PEL	**Peldehue**	**2.51**	**165**	*eP*	**Pn**	**01 45 48.4**	**+1.3**
PEL				*eS*	**Sn**	**01 46 17.9**	**+1.5**
PEL				IAML		01 46 31.8	
	comp=E,313nm,0.3s						
AC04	**Llanos de Chal**	**2.52**	**7**	Pn	**Pn**	**01 45 48.1**	**+1.0**
MT02	**Curacav**	**2.56**	**174**		**Pn**	**01 45 47.9**	**+0.3**
MT02	**Curacav**	**2.56**	**174**	*eP*	**Pn**	**01 45 48.1**	**+0.4**
MT02				*eS*	**Sn**	**01 46 19.9**	**+2.4**
MT05	**Renca**	**2.74**	**168**		**Pn**	**01 45 50.6**	**+0.4**
MT05	**Renca**	**2.74**	**168**	*eP*	**Pn**	**01 45 51.3**	**+1.1**
MT05				*eS*	**Sn**	**01 46 23.8**	**+1.6**
MT05				IAML		01 46 38.8	
	comp=E,883nm,0.3s						
FCH	**Farellones**	**2.79**	**160**	*eP*	**Pn**	**01 45 52.8**	**+1.7**
FCH				*eS*	**Sn**	**01 46 26.1**	**+2.4**
FCH				IAML		01 46 39.7	
	comp=E,271nm,0.3s						
MT03	**Universidad Ad**	**2.89**	**164**		**Pn**	**01 45 53.4**	**+1.1**
MT03	**Universidad Ad**	**2.89**	**164**	*eP*	**Pn**	**01 45 53.6**	**+1.4**
MT03				*eS*	**Sn**	**01 46 28.2**	**+2.4**
MT03				IAML		01 46 42.4	
	comp=N,721nm,0.3s						
VA05	**Santo Domingo**	**2.94**	**183**		**Pn**	**01 45 52.0**	**-0.9**
VA05	**Santo Domingo**	**2.94**	**183**	*eP*	**Pn**	**01 45 53.5**	**+0.6**
VA05				*eS*	**Sn**	**01 46 27.8**	**+0.8**
VA05				IAML		01 46 42.1	
	comp=E,432nm,0.3s						
MT09	**Talagante**	**3.08**	**173**		**Pn**	**01 45 55.4**	**+0.4**
MT09	**Talagante**	**3.08**	**173**	*eP*	**Pn**	**01 45 55.9**	**+0.9**
MT09				*eS*	**Sn**	**01 46 31.3**	**+0.7**
MT09				IAML		01 46 46.2	
	comp=N,324nm,0.3s						
MT01	**Popeta**	**3.15**	**177**		**Pn**	**01 45 55.6**	**-0.2**
MT01	**Popeta**	**3.15**	**177**	*eP*	**Pn**	**01 45 56.2**	**+0.4**
MT01				*eS*	**Sn**	**01 46 32.1**	**0.0**
MT01				IAML		01 46 43.0	
	comp=E,253nm,0.2s						
GO03	**Copiap**	**3.28**	**19**		**Pn**	**01 45 58.1**	**+0.5**
LMEL	**Las Melosas**	**3.30**	**162**		**Pn**	**01 46 00.1**	**+2.1**
BO04	**La Punta**	**3.34**	**168**	Pn	**Pn**	**01 45 59.0**	**+0.4**
AC06	**Mina Casimiro**	**3.47**	**16**	Pn	**Pn**	**01 46 00.8**	**+0.6**
BO01	**Tunca**	**3.69**	**175**	Pn	**Pn**	**01 46 03.7**	**+0.6**
BO02	**Sierra Bellavi**	**4.11**	**172**		**Pn**	**01 46 08.7**	**-0.3**
GO05	**Huala**	**4.31**	**185**	Pn	**Pn**	**01 46 10.8**	**-0.9**
AC02	**Maricunga**	**4.36**	**28**	Pn	**Pn**	**01 46 13.9**	**+1.1**
AC01	**Pan de Azucar**	**4.60**	**9**	Pn	**Pn**	**01 46 15.2**	**-0.6**
H03N1	**Juan Fernandez**	**6.90**	**245**	Pn	**Pn**	**01 46 46.5**	**-0.6**
	baz=111,slow=19,SNR=24						
H03N1				T	T	01 53 37.7	
	baz=73,slow=72,SNR=930						
H03N3	**Juan Fernandez**	**6.92**	**245**	Pn	**Pn**	**01 46 46.5**	**-0.8**
	baz=111,slow=19,SNR=28						
H03N3				T	T	01 53 36.6	
	baz=73,slow=72,SNR=787						
H03N2	**Juan Fernandez**	**6.92**	**245**	Pn	**Pn**	**01 46 46.8**	**-0.5**
	baz=111,slow=19,SNR=22						
H03N2				T	T	01 53 38.4	
	baz=73,slow=72,SNR=822						
H03S3	**Juan Fernandez**	**7.05**	**242**	Pn	**Pn**	**01 46 47.7**	**-1.4**
H03S1	**Juan Fernandez**	**7.05**	**242**	Pn	**Pn**	**01 46 47.0**	**-2.1**
H03S2	**Juan Fernandez**	**7.07**	**242**	Pn	**Pn**	**01 46 47.6**	**-1.6**
LVC	**Limon Verde**	**8.38**	**16**	LR	LR	01 50 28.7	
	comp=E,82nm,18.3s,baz=200,slow=38						
CPUP	**Villa Florida**	**13.15**	**74**	Pn	**Pn**	**01 48 11.6**	**-1.2**
	comp=E,0.1nm,0.3s,baz=266,slow=13,SNR=1.6						
BDFB	**Brasilia**	**26.16**	**60**	P	**P**	**01 50 38.4**	**-0.8**
	comp=E,0.5nm,0.3s,baz=230,slow=7.9,SNR=3.8						
BDFB	**Brasilia**	**26.16**	**60**	IAmb	IAmb	01 51 05.0	
	comp=Z,3.7nm,1.2s						
TXAR	**Lajitas Array**	**67.14**	**330**	P	**P**	**01 55 58.5**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=146,slow=9.8,SNR=1.9						
TX32	**Lajitas Array**	**67.14**	**330**	P	**P**	**01 55 57.9**	**-0.1**
DBIC	**Dimbokro**	**73.66**	**72**	P	**P**	**01 56 37.6**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=207,slow=6.4,SNR=4.4						
DBIC	**Dimbokro**	**73.66**	**72**	IAmb	IAmb	01 56 39.1	
	comp=Z,13nm,1.4s						
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P	**P**	**01 57 27.5**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=251,slow=4.2,SNR=17						
TORD	**Torodi Ar. Bea**	**82.61**	**70**	IAmb	IAmb	01 57 41.0	
	comp=Z,2.2nm,1.4s						
H11S2	**WAKE ISLAND Hyd**	**26.27**	**271**	T	T	04 22 52.1	
	baz=115,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hyd**	**26.28**	**271**	T	T	04 22 51.7	
	baz=115,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hyd**	**26.29**	**271**	T	T	04 22 53.1	
	baz=115,slow=75,SNR=9.7						
ZALV	**Zalesovo Beam**	**151.15**	**30**	PKPbc	**PKPbc**	**02 04 55.8**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=307,slow=4.0,SNR=5.5						

ISK ***10*** *01:53:25.5, 36.°98N×29.°00E, h2km, ML1.4/3*
DDA 10 01:53:16.6±0.0, 36.°86N×28.°34E, h7km±4km, ML1.7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.11**	**221**	P	Pg	01 53 19.4	+0.3
TURN				S	Sg	01 53 25.5	+4.7
DALY	**Dalyan (Mula)**	**0.26**	**100**	PG	Pn	01 53 33.1	+6.3
DALY				SG	Sb	01 53 37.8	+10
FETY	**Fethiye**	**0.64**	**110**	PG	Pn	01 53 33.3	+1.2
FETY				SG	Sb	01 53 39.0	-0.3
FETY	**Fethiye**	**0.64**	**110**	P	Pb	01 53 30.4	+0.2
FETY				S	Sg	01 53 38.0	+0.7
TAVA	**DENIZLI_Tavas**	**0.76**	**37**	P	Pn	01 53 35.3	+1.4
TAVA				S	Sg	01 53 41.8	+0.6
CAME	**Cameli-Denizli**	**0.78**	**84**	PG	Pg	01 53 31.0	-0.6
CAME				SG	Sg	01 53 35.9	-5.8
CAEL	**Denizli, Camel**	**0.83**	**71**	P	Pg	01 53 32.6	+0.1
CAEL				S	Sg	01 53 37.9	-5.4
CAEL				*i* AML	AML	01 53 52.0	
	comp=N,43nm,1.9s						
CAEL				*i* AML	AML	01 53 57.0	
	comp=E,40nm,1.8s						
GOLH	**Golhisar**	**1.05**	**69**	P	Pg	01 53 36.3	-0.4
GOLH				S	Sg	01 53 44.5	-5.8
GOLH				*i* AML	AML	01 53 58.0	
	comp=Z,12nm,1.9s						
GOLH				*i* AML	AML	01 54 07.0	
	comp=N,14nm,2.1s						
GOLH				*i* AML	AML	01 54 07.0	
	comp=E,23nm,2.7s						

IDC 10 02:02:35.9±2.1, 4.°07N×126.°51E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.5/3, Error ellipse: s-maj=170.2km s-min=26.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.07**	**162**	P	P	02 08 02.3	+0.1
	0.8nm,0.8s,baz=342,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**28.49**	**166**	P	P	02 08 32.9	-0.2
	0.2nm,0.4s,baz=337,slow=9.3,SNR=1.3						
MKAR	**Makanchi Array**	**57.15**	**325**	P	P	02 12 24.6	0.0
	0.7nm,0.8s,baz=138,slow=7.1,SNR=7.5						

KRNET ***10*** *02:08:18.1±0.1, 39.°46N×73.°90E, mb2.6*
SOME ***10*** *02:08:23.6, 39.°82N×73.°43E, h15km*
ISC 10 02:08:21.9±1.4, 39.°80N±0.°06×73.°66E±0.°04, h10km, n16, σ1♀86/32, 10C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.99**	**317**	⇑*iP*	**Pn**	**02 08 43.4**	**+1.4**
	baz=21						
OHH				⇑*iS*	**Sn**	**02 09 02.3**	**+6.2**
	baz=21						
DRK	**Karamyk**	**1.47**	**258**	⇑*iP*	**Pn**	**02 08 48.3**	**-0.5**
	baz=71						
DRK				⇑*iS*	**Sg**	**02 09 10.7**	**+1.3**
	baz=71						
BTK	**Batken**	**2.20**	**278**	⇑*iP*	**Pb**	**02 09 00.4**	**-1.5**
	baz=85						
BTK				⇑*iS*	**Sg**	**02 09 31.9**	**-0.8**
	baz=85						
ARK	**Arkit**	**2.38**	**328**	⇑*iP*	**Pb**	**02 09 05.2**	**+0.3**
	baz=28						
ARK				⇑*iS*	**Sg**	**02 09 39.5**	**+1.2**
	baz=28						
UCH	**Uchtor**	**2.51**	**15**	⇓*iP*	**Pb**	**02 09 06.1**	**-1.3**
	baz=9.0						
UCH				⇓*iS*	**Sg**	**02 09 40.6**	**-2.0**
	baz=9.0						
TRKS	**Terek-Say**	**2.58**	**313**	⇓*eP*	**Pb**	**02 09 07.1**	**-1.4**
	baz=15						
TRKS				⇓*iS*	**Sg**	**02 09 42.7**	**-2.2**
	baz=15						
MRKS	**Merke**	**2.96**	**354**	*eP*	**Pg**	**02 09 18.1**	**-0.6**
	3.3nm,0.3s						
MRKS				*eS*	**Sg**	**02 09 57.1**	**+0.1**
	5.5nm,0.3s						
TKM2	**Tokmak 2**	**3.44**	**24**	⇑Pg	**Pb**	**02 09 23.6**	**+0.5**
	2.6nm,1.4s						
TKM2				⇑Lg	Lg	02 10 08.4	
	1.8nm,0.5s						
IUG	**Iuzhnay**	**3.61**	**312**	*eP*	**Pb**	**02 09 26.4**	**+0.4**
	54nm,0.3s						
IUG				*eS*	**Sb**	**02 10 11.5**	**+1.6**
	9.7nm,0.3s						
KST	**Kastek**	**3.67**	**27**	*eP*	**Pg**	**02 09 31.5**	**-0.8**
	1.5nm,0.2s						
KST				*eS*	**Sg**	**02 10 20.1**	**+0.3**
	5.1nm,0.4s						
SGDS	**Sogindy**	**3.72**	**11**	*eP*	**Pg**	**02 09 30.8**	**-2.4**
	1.2nm,0.3s						
SGDS				*eS*	**Sg**	**02 10 18.9**	**-2.5**
	2.4nm,0.6s						
DGS	**Degeres**	**3.79**	**24**	*eP*	**Pg**	**02 09 33.7**	**-0.8**
	1.9nm,0.2s						
DGS				*eS*	**Sg**	**02 10 23.8**	**+0.3**
	2.5nm,0.6s						
KK31	**Karatay Array**	**4.06**	**325**	Pn	**Pb**	**02 09 29.6**	**-3.9**
	0.2nm,0.4s,baz=134,slow=11,SNR=5.2						
KK31				Pg	**Pg**	**02 09 38.5**	**-1.2**
	0.8nm,0.6s,baz=139,slow=16,SNR=4.7						
KK31				⇓Sn	**Sb**	**02 10 21.3**	**-1.4**
	0.4nm,0.3s,baz=45,slow=36,SNR=5.0						
KK31				⇓Lg	Lg	02 10 36.4	
	0.5nm,0.3s,baz=140,slow=30						
TNSS	**Tian-Shan**	**4.07**	**36**	*eP*	**Pg**	**02 09 39.3**	**-0.6**
	1.3nm,0.5s						
TNSS				*eS*	**Sg**	**02 10 33.6**	**+0.9**
	1.9nm,0.3s						
KRBS	**Karabastau**	**4.17**	**20**	*eP*	**Pg**	**02 09 41.0**	**-0.9**
	0.8nm,0.4s						
KRBS				*eS*	**Sg**	**02 10 36.4**	**+0.4**
	1.3nm,0.4s						
KTBS	**Karatobe**	**4.51**	**29**	*eP*	**Pg**	**02 09 47.0**	**-1.4**
	0.6nm,0.5s						
KTBS				*eS*	**Sg**	**02 10 46.8**	**0.0**
	2.3nm,0.6s						

BJI ***10*** *02:14:29.2±0.0, 4.°80S×102.°14E, h55km, mb6.0/86, mB5.7/67, Ms5.5/93, Ms7 5.4/86*
KLM ***10*** *02:14:31, 4.°50S×102.°08E, h12km, mb6.2*
NEIC ***10*** *02:14:34.6±2.3, 4.°15S±0.°06×102.°21E±0.°05, h41km±1km, mb6.0/251, Ms_20 5.3/187, Mwb5.5/50, Mww5.7, Error ellipse: s-maj=10.5km s-min=8.2km az=27.0*
MOS ***10*** *02:14:34.5±0.9, 4.°01S×102.°32E, h60km, mb6.3/99, MS5.1/22, Error ellipse: s-maj=6.4km s-min=3.8km az=111.1*
DJA ***10*** *02:14:34.1±0.2, 4.°S±2.°×10.°2E±.°, h69km±2km, M5.6/86, mB6.1/79, mb6.0/86, MLv6.3/26, Mw(mB)5.8/79, MwMwp5.4/51, Mwp5.6/51*
NEIC ***10*** *02:14:34.5, 4.°17S×102.°19E, h35km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 1.90; Mθθ -1.99; Mθφ 0.10; Mrθ 1.14; Mφφ 1.27; Mφr -0.15; Fault plane solution: Mo 2.59000×10^17 NP1: φs 103.98000°, δ 59.13000°, λ 76.19000°. NP2: φs 309.57000°, δ 33.53000°, λ 111.76000°. Principal axes: T 2.2226, Plg 72.0000°, Azm 340.0000°; N 0.6220, Plg 12.0000°, Azm 111.0000°; P -2.8446, Plg 13.0000°, Azm 204.0000°;*
IDC ***10*** *02:14:36.6±1.0, 4.°10S×102.°36E, h65km±8km, mb5.7/50, mb1 5.7/52, mb1mx5.6/55, mbtmp6.0/52, MS4.9/71, Ms1 4.9/71, ms1mx4.9/83 Error ellipse: s-maj=9.5km s-min=6.1km az=46.0*
GCMT ***10*** *02:14:37.5±0.1, 4.°42S±0.°01×102.°05E±0.°01, h48km, MW5.7/146, Moment Tensor Solution. s146, c280; s141, c289; Duration: 1♀7 Moment tensor: Scale 10^17 Nm; Mrr 3.43±.05; Mθθ -1.82±.04; Mφφ -1.61±.04; Mrθ 2.60±.05; Mθφ 2.13±.03; Mrr -0.91±.04; Best double couple: Mo 4.57700×10^17 NP1: φs 329.00000°, δ 30.00000°, λ 117.00000°. NP2: φs 119.00000°, δ 64.00000°, λ 76.00000°. Principal axes: T 4.5000, Plg 68.0000°, Azm 1.0000°; N 0.1540, Plg 13.0000°, Azm 125.0000°; P -4.6540, Plg 18.0000°, Azm 219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***10*** *02:14:40, 4.°14S×102.°27E, h60km, Moment Tensor Solution. Duration: 8♀0 Moment tensor: Scale 10^17 Nm; Mrr 2.44; Mθθ -1.52; Mφφ -0.92; Mrθ 2.99; Mθφ 1.86; Mφr -1.72; Fault plane solution: Mo 4.46000×10^17 NP1: φs 323.00000°, δ 20.00000°, λ 111.00000°. NP2: φs 121.00000°, δ 71.00000°, λ 82.00000°. Principal axes: T 4.1406, Plg 63.0000°, Azm 19.0000°; N 0.5839, Plg 7.0000°, Azm 124.0000°; P -4.7246, Plg 26.0000°, Azm 217.0000°;*

ISC 10 02:14:34.4±0.2, 4.°18S±0.°02×102.°26E±0.°03, h52km±1km, h52km: pP-P, n1972, σ1♀48/2100, mb6.0/336, MS5.2/202, 388C-121D, Fault plane solution: NP1: φs 258.91592°, δ 40.13298°, λ 53.23114°. NP2: φs 123.26021°, δ 58.91345°, λ 116.77768°. Principal axes: T Plg 64.9206°, Azm 81.9870°; N Plg 22.6952°, Azm 288.6556°; P Plg 10.1087°, Azm 194.3797°; Fault plane solution: NP1: φs 146.40234°, δ 58.89657°, λ 82.06681°. NP2: φs 341.49890°, δ 32.00069°, λ 102.88551°. Principal axes: T Plg 74.7825°, Azm 34.5751°; N Plg 6.7869°, Azm 150.5198°; P Plg 13.5548°, Azm 242.1640°; Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.72**	**105**	Pn	**Pn**	**02 14 49.4**	**+0.9**
MNAI				Sn	**Sn**	**02 15 00.4**	**+1.5**
MNAI	**Manna**	**0.72**	**105**	P	**Pn**	**02 14 49.2**	**+0.7**
MNAI				S	**Sn**	**02 14 59.8**	**+1.0**
MNAI	**Manna**	**0.72**	**105**	P	**Pn**	**02 14 49.9**	**+1.4**
MASI	**Maura Aman, Be**	**1.03**	**359**	P	**Pn**	**02 14 54.4**	**+1.7**
LWLI	**Liwa**	**1.98**	**115**	P	**Pn**	**02 15 06.7**	**+1.0**
KRJI	**Kerinci**	**2.22**	**339**	P	**Pn**	**02 15 11.4**	**+2.5**
KLSI		**2.52**	**102**	P	**Pn**	**02 15 14.7**	**+1.8**
KASI	**Kota Agung**	**2.60**	**121**	P	**Pn**	**02 15 14.4**	**+0.3**
PPSI	**Pulau Pagai**	**2.65**	**302**	P	**Pn**	**02 15 15.9**	**+1.2**
PPSI				S	**Sn**	**02 15 44.7**	**-0.8**
KLI	**Kotabumi**	**2.68**	**105**	P	**Pn**	**02 15 16.9**	**+1.8**
PMBI	**Palembang**	**2.80**	**64**		**Pn**	**02 15 18.3**	**+1.5**
PMBI	**Palembang**	**2.80**	**64**	P	**Pn**	**02 15 18.8**	**+2.0**
PMBI	**Palembang**	**2.80**	**64**	P	**Pn**	**02 15 19.3**	**+2.5**
JMBI	**JAMBI**	**2.88**	**29**	P	**Pn**	**02 15 21.2**	**+3.3**
BLSI	**Bandar Lampung**	**3.21**	**112**	P	**Pn**	**02 15 23.7**	**+1.3**
RGRI	**Rengat**	**3.80**	**1**	P	**Pn**	**02 15 35.0**	**+4.4**
PPI	**Padang Panjang**	**4.13**	**333**	P	**Pn**	**02 15 36.8**	**+1.7**
CGJI	**Cibinong**	**4.19**	**125**	P	**Pn**	**02 15 36.0**	**+0.1**
SISI	**Saibi**	**4.24**	**312**	P	**Pn**	**02 15 37.5**	**+0.9**
DSRI	**Dabo**	**4.34**	**32**	P	**Pn**	**02 15 41.5**	**+3.5**
PPBI	**Pangkal Pinang**	**4.36**	**63**	P	**Pn**	**02 15 40.3**	**+2.1**
BKNI	**Bangkinang**	**4.63**	**345**		**Pn**	**02 15 43.9**	**+1.9**
BKNI	**Bangkinang**	**4.63**	**345**	P	**Pn**	**02 15 44.4**	**+2.4**
BKNI	**Bangkinang**	**4.63**	**345**	P	**Pn**	**02 15 45.6**	**+3.6**
TNG	**Tangerang**	**4.80**	**115**	P	**Pn**	**02 15 47.4**	**+3.2**
TNG				P	Pn	02 15 49.7	+5.5
DBJI	**Dramaga**	**5.06**	**118**	P	**Pn**	**02 15 51.0**	**+3.2**
	26nm47μm2μm,1.2s						
SKJI	**Sukabumi**	**5.12**	**123**	P	**Pn**	**02 15 49.8**	**+1.2**
	26nm25μm1μm,0.7s						
TPRI	**Tanjung Pinang**	**5.55**	**24**	P	**Pn**	**02 15 58.1**	**+3.6**
	13nm35μm3μm,0.7s						
MNSI	**Mandailing Nat**	**5.62**	**332**	P	**Pn**	**02 15

LHMI	**Lhok Sumawe**	**10.74**	**330**	Pn		**Pn**	**02 17 04.4**	**-1.3**
LHMI	**Lhok Sumawe**	**10.74**	**330**	P		**Pn**	**02 17 03.6**	**-2.1**
	13µm7µm680nm,0.9s							
LHMI	**Lhok Sumawe**	**10.74**	**330**	P		**Pn**	**02 17 05.4**	**-0.3**
BLJI	**Banyuglugur**	**11.82**	**108**	P		**Pn**	**02 17 22.0**	**+1.6**
	5µm347nm,0.9s							
GMJI	**Gumukmas**	**11.84**	**111**	P		**Pn**	**02 17 19.9**	**-0.8**
	5µm485nm,0.6s							
SBUM	**Sibu**	**11.94**	**57**			**Pn**	**02 17 25.5**	**+3.5**
SBUM	**Sibu**	**11.94**	**57**	P		Pn	02 17 27.0	+5.0
KMMI	**Kalianget**	**12.00**	**104**	P		**Pn**	**02 17 24.5**	**+1.6**
	10µm9µm571nm,0.8s							
ABJI	**Asem Bagus**	**12.44**	**107**	P		**Pn**	**02 17 30.9**	**+2.0**
	10µm16µm2µm,0.7s							
JAGI	**Jajag, Banyuwa**	**12.57**	**110**	Pn		**Pn**	**02 17 29.8**	**-0.9**
JAGI	**Jajag, Banyuwa**	**12.57**	**110**	P		**Pn**	**02 17 28.9**	**-1.8**
	7µm14µm1µm,0.7s							
JAGI	**Jajag, Banyuwa**	**12.57**	**110**	P		**Pn**	**02 17 30.1**	**-0.6**
BBKI	**Banjar Baru**	**12.58**	**87**	P		**Pn**	**02 17 34.4**	**+3.6**
	8µm867nm,1.0s							
SRIT	**Nakonsritamara**	**12.96**	**348**			**Pn**	**02 17 35.6**	**-0.4**
MTKI	**Muara Teweh, K**	**13.03**	**76**	P		**P**	**02 17 41.5**	**-4.4**
	8µm10µm862nm,1.3s							
SRBI	**Singaraja**	**13.45**	**107**	P		**Pn**	**02 17 41.8**	**-1.0**
	6µm13µm1µm,0.5s							
IGBI	**Denpasar**	**13.61**	**110**	P		**Pn**	**02 17 42.4**	**-2.5**
	3µm9µm502nm,1.0s							
DNP	**Denpasar**	**13.62**	**110**	P		**Pn**	**02 17 42.8**	**-2.3**
	25µm1µm,0.5s							
SMKI	**Samarinda**	**15.39**	**76**	P		**P**	**02 18 13.4**	**+1.2**
	16µm12µm875nm,0.9s							
PLAI	**Plampang**	**16.09**	**107**	P		**Pn**	**02 18 14.1**	**-3.3**
	5µm10µm1µm,1.1s							
PLAI	**Plampang**	**16.09**	**107**	P		**Pn**	**02 18 15.3**	**-2.1**
SPMM	**Sapulut**	**16.71**	**58**	P		**P**	**02 18 30.0**	**+3.1**
DLV	**T Lat**	**17.17**	**21**			**P**	**02 18 33.3**	**+1.2**
DLV				IAmb		IAmb	02 18 51.3	
	comp=Z,1µm,1.3s							
KKM	**Kota Kinabalu**	**17.24**	**54**			**P**	**02 18 33.2**	**+0.4**
KKM	**Kota Kinabalu**	**17.24**	**54**	P		**P**	**02 18 35.5**	**+2.7**
KAPI	**Kappang**	**17.46**	**93**	P		**P**	**02 18 35.8**	**+0.7**
	comp=Z,23nm,0.3s,baz=271,slow=8.9,SNR=207							
KAPI				LR		LR	02 25 56.2	
	comp=Z,7µm,19.8s,baz=271,slow=39							
KAPI	**Kappang**	**17.46**	**93**	*c*	*i*P	**P**	**02 18 36.4**	**+1.3**
KAPI	**Kappang**	**17.46**	**93**			**P**	**02 18 35.1**	**0.0**
KAPI	**Kappang**	**17.46**	**93**	P		**P**	**02 18 36.0**	**+0.9**
KAPI				P		**P**	**02 18 36.0**	**+0.9**
KAPI				S		**Sn**	**02 21 46.5**	**-1.7**
KAPI				S		**Sn**	**02 21 46.5**	**-1.7**
KAPI	**Kappang**	**17.46**	**93**	P		**P**	**02 18 36.4**	**+1.3**
SPSI	**Sidrap Palu**	**17.47**	**90**	P		**P**	**02 18 35.9**	**+0.7**
	comp=Z,9µmcomp=Z,13µmcomp=Z,1µm,1.3s							
TTSI	**Tana Toraja**	**17.56**	**87**	P		**P**	**02 18 38.9**	**+2.6**
	comp=Z,10µmcomp=Z,8µmcomp=Z,935nm,0.9s							
BNSI	**Bone**	**17.80**	**91**	P		**Pn**	**02 18 40.8**	**+1.9**
	comp=Z,10µmcomp=Z,16µmcomp=Z,2µm,1.1s							
BKSI	**Bulukumba**	**17.84**	**94**	P		**Pn**	**02 18 39.2**	**0.0**
	comp=Z,7µmcomp=Z,10µmcomp=Z,1µm,0.8s							
WBSI	**Waikabubak, Su**	**17.85**	**109**	P		**Pn**	**02 18 32.8**	**-6.5**
MPSI	**Mapaga**	**18.19**	**76**	P		**Pn**	**02 18 45.9**	**+2.5**
	comp=Z,15µmcomp=Z,10µmcomp=Z,1µm,1.0s							
BSSI	**Bau Bau, Buton**	**18.27**	**97**	P		**P**	**02 18 41.7**	**-2.3**
	comp=Z,2µmcomp=Z,190nm,0.8s							
MYLDM	**Lahad Datu**	**18.70**	**60**	P		**Pn**	**02 18 50.2**	**+0.6**
MYLDM				IAmb		IAmb	02 19 17.8	
	comp=Z,630nm,0.8s							
BASI	**Baing, Sumba**	**19.14**	**109**	P		**P**	**02 18 52.2**	**-1.3**
	comp=Z,3µmcomp=Z,11µmcomp=Z,1µm,0.9s							
TOLI2	**Tolitoli**	**19.24**	**75**	P		**Pn**	**02 18 55.6**	**-0.5**
TOLI2				IAmb		IAmb	02 19 03.1	
	comp=Z,553nm,0.8s							
TOLI2	**Tolitoli**	**19.24**	**75**	P		**Pn**	**02 18 57.3**	**+1.2**
DGPR	**DIGLIPUR**	**19.57**	**332**	*eP*		**P**	**02 18 56.5**	**-1.7**
DGPR				IAmb		IAmb	02 19 03.5	
	comp=Z,456nm,0.9s							
UBPT	**Khong Chiam**	**19.59**	**9**			**Pn**	**02 18 59.6**	**-0.6**
APSI	**Ampana**	**19.64**	**81**	P		**Pn**	**02 19 01.2**	**+0.4**
	comp=Z,6µmcomp=Z,18µmcomp=Z,3µm,0.9s							
MRSI	**Marisa**	**20.20**	**77**	P		Pn	02 19 06.6	-0.9
	comp=Z,11µmcomp=Z,17µmcomp=Z,2µm,0.9s							
BBSI	**Bau Bau**	**20.28**	**95**	P		**P**	**02 19 07.3**	**+1.2**
	comp=Z,877nmcomp=Z,79nm,0.8s							
MMRI	**Maumere**	**20.34**	**104**	P		**P**	**02 19 06.5**	**-0.2**
MMRI				IAmb		IAmb	02 19 13.5	
	comp=Z,461nm,0.6s							
MMRI	**Maumere**	**20.34**	**104**	P		**P**	**02 19 04.7**	**-2.0**
MMRI	**Maumere**	**20.34**	**104**	P		**P**	**02 19 05.0**	**-1.7**
LUWI	**Luwuk**	**20.73**	**82**	P		**P**	**02 19 11.7**	**+0.8**
LUWI	**Luwuk**	**20.73**	**82**	P		Pn	02 19 12.8	-0.9
	comp=Z,8µmcomp=Z,33µmcomp=Z,4µm,1.0s							
LUWI	**Luwuk**	**20.73**	**82**	P		Pn	02 19 12.9	-0.8
GTOI	**Gorontalo**	**21.28**	**77**	P		**P**	**02 19 17.0**	**+0.2**
	comp=Z,3µmcomp=Z,4µmcomp=Z,467nm,0.8s							
GIRL	**Giralia**	**21.71**	**149**	P		**P**	**02 19 22.2**	**+0.9**
GIRL				IAmb		IAmb	02 19 39.4	
	comp=Z,491nm,1.1s							
GIRL	**Giralia**	**21.71**	**149**	P		**P**	**02 19 23.2**	**+1.9**
BATI	**Baumata**	**22.06**	**107**	P		**P**	**02 19 25.4**	**+0.2**
	comp=Z,790nm,0.8s,baz=286,slow=2.0,SNR=39							
BATI				S		**S**	**02 23 16.7**	**-9.0**
	comp=Z,312nm,0.8s,baz=137,slow=13,SNR=5.3							
BATI	**Baumata**	**22.06**	**107**	P		**P**	**02 19 22.9**	**-2.3**
	comp=Z,2µmcomp=Z,9µmcomp=Z,736nm,0.6s							
KMSI	**Cibinong**	**22.21**	**78**	P		**P**	**02 19 25.1**	**-1.7**
	comp=Z,429nmcomp=Z,8µmcomp=Z,864nm,1.0s							
CM31	**Chiang Mai Arr**	**22.73**	**352**	P		**P**	**02 19 32.0**	**-0.2**
CM31				IAmb		IAmb	02 19 36.5	
	comp=Z,887nm,0.9s							
CM31	**Chiang Mai Arr**	**22.73**	**352**	P		**P**	**02 19 32.6**	**+0.3**
	SNR=430							
CMAR	**Chiang Mai Arr**	**22.73**	**352**	P		**P**	**02 19 32.1**	**-0.1**
	comp=Z,600nm,0.9s,baz=184,slow=8.4,SNR=343							
CMAR				PcP		**PcP**	**02 23 24.6**	**+1.6**
	comp=Z,47nm,0.8s,baz=209,slow=3.0,SNR=14							
CMAR				ScP		**ScP**	**02 26 56.5**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=225,slow=2.0,SNR=5.9							
CMAR				LR		LR	02 29 29.8	
	comp=Z,4µm,18.1s,baz=170,slow=39							
CMAR				PKiKP		**PKiKP**	**02 31 08.6**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=259,slow=2.3,SNR=5.1							
CMAR	**Chiang Mai Arr**	**22.73**	**352**	*ceP*		**P**	**02 19 32.0**	**-0.2**
CMAR				pmax		pmax		
	comp=Z,642nm,0.9s							
CHTO	**Chiang Mai**	**23.08**	**352**	P		**P**	**02 19 35.2**	**-0.6**
CHTO				pmax		pmax		
	comp=Z,545nm,1.0s							
CHTO				MLR		MLR		
	comp=Z,4µm,20.0s							
CHTO	**Chiang Mai**	**23.08**	**352**	P		**P**	**02 19 35.2**	**-0.6**
CHTO				IAmb		IAmb	02 19 39.4	
	comp=Z,545nm,1.0s							
CHTO	**Chiang Mai**	**23.08**	**352**	P		**P**	**02 19 35.6**	**-0.2**
CHTO				P		**P**	**02 19 35.6**	**-0.2**
CHTO				S		**S**	**02 23 37.8**	**-5.3**
CHTO				S		**S**	**02 23 37.8**	**-5.3**
CHTO	**Chiang Mai**	**23.08**	**352**	P		**P**	**02 19 35.3**	**-0.6**
SANI	**Sanana**	**23.79**	**86**	P		**P**	**02 19 42.7**	**0.0**
	comp=Z,6µmcomp=Z,6µmcomp=Z,564nm,1.3s							
SANI	**Sanana**	**23.79**	**86**	P		**P**	**02 19 43.6**	**+0.9**
MBWA	**Marble Bar**	**23.94**	**136**	P		**P**	**02 19 44.3**	**+0.3**
PAGZ	**Pagadian**	**24.23**	**60**	⇑*i*	P	**P**	**02 19 48.3**	**+1.7**
QIZ	**Qiongzhong**	**24.24**	**18**	P		**P**	**02 19 47.8**	**+1.1**
QIZ				IAmb		IAmb	02 19 51.2	
	comp=Z,790nm,1.0s							
QIZ	**Qiongzhong**	**24.24**	**18**	P		**P**	**02 19 48.8**	**+2.1**
QIZ				S		**S**	**02 24 05.4**	**+3.5**
QIZ				pmax		pmax		
	comp=Z,240nm,0.9s							
QIZ				LR		LR		
	comp=Z,4µm,18.1s							
QIZ				LR		LR		
	comp=Z,5µm,17.2s							
QIZ				LR		LR		
	comp=Z,5µm,16.9s							
QIZ	**Qiongzhong**	**24.24**	**18**	P		**P**	**02 19 48.5**	**+1.8**
PSA00	**Pilbara Seismi**	**24.30**	**137**	P		**P**	**02 19 47.9**	**+0.6**
PSA00				IAmb		IAmb	02 20 08.8	
	comp=Z,455nm,1.4s							
PSA00	**Pilbara Seismi**	**24.30**	**137**	P		**P**	**02 19 47.5**	**+0.2**
PALK	**Pallekele**	**24.33**	**298**	P		**P**	**02 19 51.4**	**+3.7**
	comp=Z,174nm,0.8s,baz=218,slow=8.2,SNR=99							
PALK				LR		LR	02 28 25.6	
	comp=Z,4µm,21.1s,baz=220,slow=34							
PALK	**Pallekele**	**24.33**	**298**	*c*	*i*P	**P**	**02 19 50.3**	**+2.6**
PALK				pmax		pmax		
	comp=Z,246nm,0.9s							
PALK	**Pallekele**	**24.33**	**298**	P		**P**	**02 19 48.7**	**+1.1**
PALK	**Pallekele**	**24.33**	**298**	P		**P**	**02 19 51.2**	**+3.6**
PALK				S		**S**	**02 24 06.6**	**+3.0**
SGSI	**Sangihe**	**24.53**	**72**	P		**P**	**02 19 50.6**	**+1.1**
	comp=Z,1µm,0.9s							
CNOP	**Candoni, Negro**	**24.62**	**55**	⇑*i*	P	**P**	**02 19 51.1**	**+0.9**
CTBH	**Cotabato--PC H**	**24.70**	**63**	⇓*i*	P	**P**	**02 19 52.8**	**+1.9**
SNPH	**Sibulan**	**24.85**	**57**	*eP*		**P**	**02 19 54.7**	**+2.3**
LUBP	**Lubang**	**25.21**	**45**	⇑*i*	P	**P**	**02 19 57.1**	**+1.6**
KCP	**Kidapawan**	**25.36**	**64**	⇑*eP*		**P**	**02 19 57.9**	**+0.9**
LBMI	**Labuha**	**25.46**	**83**	P		**P**	**02 19 59.0**	**+1.1**
	comp=Z,3µmcomp=Z,6µmcomp=Z,1µm,0.9s							
PGP	**Puerto Galera**	**25.55**	**46**	⇓*eP*		**P**	**02 20 01.0**	**+2.2**
TBP	**Tagbilaran**	**25.56**	**57**	*eP*		**P**	**02 20 00.8**	**+2.1**
TNTI	**Ternate**	**25.57**	**79**	P		**P**	**02 19 58.8**	**-0.1**
TNTI				IAmb		IAmb	02 20 21.4	
	comp=Z,570nm,1.5s							
TNTI	**Ternate**	**25.57**	**79**	P		**P**	**02 19 58.5**	**-0.4**
	comp=Z,2µmcomp=Z,4µmcomp=Z,174nm,1.2s							
RCP	**Roxas**	**25.69**	**52**	⇓*eP*		**P**	**02 20 01.6**	**+1.6**
BUKP	**Musuan**	**25.71**	**62**	⇓*i*	P	P	02 20 19.0	+19
DAV	**Davao City (W)**	**25.82**	**64**	P		**P**	**02 20 04.1**	**+2.9**
	comp=Z,1µm,0.9s,baz=261,slow=1.8,SNR=13							
DAV				LR		LR	02 31 24.3	
	comp=Z,2µm,19.8s,baz=234,slow=39							
DAV	**Davao City (W)**	**25.82**	**64**	P		**P**	**02 20 02.1**	**+0.9**
AAI	**Ambon**	**25.88**	**90**	P		**P**	**02 20 01.3**	**-0.4**
	comp=Z,2µmcomp=Z,202nm,0.9s							
TGY	**Tagaytay City**	**25.95**	**45**	P		**P**	**02 20 04.6**	**+2.3**
	comp=Z,2µm,0.8s,baz=253,slow=2.5,SNR=70							
TGY				LR		LR	02 30 47.9	
	comp=Z,4µm,21.4s,baz=224,slow=38							
LQP	**Lukban**	**26.38**	**46**	⇓*eP*		**P**	**02 20 08.1**	**+1.7**
MSAI	**Masohi**	**26.63**	**89**	P		**P**	**02 20 05.5**	**-3.0**
	comp=Z,33nm,0.6s							
MSLP	**Maasin**	**26.63**	**58**	⇑*i*	P	**P**	**02 20 10.5**	**+2.0**
FITZ	**Fitzroy Crossi**	**26.74**	**123**	P		**P**	**02 20 09.9**	**+0.5**
	comp=Z,271nm,0.8s,baz=301,slow=6.3,SNR=476							
FITZ				S		**S**	**02 24 40.6**	**-1.1**
	baz=119,slow=19							
FITZ				LR		LR	02 32 31.6	
	comp=Z,2µm,19.7s,baz=312,slow=40							
FITZ	**Fitzroy Crossi**	**26.74**	**123**	IAmb		IAmb	02 20 32.3	
	comp=Z,324nm,0.8s							
PCPH	**Palayan**	**27.07**	**43**	⇑*eP*		**P**	**02 20 12.5**	**+0.2**
MEEK	**Meekatharra**	**27.27**	**147**	P		**P**	**02 20 14.2**	**0.0**
JCNP	**Jose Panganiba**	**27.34**	**47**	⇓*i*	P	**P**	**02 20 15.7**	**+0.9**
MDRS	**Chennai**	**27.77**	**308**	*eP*		**P**	**02 20 21.0**	**+2.4**
MDRS				IAmb		IAmb	02 20 24.9	
	comp=Z,110nm,0.8s							
MORW	**Morawa**	**28.00**	**154**	P		**P**	**02 20 21.4**	**+0.8**
MORW	**Morawa**	**28.00**	**154**	P		**P**	**02 20 21.4**	**+0.8**
KNRA	**Kununurra**	**28.46**	**116**	P		**P**	**02 20 23.4**	**-1.4**
KNRA				IAmb		IAmb	02 20 30.2	
	comp=Z,182nm,0.6s							
KNRA	**Kununurra**	**28.46**	**116**	P		**P**	**02 20 23.8**	**-1.0**
KOD	**Kodaikanal**	**28.54**	**300**	⇑*eP*		**P**	**02 20 28.9**	**+3.0**
SALM	**Salem**	**28.63**	**304**	*eP*		**P**	**02 20 29.8**	**+3.5**
HKPS	**Hong Kong Po S**	**28.75**	**23**	IAmb		IAmb	02 20 30.2	
	comp=Z,239nm,1.1s							
APYP	**Conner**	**28.82**	**40**	⇓*eP*		**P**	**02 20 28.4**	**+0.4**
KMI	**Kunming**	**29.13**	**1**	⇑P		**P**	**02 20 32.6**	**+1.7**
KMI				pP		pP	02 20 46.0	+1.9
KMI				sP		sP	02 20 54.9	+4.6
KMI				PP		**PnPn**	**02 21 30.9**	**+5.3**
KMI				PcP		**PcP**	**02 23 39.6**	**+1.8**
KMI				S		**S**	**02 25 19.6**	**0.0**
KMI				sS		sS	02 25 48.4	+6.5
KMI				SS		**SnSn**	**02 26 56.8**	**+8.7**
KMI				ScS		**ScS**	**02 31 09.5**	**-0.3**
KMI				pmax		pmax		
	comp=Z,290nm,0.9s							
KMI				pmax		pmax		
	comp=Z,670nm,3.5s							
KMI				LR		LR		
	comp=Z,4µm,18.7s							
KMI				LR		LR		
	comp=Z,2µm,15.7s							
KMI				LR		LR		
	comp=Z,6µm,19.3s							
KMI	**Kunming**	**29.13**	**1**	⇑P		**P**	**02 20 33.5**	**+2.6**
KMI				pP		**pP**	**02 20 44.0**	**-0.1**
KMI				sP		**sP**	**02 20 47.7**	**-2.6**
SWI	**Sorong**	**29.16**	**84**	P		**P**	**02 20 29.2**	**-1.9**
	comp=Z,3µmcomp=Z,3µmcomp=Z,349nm,1.1s							
SIJI	**Sorong**	**29.16**	**84**	P		**P**	**02 20 30.9**	**-0.2**
	comp=Z,207nm,1.0s,baz=278,slow=5.6,SNR=36							
SIJI				PcP		**PcP**	**02 23 38.4**	**+0.4**
	comp=Z,26nm,0.6s,baz=283,slow=2.0,SNR=6.2							
BWNR	**Bhubaneshwar**	**29.20**	**327**	⇑*eP*		**P**	**02 20 32.9**	**+1.6**
BLDU	**Ballidu**	**29.62**	**154**	P		**P**	**02 20 36.2**	**+1.2**
VJD	**Vijayawada**	**29.65**	**314**	*eP*		**P**	**02 20 37.1**	**+1.8**
PCHI	**Peechi**	**29.65**	**300**	⇑*eP*		**P**	**02 20 37.5**	**+2.1**
PCHI				*eS*		**S**	**02 25 30.9**	**+3.3**
RAGD	**RAYAGADA**	**29.73**	**322**	*eP*		**P**	**02 20 38.2**	**+2.1**
H08S2	**Diego Garcia H**	**29.80**	**262**	T		T	02 50 50.5	
	baz=84,slow=75,SNR=1510							
MTN	**Manton Dam**	**29.80**	**109**	P		**P**	**02 20 34.7**	**-2.1**
MTN	**Manton Dam**	**29.80**	**109**	P		**P**	**02 20 35.2**	**-1.5**
H08S3	**Diego Garcia H**	**29.81**	**262**	T		T	02 50 29.5	
	baz=84,slow=75,SNR=467							
H08S1	**Diego Garcia H**	**29.82**	**262**	T		T	02 50 51.9	
	baz=84,slow=75,SNR=1750							
DGAR	**Diego Garcia**	**29.82**	**262**	⇑*eP*		**P**	**02 20 36.4**	**-0.5**
DGAR				pmax		pmax		
	comp=Z,109nm,1.4s							
AGT	**Agartala**	**29.88**	**339**	*eP*		**P**	**02 20 39.0**	**+1.7**
AGT				IAmb		IAmb	02 20 40.5	
	comp=Z,905nm,1.1s							
FAKI	**Fak Fak**	**29.96**	**89**	P		**P**	**02 20 38.3**	**+0.1**
FAKI				IAmb		IAmb	02 20 42.1	
	comp=Z,143nm,0.8s							
PZH	**PanZhiHua**	**30.50**	**359**	P		**P**	**02 20 42.9**	**0.0**
PZH				pP		**sP**	**02 21 01.6**	**-0.7**
PZH				PP		**PP**	**02 21 52.5**	**-0.1**
PZH				PcP		**PcP**	**02 23 41.6**	**+0.4**
PZH				S		**S**	**02 25 36.3**	**-4.7**
PZH				sS		**sS**	**02 26 04.3**	**+1.0**
PZH				ScS		**ScS**	**02 31 12.4**	**-3.7**
PZH				pmax		pmax		
	comp=Z,100nm,1.1s							
PZH				pmax		pmax		
	comp=Z,610nm,5.6s							
PZH				LR		LR		
	comp=Z,13µm,20.6s							
PZH				LR		LR		
	comp=Z,6µm,20.5s							
PZH				LR		LR		
	comp=Z,14µm,19.6s							
MUN	**Mundaring**	**30.60**	**156**	P		**P**	**02 20 44.3**	**+0.7**
GYA	**Guiyang**	**30.75**	**8**	⇑*i*	P	**P**	**02 20 46.0**	**+0.9**
GYA				pP		sP	02 21 02.9	-1.6
GYA				PcP		**PcP**	**02 23 42.3**	**+0.4**
GYA				S		**S**	**02 25 43.1**	**-1.8**
GYA				sS		sS	02 26 11.4	+4.2
GYA				SS		**SnSn**	**02 27 34.1**	**+6.7**
GYA				pmax		pmax		
	comp=Z,440nm,0.9s							
GYA				pmax		pmax		
	comp=Z,660nm,3.5s							
GYA				LR		LR		
	comp=Z,4µm,15.3s							
GYA				LR		LR		
	comp=Z,2µm,16.3s							
GYA				LR		LR		
	comp=Z,7µm,14.6s							
KOHI	**KOHIMA**	**30.75**	**346**	*eP*		**P**	**02 20 44.4**	**-0.7**
KOHI				IAmb		IAmb	02 20 51.0	
	comp=Z,334nm,0.6s							
KLBR	**Kellerberrin**	**30.92**	**154**	P		**P**	**02 20 46.4**	**0.0**
KDU	**Kakadu**	**31.03**	**108**	P		**P**	**02 20 45.5**	**-2.1**
MOKO	**MOKOCHONG**	**31.23**	**347**	*eP*		**P**	**02 20 48.8**	**-0.6**
MOKO				IAmb		IAmb	02 20 52.5	
	comp=Z,755nm,1.0s							
SHL	**Shillong**	**31.23**	**342**	*eP*		**P**	**02 20 49.1**	**-0.4**
SHL				IAmb		IAmb	02 20 50.9	
	comp=Z,399nm,0.7s							
JHSG	**JHARSUGUGA**	**31.50**	**326**	⇑*eP*		**P**	**02 20 54.2**	**+2.6**
MNCY	**Minicoy**	**31.66**	**293**	*eP*		P	02 21 12.6	+19
MNCY				IAmb		IAmb	02 21 15.3	
	comp=Z,141nm,0.9s							
TURI	**Tura**	**31.73**	**339**	*eP*		**P**	**02 20 53.7**	**+0.1**
TURI				IAmb		IAmb	02 21 00.9	
	comp=Z,244nm,0.8s							
HYB	**Hyderabad**	**31.75**	**313**	*eP*		**P**	**02 20 55.2**	**+1.3**
HYB				IAmb		IAmb	02 21 04.1	
	comp=Z,52nm,0.9s							
HYBB	**Hyderabad (bro**	**31.75**	**313**	*eP*		**P**	**02 20 54.6**	**+0.7**
HYBB				IVmB_BB			02 20 55.5	
	comp=Z,726nm,1.3s							
HYBB				*es*P		**sP**	**02 21 10.6**	**-2.6**
HYBB				*eP*P		**PP**	**02 22 05.2**	**-1.3**
HYBB				*eP*cP		**PcP**	**02 23 44.7**	**+0.1**
HYBB				*eS*		**S**	**02 25 59.8**	**-0.7**
HYBB				*eS*cP		**ScP**	**02 27 25.0**	**+1.1**
HYBB				*eP*cS		**PcS**	**02 27 29.2**	**-0.2**
HYBB				IVMs_BB		IVMs_BB	02 30 24.8	
	comp=Z,380nm,36.2s							
NWAO	**Narrogin (SRO)**	**31.85**	**156**	P		**P**	**02 20 55.8**	**+1.2**
NWAO				pmax		pmax		
	comp=Z,50nm,0.9s							
NWAO	**Narrogin (SRO)**	**31.85**	**156**	P		**P**	**02 20 55.8**	**+1.2**
NWAO	**Narrogin (SRO)**	**31.85**	**156**	IAMs_20		IAMs_20	02 31 41.8	
	comp=Z,8µm,22.0s							
NWAO	**Narrogin (SRO)**	**31.85**	**156**	P		**P**	**02 20 55.8**	**+1.2**
NWAO				X			02 21 02.2	
NWAO				pP		**pP**	**02 21 08.8**	**+0.9**
GUWA	**GUWAHATI**	**31.88**	**342**	*eP*		**P**	**02 20 54.8**	**-0.1**
GUWA				IAmb		IAmb	02 20 56.5	
	comp=Z,485nm,1.0s							
TEZP	**TEZPUR**	**31.95**	**344**	*eP*		**P**	**02 20 55.0**	**-0.5**
TEZP				IAmb		IAmb	02 20 57.8	
	comp=Z,210nm,0.7s							
BOK	**Bokaro**	**32.06**	**331**	*eP*		**P**	**02 20 58.4**	**+1.9**
BOK				IAmb		IAmb	02 21 02.2	
	comp=Z,667nm,0.8s							
ITAN	**ITANAGAR**	**32.21**	**346**	*eP*		**P**	**02 20 57.6**	**-0.2**
DHUB	**DHUBRI**	**32.28**	**339**	*eP*		**P**	**02 20 59.0**	**+0.5**
DHUB				IAmb		IAmb	02 21 01.1	
	comp=Z,2µm,1.0s							
H01W3	**Cape Leeuwin H**	**32.48**	**162**	T		T	02 55 00.6	
	baz=339,slow=76,SNR=130							
H01W2	**Cape Leeuwin H**	**32.49**	**162**	T		T	02 55 02.3	
	baz=339,slow=76,SNR=251							
H01W1	**Cape Leeuwin H**	**32.49**	**162**	T		T	02 54 52.0	
	baz=339,slow=76,SNR=321							
KNMB	**Chin-men Tao**	**32.51**	**28**	P		**P**	**02 21 00.7**	**+0.2**
KNMB				IAmb		IAmb	02 21 02.5	
	comp=Z,172nm,0.9s							
KNMB				IAMs_20		IAMs_20	02 35 09.5	
	comp=Z,3µm,18.0s							
TWG	**Pinlang**	**32.52**	**34**	IAmb		IAmb	02 21 04.7	
	comp=Z,225nm,1.1s							
TPUB	**Ta-pu**	**32.67**	**32**	P		**P**	**02 21 04.7**	**+2.8**
BLSP	**Bilaspur**	**32.73**	**324**	⇓*eP*		**P**	**02 21 03.8**	**+1.3**
QZH	**Quanzhou**	**33.02**	**28**	⇑*iP*		**P**	**02 21 05.5**	**+0.6**
QZH				PcP		**PcP**	**02 23 48.4**	**+0.5**
QZH				S		**S**	**02 26 19.2**	**-0.7**
QZH				pmax		pmax		
	comp=Z,55nm,1.0s							
QZH				pmax		pmax		
	comp=Z,350nm,5.5s							
QZH				LR		LR		
	comp=Z,2µm,17.7s							
QZH				LR		LR		
	comp=Z,2µm,16.4s							
QZH				LR		LR		
	comp=Z,3µm,16.3s							
YULB	**Yu-li**	**33.11**	**33**	P		**P**	**02 21 05.9**	**+0.2**
YULB				IAmb		IAmb	02 21 11.9	
	comp=Z,214nm,0.8s							
YULB						**PcP**	**02 23 47.8**	**-0.4**
SSLB	**Suanglung**	**33.24**	**32**	P		**P**	**02 21 07.6**	**+0.7**
SLGI	**Shiliguri**	**33.49**	**337**	⇑*eP*		**P**	**02 21 11.1**	**+2.1**
LATR	**Latur**	**33.84**	**312**	⇑*eP*		**P**	**02 21 13.6**	**+1.

PKI	**Pulchoki**	**35.50**	**334**	*e*P		**P**	**02 21 27.8**	**+1.0**
	comp=Z,525nm,0.8s								
PKIN	**Phulchoki**	**35.52**	**334**	*e*P		**P**	**02 21 27.7**	**+0.9**
	comp=Z,466nm,0.7s								
GUN	**Gumba**	**35.59**	**335**	*e*P		**P**	**02 21 28.6**	**+1.0**
	comp=Z,988nm,0.5s								
DMN	**Daman**	**35.67**	**333**	*e*P		**P**	**02 21 29.3**	**+1.1**
	comp=Z,456nm,0.7s								
KKN	**Kakani**	**35.75**	**334**	*e*P		**P**	**02 21 29.4**	**+0.6**
	comp=Z,1μm,0.8s								
FORT	**Forrest**	**35.94**	**140**	P		**P**	**02 21 30.1**	**0.0**
FORT				IAmb		IAmb	02 21 47.2		
	comp=Z,145nm,0.8s								
FORT	**Forrest**	**35.94**	**140**	P		**P**	**02 21 31.1**	**+1.0**
POO	**Poona**	**35.95**	**310**	*e*P		**P**	**02 21 31.7**	**+1.3**
POO				IAmb		IAmb	02 21 34.2		
	comp=Z,95nm,0.8s								
ASAR	**Alice Springs**	**36.16**	**125**	P		**P**	**02 21 32.6**	**+0.4**
	comp=Z,134nm,0.8s,baz=301,slow=7.9,SNR=702								
ASAR				PcP		**PcP**	**02 23 58.1**	**+1.0**
	comp=Z,26nm,0.8s,baz=298,slow=2.6,SNR=7.0								
ASAR				S		**S**	**02 27 07.0**	**-1.7**
	comp=Z,27nm,0.9s,baz=296,slow=16,SNR=10								
ASAR				LR		LR	02 37 54.2		
	comp=Z,2μm,20.5s,baz=305,slow=39								
AS31	**Alice Springs**	**36.16**	**125**	P		**P**	**02 21 32.0**	**-0.3**
AS31				IAmb		IAmb	02 21 39.7		
	comp=Z,69nm,0.4s								
GKN	**Gorkha**	**36.22**	**333**	*e*P		**P**	**02 21 33.5**	**+0.8**
WHN	**Wuhan**	**36.41**	**18**	⇑P		**P**	**02 21 35.1**	**+1.0**
WHN				PP		**PnPn**	**02 22 57.0**	**-0.8**
WHN				S		**S**	**02 27 11.1**	**-1.0**
WHN				pmax		pmax			
	comp=Z,520nm,1.0s								
WHN				LR		LR			
	comp=Z,13μm,18.1s								
WHN				LR		LR			
	comp=Z,7μm,15.2s								
WHN				LR		LR			
	comp=Z,14μm,19.1s								
BHPL	**Bhopal**	**36.47**	**319**	*e*P		**P**	**02 21 36.0**	**+1.3**
BHPL				IAmb		IAmb	02 21 37.9		
	comp=Z,260nm,0.9s								
JMJ	**Miyako jima 2**	**36.50**	**37**	P		**P**	**02 21 37.1**	**+2.2**
	comp=Z,6μm,1.1s								
KOLN	**Koldanda**	**36.50**	**332**	*e*P		**P**	**02 21 36.1**	**+0.9**
	comp=Z,2μm,0.8s								
DANN	**Dangsing**	**36.92**	**332**	*e*P		**P**	**02 21 39.5**	**+0.7**
	comp=Z,2μm,0.8s								
PYUN	**Piuthan**	**37.07**	**331**	*e*P		**P**	**02 21 40.8**	**+0.7**
	comp=Z,765nm,0.6s								
GENI	**Genyem**	**37.88**	**89**	P		**P**	**02 21 42.9**	**-3.9**
	comp=Z,3μmcomp=Z,132nm,0.8s								
XAN	**Xi'an**	**38.53**	**9**	P		**P**	**02 21 51.8**	**-0.3**
XAN				PP		**PnPn**	**02 23 28.8**	**+5.3**
XAN				pmax		pmax			
	comp=Z,370nm,0.9s								
XAN				pmax		pmax			
	comp=Z,2μm,5.8s								
XAN				LR		LR			
	comp=Z,5μm,15.9s								
XAN				LR		LR			
	comp=Z,3μm,14.4s								
XAN				LR		LR			
	comp=Z,7μm,17.6s								
XAN	**Xi'an**	**38.53**	**9**	⇑P		**P**	**02 21 52.4**	**+0.4**
XAN				pP		**pP**	**02 22 01.6**	**-3.9**
BHV	**Bhavnagar**	**39.16**	**312**	⇑*e*P		**P**	**02 21 59.6**	**+2.2**
NJ2	**Nanjing**	**39.34**	**22**	⇑*i*P		**P**	**02 21 59.8**	**+1.0**
NJ2				pP		**pP**	**02 22 14.3**	**+2.0**
NJ2				PcP		**PcP**	**02 22 07.7**	**+1.1**
NJ2				S		**S**	**02 27 57.4**	**+1.0**
NJ2				sS		**sS**	**02 28 19.7**	**+0.6**
NJ2				pmax		pmax			
	comp=Z,120nm,0.9s								
NJ2				pmax		pmax			
	comp=Z,680nm,5.7s								
NJ2				LR		LR			
	comp=Z,5μm,16.1s								
NJ2				LR		LR			
	comp=Z,3μm,16.1s								
NJ2				LR		LR			
	comp=Z,5μm,16.1s								
SSE	**Sheshan**	**39.45**	**26**	P		**P**	**02 22 01.4**	**+1.6**
SSE				PP		**PnPn**	**02 23 34.0**	**-0.5**
SSE				S		**S**	**02 28 01.0**	**+2.8**
SSE				SS		**SnSn**	**02 31 00.2**	**+2.5**
SSE				pmax		pmax			
	comp=Z,96nm,1.2s								
SSE				pmax		pmax			
	comp=Z,440nm,3.6s								
SSE				LR		LR			
	comp=Z,620nm,18.6s								
LGTI	**Lohaghat**	**39.55**	**329**	⇑*e*P		**P**	**02 22 01.8**	**+1.2**
OOD	**Oodnadatta**	**39.56**	**130**	P		**P**	**02 22 01.5**	**+0.7**
PTH	**Pithoragarh**	**39.64**	**329**	⇑*e*P		**P**	**02 22 02.7**	**+1.1**
MULG	**Mulgathing**	**39.69**	**134**	P		**P**	**02 22 02.3**	**+0.5**
LYN	**LuoYang**	**39.70**	**13**	⇑P		**P**	**02 22 02.9**	**+1.1**
LYN				pP		sP	02 22 19.1	-2.3
LYN				S		**S**	**02 27 58.0**	**-3.9**
LYN				pmax		pmax			
	comp=Z,660nm,0.8s								
LYN				LR		LR			
	comp=Z,6μm,20.4s								
LYN				LR		LR			
	comp=Z,3μm,16.2s								
LYN				LR		LR			
	comp=Z,6μm,18.8s								
JOW	**Kunigami**	**39.79**	**38**	P		**P**	**02 22 04.2**	**+1.5**
	comp=Z,158nm,1.0s,baz=230,slow=5.3,SNR=16								
JOW				PcP		**PcP**	**02 24 09.3**	**+1.1**
	comp=Z,27nm,0.6s,baz=199,slow=3.4,SNR=3.7								
JOW				LR		LR	02 38 30.5		
	comp=Z,2μm,20.4s,baz=212,slow=36								
JOW	**Kunigami**	**39.79**	**38**	P		**P**	**02 22 03.5**	**+0.9**
JOW				IAmb		IAmb	02 22 05.3		
	comp=Z,149nm,0.9s								
JOW				PcP		**PcP**	**02 24 08.3**	**+0.1**
JOW	**Kunigami**	**39.79**	**38**	P		**P**	**02 22 04.5**	**+1.8**
QIS	**Mount Isa**	**39.80**	**117**	P		**P**	**02 22 03.0**	**+0.1**
LZH	**Lanzhou**	**40.08**	**2**	⇑*i*P		**P**	**02 22 06.0**	**+0.9**
LZH				pP		sP	02 22 23.1	-1.6
LZH				sP		pP	02 22 30.8	+12
LZH				PP		**PnPn**	**02 23 40.7**	**-1.3**
LZH				PcP		**PcP**	**02 24 09.5**	**+0.4**
LZH				PcS		**PcS**	**02 28 00.1**	**+0.5**
LZH				S		**S**	**02 28 06.2**	**-1.6**
LZH				sS		sS	02 28 35.5	+4.9
LZH				SS		**SnSn**	**02 31 11.8**	**-1.2**
LZH				ScS		**ScS**	**02 32 06.6**	**-1.1**
LZH				pmax		pmax			
	comp=Z,490nm,1.0s								
LZH				pmax		pmax			
	comp=Z,1μm,4.9s								
LZH				LR		LR			
	comp=Z,7μm,16.3s								
LZH				LR		LR			
	comp=Z,2μm,14.1s								
LZH				LR		LR			
	comp=Z,8μm,16.0s								
SONA	**Sohna**	**40.34**	**325**	⇑*e*P		**P**	**02 22 07.9**	**+0.8**
AYAN	**Aya Nagar**	**40.48**	**325**	⇑*e*P		**P**	**02 22 09.2**	**+0.9**
AJM	**Ajmer**	**40.53**	**320**	*e*P		**P**	**02 22 09.9**	**+1.0**
NDI	**New Delhi**	**40.59**	**325**	⇑*e*P		**P**	**02 22 10.0**	**+0.8**
KUDL	**Kundal**	**40.60**	**324**	*e*P		**P**	**02 22 10.2**	**+0.9**
GOMU	**GeErMu**	**40.76**	**351**	P		**P**	**02 22 11.1**	**+0.1**
GOMU				pP		pP	02 22 23.4	-1.2
GOMU				sP		sP	02 22 28.2	-2.4
GOMU				PP		**PP**	**02 23 47.3**	**+1.5**
GOMU				PcP		**PcP**	**02 24 11.8**	**+0.2**
GOMU				S		**S**	**02 28 13.8**	**-4.6**
GOMU				sS		sS	02 28 44.0	+2.8
GOMU				SS		**SS**	**02 31 25.0**	**+4.0**
GOMU				pmax		pmax			
	comp=Z,100nm,1.2s								
GOMU				pmax		pmax			
	comp=Z,440nm,6.7s								
GOMU				LR		LR			
	comp=Z,1μm,21.6s								
GOMU				LR		LR			
	comp=Z,710nm,21.4s								
GOMU				LR		LR			
	comp=Z,1μm,21.8s								
DDI	**Dehra Dun**	**41.39**	**328**	*e*P		**P**	**02 22 17.0**	**+1.1**
DDI				IAmb		IAmb	02 22 19.0		
	comp=Z,396nm,0.8s								
COEN	**Coen**	**41.49**	**106**	P		**P**	**02 22 15.9**	**-1.0**
COEN				PcP		**PcP**	**02 24 14.2**	**+0.2**
COEN	**Coen**	**41.49**	**106**	P		**P**	**02 22 15.9**	**-1.0**
SMLA	**Simla**	**42.49**	**327**	*e*P		**P**	**02 22 25.2**	**+0.4**
SMLA				IAmb		IAmb	02 22 28.9		
	comp=Z,391nm,0.9s								
TIA	**Tai'an**	**42.52**	**18**	⇑P		**P**	**02 22 24.8**	**-0.1**
TIA				S		**S**	**02 28 41.3**	**-2.4**
TIA				pmax		pmax			
	comp=Z,140nm,0.9s								
TIA				pmax		pmax			
	comp=Z,660nm,5.0s								
TIA				LR		LR			
	comp=Z,4μm,18.9s								
TIA				LR		LR			
	comp=Z,3μm,15.5s								
TIA				LR		LR			
	comp=Z,4μm,19.6s								
BBOO	**Buckleboo**	**42.53**	**136**	P		**P**	**02 22 24.6**	**-0.5**
BBOO	**Buckleboo**	**42.53**	**136**	P		**P**	**02 22 25.5**	**+0.4**
TIY	**Taiyuan**	**42.74**	**12**	*e*P		**P**	**02 22 27.6**	**+0.8**
TIY				S		**S**	**02 28 48.1**	**+1.1**
TIY				pmax		pmax			
	comp=Z,170nm,1.0s								
TIY				pmax		pmax			
	comp=Z,920nm,3.5s								
TIY				LR		LR			
	comp=Z,3μm,22.2s								
TIY				LR		LR			
	comp=Z,1μm,18.6s								
TIY				LR		LR			
	comp=Z,4μm,20.8s								
LCRK	**Leigh Creek**	**42.81**	**132**	P		**P**	**02 22 28.0**	**+0.6**
HNS	**HongShan**	**42.96**	**15**	⇑P		**P**	**02 22 29.1**	**+0.7**
HNS				pP		**pP**	**02 22 42.7**	**+0.6**
HNS				sP		**sP**	**02 22 48.0**	**-0.1**
HNS				PP		**PcP**	**02 24 14.4**	**-3.9**
HNS				PcP		PP	02 24 18.7	+10
HNS				S		**S**	**02 28 49.0**	**-1.0**
HNS				SS		**SS**	**02 32 03.6**	**+0.1**
HNS				ScS		**ScS**	**02 32 21.4**	**-3.3**
HNS				pmax		pmax			
	comp=Z,290nm,1.1s								
HNS				pmax		pmax			
	comp=Z,1μm,4.8s								
HNS				LR		LR			
	comp=Z,4μm,17.3s								
HNS				LR		LR			
	comp=Z,1μm,17.4s								
HNS				LR		LR			
	comp=Z,5μm,17.2s								
BHK	**Bhakra**	**43.12**	**327**	⇑*e*P		**P**	**02 22 30.9**	**+1.0**
MTSU	**Mount Surprise**	**43.40**	**112**	P		**P**	**02 22 32.7**	**+0.3**
GTA	**Gaotai**	**43.43**	**357**	⇑P		**P**	**02 22 32.9**	**+0.5**
GTA				pP		pP	02 22 45.3	-0.8
GTA				sP		sP	02 22 50.6	-1.5
GTA				PP		**PP**	**02 24 16.8**	**+2.5**
GTA				PcP		**PcP**	**02 24 21.2**	**+1.2**
GTA				S		**S**	**02 28 54.8**	**-2.4**
GTA				sS		sS	02 29 21.5	+1.3
GTA				SS		**SS**	**02 32 11.6**	**-1.4**
GTA				ScS		**ScS**	**02 32 24.3**	**-3.6**
GTA				pmax		pmax			
	comp=Z,140nm,1.1s								
GTA				pmax		pmax			
	comp=Z,1μm,10.0s								
GTA				LR		LR			
	comp=Z,5μm,18.7s								
GTA				LR		LR			
	comp=Z,3μm,20.7s								
GTA				LR		LR			
	comp=Z,8μm,19.9s								
INKA	**Innaminka**	**43.49**	**127**	P		**P**	**02 22 33.6**	**+0.6**
WHYH	**Whyalla**	**43.71**	**135**	P		**P**	**02 22 35.7**	**+1.1**
PTPS	**Port Pirie**	**44.08**	**135**	P		**P**	**02 22 39.5**	**+1.9**
NAPP	**Napperby**	**44.19**	**135**	P		**P**	**02 22 39.5**	**+1.0**
THN	**Thein Dam**	**44.28**	**327**	⇑*e*P		**P**	**02 22 40.0**	**+0.8**
JSU	**Suzuyama**	**44.51**	**35**	P		**P**	**02 22 41.2**	**+0.1**
JSU				IAmb		IAmb	02 22 42.7		
	comp=Z,234nm,1.0s								
JSU				PcP		**PcP**	**02 24 22.8**	**-0.9**
PMG	**Port Moresby**	**44.86**	**99**	LR		LR	02 44 06.6		
	comp=Z,1μm,21.2s,baz=278,slow=40								
PMG	**Port Moresby**	**44.86**	**99**	P		**P**	**02 22 43.8**	**-0.4**
PMG							02 24 26.5		
PMG				pmax		pmax			
	comp=Z,143nm,1.0s								
PMG				MLR		MLR			
	comp=Z,1μm,22.0s								
PMG	**Port Moresby**	**44.86**	**99**	P		**P**	**02 22 43.8**	**-0.4**
PMG				IAmb		IAmb	02 22 59.7		
	comp=Z,143nm,1.0s								
PMG				PcP		**PcP**	**02 24 26.5**	**+1.2**
PMG	**Port Moresby**	**44.86**	**99**	P		**P**	**02 22 43.7**	**-0.4**
PMG	**Port Moresby**	**44.86**	**99**	⇑P		**P**	**02 22 43.9**	**-0.2**
HTT	**Hallett**	**44.87**	**135**	P		**P**	**02 22 44.9**	**+0.9**
JMU	**Jammu**	**44.94**	**327**	*e*P		**P**	**02 22 45.8**	**+1.4**
BTO	**Baotou**	**45.13**	**8**	*e*P		**P**	**02 22 47.3**	**+1.3**
BTO				S		**S**	**02 29 24.0**	**+2.2**
BTO				LR		LR			
	comp=Z,19μm,20.6s								
BTO				LR		LR			
	comp=Z,12μm,16.5s								
TWOA	**Tennyson Woods**	**45.51**	**137**	P		**P**	**02 22 50.8**	**+1.8**
HHC	**Hu-ho-hao-te**	**45.61**	**10**	*e*P		**P**	**02 22 51.2**	**+1.4**
HHC				pP		sP	02 23 08.5	-1.1
HHC				PP		**PP**	**02 24 40.2**	**+2.7**
HHC				S		**S**	**02 29 30.9**	**+2.1**
HHC				sS		sS	02 29 54.9	+3.0
HHC				pmax		pmax			
	comp=Z,390nm,1.3s								
HHC				pmax		pmax			
	comp=Z,800nm,4.7s								
HHC				LR		LR			
	comp=Z,4μm,15.6s								
HHC				LR		LR			
	comp=Z,2μm,14.7s								
HHC				LR		LR			
	comp=Z,3μm,15.3s								
CTA	**Charters Tower**	**45.65**	**114**	LR		LR	02 44 19.2		
	comp=Z,2μm,19.7s,baz=290,slow=39								
CTA	**Charters Tower**	**45.65**	**114**	P		**P**	**02 22 50.1**	**-0.2**
CTAO	**Charters Tower**	**45.65**	**114**	P		**P**	**02 22 50.6**	**+0.3**
CTAO				pmax		pmax			
	comp=Z,441nm,1.1s								
CTAO				MLR		MLR			
	comp=Z,2μm,20.0s								
CTAO	**Charters Tower**	**45.65**	**114**	P		**P**	**02 22 50.6**	**+0.3**
CTAO	**Charters Tower**	**45.65**	**114**	IAMs_20		IAMs_20	02 44 04.7		
	comp=Z,2μm,20.0s								
CTAO	**Charters Tower**	**45.65**	**114**	⇓P		**P**	**02 22 51.2**	**+0.8**
CTAO				pP		**pP**	**02 23 02.4**	**-1.7**
CTAO				sP		**sP**	**02 23 08.5**	**-1.6**
BJT	**Baijiatuau**	**45.80**	**15**	P		**P**	**02 22 51.8**	**+0.6**
BJT				pmax		pmax			
	comp=Z,241nm,1.0s								
BJT				MLR		MLR			
	comp=Z,6μm,18.0s								
BJT	**Baijiatuau**	**45.80**	**15**	P		**P**	**02 22 51.8**	**+0.6**
BJT				IAmb		IAmb	02 22 53.5		
	comp=Z,241nm,1.0s								
BJT	**Baijiatuau**	**45.80**	**15**	⇓P		**P**	**02 22 52.8**	**+1.7**
BJT				pP		**pP**	**02 23 07.1**	**+2.2**
BJI	**Beijing**	**45.82**	**15**	P		**P**	**02 22 52.1**	**+0.8**
BJI				pP		**pP**	**02 23 07.4**	**+2.3**
BJI				sP		**sP**	**02 23 13.8**	**+2.7**
BJI				PcP		**PcP**	**02 24 28.5**	**+0.5**
BJI				PP		**PP**	**02 24 41.4**	**+1.8**
BJI				ScP		**ScP**	**02 28 16.9**	**0.0**
BJI				PcS		**PcS**	**02 28 20.6**	**-1.7**
BJI				S		**S**	**02 29 30.3**	**-1.3**
BJI				sS		**sS**	**02 29 58.3**	**+3.6**
BJI				ScS		**ScS**	**02 32 39.5**	**-3.3**
BJI				pmax		pmax			
	comp=Z,250nm,0.8s								
BJI				pmax		pmax			
	comp=Z,1μm,3.6s								
BJI				LR		LR			
	comp=Z,5μm,17.5s								
BJI				LR		LR			
	comp=Z,1μm,17.2s								
BJI				LR		LR			
	comp=Z,7μm,17.0s								
GUMO	**Guam**	**45.83**	**67**	LR		LR	02 43 07.8		
	comp=Z,179nm,20.4s,baz=248,slow=37								
GUMO	**Guam**	**45.83**	**67**	P		**P**	**02 22 50.3**	**-1.5**
GUMO				pmax		pmax			
	comp=Z,208nm,1.0s								
GUMO	**Guam**	**45.83**	**67**	P		**P**	**02 22 50.3**	**-1.5**
GUMO				IAmb		IAmb	02 23 09.9		
	comp=Z,208nm,0.9s								
GUMO	**Guam**	**45.83**	**67**	P		**P**	**02 22 50.0**	**-1.7**
QLP	**Quilpie**	**45.88**	**123**	P		**P**	**02 22 53.0**	**+0.9**
JNU	**Nakatsue**	**45.94**	**34**	P		**P**	**02 22 52.1**	**-0.3**
	comp=Z,211nm,0.9s,baz=199,slow=3.2,SNR=57								
JNU				PcP		**PcP**	**02 24 28.5**	**-0.2**
	comp=Z,23nm,0.7s,baz=18,slow=3.2,SNR=2.0								
JNU	**Nakatsue**	**45.94**	**34**	P		**P**	**02 22 52.2**	**-0.3**
JNU				IAmb		IAmb	02 22 56.4		
	comp=Z,270nm,0.9s								
JNU	**Nakatsue**	**45.94**	**34**	P		**P**	**02 22 53.2**	**+0.7**
STKA	**Stephens Creek**	**46.03**	**131**	P		**P**	**02 22 53.7**	**+0.5**
	comp=Z,189nm,0.7s,baz=304,slow=8.3,SNR=304								
STKA				LR		LR	02 44 15.4		
	comp=Z,2μm,20.4s,baz=295,slow=39								
STKA	**Stephens Creek**	**46.03**	**131**	*c i*P		**P**	**02 22 53.9**	**+0.7**
STKA	**Stephens Creek**	**46.03**	**131**	P		**P**	**02 22 53.5**	**+0.3**
STKA	**Stephens Creek**	**46.03**	**131**	P		**P**	**02 22 54.1**	**+0.9**
DL2	**Dalian**	**46.46**	**21**	⇑*i*P		**P**	**02 22 56.9**	**+0.6**
DL2				pP		**pP**	**02 23 09.5**	**-0.6**
DL2				PcP		**PcP**	**02 24 31.0**	**+0.7**
DL2				S		**S**	**02 29 39.8**	**-0.9**
DL2				SS		**SS**	**02 33 06.4**	**-0.9**
DL2				pmax		pmax			
	comp=Z,88nm,0.7s								
DL2				pmax		pmax			
	comp=Z,580nm,5.9s								
DL2				LR		LR			
	comp=Z,2μm,23.9s								
DL2				LR		LR			
	comp=Z,1μm,17.8s								
DL2				LR		LR			
	comp=Z,3μm,22.6s								
NIL	**Nilore**	**46.55**	**326**	P		**P**	**02 22 57.0**	**-0.2**
NIL				pmax		pmax			
	comp=Z,707nm,0.8s								
NIL	**Nilore**	**46.55**	**326**	P		**P**	**02 22 57.0**	**-0.2**
MSEY	**Mahe Island**	**46.63**	**268**	P		**P**	**02 22 59.0**	**+0.8**
MSEY				pmax		pmax			
	comp=Z,74nm,1.5s								
MSEY	**Mahe Island**	**46.63**	**268**	P		**P**	**02 22 59.0**	**+0.8**
MSEY	**Mahe Island**	**46.63**	**268**	P		**P**	**02 23 00.7**	**+2.4**
MSEY				S		**S**	**02 29 47.3**	**+3.1**
TJN	**Taejon**	**46.67**	**28**	*c i*P		**P**	**02 22 57.8**	**-0.3**
INCN	**Inchon**	**47.25**	**27**	P		**P**	**02 23 02.4**	**-0.1**
INCN							02 24 34.0		
INCN				pmax		pmax			
	comp=Z,94nm,0.9s								
INCN	**Inchon**	**47.25**	**27**	P		**P**	**02 23 02.4**	**-0.1**
INCN				IAmb		IAmb	02 23 03.6		
	comp=Z,94nm,0.8s								
INCN				PcP		**PcP**	**02 24 34.0**	**+0.8**
INCN	**Inchon**	**47.25**	**27**	P		**P**	**02 23 03.2**	**+0.7**
KSAR	**Wonju Array Be**	**47.78**	**28**	P		**P**	**02 23 07.2**	**+0.5**
KSAR							02 24 35.0		
KSAR	**Wonju Array Be**	**47.78**	**28**	P		**P**	**02 23 07.2**	**+0.5**
KSAR				PcP		**PcP**	**02 24 35.0**	**0.0**
KSRS	**Korea Array**	**47.81**	**28**	P		**P**	**02 23 07.8**	**+1.0**
	comp=Z,223nm,0.9s,baz=215,slow=7.8,SNR=351								
KSRS				PcP		**PcP**	**02 24 35.5**	**+0.4**
	comp=Z,31nm,0.9s,baz=220,slow=2.6,SNR=8.4								
KSRS				ScP		**ScP**	**02 28 24.8**	**-0.5**
	comp=Z,5.9nm,0.9s,baz=214,slow=4.0,SNR=5.9								
KSRS				LR		LR	02 44 56.0		
	comp=Z,584nm,18.4s,baz=210,slow=38								
KS19	**Wonju Array Si**	**47.82**	**28**	IAmb		IAmb	02 23 09.5		
	comp=Z,147nm,0.8s								
JMN	**Monobe**	**48.10**	**36**	P		**P**	**02 23 09.7**	**+0.5**
JMN				PcP		**PcP**	**02 24 37.5**	**+1.1**
ARPS	**Mount Arapiles**	**48.67**	**137**	P		**P**	**02 23 15.3**	**+1.7**
CMSA	**Cobar Meteorol**	**49.00**	**129**	P		**P**	**02 23 17.2**	**+1.0**
JLN	**Jalan Bani Buh**	**49.40**	**304**	P		**P**	**02 23 20.9**	**+1.5**
	SNR=24								
XLT	**XiLinHaoTe**	**49.45**	**13**	⇑*i*P		**P**	**02 23 19.8**	**+0.3**
XLT				pP		sP	02 23 37.7	-1.7
XLT				sP		pP	02 23 44.0	+11
XLT				PcS		**PcS**	**02 28 35.0**	**-2.7**
XLT				S		**S**	**02 30 22.0**	**-1.2**
XLT				sS		sS	02 30 49.8	+3.3
XLT				pmax		pmax			
	comp=Z,590nm,1.0s								
XLT				pmax		pmax			
	comp=Z,680nm,4.2s								
XLT				LR		LR			
	comp=Z,300nm,16.6s								
XLT				LR		LR			
	comp=Z,2μm,17.2s								
XLT				LR		LR			
	comp=Z,4μm,16.8s								
JCJ	**Chichijima**	**49.53**	**49**	P		**P**	**02 23 19.1**	**-1.2**
	comp=Z,110nm,0.5s,baz=288,slow=22,SNR=7.6								
JCJ				LR		LR	02 43 44.0		
	comp=Z,857nm,21.7s,baz=232,slow=35								
JCJ	**Chichijima**	**49.53**	**49**	P		**P**	**02 23 20.0**	**-0.3**
JCJ				IAmb		IAmb	02 23 28.2		
	comp=Z,218nm,0.9s								
JCJ	**Chichijima**	**49.53**	**49**	P		**P**	**02 23 19.5**	**-0.8**
	comp=Z,262nm,1.1s								
WMQ	**Urumqi**	**49.55**	**346**	⇓P		**P**	**02 23 22.0**	**+1.8**
WMQ				pP		sP	02 23 37.3	-2.8
WMQ				sP		pP	02 23 44.4	+10
WMQ				PcP		**PcP**	**02 24 43.3**	**+1.9**
WMQ				ScP		**ScP**	**02 28 33.3**	**+0.6**
WMQ				PcS		**PcS**	**02 28 38.2**	**+0.1**
WMQ				S		**S**	**02 30 25.1**	**+0.6**
WMQ				sS		sS	02 30 47.0	-0.8
WMQ				ScS		**ScS**	**02 33 06.8**	**-0.7**
WMQ				pmax		pmax			
	comp=Z,1μm,0.9s								
WMQ				pmax		pmax			
	comp=Z,3μm,3.9s								
WMQ				LR		LR			
	comp=Z,1μm,21.1s								
WMQ				LR		LR			
	comp=Z,1μm,17.9s								
WMQ				LR		LR			
	comp=Z,2μm,21.7s								
WMQ	**Urumqi**	**49.55**	**346**	P		**P**	**02 23 22.0**	**+1.8**
WMQ				sP		**sP**	**02 23 38.5**	**-1.6**
KBL	**Kabul**	**49.61**	**324**	P		**P**	**02 23 20.5**	**-0.5**
KBL				pmax		pmax			
	comp=Z,397nm,1.5s								
KBL	**Kabul**	**49.61**	**324**	P		**P**	**02 23 20.5**	**-0.5**
KBL				IAmb		IAmb	02 23 22.6		
	comp=Z,397nm,1.5s								
KBL	**Kabul**	**49.61**	**324**	P		**P**	**02 23 21.4**	**+0.4**
	SNR=108								
KBL				S		**S**	**02 30 22.6**	**-3.3**
KRVT	**Keravat (AS076**	**49.63**	**92**	LR	

SNR=5.5
SMDO Samad 50.93 304 P **P** **02 23 33.0 +1.9**
SNR=41
SMDO P **P** **02 23 33.0 +1.9**
SNR=41
SHAO Shalim 50.99 297 P **P** **02 23 33.6 +2.1**
SHAO Shalim 50.99 297 *i* P **P** **02 23 32.9 +1.4**
SNR=7.4
BIDO Bidbid 51.07 305 P **P** **02 23 34.0 +2.0**
SNR=70
INU Inuyama 51.09 37 P **P** **02 23 31.2 -0.7**
INU IAmb IAmb 02 23 35.0
comp=Z,173nm,1.2s
INU PcP **PcP** **02 24 47.4 +0.2**
INU Inuyama 51.09 37 P **P** **02 23 31.6 -0.3**
INU Inuyama 51.09 37 ⇓P **P** **02 23 31.6 -0.3**
INU P **P** **02 23 32.0 +0.1**
INU P **P** **02 23 32.2 +0.3**
INU pP **pP** **02 23 42.9 -3.0**
EIDS Eidsvold 51.33 119 P **P** **02 23 34.1 +0.1**
EIDS IAmb IAmb 02 23 50.7
comp=Z,203nm,1.1s
EIDS PcP **PcP** **02 24 48.6 +0.2**
EIDS Eidsvold 51.33 119 P **P** **02 23 34.5 +0.5**
JHJ Hachijo jima 2 51.36 41 P **P** **02 23 32.8 -1.2**
comp=Z,112nm,0.6s,baz=203,slow=6.2,SNR=9.1
JHJ2 Mitsune 51.38 41 P **P** **02 23 32.7 -1.4**
JHJ2 IAmb IAmb 02 23 36.1
comp=Z,222nm,1.1s
KDJ Kajisay 51.42 336 P **P** **02 23 35.4 +0.8**
KDJ pmax pmax
comp=Z,974nm,0.9s
KDJ Kajisay 51.42 336 P **P** **02 23 35.4 +0.8**
SHLS Shalkode 51.42 339*c* *i*P **P** **02 23 34.3 -0.2**
SHLS eS **S** **02 30 48.8 -1.9**
SHLS pmax pmax
comp=Z,287nm,0.8s
SHLS Shalkode 51.42 339⇑ *i*P **P** **02 23 34.4 -0.2**
comp=Z,287nm,0.8s,baz=339
SHLS *e*S **S** **02 30 48.9 -1.9**
baz=339
JGF Kuroka 51.46 37 P **P** **02 23 34.3 -0.5**
JGF PcP **PcP** **02 24 48.0 -0.6**
DMTO DMTO 51.48 296 P **P** **02 23 36.7 +1.5**
DMTO P **P** **02 23 36.7 +1.5**
BSY Bisya 51.49 303 P **P** **02 23 37.0 +1.8**
SNR=51
PDGK Podgornoye 51.56 339 P **P** **02 23 36.4 +0.9**
UZB Uzynbulak 51.58 338*c* *i*P **P** **02 23 36.3 +0.7**
UZB *e*S **S** **02 30 52.0 -0.8**
UZB *e*S S 02 30 52.6 -0.3
baz=338
TOO Toolangi 51.59 136 P **P** **02 23 37.0 +1.2**
TOO pmax pmax
comp=Z,48nm,1.0s
TOO Toolangi 51.59 136 P **P** **02 23 37.0 +1.2**
TOO Toolangi 51.59 136 P **P** **02 23 37.8 +2.0**
SATY Saty 51.73 338*c* *i*P **P** **02 23 37.4 +0.6**
SATY *e*S **S** **02 30 54.7 -0.2**
SATY pmax pmax
comp=Z,247nm,0.9s
SATY Saty 51.73 338⇑ *i*P **P** **02 23 37.4 +0.6**
comp=Z,247nm,0.9s,baz=338
SATY *e*S **S** **02 30 54.7 -0.2**
baz=338
HOQ Hoqain 51.77 304 P **P** **02 23 39.0 +1.8**
SNR=69
HOQ P **P** **02 23 39.0 +1.8**
SNR=69
ULHL Ulahol 51.90 336 P **P** **02 23 38.3 +0.2**
SNR=126
SONM Songino Array 51.92 4 P **P** **02 23 39.2 +1.1**
comp=Z,388nm,0.7s,baz=183,slow=9.0,SNR=449
SONM PcP **PcP** **02 24 50.5 +0.4**
comp=Z,45nm,0.7s,baz=195,slow=4.0,SNR=1.6
SONM LR LR 02 48 31.8
comp=Z,3μm,18.1s,baz=180,slow=39
SONM Songino Array 51.92 4 P **P** **02 23 38.4 +0.3**
KPKS Kokpek 51.98 338*c* P **P** **02 23 38.9 +0.3**
KPKS *e*S **S** **02 30 57.5 -0.7**
KPKS pmax pmax
comp=Z,173nm,0.8s
KPKS Kokpek 51.98 338⇑ *i*P **P** **02 23 38.9 +0.3**
comp=Z,173nm,0.8s,baz=338
KPKS *e*S **S** **02 30 57.5 -0.7**
baz=338
ULN Ulaanbaatar 51.99 4*c* *i*P **P** **02 23 39.5 +0.8**
ULN pmax pmax
comp=Z,285nm,0.9s
ULN Ulaanbaatar 51.99 4 P **P** **02 23 39.5 +0.8**
ULN PcP **PcP** **02 24 50.1 -0.4**
ULN Ulaanbaatar 51.99 4 IAMs_20 IAMs_20 02 48 55.2
comp=Z,2μm,18.0s
ULN Ulaanbaatar 51.99 4 P **P** **02 23 40.1 +1.4**
ULN P **P** **02 23 40.1 +1.4**
ULN Ulaanbaatar 51.99 4 ⇑P **P** **02 23 40.2 +1.5**
ULN X 02 23 45.1
RBK Rabkut 52.08 296 P **P** **02 23 41.6 +1.9**
SNR=10
CN2 Changchun 52.13 21⇑ *i*P **P** **02 23 39.2 -0.3**
CN2 *e*pP pP 02 23 51.5 -2.1
CN2 *e*sP sP 02 23 56.9 -2.6
CN2 PcP **PcP** **02 24 50.2 -0.7**
CN2 PP PP **02 25 39.6 +1.2**
CN2 *e*S **S** **02 30 59.8 -0.3**
CN2 pmax pmax
comp=Z,700nm,2.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,20.0s
BOOM Boomskoye usch 52.22 335 P **P** **02 23 40.8 +0.3**
BOOM pmax pmax
comp=Z,389nm,1.0s
BOOM Boomskoye usch 52.22 335 P **P** **02 23 40.8 +0.3**
TNSS Tian-Shan 52.27 337 *i* P **P** **02 23 41.3 +0.2**
TNSS Tian-Shan 52.27 337 *i* P **P** **02 23 41.4 +0.2**
baz=337
ARQ Araqi 52.31 304 P **P** **02 23 43.2 +1.8**
SNR=27
MDOK Medeo 52.34 337 P **P** **02 23 41.9 +0.6**
MDOK Medeo 52.34 337 *i* P **P** **02 23 41.8 +0.4**
baz=337
MDOK *e*S **S** **02 31 03.0 -0.4**
baz=337
AAA Alma-Ata 52.43 337 *e*P **P** **02 23 42.7 +0.8**
AAA *e*S **S** **02 31 04.2 -0.2**
AAA pmax pmax
comp=Z,253nm,0.8s
AAA Alma-Ata 52.43 337 *e*P **P** **02 23 42.7 +0.8**
comp=Z,253nm,0.8s,baz=337
AAA *e*S **S** **02 31 04.2 -0.2**
baz=337
DOK Doka 52.53 297 P **P** **02 23 44.2 +1.3**
SNR=13
MAJO Matsushiro 52.60 37*c* *i*P **P** **02 23 42.2 -1.0**
MAJO pmax pmax
comp=Z,200nm,1.1s
MAJO Matsushiro 52.60 37 P **P** **02 23 42.1 -1.2**
MAJO IAmb IAmb 02 23 43.7
comp=Z,161nm,0.9s
MAJO PcP **PcP** **02 24 52.7 -0.2**
MAJO Matsushiro 52.60 37 P **P** **02 23 42.6 -0.6**
MAJO Matsushiro 52.60 37 ⇓P **P** **02 23 42.9 -0.3**
MAJO pP **pP** **02 23 53.4 -3.9**
MJAR Matsushiro Arr 52.60 37 P **P** **02 23 42.5 -0.7**
comp=Z,320nm,1.1s,baz=203,slow=20,SNR=141
MJAR PcP **PcP** **02 24 53.2 +0.3**
comp=Z,45nm,0.8s,baz=28,slow=6.0,SNR=5.3
MJAR LR LR 02 46 28.2
comp=Z,682nm,21.8s,baz=214,slow=36
MJAR Matsushiro Arr 52.60 37 IAmb IAmb 02 23 44.1
comp=Z,194nm,1.1s
MJB9 Matsu-Tunnel 52.60 37 IAmb IAmb 02 23 43.6
comp=Z,171nm,0.9s
WHFO Wadi Hawf 52.61 296 P **P** **02 23 44.6 +1.0**
SNR=12
UCH Uchtor 52.61 334 P **P** **02 23 44.1 +0.4**
SNR=267
BTK Batken 52.64 330 IAmb IAmb 02 23 45.5
comp=Z,341nm,1.2s
TKM2 Tokmak 2 52.72 336 P **P** **02 23 44.5 +0.3**
SNR=635
TKM2 Tokmak 2 52.72 336 *i* P **P** **02 23 45.0 +0.8**
TKM2 pmax pmax
comp=Z,208nm,0.9s
KBK Karagaybulak 52.78 335 P **P** **02 23 45.5 +0.9**
SNR=160
ABTO Aybut 52.84 295 P **P** **02 23 46.8 +1.4**
SNR=20
AML Almayashu 52.90 334 P **P** **02 23 46.5 +0.8**
SNR=14
AML Almayashu 52.90 334 *i* P **P** **02 23 45.6 -0.2**
SNR=50
ARXS Arharly 52.94 338 *e*P **P** **02 23 42.8 -2.8**
CHKK Chushkaly 52.95 337 *e*P **P** **02 23 45.6 0.0**
CHKK Chushkaly 52.95 337 *e*P **P** **02 23 45.6 0.0**
baz=337
AAK Ala-Archa 52.95 334 P **P** **02 23 46.4 +0.5**
SNR=144
AAK Ala-Archa 52.95 334 LR LR 02 51 01.3
comp=Z,959nm,18.6s,baz=143,slow=41
AAK Ala-Archa 52.95 334*c* *i*P **P** **02 23 46.2 +0.3**
AAK pmax pmax
comp=Z,220nm,1.3s
AAK Ala-Archa 52.95 334 P **P** **02 23 46.4 +0.5**
AAK IAmb IAmb 02 23 48.0
comp=Z,237nm,1.2s
AAK Ala-Archa 52.95 334 P **P** **02 23 46.7 +0.8**
AAK P **P** **02 23 46.7 +0.8**
AAK Ala-Archa 52.95 334 *i* P **P** **02 23 46.2 +0.3**
SNR=173
AAK Ala-Archa 52.95 334 ⇓P **P** **02 23 46.7 +0.8**
AAK pP **PcP** **02 24 56.2 +2.0**
CAN Canberra 53.09 132 P **P** **02 23 47.8 +0.8**
CAN pmax pmax
comp=Z,154nm,1.0s
CAN MLR MLR
comp=Z,4μm,22.0s
CAN Canberra 53.09 132 P **P** **02 23 47.8 +0.8**
CAN IAmb IAmb 02 23 49.6
comp=Z,154nm,1.0s
CAN IAMs_20 IAMs_20 02 46 13.2
comp=Z,4μm,22.0s
CAN Canberra 53.09 132 P **P** **02 23 48.4 +1.4**
CAN Canberra 53.09 132 ⇓P **P** **02 23 48.2 +1.2**
CAN pP **pP** **02 23 57.5 -3.5**
CAN sP **sP** **02 24 02.8 -4.1**
CHMS Chumysh 53.14 335 P **P** **02 23 47.1 0.0**
SNR=129
CHMS Chumysh 53.14 335 *i* P **P** **02 23 47.1 0.0**
CHMS pmax pmax
comp=Z,329nm,1.1s
UMZA Um Al Zommool 53.19 302 P **P** **02 23 49.2 +1.5**
ALNE Al Ain 53.26 304 P **P** **02 23 50.3 +2.0**
SNR=73
ALNE Al Ain 53.26 304 *i* P **P** **02 23 49.2 +0.9**
SNR=64
UOSS Minazif 53.27 305 P **P** **02 23 49.2 +0.8**
UOSS IAmb IAmb 02 23 50.5
comp=Z,143nm,1.1s
UOSS Minazif 53.27 305 P **P** **02 23 49.4 +1.1**
UOSS Minazif 53.27 305 ⇓P **P** **02 23 49.3 +0.9**
UOSS pP **pP** **02 23 58.5 -3.9**
ASHO Ashiyiah 53.28 305 P **P** **02 23 50.0 +1.5**
SNR=33
ASHO Ashiyiah 53.28 305 *i* P **P** **02 23 49.3 +0.9**
SNR=21
HATD Hatta, Dubai 53.28 305 P **P** **02 23 50.2 +1.8**
SNR=37
HATD Hatta, Dubai 53.28 305 *i* P **P** **02 23 49.3 +0.9**
SNR=58
EKS2 Erkin-Say 53.28 334 P **P** **02 23 49.0 +0.7**
SNR=299
ARMA Armidale 53.31 125 P **P** **02 23 50.2 +1.4**
ARMA IAmb IAmb 02 23 52.0
comp=Z,195nm,0.9s
ARMA Armidale 53.31 125 P **P** **02 23 50.4 +1.6**
CNB Canberra Magne 53.36 132 P **P** **02 23 49.7 +0.7**
TDK Taldyqorghan 53.40 339*c* *i*P **P** **02 23 48.9 -0.1**
TDK *e*S **S** **02 31 15.9 -1.6**
TDK pmax pmax
comp=Z,396nm,0.8s
TDK Taldyqorghan 53.40 339⇑ *i*P **P** **02 23 48.9 -0.1**
comp=Z,396nm,0.8s,baz=339
TDK *e*S **S** **02 31 15.9 -1.6**
baz=339
MSHR Mys Shultsa 53.41 26*c* *i*P **P** **02 23 49.4 +0.4**
MSHR pmax pmax
comp=Z,123nm,0.7s
USP Ospenovka 53.47 335 P **P** **02 23 49.5 0.0**
SNR=202
MSFE Esma-Masafi 53.49 306 *i* P **P** **02 23 50.7 +0.7**
SNR=51
MASF Masafi 53.50 306 P **P** **02 23 52.2 +2.1**
SNR=19
SGDS Sogindy 53.56 335*c* *i*P **P** **02 23 50.0 -0.2**
SGDS *e*S **S** **02 31 18.5 -1.3**
SGDS pmax pmax
comp=Z,154nm,1.7s
SGDS Sogindy 53.56 335⇑ *i*P **P** **02 23 50.0 -0.2**
comp=Z,154nm,1.7s,baz=335
SGDS *e*S **S** **02 31 18.5 -1.3**
baz=335
JYT Yasato 53.60 38 IAmb IAmb 02 23 49.4
comp=Z,138nm,0.8s
BANOM Banah 53.63 306 P **P** **02 23 52.5 +1.5**
SNR=5.4
BANOM Banah 53.63 306 *i* P **P** **02 23 51.9 +0.8**
SNR=12
ZSN Zaisan 53.64 345*c* *i*P **P** **02 23 51.4 +0.8**
ZSN *e*S **S** **02 31 20.2 -0.4**
ZSN pmax pmax
comp=Z,272nm,0.8s
ZSN Zaisan 53.64 345⇑ *i*P **P** **02 23 51.5 +0.8**
comp=Z,272nm,0.8s,baz=345
ZSN *e*S **S** **02 31 20.3 -0.4**
baz=345
JSD Sado 53.65 35 IAmb IAmb 02 23 52.4
comp=Z,183nm,0.7s
FAQ Al Faqa, Dubai 53.68 305 P **P** **02 23 53.0 +1.6**
SNR=36
FAQ Al Faqa, Dubai 53.68 305 *i* P **P** **02 23 52.3 +0.9**
SNR=142
NAZ Nazwa, Dubai 53.73 305 P **P** **02 23 53.5 +1.8**
SNR=20
NAZ Nazwa, Dubai 53.73 305 *i* P **P** **02 23 52.7 +0.9**
SNR=52
MK31 Makanchi Array 53.73 343 *i* P **P** **02 23 51.7 +0.3**
MK31 pmax pmax
comp=Z,532nm,0.7s
MK31 Makanchi Array 53.73 343 P **P** **02 23 51.2 -0.2**
MKAR Makanchi Array 53.73 343 P **P** **02 23 51.6 +0.3**
comp=Z,620nm,0.8s,baz=141,slow=7.8,SNR=2242
MKAR S **S** **02 31 22.1 +0.2**
comp=Z,1.6nm,0.8s,baz=159,slow=14,SNR=1.4
MKAR LR LR 02 51 12.5
comp=Z,1μm,21.4s,baz=146,slow=41
MKAR PKPPKP **P'P'df** **02 54 08.0 -1.2**
comp=Z,1.2nm,0.8s,baz=330,slow=1.7,SNR=3.8
HRA Herat 53.77 319 P **P** **02 23 51.6 -0.5**
HRA PcP **PcP** **02 24 57.2 -0.4**
SYDH Sydney Hard Ro 53.79 129 P **P** **02 23 53.7 +1.7**
SHME Shamm 53.82 307 P **P** **02 23 54.1 +1.7**
SNR=5.9
SHME P **P** **02 23 54.1 +1.7**
SNR=5.9
SHME Shamm 53.82 307 *i* P **P** **02 23 53.4 +1.1**
SNR=16
MAKZ Makanchi 53.84 343 P **P** **02 23 52.0 -0.1**
MAKZ pmax pmax
comp=Z,278nm,0.9s
MAKZ MLR MLR
comp=Z,1μm,22.0s
MAKZ Makanchi 53.84 343 P **P** **02 23 52.0 -0.1**
MAKZ Makanchi 53.84 343 ⇑P **P** **02 23 52.5 +0.3**
ASUD Al Ashush, Dub 53.85 305 P **P** **02 23 55.0 +2.4**
SNR=24
ASUD Al Ashush, Dub 53.85 305 *i* P **P** **02 23 53.9 +1.3**
SNR=18
MGCD Mangrove Creek 53.87 129 P **P** **02 23 54.0 +1.4**
UMQ Umm Al-Quwin 53.97 306 P **P** **02 23 55.5 +2.1**
AJN Ajban 54.10 304 P **P** **02 23 56.1 +1.6**
SNR=14
AJN Ajban 54.10 304 *i* P **P** **02 23 55.0 +0.6**
SNR=6.7
VLA Vladivostok 54.16 27*c* *i*P **P** **02 23 54.8 +0.3**
VLA pmax pmax
comp=Z,187nm,1.1s
ZAK Zakamensk 54.35 1 *e*P **P** **02 23 56.8 +0.9**
ZAK pmax pmax
comp=Z,170nm,1.0s
TAS Tashkent 54.36 330 P **P** **02 23 56.2 +0.1**
TAS pmax pmax
comp=Z,437nm,0.8s
TAS Tashkent 54.36 330 P **P** **02 23 56.2 +0.1**
MDJ Mudanjiang 54.40 24 P **P** **02 23 57.0 +0.8**
MDJ IAmb IAmb 02 23 58.5
comp=Z,135nm,0.9s
MDJ IAMs_20 IAMs_20 02 50 12.0
comp=Z,2μm,18.0s
MDJ Mudanjiang 54.40 24 P **P** **02 23 56.9 +0.7**
MDJ pP pP 02 24 11.8 +1.5
MDJ S **S** **02 31 35.4 +4.5**
MDJ sS sS 02 32 01.5 +6.8
MDJ pmax pmax
comp=Z,170nm,1.0s
MDJ pmax pmax
comp=Z,840nm,3.8s
MDJ LR LR
comp=Z,1μm,18.2s
MDJ LR LR
comp=Z,2μm,17.6s
MDJ LR LR
comp=Z,3μm,23.2s
MDJ Mudanjiang 54.40 24 ⇑P **P** **02 23 57.4 +1.2**
BNX BinXian 54.51 21 ⇑P **P** **02 23 58.0 +1.0**
BNX pP **sP** **02 24 15.2 -1.8**
BNX sP pP 02 24 23.4 +12
BNX PP **PP** **02 26 00.2 +0.4**
BNX S **S** **02 31 31.1 -1.2**
BNX sS **sS** **02 32 02.1 +5.7**
BNX pmax pmax
comp=Z,710nm,4.0s
BNX LR LR
comp=Z,3μm,13.8s
BNX LR LR
comp=Z,2μm,14.9s
BNX LR LR
comp=Z,6μm,23.6s
DZA Taraz 54.57 332 *e*P **P** **02 23 57.5 0.0**
DZA pmax pmax
comp=Z,136nm,0.8s
DZA Taraz 54.57 332 *e*P **P** **02 23 57.5 0.0**
comp=Z,136nm,0.8s,baz=332
IUG luzhnay 54.61 331*c* *i*P **P** **02 23 57.9 -0.1**
IUG *e*S **S** **02 31 32.5 -1.6**
IUG luzhnay 54.61 331⇑ *i*P **P** **02 23 57.9 -0.1**
baz=331
IUG *e*S **S** **02 31 32.6 -1.6**
baz=331
MZWR Madinat Zayed 54.69 303 P **P** **02 24 00.3 +1.6**
KNGR Kungurtug, Tuv 54.72 356*d* *i*P **P** **02 23 59.7 +1.1**
MZR Muzera 54.72 302 P **P** **02 24 00.7 +1.7**
SNR=63
MZR Muzera 54.72 302 *i* P **P** **02 24 00.1 +1.1**
SNR=33
USA0B Ussuriysk Arra 55.06 26 P **P** **02 24 01.3 +0.3**
USA0B pmax pmax
comp=Z,477nm,0.9s
USA0B Ussuriysk Arra 55.06 26 P **P** **02 24 01.3 +0.3**
USRK Ussuriysk Ar. 55.06 26 P **P** **02 24 01.6 +0.5**
comp=Z,394nm,0.8s,baz=219,slow=5.4,SNR=400
USRK LR LR 02 50 33.2
comp=Z,2μm,18.5s,baz=220,slow=39
BTLS Baital 55.10 336*c* *i*P **P** **02 24 00.5 -0.8**
BTLS Baital 55.10 336⇑ *i*P **P** **02 24 00.5 -0.8**
baz=336
KK31 Karatay Array 55.11 332 *i* P **P** **02 24 00.9 -0.6**
KKAR Karatay Array 55.11 332 P **P** **02 24 00.8 -0.7**
KKAR Karatay Array 55.11 332 P **P** **02 24 00.8 -0.7**
HIA Hailar 55.35 14*c* *i*P **P** **02 24 02.5 -0.6**
HIA pmax pmax
comp=Z,192nm,1.0s
HIA Hailar 55.35 14 P **P** **02 24 03.7 +0.6**
HIA IAmb IAmb 02 24 04.9
comp=Z,168nm,0.9s
HIA Hailar 55.35 14 P **P** **02 24 03.5 +0.5**
BRLS Borolday 55.38 331 *e*P **P** **02 24 01.9 -1.4**
BRLS *e*S **S** **02 31 40.3 -3.8**
BRLS Borolday 55.38 331 *e*P **P** **02 24 02.0 -1.4**
baz=331
BRLS *e*S **S** **02 31 40.4 -3.8**
baz=331
TAU Tasmania Unive 55.48 141 P **P** **02 24 05.7 +1.6**
TAU pmax pmax
comp=Z,101nm,1.1s
TAU Tasmania Unive 55.48 141 P **P** **02 24 05.7 +1.6**
TAU IAmb IAmb 02 24 14.6
comp=Z,101nm,1.1s
TAU Tasmania Unive 55.48 141 P **P** **02 24 05.4 +1.3**
TAU Tasmania Unive 55.48 141 ⇑P **P** **02 24 05.9 +1.8**
MOY Mondy 55.64 359 *e*P **P** **02 24 04.9 -0.3**
MOY pmax pmax
comp=Z,213nm,1.8s
ABPO Ambohimpanom 55.65 250 P **P** **02 24 07.2 +1.3**
ABPO pmax pmax
comp=Z,28nm,0.9s
ABPO Ambohimpanom 55.65 250 P **P** **02 24 07.2 +1.3**
ABPO Ambohimpanom 55.65 250 IAMs_20 IAMs_20 02 41 54.2
comp=Z,2μm,22.0s
ABPO Ambohimpanom 55.65 250 P **P** **02 24 08.1 +2.1**
JRN Qarnain Island 56.03 304 P **P** **02 24 09.4 +1.1**
SNR=24
IRK Irkutsk 56.23 1 *e*P **P** **02 24 09.4 +0.1**
IRK pmax pmax
comp=Z,425nm,2.5s
VOI Vohitsoka 56.50 247 P **P** **02 24 13.0 +1.0**
VOI Vohitsoka 56.50 247 P **P** **02 24 14.0 +2.1**
SLWR Sila 56.65 302 P **P** **02 24 14.4 +1.6**
SLWR P **P** **02 24 14.4 +1.6**
CIT Chita 56.80 8 *e*P **P** **02 24 14.6 +1.2**
CIT *e* 02 24 27.9
CIT *e* 02 25 09.6
CIT pmax pmax
comp=Z,605nm,1.6s
TRNA Turayna 57.31 303 P **P** **02 24 18.5 +1.0**
KHOR Al-Khor Airpor 57.41 304 P **P** **02 24 19.5 +1.4**
HNR Honiara 57.47 98 LR LR 02 50 42.9
comp=Z,442nm,21.6s,baz=263,slow=38
HNR Honiara 57.47 98 P **P** **02 24 18.3 -0.5**
HNR pmax pmax
comp=Z,577nm,0.9s
HNR MLR MLR
comp=Z,800nm,20.0s
HNR Honiara 57.47 98 P **P** **02 24 18.3 -0.5**
HNR Honiara 57.47 98 P **P** 02 24 06.1 -13
SEM Semipalatinsk 57.58 344*c* *i*P **P** **02 24 18.5 -0.6**
SEM pmax pmax
comp=Z,227nm,0.8s
SEM Semipalatinsk 57.58 344⇑ *i*P **P** **02 24 18.6 -0.6**
comp=Z,227nm,0.8s,baz=343
SMRA Abu-Samra 57.64 303 P **P** **02 24 20.8 +1.1**
GHRH Al-Ghuwayriyah 57.69 304 P **P** **02 24 21.6 +1.5**
TEY Ternei 57.80 28⇑ *e*P **P** **02 24 20.5 0.0**
TEY *e* 02 25 12.7
TEY pmax pmax
comp=Z,200nm,1.4s
TEY pmax pmax
comp=N,30nm,1.4s
TEY pmax pmax
comp=E,30nm,1.4s
TEY pmax pmax
comp=Z,80nm,1.4s
SHMA Al-Shehemyia 57.95 304 P **P** **02 24 23.2 +1.3**
KURBB Kurchatov Arra 58.27 342 P **P** **02 24 23.8 +0.1**
comp=Z,395nm,0.8s,baz=157,slow=6.6,SNR=1522
KURBB PcP **PcP** **02 25 14.8 +0.4**
comp=Z,48nm,0.7s,baz=152,slow=3.4,SNR=6.7
KURBB S **S** **02 32 20.7 -1.3**
comp=Z,2.6nm,0.9s,baz=158,slow=13,SNR=4.9
KURBB LR LR 02 54 20.2
comp=Z,1μm,19.0s,baz=125,slow=41
KURK Kurchatov 58.33 343 P **P** **02 24 23.8 -0.3**
KURK 02 25 14.8
KURK S **S** **02 32 20.7 -2.0**
KURK Kurchatov 58.33 343 P **P** **02 24 23.8 -0.3**

KURK **Kurchatov** 58.33 343 IAMs_20 IAMs_20 02 54 17.3
comp=Z,2µm,19.0s
KURK **Kurchatov** 58.33 343 P **P** **02 24 24.4 +0.4**
KURK P **P** **02 24 24.4 +0.4**
KURK **Kurchatov** 58.33 343 ⇑P **P** **02 24 24.5 +0.4**
SAKB **Bahrain** 58.35 304 P **P** **02 24 26.1 +1.3**
OTUK **Ortayu** 58.40 337 P **P** **02 24 24.5 -0.2**
GEYT **Alibeck** 58.55 320 P **P** **02 24 26.2 +0.3**
comp=Z,114nm,0.8s,baz=153,slow=10.0,SNR=168
GEYT LR LR 02 51 27.7
comp=Z,741nm,21.9s,baz=138,slow=38
GEYT **Alibeck** 58.55 320 IAmb IAmb 02 24 27.6
comp=Z,148nm,0.9s
GYA0B **ALIBECK ARRAY** 58.55 320 P **P** **02 24 26.2 +0.3**
GYA0B IAmb IAmb 02 24 27.6
comp=Z,178nm,0.9s
KLR **Kul'dur** 59.04 22 P **P** **02 24 29.1 0.0**
comp=Z,276nm,0.9s,baz=230,slow=6.0,SNR=471
KLR LR LR 02 50 16.0
comp=Z,2µm,21.9s,baz=224,slow=36
KLR **Kul'dur** 59.04 22*c* *i*P **P** **02 24 28.9 -0.2**
KLR pmax pmax
comp=Z,337nm,0.8s
ERM **Erimo** 59.10 35*c* *i*P **P** **02 24 29.6 0.0**
ERM pmax pmax
comp=Z,353nm,1.0s
ERM **Erimo** 59.10 35 P **P** **02 24 30.1 +0.5**
ERM **Erimo** 59.10 35 P **P** **02 24 30.3 +0.7**
ERM **Erimo** 59.10 35 ⇑P **P** **02 24 30.2 +0.6**
BRZS **Berezniki** 59.69 338*c* *i*P **P** **02 24 32.9 -0.6**
BRZS pmax pmax
comp=Z,123nm,1.2s
BRZS **Berezniki** 59.69 338⇑*i*P **P** **02 24 32.9 -0.6**
comp=Z,123nm,1.2s,baz=338
ZALV **Zalesovo Beam** 59.73 348 P **P** **02 24 33.9 +0.2**
comp=Z,954nm,0.8s,baz=169,slow=5.0,SNR=1782
ZALV S **S** **02 32 40.1 -0.6**
comp=Z,4.6nm,0.9s,baz=150,slow=27,SNR=5.4
ZALV LR LR 02 53 27.4
comp=Z,3µm,21.6s,baz=146,slow=39
ZALV PKPPKP **P'P'df** **02 54 01.2 +1.4**
comp=Z,1.9nm,0.8s,baz=318,slow=4.1,SNR=7.8
ZALV PKP2bc 02 54 12.5
comp=Z,2.8nm,0.8s,baz=340,slow=3.4,SNR=5.2
ZALV **Zalesovo Beam** 59.73 348 P **P** **02 24 33.8 +0.1**
LHI **Lord Howe Isla** 59.74 124 P **P** **02 24 34.6 +0.3**
ASAJ **Asahikawa** 60.17 33 P **P** **02 24 37.6 +0.6**
comp=Z,261nm,0.8s,baz=241,slow=8.8,SNR=119
ASAJ LR LR 02 50 55.0
comp=Z,814nm,21.6s,baz=184,slow=36
JKA **Kamikawa-asahi** 60.18 33 P **P** **02 24 37.2 +0.2**
ATD **Arta Tunnel** 61.11 286 LR LR 02 48 41.2
comp=Z,536nm,18.8s,baz=96,slow=33
ATD **Arta Tunnel** 61.11 286 P **P** **02 24 46.2 +2.2**
ATD **Arta Tunnel** 61.11 286 *e*P **P** **02 24 45.5 +1.5**
ATD *e*S **S** **02 32 57.7 -2.2**
ATD **Arta Tunnel** 61.11 286 *e*P **P** **02 24 45.5 +1.5**
ATD *e*S **S** **02 33 03.8 +3.9**
ATD IAMs_20 IAMs_20 02 33 34.1
comp=N,2µm,4.9s
ZEA **Zeya** 61.39 17 *e*P **P** **02 24 45.5 +0.5**
ZEA *e**PP **pP** **02 25 02.3 +2.9**
ZEA *e* 02 27 00.5
ZEA *e*S **S** **02 33 02.3 +0.3**
ZEA *e*SS **SS** **02 37 08.1 +4.5**
ZEA pmax pmax
comp=E,200nm,2.0s
ZEA pmax pmax
comp=N,400nm,1.9s
ZEA pmax pmax
comp=Z,700nm,2.0s
ZEA pmax pmax
comp=N,100nm,0.8s
ZEA pmax pmax
comp=E,60nm,0.8s
ZEA pmax pmax
comp=Z,240nm,0.8s
ZEA pmax pmax
comp=Z,100nm,8.7s
ZEA smax smax
comp=E,100nm,6.1s
ZEA smax smax
comp=N,400nm,7.8s
ZEA MLR MLR
comp=E,1µm,18.0s
ZEA MLR MLR
comp=N,2µm,17.0s
ZEA MLR MLR
comp=Z,2µm,17.0s
RAYN **Ar Rayn** 61.76 299 P **P** **02 24 48.6 +0.4**
RAYN pmax pmax
comp=Z,142nm,1.1s
RAYN **Ar Rayn** 61.76 299 P **P** **02 24 48.6 +0.4**
RAYN IAmb IAmb 02 24 50.4
comp=Z,142nm,1.1s
RAYN **Ar Rayn** 61.76 299 P **P** **02 24 49.2 +1.0**
RAYN **Ar Rayn** 61.76 299 P **P** **02 24 49.0 +0.8**
RAYN **Ar Rayn** 61.76 299 ⇓P **P** **02 24 49.4 +1.2**
YUK **Yuzh-Kuril'sk** 61.91 34*c* *i*P **P** **02 24 48.9 +0.1**
GRNR **Gornyy** 62.09 24⇑*i*P **P** **02 24 50.7 +0.9**
GRNR *e*S **S** **02 33 14.6 +3.6**
GRNR pmax pmax
comp=E,200nm,0.9s
GRNR pmax pmax
comp=N,60nm,1.1s
GRNR pmax pmax
comp=Z,120nm,1.1s
GRNR smax smax
comp=E,2.0nm,0.5s
GRNR MLR MLR
comp=E,860nm,14.0s
GRNR MLR MLR
comp=N,560nm,11.0s
GRNR MLR MLR
comp=Z,1µm,15.0s
YSS **Yuzh-Sakhalins** 62.17 30 *e*P **P** **02 24 50.3 -0.1**
YSS *e**PP **pP** **02 25 07.0 +2.2**
YSS *e**SP **sP** **02 25 13.2 +2.6**
YSS *e* 02 27 02.6
YSS *e*S **S** **02 33 09.6 -2.5**
YSS pmax pmax
comp=Z,870nm,1.0s
YSS pmax pmax
comp=Z,1µm,3.8s
YSS pmax pmax
comp=E,700nm,3.7s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS MLR MLR
comp=N,900nm,17.0s
YSS MLR MLR
comp=E,800nm,17.0s
YSS **Yuzh-Sakhalins** 62.17 30 P **P** **02 24 50.9 +0.5**
YSS **Yuzh-Sakhalins** 62.17 30 P **P** **02 24 51.0 +0.6**
YSS **Yuzh-Sakhalins** 62.17 30 ⇑P **P** **02 24 51.1 +0.7**
CASY **Casey** 62.26 176 P **P** **02 24 52.8 +2.1**
CASY **Casey** 62.26 176 IAMs_20 IAMs_20 02 45 37.1
comp=Z,2µm,21.0s
SHO **Shikotan** 62.36 35 P P 02 24 37.8 -14
KOUNC **Koumac, New Ca** 62.38 111 P **P** **02 24 52.8 +0.4**
KOUNC IAmb IAmb 02 25 10.4
comp=Z,230nm,1.1s
KOUNC **Koumac, New Ca** 62.38 111 P **P** **02 24 53.1 +0.7**
BOD **Bodaibo** 62.52 7 *e*P **P** **02 24 52.7 +0.2**
BOD pmax pmax
comp=Z,290nm,1.1s
BRVK **Borovoye** 63.06 339*c* *i*P **P** **02 24 55.4 -0.9**
BRVK pmax pmax
comp=Z,469nm,1.3s
BRVK MLR MLR
comp=Z,1µm,21.0s
BRVK **Borovoye** 63.06 339 P **P** **02 24 55.6 -0.7**
BRVK **Borovoye** 63.06 339 P **P** **02 24 55.9 -0.4**
BRVK **Borovoye** 63.06 339 ⇓P **P** **02 24 55.8 -0.4**
UGL **Uglegorsk** 63.30 28⇓*i*P **P** **02 24 59.2 +1.3**
UGL *e*S S 02 33 14.4 -12
UGL pmax pmax
comp=Z,910nm,0.9s
KIBK **Kibwezi** 64.12 269 P **P** **02 25 04.4 +0.3**
KIBK **Kibwezi** 64.12 269 P **P** **02 25 06.0 +1.9**
NOUC **Port Laguerre** 64.42 112 P **P** **02 25 06.0 +0.2**
NOUC **Port Laguerre** 64.42 112 ⇓P **P** **02 25 06.3 +0.5**
NOUC P pP 02 25 07.1 -13
DZM **Mont Dzumac** 64.54 112 LR LR 02 55 25.5
comp=Z,885nm,18.6s,baz=258,slow=38

DZM **Mont Dzumac** 64.54 112 *e*P **P** **02 25 06.9 +0.1**
DZM *e*S **S** **02 33 40.9 -1.9**
comp=Z,346nm,29.3s
DZM **Mont Dzumac** 64.54 112 *e*LR LR 02 44 30.8
comp=Z,2µm,28.1s
DZM **Mont Dzumac** 64.54 112 IAmb IAmb 02 25 27.2
comp=Z,276nm,1.5s
DZM **Mont Dzumac** 64.54 112 P **P** **02 25 07.3 +0.5**
DZM **Mont Dzumac** 64.54 112 ⇓P **P** **02 25 07.6 +0.8**
ONTNC **Ouen Toro** 64.58 113 IAmb IAmb 02 25 32.6
comp=Z,96nm,0.8s
ONTNC **Ouen Toro** 64.58 113 P **P** **02 25 07.4 +0.5**
AB31 **Akbulak array** 64.62 331 *i*P **P** **02 25 06.4 -0.2**
ABKAR **Akbulak array** 64.62 331 P **P** **02 25 06.3 -0.3**
AAE **Adis Abeba** 64.63 282 *e*P **P** **02 25 10.7 +3.0**
AAE *e*S **S** **02 33 48.3 +3.8**
AAE **Adis Abeba** 64.63 282 *e*P **P** **02 25 10.7 +3.0**
AAE *e*S **S** **02 33 48.3 +3.8**
AAE IAMs_20 IAMs_20 02 34 06.8
comp=N,7µm,37.7s
FURI **Furi** 64.69 282 P **P** **02 25 10.0 +1.8**
FURI **Furi** 64.69 282 *e*P **P** **02 25 10.9 +2.8**
FURI ⇓*e*S **S** **02 33 49.7 +4.3**
FURI **Furi** 64.69 282 *e*P **P** **02 25 10.9 +2.8**
FURI ⇓*e*S **S** **02 33 49.7 +4.3**
FURI IAMs_20 IAMs_20 02 34 25.7
comp=N,591nm,22.7s
SANVU **Saraoutou** 64.76 105 P **P** **02 25 07.9 -0.2**
SANVU **Saraoutou** 64.76 105 P **P** **02 25 09.2 +1.1**
SANVU **Saraoutou** 64.76 105 ⇓P **P** **02 25 09.7 +1.5**
TYV **Tymovskoe** 64.83 27 *e*P **P** **02 25 09.4 +1.5**
TYV *e*S **S** **02 33 50.4 +5.4**
TYV pmax pmax
comp=Z,114nm,1.6s
TYV pmax pmax
comp=Z,800nm,4.3s
TYV smax smax
comp=N,500nm,9.1s
TYV smax smax
comp=E,200nm,9.1s
OUENC **Ouen Island, N** 64.94 113 IAmb IAmb 02 25 11.3
comp=Z,95nn,0.9s
OUENC **Ouen Island, N** 64.94 113 P **P** **02 25 10.2 +0.9**
YATNC **Mamie plateau,** 64.95 112 P **P** **02 25 10.6 +1.3**
KMBO **Kilima Mbogo** 64.99 271 P **P** **02 25 11.6 +1.6**
comp=Z,13nm,0.9s,baz=72,slow=9.2,SNR=35
KMBO LR LR 02 48 29.3
comp=Z,858nm,21.9s,baz=86,slow=31
KMBO **Kilima Mbogo** 64.99 271 P **P** **02 25 10.6 +0.6**
KMBO **Kilima Mbogo** 64.99 271 P **P** **02 25 11.7 +1.6**
KMBO **Kilima Mbogo** 64.99 271 *e*P **P** **02 25 08.2 -1.8**
KMBO *e*S **S** **02 33 47.0 -1.9**
KMBO **Kilima Mbogo** 64.99 271 *e*P **P** **02 25 08.2 -1.8**
KMBO *e*S **S** **02 33 47.0 -1.9**
KMBO IAMs_20 IAMs_20 02 34 20.5
comp=Z,7µm,92.6s
KMBO **Kilima Mbogo** 64.99 271 *i*P **P** **02 25 11.3 +1.3**
comp=E,2.0nm,1.0s
KMBO **Kilima Mbogo** 64.99 271 ⇓P **P** **02 25 11.9 +1.9**
LIFNC **LIFOU** 65.15 111 IAmb IAmb 02 25 27.7
comp=Z,209nm,0.9s
LIFNC **LIFOU** 65.15 111 P **P** **02 25 11.2 +0.6**
PINNC **Pines Island,** 65.52 113 P **P** **02 25 13.5 +0.5**
PINNC IAmb IAmb 02 25 36.3
comp=Z,89nm,1.0s
NKL **Nikolayevsk** 65.61 24 *e*P **P** **02 25 11.4 -1.5**
NKL *e*S S 02 34 08.8 +14
NKL pmax pmax
comp=E,4.0nm,1.0s
NKL pmax pmax
comp=N,1.0nm,0.8s
NKL pmax pmax
comp=Z,164nm,0.9s
NKL smax smax
comp=E,3.0nm,1.9s
NKL smax smax
comp=N,1.0nm,1.6s
NKL MLR MLR
comp=E,301nm,22.0s
NKL MLR MLR
comp=N,1.0nm,15.0s
NKL MLR MLR
comp=Z,944nm,15.0s
AKTO **Aktyubinsk** 66.34 331 P **P** **02 25 17.4 -0.3**
comp=Z,126nm,0.9s,baz=131,slow=7.8,SNR=329
AKTO S **S** **02 33 59.5 -4.1**
comp=Z,0.8nm,0.6s,baz=180,slow=14,SNR=6.3
LODK **Lodwar** 67.27 275 P **P** **02 25 25.2 +0.8**
LODK **Lodwar** 67.27 275 P **P** **02 25 26.2 +1.8**
SNR=16
LODK **Lodwar** 67.27 275 *e*P P 02 25 14.3 -10
LODK *e*S **S** **02 34 17.6 +1.4**
LODK **Lodwar** 67.27 275 *e*P **P** **02 25 22.9 -1.6**
LODK *e*S **S** **02 34 17.6 +1.4**
LODK IAMs_20 IAMs_20 02 34 25.3
comp=N,734nm,15.5s
DRV **Dumont d'Urvil** 67.64 165 ⇑P **P** **02 25 26.6 +1.0**
H11N1 **WAKE ISLAND Hy** 67.77 67 P **P** **02 25 26.3 -0.9**
baz=248,slow=8.7,SNR=12
H11N2 **WAKE ISLAND Hy** 67.78 67 P **P** **02 25 26.7 -0.5**
baz=248,slow=8.7,SNR=11
H11N3 **WAKE ISLAND Hy** 67.79 67 P **P** **02 25 26.4 -0.8**
baz=248,slow=8.7,SNR=27
MAK **Makhachkala** 68.07 320 *e*P **P** **02 25 26.5 -2.3**
MAK *e**PP **pP** **02 25 40.0 -3.3**
MAK *e**SP **sP** **02 25 45.7 -3.4**
MAK *e* 02 27 55.8
MAK *e*PPP PPP 02 29 36.4
MAK *e*S **S** **02 34 22.9 -1.7**
MAK *e**SS **sS** **02 34 48.4 -0.4**
MAK *e*SS **SS** **02 38 48.2 +0.1**
MAK pmax pmax
comp=Z,278nm,0.9s
MQOL **MQOL** 68.51 294 *i*P **P** **02 25 32.9 +0.9**
MQOL AMP 02 25 34.0
comp=N,102nm,1.2s
MQOL *i*S **S** **02 34 29.7 -1.0**
GNI **Garni** 68.65 316 P **P** **02 25 33.4 +0.8**
comp=N,55nm,0.8s,baz=331,slow=0.6,SNR=61
GNI LR LR 02 57 15.7
comp=N,344nm,22.0s,baz=108,slow=37
GNI **Garni** 68.65 316*c* *i*P **P** **02 25 33.0 +0.3**
GNI pmax pmax
comp=Z,308nm,2.5s
GNI **Garni** 68.65 316 P **P** **02 25 33.3 +0.7**
GNI IAmb IAmb 02 25 40.9
comp=Z,95nm,0.8s
GNI **Garni** 68.65 316 P **P** **02 25 34.0 +1.3**
GNI **Garni** 68.65 316 P **P** **02 25 33.2 +0.6**
GNI **Garni** 68.65 316 P **P** **02 25 34.0 +1.3**
MAW **Mawson** 68.76 195 P **P** **02 25 34.2 +1.5**
comp=Z,6.5nm,0.8s,baz=351,slow=3.2,SNR=4.2
MAW LR LR 02 49 57.5
comp=Z,4µm,20.5s,baz=19,slow=31
MAW PKP2bc 02 53 44.4
comp=Z,15nm,0.9s,baz=206,slow=4.2,SNR=12
MAW **Mawson** 68.76 195 P **P** **02 25 35.1 +2.4**
MAW pmax pmax
comp=Z,12nm,1.2s
MAW **Mawson** 68.76 195 P **P** **02 25 35.1 +2.4**
GEVA **Gevas** 69.08 314 P **P** **02 25 35.3 -0.1**
GEVA IAmb IAmb 02 25 38.7
comp=Z,133nm,0.9s
GROC **Groznyy** 69.29 319 *e*P **P** **02 25 36.3 -0.1**
GROC *e**PP **pP** **02 25 52.4 +1.5**
GROC *e**SP **sP** **02 25 57.0 +0.3**
GROC *e* 02 25 59.4
GROC *e* 02 28 14.3
GROC *e*S **S** **02 34 37.2 -1.9**
GROC *e*S SKiKP 02 34 58.0 -24
GROC pmax pmax
comp=Z,545nm,1.0s
YAK **Yakutsk** 69.29 13 P **P** **02 25 35.5 -0.4**
comp=Z,366nm,0.7s,baz=207,slow=2.2,SNR=132
YAK LR LR 02 58 06.8
comp=Z,2µm,21.1s,baz=230,slow=38
YAK **Yakutsk** 69.29 13*c* *i*P **P** **02 25 35.4 -0.6**
YAK *e**PP **pP** **02 25 49.3 -1.2**
YAK *e* 02 25 57.0
YAK *e* 02 28 07.1
YAK *e*S **S** **02 34 39.2 +0.8**
YAK *e**SS **sS** **02 35 07.6 +4.7**
YAK *e* 02 35 31.5
YAK *e*SS **SS** **02 39 04.4 -1.8**

YAK pmax pmax
comp=Z,761nm,0.9s
YAK pmax pmax
comp=N,163nm,1.1s
YAK pmax pmax
comp=E,137nm,1.2s
YAK pmax pmax
comp=Z,99nm,2.3s
YAK pmax pmax
comp=E,85nm,2.0s
YAK pmax pmax
comp=N,84nm,2.0s
YAK smax smax
comp=E,54nm,1.7s
YAK smax smax
comp=N,43nm,2.0s
YAK MLR MLR
comp=Z,2µm,21.0s
YAK MLR MLR
comp=N,821nm,22.0s
YAK MLR MLR
comp=E,992nm,18.0s
YAK **Yakutsk** 69.29 13 P **P** **02 25 34.8 -1.2**
YAK IAMs_20 IAMs_20 02 57 54.7
comp=Z,2µm,21.0s
YAK **Yakutsk** 69.29 13 ⇑P **P** **02 25 35.6 -0.4**
SVE **Sverdlovsk** 69.55 337*d* *i*P **P** **02 25 37.7 0.0**
SVE pmax pmax
comp=Z,854nm,1.1s
SVE pmax pmax
comp=Z,307nm,7.7s
SVE MLR MLR
comp=Z,1µm,23.0s
DCZ **Deep Cove** 69.56 137 P **P** **02 25 39.0 +1.0**
DCZ IAmb IAmb 02 25 40.6
comp=Z,137nm,1.1s
GURO **Guroymak-BITLI** 69.91 314 IAmb IAmb 02 25 42.8
comp=Z,142nm,0.9s
ARU **Arti** 70.09 336 P **P** **02 25 40.9 -0.1**
comp=Z,131nm,0.9s,baz=141,slow=3.4,SNR=431
ARU LR LR 02 59 06.1
comp=Z,1µm,21.5s,baz=130,slow=38
ARU **Arti** 70.09 336*c* *i*P **P** **02 25 40.7 -0.4**
ARU *PP **pP** **02 25 54.0 -1.6**
ARU 02 25 59.5
ARU 02 28 16.8
ARU PPP PPP 02 29 59.3
ARU S **S** **02 34 48.9 +0.9**
ARU *SS **SKiKP** **02 35 27.3 +4.6**
ARU pmax pmax
comp=Z,588nm,1.0s
ARU MLR MLR
comp=Z,1µm,20.0s
ARU **Arti** 70.09 336 P **P** **02 25 41.2 +0.1**
ARU IAMs_20 IAMs_20 02 59 22.0
comp=Z,1µm,21.0s
ARU **Arti** 70.09 336 ⇓P **P** **02 25 41.0 -0.1**
MLZ **Mavora Lakes** 70.19 137 P **P** **02 25 42.4 +0.4**
MLZ IAmb IAmb 02 25 57.7
comp=Z,108nm,1.1s
WHZ **Wether Hill Ro** 70.21 137 P **P** **02 25 42.5 +0.4**
CNG **Changalane** 70.30 244 *i*P **P** **02 25 42.6 -0.3**
CNG **Changalane** 70.30 244 *i*P **P** **02 25 42.6 -0.3**
ZEI **Tsey** 70.35 318 *e*P **P** **02 25 41.0 -2.2**
ZEI pmax pmax
comp=Z,189nm,0.9s
MARD **Mardin** 70.36 312 P **P** **02 25 43.7 +0.4**
ONI **Oni** 70.56 318 IAmb IAmb 02 26 13.8
comp=Z,117nm,1.1s
NCK **Nalchik** 70.86 319*c* *i*P **P** **02 25 46.7 +0.6**
NCK pmax pmax
comp=Z,189nm,1.0s
FOZ **Fox Glacier** 70.94 135 IAMs_20 IAMs_20 02 53 23.4
comp=Z,2µm,21.0s
KBZ **Khabaz** 71.42 319 P **P** **02 25 49.7 +0.4**
comp=Z,188nm,0.9s,baz=119,slow=5.5,SNR=226
KBZ S **S** **02 35 03.4 -0.5**
comp=Z,3.6nm,1.0s,baz=231,slow=23,SNR=7.9
KBZ LR LR 02 59 34.3
comp=Z,233nm,21.4s,baz=112,slow=38
KBZ **Khabaz** 71.42 319*c* *i*P **P** **02 25 49.7 +0.4**
KBZ pmax pmax
comp=Z,254nm,0.9s
SKR **Severo-Kuril's** 71.44 33*c* *i*P **P** **02 25 49.2 -0.1**
SKR *e*S **S** **02 35 00.3 -3.5**
SKR pmax pmax
comp=Z,800nm,3.8s
SKR pmax pmax
comp=Z,216nm,1.4s
SKR pmax pmax
comp=Z,100nm,3.6s
SKR MLR MLR
comp=Z,500nm,16.0s
SKR MLR MLR
comp=Z,400nm,16.0s
MBAR **Mbarara** 71.52 271 LR LR 02 54 08.0
comp=Z,488nm,18.8s,baz=78,slow=33
MBAR **Mbarara** 71.52 271*c* *i*P **P** **02 25 51.8 +0.9**
MBAR pmax pmax
comp=Z,33nm,0.9s
MBAR **Mbarara** 71.52 271 P **P** **02 25 51.5 +0.7**
MBAR **Mbarara** 71.52 271 *i*P P 02 25 58.8 +7.9
MBAR **Mbarara** 71.52 271 P **P** **02 25 53.0 +2.1**
MBAR **Mbarara** 71.52 271 *i*P P 02 25 58.8 +7.9
MBAR **Mbarara** 71.52 271 ⇑P **P** **02 25 53.2 +2.4**
CHVG **Ch'k'valeri** 71.54 318 ⇑P **P** **02 25 50.2 +0.1**
KOPT **Kop Dagi** 71.57 315 IAmb IAmb 02 26 16.8
comp=Z,104nm,0.9s
KVAR **Kislovodsk Arr** 71.65 319 P **P** **02 25 51.4 +0.5**
baz=270,slow=20,SNR=5.0
KVAR LR LR 03 01 40.6
comp=Z,277nm,21.1s,baz=268,slow=39
KIV **Kislovodsk** 71.65 319 ⇓P **P** **02 25 51.2 +0.2**
KIV **Kislovodsk** 71.65 319 *e*P **P** **02 25 50.8 -0.1**
KIV *e*S **S** **02 35 06.0 -0.9**
KIV *e*SS **SS** **02 39 42.8 -0.6**
KIV pmax pmax
comp=Z,185nm,1.0s
KIV pmax pmax
comp=Z,271nm,4.0s
KIV **Kislovodsk** 71.65 319 P **P** **02 25 51.1 +0.2**
KIV IAmb IAmb 02 25 53.3
comp=Z,153nm,0.9s
KIV **Kislovodsk** 71.65 319 P **P** **02 25 51.8 +0.8**
KIV **Kislovodsk** 71.65 319 *i*P **P** **02 25 51.2 +0.2**
SNR=30
KIV **Kislovodsk** 71.65 319 ⇓P **P** **02 25 51.8 +0.8**
ASF **Jabal al Asfar** 71.68 306 P **P** **02 25 52.8 +1.4**
comp=Z,295nm,0.9s,baz=133,slow=3.0,SNR=41
JAWL **J.Aulia** 71.69 287 *i*P **P** **02 25 53.5 +1.9**
JAWL *i* 02 26 04.0
baz=346,slow=18
ODZ **Otahua Downs** 71.85 136 P **P** **02 25 52.9 +0.9**
RPZ **Rata Peaks** 71.86 135 LR LR 02 56 49.4
comp=Z,2µm,20.4s,baz=280,slow=35
RPZ **Rata Peaks** 71.86 135 P **P** **02 25 52.8 +0.7**
GOF **Gofitskoye** 71.89 320⇑*e*P **P** **02 25 52.2 0.0**
GOF *e*S **S** **02 35 08.7 -0.7**
GOF pmax pmax
comp=Z,277nm,1.0s
GOF smax smax
comp=N,217nm,1.6s
GOF smax smax
comp=E,192nm,1.4s
CCD **Concordia, Ant** 71.90 174 P **P** **02 25 54.1 +1.8**
MSNA **Messina** 71.99 248⇓*i*P **P** **02 25 54.0 +0.6**
MSNA **Messina** 71.99 248⇓*i*P **P** **02 25 54.0 +0.6**
OUZ **Omahuta** 72.37 126 P **P** **02 25 56.0 +0.7**
QRZ **Quartz Range** 72.39 131 P **P** **02 25 56.1 +0.8**
KTUT **Trabzon** 72.45 315 ⇑P **P** **02 25 56.3 +0.6**
OXZ **Oxford** 72.48 134 IAMs_20 IAMs_20 02 55 00.2
comp=Z,2µm,20.0s
GHAJ **Ghor Haditha** 72.52 304 P **P** **02 25 57.0 +0.8**
GHAJ IAMs_20 IAMs_20 02 56 04.1
comp=Z,2µm,22.0s
EIL **Elat** 72.58 303 P **P** **02 25 57.9 +1.2**
comp=Z,347nm,0.9s,baz=142,slow=4.0,SNR=287
EIL LR LR 02 56 49.0
comp=Z,1µm,20.7s,baz=102,slow=35
MRWI **Hamdab** 72.68 291 *i*P **P** **02 25 57.4 -0.1**
MRWI *i*S **S** **02 35 20.1 +0.7**
BELG **Belogornoye** 72.75 328 LR LR 03 02 36.0
comp=Z,386nm,20.0s,baz=136,slow=40
BELG **Belogornoye** 72.75 328*c* *i*P **P** **02 25 56.3 -0.8**
BELG pmax pmax

comp=Z,119nm,1.0s
SHBL Chebaa 72.95 307 eP P 02 26 00.6 +1.6
MQZ McQueen's Vall 72.99 134 IAMs_20 IAMs_20 02 54 36.7
comp=Z,2µm,22.0s
HWQ Hawqa 73.06 308 eP P 02 26 00.8 +1.3
MMAI Mount Meron Ar 73.13 306 P P 02 26 01.5 +1.5
comp=Z,30nm,0.7s,baz=67,slow=16,SNR=55
MMAI LR LR 02 58 19.2
comp=Z,1µm,20.5s,baz=266,slow=36
NBEZ Newall Road No 73.15 130 P P 02 26 01.4 +1.6
NMEZ Namu Road 73.18 130 P P 02 26 02.8 +2.8
BHL Bhannes 73.19 307 eP P 02 26 01.5 +1.2
BLWY Bulawayo 73.22 250 i P P 02 26 02.0 +1.1
BLWY Bulawayo 73.22 250 i P P 02 26 02.0 +1.1
PKE Pukeiti 73.23 130 P P 02 26 03.1 +2.7
KHEZ Kahui Hut 73.27 130 P P 02 26 03.1 +2.5
NEZ North Egmont 73.33 130 P P 02 26 03.1 +2.1
MATP Matopo 73.34 250 LR LR 02 52 55.8
comp=Z,2µm,21.8s,baz=62,slow=31
MATP Matopo 73.34 250 i P P 02 26 02.6 +1.1
MATP Matopo 73.34 250 i P P 02 26 02.6 +1.1
PREZ Palmer Road 73.39 130 P P 02 26 01.3 0.0
DREZ Durham Road 73.40 130 P P 02 26 03.6 +2.3
KHZ Kahutara 73.40 133 P P 02 26 01.2 -0.1
SOC Sochi 73.47 318 i P P 02 25 58.6 -3.0
SOC e*PP pP 02 26 15.1 -1.1
SOC e*SP sP 02 26 22.1 +0.1
SOC e 02 28 41.7
SOC ePPP PPP 02 30 28.8
SOC eS S 02 35 23.2 -4.2
SOC e*SS sS 02 35 50.3 -1.7
SOC eSS SS 02 40 08.6 -2.4
SOC eSSS SSS 02 43 28.1
SOC pmax pmax
comp=Z,172nm,0.7s
SOC MLR MLR
comp=Z,380nm,19.0s
PEA0B Petropavlovsk- 73.54 31c iP P 02 26 01.3 -0.6
PEA0B Petropavlovsk- 73.54 31 P P 02 26 01.2 -0.6
PEA0B IAmb IAmb 02 26 02.8
comp=Z,101nm,0.8s
PETK Petropavlovsk- 73.54 31 P P 02 26 01.1 -0.7
comp=Z,69nm,0.7s,baz=216,slow=9.0,SNR=82
PETK LR LR 02 59 07.4
comp=Z,421nm,20.6s,baz=252,slow=36
LSZ Lusaka 73.55 255 LR LR 02 53 08.8
comp=Z,2µm,21.9s,baz=94,slow=31
LSZ Lusaka 73.55 255 P P 02 26 03.8 +1.0
LSZ pmax pmax
comp=Z,37nm,1.0s
LSZ Lusaka 73.55 255 P P 02 26 03.8 +1.0
LSZ Lusaka 73.55 255 i P P 02 26 05.1 +2.3
LSZ Lusaka 73.55 255 i P P 02 26 05.1 +2.3
HIZ Hauiti 73.81 129 IAMs_20 IAMs_20 03 00 14.6
comp=Z,1µm,19.0s
HIZ Hauiti 73.81 129 P P 02 26 05.4 +1.6
HIZ Hauiti 73.81 129 P P 02 26 05.6 +1.8
VRZ Vera Road 73.82 129 P P 02 26 05.3 +1.5
MKAZ Moumakai 73.87 127 P P 02 26 06.5 +2.4
PET Petropavlovsk 73.99 32 eP P 02 26 03.6 -0.8
PET e 02 26 19.0
PET e 02 28 52.5
PET eS S 02 35 32.7 -0.1
PET pmax pmax
comp=Z,1µm,6.2s
PET pmax pmax
comp=Z,679nm,0.7s
PET pmax pmax
comp=Z,400nm,8.6s
PET MLR MLR
comp=Z,900nm,17.0s
PET MLR MLR
comp=Z,1µm,19.0s
PET Petropavlovsk 73.99 32 P P 02 26 03.9 -0.5
PET Petropavlovsk 73.99 32 P P 02 26 04.3 -0.1
NRIK Noril'sk 74.05 355 P P 02 26 04.3 -0.2
comp=Z,239nm,0.9s,baz=161,slow=5.7,SNR=231
NRIK LR LR 03 02 28.2
comp=Z,2µm,18.0s,baz=163,slow=39
NRIK Noril'sk 74.05 355 IAmb IAmb 02 26 05.8
comp=Z,321nm,1.0s
WAZ Wanganui 74.08 130 P P 02 26 06.7 +1.4
SNZO South Karori 74.09 132 P P 02 26 05.3 0.0
SNZO IAmb IAmb 02 26 06.2
comp=Z,148nm,0.8s
SNZO South Karori 74.09 132 P P 02 26 05.1 -0.2
MA2 Magadan 74.10 23 P P 02 26 05.1 +0.2
comp=Z,234nm,1.0s,baz=227,slow=5.7,SNR=152
MA2 LR LR 03 01 49.1
comp=Z,832nm,18.7s,baz=248,slow=38
MA2 Magadan 74.10 23c iP P 02 26 05.0 +0.1
MA2 pmax pmax
comp=Z,441nm,1.3s
MA2 Magadan 74.10 23 P P 02 26 04.8 -0.1
MA2 IAmb IAmb 02 26 06.8
comp=Z,320nm,1.0s
MA2 IAMs_20 IAMs_20 03 01 00.1
comp=Z,1µm,20.0s
MA2 Magadan 74.10 23 P P 02 26 05.5 +0.6
KUZ Kuaotunu 74.27 127 P P 02 26 07.8 +1.4
PKVZ Pokaka 74.29 130 P P 02 26 07.8 +1.1
CAW Cannon Point 74.33 131 P P 02 26 07.1 +0.3
TWVZ Taurewa 74.33 129 P P 02 26 07.6 +0.7
OGWZ Otaki Gorge 74.36 131 P P 02 26 07.5 +0.6
MTVZ Mangateitei 74.40 130 P P 02 26 08.1 +0.8
FWVZ Far West T-bar 74.44 129 P P 02 26 08.8 +1.0
TRVZ Turoa 74.45 130 P P 02 26 08.7 +1.0
DRZ Dome Shelter 74.46 129 P P 02 26 09.8 +1.8
WTVZ West Tongariro 74.46 129 P P 02 26 08.8 +1.1
NGZ Ngauruhoe 74.47 129 P P 02 26 08.8 +1.0
WHVZ Whangaehu Hut 74.48 129 P P 02 26 09.6 +1.6
NNVZ North Ngauruho 74.48 129 P P 02 26 08.9 +1.1
WNVZ Wahianoa 74.49 130 P P 02 26 08.8 +0.9
SNVZ South Ngauruho 74.50 129 P P 02 26 09.1 +1.0
MSWZ Moikau Station 74.51 132 P P 02 26 07.7 -0.2
WATZ Wairara 74.52 129 P P 02 26 10.5 +2.5
KATZ Kakaramea 74.52 129 P P 02 26 10.0 +1.9
NTVZ North Tongarir 74.52 129 P P 02 26 09.2 +1.1
OTVZ Oturere 74.52 129 P P 02 26 09.3 +1.2
TUVZ Tukino 74.53 129 P P 02 26 08.0 -0.1
TMVZ Te Maari 74.54 129 P P 02 26 09.7 +1.5
BNN Bunyan 74.55 312 IAmb IAmb 02 26 09.8
comp=Z,333nm,1.0s
ETVZ East Tongariro 74.55 129 P P 02 26 09.9 +1.7
TOKA Tokat 74.56 314 IAmb IAmb 02 26 10.0
comp=Z,118nm,0.8s
RATZ Rangitukua 74.56 129 P P 02 26 09.9 +1.7
MOVZ Moawhango 74.62 130 P P 02 26 08.8 +0.3
HOWZ Holdsworth Sta 74.64 131 P P 02 26 10.2 +1.6
PAWZ Paruwai Farm 74.64 132 P P 02 26 10.0 +1.4
RITZ Rihia Road 74.65 129 P P 02 26 10.4 +1.8
MRZ Mangatainoka R 74.65 131 P P 02 26 10.5 +1.9
POWZ Post Office Ro 74.76 131 P P 02 26 11.3 +2.0
TGRZ Tauranga 74.81 128 P P 02 26 11.7 +2.1
TRWZ Traveller 74.83 132 P P 02 26 11.2 +1.5
TSZ Takapari Road 74.86 130 P P 02 26 10.9 +1.0
BHHZ Black Hill Sta 74.87 130 P P 02 26 10.3 +0.3
TIWZ Tintock 74.90 131 P P 02 26 11.6 +1.5
PRWZ Pori Road 74.93 131 P P 02 26 12.0 +1.7
OMRZ Omania 74.94 128 P P 02 26 12.0 +1.6
TMWZ Te Maipa 74.94 131 P P 02 26 11.6 +1.2
PNHZ Pukenui 75.03 130 P P 02 26 12.0 +1.1
DVHZ Dannevirke 75.05 130 P P 02 26 12.1 +1.1
MRHZ Matea Rd 75.06 129 P P 02 26 11.7 +0.6
KRHZ Kereru 75.12 130 P P 02 26 12.6 +1.2
KWHZ Kaweka Forest 75.14 130 P P 02 26 12.2 +0.6
BFZ Birch Farm 75.16 131 P P 02 26 12.3 +0.8
BFZ Birch Farm 75.16 131 P P 02 26 12.1 +0.5
BKZ Black Stump Fm 75.16 129 IAMs_20 IAMs_20 02 58 33.3
comp=Z,1µm,21.0s
BKZ Black Stump Fm 75.16 129 P P 02 26 12.0 +0.4
BKZ Black Stump Fm 75.16 129 P P 02 26 12.0 +0.4
MSVF Nonsavu 75.22 107 P P 02 26 12.9 +0.5
MSVF pmax pmax
comp=Z,91nm,1.0s
MSVF Nonsavu 75.22 107 P P 02 26 12.9 +0.5
WPHZ Waipukurau 75.23 130 P P 02 26 13.1 +1.1
KIRV Kirov 75.29 334 P P 02 26 12.0 +0.2
comp=Z,579nm,0.8s,baz=130,slow=2.3,SNR=246
KIRV LR LR 03 05 36.4
comp=Z,577nm,19.0s,baz=113,slow=41
ANWZ Angora Road 75.30 131 P P 02 26 13.5 +1.1
MCHZ McNeill Hill 75.35 130 P P 02 26 14.2 +1.5

VRH Novokhopyorsk 75.38 326 eP P 02 26 12.1 -0.4
VRH eS SKiKP 02 35 36.2 +5.5
VRH pmax pmax
comp=Z,560nm,0.8s
VRH pmax pmax
comp=Z,580nm,0.7s
VRH smax smax
comp=N,530nm,8.5s
MTHZ Maungataniwha 75.39 129 P P 02 26 13.6 +0.6
NMHZ Naumai 75.39 129 P P 02 26 14.3 +1.2
PRHZ Porangahau 75.40 130 P P 02 26 13.9 +1.0
ANN Anapa 75.45 318 eP P 02 26 10.6 -2.4
ANN e*PP sP 02 26 30.9 -2.6
ANN eS S 02 35 45.0 -4.4
ANN pmax pmax
comp=Z,38nm,0.7s
RTZ Ruatahuna 75.47 129 P P 02 26 13.3 -0.2
KAHZ Kahuranaki 75.53 130 P P 02 26 15.0 +1.2
URZ Urewera 75.54 128 LR LR 03 02 02.3
comp=Z,2µm,19.3s,baz=248,slow=38
URZ Urewera 75.54 128 IAMs_20 IAMs_20 03 01 51.4
comp=Z,2µm,19.0s
URZ Urewera 75.54 128 P P 02 26 13.8 0.0
URZ Urewera 75.54 128 P P 02 26 13.7 0.0
PXZ Pawanui 75.54 130 P P 02 26 14.6 +0.8
ARHZ Aropaoanui 75.56 129 P P 02 26 17.6 +3.7
RAHZ Arahi 75.59 129 P P 02 26 15.5 +1.4
SNGZ Shannon Statio 75.77 129 P P 02 26 15.4 +0.2
RUGZ Raukumara Rang 75.95 128 P P 02 26 15.6 -0.7
TKGZ Te Karaka 76.13 128 P P 02 26 17.8 +0.6
LBTB Lobatse 76.16 245 LR LR 02 53 45.6
comp=Z,3µm,21.5s,baz=84,slow=31
LBTB Lobatse 76.16 245 P P 02 26 18.0 +0.3
LBTB pmax pmax
comp=Z,25nm,0.7s
LBTB Lobatse 76.16 245 P P 02 26 18.0 +0.3
LBTB Lobatse 76.16 245 i P P 02 26 18.1 +0.3
LBTB Lobatse 76.16 245 i P P 02 26 18.1 +0.3
MXZ Matakaoa Point 76.41 127 IAMs_20 IAMs_20 03 01 55.5
comp=Z,2µm,20.0s
BR131 Keskin Array S 76.44 312c iP P 02 26 18.4 -0.7
BR131 Keskin Array S 76.44 312 P P 02 26 18.3 -0.7
BR131 IAmb IAmb 02 26 20.0
comp=Z,244nm,0.9s
BR131 Keskin Array S 76.44 312 P P 02 26 18.8 -0.3
SNR=79
BRTR Keskin Array B 76.44 312 P P 02 26 18.9 -0.1
comp=Z,124nm,0.8s,baz=133,slow=6.4,SNR=550
BRTR LR LR 03 03 10.7
comp=Z,512nm,19.5s,baz=102,slow=38
BRTR Keskin Array B 76.44 312ceP P 02 26 18.3 -0.8
BRTR pmax pmax
comp=Z,124nm,0.8s
FUNA Funafuti 76.49 98 P P 02 26 20.1 +0.5
FUNA IAmb IAmb 02 26 22.0
comp=Z,208nm,1.0s
SYO Syowa Base 76.56 199⇑eP P 02 26 18.0 -0.9
SYO Syowa Base 76.56 199⇓ePcP PcP 02 26 30.4 +0.1
BOSA Boshof 76.60 242 P P 02 26 20.9 +0.7
comp=Z,27nm,0.8s,baz=94,slow=4.8,SNR=59
BOSA PKKPbc PKKPbc 02 45 32.1 +0.5
comp=Z,4.0nm,0.7s,baz=258,slow=2.7,SNR=12
BOSA LR LR 02 54 13.7
comp=Z,3µm,20.7s,baz=100,slow=31
BOSA Boshof 76.60 242 P P 02 26 20.9 +0.7
BOSA Boshof 76.60 242 i P P 02 26 19.8 -0.4
BOSA Boshof 76.60 242 i P P 02 26 19.8 -0.4
VORD Divnogorie 76.67 325 eP P 02 26 19.3 -0.5
VORD eS S 02 35 52.3 -10
VORD pmax pmax
comp=Z,250nm,0.9s
VORD pmax pmax
comp=Z,130nm,0.5s
VORD smax smax
comp=N,10.0nm,1.9s
SEY Seymchan 76.81 21 P P 02 26 20.6 +0.1
comp=N,170nm,0.8s,baz=233,slow=6.0,SNR=380
SEY LR LR 03 02 26.6
comp=N,1µm,19.4s,baz=225,slow=37
SEY Seymchan 76.81 21c iP P 02 26 20.5 +0.1
SEY pmax pmax
comp=Z,228nm,0.8s
VSR Storozhevoye 76.84 325 eP P 02 26 19.9 -0.9
VSR eS S 02 35 57.1 -7.4
VSR pmax pmax
comp=Z,350nm,0.7s
VSR smax smax
comp=N,280nm,7.1s
BZK Bozkurt 76.85 315 ⇑P P 02 26 21.3 +0.2
VORR Voronezh 77.00 325 eP P 02 26 21.7 0.0
VORR eS S 02 36 03.1 -3.1
VORR pmax pmax
comp=Z,425nm,1.7s
BR231 Keskin MP Arra 77.11 312 IAmb IAmb 02 26 24.2
comp=Z,181nm,0.9s
LPSR Galich'ya Gora 77.54 326 eP P 02 26 24.7 0.0
LPSR eS S 02 36 03.7 -8.3
LPSR pmax pmax
comp=Z,380nm,0.9s
LPSR pmax pmax
comp=Z,450nm,1.0s
LPSR smax smax
comp=E,600nm,9.3s
TIXI Tiksi 77.65 8 P P 02 26 24.0 -1.0
comp=E,197nm,0.9s,baz=149,slow=6.2,SNR=229
TIXI LR LR 03 05 27.3
comp=E,4µm,18.2s,baz=182,slow=39
TIXI Tiksi 77.65 8c iP P 02 26 23.7 -1.3
TIXI pmax pmax
comp=Z,268nm,1.0s
TIXI MLR MLR
comp=Z,5µm,17.0s
TIXI Tiksi 77.65 8 P P 02 26 23.5 -1.5
TIXI IAmb IAmb 02 26 25.1
comp=Z,306nm,1.1s
SIM Simferopol' 77.72 318 eP P 02 26 25.3 -0.6
SIM eS S 02 36 15.0 +0.7
SIM pmax pmax
comp=Z,395nm,0.8s
ISP Isparta 78.27 310⇓iP P 02 26 28.9 -0.4
ISP pmax pmax
comp=Z,50nm,0.8s
ISP Isparta 78.27 310 P P 02 26 28.7 -0.5
PRGR Permogore 78.56 336 eP P 02 26 29.2 -0.9
PRGR e*PP pP 02 26 43.3 -1.6
PRGR e*SP sP 02 26 51.7 +1.0
PRGR e 02 29 25.5
PRGR eS S 02 36 19.7 -2.9
PRGR eS SKSac 02 36 39.0 -1.6
PRGR pmax pmax
comp=Z,313nm,0.6s
AKAS Kas 78.59 308 IAmb IAmb 02 26 35.2
comp=Z,107nm,0.7s
FETY Fethiye 79.09 308 P P 02 26 33.2 -0.5
RAO Raoul Island 79.10 119 LR LR 03 03 27.5
comp=Z,696nm,19.2s,baz=246,slow=37
MOS Moscow 79.51 329 eP P 02 26 31.4 -4.1
MOS e*PP pP 02 26 48.9 -1.4
MOS e 02 29 33.0
MOS eS S 02 26 27.6 -5.4
MOS e 02 36 49.3
MOS pmax pmax
comp=Z,674nm,1.1s
MOS pmax pmax
comp=Z,2µm,2.0s
MOS smax smax
comp=N,1.0nm,3.0s
MOS smax smax
comp=E,1.0nm,3.0s
VNDA Vanda 79.61 169 P P 02 26 36.8 +1.0
comp=E,18nm,0.8s,baz=310,slow=5.6,SNR=71
VNDA PKKPbc PKKPbc 02 45 23.9 -2.9
comp=E,2.9nm,0.8s,baz=180,slow=1.0,SNR=9.4
VNDA PKP2ab 02 53 15.6
comp=E,1.7nm,1.0s,baz=54,slow=4.0,SNR=3.1
VNDA LR LR 02 56 58.7
comp=E,889nm,20.9s,baz=311,slow=32
VNDA Vanda 79.61 169 P P 02 26 36.4 +0.6
OBN Obninsk 79.82 328 ⇑P P 02 26 37.4 +0.3
OBN Obninsk 79.82 328 PP PP 02 29 39.0 -0.1
comp=E,22nm,1.0s,baz=122,slow=9.5,SNR=4.5
OBN Obninsk 79.82 328c iP P 02 26 37.3 +0.1
OBN i 02 26 46.9
OBN i 02 29 38.6
OBN i S S 02 36 28.4 -7.9

OBN pmax pmax
comp=Z,859nm,1.7s
OBN Obninsk 79.82 328 P P 02 26 37.1 -0.1
YER Yerkesik 79.83 309 P P 02 26 37.7 -0.1
KULA Kula-Manisa 79.86 310 P P 02 26 38.2 +0.3
MANT Manisa 79.93 310 IAmb IAmb 02 26 40.2
comp=Z,115nm,0.9s
DAT Datca 80.29 308 P P 02 26 40.1 -0.2
KARP Karpathos 80.37 307 P P 02 26 41.6 +0.9
SUR Sutherland 80.56 238 LR LR 02 59 51.7
comp=Z,836nm,18.1s,baz=88,slow=34
SUR Sutherland 80.56 238 P P 02 26 43.0 +1.0
BODT Bodrum 80.57 308 P P 02 26 41.6 -0.1
SBA Scott Base 80.70 169 P P 02 26 43.3 +1.7
SBA pmax pmax
comp=Z,55nm,1.0s
SBA Scott Base 80.70 169 P P 02 26 43.3 +1.7
KLMR Klimovskoe 80.76 334 eP P 02 26 40.1 -2.0
KLMR e 02 29 47.7
KLMR eS S 02 36 41.7 -4.2
KLMR pmax pmax
comp=Z,737nm,1.2s
KLMR Klimovskoe 80.76 334 eP P 02 26 40.1 -2.0
KLMR AMP 02 26 44.5
comp=Z,737nm,1.2s
KLMR ePP PP 02 29 47.7 +0.9
KLMR eS S 02 36 41.7 -4.2
KLMR eS S 02 36 41.7 -4.2
KLMR LQ LQ 02 57 27.5
KLMR LQ LQ 02 57 27.5
KLMR LR LR 03 00 37.4
SMG Samos 81.08 309 P P 02 26 44.9 +0.5
KALB Balgarevo 81.21 315 ⇓P P 02 26 45.7 +0.8
EFOR EFORIE 81.23 316 ⇓P P 02 26 45.9 +0.9
JURR Jurilovca 81.23 316 ⇓P P 02 26 45.8 +0.8
TLCR 81.38 317 ⇓P P 02 26 46.5 +0.8
MFTR Murfatlar 81.40 316 ⇓P P 02 26 46.5 +0.6
PSN Preselentsi 81.44 315 i P P 02 26 46.6 +0.4
TIRR Tirgusor 81.47 316 ⇑P P 02 26 46.5 +0.2
TIRR Tirgusor 81.47 316 IAmb IAmb 02 26 47.9
comp=Z,280nm,0.9s
TPGR Topolog 81.57 316 ⇑P P 02 26 47.5 +0.6
TLBR Topalu 81.75 316 ⇓P P 02 26 48.4 +0.7
ICOR Ion Corvin 81.82 315 ⇓P P 02 26 48.9 +0.8
CHOS Chios island 81.82 310 P P 02 26 49.2 +0.8
MILM Milestii Mici 81.83 318⇑iP P 02 26 47.9 -0.2
comp=Z,400nm,0.9s
MILM i pP sP 02 27 07.0 -1.7
MILM LRM MLR 03 13 20.0
comp=Z,400nm,17.5s
MILM Milestii Mici 81.83 318 ⇓P P 02 26 48.2 +0.1
MILM Milestii Mici 81.83 318c iP P 02 26 47.9 -0.2
MILM i *PP sP 02 27 07.0 -1.7
MILM pmax pmax
comp=Z,1µm,3.1s
PRK Paraskevi 81.84 310 P P 02 26 49.7 +1.4
CFR Carcaliu 81.84 317 ⇑P P 02 26 48.4 +0.2
KIS Kishinev 81.84 318⇑iP P 02 26 48.4 +0.2
comp=Z,150nm,1.0s
KIS Kishinev 81.84 318 ePP P 02 27 07.0 +19
KIS Kishinev 81.84 318 ⇓P P 02 26 48.6 +0.4
KIS Kishinev 81.84 318c iP P 02 26 48.4 +0.2
KIS e 02 27 07.0
KIS pmax pmax
comp=Z,250nm,3.2s
HARR Harsova 81.86 316 ⇓P P 02 26 49.4 +1.0
THR8 Santorini-Mono 81.88 308 P P 02 26 49.6 +1.0
PRD Provadia 81.88 315 i P P 02 26 48.9 +0.4
APE Apeiranthos 81.97 308 ⇓P P 02 26 49.8 +0.6
APE Apeiranthos 81.97 308 P P 02 26 49.1 -0.1
APE Apeiranthos 81.97 308c iP P 02 26 48.9 -0.2
APE pmax pmax
comp=Z,155nm,0.9s
VLDR Vladesti 82.05 317 ⇓P P 02 26 50.0 +0.7
SCTR Scanteiesti 82.06 317 ⇓P P 02 26 50.1 +0.8
LEOM Leova 82.09 318 ⇑P P 02 26 50.3 +0.8
SCHL Schela 82.13 317 ⇑P P 02 26 51.3 +1.6
IDI Anoyia 82.13 306 ⇓P P 02 26 51.0 +1.2
SIGR SIGRI 82.15 310 P P 02 26 50.0 0.0
IZVR Izvoarele 82.19 317 ⇑P P 02 26 50.7 +0.7
VARL Varlezi 82.22 317 ⇓P P 02 26 51.1 +1.0
AMRR Amara 82.26 316 ⇑P P 02 26 51.6 +1.2
RASA Rasa 82.30 315 ⇓P P 02 26 51.5 +0.9
JMB Yambol 82.30 314 i P P 02 26 51.4 +0.7
ALN Alexandroupoli 82.36 312 IAmb IAmb 02 26 52.6
comp=Z,145nm,0.8s
VASR Vaslui 82.44 318 ⇓P P 02 26 52.3 +1.0
SHEM Shemya Is, Ala 82.44 36 P P 02 26 50.8 -0.3
comp=Z,100nm,0.8s,baz=301,slow=5.8,SNR=6.3
SHEM LR LR 03 01 33.1
comp=Z,282nm,22.0s,baz=278,slow=34
SMY Shemya 82.44 36 P P 02 26 50.9 -0.2
SMY pmax pmax
comp=Z,134nm,0.9s
SMY Shemya 82.44 36 P P 02 26 50.9 -0.2
SMY IAmb IAmb 02 26 51.6
comp=Z,134nm,0.9s
SORM Soroca 82.44 320 ⇑P P 02 26 51.6 +0.3
BIR Birlad 82.46 318 ⇑P P 02 26 52.7 +1.3
GHRR 82.55 317 ⇑P P 02 26 53.3 +1.4
PGOR Pogoanele 82.57 316 ⇑P P 02 26 53.3 +1.3
AKASG Malin Array Be 82.57 322 P P 02 26 51.9 -0.1
comp=Z,54nm,0.8s,baz=84,slow=5.1,SNR=224
AKASG PP PP 02 29 56.8 -5.2
comp=Z,28nm,0.8s,baz=94,slow=6.5,SNR=11
AKASG Malin Array Be 82.57 322 P P 02 26 51.2 -0.7
AKASG IAmb IAmb 02 26 53.0
comp=Z,102nm,0.9s
AKBB Malin Array Si 82.57 322c iP P 02 26 51.1 -0.8
AKBB Malin Array Si 82.57 322 IAmb IAmb 02 26 52.9
comp=Z,88nm,0.9s
LEHL Lehliu 82.59 316 ⇓P P 02 26 53.3 +1.2
RAZG Razgrad 82.60 315 ⇑P P 02 26 53.2 +0.9
PANC Panciu 82.69 317 ⇓P P 02 26 54.2 +1.6
GRER 82.69 317 ⇓P P 02 26 54.4 +1.7
ODBI Odobesti 82.72 317 ⇑P P 02 26 54.2 +1.4
IAS Iasi 82.72 318 ⇑P P 02 26 53.4 +0.6
BISRR Bisoca 82.91 317 ⇓P P 02 26 55.5 +1.6
ISR Istrita 82.92 316 ⇓P P 02 26 55.0 +1.0
SZH Strazhica 82.94 314 i P P 02 26 54.1 +0.1
VRI Vrincioaia 82.97 317 ⇑P P 02 26 55.1 +0.9
DIM Dimitrovgrad 82.97 313 i P P 02 26 54.5 +0.3
KDZ Kurdzhali 82.98 313 i P P 02 26 54.5 +0.2
PLOR Plostina 83.02 317 ⇑P P 02 26 55.4 +0.9
SGRR Singureni 83.12 315 ⇑P P 02 26 55.7 +0.8
NEHR Nehoiu 83.16 317 ⇑P P 02 26 56.6 +1.4
TESR Tescani 83.17 318 ⇓P P 02 26 56.1 +0.9
SECR 83.23 316 ⇑P P 02 26 57.0 +1.5
COVR Voineasa-Covas 83.32 317 ⇑P P 02 26 56.5 +0.5
PVL Pavlikeni 83.36 314 i P P 02 26 57.3 +1.1
MLR Muntele Rosu 83.42 317 ⇓P P 02 26 57.3 +0.7
MLR Muntele Rosu 83.42 317 PP PP 02 30 08.6 -0.6
comp=Z,71nm,1.1s,baz=55,slow=4.3,SNR=8.3
MLR LR LR 03 09 26.7
comp=Z,375nm,19.5s,baz=75,slow=39
RZN Rozhen 83.50 313 i P P 02 26 57.6 +0.4
PLD Plovdiv 83.59 313 i P P 02 26 57.6 +0.2
DRBR Darabani 83.59 319 ⇑P P 02 26 57.7 +0.4
TSUM Tsumeb 83.62 251 LR LR 02 59 01.3
comp=Z,2µm,21.4s,baz=96,slow=32
TSUM Tsumeb 83.62 251 P P 02 26 58.8 +0.5
COPA Copaceanca 83.63 315 ⇑P P 02 26 58.1 +0.5
OZUR 83.66 317 ⇑P P 02 26 58.2 +0.5
HUMR Humele 83.88 315 ⇑P P 02 26 59.3 +0.4
DOPR Dopca 83.90 317 ⇓P P 02 26 59.9 +0.9
STFAR Stefanesti-Arg 83.97 316 ⇓P P 02 27 00.8 +1.5
MTUR Matau 83.97 316 ⇓P P 02 27 00.1 +0.7
VOIR 84.02 316 ⇑P P 02 26 59.8 +0.1
PGB Panagyurishte 84.07 313 i P P 02 26 59.9 0.0
VLAD Vladila 84.18 315 ⇑P P 02 27 01.3 +1.0
MMB Musomiste 84.20 312 i P P 02 27 00.2 -0.4
ARR Arges 84.30 316 ⇑P P 02 27 01.4 +0.4
BURAR Bucovina Array 84.37 319 ⇑P P 02 27 02.5 +1.1
BURAR Bucovina Array 84.37 319 IAmb IAmb 02 27 04.4
comp=Z,167nm,0.8s
MNK Minsk 84.38 326 i P P 02 27 01.4 +0.4
MNK i *PP pP 02 27 18.3 +2.3
MNK i 02 30 14.7
MNK i PPP PPP 02 32 13.7
MNK i S S 02 37 18.6 -4.5
MNK i SS SS 02 42 54.5 +0.3
MNK pmax pmax

comp=E,17nm,1.0s
MNK pmax pmax
comp=Z,331nm,1.0s
MNK pmax pmax
comp=N,41nm,1.0s
MNK Minsk 84.38 326 *i* P **P 02 27 01.5 +0.4**
comp=E,17nm,1.0s
MNK *i* P **P 02 27 01.5 +0.4**
comp=N,41nm,1.0s
MNK *i* P **P 02 27 01.5 +0.4**
comp=Z,331nm,1.0s,baz=106
MNK *i* pP **pP 02 27 18.3 +2.3**
MNK *i* sP sP 02 27 32.8 +11
MNK *i* PP **PP 02 30 14.7 -1.9**
MNK *i* PPP PPP 02 32 13.7
MNK *i* S **S 02 37 18.6 -4.5**
MNK *i* SS **SS 02 42 54.6 +0.3**
MNK *i* SSS SSS 02 46 32.4
MNK *i* LQ LQ 02 54 57.4
MNK *i* LR LR 03 02 47.9
MNK *i* LRM MLR 03 11 55.1
comp=E,89nm,20.6s
MNK *i* LRM MLR 03 12 14.4
comp=N,189nm,20.6s
MNK *i* LRM MLR 03 12 17.0
comp=Z,711nm,20.6s
BUR08 Bucovina Ar. S 84.39 319 P **P 02 27 02.5 +1.0**
BUR08 IAmb IAmb 02 27 04.2
comp=Z,127nm,0.8s
BILL Bilibino 84.41 20*d* *i* P **P 02 27 00.3 -0.7**
BILL *i* 02 27 17.4
BILL *i* 02 27 28.5
BILL *i* 02 30 13.1
BILL pmax pmax
comp=Z,106nm,1.0s
BILL Bilibino 84.41 20 P **P 02 27 00.9 -0.1**
BILL IAmb IAmb 02 27 02.1
comp=Z,84nm,0.9s
MPEP Malo Peshtene 84.53 314 *i* P **P 02 27 03.8 +1.6**
PUL Pulkovo 84.60 331*c* *i* P **P 02 27 02.6 +0.5**
PUL pmax pmax
comp=Z,445nm,0.7s
TGMR Targu Mures 84.61 317 ⇓P **P 02 27 03.5 +1.0**
MDB Medias 84.63 317 ⇓P **P 02 27 04.3 +1.7**
KKB Krupnik 84.73 313 *i* P **P 02 27 03.1 -0.1**
VTS Vitosha 84.75 313 ⇑P **P 02 27 03.7 +0.2**
VTS Vitosha 84.75 313 IAmb IAmb 02 27 05.2
comp=Z,127nm,0.8s
VTS Vitosha 84.75 313 *i* P **P 02 27 03.6 +0.1**
ITM Ithomi 84.82 308 IAmb IAmb 02 27 05.3
comp=Z,275nm,1.3s
ARCR ARCALIA 84.83 318 ⇓P **P 02 27 05.1 +1.5**
LOT Lotru 84.91 316 ⇓P **P 02 27 04.8 +0.6**
BAIL Bailesti 84.93 315 ⇑P **P 02 27 05.6 +1.5**
VAY Valandovo 85.01 312 ⇑*i* P **P 02 27 04.3 -0.3**
NACGM Naroch 85.10 326 *eP* **P 02 27 05.0 +0.3**
AFI Afiamalu 85.10 104 P **P 02 27 07.2 +1.5**
comp=Z,285nm,1.0s,baz=270,slow=3.0,SNR=8.4
AFI LR LR 03 07 44.9
comp=Z,116nm,18.6s,baz=246,slow=38
AFI Afiamalu 85.10 104 P **P 02 27 06.1 +0.4**
SRE Strehaia 85.15 315 ⇑P **P 02 27 06.5 +1.3**
IDID Didziasalis 85.22 326 *eP* **P 02 27 06.6 +1.2**
CJR Cluj-Napoca 85.27 317 ⇑P **P 02 27 07.1 +1.2**
PUNG Punghina 85.27 315 ⇓P **P 02 27 07.0 +1.2**
CBBR Cluj-Babes-Bol 85.31 317 ⇑P **P 02 27 06.9 +0.9**
BLKB Belogradchik 85.34 314 ⇑P **P 02 27 06.4 +0.2**
STIP Stip 85.36 312 *i* P **P 02 27 05.0 -1.3**
IIGN Ignalina 85.52 326 *eP* **P 02 27 07.9 +1.1**
BMR Baia Mare 85.52 318 ⇑P **P 02 27 08.5 +1.5**
GZR Gura Zlata 85.58 316 ⇑P **P 02 27 08.5 +1.0**
DEV Deva 85.59 316 ⇑P **P 02 27 08.6 +1.2**
LVZ Lovozero 85.59 339*c* *i* P **P 02 27 06.1 -0.9**
LVZ pmax pmax
comp=Z,286nm,1.3s
LVZ Lovozero 85.59 339 P **P 02 27 06.0 -1.0**
LVZ IAMs_20 IAMs_20 03 08 55.2
comp=Z,2μm,21.0s
LVV L'vov 85.60 321 *eP* **P 02 27 07.8 +0.4**
LVV *e* 02 27 24.1
LVV *e* 02 30 32.2
LVV *eS* **S 02 37 39.8 +4.3**
DJES Djerdap 85.63 315 ⇑P **P 02 27 09.0 +1.3**
HERR Herculane 85.74 315 ⇓P **P 02 27 08.9 +0.7**
MESR Meseseni 85.79 318 ⇑P **P 02 27 09.9 +1.6**
QSPA South Pole Qui 85.80 180 LR LR 03 01 34.1
comp=Z,959nm,20.4s,baz=316,slow=33
QSPA South Pole Qui 85.80 180 P **P 02 27 08.4 +0.2**
QSPA South Pole Qui 85.80 180 IAMs_20 IAMs_20 03 01 12.6
comp=Z,2μm,20.0s
KNTN Kanton 85.84 92 P **P 02 27 09.7 +0.4**
KNTN IAmb IAmb 02 27 11.8
comp=Z,118nm,1.2s
DRGR 85.88 317 ⇑P **P 02 27 09.8 +0.8**
APA Apatity 85.91 339⇓*i* P **P 02 27 06.7 -1.8**
APA *i* S **S 02 37 30.0 -7.8**
APA *i* SSS SSS 02 46 45.0
APA pmax pmax
comp=Z,86nm,0.9s
APA MLR MLR
comp=Z,2μm,22.0s
SKO Skopje 85.96 312⇑*i* P **P 02 27 08.7 -0.6**
VSU Vasula 86.01 329*c* *i* P **P 02 27 09.2 0.0**
VSU pmax pmax
comp=Z,707nm,1.0s
VSU Vasula 86.01 329 *eP* **P 02 27 08.9 -0.3**
MDVR Moldovita 86.22 315 ⇑P **P 02 27 11.3 +0.7**
KBN Korca 86.23 311 IAmb IAmb 02 27 21.7
comp=Z,54nm,0.9s
TRPA Tarpa 86.24 319 ⇑P **P 02 27 11.3 +0.8**
TRPA Tarpa 86.24 319 P **P 02 27 10.9 +0.3**
OHR Ohrid 86.30 312⇑*i* P **P 02 27 11.3 +0.2**
KWP Kalwaria Pacla 86.41 320 *i* P **P 02 27 12.3 +1.0**
BZS Buzias 86.43 316 ⇑P **P 02 27 12.0 +0.5**
UZH Uzhgorod 86.49 319⇓*i* P **P 02 27 12.4 +0.6**
UZH *i* 02 27 32.0
UZH *i* 02 30 33.8
SIRR Siria 86.51 317 ⇑P **P 02 27 13.1 +1.2**
LTVH Ltavrtes, Hu 86.53 318 ⇓P **P 02 27 13.5 +1.5**
KOLS Kolonicke sedl 86.56 319 *eP* **P 02 27 13.9 +1.8**
KOLS pmax pmax
comp=Z,318nm,0.9s
KOLS Kolonicke sedl 86.56 319 *eP* **P 02 27 13.9 +1.8**
BORR Bors 86.56 318 ⇑P **P 02 27 13.3 +1.1**
TIM Timisoara 86.72 316 ⇑P **P 02 27 14.7 +1.8**
BANR Banloc 86.72 316 ⇑P **P 02 27 14.3 +1.4**
PABE Paberze 86.81 326 *eP* **P 02 27 13.4 +0.3**
SUW Suwalki 86.95 325 *i* P **P 02 27 14.4 +0.5**
SUW *eL* L 03 11 56.7
comp=Z,757nm,23.6s
SUW Suwalki 86.95 325 *eP* **P 02 27 13.4 -0.5**
TIR Tirane 87.03 312 ⇑P **P 02 27 15.8 +1.2**
TIR Tirane 87.03 312 IAmb IAmb 02 27 16.3
comp=Z,130nm,1.4s
FINES FINESS Array B 87.07 332 P **P 02 27 14.9 +0.6**
comp=Z,133nm,0.9s,baz=104,slow=8.0,SNR=283
FINES PP **PP 02 30 36.8 -1.5**
comp=Z,9.0nm,0.7s,baz=79,slow=7.4,SNR=2.7
FINES PKKPbc **PKKPbc 02 45 07.1 -2.1**
comp=Z,1.5nm,0.8s,baz=338,slow=1.5,SNR=5.4
FINES LR LR 03 12 21.0
comp=Z,395nm,18.2s,baz=96,slow=40
FINES FINESS Array B 87.07 332 *i* P **P 02 27 14.6 +0.3**
FINES pmax pmax
comp=Z,133nm,0.9s
FINES FINESS Array B 87.07 332 P **P 02 27 14.3 0.0**
CRVS Cervenica-Dubn 87.08 319 *eP* **P 02 27 15.8 +1.1**
CRVS pmax pmax
comp=Z,106nm,1.1s
CRVS Cervenica-Dubn 87.08 319 *eP* **P 02 27 15.8 +1.1**
AMBH Ambrzfalva 87.16 317 P **P 02 27 16.5 +1.5**
IVA Berane 87.23 313 *eP* **P 02 27 15.2 -0.4**
STHS Stebnicka Huta 87.31 320 *eP* **P 02 27 16.9 +1.1**
STHS Stebnicka Huta 87.31 320 *eP* **P 02 27 16.9 +1.1**
DIVS Divibare 87.33 314 IAmb IAmb 02 27 19.1
comp=Z,77nm,1.0s
DIVS Divibare 87.33 314⇑*i* P **P 02 27 16.6 +0.5**
KOME Kolasin 87.50 313 *eP* **P 02 27 16.4 -0.5**
MTSE Matsula 87.56 329 *eP* **P 02 27 16.7 0.0**
ULC Ulcinj 87.58 312 *eP* **P 02 27 17.1 -0.1**
MEF Metsahovi 87.59 331 *eP* **P 02 27 16.5 -0.3**
FRGS Fruska Gora 87.61 315 ⇑P **P 02 27 17.7 +0.4**
FRGS Fruska Gora 87.61 315⇑*i* P **P 02 27 16.4 -1.0**

BSZH Besenyszg 87.61 318 ⇓P **P 02 27 18.0 +0.8**
BSZH Besenyszg 87.61 318 P **P 02 27 18.0 +0.8**
PDG Podgorica 87.63 313 ⇑P **P 02 27 18.0 +0.6**
PDG Podgorica 87.63 313 IAmb IAmb 02 27 19.1
comp=Z,135nm,1.0s
PDG Podgorica 87.63 313⇑*i* P **P 02 27 17.2 -0.2**
TTG Podgorica 87.63 313 *eP* **P 02 27 17.2 -0.2**
DRME Dracevica, Mon 87.65 312⇑*i* P **P 02 27 18.0 +0.4**
DRME Dracevica, Mon 87.65 312 *eP* **P 02 27 17.3 -0.3**
KECS Kecovo 87.65 319 *eP* **P 02 27 18.5 +1.1**
KECS pmax pmax
comp=Z,87nm,0.9s
KECS Kecovo 87.65 319 *eP* **P 02 27 18.5 +1.1**
PLE Pljevlja 87.66 314 *eP* **P 02 27 18.0 +0.3**
RUDO Rudo 87.71 314⇑*i* P **P 02 27 18.2 +0.4**
BBLS Lazići 87.72 314⇑*i* P **P 02 27 18.6 +0.7**
TEKS Tekeris 87.72 315⇑*i* P **P 02 27 17.5 -0.4**
ADK Adak 87.75 38 P **P 02 27 17.6 -0.2**
ADK pmax pmax
comp=Z,97nm,0.9s
ADK Adak 87.75 38 P **P 02 27 17.6 -0.2**
ADK IAmb IAmb 02 27 19.9
comp=Z,96nm,0.9s
ADK Adak 87.75 38 P **P 02 27 17.3 -0.5**
NKY Niksic 87.87 313 *eP* **P 02 27 18.3 -0.5**
BUM Brajici-Budva 87.88 312 *eP* **P 02 27 18.2 -0.5**
CEME Cevo 87.89 313 *eP* **P 02 27 18.5 -0.3**
NKME Niksic 87.90 313 *eP* **P 02 27 18.7 -0.1**
NIE Niedzica 87.92 320 *i* P **P 02 27 20.3 +1.6**
NIE *e*PP **PP 02 30 47.5 +2.0**
NIE *eL* L 03 16 20.7
comp=Z,450nm,20.9s
BLJ Bijeljina 87.94 315⇑*i* P **P 02 27 19.6 +0.7**
PSZ Piszkesteto 87.96 318 ⇑P **P 02 27 19.5 +0.5**
PSZ Piszkesteto 87.96 318 IAmb IAmb 02 27 21.1
comp=Z,97nm,1.0s
PSZ Piszkesteto 87.96 318 P **P 02 27 19.7 +0.7**
BEL Belsk 87.99 322 *i* P **P 02 27 20.2 +1.2**
BEL *eL* L 03 15 25.4
comp=Z,713nm,23.3s
UPM Unac-Piva 87.99 313⇑*i* P **P 02 27 19.1 -0.3**
UPM Unac-Piva 87.99 313 *eP* **P 02 27 19.2 -0.2**
PBUR Paburge 88.04 326 *eP* **P 02 27 19.2 +0.1**
SLIT Slitere, Latvi 88.14 328 *eP* **P 02 27 18.7 -0.8**
IZAB Izabela 88.17 319 *eP* **P 02 27 21.0 +1.1**
IZAB pmax pmax
comp=Z,30nm,1.1s
HCY Herceg Novi 88.19 313⇑*i* P **P 02 27 20.4 +0.3**
HCY Herceg Novi 88.19 313 *eP* **P 02 27 20.1 0.0**
BRY Bratogost 88.22 313⇑*i* P **P 02 27 20.7 +0.3**
BRY Bratogost 88.22 313 *eP* **P 02 27 19.7 -0.7**
TREB Trebinje 88.33 313 *eP* **P 02 27 20.7 -0.1**
OJC Ojcow 88.36 320 *i* P **P 02 27 21.8 +1.0**
OJC *e*PP **PP 02 30 48.7 -0.2**
OJC *eL* L 03 16 03.0
comp=Z,833nm,22.3s
OJC Ojcow 88.36 320 IAmb IAmb 02 27 23.0
comp=Z,97nm,1.2s
LANS Liptovska Anna 88.42 319 *eP* **P 02 27 22.4 +1.3**
LANS pmax pmax
comp=Z,20nm,0.9s
LANS Liptovska Anna 88.42 319 *eP* **P 02 27 22.4 +1.3**
BUD Budapest 88.48 318 P **P 02 27 22.3 +1.0**
MORH Mrgy, Hungar 88.57 316⇑*i* P **P 02 27 22.3 +0.5**
MORH Mrgy, Hungar 88.57 316 P **P 02 27 21.9 +0.1**
VYHS Vyhne 88.74 319 *eP* **P 02 27 23.4 +0.8**
VYHS pmax pmax
comp=Z,46nm,1.3s
VYHS Vyhne 88.74 319 *eP* **P 02 27 23.4 +0.8**
DOB Doboj 88.76 315 *eP* **P 02 27 24.4 +1.7**
KLNR Kaliningrad 88.77 325*c* *i* P **P 02 27 22.8 +0.3**
KLNR pmax pmax
comp=Z,423nm,0.9s
KEV Kevo 88.82 340 P **P 02 27 22.6 +0.1**
KEV pmax pmax
comp=Z,219nm,0.9s
KEV MLR MLR
comp=Z,2μm,22.0s
KEV Kevo 88.82 340 P **P 02 27 22.6 +0.1**
KEV IAMs_20 IAMs_20 03 10 18.0
comp=Z,1μm,22.0s
STON Ston 88.82 313⇑*i* P **P 02 27 22.8 -0.3**
STON Ston 88.82 313 P **P 02 27 22.5 -0.6**
KOVH Kovagotottos 88.93 316 P **P 02 27 24.4 +0.8**
CSKK Cskako 88.98 317 P **P 02 27 24.8 +1.1**
SRO Srobarova 89.00 318 *eP* **P 02 27 25.6 +1.8**
SRO pmax pmax
comp=Z,145nm,1.0s
SRO Srobarova 89.00 318 *eP* **P 02 27 25.6 +1.8**
A252A Venje 89.02 316 P **P 02 27 23.9 -0.1**
RAF Rasma 89.02 331 *eP* **P 02 27 23.2 -0.4**
KOLL Kolacno 89.04 319 *eP* **P 02 27 25.1 +1.1**
TROLL Troll, Antarti 89.06 198 P **P 02 27 25.3 +1.4**
TROLL Troll, Antarti 89.06 198 pP pP 02 27 39.3 +0.5
TIP Timpagrande 89.12 309 ⇓P **P 02 27 25.8 +1.1**
TIP Timpagrande 89.12 309 IAmb IAmb 02 27 27.6
comp=Z,157nm,1.1s
TIH Tihany 89.17 317 P **P 02 27 22.3 -2.3**
ARA0 ARCESS Array S 89.27 340⇑*i* P **P 02 27 24.8 +0.2**
ARCES ARCESS Array B 89.27 340 P **P 02 27 25.0 +0.4**
comp=Z,179nm,0.8s,baz=100,slow=5.0,SNR=235
ARCES PP PP 02 30 45.7 -10
comp=Z,7.7nm,0.8s,baz=116,slow=8.2,SNR=4.3
ARCES LR LR 03 10 52.6
comp=Z,1μm,21.8s,baz=105,slow=38
ARCES ARCESS Array B 89.27 340 P **P 02 27 25.1 +0.4**
ARCES pmax pmax
comp=Z,244nm,0.9s
ARCES ARCESS Array B 89.27 340 P **P 02 27 25.1 +0.4**
RICI Ricice 89.31 314 P **P 02 27 25.5 +0.2**
ATKA Atka Island 89.31 38 P **P 02 27 25.3 +0.2**
MATE Matera 89.32 311 ⇓⇓P **P 02 27 26.8 +1.4**
SRKY Kupres RS 89.35 314⇑*i* P **P 02 27 25.7 0.0**
OKC Ostrava-Krasne 89.36 320 *eP* **P 02 27 26.6 +1.1**
MAKA Makarska 89.37 313 P **P 02 27 25.4 -0.2**
LSTV Lastovo 89.40 313 P **P 02 27 25.6 -0.2**
BLY Banja Luka 89.41 315⇑*i* P **P 02 27 26.5 +0.7**
MPLH Magyarpolny 89.44 317 P **P 02 27 27.0 +1.1**
MGRS Mrkonjic Grad 89.44 314⇑*i* P **P 02 27 26.8 +0.8**
JOHN Johnston Islan 89.48 73 P **P 02 27 27.1 +0.4**
JAVC Velka Javorina 89.55 319 *eP* **P 02 27 28.3 +1.8**
EGYH Egyhazaskeszo 89.61 317 P **P 02 27 28.2 +1.5**
SMOL Smolenice 89.67 319 *eP* **P 02 27 28.0 +1.0**
SMOL pmax pmax
comp=Z,22nm,1.1s
SMOL Smolenice 89.67 319 *eP* **P 02 27 28.0 +1.0**
MORC Moravsky Berou 89.74 320 ⇑P **P 02 27 28.2 +0.9**
MORC Moravsky Berou 89.74 320 IAmb IAmb 02 27 29.7
comp=Z,166nm,1.3s
MORC Moravsky Berou 89.74 320 *eP* **P 02 27 28.6 +1.3**
MORC *e*PP **PP 02 31 01.0 +0.9**
AAL Aland 89.74 330 *eP* **P 02 27 27.7 +0.7**
MODS Modra-Piesok 89.75 318 *eP* **P 02 27 28.6 +1.2**
MODS pmax pmax
comp=Z,260nm,1.2s
MODS Modra-Piesok 89.75 318 *eP* **P 02 27 28.6 +1.2**
HVAR Hvar 89.77 313 P **P 02 27 27.3 -0.2**
MOSL Moslavina 89.81 316 P **P 02 27 28.0 +0.3**
ZST Bratislava 89.85 318 *eP* **P 02 27 29.2 +1.4**
ZST pmax pmax
comp=Z,455nm,1.4s
ZST Bratislava 89.85 318 *eP* **P 02 27 29.2 +1.4**
BEHE Becsehely 89.88 316⇑*i* P **P 02 27 29.2 +1.2**
BEHE Becsehely 89.88 316 P **P 02 27 29.8 +1.9**
KIJV Kijevo 89.89 314 P **P 02 27 28.2 +0.1**
KTK1 Kautokeino 89.94 339⇑*i* P **P 02 27 27.6 -0.2**
KALN Kalnik 90.07 316 P **P 02 27 28.7 -0.2**
HAMF Hammerfest 90.13 341⇑*i* P **P 02 27 28.3 -0.3**
SOP Sopron 90.16 318 P **P 02 27 29.2 0.0**
KOGS Kog 90.24 316 *eP* **P 02 27 30.5 +0.8**
KOGS *i* PcP **PcP 02 27 30.9 +0.1**
KRLC Kraliky 90.26 320 *eP* **P 02 27 30.5 +0.7**
KRLC *e*PP **PP 02 31 04.9 +0.7**
VRAC Vranov 90.31 319 ⇓P **P 02 27 30.7 +0.8**
VRAC Vranov 90.31 319 P **P 02 27 31.0 +1.1**
comp=Z,16nm,1.0s,baz=84,slow=6.5,SNR=10
VRAC Vranov 90.31 319 *eP* **P 02 27 30.6 +0.7**
VRAC *e*PP **PP 02 31 05.3 +0.8**
GKP Gorka Klasztor 90.33 323 *i* P **P 02 27 30.7 +0.8**
GKP *eL* L 03 16 06.4
comp=Z,1μm,22.3s
GKP Gorka Klasztor 90.33 323 *eP* **P 02 27 30.8 +0.9**

RONA Rosalia, Austr 90.34 318 *eP* **P 02 27 30.8 +0.6**
comp=Z,31nm,0.9s,SNR=13
LOBO Lobor 90.34 316 P **P 02 27 30.4 +0.3**
ZAG Zagreb 90.36 316⇑*i* P **P 02 27 31.7 +1.5**
ZAG Zagreb 90.36 316 P **P 02 27 31.5 +1.3**
MORI Morici 90.37 314 P **P 02 27 30.3 0.0**
PTJ Puntijarka 90.38 316 P **P 02 27 31.1 +0.7**
UDBI Udbina 90.39 314 P **P 02 27 30.4 -0.1**
ZIRJ Zirje 90.40 314 P **P 02 27 30.4 -0.1**
KRUC Moravsky 90.41 319 *eP* **P 02 27 31.1 +0.7**
PLIT Plitvice 90.53 315 P **P 02 27 31.2 +0.1**
DPC Dobruska-Polom 90.59 320 *eP* **P 02 27 32.0 +0.8**
DPC *e*PP **PP 02 31 07.4 +0.7**
GOLS Golise 90.63 316 *i* P **P 02 27 32.5 +1.0**
GOLS *i* PcP **PcP 02 27 33.0 +0.4**
CONA Conrad Observa 90.65 318 *eP* **P 02 27 32.2 +0.5**
comp=Z,32nm,0.9s,SNR=24
KSP Ksiaz 90.66 321 *i* P **P 02 27 32.8 +1.3**
KSP *eL* L 03 17 31.8
comp=Z,576nm,21.5s
OSTC Ostas 90.67 320 *eP* **P 02 27 32.7 +1.1**
OZLJ Ozalj 90.71 316 P **P 02 27 32.1 +0.3**
CRES Cresnjev 90.73 316⇑*i* P **P 02 27 32.6 +0.6**
SNAA Sanae 90.78 198 P **P 02 27 33.9 +2.1**
SNAA Sanae 90.78 198 pP pP 02 27 49.3 +2.5
SNAA Sanae 90.78 198 LR LR 03 03 23.5
comp=Z,982nm,19.9s,baz=117,slow=32
SNAA Sanae 90.78 198⇓*eP* **P 02 27 33.4 +1.6**
SNAA pmax pmax
comp=Z,21nm,0.7s
SNAA Sanae 90.78 198 P **P 02 27 33.3 +1.6**
SNAA IAMs_20 IAMs_20 03 06 28.2
comp=Z,1μm,19.0s
CHVC Chvalec 90.78 320 *eP* **P 02 27 33.3 +1.2**
UPC Upice 90.80 320 *eP* **P 02 27 33.8 +1.6**
UPC *e*PP **PP 02 31 04.3 -4.1**
ARSA Arzberg 90.81 317 *eP* **P 02 27 33.2 +0.9**
comp=Z,64nm,0.9s,SNR=38
BOJS Bojanci 90.85 315 *eP* **P 02 27 33.2 +0.7**
BOJS *i* PcP **PcP 02 27 33.6 +0.1**
DUGI Dugi Otok 90.85 314 P **P 02 27 32.6 0.0**
UPP Uppsala 90.88 330 *eP* **P 02 27 32.3 +0.1**
VIRC Vir 90.88 314 P **P 02 27 32.4 -0.3**
PAOL Paolisi 90.97 311 IAmb IAmb 02 27 34.9
comp=Z,151nm,1.4s
JETT Jettan, Norway 91.03 340⇑*i* P **P 02 27 33.0 +0.1**
NVLJ Novalja 91.03 314 P **P 02 27 33.2 -0.1**
A250A Rusevo Krmpots 91.05 315 P **P 02 27 33.6 +0.1**
HOPEN Hopen 91.07 347⇑*i* P **P 02 27 31.9 -0.9**
SOKA Soboth 91.10 317 *eP* **P 02 27 34.5 +0.8**
comp=Z,96nm,1.0s,SNR=84
RABC Rab 91.11 315 P **P 02 27 33.9 +0.2**
VIKU Vikbolandet 91.20 328 *eP* **P 02 27 34.5 +0.7**
RIY Rijeka 91.37 315⇑*i* P **P 02 27 35.0 +0.1**
RIY Rijeka 91.37 315 P **P 02 27 34.9 0.0**
LJU Ljubljana 91.40 316⇑*i* P **P 02 27 35.9 +0.8**
LJU Ljubljana 91.40 316 *eP* **P 02 27 36.0 +1.0**
LJU *i* PcP **PcP 02 27 36.5 +0.5**
LJU *i* pP **pP 02 27 48.9 -1.1**
LJU *es*P **sP 02 27 55.8 0.0**
OBKA Obir 91.42 316 *i* P **P 02 27 36.2 +1.0**
comp=Z,49nm,0.8s,SNR=17
CEY Cerknica 91.44 316⇑*i* P **P 02 27 35.7 +0.4**
BLEU Blekinge 91.47 326 *eP* **P 02 27 34.8 -0.3**
TRO Tromso 91.56 340⇑*i* P **P 02 27 34.8 -0.5**
SMRN Sveta Marina 91.58 315 P **P 02 27 35.7 -0.8**
PRU Pruhonice 91.69 320 *eP* **P 02 27 37.0 +0.7**
PRU *e*PP **PP 02 31 15.4 0.0**
MOA Molln 91.71 318 *i* P **P 02 27 36.7 +0.1**
comp=Z,27nm,0.9s,SNR=12
SKDS Skadanscina 91.72 315⇑*i* P **P 02 27 36.0 -0.6**
PVCC Panska Ves 91.72 320 *eP* **P 02 27 37.4 +1.0**
CKRC Cesky Krumlov 91.76 319 *eP* **P 02 27 37.8 +1.1**
CKRC *e*PP **PP 02 31 16.5 +0.5**
BRJN Brijuni 91.86 315 P **P 02 27 37.2 0.0**
BSD Bornholm Skovb 91.87 325 *eP* **P 02 27 37.3 +0.3**
BSD Bornholm Skovb 91.87 325 *eP* **P 02 27 36.5 -0.4**
BSD IAmb IAmb 02 27 37.9
comp=Z,42nm,0.9s
TRI Trieste 91.90 316 IAmb IAmb 02 27 38.7
comp=Z,39nm,0.8s
AQU L'Aquila 91.94 312 IAmb IAmb 02 27 39.8
comp=Z,74nm,0.9s
AQU L'Aquila 91.94 312⇑*i* P **P 02 27 38.3 +0.6**
GAMB Gambell 91.96 26 P **P 02 27 37.9 +0.7**
GAMB IAmb IAmb 02 27 38.7
comp=Z,38nm,1.0s
GAMB Gambell 91.96 26 P **P 02 27 37.8 +0.7**
baz=265
PBCC Pribram 92.03 319 *eP* **P 02 27 38.6 +0.7**
MYKA Terra Mystica 92.05 316 *i* P **P 02 27 38.7 +0.5**
comp=Z,22nm,0.7s,SNR=14
SPIA Saint Paul Isl 92.12 33 P **P 02 27 39.2 +1.1**
baz=266
BIOA Bad Ischl, Aus 92.12 317 *eP* **P 02 27 38.2 -0.2**
comp=Z,33nm,0.7s,SNR=24
GEC2 GERESS Array S 92.16 319 P **P 02 27 39.1 +0.5**
GEC2 IAmb IAmb 02 27 40.8
comp=Z,106nm,1.4s
GERES GERESS Array B 92.16 319 P **P 02 27 39.5 +0.8**
comp=Z,21nm,0.9s,baz=131,slow=4.1,SNR=161
GERES PP **PP 02 31 17.2 -2.1**
comp=Z,3.4nm,0.9s,baz=130,slow=6.0,SNR=4.9
NRCA Norcia 92.18 313 IAmb IAmb 02 27 40.5
comp=Z,41nm,0.9s
BJO1 Bjornoya 92.19 345 *eP* **P 02 27 36.9 -1.1**
KHC Kasperske Hory 92.26 319*ce*P **P 02 27 39.3 +0.2**
KHC pmax pmax
comp=Z,32nm,1.1s
KHC Kasperske Hory 92.26 319 *eP* **P 02 27 39.2 +0.2**
KHC *ex* x 02 28 11.5
KHC *e*PP **PP 02 31 19.0 -1.0**
KBA Koelnbreinsper 92.28 317 *i* P **P 02 27 39.3 0.0**
comp=Z,21nm,0.9s,SNR=13
RUE Ruedersdorf 92.35 322 *eP* **P 02 27 39.5 +0.2**
VNA2 Neumayer--Watz 92.40 198 PKKPdf PKKPdf 02 44 51.5 -1.4
VNA2 Neumayer--Watz 92.40 198 pP pP 02 27 56.6 +2.4
VNA2 Neumayer--Watz 92.40 198 P **P 02 27 41.3 +2.1**
DEL Delary 92.56 326 *eP* **P 02 27 40.8 +0.7**
DEL Delary 92.56 326 *i* P **P 02 27 40.0 -0.1**
FAUS Fauske 92.65 337⇑*i* P **P 02 27 40.7 +0.4**
STEI Steigen 92.71 338⇑*i* P **P 02 27 40.3 -0.3**
RGN Rugen 92.75 324 IAmb IAmb 02 27 43.3
comp=Z,67nm,1.1s
CLL Collm 92.76 321⇑*i* P **P 02 27 41.5 +0.3**
CLL *e**SP **sP 02 28 00.0 -2.0**
CLL *eS* **S 02 38 43.0 +0.6**
CLL pmax pmax
comp=Z,37nm,1.2s
CLL MLR MLR
comp=Z,400nm,21.1s
CLL Collm 92.76 321⇑*i* P **P 02 27 41.5 +0.3**
comp=Z,37nm,1.2s
CLL *es*P **sP 02 28 00.0 -2.0**
CLL *ex* x 02 31 13.0
CLL *ex* x 02 31 19.0
CLL *i* PP **PP 02 31 24.1 +0.3**
comp=Z,41nm,1.4s
CLL *eS* **S 02 38 43.0 +0.6**
CLL *eSP* **SP 02 39 49.0 -4.7**
CLL *ex* x 02 42 30.0
CLL *eSS* **SS 02 45 00.0 +3.8**
CLL *e*SSS SSS 02 48 36.0
CLL *ex* x 02 50 18.0
CLL *e*SSSS 02 52 06.0
CLL LmV 03 20 00.0
comp=Z,400nm,21.1s
VNA1 Neumayer--Stat 92.77 198 P **P 02 27 42.6 +1.8**
VNA1 Neumayer--Stat 92.77 198 PKKPdf PKKPdf 02 44 49.0 -3.2
VNA1 Neumayer--Stat 92.77 198 pP pP 02 27 56.6 +0.7
ABTA Abfaltersbach 92.83 316 *i* P **P 02 27 41.8 0.0**
comp=Z,25nm,0.9s,SNR=14
HFS Hagfors 92.87 330 P **P 02 27 42.0 +0.5**
comp=Z,84nm,1.0s,baz=150,slow=3.3,SNR=116
HFS PP **PP 02 31 16.8 -7.6**
comp=Z,12nm,0.7s,baz=128,slow=9.7,SNR=4.8
HFS LR LR 03 15 53.0
comp=Z,560nm,18.4s,baz=67,slow=40
MOR8 Moi Rana 92.90 336⇑*i* P **P 02 27 40.9 -0.7**
VNA3 Neumayer Olymp 92.98 197 P **P 02 27 43.9 +2.0**
VNA3 Neumayer Olymp 92.98 197 PKKPdf PKKPdf 02 44 50.5 -1.4
NKC Novy Kostel 93.06 320 *eP* **P 02 27 43.6 +0.9**
NKC *e*PP **PP 02 31 21.9 -4.3**

SPB2 **Spitsbergen Ar** 93.21 348 IAmb IAmb 02 27 43.2
comp=Z,84nm,0.9s
SPA0 **Spitsbergen Ar** 93.21 348 ⇑*i*P **P** **02 27 42.0 -0.8**
SPITS **Spitsbergen Ar** 93.21 348 P **P** **02 27 42.4 -0.4**
comp=Z,56nm,0.8s,baz=127,slow=9.2
SPITS LR LR 03 15 13.7
comp=Z,873nm,21.7s,baz=211,slow=39
BORU **Boraas** 93.22 327 *e*P **P** **02 27 43.2 0.0**
HSPB **Hornsund (broa** 93.30 347 ⇑*i*P **P** **02 27 42.0 -1.1**
COP **Copenhagen** 93.32 325 *e*P **P** **02 27 44.5 +0.9**
TEOL **Teolo** 93.35 315 IAmb IAmb 02 27 46.1
comp=Z,88nm,1.3s
CTI **Castel Tesino** 93.40 316 IAmb IAmb 02 27 46.6
comp=Z,78nm,0.9s
LLD **Lille Linde** 93.43 325 *e*P **P** **02 27 45.4 +1.3**
KONS **Konsvik** 93.45 336 *e*P **P** **02 27 44.5 +0.4**
WTTA **Wattenberg** 93.46 317 *i*P **P** **02 27 44.8 0.0**
comp=Z,51nm,0.8s,SNR=22
STOK **Stokkvaagen** 93.49 336 *e*P **P** **02 27 44.5 +0.3**
WATA **Walderalm** 93.50 317 *e*P **P** **02 27 44.7 -0.2**
comp=Z,33nm,0.9s,SNR=13
ONAU **Onsala** 93.67 327 *e*P **P** **02 27 45.6 +0.4**
TNA **Tin City** 93.70 25 P **P** **02 27 45.0 -0.1**
baz=268
SQTA **Sankt Quirin** 93.75 317 *e*P **P** **02 27 46.1 +0.1**
comp=Z,36nm,0.7s,SNR=16
ZCCA **Zocca** 93.81 314 IAmb IAmb 02 27 52.8
comp=Z,50nm,0.8s
MOTA **Moosalm** 93.82 317 *e*P **P** **02 27 46.4 0.0**
comp=Z,40nm,0.8s,SNR=15
GRA1 **Grafenberg Arr** 93.83 319 IAmb IAmb 02 27 48.5
comp=Z,41nm,0.8s
GRFO **Grafenberg** 93.83 319 P **P** **02 27 47.0 +0.8**
GRFO pmax pmax
comp=Z,42nm,0.9s
GRFO **Grafenberg** 93.83 319 P **P** **02 27 47.0 +0.8**
GRFO IAmb IAmb 02 27 48.5
comp=Z,42nm,0.9s
TJOU **Tjoern** 93.85 328 *e*P **P** **02 27 46.2 +0.2**
NSS **Namsos** 93.86 334 ⇑*i*P **P** **02 27 46.2 +0.2**
NC602 **NORSAR Array S** 93.96 330 ⇑*i*P **P** **02 27 46.5 0.0**
RETA **Reutte** 94.06 317 *e*P **P** **02 27 47.7 +0.3**
comp=Z,38nm,0.9s,SNR=12
FETA **Feichten** 94.07 317 *i*P **P** **02 27 47.7 +0.1**
comp=Z,33nm,0.9s,SNR=16
UNV **Unalaska Valle** 94.08 36 IAmb IAmb 02 27 48.9
comp=Z,70nm,1.1s
UNV **Unalaska Valle** 94.08 36 P **P** **02 27 46.8 -0.4**
baz=269
STRU **Stroemstad** 94.11 329 *e*P **P** **02 27 48.0 +0.8**
NB2 **NORSAR Subarra** 94.13 331 P **P** **02 27 47.0 -0.4**
comp=Z,72nm,1.2s,baz=94,slow=5.3
NB2 **NORSAR Subarra** 94.13 331 P **P** **02 27 47.0 -0.4**
baz=94,slow=5.3
NOA **NORSAR Array B** 94.13 331 P **P** **02 27 47.2 -0.1**
comp=Z,27nm,1.0s,baz=91,slow=4.5,SNR=85
NOA PP **PP** **02 31 32.9 -1.4**
comp=Z,6.3nm,0.9s,baz=100,slow=6.9,SNR=7.3
NOA PKKPbc **PKKPdf** **02 44 49.0 -1.3**
comp=Z,0.8nm,0.8s,baz=283,slow=2.3,SNR=4.0
NOA LR LR 03 15 52.4
comp=Z,372nm,19.9s,baz=95,slow=39
KBS **Kingsbay** 94.13 349 IAMs_20 IAMs_20 03 13 41.6
comp=Z,1µm,22.0s
SALO **Salr** 94.17 315 IAmb IAmb 02 27 50.2
comp=Z,68nm,0.8s
NAO01 **NORSAR Array S** 94.29 331 P **P** **02 27 48.1 +0.1**
NAO01 IAmb IAmb 02 27 49.4
comp=Z,95nm,1.1s
PRMA **PARMA** 94.29 314 IAmb IAmb 02 27 50.9
comp=Z,44nm,0.9s
NC204 **NORSAR Array S** 94.35 331 IAmb IAmb 02 27 49.8
comp=Z,94nm,1.0s
OSL **Oslo** 94.36 330 ⇑*i*P **P** **02 27 48.9 +0.6**
TBLU **Trondheim** 94.60 333 ⇑*i*P **P** **02 27 49.8 +0.4**
DAVOX **Davos/Dischmat** 94.64 316 P **P** **02 27 50.8 +0.6**
comp=Z,28nm,0.6s,baz=256,slow=4.2,SNR=9.5
DAVOX LR LR 03 18 55.6
comp=Z,154nm,18.2s,baz=54,slow=41
DAVA **Damuels** 94.65 317 *e*P **P** **02 27 50.8 +0.5**
comp=Z,47nm,1.0s,SNR=16
ANM **Nome** 94.77 26 P **P** **02 27 50.8 +0.7**
baz=270
KEST **Kesra** 94.78 305 P **P** **02 27 52.5 +1.6**
comp=Z,60nm,0.9s,baz=72,slow=0.6,SNR=40
KEST **Kesra** 94.78 305 IAmb IAmb 02 27 54.0
comp=Z,90nm,1.0s
KONO **Kongsberg** 94.92 329 *d i*P **P** **02 27 51.3 +0.4**
KONO pmax pmax
comp=Z,37nm,1.2s
KONO **Kongsberg** 94.92 329 P **P** **02 27 51.5 +0.6**
KONO IAmb IAmb 02 27 52.2
comp=Z,41nm,1.1s
KONO **Kongsberg** 94.92 329 ⇑*i*P **P** **02 27 51.2 +0.2**
MUD **Monsted U'grnd** 95.16 326 *e*P **P** **02 27 53.1 +1.0**
DOMB **Dombas** 95.16 332 ⇑*i*P **P** **02 27 52.4 +0.3**
SKAR **Skarslia** 95.56 330 *e*P **P** **02 27 54.9 +1.0**
RDOG **Red Dog Mine** 95.66 22 IAmb IAmb 02 27 54.8
comp=Z,37nm,0.9s
RDOG IAMs_20 IAMs_20 03 19 44.5
comp=Z,824nm,20.0s
RDOG **Red Dog Mine** 95.66 22 P **P** **02 27 53.8 -0.4**
baz=273
BFO **Black Forest** 95.71 318 P **P** **02 27 55.1 +0.2**
BFO pmax pmax
comp=Z,13nm,0.8s
BFO **Black Forest** 95.71 318 P **P** **02 27 55.1 +0.2**
MOL **Molde** 95.86 332 *e*P **P** **02 27 55.5 +0.3**
FALS **False Pass** 95.89 35 P **P** **02 27 57.7 +2.3**
RAR **Rarotonga** 95.91 112 LR LR 03 12 22.8
comp=Z,199nm,19.8s,baz=252,slow=36
ODD1 **Odda** 96.42 330 *e*P **P** **02 27 58.8 +0.9**
ECH **Echery** 96.49 318 P **P** **02 27 57.7 -0.7**
ECH pmax pmax
comp=Z,21nm,1.1s
ECH **Echery** 96.49 318 P **P** **02 27 57.7 -0.7**
HYA **Hoyanger** 96.57 331 *e*P **P** **02 27 59.2 +0.8**
ASK **Askoy** 97.10 330 *e*P Pdif 02 28 01.6 +0.8
WLF **Walferdange** 97.12 319 *d*P Pdif 02 28 02.2 +0.9
comp=Z,9.3nm,1.0s
MEM **Membach** 97.18 320 *d*P Pdif 02 28 01.6 0.0
comp=Z,7.8nm,0.9s
BHOU **Houvegnez** 97.19 320 *d*P Pdif 02 28 02.0 +0.4
BSTI **Sart Tilman** 97.46 320 *d*P Pdif 02 28 03.0 +0.3
A21K **Barrow** 97.50 19 IAMs_20 IAMs_20 03 19 06.2
comp=Z,812nm,19.0s
BCLA **Clavier** 97.63 320 κP Pdif 02 28 03.8 +0.3
comp=Z,5.7nm,1.2s
RCHB **Rochefort** 97.69 320 *d*P **P** **02 28 03.5 -0.3**
comp=Z,6.4nm,0.9s
BGES **Gesves** 97.77 320 *d*P Pdif 02 28 04.2 0.0
comp=Z,8.3nm,0.9s
BMRD **Maredsous** 97.98 320 *d*P Pdif 02 28 05.3 +0.3
comp=Z,5.0nm,0.7s
NOR **Nord** 98.19 353 *e*P Pdif 02 28 05.4 0.0
SNF **Seneffe** 98.28 320 *d*P Pdif 02 28 06.9 +0.5
comp=Z,12nm,0.8s
GCSA **Galena City Sc** 98.39 25 Pdiff Pdif 02 28 07.4 +0.9
baz=278
TTA **Tatalina** 99.04 27 Pdiff **Pdif** **02 28 10.0 +0.3**
baz=279
IMAR **Indian Mountai** 99.48 24 P **Pdif** **02 28 11.2 -0.3**
J20K **Nowinta River** 99.66 26 Pdiff **Pdif** **02 28 13.1 +0.9**
baz=280,SNR=7.0
L19K **White Mountain** 99.69 28 Pdif **Pdif** **02 28 13.4 +0.9**
L19K **White Mountain** 99.69 28 Pdiff **Pdif** **02 28 13.2 +0.8**
baz=280
K20K **Telida** 99.84 26 IAMs_20 IAMs_20 03 13 33.6
comp=Z,628nm,21.0s
K20K **Telida** 99.84 26 Pdiff **Pdif** **02 28 14.0 +0.9**
baz=280,SNR=5.8
H21K **Melozitna Rive** 99.93 24 Pdif **Pdif** **02 28 13.7 +0.2**
H21K **Melozitna Rive** 99.93 24 Pdiff **Pdif** **02 28 14.0 +0.6**
baz=282,SNR=28
L20K **Farewell, AK** 100.08 27 Pdiff **Pdif** **02 28 14.9 +0.7**
baz=280
N19K **Bonanza Creek** 100.09 29 Pdiff **Pdif** **02 28 15.0 +0.6**
baz=280
I21K **Tanana** 100.37 24 Pdif **Pdif** **02 28 15.9 +0.5**
I21K IAMs_20 IAMs_20 03 21 47.2
comp=Z,726nm,18.0s
I21K **Tanana** 100.37 24 Pdiff **Pdif** **02 28 16.2 +0.8**
baz=283,SNR=7.7
TOLK **Toolik Lake Re** 100.44 21 IAMs_20 IAMs_20 03 17 08.0
comp=Z,1µm,20.0s
TOLK **Toolik Lake Re** 100.44 21 Pdiff **Pdif** **02 28 15.9 +0.2**
baz=286,SNR=41
CHUM **Lake Minchumin** 100.50 26 Pdiff **Pdif** **02 28 16.4 +0.4**
baz=282
COLD **Coldfoot** 100.58 22 Pdiff **Pdif** **02 28 16.9 +0.6**
baz=285,SNR=13
CAST **Castle Rocks** 100.70 26 IAMs_20 IAMs_20 03 13 52.1
comp=Z,691nm,22.0s
CAST **Castle Rocks** 100.70 26 Pdiff **Pdif** **02 28 17.5 +0.5**
baz=282,SNR=8.7
DAG **Danmarks Havn** 100.86 348 *i*P Pdif **02 28 15.0 -2.3**
DAG IAmb IAmb 02 28 16.9
comp=Z,24nm,0.9s
BPAW **Bear Paw Mtn.** 101.03 25 Pdif **Pdif** **02 28 18.0 -0.4**
BPAW **Bear Paw Mtn.** 101.03 25 Pdiff **Pdif** **02 28 18.3 -0.1**
baz=283,SNR=6.3
KTH **Kantishna Hill** 101.18 26 IAMs_20 IAMs_20 03 20 19.9
comp=Z,733nm,19.0s
H23K **Yukon River** 101.20 24 IAMs_20 IAMs_20 03 20 19.3
comp=Z,879nm,19.0s
H23K **Yukon River** 101.20 24 Pdiff **Pdif** **02 28 19.9 +0.8**
baz=285,SNR=11
TORD **Torodi Ar. Bea** 101.21 283 P **Pdif** **02 28 21.0 +0.7**
comp=Z,4.5nm,0.9s,baz=78,slow=5.5,SNR=26
TORD PKiKP **PKiKP** **02 32 43.5 -1.5**
comp=Z,5.1nm,0.9s,baz=50,slow=1.9,SNR=9.2
TORD PKKPbc **PKKPbc** **02 44 28.2 -2.0**
comp=Z,1.0nm,0.7s,baz=310,slow=2.1,SNR=4.2
TORD PKKPab PKKPdf 02 44 53.8 +17
comp=Z,2.0nm,0.7s,baz=292,slow=4.6,SNR=7.5
TORD **Torodi Ar. Bea** 101.21 283 **PKiKP** **02 32 43.3 -1.7**
I23K **Minto, Yukon-K** 101.45 24 IAMs_20 IAMs_20 03 22 29.8
comp=Z,726nm,18.0s
I23K **Minto, Yukon-K** 101.45 24 Pdiff **Pdif** **02 28 20.9 +0.7**
baz=285
TRF **Thorofare Moun** 101.48 26 IAMs_20 IAMs_20 03 20 16.0
comp=Z,656nm,21.0s
NEA2 **Nenana** 101.72 25 Pdiff **Pdif** **02 28 23.0 +1.6**
baz=285
CUT **Chulitna** 101.74 27 IAMs_20 IAMs_20 03 13 60.0
comp=Z,776nm,22.0s
H24K **Noodor Dome** 101.86 23 Pdif **Pdif** **02 28 22.5 +0.4**
H24K IAMs_20 IAMs_20 03 20 48.6
comp=Z,703nm,19.0s
H24K **Noodor Dome** 101.86 23 Pdiff **Pdif** **02 28 22.6 +0.6**
baz=287,SNR=7.2
MCK **McKinley** 102.00 26 Pdiff **Pdif** **02 28 22.2 -0.5**
baz=285
RND **Reindeer** 102.12 26 IAMs_20 IAMs_20 03 14 55.7
comp=Z,782nm,22.0s
TCOL **CIGO, UAF Yank** 102.14 24 IAMs_20 IAMs_20 03 22 53.0
comp=Z,719nm,18.0s
COLA **College** 102.14 24 IAMs_20 IAMs_20 03 22 53.1
comp=Z,683nm,18.0s
EKA **Eskdalemuir Ar** 102.17 326 P **Pdif** **02 28 24.7 +1.1**
comp=Z,2.1nm,0.7s,baz=89,slow=5.2,SNR=7.4
EKA PP PP 02 32 20.1 -16
comp=Z,8.2nm,0.9s,baz=83,slow=7.7,SNR=6.9
CCB **Clear Creek Bu** 102.22 24 IAMs_20 IAMs_20 03 22 56.3
comp=Z,812nm,18.0s
POKR **Poker Plat Res** 102.24 24 IAMs_20 IAMs_20 03 21 01.7
comp=Z,580nm,20.0s
DBG **Daneborg** 102.44 346 *e*P **Pdif** **02 28 23.9 -0.5**
DBG **Daneborg** 102.44 346 *e*P PKiKP 02 32 34.4 -11
ILAR **Eielson Array** 102.56 24 P **Pdif** **02 28 23.6 -1.5**
comp=Z,2.0nm,0.6s,baz=290,slow=3.6,SNR=22
ILAR PP PP 02 32 29.9 -8.6
comp=Z,7.1nm,1.0s,baz=289,slow=7.3,SNR=4.5
ILAR PKKPbc **PKKPbc** **02 44 23.3 -4.6**
comp=Z,1.2nm,0.8s,baz=106,slow=1.5,SNR=8.2
ILAR **Eielson Array** 102.56 24 P **Pdif** **02 28 23.8 -1.4**
ILAR **Eielson Array** 102.56 24 Pdif **Pdif** **02 28 23.8 -1.4**
WAT6 **Susitna Watana** 102.83 26 Pdiff **Pdif** **02 28 26.6 0.0**
baz=286
CART **Cartagena** 103.04 307 IAMs_20 IAMs_20 03 07 00.5
comp=Z,761nm,18.0s
J25K **Salcha River,** 103.23 24 IAMs_20 IAMs_20 03 23 36.0
comp=Z,625nm,19.0s
J25K **Salcha River,** 103.23 24 Pdiff **Pdif** **02 28 26.7 -1.5**
baz=289
RIDG **Independent Ri** 103.73 25 IAMs_20 IAMs_20 03 20 43.3
comp=Z,807nm,20.0s
J26L **Joseph Creek** 104.01 24 Pdiff **Pdif** **02 28 31.2 -0.5**
baz=290
SCRK **Sand Creek** 104.02 25 Pdiff **Pdif** **02 28 31.8 0.0**
baz=290
EUNU **Eureka** 104.04 2 Pdif **Pdif** **02 28 32.2 +0.7**
L26K **Log Cabin Wild** 104.61 25 Pdiff **Pdif** **02 28 35.1 +0.8**
baz=290
EGAK **Eagle** 104.87 23 IAMs_20 IAMs_20 03 25 50.1
comp=Z,562nm,19.0s
ESDC **Sonseca Array** 105.13 310 Pdiff **Pdif** **02 28 37.5 +0.2**
comp=Z,1.6nm,0.8s,baz=68,slow=3.9,SNR=8.4
ESDC PKiKP **PKiKP** **02 32 51.2 -0.4**
comp=Z,5.7nm,1.1s,baz=9.8,slow=1.5,SNR=7.3
ESDC PKKPab **PKKPab** **02 44 36.7 +0.6**
comp=Z,4.1nm,0.8s,baz=272,slow=4.6,SNR=17
BCAR **Beaver Creek A** 105.26 25 Pdif **Pdif** **02 28 37.6 +0.4**
M27K **Edge Creek, AK** 105.48 26 IAMs_20 IAMs_20 03 17 35.5
comp=Z,591nm,20.0s
I29M **Ogilvie Camp,** 105.73 22 IAMs_20 IAMs_20 03 24 42.9
comp=Z,837nm,18.0s
I29M **Ogilvie Camp,** 105.73 22 PKiKP **PKiKP** **02 32 52.5 +0.6**
baz=296
DAWY **Dawson** 105.86 24 PKiKP **PKiKP** **02 32 52.9 +0.7**
baz=294
EPYK **Eagle Plains** 105.87 21 IAMs_20 IAMs_20 03 20 52.4
comp=Z,830nm,20.0s
EPYK **Eagle Plains** 105.87 21 PKiKP **PKiKP** **02 32 52.5 +0.4**
baz=297,SNR=12
PPT2 **Papeete2** 105.96 110 *e*LR LR 03 03 42.5
comp=Z,2µm,23.2s
INK **Inuvik** 106.00 19 Pdiff **Pdif** **02 28 40.2 -0.1**
comp=Z,3.6nm,0.8s,baz=299,slow=4.3,SNR=18
INK PKiKP **PKiKP** **02 32 51.5 -0.8**
comp=Z,7.3nm,0.8s,baz=17,slow=2.2,SNR=12
INK PKKPbc **PKKPbc** **02 44 14.3 -3.2**
comp=Z,4.5nm,0.7s,baz=82,slow=2.3,SNR=16
INK PKKPab **PKKPdf** **02 44 29.5 +0.9**
comp=Z,2.0nm,0.7s,baz=94,slow=4.4,SNR=5.8
INK **Inuvik** 106.00 19 P **PKiKP** **02 32 52.6 +0.3**
baz=301
BARN **Barnard Glacie** 106.05 27 IAMs_20 IAMs_20 03 25 42.8
comp=Z,677nm,21.0s
A36M **Sachs Harbour** 106.16 14 Pdif **Pdif** **02 28 40.9 -0.1**
A36M IAMs_20 IAMs_20 03 23 51.7
comp=Z,931nm,21.0s
CTGM **Chitina Glacie** 106.23 27 IAMs_20 IAMs_20 03 26 05.4
comp=Z,578nm,21.0s
LOGN **Logan Glacier** 106.44 27 IAMs_20 IAMs_20 03 24 14.9
comp=Z,640nm,21.0s
YUK4 **Talbot Arm** 107.29 26 PKiKP **PKiKP** **02 32 56.1 +1.0**
baz=294
KIC **Kosan Boka** 107.32 275 *e*PKP1 **PKiKP** **02 32 56.0 -0.3**
comp=Z,12nm,0.8s
DBIC **Dimbokro** 107.45 276 PKiKP **PKiKP** **02 32 56.6 +0.1**
comp=Z,3.4nm,0.9s,baz=7.5,slow=2.7,SNR=5.7
DBIC PKKPbc **PKKPbc** **02 44 12.0 +0.6**
comp=Z,3.1nm,0.9s,baz=321,slow=4.1,SNR=4.1
DBIC PKKPab **PKKPab** **02 44 25.5 -0.6**
comp=Z,5.3nm,0.7s,baz=284,slow=2.9,SNR=6.4
TULEG **Thule** 107.53 358 IAMs_20 IAMs_20 03 20 05.4
comp=Z,990nm,18.0s
LIC **Lamto** 107.60 275 *e*PKP1 **PKiKP** **02 32 55.3 -1.5**
comp=Z,29nm,1.5s
TIC **Toumodi** 107.61 276 *e*PKP1 **PKiKP** **02 32 55.9 -0.9**
PBAR **Barrancos** 107.71 309 *e*PKP **PKiKP** **02 32 58.1 +1.8**
PBAR **Barrancos** 107.71 309 *e*PP **PP** **02 33 17.9 +0.4**
MTE **Manteigas** 107.74 311 *e*PKP **PKiKP** **02 32 58.4 +2.0**
POLO **Lamas de Olo** 107.76 312 *e*PKP PKiKP 02 33 04.5 +8.0
PCBR **Castelo Branco** 107.78 310 *e*PKP **PKiKP** **02 32 58.1 +1.7**
PCBR **Castelo Branco** 107.78 310 *e*PP **PP** **02 33 18.3 +0.3**
PVIS **Viseu** 107.95 311 *e*PP **PP** **02 33 19.0 -0.2**
HYT **Haines Junctio** 108.01 26 PKiKP **PKiKP** **02 32 57.1 +0.7**
baz=295
C36M **Paulatuk** 108.18 16 IAMs_20 IAMs_20 03 22 19.1
comp=Z,728nm,21.0s
C36M **Paulatuk** 108.18 16 PKiKP **PKiKP** **02 32 55.1 -1.1**
baz=311
PBEJ **Beja** 108.38 309 *e*PKP **PKiKP** **02 32 58.8 +1.2**
N31M **Braeburn, Yuko** 108.47 25 IAMs_20 IAMs_20 03 28 13.5
comp=Z,667nm,19.0s
N31M **Braeburn, Yuko** 108.47 25 PKiKP **PKiKP** **02 32 57.1 0.0**
baz=297
PBDV **Barranco-do-Ve** 108.56 308 *e*PKP **PKiKP** **02 32 59.6 +1.6**
PCVE **Castro Verde** 108.58 308 *e*PKP **PKiKP** **02 32 59.6 +1.6**
RES **Resolute Bay** 108.84 5 Pdiff **Pdif** **02 28 54.1 +1.2**
comp=Z,3.1nm,0.8s,baz=351,slow=5.2,SNR=15
RES PKiKP **PKiKP** **02 32 56.9 -0.5**
comp=Z,6.9nm,0.7s,baz=272,slow=1.3,SNR=28
MORF **Marmelete** 109.11 308 *e*PKP **PKiKP** **02 33 00.5 +1.4**
SKAG **Skagway** 109.59 27 PKiKP **PKiKP** **02 33 00.3 +1.1**
baz=297
JIS **Juneau Island** 110.56 28 IAMs_20 IAMs_20 03 28 31.0
comp=Z,832nm,22.0s
TGTN **Hyland Airport** 111.55 23 PKiKP **PKiKP** **02 33 03.2 +0.2**
baz=304,SNR=8.5
WRGLY **Wrigley** 112.33 21 PKiKP **PKiKP** **02 33 04.5 +0.3**
baz=310
WRAK **Wrangell Islan** 112.41 29 PKiKP **PKiKP** **02 33 05.0 +0.4**
baz=298
SFJD **Kangerlussuaq** 114.55 349 PKP **PKiKP** **02 33 08.0 -0.4**
comp=Z,16nm,0.8s,baz=25,slow=3.6,SNR=6.4
SFJD **Kangerlussuaq** 114.55 349 PKiKP **PKiKP** **02 33 08.0 -0.4**
YKA **Yellowknife Ar** 115.76 18 Pdiff **Pdif** **02 29 24.4 +0.5**
comp=Z,0.6nm,0.9s,baz=321,slow=4.1,SNR=6.1
YKA PKP **PKiKP** **02 33 10.2 -0.7**
comp=Z,11nm,0.8s,baz=313,slow=1.7,SNR=77
YKA PKKPbc **PKKPbc** **02 43 41.9 -3.6**
comp=Z,1.7nm,0.9s,baz=144,slow=3.3,SNR=11
YKA PKKPab **PKKPab** **02 43 48.8 +0.3**
comp=Z,2.9nm,0.8s,baz=130,slow=4.3,SNR=17
YKA **Yellowknife Ar** 115.76 18 **PKiKP** **02 33 10.5 -0.4**
TAOE **Nuku Hiva Isla** 116.46 102 *e*LR LR 03 08 38.5
comp=Z,848nm,22.6s
NRS **Narsarsuaq** 118.16 343 *i*P **PKPdf** **02 33 15.0 -0.5**
A04D **Lummi Island** 121.44 33 P **PKiKP** **02 33 23.1 +0.8**
baz=304,SNR=8.3
MG03 **Isla Dawson** 121.86 185 **PKPdf** **02 33 22.8 -0.1**
D03D **Eldon** 121.88 35 P **PKiKP** **02 33 24.4 +1.2**
baz=304,SNR=18
B05A **Bryant** 122.03 33 P **PKiKP** **02 33 23.8 +0.3**
baz=305,SNR=56
E04D **Cinebar** 122.72 35 P **PKiKP** **02 33 25.8 +0.8**
baz=304,SNR=25
F04D **Rainier, OR** 122.72 36 P **PKiKP** **02 33 26.6 +1.6**
baz=304,SNR=8.5
G03D **McMinnville, O** 123.03 37 P **PKiKP** **02 33 26.6 +1.0**
baz=302,SNR=5.3
I02E **Swisshome, OR** 123.25 38 P **PKiKP** **02 33 27.1 +1.1**
baz=301
B08A **Colville Reser** 123.47 32 PKPdf **PKPdf** **02 33 26.1 0.0**
J01E **Myrtle Point** 123.68 39 P **PKiKP** **02 33 27.8 +0.8**
baz=300,SNR=14
H04D **Lebanon** 123.72 37 P **PKiKP** **02 33 27.9 +0.9**
baz=302,SNR=36
F05D **White Salmon** 123.73 35 P **PKiKP** **02 33 27.7 +0.7**
baz=304,SNR=6.1
I03D **Drain, OR** 123.77 39 P **PKiKP** **02 33 28.0 +0.9**
baz=301,SNR=28
K02D **Willamette Mer** 124.08 40 P **PKiKP** **02 33 28.3 +0.4**
baz=300,SNR=22
G05D **Wamic, OR** 124.17 36 P **PKiKP** **02 33 28.7 +0.8**
baz=304,SNR=8.4
I04A **Tendick Farm,** 124.30 38 P **PKiKP** **02 33 28.4 +0.2**
baz=302,SNR=40
L02E **Cave Junction** 124.39 40 **PKiKP** **02 33 28.8 +0.4**
L02E **Cave Junction** 124.39 40 P **PKiKP** **02 33 29.3 +0.9**
baz=300,SNR=13
GO09 **Cerro Castillo** 124.58 184 **PKiKP** **02 33 29.0 +0.5**
I05D **Terrebonne, OR** 124.66 37 P **PKiKP** **02 33 29.7 +0.8**
baz=303,SNR=20
NEW **Newport** 124.68 31 PKP **PKiKP** **02 33 29.1 +0.2**
comp=Z,35nm,0.8s,baz=288,slow=2.3,SNR=56
NEW **Newport** 124.68 31 P **PKiKP** **02 33 28.9 0.0**
baz=310
J04D **Umpqua Nationa** 124.78 38 P **PKiKP** **02 33 29.9 +0.4**
baz=302,SNR=80
L04D **Klamath Falls** 125.19 40 P **PKiKP** **02 33 30.3 +0.1**
baz=301,SNR=51
M02C **Callahan** 125.26 41 P **PKiKP** **02 33 31.3 +1.0**
baz=300,SNR=35
J05D **Fort Rock, OR** 125.30 38 P **PKiKP** **02 33 31.0 +0.6**
baz=303,SNR=62
K04D **Chiloquin, OR** 125.33 39 P **PKiKP** **02 33 31.0 +0.6**
baz=302,SNR=7.1
G08A **Pilot Rock** 125.51 35 **PKPdf** **02 33 30.5 +0.2**
N02D **Trinity Center** 125.56 41 P **PKiKP** **02 33 31.3 +0.4**
baz=300,SNR=31
M04C **Macdoel** 125.71 40 P **PKiKP** **02 33 31.7 +0.4**
baz=301
O02D **Mt. Diablo Mer** 125.90 42 P **PKiKP** **02 33 32.5 +0.9**
baz=300,SNR=44
FFC **Flin Flon** 125.91 17 PKiKP **PKPdf** **02 33 30.3 -0.3**
FFC **Flin Flon** 125.91 17 PKPdf **PKPdf** **02 33 30.3 -0.3**
FFC **Flin Flon** 125.91 17 IAMs_20 IAMs_20 03 35 40.8
comp=Z,897nm,21.0s
O03E **Paynes Creek** 126.50 41 P **PKiKP** **02 33 32.6 -0.2**
baz=300,SNR=41
BMO **Blue Mountains** 126.71 34 IAMs_20 IAMs_20 03 38 36.7
comp=Z,433nm,21.0s
MSO **Missoula** 127.25 31 IAMs_20 IAMs_20 03 38 18.4
comp=Z,882nm,21.0s
MSO **Missoula** 127.25 31 P **PKPdf** **02 33 33.7 +0.1**
baz=312
GO08 **Villa O'Higgin** 127.38 184 PKPdf **PKiKP** **02 33 34.7 +0.5**
EGMT **Eagleton** 128.41 27 P **PKiKP** **02 33 36.6 +0.3**
baz=318
SCHQ **Schefferville** 128.73 352 PKP **PKiKP** **02 33 36.5 -0.2**
comp=Z,51nm,0.9s,baz=37,slow=3.6,SNR=33
SCHQ PP **PP** **02 35 39.4 -2.4**
comp=Z,28nm,0.9s,baz=15,slow=7.5,SNR=8.8
SCHQ **Schefferville** 128.73 352 PKPdf **PKiKP** **02 33 36.6 -0.1**
HLID **Hailey** 129.14 34 IAMs_20 IAMs_20 03 42 60.0
comp=Z,703nm,20.0s
HLID **Hailey** 129.14 34 P **PKiKP** **02 33 38.5 +0.4**
baz=310
BOZ **Bozeman (W)** 129.26 30 P **PKiKP** **02 33 38.2 0.0**
baz=314
NVAR **Mina Array Bea** 129.78 42 PKP **PKiKP** **02 33 40.0 +0.4**
comp=Z,28nm,0.7s,baz=294,slow=1.9,SNR=86
NVAR SKPbc SKPbc 02 36 57.0 -0.1
comp=Z,4.2nm,0.8s,baz=264,slow=2.2,SNR=4.2
MLAC **Mammoth, Mammt** 129.85 43 P **PKiKP** **02 33 40.8 +1.0**
baz=302,SNR=6.3
SMMC **Simmler** 130.19 46 P **PKiKP** **02 33 41.4 +1.2**
baz=299
COYC **Coyhaique** 130.22 185 **PKPdf** **02 33 39.3 +0.1**
DGMT **Dagmar** 130.41 23 IAMs_20 IAMs_20 03 28 15.3
comp=Z,749nm,21.0s
DGMT **Dagmar** 130.41 23 P **PKiKP** **02 33 40.4 +0.1**
baz=324
ELK **Elko** 130.41 37 IAMs_20 IAMs_20 03 43 13.0
comp=Z,443nm,19.0s
TIN **Tinemaha, Big** 130.56 43 P **PKiKP** **02 33 41.5 +0.5**
baz=302
VES **Vestal, Richgr** 130.59 45 P **PKiKP** **02 33 40.6 -0.4**
baz=300,SNR=18
H17A **Grant Village** 130.63 31 P **PKiKP** **02 33 42.6 +1.5**
baz=315
RLMT **Red Lodge** 130.77 29 IAMs_20 IAMs_20 03 40 02.5
comp=Z,649nm,18.0s
RLMT **Red Lodge** 130.77 29 P **PKiKP** **02 33 41.4 +0.1**
baz=317
FLWY **Flagg Ranch** 130.79 31 IAMs_20 IAMs_20 03 43 24.3
comp=Z,418nm,20.0s
LCH **Last Change Ra** 130.87 43 PKPdf **PKiKP** **02 33 42.3 +0.6**
CWC **Cottonwood Cre** 130.98 44 P **PKiKP** **02 33 42.4 +0.4**
baz=301
LAO **LASA Array** 130.99 26 P **PKiKP** **02 33 42.1 +0.6**
baz=321
TPAW **Teton Pass** 131.07 32 IAMs_20 IAMs_20 03 42 30.7
comp=Z,458nm,20.0s
ISA **Isabella, Lake** 131.11 45 P **PKiKP** **02 33 42.3 +0.1**
baz=300,SNR=12
ARVC **Arvin** 131.12 46 P **PKiKP** **02 33 43.0 +0.9**
baz=300,SNR=15
LOHW **Long Hollow** 131.17 32 IAMs_20 IAMs_20 03 37 27.3
comp=Z,405nm,20.0s
GRAC **Grapevine Rang** 131.18 43 P **PKiKP** **02 33 42.6 +0.4**
baz=302,SNR=8.6
REDW **Red Top Meadow** 131.21 32 IAMs_20 IAMs_20 03 42 23.1
comp=Z,639nm,20.0s
AHID **Auburn Hatcher** 131.49 33 IAMs_20 IAMs_20 03 41 57.9
comp=Z,777nm,20.0s
MPMC **Manual Prospec** 131.59 44 P **PKiKP** **02 33 43.7 +0.4**
baz=302,SNR=38
ULM **Lac du Bonnet** 131.60 15 PKP **PKPdf** **02 33 41.7 +0.1**
comp=Z,48nm,0.8s,baz=349,slow=3.2,SNR=50
ULM SKPbc **SKPbc** **02 37 01.2 -1.7**
comp=Z,17nm,1.0s,baz=341,slow=5.0,SNR=5.9
R11A **Troy Canyon, C** 131.61 40 P **PKiKP** **02 33 43.4 +0.2**
baz=305
LRMC **Laurel Mtn Rad** 131.75 45 P **PKiKP** **02 33 43.7 +0.2**
baz=301
FURC **Furnace Creek,** 131.80 43 P **PKiKP** **02 33 43.9 +0.5**

baz=303,SNR=20
EDW2 Edwards Air Fo 131.84 45 P PKiKP 02 33 44.2 +0.6
baz=300,SNR=26
DRLN Deer Lake 131.90 342 PKPdf 02 33 41.8 -0.4
TPNV Topopah Spring 131.96 42 P PKiKP 02 33 43.8 -0.1
baz=304
HWUT Hardware Ranch 132.01 34 IAMs_20 IAMs_20 03 39 21.9
comp=Z,679nm,22.0s
DUG Dugway, Tooele 132.21 36 PKIKP PKiKP 02 33 44.0 -0.3
DUG Dugway, Tooele 132.21 36 PKPdf PKiKP 02 33 44.0 -0.3
DUG IAMs_20 IAMs_20 03 41 59.3
comp=Z,677nm,21.0s
DUG Dugway, Tooele 132.21 36 P PKiKP 02 33 44.5 +0.2
baz=310
CIS Catalina Islan 132.26 47 P PKiKP 02 33 44.2 -0.3
baz=299
BW06 Boulder Array 132.30 32 IAMs_20 IAMs_20 03 38 47.4
comp=Z,483nm,19.0s
BW06 Boulder Array 132.30 32 P PKPdf 02 33 43.5 0.0
baz=315
PDAR Pinedale Array 132.30 32 PKhKP PKPpre 02 33 37.1
comp=Z,3.2nm,0.9s,baz=101,slow=1.5,SNR=5.8
PDAR PKP PKPdf 02 33 43.6 +0.1
comp=Z,14nm,0.6s,baz=137,slow=2.3,SNR=29
PDAR PP PP 02 36 02.7 -3.1
comp=Z,2.8nm,0.9s,baz=349,slow=4.1,SNR=2.7
PDAR SKPbc SKPbc 02 37 04.2 -1.8
comp=Z,11nm,0.8s,baz=318,slow=2.0,SNR=11
BFSC Mount Baldy Ra 132.40 46 P PKiKP 02 33 44.6 -0.3
baz=300,SNR=11
GSC Goldstone, Bar 132.46 44 P PKiKP 02 33 45.3 +0.4
baz=302,SNR=31
SHOC Shoshone, Teco 132.51 43 P PKiKP 02 33 45.4 +0.5
baz=303,SNR=17
RRX Edison Barstow 132.55 45 P PKiKP 02 33 45.8 +0.8
baz=301
MDND Maddock 132.61 20 P PKPdf 02 33 43.2 -0.4
baz=330
MDND Maddock 132.61 20 P PKPdf 02 33 43.6 0.0
baz=330
JLU Jordanelle 132.74 35 PKiKP 02 33 45.3 -0.2
BBRC Big Bear Solar 132.91 46 P PKiKP 02 33 46.2 +0.2
baz=301,SNR=6.3
TUQ Turquoise Moun 133.00 44 P PKiKP 02 33 46.3 +0.3
baz=303,SNR=15
HEC Hector Ludlow 133.03 45 P PKiKP 02 33 46.2 +0.2
baz=302,SNR=23
MURC Murrieta 133.05 47 P PKiKP 02 33 46.3 +0.3
baz=300,SNR=13
AGMN Agassiz Nation 133.38 17 P PKPdf 02 33 44.8 -0.3
baz=335
AGMN Agassiz Nation 133.38 17 P PKPdf 02 33 44.8 -0.3
baz=335
109C Camp Elliot, M 133.47 47 P PKiKP 02 33 46.8 0.0
baz=300
GMRC Granite Mounta 133.53 44 P PKiKP 02 33 47.8 +0.6
baz=302,SNR=64
PFO Pinyon Flats O 133.57 46 PKIKP PKiKP 02 33 47.1 -0.2
PFO Pinyon Flats O 133.57 46 PKPdf PKiKP 02 33 47.1 -0.2
PFO Pinyon Flats O 133.57 46 P PKiKP 02 33 47.5 +0.2
baz=301,SNR=18
BELC Belle Mtn. Jos 133.70 45 P PKiKP 02 33 47.9 +0.4
baz=302,SNR=23
B35A Bob, Littlefor 133.90 15 P PKPdf 02 33 46.0 0.0
baz=338
K22A Casper 133.93 30 P PKPdf 02 33 46.3 -0.1
baz=318
K22A Casper 133.93 30 P PKPdf 02 33 46.6 +0.2
baz=318
MONP2 Monument Peak 133.96 47 P PKiKP 02 33 48.1 -0.1
baz=300
RSSD Black Hills 133.96 26 IAMs_20 IAMs_20 03 38 07.7
comp=Z,636nm,22.0s
RSSD Black Hills 133.96 26 P PKPdf 02 33 46.6 +0.1
baz=322
RSSD Black Hills 133.96 26 P PKPdf 02 33 46.9 +0.3
baz=322
TKX Tecate 133.99 47 PKPdf PKPdf 02 33 47.1 +0.4
IRM Iron Mountain 134.22 45 P PKiKP 02 33 49.1 +0.6
baz=302,SNR=16
BC3 Big Chuckawall 134.27 45 P PKiKP 02 33 49.3 +0.6
baz=302,SNR=22
IKP In-Ko-Pah, Jac 134.31 47 P PKiKP 02 33 49.3 +0.6
baz=300
SWSC Sam W. Stewart 134.39 46 P PKiKP 02 33 49.4 +0.6
baz=301,SNR=6.3
YUH Yuha Desert 134.45 47 PKPdf PKiKP 02 33 49.2 +0.4
EYMN Ely 134.82 13 IAMs_20 IAMs_20 03 40 20.1
comp=Z,645nm,20.0s
EYMN Ely 134.82 13 P PKPdf 02 33 48.3 +0.5
baz=341
PLCA Paso Flores 134.82 188 PKhKP PKPpre 02 33 40.0
comp=Z,2.5nm,0.8s,baz=232,slow=0.7,SNR=4.5
PLCA PKP PKPdf 02 33 48.4 +0.3
comp=Z,9.7nm,0.9s,baz=156,slow=9.5,SNR=5.8
PLCA SKPbc SKPbc 02 37 13.5 -0.8
comp=Z,4.4nm,0.9s,baz=174,slow=5.3,SNR=4.9
PLCA PKKP PKKPdf 02 43 31.9 -1.2
comp=Z,2.9nm,0.9s,baz=320,slow=6.7,SNR=5.7
PLCA Paso Flores 134.82 188 eP PKPdf 02 33 48.6 +0.5
PDMCI Parker Dam,Lak 134.84 44 P PKiKP 02 33 49.9 +0.3
baz=304,SNR=9.1
O20A White River Ci 134.85 33 P PKiKP 02 33 49.2 -0.5
baz=315
U15A North Rim 134.85 40 PKPdf PKiKP 02 33 49.7 -0.2
GLA Glamis 135.03 46 P PKiKP 02 33 50.2 +0.1
baz=302,SNR=11
F33A 5 Mile Ranch, 135.46 18 P PKPdf 02 33 49.0 0.0
baz=333
PHWY Pilot Hill 135.47 30 IAMs_20 IAMs_20 03 40 52.9
comp=Z,502nm,20.0s
N23A Red Feather La 135.52 31 P PKPdf 02 33 50.3 +0.6
baz=318
PV10 Paradox Valley 135.61 36 PKPdf PKiKP 02 33 51.0 -0.4
SUSD Miller 135.77 22 P PKiKP 02 33 50.8 -0.5
baz=329
BATG Bathurst New B 135.89 349 PKPdf 02 33 49.0 -0.7
WUAZ Wupatki 136.00 41 IAMs_20 IAMs_20 03 46 48.3
comp=Z,498nm,20.0s
WUAZ Wupatki 136.00 41 P PKiKP 02 33 52.4 +0.2
baz=308
ALF01 Guarapari-ES 136.11 234 eP PKiKP 02 33 52.1 -0.4
SMCO Snowmass 136.22 33 PKPdf PKPdf 02 33 51.5 +0.3
SMCO IAMs_20 IAMs_20 03 41 06.3
comp=Z,592nm,22.0s
NBPV Pedro Velho 136.33 256 eP PKiKP 02 33 52.7 -0.5
NBAN Anadia - AL 136.45 251 eP PKPdf 02 33 52.4 +0.7
RIB01 Linhares ES 136.47 236 eP PKiKP 02 33 52.7 -0.6
ISCO Idaho Springs 136.50 32 IAMs_20 IAMs_20 03 42 15.4
comp=Z,569nm,20.0s
ISCO Idaho Springs 136.50 32 P PKiKP 02 33 52.8 -0.4
baz=318
GBN Guysborough 136.55 343 PKPdf PKPdf 02 33 51.3 +0.3
DUB01 Friburgo-RJ 136.66 231 eP PKiKP 02 33 53.1 -0.6
MVCO Mesa Verde 136.71 37 P PKiKP 02 33 53.1 -0.6
baz=312
NAN01 Guarapari, ES 136.92 238 eP PKiKP 02 33 53.7 -0.6
SPMN Marine on St. 137.04 16 P PKPdf 02 33 52.3 +0.4
baz=338,SNR=7.5
RCBR Riachuelo 137.05 257 PKP PKPdf 02 33 53.3 +0.4
comp=Z,24nm,1.0s,baz=46,slow=2.3,SNR=5.7
RCBR Riachuelo 137.05 257 eP PKiKP 02 33 54.1 -0.6
214A Organ Pipe Nat 137.06 46 P PKiKP 02 33 53.9 -0.3
baz=303
E63A Oxbow 137.15 351 P PKPdf 02 33 52.4 +0.3
baz=14,SNR=6.7
E63A P PKPdf 02 33 52.4 +0.3
baz=14,SNR=6.7
GUA01 Guaratinga, BA 137.20 240 eP PKiKP 02 33 54.1 -0.7
ECSD EROS Data Cent 137.22 20 P PKPdf 02 33 52.8 +0.4
baz=332
W18A Petrified Fore 137.30 40 P PKiKP 02 33 55.0 +0.1
baz=309
S22A 4UR Ranch, Cre 137.31 35 PKPdf PKiKP 02 33 54.6 -0.4
S22A 4UR Ranch, Cre 137.31 35 P PKiKP 02 33 54.3 -0.6
baz=315
Q24A Divide 137.36 32 P PKiKP 02 33 55.1 +0.1
baz=318
OGNE Ogallala 137.38 27 IAMs_20 IAMs_20 03 46 00.3
comp=Z,716nm,20.0s
TER01 Tubaro-SC 137.39 218 eP PKiKP 02 33 54.6 -0.5
SJMB Sao Joao De Ma 137.42 237 eP PKiKP 02 33 54.4 -0.9
CMC01 Camacan, BA 137.46 242 eP PKiKP 02 33 54.7 -0.7
NBLA Lagarto - SE 137.47 249 eP PKPdf 02 33 54.4 +0.8
F64A Sherman 137.68 350 P PKPdf 02 33 53.4 +0.3
baz=14,SNR=8.4
F64A P PKPdf 02 33 53.4 +0.3
baz=14,SNR=8.4
I37B Waseca 137.99 17 P PKPdf 02 33 53.5 -0.2
baz=336
SDCO Great Sand Dun 138.05 34 IAMs_20 IAMs_20 03 43 43.8
comp=Z,715nm,21.0s
SDCO Great Sand Dun 138.05 34 P PKPdf 02 33 55.4 +1.0
baz=316,SNR=15
SDCO Great Sand Dun 138.05 34 P PKPdf 02 33 55.5 +1.0
baz=316
GDU01 Guandu, BA 138.16 244 eP PKPdf 02 33 55.8 +1.0
TUC Tucson 138.28 44 P PKPdf 02 33 55.3 +0.6
baz=305
CPSB Cacapava Do Su 138.49 212 eP PKPdf 02 33 56.0 +0.9
KSCO Kaye Shedlock' 138.61 30 P PKPdf 02 33 55.2 0.0
baz=321
BGNE Belgrade 138.66 23 P PKPdf 02 33 55.0 -0.1
baz=328
H43A Windswept, Lux 138.91 11 P PKPdf 02 33 55.5 +0.1
baz=345
PET01 Itanhaem-SP 139.01 225 eP PKPdf 02 33 56.8 +0.6
GLMI Grayling 139.07 7 IAMs_20 IAMs_20 03 45 24.3
comp=Z,680nm,19.0s
GLMI Grayling 139.07 7 P PKPdf 02 33 56.4 +0.7
baz=350
T25A Trinidad 139.09 33 P PKiKP 02 33 57.4 -1.1
baz=317
BSCB Bom Sucesso 139.12 231 eP PKiKP 02 33 57.8 -1.1
BMNY Brushton-Moira 139.40 356 P PKPdf 02 33 51.9 -4.4
baz=5.0,SNR=13
NBMA Muriti-CE 139.45 254 eP PKPdf 02 33 58.2 +0.9
ANMO Albuquerque 139.45 37 PKIKP PKPdf 02 33 57.7 +0.7
ANMO Albuquerque 139.45 37 PKPdf PKPdf 02 33 57.7 +0.7
ANMO Albuquerque 139.45 37 IAMs_20 IAMs_20 03 44 02.3
comp=Z,788nm,22.0s
ANMO Albuquerque 139.45 37 P PKPdf 02 33 49.5 -7.5
baz=313,SNR=34
ANMO Albuquerque 139.45 37 P PKiKP 02 33 58.2 -1.1
baz=313
VAO Valinhos 139.59 227 eP PKiKP 02 33 58.9 -0.9
DIAM Diamantina, MG 139.67 235 eP PKiKP 02 33 59.0 -1.1
NBCL Cascavel-CE 139.71 259 eP PKiKP 02 33 59.3 -0.8
LBNH Lisbon 139.77 354 P PKPdf 02 33 57.9 +0.9
baz=9.1
Y22A Socorro 139.81 39 P PKPdf 02 33 52.1 -5.6
baz=311,SNR=26
JFWS Jewell Farm 139.86 14 PKIKP PKPdf 02 33 56.8 -0.4
JFWS Jewell Farm 139.86 14 PKPdf PKPdf 02 33 56.8 -0.4
JFWS Jewell Farm 139.86 14 P PKPdf 02 33 56.7 -0.5
baz=341
CBKS Cedar Bluff 140.14 27 IAMs_20 IAMs_20 03 40 18.3
comp=Z,679nm,22.0s
ITAB Concordia 140.16 217 eP PKPdf 02 33 59.2 +1.0
121A Cookes Peak, D 140.18 41 P PKPdf 02 33 52.4 -6.0
baz=309,SNR=7.9
121A Cookes Peak, D 140.18 41 P PKiKP 02 33 59.6 -1.2
baz=309,SNR=7.9
RCLB Rio Claro- Sao 140.36 227 eP PKiKP 02 34 00.4 -0.9
J59A Piesco 140.77 356 PKPdf PKPdf 02 33 58.8 -0.1
R32A Long Quarter, 140.93 26 P PKPdf 02 33 53.5 -5.8
baz=326,SNR=34
KSU1 Kansas State U 141.24 24 P PKPdf 02 33 59.9 0.0
baz=329
K62A Royalston 141.36 353 P 02 33 54.1
baz=8.9,SNR=6.2
K62A P PKPpre 02 33 54.1
baz=8.9,SNR=6.2
HRV Adam Dziewonsk 141.44 353 PKIKP PKPdf 02 33 59.4 -0.6
HRV Adam Dziewonsk 141.44 353 PKPdf 02 33 59.4 -0.6
HRV Adam Dziewonsk 141.44 353 P PKPdf 02 33 59.7 -0.3
baz=10.0
BO04 La Punta 141.45 190 PKPdf PKPdf 02 33 59.5 -0.9
L61B Northampton 141.62 354 P PKPdf 02 34 00.4 +0.1
baz=8.2
AAM Ann Arbor 141.67 7 P PKPdf 02 34 00.1 -0.3
baz=351
MT09 Talagante 141.72 189 PKPdf PKPdf 02 34 01.9 +0.9
L48A N Adams 141.92 8 P 02 33 55.0
baz=349,SNR=26
L48A P PKPpre 02 33 55.0
baz=349,SNR=26
P38A Dawn 141.93 20 P PKPpre 02 33 55.9
baz=334,SNR=22
BINY Binghamton 142.11 358 P PKPpre 02 33 55.4
baz=2.9
BINY Binghamton 142.11 358 P PKPpre 02 34 01.4
baz=2.9
L56A Greenwood 142.20 360 P 02 33 55.8
baz=0.4,SNR=6.7
L56A P PKPpre 02 33 55.8
baz=0.4,SNR=6.7
MNTX Cornudas Mount 142.28 40 P PKPpre 02 33 58.5
baz=311,SNR=49
MNTX Cornudas Mount 142.28 40 P PKPpre 02 33 58.4
baz=311,SNR=49
PEL Peldehue 142.29 190 PKIKP PKPdf 02 34 01.1 -0.9
PEL Peldehue 142.29 190 PKPdf 02 34 01.1 -0.9
MSTX Muleshoe 142.31 35 P PKPpre 02 33 57.3
baz=317,SNR=23
MSTX Muleshoe 142.31 35 P PKPpre 02 33 58.1
baz=317
HDIL Hopedale 142.32 14 P PKPpre 02 33 55.8
baz=341,SNR=10
HDIL Hopedale 142.32 14 P PKPpre 02 33 56.7
baz=341
U32A Winter Ranch, 142.45 29 P PKPpre 02 33 58.2
baz=324,SNR=9.9
P40A Paris 142.50 18 P PKPpre 02 33 57.2
baz=336,SNR=20
M50A Fremont 142.63 7 P 02 33 57.6
baz=351
M50A P PKPpre 02 33 57.6
baz=351
N47A Urbana 142.76 10 P 02 33 57.7
baz=347,SNR=8.0
N47A P PKPpre 02 33 57.7
baz=347,SNR=8.0
BRNY Black Rk. Fore 142.77 355 P PKPpre 02 33 57.8
baz=6.2
M54A Oil Creek Stat 142.79 2 P PKPpre 02 33 58.9
baz=357,SNR=8.4
M54A Oil Creek Stat 142.79 2 P PKPpre 02 33 58.7
baz=357,SNR=8.4
M53A WI Miller and 142.81 4 P PKPpre 02 33 58.5
baz=355
M55A Ridgway 142.86 1 P 02 33 58.1
baz=358,SNR=9.1
M55A P PKPpre 02 33 58.1
baz=358,SNR=9.1
N49A Columbus Grove 142.96 8 P PKPdf 02 33 58.5 -4.3
baz=349,SNR=15
N49A P PKPpre 02 33 58.5
baz=349,SNR=15
SFIN Lafayette 142.98 12 P PKPpre 02 33 59.0
baz=344,SNR=15
SFIN Lafayette 142.98 12 P PKPpre 02 33 58.9
baz=344
M57A Sunshine Farm, 143.00 359 P PKPdf 02 33 59.0 -3.9
baz=1.1,SNR=8.1
M57A P PKPpre 02 33 59.0
baz=1.1,SNR=8.1
P43A Skaggs, Pawnee 143.12 15 P PKPbc 02 33 59.6 -0.4
baz=340,SNR=24
T35B Sooner Cattle 143.14 25 P PKPbc 02 33 59.8 -0.4
baz=328,SNR=37
PAL Palisades 143.17 355 P PKPbc 02 33 59.9 -0.2
baz=5.5
N51A Ashland 143.18 6 P PKPab 02 33 57.7 -1.2
baz=352,SNR=9.6
N51A P PKPab 02 33 57.7 -1.2
baz=352,SNR=9.6
N54A Moraine State 143.32 3 P PKPbc 02 34 00.7 +0.1
baz=356
N54A Moraine State 143.32 3 P PKPbc 02 34 00.7 +0.1
baz=356
N59A State Game Lan 143.38 357 P PKPab 02 34 00.0 +0.4
baz=3.4
N59A State Game Lan 143.38 357 P PKPbc 02 34 00.2 -0.5
baz=3.4
SLBS Sierra La Lagu 143.38 55 PKPdf PKPbc 02 34 02.6 +1.2
N53A Lisbon 143.43 4 P PKPab 02 33 59.6 -0.3
baz=355,SNR=20
N53A P PKPab 02 33 59.6 -0.3
baz=355,SNR=20
O48B Farmland 143.46 10 P PKPab 02 33 59.9 -0.1
baz=348,SNR=13
O48B Farmland 143.46 10 P PKPab 02 34 00.3 +0.3
baz=348
N58A Sunbury 143.49 359 P PKPab 02 34 00.2 +0.2
baz=1.8
N58A P PKPab 02 34 00.2 +0.2
baz=1.8
R40A Maddies Statio 143.55 19 P PKPab 02 34 00.3 -0.1
baz=335,SNR=97
O49A Covington 143.66 9 P PKPab 02 34 00.9 +0.2
baz=349,SNR=21
O49A P PKPab 02 34 00.9 +0.2
baz=349,SNR=21
P46A Rosedale 143.69 12 P PKPbc 02 34 01.6 -0.1
baz=344,SNR=26
SSPA Standing Stone 143.70 0 PKPbc 02 34 01.9 +0.2
SSPA Standing Stone 143.70 0 P PKPab 02 34 01.2 +0.4
baz=360,SNR=8.5
SSPA Standing Stone 143.70 0 P PKPbc 02 34 01.3 -0.3
baz=360
S39A Bolivar 143.73 21 P PKPbc 02 34 01.5 -0.3
baz=333,SNR=121
ACSO Alum Creek Sta 143.80 7 IAMs_20 IAMs_20 03 45 28.3
comp=Z,627nm,20.0s
ACSO Alum Creek Sta 143.80 7 P PKPab 02 34 01.5 +0.3
baz=351,SNR=28
ACSO Alum Creek Sta 143.80 7 P PKPbc 02 34 01.8 -0.2
baz=351
CPUP Villa Florida 143.80 212 PKP PKPbc 02 34 03.5 +1.2
comp=Z,54nm,0.9s,baz=131,slow=2.6,SNR=120
CPUP PKKP PKKPdf 02 43 10.4 -5.2
comp=Z,2.2nm,0.9s,baz=70,slow=3.5,SNR=2.9
CPUP Villa Florida 143.80 212 eP PKPdf 02 34 03.7 -1.0
PANJ Princeton 143.86 356 P PKPab 02 34 01.6 +0.1
baz=5.2
SLM Saint Louis 143.86 17 P PKPab 02 34 01.4 -0.2
baz=339,SNR=8.7
WMOK Wichita Mounta 143.87 30 PKIKP PKPbc 02 34 02.6 +0.2
WMOK Wichita Mounta 143.87 30 PKPbc 02 34 02.6 +0.2
WMOK Wichita Mounta 143.87 30 IAMs_20 IAMs_20 03 48 36.3
comp=Z,555nm,19.0s
WMOK Wichita Mounta 143.87 30 P PKPbc 02 34 02.4 0.0
baz=323,SNR=260
WMOK Wichita Mounta 143.87 30 P PKPbc 02 34 02.4 0.0
baz=323,SNR=260
Q44A Meyer Farm, Va 143.94 15 P PKPbc 02 34 02.4 0.0
baz=341,SNR=35
O53A New Philadelph 143.95 5 P PKPbc 02 34 02.2 -0.2
baz=354
O52A Adamsville 144.03 5 P PKPab 02 34 02.2 +0.1
baz=353,SNR=18
O52A P PKPab 02 34 02.2 +0.1
baz=353,SNR=18
O56A Blue Knob Stat 144.06 1 P PKPab 02 34 02.5 +0.1
baz=359,SNR=14
O56A Blue Knob Stat 144.06 1 P PKPab 02 34 02.4 +0.1
baz=359,SNR=14
CCM Cathedral Cave 144.10 18 PKIKP PKPab 02 34 02.2 -0.2
CCM MLR MLR
comp=Z,600nm,22.0s
CCM Cathedral Cave 144.10 18 PKPdf PKPab 02 34 02.2 -0.2
CCM Cathedral Cave 144.10 18 IAMs_20 IAMs_20 03 37 31.0
comp=Z,573nm,22.0s
CCM Cathedral Cave 144.10 18 P PKPab 02 34 02.3 -0.1
baz=337,SNR=65
CCM Cathedral Cave 144.10 18 P PKPab 02 34 02.3 -0.1
baz=337
TUPA Temple Univers 144.10 357 P PKPbc 02 34 02.7 -0.2
baz=4.4,SNR=10.0
P48A Milroy 144.19 10 P PKPab 02 34 02.6 -0.1
baz=347,SNR=61
P48A P PKPab 02 34 02.6 -0.1
baz=347,SNR=61
P49A Miami Univ. Ec 144.24 9 P PKPbc 02 34 03.1 -0.2
baz=348,SNR=53
P49A Miami Univ. Ec 144.24 9 P PKPab 02 34 02.8 -0.1
baz=348
TUL1 Leonard 144.30 26 P PKPab 02 34 03.1 -0.2
baz=328,SNR=130
TUL1 Leonard 144.30 26 P PKPbc 02 34 03.6 -0.1
baz=328,SNR=130
MVL Millersville 144.32 358 PKPbc 02 34 03.8 +0.2
OLIL Olney 144.33 14 P PKPbc 02 34 03.6 0.0
baz=342,SNR=139
FVM French Village 144.41 17 P PKPab 02 34 03.5 -0.1
baz=338,SNR=66
GEDE Greenville 144.47 357 P PKPab 02 34 03.8 0.0
baz=3.7,SNR=14
P52A Corning 144.48 6 IAMs_20 IAMs_20 03 44 34.2
comp=Z,698nm,20.0s
P52A Corning 144.48 6 P PKPab 02 34 03.3 -0.5
baz=353
P51A Williamsport 144.53 7 P PKPab 02 34 03.4 -0.6
baz=351,SNR=41
P51A P PKPab 02 34 03.4 -0.6
baz=351,SNR=41
BDFB Brasilia 144.59 236 PKP PKPdf 02 34 06.2 -0.3
comp=Z,173nm,0.8s,baz=125,slow=3.4,SNR=268
BDFB Brasilia 144.59 236 PKPdf PKPbc 02 34 05.7 +0.4
BDFB Brasilia 144.59 236 eP PKPdf 02 34 06.2 -0.3
MCWV Mont Chateau 144.63 3 P PKPbc 02 34 04.6 0.0
baz=356,SNR=47
MCWV Mont Chateau 144.63 3 P PKPbc 02 34 04.5 -0.1
baz=356,SNR=47
P53A Whipple 144.69 5 P PKPab 02 34 04.1 -0.5
baz=354,SNR=69
P53A P PKPab 02 34 04.1 -0.5
baz=354,SNR=69
HHAR Hobbs 144.74 23 P PKPab 02 34 03.9 -1.0
baz=331
P57A Homestead Farm 144.85 0 P PKPab 02 34 04.7 -0.5
baz=360,SNR=65
P57A P PKPab 02 34 04.7 -0.5
baz=360,SNR=65
SDMD Soldier's Deli 144.92 359 P PKPab 02 34 05.1 -0.4
baz=1.6,SNR=36
TX31 Lajitas Ar. Si 144.94 42 PKPab 02 34 06.0 0.0
TX31 Lajitas Ar. Si 144.94 42 P PKPdf 02 34 06.6 -0.1
baz=311
TXAR Lajitas Array 144.94 42 PKP PKPdf 02 34 06.8 0.0
comp=Z,387nm,0.8s,baz=290,slow=1.1,SNR=2311
Q51A Peebles 144.94 8 P PKPab 02 34 04.8 -0.8
baz=350,SNR=195
Q51A P PKPab 02 34 04.8 -0.8
baz=350,SNR=195
S44A Carbondale 145.02 16 P PKPbc 02 34 05.5 -0.3
baz=340,SNR=283
HPIG 145.02 47 PKPdf PKPab 02 34 06.8 +0.3
ABTX Abilene, Hawle 145.06 33 PKPbc 02 34 06.2 0.0
ABTX Abilene, Hawle 145.06 33 P PKPdf 02 34 06.5 -0.3
baz=320,SNR=212
U40A Yellville 145.08 22 P PKPbc 02 34 05.9 -0.2
baz=333,SNR=1000
U40A P PKPbc 02 34 05.9 -0.2
baz=333,SNR=1000
U40A Yellville 145.08 22 P PKPbc 02 34 05.8 -0.4
baz=333
Q52A Bidwell 145.13 6 P PKPbc 02 34 05.5 -0.7
baz=352,SNR=138
Q52A P PKPbc 02 34 05.5 -0.7
baz=352,SNR=138
GO04 Tololo Observa 145.20 191 PKPbc PKPab 02 34 07.2 +0.1
Q54A Coxs Mills 145.24 4 P PKPbc 02 34 05.9 -0.6
baz=355,SNR=93
Q54A P PKPbc 02 34 05.9 -0.6
baz=355,SNR=93
Q56A Snyder Ridge, 145.27 2 PKPbc 02 34 06.6 -0.1
Q56A Snyder Ridge, 145.27 2 P PKPbc 02 34 06.3 -0.3
baz=358
Q56A P PKPbc 02 34 06.3 -0.3
baz=358
R49A Shelbyville 145.37 10 P PKPbc 02 34 06.4 -0.6
baz=347,SNR=231
R49A P PKPbc 02 34 06.4 -0.6
baz=347,SNR=231
PBMO Poplar Bluff 145.52 18 P PKPdf 02 34 07.0 -0.4
baz=337,SNR=559
R50A Paris 145.53 9 P PKPdf 02 34 06.9 -0.5
baz=348,SNR=168
R50A P PKPdf 02 34 06.9 -0.5
baz=348,SNR=168
X37A Clayton 145.60 26 P PKPdf 02 34 07.6 0.0
baz=328,SNR=144
ROSB Rosrio 145.68 259 eP PKPab 02 34 08.9 -0.2
W39A Magazine 145.75 24 P PKPdf 02 34 08.0 +0.2
baz=331,SNR=73
W39A Magazine 145.75 24 P PKPbc 02 34 08.3 0.0
baz=331
Z35A Perchaven, San 145.75 30 P PKPdf 02 34 08.1 +0.2
baz=324,SNR=220
R53A Hurricane 145.79 6 P PKPdf 02 34 07.9 +0.1

	baz=353,SNR=118							
R53A				P		PKPdf	02 34 07.9	+0.1
	baz=353,SNR=118							
T45A	Paducah	145.82	16	PKPbc		PKPab	02 34 08.8	0.0
T45B	Paducah	145.82	16	P		PKPbc	02 34 08.6	+0.2
	baz=341,SNR=49							
R61A	Willards	145.94	357	P		PKPab	02 34 09.1	-0.1
	baz=4.4							
R61A				P		PKPab	02 34 09.1	-0.1
	baz=4.4							
LCAR	Lake Charles	145.94	20	P		PKPbc	02 34 08.6	-0.2
	baz=336,SNR=439							
R55A	Marlinton	145.98	3	P		PKPbc	02 34 08.7	-0.3
	baz=356,SNR=49							
R55A				P		PKPbc	02 34 08.7	-0.3
	baz=356,SNR=49							
CBN	Corbin Frederi	146.13	359	P		PKPdf	02 34 08.7	+0.4
	baz=0.8,SNR=15							
CBN	Corbin Frederi	146.13	359	P		PKPbc	02 34 09.1	-0.2
	baz=0.8							
T47A	Sharon Grove	146.23	14	P		PKPdf	02 34 09.1	+0.5
	baz=343,SNR=70							
S51A	Beattyville	146.27	8	P		PKPdf	02 34 08.6	-0.1
	baz=350,SNR=119							
S51A				P		PKPdf	02 34 08.6	-0.1
	baz=350,SNR=119							
LCO	Las Campanas	146.32	191	PKIKP		PKPdf	02 34 09.3	0.0
LCO	Las Campanas	146.32	191			PKPdf	02 34 09.3	0.0
W41B	Gary Mavity, V	146.36	22	P		PKPdf	02 34 09.0	+0.1
	baz=333,SNR=123							
W41B	Gary Mavity, V	146.36	22	P		PKPdf	02 34 09.2	+0.4
	baz=333							
R58B	Mineral	146.37	0	P		PKPbc	02 34 09.6	-0.4
	baz=360,SNR=67							
R58B				P		PKPbc	02 34 09.6	-0.4
	baz=360,SNR=67							
S54A	Dingess, Beckl	146.38	5	P		PKPdf	02 34 09.3	+0.5
	baz=354,SNR=60							
S54A				P		PKPdf	02 34 09.3	+0.5
	baz=354,SNR=60							
MIAR	Mount Ida	146.40	24	IAMs_20		IAMs_20	03 47 08.3	
	comp=Z,670nm,20.0s							
LNXT	Lenox	146.43	17	P		PKPbc	02 34 09.7	-0.6
	baz=339,SNR=14							
PEXB	Peixe	146.56	241	*eP*		PKPbc	02 34 11.2	-0.1
S57A	Dark Hollow, R	146.56	2	P		PKPbc	02 34 10.1	-0.5
	baz=358,SNR=68							
S57A				P		PKPbc	02 34 10.1	-0.5
	baz=358,SNR=68							
JCT	Junction City	146.57	36	P		PKPdf	02 34 10.1	+0.7
	baz=317,SNR=701							
JCT	Junction City	146.57	36	P		PKPbc	02 34 10.6	-0.3
	baz=317							
HBAR	Harrisburg	146.57	19	P		PKPbc	02 34 10.2	-0.5
	baz=336,SNR=32							
T50A	Nancy	146.67	10	P		PKPdf	02 34 09.4	+0.1
	baz=347							
T50A				P		PKPdf	02 34 09.4	+0.1
	baz=347							
WHTX	Lake Whitney,	146.72	31	P		PKPbc	02 34 10.5	-0.7
	baz=322,SNR=82							
WHTX	Lake Whitney,	146.72	31	P		PKPdf	02 34 10.4	+0.8
	baz=322							
X40A	Basin Creek Fa	146.74	23	P		PKPbc	02 34 10.6	-0.7
	baz=332,SNR=99							
X40A				P		PKPbc	02 34 10.6	-0.7
	baz=332,SNR=99							
X40A	Basin Creek Fa	146.74	23	P		PKPbc	02 34 10.8	-0.5
	baz=332							
WVT	Waverly	146.87	15	PKP2		PKPdf	02 34 10.1	+0.4
WVT	Waverly	146.87	15			PKPdf	02 34 10.1	+0.4
WVT	Waverly	146.87	15	P		PKPdf	02 34 10.2	+0.4
	baz=342,SNR=281							
WVT	Waverly	146.87	15	P		PKPdf	02 34 10.0	+0.3
	baz=342							
Z38A	Mt. Pleasant	146.89	27	P		PKPbc	02 34 11.0	-0.7
	baz=328,SNR=63							
U49A	Red Boiling Sp	146.98	12	P		PKPdf	02 34 10.2	+0.3
	baz=345,SNR=76							
BLA	Blacksburg	147.03	4	P		PKPdf	02 34 10.1	+0.1
	baz=355,SNR=22							
BLA	Blacksburg	147.03	4	P		PKPdf	02 34 10.4	+0.4
	baz=355,SNR=22							
T60A	Surry	147.18	359	P		PKPbc	02 34 11.5	-0.9
	baz=1.9,SNR=9.3							
T60A				P		PKPbc	02 34 11.5	-0.9
	baz=1.9,SNR=9.3							
SMTB	Santa Maria do	147.26	247	*eP*		PKPdf	02 34 12.1	+1.1
T57A	Hurt	147.31	2	P		PKPdf	02 34 11.2	+0.8
	baz=357,SNR=50							
T57A				P		PKPdf	02 34 11.2	+0.8
	baz=357,SNR=50							
AQDB	Aquidauana	147.31	221			PKPdf	02 34 11.1	+0.2
AQDB	Aquidauana	147.31	221	*eP*		PKPdf	02 34 11.2	+0.4
DVLD	Doverlandia	147.34	230	*eP*		PKPbc	02 34 12.3	-1.1
TZTN	Tazewell	147.35	9	P		PKPdf	02 34 11.2	+0.7
	baz=349,SNR=60							
TZTN	Tazewell	147.35	9	P		PKPdf	02 34 10.8	+0.3
	baz=349							
T59A	Double "B" Far	147.36	360	P		PKPdf	02 34 11.6	+1.1
	baz=0.5,SNR=89							
T59A				P		PKPdf	02 34 11.6	+1.1
	baz=0.5,SNR=89							
W45A	Hickory Valley	147.40	18	P		PKPdf	02 34 11.2	+0.6
	baz=339,SNR=91							
V48A	Smith Brothers	147.49	14	P		PKPdf	02 34 10.8	+0.1
	baz=343,SNR=131							
237A	Washetta, Mont	147.54	29	P		PKPdf	02 34 10.8	-0.1
	baz=325,SNR=25							
435B	Jarrell	147.59	33	P		PKPdf	02 34 12.0	+1.0
	baz=321,SNR=70							
435B	Jarrell	147.59	33	P		PKPdf	02 34 12.2	+1.2
	baz=321							
U54A	Nelsons Funny	147.59	6	P		PKPdf	02 34 11.4	+0.3
	baz=352,SNR=28							
U54A				P		PKPdf	02 34 11.4	+0.3
	baz=352,SNR=28							
CCAR	Cane Creek	147.66	22	P		PKPbc	02 34 13.8	0.0
	baz=333,SNR=59							
Z41A	Richland Creek	147.83	24	P		PKPbc	02 34 14.3	0.0
	baz=331,SNR=70							
Z41A				P		PKPbc	02 34 14.3	0.0
	baz=331,SNR=70							
Z41A	Richland Creek	147.83	24	P		PKPdf	02 34 12.4	+1.0
	baz=331							
AC06	Mina Casimiro	147.85	192	PKPbc		PKPbc	02 34 14.8	+0.2
U56A	King	147.89	4	P		PKPbc	02 34 14.0	-0.4
	baz=355,SNR=51							
U56A				P		PKPbc	02 34 14.0	-0.4
	baz=355,SNR=51							
OXF	Oxford	147.93	18	P		PKPdf	02 34 11.3	-0.2
	baz=338,SNR=110							
OXF	Oxford	147.93	18	P		PKPdf	02 34 11.7	+0.2
	baz=338							
V51A	Loudon	147.94	10	P		PKPbc	02 34 14.1	-0.4
	baz=348,SNR=53							
U59A	Littleton	147.98	0	P		PKPbc	02 34 14.8	+0.2
	baz=0.0,SNR=23							
U59A				P		PKPbc	02 34 14.8	+0.2
	baz=0.0,SNR=23							
V52A	Sevierville	148.03	9	P		PKPdf	02 34 11.8	+0.1
	baz=349,SNR=145							
TKL	Tuckaleechee C	148.18	9	P		PKPbc	02 34 14.9	-0.3
	baz=349,SNR=104							
NATX	Nacogdoches	148.29	28	P		PKPdf	02 34 12.8	+0.6
	baz=327,SNR=143							
NATX	Nacogdoches	148.29	28	P		PKPdf	02 34 13.3	+1.1
	baz=327							
V53A	Saluda	148.31	8	P		PKPdf	02 34 12.3	+0.1
	baz=350,SNR=188							
V53A				P		PKPdf	02 34 12.3	+0.1
	baz=350,SNR=188							
V55A	Taylorsville	148.32	5	PKPdf		PKPdf	02 34 11.5	-0.7
V55A				PKPbc		PKPbc	02 34 14.9	-0.6
V55A	Taylorsville	148.32	5	P		PKPdf	02 34 12.2	0.0
	baz=354,SNR=66							
V55A				P		PKPdf	02 34 12.2	0.0
	baz=354,SNR=66							
W50A	Signal Mountai	148.34	12	P		PKPdf	02 34 12.0	-0.2
	baz=346,SNR=81							
833A	Chaparral WMA,	148.37	38	P		PKPdf	02 34 13.7	+1.3
	baz=316,SNR=147							
Y45A	Yeager Farm, C	148.48	19	P		PKPbc	02 34 15.8	-0.2
	baz=337,SNR=89							
V58A	Windy Hill, Pi	148.51	2	P		PKPbc	02 34 16.1	+0.1
	baz=358,SNR=34							
V58A				P		PKPbc	02 34 16.1	+0.1
	baz=358,SNR=34							
V61A	Roper	148.52	358	P		PKPbc	02 34 16.3	+0.3
	baz=2.3,SNR=17							
V61A				P		PKPbc	02 34 16.3	+0.3
	baz=2.3,SNR=17							
X48A	Hartselle	148.66	15	P		PKPdf	02 34 12.6	-0.1
	baz=342,SNR=130							
W52A	Murphy	148.71	10	P		PKPdf	02 34 13.7	+0.9
	baz=346,SNR=202							
PP1B	Ponte de Pedra	148.74	226	*eP*		PKPdf	02 34 14.3	+1.0
143A	Socs Landing,	148.87	23	P		PKPdf	02 34 14.2	+1.1
	baz=333,SNR=18							
735A	Kenedy	148.93	36	P		PKPbc	02 34 15.5	-1.8
	baz=319,SNR=24							
BG3	Lake Jocassee	148.96	8	PKPdf		PKPdf	02 34 13.4	+0.2
BG3				PKPbc		PKPbc	02 34 17.4	+0.1
CASEE	Lake Jocassee	148.96	8	P		PKPdf	02 34 14.3	+1.0
	baz=350,SNR=161							
KMSC	Kings Mountain	149.01	6	P		PKPdf	02 34 13.9	+0.6
	baz=353,SNR=132							
KMSC	Kings Mountain	149.01	6	P		PKPdf	02 34 13.8	+0.6
	baz=353,SNR=132							
X51A	Calhoun	149.05	11	P		PKPdf	02 34 14.2	+0.9
	baz=346,SNR=48							
X51A				P		PKPdf	02 34 14.2	+0.9
	baz=346,SNR=48							
CNNC	Cliffs of the	149.09	0	P		PKPdf	02 34 14.3	+1.0
	baz=360,SNR=18							
CNNC	Cliffs of the	149.09	0	P		PKPdf	02 34 14.3	+1.0
	baz=360							
W57A	Gilead	149.11	4	P		PKPdf	02 34 13.3	-0.1
	baz=356,SNR=29							
W57A				P		PKPdf	02 34 13.3	-0.1
	baz=356,SNR=29							
HKT	Hockley	149.18	32	PKIKP		PKPdf	02 34 15.1	+1.5
HKT	Hockley	149.18	32			PKPdf	02 34 15.1	+1.5
HKT	Hockley	149.18	32	IAMs_20		IAMs_20	03 56 29.8	
	comp=Z,632nm,20.0s							
HKT	Hockley	149.18	32	P		PKPdf	02 34 15.5	+1.9
	baz=323							
SNDB	Serra Nova Dou	149.19	238	*eP*		PKPdf	02 34 14.8	+0.7
PAULI	Pauline	149.28	7	P		PKPdf	02 34 14.1	+0.4
	baz=352,SNR=99							
Y49A	Blount Mountai	149.38	14	P		PKPdf	02 34 14.1	+0.1
	baz=343,SNR=216							
BBSR	BB Station	149.40	338	P		PKPdf	02 34 14.3	+0.4
	baz=26							
Z47A	Carrollton	149.56	17	P		PKPbc	02 34 18.8	0.0
	baz=340							
BIRD	Birdtown, Kers	149.58	4	P		PKPdf	02 34 13.7	-0.4
	baz=355,SNR=30							
VBMS	Vicksburg	149.64	22	P		PKPdf	02 34 15.6	+1.3
	baz=334,SNR=27							
VBMS	Vicksburg	149.64	22	P		PKPdf	02 34 15.5	+1.3
	baz=334							
342A	Flagon Creek P	149.67	25	PKPbc		PKiKP	02 34 19.6	-0.5
342B	Flagon Creek P	149.67	25	P		PKPdf	02 34 16.2	+1.9
	baz=330,SNR=19							
TMAB	Tom-Au,PA,Br	149.67	258	*eP*		PKPdf	02 34 16.2	+1.3
ZAIG	Zacatecas	149.70	50	PKPdf		PKPdf	02 34 15.6	+0.6
ZAIG				PKPbc		PKiKP	02 34 21.2	+0.4
X58A	Rowland	149.74	3	P		PKPdf	02 34 14.8	+0.4
	baz=357,SNR=22							
X58A				P		PKPdf	02 34 14.8	+0.4
	baz=357,SNR=22							
146A	Union	149.77	19	P		PKPdf	02 34 15.8	+1.2
	baz=337,SNR=206							
HODGE	Hodges	149.80	7	P		PKPdf	02 34 15.0	+0.4
	baz=351,SNR=79							
441A	DeRidder	149.82	27	P		PKiKP	02 34 20.7	+0.3
	baz=328,SNR=31							
JSC	Jenkinsville	149.87	6	PKP2		PKPbc	02 34 19.1	-0.4
JSC	Jenkinsville	149.87	6	PKPdf		PKPdf	02 34 14.3	-0.3
JSC				PKPbc		PKPbc	02 34 19.1	-0.4
JSC	Jenkinsville	149.87	6	P		PKPdf	02 34 15.4	+0.8
	baz=353,SNR=70							
Y52A	Lilburn	149.88	11	P		PKPdf	02 34 15.8	+1.1
	baz=348,SNR=122							
Y52A				P		PKPdf	02 34 15.8	+1.1
	baz=348,SNR=122							
LRAL	Lakeview Retre	150.01	16	P		PKPdf	02 34 15.3	+0.4
	baz=342,SNR=68							
LRAL	Lakeview Retre	150.01	16	P		PKPdf	02 34 15.1	+0.2
	baz=342							
Z51A	Franklin	150.19	13	P		PKPdf	02 34 15.9	+0.7
	baz=345,SNR=60							
Y57A	Sumter	150.21	4	P		PKPbc	02 34 19.9	-0.3
	baz=355,SNR=84							
Y57A				P		PKPbc	02 34 19.9	-0.3
	baz=355,SNR=84							
344A	Westbrook Farm	150.24	23	P		PKPdf	02 34 16.5	+1.2
	baz=333,SNR=110							
PRPB	Parauapebas	150.28	250	*eP*		PKPdf	02 34 16.5	+0.6
Y59A	Loris	150.32	2	P		PKPdf	02 34 16.6	+1.2
	baz=358,SNR=20							
Y59A				P		PKPdf	02 34 16.6	+1.2
	baz=358,SNR=20							
Y60A	Bolivia	150.32	1	P		PKPdf	02 34 16.3	+1.0
	baz=359,SNR=17							
Y60A				P		PKPdf	02 34 16.3	+1.0
	baz=359,SNR=17							
Y58A	Scranton	150.37	3	P		PKPdf	02 34 16.7	+1.2
	baz=356,SNR=30							
Y58A				P		PKPdf	02 34 16.7	+1.2
	baz=356,SNR=30							
GOGA	Godfrey	150.43	10	P		PKPdf	02 34 16.5	+1.0
	baz=348,SNR=87							
GOGA	Godfrey	150.43	10	P		PKPdf	02 34 16.4	+0.9
	baz=348,SNR=87							
SALV	Santo Antonio	150.44	227	*eP*		PKPdf	02 34 16.4	+0.3
HAW	Hawthorne Fire	150.74	7	P		PKPdf	02 34 17.0	+1.0
	baz=352,SNR=74							
346A	Big Creek Wild	150.77	21	P		PKPdf	02 34 16.7	+0.6
	baz=336,SNR=19							
152A	Waverly Hall	150.91	12	P		PKPdf	02 34 17.2	+0.9
	baz=346,SNR=150							
NHSC	New Hope	151.13	4	P		PKPdf	02 34 16.9	+0.3
	baz=355,SNR=11							
NHSC	New Hope	151.13	4	P		PKPdf	02 34 18.2	+1.6
	baz=355							
250A	Grady	151.21	15	P		PKPdf	02 34 17.6	+0.8
	baz=342,SNR=49							
154A	Montrose	151.27	9	P		PKPdf	02 34 18.2	+1.3
	baz=349,SNR=14							
BRAL	Brewton	151.76	17	P		PKPdf	02 34 19.1	+1.5
	baz=340,SNR=25							
BRAL	Brewton	151.76	17	P		PKPdf	02 34 18.9	+1.3
	baz=340,SNR=25							
LVC	Limon Verde	152.01	198	PKP		PKPdf	02 34 20.1	+1.4
	comp=Z,12nm,0.9s,baz=163,slow=1.9,SNR=6.5							
LVC				PKPbc		PKiKP	02 34 26.7	+1.0
	comp=Z,118nm,0.8s,baz=265,slow=1.7,SNR=66							
LVC	Limon Verde	152.01	198	*eP*		PKPdf	02 34 20.4	+1.7
352A	Blakely	152.01	13	P		PKPdf	02 34 19.3	+1.3
	baz=345,SNR=31							
255A	Hazlehurst	152.04	9	P		PKPdf	02 34 17.3	-0.8
	baz=350,SNR=20							
TIGA	Tifton	152.33	11	P		PKPdf	02 34 19.8	+1.3
	baz=348							
TIGA	Tifton	152.33	11	P		PKPdf	02 34 19.8	+1.3
	baz=348							
451A	Vernon	152.64	15	P		PKiKP	02 34 26.2	0.0
	baz=343,SNR=9.2							
PTLB	Pontes e Lacer	153.17	223	*eP*		PKPdf	02 34 20.7	+0.6
CLDB	Colider	153.53	235	*eP*		PKPdf	02 34 21.7	+1.0
PDRB	Porto dos Gac	153.87	233	*eP*		PKPdf	02 34 21.3	+0.1
MCPB	Maracaja, AP	153.94	261	*eP*		PKPdf	02 34 22.9	+1.5
SIV	San Ignacio	154.04	219	PKP		PKPdf	02 34 21.4	0.0
	comp=Z,13nm,0.9s,baz=120,slow=2.0,SNR=67							
SIV				PKPbc		PKiKP	02 34 30.0	+0.4
	comp=Z,17nm,0.7s,baz=109,slow=3.7,SNR=22							
PB11	IPOC Station P	154.92	198	PKPdf		PKPdf	02 34 22.6	-0.1
PB11						PKPbc	02 34 30.9	-0.6
MDP	Montagnes des	154.96	273	PKP		PKPdf	02 34 22.9	+0.1
	comp=Z,18nm,0.9s,baz=141,slow=2.3,SNR=4.4							
NPGB	Novo Progresso	155.03	244	*eP*		PKPdf	02 34 23.5	+0.6
VILB	Vilhena	155.64	225	*eP*		PKPdf	02 34 24.9	+1.3
MALB	Monte Alegre	155.78	256	*eP*		PKPdf	02 34 25.2	+1.3
DWPF	Disney Wildern	155.94	8	P		PKPdf	02 34 24.6	+0.9
	baz=351							
ITTB	Itaituba	156.43	249	*eP*		PKPdf	02 34 25.8	+1.1
LPAZ	La Paz	157.55	205	PKP		PKPdf	02 34 27.6	+0.8
	comp=Z,16nm,1.1s,baz=42,slow=2.3,SNR=31							
LPAZ	La Paz	157.55	205	*eP*		PKPdf	02 34 27.9	+1.1
MACA	Manacapuru-AM	161.46	247	*eP*		PKPdf	02 34 31.2	+0.5
ETMB	Extrema	161.97	220	*eP*		PKPdf	02 34 31.5	+0.4
PDPR	Patillas Dam,	162.09	321	PKPdf		PKPdf	02 34 30.6	-0.5
PDPR						PKPab	02 35 17.1	-0.5
BOAV	Boa Vista	162.72	265	*eP*		PKPdf	02 34 32.6	+0.7
NNA	Nana	163.92	183	PKP		PKPdf	02 34 33.8	+0.7
	comp=Z,17nm,0.9s,baz=330,slow=4.9,SNR=4.1							
TBTG	Tabatinga, AM	168.59	223	*eP*		PKPdf	02 34 35.8	-1.0
TBTG	Tabatinga, AM	168.59	223	*eP*		PKPdf	02 34 36.8	+0.1
BAUV	El Baul	169.26	297			PKPdf	02 34 35.1	-2.0
BAUV				PKPab		PKPab	02 35 47.9	-1.6
JTS	Las Juntas de	170.62	49	PKP2		PKPab	02 35 55.7	+0.3
JTS	Las Juntas de	170.62	49			PKPab	02 35 55.7	+0.3
ELOV	Elorza	171.31	289	*eP*		PKPdf	02 34 39.5	+1.2
SDV	Santo Domingo	171.53	304	PKP		PKPdf	02 34 38.0	-0.6
	comp=Z,15nm,0.8s,baz=306,slow=0.5,SNR=4.6							
SDV				PP		PP	02 39 50.9	+0.6
	comp=Z,25nm,0.9s,baz=43,slow=5.2,SNR=12							
SDV	Santo Domingo	171.53	304	PKPdf		PKPdf	02 34 37.2	-1.4
SDV				PKPab		PKPab	02 35 59.3	-0.5
SDV	Santo Domingo	171.53	304	*eP*		PKPdf	02 34 37.8	-0.8
LL6C	La Loma 6 Bece	172.91	321	*eP*		PKPdf	02 34 38.0	-1.0
SJCC	San Jacinto, C	173.77	336	PKPdf		PKPdf	02 34 39.0	-0.4
SJCC				PKPab		PKPab	02 36 09.0	-0.3
OCAC	Ocana	174.03	313			PKPdf	02 34 38.0	-1.6
OCAC	Ocana	174.03	313	*eP*		PKPdf	02 34 38.4	-1.3
PAMC	Pamplona, Colo	174.08	302	*eP*		PKPdf	02 34 38.4	-1.7
BCIP	Isla Barro Col	174.62	23	*eP*		PKPdf	02 34 36.9	-2.7
RUSC	La Rusia	175.05	290	*eP*		PKPdf	02 34 39.2	-1.2
MACC	Macarena, Meta	175.62	243	*eP*		PKPdf	02 34 39.2	-0.7
ZARC	Zaragoza, Cauc	175.63	319	*eP*		PKPdf	02 34 38.3	-1.6
UREC	San Jos de Ur	175.82	328	*eP*		PKPdf	02 34 38.7	-1.2
PTBC	PUERTO BERRIO	175.97	306	*eP*		PKPdf	02 34 38.8	-1.2
CHIC	Chingaza	175.97	277	*eP*		PKPdf	02 34 38.2	-2.3
SPBC	San Pablo de B	176.06	292	*eP*		PKPdf	02 34 39.2	-0.9
ROSC	El Rosal	176.52	281	PKP		PKPdf	02 34 40.4	-0.3
	comp=Z,19nm,0.8s,baz=180,slow=1.9,SNR=17							
ROSC				PP		PP	02 40 16.6	+1.0
	comp=Z,9.9nm,0.7s,baz=212,slow=2.9,SNR=4.3							
NORC	Norcasia	176.82	296	*eP*		PKPdf	02 34 39.5	-0.8
GCUF	Volcan Galeras	177.04	188	*eP*		PKPdf	02 34 41.3	+0.4
GUY2C	Guyana, Caldas	177.41	294	*eP*		PKPdf	02 34 39.8	-1.1
ORTC	Ortega, Tolima	177.49	264	*eP*		PKPdf	02 34 38.8	-1.6
ANIL	Santa Ana	177.65	278	*eP*		PKPdf	02 34 38.2	-2.5
PCON	Cinco Dias	177.72	216	*eP*		PKPdf	02 34 41.8	-0.7
POPC	Popayan, Colom	178.06	213	*eP*		PKPdf	02 34 39.2	-1.5
PLMC	San Jos del P	178.37	296	*eP*		PKPdf	02 34 38.9	-1.6
YOTC	Yotoco, Valle	178.59	262	*eP*		PKPdf	02 34 40.1	-0.4

IDC 10 02:31:38.6±2.7, 14°50S×167°01E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/37, mbtmp3.7/3, ML3.7/1 Error ellipse: s-maj=56.4km s-min=38.1km az=86.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	7.55	184	Pn	Pn	02 33 31.0	+0.9
	1.1nm,0.3s,baz=4.0,slow=18,SNR=9.6						
DZM				Sn	Sn	02 34 55.5	-1.0
	0.3nm,0.3s,baz=73,slow=21,SNR=1.4						
WRA	Warramunga Arr	31.64	255	P	P	02 38 03.9	+0.2
	0.6nm,0.8s,baz=72,slow=7.7,SNR=2.6						
ASAR	Alice Springs	32.52	249	P	P	02 38 11.3	-0.2
	0.6nm,0.7s,baz=77,slow=9.6,SNR=7.5						
ARCES	ARCESS Array B	119.97	345	PKP	PKPdf	02 50 30.3	-0.4
	3.3nm,1.1s,baz=90,slow=2.9,SNR=1.7						

*SNET **10** 03:00:08.7±1.1, 13°89N×90°87W, h70km±16km, ML3.2*
*GCG **10** 03:00:11.7±0.5, 13°93N×90°87W, h54km±17km, MD3.5*
ISC 10 03:00:09.6±2.4, 13°9N±0°2×90°82W±0°09, h85km±25km, n14, σ0965/22, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	Pacaya	0.56	22	*eP*	Pn	03 00 24.3	-0.3
FUG	Fuego 3	0.57	358	*eP*	Pn	03 00 24.3	-0.4
NBG	Las Nubes	0.85	33	*eP*	Pn	03 00 28.1	+0.6
NBG				*eS*	Sn	03 00 41.3	+0.5
NUBE	Las Nubes	1.01	88	⇓*iP*	Pn	03 00 28.3	-0.9
NUBE				IAML		03 00 29.2	
	comp=Z,306nm,0.3s						
NUBE				*eS*	Sn	03 00 43.2	-0.7
SLOZ	Alcaldia de Sa	1.02	81	⇑*iP*	Pn	03 00 28.9	-0.3
SLOZ				*eS*	Sn	03 00 44.1	+0.2
SLOZ				IAML		03 00 47.2	
	comp=Z,210nm,0.3s						
STG3	Santiaguito 3,	1.11	319	*eP*	Pn	03 00 30.9	+0.4
STG3				*eS*	Sn	03 00 45.3	-0.7
RTR	El Retiro	1.14	89	*eP*	Pn	03 00 30.4	-0.4
RTR				*eS*	Sn	03 00 47.7	+1.0
CEVE	Cerro Verde	1.16	92	*i*P	Pn	03 00 30.9	-0.3
CEVE				*eS*	Sn	03 00 47.5	+0.2
CEVE				IAML		03 00 54.8	
	comp=Z,1μm,0.3s						
SBLS	San Blas	1.16	91	⇑*iP*	Pn	03 00 31.0	-0.1
SBLS				*eS*	Sn	03 00 48.2	+0.9
SNJE	San Jose

1.0nm130nm,0.9s
MNSI Mandailing Nat 5.73 334 P **Pn** **03 08 50.2 +0.2**
0.7nm62nm,0.7s
CNJI Cibinong 5.77 121 P **Pn** **03 08 51.1 +0.5**
1.0nm4µm88nm,0.5s
TPRI Tanjung Pinang 5.79 25 P **Pn** **03 08 52.3 +1.5**
0.6nm72nm,0.5s
LEM Lembang 5.99 114 P Pn 03 09 00.2 +6.5
9.7nm,0.3s,baz=311,slow=19,SNR=5.6
LEM LR LR 03 11 47.7
comp=Z,178nm,21.1s,baz=182,slow=43
LEM Lembang 5.99 114 P **Pn** **03 08 57.5 +3.8**
0.3nm80nm,0.8s
MYKOM Kota Tinggi 6.37 16 Pn **Pn** **03 09 00.2 +1.5**
CMJI Cimerak 7.14 119 P **Pn** **03 09 08.7 -0.7**
0.2nm1µm38nm,0.7s
GSI Gunungsitoli 7.24 321 Pn **Pn** **03 09 11.1 +0.2**
GSI Gunungsitoli 7.24 321 P **Pn** **03 09 10.7 -0.1**
0.6nm45nm,0.4s
GSI Gunungsitoli 7.24 321 P **Pn** **03 09 11.0 +0.2**
KPJI Karang Pucung 7.38 114 P **Pn** **03 09 16.4 +3.7**
RPSI Rantau Prapat 7.72 336 Pn 03 09 23.6 +6.3
PSI Prapat 7.81 336 P Pn 03 09 23.6 +4.8
1.2nm,0.3s,baz=169,slow=16,SNR=8.6
YOGI Yogyakarta 8.82 113 P **Pn** **03 09 34.2 +1.8**
73nm,1.4s
IPM Ipoh 8.87 353 Pn **Pn** **03 09 32.9 -0.2**
IPM Ipoh 8.87 353 P **Pn** **03 09 36.6 +3.5**
KCSI Kotacane, Aceh 8.97 331 P **Pn** **03 09 35.8 +1.3**
19nm,1.2s
UGM Wanagama 9.06 113 Pn **Pn** **03 09 37.3 +1.5**
UGM Wanagama 9.06 113 P **Pn** **03 09 36.9 +1.1**
134nm,0.7s
UGM Wanagama 9.06 113 P **Pn** **03 09 36.7 +0.9**
KULM Kulim 9.72 351 Pn **Pn** **03 09 44.9 +0.2**
PCJI Pacitan 9.77 113 P **Pn** **03 09 46.0 +0.6**
36nm,1.0s
KSM Kuching 10.04 55 Pn **Pn** **03 09 50.4 +1.2**
PWJI Pagerwojo 10.29 111 P **Pn** **03 09 54.0 +1.5**
38nm,1.0s
STKI Sintang 10.34 65 P **Pn** **03 09 53.1 -0.2**
10µm20nm,0.8s
GMJI Gumukmas 11.90 110 P **Pn** **03 10 16.1 +1.4**
1µm26nm,1.0s
KMMI Kalianget 12.08 103 P **Pn** **03 10 15.4 -1.8**
19nm,1.1s
SBUM Sibu 12.16 56 Pn **Pn** **03 10 20.1 +1.9**
ABJI Asem Bagus 12.52 106 P **Pn** **03 10 25.7 +2.7**
81nm,1.0s
JAGI Jajag, Banyuwa 12.63 109 Pn **Pn** **03 10 23.8 -0.8**
JAGI Jajag, Banyuwa 12.63 109 P **Pn** **03 10 24.1 -0.5**
1µm52nm,0.8s
JAGI Jajag, Banyuwa 12.63 109 P **Pn** **03 10 24.8 +0.2**
SRIT Nakonsritamara 13.13 349 Pn **Pn** **03 10 33.2 +1.7**
SRBI Singaraja 13.53 106 P **Pn** **03 10 35.8 -1.1**
41nm,0.5s
PLAI Plampang 16.17 107 P **Pn** **03 11 08.6 -3.4**
KAPI Kappang 17.59 93 P **P** **03 11 30.4 -0.2**
1.6nm,0.3s,baz=331,slow=12,SNR=5.2
KAPI Kappang 17.59 93 Pn **Pn** **03 11 28.1 -1.7**
SPSI Sidrap Palu 17.61 89 P **P** **03 11 32.6 +1.8**
19nm,0.7s
WBSI Waikabubak, Su 17.92 108 P **Pn** **03 11 33.8 -0.1**
40nm,1.1s
BNSI Bone 17.94 91 P **P** **03 11 36.4 +2.0**
27nm,0.9s
BKSI Bulukumba 17.96 94 P **Pn** **03 11 34.4 -0.1**
37nm,0.9s
MPSI Mapaga 18.37 76 P **Pn** **03 11 40.8 +1.4**
503nm13nm,1.3s
TOLI2 Tolitoli 19.43 74 P **P** **03 11 50.1 -0.7**
TOLI2 IAmb IAmb 03 12 16.1
comp=Z,19nm,1.4s
UBPT Khong Chiam 19.81 10 P **P** **03 11 54.1 -0.8**
GTOI Gorontalo 21.46 77 P **P** **03 12 11.3 -1.5**
comp=Z,5.5nm,0.8s
BATI Baumata 22.13 106 P **P** **03 12 20.8 +0.7**
comp=Z,19nm,0.3s,baz=207,slow=3.0,SNR=5.8
BATI Baumata 22.13 106 P **P** **03 12 20.9 +0.8**
comp=Z,29nm,0.7s
CMAR Chiang Mai Arr 22.91 352 P **P** **03 12 27.8 -0.5**
comp=Z,1.7nm,0.4s,baz=181,slow=8.6,SNR=15
CMAR Chiang Mai Arr 22.91 352 P **P** **03 12 26.9 -1.3**
FITZ Fitzroy Crossi 26.75 122 P **P** **03 13 03.4 -0.4**
comp=Z,4.8nm,0.6s,baz=321,slow=7.5,SNR=21
H08S2 Diego Garcia H 29.63 262 T T 03 43 41.0
baz=84,slow=75,SNR=25
H08S3 Diego Garcia H 29.64 262 T T 03 43 39.5
baz=84,slow=75,SNR=26
H08S1 Diego Carcia H 29.65 262 T T 03 43 50.3
baz=84,slow=75,SNR=28
PZH PanZhiHua 30.70 359 P **P** **03 13 42.9 +3.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,6.1s
H01W3 Cape Leeuwin H 32.33 161 T T 03 47 51.0
baz=339,slow=76,SNR=8.0
H01W2 Cape Leeuwin H 32.34 161 T T 03 47 54.9
baz=339,slow=76,SNR=10.0
H01W1 Cape Leeuwin H 32.35 161 T T 03 48 00.1
baz=339,slow=76,SNR=8.2
WRA Warramunga Arr 34.98 119 P **P** **03 14 15.7 -0.9**
comp=Z,1.2nm,0.3s,baz=310,slow=9.0,SNR=38
WRA Warramunga Arr 34.98 119 P **P** **03 14 15.0 -1.5**
WB2 Warramunga Arr 34.99 119 P **P** **03 14 15.3 -1.3**
WB2 IAmb IAmb 03 14 25.3
comp=Z,5.2nm,0.6s
WR0 Warramunga Arr 35.17 119 P **P** **03 14 16.8 -1.3**
AS31 Alice Springs 36.16 125 P **P** **03 14 24.9 -1.6**
ASAR Alice Springs 36.16 125 P **P** **03 14 26.2 -0.4**
comp=Z,2.6nm,0.6s,baz=296,slow=7.9,SNR=22
ASAR S **S** **03 19 59.1 -5.1**
comp=Z,0.6nm,0.9s,baz=297,slow=16,SNR=3.6
GOMU GeErMu 40.94 351 P P 03 15 11.9 +5.0
GOMU pP pP 03 15 15.0 -2.5
GOMU sP sP 03 15 17.2 -4.8
GOMU PP **PnPn** **03 16 48.1 +1.9**
GOMU PcP **PcP** **03 17 13.0 +6.1**
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,44nm,5.5s
HHC Hu-ho-hao-te 45.84 10 *e*P **P** **03 15 48.4 +2.4**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,220nm,4.7s
STKA Stephens Creek 46.00 131 P **P** **03 15 47.5 +0.1**
comp=Z,4.4nm,0.7s,baz=312,slow=6.1,SNR=8.4
STKA Stephens Creek 46.00 131 IAmb IAmb 03 15 55.0
comp=Z,3.0nm,1.4s
WMQ Urumqi 49.71 346 *e*P **P** **03 16 18.6 +2.7**
SONM Songino Array 52.13 4 P **P** **03 16 32.3 -1.8**
comp=Z,2.2nm,0.6s,baz=177,slow=5.6,SNR=4.7
SONM Songino Array 52.13 4 P **P** **03 16 33.2 -1.0**
SONM IAmb IAmb 03 16 34.5
comp=Z,2.4nm,0.7s
ULN Ulaanbaatar 52.20 4 P **P** **03 16 33.4 -1.3**
ULN IAmb IAmb 03 16 34.4
comp=Z,2.3nm,0.8s
GAR Garm 52.21 329 P **P** **03 16 32.7 -2.2**
GAR IAmb IAmb 03 17 01.4
comp=Z,3.1nm,0.8s
MK31 Makanchi Array 53.89 343 IAmb IAmb 03 16 46.1
comp=Z,1.8nm,0.8s
MKAR Makanchi Array 53.89 343 P **P** **03 16 45.5 -1.5**
comp=Z,1.6nm,0.4s,baz=153,slow=8.6,SNR=30
MKAR Makanchi Array 53.89 343 P **P** **03 16 45.0 -2.0**
MAKZ Makanchi 53.99 343 P **P** **03 16 45.9 -1.9**
MAKZ IAmb IAmb 03 16 59.8
comp=Z,1.7nm,0.8s
KK31 Karatay Array 55.23 332 P **P** **03 16 57.0 +0.2**
KKAR Karatay Array 55.23 332 P **P** **03 16 55.4 -1.4**
KURK Kurchatov 58.48 343 P **P** **03 17 18.2 -1.4**
KURK IAmb IAmb 03 17 31.9
comp=Z,7.4nm,1.4s
ZALV Zalesovo Beam 59.90 348 P **P** **03 17 27.5 -1.9**
comp=Z,2.8nm,0.4s,baz=175,slow=5.1,SNR=16
ZALV Zalesovo Beam 59.90 348 P **P** **03 17 27.3 -2.1**
BRVK Borovoye 63.20 339 P **P** **03 17 51.3 -0.5**
BRVK IAmb IAmb 03 18 05.8
comp=Z,2.1nm,0.7s
ABKAR Akbulak array 64.73 331 P **P** **03 18 00.3 -1.5**
BRTR Keskin Array B 76.48 312 P **P** **03 19 13.0 -0.9**
comp=Z,0.6nm,0.6s,baz=113,slow=8.2,SNR=4.1
VNDA Vanda 79.43 169 P **P** **03 19 30.1 +0.7**
comp=Z,0.7nm,0.8s,baz=320,slow=4.9,SNR=2.2
VNDA Vanda 79.43 169 IAmb IAmb 03 19 44.2
comp=Z,2.8nm,1.4s
FINES FINESS Array B 87.19 332 P **P** **03 20 08.5 -1.0**
comp=Z,0.6nm,0.7s,baz=90,slow=5.6,SNR=1.5
ARCES ARCESS Array B 89.42 340 P **P** **03 20 18.7 -1.3**
comp=Z,3.9nm,1.1s,baz=82,slow=6.5,SNR=2.1
TXAR Lajitas Array 145.18 42 PKP **PKPbc** **03 27 00.7 -0.9**
comp=Z,1.9nm,0.4s,baz=303,slow=0.7,SNR=78

DJA 10 03:16:52.7±0.4, 11°S±4°, 117°E±°, h10km, M4.1/12, mb4.3/5, MLv4.0/12, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.67**	**10**	P	Pn	03 17 37.1	+1.3
PLAI				S	Sn	03 18 04.7	-3.5
WBSI	**Waikabubak, Su**	**2.74**	**49**	P	Pn	03 17 37.8	+0.9
WBSI				S	Sn	03 18 09.0	-1.1
IGBI	**Denpasar**	**3.38**	**321**	P	Pn	03 17 45.1	-0.5
SRBI	**Singaraja**	**3.94**	**328**	P	Pn	03 17 53.5	+0.2
JAGI	**Jajag, Banyuwa**	**4.30**	**314**	P	Pn	03 17 56.6	-1.7
JAGI				S	Sn	03 18 42.0	-6.5
ABJI	**Asem Bagus**	**4.74**	**320**	P	Pn	03 18 05.3	+1.0
GMJI	**Gumukmas**	**4.95**	**310**	P	Pn	03 18 06.2	-1.0
BLJI	**Banyuglugur** 0.1nm21nm,0.5s	**5.20**	**315**	P	Pn	03 18 11.2	+0.6
BSSI	**Bau Bau, Buton**	**6.16**	**31**	P	Pn	03 18 21.3	-2.5
BKSI	**Bulukumba** 0.1nm11nm,0.5s	**6.72**	**25**	P	Pn	03 18 33.5	+2.0
PCJI	**Pacitan** 0.2nm19nm,1.2s	**6.86**	**298**	P	Pn	03 18 33.0	-0.4
UGM	**Wanagama** 0.4nm47nm,1.6s	**7.56**	**297**	P	Pn	03 18 43.6	+0.5

*BJI **10** 03:19:28.8±0.0, 41°.24N×133°.27E, h499km, mb4.4/26, mB4.6/14*
*MOS **10** 03:19:29.7±0.8, 41°.27N×133°.17E, h495km, mb4.0/21, Error ellipse: s-maj=11.0km s-min=7.1km az=114.2*
*JMA **10** 03:19:30.0±0.2, 41°.15N×133°.67E, h547km±4km, M3.7*
*NEIC **10** 03:19:30.1±2.5, 41°.27N±0°.07×133°.2E±0°.1, h479km±8km, mb4.1/30, Error ellipse: s-maj=16.6km s-min=5.0km az=125.0*
*IDC **10** 03:19:31.0±0.7, 41°.25N×133°.05E, h490km±7km, mb3.3/22, mb1 3.5/27, mb1mx3.4/51, mbtmp4.1/27, Error ellipse: s-maj=10.9km s-min=9.1km az=85.0*
ISC 10 03:19:29.7±0.5, 41°.18N±0°.05×133°.22E±0°.05, h486km±5km, n177, σ1s44/195, mb3.9/60, 9C-8D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSHR	**Mys Shultsa**	**2.08**	**313**	*c i*P	**P**	**03 20 35.5**	**+1.7**
MSHR				pmax	pmax		
comp=Z,15nm,0.8s							
VLA	**Vladivostok**	**2.18**	**333**	*c i*P	**P**	**03 20 35.8**	**+1.6**
USRK	**Ussuriysk Ar.**	**3.15**	**344**	P	**P**	**03 20 42.0**	**+1.6**
baz=160,slow=5.5,SNR=211							
USRK				S	**S**	**03 21 38.9**	**+0.6**
baz=160,slow=12,SNR=4.5							
USRK	**Ussuriysk Ar.**	**3.15**	**344**	P	**P**	**03 20 41.8**	**+1.4**
USRK	**Ussuriysk Ar.**	**3.15**	**344**		**P**	**03 20 41.8**	**+1.4**
USA0B	**Ussuriysk Arra**	**3.15**	**344**	P	**P**	**03 20 41.7**	**+1.3**
USA0B	**Ussuriysk Arra**	**3.15**	**344**	P	**P**	**03 20 41.6**	**+1.3**
MDJ	**Mudanjiang**	**4.35**	**323**		**P**	**03 20 50.1**	**+0.2**
MDJ	**Mudanjiang**	**4.35**	**323**	P	**P**	**03 20 51.4**	**+1.5**
MDJ				pmax	pmax		
comp=Z,130nm,0.8s							
MDJ				pmax	pmax		
comp=Z,110nm,4.7s							
JIW	**Iwasaki**	**5.18**	**94**	P	**P**	**03 20 58.8**	**+1.3**
JSH	**Shimam**	**5.30**	**72**	P	**P**	**03 21 00.3**	**+1.8**
KS19	**Wonju Array Si**	**5.54**	**230**	P	**P**	**03 21 03.0**	**+2.0**
KSRS	**Korea Array**	**5.54**	**230**	P	**P**	**03 21 03.5**	**+2.5**
comp=Z,3.3nm,0.3s,baz=46,slow=9.6,SNR=65							
KSAR	**Wonju Array Be**	**5.57**	**230**	P	**P**	**03 21 02.8**	**+1.5**
KSAR	**Wonju Array Be**	**5.57**	**230**	P	**P**	**03 21 02.8**	**+1.5**
JOT	**Ohata**	**5.90**	**85**	P	**P**	**03 21 05.3**	**+1.0**
JRG	**Rokugo**	**5.94**	**105**	P	**P**	**03 21 05.7**	**+0.9**
JTM	**Tenmabayashi**	**5.95**	**91**		**P**	**03 21 03.7**	**-1.1**
MJB9	**Matsu-Tunnel**	**6.04**	**138**	P	**P**	**03 21 07.4**	**+1.5**
MAJO	**Matsushiro**	**6.05**	**138**	P	**P**	**03 21 07.1**	**+1.2**
MAJO	**Matsushiro**	**6.05**	**138**	P	**P**	**03 21 07.1**	**+1.2**
MJAR	**Matsushiro Arr**	**6.05**	**138**	P	**P**	**03 21 08.8**	**+2.8**
comp=Z,0.2nm,0.3s,baz=324,slow=5.2,SNR=6.8							
MJAR				S	**S**	**03 22 25.6**	**+1.0**
comp=Z,0.1nm,0.3s,baz=265,slow=28,SNR=7.3							
MJAR	**Matsushiro Arr**	**6.05**	**138**	P	**P**	**03 21 06.7**	**+0.7**
JNG	**Nsakai**	**6.10**	**140**	P	**P**	**03 21 07.9**	**+1.3**
JNG				S	**S**	**03 22 26.1**	**+0.4**
JWT	**Wachi**	**6.13**	**163**	P	**P**	**03 21 09.3**	**+2.5**
JWT				S	**S**	**03 22 28.0**	**+1.9**
JHS	**Saijyo**	**6.17**	**181**	P	**P**	**03 21 10.3**	**+3.1**
JHS				S	**S**	**03 22 30.1**	**+3.2**
JHS	**Saijyo**	**6.17**	**181**		**P**	**03 21 09.9**	**+2.6**
BNX	**BinXian**	**6.22**	**319**	⇑P	**P**	**03 21 07.9**	**+0.5**
BNX				pmax	pmax		
comp=Z,49nm,0.7s							
BNX				pmax	pmax		
comp=Z,240nm,5.6s							
CN2	**Changchun**	**6.32**	**297**	*e*P	**P**	**03 21 09.5**	**+1.1**
CN2				pmax	pmax		
comp=Z,30nm,0.7s							
JGF	**Kuroka**	**6.45**	**148**		**P**	**03 21 09.4**	**-0.5**
JMK	**Ichinoseki**	**6.53**	**107**	P	**P**	**03 21 10.8**	**+0.2**
JMK				S	**S**	**03 22 30.2**	**-3.0**
INU	**Inuyama**	**6.54**	**152**		**P**	**03 21 12.5**	**+1.7**
JFT	**Otama**	**6.62**	**121**	P	**P**	**03 21 12.5**	**+1.0**
TJN	**Taejon**	**6.63**	**226**	*ce*P	**P**	**03 21 14.0**	**+2.4**
TJN	**Taejon**	**6.63**	**226**		**P**	**03 21 13.5**	**+1.9**
JMM	**Marumori**	**6.72**	**117**	P	**P**	**03 21 13.0**	**+0.4**
JMM				S	**S**	**03 22 34.3**	**-2.5**
JMM	**Marumori**	**6.72**	**117**	P	**P**	**03 21 13.2**	**+0.6**
JYT	**Yasato**	**7.36**	**130**		**P**	**03 21 18.5**	**-0.6**
JMN	**Monobe**	**7.46**	**176**	P	**P**	**03 21 22.5**	**+2.3**
ERM	**Erimo**	**7.50**	**80**	P	**P**	**03 21 18.8**	**-1.5**
ERM	**Erimo**	**7.50**	**80**		**P**	**03 21 18.8**	**-1.5**
JOD2	**Odawara 2**	**7.50**	**140**	S	**S**	**03 22 49.6**	**-1.9**
ASAJ	**Asahikawa**	**7.51**	**64**	P	**P**	**03 21 21.9**	**+1.4**
comp=Z,3.5nm,0.3s,baz=250,slow=10,SNR=26							
ASAJ				S	**S**	**03 22 50.0**	**-1.5**
baz=143,slow=20,SNR=2.5							
JKA	**Kamikawa-asahi**	**7.51**	**64**	P	**P**	**03 21 21.9**	**+1.4**
JKA					**S**	**03 22 50.0**	**-1.5**
JCH	**Churui**	**7.70**	**76**	P	**P**	**03 21 22.2**	**-0.3**
JCH				S	**S**	**03 22 50.9**	**-4.2**
KLR	**Kul'dur**	**8.12**	**353**	*c i*P	**P**	**03 21 27.2**	**+0.5**
KLR				pmax	pmax		
comp=Z,69nm,0.6s							
JNU	**Nakatsu**	**8.26**	**194**	P	**P**	**03 21 30.2**	**+1.6**
comp=Z,2.7nm,0.3s,baz=214,slow=2.9,SNR=22							
JTO	**Tosashimizu**	**8.31**	**182**	P	**P**	**03 21 31.3**	**+2.2**
JTKR	**Abashiri--Toko**	**8.37**	**67**	S	**S**	**03 23 04.1**	**-3.7**
BSO1	**Boso 1**	**8.94**	**134**	P	**P**	**03 21 35.1**	**0.0**
YSS	**Yuzh-Sakhalins**	**8.96**	**47**	*e*P	**P**	**03 21 36.7**	**+1.0**
YSS				pmax	pmax		
comp=Z,20nm,0.5s							
NEM2	**Nemuro 2**	**9.54**	**73**	P	**P**	**03 21 41.4**	**-0.4**
JHJ	**Hachijo jima 2**	**9.60**	**145**	S	**S**	**03 23 34.5**	**+2.5**
comp=Z,12nm,0.3s,baz=71,slow=22,SNR=7.9							
ZEA	**Zeya**	**13.19**	**344**	*e*P	**P**	**03 22 20.3**	**-0.3**
ZEA				pmax	pmax		
comp=N,10.0nm,0.9s							
ZEA				pmax	pmax		
comp=Z,20nm,0.7s							
JOW	**Kunigami**	**14.88**	**197**	S	**S**	**03 25 07.8**	**-7.3**
comp=Z,1.5nm,0.3s,baz=53,slow=29,SNR=5.5							
JCJ	**Chichijima**	**15.87**	**149**	S	**S**	**03 25 30.4**	**-3.7**
comp=Z,5.6nm,0.3s,baz=250,slow=22,SNR=1.7							
HHC	**Hu-ho-hao-te**	**16.35**	**276**	*e*P	**P**	**03 22 50.2**	**-4.1**
HHC				pmax	pmax		
comp=Z,11nm,0.9s							
HHC				pmax	pmax		
comp=Z,150nm,5.6s							
ULN	**Ulaanbaatar**	**19.76**	**299**	⇑*e*P	**P**	**03 23 26.9**	**0.0**
ULN				pmax	pmax		
comp=Z,5.0nm,1.0s							
ULN	**Ulaanbaatar**	**19.76**	**299**	P	**P**	**03 23 26.9**	**0.0**
ULN				IAmb	IAmb	03 23 29.4	
comp=Z,7.4nm,1.1s							
SONM	**Songino Array**	**20.19**	**298**	P	**P**	**03 23 31.1**	**+0.4**
comp=Z,3.5nm,0.7s,baz=90,slow=8.9,SNR=5.0							
SONM	**Songino Array**	**20.19**	**298**	P	**P**	**03 23 30.3**	**-0.5**
SONM				IAmb	IAmb	03 23 46.1	
comp=Z,3.1nm,0.7s							
XAN	**Xi'an**	**20.49**	**257**	P	**P**	**03 23 35.0**	**+1.5**
XAN				pmax	pmax		
comp=Z,10.0nm,0.9s							
ZAK	**Zakamensk**	**22.69**	**304**	*e*P	**P**	**03 23 53.1**	**-0.1**
ZAK				pmax	pmax		
comp=Z,4.0nm,1.2s							
LZH	**Lanzhou**	**23.45**	**267**	*e*P	**P**	**03 24 00.6**	**+0.3**
LZH				pmax	pmax		
comp=Z,13nm,1.0s							
PZH	**PanZhiHua**	**29.77**	**250**	P	**P**	**03 24 56.9**	**+0.8**
PZH				pmax	pmax		
comp=Z,10.0nm,0.8s							
PZH				pmax	pmax		
comp=Z,100nm,5.1s							
GOMU	**GeErMu**	**30.22**	**273**	P	**P**	**03 24 57.9**	**-2.2**
GOMU				PcP	**PcP**	**03 27 44.4**	**-1.7**
GOMU				pmax	pmax		
comp=Z,1.0nm,0.7s							
GOMU				pmax	pmax		
comp=Z,89nm,8.4s							
TIXI	**Tiksi**	**30.62**	**357**	P	**P**	**03 25 02.9**	**+0.3**
comp=Z,0.7nm,0.2s,baz=89,slow=23,SNR=3.8							
WMQ	**Urumqi**	**33.35**	**290**	*e*P	**P**	**03 25 27.9**	**+1.5**
ZAA0	**Zalesovo Array**	**34.38**	**308**	P	**P**	**03 25 34.4**	**-0.5**
ZAA0				IAmb	IAmb	03 25 35.2	
comp=Z,3.9nm,0.8s							
ZALV	**Zalesovo Beam**	**34.38**	**308**	P	**P**	**03 25 34.5**	**-0.4**
comp=Z,2.6nm,0.5s,baz=101,slow=6.2,SNR=12							
ZALV				PcP	**sP**	**03 27 57.3**	**+0.7**
comp=Z,1.6nm,0.6s,baz=111,slow=1.8,SNR=6.9							
ZALV				ScP	**ScP**	**03 30 54.5**	**-1.0**
comp=Z,0.6nm,0.4s,baz=66,slow=3.7,SNR=4.3							
ZALV	**Zalesovo Beam**	**34.38**	**308**	*i* P	**P**	**03 25 34.7**	**-0.2**
ZALV				pmax	pmax		
comp=Z,3.0nm,0.5s							
ZALV	**Zalesovo Beam**	**34.38**	**308**		**P**	**03 25 34.3**	**-0.6**
MK31	**Makanchi Array**	**36.54**	**296**	*d* iP	**P**	**03 25 52.6**	**-0.5**
MKAR	**Makanchi Array**	**36.54**	**296**	P	**P**	**03 25 52.8**	**-0.2**
comp=Z,2.1nm,0.5s,baz=85,slow=10,SNR=28							
MKAR				PcP	**PcP**	**03 28 03.9**	**+0.2**
comp=Z,0.3nm,0.4s,baz=77,slow=2.1,SNR=5.3							
MKAR	**Makanchi Array**	**36.54**	**296**	*ce*P	**P**	**03 25 52.7**	**-0.4**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.5s							
MKAR	**Makanchi Array**	**36.54**	**296**	P	**P**	**03 25 52.5**	**-0.5**
MAKZ	**Makanchi**	**36.75**	**296**	P	**P**	**03 25 53.6**	**-1.2**
MAKZ				pmax	pmax		
comp=Z,3.0nm,0.7s							
MAKZ	**Makanchi**	**36.75**	**296**	P	**P**	**03 25 53.6**	**-1.2**
MAKZ				IAmb	IAmb	03 25 55.3	
comp=Z,2.9nm,0.7s							
CHTO	**Chiang Mai**	**36.77**	**243**	P	**P**	**03 25 55.1**	**-0.1**
CHTO				pmax	pmax		
comp=Z,4.0nm,0.7s							
CHTO	**Chiang Mai**	**36.77**	**243**	P	**P**	**03 25 55.1**	**-0.1**
CHTO				IAmb	IAmb	03 25 56.7	
comp=Z,3.9nm,0.7s							
NRIK	**Noril'sk**	**36.83**	**335**	*d* iP	**P**	**03 25 54.1**	**-0.9**
NRIK				pmax	pmax		
comp=Z,2.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**37.02**	**243**	P	**P**	**03 25 58.5**	**+1.2**
comp=Z,0.9nm,0.3s,baz=38,slow=6.9,SNR=5.6							
KURK	**Kurchatov**	**38.35**	**303**	*d* iP	**P**	**03 26 07.0**	**-0.8**
KURK				*i* *PP	**pP**	**03 27 32.7**	**-2.6**
KURK				pmax	pmax		
comp=Z,15nm,0.7s							
KURK	**Kurchatov**	**38.35**	**303**	P	**P**	**03 26 06.8**	**-1.0**
TAPN	**Taplejung**	**39.62**	**264**	*e*P	**P**	**03 26 19.3**	**+0.5**
comp=Z,5.9nm,0.4s							
ODAN	**Odare**	**40.13**	**264**	*e*P	**P**	**03 26 23.5**	**+0.7**
comp=Z,9.8nm,0.5s							
RAMN	**Ramite**	**40.67**	**265**	*e*P	**P**	**03 26 27.5**	**+0.3**
comp=Z,9.5nm,0.5s							
GUN	**Gumba**	**40.70**	**266**	*e*P	**P**	**03 26 28.0**	**+0.4**
comp=Z,37nm,0.6s							
DANN	**Dangsing**	**42.08**	**268**	*e*P	**P**	**03 26 39.0**	**+0.6**
comp=Z,87nm,0.6s							
KOLN	**Koldanda**	**42.50**	**268**	*e*P	**P**	**03 26 42.1**	**+0.5**
PYUN	**Piuthan**	**42.78**	**269**	*e*P	**P**	**03 26 44.3**	**+0.4**
comp=Z,24nm,0.8s							
AAK	**Ala-Archa**	**42.96**	**292**	*de*P	**P**	**03 26 44.9**	**-0.1**
AAK				pmax	pmax		
comp=Z,2.0nm,1.0s							
KSH	**Kashi**	**42.98**	**287**	P	**P**	**03 26 49.2**	**+4.0**
KSH				PcP	**PcP**	**03 28 23.3**	**-1.5**
KSH				sP	sP	03 29 13.8	+3.6
KSH				pmax	pmax		
comp=Z,9.0nm,0.7s							
KK31	**Karatay Array**	**45.57**	**294**	P	**P**	**03 27 05.0**	**-0.1**
KK31				pmax	pmax		
comp=Z,4.0nm,1.1s							
KK31	**Karatay Array**	**45.57**	**294**	P	**P**	**03 27 05.0**	**-0.1**
KK31				IAmb	IAmb	03 27 05.5	
comp=Z,3.6nm,1.1s							
KKAR	**Karatay Array**	**45.57**	**294**	P	**P**	**03 27 04.3**	**-0.7**
KKAR				pmax	pmax		
comp=Z,4.0nm,1.1s							
KKAR	**Karatay Array**	**45.57**	**294**	P	**P**	**03 27 04.3**	**-0.7**
GAR	**Garm**	**47.23**	**289**	P	**P**	**03 27 17.3**	**-0.6**
NIL	**Nilore**	**47.40**	**281**	P	**P**	**03 27 19.6**	**+0.5**
NIL				pmax	pmax		
comp=Z,11nm,0.7s							
NIL	**Nilore**	**47.40**	**281**	P	**P**	**03 27 19.6**	**+0.5**
ARU	**Arti**	**48.98**	**315**	*d* iP	**P**	**03 27 29.9**	**-0.6**
ARU						03 28 43.8	
ARU				*PP	**pP**	**03 29 02.5**	**-1.3**
ARU						03 29 27.2	
ARU				S	**S**	**03 33 59.9**	**+2.1**
ARU				SS	**SS**	**03 37 33.4**	**-2.5**
ARU				pmax	pmax		
comp=Z,5.0nm,1.0s							
ILAR	**Eielson Array**	**49.50**	**34**	P	**P**	**03 27 35.2**	**+0.9**
comp=Z,0.7nm,0.6s,baz=283,slow=7.5,SNR=14							
KBL	**Kabul**	**50.09**	**284**	P	**P**	**03 27 39.2**	**-0.2**
KBL				pmax	pmax		
comp=Z,6.0nm,1.0s							
KBL	**Kabul**	**50.09**	**284**	P	**P**	**03 27 39.2**	**-0.2**
KBL				IAmb	IAmb	03 27 40.2	
comp=Z,5.8nm,0.9s							
ABKAR	**Akbulak array**	**50.37**	**305**	P	**P**	**03 27 40.3**	**-0.6**
KIRV	**Kirov**	**53.03**	**319**	*d* iP	**P**	**03 27 59.5**	**-0.5**
A36M	**Sachs Harbour**	**54.80**	**22**	P	**P**	**03 28 13.2**	**+0.8**
KLMR	**Klimovskoe**	**56.77**	**324**	*e*P	**P**	**03 28 23.6**	**-2.6**
KLMR				pmax	pmax		
comp=Z,5.0nm,0.7s							
KLMR	**Klimovskoe**	**56.77**	**324**	*e*P	**P**	**03 28 23.7**	**-2.5**
KLMR				AMP		03 28 26.6	
comp=Z,5.0nm,0.7s							
ARCES	**ARCESS Array B**	**57.78**	**337**	P	**P**	**03 28 33.3**	**+0.3**
comp=Z,2.4nm,0.5s,baz=56,slow=9.0,SNR=26							
WRA	**Warramunga Arr**	**60.82**	**179**	P	**P**	**03 28 54.8**	**

comp=Z,1.6nm,0.5s,baz=51,slow=6.2,SNR=14
AKASG Malin Array Be 67.04 318 *ce*P **P 03 29 33.5 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 67.04 318 P P 03 29 32.8 -0.6
AKBB Malin Array Si 67.04 318⇓ *e*P **P 03 29 32.8 -0.6**
AKBB Malin Array Si 67.04 318 IAmb IAmb 03 29 33.7
comp=Z,3.5nm,0.8s
VIKU Vikbolandet 67.59 329 *e*P **P 03 29 36.4 -0.2**
NB2 NORSAR Subarra 67.77 334 P **P 03 29 37.6 -0.2**
comp=Z,0.8nm,0.5s,baz=41,slow=6.5
NOA NORSAR Array B 67.77 334 P **P 03 29 37.6 -0.2**
comp=Z,0.3nm,0.4s,baz=52,slow=8.2,SNR=19
MARD Mardin 68.27 301 P P 03 29 41.2 -0.2
BUR08 Bucovina Ar. S 71.02 317 P **P 03 29 57.9 +0.2**
BUR08 IAmb IAmb 03 30 59.8
comp=Z,17nm,1.9s
BURAR Bucovina Array 71.03 317 P **P 03 29 57.9 +0.2**
BRTR Keskin Array B 71.30 307 P **P 03 29 59.4 -0.2**
comp=Z,0.6nm,0.6s,baz=121,slow=3.8,SNR=6.5
OJC Ojcow 71.94 322 P **P 03 30 03.1 +0.2**
OJC pmax pmax
comp=Z,6.0nm,0.8s
OJC Ojcow 71.94 322 P **P 03 30 03.1 +0.2**
OJC IAmb IAmb 03 30 04.4
comp=Z,6.3nm,0.8s
STKA Stephens Creek 73.10 173 P **P 03 30 11.9 +2.2**
comp=Z,1.7nm,0.5s,baz=339,slow=8.0,SNR=3.2
RAYN Ar Rayn 73.27 287 P **P 03 30 10.5 -0.6**
RAYN pmax pmax
comp=Z,3.0nm,0.7s
RAYN Ar Rayn 73.27 287 P **P 03 30 10.5 -0.6**
RAYN IAmb IAmb 03 30 11.9
comp=Z,3.1nm,0.7s
KRLC Kraliky 73.44 323 *e*P **P 03 30 11.7 +0.1**
KRLC Kraliky 73.44 323 *e*P **P 03 30 11.7 +0.1**
DPC Dobruska-Polom 73.45 323 *e*P **P 03 30 12.3 +0.7**
DPC Dobruska-Polom 73.45 323 *e*P **P 03 30 12.3 +0.7**
FFC Flin Flon 73.48 30 P **P 03 30 12.9 +1.2**
FFC pmax pmax
comp=Z,13nm,1.7s
FFC Flin Flon 73.48 30 P **P 03 30 12.9 +1.2**
FFC IAmb IAmb 03 30 14.2
comp=Z,13nm,1.7s
CLL Collm 74.21 326 *i* P **P 03 30 15.8 -0.1**
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 74.21 326 P **P 03 30 15.0 -0.8**
CLL IAmb IAmb 03 30 16.8
comp=Z,4.8nm,0.6s
CLL Collm 74.21 326 *i* P **P 03 30 15.8 -0.1**
comp=Z,5.0nm,0.7s
CLL Lm MLR 05 33 00.0
comp=Z,300nm,20.2s
PRU Pruhonice 74.50 324 *e*P **P 03 30 18.2 +0.6**
PRU Pruhonice 74.50 324 *e*P **P 03 30 18.2 +0.6**
VTS Vitosha 75.40 314 P **P 03 30 22.5 -0.4**
VTS pmax pmax
comp=Z,5.0nm,0.8s
VTS Vitosha 75.40 314 P **P 03 30 22.5 -0.4**
VTS IAmb IAmb 03 30 24.6
comp=Z,4.8nm,0.8s
CKRC Cesky Krumlov 75.46 323 *e*P **P 03 30 24.0 +1.0**
KHC Kasperske Hory 75.56 324 *e*P **P 03 30 24.0 +0.4**
KHC Kasperske Hory 75.56 324 *e*P **P 03 30 24.0 +0.4**
GERES GERESS Array B 75.72 324 P **P 03 30 24.9 +0.4**
comp=Z,0.4nm,0.4s,baz=51,slow=6.1,SNR=6.5
BIOA Bad Ischl, Aus 76.59 323 *e*P **P 03 30 30.4 +1.1**
comp=Z,0.5nm,0.2s
SOKA Soboth 76.69 321 *e*P **P 03 30 30.8 +0.8**
comp=Z,3.2nm,0.7s
OBKA Obir 77.04 322 *e*P **P 03 30 32.4 +0.5**
comp=Z,0.6nm,0.3s
KBA Koelnbreinsper 77.18 323 *i* P **P 03 30 33.8 +1.1**
comp=Z,0.8nm,0.5s
NVAR Mina Array Bea 77.40 50 P **P 03 30 36.2 +2.1**
comp=Z,1.3nm,0.7s,baz=291,slow=5.2,SNR=15
NVAR Mina Array Bea 77.40 50 P **P 03 30 35.9 +1.7**
MOTA Moosalm 78.00 324 *e*P **P 03 30 37.5 +0.4**
comp=Z,0.6nm,0.5s
DAVA Damuels 78.58 325 *i* P **P 03 30 40.6 +0.3**
comp=Z,3.3nm,0.6s
PD31 Pinedale Array 79.08 42 P **P 03 30 43.3 +0.2**
PDAR Pinedale Array 79.08 42 P **P 03 30 44.5 +1.4**
comp=Z,1.4nm,0.6s,baz=74,slow=0.7,SNR=12
ULM Lac du Bonnet 79.30 30 P **P 03 30 44.4 +0.5**
comp=Z,2.2nm,0.5s,baz=342,slow=4.0,SNR=4.0
SCHQ Schefferville 82.83 12 P **P 03 31 02.8 +0.8**
comp=Z,1.5nm,0.7s,baz=243,slow=18,SNR=1.4
ESDC Sonseca Array 90.59 328 P **P 03 31 39.4 0.0**
comp=Z,0.8nm,1.1s,baz=27,slow=4.6,SNR=2.5
TXAR Lajitas Array 92.31 47 P **P 03 31 49.4 +1.8**
comp=Z,0.4nm,0.7s,baz=301,slow=3.1,SNR=6.2
QSPA South Pole Qui 130.92 180 SKPbc **SKPab 03 40 22.1 -1.3**
comp=Z,2.2nm,1.1s,baz=240,slow=3.2,SNR=5.2
LPAZ La Paz 149.09 43 PKPbc **PKiKP 03 38 24.4 -0.1**
comp=Z,1.2nm,0.7s,baz=26,slow=2.0,SNR=6.8

*JMA **10** 03:26:54.7±0.3,43.34N×147.05E,h35km±4km,M3.7*
*MOS **10** 03:26:57.5±2.4,43.49N×146.73E,h51km,mb4.2/1,Error ellipse: s-maj=14.2km s-min=11.3km az=96.7*
*SKHL **10** 03:26:57.5±0.1,43.50N×146.90E,h34km±3km,mb4.8/4*
*IDC **10** 03:27:09.7±4.8,44.36N×145.95E,h99km±25km,mb3.1/6,mb1 3.2/8,mb1mx3.0/48,mbtmp3.5/8,Error ellipse: s-maj=134.2km s-min=23.9km az=161.0*
ISC 10 03:26:52.4±1.8,43.32N±0.06×147.16E±0.06,h23km±12km, n41,σ1ŝ50/53,mb3.6/6,1C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.60**	**337**	⇓*i* PN	**Pn**	**03 27 06.4**	**+0.9**
SHO				*e*S	**Sb**	**03 27 13.7**	**+1.3**
SHO				pmax	pmax		
	comp=N,372nm,0.4s						
SHO				pmax	pmax		
	comp=Z,750nm,0.4s						
SHO				pmax	pmax		
	comp=E,289nm,0.3s						
SHO				smax	smax		
	comp=E,4μm,0.4s						
SHO				smax	smax		
	comp=N,5μm,0.3s						
SHO	**Shikotan**	**0.60**	**337**	*i* P	**Pn**	**03 27 06.5**	**+0.9**
SHO				AMB	AMB	03 27 06.9	
	comp=N,750nm,0.4s						
SHO				*e*S	**Sb**	**03 27 13.2**	**+0.8**
SHO				A	A	03 27 14.5	
	comp=N,5μm,0.3s						
SHO				A	A	03 27 14.5	
	comp=N,5μm,0.3s						
NEM2	**Nemuro 2**	**1.03**	**273**	P	**Pn**	**03 27 12.0**	**+0.6**
NEM2				*e*S	**Sb**	**03 27 24.4**	**-0.3**
NMR	**Nemuro--Hokkai**	**1.04**	**273**	⇓*i* PN	**Pn**	**03 27 12.0**	**+0.4**
NMR				*e*S	**Sb**	**03 27 24.9**	**-0.1**
NMR	**Nemuro--Hokkai**	**1.04**	**273**	*i* P	**Pn**	**03 27 12.3**	**+0.7**
NMR				*e*S	**Sb**	**03 27 24.9**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.18**	**308**	*d* PN	**Pn**	**03 27 14.0**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**1.18**	**308**	*i* P	**Pn**	**03 27 14.1**	**+0.6**
YUK				AMB	AMB	03 27 14.6	
	comp=N,2μm,0.3s						
YUK				*i* S	**Sn**	**03 27 26.6**	**-2.3**
YUK				A	A	03 27 28.9	
	comp=N,2μm,0.4s						
YUK				A	A	03 27 28.9	
	comp=N,3μm,0.4s						
GLVR	**Golovnino**	**1.26**	**290**	*e*PN	**Pn**	**03 27 15.2**	**+0.6**
GLVR				*e*S	**Sn**	**03 27 30.4**	**-0.5**
GLVR				pmax	pmax		
	comp=Z,430nm,0.1s						
GLVR				pmax	pmax		
	comp=N,30nm,0.2s						
GLVR				pmax	pmax		
	comp=E,31nm,0.1s						
GLVR				smax	smax		
	comp=N,675nm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.2s						
GLVR	**Golovnino**	**1.26**	**290**	*e*P	**Pn**	**03 27 15.2**	**+0.6**
GLVR				AMB	AMB	03 27 15.8	
	comp=E,430nm,0.3s						
GLVR				*e*S	**Sn**	**03 27 30.0**	**-0.9**
GLVR				A	A	03 27 34.6	
	comp=E,680nm,0.3s						
GLVR				A	A	03 27 34.6	
	comp=E,2μm,0.3s						
JKHN	**Kushirohamanak**	**1.48**	**262**	P	**Pn**	**03 27 18.8**	**+1.2**
JKHN				*e*S	**Sn**	**03 27 36.7**	**+0.5**
RUSJ	**Misakicho**	**1.59**	**300**	⇓*i* PN	**Pn**	**03 27 20.4**	**+1.3**
JRA	**Rausu**	**1.60**	**293**	P	**Pn**	**03 27 20.3**	**+1.0**
JRA				*e*S	**Sn**	**03 27 39.0**	**-0.2**
JNSB	**Nemuroshibetsu**	**1.63**	**287**	P	**Pn**	**03 27 20.7**	**+1.0**
JNSB				*e*S	**Sn**	**03 27 39.9**	**0.0**
AKK	**Akkeshi**	**1.72**	**261**	*e*P	**Pn**	**03 27 22.0**	**+1.1**
AKK				*e*S	**Sn**	**03 27 40.8**	**-1.3**
JNK	**Nakash**	**1.80**	**279**	P	**Pn**	**03 27 22.6**	**+0.7**
JNK				*e*S	**Sn**	**03 27 42.9**	**-1.1**
JAK	**Akkeshi**	**1.83**	**261**	P	**Pn**	**03 27 23.3**	**+0.9**
JAK				*e*S	**Sn**	**03 27 44.6**	**-0.2**
KUR	**Kuril'sk**	**1.98**	**15**	*e*PN	**Pb**	**03 27 26.7**	**-1.1**
KUR				*e*S	**Sn**	**03 27 49.1**	**+0.5**
KUR				pmax	pmax		
	comp=Z,70nm,0.4s						
KUR				smax	smax		
	comp=N,462nm,0.2s						
KUR				smax	smax		
	comp=E,95nm,0.2s						
KUR	**Kuril'sk**	**1.98**	**15**	*e*P	**Pn**	**03 27 26.3**	**+1.8**
KUR				AMB	AMB	03 27 35.8	
	comp=E,120nm,0.6s						
KUR				*e*S	**Sn**	**03 27 49.1**	**+0.5**
KUR				A	A	03 27 50.3	
	comp=E,350nm,0.2s						
KUR				A	A	03 27 50.3	
	comp=E,290nm,0.2s						
JTKR	**Abashiri--Toko**	**2.45**	**287**	P	**Pn**	**03 27 33.0**	**+2.1**
JTKR				*e*S	**Sn**	**03 28 01.1**	**+1.0**
JAR	**Ashorobuto**	**2.47**	**271**	P	**Pn**	**03 27 33.1**	**+1.9**
JAR				*e*S	**Sn**	**03 28 01.4**	**+0.7**
JCH	**Churui**	**2.87**	**257**	P	**Pn**	**03 27 38.8**	**+2.1**
JCH				*e*S	**Sn**	**03 28 11.8**	**+1.2**
ERM	**Erimo**	**3.22**	**248**	*ce*PN	**Pn**	**03 27 45.0**	**+3.4**
ERM				*i* S	**Sb**	**03 28 26.1**	**-1.6**
ERM				pmax	pmax		
	comp=Z,46nm,1.6s						
ERM				smax	smax		
	comp=Z,85nm,1.8s						
JKK2	**Kamakawa 2**	**3.25**	**281**	P	**Pn**	**03 27 44.8**	**+2.8**
JKA	**Kamikawa-asahi**	**3.40**	**285**	*e*P	**Pn**	**03 27 47.7**	**+3.7**
ASAJ	**Asahikawa**	**3.40**	**285**	P	**Pn**	**03 27 47.7**	**+3.7**
	comp=Z,3.1nm,0.3s,baz=81,slow=7.3,SNR=21						
YSS	**Yuzh-Sakhalins**	**4.79**	**321**	*e*PN	**Pn**	**03 28 05.5**	**+2.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.79**	**321**	*e*P	**Pn**	**03 28 05.5**	**+2.5**
YSS				AMB	AMB	03 28 06.1	
	comp=Z,20nm,0.8s						
PETK	**Petropavlovsk-**	**12.04**	**32**	P	**P**	**03 29 53.1**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=209,slow=12,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.77**	**139**	T	T	04 03 36.7	
	baz=330,slow=76,SNR=59						
H11N1	**WAKE ISLAND Hy**	**28.78**	**139**	T	T	04 03 37.6	
	baz=330,slow=76,SNR=59						
H11N3	**WAKE ISLAND Hy**	**28.79**	**139**	T	T	04 03 38.0	
	baz=330,slow=76,SNR=59						
H11S1	**WAKE ISLAND Hy**	**29.73**	**140**	T	T	04 04 43.4	
	baz=331,slow=76,SNR=142						
H11S3	**WAKE ISLAND Hy**	**29.73**	**140**	T	T	04 04 47.1	
	baz=331,slow=76,SNR=102						
H11S2	**WAKE ISLAND Hy**	**29.75**	**140**	T	T	04 04 44.7	
	baz=331,slow=76,SNR=81						
ILAR	**Eielson Array**	**41.84**	**36**	P	P	03 34 46.7	+6.6
	comp=Z,0.4nm,1.0s,baz=277,slow=8.8,SNR=2.2						
MKAR	**Makanchi Array**	**44.79**	**298**	P	**P**	**03 35 03.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=79,slow=8.0,SNR=3.2						
YKA	**Yellowknife Ar**	**56.16**	**34**	P	P	03 36 35.8	+6.1
	comp=Z,0.1nm,0.6s,baz=301,slow=6.9,SNR=2.1						
FINES	**FINESS Array B**	**65.26**	**333**	P	**P**	**03 37 31.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=38,slow=7.2,SNR=4.8						
NB2	**NORSAR Subarra**	**70.01**	**339**	P	**P**	**03 38 01.8**	**0.0**
	comp=Z,2.9nm,1.2s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**70.01**	**339**	P	**P**	**03 38 02.2**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=37,slow=5.9,SNR=4.1						
AKASG	**Malin Array Be**	**71.93**	**324**	P	**P**	**03 38 13.5**	**0.0**
	comp=Z,0.6nm,0.4s,baz=40,slow=6.4,SNR=4.2						

*ISK **10** 03:31:17.7,34.50N×30.71E,h5km,ML2.9/17*
*NIC **10** 03:31:24.2±0.0,34.28N×30.88E,h19km±3km,Ml2.5/4*
*DDA **10** 03:31:27.5±0.0,34.95N×30.08E,h6km±2km,ML2.7*
ISC 10 03:31:22.1±2.2,34.66N±0.08×30.70E±0.04,h16km±14km, n36,σ1ŝ52/49,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSC1	**CSNet OBS 1**	**1.26**	**157**	P	Pn	03 31 39.5	-5.5
OSC1				S	Sb	03 31 53.2	-8.1
AKMS	**Akamas**	**1.39**	**75**	P	**Pb**	**03 31 48.5**	**+0.7**
AKMS				S	**Sg**	**03 32 07.9**	**+0.9**
AKMS				AML	AML	03 32 08.3	
	0.3nm,0.3s						
AKMS				AML	AML	03 32 08.3	
	0.3nm,0.3s						
AKMS				AML	AML	03 32 08.7	
	0.1nm,0.3s						
AKMS				AML	AML	03 32 08.7	
	0.1nm,0.3s						
NATA	**Nata**	**1.55**	**85**	P	**Pn**	**03 31 50.2**	**+1.2**
NATA				S	**Sb**	**03 32 09.9**	**+0.2**
NATA				AML	AML	03 32 11.7	
	0.4nm,0.7s						
NATA				AML	AML	03 32 11.7	
	0.4nm,0.7s						
NATA				AML	AML	03 32 13.1	
	0.4nm,0.5s						
NATA				AML	AML	03 32 13.1	
	0.4nm,0.5s						
ALFC	**Alefka**	**1.64**	**72**	P	**Pb**	**03 31 51.6**	**-0.3**
ALFC				S	**Sg**	**03 32 13.3**	**-1.5**
ALFC				AML	AML	03 32 13.8	
	0.1nm,0.1s						
ALFC				AML	AML	03 32 13.8	
	0.1nm,0.1s						
ALFC				AML	AML	03 32 14.8	
	0.1nm,0.2s						
ALFC				AML	AML	03 32 14.8	
	0.1nm,0.2s						
SZAC	**Souni**	**1.80**	**86**	P	**Pn**	**03 31 53.6**	**+1.1**
SZAC				S	**Sn**	**03 32 15.8**	**+0.6**
SZAC				AML	AML	03 32 18.0	
	0.1nm,0.6s						
SZAC				AML	AML	03 32 18.0	
	0.1nm,0.6s						
SZAC				AML	AML	03 32 19.4	
	0.2nm,0.9s						
SZAC				AML	AML	03 32 19.4	
	0.2nm,0.9s						
GAZI	**Gazipasa**	**2.05**	**40**	PN	**Pn**	**03 31 56.6**	**+0.6**
OSC2	**CSNet OBS 4**	**2.05**	**140**	P	Pn	03 31 52.3	-3.6
OSC2				S	Sn	03 32 14.1	-7.1
ASGA	**Asgata**	**2.10**	**86**	P	**Pn**	**03 31 57.8**	**+1.1**
CSS	**Mathiatis**	**2.19**	**81**	S	**Sn**	**03 32 25.1**	**+0.4**
FETY	**Fethiye**	**2.37**	**327**	PN	**Pn**	**03 32 01.3**	**+1.0**
FETY	**Fethiye**	**2.37**	**327**	P	**Pb**	**03 32 03.5**	**-0.9**
FETY				S	**Sn**	**03 32 28.6**	**-0.5**
TEKE	**Tekeli-Mersin**	**2.46**	**53**	PN	**Pn**	**03 32 02.2**	**+0.6**
TEKE				SN	**Sb**	**03 32 34.4**	**-1.8**
CAME	**Cameli-Denizli**	**2.54**	**334**	PN	**Pn**	**03 32 04.1**	**+1.2**
HDMB	**Hadim**	**2.72**	**32**	PN	**Pn**	**03 32 06.0**	**+0.7**
GOLH	**Golhisar**	**2.73**	**341**	P	**Pb**	**03 32 11.0**	**+0.4**
GOLH				S	**Sn**	**03 32 40.2**	**+2.1**
AKKU	**Akkuyu-Mersin**	**2.77**	**57**	PN	**Pn**	**03 32 06.2**	**+0.4**
AKKU				SN	**Sb**	**03 32 41.5**	**-3.4**
BCK	**Bucak**	**2.79**	**358**	PN	**Pn**	**03 32 07.4**	**+1.2**
TEVE	**Tevekalti-Mers**	**2.85**	**51**	PN	**Pn**	**03 32 07.2**	**+0.1**
SEYD	**Seydisehir-KON**	**2.89**	**18**	PN	**Pn**	**03 32 08.7**	**+1.1**
IKL	**Isikli**	**2.90**	**56**	PN	**Pn**	**03 32 08.2**	**+0.6**
TURN	**Turunc**	**2.90**	**317**	PN	**Pn**	**03 32 08.9**	**+1.2**
TURN	**Turunc**	**2.90**	**317**	P	**Pn**	**03 32 09.5**	**+1.8**
TURN				S	**Sn**	**03 32 40.9**	**-1.3**
KARP	**Karpathos**	**3.03**	**288**	PN	**Pn**	**03 32 09.5**	**0.0**
KEBE	**Keben-Mersin**	**3.04**	**53**	PN	**Pn**	**03 32 10.0**	**+0.4**
TAVA	**DENIZLI_Tavas**	**3.15**	**333**	P	**Pn**	**03 32 14.5**	**+3.4**
TAVA				S	**Sn**	**03 32 48.9**	**+0.4**
YER	**Yerkesik**	**3.15**	**322**	PN	**Pn**	**03 32 12.3**	**+1.2**
MULA	**Mugla, Merkez-**	**3.23**	**324**	P	**Pn**	**03 32 15.5**	**+3.3**
MULA				S	**Sn**	**03 32 50.0**	**-0.4**
DAT	**Datca**	**3.27**	**310**	PN	**Pn**	**03 32 14.1**	**+1.3**
DAT	**Datca**	**3.27**	**310**	P	**Pn**	**03 32 13.9**	**+1.1**
DAT				S	**Sn**	**03 32 50.3**	**-1.2**
KONT	**Konya--Tatoy**	**3.54**	**22**	PN	**Pn**	**03 32 17.9**	**+1.4**
BDRM	**Kayabasi**	**3.57**	**313**	P	**Pn**	**03 32 17.9**	**+1.1**
BDRM				S	**Sn**	**03 32 56.3**	**-2.4**
BODT	**Bodrum**	**3.65**	**312**	PN	**Pn**	**03 32 18.9**	**+1.0**
AYDN	**Tasoluk**	**3.76**	**323**	P	**Pn**	**03 32 22.0**	**+2.4**
AYDN				S	**Sn**	**03 33 02.4**	**-1.1**
GCAM	**G?zelcaml?**	**4.13**	**318**	P	**Pn**	**03 32 26.5**	**+2.0**
GCAM				*i* AML	AML	03 33 10.0	
	comp=E,14nm,1.3s						
GCAM				*i* AML	AML	03 33 20.0	
	comp=N,20nm,1.2s						
USAK	**Uak-Merkez**	**4.26**	**342**	P	**Pn**	**03 32 29.7**	**+3.3**
USAK				S	**Sn**	**03 33 15.8**	**0.0**
USAK				*i* AML	AML	03 34 45.0	
	comp=N,18nm,5.0s						
USAK				*i* AML	AML	03 34 45.0	
	comp=E,29nm,4.4s						
CMRD	**Camardi-Nigde**	**4.58**	**48**	PN	**Pn**	**03 32 32.2**	**+1.3**

IDC 10 03:33:12.2±2.2,4.92S×139.80E,h0km,mb3.7/1, mb1 3.7/4,mb1mx3.3/43,mbtmp3.6/4,ML4.1/2,Error ellipse: s-maj=50.7km s-min=19.7km az=117.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.86**	**199**	P	Pn	03 36 56.3	-0.6
	0.9nm,0.3s,baz=22,slow=12,SNR=17						
WRA				Sn	Sn	03 39 54.2	+0.7
	0.1nm,0.3s,baz=12,slow=25,SNR=1.9						
FITZ	**Fitzroy Crossi**	**19.06**	**225**	P	Pn	03 37 37.0	0.0
	baz=48,slow=9.3						
FITZ				S	Sn	03 41 11.8	+0.6
	0.2nm,0.3s,baz=299,slow=2.6,SNR=2.1						
ASAR	**Alice Springs**	**19.49**	**196**	P	Pn	03 37 41.7	-0.5
	0.4nm,0.3s,baz=35,slow=8.6,SNR=22						
MKAR	**Makanchi Array**	**72.19**	**323**	P	P	03 44 39.0	-0.1
	0.5nm,0.7s,baz=116,slow=5.6,SNR=5.3						

*NEIC **10** 03:40:37.8±1.9,56.84N±0.05×157.87W±0.07,h8km±10km, Error ellipse: s-maj=8.3km s-min=4.9km az=161.0*
AEIC 10 03:40:38±2.1,56.93N±0.07×157.94W±0.07,h9km±7km, ML2.9,ML3.3/18(NEIC),Error ellipse: s-maj=11.8km s-min=2.3km az=152.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANNE	**Aniakchak Nort**	**0.07**	**255**		Pg	03 40 39.9	-0.2
ANNW	**Aniakchak Nort**	**0.16**	**284**		Pg	03 40 41.5	+0.2
ANPB	**Aniakchak Plen**	**0.23**	**236**		Pg	03 40 43.1	+0.5
VNHG	**Veniaminof 1**	**0.98**	**224**		Pb	03 40 57.5	+0.3
PLK3	**Peulik 3**	**1.18**	**49**		Pn	03 41 01.4	+0.6
SII	**Sitkinak Islan**	**2.10**	**99**	Pn	Pn	03 41 10.8	-2.6
SII				IAML		03 41 29.5	
	comp=N,249nm,0.8s						
SII				IAML		03 41 38.4	
	comp=E,248nm,2.2s						
SDPT	**Sand Point**	**2.13**	**223**	Pn	Pn	03 41 11.2	-2.5
SDPT				IAML		03 41 26.2	
	comp=N,130nm,1.2s						
SDPT				IAML		03 41 33.1	
	comp=E,154nm,1.6s						
OHAK	**Old Harbor**	**2.56**	**81**	Pn	Pn	03 41 19.2	-0.4
BLHA	**Black Hill**	**2.61**	**244**		Pn	03 41 22.1	+1.7
P18K	**Big Mountain,**	**2.86**	**29**		Pn	03 41 25.1	+1.3
KDAK	**Kodiak Island**	**3.02**	**71**		Pn	03 41 27.0	+1.0
KDAK	**Kodiak Island**	**3.02**	**71**	IAML		03 41 54.1	
	comp=E,56nm,2.9s						
KDAK				IAML		03 43 17.3	
	comp=E,54nm,3.1s						
O18K	**Koktuh Hills**	**3.27**	**25**		Pn	03 41 30.5	+1.1
O18K	**Koktuh Hills**	**3.27**	**25**	IAML		03 41 51.3	
	comp=E,64nm,0.8s						
O18K				IAML		03 41 53.8	
	comp=N,87nm,0.6s						
N18K	**Kilae Creek**	**3.91**	**15**	Pn	Pn	03 41 38.6	+0.4
N18K				IAML		03 42 13.6	
	comp=E,58nm,1.2s						
N18K				IAML		03 42 17.9	
	comp=N,52nm,0.8s						
N19K	**Bonanza Creek**	**4.29**	**23**	Pn	Pn	03 41 44.6	+1.1
SVW2	**Sparrevohn**	**4.35**	**15**	Pn	Pn	03 41 43.2	-1.1

*JMA **10** 04:09:48.5±0.5,22.79N×121.47E,h0km,M3.4*
*TAP **10** 04:09:49.0,22.57N×121.33E,h33km,ML3.6,C*
ISC 10 04:09:48.8±0.9,22.58N±0.02×121.39E±0.02,h29km±7km, n129,σ1ŝ17/254,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LDUT	**Ludao**	**0.12**	**37**	P	**Pn**	**04 09 55.3**	**+0.6**
	baz=44						
LDUT				S	**Sb**	**04 09 59.5**	**+1.7**
	baz=44						
TTN	**Taitung**	**0.28**	**308**	P	**Pn**	**04 09 57.0**	**0.0**
	baz=321						
TTN				S	**Sn**	**04 10 02.4**	**+0.2**
	baz=321						
TWGBT	**Beinan**	**0.37**	**310**	P	**Pb**	**04 09 57.1**	**-0.2**
	baz=306						
TWGBT				S	**Sb**	**04 10 02.3**	**-0.7**
	baz=306						
EDH	**Donghe**	**0.40**	**348**	P	**Pn**	**04 09 58.1**	**-0.5**
	baz=348						
EDH				S	**Sn**	**04 10 04.3**	**-0.9**
	baz=348						
ECL	**Taimali**	**0.40**	**273**	P	**Pb**	**04 09 56.9**	**-0.7**
	baz=282						
ECL				S	**Sb**	**04 10 02.2**	**-1.6**
	baz=282						
LONT	**Longtian**	**0.41**	**324**	P	**Pb**	**04 09 57.8**	**0.0**
	baz=318						
LONT				S	**Sb**	**04 10 03.7**	**-0.1**
	baz=318						
TAW	**Tawu**	**0.51**	**244**	P	**Pb**	**04 09 58.5**	**-0.8**
	baz=244						
TAW				S	**Sb**	**04 10 04.7**	**-1.8**
	baz=244						
CHKT	**Chengkung**	**0.52**	**357**	P	**Pn**	**04 09 59.8**	**-0.5**
	baz=3.0						
CHKT				S	**Sn**	**04 10 07.4**	**-0.7**
	baz=3.0						
TAWH	**Dawu Township**	**0.52**	**243**	P	**Pb**	**04 09 58.7**	**-0.8**
	baz=243						
TAWH				S	**Sb**	**04 10 04.9**	**-1.9**
	baz=243						
EAST	**Anshuo**	**0.54**	**249**	P	**Pb**	**04 09 59.0**	**-0.9**
	baz=249						
EAST				S	**Sb**	**04 10 06.1**	**-1.2**
	baz=249						
LAY	**Lan-yu**	**0.56**	**165**	P	**Pb**	**04 09 59.9**	**-0.2**
	baz=159						
LAY				S	**Sb**	**04 10 08.6**	**+0.7**
	baz=159						
LYUB	**Lan-yu**	**0.60**	**163**	P	**Pb**	**04 09 59.5**	**-1.3**
	baz=159						
LYUB				*e*S	**Sb**	**04 10 08.9**	**-0.1**
	baz=159						
FULB	**Fuli**	**0.62**	**352**	P	**Pn**	**04 10 01.2**	**-0.5**
	baz=343						
FULB				*e*S	**Sn**	**04 10 10.1**	**-0.6**
	baz=343						
SLIU	**Shizi**	**0.66**	**237**	P	**Pb**	**04 10 00.6**	**-1.2**
	baz=236						
SLIU				S	**Sb**

SCZT	**Fangliau** baz=252	0.74	254	P	Pb	04 10 02.2	-1.0		
SCZT	baz=252			eS	Sb	04 10 10.6	-2.4		
SMST	**Manzhou Townsh** baz=215	0.76	223	P	Pb	04 10 02.4	-1.0		
SMST	baz=215			S	Sb	04 10 11.4	-2.0		
SSPT	**Xinbi** baz=264	0.77	263	P	Pb	04 10 03.1	-0.4		
SSPT	baz=264			eS	Sb	04 10 13.1	-0.6		
EYUL	**Yuli** baz=347	0.77	355	P	Pb	04 10 03.2	-0.5		
EYUL	baz=347			S	Sn	04 10 14.0	-0.2		
TSEB	**Hengchuen, Pin** baz=216	0.81	214	eP	Pb	04 10 03.9	-0.5		
TSEB	baz=216			S	Sb	04 10 14.6	-0.4		
YULB	**Yu-li** baz=347	0.81	354	P	Pb	04 10 03.0	-1.4		
YULB	baz=347			S	Sn	04 10 14.8	-0.6		
STYH	**Taoyuan** baz=324	0.82	316	P	Pb	04 10 03.9	-0.6		
STYH	baz=324			S	Sb	04 10 14.0	-1.1		
TWKBT	**Hengchun** baz=214	0.83	220	P	Pb	04 10 03.4	-1.2		
TWKBT	baz=214			S	Sb	04 10 13.7	-1.8		
HEN	**Hengchun** baz=226	0.83	227	eP	Pb	04 10 03.8	-0.9		
HEN	baz=226			S	Sb	04 10 13.9	-1.6		
TWK1	**Hengchun** baz=214	0.83	221	P	Pb	04 10 03.2	-1.5		
TWK1	baz=214			S	Sb	04 10 13.7	-1.9		
SGLT	**Jiouru** baz=282	0.84	280	eP	Pb	04 10 04.6	-0.3		
SGLT	baz=282			eS	Sn	04 10 16.5	+0.4		
SCST	**Cishan** baz=292	0.88	290	P	Pn	04 10 05.7	+0.5		
SCST	baz=292			S	Sb	04 10 16.8	-0.2		
SGST	**Jiashian** baz=312	0.90	304	P	Pn	04 10 05.7	+0.2		
SGST	baz=312			S	Sb	04 10 16.9	-0.5		
HGSD	**Ruisui** baz=12	0.91	2	P	Pb	04 10 05.1	-0.9		
HGSD	baz=12			eS	Sn	04 10 17.7	-0.1		
EHY	**Hungye** baz=347	0.93	356	P	Pb	04 10 04.7	-1.6		
EHY	baz=347			S	Sn	04 10 17.9	-0.2		
TWM1	**Shoushan** baz=287	0.93	285	P	Pn	04 10 06.9	+1.1		
TWM1	baz=287			eS	Sn	04 10 20.4	+2.3		
WLCH	**Liuqiu** baz=246	0.96	257	P	Pn	04 10 09.0	+2.7		
WLCH	baz=246			eS	Sn	04 10 22.2	+3.2		
WTP	**Ta-pu** baz=315	0.98	313	P	Pn	04 10 07.3	+0.7		
WTP	baz=315			S	Sn	04 10 20.6	+1.1		
CHN1	**Nanshi** baz=309	1.00	307	P	Pn	04 10 08.2	+1.3		
CHN1	baz=309			S	Sn	04 10 20.9	+1.0		
TPUB	**Ta-pu** baz=317	1.00	316	P	Pn	04 10 07.7	+0.7		
TPUB	baz=317			S	Sn	04 10 20.9	+0.8		
SNST	**Tainan City** baz=309	1.04	308	P	Pb	04 10 08.5	+0.3		
SNST	baz=309			S	Sn	04 10 22.4	+1.4		
SHHT	**Tainan City** baz=295	1.06	295	eP	Pb	04 10 10.3	+1.8		
SHHT	baz=295			eS	Sn	04 10 25.7	+4.3		
CHN4	**Tsaushan** baz=317	1.06	316	P	Pb	04 10 08.9	+0.3		
CHN4	baz=317			S	Sn	04 10 22.9	+1.4		
CHN3	**Shinhua** baz=298	1.07	298	eP	Pb	04 10 09.2	+0.5		
CHN3	baz=298			eS	Sn	04 10 24.2	+2.6		
ALS	**Alishan** baz=331	1.07	330	P	Pb	04 10 08.5	-0.5		
ALS	baz=331			eS	Sn	04 10 23.8	+1.6		
TWK	**Hsinying** baz=311	1.08	310	eP	Pb	04 10 08.7	-0.1		
TWK	baz=311			eS	Sn	04 10 23.3	+1.3		
EGFH	**Guangfu** baz=350	1.09	2	eP	Pb	04 10 08.5	-0.5		
EGFH	baz=350			eS	Sn	04 10 22.2	+0.1		
VWDT	**VWDT** baz=359	1.19	349	P	Pn	04 10 09.6	+0.1		
VWDT	baz=359			eS	Sn	04 10 24.4	-0.3		
CHN5	**Tsauling** baz=328	1.21	327	P	Pb	04 10 11.1	0.0		
CHN5	baz=328			eS	Sb	04 10 27.5	+1.1		
ESL	**Shilin** baz=1.0	1.23	2	eP	Pn	04 10 09.1	-0.9		
ESL	baz=1.0			eS	Sn	04 10 25.6	-0.1		
SCLT	**Jiali** baz=299	1.25	299	eP	Pn	04 10 10.8	+0.5		
SCLT	baz=299			eS	Sb	04 10 27.9	+0.3		
SSLB	**Suanglung** baz=349	1.27	342	P	Pb	04 10 11.2	-0.9		
SSLB	baz=349			eS	Sb	04 10 27.1	-1.0		
CHN2	**Minshiung** baz=319	1.27	319	eP	Pb	04 10 11.4	-0.7		
CHN2	baz=319			eS	Sb	04 10 29.5	+1.4		
CHY	**Chiayi** baz=316	1.28	316	eP	Pb	04 10 12.4	+0.2		
CHY	baz=316			eS	Sb	04 10 29.1	+0.8		
ICHU	**Yijhu** baz=307	1.29	307	eP	Pb	04 10 11.5	-0.9		
ICHU	baz=307			eS	Sb	04 10 28.7	+0.2		
WDLH	**Douliu** baz=325	1.36	325	eP	Pb	04 10 13.7	+0.1		
WDLH	baz=325			eS	Sb	04 10 31.6	+1.1		
SMLT	**Sun Moon Lake** baz=347	1.38	341	P	Pb	04 10 13.4	-0.5		
SMLT	baz=347			S	Sb	04 10 31.6	+0.4		
WJS	**Zhushan** baz=317	1.38	334	P	Pb	04 10 14.2	+0.3		
WJS	baz=317			eS	Sb	04 10 32.1	+0.9		
OWD	**Renai** baz=359	1.38	352	eP	Pn	04 10 12.4	+0.1		
OWD	baz=359			eS	Sn	04 10 28.5	-1.2		
HWA	**Hwalien** baz=357	1.41	8	eP	Pn	04 10 11.6	-0.8		
HWA	baz=357			eS	Sn	04 10 30.1	+0.1		
TYC	**Yuchr** baz=340	1.41	340	P	Pb	04 10 14.3	-0.1		
TYC	baz=340			eS	Sb	04 10 32.9	+0.9		
WSL	**Shuilin Townsh** baz=296	1.43	311	eP	Pb	04 10 13.7	-1.0		
WSL	baz=296			eS	Sb	04 10 31.9	-0.6		
WUSB	**Renai** baz=358	1.43	350	P	Pn	04 10 13.4	+0.6		
WUSB	baz=358			eS	Sn	04 10 29.9	-0.8		
WTK	**Tuku** baz=320	1.44	320	eP	Pb	04 10 14.2	-0.7		
WTK	baz=320			eS	Sb	04 10 32.8	-0.1		
CHGB	**Renai** baz=360	1.49	352	eP	Pn	04 10 14.1	+0.3		
CHGB	baz=360			eS	Sn	04 10 32.0	-0.3		
TWD	**Chiawan** baz=357	1.51	7	eP	Pn	04 10 13.8	0.0		
TWD	baz=357			eS	Sn	04 10 32.5	0.0		
WSF	**Szhu** baz=314	1.51	315	eP	Pn	04 10 14.5	+0.7		
WSF	baz=314			eS	Sb	04 10 33.4	-1.4		
WCS	**Beigang Elemen** baz=342	1.54	343	eP	Pb	04 10 16.1	-0.6		
WCS	baz=342			eS	Sb	04 10 35.9	+0.2		
WHF	**Hehuan Shan** baz=3.0	1.56	356	eP	Pn	04 10 15.0	0.0		
WHF	baz=3.0			eS	Sn	04 10 33.7	-0.8		
ETL	**Fush Village** baz=357	1.59	8	eP	Pn	04 10 14.6	-0.4		
ETL	baz=357			eS	Sn	04 10 34.8	+0.2		
NACB	**Ninganchiao** baz=356	1.60	7	eP	Pn	04 10 14.7	-0.4		
NACB	baz=356			eS	Sn	04 10 34.9	+0.2		
WRL	**Guolierlin Hig** baz=324	1.61	325	eP	Pn	04 10 16.1	+0.8		
WRL	baz=324			eS	Sn	04 10 35.7	+0.6		
ETLH	**Xiulin Townshi** baz=1.0	1.62	3	eP	Pn	04 10 15.1	-0.4		
ETLH	baz=1.0			eS	Sn	04 10 34.7	-0.8		
WTCT	**Ta-ch'eng** baz=321	1.64	322	eP	Pn	04 10 16.4	+0.8		
WTCT	baz=321			eS	Sb	04 10 37.0	-1.5		
FUSS	**Fushou** baz=3.0	1.67	355	eP	Pn	04 10 15.8	-0.4		
FUSS	baz=3.0			eS	Sn	04 10 36.3	-0.5		
WCHH	**Zhanghua** baz=318	1.68	333	eP	Pb	04 10 17.6	-1.5		
WCHH	baz=318			eS	Sb	04 10 39.0	-0.7		
TDCB	**Techi** baz=359	1.68	353	eP	Pb	04 10 17.6	-1.6		
TDCB	baz=359			eS	Sb	04 10 38.2	-1.8		
TCU	**Taichung** baz=337	1.69	337	eP	Pb	04 10 18.4	-0.9		
TCU	baz=337			eS	Sb	04 10 40.8	+0.6		
WDGT	**Dungji** baz=293	1.73	293	eP	Pn	04 10 17.0	+0.1		
WDGT	baz=293			eS	Sn	04 10 36.5	-1.5		
WHP	**Taichung City** baz=354	1.74	347	eP	Pb	04 10 19.8	-0.3		
WHP	baz=354			eS	Sb	04 10 41.3	-0.3		
NNSB	**Datong** baz=5.0	1.84	360	eP	Pn	04 10 18.9	+0.4		
NNSB	baz=5.0			eS	Sn	04 10 40.5	-0.5		
TWQ1	**Liyutan** baz=341	1.85	342	eP	Pb	04 10 21.4	-0.6		
TWQ1	baz=341			eS	Sb	04 10 45.0	+0.2		
NNS	**Nan Shan** baz=5.0	1.85	360	eP	Pn	04 10 19.5	+0.8		
NNS	baz=5.0			eS	Sn	04 10 41.3	+0.1		
ENA	**Nanau** baz=358	1.87	10	eP	Pn	04 10 18.9	+0.1		
ENA	baz=358			eS	Sn	04 10 41.4	-0.1		
EWUT	**Wuta** baz=358	1.89	11	eP	Pn	04 10 19.5	+0.4		
EWUT	baz=358			eS	Sn	04 10 42.3	+0.4		
WDJ	**Dajia District** baz=338	1.89	339	eP	Pb	04 10 21.1	-1.6		
WDJ	baz=338			eS	Sb	04 10 45.1	-0.8		
VCHM	**Qimei** baz=290	1.91	290	eP	Pn	04 10 19.1	-0.3		
VCHM	baz=290			eS	Sn	04 10 41.2	-1.3		
PHUB	**P'eng-hu** baz=298	1.92	299	eP	Pn	04 10 19.3	-0.1		
PHUB	baz=298			eS	Sn	04 10 40.7	-1.9		
NSY	**Sanyi** baz=342	1.92	343	eP	Pb	04 10 22.4	-0.7		
NSY	baz=342			eS	Sb	04 10 47.3	+0.7		
LATG	**Datong** baz=1.0	1.95	4	eP	Pn	04 10 20.2	+0.1		
LATG	baz=1.0			eS	Sn	04 10 44.1	+0.5		
PNG	**Penghu** baz=299	1.96	301	eP	Pn	04 10 20.3	+0.3		
PNG	baz=299			eS	Sn	04 10 42.8	-0.8		
NDT	**Datong Townshi**	2.02	3	eP	Pn	04 10 22.1	+1.2		
NDT				eS	Sb	04 10 47.6	-1.9		
NMLH	**Miaoli** baz=343	2.03	344	eP	Pb	04 10 23.0	-2.0		
NMLH	baz=343			eS	Sn	04 10 46.6	+1.3		
ENTT	**Nioudou** baz=1.0	2.06	4	eP	Pn	04 10 22.2	+0.7		
ENTT	baz=1.0			eS	Sn	04 10 47.8	+1.7		
NFF	**Wufeng Townshi** baz=336	2.06	353	eP	Pb	04 10 23.6	-2.0		
NFF	baz=336			eS	Sb	04 10 49.6	-1.2		
TWC	**Suao** baz=359	2.06	12	eP	Pn	04 10 23.0	+1.5		
TWC	baz=359			eS	Sn	04 10 46.7	+0.5		
NDS	**Dongshan** baz=4.0	2.07	8	eP	Pn	04 10 22.0	+0.5		
NDS	baz=4.0			eS	Sn	04 10 46.2	-0.1		
NSTT	**Nanjuang** baz=334	2.08	350	eP	Pb	04 10 23.9	-1.8		
NSTT	baz=334			eS	Sb	04 10 49.0	-2.1		
YHNB	**Yeheng** baz=7.0	2.08	360	eP	Pn	04 10 23.1	+1.3		
YHNB	baz=7.0			eS	Sn	04 10 46.6	-0.2		
LIOB	**Emei** baz=335	2.09	351	eP	Pb	04 10 24.1	-1.9		
LIOB	baz=335			eS	Sb	04 10 49.7	-1.8		
NSK	**Sanguang** baz=7.0	2.09	359	eP	Pn	04 10 23.3	+1.4		
NSK	baz=7.0			eS	Sn	04 10 46.9	-0.1		
TWE	**Neicheng** baz=3.0	2.15	7	eP	Pn	04 10 23.1	+0.5		
TWE	baz=3.0			eS	Sn	04 10 48.6	+0.3		
FUSB	**Fushanzhiwuyua** baz=1.0	2.18	5	eP	Pn	04 10 23.9	+0.8		
FUSB	baz=1.0			eS	Sn	04 10 49.1	0.0		
NWLT	**Wulai** baz=8.0	2.19	3	eP	Pn	04 10 24.2	+1.0		
NWLT	baz=8.0			eS	Sn	04 10 49.2	-0.2		
NTC	**Toucheng** baz=359	2.30	10	eP	Pn	04 10 26.8	+2.1		
NTC	baz=359			eS	Sn	04 10 52.1	0.0		
EGS	baz=1.0	2.31	12	eP	Pn	04 10 26.6	+1.7		
JYNG	**Yonagunijimaku**	2.35	37	P	Pn	04 10 27.0	+1.6		
JYNG				eS	Sn	04 10 53.9	+0.7		
NHDH	**Xindian Distri** baz=9.0	2.38	3	eP	Pn	04 10 27.3	+1.6		
NHDH	baz=9.0			eS	Sn	04 10 54.1	+0.2		
YOJ	**Yonaguni jima**	2.39	38	P	Pn	04 10 27.5	+1.5		
YOJ				eS	Sn	04 10 55.2	+0.9		
TWA	**Mucha** baz=10.0	2.40	4	eS	Sn	04 10 54.8	+0.3		
TIPB	**Shuangxi** baz=358	2.42	9	eP	Pn	04 10 28.3	+1.9		
TIPB	baz=358			eS	Sn	04 10 57.0	+2.0		
TWB1	**Santiao Chiao** baz=20	2.48	13	eP	Pn	04 10 29.4	+2.2		
TWB1	baz=20			eS	Sn	04 10 58.9	+2.4		
NWF	**Wu-fen Shan** baz=4.0	2.51	8	eP	Pn	04 10 29.0	+1.3		
NWF	baz=4.0			eS	Sn	04 10 57.7	+0.4		
SXI1	**Grass Mountain** baz=359	2.54	10	eP	Pn	04 10 29.1	+0.9		
SXI1	baz=359			eS	Sn	04 10 58.5	+0.3		
YM01	**YM01** baz=359	2.56	4	eP	Pn	04 10 29.1	+0.8		
YM01	baz=359			eS	Sn	04 10 59.1	+0.6		
HATJ	**Hateruma jima**	2.66	56	P	Pn	04 10 31.3	+1.6		
HATJ				eS	Sn	04 11 01.1	+0.1		
IRIF	**Iriomote-Funau**	2.77	50	P	Pn	04 10 32.5	+1.3		
IRIF				eS	Sn	04 11 04.5	+0.9		
JKRS	**Kuro-shima**	2.92	55	P	Pn	04 10 35.2	+2.0		
JKRS				eS	Sn	04 11 07.7	+0.4		
VWUC	**VWUC** baz=321	2.99	324	eP	Pn	04 10 34.8	+0.6		
VWUC	baz=321			eS	Sn	04 11 07.7	-1.3		
JIJ	**Ishigaki jima**	3.09	54	P	Pn	04 10 37.2	+1.6		
JIJ				S	Sn	04 11 11.1	-0.4		
PTMZ	**Houxiangcun** baz=317	3.21	320	eP	Pn	04 10 38.4	+1.1		
PTMZ	baz=317			eS	Sn	04 11 14.8	+0.2		
KNM	**Kinmen** baz=300	3.27	305	eP	Pn	04 10 40.6	+2.5		
KNM	baz=300			eS	Sn	04 11 18.6	+2.5		
KNMB	**Chin-men Tao** baz=302	3.33	305	eP	Pn	04 10 39.7	+0.7		
KNMB	baz=302			eS	Sn	04 11 17.2	-0.3		
JISG	**Ishigakijimahi**	3.34	53	eS	Sn	04 11 17.3	-0.5		
ZPLA	**Ao Xicun** baz=290	3.61	293	eP	Pn	04 10 43.6	+0.9		
ZPLA	baz=290			eS	Sn	04 11 24.1	-0.2		
MATB	**Ma-tsu** baz=337	3.79	340	eP	Pn	04 10 47.1	+1.9		
MATB	baz=337			eS	Sn	04 11 29.9	+1.0		
AXDP	**Jialang** baz=303	3.89	307	eP	Pn	04 10 48.0	+1.3		
AXDP	baz=303			eS	Sn	04 11 30.9	-0.4		
MHZQ	**Yeshan** baz=326	4.11	329	eP	Pn	04 10 51.1	+1.4		
MHZQ	baz=326			eS	Sn	04 11 37.0	+0.2		
LYJJ	**Jianjiangzhen** baz=337	4.22	340	eP	Pn	04 10 53.2	+2.0		
LYJJ	baz=337			eS	Sn	04 11 40.4	+0.9		
XPSS	**Dashiqiu** baz=344	4.47	346	eP	Pn	04 10 56.6	+2.1		
XPSS	baz=344			eS	Sn	04 11 46.4	+0.8		
SXFK	**Yanhouchang** baz=314	5.11	319	eP	Pn	04 11 05.0	+1.6		

DJA ***10*** *04:21:59.9±0.2, 4°S±3°×15°1E±°, h10km, M4.9/32, mb4.9/32, mB5.4/14, MLv5.1/3, Mw(mB)4.9/14, MwMwp6.5/1, Mwp6.4/1*

IDC ***10*** *04:21:59.0±0.5, 4.46S×151.15E, h0km, mb4.4/23, mb1 4.5/24, mb1mx4.5/33, mbtmp4.4/24, ML1.8/1, MS4.3/60, Ms1 4.3/60, ms1mx4.3/65, Error ellipse: s-maj=12.3km s-min=8.5km az=169.0*

BJI ***10*** *04:22:00.9±0.0, 4.12S×151.07E, h10km, mb4.6/44, mB5.0/30, Ms4.8/23, Ms7 4.5/25*

NEIC ***10*** *04:22:00.9±2.5, 4.22S±0.08×151.26E±0.05, h10km±1km, mb4.9/65, Error ellipse: s-maj=13.5km s-min=8.0km az=190.0*

GCMT ***10*** *04:22:02.9±0.2, 4.21S±0.01×151.10E±0.01, h12km, MW5.1/134, Moment Tensor Solution. s52,c64; s134,c207; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.56±.13; Mθθ6.25±.10; Mφφ-4.69±.12; Mrθ1.61±.31; Mθφ1.56±.11; Mφr-0.86±.36; Best double couple: Ms5.98600×1016 NP1:φs37.00000°, δ71.00000°, λ-175.00000°. NP2:φs306.00000°, δ85.00000°, λ-20.00000°. Principal axes: T 6.7340, Plg10.0000°, Azm353.0000°; N -1.4940, Plg70.0000°, Azm112.0000°; P -5.2390, Plg17.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 04:22:00.5±0.3, 4.34S±0.05×151.20E±0.05, h10km, n184, σ1§39/149, mb4.9/66, MS4.4/69, 2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076** 477nm,0.3s,baz=206,slow=1.9,SNR=199	**0.82**	**88**	Pg	**Pg**	**04 22 15.9**	**-0.4**
KRVT				Lg	Lg	04 22 28.6	
	2μm,0.3s,baz=278,slow=12,SNR=23						
RABL	**Rabaul**	**0.97**	**81**		**Pg**	**04 22 18.0**	**-1.2**
MANU	**Manus Island**	**4.46**	**301**		**Pn**	**04 23 07.8**	**-0.4**
PMG	**Port Moresby** 1.3nm,0.3s,baz=30,slow=13,SNR=4.5	**6.44**	**218**	Pn	**Pn**	**04 23 35.0**	**-0.5**
PMG				LR	LR	04 26 05.6	
	comp=Z,4μm,21.5s,baz=32,slow=39						
PMG	**Port Moresby**	**6.44**	**218**	Pn	**Pn**	**04 23 38.2**	**+2.8**
HNR	**Honiara**	**10.04**	**121**	LR	LR	04 28 49.1	
	comp=Z,3μm,18.6s,baz=304,slow=41						
HNR	**Honiara**	**10.04**	**121**	Pn	**Pn**	**04 24 24.6**	**-0.4**
COEN	**Coen**	**12.41**	**219**		**Pn**	**04 25 00.5**	**+3.1**
MTSU	**Mount Surprise** baz=16,SNR=6.0	**15.28**	**206**	P	**Pn**	**04 25 38.9**	**+2.4**
CTA	**Charters Tower** 0.4nm,0.3s,baz=22,slow=12,SNR=17	**16.38**	**197**	Pn	**Pn**	**04 25 53.6**	**+2.9**
CTA				LR	LR	04 31 53.8	
	comp=Z,1μm,20.2s,baz=18,slow=37						
CTAO	**Charters Tower**	**16.38**	**197**	Pn	**Pn**	**04 25 51.8**	**+1.1**
GUMO	**Guam** comp=Z,600nm,20.2s,baz=154,slow=32	**18.89**	**341**	LR	LR	04 31 57.7	
SANVU	**Saraoutou**	**19.22**	**126**	P	**P**	**04 26 23.4**	**-1.6**
SANVU				IAmb	IAmb	04 26 43.2	
	comp=Z,78nm,0.9s						
QIS	**Mount Isa** baz=20,SNR=9.3	**19.68**	**214**	P	**P**	**04 26 29.8**	**-0.2**
SIJI	**Sorong** comp=Z,2.9nm,0.3s,baz=106,slow=7.9,SNR=11	**20.21**	**279**	P	**P**	**04 26 36.1**	**+0.3**
SWI	**Sorong** comp=Z,2μmcomp=Z,35nm,1.2s	**20.22**	**279**	P	**P**	**04 26 35.4**	**-0.5**
KDU	**Kakadu** baz=20,SNR=9.7	**20.28**	**245**	P	**P**	**04 26 35.1**	**-1.4**
KOUNC	**Koumac, New Ca**	**20.54**	**143**	P	**P**	**04 26 38.1**	**-1.1**
EIDS	**Eidsvold** baz=21,SNR=19	**20.91**	**180**	P	**P**	**04 26 44.2**	**+1.0**
EIDS	**Eidsvold**	**20.91**	**180**	P	**P**	**04 26 44.4**	**+1.2**
MTN	**Manton Dam**	**21.55**	**246**	P	**P**	**04 26 49.1**	**-1.2**
MTN				IAmb	IAmb	04 27 14.5	
	comp=Z,50nm,1.2s						
RMQ	**Roma** baz=22,SNR=36	**22.15**	**186**	P	**P**	**04 26 57.5**	**+0.9**
WB0	**Warramunga Arr**	**22.44**	**226**	P	**P**	**04 26 59.5**	**-0.3**
WR0	**Warramunga Arr**	**22.47**	**225**	P	**P**	**04 26 59.5**	**-0.6**
WR0				IAmb	IAmb	04 27 07.7	

comp=Z,67nm,1.1s
WRAB Tennant Creek 22.58 225 P **P** **04 27 00.3 -1.1**
WRAB IAmb IAmb 04 27 26.7
comp=Z,46nm,0.9s
LIFNC LIFOU 22.59 138 P **P** **04 27 02.7 +1.4**
WB2 Warramunga Arr 22.59 225 P **P** **04 27 00.5 -0.9**
WB2 IAmb IAmb 04 27 27.5
comp=Z,51nm,0.9s
WRA Warramunga Arr 22.60 225 P **P** **04 26 59.5 -2.0**
comp=Z,3.3nm,0.5s,baz=51,slow=11,SNR=39
WRA LR LR 04 36 55.3
comp=Z,985nm,18.1s,baz=44,slow=40
WRA Warramunga Arr 22.60 225 P **P** **04 27 01.4 -0.1**
AAI Ambon 22.96 271 P **P** **04 27 03.9 -1.5**
comp=Z,51nm,1.1s
DZM Mont Dzumac 23.00 141 P **P** **04 27 05.0 -0.8**
comp=Z,26nm,0.7s,baz=338,slow=5.4,SNR=18
DZM Mont Dzumac 23.00 141 *eP* **P** **04 27 06.8 +1.1**
comp=Z,129nm,1.4s
DZM *e*LQ LQ 04 31 47.5
comp=Z,4μm,28.9s
DZM *e*LR LR 04 32 45.5
comp=Z,4μm,26.6s
DZM Mont Dzumac 23.00 141 P **P** **04 27 05.6 -0.1**
DZM IAmb IAmb 04 27 09.2
comp=Z,41nm,0.9s
QLP Quilpie 23.10 196 P **P** **04 27 06.9 +0.2**
baz=23,SNR=6.1
ONTNC Ouen Toro 23.18 142 P **P** **04 27 08.1 +0.6**
LBMI Labuha 23.96 278 P **P** **04 27 15.2 -0.1**
comp=Z,2μmcomp=Z,71nm,1.5s
KNRA Kununurra 24.77 241 P **P** **04 27 21.3 -1.4**
baz=25,SNR=5.2
KNRA Kununurra 24.77 241 P **P** **04 27 20.8 -1.9**
SANI Sanana 25.28 274 P **P** **04 27 25.6 -1.7**
comp=Z,1μmcomp=Z,42nm,0.9s
AS31 Alice Springs 25.45 219 P **P** **04 27 28.1 -0.8**
ASAR Alice Springs 25.46 219 P **P** **04 27 27.8 -1.1**
comp=Z,10nm,0.8s,baz=50,slow=8.8,SNR=65
ASAR LR LR 04 37 44.2
comp=Z,685nm,20.2s,baz=50,slow=37
ASAR Alice Springs 25.46 219 P **P** **04 27 27.3 -1.5**
ARMA Armidale 25.95 179 P **P** **04 27 33.4 +0.2**
baz=26,SNR=6.8
ARMA Armidale 25.95 179 P **P** **04 27 33.5 +0.2**
CMSA Cobar Meteorol 27.55 190 P **P** **04 27 47.6 0.0**
baz=28,SNR=9.9
BATI Baumata 27.92 256 LR LR 04 42 11.6
comp=Z,1μm,19.7s,baz=92,slow=44
DAV Davao City (W) 27.97 294 LR LR 04 38 36.5
comp=Z,816nm,18.4s,baz=146,slow=36
FITZ Fitzroy Crossi 28.50 239 P **P** **04 27 55.0 -1.3**
comp=Z,16nm,1.1s,baz=72,slow=7.4,SNR=13
FITZ LR LR 04 39 50.6
comp=Z,692nm,19.6s,baz=70,slow=38
STKA Stephens Creek 28.84 197 P **P** **04 27 57.6 -1.5**
comp=Z,12nm,1.0s,baz=355,slow=9.4,SNR=11
STKA LR LR 04 40 14.1
comp=Z,1μm,18.4s,baz=13,slow=38
STKA Stephens Creek 28.84 197 P **P** **04 27 59.7 +0.5**
baz=29,SNR=9.2
STKA Stephens Creek 28.84 197 P **P** **04 27 58.7 -0.5**
MSVF Nonsavu 29.46 119 LR LR 04 39 01.0
comp=Z,633nm,18.9s,baz=278,slow=35
WRKA Warakurna 30.14 225 P **P** **04 28 09.5 -1.3**
baz=30,SNR=12
HTT Hallett 31.13 200 P **P** **04 28 20.2 +0.8**
baz=31,SNR=4.9
KAPI Kappang 31.35 267 LR LR 04 42 47.7
comp=Z,164nm,19.7s,baz=86,slow=40
KAPI Kappang 31.35 267 P **P** **04 28 18.4 -3.3**
KAPI IAmb IAmb 04 28 23.6
comp=Z,24nm,1.2s
MPSI Mapaga 31.62 278 P **P** **04 28 22.7 -1.3**
comp=Z,18nm,0.9s
JCJ Chichijima 32.44 345 LR LR 04 40 30.0
comp=Z,672nm,20.9s,baz=124,slow=34
ARPS Mount Arapiles 33.40 194 P **P** **04 28 39.0 -0.3**
baz=34,SNR=5.8
MYLDM Lahad Datu 34.01 286 P **P** **04 28 42.9 -2.0**
MYLDM IAmb IAmb 04 28 53.7
comp=Z,25nm,1.2s
FORT Forrest 34.17 217 P **P** **04 28 46.7 +0.7**
PSA00 Pilbara Seismi 34.91 238 P **P** **04 28 53.1 +0.5**
AFI Afiamalu 37.71 107 LR LR 04 44 24.7
comp=Z,470nm,18.7s,baz=234,slow=36
JOW Kunigami 38.10 326 LR LR 04 41 50.9
comp=Z,693nm,21.7s,baz=122,slow=31
MEEK Meekatharra 38.23 231 P **P** **04 29 20.4 -0.6**
baz=38,SNR=4.7
JHJ Hachijo jima 2 38.79 345 LR LR 04 42 15.7
comp=Z,500nm,21.3s,baz=164,slow=31
PBKI Pangkalan Bun 39.49 271 P **P** **04 29 32.5 +0.9**
SBUM Sibu 39.53 279 P **P** **04 29 31.1 -0.9**
URZ Urewera 41.20 149 P **P** **04 29 45.8 +0.4**
comp=Z,2.2nm,0.3s,baz=325,slow=16,SNR=2.3
URZ LR LR 04 45 01.3
comp=Z,542nm,19.5s,baz=12,slow=34
KSM Kuching 41.27 277 P **P** **04 29 44.9 -1.5**
MORW Morawa 41.41 230 P **P** **04 29 47.6 +0.2**
MORW IAmb IAmb 04 30 13.9
comp=Z,18nm,1.0s
JNU Nakatsue 41.94 334 P **P** **04 29 51.1 -0.5**
comp=Z,19nm,1.1s,baz=200,slow=6.4,SNR=5.0
JNU Nakatsue 41.94 334 P **P** **04 29 49.2 -2.4**
JNU IAmb IAmb 04 29 54.1
comp=Z,25nm,1.1s
TUWZ Tuamarina 42.17 154 P **P** **04 29 52.7 -0.7**
MJAR Matsushiro Arr 42.44 344 LR LR 04 46 13.4
comp=Z,439nm,19.9s,baz=158,slow=34
RPZ Rata Peaks 42.96 159 P **P** **04 29 58.4 -1.4**
comp=Z,14nm,0.8s,baz=347,slow=5.8,SNR=7.6
RPZ LR LR 04 45 23.7
comp=Z,2μm,21.8s,baz=324,slow=33
RPZ Rata Peaks 42.96 159 P **P** **04 30 00.0 +0.2**
RPZ IAmb IAmb 04 30 08.7
comp=Z,36nm,1.1s
LEM Lembang 43.44 265 LR LR 04 52 38.4
comp=Z,158nm,19.3s,baz=122,slow=42
CNJI Cibinong 43.93 264 P **P** **04 30 04.7 -3.3**
comp=Z,46nm,1.2s
SSE Sheshan 45.41 323 P **P** **04 30 19.8 +0.3**
SSE S **S** **04 37 00.9 0.0**
SSE pmax pmax
comp=Z,13nm,0.7s
SSE pmax pmax
comp=Z,18nm,4.7s
SSE LR LR
comp=Z,190nm,20.2s
SSE LR LR
comp=Z,160nm,20.3s
QIZ Qiongzhong 46.87 301 P **P** **04 30 30.9 -0.4**
QIZ S **S** **04 37 22.0 -0.3**
QIZ LR LR
comp=Z,350nm,23.3s
QIZ LR LR
comp=Z,240nm,13.3s
QIZ LR LR
comp=Z,290nm,17.8s
MDSI Maura Dua 46.88 268 P **P** **04 30 29.2 -2.3**
comp=Z,1μmcomp=Z,8.0nm,1.1s
KSRS Korea Array 46.89 334 P **P** **04 30 32.5 +1.4**
comp=Z,2.4nm,1.0s,baz=151,slow=9.4,SNR=3.3
KSAR Wonju Array Be 46.89 334 P **P** **04 30 29.1 -2.0**
NJ2 Nanjing 47.49 322 *eP* **P** **04 30 37.1 +1.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,460nm,16.8s
NJ2 LR LR
comp=Z,270nm,14.2s
NJ2 LR LR
comp=Z,440nm,18.9s
MYKOM Kota Tinggi 47.71 276 P **P** **04 30 35.9 -2.0**
ASAJ Asahikawa 48.85 352 LR LR 04 49 53.7
comp=Z,324nm,20.6s,baz=144,slow=34
RAR Rarotonga 50.42 114 LR LR 04 48 33.5
comp=Z,128nm,21.5s,baz=258,slow=32
USRK Ussuriysk Ar. 51.31 342 P **P** **04 31 07.1 +2.2**
comp=Z,9.9nm,0.8s,baz=152,slow=9.5,SNR=3.2
USRK LR LR 04 51 15.9
comp=Z,309nm,20.3s,baz=143,slow=34
USRK Ussuriysk Ar. 51.31 342 P **P** **04 31 04.7 -0.2**
CN2 Changchun 53.24 337 *eP* **P** **04 31 21.5 +2.3**
CN2 *e*S **S** **04 38 51.4 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,400nm,20.0s
HNS HongShan 53.63 324 ⇓P **P** **04 31 24.7 +2.5**
HNS S **S** **04 39 00.0 +4.0**
HNS LR LR
comp=Z,320nm,19.5s
HNS LR LR
comp=Z,440nm,21.7s
GSI Gunungsitoli 53.88 275 P **P** **04 31 22.1 -2.4**
GSI Gunungsitoli 53.88 275 P **P** **04 31 22.5 -2.0**
comp=Z,14nm,0.8s
BNX BinXian 54.17 340 ⇓P **P** **04 31 28.2 +2.2**
BNX pmax pmax
comp=Z,13nm,0.8s
BNX pmax pmax
comp=Z,450nm,4.1s
LHMI Lhok Sumawe 55.02 279 P **P** **04 31 32.2 -0.5**
XAN Xi'an 55.20 317 P **P** **04 31 34.9 +1.1**
XAN pmax pmax
comp=Z,7.0nm,0.9s
KLR Kul'dur 55.97 345 LR LR 04 56 42.5
comp=Z,217nm,18.4s,baz=157,slow=37
CMAR Chiang Mai Arr 56.24 295 P **P** **04 31 42.4 +0.8**
comp=Z,2.5nm,0.4s,baz=111,slow=5.0,SNR=7.6
CMAR LR LR 04 56 11.0
comp=Z,82nm,18.5s,baz=70,slow=36
CMAR Chiang Mai Arr 56.24 295 P **P** **04 31 41.7 +0.2**
CHTO Chiang Mai 56.35 296 P **P** **04 31 42.0 -0.3**
CHTO IAmb IAmb 04 31 51.0
comp=Z,12nm,1.3s
PZH PanZhiHua 56.81 306 P **P** **04 31 45.8 +0.2**
PZH S **S** **04 39 37.9 -1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,3.7s
PZH LR LR
comp=Z,430nm,20.6s
PZH LR LR
comp=Z,480nm,21.0s
PZH LR LR
comp=Z,650nm,18.6s
PETK Petropavlovsk- 57.49 5 P **P** **04 31 51.2 +1.5**
comp=Z,3.5nm,0.8s,baz=186,slow=3.0,SNR=5.4
PETK LR LR 04 52 48.8
comp=Z,341nm,21.5s,baz=185,slow=32
PETK Petropavlovsk- 57.49 5 P **P** **04 31 50.0 +0.3**
HHC Hu-ho-hao-te 57.75 325 *eP* **P** **04 31 52.9 +1.0**
HHC S **S** **04 39 49.1 -2.0**
HHC sS sS 04 39 56.5 +1.2
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,180nm,4.9s
HHC LR LR
comp=Z,340nm,18.3s
HHC LR LR
comp=Z,380nm,18.9s
HHC LR LR
comp=Z,550nm,18.6s
PPT Papeete 59.38 108 LR LR 04 53 45.3
comp=Z,89nm,21.2s,baz=296,slow=32
PPT2 Papeete2 59.38 108 *e*S **S** **04 40 08.1 -5.0**
comp=Z,269nm,24.5s
PPT2 *e*LQ LQ 04 47 01.4
comp=Z,386nm,28.0s
PPT2 *e*LR LR 04 49 35.7
comp=Z,535nm,36.0s
LZH Lanzhou 59.80 316 *e*P **P** **04 32 09.4 +3.1**
LZH sP pwP 04 32 15.9 +4.2
LZH S **S** **04 40 16.3 -1.7**
LZH sS sS 04 40 24.3 +2.1
LZH pmax pmax
comp=Z,20nm,1.1s
LZH LR LR
comp=Z,1μm,15.1s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,1μm,17.3s
SHEM Shemya Is, Ala 60.06 16 LR LR 04 53 40.5
comp=Z,287nm,21.4s,baz=189,slow=32
MA2 Magadan 63.72 360 LR LR 04 56 32.3
comp=Z,411nm,21.9s,baz=176,slow=32
MA2 Magadan 63.72 360 P **P** **04 32 31.9 -0.1**
MA2 IAmb IAmb 04 32 39.8
comp=Z,7.5nm,0.8s
GTA Gaotai 64.24 318 *e*P **P** **04 32 39.2 +3.1**
GTA sP pwP 04 32 48.3 +6.8
GTA pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 64.77 329 P **P** **04 32 39.7 +0.2**
ULN IAmb IAmb 04 32 48.6
comp=Z,6.8nm,0.9s
SONM Songino Array 65.09 328 P **P** **04 32 42.3 +0.8**
comp=Z,1.5nm,0.5s,baz=130,slow=6.0,SNR=4.1
SONM LR LR 05 00 52.5
comp=Z,348nm,21.4s,baz=154,slow=36
SONM Songino Array 65.09 328 P **P** **04 32 41.8 +0.3**
SONM IAmb IAmb 04 33 11.2
comp=Z,6.6nm,1.0s
GOMU GeErMu 66.28 313 P **P** **04 32 49.8 +0.1**
GOMU pP sP 04 32 53.1 -0.1
GOMU PcP **PcP** **04 33 19.1 -0.6**
GOMU PP **PP** **04 35 15.4 -0.3**
GOMU S **S** **04 41 39.9 +0.3**
GOMU sS sS 04 41 46.0 +2.2
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU pmax pmax
comp=Z,94nm,6.5s
GOMU LR LR
comp=Z,120nm,15.5s
GOMU LR LR
comp=Z,140nm,18.0s
GOMU LR LR
comp=Z,160nm,20.0s
SEY Seymchan 67.09 1 LR LR 04 57 00.2
comp=Z,268nm,22.0s,baz=179,slow=31
YAK Yakutsk 68.22 349 LR LR 05 00 37.9
comp=Z,251nm,21.6s,baz=94,slow=34
TAOE Nuku Hiva Isla 68.27 98 *e*LR LR 04 53 43.4
comp=Z,388nm,25.7s
PALK Pallekele 71.29 279 LR LR 05 08 44.4
comp=Z,87nm,18.1s,baz=211,slow=39
BILL Bilibino 72.99 6 P **P** **04 33 30.8 +0.8**
BILL IAmb IAmb 04 33 58.0
comp=Z,15nm,1.3s
VNDA Vanda 73.35 178 P **P** **04 33 31.6 -0.4**
comp=Z,2.2nm,0.8s,baz=314,slow=5.6,SNR=12
VNDA LR LR 05 01 24.1
comp=Z,181nm,21.7s,baz=14,slow=32
VNDA Vanda 73.35 178 P **P** **04 33 31.9 -0.2**
VNDA IAmb IAmb 04 33 39.5
comp=Z,9.3nm,1.1s
WMQ Urumqi 74.33 318 *e*P **P** **04 33 40.2 +1.7**
WMQ pmax pmax
comp=Z,17nm,1.1s
WMQ LR LR
comp=Z,210nm,22.5s
KDAK Kodiak Island 76.49 27 LR LR 05 04 14.6
comp=Z,247nm,19.6s,baz=252,slow=33
TIXI Tiksi 77.24 353 LR LR 05 06 54.5
comp=Z,150nm,20.7s,baz=179,slow=35
TIXI Tiksi 77.24 353 P **P** **04 33 55.1 +0.7**
L19K White Mountain 77.94 23 IAmb IAmb 04 34 03.7
comp=Z,11nm,0.9s
MK31 Makanchi Array 78.94 319 P **P** **04 34 04.3 -0.1**
MKAR Makanchi Array 78.94 319 P **P** **04 34 04.5 +0.1**
comp=Z,2.6nm,1.0s,baz=106,slow=6.4,SNR=12
MKAR LR LR 05 09 48.8
comp=Z,136nm,20.2s,baz=71,slow=36
MKAR Makanchi Array 78.94 319 P **P** **04 34 03.8 -0.7**
MAKZ Makanchi 79.14 319 P **P** **04 34 05.2 -0.4**
J20K Nowinta River 79.33 21 IAmb IAmb 04 34 31.9
comp=Z,16nm,1.2s
ZALV Zalesovo Beam 79.89 327 P **P** **04 34 09.0 -0.5**
comp=Z,3.3nm,0.9s,baz=93,slow=6.1,SNR=8.5
ZALV LR LR 05 08 38.2
comp=Z,265nm,20.9s,baz=84,slow=35
ZALV Zalesovo Beam 79.89 327 P **P** **04 34 08.8 -0.7**
IMAR Indian Mountai 80.49 20 P **P** **04 34 12.6 +0.1**
I21K Tanana 80.66 21 IAmb IAmb 04 34 41.9
comp=Z,15nm,1.1s
RND Reindeer 80.93 23 IAmb IAmb 04 34 20.8
comp=Z,21nm,1.2s
MCK McKinley 81.05 23 P **P** **04 34 15.2 -0.3**
MCK IAmb IAmb 04 34 39.5
comp=Z,17nm,1.1s
KSH Kashi 81.43 311 P **P** **04 34 22.1 +3.9**
KSH sP PcP 04 34 27.4 +3.2
KSH pmax pmax
comp=Z,3.0nm,0.6s
CCB Clear Creek Bu 81.93 22 P **P** **04 34 19.1 -0.9**
CCB IAmb IAmb 04 34 47.2
comp=Z,12nm,1.2s
COLA College 82.02 22 P **P** **04 34 21.4 +0.9**
COLA IAmb IAmb 04 34 49.2
comp=Z,21nm,1.3s
BOOM Boomskoye usch 82.12 314 P **P** **04 34 21.7 -0.1**
ILAR Eielson Array 82.34 22 P **P** **04 34 21.4 -0.8**
comp=Z,2.0nm,0.7s,baz=243,slow=5.1,SNR=10
ILAR LR LR 05 11 09.2
comp=Z,167nm,18.5s,baz=232,slow=36
ILAR Eielson Array 82.34 22 P **P** **04 34 21.8 -0.4**
NIL Nilore 82.41 305 P **P** **04 34 23.2 -0.1**
NIL IAmb IAmb 04 34 31.2
comp=Z,11nm,0.9s
KURK Kurchatov 82.43 322 P **P** **04 34 23.5 +0.5**
KURK IAmb IAmb 04 34 30.9
comp=Z,13nm,1.1s
KURBB Kurchatov Arra 82.46 322 LR LR 05 10 17.6
comp=Z,246nm,21.6s,baz=52,slow=35
J25K Salcha River, 82.85 23 IAmb IAmb 04 34 53.0
comp=Z,14nm,1.2s
AAK Ala-Archa 83.20 314 LR LR 05 12 37.0
comp=Z,84nm,20.0s,baz=88,slow=36
AAK Ala-Archa 83.20 314 P **P** **04 34 28.4 +0.9**
EGAK Eagle 84.57 23 P **P** **04 34 33.9 +0.2**
EGAK IAmb IAmb 04 35 03.2
comp=Z,9.3nm,1.1s
NRIK Noril'sk 85.02 341 P **P** **04 34 37.0 +1.2**
comp=Z,6.2nm,0.6s,baz=91,slow=4.1,SNR=9.4
NRIK LR LR 05 12 02.2
comp=Z,183nm,20.7s,baz=131,slow=35
MAW Mawson 85.38 203 LR LR 05 09 49.8
comp=Z,544nm,21.5s,baz=94,slow=34
BTK Batken 85.43 311 P **P** **04 34 39.5 +0.7**
BTK IAmb IAmb 04 34 50.0
comp=Z,12nm,1.2s
QSPA South Pole Qui 85.62 180 LR LR 05 11 45.5
comp=Z,217nm,19.2s,baz=32,slow=35
QSPA South Pole Qui 85.62 180 P **P** **04 34 40.4 +1.3**
GAR Garm 85.64 310 IAmb IAmb 04 35 00.9
comp=Z,13nm,1.1s
KK31 Karatay Array 86.16 314 P **P** **04 34 42.1 -0.1**
KK31 IAmb IAmb 04 34 51.8
comp=Z,8.8nm,1.2s
EPYK Eagle Plains 86.85 23 P **P** **04 34 44.8 -0.3**
BBB Bella Bella 87.70 37 LR LR 05 08 30.6
comp=Z,176nm,19.4s,baz=284,slow=32
DLBC Dease Lake 87.81 31 LR LR 05 09 35.5
comp=Z,289nm,18.9s,baz=280,slow=32
BRVK Borovoye 87.99 323 P **P** **04 34 50.5 -0.3**
BRVK IAmb IAmb 04 34 57.7
comp=Z,5.3nm,0.9s
INK Inuvik 88.59 21 P **P** **04 34 54.1 +0.8**
comp=Z,1.9nm,1.0s,baz=263,slow=8.4,SNR=3.9
INK LR LR 05 12 25.1
comp=Z,182nm,19.4s,baz=234,slow=34
INK Inuvik 88.59 21 P **P** **04 34 53.9 +0.6**
INK IAmb IAmb 04 35 08.9
comp=Z,9.3nm,1.4s
YBH Yreka Blue Hor 89.94 48 LR LR 05 07 49.2
comp=Z,272nm,21.7s,baz=264,slow=30
NVAR Mina Array Bea 93.05 52 P **P** **04 35 16.2 +1.1**
comp=Z,0.8nm,0.8s,baz=254,slow=5.8,SNR=6.1
NVAR LR LR 05 09 40.0
comp=Z,134nm,20.5s,baz=266,slow=31
NVAR Mina Array Bea 93.05 52 P **P** **04 35 15.2 +0.1**
ABKAR Akbulak array 94.08 319 P **P** **04 35 18.2 -1.0**
PFO Pinyon Flats O 94.32 57 LR LR 05 10 20.4
comp=Z,285nm,20.8s,baz=262,slow=31
NEW Newport 94.32 42 LR LR 05 10 56.4
comp=Z,108nm,21.3s,baz=270,slow=31
ARU Arti 95.05 326 LR LR 05 17 15.8
comp=Z,285nm,21.8s,baz=93,slow=35
GEYT Alibeck 95.08 308 LR LR 05 20 22.3
comp=Z,102nm,20.8s,baz=54,slow=37
AKTO Aktyubinsk 95.35 320 LR LR 05 18 51.9
comp=Z,185nm,21.4s,baz=66,slow=36
ELK Elko 95.50 50 LR LR 05 15 04.7
comp=Z,86nm,18.6s,baz=278,slow=33
YKA Yellowknife Ar 95.76 28 P **P** **04 35 27.4 +0.8**
comp=Z,0.5nm,0.9s,baz=274,slow=4.8,SNR=5.3
YKA PP **PP** **04 39 18.8 +0.6**
comp=Z,0.5nm,1.0s,baz=268,slow=8.4,SNR=3.3
YKA LR LR 05 17 51.3
comp=Z,177nm,18.7s,baz=308,slow=35
RPN Rapa Nui 96.43 118 LR LR 05 10 47.2
comp=Z,55nm,21.0s,baz=309,slow=30
LPIG La Paz 99.50 66 LR LR 05 13 16.7
comp=Z,424nm,20.1s,baz=242,slow=31
PDAR Pinedale Array 99.71 48 P **Pdif** **04 35 46.4 +1.2**
comp=Z,0.7nm,1.0s,baz=267,slow=6.0,SNR=1.7
PDAR LR LR 05 16 16.7
comp=Z,98nm,18.7s,baz=296,slow=33
KIRV Kirov 99.83 329 LR LR 05 21 35.7
comp=Z,203nm,20.9s,baz=73,slow=36
GERES GERESS Array B 122.83 328 PKP **PKiKP** **04 40 58.1 +0.8**
comp=Z,0.2nm,0.4s,baz=339,slow=1.4,SNR=2.2
TORD Torodi Ar. Bea 148.65 288 PKPbc **PKPbc** **04 41 48.0 -1.0**
comp=Z,1.9nm,0.8s,baz=32,slow=2.3,SNR=7.0
TORD Torodi Ar. Bea 148.65 288 **PKPbc** **04 41 48.7 -0.3**
BDFB Brasilia 152.50 137 PKPbc **PKiKP** **04 41 59.8 +1.2**
comp=Z,1.8nm,0.8s,baz=153,slow=4.5,SNR=3.1

IDC 10 05:00:23.0±1.3, 4.3°34S×151.07E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/43, mbtmp3.6/3, Error ellipse: s-maj=40.3km s-min=11.1km az=171.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.95**	**88**	Pg	Pg	05 00 40.7	-0.6
	125nm,0.3s,baz=68,slow=1.0,SNR=62						
KRVT				LR	LR	05 00 43.5	
	comp=Z,118nm,20.6s,baz=21,slow=22						
KRVT				Lg	Lg	05 00 55.0	
	226nm,0.3s,baz=99,slow=24,SNR=14						
WRA	**Warramunga Arr**	**22.50**	**225**	P	P	05 05 23.9	-0.5
	1.1nm,0.6s,baz=50,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**25.37**	**219**	P	P	05 05 52.2	0.0
	0.7nm,0.7s,baz=51,slow=9.1,SNR=2.7						
ILAR	**Eielson Array**	**82.39**	**22**	P	P	05 12 45.8	-0.9
	0.6nm,0.9s,baz=234,slow=5.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**148.53**	**288**	PKPbc	PKiKP	05 20 14.1	-0.5
	0.7nm,0.9s,baz=52,slow=3.0,SNR=2.3						

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*SOME **10** 05:57:53.4, 44.80N×82.05E, h25km*
*NNC **10** 05:57:54.3±2.1, 44.84N×81.88E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=36.7km s-min=4.9km az=116.0*

ISC 10 05:57:53.8±2.5, 44.68N±0.06×82.11E±0.07, h6km±18km, n14, σ1.31/28, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.69**	**259**	*e*P	**Pn**	**05 58 23.8**	**-0.1**
	2.0nm,0.2s						
DJR				*e*S	**Sn**	**05 58 45.5**	**-0.4**
	8.8nm,0.3s						
KTMS	**Ketmen**	**1.77**	**226**	*e*P	**Pb**	**05 58 26.3**	**-0.3**
	0.9nm,0.3s						
KTMS				*e*S	**Sg**	**05 58 49.9**	**-0.6**
	11nm,0.2s						
KAPS	**Kapalarasan**	**2.04**	**288**	*e*P	**Pn**	**05 58 30.0**	**+1.2**
	3.0nm,0.3s						
KAPS				*e*S	**Sb**	**05 58 56.3**	**-0.7**
	10nm,0.4s						
MK31	**Makanchi Array**	**2.12**	**3**	Pn	**Pn**	**05 58 28.9**	**-0.8**
	2.5nm,0.3s,baz=187,slow=15,SNR=109						
MK31				⇓Sn	**Sn**	**05 58 56.3**	**-0.1**
	2.1nm,0.3s,baz=183,slow=28,SNR=19						
MAKZ	**Makanchi**	**2.13**	**358**	⇓Pn	**Pn**	**05 58 29.0**	**-0.9**
	1.4nm,0.4s						
MAKZ				⇑Sn	**Sn**	**05 58 54.8**	**-1.9**
	3.2nm,0.5s						

PDGK	**Podgornoye**	**2.32**	**235**	⇓Pn		**Pn**	**05 58 33.0**	**+0.5**
	1.1nm,0.6s							
PDGK				⇑Sn		**Sb**	**05 59 03.8**	**-1.1**
	6.2nm,0.5s							
SHLS	**Shalkode**	**2.44**	**232**	*eP*		**Pn**	**05 58 33.7**	**-0.6**
	1.5nm,0.2s							
SHLS				*eS*		**Sn**	**05 59 02.5**	**-2.0**
	19nm,0.4s							
BLB	**Baldybastay**	**2.66**	**259**	*eP*		**Pb**	**05 58 41.0**	**-0.9**
	5.2nm,0.1s							
BLB				*eS*		**Sb**	**05 59 15.3**	**+0.4**
	6.9nm,0.2s							
UZB	**Uzynbulak**	**2.70**	**237**	*eP*		**Pb**	**05 58 42.4**	**-0.2**
	2.4nm,0.1s							
UZB				*eS*		**Sb**	**05 59 17.3**	**+1.2**
	4.2nm,0.3s							
KPKS	**Kokpek**	**2.75**	**245**	*eP*		**Pb**	**05 58 42.8**	**-0.5**
	1.2nm,0.2s							
KPKS				*eS*		**Sb**	**05 59 18.2**	**+1.0**
	15nm,0.3s							
ARXS	**Arharly**	**3.10**	**263**	*eP*		**Pb**	**05 58 48.8**	**-0.5**
	1.0nm,0.3s							
ARXS				*eS*		**Sb**	**05 59 28.6**	**+1.2**
	9.5nm,0.2s							
SATY	**Saty**	**3.13**	**240**	*eP*		**Pb**	**05 58 49.6**	**-0.2**
	1.3nm,0.2s							
SATY				*eS*		**Sb**	**05 59 29.9**	**+1.7**
	4.7nm,0.2s							
ZSN	**Zaisan**	**3.37**	**34**	*eP*		**Pn**	**05 58 48.3**	**+1.3**
	1.9nm,0.4s							
ZSN				*eS*		**Sn**	**05 59 27.8**	**+0.5**
	4.0nm,0.6s							
KTBS	**Karatobe**	**4.02**	**258**	*eP*		**Pb**	**05 59 06.0**	**+1.1**
	1.3nm,0.5s							
KTBS				*eS*		**Sb**	**05 59 57.8**	**+4.0**
	2.8nm,0.4s							

NEIC ***10*** *06:13:54.7±1.5, 19°.6S±0°.1×169°.7E±0°.1, h260km±8km, mb4.1/15, Error ellipse: s-maj=20.2km s-min=17.0km az=97.0*

IDC ***10*** *06:13:55.5±2.3, 19°.28S×169°.38E, h260km±28km, mb3.4/5, mb1 3.7/7, mb1mx3.4/27, mbtmp4.0/7, Error ellipse: s-maj=76.8km s-min=16.1km az=157.0*

ISC 10 06:13:55.1±0.6,**19°.5S**±0°.1×**169°.56E**±0°.10,**h260km**,**n40,** σ0**90**/44,**mb4.0**/12,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.44**	**216**		**Pn**	**06 14 41.9**	**-0.6**
LIFNC	**LIFOU**	**2.52**	**239**	Pn	**Pn**	**06 14 42.6**	**-0.7**
PINNC	**Pines Island,**	**3.67**	**212**	Pn	**Pn**	**06 14 55.5**	**-0.1**
OUENC	**Ouen Island, N**	**3.86**	**221**	Pn	**Pn**	**06 14 58.3**	**+0.6**
DZM	**Mont Dzumac**	**3.88**	**228**	P	**Pn**	**06 14 58.8**	**+0.8**
DZM	7.6nm,0.3s,baz=61,slow=19,SNR=86			S	**S**	**06 15 49.0**	**+0.8**
	1.1nm,0.3s,baz=318,slow=23,SNR=1.6						
DZM	**Mont Dzumac**	**3.88**	**228**		**Pn**	**06 14 58.7**	**+0.6**
ONTNC	**Ouen Toro**	**4.03**	**226**		**Pn**	**06 15 00.1**	**+0.4**
KOUNC	**Koumac, New Ca**	**5.07**	**257**	Pn	**Pn**	**06 15 13.9**	**+1.9**
MSVF	**Nonsavu**	**8.24**	**79**	P	**Pn**	**06 15 53.7**	**+2.1**
	1.4nm,0.3s,baz=247,slow=14,SNR=4.0						
EIDS	**Eidsvold**	**18.05**	**248**	P	**P**	**06 17 49.0**	**+1.3**
EIDS				IAmb	IAmb	06 18 12.9	
	comp=Z,10nm,1.4s						
ARMA	**Armidale**	**19.53**	**233**	P	**P**	**06 18 05.2**	**+1.6**
ARMA				IAmb	IAmb	06 18 31.7	
	comp=Z,8.6nm,1.5s						
STKA	**Stephens Creek**	**27.96**	**238**	P	**P**	**06 19 22.3**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=49,slow=9.3,SNR=3.1						
BBOO	**Buckleboo**	**32.71**	**239**	P	**P**	**06 20 03.7**	**+0.1**
BBOO				IAmb	IAmb	06 20 32.7	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**32.93**	**263**	P	**P**	**06 20 04.8**	**-1.0**
WR0				IAmb	IAmb	06 20 27.3	
	comp=Z,4.7nm,1.2s						
WB0	**Warramunga Arr**	**33.09**	**264**	P	**P**	**06 20 06.0**	**-1.1**
WB0				IAmb	IAmb	06 20 06.7	
	comp=Z,3.2nm,0.7s						
WB2	**Warramunga Arr**	**33.11**	**263**	P	**P**	**06 20 06.0**	**-1.3**
WB2				IAmb	IAmb	06 20 08.1	
	comp=Z,5.6nm,1.2s						
WRA	**Warramunga Arr**	**33.12**	**263**	P	**P**	**06 20 06.3**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=95,slow=7.8,SNR=29						
WRA				PcP	**PcP**	**06 22 43.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=90,slow=3.2,SNR=1.7						
WRA	**Warramunga Arr**	**33.12**	**263**	P	**P**	**06 20 05.7**	**-1.7**
AS31	**Alice Springs**	**33.36**	**256**	P	**P**	**06 20 09.0**	**-0.4**
AS31				IAmb	IAmb	06 20 09.4	
	comp=Z,2.4nm,0.6s						
ASAR	**Alice Springs**	**33.36**	**256**	P	**P**	**06 20 08.8**	**-0.6**
	comp=Z,4.9nm,0.6s,baz=84,slow=9.3,SNR=116						
ASAR				PcP	**PcP**	**06 22 43.7**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=131,slow=3.8,SNR=3.2						
ASAR	**Alice Springs**	**33.36**	**256**	P	**P**	**06 20 08.6**	**-0.8**
MTN	**Manton Dam**	**37.44**	**274**	P	**P**	**06 20 44.2**	**+0.1**
KNRA	**Kununurra**	**39.01**	**269**	P	**P**	**06 20 56.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**41.52**	**264**	P	**P**	**06 21 18.1**	**+0.5**
PSA00	**Pilbara Seismi**	**46.45**	**258**	P	**P**	**06 21 56.6**	**0.0**
PSA00				IAmb	IAmb	06 22 06.3	
	comp=Z,16nm,1.5s						
MBWA	**Marble Bar**	**46.60**	**259**	P	**P**	**06 21 57.7**	**-0.1**
MJB9	**Matsu-Tunnel**	**63.13**	**332**	P	**P**	**06 23 55.7**	**+0.2**
QSPA	**South Pole Qui**	**70.55**	**180**	P	**P**	**06 24 41.1**	**-0.8**
QSPA				IAmb	IAmb	06 25 05.3	
	comp=Z,4.1nm,1.4s						
NVAR	**Mina Array Bea**	**88.75**	**48**	P	**P**	**06 26 20.8**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=225,slow=6.6,SNR=4.3						
ILAR	**Eielson Array**	**90.39**	**17**	P	**P**	**06 26 25.5**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=225,slow=4.9,SNR=4.2						
ARCES	**ARCESS Array B**	**125.40**	**345**	PKP	**PKPdf**	**06 32 23.6**	**-0.9**
	comp=Z,3.9nm,1.1s,baz=50,slow=2.4,SNR=12						
CONA	**Conrad Observa**	**144.52**	**329**	*eP*	**PKPdf**	**06 33 00.4**	**-0.3**
	comp=Z,2.3nm,0.6s						
GERES	**GERESS Array B**	**144.86**	**332**	PKP	**PKPbc**	**06 33 00.5**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=63,slow=2.6,SNR=10						
MOA	**Molln**	**145.34**	**330**	*eP*	**PKPbc**	**06 33 02.6**	**+0.3**
	comp=Z,1.3nm,0.5s						
KBA	**Koelnbreinsper**	**146.33**	**330**	*eP*	**PKPab**	**06 33 07.0**	**+0.2**
	comp=Z,0.5nm,0.2s						
ABTA	**Abfaltersbach**	**146.96**	**331**	*i* P	**PKPbc**	**06 33 06.3**	**-1.0**
	comp=Z,1.0nm,0.4s						
ABTA				*i* P	**PKiKP**	**06 33 08.2**	**-1.2**
	comp=Z,0.8nm,0.4s						
MOTA	**Moosalm**	**147.14**	**333**	*i* P	**PKPbc**	**06 33 07.2**	**-0.5**
	comp=Z,0.8nm,0.3s						
RETA	**Reutte**	**147.18**	**333**	*i* P	**PKPbc**	**06 33 07.3**	**-0.4**
	comp=Z,1.1nm,0.5s						
SQTA	**Sankt Quirin**	**147.19**	**332**	*eP*	**PKPbc**	**06 33 07.5**	**-0.4**
	comp=Z,1.7nm,0.4s						
FETA	**Feichten**	**147.55**	**333**	*i* P	**PKPbc**	**06 33 08.7**	**-0.2**
	comp=Z,0.6nm,0.3s						

SNET ***10*** *06:14:04.8±1.3, 14°.07N×89°.74W, h10km±5km, ML2.8*
INET ***10*** *06:14:05.4±0.6, 14°.14N×89°.59W, h2km±8km, MW2.6*

ISC 10 06:14:05.3±1.3,**14°.08N**±0°.05×**89°.67W**±0°.05,**h4km**±17km, **n14,** σ0**55**/18,**2C-2D,Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLOZ	**Alcaldia de Sa**	**0.13**	**243**	⇑*eP*	**Pg**	**06 14 07.3**	**-0.5**
SLOZ				*eS*	**Sg**	**06 14 09.6**	**+0.1**
SLOZ				IAML		06 14 11.8	
	comp=Z,4μm,0.5s						
NUBE	**Las Nubes**	**0.21**	**211**	⇓*iP*	**Pg**	**06 14 09.2**	**-0.3**
NUBE				*eS*	**Sg**	**06 14 12.4**	**+0.2**
NUBE				IAML		06 14 14.7	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**0.26**	**170**	⇓*iP*	**Pg**	**06 14 10.8**	**+0.4**
MTO3	**Montecristo**	**0.43**	**44**	*eP*	**Pg**	**06 14 13.6**	**-0.1**
MTO3				*eS*	**Sg**	**06 14 20.0**	**+0.7**
SNET	**Serv Nac Est T**	**0.58**	**133**	*eP*	**Pg**	**06 14 16.6**	**+0.2**
SJTE	**Alcalda de S**	**0.79**	**126**	*eP*	**Pg**	**06 14 20.4**	**-0.1**
PAVA	**Las Pavas**	**0.80**	**117**	*eP*	**Pg**	**06 14 20.5**	**-0.1**
PAVA	**Las Pavas**	**0.80**	**117**	*eP*	**Pg**	**06 14 20.5**	**-0.1**
PAVA				*eS*	**Sb**	**06 14 32.7**	**-0.4**
COEG	**Centro de Oper**	**0.89**	**121**	*i* P	**Pg**	**06 14 22.2**	**-0.2**
COEG				IAML		06 14 36.2	
	comp=Z,329nm,0.4s						
SCLA	**Alcaldia de Sa**	**0.99**	**113**	*eP*	**Pg**	**06 14 23.7**	**-0.6**
PQSS	**Presa 15 de Se**	**1.17**	**113**	*eP*	**Pg**	**06 14 26.8**	**-0.9**
COEB	**Comit de Eme**	**1.25**	**118**	*eP*	**Pg**	**06 14 28.4**	**-0.9**
COEB	**Comit de Eme**	**1.25**	**118**	*eP*	**Pg**	**06 14 28.4**	**-0.9**
LCND	**La Caada**	**1.89**	**114**	*i* P	**Pn**	**06 14 38.8**	**+0.4**

IDC ***10*** *06:40:49.9±0.5, 14°.13S×166°.61E, h0km, mb4.4/13, mb1 4.4/14, mb1mx4.3/34, mbtmp4.3/14, ML4.3/1, MS3.6/10, Ms1 3.6/10, ms1mx3.2/63, Error ellipse: s-maj=23.1km s-min=16.2km az=106.0*

NEIC ***10*** *06:40:51.8±1.2, 14°.23S±0°.07×166°.7E±0°.1, h11km±4km, mb4.7/46, Error ellipse: s-maj=16.8km s-min=8.0km az=61.0*

NOU ***10*** *06:40:52.4, 14°.21S×166°.75E, h0km, MLv5.1/17, Vanuatu Islands*

ISC 10 06:40:55.2±0.5,**14°.26S**±0°.06×**166°.64E**±0°.08,**h35km**,**n104,** σ0**91**/103,**mb4.6**/33,**MS3.5**/8,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.30**	**155**		**Pn**	**06 41 15.9**	**-1.1**
SANVU				Sn	**Sn**	**06 41 32.6**	**-0.6**
SANVU	**Saraoutou**	**1.30**	**155**	P	**Pn**	**06 41 15.8**	**-1.1**
DVP	**Devils Point**	**3.75**	**157**	P	**Pn**	**06 41 52.4**	**+1.7**
RTV	**Rentapao**	**3.91**	**154**	P	**Pn**	**06 41 54.6**	**+1.8**
LIFNC	**LIFOU**	**6.51**	**175**	Pn	**Pn**	**06 42 27.6**	**-0.9**
LIFNC	**LIFOU**	**6.51**	**175**	P	**Pn**	**06 42 30.5**	**+1.9**
KOUNC	**Koumac, New Ca**	**6.65**	**199**		**Pn**	**06 42 30.8**	**+0.2**
KOUNC	**Koumac, New Ca**	**6.65**	**199**	P	**Pn**	**06 42 31.8**	**+1.3**
MARNC	**Mare, Loyalty**	**7.30**	**170**		**Pn**	**06 42 39.4**	**-0.1**
MARNC	**Mare, Loyalty**	**7.30**	**170**	P	**Pn**	**06 42 41.2**	**+1.7**
YATNC	**Mamie plateau,**	**7.76**	**178**	P	**Pn**	**06 42 46.1**	**+0.3**
DZM	**Mont Dzumac**	**7.78**	**181**	Pn	**Pn**	**06 42 46.8**	**+0.7**
DZM	4.3nm,0.3s,baz=186,slow=18,SNR=45			Sn	**Sn**	**06 44 12.9**	**0.0**
	baz=307,slow=20,SNR=1.4						
DZM	**Mont Dzumac**	**7.78**	**181**		**Pn**	**06 42 44.7**	**-1.3**
DZM	**Mont Dzumac**	**7.78**	**181**	P	**Pn**	**06 42 47.0**	**+1.0**
NOUC	**Port Laguerre**	**7.81**	**182**	P	**Pn**	**06 42 47.9**	**+1.5**
ONTNC	**Ouen Toro**	**8.01**	**181**		**Pn**	**06 42 47.8**	**-1.4**
ONTNC	**Ouen Toro**	**8.01**	**181**	P	**Pn**	**06 42 51.3**	**+2.1**
HNR	**Honiara**	**8.12**	**305**	Pn	**Pn**	**06 42 52.2**	**+1.5**
HNR	44nm,0.3s,baz=46,slow=3.3,SNR=5.7			Sn	**Sn**	**06 44 20.8**	**-0.5**
	30nm,0.3s,baz=334,slow=22,SNR=3.0						
HNR	**Honiara**	**8.12**	**305**		**Pn**	**06 42 49.1**	**-1.6**
HNR	**Honiara**	**8.12**	**305**	P	**Pn**	**06 42 52.3**	**+1.6**
OUENC	**Ouen Island, N**	**8.12**	**179**		**Pn**	**06 42 49.9**	**-0.8**
OUENC	**Ouen Island, N**	**8.12**	**179**	P	**Pn**	**06 42 52.5**	**+1.8**
PINNC	**Pines Island,**	**8.35**	**175**		**Pn**	**06 42 53.1**	**-0.7**
MSVF	**Nonsavu**	**11.50**	**109**	LR	LR	06 47 04.6	
	comp=Z,456nm,18.1s,baz=93,slow=32						
EIDS	**Eidsvold**	**18.32**	**231**	P	**P**	**06 45 05.7**	**-0.9**
PMG	**Port Moresby**	**19.67**	**282**	LR	LR	06 51 54.1	
	comp=Z,118nm,18.5s,baz=52,slow=34						
CTA	**Charters Tower**	**20.32**	**251**	P	**P**	**06 45 27.8**	**-0.7**
	7.3nm,0.9s,baz=74,slow=12,SNR=7.3						
CTA				LR	LR	06 52 24.1	
	comp=Z,135nm,19.1s,baz=73,slow=34						
CTAO	**Charters Tower**	**20.32**	**251**	P	**P**	**06 45 27.1**	**-1.4**
AFI	**Afiamalu**	**20.93**	**92**	LR	LR	06 52 05.2	
	comp=Z,98nm,19.1s,baz=142,slow=32						
URZ	**Urewera**	**25.64**	**161**	P	**P**	**06 46 24.1**	**+2.5**
	9.0nm,0.8s,baz=27,slow=9.0,SNR=2.7						
BKZ	**Black Stump Fm**	**26.29**	**163**	P	**P**	**06 46 27.4**	**-0.1**
BKZ				IAmb	IAmb	06 46 36.0	
	comp=Z,8.0nm,0.7s						
CAN	**Canberra**	**26.31**	**214**	P	**P**	**06 46 27.1**	**-0.6**
CAN				IAmb	IAmb	06 46 33.9	
	comp=Z,16nm,1.4s						
BFZ	**Birch Farm**	**27.63**	**164**	P	**P**	**06 46 39.3**	**-0.3**
THZ	**Tophouse**	**27.94**	**170**	P	**P**	**06 46 42.8**	**+0.5**
THZ				IAmb	IAmb	06 47 03.0	
	comp=Z,11nm,1.1s						
LTZ	**Lake Taylor**	**28.84**	**171**	P	**P**	**06 46 49.8**	**-0.5**
LTZ				IAmb	IAmb	06 46 55.4	
	comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	**28.84**	**228**	P	**P**	**06 46 50.9**	**+0.4**
	comp=Z,2.4nm,0.4s,baz=58,slow=7.8,SNR=10						
STKA				PcP	**PcP**	**06 50 00.2**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=136,slow=4.7,SNR=3.4						
STKA				LR	LR	06 58 04.6	
	comp=Z,262nm,18.2s,baz=31,slow=36						
STKA	**Stephens Creek**	**28.84**	**228**	P	**P**	**06 46 51.6**	**+1.1**
RPZ	**Rata Peaks**	**29.60**	**174**	LR	LR	06 56 52.2	
	comp=Z,135nm,18.8s,baz=288,slow=32						
WR0	**Warramunga Arr**	**31.17**	**255**	P	**P**	**06 47 10.5**	**-0.7**
WB0	**Warramunga Arr**	**31.29**	**255**	P	**P**	**06 47 12.0**	**-0.3**
WB0				IAmb	IAmb	06 47 22.0	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**31.34**	**255**	P	**P**	**06 47 12.3**	**-0.4**
WRA	**Warramunga Arr**	**31.36**	**255**	P	**P**	**06 47 12.4**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=87,slow=9.2,SNR=10.0						
WRA				LR	LR	06 59 05.6	
	comp=Z,99nm,18.6s,baz=112,slow=35						
WRA	**Warramunga Arr**	**31.36**	**255**	P	**P**	**06 47 13.1**	**+0.2**
ASAR	**Alice Springs**	**32.28**	**248**	P	**P**	**06 47 20.4**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=74,slow=9.3,SNR=20						
ASAR				PcP	**PcP**	**06 50 08.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=80,slow=2.8,SNR=1.9						
ASAR				LR	LR	06 59 30.2	
	comp=Z,87nm,19.6s,baz=140,slow=35						
ASAR	**Alice Springs**	**32.28**	**248**	P	**P**	**06 47 20.5**	**-0.5**
RAR	**Rarotonga**	**32.68**	**107**	LR	LR	06 59 43.0	
	comp=Z,58nm,18.2s,baz=208,slow=35						
BBOO	**Buckleboo**	**33.40**	**231**	P	**P**	**06 47 30.5**	**-0.1**
BBOO				IAmb	IAmb	06 47 43.5	
	comp=Z,14nm,0.9s						
MTN	**Manton Dam**	**34.53**	**268**	P	**P**	**06 47 39.7**	**-1.0**
KNRA	**Kununurra**	**36.59**	**263**	P	**P**	**06 47 57.9**	**-0.4**
KNRA				IAmb	IAmb	06 48 09.2	
	comp=Z,20nm,1.4s						
FORT	**Forrest**	**39.02**	**238**	P	**P**	**06 48 19.5**	**+0.8**
FORT				IAmb	IAmb	06 48 30.4	
	comp=Z,9.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.51**	**259**	LR	LR	07 04 42.5	
	comp=Z,111nm,18.0s,baz=106,slow=36						
MORW	**Morawa**	**48.93**	**244**	P	**P**	**06 49 38.5**	**+0.2**
MORW				IAmb	IAmb	06 50 04.2	
	comp=Z,13nm,1.1s						
JTM	**Tenmabayashi**	**59.68**	**338**	P	**P**	**06 50 57.2**	**+1.1**
VNDA	**Vanda**	**63.32**	**181**	P	**P**	**06 51 21.0**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=11,slow=7.2,SNR=18						
VNDA	**Vanda**	**63.32**	**181**	P	**P**	**06 51 21.0**	**+0.8**
SBA	**Scott Base**	**63.61**	**180**	P	**P**	**06 51 22.5**	**+0.4**
SBA				IAmb	IAmb	06 51 31.0	
	comp=Z,5.0nm,0.8s						
CASY	**Casey**	**63.73**	**202**	P	**P**	**06 51 23.1**	**0.0**
PETK	**Petropavlovsk-**	**67.53**	**354**	P	**P**	**06 51 47.6**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=179,slow=8.6,SNR=4.9						
QSPA	**South Pole Qui**	**75.77**	**180**	P	**P**	**06 52 37.8**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=314,slow=0.8,SNR=19						
QSPA	**South Pole Qui**	**75.77**	**180**	P	**P**	**06 52 38.1**	**+0.8**
QSPA				IAmb	IAmb	06 52 48.5	
	comp=Z,11nm,1.2s						
L19K	**White Mountain**	**81.96**	**17**	P	**P**	**06 53 12.2**	**+1.1**
L19K				IAmb	IAmb	06 53 26.1	
	comp=Z,8.0nm,1.1s						
BILL	**Bilibino**	**82.07**	**360**	P	**P**	**06 53 12.1**	**+0.6**
TTA	**Tatalina**	**82.24**	**16**	P	**P**	**06 53 13.5**	**+0.9**
TTA				IAmb	IAmb	06 53 18.2	
	comp=Z,7.5nm,1.4s						
RC01	**Rabbit Creek A**	**82.69**	**20**	P	**P**	**06 53 15.2**	**+0.3**
PPLA	**Purkeypile**	**83.29**	**18**	P	**P**	**06 53 18.8**	**+0.6**
CAST	**Castle Rocks**	**83.73**	**17**	P	**P**	**06 53 19.5**	**-0.8**
CAST				IAmb	IAmb	06 53 33.0	
	comp=Z,9.4nm,1.5s						
KTH	**Kantishna Hill**	**84.17**	**18**	P	**P**	**06 53 21.9**	**-0.7**
BPAW	**Bear Paw Mtn.**	**84.56**	**17**	P	**P**	**06 53 24.3**	**-0.2**
BPAW				IAmb	IAmb	06 53 46.4	
	comp=Z,5.3nm,1.4s						
RND	**Reindeer**	**84.68**	**18**	P	**P**	**06 53 25.3**	**+0.1**
RND				IAmb	IAmb	06 53 25.7	
	comp=Z,7.7nm,1.1s						
N25K	**Chitina, Valde**	**84.80**	**21**	P	**P**	**06 53 25.6**	**-0.2**
MCK	**McKinley**	**84.89**	**18**	P	**P**	**06 53 26.9**	**+0.8**
H21K	**Melozitna Rive**	**85.26**	**16**	P	**P**	**06 53 29.2**	**+1.3**
H21K				IAmb	IAmb	06 53 41.8	
	comp=Z,8.2nm,1.5s						
IMAR	**Indian Mountai**	**85.27**	**15**	P	**P**	**06 53 28.7**	**+0.8**
NEA2	**Nenana**	**85.49**	**18**	P	**P**	**06 53 28.3**	**-0.8**
NEA2				IAmb	IAmb	06 53 48.4	
	comp=Z,6.9nm,1.4s						
CTGM	**Chitina Glacie**	**85.56**	**23**	P	**P**	**06 53 30.0**	**+0.3**
WRH	**Wood River Hil**	**85.69**	**18**	P	**P**	**06 53 29.6**	**-0.5**
WRH				IAmb	IAmb	06 53 54.0	
	comp=Z,7.4nm,1.2s						
CCB	**Clear Creek Bu**	**85.90**	**18**	P	**P**	**06 53 30.5**	**-0.6**
HDA	**Harding Lake**	**85.99**	**18**	P	**P**	**06 53 31.5**	**-0.1**
HDA				IAmb	IAmb	06 53 32.2	
	comp=Z,5.3nm,0.6s						
MDM	**Murphy Dome**	**86.00**	**18**	P	**P**	**06 53 31.0**	**-0.7**
MDM				IAmb	IAmb	06 53 31.7	
	comp=Z,3.5nm,0.6s						
RIDG	**Independent Ri**	**86.18**	**20**	P	**P**	**06 53 32.5**	**-0.1**
IL31		**86.27**	**18**	P	**P**	**06 53 32.3**	**-0.6**
IL31				IAmb	IAmb	06 53 32.8	
	comp=Z,3.2nm,0.6s						
ILAR	**Eielson Array**	**86.27**	**18**	P	**P**	**06 53 32.0**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=240,slow=5.1,SNR=66						
J25K	**Salcha River,**	**86.62**	**19**	P	**P**	**06 53 34.6**	**-0.2**
BCAR	**Beaver Creek A**	**86.76**	**21**	P	**P**	**06 53 35.2**	**-0.2**
BELA	**Belgrano 2**	**87.24**	**176**	P	**P**	**06 53 37.6**	**-0.1**
TOLK	**Toolik Lake Re**	**88.35**	**15**	P	**P**	**06 53 43.6**	**+0.6**
TOLK				IAmb	IAmb	06 53 44.8	
	comp=Z,3.1nm,0.6s						
SNAA	**Sanae**	**93.98**	**183**	P	**P**	**06 54 09.7**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=234,slow=11,SNR=5.9						
SNAA	**Sanae**	**93.98**	**183**	P	**P**	**06 54 09.5**	**+0.2**
SNAA				IAmb	IAmb	06 54 15.6	
	comp=Z,3.7nm,1.1s						
MKAR	**Makanchi Array**	**96.44**	**317**	P	**P**	**06 54 20.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=90,slow=6.4,SNR=6.8						
MKAR				PKKPbc	**PKKPbc**	**07 11 04.6**	**-2.7**
	comp=Z,0.2nm,0.5s,baz=266,slow=3.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**96.66**	**324**	P	**P**	**06 54 21.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=114,slow=6.5,SNR=2.7						
YKA	**Yellowknife Ar**	**97.41**	**27**	P	Pdif	06 54 23.9	-0.9
	comp=Z,0.3nm,0.4s,baz=258,slow=4.8,SNR=24						
LPAZ	**La Paz**	**117.96**	**117**	PKP	**PKiKP**	**06 59 39.9**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=194,slow=4.2,SNR=2.3						
ARCES	**ARCESS Array B**	**119.64**	**345**	PKP	**PKiKP**	**06 59 40.6**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=90,slow=0.6,SNR=22						
ARCES	**ARCESS Array B**	**119.64**	**345**		**PKiKP**	**06 59 40.9**	**-0.1**
SCHQ	**Schefferville**	**122.24**	**33**	PKP	**PKiKP**	**06 59 46.0**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=243,slow=3.8,SNR=6.4						
SIV	**San Ignacio**	**124.08**	**121**	PKP	**PKiKP**	**06 59 50.4**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=252,slow=2.6,SNR=6.4						
FINES	**FINESS Array B**	**125.06**	**338**	PKP	**PKiKP**	**06 59 51.3**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=27,slow=1.6,SNR=11						
AKASG	**Malin Array Be**	**130.01**	**326**	PKP	**PKiKP**	**07 00 02.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=47,slow=2.9,SNR=5.4						
NB2	**NORSAR Subarra**	**130.01**	**345**	PKPdf	**PKiKP**	**07 00 01.3**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**130.01**	**345**	PKP	**PKiKP**	**07 00 01.4**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=32,slow=2.0,SNR=8.4						
BDFB	**Brasilia**	**134.65**	**130**	PKP	**PKiKP**	**07 00 11.5**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=209,slow=8.4,SNR=3.5						
GERES	**GERESS Array B**	**138.95**	**333**	PKP	**PKPdf**	**07 00 18.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=72,slow=3.2,SNR=1.6						
KEST	**Kesra**	**150.46**	**320**	PKPbc	**PKiKP**	**07 00 44.8**	**+0.3**
	comp=Z,6.2nm,0.6s,baz=110,slow=3.4,SNR=10						
ESDC	**Sonseca Array**	**153.37**	**344**	PKPbc	**PKiKP**	**07 00 50.7**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=19,slow=1.9,SNR=6.0						

IDC 10 07:03:11.3±1.5,**14°.48S**×**70°.89W**,**h121**km±42km,**mb2.9**/2, **mb1 3.1**/5,**mb1mx3.0**/32,**mbtmp3.4**/5,**Error ellipse: s-maj=135.0km s-min=12.6km az=26.0,Central

CARR	**Arriaga**	**2.39**	**81**	*eP*	**Pn**	**07 11 55.6**	**-1.9**
CARR				*i S*	**Sn**	**07 12 23.8**	**-2.6**
HLIG	**Huajuapan de L**	**2.39**	**325**⇓	*eP*	**Pn**	**07 11 58.8**	**+1.1**
HLIG				*eS*	**Sn**	**07 12 27.0**	**+0.3**
MGIG	**Malinaltepec**	**2.57**	**302**⇑	*eP*	**Pn**	**07 12 00.7**	**+0.6**
MGIG				*i S*	**Sn**	**07 12 30.8**	**-0.2**
UXUV	**UXUV**	**2.57**	**56**⇓	*eP*	**Pn**	**07 11 59.5**	**-0.6**
FTIG	**Fresnillo de T**	**2.64**	**320**	*eP*	**Pn**	**07 12 02.3**	**+1.1**
FTIG				*eS*	**Sn**	**07 12 34.3**	**+1.5**
TLIG	**Tlapa**	**2.70**	**309**		**Sn**	**07 12 36.1**	**+1.8**
TLIG	**Tlapa**	**2.70**	**309**	Pn	**Pn**	**07 12 03.5**	**+1.5**
TLIG	**Tlapa**	**2.70**	**309**	*eP*	**Pn**	**07 12 03.4**	**+1.5**
TLIG				*i S*	**Sn**	**07 12 35.3**	**+1.0**
TPIG	**Tehuac#an**	**2.71**	**340**		**Pb**	**07 12 05.7**	**-1.7**
TPIG					**Sb**	**07 12 39.2**	**-1.2**
TPIG	**Tehuac#an**	**2.71**	**340**⇓	*eP*	**Pn**	**07 12 03.6**	**+1.4**
TPIG				*eS*	**Sn**	**07 12 34.4**	**-0.2**
MIHL	**Minatitlan**	**2.74**	**39**	*eP*	**Pn**	**07 12 02.4**	**+0.1**
MIHL				*eS*	**Sn**	**07 12 35.1**	**+0.2**
THEZ	**Tehuacan**	**2.77**	**340**	*eP*	**Pb**	**07 12 06.0**	**-2.4**
THEZ				*eS*	**Sn**	**07 12 36.0**	**-0.2**
CRIG	**Cruz Grande**	**2.79**	**288**		**Pn**	**07 12 02.3**	**-0.8**
CRIG					**Sn**	**07 12 33.6**	**-2.7**
CRIG	**Cruz Grande**	**2.79**	**288**⇑	*eP*	**Pn**	**07 12 02.3**	**-0.8**
CRIG				*eS*	**Sn**	**07 12 33.6**	**-2.7**
HMTT	**Tlapaneco**	**2.85**	**313**		**Pb**	**07 12 09.1**	**-0.6**
HMTT					**Sn**	**07 12 39.6**	**+1.8**
HMTT	**Tlapaneco**	**2.85**	**313**	*eP*	**Pb**	**07 12 09.1**	**-0.6**
HMTT				*eS*	**Sn**	**07 12 39.6**	**+1.8**
PCIG		**3.03**	**93**		**Pn**	**07 12 05.3**	**-1.1**
PCIG					**Sn**	**07 12 33.7**	**-8.5**
PCIG		**3.03**	**93**⇑	*eP*	**Pn**	**07 12 05.3**	**-1.1**
PCIG				*i S*	**Sn**	**07 12 33.7**	**-8.5**
OZST	**Orizaba**	**3.06**	**347**	*eP*	**Pb**	**07 12 11.7**	**-1.6**
OZST				*eS*	**Sn**	**07 12 42.6**	**-0.5**
TGIG		**3.24**	**73**		**Pn**	**07 12 09.3**	**-0.1**
TGIG		**3.24**	**73**⇓	*eP*	**Pn**	**07 12 09.3**	**-0.1**
TGBT	**Tuxtla Gutierr**	**3.27**	**73**		**Pn**	**07 12 09.9**	**+0.2**
TGBT					**Sn**	**07 12 47.2**	**-1.0**
TGBT	**Tuxtla Gutierr**	**3.27**	**73**	*eP*	**Pn**	**07 12 09.9**	**+0.2**
TGBT				*eS*	**Sn**	**07 12 47.2**	**-1.0**
DAIG	**Los Arroyos**	**3.36**	**290**		**Pn**	**07 12 10.7**	**-0.2**
DAIG					**Sn**	**07 12 45.7**	**-4.5**
DAIG	**Los Arroyos**	**3.36**	**290**⇑	*eP*	**Pn**	**07 12 10.7**	**-0.2**
DAIG				*i S*	**Sn**	**07 12 45.7**	**-4.5**
VNTA	**La Mica**	**3.48**	**288**	*eP*	**Pn**	**07 12 12.6**	**+0.1**
VNTA				*eS*	**Sn**	**07 12 47.8**	**-5.3**
JAUV	**Jalcomulco**	**3.51**	**353**⇓	*eP*	**Pn**	**07 12 12.5**	**-0.4**
JAUV				*eS*	**Sn**	**07 12 51.3**	**-3.0**
ACP2	**Acapulco**	**3.53**	**287**		**Pn**	**07 12 09.3**	**-3.9**
ACP2					**Sn**	**07 12 47.4**	**-7.0**
ACP2	**Acapulco**	**3.53**	**287**	*eP*	**Pn**	**07 12 09.3**	**-3.9**
ACP2				*eS*	**Sn**	**07 12 47.4**	**-7.0**
MEIG	**Mezcala**	**3.73**	**304**		**Pn**	**07 12 17.5**	**+1.4**
MEIG					**Sn**	**07 12 59.9**	**+0.4**
MEIG	**Mezcala**	**3.73**	**304**	*eP*	**Pn**	**07 12 17.5**	**+1.4**
MEIG				*i S*	**Sn**	**07 12 59.9**	**+0.4**
LVIG	**Laguna Verde**	**3.84**	**359**		**Pn**	**07 12 15.8**	**-1.7**
LVIG					**Sn**	**07 13 05.3**	**+3.2**
LVIG	**Laguna Verde**	**3.84**	**359**⇓	*eP*	**Pn**	**07 12 15.8**	**-1.7**
LVIG				*eS*	**Sn**	**07 13 05.3**	**+3.2**
PPM	**Popocatepetl**	**3.85**	**326**⇓	*eP*	**Pn**	**07 12 20.9**	**+2.8**
PPM				*eS*	**Sn**	**07 13 03.9**	**+0.9**
VHSA	**Villahermosa**	**3.90**	**57**	*eP*	**Pn**	**07 12 18.6**	**+0.3**
VHSA				*eS*	**Sn**	**07 13 02.8**	**-0.8**
PLIG	**Platanillo**	**3.91**	**310**		**Pn**	**07 12 21.0**	**+2.4**
PLIG					**Sn**	**07 13 03.1**	**-1.0**
PLIG	**Platanillo**	**3.91**	**310**⇑	*eP*	**Pn**	**07 12 21.0**	**+2.4**
PLIG				*eS*	**Sn**	**07 13 03.1**	**-1.0**
CAIG	**El Cayaco**	**3.92**	**288**		**Pn**	**07 12 18.7**	**0.0**
CAIG					**Sn**	**07 13 05.9**	**+1.6**
CAIG	**El Cayaco**	**3.92**	**288**⇑	*iP*	**Pn**	**07 12 18.7**	**0.0**
CAIG				*i S*	**Sn**	**07 13 05.9**	**+1.6**
YAIG	**Yautepec**	**3.94**	**319**		**Pn**	**07 12 21.1**	**+2.1**
YAIG					**Sn**	**07 13 06.4**	**+1.5**
YAIG	**Yautepec**	**3.94**	**319**⇓	*eP*	**Pn**	**07 12 21.1**	**+2.1**
YAIG				*eS*	**Sn**	**07 13 06.4**	**+1.5**
AMVM	**AMECAMECA**	**3.98**	**325**		**Pn**	**07 12 22.5**	**+2.7**
AMVM	**AMECAMECA**	**3.98**	**325**⇓	*eP*	**Pn**	**07 12 22.5**	**+2.7**
PATR	**El Naranjo**	**4.05**	**100**	*eP*	**Pn**	**07 12 20.4**	**-0.2**
PATR				*i S*	**Sn**	**07 13 00.0**	**-7.7**
THIG		**4.07**	**103**		**Pn**	**07 12 20.4**	**-0.3**
THIG					**Sn**	**07 12 59.9**	**-7.9**
THIG		**4.07**	**103**	*eP*	**Pn**	**07 12 20.4**	**-0.3**
THIG				*eS*	**Sn**	**07 12 59.9**	**-7.9**
CCIG	**Comitan**	**4.09**	**84**		**Pn**	**07 12 20.4**	**-0.7**
PAVE	**Pavencul**	**4.09**	**99**	*eP*	**Pn**	**07 12 21.5**	**+0.3**
PAVE				*eS*	**Sn**	**07 13 01.1**	**-7.6**
ATYC	**Atoyac**	**4.12**	**290**	*iP*	**Pn**	07 12 14.8	-6.6
ATYC				*i S*	**Sn**	**07 13 14.7**	**+5.6**
CHUJ	**Union Juarez**	**4.17**	**100**	*eP*	**Pn**	**07 12 22.0**	**-0.3**
CHUJ				*i S*	**Sn**	**07 13 06.8**	**-4.0**
THVM	**De Xico**	**4.23**	**324**⇑	*eP*	**Pn**	**07 12 25.0**	**+1.8**
TLVM	**San Miguel Top**	**4.26**	**322**⇓	*eP*	**Pn**	**07 12 26.3**	**+2.7**
XCVM	**Xochimilco**	**4.27**	**322**⇓	*eP*	**Pn**	**07 12 26.6**	**+2.9**
MAVM	**Malinalco, Edo**	**4.29**	**316**		**Pn**	**07 12 26.3**	**+2.4**
MAVM	**Malinalco, Edo**	**4.29**	**316**⇓	*eP*	**Pn**	**07 12 26.3**	**+2.4**
TXVM	**Universitario**	**4.30**	**326**⇑	*eP*	**Pn**	**07 12 27.4**	**+3.3**
UNM	**Universidad Na**	**4.37**	**322**	P	**Pn**	**07 12 28.1**	**+3.1**
UNM						07 13 13.2	
UNM	**Universidad Na**	**4.37**	**322**		**Pn**	**07 12 28.1**	**+3.1**
UNM				Sn	**Sn**	**07 13 13.2**	**-2.3**
BJVM	**Benito Juarez**	**4.40**	**323**⇓	*eP*	**Pn**	**07 12 26.8**	**+1.4**
SCT2	**Benito Juarez**	**4.40**	**323**	*eP*	**Pn**	**07 12 23.7**	**-1.8**
SCT2				*eS*	**Sn**	**07 13 17.5**	**+1.1**
PBVM	**Pinon**	**4.40**	**324**		**Pn**	**07 12 27.9**	**+2.7**
PBVM	**Pinon**	**4.40**	**324**⇓	*eP*	**Pn**	**07 12 27.9**	**+2.7**
AOVM	**Tlapan**	**4.40**	**321**⇓	*eP*	**Pn**	**07 12 28.4**	**+2.7**
CXUV	**Coxquihui**	**4.44**	**345**⇑	*eP*	**Pn**	**07 12 28.3**	**+2.5**
CXUV				*eS*	**Sn**	**07 13 15.6**	**-1.4**
CJVM	**Cuajimalpa**	**4.45**	**322**⇑	*eP*	**Pn**	**07 12 28.4**	**+2.2**
GMVM	**Gustavo A Made**	**4.46**	**324**	*eP*	**Pn**	**07 12 29.0**	**+2.7**
INVM	**La Marquesa**	**4.46**	**320**⇓	*eP*	**Pn**	**07 12 29.3**	**+2.9**
ARIG	**Puente Sto Nin**	**4.50**	**303**		**Pn**	**07 12 28.8**	**+2.1**
ARIG					**Sn**	**07 13 20.9**	**+2.3**
ARIG	**Puente Sto Nin**	**4.50**	**303**⇑	*iP*	**Pn**	**07 12 28.8**	**+2.1**
ARIG				*i S*	**Sn**	**07 13 18.4**	**-0.2**
APVM	**Azcapotzalco**	**4.51**	**323**	*eP*	Pb	07 12 32.7	-5.4
VTVM	**Tizayuca**	**4.51**	**330**		**Pn**	**07 12 29.4**	**+2.4**
VTVM	**Tizayuca**	**4.51**	**330**⇓	*eP*	**Pn**	**07 12 29.4**	**+2.4**
PTVM	**Pico Tres Padr**	**4.54**	**325**		**Pn**	**07 12 29.7**	**+2.3**
PTVM	**Pico Tres Padr**	**4.54**	**325**	*eP*	**Pn**	**07 12 29.7**	**+2.3**
RTAL	**Retalhuleu**	**4.70**	**106**		**Pn**	**07 12 31.5**	**+2.1**
ZUVM	**ZUMPANGO**	**4.71**	**327**		**Pn**	**07 12 32.0**	**+2.3**
ZUVM	**ZUMPANGO**	**4.71**	**327**⇓	*eP*	**Pn**	**07 12 32.0**	**+2.3**
HUEH	**Huehuetenango**	**4.72**	**96**		**Pn**	**07 12 32.3**	**+2.5**
TEJU	**Tejupilco**	**4.72**	**310**	*eP*	**Pn**	**07 12 30.2**	**+0.5**
TEJU				*eS*	**Sn**	**07 13 21.8**	**-2.2**
STG3	**Santiaguito 3,**	**4.77**	**103**	*eP*	**Pn**	**07 12 32.0**	**+1.6**
STG3				*eS*	**Sb**	**07 13 37.6**	**-2.0**
DEIG	**Demacu**	**5.09**	**330**⇑	*eP*	Pb	07 12 42.7	-5.3
DEIG				*eS*	**Sn**	**07 13 39.3**	**+5.9**
ATVM	**ATLACOMULCO**	**5.10**	**320**		**Pn**	**07 12 37.7**	**+2.6**
ATVM	**ATLACOMULCO**	**5.10**	**320**⇓	*eP*	**Pn**	**07 12 37.7**	**+2.6**
ZIIG	**Zihuatanejo**	**5.18**	**290**		**Pn**	**07 12 36.8**	**+0.8**
ZIIG					**Sn**	**07 13 30.1**	**-5.2**
ZIIG	**Zihuatanejo**	**5.18**	**290**⇑	*iP*	**Pn**	**07 12 36.8**	**+0.8**
ZIIG				*eS*	**Sn**	**07 13 30.1**	**-5.2**
ACIG	**Acambay**	**5.29**	**321**⇓	*eP*	**Pn**	**07 12 39.8**	**+2.3**
FUG	**Fuego 3**	**5.52**	**104**	*eP*	**Pn**	**07 12 43.7**	**+3.0**
FUG				*eS*	**Sb**	**07 13 57.4**	**-3.7**
UON	**La Union**	**5.62**	**293**	*eP*	**Pn**	**07 12 40.4**	**-1.6**
UON				*eS*	**Sn**	**07 13 44.9**	**-1.1**
PCG	**Pacaya**	**5.75**	**104**	*eP*	**Pn**	**07 12 45.9**	**+1.8**
PCG				*eS*	**Sb**	**07 14 06.2**	**-1.8**
SCIG	**Sabancuy**	**5.83**	**57**		**Pn**	**07 12 42.3**	**-2.5**
SCIG					**Sn**	**07 13 47.2**	**-3.9**
SCIG	**Sabancuy**	**5.83**	**57**⇓	*iP*	**Pn**	**07 12 42.3**	**-2.5**
SCIG				*eS*	**Sn**	**07 13 47.2**	**-3.9**
NBG	**Las Nubes**	**5.95**	**102**	*eP*	**Pn**	**07 12 50.5**	**+3.8**
MOIG	**Morelia**	**5.96**	**310**		**Pn**	**07 12 50.6**	**+3.7**
MOIG					**Sn**	**07 13 51.9**	**-2.9**
MOIG	**Morelia**	**5.96**	**310**⇑	*eP*	**Pn**	**07 12 50.6**	**+3.7**
MOIG				*eS*	**Sn**	**07 13 51.9**	**-2.9**
PETF	**Flores**	**6.32**	**80**		**Pn**	**07 12 49.0**	**-2.7**
MRL	**Marmol**	**6.49**	**96**	*eP*	**Pn**	**07 12 56.2**	**+2.1**
MRL				*eS*	**Sn**	**07 14 12.2**	**+4.3**
URUA	**Uruapan**	**6.49**	**304**		**Pn**	**07 12 57.2**	**+3.1**
URUA					**Sn**	**07 14 05.5**	**-2.3**
URUA	**Uruapan**	**6.49**	**304**	*eP*	**Pn**	**07 12 57.2**	**+3.1**
URUA				*eS*	**Sn**	**07 14 05.5**	**-2.3**
IGIG	**Irapuato, Guan**	**6.77**	**317**		**Pn**	**07 13 00.9**	**+2.9**
IGIG					**Sn**	**07 14 16.8**	**+2.1**
IGIG	**Irapuato, Guan**	**6.77**	**317**	*eP*	**Pn**	**07 13 00.9**	**+2.9**
IGIG				*eS*	**Sn**	**07 14 16.8**	**+2.1**
RPIG	**Rio Verde**	**6.90**	**331**	*eP*	Pn	07 13 04.0	+4.4
RPIG				*eS*	**Sn**	**07 14 21.5**	**+3.8**
ESQI	**Esquipulas**	**6.90**	**100**		**Pn**	**07 13 01.2**	**+1.5**
MTO3	**Montecristo**	**6.92**	**101**		**Pn**	**07 13 01.7**	**+1.6**
MMIG	**Aquila**	**7.10**	**291**		**Pn**	**07 13 03.6**	**+1.3**
MMIG					**Sn**	**07 14 15.6**	**-6.9**
MMIG	**Aquila**	**7.10**	**291**⇑	*eP*	**Pn**	**07 13 03.6**	**+1.3**
MMIG				*eS*	**Sn**	**07 14 15.6**	**-6.9**
SNET	**Serv Nac Est T**	**7.23**	**107**		**Pn**	**07 13 06.0**	**+1.8**
GTIG	**Gomez Farias**	**7.63**	**340**⇓	*eP*	**Pn**	**07 13 10.5**	**+0.8**
GTIG				*eS*	**Sn**	**07 14 35.0**	**-0.8**
COIG	**Colima**	**7.73**	**296**	*eP*	**Pn**	**07 13 14.2**	**+3.2**
JUBC	**Volcan de Coli**	**7.77**	**299**	*eP*	**Pn**	**07 13 14.7**	**+2.9**
EZ5V		**7.78**	**299**		**Pn**	**07 13 14.1**	**+2.2**
EZ5V		**7.78**	**299**	*eP*	**Pn**	**07 13 14.1**	**+2.2**
MNGA	**Volcan de Coli**	**7.79**	**298**	*eP*	**Pn**	**07 13 15.8**	**+3.8**
INCO	**Volcan de Coli**	**7.80**	**299**	*eP*	**Pn**	**07 13 15.0**	**+2.7**
CDAR	**Ciudad de Arme**	**7.91**	**294**	*eP*	**Pn**	**07 13 12.7**	**-0.8**
R15V		**7.98**	**295**		**Pn**	**07 13 15.7**	**+1.3**
R15V		**7.98**	**295**	*eP*	**Pn**	**07 13 15.7**	**+1.3**
AAIG	**Aguscalientes**	**8.32**	**318**	*eP*	**Pn**	**07 13 23.6**	**+4.4**
AAIG				*eS*	**Sn**	**07 14 48.8**	**-4.2**
TGUH	**Tegucigalpa,Un**	**8.97**	**100**	Pn	**Pn**	**07 13 29.6**	**+1.5**
ZAIG	**Zacatecas**	**9.02**	**321**		Pn	07 13 33.5	+4.5
ZAIG					**Sn**	**07 15 14.0**	**+3.7**
ZAIG	**Zacatecas**	**9.02**	**321**	*eP*	Pn	07 13 33.5	+4.5
ZAIG				*eS*	**Sn**	**07 15 14.0**	**+3.7**
CJM	**Chamela**	**9.03**	**295**⇑	*eP*	**Pn**	**07 13 31.5**	**+2.7**
CJM				*eS*	**Sn**	**07 15 08.6**	**-1.4**
ANIG	**Ahuacatlan**	**9.30**	**305**		**Pn**	**07 13 36.6**	**+4.0**
ANIG					**Sn**	**07 15 15.9**	**-0.9**
ANIG	**Ahuacatlan**	**9.30**	**305**	*eP*	**Pn**	**07 13 36.6**	**+4.0**
ANIG				⇓*eS*	**Sn**	**07 15 15.9**	**-0.9**
LNIG	**Linares**	**9.44**	**343**		**Pn**	**07 13 34.8**	**+0.3**
LNIG					**Sn**	**07 15 20.3**	**+0.1**
LNIG	**Linares**	**9.44**	**343**⇓	*iP*	**Pn**	**07 13 34.8**	**+0.3**
LNIG				*eS*	**Sn**	**07 15 20.3**	**+0.1**
CRIN	**San Cristobal**	**9.56**	**108**		**Pn**	**07 13 38.1**	**+1.9**
CNGN	**Cerro Negro**	**9.95**	**108**		**Pn**	**07 13 42.6**	**+1.1**
MATN	**Matagalpa**	**10.53**	**105**		**Pn**	**07 13 48.8**	**-0.7**
BOAB	**BOACO BROADBAN**	**10.92**	**107**	Pn	**Pn**	**07 13 56.8**	**+2.1**
ACON	**Acoyapa**	**11.53**	**108**		**Pn**	**07 14 04.1**	**+0.9**
HZTE	**Horizontes, Gu**	**11.66**	**115**	Pn	**Pn**	**07 14 07.0**	**+2.1**
ORTG	**Ortega, Santa**	**11.95**	**116**		**Pn**	**07 14 11.4**	**+2.5**
MAIG	**Mazatlaan**	**11.95**	**309**	*e*	Pn	07 14 13.8	+4.9
DUNO	**Dulce Nombre,**	**12.05**	**117**		**Pn**	**07 14 13.0**	**+2.7**
ESPN	**Las Esperanzas**	**12.26**	**106**		**Pn**	**07 14 13.3**	**+0.2**
JTS	**Las Juntas de**	**12.42**	**115**	Pn	**Pn**	**07 14 17.4**	**+2.1**
	12nm,0.3s,baz=20,slow=20,SNR=25						
JTS	**Las Juntas de**	**12.42**	**115**	P	**Pn**	**07 14 17.2**	**+1.9**
JTS	**Las Juntas de**	**12.42**	**115**		**Pn**	**07 14 17.2**	**+1.9**
PDIG	**Papasquiaro**	**12.44**	**319**	*e*	**Pn**	**07 14 15.5**	**-0.2**
CAO2	**Cobano, Puntar**	**12.58**	**118**		**Pn**	**07 14 21.1**	**+3.7**
833A	**Chaparral WMA,**	**12.71**	**348**		**Pn**	**07 14 19.3**	**+0.1**
833A	**Chaparral WMA,**	**12.71**	**348**	P	**Pn**	**07 14 21.1**	**+1.9**
	baz=166,SNR=13						
833A	**Chaparral WMA,**	**12.71**	**348**	P	**Pn**	**07 14 20.4**	**+1.2**
	baz=166,SNR=13						
COVE	**Coope Vega, Sa**	**12.72**	**112**		**Pn**	**07 14 20.8**	**+1.4**
735A	**Kenedy**	**13.00**	**354**		**Pn**	**07 14 22.8**	**-0.3**
735A	**Kenedy**	**13.00**	**354**	P	**Pn**	**07 14 23.4**	**+0.3**
	baz=173,SNR=9.6						
HDC	**Heredia**	**13.28**	**115**		**Pn**	**07 14 29.9**	**+2.6**
PEZE	**Perez Zeledon,**	**13.95**	**116**		**Pn**	**07 14 37.7**	**+1.3**
HPIG		**14.00**	**323**	*e*	**Pn**	**07 14 39.1**	**+2.1**
HKT	**Hockley**	**14.03**	**2**	P	**Pn**	**07 14 34.9**	**-2.2**
HKT	**Hockley**	**14.03**	**2**	Pn	**Pn**	**07 14 34.9**	**-2.2**
SRBA	**San Rafael, Bu**	**14.30**	**116**	Pn	**Pn**	**07 14 42.4**	**+1.3**
SOR	**Soroa**	**14.36**	**59**	P	**Pn**	**07 14 39.0**	**-2.8**
SOR	**Soroa**	**14.36**	**59**		**Pn**	**07 14 39.0**	**-2.8**
DRKO	**Durika**	**14.38**	**116**		**Pn**	**07 14 43.2**	**+0.9**
RIOS	**Rincon, Osa**	**14.43**	**118**		**Pn**	**07 14 43.7**	**+0.9**
JCT	**Junction City**	**14.88**	**348**	P	**Pn**	**07 14 48.4**	**-0.6**
JCT	**Junction City**	**14.88**	**348**	Pn	**Pn**	**07 14 48.4**	**-0.6**
JCT	**Junction City**	**14.88**	**348**	P	**Pn**	**07 14 47.6**	**-1.3**
	baz=166,SNR=40						
JCT				S	**S**	**07 17 49.5**	**-1.8**
	baz=166						
JCT	**Junction City**	**14.88**	**348**	P	**Pn**	**07 14 48.3**	**-0.6**
	baz=166,SNR=40						
435B	**Jarrell**	**14.89**	**356**		**Pn**	**07 14 48.1**	**-0.9**
435B	**Jarrell**	**14.89**	**356**	P	**Pn**	**07 14 47.0**	**-2.0**
	baz=175,SNR=18						
435B	**Jarrell**	**14.89**	**356**	P	**Pn**	**07 14 47.4**	**-1.6**
	baz=175						
SLBS	**Sierra La Lagu**	**14.95**	**303**	P	**P**	**07 14 59.7**	**+4.3**
TXAR	**Lajitas Array**	**15.00**	**335**	Pn	**P**	**07 14 52.9**	**-2.9**
	0.1nm,0.3s,baz=152,slow=11,SNR=41						
TXAR				Lg	Lg	07 19 21.6	
	0.2nm,0.3s,baz=155,slow=24,SNR=4.1						
TXAR				LR	LR	07 21 19.8	
	comp=Z,5µm,18.5s,baz=144,slow=40						
TXAR	**Lajitas Array**	**15.00**	**335**	P	**Pn**	**07 14 50.2**	**-0.3**
TXAR	**Lajitas Array**	**15.00**	**335**		**Pn**	**07 14 50.1**	**-0.3**
TX31	**Lajitas Ar. Si**	**15.00**	**335**	P	**Pn**	**07 14 52.3**	**+1.8**
	baz=151,SNR=52						
TX32	**Lajitas Array**	**15.00**	**335**		**Pn**	**07 14 50.7**	**+0.2**
CDITO	**Canoas**	**15.04**	**117**		**Pn**	**07 14 53.4**	**+2.3**
CDITO				IAmb	IAmb	07 15 34.4	
	comp=Z,176nm,1.2s						
441A	**DeRidder**	**15.10**	**11**	P	**Pn**	**07 14 51.7**	**0.0**
	baz=191						
TSIG	**Topolobambo**	**15.30**	**311**	*e*	**P**	**07 15 03.4**	**+4.3**
LPIG	**La Paz**	**15.45**	**304**	Pn	**P**	**07 15 04.0**	**+3.2**
	comp=Z,0.8nm,0.3s,baz=1.3,slow=3.4,SNR=6.2						
LPIG				LR	LR	07 19 56.5	
	comp=Z,4µm,21.4s,baz=124,slow=33						
LPIG	**La Paz**	**15.45**	**304**	P	**P**	**07 15 02.2**	**+1.4**
LPIG	**La Paz**	**15.45**	**304**	*e*	**P**	**07 15 02.2**	**+1.4**
CSIG	**Choix**	**15.61**	**316**	*e*	**P**	**07 15 03.0**	**+0.5**
342A	**Flagon Creek P**	**15.87**	**13**		**Pn**	**07 14 60.0**	**-1.8**
342B	**Flagon Creek P**	**15.87**	**13**	P	**Pn**	**07 14 58.5**	**-3.3**
	baz=194,SNR=52						
NATX	**Nacogdoches**	**15.90**	**5**	Pn	**Pn**	**07 15 00.4**	**-1.8**
NATX				IAmb	IAmb	07 15 15.1	
	comp=Z,154nm,0.9s						
NATX	**Nacogdoches**	**15.90**	**5**	P	**Pn**	**07 14 58.2**	**-3.9**
	baz=185,SNR=5.3						
NATX	**Nacogdoches**	**15.90**	**5**	P	**Pn**	**07 14 59.7**	**-2.4**
	baz=185						
LCCY	**Blossom Villag**	**15.96**	**74**		**Pn**	**07 15 02.7**	**-0.3**
237A	**Washetta, Mont**	**16.07**	**2**		**Pn**	**07 15 03.0**	**-1.4**
237A				IAmb	IAmb	07 15 09.2	
	comp=Z,460nm,1.2s						
237A	**Washetta, Mont**	**16.07**	**2**	P	**Pn**	**07 15 01.5**	**-2.9**
	baz=181,SNR=10.0						
WHTX	**Lake Whitney,**	**16.08**	**357**	Pn	**Pn**	**07 15 03.5**	**-1.1**
WHTX				IAmb	IAmb	07 15 19.7	
	comp=Z,265nm,0.8s						
WHTX	**Lake Whitney,**	**16.08**	**357**	P	**Pn**	**07 15 02.7**	**-1.8**
	baz=176,SNR=19						
WHTX				S	**Sn**	**07 18 00.9**	**-1.6**
	baz=176						
WHTX	**Lake Whitney,**	**16.08**	**357**	P	**Pn**	**07 15 03.3**	**-1.3**
	baz=176,SNR=19						
344A	**Westbrook Farm**	**16.35**	**17**		**Pn**	**07 15 06.3**	**-1.6**
344A				IAmb	IAmb	07 15 22.4	
	comp=Z,208nm,0.9s						
344A	**Westbrook Farm**	**16.35**	**17**	P	**Pn**	**07 15 04.5**	**-3.3**
	baz=199,SNR=26						
346A	**Big Creek Wild**	**16.69**	**21**		**Pn**	**07 15 11.1**	**-1.1**
346A				IAmb	IAmb	07 15 28.1	
	comp=Z,280nm,0.8s						
346A	**Big Creek Wild**	**16.69**	**21**	P	**Pn**	**07 15 09.7**	**-2.5**
	baz=203,SNR=18						
GMAL	**Guarumal, Vera**	**16.85**	**117**	*eP*	**P**	**07 15 20.3**	**+3.9**
ABTX	**Abilene, Hawle**	**16.95**	**350**		**Pn**	**07 15 15.0**	**-0.6**
ABTX				IAmb	IAmb	07 15 36.2	
	comp=Z,159nm,0.8s						
ABTX	**Abilene, Hawle**	**16.95**	**350**	P	**Pn**	**07 15 14.5**	**-1.1**
	baz=168,SNR=30						
ABTX	**Abilene, Hawle**	**16.95**	**350**	P	**Pn**	**07 15 14.7**	**-0.9**
	baz=168,SNR=30						
VBMS	**Vicksburg**	**17.13**	**17**		Pn	07 15 10.0	-7.8
VBMS				IAmb	IAmb	07 15 47.6	
	comp=Z,228nm,1.1s						
VBMS	**Vicksburg**	**17.13**	**17**	P	**P**	**07 15 19.6**	**+0.3**
	baz=199						
VBMS	**Vicksburg**	**17.13**	**17**	P	**P**	**07 15 19.9**	**+0.6**
	baz=199						
143A	**Socs Landing,**	**17.36**	**14**	P	**Pn**	**07 15 18.1**	**-2.5**
143A				IAmb	IAmb	07 15 37.4	
	comp=Z,262nm,0.9s						
143A	**Socs Landing,**	**17.36**	**14**	P	**Pn**	**07 15 17.2**	**-3.4**
	baz=196,SNR=17						
Z38A	**Mt. Pleasant**	**17.36**	**4**	P	**Pn**	**07 15 19.5**	**-1.2**
Z38A	**Mt. Pleasant**	**17.36**	**4**	P	**Pn**	**07 15 17.9**	**-2.8**
	baz=184,SNR=32						
Z35A	**Perchaven, San**	**17.41**	**358**	IAmb	IAmb	07 16 04.7	
	comp=Z,226nm,0.9s						
Z35A	**Perchaven, San**	**17.41**	**358**	P	**Pn**	**07 15 19.6**	**-1.7**
	baz=176,SNR=8.6						
BRAL	**Brewton**	**17.45**	**28**	P	**Pn**	**07 15 18.4**	**-3.4**
BRAL				IAmb	IAmb	07 15 49.7	
	comp=Z,228nm,1.1s						
BRAL	**Brewton**	**17.45**	**28**	P	**Pn**	**07 15 18.1**	**-3.6**
	baz=211,SNR=7.1						
BRAL	**Brewton**	**17.45**	**28**	P	**P**	**07 15 22.0**	**-0.9**
	baz=211,SNR=7.1						
451A	**Vernon**	**17.61**	**32**	IAmb	IAmb	07 15 34.2	
	comp=Z,264nm,1.0s						
451A	**Vernon**	**17.61**	**32**	P	**P**	**07 15 25.8**	**+1.1**
	baz=216						
Z41A	**Richland Creek**	**17.61**	**10**	P	**Pn**	**07 15 21.4**	**-2.4**
	baz=191,SNR=59						
Z41A				P	**Pn**	**07 15 21.4**	**-2.4**
	baz=191,SNR=59						
Z41A	**Richland Creek**	**17.61**	**10**	P	**Pn**	**07 15 23.0**	**-0.8**
	baz=191,SNR=59						
AZU	**Azuero**	**17.66**	**115**	*eP*	**P**	**07 15

255A Hazlehurst 20.38 36 P P 07 15 52.6 -2.5
baz=221
HHAR Hobbs 20.45 6 P P 07 15 54.9 -0.9
HHAR IAmb IAmb 07 16 11.1
comp=Z,143nm,0.8s
HHAR Hobbs 20.45 6 P P 07 15 55.2 -0.6
baz=186
Y22D IRIS PASSCAL I 20.47 334 IAMs_20 IAMs_20 07 24 35.3
comp=Z,8µm,18.0s
Y22D IRIS PASSCAL I 20.47 334 P Pn 07 15 59.0 +0.5
baz=149,SNR=16
Y22D IRIS PASSCAL I 20.47 334 P Pn 07 15 58.8 +0.4
baz=149,SNR=16
154A Montrose 20.56 33 P P 07 15 55.0 -2.0
154A Montrose 20.56 33 P P 07 15 55.8 -1.2
baz=219,SNR=11
U32A Winter Ranch, 20.57 354 IAmb IAmb 07 16 10.2
comp=Z,220nm,0.8s
U32A Winter Ranch, 20.57 354 P P 07 15 56.3 -0.8
baz=172,SNR=10
GTBY Guantanamo Bay 20.62 76 P 07 15 57.0 -0.8
U40A Yellville 20.65 8 P P 07 15 57.5 -0.4
baz=189,SNR=243
U40A P P 07 15 57.5 -0.4
baz=189,SNR=243
U40A S Sn 07 19 51.5 -1.3
baz=189
U40A S Sn 07 19 51.5 -1.3
baz=189
LCAR Lake Charles 20.65 12 IAmb IAmb 07 16 26.4
comp=Z,113nm,0.8s
LCAR Lake Charles 20.65 12 P P 07 15 56.8 -1.2
baz=194,SNR=35
GNAR Gosnell 20.80 15 IAmb IAmb 07 16 28.7
comp=Z,313nm,1.2s
FPAL Fort Paine 20.96 26 IAmb IAmb 07 16 20.5
comp=Z,110nm,1.0s
T35A Sooner Cattle 20.97 360 P 07 16 00.0 -1.4
T35B Sooner Cattle 20.97 360 P P 07 16 00.2 -1.2
baz=179,SNR=131
T35B S Sn 07 19 56.7 -3.8
baz=179
TUC Tucson 20.97 324 P Pn 07 16 04.3 +0.2
baz=137
PEBM Pemiscott Bayo 20.98 15 P P 07 16 00.1 -1.5
GOGA Godfrey 21.00 31 IAmb IAmb 07 16 18.3
comp=Z,186nm,0.8s
GOGA Godfrey 21.00 31 P P 07 15 59.5 -2.4
baz=217,SNR=10
GOGA Godfrey 21.00 31 P P 07 15 59.3 -2.6
baz=217,SNR=10
ANMO Albuquerque 21.05 336 P 07 16 04.0
comp=Z,24nm,0.8s,baz=149,slow=12,SNR=82
ANMO LR LR 07 25 13.9
comp=Z,7µm,19.0s,baz=159,slow=40
ANMO Albuquerque 21.05 336 *ce*P 07 16 03.7
ANMO pmax pmax
comp=Z,62nm,0.8s
ANMO Albuquerque 21.05 336 P P 07 16 02.2 -0.3
ANMO Albuquerque 21.05 336 IAMs_20 IAMs_20 07 24 53.3
comp=Z,9µm,18.0s
ANMO Albuquerque 21.05 336 P 07 16 04.0
baz=151,SNR=74
ANMO Albuquerque 21.05 336 P 07 16 04.1
baz=151
Y52A Lilburn 21.08 30 IAmb IAmb 07 16 28.3
comp=Z,246nm,1.1s
Y52A Lilburn 21.08 30 P P 07 16 00.4 -2.2
baz=214
Y52A P P 07 16 00.4 -2.2
baz=214
GLAT Glass 21.28 16 P P 07 16 03.5 -1.2
X51A Calhoun 21.30 27 IAmb IAmb 07 16 29.2
comp=Z,86nm,0.9s
X51A Calhoun 21.30 27 P P 07 16 04.6 -0.4
baz=212
X51A P P 07 16 04.6 -0.4
baz=212
X51A S Sn 07 20 04.0 -4.5
baz=212
X51A S Sn 07 20 04.0 -4.5
baz=212
PVMO Portageville 21.31 15 P P 07 16 02.5 -2.6
SWET Sewanee 21.42 24 IAmb IAmb 07 16 19.2
comp=Z,85nm,0.9s
SJCC San Jacinto, C 21.48 103 P P 07 16 06.9 -0.3
PBMO Poplar Bluff 21.49 13 IAmb IAmb 07 16 09.9
comp=Z,187nm,1.0s
PBMO Poplar Bluff 21.49 13 P P 07 16 05.6 -1.4
baz=195,SNR=84
PBMO S S 07 20 01.0 -3.6
baz=195
MGMO Mountain Grove 21.51 9 IAmb IAmb 07 16 10.6
comp=Z,222nm,1.2s
HICK Hickman 21.55 16 P P 07 16 06.6 -1.0
V48A Smith Brothers 21.55 22 IAmb IAmb 07 16 19.6
comp=Z,93nm,0.8s
V48A Smith Brothers 21.55 22 P P 07 16 05.6 -2.1
baz=205,SNR=48
V48A S S 07 20 01.1 -4.8
baz=205
WVT Waverly 21.57 19 P P 07 16 05.3 -2.6
WVT pmax pmax
comp=Z,110nm,1.0s
WVT Waverly 21.57 19 P P 07 16 05.3 -2.6
WVT IAmb IAmb 07 16 33.5
comp=Z,110nm,1.0s
WVT Waverly 21.57 19 P P 07 16 06.2 -1.7
baz=202,SNR=55
WVT S Sn 07 20 09.3 -5.7
baz=202
WVT Waverly 21.57 19 P P 07 16 06.5 -1.4
baz=202
W50A Signal Mountai 21.65 25 P P 07 16 05.7 -3.1
baz=210,SNR=8.0
W50A S Sn 07 20 12.9 -4.2
baz=210
S39A Bolivar 21.91 6 IAmb IAmb 07 16 24.1
comp=Z,138nm,1.0s
S39A Bolivar 21.91 6 P P 07 16 10.9 -0.6
baz=187,SNR=66
S39A S S 07 20 09.5 -3.3
baz=187
UREC San Jos de Ur 21.91 109 *eP* P 07 16 16.9 +5.1
214A Organ Pipe Nat 21.92 320 P P 07 16 14.3 +2.6
baz=132,SNR=15
HAW Hawthorne Fire 21.94 35 P P 07 16 09.8 -2.0
baz=221
GR1C Gorgona, Isla 22.01 124⇑ *eP* P 07 16 12.2 -0.6
T45B Paducah 22.15 17 P P 07 16 12.9 -1.2
baz=200,SNR=21
T45B S S 07 20 17.4 0.0
baz=200
W52A Murphy 22.16 28 P P 07 16 11.4 -2.9
baz=213,SNR=5.2
W52A S S 07 20 15.5 -2.2
baz=213
CPCT Cooper Cave 22.20 26 IAmb IAmb 07 16 32.9
comp=Z,99nm,1.0s
X18A Snowflake 22.24 329 IAmb IAmb 07 16 37.0
comp=Z,100nm,0.9s
HODGE Hodges 22.26 32 IAmb IAmb 07 16 33.1
comp=Z,127nm,0.9s
HODGE Hodges 22.26 32 P P 07 16 12.3 -3.1
baz=218,SNR=7.2
CBOC Ciudad Bolivar 22.30 114 *eP* P 07 16 17.2 +1.1
T25A Trinidad 22.36 343 P P 07 16 18.1 +1.5
baz=159,SNR=94
PLMC San Jos del P 22.53 117 *eP* P 07 16 17.1 -1.3
BG3 Lake Jocassee 22.54 30 IAmb IAmb 07 16 46.1
comp=Z,254nm,1.4s
CASEE Lake Jocassee 22.54 30 P P 07 16 15.3 -3.0
baz=216,SNR=13
CCM Cathedral Cave 22.56 11 P P 07 16 16.1 -2.4
CCM pmax pmax
comp=Z,111nm,0.8s
CCM Cathedral Cave 22.56 11 P P 07 16 16.1 -2.4
CCM IAmb IAmb 07 16 44.2
comp=Z,111nm,0.8s
CCM Cathedral Cave 22.56 11 P P 07 16 16.9 -1.6
baz=192,SNR=50
CCM S S 07 20 25.0 0.0
baz=192
CCM Cathedral Cave 22.56 11 P P 07 16 16.2 -2.3
baz=192
R32A Long Quarter, 22.57 355 IAmb IAmb 07 16 31.3
comp=Z,180nm,0.8s
R32A Long Quarter, 22.57 355 P P 07 16 17.6 -0.9
baz=174,SNR=32
R32A S S 07 20 26.1 +1.0
baz=174
NHSC New Hope 22.57 38 P P 07 16 15.5 -3.1
baz=224,SNR=6.7
NHSC New Hope 22.57 38 P P 07 16 24.6 +6.0
baz=224,SNR=6.7
V51A Loudon 22.57 26 IAmb IAmb 07 16 36.0
comp=Z,107nm,0.9s
V51A Loudon 22.57 26 P P 07 16 15.9 -2.7
baz=211,SNR=7.2
V51A S S 07 20 22.1 -3.1
baz=211
HELC Santa Helena 22.57 113 *eP* P 07 16 22.7 +3.4
T47A Sharon Grove 22.59 20 P P 07 16 17.8 -1.0
baz=203,SNR=84
T47A S S 07 20 23.9 -1.6
baz=203
W18A Petrified Fore 22.61 330 IAmb IAmb 07 16 43.3
comp=Z,120nm,1.1s
W18A Petrified Fore 22.61 330 P P 07 16 21.2 +1.9
baz=144,SNR=29
U49A Red Boiling Sp 22.62 23 IAmb IAmb 07 16 49.0
comp=Z,94nm,0.8s
U49A Red Boiling Sp 22.62 23 P P 07 16 15.9 -3.2
baz=207,SNR=29
U49A S S 07 20 20.9 -5.2
baz=207
ZARC Zaragoza, Cauc 22.63 109 *eP* P 07 16 16.9 -2.6
R40A Maddies Statio 22.63 8 P P 07 16 18.4 -0.8
baz=190,SNR=172
R40A S S 07 20 26.5 +0.3
baz=190
S44A Carbondale 22.63 15 IAmb IAmb 07 16 37.8
comp=Z,152nm,0.8s
S44A Carbondale 22.63 15 P P 07 16 19.2 -0.1
baz=198,SNR=33
S44A S S 07 20 20.6 -5.7
baz=198
FVM French Village 22.65 12 P P 07 16 17.1 -2.4
baz=195,SNR=17
FVM S S 07 20 25.3 -1.3
baz=195
SIUC Southern Illin 22.66 15 IAmb IAmb 07 16 35.0
comp=Z,129nm,0.8s
TKL Tuckaleechee C 22.70 27 P P 07 16 18.2 -1.8
comp=Z,35nm,1.0s,baz=194,slow=8.1,SNR=9.1
TKL LR LR 07 28 47.0
comp=Z,1µm,18.4s,baz=204,slow=46
TKL Tuckaleechee C 22.70 27 P P 07 16 16.0 -4.0
baz=213,SNR=7.4
TKL S S 07 20 25.2 -2.3
baz=213
JSC Jenkinsville 22.83 34 P P 07 16 18.3 -3.1
baz=220,SNR=6.4
X16A Lo Mia Camp, P 22.91 326 IAmb IAmb 07 16 40.6
comp=Z,118nm,0.9s
V52A Sevierville 22.93 27 IAmb IAmb 07 16 51.0
comp=Z,57nm,0.7s
V52A Sevierville 22.93 27 S S 07 20 31.7 0.0
baz=213
PAULI Pauline 22.95 32 IAmb IAmb 07 16 43.6
comp=Z,122nm,0.8s
PAULI Pauline 22.95 32 P P 07 16 20.0 -2.7
baz=218,SNR=7.4
PAULI S S 07 20 28.4 -3.7
baz=218
YOTC Yotoco, Valle 22.95 119 *eP* P 07 16 16.9 -6.1
CBKS Cedar Bluff 23.05 353 P P 07 16 23.8 +0.1
baz=171,SNR=31
CBKS S S 07 20 33.5 -0.2
baz=171
CBKS Cedar Bluff 23.05 353 P P 07 16 23.1 -0.6
baz=171,SNR=31
SPIG San Pedro Mart 23.08 314 *e* P 07 16 28.1 +3.6
Y57A Sumter 23.10 36 IAmb IAmb 07 16 50.1
comp=Z,76nm,0.9s
KSU1 Kansas State U 23.15 360 P P 07 16 23.4 -1.3
baz=179,SNR=37
KSU1 S S 07 20 34.9 -0.4
baz=179
KSU1 Kansas State U 23.15 360 P P 07 16 22.7 -1.9
baz=179,SNR=37
GUY2C Guyana, Caldas 23.17 115 *eP* P 07 16 25.5 0.0
SDCO Great Sand Dun 23.24 341 IAmb IAmb 07 16 28.9
comp=Z,106nm,1.2s
SDCO Great Sand Dun 23.24 341 P P 07 16 26.7 +0.8
baz=157,SNR=130
SDCO S S 07 20 38.8 +1.4
baz=157
SDCO Great Sand Dun 23.24 341 P P 07 16 26.7 +0.8
baz=157,SNR=130
SLM Saint Louis 23.32 12 P P 07 16 24.3 -2.0
SLM pmax pmax
comp=Z,95nm,1.0s
SLM Saint Louis 23.32 12 P P 07 16 24.3 -2.0
SLM IAmb IAmb 07 16 43.0
comp=Z,95nm,1.0s
SLM Saint Louis 23.32 12 S S 07 20 37.3 -0.7
baz=195
T50A Nancy 23.42 24 P P 07 16 24.4 -3.0
T50A Nancy 23.42 24 P P 07 16 24.4 -3.0
baz=209
T50A P P 07 16 24.4 -3.0
baz=209
T50A S S 07 20 37.9 -2.0
baz=209
T50A S S 07 20 37.9 -2.0
baz=209
Y14A Wickenburg 23.43 323 IAmb IAmb 07 16 46.4
comp=Z,116nm,1.3s
NORC Norcasia 23.44 114 *eP* P 07 16 26.8 -1.1
KMSC Kings Mountain 23.45 32 P P 07 16 24.7 -3.0
KMSC IAmb IAmb 07 16 58.6
comp=Z,100nm,0.9s
KMSC Kings Mountain 23.45 32 P P 07 16 24.9 -2.8
baz=219,SNR=6.7
KMSC Kings Mountain 23.45 32 P P 07 16 24.9 -2.8
baz=219,SNR=6.7
POPC Popayan, Colom 23.48 122 *eP* P 07 16 25.8 -2.7
ANIL Santa Ana 23.49 117 *eP* P 07 16 33.0 +4.4
BIRD Birdtown, Kers 23.53 34 P P 07 16 25.9 -2.6
baz=221
TZTN Tazewell 23.54 27 P P 07 16 25.8 -2.8
TZTN IAmb IAmb 07 17 12.1
comp=Z,91nm,1.1s
TZTN Tazewell 23.54 27 P P 07 16 26.2 -2.4
baz=212
TZTN S S 07 20 38.9 -2.9
baz=212
TZTN Tazewell 23.54 27 P P 07 16 26.9 -1.7
baz=212
S22A 4UR Ranch, Cre 23.68 339 P P 07 16 31.7 +1.4
baz=154,SNR=53
KSCO Kaye Shedlock' 23.70 348 P P 07 16 30.4 0.0
baz=164,SNR=28
KSCO Kaye Shedlock' 23.70 348 P P 07 16 30.3 0.0
baz=164,SNR=28
TULM Tulcn-Chalpat 23.72 128 IAmb IAmb 07 16 51.6
comp=Z,131nm,1.0s
TULM Tulcn-Chalpat 23.72 128 *eP* P 07 16 34.6 +3.6
WUAZ Wupatki 23.73 328 IAmb IAmb 07 16 34.8
comp=Z,197nm,1.1s
WUAZ Wupatki 23.73 328 P P 07 16 32.8 +2.2
baz=141,SNR=91
P38A Dawn 23.80 5 IAmb IAmb 07 17 06.3
comp=Z,143nm,1.0s
P38A Dawn 23.80 5 P P 07 16 29.5 -1.6
baz=186,SNR=27
P38A S S 07 20 45.9 +0.1
baz=186
MVCO Mesa Verde 23.82 335 IAMs_20 IAMs_20 07 26 44.6
comp=Z,7µm,20.0s
MVCO Mesa Verde 23.82 335 P P 07 16 32.9 +1.3
baz=149,SNR=77
Q44A Meyer Farm, Va 23.84 14 P P 07 16 29.8 -1.7
baz=197,SNR=56
Q44A S S 07 20 46.9 +0.5
baz=197
P40A Paris 23.88 8 P P 07 16 30.4 -1.4
baz=190,SNR=99
P40A S S 07 20 44.9 -2.1
baz=190
OLIL Olney 23.91 16 P P 07 16 30.6 -1.5
baz=200,SNR=64
OLIL S S 07 20 51.3 +3.7
baz=200
GLA Glamis 23.92 319 IAmb IAmb 07 16 43.9
comp=Z,89nm,0.8s
GLA Glamis 23.92 319 P P 07 16 34.5 +2.2
baz=131,SNR=7.8
ORTC Ortega, Tolima 23.92 118 *eP* P 07 16 28.2 -4.3
Y59A Loris 23.96 38 IAmb IAmb 07 16 48.4
comp=Z,175nm,1.1s
UABX UABC, Campus M 24.04 317 P P 07 16 31.5 -1.9
V55A Taylorsville 24.06 31 IAmb IAmb 07 16 47.1
comp=Z,67nm,0.8s
V55A Taylorsville 24.06 31 P P 07 16 30.7 -2.9
baz=218,SNR=9.0
V55A P P 07 16 30.7 -2.9
baz=218,SNR=9.0
X58A Rowland 24.09 36 P P 07 16 31.6 -2.3
baz=224,SNR=6.7
X58A P P 07 16 31.6 -2.3
baz=224,SNR=6.7
SPBC San Pablo de B 24.11 112⇑ *eP* P 07 16 34.6 +0.3
SDDR Presa de Saban 24.12 79 P P 07 16 33.4 -0.9
W57A Gilead 24.17 34 IAmb IAmb 07 17 01.5
comp=Z,69nm,0.8s
W57A Gilead 24.17 34 P P 07 16 31.7 -2.9
baz=221,SNR=8.2
W57A P P 07 16 31.7 -2.9
baz=221,SNR=8.2
ROSC El Rosal 24.27 114 P P 07 16 36.3 +0.2
comp=Z,30nm,0.8s,baz=119,slow=14,SNR=18
ROSC El Rosal 24.27 114 IAmb IAmb 07 17 00.1
comp=Z,118nm,0.9s
ROSC El Rosal 24.27 114 *eP* P 07 16 39.1 +3.0
Q24A Divide 24.27 343 P P 07 16 36.8 +1.0
baz=158,SNR=18
U54A Nelsons Funny 24.30 29 IAmb IAmb 07 16 49.6
comp=Z,111nm,0.7s
U54A Nelsons Funny 24.30 29 P P 07 16 33.0 -2.9
baz=216,SNR=11
U54A P P 07 16 33.0 -2.9
baz=216,SNR=11
PDMCI Parker Dam,Lak 24.35 322 P P 07 16 38.2 +2.0
baz=134,SNR=16
BETC Betania 24.41 120 *eP* P 07 16 38.9 +1.8
R49A Shelbyville 24.42 22 IAmb IAmb 07 16 37.5
comp=Z,95nm,0.8s
R49A Shelbyville 24.42 22 P P 07 16 34.4 -2.4
baz=207,SNR=36
R49A P P 07 16 34.4 -2.4
baz=207,SNR=36
P43A Skaggs, Pawnee 24.43 13 IAmb IAmb 07 16 50.5
comp=Z,111nm,0.9s
P43A Skaggs, Pawnee 24.43 13 P P 07 16 35.8 -1.1
baz=196,SNR=16
P43A S S 07 20 54.0 -1.9
baz=196
S51A Beattyville 24.45 25 IAmb IAmb 07 16 53.0
comp=Z,81nm,0.8s
S51A Beattyville 24.45 25 P P 07 16 34.9 -2.2
baz=211,SNR=17
S51A P P 07 16 34.9 -2.2
baz=211,SNR=17
S51A S S 07 20 54.6 -1.8
baz=211
S51A S S 07 20 54.6 -1.8
baz=211
SWSC Sam W. Stewart 24.47 318 P P 07 16 39.6 +2.3
baz=129,SNR=8.8
IKP In-Ko-Pah, Jac 24.49 317 P P 07 16 40.0 +2.4
baz=128,SNR=6.6
PAMC Pamplona, Colo 24.66 107 *eP* P 07 16 34.6 -5.1
SC01 Santiago de lo 24.68 78 P P 07 16 39.3 -0.1
SC01 IAmb IAmb 07 17 26.4
comp=Z,88nm,1.1s
BC3 Big Chuckawall 24.71 319 P P 07 16 42.0 +2.4
baz=131,SNR=42
R50A Paris 24.72 23 IAmb IAmb 07 16 53.6
comp=Z,54nm,0.7s
R50A Paris 24.72 23 P P 07 16 37.6 -1.9
baz=208,SNR=13
R50A P P 07 16 37.6 -1.9
baz=208,SNR=13
TJIG Tijuana 24.73 315 *e* P 07 16 42.0 +2.2
TKX Tecate 24.77 316 IAmb IAmb 07 16 57.3
comp=Z,82nm,1.2s
PV13 Radium Mtn., P 24.77 336 IAmb IAmb 07 16 52.3
comp=Z,124nm,1.0s
N33B J Bar K, Exete 24.80 358 P P 07 16 40.6 +0.3
baz=177,SNR=8.1
N33B S S 07 21 09.7 +7.7
baz=177
PV15 Paradox Valley 24.80 337 IAmb IAmb 07 17 02.2
comp=Z,128nm,1.0s
MONP2 Monument Peak 24.85 317 P P 07 16 43.8 +2.8
baz=128,SNR=16
IRM Iron Mountain 24.85 321 P P 07 16 43.1 +2.3
baz=132,SNR=73
U56A King 24.87 32 IAmb IAmb 07 17 08.3
comp=Z,130nm,0.8s
U56A King 24.87 32 P P 07 16 38.9 -2.1
baz=219,SNR=10
U56A P P 07 16 38.9 -2.1
baz=219,SNR=10
CHIC Chingaza 24.88 114 *eP* P 07 16 43.5 +1.8
RUSC La Rusia 24.89 114 *eP* P 07 16 39.1 -2.8
U15A North Rim 24.91 328 IAmb IAmb 07 17 15.2
comp=Z,85nm,1.1s
N35A Tabor 24.91 1 P P 07 16 41.0 -0.2
baz=181,SNR=17
P46A Rosedale 24.98 17 P P 07 16 41.3 -0.6
baz=201,SNR=39
P46A S S 07 21 02.9 -2.0
baz=201
N38A Joes South For 24.99 6 P P 07 16 41.3 -0.6
baz=187,SNR=49
SMCO Snowmass 25.02 340 IAmb IAmb 07 17 03.9
comp=Z,86nm,1.2s
PV10 Paradox Valley 25.05 336 IAmb IAmb 07 16 53.1
comp=Z,129nm,1.0s
V58A Windy Hill, Pi 25.12 35 IAmb IAmb 07 16 58.1
comp=Z,73nm,0.8s
V58A Windy Hill, Pi 25.12 35 P P 07 16 40.9 -2.3
baz=222
V58A P P 07 16 40.9 -2.3
baz=222
ARNL Arenillas 25.14 139 IAmb IAmb 07 17 00.6
comp=Z,92nm,1.0s
O44A Mansfield 25.16 14 IAmb IAmb 07 17 12.6
comp=Z,125nm,1.0s
O44A Mansfield 25.16 14 P P 07 16 42.3 -1.2
baz=198,SNR=11
ISCO Idaho Springs 25.18 343 IAmb IAmb 07 17 01.1
comp=Z,61nm,0.8s
ISCO Idaho Springs 25.18 343 P P 07 16 45.1 +1.1
baz=158,SNR=62
ISCO Idaho Springs 25.18 343 P P 07 16 45.1 +1.1
baz=158,SNR=62
N41A Harden Midland 25.21 10 IAmb IAmb 07 16 45.5
comp=Z,165nm,1.1s
N41A Harden Midland 25.21 10 P P 07 16 43.2 -0.8
baz=192
BELC Belle Mtn. Jos 25.27 319 P P 07 16 47.1 +2.3
baz=130,SNR=48
109C Camp Elliot, M 25.30 316 P P 07 16 48.4 +3.6
baz=126
PFO Pinyon Flats O 25.32 318 P P 07 16 47.3 +2.1
comp=Z,8.4nm,0.9s,baz=109,slow=7.2,SNR=11
PFO LR LR 07 27 55.4
comp=Z,2µm,18.8s,baz=130,slow=39
PFO Pinyon Flats O 25.32 318 *i* P P 07 16 47.3 +2.1
PFO pmax pmax
comp=Z,107nm,1.5s
PFO Pinyon Flats O 25.32 318 P P 07 16 47.5 +2.4
PFO IAmb IAmb 07 17 02.3
comp=Z,95nm,1.5s
PFO Pinyon Flats O 25.32 318 P P 07 16 47.5 +2.4
baz=129,SNR=7.8
HDIL Hopedale 25.36 13 IAmb IAmb 07 17 12.1
comp=Z,106nm,1.0s
HDIL Hopedale 25.36 13 P P 07 16 43.5 -1.8
baz=196,SNR=12
HDIL Hopedale 25.36 13 P P 07 16 44.1 -1.2
baz=196,SNR=12
P48A Milroy 25.38 20 IAmb IAmb 07 17 01.3
comp=Z,121nm,0.8s
P48A Milroy 25.38 20 P P 07 16 43.8 -1.8
baz=205,SNR=30
P48A P P 07 16 43.8 -1.8
baz=205,SNR=30
CNNC Cliffs of the 25.41 37 IAmb IAmb 07 17 10.3

comp=Z,66nm,0.7s
OGNE Ogallala 25.47 350 P **P** **07 16 47.7 +1.3**
baz=167,SNR=40
OGNE Ogallala 25.47 350 P **P** **07 16 47.4 +1.0**
baz=167,SNR=40
BGNE Belgrade 25.50 357 P **P** **07 16 47.4 +0.8**
baz=176
BGNE Belgrade 25.50 357 P **P** **07 16 46.5 -0.1**
baz=176
BLA Blacksburg 25.53 31 P **P** **07 16 44.8 -2.1**
BLA pmax pmax
comp=Z,72nm,0.9s
BLA MLR MLR
comp=Z,2µm,22.0s
BLA Blacksburg 25.53 31 P **P** **07 16 44.8 -2.1**
BLA IAmb IAmb 07 16 59.4
comp=Z,72nm,0.8s
BLA Blacksburg 25.53 31 P **P** **07 16 45.2 -1.7**
baz=218,SNR=7.0
BLA Blacksburg 25.53 31 P **P** **07 16 45.6 -1.4**
baz=218,SNR=7.0
S54A Dingess, Beckl 25.58 28 IAmb IAmb 07 16 57.1
comp=Z,52nm,0.8s
S54A Dingess, Beckl 25.58 28 P **P** **07 16 44.6 -2.8**
baz=215,SNR=11
S54A P **P** **07 16 44.6 -2.8**
baz=215,SNR=11
GMRC Granite Mounta 25.59 321 P **P** **07 16 49.8 +2.2**
baz=132,SNR=42
KNB Kanab 25.63 328 IAmb IAmb 07 17 16.5
comp=Z,91nm,1.1s
P49A Miami Univ. Ec 25.69 21 IAmb IAmb 07 17 07.0
comp=Z,139nm,0.9s
P49A Miami Univ. Ec 25.69 21 P **P** **07 16 46.8 -1.5**
baz=206,SNR=28
P49A S **S** **07 21 12.2 -3.8**
baz=206
P49A Miami Univ. Ec 25.69 21 P **P** **07 16 46.2 -2.1**
baz=206,SNR=28
PKCU Pink Cliffs 25.71 330 IAmb IAmb 07 17 15.0
comp=Z,82nm,0.9s
SFIN Lafayette 25.72 16 P **P** **07 16 47.2 -1.4**
baz=201,SNR=33
SFIN S **S** **07 21 15.5 -1.0**
baz=201
SFIN Lafayette 25.72 16 P **P** **07 16 47.2 -1.4**
baz=201,SNR=33
R53A Hurricane 25.73 27 IAmb IAmb 07 16 56.9
comp=Z,111nm,0.9s
R53A Hurricane 25.73 27 P **P** **07 16 47.2 -1.5**
baz=213,SNR=16
R53A P **P** **07 16 47.2 -1.5**
baz=213,SNR=16
R53A S **S** **07 21 14.2 -2.5**
baz=213
R53A S **S** **07 21 14.2 -2.5**
baz=213
Q51A Peebles 25.75 24 P **P** **07 16 47.9 -1.0**
Q51A Peebles 25.75 24 P **P** **07 16 47.4 -1.5**
baz=210,SNR=70
Q51A P **P** **07 16 47.4 -1.5**
baz=210,SNR=70
MURC Murrieta 25.79 317 P **P** **07 16 51.8 +2.4**
baz=128,SNR=5.2
BOSC San Juan Bosco 25.88 135 P **P** **07 16 53.2 +2.8**
L34A Svendsen Farm, 26.01 360 P **P** **07 16 51.2 0.0**
baz=180,SNR=10
BBRC Big Bear Solar 26.03 318 P **P** **07 16 54.5 +2.8**
baz=129
HEC Hector,Ludlow 26.03 320 P **P** **07 16 54.2 +2.6**
baz=131,SNR=8.9
MACC Macarena, Meta 26.04 119 *e*P **P** **07 16 48.9 -2.8**
SDV Santo Domingo 26.05 102 P **P** **07 16 52.8 +0.7**
comp=Z,48nm,0.9s,baz=297,slow=2.9,SNR=48
SDV LR LR 07 27 40.5
comp=Z,2µm,21.3s,baz=249,slow=38
SDV Santo Domingo 26.05 102 P **P** **07 16 52.1 0.0**
SDV IAmb IAmb 07 17 04.5
comp=Z,48nm,0.7s
SDV Santo Domingo 26.05 102 *e*P **P** **07 16 52.8 +0.7**
SCIA State Center 26.09 5 P **P** **07 16 51.5 -0.4**
baz=186,SNR=18
SCIA State Center 26.09 5 P **P** **07 16 51.3 -0.6**
baz=186,SNR=18
Q52A Bidwell 26.12 26 P **P** **07 16 50.6 -1.6**
baz=212,SNR=30
Q52A P **P** **07 16 50.6 -1.6**
baz=212,SNR=30
MTPU Mount Pierson 26.13 331 IAmb IAmb 07 17 12.3
comp=Z,77nm,0.8s
TUQ Turquoise Moun 26.19 322 P **P** **07 16 55.3 +2.3**
baz=133,SNR=86
O48B Farmland 26.19 20 P **P** **07 16 51.1 -1.7**
baz=205,SNR=34
O48B Farmland 26.19 20 P **P** **07 16 51.0 -1.9**
baz=205,SNR=34
P51A Williamsport 26.25 24 P **P** **07 16 51.7 -1.6**
P51A Williamsport 26.25 24 P **P** **07 16 52.1 -1.3**
baz=210,SNR=42
P51A P **P** **07 16 52.1 -1.3**
baz=210,SNR=42
N23A Red Feather La 26.29 343 IAmb IAmb 07 17 05.8
comp=Z,67nm,0.9s
N23A Red Feather La 26.29 343 P **P** **07 16 55.1 +1.1**
baz=158,SNR=35
O20A White River Ci 26.30 339 IAmb IAmb 07 17 07.8
comp=Z,107nm,0.9s
O20A White River Ci 26.30 339 P **P** **07 16 55.5 +1.4**
baz=153,SNR=36
Q16A Castle Valley 26.39 333 IAmb IAmb 07 17 39.0
comp=Z,55nm,0.9s
O49A Covington 26.40 21 P **P** **07 16 53.2 -1.5**
O49A Covington 26.40 21 P **P** **07 16 53.6 -1.2**
baz=206,SNR=74
O49A P **P** **07 16 53.6 -1.2**
baz=206,SNR=74
M44A Midewin, Midew 26.43 14 P **P** **07 16 53.8 -1.2**
M44A Midewin, Midew 26.43 14 P **P** **07 16 53.8 -1.2**
baz=198,SNR=14
L40A Anamosa 26.48 9 P **P** **07 16 54.4 -1.1**
baz=191,SNR=31
CIS Catalina Islan 26.49 315 P **P** **07 16 58.3 +2.7**
baz=125
BFSC Mount Baldy Ra 26.49 318 P **P** **07 16 57.8 +2.0**
baz=128,SNR=12
R55A Marlinton 26.52 30 IAmb IAmb 07 17 04.3
comp=Z,82nm,0.8s
R55A Marlinton 26.52 30 P **P** **07 16 53.8 -2.2**
baz=217,SNR=7.1
R55A P **P** **07 16 53.8 -2.2**
baz=217,SNR=7.1
N47A Urbana 26.59 18 P **P** **07 16 54.4 -2.0**
baz=203,SNR=21
N47A P **P** **07 16 54.4 -2.0**
baz=203,SNR=21
P18A Preston Nutter 26.60 336 IAmb IAmb 07 17 17.6
comp=Z,110nm,1.3s
GSC Goldstone, Bar 26.63 320 P **P** **07 16 59.4 +2.4**
baz=131,SNR=12
L42A Oliver, Polo 26.68 11 IAmb IAmb 07 17 16.6
comp=Z,94nm,0.8s
L42A Oliver, Polo 26.68 11 P **P** **07 16 56.1 -1.2**
baz=194,SNR=21
S57A Dark Hollow, R 26.69 32 P **P** **07 16 55.5 -1.8**
baz=220
S57A P **P** **07 16 55.5 -1.8**
baz=220
SHOC Shoshone, Teco 26.71 322 P **P** **07 17 00.0 +2.4**
baz=133,SNR=24
K31A O'Neill 26.75 356 P **P** **07 16 58.8 +0.9**
baz=174,SNR=26
P52A Corning 26.75 25 IAmb IAmb 07 16 58.3
comp=Z,150nm,1.1s
P52A Corning 26.75 25 P **P** **07 16 56.1 -1.8**
baz=212,SNR=28
Q54A Coxs Mills 26.76 28 IAmb IAmb 07 16 58.9
comp=Z,118nm,1.1s
Q54A Coxs Mills 26.76 28 P **P** **07 16 56.2 -1.8**
baz=215,SNR=16
Q54A P **P** **07 16 56.2 -1.8**
baz=215,SNR=16
K38A Parkersburg 26.87 6 P **P** **07 16 57.9 -1.0**
baz=187,SNR=17
ACSO Alum Creek Sta 26.93 23 IAmb IAmb 07 17 16.3
comp=Z,90nm,0.8s
ACSO Alum Creek Sta 26.93 23 P **P** **07 16 58.4 -1.1**
baz=209,SNR=11
ACSO Alum Creek Sta 26.93 23 P **P** **07 16 58.2 -1.3**
baz=209,SNR=11
P53A Whipple 26.93 26 IAmb IAmb 07 17 13.9
comp=Z,84nm,0.7s
P53A Whipple 26.93 26 P **P** **07 16 58.0 -1.6**
baz=213,SNR=17
P53A P **P** **07 16 58.0 -1.6**
baz=213,SNR=17
DECC Green Verdugo 26.94 317 P **P** **07 17 02.5 +2.8**
baz=127
EDW2 Edwards Air Fo 27.11 318 P **P** **07 17 03.1 +1.9**
baz=128,SNR=7.2
N49A Columbus Grove 27.11 21 IAmb IAmb 07 17 00.9
comp=Z,212nm,1.4s
N49A Columbus Grove 27.11 21 P **P** **07 16 59.4 -1.7**
baz=206,SNR=12
N49A P **P** **07 16 59.4 -1.7**
baz=206,SNR=12
L44A Lake County Fo 27.21 14 P **P** **07 17 01.4 -0.6**
baz=198,SNR=5.1
L44A Lake County Fo 27.21 14 P **P** **07 17 01.2 -0.8**
baz=198,SNR=5.1
O52A Adamsville 27.28 25 P **P** **07 17 01.3 -1.3**
baz=212,SNR=14
O52A P **P** **07 17 01.3 -1.3**
baz=212,SNR=14
LRMC Laurel Mtn Rad 27.29 320 P **P** **07 17 05.7 +2.7**
baz=130
RWWY Rawlins 27.38 342 IAmb IAmb 07 17 14.9
comp=Z,100nm,1.1s
OSI Osito Audit: C 27.41 317 P **P** **07 17 06.4 +2.4**
baz=127
TPNV Topopah Spring 27.42 324 P **P** **07 17 06.8 +2.6**
baz=134,SNR=19
FURC Furnace Creek, 27.45 322 P **P** **07 17 06.7 +2.5**
baz=132,SNR=13
JFWS Jewell Farm 27.46 10 IAmb IAmb 07 17 18.5
comp=Z,111nm,0.8s
JFWS Jewell Farm 27.46 10 P **P** **07 17 03.4 -0.9**
baz=192,SNR=32
JFWS Jewell Farm 27.46 10 P **P** **07 17 03.3 -1.0**
baz=192,SNR=32
L46A Eue Claire 27.46 16 IAmb IAmb 07 17 53.1
comp=Z,127nm,1.0s
MPMC Manual Prospec 27.55 321 P **P** **07 17 07.5 +2.1**
baz=131,SNR=26
Q56A Snyder Ridge, 27.57 30 P **P** **07 17 03.4 -1.9**
baz=218
Q56A P **P** **07 17 03.4 -1.9**
baz=218
K43A Burlington 27.62 13 P **P** **07 17 04.8 -0.9**
K43A IAmb IAmb 07 17 05.8
comp=Z,134nm,1.0s
K43A Burlington 27.62 13 P **P** **07 17 04.4 -1.3**
baz=196,SNR=6.5
S11A Rachel 27.64 325 IAmb IAmb 07 17 24.7
comp=Z,72nm,1.2s
O53A New Philadelph 27.64 26 IAmb IAmb 07 17 22.1
comp=Z,77nm,1.1s
O53A New Philadelph 27.64 26 P **P** **07 17 04.0 -2.0**
baz=213,SNR=14
MCWV Mont Chateau 27.75 28 P **P** **07 17 05.4 -1.5**
baz=216,SNR=6.9
MCWV Mont Chateau 27.75 28 P **P** **07 17 05.6 -1.3**
baz=216,SNR=6.9
N51A Ashland 27.75 23 IAmb IAmb 07 17 29.4
comp=Z,82nm,1.1s
N51A Ashland 27.75 23 P **P** **07 17 05.5 -1.4**
baz=210,SNR=5.5
N51A P **P** **07 17 05.5 -1.4**
baz=210,SNR=5.5
ECSD EROS Data Cent 27.78 360 IAmb IAmb 07 17 46.6
comp=Z,67nm,1.0s
ECSD EROS Data Cent 27.78 360 P **P** **07 17 06.4 -0.7**
baz=179,SNR=25
ARVC Arvin 27.80 318 P **P** **07 17 10.1 +2.7**
baz=127
ISA Isabella, Lake 27.90 319 P **P** **07 17 11.1 +2.7**
baz=129
M50A Fremont 27.93 22 P **P** **07 17 07.3 -1.2**
baz=208,SNR=13
M50A P **P** **07 17 07.3 -1.2**
baz=208,SNR=13
O54A Avella 27.94 27 P **P** **07 17 07.0 -1.7**
O54A IAmb IAmb 07 17 09.8
comp=Z,103nm,1.1s
L48A N Adams 27.95 19 IAmb IAmb 07 17 08.0
comp=Z,112nm,1.1s
L48A N Adams 27.95 19 P **P** **07 17 06.8 -1.8**
baz=205,SNR=15
L48A P **P** **07 17 06.8 -1.8**
baz=205,SNR=15
R11A Troy Canyon, C 28.07 327 P **P** **07 17 12.1 +2.1**
baz=137,SNR=18
K22A Casper 28.08 344 IAmb IAmb 07 17 12.3
comp=Z,97nm,1.3s
K22A Casper 28.08 344 P **P** **07 17 10.9 +0.9**
baz=158,SNR=32
K22A Casper 28.08 344 P **P** **07 17 10.5 +0.5**
baz=158,SNR=32
GRAC Grapevine Rang 28.10 322 IAmb IAmb 07 17 33.0
comp=Z,98nm,1.1s
GRAC Grapevine Rang 28.10 322 P **P** **07 17 13.0 +2.8**
baz=132,SNR=7.4
DUG Dugway, Tooele 28.16 333 IAMs_20 IAMs_20 07 28 00.8
comp=Z,4µm,22.0s
DUG Dugway, Tooele 28.16 333 P **P** **07 17 12.7 +1.9**
baz=144,SNR=18
I37A Lemond, Waseca 28.17 5 IAmb IAmb 07 17 59.9
comp=Z,113nm,1.0s
I37B Waseca 28.17 5 P **P** **07 17 09.2 -1.4**
baz=186
N53A Lisbon 28.27 25 P **P** **07 17 09.9 -1.6**
baz=213,SNR=17
N53A P **P** **07 17 09.9 -1.6**
baz=213,SNR=17
I40A Norwalk 28.36 9 IAmb IAmb 07 17 12.6
comp=Z,128nm,1.1s
I40A Norwalk 28.36 9 P **P** **07 17 11.4 -0.9**
baz=191,SNR=16
VES Vestal, Richgr 28.40 319 P **P** **07 17 15.4 +2.7**
baz=128,SNR=14
BAUV El Baul 28.48 101 P **P** **07 17 12.6 -1.1**
BAUV IAmb IAmb 07 17 14.4
comp=Z,54nm,1.0s
AAM Ann Arbor 28.52 20 IAmb IAmb 07 17 13.3
comp=Z,155nm,1.4s
AAM Ann Arbor 28.52 20 P **P** **07 17 12.2 -1.5**
baz=206,SNR=7.4
AAM Ann Arbor 28.52 20 P **P** **07 17 11.9 -1.8**
baz=206,SNR=7.4
SUSD Miller 28.57 356 P **P** **07 17 13.2 -0.9**
SUSD IAmb IAmb 07 17 46.0
comp=Z,86nm,0.8s
SUSD Miller 28.57 356 P **P** **07 17 15.7 +1.6**
baz=174
SUSD Miller 28.57 356 P **P** **07 17 16.0 +1.8**
baz=174
I42A Draeger Farm, 28.64 11 P **P** **07 17 13.8 -1.0**
I42A IAmb IAmb 07 17 42.7
comp=Z,38nm,0.8s
I42A Draeger Farm, 28.64 11 P **P** **07 17 14.2 -0.7**
baz=195,SNR=7.1
TIN Tinemaha, Big 28.65 322 P **P** **07 17 18.3 +3.1**
baz=131,SNR=5.7
SMMC Simmler 28.67 317 P **P** **07 17 18.1 +2.9**
baz=126
M52A Chesterland 28.68 24 IAmb IAmb 07 17 16.8
comp=Z,98nm,0.8s
M52A Chesterland 28.68 24 P **P** **07 17 11.7 -3.5**
baz=211,SNR=9.6
M52A P **P** **07 17 11.7 -3.5**
baz=211,SNR=9.6
N54A Moraine State 28.75 26 P **P** **07 17 14.6 -1.3**
baz=214,SNR=20
N54A Moraine State 28.75 26 P **P** **07 17 14.9 -0.9**
baz=214,SNR=20
TPH Tonopah 28.77 324 IAmb IAmb 07 17 51.5
comp=Z,119nm,1.1s
O56A Blue Knob Stat 28.83 29 IAmb IAmb 07 18 05.7
comp=Z,43nm,0.9s
O56A Blue Knob Stat 28.83 29 P **P** **07 17 15.0 -1.6**
baz=217,SNR=5.5
O56A Blue Knob Stat 28.83 29 P **P** **07 17 14.8 -1.8**
baz=217,SNR=5.5
M53A Wl Miller and 28.87 25 P **P** **07 17 15.9 -0.9**
baz=212,SNR=10.0
RSSD Black Hills 28.91 349 P **P** **07 17 17.7 +0.3**
RSSD pmax pmax
comp=Z,20nm,0.9s
RSSD MLR MLR
comp=Z,2µm,18.0s
RSSD Black Hills 28.91 349 P **P** **07 17 17.7 +0.3**
RSSD Black Hills 28.91 349 P **P** **07 17 18.3 +0.9**
baz=164,SNR=9.8
RSSD Black Hills 28.91 349 P **P** **07 17 18.4 +1.0**
baz=164
SJG San Juan 28.97 81 P **P** **07 17 17.6 -0.4**
comp=Z,10nm,0.5s,baz=297,slow=8.7,SNR=8.9
SJG LR LR 07 30 09.7
comp=Z,2µm,20.0s,baz=271,slow=39
SJG San Juan 28.97 81 P **P** **07 17 17.2 -0.8**
SJG pmax pmax
comp=Z,23nm,0.9s
SJG MLR MLR
comp=Z,2µm,20.0s
SJG San Juan 28.97 81 P **P** **07 17 17.2 -0.8**
J47A Sunmer 29.01 18 P **P** **07 17 16.9 -1.2**
baz=203,SNR=6.7
J47A P **P** **07 17 16.9 -1.2**
baz=203,SNR=6.7
BW06 Boulder Array 29.10 340 P **P** **07 17 20.1 +0.9**
baz=153,SNR=20
PDAR Pinedale Array 29.10 340 P **P** **07 17 19.6 +0.5**
comp=Z,4.7nm,0.7s,baz=139,slow=9.7,SNR=54
PDAR Pinedale Array 29.10 340 P **P** **07 17 18.6 -0.6**
ALLY Alegheny Colle 29.26 25 P **P** **07 17 18.6 -1.7**
baz=213,SNR=15
K50A Casco 29.29 21 P **P** **07 17 18.8 -1.7**
baz=208,SNR=5.3
K50A P **P** **07 17 18.8 -1.7**
baz=208,SNR=5.3
M54A Oil Creek Stat 29.34 26 P **P** **07 17 19.7 -1.4**
baz=214,SNR=18
M54A Oil Creek Stat 29.34 26 P **P** **07 17 20.0 -1.1**
baz=214,SNR=18
I45A Fountain 29.37 15 IAmb IAmb 07 17 28.9
comp=Z,85nm,0.7s
MLAC Mammoth, Mammo 29.39 322 P **P** **07 17 24.6 +2.7**
baz=131,SNR=17
SPMN Marine on St. 29.42 5 IAmb IAmb 07 17 31.2
comp=Z,72nm,0.7s
SPMN Marine on St. 29.42 5 P **P** **07 17 20.7 -1.0**
baz=187,SNR=20
H43A Windswept, Lux 29.43 13 IAmb IAmb 07 17 23.5
comp=Z,59nm,0.9s
SSPA Standing Stone 29.44 29 P **P** **07 17 19.9 -2.0**
SSPA Standing Stone 29.44 29 P **P** **07 17 20.7 -1.3**
baz=218
MTP Monte Pirata 29.54 81 IAmb IAmb 07 17 33.8
comp=Z,34nm,0.6s
NV11 Mina Array Sit 29.54 324 IAmb IAmb 07 17 35.5
comp=Z,47nm,0.9s
LHV Little Huntoon 29.62 323 IAmb IAmb 07 17 35.8
comp=Z,45nm,1.0s
NVAR Mina Array Bea 29.62 324 P **P** **07 17 26.0 +2.1**
comp=Z,30nm,0.9s,baz=143,slow=8.8,SNR=187
NVAR PcP **PcP** **07 20 29.8 +1.4**
comp=Z,2.4nm,1.0s,baz=150,slow=3.8,SNR=4.6
NVAR LR LR 07 30 49.8
comp=Z,5µm,18.5s,baz=136,slow=40
AHID Auburn Hatcher 29.63 338 IAMs_20 IAMs_20 07 30 46.5
comp=Z,3µm,19.0s
M55A Ridgway 29.70 27 IAmb IAmb 07 18 19.8
comp=Z,38nm,0.8s
M55A Ridgway 29.70 27 P **P** **07 17 22.9 -1.4**
baz=216,SNR=8.0
M55A P **P** **07 17 22.9 -1.4**
baz=216,SNR=8.0
MVL Millersville 29.71 32 P **P** **07 17 23.1 -1.2**
ELK Elko 29.71 330 P **P** **07 17 26.7 +2.1**
comp=Z,10nm,0.9s,baz=144,slow=6.1,SNR=41
ELK LR LR 07 31 21.1
comp=Z,6µm,18.6s,baz=146,slow=40
ERPA Erie 29.71 25 IAmb IAmb 07 17 37.6
comp=Z,59nm,0.8s
ERPA Erie 29.71 25 P **P** **07 17 23.4 -1.0**
baz=213
F33A 5 Mile Ranch, 29.88 0 P **P** **07 17 24.8 -1.0**
baz=180
F36A Milaca 30.00 4 IAmb IAmb 07 17 41.3
comp=Z,55nm,0.8s
F36A Milaca 30.00 4 P **P** **07 17 25.6 -1.2**
baz=185,SNR=26
REDW Red Top Meadow 30.07 339 IAmb IAmb 07 17 38.2
comp=Z,86nm,1.1s
REDW IAMs_20 IAMs_20 07 31 18.8
comp=Z,4µm,19.0s
SNOW Snow King Moun 30.12 339 IAMs_20 IAMs_20 07 31 15.3
comp=Z,4µm,20.0s
LOHW Long Hollow 30.20 339 IAmb IAmb 07 17 39.8
comp=Z,49nm,0.8s
LOHW IAMs_20 IAMs_20 07 30 29.4
comp=Z,4µm,20.0s
TPAW Teton Pass 30.21 339 IAmb IAmb 07 17 43.5
comp=Z,59nm,0.9s
TPAW IAMs_20 IAMs_20 07 31 23.7
comp=Z,4µm,20.0s
MOOW Moose Ponds 30.37 339 IAMs_20 IAMs_20 07 31 31.8
comp=Z,5µm,18.0s
G45A Suttons Bay 30.45 15 IAmb IAmb 07 17 47.3
comp=Z,24nm,0.7s
G45A Suttons Bay 30.45 15 P **P** **07 17 29.4 -1.4**
baz=200
G45A P **P** **07 17 29.4 -1.4**
baz=200
SAO San Andreas Ge 30.47 318 IAMs_20 IAMs_20 07 31 00.4
comp=Z,3µm,21.0s
GLMI Grayling 30.53 17 P **P** **07 17 30.1 -1.4**
baz=202,SNR=12
GLMI Grayling 30.53 17 P **P** **07 17 29.7 -1.8**
baz=202,SNR=12
WVNY West Valley, N 30.53 26 P **P** **07 17 30.0 -1.6**
baz=215,SNR=22
YERR Yerington 30.54 323 IAmb IAmb 07 17 44.0
comp=Z,50nm,0.9s
CMB Columbia Colle 30.59 321 IAMs_20 IAMs_20 07 30 16.2
comp=Z,4µm,21.0s
F42A Maple Grove Fa 30.59 11 IAmb IAmb 07 18 22.7
comp=Z,24nm,0.6s
FLWY Flagg Ranch 30.65 340 IAmb IAmb 07 17 44.8
comp=Z,48nm,0.9s
FLWY IAMs_20 IAMs_20 07 30 54.2
comp=Z,4µm,19.0s
N59A State Game Lan 30.68 31 P **P** **07 17 32.0 -0.9**
baz=221
COWI Conover 30.75 10 IAmb IAmb 07 17 33.3
comp=Z,49nm,1.1s
COWI Conover 30.75 10 P **P** **07 17 32.2 -1.2**
baz=193
L56A Greenwood 30.77 28 IAmb IAmb 07 17 42.7
comp=Z,35nm,0.8s
PNTR Pine Nut 30.81 323 IAmb IAmb 07 17 46.7
comp=Z,46nm,1.0s
H17A Grant Village 30.88 340 P **P** **07 17 36.6 +1.6**
baz=152,SNR=9.7
E38A The Farm, Brul 30.91 6 P **P** **07 17 33.9 -0.9**
baz=189,SNR=10
LKWY Lake 30.98 340 IAmb IAmb 07 17 47.6
comp=Z,38nm,0.9s
LKWY IAMs_20 IAMs_20 07 29 08.8
comp=Z,4µm,20.0s
YMP Mirror Lake Pl 31.05 341 IAmb IAmb 07 18 09.8
comp=Z,43nm,1.0s
MMNY Mt. Morris Dam 31.10 27 P **P** **07 17 34.8 -1.7**
RUBR Rubicon Trail 31.11 323 IAmb IAmb 07 17 52.1
comp=Z,88nm,0.9s
RLMT Red Lodge 31.13 342 IAmb IAmb 07 17 39.4
comp=Z,97nm,1.1s
RLMT Red Lodge 31.13 342 P **P** **07 17 38.0 +0.9**
baz=155,SNR=71
BRNJ Basking Ridge 31.13 33 P **P** **07 17 35.0 -1.8**
MPK Martis Peak 31.20 323 IAmb IAmb 07 17 50.4
comp=Z,61nm,0.9s
MEDO Medina 31.21 26 IAmb IAmb 07 17 39.8
comp=Z,78nm,0.8s
YMR Madison River 31.25 340 IAmb IAmb 07 17 49.5
comp=Z,45nm,0.8s
E43A Lone Tree Farm 31.41 12 P **P** **07 17 37.8 -1.4**
E43A IAmb IAmb 07 18 46.9
comp=Z,98nm,1.4s
YHL Hebgen Lake 31.49 340 IAmb IAmb 07 17 44.5
comp=Z,54nm,1.2s
BINY Binghamton 31.55 30 P **P** **07 17 38.8 -1.8**
BINY IAmb IAmb 07 17 42.7
comp=Z,61nm,1.3s
BINY IAMs_20 IAMs_20 07 32 23.7

comp=Z,3µm,20.0s
BINY Binghamton 31.55 30 P P 07 17 38.4 -2.2
baz=220
J55A Hilton 31.57 26 P P 07 17 39.3 -1.4
baz=216,SNR=6.4
J55A P P 07 17 39.3 -1.4
baz=216,SNR=6.4
HLID Hailey 31.60 335 IAmb IAmb 07 17 52.3
comp=Z,36nm,1.0s
HLID IAMs_20 IAMs_20 07 31 13.7
comp=Z,3µm,19.0s
HLID Hailey 31.60 335 P P 07 17 42.7 +1.6
baz=145,SNR=52
K57A Scipio Center 31.72 28 IAmb IAmb 07 18 49.0
comp=Z,63nm,0.9s
BEKR Beckworth 31.77 324 IAmb IAmb 07 17 54.9
comp=Z,40nm,1.1s
D41A Chassel 31.77 10 P P 07 17 41.0 -1.5
baz=194,SNR=5.5
LAO LASA Array 31.81 347 IAmb IAmb 07 17 44.6
comp=Z,67nm,1.4s
LAO IAMs_20 IAMs_20 07 31 48.5
comp=Z,4µm,18.0s
LAO LASA Array 31.81 347 P P 07 17 42.9 0.0
baz=161,SNR=13
LAO LASA Array 31.81 347 P P 07 17 43.1 +0.3
baz=161,SNR=13
MDND Maddock 32.00 356 P P 07 17 44.5 +0.1
baz=174
MFID Camas Ranch 32.08 333 IAMs_20 IAMs_20 07 32 14.7
comp=Z,5µm,19.0s
WSPT Westport, CT 32.14 34 IAMs_20 IAMs_20 07 32 42.3
comp=Z,2µm,20.0s
MCCM Marconi Confer 32.21 319 IAMs_20 IAMs_20 07 30 52.3
comp=Z,3µm,20.0s
ORV Oroville 32.23 322 IAMs_20 IAMs_20 07 32 03.6
comp=Z,4µm,19.0s
EYMN Ely 32.24 6 P P 07 17 45.5 -1.1
EYMN IAmb IAmb 07 18 51.8
comp=Z,55nm,1.1s
EYMN Ely 32.24 6 IAMs_20 IAMs_20 07 32 38.0
comp=Z,4µm,20.0s
EYMN Ely 32.24 6 P P 07 17 45.0 -1.6
baz=188
SADO Sadowa 32.28 23 LR LR 07 34 58.9
comp=Z,1µm,18.3s,baz=191,slow=44
SADO Sadowa 32.28 23 P P 07 17 45.3 -1.6
BOZ Bozeman (W) 32.29 340 IAmb IAmb 07 17 50.4
comp=Z,44nm,1.3s
BOZ IAMs_20 IAMs_20 07 31 59.8
comp=Z,3µm,18.0s
BOZ Bozeman (W) 32.29 340 P P 07 17 48.8 +1.5
baz=151,SNR=36
AGMN Agassiz Nation 32.34 1 IAMs_20 IAMs_20 07 32 24.9
comp=Z,2µm,18.0s
AGMN Agassiz Nation 32.34 1 P P 07 17 46.9 -0.6
baz=181,SNR=54
AGMN Agassiz Nation 32.34 1 P P 07 17 46.8 -0.6
baz=181,SNR=54
PECO Prince Edward 32.46 27 IAmb IAmb 07 17 56.7
comp=Z,54nm,0.7s
B35A Bob, Littlefor 32.48 3 IAmb IAmb 07 17 48.7
comp=Z,70nm,1.1s
B35A Bob, Littlefor 32.48 3 P P 07 17 47.5 -1.1
baz=184,SNR=18
WVOR Wild Horse Val 32.65 329 IAmb IAmb 07 17 53.5
comp=Z,53nm,1.1s
J58A Remsen 32.77 29 IAmb IAmb 07 18 15.9
comp=Z,28nm,0.9s
HOPS Hopland Field 32.84 320 IAMs_20 IAMs_20 07 31 24.8
comp=Z,3µm,20.0s
O03E Paynes Creek 32.88 323 P P 07 17 54.0 +1.6
baz=139
BBSR BB Station 33.08 54 IAMs_20 IAMs_20 07 30 46.2
comp=Z,3µm,19.0s
DGMT Dagmar 33.15 350 IAmb IAmb 07 19 08.8
comp=Z,47nm,1.1s
DGMT Dagmar 33.15 350 IAMs_20 IAMs_20 07 32 19.6
comp=Z,3µm,18.0s
DGMT Dagmar 33.15 350 P P 07 17 55.1 +0.6
baz=166,SNR=12
DGMT Dagmar 33.15 350 P P 07 17 55.0 +0.5
baz=166,SNR=12
CZSB Cruzeiro do Su 33.15 133 *e*P P 07 17 56.5 +1.7
J08A Circle Bar Ran 33.26 330 IAmb IAmb 07 18 20.8
comp=Z,45nm,0.9s
O02D Mt. Diablo Mer 33.39 322 IAMs_20 IAMs_20 07 32 18.3
comp=Z,3µm,19.0s
O02D Mt. Diablo Mer 33.39 322 P P 07 17 57.7 +0.9
baz=128
PLID Pearl Lake 33.50 334 IAMs_20 IAMs_20 07 32 33.1
comp=Z,4µm,20.0s
BRYW Bryant College 33.62 34 IAMs_20 IAMs_20 07 33 34.6
comp=Z,3µm,19.0s
NCB Newcomb 33.74 29 IAmb IAmb 07 17 58.8
comp=Z,46nm,1.1s
NNA Nana 33.75 144 P P 07 18 01.2 +1.0
comp=Z,13nm,0.9s,baz=295,slow=5.3,SNR=4.2
NNA LR LR 07 29 25.2
comp=Z,2µm,18.2s,baz=330,slow=32
NNA Nana 33.75 144 *ce*P P 07 18 11.4 +11
NNA pmax pmax
comp=Z,38nm,0.9s
NNA Nana 33.75 144 P P 07 18 01.3 +1.2
NNA IAmb IAmb 07 18 14.0
comp=Z,78nm,1.3s
NNA Nana 33.75 144 IAMs_20 IAMs_20 07 29 03.0
comp=Z,2µm,20.0s
N02D Trinity Center 33.85 323 IAMs_20 IAMs_20 07 32 48.3
comp=Z,3µm,21.0s
BMO Blue Mountains 33.87 333 IAmb IAmb 07 18 03.0
comp=Z,46nm,1.4s
M65A Busby, Falmout 33.88 36 IAMs_20 IAMs_20 07 31 36.4
comp=Z,3µm,22.0s
M04C Macdoel 33.89 325 IAmb IAmb 07 18 12.6
comp=Z,42nm,1.0s
M04C IAMs_20 IAMs_20 07 32 17.1
comp=Z,4µm,20.0s
M04C Macdoel 33.89 325 P P 07 18 03.2 +2.0
baz=132,SNR=12
EGMT Eagleton 33.91 344 P P 07 18 02.0 +0.7
baz=156,SNR=21
KMRM Mail Ridge 33.97 321 IAmb IAmb 07 18 14.0
comp=Z,53nm,1.2s
K05A Summer Lake 34.02 327 P P 07 18 01.5 -0.9
WES Weston 34.06 34 IAMs_20 IAMs_20 07 33 57.2
comp=Z,3µm,20.0s
LONY Lake Ozonia 34.07 28 P P 07 18 00.8 -1.7
LONY IAmb IAmb 07 18 18.2
comp=Z,47nm,0.9s
LONY Lake Ozonia 34.07 28 P P 07 18 00.6 -1.9
baz=219,SNR=12
BCX Boston College 34.11 34 IAMs_20 IAMs_20 07 33 58.4
comp=Z,2µm,21.0s
MSO Missoula 34.16 338 IAmb IAmb 07 18 14.0
comp=Z,45nm,0.9s
MSO IAMs_20 IAMs_20 07 33 09.2
comp=Z,3µm,19.0s
MSO Missoula 34.16 338 P P 07 18 04.4 +0.9
baz=148,SNR=62
M02C Callahan 34.20 323 P P 07 18 04.0 +0.1
M02C IAMs_20 IAMs_20 07 32 59.6
comp=Z,5µm,20.0s
M02C Callahan 34.20 323 P P 07 18 04.1 +0.2
baz=130
BMNY Brushton-Moira 34.27 28 P P 07 18 02.8 -1.5
baz=219,SNR=5.9
I07A Izee 34.30 330 P P 07 18 05.4 +0.7
ULM Lac du Bonnet 34.30 1 P P 07 18 03.7 -0.8
comp=Z,30nm,0.9s,baz=186,slow=8.8,SNR=28
ULM LR LR 07 33 45.1
comp=Z,2µm,18.8s,baz=176,slow=39
ULM Lac du Bonnet 34.30 1 *d* *i* P P 07 18 03.1 -1.4
ULM Lac du Bonnet 34.30 1 P P 07 18 03.0 -1.4
ULM IAmb IAmb 07 18 04.4
comp=Z,50nm,1.0s
YBH Yreka Blue Hor 34.34 324 LR LR 07 33 25.8
comp=Z,6µm,18.3s,baz=150,slow=38
KHMM Horse Mountain 34.39 322 P P 07 18 05.9 +0.3
KHMM IAmb IAmb 07 18 17.3
comp=Z,42nm,1.0s
K04D Chiloquin, OR 34.41 326 P P 07 18 07.5 +1.8
baz=133,SNR=6.8
L04D Klamath Falls 34.44 325 IAMs_20 IAMs_20 07 33 10.6
comp=Z,4µm,19.0s
L04D Klamath Falls 34.44 325 P P 07 18 07.3 +1.4
baz=132
HNH Hanover 34.48 32 IAMs_20 IAMs_20 07 33 39.4
comp=Z,3µm,21.0s
JCC Jacoby Creek, 34.53 322 IAmb IAmb 07 18 29.1
comp=Z,49nm,1.0s
JCC IAMs_20 IAMs_20 07 33 05.5
comp=Z,5µm,18.0s
FRNY Flat Rock 34.69 29 IAmb IAmb 07 18 23.3
comp=Z,31nm,0.8s
KRPM Rodgers 34.74 322 IAmb IAmb 07 18 20.2
comp=Z,62nm,0.9s
PINE Pine Mountain 34.80 328 P P 07 18 09.3 +0.2
J04D Umpqua Nationa 35.02 326 IAmb IAmb 07 18 47.8
comp=Z,40nm,0.8s
J04D Umpqua Nationa 35.02 326 P P 07 18 12.7 +1.6
baz=133,SNR=13
LBNH Lisbon 35.05 31 IAMs_20 IAMs_20 07 33 57.3
comp=Z,2µm,20.0s
JTMT Jette 35.07 339 IAmb IAmb 07 18 13.5
comp=Z,74nm,1.3s
MNTQ Montreal, Queb 35.18 28 P P 07 18 10.8 -1.4
MNTQ IAmb IAmb 07 18 12.6
comp=Z,78nm,1.1s
TRQ Mont Tremblant 35.33 26 P P 07 18 11.7 -1.8
TRQ IAmb IAmb 07 18 14.5
comp=Z,63nm,1.1s
I05D Terrebonne, OR 35.39 328 P P 07 18 15.4 +1.4
baz=135,SNR=12
K02D Willamette Mer 35.51 324 P P 07 18 17.1 +1.9
baz=130
I04A Tendick Farm, 35.56 327 P P 07 18 16.6 +1.1
baz=133
F07A Phinny Hill Vi 35.85 332 P P 07 18 17.6 -0.3
E08A Dider Farm, El 35.92 333 P P 07 18 18.2 -0.3
J01E Myrtle Point 35.96 325 IAmb IAmb 07 18 30.5
comp=Z,64nm,0.9s
J01E Myrtle Point 35.96 325 P P 07 18 21.3 +2.4
baz=130
I03D Drain, OR 35.99 326 P P 07 18 21.0 +1.8
baz=132,SNR=9.5
G05D Wamic, OR 36.03 330 P P 07 18 22.7 +3.2
baz=136
WALA Waterton Lakes 36.08 340 P P 07 18 19.8 -0.2
WALA IAmb IAmb 07 18 30.7
comp=Z,35nm,1.0s
BUCK Buck Mountain 36.14 327 P P 07 18 20.9 +0.3
BUCK IAmb IAmb 07 18 31.1
comp=Z,59nm,1.1s
H04D Lebanon 36.23 327 IAmb IAmb 07 18 49.2
comp=Z,61nm,0.8s
H04D Lebanon 36.23 327 P P 07 18 22.0 +0.8
baz=133,SNR=13
D08A Wollman Farm, 36.30 334 P P 07 18 21.1 -0.6
G62A West of Eustis 36.45 31 IAmb IAmb 07 18 38.8
comp=Z,50nm,0.8s
G62A West of Eustis 36.45 31 P P 07 18 21.9 -1.1
baz=225,SNR=6.0
G62A P P 07 18 21.9 -1.1
baz=225,SNR=6.0
I02E Swisshome, OR 36.54 326 P P 07 18 25.6 +1.8
baz=131
NEW Newport 36.54 337 LR LR 07 36 11.8
comp=Z,2µm,18.7s,baz=158,slow=41
NEW Newport 36.54 337 IAMs_20 IAMs_20 07 34 47.3
comp=Z,4µm,18.0s
NEW Newport 36.54 337 P P 07 18 24.4 +0.5
baz=145,SNR=14
F05D White Salmon 36.56 330 IAmb IAmb 07 18 35.8
comp=Z,80nm,0.9s
F05D IAMs_20 IAMs_20 07 33 40.5
comp=Z,3µm,22.0s
F05D White Salmon 36.56 330 P P 07 18 26.5 +2.4
baz=136,SNR=9.5
C09A Chrisman Ranch 36.62 335 P P 07 18 24.7 +0.2
C09A IAmb IAmb 07 18 26.9
comp=Z,98nm,1.6s
G03D McMinnville, O 36.98 328 IAmb IAmb 07 18 38.8
comp=Z,96nm,1.0s
G03D McMinnville, O 36.98 328 P P 07 18 29.2 +1.6
baz=133
LATQ La Tuque 36.99 27 P P 07 18 25.6 -2.0
LATQ IAmb IAmb 07 18 35.5
comp=Z,47nm,0.8s
F04A Amboy 37.06 329 P P 07 18 27.6 -0.7
LTY Liberty 37.22 332 IAmb IAmb 07 18 40.5
comp=Z,50nm,1.2s
F04D Rainier, OR 37.46 329 P P 07 18 34.2 +2.6
baz=134
E04D Cinebar 37.58 330 IAMs_20 IAMs_20 07 35 29.4
comp=Z,2µm,19.0s
E04D Cinebar 37.58 330 P P 07 18 33.7 +1.0
baz=135
BOAV Boa Vista 37.74 107 *e*P P 07 18 33.8 -0.7
D05A Enumclaw 37.77 331 IAmb IAmb 07 18 45.1
comp=Z,40nm,0.9s
E03A Lebam 38.06 329 IAmb IAmb 07 18 47.9
comp=Z,72nm,1.0s
LMQ La Malbaie 38.22 29 IAmb IAmb 07 19 09.8
comp=Z,57nm,1.2s
D62A Allapoint, All 38.49 30 IAmb IAmb 07 18 40.1
comp=Z,55nm,1.1s
D62A Allapoint, All 38.49 30 P P 07 18 39.0 -1.3
baz=225,SNR=7.3
D62A P P 07 18 39.0 -1.3
baz=225,SNR=7.3
D03D Eldon 38.53 331 P P 07 18 41.4 +0.8
baz=136
B05A Bryant 38.61 332 P P 07 18 41.6 +0.3
baz=138
NLWA Neilton Lookou 38.80 330 IAmb IAmb 07 19 04.0
comp=Z,51nm,1.1s
NLWA IAMs_20 IAMs_20 07 35 23.7
comp=Z,3µm,19.0s
FFC Flin Flon 39.02 355 P P 07 18 44.1 -0.6
FFC pmax pmax
comp=Z,108nm,1.5s
FFC MLR MLR
comp=Z,3µm,18.0s
FFC Flin Flon 39.02 355 P P 07 18 44.1 -0.6
FFC IAmb IAmb 07 18 45.9
comp=Z,108nm,1.4s
FFC Flin Flon 39.02 355 IAMs_20 IAMs_20 07 36 05.8
comp=Z,3µm,18.0s
A04D Lummi Island 39.22 332 P P 07 18 47.1 +0.7
baz=137,SNR=5.8
ETMB Extrema 39.27 129 *e*P P 07 18 46.7 -0.5
EDM Edmonton 39.60 344 IAmb IAmb 07 18 59.3
comp=Z,77nm,1.0s
MACA Manacapuru-AM 40.03 115 *e*P P 07 18 53.2 -0.4
LLLB Lillooet 40.29 335 P P 07 18 55.4 +0.1
LPAZ La Paz 42.39 138 P P 07 19 13.8 +0.1
comp=Z,10nm,0.8s,baz=335,slow=9.4,SNR=30
LPAZ LR LR 07 35 15.9
comp=Z,1µm,21.1s,baz=314,slow=34
LPAZ La Paz 42.39 138 P P 07 19 13.8 +0.1
LPAZ pmax pmax
comp=Z,28nm,0.9s
LPAZ La Paz 42.39 138 P P 07 19 13.8 +0.1
LPAZ La Paz 42.39 138 *e*P P 07 19 14.1 +0.4
FCC Fort Churchill 42.86 2 P P 07 19 15.7 -0.5
FCC pmax pmax
comp=Z,109nm,1.5s
FCC Fort Churchill 42.86 2 P P 07 19 15.7 -0.5
FCC IAmb IAmb 07 19 17.3
comp=Z,109nm,1.4s
PB16 IPOC Station P 43.06 141 P P 07 19 19.1 0.0
PB16 IAmb IAmb 07 19 33.2
comp=Z,42nm,0.9s
BBB Bella Bella 44.11 332 LR LR 07 40 35.7
comp=Z,2µm,18.3s,baz=166,slow=40
MDP Montagnes des 44.21 99 P P 07 19 27.1 -0.7
comp=Z,12nm,1.0s,baz=299,slow=8.7,SNR=4.0
MDP LR LR 07 40 10.5
comp=Z,775nm,19.7s,baz=288,slow=39
GO01 Chusmiza 44.28 142 P P 07 19 29.7 +1.0
GO01 IAmb IAmb 07 19 42.9
comp=Z,60nm,1.0s
PB08 IPOC Station P 44.67 142 IAmb IAmb 07 19 46.7
comp=Z,33nm,0.9s
SCHQ Schefferville 45.08 24 P P 07 19 32.5 -1.7
comp=Z,14nm,0.6s,baz=223,slow=6.5,SNR=41
SCHQ LR LR 07 41 31.1
comp=Z,2µm,18.4s,baz=218,slow=40
SCHQ Schefferville 45.08 24 P P 07 19 32.2 -2.0
SCHQ IAmb IAmb 07 19 51.1
comp=Z,49nm,0.9s
MALB Monte Alegre 45.17 109 *e*P P 07 19 35.3 -0.1
PB01 IPOC Station P 45.18 143 IAmb IAmb 07 19 50.1
comp=Z,46nm,0.9s
PB07 IPOC Station P 45.49 144 IAmb IAmb 07 19 51.8
comp=Z,68nm,0.9s
VILB Vilhena 45.82 127 *e*P P 07 19 40.0 -0.5
DRLN Deer Lake 45.87 35 P P 07 19 38.6 -1.8
DRLN IAmb IAmb 07 19 39.6
comp=Z,97nm,1.3s
NPGB Novo Progresso 46.55 116 *e*P P 07 19 44.1 -2.2
MCPB Macapa, AP 46.61 106 *e*P P 07 19 44.1 -2.7
LVC Limon Verde 46.74 144 P P 07 19 49.0 +1.0
comp=Z,6.8nm,0.5s,baz=299,slow=8.8,SNR=8.8
LVC LR LR 07 38 00.6
comp=Z,848nm,20.3s,baz=318,slow=34
LVC Limon Verde 46.74 144 P P 07 19 49.4 +1.3
LVC pmax pmax
comp=Z,124nm,1.7s
LVC Limon Verde 46.74 144 P P 07 19 49.4 +1.3
LVC Limon Verde 46.74 144 *e*P P 07 19 49.6 +1.6
SIV San Ignacio 47.07 131 P P 07 19 49.8 -0.5
comp=Z,12nm,0.5s,baz=300,slow=7.7,SNR=60
SIV LR LR 07 38 34.1
comp=Z,930nm,18.2s,baz=321,slow=35
CLDB Colider 48.15 121 *e*P P 07 19 57.2 -1.5
PTLB Pontes e Lacer 48.16 128 *e*P P 07 19 57.8 -0.9
YKA Yellowknife Ar 48.32 349 P P 07 19 58.8 -0.5
comp=Z,19nm,0.8s,baz=155,slow=7.3,SNR=192
YKA LR LR 07 41 48.2
comp=Z,2µm,18.2s,baz=145,slow=38
YKA Yellowknife Ar 48.32 349 P P 07 19 59.0 -0.3
YKA Yellowknife Ar 48.32 349 P P 07 19 59.0 -0.3
CRAG Craig 48.52 333 P P 07 20 03.4 +2.4
baz=129
DLBC Dease Lake 49.28 337 LR LR 07 44 19.2
comp=Z,4µm,18.6s,baz=144,slow=40
DLBC Dease Lake 49.28 337 IAmb IAmb 07 20 19.4
comp=Z,53nm,1.0s
TAOE Nuku Hiva Isla 49.83 243 *e*S S 07 27 20.2 -0.8
comp=Z,387nm,24.5s
TAOE *e*LR LR 07 34 13.2
comp=Z,2µm,25.5s,baz=57
TAOE Nuku Hiva Isla 49.83 243 *e*T T 08 13 12.6
comp=Z,158nm,0.2s
WTLY Watson Lake, Y 50.06 339 P P 07 20 14.5 +1.7
baz=137
WRGLY Wrigley 50.93 345 P P 07 20 19.9 +0.6
baz=145
TGTN Hyland Airport 50.95 341 P P 07 20 21.4 +1.9
baz=139,SNR=14
PRPB Parauapebas 51.02 112 *e*P P 07 20 20.4 -0.3
TMAB Tom-Au,PA,Br 51.03 106 *e*P P 07 20 21.0 +0.3
LCO Las Campanas 51.05 151 P P 07 20 22.3 +1.4
LCO pmax pmax
comp=Z,129nm,1.0s
LCO Las Campanas 51.05 151 P P 07 20 22.3 +1.4
SALV Santo Antonio 51.07 126 *e*P P 07 20 20.4 -0.6
FRB Frobisher Bay 51.55 15 LR LR 07 44 53.4
comp=Z,757nm,20.3s,baz=198,slow=39
SKAG Skagway 51.99 336 P P 07 20 29.4 +2.1
baz=130
CO01 Juntas del Tor 52.14 151 IAmb IAmb 07 20 43.2
comp=Z,41nm,1.0s
SNDB Serra Nova Dou 52.48 119 *e*P P 07 20 31.4 -0.1
WHY Whitehorse 52.60 337 P P 07 20 32.0 +0.1
WHY Whitehorse 52.60 337 P P 07 20 33.1 +1.1
baz=131,SNR=8.6
PP1B Ponte de Pedra 52.70 127 *e*P P 07 20 32.6 -0.5
MMPY Sheldon Lake, 52.71 341 P P 07 20 34.5 +1.9
baz=136
FARO Faro, Yukon 53.12 339 P P 07 20 36.9 +1.2
baz=133
M31M Drury Creek, Y 53.46 339 P P 07 20 39.5 +1.4
baz=132,SNR=5.7
N31M Braeburn, Yuko 53.48 338 IAmb IAmb 07 20 49.7
comp=Z,46nm,1.0s
N31M Braeburn, Yuko 53.48 338 P P 07 20 40.0 +1.7
baz=130,SNR=16
HYT Haines Junctio 53.70 336 P P 07 20 41.0 +0.9
HYT IAmb IAmb 07 21 03.7
comp=Z,41nm,1.4s
HYT Haines Junctio 53.70 336 P P 07 20 42.2 +2.1
baz=128,SNR=11
PNL Peninsula 53.76 335 P P 07 20 42.3 +1.9
baz=125
AQDB Aquidauana 53.85 131 IAmb IAmb 07 20 52.6
comp=Z,28nm,0.9s
AQDB Aquidauana 53.85 131 *e*P P 07 20 40.6 -0.9
BCPM Bancas Point 54.03 335 IAMs_20 IAMs_20 07 45 32.9
comp=Z,2µm,20.0s
RKT Rikitea 54.11 225 *e*T T 08 18 21.2
comp=Z,131nm,0.3s
YUK6 Outpost Mounta 54.11 336 P P 07 20 45.5 +2.4
baz=127
SMTB Santa Maria do 54.19 114 *e*P P 07 20 43.9 -0.3
PINM Pinnacle 54.36 335 P P 07 20 47.0 +2.2
baz=124
YUK4 Talbot Arm 54.46 337 P P 07 20 47.9 +2.2
baz=127,SNR=7.4
M30M Minto, Yukon 54.55 338 IAMs_20 IAMs_20 07 46 07.4
comp=Z,2µm,20.0s
M30M Minto, Yukon 54.55 338 P P 07 20 47.3 +1.2
baz=130,SNR=11
PEL Peldehue 54.56 153 IAmb IAmb 07 21 00.1
comp=Z,64nm,1.2s
ROSB Rosrio 54.91 105 *e*P P 07 20 50.0 +0.6
MAYO Mayo, Yukon 54.91 340 P P 07 20 50.6 +2.0
baz=131
TABL Table Mountain 54.92 335 IAMs_20 IAMs_20 07 46 52.6
comp=Z,2µm,19.0s
MT01 Popeta 54.94 154 IAmb IAmb 07 21 01.3
comp=Z,26nm,0.9s
MT09 Talagante 54.98 154 IAmb IAmb 07 21 04.9
comp=Z,43nm,1.0s
PEXB Peixe 55.08 117 *e*P P 07 20 50.4 -0.3
LOGN Logan Glacier 55.08 335 IAMs_20 IAMs_20 07 46 07.8
comp=Z,2µm,19.0s
YAH Yahtse 55.13 334 IAMs_20 IAMs_20 07 43 17.1
comp=Z,2µm,20.0s
CTGM Chitina Glacie 55.30 335 IAmb IAmb 07 21 26.0
comp=Z,34nm,1.3s
CTGM IAMs_20 IAMs_20 07 46 14.5
comp=Z,2µm,19.0s
CTG Chitna Glacier 55.30 335 P P 07 20 53.7 +2.1
baz=124
BO04 La Punta 55.32 154 IAmb IAmb 07 21 05.5
comp=Z,66nm,1.2s
GRNC Granite Creek 55.34 335 IAmb IAmb 07 21 03.9
comp=Z,41nm,1.1s
GRNC IAMs_20 IAMs_20 07 45 50.6
comp=Z,2µm,20.0s
YUK3 Moose Creek 55.42 336 P P 07 20 54.0 +1.4
baz=125,SNR=6.3
BARN Barnard Glacie 55.48 335 IAMs_20 IAMs_20 07 46 20.4
comp=Z,2µm,20.0s
TGL Tana Glacier 55.79 335 IAMs_20 IAMs_20 07 45 56.6
comp=Z,2µm,18.0s
BO02 Sierra Bellavi 55.94 155 IAmb IAmb 07 21 09.9
comp=Z,46nm,0.9s
BVCY Beaver Creek 55.94 337 P P 07 20 57.7 +1.5
baz=125
C36M Paulatuk 56.20 349 IAMs_20 IAMs_20 07 47 44.2
comp=Z,2µm,19.0s
C36M Paulatuk 56.20 349 P P 07 20 57.2 -0.6
baz=147,SNR=7.4
MCARA McCarthy VSAT 56.21 335 IAmb IAmb 07 21 10.0
comp=Z,51nm,1.0s
MCARA IAMs_20 IAMs_20 07 46 06.7
comp=Z,2µm,20.0s
MCARA McCarthy VSAT 56.21 335 P P 07 21 00.5 +2.4
baz=122,SNR=5.7
J29M Klondike Camp 56.24 340 P P 07 20 59.3 +1.0
baz=129,SNR=5.9
M27K Edge Creek, AK 56.30 336 IAmb IAmb 07 21 12.7
comp=Z,22nm,0.9s
M27K Edge Creek, AK 56.30 336 P P 07 21 00.6 +1.8
baz=124,SNR=7.0
VRDI Verde Repeater 56.30 335 IAmb IAmb 07 21 01.3
comp=Z,43nm,1.4s
VRDI IAMs_20 IAMs_20 07 45 57.1
comp=Z,1µm,20.0s
RAGM Ragged Mountai 56.38 334 IAMs_20 IAMs_20 07 45 42.2
comp=Z,2µm,20.0s
DAWY Dawson 56.40 339 P P 07 21 00.0 +0.6
baz=128,SNR=10
GLB Gilahina Butte 56.56 335 IAmb IAmb 07 21 12.3
comp=Z,33nm,1.0s
GLB IAMs_20 IAMs_20 07 46 06.0
comp=Z,2µm,21.0s
CPUP Villa Florida 56.56 137 P P 07 20 59.9 -1.1

comp=Z,5.9nm,0.8s,baz=329,slow=8.6,SNR=13
CPUP LR LR 07 45 09.2
comp=Z,542nm,20.4s,baz=332,slow=36
CPUP Villa Florida 56.56 137 *eP* **P 07 20 59.9 -1.1**
BMRM Bremner River 56.64 334 P **P 07 21 03.1 +1.9**
baz=120
L27K Beaver Creek, 56.68 337 IAmb IAmb 07 21 12.6
comp=Z,29nm,0.9s
L27K Beaver Creek, 56.68 337 P **P 07 21 02.8 +1.4**
baz=124,SNR=19
I29M Ogilvie Camp, 56.85 340 IAmb IAmb 07 21 12.4
comp=Z,22nm,0.9s
I29M IAMs_20 IAMs_20 07 47 20.2
comp=Z,2µm,18.0s
I29M Ogilvie Camp, 56.85 340 P **P 07 21 02.8 +0.2**
baz=130,SNR=12
N25K Chitina, Valde 56.97 335 IAmb IAmb 07 21 15.3
comp=Z,46nm,1.1s
N25K IAMs_20 IAMs_20 07 45 53.8
comp=Z,2µm,22.0s
N25K Chitina, Valde 56.97 335 P **P 07 21 05.5 +2.0**
baz=121,SNR=6.9
EPYK Eagle Plains 57.02 342 P **P 07 21 04.1 +0.3**
baz=132
BDFB Brasilia 57.09 121 P **P 07 21 04.7 -0.3**
comp=Z,12nm,0.8s,baz=282,slow=6.6,SNR=24
BDFB LR LR 07 46 14.9
comp=Z,811nm,19.1s,baz=300,slow=37
BDFB Brasilia 57.09 121 P **P 07 21 04.5 -0.6**
BDFB pmax pmax
comp=Z,50nm,1.2s
BDFB Brasilia 57.09 121 P **P 07 21 04.5 -0.6**
BDFB IAmb IAmb 07 21 20.7
comp=Z,50nm,1.2s
BDFB Brasilia 57.09 121 *eP* **P 07 21 05.1 0.0**
DIV Divide 57.22 334 IAmb IAmb 07 21 16.7
comp=Z,37nm,1.1s
L26K Log Cabin Wild 57.23 337 P **P 07 21 05.7 +0.4**
L26K IAmb IAmb 07 21 16.5
comp=Z,30nm,1.1s
L26K Log Cabin Wild 57.23 337 P **P 07 21 06.7 +1.4**
baz=123,SNR=12
MENT Mentasta 57.33 336 IAmb IAmb 07 21 17.0
comp=Z,23nm,0.9s
FID Port Fidalgo 57.33 333 IAMs_20 IAMs_20 07 46 08.5
comp=Z,2µm,19.0s
ITRB Iturama 57.40 126 *eP* **P 07 21 07.6 +0.4**
EGAK Eagle 57.44 339 IAmb IAmb 07 21 16.7
comp=Z,37nm,0.9s
EGAK Eagle 57.44 339 P **P 07 21 06.8 +0.1**
baz=126
KLU Klutina 57.46 334 IAmb IAmb 07 21 17.9
comp=Z,50nm,1.1s
KLU IAMs_20 IAMs_20 07 46 42.7
comp=Z,2µm,20.0s
KLU Klutina 57.46 334 P **P 07 21 09.3 +2.3**
baz=119,SNR=5.8
INK Inuvik 57.49 345 LR LR 07 50 13.1
comp=Z,4µm,19.0s,baz=158,slow=41
INK Inuvik 57.49 345 IAmb IAmb 07 21 17.0
comp=Z,57nm,0.9s
INK Inuvik 57.49 345 P **P 07 21 07.3 +0.3**
baz=136,SNR=65
HARP HAARP 57.61 335 P **P 07 21 09.8 +1.8**
baz=121,SNR=5.1
GLI Glacier Island 57.66 333 IAMs_20 IAMs_20 07 45 44.1
comp=Z,2µm,21.0s
PCMB Pacaembu 57.82 129 *eP* **P 07 21 08.7 -1.3**
DOT Dot Lake 57.84 337 IAmb IAmb 07 21 20.7
comp=Z,46nm,1.0s
M24K Tolsona, Glenn 57.87 335 P **P 07 21 12.2 +2.3**
baz=120
NRS Narsarsuaq 57.88 26 IAmb IAmb 07 21 12.6
comp=Z,53nm,1.0s
NBPS Pedro II - PI 57.94 106 *eP* **P 07 21 12.1 +1.0**
SCRK Sand Creek 58.00 337 IAmb IAmb 07 21 22.0
comp=Z,32nm,0.9s
SCRK Sand Creek 58.00 337 P **P 07 21 12.2 +1.4**
baz=123,SNR=20
PAX Paxson 58.03 336 IAmb IAmb 07 21 21.7
comp=Z,35nm,1.0s
PAX Paxson 58.03 336 P **P 07 21 11.8 +0.8**
baz=121,SNR=11
J26L Joseph Creek 58.13 338 P **P 07 21 13.0 +1.3**
baz=124,SNR=30
SDBA SAO DESIDERIO 58.15 116 *eP* **P 07 21 12.9 +0.4**
IPMB Ipameri, GO 58.15 123 *eP* **P 07 21 12.1 -0.3**
RIDG Independent Ri 58.19 337 P **P 07 21 13.3 +1.3**
baz=122,SNR=20
SCM Sheep Creek Mo 58.21 334 IAMs_20 IAMs_20 07 47 04.6
comp=Z,2µm,20.0s
KNK Knik Glacier 58.49 334 IAMs_20 IAMs_20 07 46 22.1
comp=Z,2µm,20.0s
SML Sawmill 58.62 334 IAMs_20 IAMs_20 07 46 53.5
comp=Z,2µm,21.0s
SML Sawmill 58.62 334 P **P 07 21 15.9 +0.8**
baz=117
A36M Sachs Harbour 58.64 350 IAMs_20 IAMs_20 07 49 34.7
comp=Z,2µm,20.0s
A36M Sachs Harbour 58.64 350 P **P 07 21 14.7 -0.3**
baz=147,SNR=46
WAT6 Susitna Watana 58.74 335 P **P 07 21 16.9 +0.9**
baz=118,SNR=13
RES Resolute Bay 58.83 0 LR LR 07 48 16.8
comp=Z,2µm,19.9s,baz=187,slow=38
RES Resolute Bay 58.83 0 IAmb IAmb 07 21 16.9
comp=Z,26nm,1.2s
DHY Denali Highway 58.83 336 IAMs_20 IAMs_20 07 47 47.9
comp=Z,2µm,21.0s
DHY Denali Highway 58.83 336 P **P 07 21 17.7 +1.0**
baz=119
J25K Salcha River, 58.85 338 IAmb IAmb 07 21 27.5
comp=Z,39nm,1.2s
J25K Salcha River, 58.85 338 P **P 07 21 17.3 +0.7**
baz=122,SNR=18
GHO Glory Hole Cre 58.86 334 IAmb IAmb 07 21 27.5
comp=Z,43nm,0.8s
GHO IAMs_20 IAMs_20 07 46 56.7
comp=Z,2µm,21.0s
NBMO Morrinhos-CE 58.86 104 *eP* **P 07 21 17.1 -0.3**
PMR Palmer 58.86 334 IAmb IAmb 07 21 42.7
comp=Z,34nm,1.3s
PMR Palmer 58.86 334 P **P 07 21 17.2 +0.6**
baz=116
RC01 Rabbit Creek A 58.90 333 P **P 07 21 17.5 +0.5**
baz=115
KDAK Kodiak Island 58.93 329 LR LR 07 46 57.4
comp=Z,2µm,18.4s,baz=139,slow=36
SFJD Kangerlussuaq 59.08 19 LR LR 07 51 08.0
comp=Z,786nm,18.2s,baz=226,slow=40
SFJD Kangerlussuaq 59.08 19 P **P 07 21 18.2 +0.1**
SFJD pmax pmax
comp=Z,25nm,0.9s
SFJD Kangerlussuaq 59.08 19 P **P 07 21 18.2 +0.1**
SFJD IAmb IAmb 07 21 26.8
comp=Z,25nm,0.8s
SFJD Kangerlussuaq 59.08 19 *eP* **P 07 21 16.7 -1.4**
ITQB Itaqui 59.32 140 IAmb IAmb 07 21 32.1
comp=Z,34nm,0.7s
ITQB Itaqui 59.32 140 *eP* **P 07 21 20.2 -0.1**
HDA Harding Lake 59.33 337 IAmb IAmb 07 21 30.0
comp=Z,26nm,0.9s
HDA Harding Lake 59.33 337 P **P 07 21 20.4 +0.5**
baz=120,SNR=14
M22K Willow 59.36 334 IAMs_20 IAMs_20 07 47 45.0
comp=Z,1µm,19.0s
M22K Willow 59.36 334 P **P 07 21 21.2 +1.1**
baz=115
PMOR Pomariorio Ree 59.42 241 *eT* T 08 25 10.0
comp=Z,8.9nm,0.3s
ILAR Eielson Array 59.49 337 P **P 07 21 21.3 +0.3**
comp=Z,24nm,1.1s,baz=132,slow=4.9,SNR=93
ILAR LR LR 07 49 01.1
comp=Z,2µm,18.4s,baz=157,slow=38
RND Reindeer 59.58 336 IAMs_20 IAMs_20 07 47 47.7
comp=Z,2µm,21.0s
BB19B Bebedouro 59.59 127 *eP* **P 07 21 22.1 -0.3**
LR03 Panguipulli 59.59 159 IAmb IAmb 07 21 37.1
comp=Z,31nm,0.9s
CUT Chulitna 59.70 334 IAMs_20 IAMs_20 07 48 36.0
comp=Z,2µm,19.0s
CUT Chulitna 59.70 334 P **P 07 21 23.4 +1.0**
baz=116
MCK McKinley 59.76 336 IAmb IAmb 07 21 33.0
comp=Z,33nm,1.0s
MCK McKinley 59.76 336 P **P 07 21 23.8 +0.9**
baz=118,SNR=10
CCB Clear Creek Bu 59.77 337 IAmb IAmb 07 21 33.1
comp=Z,16nm,0.8s
CCB IAMs_20 IAMs_20 07 48 58.5
comp=Z,2µm,22.0s
WRH Wood River Hil 59.79 337 IAmb IAmb 07 21 32.9
comp=Z,19nm,0.9s
Q19K Cape Douglas, 59.86 330 IAMs_20 IAMs_20 07 46 31.7
comp=Z,2µm,21.0s
POKR Poker Flat Res 59.86 338 IAmb IAmb 07 21 33.9
comp=Z,30nm,0.9s
POKR Poker Flat Res 59.86 338 P **P 07 21 24.5 +0.9**
baz=120,SNR=7.6
JANB Januaria 59.90 118 *eP* **P 07 21 24.6 0.0**
COLA College 59.90 337 *i* P **P 07 21 23.9 +0.1**
COLA pmax pmax
comp=Z,27nm,1.0s
COLA College 59.90 337 P **P 07 21 23.8 0.0**
COLA College 59.90 337 IAMs_20 IAMs_20 07 49 02.0
comp=Z,2µm,20.0s
TCOL CIGO, UAF Yank 59.90 337 IAMs_20 IAMs_20 07 49 02.0
comp=Z,2µm,20.0s
TCOL CIGO, UAF Yank 59.90 337 P **P 07 21 24.4 +0.6**
baz=119,SNR=8.1
P19K Oil Pt 59.92 331 IAMs_20 IAMs_20 07 47 57.2
comp=Z,2µm,19.0s
MDM Murphy Dome 60.08 337 IAmb IAmb 07 21 34.4
comp=Z,25nm,1.1s
NBPB Pedra_Branca-C 60.08 106 *eP* **P 07 21 25.9 0.0**
FRTB Fartura 60.10 129 *eP* **P 07 21 25.3 -0.5**
TRF Thorofare Moun 60.17 335 IAMs_20 IAMs_20 07 48 03.4
comp=Z,2µm,20.0s
TRF Thorofare Moun 60.17 335 P **P 07 21 27.0 +1.1**
baz=116,SNR=12
NEA2 Nenana 60.22 337 IAMs_20 IAMs_20 07 49 47.5
comp=Z,2µm,19.0s
NEA2 Nenana 60.22 337 P **P 07 21 26.5 +0.5**
baz=118,SNR=6.5
DY2G Dye2 60.22 21 *eP* **P 07 21 23.7 -2.6**
DY2G IAmb IAmb 07 21 26.5
comp=Z,115nm,1.4s
H24K Noodor Dome 60.39 338 IAmb IAmb 07 21 37.6
comp=Z,43nm,0.9s
H24K Noodor Dome 60.39 338 P **P 07 21 27.9 +0.7**
baz=120,SNR=19
KTH Kantishna Hill 60.47 335 IAmb IAmb 07 21 37.5
comp=Z,24nm,0.8s
KTH IAMs_20 IAMs_20 07 49 03.3
comp=Z,2µm,19.0s
I23K Minto, Yukon-K 60.59 337 IAMs_20 IAMs_20 07 50 43.2
comp=Z,2µm,18.0s
I23K Minto, Yukon-K 60.59 337 P **P 07 21 29.4 +0.9**
baz=118,SNR=22
O19K Port Alsworth 60.63 331 IAmb IAmb 07 21 39.0
comp=Z,54nm,1.1s
O19K IAMs_20 IAMs_20 07 46 48.9
comp=Z,2µm,22.0s
O19K Port Alsworth 60.63 331 P **P 07 21 29.5 +0.6**
baz=110
ITAB Concordia 60.64 135 P **P 07 21 28.6 -0.8**
ITAB Concordia 60.64 135 *eP* **P 07 21 28.6 -0.8**
LL04 Puerto Octay 60.70 159 IAmb IAmb 07 21 42.4
comp=Z,40nm,1.1s
PPLA Purkeypile 60.72 334 IAmb IAmb 07 21 56.5
comp=Z,38nm,1.1s
PPLA Purkeypile 60.72 334 P **P 07 21 30.3 +0.7**
baz=114
BPAW Bear Paw Mtn. 60.74 336 IAmb IAmb 07 21 43.0
comp=Z,24nm,1.0s
BPAW IAMs_20 IAMs_20 07 48 33.3
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 60.74 336 P **P 07 21 29.9 +0.3**
baz=116,SNR=8.3
NBCL Cascavel-CE 60.81 104 *eP* **P 07 21 30.9 0.0**
CAST Castle Rocks 60.89 335 IAmb IAmb 07 21 40.5
comp=Z,31nm,0.9s
CAST IAMs_20 IAMs_20 07 49 53.3
comp=Z,2µm,19.0s
CAST Castle Rocks 60.89 335 P **P 07 21 30.7 +0.1**
baz=114,SNR=15
N19K Bonanza Creek 60.92 332 P **P 07 21 31.2 +0.2**
N19K IAMs_20 IAMs_20 07 46 50.6
comp=Z,2µm,21.0s
N19K Bonanza Creek 60.92 332 P **P 07 21 31.7 +0.7**
baz=110,SNR=6.4
O18K Koktuh Hills 60.93 330 IAmb IAmb 07 21 41.4
comp=Z,42nm,1.0s
O18K Koktuh Hills 60.93 330 P **P 07 21 31.8 +0.8**
baz=109
H23K Yukon River 60.98 338 P **P 07 21 31.8 +0.6**
baz=118,SNR=5.0
RCLB Rio Claro- Sao 61.11 127 *eP* **P 07 21 32.8 0.0**
CHUM Lake Minchumin 61.17 335 P **P 07 21 33.3 +0.7**
baz=114,SNR=7.7
PLCA Paso Flores 61.20 158 P **P 07 21 33.4 +0.4**
comp=Z,26nm,0.8s,baz=330,slow=7.8,SNR=56
PLCA LR LR 07 42 54.1
comp=Z,2µm,18.1s,baz=343,slow=31
PLCA Paso Flores 61.20 158 P **P 07 21 33.7 +0.6**
PLCA pmax pmax
comp=Z,75nm,1.0s
PLCA Paso Flores 61.20 158 P **P 07 21 33.7 +0.6**
PLCA Paso Flores 61.20 158 *eP* **P 07 21 33.5 +0.5**
NUUG Nuugaatsiaq 61.24 14 *eP* **P 07 21 31.6 -1.2**
NUUG IAmb IAmb 07 21 34.0
comp=Z,38nm,1.1s
L20K Farewell, AK 61.27 333 P **P 07 21 33.8 +0.6**
baz=112,SNR=13
M19K Big River Lodg 61.28 333 IAmb IAmb 07 21 43.9
comp=Z,26nm,0.8s
M19K IAMs_20 IAMs_20 07 49 23.8
comp=Z,2µm,18.0s
M19K Big River Lodg 61.28 333 P **P 07 21 34.1 +0.8**
baz=111
NBMA Muriti-CE 61.52 108 *eP* **P 07 21 35.8 +0.1**
N18K Kilae Creek 61.53 331 P **P 07 21 35.4 +0.4**
N18K IAmb IAmb 07 21 45.4
comp=Z,39nm,1.0s
N18K IAMs_20 IAMs_20 07 48 49.6
comp=Z,2µm,18.0s
N18K Kilae Creek 61.53 331 P **P 07 21 35.8 +0.8**
baz=109,SNR=6.2
L19K White Mountain 61.58 333 P **P 07 21 35.7 +0.4**
L19K IAmb IAmb 07 21 45.6
comp=Z,26nm,1.0s
L19K White Mountain 61.58 333 P **P 07 21 35.9 +0.6**
baz=111,SNR=6.9
I21K Tanana 61.59 337 P **P 07 21 36.0 +0.6**
baz=115,SNR=7.4
NBPN Ponto Novo - B 61.60 112 *eP* **P 07 21 36.0 -0.2**
K20K Telida 61.68 334 IAmb IAmb 07 22 01.4
comp=Z,27nm,0.9s
K20K IAMs_20 IAMs_20 07 50 29.4
comp=Z,1µm,19.0s
K20K Telida 61.68 334 P **P 07 21 36.3 +0.2**
baz=112,SNR=11
CPSB Cacapava Do Su 61.84 138 *eP* **P 07 21 36.8 -0.7**
VAO Valinhos 61.87 128 *eP* **P 07 21 37.8 -0.2**
COLD Coldfoot 61.88 339 P **P 07 21 38.4 +1.2**
baz=118,SNR=16
DIAM Diamantina, MG 62.01 121 *eP* **P 07 21 38.9 -0.1**
J20K Nowinta River 62.03 335 IAmb IAmb 07 21 48.3
comp=Z,33nm,1.0s
J20K IAMs_20 IAMs_20 07 48 33.5
comp=Z,2µm,20.0s
J20K Nowinta River 62.03 335 P **P 07 21 38.4 +0.1**
baz=112
PPT Papeete 62.08 240 LR LR 07 41 21.4
comp=Z,692nm,19.7s,baz=64,slow=29
PPT2 Papeete2 62.09 240 *eS* **S 07 30 03.3 -0.7**
comp=Z,276nm,26.5s
PPT2 *eLQ* LQ 07 37 28.4
comp=Z,2µm,38.0s
PPT2 *eLR* LR 07 39 55.5
comp=Z,2µm,25.8s,baz=54
H21K Melozitna Rive 62.11 337 IAMs_20 IAMs_20 07 50 24.4
comp=Z,2µm,18.0s
H21K Melozitna Rive 62.11 337 P **P 07 21 38.8 -0.1**
baz=115,SNR=7.5
TTA Tatalina 62.35 334 IAmb IAmb 07 21 50.3
comp=Z,33nm,1.0s
TTA Tatalina 62.35 334 P **P 07 21 40.7 +0.1**
baz=110,SNR=9.6
TULEG Thule 62.35 7 IAmb IAmb 07 21 41.4
comp=Z,47nm,1.4s
TULEG IAMs_20 IAMs_20 07 51 42.0
comp=Z,1µm,21.0s
PET01 Itanhaem-SP 62.36 129 *eP* **P 07 21 40.4 -0.7**
TOLK Toolik Lake Re 62.36 341 IAmb IAmb 07 21 51.0
comp=Z,34nm,1.1s
TOLK Toolik Lake Re 62.36 341 P **P 07 21 41.1 +0.6**
baz=119,SNR=15
BSCB Bom Sucesso 62.49 124 *eP* **P 07 21 42.1 0.0**
IMAR Indian Mountai 62.60 337 P **P 07 21 41.8 -0.3**
PLTB Pedras Altas 62.64 139 P **P 07 21 42.2 -0.6**
PLTB IAmb IAmb 07 21 55.0
comp=Z,38nm,0.9s
PLTB Pedras Altas 62.64 139 *eP* **P 07 21 42.9 0.0**
ANGG Ammassalik, Gr 62.96 23 *i* Pg **P 07 21 44.6 +0.1**
PARB Paraibuna 63.08 127 *eP* **P 07 21 47.5 +1.5**
ROSA Rosais 63.27 54 P **P 07 21 46.2 -0.9**
GDU01 Guandu, BA 63.37 115 *eP* **P 07 21 48.2 +0.2**
TER01 Tubaro-SC 63.52 134 *eP* **P 07 21 48.8 +0.1**
RCBR Riachuelo 63.60 105 P **P 07 21 50.1 +0.4**
comp=Z,12nm,0.8s,baz=78,slow=5.0,SNR=8.2
RCBR LR LR 07 50 28.0
comp=Z,996nm,21.6s,baz=88,slow=37
RCBR Riachuelo 63.60 105 P **P 07 21 50.1 +0.4**
RCBR pmax pmax
comp=Z,47nm,1.0s
RCBR Riachuelo 63.60 105 P **P 07 21 50.1 +0.4**
RCBR IAmb IAmb 07 22 02.6
comp=Z,47nm,0.9s
RCBR Riachuelo 63.60 105 *eP* **P 07 21 50.4 +0.7**
ICESG Greenland Ices 63.69 20 *eP* **P 07 21 49.6 -0.1**
ICESG IAmb IAmb 07 22 06.3
comp=Z,111nm,1.0s
AY01 Puyuhuapi 63.78 161 P **P 07 21 50.5 +0.4**
NBLA Lagarto - SE 63.82 111 *eP* **P 07 21 50.1 -0.9**
MAN01 Angra dos Reis 64.11 126 *eP* **P 07 21 52.1 -0.7**
CMC01 Camacan, BA 64.14 116 *eP* **P 07 21 53.4 +0.4**
VAS01 Vassouras-RJ 64.22 125 *eP* **P 07 21 54.2 +0.7**
SJMB Sao Joao De Ma 64.26 120 *eP* **P 07 21 53.4 -0.4**
EUNU Eureka 64.38 2 P **P 07 21 53.6 -0.1**
EUNU IAmb IAmb 07 22 03.5
comp=Z,26nm,0.9s
GUA01 Guaratinga, BA 64.44 118 *eP* **P 07 21 55.1 +0.1**
NBAN Anadia - AL 64.67 109 *eP* **P 07 21 57.2 +0.6**
NAN01 Guarapari, ES 64.74 119 *eP* **P 07 21 57.2 +0.2**
COYC Coyhaique 64.99 161 P **P 07 21 58.6 +0.6**
RIB01 Linhares ES 65.21 120 *eP* **P 07 21 59.2 -0.8**
NBRF Rio Formoso - 65.35 108 *eP* **P 07 22 01.5 +0.5**
CAM01 Campos-RJ 65.40 123 *eP* **P 07 22 01.5 +0.3**
ALF01 Guarapari-ES 65.56 122 *eP* **P 07 22 02.0 -0.2**
A21K Barrow 65.73 342 IAMs_20 IAMs_20 07 51 37.6
comp=Z,996nm,19.0s
SOEG Soedalen 66.17 22 *eP* **P 07 22 03.5 -1.9**
SOEG IAmb IAmb 07 22 23.8
comp=Z,206nm,1.9s
RDOG Red Dog Mine 66.69 338 IAMs_20 IAMs_20 07 54 30.2
comp=Z,2µm,18.0s
ANM Nome 66.80 334 IAMs_20 IAMs_20 07 51 07.7
comp=Z,1µm,20.0s
GO08 Villa O'Higgin 67.47 163 P **P 07 22 14.9 +1.0**
GO08 IAmb IAmb 07 22 27.8
comp=Z,18nm,0.9s
ALE Alert 68.03 5 IAMs_20 IAMs_20 07 56 56.1
comp=Z,2µm,21.0s
BORG Borgarnes 69.39 26 P **P 07 22 26.5 +0.7**
comp=Z,21nm,1.1s,baz=276,slow=8.2,SNR=3.4
BORG LR LR 07 54 23.2
comp=Z,397nm,20.2s,baz=265,slow=37
GAMB Gambell 69.41 333 IAMs_20 IAMs_20 07 51 57.9
comp=Z,1µm,21.0s
DBG Daneborg 71.08 16 *eP* **P 07 22 34.4 -1.6**
DAG Danmarks Havn 71.85 14 *i* P **P 07 22 39.0 -1.5**
DAG IAmb IAmb 07 22 40.6
comp=Z,26nm,1.1s
RAR Rarotonga 72.29 241 LR LR 07 46 21.5
comp=Z,422nm,18.9s,baz=48,slow=29
NOR Nord 72.90 9 *eP* **P 07 22 45.4 -1.4**
MG03 Isla Dawson 72.90 164 P **P 07 22 47.6 +0.6**
MG03 IAmb IAmb 07 23 01.3
comp=Z,30nm,0.9s
USHA Ushuaia 74.32 164 LR LR 07 50 05.1
comp=Z,1µm,18.0s,baz=330,slow=31
JMIC Jan Mayen 74.43 20 LR LR 07 58 19.8
comp=Z,1µm,19.2s,baz=258,slow=38
SHEM Shemya Is, Ala 77.27 321 LR LR 07 55 54.7
comp=Z,248nm,20.6s,baz=104,slow=35
BILL Bilibino 78.15 338 *c* *i* P **P 07 23 17.9 +0.8**
BILL *i* 07 23 26.0
BILL *i* 07 26 13.4
BILL *i* S **S 07 33 14.4 +4.0**
BILL *i* SS **SS 07 38 14.7 +3.0**
BILL pmax pmax
comp=Z,42nm,1.2s
BILL MLR MLR
comp=Z,916nm,16.0s
BILL Bilibino 78.15 338 P **P 07 23 17.6 +0.5**
BILL IAmb IAmb 07 23 27.8
comp=Z,50nm,1.1s
BILL IAMs_20 IAMs_20 08 01 14.3
comp=Z,762nm,18.0s
PCAS Casmilo, Conde 78.37 52 *eP* **P 07 23 18.8 -0.1**
comp=Z,119nm,1.4s
PCAS *epP* **sP 07 23 27.4 -0.2**
COI Coimbra 78.40 51 *epP* pP 07 23 28.1 +2.8
PCAB Cabril 78.41 50 *epP* pP 07 23 27.4 +2.0
POLO Lamas de Olo 78.64 50 *eP* **P 07 23 20.4 -0.1**
POLO *epP* **sP 07 23 28.5 -0.7**
PFVI Vila Bisbo 78.68 55 *epP* pP 07 23 29.5 +2.6
PTEO Sao Teotonio 78.68 54 *epP* pP 07 23 29.1 +2.2
PVIS Viseu 78.69 51 *epP* pP 07 23 27.9 +0.9
PNCL Nicolau / Gran 78.72 53 *epP* pP 07 23 29.5 +2.4
PVRL Vila Real 78.72 50 *eP* **P 07 23 19.4 -1.4**
PVRL *epP* **sP 07 23 28.8 -0.7**
PMTG Montargil 78.76 52 *epP* pP 07 23 29.1 +1.8
MORF Marmelete 78.78 54 *eP* **P 07 23 21.2 -0.1**
comp=Z,56nm,2.1s
EKA Eskdalemuir Ar 78.92 36 P **P 07 23 21.0 -0.6**
comp=Z,8.9nm,0.9s,baz=282,slow=3.9,SNR=14
EKA LR LR 07 56 21.8
comp=Z,1µm,22.0s,baz=284,slow=34
MTE Manteigas 79.02 51 *eP* **P 07 23 22.4 -0.1**
MTE *epP* **PcP 07 23 30.1 -0.9**
MTE Manteigas 79.02 51 *eLR* LR 07 52 08.5
comp=Z,1µm,22.0s
EVO Evora 79.03 53 *eP* **P 07 23 21.2 -1.3**
comp=Z,53nm,1.9s
EVO *epP* **PcP 07 23 30.5 -0.5**
SPA0 Spitsbergen Ar 79.10 11 *eP* **P 07 23 24.4 +2.2**
SPITS Spitsbergen Ar 79.10 11 P **P 07 23 21.7 -0.5**
comp=Z,10nm,0.9s,baz=175,slow=10.0,SNR=5.0
SPITS LR LR 08 03 47.9
comp=Z,966nm,18.5s,baz=12,slow=40
PCBR Castelo Branco 79.18 52 *eP* **P 07 23 22.9 -0.4**
PCBR *epP* **PcP 07 23 31.6 0.0**
PCVE Castro Verde 79.19 54 *epP* pP 07 23 31.4 +1.7
PBEJ Beja 79.25 53 *eP* **P 07 23 23.6 -0.1**
comp=Z,42nm,1.8s
PBEJ *epP* **PcP 07 23 31.9 -0.1**
MVO Moncorvo 79.25 50 *eP* **P 07 23 23.9 +0.1**
MVO *epP* **PcP 07 23 32.0 0.0**
MVO Moncorvo 79.25 50 *eLR* LR 07 50 29.0
comp=Z,1µm,20.0s
PESTR Estremoz 79.29 53 *eP* **P 07 23 22.7 -1.3**
PESTR *epP* **PcP 07 23 31.3 -0.9**
PMRV Marv??o 79.33 52 *eP* **P 07 23 23.1 -1.1**
PMRV *epP* **PcP 07 23 31.8 -0.5**
PMRV Marv??o 79.33 52 *eLR* LR 07 51 00.7
comp=Z,1µm,22.0s
PBRG Braganca 79.33 50 *epP* pP 07 23 32.3 +1.8
PBDV Barranco-do-Ve 79.36 54 *eP* **P 07 23 20.4 -4.0**
PBDV *epP* **sP 07 23 32.8 -0.3**
PVAQ Vaqueiros 79.49 54 *eP* **P 07 23 25.4 +0.3**
comp=Z,50nm,1.7s
PVAQ *epP* **PcP 07 23 33.2 +0.1**
PVAQ Vaqueiros 79.49 54 *eLR* LR 07 49 27.7
comp=Z,1µm,20.0s
PBAR Barrancos 79.85 53 *eP* **P 07 23 26.9 -0.1**
comp=Z,50nm,2.2s
PBAR *epP* **PcP 07 23 34.7 +0.1**
AFI Afiamalu 80.19 252 LR LR 07 52 48.7
comp=Z,486nm,18.7s,baz=90,slow=31
SUE Sulen 81.54 29 *eP* **P 07 23 35.8 +0.2**
PAB San Pablo 81.60 51 P **P 07 23 36.3 -0.1**
PAB pmax pmax
comp=Z,35nm,0.9s
PAB San Pablo 81.60 51 P **P 07 23 36.3 -0.1**
PAB IAmb IAmb 07 23 46.2
comp=Z,35nm,0.9s
PAB San Pablo 81.60 51 P **P 07 23 37.1 +0.6**

OUZM **OUZ** 81.69 60 P P 07 23 38.0 +0.8
ESDC **Sonseca Array** 81.86 51 P P 07 23 37.7 -0.1
comp=Z,17nm,1.1s,baz=296,slow=5.2,SNR=29
ESDC LR LR 07 56 28.8
comp=Z,1µm,19.1s,baz=290,slow=33
ESBB **Sonseca Array** 81.86 51 IAmb IAmb 07 23 47.4
comp=Z,26nm,0.9s
AKN **Aaknes** 82.21 27 eP P 07 23 38.7 -0.4
LCRM **LCR** 82.59 57 P P 07 23 43.0 +1.1
CZD **Col de Zad** 82.60 58 P P 07 23 44.0 +1.8
ZGR **Zagora** 82.83 61 P P 07 23 44.0 +0.8
BLS5 **Blasjo** 82.86 30 eP P 07 23 42.7 +0.1
MDT **Midelt** 83.01 58 LR LR 07 56 31.6
comp=Z,571nm,20.4s,baz=319,slow=33
MDT **Midelt** 83.01 58 P P 07 23 44.4 +0.4
KONS **Konsvik** 83.10 22 eP P 07 23 43.9 +0.3
STOK **Stokkvaagen** 83.13 23 eP P 07 23 46.5 +2.7
DOMB **Dombas** 83.17 27 eP P 07 23 44.9 +0.7
TBLU **Trondheim** 83.24 26 eP P 07 23 45.5 +1.1
STEI **Steigen** 83.25 21 eP P 07 23 45.2 +0.9
SKAR **Skarslia** 83.31 29 eP P 07 23 45.5 +0.6
NSS **Namsos** 83.45 24 eP P 07 23 46.1 +0.7
FAUS **Fauske** 83.50 21 eP P 07 23 45.4 -0.2
TRO **Tromso** 83.65 19 eP P 07 23 47.4 +1.0
MOR8 **Moi Rana** 83.72 22 eP P 07 23 48.0 +1.1
PMSA **Palmer Station** 84.08 167 LR LR 07 53 42.6
comp=Z,675nm,18.6s,baz=324,slow=30
JETT **Jettan, Norway** 84.14 18 eP P 07 23 49.6 +0.6
HOMB **Homborsund** 84.25 31 eP P 07 23 50.4 +0.7
JBK **JBK** 84.27 56 P P 07 23 51.0 +0.4
KONO **Kongsberg** 84.28 29 ceP P 07 23 49.8 0.0
KONO pmax pmax
comp=Z,112nm,1.7s
KONO **Kongsberg** 84.28 29 P P 07 23 50.4 +0.6
KONO **Kongsberg** 84.28 29 eP P 07 23 50.8 +1.0
NC303 **NORSAR Array S** 84.50 28 IAmb IAmb 07 23 52.7
comp=Z,35nm,1.2s
NB2 **NORSAR Subarra** 84.50 28 P P 07 23 51.5 +0.6
comp=Z,54nm,1.2s,baz=295,slow=5.1
NB2 **NORSAR Subarra** 84.50 28 P P 07 23 51.5 +0.6
baz=295,slow=5.1
NOA **NORSAR Array B** 84.50 28 P P 07 23 51.6 +0.6
comp=Z,23nm,1.0s,baz=296,slow=4.8,SNR=52
NOA LR LR 08 01 38.4
comp=Z,358nm,21.1s,baz=285,slow=36
SNF **Seneffe** 84.52 39 dP P 07 23 50.9 -0.3
HAMF **Hammerfest** 84.52 17 eP P 07 23 53.7 +2.9
OSL **Oslo** 84.70 29 eP P 07 23 53.3 +1.4
NC602 **NORSAR Array S** 84.76 28 eP P 07 23 53.2 +1.0
DOU **Dourbes** 84.84 39 dP P 07 23 51.2 -1.6
comp=Z,7.4nm,1.1s
BMRD **Maredsous** 84.88 39 dPcP P 07 23 53.6 +0.6
BMRD dpP sP 07 24 01.1 -0.7
BGES **Gesves** 85.04 39 dPcP P 07 23 54.2 +0.3
BGES dpP sP 07 24 01.8 -0.9
TDRA **Tendrara** 85.05 57 P P 07 23 56.0 +1.4
BCLA **Clavier** 85.16 39 dP P 07 23 53.6 -0.9
RCHB **Rochefort** 85.20 39 dPcP P 07 23 54.6 0.0
RCHB dpP sP 07 24 02.6 -0.8
BEBN **Eben Emael** 85.27 39 dx x 07 23 55.2
BSTI **Sart Tilman** 85.27 39 dPcP P 07 23 55.5 +0.6
BSTI dpP sP 07 24 04.2 +0.4
KTK1 **Kautokeino** 85.29 18 eP P 07 23 56.1 +1.4
SEY **Seymchan** 85.30 335 LR LR 08 03 27.5
comp=Z,1µm,21.4s,baz=64,slow=37
SEY **Seymchan** 85.30 335 ceP P 07 23 55.6 +0.7
SEY pmax pmax
comp=Z,9.0nm,1.3s
MEM **Membach** 85.53 39 dPcP P 07 23 56.5 +0.2
MEM dpP sP 07 24 04.3 -0.7
BTNL **Ternell** 85.61 39 dPcP P 07 23 56.8 +0.1
BTNL dpP pP 07 24 03.5 +0.4
BHOU **Houvegnez** 85.61 39 dP P 07 23 55.7 -1.1
ARA0 **ARCESS Array S** 85.66 17 eP P 07 23 56.1 -0.5
ARCES **ARCESS Array B** 85.66 17 P P 07 23 55.8 -0.8
comp=Z,9.1nm,0.9s,baz=291,slow=3.4,SNR=12
ARCES LR LR 08 02 36.2
comp=Z,786nm,21.7s,baz=292,slow=36
ARCES **ARCESS Array B** 85.66 17 P P 07 23 56.1 -0.5
ARCES pmax pmax
comp=Z,31nm,1.3s
ARCES **ARCESS Array B** 85.66 17 P P 07 23 56.1 -0.5
ARCES IAmb IAmb 07 24 08.6
comp=Z,30nm,1.2s
FIGM **Figuig** 85.92 58 P P 07 23 60.0 +1.2
WLF **Walferdange** 85.93 39 IAmb IAmb 07 24 08.4
comp=Z,30nm,0.9s
WLF **Walferdange** 85.93 39 eP P 07 23 59.0 +0.7
comp=Z,22nm,0.8s,baz=294,slow=4.7
WLF epP sP 07 24 07.4 +0.4
WLF **Walferdange** 85.93 39 dPcP P 07 23 58.2 -0.1
WLF dpP sP 07 24 06.8 -0.3
IBBN **Ibbenburen** 85.97 37 eP P 07 23 59.0 +0.5
comp=Z,16nm,0.8s,baz=294,slow=4.7
HFS **Hagfors** 85.99 28 P P 07 23 58.5 +0.2
comp=Z,1.3nm,0.7s,baz=14,slow=40,SNR=4.7
HFS LR LR 08 02 21.8
comp=Z,637nm,20.7s,baz=278,slow=36
BUG **Bochum-Univer** 85.99 38 eP P 07 23 58.9 +0.4
comp=Z,36nm,1.4s,baz=294,slow=4.7
AHRW **Bad Neuenahr-A** 86.19 38 eP P 07 24 00.3 +0.7
comp=Z,18nm,0.8s,baz=294,slow=4.7
AHRW epP sP 07 24 08.4 +0.1
PET **Petropavlovsk** 86.20 324 eP P 07 24 01.1 +1.6
PET eS S 07 34 32.0 -1.6
PET pmax pmax
comp=Z,200nm,12.4s
PET MLR MLR
comp=Z,700nm,20.0s
PET MLR MLR
comp=Z,800nm,17.0s
SSB **Saint Sauveur** 86.34 44 IAmb IAmb 07 24 10.0
comp=Z,25nm,1.0s
PETK **Petropavlovsk-** 86.71 325 P P 07 24 03.3 +1.2
comp=Z,1.2nm,0.4s,baz=315,slow=33,SNR=3.2
PETK LR LR 08 04 56.3
comp=Z,204nm,18.1s,baz=48,slow=37
KASTN **Kahler Asten** 86.75 38 eP P 07 24 02.9 +0.6
comp=Z,7.1nm,1.0s,baz=294,slow=4.7
BSEG **Bad Segeberg** 86.80 35 eP P 07 24 02.7 +0.2
comp=Z,9.6nm,0.8s,baz=294,slow=4.7
TNS **Taunus Mts** 87.12 38 eP P 07 24 04.4 +0.2
comp=Z,16nm,0.7s,baz=294,slow=4.7
NRDL **Niedersach Rie** 87.24 36 eP P 07 24 05.1 +0.6
comp=Z,6.5nm,0.9s,baz=294,slow=4.7
MA2 **Magadan** 87.50 332 LR LR 08 04 03.9
comp=Z,517nm,18.8s,baz=56,slow=36
MA2 **Magadan** 87.50 332 ceP P 07 24 05.7 -0.1
MA2 pmax pmax
comp=Z,19nm,1.1s
MA2 **Magadan** 87.50 332 P P 07 24 06.2 +0.4
MA2 IAmb IAmb 07 24 26.1
comp=Z,21nm,1.0s
MA2 IAMs_20 IAMs_20 08 04 36.2
comp=Z,606nm,20.0s
TIXI **Tiksi** 87.53 347 P P 07 24 05.2 -0.5
comp=Z,3.8nm,0.6s,baz=276,slow=20,SNR=12
TIXI LR LR 08 06 27.8
comp=Z,524nm,21.3s,baz=2.0,slow=38
TIXI **Tiksi** 87.53 347 ceP P 07 24 05.0 -0.7
TIXI pmax pmax
comp=Z,28nm,1.7s
TIXI **Tiksi** 87.53 347 P P 07 24 04.8 -0.8
TIXI IAMs_20 IAMs_20 08 05 44.6
comp=Z,648nm,22.0s
DEL **Delary** 87.63 31 eP P 07 24 06.1 -0.4
CLZ **Clausthal** 87.64 36 eP P 07 24 07.1 +0.4
comp=Z,7.1nm,0.9s,baz=294,slow=4.7
ASSE **Asse, Remlinge** 87.70 36 eP P 07 24 07.5 +0.8
comp=Z,7.2nm,0.8s,baz=294,slow=4.7
UPP **Uppsala** 87.88 27 eP P 07 24 06.7 -0.8
FLTG **Flechtingen** 87.94 36 eP P 07 24 07.9 -0.1
comp=Z,6.0nm,0.8s,baz=294,slow=4.7
FLTG epP sP 07 24 15.6 -1.2
VIKU **Vikbolandet** 88.09 29 eP P 07 24 08.9 +0.3
KOWA **Kowa** 88.32 76 P P 07 24 10.2 -0.4
KOWA IAmb IAmb 07 24 20.3
comp=Z,27nm,0.8s
KOWA IAMs_20 IAMs_20 08 00 59.3
comp=Z,884nm,20.0s
KOWA **Kowa** 88.32 76 P P 07 24 16.9 +6.4
SKR **Severo-Kuril's** 88.55 323 eP P 07 24 11.8 +0.9
SKR eS S 07 34 55.5 -0.7
SKR eSS SS 07 40 53.3 +7.1
SKR pmax pmax
comp=Z,21nm,0.7s
SKR pmax pmax
comp=Z,200nm,4.8s
SKR MLR MLR
comp=Z,300nm,17.0s
SKR MLR MLR
comp=Z,400nm,17.0s
NEUB **Neuenburg** 88.70 37 eP P 07 24 10.9 -0.7
baz=294,slow=4.7
AAL **Aland** 88.75 27 eP P 07 24 10.9 -0.8
MOX **Moxa** 88.83 37 eP P 07 24 12.3 -0.1
comp=Z,3.1nm,0.9s,baz=294,slow=4.7
MOX epP sP 07 24 20.6 -0.5
RAF **Rauma** 89.06 25 eP P 07 24 13.1 0.0
TUE **Stuetta** 89.07 42 P P 07 24 13.7 -0.1
TUE lAmb lAmb 07 24 45.6
comp=Z,15nm,1.2s
APA **Apatity** 89.16 17 ⇓iP P 07 24 23.7 +10
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,1µm,18.0s
DAVOX **Davos/Dischmat** 89.29 41 P P 07 24 15.3 +0.5
comp=Z,1.9nm,0.9s,baz=304,slow=13,SNR=2.5
DAVOX LR LR 08 03 45.4
comp=Z,809nm,19.3s,baz=286,slow=35
CLL **Collm** 89.36 36 iP P 07 24 14.2 -0.5
CLL i*PP sP 07 24 22.9 -0.6
CLL e*SP pP 07 24 27.0 +5.8
CLL e 07 34 45.0
CLL eS ScS 07 35 08.0 -0.6
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL **Collm** 89.36 36 P P 07 24 14.3 -0.5
CLL **Collm** 89.36 36 iP P 07 24 14.2 -0.5
comp=Z,9.0nm,1.2s
CLL ipP sP 07 24 22.9 -0.6
CLL esP pP 07 24 27.0 +5.8
CLL eSKSac SKSac 07 34 45.0 +1.0
CLL eS ScS 07 35 08.0 -0.6
CLL ePS PS 07 36 14.0 +3.3
CLL **Collm** 89.36 36 eP P 07 24 14.6 -0.2
comp=Z,5.3nm,1.0s,baz=294,slow=4.7
GUNZ **Gunzen** 89.36 37 eP P 07 24 15.0 +0.2
comp=Z,7.1nm,1.0s,baz=294,slow=4.7
GUNZ epP sP 07 24 23.8 +0.1
MANZ **Manzenberg** 89.39 38 eP P 07 24 15.2 +0.2
comp=Z,1.1nm,0.9s,baz=294,slow=4.7
MANZ epP sP 07 24 23.9 +0.1
TANN **Tannenbergstha** 89.42 37 eP P 07 24 15.3 +0.2
comp=Z,12nm,1.2s,baz=294,slow=4.7
TANN epP sP 07 24 23.6 -0.3
WERN **Wernitzgruen** 89.42 37 eP P 07 24 15.5 +0.4
comp=Z,12nm,1.1s,baz=294,slow=4.7
WERN epP sP 07 24 24.2 +0.3
NKC **Novy Kostel** 89.49 37 eP P 07 24 15.5 +0.1
NKC **Novy Kostel** 89.49 37 eP P 07 24 15.5 +0.1
TIC **Toumodi** 89.50 83 ePKP1 P 07 24 16.6 +0.5
ROTZ **Rotzenmuhle** 89.54 38 eP P 07 24 15.8 +0.2
comp=Z,0.8nm,1.0s,baz=294,slow=4.7
ROTZ epP sP 07 24 24.7 +0.3
LIC **Lamto** 89.60 84 ePKP1 P 07 24 15.8 -0.8
comp=Z,57nm,1.9s
DBIC **Dimbokro** 89.65 83 P P 07 24 16.1 -0.7
comp=Z,3.5nm,0.9s,baz=230,slow=4.7,SNR=3.6
DBIC LR LR 08 02 55.1
comp=Z,370nm,19.4s,baz=302,slow=35
DBIC **Dimbokro** 89.65 83 lAmb lAmb 07 24 41.0
comp=Z,23nm,1.4s
FBE **Freiberg** 89.72 37 eP P 07 24 16.6 +0.1
comp=Z,5.4nm,1.0s,baz=294,slow=4.7
FETA **Feichten** 89.74 41 eP P 07 24 17.2 +0.4
comp=Z,4.9nm,1.2s
KIC **Kosan Boka** 89.84 83 ePKP1 P 07 24 16.8 -0.9
comp=Z,27nm,1.1s
MOTA **Moosalm** 89.84 40 P P 07 24 17.3 0.0
comp=Z,7.7nm,1.4s
WET **Wettzell** 90.19 38 eP P 07 24 19.1 +0.3
comp=Z,5.8nm,0.8s,baz=294,slow=4.7
RAO **Raoul Island** 90.49 240 LR LR 07 55 04.2
comp=Z,255nm,21.0s,baz=95,slow=29
FINES **FINESS Array B** 90.56 24 P P 07 24 19.1 -1.0
comp=Z,4.6nm,1.0s,baz=90,slow=0.2,SNR=9.8
FINES LR LR 08 07 56.8
comp=Z,429nm,18.2s,baz=304,slow=38
MEF **Metsahovi** 90.59 25 eP P 07 24 19.7 -0.5
KHC **Kasperske Hory** 90.62 38 eP P 07 24 20.1 -0.6
KHC **Kasperske Hory** 90.62 38 eP P 07 24 20.1 -0.6
PBCC **Pribram** 90.62 38 eP P 07 24 20.1 -0.6
MSVF **Nonsavu** 90.67 252 LR LR 07 55 29.3
comp=Z,760nm,20.8s,baz=75,slow=29
GEC2 **GERESS Array S** 90.81 38 eP P 07 24 21.7 0.0
comp=Z,5.7nm,1.1s,baz=294,slow=4.7
GERES **GERESS Array B** 90.81 38 P P 07 24 21.1 -0.6
comp=Z,4.4nm,1.1s,baz=256,slow=5.4,SNR=16
GERES PP PP 07 27 57.1 +0.1
comp=Z,1.2nm,0.8s,baz=280,slow=7.7,SNR=4.9
GERES LR LR 08 06 12.6
comp=Z,2µm,18.5s,baz=290,slow=36
PRU **Pruhonice** 90.81 37 eP P 07 24 21.0 -0.6
PRU e 07 24 29.0
PRU **Pruhonice** 90.81 37 eP P 07 24 21.0 -0.6
PRU epP pP 07 24 29.0 +1.0
ZCCA **Zocca** 90.95 43 lAmb lAmb 07 24 32.6
comp=Z,18nm,0.8s
ABTA **Abfaltersbach** 90.97 41 eP P 07 24 22.5 0.0
comp=Z,8.0nm,1.1s
MTSE **Matsula** 91.19 27 eP P 07 24 22.6 -0.5
CHVC **Chvalec** 91.41 36 eP P 07 24 23.9 -0.5
CHVC epP sP 07 24 32.3 -0.9
UPC **Upice** 91.42 36 eP P 07 24 24.4 0.0
UPC e 07 24 32.2
UPC **Upice** 91.42 36 eP P 07 24 24.4 0.0
UPC epP sP 07 24 32.2 -1.0
OSTC **Ostas** 91.52 36 eP P 07 24 24.3 -0.6
OSTC epP sP 07 24 32.6 -1.1
DPC **Dobruska-Polom** 91.67 36 eP P 07 24 24.9 -0.7
DPC e 07 24 32.8
DPC **Dobruska-Polom** 91.67 36 eP P 07 24 24.9 -0.7
DPC epP pP 07 24 32.8 +0.8
VSL **Villasalto** 91.72 48 lAMs_20 lAMs_20 08 01 18.6
comp=Z,1µm,20.0s
KRLC **Kraliky** 92.06 36 eP P 07 24 26.2 -1.2
KRLC e 07 24 35.3
KRLC **Kraliky** 92.06 36 eP P 07 24 26.2 -1.2
KRLC epP sP 07 24 35.3 -0.9
KRUC **Moravsky** 92.31 37 eP P 07 24 27.7 -0.8
KRUC ePP PP 07 28 06.5 -2.2
VRAC **Vranov** 92.31 37 P P 07 24 28.8 +0.3
comp=Z,5.0nm,0.9s,baz=277,slow=6.9,SNR=4.7
VRAC LR LR 08 08 03.6
comp=Z,649nm,18.1s,baz=286,slow=37
VRAC **Vranov** 92.31 37 eP P 07 24 28.0 -0.5
VRAC ePP PP 07 28 06.1 -2.6
OBKA **Obir** 92.34 40 eP P 07 24 28.3 -0.6
comp=Z,8.6nm,1.1s
CONA **Conrad Observa** 92.51 39 eP P 07 24 30.0 +0.4
comp=Z,7.2nm,1.3s
SOKA **Soboth** 92.56 40 eP P 07 24 29.5 -0.3
comp=Z,6.1nm,1.1s
MORC **Moravsky Berou** 92.64 36 lAmb lAmb 07 24 31.3
comp=Z,12nm,1.2s
MORC **Moravsky Berou** 92.64 36 eP P 07 24 29.9 -0.2
MORC ePP PP 07 28 09.0 -2.3
RONA **Rosalia, Austr** 92.87 39 eP P 07 24 31.2 0.0
comp=Z,12nm,1.4s
PABE **Paberze** 93.04 29 eP P 07 24 30.9 -0.8
KEST **Kesra** 93.10 52 P P 07 24 33.0 +0.4
comp=Z,8.1nm,1.0s,baz=285,slow=6.3,SNR=4.0
KEST LR LR 08 01 52.5
comp=Z,518nm,21.9s,baz=267,slow=33
MODS **Modra-Piesok** 93.14 38 eP P 07 24 33.3 +0.9
MODS **Modra-Piesok** 93.14 38 eP P 07 24 33.3 +0.9
JAVC **Velka Javorina** 93.14 37 eP P 07 24 33.2 +0.7
SUW **Suwalki** 93.48 31 eP P 07 24 32.9 -0.9
OJC **Ojcow** 93.69 35 lAmb lAmb 07 24 35.7
comp=Z,12nm,1.2s
VYHS **Vyhne** 94.00 37 eP P 07 24 37.6 +1.3
VYHS **Vyhne** 94.00 37 eP P 07 24 37.6 +1.3
TORD **Torodi Ar. Bea** 94.02 75 P P 07 24 36.0 -1.1
comp=Z,1.5nm,1.0s,baz=273,slow=4.5,SNR=5.5
TORD PKKPbc PKKPbc 07 41 39.5 +0.6
comp=Z,0.6nm,0.8s,baz=89,slow=2.0,SNR=3.0
TORD LR LR 08 05 01.6
comp=Z,613nm,18.8s,baz=238,slow=34
YAK **Yakutsk** 94.32 340 LR LR 08 09 54.8
comp=Z,655nm,19.5s,baz=74,slow=37
YAK **Yakutsk** 94.32 340 eP P 07 24 37.5 0.0
YAK e*PP sP 07 24 49.7 +3.4
YAK eS SKSac 07 35 08.7 -2.9
YAK e 07 35 45.8
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK smax smax
comp=E,61nm,3.3s
YAK smax smax
comp=N,59nm,3.2s
YAK MLR MLR
comp=Z,1µm,20.0s
YAK MLR MLR
comp=N,966nm,23.0s
YAK MLR MLR
comp=E,559nm,23.0s
YAK **Yakutsk** 94.32 340 lAMs_20 lAMs_20 08 08 43.3
comp=Z,836nm,21.0s
KOVH **Kovagotottos** 94.72 39 P P 07 24 39.5 -0.1
PSZ **Piszkesteto** 94.90 37 lAmb lAmb 07 24 42.5
comp=Z,15nm,1.4s
PSZ **Piszkesteto** 94.90 37 P P 07 24 41.4 +0.8
NRIK **Noril'sk** 94.98 359 P P 07 24 39.8 -0.5
comp=Z,1.6nm,0.7s,baz=3.4,slow=3.9,SNR=4.7
NRIK LR LR 08 12 02.0
comp=Z,752nm,19.6s,baz=25,slow=38
NRIK **Noril'sk** 94.98 359 lAmb lAmb 07 24 49.7
comp=Z,20nm,1.8s
CRVS **Cervenica-Dubn** 95.30 36 eP P 07 24 42.9 +0.6
CRVS **Cervenica-Dubn** 95.30 36 eP P 07 24 42.9 +0.6
MNK **Minsk** 95.46 29 iP P 07 24 41.7 -1.2
MNK i 07 28 30.8
MNK iPPP PPP 07 30 35.2
MNK iS SKSac 07 35 14.5 -3.5
MNK iPS PS 07 37 16.9 -0.9
MNK iSS SS 07 42 24.7 -0.5
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=N,4.0nm,0.6s
MNK MLR MLR
comp=E,97nm,21.0s
MNK MLR MLR
comp=Z,698nm,20.0s
MNK MLR MLR
comp=N,487nm,20.0s
MNK **Minsk** 95.46 29 iP P 07 24 41.7 -1.2
comp=E,1.0nm,0.6s
MNK iP P 07 24 41.7 -1.2
comp=N,4.0nm,0.6s
MNK iP P 07 24 41.7 -1.2
comp=Z,7.0nm,0.6s,baz=307
MNK iPP PP 07 28 30.9 -2.2
MNK iPPP PPP 07 30 35.2
MNK iS SKSac 07 35 14.5 -3.5
MNK iPS PS 07 37 17.0 -0.9
MNK iSS SS 07 42 24.7 -0.5
MNK iSSS SSS 07 46 12.9
MNK iLQ LQ 07 53 43.7
MNK iLR LR 07 58 47.9
MNK iLRM MLR 08 06 27.5
comp=E,97nm,20.6s
MNK iLRM MLR 08 06 35.9
comp=Z,698nm,19.7s
MNK iLRM MLR 08 08 23.4
comp=N,487nm,20.5s
KLMR **Klimovskoe** 95.81 20 eP P 07 24 41.9 -2.4
KLMR e 07 28 30.6
KLMR pmax pmax
comp=Z,14nm,0.9s
KLMR **Klimovskoe** 95.81 20 eP P 07 24 42.0 -2.4
KLMR AMP 07 24 44.8
comp=Z,14nm,0.9s
KLMR ePP PP 07 28 30.7 -4.8
UZH **Uzhgorod** 95.91 36 ⇓eP P 07 24 45.4 +0.4
UZH i 07 24 52.5
VAE **Valguarnera** 96.14 48 LR LR 08 05 40.4
comp=Z,1µm,19.3s,baz=337,slow=34
TRPA **Tarpa** 96.31 36 P P 07 24 46.3 -0.6
DIVS **Divibare** 96.86 41 lAMs_20 lAMs_20 08 09 50.8
comp=Z,957nm,20.0s
CEL **Celeste** 96.86 47 lAMs_20 lAMs_20 08 06 50.6
comp=Z,760nm,20.0s
URZ **Urewera** 96.98 232 LR LR 07 58 20.9
comp=Z,395nm,21.6s,baz=36,slow=29
URZ **Urewera** 96.98 232 lAMs_20 lAMs_20 07 58 08.9
comp=Z,512nm,21.0s
TIP **Timpagrande** 97.05 46 lAMs_20 lAMs_20 08 06 40.6
comp=Z,829nm,22.0s
PRGR **Permogore** 97.09 17 eP P 07 24 47.4 -2.7
PRGR pmax pmax
comp=Z,19nm,1.1s
PDG **Podgorica** 97.21 42 lAMs_20 lAMs_20 08 11 29.3
comp=Z,699nm,20.0s
YSS **Yuzh-Sakhalins** 98.07 324 eP Pdif 07 25 09.9 +15
YSS e 07 37 50.5
YSS MLR MLR
comp=Z,800nm,18.0s
YSS MLR MLR
comp=N,500nm,17.0s
AKASG **Malin Array Be** 98.42 32 P P 07 24 54.6 -1.7
comp=N,0.1nm,0.3s,baz=288,slow=4.1,SNR=6.3
AKASG PP PP 07 28 49.8 -6.1
comp=N,0.1nm,0.2s,baz=305,slow=7.1,SNR=4.0
AKASG LR LR 08 11 12.2
comp=N,595nm,18.5s,baz=290,slow=36
OBN **Obninsk** 98.87 25 LR LR 08 09 03.0
comp=N,168nm,21.7s,baz=326,slow=35
OBN **Obninsk** 98.87 25 ⇑iP P 07 24 56.0 -2.2
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,890nm,22.0s
MLR **Muntele Rosu** 99.71 37 P Pdif 07 25 02.0 -0.5
comp=Z,1.4nm,0.8s,baz=97,slow=4.3,SNR=3.0
MLR LR LR 08 09 26.5
comp=Z,419nm,21.9s,baz=310,slow=35
MLR **Muntele Rosu** 99.71 37 lAMs_20 lAMs_20 08 18 40.9
comp=Z,676nm,20.0s
ASAJ **Asahikawa** 99.72 321 LR LR 08 09 28.5
comp=Z,206nm,19.5s,baz=36,slow=35
SANVU **Saraoutou** 100.13 257 lAMs_20 lAMs_20 08 00 35.6
comp=Z,438nm,20.0s
OXZ **Oxford** 101.85 228 lAMs_20 lAMs_20 08 11 39.6
comp=Z,897nm,21.0s
DZM **Mont Dzumac** 102.31 250 eLR LR 07 58 47.2
comp=Z,782nm,23.6s
KOUNC **Koumac, New Ca** 103.97 252 lAMs_20 lAMs_20 08 04 32.4
comp=Z,846nm,20.0s
MDJ **Mudanjiang** 106.72 328 lAMs_20 lAMs_20 08 18 54.0
comp=Z,481nm,18.0s
ISP **Isparta** 106.95 41 lAMs_20 lAMs_20 08 16 26.5
comp=Z,684nm,20.0s
KIV **Kislovodsk** 109.70 30 lAMs_20 lAMs_20 08 14 10.3
comp=Z,566nm,20.0s
ZALV **Zalesovo Beam** 110.46 359 PP PP 07 30 14.0 -11
comp=Z,1.8nm,0.8s,baz=319,slow=4.2,SNR=3.8
MAK **Makhachkala** 112.71 28 eP Pdif 07 25 46.3 -14
MAK i 07 29 52.6
MAK e 07 36 35.4
MAK ePS PS 07 40 17.9 +1.4
MAK eSS SS 07 46 23.0 +1.0
MAK pmax pmax
comp=Z,384nm,1.1s
MAK MLR MLR
comp=Z,2µm,19.0s
ULN **Ulaanbaatar** 113.19 343 lAMs_20 lAMs_20 08 20 54.0
comp=Z,562nm,21.0s
INCN **Inchon** 113.28 324 lAMs_20 lAMs_20 08 21 09.7
comp=Z,397nm,21.0s
GNI **Garni** 113.56 32 lAMs_20 lAMs_20 08 18 21.6
comp=Z,548nm,22.0s
KURBB **Kurchatov Arra** 113.65 4 PKiKP PKiKP 07 30 04.4 +7.8
comp=Z,1.5nm,0.9s,baz=353,slow=2.2,SNR=4.8
GHAJ **Ghor Haditha** 114.20 44 lAMs_20 lAMs_20 08 20 25.5
comp=Z,307nm,20.0s
BJT **Baijiatuau** 116.69 332 lAMs_20 lAMs_20 08 26 27.0

comp=Z,435nm,20.0s
MKAR Makanchi Array 117.62 1 PKP **PKPdf** 07 30 03.4 -1.0
comp=Z,0.3nm,0.5s,baz=77,slow=3.1,SNR=1.8
MKAR PKKPbc **PKKPbc** 07 40 22.5 -5.2
comp=Z,0.5nm,0.9s,baz=163,slow=5.6,SNR=2.7
HHC Hu-ho-hao-te 117.91 336 *e*PKP **PKPdf** 07 30 04.2 -1.1
HHC LR LR
comp=Z,360nm,18.2s
HHC LR LR
comp=Z,380nm,18.8s
HHC LR LR
comp=Z,690nm,21.1s
SYO Syowa Base 120.18 163⇑ *e*Pdiff **Pdif** 07 26 30.4 -2.2
WMQ Urumqi 120.49 357 *e*PKP **PKiKP** 07 30 11.7 +1.5
WMQ LR LR
comp=Z,1μm,20.9s
WMQ LR LR
comp=Z,790nm,20.9s
WMQ LR LR
comp=Z,730nm,21.9s
AAK Ala-Archa 121.18 8 PKP **PKPdf** 07 30 10.9 -0.7
comp=Z,0.7nm,0.4s,baz=180,slow=3.0,SNR=2.5
AAK Ala-Archa 121.18 8*c i* PKIKP **PKiKP** 07 30 13.0 +1.3
AAK pmax pmax
comp=Z,3.0nm,1.7s
GEYT Alibeck 121.36 24 PKP **PKPdf** 07 30 10.4 -1.6
comp=Z,1.3nm,0.4s,baz=344,slow=5.5,SNR=2.7
NJ2 Nanjing 121.61 325 *e*PKP **PKiKP** 07 30 13.8 +1.2
CHGR Chuyangaron 124.09 14 **PKPdf** 07 30 16.4 -0.8
KSH Kashi 124.44 7 PKP **PKiKP** 07 30 20.3 +2.1
KSH LR LR
comp=Z,710nm,20.6s
KSH LR LR
comp=Z,260nm,14.1s
KSH LR LR
comp=Z,960nm,21.3s
XAN Xi'an 124.83 334 PKP **PKPdf** 07 30 18.0 -0.7
LZH Lanzhou 124.91 340 *e*PKP **PKiKP** 07 30 21.4 +2.1
LZH sPKP 07 30 35.0
LZH LR LR
comp=Z,470nm,16.8s
LZH LR LR
comp=Z,850nm,15.4s
LZH LR LR
comp=Z,600nm,17.3s
BOSA Boshof 124.97 114 PKP **PKPdf** 07 30 18.8 -0.3
comp=Z,11nm,1.0s,baz=238,slow=1.3,SNR=17
LBTB Lobatse 125.20 110 PKIKP **PKPdf** 07 30 19.1 -0.5
LBTB Lobatse 125.20 110 **PKPdf** 07 30 19.1 -0.5
STKA Stephens Creek 125.25 242 PKP **PKPdf** 07 30 19.0 -0.4
comp=Z,5.0nm,0.8s,baz=80,slow=5.4,SNR=8.6
RAYN Ar Rayn 125.94 44 PKIKP **PKPdf** 07 30 20.4 -0.7
RAYN Ar Rayn 125.94 44 PKPdf **PKPdf** 07 30 20.4 -0.7
RAYN Ar Rayn 125.94 44 IAMs_20 IAMs_20 08 33 22.4
comp=Z,356nm,20.0s
SSLB Suanglung 126.31 316 IAMs_20 IAMs_20 08 29 29.8
comp=Z,358nm,20.0s
MAW Mawson 126.57 170 PKP **PKiKP** 07 30 21.8 +0.6
comp=Z,11nm,0.8s,baz=157,slow=2.7,SNR=13
MAW Mawson 126.57 170 PKIKP **PKiKP** 07 30 21.4 +0.1
MAW Mawson 126.57 170 PKPdf **PKiKP** 07 30 21.4 +0.1
GOMU GeErMu 127.15 349 PKP **PKPdf** 07 30 22.9 -0.6
GOMU SS SS 07 49 22.3 -5.6
GOMU AMB AMB
comp=Z,110nm,4.8s
GOMU LR LR
comp=Z,220nm,20.6s
GOMU LR LR
comp=Z,170nm,17.7s
GOMU LR LR
comp=Z,160nm,19.6s
KNMB Chin-men Tao 127.49 319 IAMs_20 IAMs_20 08 31 50.7
comp=Z,317nm,21.0s
LODK Lodwar 128.56 72 IAMs_20 IAMs_20 08 25 14.2
comp=Z,521nm,21.0s
FURI Furi 129.14 64 IAMs_20 IAMs_20 08 23 40.4
comp=Z,419nm,22.0s
CD2 Chengdu 129.63 337 PKP **PKPdf** 07 30 27.2 -0.7
ATD Arta Tunnel 131.31 58 IAMs_20 IAMs_20 08 24 13.0
comp=Z,511nm,21.0s
UOSS Minazif 131.41 34 IAMs_20 IAMs_20 08 36 17.7
comp=Z,273nm,19.0s
WB2 Warramunga Arr 131.71 257 PKPdf **PKiKP** 07 30 32.9 -0.1
WRAB Tennant Creek 131.71 257*c i* PKIKP **PKiKP** 07 30 35.5 +2.5
WRAB pmax pmax
comp=Z,17nm,2.5s
WRA Warramunga Arr 131.72 257 PKP **PKPdf** 07 30 32.5 +0.5
comp=Z,2.0nm,0.6s,baz=86,slow=2.5,SNR=20
KMBO Kilima Mbogo 132.00 77 IAMs_20 IAMs_20 08 29 59.0
comp=Z,530nm,19.0s
ASAR Alice Springs 132.26 252 PKhKP PKPpre 07 30 21.1
comp=Z,0.2nm,0.5s,baz=97,slow=2.3,SNR=2.0
ASAR PKP **PKPdf** 07 30 33.0 -0.1
comp=Z,2.3nm,0.9s,baz=99,slow=1.8,SNR=15
ASAR Alice Springs 132.26 252 PKIKP **PKPdf** 07 30 33.8 +0.8
ASAR Alice Springs 132.26 252 PKPdf **PKPdf** 07 30 33.8 +0.8
KIBK Kibwezi 133.15 78 IAMs_20 IAMs_20 08 32 39.9
comp=Z,439nm,20.0s
LSA Lhasa 134.12 351 IAMs_20 IAMs_20 08 39 23.3
comp=Z,412nm,20.0s
PZH PanZhiHua 134.35 337 PKP **PKPdf** 07 30 36.9 -0.2
PZH PKS **PKSdf** 07 34 13.7 0.0
PZH SKKS 07 39 58.4
PZH AMB AMB
comp=Z,150nm,7.8s
PZH LR LR
comp=Z,320nm,20.2s
PZH LR LR
comp=Z,320nm,21.2s
PZH LR LR
comp=Z,410nm,21.5s
KMI Kunming 135.20 335 ⇑PKP **PKiKP** 07 30 41.3 +1.0
KMI sPKP 07 30 57.2
KMI PP **PP** 07 33 17.1 +4.1
KMI AMB AMB
comp=Z,110nm,9.8s
KMI LR LR
comp=Z,300nm,23.1s
KMI LR LR
comp=Z,260nm,21.4s
KMI LR LR
comp=Z,610nm,24.7s
QIZ Qiongzhong 136.78 322 IAMs_20 IAMs_20 08 37 33.1
comp=Z,384nm,20.0s
QIZ Qiongzhong 136.78 322 PKP **PKPdf** 07 30 42.2 +0.6
QIZ PP **PP** 07 33 23.5 +0.4
QIZ SS SS 07 51 27.5 +1.5
QIZ LR LR
comp=Z,240nm,21.1s
QIZ LR LR
comp=Z,210nm,20.6s
QIZ LR LR
comp=Z,320nm,19.4s
FITZ Fitzroy Crossi 139.82 261 PKP **PKPdf** 07 30 47.0 -0.1
comp=Z,5.6nm,0.9s,baz=162,slow=9.0,SNR=5.2
CHTO Chiang Mai 142.39 336 IAMs_20 IAMs_20 08 45 11.1
comp=Z,286nm,20.0s
CM31 Chiang Mai Arr 142.71 336 **PKPdf** 07 30 51.0 -1.4
CMAR Chiang Mai Arr 142.71 336 PKP **PKPdf** 07 30 53.6 +1.2
comp=Z,1.3nm,0.3s,baz=343,slow=2.8,SNR=7.7
DLV T Lat 143.01 317 IAMs_20 IAMs_20 08 42 48.2
comp=Z,315nm,20.0s
VOI Vohitsoka 144.69 106 PKPdf **PKPdf** 07 30 55.6 -0.3
PSA00 Pilbara Seismi 145.29 255 PKPdf **PKPbc** 07 30 56.5 0.0
MBWA Marble Bar 145.42 256 **PKPdf** 07 30 56.4 -0.6
HYBB Hyderabad (bro 146.55 9 *e*PKPab **PKPdf** 07 30 58.8 -0.3
HYBB *e*PKiKP **PKPab** 07 31 01.4 0.0
HYBB *ep*PKPdf pPKPab 07 31 08.2 +0.3
HYBB *ep*PKPab sPKPab 07 31 11.8 +1.5
MORW Morawa 147.42 241 **PKPbc** 07 31 03.6 +1.0
KSM Kuching 148.51 301 **PKPdf** 07 31 03.2 +0.8
PCHI Peechi 152.80 16 *e*P **PKPab** 07 31 25.3 -1.6
KULM Kulim 153.06 320 IAMs_20 IAMs_20 08 52 49.0
comp=Z,286nm,20.0s
MYKOM Kota Tinggi 153.41 309 IAMs_20 IAMs_20 08 42 01.5
comp=Z,243nm,20.0s
IPM Ipoh 153.45 318 IAMs_20 IAMs_20 08 48 37.6
comp=Z,310nm,19.0s
PMBI Palembang 155.54 300 IAMs_20 IAMs_20 08 44 02.3
comp=Z,297nm,20.0s

IDC ***10*** *07:24:08.3±5.1,36.°23N×70.°97E,h187km±49km,mb3.1/6, mb1 3.1/9,mb1mx2.9/54,mbtmp3.6/9,MS3.2/1,Ms1 3.2/1, ms1mx2.5/37,Error ellipse: s-maj=57.0km s-min=33.8km az=140.0*

ISC 10 07:24:06.5±1.7,36.°4N±0.°2×70.°8E±0.°1,h150km,n12, σ2§11/14,mb3.5/5,2C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.75**	**358**		Pn		**Pn**	**07 25 46.4**	**+3.3**
	0.5nm,0.3s,baz=181,slow=13,SNR=12								
KK31					Sn		**Sn**	**07 26 56.9**	**-2.0**
	2.0nm,0.5s,baz=182,slow=23,SNR=10.0								
AAK	**Ala-Archa**	**6.91**	**23**		P		**Pn**	**07 25 48.6**	**+3.3**
	0.5nm,0.3s,baz=128,slow=3.9,SNR=5.0								
AAK					S		**Sn**	**07 27 01.6**	**-1.2**
	0.5nm,0.3s,baz=28,slow=21,SNR=8.2								
TKM2	**Tokmak 2**	**7.54**	**28**	⇑	Pn		**Pn**	**07 25 56.9**	**+3.0**
	0.8nm,0.6s								
TKM2				⇑	Sn		**Sn**	**07 27 15.1**	**-3.1**
	1.8nm,0.7s								
MKAR	**Makanchi Array**	**13.52**	**36**		P		**Pn**	**07 27 12.7**	**+0.6**
	0.1nm,0.3s,baz=217,slow=13,SNR=5.9								
KURBB	**Kurchatov Arra**	**15.32**	**19**		LR		LR	07 33 55.2	
	comp=Z,92nm,21.6s,baz=88,slow=38								
AKTO	**Aktyubinsk**	**16.82**	**331**		P		**P**	**07 27 53.5**	**+0.9**
	0.3nm,0.3s,baz=160,slow=9.9,SNR=4.3								
ZALV	**Zalesovo Beam**	**20.13**	**25**		P		**P**	**07 28 27.4**	**-1.1**
	1.1nm,0.4s,baz=216,slow=11,SNR=5.2								
BRTR	**Keskin Array B**	**29.30**	**288**		P		**P**	**07 29 54.4**	**-0.5**
	0.8nm,0.7s,baz=33,slow=2.9,SNR=4.1								
FINES	**FINESS Array B**	**37.51**	**326**		P		**P**	**07 31 05.6**	**+0.2**
	1.5nm,0.9s,baz=122,slow=7.8,SNR=6.5								
ARCES	**ARCESS Array B**	**41.21**	**338**		P		**P**	**07 31 35.9**	**-0.1**
	0.8nm,0.8s,baz=121,slow=6.8,SNR=0.8								
NOA	**NORSAR Array B**	**44.39**	**323**		P		**P**	**07 32 01.3**	**-0.4**
	0.2nm,0.5s,baz=97,slow=7.7,SNR=2.0								
TORD	**Torodi Ar. Bea**	**65.53**	**269**		P		**P**	**07 34 33.2**	**-0.9**
	0.4nm,0.5s,baz=51,slow=5.9,SNR=5.8								

NNC ***10*** *07:26:25.7±0.5,50.°00N×78.°73E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=8.3km s-min=2.8km az=82.0, Suspected Mining explosion.*
IDC ***10*** *07:26:26.3±1.4,50.°03N×78.°68E,h0km,mb1 2.8/2, mb1mx2.8/49,mbtmp2.8/2,ML2.4/2,Error ellipse: s-maj=23.7km s-min=7.6km az=69.0*

ISC 10 07:26:27.4±0.9,50.°03N±0.°05×78.°67E±0.°06,h0km,n17, σ0§86/30,9C-5D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.56**	**350**		P		**Pg**	**07 26 37.1**	**-1.1**
KUR07					S		**Sg**	**07 26 46.2**	**+0.8**
KUR06	**Kurchatov Arra**	**0.58**	**351**		P		**Pg**	**07 26 37.5**	**-1.0**
KUR06					S		**Sg**	**07 26 46.5**	**+0.4**
KUR14	**Kurchatov Arra**	**0.58**	**355**		P		**Pg**	**07 26 37.5**	**-1.1**
KUR14					S		**Sg**	**07 26 46.5**	**+0.2**
KUR15	**Kurchatov Arra**	**0.59**	**353**		P		**Pg**	**07 26 37.6**	**-1.1**
KUR15					S		**Sg**	**07 26 46.6**	**+0.2**
KURBB	**Kurchatov Arra**	**0.60**	**351**		Pg		**Pg**	**07 26 37.6**	**-1.2**
	2.2nm,0.3s,baz=167,slow=18,SNR=15								
KURBB					Lg		Lg	07 26 46.8	
	2.2nm,0.3s,baz=184,slow=34,SNR=11								
KURBB	**Kurchatov Arra**	**0.60**	**351**	⇑	P		**Pg**	**07 26 37.8**	**-1.1**
	10nm,0.2s								
KURBB				⇓	S		**Sg**	**07 26 47.7**	**+1.0**
	28nm,0.3s								
KUR16	**Kurchatov Arra**	**0.60**	**350**		P		**Pg**	**07 26 38.0**	**-1.0**
KUR16					S		**Sg**	**07 26 47.4**	**+0.5**
KUR17	**Kurchatov Arra**	**0.61**	**348**		P		**Pg**	**07 26 38.3**	**-0.9**
KUR17					S		**Sg**	**07 26 47.7**	**+0.5**
KUR05	**Kurchatov Arra**	**0.62**	**352**		P		**Pg**	**07 26 38.1**	**-1.2**
KUR05					S		**Sg**	**07 26 47.1**	**-0.1**
KUR04	**Kurchatov Arra**	**0.64**	**353**		P		**Pg**	**07 26 38.6**	**-1.0**
KUR04					S		**Sg**	**07 26 47.9**	**0.0**
KURK	**Kurchatov**	**0.68**	**357**	⇑	P		**Pg**	**07 26 38.9**	**-1.7**
	6.1nm,0.4s								
KURK				⇑	S		**Sg**	**07 26 49.7**	**+0.2**
	2.9nm,0.3s								
MAKZ	**Makanchi**	**3.91**	**144**	⇑	Pn		**Pn**	**07 27 28.2**	**-0.5**
	0.9nm,0.8s								
MAKZ				⇑	Pg		**Pb**	**07 27 38.4**	**+1.2**
	0.3nm,0.3s								
MAKZ				⇑	Lg		Lg	07 28 26.3	
	3.2nm,0.6s								
MK31	**Makanchi Array**	**4.04**	**142**	⇑	Pn		**Pn**	**07 27 30.0**	**-0.5**
	0.1nm,0.1s,baz=325,slow=10,SNR=22								
MK31				⇓	Pg		**Pb**	**07 27 39.9**	**+0.5**
	0.2nm,0.2s,baz=331,slow=15,SNR=7.9								
MK31				⇑	Lg		Lg	07 28 31.2	
	4.8nm,0.7s,baz=323,slow=26,SNR=13								
MKAR	**Makanchi Array**	**4.04**	**142**		Pn		**Pn**	**07 27 30.1**	**-0.4**
	0.3nm,0.3s,baz=321,slow=10,SNR=30								
MKAR					Lg		Lg	07 28 32.2	
	0.8nm,0.3s,baz=320,slow=27,SNR=6.3								
OTUK	**Ortayu**	**4.53**	**249**	⇑	Pn		**Pn**	**07 27 36.9**	**-0.3**
	0.8nm,0.3s								
OTUK				⇓	Pg		**Pb**	**07 27 48.0**	**+0.3**
	0.4nm,0.4s								
OTUK				⇓	Sn		**Sn**	**07 28 30.8**	**+0.3**
	0.5nm,0.3s								
OTUK				⇓	Lg		Lg	07 28 48.0	
	3.1nm,0.8s								
ZALV	**Zalesovo Beam**	**5.46**	**42**		Pn		**Pn**	**07 27 50.5**	**+0.6**
	0.6nm,0.3s,baz=233,slow=14,SNR=8.6								
I46RU	**ZALESOVO INFRA**	**5.46**	**42**	*i*				07 59 50.0	
	baz=225,slow=317,SNR=2.9								

NNC ***10*** *07:32:34.4±1.3,52.°13N×75.°82E,h0km,mb3.1,mpv2.7, Error ellipse: s-maj=20.8km s-min=7.4km az=27.0, Suspected Mining explosion.*
IDC ***10*** *07:32:39.8±3.2,51.°60N×75.°58E,h0km,mb1 2.5/3, mb1mx2.5/38,mbtmp2.5/3,ML1.7/3,Error ellipse: s-maj=27.5km s-min=20.5km az=94.0*

ISC 10 07:32:33.8±1.3,52.°31N±0.°08×76.°09E±0.°05,h0km,n9, σ1§26/9,4C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.24**	**134**	⇑	Pg		**Pb**	**07 33 14.9**	**-0.2**
	2.4nm,0.6s								
KURK				⇓	Lg		Lg	07 33 44.2	
	10nm,0.7s								
KURBB	**Kurchatov Arra**	**2.27**	**137**		Pn		**Pb**	**07 33 15.9**	**+0.3**
	0.2nm,0.3s,baz=303,slow=18,SNR=10								
KURBB					Lg		Lg	07 33 46.5	
	0.5nm,0.3s,baz=296,slow=33,SNR=12								
KURBB	**Kurchatov Arra**	**2.27**	**137**	⇑	Pg		**Pb**	**07 33 16.5**	**+0.9**
	4.3nm,0.8s,baz=307,slow=17								
KURBB				⇑	Lg		Lg	07 33 47.9	
	36nm,0.6s,baz=315,slow=26								
BVA1	**Borovoye Array**	**3.55**	**284**	⇓	Pg		**Pb**	**07 33 37.4**	**+0.1**
	2.1nm,0.6s								
BVA1				⇑	Lg		Lg	07 34 22.4	
	10nm,0.6s								
BRVK	**Borovoye**	**3.62**	**284**	⇓	Pg		**Pb**	**07 33 38.4**	**-0.1**
	2.1nm,0.7s								
BRVK				⇓	Lg		Lg	07 34 24.3	
	18nm,0.8s								
I46RU	**ZALESOVO INFRA**	**5.51**	**69**	*i*				08 11 20.0	
	baz=252,slow=322,SNR=5.4								
ZALV	**Zalesovo Beam**	**5.51**	**69**		Pn		**Pb**	**07 34 10.8**	**+0.1**
	0.0nm,0.3s,baz=251,slow=14,SNR=2.2								
ZALV					Sn		**Sb**	**07 35 17.0**	**-0.2**
	0.1nm,0.3s,baz=255,slow=22,SNR=2.5								
ZALV					Lg		Lg	07 35 51.3	
	0.2nm,0.3s,baz=246,slow=28,SNR=2.4								
MK31	**Makanchi Array**	**6.83**	**141**		Lg		Lg	07 36 07.5	
	3.6nm,0.8s,baz=321,slow=26,SNR=6.7								
MKAR	**Makanchi Array**	**6.83**	**141**		Pn		**Pn**	**07 34 16.5**	**+1.3**
	0.1nm,0.3s,baz=317,slow=14,SNR=2.5								
MKAR					Sn		**Sn**	**07 35 31.0**	**-2.6**
	0.1nm,0.3s,baz=313,slow=16,SNR=3.0								
MKAR					Lg		Lg	07 36 06.2	
	0.2nm,0.3s,baz=317,slow=27,SNR=11								

NEIC ***10*** *07:41:41.5±1.9,20.°15S±0.°10×173.°24W±0.°06,h10km±1km, mb4.4/10,Error ellipse: s-maj=17.3km s-min=7.6km az=203.0*
IDC ***10*** *07:41:41.9±0.7,19.°96S×173.°89W,h0km,mb3.9/10, mb1 4.2/12,mb1mx4.1/27,mbtmp3.9/12,ML4.2/2,Error ellipse: s-maj=33.8km s-min=17.6km az=133.0*

ISC 10 07:41:43.8±0.5,20.°12S±0.°08×173.°34W±0.°08,h25km,n33, σ1§82/37,mb4.0/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.38**	**73**				**Pn**	**07 42 33.1**	**-1.9**
NIUE					Sn		**Sn**	**07 43 11.6**	**-2.7**
AFI	**Afiamalu**	**6.36**	**14**		Pn		**Pn**	**07 43 14.6**	**-1.4**
	4.1nm,0.3s,baz=126,slow=22,SNR=2.3								
AFI					Sn		**Sn**	**07 44 27.1**	**-0.8**
	1.0nm,0.3s,baz=204,slow=20,SNR=1.5								
AFI	**Afiamalu**	**6.36**	**14**				**Pn**	**07 43 15.1**	**-0.9**
URZ	**Urewera**	**19.88**	**203**		P		**P**	**07 46 13.1**	**-0.1**
	1.0nm,0.3s,baz=302,slow=3.1,SNR=8.2								
URZ	**Urewera**	**19.88**	**203**		P		**P**	**07 46 13.1**	**-0.1**
BKZ	**Black Stump Fm**	**20.91**	**203**				**P**	**07 46 25.2**	**+0.8**
BKZ					IAmb		IAmb	07 46 32.0	
	comp=Z,18nm,1.3s								
STKA	**Stephens Creek**	**41.89**	**244**		P		**P**	**07 49 30.6**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=63,slow=9.0,SNR=1.9								
ASAR	**Alice Springs**	**48.85**	**256**		P		**P**	**07 50 25.6**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=89,slow=8.2,SNR=10								
ASAR					PcP		**PcP**	**07 51 52.7**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=105,slow=3.4,SNR=5.7								
ASAR	**Alice Springs**	**48.85**	**256**		P		**P**	**07 50 27.7**	**0.0**
WB0	**Warramunga Arr**	**48.96**	**261**		P		**P**	**07 50 26.6**	**-1.8**
WB0					IAmb		IAmb	07 50 47.9	
	comp=Z,9.6nm,1.4s								
WB2	**Warramunga Arr**	**48.97**	**261**		P		**P**	**07 50 27.0**	**-1.6**
WB2					IAmb		IAmb	07 50 40.9	
	comp=Z,6.9nm,1.2s								
WRA	**Warramunga Arr**	**48.98**	**261**		P		**P**	**07 50 26.9**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=96,slow=7.7,SNR=12								
WRA	**Warramunga Arr**	**48.98**	**261**		P		**P**	**07 50 26.6**	**-2.0**
FORT	**Forrest**	**53.45**	**246**		P		**P**	**07 51 00.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**57.41**	**261**		P		**P**	**07 51 30.2**	**-0.5**
FITZ					IAmb		IAmb	07 51 48.2	
	comp=Z,6.0nm,1.3s								
SBA	**Scott Base**	**58.57**	**185**		P		**P**	**07 51 36.4**	**-1.5**
VNDA	**Vanda**	**58.71**	**186**		P		**P**	**07 51 42.0**	**+3.1**
	comp=Z,1.2nm,0.8s,baz=33,slow=5.8,SNR=5.2								
VNDA	**Vanda**	**58.71**	**186**		P		**P**	**07 51 38.0**	**-0.9**
VNDA					IAmb		IAmb	07 51 45.4	
	comp=Z,3.6nm,1.4s								
QSPA	**South Pole Qui**	**69.95**	**180**		P		**P**	**07 52 54.1**	**+1.2**
QSPA					IAmb		IAmb	07 52 55.7	
	comp=Z,2.4nm,0.9s								
PETK	**Petropavlovsk-**	**77.12**	**343**		P		**P**	**07 53 35.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=53,slow=9.6,SNR=2.7								
NVAR	**Mina Array Bea**	**77.81**	**41**		P		**P**	**07 53 43.2**	**+3.9**
	comp=Z,1.1nm,0.8s,baz=228,slow=8.4,SNR=10								
NVAR	**Mina Array Bea**	**77.81**	**41**		P		**P**	**07 53 39.7**	**+0.4**
TXAR	**Lajitas Array**	**83.20**	**56**		P		**P**	**07 54 12.1**	**+3.7**
	comp=Z,0.5nm,0.8s,baz=215,slow=7.6,SNR=5.8								
TXAR	**Lajitas Array**	**83.20**	**56**		P		**P**	**07 54 08.3**	**-0.1**
PDAR	**Pinedale Array**	**85.74**	**41**		P		**P**	**07 54 24.2**	**+3.1**
	comp=Z,0.5nm,0.8s,baz=191,slow=3.0,SNR=4.1								
ILAR	**Eielson Array**	**87.04**	**11**		P		**P**	**07 54 28.4**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=232,slow=5.5,SNR=4.8								
CMAR	**Chiang Mai Arr**	**94.13**	**288**		P		**P**	**07 55 01.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=141,slow=3.5,SNR=1.7								
MKAR	**Makanchi Array**	**114.12**	**313**		PKiKP		**PKiKP**	**08 00 22.5**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=90,slow=1.4,SNR=3.6								
MKAR	**Makanchi Array**	**114.12**	**313**				**PKiKP**	**08 00 20.2**	**-0.7**
ARCES	**ARCESS Array B**	**129.27**	**352**		PKP		**PKiKP**	**08 00 50.5**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=46,slow=3.9,SNR=4.0								
AKASG	**Malin Array Be**	**144.66**	**335**		PKP		**PKPdf**	**08 01 18.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=39,slow=4.8,SNR=8.8								
BRTR	**Keskin Array B**	**149.72**	**316**		PKPbc		**PKPab**	**08 01 34.0**	**-3.1**
	comp=Z,0.6nm,0.7s,baz=145,slow=5.3,SNR=2.6								
BRTR	**Keskin Array B**	**149.72**	**316**		PKPdf		**PKPdf**	**08 01 24.7**	**-2.4**
BRTR					PKPbc		**pPKPdf**	**08 01 34.1**	**+0.7**

RSNC ***10*** *07:56:25.1±1.1,6.°81N×73.°13W,h138km±5km,ML3.2, Mw3.7*
IDC ***10*** *07:56:27.7±2.2,6.°65N×74.°66W,h167km±100km,mb3.3/1, mb1 3.6/1,mb1mx2.8/31,mbtmp3.7/1,Error ellipse: s-maj=635.3km s-min=30.8km az=88.0*

ISC 10 07:56:22.7±0.9,6.°81N±0.°03×73.°08W±0.°04,h154km±6km, n33,σ1§60/62,2C-5D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**204**	⇓	*i*P		**Pn**	**07 56 44.0**	**+0.1**
BARC					*e*S		**Sn**	**07 56 58.7**	**-1.3**
BARC					*i*			07 57 00.2	
	comp=Z,654nm,0.9s								
PAMC	**Pamplona, Colo**	**0.65**	**36**	⇑	*i*P		**Pn**	**07 56 46.9**	**+1.0**
PAMC					*e*S		**Sn**	**07 57 03.6**	**0.0**
PAMC					*i*			07 57 05.9	
	comp=Z,443nm,0.4s								
RUSC	**La Rusia**	**0.92**	**180**	⇓	*i*P		**Pn**	**07 56 47.9**	**+0.1**
RUSC					*e*S		**Sn**	**07 57 05.8**	**-1.1**
TAMC	**Tame, Arauca**	**1.34**	**106**	⇓	*i*P		**Pn**	**07 56 52.4**	**+1.4**
TAMC					*e*S		**Sn**	**07 57 13.5**	**+0.9**
TAMC					*i*			07 57 14.3	
	comp=Z,130nm,0.5s								
PTBC	**PUERTO BERRIO,**	**1.39**	**259**	⇓	*i*P		**Pn**	**07 56 50.5**	**-1.0**
PTBC					*e*S		**Sn**	**07 57 11.8**	**-1.6**
PTBC					*i*			07 57 17.1	
	comp=Z,161nm,0.7s								
OCAC	**Ocana**	**1.44**	**351**	⇑	*i*P		**Pn**	**07 56 52.4**	**+0.3**
OCAC					*e*S		**Sn**	**07 57 14.2**	**-0.5**
OCAC					*i*			07 57 17.2	
	comp=Z,622nm,0.3s								
SPBC	**San Pablo de B**	**1.52**	**220**	⇓	*i*P		**Pn**	**07 56 52.9**	**+0.1**
SPBC					*e*S		**Sn**	**07 57 14.8**	**-1.1**
SPBC					*i*			07 57 21.4	
	comp=Z,204nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.89**	**291**		*e*P		**Pn**	**07 56 57.0**	**+0.3**
ZARC					*e*S		**Sn**	**07 57 22.8**	**-0.1**
ZARC					*i*			07 57 27.8	
	comp=Z,275nm,0.4s								
NORC	**Norcasia**	**2.17**	**235**		*e*P		**Pn**	**07 56 59.9**	**-0.2**
NORC					*e*S		**Sn**	**07 57 28.1**	**-0.8**
NORC					*i*			07 57 34.9	
	comp=Z,96nm,0.5s								
CHIC	**Chingaza**	**2.26**	**197**		*e*P		**Pn**	**07 57 02.4**	**+0.9**
CHIC					*e*S		**Sn**	**07 57 31.4**	**-0.2**
CHIC					*i*			07 57 37.7	
	comp=Z,59nm,0.4s								
ROSC	**El Rosal**	**2.31**	**212**		P		**Pn**	**07 57 04.1**	**+2.0**
	comp=Z,6.7nm,0.3s,baz=270,slow=19,SNR=33								
ROSC					S		**Sn**	**07 57 28.8**	**-3.8**
	comp=Z,12nm,0.3s,baz=125,slow=23,SNR=5.9								
ROSC	**El Rosal**	**2.31**	**212**		*e*P		**Pn**	**07 57 03.9**	**+1.8**
ROSC					*e*S		**Sn**	**07 57 34.0**	**+1.5**

ORTC				*e*S		**Sn**	07 58 01.4	**+0.6**
ORTC				*i*			07 58 06.9	
	comp=Z,70nm,0.5s							
SJCC	**San Jacinto, C**	**3.70**	**326**	*e*P		**Pn**	07 57 18.4	**-0.8**
SJCC				*e*S		**Sn**	07 58 00.8	**-2.4**
SJCC				*i*			07 58 14.2	
	comp=Z,27nm,0.6s							
PLMC	**San Jos del P**	**3.70**	**239**	*e*P		**Pn**	07 57 19.9	**+0.6**
PLMC				*e*S		**Sn**	07 58 03.4	**+0.1**
PLMC				*i*			07 58 09.8	
	comp=Z,20nm,0.3s							
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	*e*P		**Pn**	07 57 24.7	**-0.8**
CRJC				*e*S		**Sn**	07 58 10.9	**-3.7**
CRJC				*i*			07 58 16.7	
	comp=Z,21nm,0.2s							
GUVC	**San Jose del G**	**4.26**	**174**	*e*P		**Pn**	07 57 26.1	**-0.5**
GUVC				*e*S		**Sn**	07 58 15.1	**-1.3**
GUVC				*i*			07 58 19.6	
	comp=Z,53nm,0.3s							
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*P		**Pn**	07 57 26.9	**-0.1**
SMRC	**Santa Marta, M**	**4.47**	**345**	*e*P		**Pn**	07 57 29.5	**+0.3**
SMRC				*e*S		**Sn**	07 58 18.9	**-2.2**
MACC	**Macarena, Meta**	**4.70**	**189**	*e*P		**Pn**	07 57 31.1	**-1.1**
MACC				*e*S		**Sn**	07 58 22.3	**-4.2**
MACC				*i*			07 58 51.5	
	comp=Z,20nm,0.4s							
SOTA	**Rioblanco**	**5.83**	**217**	*e*P		**Pn**	07 57 49.7	**+2.1**
SOTA				*e*S		**Sn**	07 58 58.3	**+4.4**
SOTA				*i*			07 59 05.2	
	comp=Z,16nm,0.8s							
YKA	**Yellowknife Ar**	**63.28**	**340**	P		**P**	08 06 35.6	**+0.9**
	comp=Z,0.6nm,0.6s,baz=132,slow=6.7,SNR=22							
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc		**PKPbc**	08 15 53.1	**-0.6**
	comp=Z,0.3nm,0.7s,baz=121,slow=3.6,SNR=6.3							
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		**PKPbc**	08 15 56.3	**-0.5**
	comp=Z,0.4nm,0.7s,baz=106,slow=2.8,SNR=9.3							

GUC ***10*** *07:58:55.4±0.7, 17.°07S×70.°62W, h123km±4km, ML3.7*
IDC ***10*** *07:58:57.7±6.6, 16.°93S×70.°34W, h149km±38km, mb3.2/2, mb1 3.3/3, mb1mx3.0/25, mbtmp3.5/3, Error ellipse: s-maj=121.7km s-min=49.8km az=10.0*

ISC 10 07:58:54.5±1.8, 17.°15S±0.1×70.°6W±0.°2, h128km±15km, n9, σ0.89/14, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AP01	**Chacalluta**	**1.32**	**168**	*i* S		**Sn**	**07 59 39.9**	**-0.5**
AP01				IAML			07 59 41.9	
	comp=N,2μm,0.3s							
PB12	**IPOC Station P**	**1.56**	**169**	*e*P		**Pn**	**07 59 23.4**	**+0.1**
PB12				*i* S		**Sn**	**07 59 44.6**	**-0.7**
PB12				IAML			07 59 51.3	
	comp=E,348nm,0.4s							
PB16	**IPOC Station P**	**1.66**	**140**	*e*P		**Pn**	**07 59 25.6**	**+0.8**
PB16				*i* S		**Sn**	**07 59 48.6**	**+0.7**
LPAZ	**La Paz**	**2.53**	**72**	P		**Pn**	**07 59 36.0**	**+0.5**
	comp=E,3.8nm,0.3s,baz=270,slow=8.0,SNR=192							
LPAZ				S		**Sn**	**08 00 05.8**	**-1.3**
	comp=E,2.3nm,0.3s,baz=337,slow=24,SNR=10							
LPAZ	**La Paz**	**2.53**	**72**	P		**Pn**	**07 59 36.0**	**+0.5**
PB11	**IPOC Station P**	**2.84**	**161**	*e*P		**Pn**	**07 59 38.8**	**-0.2**
PB11				*i* S		**Sn**	**08 00 12.2**	**-1.3**
PB11				IAML			08 00 13.6	
	comp=E,216nm,0.2s							
GO01	**Chusmiza**	**2.93**	**152**	*e*P		**Pn**	**07 59 41.7**	**+1.2**
GO01				*i* S		**Sn**	**08 00 16.1**	**+0.1**
GO01				IAML			08 00 19.8	
	comp=E,326nm,0.1s							
TORD	**Torodi Ar. Bea**	**77.48**	**72**	P		**P**	**08 10 35.6**	**-0.8**
	comp=E,0.6nm,0.7s,baz=256,slow=5.4,SNR=4.0							
YKA	**Yellowknife Ar**	**86.49**	**341**	P		**P**	**08 11 23.0**	**+0.7**
	comp=E,0.2nm,0.5s,baz=138,slow=4.7,SNR=6.3							

NNC 10 08:03:04.8±12.0, 36.°96N×71.°02E, h0km, mb3.6, mpv3.3, 4D, Error ellipse: s-maj=100.2km s-min=73.8km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**6.15**	**357**	Pn		Pn	08 04 38.4	+1.5
	0.7nm,0.3s,baz=177,slow=13,SNR=20							
KK31				⇓Sn		Sn	08 05 50.2	+2.3
	0.9nm,0.5s,baz=183,slow=26,SNR=3.7							
TKM2	**Tokmak 2**	**6.91**	**29**	⇓Pn		Pn	08 04 46.5	-1.1
	1.9nm,0.6s							
TKM2				⇓Sn		Sn	08 06 05.8	-1.2
	3.5nm,1.1s							
AB31	**Akbulak array**	**14.69**	**330**	⇓Pn		Pn	08 06 35.2	+1.4
	0.5nm,0.7s,baz=167,slow=11,SNR=7.2							

DJA ***10*** *08:26:23.8±0.7, 4.°S±6.°×15.°4E±.°, h195km±4km, M4.6/20, mB5.0/4, mb4.5/20, MLv4.8/3, Mw(mB)4.4/4*
NEIC ***10*** *08:26:25.4±1.9, 4.°65S±0.°05×154.°13E±0.°08, h189km±7km, mb4.5/37, Error ellipse: s-maj=12.0km s-min=7.4km az=99.0*
IDC ***10*** *08:26:26.1±1.2, 4.°77S×154.°01E, h198km±8km, mb3.8/19, mb1 4.0/20, mb1mx3.8/37, mbtmp4.4/20, Error ellipse: s-maj=17.2km s-min=9.7km az=75.0*

ISC 10 08:26:25.8±0.5, 4.°68S±0.°06×154.°11E±0.°07, h200km, n80, σ1.9/29/89, mb4.4/40, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**2.00**	**284**			**Pn**	**08 27 03.8**	**-0.5**
RABL				Sn		**Sn**	**08 27 32.4**	**-1.9**
KRVT	**Keravat (AS076**	**2.11**	**280**	P		**Pn**	**08 27 05.3**	**-0.1**
	197nm,0.3s,baz=206,slow=1.4,SNR=118							
KRVT				S		**Sn**	**08 27 35.1**	**-1.2**
	258nm,0.3s,baz=171,slow=21,SNR=16							
HNR	**Honiara**	**7.47**	**129**	Pn		**Pn**	**08 28 11.0**	**-1.1**
PMG	**Port Moresby**	**8.34**	**235**	P		**Pn**	**08 28 27.4**	**+3.8**
	5.5nm,0.3s,baz=56,slow=9.0,SNR=14							
PMG				S		**Sn**	**08 30 01.4**	**+3.9**
	0.9nm,0.3s,baz=107,slow=19,SNR=3.2							
COEN	**Coen**	**14.18**	**229**			**P**	**08 29 40.4**	**+0.6**
CTA	**Charters Tower**	**17.12**	**206**	P		**Pn**	**08 30 14.2**	**+0.6**
	1.0nm,0.3s,baz=28,slow=10,SNR=16							
CTAO	**Charters Tower**	**17.12**	**206**	P		**Pn**	**08 30 14.0**	**+0.5**
CTAO				IAmb		IAmb	08 30 15.5	
	comp=Z,8.8nm,0.7s							
EIDS	**Eidsvold**	**20.77**	**188**			**P**	**08 30 52.3**	**+0.8**
EIDS				IAmb		IAmb	08 30 53.0	
	comp=Z,20nm,0.9s							
DZM	**Mont Dzumac**	**21.02**	**146**	P		**P**	**08 30 54.4**	**+0.3**
	comp=Z,6.4nm,0.8s,baz=150,slow=11,SNR=2.3							
DZM	**Mont Dzumac**	**21.02**	**146**	P		**P**	**08 30 54.4**	**+0.3**
DZM				IAmb		IAmb	08 31 20.8	
	comp=Z,26nm,1.5s							
FAKI	**Fak Fak**	**21.88**	**274**	P		**P**	**08 31 02.3**	**-0.8**
FAKI				IAmb		IAmb	08 31 17.5	
	comp=Z,18nm,1.0s							
FAKI	**Fak Fak**	**21.88**	**274**	P		**P**	**08 31 01.6**	**-1.4**
	comp=Z,2μmcomp=Z,22nm,1.0s							
SIJI	**Sorong**	**23.13**	**279**	P		**P**	**08 31 14.6**	**+0.1**
	comp=Z,17nm,0.4s,baz=71,slow=9.2,SNR=9.3							
SWI	**Sorong**	**23.13**	**279**	P		**P**	**08 31 15.7**	**+1.2**
	comp=Z,58nm,0.9s							
MTN	**Manton Dam**	**24.10**	**249**	P		**P**	**08 31 22.9**	**-0.4**
MTN				IAmb		IAmb	08 31 43.7	
	comp=Z,16nm,0.9s							
WR0	**Warramunga Arr**	**24.37**	**230**	P		**P**	**08 31 25.7**	**0.0**
WR0				IAmb		IAmb	08 31 28.0	
	comp=Z,6.8nm,0.7s							
WB0	**Warramunga Arr**	**24.37**	**230**	P		**P**	**08 31 25.7**	**0.0**
WRAB	**Tennant Creek**	**24.50**	**230**	P		**P**	**08 31 26.2**	**-0.6**
WB2	**Warramunga Arr**	**24.50**	**230**	P		**P**	**08 31 26.9**	**0.0**
WRA	**Warramunga Arr**	**24.51**	**230**	P		**P**	**08 31 26.9**	**-0.2**
	comp=Z,7.6nm,0.3s,baz=54,slow=10,SNR=82							
WRA				PcP		**PcP**	**08 34 59.6**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=59,slow=2.3,SNR=2.2							
WRA				S		**S**	**08 35 28.4**	**-4.5**
	comp=Z,3.5nm,1.1s,baz=48,slow=16,SNR=5.5							
WRA				ScP		**ScP**	**08 38 18.9**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=56,slow=3.3,SNR=2.3							
WRA	**Warramunga Arr**	**24.51**	**230**	P		**P**	**08 31 25.9**	**-1.1**
ARMA	**Armidale**	**25.71**	**185**	P		**P**	**08 31 38.6**	**+0.8**
AS31	**Alice Springs**	**27.13**	**224**	P		**P**	**08 31 50.1**	**-0.4**
ASAR	**Alice Springs**	**27.13**	**224**	P		**P**	**08 31 49.7**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=55,slow=9.2,SNR=43							
ASAR				PcP		**PcP**	**08 35 05.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=52,slow=4.8,SNR=2.4							
ASAR				S		**S**	**08 36 08.6**	**-5.5**
	comp=Z,1.0nm,0.9s,baz=53,slow=15,SNR=4.9							
ASAR				ScP		**ScP**	**08 38 26.5**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=49,slow=2.8,SNR=5.8							
ASAR	**Alice Springs**	**27.13**	**224**	P		**P**	**08 31 49.4**	**-1.1**
KNRA	**Kununurra**	**27.20**	**244**	P		**P**	**08 31 50.4**	**-0.7**
KNRA				IAmb		IAmb	08 32 17.2	
	comp=Z,6.9nm,0.8s							
STKA	**Stephens Creek**	**29.49**	**202**	P		**P**	**08 32 10.9**	**-0.4**
	comp=Z,7.3nm,0.5s,baz=359,slow=8.3,SNR=25							
STKA	**Stephens Creek**	**29.49**	**202**	P		**P**	**08 32 11.1**	**-0.3**
CAN	**Canberra**	**30.85**	**188**	P		**P**	**08 32 24.4**	**+1.1**
CAN				IAmb		IAmb	08 32 24.6	
	comp=Z,9.5nm,0.6s							
FITZ	**Fitzroy Crossi**	**30.86**	**242**	P		**P**	**08 32 22.3**	**-1.3**
	comp=Z,5.9nm,0.6s,baz=182,slow=0.0							
FITZ	**Fitzroy Crossi**	**30.86**	**242**	P		**P**	**08 32 22.6**	**-0.9**
FITZ				IAmb		IAmb	08 32 22.7	
	comp=Z,5.7nm,0.7s							
APSI	**Ampana**	**32.63**	**276**	P		**P**	**08 32 38.7**	**-0.4**
	comp=Z,26nm,0.6s							
BBOO	**Buckleboo**	**32.67**	**209**	P		**P**	**08 32 38.6**	**-0.7**
BBOO				IAmb		IAmb	08 32 39.4	
	comp=Z,10nm,0.8s							
TOO	**Toolangi**	**33.67**	**192**	P		**P**	**08 32 48.1**	**+0.3**
TOLI2	**Tolitoli**	**33.79**	**279**	P		**P**	**08 32 49.2**	**0.0**
KAPI	**Kappang**	**34.24**	**268**	P		**P**	**08 32 52.6**	**-0.4**
KAPI				IAmb		IAmb	08 33 07.5	
	comp=Z,10nm,1.2s							
MPSI	**Mapaga**	**34.54**	**277**	P		**P**	**08 32 54.1**	**-1.4**
	comp=Z,30nm,0.8s							
WBSI	**Waikabubak, Su**	**34.78**	**260**	P		**P**	**08 32 56.7**	**-1.0**
	comp=Z,24nm,0.6s							
FORT	**Forrest**	**35.71**	**220**	P		**P**	**08 33 04.8**	**-0.6**
FORT				IAmb		IAmb	08 33 15.7	
	comp=Z,20nm,1.3s							
MYLDM	**Lahad Datu**	**36.89**	**285**	P		**P**	**08 33 16.7**	**+1.2**
MYLDM				IAmb		IAmb	08 33 30.1	
	comp=Z,12nm,0.8s							
PSA00	**Pilbara Seismi**	**37.22**	**240**	P		**P**	**08 33 17.5**	**-0.7**
TAU	**Tasmania Unive**	**38.54**	**188**	P		**P**	**08 33 28.0**	**-1.0**
URZ	**Urewera**	**39.44**	**151**	P		**P**	**08 33 36.6**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=237,slow=20,SNR=1.4							
BKZ	**Black Stump Fm**	**39.87**	**153**	P		**P**	**08 33 40.6**	**+0.4**
BKZ				IAmb		IAmb	08 33 53.4	
	comp=Z,22nm,1.5s							
RPZ	**Rata Peaks**	**41.65**	**161**	P		**P**	**08 33 54.8**	**+0.3**
	comp=Z,6.3nm,0.7s,baz=308,slow=14,SNR=2.2							
MQZ	**McQueen's Vall**	**42.17**	**160**	P		**P**	**08 33 59.3**	**+0.6**
PCJI	**Pacitan**	**42.79**	**263**	P		**P**	**08 34 02.6**	**-1.5**
UGM	**Wanagama**	**43.43**	**263**	P		**P**	**08 34 08.6**	**-0.7**
MORW	**Morawa**	**43.44**	**232**	P		**P**	**08 34 08.7**	**-0.5**
JNU	**Nakatsue**	**43.57**	**331**	P		**P**	**08 34 09.8**	**-0.3**
	comp=Z,4.1nm,0.4s,baz=33,slow=1.9,SNR=13							
JNU	**Nakatsue**	**43.57**	**331**	P		**P**	**08 34 10.3**	**+0.1**
JNU				IAmb		IAmb	08 34 24.6	
	comp=Z,23nm,1.3s							
KSRS	**Korea Array**	**48.49**	**332**	P		**P**	**08 34 48.6**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=145,slow=8.7,SNR=5.3							
NJ2	**Nanjing**	**49.59**	**320**	*e*P		**P**	**08 34 57.9**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,19nm,0.5s							
USRK	**Ussuriysk Ar.**	**52.57**	**340**	P		**P**	**08 35 19.9**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=137,slow=42,SNR=2.5							
PETK	**Petropavlovsk-**	**57.65**	**3**	P		**P**	**08 35 57.1**	**+2.1**
	comp=Z,1.2nm,0.6s,baz=187,slow=8.7,SNR=4.7							
PETK	**Petropavlovsk-**	**57.65**	**3**	P		**P**	**08 35 56.1**	**+1.2**
CM31	**Chiang Mai Arr**	**59.01**	**295**	P		**P**	**08 36 06.3**	**+1.3**
CM31				IAmb		IAmb	08 36 07.1	
	comp=Z,9.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**59.01**	**295**	P		**P**	**08 36 06.3**	**+1.3**
	comp=Z,6.7nm,0.7s,baz=119,slow=5.3,SNR=24							
CMAR	**Chiang Mai Arr**	**59.01**	**295**	P		**P**	**08 36 05.1**	**0.0**
CHTO	**Chiang Mai**	**59.12**	**295**	P		**P**	**08 36 06.8**	**+1.0**
CHTO				IAmb		IAmb	08 36 07.3	
	comp=Z,8.4nm,1.4s							
PZH	**PanZhiHua**	**59.38**	**304**	P		**P**	**08 36 09.6**	**+2.0**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,100nm,5.0s							
HHC	**Hu-ho-hao-te**	**59.72**	**324**	*e*P		**P**	**08 36 11.2**	**+1.6**
HHC				pmax		pmax		
	comp=Z,7.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,190nm,6.7s							
ULN	**Ulaanbaatar**	**66.59**	**328**	P		**P**	**08 36 55.2**	**+0.5**
ULN				IAmb		IAmb	08 36 57.9	
	comp=Z,2.7nm,0.5s							
SONM	**Songino Array**	**66.93**	**327**	P		**P**	**08 36 57.8**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=150,slow=6.4,SNR=7.6							
SONM	**Songino Array**	**66.93**	**327**	P		**P**	**08 36 57.1**	**+0.3**
CASY	**Casey**	**68.52**	**197**	P		**P**	**08 37 05.8**	**-0.4**
VNDA	**Vanda**	**72.91**	**178**	P		**P**	**08 37 32.9**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=332,slow=6.2,SNR=7.7							
WMQ	**Urumqi**	**76.54**	**317**	*e*P		**P**	**08 37 56.3**	**+2.2**
MK31	**Makanchi Array**	**81.10**	**319**	P		**P**	**08 38 19.5**	**+0.7**
MKAR	**Makanchi Array**	**81.10**	**319**	P		**P**	**08 38 19.3**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=96,slow=7.3,SNR=16							
MKAR	**Makanchi Array**	**81.10**	**319**	P		**P**	**08 38 19.5**	**+0.7**
ZALV	**Zalesovo Beam**	**81.78**	**326**	P		**P**	**08 38 21.9**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=120,slow=5.0,SNR=6.0							
ZALV	**Zalesovo Beam**	**81.78**	**326**	P		**P**	**08 38 22.1**	**-0.1**
RIDG	**Independent Ri**	**81.83**	**23**	P		**P**	**08 38 21.5**	**-0.8**
RIDG				IAmb		IAmb	08 38 43.7	
	comp=Z,8.5nm,1.2s							
QSPA	**South Pole Qui**	**85.28**	**180**	P		**P**	**08 38 39.6**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=178,slow=1.6,SNR=13							
QSPA	**South Pole Qui**	**85.28**	**180**	P		**P**	**08 38 39.7**	**-0.2**
MAW	**Mawson**	**86.18**	**203**	P		**P**	**08 38 43.5**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=90,slow=11,SNR=2.3							
BDFB	**Brasilia**	**150.21**	**133**	PKPbc		**PKiKP**	**08 45 54.3**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=123,slow=0.8,SNR=10							
BDFB	**Brasilia**	**150.21**	**133**			**PKiKP**	**08 45 54.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**151.51**	**289**	PKPbc		**PKPbc**	**08 45 56.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=32,slow=2.5,SNR=4.3							

BJI ***10*** *08:48:23.0±0.0, 32.°02N×142.°72E, h15km, mb4.5/12, mB4.7/7, Ms4.1/1, Ms7 3.9/1*
IDC ***10*** *08:48:24.9±0.6, 31.°90N×142.°29E, h0km, mb4.0/20, mb1 4.2/24, mb1mx4.1/53, mbtmp4.0/24, ML4.1/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/89, Error ellipse: s-maj=18.7km s-min=14.7km az=79.0*
MOS ***10*** *08:48:26.8±1.4, 32.°22N×142.°50E, h20km, mb4.6/20, Error ellipse: s-maj=12.4km s-min=5.7km az=107.0*
NEIC ***10*** *08:48:27.0±1.1, 31.°95N±0.°06×142.°34E±0.°08, h10km±1km, mb4.5/41, Error ellipse: s-maj=13.6km s-min=7.0km az=236.0*
NIED ***10*** *08:48:30.3, 32.°19N×142.°17E, h71km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.86; Mθθ0.03; Mφφ0.83; Mrθ-1.58; Mθφ0.01; Mφr0.98; Fault plane solution: M0 1.98000×10^15 NP1:φs3.00000°, δ16.00000°, λ-37.00000°. NP2:φs129.00000°, δ81.00000°, λ-102.00000°.*
JMA ***10*** *08:48:30.3±0.3, 32.°19N×142.°17E, h71km, M3.9*

ISC 10 08:48:31.5±0.5, 32.°09N±0.°06×142.°26E±0.°06, h44km, n142, σ1.8/47/143, mb4.4/49, 8C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAOM	**Aogashimamukai**	**2.15**	**281**	P		**Pn**	**08 49 03.5**	**-1.4**
JHCJ	**Hachijojimakas**	**2.30**	**296**	P		**Pn**	**08 49 05.1**	**-1.9**
JHCJ				*e*S		**Sn**	**08 49 31.1**	**-2.9**
JHJ2	**Mitsune**	**2.30**	**297**	P		**Pn**	**08 49 05.4**	**-1.6**
JHJ2	**Mitsune**	**2.30**	**297**	Pn		**Pn**	**08 49 05.4**	**-1.6**
JHJ	**Hachijo jima 2**	**2.33**	**297**	Pn		**Pn**	**08 49 05.5**	**-1.9**
	57nm,0.3s,baz=78,slow=21,SNR=45							
JHJ				Sn		**Sn**	**08 49 33.1**	**-1.7**
	176nm,0.3s,baz=304,slow=18,SNR=11							
BSO1	**Boso 1**	**2.78**	**338**	P		**Pn**	**08 49 12.0**	**-1.0**
BSO3	**Boso 3**	**3.08**	**332**	P		**Pn**	**08 49 15.9**	**-1.5**
JOD2	**Odawara 2**	**4.13**	**321**	P		**Pn**	**08 49 30.5**	**-1.6**
JYT	**Yasato**	**4.47**	**338**			**Pn**	**08 49 35.7**	**-1.1**
JYN	**Shimodate**	**4.60**	**319**	P		**Pn**	**08 49 38.4**	**-0.2**
JRY	**Ryogami san**	**4.81**	**325**	P		**Pn**	**08 49 40.3**	**-1.2**
JRY				*e*S		**Sn**	**08 50 32.5**	**-3.4**
JAG	**Ashikaga**	**4.91**	**333**	P		**Pn**	**08 49 41.6**	**-1.2**
JAG				S		**Sn**	**08 50 36.1**	**-2.3**
CBIJ	**Chichi jima**	**4.97**	**181**	P		Pn	08 49 39.6	-4.1
CBIJ				*e*S		Sn	08 50 31.5	-8.5
JCJ	**Chichijima**	**4.97**	**181**	Pn		Pn	08 49 37.7	-6.0
	35nm,0.3s,baz=333,slow=21,SNR=14							
JCJ				Sn		Sn	08 50 30.3	-10
	18nm,0.3s,baz=68,slow=23,SNR=1.8							
JCJ	**Chichijima**	**4.97**	**181**			Pn	08 49 38.8	-4.9
JCJ				Sn		Sn	08 50 32.2	-7.7
JIE	**Ise**	**5.19**	**298**	P		**Pn**	**08 49 46.2**	**-0.4**
JGF	**Kuroka**	**5.38**	**312**			**Pn**	**08 49 50.3**	**+1.0**
INU	**Inuyama**	**5.45**	**308**			**Pn**	**08 49 50.3**	**+0.1**
MJAR	**Matsushiro Arr**	**5.57**	**324**	Pn		**Pn**	**08 49 51.2**	**-0.7**
	2.7nm,0.3s,baz=82,slow=11,SNR=63							
MJAR				Sn		**Sn**	**08 50 52.5**	**-2.0**
	0.8nm,0.3s,baz=280,slow=8.3,SNR=2.5							
MJAR	**Matsushiro Arr**	**5.57**	**324**			**Pn**	**08 49 50.7**	**-1.1**
MAJO	**Matsushiro**	**5.57**	**324**	*d* P		**Pn**	**08 49 51.6**	**-0.2**
MAJO	**Matsushiro**	**5.57**	**324**			**Pn**	**08 49 52.2**	**+0.3**
MJB9	**Matsu-Tunnel**	**5.57**	**324**			**Pn**	**08 49 52.3**	**+0.4**
JMM	**Marumori**	**5.89**	**349**			**Pn**	**08 49 54.5**	**-1.7**
JSD	**Sado**	**6.78**	**332**	Pn		**Pn**	**08 50 07.5**	**-1.0**
JMK	**Ichinoseki**	**6.90**	**353**	P		**Pn**	**08 50 07.8**	**-2.3**
JMK				*e*S		**Sn**	**08 51 22.1**	**-5.2**
JTM	**Tenmabayashi**	**8.74**	**354**	Pn		**Pn**	**08 50 33.1**	**-2.1**
ERM	**Erimo**	**9.94**	**4**	*i* P		**Pn**	**08 50 48.5**	**-3.1**
JEW	**Eniwo**	**10.75**	**357**	Pn		**Pn**	**08 51 02.8**	**-0.1**
NMR	**Nemuro--Hokkai**	**11.59**	**13**	*e*P		**Pn**	08 51 10.0	-4.3
GLVR	**Golovnino**	**11.91**	**12**	*e*P		**Pn**	08 51 12.5	-6.2
ASAJ	**Asahikawa**	**12.01**	**1**	Pn		**Pn**	**08 51 16.8**	**-3.3**
	1.8nm,0.3s,baz=230,slow=8.8,SNR=16							
ASAJ				Sn		Sn	08 53 23.5	-9.1
	0.8nm,0.3s,baz=318,slow=13,SNR=2.4							
ASAJ	**Asahikawa**	**12.01**	**1**	P		**Pn**	**08 51 16.6**	**-3.5**
JKA	**Kamikawa-asahi**	**12.01**	**1**	Pn		**Pn**	**08 51 16.6**	**-3.4**
RUSJ	**Misakicho**	**12.22**	**10**	*e*P		**Pn**	**08 51 21.2**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**12.26**	**12**	*e*P		Pn	08 51 16.7	-6.7
SHO	**Shikotan**	**12.30**	**16**	*e*P		Pn	08 51 19.1	-4.9
KSRS	**Korea Array**	**12.94**	**298**	Pn		**Pn**	**08 51 36.0**	**+3.2**
	0.4nm,0.3s,baz=106,slow=14,SNR=8.1							
KSRS				LR		LR	08 56 09.5	
	comp=Z,62nm,20.7s,baz=300,slow=36							
YSS	**Yuzh-Sakhalins**	**14.85**	**1**	*e*P		Pn	08 51 53.4	-5.1
YSS				pmax		pmax		
	comp=Z,20nm,1.2s							
KLR	**Kul'dur**	**18.86**	**338**	P		**P**	**08 52 46.7**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=140,slow=11,SNR=9.1							
KLR	**Kul'dur**	**18.86**	**338**	*ce*P		**Pn**	**08 52 49.5**	**+0.8**
KLR				pmax		pmax		
	comp=Z,16nm,2.5s							
YULB	**Yu-li**	**20.45**	**250**	P		**P**	**08 53 03.6**	**-1.8**
YULB				IAmb		IAmb	08 53 08.1	
	comp=Z,52nm,1.4s							
SSLB	**Suanglung**	**20.54**	**252**	P		**P**	**08 53 05.3**	**-1.1**
SSLB				IAmb		IAmb	08 53 27.5	
	comp=Z,40nm,1.5s							
PET	**Petropavlovsk**	**24.05**	**25**	P		**P**	**08 53 42.1**	**-0.2**
PET				IAmb		IAmb	08 54 00.0	
	comp=Z,22nm,1.4s							
ZEA	**Zeya**	**24.17**	**338**	*e*P		**P**	**08 53 44.6**	**+1.1**
ZEA				pmax		pmax		
	comp=Z,20nm,0.6s							
ULN	**Ulaanbaatar**	**30.92**	**311**	*ce*P		**P**	**08 54 45.5**	**+1.3**
ULN				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ULN	**Ulaanbaatar**	**30.92**	**311**	P		**P**	**08 54 43.8**	**-0.4**
ULN				IAmb		IAmb	08 54 49.7	

	comp=Z,3.0nm,0.8s							
KK31	**Karatay Array**	**56.31**	**303**	P	**P**	**08 58 08.4**	**+0.5**
KK31				IAmb	IAmb	08 58 09.1	
	comp=Z,2.6nm,0.8s							
KKAR	**Karatay Array**	**56.31**	**303**	P	**P**	**08 58 08.4**	**+0.5**
KKAR	**Karatay Array**	**56.31**	**303**	P	**P**	**08 58 08.4**	**+0.5**
NIL	**Nilore**	**56.96**	**292**	P	**P**	**08 58 13.6**	**+0.9**
NIL				pmax	pmax			
	comp=Z,7.0nm,0.9s							
NIL	**Nilore**	**56.96**	**292**	P	**P**	**08 58 13.6**	**+0.9**
EPYK	**Eagle Plains**	**57.51**	**28**	P	**P**	**08 58 17.4**	**+1.4**
EPYK				IAmb	IAmb	08 58 18.7	
	comp=Z,7.4nm,0.9s							
GAR	**Garm**	**57.56**	**299**	P	**P**	**08 58 17.2**	**+0.3**
GAR				IAmb	IAmb	08 58 34.6	
	comp=Z,4.9nm,0.8s							
INK	**Inuvik**	**58.49**	**26**	P	**P**	**08 58 23.8**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=289,slow=7.4,SNR=12							
INK	**Inuvik**	**58.49**	**26**	P	**P**	**08 58 24.0**	**+1.2**
INK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
INK	**Inuvik**	**58.49**	**26**	P	**P**	**08 58 24.0**	**+1.2**
CHGR	**Chuyangaron**	**58.53**	**299**	P	**P**	**08 58 24.6**	**+1.0**
M31M	**Drury Creek, Y**	**59.13**	**33**	P	**P**	**08 58 29.1**	**+1.7**
M31M				IAmb	IAmb	08 58 44.3	
	comp=Z,3.1nm,0.9s							
ARU	**Arti**	**60.57**	**321**	*d* *i*P	**P**	**08 58 37.1**	**-0.2**
ARU				S	**S**	**09 06 54.3**	**+4.4**
ARU				SS	**SS**	**09 10 47.7**	**-0.4**
ARU				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ARU	**Arti**	**60.57**	**321**	P	**P**	**08 58 38.1**	**+0.8**
GIRL	**Giralia**	**60.67**	**210**	P	**P**	**08 58 37.6**	**-0.7**
C36M	**Paulatuk**	**61.64**	**24**	P	**P**	**08 58 45.4**	**+1.1**
C36M				IAmb	IAmb	08 58 45.5	
	comp=Z,2.1nm,0.7s							
ABKAR	**Akbulak array**	**61.72**	**312**	P	**P**	**08 58 46.2**	**+1.0**
ABKAR	**Akbulak array**	**61.72**	**312**	P	**P**	**08 58 46.0**	**+0.7**
EUNU	**Eureka**	**64.97**	**8**	P	**P**	**08 59 07.3**	**+1.1**
YKA	**Yellowknife Ar**	**67.75**	**29**	P	**P**	**08 59 24.6**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=300,slow=6.4,SNR=8.6							
ARCES	**ARCESS Array B**	**68.87**	**340**	P	**P**	**08 59 31.6**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=56,slow=8.8,SNR=3.7							
PGC	**Sidney**	**69.29**	**45**	P	**P**	**08 59 32.3**	**-1.7**
OBN	**Obninsk**	**72.50**	**325**	*i* P	**P**	**08 59 52.7**	**-0.7**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.7s							
FIA1	**FINESS Array S**	**73.52**	**333**	P	**P**	**09 00 00.3**	**+0.9**
FIA1				IAmb	IAmb	09 00 04.9	
	comp=Z,7.5nm,1.4s							
FINES	**FINESS Array B**	**73.52**	**333**	P	**P**	**08 59 59.8**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=48,slow=5.7,SNR=15							
FINES	**FINESS Array B**	**73.52**	**333**	P	**P**	**09 00 00.1**	**+0.7**
FINES	**FINESS Array B**	**73.52**	**333**	P	**P**	**09 00 00.1**	**+0.7**
KBZ	**Khabaz**	**74.69**	**312**	P	**P**	**09 00 07.5**	**+1.0**
	comp=Z,4.2nm,0.9s,baz=126,slow=1.9,SNR=4.5							
KIV	**Kislovodsk**	**74.71**	**312**	*e*P	**P**	**09 00 04.9**	**-1.9**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
NVAR	**Mina Array Bea**	**77.41**	**53**	P	**P**	**09 00 23.3**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=289,slow=4.5,SNR=4.1							
AKASG	**Malin Array Be**	**78.65**	**323**	P	**P**	**09 00 29.4**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=39,slow=6.8,SNR=4.6							
AKBB	**Malin Array Si**	**78.65**	**323**	*ce*P	**P**	**09 00 29.9**	**+1.1**
NC405	**NORSAR Array S**	**78.80**	**338**	P	**P**	**09 00 30.2**	**+0.8**
NC405				IAmb	IAmb	09 00 30.6	
	comp=Z,6.1nm,0.8s							
NB2	**NORSAR Subarra**	**79.02**	**338**	P	**P**	**09 00 30.9**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=41,slow=5.6							
NOA	**NORSAR Array B**	**79.02**	**338**	P	**P**	**09 00 31.1**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=41,slow=5.4,SNR=9.1							
PDAR	**Pinedale Array**	**80.64**	**45**	P	**P**	**09 00 39.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=174,slow=3.0,SNR=3.6							
BURAR	**Bucovina Array**	**82.64**	**323**	P	**P**	**09 00 51.2**	**+0.9**
BR131	**Keskin Array S**	**82.68**	**313**	P	**P**	**09 00 51.5**	**+0.8**
BR131				pmax	pmax			
	comp=Z,7.0nm,1.3s							
BR131	**Keskin Array S**	**82.68**	**313**	P	**P**	**09 00 51.5**	**+0.8**
BR131				IAmb	IAmb	09 00 52.5	
	comp=Z,7.2nm,1.2s							
BRTR	**Keskin Array B**	**82.68**	**313**	P	**P**	**09 00 51.7**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=116,slow=2.9,SNR=7.4							
BRTR	**Keskin Array B**	**82.68**	**313**	P	**P**	**09 00 51.3**	**+0.5**
RAYN	**Ar Rayn**	**83.22**	**293**	P	**P**	**09 00 53.9**	**+0.2**
RAYN				pmax	pmax			
	comp=Z,4.0nm,0.7s							
RAYN	**Ar Rayn**	**83.22**	**293**	P	**P**	**09 00 53.9**	**+0.2**
CLL	**Collm**	**85.74**	**331**	*e*P	**P**	**09 01 06.0**	**+0.2**
CLL				pmax	pmax			
	comp=Z,3.0nm,0.7s							
CLL	**Collm**	**85.74**	**331**	*e*P	**P**	**09 01 06.0**	**+0.2**
	comp=Z,3.0nm,0.7s							
TXAR	**Lajitas Array**	**92.56**	**53**	P	**P**	**09 01 39.9**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=215,slow=26,SNR=3.9							
TORD	**Torodi Ar. Bea**	**121.28**	**314**	PKP	**PKPdf**	**09 07 18.8**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=43,slow=1.2,SNR=3.0							
TORD	**Torodi Ar. Bea**	**121.28**	**314**	PKPbc	**PKPdf**	**09 07 19.3**	**-1.2**
LPAZ	**La Paz**	**148.27**	**67**	PKPbc	**PKPbc**	**09 08 14.8**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=351,slow=4.5,SNR=3.1							

*RSNC **10** 08:56:11.6±1.1, 6°.85N×73°.15W, h145km±5km, ML3.3, Mw3.7*
*IDC **10** 08:56:11.4±4.5, 6°.76N×73°.04W, h169km±30km, mb2.9/2, mb1 3.3/3, mb1mx2.9/28, mbtmp3.4/3, Error ellipse: s-maj=83.6km s-min=28.6km az=88.0*
ISC 10 08:56:09.7±0.9, **6°.88N**±0°.03×**73°.10W**±0°.04, **h157**km±6km, **n33**, σ1**°46**/62, **6C-2D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**197**	⇑*i*P		**Pn**	**08 56 31.4**	**-0.1**
BARC				*e*S		**Sn**	**08 56 46.4**	**-1.6**
BARC				*i*			08 56 48.3	
	comp=Z,522nm,0.2s							
PAMC	**Pamplona, Colo**	**0.61**	**41**	⇑*e*P		**Pn**	**08 56 34.0**	**+1.0**
PAMC				*e*S		**Sn**	**08 56 51.2**	**+0.4**
PAMC				*i*			08 56 52.6	
	comp=Z,669nm,0.2s							
RUSC	**La Rusia**	**0.98**	**179**	⇑*e*P		**Pn**	**08 56 35.4**	**-0.2**
RUSC				*e*S		**Sn**	**08 56 54.3**	**-1.1**
RUSC				*i*			08 56 56.1	
	comp=Z,241nm,0.3s							
TAMC	**Tame, Arauca**	**1.37**	**109**	⇓*i*P		**Pn**	**08 56 39.8**	**+1.3**
TAMC				*e*S		**Sn**	**08 57 01.4**	**+0.7**
TAMC				*i*			08 57 02.0	
	comp=Z,171nm,0.6s							
OCAC	**Ocana**	**1.37**	**351**	⇑*i*P		**Pn**	**08 56 39.2**	**+0.5**
OCAC				*e*S		**Sn**	**08 57 00.7**	**-0.3**
OCAC				*i*			08 57 04.8	
	comp=Z,771nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.39**	**256**	⇑*e*P		**Pn**	**08 56 37.9**	**-0.9**
PTBC				*e*S		**Sn**	**08 56 59.4**	**-1.5**
PTBC				*i*			08 57 01.4	
	comp=Z,305nm,0.2s							
SPBC	**San Pablo de B**	**1.56**	**219**	⇑*i*P		**Pn**	**08 56 40.4**	**-0.2**
SPBC				*e*S		**Sn**	**08 57 02.7**	**-1.4**
SPBC				*i*			08 57 10.3	
	comp=Z,311nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.85**	**289**	*e*P		**Pn**	**08 56 43.7**	**+0.1**
ZARC				*e*S		**Sn**	**08 57 09.4**	**-0.2**
ZARC				*i*			08 57 13.6	
	comp=Z,376nm,0.2s							
NORC	**Norcasia**	**2.19**	**234**	*e*P		**Pn**	**08 56 47.1**	**-0.4**
NORC				*e*S		**Sn**	**08 57 15.6**	**-1.2**
NORC				*i*			08 57 24.0	
	comp=Z,228nm,0.2s							
CHIC	**Chingaza**	**2.32**	**196**	*e*P		**Pn**	**08 56 50.1**	**+0.6**
CHIC				*e*S		**Sn**	**08 57 19.6**	**-0.5**
CHIC				*i*			08 57 23.7	
	comp=Z,100nm,0.2s							
ROSC	**El Rosal**	**2.36**	**211**	P		**Pn**	**08 56 51.5**	**+1.5**
	comp=Z,29nm,0.3s,baz=251,slow=23,SNR=92							
ROSC				S		**Sn**	**08 57 22.9**	**+2.0**
	comp=Z,69nm,0.3s,baz=174,slow=23,SNR=9.5							
ROSC	**El Rosal**	**2.36**	**211**	*e*P		**Pn**	**08 56 51.4**	**+1.5**
ROSC				*e*S		**Sn**	**08 57 22.2**	**+1.3**
ROSC				*i*			08 57 25.4	
	comp=Z,155nm,0.3s							
HELC	**Santa Helena**	**2.51**	**254**	*e*P		**Pn**	**08 56 51.3**	**-0.4**
HELC				*e*S		**Sn**	**08 57 24.4**	**+0.4**
HELC				*i*			08 57 29.6	
	comp=Z,251nm,0.3s							
UREC	**San Jos de Ur**	**2.57**	**290**	*e*P		**Pn**	**08 56 51.6**	**-0.4**
UREC				*e*S		**Sn**	**08 57 23.3**	**-1.4**
UREC				*i*			08 57 36.0	
	comp=Z,267nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.79**	**234**	*e*P		**Pn**	**08 56 55.8**	**+0.6**
GUY2C				*e*S		**Sn**	**08 57 33.3**	**+3.0**
PTGC	**Puerto Gaitan,**	**2.83**	**160**	*e*P		**Pn**	**08 56 54.5**	**-0.7**
PTGC				*e*S		**Sn**	**08 57 28.4**	**-2.1**
PTGC				*i*			08 57 34.9	
	comp=Z,72nm,0.2s							
CBOC	**Ciudad Bolivar**	**3.07**	**251**	*e*P		**Pn**	**08 56 59.3**	**+0.9**
CBOC				*e*S		**Sn**	**08 57 35.8**	**-0.2**
CBOC				*i*			08 57 44.1	
	comp=Z,51nm,0.4s							
SDV	**Santo Domingo**	**3.15**	**51**	⇓*i*P		**Pn**	**08 57 00.7**	**+1.2**
SDV				*e*S		**Sn**	**08 57 37.6**	**-0.5**
SDV				*i*			08 57 41.7	
	comp=Z,32nm,0.7s							
ANIL	**Santa Ana**	**3.30**	**224**	*e*P		**Pn**	**08 57 02.2**	**+0.8**
ANIL				*e*S		**Sn**	**08 57 42.9**	**+1.4**
SJCC	**San Jacinto, C**	**3.64**	**326**	*e*P		**Pn**	**08 57 05.1**	**-0.5**
SJCC				*e*S		**Sn**	**08 57 46.5**	**-2.6**
SJCC				*i*			08 57 50.1	
	comp=Z,53nm,0.7s							
ORTC	**Ortega, Tolima**	**3.64**	**216**	*e*P		**Pn**	**08 57 05.8**	**+0.2**
ORTC				*e*S		**Sn**	**08 57 49.1**	**+0.1**
ORTC				*i*			08 57 55.9	
	comp=Z,73nm,0.5s							
PLMC	**San Jos del P**	**3.72**	**238**	*e*P		**Pn**	**08 57 07.2**	**+0.5**
PLMC				*e*S		**Sn**	**08 57 51.6**	**+0.6**
PLMC				*i*			08 57 55.3	
	comp=Z,39nm,0.2s							
CRJC	**Cerrejon, Guaj**	**4.12**	**3**	*e*P		**Pn**	**08 57 11.4**	**-0.4**
CRJC				*e*S		**Sn**	**08 57 57.7**	**-2.6**
CRJC				*i*			08 58 01.9	
	comp=Z,35nm,0.4s							
YOTC	**Yotoco, Valle**	**4.33**	**229**	*e*P		**Pn**	**08 57 14.0**	**-0.5**
YOTC				*e*S		**Sn**	**08 58 01.9**	**-3.1**
GUVC	**San Jose del G**	**4.33**	**174**	*e*P		**Pn**	**08 57 12.9**	**-1.6**
GUVC				*e*S		**Sn**	**08 58 03.5**	**-1.6**
GUVC				*i*			08 58 08.3	
	comp=Z,78nm,0.2s							
DABV	**Dabajuro**	**4.70**	**31**	*e*P		**Pn**	**08 57 20.1**	**+0.8**
DABV				*e*S		**Sn**	**08 58 09.8**	**-3.8**
MACC	**Macarena, Meta**	**4.76**	**189**	*e*P		**Pn**	**08 57 18.8**	**-1.3**
MACC				*e*S		**Sn**	**08 58 10.9**	**-4.3**
MACC				*i*			08 58 13.0	
	comp=Z,18nm,0.5s							
MARP	**Paez Belalcaza**	**4.92**	**216**	*e*P		**Pn**	**08 57 21.8**	**-0.6**
MARP				*e*S		**Sn**	**08 58 16.8**	**-2.4**
MARP				*i*			08 58 23.6	
	comp=Z,7.1nm,0.5s							
POPC	**Popayan, Colom**	**5.59**	**220**	*e*P		**Pn**	**08 57 31.1**	**-0.2**
POPC				*e*S		**Sn**	**08 58 35.6**	**+0.4**
TXAR	**Lajitas Array**	**36.44**	**312**	P		**P**	**09 03 01.2**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=119,slow=9.4,SNR=2.0							
YKA	**Yellowknife Ar**	**63.22**	**340**	P		**P**	**09 06 22.1**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=133,slow=6.6,SNR=17							
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc		**PKiKP**	**09 15 40.2**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=122,slow=3.4,SNR=4.7							
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc		**PKiKP**	**09 15 43.4**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=108,slow=2.7,SNR=9.3							

IDC 10 09:13:50.4±4.7, **53°.44N×89°.76E, h0**km, **mb1 2.5**/2, **mb1mx2.4**/56, **mbtmp2.5**/2, **ML2.1**/2, **Error ellipse: s-maj=39.7km s-min=23.7km az=67.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.98**	**282**	*i*			09 35 50.4	
	baz=96,slow=336,SNR=5.8							
ZALV	**Zalesovo Beam**	**2.98**	**282**	Pn		Pn	09 14 41.0	+2.1
	0.5nm,0.3s,baz=97,slow=13,SNR=7.1							
ZALV				Lg		Lg	09 15 23.5	
	0.3nm,0.3s,baz=101,slow=23,SNR=3.8							
MKAR	**Makanchi Array**	**8.20**	**219**	Pn		Pn	09 15 50.8	+0.2
	0.1nm,0.3s,baz=39,slow=12,SNR=2.3							
MKAR				Sn		Sn	09 17 23.9	0.0
	0.1nm,0.3s,baz=18,slow=29,SNR=2.9							

IDC 10 09:22:03.0±1.9, **0°.71S×132°.02E, h0**km, **mb3.2**/2, **mb1 3.4**/3, **mb1mx3.0**/34, **mbtmp3.2**/3, **ML3.3**/1, **Error ellipse: s-maj=29.6km s-min=13.2km az=178.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.77**	**258**	Pg		Pg	09 22 17.5	-0.3
	12nm,0.3s,baz=219,slow=23,SNR=53							
SIJI				Lg		Lg	09 22 28.6	
	48nm,0.3s,baz=268,slow=23,SNR=13							
WRA	**Warramunga Arr**	**19.25**	**173**	P		Pn	09 26 29.7	-0.4
	0.1nm,0.3s,baz=356,slow=11,SNR=5.9							
ASAR	**Alice Springs**	**22.90**	**176**	P		P	09 27 08.4	-0.2
	0.4nm,0.6s,baz=349,slow=7.6,SNR=10.0							
MKAR	**Makanchi Array**	**64.20**	**324**	P		P	09 32 40.1	+0.3
	0.2nm,0.5s,baz=130,slow=7.8,SNR=2.8							

*ATH **10** 09:34:54.8, 38°.67N×26°.02E, h26km±2km, ML2.6/7, Error ellipse: s-maj=2.9km s-min=1.2km az=91.0*
*ISK **10** 09:34:54.1, 38°.69N×25°.97E, h5km, ML2.6/14*
*DDA **10** 09:34:54.2±0.0, 38°.70N×26°.02E, h7km±4km, ML2.4*
*THE **10** 09:34:55.2, 38°.66N×25°.90E, h15km±1km, ML2.5/6, Error ellipse: s-maj=2.8km s-min=0.8km az=79.0*
ISC 10 09:34:55.0±0.9, **38°.70N**±0°.02×**26°.04E**±0°.03, **h16**km±8km, **n44**, σ0**°66**/64, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.31**	**178**	P		**Pg**	**09 35 01.6**	**-0.1**
CHOS				S		**Sg**	**09 35 06.1**	**-0.1**
CHOS				AML		AML	09 35 07.2	
	comp=E,9661μm,0.3s							
CHOS				AML		AML	09 35 07.3	
	comp=N,5008μm,0.2s							
CHOS	**Chios island**	**0.31**	**178**	P		**Pg**	**09 35 01.6**	**-0.1**
CHOS				S		**Sg**	**09 35 05.8**	**-0.4**
	comp=N,4μm,0.2s							
PSRA	**Psara**	**0.40**	**247**	P		**Pb**	**09 35 04.1**	**+0.3**
PSRA				S		**Sg**	**09 35 08.9**	**+0.1**
PSRA				AML		AML	09 35 09.7	
	comp=N,3798μm,0.3s							
PSRA				AML		AML	09 35 10.0	
	comp=E,5868μm,0.3s							
SIGR	**SIGRI**	**0.53**	**344**	P		**Pb**	**09 35 06.1**	**+0.1**
SIGR				S		**Sb**	**09 35 13.7**	**+0.3**
SIGR				AML		AML	09 35 17.6	
	comp=E,1912μm,0.4s							
SIGR				AML		AML	09 35 17.8	
	comp=N,1454μm,0.2s							
SIGR	**SIGRI**	**0.53**	**344**	P		**Pb**	**09 35 06.1**	**+0.1**
SIGR				S		**Sb**	**09 35 13.7**	**+0.3**
	comp=N,998nm,0.3s							
SIGR	**SIGRI**	**0.53**	**344**	PG		**Pg**	**09 35 05.7**	**+0.1**
FOCM	**Foa**	**0.54**	**88**	PG		**Pb**	**09 35 06.8**	**+0.7**
URLA	**Izmir**	**0.55**	**128**	PG		**Pb**	**09 35 06.4**	**+0.1**
URLA	**Izmir**	**0.55**	**128**	P		**Pg**	**09 35 06.1**	**+0.1**
PRK	**Paraskevi**	**0.58**	**18**	P		**Pn**	**09 35 07.8**	**-0.7**
PRK				S		**Sn**	**09 35 16.9**	**-0.7**
PRK				AML		AML	09 35 20.3	
	comp=E,1868μm,0.3s							
PRK				AML		AML	09 35 20.7	
	comp=N,1619μm,0.4s							
PRK	**Paraskevi**	**0.58**	**18**	P		**Pn**	**09 35 07.8**	**-0.7**
PRK				S		**Sn**	**09 35 17.8**	**+0.2**
	comp=N,872nm,0.3s							
ZEYE	**Izmir, Urla-Ze**	**0.59**	**141**	P		**Pg**	**09 35 06.6**	**-0.1**
ZEYE				S		**Sg**	**09 35 13.8**	**-0.6**
ZEYE				*i* AML		AML	09 35 19.0	
	comp=N,205nm,0.3s							
GPNR	**Gulpinar-Canak**	**0.76**	**6**	PG		**Pb**	**09 35 10.2**	**+0.4**
GPNR				SG		**Sn**	**09 35 21.7**	**-0.5**
DKL	**Dikili**	**0.77**	**61**	PG		**Pn**	**09 35 11.1**	**-0.1**
DKL				SG		**Sn**	**09 35 23.4**	**+0.9**
AYVA	**Ayvalik**	**0.79**	**40**	P		**Pb**	**09 35 09.3**	**-1.1**
AYVA				S		**Sg**	**09 35 21.4**	**+0.5**
AYVA				*i* AML		AML	09 35 28.0	
	comp=N,135nm,0.3s							
KOCA	**Canakkale, Ayv**	**0.81**	**5**	P		**Pb**	**09 35 09.2**	**-1.4**
KOCA				S		**Sn**	**09 35 23.0**	**-0.3**
KOCA				*i* AML		AML	09 35 24.0	
	comp=N,224nm,0.6s							
KOCA				*i* AML		AML	09 35 28.0	
	comp=N,146nm,0.3s							
ZEDA	**zmir-Bergama**	**0.85**	**71**	P		**Pn**	**09 35 13.0**	**+0.7**
ZEDA				S		**Sg**	**09 35 23.6**	**+0.7**
BAYC	**CANAKKALE_Bayr**	**1.11**	**21**	P		**Pn**	**09 35 16.1**	**+0.1**
BAYC				S		**Sn**	**09 35 30.7**	**-0.2**
BUHA	**Balikesir, Bur**	**1.14**	**45**	P		**Pn**	**09 35 14.6**	**-1.7**
BUHA				S		**Sg**	**09 35 32.7**	**+0.8**
BOZC	**Bozcaada**	**1.14**	**1**	PN		**Pg**	**09 35 16.9**	**-0.2**
BOZC				SN		**Sg**	**09 35 33.9**	**+1.9**
BOZC	**Bozcaada**	**1.14**	**1**	P		**Pn**	**09 35 15.9**	**-0.4**
BOZC				S		**Sn**	**09 35 31.6**	**0.0**
BOZC				*i* AML		AML	09 35 35.0	
	comp=N,71nm,0.3s							
EZN	**Ezine**	**1.15**	**11**	P		**Pg**	**09 35 16.9**	**-0.3**
EZN				S		**Sg**	**09 35 33.1**	**+0.9**
	comp=N,130nm,0.4s							
EZN	**Ezine**	**1.15**	**11**	PN		**Pg**	**09 35 16.9**	**-0.3**
SMG	**Samos**	**1.17**	**147**	P		**Pn**	**09 35 16.7**	**0.0**
SMG				AML		AML	09 35 35.4	
	comp=E,927μm,0.5s							
SMG				AML		AML	09 35 35.9	
	comp=N,474μm,0.3s							
SMG	**Samos**	**1.17**	**147**	P		**Pn**	**09 35 16.7**	**0.0**
SMG				S		**Sn**	**09 35 32.5**	**+0.1**
	comp=N,258nm,5.3s							
TNSA	**Tinos**	**1.35**	**211**	P		**Pn**	**09 35 18.6**	**-0.5**
LIA	**Limnos Island**	**1.37**	**331**	P		**Pb**	**09 35 20.3**	**+0.1**
LIA				AML		AML	09 35 41.0	
	comp=E,200μm,0.3s							
LIA				AML		AML	09 35 42.3	
	comp=N,154μm,0.4s							
LIA	**Limnos Island**	**1.37**	**331**	P		**Pn**	**09 35 19.8**	**+0.4**
LIA				S		**Sn**	**09 35 36.1**	**-1.1**
	comp=N,80nm,0.4s							
GCAM	**G?zelcaml?**	**1.37**	**136**	PN		**Pg**	**09 35 21.5**	**+0.1**
KARY	**Karystos**	**1.42**	**243**	P		**Pn**	**09 35 19.9**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.47**	**62**	P		**Pg**	**09 35 23.0**	**-0.4**
APE	**Apeiranthos**	**1.68**	**194**	P		**Pn**	**09 35 23.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.73**	**11**	PN		**Pb**	**09 35 26.6**	**+0.2**
LPK	**Lapseki**	**1.76**	**18**	PN		**Pb**	**09 35 27.0**	**+0.1**
AYDN	**Tasoluk**	**1.78**	**125**	P		**Pn**	**09 35 26.3**	**+1.1**
SMTH	**Samothraki Isl**	**1.81**	**348**	P		**Pn**	**09 35 26.1**	**+0.5**
SMTH				AML		AML	09 35 54.9	
	comp=E,49μm,0.5s							
SMTH				AML		AML	09 35 56.9	
	comp=N,39μm,0.2s							
BODT	**Bodrum**	**1.92**	**148**	PN		**Pb**	**09 35 29.3**	**-0.3**
KRBG	**Karabiga-Canak**	**1.95**	**30**	PN		**Pb**	**09 35 29.8**	**-0.4**
ERIK	**Erikli-Kesan**	**2.00**	**10**	PN		**Pb**	**09 35 30.1**	**-0.9**
KULA	**Kula-Manisa**	**2.06**	**94**	PN		**Pb**	**09 35 31.8**	**-0.3**
RKY	**Sarkoy-Tekirda**	**2.17**	**24**	PN		**Pb**	**09 35 32.9**	**-1.1**
ALN	**Alexandroupoli**	**2.19**	**0**	PN		**Pn**	**09 35 31.9**	**+1.1**
MRMT	**Marmara Adasi**	**2.25**	**32**	PN		**Pb**	**09 35 34.4**	**-0.9**
GZKV	**Gazikoy-Tekird**	**2.27**	**26**	PN		**Pb**	**09 35 34.4**	**-1.3**

*MOS **10** 10:28:56.8±0.9, 36°.47N×71°.19E, h212km, mb6.4/94, MS5.9/14, Error ellipse: s-maj=3.8km s-min=2.8km az=96.5*
MOS Felt (II-III) at Taraz.
*BJI **10** 10:28:57.6±0.0, 36°.56N×71°.31E, h200km, mb6.6/85, mB6.7/75*
*IDC **10** 10:28:58.8±0.2, 36°.39N×71°.21E, h221km±2km, mb6.0/61, mb1 6.0/66, mb1mx5.9/68, mbtmp6.6/66, Error ellipse: s-maj=5.1km s-min=4.3km az=3.0*
*BGR **10** 10:28:58.9±0.0, 36°.17N×71°.25E, h228km±3km, mb6.7*
*NEIC **10** 10:28:58.7±2.1, 36°.47N±0°.06×71°.13E±0°.07, h212km±1km, mb6.4/290, Mwb6.7/26, Mww6.6, Error ellipse: s-maj=10.3km s-min=9.6km az=71.0*
*GCMT **10** 10:28:58.7±0.0, 36°.44N×71°.04E, h211km, MW6.6/170, Moment Tensor Solution. s166,c441; s170,c791; Duration: 5±1 Moment tensor: Scale 10¹⁹Nm; Mrr1.04±.00; Mθθ-1.11±.00; Mϕϕ0.07±.00; Mrθ0.30±.00; Mrϕ-0.03±.00; Mθϕ0.20±.00; Best double couple: Mo1.13400×10¹⁹ NP1:ϕs279.00000°, δ38.00000°, λ106.00000°. NP2:ϕs79.00000°, δ54.00000°, λ78.00000°. Principal axes: T 1.1160, Plg77.0000°, Azm305.0000°; N 0.0440, Plg10.0000°, Azm86.0000°; P -1.1530, Plg8.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*SOME **10** 10:28:58.5, 36°.55N×71°.57E, h21km*
*NEIC **10** 10:28:58.3, 36°.47N×71°.15E, h213km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr1.23; Mθθ-1.26; Mϕϕ0.03; Mrθ0.26; Mϕθ-0.15; Mrϕ0.29; Fault plane solution: Mo1.32000×10¹⁹ NP1:ϕs274.76000°, δ39.52000°, λ107.77000°. NP2:

	179µm,0.6s									
CHM	**Chimkent**	**6.00**	**349**		*e*P		**Pn**	**10 30 25.1**	**-0.4**
	baz=348									
AML	**Almayashu**	**6.01**	**18**		P		**Pn**	**10 30 24.8**	**-1.0**
AML	**Almayashu**	**6.01**	**18**		P		**Pn**	**10 30 25.3**	**-0.5**
AML	**Almayashu**	**6.01**	**18**	*i*	P		**Pn**	**10 30 25.0**	**-0.8**
UCH	**Uchtor**	**6.33**	**23**		P		**Pn**	**10 30 29.0**	**-1.0**
DZA	**Taraz**	**6.45**	**1**		*e*PN		**Pn**	**10 30 30.3**	**-0.8**
DZA	**Taraz**	**6.45**	**1**		*e*P		**Pn**	**10 30 30.4**	**-0.8**
	124µm,0.8s									
DZA					*e*S		**S**	**10 31 39.6**	**-5.5**
	108µm,0.7s									
DZA	**Taraz**	**6.45**	**1**		*e*P		**Pn**	**10 30 30.3**	**-0.8**
	baz=0.7									
MRKS	**Merke**	**6.49**	**13**		*e*P		**Pn**	**10 30 33.3**	**+1.6**
	94µm,0.7s									
MRKS					*e*S		**S**	**10 31 44.8**	**-1.5**
	156µm,0.7s									
EKS2	**Erkin-Say**	**6.53**	**17**		P		**Pn**	**10 30 31.7**	**-0.6**
BRLS	**Boroldoy**	**6.67**	**351**		*e*P		**Pn**	**10 30 32.9**	**-1.0**
	5µm,0.3s									
BRLS					*e*S		**S**	**10 31 44.4**	**-5.8**
	34µm,0.8s									
KK31	**Karatay Array**	**6.68**	**356**		PN		**Pn**	**10 30 33.0**	**-1.1**
KK31	**Karatay Array**	**6.68**	**356**		Pn		**Pn**	**10 30 33.0**	**-1.1**
KK31	**Karatay Array**	**6.68**	**356**	⇓	P		**Pn**	**10 30 32.9**	**-1.2**
	34µm,1.0s,baz=181,slow=12									
KK31				⇑	S		**S**	**10 31 42.9**	**-7.6**
	50µm,1.1s,baz=187,slow=24,SNR=9.8									
KKAR	**Karatay Array**	**6.68**	**356**		PN		**Pn**	**10 30 33.0**	**-1.1**
KKAR	**Karatay Array**	**6.68**	**356**				**Pn**	**10 30 33.0**	**-1.1**
KKAR	**Karatay Array**	**6.68**	**356**				**Pn**	**10 30 33.0**	**-1.1**
KKAR	**Karatay Array**	**6.68**	**356**	⇓	P		**Pn**	**10 30 32.9**	**-1.1**
AAK	**Ala-Archa**	**6.70**	**21**		P		**Pn**	**10 30 34.0**	**-0.4**
AAK	**Ala-Archa**	**6.70**	**21**		P		**Pn**	**10 30 34.0**	**-0.4**
	4µm,0.3s,baz=200,slow=8.1,SNR=6764									
AAK					S		**S**	**10 31 43.6**	**-7.5**
	905nm,0.3s,baz=210,slow=11,SNR=7.6									
AAK					P3KPbc			11 07 53.3		
	baz=173,slow=4.0,SNR=4.4									
AAK	**Ala-Archa**	**6.70**	**21**		P		**Pn**	**10 30 34.3**	**-0.2**
AAK					P		**Pn**	**10 30 34.3**	**-0.2**
AAK					S		**S**	**10 31 49.9**	**-1.3**
AAK					S		**S**	**10 31 49.9**	**-1.3**
AAK	**Ala-Archa**	**6.70**	**21**	⇓	P		**Pn**	**10 30 33.5**	**-1.0**
AAK	**Ala-Archa**	**6.70**	**21**	*i*	P		**Pn**	**10 30 34.0**	**-0.4**
	SNR=7569									
KBK	**Karagaybulak**	**6.86**	**24**		P		**Pn**	**10 30 36.0**	**-0.5**
FRU1	**Bishkek**	**6.90**	**22**		PN		**Pn**	**10 30 36.8**	**-0.1**
FRU1	**Bishkek**	**6.90**	**22**				**Pn**	**10 30 36.8**	**-0.1**
ULHL	**Ulahol**	**7.00**	**32**		P		**Pn**	**10 30 37.1**	**-1.2**
	SNR=5316									
BOOM	**Boomskoye usch**	**7.07**	**30**		PN		**Pn**	**10 30 38.4**	**-0.9**
BOOM	**Boomskoye usch**	**7.07**	**30**		Pn		**Pn**	**10 30 38.4**	**-0.9**
CHMS	**Chumysh**	**7.10**	**22**		P		**Pn**	**10 30 38.6**	**-0.9**
	SNR=465									
CHMS	**Chumysh**	**7.10**	**22**	*i*	PN		**Pn**	**10 30 38.7**	**-0.9**
CHMS					pmax		pmax			
	comp=Z,11µm,0.8s									
CHMS	**Chumysh**	**7.10**	**22**	⇓	P		**Pn**	**10 30 38.7**	**-0.9**
	comp=Z,11µm,0.8s									
CHMS				⇑	S		**S**	**10 31 57.0**	**-3.5**
	comp=Z,40µm,0.9s									
SMLA	**Simla**	**7.26**	**135**		*e*P		**Pn**	**10 30 41.5**	**-0.1**
SMLA					*e*S		**S**	**10 31 59.3**	**-5.0**
USP	**Ospenovka**	**7.28**	**19**		P		**Pn**	**10 30 40.4**	**-1.4**
	SNR=8159									
TKM2	**Tokmak 2**	**7.31**	**26**		P		**Pn**	**10 30 41.7**	**-0.7**
TKM2	**Tokmak 2**	**7.31**	**26**	*i*	PN		**Pn**	**10 30 41.4**	**-0.9**
TKM2					pmax		pmax			
	comp=Z,6µm,0.8s									
TKM2	**Tokmak 2**	**7.31**	**26**	⇓	P		**Pn**	**10 30 41.5**	**-0.9**
	comp=Z,6µm,0.8s									
TKM2				⇑	S		**S**	**10 32 01.5**	**-4.1**
	comp=Z,72µm,1.6s									
KDJ	**Kajisay**	**7.34**	**37**		PN		**Pn**	**10 30 41.8**	**-0.9**
KDJ	**Kajisay**	**7.34**	**37**				**Pn**	**10 30 41.8**	**-0.9**
TARG	**Taragay, Kyrgy**	**7.37**	**42**				**Pn**	**10 30 42.1**	**-1.3**
SGDS	**Sogindy**	**7.49**	**20**		*e*PN		**Pn**	**10 30 43.1**	**-1.4**
SGDS					*e*S		**S**	**10 32 07.0**	**-2.5**
SGDS	**Sogindy**	**7.49**	**20**		*e*P		**Pn**	**10 30 43.2**	**-1.4**
	baz=20									
SGDS					*e*S		**S**	**10 32 07.0**	**-2.5**
	baz=20									
HRA	**Herat**	**7.59**	**257**		Pn		**Pn**	**10 30 46.2**	**+0.1**
DGS	**Degeres**	**7.65**	**26**		*e*P		**Pn**	**10 30 47.1**	**+0.4**
	comp=Z,20µm,0.9s									
MTBS	**Maitube**	**7.80**	**29**		*e*P		**Pn**	**10 30 48.4**	**-0.3**
	comp=Z,25µm,0.6s									
TNSS	**Tian-Shan**	**7.94**	**32**		*e*PN		**Pn**	**10 30 49.9**	**-0.8**
TNSS	**Tian-Shan**	**7.94**	**32**		*e*P		**Pn**	**10 30 49.9**	**-0.8**
	comp=Z,16µm,0.7s									
TNSS	**Tian-Shan**	**7.94**	**32**		*e*P		**Pn**	**10 30 49.9**	**-0.8**
	baz=32									
KRBS	**Karabastau**	**8.02**	**24**		*e*P		**Pn**	**10 30 50.0**	**-1.4**
	comp=Z,8µm,1.0s									
AAA	**Alma-Ata**	**8.07**	**31**		*e*PN		**Pn**	**10 30 52.1**	**+0.1**
AAA	**Alma-Ata**	**8.07**	**31**		*e*P		**Pn**	**10 30 52.1**	**+0.1**
	comp=Z,31µm,0.9s									
AAA	**Alma-Ata**	**8.07**	**31**		*e*P		**Pn**	**10 30 52.2**	**+0.1**
	baz=31									
MDOK	**Medeo**	**8.09**	**32**		*e*PN		**Pn**	**10 30 51.8**	**-0.5**
MDOK	**Medeo**	**8.09**	**32**		*e*P		**Pn**	**10 30 51.6**	**-0.7**
	comp=Z,31µm,0.9s									
MDOK	**Medeo**	**8.09**	**32**		*e*P		**Pn**	**10 30 51.9**	**-0.5**
	baz=32									
MDOK	**Medeo**	**8.09**	**32**	⇑	P		**Pn**	**10 30 51.5**	**-0.9**
	comp=Z,8µm,0.6s									
KNDC	**Almaty**	**8.10**	**31**		PN		**Pn**	**10 30 52.6**	**+0.2**
KNDC	**Almaty**	**8.10**	**31**	⇓	P		**Pn**	**10 30 52.6**	**+0.2**
	comp=Z,12µm,0.9s									
KOTS	**Kotyrbulak**	**8.17**	**32**		*e*P		**Pn**	**10 30 53.4**	**0.0**
	comp=Z,27µm,0.8s									
DDI	**Dehra Dun**	**8.37**	**135**		*e*P		**Pn**	**10 30 55.7**	**-0.3**
DDI					*e*S		**S**	**10 32 25.1**	**-5.5**
DDI					IAML			10 32 30.5		
	comp=E,86µm,0.6s									
KTBS	**Karatobe**	**8.39**	**28**		*e*P		**Pn**	**10 30 54.6**	**-1.6**
	comp=E,4µm,1.5s									
CHKK	**Chushkaly**	**8.63**	**29**		*e*PN		**Pn**	**10 30 57.6**	**-1.6**
CHKK	**Chushkaly**	**8.63**	**29**		*e*P		**Pn**	**10 30 57.6**	**-1.6**
	comp=E,10µm,0.8s									
SATY	**Saty**	**8.63**	**38**		*e*PN		**Pn**	**10 30 58.0**	**-1.4**
SATY					pmax		pmax			
	comp=Z,6µm,1.4s									
SATY	**Saty**	**8.63**	**38**		*e*P		**Pn**	**10 30 58.0**	**-1.4**
	comp=Z,6µm,0.9s									
SATY	**Saty**	**8.63**	**38**		*e*P		**Pn**	**10 30 58.0**	**-1.4**
	comp=Z,6µm,1.4s,baz=38									
KURS	**Kuram**	**8.85**	**35**		*e*P		**Pn**	**10 31 02.2**	**+0.2**
	comp=Z,18µm,0.9s									
BTLS	**Baital**	**8.86**	**13**		*e*PN		**Pn**	**10 31 01.3**	**-0.8**
BTLS					pmax		pmax			
	comp=Z,4µm,1.5s									
BTLS	**Baital**	**8.86**	**13**		*e*P		**Pn**	**10 31 01.0**	**-1.2**
	comp=Z,9µm,1.0s									
BTLS	**Baital**	**8.86**	**13**		*e*P		**Pn**	**10 31 01.4**	**-0.8**
	comp=Z,4µm,1.5s,baz=13									
UZB	**Uzynbulak**	**9.01**	**40**		*e*PN		**Pn**	**10 31 02.8**	**-1.4**
UZB					*e*S		**S**	**10 32 44.3**	**-1.3**
UZB					pmax		pmax			
	comp=Z,2µm,0.8s									
UZB	**Uzynbulak**	**9.01**	**40**		*e*P		**Pn**	**10 31 02.6**	**-1.7**
UZB	**Uzynbulak**	**9.01**	**40**		*e*P		**Pn**	**10 31 02.9**	**-1.4**
	comp=Z,2µm,0.8s,baz=40									
UZB					*e*S		**S**	**10 32 44.3**	**-1.3**
	baz=40									
KPKS	**Kokpek**	**9.07**	**37**		*e*P		**Pn**	**10 31 03.8**	**-1.2**
KPKS					pmax		pmax			
	comp=Z,2µm,0.7s									
KPKS	**Kokpek**	**9.07**	**37**		*e*P		**Pn**	**10 31 03.9**	**-1.1**
	comp=Z,9µm,1.0s									
KPKS	**Kokpek**	**9.07**	**37**		*e*P		**Pn**	**10 31 03.9**	**-1.1**
	comp=Z,2µm,0.7s,baz=37									
SHLS	**Shalkode**	**9.24**	**41**		*e*P		**Pn**	**10 31 08.8**	**+1.6**
SHLS					pmax		pmax			
	comp=Z,2µm,1.0s									
SHLS	**Shalkode**	**9.24**	**41**		*e*P		**Pn**	**10 31 08.7**	**+1.4**
SHLS	**Shalkode**	**9.24**	**41**		*e*P		**Pn**	**10 31 08.9**	**+1.6**
	comp=Z,2µm,1.0s,baz=42									
NDI	**New Delhi**	**9.25**	**145**		*e*P		**Pn**	**10 31 06.0**	**-1.3**
NDI					*e*S		S	10 32 42.0	-9.3
ARXS	**Arharly**	**9.27**	**31**		*e*P		**Pn**	**10 31 06.2**	**-1.3**
ARXS	**Arharly**	**9.27**	**31**		*e*P		**Pn**	**10 31 05.4**	**-2.1**
PDGK	**Podgornoye**	**9.38**	**40**		P		**Pn**	**10 31 06.8**	**-2.1**
PDGK	**Podgornoye**	**9.38**	**40**	⇑	P		**Pn**	**10 31 06.9**	**-2.1**
	comp=Z,9µm,0.9s									
PDGK				⇑	S		**S**	**10 32 47.7**	**-6.7**
	comp=Z,8µm,0.7s									
BLB	**Baldybastay**	**9.46**	**34**		*e*P		**Pn**	**10 31 08.1**	**-1.9**
KTMS	**Ketmen**	**9.92**	**42**		*e*P		**Pn**	**10 31 14.0**	**-1.9**
	comp=Z,482nm,0.5s									
TDK	**Taldyqorghan**	**10.15**	**30**		*e*P		**Pn**	**10 31 17.3**	**-1.5**
TDK					*e*S		**S**	**10 33 10.6**	**-2.1**
TDK					pmax		pmax			
	comp=Z,4µm,0.7s									
TDK	**Taldyqorghan**	**10.15**	**30**		*e*P		**Pn**	**10 31 17.4**	**-1.5**
	comp=Z,4µm,0.7s,baz=30									
TDK					*e*S		**S**	**10 33 10.6**	**-2.1**
	baz=30									
DJR	**Jarkent**	**10.25**	**37**		*e*P		**Pn**	**10 31 18.4**	**-1.7**
GEYT	**Alibeck**	**10.54**	**282**		P		**Pn**	**10 31 22.1**	**-1.8**
	comp=Z,36nm,0.3s,baz=105,slow=11,SNR=119									
GEYT					P4KP			11 15 50.4		
	comp=Z,0.3nm,0.3s,baz=80,slow=11,SNR=7.5									
GYA0	**ALIBECK ARRAY**	**10.54**	**282**		P		**Pn**	**10 31 21.9**	**-2.0**
GYA0					S		**S**	**10 33 22.6**	**+0.6**
GYA0B	**ALIBECK ARRAY**	**10.54**	**282**				**Pn**	**10 31 22.2**	**-1.6**
GYA0B	**ALIBECK ARRAY**	**10.54**	**282**	⇓	P		**Pn**	**10 31 21.9**	**-2.0**
GYA0B				⇓	S		**S**	**10 33 18.3**	**-3.7**
KAPS	**Kapalarasan**	**10.78**	**32**		*e*P		**Pn**	**10 31 25.9**	**-0.9**
OTUK	**Ortayu**	**11.83**	**4**		P		**Pn**	**10 31 38.0**	**-2.1**
OTUK	**Ortayu**	**11.83**	**4**	⇓	P		**Pn**	**10 31 38.1**	**-2.1**
	comp=Z,13µm,1.1s									
OTUK				⇑	S		**S**	**10 33 46.2**	**-4.6**
	comp=Z,9µm,1.1s									
MAKZ	**Makanchi**	**13.12**	**34**		P		**Pn**	**10 31 55.2**	**-1.1**
MAKZ	**Makanchi**	**13.12**	**34**		Pn		**Pn**	**10 31 55.2**	**-1.1**
MAKZ	**Makanchi**	**13.12**	**34**	⇓	P		**Pn**	**10 31 55.0**	**-1.3**
MAKZ	**Makanchi**	**13.12**	**34**	⇓	P		**Pn**	**10 31 54.7**	**-1.6**
	comp=Z,11µm,0.9s									
MK31	**Makanchi Array**	**13.25**	**35**	*d*	iP		**Pn**	**10 31 57.0**	**-0.9**
MK31	**Makanchi Array**	**13.25**	**35**		P		**Pn**	**10 31 56.4**	**-1.5**
MK31	**Makanchi Array**	**13.25**	**35**		P		**Pn**	**10 31 56.1**	**-1.8**
	comp=Z,94nm,0.7s,baz=240,slow=8.0									
MKAR	**Makanchi Array**	**13.25**	**35**		P		**Pn**	**10 31 57.4**	**-0.5**
	comp=Z,126nm,0.3s,baz=208,slow=12,SNR=969									
MKAR					S		**S**			
	baz=181,slow=11,SNR=1.3									
MKAR					ScP		**ScP**	**10 40 21.3**	**-1.4**
	baz=255,slow=4.6,SNR=3.8									
MKAR					P3KPbc			11 07 35.4		
	comp=Z,0.1nm,0.3s,baz=66,slow=1.7,SNR=2.6									
MKAR					P4KP			11 16 05.2		
	baz=222,slow=1.6,SNR=3.5									
MKAR	**Makanchi Array**	**13.25**	**35**		P		**Pn**	**10 31 57.2**	**-0.7**
BRZS	**Berezniki**	**13.58**	**4**		*e*P		**Pn**	**10 32 00.5**	**-1.4**
BRZS					*e*S		**S**	**10 34 31.2**	**-1.0**
BRZS					*e*S		S	10 34 31.5	-0.7
BRZS					pmax		pmax			
	comp=Z,1µm,1.1s									
BRZS	**Berezniki**	**13.58**	**4**		*e*P		**Pn**	**10 32 00.6**	**-1.4**
	comp=Z,1µm,1.1s,baz=4.0									
BRZS					*e*S		**S**	**10 34 31.2**	**-1.0**
	baz=4.0									
BRZS					*e*S		S	10 34 31.6	-0.6
	baz=4.0									
BHPL	**Bhopal**	**14.21**	**156**		*e*P		**Pn**	**10 32 09.5**	**-0.5**
BHPL					IAmb		IAmb	10 32 15.0		
	comp=Z,29µm,0.7s									
BHPL					*e*S		S	10 34 37.5	-10
BHPL					IAML			10 34 41.4		
	comp=N,7µm,1.1s									
WMQ	**Urumqi**	**14.61**	**55**		P		**Pn**	**10 32 14.6**	**-0.1**
WMQ					S		**S**	**10 34 52.8**	**-3.4**
WMQ					pmax		pmax			
	comp=N,4µm,0.9s									
WMQ					pmax		pmax			
	comp=N,41µm,5.7s									
WMQ					LR		LR			
	comp=N,94µm,9.7s									
WMQ					LR		LR			
	comp=N,73µm,11.1s									
WMQ					LR		LR			
	comp=N,23µm,15.5s									
ZSN	**Zaisan**	**14.96**	**38**		*e*P		**Pn**	**10 32 17.3**	**-1.6**
ZSN					*e*S		**S**	**10 35 04.6**	**+0.3**
ZSN	**Zaisan**	**14.96**	**38**		*e*P		**Pn**	**10 32 17.4**	**-1.6**
	baz=38									
ZSN					*e*S		**S**	**10 35 04.6**	**+0.3**
	baz=38									
KURBB	**Kurchatov Arra**	**15.13**	**18**		P		**Pn**	**10 32 19.2**	**-1.6**
	comp=N,36nm,0.3s,baz=207,slow=12,SNR=772									
KURBB					S		**S**	**10 35 05.3**	**-2.9**
	baz=220,slow=50,SNR=2.1									
KURBB					PKiKP		**PKiKP**	**10 45 06.0**	**-0.9**
	comp=N,0.7nm,0.3s,baz=235,slow=0.4,SNR=11									
KURBB					P3KPbc			11 07 28.7		
	comp=N,0.1nm,0.3s,baz=31,slow=3.4,SNR=12									
KURBB					P4KP			11 16 08.1		
	baz=213,slow=4.5,SNR=10									
KURBB	**Kurchatov Arra**	**15.13**	**18**		P		**Pn**	**10 32 18.9**	**-2.0**
KURBB	**Kurchatov Arra**	**15.13**	**18**	⇓	P		**Pn**	**10 32 19.0**	**-2.0**
	comp=N,9µm,1.1s									
KURBB				⇓	S		**S**	**10 35 06.5**	**-1.6**
	comp=N,12µm,1.1s									
AB31	**Akbulak array**	**15.22**	**331**	*i*	P		**Pn**	**10 32 20.0**	**-1.9**
AB31					S		**S**	**10 35 05.2**	**-4.8**
AB31	**Akbulak array**	**15.22**	**331**	⇓	P		**Pn**	**10 32 20.1**	**-1.9**
	comp=N,2µm,0.6s,baz=142,slow=11									
AB31				⇓	S		**S**	**10 35 05.3**	**-4.8**
	comp=N,1µm,0.6s,baz=351,slow=32,SNR=6.3									
ABKAR	**Akbulak array**	**15.22**	**331**		P		**Pn**	**10 32 20.7**	**-1.2**
ABKAR	**Akbulak array**	**15.22**	**331**		P		**Pn**	**10 32 20.5**	**-1.4**
ABKAR					IAmb		IAmb	10 32 27.5		
	comp=Z,4µm,0.7s									
ABKAR	**Akbulak array**	**15.22**	**331**	⇓	P		**Pn**	**10 32 20.4**	**-1.4**
KURK	**Kurchatov**	**15.24**	**18**	*d*	iP		**Pn**	**10 32 21.1**	**-1.1**
KURK	**Kurchatov**	**15.24**	**18**		P		**Pn**	**10 32 20.3**	**-1.9**
KURK	**Kurchatov**	**15.24**	**18**		P		**Pn**	**10 32 21.2**	**-1.1**
KURK					P		**Pn**	**10 32 21.2**	**-1.1**
KURK					S		**S**	**10 35 06.7**	**-3.9**
KURK					S		**S**	**10 35 06.7**	**-3.9**
KURK	**Kurchatov**	**15.24**	**18**	⇓	P		**Pn**	**10 32 20.3**	**-1.9**
KURK	**Kurchatov**	**15.24**	**18**	⇓	P		**Pn**	**10 32 18.9**	**-3.3**
	comp=Z,7µm,1.1s									
KURK				⇑	S		**S**	**10 35 09.8**	**-0.8**
	comp=Z,4µm,1.6s									
SEM	**Semipalatinsk**	**15.42**	**22**	*d*	iP		**P**	**10 32 23.3**	**-1.2**
SEM					pmax		pmax			
	comp=Z,1µm,1.0s									
SEM	**Semipalatinsk**	**15.42**	**22**	⇓	*i*P		**P**	**10 32 23.3**	**-1.2**
	comp=Z,1µm,1.0s,baz=22									
BANOM	**Banah**	**16.48**	**235**		P		**P**	**10 32 36.3**	**+0.1**
	SNR=326									
BANOM					P		**P**	**10 32 36.3**	**+0.1**
	SNR=326									
BANOM					S		**S**	**10 35 30.0**	**-7.8**
BANOM					S		**S**	**10 35 30.0**	**-7.8**
BANOM	**Banah**	**16.48**	**235**	*i*	P		**P**	**10 32 35.8**	**-0.4**
	SNR=832									
SHME	**Shamm**	**16.50**	**235**		P		**P**	**10 32 36.9**	**+0.6**
	SNR=139									
SHME					S		**S**	**10 35 32.5**	**-5.7**
SHME	**Shamm**	**16.50**	**235**	*i*	P		**P**	**10 32 36.2**	**-0.2**
	SNR=226									
BVA1	**Borovoye Array**	**16.60**	**358**	⇓	P		**P**	**10 32 37.5**	**+0.3**
	comp=Z,2µm,0.6s									
BVA1				⇑	S		**S**	**10 35 36.3**	**-3.3**
	comp=Z,4µm,1.3s									
BVAR	**Borovoye Array**	**16.60**	**358**		P		**Pn**	**10 32 39.1**	**+0.6**
BRVK	**Borovoye**	**16.63**	**358**	*d*	iP		**P**	**10 32 37.7**	**+0.1**
BRVK	**Borovoye**	**16.63**	**358**		P		**Pn**	**10 32 38.3**	**-0.5**
BRVK	**Borovoye**	**16.63**	**358**		P		**Pn**	**10 32 38.9**	**0.0**
BRVK					P		**Pn**	**10 32 38.9**	**0.0**
BRVK					S		**S**	**10 35 38.0**	**-2.3**
BRVK					S		**S**	**10 35 38.0**	**-2.3**
BRVK	**Borovoye**	**16.63**	**358**	⇓	P		**P**	**10 32 37.9**	**+0.3**
BRVK	**Borovoye**	**16.63**	**358**	⇓	P		**P**	**10 32 38.1**	**+0.5**
	comp=Z,5µm,1.1s									
BRVK				⇑	S		**S**	**10 35 36.4**	**-3.9**
	comp=Z,5µm,1.5s									
I31KZ	**AKTYUBINSK INF**	**16.89**	**330**		P		**Pn**	**10 32 42.8**	**+1.0**
	baz=139,slow=8.1,SNR=2.7									
AKTO	**Aktyubinsk**	**16.91**	**330**		P		**Pn**	**10 32 41.9**	**-0.4**
	comp=Z,171nm,0.3s,baz=137,slow=10,SNR=1164									
AKTO	**Aktyubinsk**	**16.91**	**330**	⇓	P		**Pn**	**10 32 41.8**	**-0.4**
	comp=Z,9µm,1.2s									
AKTO				⇓	S		**S**	**10 35 42.3**	**-3.6**
	comp=Z,3µm,0.9s									
MASF	**Masafi**	**16.95**	**234**		P		**P**	**10 32 42.1**	**+0.7**
	SNR=401									
MASF					S		**S**	**10 35 45.0**	**-2.1**
MSFE	**Esma-Masafi**	**16.96**	**234**	*i*	P		**P**	**10 32 42.0**	**+0.5**
	SNR=651									
WSAR	**Wadi Sarin**	**17.06**	**223**		P		**Pn**	**10 32 44.0**	**-0.2**
	comp=Z,99nm,0.3s,baz=64,slow=7.2,SNR=449									
WSAR					ScP		**ScP**	**10 40 28.4**	**-1.6**
	comp=Z,3.3nm,0.3s,baz=17,slow=2.5,SNR=5.0									
WSAR	**Wadi Sarin**	**17.06**	**223**		P		**Pn**	**10 32 44.0**	**-0.2**
	SNR=889									
WSAR					S		**S**	**10 35 48.4**	**-0.8**
BIDO	**Bidbid**	**17.12**	**225**		P		**Pn**	**10 32 44.1**	**-0.8**
	SNR=586									
BIDO					P		**Pn**	**10 32 44.1**	**-0.8**
	SNR=586									
BIDO					S		**S**	**10 35 50.8**	**+0.5**
BIDO					S		**S**	**10 35 50.8**	**+0.5**
UMQ	**Umm Al-Quwin**	**17.17**	**235**		P		**Pn**	**10 32 45.8**	**+0.4**
	SNR=161									
UMQ					P		**Pn**	**10 32 45.8**	**+0.4**
	SNR=161									
UMQ					S		**S**	**10 35 49.9**	**-1.5**
UMQ					S		**S**	**10 35 49.9**	**-1.5**
UMQ	**Umm Al-Quwin**	**17.17**	**235**	*i*	P		**Pn**	**10 32 44.7**	**-0.8**
	SNR=172									
UOSS	**Minazif**	**17.22**	**232**		P		**P**	**10 32 42.8**	**-1.5**
UOSS	**Minazif**	**17.22**	**232**		P		**P**	**10 32 42.9**	**-1.5**
UOSS					P		**P**	**10 32 42.9**	**-1.5**
UOSS					S		**S**	**10 35 48.9**	**-3.6**
UOSS					S		**S**	**10 35 48.9**	**-3.6**
UOSS	**Minazif**	**17.22**	**232**	⇑	P		**P**	**10 32 42.8**	**-1.5**
UOSS	**Minazif**	**17.22**	**232**	*i*	P		**P**	**10 32 42.9**	**-1.4**
	SNR=438									
GTK	**Tadong**	**17.33**	**117**	*e*	P		**Pn**	**10 32 48.4**	**+0.9**
HATD	**Hatta, Dubai**	**17.35**	**232**		P		**P**	**10 32 45.4**	**-0.4**
	SNR=572									
HATD					P		**P**	**10 32 45.4**	**-0.4**
	SNR=572									
HATD					S		**S**	**10 35 49.0**	**-6.0**
HATD					S		**S**	**10 35 49.0**	**-6.0**
HATD	**Hatta, Dubai**	**17.35**	**232**	*i*	P		**P**	**10 32 45.0**	**-0.7**
	SNR=407									
WBK	**Wadi Bani Khal**	**17.38**	**221**		P		**Pn**	**10 32 48.3**	**+0.3**
	SNR=1174									
WBK					P		**Pn**	**10 32 48.3**	**+0.3**
	SNR=1174									
WBK					S		**S**	**10 35 57.5**	**+1.8**
WBK					S		**S**	**10 35 57.5**	**+1.8**
ASHO	**Ashiyiah**	**17.50**	**232**		P		**Pn**	**10 32 48.4**	**-1.0**
	SNR=1603									
ASHO					P		**Pn**	**10 32 48.4**	**-1.0**
	SNR=1603									
ASHO					S		**S**	**10 35 59.5**	**+1.4**
ASHO					S		**S**	**10 35 59.5**	**+1.4**
ASHO	**Ashiyiah**	**17.50**	**232**	*i*	P		**P**	**10 32 47.7**	**+0.3**
	SNR=1608									
SMDO	**Samad**	**17.52**	**224**		P		**Pn**	**10 32 49.4**	**-0.3**
	SNR=702									
SMDO					P		**Pn**	**10 32 49.4**	**-0.3**
	SNR=702									
SMDO					S		**S**	**10

GOMU LR LR
comp=Z,29μm,8.4s
GOMU LR LR
comp=Z,24μm,7.7s
GOMU LR LR
comp=Z,20μm,11.8s
DHUB DHUBRI 19.11 118 *e*P **Pn 10 33 06.9 -1.3**
MHTO MHTO 19.24 220 P **Pn 10 33 08.5 -1.3**
SNR=1247
MHTO P **Pn 10 33 08.5 -1.3**
SNR=1247
MHTO S **S 10 36 33.5 +0.9**
MHTO S **S 10 36 33.5 +0.9**
SEKA Sheki 19.27 292 P **P 10 33 06.1 -0.4**
MNGR Mingechevir, A 19.32 290 P **P 10 33 06.9 +0.1**
MAK Makhachkala 19.33 297*d i*P **P 10 33 05.7 -1.2**
MAK *e*S **S 10 36 32.0 -1.8**
MAK pmax pmax
comp=Z,4μm,2.0s
MAK MLR MLR
comp=Z,87μm,14.0s
JRN Qarnain Island 19.46 239 P **P 10 33 07.4 -1.1**
SNR=176
JRN S **S 10 36 30.4 -6.3**
UMZA Um Al Zommool 19.49 230 P **P 10 33 09.6 +0.7**
UMZA P **P 10 33 09.6 +0.7**
UMZA S **S 10 36 33.3 -4.1**
UMZA S **S 10 36 33.3 -4.1**
MZWR Madinat Zayed 19.56 235 P **P 10 33 08.9 -0.7**
MZWR P **P 10 33 08.9 -0.7**
MZWR S **S 10 36 33.8 -4.8**
MZWR S **S 10 36 33.8 -4.8**
TURI Tura 19.63 118 *e*P **P 10 33 11.7 +1.3**
GANJ Ganja 19.88 290 P **P 10 33 13.7 +0.8**
ZAA0 Zalesovo Array 19.91 24 P **P 10 33 13.2 +0.2**
ZAA0 Zalesovo Array 19.91 24 ⇓P **P 10 33 12.8 -0.2**
comp=Z,754nm,1.0s
ZAA0 ⇑S **S 10 36 39.8 -5.1**
comp=Z,2μm,1.2s
ZALV Zalesovo Beam 19.91 24 P **P 10 33 13.7 +0.7**
comp=Z,262nm,0.3s,baz=220,slow=11,SNR=2002
ZALV S **S 10 36 44.1 -0.9**
comp=Z,22nm,0.3s,baz=208,slow=18,SNR=3.3
ZALV PKiKP **PKiKP 10 45 07.2 -1.5**
comp=Z,2.1nm,0.3s,baz=188,slow=1.7,SNR=8.4
ZALV P3KPbc 11 07 17.9
comp=Z,0.2nm,0.3s,baz=90,slow=1.4,SNR=2.7
ZALV P4KP 11 16 30.3
comp=Z,0.1nm,0.3s,baz=234,slow=5.0,SNR=7.0
ZALV Zalesovo Beam 19.91 24 P **P 10 33 13.2 +0.2**
I46RU ZALESOVO INFRA 19.91 24 P **P 10 33 14.7 +1.7**
baz=214,slow=9.1,SNR=2.6
I46RU *i* 11 59 40.0
baz=217,slow=322,SNR=0.5
KHOR Al-Khor Airpor 19.98 243 P **P 10 33 13.5 -0.6**
KHOR S **S 10 36 39.8 -7.0**
GHRH Al-Ghuwayriyah 20.02 244 P **P 10 33 14.2 -0.3**
GHRH S **S 10 36 40.6 -7.0**
HYBB Hyderabad (bro 20.03 159 *e*P **P 10 33 15.7 +1.0**
HYBB IVmB_BB 10 33 19.1
comp=Z,26μm,0.8s
HYBB *ep*P **pP 10 33 51.3 +1.3**
HYBB *es*P **sP 10 34 17.9 +0.5**
HYBB *e*S **S 10 36 51.0 +3.0**
HYBB IVMs_BB IVMs_BB 10 39 36.0
comp=Z,54μm,7.4s
HYB Hyderabad 20.03 159 *e*P **P 10 33 15.9 +1.2**
HYB IAmb IAmb 10 33 19.1
comp=Z,4μm,0.7s
GHWR Ruwais 20.09 237 P **P 10 33 14.2 -1.0**
GHWR P **P 10 33 14.2 -1.0**
GHWR S **S 10 36 43.6 -5.3**
GHWR S **S 10 36 43.6 -5.3**
GUWA GUWAHATI 20.23 115 *e*P **P 10 33 18.3 +1.6**
SHMA Al-Shehemyia 20.23 244 P **P 10 33 16.4 -0.4**
SHMA S **S 10 36 46.1 -5.6**
DQM DQM 20.34 220 P **P 10 33 19.4 +1.5**
SNR=596
DQM P **P 10 33 19.4 +1.5**
SNR=596
DQM S **S 10 36 56.3 +2.5**
DQM S **S 10 36 56.3 +2.5**
MZR Muzera 20.35 234 P **P 10 33 17.0 -1.0**
SNR=448
MZR P **P 10 33 17.0 -1.0**
SNR=448
MZR S **S 10 36 49.1 -4.9**
MZR S **S 10 36 49.1 -4.9**
MZR Muzera 20.35 234 *i* P **P 10 33 16.7 -1.3**
SNR=327
NAX Nakhchivan 20.47 285 P **P 10 33 20.1 +0.8**
SAKB Bahrain 20.48 245 P **P 10 33 19.0 -0.3**
SAKB S **S 10 36 52.3 -4.0**
GROC Groznyy 20.60 297 *e*P **P 10 33 20.5 0.0**
GROC *e**PP **pP 10 33 58.2 +2.1**
GROC *e**SP **sP 10 34 24.7 +1.1**
GROC *e*S **S 10 37 00.9 +2.6**
GROC pmax pmax
comp=Z,4μm,1.1s
GROC MLR MLR
comp=Z,92μm,9.0s
SHL Shillong 20.74 116 *e*P **P 10 33 23.4 +1.1**
SHL IAmb IAmb 10 33 27.7
comp=Z,4μm,0.9s
SHL *e*S **S 10 37 03.8 +2.3**
TRNA Turayna 20.74 241 P **P 10 33 20.5 -1.7**
TRNA S **S 10 36 55.1 -6.0**
TEZP TEZPUR 20.82 112 *e*P **P 10 33 24.4 +1.5**
SLWR Sila 20.83 239 S **S 10 36 57.2 -5.5**
GOA Goa 20.99 173 *e*P **P 10 33 26.8 +1.9**
GOA IAmb IAmb 10 33 28.7
comp=Z,5μm,0.6s
SMRA Abu-Samra 21.01 242 P **P 10 33 23.6 -1.3**
SMRA S **S 10 37 01.0 -4.8**
GNI Garni 21.06 288 P **P 10 33 27.8 +2.2**
comp=Z,2μm,1.2s,baz=100,slow=3.5,SNR=162
GNI Garni 21.06 288*c i*P **P 10 33 28.0 +2.4**
GNI pmax pmax
comp=Z,3μm,1.2s
GNI Garni 21.06 288 P **P 10 33 27.9 +2.2**
GNI IAmb IAmb 10 33 49.8
comp=Z,3μm,1.1s
GNI Garni 21.06 288 P **P 10 33 27.8 +2.2**
GNI P **P 10 33 27.8 +2.2**
GNI S **S 10 37 10.0 +3.1**
GNI S **S 10 37 10.0 +3.1**
GNI Garni 21.06 288 ⇑P **P 10 33 27.7 +2.1**
ITAN ITANAGAR 21.23 109 *e*P **P 10 33 29.2 +2.0**
AGT Agartala 21.33 120 *e*P **P 10 33 30.6 +2.4**
SVE Sverdlovsk 21.60 344*d i*P **P 10 33 32.4 +1.8**
SVE *e*S **S 10 37 17.2 +2.3**
SVE pmax pmax
comp=Z,4μm,1.4s
ARU Arti 21.75 341 P **P 10 33 32.9 +0.8**
comp=Z,569nm,0.7s,baz=133,slow=6.2,SNR=384
ARU P3KPbc 11 07 09.4
comp=Z,0.6nm,0.3s,baz=66,slow=2.8,SNR=4.5
ARU Arti 21.75 341*c i*P **P 10 33 32.9 +0.8**
ARU *PP **pP 10 34 09.7 +0.8**
ARU S **S 10 37 19.9 +2.7**
ARU pmax pmax
comp=Z,9μm,2.4s
ARU Arti 21.75 341 P **P 10 33 32.7 +0.6**
ARU Arti 21.75 341 ⇑P **P 10 33 32.6 +0.5**
JORH JORHAT 21.84 110 *e*P **P 10 33 35.4 +2.0**
SILR SILCHAR 21.87 116 *e*P **P 10 33 36.8 +3.1**
BELO BELONIA 21.88 121 *e*P **P 10 33 36.4 +2.7**
ZEI Tsey 21.91 295 *e*P **P 10 33 32.4 -1.7**
ZEI pmax pmax
comp=Z,2μm,2.3s
DIBR DIBRUGARH 21.98 107 *e*P **P 10 33 36.3 +1.7**
ONI Oni 22.21 295 P **P 10 33 38.8 +2.0**
ONI pmax pmax
comp=Z,2μm,1.1s
ONI Oni 22.21 295 P **P 10 33 38.8 +2.0**
ONI IAmb IAmb 10 34 31.0
comp=Z,2μm,1.1s
NCK Nalchik 22.23 297*c i*P **P 10 33 37.2 +0.3**
NCK pmax pmax
comp=Z,3μm,1.8s
MOKO MOKOCHONG 22.27 110 *e*P **P 10 33 39.6 +2.1**
KOHI KOHIMA 22.29 112 *e*P **P 10 33 39.9 +2.2**
KARS Kars 22.35 289 P **P 10 33 40.4 +2.3**
KARS pmax pmax
comp=Z,11μm,1.6s
KARS Kars 22.35 289 P **P 10 33 40.4 +2.3**
GEVA Gevas 22.41 283 P **P 10 33 40.2 +1.5**
GEVA IAmb IAmb 10 33 43.0
comp=Z,3μm,1.7s
GTA Gaotai 22.73 74 ⇑P **P 10 33 44.2 +2.6**
GTA pP pP 10 34 24.6 +3.8
GTA sP sP 10 34 48.9 +0.2
GTA S **S 10 37 37.2 +3.4**
GTA pmax pmax
comp=Z,3μm,1.0s
GTA pmax pmax
comp=Z,30μm,9.2s
GTA LR LR
comp=Z,27μm,12.7s
GTA LR LR
comp=Z,25μm,14.3s
GTA LR LR
comp=Z,26μm,12.7s
LKP Lekhapani 22.76 106 *e*P **P 10 33 44.3 +2.5**
KBZ Khabaz 22.77 297 P **P 10 33 42.2 +0.5**
comp=Z,247nm,0.8s,baz=112,slow=4.9,SNR=197
KBZ P3KP 11 08 01.2
comp=Z,2.3nm,0.9s,baz=145,slow=6.8,SNR=1.2
KBZ Khabaz 22.77 297*c i*P **P 10 33 42.2 +0.5**
KBZ pmax pmax
comp=Z,2μm,2.5s
NEY Neytrino 22.83 296*c i*P **P 10 33 43.7 +1.2**
NEY pmax pmax
comp=Z,2μm,2.2s
GOF Gofitskoye 22.91 301⇑*e*P **P 10 33 44.3 +1.3**
GOF pmax pmax
comp=Z,3μm,1.4s
SHAO Shalim 22.92 221 P **P 10 33 45.2 +1.9**
SNR=31
SHAO P **P 10 33 45.2 +1.9**
SNR=31
SHAO S **S 10 37 37.6 +0.7**
SHAO S **S 10 37 37.6 +0.7**
SHAO Shalim 22.92 221 *i* P **P 10 33 45.0 +1.7**
SNR=64
SHA1 Shidzhatmaz 22.94 297*c i*P **P 10 33 44.4 +0.8**
KVAR Kislovodsk Arr 22.95 298 P **P 10 33 44.3 +0.8**
comp=Z,111nm,0.7s,baz=90,slow=20
KIV Kislovodsk 22.96 298 ⇑P **P 10 33 44.4 +0.9**
KIV Kislovodsk 22.96 298 *e*P **P 10 33 44.3 +0.8**
KIV *e**PP **pP 10 34 21.6 -0.5**
KIV *e**SP **sP 10 34 48.7 -0.5**
KIV *e*S **S 10 37 39.1 +1.8**
KIV pmax pmax
comp=Z,694nm,1.0s
KIV pmax pmax
comp=Z,3μm,3.2s
KIV MLR MLR
comp=Z,28μm,14.0s
KIV Kislovodsk 22.96 298 P **P 10 33 43.9 +0.4**
KIV IAmb IAmb 10 34 43.9
comp=Z,988nm,0.8s
KIV Kislovodsk 22.96 298 ⇑P **P 10 33 44.3 +0.8**
KIV Kislovodsk 22.96 298 *i* P **P 10 33 44.4 +0.9**
SNR=143
BELG Belogornoye 23.04 321 P **P 10 33 44.9 +0.9**
comp=Z,8μm,0.8s,baz=356,slow=0.3,SNR=717
BELG S **S 10 37 41.2 +3.1**
comp=Z,561nm,1.0s,baz=18,slow=20,SNR=1.0
BELG Belogornoye 23.04 321*c i*P **P 10 33 45.0 +1.0**
BELG pmax pmax
comp=Z,1μm,0.8s
GURO Guroymak-BITLI 23.20 284 P **P 10 33 47.8 +2.0**
CHVG Ch'k'valeri 23.23 295 ⇑P **P 10 33 48.5 +2.6**
DOK Doka 23.26 225 P **P 10 33 47.6 +1.2**
SNR=220
DOK P **P 10 33 47.6 +1.2**
SNR=220
DOK S **S 10 37 40.7 -1.6**
DOK S **S 10 37 40.7 -1.6**
BATM Batumi 23.43 292 ⇓P **P 10 33 49.9 +2.2**
DMTO DMTO 23.54 222 P **P 10 33 50.0 +1.1**
SNR=44
DMTO P **P 10 33 50.0 +1.1**
SNR=44
DMTO S **S 10 37 48.9 +2.1**
DMTO S **S 10 37 48.9 +2.1**
KNGR Kungurtug, Tuv 23.61 45*c i*P **P 10 33 51.8 +2.4**
WHFO Wadi Hawf 24.02 224 P **P 10 33 54.1 +0.7**
SNR=254
WHFO P **P 10 33 54.1 +0.7**
SNR=254
WHFO S **S 10 37 52.1 -2.5**
WHFO S **S 10 37 52.1 -2.5**
RBK Rabkut 24.11 223 P **P 10 33 55.0 +0.8**
SNR=112
RBK P **P 10 33 55.0 +0.8**
SNR=112
RBK S **S 10 37 55.2 -0.9**
RBK S **S 10 37 55.2 -0.9**
MARD Mardin 24.30 281 P **P 10 33 57.5 +1.6**
MARD IAmb IAmb 10 34 56.5
comp=Z,1μm,1.3s
KOPT Kop Dagi 24.32 288 P **P 10 33 58.0 +1.9**
KOPT IAmb IAmb 10 34 52.8
comp=Z,1μm,1.3s
MDRS Chennai 24.65 158 *e*P **P 10 34 00.9 +2.0**
MDRS IAmb IAmb 10 34 02.9
comp=Z,1μm,0.9s
ABTO Aybut 24.74 225 P **P 10 34 00.8 +0.9**
SNR=424
ABTO P **P 10 34 00.8 +0.9**
SNR=424
ABTO S **S 10 38 05.2 -0.8**
ABTO S **S 10 38 05.2 -0.8**
KTUT Trabzon 24.87 290 ⇑P **P 10 34 02.9 +2.2**
SOC Sochi 25.04 296*c i*P **P 10 34 03.0 +0.7**
SOC *e**PP **pP 10 34 43.0 -1.3**
SOC *e**SP **sP 10 35 09.0 -1.4**
SOC *e*S **S 10 38 13.5 +3.3**
SOC *e**SS **sS 10 39 25.3 -3.6**
SOC pmax pmax
comp=Z,319nm,1.0s
RAYN Ar Rayn 25.62 247 P **P 10 34 08.0 +0.2**
RAYN pmax pmax
comp=Z,1μm,1.2s
RAYN Ar Rayn 25.62 247 P **P 10 34 08.0 +0.2**
RAYN IAmb IAmb 10 34 10.3
comp=Z,1μm,1.2s
RAYN Ar Rayn 25.62 247 P **P 10 34 08.0 +0.2**
RAYN S **S 10 38 18.9 -0.8**
RAYN Ar Rayn 25.62 247 ⇑P **P 10 34 07.9 +0.2**
RAYN Ar Rayn 25.62 247 *i* P **P 10 34 07.8 0.0**
SNR=1099
VRH Novokhopyorsk 25.67 314 *e*P **P 10 34 08.1 +0.3**
VRH *e**PP **pP 10 34 53.0 +2.4**
VRH *e*S **S 10 38 19.5 -0.3**
VRH *e**SS sS 10 39 28.9 -10
VRH pmax pmax
comp=Z,1μm,1.8s
VRH pmax pmax
comp=Z,4μm,2.0s
VRH smax smax
comp=E,47μm,8.2s
MOY Mondy 26.04 45 *e*P **P 10 34 13.3 +2.0**
MOY *e* 10 34 59.7
MOY pmax pmax
comp=Z,2μm,1.7s
PCHI Peechi 26.21 168 *e*P **P 10 34 16.5 +3.5**
PCHI *e*S **S 10 38 30.5 +1.5**
LZH Lanzhou 26.26 81⇑*i*P **P 10 34 16.2 +2.6**
LZH pP pP 10 34 59.4 +1.5
LZH PP **PnPn 10 35 09.8 +3.0**
LZH sP sP 10 35 23.6 +0.1
LZH S **S 10 38 35.8 +5.8**
LZH SS SS 10 40 02.7 -27
LZH pmax pmax
comp=Z,2μm,1.0s
LZH pmax pmax
comp=Z,16μm,4.4s
KIRV Kirov 26.37 334 P **P 10 34 15.2 +1.3**
comp=Z,2μm,0.7s,baz=131,slow=2.0,SNR=469
KIRV pP **pP 10 34 59.6 +2.2**
comp=Z,1μm,0.8s,baz=122,slow=20,SNR=4.7
ANN Anapa 26.80 299 *i* P **P 10 34 18.4 +0.3**
ANN *e**PP **pP 10 35 03.2 +2.0**
ANN *e* 10 35 13.0
ANN *e*S **S 10 38 38.5 +0.6**
ANN pmax pmax
comp=N,131nm,0.7s
ANN pmax pmax
comp=E,1μm,2.0s
ANN pmax pmax
comp=N,2μm,2.7s
ANN pmax pmax
comp=Z,5μm,2.7s
ANN pmax pmax
comp=Z,1μm,1.8s
ANN pmax pmax
comp=E,502nm,1.8s
ANN smax smax
comp=E,8μm,3.6s
ANN smax smax
comp=N,2μm,3.0s
ZAK Zakamensk 26.91 49 *e*P **P 10 34 21.6 +2.5**
ZAK pmax pmax
comp=Z,653nm,1.4s
VORD Divnogorie 27.00 313 *e*P **P 10 34 20.3 +0.6**
VORD *e**PP **pP 10 35 00.6 -2.3**
VORD *e*S **S 10 38 41.4 +0.6**
VORD *e**SS **sS 10 39 58.4 -1.9**
VORD pmax pmax
comp=Z,730nm,1.6s
VORD pmax pmax
comp=Z,210nm,0.6s
VORD smax smax
comp=E,5μm,6.9s
VSR Storozhevoye 27.16 313 *e*P **P 10 34 21.4 +0.2**
VSR *e**PP **pP 10 35 03.5 -0.8**
VSR *e*S **S 10 38 41.4 -2.0**
VSR *e**SS **sS 10 39 56.5 -6.4**
VSR pmax pmax
comp=Z,1μm,1.6s
VSR pmax pmax
comp=Z,5μm,2.1s
VSR smax smax
comp=E,11μm,7.6s
VORR Voronezh 27.30 314 *e*P **P 10 34 22.6 +0.2**
VORR *e**PP **pP 10 35 07.7 +2.1**
VORR *e* 10 35 26.7
VORR *i* 10 37 33.5
VORR *e*S **S 10 38 54.3 +8.7**
VORR *e**SS sS 10 40 13.5 +8.4
VORR pmax pmax
comp=Z,1μm,1.3s
VORR smax smax
comp=E,13μm,16.2s
TOKA Tokat 27.38 289 P **P 10 34 24.9 +1.5**
TOKA IAmb IAmb 10 34 26.3
comp=Z,1μm,1.7s
CD2 Chengdu 27.57 92 P **P 10 34 27.5 +2.4**
CD2 pP pP 10 35 08.5 -0.9
CD2 sP sP 10 35 33.6 -1.1
CD2 S **S 10 38 45.7 -4.7**
CD2 pmax pmax
comp=Z,3μm,1.0s
CD2 pmax pmax
comp=Z,9μm,5.7s
PZH PanZhiHua 27.77 102 ⇑P **P 10 34 28.7 +1.7**
PZH pP **pP 10 35 11.0 -0.5**
PZH sP **sP 10 35 36.7 -0.3**
PZH S **S 10 38 55.5 +1.7**
PZH sS **sS 10 40 06.0 -7.4**
PZH PcS **PcS 10 41 18.2 -2.0**
PZH ScS **ScS 10 44 48.1 -2.5**
PZH pmax pmax
comp=Z,520nm,0.9s
PZH pmax pmax
comp=Z,8μm,5.6s
PZH LR LR
comp=Z,55μm,17.2s
PZH LR LR
comp=Z,32μm,16.0s
PZH LR LR
comp=Z,48μm,18.1s
LPSR Galich'ya Gora 27.81 316 *e*P **P 10 34 27.5 +0.6**
LPSR *e**PP **pP 10 35 11.1 +0.9**
LPSR *e*S **S 10 38 48.0 -5.5**
LPSR *e**SS sS 10 40 04.1 -9.0
LPSR pmax pmax
comp=Z,1μm,1.0s
LPSR pmax pmax
comp=Z,7μm,2.6s
LPSR smax smax
comp=E,16μm,9.1s
BNN Bunyan 27.99 286 P **P 10 34 30.2 +1.4**
BNN IAmb IAmb 10 34 35.3
comp=Z,974nm,1.0s
MNCY Minicoy 28.09 176 *e*P P 10 34 48.5 +19
MNCY IAmb IAmb 10 34 49.9
comp=Z,1μm,0.7s
IRK Irkutsk 28.14 45⇑*i*P **P 10 34 31.1 +1.3**
IRK *e* 10 35 16.9
IRK pmax pmax
comp=Z,3μm,1.4s
SONM Songino Array 28.24 55 P **P 10 34 33.0 +2.0**
comp=Z,1μm,0.8s,baz=258,slow=5.9,SNR=1297
SONM P3KPbc 11 06 47.7
comp=Z,10nm,0.7s,baz=94,slow=2.7,SNR=24
SONM P3KP 11 07 46.0
comp=Z,7.8nm,0.9s,baz=103,slow=4.8,SNR=5.6
SONM Songino Array 28.24 55 P **P 10 34 33.6 +2.6**
SONM *PP **pP 10 35 19.9 +4.3**
SONM Songino Array 28.24 55 P **P 10 34 33.6 +2.6**
SONM pP **pP 10 35 19.9 +4.3**
ASF Jabal al Asfar 28.56 272 P **P 10 34 35.6 +1.7**
comp=Z,49nm,0.5s,baz=76,slow=3.0,SNR=38
ASF ScP **ScP 10 41 00.0 -0.2**
comp=Z,125nm,0.9s,baz=80,slow=0.8,SNR=7.0
ULN Ulaanbaatar 28.68 55*c i*P **P 10 34 36.6 +1.7**
ULN pmax pmax
comp=Z,2μm,1.0s
ULN Ulaanbaatar 28.68 55 P **P 10 34 36.2 +1.3**
ULN Ulaanbaatar 28.68 55 S **S 10 39 08.2 +0.4**
ULN Ulaanbaatar 28.68 55 ⇑P **P 10 34 36.7 +1.7**
SOCY Socotra 28.69 217 P **P 10 34 33.9 -1.2**
SOCY IAmb IAmb 10 34 35.9
comp=Z,721nm,1.0s
SOCY Socotra 28.69 217 P **P 10 34 34.3 -0.9**
SNR=84
SOCY Socotra 28.69 217 ⇑P **P 10 34 34.2 -0.9**
HWQ Hawqa 28.73 276 *e*P **P 10 34 37.5 +2.0**
BHL Bhannes 29.06 276 *e*P **P 10 34 40.5 +2.1**
SHBL Chebaa 29.14 274 *e*P **P 10 34 41.0 +1.8**
BZK Bozkurt 29.19 292 ⇑P **P 10 34 39.8 +0.6**
BZK Bozkurt 29.19 292 P **P 10 34 39.1 -0.1**
KMI Kunming 29.23 104 ⇑P **P 10 34 41.5 +1.4**
KMI pP pP 10 35 24.6 -0.2
KMI sP sP 10 35 50.3 +0.2
KMI S **S 10 39 17.2 +0.3**
KMI SS **ScP 10 41 04.4 +1.8**
KMI pmax pmax
comp=Z,380nm,0.8s
KMI pmax pmax
comp=Z,8μm,5.5s
KMI LR LR
comp=Z,15μm,17.0s
KMI LR LR
comp=Z,13μm,16.3s
KMI LR LR
comp=Z,21μm,16.3s
MMAI Mount Meron Ar 29.51 274 P **P 10 34 43.5 +1.2**
comp=Z,12nm,0.5s,baz=275,slow=23,SNR=34
MMAI ScP **ScP 10 41 03.3 +0.2**
comp=Z,62nm,0.7s,baz=7.1,slow=40,SNR=15
HMDM Hanimaadhoo 29.58 176 P **P 10 34 45.0 +2.1**
HMDM Hanimaadhoo 29.58 176 P **P 10 34 45.8 +2.9**
SNR=106
HMDM Hanimaadhoo 29.58 176 ⇑P **P 10 34 45.6 +2.7**
BR131 Keskin Array S 29.60 288*c i*P **P 10 34 44.1 +1.0**
BR131 Keskin Array S 29.60 288 P **P 10 34 43.4 +0.3**
BR131 Keskin Array S 29.60 288 P **P 10 34 44.4 +1.2**
SNR=329
BR131 P **P 10 34 44.4 +1.2**
SNR=329
BRTR Keskin Array B 29.60 288 P **P 10 34 44.1 +1.0**
comp=Z,182nm,0.7s,baz=106,slow=8.0,SNR=381
BRTR ScP **ScP 10 41 02.2 -1.2**
comp=Z,99nm,1.0s,baz=130,slow=4.1,SNR=6.8
BRTR P3KPbc 11 06 42.1
comp=Z,10nm,0.9s,baz=242,slow=2.7,SNR=27
BRTR P3KP 11 07 41.2
comp=Z,1.8nm,0.8s,baz=268,slow=5.6,SNR=4.6
BRTR P4KP 11 16 33.3

comp=Z,0.5nm,0.7s,baz=151,slow=2.8,SNR=3.9
BRTR Keskin Array B 29.60 288 P P 10 34 43.6 +0.5
MOS Moscow 29.81 321 *e*P **P 10 34 42.6 -1.9**
MOS *e**PP **pP 10 35 28.5 +0.2**
MOS *e* 10 35 46.2
MOS *e*S **S 10 39 23.6 -1.2**
MOS *e**SS **sS 10 40 43.5 -1.1**
MOS pmax pmax
comp=Z,12µm,2.8s
MOS pmax pmax
comp=Z,3µm,1.7s
PRGR Permogore 29.89 336 *e*P **P 10 34 45.2 0.0**
PRGR *e**PP **pP 10 35 30.0 +0.5**
PRGR *e**SP **sP 10 35 48.3 -6.5**
PRGR pmax pmax
comp=Z,2µm,0.9s
GHAJ Ghor Haditha 29.91 271 P **P 10 34 47.3 +1.6**
GHAJ IAmb IAmb 10 34 49.2
comp=Z,805nm,1.3s
CHTO Chiang Mai 30.05 118 P **P 10 34 47.3 +0.2**
CHTO pmax pmax
comp=Z,581nm,0.9s
CHTO Chiang Mai 30.05 118 P **P 10 34 47.3 +0.2**
CHTO IAmb IAmb 10 35 57.6
comp=Z,581nm,0.9s
CHTO Chiang Mai 30.05 118 P **P 10 34 47.9 +0.8**
CHTO P **P 10 34 47.9 +0.8**
CHTO *S* **S 10 39 30.8 +1.4**
CHTO *S* **S 10 39 30.8 +1.4**
CHTO Chiang Mai 30.05 118 ⇑P **P 10 34 47.8 +0.8**
CHTO Chiang Mai 30.05 118 P **P 10 34 48.9 +1.8**
CHTO Chiang Mai 30.05 118 ⇑P **P 10 34 47.8 +0.8**
CHTO pP **pP 10 35 36.9 +5.2**
OBN Obninsk 30.09 319 ⇑P **P 10 34 48.2 +1.2**
OBN Obninsk 30.09 319 P **P 10 34 47.9 +1.0**
comp=Z,245nm,0.6s,baz=71,slow=2.1,SNR=208
OBN pP **pP 10 35 33.0 +2.0**
comp=Z,72nm,0.6s,baz=13,slow=1.6,SNR=1.6
OBN P3KPbc 11 06 38.1
comp=Z,7.5nm,0.7s,baz=327,slow=3.0,SNR=7.0
OBN Obninsk 30.09 319*c i*P **P 10 34 48.0 +1.0**
OBN *i* *PP **pP 10 35 32.9 +2.0**
OBN *i* S **S 10 39 27.7 -1.5**
OBN pmax pmax
comp=Z,579nm,0.7s
OBN MLR MLR
comp=Z,25µm,18.0s
OBN Obninsk 30.09 319 P **P 10 34 47.6 +0.7**
OBN Obninsk 30.09 319 ⇑P **P 10 34 47.9 +1.0**
BR231 Keskin MP Arra 30.25 288 P **P 10 34 50.2 +1.4**
BR231 IAmb IAmb 10 34 51.3
comp=Z,1µm,1.7s
DGPR DIGLIPUR 30.28 134 *e*P **P 10 34 52.0 +2.9**
DGPR IAmb IAmb 10 34 52.6
comp=Z,2µm,0.9s
CM31 Chiang Mai Arr 30.29 119 P **P 10 34 50.2 +1.1**
CM31 IAmb IAmb 10 34 52.4
comp=Z,660nm,0.8s
CM31 Chiang Mai Arr 30.29 119 P **P 10 34 50.9 +1.7**
SNR=393
CM31 P **P 10 34 50.9 +1.7**
SNR=393
CM31 S **S 10 39 34.8 +1.8**
CM31 S **S 10 39 34.8 +1.8**
CMAR Chiang Mai Arr 30.29 119 P **P 10 34 50.6 +1.4**
comp=Z,706nm,0.8s,baz=299,slow=8.4,SNR=855
CMAR ScP **ScP 10 41 04.3 -1.5**
comp=Z,52nm,0.8s,baz=287,slow=3.7,SNR=3.9
CMAR PKiKP **PKiKP 10 45 14.5 -0.9**
comp=Z,11nm,0.8s,baz=268,slow=1.6,SNR=4.8
CMAR P3KPbc 11 06 39.2
comp=Z,4.5nm,0.8s,baz=151,slow=3.1,SNR=17
CMAR P3KP 11 07 34.7
comp=Z,4.0nm,0.9s,baz=164,slow=3.3,SNR=4.5
CMAR Chiang Mai Arr 30.29 119 P **P 10 34 50.2 +1.1**
PALK Pallekele 30.30 161 P **P 10 34 50.5 +1.2**
comp=Z,2µm,0.7s,baz=83,slow=11,SNR=1236
PALK S **S 10 39 33.4 +0.1**
comp=Z,138nm,0.9s,baz=83,slow=16,SNR=1.9
PALK Pallekele 30.30 161 P **P 10 34 50.8 +1.5**
PALK pmax pmax
comp=Z,2µm,0.8s
PALK Pallekele 30.30 161 P **P 10 34 50.8 +1.5**
PALK Pallekele 30.30 161 P **P 10 34 51.1 +1.8**
PALK S **S 10 39 35.8 +2.4**
PALK Pallekele 30.30 161 ⇓P **P 10 34 51.1 +1.8**
BTO Baotou 30.49 70 *e*P **P 10 34 52.2 +1.3**
BTO S **S 10 39 41.4 +5.3**
BTO LR LR
comp=Z,63µm,5.2s
BTO LR LR
comp=Z,55µm,11.6s
CSS Mathiatis 30.66 279 P **P 10 34 52.5 +0.2**
CSS Mathiatis 30.66 279 ⇑P **P 10 34 52.6 +0.3**
CSS ⇑S **ScP 10 41 06.1 -0.7**
XAN Xi'an 30.78 83 P **P 10 34 54.9 +1.5**
XAN pP pP 10 35 39.6 +1.3
XAN S **S 10 39 44.0 +3.4**
XAN pmax pmax
comp=Z,920nm,1.1s
XAN pmax pmax
comp=Z,13µm,7.8s
XAN LR LR
comp=Z,26µm,14.2s
XAN LR LR
comp=Z,27µm,15.3s
XAN LR LR
comp=Z,31µm,12.9s
EIL Elat 30.99 268 P **P 10 34 56.4 +1.2**
comp=Z,252nm,0.9s,baz=97,slow=6.5,SNR=203
EIL ScP **ScP 10 41 07.5 -0.5**
comp=Z,422nm,1.1s,baz=144,slow=4.6,SNR=7.6
EIL Elat 30.99 268 ⇑P **P 10 34 56.5 +1.2**
MDUB Mudurnu 31.39 290 P **P 10 34 59.6 +0.8**
PBA Port Blair 31.41 136 *e*P **P 10 35 01.7 +2.8**
PBA IAmb IAmb 10 35 02.5
comp=Z,994nm,0.9s
KLMR Klimovskoe 31.61 331*c i*P **P 10 35 00.8 +0.5**
KLMR *e**PP **pP 10 35 45.0 +0.7**
KLMR *e**SP **sP 10 36 07.6 -1.8**
KLMR *e* 10 37 46.6
KLMR *e*S **S 10 39 53.6 +0.8**
KLMR *e**SS **ScP 10 41 09.7 +0.3**
KLMR pmax pmax
comp=Z,5µm,1.6s
KLMR pmax pmax
comp=Z,3µm,1.5s
KLMR Klimovskoe 31.61 331 ⇑*i*P **P 10 35 00.9 +0.6**
KLMR ⇑*i*P **P 10 35 00.9 +0.6**
KLMR ⇓*i*P **P 10 35 00.9 +0.6**
KLMR AMP 10 35 05.6
comp=Z,3µm,1.5s
KLMR *e*pP **pP 10 35 45.1 +0.7**
KLMR *e*sP **sP 10 36 07.6 -1.8**
KLMR *e*PcP **PcP 10 37 46.6 -0.3**
KLMR *e*S **S 10 39 53.6 +0.8**
KLMR *e*S **S 10 39 53.6 +0.8**
KLMR *e*sS **ScP 10 41 09.7 +0.3**
KLMR *e*sS **ScP 10 41 09.7 +0.3**
HHC Hu-ho-hao-te 31.64 70 ⇑*i*P **P 10 35 03.4 +2.5**
HHC pP pP 10 35 48.2 +2.3
HHC S **S 10 39 55.5 +1.6**
HHC SS **SS 10 42 05.3 -12**
HHC pmax pmax
comp=Z,2µm,1.2s
HHC pmax pmax
comp=Z,8µm,5.6s
GYA Guiyang 31.70 98 ⇑*i*P **P 10 35 03.3 +1.7**
GYA pP pP 10 35 45.2 -1.2
GYA sP sP 10 36 09.0 -2.7
GYA PP **PnPn 10 36 16.4 +1.1**
GYA S **S 10 39 55.9 +0.7**
GYA sS sS 10 41 14.7 -0.5
GYA ScS **ScS 10 45 06.6 -2.8**
GYA pmax pmax
comp=Z,1µm,0.8s
GYA pmax pmax
comp=Z,12µm,5.0s
GYA LR LR
comp=Z,35µm,12.6s
GYA LR LR
comp=Z,21µm,11.8s
GYA LR LR
comp=Z,16µm,12.1s
BORA Eskisehir 32.02 289 P **P 10 35 04.7 +0.4**
BORA IAmb IAmb 10 35 07.0
comp=Z,951nm,1.3s
ISP Isparta 32.28 285*c i*P **P 10 35 07.1 +0.5**
ISP pmax pmax
comp=Z,548nm,1.2s
ISP Isparta 32.28 285 P **P 10 35 07.0 +0.4**
TIY Taiyuan 32.74 75 ⇑*i*P **P 10 35 12.7 +2.2**
TIY pP **pP 10 35 59.0 +3.3**
TIY S **S 10 40 14.9 +3.9**
TIY sS **ScP 10 41 21.3 +7.4**
TIY pmax pmax
comp=Z,3µm,0.9s
TIY LR LR
comp=Z,22µm,10.8s
TIY LR LR
comp=Z,12µm,11.3s
TIY LR LR
comp=Z,9µm,10.8s
ISK Istanbul-Kandi 32.95 291 P **P 10 35 12.9 +0.7**
ELL Elmali 32.97 283 P **P 10 35 13.1 +0.5**
ELL pmax pmax
comp=Z,5µm,0.7s
ELL Elmali 32.97 283 P **P 10 35 13.1 +0.5**
MILM Milestii Mici 32.98 302 ⇑*i*P **P 10 35 12.3 0.0**
comp=Z,5µm,2.1s
MILM *e*pP **pP 10 35 59.0 +2.7**
MILM Milestii Mici 32.98 302 *i* PP PP 10 36 21.0 -10
MILM *e*S **S 10 40 14.0 -0.3**
MILM *e*sS sS 10 41 30.0 -4.6
MILM *e*SS **SS 10 42 38.0 -1.9**
MILM LRM MLR 10 52 27.0
comp=Z,10µm,19.0s
MILM Milestii Mici 32.98 302 ⇓P **P 10 35 12.8 +0.4**
MILM Milestii Mici 32.98 302*c i*P **P 10 35 12.3 0.0**
MILM *e**PP **pP 10 35 59.0 +2.7**
MILM *i* 10 36 21.0
MILM *e*S **S 10 40 14.0 -0.3**
MILM *e**SS **sS 10 41 30.0 -4.6**
MILM *e*SS **SS 10 42 38.0 -1.9**
MILM pmax pmax
comp=E,3µm,2.2s
MILM MLR MLR
comp=Z,10µm,19.0s
PBKT Sadao Pong 32.98 119 P **P 10 35 15.7 +3.0**
PBKT IAmb IAmb 10 35 17.7
comp=Z,673nm,0.7s
KIS Kishinev 32.98 302 ⇑*i*P **P 10 35 12.8 +0.5**
comp=Z,2µm,2.3s
KIS *e*pP **pP 10 35 59.0 +2.7**
KIS Kishinev 32.98 302 *e*PP PP 10 36 19.0 -12
KIS *e*S **S 10 40 13.0 -1.3**
KIS *e*sS sS 10 41 28.0 -6.6
KIS LRM MLR 10 52 35.0
comp=Z,8µm,14.0s
KIS Kishinev 32.98 302 ⇑P **P 10 35 12.9 +0.5**
KIS Kishinev 32.98 302*c i*P **P 10 35 12.8 +0.5**
KIS *e**PP **pP 10 35 59.0 +2.7**
KIS *e* 10 36 19.0
KIS *e*S **S 10 40 13.0 -1.3**
KIS *e**SS **sS 10 41 28.0 -6.6**
KIS pmax pmax
comp=E,2µm,2.3s
KIS pmax pmax
comp=Z,2µm,2.3s
KIS MLR MLR
comp=Z,8µm,14.0s
EFOR EFORIE 33.07 297 ⇑P **P 10 35 14.6 +1.4**
AKASG Malin Array Be 33.11 309 P **P 10 35 13.7 +0.2**
comp=Z,244nm,0.6s,baz=80,slow=7.0,SNR=654
AKASG pP **pP 10 35 59.1 +1.7**
comp=Z,256nm,0.8s,baz=85,slow=6.4,SNR=2.6
AKASG ScP **ScP 10 41 12.3 -2.5**
comp=Z,142nm,1.0s,baz=73,slow=3.9,SNR=8.9
AKASG P3KPbc 11 06 24.4
comp=Z,3.7nm,0.6s,baz=276,slow=3.3,SNR=15
AKASG Malin Array Be 33.11 309 P **P 10 35 13.9 +0.5**
AKBB Malin Array Si 33.11 309 P **P 10 35 13.6 +0.2**
AKBB pmax pmax
comp=Z,3µm,1.9s
AKBB Malin Array Si 33.11 309 P **P 10 35 13.6 +0.2**
AKBB IAmb IAmb 10 35 19.0
comp=Z,3µm,1.9s
MANR Mangalia 33.11 296 ⇓P **P 10 35 14.6 +1.1**
TPGR Topolog 33.21 298 ⇑P **P 10 35 15.4 +1.0**
MFTR Murfatlar 33.22 297 ⇑P **P 10 35 15.9 +1.5**
TIRR Tirgusor 33.22 297 ⇑P **P 10 35 15.2 +0.7**
TIRR Tirgusor 33.22 297 P **P 10 35 14.6 +0.1**
TIRR pmax pmax
comp=Z,2µm,1.7s
TIRR Tirgusor 33.22 297 P **P 10 35 14.6 +0.1**
TIRR IAmb IAmb 10 35 16.4
comp=Z,2µm,1.7s
TIRR Tirgusor 33.22 297 ⇑P **P 10 35 14.9 +0.5**
KALB Balgarevo 33.25 295 ⇓P **P 10 35 16.1 +1.3**
AKAS Kas 33.32 282 P **P 10 35 14.8 -0.8**
KSL Kastellorizon 33.35 282 P **P 10 35 15.4 -0.3**
SORM Soroca 33.37 304 ⇑P **P 10 35 16.1 +0.4**
CFR Carcaliu 33.41 299 ⇑P **P 10 35 17.0 +0.9**
PSN Preselentsi 33.41 296 *i* P **P 10 35 17.5 +1.4**
VLDR Vladesti 33.45 300 ⇓P **P 10 35 18.1 +1.7**
TATR Tatarca 33.47 299 ⇑P **P 10 35 18.1 +1.5**
LYN LuoYang 33.48 81 ⇑*i*P **P 10 35 19.7 +2.9**
LYN pP pP 10 36 00.8 -1.4
LYN sP sP 10 36 23.4 -4.1
LYN PcP **PcP 10 37 53.8 +1.2**
LYN S **S 10 40 28.3 +6.0**
LYN pmax pmax
comp=Z,4µm,1.2s
LYN pmax pmax
comp=Z,14µm,8.1s
LYN LR LR
comp=Z,28µm,15.1s
LYN LR LR
comp=Z,21µm,19.6s
LYN LR LR
comp=Z,21µm,22.6s
CIT pmax pmax
comp=Z,8µm,1.3s
TLBR Topalu 33.48 298 ⇑P **P 10 35 17.9 +1.2**
SCTR Scanteiesti 33.51 300 ⇑P **P 10 35 18.5 +1.6**
CIT Chita 33.58 49 *e*P **P 10 35 19.2 +1.7**
CIT *e* 10 36 06.3
CIT *e* 10 36 29.3
CIT *e* 10 40 23.4
CIT *e* 10 41 44.4
KULA Kula-Manisa 33.60 287 P **P 10 35 19.0 +1.0**
VARL Varlezi 33.61 300 ⇑P **P 10 35 19.2 +1.3**
SCHL Schela 33.62 299 ⇑P **P 10 35 19.2 +1.3**
FETY Fethiye 33.64 283 P **P 10 35 17.5 -0.7**
ICOR Ion Corvin 33.67 297 ⇑P **P 10 35 19.8 +1.5**
VASR Vaslui 33.67 301 ⇓P **P 10 35 19.7 +1.4**
MANT Manisa 33.69 287 P **P 10 35 19.3 +0.4**
MANT IAmb IAmb 10 35 21.5
comp=Z,2µm,1.6s
IAS Iasi 33.85 302 ⇑P **P 10 35 20.4 +0.6**
GHRR 33.92 300 ⇓P **P 10 35 22.2 +1.7**
AMRR Amara 33.99 298 ⇑P **P 10 35 22.7 +1.7**
PRD Provadia 34.00 295 *i* P **P 10 35 22.5 +1.3**
PANC Panciu 34.10 300 ⇑P **P 10 35 24.1 +2.0**
YER Yerkesik 34.16 284 P **P 10 35 22.4 -0.4**
NRIK Noril'sk 34.16 10 P **P 10 35 23.9 +1.7**
comp=Z,2µm,1.0s,baz=202,slow=6.5,SNR=392
NRIK pP **pP 10 36 08.7 +1.2**
comp=Z,1µm,1.0s,baz=204,slow=6.0,SNR=4.0
NRIK P3KPbc 11 06 19.8
comp=Z,1.7nm,0.4s,baz=90,slow=3.8,SNR=5.4
NRIK Noril'sk 34.16 10*c i*P **P 10 35 23.8 +1.5**
NRIK pmax pmax
comp=Z,2µm,0.9s
NRIK Noril'sk 34.16 10 P **P 10 35 24.4 +2.1**
NRIK IAmb IAmb 10 35 26.5
comp=Z,2µm,0.9s
ODBI Odobesti 34.17 300 ⇑P **P 10 35 25.1 +2.5**
GRER 34.23 299 ⇑P **P 10 35 25.6 +2.5**
PGOR Pogoanele 34.23 298 ⇓P **P 10 35 25.4 +2.2**
LEHL Lehliu 34.36 297 ⇑P **P 10 35 26.0 +1.7**
VRI Vrincioaia 34.40 300 ⇑P **P 10 35 25.9 +1.3**
PLOR Plostina 34.45 300 ⇑P **P 10 35 27.2 +2.1**
TESR Tescani 34.45 301 ⇑P **P 10 35 26.2 +1.1**
ISR Istrita 34.54 299 ⇓P **P 10 35 28.5 +2.6**
HNS HongShan 34.57 75 ⇑P **P 10 35 28.7 +2.5**
HNS pP **pP 10 36 14.5 +2.7**
HNS sP **sP 10 36 37.8 +0.7**
HNS PP **PnPn 10 36 55.6 +5.5**
HNS PcP **PcP 10 37 56.8 +1.1**
HNS S **S 10 40 44.6 +5.6**
HNS ScS **ScS 10 45 22.2 -1.5**
HNS pmax pmax
comp=Z,3µm,0.9s
HNS pmax pmax
comp=Z,13µm,5.1s
HNS LR LR
comp=Z,28µm,16.3s
HNS LR LR
comp=Z,17µm,18.1s
EDRB Edirne 34.60 293 P **P 10 35 26.9 +0.5**
RAZG Razgrad 34.63 296 ⇑P **P 10 35 28.0 +1.4**
MNK Minsk 34.66 315 *i* P **P 10 35 27.5 +0.8**
MNK *i* *PP **pP 10 36 09.6 -1.4**
MNK *i* 10 36 52.3
MNK *i* 10 37 54.3
MNK *i* S **S 10 40 43.1 +3.2**
MNK *i* 10 45 24.0
MNK pmax pmax
comp=Z,1µm,1.2s
MNK pmax pmax
comp=N,196nm,1.2s
MNK pmax pmax
comp=E,114nm,1.2s
MNK MLR MLR
comp=N,14µm,14.0s
MNK MLR MLR
comp=E,4µm,18.0s
MNK MLR MLR
comp=Z,26µm,18.0s
MNK Minsk 34.66 315 *i* P **P 10 35 27.5 +0.8**
comp=E,114nm,1.2s
MNK *i* P **P 10 35 27.5 +0.8**
comp=N,196nm,1.2s
MNK *i* P **P 10 35 27.5 +0.8**
comp=Z,1µm,1.2s,baz=103
MNK *i* pP **pP 10 36 09.7 -1.4**
MNK *i* sP **sP 10 36 42.7 +6.8**
MNK *i* PP **PnPn 10 36 52.4 +1.6**
MNK *i* S **S 10 40 43.1 +3.2**
MNK *i* SS **SS 10 43 26.3 +7.6**
MNK *i* LRM MLR 10 52 25.0
comp=N,14µm,14.1s
MNK *i* LRM MLR 10 52 37.1
comp=E,4µm,18.2s
MNK *i* LRM MLR 10 52 37.8
comp=Z,26µm,18.2s
JMB Yambol 34.66 294 *i* P **P 10 35 28.6 +1.7**
NEHR Nehoiu 34.70 299 ⇑P **P 10 35 29.8 +2.5**
XLT XiLinHaoTe 34.75 63 ⇑*i*P **P 10 35 30.1 +2.3**
XLT pP pP 10 36 13.7 +0.4
XLT sP sP 10 36 38.2 -0.4
XLT PcP **PcP 10 37 58.2 +2.0**
XLT S **S 10 40 43.3 +1.5**
XLT ScP **ScP 10 41 22.0 +1.1**
XLT sS sS 10 41 56.2 -6.3
XLT SS **SS 10 43 11.5 -10**
XLT pmax pmax
comp=Z,1µm,1.3s
XLT pmax pmax
comp=Z,13µm,4.6s
XLT LR LR
comp=Z,19µm,17.0s
XLT LR LR
comp=Z,25µm,12.0s
COVR Voineasa-Covas 34.76 300 ⇓P **P 10 35 29.4 +1.7**
DAT Datca 34.80 284 P **P 10 35 28.2 -0.1**
PLAR PLOIESTI 34.91 298 ⇑P **P 10 35 31.5 +2.6**
BODT Bodrum 34.94 284 P **P 10 35 29.4 0.0**
MLR Muntele Rosu 34.95 299 ⇑P **P 10 35 31.8 +2.3**
MLR Muntele Rosu 34.95 299 P **P 10 35 31.4 +1.9**
MLR pmax pmax
comp=Z,913nm,0.9s
MLR Muntele Rosu 34.95 299 P **P 10 35 31.4 +1.9**
MLR IAmb IAmb 10 35 54.7
comp=Z,913nm,0.9s
SGRR Singureni 34.98 297 ⇑P **P 10 35 31.4 +1.8**
OZUR 35.05 300 ⇑P **P 10 35 31.8 +1.6**
PUL Pulkovo 35.06 325*c i*P **P 10 35 31.2 +1.2**
PUL pmax pmax
comp=Z,4µm,1.8s
PUL Pulkovo 35.06 325 ⇑P **P 10 35 31.1 +1.2**
SZH Strazhica 35.07 295 *i* P **P 10 35 31.2 +0.8**
SMG Samos 35.17 286 P **P 10 35 32.3 +1.0**
ENEZ Enez 35.18 291 P **P 10 35 32.5 +1.2**
EZN Ezine 35.18 289 P **P 10 35 32.4 +1.1**
BJT Baijiatuao 35.23 70 P **P 10 35 34.1 +2.3**
BJT pmax pmax
comp=Z,2µm,1.0s
BJT Baijiatuao 35.23 70 P **P 10 35 34.1 +2.3**
BJT IAmb IAmb 10 35 36.2
comp=Z,2µm,1.0s
BJT Baijiatuao 35.23 70 P **P 10 35 34.2 +2.4**
BJI Beijing 35.23 70 P **P 10 35 34.2 +2.4**
BJI pP **pP 10 36 21.0 +3.7**
BJI sP **sP 10 36 42.7 +0.1**
BJI PP **PnPn 10 37 02.6 +4.7**
BJI PcP **PcP 10 37 58.7 +1.2**
BJI S **S 10 40 51.3 +2.3**
BJI ScP **ScP 10 41 24.7 +2.1**
BJI PcS **PcS 10 41 47.1 +2.4**
BJI sS **sS 10 42 06.9 -2.9**
BJI pmax pmax
comp=Z,2µm,1.0s
BJI pmax pmax
comp=Z,9µm,7.9s
BJI LR LR
comp=Z,19µm,9.2s
BJI LR LR
comp=Z,11µm,8.6s
BJI LR LR
comp=Z,13µm,8.4s
ALN Alexandroupoli 35.23 291 P **P 10 35 32.8 +1.0**
ALN Alexandroupoli 35.23 291 P **P 10 35 32.5 +0.7**
ALN pmax pmax
comp=Z,654nm,1.4s
ALN Alexandroupoli 35.23 291 P **P 10 35 32.5 +0.7**
ALN Alexandroupoli 35.23 291 ⇑P **P 10 35 32.6 +0.8**
BOD Bodaibo 35.30 39 ⇓*i*P **P 10 35 33.0 +0.9**
BOD pmax pmax
comp=Z,2µm,1.4s
PRK Paraskevi 35.32 288 P **P 10 35 34.2 +1.7**
DOPR Dopca 35.33 300 ⇑P **P 10 35 34.2 +1.6**
NACGM Naroch 35.37 316 *e*P **P 10 35 33.5 +0.8**
KARP Karpathos 35.41 282 P **P 10 35 34.0 +0.6**
KARP Karpathos 35.41 282 P **P 10 35 33.4 0.0**
KARP Karpathos 35.41 282 ⇑P **P 10 35 33.9 +0.4**
BURAR Bucovina Array 35.45 303 ⇑P **P 10 35 34.7 +1.0**
BURAR Bucovina Array 35.45 303 P **P 10 35 34.8 +1.1**
BUR08 Bucovina Ar. S 35.46 303 P **P 10 35 34.1 +0.2**
DIM Dimitrovgrad 35.48 293 *i* P **P 10 35 34.6 +0.8**
IDID Didziasalis 35.49 316 *e*P **P 10 35 34.6 +0.9**
PVL Pavlikeni 35.51 295 *i* P **P 10 35 36.5 +2.4**
COPA Copaceanca 35.52 297 ⇓P **P 10 35 35.8 +1.6**
VOIR 35.58 299 ⇑P **P 10 35 36.2 +1.3**
RDO Rodhopi 35.58 292 P **P 10 35 35.7 +0.9**
RDO Rodhopi 35.58 292 ⇑P **P 10 35 35.6 +0.8**
ATD Arta Tunnel 35.61 233 P **P 10 35 37.2 +1.9**
comp=Z,920nm,1.3s,baz=20,slow=5.2,SNR=59
ATD ScP **ScP 10 41 23.3 -1.1**
comp=Z,99nm,1.1s,baz=157,slow=4.0,SNR=3.6
ATD Arta Tunnel 35.61 233 P **P 10 35 37.1 +1.9**
ATD IAmb IAmb 10 35 39.4
comp=Z,1µm,1.4s
ATD Arta Tunnel 35.61 233 P **P 10 35 37.8 +2.5**
SNR=36
ATD S **S 10 41 02.7 +7.3**
ATD Arta Tunnel 35.61 233 ⇑P **P 10 35 37.5 +2.2**
ATD Arta Tunnel 35.61 233 ⇓*e*P **P 10 35 37.6 +2.3**
ATD Arta Tunnel 35.61 233 ⇑*i*P **P 10 35 37.5 +2.2**
ATD Arta Tunnel 35.61 233 *e*P **P 10 35 34.9 -0.4**
ATD Arta Tunnel 35.61 233 ⇑P **P 10 35 37.7 +2.3**
ATD ⇓pP **pP 10 36 21.9 +1.2**
KDZ Kurdzhali 35.61 293 *i* P **P 10 35 36.2 +1.2**
CHOS Chios Island 35.64 287 P **P 10 35 36.3 +0.9**
SIGR SIGRI 35.64 288 P **P 10 35 35.7 +0.4**
STFAR Stefanesti-Arg 35.67 298 ⇓P **P 10 35 37.2 +1.7**
HUMR Humele 35.67 298 ⇑P **P 10 35 36.8 +1.3**
SMTH Samothraki Isl 35.68 291 P **P 10 35 36.4 +0.7**
IIGN Ignalina 35.78 316 *e*P **P 10 35 37.5 +1.2**

KAAM Kaadhehdhoo 35.80 177 P P 10 35 38.5 +1.7
KAAM Kaadhehdhoo 35.80 177 P P 10 35 38.9 +2.1
SNR=27
KAAM Kaadhehdhoo 35.80 177 ⇑P P 10 35 38.9 +2.1
ARR Arges 35.88 299 ⇑P P 10 35 38.7 +1.4
ARCR ARCALIA 36.03 302 ⇑P P 10 35 40.7 +2.2
LIA Limnos Island 36.03 290 P P 10 35 39.3 +0.7
PLD Plovdiv 36.08 294 *i* P P 10 35 39.8 +0.8
VLAD Vladila 36.12 297 ⇑P P 10 35 41.5 +2.3
RZN Rozhen 36.12 293 *i* P P 10 35 40.6 +1.0
WHN Wuhan 36.24 87 ⇑P P 10 35 42.6 +2.1
WHN pP pP 10 36 25.9 -0.3
WHN sP sP 10 36 50.0 -1.3
WHN S S 10 41 08.7 +4.1
WHN pmax pmax
comp=Z,4μm,0.9s
WHN LR LR
comp=Z,5μm,6.6s
WHN LR LR
comp=Z,35μm,10.1s
WHN LR LR
comp=Z,47μm,10.8s
ZKR Zakros 36.27 282 P P 10 35 41.4 +0.7
THAS Thassos island 36.27 291 P P 10 35 41.1 +0.5
APE Apeiranthos 36.32 285 ⇑P P 10 35 41.8 +0.6
APE Apeiranthos 36.32 285 P P 10 35 41.9 +0.7
APE Apeiranthos 36.32 285*c* *i*P P 10 35 41.8 +0.6
APE pmax pmax
comp=Z,2μm,1.7s
APE Apeiranthos 36.32 285 ⇑P P 10 35 41.8 +0.6
LVV L'vov 36.33 307 *e*P P 10 35 40.3 -0.7
LVV *e* 10 36 49.4
LVV *e* 10 37 54.9
LVV *e*S S 10 41 02.3 -3.2
LVV MLR MLR
comp=Z,188μm,17.0s
VSU Vasula 36.33 322*c* *i*P P 10 35 41.6 +0.7
VSU pmax pmax
comp=Z,9μm,2.2s
VSU Vasula 36.33 322 *e*P P 10 35 41.7 +0.8
VSU Vasula 36.33 322 ⇑P P 10 35 41.5 +0.6
KAVA Kavala 36.37 292 P P 10 35 42.2 +0.8
PGB Panagyurishte 36.43 294 *i* P P 10 35 43.8 +1.8
LOT Lotru 36.48 299 ⇑P P 10 35 43.6 +1.1
THR8 Santorini-Mono 36.52 284 P P 10 35 42.4 -0.3
CJR Cluj-Napoca 36.56 301 ⇑P P 10 35 45.0 +2.0
CMBO Columbo, Santo 36.56 284 P P 10 35 42.9 -0.2
THR3 Thira Island, 36.58 284 P P 10 35 43.1 -0.2
CBBR Cluj-Babes-Bol 36.59 302 ⇓P P 10 35 44.7 +1.4
THR6 Thira Island, 36.59 284 P P 10 35 43.4 0.0
BMR Baia Mare 36.62 303 ⇑P P 10 35 45.1 +1.7
MPEP Malo Peshtene 36.66 296 *i* P P 10 35 46.4 +2.6
FRMA Ierapetra Chan 36.68 282 P P 10 35 43.7 -0.4
TIA Tai'an 36.73 76 ⇑P P 10 35 46.8 +2.2
TIA pP pP 10 36 32.3 +1.9
TIA sP sP 10 36 55.0 -0.6
TIA S S 10 41 15.4 +3.4
TIA pmax pmax
comp=Z,14μm,4.4s
TIA LR LR
comp=Z,11μm,10.2s
TIA LR LR
comp=Z,17μm,11.2s
TIA LR LR
comp=Z,21μm,10.4s
KOKK Kokkinochori, 36.78 292 P P 10 35 45.7 +0.8
NVR Nevrokopi 36.81 292 P P 10 35 46.2 +1.0
MMB Musomiste 36.87 293 *i* P P 10 35 46.8 +1.1
OUR Ouranopolis 36.87 291 P P 10 35 46.5 +0.8
BAIL Bailesti 36.88 297 ⇓P P 10 35 47.3 +1.6
KARY Karystos 36.96 287 P P 10 35 47.7 +1.2
MESR Meseseni 36.99 302 ⇑P P 10 35 48.6 +2.0
SRS Serrai 37.04 292 P P 10 35 47.7 +0.6
UBPT Khong Chiam 37.06 116 P P 10 35 47.7 +0.2
UBPT IAmb IAmb 10 35 49.5
comp=Z,691nm,0.7s
UBPT Khong Chiam 37.06 116 ⇑P P 10 35 48.0 +0.5
DEV Deva 37.07 300 ⇑P P 10 35 49.2 +1.9
PABE Paberze 37.07 316 P P 10 35 47.9 +0.7
PABE Paberze 37.07 316 *e*P P 10 35 47.8 +0.7
HRKL Herakleio 37.09 282 P P 10 35 47.7 +0.1
KYMI Kymi, Euboea I 37.09 288 P P 10 35 48.1 +0.5
VTS Vitosha 37.10 295 ⇑P P 10 35 49.3 +1.5
VTS Vitosha 37.10 295 P P 10 35 48.2 +0.4
VTS pmax pmax
comp=Z,242nm,1.1s
VTS Vitosha 37.10 295 P P 10 35 48.2 +0.4
VTS Vitosha 37.10 295 ⇑P P 10 35 48.7 +0.9
VTS Vitosha 37.10 295 *i* P P 10 35 49.3 +1.5
KSTL Kastelli Herak 37.12 282 P P 10 35 47.0 -0.8
PUNG Punghina 37.15 297 ⇑P P 10 35 50.1 +2.1
DRGR 37.16 302 ⇑P P 10 35 49.8 +1.6
PAIG Paliouri 37.17 290 P P 10 35 49.1 +0.9
KWP Kalwaria Pacla 37.17 306 *e*P P 10 35 48.7 +1.3
KWP *e*sP sP 10 36 58.8 +1.2
KWP Kalwaria Pacla 37.17 306 P P 10 35 49.0 +0.8
KWP Kalwaria Pacla 37.17 306 P P 10 35 49.0 +0.8
KWP Kalwaria Pacla 37.17 306 ⇑P P 10 35 49.0 +0.8
GZR Gura Zlata 37.18 299 ⇑P P 10 35 49.0 +0.7
HIA Hailar 37.20 54 P P 10 35 50.4 +2.0
HIA pmax pmax
comp=Z,1μm,0.9s
HIA Hailar 37.20 54 P P 10 35 50.4 +2.0
HIA IAmb IAmb 10 35 52.7
comp=Z,1μm,0.9s
HIA Hailar 37.20 54 P P 10 35 50.6 +2.2
HIA pP pP 10 36 37.2 +2.9
TRPA Tarpa 37.26 304 ⇑P P 10 35 50.2 +1.4
TRPA Tarpa 37.26 304 P P 10 35 50.4 +1.5
SOH Sokhos 37.27 292 P P 10 35 49.7 +0.6
IDI Anoyia 37.27 282 ⇑P P 10 35 48.9 -0.2
IDI Anoyia 37.27 282 P P 10 35 48.8 -0.4
IDI Anoyia 37.27 282 P P 10 35 49.1 0.0
IDI Anoyia 37.27 282 ⇑P P 10 35 48.8 -0.4
PLG Polygyros 37.27 291 P P 10 35 50.1 +1.0
SUW Suwalki 37.27 314 *e*P P 10 35 49.2 +0.3
SUW *e*sP sP 10 36 58.0 -0.6
SUW Suwalki 37.27 314 P P 10 35 48.7 -0.2
SUW pmax pmax
comp=Z,1μm,1.0s
SUW Suwalki 37.27 314 P P 10 35 48.7 -0.2
SUW IAmb IAmb 10 35 54.4
comp=Z,1μm,1.0s
SUW Suwalki 37.27 314 *e*P P 10 35 48.5 -0.4
SUW Suwalki 37.27 314 ⇑P P 10 35 49.2 +0.3
KKB Krupnik 37.31 293 *i* P P 10 35 50.3 +0.9
DION Dionisos Attik 37.34 287 P P 10 35 50.7 +1.0
PTL Penteli 37.40 287 P P 10 35 51.1 +0.9
BLKB Belogradchik 37.40 296 ⇑P P 10 35 51.4 +1.2
UZH Uzhgorod 37.43 305 ⇑*i*P P 10 35 48.5 -1.7
UZH *i* *PP pP 10 36 37.5 +2.4
UZH *i* 10 36 59.7
UZH *e*PPP PPP 10 37 28.6
UZH *e* 10 38 08.0
UZH *i* *SP S 10 41 17.7 -4.4
UZH *i* 10 42 36.3
UZH MLR MLR
comp=N,2μm,14.0s
UZH MLR MLR
comp=E,3μm,14.0s
UZH MLR MLR
comp=Z,1μm,14.0s
KOLS Kolonicke sedl 37.44 305 *e*P P 10 35 52.1 +1.7
KOLS pmax pmax
comp=Z,282nm,0.9s
KOLS Kolonicke sedl 37.44 305 *e*P P 10 35 52.1 +1.7
HERR Herculane 37.47 298 ⇓P P 10 35 50.9 +0.3
ATHU Athens Univers 37.48 287 P P 10 35 51.6 +0.8
HORT Hortiatis 37.49 291 P P 10 35 51.3 +0.3
VLY Voula,Athens 37.49 287 P P 10 35 51.5 +0.5
ATH Athens Observa 37.53 287 P P 10 35 52.0 +0.8
KNT Kendrikon 37.55 292 P P 10 35 52.0 +0.6
LVZ Lovozero 37.58 338*c* *i*P P 10 35 52.6 +1.3
LVZ pmax pmax
comp=Z,3μm,1.8s
LVZ Lovozero 37.58 338 P P 10 35 51.9 +0.7
LVZ Lovozero 37.58 338 ⇑P P 10 35 52.0 +0.7
THE Thessaloniki 37.59 291 P P 10 35 52.0 +0.3
FIA1 FINESS Array S 37.62 326 P P 10 35 52.2 +0.5
FIA1 IAmb IAmb 10 35 57.0
comp=Z,1μm,1.0s
FINES FINESS Array B 37.62 326 P P 10 35 52.5 +0.8
comp=Z,689nm,0.7s,baz=112,slow=8.7,SNR=1492
FINES pP pP 10 36 39.2 +2.2
comp=Z,176nm,0.6s,baz=108,slow=12,SNR=2.0
FINES S S 10 41 25.1 +0.4
comp=Z,149nm,1.0s,baz=84,slow=18,SNR=2.5
FINES P3KPbc 11 06 03.2
comp=Z,3.2nm,0.8s,baz=267,slow=3.2,SNR=10
FINES PKP2ab 11 10 01.7
comp=Z,2.9nm,1.0s,baz=70,slow=2.2,SNR=3.5
FINES FINESS Array B 37.62 326 *i* P P 10 35 52.5 +0.8
FINES pmax pmax
comp=Z,687nm,0.7s
FINES FINESS Array B 37.62 326 P P 10 35 52.8 +1.1
FINES pP pP 10 36 39.8 +2.8
NEO Neokhori 37.63 289 P P 10 35 52.5 +0.4
XOR Xorichti 37.64 289 P P 10 35 52.7 +0.5
LTVH Ltavrtes, Hu 37.70 303 ⇓P P 10 35 54.7 +2.2
LTVH Ltavrtes, Hu 37.70 303 P P 10 35 54.7 +2.2
APA Apatity 37.76 337 ⇓*i*P P 10 35 53.6 +0.9
APA *i* *PP pP 10 36 38.0 -0.4
APA *i* 10 37 01.0
APA *i* S S 10 41 26.0 -0.6
APA pmax pmax
comp=Z,279nm,0.7s
APA MLR MLR
comp=Z,104μm,12.0s
VAY Valandovo 37.77 293 *i* P P 10 35 54.0 +0.7
BORR Bors 37.79 302 ⇑P P 10 35 55.4 +2.1
VILL Villia 37.80 287 P P 10 35 53.5 -0.1
MTSE Matsula 37.87 321 *e*P P 10 35 54.6 +0.8
SRIT Nakonsritamara 37.88 130 P P 10 35 55.9 +1.5
ATAL Atalanti 37.91 288 P P 10 35 54.6 +0.2
SIRR Siria 37.91 301 ⇓P P 10 35 56.1 +1.8
LKR Lokris 37.93 288 P P 10 35 54.6 0.0
IMMV Iera Moni Meta 37.94 283 P P 10 35 54.5 -0.2
GRG Griva 37.96 292 P P 10 35 54.7 -0.1
CRVS Cervenica-Dubn 37.98 305 *e*P P 10 35 55.8 +0.9
CRVS pmax pmax
comp=Z,3μm,2.6s
CRVS Cervenica-Dubn 37.98 305 *e*P P 10 35 55.8 +0.9
CRVS *e*sP sP 10 37 05.1 +0.6
CRVS *e*sS sS 10 42 51.7 -0.2
CRVS *e*SS SS 10 44 24.3 -2.4
MDVR Moldovita 37.98 298 ⇑P P 10 35 56.3 +1.3
BZS Buzias 37.98 300 ⇑P P 10 35 56.1 +1.2
STIP Stip 38.00 293 *i* P P 10 35 54.3 -0.9
DID Didima 38.00 286 P P 10 35 55.1 -0.2
MEF Metsahovi 38.00 324 *e*P P 10 35 55.5 +0.7
GVDS Gavdos 38.02 282 P P 10 35 55.5 +0.1
GVD Gavdhos 38.02 282 P P 10 35 55.2 -0.2
LIT Litokhoron 38.04 291 P P 10 35 55.5 0.0
LIT Litokhoron 38.04 291 P P 10 35 55.2 -0.3
LIT pmax pmax
comp=Z,1μm,1.8s
LIT Litokhoron 38.04 291 P P 10 35 55.1 -0.3
LIT Litokhoron 38.04 291 ⇑P P 10 35 55.5 0.0
QIZ Qiongzhong 38.05 107 P P 10 35 56.3 +0.5
QIZ Qiongzhong 38.05 107 P P 10 35 56.8 +1.0
QIZ pP pP 10 36 41.0 -1.0
QIZ sP sP 10 37 04.6 -2.4
QIZ S S 10 41 34.0 +1.9
QIZ sS sS 10 42 53.8 +0.1
QIZ pmax pmax
comp=Z,270nm,1.1s
QIZ pmax pmax
comp=Z,6μm,3.8s
QIZ LR LR
comp=Z,15μm,17.9s
QIZ LR LR
comp=Z,12μm,16.9s
QIZ LR LR
comp=Z,14μm,10.4s
EPID Epidavros 38.07 287 P P 10 35 54.7 -1.1
LTK Loutraki 38.09 287 P P 10 36 04.3 +8.3
KRND KRANIDI 38.10 286 P P 10 35 54.7 -1.3
STHS Stebnicka Huta 38.12 306 *e*P P 10 35 56.5 +0.4
STHS Stebnicka Huta 38.12 306 *e*P P 10 35 56.5 +0.4
KNDR Palaiochora Ch 38.23 283 P P 10 35 57.7 +0.6
KTI Kastanea 38.27 291 P P 10 35 57.8 +0.3
PBUR Paburge 38.30 317 *e*P P 10 35 58.1 +0.7
THAL Thalero 38.33 287 P P 10 35 56.6 -1.3
BANR Banloc 38.34 299 ⇑P P 10 35 59.8 +2.0
ANKY Antikythira Is 38.36 284 P P 10 35 57.7 -0.5
AGG Agios Georgios 38.37 289 P P 10 35 58.1 -0.2
AGG Agios Georgios 38.37 289 P P 10 35 58.3 0.0
AGG pmax pmax
comp=Z,3μm,1.8s
AGG Agios Georgios 38.37 289 P P 10 35 58.3 0.0
AGG IAmb IAmb 10 36 00.3
comp=Z,3μm,1.8s
AGG Agios Georgios 38.37 289 ⇑P P 10 35 58.0 -0.2
SLIT Slitere, Latvi 38.41 319 *e*P P 10 35 58.1 -0.1
VLI Veliai 38.42 285 P P 10 35 57.2 -1.5
KTHA Kythira Island 38.45 285 P P 10 35 58.2 -0.7
KTHR Kythira 38.49 285 P P 10 35 58.7 -0.6
BEL Belsk 38.50 310 *e*P P 10 36 00.2 +1.1
BEL *e*sP sP 10 37 09.5 +0.6
BEL Belsk 38.50 310 ⇑P P 10 36 00.0 +0.9
THL Klokotos Trika 38.50 290 P P 10 35 59.0 -0.3
SKO Skopje 38.51 294 *i* P P 10 35 59.9 +0.5
MAKR Makrakomi, Fth 38.52 289 P P 10 35 59.5 -0.1
KZN Kozani 38.54 291 P P 10 35 59.8 0.0
AMBH Ambrzfalva 38.55 301 ⇑P P 10 36 01.9 +2.2
AMBH Ambrzfalva 38.55 301 P P 10 36 01.4 +1.8
KECS Kecovo 38.63 304 *e*P P 10 36 01.6 +1.3
KECS *e* 10 36 48.4
KECS *e*SP 10 37 11.5
KECS Kecovo 38.63 304 *e*P P 10 36 01.6 +1.3
KECS *e*pP pP 10 36 48.4 +3.0
KECS *e*sP sP 10 37 11.5 +1.5
GZH Guangzhou 38.64 98 P P 10 36 02.3 +1.7
GZH pP pP 10 36 45.8 -0.9
GZH sP sP 10 37 08.7 -3.0
GZH S S 10 41 43.2 +2.4
GZH pmax pmax
comp=Z,12μm,5.3s
KLV Kalavryta, Ach 38.72 288 P P 10 35 59.8 -1.4
NIE Niedzica 38.74 306 *e*P P 10 36 04.0 +2.7
NIE *e*sP sP 10 37 13.2 +2.1
EVR Evrytania 38.79 289 P P 10 36 01.8 -0.1
LAKA Lakka 38.80 288 P P 10 36 01.3 -0.6
BSZH Besenyszg 38.81 303 ⇑P P 10 36 04.1 +2.3
BSZH Besenyszg 38.81 303 P P 10 36 04.0 +2.2
EFP Efpalio 38.82 288 P P 10 36 01.5 -0.5
KPRO Kipourio 38.91 291 P P 10 36 02.8 -0.1
LHMI Lhok Sumawe 39.02 137 P P 10 36 04.6 +0.7
LHMI IAmb IAmb 10 36 55.0
comp=Z,1μm,0.9s
LHMI Lhok Sumawe 39.02 137 ⇑P P 10 36 04.8 +0.9
LHMI Lhok Sumawe 39.02 137 P P 10 36 04.6 +0.7
comp=Z,55μmcomp=Z,15μmcomp=Z,1μm,0.7s
LHMI Lhok Sumawe 39.02 137 P P 10 36 05.8 +1.9
PSZ Piszkesteto 39.04 304 ⇑P P 10 36 05.3 +1.5
PSZ Piszkesteto 39.04 304 P P 10 36 04.7 +0.9
PSZ pmax pmax
comp=Z,1μm,1.5s
PSZ Piszkesteto 39.04 304 P P 10 36 04.7 +0.9
PSZ IAmb IAmb 10 37 21.2
comp=Z,1μm,1.5s
PSZ Piszkesteto 39.04 304 ⇑P P 10 36 04.9 +1.1
PSZ Piszkesteto 39.04 304 P P 10 36 05.1 +1.3
PSZ SP 10 36 09.4
NEST Nestorio 39.06 292 P P 10 36 04.0 -0.1
OJC Ojcow 39.07 307 *e*P P 10 36 04.9 +1.0
OJC *e*sP sP 10 37 13.8 -0.1
OJC Ojcow 39.07 307 P P 10 36 03.9 0.0
OJC pmax pmax
comp=Z,945nm,1.3s
OJC Ojcow 39.07 307 P P 10 36 03.9 0.0
OJC IAmb IAmb 10 36 10.0
comp=Z,945nm,1.3s
OJC Ojcow 39.07 307 ⇑P P 10 36 04.6 +0.7
DRO Drossia 39.08 288 P P 10 36 03.5 -0.7
KLNR Kaliningrad 39.08 314*c* *i*P P 10 36 04.7 +0.8
KLNR pmax pmax
comp=Z,3μm,1.3s
ANKE Ethiopia-Afar 39.08 235 *e*P P 10 36 07.4 +2.6
ANKE Ethiopia-Afar 39.08 235 *e*P P 10 36 05.1 +0.3
ITM Ithomi 39.09 286 P P 10 36 03.0 -1.3
ITM Ithomi 39.09 286 P P 10 36 02.7 -1.7
ITM IAmb IAmb 10 36 05.0
comp=Z,2μm,2.0s
ITM Ithomi 39.09 286 ⇑P P 10 36 03.0 -1.3
OHR Ohrid 39.12 293 *i* P P 10 36 04.5 0.0
IZAB Izabela 39.14 305 *e*P P 10 36 06.1 +1.6
IZAB pmax pmax
comp=Z,384nm,1.8s
KBN Korca 39.22 292 P P 10 36 04.7 -0.7
KBN Korca 39.22 292 P P 10 36 05.2 -0.2
KBN pmax pmax
comp=Z,295nm,1.1s
KBN Korca 39.22 292 P P 10 36 05.2 -0.2
RLS Riolos of Patr 39.24 288 P P 10 36 05.1 -0.4
DIVS Divibare 39.27 297 P P 10 36 06.9 +1.1
DIVS Divibare 39.27 297 ⇑*i*P P 10 36 06.7 +0.9
DIVS Divibare 39.27 297 ⇑P P 10 36 06.5 +0.7
DIVS ⇓S S 10 41 37.7 -12
LANS Liptovska Anna 39.29 306 *e*P P 10 36 07.7 +1.9
LANS Liptovska Anna 39.29 306 *e*P P 10 36 07.7 +1.9
LANS *e*pP pP 10 36 53.9 +2.9
LANS *e*sP sP 10 37 17.0 +1.2
FRGS Fruska Gora 39.29 299 ⇑P P 10 36 05.8 0.0
FRGS Fruska Gora 39.29 299 ⇑*i*P P 10 36 05.8 0.0
MCO Taipa Grande 39.29 99 P P 10 36 08.0 +1.9
PHP Peshkopia 39.29 294 P P 10 36 05.1 -0.8
PYL PYLOS 39.31 286 P P 10 36 04.6 -1.5
NJ2 Nanjing 39.33 82 ⇑*i*P P 10 36 08.3 +2.0
NJ2 pP pP 10 36 53.6 +0.9
NJ2 sP sP 10 37 16.1 -1.7
NJ2 PcP PcP 10 38 10.0 -0.3
NJ2 ScP ScP 10 41 36.5 -1.6
NJ2 S S 10 41 52.8 +1.8
NJ2 sS sS 10 43 04.6 -8.2
NJ2 ScS ScS 10 45 49.7 -1.1
NJ2 pmax pmax
comp=Z,3μm,0.8s
NJ2 pmax pmax
comp=Z,16μm,3.5s
NJ2 LR LR
comp=Z,12μm,15.6s
NJ2 LR LR
comp=Z,13μm,16.1s
NJ2 LR LR
comp=Z,16μm,12.8s
JAN Janina 39.36 290 P P 10 36 06.0 -0.5
LSK Leskovik 39.45 291 P P 10 36 07.8 +0.5
RAF Rauma 39.48 324 *e*P P 10 36 07.5 +0.4
IVA Berane 39.51 296 *e*P P 10 36 08.0 +0.2
TEKS Tekeris 39.55 298 ⇑*i*P P 10 36 08.3 +0.3
DL2 Dalian 39.59 71 ⇑*i*P P 10 36 10.4 +2.1
DL2 pP pP 10 36 57.0 +2.3
DL2 S S 10 41 57.1 +2.4
DL2 SS SS 10 44 47.5 -11
DL2 pmax pmax
comp=Z,4μm,0.8s
DL2 pmax pmax
comp=Z,9μm,6.1s
BUD Budapest 39.65 303 P P 10 36 10.1 +1.4
HKPS Hong Kong Po S 39.68 99 P P 10 36 10.9 +1.7
HKPS IAmb IAmb 10 36 13.7
comp=Z,2μm,1.1s
NYDR Nydri-Lefkada 39.68 289 P P 10 36 08.2 -0.9
TSLK Tsoukalades, L 39.69 289 P P 10 36 09.1 0.0
LKD2 Lefkada island 39.69 289 P P 10 36 08.6 -0.6
VYHS Vyhne 39.72 304 *e*P P 10 36 10.4 +1.0
VYHS pmax pmax
comp=Z,290nm,1.6s
VYHS Vyhne 39.72 304 *e*P P 10 36 10.4 +1.0
VYHS *e*sP sP 10 37 19.8 +0.6
BBLS Lazići 39.73 297 ⇑*i*P P 10 36 10.4 +0.9
EVGI Lefkada island 39.73 289 P P 10 36 08.7 -0.8
TIR Tirane 39.78 293 ⇓P P 10 36 09.8 -0.1
TIR Tirane 39.78 293 P P 10 36 08.7 -1.2
TIR pmax pmax
comp=Z,260nm,0.9s
TIR Tirane 39.78 293 P P 10 36 08.7 -1.2
TIR Tirane 39.78 293 ⇑P P 10 36 09.2 -0.6
IGT Igoumenitsa 39.78 290 P P 10 36 09.2 -0.7
RUDO Rudo 39.78 297 *e*P P 10 36 10.0 +0.1
KOME Kolasin 39.79 296 *e*P P 10 36 10.0 -0.1
LTHK Lithakia 39.81 287 P P 10 36 08.6 -1.5
FSK Fiskardo 39.84 289 P P 10 36 09.2 -1.2
VLS Valsamata 39.88 288 P P 10 36 09.6 -1.2
PSDA Pessada-Kefalo 39.90 288 P P 10 36 09.4 -1.5
MORH Mrgy, Hungar 40.00 301 ⇑*i*P P 10 36 12.5 +0.9
MORH Mrgy, Hungar 40.00 301 P P 10 36 12.7 +1.0
KOLL Kolacno 40.01 305 *e*P P 10 36 13.2 +1.5
KOLL *e*pP pP 10 37 00.3 +3.3
DMLN Damoulianata-K 40.03 288 P P 10 36 10.8 -1.3
PDG Podgorica 40.04 295 ⇑P P 10 36 13.1 +1.1
PDG Podgorica 40.04 295 P P 10 36 11.5 -0.5
PDG Podgorica 40.04 295 ⇑*i*P P 10 36 11.8 -0.2
PDG Podgorica 40.04 295 ⇑P P 10 36 11.9 -0.2
TTG Podgorica 40.04 295 *e*P P 10 36 12.3 +0.3
KEF3 Kipouria, Keph 40.06 288 P P 10 36 10.7 -1.5
RAC Raciborz 40.10 307 *e*P P 10 36 13.7 +1.3
RAC LMZ LR 10 56 25.0
comp=Z,17nm,17.4s
RAC Raciborz 40.10 307 *e*P P 10 36 13.7 +1.3
RAC MLR MLR
comp=Z,17μm,17.4s
SRO Srobarova 40.11 303 *e*P P 10 36 14.7 +2.2
SRO *e* 10 37 02.5
SRO *e*SP 10 37 23.6
SRO Srobarova 40.11 303 *e*P P 10 36 14.6 +2.1
SRO *e*pP pP 10 37 02.5 +4.6
SRO *e*sP sP 10 37 23.6 +1.1
AAL Aland 40.12 323 *e*P P 10 36 12.3 -0.1
ULC Ulcinj 40.13 294 *e*P P 10 36 12.6 -0.2
AAE Adis Abeba 40.13 235 ⇑*i*P P 10 36 16.5 +3.0
AAE Adis Abeba 40.13 235 *e*P P 10 36 14.9 +1.5
DRME Dracevica, Mon 40.13 295 ⇑*i*P P 10 36 12.7 -0.1
DRME Dracevica, Mon 40.13 295 *e*P P 10 36 13.0 +0.2
OKC Ostrava-Krasne 40.13 307 *e*P P 10 36 13.2 +0.5
OKC *e*S S 10 41 55.6 -7.0
OKC Ostrava-Krasne 40.13 307 *e*P P 10 36 13.2 +0.5
OKC *ex* x 10 41 55.6
KEK Kerkira 40.14 291 P P 10 36 11.6 -1.3
KEK Kerkira 40.14 291 ⇑P P 10 36 11.8 -1.1
CSKK Cskako 40.17 303 P P 10 36 14.1 +1.0
UPM Unac-Piva 40.18 296 ⇑*i*P P 10 36 14.0 +0.6
UPM Unac-Piva 40.18 296 *e*P P 10 36 13.6 +0.2
NKME Niksic 40.21 296 *e*P P 10 36 13.7 +0.2
VLO Vlora 40.22 292 P P 10 36 13.5 +0.1
VLO pmax pmax
comp=Z,888nm,1.0s
VLO Vlora 40.22 292 P P 10 36 13.5 +0.1
VLO IAmb IAmb 10 36 18.6
comp=Z,888nm,1.0s
CEME Cevo 40.27 295 *e*P P 10 36 13.5 -0.5
FURI Furi 40.29 235 P P 10 36 17.7 +3.0
FURI Furi 40.29 235 ⇓*e*P P 10 36 18.4 +3.7
FURI Furi 40.29 235 ⇓*i*P P 10 36 18.6 +3.8
FURI Furi 40.29 235 *e*P P 10 36 14.4 -0.3
BUM Brajici-Budva 40.33 295 *e*P P 10 36 14.4 -0.1
KOVH Kovagotottos 40.39 301 P P 10 36 15.5 +0.7
TIH Tihany 40.46 302 P P 10 36 12.6 -2.8
JAVC Velka Javorina 40.48 305 ⇑*i*P P 10 36 17.6 +2.0
JAVC *e*sP sP 10 37 27.6 +1.9
JAVC *e*SCP ScP 10 41 42.4 0.0
JAVC *e*sS sS 10 43 33.0 +3.0
JAVC *e*SS SS 10 45 19.5 +3.2
BRY Bratogost 40.49 296 ⇑*i*P P 10 36 16.1 +0.2
BRY Bratogost 40.49 296 *e*P P 10 36 15.7 -0.2
MORC Moravsky Berou 40.53 307 ⇑P P 10 36 17.3 +1.3
MORC Moravsky Berou 40.53 307 P P 10 36 16.6 +0.6
MORC pmax pmax
comp=Z,566nm,1.1s
MORC Moravsky Berou 40.53 307 P P 10 36 16.6 +0.6
MORC Moravsky Berou 40.53 307 ⇑*i*P P 10 36 17.2 +1.3
MORC *e*pP pP 10 37 07.7 +6.2
MORC *e*sP sP 10 37 26.7 +0.6
MORC *e*SCP ScP 10 41 42.3 -0.3
MORC *e*sS sS 10 43 30.9 +0.2
MORC *e*SS SS 10 45 15.7 -1.5
MORC Moravsky Berou 40.53 307 ⇑P P 10 36 17.1 +1.1
HCY Herceg Novi 40.59 295 ⇑*i*P P 10 36 16.2 -0.4
HCY Herceg Novi 40.59 295 *e*P P 10 36 16.4 -0.2
A252A Venje 40.64 300 P P 10 36 17.0 +0.1
TREB Trebinje 40.66 296 *e*P P 10 36 16.9 -0.2
SMOL Smolenice 40.66 305 *e*P P 10 36 18.1 +1.1
SMOL pmax pmax
comp=Z,2μm,3.3s

SMOL Smolenice 40.66 305 *e*P **P** **10 36 18.1 +1.1**
SMOL *ep*P **pP** **10 37 05.7 +3.3**
MPLH Magyarpolny 40.68 303 P **P** **10 36 18.2 +1.0**
GKP Gorka Klasztor 40.73 312 *e*P **P** **10 36 18.5 +1.1**
GKP *ep*P **sP** **10 37 27.7 0.0**
GKP Gorka Klasztor 40.73 312 *e*P **P** **10 36 18.1 +0.6**
MODS Modra-Piesok 40.77 304 *e*P **P** **10 36 18.8 +0.9**
MODS *e*S **S** **10 42 17.3 +5.3**
MODS pmax pmax
comp=Z,2μm,1.9s
MODS Modra-Piesok 40.77 304 *e*P **P** **10 36 18.8 +0.9**
MODS *e* 10 38 58.8
MODS *e*S **S** **10 42 17.3 +5.3**
MODS *es*S **sS** **10 43 36.4 +2.1**
MODS *e*SS **SS** **10 45 25.5 +3.7**
EGYH Egyhazaskeszo 40.80 303 P **P** **10 36 19.4 +1.3**
DBRK Dubrovnik 40.81 296 P **P** **10 36 17.8 -0.5**
KCSI Kotacane, Aceh 40.89 137 P **P** **10 36 17.8 -1.5**
comp=Z,10μmcomp=Z,820nm,0.8s
ZST Bratislava 40.90 304 *e*P **P** **10 36 20.3 +1.4**
ZST pmax pmax
comp=Z,7μm,2.4s
ZST Bratislava 40.90 304 *e*P **P** **10 36 20.3 +1.4**
ZST *ep*P **pP** **10 37 07.1 +2.7**
ZST *e* 10 39 01.7
ZST *es*S **sS** **10 43 38.1 +2.0**
KEV Kevo 40.92 338 P **P** **10 36 19.6 +0.8**
KEV pmax pmax
comp=Z,539nm,0.8s
KEV Kevo 40.92 338 P **P** **10 36 19.6 +0.8**
KEV Kevo 40.92 338 ⇑P **P** **10 36 19.7 +0.8**
KEV Kevo 40.92 338 P **P** **10 36 20.0 +1.2**
KEV ⇓*ep*P **pP** **10 37 07.4 +2.3**
KRLC Kraliky 41.01 307 *e*P **P** **10 36 20.7 +0.8**
KRLC *e*S **S** **10 42 09.0 -6.6**
KRLC Kraliky 41.01 307 *e*P **P** **10 36 20.7 +0.8**
KRLC *ex* x 10 42 09.0
SCTE Santa Cesarea 41.07 292 P **P** **10 36 19.1 -1.4**
STON Ston 41.10 296 ⇑*i*P **P** **10 36 20.4 -0.2**
STON Ston 41.10 296 P **P** **10 36 20.1 -0.5**
KULM Kulim 41.11 132 P **P** **10 36 21.9 +0.9**
KULM Kulim 41.11 132 ⇑P **P** **10 36 22.4 +1.4**
KULM Kulim 41.11 132 P **P** **10 36 23.0 +1.9**
VRAC Vranov 41.16 306 ⇑P **P** **10 36 22.7 +1.5**
VRAC Vranov 41.16 306 ⇑*i*P **P** **10 36 22.6 +1.5**
VRAC *ep*P **pP** **10 37 09.1 +2.3**
VRAC *es*P **sP** **10 37 31.8 +0.5**
VRAC *e*SCP **ScP** **10 41 44.6 -0.5**
VRAC *e*S **S** **10 42 17.6 -0.3**
VRAC *es*S **sS** **10 43 38.2 -2.0**
VRAC *e*SS **SS** **10 45 28.0 -1.6**
BLY Banja Luka 41.19 299 ⇑*i*P **P** **10 36 22.1 +0.8**
BLY Banja Luka 41.19 299 ⇑P **P** **10 36 22.1 +0.8**
UPP Uppsala 41.22 322 *e*P **P** **10 36 21.6 +0.3**
ARA0 ARCESS Array S 41.26 338 ⇑*i*P **P** **10 36 23.1 +1.4**
ARA0 IVmB_BB 10 36 24.1
comp=Z,23μm,2.1s
ARA0 *e*S **S** **10 42 20.3 +1.5**
ARCES ARCESS Array B 41.26 338 P **P** **10 36 22.8 +1.1**
comp=Z,626nm,0.6s,baz=115,slow=7.1,SNR=1371
ARCES *pP* **pP** **10 37 09.9 +2.0**
comp=Z,569nm,0.8s,baz=111,slow=6.9,SNR=4.7
ARCES P3KPbc 11 05 49.1
comp=Z,2.0nm,0.9s,baz=285,slow=2.4,SNR=4.5
ARCES P3KP 11 07 11.4
comp=Z,1.6nm,0.7s,baz=191,slow=4.9,SNR=3.9
ARCES ARCESS Array B 41.26 338 P **P** **10 36 22.6 +0.9**
ARCES IAmb IAmb 10 36 27.8
comp=Z,2μm,1.2s
ARCES *pP* **pP** **10 37 10.2 +2.3**
BEHE Becsehely 41.27 302 ⇑*i*P **P** **10 36 23.0 +1.0**
BEHE Becsehely 41.27 302 P **P** **10 36 23.2 +1.3**
DPC Dobruska-Polom 41.30 307 *e*P **P** **10 36 23.6 +1.4**
DPC *e*S **S** **10 42 13.0 -6.8**
DPC Dobruska-Polom 41.30 307 *e*P **P** **10 36 23.6 +1.4**
DPC *ex* x 10 42 13.0
SRKY Kupres RS 41.30 298 ⇑*i*P **P** **10 36 23.0 +0.6**
SOP Sopron 41.30 303 P **P** **10 36 23.2 +1.0**
KSP Ksiaz 41.30 308 *e*P **P** **10 36 23.4 +1.2**
KSP *es*P **sP** **10 37 32.8 +0.2**
MGRS Mrkonjic Grad 41.30 298 ⇑*i*P **P** **10 36 23.6 +1.2**
KRUC Moravsky 41.31 305 ⇑*i*P **P** **10 36 23.5 +1.2**
KRUC *ep*P **pP** **10 37 10.8 +2.8**
KRUC *es*P **sP** **10 37 32.7 +0.2**
KRUC *e*SCP **ScP** **10 41 44.5 -1.1**
KRUC *e*S **S** **10 42 19.2 -0.8**
KRUC *es*S **sS** **10 43 39.3 -3.0**
KRUC *e*SS **SS** **10 45 28.8 -3.5**
TSI Tuntungan 41.35 136 P **P** **10 36 22.1 -0.8**
comp=Z,25μmcomp=Z,16μmcomp=Z,794nm,0.5s
OSTC Ostas 41.36 308 *e*P **P** **10 36 23.2 +0.5**
OSTC *ex* x 10 42 12.2
MOSL Moslavina 41.38 300 P **P** **10 36 22.8 -0.1**
RICI Ricice 41.41 297 P **P** **10 36 22.8 -0.4**
DLV T Lat 41.46 116 P **P** **10 36 25.5 +1.4**
CHVC Chvalec 41.46 308 *e*P **P** **10 36 24.2 +0.7**
CHVC *e*S S 10 42 13.1 -9.1
RONA Rosalia, Austr 41.47 303 *i*P **P** **10 36 24.5 +0.8**
comp=Z,337nm,1.5s,SNR=89
RONA P **pP** **10 37 12.0 +2.6**
comp=Z,181nm,1.0s
RONA S **sP** **10 37 34.6 +0.5**
comp=Z,442nm,1.4s
RONA *e*S **ScP** **10 41 46.2 -0.1**
comp=Z,172nm,1.3s
VIKU Vikbolandet 41.48 320 *e*P **P** **10 36 23.9 +0.4**
UPC Upice 41.49 308 *e*P **P** **10 36 24.7 +1.0**
UPC *e*S **S** **10 42 19.4 -3.2**
UPC Upice 41.49 308 *e*P **P** **10 36 24.7 +1.0**
UPC *e*S **S** **10 42 19.4 -3.2**
CN2 Changchun 41.50 62 *e*P **P** **10 36 24.8 +0.9**
CN2 *ep*P pP 10 37 12.3 +1.8
CN2 PcP **PcP** **10 38 18.2 +1.1**
CN2 ScP **ScP** **10 41 45.7 -0.8**
CN2 S **S** **10 42 21.6 -1.2**
CN2 sS sS 10 43 44.0 -1.3
CN2 SS **SS** **10 45 27.8 -8.4**
CN2 pmax pmax
comp=Z,670nm,1.0s
CN2 pmax pmax
comp=Z,9μm,5.0s
KALN Kalnik 41.52 301 P **P** **10 36 24.4 +0.3**
MAKA Makarska 41.52 297 P **P** **10 36 23.6 -0.4**
SSE Sheshan 41.53 82 P **P** **10 36 26.6 +2.3**
SSE *pP* **pP** **10 37 11.9 +0.7**
SSE *sP* **sP** **10 37 32.9 -2.9**
SSE S **S** **10 42 23.4 -0.1**
SSE *s*S **sS** **10 43 43.2 -2.8**
SSE pmax pmax
comp=Z,2μm,1.0s
SSE pmax pmax
comp=Z,8μm,5.3s
KOGS Kog 41.63 302 *e*P **P** **10 36 25.8 +0.9**
LSTV Lastovo 41.70 296 P **P** **10 36 25.2 -0.4**
KTK1 Kautokeino 41.74 336 ⇑*i*P **P** **10 36 26.4 +1.0**
KTK1 IVmB_BB 10 36 28.2
comp=Z,13μm,0.6s
KTK1 *e*S **S** **10 42 27.1 +1.3**
CONA Conrad Observa 41.74 304 *i*P **P** **10 36 27.1 +1.1**
comp=Z,486nm,1.0s,SNR=237
CONA *e*P **pP** **10 37 14.8 +3.0**
comp=Z,434nm,1.0s
CONA *e*S **sP** **10 37 37.0 +0.6**
comp=Z,799nm,1.7s
CONA *e*S **ScP** **10 41 47.1 -0.5**
comp=Z,79nm,1.1s
KIJV Kijevo 41.85 298 P **P** **10 36 26.3 -0.4**
ZAG Zagreb 41.88 301 ⇑*i*P **P** **10 36 27.9 +0.9**
PTJ Puntijarka 41.89 301 P **P** **10 36 27.2 +0.1**
TREC Trest 41.89 306 *e*P **P** **10 36 27.9 +0.9**
TREC *e*S S 10 42 19.3 -9.2
TREC Trest 41.89 306 *e*P **P** **10 36 27.9 +0.9**
TREC *ex* x 10 42 19.3
HVAR Hvar 41.95 297 P **P** **10 36 26.7 -0.9**
QZH Quanzhou 41.97 92 ⇑*i*P **P** **10 36 29.1 +1.2**
QZH *pP* **pP** **10 37 15.4 +0.6**
QZH *s*P **sP** **10 37 38.3 -1.4**
QZH PcP **PcP** **10 38 18.8 -0.2**
QZH ScP **ScP** **10 41 47.3 -1.3**
QZH S **S** **10 42 32.9 +2.8**
QZH *s*S **sS** **10 43 48.3 -4.4**
QZH ScS **ScS** **10 46 04.6 -2.3**
QZH pmax pmax
comp=Z,550nm,0.8s
QZH pmax pmax
comp=Z,7μm,6.1s
QZH LR LR
comp=Z,9μm,10.4s
QZH LR LR
comp=Z,10μm,12.8s
QZH LR LR
comp=Z,14μm,11.4s
IPM Ipoh 41.98 132 P **P** **10 36 28.8 +0.6**
IPM IAmb IAmb 10 36 30.2
comp=Z,893nm,0.6s
IPM Ipoh 41.98 132 P **P** **10 36 29.0 +0.9**
IPM Ipoh 41.98 132 P **P** **10 36 29.4 +1.3**
ZEA Zeya 42.00 47 *ce*P **P** **10 36 30.4 +2.6**
ZEA *e**PP **pP** **10 37 16.7 +2.1**
ZEA *e**SP **sP** **10 37 39.7 +0.2**
ZEA *e* 10 38 19.8
ZEA *e*S **S** **10 42 35.3 +5.4**
ZEA *e**SS **sS** **10 43 54.6 +2.1**
ZEA *e*SS **ScS** **10 46 09.6 +3.4**
ZEA pmax pmax
comp=N,840nm,0.8s
ZEA pmax pmax
comp=E,1μm,0.9s
ZEA pmax pmax
comp=Z,3μm,0.9s
ZEA pmax pmax
comp=E,2μm,3.3s
ZEA pmax pmax
comp=N,2μm,4.3s
ZEA pmax pmax
comp=Z,2μm,3.1s
ZEA smax smax
comp=E,11μm,8.3s
ZEA MLR MLR
comp=Z,7μm,11.0s
KNMB Chin-men Tao 42.02 93 P **P** **10 36 29.6 +1.3**
KNMB IAmb IAmb 10 36 31.9
comp=Z,2μm,0.8s
ARSA Arzberg 42.04 303 *i*P **P** **10 36 28.9 +0.7**
comp=Z,280nm,1.9s,SNR=61
ARSA S **sP** **10 37 39.2 +0.6**
comp=Z,350nm,1.6s
ARSA *e*S **ScP** **10 41 48.1 -0.6**
comp=Z,267nm,1.4s
PSI Prapat 42.12 136 P **P** **10 36 29.6 +0.3**
comp=Z,1μm,0.8s,baz=326,slow=9.3,SNR=306
PSI S **S** **10 42 31.9 -0.9**
comp=Z,37nm,0.9s,baz=73,slow=22,SNR=9.0
BSD Bornholm Skovb 42.17 315 *e*P **P** **10 36 28.7 -0.4**
BSD Bornholm Skovb 42.17 315 *i*P **P** **10 36 28.5 -0.5**
BSD IAmb IAmb 10 36 31.2
comp=Z,3μm,2.1s
BSD IVmB_BB 10 36 33.0
comp=Z,10μm,1.8s
BSD Bornholm Skovb 42.17 315 ⇑P **P** **10 36 28.6 -0.5**
UDBI Udbina 42.22 299 P **P** **10 36 29.3 -0.5**
CRES Cresnjev 42.25 301 ⇑*i*P **P** **10 36 30.8 +0.8**
MATE Matera 42.26 293 ⇑P **P** **10 36 29.9 -0.1**
MATE Matera 42.26 293 ⇑P **P** **10 36 29.8 -0.2**
PLIT Plitvice 42.27 299 P **P** **10 36 30.1 0.0**
OZLJ Ozalj 42.27 300 P **P** **10 36 30.5 +0.4**
HAMF Hammerfest 42.34 339 ⇑*i*P **P** **10 36 31.8 +1.5**
HAMF IVmB_BB 10 36 33.6
comp=Z,23μm,0.7s
HAMF *e*S **S** **10 42 36.2 +1.7**
MORI Morici 42.37 298 P **P** **10 36 30.1 -0.8**
DILA Dilla 42.38 233 *e*P **P** **10 36 33.3 +1.8**
DILA Dilla 42.38 233 *e*P **P** **10 36 35.4 +3.8**
PVCC Panska Ves 42.41 308 *e*P **P** **10 36 31.8 +0.7**
PVCC *e*S **S** **10 42 35.3 -0.7**
PVCC Panska Ves 42.41 308 *e*P **P** **10 36 31.8 +0.7**
PVCC *e*S **S** **10 42 35.3 -0.7**
SOKA Soboth 42.44 302 *e*P **P** **10 36 32.4 +0.9**
comp=Z,306nm,0.8s,SNR=226
SOKA *e*P **pP** **10 37 20.5 +3.1**
comp=Z,434nm,1.0s
SOKA S **sP** **10 37 42.6 +0.6**
comp=Z,479nm,1.4s
SOKA *e*S **ScP** **10 41 49.9 -0.4**
comp=Z,196nm,1.3s
BOJS Bojanci 42.44 300 *i*P **P** **10 36 32.4 +1.0**
BOJS *e*ScP **ScP** **10 41 49.8 -0.4**
BOJS *e*ScS **ScS** **10 46 06.6 -2.6**
ZIRJ Zirje 42.45 298 P **P** **10 36 30.7 -0.8**
PRU Pruhonice 42.46 307 *e*P **P** **10 36 32.6 +1.1**
PRU *e*S **S** **10 42 28.1 -8.7**
PRU Pruhonice 42.46 307 *e*P **P** **10 36 32.6 +1.1**
PRU *ex* x 10 42 28.1
MRVN Minervino Murg 42.55 294 ⇑P **P** **10 36 32.3 -0.1**
TIP Timpagrande 42.56 291 ⇑P **P** **10 36 32.5 -0.1**
TIP Timpagrande 42.56 291 P **P** **10 36 32.2 -0.4**
TIP Timpagrande 42.56 291 ⇑P **P** **10 36 32.4 -0.2**
BNX BinXian 42.59 59 ⇑P **P** **10 36 33.8 +1.1**
BNX *pP* **pP** **10 37 21.7 +1.9**
BNX *s*P **sP** **10 37 36.6 -7.8**
BNX PP **PP** **10 38 13.7 -2.3**
BNX S **S** **10 42 38.3 -0.5**
BNX *s*S **sS** **10 43 59.5 -2.0**
BNX pmax pmax
comp=Z,2μm,1.6s
BNX pmax pmax
comp=Z,18μm,8.3s
BNX LR LR
comp=Z,31μm,7.6s
BNX LR LR
comp=Z,23μm,8.0s
BNX LR LR
comp=Z,41μm,17.4s
KTGM Kuala Trenggan 42.61 129 P **P** **10 36 35.0 +1.8**
GSI Gunungsitoli 42.64 139 P **P** **10 36 35.3 +1.9**
GSI Gunungsitoli 42.64 139 ⇓P **P** **10 36 35.5 +2.1**
GSI ⇑S **S** **10 42 44.1 +4.0**
GSI Gunungsitoli 42.64 139 P **P** **10 36 35.6 +2.2**
comp=Z,64μmcomp=Z,61μmcomp=Z,6μm,0.7s
GSI Gunungsitoli 42.64 139 P **P** **10 36 35.8 +2.4**
CKRC Cesky Krumlov 42.70 305 *e*P **P** **10 36 34.0 +0.5**
CKRC *e*S **S** **10 42 38.3 -2.1**
SGRT San Giovanni R 42.73 295 P **P** **10 36 33.6 -0.4**
A250A Rusevo Krmpots 42.74 300 P **P** **10 36 34.0 +0.1**
VIRC Vir 42.76 299 P **P** **10 36 33.6 -0.4**
OBKA Obir 42.79 302 *e*P **P** **10 36 35.1 +0.7**
comp=Z,329nm,1.4s,SNR=96
OBKA *e*S **sP** **10 37 46.0 +1.1**
comp=Z,132nm,0.8s
OBKA *e*P **ScS** **10 46 16.9 +5.3**
comp=Z,54nm,1.6s
DUGI Dugi Otok 42.81 298 P **P** **10 36 33.6 -0.9**
DEL Delary 42.82 317 *e*P **P** **10 36 34.8 +0.5**
MOA Molln 42.82 304 *i*P **P** **10 36 35.1 +0.5**
comp=Z,215nm,0.9s,SNR=172
MOA S **sP** **10 37 45.5 +0.4**
comp=Z,331nm,1.6s
MOA *e*S **ScP** **10 41 51.3 -0.4**
comp=Z,214nm,1.5s
RUE Ruedersdorf 42.82 311 *e*P **P** **10 36 34.8 +0.4**
RUE Ruedersdorf 42.82 311 *e*P **P** **10 36 35.1 +0.7**
comp=Z,1μm,1.1s,baz=85,slow=7.8
RUE Ruedersdorf 42.82 311 ⇑P **P** **10 36 34.0 -0.4**
PBCC Pribram 42.83 307 *e*P **P** **10 36 35.4 +0.8**
NVLJ Novalja 42.85 299 P **P** **10 36 34.0 -0.7**
LJU Ljubljana 42.87 301 ⇑*i*P **P** **10 36 35.9 +1.0**
LJU Ljubljana 42.87 301 *i*P **P** **10 36 36.0 +1.0**
LJU *ep*P **pP** **10 37 23.6 +2.8**
LJU *es*P **sP** **10 37 45.1 -0.5**
LJU *i* 10 38 21.6
LJU *e* 10 39 24.2
LJU *e*ScP **ScP** **10 41 51.4 -0.5**
LJU *e*S **S** **10 42 44.7 +1.9**
LJU *es*S **sS** **10 44 07.4 +1.7**
LJU *e*ScS **ScS** **10 46 09.9 -2.0**
JETT Jettan, Norway 42.88 336 ⇑*i*P **P** **10 36 35.9 +1.2**
JETT IVmB_BB 10 36 37.1
comp=Z,19μm,1.9s
JETT *e*S **S** **10 42 43.2 +0.7**
RABC Rab 42.88 299 P **P** **10 36 34.3 -0.7**
CEY Cerknica 42.98 301 ⇑*i*P **P** **10 36 36.7 +0.9**
RIY Rijeka 43.00 300 ⇑*i*P **P** **10 36 36.3 +0.3**
RIY Rijeka 43.00 300 P **P** **10 36 35.8 -0.1**
RGN Rugen 43.08 314 P **P** **10 36 37.4 +1.0**
RGN IAmb IAmb 10 36 43.0
comp=Z,3μm,1.2s
RGN Rugen 43.08 314 *e*P **P** **10 36 37.8 +1.4**
comp=Z,4μm,1.3s,baz=85,slow=7.8
RGN *ep*P **pP** **10 37 25.9 +3.4**
RGN Rugen 43.08 314 ⇑P **P** **10 36 37.7 +1.3**
GEC2 GERESS Array S 43.09 305 P **P** **10 36 37.2 +0.4**
GEC2 GERESS Array S 43.09 305 *e*P **P** **10 36 37.5 +0.7**
comp=Z,3μm,3.0s,baz=85,slow=7.8
GERES GERESS Array B 43.09 305 P **P** **10 36 37.4 +0.6**
comp=Z,67nm,0.9s,baz=81,slow=8.2,SNR=195
GERES PcP **PcP** **10 38 23.0 +0.5**
comp=Z,108nm,0.9s,baz=99,slow=7.0,SNR=6.7
GERES ScP **ScP** **10 41 51.2 -1.8**
comp=Z,80nm,0.9s,baz=134,slow=3.9,SNR=6.0
GERES P3KPbc 11 05 43.9
comp=Z,0.5nm,0.7s,baz=222,slow=1.3,SNR=2.6
GERES PKPPKP P'P'df 11 08 19.5 -11
comp=Z,1.1nm,0.9s,baz=203,slow=5.8,SNR=4.2
GERES GERESS Array B 43.09 305 P **P** **10 36 37.0 +0.2**
KHC Kasperske Hory 43.15 306 *c*P **P** **10 36 38.1 +0.9**
KHC pmax pmax
comp=Z,2μm,2.6s
KHC Kasperske Hory 43.15 306 P **P** **10 36 37.5 +0.4**
KHC Kasperske Hory 43.15 306 *e*P **P** **10 36 37.5 +0.4**
KHC *ep*P **pP** **10 37 19.0 -4.2**
KHC *es*P **sP** **10 37 45.0 -2.8**
KHC *e*PP **PP** **10 38 20.0 -1.9**
KHC *e*S **S** **10 42 44.3 -2.7**
KHC Kasperske Hory 43.15 306 ⇑P **P** **10 36 37.9 +0.7**
FBE Freiberg 43.16 308 *e*P **P** **10 36 38.4 +1.3**
comp=Z,728nm,1.0s,baz=85,slow=7.8
BIOA Bad Ischl, Aus 43.26 304 *i*P **P** **10 36 38.5 +0.5**
comp=Z,291nm,1.2s,SNR=130
BIOA S **sP** **10 37 48.7 +0.1**
comp=Z,232nm,1.1s
BIOA *e*S **ScP** **10 41 52.4 -1.2**
comp=Z,145nm,1.1s
BIOA P **ScS** **10 46 11.4 -3.0**
comp=Z,100nm,1.9s
SMRN Sveta Marina 43.27 300 P **P** **10 36 37.5 -0.7**
SKDS Skadanscina 43.29 301 ⇑*i*P **P** **10 36 38.4 0.0**
SKDS Skadanscina 43.29 301 *e*P **P** **10 36 38.6 +0.3**
JRMM Jerantut 43.33 131 P **P** **10 36 40.0 +1.1**
CLL Collm 43.35 309 ⇑P **P** **10 36 39.2 +0.5**
CLL *e**PP **pP** **10 37 28.0 +3.1**
CLL *i**SP **sP** **10 37 49.7 +0.4**
CLL *i* 10 38 23.9
CLL *e*S **S** **10 42 50.0 +0.2**
CLL *e**SS **sS** **10 44 13.0 +0.3**
CLL pmax pmax
comp=Z,1μm,1.8s
CLL Collm 43.35 309 P **P** **10 36 39.0 +0.3**
CLL IAmb IAmb 10 36 41.2
comp=Z,2μm,2.0s
CLL Collm 43.35 309 ⇑*i*P **P** **10 36 39.2 +0.5**
comp=Z,1μm,1.8s
CLL *e*Plp 10 36 40.0
comp=Z,5μm,22.9s
CLL *e*Pmax 10 36 42.0
CLL *e*(pP) **pP** **10 37 28.0 +3.1**
CLL *i* sP **sP** **10 37 49.7 +0.4**
CLL *i* PcP **PP** **10 38 23.9 0.0**
comp=Z,450nm,1.2s
CLL *i* PP **PcP** **10 38 27.0 +3.8**
CLL *e*PPP PPP 10 39 10.0
CLL *es*PP 10 39 30.0
CLL *i* ScP **ScP** **10 41 52.9 -0.9**
comp=Z,343nm,1.3s
CLL *e*PcS **PcS** **10 42 17.0 +1.1**
CLL *e*S **S** **10 42 50.0 +0.2**
comp=N,5μm,23.8s
CLL *e*S **S** **10 42 50.0 +0.2**
comp=E,14μm,26.5s
CLL *es*S **sS** **10 44 13.0 +0.3**
CLL *e*SSlp 10 46 03.0
CLL *e*SS **SS** **10 46 12.0 +0.4**
CLL *es*SS 10 47 12.0
CLL *e*SSS SSS 10 47 54.0
CLL *ex* x 10 49 00.0
CLL Collm 43.35 309 *e*P **P** **10 36 39.3 +0.5**
comp=E,1μm,1.8s,baz=85,slow=7.8
TRO Tromso 43.39 336 ⇑*i*P **P** **10 36 39.7 +1.0**
TRO IVmB_BB 10 36 40.7
comp=Z,16μm,2.4s
TRO *e*S **S** **10 42 51.7 +1.9**
MYKA Terra Mystica 43.39 302 *e*P **P** **10 36 39.9 +0.7**
comp=Z,139nm,0.9s,SNR=86
MYKA P **pP** **10 37 28.0 +2.6**
comp=Z,303nm,1.3s
MYKA *e*S **sP** **10 37 50.2 +0.4**
comp=Z,107nm,0.8s
TRI Trieste 43.44 301 P **P** **10 36 39.5 0.0**
TRI pmax pmax
comp=Z,1μm,1.6s
TRI Trieste 43.44 301 P **P** **10 36 39.5 0.0**
TRI Trieste 43.44 301 ⇑P **P** **10 36 39.7 +0.2**
CEL Celeste 43.45 290 P **P** **10 36 39.5 -0.2**
CEL IAmb IAmb 10 36 42.2
comp=Z,2μm,1.8s
CEL Celeste 43.45 290 ⇑P **P** **10 36 40.0 +0.4**
MSEY Mahe Island 43.46 203 P **P** **10 36 40.8 +0.8**
MSEY pmax pmax
comp=Z,881nm,1.5s
MSEY Mahe Island 43.46 203 P **P** **10 36 40.8 +0.8**
MSEY Mahe Island 43.46 203 P **P** **10 36 41.1 +1.1**
MSEY P **P** **10 36 41.1 +1.1**
MSEY S **S** **10 42 53.6 +1.5**
MSEY S **S** **10 42 53.6 +1.5**
MSEY Mahe Island 43.46 203 ⇑P **P** **10 36 41.1 +1.1**
MSEY ⇑S **ScP** **10 41 55.4 +0.7**
MSEY Mahe Island 43.46 203 *i*P **P** **10 36 40.1 +0.1**
SNR=53
KBA Koelnbreinsper 43.53 303 *e*P **P** **10 36 40.9 +0.4**
comp=Z,136nm,0.8s,SNR=136
KBA *e*S **sP** **10 37 51.6 +0.6**
comp=Z,364nm,1.4s
KBA *e*S **ScP** **10 41 53.2 -1.7**
comp=Z,108nm,1.1s
KBA *e*P **ScS** **10 46 12.8 -3.6**
comp=Z,54nm,1.5s
BRJN Brijuni 43.58 300 P **P** **10 36 39.5 -1.1**
COP Copenhagen 43.60 315 *i*P **P** **10 36 41.7 +1.2**
WET Wettzell 43.61 306 *e*P **P** **10 36 41.4 +0.6**
comp=Z,3μm,2.7s,baz=85,slow=7.8
PTCC Patocco-Chiusa 43.62 302 ⇑P **P** **10 36 41.2 +0.2**
DGAR Diego Garcia 43.63 178 *ce*P **P** **10 36 42.2 +1.0**
DGAR pmax pmax
comp=Z,2μm,2.5s
DGAR Diego Garcia 43.63 178 P **P** **10 36 41.9 +0.6**
DGAR IAmb IAmb 10 37 54.5
comp=Z,4μm,2.0s
DGAR Diego Garcia 43.63 178 P **P** **10 36 42.4 +1.2**
DGAR S **S** **10 42 58.6 +4.3**
DGAR Diego Garcia 43.63 178 ⇑P **P** **10 36 42.4 +1.2**
LLD Lille Linde 43.72 315 *i*P **P** **10 36 43.0 +1.5**
PAOL Paolisi 43.76 294 P **P** **10 36 42.0 -0.1**
INCN Inchon 43.76 71 P **P** **10 36 42.9 +0.8**
INCN pmax pmax
comp=Z,2μm,1.1s
INCN Inchon 43.76 71 P **P** **10 36 42.9 +0.8**
INCN IAmb IAmb 10 36 46.6
comp=Z,2μm,1.1s
INCN Inchon 43.76 71 P **P** **10 36 43.2 +1.0**
INCN P **P** **10 36 43.2 +1.0**
INCN S **S** **10 42 55.9 -0.1**
INCN S **S** **10 42 55.9 -0.1**
INCN Inchon 43.76 71 ⇑P **P** **10 36 42.5 +0.4**
INCN Inchon 43.76 71 P **P** **10 36 43.6 +1.4**
INCN Inchon 43.76 71 ⇑P **P** **10 36 43.0 +0.8**
INCN ⇓*pP* **pP** **10 37 31.3 +1.8**
INCN *s*P **sP** **10 37 53.7 -0.6**
TANN Tannenbergstha 43.76 308 *e*P **P** **10 36 43.0 +1.0**
comp=Z,5μm,2.8s,baz=85,slow=7.8
NKC Novy Kostel 43.78 307 *e*P **P** **10 36 43.0 +0.8**
NKC *e*S **S** **10 42 49.9 -6.2**
NKC Novy Kostel 43.78 307 *e*P **P** **10 36 43.0 +0.8**
NKC *ex* x 10 42 49.9
RJOB Jochberg 43.82 304 *e*P **P** **10 36 43.0 +0.4**
comp=Z,2μm,2.3s,baz=85,slow=7.8
WERN Wernitzgruen 43.83 308 *e*P **P** **10 36 43.5 +1.0**
comp=Z,4μm,2.8s,baz=85,slow=7.8
H08S3 Diego Garcia H 43.84 178 P **P** **10 36 43.7 +1.0**
baz=350,slow=13,SNR=282
GUNZ Gunzen 43.85 308 *e*P **P** **10 36 43.9 +1.2**
comp=Z,6μm,2.9s,baz=85,slow=7.8

WERD Werda 43.85 308 *eP* **P 10 36 43.8 +1.0**
comp=Z,6µm,3.0s,baz=85,slow=7.8
H08S1 Diego Carcia H 43.86 178 P **P 10 36 43.9 +1.1**
baz=350,slow=13,SNR=244
H08S2 Diego Garcia H 43.86 178 P **P 10 36 43.9 +1.1**
baz=350,slow=13,SNR=280
YAK Yakutsk 43.93 35 P **P 10 36 43.6 +0.5**
comp=Z,2µm,0.7s,baz=233,slow=1.2,SNR=418
YAK S **S 10 42 57.1 -0.6**
comp=Z,113nm,0.8s,baz=268,slow=22,SNR=9.0
YAK Yakutsk 43.93 35*c iP* **P 10 36 43.4 +0.3**
YAK pmax pmax
comp=Z,5µm,0.8s
YAK Yakutsk 43.93 35 P **P 10 36 43.6 +0.5**
YAK Yakutsk 43.93 35 ⇑P **P 10 36 43.6 +0.5**
FAUS Fauske 43.93 333 ⇑*iP* **P 10 36 44.1 +1.1**
FAUS IVmB_BB 10 36 45.3
comp=Z,24µm,2.1s
FAUS *eS* **S 10 42 59.6 +1.9**
PLN Plauen 43.95 308 *eP* **P 10 36 44.5 +1.0**
comp=Z,6µm,3.0s,baz=85,slow=7.8
MOR8 Moi Rana 43.95 331 ⇑*iP* **P 10 36 43.4 +0.1**
MOR8 IVmB_BB 10 36 45.1
comp=Z,21µm,0.7s
MOR8 *eS* **S 10 42 58.0 -0.1**
ROTZ Rotzenmuhle 43.98 307 *eP* **P 10 36 45.2 +1.5**
comp=Z,2µm,2.8s,baz=85,slow=7.8
ROTZ *epP* **pP 10 37 33.9 +3.9**
MANZ Manzenberg 44.02 307 *eP* **P 10 36 45.4 +1.3**
comp=Z,2µm,3.0s,baz=85,slow=7.8
STEI Steigen 44.10 333 ⇑*iP* **P 10 36 45.5 +1.1**
STEI IVmB_BB 10 36 46.5
comp=Z,24µm,2.7s
STEI *eS* **S 10 43 02.3 +2.2**
NEUB Neuenburg 44.13 309 *eP* **P 10 36 45.8 +0.9**
comp=Z,610nm,0.9s,baz=85,slow=7.8
ABTA Abfaltersbach 44.15 302 *eP* **P 10 36 44.9 -0.3**
comp=Z,146nm,1.3s,SNR=64
ABTA P **pP 10 37 33.2 +1.8**
comp=Z,154nm,1.1s
ABTA *eS* **sP 10 37 55.4 -0.5**
comp=Z,151nm,0.8s
ABTA *eS* **ScP 10 41 56.6 -0.6**
comp=Z,170nm,1.1s,SNR=5.9
ABTA *eP* **ScS 10 46 15.9 -4.2**
comp=Z,126nm,1.3s
MNSI Mandailing Nat 44.15 137 P **P 10 36 46.6 +1.2**
comp=Z,36µmcomp=Z,41µmcomp=Z,4µm,0.8s
MOX Moxa 44.28 308 *eP* **P 10 36 47.2 +1.1**
comp=Z,7µm,3.0s,baz=85,slow=7.8
TATO Taipei 44.28 90 P **P 10 36 48.0 +1.5**
TATO IAmb IAmb 10 36 51.1
comp=Z,3µm,1.6s
TATO Taipei 44.28 90 P **P 10 36 47.1 +0.7**
TATO P **P 10 36 47.1 +0.7**
NC405 NORSAR Array S 44.29 323 P **P 10 36 46.5 +0.4**
MDJ Mudanjiang 44.30 61 P **P 10 36 47.5 +1.2**
MDJ Mudanjiang 44.30 61 P **P 10 36 47.2 +0.9**
MDJ pP pP 10 37 35.9 +2.3
MDJ PcP **PcP 10 38 27.5 +1.0**
MDJ S **S 10 43 03.7 +0.1**
MDJ sS sS 10 44 25.6 -1.2
MDJ pmax pmax
comp=Z,430nm,0.9s
MDJ pmax pmax
comp=Z,11µm,8.0s
MDJ Mudanjiang 44.30 61 P **P 10 36 48.0 +1.7**
AQU L'Aquila 44.31 296 P **P 10 36 46.4 -0.1**
AQU pmax pmax
comp=Z,1µm,1.3s
AQU L'Aquila 44.31 296 P **P 10 36 46.4 -0.1**
AQU L'Aquila 44.31 296 ⇑*iP* **P 10 36 47.3 +0.7**
AQU L'Aquila 44.31 296 ⇑P **P 10 36 47.2 +0.7**
YHNB Yeheng 44.33 91 P **P 10 36 49.8 +2.9**
NC602 NORSAR Array S 44.34 323 ⇑*iP* **P 10 36 46.5 +0.1**
TPUB Ta-pu 44.38 93 P **P 10 36 49.3 +2.0**
TPUB IAmb IAmb 10 36 51.9
comp=Z,939nm,0.9s
TPUB Ta-pu 44.38 93 P **P 10 36 49.9 +2.7**
FLTG Flechtingen 44.39 311 *eP* **P 10 36 47.4 +0.6**
comp=Z,894nm,0.8s,baz=85,slow=7.8
FLTG *epP* **pP 10 37 35.7 +2.3**
FLTG Flechtingen 44.39 311 P **P 10 36 47.2 +0.3**
SSLB Suanglung 44.41 92 P **P 10 36 49.9 +2.5**
SSLB Suanglung 44.41 92 P **P 10 36 50.8 +3.3**
NRCA Norcia 44.42 297 P **P 10 36 47.7 +0.3**
NB2 NORSAR Subarra 44.53 323 P **P 10 36 48.1 +0.2**
comp=Z,2µm,1.1s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.53 323 P **P 10 36 48.1 +0.2**
baz=96,slow=7.9
NOA NORSAR Array B 44.53 323 P **P 10 36 47.9 0.0**
comp=Z,164nm,0.7s,baz=96,slow=7.7,SNR=1273
NOA pP **pP 10 37 36.1 +1.8**
comp=Z,484nm,0.9s,baz=95,slow=7.9,SNR=4.5
NOA PP **PP 10 38 35.2 -1.1**
comp=Z,213nm,0.8s,baz=94,slow=9.5,SNR=3.3
NOA P3KPbc 11 05 38.5
comp=Z,0.5nm,0.7s,baz=253,slow=4.1,SNR=3.7
NOA P3KP 11 07 08.6
comp=Z,0.4nm,0.7s,baz=151,slow=2.6,SNR=3.7
KONS Konsvik 44.54 331 ⇑*iP* **P 10 36 48.6 +0.7**
KONS *eS* **S 10 43 06.1 -0.4**
GRA1 Grafenberg Arr 44.62 307 P **P 10 36 50.1 +1.3**
GRF Grafenberg Arr 44.62 307 P **P 10 36 50.1 +1.3**
GRF pmax pmax
comp=Z,1µm,1.2s
GRF Grafenberg Arr 44.62 307 *eP* **P 10 36 50.5 +1.6**
comp=Z,3µm,2.0s,baz=85,slow=7.8
GRFO Grafenberg 44.62 307 P **P 10 36 50.6 +1.8**
GRFO pmax pmax
comp=Z,934nm,1.2s
GRFO Grafenberg 44.62 307 P **P 10 36 50.6 +1.8**
NSS Namsos 44.63 328 ⇑*iP* **P 10 36 48.9 +0.3**
NSS IVmB_BB 10 36 50.0
comp=Z,12µm,5.9s
NSS *eS* **S 10 43 05.9 -2.0**
TJN Taejon 44.64 73*ceP* **P 10 36 49.5 +0.4**
TJN Taejon 44.64 73 P **P 10 36 49.1 0.0**
TJN Taejon 44.64 73 P **P 10 36 50.0 +0.9**
WTTA Wattenberg 44.66 303 *eP* **P 10 36 49.2 -0.2**
comp=Z,276nm,1.3s,SNR=134
WTTA *eP* **pP 10 37 37.3 +1.5**
comp=Z,383nm,1.0s
WTTA S **sP 10 37 59.7 -0.5**
comp=Z,310nm,1.0s
WTTA *eS* **ScP 10 41 58.0 -1.5**
comp=Z,409nm,1.2s
WTTA *eP* **ScS 10 46 21.5 -2.1**
comp=Z,174nm,1.5s
OSL Oslo 44.68 321 ⇑*iP* **P 10 36 49.6 +0.5**
OSL IVmB_BB 10 36 50.5
comp=Z,15µm,2.4s
OSL *eS* **S 10 43 08.3 -0.3**
WATA Walderalm 44.69 303 *eP* **P 10 36 49.2 -0.3**
comp=Z,335nm,1.2s,SNR=111
WATA *eP* **pP 10 37 37.4 +1.5**
comp=Z,356nm,1.2s
WATA *eS* **sP 10 37 59.7 -0.7**
comp=Z,611nm,2.0s
WATA *eS* **ScP 10 41 58.3 -1.3**
comp=Z,485nm,1.4s
WATA P **ScS 10 46 20.4 -3.3**
comp=Z,128nm,1.8s
KS19 Wonju Array Si 44.70 71 P **P 10 36 51.3 +1.8**
KS19 IAmb IAmb 10 36 53.3
comp=Z,2µm,1.1s
KSAR Wonju Array Be 44.73 71 P **P 10 36 50.9 +1.2**
KSAR pP **pP 10 37 40.1 +2.8**
NACB Ninganchiao 44.74 91 P **P 10 36 52.1 +2.0**
NACB IAmb IAmb 10 36 57.1
comp=Z,1µm,0.9s
ASSE Asse, Remlinge 44.75 310 *eP* **P 10 36 50.2 +0.6**
comp=Z,2µm,2.4s,baz=85,slow=7.8
KSRS Korea Array 44.75 71 P **P 10 36 50.8 +0.8**
comp=Z,1µm,0.9s,baz=282,slow=6.2,SNR=595
KSRS pP **pP 10 37 38.1 +0.6**
comp=Z,286nm,0.9s,baz=278,slow=7.2,SNR=2.9
KSRS PcP **PcP 10 38 28.3 +0.1**
comp=Z,338nm,0.8s,baz=290,slow=3.4,SNR=12
KSRS S **S 10 43 08.1 -2.2**
comp=Z,20nm,1.1s,baz=261,slow=8.7,SNR=1.9
KSRS PKP2bc 11 08 51.9
comp=Z,3.9nm,1.1s,baz=169,slow=1.3,SNR=4.4
KSRS P4KPbc 11 14 38.8
comp=Z,4.1nm,0.8s,baz=287,slow=4.8,SNR=10.0

MURB Monte Urbino 44.76 298 P **P 10 36 51.0 +0.9**
LOF Lofoten 44.77 333 ⇑*iP* **P 10 36 49.5 -0.2**
LOF IVmB_BB 10 36 51.1
comp=Z,17µm,1.9s
LOF *eS* **S 10 43 11.1 +1.4**
FUR Furstenfeldbru 44.78 305 *eP* **P 10 36 51.1 +1.0**
comp=Z,2µm,1.8s,baz=85,slow=7.8
CTI Castel Tesino 44.85 302 P **P 10 36 50.6 -0.2**
CTI pmax pmax
comp=Z,300nm,0.8s
CTI Castel Tesino 44.85 302 P **P 10 36 50.6 -0.2**
BSEG Bad Segeberg 44.85 313 *eP* **P 10 36 51.9 +1.4**
comp=Z,1µm,1.2s,baz=85,slow=7.8
BSEG *epP* **pP 10 37 40.7 +3.7**
OVD Ostervraa, Den 44.85 318 *i* P **P 10 36 51.4 +0.9**
YULB Yu-li 44.87 92 P **P 10 36 54.0 +2.9**
YULB IAmb IAmb 10 36 56.1
comp=Z,2µm,0.8s
TEOL Teolo 44.95 301 P **P 10 36 51.6 +0.2**
CLZ Clausthal 44.95 310 *eP* **P 10 36 52.4 +1.0**
comp=Z,850nm,1.2s,baz=85,slow=7.8
SQTA Sankt Quirin 44.96 303 *eP* **P 10 36 51.4 -0.2**
comp=Z,176nm,0.7s,SNR=99
SQTA *eP* **pP 10 37 39.3 +1.2**
comp=Z,233nm,1.0s
SQTA *eS* **sP 10 38 01.9 -0.5**
comp=Z,185nm,0.8s
SQTA *eS* **ScP 10 41 59.0 -1.7**
comp=Z,170nm,0.9s
SQTA P **ScS 10 46 23.3 -2.0**
comp=Z,93nm,1.4s
TWG Pinlang 44.97 93 P **P 10 36 54.3 +2.5**
MOTA Moosalm 45.01 304 *eP* **P 10 36 51.6 -0.5**
comp=Z,144nm,0.8s,SNR=138
MOTA *eP* **pP 10 37 39.8 +1.2**
comp=Z,381nm,1.0s
MOTA *eS* **sP 10 38 02.5 -0.4**
comp=Z,168nm,0.7s
MOTA *eS* **ScP 10 41 59.4 -1.5**
comp=Z,492nm,1.1s
MOTA P **ScS 10 46 23.1 -2.7**
comp=Z,96nm,2.0s
KLR Kul'dur 45.05 54 P **P 10 36 53.5 +1.3**
comp=Z,916nm,0.9s,baz=280,slow=8.3,SNR=809
KLR pP **pP 10 37 40.7 +1.0**
comp=Z,169nm,0.9s,baz=286,slow=8.5,SNR=1.5
KLR P4KPbc 11 14 40.0
comp=Z,1.1nm,0.4s,baz=282,slow=8.3,SNR=5.7
KLR Kul'dur 45.05 54*c iP* **P 10 36 53.5 +1.3**
KLR pmax pmax
comp=Z,1µm,1.0s
NRDL Niedersach Rie 45.06 311 *eP* **P 10 36 53.5 +1.4**
comp=Z,2µm,1.5s,baz=85,slow=7.8
HOPEN Hopen 45.10 346 ⇑*iP* **P 10 36 54.6 +2.4**
HOPEN IVmB_BB 10 36 55.7
comp=Z,26µm,2.6s
HOPEN *eS* **S 10 43 19.7 +5.4**
MGAB Montegabbione 45.12 297 ⇑P **P 10 36 52.8 -0.1**
TBLU Trondheim 45.20 326 ⇑*iP* **P 10 36 53.5 +0.4**
TBLU IVmB_BB 10 36 54.4
comp=Z,14µm,2.6s
TBLU *eS* **S 10 43 16.9 +0.8**
RETA Reutte 45.22 304 *eP* **P 10 36 53.4 -0.2**
comp=Z,173nm,1.2s,SNR=83
RETA *eP* **pP 10 37 41.4 +1.3**
comp=Z,238nm,1.0s
RETA *eS* **sP 10 38 03.8 -0.8**
comp=Z,498nm,2.1s
RETA *eS* **ScP 10 42 01.0 -0.6**
comp=Z,228nm,1.2s
GTTG Gottingen 45.23 310 *eP* **P 10 36 54.7 +1.1**
comp=Z,1µm,1.1s,baz=85,slow=7.8
KONO Kongsberg 45.23 321*c iP* **P 10 36 53.8 +0.3**
KONO pmax pmax
comp=Z,991nm,1.7s
KONO Kongsberg 45.23 321 P **P 10 36 53.2 -0.2**
KONO Kongsberg 45.23 321 ⇑P **P 10 36 53.7 +0.3**
KONO Kongsberg 45.23 321 ⇑*iP* **P 10 36 54.0 +0.5**
UBBA Unterbreizbach 45.28 309 *eP* **P 10 36 54.8 +0.9**
comp=Z,312nm,0.8s,baz=85,slow=7.8
FETA Feichten 45.31 303 *eP* **P 10 36 54.2 -0.2**
comp=Z,209nm,1.1s,SNR=120
FETA *eS* **sP 10 38 04.3 -1.0**
comp=Z,280nm,1.1s
FETA *eS* **ScP 10 42 01.8 -0.4**
comp=Z,303nm,1.0s
FETA P **ScS 10 46 25.2 -2.6**
comp=Z,316nm,1.6s
BKNI Bangkinang 45.35 136 P **P 10 36 55.3 +0.4**
BKNI Bangkinang 45.35 136 ⇑P **P 10 36 55.6 +0.7**
BKNI Bangkinang 45.35 136 P **P 10 36 55.5 +0.7**
comp=Z,41µmcomp=Z,43µmcomp=Z,5µm,0.8s
BKNI Bangkinang 45.35 136 P **P 10 36 55.8 +0.9**
BJO1 Bjornoya 45.38 343 ⇑*iP* **P 10 36 55.6 +1.3**
BJO1 *eS* **S 10 43 19.4 +1.2**
GOET G??ttrup 45.39 317 *i* P **P 10 36 56.1 +1.5**
MUD Monsted U'grnd 45.42 317 *i* P **P 10 36 56.1 +1.2**
MUD IVmB_BB 10 36 57.2
comp=Z,19µm,2.9s
MUD IAmb IAmb 10 36 57.7
comp=Z,9µm,2.9s
MUD Monsted U'grnd 45.42 317 ⇑P **P 10 36 55.8 +0.9**
RETH Rethem/Aller, 45.50 311 *eP* **P 10 36 56.7 +1.1**
comp=Z,819nm,1.4s,baz=85,slow=7.8
OSSC Osservatorio P 45.61 298 P **P 10 36 57.3 +0.6**
OSSC IAmb IAmb 10 38 14.1
comp=Z,2µm,1.4s
UBR Ueberruh 45.62 304 *eP* **P 10 36 57.2 +0.5**
comp=Z,10µm,3.1s,baz=85,slow=7.8
UBR *epP* **pP 10 37 45.9 +2.4**
ZCCA Zocca 45.63 299 P **P 10 36 58.5 +1.6**
ZCCA IAmb IAmb 10 38 37.5
comp=Z,1µm,1.1s
DOMB Dombas 45.64 324 ⇑*iP* **P 10 36 57.1 +0.5**
DOMB IVmB_BB 10 36 58.3
comp=Z,17µm,2.2s
DOMB *eS* **S 10 43 22.3 -0.2**
SISI Saibi 45.66 139 P **P 10 36 59.0 +1.7**
comp=Z,31µmcomp=Z,18µmcomp=Z,2µm,0.8s
SALO Salr 45.70 301 P **P 10 36 57.7 +0.4**
SALO IAmb IAmb 10 38 15.4
comp=Z,2µm,1.4s
SALO Salr 45.70 301 ⇑P **P 10 36 58.1 +0.8**
YOJ Yonaguni jima 45.75 90 P **P 10 36 59.4 +1.4**
YOJ pmax pmax
comp=Z,1µm,1.0s
YOJ Yonaguni jima 45.75 90 P **P 10 36 59.4 +1.4**
YOJ IAmb IAmb 10 37 00.8
comp=Z,1µm,1.0s
YOJ Yonaguni jima 45.75 90 ⇑P **P 10 36 58.6 +0.7**
YOJ Yonaguni jima 45.75 90 P **P 10 36 59.4 +1.4**
HOMB Homborsund 45.77 319 ⇑*iP* **P 10 36 58.0 +0.4**
HOMB IVmB_BB 10 36 59.2
comp=Z,17µm,1.8s
HOMB *eS* **S 10 43 25.4 +1.2**
TIXI Tiksi 45.77 22 P **P 10 36 58.3 +0.8**
comp=Z,496nm,0.3s,baz=272,slow=14,SNR=905
TIXI pP **pP 10 37 46.3 +1.3**
comp=Z,1µm,1.1s,baz=269,slow=23,SNR=4.2
TIXI ScP **ScP 10 42 01.7 -1.7**
comp=Z,340nm,1.1s,baz=270,slow=23,SNR=6.3
TIXI P4KPbc 11 14 42.6
comp=Z,11nm,0.8s,baz=90,slow=20,SNR=11
TIXI Tiksi 45.77 22*c iP* **P 10 36 58.3 +0.8**
TIXI pmax pmax
comp=Z,2µm,0.9s
TIXI Tiksi 45.77 22 P **P 10 36 57.9 +0.4**
TIXI IAmb IAmb 10 37 01.6
comp=Z,2µm,0.9s
TIXI Tiksi 45.77 22 ⇑P **P 10 36 58.2 +0.8**
MYKOM Kota Tinggi 45.81 131 P **P 10 36 59.7 +1.1**
MYKOM Kota Tinggi 45.81 131 ⇑P **P 10 37 00.1 +1.6**
MYKOM Kota Tinggi 45.81 131 P **P 10 37 00.0 +1.5**
MSHR Mys Shultsa 45.83 63*c iP* **P 10 37 00.5 +2.2**
MSHR pmax pmax
comp=Z,1µm,1.5s
DAVA Damuels 45.84 304 *eP* **P 10 36 58.7 +0.1**
comp=Z,278nm,0.5s,SNR=269
DAVA *eS* **ScP 10 42 03.4 -1.0**
comp=Z,406nm,1.1s
DAVA P **ScS 10 46 29.5 -1.7**
comp=Z,92nm,1.6s
SKAR Skarslia 45.92 322 ⇑*iP* **P 10 37 00.0 +1.1**
SKAR IVmB_BB 10 37 01.2
comp=Z,14µm,2.7s
SKAR *eS* **S 10 43 29.2 +2.6**

PRMA PARMA 46.01 300 P **P 10 37 00.4 +0.7**
CASP Castiglione de 46.05 297 P **P 10 36 59.1 -0.9**
STU Stuttgart 46.06 306 P **P 10 37 00.8 +0.7**
STU pmax pmax
comp=Z,413nm,1.0s
STU Stuttgart 46.06 306 P **P 10 37 00.8 +0.7**
STU Stuttgart 46.06 306 *eP* **P 10 37 01.0 +0.9**
comp=Z,5µm,1.9s,baz=85,slow=7.8
STU Stuttgart 46.06 306 ⇑P **P 10 37 00.0 -0.1**
USA0B Ussuriysk Arra 46.06 61 P **P 10 37 00.2 0.0**
USA0B pmax pmax
comp=Z,451nm,0.9s
USA0B Ussuriysk Arra 46.06 61 P **P 10 37 00.2 0.0**
USRK Ussuriysk Ar. 46.06 61 P **P 10 37 00.7 +0.6**
comp=Z,360nm,0.8s,baz=276,slow=7.2,SNR=592
USRK PcP **PcP 10 38 33.5 +0.8**
comp=Z,129nm,0.8s,baz=309,slow=4.2,SNR=9.6
VLA Vladivostok 46.23 62*c iP* **P 10 37 02.9 +1.5**
VLA pmax pmax
comp=Z,2µm,0.8s
KASTN Kahler Asten 46.23 309 *eP* **P 10 37 02.1 +0.7**
comp=Z,2µm,2.3s,baz=85,slow=7.8
HLG Helgoland 46.27 313 *eP* **P 10 37 02.8 +1.3**
comp=Z,1µm,1.2s,baz=85,slow=7.8
HLG Helgoland 46.27 313 ⇑P **P 10 37 02.8 +1.3**
TNS Taunus Mts 46.34 308 *eP* **P 10 37 03.2 +0.9**
comp=Z,1µm,2.0s,baz=85,slow=7.8
TUE Stuetta 46.34 303 P **P 10 37 02.1 -0.5**
TUE Stuetta 46.34 303 ⇑P **P 10 37 02.1 -0.5**
MOL Molde 46.38 325 ⇑*iP* **P 10 37 03.4 +1.1**
MOL IVmB_BB 10 37 04.4
comp=Z,15µm,2.7s
MOL *eS* **S 10 43 34.9 +2.0**
SNART Snartemo 46.45 319 ⇑*iP* **P 10 37 03.9 +0.9**
SNART IVmB_BB 10 37 05.0
comp=Z,48µm,2.3s
SNART *eS* **S 10 43 34.5 +0.5**
IBBN Ibbenburen 46.52 311 *eP* **P 10 37 04.5 +1.0**
comp=Z,2µm,1.4s,baz=85,slow=7.8
IBBN *epP* **pP 10 37 53.2 +2.7**
IBBN Ibbenburen 46.52 311 ⇑P **P 10 37 04.3 +0.8**
LODK Lodwar 46.55 234 P **P 10 37 05.5 +1.2**
LODK Lodwar 46.55 234 P **P 10 37 06.4 +2.0**
SNR=263
LODK Lodwar 46.55 234 *eP* **P 10 37 04.7 +0.4**
LODK Lodwar 46.55 234 ⇑*iP* **P 10 37 06.2 +1.9**
LODK Lodwar 46.55 234 *eP* P 10 36 58.6 -5.8
BOB Bobbio (Coli) 46.61 300 ⇑P **P 10 37 05.6 +1.1**
AKN Aaknes 46.62 324 ⇑*iP* **P 10 37 05.2 +1.0**
AKN IVmBBB 10 37 06.3
comp=Z,10µm,2.8s
AKN *eS* **S 10 43 38.0 +1.8**
RGRI Rengat 46.63 135 P **P 10 37 05.3 +0.4**
comp=Z,528nm,0.5s
MSSA Maissana 46.66 300 P **P 10 37 04.8 -0.1**
BFO Black Forest 46.70 305 P **P 10 37 04.7 -0.4**
BFO pmax pmax
comp=Z,435nm,1.2s
BFO Black Forest 46.70 305 P **P 10 37 04.7 -0.4**
BFO Black Forest 46.70 305 *eP* **P 10 37 05.3 +0.2**
comp=Z,445nm,1.5s,baz=85,slow=7.8
BFO Black Forest 46.70 305 P **P 10 37 05.1 0.0**
BFO Black Forest 46.70 305 ⇑P **P 10 37 05.5 +0.4**
BFO sP **sP 10 38 16.0 -0.2**
ODD1 Odda 46.74 321 ⇑*iP* **P 10 37 06.5 +1.2**
ODD1 IVmB_BB 10 37 07.6
comp=Z,17µm,2.7s
ODD1 *eS* **S 10 43 38.5 +0.3**
JTU Tsushima 46.81 74 P **P 10 37 06.9 +0.8**
JTU IAmb IAmb 10 37 08.9
comp=Z,1µm,0.9s
JTU Tsushima 46.81 74 ⇑P **P 10 37 07.1 +1.0**
BLS5 Blasjo 46.83 321 ⇑*iP* **P 10 37 07.0 +1.1**
BLS5 IVmB_BB 10 37 08.2
comp=Z,20µm,2.2s
BLS5 *eS* **S 10 43 41.3 +1.9**
TPRI Tanjung Pinang 46.91 131 P **P 10 37 08.7 +1.6**
comp=Z,18µmcomp=Z,1µm,0.8s
BUG Bochum--Univer 46.92 310 *eP* **P 10 37 07.5 +0.9**
comp=Z,2µm,1.9s,baz=85,slow=7.8
BUG *epP* **pP 10 37 56.6 +2.9**
HYA Hoyanger 46.97 323 ⇑*iP* **P 10 37 07.4 +0.5**
HYA IVmB_BB 10 37 08.8
comp=Z,11µm,2.5s
HYA *eS* **S 10 43 42.8 +1.6**
AHRW Bad Neuenahr-A 47.16 308 *eP* **P 10 37 09.7 +1.1**
comp=Z,1µm,1.3s,baz=85,slow=7.8
HSPB Hornsund (broa 47.24 345 *eP* **P 10 37 11.0 +2.2**
HSPB *es*P **sP 10 38 20.9 -0.1**
HSPB *eS* **S 10 43 48.7 +4.0**
HSPB Hornsund (broa 47.24 345 ⇑*iP* **P 10 37 10.9 +2.2**
HSPB IVmB_BB 10 37 11.9
comp=Z,17µm,2.4s
HSPB *eS* **S 10 43 48.3 +3.6**
PPSI Pulau Pagai 47.35 139 P **P 10 37 12.2 +1.8**
comp=Z,54µmcomp=Z,41µmcomp=Z,3µm,0.8s
BER Bergen 47.39 322 ⇑*iP* **P 10 37 11.2 +1.1**
BER *eS* **S 10 43 49.5 +2.4**
JMJ Miyako jima 2 47.43 88 P **P 10 37 13.5 +2.5**
ASK Askoy 47.46 322 ⇑*iP* **P 10 37 11.2 +0.6**
ASK IVmB_BB 10 37 12.4
comp=Z,30µm,2.5s
ASK *eS* **S 10 43 51.6 +3.5**
KMY Karmoy 47.46 320 ⇑*iP* **P 10 37 11.5 +0.9**
ECH Echery 47.49 305 P **P 10 37 10.8 -0.4**
ECH pmax pmax
comp=Z,1µm,1.9s
ECH Echery 47.49 305 P **P 10 37 10.8 -0.4**
ECH Echery 47.49 305 ⇑P **P 10 37 11.2 +0.1**
FOO Floro 47.53 324 ⇑*iP* **P 10 37 11.7 +0.6**
FOO IVmBBB 10 37 13.0
comp=Z,12µm,2.8s
FOO *eS* **S 10 43 51.2 +2.2**
KRJI Kerinci 47.58 137 P **P 10 37 12.8 +0.5**
comp=Z,49µmcomp=Z,92µmcomp=Z,7µm,0.7s
SPB2 Spitsbergen Ar 47.59 347 P **P 10 37 12.4 +0.9**
SPB2 IAmb IAmb 10 37 18.2
comp=Z,5µm,1.9s
SPA0 Spitsbergen Ar 47.59 347 ⇑*iP* **P 10 37 13.4 +1.9**
MONC Moncucco Torin 47.60 301 ⇑P **P 10 37 12.2 +0.2**
SUE Sulen 47.66 323 ⇑*iP* **P 10 37 13.2 +0.9**
SUE IVmBBB 10 37 15.0
comp=Z,14µm,1.7s
SUE *eS* **S 10 43 52.7 +1.7**
BTNL Ternell 47.75 309 *dP* **P 10 37 13.9 +0.8**
comp=Z,227nm,1.0s
BTNL *dp*P **pP 10 37 59.8 -0.5**
BTNL *dx* x 10 40 13.2
BTNL *d*ScP **ScP 10 42 11.6 -0.6**
SENIN Lac Senin/Sane 47.75 303 P **P 10 37 12.9 -0.6**
GRNR Gornyy 47.83 51 ⇑*iP* **P 10 37 15.5 +1.8**
GRNR *eS* **S 10 43 58.6 +4.9**
GRNR pmax pmax
comp=E,560nm,1.0s
GRNR pmax pmax
comp=N,120nm,1.2s
GRNR pmax pmax
comp=Z,1µm,1.0s
GRNR smax smax
comp=N,50nm,1.0s
GRNR MLR MLR
comp=E,6µm,15.0s
GRNR MLR MLR
comp=N,8µm,13.0s
GRNR MLR MLR
comp=Z,10µm,16.0s
MEM Membach 47.83 309 *dP* **P 10 37 14.5 +0.8**
comp=Z,247nm,0.9s
MEM *dp*P **pP 10 38 00.4 -0.4**
MEM *dx* x 10 40 13.4
MEM *d*SbSb 10 42 11.3
BHOU Houvegnez 47.87 308 *dP* **P 10 37 15.1 +1.1**
BHOU *dp*P **pP 10 38 03.7 +2.5**
BHOU *d*PP **PP 10 39 12.9 +5.2**
BHOU *dx* x 10 40 14.8
WLF Walferdange 47.89 307 P **P 10 37 14.9 +0.7**
WLF pmax pmax
comp=Z,536nm,1.0s
WLF Walferdange 47.89 307 P **P 10 37 14.9 +0.7**
WLF Walferdange 47.89 307 *eP* **P 10 37 15.5 +1.3**
comp=Z,2µm,1.8s,baz=85,slow=7.8
WLF *epP* **pP 10 38 04.6 +3.3**
WLF Walferdange 47.89 307 ⇑P **P 10 37 15.3 +1.2**
WLF Walferdange 47.89 307 *dP* **P 10 37 15.1 +0.9**

comp=Z,284nm,0.9s
WLF dpP pP 10 37 59.7 -1.7
WLF dx x 10 40 05.9
VSL Villasalto 47.99 293 P P **10 37 15.2 +0.1**
VSL Villasalto 47.99 293 ⇑P P **10 37 14.6 -0.5**
BEBN Eben Emael 48.00 309 dP P **10 37 15.6 +0.6**
comp=Z,128nm,0.8s
BEBN dpP pP **10 38 03.3 +1.1**
BEBN dPP PP **10 39 13.9 +4.9**
BEBN dScP ScP **10 42 11.5 -1.6**
DSRI Dabo 48.05 132 P P **10 37 17.3 +1.5**
comp=Z,23μmcomp=Z,15μmcomp=Z,1μm,0.8s
BSTI Sart Tilman 48.11 309 dP P **10 37 16.9 +1.0**
comp=Z,28nm,0.7s
BSTI dpP pP **10 38 06.0 +3.0**
BSTI dx x 10 40 17.5
BSTI dScP ScP **10 42 12.1 -1.5**
BCLA Clavier 48.30 309 dP P **10 37 16.8 -0.5**
comp=Z,110nm,1.2s
BCLA dpP pP **10 38 08.4 +3.8**
BCLA dsP sP **10 38 27.5 -1.2**
BCLA dScP ScP **10 42 13.6 -0.8**
RCHB Rochefort 48.39 308 dP P **10 37 18.7 +0.7**
comp=Z,147nm,1.0s
RCHB dsP sP **10 38 29.1 -0.4**
RCHB dx x 10 40 18.6
RCHB dScP ScP **10 42 13.7 -1.1**
JMBI JAMBI 48.43 134 P P **10 37 19.8 +1.1**
comp=Z,14μmcomp=Z,1μm,0.7s
BGES Gesves 48.44 309 dP P **10 37 19.0 +0.6**
comp=Z,140nm,1.3s
BGES dsP sP **10 38 27.5 -2.3**
BGES dx x 10 40 19.1
BGES dScP ScP **10 42 11.7 -3.4**
JNU Nakatsue 48.46 75 P P **10 37 19.8 +1.0**
comp=Z,2μm,0.9s,baz=303,slow=3.2,SNR=510
JNU pP pP **10 38 08.3 +1.2**
comp=Z,534nm,1.0s,baz=300,slow=4.6,SNR=2.2
JNU PcP PcP **10 38 41.2 -0.3**
comp=Z,391nm,0.8s,baz=12,slow=4.2,SNR=2.0
JNU S S **10 44 02.0 -1.1**
comp=Z,8.9nm,0.9s,baz=213,slow=16,SNR=0.9
JNU Nakatsue 48.46 75 P P **10 37 20.0 +1.2**
JNU IAmb IAmb 10 37 22.6
comp=Z,3μm,1.0s
JNU Nakatsue 48.46 75 ⇑P P **10 37 20.1 +1.3**
JNU Nakatsue 48.46 75 P P **10 37 20.8 +2.0**
BNI Bardonecchia 48.47 301 P P **10 37 18.9 0.0**
BNI pmax pmax
comp=Z,2μm,1.8s
BNI Bardonecchia 48.47 301 P P **10 37 18.9 0.0**
BNI Bardonecchia 48.47 301 ⇑P P **10 37 18.9 0.0**
BMRD Maredsous 48.66 308 dP P **10 37 20.7 +0.7**
comp=Z,294nm,1.0s
BMRD dpP pP **10 38 09.4 +2.1**
BMRD dx x 10 40 24.5
BMRD dScP ScP **10 42 15.1 -0.9**
KBS Kingsbay 48.71 347*c iP* P **10 37 21.8 +1.8**
KBS pmax pmax
comp=Z,2μm,1.5s
KBS Kingsbay 48.71 347 P P **10 37 21.4 +1.4**
KBS IAmb IAmb 10 37 24.9
comp=Z,3μm,1.6s
KBS Kingsbay 48.71 347 *i* P P **10 37 21.9 +1.8**
KBS Kingsbay 48.71 347 ⇑P P **10 37 21.7 +1.6**
KBS Kingsbay 48.71 347 ⇑*iP* P **10 37 21.7 +1.8**
KBS Kingsbay 48.71 347 P P **10 37 21.9 +1.8**
KBS pP pP **10 38 10.8 +2.9**
KBS sP sP **10 38 32.0 -0.4**
JSU Suzuyama 48.73 78 P P **10 37 21.5 +0.6**
JSU IAmb IAmb 10 37 24.8
comp=Z,1μm,0.9s
JSU Suzuyama 48.73 78 ⇑P P **10 37 20.1 -0.9**
DOU Dourbes 48.80 308 dP P **10 37 21.6 +0.4**
comp=Z,257nm,1.3s
DOU dpP pP **10 38 14.0 +5.6**
DOU dx x 10 40 24.0
DOU dScP ScP **10 42 16.0 -0.6**
UCC Uccle 48.83 309 P P **10 37 21.1 -0.2**
UCC Uccle 48.83 309 P P **10 37 21.1 -0.2**
UCC Uccle 48.83 309 dP P **10 37 21.9 +0.6**
UCC dpP pP **10 38 09.7 +1.1**
UCC dx x 10 40 20.5
UCC dScP ScP **10 42 15.6 -1.1**
MASI Maura Aman, Be 48.88 137 P P **10 37 22.3 +0.2**
comp=Z,36μmcomp=Z,63μmcomp=Z,9μm,1.0s
KMBO Kilima Mbogo 48.90 228 P P **10 37 23.8 +1.2**
comp=Z,194nm,0.7s,baz=31,slow=10,SNR=313
KMBO S S **10 44 10.4 +0.5**
comp=Z,13nm,1.0s,baz=5.0,slow=12,SNR=2.0
KMBO Kilima Mbogo 48.90 228 *i* P P **10 37 24.6 +2.0**
KMBO pmax pmax
comp=Z,194nm,0.6s
KMBO Kilima Mbogo 48.90 228 P P **10 37 24.1 +1.4**
KMBO IAmb IAmb 10 37 25.4
comp=Z,2μm,1.8s
KMBO Kilima Mbogo 48.90 228 P P **10 37 24.4 +1.8**
KMBO S S **10 44 14.5 +4.5**
KMBO Kilima Mbogo 48.90 228 ⇑P P **10 37 24.5 +1.8**
KMBO Kilima Mbogo 48.90 228 *eP* P **10 37 23.5 +0.9**
KMBO Kilima Mbogo 48.90 228 ⇑*iP* P 10 37 14.4 -8.3
KMBO Kilima Mbogo 48.90 228 *i* P P **10 37 24.3 +1.8**
SNR=372
JOW Kunigami 48.92 84 P P **10 37 23.2 +0.8**
comp=Z,979nm,0.7s,baz=301,slow=6.8,SNR=209
JOW S S **10 44 07.7 -1.9**
comp=Z,26nm,0.9s,baz=96,slow=26,SNR=2.3
JOW Kunigami 48.92 84 ⇑P P **10 37 22.2 -0.1**
JOW Kunigami 48.92 84 P P **10 37 23.4 +1.0**
SNF Seneffe 48.93 309 dP P **10 37 22.6 +0.6**
comp=Z,310nm,1.0s
SNF dpP pP **10 38 11.3 +2.0**
SNF dx x 10 40 25.9
SNF dScP ScP **10 42 16.0 -1.1**
TAMR Tamra 48.95 290 ⇑P P **10 37 22.7 +0.3**
TEY Ternei 49.09 59 ⇑*iP* P **10 37 23.4 +0.1**
TEY *e* 10 38 09.3
TEY *e* 10 38 44.0
TEY *eS* S **10 44 05.4 -5.9**
TEY pmax pmax
comp=N,50nm,0.9s
TEY pmax pmax
comp=E,130nm,0.9s
TEY pmax pmax
comp=Z,300nm,0.9s
TEY pmax pmax
comp=E,1μm,3.3s
TEY pmax pmax
comp=N,300nm,3.0s
TEY pmax pmax
comp=Z,4μm,4.3s
TEY smax smax
comp=N,3μm,7.2s
TEY smax smax
comp=E,6μm,9.5s
TEY MLR MLR
comp=E,7μm,16.0s
TEY MLR MLR
comp=N,7μm,12.0s
TEY MLR MLR
comp=Z,7μm,19.0s
KEST Kesra 49.20 289 P P **10 37 25.4 +0.9**
comp=Z,313nm,1.0s,baz=356,slow=1.0,SNR=130
KEST Kesra 49.20 289 P P **10 37 25.2 +0.7**
KEST IAmb IAmb 10 37 27.5
comp=Z,3μm,1.8s
KEST Kesra 49.20 289 P P **10 37 25.6 +1.1**
SNR=109
KEST P P **10 37 25.6 +1.1**
SNR=109
KEST S S **10 44 13.5 0.0**
KEST S S **10 44 13.5 0.0**
KIBK Kibwezi 49.41 226 P P **10 37 27.8 +1.6**
KIBK IAmb IAmb 10 37 29.9
comp=Z,3μm,1.7s
KIBK Kibwezi 49.41 226 P P **10 37 28.2 +2.0**
SNR=277
TATN Tataouine 49.42 284 ⇑P P **10 37 26.8 +0.7**
JHS Saijyo 49.52 72 ⇑P P **10 37 27.0 +0.2**
TGY Tagaytay City 49.55 103 P P **10 37 28.5 +1.2**
comp=Z,3μm,0.8s,baz=266,slow=2.0,SNR=68
RUSF Rustrel 49.57 300 ⇑P P **10 37 29.9 +2.9**
SSB Saint Sauveur 49.88 302 P P **10 37 30.1 +0.7**
SSB pmax pmax
comp=Z,2μm,1.8s
SSB Saint Sauveur 49.88 302 P P **10 37 30.1 +0.7**
SSB IAmb IAmb 10 38 47.9
comp=Z,2μm,1.8s
SSB Saint Sauveur 49.88 302 ⇑P P **10 37 29.9 +0.4**
NKL Nikolayevsk 50.04 47 *eP* P **10 37 30.2 -0.2**
NKL *e* 10 38 43.2
NKL *eS* S **10 44 24.3 0.0**
NKL pmax pmax
comp=E,3.0nm,0.9s
NKL pmax pmax
comp=N,1.0nm,1.2s
NKL pmax pmax
comp=Z,4μm,1.0s
NKL pmax pmax
comp=Z,2μm,2.6s
NKL smax smax
comp=E,3.0nm,3.6s
NKL smax smax
comp=N,1.0nm,1.3s
NKL MLR MLR
comp=Z,12μm,12.0s
PMBI Palembang 50.13 134 P P **10 37 31.3 -0.3**
PMBI IAmb IAmb 10 37 33.2
comp=Z,2μm,0.9s
PMBI Palembang 50.13 134 ⇑P P **10 37 31.6 0.0**
PMBI Palembang 50.13 134 P P **10 37 31.5 -0.1**
comp=Z,50μmcomp=Z,36μmcomp=Z,3μm,0.7s
PMBI Palembang 50.13 134 P P **10 37 31.9 +0.3**
KSM Kuching 50.16 125 P P **10 37 33.1 +1.2**
KSM Kuching 50.16 125 ⇑P P **10 37 33.4 +1.5**
KSM Kuching 50.16 125 P P **10 37 34.0 +2.2**
KSM Kuching 50.16 125 P P **10 37 33.5 +1.7**
MNAI Manna 50.28 137 P P **10 37 31.6 -1.1**
MNAI Manna 50.28 137 ⇑P P **10 37 31.8 -0.9**
MNAI Manna 50.28 137 P P **10 37 31.7 -1.0**
comp=Z,36μmcomp=Z,39μmcomp=Z,3μm,0.7s
MNAI Manna 50.28 137 P P **10 37 32.2 -0.5**
PPBI Pangkal Pinang 50.32 132 P P **10 37 34.0 +1.0**
comp=Z,31μmcomp=Z,21μmcomp=Z,1μm,0.8s
CMAH Djebel Manchou 50.36 290 P P **10 37 33.3 +0.1**
ABSA Djebel Ababsia 50.44 290 P P **10 37 33.9 +0.1**
JMN Monobe 50.56 73 P P **10 37 35.6 +0.9**
JMN Monobe 50.56 73 ⇑P P **10 37 36.0 +1.3**
LRW Lerwick 50.64 322 ⇑*eP* P **10 37 35.3 +0.5**
LRW Lerwick 50.64 322 ⇑P P **10 37 35.2 +0.5**
ELMS Elmsett, Ipswi 50.66 311 ⇑*eP* P **10 37 35.5 +0.4**
SBUM Sibu 50.73 122 ⇑P P **10 37 38.0 +1.9**
SBUM Sibu 50.73 122 P P **10 37 38.0 +1.9**
CLF Chambon-Foret 50.74 306 P P **10 37 35.8 0.0**
CLF IAmb IAmb 10 38 52.4
comp=Z,2μm,1.4s
CLF Chambon-Foret 50.74 306 ⇑P P **10 37 36.0 +0.2**
CLF Chambon-Foret 50.74 306 ⇑P P **10 37 35.9 +0.2**
CLF ⇑pP pP **10 38 25.7 +2.2**
CLF sP sP **10 38 46.7 -0.8**
WACR West Acre 50.76 312 ⇑*iP* P **10 37 36.0 +0.2**
WACR IAmb IAmb 10 37 40.9
comp=Z,3μm,0.9s
ELSH Elham, Standar 50.77 310 ⇑*iP* P **10 37 36.3 +0.4**
CKFL Kef-Lekhel 50.97 290 P P **10 37 37.4 -0.4**
KKM Kota Kinabalu 51.04 115 ⇑P P **10 37 40.6 +2.1**
KKM Kota Kinabalu 51.04 115 P P **10 37 40.9 +2.4**
LMK Market Rasen 51.19 313 ⇑*eP* P **10 37 39.1 +0.1**
LMK IAmb IAmb 10 37 43.5
comp=Z,2μm,1.2s
CASM Ain Smara 51.19 290 P P **10 37 39.9 +0.5**
GDLE Glaisdale, N Y 51.29 315 ⇑*eP* P **10 37 39.4 -0.3**
HMNX Herstmonceux 51.32 310 ⇑*eP* P **10 37 40.1 +0.2**
HMNX IAmb IAmb 10 37 44.7
comp=Z,2μm,1.3s
CTEI Djebel Teioual 51.33 290 P P **10 37 40.7 +0.2**
LWLI Liwa 51.43 136 P P **10 37 39.2 -2.2**
comp=Z,34μmcomp=Z,3μm,0.6s
DFRA Djebel Bou Aff 51.55 291 P P **10 37 42.0 -0.1**
MAHO Mahon 51.62 295 P P **10 37 40.6 -1.7**
MAHO S **sS** **10 46 10.7 -1.1**
TYV Tymovskoe 51.69 50 *eP* P **10 37 45.2 +2.5**
TYV *eS* S **10 44 52.2 +5.1**
TYV pmax pmax
comp=Z,611nm,1.0s
TYV pmax pmax
comp=Z,12μm,5.0s
TYV smax smax
comp=E,37nm,1.9s
TYV smax smax
comp=N,9μm,8.2s
TYV smax smax
comp=E,15μm,8.2s
UGL Uglegorsk 51.74 52 ⇑*iP* P **10 37 44.6 +1.5**
UGL *e* 10 38 33.5
UGL *eS* S **10 44 50.0 +2.3**
UGL *e* 10 46 13.1
UGL pmax pmax
comp=Z,14μm,4.9s
UGL smax smax
comp=E,16μm,7.2s
UGL smax smax
comp=N,9μm,5.8s
KLI Kotabumi 51.75 135 P P **10 37 41.0 -2.6**
comp=N,16μmcomp=N,9μmcomp=N,1μm,0.8s
DRUM Mains of Drumt 51.78 318 ⇑*eP* P **10 37 43.7 +0.4**
HPK Haverah Park 51.84 314 ⇑*iP* P **10 37 43.9 0.0**
HPK IAmb IAmb 10 37 45.6
comp=Z,892nm,0.7s
EDMD Edmundbyers 51.87 315 ⇑*eP* P **10 37 44.1 +0.1**
CWF Charnwood Fore 51.91 313 ⇑*eP* P **10 37 44.0 -0.3**
STKI Sintang 51.98 125 P P **10 37 47.2 +1.8**
comp=Z,19μmcomp=Z,20μmcomp=Z,723nm,0.9s
MLA1 Latheron 52.01 320 ⇑*eP* P **10 37 45.4 +0.4**
LBWR Ladybower, Pea 52.02 313 ⇑*iP* P **10 37 45.0 -0.1**
LBWR IAmb IAmb 10 37 49.5
comp=Z,694nm,1.0s
CKHR Kef el Ahmar 52.02 290 P P **10 37 45.6 0.0**
ESY Stoneypath 52.03 317 ⇑*iP* P **10 37 45.0 -0.1**
SET Setif 52.04 291 P P **10 37 47.0 +1.3**
MCD Coleburn Disti 52.07 319 ⇑*iP* P **10 37 46.0 +0.5**
KASI Kota Agung 52.09 136 P P **10 37 43.5 -2.6**
comp=Z,16μmcomp=Z,17μmcomp=Z,2μm,0.7s
EDU Dundee 52.13 318 ⇑*iP* P **10 37 46.0 +0.2**
SPMM Sapulut 52.13 116 P P **10 37 49.0 +2.5**
BBAT Babati 52.25 227 *i* P P **10 37 48.9 +1.4**
BIGH Upper Bighouse 52.26 320 ⇑*eP* P **10 37 47.3 +0.5**
BIGH IAmb IAmb 10 37 52.2
comp=Z,1μm,1.1s
EBL Broad Law 52.29 317 ⇑*eP* P **10 37 46.9 -0.2**
JSD Sado 52.34 67 P P **10 37 47.4 -0.3**
JSD Sado 52.34 67 ⇑P P **10 37 47.8 0.0**
EDI Edinburgh 52.34 317 ⇑*eP* P **10 37 47.6 +0.2**
INU Inuyama 52.37 70 P P **10 37 48.0 0.0**
INU Inuyama 52.37 70 ⇑P P **10 37 48.6 +0.6**
INU Inuyama 52.37 70 P P **10 37 49.2 +1.0**
INU Inuyama 52.37 70 ⇑P P **10 37 48.7 +0.7**
INU ⇓pP **pP** **10 38 38.0 +1.0**
INU sP **sP** **10 39 01.0 -0.4**
BLSI Bandar Lampung 52.39 135 P P **10 37 45.6 -2.7**
comp=Z,28μmcomp=Z,13μmcomp=Z,1μm,0.7s
ESK Eskdalemuir 52.47 316 P P **10 37 47.5 -0.9**
ESK pmax pmax
comp=Z,1μm,1.4s
ESK Eskdalemuir 52.47 316 P P **10 37 47.5 -0.9**
ESK Eskdalemuir 52.47 316 ⇑P P **10 37 48.5 +0.1**
ESK Eskdalemuir 52.47 316 P P **10 37 48.5 +0.1**
SWN1 Swindon 52.48 311 ⇑*iP* P **10 37 48.2 -0.3**
SWN1 IAmb IAmb 10 37 53.8
comp=Z,3μm,1.4s
JGF Kuroka 52.53 70 P P **10 37 49.3 +0.1**
JGF Kuroka 52.53 70 ⇑P P **10 37 49.6 +0.3**
KESW Keswick, Cumbr 52.56 315 ⇑*eP* P **10 37 49.5 +0.3**
KESW IAmb IAmb 10 37 53.8
comp=Z,2μm,1.3s
MBAR Mbarara 52.60 235 P P **10 37 50.9 +0.8**
comp=Z,305nm,0.6s,baz=31,slow=7.8,SNR=159
MBAR Mbarara 52.60 235*ceP* P **10 37 50.8 +0.7**
MBAR pmax pmax
comp=Z,1μm,2.5s
MBAR Mbarara 52.60 235 P P **10 37 49.8 -0.3**
MBAR Mbarara 52.60 235 P P **10 37 51.1 +1.1**
MBAR P P **10 37 51.1 +1.1**
MBAR S S **10 45 03.1 +2.5**
MBAR S S **10 45 03.1 +2.5**
MBAR Mbarara 52.60 235 ⇑P P **10 37 50.9 +0.8**
MBAR Mbarara 52.60 235⇓*eP* P **10 37 51.6 +1.5**
MBAR Mbarara 52.60 235⇑*iP* P 10 37 56.1 +6.1
MBAR Mbarara 52.60 235 *eP* P **10 37 47.5 -2.6**
STRD Stroud 52.64 312⇑*eP* P **10 37 49.6 -0.1**
STRD IAmb IAmb 10 37 54.3
comp=Z,811nm,1.0s
MDO Dochfour 52.69 319⇑*eP* P **10 37 50.1 +0.1**
JMIC Jan Mayen 52.70 336⇑*iP* P **10 37 52.1 +2.3**
JMIC IVmB_BB 10 37 52.9
comp=Z,26μm,3.0s
JMIC *eS* S **10 45 02.1 +1.8**
INVG Invergeldie, C 52.71 318⇑*iP* P **10 37 50.2 +0.1**
YSS Yuzh-Sakhalins 52.73 55*oeP* P **10 37 51.4 +0.9**
YSS *e**PP pP **10 38 38.9 -0.7**
YSS *e**SP sP **10 39 02.4 -1.6**
YSS *e* 10 39 53.7
YSS *eS* S **10 44 58.7 -2.6**
YSS *eP*PS PPS 10 46 25.0
YSS *eS*S **SKiKP** **10 48 49.7 +3.2**
YSS pmax pmax
comp=Z,14μm,7.0s
YSS pmax pmax
comp=E,4μm,6.9s
YSS pmax pmax
comp=Z,2μm,1.1s
YSS MLR MLR
comp=Z,21μm,14.0s
YSS MLR MLR
comp=E,12μm,13.0s
YSS Yuzh-Sakhalins 52.73 55 P P **10 37 51.6 +1.1**
YSS Yuzh-Sakhalins 52.73 55 ⇑P P **10 37 51.2 +0.8**
YSS Yuzh-Sakhalins 52.73 55 P P **10 37 51.7 +1.2**
KOND Kondoa 52.80 226 *i* P P **10 37 53.0 +1.5**
KOND *e* 10 37 55.1
baz=36,slow=9.3
MJB9 Matsu-Tunnel 52.83 68 P P **10 37 51.0 -0.3**
MJB9 IAmb IAmb 10 37 53.3
comp=Z,810nm,0.9s
MAJO Matsushiro 52.83 68*c iP* P **10 37 51.9 +0.5**
MAJO pmax pmax
comp=Z,872nm,0.9s
MAJO Matsushiro 52.83 68 P P **10 37 51.0 -0.3**
MAJO IAmb IAmb 10 37 53.3
comp=Z,820nm,0.9s
MAJO Matsushiro 52.83 68 ⇑P P **10 37 50.3 -1.1**
MAJO Matsushiro 52.83 68 P P **10 37 52.1 +0.7**
MJAR Matsushiro Arr 52.83 68 P P **10 37 51.8 +0.4**
comp=Z,165nm,0.8s,baz=303,slow=2.5,SNR=256
MJAR pP **pP** **10 38 42.0 +1.4**
comp=Z,526nm,1.2s,baz=226,slow=16,SNR=5.3
MJAR P4KPbc 11 15 13.4
comp=Z,4.5nm,0.9s,baz=221,slow=14,SNR=6.6
MJAR Matsushiro Arr 52.83 68 P P **10 37 51.5 +0.1**
MJAR pP **pP** **10 38 41.8 +1.3**
MJAR IAmb IAmb 10 38 44.0
comp=Z,2μm,1.4s
EAB Aberfoyle 52.92 317 ⇑*iP* P **10 37 51.8 +0.1**
LINV Loch Inver, As 52.99 320 ⇑*eP* P **10 37 52.9 +0.7**
LINV IAmb IAmb 10 37 57.6
comp=Z,2μm,1.3s
FOEL Foel Wylfa 53.00 313 ⇑*eP* P **10 37 52.6 +0.3**
FOEL IAmb IAmb 10 37 57.6
comp=Z,1μm,1.3s
JEW Eniwo 53.06 60 P P **10 37 53.7 +0.8**
JEW Eniwo 53.06 60 ⇑P P **10 37 53.5 +0.5**
PGBU Glenifferbraes 53.08 317 ⇑*iP* P **10 37 53.2 +0.3**
PGBU IAmb IAmb 10 37 57.5
comp=Z,893nm,1.0s
NEWG New Galloway 53.09 316 ⇑*eP* P **10 37 53.4 +0.5**
NEWG IAmb IAmb 10 37 55.0
comp=Z,577nm,0.7s
MCH1 Michaelchurch 53.09 312 ⇑*iP* P **10 37 53.0 0.0**
MCH1 IAmb IAmb 10 37 57.8
comp=Z,2μm,1.1s
MCH1 Michaelchurch 53.09 312 ⇑P P **10 37 53.0 0.0**
KAC Achnashellach 53.17 319 ⇑*iP* P **10 37 53.6 +0.1**
JQE Queens East 53.21 308 ⇑*eP* P **10 37 53.1 -0.8**
AKET Djebel Ketaf 53.24 291 P P 10 37 47.0 -7.5
LLW Llanuwchllyn 53.28 313 ⇑*eP* P **10 37 54.2 -0.1**
JSA Saint Aubin 53.29 308 ⇑*eP* P **10 37 54.1 -0.3**
JSA IAmb IAmb 10 37 55.5
comp=Z,3μm,2.4s
JSA Saint Aubin 53.29 308 ⇑P P **10 37 54.2 -0.3**
MYLDM Lahad Datu 53.30 114 P P **10 37 57.4 +2.4**
MYLDM IAmb IAmb 10 39 02.4
comp=Z,984nm,1.0s
MYLDM Lahad Datu 53.30 114 ⇑P P **10 37 57.7 +2.7**
JVM Valle D.L. Mar 53.31 308 ⇑*eP* P **10 37 54.2 -0.4**
KPL Plockton 53.39 319 ⇑*eP* P **10 37 55.4 +0.3**
KPL IAmb IAmb 10 37 59.6
comp=Z,838nm,1.0s
GAL1 Galloway 53.41 316 ⇑*eP* P **10 37 55.5 +0.3**
JTM Tenmabayashi 53.45 63 P P **10 37 55.4 -0.4**
JTM Tenmabayashi 53.45 63 ⇑P P **10 37 56.1 +0.3**
ASAJ Asahikawa 53.45 58 P P **10 37 56.2 +0.4**
comp=Z,145nm,0.6s,baz=281,slow=6.0,SNR=71
ASAJ pP **pP** **10 38 44.5 -0.6**
comp=Z,193nm,1.1s,baz=320,slow=19,SNR=1.2
ASAJ PcP **PcP** **10 39 00.0 +0.2**
comp=Z,281nm,0.7s,baz=285,slow=4.1,SNR=10
JKA Kamikawa-asahi 53.46 58 P P **10 37 55.5 -0.3**
JKA IAmb IAmb 10 39 29.7
comp=Z,2μm,1.8s
IOMK Kirk Michael 53.47 315 ⇑*eP* P **10 37 56.1 +0.4**
IOMK IAmb IAmb 10 37 57.4
comp=Z,1μm,0.6s
LAWE Loch Awe, Argy 53.48 318 ⇑*iP* P **10 37 56.1 +0.4**
LAWE IAmb IAmb 10 38 00.5
comp=Z,774nm,0.9s
YLL Llanberis 53.51 314 ⇑*eP* P **10 37 56.1 +0.1**
WME Myndd Eilian 53.52 314 ⇑*iP* P **10 37 56.1 0.0**
ADJB Djebel Djouab 53.53 291 P P **10 37 55.9 -0.7**
SBV Sambava 53.53 206 P P **10 37 57.3 +0.7**
SNR=18
SBV Sambava 53.53 206 ⇑P P **10 37 57.4 +0.7**
SBV Sambava 53.53 206 P P **10 37 57.2 +0.7**
WIM Isle of Man 53.56 315 ⇑*eP* P **10 37 56.8 +0.5**
ABA Alger-Bouzarea 53.59 292 P P **10 37 55.7 -1.2**
WLF1 Llynfaes 53.60 314 ⇑*iP* P **10 37 56.8 +0.1**
WLF1 IAmb IAmb 10 37 58.5
comp=Z,10μm,2.4s
WPS Cemaes, Angles 53.64 314 ⇑*eP* P **10 37 57.1 +0.2**
WPS IAmb IAmb 10 38 02.0
comp=Z,650nm,1.2s
CGJI Cibinong 53.66 136 P P **10 37 54.4 -3.1**
comp=Z,18μmcomp=Z,29μmcomp=Z,2μm,0.7s
YRC Rhoscolyn 53.72 314 ⇑*iP* P **10 37 57.8 +0.4**
TNG Tangerang 53.84 134 P P **10 37 56.7 -2.2**
comp=Z,847nm,0.7s
LEWI Lewis, Hebride 53.86 320 ⇑*eP* P **10 37 59.2 +0.8**
LEWI IAmb IAmb 10 38 00.7
comp=Z,2μm,1.7s
NOR Nord 53.89 350 *i* P P **10 37 59.8 +1.4**
NOR IAMs_20 IAMs_20 11 02 59.7
comp=Z,22μm,18.0s
NOR IVMsBB 11 03 03.5
comp=Z,7μm,16.0s
NOR Nord 53.89 350 ⇑P P **10 37 59.5 +1.1**
DYA Yadsworthy 54.06 310 ⇑*eP* P **10 37 59.8 -0.2**
COCO West Island 54.07 149 P P **10 38 01.8 +1.3**
COCO pmax pmax
comp=Z,836nm,1.0s
COCO West Island 54.07 149 P P **10 38 01.8 +1.3**
COCO IAmb IAmb 10 39 16.9
comp=Z,836nm,0.9s
RSBS Rosebush, Pemb 54.15 312 ⇑*eP* P **10 38 00.5 -0.2**
RSBS IAmb IAmb 10 38 02.0
comp=Z,274nm,0.7s
CLGH Cloghs, Cushen 54.15 316 ⇑*eP* P **10 38 01.1 +0.5**
PBKI Pangkalan Bun 54.19 127 P P **10 38 02.6 +1.1**
comp=Z,27μmcomp=Z,1μm,0.9s
DBJI Dramaga 54.21 135 P P **10 37 58.2 -3.4**
comp=Z,16μmcomp=Z,468nm,0.7s
JMM Marumori 54.27 66 ⇑P P **10 38 02.3 +0.5**
MA2 Magadan 54.32 38 P P **10 38 02.7 +1.0**
comp=Z,929nm,0.9s,baz=286,slow=7.2,SNR=319
MA2 pP **pP** **10 38 51.4 +0.5**
comp=Z,108nm,0.8s,baz=268,slow=7.5,SNR=0.9
MA2 PcP **PcP** **10 39 02.9 +0.1**
comp=Z,779nm,0.8s,baz=285,slow=2.9,SNR=12
MA2 S **S** **10 45 21.6 -0.7**
comp=Z,15nm,1.0s,baz=181,slow=20,SNR=1.2
MA2 P4KPbc 11 15 18.9
comp=Z,8.8nm,0.7s,baz=255,slow=4.8,SNR=9.4
MA2 Magadan 54.32 38*c iP* P **10 38 02.6 +0.8**

MA2 pmax pmax
comp=Z,2μm,1.3s
MA2 Magadan 54.32 38 P **P** **10 38 02.1 +0.4**
MA2 IAmb IAmb 10 38 05.1
comp=Z,2μm,1.0s
MA2 Magadan 54.32 38 ⇑P **P** **10 38 02.6 +0.8**
MA2 Magadan 54.32 38 P **P** **10 38 03.3 +1.5**
SEY Seymchan 54.38 34 P **P** **10 38 03.5 +1.3**
comp=Z,1μm,1.0s,baz=280,slow=7.7,SNR=754
SEY pP **pP** **10 38 52.1 +0.6**
comp=Z,283nm,0.9s,baz=286,slow=9.9,SNR=1.1
SEY PcP **PcP** **10 39 02.7 -0.4**
comp=Z,568nm,0.8s,baz=232,slow=7.0,SNR=10
SEY P4KPbc 11 15 19.2
comp=Z,7.2nm,0.7s,baz=265,slow=5.1,SNR=28
JYT Yasato 54.44 68 P **P** **10 38 02.5 -0.4**
JYT Yasato 54.44 68 ⇑P **P** **10 38 02.8 -0.2**
SKJI Sukabumi 54.47 135 P **P** **10 37 59.9 -3.5**
comp=Z,11μmcomp=Z,535nm,0.5s
ERM Erimo 54.52 60 *ce*P **P** **10 38 04.5 +1.0**
ERM pmax pmax
comp=Z,1μm,1.7s
ERM Erimo 54.52 60 P **P** **10 38 03.8 +0.3**
ERM IAmb IAmb 10 38 08.8
comp=Z,1μm,1.5s
ERM Erimo 54.52 60 ⇑P **P** **10 38 04.0 +0.5**
ERM Erimo 54.52 60 P **P** **10 38 04.5 +1.0**
ILTH Belurgan, Co L 54.54 315 ⇑*e*P **P** **10 38 03.2 -0.2**
DAG Danmarks Havn 54.84 344 *i*P **P** **10 38 05.0 -0.2**
DAG Danmarks Havn 54.84 344 ⇑P **P** **10 38 06.3 +1.1**
CCA1 Carnmenellis 54.92 310 ⇑*e*P **P** **10 38 06.0 -0.3**
CCA1 IAmb IAmb 10 38 10.9
comp=Z,792nm,1.0s
LEM Lembang 54.93 134 P **P** **10 38 04.1 -2.9**
comp=Z,106nm,0.7s,baz=356,slow=6.9,SNR=21
LEM Lembang 54.93 134 P **P** **10 38 03.5 -3.4**
comp=Z,14μmcomp=Z,2μmcomp=Z,133nm,0.7s
MTKI Muara Teweh, K 55.02 123 P **P** **10 38 08.5 +1.1**
comp=Z,20μmcomp=Z,15μmcomp=Z,769nm,0.8s
CNJI Cibinong 55.04 135 P **P** **10 38 03.0 -4.5**
comp=Z,19μmcomp=Z,5μmcomp=Z,607nm,0.7s
IWEX Carrickbyrne, 55.23 313 ⇑*e*P **P** **10 38 08.6 +0.2**
JHJ Hachijo jima 2 55.34 72 P **P** **10 38 08.6 -1.0**
comp=Z,309nm,0.8s,baz=225,slow=4.7,SNR=33
JHJ pP **pP** **10 38 58.0 -1.0**
comp=Z,154nm,0.8s,baz=356,slow=2.8,SNR=1.7
JHJ2 Mitsune 55.37 72 P **P** **10 38 09.9 +0.2**
JHJ2 IAmb IAmb 10 39 07.7
comp=Z,849nm,1.3s
JHJ2 Mitsune 55.37 72 ⇑P **P** **10 38 09.2 -0.5**
JHJ2 Mitsune 55.37 72 P **P** **10 38 09.7 0.0**
OKGL Djebel Kef Gue 55.67 292 P **P** **10 38 09.0 -2.9**
DBG Daneborg 55.70 341 *i*P **P** **10 38 13.2 +1.8**
DBG Daneborg 55.70 341 ⇑P **P** **10 38 12.9 +1.5**
YUK Yuzh-Kuril'sk 55.71 57 *di*P **P** **10 38 11.8 -0.1**
YUK *e**PP **pP** **10 39 01.3 +0.2**
YUK *e* 10 39 08.1
YUK *e* 10 40 18.1
YUK *e*PPP PPP 10 41 36.4
YUK *i*S **S** **10 45 42.5 +1.3**
YUK *e* 10 47 36.3
YUK *e*SS **SS** **10 49 26.8 -2.7**
YUK pmax pmax
comp=Z,4μm,1.3s
YUK pmax pmax
comp=Z,3μm,1.2s
YUK pmax pmax
comp=N,247nm,1.0s
YUK pmax pmax
comp=E,350nm,1.1s
OJGS Djebel Guires 55.80 292 P **P** **10 38 10.0 -2.8**
OJBR Djebel Berber 56.07 292 P **P** **10 38 11.0 -3.8**
KPJI Karang Pucung 56.11 133 P **P** **10 38 12.5 -2.6**
comp=E,5μmcomp=E,463nm,0.7s
CMJI Cimerak 56.19 134 P **P** **10 38 11.6 -4.0**
comp=E,10μmcomp=E,4μmcomp=E,292nm,0.7s
SMKI Samarinda 56.26 120 P **P** **10 38 18.3 +2.1**
comp=E,47μmcomp=E,27μmcomp=E,2μm,0.8s
CART Cartagena 56.29 295 P **P** **10 38 14.0 -2.1**
CART S **sS** **10 47 12.4 -3.1**
CART Cartagena 56.29 295 P **P** **10 38 15.2 -1.0**
CART Cartagena 56.29 295 ⇑P **P** **10 38 15.8 -0.4**
CART Cartagena 56.29 295 P **P** **10 38 15.9 -0.2**
IGLA Glengowla, Co 56.44 315 ⇑*e*P **P** **10 38 16.8 -0.1**
UWJI Ujung Watu 56.60 130 P **P** **10 38 18.9 +0.3**
comp=E,31μmcomp=E,3μm,0.8s
KUR Kuril'sk 56.65 55 *c i*P P 10 38 11.3 -7.2
KUR *i* 10 39 00.9
KUR *i*S **S** **10 45 47.2 -6.3**
KUR pmax pmax
comp=Z,971nm,2.6s
KUR pmax pmax
comp=E,6μm,7.0s
KUR pmax pmax
comp=Z,11μm,7.0s
KUR pmax pmax
comp=N,4μm,5.0s
KUR MLR MLR
comp=N,8μm,14.0s
KUR MLR MLR
comp=E,8μm,14.0s
KUR MLR MLR
comp=Z,9μm,14.0s
USTO Oran 56.68 292 P **P** **10 38 19.0 +0.1**
SMRI Semarang 56.78 131 P **P** **10 38 19.7 -0.2**
SMRI IAmb IAmb 10 38 22.0
comp=Z,714nm,0.6s
SMRI Semarang 56.78 131 ⇑P **P** **10 38 19.0 -0.9**
SMRI Semarang 56.78 131 P **P** **10 38 19.0 -0.9**
comp=Z,32μmcomp=Z,15μmcomp=Z,1μm,0.7s
SMRI Semarang 56.78 131 P **P** **10 38 19.2 -0.7**
XMI Christmas Isla 56.82 138 ⇑P **P** **10 38 19.6 -0.5**
XMI Christmas Isla 56.82 138 P **P** **10 38 19.2 -0.9**
XMIS Christmas Isla 56.83 138 P **P** **10 38 18.9 -1.3**
XMIS IAmb IAmb 10 38 20.5
comp=Z,497nm,0.8s
XMIS Christmas Isla 56.83 138 P **P** **10 38 19.3 -0.9**
BBKI Banjar Baru 56.84 125 P **P** **10 38 21.7 +1.4**
comp=Z,21μmcomp=Z,23μmcomp=Z,2μm,0.9s
UCM Universidad Co 56.88 298 P **P** **10 38 17.3 -3.0**
UCM S **sS** **10 47 21.4 -1.8**
OTSS Djebel Tessala 57.04 292 P P 10 38 13.0 -8.6
SCO Scoresbysund 57.18 336 P **P** **10 38 23.2 +1.4**
SCO pmax pmax
comp=Z,1μm,1.9s
SCO Scoresbysund 57.18 336 P **P** **10 38 23.2 +1.4**
SCO IAmb IAmb 10 38 26.2
comp=Z,1μm,1.9s
SCO Scoresbysund 57.18 336 *i*P **P** **10 38 23.9 +2.0**
SCO IVmB_BB 10 38 25.1
comp=Z,10μm,2.9s
SCO IAmb IAmb 10 38 25.9
comp=Z,1μm,1.9s
SCO Scoresbysund 57.18 336 ⇑P **P** **10 38 23.7 +1.9**
BWJI Bawean 57.23 128 P **P** **10 38 23.5 +0.5**
comp=Z,16μmcomp=Z,16μmcomp=Z,1μm,0.8s
YOGI Yogyakarta 57.30 132 P **P** **10 38 19.9 -3.6**
comp=Z,11μmcomp=Z,5μmcomp=Z,252nm,0.7s
VAL Valentia 57.40 313 ⇑P **P** **10 38 24.2 +0.5**
DAV Davao City (W) 57.42 107 P **P** **10 38 25.6 +1.2**
comp=Z,466nm,0.7s,baz=25,slow=1.8,SNR=28
DAV Davao City (W) 57.42 107 P **P** **10 38 27.6 +3.1**
DAV Davao City (W) 57.42 107 P **P** **10 38 26.4 +2.0**
DAV P **P** **10 38 26.4 +2.0**
DAV S **S** **10 46 10.5 +6.0**
DAV S **S** **10 46 10.5 +6.0**
DAV Davao City (W) 57.42 107 ⇑P **P** **10 38 26.2 +1.8**
TBJI Tambak Boyo 57.47 130 P **P** **10 38 24.5 -0.1**
comp=Z,17μmcomp=Z,18μmcomp=Z,1μm,0.7s
UGM Wanagama 57.52 132 P **P** **10 38 21.1 -3.9**
comp=Z,16μmcomp=Z,7μmcomp=Z,310nm,0.8s
MPSI Mapaga 57.61 117 P **P** **10 38 27.6 +1.9**
comp=Z,31μmcomp=Z,30μmcomp=Z,1μm,1.0s
ESBB Sonseca Array 57.62 298 P **P** **10 38 25.2 -0.4**
ESDC Sonseca Array 57.63 298 P **P** **10 38 25.6 0.0**
comp=Z,181nm,0.7s,baz=57,slow=7.1,SNR=698
ESDC pP **pP** **10 39 15.2 +0.8**
comp=Z,163nm,1.1s,baz=60,slow=7.0,SNR=3.3
ESDC PKPPKP P'P'df 11 08 01.8 -8.7
comp=Z,1.7nm,0.9s,baz=270,slow=3.4,SNR=4.4
ESDC P4KPbc 11 15 35.7
comp=Z,2.4nm,1.0s,baz=60,slow=3.6,SNR=5.8
ESDC Sonseca Array 57.63 298 P **P** **10 38 25.6 0.0**
TOLI2 Tolitoli 57.72 116 P **P** **10 38 27.4 +1.0**
TOLI2 IAmb IAmb 10 38 29.0
comp=Z,520nm,0.6s
TOLI2 Tolitoli 57.72 116 P **P** **10 38 27.7 +1.3**
PAB San Pablo 57.95 298 P **P** **10 38 27.6 -0.3**
PAB pmax pmax
comp=Z,1μm,1.5s
PAB San Pablo 57.95 298 P **P** **10 38 27.6 -0.3**
PAB IAmb IAmb 10 39 42.3
comp=Z,1μm,1.5s
PAB San Pablo 57.95 298 ⇑P **P** **10 38 27.8 -0.1**
PAB San Pablo 57.95 298 P **P** **10 38 27.7 -0.3**
PCJI Pacitan 58.13 131 P **P** **10 38 25.5 -3.7**
comp=Z,13μmcomp=Z,5μmcomp=Z,365nm,0.8s
PWJI Pagerwojo 58.38 131 P **P** **10 38 28.3 -2.6**
TAF Taforalt 58.45 292 P **P** **10 38 32.0 +0.6**
BILL Bilibino 58.60 26 *di*P **P** **10 38 32.9 +1.1**
BILL *i* *PP **PcP** **10 39 20.4 +0.9**
BILL *e* 10 40 44.5
BILL *i*S **S** **10 46 15.8 -2.4**
BILL pmax pmax
comp=Z,2μm,1.0s
BILL Bilibino 58.60 26 P **P** **10 38 33.5 +1.7**
BILL IAmb IAmb 10 38 35.7
comp=Z,1μm,0.9s
BILL Bilibino 58.60 26 P **P** **10 38 33.3 +1.5**
BILL pP **pP** **10 39 22.4 +0.8**
GOG Mont Gurugu 58.71 293 P **P** **10 38 33.0 -0.2**
FIGM Figuig 58.72 289 P **P** **10 38 33.0 -0.4**
BORG Borgarnes 58.74 330 P **P** **10 38 35.4 +2.6**
BORG pmax pmax
comp=Z,256nm,0.8s
BORG Borgarnes 58.74 330 P **P** **10 38 35.4 +2.6**
BORG Borgarnes 58.74 330 ⇑P **P** **10 38 35.6 +2.9**
BORG Borgarnes 58.74 330 P **P** **10 38 35.7 +3.0**
BORG pP **pP** **10 39 27.0 +4.8**
PBRG Braganca 58.75 301 *e*P **P** **10 38 33.0 -0.4**
comp=Z,639nm,1.9s
PBRG *ep*P **pP** **10 39 23.1 +0.6**
PBRG *es*P **sP** **10 39 45.4 -0.9**
JBK JBK 58.76 292 P **P** **10 38 34.0 +0.3**
KMMI Kalianget 58.97 128 P **P** **10 38 33.7 -1.3**
comp=Z,11μmcomp=Z,367nm,0.9s
MRSI Marisa 58.99 115 P **P** **10 38 36.3 +1.1**
comp=Z,28μmcomp=Z,40μmcomp=Z,4μm,0.8s
RER Riviere de l'E 59.12 197 P **P** **10 38 37.3 +1.4**
RER IAmb IAmb 10 38 42.7
comp=Z,1μm,0.8s
RER Riviere de l'E 59.12 197 P **P** **10 38 37.5 +1.5**
SNR=12
RER Riviere de l'E 59.12 197 ⇑P **P** **10 38 37.4 +1.4**
ALE Alert 59.12 354 P **P** **10 38 36.7 +1.6**
ALE pP **pP** **10 39 29.5 +4.6**
EMAL Malaga-Limoner 59.12 295 P **P** **10 38 33.7 -2.2**
MVO Moncorvo 59.20 301 *e*P **P** **10 38 36.0 -0.5**
comp=Z,829nm,1.6s
MVO *ep*P **pP** **10 39 25.9 +0.2**
MVO *es*P **sP** **10 39 48.5 -1.0**
OPO Ambohidratompo 59.23 207 P **P** **10 38 38.1 +1.2**
comp=Z,158nm,0.8s,baz=23,slow=6.5,SNR=5.7
OPO S **S** **10 46 27.4 -0.4**
comp=Z,3.5nm,0.8s,baz=311,slow=16,SNR=1.1
BLJI Banyuglugur 59.27 129 P **P** **10 38 36.4 -0.7**
comp=Z,13μmcomp=Z,9μmcomp=Z,494nm,0.7s
PALE Palemas 59.41 293 P **P** **10 38 38.0 0.0**
SGSI Sangihe 59.53 110 P **P** **10 38 37.8 -1.2**
comp=Z,706nm,0.7s
GMJI Gumukmas 59.58 129 P **P** **10 38 37.0 -2.2**
comp=Z,19μmcomp=Z,6μmcomp=Z,263nm,1.0s
ABPO Ambohimpanom 59.63 206 P **P** **10 38 40.7 +1.1**
ABPO pmax pmax
comp=Z,305nm,0.8s
ABPO Ambohimpanom 59.63 206 P **P** **10 38 40.6 +1.1**
ABPO Ambohimpanom 59.63 206 ⇑P **P** **10 38 40.9 +1.3**
ABPO Ambohimpanom 59.63 206 P **P** **10 38 40.9 +1.3**
ABPO pP **pP** **10 39 34.6 +4.8**
PVRL Vila Real 59.63 301 *e*P **P** **10 38 39.6 +0.2**
comp=Z,569nm,1.6s
PVRL *es*P **sP** **10 39 52.5 +0.1**
POLO Lamas de Olo 59.65 301 *e*P **P** **10 38 38.7 -0.9**
comp=Z,270nm,1.9s
POLO *ep*P **PcP** **10 39 25.2 +0.9**
POLO *es*P **sP** **10 39 50.7 -1.9**
PCAB Cabril 59.68 302 *e*P **P** **10 38 39.3 -0.4**
comp=Z,1μm,1.7s
PCAB *ep*P **pP** **10 39 31.2 +2.2**
PCAB *es*P **sP** **10 39 52.5 -0.2**
PVLZ Peæn de 59.70 293 P **P** **10 38 36.5 -3.4**
PVLZ S SKiKP 10 47 55.9 -59
ABJI Asem Bagus 59.71 128 P **P** **10 38 39.7 -0.4**
comp=Z,24μmcomp=Z,19μmcomp=Z,958nm,0.9s
APSI Ampana 59.73 117 P **P** **10 38 41.2 +0.9**
comp=Z,18μmcomp=Z,25μmcomp=Z,2μm,0.9s
LIJA Lijar 59.78 296 P **P** **10 38 39.2 -1.2**
JCJ Chichijima 59.86 77 P **P** **10 38 37.8 -3.3**
comp=Z,422nm,0.7s,baz=292,slow=8.0,SNR=25
MTE Manteigas 59.87 300 *e*P **P** **10 38 41.6 +0.6**
comp=Z,1μm,1.8s
MTE *es*P **sP** **10 39 53.6 -0.2**
MTE Manteigas 59.87 300 P **P** **10 38 40.7 -0.3**
MTE IAmb IAmb 10 38 43.6
comp=Z,2μm,1.8s
MTE Manteigas 59.87 300 ⇑P **P** **10 38 41.7 +0.7**
SKR Severo-Kuril's 59.89 47 *c i*P **P** **10 38 39.7 -1.2**
SKR *i* *PP **pP** **10 39 30.7 -0.2**
SKR *e* 10 40 57.7
SKR *i*S **S** **10 46 33.9 -1.3**
SKR *es*S **SS** **10 50 42.9 +8.2**
SKR pmax pmax
comp=Z,3μm,2.4s
SKR pmax pmax
comp=Z,536nm,1.1s
SKR MLR MLR
comp=Z,4μm,18.0s
SKR MLR MLR
comp=Z,4μm,17.0s
PEA0B Petropavlovsk- 59.91 44 *ce*P **P** **10 38 40.5 -0.5**
PEA0B Petropavlovsk- 59.91 44 P **P** **10 38 41.1 +0.1**
PEA0B IAmb IAmb 10 38 43.2
comp=Z,2μm,1.8s
PETK Petropavlovsk- 59.91 44 P **P** **10 38 40.2 -0.8**
comp=Z,187nm,1.0s,baz=232,slow=4.9,SNR=70
PETK PKPPKP **P'P'df** **11 08 03.0 -4.1**
comp=Z,4.4nm,0.9s,baz=125,slow=7.4,SNR=4.4
PETK Petropavlovsk- 59.91 44 P **P** **10 38 40.5 -0.5**
PETK Petropavlovsk- 59.91 44 P **P** **10 38 40.5 -0.5**
TTSI Tana Toraja 59.93 120 P **P** **10 38 41.8 +0.2**
comp=Z,19μmcomp=Z,19μmcomp=Z,1μm,0.8s
PVIS Viseu 59.98 300 *e*P **P** **10 38 42.3 +0.5**
comp=Z,962nm,1.8s
PVIS *ep*P **pP** **10 39 33.1 +1.9**
PVIS *es*P **sP** **10 39 55.0 +0.4**
PCBR Castelo Branco 60.05 299 *e*P **P** **10 38 42.7 +0.6**
comp=Z,728nm,1.9s
PCBR *ep*P **pP** **10 39 33.6 +2.2**
PCBR *es*P 10 39 55.6
PMRV Marv??o 60.16 299 *e*P **P** **10 38 43.1 +0.2**
comp=Z,764nm,1.9s
PMRV *ep*P **pP** **10 39 32.9 +0.7**
PMRV *es*P 10 39 54.9
JAGI Jajag, Banyuwa 60.18 129 ⇑P **P** **10 38 40.8 -2.5**
JAGI Jajag, Banyuwa 60.18 129 P **P** **10 38 40.6 -2.7**
comp=Z,15μmcomp=Z,8μmcomp=Z,634nm,0.7s
SMIR Smir Dam 60.28 294 P **P** **10 38 44.0 +0.2**
PTO Porto 60.30 301 *e*P **P** **10 38 44.7 +0.9**
comp=Z,553nm,2.1s
KMSI Cibinong 60.42 114 P **P** **10 38 45.2 +0.2**
comp=Z,2μmcomp=Z,15μmcomp=Z,2μm,0.9s
PBAR Barrancos 60.42 297 *e*P **P** **10 38 45.1 +0.4**
comp=Z,1μm,1.9s
PBAR *ep*P **pP** **10 39 35.3 +1.2**
PBAR *es*P 10 39 57.1
PET Petropavlovsk 60.47 44 *e*P **P** **10 38 43.3 -1.5**
PET *e* 10 39 26.1
PET *e**PP **pP** **10 39 33.7 -1.3**
PET *e**SP **sP** **10 39 58.2 -0.6**
PET *e* 10 41 04.2
PET *eS* **S** **10 46 37.9 -4.7**
PET *e**SS **sS** **10 48 05.8 -3.6**
PET *es*S **SS** **10 50 48.5 +4.8**
PET pmax pmax
comp=Z,8μm,6.9s
PET pmax pmax
comp=Z,894nm,1.1s
PET pmax pmax
comp=Z,7μm,13.4s
PET smax smax
comp=E,6μm,16.3s
PET smax smax
comp=E,4μm,15.0s
PET MLR MLR
comp=Z,9μm,17.0s
PET MLR MLR
comp=Z,9μm,16.0s
PET Petropavlovsk 60.47 44 P **P** **10 38 44.1 -0.7**
PET IAmb IAmb 10 38 46.0
comp=Z,904nm,1.2s
PET Petropavlovsk 60.47 44 ⇑P **P** **10 38 43.6 -1.1**
PET Petropavlovsk 60.47 44 P **P** **10 38 44.0 -0.7**
CNIL Conil 60.48 295 P **P** **10 38 44.0 -1.1**
CHEFC Chefchaouen 60.49 294 P **P** **10 38 45.0 -0.4**
PESTR Estremoz 60.53 298 *e*P **P** **10 38 45.6 +0.1**
comp=Z,850nm,1.8s
PESTR *ep*P **pP** **10 39 34.4 -0.4**
PESTR *es*p 10 39 58.0
PESTR Estremoz 60.53 298 P **P** **10 38 44.9 -0.6**
PESTR Estremoz 60.53 298 ⇑P **P** **10 38 45.4 0.0**
PESTR Estremoz 60.53 298 P **P** **10 38 45.6 +0.1**
SFS San Fernando 60.55 295 P **P** **10 38 39.8 -5.8**
SFS S sS 10 48 10.2 +0.5
SFS San Fernando 60.55 295 P **P** **10 38 44.8 -0.8**
SFS pmax pmax
comp=Z,596nm,1.0s
SFS San Fernando 60.55 295 P **P** **10 38 44.8 -0.8**
SFS IAmb IAmb 10 38 49.6
comp=Z,596nm,1.0s
SPSI Sidrap Palu 60.55 121 P **P** **10 38 45.0 -0.8**
comp=Z,23μmcomp=Z,11μmcomp=Z,722nm,0.8s
COI Coimbra 60.55 300 *e*P **P** **10 38 46.0 +0.5**
comp=Z,1μm,1.9s
COI *ep*P **pP** **10 39 34.0 -0.8**
COI *es*P **sP** **10 39 58.4 -0.1**
COI Coimbra 60.55 300 P **P** **10 38 45.0 -0.5**
COI pmax pmax
comp=Z,3μm,1.9s
COI Coimbra 60.55 300 P **P** **10 38 45.0 -0.5**
COI IAmb IAmb 10 38 47.9
comp=Z,3μm,1.9s
SRBI Singaraja 60.55 128 P **P** **10 38 44.8 -1.0**
comp=Z,21μmcomp=Z,15μmcomp=Z,829nm,0.8s
LUWI Luwuk 60.63 116 ⇑P **P** **10 38 45.3 -1.1**
LUWI Luwuk 60.63 116 P **P** **10 38 45.4 -1.0**
comp=Z,25μmcomp=Z,15μmcomp=Z,966nm,0.9s
ARNO Arenosillo 60.66 296 P **P** **10 38 42.6 -3.7**
ARNO S SKSac 10 48 13.8 -1.8
PCAS Casmilo, Conde 60.67 300 *e*P **P** **10 38 46.8 +0.4**
comp=Z,720nm,2.1s
PCAS *ep*P **pP** **10 39 37.4 +1.7**
PCAS *es*P **sP** **10 39 59.0 -0.4**
LCRM LCR 60.76 292 P **P** **10 38 47.5 +0.2**
PMTG Montargil 60.89 299 *e*P **P** **10 38 47.8 -0.1**
comp=Z,541nm,2.0s
PMTG *ep*P **pP** **10 39 36.9 -0.4**
PMTG *es*P **sP** **10 39 59.6 -1.3**
MDT Midelt 60.96 291 P **P** **10 38 48.7 +0.1**
EVO Evora 60.97 298 P **P** **10 38 47.1 -1.3**
EVO S SKSac 10 48 17.2 -0.8
EVO Evora 60.97 298 *e*P **P** **10 38 48.0 -0.4**
comp=Z,930nm,1.8s
EVO *ep*P **pP** **10 39 37.8 0.0**
EVO *es*P **sP** **10 40 00.0 -1.5**
DNP Denpasar 61.00 128 P **P** **10 38 47.3 -1.5**
comp=Z,22μmcomp=Z,1μm,0.8s
IGBI Denpasar 61.07 128 P **P** **10 38 46.6 -2.7**
comp=Z,12μmcomp=Z,6μmcomp=Z,548nm,0.8s
PBEJ Beja 61.08 298 *e*P **P** **10 38 49.2 0.0**
comp=Z,864nm,1.9s
PBEJ *ep*P **pP** **10 39 40.5 +1.9**
PBEJ *es*P **sP** **10 40 02.6 +0.3**
BNSI Bone 61.09 121 P **P** **10 38 49.0 -0.5**
comp=Z,28μmcomp=Z,9μmcomp=Z,380nm,1.1s
PSBE So Bento 61.11 300 *e*P **P** **10 38 50.1 +0.7**
comp=Z,2μm,1.8s
PSBE *ep*P **pP** **10 39 40.4 +1.6**
PSBE *es*P **sP** **10 40 02.4 0.0**
SOEG Soedalen 61.12 335 *i*P **P** **10 38 50.8 +1.9**
CZD Col de Zad 61.19 291 P **P** **10 38 51.0 +0.7**
PVAQ Vaqueiros 61.24 297 *e*P **P** **10 38 50.3 +0.1**
comp=Z,1μm,1.7s
PVAQ *ep*P **pP** **10 39 41.0 +1.3**
PVAQ *es*P **sP** **10 40 02.6 -0.8**
PVAQ Vaqueiros 61.24 297 P **P** **10 38 49.6 -0.6**
PVAQ IAmb IAmb 10 38 52.4
comp=Z,2μm,1.8s
PVAQ Vaqueiros 61.24 297 P **P** **10 38 50.4 +0.2**
KAPI Kappang 61.29 122 P **P** **10 38 50.2 -0.6**
comp=Z,392nm,0.8s,baz=295,slow=5.3,SNR=93
KAPI pP **pP** **10 39 39.8 -1.5**
comp=Z,125nm,0.8s,baz=330,slow=9.6,SNR=1.8
KAPI S **S** **10 46 52.2 -1.7**
comp=Z,3.2nm,0.3s,baz=298,slow=7.7,SNR=7.0
KAPI Kappang 61.29 122 P **P** **10 38 50.2 -0.6**
KAPI IAmb IAmb 10 38 53.2
comp=Z,527nm,0.9s
KAPI Kappang 61.29 122 P **P** **10 38 50.7 -0.1**
KAPI P **P** **10 38 50.7 -0.1**
KAPI S **S** **10 46 49.7 -4.1**
KAPI S **S** **10 46 49.7 -4.1**
KAPI Kappang 61.29 122 ⇑P **P** **10 38 50.4 -0.3**
KAPI ⇑P **P** **10 38 50.5 +0.3**
KAPI ⇑P **P** **10 38 52.6 +1.8**
KAPI Kappang 61.29 122 P **P** **10 38 50.7 -0.1**
KAPI Kappang 61.29 122 P **P** **10 38 50.5 -0.3**
KAPI pP **pP** **10 39 47.1 +5.8**
PCVE Castro Verde 61.37 297 *e*P **P** **10 38 51.1 0.0**
comp=Z,712nm,2.0s
PCVE *ep*P **pP** **10 39 40.5 -0.2**
PCVE *es*P **sP** **10 40 03.0 -1.3**
PACT Alcochete 61.45 299 *e*P **P** **10 38 52.3 +0.7**
comp=Z,2μm,1.6s
PACT *ep*P **pP** **10 39 43.3 +2.2**
PACT *es*P **sP** **10 40 05.1 +0.3**
PBDV Barranco-do-Ve 61.46 297 *e*P **P** **10 38 52.2 +0.4**
comp=Z,1μm,1.8s
PBDV *ep*P **pP** **10 39 42.5 +1.2**
PBDV *es*P **sP** **10 40 04.0 -1.0**
PNCL Nicolau / Gran 61.52 298 *e*P **P** **10 38 52.8 +0.7**
comp=Z,771nm,2.1s
PNCL *ep*P **pP** **10 39 41.8 +0.2**
PNCL *es*P **sP** **10 40 04.5 -0.8**
PMAFR Mafra 61.69 299 *e*P **P** **10 38 54.0 +0.8**
comp=Z,1μm,1.8s
PMAFR *ep*P **pP** **10 39 42.6 -0.2**
PMAFR *es*P **sP** **10 40 05.9 -0.5**
LIS Lisbon 61.70 299 *e*P **P** **10 38 53.5 +0.3**
LIS IAmb IAmb 10 38 56.3
comp=Z,1μm,1.5s
LIS Lisbon 61.70 299 *e*P **P** **10 38 53.5 +0.3**
PMST Lisbon--Monsan 61.71 299 *ep*P **pP** **10 39 44.4 +1.5**
PMST *es*P sP 10 40 06.3 -0.3
GOLM Goulmima 61.72 290 P **P** **10 38 54.0 +0.3**
BKSI Bulukumba 61.76 122 P **P** **10 38 53.9 -0.1**
comp=Z,23μmcomp=Z,15μmcomp=Z,639nm,0.7s
PTEO Sao Teotonio 61.90 297 *e*P **P** **10 38 55.1 +0.5**
comp=Z,1μm,1.9s
PTEO *ep*P **pP** **10 39 46.3 +2.0**
PTEO *es*P **sP** **10 40 08.5 +0.6**
MORF Marmelete 61.95 297 *e*P **P** **10 38 55.2 +0.2**
MORF IAmb IAmb 10 38 57.1
comp=Z,2μm,2.2s
MORF *eS* **S** **10 47 02.8 +0.9**
MORF Marmelete 61.95 297 *e*P **P** **10 38 55.3 +0.2**
comp=Z,748nm,1.9s
MORF *ep*P **pP** **10 39 46.4 +1.7**
MORF *es*P **sP** **10 40 07.8 -0.6**
MORF Marmelete 61.95 297 *e*P **P** **10 38 55.2 +0.2**
MORF *eS* **S** **10 47 02.7 +0.9**
MORF Marmelete 61.95 297 ⇑P **P** **10 38 55.1 +0.1**
PFVI Vila Bisbo 62.15 297 *e*P **P** **10 38 56.6 +0.3**
comp=Z,1μm,2.0s
PFVI *ep*P **pP** **10 39 46.6 +0.6**
PFVI *es*P **sP** **10 40 09.3 -0.4**
PFVI Vila Bisbo 62.15 297 P **P** **10 38 56.4 +0.1**
PFVI IAmb IAmb 10 38 58.9
comp=Z,2μm,1.8s
PFVI Vila Bisbo 62.15 297 P **P** **10 38 56.9 +0.5**
ZHG ZHG 62.20 292 P **P** **10 38 58.0 +1.2**
VOI Vohitsoka 62.44 206 P **P** **10 38 59.2 +0.8**
VOI Vohitsoka 62.44 206 P **P** **10 38 59.7 +1.3**
SNR=88

VOI Vohitsoka 62.44 206 ⇑P P 10 38 59.5 +1.1
VOI Vohitsoka 62.44 206 P P 10 38 59.4 +0.9
BSSI Bau Bau, Buton 62.61 122 P P 10 38 59.2 -0.4
comp=Z,16µmcomp=Z,18µmcomp=Z,991nm,0.7s
TZRR Tazzarine 62.61 289 P P 10 38 59.6 0.0
PLAI Plampang 62.76 126 P P 10 38 57.5 -3.1
comp=Z,18µmcomp=Z,7µmcomp=Z,586nm,0.9s
TNTI Ternate 62.82 111 P P 10 39 01.2 +0.2
TNTI Ternate 62.82 111 ⇑P P 10 39 00.5 -0.5
TNTI Ternate 62.82 111 P P 10 39 01.6 +0.6
comp=Z,20µmcomp=Z,41µmcomp=Z,2µm,1.1s
TNTI Ternate 62.82 111 P P 10 39 01.9 +0.9
AVE Averroes 62.84 293 P P 10 38 57.5 -3.4
AVE S SKiKP 10 48 38.0 -22
AVE Averroes 62.84 293 ⇑P P 10 39 00.6 -0.4
AVE Averroes 62.84 293 P P 10 39 00.8 -0.1
ZGR Zagora 62.96 289 P P 10 39 02.0 +0.1
EUNU Eureka 63.08 356 P P 10 39 03.8 +2.0
EUNU IAmb IAmb 10 39 07.5
comp=Z,586nm,1.0s
TETE Tete 63.23 221 ⇑*i*P P 10 39 04.3 +0.8
TETE IAmb IAmb 10 39 05.1
comp=Z,3µm,1.7s
TETE Tete 63.23 221 *i* P P 10 39 04.7 +1.2
TETE Tete 63.23 221 *i* P P 10 39 04.7 +1.2
ICESG Greenland Ices 63.33 338 *i* P P 10 39 05.6 +1.6
OUZM OUZ 63.46 290 P P 10 39 05.4 +0.2
BBSI Bau Bau 63.58 120 P P 10 39 07.6 +1.6
comp=Z,3µmcomp=Z,291nm,0.8s
SANI Sanana 63.66 114 ⇑P P 10 39 06.6 +0.1
SANI Sanana 63.66 114 P P 10 39 06.6 +0.1
comp=Z,32µmcomp=Z,41µmcomp=Z,2µm,0.8s
SANI Sanana 63.66 114 P P 10 39 06.7 +0.2
LBMI Labuha 63.84 112 P P 10 39 07.8 +0.1
comp=Z,20µmcomp=Z,25µmcomp=Z,1µm,0.9s
OUK Oukaimeden 64.15 294 P P 10 39 10.2 +0.2
WBSI Waikabubak, Su 64.43 125 P P 10 39 09.0 -2.5
comp=Z,25µmcomp=Z,2µm,0.7s
TULEG Thule 64.53 350 P P 10 39 10.9 -0.3
TULEG IAmb IAmb 10 39 16.4
comp=Z,978nm,1.2s
TULEG Thule 64.53 350 *i* P P 10 39 11.9 +0.7
TULEG Thule 64.53 350 ⇑P P 10 39 11.8 +0.6
ANGG Ammassalik, Gr 64.54 334 P P 10 39 12.1 +0.7
ANGG Ammassalik, Gr 64.54 334 *i* P P 10 39 12.7 +1.2
ANGG Ammassalik, Gr 64.54 334 ⇑P P 10 39 12.6 +1.1
TTIG Tnine Tigouga, 64.90 290 P P 10 39 15.0 +0.4
ISOG Isortoq, Green 65.04 334 *i* P P 10 39 15.2 +0.5
ISOG Isortoq, Green 65.04 334 ⇑P P 10 39 15.1 +0.4
EAH EAH 65.23 292 P P 10 39 18.0 +1.5
UPNV Upernavik 65.24 345 *i* P P 10 39 17.1 +1.3
NUUG Nuugaatsiaq 65.46 343 *i* P P 10 39 18.2 +0.9
MMRI Maumere 65.60 122 ⇑P P 10 39 16.7 -2.2
MMRI Maumere 65.60 122 P P 10 39 16.8 -2.2
comp=Z,22µmcomp=Z,19µmcomp=Z,995nm,0.8s
BASI Baing, Sumba 65.64 125 P P 10 39 18.3 -0.9
comp=Z,15µmcomp=Z,28µmcomp=Z,4µm,0.7s
TOA0 Torodi Ar. Sit 65.87 269 P P 10 39 19.7 -1.1
TOA0 IAmb IAmb 10 39 23.9
comp=Z,507nm,0.8s
TOA0 Torodi Ar. Sit 65.87 269 P P 10 39 19.4 -1.5
SNR=157
TOA0 S S 10 47 44.8 -5.8
TORD Torodi Ar. Bea 65.87 269 P P 10 39 19.3 -1.6
comp=Z,426nm,0.8s,baz=51,slow=5.7,SNR=2196
TORD PKPPKP P'P'df 11 07 48.5 -7.7
comp=Z,12nm,1.1s,baz=236,slow=3.0,SNR=7.6
TORD Torodi Ar. Bea 65.87 269 P P 10 39 19.3 -1.6
TORD IAmb IAmb 10 39 23.9
comp=Z,466nm,0.8s
CGR Cap Guir 65.94 291 P P 10 39 22.0 +0.9
AAI Ambon 66.39 114 P P 10 39 23.8 -0.3
comp=Z,30µmcomp=Z,18µmcomp=Z,835nm,1.0s
ILULI Ilulissat 66.51 341 P P 10 39 24.6 +0.6
ILULI pmax pmax
comp=Z,1µm,1.0s
ILULI Ilulissat 66.51 341 P P 10 39 24.6 +0.6
ILULI IAmb IAmb 10 39 29.4
comp=Z,1µm,1.0s
ILULI Ilulissat 66.51 341 *i* P P 10 39 25.2 +1.2
MSAI Masohi 66.70 113 P P 10 39 26.3 +0.2
comp=Z,2µmcomp=Z,307nm,0.8s
SWI Sorong 66.83 110 P P 10 39 27.0 +0.2
comp=Z,27µmcomp=Z,29µmcomp=Z,3µm,1.0s
SIJI Sorong 66.83 110 P P 10 39 27.1 +0.2
comp=Z,2µm,0.9s,baz=309,slow=5.7,SNR=232
SIJI pP pP 10 40 18.4 0.0
comp=Z,960nm,1.2s,baz=322,slow=8.0,SNR=4.5
SIJI PKPPKP P'P'df 11 07 55.9 +2.2
comp=Z,18nm,0.8s,baz=91,slow=1.1,SNR=13
DY2G Dye2 66.90 337 *i* P P 10 39 28.2 +1.4
A21K Barrow 67.34 15 P P 10 39 30.5 +1.4
baz=320,SNR=25
A21K S S 10 48 08.1 +1.6
baz=320
BATI Baumata 67.70 122 S S 10 48 05.0 -7.3
comp=Z,57nm,0.9s,baz=348,slow=15,SNR=2.3
BATI Baumata 67.70 122 P P 10 39 31.7 -0.6
comp=Z,18µmcomp=Z,17µmcomp=Z,2µm,0.7s
SFJD Kangerlussuaq 67.87 339 P P 10 39 33.0 +0.4
SFJD pmax pmax
comp=Z,501nm,1.0s
SFJD Kangerlussuaq 67.87 339 P P 10 39 33.0 +0.4
SFJD Kangerlussuaq 67.87 339 *i* P P 10 39 33.3 +0.7
SFJD Kangerlussuaq 67.87 339 ⇑P P 10 39 33.1 +0.4
BNDI Bandanaira 68.21 113 ⇑P P 10 39 34.9 -0.6
BNDI Bandanaira 68.21 113 P P 10 39 35.3 -0.2
RDOG Red Dog Mine 68.27 19 P P 10 39 35.5 +0.4
baz=315,SNR=87
RDOG S S 10 48 17.6 -0.1
baz=315
GAMB Gambell 68.50 25 P P 10 39 37.2 +0.7
GAMB IAmb IAmb 10 39 40.0
comp=Z,1µm,1.3s
GAMB Gambell 68.50 25 P P 10 39 37.7 +1.2
baz=310,SNR=114
GAMB S S 10 48 24.4 +4.0
baz=310
TNA Tin City 68.56 23 ⇑P P 10 39 37.8 +1.0
TNA Tin City 68.56 23 P P 10 39 38.2 +1.3
baz=312,SNR=233
TNA S S 10 48 24.3 +3.2
baz=312
RES Resolute Bay 68.78 356 ⇑P P 10 39 38.8 +0.7
SHEM Shemya Is, Ala 68.91 39 P P 10 39 39.3 +0.1
comp=Z,810nm,1.1s,baz=340,slow=6.4,SNR=30
SHEM pP pP 10 40 30.3 -0.3
comp=Z,306nm,0.9s,baz=309,slow=12,SNR=2.7
SMY Shemya 68.91 39 ⇑P P 10 39 39.2 0.0
GUMO Guam 68.99 88 P P 10 39 40.1 -0.2
comp=Z,553nm,0.9s,baz=293,slow=3.4,SNR=13
GUMO Guam 68.99 88 P P 10 39 40.1 -0.2
GUMO Guam 68.99 88 ⇑P P 10 39 39.8 -0.5
GUMO Guam 68.99 88 P P 10 39 40.7 +0.4
BLWY Bulawayo 69.18 223 ⇑*i*P P 10 39 41.8 +0.4
BLWY IAmb IAmb 10 39 43.2
comp=Z,5µm,1.2s
BLWY Bulawayo 69.18 223 *i* P P 10 39 41.9 +0.5
BLWY Bulawayo 69.18 223 *i* P P 10 39 41.9 +0.5
MATP Matopo 69.47 223 P P 10 39 43.6 +0.4
comp=Z,510nm,0.5s,baz=20,slow=6.2
MATP pP pP 10 40 33.2 -1.8
comp=Z,223nm,0.9s,baz=31,slow=9.2,SNR=1.4
MATP S S 10 48 31.8 -1.3
comp=Z,73nm,1.1s,baz=217,slow=19,SNR=15
MATP Matopo 69.47 223 ⇑P P 10 39 44.5 +1.3
MATP Matopo 69.47 223 *i* P P 10 39 44.5 +1.3
PMPST Porto Santo, M 69.49 296 *e*P P 10 39 43.1 -0.1
comp=Z,1µm,2.1s
PMPST epP pP 10 40 34.1 +0.2
PMPST *es*P sP 10 40 56.8 -0.4
PMPS Porto Santo 69.50 296 *e*P P 10 39 42.9 -0.3
comp=Z,1µm,1.7s
PMPS epP pP 10 40 34.5 +0.6
PMPS *es*P sP 10 40 57.1 -0.1
KOWA Kowa 69.73 273 P P 10 39 43.7 -1.1
KOWA IAmb IAmb 10 39 48.4
comp=Z,614nm,0.9s
KOWA Kowa 69.73 273 ⇑P P 10 39 43.8 -1.1
NRS Narsarsuaq 70.00 333 P P 10 39 45.4 -0.3
NRS pmax pmax
comp=Z,716nm,1.1s
NRS Narsarsuaq 70.00 333 P P 10 39 45.4 -0.3
NRS IAmb IAmb 10 39 50.9
comp=Z,716nm,1.1s
NRS Narsarsuaq 70.00 333 *i* P P 10 39 46.5 +0.8
NRS IVmB_BB 10 39 47.7
comp=Z,14µm,6.1s
NRS IAmb IAmb 10 39 50.6
comp=Z,928nm,1.2s
NRS Narsarsuaq 70.00 333 ⇑P P 10 39 46.4 +0.7
ANM Nome 70.03 23 P P 10 39 47.3 +1.4
ANM pmax pmax
comp=Z,2µm,1.1s
ANM Nome 70.03 23 P P 10 39 47.3 +1.4
ANM IAmb IAmb 10 39 50.0
comp=Z,2µm,1.1s
ANM Nome 70.03 23 P P 10 39 47.7 +1.8
baz=314,SNR=123
ANM S S 10 48 42.1 +3.7
baz=314
PMAR Madeira 70.09 296 *e*P P 10 39 47.1 0.0
comp=Z,3µm,1.6s
PMAR epP pP 10 40 38.8 +1.0
PMAR *es*P sP 10 41 01.2 +0.1
FUL Funchal 70.11 296 *e*P P 10 39 47.3 +0.3
comp=Z,1µm,1.8s
FUL epP pP 10 40 40.1 +2.4
FUL *es*P sP 10 41 01.3 +0.3
MSNA Messina 70.22 220 ⇑*i*P P 10 39 48.7 +1.1
MSNA IAmb IAmb 10 39 50.0
comp=Z,8µm,2.3s
MSNA Messina 70.22 220 *i* P P 10 39 48.8 +1.2
MSNA Messina 70.22 220 *i* P P 10 39 48.8 +1.2
PMOZ Porto Moniz, M 70.24 297 *e*P P 10 39 47.7 -0.2
comp=Z,973nm,2.1s
PMOZ epP pP 10 40 39.3 +0.6
PMOZ *es*P sP 10 41 02.2 +0.2
PMOZ Porto Moniz, M 70.24 297 P P 10 39 48.4 +0.5
PMOZ Porto Moniz, M 70.24 297 ⇑P P 10 39 48.3 +0.4
PMOZ Porto Moniz, M 70.24 297 P P 10 39 49.1 +1.3
MOPA Mopani 70.48 219 ⇑*i*P P 10 39 49.8 +0.6
MOPA IAmb IAmb 10 39 50.9
comp=Z,5µm,2.1s
MOPA Mopani 70.48 219 *i* P P 10 39 50.2 +1.0
MOPA Mopani 70.48 219 *i* P P 10 39 50.2 +1.0
TOLK Toolik Lake Re 70.94 15 P P 10 39 52.1 +0.6
TOLK Toolik Lake Re 70.94 15 P P 10 39 52.7 +1.2
baz=326,SNR=1000
TOLK S S 10 48 50.9 +2.0
baz=326
IVI Ivigtut 70.98 333 P P 10 39 52.6 +1.0
IVI IAmb IAmb 10 39 54.5
comp=Z,2µm,1.7s
A36M Sachs Harbour 71.25 5 P P 10 39 54.5 +1.3
baz=346,SNR=1000
A36M S S 10 48 53.9 +1.7
baz=346
SRPI Serui, Papua 71.28 107 P P 10 39 54.8 +0.6
comp=Z,17µmcomp=Z,17µmcomp=Z,1µm,0.7s
GIRL Giralia 71.45 138 P P 10 39 56.2 +1.3
GIRL Giralia 71.45 138 ⇑P P 10 39 56.4 +1.4
GIRL Giralia 71.45 138 P P 10 39 56.4 +1.4
SAUI Saumlaki 71.55 115 P P 10 39 57.1 +1.4
SAUI Saumlaki 71.55 115 ⇑P P 10 39 57.3 +1.5
SAUI Saumlaki 71.55 115 P P 10 39 57.3 +1.5
comp=Z,59µmcomp=Z,138µmcomp=Z,14µm,1.0s
SAUI Saumlaki 71.55 115 P P 10 39 57.6 +1.8
COLD Coldfoot 71.99 16 P P 10 39 58.8 +1.2
baz=326,SNR=1000
COLD S S 10 49 02.1 +1.3
baz=326
IMAR Indian Mountai 72.19 18 P P 10 39 59.3 +0.5
IMAR pP pP 10 40 52.0 +1.5
GCSA Galena City Sc 72.36 20 P P 10 40 01.1 +1.2
baz=321
GCSA S S 10 49 07.0 +2.0
baz=321
CNG Changalane 72.42 216 ⇑*i*P P 10 40 00.7 +0.1
CNG IAmb IAmb 10 40 02.8
comp=Z,315nm,1.2s
CNG Changalane 72.42 216 *i* P P 10 40 01.4 +0.8
CNG Changalane 72.42 216 *i* P P 10 40 01.4 +0.8
H21K Melozitna Rive 72.68 18 P P 10 40 02.7 +0.9
baz=324,SNR=1000
H21K S S 10 49 09.3 +0.6
baz=324
BMAR Burnt Mountain 72.97 14 P P 10 40 05.4 +1.9
BMAR pP pP 10 40 58.5 +3.2
BART Pico Bartolome 73.15 305 *e*P P 10 40 05.3 +0.2
comp=Z,559nm,1.9s
CRLN Carolina, Mapu 73.23 218 ⇑*i*P P 10 40 05.9 +0.2
CRLN IAmb IAmb 10 40 07.9
comp=Z,446nm,0.9s
I21K Tanana 73.27 18 P P 10 40 06.3 +1.1
baz=325,SNR=605
I21K S S 10 49 15.2 -0.1
baz=325
H23K Yukon River 73.31 16 P P 10 40 07.0 +1.5
baz=327,SNR=958
H23K S S 10 49 17.0 +1.2
baz=327
SPIA Saint Paul Isl 73.38 30 P P 10 40 07.4 +1.5
baz=312,SNR=19
SPIA S S 10 49 20.4 +3.6
baz=312
GRON Grota Negra 73.39 305 *e*P P 10 40 07.1 +0.6
PSET Sete Cidades 73.49 305 *e*P P 10 40 07.4 +0.4
comp=Z,552nm,2.9s
PSET epP pP 10 40 55.5 -2.8
PDA Ponta Delgada 73.49 305 *e*P P 10 40 07.6 +0.6
comp=Z,696nm,1.5s
PSMN Pico do Norte, 73.50 304 *e*P P 10 40 07.1 0.0
comp=Z,997nm,2.7s
PSMN epP pP 10 40 58.8 +0.5
POGA Pongola 73.54 216 ⇑*i*P P 10 40 07.2 0.0
POGA IAmb IAmb 10 40 09.4
comp=Z,2µm,1.2s
J20K Nowinta River 73.54 19 P P 10 40 08.0 +1.2
J20K Nowinta River 73.54 19 P P 10 40 08.2 +1.4
baz=323
J20K S S 10 49 19.7 +1.4
baz=323
PSMA Santa Maria 73.55 304 *e*P P 10 40 07.4 +0.1
comp=Z,920nm,2.7s
PSMA epP pP 10 41 00.6 +2.0
H24K Noodor Dome 73.67 16 P P 10 40 08.4 +0.8
H24K IAmb IAmb 10 40 11.4
comp=Z,1µm,1.1s
H24K Noodor Dome 73.67 16 P P 10 40 09.1 +1.5
baz=328,SNR=605
H24K S S 10 49 22.1 +2.2
baz=328
PSA00 Pilbara Seismi 73.75 133 P P 10 40 08.5 -0.1
PSA00 IAmb IAmb 10 40 09.6
comp=Z,436nm,0.7s
PSA00 Pilbara Seismi 73.75 133 P P 10 40 08.5 -0.1
PSA00 IAmb IAmb 10 40 09.6
comp=Z,467nm,0.7s
PSA00 pP pP 10 41 01.3 +0.5
PSA00 Pilbara Seismi 73.75 133 P P 10 40 09.0 +0.4
SLR Silverton 73.90 220 ⇑*i*P P 10 40 10.1 +0.5
SLR IAmb IAmb 10 40 11.8
comp=Z,3µm,1.8s
I23K Minto, Yukon-K 73.92 17 P P 10 40 09.9 +1.0
baz=327,SNR=895
I23K S S 10 49 23.0 +0.5
baz=327
PAGU Agualva, Azore 73.93 306 *e*P P 10 40 09.9 +0.4
comp=Z,757nm,1.9s
PAGU epP pP 10 41 00.9 0.0
C36M Paulatuk 73.93 6 P P 10 40 09.5 +0.6
baz=347,SNR=1000
C36M S S 10 49 22.0 -0.5
baz=347
INK Inuvik 73.94 9 P P 10 40 10.2 +1.1
comp=Z,629nm,0.7s,baz=351,slow=7.2,SNR=795
INK pP pP 10 41 02.1 +1.0
comp=Z,328nm,0.8s,baz=341,slow=7.9,SNR=3.0
INK S S 10 49 21.2 -1.4
comp=Z,33nm,1.0s,baz=211,slow=31,SNR=8.6
INK Inuvik 73.94 9 ⇑P P 10 40 10.1 +1.1
INK Inuvik 73.94 9 P P 10 40 10.3 +1.3
baz=340,SNR=1000
INK S S 10 49 23.5 +0.9
baz=340
ADK Adak 73.99 37 P P 10 40 08.6 -1.0
ADK pmax pmax
comp=Z,358nm,1.1s
ADK Adak 73.99 37 P P 10 40 08.6 -1.0
ADK Adak 73.99 37 ⇑P P 10 40 08.1 -1.5
ADK Adak 73.99 37 P P 10 40 08.5 -1.0
ADH Angra Heroismo 74.02 306 *e*P P 10 40 11.0 +1.0
TTA Tatalina 74.03 20 P P 10 40 10.1 +0.4
TTA pmax pmax
comp=Z,2µm,1.3s
TTA Tatalina 74.03 20 P P 10 40 10.1 +0.4
TTA IAmb IAmb 10 40 13.3
comp=Z,2µm,1.3s
TTA Tatalina 74.03 20 ⇑P P 10 40 10.7 +1.0
TTA Tatalina 74.03 20 P P 10 40 10.6 +0.8
baz=322,SNR=576
TTA S S 10 49 25.7 +1.7
baz=322
GSTR Great Sitkin T 74.16 36 P P 10 40 10.5 -0.1
K20K Telida 74.22 19 P P 10 40 12.0 +1.2
K20K Telida 74.22 19 P P 10 40 12.1 +1.4
baz=324
K20K S S 10 49 28.0 +1.9
baz=324
CHUM Lake Minchumin 74.25 18 P P 10 40 12.1 +1.2
baz=325,SNR=806
CHUM S S 10 49 27.1 +0.8
baz=325
PGRA Graciosa 74.30 307 *e*P P 10 40 12.5 +0.9
comp=Z,1µm,1.7s
PGRA epP pP 10 41 03.3 +0.2
SRBC Serra Branca 74.33 307 *e*P P 10 40 12.9 +1.1
comp=Z,2µm,1.0s
SRBC epP pP 10 41 02.4 -0.9
MDM Murphy Dome 74.34 16 P P 10 40 11.9 +0.4
POKR Poker Plat Res 74.38 16 P P 10 40 13.0 +1.4
POKR Poker Plat Res 74.38 16 P P 10 40 13.1 +1.4
baz=329,SNR=375
POKR S S 10 49 29.3 +1.6
baz=329
BPAW Bear Paw Mtn. 74.41 18 P P 10 40 12.5 +0.6
BPAW Bear Paw Mtn. 74.41 18 P P 10 40 12.5 +0.6
baz=326,SNR=693
BPAW S S 10 49 27.4 -0.7
baz=326
NEA2 Nenana 74.45 17 P P 10 40 12.7 +0.6
baz=327,SNR=1000
NEA2 S S 10 49 28.6 +0.1
baz=327
TCOL CIGO, UAF Yank 74.49 16 P P 10 40 12.8 +0.5
TCOL CIGO, UAF Yank 74.49 16 P P 10 40 13.1 +0.9
baz=328,SNR=867
COLA College 74.50 16*c* *i*P P 10 40 12.8 +0.6
COLA pmax pmax
comp=Z,2µm,0.9s
COLA College 74.50 16 P P 10 40 13.3 +1.0
COLA College 74.50 16 ⇑P P 10 40 12.8 +0.6
COLA College 74.50 16 S S 10 49 29.7 +0.8
baz=328
PMAN Manadas 74.59 307 *e*P P 10 40 15.2 +1.9
comp=Z,789nm,2.2s
PMAN epP pP 10 41 06.0 +1.2
ROSA Rosais 74.64 307 *e*P P 10 40 14.7 +1.1
comp=Z,826nm,2.7s
ROSA epP pP 10 41 07.3 +2.2
CAST Castle Rocks 74.69 19 P P 10 40 14.1 +0.6
CAST Castle Rocks 74.69 19 P P 10 40 14.5 +1.0
baz=325,SNR=1000
CAST S S 10 49 30.9 -0.4
baz=325
CCB Clear Creek Bu 74.70 16 P P 10 40 13.8 +0.3
KSR Koster 74.71 221 ⇓*i*P P 10 40 14.7 +0.4
KSR IAmb IAmb 10 40 16.5
comp=Z,330nm,0.8s
PID Ribeirinha 74.71 307 *e*P P 10 40 15.9 +1.8
comp=Z,690nm,2.4s
PID epP pP 10 41 07.3 +1.7
FITZ Fitzroy Crossi 74.73 127 P P 10 40 14.8 +0.6
comp=Z,559nm,0.7s,baz=330,slow=5.2,SNR=612
FITZ pP pP 10 41 05.1 -1.6
comp=Z,688nm,1.0s,baz=337,slow=6.2,SNR=3.8
FITZ S S 10 49 31.5 -1.2
comp=Z,37nm,1.1s,baz=81,slow=22,SNR=3.3
FITZ Fitzroy Crossi 74.73 127 P P 10 40 15.2 +0.9
FITZ IAmb IAmb 10 40 16.9
comp=Z,822nm,0.9s
MTN Manton Dam 74.73 119 P P 10 40 13.8 -0.5
MTN IAmb IAmb 10 40 16.0
comp=Z,633nm,0.8s
MTN Manton Dam 74.73 119 ⇑P P 10 40 14.1 -0.3
MTN Manton Dam 74.73 119 P P 10 40 14.4 +0.1
LBTB Lobatse 74.74 222 P P 10 40 15.3 +0.9
comp=Z,394nm,0.5s,baz=32,slow=6.6
LBTB S S 10 49 31.9 -0.9
comp=Z,58nm,1.2s,baz=188,slow=20,SNR=26
LBTB PKKPbc PKKPbc 10 59 38.5 0.0
comp=Z,3.0nm,0.7s,baz=225,slow=3.8,SNR=4.3
LBTB Lobatse 74.74 222 ⇑*i*P P 10 40 14.7 +0.4
LBTB IAmb IAmb 10 40 16.7
comp=Z,2µm,1.3s
LBTB Lobatse 74.74 222 P P 10 40 14.9 +0.6
LBTB IAmb IAmb 10 40 16.9
comp=Z,2µm,1.3s
LBTB Lobatse 74.74 222 ⇓*i*P P 10 40 14.0 -0.3
LBTB Lobatse 74.74 222 ⇑P P 10 40 15.2 +0.9
LBTB Lobatse 74.74 222 ⇓*i*P P 10 40 14.0 -0.3
NWCL Newcastle 74.74 217 ⇑*i*P P 10 40 14.9 +0.6
NWCL IAmb IAmb 10 40 16.2
comp=Z,1µm,1.1s
PPNO Prainha do Nor 74.79 307 *e*P P 10 40 15.6 +1.0
comp=Z,794nm,1.7s
PPNO epP pP 10 41 08.5 +2.4
IL31 P P 10 40 14.3 +0.3
IL31 IAmb IAmb 10 40 16.6
comp=Z,1µm,1.1s
ILAR Eielson Array 74.80 16 P P 10 40 14.0 0.0
comp=Z,465nm,0.9s,baz=320,slow=2.4,SNR=556
ILAR pP pP 10 41 06.0 -0.2
comp=Z,202nm,1.0s,baz=326,slow=6.5,SNR=3.9
ILAR S S 10 49 31.7 -0.7
comp=Z,3.4nm,0.9s,baz=296,slow=6.7,SNR=4.5
ILAR PKKPbc PKKPbc 10 59 35.4 -1.9
comp=Z,3.0nm,0.6s,baz=192,slow=2.5,SNR=7.1
ILAR Eielson Array 74.80 16 P P 10 40 14.5 +0.5
ILAR pP pP 10 41 07.3 +1.1
DBIC Dimbokro 74.85 267 P P 10 40 14.1 -1.1
comp=Z,126nm,0.8s,baz=56,slow=6.5,SNR=146
DBIC pP pP 10 41 06.3 -0.7
comp=Z,78nm,0.9s,baz=118,slow=4.3,SNR=2.1
DBIC S S 10 49 30.4 -4.0
comp=Z,20nm,1.0s,baz=305,slow=20,SNR=8.9
DBIC PKKPbc PKKPbc 10 59 37.0 +0.8
comp=Z,8.1nm,0.8s,baz=339,slow=1.9,SNR=5.4
DBIC PKPPKP P'P'df 11 07 31.0 -10
comp=Z,4.1nm,0.9s,baz=227,slow=1.8,SNR=4.3
DBIC Dimbokro 74.85 267 ⇑*i*P P 10 40 13.8 -1.4
DBIC IAmb IAmb 10 40 14.5
comp=Z,3µm,2.3s
DBIC Dimbokro 74.85 267 P P 10 40 13.6 -1.6
DBIC Dimbokro 74.85 267 ⇑P P 10 40 14.0 -1.1
PICO Pico 74.88 307 *e*P P 10 40 16.0 +0.9
comp=Z,686nm,2.4s
WDLM Western Deep L 74.90 220 ⇓*i*P P 10 40 16.0 +0.7
WDLM IAmb IAmb 10 40 17.4
comp=Z,445nm,0.9s
KIC Kosan Boka 74.94 267 *e*P P 10 40 14.7 -1.0
comp=Z,434nm,0.8s
PCAN Candelaria 74.94 307 *e*P P 10 40 16.2 +0.8
comp=Z,747nm,1.5s
L19K White Mountain 74.95 20 P P 10 40 16.3 +1.3
baz=323,SNR=436
L19K S S 10 49 35.9 +1.8
baz=323
ATKA Atka Island 74.97 35 ⇑P P 10 40 14.1 -1.0
ATKA Atka Island 74.97 35 P P 10 40 15.2 0.0
L20K Farewell, AK 74.98 20 P P 10 40 16.3 +1.1
baz=324,SNR=427
L20K S S 10 49 35.4 +0.9
baz=324
PCED Cedros 74.98 307 *e*P P 10 40 17.7 +2.1
comp=Z,1µm,2.9s
PCED epP pP 10 41 10.0 +2.9
TIC Toumodi 75.00 267 *e*P P 10 40 15.0 -1.0
TSUM Tsumeb 75.00 232 ⇑*i*P P 10 40 16.6 +0.6
TSUM IAmb IAmb 10 40 17.1
comp=Z,22µm,1.8s
TSUM Tsumeb 75.00 232 P P 10 40 16.0 0.0
TSUM IAmb IAmb 10 40 18.3
comp=Z,1µm,1.3s
TSUM Tsumeb 75.00 232 ⇑P P 10 40 16.6 +0.6

CALA Caldeira 75.01 307 *e*P P 10 40 16.7 +0.9
comp=Z,1μm,2.4s
CALA *e*pP **pP** 10 41 10.3 +2.9
KNRA Kununurra 75.06 123 P P 10 40 16.4 +0.2
KNRA Kununurra 75.06 123 P P 10 40 17.1 +0.9
PPLA Purkeypile 75.09 19 P P 10 40 16.7 +0.7
baz=325,SNR=198
PPLA S **S** 10 49 36.1 +0.1
baz=325
HDA Harding Lake 75.10 16 P P 10 40 15.4 -0.3
baz=329,SNR=288
HDA S **S** 10 49 34.0 -1.7
baz=329
HDA S **S** 10 49 34.0 -1.7
baz=329
TRF Thorofare Moun 75.12 18 P P 10 40 16.3 +0.1
baz=326,SNR=116
TRF S **S** 10 49 35.4 -0.9
baz=326
FRB Frobisher Bay 75.17 343 ⇑P P 10 40 16.7 +0.6
MCK McKinley 75.21 17 P P 10 40 16.6 +0.1
baz=328,SNR=325
MCK S **S** 10 49 35.5 -1.5
baz=328
LIC Lamto 75.25 267 *e*P P 10 40 17.0 -0.4
comp=Z,578nm,1.4s
J25K Salcha River, 75.27 15 P P 10 40 17.1 +0.3
baz=330,SNR=487
J25K S **S** 10 49 36.5 -1.1
baz=330
EPYK Eagle Plains 75.29 11 P P 10 40 17.6 +0.7
baz=337,SNR=358
EPYK S **S** 10 49 38.8 +1.0
baz=337
M19K Big River Lodg 75.30 20 P P 10 40 18.5 +1.4
M19K IAmb IAmb 10 40 20.9
comp=Z,2μm,1.5s
M19K Big River Lodg 75.30 20 P P 10 40 18.4 +1.4
baz=324
M19K S **S** 10 49 39.9 +1.8
baz=324
PRYS Parys 75.34 220 ⇑*i*P P 10 40 17.4 -0.4
PRYS IAmb IAmb 10 40 19.4
comp=Z,834nm,1.1s
KDU Kakadu 75.57 118 ⇑P P 10 40 19.2 +0.1
KDU Kakadu 75.57 118 P P 10 40 19.5 +0.4
J26L Joseph Creek 75.74 15 P P 10 40 20.3 +0.8
baz=332,SNR=936
J26L S **S** 10 49 43.9 +1.0
baz=332
N18K Kilae Creek 75.85 22 P P 10 40 21.9 +1.7
baz=323,SNR=130
N18K S **S** 10 49 47.2 +3.1
baz=323
I29M Ogilvie Camp, 75.96 12 P P 10 40 21.1 +0.5
baz=336,SNR=801
I29M S **S** 10 49 45.1 0.0
baz=336
EGAK Eagle 75.97 14 P P 10 40 21.6 +0.9
EGAK IAmb IAmb 10 40 24.0
comp=Z,1μm,1.2s
EGAK Eagle 75.97 14 P P 10 40 21.5 +0.8
baz=334,SNR=534
EGAK S **S** 10 49 45.2 0.0
baz=334
CUT Chulitna 76.00 19 P P 10 40 21.0 +0.1
baz=327,SNR=180
CUT S **S** 10 49 43.1 -2.4
baz=327
SCRK Sand Creek 76.12 15 P P 10 40 22.6 +0.9
baz=332,SNR=878
SCRK S **S** 10 49 46.9 -0.2
baz=332
RIDG Independent Ri 76.14 16 P P 10 40 22.0 +0.2
baz=331,SNR=325
DHY Denali Highway 76.14 17 P P 10 40 22.0 +0.1
baz=329,SNR=547
DHY S **S** 10 49 45.5 -2.0
baz=329
H07S1 FLORES T-PHASE 76.15 309 *e*P P 10 40 22.8 +0.6
comp=Z,16μm,1.9s
H07S1 *e*pP **pP** 10 41 15.7 +1.8
N19K Bonanza Creek 76.16 21 P P 10 40 23.4 +1.4
baz=324,SNR=173
N19K S **S** 10 49 48.3 +0.7
baz=324
SNKL Senekal, Frees 76.24 219 ⇑*i*P P 10 40 23.3 +0.4
SNKL IAmb IAmb 10 40 24.8
comp=Z,3μm,1.4s
WAT6 Susitna Watana 76.48 17 P P 10 40 23.6 -0.2
baz=329,SNR=239
WAT6 S **S** 10 49 47.3 -3.9
baz=329
M22K Willow 76.59 19 P P 10 40 24.3 +0.1
baz=327,SNR=122
M22K S **S** 10 49 49.8 -2.1
baz=327
SWZ Schweizer 76.61 221 ⇓*i*P P 10 40 25.2 +0.2
SWZ IAmb IAmb 10 40 26.9
comp=Z,980nm,0.9s
PAX Paxson 76.68 16 P P 10 40 25.3 +0.4
baz=330,SNR=690
PAX S **S** 10 49 52.3 -0.9
baz=330
O19K Port Alsworth 76.70 21 P P 10 40 26.0 +1.1
baz=324,SNR=200
O19K S **S** 10 49 54.3 +1.0
baz=324
O18K Koktuh Hills 76.71 22 P P 10 40 26.6 +1.6
O18K Koktuh Hills 76.71 22 P P 10 40 26.7 +1.7
baz=323
O18K S **S** 10 49 56.1 +2.6
baz=323
J29M Klondike Camp 76.81 13 P P 10 40 26.9 +1.4
baz=336,SNR=361
J29M S **S** 10 49 54.3 -0.2
baz=336
GHO Glory Hole Cre 76.88 18 P P 10 40 26.3 +0.4
DAWY Dawson 76.95 13 P P 10 40 27.1 +0.8
DAWY IAmb IAmb 10 40 29.5
comp=Z,2μm,1.2s
DAWY Dawson 76.95 13 P P 10 40 27.1 +0.8
baz=335,SNR=772
DAWY S **S** 10 49 55.7 -0.3
baz=335
PMR Palmer 76.98 19 P P 10 40 26.8 +0.4
baz=328,SNR=169
PMR S **S** 10 49 54.3 -1.9
baz=328
SML Sawmill 77.00 18 P P 10 40 27.2 +0.6
baz=328,SNR=440
SML S **S** 10 49 54.6 -1.9
baz=328
MEEK Meekatharra 77.01 137 P P 10 40 27.3 +0.2
FIS Fire Island 77.07 19 P P 10 40 28.9 +2.0
P18K Big Mountain, 77.08 22 P P 10 40 28.1 +1.1
P18K Big Mountain, 77.08 22 P P 10 40 28.2 +1.1
baz=323
P18K S **S** 10 49 57.9 +0.4
baz=323
L26K Log Cabin Wild 77.09 15 P P 10 40 28.2 +1.1
baz=332,SNR=383
L26K S **S** 10 49 57.9 +0.3
baz=332
CAPN Captain Cook N 77.14 20 P P 10 40 29.0 +1.8
baz=326
SCM Sheep Creek Mo 77.22 18 P P 10 40 28.6 +0.8
baz=329,SNR=146
SCM S **S** 10 49 57.1 -1.9
baz=329
UNV Unalaska Valle 77.23 31 P P 10 40 27.4 -0.5
baz=316,SNR=54
UNV S **S** 10 49 57.6 -1.6
baz=316
HARP HAARP 77.25 16 P P 10 40 29.6 +1.7
baz=331,SNR=561
HARP S **S** 10 50 01.1 +2.0
baz=331
RC01 Rabbit Creek A 77.25 19 P P 10 40 28.2 +0.3
baz=327,SNR=99
RC01 S **S** 10 49 57.1 -2.1
baz=327
M24K Tolsona, Glenn 77.26 17 P P 10 40 29.6 +1.5
baz=330,SNR=545
M24K S **S** 10 50 00.4 +1.0
baz=330
O20K Slope Mountain 77.29 21 P P 10 40 28.4 +0.2
baz=325,SNR=34
KNK Knik Glacier 77.30 18 P P 10 40 29.2 +0.9
baz=328,SNR=183
KNK S **S** 10 49 58.5 -1.3
baz=328
L27K Beaver Creek, 77.38 15 P P 10 40 30.3 +1.6
baz=333,SNR=588
L27K S **S** 10 49 59.7 -0.9
baz=333
BCAR Beaver Creek A 77.39 15 P P 10 40 30.2 +1.5
BCAR pP **pP** 10 41 23.7 +2.5
P19K Oil Pt 77.47 21 P P 10 40 30.0 +0.8
P19K IAmb IAmb 10 40 31.7
comp=Z,1μm,0.8s
P19K Oil Pt 77.47 21 P P 10 40 29.5 +0.3
baz=325
P19K S **S** 10 50 00.8 -0.8
baz=325
MORW Morawa 77.60 141 P P 10 40 29.8 -0.4
MORW IAmb IAmb 10 41 27.4
comp=Z,1μm,1.1s
MORW Morawa 77.60 141 ⇑P P 10 40 29.0 -1.2
MORW Morawa 77.60 141 P P 10 40 30.2 0.0
FALS False Pass 77.73 29 P P 10 40 30.1 -0.6
baz=318,SNR=36
FALS S **S** 10 50 02.3 -2.2
baz=318
FALS False Pass 77.73 29 P P 10 40 31.1 +0.4
O22K Cooper Landing 77.76 19 P P 10 40 31.2 +0.5
baz=327,SNR=25
O22K S **S** 10 50 03.1 -1.5
baz=327
BOSA Boshof 77.80 220 P P 10 40 31.6 +0.1
comp=Z,691nm,1.0s,baz=27,slow=4.2,SNR=1040
BOSA pP **pP** 10 41 23.8 -0.5
comp=Z,500nm,1.1s,baz=46,slow=6.5,SNR=4.7
BOSA S **S** 10 50 04.2 -1.8
comp=Z,73nm,1.2s,baz=172,slow=20,SNR=18
BOSA PKKPbc **PKKPbc** 10 59 31.8 -0.2
comp=Z,8.9nm,0.5s,baz=212,slow=2.0,SNR=19
BOSA Boshof 77.80 220 ⇑*i*P P 10 40 31.9 +0.4
BOSA IAmb IAmb 10 40 33.2
comp=Z,1μm,1.1s
BOSA Boshof 77.80 220 P P 10 40 31.9 +0.4
BOSA pmax pmax
comp=Z,1μm,1.1s
BOSA Boshof 77.80 220 P P 10 40 31.9 +0.4
BOSA IAmb IAmb 10 40 33.5
comp=Z,1000nm,1.1s
BOSA Boshof 77.80 220 *i*P P 10 40 31.9 +0.4
BOSA Boshof 77.80 220 ⇑P P 10 40 31.6 +0.1
BOSA ⇓p **pP** 10 41 24.8 +0.5
BOSA Boshof 77.80 220 *i*P P 10 40 31.9 +0.4
PWL Port Wells 77.81 19 P P 10 40 31.6 +0.6
baz=328,SNR=54
PWL S **S** 10 50 04.1 -1.1
baz=328
KLU Klutina 77.86 17 P P 10 40 32.6 +1.2
baz=330,SNR=252
KLU S **S** 10 50 05.4 -0.5
baz=330
HOM Homer 77.92 21 P P 10 40 32.2 +0.6
baz=326,SNR=8.0
Q19K Cape Douglas, 77.94 22 P P 10 40 31.1 -0.7
Q19K IAmb IAmb 10 40 33.3
comp=Z,914nm,1.1s
Q19K Cape Douglas, 77.94 22 P P 10 40 31.1 -0.7
baz=325
MAYO Mayo, Yukon 78.00 12 P P 10 40 33.3 +1.3
baz=338
MAYO S **S** 10 50 08.2 +1.1
baz=338
M27K Edge Creek, AK 78.00 15 P P 10 40 33.9 +1.6
baz=333,SNR=787
M27K S **S** 10 50 08.2 +0.7
baz=333
N25K Chitina, Valde 78.07 17 P P 10 40 33.8 +1.2
baz=331,SNR=192
N25K S **S** 10 50 08.6 +0.5
baz=331
GLI Glacier Island 78.10 18 P P 10 40 33.3 +0.6
baz=329,SNR=64
GLI S **S** 10 50 07.8 -0.5
baz=329
BRSE Bradley Lake S 78.11 20 P P 10 40 32.6 -0.1
baz=327,SNR=50
BRSE S **S** 10 50 04.4 -4.0
baz=327
CNPM China Poot 78.15 21 P P 10 40 33.0 +0.1
CNPM IAmb IAmb 10 40 35.0
comp=Z,930nm,1.1s
SEW Seward 78.15 19 P P 10 40 33.3 +0.4
baz=328,SNR=68
SEW S **S** 10 50 06.5 -2.3
baz=328
BVCY Beaver Creek 78.16 15 P P 10 40 34.7 +1.8
baz=334,SNR=523
BVCY S **S** 10 50 10.0 +1.0
baz=334
SDPT Sand Point 78.48 27 P P 10 40 34.7 -0.1
baz=320,SNR=31
SDPT S **S** 10 50 13.3 +0.9
baz=320
MCARA McCarthy VSAT 78.62 16 P P 10 40 36.4 +1.0
baz=332,SNR=108
MCARA S **S** 10 50 14.6 +0.7
baz=332
BMRM Bremner River 78.63 17 P P 10 40 36.9 +1.3
baz=331
BMRM S **S** 10 50 14.5 +0.5
baz=331
MMPI Merauke 78.64 109 P P 10 40 36.3 0.0
comp=Z,34μmcomp=Z,40μmcomp=Z,4μm,0.8s
EYAK Cordova Ski Ar 78.72 18 P P 10 40 37.4 +1.4
baz=330,SNR=110
EYAK S **S** 10 50 14.6 -0.3
baz=330
M30M Minto, Yukon 78.79 13 P P 10 40 37.5 +1.1
baz=337,SNR=252
M30M S **S** 10 50 15.3 -0.4
baz=337
YUK3 Moose Creek 78.82 15 P P 10 40 38.1 +1.2
baz=334,SNR=419
YUK3 S **S** 10 50 18.3 +1.9
baz=334
BLDU Ballidu 79.19 141 P P 10 40 38.3 -0.6
KDAK Kodiak Island 79.20 22 P P 10 40 39.4 +0.8
comp=Z,2μm,0.8s,baz=346,slow=3.7,SNR=322
KDAK pP **pP** 10 41 30.7 -0.9
comp=Z,567nm,1.0s,baz=22,slow=4.3,SNR=2.9
KDAK PKKPbc **PKKPbc** 10 59 26.6 -1.0
comp=Z,16nm,0.7s,baz=205,slow=8.1,SNR=8.6
KDAK Kodiak Island 79.20 22 *c i*P P 10 40 39.5 +0.8
KDAK pmax pmax
comp=Z,4μm,0.9s
KDAK Kodiak Island 79.20 22 P P 10 40 38.9 +0.2
KDAK Kodiak Island 79.20 22 ⇑P P 10 40 39.4 +0.8
KDAK Kodiak Island 79.20 22 P P 10 40 39.5 +0.8
baz=326
KDAK S **S** 10 50 19.7 -0.2
baz=326
BARN Barnard Glacie 79.21 16 P P 10 40 39.5 +0.6
BARN IAmb IAmb 10 40 43.3
comp=Z,2μm,1.2s
TGL Tana Glacier 79.23 16 P P 10 40 38.8 -0.1
TGL IAmb IAmb 10 40 42.3
comp=Z,1μm,1.1s
HMT Hamilton 79.27 17 P P 10 40 41.1 +2.1
HMT IAmb IAmb 10 40 43.9
comp=Z,697nm,1.1s
HVD Gariep Dam 79.28 219 ⇑*i*P P 10 40 38.9 -0.6
HVD IAmb IAmb 10 40 41.3
comp=Z,1μm,1.3s
BERG Berg Lake 79.35 17 P P 10 40 41.1 +1.7
CTG Chitna Glacier 79.37 15 P P 10 40 41.1 +1.5
baz=334,SNR=235
CTG S **S** 10 50 21.7 -0.3
baz=334
CTGM Chitina Glacie 79.37 15 P P 10 40 40.8 +1.1
OHAK Old Harbor 79.44 23 P P 10 40 41.0 +1.1
baz=325,SNR=188
OHAK S **S** 10 50 22.9 +0.4
baz=325
Q23K Middleton Isla 79.55 18 P P 10 40 41.8 +1.4
baz=330,SNR=9.8
M31M Drury Creek, Y 79.55 12 P P 10 40 41.5 +0.9
baz=339,SNR=536
M31M S **S** 10 50 24.0 +0.4
baz=339
YUK4 Talbot Arm 79.58 14 P P 10 40 41.9 +1.0
baz=336,SNR=386
YUK4 S **S** 10 50 24.1 -0.3
baz=336
MMPY Sheldon Lake, 79.64 10 P P 10 40 42.7 +1.7
baz=342
MMPY S **S** 10 50 27.4 +2.7
baz=342
BGLC Bering Glacier 79.69 17 P P 10 40 43.7 +2.5
baz=332,SNR=11
FARO Faro, Yukon 79.70 11 P P 10 40 42.2 +0.9
baz=340
FARO S **S** 10 50 25.6 +0.4
baz=340
SII Sitkinak Islan 79.70 24 P P 10 40 42.6 +1.2
baz=324,SNR=40
SII S **S** 10 50 26.6 +1.2
baz=324
SII Sitkinak Islan 79.70 24 P P 10 40 42.0 +0.6
UPI Upington 79.75 223 ⇑*i*P P 10 40 42.9 +0.8
UPI IAmb IAmb 10 40 44.4
comp=Z,617nm,1.2s
MTKN Mount Kenneth 79.80 143 P P 10 40 43.0 +0.9
CHIR Chirikof Islan 79.82 25 P P 10 40 43.3 +1.3
baz=323,SNR=14
CHIR S **S** 10 50 28.4 +1.8
baz=323
N31M Braeburn, Yuko 79.98 13 P P 10 40 44.0 +1.1
baz=338,SNR=490
N31M S **S** 10 50 30.3 +2.1
baz=338
WRGLY Wrigley 79.98 7 P P 10 40 44.5 +1.8
baz=348
WRGLY S **S** 10 50 29.9 +1.8
baz=348
YUK6 Outpost Mounta 80.00 14 P P 10 40 44.5 +1.3
baz=336,SNR=166
YUK6 S **S** 10 50 29.1 +0.2
baz=336
MUN Mundaring 80.05 142 P P 10 40 42.8 -0.7
MANU Manus Island 80.11 100 P P 10 40 44.8 +0.5
MANU IAmb IAmb 10 40 46.6
comp=Z,437nm,0.7s
MANU Manus Island 80.11 100 ⇑P P 10 40 45.3 +1.0
KEIM Keimoes 80.17 223 ⇑*i*P P 10 40 45.1 +0.8
KEIM IAmb IAmb 10 40 46.8
comp=Z,816nm,1.0s
HYT Haines Junctio 80.28 14 P P 10 40 45.7 +1.1
HYT Haines Junctio 80.28 14 P P 10 40 46.1 +1.5
baz=337,SNR=479
HYT S **S** 10 50 31.9 +0.4
baz=337
PINM Pinnacle 80.39 15 P P 10 40 46.6 +1.5
baz=335
AUGR Augrabies 80.44 224 ⇓*i*P P 10 40 46.4 +0.7
AUGR IAmb IAmb 10 40 47.0
comp=Z,3μm,2.1s
KLBR Kellerberrin 80.51 141 P P 10 40 45.2 -0.7
WHY Whitehorse 80.92 13 ⇑P P 10 40 48.0 +0.1
WHY Whitehorse 80.92 13 P P 10 40 48.2 +0.3
baz=339,SNR=212
WHY S **S** 10 50 37.6 -0.5
baz=339
SOE Somerset East 80.95 218 ⇓*i*P P 10 40 49.1 +0.8
SOE IAmb IAmb 10 40 50.5
comp=Z,1μm,1.5s
PNL Peninsula 80.96 15 P P 10 40 49.6 +1.5
baz=336,SNR=91
PNL S **S** 10 50 40.2 +1.9
baz=336
TGTN Hyland Airport 81.10 9 P P 10 40 50.5 +1.6
baz=344,SNR=636
YKA Yellowknife Ar 81.30 3 P P 10 40 50.2 +0.5
comp=Z,721nm,0.7s,baz=349,slow=5.3,SNR=1755
YKA pP **pP** 10 41 42.4 -0.3
comp=Z,148nm,0.8s,baz=350,slow=5.2,SNR=2.3
YKA S **S** 10 50 40.2 -1.5
comp=Z,18nm,1.2s,baz=358,slow=9.5,SNR=4.0
YKA PKKPbc **PKKPbc** 10 59 20.6 -2.6
comp=Z,32nm,0.6s,baz=166,slow=1.9,SNR=96
YKA PKPPKP P'P'df 11 07 21.4 -8.7
comp=Z,3.5nm,0.7s,baz=160,slow=2.2,SNR=18
YKA Yellowknife Ar 81.30 3 P P 10 40 50.8 +1.0
YKA Yellowknife Ar 81.30 3 P P 10 40 50.8 +1.0
H01W3 Cape Leeuwin H 81.45 146 P P 10 40 51.3 +0.8
baz=320,slow=5.1,SNR=9.6
H01W2 Cape Leeuwin H 81.46 146 P P 10 40 51.0 +0.5
baz=320,slow=5.1,SNR=8.3
WRKA Warakurna 81.46 130 ⇑P P 10 40 51.2 +0.1
WRKA Warakurna 81.46 130 P P 10 40 51.3 +0.1
H01W1 Cape Leeuwin H 81.47 145 P P 10 40 51.2 +0.6
baz=320,slow=5.1,SNR=6.8
WB0 Warramunga Arr 81.74 122 P P 10 40 52.4 -0.3
WB0 IAmb IAmb 10 40 53.7
comp=Z,991nm,0.8s
I07AU WARRAMUNGA INR 81.81 122 P P 10 40 51.9 -1.2
baz=299,slow=6.7,SNR=4.2
WRA Warramunga Arr 81.82 122 P P 10 40 52.5 -0.7
comp=Z,1μm,0.8s,baz=326,slow=4.9,SNR=1593
WRA pP **pP** 10 41 44.9 -1.1
comp=Z,247nm,1.1s,baz=324,slow=4.6,SNR=3.1
WRA S **S** 10 50 43.9 -4.4
comp=Z,6.5nm,0.8s,baz=324,slow=12,SNR=11
WRA PKKPbc **PKKPbc** 10 59 22.9 +0.7
comp=Z,26nm,0.7s,baz=122,slow=2.4,SNR=56
WRA PKKPab 11 00 22.1
comp=Z,5.3nm,0.9s,baz=138,slow=1.9,SNR=4.6
WRA PKPPKP **P'P'df** 11 07 22.9 -3.6
comp=Z,11nm,1.0s,baz=161,slow=1.3,SNR=14
WRA Warramunga Arr 81.82 122 P P 10 40 52.6 -0.5
WRA *PP **pP** 10 41 47.6 +1.6
WRA pmax pmax
comp=Z,167nm,0.8s
WRA Warramunga Arr 81.82 122 P P 10 40 52.6 -0.5
WRA pP **pP** 10 41 47.6 +1.6
WRAB Tennant Creek 81.82 122 *c i*P P 10 40 52.9 -0.2
WRAB pmax pmax
comp=Z,2μm,0.8s
WRAB Tennant Creek 81.82 122 ⇑P P 10 40 52.9 -0.2
WRAB Tennant Creek 81.82 122 P P 10 40 52.9 -0.2
WB2 Warramunga Arr 81.83 122 P P 10 40 52.6 -0.5
SKAG Skagway 81.96 13 ⇑P P 10 40 54.6 +1.3
SKAG Skagway 81.96 13 P P 10 40 54.7 +1.5
baz=339,SNR=370
WR0 Warramunga Arr 81.97 122 P P 10 40 53.1 -0.7
WR0 IAmb IAmb 10 40 54.9
comp=Z,970nm,0.8s
SCHQ Schefferville 82.22 337 P P 10 40 55.1 +0.4
comp=Z,225nm,0.7s,baz=33,slow=5.1,SNR=229
SCHQ S **S** 10 50 52.0 +0.6
comp=Z,24nm,1.3s,baz=242,slow=17,SNR=6.2
SCHQ PKKPbc **PKKPbc** 10 59 19.4 -1.6
comp=Z,17nm,0.7s,baz=260,slow=1.0,SNR=18
SCHQ PKP2bc 11 06 55.0
comp=Z,3.4nm,0.7s,baz=240,slow=6.0,SNR=3.7
SCHQ PKPPKP **P'P'df** 11 07 25.6 -3.0
comp=Z,4.5nm,0.8s,baz=182,slow=9.9,SNR=2.8
SCHQ Schefferville 82.22 337 ⇑P P 10 40 55.0 +0.4
GRAN Grantham 82.34 220 ⇑*i*P P 10 40 56.0 +0.4
GRAN IAmb IAmb 10 40 58.0
comp=Z,226nm,0.7s
WTLY Watson Lake, Y 82.40 10 P P 10 40 56.6 +1.0
baz=344
RKGY Rocky Gully 82.56 143 P P 10 40 56.5 -0.1
KROM Kromhout 82.56 217 ⇓*i*P P 10 40 56.9 +0.3
KROM IAmb IAmb 10 40 58.7
comp=Z,561nm,1.2s
ROSN Rosenhof 82.57 217 ⇓*i*P P 10 40 57.1 +0.4
ROSN IAmb IAmb 10 40 58.8
comp=Z,786nm,1.4s
H11N2 WAKE ISLAND Hy 82.94 71 P P 10 40 59.5 +0.7
baz=264,slow=5.9,SNR=17
H11N1 WAKE ISLAND Hy 82.94 71 P P 10 40 59.4 +0.6
baz=264,slow=5.9,SNR=48
H11N3 WAKE ISLAND Hy 82.95 71 P P 10 40 59.4 +0.6
baz=264,slow=5.9,SNR=40
KOMG Komaggas 82.96 225 ⇑*i*P P 10 40 59.3 +0.5
KOMG IAmb IAmb 10 41 00.9
comp=Z,6μm,2.0s
CVNA Calvinia 82.98 222 ⇑*i*P P 10 40 59.0 0.0
CVNA IAmb IAmb 10 41 01.2
comp=Z,451nm,1.1s
WAKE Wake Island 83.01 71 P P 10 40 59.8 +0.4
WAKE IAmb IAmb 10 41 01.2

comp=Z,1µm,0.8s
WAKE Wake Island 83.01 71 ⇑P **P 10 41 00.3 +0.9**
WAKE Wake Island 83.01 71 P **P 10 41 00.1 +0.7**
SUR Sutherland 83.11 221 S **S 10 50 59.6 -1.6**
comp=Z,5.3nm,0.9s,baz=217,slow=22,SNR=6.4
SUR PKKP 10 59 07.3
comp=Z,4.3nm,0.8s,baz=157,slow=3.9,SNR=3.7
SUR PKKPbc **PKKPbc 10 59 21.2 +1.0**
comp=Z,12nm,0.8s,baz=272,slow=2.7,SNR=6.8
SUR Sutherland 83.11 221 P **P 10 41 00.4 +0.7**
SUR Sutherland 83.11 221 P **P 10 41 01.0 +1.3**
SUR S **S 10 51 02.2 +1.0**
SUR Sutherland 83.11 221 ⇑P **P 10 41 00.6 +0.9**
SUR ⇓p **pP 10 41 54.5 +1.1**
JIS Juneau Island 83.24 13 P **P 10 41 00.7 +0.9**
JIS IAmb IAmb 10 41 03.9
comp=Z,1µm,1.4s
DRLN Deer Lake 83.32 329 P **P 10 41 00.6 +0.2**
DRLN Deer Lake 83.32 329 ⇑P **P 10 41 01.1 +0.6**
H11S3 WAKE ISLAND Hy 83.50 72 P **P 10 41 02.3 +0.6**
baz=24,slow=23,SNR=8.9
H11S1 WAKE ISLAND Hy 83.50 72 P **P 10 41 02.3 +0.6**
baz=24,slow=23,SNR=9.5
H11S2 WAKE ISLAND Hy 83.52 72 P **P 10 41 02.9 +1.1**
baz=24,slow=23,SNR=7.9
PATS Pohnpei 83.67 86 P **P 10 41 03.3 +0.5**
PATS Pohnpei 83.67 86 P **P 10 41 03.9 +1.1**
DLBC Dease Lake 83.83 11 PKKPbc PKKPbc 10 59 16.1 -1.4
comp=Z,8.6nm,0.6s,baz=326,slow=1.1,SNR=31
DLBC PKPPKP **P'P'df 11 07 19.0 -6.6**
comp=Z,4.2nm,0.9s,baz=178,slow=6.4,SNR=6.2
DLBC Dease Lake 83.83 11 P **P 10 41 04.1 +1.1**
DLBC IAmb IAmb 10 41 07.5
comp=Z,1µm,1.3s
MATJ Matjiesfontein 83.92 221 ⇑i/P **P 10 41 03.5 -0.2**
MATJ IAmb IAmb 10 41 06.0
comp=Z,488nm,0.9s
AS31 Alice Springs 84.09 125 P **P 10 41 04.0 -0.7**
AS31 IAmb IAmb 10 41 05.7
comp=Z,442nm,0.7s
ASAR Alice Springs 84.09 125 P **P 10 41 04.3 -0.3**
comp=Z,1µm,0.7s,baz=310,slow=5.0,SNR=7841
ASAR pP **pP 10 41 58.9 +1.1**
comp=Z,112nm,0.7s,baz=314,slow=4.7,SNR=2.2
ASAR S S 10 51 01.1 -10
comp=Z,14nm,0.9s,baz=316,slow=7.1,SNR=6.4
ASAR PKKPbc **PKKPbc 10 59 17.4 +0.4**
comp=Z,11nm,0.6s,baz=123,slow=2.9,SNR=26
ASAR PKKPab 11 00 17.6
comp=Z,5.9nm,0.9s,baz=137,slow=2.0,SNR=4.3
ASAR PKPPKP **P'P'df 11 07 18.0 -4.3**
comp=Z,8.3nm,0.9s,baz=133,slow=2.9,SNR=11
ASAR Alice Springs 84.09 125 P **P 10 41 04.4 -0.3**
ASAR pP **pP 10 41 59.2 +1.4**
SIT Sitka 84.20 14 P **P 10 41 06.3 +1.6**
baz=339,SNR=64
COEN Coen 84.23 112 P **P 10 41 04.9 -0.7**
COEN IAmb IAmb 10 41 06.8
comp=Z,934nm,0.8s
COEN Coen 84.23 112 ⇑P **P 10 41 05.2 -0.3**
COEN Coen 84.23 112 P **P 10 41 05.4 -0.2**
PMG Port Moresby 84.44 106 P **P 10 41 06.7 +0.2**
comp=Z,760nm,0.8s,baz=350,slow=4.7,SNR=134
PMG pP **pP 10 41 58.5 -1.2**
comp=Z,300nm,0.8s,baz=356,slow=4.7,SNR=2.5
PMG Port Moresby 84.44 106 P **P 10 41 06.3 -0.3**
PMG IAmb IAmb 10 41 08.7
comp=Z,1µm,1.1s
PMG Port Moresby 84.44 106 ⇑P **P 10 41 06.6 0.0**
PMG Port Moresby 84.44 106 P **P 10 41 06.5 -0.1**
PMG Port Moresby 84.44 106 P **P 10 41 06.8 +0.2**
CER Ceres 84.68 221 ⇑i/P **P 10 41 08.6 +1.2**
CER IAmb IAmb 10 41 09.2
comp=Z,1µm,2.0s
SACV Santiago Islan 85.04 285 P **P 10 41 09.6 -0.1**
SACV IAmb IAmb 10 41 11.4
comp=Z,1µm,1.9s
RABL Rabaul 85.22 99 P **P 10 41 10.5 -0.1**
RABL IAmb IAmb 10 41 12.5
comp=Z,586nm,0.8s
RABL Rabaul 85.22 99 ⇑P **P 10 41 10.2 -0.4**
RABL Rabaul 85.22 99 P **P 10 41 10.9 +0.3**
WRAK Wrangell Islan 85.37 13 P **P 10 41 11.6 +1.1**
WRAK IAmb IAmb 10 41 14.4
comp=Z,502nm,0.8s
WRAK Wrangell Islan 85.37 13 P **P 10 41 12.0 +1.4**
baz=341,SNR=150
WRAK S **S 10 51 24.1 +1.5**
baz=341
ELIM Elim 85.39 220 ⇑i/P **P 10 41 11.4 +0.5**
ELIM IAmb IAmb 10 41 13.1
comp=Z,2µm,1.5s
FORT Forrest 85.51 134 P **P 10 41 11.4 -0.2**
FORT Forrest 85.51 134 ⇑P **P 10 41 11.6 0.0**
FORT Forrest 85.51 134 P **P 10 41 11.5 0.0**
QIS Mount Isa 85.89 119 P **P 10 41 13.4 -0.3**
CRAG Craig 86.12 14 P **P 10 41 15.6 +1.3**
baz=341,SNR=32
MTSU Mount Surprise 87.72 114 P **P 10 41 22.7 +0.1**
OOD Oodnadatta 88.09 127 P **P 10 41 23.7 -0.3**
H02S1 DAWSON INLET T 88.39 14 P **P 10 41 26.5 +1.3**
SNR=45
MULG Mulgathing 88.77 130 P **P 10 41 26.6 -0.6**
MIDW Midway 88.97 55 P **P 10 41 28.5 +0.1**
MIDW Midway 88.97 55 ⇑P **P 10 41 28.8 +0.5**
FFC Flin Flon 89.02 356 P **P 10 41 28.9 +0.8**
FFC pmax pmax
comp=Z,1µm,1.2s
FFC Flin Flon 89.02 356 P **P 10 41 28.9 +0.8**
FFC IAmb IAmb 10 41 31.1
comp=Z,1µm,1.1s
FFC Flin Flon 89.02 356 ⇑P **P 10 41 28.6 +0.5**
SHEL Horse Pasture 89.22 250 ⇑P **P 10 41 30.3 +0.6**
HG4B Hotspring 89.50 14 P **P 10 41 31.8 +1.4**
HG4B IAmb IAmb 10 41 33.7
comp=Z,1µm,1.8s
HAL Halifax 89.51 330 P **P 10 41 32.7 +2.1**
HAL pmax pmax
comp=Z,1µm,2.0s
HAL Halifax 89.51 330 P **P 10 41 32.7 +2.1**
HAL IAmb IAmb 10 41 34.0
comp=Z,1µm,2.0s
D62A Allapoint, All 89.54 334 P **P 10 41 31.7 +1.0**
D62A Allapoint, All 89.54 334 P **P 10 41 30.7 0.0**
baz=31,SNR=10
D62A P **P 10 41 30.7 0.0**
baz=31,SNR=10
D62A S **S 10 52 06.7 +4.0**
baz=31
D62A S **S 10 52 06.7 +4.0**
baz=31
E63A Oxbow 89.88 333 P **P 10 41 32.7 +0.4**
baz=31,SNR=9.7
E63A P **P 10 41 32.7 +0.4**
baz=31,SNR=9.7
E63A S **S 10 52 09.4 +3.5**
baz=31
E63A S **S 10 52 09.4 +3.5**
baz=31
KWAJ Kwajalein Atol 89.95 79 ⇑P **P 10 41 33.8 +0.6**
BBB Bella Bella 90.15 12 ⇑P **P 10 41 34.1 +0.8**
F64A Sherman 90.33 333 P **P 10 41 36.2 +1.8**
baz=32,SNR=8.5
F64A P **P 10 41 36.2 +1.8**
baz=32,SNR=8.5
CTA Charters Tower 90.37 115 P **P 10 41 34.8 -0.1**
G65A Princeton 90.60 332 P **P 10 41 37.1 +1.4**
baz=32,SNR=5.9
G65A P **P 10 41 37.1 +1.4**
baz=32,SNR=5.9
F63A Nahmakanta, Br 90.74 333 P **P 10 41 37.5 +1.1**
baz=31
F63A P **P 10 41 37.5 +1.1**
baz=31
F62A Pittston Farm, 90.88 334 P **P 10 41 38.5 +1.6**
baz=30,SNR=7.9
F62A P **P 10 41 38.5 +1.6**
baz=30,SNR=7.9
F62A S **S 10 52 16.2 +1.2**
baz=30
F62A S **S 10 52 16.2 +1.2**
baz=30
EMMW East Machias 90.98 332 S **S 10 52 10.8 -5.1**
baz=32
ASCN Ascension 91.10 261 P **P 10 41 39.1 +0.7**

PKME Peaks-Kenny Pk 91.19 333 P **P 10 41 39.8 +1.4**
PKME IAmb IAmb 10 41 41.7
comp=Z,876nm,1.9s
PKME Peaks-Kenny Pk 91.19 333 P **P 10 41 40.1 +1.8**
baz=31,SNR=10
PKME Peaks-Kenny Pk 91.19 333 P **P 10 41 39.5 +1.1**
baz=31,SNR=10
VLDQ Val d'Or 91.30 340 P **P 10 41 39.5 +0.7**
VLDQ IAmb IAmb 10 41 42.0
comp=Z,1µm,1.6s
KAPO Kapuskasing 91.36 343 ⇑P **P 10 41 39.9 +0.7**
KAPO ⇑P **PcP 10 41 40.1 +0.2**
INKA Innaminka 91.38 124 P **P 10 41 39.3 -0.1**
LCRK Leigh Creek 91.51 127 P **P 10 41 39.3 -0.6**
HOLB Holberg 91.64 12 P **P 10 41 41.7 +1.3**
G62A West of Eustis 91.67 334 P **P 10 41 42.0 +1.4**
baz=30,SNR=10.0
G62A P **P 10 41 42.0 +1.4**
baz=30,SNR=10.0
BBOO Buckleboo 91.74 130 P **P 10 41 39.8 -1.1**
BBOO Buckleboo 91.74 130 P **P 10 41 40.1 -0.9**
WVL Waterville 91.92 333 P **P 10 41 42.4 +0.6**
baz=31
H62A Milan 92.45 334 P **P 10 41 45.6 +1.4**
baz=30
H62A P **P 10 41 45.6 +1.4**
baz=30
I63A Otisfield 92.70 333 P **P 10 41 46.1 +0.7**
baz=30
I63A P **P 10 41 46.1 +0.7**
baz=30
WHYH Whyalla 92.83 130 P **P 10 41 45.3 -0.6**
GAC Glen Almond 92.89 337 ⇑P **P 10 41 46.5 +0.4**
GAC ⇑P **PcP 10 41 46.7 0.0**
GAC ⇑P pP 10 41 50.7 -49
ULM Lac du Bonnet 92.94 352 P **P 10 41 46.2 -0.1**
comp=Z,218nm,0.9s,baz=6.5,slow=4.9,SNR=168
ULM pP **pP 10 42 39.9 -0.3**
comp=Z,49nm,1.0s,baz=16,slow=5.3,SNR=1.8
ULM PP **PP 10 45 33.0 +2.1**
comp=Z,63nm,1.1s,baz=22,slow=10,SNR=5.4
ULM PKKPbc **PKKPdf 10 58 52.5 +1.2**
comp=Z,15nm,0.6s,baz=205,slow=2.9,SNR=17
ULM PKPPKP P'P'df 11 06 53.9 -15
comp=Z,4.3nm,0.6s,baz=138,slow=3.2,SNR=6.2
ULM Lac du Bonnet 92.94 352 ⇑P **P 10 41 46.2 -0.1**
LBNH Lisbon 93.01 334 P **P 10 41 46.0 -0.8**
baz=29,SNR=9.1
LBNH Lisbon 93.01 334 P **P 10 41 48.2 +1.4**
baz=29,SNR=9.1
LBNH S **S 10 52 35.7 +1.6**
baz=29
QLP Quilpie 93.01 121 ⇑P **P 10 41 46.7 -0.3**
QLP ⇑P **P 10 41 46.7 -0.3**
QLP Quilpie 93.01 121 P **P 10 41 46.8 -0.2**
FRNY Flat Rock 93.05 336 P **P 10 41 47.2 +0.2**
baz=28,SNR=10
I62A Tamworth 93.12 334 P **P 10 41 48.3 +0.9**
baz=29,SNR=6.7
I62A P **P 10 41 48.3 +0.9**
baz=29,SNR=6.7
PTPS Port Pirie 93.19 129 P **P 10 41 47.3 -0.3**
VT1 Waterbury 93.22 335 P **P 10 41 48.5 +0.7**
baz=28
NAPP Napperby 93.29 129 P **P 10 41 47.3 -0.8**
BMNY Brushton-Moira 93.35 336 P **P 10 41 48.9 +0.6**
baz=27,SNR=8.1
LONY Lake Ozonia 93.57 336 P **P 10 41 50.1 +0.7**
baz=27,SNR=24
MCVT Middlebury Col 93.63 335 P **P 10 41 50.0 +0.3**
baz=28,SNR=11
UNH University of 93.63 333 P **P 10 41 50.7 +1.1**
baz=30,SNR=6.9
HTT Hallett 93.94 129 ⇑P **P 10 41 50.6 -0.6**
HTT ⇑P **PcP 10 41 50.7 -0.8**
HTT Hallett 93.94 129 P **P 10 41 50.5 -0.6**
J61A Chester 94.01 334 P **P 10 41 52.3 +0.9**
baz=28,SNR=16
J61A P **P 10 41 52.3 +0.9**
baz=28,SNR=16
NCB Newcomb 94.03 336 P **P 10 41 51.4 -0.2**
baz=27
A04D Lummi Island 94.32 9 P **P 10 41 53.6 +0.9**
baz=349,SNR=27
ACCN Adirondack Com 94.36 335 P **P 10 41 52.9 -0.1**
baz=28,SNR=12
HRV Adam Dziewonsk 94.39 333 P **P 10 41 56.0 +2.8**
baz=29
WCNY West Carthage 94.49 337 P **P 10 41 53.3 -0.3**
baz=26,SNR=9.0
K62A Royalston 94.50 334 P **P 10 41 53.7 0.0**
baz=29,SNR=7.7
K62A P **P 10 41 53.7 0.0**
baz=29,SNR=7.7
B35A Bob, Littlefor 94.51 350 P **P 10 41 53.8 +0.2**
baz=12
HNR Honiara 94.53 98 P **P 10 41 53.7 -0.5**
comp=Z,166nm,0.9s,baz=213,slow=4.9
HNR pP **pP 10 42 48.3 -0.2**
comp=Z,148nm,1.0s,baz=202,slow=7.3,SNR=2.4
HNR Honiara 94.53 98 P **P 10 41 54.1 -0.1**
HNR pmax pmax
comp=Z,261nm,1.1s
HNR Honiara 94.53 98 P **P 10 41 54.0 -0.1**
HNR IAmb IAmb 10 44 22.9
comp=Z,261nm,1.1s
HNR Honiara 94.53 98 ⇑P **P 10 41 52.4 -1.8**
HNR ⇓p **pP 10 42 47.0 -1.4**
J59A Piesco 94.57 336 P **P 10 41 53.1 -0.9**
baz=27,SNR=16
J59A P **P 10 41 53.1 -0.9**
baz=27,SNR=16
EYMN Ely 94.58 348 P **P 10 41 54.5 +0.5**
baz=14,SNR=35
STKA Stephens Creek 94.62 126 P **P 10 41 53.1 -1.1**
comp=Z,107nm,0.7s,baz=322,slow=5.9,SNR=136
STKA pP **pP 10 42 46.9 -1.4**
comp=Z,22nm,0.7s,baz=353,slow=17,SNR=1.3
STKA S **SKSac 10 52 02.9 -5.8**
comp=Z,8.4nm,0.8s,baz=124,slow=23,SNR=6.8
STKA PKKPbc **PKKPbc 10 58 49.6 -1.5**
comp=Z,12nm,1.0s,baz=104,slow=5.3,SNR=8.7
STKA Stephens Creek 94.62 126 P **P 10 41 52.7 -1.5**
STKA Stephens Creek 94.62 126 P **P 10 41 53.2 -1.1**
B06A Marblemount 94.67 8 P **P 10 41 54.6 +0.3**
B06A IAmb IAmb 10 41 57.0
comp=Z,1µm,2.0s
E46A Sault Ste Mari 94.68 343 P **P 10 41 54.4 0.0**
E46A Sault Ste Mari 94.68 343 P **P 10 41 54.6 +0.2**
baz=20
E46A S **S 10 52 47.3 -1.1**
baz=20
WALA Waterton Lakes 94.76 3 P **P 10 41 54.8 -0.1**
WALA IAmb IAmb 10 41 57.6
comp=Z,266nm,0.9s
WALA Waterton Lakes 94.76 3 ⇑P **P 10 41 55.1 +0.2**
WALA ⇑P **P 10 41 55.1 +0.2**
TWOA Tennyson Woods 94.78 131 P **P 10 41 54.6 -0.3**
SADO Sadowa 94.83 339 PKKPbc PKKPbc 10 58 48.0 -2.2
comp=Z,19nm,0.7s,baz=255,slow=1.2,SNR=16
SADO Sadowa 94.83 339 ⇑P **P 10 41 55.3 +0.2**
SADO ⇑P **P 10 41 55.4 +0.3**
L61B Northampton 94.84 334 P **P 10 41 55.3 0.0**
baz=28,SNR=7.0
L61B Northampton 94.84 334 P **P 10 41 55.6 +0.3**
baz=28,SNR=7.0
B05A Bryant 94.84 9 P **P 10 41 55.8 +0.7**
baz=349,SNR=113
AGMN Agassiz Nation 94.86 351 P **P 10 41 55.4 +0.2**
baz=10
AGMN S **S 10 52 46.4 -3.5**
baz=10
AGMN Agassiz Nation 94.86 351 P **P 10 41 55.4 +0.2**
baz=10,SNR=99
D41A Chassel 94.92 346 P **P 10 41 55.9 +0.4**
baz=16
J58A Remsen 94.92 336 P **P 10 41 53.9 -1.8**
baz=26,SNR=8.1
J58A P **P 10 41 53.9 -1.8**
baz=26,SNR=8.1
J57A Williamstown 95.11 337 P **P 10 41 56.7 +0.2**
baz=26,SNR=8.2
J57A P **P 10 41 56.7 +0.2**
baz=26,SNR=8.2
HCNY Howe Caverns 95.22 335 P **P 10 41 56.3 -0.6**
baz=27

E43A Lone Tree Farm 95.26 345 P **P 10 41 56.7 -0.4**
baz=18
E43A S **S 10 52 50.6 -2.9**
baz=18
C06D Leavenworth 95.33 8 P **P 10 41 58.0 +0.6**
baz=350,SNR=7.4
NEW Newport 95.35 6 PP **PP 10 45 47.2 -2.5**
comp=Z,80nm,1.2s,baz=333,slow=6.5,SNR=3.6
NEW PKKPbc **PKKPdf 10 58 47.3 +0.1**
comp=Z,5.2nm,0.7s,baz=158,slow=4.6,SNR=7.8
NEW PKPPKP **P'P'df 11 06 56.7 -7.3**
comp=Z,2.6nm,0.6s,baz=141,slow=1.5,SNR=3.5
NEW Newport 95.35 6 P **P 10 41 58.4 +0.9**
baz=353,SNR=102
DGMT Dagmar 95.37 357 P **P 10 41 58.8 +1.2**
baz=3.8,SNR=59
DGMT Dagmar 95.37 357 P **P 10 41 58.9 +1.3**
baz=3.8,SNR=59
D03D Eldon 95.43 10 P **P 10 41 59.3 +1.5**
baz=349,SNR=58
NLWA Neilton Lookou 95.46 10 ⇑P **P 10 41 59.5 +1.5**
RK1H Rockhampton Ha 95.50 115 P **P 10 41 57.9 -0.5**
J56A Wolcott 95.50 337 P **P 10 41 58.3 +0.1**
baz=25
J56A P **P 10 41 58.3 +0.1**
baz=25
MDND Maddock 95.69 354 P **P 10 41 59.1 +0.1**
baz=7.5,SNR=19
MDND Maddock 95.69 354 P **P 10 41 59.7 +0.6**
baz=7.5,SNR=19
J55A Hilton 95.81 338 P **P 10 41 59.9 +0.3**
baz=25,SNR=5.1
J55A P **P 10 41 59.9 +0.3**
baz=25,SNR=5.1
D04E Lakebay 95.82 10 P **P 10 42 01.3 +1.7**
baz=349,SNR=17
K57A Scipio Center 95.88 337 P **P 10 41 59.6 -0.4**
baz=26,SNR=8.1
L59A Walton 95.89 335 P **P 10 41 59.8 -0.2**
baz=27,SNR=5.6
L59A P **P 10 41 59.8 -0.2**
baz=27,SNR=5.6
E38A The Farm, Brul 95.89 348 P **P 10 41 59.1 -0.8**
E38A IAmb IAmb 10 42 02.1
comp=Z,391nm,1.4s
E38A The Farm, Brul 95.89 348 P **P 10 42 00.0 +0.1**
baz=14
EGMT Eagleton 95.91 1 P **P 10 42 00.0 -0.1**
EGMT IAmb IAmb 10 42 03.0
comp=Z,356nm,1.1s
EGMT Eagleton 95.91 1 P **P 10 42 00.8 +0.6**
baz=359,SNR=56
D05A Enumclaw 95.92 9 P **P 10 42 00.7 +0.7**
D05A IAmb IAmb 10 42 04.6
comp=Z,587nm,1.4s
COWI Conover 95.95 346 P **P 10 42 00.4 +0.1**
COWI IAmb IAmb 10 42 02.4
comp=Z,279nm,1.3s
COWI Conover 95.95 346 P **P 10 41 59.9 -0.3**
baz=16
COWI S **S 10 52 58.0 -1.6**
baz=16
J54A Appleton 96.05 338 P **P 10 42 00.7 0.0**
baz=24,SNR=5.4
J54A P **P 10 42 00.7 0.0**
baz=24,SNR=5.4
F42A Maple Grove Fa 96.08 346 P **P 10 42 01.0 +0.2**
baz=17,SNR=16
RMQ Roma 96.12 118 P **P 10 42 01.6 +0.4**
D32B Dogwood Acres, 96.14 352 P **P 10 42 00.7 -0.3**
baz=9.6
GLMI Grayling 96.20 343 P **P 10 42 01.7 +0.3**
baz=19,SNR=18
GLMI Grayling 96.20 343 P **P 10 42 01.9 +0.5**
baz=19,SNR=18
BRNY Black Rk. Fore 96.22 334 P **P 10 42 01.6 +0.1**
baz=28
G45A Suttons Bay 96.24 344 P **P 10 42 01.8 +0.3**
baz=19,SNR=8.0
G45A P **P 10 42 01.8 +0.3**
baz=19,SNR=8.0
G45A S **S 10 53 01.9 -0.1**
baz=19
G45A S **S 10 53 01.9 -0.1**
baz=19
E04D Cinebar 96.46 10 P **P 10 42 03.5 +1.0**
baz=349,SNR=38
PAL Palisades 96.55 334 P **P 10 42 01.4 -1.7**
baz=28
I49A Point Hope 96.59 341 P **P 10 42 03.0 -0.2**
baz=21
I49A P **P 10 42 03.0 -0.2**
baz=21
I49A S **S 10 53 05.1 +0.1**
baz=21
I49A S **S 10 53 05.1 +0.1**
baz=21
FOR Fordham 96.67 334 P **P 10 42 03.3 -0.3**
baz=28
KSPA Keystone Colle 96.69 336 P **P 10 42 03.1 -0.6**
baz=26
ODNJ Ogdensburg 96.72 335 P **P 10 42 03.1 -0.7**
baz=27
L56A Greenwood 96.75 337 P **P 10 42 04.1 +0.1**
baz=25,SNR=11
L56A P **P 10 42 04.1 +0.1**
baz=25,SNR=11
WVNY West Valley, N 96.83 338 P **P 10 42 04.3 0.0**
baz=24,SNR=9.7
F04D Rainier, OR 96.87 10 P **P 10 42 05.6 +1.3**
baz=349
F36A Milaca 96.93 349 P **P 10 42 04.2 -0.4**
baz=12,SNR=42
G40A Rib Lake 96.95 347 P **P 10 42 05.1 +0.3**
G40A Rib Lake 96.95 347 P **P 10 42 05.0 +0.3**
baz=15
MSO Missoula 96.98 4 P **P 10 42 05.4 +0.4**
baz=356,SNR=68
HAWA Hanford 96.98 7 ⇑P **P 10 42 05.5 +0.6**
E28A Huff 97.05 354 P Pdif 10 42 06.0 +0.8
baz=6.6,SNR=79
CMSA Cobar Meteorol 97.11 124 P **P 10 42 04.6 -0.9**
EIDS Eidsvold 97.11 116 P **P 10 42 04.6 -1.1**
EIDS IAmb IAmb 10 42 07.0
comp=Z,133nm,0.9s
EIDS Eidsvold 97.11 116 ⇑P **P 10 42 04.8 -0.9**
EIDS ⇑P **P 10 42 04.8 -0.9**
EIDS Eidsvold 97.11 116 P **P 10 42 05.1 -0.6**
LAO LASA Array 97.22 358 P Pdif 10 42 07.6 +1.5
baz=2.1,SNR=105
LAO LASA Array 97.22 358 P Pdif 10 42 07.8 +1.7
baz=2.1,SNR=105
H43A Windswept, Lux 97.24 345 P Pdif 10 42 06.3 +0.2
baz=17
F05D White Salmon 97.27 9 P Pdif 10 42 07.3 +1.1
baz=350,SNR=14
N59A State Game Lan 97.27 335 P **P 10 42 06.0 -0.3**
baz=26
N59A State Game Lan 97.27 335 P **P 10 42 06.2 -0.2**
baz=26
I45A Fountain 97.32 344 P Pdif 10 42 06.7 +0.2
baz=18
I45A P Pdif 10 42 06.7 +0.2
baz=18
F33A 5 Mile Ranch, 97.33 351 P Pdif 10 42 06.5 0.0
baz=10,SNR=49
M57A Sunshine Farm, 97.34 337 P **P 10 42 06.1 -0.5**
baz=25,SNR=13
M57A P **P 10 42 06.1 -0.5**
baz=25,SNR=13
PANJ Princeton 97.39 334 P Pdif 10 42 07.8 +1.0
baz=27
SPMN Marine on St. 97.44 349 P Pdif 10 42 07.1 +0.2
baz=13,SNR=21
SPMN Marine on St. 97.44 349 P Pdif 10 42 07.2 +0.2
baz=13,SNR=21
ERPA Erie 97.50 339 P **P 10 42 07.2 -0.1**
baz=23,SNR=5.4
ERPA Erie 97.50 339 P Pdif 10 42 07.6 +0.3
baz=23,SNR=5.4
K50A Casco 97.63 341 P Pdif 10 42 08.2 +0.4
baz=21,SNR=7.8
K50A P Pdif 10 42 08.2 +0.4
baz=21,SNR=7.8
N58A Sunbury 97.65 336 P **P 10 42 07.9 -0.1**
baz=26
N58A P **P 10 42 07.9 -0.1**
baz=26

G03D	**McMinnville, O**	**97.68**	**10**	P	Pdif	10 42 09.8	+1.7		
	baz=348,SNR=7.9								
M55A	**Ridgway**	**97.73**	**338**	P	**P**	**10 42 08.4**	**0.0**		
	baz=24,SNR=16								
M55A				P	**P**	**10 42 08.4**	**0.0**		
	baz=24,SNR=16								
J47A	**Sunmer**	**97.75**	**343**	P	Pdif	10 42 09.1	+0.7		
	baz=19,SNR=15								
J47A				P	Pdif	10 42 09.1	+0.7		
	baz=19,SNR=15								
G05D	**Wamic, OR**	**97.92**	**9**	P	Pdif	10 42 10.6	+1.4		
	baz=350,SNR=14								
ARPS	**Mount Arapiles**	**97.92**	**130**	P	**P**	**10 42 08.4**	**-0.6**		
M54A	**Oil Creek Stat**	**97.97**	**338**	P	Pdif	10 42 09.6	+0.1		
	baz=23,SNR=14								
M54A	**Oil Creek Stat**	**97.97**	**338**	P	Pdif	10 42 09.6	+0.2		
	baz=23,SNR=14								
ALLY	**Alegheny Colle**	**97.98**	**339**	P	**P**	**10 42 09.5**	**0.0**		
	baz=23								
I42A	**Draeger Farm,**	**98.03**	**346**	P	**P**	**10 42 07.9**	**-1.8**		
	baz=16,SNR=9.4								
GEDE	**Greenville**	**98.21**	**335**	P	**P**	**10 42 09.5**	**-1.0**		
	baz=26								
SSPA	**Standing Stone**	**98.22**	**337**	P	**P**	**10 42 09.9**	**-0.7**		
SSPA				IAmb	IAmb	10 42 12.8			
	comp=Z,277nm,1.9s								
SSPA	**Standing Stone**	**98.22**	**337**	⇑P	**P**	**10 42 10.2**	**-0.4**		
SSPA	**Standing Stone**	**98.22**	**337**	P	**P**	**10 42 09.0**	**-1.5**		
	baz=25,SNR=8.0								
SSPA	**Standing Stone**	**98.22**	**337**	Pdiff	Pdif	10 42 10.8	+0.3		
	baz=25								
MVL	**Millersville**	**98.29**	**335**	P	Pdif	10 42 12.2	+1.3		
COR	**Corvallis**	**98.29**	**10**	P	Pdif	10 42 13.1	+2.3		
COR				pmax	pmax				
	comp=Z,858nm,1.9s								
COR	**Corvallis**	**98.29**	**10**	P	Pdif	10 42 13.1	+2.4		
COR	**Corvallis**	**98.29**	**10**	⇑P	Pdif	10 42 12.9	+2.1		
BOZ	**Bozeman (W)**	**98.30**	**2**	Pdiff	Pdif	10 42 12.2	+1.1		
	baz=358,SNR=92								
M53A	**WI Miller and**	**98.33**	**339**	Pdiff	**P**	**10 42 10.8**	**-0.2**		
	baz=23								
AAM	**Ann Arbor**	**98.34**	**341**	P	**P**	**10 42 10.8**	**-0.3**		
	baz=20								
AAM	**Ann Arbor**	**98.34**	**341**	Pdiff	Pdif	10 42 11.1	+0.1		
	baz=20								
I40A	**Norwalk**	**98.36**	**347**	P	Pdif	10 42 11.2	+0.1		
	baz=15,SNR=34								
M52A	**Chesterland**	**98.43**	**340**	P	Pdif	10 42 11.8	+0.3		
	baz=22								
M52A				P	Pdif	10 42 11.8	+0.3		
	baz=22								
H04D	**Lebanon**	**98.43**	**10**	Pdiff	Pdif	10 42 12.7	+1.3		
	baz=349,SNR=14								
N54A	**Moraine State**	**98.57**	**338**	P	Pdif	10 42 12.3	+0.2		
	baz=23,SNR=9.7								
N54A	**Moraine State**	**98.57**	**338**	Pdiff	Pdif	10 42 12.4	+0.3		
	baz=23,SNR=9.7								
I02E	**Swisshome, OR**	**98.68**	**11**	Pdiff	Pdif	10 42 14.7	+2.2		
	baz=348								
I37B	**Waseca**	**98.71**	**349**	P	Pdif	10 42 13.1	+0.4		
	baz=12,SNR=13								
O56A	**Blue Knob Stat**	**98.76**	**337**	P	**P**	**10 42 12.8**	**-0.2**		
	baz=24,SNR=6.2								
O56A	**Blue Knob Stat**	**98.76**	**337**	Pdiff	Pdif	10 42 13.1	+0.1		
	baz=24,SNR=6.2								
I05D	**Terrebonne, OR**	**98.80**	**9**	Pdiff	Pdif	10 42 14.3	+1.1		
	baz=350,SNR=25								
RLMT	**Red Lodge**	**98.82**	**0**	Pdiff	Pdif	10 42 14.6	+1.2		
	baz=360,SNR=144								
L48A	**N Adams**	**98.87**	**342**	P	Pdif	10 42 13.2	-0.3		
	baz=20,SNR=6.7								
L48A				P	Pdif	10 42 13.2	-0.3		
	baz=20,SNR=6.7								
N53A	**Lisbon**	**98.96**	**339**	P	**P**	**10 42 13.9**	**0.0**		
	baz=22,SNR=5.9								
N53A				P	**P**	**10 42 13.9**	**0.0**		
	baz=22,SNR=5.9								
SUSD	**Miller**	**99.00**	**353**	P	**Pdif**	**10 42 14.3**	**+0.3**		
	baz=8.0,SNR=5.4								
SUSD	**Miller**	**99.00**	**353**	Pdiff	**Pdif**	**10 42 14.5**	**+0.4**		
	baz=8.0,SNR=5.4								
M50A	**Fremont**	**99.02**	**341**	P	**Pdif**	**10 42 13.5**	**-0.5**		
	baz=21								
M50A				P	**Pdif**	**10 42 13.5**	**-0.5**		
	baz=21								
K43A	**Burlington**	**99.05**	**345**	P	**Pdif**	**10 42 14.0**	**-0.2**		
	baz=17,SNR=9.1								
I03D	**Drain, OR**	**99.15**	**11**	Pdiff	**Pdif**	**10 42 16.0**	**+1.4**		
	baz=348,SNR=14								
I04A	**Tendick Farm,**	**99.19**	**10**	Pdiff	**Pdif**	**10 42 15.3**	**+0.4**		
	baz=349,SNR=28								
JFWS	**Jewell Farm**	**99.23**	**346**	P	**Pdif**	**10 42 14.5**	**-0.5**		
	baz=15,SNR=16								
JFWS	**Jewell Farm**	**99.23**	**346**	Pdiff	**Pdif**	**10 42 15.0**	**0.0**		
	baz=15,SNR=16								
L46A	**Eue Claire**	**99.26**	**343**	P	**Pdif**	**10 42 15.2**	**0.0**		
	baz=18								
L46A				P	**Pdif**	**10 42 15.2**	**0.0**		
	baz=18								
N51A	**Ashland**	**99.29**	**340**	P	**Pdif**	**10 42 15.0**	**-0.3**		
	baz=21								
N51A				P	**Pdif**	**10 42 15.0**	**-0.3**		
	baz=21								
P57A	**Homestead Farm**	**99.30**	**336**	P	**Pdif**	**10 42 14.8**	**-0.6**		
	baz=25,SNR=5.8								
P57A				P	**Pdif**	**10 42 14.8**	**-0.6**		
	baz=25,SNR=5.8								
O54A	**Avella**	**99.40**	**338**	P	**Pdif**	**10 42 15.1**	**-0.7**		
	baz=23								
O54A				P	**Pdif**	**10 42 15.1**	**-0.7**		
	baz=23								
ECSD	**EROS Data Cent**	**99.44**	**351**	P	**Pdif**	**10 42 16.4**	**+0.4**		
	baz=9.9,SNR=72								
ECSD	**EROS Data Cent**	**99.44**	**351**	Pdiff	**Pdif**	**10 42 16.6**	**+0.6**		
	baz=9.9,SNR=72								
L44A	**Lake County Fo**	**99.46**	**344**	P	**Pdif**	**10 42 16.6**	**+0.6**		
	baz=17								
L44A	**Lake County Fo**	**99.46**	**344**	Pdiff	**Pdif**	**10 42 16.3**	**+0.3**		
	baz=17								
H17A	**Grant Village**	**99.53**	**1**	Pdiff	**Pdif**	**10 42 19.4**	**+2.8**		
	baz=359,SNR=46								
O53A	**New Philadelph**	**99.58**	**339**	Pdiff	**Pdif**	**10 42 16.9**	**+0.3**		
	baz=22,SNR=9.8								
J01E	**Myrtle Point**	**99.59**	**11**	Pdiff	**Pdif**	**10 42 18.0**	**+1.4**		
	baz=348								
RSSD	**Black Hills**	**99.70**	**357**	⇑P	**Pdif**	**10 42 18.2**	**+0.8**		
RSSD				⇑P	**Pdif**	**10 42 18.4**	**+1.0**		
RSSD	**Black Hills**	**99.70**	**357**	P	**Pdif**	**10 42 18.2**	**+0.8**		
	baz=3.9,SNR=53								
RSSD	**Black Hills**	**99.70**	**357**	Pdiff	**Pdif**	**10 42 18.4**	**+1.0**		
	baz=3.9								
BRAT	**Ballarat**	**99.71**	**130**	P	**Pdif**	**10 42 17.5**	**+0.5**		
MCWV	**Mont Chateau**	**99.72**	**338**	P	**Pdif**	**10 42 17.4**	**+0.1**		
	baz=23,SNR=15								
MCWV	**Mont Chateau**	**99.72**	**338**	Pdiff	**Pdif**	**10 42 17.7**	**+0.5**		
	baz=23,SNR=15								
N49A	**Columbus Grove**	**99.77**	**341**	P	**Pdif**	**10 42 17.4**	**0.0**		
	baz=20,SNR=10								
N49A				P	**Pdif**	**10 42 17.4**	**0.0**		
	baz=20,SNR=10								
J04D	**Umpqua Nationa**	**99.78**	**10**	Pdiff	**Pdif**	**10 42 18.7**	**+1.0**		
	baz=349,SNR=13								
J05D	**Fort Rock, OR**	**99.85**	**9**	Pdiff	**Pdif**	**10 42 19.5**	**+1.5**		
	baz=350,SNR=41								
O52A	**Adamsville**	**99.88**	**339**	P	**Pdif**	**10 42 16.6**	**-1.3**		
	baz=22,SNR=6.0								
O52A				P	**Pdif**	**10 42 16.6**	**-1.3**		
	baz=22,SNR=6.0								
K38A	**Parkersburg**	**99.94**	**348**	P	**Pdif**	**10 42 18.2**	**0.0**		
	baz=13,SNR=9.7								
L42A	**Oliver, Polo**	**100.00**	**346**	P	**Pdif**	**10 42 18.7**	**+0.3**		
	baz=16,SNR=13								
Q56A	**Snyder Ridge,**	**100.08**	**337**	P	**Pdif**	**10 42 18.9**	**0.0**		
	baz=24								
Q56A				P	**Pdif**	**10 42 18.9**	**0.0**		
	baz=24								
K02D	**Willamette Mer**	**100.08**	**11**	Pdiff	**Pdif**	**10 42 20.1**	**+1.1**		
	baz=348,SNR=6.9								
ACSO	**Alum Creek Sta**	**100.10**	**340**	P	**Pdif**	**10 42 18.6**	**-0.3**		
	baz=21								
ACSO	**Alum Creek Sta**	**100.10**	**340**	Pdiff	**Pdif**	**10 42 19.0**	**+0.1**		
	baz=21								
N47A	**Urbana**	**100.19**	**342**	P	**Pdif**	**10 42 19.1**	**-0.2**		
	baz=19,SNR=11								
N47A				P	**Pdif**	**10 42 19.1**	**-0.2**		
	baz=19,SNR=11								
HLID	**Hailey**	**100.22**	**4**	Pdiff	**Pdif**	**10 42 20.6**	**+1.0**		
	baz=356,SNR=35								
L40A	**Anamosa**	**100.24**	**347**	P	**Pdif**	**10 42 19.0**	**-0.5**		
	baz=14,SNR=8.9								
CBN	**Corbin Frederi**	**100.25**	**335**	P	Pdif	10 42 19.2	-0.4		
	baz=25								
CBN	**Corbin Frederi**	**100.25**	**335**	Pdiff	**Pdif**	**10 42 19.4**	**-0.2**		
	baz=25								
M44A	**Midewin, Midew**	**100.25**	**344**	P	**Pdif**	**10 42 20.1**	**+0.6**		
	baz=17,SNR=14								
P53A	**Whipple**	**100.34**	**339**	P	**Pdif**	**10 42 19.8**	**-0.2**		
	baz=22,SNR=11								
P53A				P	**Pdif**	**10 42 19.8**	**-0.2**		
	baz=22,SNR=11								
P52A	**Corning**	**100.42**	**339**	Pdiff	**Pdif**	**10 42 20.0**	**-0.4**		
	baz=22,SNR=11								
K04D	**Chiloquin, OR**	**100.43**	**10**	Pdiff	**Pdif**	**10 42 21.4**	**+0.9**		
	baz=350,SNR=10.0								
ARMA	**Armidale**	**100.49**	**120**	⇑P	**Pdif**	**10 42 20.8**	**0.0**		
ARMA				⇑P	**Pdif**	**10 42 20.9**	**0.0**		
ARMA				⇓P	**Pdif**	**10 42 22.2**	**+1.4**		
ARMA	**Armidale**	**100.49**	**120**	P	**Pdif**	**10 42 20.7**	**-0.1**		
O49A	**Covington**	**100.50**	**341**	P	**Pdif**	**10 42 20.8**	**+0.1**		
	baz=20,SNR=7.8								
O49A				P	**Pdif**	**10 42 20.8**	**+0.1**		
	baz=20,SNR=7.8								
L02E	**Cave Junction**	**100.62**	**11**	Pdiff	**Pdif**	**10 42 22.3**	**+1.0**		
	baz=348,SNR=5.7								
R58B	**Mineral**	**100.63**	**336**	P	**Pdif**	**10 42 21.3**	**0.0**		
	baz=25								
R58B				P	**Pdif**	**10 42 21.3**	**0.0**		
	baz=25								
Q54A	**Coxs Mills**	**100.64**	**338**	P	**Pdif**	**10 42 20.5**	**-0.8**		
	baz=23,SNR=6.5								
Q54A				P	**Pdif**	**10 42 20.5**	**-0.8**		
	baz=23,SNR=6.5								
O48B	**Farmland**	**100.64**	**342**	P	**Pdif**	**10 42 21.1**	**-0.2**		
	baz=19,SNR=9.8								
O48B	**Farmland**	**100.64**	**342**	Pdiff	**Pdif**	**10 42 21.2**	**-0.1**		
	baz=19,SNR=9.8								
TOO	**Toolangi**	**100.70**	**129**	P	**Pdif**	**10 42 21.6**	**+0.1**		
SCIA	**State Center**	**100.74**	**348**	P	**Pdif**	**10 42 22.0**	**+0.2**		
	baz=13								
SCIA	**State Center**	**100.74**	**348**	Pdiff	**Pdif**	**10 42 22.0**	**+0.2**		
	baz=13								
L04D	**Klamath Falls**	**100.75**	**10**	Pdiff	**Pdif**	**10 42 22.7**	**+0.7**		
	baz=349,SNR=20								
P51A	**Williamsport**	**100.82**	**340**	P	**Pdif**	**10 42 21.2**	**-1.0**		
	baz=21								
P51A				P	**Pdif**	**10 42 21.2**	**-1.0**		
	baz=21								
SFIN	**Lafayette**	**101.00**	**343**	P	**Pdif**	**10 42 22.4**	**-0.5**		
	baz=18								
SFIN	**Lafayette**	**101.00**	**343**	Pdiff	**Pdif**	**10 42 22.7**	**-0.2**		
	baz=18								
R55A	**Marlinton**	**101.06**	**337**	P	**Pdif**	**10 42 22.5**	**-0.8**		
	baz=23,SNR=6.1								
R55A				P	**Pdif**	**10 42 22.5**	**-0.8**		
	baz=23,SNR=6.1								
Q52A	**Bidwell**	**101.08**	**339**	P	**Pdif**	**10 42 22.4**	**-0.9**		
	baz=22,SNR=8.6								
Q52A				P	**Pdif**	**10 42 22.4**	**-0.9**		
	baz=22,SNR=8.6								
L34A	**Svendsen Farm,**	**101.15**	**351**	P	**Pdif**	**10 42 23.8**	**+0.2**		
	baz=10,SNR=7.6								
BW06	**Boulder Array**	**101.17**	**1**	Pdiff	**Pdif**	**10 42 24.5**	**+0.6**		
	baz=359,SNR=40								
PDAR	**Piedalb Array**	**101.17**	**1**	P	**Pdif**	**10 42 24.5**	**+0.5**		
	comp=Z,15nm,0.7s,baz=38,slow=2.5,SNR=107								
PDAR				pP	pP	10 43 18.8	+0.5		
	comp=Z,8.3nm,0.8s,baz=56,slow=6.9,SNR=3.2								
PDAR				PP	**PP**	**10 46 33.1**	**-1.1**		
	comp=Z,9.5nm,0.9s,baz=72,slow=0.5,SNR=5.1								
PDAR				PKiKP	**PKiKP**	**10 46 47.6**	**+0.1**		
	comp=Z,10nm,0.7s,baz=55,slow=4.7,SNR=20								
PDAR				PKKPbc	**PKKPbc**	**10 58 27.9**	**-5.4**		
	comp=Z,7.9nm,0.6s,baz=154,slow=5.4,SNR=5.0								
PDAR				PKPPKP	P'P'df	11 06 44.0	-9.3		
	comp=Z,1.3nm,0.7s,baz=140,slow=4.9,SNR=8.0								
S57A	**Dark Hollow, R**	**101.17**	**336**	P	**Pdif**	**10 42 22.9**	**-0.9**		
	baz=24								
S57A				P	**Pdif**	**10 42 22.9**	**-0.9**		
	baz=24								
YBH	**Yreka Blue Hor**	**101.17**	**11**	PP	**PP**	**10 46 34.4**	**+0.2**		
	comp=Z,8.1nm,1.0s,baz=64,slow=6.0,SNR=2.4								
YBH				S	**SKSac**	**10 52 37.9**	**-4.3**		
	comp=Z,2.7nm,1.0s,baz=353,slow=5.1,SNR=3.2								
YBH				PKKPbc	**PKKPbc**	**10 58 30.2**	**-2.8**		
	comp=Z,4.2nm,0.8s,baz=60,slow=0.5,SNR=14								
P49A	**Miami Univ. Ec**	**101.21**	**341**	P	**Pdif**	**10 42 23.1**	**-0.7**		
	baz=20								
P49A	**Miami Univ. Ec**	**101.21**	**341**	Pdiff	**Pdif**	**10 42 23.5**	**-0.4**		
	baz=20								
M04C	**Macdoel**	**101.25**	**10**	Pdiff	**Pdif**	**10 42 24.9**	**+0.7**		
	baz=349,SNR=25								
K22A	**Casper**	**101.26**	**358**	P	**Pdif**	**10 42 24.4**	**+0.1**		
	baz=1.9,SNR=19								
K22A	**Casper**	**101.26**	**358**	Pdiff	**Pdif**	**10 42 24.6**	**+0.3**		
	baz=1.9,SNR=19								
HDIL	**Hopedale**	**101.31**	**345**	P	**Pdif**	**10 42 24.2**	**-0.1**		
	baz=16,SNR=7.8								
HDIL	**Hopedale**	**101.31**	**345**	Pdiff	**Pdif**	**10 42 24.7**	**+0.4**		
	baz=16,SNR=7.8								
Q51A	**Peebles**	**101.32**	**340**	P	**Pdif**	**10 42 24.0**	**-0.4**		
	baz=21,SNR=6.9								
Q51A				P	**Pdif**	**10 42 24.0**	**-0.4**		
	baz=21,SNR=6.9								
P48A	**Milroy**	**101.46**	**342**	P	**Pdif**	**10 42 25.2**	**+0.2**		
	baz=19,SNR=11								
P48A				P	**Pdif**	**10 42 25.2**	**+0.2**		
	baz=19,SNR=11								
N41A	**Harden Midland**	**101.48**	**346**	P	**Pdif**	**10 42 25.3**	**+0.2**		
	baz=15,SNR=7.2								
M02C	**Callahan**	**101.48**	**11**	Pdiff	**Pdif**	**10 42 26.2**	**+1.0**		
	baz=349,SNR=11								
O44A	**Mansfield**	**101.52**	**344**	P	**Pdif**	**10 42 25.5**	**+0.2**		
	baz=17,SNR=9.1								
R53A	**Hurricane**	**101.57**	**339**	P	**Pdif**	**10 42 25.9**	**+0.4**		
	baz=22,SNR=11								
R53A				P	**Pdif**	**10 42 25.9**	**+0.4**		
	baz=22,SNR=11								
CAN	**Canberra**	**101.60**	**125**	⇑P	**Pdif**	**10 42 24.9**	**-0.7**		
CAN	**Canberra**	**101.60**	**125**	P	**Pdif**	**10 42 25.3**	**-0.2**		
P46A	**Rosedale**	**101.75**	**343**	P	**Pdif**	**10 42 26.2**	**-0.1**		
	baz=18,SNR=10								
MGCD	**Mangrove Creek**	**101.77**	**123**	P	**Pdif**	**10 42 26.9**	**+0.6**		
N38A	**Joes South For**	**101.83**	**348**	P	**Pdif**	**10 42 27.3**	**+0.7**		
	baz=13								
CNB	**Canberra Magne**	**101.83**	**125**	P	**Pdif**	**10 42 25.9**	**-0.7**		
S54A	**Dingess, Beckl**	**101.87**	**338**	P	**Pdif**	**10 42 26.5**	**-0.5**		
	baz=22,SNR=6.1								
S54A				P	**Pdif**	**10 42 26.5**	**-0.5**		
	baz=22,SNR=6.1								
N02D	**Trinity Center**	**101.92**	**11**	Pdiff	**Pdif**	**10 42 28.0**	**+0.9**		
	baz=349,SNR=13								
BGNE	**Belgrade**	**101.92**	**352**	P	**Pdif**	**10 42 28.0**	**+1.0**		
	baz=8.8,SNR=10								
BGNE	**Belgrade**	**101.92**	**352**	Pdiff	**Pdif**	**10 42 28.2**	**+1.1**		
	baz=8.8,SNR=10								
T57A	**Hurt**	**101.96**	**336**	P	**Pdif**	**10 42 27.9**	**+0.6**		
	baz=24								
T57A				P	**Pdif**	**10 42 27.9**	**+0.6**		
	baz=24								
U59A	**Littleton**	**102.06**	**335**	P	**Pdif**	**10 42 28.4**	**+0.7**		
	baz=25								
U59A				P	**Pdif**	**10 42 28.4**	**+0.7**		
	baz=25								
N35A	**Tabor**	**102.13**	**350**	P	**Pdif**	**10 42 29.1**	**+1.1**		
	baz=11,SNR=6.7								
BLA	**Blacksburg**	**102.14**	**337**	Pdiff	**Pdif**	**10 42 28.3**	**+0.2**		
	baz=23								
P43A	**Skaggs, Pawnee**	**102.24**	**345**	P	**Pdif**	**10 42 28.4**	**0.0**		
	baz=18								
R50A	**Paris**	**102.29**	**341**	P	**Pdif**	**10 42 25.7**	**-3.0**		
	baz=20,SNR=6.0								
R50A				P	**Pdif**	**10 42 25.7**	**-3.0**		
	baz=20,SNR=6.0								
N33B	**J Bar K, Exete**	**102.50**	**351**	P	**Pdif**	**10 42 30.0**	**+0.4**		
	baz=9.4								
R49A	**Shelbyville**	**102.50**	**341**	P	**Pdif**	**10 42 29.9**	**+0.2**		
	baz=19,SNR=6.6								
R49A				P	**Pdif**	**10 42 29.9**	**+0.2**		
	baz=19,SNR=6.6								
O02D	**Mt. Diablo Mer**	**102.68**	**11**	Pdiff	**Pdif**	**10 42 31.4**	**+0.9**		
	baz=349,SNR=8.8								
S51A	**Beattyville**	**102.69**	**340**	P	**Pdif**	**10 42 29.0**	**-1.5**		
	baz=21,SNR=5.1								
S51A				P	**Pdif**	**10 42 29.0**	**-1.5**		
	baz=21,SNR=5.1								
O03E	**Paynes Creek**	**102.71**	**10**	Pdiff	**Pdif**	**10 42 30.8**	**+0.1**		
	baz=349,SNR=7.8								
OGNE	**Ogallala**	**102.74**	**355**	P	**Pdif**	**10 42 31.0**	**+0.2**		
	baz=5.6,SNR=8.4								
OGNE	**Ogallala**	**102.74**	**355**	Pdiff	**Pdif**	**10 42 31.1**	**+0.2**		
	baz=5.6,SNR=8.4								
OLIL	**Olney**	**102.80**	**344**	P	**Pdif**	**10 42 31.2**	**+0.2**		
	baz=17,SNR=7.1								
Q44A	**Meyer Farm, Va**	**102.84**	**344**	P	**Pdif**	**10 42 31.7**	**+0.5**		
	baz=16,SNR=12								
P40A	**Paris**	**102.85**	**347**	P	**Pdif**	**10 42 32.0**	**+0.8**		
	baz=14,SNR=5.4								
U56A	**King**	**102.92**	**337**	P	**Pdif**	**10 42 32.4**	**+0.8**		
	baz=23								
U56A				P	**Pdif**	**10 42 32.4**	**+0.8**		
	baz=23								
ELK	**Elko**	**102.97**	**5**	PKiKP	**PKiKP**	**10 46 51.9**	**+1.0**		
	comp=Z,12nm,1.0s,baz=300,slow=2.3,SNR=6.0								
ELK				PKKPbc	**PKKPbc**	**10 58 25.8**	**-2.3**		
	comp=Z,4.7nm,0.7s,baz=239,slow=5.8,SNR=13								
ELK				PKPPKP	**P'P'df**	**11 06 45.2**	**-4.6**		
	comp=Z,1.2nm,0.7s,baz=138,slow=3.1,SNR=4.7								
N23A	**Red Feather La**	**103.00**	**358**	Pdiff	**Pdif**	**10 42 33.4**	**+1.3**		
	baz=2.4,SNR=16								
P38A	**Dawn**	**103.02**	**348**	P	**Pdif**	**10 42 31.5**	**-0.4**		
	baz=13,SNR=14								
U54A	**Nelsons Funny**	**103.21**	**338**	P	**Pdif**	**10 42 33.2**	**+0.2**		
	baz=22								
U54A				P	**Pdif**	**10 42 33.2**	**+0.2**		
	baz=22								
SLM	**Saint Louis**	**103.36**	**345**	P	**Pdif**	**10 42 33.8**	**+0.3**		
	baz=15								
T50A	**Nancy**	**103.61**	**340**	P	**Pdif**	**10 42 34.5**	**-0.1**		
	baz=20								
T50A				P	**Pdif**	**10 42 34.5**	**-0.1**		
	baz=20								
V55A	**Taylorsville**	**103.64**	**337**	P	**Pdif**	**10 42 34.6**	**-0.2**		
	baz=22,SNR=5.7								
V55A				P	**Pdif**	**10 42 34.6**	**-0.2**		
	baz=22,SNR=5.7								
DUG	**Dugway, Tooele**	**103.65**	**3**	Pdiff	**Pdif**	**10 42 36.6**	**+1.6**		
	baz=357,SNR=40								
TZTN	**Tazewell**	**103.70**	**339**	Pdiff	**Pdif**	**10 42 35.6**	**+0.6**		
	baz=21								
O20A	**White River Ci**	**103.80**	**360**	Pdiff	**Pdif**	**10 42 37.0**	**+1.4**		
	baz=0.5,SNR=30								
MAW	**Mawson**	**103.91**	**183**	Pdiff	**Pdif**	**10 42 36.0**	**+1.1**		
	comp=Z,6.7nm,0.6s,baz=358,slow=4.2,SNR=14								
MAW				PKiKP	**PKiKP**	**10 46 51.4**	**+0.3**		
	comp=Z,13nm,0.6s,baz=357,slow=1.4,SNR=12								
MAW				PKKPbc	**PKKPbc**	**10 58 25.9**	**-0.3**		
	comp=Z,16nm,0.7s,baz=201,slow=5.2,SNR=14								
KSU1	**Kansas State U**	**104.00**	**350**	⇑P	**Pdif**	**10 42 37.0**	**+0.7**		
KSU1				⇓P	**Pdif**	**10 42 37.5**	**+1.2**		
KSU1	**Kansas State U**	**104.00**	**350**	P	**Pdif**	**10 42 36.8**	**+0.5**		
	baz=10,SNR=11								
KSU1	**Kansas State U**	**104.00**	**350**	Pdiff	**Pdif**	**10 42 36.8**	**+0.5**		
	baz=10,SNR=11								
FVM	**French Village**	**104.02**	**345**	P	**Pdif**	**10 42 37.1**	**+0.7**		
	baz=15,SNR=10								
S44A	**Carbondale**	**104.05**	**344**	P	**Pdif**	**10 42 36.4**	**-0.2**		
	baz=16								
ISCO	**Idaho Springs**	**104.08**	**357**	P	**Pdif**	**10 42 36.5**	**-0.6**		
	baz=2.7,SNR=18								
ISCO	**Idaho Springs**	**104.08**	**357**	Pdiff	**Pdif**	**10 42 38.3**	**+1.2**		
	baz=2.7,SNR=18								
R40A	**Maddies Statio**	**104.09**	**347**	P	**Pdif**	**10 42 36.6**	**-0.1**		
	baz=14								
CCM	**Cathedral Cave**	**104.12**	**346**	⇑P	**Pdif**	**10 42 37.3**	**+0.5**		
CCM				⇓P	**Pdif**	**10 42 37.6**	**+0.8**		
CCM				⇑P	**Pdif**	**10 42 40.9**	**+4.1**		
CCM	**Cathedral Cave**	**104.12**	**346**	P	**Pdif**	**10 42 36.4**	**-0.4**		
	baz=14,SNR=14								
CCM	**Cathedral Cave**	**104.12**	**346**	Pdiff	**Pdif**	**10 42 36.9**	**+0.1**		
	baz=14								
T47A	**Sharon Grove**	**104.22**	**342**	P	**Pdif**	**10 42 37.5**	**+0.2**		
	baz=18,SNR=11								
V53A	**Saluda**	**104.30**	**338**	P	**Pdif**	**10 42 37.5**	**-0.3**		
	baz=

DZM **Mont Dzumac** 106.82 105 *e*Pdif **Pdif** 10 42 48.7 -0.4
comp=Z,142nm,1.1s
VOG **Valley Oaks Go** 106.95 9 Pdiff **Pdif** 10 42 49.9 +0.5
baz=351
TUL1 **Leonard** 107.01 349 P **Pdif** 10 42 51.6 +1.9
baz=11,SNR=10
TUL1 **Leonard** 107.01 349 Pdiff **Pdif** 10 42 50.1 +0.4
baz=11,SNR=10
FURC **Furnace Creek,** 107.08 7 Pdiff **Pdif** 10 42 52.2 +2.2
baz=353,SNR=13
W41B **Gary Mavity, V** 107.11 346 Pdiff **Pdif** 10 42 50.3 +0.1
baz=14
OXF **Oxford** 107.14 343 Pdiff **Pdif** 10 42 50.5 +0.2
baz=16
RCBR **Riachuelo** 107.19 276 PKiKP **PKiKP** 10 46 58.7 -0.3
comp=Z,5.9nm,0.7s,baz=23,slow=1.4,SNR=4.3
RCBR PP **PP** 10 47 21.4 +1.0
comp=Z,16nm,1.1s,baz=203,slow=8.9,SNR=6.9
RCBR PKKPbc **PKKPbc** 10 58 13.4 -0.8
comp=Z,11nm,0.7s,baz=22,slow=6.1,SNR=12
W39A **Magazine** 107.37 347 Pdiff **Pdif** 10 42 52.0 +0.6
baz=13
MPMC **Manual Prospec** 107.42 7 Pdiff **Pdif** 10 42 53.5 +1.6
baz=353,SNR=18
X43A **Marvell** 107.46 345 P **PKiKP** 10 46 59.4 +0.4
baz=15
SHOC **Shoshone, Teco** 107.70 6 Pdiff **Pdif** 10 42 54.9 +2.0
baz=354,SNR=8.4
SYO **Syowa Base** 107.70 191⇓ *e*Pdif **Pdif** 10 42 56.0 +4.3
SYO **Syowa Base** 107.70 191⇑ *e*X **PKiKP** 10 46 58.6 +0.5
ISA **Isabella, Lake** 107.71 8 Pdiff **Pdif** 10 42 53.9 +1.0
baz=352
SMMC **Simmler** 107.86 10 Pdiff **Pdif** 10 42 54.9 +1.3
baz=351
X40A **Basin Creek Fa** 107.89 346 Pdiff **Pdif** 10 42 54.0 +0.4
baz=14
LRAL **Lakeview Retre** 107.94 341 Pdiff **Pdif** 10 42 53.6 -0.4
baz=18
LRMC **Laurel Mtn Rad** 107.97 8 Pdiff **Pdif** 10 42 56.4 +2.2
baz=353
TUQ **Turquoise Moun** 108.19 6 Pdiff **Pdif** 10 42 57.0 +1.8
baz=354,SNR=5.4
GSC **Goldstone, Bar** 108.24 7 Pdiff **Pdif** 10 42 57.1 +1.7
baz=353,SNR=8.5
WUAZ **Wupatki** 108.37 2 Pdiff **Pdif** 10 42 58.1 +2.1
baz=358,SNR=12
EDW2 **Edwards Air Fo** 108.53 8 Pdiff **Pdif** 10 42 58.6 +1.9
baz=352,SNR=9.5
WMOK **Wichita Mounta** 108.58 351 P **Pdif** 10 42 57.9 +1.1
baz=8.5,SNR=9.2
WMOK **Wichita Mounta** 108.58 351 Pdiff **Pdif** 10 42 57.7 +0.9
baz=8.5,SNR=9.2
RRX **Edison Barstow** 108.64 7 Pdiff **Pdif** 10 42 59.0 +1.9
baz=353
OSI **Osito Audit: C** 108.71 9 Pdiff **Pdif** 10 42 59.1 +1.7
baz=352
HEC **Hector,Ludlow** 108.75 7 Pdiff **Pdif** 10 42 59.4 +1.8
baz=354
SBC **Santa Barbara** 108.76 10 Pdiff **Pdif** 10 42 59.5 +1.9
baz=351
W18A **Petrified Fore** 108.81 1 Pdiff **Pdif** 10 43 00.1 +2.1
baz=359
GMRC **Granite Mounta** 108.86 6 Pdiff **Pdif** 10 42 59.9 +1.7
baz=354,SNR=5.2
ANMO **Albuquerque** 108.95 358 PKiKP **PKiKP** 10 47 01.9 -0.1
comp=Z,7.5nm,0.9s,baz=78,slow=3.0,SNR=1.9
ANMO PKKPbc **PKKPbc** 10 58 08.2 -1.5
comp=Z,2.5nm,0.4s,baz=185,slow=5.0,SNR=14
ANMO PKPPKP **P'P'df** 11 06 33.3 -5.0
comp=Z,1.2nm,0.8s,baz=154,slow=6.8,SNR=2.7
ANMO **Albuquerque** 108.95 358 Pdiff **Pdif** 10 43 00.7 +2.1
baz=2.0
NEE2 **Needles Airpor** 108.95 5 Pdiff **Pdif** 10 42 59.9 +1.5
baz=355
Z41A **Richland Creek** 109.07 346 Pdiff **Pdif** 10 42 59.4 +0.5
baz=14
DECC **Green Verdugo** 109.11 8 Pdiff **Pdif** 10 43 00.8 +1.6
baz=352
BFSC **Mount Baldy Ra** 109.20 8 Pdiff **Pdif** 10 43 00.3 +0.5
baz=352
BBRC **Big Bear Solar** 109.26 7 Pdiff **Pdif** 10 43 01.6 +1.5
baz=353
IRM **Iron Mountain** 109.52 6 Pdiff **Pdif** 10 43 03.0 +2.0
baz=355
VBMS **Vicksburg** 109.59 344 Pdiff **Pdif** 10 43 02.3 +1.0
baz=16
BELC **Belle Mtn. Jos** 109.61 6 Pdiff **Pdif** 10 43 03.2 +1.6
baz=354
BRAL **Brewton** 109.72 340 P **PKiKP** 10 47 02.2 -1.1
baz=18
BRAL **Brewton** 109.72 340 Pdiff **Pdif** 10 43 02.9 +1.0
baz=18
MSTX **Muleshoe** 109.73 355 Pdiff **Pdif** 10 43 03.2 +1.1
baz=5.2,SNR=12
Y22D **IRIS PASSCAL I** 109.83 358 Pdiff **Pdif** 10 43 04.8 +2.3
baz=1.7
MURC **Murrieta** 109.89 7 Pdiff **Pdif** 10 43 04.1 +1.4
baz=353
CIS **Catalina Islan** 109.94 9 Pdiff **Pdif** 10 43 04.4 +1.5
baz=352
PFO **Pinyon Flats O** 109.95 7 PKiKP **PKiKP** 10 47 04.0 +0.1
comp=Z,4.3nm,0.7s,baz=34,slow=3.2,SNR=6.4
PFO PKKPbc **PKKPbc** 10 58 05.3 -1.1
comp=Z,2.9nm,0.5s,baz=174,slow=1.8,SNR=9.7
PFO **Pinyon Flats O** 109.95 7 Pdiff **Pdif** 10 43 04.6 +1.6
baz=354
TPFO **Pinon Flats** 109.95 7 Pdiff **Pdif** 10 43 04.7 +1.6
baz=354
BC3 **Big Chuckawall** 110.00 6 Pdiff **Pdif** 10 43 05.4 +2.2
baz=354
ANWB **Willy Bob** 110.23 312 *e*P **Pdif** 10 42 54.7 -10
MONP2 **Monument Peak** 110.67 7 Pdiff **Pdif** 10 43 08.0 +1.7
baz=354
SWSC **Sam W. Stewart** 110.67 6 Pdiff **Pdif** 10 43 07.6 +1.5
baz=354
ABTX **Abilene, Hawle** 110.77 352 Pdiff **Pdif** 10 43 07.2 +0.6
baz=7.9
NATX **Nacogdoches** 110.88 347 Pdiff **Pdif** 10 43 07.8 +0.8
baz=12
ABD **La Joyeuse, An** 110.97 311 *e*P **Pdif** 10 43 03.7 -3.9
SEUS **St. Eustatius** 111.08 313 *e*P **Pdif** 10 43 22.3 +14
WHTX **Lake Whitney,** 111.11 350 Pdiff **Pdif** 10 43 08.8 +0.8
baz=9.8
MBFL **Flemmings, Mon** 111.20 312 *e* PKiKP 10 47 14.9 +8.4
MLYT **Lee's Yard** 111.21 312 *e*P **Pdif** 10 43 14.6 +5.8
MAGL **Barre de l'ile** 111.25 310 *e*P **Pdif** 10 43 05.0 -3.9
121A **Cookes Peak, D** 111.38 359 Pdiff **Pdif** 10 43 11.5 +2.0
baz=0.9
TDBA **Terre de Bas,** 111.54 311 *e*P **Pdif** 10 43 03.7 -6.5
TUC **Tucson** 111.59 2 Pdiff **Pdif** 10 43 12.3 +2.0
baz=358
DSLB **Salisbury** 111.72 310 *e*P **Pdif** 10 43 09.6 -1.4
214A **Organ Pipe Nat** 111.86 4 Pdiff **Pdif** 10 43 12.8 +1.3
baz=357
ILAM **Ilet Lapin Mar** 111.89 309 *e*P **Pdif** 10 43 08.4 -3.4
FDF **Fort de France** 112.09 309 *e*P **Pdif** 10 42 59.1 -14
MPOM **Morne Pois Mar** 112.13 309 *e*P **Pdif** 10 43 08.4 -4.5
MNTX **Cornudas Mount** 112.15 357 P **PKiKP** 10 47 06.7 -1.2
baz=3.0
MNTX **Cornudas Mount** 112.15 357 Pdiff **Pdif** 10 43 14.6 +1.9
baz=3.0
BIM **Bigot** 112.21 309 *e*P **Pdif** 10 43 13.0 -0.2
BBGH **Gun Hill** 112.29 307 *e*P **Pdif** 10 43 08.4 -5.2
435B **Jarrell** 112.31 350 Pdiff **Pdif** 10 43 14.8 +1.3
baz=9.8
SJG **San Juan** 112.42 316 PKKPbc PKKPbc 10 57 56.8 -0.9
comp=Z,16nm,0.4s,baz=147,slow=3.5,SNR=14
SJG **San Juan** 112.42 316 *e*P **Pdif** 10 43 13.0 -1.1
SLBI **Saint Lucia, B** 112.52 309 *e*P **Pdif** 10 43 13.0 -1.6
JCT **Junction City** 112.90 352 P **PKiKP** 10 47 08.8 -0.7
baz=7.9
JCT **Junction City** 112.90 352 Pdiff **Pdif** 10 43 17.0 +0.8
baz=7.9
MDP **Montagnes des** 113.27 296 PKiKP **PKiKP** 10 47 10.2 -0.3
comp=Z,14nm,0.7s,baz=22,slow=1.8,SNR=8.9
MDP PP **PP** 10 48 03.8 +0.1
comp=Z,17nm,1.0s,baz=60,slow=9.8,SNR=4.7
MDP PKKPbc **PKKPbc** 10 57 56.0 +1.3
comp=Z,11nm,0.7s,baz=211,slow=9.0,SNR=4.3
MSVF **Nonsavu** 113.69 95 PKKPbc PKKPbc 10 57 54.4 +1.0
comp=Z,13nm,0.8s,baz=187,slow=12,SNR=4.4
GCMP **Grenada, Carri** 113.97 308 *e*P **Pdif** 10 43 17.7 -3.4
GRGR **Grenville** 114.38 308 *e*P **Pdif** 10 43 13.0 -10
TXAR **Lajitas Array** 114.40 355 Pdiff **Pdif** 10 43 25.4 +2.5
comp=Z,2.8nm,0.8s,baz=30,slow=2.7,SNR=22
TXAR PKP **PKiKP** 10 47 12.3 -0.1
comp=Z,8.4nm,0.7s,baz=132,slow=0.6,SNR=24
TXAR PP **PP** 10 48 11.5 +1.1
comp=Z,33nm,1.2s,baz=32,slow=5.0,SNR=5.6
TXAR PKKPbc **PKKPbc** 10 57 51.3 -0.4
comp=Z,11nm,0.7s,baz=180,slow=8.0,SNR=26
TXAR SKKPbc SKKPbc 11 01 12.5 -0.1
comp=Z,7.4nm,1.0s,baz=175,slow=4.5,SNR=4.5
TXAR PKPPKP P'P'df 11 06 19.3 -8.3
comp=Z,1.2nm,0.7s,baz=182,slow=4.3,SNR=8.7
833A **Chaparral WMA,** 114.98 351 Pdiff **Pdif** 10 43 26.6 +1.2
baz=8.4
HPIG 116.90 357 **PKPdf** 10 47 17.2 -0.2
TROLL **Troll, Antarti** 118.09 199 PKPdf **PKiKP** 10 47 18.3 +0.1
BIRV **Birongo** 118.53 311 **PKPdf** 10 47 19.7 -0.9
MSZ **Milford Sound** 118.80 126 P **PKiKP** 10 47 20.2 +0.1
JCZ **Jackson Bay** 119.12 125 P **PKPdf** 10 47 20.2 -0.7
MLZ **Mavora Lakes** 119.20 127 **PKiKP** 10 47 21.6 +0.6
SNAA **Sanae** 119.39 200 PKPdf **PKPdf** 10 47 19.3 -1.2
SNAA **Sanae** 119.39 200 PKP **PKPdf** 10 47 19.6 -0.9
comp=Z,67nm,0.7s,baz=130,slow=0.5,SNR=105
SNAA pPKP **pPKPdf** 10 48 16.6 -1.1
comp=Z,49nm,1.0s,baz=108,slow=1.5,SNR=4.1
SNAA PP **PP** 10 48 45.5 -0.3
comp=Z,24nm,0.8s,baz=123,slow=2.2,SNR=3.6
SNAA PKKPbc **PKKPbc** 10 57 34.2 -0.6
comp=Z,16nm,0.5s,baz=231,slow=7.8,SNR=39
SNAA SKKPbc SKKPbc 11 00 57.6 -6.5
comp=Z,11nm,0.9s,baz=220,slow=2.8,SNR=4.3
SNAA **Sanae** 119.39 200⇑ *i*P **PKPdf** 10 47 19.8 -0.7
SNAA IAmb IAmb 10 47 21.4
comp=Z,5μm,0.8s
SNAA **Sanae** 119.39 200 **PKiKP** 10 47 20.7 +0.1
WKZ **Wanaka** 119.58 126 P **PKPdf** 10 47 21.6 0.0
FOZ **Fox Glacier** 119.59 124 P **PKPdf** 10 47 21.2 -0.5
LPIG **La Paz** 119.77 2 PKP **PKPdf** 10 47 22.1 -0.7
comp=Z,52nm,0.7s,baz=235,slow=1.0,SNR=10
LPIG PP **PP** 10 48 48.3 +0.8
comp=Z,32nm,1.0s,baz=48,slow=5.6,SNR=4.2
AFI **Afiamalu** 119.81 85 P **PKPdf** 10 47 22.6 -0.4
GCSZ **Gaunt Creek Bo** 119.84 124 P **PKPdf** 10 47 21.4 -0.8
EAZ **Earnscleugh** 119.92 126 P **PKPdf** 10 47 22.2 0.0
WVZ **Waitaha Valley** 120.02 123 P **PKPdf** 10 47 21.1 -1.4
LBZ **Lake Benmore** 120.17 125 **PKPdf** 10 47 22.1 -0.6
LBZ **Lake Benmore** 120.17 125 P **PKPdf** 10 47 22.5 -0.3
DSZ **Dennistoun Nort** 120.22 122 P **PKPdf** 10 47 21.7 -1.3
SYZ **Scrubby Hill** 120.32 128 P **PKiKP** 10 47 23.0 0.0
QRZ **Quartz Range** 120.36 120 P **PKPdf** 10 47 21.2 -2.0
QRZ **Quartz Range** 120.36 120 P **PKPdf** 10 47 21.4 -1.8
INZ **Inchbonnie** 120.36 123 P **PKPdf** 10 47 21.3 -1.9
VNA2 **Neumayer--Watz** 120.40 202 PKPdf **PKPdf** 10 47 22.1 -0.3
baz=21,slow=3.0
TUZ **Tuapeka** 120.41 127 P **PKiKP** 10 47 24.1 +0.8
DIAM **Diamantina, MG** 120.44 269 *e*P **PKPdf** 10 47 24.0 -0.2
RPZ **Rata Peaks** 120.49 124 PKP **PKPdf** 10 47 22.1 -1.2
comp=Z,61nm,0.6s,baz=276,slow=2.0,SNR=39
RPZ PKKPbc **PKKPab** 10 57 29.3 -0.5
comp=Z,7.5nm,0.8s,baz=186,slow=2.9,SNR=4.5
RPZ **Rata Peaks** 120.49 124 P **PKPdf** 10 47 22.9 -0.5
RPZ **Rata Peaks** 120.49 124 P **PKPdf** 10 47 22.2 -1.2
RPZ **Rata Peaks** 120.49 124 P **PKPdf** 10 47 22.6 -0.8
VNA1 **Neumayer--Stat** 120.55 202 PKPdf **PKPdf** 10 47 22.2 -0.4
CAM01 **Campos-RJ** 120.64 264 *e*P **PKPdf** 10 47 24.1 -0.2
ARCZ **Arundel** 120.66 124 P **PKPdf** 10 47 23.4 -0.4
TMZ **Timaru** 120.71 125 P **PKPdf** 10 47 20.8 -3.0
ODZ **Otahua Downs** 120.72 126 P **PKiKP** 10 47 24.0 +0.1
ODZ **Otahua Downs** 120.72 126 P **PKPdf** 10 47 23.4 -0.4
ODZ **Otahua Downs** 120.72 126 P **PKPdf** 10 47 23.8 0.0
DABV **Dabajuro** 120.75 315 *e*P **PKPdf** 10 47 22.8 -2.0
PEXB **Peixe** 120.77 278 *e*P **PKPdf** 10 47 24.7 -0.1
BOAV **Boa Vista** 120.77 300 *e*P **PKPdf** 10 47 24.8 -0.1
BAUV **El Baul** 120.81 311 **PKPdf** 10 47 23.6 -1.3
URIC **Uribia, Colomb** 120.88 317 *e*P **PKPdf** 10 47 22.8 -2.3
LTZ **Lake Taylor** 120.95 123 P **PKPdf** 10 47 23.1 -1.3
THZ **Tophouse** 120.99 121 P **PKPdf** 10 47 22.5 -2.0
OXZ **Oxford** 121.00 123 P **PKPdf** 10 47 23.6 -0.8
HIZ **Hauiti** 121.07 117 P **PKPdf** 10 47 23.7 -1.0
HIZ **Hauiti** 121.07 117 P **PKPdf** 10 47 24.0 -0.7
WACZ **Wakanui South** 121.10 124 P **PKPdf** 10 47 24.3 -0.2
VNA3 **Neumayer Olymp** 121.21 202 PKPdf **PKPdf** 10 47 23.2 -0.8
RACZ **Rakaia** 121.22 124 P **PKiKP** 10 47 24.9 +0.1
DUB01 **Friburgo-RJ** 121.34 264 *e*P **PKPdf** 10 47 25.3 -0.4
AMCZ **Amberley** 121.36 123 P **PKPdf** 10 47 25.0 0.0
GVZ **Greta Valley S** 121.54 123 P **PKPdf** 10 47 25.1 -0.4
KHZ **Kahutara** 121.67 122 P **PKPdf** 10 47 24.7 -0.9
KHZ **Kahutara** 121.67 122 P **PKPdf** 10 47 24.2 -1.4
KHZ **Kahutara** 121.67 122 P **PKPdf** 10 47 25.0 -0.6
AKCZ **Akaroa Harbour** 121.79 124 P **PKiKP** 10 47 26.3 +0.2
OKCZ **Okains Bay** 121.83 123 P **PKPdf** 10 47 26.0 0.0
ITTB **Itaituba** 121.86 290 *e*P **PKPdf** 10 47 26.4 -0.6
CRJC **Cerrejon, Guaj** 121.93 317 *e*P **PKPdf** 10 47 25.6 -1.6
SNZO **South Karori** 122.06 125 P **PKPdf** 10 47 24.8 -1.6
SNZO **South Karori** 122.06 125 P **PKPdf** 10 47 25.3 +1.1
VAS01 **Vassouras-RJ** 122.30 265 *e*P **PKPdf** 10 47 27.3 -0.2
SDV **Santo Domingo** 122.39 314 PKP **PKPdf** 10 47 27.1 -1.1
comp=Z,72nm,0.9s,baz=46,slow=2.4,SNR=31
SDV PP **PP** 10 49 05.9 -0.6
comp=Z,30nm,0.8s,baz=141,slow=1.4,SNR=4.6
SDV PKKPbc **PKKPbc** 10 57 21.5 -1.2
comp=Z,9.6nm,0.6s,baz=177,slow=5.6,SNR=10
SDV **Santo Domingo** 122.39 314 *e*P **PKPdf** 10 47 27.0 -1.3
BKZ **Black Stump Fm** 122.50 117 P **PKPdf** 10 47 25.1 -2.4
BKZ **Black Stump Fm** 122.50 117 P **PKPdf** 10 47 25.8 -1.7
BDFB **Brasilia** 122.52 274 PKP **PKPdf** 10 47 27.1 -1.1
comp=Z,21nm,0.4s,baz=17,slow=1.1,SNR=25
BDFB PKKPbc **PKKPab** 10 57 23.1 -0.5
comp=Z,93nm,0.8s,baz=226,slow=3.9,SNR=44
BDFB **Brasilia** 122.52 274 PKIKP **PKiKP** 10 47 28.4 0.0
BDFB **Brasilia** 122.52 274 **PKiKP** 10 47 28.4 0.0
BDFB **Brasilia** 122.52 274 *e*P **PKPdf** 10 47 27.7 -0.5
URZ **Urewera** 122.60 116 PKP **PKPdf** 10 47 25.1 -2.5
comp=Z,183nm,0.6s,baz=257,slow=3.3,SNR=120
URZ **Urewera** 122.60 116 P **PKPdf** 10 47 25.4 -2.2
BSCB **Bom Sucesso** 122.72 267 *e*P **PKPdf** 10 47 28.0 -0.5
BFZ **Birch Farm** 122.90 119 P **PKPdf** 10 47 27.0 -1.1
BFZ **Birch Farm** 122.90 119 P **PKPdf** 10 47 27.7 -0.4
MAN01 **Angra dos Reis** 123.00 265 *e*P **PKiKP** 10 47 29.4 +0.2
SNDB **Serra Nova Dou** 123.08 280 *e*P **PKPdf** 10 47 28.6 -0.7
LL6C **La Loma 6 Bece** 123.20 317 *e*P **PKPdf** 10 47 25.6 -4.0
NPGB **Novo Progresso** 123.28 287 *e*P **PKPdf** 10 47 29.2 -0.5
LL1C **La Loma 1 Cana** 123.52 317 *e*P **PKPdf** 10 47 24.2 -6.0
IPMB **Ipameri, GO** 123.94 272 *e*P **PKPdf** 10 47 30.3 -0.6
PETF **Flores** 124.00 338 **PKiKP** 10 47 31.5 +0.2
NIUE **Niue** 124.09 89 **PKiKP** 10 47 32.3 +1.0
NIUE **Niue** 124.09 89 P **PKPdf** 10 47 31.1 +0.1
PRVC **Isla de Provid** 124.10 327 **PKPdf** 10 47 31.2 0.0
PRVC **Isla de Provid** 124.10 327 *e*P **PKPdf** 10 47 29.8 -1.5
PRVC **Isla de Provid** 124.10 327⇑ *e*P **PKPdf** 10 47 31.1 0.0
SJCC **San Jacinto, C** 124.10 319 *e*P **PKPdf** 10 47 31.1 -0.2
OCAC **Ocana** 124.46 316 *e*P **PKPdf** 10 47 31.1 -1.0
PARB **Paraibuna** 124.56 265 *e*P **PKiKP** 10 47 32.2 -0.1
MACA **Manacapuru-AM** 124.75 295 *e*P **PKPdf** 10 47 32.0 -0.5
PAMC **Pamplona, Colo** 124.84 315 *e*P **PKPdf** 10 47 28.4 -4.9
TAMC **Tame, Arauca** 125.04 313 *e*P **PKiKP** 10 47 32.9 +0.4
TAMC **Tame, Arauca** 125.04 313 *e*P **PKPdf** 10 47 32.5 -0.6
CMIG **Matias Romero** 125.16 344 PKP **PKPdf** 10 47 31.3 -1.9
comp=Z,19nm,0.5s,baz=30,slow=3.6,SNR=4.2
CMIG PKKPbc **PKKPbc** 10 57 11.0 -1.1
comp=Z,11nm,0.7s,baz=176,slow=2.1,SNR=20
CMIG PKKP **PKKPdf** 10 57 51.6 -0.7
comp=Z,4.8nm,0.7s,baz=102,slow=4.8,SNR=4.0
VNDA **Vanda** 125.39 165 PKP **PKPdf** 10 47 30.9 -0.9
comp=Z,47nm,0.7s,baz=294,slow=4.3,SNR=73
VNDA pPKP **pPKPdf** 10 48 28.4 -0.6
comp=Z,16nm,0.7s,baz=280,slow=4.6,SNR=2.0
VNDA PKKPbc **PKKPbc** 10 57 11.9 +0.1
comp=Z,9.3nm,0.9s,baz=91,slow=2.8,SNR=7.0
VNDA SKKPbc SKKPbc 11 00 38.0 -6.2
comp=Z,3.4nm,0.9s,baz=135,slow=3.3,SNR=3.9
VNDA **Vanda** 125.39 165 PKIKP **PKPdf** 10 47 31.4 -0.4
VNDA **Vanda** 125.39 165 **PKPdf** 10 47 31.4 -0.4
VAO **Valinhos** 125.48 266 *e*P **PKiKP** 10 47 34.0 -0.1
RCLB **Rio Claro- Sao** 125.65 267 *e*P **PKiKP** 10 47 34.6 +0.2
BARC **Barichara** 125.72 315 *e*P **PKPdf** 10 47 33.9 -0.7
BB19B **Bebedouro** 125.78 269 *e*P **PKiKP** 10 47 34.9 +0.1
TGUH **Tegucigalpa,Un** 125.82 334 *e*P **PKPdf** 10 47 32.5 -2.1
ZARC **Zaragoza, Cauc** 125.93 317 *e*P **PKPdf** 10 47 31.1 -3.6
CLDB **Colider** 125.98 284 *e*P **PKPdf** 10 47 34.9 0.0
URCC **San Jos de Ur** 126.08 318 *e*P **PKPdf** 10 47 31.1 -3.9
RUSC **La Rusia** 126.23 314 *e*P **PKPdf** 10 47 32.5 -3.4
QSPA **South Pole Qui** 126.23 180 PKP **PKPdf** 10 47 32.9 -0.9
comp=Z,228nm,0.6s,baz=282,slow=1.2,SNR=183
QSPA pPKP **pPKPdf** 10 48 29.9 -0.8
comp=Z,160nm,1.0s,baz=160,slow=1.4,SNR=3.8
QSPA PKKPbc **PKKPbc** 10 57 09.3 +0.1
comp=Z,7.6nm,0.9s,baz=290,slow=1.3,SNR=7.8
QSPA **South Pole Qui** 126.23 180 **PKPdf** 10 47 33.1 -0.7
PET01 **Itanhaem-SP** 126.35 265 *e*P **PKiKP** 10 47 35.7 0.0
PTBC **PUERTO BERRIO** 126.49 316 *e*P **PKPdf** 10 47 32.5 -3.3
ITRB **Iturama** 126.57 272 *e*P **PKiKP** 10 47 36.3 0.0
ACON **Acoyapa** 126.95 331 **PKPdf** 10 47 36.9 +0.2
SPBC **San Pablo de B** 126.99 315 *e*P **PKPdf** 10 47 33.9 -3.0
PTGC **Puerto Gaitan,** 127.02 312 *e*P **PKPdf** 10 47 33.9 -2.9
BCIP **Isla Barro Col** 127.09 323 *e*P **PKPdf** 10 47 33.9 -3.0
UPA **Univ. de Panam** 127.10 323 *e*P **PKPdf** 10 47 33.9 -3.1
PDRB **Porto dos Gac** 127.15 284 *e*P **PKPdf** 10 47 36.6 -0.4
HELC **Santa Helena** 127.37 317 *e*P **PKPdf** 10 47 36.7 -1.3
CNOCA **NORCASIA, CALD** 127.52 316 *e*P **PKPdf** 10 47 32.5 -5.3
NORC **Norcasia** 127.52 316 *e*P **PKPdf** 10 47 33.9 -4.0
CHIC **Chingaza** 127.62 314 *e*P **PKPdf** 10 47 36.7 -1.8
FRTB **Fartura** 127.74 267 *e*P **PKiKP** 10 47 38.4 -0.2
COVE **Coope Vega, Sa** 127.77 329 **PKiKP** 10 47 39.1 +0.2
ROSC **El Rosal** 127.79 314 PKhKP **PKPpre** 10 47 25.8
comp=Z,15nm,0.6s,baz=163,slow=8.1,SNR=6.7
ROSC PKP **PKPdf** 10 47 39.1 +0.3
comp=Z,391nm,0.8s,baz=137,slow=6.2,SNR=21
ROSC SKPbc SKPbc 10 50 35.0
comp=Z,233nm,1.0s,baz=64,slow=2.7,SNR=5.5
PTAC **Punta Ardita,** 127.80 320 *e*P **PKPdf** 10 47 35.3 -3.0
CBOC **Ciudad Bolivar** 127.91 317 *e*P **PKPpre** 10 47 32.5
GUY2C **Guyana, Caldas** 128.07 316 *e*P **PKPdf** 10 47 36.7 -2.8
TIJ01 **Guaruva-PR** 128.22 265 *e*P **PKiKP** 10 47 39.4 -0.1
PCMB **Pacaembu** 128.26 270 *e*P **PKiKP** 10 47 39.4 -0.2
AZU **Azuero** 128.49 323 *e*P **PKPpre** 10 47 32.5
HOPE **Hope Point** 128.51 226 PKIKP **PKPdf** 10 47 38.3 -0.1
HOPE **Hope Point** 128.51 226 **PKPdf** 10 47 38.2 -0.1
GUVC **San Jose del G** 128.63 311 *e*P **PKPdf** 10 47 38.1 -1.8
ANIL **Santa Ana** 128.70 315 *e*P **PKPpre** 10 47 35.3
BRU2 **Volcan** 128.75 326 **PKiKP** 10 47 41.0 -0.1
BRU2 **Volcan** 128.75 326 *e*P **PKiKP** 10 47 40.9 -0.1
SALV **Santo Antonio** 128.81 279 *e*P **PKPdf** 10 47 39.9 -0.2
PLMC **San Jos del P** 128.85 317 *e*P **PKPpre** 10 47 33.9
GMAL **Guarumal, Vera** 128.98 324 *e*P **PKiKP** 10 47 43.7 +2.4
ORTC **Ortega, Tolima** 129.08 315 *e*P **PKPdf** 10 47 38.1 -2.7
PP1B **Ponte de Pedra** 129.10 277 *e*P **PKPdf** 10 47 40.6 -0.1
CACAO **El Cacao, Vera** 129.16 323 *e*P **PKPdf** 10 47 39.5 -1.4
PIZC **Pizarro, Choco** 129.39 318 *e*P **PKPdf** 10 47 40.9 -0.5
YOTC **Yotoco, Valle** 129.54 316 *e*P **PKPdf** 10 47 39.5 -2.5
YOTC **Yotoco, Valle** 129.64 316 *e*P **PKPdf** 10 47 38.1 -3.9
MACC **Macarena, Meta** 129.68 312 *e*P **PKPdf** 10 47 40.9 -1.1
TER01 **Tubaro-SC** 129.74 261 *e*P **PKPdf** 10 47 41.7 +0.2
MARP **Paez Belalcaza** 130.35 315 *e*P **PKPdf** 10 47 40.9 -2.7
PTGB **Pitanga** 130.40 267 *e*P **PKPdf** 10 47 43.2 +0.2
GARC **Garzon, Huila** 130.62 314 *e*P **PKPdf** 10 47 33.9 -10
POPC **Popayan, Colom** 131.01 315 *e*P **PKPdf** 10 47 42.3 -2.5
PCON **Cinco Dias** 131.03 315 *e*P **PKPdf** 10 47 43.7 -1.5
AQDB **Aquidauana** 131.27 274 *e*P **PKPdf** 10 47 44.2 -0.5
SOTA **Rioblanco** 131.31 315 *e*P **PKPdf** 10 47 43.7 -2.0
GR1C **Gorgona, Isla** 131.46 317 *e*P **PKPdf** 10 47 43.7 -1.6
PTLC **Puerto Leguiza** 131.82 311 *e*P **PKPdf** 10 47 43.7 -2.3
TBTG **Tabatinga, AM** 131.98 303 *e*P **PKPdf** 10 47 43.7 -2.6
TBTG **Tabatinga, AM** 131.98 303 *e*P **PKPdf** 10 47 45.3 -1.0
CMBC **Cumbal** 132.97 315 *e*P **PKPdf** 10 47 42.3 -6.4
SIV **San Ignacio** 133.12 283 PKhKP **PKPpre** 10 47 37.6
comp=Z,4.1nm,0.6s,baz=83,slow=9.2,SNR=5.8
SIV PKP **PKPdf** 10 47 47.9 -0.5
comp=Z,68nm,0.6s,baz=92,slow=3.5,SNR=85
SIV SKPbc **SKPbc** 10 50 54.4 -1.4
comp=Z,71nm,0.9s,baz=77,slow=4.4,SNR=6.4
SIV PKKPbc PKKPbc 10 56 44.5
comp=Z,8.5nm,1.0s,baz=275,slow=4.0,SNR=5.5
SIV SKKPbc **SKKPbc** 11 00 09.6 -2.8
comp=Z,5.9nm,0.8s,baz=232,slow=3.3,SNR=3.6
TULM **Tulcn-Chalpat** 133.13 315 *e*P **PKPdf** 10 47 46.5 -2.6
ETMB **Extrema** 133.26 294 *e*P **PKPdf** 10 47 47.9 -0.7
RAR **Rarotonga** 133.36 85 PKP **PKPdf** 10 47 48.8 +0.2
comp=Z,37nm,0.8s,baz=249,slow=0.4,SNR=6.4
RAR **Rarotonga** 133.36 85 **PKiKP** 10 47 50.2 +0.3
CPSB **Cacapava Do Su** 133.93 261 *e*P **PKPdf** 10 47 47.7 -1.7
CPUP **Villa Florida** 135.37 268 PKhKP **PKPpre** 10 47 38.4
comp=Z,5.1nm,0.5s,baz=60,slow=3.3,SNR=15
CPUP PKP **PKPdf** 10 47 51.9 -0.4
comp=Z,233nm,0.7s,baz=65,slow=2.1,SNR=133
CPUP SKPbc **SKPbc** 10 51 00.9 -1.9
comp=Z,182nm,1.0s,baz=58,slow=2.3,SNR=10
CPUP **Villa Florida** 135.37 268 *e*P **PKPdf** 10 47 51.8 -0.4
MCRA **Macar, Loja** 138.51 313 **PKPdf** 10 47 58.1 -0.5
LPAZ **La Paz** 138.78 288 PKhKP **PKPpre** 10 47 48.3
comp=Z,13nm,0.8s,baz=34,slow=5.3,SNR=22
LPAZ PKP **PKPdf** 10 47 58.7 -0.8
comp=Z,50nm,0.8s,baz=34,slow=3.2,SNR=39
LPAZ SKPbc **SKPbc** 10 51 12.1 -1.8
comp=Z,73nm,1.1s,baz=26,slow=8.5,SNR=4.1
LPAZ SKKPbc **SKKPbc** 10 59 43.9 -7.9
comp=Z,14nm,0.8s,baz=144,slow=4.6,SNR=6.4
LPAZ **La Paz** 138.78 288 **PKPdf** 10 47 59.4 -0.1
LPAZ **La Paz** 138.78 288 *e*P **PKPdf** 10 47 59.0 -0.5
LPA **La Plata** 139.03 257 *ce*PDIFF **Pdif** 10 45 11.0 -0.9
LPA PP **PP** 10 50 49.1 -5.3
LPA PKS PKSdf 10 51 47.8 +13
LPA PPP PPP 10 53 57.8
PMOR **Pomariorio Ree** 139.20 69 *e*PKiKP **PKPdf** 10 47 53.9 -5.6
comp=Z,285nm,0.8s
PMOR *e*SKPdf **SKPdf** 10 51 08.8 -4.9
comp=Z,584nm,1.3s
PPT **Papeete** 139.46 73 PKhKP **PKPpre** 10 47 55.2
comp=Z,174nm,0.9s,baz=354,slow=4.4,SNR=16
PPT SKPbc **SKiKP** 10 51 16.5 -1.4
comp=Z,46nm,1.0s,baz=246,slow=20,SNR=1.9
PPT2 **Papeete2** 139.48 73 *e*PKiKP **PKPdf** 10 47 55.1 -5.0
comp=Z,330nm,1.1s
PPT2 *e*SKPdf **SKPdf** 10 51 09.8 -4.5
comp=Z,223nm,1.3s
PPTF **Pamatai, Papee** 139.49 73 **PKPdf** 10 48 00.6 +0.5
PAE **Paea** 139.51 74 *e*PKiKP **PKPdf** 10 47 55.0 -5.1
comp=Z,29nm,0.8s
PAE *e*SKPdf **SKPdf** 10 51 09.4 -4.8
comp=Z,58nm,1.4s
VAH **Vaihoa** 139.54 69 *e*PKiKP **PKPdf** 10 47 53.5 -6.7
comp=Z,162nm,0.9s
VAH *e*SKPdf **SKPdf** 10 51 09.5 -4.8
comp=Z,378nm,1.4s
TAOE **Nuku Hiva Isla** 140.45 54 *e*PKiKP **PKPdf** 10 47 55.0 -7.1
comp=Z,543nm,0.9s
PMSA **Palmer Station** 141.23 209 SKPbc **SKPbc** 10 51 17.2 -0.8
comp=Z,224nm,1.1s,baz=106,slow=4.2,SNR=9.1
NNA **Nana** 142.32 302 PKhKP **PKPpre** 10 48 01.5
comp=Z,54nm,0.6s,baz=348,slow=3.3,SNR=27
LVC **Limon Ver

BO01	**Tunca**	**149.32**	**262**	PKPdf	**PKPdf**	**10 48 17.2**	**+0.6**
BO01				PKPbc	**PKPbc**	**10 48 21.3**	**+0.1**
BO01	**Tunca**	**149.32**	**262**	⇑*i*P	**PKPdf**	**10 48 16.5**	**0.0**
VA01	**Torpederas**	**149.39**	**265**	⇑*i*P	**PKPdf**	**10 48 16.9**	**+0.2**
VA05	**Santo Domingo**	**149.55**	**264**	⇑*i*P	**PKPdf**	**10 48 16.2**	**-0.7**
PLCA	**Paso Flores**	**149.95**	**250**	PKP	**PKPdf**	**10 48 17.8**	**+0.3**
	comp=Z,61nm,0.9s,baz=124,slow=1.7,SNR=112						
PLCA				PKPbc	**PKPbc**	**10 48 22.2**	**-0.4**
	comp=Z,482nm,0.8s,baz=126,slow=2.3,SNR=122						
PLCA	**Paso Flores**	**149.95**	**250**		**PKPdf**	**10 48 17.9**	**+0.3**
PLCA				PKPbc	**PKiKP**	**10 48 23.6**	**+0.2**
PLCA				PKPab	**PKPab**	**10 48 29.8**	**+0.7**
PLCA	**Paso Flores**	**149.95**	**250**	*e*P	**PKPdf**	**10 48 17.9**	**+0.5**
BO03	**Pichilemu**	**150.04**	**263**	⇑*i*P	**PKPdf**	**10 48 17.7**	**0.0**
RKT	**Rikitea**	**153.79**	**67**	*e*PKPbc	**PKPdf**	**10 48 25.4**	**+1.8**
	comp=Z,222nm,0.9s						
RPN	**Rapa Nui**	**170.71**	**3**	PKP	**PKPdf**	**10 48 40.7**	**+0.5**
	comp=Z,185nm,0.8s,baz=348,slow=1.3,SNR=11						
VA02	**Isla de Pascua**	**170.74**	**3**	*e*P	**PKPdf**	**10 48 35.2**	**-5.1**

IDC 10 10:41:25.0±475.0, 88°90N×45°66W, h0km Error ellipse: s-maj=212.1km s-min=197.1km az=126.0, Lomonosov Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I18DK	**QAANAAQ INFRAS**	**11.60**	**206**	*i*		11 53 20.0	
	baz=1.9,slow=339,SNR=10						
I46RU	**ZALESOVO INFRA**	**36.96**	**48**	*i*		14 28 20.0	
	baz=2.6,slow=334						
I45RU	**USSURIYSK INFR**	**47.10**	**2**	*i*		15 29 00.0	
	baz=354,slow=323,SNR=2.3						

*IGIL **10** 10:53:43.7, 37°13N×13°86W, h31km, ML3.0*
*INMG **10** 10:53:45.5±1.2, 37°13N×13°87W, h10km, ML2.9, Error ellipse: s-maj=6.4km s-min=5.5km az=92.0*
*MDD **10** 10:53:48.0±0.9, 37°54N×13°04W, h0km, Mb4.4/11, M_mb3.8/11, Error ellipse: s-maj=8.1km s-min=6.5km az=23.0*
*CNRM **10** 10:53:48.5, 36°96N×13°05W, h60km, ml3.3*

ISC 10 10:53:43.5±3.0, 37°12N±0°05×13°3W±0°2, h10km, n48, σ2s28/91, 11C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.58**	**88**	*e*Pn	**Pn**	**10 54 41.9**	**+2.9**
PFVI				*e*Sn	**Sn**	**10 55 22.6**	**+1.3**
PFVI				A	A	10 55 24.0	
	22nm,0.2s						
PFVI	**Vila Bisbo**	**3.58**	**88**	P	**Pn**	**10 54 35.6**	**-3.4**
PFVI				S	**Sn**	**10 55 21.5**	**+0.2**
PMST	**Lisbon--Monsan**	**3.63**	**62**	*e*Pn	**Pn**	**10 54 41.8**	**+2.0**
PMST				*e*Sn	**Sn**	**10 55 23.3**	**+0.6**
PMST				A	A	10 55 24.9	
	18nm,0.2s						
PMAFR	**Mafra**	**3.66**	**59**	*e*Pn	**Pn**	**10 54 41.6**	**+1.4**
PMAFR				*e*Sn	**Sn**	**10 55 24.4**	**+0.9**
PMAFR				A	A	10 55 31.7	
	28nm,0.3s						
PTEO	**Sao Teotonio**	**3.67**	**82**	*e*Pn	**Pn**	**10 54 42.3**	**+1.9**
PTEO				*e*Sn	**Sn**	**10 55 24.9**	**+1.2**
PTEO				A	A	10 55 35.9	
	20nm,0.4s						
MORF	**Marmelete**	**3.71**	**86**	*e*P	**Pn**	**10 54 43.0**	**+1.9**
MORF				*e*S	**Sn**	**10 55 26.2**	**+1.3**
MORF				IAML		10 55 28.5	
	comp=E,33nm,0.1s						
MORF	**Marmelete**	**3.71**	**86**	*e*Pn	**Pn**	**10 54 43.5**	**+2.5**
MORF				*e*Sn	**Sn**	**10 55 25.9**	**+1.0**
MORF				A	A	10 55 29.9	
	comp=E,21nm,0.1s						
PACT	**Alcochete**	**3.89**	**64**	*e*Pn	**Pn**	**10 54 45.3**	**+1.9**
PACT				*e*Sn	**Sn**	**10 55 31.2**	**+2.0**
PACT				A	A	10 55 34.0	
	comp=E,13nm,0.1s						
PNCL	**Nicolau / Gran**	**3.91**	**74**	*e*Pn	**Pn**	**10 54 45.3**	**+1.6**
PNCL				*e*Sn	**Sn**	**10 55 30.2**	**+0.5**
PNCL				A	A	10 55 35.3	
	comp=E,14nm,0.6s						
PCVE	**Castro Verde**	**4.22**	**81**	*e*Pn	**Pn**	**10 54 50.0**	**+2.1**
PCVE				*e*Sn	**Sn**	**10 55 38.1**	**+0.8**
PCVE				A	A	10 55 42.5	
	comp=E,7.6nm,0.2s						
PSBE	**So Bento**	**4.27**	**55**	*e*Pn	**Pn**	**10 54 49.8**	**+1.1**
PSBE				*e*Sn	**Sn**	**10 55 39.4**	**+0.8**
PSBE				A	A	10 55 43.4	
	comp=E,8.0nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.29**	**87**	*e*Pn	**Pn**	**10 54 51.1**	**+2.2**
PBDV				*e*Sn	**Sn**	**10 55 40.3**	**+1.3**
PBDV				A	A	10 55 44.2	
	comp=E,13nm,0.5s						
PBEJ	**Beja**	**4.41**	**77**	*e*Pn	**Pn**	**10 54 53.4**	**+2.9**
PBEJ				*e*Sn	**Sn**	**10 55 43.1**	**+1.2**
PBEJ				A	A	10 55 46.7	
	comp=E,12nm,0.2s						
EVO	**Evora**	**4.42**	**70**	P	**Pn**	**10 54 51.6**	**+1.0**
EVO				S	**Sn**	**10 55 41.3**	**-0.8**
EVO	**Evora**	**4.42**	**70**	*e*Pn	**Pn**	**10 54 52.5**	**+1.9**
EVO				*e*Sn	**Sn**	**10 55 42.4**	**+0.3**
EVO				A	A	10 55 46.4	
	comp=E,24nm,0.1s						
PMTG	**Montargil**	**4.45**	**63**	*e*Pn	**Pn**	**10 54 52.0**	**+0.9**
PMTG				*e*Sn	**Sn**	**10 55 44.0**	**+1.1**
PMTG				A	A	10 55 45.8	
	comp=E,7.4nm,0.2s						
PVAQ	**Vaqueiros**	**4.46**	**85**	*e*Pn	**Pn**	**10 54 53.6**	**+2.4**
PVAQ				*e*Sn	**Sn**	**10 55 44.5**	**+1.3**
PVAQ				A	A	10 55 51.1	
	comp=E,14nm,0.3s						
PVAQ	**Vaqueiros**	**4.46**	**85**	P	**Pn**	**10 54 53.5**	**+2.2**
PVAQ				S	**Sn**	**10 55 37.4**	**-5.9**
EGRO	**El Granado**	**4.65**	**83**	P	**Pn**	**10 54 55.5**	**+1.7**
EGRO				⇑*i*Vmb_V		10 54 57.3	
	comp=E,259nm,SNR=1.7						
EGRO				S	**Sn**	**10 55 47.3**	**-0.6**
PCAS	**Casmilo, Conde**	**4.76**	**51**	*e*Pn	**Pn**	**10 54 55.8**	**+0.4**
PCAS				*e*Sn	**Sn**	**10 55 50.7**	**0.0**
PCAS				A	A	10 56 10.9	
	comp=E,4.3nm,0.6s						
PESTR	**Estremoz**	**4.83**	**67**	*e*Pn	**Pn**	**10 54 57.7**	**+1.3**
PESTR				*e*Sn	**Sn**	**10 55 51.7**	**-0.7**
PESTR				A	A	10 55 56.5	
	comp=E,9.0nm,0.3s						
PESTR	**Estremoz**	**4.83**	**67**	P	**Pn**	**10 54 57.2**	**+0.8**
PESTR				S	**Sn**	**10 55 50.5**	**-1.9**
PBAR	**Barrancos**	**5.08**	**76**	*e*Pn	**Pn**	**10 55 01.7**	**+2.0**
PBAR				*e*Sn	**Sn**	**10 55 58.7**	**+0.3**
PBAR				A	A	10 56 04.6	
	comp=E,8.6nm,0.3s						
PMRV	**Marv??o**	**5.19**	**62**	*e*Pn	**Pn**	**10 55 02.1**	**+0.9**
PMRV				*e*Sn	**Sn**	**10 56 00.7**	**-0.4**
PMRV				A	A	10 56 05.2	
	comp=E,9.5nm,0.7s						
EBAD	**Badajoz**	**5.23**	**70**	P	**Pn**	**10 55 03.4**	**+1.7**
EBAD				⇑*i*Vmb_V		10 55 06.1	
	comp=E,229nm,SNR=1.4						
EBAD				S	**Sn**	**10 55 59.8**	**-2.4**
EMIN	**Mina Concepcio**	**5.31**	**81**	P	**Pn**	**10 55 05.1**	**+2.2**
EMIN				⇑*i*Vmb_V		10 55 07.9	
	comp=E,236nm,SNR=1.7						
EMIN				S	**Sn**	**10 56 04.5**	**+0.4**
PCBR	**Castelo Branco**	**5.31**	**58**	*e*Pn	**Pn**	**10 55 03.8**	**+0.9**
PCBR				*e*Sn	**Sn**	**10 56 04.5**	**+0.3**
PCBR				A	A	10 56 06.0	
	comp=E,4.8nm,0.2s						
PVIS	**Viseu**	**5.53**	**48**	*e*Pn	**Pn**	**10 55 06.7**	**+0.7**
PVIS				*e*Sn	**Sn**	**10 56 07.8**	**-1.9**
PVIS				A	A	10 56 08.9	
	comp=E,4.2nm,0.1s						
MTE	**Manteigas**	**5.56**	**52**	*e*Pn	**Pn**	**10 55 07.0**	**+0.6**
MTE				*e*Sn	**Sn**	**10 56 09.1**	**-1.3**
MTE				A	A	10 56 17.1	
	comp=E,5.1nm,0.5s						
ESPR	**Espera**	**5.96**	**90**	P	**Pn**	**10 55 15.5**	**+3.7**
ESPR				⇑*i*Vmb_V		10 55 18.6	
	comp=E,194nm,SNR=1.4						
ESPR				S	**Sn**	**10 56 22.8**	**+2.5**
PVRL	**Vila Real**	**6.00**	**45**	*e*Sn	**Sn**	**10 56 17.5**	**-3.7**
PCAB	**Cabril**	**6.13**	**40**	*e*Sn	**Sn**	**10 56 20.5**	**-4.0**
PCAB				A	A	10 56 23.6	
	comp=E,5.7nm,0.4s						
MVO	**Moncorvo**	**6.33**	**48**	*e*Pn	**Pn**	**10 55 16.9**	**0.0**
MVO				*e*Sn	**Sn**	**10 56 25.7**	**-3.6**
MVO				A	A	10 56 26.5	
	comp=E,3.4nm,0.2s						
ECAB	**El Cabril**	**6.33**	**79**	P	**Pn**	**10 55 18.8**	**+1.9**
ECAB				⇑*i*Vmb_V		10 55 20.5	
	comp=E,117nm,SNR=0.8						
ECAB				S	**Sn**	**10 56 29.5**	**+0.2**
EPLA	**Plasencia**	**6.37**	**60**	P	**Pn**	**10 55 18.4**	**+0.9**
EPLA				⇑*i*Vmb_V		10 55 19.8	
	comp=E,239nm,SNR=1.4						
SRHM	**Skhour des Reh**	**6.42**	**135**	P	**Pn**	**10 55 17.8**	**-0.5**
SRHM				S	**Sn**	**10 56 29.3**	**-2.4**
ZHG	**ZHG**	**6.56**	**122**	P	**Pn**	**10 55 19.5**	**-0.7**
ZHG				S	**Sn**	**10 56 29.3**	**-5.8**
EMAZ	**Mazaricos**	**6.70**	**28**	P	**Pn**	**10 55 20.5**	**-1.5**
EMAZ				⇑*i*Vmb_V		10 55 22.8	
	comp=E,381nm,SNR=0.7						
EMAZ				S	**Sn**	**10 56 31.4**	**-6.9**
PBRG	**Braganca**	**6.90**	**45**	*e*Pn	**Pn**	**10 55 24.6**	**-0.1**
PBRG				*e*Sn	**Sn**	**10 56 39.9**	**-3.4**
PBRG				A	A	10 56 40.0	
	comp=E,3.0nm,0.5s						
EADA	**Adamuz**	**7.00**	**79**	P	**Pn**	**10 55 27.6**	**+1.4**
EADA				⇑*i*Vmb_V		10 55 30.3	
	comp=E,83nm,SNR=0.4						
EADA				S	**Sn**	**10 56 48.6**	**+2.8**
OUK	**Oukaimeden**	**7.42**	**141**	P	**Pn**	**10 55 32.0**	**-0.3**
OUK				S	**Sn**	**10 56 51.6**	**-5.0**
PAB	**San Pablo**	**7.44**	**68**	P	**Pn**	**10 55 33.0**	**+0.8**
PAB				⇑*i*Vmb_V		10 55 33.3	
	comp=E,94nm,SNR=0.8						
PAB				S	**Sn**	**10 56 55.3**	**-1.4**
TTIG	**Tnine Tigouga,**	**7.70**	**147**	P	**Pn**	**10 55 32.3**	**-3.6**
ESDC	**Sonseca Array**	**7.76**	**68**	P	**Pn**	**10 55 37.8**	**+1.2**
ESDC				⇑*i*Vmb_V		10 55 38.3	
	comp=E,170nm,SNR=1.8						
GUD	**Guadarrama**	**7.95**	**61**	P	**Pn**	**10 55 37.7**	**-1.6**
GUD				⇑*i*Vmb_V		10 55 40.2	
	comp=E,173nm,SNR=1.7						
GUD				S	**Sn**	**10 57 08.8**	**-0.6**
MD31	**MD31**	**8.19**	**119**	P	**Pn**	**10 55 42.8**	**+0.2**
MD31				S	**Sn**	**10 57 10.2**	**-5.1**
OUZM	**OUZ**	**8.24**	**137**	P	**Pn**	**10 55 43.4**	**+0.2**
OUZM				S	**Sn**	**10 57 12.2**	**-4.2**
MDT	**Midelt**	**8.33**	**119**	P	**Pn**	**10 55 43.8**	**-0.7**
MDT				S	**Sn**	**10 57 14.2**	**-4.4**

*IDC **10** 11:00:02.0±1.0, 24°31N×123°63E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/56, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=37.4km s-min=23.2km az=71.0*
*JMA **10** 11:00:04.6±0.1, 24°26N×123°82E, h16km±1km, M3.8*
JMA Felt II J1.
*NEIC **10** 11:00:08.8±1.8, 24°23N±0°07×123°61E±0°04, h49km±7km, mb4.7/14, Error ellipse: s-maj=10.4km s-min=3.9km az=156.0*

ISC 10 11:00:04.5±0.7, 24°26N±0°04×123°73E±0°03, h19km±2km, n52, σ1s29/59, mb4.6/14, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.07**	**358**	P	**Pb**	**11 00 08.0**	**-0.2**
IRIF				S	**Sg**	**11 00 10.6**	**-0.1**
HATJ	**Hateruma jima**	**0.21**	**162**	P	**Pb**	**11 00 09.1**	**-0.3**
HATJ				S	**Sg**	**11 00 12.5**	**-0.9**
JKRS	**Kuro-shima**	**0.25**	**95**	P	**Pb**	**11 00 09.1**	**-1.2**
JKRS				S	**Sg**	**11 00 12.6**	**-1.8**
JIJ	**Ishigaki jima**	**0.39**	**75**	P	**Pg**	**11 00 11.1**	**-1.6**
JIJ				S	**Sg**	**11 00 15.8**	**-2.4**
JISG	**Ishigakijimahi**	**0.62**	**58**	P	**Pg**	**11 00 15.5**	**-1.4**
JISG				S	**Sg**	**11 00 23.2**	**-2.0**
YOJ	**Yonaguni jima**	**0.69**	**287**	P	**Pn**	**11 00 19.6**	**+0.4**
YOJ				S	**Sn**	**11 00 29.6**	**+0.3**
YOJ	**Yonaguni jima**	**0.69**	**287**		**Pn**	**11 00 19.8**	**+0.6**
YOJ				Sn	**Sn**	**11 00 30.0**	**+0.6**
JYNG	**Yonagunijimaku**	**0.74**	**285**	P	**Pn**	**11 00 20.5**	**+0.6**
JYNG				S	**Sn**	**11 00 31.3**	**+0.6**
JTJ	**Tarama**	**0.96**	**67**	P	**Pg**	**11 00 21.6**	**-1.6**
JTJ				S	**Sg**	**11 00 34.0**	**-1.9**
NACB	**Ninganchiao**	**1.96**	**268**		**Pb**	**11 00 39.0**	**-0.5**
NACB				Sn	**Sb**	**11 01 02.0**	**-1.5**
TATO	**Taipei**	**2.16**	**290**		**Pb**	**11 00 41.6**	**-1.5**
TATO				Sn	**Sn**	**11 01 05.6**	**-0.2**
YHNB	**Yeheng**	**2.19**	**281**		**Pb**	**11 00 42.2**	**-1.3**
YHNB				Sn	**Sn**	**11 01 07.0**	**+0.5**
YULB	**Yu-li**	**2.39**	**249**		**Pn**	**11 00 43.8**	**+1.1**
YULB				Sn	**Sn**	**11 01 12.4**	**+0.9**
SSLB	**Suanglung**	**2.58**	**260**		**Pn**	**11 00 47.0**	**+1.6**
TWG	**Pinlang**	**2.83**	**240**		**Pn**	**11 00 49.4**	**+0.7**
TPUB	**Ta-pu**	**3.00**	**252**		**Pb**	**11 00 54.2**	**-3.1**
JOW	**Kunigami**	**4.83**	**57**	Pn	**Pn**	**11 01 17.6**	**+1.4**
	2.6nm,0.3s,baz=144,slow=15,SNR=6.4						
JOW	**Kunigami**	**4.83**	**57**	Pn	**Pn**	**11 01 20.4**	**+4.2**
KNMB	**Chin-men Tao**	**4.88**	**273**	Pn	**Pn**	**11 01 18.0**	**+1.1**
KSRS	**Korea Array**	**13.63**	**14**	Pn	**Pn**	**11 03 19.3**	**+2.5**
	0.1nm,0.3s,baz=195,slow=11,SNR=2.8						
PEA0B	**Petropavlovsk-**	**38.52**	**33**	P	**P**	**11 07 25.5**	**-0.1**
MKAR	**Makanchi Array**	**39.92**	**315**	P	**P**	**11 07 37.7**	**+0.3**
	1.6nm,0.8s,baz=98,slow=9.7,SNR=6.3						
MKAR	**Makanchi Array**	**39.92**	**315**	P	**P**	**11 07 36.9**	**-0.4**
KNRA	**Kununurra**	**40.00**	**172**	P	**P**	**11 07 38.2**	**+0.1**
KNRA				IAmb	IAmb	11 07 50.1	
	comp=Z,34nm,1.4s						
MAKZ	**Makanchi**	**40.12**	**315**	P	**P**	**11 07 39.2**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**40.16**	**88**	T	T	11 50 20.5	
	baz=283,slow=74,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**40.16**	**88**	T	T	11 50 21.0	
	baz=283,slow=74,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**40.17**	**88**	T	T	11 50 18.9	
	baz=283,slow=74,SNR=8.8						
H11S3	**WAKE ISLAND Hy**	**40.29**	**90**	T	T	11 50 28.6	
	baz=289						
H11S1	**WAKE ISLAND Hy**	**40.30**	**90**	T	T	11 50 28.9	
	baz=289						
H11S2	**WAKE ISLAND Hy**	**40.31**	**90**	T	T	11 50 30.7	
	baz=289						
ZALV	**Zalesovo Beam**	**41.47**	**326**	P	**P**	**11 07 49.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**42.14**	**177**	P	**P**	**11 07 55.0**	**-0.7**
COEN	**Coen**	**42.47**	**151**	P	**P**	**11 07 59.9**	**+1.4**
COEN				IAmb	IAmb	11 08 15.9	
	comp=Z,15nm,1.3s						
BOOM	**Boomskoye usch**	**43.24**	**307**	P	**P**	**11 08 02.9**	**-1.9**
BOOM				IAmb	IAmb	11 08 18.0	
	comp=Z,20nm,1.4s						
KURK	**Kurchatov**	**43.54**	**319**	P	**P**	**11 08 06.1**	**-0.7**
WB0	**Warramunga Arr**	**44.98**	**166**	P	**P**	**11 08 19.6**	**+1.0**
WB0				IAmb	IAmb	11 08 40.7	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**45.13**	**166**	P	**P**	**11 08 19.8**	**0.0**
WRAB				IAmb	IAmb	11 08 39.2	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**45.13**	**166**	P	**P**	**11 08 20.6**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=347,slow=9.1,SNR=1.9						
WB2	**Warramunga Arr**	**45.14**	**166**	P	**P**	**11 08 19.3**	**-0.6**
WB2				IAmb	IAmb	11 08 26.5	
	comp=Z,24nm,1.5s						
WR0	**Warramunga Arr**	**45.20**	**166**	P	**P**	**11 08 20.2**	**-0.1**
WR0				IAmb	IAmb	11 08 39.3	
	comp=Z,8.7nm,1.1s						
ASAR	**Alice Springs**	**48.65**	**168**	P	**P**	**11 08 48.7**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=356,slow=6.5,SNR=7.9						
MORW	**Morawa**	**53.54**	**188**	P	**P**	**11 09 23.0**	**-1.0**
MORW				IAmb	IAmb	11 09 27.4	
	comp=Z,22nm,1.4s						
ABKAR	**Akbulak array**	**55.05**	**314**	P	**P**	**11 09 35.3**	**+0.4**
H21K	**Melozitna Rive**	**65.48**	**27**	P	**P**	**11 10 47.0**	**+0.9**
BCAR	**Beaver Creek A**	**70.65**	**29**	P	**P**	**11 11 19.8**	**+1.1**
NC405	**NORSAR Array S**	**78.99**	**333**	P	**P**	**11 12 06.7**	**-0.1**
NB2	**NORSAR Subarra**	**79.23**	**333**	P	**P**	**11 12 08.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=58,slow=5.3						
NOA	**NORSAR Array B**	**79.23**	**333**	P	**P**	**11 12 07.5**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=52,slow=5.7,SNR=3.5						
YKA	**Yellowknife Ar**	**81.98**	**24**	P	**P**	**11 12 23.4**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=304,slow=5.2,SNR=9.2						
MCQ	**Macquarie Isla**	**84.09**	**160**	P	**P**	**11 12 33.1**	**-0.5**
GERES	**GERESS Array B**	**84.25**	**321**	P	**P**	**11 12 35.3**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=0.0,slow=1.3,SNR=3.8						

*NNC **10** 11:21:46.3±0.9, 50°86N×73°75E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=10.0km s-min=7.5km az=33.0,*

Suspected Mining explosion.
*IDC **10** 11:22:09.2±4.9, 50°86N×74°86E, h0km, mb1 2.9/2, mb1mx2.8/31, mbtmp2.9/2, ML2.1/2, Error ellipse: s-maj=43.3km s-min=25.0km az=87.0*

ISC 10 11:21:43.8±1.2, 50°96N±0°09×73°93E±0°06, h0km, n9, σ0s77/7, 8C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.91**	**201**	⇓Pg	**Pb**	**11 22 36.6**	**0.0**
	7.7nm,0.7s						
OTUK				⇑Lg	Lg	11 23 15.3	
	58nm,1.1s						
KURBB	**Kurchatov Arra**	**2.94**	**95**	⇑Pg	**Pg**	**11 22 40.8**	**+0.7**
	7.7nm,0.8s,baz=278,slow=12						
KURBB				⇑Lg	Lg	11 23 26.8	
	365nm,1.3s,baz=277,slow=30						
KURK	**Kurchatov**	**2.98**	**93**	⇓Pg	**Pg**	**11 22 41.2**	**+0.2**
	3.0nm,0.6s						
KURK				⇓Lg	Lg	11 23 27.8	
	169nm,1.0s						
BVA4	**Borovoye Array**	**3.01**	**315**	⇑Pg	**Pg**	**11 22 42.2**	**+0.7**
	6.7nm,0.8s						
BVA4				⇑Lg	Lg	11 23 20.9	
	37nm,0.8s						
BRVK	**Borovoye**	**3.08**	**314**	⇑Pg	**Pg**	**11 22 42.2**	**-0.6**
	7.5nm,0.9s						
BRVK				⇑Lg	Lg	11 23 23.4	
	88nm,1.0s						
MK31	**Makanchi Array**	**6.91**	**124**	⇑Lg	Lg	11 25 28.0	
	39nm,1.0s,baz=90,slow=55,SNR=4.2						
MKAR	**Makanchi Array**	**6.91**	**124**	Pn	**Pb**	**11 23 43.8**	**-0.9**
	0.1nm,0.3s,baz=310,slow=11,SNR=2.9						
MKAR				Sn	Sn	11 24 56.8	+11
	0.1nm,0.3s,baz=299,slow=11,SNR=5.6						
MKAR				Lg	Lg	11 25 28.3	
	0.3nm,0.3s,baz=305,slow=22,SNR=9.0						
I46RU	**ZALESOVO INFRA**	**7.30**	**62**	*i*		12 03 30.0	
	baz=249,slow=316,SNR=1.3						
ZALV	**Zalesovo Beam**	**7.30**	**62**	Pn	**Pb**	**11 23 51.0**	**-0.3**
	0.1nm,0.3s,baz=259,slow=12,SNR=4.1						
ZALV				Sn	Sb	11 25 08.1	-11
	0.1nm,0.3s,baz=250,slow=20,SNR=5.9						
ZALV				Lg	Lg	11 25 47.7	
	0.1nm,0.3s,baz=252,slow=31,SNR=1.9						

*DJA **10** 11:29:02.4±1.1, 11°S±3°×11°4E±°, h15km±10km, M4.0/11, mb4.5/3, MLv3.8/11*
*IDC **10** 11:29:02.6±3.2, 10°62S×114°69E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.3/31, mbtmp3.2/3, Error ellipse: s-maj=168.5km s-min=30.3km az=46.0*

ISC 10 11:29:02.6±1.3, 10°95S±0°09×114°34E±0°06, h10km, n14, σ1s90/18, mb3.0/3, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**2.26**	**21**	P	**Pn**	**11 29 41.1**	**+1.1**
IGBI				S	**Sn**	**11 30 06.3**	**-1.6**
DNP	**Denpasar**	**2.41**	**21**	P	**Pn**	**11 29 42.5**	**+0.4**
DNP				S	**Sn**	**11 30 11.5**	**-0.2**
JAGI	**Jajag, Banyuwa**	**2.47**	**356**	P	**Pn**	**11 29 43.6**	**+0.7**
JAGI				S	**Sn**	**11 30 11.9**	**-1.2**
GMJI	**Gumukmas**	**2.80**	**341**	P	**Pn**	**11 29 47.8**	**+0.4**
SRBI	**Singaraja**	**2.97**	**17**	P	**Pn**	**11 29 50.5**	**+0.7**
ABJI	**Asem Bagus**	**3.13**	**358**	P	**Pn**	**11 29 52.1**	**+0.1**
PWJI	**Pagerwojo**	**3.83**	**319**	P	**Pn**	**11 30 03.4**	**+1.7**
PWJI				S	**Sn**	**11 30 45.7**	**-1.2**
PLAI	**Plampang**	**3.98**	**58**	P	**Pn**	**11 30 02.9**	**-0.9**
PCJI	**Pacitan**	**4.15**	**311**	P	**Pn**	**11 30 04.7**	**-1.3**
UGM	**Wanagama**	**4.83**	**308**	P	**Pn**	**11 30 15.1**	**-0.3**
WBSI	**Waikabubak, Su**	**5.13**	**76**	P	**Pn**	**11 30 19.6**	**0.0**
	0.2nm26nm,1.0s						
WRA	**Warramunga Arr**	**21.23**	**117**	P	**P**	**11 33 48.4**	**-0.5**
	0.4nm,0.5s,baz=292,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**22.52**	**127**	P	**P**	**11 34 03.7**	**+1.0**
	0.3nm,0.7s,baz=308,slow=9.2,SNR=2.6						
MKAR	**Makanchi Array**	**64.23**	**336**	P	**P**	**11 39 38.4**	**+0.7**
	0.2nm,0.4s,baz=143,slow=7.8,SNR=3.1						

*IDC **10** 11:30:14.9±2.4, 18°57S×175°49W, h178km±23km, mb3.7/11, mb1 3.9/13, mb1mx3.7/32, mbtmp4.2/13, Error ellipse: s-maj=22.0km s-min=13.5km az=129.0*
*NEIC **10** 11:30:17.8±2.2, 18°5S±0°1×175°16W±0°10, h217km±7km, mb4.2/26, Error ellipse: s-maj=16.0km s-min=13.5km az=180.0*

ISC 10 11:30:16.8±0.5, 18°42S±0°08×175°40W±0°09, h200km, n58, σ1s44/61, mb4.2/23, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.22**	**98**		**Pn**	**11 31 35.1**	**+1.0**
AFI	**Afiamalu**	**5.67**	**38**	P	**Pn**	**11 31 39.4**	**-0.5**
	4.5nm,0.3s,baz=161,slow=2.5,SNR=8.4						
AFI				S	**Sn**	**11 32 40.9**	**-4.8**
	33nm,0.3s,baz=243,slow=18,SNR=13						
AFI	**Afiamalu**

MJAR	**Matsushiro Arr**	**70.05**	**322**	P		**P**	**11 41 07.5**	**+0.4**	
	comp=Z,3.2nm,0.6s,baz=66,slow=7.6,SNR=5.8								
MJAR	**Matsushiro Arr**	**70.05**	**322**	P		**P**	**11 41 07.6**	**+0.5**	
QSPA	**South Pole Qui**	**71.64**	**180**	P		**P**	**11 41 16.4**	**0.0**	
KSRS	**Korea Array**	**77.00**	**317**	P		**P**	**11 41 50.1**	**+2.6**	
	comp=Z,1.3nm,0.8s,baz=122,slow=4.1,SNR=4.9								
NVAR	**Mina Array Bea**	**77.84**	**42**	P		**P**	**11 41 55.4**	**+2.9**	
	comp=Z,0.3nm,0.6s,baz=210,slow=8.6,SNR=4.0								
BELA	**Belgrano 2**	**81.29**	**172**	P		**P**	**11 42 08.9**	**-1.3**	
TXAR	**Lajitas Array**	**83.87**	**57**	P		**P**	**11 42 26.1**	**+1.6**	
	comp=Z,0.4nm,0.9s,baz=216,slow=4.5,SNR=2.8								
IMAR	**Indian Mountai**	**85.72**	**9**	P		**P**	**11 42 33.8**	**+1.1**	
IL31		**85.77**	**12**	P		**P**	**11 42 32.7**	**-0.2**	
IL31				IAmb		IAmb	11 42 34.6		
	comp=Z,9.1nm,1.5s								
ILAR	**Eielson Array**	**85.77**	**12**	P		**P**	**11 42 33.2**	**+0.3**	
	comp=Z,0.5nm,0.5s,baz=233,slow=5.5,SNR=12								
ILAR	**Eielson Array**	**85.77**	**12**	P		**P**	**11 42 32.2**	**-0.7**	
BMAR	**Burnt Mountain**	**88.56**	**11**	P		**P**	**11 42 46.5**	**+0.1**	
SNAA	**Sanae**	**90.00**	**178**	P		**P**	**11 42 51.5**	**-1.7**	
CMAR	**Chiang Mai Arr**	**91.75**	**289**	P		**P**	**11 43 03.7**	**+1.4**	
	comp=Z,0.6nm,0.3s,baz=100,slow=2.7,SNR=9.1								
CMAR	**Chiang Mai Arr**	**91.75**	**289**	P		**P**	**11 43 01.9**	**-0.4**	
ARCES	**ARCESS Array B**	**127.29**	**351**	PKP		**PKPdf**	**11 48 56.7**	**-0.2**	
	comp=Z,2.5nm,1.0s,baz=196,slow=2.3,SNR=5.0								
ARCES	**ARCESS Array B**	**127.29**	**351**			**PKPdf**	**11 48 56.1**	**-0.7**	
FINES	**FINESS Array B**	**134.42**	**346**	PKP		**PKPdf**	**11 49 11.3**	**+0.9**	
	comp=Z,0.3nm,0.5s,baz=345,slow=3.0,SNR=5.8								
BRTR	**Keskin Array B**	**147.15**	**316**	PKPbc		**PKPdf**	**11 49 36.8**	**+2.5**	
	comp=Z,1.5nm,0.7s,baz=136,slow=5.1,SNR=7.8								
GERES	**GERESS Array B**	**148.76**	**348**	PKPbc		**PKPbc**	**11 49 40.6**	**0.0**	
	comp=Z,0.1nm,0.3s,baz=80,slow=1.5,SNR=5.1								
GERES	**GERESS Array B**	**148.76**	**348**	PKPdf		**PKPdf**	**11 49 33.7**	**-2.8**	
GERES						**PKPbc**	**11 49 39.9**	**-0.7**	
CONA	**Conrad Observa**	**149.16**	**345**	*e*P		**PKPbc**	**11 49 42.7**	**+1.2**	
	comp=Z,4.8nm,1.2s								
KBA	**Koelnbreinsper**	**150.53**	**348**	*e*P		**PKPbc**	**11 49 44.2**	**-0.8**	
	comp=Z,2.3nm,0.6s								
WATA	**Walderalm**	**150.60**	**350**	*e*P		**PKPbc**	**11 49 45.3**	**+0.2**	
	comp=Z,2.8nm,0.6s								
WTTA	**Wattenberg**	**150.66**	**350**	*i* P		**PKPbc**	**11 49 45.9**	**+0.6**	
	comp=Z,3.6nm,0.5s								
MYKA	**Terra Mystica**	**150.89**	**347**	*e*P		**PKiKP**	**11 49 49.4**	**+3.1**	
	comp=Z,1.5nm,0.3s								
ABTA	**Abfaltersbach**	**151.00**	**349**	*e*P		**PKPbc**	**11 49 45.9**	**-0.2**	
	comp=Z,1.6nm,0.5s								

*IDC **10** 11:42:35.3±3.5,25.17S×69.18W,h0km,mb3.8/1, mb1 3.5/2,mb1mx3.3/17,mbtmp3.5/2,ML3.2/1,Error ellipse: s-maj=123.2km s-min=62.5km az=76.0*
*GUC **10** 11:42:46.6±0.8,24.85S×69.58W,h81km±4km,ML3.6*
ISC 10 11:42:46.4±0.9,**24.84S**±0.04×**69.62W**±0.08,**h92**km±8km, **n20**,σ1§**46**/28,**1D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.32**	**175**	*e*P	**Pn**	**11 42 59.9**	**-0.7**
GO02				*i* S	**Sn**	**11 43 09.7**	**-1.3**
GO02				IAML		11 43 10.4	
	comp=E,6μm,0.1s						
PB14	**IPOC Station P**	**0.74**	**287**	*e*P	**Pn**	**11 43 04.4**	**+0.6**
PB14				*i* S	**Sn**	**11 43 17.5**	**+0.6**
AC01	**Pan de Azucar**	**1.57**	**214**	*e*P	**Pn**	**11 43 14.0**	**+0.8**
AC01				*i* S	**Sn**	**11 43 34.4**	**+1.0**
AC01				IAML		11 43 38.5	
	comp=N,528nm,0.3s						
PB10	**IPOC Station P**	**1.57**	**327**	*e*P	**Pn**	**11 43 13.5**	**+0.4**
PB10				*i* S	**Sn**	**11 43 34.1**	**+0.6**
PB15	**IPOC Station P**	**1.63**	**5**	*e*P	**Pn**	**11 43 15.1**	**+1.0**
PB15				*i* S	**Sn**	**11 43 36.2**	**+1.1**
AC02	**Maricunga**	**2.03**	**168**	*e*P	**Pn**	**11 43 20.7**	**+1.1**
AC02				*i* S	**Sn**	**11 43 46.1**	**+1.3**
AC02				IAML		11 43 50.2	
	comp=E,393nm,0.1s						
PB06	**IPOC Station P**	**2.13**	**1**	⇓*e*P	**Pn**	**11 43 21.0**	**+0.5**
LVC	**Limon Verde**	**2.32**	**16**	*e*P	**Pn**	**11 43 24.1**	**+0.9**
LVC				*e*S	**Sn**	**11 43 52.8**	**+1.5**
PB04	**IPOC Station P**	**2.54**	**349**	*e*P	**Pn**	**11 43 26.0**	**-0.1**
AC06	**Mina Casimiro**	**2.59**	**195**	*e*P	**Pn**	**11 43 28.2**	**+1.7**
GO03	**Copiap**	**2.79**	**191**	*e*P	**Pn**	**11 43 29.7**	**+0.4**
PB09	**IPOC Station P**	**3.05**	**7**	*e*P	**Pn**	**11 43 34.1**	**+1.3**
PB07	**IPOC Station P**	**3.11**	**355**	*e*P	**Pn**	**11 43 33.3**	**-0.3**
PB02	**IPOC Station P**	**3.52**	**356**	*e*P	**Pn**	**11 43 38.2**	**-0.8**
PB02				*i* S	**Sn**	**11 44 21.6**	**+1.9**
PB02				IAML		11 44 34.6	
	comp=E,133nm,0.3s						
AC04	**Llanos de Chal**	**3.59**	**201**	*e*P	**Pn**	**11 43 38.3**	**-1.7**
PB01	**IPOC Station P**	**3.78**	**2**	*e*P	**Pn**	**11 43 38.9**	**-3.8**
LPAZ	**La Paz**	**8.62**	**10**	Pn	**Pn**	**11 44 45.8**	**-3.3**
	comp=E,0.1nm,0.3s,baz=180,slow=6.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**79.10**	**70**	P	**P**	**11 54 40.7**	**-0.6**
	comp=E,0.5nm,0.6s,baz=233,slow=5.5,SNR=5.0						
ZALV	**Zalesovo Beam**	**145.23**	**27**	PKPbc	**PKPab**	**12 02 13.3**	**+0.3**
	comp=E,0.7nm,0.5s,baz=302,slow=2.7,SNR=4.7						
MKAR	**Makanchi Array**	**148.68**	**38**	PKPbc	**PKiKP**	**12 02 24.2**	**-0.1**
	comp=E,0.2nm,0.4s,baz=298,slow=2.6,SNR=4.2						

TAP 10 12:05:19.8,24.19N×121.72E,h15km,ML1.3,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.09**	**248**	*e*P	Pg	12 05 23.0	0.0
	baz=247						
ETL				*e*S	Sg	12 05 25.2	+0.1
	baz=247						
NACB	**Ninganchiao**	**0.11**	**260**	P	Pg	12 05 23.0	-0.2
	baz=260						
NACB				S	Sg	12 05 25.4	-0.1
	baz=260						
TWD	**Chiawan**	**0.16**	**224**	*e*P	Pg	12 05 23.8	0.0
	baz=222						
TWD				*e*S	Sg	12 05 26.5	+0.1
	baz=222						
ETLH	**Xiulin Townshi**	**0.21**	**274**	P	Pg	12 05 24.6	-0.1
	baz=273						
ETLH				S	Sg	12 05 28.1	0.0
	baz=273						
ENA	**Nanau**	**0.23**	**6**	P	Pg	12 05 24.9	-0.2
	baz=7.0						
ENA				S	Sg	12 05 28.6	0.0
	baz=7.0						
EWUT	**Wuta**	**0.26**	**13**	*e*P	Pg	12 05 25.0	-0.5
	baz=13						
EWUT				*e*S	Sg	12 05 29.1	-0.1
	baz=13						
LATG	**Datong**	**0.38**	**333**	*e*P	Pg	12 05 27.2	-0.4
	baz=333						
LATG				*e*S	Sg	12 05 33.0	0.0
	baz=333						
NNSB	**Datong**	**0.38**	**308**	*e*P	Pg	12 05 27.7	0.0
	baz=307						
NNSB				*e*S	Sg	12 05 33.1	+0.1
	baz=307						
NNS	**Nan Shan**	**0.40**	**308**	*e*S	Sg	12 05 32.6	-0.8
	baz=308						
FUSS	**Fushou**	**0.43**	**277**	*e*P	Pg	12 05 28.0	-0.6
	baz=277						
FUSS				*e*S	Sg	12 05 34.1	-0.5
	baz=277						
NDS	**Dongshan**	**0.44**	**0**	*e*P	Pg	12 05 28.6	0.0
NDS				*e*S	Sb	12 05 35.2	-0.5
NDT	**Datong Townshi**	**0.45**	**336**	*e*P	Pg	12 05 28.6	-0.2
	baz=335						
NDT				*e*S	Sg	12 05 35.1	+0.2
	baz=335						
ENTT	**Nioudou**	**0.47**	**343**	P	Pg	12 05 29.0	-0.1
	baz=343						
ENTT				S	Sg	12 05 35.7	+0.3
	baz=343						
CHGB	**Renai**	**0.51**	**255**	*e*P	Pg	12 05 29.8	-0.2
	baz=255						
CHGB				*e*S	Sg	12 05 36.8	-0.1
	baz=255						
YHNB	**Yeheng**	**0.57**	**327**	*e*P	Pg	12 05 30.5	-0.5
	baz=326						
YHNB				*e*S	Sg	12 05 38.4	-0.3
	baz=326						
FUSB	**Fushanzhiwuyua**	**0.58**	**348**	*e*P	Pg	12 05 31.2	-0.1
	baz=348						
FUSB				*e*S	Sb	12 05 39.4	-0.4
	baz=348						
NSK	**Sanguang**	**0.58**	**326**	*e*P	Pg	12 05 30.6	-0.7
	baz=326						
NSK				*e*S	Sg	12 05 38.4	-0.7
	baz=326						
WUSB	**Renai**	**0.58**	**250**	*e*P	Pg	12 05 30.8	-0.5
	baz=249						
WUSB				*e*S	Sg	12 05 39.4	+0.3
	baz=249						

JMA 10 12:06:13.8±0.1,**24.91N**×**123.30E**,**h24**km±4km,**M2.3, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.52**	**211**	P	Pb	12 06 24.0	-0.3
YOJ				*e*S	Sb	12 06 31.1	-0.3
JYNG	**Yonagunijimaku**	**0.56**	**215**	P	Pb	12 06 24.8	-0.2
JYNG				*e*S	Sb	12 06 32.4	-0.2
IRIF	**Iriomote-Funau**	**0.69**	**146**	P	Pb	12 06 27.1	-0.1
IRIF				*e*S	Sb	12 06 36.2	-0.2
JKRS	**Kuro-shima**	**0.93**	**136**	P	Pb	12 06 31.0	-0.3
JKRS				*e*S	Sb	12 06 42.9	-0.3
JIJ	**Ishigaki jima**	**0.94**	**125**	P	Pb	12 06 31.0	-0.4
JIJ				S	Sb	12 06 43.3	-0.2
HATJ	**Hateruma jima**	**0.97**	**151**	P	Pn	12 06 31.6	-0.3
JISG	**Ishigakijimahi**	**0.97**	**109**	P	Pn	12 06 31.4	-0.6

*IDC **10** 12:44:10.5±2.9,20.52S×71.23W,h0km,mb3.5/2, mb1 3.6/3,mb1mx3.4/36,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=80.7km s-min=61.0km az=159.0*
*GUC **10** 12:44:19.7±0.7,19.26S×71.26W,h28km±4km,ML3.1*
ISC 10 12:44:19.9±1.4,**19.23S**±0.06×**71.3W**±0.1,**h35**km,**n16**, σ1§**16**/19,**6C**,**Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**1.11**	**56**	⇑*e*P	**Pn**	**12 44 37.7**	**-1.3**
PB12				*i* S	**Sn**	**12 44 52.3**	**-0.8**
PB12				IAML		12 44 54.6	
	comp=E,954nm,0.5s						
PB11	**IPOC Station P**	**1.64**	**109**	⇑*e*P	**Pn**	**12 44 46.1**	**-0.3**
PB11				*i* S	**Sn**	**12 45 06.4**	**0.0**
PB11				IAML		12 45 07.1	
	comp=N,355nm,0.3s						
HMBC	**Humberstone**	**1.69**	**128**	⇑*e*P	**Pn**	**12 44 46.7**	**-0.4**
HMBC				*e*S	**Sn**	**12 45 07.4**	**-0.1**
HMBC				IAML		12 45 21.8	
	comp=N,418nm,0.5s						
TA01	**Diego Aracena**	**1.70**	**142**	*e*P	**Pn**	**12 44 46.6**	**-0.4**
PATCX	**Punta Patache**	**1.92**	**146**	⇑*e*P	**Pn**	**12 44 49.8**	**-0.3**
PB16	**IPOC Station P**	**1.92**	**63**	⇑*e*P	**Pn**	**12 44 50.4**	**-0.2**
PB16				*i* S	**Sn**	**12 45 16.9**	**+3.0**
PB16				IAML		12 45 21.8	
	comp=N,297nm,0.6s						
GO01	**Chusmiza**	**2.04**	**103**	⇑*e*P	**Pn**	**12 44 52.2**	**+0.1**
GO01				IAML		12 45 27.7	
	comp=N,242nm,0.4s						
PB08	**IPOC Station P**	**2.22**	**114**	*e*P	**Pn**	**12 44 54.7**	**+0.2**
PB02	**IPOC Station P**	**2.46**	**148**	*e*P	**Pn**	**12 44 57.5**	**-0.2**
PB01	**IPOC Station P**	**2.48**	**137**	*e*P	**Pn**	**12 44 57.8**	**-0.1**
PB07	**IPOC Station P**	**2.81**	**152**	*e*P	**Pn**	**12 45 02.3**	**-0.3**
PB09	**IPOC Station P**	**3.20**	**143**	*e*P	**Pn**	**12 45 08.8**	**+0.9**
PB06	**IPOC Station P**	**3.82**	**155**	*e*P	**Pn**	**12 45 15.6**	**-0.7**
LPAZ	**La Paz**	**4.21**	**46**	Pn	Pn	12 45 29.3	+7.2
	comp=N,0.6nm,0.3s,baz=214,slow=9.7,SNR=12						
TORD	**Torodi Ar. Bea**	**78.75**	**72**	P	**P**	**12 56 17.4**	**-2.0**
	comp=N,0.5nm,1.0s,baz=228,slow=3.7,SNR=2.2						
YKA	**Yellowknife Ar**	**88.32**	**341**	P	**P**	**12 57 09.3**	**+1.9**
	comp=N,0.2nm,0.6s,baz=135,slow=5.4,SNR=5.1						

*IDC **10** 12:48:32.4±1.4,54.21S×134.75W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.8/27,mbtmp3.8/4,Error ellipse: s-maj=51.1km s-min=36.8km az=111.0*
*NEIC **10** 12:48:34.2±1.1,54.5S±0.1×134.7W±0.1,h16km±4km, mb4.8/20,Error ellipse: s-maj=17.9km s-min=6.0km az=203.0*
ISC 10 12:48:33.0±0.6,**54.4S**±0.1×**134.8W**±0.1,**h10**km,**n40**, σ1§**06**/28,**mb4.6**/14,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCN	**Pitcairn Islan**	**29.52**	**9**	P	**P**	**12 54 37.6**	**+0.1**
VNDA	**Vanda**	**31.89**	**202**	P	**P**	**12 54 59.2**	**+1.3**
QSPA	**South Pole Qui**	**35.75**	**180**	P	**P**	**12 55 34.4**	**+2.7**
	2.0nm,1.0s,baz=159,slow=1.7,SNR=5.2						
QSPA	**South Pole Qui**	**35.75**	**180**	P	**P**	**12 55 31.8**	**+0.1**
H03S2	**Juan Fernandez**	**43.72**	**85**	T	T	13 42 03.4	
	baz=224						
H03S1	**Juan Fernandez**	**43.72**	**85**	T	T	13 42 03.3	
	baz=224						
H03S3	**Juan Fernandez**	**43.73**	**85**	T	T	13 42 02.0	
	baz=224						
H03N3	**Juan Fernandez**	**43.99**	**85**	T	T	13 42 20.5	
	baz=226,slow=72,SNR=43						
H03N2	**Juan Fernandez**	**43.99**	**85**	T	T	13 42 14.3	
	baz=226,slow=72,SNR=49						
H03N1	**Juan Fernandez**	**44.01**	**85**	T	T	13 42 19.6	
	baz=226,slow=72,SNR=31						
NIUE	**Niue**	**44.31**	**309**	P	**P**	**12 56 43.2**	**+0.2**
SNAA	**Sanae**	**49.74**	**162**	P	**P**	**12 57 23.8**	**-1.1**
CASY	**Casey**	**49.96**	**209**	P	**P**	**12 57 23.9**	**-2.6**
MAW	**Mawson**	**57.58**	**188**	P	**P**	**12 58 22.4**	**+0.2**
EIDS	**Eidsvold**	**60.64**	**267**	P	**P**	**12 58 43.4**	**-0.7**
EIDS				IAmb	IAmb	12 58 55.7	
	comp=Z,9.1nm,1.2s						
BBOO	**Buckleboo**	**63.59**	**250**	P	**P**	**12 59 04.1**	**+0.3**
MCRA	**Macar, Loja**	**66.60**	**63**	P	**P**	**12 59 23.4**	**-0.2**
MCRA				IAmb	IAmb	12 59 25.0	
	comp=Z,16nm,1.4s						
ASAR	**Alice Springs**	**71.84**	**255**	P	**P**	**12 59 57.2**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=136,slow=6.4,SNR=5.6						
ASAR	**Alice Springs**	**71.84**	**255**	P	**P**	**12 59 56.4**	**+0.4**
AS31	**Alice Springs**	**71.84**	**255**	P	**P**	**12 59 56.0**	**0.0**
AS31				IAmb	IAmb	12 59 58.0	
	comp=Z,3.1nm,0.1s						
COEN	**Coen**	**74.16**	**268**	P	**P**	**13 00 09.8**	**+0.1**
COEN				IAmb	IAmb	13 00 16.2	
	comp=Z,24nm,1.4s						
WB2	**Warramunga Arr**	**74.53**	**257**	P	**P**	**13 00 11.7**	**-0.2**
WB2				IAmb	IAmb	13 00 22.3	
	comp=Z,7.0nm,1.2s						
WRA	**Warramunga Arr**	**74.53**	**257**	P	**P**	**13 00 14.0**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=140,slow=5.5,SNR=3.1						
WRA	**Warramunga Arr**	**74.53**	**257**	P	**P**	**13 00 12.9**	**+1.0**
WB0	**Warramunga Arr**	**74.64**	**258**	P	**P**	**13 00 12.9**	**+0.4**
WB0				IAmb	IAmb	13 00 21.8	
	comp=Z,9.6nm,1.4s						
BDFB	**Brasilia**	**75.57**	**97**	P	**P**	**13 00 18.1**	**0.0**
MORW	**Morawa**	**77.05**	**238**	P	**P**	**13 00 25.9**	**-0.3**
MORW				IAmb	IAmb	13 00 38.1	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**80.91**	**252**	P	**P**	**13 00 48.1**	**+0.7**
FITZ				IAmb	IAmb	13 00 58.5	
	comp=Z,8.0nm,1.4s						
KNRA	**Kununurra**	**81.11**	**256**	P	**P**	**13 00 48.1**	**-0.4**
KNRA				IAmb	IAmb	13 01 06.9	
	comp=Z,5.8nm,1.1s						
MTN	**Manton Dam**	**82.03**	**259**	P	**P**	**13 00 52.8**	**-0.7**
MTN				IAmb	IAmb	13 00 53.1	
	comp=Z,9.1nm,1.1s						
GIRL	**Giralia**	**83.27**	**240**	P	**P**	**13 00 59.7**	**-0.1**
TXAR	**Lajitas Array**	**87.63**	**27**	P	**P**	**13 01 22.1**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=180,slow=8.3,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**88.06**	**306**	T	T	14 39 32.4	
	baz=148,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**88.07**	**306**	T	T	14 39 31.6	
	baz=148,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**88.08**	**306**	T	T	14 39 36.8	
	baz=148,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**89.02**	**307**	T	T	14 40 42.1	
	baz=145,slow=75,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**89.03**	**307**	T	T	14 40 43.3	
	baz=145,slow=75,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**89.04**	**307**	T	T	14 40 44.4	
	baz=145,slow=75,SNR=8.0						
ILAR	**Eielson Array**	**119.23**	**354**	PKP	**PKPdf**	**13 07 19.5**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=174,slow=2.7,SNR=2.9						
ILAR	**Eielson Array**	**119.23**	**354**		**PKiKP**	**13 07 20.7**	**-0.1**

*IDC **10** 13:09:46.8±1.3,31.01S×71.91W,h0km,mb4.0/7, mb1 4.0/10,mb1mx4.0/23,mbtmp3.9/10,ML3.7/3,MS4.0/2, Ms1 4.0/2,ms1mx3.2/50,Error ellipse: s-maj=34.5km s-min=26.8km az=34.0*
*NEIC **10** 13:09:47.2±2.1,31.04S±0.05×72.10W±0.06,h10km±1km, mb4.3/4,ML4.1(GUC),Error ellipse: s-maj=9.4km s-min=7.7km az=302.0*
*GUC **10** 13:09:48.3±0.6,31.06S×71.98W,h27km±3km,ML4.0*
ISC 10 13:09:46.3±1.8,**31.06S**±0.03×**72.14W**±0.05,**h3**km±11km, **n78**,σ0§**98**/82,**mb4.0**/7,**6C**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.58**	**48**	Pg	**Pb**	**13 09 58.8**	**-0.3**
CO06	**Fray Jorge**	**0.58**	**48**	⇑*i*P	**Pb**	**13 09 58.9**	**-0.3**
CO06				*e*S	**Sg**	**13 10 06.4**	**+1.5**
CO02	**Combarbal**	**0.98**	**99**	Pg	**Pg**	**13 10 05.3**	**+0.1**
CO02	**Combarbal**	**0.98**	**99**	⇑*e*P	**Pg**	**13 10 05.3**	**+0.1**
CO02				*e*S	**Sg**	**13 10 18.1**	**+0.2**
CO03	**El Pedregal**	**1.26**	**80**		**Pn**	**13 10 09.9**	**-1.0**
CO03	**El Pedregal**	**1.26**	**80**	⇑*i*P	**Pn**	**13 10 10.0**	**-1.0**
CO03				*i* S	**Sb**	**13 10 25.7**	**-1.8**
CO03				IAML		13 10 26.1	
	comp=E,3μm,0.3s						
CO05	**La Serena**	**1.38**	**34**		**Pn**	**13 10 12.1**	**-0.4**
CO05	**La Serena**	**1.38**	**34**	*e*P	**Pn**	**13 10 12.3**	**-0.2**
CO05				*i* S	**Sb**	**13 10 30.4**	**-0.4**
GO04	**Tololo Observa**	**1.45**	**53**		**Pn**	**13 10 13.0**	**-0.7**
GO04	**Tololo Observa**	**1.45**	**53**	⇑*i*P	**Pn**	**13 10 13.2**	**-0.6**
GO04				*i* S	**Sb**	**13 10 32.8**	**-0.4**
GO04				IAML		13 10 36.9	
	comp=N,12μm,0.5s						
VA06	**Catapilco**	**1.66**	**155**		**Pn**	**13 10 16.1**	**-0.2**
VA06	**Catapilco**	**1.66**	**155**	⇑*e*P	**Pn**	**13 10 16.4**	**+0.1**
VA06				IAML		13 10 43.8	
	comp=E,4μm,0.5s						
VA01	**Torpederas**	**2.00**	**168**		**Pn**	**13 10 20.7**	**-0.3**
CO01	**Juntas del Tor**	**2.07**	**59**		**Pn**	**13 10 23.0**	**+0.8**
CO01	**Juntas del Tor**	**2.07**	**59**	*e*P	**Pn**	**13 10 23.1**	**+0.9**
CO01				*e*S	**Sb**	**13 10 49.5**	**-1.3**
ROCH	**El Roble**	**2.13**	**154**	*e*P	**Pn**	**13 10 23.5**	**+0.5**
ROCH				*e*S	**Sb**	**13 10 52.0**	**-0.7**
ROCH				IAML		13 10 59.3	
	comp=N,2μm,0.5s						
ROC1	**El Roble**	**2.13**	**154**		**Pn**	**13 10 21.3**	**-1.8**
VA03	**San Esteban**	**2.17**	**142**		**Pn**	**13 10 24.6**	**+1.1**
VA03	**San Esteban**	**2.17**	**142**	⇑*i*P	**Pn**	**13 10 24.7**	**+1.3**
VA03				*e*S	**Sb**	**13 10 53.5**	**-0.1**
VA03				IAML		13 10 59.8	
	comp=N,3μm,0.4s						
MT02	**Curacav**	**2.35**	**159**		**Pn**	**13 10 25.6**	**-0.3**
MT02	**Curacav**	**2.35**	**159**	*e*P	**Pn**	**13 10 26.3**	**+0.4**
MT02				*e*S	**Sb**	**13 10 57.0**	**-1.7**
LCO	**Las Campanas**	**2.39**	**32**	Pn	**Pn**	**13 10 26.6**	**-0.1**
LCO	**Las Campanas**	**2.39**	**32**	*e*P	**Pn**	**13 10 26.6**	**-0.1**
PEL	**Peldehue**	**2.41**	**150**		**Pn**	**13 10 27.4**	**+0.7**
PEL	**Peldehue**	**2.41**	**150**	*e*P	**Pn**	**13 10 27.8**	**+1.0**
PEL				IAML		13 11 07.3	
	comp=N,817nm,0.7s						
MT05	**Renca**	**2.61**	**153**		**Pn**	**13 10 29.8**	**+0.3**
MT05	**Renca**	**2.61**	**153**	*e*P	**Pn**	**13 10 30.2**	**+0.8**
MT05				*e*S	**Sb**	**13 11 05.4**	**-0.8**
MT05				IAML		13 11 14.4	
	comp=E,952nm,0.4s						
VA05	**Santo Domingo**	**2.62**	**170**		**Pn**	**13 10 29.3**	**-0.3**
VA05	**Santo Domingo**	**2.62**	**170**	*e*P	**Pn**	**13 10 29.4**	**-0.2**
VA05				IAML		13 11 33.4	
	comp=E,661nm,0.5s						
MT03	**Universidad Ad**	**2.79**	**151**		**Pn**	**13 10 32.7**	**+0.7**
MT03	**Universidad Ad**	**2.79**	**151**	*e*P	**Pn**	**13 10 33.2**	**+1.2**
MT03				IAML		13 11 21.6	
	comp=E,1μm,0.5s						
MT09	**Talagante**	**2.87**	**161**		**Pn**	**13 10 34.2**	**+1.0**
MT09	**Talagante**	**2.87**	**161**	*e*P	**Pn**	**13 10 34.4**	**+1.2**
MT09				IAML		13 11 23.8	
	comp=E,567nm,0.2s						
MT01	**Popeta**	**2.89**	**165**		**Pn**	**13 10 33.6**	**+0.3**
MT01	**Popeta**	**2.89**	**165**	*e*P	**Pn**	**13 10 32.5**	**-0.8**
MT01				IAML		13 11 23.0	
	comp=E,250nm,0.3s						
AC04	**Llanos de Chal**	**2.99**	**18**		**Pn**	**13 10 33.6**	**-1.1**
BO04	**La Punta**	**3.19**	**157**		**Pn**	**13 10 38.4**	**+0.9**
BO04	**La Punta**	**3.19**	**157**	*e*P	**Pn**	**13 10 39.0**	**+1.5**
BO04				IAML		13 11 32.9	
	comp=E,412nm,0.5s						
LMEL	**Las Melosas**	**3.22**	**150**		**Pn**	**13 10 39.0**	**+1.0**
LMEL	**Las Melosas**	**3.22**	**150**	*e*P	**Pn**	**13 10 39.7**	**+1.7**
LMEL				*e*S	**Sn**	**13 11 16

φs251.00000°, δ81.00000°, λ-168.00000°.
*IDC **10** 13:21:45.0±0.8, 23.°01N×122.°96E, h0km, mb3.7/15, mb1 3.9/18, mb1mx3.7/55, mbtmp3.8/18, ML3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/89 Error ellipse: s-maj=21.2km s-min=17.8km az=111.0*
*TAP **10** 13:21:46.4, 22.°68N×122.°78E, h66km±1km, ML4.9, D*
ISC 10 13:21:43.3±2.9, **22.°70N**±0.°03×**122.°88E**±0.°03, **h6**km±19km, **n245**, σ1.°**96**/328, **mb3.9**/24, **6C-61D, Taiwan region**

Code	Station Name		Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	baz=278	**1.30**	**269**	⇓*i*P	**Pn**	**13 22 06.7**	**-1.4**
LDUT		baz=278			S	**Sb**	**13 22 21.3**	**-3.9**
LYUB	**Lan-yu**	baz=239	**1.38**	**240**	⇑*i*P	**Pn**	**13 22 08.3**	**-0.9**
LYUB		baz=239			S	**Sb**	**13 22 23.5**	**-4.1**
LAY	**Lan-yu**	baz=241	**1.39**	**242**	⇑*i*P	**Pn**	**13 22 08.0**	**-1.4**
LAY		baz=241			*e*S	**Sb**	**13 22 23.3**	**-4.6**
CHKT	**Chengkung**	baz=291	**1.45**	**286**	⇓*i*P	**Pn**	**13 22 08.8**	**-1.4**
CHKT		baz=291			S	**Sn**	**13 22 24.2**	**-5.3**
ECBN	**Changbin**	baz=297	**1.45**	**295**	⇓*i*P	**Pn**	**13 22 09.1**	**-1.1**
ECBN		baz=297			*e*S	**Sn**	**13 22 24.9**	**-4.7**
EDH	**Donghe**	baz=286	**1.48**	**281**	⇓*i*P	**Pn**	**13 22 09.4**	**-1.1**
EDH		baz=286			*e*S	**Sn**	**13 22 25.6**	**-4.6**
FULB	**Fuli**	baz=296	**1.54**	**289**	⇓*i*P	**Pn**	**13 22 10.1**	**-1.4**
FULB		baz=296			*e*S	**Sn**	**13 22 27.3**	**-4.5**
HGSD	**Ruisui**	baz=303	**1.55**	**301**	⇓*i*P	**Pn**	**13 22 10.1**	**-1.5**
EYUL	**Yuli**	baz=302	**1.57**	**295**	⇓*i*P	**Pn**	**13 22 11.1**	**-0.8**
ECS	**Chishang**	baz=281	**1.58**	**285**	⇓*i*P	**Pn**	**13 22 11.4**	**-0.6**
ECS		baz=281			*e*S	**Sn**	**13 22 28.4**	**-4.3**
TEGC	**Jichi Village**	baz=312	**1.59**	**310**	*e*P	**Pn**	**13 22 10.9**	**-1.1**
TEGC		baz=312			*e*S	**Sn**	**13 22 29.6**	**-3.4**
TWF1	**Yuli**	baz=302	**1.59**	**294**	⇓*i*P	**Pn**	**13 22 11.1**	**-1.1**
TTN	**Taitung**	baz=278	**1.60**	**272**	P	**Pn**	**13 22 11.4**	**-0.8**
TTN		baz=278			S	**Sn**	**13 22 28.9**	**-4.2**
HATJ	**Hateruma jima**		**1.60**	**32**	P	**Pn**	**13 22 11.9**	**-0.3**
HATJ					*e*S	**Sn**	**13 22 30.6**	**-2.6**
YULB	**Yu-li**		**1.61**	**296**		**Pn**	**13 22 11.2**	**-1.2**
YULB	**Yu-li**	baz=302	**1.61**	**296**	⇓*i*P	**Pn**	**13 22 11.4**	**-1.0**
LONT	**Longtian**	baz=279	**1.62**	**278**	*e*P	**Pn**	**13 22 11.6**	**-1.0**
LONT		baz=279			*e*S	**Sn**	**13 22 30.9**	**-3.0**
EHY	**Hungye**	baz=301	**1.64**	**300**	⇓*i*P	**Pn**	**13 22 11.7**	**-1.1**
EHY		baz=301			S	**Sn**	**13 22 30.7**	**-3.6**
EGFH	**Guangfu**	baz=308	**1.65**	**306**	⇓P	**Pn**	**13 22 11.7**	**-1.1**
TEYL	**Yanliau Villag**	baz=326	**1.66**	**315**	P	**Pn**	**13 22 12.3**	**-0.7**
TEYL		baz=326			*e*S	**Sn**	**13 22 31.5**	**-3.1**
TWGBT	**Beinan**	baz=280	**1.66**	**274**	⇓*i*P	**Pn**	**13 22 12.2**	**-0.9**
TWGBT		baz=280			S	**Sn**	**13 22 31.3**	**-3.5**
TWG	**Pinlang**		**1.67**	**275**	Pn	**Pn**	**13 22 12.0**	**-1.2**
HWA	**Hwalien**	baz=327	**1.73**	**318**	P	**Pn**	**13 22 13.2**	**-0.8**
HWA		baz=327			*e*S	**Sn**	**13 22 33.1**	**-3.3**
ESL	**Shilin**	baz=312	**1.73**	**310**	⇓*i*P	**Pn**	**13 22 12.7**	**-1.3**
ESL		baz=312			S	**Sn**	**13 22 31.6**	**-4.9**
JYNG	**Yonagunijimaku**		**1.75**	**2**	P	**Pn**	**13 22 14.3**	**+0.1**
JYNG					*e*S	**Sn**	**13 22 35.2**	**-1.6**
YOJ	**Yonaguni jima**		**1.76**	**4**	P	**Pn**	**13 22 14.2**	**-0.3**
YOJ	**Yonaguni jima**		**1.76**	**4**		**Pn**	**13 22 14.1**	**-0.3**
ECL	**Taimali**	baz=278	**1.78**	**267**	⇓*i*P	**Pn**	**13 22 13.9**	**-0.8**
ECL		baz=278			*e*S	**Sn**	**13 22 33.1**	**-4.5**
ELDTW	**Lidau**	baz=288	**1.78**	**286**	⇓*i*P	**Pn**	**13 22 13.9**	**-0.9**
ELDTW		baz=288			S	**Sn**	**13 22 33.7**	**-4.3**
ETM	**Tongmen**	baz=323	**1.79**	**315**	⇓*i*P	**Pn**	**13 22 13.7**	**-1.2**
IRIF	**Iriomote-Funau**		**1.81**	**25**	P	**Pn**	**13 22 14.9**	**-0.2**
IRIF					*e*S	**Sn**	**13 22 36.2**	**-2.1**
TWD	**Chiawan**	baz=322	**1.81**	**320**	⇓*i*P	**Pn**	**13 22 14.1**	**-1.0**
TWD		baz=322			*e*S	**Sn**	**13 22 32.6**	**-5.8**
JKRS	**Kuro-shima**		**1.85**	**34**	P	**Pn**	**13 22 15.2**	**-0.5**
JKRS					*e*S	**Sn**	**13 22 36.9**	**-2.5**
ETL	**Fush Village**	baz=324	**1.85**	**322**	⇓P	**Pn**	**13 22 14.8**	**-0.9**
ETL		baz=324			*e*S	**Sn**	**13 22 34.6**	**-5.0**
TAW	**Tawu**	baz=250	**1.86**	**260**	P	**Pn**	**13 22 15.4**	**-0.4**
TAW		baz=250			*e*S	**Sn**	**13 22 35.6**	**-4.1**
TAWH	**Dawu Township**	baz=250	**1.87**	**259**	*e*P	**Pn**	**13 22 15.7**	**-0.3**
NACB	**Ninganchiao**		**1.88**	**322**	Pn	**Pn**	**13 22 15.0**	**-1.2**
NACB	**Ninganchiao**	baz=323	**1.88**	**322**	⇓*i*P	**Pn**	**13 22 15.1**	**-1.0**
NACB		baz=323			S	**Sn**	**13 22 35.8**	**-4.4**
EAST	**Anshuo**	baz=252	**1.90**	**261**	⇓*i*P	**Pn**	**13 22 16.2**	**-0.2**
EAST		baz=252			*e*S	**Sn**	**13 22 37.0**	**-3.7**
VWDT	**VWDT**	baz=305	**1.91**	**304**	⇓*i*P	**Pn**	**13 22 16.4**	**-0.1**
VWDT		baz=305			S	**Sn**	**13 22 37.5**	**-3.5**
ETLH	**Xiulin Townshi**	baz=326	**1.97**	**320**	⇓*i*P	**Pn**	**13 22 16.7**	**-0.7**
ETLH		baz=326			*e*S	**Sn**	**13 22 38.4**	**-4.2**
SLIU	**Shizi**	baz=248	**1.98**	**256**	P	**Pn**	**13 22 17.1**	**-0.4**
SLIU		baz=248			*e*S	**Sn**	**13 22 38.1**	**-4.6**
STYH	**Taoyuan**	baz=285	**1.99**	**284**	⇓*e*P	**Pn**	**13 22 17.6**	**0.0**
STYH		baz=285			*e*S	**Sn**	**13 22 39.8**	**-3.2**
TSEB	**Hengchuen, Pin**	baz=256	**2.00**	**247**	⇑P	**Pn**	**13 22 18.3**	**+0.7**
OWD	**Renai**	baz=310	**2.00**	**309**	⇓*i*P	**Pn**	**13 22 17.4**	**-0.4**
OWD		baz=310			*e*S	**Sn**	**13 22 39.3**	**-4.1**
SMST	**Manzhou Townsh**	baz=250	**2.00**	**251**	*e*P	**Pn**	**13 22 17.8**	**+0.1**
STYT	**Tauyuan**	baz=285	**2.01**	**284**	⇓*e*P	**Pn**	**13 22 17.8**	**-0.1**
STYT		baz=285			S	**Sn**	**13 22 40.5**	**-2.9**
EWUT	**Wuta**	baz=325	**2.01**	**330**	⇓P	**Pn**	**13 22 17.9**	**0.0**
EWUT		baz=325			*e*S	**Sn**	**13 22 40.2**	**-3.2**
ENA	**Nanau**	baz=324	**2.01**	**329**	⇓*i*P	**Pn**	**13 22 17.7**	**-0.2**
ENA		baz=324			*e*S	**Sn**	**13 22 40.4**	**-3.1**
JIJ	**Ishigaki jima**		**2.02**	**35**	P	**Pn**	**13 22 17.5**	**-0.6**
JIJ					S	**Sn**	**13 22 40.3**	**-3.4**
TWKBT	**Hengchun**	baz=255	**2.06**	**249**	⇑P	**Pn**	**13 22 18.6**	**+0.2**
TWKBT		baz=255			*e*S	**Sn**	**13 22 41.5**	**-3.0**
TWK1	**Hengchun**	baz=255	**2.06**	**249**	⇑P	**Pn**	**13 22 18.6**	**+0.1**
TWK1		baz=255			*e*S	**Sn**	**13 22 41.5**	**-3.1**
TSMG	**Majia**	baz=271	**2.06**	**271**	*e*P	**Pn**	**13 22 18.2**	**-0.3**
WHF	**Hehuan Shan**	baz=323	**2.07**	**315**	⇓*i*P	**Pn**	**13 22 18.3**	**-0.7**
WHF		baz=323			*e*S	**Sn**	**13 22 41.4**	**-4.0**
WUSB	**Renai**	baz=310	**2.07**	**309**	⇓*i*P	**Pn**	**13 22 18.6**	**-0.1**
WUSB		baz=310			*e*S	**Sn**	**13 22 40.8**	**-4.2**
CHGB	**Renai**	baz=320	**2.07**	**311**	⇓*i*P	**Pn**	**13 22 18.7**	**-0.2**
CHGB		baz=320			S	**Sn**	**13 22 41.6**	**-3.5**
ALS	**Alishan**	baz=298	**2.07**	**293**	⇓*i*P	**Pn**	**13 22 19.4**	**+0.4**
SSD	**Sandimen**	baz=272	**2.07**	**272**	⇓*i*P	**Pn**	**13 22 18.4**	**-0.3**
MASBT	**Mashibuluo**	baz=273	**2.08**	**268**	⇓*i*P	**Pn**	**13 22 18.7**	**-0.1**
MASBT		baz=273			*e*S	**Sn**	**13 22 39.6**	**-5.3**
SSLB	**Suanglung**		**2.08**	**302**		**Pn**	**13 22 18.4**	**-0.4**
SSLB	**Suanglung**	baz=303	**2.08**	**302**	⇓*i*P	**Pn**	**13 22 18.6**	**-0.1**
SSLB		baz=303			*e*S	**Sn**	**13 22 41.0**	**-4.1**
SLGT	**Liugui**	baz=276	**2.08**	**279**	*e*P	**Pn**	**13 22 19.3**	**+0.5**
HEN	**Hengchun**	baz=251	**2.10**	**251**	*e*P	**Pn**	**13 22 19.5**	**+0.5**
HEN		baz=251			S	**Sn**	**13 22 42.8**	**-2.7**
SCZT	**Fangliau**	baz=253	**2.11**	**262**	*e*P	**Pn**	**13 22 19.4**	**+0.1**
TWC	**Suao**	baz=344	**2.12**	**334**	*e*P	**Pn**	**13 22 19.2**	**-0.2**
TWC		baz=344			*e*S	**Sn**	**13 22 42.6**	**-3.5**
SSPT	**Xinbi**	baz=255	**2.14**	**265**	*e*P	**Pn**	**13 22 20.7**	**+1.0**
SGST	**Jiashian**	baz=287	**2.15**	**281**	⇓*i*P	**Pn**	**13 22 20.1**	**+0.3**
SGST		baz=287			*e*S	**Sn**	**13 22 44.1**	**-2.7**
FUSS	**Fushou**	baz=325	**2.15**	**316**	*e*P	**Pn**	**13 22 20.0**	**0.0**
TPUB	**Ta-pu**		**2.16**	**287**	Pn	**Pn**	**13 22 20.9**	**+1.0**
TPUB	**Ta-pu**	baz=294	**2.16**	**287**	⇓*i*P	**Pn**	**13 22 21.0**	**+1.1**
TPUB		baz=294			S	**Sn**	**13 22 45.2**	**-1.8**
WTP	**Ta-pu**	baz=286	**2.16**	**285**	⇓*i*P	**Pn**	**13 22 21.0**	**+1.1**
WTP		baz=286			*e*S	**Sn**	**13 22 46.6**	**-0.4**
SMLT	**Sun Moon Lake**	baz=305	**2.17**	**303**	⇓*i*P	**Pn**	**13 22 20.4**	**+0.3**
SMLT		baz=305			S	**Sn**	**13 22 44.8**	**-2.6**
WPL	**Puli Township**	baz=308	**2.20**	**307**	P	**Pn**	**13 22 20.7**	**+0.3**
TSPT	**Pingtung City**	baz=273	**2.20**	**270**	*e*P	**Pn**	**13 22 22.1**	**+1.6**
TWT	**Tachien**	baz=323	**2.20**	**315**	P	**Pn**	**13 22 20.9**	**+0.3**
TWT		baz=323			S	**Sn**	**13 22 45.6**	**-2.6**
NDS	**Dongshan**	baz=325	**2.20**	**331**	⇑P	**Pn**	**13 22 21.0**	**+0.5**
NDS		baz=325			*e*S	**Sn**	**13 22 45.5**	**-2.6**
CHN4	**Tsaushan**	baz=294	**2.20**	**288**	⇓P	**Pn**	**13 22 21.9**	**+1.4**
CHN4		baz=294			*e*S	**Sn**	**13 22 49.2**	**+1.1**
NNSB	**Datong**	baz=323	**2.20**	**322**	⇓P	**Pn**	**13 22 20.3**	**-0.3**
NNSB		baz=323			S	**Sn**	**13 22 44.4**	**-3.9**
SGLT	**Jiouru**	baz=272	**2.20**	**271**	*e*P	**Pn**	**13 22 21.3**	**+0.8**
SCST	**Cishan**	baz=273	**2.21**	**275**	*e*P	**Pn**	**13 22 22.0**	**+1.4**
LATG	**Datong**	baz=328	**2.21**	**326**	⇓*i*P	**Pn**	**13 22 20.5**	**-0.2**
LATG		baz=328			S	**Sn**	**13 22 45.0**	**-3.4**
TYC	**Yuchr**	baz=310	**2.21**	**303**	⇓P	**Pn**	**13 22 21.0**	**+0.4**
NNS	**Nan Shan**	baz=323	**2.22**	**322**	⇓P	**Pn**	**13 22 20.6**	**-0.2**
NNS		baz=323			S	**Sn**	**13 22 45.3**	**-3.3**
CHN1	**Nanshi**	baz=292	**2.22**	**283**	⇓*i*P	**Pn**	**13 22 22.4**	**+1.7**
CHN1		baz=292			S	**Sn**	**13 22 48.0**	**-0.6**
SNST	**Tainan City**	baz=292	**2.25**	**284**	⇓P	**Pn**	**13 22 22.9**	**+1.7**
SNST		baz=292			*e*S	**Sn**	**13 22 49.3**	**-0.1**
WCS	**Beigang Elemen**	baz=308	**2.26**	**307**	⇓*e*P	**Pn**	**13 22 21.6**	**+0.4**
TWM1	**Shoushan**	baz=272	**2.27**	**274**	*e*P	**Pn**	**13 22 23.6**	**+2.2**
NDT	**Datong Townshi**	baz=324	**2.27**	**327**	⇓P	**Pn**	**13 22 21.6**	**+0.2**
NDT		baz=324			*e*S	**Sn**	**13 22 47.5**	**-2.3**
WJS	**Zhushan**	baz=303	**2.27**	**300**	*e*P	**Pn**	**13 22 22.9**	**+1.4**
TWK	**Hsinying**	baz=286	**2.27**	**285**	⇓*i*P	**Pn**	**13 22 23.1**	**+1.5**
TWK		baz=286			*e*S	**Sn**	**13 22 50.6**	**+0.6**
ENTT	**Nioudou**	baz=325	**2.28**	**328**	⇓*i*P	**Pn**	**13 22 21.6**	**+0.1**
JISG	**Ishigakijimahi**		**2.29**	**35**	P	**Pn**	**13 22 21.2**	**-0.6**
JISG					*e*S	**Sn**	**13 22 46.9**	**-3.5**
TWE	**Neicheng**	baz=326	**2.30**	**331**	⇓*i*P	**Pn**	**13 22 22.3**	**+0.4**
ILA	**Ilan**	baz=344	**2.30**	**334**	*e*P	**Pn**	**13 22 22.8**	**+0.9**
ILA		baz=344			*e*S	**Sn**	**13 22 48.8**	**-1.8**
EGS		baz=350	**2.31**	**338**	*e*P	**Pn**	**13 22 22.7**	**+0.8**
WLCH	**Liuqiu**	baz=253	**2.33**	**262**	*e*P	**Pb**	**13 22 26.2**	**+0.3**
WGK	**Gukeng**	baz=296	**2.35**	**295**	*e*P	**Pn**	**13 22 24.1**	**+1.7**
CHN3	**Shinhua**	baz=281	**2.35**	**280**	*e*P	**Pn**	**13 22 25.4**	**+2.9**
NTC	**Toucheng**	baz=347	**2.35**	**336**	*e*P	**Pn**	**13 22 23.4**	**+0.8**
TWP	**Hsiaoliuchiu**	baz=253	**2.35**	**262**	*e*P	**Pn**	**13 22 25.1**	**+2.5**
WNT1	**Nantou City**	baz=302	**2.35**	**301**	*e*P	**Pn**	**13 22 24.4**	**+1.9**
SHHT	**Tainan City**	baz=280	**2.35**	**278**	*e*P	**Pb**	**13 22 26.1**	**-0.1**
SHHT		baz=280			*e*S	**Sn**	**13 22 54.8**	**+3.0**
CHN2	**Minshiung**	baz=292	**2.36**	**291**	*e*P	**Pn**	**13 22 24.8**	**+2.1**
CHN2		baz=292			*e*S	**Sn**	**13 22 52.9**	**+0.9**
WDLH	**Douliu**	baz=296	**2.37**	**295**	*e*P	**Pn**	**13 22 24.5**	**+1.8**
FUSB	**Fushanzhiwuyua**	baz=325	**2.37**	**330**	⇓*i*P	**Pn**	**13 22 23.4**	**+0.5**
FUSB		baz=325			*e*S	**Sn**	**13 22 50.3**	**-2.0**
WHP	**Taichung City**	baz=319	**2.37**	**312**	*e*P	**Pn**	**13 22 23.5**	**+0.6**
CHY	**Chiayi**	baz=290	**2.40**	**290**	*e*P	**Pn**	**13 22 25.0**	**+1.9**
YHNB	**Yeheng**		**2.40**	**325**		**Pn**	**13 22 22.9**	**-0.4**
YHNB	**Yeheng**	baz=327	**2.40**	**325**	⇓P	**Pn**	**13 22 23.5**	**+0.3**
WWF	**Wufeng**	baz=305	**2.41**	**304**	*e*P	**Pn**	**13 22 25.3**	**+1.9**
NSK	**Sanguang**	baz=326	**2.41**	**325**	⇓P	**Pn**	**13 22 23.6**	**+0.2**
NSK		baz=326			*e*S	**Sn**	**13 22 50.4**	**-3.0**
NWLT	**Wulai**	baz=330	**2.42**	**329**	*e*P	**Pn**	**13 22 24.2**	**+0.6**
NWLT		baz=330			*e*S	**Sn**	**13 22 51.1**	**-2.5**
TWB1	**Santiao Chiao**	baz=352	**2.44**	**341**	*e*P	**Pn**	**13 22 23.8**	**0.0**
WYL	**Yuanlin Townsh**	baz=302	**2.46**	**301**	*e*P	**Pn**	**13 22 24.9**	**+0.9**
TIPB	**Shuangxi**	baz=347	**2.46**	**337**	*e*P	**Pn**	**13 22 24.6**	**+0.5**
TAI1	**Yung-k'ang**	baz=279	**2.47**	**278**	*e*P	**Pn**	**13 22 25.6**	**+1.5**
ICHU	**Yijhu**	baz=287	**2.48**	**286**	⇓P	**Pn**	**13 22 26.3**	**+2.0**
TCU	**Taichung**	baz=307	**2.48**	**306**	*e*P	**Pn**	**13 22 26.3**	**+1.9**
WTK	**Tuku**	baz=294	**2.49**	**294**	*e*P	**Pn**	**13 22 26.2**	**+1.7**
NFF	**Wufeng Townshi**	baz=321	**2.51**	**320**	*e*P	**Pn**	**13 22 25.9**	**+1.1**
NFF		baz=321			*e*S	**Sn**	**13 22 54.3**	**-1.5**
SCLT	**Jiali**	baz=283	**2.52**	**281**	*e*P	**Pn**	**13 22 26.9**	**+2.0**
SCLT		baz=283			*e*S	**Sn**	**13 22 57.2**	**+1.3**
TWQ1	**Liyutan**	baz=317	**2.54**	**311**	P	**Pn**	**13 22 27.0**	**+1.9**
TWQ1		baz=317			*e*S	**Sn**	**13 22 56.0**	**-0.4**
WCHH	**Zhanghua**	baz=311	**2.54**	**303**	*e*P	**Pn**	**13 22 26.9**	**+1.8**
WCHH		baz=311			*e*S	**Sn**	**13 22 57.6**	**+1.3**
CHN8	**Yiju**	baz=287	**2.54**	**285**	⇓P	**Pn**	**13 22 26.9**	**+1.8**
CHN8		baz=287			S	**Sn**	**13 22 56.9**	**+0.5**
SXI1	**Grass Mountain**	baz=350	**2.56**	**339**	*e*P	**Pn**	**13 22 25.4**	**-0.1**
JTJ	**Tarama**		**2.56**	**41**	P	**Pn**	**13 22 24.7**	**-0.7**
JTJ					*e*S	**Sn**	**13 22 54.4**	**-2.5**
TWA	**Mucha**	baz=343	**2.56**	**333**	*e*P	**Pn**	**13 22 26.7**	**+1.2**
TWA		baz=343			*e*S	**Sn**	**13 22 55.7**	**-1.3**
NWF	**Wu-fen Shan**	baz=350	**2.57**	**337**	*e*P	**Pn**	**13 22 25.8**	**+0.2**
NWF		baz=350			*e*S	**Sn**	**13 22 55.0**	**-2.3**
WFSB	**Wu-fen Shan**	baz=349	**2.57**	**337**	*e*P	**Pn**	**13 22 26.0**	**+0.5**
NHDH	**Xindian Distri**	baz=341	**2.57**	**332**	*e*P	**Pn**	**13 22 26.8**	**+1.2**
NHDH		baz=341			*e*S	**Sn**	**13 22 56.0**	**-1.3**
WSL	**Shuilin Townsh**	baz=289	**2.57**	**289**	⇓*e*P	**Pn**	**13 22 27.1**	**+1.5**
NSTT	**Nanjuang**	baz=320	**2.58**	**319**	⇓P	**Pn**	**13 22 27.0**	**+1.3**
NSTT		baz=320			S	**Sn**	**13 22 55.6**	**-1.9**
LIOB	**Emei**	baz=320	**2.58**	**319**	P	**Pn**	**13 22 27.2**	**+1.4**
LIOB		baz=320			*e*S	**Sn**	**13 22 56.5**	**-1.0**
NSY	**Sanyi**	baz=324	**2.59**	**312**	*e*P	**Pn**	**13 22 27.5**	**+1.7**
NSY		baz=324			*e*S	**Sn**	**13 22 57.7**	**0.0**
WRL	**Guolierlin Hig**	baz=305	**2.59**	**298**	*e*P	**Pn**	**13 22 26.8**	**+0.9**
TATO	**Taipei**		**2.60**	**331**		**Pn**	**13 22 26.6**	**+0.6**
NJD	**Zhudong**	baz=323	**2.61**	**321**	*e*P	**Pn**	**13 22 27.9**	**+1.8**
WSF	**Szhu**	baz=292	**2.62**	**291**	*e*P	**Pn**	**13 22 27.3**	**+1.2**
NHY	**Taipei**	baz=334	**2.62**	**333**	*e*P	**Pn**	**13 22 27.4**	**+1.1**
WDJ	**Dajia District**	baz=322	**2.63**	**309**	*e*P	**Pn**	**13 22 28.1**	**+1.8**
BACT	**New Taipei Cit**	baz=332	**2.64**	**330**	*e*P	**Pn**	**13 22 28.0**	**+1.5**
TAP1	**Taipei**	baz=320	**2.64**	**332**	*e*P	**Pn**	**13 22 29.4**	**+2.9**
TNOU	**National Taiwa**	baz=349	**2.64**	**338**	*e*P	**Pn**	**13 22 27.1**	**+0.6**
TAP	**Taipei**	baz=320	**2.65**	**332**	*e*P	**Pn**	**13 22 28.3**	**+1.7**
NMLH	**Miaoli**	baz=315	**2.65**	**314**	*e*P	**Pn**	**13 22 27.9**	**+1.2**
WTCT	**Ta-ch'eng**	baz=297	**2.65**	**296**	*e*P	**Pn**	**13 22 28.1**	**+1.4**
HSN1	**Hsinchu**	baz=330	**2.68**	**321**	*e*P	**Pn**	**13 22 28.8**	**+1.7**
NJN	**Zhunan**	baz=318	**2.70**	**317**	*e*P	**Pn**	**13 22 28.8**	**+1.4**
NTY	**Taoyuan**	baz=329	**2.71**	**328**	*e*P	**Pn**	**13 22 28.7**	**+1.2**
NTY		baz=329			*e*S	**Sn**	**13 22 59.9**	**-0.7**
SBCB	**Hsinchu**	baz=335	**2.71**	**321**	*e*P	**Pn**	**13 22 29.2**	**+1.7**
YM01	**YM01**	baz=345	**2.71**	**334**	*e*P	**Pn**	**13 22 28.6**	**+1.0**
HSN	**Hsinchu**	baz=323	**2.73**	**321**	*e*P	**Pn**	**13 22 29.5**	**+1.7**
NCUH	**Zhongli**	baz=327	**2.74**	**326**	*e*P	**Pn**	**13 22 28.6**	**+0.7**
NCUH		baz=327			*e*S	**Sn**	**13 23 00.6**	**-0.8**
TWS1	**Kuangyinshan**	baz=332	**2.74**	**331**	*e*P	**Pn**	**13 22 29.4**	**+1.5**
TWS1		baz=332			*e*S	**Sn**	**13 22 59.8**	**-1.6**
NCU	**National Centr**	baz=327	**2.74**	**326**	*e*P	**Pn**	**13 22 28.5**	**+0.6**
NCU		baz=327			*e*S	**Sn**	**13 23 00.6**	**-0.8**
YM08	**YM08**	baz=346	**2.74**	**335**	*e*P	**Pn**	**13 22 28.3**	**+0.3**
ANP	**Anpu**	baz=323	**2.77**	**334**	*e*P	**Pn**	**13 22 29.9**	**+1.5**
NTST	**Danshui**	baz=333	**2.78**	**332**	*e*P	**Pn**	**13 22 29.5**	**+1.0**
TWY	**Chenhua**	baz=347	**2.82**	**336**	*e*P	**Pn**	**13 22 30.0**	**+1.0**
NHW	**Xinwu Township**	baz=338	**2.84**	**324**	*e*P	**Pn**	**13 22 30.5**	**+1.2**
NHW		baz=338			*e*S	**Sn**	**13 23 02.5**	**-1.4**
JIRB	**Irabujima**		**2.99**	**44**	P	**Pn**	**13 22 30.3**	**-1.0**
JIRB					*e*S	**Sn**	**13 23 04.2**	**-3.3**
WDGT	**Dungji**	baz=282	**3.02**	**281**	⇓*e*P	**Pn**	**13 22 32.5**	**+0.8**
WDGT		baz=282			S	**Sn**	**13 23 05.2**	**-3.0**
JMJ2	**Miyako jima3**		**3.03**	**47**	P	**Pn**	**13 22 31.0**	**-0.9**
JMJ2					*e*S	**Sn**	**13 23 05.6**	**-2.9**
JOGS	**Gusukube**		**3.10**	**48**	P	**Pn**	**13 22 32.2**	**-0.6**
JOGS					*e*S	**Sn**	**13 23 07.4**	**-2.8**
JIKM	**Ikemajima**		**3.10**	**44**	P	**Pn**	**13 22 32.1**	**-0.8**
JIKM					*e*S	**Sn**	**13 23 07.6**	**-2.7**
PHUB	**P'eng-hu**	baz=287	**3.15**	**286**	*e*P	**Pn**	**13 22 34.2**	**+0.6**
PHUB		baz=287			*e*S	**Sn**	**13 23 09.9**	**-1.6**
PNG	**Penghu**	baz=287	**3.18**	**286**	*e*P	**Pn**	**13 22 34.5**	**+0.6**
VCHM	**Qimei**	baz=289	**3.22**	**280**	*e*P	**Pn**	**13 22 35.0**	**+0.6**
VWUC	**VWUC**	baz=306	**3.88**	**307**	*e*P	**Pn**	**13 22 43.6**	**0.0**
VWUC		baz=306			*e*S	**Sn**	**13 23 25.4**	**-4.1**
PTMZ	**Houxiangcun**	baz=304	**4.16**	**305**	*e*P	**Pn**	**13 22 45.9**	**-1.5**
MATB	**Ma-tsu**	baz=333	**4.35**	**323**	*e*P	**Pn**	**13 22 50.1**	**0.0**
MSUT	**Lienchiang**		**4.38**	**323**	*e*P	**Pn**	**13 22 50.2**	**-0.2**

	baz=333								
KNM	Kinmen	4.42	294	eP		Pn	13 22 52.8	+1.8	
	baz=292								
KNMB	Chin-men Tao	4.48	294			Pn	13 22 51.7	-0.1	
KNMB	Chin-men Tao	4.48	294	eP		Pn	13 22 51.8	0.0	
	baz=293								
LYJJ	Jianjiangzhen	4.77	324	eP		Pn	13 22 55.6	-0.2	
	baz=324								
XPSS	Dashiqiu	4.87	330	eP		Pn	13 22 56.5	-0.6	
	baz=331								
ZPLA	Ao Xicun	4.87	286	eP		Pn	13 22 57.8	+0.6	
	baz=287								
MHZQ	Yeshan	4.88	315	eP		Pn	13 22 56.9	-0.4	
	baz=325								
AXDP	Jialang	5.00	297	⇓eP		Pn	13 22 59.1	+0.1	
	baz=296								
APYP	Conner	5.05	198	⇓iP		Pn	13 22 59.5	-0.2	
APYP				i S		Sn	13 23 55.4	-3.0	
SXFK	Yanhouchang	6.02	309	eP		Pn	13 23 13.1	+0.1	
	baz=307								
VDOS	Pratas Island	6.05	252	eP		Pn	13 23 14.9	+1.5	
	baz=251								
JOW	Kunigami	6.40	49	Pn		Pn	13 23 16.6	-1.7	
	4.4nm,0.3s,baz=234,slow=14,SNR=11								
JOW				Sn		Sn	13 24 24.9	-6.9	
	4.4nm,0.3s,baz=122,slow=19,SNR=1.9								
JOW	Kunigami	6.40	49	P		Pn	13 23 16.2	-2.0	
HKPS	Hong Kong Po S	8.09	269	Pn		Pn	13 23 43.1	+1.6	
JNU	Nakatsue	12.56	32	Pn		Pn	13 24 40.2	-2.5	
	0.3nm,0.3s,baz=244,slow=22,SNR=1.5								
TJN	Taejon	14.18	15	Pn		Pn	13 25 05.3	+0.5	
INCN	Inchon	15.09	12	P		P	13 25 21.9	-0.6	
JHS	Saijyo	15.18	34	P		P	13 25 23.7	+0.2	
JHS				IAmb		IAmb	13 25 51.5		
	comp=Z,31nm,1.4s								
KSRS	Korea Array	15.34	15	Pn		Pn	13 25 20.9	+0.5	
	comp=Z,0.5nm,0.3s,baz=192,slow=13,SNR=23								
KS19	Wonju Array Si	15.37	15	Pn		Pn	13 25 20.6	-0.2	
KS19				IAmb		IAmb	13 25 20.9		
	comp=Z,26nm,1.4s								
DAV	Davao City (W)	15.75	170	LR		LR	13 31 44.0		
	comp=Z,53nm,19.8s,baz=175,slow=37								
MAJO	Matsushiro	19.15	40	P		P	13 26 08.6	+1.2	
MJAR	Matsushiro Arr	19.15	40	P		P	13 26 08.7	+1.2	
	comp=Z,0.3nm,0.3s,baz=247,slow=5.1,SNR=13								
MJAR	Matsushiro Arr	19.15	40	P		P	13 26 08.5	+1.1	
MJB9	Matsu-Tunnel	19.15	40	P		P	13 26 08.7	+1.2	
MJB9				IAmb		IAmb	13 26 09.6		
	comp=Z,16nm,1.1s								
JYT	Yasato	20.18	44	P		P	13 26 19.1	+0.4	
JMM	Marumori	21.57	41	P		P	13 26 32.3	-1.4	
SBUM	Sibu	22.63	209	P		P	13 26 46.9	+1.7	
SBUM				IAmb		IAmb	13 26 47.5		
	comp=Z,6.6nm,0.7s								
CMAR	Chiang Mai Arr	22.79	264	P		P	13 26 51.0	+4.0	
	comp=Z,0.4nm,0.8s,baz=74,slow=9.8,SNR=4.4								
CMAR	Chiang Mai Arr	22.79	264	P		P	13 26 46.0	-1.0	
JEW	Eniwo	25.34	33	P		P	13 27 12.2	+1.1	
ERM	Erimo	25.66	37	P		P	13 27 14.1	+0.1	
ASAJ	Asahikawa	26.84	33	P		P	13 27 24.0	-0.6	
	comp=Z,2.2nm,0.4s,baz=277,slow=10,SNR=6.8								
JKA	Kamikawa-asahi	26.84	33	P		P	13 27 24.0	-0.6	
KLR	Kul'dur	27.19	13	P		P	13 27 28.9	-0.7	
	comp=Z,0.7nm,0.4s,baz=209,slow=12,SNR=3.4								
SONM	Songino Array	28.34	336	P		P	13 27 38.2	0.0	
	comp=Z,0.4nm,0.4s,baz=157,slow=8.0,SNR=3.6								
SONM	Songino Array	28.34	336	P		P	13 27 37.8	-0.4	
PEA0B	Petropavlovsk-	40.26	32	P		P	13 29 20.6	-0.4	
PETK	Petropavlovsk-	40.26	32	P		P	13 29 21.5	+0.5	
	comp=Z,1.1nm,0.6s,baz=241,slow=3.1,SNR=1.9								
MK31	Makanchi Array	40.48	316	P		P	13 29 23.1	+0.1	
MKAR	Makanchi Array	40.48	316	P		P	13 29 23.8	+0.8	
	comp=Z,0.6nm,0.6s,baz=306,slow=9.7,SNR=8.3								
MAKZ	Makanchi	40.69	316	P		P	13 29 25.1	+0.4	
H11N1	WAKE ISLAND Hy	41.03	86	T		T	14 13 22.4		
	baz=274								
H11N2	WAKE ISLAND Hy	41.03	86	T		T	14 13 17.9		
	baz=274								
H11N3	WAKE ISLAND Hy	41.05	86	T		T	14 13 21.1		
	baz=274								
H11S3	WAKE ISLAND Hy	41.12	88	T		T	14 13 11.9		
	baz=283,slow=75,SNR=5.7								
H11S1	WAKE ISLAND Hy	41.12	87	T		T	14 13 14.5		
	baz=283,slow=75,SNR=5.7								
H11S2	WAKE ISLAND Hy	41.13	88	T		T	14 13 13.6		
	baz=283,slow=75,SNR=5.3								
ZAA0	Zalesovo Array	42.33	327	P		P	13 29 37.3	-0.7	
ZAA0				IAmb		IAmb	13 29 44.5		
	comp=Z,7.1nm,1.5s								
ZALV	Zalesovo Beam	42.33	327	P		P	13 29 38.0	0.0	
	comp=Z,1.6nm,0.7s,baz=114,slow=8.8,SNR=8.8								
WRA	Warramunga Arr	43.83	164	P		P	13 29 55.1	+4.6	
	comp=Z,1.2nm,0.6s,baz=347,slow=9.1,SNR=8.0								
WR0	Warramunga Arr	43.90	164	P		P	13 29 51.5	+0.5	
WR0				IAmb		IAmb	13 30 02.7		
	comp=Z,5.0nm,0.9s								
SEY	Seymchan	44.86	19	P		P	13 29 59.0	+0.7	
	comp=Z,0.7nm,0.5s,baz=241,slow=19,SNR=3.0								
ASAR	Alice Springs	47.32	166	P		P	13 30 22.8	+4.8	
	comp=Z,0.4nm,0.4s,baz=335,slow=6.4,SNR=2.9								
KK31	Karatay Array	47.61	308	P		P	13 30 21.4	+1.2	
KK31				IAmb		IAmb	13 30 21.8		
	comp=Z,2.4nm,1.2s								
KKAR	Karatay Array	47.61	308	P		P	13 30 21.4	+1.2	
TIXI	Tiksi	49.09	3	P		P	13 30 30.8	-0.4	
TIXI				IAmb		IAmb	13 30 43.3		
	comp=Z,4.1nm,1.2s								
BILL	Bilibino	52.56	19	P		P	13 30 57.9	+0.5	
ABKAR	Akbulak array	55.59	315	P		P	13 31 20.5	+0.7	
TTA	Tatalina	66.02	30	P		P	13 32 32.0	+1.3	
TTA				IAmb		IAmb	13 32 54.3		
	comp=Z,4.2nm,1.2s								
TOLK	Toolik Lake Re	68.19	23	P		P	13 32 45.7	+1.3	
H23K	Yukon River	68.55	26	P		P	13 32 48.5	+1.8	
H23K				IAmb		IAmb	13 33 13.5		
	comp=Z,3.2nm,1.2s								
ILAR	Eielson Array	69.82	27	P		P	13 32 55.0	+0.5	
	comp=Z,0.2nm,0.7s,baz=294,slow=6.6,SNR=2.5								
BMAR	Burnt Mountain	70.24	24	P		P	13 32 58.8	+1.7	
EGAK	Eagle	72.21	27	P		P	13 33 09.9	+0.9	
EGAK				IAmb		IAmb	13 33 25.1		
	comp=Z,6.3nm,1.4s								
BCAR	Beaver Creek A	72.39	28	P		P	13 33 11.5	+1.2	
FINES	FINESS Array B	73.50	330	P		P	13 33 19.4	+2.7	
	comp=Z,0.8nm,0.6s,baz=79,slow=7.2,SNR=2.2								
INK	Inuvik	74.01	22	P		P	13 33 20.2	+0.7	
	comp=Z,0.4nm,0.4s,baz=281,slow=6.1,SNR=2.4								
INK	Inuvik	74.01	22	P		P	13 33 19.8	+0.3	
INK				IAmb		IAmb	13 33 30.7		
	comp=Z,4.2nm,1.5s								
M30M	Minto, Yukon	74.73	28	P		P	13 33 25.5	+1.5	
M30M				IAmb		IAmb	13 33 48.4		
	comp=Z,4.0nm,1.4s								
C36M	Paulatuk	76.68	20	P		P	13 33 34.5	-0.4	
NOA	NORSAR Array B	80.26	333	P		P	13 33 56.6	+1.7	
	comp=Z,0.1nm,0.4s,baz=89,slow=5.5,SNR=1.3								
YKA	Yellowknife Ar	83.72	23	P		P	13 34 13.2	+0.1	
	comp=Z,0.2nm,0.5s,baz=305,slow=5.1,SNR=8.8								

IDC 10 13:30:13.6±2.5,6°75S×154°86E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.3/41,mbtmp3.6/4,ML3.2/1,Error ellipse: s-maj=52.2km s-min=37.2km az=85.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	3.72	311	Pn	Pn	13 31 13.1	+0.7
	1.7nm,0.3s,baz=116,slow=19,SNR=2.0						
KRVT				Sn	Sn	13 31 57.2	+0.2
	4.2nm,0.3s,baz=165,slow=20,SNR=3.2						
WRA	Warramunga Arr	23.84	235	P	P	13 35 27.9	-0.8
	0.8nm,0.8s,baz=58,slow=9.3,SNR=3.4						
FITZ	Fitzroy Crossi	30.63	246	P	P	13 36 30.2	+0.4
	2.0nm,1.0s,baz=72,slow=9.6,SNR=2.7						
MKAR	Makanchi Array	83.14	319	P	P	13 42 41.9	+0.3
	0.1nm,0.4s,baz=101,slow=6.2,SNR=2.0						
TORD	Torodi Ar. Bea	152.83	286	PKPbc	PKPbc	13 50 13.5	-0.3
	0.4nm,0.7s,baz=92,slow=2.7,SNR=2.6						

*NEIC **10** 13:32:59.8±1.5,6°6S±0°.1×155°.22E±0°.05,h44km±7km, mb4.2/21,Error ellipse: s-maj=14.8km s-min=7.8km az=183.0*
*IDC **10** 13:33:02.3±2.4,6°.52S×154°.99E,h66km±21km,mb3.7/10, mb1 3.9/15,mb1mx3.7/42,mbtmp4.0/15,MS3.4/1, Ms1 3.4/1,ms1mx2.7/66,Error ellipse: s-maj=20.4km s-min=18.9km az=93.0*

ISC 10 13:33:01.4±0.5,6°.55S±0°.07×155°.01E±0°.07,h56km,n45, σ1§57/43,mb4.0/18,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	3.68	309	Pn	Pn	13 33 57.1	+1.3
KRVT	Keravat (AS076	3.71	307	P	Pn	13 33 56.2	-0.1
	2.0nm,0.3s,baz=194,slow=24,SNR=0.5						
KRVT				S	Sn	13 34 42.1	+3.3
	9.9nm,0.3s,baz=143,slow=20,SNR=2.1						
HNR	Honiara	5.67	121	P	Pn	13 34 24.6	+1.5
	3.0nm,0.3s,baz=232,slow=19,SNR=1.7						
HNR				S	Sn	13 35 32.5	+5.6
	6.3nm,0.3s,baz=30,slow=20,SNR=1.8						
PMG	Port Moresby	8.28	249	P	Pn	13 35 00.2	+1.3
	3.8nm,0.3s,baz=99,slow=7.2,SNR=7.9						
PMG				S	Sn	13 36 35.7	+4.6
	0.7nm,0.3s,baz=128,slow=18,SNR=2.1						
CTA	Charters Tower	15.92	211	P	Pn	13 36 42.9	+0.9
	0.1nm,0.3s,baz=294,slow=10,SNR=1.4						
CTA				LR	LR	13 42 17.7	
	comp=Z,148nm,19.7s,baz=308,slow=35						
DZM	Mont Dzumac	18.98	146	P	Pn	13 37 19.4	-0.3
	0.5nm,0.3s,baz=349,slow=19,SNR=1.8						
EIDS	Eidsvold	19.09	191	P	P	13 37 16.3	-3.3
EIDS				IAmb	IAmb	13 37 22.5	
	comp=Z,7.7nm,1.1s						
WR0	Warramunga Arr	23.93	234	P	P	13 38 10.2	-0.3
WR0				IAmb	IAmb	13 38 11.8	
	comp=Z,16nm,1.4s						
WB0	Warramunga Arr	23.95	235	P	P	13 38 10.5	-0.3
WB0				IAmb	IAmb	13 38 11.9	
	comp=Z,16nm,1.4s						
ARMA	Armidale	23.96	187	P	P	13 38 11.2	+0.5
ARMA				IAmb	IAmb	13 38 12.7	
	comp=Z,4.4nm,0.8s						
WRAB	Tennant Creek	24.07	234	P	P	13 38 11.8	0.0
WRAB				IAmb	IAmb	13 38 30.1	
	comp=Z,5.3nm,1.2s						
WB2	Warramunga Arr	24.08	234	P	P	13 38 11.8	-0.1
WB2				IAmb	IAmb	13 38 15.2	
	comp=Z,6.7nm,1.2s						
WRA	Warramunga Arr	24.09	234	P	P	13 38 12.2	+0.2
	comp=Z,2.9nm,0.7s,baz=56,slow=9.6,SNR=17						
WRA				PcP	PcP	13 41 52.1	-0.2
	comp=Z,0.8nm,1.1s,baz=54,slow=2.5,SNR=4.7						
WRA	Warramunga Arr	24.09	234	P	P	13 38 11.9	-0.1
AS31	Alice Springs	26.48	228	P	P	13 38 33.3	-0.4
ASAR	Alice Springs	26.48	228	P	P	13 38 33.4	-0.3
	comp=Z,1.3nm,0.6s,baz=60,slow=8.9,SNR=14						
ASAR				PcP	PcP	13 41 57.6	-0.1
	comp=Z,0.2nm,0.5s,baz=68,slow=2.0,SNR=6.0						
H11S3	WAKE ISLAND Hy	27.42	25	T	T	14 07 13.3	
	baz=202,slow=75,SNR=14						
H11S2	WAKE ISLAND Hy	27.42	25	T	T	14 07 13.0	
	baz=202,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	27.44	25	T	T	14 07 14.4	
	baz=202,slow=75,SNR=8.6						
STKA	Stephens Creek	28.15	205	P	P	13 38 48.1	-0.3
	comp=Z,0.8nm,0.4s,baz=62,slow=16,SNR=3.6						
H11N1	WAKE ISLAND Hy	28.59	24	T	T	14 08 48.0	
	baz=203						
H11N3	WAKE ISLAND Hy	28.61	24	T	T	14 08 47.0	
	baz=203						
H11N2	WAKE ISLAND Hy	28.61	24	T	T	14 08 48.4	
	baz=203						
CAN	Canberra	29.17	190	P	P	13 38 55.6	-1.9
CAN				IAmb	IAmb	13 39 22.6	
	comp=Z,8.4nm,1.1s						
FITZ	Fitzroy Crossi	30.85	245	P	P	13 39 11.7	-0.9
	comp=Z,1.3nm,0.7s,baz=57,slow=7.5,SNR=2.2						
FITZ	Fitzroy Crossi	30.85	245	P	P	13 39 11.9	-0.7
FITZ				IAmb	IAmb	13 39 26.2	
	comp=Z,5.2nm,1.4s						
BBOO	Buckleboo	31.52	212	P	P	13 39 17.3	-1.1
MBWA	Marble Bar	37.09	243	P	P	13 40 06.0	-0.7
MBWA				IAmb	IAmb	13 40 24.0	
	comp=Z,6.4nm,1.1s						
KHZ	Kahutara	39.31	158	P	P	13 40 23.0	-2.0
CM31	Chiang Mai Arr	60.61	295	P	P	13 43 07.5	+0.6
CMAR	Chiang Mai Arr	60.61	295	P	P	13 43 07.3	+0.4
	comp=Z,2.4nm,0.7s,baz=123,slow=5.3,SNR=14						
SONM	Songino Array	68.97	327	P	P	13 44 00.9	-0.1
	comp=Z,0.4nm,0.4s,baz=108,slow=7.7,SNR=2.4						
BILL	Bilibino	74.83	4	P	P	13 44 35.9	+0.3
BILL				IAmb	IAmb	13 44 45.0	
	comp=Z,5.4nm,1.5s						
IMAR	Indian Mountai	81.30	19	P	P	13 45 11.7	+0.3
ILAR	Eielson Array	82.95	22	P	P	13 45 19.1	-0.9
	comp=Z,0.3nm,0.7s,baz=251,slow=5.3,SNR=4.5						
MK31	Makanchi Array	83.08	319	P	P	13 45 21.2	0.0
MKAR	Makanchi Array	83.08	319	P	P	13 45 20.0	-1.2
	comp=Z,0.6nm,0.7s,baz=96,slow=7.4,SNR=6.1						
MKAR	Makanchi Array	83.08	319	P	P	13 45 20.8	-0.4
QSPA	South Pole Qui	83.43	180	P	P	13 45 22.9	+0.2
J25K	Salcha River,	83.43	22	P	P	13 45 21.7	-1.0
MAW	Mawson	84.81	203	P	P	13 45 29.3	-0.2
	comp=Z,16nm,0.6s,baz=113,slow=4.3,SNR=2.0						
MAW	Mawson	84.81	203	IAmb	IAmb	13 45 33.9	
	comp=Z,2.9nm,1.5s						
YKA	Yellowknife Ar	95.93	28	P	P	13 46 21.8	-0.2
	comp=Z,0.4nm,0.7s,baz=263,slow=4.9,SNR=6.4						
TORD	Torodi Ar. Bea	152.92	286	PKPbc	PKPbc	13 52 52.6	-0.9
	comp=Z,0.7nm,0.6s,baz=71,slow=2.3,SNR=5.9						
TORD	Torodi Ar. Bea	152.92	286		PKPbc	13 52 52.1	-1.4

IDC 10 13:57:28.1±4.7,3°.88S×153°.57E,h222km±23km,mb3.0/3, mb1 3.2/3,mb1mx2.9/43,mbtmp3.5/3,MS3.5/1,Ms1 3.5/1, ms1mx2.7/17,Error ellipse: s-maj=106.7km s-min=46.2km az=123.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	1.60	255	P	Pn	13 58 04.9	+0.3
	23nm,0.3s,baz=267,slow=0.7,SNR=30						
KRVT				S	S	13 58 33.1	+0.2
	6.6nm,0.3s,baz=171,slow=17,SNR=4.3						
DZM	Mont Dzumac	21.98	146	LR	LR	14 09 30.2	
	comp=Z,129nm,20.4s,baz=29,slow=33						
WRA	Warramunga Arr	24.63	228	P	P	14 02 29.1	+0.6
	0.6nm,0.8s,baz=54,slow=10,SNR=3.1						
ASAR	Alice Springs	27.34	222	P	P	14 02 52.2	-0.6
	0.2nm,0.4s,baz=54,slow=9.6,SNR=2.5						
FITZ	Fitzroy Crossi	30.77	241	P	P	14 03 23.4	+0.2
	1.4nm,1.1s,baz=60,slow=10,SNR=1.4						
TORD	Torodi Ar. Bea	150.73	290	PKPbc	PKPbc	14 16 54.5	-0.6
	0.2nm,0.4s,baz=88,slow=1.9,SNR=1.9						

*NEIC **10** 14:23:58.1±1.2,23°.61S±0°.07×66°.8W±0°.1,h269km±14km, Error ellipse: s-maj=19.6km s-min=9.9km az=93.0*
*IDC **10** 14:24:02.5±1.3,23°.58S×66°.84W,h198km±13km,mb3.4/5, mb1 3.7/9,mb1mx3.5/23,mbtmp4.1/9,Error ellipse: s-maj=21.2km s-min=17.9km az=116.0*
*GUC **10** 14:24:03.8±0.6,23°.59S×67°.22W,h239km±7km,ML4.7*
*SJA **10** 14:24:03.9±1.6,23°.61S×66°.92W,h175km,ML4.3,MW4.1*
*VAO **10** 14:24:05.2±0.5,23°.55S×67°.12W,h262km,mb4.1*

ISC 10 14:24:02.2±0.6,23°.61S±0°.04×66°.92W±0°.03,h207km±6km, n138,σ1§36/174,mb3.8/6,8C-5D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	Humahuaca	1.45	74	i P	Pn	14 24 37.4	+0.9
HJA				eS	S	14 25 03.4	+0.6
SLA	San Lorenzo	1.71	131	eP	Pn	14 24 39.2	+0.6
SLA				eS	S	14 25 03.6	-2.9
YJA	Yavi	1.93	43	eP	Pn	14 24 42.2	+1.2
YJA				eS	S	14 25 10.4	-0.3
LVC	Limon Verde	2.08	298	P	Pn	14 24 43.8	+1.3
	139nm,0.3s,baz=120,slow=6.3,SNR=937						
LVC				S	S	14 25 13.9	+0.6
	108nm,0.3s,baz=273,slow=21,SNR=44						
LVC	Limon Verde	2.08	298	Pn	Pn	14 24 43.6	+1.1
LVC	Limon Verde	2.08	298	i P	Pn	14 24 43.8	+1.3
LVC				i S	S	14 25 14.3	+1.1
LVC	Limon Verde	2.08	298	eP	Pn	14 24 43.9	+1.4
LVC				eS	S	14 25 15.1	+1.8
PB15	IPOC Station P	2.37	279		Pn	14 24 46.7	+1.3
PB15	IPOC Station P	2.37	279	⇓iP	Pn	14 24 46.7	+1.3
PB15				i S	S	14 25 19.4	+0.9
PB15	IPOC Station P	2.37	279	eP	Pn	14 24 46.8	+1.3
PB15				eS	S	14 25 19.2	+0.7
PB06	IPOC Station P	2.60	290		Pn	14 24 48.9	+1.2
PB06	IPOC Station P	2.60	290	⇓iP	Pn	14 24 49.1	+1.2
PB06				i S	S	14 25 22.9	+0.1
PB06	IPOC Station P	2.60	290	eP	Pn	14 24 49.0	+1.2
PB06				eS	S	14 25 23.2	+0.4
PB06				IAML		14 25 24.4	
	comp=Z,1μm,0.3s						
FSA	Cafayete	2.64	161	eP	Pn	14 24 48.9	+0.6
FSA				eS	S	14 25 23.1	-0.7
PB09	IPOC Station P	2.80	310		Pn	14 24 51.3	+1.2
PB09	IPOC Station P	2.80	310	⇓iP	Pn	14 24 51.6	+1.5
PB09				i S	S	14 25 28.2	+1.2
PB09				IAML		14 25 30.6	
	comp=N,498nm,0.4s						
PB09	IPOC Station P	2.80	310	eP	Pn	14 24 51.0	+0.9
PB09				i P	Pn	14 24 51.7	+1.6
PB09				eS	S	14 25 28.6	+1.7
GO02	Mina Guanaco	2.88	237	Pn	Pn	14 24 52.0	+0.9
GO02	Mina Guanaco	2.88	237	⇑iP	Pn	14 24 52.0	+0.9
GO02				i S	S	14 25 30.0	+1.1
GO02				IAML		14 25 30.8	
	comp=N,2μm,0.2s						
GO02	Mina Guanaco	2.88	237	eP	Pn	14 24 52.0	+0.9
GO02				eS	S	14 25 29.4	+0.5
PB04	IPOC Station P	3.23	292		Pn	14 24 55.8	+0.7
PB04	IPOC Station P	3.23	292	⇓iP	Pn	14 24 56.0	+0.9
PB04				i S	S	14 25 35.3	-0.7
PB04	IPOC Station P	3.23	292	eP	Pn	14 24 55.4	+0.3
PB04				eS	S	14 25 35.4	-0.7
PB04				eS	S	14 25 36.1	+0.1
PB04				IAML		14 25 40.2	
	comp=Z,937nm,0.3s						
PB07	IPOC Station P	3.31	304		Pn	14 24 56.8	+0.7
PB07	IPOC Station P	3.31	304	⇓iP	Pn	14 24 56.9	+0.7
PB07				i S	S	14 25 36.8	-1.1
PB07	IPOC Station P	3.31	304	eP	Pn	14 24 56.7	+0.7
PB07				eS	S	14 25 37.3	-0.5
PB07				IAML		14 25 39.9	
	comp=Z,440nm,0.4s						
PB10	IPOC Station P	3.33	271	Pn	Pn	14 24 56.8	+0.6
PB10	IPOC Station P	3.33	271	⇑iP	Pn	14 24 56.9	+0.8
PB10				i S	S	14 25 36.4	-1.5
PB10	IPOC Station P	3.33	271	eP	Pn	14 24 57.0	+0.8
PB10				eS	S	14 25 36.8	-1.1
PB10				IAML		14 25 41.3	
	comp=Z,501nm,0.6s						
PB14	IPOC Station P	3.34	252	Pn	Pn	14 24 56.6	+0.1
PB14	IPOC Station P	3.34	252	⇑iP	Pn	14 24 57.0	+0.5
PB14				i S	S	14 25 38.0	-0.5
PB14	IPOC Station P	3.34	252	eP	Pn	14 24 57.0	+0.5
PB14				eS	S	14 25 38.2	-0.3
PB14				eS	S	14 25 38.3	-0.2
PB14				IAML		14 25 38.5	
	comp=Z,623nm,0.4s						
PB01	IPOC Station P	3.48	317		Pn	14 24 58.1	0.0
PB01	IPOC Station P	3.48	317	⇑iP	Pn	14 24 58.8	+0.7
PB01				i S	S	14 25 41.1	-0.2
PB01	IPOC Station P	3.48	317	eP	Pn	14 24 58.5	+0.4
PB01				eS	S	14 25 41.0	-0.3
PB02	IPOC Station P	3.57	309		Pn	14 24 59.1	-0.1
PB02	IPOC Station P	3.57	309	⇑iP	Pn	14 24 59.7	+0.6
PB02				i S	S	14 25 42.0	-1.2
PB02	IPOC Station P	3.57	309	eP	Pn	14 24 59.5	+0.4
PB02				eS	S	14 25 42.2	-1.0
PB02				IAML		14 25 49.0	
	comp=Z,658nm,0.3s						
AC02	Maricunga	3.79	211	Pn	Pn	14 25 02.8	+0.7
AC02	Maricunga	3.79	211	eP	Pn	14 25 02.3	+0.2
PB08	IPOC Station P	4.02	329	⇑iP	Pn	14 25 06.4	+1.5
PB08				i S	S	14 25 54.0	+0.2
PATCX	Punta Patache	4.08	312		Pn	14 25 04.7	-0.6
PATCX	Punta Patache	4.08	312	eP	Pn	14 25 05.0	-0.3
PATCX				i S	S	14 25 53.2	-1.2
PATCX	Punta Patache	4.08	312	eP	Pn	14 25 05.2	-0.1
PATCX				eP	Pn	14 25 05.2	-0.1
PATCX				eP	Pn	14 25 05.5	+0.2
PATCX				eP	Pn	14 25 05.6	+0.3
PATCX				IAML		14 25 57.8	
	comp=Z,220nm,0.5s						
AC01	Pan de Azucar	4.19	232	Pn	Pn	14 25 05.7	-0.9
AC01	Pan de Azucar	4.19	232	⇑iP	Pn	14 25 05.9	-0.6
AC01				i S	S	14 25 54.4	-2.4
AC01	Pan de Azucar	4.19	232	eP	Pn	14 25 06.0	-0.6
AC01				eS	S	14 25 53.8	-3.0
AC01				IAML		14 25 58.4	
	comp=Z,191nm,0.6s						
TA01	Diego Aracena	4.28	314	Pn	Pn	14 25 06

PARB	**Paraibuna**	**19.54**	**93**	*e*P		**P**	**14 28 14.9 +0.5**
NPGB	**Novo Progresso**	**19.86**	**36**	*e*P		**P**	**14 28 16.3 -1.5**
PEXB	**Peixe**	**21.07**	**60**	*e*P		**P**	**14 28 29.7 -0.9**
ITTB	**Itaituba**	**21.97**	**31**	*e*P		**P**	**14 28 37.7 -2.0**
DIAM	**Diamantina, MG**	**22.34**	**81**	*e*P		**P**	**14 28 42.0 -1.3**
JANB	**Januaria**	**22.95**	**72**	*e*P		**P**	**14 28 48.4 -0.3**
SMTB	**Santa Maria do**	**23.61**	**55**	*e*P		**P**	**14 28 55.0 +0.3**
SDBA	**SAO DESIDERIO**	**23.68**	**66**	*e*P		**P**	**14 28 55.0 -0.4**
PRPB	**Parauapebas**	**23.90**	**46**	*e*P		**P**	**14 28 57.1 -0.3**
SJMB	**Sao Joao De Ma**	**24.48**	**83**	*e*P		**P**	**14 29 02.7 +0.1**
MALB	**Monte Alegre**	**24.86**	**31**	*e*P		**P**	**14 29 04.3 -1.7**
NAN01	**Guarapari, ES**	**25.69**	**82**	*e*P		**P**	**14 29 12.7 -0.7**
GUA01	**Guaratinga, BA**	**26.38**	**80**	*e*P		**P**	**14 29 19.2 -0.4**
CMC01	**Camacan, BA**	**27.07**	**77**	*e*P		**P**	**14 29 25.6 -0.2**
GDU01	**Guandu, ES**	**27.67**	**74**	*e*P		**P**	**14 29 30.2 -1.0**
DSPA	**Despedida**	**30.32**	**182**	P		P	14 29 44.7 -9.4
NBLA	**Lagarto - SE**	**30.44**	**71**	*e*P		**P**	**14 29 54.2 -1.4**
NBMA	**Muriti-CE**	**31.48**	**64**	*e*P		**P**	**14 30 04.4 -0.4**
NBPB	**Pedra_Branca-C**	**31.87**	**60**	*e*P		**P**	**14 30 07.7 -0.5**
NBAN	**Anadia - AL**	**32.38**	**70**	*e*P		**P**	**14 30 12.0 -0.7**
NBPV	**Pedro Velho**	**34.88**	**66**	*e*P		**P**	**14 30 34.4 +0.2**
VNA3	**Neumayer Olymp**	**57.50**	**161**	P		P	**14 33 31.3 +1.9**
VNA1	**Neumayer--Stat**	**57.69**	**160**	P		P	**14 33 32.8 +2.1**
VNA2	**Neumayer--Watz**	**58.06**	**160**	P		P	**14 33 35.2 +1.9**
	baz=281,slow=9.0						
SNAA	**Sanae**	**59.70**	**161**	P		P	**14 33 46.6 +2.0**
TROLL	**Troll, Antarti**	**61.41**	**161**	P		P	**14 33 58.3 +2.0**
DBIC	**Dimbokro**	**67.61**	**72**	P		P	14 34 25.2 -12
DBIC				IAmb		IAmb	14 34 51.3
	comp=Z,10nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P		**P**	**14 35 29.8 +0.8**
	comp=Z,0.8nm,0.5s,baz=257,slow=5.9,SNR=14						
NVAR	**Mina Aray Bea**	**78.28**	**321**	P		**P**	**14 35 41.2 +1.7**
	comp=Z,0.2nm,0.6s,baz=156,slow=4.6,SNR=1.3						
BOSA	**Boshof**	**80.85**	**117**	P		**P**	**14 35 54.0 +0.4**
	comp=Z,1.6nm,0.7s,baz=242,slow=1.8,SNR=5.1						
MAW	**Mawson**	**81.79**	**163**	P		**P**	**14 35 59.4 +1.9**
	comp=Z,2.5nm,0.9s,baz=225,slow=7.1,SNR=2.2						
YKA	**Yellowknife Ar**	**93.78**	**340**	P		**P**	**14 36 56.8 +1.7**
	comp=Z,0.2nm,0.5s,baz=133,slow=4.6,SNR=5.9						
ASAR	**Alice Springs**	**128.84**	**205**	PKP		**PKPdf**	**14 42 46.0 +0.1**
	comp=Z,0.5nm,0.7s,baz=159,slow=2.0,SNR=5.0						
WRA	**Warramunga Arr**	**132.01**	**207**	PKP		**PKiKP**	**14 42 53.4 +0.5**
	comp=Z,0.2nm,0.5s,baz=167,slow=1.7,SNR=1.6						
MKAR	**Makanchi Array**	**146.18**	**39**	PKPbc		**PKPab**	**14 43 18.9 -0.2**
	comp=Z,0.6nm,0.5s,baz=308,slow=2.6,SNR=11						

*NEIC **10** 14:32:42.8±1.4,36.01N±0.07×139.92E±0.07,h41km±7km, mb4.0/5, Error ellipse: s-maj=10.4km s-min=6.4km az=148.0*

*JMA **10** 14:32:42.8,36.01N×139.89E,h41km±1km,M3.5 Broadband fault plane solution: P waves. NP1: ϕ_s45.00000°, δ67.00000°, λ84.00000°. NP2:ϕ_s241.00000°, δ23.00000°, λ105.00000°. Principal axes: T Plg67.0000°, Azm304.0000°; N Plg6.0000°, Azm48.0000°; P Plg22.0000°, Azm140.0000°;*

JMA Felt II J1.

*IDC **10** 14:32:43.5±1.8,35.88N×139.84E,h61km±17km,mb3.3/6, mb1 3.5/8,mb1mx3.2/35,mbtmp3.6/8 Error ellipse: s-maj=25.4km s-min=8.0km az=65.0*

ISC 10 14:32:42.3±0.9,35.97N±0.04×139.93E±0.04,h44km±8km, n43,σ0.92/48,mb3.9/11,2C-3D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.33**	**40**	⇑P	**Pn**	**14 32 51.4**	**+0.2**
JYT				S	**Sn**	**14 32 57.5**	**0.0**
JYT	**Yasato**	**0.33**	**40**		**Pn**	**14 32 51.2**	**0.0**
JYT				Sn	**Sn**	**14 32 57.0**	**-0.5**
JHU	**Hanno**	**0.54**	**257**	⇓P	**Pn**	**14 32 53.6**	**-0.1**
JAG	**Ashikaga**	**0.59**	**320**	⇓P	**Pn**	**14 32 54.3**	**-0.1**
JAG				S	**Sn**	**14 33 02.3**	**-0.8**
JRY	**Ryogami san**	**0.83**	**273**	⇓P	**Pn**	**14 32 57.6**	**-0.1**
JRY				S	**Sn**	**14 33 08.1**	**-0.8**
JKT	**Katashina**	**0.96**	**326**	P	**Pn**	**14 32 59.2**	**-0.3**
JKT				*e*S	**Sn**	**14 33 11.9**	**-0.2**
JOD2	**Odawara 2**	**0.98**	**224**	P	**Pn**	**14 33 00.6**	**+0.9**
JOD2				S	**Sn**	**14 33 12.9**	**+0.4**
JYN	**Shimob**	**1.22**	**248**	⇑P	**Pn**	**14 33 04.0**	**+1.0**
JFNN	**Fujinakano**	**1.28**	**233**	P	**Pn**	**14 33 05.2**	**+1.5**
MJAR	**Matsushiro Arr**	**1.50**	**293**	P	**Pn**	**14 33 06.4**	**-0.4**
	4.8nm,0.3s,baz=71,slow=19,SNR=156						
MJAR				S	**Sn**	**14 33 25.9**	**+0.7**
	4.1nm,0.3s,baz=124,slow=6.3,SNR=3.4						
MJAR				LR	LR	14 33 44.7	
	comp=Z,80nm,20.5s,baz=159,slow=41						
MJAR	**Matsushiro Arr**	**1.50**	**293**	Pn	**Pn**	**14 33 06.7**	**-0.1**
MAJO	**Matsushiro**	**1.50**	**293**		**Pn**	**14 33 07.1**	**+0.3**
MJB9	**Matsu-Tunnel**	**1.51**	**293**		**Pn**	**14 33 07.0**	**+0.1**
JMM	**Marumori**	**2.01**	**20**	Pn	**Pn**	**14 33 14.0**	**+0.2**
JGF	**Kuroka**	**2.12**	**261**		**Pn**	**14 33 17.2**	**+1.8**
INU	**Inuyama**	**2.45**	**256**		**Pn**	**14 33 21.0**	**+1.2**
JSD	**Sado**	**2.48**	**328**	Pn	**Pn**	**14 33 19.8**	**-0.1**
JHJ	**Hachijo jima 2**	**2.85**	**182**	P	**Pn**	**14 33 25.8**	**+0.5**
	70nm,0.3s,baz=147,slow=22,SNR=134						
JHJ				S	**Sn**	**14 33 57.9**	**-0.5**
	45nm,0.3s,baz=61,slow=23,SNR=12						
JHJ2	**Mitsune**	**2.85**	**182**	Pn	**Pn**	**14 33 25.5**	**+0.1**
JTM	**Tenmabayashi**	**4.89**	**10**	Pn	**Pn**	**14 33 53.3**	**0.0**
JHS	**Saijyo**	**5.64**	**262**	Pn	**Pn**	**14 34 05.2**	**+1.5**
ERM	**Erimo**	**6.54**	**22**	Pn	**Pn**	**14 34 15.5**	**-0.3**
ASAJ	**Asahikawa**	**8.39**	**13**	P	**Pn**	**14 34 43.3**	**+2.1**
	0.3nm,0.3s,baz=267,slow=11,SNR=1.5						
JKA	**Kamikawa-asahi**	**8.39**	**13**	Pn	**Pn**	**14 34 41.6**	**+0.3**
HHC	**Hu-ho-hao-te**	**22.70**	**291**	*e*P	**P**	**14 37 38.5**	**-1.9**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.9s						
H11N2	**WAKE ISLAND Hy**	**28.68**	**117**	T	T	15 08 49.8	
	baz=311,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.69**	**117**	T	T	15 08 55.7	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**28.70**	**117**	T	T	15 08 52.6	
	baz=311,slow=76						
PZH	**PanZhiHua**	**33.81**	**265**	P	**P**	**14 39 22.0**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
WMQ	**Urumqi**	**40.26**	**298**	*e*P	**P**	**14 40 16.8**	**+1.8**
ZALV	**Zalesovo Beam**	**41.76**	**313**	P	**P**	**14 40 26.1**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=96,slow=7.9,SNR=5.2						
MK31	**Makanchi Array**	**43.68**	**303**	P	**P**	**14 40 42.1**	**-0.7**
MKAR	**Makanchi Array**	**43.68**	**303**	P	**P**	**14 40 41.9**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=88,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**43.68**	**303**	P	**P**	**14 40 42.0**	**-0.8**
KURK	**Kurchatov**	**45.65**	**309**	P	**P**	**14 40 57.5**	**-1.0**
KURK				IAmb	IAmb	14 40 57.7	
	comp=Z,1.9nm,0.8s						
ILAR	**Eielson Array**	**51.03**	**32**	P	**P**	**14 41 40.6**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=278,slow=6.0,SNR=4.2						
WR0	**Warramunga Arr**	**55.86**	**186**	P	**P**	**14 42 16.0**	**+0.5**
WRA	**Warramunga Arr**	**55.86**	**186**	P	**P**	**14 42 14.6**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=1.1,slow=7.4,SNR=6.8						
ABKAR	**Akbulak array**	**57.71**	**310**	P	**P**	**14 42 27.5**	**-0.9**
ABKAR				IAmb	IAmb	14 42 54.5	
	comp=Z,1.5nm,1.4s						
C36M	**Paulatuk**	**58.89**	**24**	P	**P**	**14 42 37.1**	**+0.8**
C36M				IAmb	IAmb	14 43 03.8	
	comp=Z,3.4nm,1.5s						
FINES	**FINESS Array B**	**69.19**	**332**	P	**P**	**14 43 43.3**	**-0.7**
	comp=Z,1.4nm,1.0s,baz=38,slow=7.0,SNR=2.3						
NOA	**NORSAR Array B**	**74.70**	**337**	P	**P**	**14 44 16.1**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=28,slow=3.6,SNR=2.2						
CLL	**Collm**	**81.41**	**330**	*e*P	**P**	**14 44 55.0**	**+0.6**

IDC 10 14:57:07.4±330.0,21.63N×148.43E,h0km,Error ellipse: s-maj=165.0km s-min=123.6km az=133.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I39PW	**PALAU INFRASON**	**19.39**	**226**	*i*		16 57 20.0	
	baz=46,slow=309,SNR=1.4						
I44RU	**PETROPAVLOVSK**	**32.22**	**11**	*i*		18 13 50.0	
	baz=193,slow=335,SNR=0.9						

*ISK **10** 15:06:52.8,41.10N×33.84E,h7km,ML3.7/20*

*DDA **10** 15:06:52.8±0.0,41.10N×33.83E,h3km±1km,MW3.7*

*IDC **10** 15:06:53.1±0.7,41.06N×33.88E,h0km,mb3.4/6, mb1 3.6/10,mb1mx3.4/52,mbtmp3.5/10,ML3.5/4, MS3.4/2, Ms1 3.5/2,ms1mx2.7/52,Error ellipse: s-maj=13.7km s-min=9.1km az=84.0*

ISC 10 15:06:53.3±0.9,41.10N±0.02×33.85E±0.02,h7km±6km, n96,σ1.66/128,mb3.3/5,22C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILGA	**Ilgaz**	**0.11**	**246**	P	**Pg**	**15 06 55.3**	**-0.6**
ILGA				S	**Sg**	**15 06 57.2**	**-0.6**
TOS	**Tosya**	**0.14**	**116**	PG	**Pg**	**15 06 56.2**	**-0.1**
TOS				SG	**Sg**	**15 06 58.8**	**+0.4**
KMON	**Kastamonu**	**0.28**	**349**	PG	**Pg**	**15 06 58.9**	**0.0**
KMON				SG	**Sg**	**15 07 03.4**	**+0.8**
KAST	**KASTAMONU**	**0.40**	**8**	P	**Pg**	**15 07 01.1**	**+0.1**
KAST				S	**Sg**	**15 07 07.1**	**+0.8**
PELI	**Kastamonı-Ara**	**0.46**	**296**	P	**Pg**	**15 07 01.9**	**-0.3**
PELI				S	**Sg**	**15 07 08.1**	**0.0**
KAGI	**orum-Kargı**	**0.47**	**85**	P	**Pg**	**15 07 02.6**	**+0.1**
KAGI				S	**Sb**	**15 07 10.4**	**-0.8**
CANT	**Cankiri**	**0.52**	**200**	PG	**Pb**	**15 07 03.7**	**-1.2**
CANT				SG	**Sb**	**15 07 11.6**	**-1.1**
ELDT	**Eldivan**	**0.69**	**208**	P	**Pg**	**15 07 06.5**	**-0.1**
BOYA	**Sinop/Boyabat-**	**0.76**	**55**	P	**Pg**	**15 07 07.2**	**-0.8**
BOYA				S	**Sg**	**15 07 17.4**	**-0.4**
CTAK	**Corum_Osmancik**	**0.84**	**122**	P	**Pg**	**15 07 09.4**	**-0.1**
CTAK				S	**Sg**	**15 07 20.8**	**+0.4**
BZK	**Bozkurt**	**0.87**	**7**	⇓P	**Pg**	**15 07 09.1**	**-0.9**
BZK				⇑S	**Sg**	**15 07 18.8**	**-2.5**
BZK	**Bozkurt**	**0.87**	**7**	PG	**Pg**	**15 07 09.9**	**-0.1**
SAFT	**Safranbolu**	**0.89**	**280**	PG	**Pg**	**15 07 09.7**	**-0.7**
SAFT				SG	**Sg**	**15 07 22.1**	**+0.1**
KBUK	**KARABUK-Merkez**	**0.94**	**279**	P	**Pg**	**15 07 10.6**	**-0.7**
KBUK				S	**Sg**	**15 07 22.9**	**-0.6**
CIDE	**Kastamonu/Cide**	**1.04**	**319**	P	**Pg**	**15 07 12.4**	**-0.9**
CORM	**Corum**	**1.09**	**147**	PN	**Pg**	**15 07 13.9**	**-0.4**
CORM				SN	**Sn**	**15 07 30.1**	**-0.5**
DELI	**KIRIKKALE**	**1.10**	**177**	P	**Pg**	**15 07 13.4**	**-1.0**
COAL	**Corum-Alaca**	**1.21**	**134**	P	**Pn**	**15 07 16.6**	**-0.2**
COAL				S	**Sb**	**15 07 33.0**	**+0.6**
CMDR	**Camlidere-ANKA**	**1.21**	**240**	P	**Pn**	**15 07 16.9**	**+0.1**
CMDR				S	**Sn**	**15 07 34.6**	**+1.2**
BTIN	**Bartın**	**1.32**	**295**	P	**Pg**	**15 07 17.9**	**-0.7**
BTIN				S	**Sg**	**15 07 35.0**	**-0.8**
SINO	**SINOP_Merkez**	**1.37**	**47**	P	**Pn**	**15 07 18.9**	**+0.1**
BRTR	**Keskin Array B**	**1.38**	**187**	Pg	**Pn**	**15 07 18.4**	**-0.8**
	37nm,0.3s,baz=4.8,slow=12,SNR=271						
BRTR				Lg	Lg	15 07 39.2	
	44nm,0.3s,baz=6.4,slow=22,SNR=24						
BRTR				LR	LR	15 08 01.7	
	comp=Z,216nm,21.1s,baz=8.5,slow=51						
BRTR	**Keskin Array B**	**1.38**	**187**	PN	**Pn**	**15 07 18.7**	**-0.5**
BRTR				SN	**Sn**	**15 07 38.0**	**+0.2**
BCAM	**Yenicaga**	**1.38**	**259**	P	**Pn**	**15 07 18.9**	**-0.2**
BCAM				S	**Sn**	**15 07 38.6**	**+0.8**
HAVZ	**Havza**	**1.41**	**90**	P	**Pn**	**15 07 19.1**	**-0.4**
HAVZ				S	**Sn**	**15 07 39.4**	**+1.1**
LOD	**Lodumlu**	**1.47**	**215**	PN	**Pn**	**15 07 19.9**	**-0.4**
YARM	**Yarimca-Ladik(**	**1.50**	**96**	PN	**Pn**	**15 07 20.9**	**+0.1**
YARM				SN	**Sg**	**15 07 41.3**	**-0.3**
CDAG	**Cicekdag**	**1.52**	**165**	P	**Pn**	**15 07 20.6**	**-0.5**
CDAG				S	**Sg**	**15 07 41.7**	**-0.6**
AMSY	**Amasya-Merkez**	**1.57**	**106**	P	**Pg**	**15 07 23.4**	**-0.1**
AMSY				S	**Sg**	**15 07 44.2**	**+0.4**
KIZO	**Buyukkizoglu-L**	**1.59**	**96**	PN	**Pn**	**15 07 22.0**	**+0.1**
CKRK	**Yozgat, Cekere**	**1.62**	**129**	P	**Pg**	**15 07 23.7**	**-0.7**
BBAL	**Bala**	**1.65**	**200**	P	**Pb**	**15 07 23.8**	**-0.3**
BBAL				S	**Sb**	**15 07 45.0**	**-0.2**
KVT	**Kavak**	**1.66**	**90**	PN	**Pn**	**15 07 22.9**	**0.0**
KIBS	**BOLU**	**1.66**	**247**	P	**Pb**	**15 07 23.7**	**-0.7**
KIBS				S	**Sg**	**15 07 48.2**	**+1.4**
KAMT	**Kaman**	**1.73**	**184**	PN	**Pn**	**15 07 24.0**	**+0.1**
AFSR	**Afar-Bala (An**	**1.75**	**200**	PN	**Pn**	**15 07 24.3**	**0.0**
YUVA	**Yuva-Kibriscik**	**1.79**	**247**	PN	**Pn**	**15 07 24.7**	**-0.1**
YIGI	**Dzce**	**1.82**	**267**	PN	**Pn**	**15 07 25.6**	**+0.5**
YOZ	**Yozgat**	**1.84**	**142**	PN	**Pn**	**15 07 25.7**	**+0.2**
KIRS	**Kirsehir-Merke**	**1.96**	**179**	P	**Pb**	**15 07 28.6**	**-0.8**
HACI	**Hacifakili, Ak**	**2.00**	**134**	P	**Pb**	**15 07 29.4**	**-0.7**
SIRC	**Yozgat**	**2.02**	**150**	P	**Pb**	**15 07 29.3**	**-1.2**
KOZK	**Kozakli-Nevseh**	**2.04**	**157**	PN	**Pn**	**15 07 28.6**	**+0.4**
KKUL	**Konya-Kulu**	**2.05**	**201**	P	**Pb**	**15 07 30.4**	**-0.6**
MDUB	**Mudurnu**	**2.11**	**254**	PN	**Pn**	**15 07 29.4**	**+0.2**
TOKA	**Tokat**	**2.14**	**110**	P	**Pb**	**15 07 31.2**	**-1.3**
YAYX	**Yaylak**	**2.16**	**181**	PN	**Pn**	**15 07 30.1**	**+0.3**
SERE	**Sereflikochisa**	**2.16**	**186**	PN	**Pn**	**15 07 30.1**	**+0.2**
AUMIH	**MIHALICIK**	**2.19**	**237**	PN	**Pn**	**15 07 30.5**	**+0.3**
AUMIH	**MIHALICIK**	**2.19**	**237**	P	**Pb**	**15 07 33.2**	**-0.1**
TOKT	**Tokat**	**2.19**	**110**	PN	**Pn**	**15 07 30.8**	**+0.6**
BTAS	**Taskesti**	**2.23**	**257**	P	**Pg**	**15 07 35.1**	**-0.9**
ERBA	**Erbaa**	**2.24**	**100**	P	**Pb**	**15 07 32.5**	**-1.6**
SAHE	**Sakarya_HENDEK**	**2.28**	**265**	P	**Pb**	**15 07 35.1**	**+0.2**
AUSIV	**SIVRIHISAR**	**2.42**	**228**	PN	**Pn**	**15 07 33.9**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.43**	**228**	PN	**Pn**	**15 07 33.9**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**2.48**	**132**	P	**Pn**	**15 07 36.0**	**+1.7**
KAYN	**Sakarya, Kayna**	**2.66**	**268**	P	**Pb**	**15 07 41.0**	**-0.3**
SVSK	**Karacayir**	**2.67**	**115**	PN	**Pn**	**15 07 37.5**	**+0.7**
BNN	**Bunyan**	**2.72**	**145**	PN	**Pn**	**15 07 37.8**	**+0.3**
RSDY	**Resadiye-TOKAT**	**2.73**	**104**	PN	**Pn**	**15 07 38.4**	**+0.8**
KAND	**Kocaeli-Kandir**	**2.77**	**271**	P	**Pn**	**15 07 39.4**	**+1.3**
GEYV	**SAKARYA_Geyve**	**2.77**	**258**	P	**Pg**	**15 07 45.0**	**-1.4**
BORA	**Eskisehir**	**2.86**	**246**	P	**Pn**	**15 07 39.9**	**+0.4**
CUAYA	**Sivas-Altinyay**	**2.87**	**129**	P	**Pb**	**15 07 42.8**	**-2.2**
KDHN	**Kadinhani**	**2.90**	**208**	P	**Pn**	**15 07 40.6**	**+0.6**
KALB	**Balgarevo**	**4.65**	**302**	⇑P	**Pn**	**15 08 07.4**	**+3.5**
KALB				⇑S	**Sn**	**15 08 58.1**	**0.0**
MANR	**Mangalia**	**4.75**	**307**	⇑P	**Pn**	**15 08 09.4**	**+4.1**
MANR				⇑S	**Sn**	**15 09 00.4**	**-0.2**
EFOR	**EFORIE**	**4.87**	**309**	⇑P	**Pn**	**15 08 09.3**	**+2.3**
TIRR	**Tirgusor**	**5.22**	**312**	⇑P	**Pn**	**15 08 13.8**	**+2.0**
TIRR				⇑S	**Sn**	**15 09 10.0**	**-2.3**
TPGR	**Topolog**	**5.48**	**315**	⇑P	**Pn**	**15 08 17.4**	**+2.1**
TPGR				⇑S	**Sn**	**15 09 16.9**	**-1.7**
TLCR		**5.50**	**320**	⇓P	**Pn**	**15 08 17.7**	**+2.1**
HARR	**Harsova**	**5.64**	**311**	⇑P	**Pn**	**15 08 20.0**	**+2.5**
CFR	**Carcaliu**	**5.84**	**316**	⇑P	**Pn**	**15 08 21.6**	**+1.4**
CFR				⇑S	**Sn**	**15 09 24.8**	**-2.6**
ISR	**Istrita**	**6.69**	**309**	⇓P	**Pn**	**15 08 34.8**	**+2.7**
MILM	**Milestii Mici**	**6.86**	**330**	⇓P	**Pn**	**15 08 35.6**	**+1.4**
VRI	**Vrincioaia**	**7.04**	**315**	⇑P	**Pn**	**15 08 38.7**	**+1.9**
KBZ	**Khabaz**	**7.19**	**66**	Pn	**Pn**	**15 08 43.3**	**+4.5**
	0.1nm,0.3s,baz=246,slow=12,SNR=1.6						
MLR	**Muntele Rosu**	**7.25**	**310**	⇑P	**Pn**	**15 08 43.3**	**+3.6**
MLR				⇑S	**Sn**	**15 10 00.9**	**-1.5**
MLR	**Muntele Rosu**	**7.25**	**310**	Pn	**Pn**	**15 08 43.5**	**+3.8**
	0.4nm,0.3s,baz=122,slow=15,SNR=2.3						
MLR				Sn	**Sn**	**15 10 05.2**	**+2.8**
	0.5nm,0.3s,baz=144,slow=21,SNR=3.4						
COVR	**Voineasa-Covas**	**7.31**	**313**	⇑P	**Pn**	**15 08 42.6**	**+2.1**
VOIR		**7.75**	**307**	⇓P	**Pn**	**15 08 50.3**	**+3.7**
VOIR				⇑S	**Sn**	**15 10 13.9**	**-0.8**
ARR	**Arges**	**7.97**	**305**	⇑P	**Pn**	**15 08 53.4**	**+3.9**
SORM	**Soroca**	**8.05**	**333**	⇑S	**Sn**	**15 10 16.4**	**-5.5**
BURAR	**Bucovina Array**	**8.98**	**319**	⇑P	**Pn**	**15 09 04.6**	**+1.1**
BURAR				⇑S	**Sn**	**15 10 42.8**	**-2.1**
GZR	**Gura Zlata**	**9.15**	**302**	⇓P	**Pn**	**15 09 09.0**	**+3.2**
GZR				⇑S	**Sn**	**15 10 49.4**	**+0.4**
AKASG	**Malin Array Be**	**10.13**	**343**	Pn	**Pn**	**15 09 17.6**	**-1.5**
	2.0nm,0.3s,baz=152,slow=13,SNR=8.6						
AKASG				Sn	**Sn**	**15 11 04.7**	**-8.2**
	0.8nm,0.3s,baz=156,slow=24,SNR=4.2						
AKTO	**Aktyubinsk**	**19.20**	**53**	P	**Pn**	**15 11 18.2**	**-0.2**
	0.1nm,0.3s,baz=243,slow=12,SNR=5.4						
FINES	**FINESS Array B**	**20.92**	**350**	P	Pn	15 11 38.7	+0.1
	0.6nm,0.5s,baz=154,slow=11,SNR=6.0						
NOA	**NORSAR Array B**	**24.28**	**333**	P	**P**	**15 12 11.1**	**+0.1**
	0.5nm,0.8s,baz=142,slow=7.3,SNR=3.1						
ARCES	**ARCESS Array B**	**28.84**	**354**	LR	LR	15 24 15.9	
	comp=Z,108nm,18.9s,baz=190,slow=36						
MKAR	**Makanchi Array**	**34.88**	**64**	P	**P**	**15 13 46.5**	**+1.3**
	0.6nm,0.8s,baz=270,slow=7.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**39.53**	**235**	P	**P**	**15 14 25.0**	**0.0**
	0.6nm,0.8s,baz=31,slow=9.8,SNR=3.8						
KMBO	**Kilima Mbogo**	**42.14**	**175**	LR	LR	15 33 00.7	
	comp=Z,35nm,19.7s,baz=96,slow=37						
CMAR	**Chiang Mai Arr**	**59.45**	**92**	P	**P**	**15 16 57.4**	**+0.3**
	0.5nm,0.3s,baz=302,slow=6.7,SNR=4.0						
YKA	**Yellowknife Ar**	**73.69**	**345**	P	**P**	**15 18 27.4**	**+0.1**
	0.1nm,0.5s,baz=28,slow=5.6,SNR=2.5						

*ISN **10** 15:14:13.1±0.8,35.18N×46.46E,h10km±13km,ML3.3*

*TEH **10** 15:14:13.2,35.07N×46.27E,h6km,ML3.3*

*AZER **10** 15:14:24.6±2.6,35.04N×46.55E,h10km,Error ellipse: s-maj=32.2km s-min=5.0km az=139.0*

ISC 10 15:14:15.1±1.0,35.08N±0.02×46.40E±0.03,h1km±10km, n40,σ1.65/49,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.37**	**182**	*e*Pg	**Pg**	**15 14 22.5**	**+0.2**
IDHR				*e*Sg	**Sg**	**15 14 28.5**	**+1.4**
ILIN	**Lien**	**0.49**	**108**	*e*Pg	**Pg**	**15 14 24.8**	**+0.4**
ILIN				*e*		15 14 37.3	
	comp=Z,23µm,0.2s						
IGHG	**Ghaleghazi**	**0.76**	**169**	*e*Pg	**Pg**	**15 14 30.1**	**+0.5**
IGHG				*e*		15 14 46.3	
	comp=Z,19µm,0.6s						
KER	**Kermanshah**	**0.92**	**139**	*e*Pg	**Pg**	**15 14 32.1**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.96**	**146**	*e*Pg	**Pg**	**15 14 33.7**	**+0.3**
KCHF				*e*Sg	**Sn**	**15 14 48.8**	**-1.3**
KCHF				*e*		15 14 53.4	
	comp=Z,20µm,0.4s						
IBZA	**Bozab**	**1.35**	**116**	*e*Pg	**Pg**	**15 14 41.4**	**+0.5**
IBZA				*e*		15 15 10.6	
	comp=Z,5µm,0.7s						
IKRK	**Kirkuk**	**1.72**	**281**	*e*Pn	**Pn**	**15 14 44.9**	**-1.2**
IKRK				*e*Sn	**Sb**	**15 15 09.0**	**-0.4**
IKRK				AML	AML	15 15 13.2	
	comp=N,441nm,0.6s						
IKRK				AML	AML	15 15 13.2	
	comp=E,499nm,0.4s						
MAHB	**Mahabad**	**1.78**	**342**	*e*Pn	**Pn**	**15 14 45.5**	**-1.6**
MAHB				*e*		15 15 19.4	
	comp=Z,4µm,0.6s						
IDOB	**Doab**	**1.95**	**131**	*e*Pn	**Pg**	**15 14 51.9**	**-0.6**
IKFM	**Kafar-mosalman**	**1.96**	**142**	*e*Pn	**Pb**	**15 14 50.4**	**-1.0**
IBDR	**Badra**	**2.00**	**191**	*e*Pn	**Pn**	**15 14 50.0**	**+0.1**
IBDR				*e*Sn	**Sb**	**15 15 17.0**	**-0.5**
IBDR				AML	AML	15 15 25.6	
	comp=E,328nm,0.3s						
IBDR				AML	AML	15 15 29.4	
	comp=N,205nm,0.8s						
HSAM	**Samen**	**2.01**	**115**	*e*Pn	**Pg**	**15 14 52.8**	**-0.8**
HAGD	**Aghdareh**	**2.27**	**96**	*e*Pn	**Pb**	**15 14 56.3**	**-0.6**
HAGD				*e*		15 15 34.6	
	comp=Z,940nm,0.7s						
ZNJK	**Zanjan**	**2.45**	**49**

MKAR	**Makanchi Array**	**49.09**	**345**	P		**P**		**15 23 44.0**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=151,slow=7.7,SNR=17								
MKAR	**Makanchi Array**	**49.09**	**345**	P		**P**		**15 23 43.4**	**+0.3**
MAKZ	**Makanchi**	**49.19**	**345**	P		**P**		**15 23 44.2**	**+0.4**
MAKZ				IAmb		IAmb		15 23 45.5	
	comp=Z,1.2nm,0.9s								
JHJ2	**Mitsune**	**50.88**	**45**	P		**P**		**15 23 57.2**	**+0.3**
ZALV	**Zalesovo Beam**	**55.30**	**350**	P		**P**		**15 24 29.4**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=170,slow=6.4,SNR=7.7								
ZALV	**Zalesovo Beam**	**55.30**	**350**	P		**P**		**15 24 28.8**	**-0.2**
ABKAR	**Akbulak array**	**59.60**	**332**	P		**P**		**15 24 59.1**	**-0.4**
TIXI	**Tiksi**	**74.37**	**9**	P		**P**		**15 26 32.0**	**-0.7**

INET ***10*** *15:22:33.7±0.9, 12°.52N×88°.37W, h24km±12km, MW3.2*
SNET ***10*** *15:22:35.8±1.1, 12°.67N×88°.39W, h23km±7km, ML3.2*

ISC 10 15:22:33.7±2.6, 12°.5N±0°.1×88°.33W±0°.07, h27km±15km, n14, σ0s55/24, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.72**	**6**	*eP*	**Pb**	**15 22 47.9**	**+0.1**
JUCU				*eS*	**Sb**	**15 22 57.1**	**-0.2**
JUCU	**Jucuarįn**	**0.72**	**6**	*eP*	**Pb**	**15 22 47.6**	**-0.1**
JUCU				*eS*	**Sb**	**15 22 58.2**	**+0.9**
CSGN	**Cosiguina Volc**	**0.87**	**60**	*eP*	**Pb**	**15 22 50.6**	**+0.2**
LCND	**La Caada**	**0.88**	**29**	*eP*	**Pb**	**15 22 50.1**	**-0.3**
LCND				*eS*	**Sb**	**15 23 01.6**	**-0.2**
LCND				IAML		15 23 03.9	
	comp=Z,874nm,0.4s						
COEB	**Comit de Eme**	**0.98**	**349**	*eP*	**Pn**	**15 22 51.7**	**-0.1**
COEB				*eS*	**Sb**	**15 23 04.1**	**-0.6**
COEB				IAML		15 23 06.8	
	comp=Z,731nm,0.2s						
PQSS	**Presa 15 de Se**	**1.10**	**348**	*eP*	**Pn**	**15 22 53.6**	**+0.1**
PQSS				*eS*	**Sn**	**15 23 07.3**	**-0.5**
FAGO	**Alcalda de S**	**1.17**	**11**	*eP*	Pn	15 22 36.4	-18
FAGO				*eS*	Sn	15 22 50.5	-19
COEG	**Centro de Oper**	**1.20**	**334**	*eP*	**Pn**	**15 22 55.1**	**+0.2**
COEG				*eS*	**Sn**	**15 23 09.7**	**-0.7**
COEG				IAML		15 23 13.7	
	comp=Z,512nm,0.2s						
SCLA	**Alcaldia de Sa**	**1.22**	**342**	*eP*	**Pn**	**15 22 55.5**	**+0.4**
SCLA				*eS*	**Sn**	**15 23 11.1**	**+0.3**
SJTE	**Alcalda de S**	**1.26**	**329**	*eP*	**Pn**	**15 22 55.2**	**-0.5**
SJTE				*eS*	**Sn**	**15 23 11.4**	**-0.3**
CRIN	**San Cristobal**	**1.26**	**82**	*eP*	**Pn**	**15 22 56.0**	**+0.3**
CRIN				*eS*	**Sn**	**15 23 12.8**	**+1.0**
PAVA	**Las Pavas**	**1.31**	**333**	*eP*	**Pn**	**15 22 57.0**	**+0.6**
PAVA				*eS*	**Sn**	**15 23 13.4**	**+0.3**
CNGN	**Cerro Negro**	**1.60**	**91**	*eP*	**Pn**	**15 22 59.2**	**-1.1**
NUBE	**Las Nubes**	**1.96**	**314**	*eP*	**Pn**	**15 23 06.0**	**+0.7**
NUBE				*eS*	**Sn**	**15 23 28.8**	**-0.3**

IDC ***10*** *15:46:10.0±0.6, 41°.01S×91°.44W, h0km, mb4.6/12, mb1 4.8/13, mb1mx4.6/29, mbtmp4.6/13, ML3.7/1, MS4.5/44, Ms1 4.5/44, ms1mx4.5/52, Error ellipse: s-maj=21.1km s-min=16.1km az=115.0*
MOS ***10*** *15:46:10.1±1.2, 40.99S×91°.34W, h12km, mb5.2/36, Error ellipse: s-maj=14.4km s-min=8.9km az=85.3*
NEIC ***10*** *15:46:11.4±1.4, 41°.07S±0°.10×91°.3W±0°.2, h12km±3km, mb5.2/226, Error ellipse: s-maj=17.6km s-min=14.2km az=93.0*
GCMT ***10*** *15:46:13.4±0.2, 41°.13S±0°.01×91°.57W±0°.01, h18km, MW5.3/129, Moment Tensor Solution. s61,c84; s129,c214; Duration: 1ŝ1 Moment tensor: Scale 10^17 Nm; Mrr=0.14±.03; Mθθ=0.35±.02; Mφφ=-0.20±.02; Mrθ=-0.19±.05; Mrφ=-1.08±.02; Mθφ=0.03±.05; Best double couple: M=1.13100×10^17 NP1:φs=353.00000°, δ=81.00000°, λ=1.00000°. NP2:φs=263.00000°, δ=89.00000°, λ=171.00000°. Principal axes: T 1.2090, Plg7.0000°, Azm217.0000°; N -0.1570, Plg81.0000°, Azm77.0000°; P -1.0520, Plg6.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 15:46:11.2±0.3, 41°.04S±0°.06×91°.25W±0°.06, h10km, n524, σ1ŝ19/475, mb5.1/108, MS4.6/48, 9C-2D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.14**	**58**	T	T	16 01 46.4	
	baz=232,SNR=1094						
H03S1	**Juan Fernandez**	**12.15**	**58**	T	T	16 01 47.6	
	baz=232,SNR=444						
H03S3	**Juan Fernandez**	**12.16**	**58**	T	T	16 01 46.6	
	baz=232,SNR=579						
H03N3	**Juan Fernandez**	**12.39**	**56**	T	T	16 02 09.2	
	baz=231,slow=71,SNR=2201						
H03N2	**Juan Fernandez**	**12.39**	**56**	T	T	16 02 07.0	
	baz=231,slow=71,SNR=2416						
H03N1	**Juan Fernandez**	**12.41**	**56**	T	T	16 02 08.1	
	baz=231,slow=71,SNR=1873						
GO07	**Milladeo Hill,**	**13.23**	**105**	Pn	**Pn**	**15 49 18.5**	**-0.5**
LL01	**San Ignacio de**	**14.14**	**102**	P	**P**	**15 49 37.5**	**-1.6**
LL03	**Petrohue**	**14.22**	**97**	P	**P**	**15 49 38.8**	**-1.2**
LL04	**Puerto Octay**	**14.24**	**96**	P	**P**	**15 49 38.6**	**-1.6**
LR03	**Panguipulli**	**14.49**	**91**		**Pn**	**15 49 36.2**	**-0.1**
LC01	**Cunco**	**15.01**	**88**	Pn	**Pn**	**15 49 43.7**	**+0.4**
LC01				IAmb	IAmb	15 50 00.2	
	comp=Z,86nm,1.2s						
GO08	**Villa O'Higgin**	**15.19**	**126**	Pn	**Pn**	**15 49 44.9**	**-0.8**
GO08				IAmb	IAmb	15 49 56.0	
	comp=Z,135nm,1.2s						
PLCA	**Paso Flores**	**15.66**	**96**	Pn	**P**	**15 49 55.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=262,slow=13,SNR=16						
PLCA				LR	LR	15 53 35.8	
	comp=Z,709nm,18.5s,baz=262,slow=28						
PLCA	**Paso Flores**	**15.66**	**96**	*eP*	**P**	**15 49 56.0**	**-0.1**
PLCA	**Paso Flores**	**15.66**	**96**		**P**	**15 49 56.0**	**-0.1**
GO05	**Huala**	**16.36**	**75**	Pn	**Pn**	**15 50 00.8**	**-0.2**
GO05				IAmb	IAmb	15 50 04.6	
	comp=Z,189nm,1.3s						
ML02	**Panimavida**	**16.41**	**78**		**P**	**15 50 04.2**	**-0.1**
GO09	**Cerro Castillo**	**16.58**	**134**	P	**P**	**15 50 05.7**	**-0.4**
VA05	**Santo Domingo**	**17.24**	**71**		**P**	**15 50 12.9**	**-0.6**
VA05				IAmb	IAmb	15 50 17.3	
	comp=Z,198nm,1.4s						
BO01	**Tunca**	**17.26**	**74**	P	**P**	**15 50 13.7**	**-0.1**
BO02	**Sierra Bellavi**	**17.30**	**75**	P	**P**	**15 50 16.1**	**+1.9**
BO02				IAmb	IAmb	15 50 32.9	
	comp=Z,252nm,1.9s						
MT01	**Popeta**	**17.40**	**72**	P	**P**	**15 50 15.3**	**0.0**
MT09	**Talagante**	**17.63**	**72**	P	**P**	**15 50 18.0**	**-0.1**
MT09				IAmb	IAmb	15 50 23.0	
	comp=Z,186nm,1.3s						
MT02	**Curacav**	**17.79**	**71**		**P**	**15 50 19.2**	**-0.5**
BO04	**La Punta**	**17.80**	**73**	P	**P**	**15 50 21.6**	**+1.8**
MT05	**Renca**	**18.01**	**72**	P	**P**	**15 50 22.0**	**-0.1**
MT05				IAmb	IAmb	15 51 01.5	
	comp=Z,173nm,1.4s						
ROC1	**El Roble**	**18.03**	**70**	P	**P**	**15 50 22.3**	**-0.2**
VA06	**Catapilco**	**18.05**	**68**	P	**P**	**15 50 23.0**	**+0.5**
MT03	**Universidad Ad**	**18.12**	**72**	P	**Pn**	**15 50 22.9**	**-0.1**
PEL	**Peldehue**	**18.17**	**71**	P	**P**	**15 50 25.2**	**+1.3**
PEL				pmax	pmax		
	comp=Z,77nm,1.1s						
PEL	**Peldehue**	**18.17**	**71**	P	**P**	**15 50 25.2**	**+1.3**
VA03	**San Esteban**	**18.47**	**70**	P	**Pn**	**15 50 27.2**	**-0.1**
VA03				IAmb	IAmb	15 50 30.5	
	comp=Z,116nm,0.9s						
CO06	**Fray Jorge**	**18.93**	**63**	P	**Pn**	**15 50 33.0**	**+0.2**
CO02	**Combarbal**	**19.04**	**65**	P	**P**	**15 50 33.3**	**-0.2**
CO02				IAmb	IAmb	15 50 37.5	
	comp=Z,129nm,1.1s						
CO03	**El Pedregal**	**19.47**	**65**	P	**P**	**15 50 38.5**	**+0.3**
CO05	**La Serena**	**19.67**	**62**	P	**P**	**15 50 40.4**	**+0.1**
CO05				IAmb	IAmb	15 50 48.2	
	comp=Z,137nm,1.1s						
GO04	**Tololo Observa**	**19.80**	**63**	P	**P**	**15 50 41.1**	**-0.9**
GO04				IAmb	IAmb	15 50 49.9	
	comp=Z,224nm,1.4s						
RPN	**Rapa Nui**	**20.36**	**307**	LR	LR	15 56 14.1	
	comp=Z,3µm,21.7s,baz=137,slow=30						
CO01	**Juntas del Tor**	**20.40**	**64**	P	**P**	**15 50 49.2**	**+0.6**
CO01				IAmb	IAmb	15 50 52.5	
	comp=Z,103nm,1.4s						
USHA	**Ushuaia**	**20.47**	**140**	P	Pn	15 50 53.2	+2.3
	comp=Z,22nm,0.9s,baz=276,slow=11,SNR=5.4						
USHA				LR	LR	15 57 09.0	
	comp=Z,3µm,19.4s,baz=298,slow=32						
LCO	**Las Campanas**	**20.61**	**61**	P	**P**	**15 50 51.3**	**+0.4**
LCO				pmax	pmax		
	comp=Z,120nm,1.0s						
LCO	**Las Campanas**	**20.61**	**61**	P	**P**	**15 50 51.3**	**+0.4**
LCO				IAmb	IAmb	15 50 57.6	
	comp=Z,120nm,0.9s						
AC04	**Llanos de Chal**	**20.91**	**59**	P	**P**	**15 50 54.2**	**+0.4**
AC04				IAmb	IAmb	15 51 01.6	
	comp=Z,177nm,1.4s						
GO03	**Copiap**	**21.86**	**59**	P	**P**	**15 51 04.1**	**0.0**
AC06	**Mina Casimiro**	**21.95**	**58**	P	**P**	**15 51 05.7**	**+0.7**
AC06				IAmb	IAmb	15 51 11.1	
	comp=Z,113nm,0.9s						
AC01	**Pan de Azucar**	**22.64**	**55**	P	**P**	**15 51 13.2**	**+0.8**
AC02	**Maricunga**	**23.10**	**59**	P	**P**	**15 51 17.0**	**-0.7**
GO02	**Mina Guanaco**	**23.98**	**55**	P	**P**	**15 51 26.0**	**-0.2**
PB10	**IPOC Station P**	**24.63**	**51**	P	**P**	**15 51 31.4**	**-0.5**
PB10				IAmb	IAmb	15 51 40.5	
	comp=Z,53nm,1.0s						
EFI	**East Falkland**	**25.05**	**126**	*iP*	**P**	**15 51 36.1**	**+0.8**
EFI				pmax	pmax		
	comp=Z,112nm,1.4s						
PB15	**IPOC Station P**	**25.50**	**52**	P	**P**	**15 51 39.2**	**-0.8**
PB15				IAmb	IAmb	15 51 44.4	
	comp=Z,84nm,1.1s						
PB04	**IPOC Station P**	**25.77**	**50**	P	**P**	**15 51 41.9**	**-0.5**
PB06	**IPOC Station P**	**25.82**	**52**	P	**P**	**15 51 42.5**	**-0.4**
PB06				IAmb	IAmb	15 51 46.9	
	comp=Z,38nm,0.9s						
LVC	**Limon Verde**	**26.29**	**52**	P	**P**	**15 51 48.8**	**+1.5**
	comp=Z,48nm,1.1s,baz=222,slow=8.6,SNR=18						
LVC				LR	LR	15 59 41.6	
	comp=Z,2µm,19.9s,baz=229,slow=31						
LVC	**Limon Verde**	**26.29**	**52**	P	**P**	**15 51 47.1**	**-0.1**
LVC				IAmb	IAmb	15 51 50.1	
	comp=Z,64nm,1.1s						
LVC	**Limon Verde**	**26.29**	**52**	*eP*	**P**	**15 51 48.9**	**+1.6**
PB07	**IPOC Station P**	**26.39**	**50**	P	**P**	**15 51 47.4**	**-0.6**
PB02	**IPOC Station P**	**26.71**	**49**	P	**P**	**15 51 50.6**	**-0.2**
PB02				IAmb	IAmb	15 51 58.7	
	comp=Z,73nm,1.2s						
PB09	**IPOC Station P**	**26.72**	**51**	P	**P**	**15 51 50.9**	**0.0**
PATCX	**Punta Patache**	**26.96**	**48**	P	**P**	**15 51 53.5**	**+0.5**
TA01	**Diego Aracena**	**27.14**	**48**	P	**P**	**15 51 54.6**	**0.0**
TA01				IAmb	IAmb	15 52 01.0	
	comp=Z,72nm,1.1s						
PB01	**IPOC Station P**	**27.16**	**49**	P	**P**	**15 51 55.4**	**+0.5**
PB01				IAmb	IAmb	15 51 57.8	
	comp=Z,80nm,1.2s						
TA02	**Huaiquique**	**27.41**	**47**	P	**P**	**15 51 57.5**	**+0.5**
PB08	**IPOC Station P**	**28.06**	**49**	P	**P**	**15 52 03.6**	**+0.3**
PB11	**IPOC Station P**	**28.08**	**47**	P	**P**	**15 52 04.0**	**+0.8**
PB11				IAmb	IAmb	15 52 33.1	
	comp=Z,37nm,1.1s						
GO01	**Chusmiza**	**28.41**	**48**	P	**P**	**15 52 06.0**	**-0.5**
PMSA	**Palmer Station**	**28.45**	**156**	LR	LR	16 01 01.9	
	comp=Z,568nm,20.2s,baz=294,slow=31						
PB12	**IPOC Station P**	**28.65**	**45**	P	**P**	**15 52 08.4**	**+0.2**
PB12				IAmb	IAmb	15 52 10.5	
	comp=Z,43nm,1.1s						
ITQB	**Itaqui**	**30.25**	**79**	P	**P**	**15 52 22.3**	**+0.1**
ITQB	**Itaqui**	**30.25**	**79**	*eP*	**P**	**15 52 23.5**	**+1.4**
PLTB	**Pedras Altas**	**31.48**	**85**	P	**P**	**15 52 33.0**	**-0.1**
PLTB				IAmb	IAmb	15 52 35.1	
	comp=Z,52nm,1.2s						
PLTB	**Pedras Altas**	**31.48**	**85**	*eP*	**P**	**15 52 33.6**	**+0.5**
NNA	**Nana**	**31.58**	**28**	LR	LR	16 01 56.5	
	comp=Z,2µm,20.7s,baz=192,slow=30						
NNA	**Nana**	**31.58**	**28**	*ceP*	**P**	**15 52 35.1**	**+1.0**
NNA				pmax	pmax		
	comp=Z,122nm,1.3s						
NNA	**Nana**	**31.58**	**28**	P	**P**	**15 52 34.8**	**+0.7**
CPUP	**Villa Florida**	**31.59**	**73**	P	**P**	**15 52 34.5**	**+0.5**
	comp=Z,7.5nm,1.0s,baz=260,slow=8.9,SNR=10						
CPUP				LR	LR	16 04 43.9	
	comp=Z,1µm,18.2s,baz=243,slow=35						
CPUP	**Villa Florida**	**31.59**	**73**	P	**P**	**15 52 33.9**	**-0.1**
CPUP				pmax	pmax		
	comp=Z,28nm,1.3s						
CPUP	**Villa Florida**	**31.59**	**73**	P	**P**	**15 52 33.9**	**-0.1**
CPUP				IAmb	IAmb	15 52 35.7	
	comp=Z,28nm,1.3s						
CPUP	**Villa Florida**	**31.59**	**73**	*eP*	**P**	**15 52 34.6**	**+0.5**
LPAZ	**La Paz**	**31.74**	**46**	P	**P**	**15 52 38.0**	**+1.9**
	comp=Z,14nm,0.9s,baz=207,slow=7.6,SNR=40						
LPAZ				LR	LR	16 02 44.6	
	comp=Z,1µm,19.0s,baz=225,slow=31						
LPAZ	**La Paz**	**31.74**	**46**	P	**P**	**15 52 36.2**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,62nm,1.3s						
LPAZ	**La Paz**	**31.74**	**46**	P	**P**	**15 52 36.2**	**+0.1**
CPSB	**Cacapava Do Su**	**32.25**	**83**	*eP*	**P**	**15 52 40.9**	**+1.0**
ITAB	**Concordia**	**34.89**	**79**	P	**P**	**15 53 03.1**	**+0.3**
ITAB	**Concordia**	**34.89**	**79**	*eP*	**P**	**15 53 03.9**	**+1.1**
PTGB	**Pitanga**	**36.37**	**76**	*eP*	**P**	**15 53 16.7**	**+1.0**
AQDB	**Aquidauana**	**36.44**	**67**	P	**P**	**15 53 15.9**	**-0.2**
AQDB	**Aquidauana**	**36.44**	**67**	*eP*	**P**	**15 53 16.9**	**+0.7**
TER01	**Tubaro-SC**	**36.44**	**83**	*eP*	**P**	**15 53 17.7**	**+1.5**
CZSB	**Cruzeiro do Su**	**37.05**	**32**	*eP*	**P**	**15 53 21.9**	**+0.5**
PTLB	**Pontes e Lacer**	**37.72**	**57**	*eP*	**P**	**15 53 27.6**	**+0.5**
MCRA	**Macar, Loja**	**37.89**	**19**	P	**P**	**15 53 28.0**	**-0.5**
MCRA				IAmb	IAmb	15 53 30.0	
	comp=Z,42nm,1.1s						
ETMB	**Extrema**	**38.16**	**42**	*eP*	**P**	**15 53 31.2**	**+0.4**
PCMB	**Pacaembu**	**38.85**	**72**	*eP*	**P**	**15 53 37.7**	**+1.1**
PP1B	**Ponte de Pedra**	**38.97**	**64**	*eP*	**P**	**15 53 38.3**	**+0.7**
VILB	**Vilhena**	**38.97**	**53**	*eP*	**P**	**15 53 38.3**	**+0.6**
FRTB	**Fartura**	**39.02**	**76**	*eP*	**P**	**15 53 39.1**	**+1.0**
BOSC	**San Juan Bosco**	**39.43**	**20**	P	**P**	**15 53 40.9**	**-0.7**
SALV	**Santo Antonio**	**39.62**	**61**	*eP*	**P**	**15 53 44.0**	**+0.9**
RKT	**Rikitea**	**40.65**	**282**	*eT*	T	16 36 36.0	
	comp=Z,5.3nm,0.3s						
ITRB	**Iturama**	**40.71**	**71**	*eP*	**P**	**15 53 53.3**	**+1.1**
RCLB	**Rio Claro- Sao**	**41.07**	**77**	*eP*	**P**	**15 53 56.0**	**+0.9**
VAO	**Valinhos**	**41.14**	**78**	*eP*	**P**	**15 53 57.2**	**+1.5**
BB19B	**Bebedouro**	**41.17**	**74**	*eP*	**P**	**15 53 56.9**	**+1.0**
TBTG	**Tabatinga, AM**	**41.39**	**33**	*eP*	**P**	**15 53 58.4**	**+0.7**
PARB	**Paraibuna**	**41.94**	**79**	*eP*	**P**	**15 54 03.5**	**+1.3**
PDRB	**Porto dos Gac**	**42.14**	**56**	*eP*	**P**	**15 54 04.5**	**+0.6**
CLDB	**Colider**	**43.29**	**56**	*eP*	**P**	**15 54 13.4**	**+0.1**
BELA	**Belgrano 2**	**43.35**	**165**	P	**P**	**15 54 12.0**	**-0.9**
IPMB	**Ipameri, GO**	**43.37**	**71**	*eP*	**P**	**15 54 14.4**	**+0.5**
MAN01	**Ângra dos Reis**	**43.45**	**80**	*eP*	**P**	**15 54 16.4**	**+1.9**
PTLC	**Puerto Leguiza**	**43.65**	**24**	*eP*	**P**	**15 54 12.4**	**-3.7**
VAS01	**Vassouras-RJ**	**44.18**	**80**	*eP*	**P**	**15 54 22.8**	**+2.5**
SOTA	**Rioblanco**	**44.99**	**21**	*eP*	**P**	**15 54 25.1**	**-2.3**
BDFB	**Brasilia**	**45.07**	**69**	P	**P**	**15 54 27.8**	**+0.1**
	comp=Z,10nm,1.0s,baz=239,slow=7.6,SNR=15						
BDFB				LR	LR	16 12 52.0	
	comp=Z,1µm,18.4s,baz=233,slow=35						
BDFB	**Brasilia**	**45.07**	**69**	P	**P**	**15 54 26.9**	**-0.7**
BDFB				pmax	pmax		
	comp=Z,30nm,1.3s						
BDFB	**Brasilia**	**45.07**	**69**	P	**P**	**15 54 26.9**	**-0.7**
BDFB				IAmb	IAmb	15 54 29.3	
	comp=Z,30nm,1.3s						
BDFB	**Brasilia**	**45.07**	**69**	*eP*	**P**	**15 54 28.6**	**+0.9**
DUB01	**Friburgo-RJ**	**45.10**	**81**	*eP*	**P**	**15 54 29.9**	**+2.2**
PCON	**Cinco Dias**	**45.23**	**21**	*eP*	**P**	**15 54 29.7**	**+0.4**
GARC	**Garzon, Huila**	**45.35**	**22**	*eP*	**P**	**15 54 29.7**	**-0.2**
POPC	**Popayan, Colom**	**45.36**	**21**	*eP*	P	15 54 25.1	-4.9
SNDB	**Serra Nova Dou**	**45.39**	**62**	*eP*	**P**	**15 54 30.9**	**+0.9**
CAM01	**Campos-RJ**	**45.78**	**81**	*eP*	**P**	**15 54 34.7**	**+1.6**
MACC	**Macarena, Meta**	**45.81**	**25**	*eP*	**P**	**15 54 34.4**	**+1.1**
DIAM	**Diamantina, MG**	**46.46**	**75**	*eP*	**P**	**15 54 40.6**	**+2.0**
NPGB	**Novo Progresso**	**46.53**	**53**	*eP*	**P**	**15 54 39.4**	**+0.4**
MACA	**Manacapuru-AM**	**46.67**	**44**	*eP*	**P**	**15 54 40.8**	**+0.7**
ORTC	**Ortega, Tolima**	**47.06**	**22**	*eP*	**P**	**15 54 42.5**	**-0.7**
ALF01	**Guarapari-ES**	**47.20**	**80**	*eP*	**P**	**15 54 46.1**	**+1.9**
PEXB	**Peixe**	**47.33**	**65**	*eP*	**P**	**15 54 46.3**	**+1.1**
ANIL	**Santa Ana**	**47.57**	**22**	*eP*	**P**	**15 54 47.1**	**-0.3**
PLMC	**San Jos del P**	**47.73**	**20**	*eP*	**P**	**15 54 45.9**	**-2.5**
SJMB	**Sao Joao De Ma**	**48.03**	**78**	*eP*	**P**	**15 54 52.4**	**+1.7**
JANB	**Januaria**	**48.10**	**72**	*eP*	**P**	**15 54 52.2**	**+0.9**
CHIC	**Chingaza**	**48.19**	**24**	*eP*	**P**	**15 54 50.6**	**-1.8**
ROSC	**El Rosal**	**48.22**	**23**	P	**P**	**15 54 54.1**	**+1.6**
	comp=Z,7.5nm,0.3s,baz=156,slow=4.8,SNR=20						
ROSC				LR	LR	16 13 13.2	
	comp=Z,766nm,18.4s,baz=223,slow=34						
RIB01	**Linhares ES**	**48.24**	**79**	*eP*	**P**	**15 54 54.4**	**+2.1**
GUY2C	**Guyana, Caldas**	**48.28**	**21**	*eP*	**P**	**15 54 52.9**	**-0.2**
PTGC	**Puerto Gaitan,**	**48.30**	**26**	*eP*	**P**	**15 54 52.9**	**+0.2**
ITTB	**Itaituba**	**48.44**	**51**	*eP*	**P**	**15 54 53.2**	**-0.6**
CBOC	**Ciudad Bolivar**	**48.72**	**20**	*eP*	**P**	**15 54 51.7**	**-4.4**
NORC	**Norcasia**	**48.75**	**22**	*eP*	**P**	**15 54 55.2**	**-1.0**
VNA3	**Neumayer Olymp**	**49.10**	**155**	P	**P**	**15 55 00.5**	**+2.2**
HELC	**Santa Helena**	**49.16**	**21**	*eP*	**P**	**15 54 59.8**	**+0.1**
QSPA	**South Pole Qui**	**49.20**	**180**	P	**P**	**15 55 00.4**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=139,slow=1.4,SNR=19						
QSPA				LR	LR	16 12 58.4	
	comp=Z,685nm,18.7s,baz=127,slow=33						
QSPA	**South Pole Qui**	**49.20**	**180**	P	**P**	**15 54 58.5**	**-0.7**
NAN01	**Guarapari, ES**	**49.35**	**78**	*eP*	**P**	**15 55 01.7**	**+0.8**
SDBA	**SAO DESIDERIO**	**49.48**	**68**	*eP*	**P**	**15 55 02.9**	**+1.0**
RUSC	**La Rusia**	**49.59**	**24**	*eP*	**P**	**15 55 01.0**	**-2.2**
VNA1	**Neumayer--Stat**	**49.65**	**154**	P	**P**	**15 55 02.7**	**+0.2**
PTBC	**PUERTO BERRIO,**	**49.79**	**22**	*eP*	**P**	**15 55 01.0**	**-3.2**
VNA2	**Neumayer--Watz**	**49.89**	**155**	P	**P**	**15 55 04.4**	**+0.1**
	baz=266,slow=8.0						
SMTB	**Santa Maria do**	**50.14**	**63**	*eP*	**P**	**15 55 08.2**	**+1.3**
BARC	**Barichara**	**50.22**	**24**	*eP*	**P**	**15 55 05.6**	**-2.0**
GUA01	**Guaratinga, BA**	**50.38**	**77**	*eP*	**P**	**15 55 10.4**	**+1.7**
ZARC	**Zaragoza, Cauc**	**50.59**	**21**	P	**P**	**15 55 09.6**	**-0.5**
ZARC	**Zaragoza, Cauc**	**50.59**	**21**	*eP*	**P**	**15 55 05.6**	**-4.6**
UREC	**San Jos de Ur**	**50.66**	**20**	*eP*	**P**	**15 55 12.6**	**+1.9**
PRPB	**Parauapebas**	**50.67**	**58**	*eP*	**P**	**15 55 11.2**	**+0.2**
RIMA	**Rio Macho**	**51.01**	**9**	P	**P**	**15 55 14.3**	**+0.8**
RIMA				IAmb	IAmb	15 55 15.2	
	comp=Z,40nm,1.5s						
BCIP	**Isla Barro Col**	**51.05**	**15**	P	**P**	**15 55 13.9**	**+0.3**
BCIP				pmax	pmax		
	comp=Z,70nm,1.2s						
BCIP	**Isla Barro Col**	**51.05**	**15**	P	**P**	**15 55 13.9**	**+0.3**
SNAA	**Sanae**	**51.17**	**156**	P	**P**	**15 55 15.8**	**+1.8**
SNAA	**Sanae**	**51.17**	**156**	LR	LR	16 13 37.1	
	comp=Z,552nm,19.5s,baz=300,slow=32						
SNAA	**Sanae**	**51.17**	**156**	*ceP*	**P**	**15 55 15.0**	**+1.0**
SNAA				pmax	pmax		
	comp=Z,20nm,1.2s						
SNAA	**Sanae**	**51.17**	**156**	P	**P**	**15 55 13.6**	**-0.4**
CVTR	**Volcan Turrial**	**51.27**	**9**	P	**P**	**15 55 15.4**	**-0.3**
MALB	**Monte Alegre**	**51.32**	**50**	*eP*	**P**	**15 55 15.9**	**+0.2**
CMC01	**Camacan, BA**	**51.38**	**76**	*eP*	**P**	**15 55 17.9**	**+1.7**
JTS	**Las Juntas de**	**51.40**	**8**	LR	LR	16 11 45.3	
	comp=Z,783nm,19.1s,baz=217,slow=30						
JTS	**Las Juntas de**	**51.40**	**8**	P	**P**	**15 55 15.9**	**-0.4**
JTS	**Las Juntas de**	**51.40**	**8**	P	**P**	**15 55 15.9**	**-0.4**
ORTG	**Ortega, Santa**	**51.42**	**7**	P	**P**	**15 55 16.4**	**-0.1**
ORTG				IAmb	IAmb	15 55 18.2	
	comp=Z,55nm,1.4s						
BOAV	**Boa Vista**	**51.50**	**41**	*eP*	**P**	**15 55 16.8**	**-0.3**
OCAC	**Ocana**	**51.74**	**23**	P	**P**	**15 55 17.5**	**-1.4**
OCAC	**Ocana**	**51.74**	**23**	*eP*	P	15 55 13.7	-5.3
ELOV	**Elorza**	**51.82**	**28**	*eP*	**P**	**15 55 18.3**	**-1.1**
COVE	**Coope Vega, Sa**	**51.88**	**9**	P	**P**	**15 55 19.6**	**-0.2**
GDU01	**Guandu, BA**	**52.41**	**74**	*eP*	**P**	**15 55 24.6**	**+0.7**
TROLL	**Troll, Antarti**	**52.69**	**157**	P	**P**	**15 55 25.2**	**-0.2**
SJCC	**San Jacinto, C**	**52.80**	**20**	P	**P**	**15 55 26.6**	**-0.2**
SJCC				IAmb	IAmb	15 55 28.6	
	comp=Z,64nm,1.5s						
LL6C	**

TUC IAmb IAmb 15 57 57.9
comp=Z,22nm,1.3s
214A Organ Pipe Nat 75.31 341 P **P** **15 57 55.8 +1.4**
baz=163
HODGE **Hodges 75.36 8** P **P** **15 57 54.6 +0.1**
HODGE IAmb IAmb 15 57 55.6
comp=Z,41nm,1.3s
MSTX Muleshoe 75.39 350 P **P** **15 57 55.0 +0.1**
MSTX IAmb IAmb 15 58 04.3
comp=Z,20nm,1.0s
MSTX Muleshoe 75.39 350 P **P** **15 57 55.9 +1.0**
baz=171
JSC Jenkinsville 75.51 9 P **P** **15 57 54.9 -0.5**
JSC pmax pmax
comp=Z,27nm,1.2s
JSC Jenkinsville 75.51 9 P **P** **15 57 54.9 -0.5**
JSC IAmb IAmb 15 57 56.3
comp=Z,27nm,1.2s
WMOK Wichita Mounta 75.72 354 P **P** **15 57 57.1 +0.4**
WMOK pmax pmax
comp=Z,30nm,0.6s
WMOK Wichita Mounta 75.72 354 P **P** **15 57 57.1 +0.4**
W41B Gary Mavity, V 75.84 359 P **P** **15 57 57.1 -0.2**
W41B IAmb IAmb 15 57 58.0
comp=Z,42nm,1.5s
W41B Gary Mavity, V 75.84 359 P **P** **15 57 57.8 +0.5**
baz=179
W39A Magazine 75.90 358 P **P** **15 57 58.6 +1.0**
baz=178
PAULI Pauline 75.98 8 P **P** **15 57 57.4 -0.7**
PAULI IAmb IAmb 15 57 59.1
comp=Z,39nm,1.3s
SWET Sewanee 76.04 4 P **P** **15 57 57.9 -0.6**
SWET IAmb IAmb 15 58 12.0
comp=Z,43nm,1.7s
BG3 Lake Jocassee 76.04 7 P **P** **15 57 57.6 -0.9**
BG3 IAmb IAmb 15 58 13.5
comp=Z,20nm,1.0s
W52A Murphy 76.06 6 P **P** **15 57 57.4 -1.2**
W52A IAmb IAmb 15 58 14.9
comp=Z,18nm,1.1s
FNO Franklin 76.13 355 P **P** **15 57 58.3 -0.7**
FNO IAmb IAmb 15 58 02.0
comp=Z,36nm,1.3s
KMSC Kings Mountain 76.35 8 P **P** **15 58 00.2 0.0**
baz=188
V48A Smith Brothers 76.51 4 P **P** **15 57 59.3 -1.8**
V48A IAmb IAmb 15 58 21.3
comp=Z,41nm,1.7s
TKL Tuckaleechee C 76.63 6 LR LR 16 27 14.6
comp=Z,210nm,20.4s,baz=179,slow=32
TUL1 Leonard 76.69 356 P **P** **15 58 01.7 -0.4**
TUL1 IAmb IAmb 15 58 15.7
comp=Z,26nm,1.3s
TUL1 Leonard 76.69 356 P **P** **15 58 02.9 +0.8**
baz=176
V53A Saluda 76.73 7 P **P** **15 58 01.0 -1.4**
V53A IAmb IAmb 15 58 12.1
comp=Z,24nm,1.1s
WVT Waverly 76.86 3 P **P** **15 58 01.7 -1.3**
WVT pmax pmax
comp=Z,12nm,1.3s
WVT Waverly 76.86 3 P **P** **15 58 01.7 -1.3**
GLA Glamis 76.86 340 P **P** **15 58 04.8 +1.6**
baz=162
ANMO Albuquerque 76.89 347 LR LR 16 26 43.5
comp=Z,256nm,18.2s,baz=168,slow=32
ANMO Albuquerque 76.89 347 *ce* P **P** **15 58 03.5 0.0**
ANMO pmax pmax
comp=Z,9.0nm,1.7s
ANMO Albuquerque 76.89 347 P **P** **15 58 04.0 +0.5**
U40A Yellville 77.03 359 P **P** **15 58 04.3 +0.3**
baz=179
X18A Snowflake 77.14 344 P **P** **15 58 05.5 +0.5**
X18A IAmb IAmb 15 58 10.2
comp=Z,51nm,1.8s
U49A Red Boiling Sp 77.34 5 P **P** **15 58 05.0 -0.8**
U49A IAmb IAmb 15 58 15.1
comp=Z,14nm,0.8s
X16A Lo Mia Camp, P 77.35 343 P **P** **15 58 06.4 +0.3**
X16A IAmb IAmb 15 58 11.2
comp=Z,22nm,1.3s
BC3 Big Chuckawall 77.60 340 P **P** **15 58 09.1 +1.6**
baz=162
W18A Petrified Fore 77.67 345 P **P** **15 58 09.0 +1.2**
baz=166
PFO Pinyon Flats O 77.83 339 LR LR 16 24 18.2
comp=Z,113nm,22.0s,baz=146,slow=29
IRM Iron Mountain 77.99 340 P **P** **15 58 10.8 +1.3**
baz=162
MURC Murrieta 78.02 338 P **P** **15 58 11.1 +1.5**
baz=160
BELC Belle Mtn. Jos 78.07 339 P **P** **15 58 10.9 +0.9**
baz=161
S39A Bolivar 78.37 358 P **P** **15 58 10.4 -1.1**
WUAZ Wupatki 78.39 343 P **P** **15 58 11.3 -0.6**
W13A Hualapai Mount 78.57 341 P **P** **15 58 12.6 -0.3**
S51A Beattyville 78.61 6 P **P** **15 58 11.8 -0.9**
S51A IAmb IAmb 15 58 22.4
comp=Z,21nm,0.9s
CCM Cathedral Cave 78.72 0 P **P** **15 58 12.3 -1.0**
CCM pmax pmax
comp=Z,17nm,0.9s
CCM Cathedral Cave 78.72 0 P **P** **15 58 12.3 -1.0**
CCM IAmb IAmb 15 58 20.2
comp=Z,16nm,0.8s
GMRC Granite Mounta 78.72 340 P **P** **15 58 14.4 +0.8**
baz=162
T25A Trinidad 78.73 349 P **P** **15 58 14.2 +0.5**
baz=170
BFSC Mount Baldy Ra 78.75 338 P **P** **15 58 14.2 +0.3**
baz=160
HEC Hector,Ludlow 78.94 339 P **P** **15 58 15.2 +0.4**
baz=161
MSVF Nonsavu 79.09 256 LR LR 16 27 05.2
comp=Z,133nm,18.7s,baz=156,slow=31
R50A Paris 79.19 6 P **P** **15 58 15.3 -0.7**
R50A IAmb IAmb 15 58 29.2
comp=Z,14nm,0.9s
JSRW J. Sargeant Re 79.30 11 P **P** **15 58 15.7 -0.8**
TUQ Turquoise Moun 79.41 340 P **P** **15 58 18.9 +1.5**
baz=161
EDW2 Edwards Air Fo 79.45 338 P **P** **15 58 18.1 +0.6**
baz=160
MVCO Mesa Verde 79.46 346 P **P** **15 58 17.7 -0.1**
U15A North Rim 79.47 343 P **P** **15 58 18.5 +0.6**
SDCO Great Sand Dun 79.48 349 P **P** **15 58 18.0 +0.1**
GSC Goldstone, Bar 79.52 339 P **P** **15 58 18.8 +0.9**
baz=161
R58B Mineral 79.57 11 P **P** **15 58 17.3 -0.7**
R58B IAmb IAmb 15 58 25.1
comp=Z,22nm,1.1s
Q44A Meyer Farm, Va 79.59 2 P **P** **15 58 17.0 -1.0**
Q44A IAmb IAmb 15 58 25.7
comp=Z,25nm,0.9s
R55A Marlinton 79.59 9 P **P** **15 58 17.7 -0.6**
S22A 4UR Ranch, Cre 79.69 348 P **P** **15 58 19.1 0.0**
S22A IAmb IAmb 15 58 24.3
comp=Z,57nm,1.9s
S22A 4UR Ranch, Cre 79.69 348 P **P** **15 58 19.9 +0.8**
baz=168
CBKS Cedar Bluff 79.85 353 P **P** **15 58 20.2 +0.6**
CBKS pmax pmax
comp=Z,29nm,1.2s
CBKS Cedar Bluff 79.85 353 P **P** **15 58 20.2 +0.6**
CBKS IAmb IAmb 15 58 23.4
comp=Z,29nm,1.1s
KSU1 Kansas State U 79.91 356 P **P** **15 58 20.2 +0.4**
LRMC Laurel Mtn Rad 79.92 338 P **P** **15 58 21.6 +1.5**
baz=160
BLO Bloomington 79.95 4 P **P** **15 58 19.2 -0.8**
BLO pmax pmax
comp=Z,26nm,1.2s
BLO Bloomington 79.95 4 P **P** **15 58 19.2 -0.8**
BLO IAmb IAmb 15 58 19.8
comp=Z,26nm,1.1s
Q51A Peebles 80.01 6 P **P** **15 58 19.8 -0.6**
Q51A IAmb IAmb 15 58 21.3
comp=Z,25nm,1.2s
KNB Kanab 80.15 343 P **P** **15 58 21.4 -0.1**
KNB pmax pmax
comp=Z,18nm,1.3s
KNB Kanab 80.15 343 P **P** **15 58 21.4 -0.1**
P40A Paris 80.19 359 P **P** **15 58 21.0 -0.4**
P40A IAmb IAmb 15 58 46.4
comp=Z,22nm,1.2s

SHPR Sheep Range 80.22 341 P **P** **15 58 22.0 +0.1**
P38A Dawn 80.31 358 P **P** **15 58 20.4 -1.5**
P38A IAmb IAmb 15 58 24.6
comp=Z,24nm,1.2s
GWY Greenwater Val 80.31 339 P **P** **15 58 22.1 -0.3**
ISA Isabella, Lake 80.32 338 P **P** **15 58 22.9 +0.7**
baz=160
P49A Miami Univ. Ec 80.41 5 P **P** **15 58 21.6 -1.0**
P49A IAmb IAmb 15 58 29.2
comp=Z,20nm,0.9s
P49A Miami Univ. Ec 80.41 5 P **P** **15 58 22.3 -0.2**
baz=185
MPMC Manual Prospec 80.41 339 P **P** **15 58 23.8 +0.9**
baz=160
PV13 Radium Mtn., P 80.44 346 P **P** **15 58 23.3 +0.2**
PV13 IAmb IAmb 15 58 27.0
comp=Z,23nm,1.2s
SMMC Simmler 80.44 336 P **P** **15 58 24.0 +1.2**
baz=158
PV15 Paradox Valley 80.56 346 P **P** **15 58 23.7 0.0**
PV15 IAmb IAmb 15 58 27.9
comp=Z,25nm,1.4s
PV11 David Mesa, Pa 80.58 346 P **P** **15 58 23.5 -0.3**
PV11 IAmb IAmb 15 58 27.7
comp=Z,25nm,1.1s
Q24A Divide 80.63 349 P **P** **15 58 24.2 +0.1**
Q24A Divide 80.63 349 P **P** **15 58 26.2 +2.1**
baz=170
P53A Whipple 80.65 8 P **P** **15 58 23.4 -0.4**
P53A IAmb IAmb 15 58 35.5
comp=Z,42nm,1.3s
PV07 Paradox Valley 80.68 346 P **P** **15 58 23.9 -0.3**
P52A Corning 80.72 7 P **P** **15 58 23.7 -0.5**
P52A Corning 80.72 7 P **P** **15 58 24.3 +0.1**
baz=187
PV23 Carpenter Ridg 80.76 346 P **P** **15 58 25.5 +0.7**
CCUT Cedar City 80.79 342 P **P** **15 58 25.3 +0.4**
TPNV Topopah Spring 80.92 340 P **P** **15 58 25.8 +0.2**
TPNV pmax pmax
comp=Z,10.0nm,1.3s
TPNV Topopah Spring 80.92 340 P **P** **15 58 25.8 +0.2**
PRN Pahroc Range 81.05 341 P **P** **15 58 26.2 0.0**
O49A Covington 81.09 5 P **P** **15 58 26.5 +0.3**
O49A IAmb IAmb 15 58 32.5
comp=Z,23nm,1.1s
O48B Farmland 81.10 5 P **P** **15 58 25.7 -0.5**
baz=185
SMCO Snowmass 81.11 348 P **P** **15 58 26.6 -0.2**
O52A Adamsville 81.22 7 P **P** **15 58 25.4 -1.5**
O52A IAmb IAmb 15 58 34.5
comp=Z,21nm,0.9s
O53A New Philadelph 81.42 8 P **P** **15 58 26.9 -1.0**
O53A IAmb IAmb 15 58 34.5
comp=Z,25nm,1.1s
O53A New Philadelph 81.42 8 P **P** **15 58 27.9 0.0**
baz=188
TIN Tinemaha, Big 81.55 338 P **P** **15 58 31.1 +2.2**
baz=160
Q16A Castle Valley 81.63 344 P **P** **15 58 29.4 +0.1**
Q16A IAmb IAmb 15 58 33.6
comp=Z,30nm,1.5s
SRU San Rafael Swe 81.68 345 P **P** **15 58 29.4 -0.2**
SRU pmax pmax
comp=Z,11nm,1.1s
SRU San Rafael Swe 81.68 345 P **P** **15 58 29.4 -0.2**
N49A Columbus Grove 81.83 5 P **P** **15 58 29.4 -0.7**
PSUT Pine Spring 81.84 342 P **P** **15 58 29.8 -0.6**
TMUT Trail Mountain 82.00 344 P **P** **15 58 31.4 0.0**
TMUT IAmb IAmb 15 58 46.9
comp=Z,14nm,1.0s
N53A Lisbon 82.01 8 P **P** **15 58 30.2 -0.8**
N53A IAmb IAmb 15 58 46.9
comp=Z,28nm,1.2s
P17A Butcher Ranch, 82.08 345 P **P** **15 58 31.4 -0.2**
P17A IAmb IAmb 15 58 41.2
comp=Z,11nm,0.8s
R11A Troy Canyon, C 82.08 341 P **P** **15 58 31.2 -0.4**
R11A Troy Canyon, C 82.08 341 P **P** **15 58 33.1 +1.4**
baz=162
P18A Preston Nutter 82.13 345 P **P** **15 58 31.5 -0.6**
N54A Moraine State 82.25 9 P **P** **15 58 31.5 -0.9**
N54A Moraine State 82.25 9 P **P** **15 58 31.7 -0.7**
baz=189
O20A White River Ci 82.26 347 P **P** **15 58 33.4 +0.8**
O20A White River Ci 82.26 347 P **P** **15 58 33.7 +1.1**
baz=167
OMMB Old Mammoth Mi 82.29 338 P **P** **15 58 34.0 +1.0**
N23A Red Feather La 82.64 349 P **P** **15 58 36.4 +1.7**
baz=169
LHV Little Huntoon 82.75 339 P **P** **15 58 35.9 +1.0**
LHV IAmb IAmb 15 58 40.3
comp=Z,40nm,1.6s
NLU North Lily Min 82.81 344 P **P** **15 58 35.5 0.0**
NLU IAmb IAmb 15 58 46.4
comp=Z,21nm,1.0s
NV11 Mina Array Sit 82.82 339 P **P** **15 58 35.5 0.0**
M54A Oil Creek Stat 82.83 9 P **P** **15 58 35.0 -0.3**
baz=189
NVAR Mina Array Bea 82.86 339 P **P** **15 58 36.8 +1.0**
comp=Z,3.8nm,1.0s,baz=161,slow=5.5,SNR=13
NVAR LR LR 16 27 16.3
comp=Z,99nm,18.3s,baz=188,slow=30
NVAR Mina Array Bea 82.86 339 P **P** **15 58 35.5 -0.3**
L44A Lake County Fo 82.89 2 P **P** **15 58 35.4 -0.1**
baz=183
CMB Columbia Colle 83.08 337 P **P** **15 58 37.5 +0.7**
CMB pmax pmax
comp=Z,15nm,1.5s
CMB Columbia Colle 83.08 337 P **P** **15 58 37.5 +0.7**
RYN Ryan 83.11 339 P **P** **15 58 37.7 +0.7**
RYN IAmb IAmb 15 58 41.0
comp=Z,22nm,1.5s
DUG Dugway, Tooele 83.20 344 P **P** **15 58 37.3 -0.1**
DUG pmax pmax
comp=Z,21nm,1.0s
DUG Dugway, Tooele 83.20 344 P **P** **15 58 37.3 -0.1**
DUG IAmb IAmb 15 58 47.5
comp=Z,21nm,1.0s
KVN Kaiserville 83.39 339 P **P** **15 58 38.9 +0.4**
KVN pmax pmax
comp=Z,12nm,1.0s
KVN Kaiserville 83.39 339 P **P** **15 58 38.9 +0.4**
KVN IAmb IAmb 15 58 48.2
comp=Z,12nm,1.0s
YERR Yerington 83.64 338 P **P** **15 58 40.1 +0.3**
YERR IAmb IAmb 15 58 44.0
comp=Z,19nm,1.4s
SUR Sutherland 83.79 128 LR LR 16 29 31.7
comp=Z,248nm,20.1s,baz=212,slow=31
PNTR Pine Nut 83.83 338 P **P** **15 58 40.9 +0.1**
PNTR IAmb IAmb 15 58 51.0
comp=Z,13nm,0.9s
BGU Big Grassy Mou 83.94 344 P **P** **15 58 41.6 +0.4**
VCNR Virginia City 84.04 338 P **P** **15 58 41.4 -0.5**
MPK Martis Peak 84.15 338 P **P** **15 58 42.3 -0.2**
ELK Elko 84.27 342 P **P** **15 58 42.9 -0.1**
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 84.27 342 P **P** **15 58 42.9 -0.1**
HWUT Hardware Ranch 84.30 345 P **P** **15 58 42.9 -0.1**
HWUT IAmb IAmb 15 58 59.0
comp=Z,9.8nm,0.8s
K22A Casper 84.44 349 P **P** **15 58 43.7 0.0**
K22A Casper 84.44 349 P **P** **15 58 43.9 +0.1**
baz=168
BMN Battle Mountai 84.46 340 P **P** **15 58 44.1 +0.2**
BMN pmax pmax
comp=Z,10.0nm,1.2s
BMN Battle Mountai 84.46 340 P **P** **15 58 44.1 +0.2**
ECSD EROS Data Cent 84.53 356 P **P** **15 58 43.1 -0.8**
ECSD IAmb IAmb 15 59 03.2
comp=Z,24nm,1.2s
DZM Mont Dzumac 84.56 246 LR LR 16 31 17.6
comp=Z,385nm,18.4s,baz=177,slow=32
DZM Mont Dzumac 84.56 246 *e* LR LR 16 25 08.9
comp=Z,913nm,27.1s
HVU Hansel Valley 84.71 344 P **P** **15 58 44.9 -0.2**
HVU pmax pmax
comp=Z,12nm,1.0s
HVU Hansel Valley 84.71 344 P **P** **15 58 44.9 -0.2**
HVU IAmb IAmb 15 58 54.2
comp=Z,12nm,1.0s
BEKR Beckworth 84.77 338 P **P** **15 58 45.3 -0.2**
ORV Oroville 84.81 337 P **P** **15 58 45.0 -0.5**
ORV pmax pmax
comp=Z,18nm,1.5s
ORV Oroville 84.81 337 P **P** **15 58 45.0 -0.5**
ORV IAmb IAmb 15 58 49.4
comp=Z,18nm,1.5s
BW06 Boulder Array 85.04 347 P **P** **15 58 46.4 -0.5**
BW06 IAmb IAmb 15 58 56.2
comp=Z,20nm,1.1s
PD31 Pinedale Array 85.04 347 P **P** **15 58 46.6 -0.3**
PD31 IAmb IAmb 15 58 56.2
comp=Z,17nm,1.1s
PDAR Pinedale Array 85.04 347 P **P** **15 58 46.9 0.0**
comp=Z,12nm,1.0s,baz=159,slow=5.7,SNR=32
PDAR Pinedale Array 85.04 347 P **P** **15 58 46.1 -0.8**
J58A Remsen 85.24 12 P **P** **15 58 47.1 -0.4**
AHID Auburn Hatcher 85.33 345 P **P** **15 58 47.8 -0.4**
AHID IAmb IAmb 15 59 03.0
comp=Z,16nm,1.2s
RSSD Black Hills 85.55 351 P **P** **15 58 47.4 -1.9**
RSSD pmax pmax
comp=Z,16nm,1.0s
RSSD Black Hills 85.55 351 P **P** **15 58 47.4 -1.9**
RSSD IAmb IAmb 15 58 59.9
comp=Z,16nm,1.0s
PECO Prince Edward 85.56 10 P **P** **15 58 48.1 -1.0**
O03E Paynes Creek 85.59 337 P **P** **15 58 49.7 +0.2**
baz=157
ECR Eagle Creek 85.66 345 P **P** **15 58 50.4 +0.5**
O02D Mt. Diablo Mer 85.77 336 P **P** **15 58 52.5 +2.1**
baz=157
REDW Red Top Meadow 85.86 346 P **P** **15 58 50.7 -0.2**
REDW IAmb IAmb 15 59 00.0
comp=Z,21nm,1.1s
SPMN Marine on St. 85.89 359 P **P** **15 58 50.4 -0.3**
baz=179
SNOW Snow King Moun 85.93 346 P **P** **15 58 50.0 -1.3**
TPAW Teton Pass 86.00 346 P **P** **15 58 51.1 -0.5**
DELO Deloro Mine 86.05 10 P **P** **15 58 50.5 -1.0**
LOHW Long Hollow 86.05 346 P **P** **15 58 50.7 -1.2**
SADO Sadowa 86.11 9 LR LR 16 33 24.3
comp=Z,285nm,18.3s,baz=178,slow=33
MOOW Moose Ponds 86.21 346 P **P** **15 58 51.9 -0.7**
N02D Trinity Center 86.48 337 P **P** **15 58 53.9 0.0**
N02D IAmb IAmb 15 59 04.0
comp=Z,18nm,1.4s
N02D Trinity Center 86.48 337 P **P** **15 58 53.8 0.0**
baz=157
FLWY Flagg Ranch 86.52 346 P **P** **15 58 54.5 +0.3**
MOD Modoc Plateau 86.65 339 P **P** **15 58 53.9 -0.8**
WVOR Wild Horse Val 86.70 340 P **P** **15 58 55.4 +0.4**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR Wild Horse Val 86.70 340 P **P** **15 58 55.4 +0.4**
HLID Hailey 86.76 343 P **P** **15 58 56.3 +1.0**
HLID IAmb IAmb 15 59 05.7
comp=Z,10nm,1.1s
H17A Grant Village 86.80 346 P **P** **15 58 58.4 +2.9**
baz=166
M02C Callahan 86.91 337 P **P** **15 58 56.5 +0.6**
baz=157
LKWY Lake 86.94 346 P **P** **15 58 57.4 +1.2**
LKWY pmax pmax
comp=Z,8.0nm,0.9s
LKWY Lake 86.94 346 P **P** **15 58 57.4 +1.2**
M04C Macdoel 86.97 338 P **P** **15 58 58.6 +2.3**
baz=157
YMR Madison River 87.14 346 P **P** **15 58 57.8 +0.7**
YMR IAmb IAmb 15 59 15.1
comp=Z,18nm,1.1s
YBH Yreka Blue Hor 87.18 337 LR LR 16 29 17.4
comp=Z,89nm,20.1s,baz=161,slow=30
YHH Holmes Hill 87.23 346 P **P** **15 58 58.5 +0.8**
YHH IAmb IAmb 15 59 08.0
comp=Z,18nm,1.0s
BCYI Bear Canyon 87.27 344 P **P** **15 58 58.2 +0.5**
RLMT Red Lodge 87.28 347 P **P** **15 58 58.5 +0.7**
RLMT IAmb IAmb 15 59 07.5
comp=Z,21nm,1.2s
QLMT Earthquake Lak 87.38 346 P **P** **15 58 59.1 +0.8**
MCMT McKenzie Canyo 87.65 345 P **P** **15 59 00.2 +0.6**
L02E Cave Junction 87.83 337 P **P** **15 58 59.9 -0.4**
baz=156
GCMT Greycliff 88.00 347 P **P** **15 59 01.2 +0.1**
BOZ Bozeman (W) 88.16 346 P **P** **15 59 02.4 +0.5**
BOZ pmax pmax
comp=Z,19nm,1.7s
BOZ Bozeman (W) 88.16 346 P **P** **15 59 02.4 +0.5**
BOZ IAmb IAmb 15 59 11.4
comp=Z,19nm,1.7s
J05D Fort Rock, OR 88.19 339 P **P** **15 59 02.1 0.0**
baz=158
K02D Willamette Mer 88.34 337 P **P** **15 59 03.8 +1.0**
baz=156
I07A Izee 88.46 340 P **P** **15 59 04.1 +0.7**
I07A IAmb IAmb 15 59 06.8
comp=Z,12nm,1.4s
LRM Limekiln Ridge 88.53 345 P **P** **15 59 04.2 +0.4**
BOSA Boshof 89.15 128 P **P** **15 59 10.2 +2.9**
comp=Z,2.7nm,1.1s,baz=198,slow=9.6,SNR=1.9
BOSA LR LR 16 32 58.4
comp=Z,249nm,21.1s,baz=204,slow=32
G08A Pilot Rock 89.46 341 P **P** **15 59 09.1 +1.0**
G08A IAmb IAmb 15 59 17.6
comp=Z,10nm,1.0s
F10A Beach Ranch, E 89.68 342 P **P** **15 59 09.1 +0.1**
F10A IAmb IAmb 15 59 17.6
comp=Z,12nm,1.1s
E08A Dider Farm, El 90.60 341 P **P** **15 59 13.9 +0.7**
E08A IAmb IAmb 15 59 23.0
comp=Z,18nm,1.0s
HAWA Hanford 90.63 341 P **P** **15 59 13.9 +0.6**
HAWA IAmb IAmb 15 59 22.9
comp=Z,13nm,1.1s
TSUM Tsumeb 90.97 117 LR LR 16 32 43.7
comp=Z,217nm,22.0s,baz=166,slow=31
D08A Wollman Farm, 91.10 341 P **P** **15 59 15.9 +0.5**
E04D Cinebar 91.57 339 P **P** **15 59 19.0 +1.3**
baz=157
DBIC Dimbokro 91.62 83 LR LR 16 35 18.8
comp=Z,127nm,19.7s,baz=234,slow=32
NEW Newport 91.82 343 LR LR 16 33 21.1
comp=Z,106nm,21.8s,baz=153,slow=31
LBTB Lobatse 92.00 126 LR LR 16 36 17.5
comp=Z,149nm,18.4s,baz=210,slow=33
STKA Stephens Creek 92.58 223 LR LR 16 32 14.2
comp=Z,265nm,21.3s,baz=185,slow=30
D03D Eldon 92.61 339 P **P** **15 59 24.2 +1.8**
baz=157
SCHQ Schefferville 97.75 14 LR LR 16 42 14.7
comp=Z,193nm,19.1s,baz=229,slow=34
CTA Charters Tower 99.13 233 LR LR 16 37 19.5
comp=Z,333nm,19.8s,baz=135,slow=31
TORD Torodi Ar. Bea 100.70 82 PP **PP** **16 04 11.4 +3.9**
comp=Z,1.0nm,1.0s,baz=201,slow=7.7,SNR=4.2
ASAR Alice Springs 103.18 222 Pdiff **Pdif** **16 00 13.9 +2.9**
comp=Z,0.6nm,1.1s,baz=148,slow=5.5,SNR=3.1
YKA Yellowknife Ar 104.88 349 Pdiff **Pdif** **16 00 22.9 +5.5**
comp=Z,0.1nm,0.4s,baz=156,slow=4.7,SNR=3.7
H11S2 WAKE ISLAND Hyl 110.85 277 T T 18 04 38.3
baz=130
H11S1 WAKE ISLAND Hyl 110.87 277 T T 18 04 41.4
baz=130,slow=74
H11S3 WAKE ISLAND Hyl 110.87 277 T T 18 04 46.5
baz=130,slow=74
H11N3 WAKE ISLAND Hyl 111.44 278 T T 18 05 34.3
baz=129
H11N1 WAKE ISLAND Hyl 111.45 278 T T 18 05 26.7
baz=129
H11N2 WAKE ISLAND Hyl 111.46 278 T T 18 05 34.4
baz=129
GERES GERESS Array B 128.31 54 PKP **PKiKP** **16 05 18.8 +0.7**
comp=Z,0.8nm,0.8s,baz=226,slow=3.5,SNR=4.5
GERES GERESS Array B 128.31 54 PKIKP **PKPdf** **16 05 16.7 -0.7**
GERES GERESS Array B 128.31 54 **PKPdf** **16 05 16.7 -0.7**
NOA NORSAR Array B 130.60 39 PKP **PKPdf** **16 05 20.6 -0.7**
comp=Z,1.5nm,1.1s,baz=258,slow=2.0,SNR=5.0
BILL Bilibino 131.87 330 *i* PKIKP **PKiKP** **16 05 25.1 +0.6**
BILL *i* 16 07 49.5
BILL pmax pmax
comp=Z,3.0nm,1.3s
SEY Seymchan 137.33 323 *ce* PKIKP **PKPdf** **16 05 34.0 +0.2**
SEY pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 143.30 49 *i* PKIKP **PKPdf** **16 05 45.1 +0.3**
OBN *i* 16 08 56.0
OBN pmax pmax
comp=Z,12nm,1.1s

TIXI	**Tiksi**	**143.47**	**340**	PKhKP	PKPpre	16 05 39.2		
	comp=Z,7.1nm,1.2s,baz=89,slow=23,SNR=14							
TIXI	**Tiksi**	**143.47**	**340**	PKHKP	PKPpre	16 05 40.1		
TIXI	**Tiksi**	**143.47**	**340**	PKPpre	PKPpre	16 05 40.1		
MOS	**Moscow**	**143.89**	**48**	*e*PKHKP	PKPpre	16 05 40.8		
MOS				pmax	pmax			
	comp=Z,41nm,1.1s							
KLMR	**Klimovskoe**	**144.30**	**39**	*e*PKHKP	PKPpre	16 05 41.4		
KLMR				pmax	pmax			
	comp=Z,58nm,1.2s							
KLMR	**Klimovskoe**	**144.30**	**39**	*e*PKPdf	**PKPab**	**16 05 41.5**	**-2.9**	
KLMR				AMP		16 05 52.7		
	comp=Z,58nm,1.2s							
LPSR	**Galich'ya Gora**	**144.68**	**54**	*e*PKIKP	**PKPab**	**16 05 44.8**	**-1.3**	
LPSR				pmax	pmax			
	comp=Z,50nm,1.0s							
VSR	**Storozhevoye**	**144.78**	**56**	*e*PKIKP	**PKPab**	**16 05 44.9**	**-1.6**	
VSR				pmax	pmax			
	comp=Z,30nm,1.4s							
VORR	**Voronezh**	**144.83**	**55**	*e*PKIKP	**PKPab**	**16 05 45.1**	**-1.6**	
VORR				pmax	pmax			
	comp=Z,30nm,0.4s							
VORD	**Divnogorie**	**144.85**	**57**	*e*PKIKP	**PKPab**	**16 05 44.7**	**-2.0**	
VORD				pmax	pmax			
	comp=Z,10.0nm,1.2s							
GEVA	**Gevas**	**145.03**	**79**		**PKPbc**	**16 05 46.9**	**-1.2**	
JSU	**Suzuyama**	**145.34**	**268**		**PKPbc**	**16 05 47.9**	**-1.2**	
PALK	**Pallekele**	**145.62**	**166**	PKIKP	**PKPdf**	**16 05 48.6**	**-1.7**	
PALK	**Pallekele**	**145.62**	**166**	PKPdf	**PKPdf**	**16 05 48.6**	**-1.7**	
KIV	**Kislovodsk**	**146.25**	**69**	*i* PKP2	**PKPbc**	**16 05 51.2**	**-0.4**	
KIV				pmax	pmax			
	comp=Z,14nm,1.0s							
KIV				MLR	MLR			
	comp=Z,114nm,25.0s							
KBZ	**Khabaz**	**146.35**	**70**	PKPbc	**PKPbc**	**16 05 51.8**	**0.0**	
	comp=Z,6.0nm,1.0s,baz=102,slow=2.9,SNR=5.7							
KBZ	**Khabaz**	**146.35**	**70**	*ce*PKP2	**PKPab**	**16 05 52.2**	**-0.4**	
VRH	**Novokhopyorsk**	**146.38**	**56**	*e*PKIKP	**PKPdf**	**16 05 49.0**	**-1.3**	
VRH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
ONI	**Oni**	**146.51**	**72**	PKP2	**PKPdf**	**16 05 51.2**	**+0.3**	
ONI	**Oni**	**146.51**	**72**	PKPdf	**PKPdf**	**16 05 51.2**	**+0.3**	
GNI	**Garni**	**146.83**	**77**	*ce*PKP2	**PKPab**	**16 05 55.4**	**+0.5**	
GNI				pmax	pmax			
	comp=Z,20nm,1.7s							
ZEI	**Tsey**	**146.87**	**72**	*i* PKP2	**PKiKP**	**16 05 55.8**	**-0.4**	
ZEI				pmax	pmax			
	comp=Z,13nm,1.3s							
PRGR	**Permogore**	**146.96**	**37**	*e*PKP2	**PKPdf**	**16 05 51.1**	**+0.2**	
PRGR				pmax	pmax			
	comp=Z,6.0nm,1.3s							
YAK	**Yakutsk**	**147.80**	**325**	*e*PKP2	**PKPdf**	**16 05 53.4**	**+1.1**	
YAK				*e*		16 09 25.8		
YAK				*e*SS	SS	16 28 30.2	+2.8	
YAK				pmax	pmax			
	comp=Z,23nm,0.9s							
YAK				pmax	pmax			
	comp=E,2.0nm,1.0s							
YAK				pmax	pmax			
	comp=N,2.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,55nm,3.4s							
YAK	**Yakutsk**	**147.80**	**325**	PKPdf	**PKPdf**	**16 05 52.9**	**+0.6**	
USRK	**Ussuriysk Ar.**	**148.29**	**290**	PKPbc	**PKPbc**	**16 05 56.0**	**-1.1**	
	comp=Z,3.0nm,0.7s,baz=126,slow=2.9,SNR=5.4							
KLR	**Kul'dur**	**148.93**	**300**	*ce*PKP2	**PKPbc**	**16 05 58.6**	**0.0**	
KLR				pmax	pmax			
	comp=Z,6.0nm,1.7s							
KSRS	**Korea Array**	**149.63**	**276**	PKPbc	**PKiKP**	**16 06 01.2**	**-0.5**	
	comp=Z,7.6nm,1.1s,baz=129,slow=2.0,SNR=9.7							
KSAR	**Wonju Array Be**	**149.65**	**276**	PKP2	**PKPbc**	**16 05 59.8**	**-1.0**	
KSAR	**Wonju Array Be**	**149.65**	**276**		**PKPbc**	**16 05 59.8**	**-1.0**	
KIRV	**Kirov**	**149.72**	**41**	*c* *i*PKP2	**PKPbc**	**16 05 59.7**	**-0.5**	
MDJ	**Mudanjiang**	**150.06**	**291**	PKPbc	**PKPbc**	**16 06 01.6**	**+0.1**	
ZEA	**Zeya**	**151.38**	**309**	*e*PKIKP	**PKPbc**	**16 06 02.6**	**-1.8**	
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ZEA				MLR	MLR			
	comp=Z,100nm,17.0s							
NRIK	**Noril'sk**	**151.63**	**1**	PKPbc	**PKPbc**	**16 06 03.5**	**-1.0**	
	comp=Z,3.8nm,1.0s,baz=339,slow=2.0,SNR=6.8							
NRIK	**Noril'sk**	**151.63**	**1**	*c* *i*PKIKP	**PKPbc**	**16 06 03.8**	**-0.7**	
BNX	**BinXian**	**151.71**	**293**	⇓PKPbc	**PKPdf**	**16 05 57.7**	**-1.4**	
CN2	**Changchun**	**152.91**	**288**	PKPbc	**PKPdf**	**16 05 56.2**	**-4.7**	
CN2				PP	**PP**	**16 09 51.1**	**-2.0**	
CN2				LR	LR			
	comp=Z,100nm,16.0s							
CN2				LR	LR			
	comp=Z,200nm,16.0s							
CN2				LR	LR			
	comp=Z,100nm,18.0s							
NJ2	**Nanjing**	**154.31**	**259**	*e*PKPbc	**PKPdf**	**16 06 03.0**	**-0.3**	
HYBB	**Hyderabad (bro**	**154.88**	**157**	*e*PKiKP	**PKPbc**	**16 06 12.7**	**-0.5**	
HYBB				*e*PP	**PP**	**16 10 04.4**	**+1.2**	
HYBB				*e*SKSdf	**SKSdf**	**16 13 10.4**	**-1.0**	
ARU	**Arti**	**155.10**	**42**	*i* PKIKP	PKPdf	16 06 12.4	+8.8	
CMAR	**Chiang Mai Arr**	**155.86**	**204**	PKP	**PKPdf**	**16 06 03.5**	**-2.4**	
	comp=Z,0.6nm,0.9s,baz=188,slow=1.8,SNR=4.4							
GEYT	**Alibeck**	**156.21**	**87**	PKPab	**PKPab**	**16 06 33.2**	**-0.6**	
	comp=Z,3.0nm,0.7s,baz=259,slow=7.4,SNR=5.4							
ABKAR	**Akbulak array**	**158.19**	**58**		**PKPdf**	**16 06 06.7**	**-1.1**	
ABKAR	**Akbulak array**	**158.19**	**58**	PKPdf	**PKPdf**	**16 06 06.5**	**-1.3**	
PZH	**PanZhiHua**	**161.95**	**221**	PKP	**PKPdf**	**16 06 11.1**	**-1.9**	
HHC	**Hu-ho-hao-te**	**162.76**	**277**	*e*PKP	**PKPdf**	**16 06 09.2**	**-4.1**	
CD2	**Chengdu**	**164.22**	**235**	PKP	**PKPdf**	**16 06 13.5**	**-1.4**	
SONM	**Songino Array**	**165.69**	**304**	PKPab	**PKPab**	**16 07 12.1**	**-2.8**	
	comp=Z,0.3nm,0.4s,baz=73,slow=4.8,SNR=3.6							
ZAK	**Zakamensk**	**166.22**	**318**	*e*PKP2	**PKPab**	**16 07 17.4**	**+0.3**	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.6s							
KSH	**Kashi**	**170.12**	**95**	PKP	**PKPdf**	**16 06 17.8**	**-1.3**	
KSH				PP	**PP**	**16 11 25.4**	**-0.1**	
GTA	**Gaotai**	**171.38**	**263**	PKP	**PKPdf**	**16 06 22.8**	**+3.1**	
MKAR	**Makanchi Array**	**172.59**	**37**	PKPab	**PKPab**	**16 07 47.7**	**+2.4**	
	comp=Z,0.3nm,0.8s,baz=307,slow=3.1,SNR=2.8							
GOMU	**GeErMu**	**173.23**	**226**	PKP	**PKPdf**	**16 06 20.0**	**-1.0**	
GOMU				PP	**PP**	**16 11 45.8**	**+5.3**	
GOMU				AMB	AMB			
	comp=Z,32nm,5.1s							
GOMU				LR	LR			
	comp=Z,75nm,17.9s							
GOMU				LR	LR			
	comp=Z,71nm,15.7s							
GOMU				LR	LR			
	comp=Z,150nm,19.0s							
WMQ	**Urumqi**	**177.11**	**15**	*e*PKP	**PKPdf**	**16 06 21.9**	**+0.5**	
WMQ				LR	LR			
	comp=Z,340nm,19.9s							
WMQ				LR	LR			
	comp=Z,290nm,21.3s							

*IDC **10** 15:52:45.4±14.0, 15.°05S×166.°08E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/34, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=237.1km s-min=37.5km az=58.0*
*NEIC **10** 15:52:48.9±0.8, 15.°0S±0.°1×166.°28E±0.°09, h29km±13km, mb4.0/6, Error ellipse: s-maj=17.4km s-min=11.3km az=198.0*
*NOU **10** 15:52:54.3, 15.°31S×167.°54E, h73km, MLv4.3/13, Vanuatu Islands*

ISC 10 15:52:48.8±1.4, **15.°0S**±0.°1×**166.°24E**±0.°10, **h35**km, **n23**, σ1§**05**/20, **mb3.8**/6, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.04**	**118**	Pn	**Pn**	**15 53 06.5**	**-0.5**
SANVU	**Saraoutou**	**1.04**	**118**	P	**Pn**	**15 53 07.3**	**+0.3**
DVP	**Devils Point**	**3.32**	**146**	P	Pn	15 53 32.8	-5.5
KOUNC	**Koumac, New Ca**	**5.86**	**198**	Pn	**Pn**	**15 54 11.9**	**-1.3**
KOUNC	**Koumac, New Ca**	**5.86**	**198**	P	Pn	15 54 21.4	+8.1
DZM	**Mont Dzumac**	**7.07**	**178**	Pn	**Pn**	**15 54 29.8**	**-0.2**
	0.9nm,0.3s,baz=315,slow=22,SNR=29						
DZM				Sn	**Sn**	**15 55 48.7**	**-0.5**
	1.6nm,0.3s,baz=112,slow=23,SNR=9.8						
DZM	**Mont Dzumac**	**7.07**	**178**	P	**Pn**	**15 54 31.2**	**+1.2**
YATNC	**Mamie plateau,**	**7.09**	**175**	P	**Pn**	**15 54 29.9**	**-0.2**
	18nm,1.3s						
NOUC	**Port Laguerre**	**7.10**	**180**	P	**Pn**	**15 54 33.1**	**+2.8**
ONTNC	**Ouen Toro**	**7.31**	**178**	Pn	**Pn**	**15 54 34.0**	**+0.9**
ONTNC	**Ouen Toro**	**7.31**	**178**	P	**Pn**	**15 54 35.1**	**+2.0**
OUENC	**Ouen Island, N**	**7.44**	**176**	Pn	**Pn**	**15 54 35.6**	**+0.7**
PINNC	**Pines Island,**	**7.70**	**172**	Pn	**Pn**	**15 54 37.8**	**-0.7**
PINNC	**Pines Island,**	**7.70**	**172**	P	**Pn**	**15 54 37.5**	**-0.9**

STKA	**Stephens Creek**	**28.09**	**229**	P	**P**	**15 58 37.1**	**-0.2**	
	3.1nm,1.0s,baz=37,slow=7.4,SNR=4.9							
STKA	**Stephens Creek**	**28.09**	**229**	IAmb	IAmb	15 58 38.9		
	comp=Z,1.0nm,1.2s							
WB0	**Warramunga Arr**	**30.74**	**256**	P	**P**	**15 59 01.3**	**+0.2**	
WB0				IAmb	IAmb	15 59 02.7		
	comp=Z,5.4nm,1.2s							
WRA	**Warramunga Arr**	**30.81**	**256**	P	**P**	**15 59 01.7**	**+0.1**	
	comp=Z,0.2nm,0.6s,baz=84,slow=8.1,SNR=1.4							
WRA	**Warramunga Arr**	**30.81**	**256**	IAmb	IAmb	15 59 03.3		
	comp=Z,0.3nm,1.3s							
AS31	**Alice Springs**	**31.66**	**249**	P	**P**	**15 59 09.0**	**-0.2**	
AS31				IAmb	IAmb	15 59 09.6		
	comp=Z,0.7nm,1.1s							
ASAR	**Alice Springs**	**31.66**	**249**	P	**P**	**15 59 09.2**	**0.0**	
	comp=Z,0.6nm,0.5s,baz=77,slow=9.3,SNR=30							
KNRA	**Kununurra**	**36.13**	**264**	P	**P**	**15 59 48.1**	**+0.2**	
FITZ	**Fitzroy Crossi**	**39.00**	**260**	P	**P**	**16 00 12.7**	**+0.5**	
FITZ				IAmb	IAmb	16 00 28.5		
	comp=Z,6.4nm,1.4s							

*AAE **10** 15:52:48.0±1.3, 9.°78N×39.°85E, h0km±8km, ML4.2*

EAF 10 15:52:51.3±3.5, **9.°72N×39.°72E, h0**km±69km, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKE	**Ethiopia-Afar**	**0.13**	**175**	*i* Sg	Sg	15 52 55.6	+0.1
ANKE	**Ethiopia-Afar**	**0.13**	**175**	*e*P	Pg	15 52 51.7	-2.1
ANKE				*e*S	Sg	15 52 55.1	-0.3
ANKE				IAML		15 53 00.4	
	comp=N,114μm,0.5s						
AAE	**Adis Abeba**	**1.17**	**234**	*e*P	Pg	15 53 10.9	-2.9
AAE				*e*S	Sg	15 53 28.4	-0.5
AAE	**Adis Abeba**	**1.17**	**234**	*i* Pg	Pg	15 53 11.1	-2.7
AAE				*e*S	Sg	15 53 28.2	-0.7
AAE	**Adis Abeba**	**1.17**	**234**	*e*P	Pg	15 53 10.9	-2.9
AAE				*e*S	Sg	15 53 28.2	-0.7
AAE	**Adis Abeba**	**1.17**	**234**	*e*P	Pg	15 53 10.9	-2.8
AAE				*e*S	Sg	15 53 28.3	-0.6
AAE				IAML		15 53 34.1	
	comp=N,5μm,0.4s						
FURI	**Furi**	**1.32**	**232**	*e*P	Pg	15 53 13.9	-2.7
FURI				*e*S	Sg	15 53 33.5	-0.2
FURI	**Furi**	**1.32**	**232**	*i* P	Pg	15 53 14.0	-2.6
FURI				*e*S	Sg	15 53 32.3	-1.4
FURI	**Furi**	**1.32**	**232**	*e*P	Pg	15 53 13.9	-2.7
FURI				*e*S	Sg	15 53 33.6	-0.1
FURI	**Furi**	**1.32**	**232**	*e*P	Pg	15 53 14.1	-2.5
FURI				*e*S	Sg	15 53 33.8	+0.1
FURI				IAML		15 53 40.5	
	comp=N,1μm,0.5s						
ATD	**Arta Tunnel**	**3.56**	**59**	*e*P	Pn	15 53 45.2	-2.6
ATD				*e*S	Sn	15 54 30.7	0.0

*ATH **10** 16:01:31.1, 38.°73N×20.°66E, h11km±2km, ML2.2/6, Error ellipse: s-maj=2.6km s-min=0.9km az=310.0*
*THE **10** 16:01:31.7, 38.°72N×20.°61E, h6km±1km, ML2.6/8, Error ellipse: s-maj=1.6km s-min=0.4km az=89.0*

ISC 10 16:01:31.2±0.9, **38.°73N**±0.°02×**20.°65E**±0.°03, **h9**km±5km, **n27**, σ0§**57**/45, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYDR	**Nydri-Lefkada**	**0.04**	**107**	P	**Pg**	**16 01 33.1**	**0.0**
NYDR				S	**Sg**	**16 01 34.7**	**+0.3**
	6μm,0.1s						
LKD2	**Lefkada island**	**0.06**	**9**	P	**Pg**	**16 01 33.3**	**-0.1**
LKD2				S	**Sg**	**16 01 34.9**	**0.0**
LKD2				AML	AML	16 01 35.0	
	comp=N,30440μm,0.2s						
LKD2				AML	AML	16 01 35.4	
	comp=E,20616μm,0.2s						
LKD2	**Lefkada island**	**0.06**	**9**	P	**Pg**	**16 01 33.2**	**-0.1**
LKD2				S	**Sg**	**16 01 34.8**	**0.0**
	comp=E,13μm,0.1s						
DRAG	**Dragano-Lefkad**	**0.07**	**232**	P	**Pg**	**16 01 32.9**	**-0.5**
DRAG				S	**Sg**	**16 01 34.0**	**-0.9**
	comp=E,14μm,0.1s						
TSLK	**Tsoukalades, L**	**0.10**	**5**	P	**Pg**	**16 01 33.9**	**+0.1**
TSLK				S	**Sg**	**16 01 36.2**	**+0.7**
	comp=E,5μm,0.4s						
EVGI	**Lefkada island**	**0.10**	**175**	P	**Pg**	**16 01 34.0**	**+0.2**
EVGI				S	**Sg**	**16 01 36.1**	**+0.4**
	comp=E,9μm,0.1s						
FSK	**Fiskardo**	**0.27**	**194**	P	**Pg**	**16 01 37.1**	**+0.4**
FSK				S	**Sg**	**16 01 41.5**	**+1.1**
FSK				AML	AML	16 01 42.1	
	comp=E,2612μm,0.2s						
FSK				AML	AML	16 01 42.2	
	comp=N,1045μm,0.2s						
FSK	**Fiskardo**	**0.27**	**194**	P	**Pg**	**16 01 37.1**	**+0.4**
FSK				S	**Sg**	**16 01 41.3**	**+0.9**
	comp=N,918nm,0.2s						
KEF4	**Livadi, Kephal**	**0.50**	**200**	P	**Pg**	**16 01 40.5**	**-0.4**
KEF4				S	**Sg**	**16 01 48.4**	**+0.9**
KEF4	**Livadi, Kephal**	**0.50**	**200**	P	**Pg**	**16 01 40.6**	**-0.4**
KEF4				S	**Sg**	**16 01 48.4**	**+0.9**
	comp=N,2μm,0.3s						
DMLN	**Damoulianata-K**	**0.53**	**204**	P	**Pg**	**16 01 40.8**	**-0.8**
DMLN				S	**Sg**	**16 01 49.0**	**+0.5**
VLS	**Valsamata**	**0.55**	**185**	P	**Pg**	**16 01 41.4**	**-0.5**
VLS				S	**Sg**	**16 01 49.5**	**+0.4**
VLS				AML	AML	16 01 50.8	
	comp=E,589μm,0.1s						
VLS				AML	AML	16 01 51.0	
	comp=N,520μm,0.1s						
VLS	**Valsamata**	**0.55**	**185**	P	**Pg**	**16 01 41.5**	**-0.5**
VLS				S	**Sg**	**16 01 49.9**	**+0.8**
	comp=N,282nm,0.1s						
KEF3	**Kipouria, Keph**	**0.57**	**204**	P	**Pg**	**16 01 41.1**	**-1.2**
KEF3				S	**Sg**	**16 01 49.9**	**0.0**
KEF3	**Kipouria, Keph**	**0.57**	**204**	P	**Pg**	**16 01 42.6**	**+0.3**
KEF3				S	**Sg**	**16 01 49.8**	**0.0**
PSDA	**Pessada-Kefalo**	**0.61**	**184**	P	**Pg**	**16 01 42.8**	**-0.3**
PSDA				S	**Sg**	**16 01 52.0**	**+0.9**
IGT	**Igoumenitsa**	**0.84**	**343**	P	**Pg**	**16 01 47.0**	**-0.4**
IGT	**Igoumenitsa**	**0.84**	**343**	P	**Pg**	**16 01 47.6**	**+0.1**
IGT				S	**Sb**	**16 02 00.5**	**+1.1**
EVR	**Evrytania**	**0.93**	**78**	P	**Pg**	**16 01 49.3**	**+0.2**
RLS	**Riolos of Patr**	**0.93**	**136**	P	**Pg**	**16 01 48.9**	**-0.2**
EFP	**Efpalio**	**1.03**	**106**	P	**Pg**	**16 01 50.8**	**-0.3**
EFP				S	**Sg**	**16 02 04.2**	**-0.3**
EFP				AML	AML	16 02 13.4	
	comp=N,246μm,0.4s						
EFP				AML	AML	16 02 14.0	
	comp=E,213μm,0.3s						
DRO	**Drossia**	**1.14**	**132**	P	**Pg**	**16 01 52.7**	**-0.5**
LAKA	**Lakka**	**1.15**	**114**	P	**Pg**	**16 01 52.7**	**-0.7**
KEK	**Kerkira**	**1.18**	**327**	P	**Pb**	**16 01 53.6**	**-0.3**
AGG	**Agios Georgios**	**1.35**	**77**	P	**Pn**	**16 01 56.0**	**-0.3**
AGG				AML	AML	16 02 23.9	
	comp=N,93μm,0.6s						
AGG				AML	AML	16 02 24.2	
	comp=E,149μm,0.5s						
THL	**Klokotos Trika**	**1.35**	**51**	P	**Pb**	**16 01 56.9**	**+0.2**
THL				AML	AML	16 02 22.2	
	comp=N,90μm,0.7s						
THL				AML	AML	16 02 22.4	
	comp=E,111μm,0.6s						
KLV	**Kalavryta, Ach**	**1.37**	**119**	P	**Pn**	**16 01 55.8**	**-0.7**

*ATH **10** 16:06:08.3, 38.°65N×26.°04E, h28km±1km, ML2.5/5, Error ellipse: s-maj=2.4km s-min=1.4km az=262.0*
*DDA **10** 16:06:08.2±0.0, 38.°66N×25.°92E, h7km±2km, ML2.0*

ISC 10 16:06:08.0±0.9, **38.°65N**±0.°03×**25.°97E**±0.°03, **h11**km, **n17**, σ0§**81**/23, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.27**	**165**	P	**Pb**	**16 06 15.4**	**+0.4**
CHOS				S	**Sb**	**16 06 19.5**	**-0.2**
CHOS				AML	AML	16 06 21.2	
	comp=N,2419μm,0.2s						
CHOS				AML	AML	16 06 21.2	
	comp=E,5132μm,0.3s						
PSRA	**Psara**	**0.33**	**251**	P	**Pn**	**16 06 17.9**	**-0.9**
PSRA				S	**Sb**	**16 06 23.0**	**+1.7**
PSRA				AML	AML	16 06 23.4	
	comp=N,2370μm,0.3s						
PSRA				AML	AML	16 06 23.6	
	comp=E,3158μm,0.1s						

SIGR	**SIGRI**	**0.57**	**351**	P	**Pb**	**16 06 19.5**	**-0.5**	
SIGR				AML	AML	16 06 30.9		
	comp=E,557μm,0.5s							
SIGR				AML	AML	16 06 31.2		
	comp=N,380μm,0.2s							
URLA	**Izmir**	**0.57**	**120**	P	**Pb**	**16 06 19.9**	**-0.2**	
URLA				*i* AML	AML	16 06 30.0		
	comp=N,63nm,0.4s							
URLA				*i* AML	AML	16 06 31.0		
	comp=N,76nm,0.8s							
ZEYE	**Izmir, Urla-Ze**	**0.59**	**134**	P	**Pb**	**16 06 20.5**	**+0.2**	
ZEYE				S	**Sb**	**16 06 28.1**	**-0.6**	
ZEYE				*i* AML	AML	16 06 30.0		
	comp=N,74nm,0.4s							
PRK	**Paraskevi**	**0.64**	**22**	P	**Pb**	**16 06 21.2**	**0.0**	
PRK				S	**Sb**	**16 06 30.6**	**+0.4**	
PRK				AML	AML	16 06 33.6		
	comp=E,651μm,0.4s							
PRK				AML	AML	16 06 34.2		
	comp=N,519μm,0.4s							
KOCA	**Canakkale, Ayv**	**0.86**	**9**	P	**Pb**	**16 06 24.5**	**-0.5**	
KOCA				S	**Sn**	**16 06 37.4**	**-1.3**	
KOCA				*i* AML	AML	16 06 41.0		
	comp=N,58nm,0.5s							
KOCA				*i* AML	AML	16 06 42.0		
	comp=N,63nm,0.7s							
AYVA	**Ayvalik**	**0.87**	**40**	P	**Pb**	**16 06 24.7**	**-0.4**	
ZEDA	**zmir-Bergama**	**0.92**	**70**	P	**Pn**	**16 06 26.5**	**-0.5**	
DGB	**zmir**	**0.94**	**129**	P	**Pn**	**16 06 26.6**	**-0.5**	
SMG	**Samos**	**1.16**	**144**	P	**Pg**	**16 06 30.4**	**0.0**	
SMG				S	**Sn**	**16 06 45.6**	**-0.6**	
SMG				AML	AML	16 06 49.5		
	comp=E,427μm,0.4s							
SMG				AML	AML	16 06 49.8		
	comp=N,297μm,0.5s							
BUHA	**Balikesir, Bur**	**1.21**	**45**	P	**Pg**	**16 06 31.7**	**+0.4**	
KARY	**Karystos**	**1.35**	**243**	P	**Pb**	**16 06 33.3**	**-0.1**	
LIA	**Limnos Island**	**1.39**	**334**	P	**Pb**	**16 06 33.5**	**-0.4**	
STEP	**BALIKESIR_Sava**	**1.54**	**61**	P	**Pg**	**16 06 40.0**	**+2.3**	
STEP				*i* AML	AML	16 07 07.0		
	comp=N,21nm,0.7s							
DION	**Dionisos Attik**	**1.70**	**251**	P	**Pb**	**16 06 39.4**	**+0.1**	
ALN	**Alexandroupoli**	**2.25**	**2**	P	**Pn**	**16 06 45.1**	**0.0**	

*IDC **10** 15:15:18.7±0.9, 1.°26S×120.°87E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.5/39, mbtmp3.5/8, ML3.6/1, Error ellipse: s-maj=46.3km s-min=17.0km az=68.0*
*DJA **10** 16:15:19.8±0.7, 1.°5±3.°×12.°1E±.°, h11km±6km, M4.0/12, mb4.2/4, MLv3.9/12*

ISC 10 16:15:20.0±0.7, **1.°16S**±0.°04×**120.°67E**±0.°05, **h10**km, **n20**, σ1§**41**/26, **mb3.5/7, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.01**	**76**	P	**Pb**	**16 15 39.6**	**-0.1**
APSI				S	**Sb**	**16 15 53.7**	**+0.6**
MPSI	**Mapaga**	**1.67**	**333**	P	**Pn**	**16 15 46.8**	**-2.6**
TTSI	**Tana Toraja**	**2.05**	**204**	P	**Pn**	**16 15 55.6**	**+0.9**
TTSI				S	**Sb**	**16 16 22.5**	**-0.6**
MRSI	**Marisa**	**2.07**	**38**	P	**Pn**	**16 15 54.0**	**-0.8**
MRSI				S	**Sn**	**16 16 20.5**	**-0.2**
LUWI	**Luwuk**	**2.11**	**87**	P	**Pn**	**16 15 55.1**	**-0.3**
LUWI				S	**Sn**	**16 16 23.0**	**+1.3**
SPSI	**Sidrap Palu**	**2.93**	**198**	P	**Pn**	**16 16 06.3**	**-0.4**
GTOI	**Gorontalo**	**2.95**	**53**	P	**Pn**	**16 16 07.3**	**+0.4**
BNSI	**Bone**	**3.27**	**190**	P	**Pn**	**16 16 11.2**	**-0.1**
KAPI	**Kappang**	**3.94**	**193**	Pn	**Pn**	**16 16 20.9**	**+0.4**
	3.8nm,0.3s,baz=17,slow=11,SNR=8.1						
KAPI				Sn	**Sn**	**16 17 06.2**	**-0.6**
	6.2nm,0.3s,baz=52,slow=21,SNR=6.5						
BKSI	**Bulukumba**	**4.17**	**187**	P	**Pn**	**16 16 23.4**	**-0.4**
BSSI	**Bau Bau, Buton**	**4.95**	**182**	P	**Pn**	**16 16 34.2**	**-0.4**
SANI	**Sanana**	**5.39**	**99**	P	**Pn**	**16 16 39.0**	**-1.6**
	0.1nm8.8nm,0.7s						
LBMI	**Labuha**	**6.85**	**86**	P	**Pn**	**16 17 00.1**	**-0.6**
	0.1nm17nm,0.8s						
WRA	**Warramunga Arr**	**22.97**	**145**	P	**P**	**16 20 21.2**	**-3.7**
	0.6nm,0.8s,baz=322,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**25.79**	**151**	P	**P**	**16 20 49.9**	**-1.6**
	0.7nm,1.0s,baz=342,slow=14,SNR=6.0						
ASAR				PcP	**PcP**	**16 24 23.4**	**+2.1**
	0.2nm,0.6s,baz=341,slow=1.8,SNR=5.7						
CMAR	**Chiang Mai Arr**	**28.92**	**313**	P	**P**	**16 21 20.7**	**+1.1**
	0.3nm,0.3s,baz=130,slow=8.1,SNR=1.8						
STKA	**Stephens Creek**	**36.38**	**149**	P	**P**	**16 22 22.9**	**-1.8**
	7.2nm,1.4s,baz=329,slow=5.9,SNR=3.0						
SONM	**Songino Array**	**50.36**	**348**	P	**P**	**16 24 18.9**	**+1.5**
	0.3nm,0.4s,baz=170,slow=4.2,SNR=1.9						
MKAR	**Makanchi Array**

HNTI				Sn	**Sn**	**16 24 49.6**	**-1.0**
OFRI	**`Ofer**	**2.44**	**127**	Pn	**Pn**	**16 24 25.9**	**+1.2**
OFRI				Sn	**Sn**	**16 24 52.1**	**-1.3**
BLGI	**Bet Lehem HaGe**	**2.51**	**122**	Pn	**Pn**	**16 24 27.1**	**+1.4**
BLGI				Sn	**Sn**	**16 24 54.8**	**-0.4**
MMC7	**Mount Meron ar**	**2.52**	**115**	Pn	**Pn**	**16 24 25.8**	**0.0**
MMA0B	**Mount Meron ar**	**2.53**	**115**	Pn	**Pn**	**16 24 26.7**	**+0.7**
MMA0B				Sn	**Sn**	**16 24 54.6**	**-1.1**
ERMK	**Ermenek**	**2.54**	**4**	P	**Pn**	**16 24 27.6**	**+1.3**
ERMK				*i* AML	AML	16 25 02.0	
	comp=N,14nm,0.2s						
NATI	**Neve Ativ**	**2.69**	**107**	Pn	**Pn**	**16 24 27.8**	**-0.3**
MMLI	**Mount Malkishu**	**2.84**	**125**	Pn	**Pn**	**16 24 31.2**	**+1.0**
MMLI				Sn	**Sn**	**16 25 02.6**	**-0.8**
KEPZ	**Antalya-Kepez**	**2.93**	**343**	P	**Pn**	**16 24 30.8**	**-0.6**
KKBE	**Karaman, Kazim**	**3.12**	**4**	P	**Pn**	**16 24 35.8**	**+1.6**
KKBE				S	**Sn**	**16 25 12.2**	**+1.8**
YTIR	**Yattir**	**3.42**	**142**	Sn	**Sn**	**16 25 18.1**	**+0.3**
KZIT	**Kziot**	**3.50**	**155**	Pn	**Pn**	**16 24 41.0**	**+1.7**
KZIT				Sn	**Sn**	**16 25 18.6**	**-1.1**
KERG	**Konya-Eregli**	**3.51**	**19**	P	**Pn**	**16 24 40.8**	**+1.2**
KERG				S	**Sn**	**16 25 21.9**	**+1.8**
GULE	**Gulek**	**3.61**	**28**	P	**Pn**	**16 24 41.1**	**+0.2**
GULE				*i* AML	AML	16 25 34.0	
	comp=N,13nm,0.9s						
PRNI	**Paran**	**4.23**	**151**	Pn	**Pn**	**16 24 49.5**	**+0.2**
PRNI				Sn	**Sn**	**16 25 36.6**	**-1.0**
KRMI	**Paran Flat**	**4.34**	**156**	Sn	**Sn**	**16 25 39.1**	**-1.2**
HRFI	**Mount Harif**	**4.52**	**153**	Pn	**Pn**	**16 24 54.3**	**+0.9**
HRFI				Sn	**Sn**	**16 25 43.4**	**-1.5**
MBRI	**Mt Berech**	**4.70**	**155**	Pn	**Pn**	**16 24 56.7**	**+0.9**
EIL	**Elat**	**4.83**	**156**	Pn	**Pn**	**16 24 58.1**	**+0.6**
EIL				Sn	**Sn**	**16 25 51.4**	**-0.9**

*IDC **10** 16:24:56.5±2.0,36.°61N×98.°92W,h0km,mb3.3/2, mb1 3.5/5,mb1mx3.3/43,mbtmp3.2/5,ML3.9/2,Error ellipse: s-maj=31.3km s-min=12.1km az=94.0*
*NEIC **10** 16:24:56.8±0.7,36.°56N±0.°02×99.°00W±0.°02,h9km±6km, Error ellipse: s-maj=3.9km s-min=1.7km az=148.0*
*TUL **10** 16:24:57.2±1.2,36.°52N±0.°03×98.°98W±0.°04,h5km±6km, ML3.4,mb_Lg3.2/85(NEIC),Error ellipse: s-maj=4.4km s-min=3.5km az=77.0*

ISC 10 16:24:57.4±1.8,36.°56N±0.°06×98.°92W±0.°07,h6km±13km, n56,σ1§25/25,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.19**	**200**	Pg	**Pg**	**16 25 00.4**	**-0.8**
FNO	**Franklin**	**1.79**	**136**		**Pn**	**16 25 29.3**	**+0.4**
WMOK	**Wichita Mounta**	**1.82**	**176**		**Pn**	**16 25 28.4**	**-0.9**
WMOK				IAmb_Lg		16 25 54.9	
	comp=Z,172nm,0.8s						
X34A	**Smith Ranch, M**	**2.15**	**155**	Pn	**Pn**	**16 25 33.0**	**-0.7**
W35A	**Tecumseh**	**2.18**	**130**	Pn	**Pn**	**16 25 33.5**	**-0.6**
CBKS	**Cedar Bluff**	**2.34**	**344**	Pn	**Pn**	**16 25 34.3**	**-2.2**
CBKS				IAmb_Lg		16 26 11.8	
	comp=Z,118nm,0.8s						
TUL1	**Leonard**	**2.61**	**103**	Pn	**Pn**	**16 25 39.8**	**-0.4**
KSU1	**Kansas State U**	**3.13**	**35**	Pn	**Pn**	**16 25 46.1**	**-1.2**
X37A	**Clayton**	**3.50**	**123**	Pn	**Pn**	**16 25 52.0**	**-0.3**
Z35A	**Perchaven, San**	**3.50**	**156**		**Pn**	**16 25 50.7**	**-1.7**
Z35A				IAmb_Lg		16 26 54.0	
	comp=Z,44nm,0.9s						
KSCO	**Kaye Shedlock'**	**3.82**	**311**	IAmb_Lg		16 27 02.6	
	comp=Z,71nm,0.7s						
HHAR	**Hobbs**	**4.03**	**92**	Pn	**Pn**	**16 25 59.4**	**-0.3**
HHAR				IAmb_Lg		16 27 07.4	
	comp=Z,64nm,1.0s						
MSTX	**Muleshoe**	**4.07**	**232**	IAmb_Lg		16 27 08.1	
	comp=Z,42nm,0.9s						
N33A	**J Bar K, Exete**	**4.33**	**15**	Pn	**Pn**	**16 26 02.3**	**-1.5**
N33A				IAmb_Lg		16 27 17.0	
	comp=Z,56nm,0.8s						
T25A	**Trinidad**	**4.44**	**279**	IAmb_Lg		16 27 24.5	
	comp=Z,45nm,0.8s						
Z38A	**Mt. Pleasant**	**4.62**	**134**	IAmb_Lg		16 27 29.2	
	comp=Z,57nm,0.8s						
S39A	**Bolivar**	**4.62**	**74**	IAmb_Lg		16 27 24.1	
	comp=Z,31nm,0.8s						
WHTX	**Lake Whitney,**	**4.71**	**165**	IAmb_Lg		16 27 37.3	
	comp=Z,30nm,0.8s						
MIAR	**Mount Ida**	**4.80**	**113**	IAmb_Lg		16 27 40.0	
	comp=Z,42nm,0.7s						
U40A	**Yellville**	**4.90**	**91**	Pn	**Pn**	**16 26 11.3**	**-0.3**
U40A				IAmb_Lg		16 27 41.8	
	comp=Z,42nm,0.9s						
OGNE	**Ogallala**	**5.01**	**332**	Pn	**Pn**	**16 26 11.0**	**-2.2**
OGNE				IAmb_Lg		16 27 44.7	
	comp=Z,58nm,0.8s						
237A	**Washetta, Mont**	**5.22**	**150**	IAmb_Lg		16 27 53.2	
	comp=Z,48nm,0.8s						
P38A	**Dawn**	**5.24**	**53**	Pn	**Pn**	**16 26 15.6**	**-0.7**
P38A				IAmb_Lg		16 27 51.8	
	comp=Z,42nm,0.8s						
MGMO	**Mountain Grove**	**5.37**	**82**	Pn	**Pn**	**16 26 17.8**	**-0.3**
MGMO				IAmb_Lg		16 27 48.6	
	comp=Z,29nm,0.9s						
X40A	**Basin Creek Fa**	**5.38**	**111**	Pn	**Pn**	**16 26 17.6**	**-0.6**
Q24A	**Divide**	**5.49**	**298**	IAmb_Lg		16 27 48.9	
	comp=Z,46nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.54**	**95**	IAmb_Lg		16 27 58.6	
	comp=Z,35nm,0.8s						
WLAR	**White Oak Lake**	**5.56**	**119**	IAmb_Lg		16 27 53.4	
	comp=Z,28nm,0.7s						
W41B	**Gary Mavity, V**	**5.59**	**102**	Pn	**Pn**	**16 26 20.6**	**-0.5**
UALR	**University of**	**5.64**	**106**	IAmb_Lg		16 28 10.8	
	comp=Z,24nm,0.7s						
NATX	**Nacogdoches**	**5.95**	**142**	IAmb_Lg		16 28 19.7	
	comp=Z,34nm,0.9s						
Z41A	**Richland Creek**	**6.01**	**121**	IAmb_Lg		16 28 18.8	
	comp=Z,44nm,0.7s						
CCM	**Cathedral Cave**	**6.30**	**74**	IAmb_Lg		16 28 20.9	
	comp=Z,27nm,0.8s						
ANMO	**Albuquerque**	**6.33**	**258**	Pn	**Pn**	**16 26 31.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=74,slow=15,SNR=2.0						
ANMO				Pg	**Pb**	**16 26 50.8**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=76,slow=17,SNR=3.2						
ANMO				Lg	Lg	16 28 12.9	
	comp=Z,0.2nm,0.3s,baz=353,slow=14,SNR=2.0						
PBMO	**Poplar Bluff**	**6.83**	**86**	IAmb_Lg		16 28 43.3	
	comp=Z,26nm,0.7s						
X43A	**Marvell**	**6.87**	**105**	IAmb_Lg		16 28 47.5	
	comp=Z,41nm,1.0s						
SCIA	**State Center**	**6.94**	**38**	IAmb_Lg		16 28 42.6	
	comp=Z,30nm,0.7s						
PHWY	**Pilot Hill**	**6.95**	**315**	IAmb_Lg		16 28 54.2	
	comp=Z,28nm,0.9s						
N23A	**Red Feather La**	**6.99**	**310**	IAmb_Lg		16 28 41.5	
	comp=Z,26nm,0.8s						
Y22D	**IRIS PASSCAL I**	**6.99**	**252**	IAmb_Lg		16 28 53.9	
	comp=Z,21nm,0.8s						
SLM	**Saint Louis**	**7.20**	**71**	IAmb_Lg		16 29 03.3	
	comp=Z,22nm,0.9s						
MNTX	**Cornudas Mount**	**7.22**	**230**	IAmb_Lg		16 28 50.7	
	comp=Z,20nm,0.7s						
S44A	**Carbondale**	**7.81**	**79**	IAmb_Lg		16 29 06.4	
	comp=Z,24nm,0.9s						
SIUC	**Southern Illin**	**7.84**	**79**	IAmb_Lg		16 29 21.5	
	comp=Z,27nm,0.8s						
SUSD	**Miller**	**7.88**	**360**	IAmb_Lg		16 29 15.8	
	comp=Z,30nm,0.8s						
Q44A	**Meyer Farm, Va**	**8.19**	**70**	IAmb_Lg		16 29 27.2	
	comp=Z,27nm,0.9s						
833A	**Chaparral WMA,**	**8.22**	**183**	IAmb_Lg		16 29 23.3	
	comp=Z,24nm,0.9s						
TXAR	**Lajitas Array**	**8.23**	**210**	Pn	**Pn**	**16 26 55.8**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=34,slow=11,SNR=14						
TXAR				Sn	**Sn**	**16 28 29.6**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=39,slow=19,SNR=4.4						
TXAR				Lg	Lg	16 29 12.5	
	comp=Z,0.9nm,0.3s,baz=25,slow=28,SNR=7.6						
L42A	**Oliver, Polo**	**9.00**	**50**	IAmb_Lg		16 29 50.4	
	comp=Z,24nm,0.7s						
JFWS	**Jewell Farm**	**9.21**	**44**	IAmb_Lg		16 30 09.7	
	comp=Z,28nm,1.0s						
F33A	**5 Mile Ranch,**	**9.48**	**11**	IAmb_Lg		16 30 01.6	
	comp=Z,15nm,1.0s						
SPMN	**Marine on St.**	**9.81**	**26**	IAmb_Lg		16 30 13.0	
	comp=Z,13nm,1.1s						
PDAR	**Pinedale Array**	**10.27**	**310**	Pn	**Pn**	**16 27 26.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=123,slow=17,SNR=3.0						
PDAR				Pg		16 27 58.8	
	comp=Z,0.1nm,0.3s,baz=108,slow=14,SNR=2.2						
PDAR				Lg	Lg	16 30 15.6	
	comp=Z,0.1nm,0.3s,baz=112,slow=24,SNR=2.6						
TKL	**Tuckaleechee C**	**12.29**	**90**	Lg	Lg	16 31 16.8	
	comp=Z,0.2nm,0.3s,baz=285,slow=4.9,SNR=1.3						
YKA	**Yellowknife Ar**	**27.73**	**344**	P	**P**	**16 30 46.2**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=142,slow=9.4,SNR=3.8						
ILAR	**Eielson Array**	**39.92**	**330**	P	**P**	**16 32 32.6**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=102,slow=7.5,SNR=3.3						

*IDC **10** 16:33:25.3±1.6,20.°00S×168.°15E,h0km,mb3.7/3, mb1 4.0/5,mb1mx3.7/28,mbtmp3.8/5,ML3.9/2,Error ellipse: s-maj=37.2km s-min=30.0km az=162.0*
*NOU **10** 16:33:25.0,20.°20S×168.°30E,h0km,MLv3.9/13,Loyalty Islands*
*NEIC **10** 16:33:27.7±1.8,20.°43S±0.°06×168.°18E±0.°06,h10km±2km, mb4.3/4,Error ellipse: s-maj=12.7km s-min=7.0km az=38.0*

ISC 10 16:33:28.1±0.9,20.°27S±0.°06×168.°28E±0.°08,h26km,n27, σ1§28/30,mb3.7/4,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**1.10**	**242**	Pn	**Pn**	**16 33 46.5**	**-1.4**
LIFNC				Sn	**Sn**	**16 33 59.6**	**-2.7**
LIFNC	**LIFOU**	**1.10**	**242**	P	**Pn**	**16 33 46.8**	**-1.1**
MARNC	**Mare, Loyalty**	**1.23**	**191**	Pn	**Pn**	**16 33 48.1**	**-1.6**
MARNC				Sn	**Sn**	**16 34 02.6**	**-2.9**
MARNC	**Mare, Loyalty**	**1.23**	**191**	P	**Pn**	**16 33 48.5**	**-1.2**
YATNC	**Mamie plateau,**	**2.21**	**216**	P	**Pn**	**16 34 02.9**	**-0.2**
PINNC	**Pines Island,**	**2.46**	**198**	Pn	**Pn**	**16 34 06.7**	**+0.1**
PINNC	**Pines Island,**	**2.46**	**198**	P	**Pn**	**16 34 06.6**	**0.0**
DZM	**Mont Dzumac**	**2.48**	**223**	Pn	**Pn**	**16 34 06.9**	**-0.1**
	8.9nm,0.3s,baz=105,slow=9.0,SNR=183						
DZM				Sn	**Sn**	**16 34 35.5**	**-1.1**
	20nm,0.3s,baz=311,slow=23,SNR=15						
DZM	**Mont Dzumac**	**2.48**	**223**	Pn	**Pn**	**16 34 06.7**	**-0.3**
DZM	**Mont Dzumac**	**2.48**	**223**	P	**Pn**	**16 34 06.7**	**-0.3**
DVP	**Devils Point**	**2.53**	**358**	P	**Pn**	**16 34 05.9**	**-1.6**
OUENC	**Ouen Island, N**	**2.53**	**212**	Pn	**Pn**	**16 34 06.4**	**-1.2**
OUENC	**Ouen Island, N**	**2.53**	**212**	P	**Pn**	**16 34 08.5**	**+1.0**
NOUC	**Port Laguerre**	**2.60**	**225**	P	**Pn**	**16 34 09.7**	**+1.2**
ONTNC	**Ouen Toro**	**2.65**	**220**	Pn	**Pn**	**16 34 09.1**	**-0.2**
ONTNC	**Ouen Toro**	**2.65**	**220**	P	**Pn**	**16 34 13.3**	**+1.1**
KOUNC	**Koumac, New Ca**	**3.76**	**265**		**Pn**	**16 34 24.9**	**+0.4**
KOUNC	**Koumac, New Ca**	**3.76**	**265**	P	**Pn**	**16 34 25.4**	**+0.9**
URZ	**Urewera**	**19.50**	**159**	P	**Pn**	**16 37 57.4**	**+2.8**
	1.1nm,0.3s,baz=11,slow=10,SNR=16						
BKZ	**Black Stump Fm**	**20.12**	**161**	P	**P**	**16 37 59.1**	**-1.0**
BKZ				IAmb	IAmb	16 38 10.0	
	comp=Z,16nm,1.3s						
WRA	**Warramunga Arr**	**31.85**	**265**	P	**P**	**16 39 51.5**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=90,slow=8.4,SNR=2.3						
AS31	**Alice Springs**	**32.02**	**258**	P	**P**	**16 39 51.9**	**-0.8**
ASAR	**Alice Springs**	**32.02**	**258**	P	**P**	**16 39 53.7**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=86,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**32.02**	**258**	P	**P**	**16 39 52.7**	**0.0**
FITZ	**Fitzroy Crossi**	**40.25**	**266**	P	**P**	**16 41 03.4**	**+0.2**
FITZ				IAmb	IAmb	16 41 18.0	
	comp=Z,10nm,1.3s						
BELA	**Belgrano 2**	**81.16**	**175**	P	**P**	**16 45 41.5**	**+0.6**
NVAR	**Mina Array Bea**	**90.15**	**49**	P	**P**	**16 46 27.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=219,slow=7.8,SNR=4.9						

*IDC **10** 16:37:56.1±1.2,37.°00N×140.°58E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.4/35,mbtmp3.5/4,Error ellipse: s-maj=37.4km s-min=22.3km az=145.0*
*JMA **10** 16:37:56.7,36.°80N×140.°59E,h7km±1km,M3.4 Broadband fault plane solution: P waves. NP1: ϕ±300.00000°,δ50.00000°,λ-112.00000°. NP2: ϕ±152.00000°,δ44.00000°,λ-66.00000°. Principal axes: T Plg3.0000°, Azm45.0000°; N Plg17.0000°, Azm314.0000°; P Plg73.0000°, Azm145.0000°;*
JMA Felt II J1.

ISC 10 16:37:56.0±1.2,36.°83N±0.°04×140.°61E±0.°05,h4km±10km, n20,σ1§02/21,mb3.4/4,8C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.22**	**189**	⇑P	**Pg**	**16 38 00.6**	**+0.3**
JHO				S	**Sg**	**16 38 03.4**	**+0.3**
JFFD	**Fukushimafurud**	**0.27**	**351**	⇑P	**Pg**	**16 38 02.5**	**+1.3**
ONAJ	**Iwakimizuishiy**	**0.31**	**28**	⇑P	**Pb**	**16 38 03.4**	**-0.8**
ONAJ				S	**Sb**	**16 38 08.3**	**-1.4**
JSB	**Shiboa**	**0.57**	**284**	⇑P	**Pb**	**16 38 08.2**	**-0.4**
JFK	**Kawauchi**	**0.58**	**21**	⇑P	**Pb**	**16 38 08.1**	**-0.6**
JFK				S	**Sb**	**16 38 16.5**	**-0.8**
JYT	**Yasato**	**0.69**	**210**	⇑P	**Pg**	**16 38 09.1**	**-0.1**
JYT				S	**Sg**	**16 38 18.3**	**+0.2**
JFT	**Otama**	**0.72**	**342**	⇑P	**Pb**	**16 38 11.0**	**-0.2**
JFT				S	**Sb**	**16 38 21.0**	**-0.5**
JFY	**Yanaizu**	**0.93**	**309**	P	**Pb**	**16 38 14.5**	**-0.2**
JAG	**Ashikaga**	**1.01**	**247**	⇑P	**Pg**	**16 38 14.7**	**-0.8**
JAG				S	**Sg**	**16 38 28.4**	**-0.2**
MJAR	**Matsushiro Arr**	**1.95**	**262**	Pn	**Pn**	**16 38 29.0**	**-0.9**
	3.3nm,0.3s,baz=86,slow=16,SNR=110						
MJAR				Sn	**Sb**	**16 38 57.0**	**+0.1**
	2.6nm,0.3s,baz=59,slow=6.2,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**28.60**	**119**	T	T	17 13 39.8	
	baz=312,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.61**	**119**	T	T	17 13 39.9	
	baz=312,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.62**	**119**	T	T	17 13 40.7	
	baz=312,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.29**	**121**	T	T	17 14 31.7	
	baz=314,slow=76,SNR=126						
H11S3	**WAKE ISLAND Hy**	**29.29**	**122**	T	T	17 14 29.5	
	baz=314,slow=76,SNR=103						
H11S2	**WAKE ISLAND Hy**	**29.31**	**121**	T	T	17 14 32.2	
	baz=314,slow=76,SNR=83						
ILAR	**Eielson Array**	**50.01**	**32**	P	**P**	**16 46 49.1**	**-2.0**
	0.7nm,1.0s,baz=258,slow=5.2,SNR=3.4						
WRA	**Warramunga Arr**	**56.77**	**187**	P	**P**	**16 47 43.2**	**+2.0**
	0.1nm,0.3s,baz=1.1,slow=7.6,SNR=7.3						
NOA	**NORSAR Array B**	**74.13**	**337**	P	**P**	**16 49 34.4**	**+1.2**
	0.2nm,0.8s,baz=44,slow=5.7,SNR=2.4						
NVAR	**Mina Array Bea**	**75.62**	**53**	P	**P**	**16 49 43.3**	**+0.8**
	0.3nm,0.6s,baz=286,slow=4.6,SNR=2.7						

*JMA **10** 16:38:57.5±0.1,41.°87N×141.°37E,h91km±2km,M2.8*
*IDC **10** 16:38:58.9±6.6,41.°88N×141.°45E,h117km±54km,mb3.2/6, mb1 3.3/7,mb1mx3.1/33,mbtmp3.5/7,Error ellipse: s-maj=70.6km s-min=24.3km az=70.0*

ISC 10 16:38:57.3±0.8,41.°87N±0.°04×141.°35E±0.°05,h95km±6km, n26,σ0§79/37,mb3.4/6,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKB	**Kayabe**	**0.24**	**275**	P	**Pn**	**16 39 10.6**	**-0.3**
JKB				*e*S	**Sn**	**16 39 22.1**	**+1.0**
JOT	**Ohata**	**0.54**	**205**	P	**Pn**	**16 39 12.8**	**0.0**
JAHD	**Aomorihigashid**	**0.60**	**181**	P	**Pn**	**16 39 13.3**	**0.0**
JAHD				*e*S	**Sn**	**16 39 25.4**	**+0.2**
JNB	**Noboribetsu**	**0.65**	**339**	P	**Pn**	**16 39 13.4**	**-0.3**
JNB				*e*S	**Sn**	**16 39 26.3**	**+0.4**
JYM2	**Yakumo 2**	**0.78**	**289**	P	**Pn**	**16 39 15.1**	**+0.2**
JYM2				*e*S	**Sn**	**16 39 28.9**	**+0.8**
JSR	**Shiriuchi**	**0.78**	**245**	P	**Pn**	**16 39 15.2**	**+0.3**
JSR				*e*S	**Sn**	**16 39 28.4**	**+0.3**
JIAM	**Iburiatsuma**	**0.86**	**29**	P	**Pn**	**16 39 16.3**	**+0.5**
JEW	**Eniwo**	**0.97**	**4**	P	**Pn**	**16 39 17.3**	**+0.3**
JEW				*e*S	**Sn**	**16 39 32.0**	**+0.2**
JOMM	**Oshimamatsumae**	**1.06**	**252**	P	**Pn**	**16 39 18.5**	**+0.5**
JOMM				*e*S	**Sn**	**16 39 34.8**	**+1.2**
JTM	**Tenmabayashi**	**1.10**	**191**	P	**Pn**	**16 39 19.0**	**+0.5**
JTM				*e*S	**Sn**	**16 39 35.1**	**+0.8**
JNBK	**Urakawa-nobuka**	**1.12**	**68**	P	**Pn**	**16 39 18.8**	**+0.2**
JBT2	**Biratori 2**	**1.18**	**39**	P	**Pn**	**16 39 19.7**	**+0.4**
JSH	**Shimam**	**1.24**	**309**	P	**Pn**	**16 39 20.7**	**+0.6**
JEM	**Erimo**	**1.35**	**83**	P	**Pn**	**16 39 22.1**	**+0.7**
JOSM	**Okushiri--Mats**	**1.42**	**279**	P	**Pn**	**16 39 22.1**	**-0.1**
JOSM				*e*S	**Sn**	**16 39 40.9**	**-0.2**
JANG	**Nango**	**1.50**	**175**	P	**Pn**	**16 39 23.3**	**0.0**
JANG				*e*S	**Sn**	**16 39 42.6**	**-0.3**
JCH	**Churui**	**1.67**	**63**	P	**Pn**	**16 39 25.7**	**+0.4**
JHR	**Hokuryu**	**1.89**	**8**	P	**Pn**	**16 39 29.5**	**+1.2**
JHR				*e*S	**Sn**	**16 39 53.5**	**+1.6**
MJAR	**Matsushiro Arr**	**5.85**	**206**	P	**Pn**	**16 40 24.0**	**+2.5**
	0.1nm,0.3s,baz=331,slow=15,SNR=1.2						
SONM	**Songino Array**	**25.34**	**296**	P	**P**	**16 44 14.6**	**-0.7**
	0.2nm,0.4s,baz=110,slow=10,SNR=2.1						
ZALV	**Zalesovo Beam**	**38.76**	**308**	P	**P**	**16 46 13.2**	**+1.0**
	0.4nm,0.4s,baz=88,slow=10,SNR=1.7						
MKAR	**Makanchi Array**	**41.67**	**298**	P	**P**	**16 46 35.8**	**-0.6**
	0.1nm,0.5s,baz=83,slow=10,SNR=1.6						
WRA	**Warramunga Arr**	**61.84**	**187**	P	**P**	**16 49 05.8**	**-0.6**
	0.4nm,0.6s,baz=5.4,slow=7.3,SNR=5.3						
FINES	**FINESS Array B**	**64.54**	**331**	P	**P**	**16 49 23.0**	**-0.8**
	0.8nm,0.5s,baz=64,slow=6.3,SNR=12						
NB2	**NORSAR Subarra**	**69.73**	**337**	P	**P**	**16 49 56.0**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**69.73**	**337**	P	**P**	**16 49 55.7**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=51,slow=5.7,SNR=4.4						

*IDC **10** 16:39:55.9±1.6,13.°94N×91.°03W,h0km,mb3.8/8, mb1 4.1/11,mb1mx3.9/33,mbtmp3.8/11,ML3.8/3,MS3.6/2, Ms1 3.6/2,ms1mx2.8/69,Error ellipse: s-maj=54.8km s-min=16.5km az=35.0*
*GCG **10** 16:39:55.0±0.6,13.°33N×91.°65W,h8km±8km,MD4.2*
*UCR **10** 16:39:58.8±0.9,13.°65N×91.°42W,h8km±10km,ML3.7, mb4.4(NEIC)*
*SNET **10** 16:39:58.9±1.0,13.°64N×91.°42W,h9km±11km,ML3.9*
*NEIC **10** 16:40:01.2±2.1,13.°64N±0.°07×91.°40W±0.°08,h35km±2km, mb4.4/72,Error ellipse: s-maj=15.4km s-min=7.5km az=231.0*
*INET **10** 16:40:02.7±0.4,13.°65N×91.°30W,h15km±8km,MW3.7*

ISC 10 16:39:54.8±1.7,13.°39N±0.°05×91.°55W±0.°04,h9km±9km, n161,σ1§87/174,mb4.4/39,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**1.14**	**353**	Pn	**Pg**	**16 40 16.3**	**-0.4**
RTAL				Sn	**Sg**	**16 40 28.6**	**-2.8**
FUG	**Fuego 3**	**1.25**	**33**	*e*P	**Pn**	**16 40 19.7**	**+1.0**
FUG				*e*S	**Sn**	**16 40 41.3**	**+5.4**
STG3	**Santiaguito 3,**	**1.31**	**359**	*e*P	**Pb**	**16 40 19.8**	**0.0**
STG3				*e*S	**Sn**	**16 40 39.6**	**+2.3**
PCG	**Pacaya**	**1.35**	**42**	*e*P	**Pn**	**16 40 21.6**	**+1.4**
PCG				*e*S	**Sn**	**16 40 42.4**	**+4.0**
NBG	**Las Nubes**	**1.67**	**44**	*e*P	**Pg**	**16 40 27.2**	**+0.4**
NBG				*e*S	**Sg**	**16 40 50.9**	**+2.4**
NUBE	**Las Nubes**	**1.79**	**73**	*e*P	**Pn**	**16 40 26.8**	**+0.6**
NUBE				*e*S	**Sn**	**16 40 48.9**	**-0.3**
NUBE	**Las Nubes**	**1.79**	**73**	*e*P	**Pn**	**16 40 26.8**	**+0.6**
NUBE				*e*S	**Sn**	**16 40 48.9**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.83**	**70**	*e*P	**Pn**	**16 40 27.5**	**+1.0**
SLOZ				*e*S	**Sb**	**16 40 49.9**	**-1.7**
HUEH	**Huehuetenango**	**1.92**	**1**	Pn	**Pn**	**16 40 28.6**	**+0.7**
HUEH	**Huehuetenango**	**1.92**	**1**	*e*P	**Pg**	**16 40 30.8**	**-0.9**
RTR	**El Retiro**	**1.92**	**75**	*e*P	**Pn**	**16 40 29.1**	**+1.2**
RTR	**El Retiro**	**1.92**	**75**	*e*P	**Pn**	**16 40 29.1**	**+1.2**
CEVE	**Cerro Verde**	**1.92**	**77**	*e*P	**Pn**	**16 40 29.6**	**+1.6**
CEVE				*e*S	**Sb**	**16 40 53.8**	**-0.7**
CEVE				IAML		16 40 59.3	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**1.92**	**77**	*e*P	**Pn**	**16 40 29.6**	**+1.6**
CEVE				*e*S	**Sb**	**16 40 53.8**	**-0.7**
CEVE				IAML		16 40 59.3	
	comp=Z,2μm,0.3s						
SNJE	**San Jose**	**1.95**	**76**	*e*P	**Pn**	**16 40 29.2**	**+0.8**
SNJE	**San Jose**	**1.95**	**76**	*e*P	**Pn**	**16 40 29.2**	**+0.8**
LALI	**Alcalda de L**	**2.17**	**87**	*e*P	**Pn**	**16 40 33.5**	**+2.3**
LALI	**Alcalda de L**	**2.17**	**87**	*e*P	**Pn**	**16 40 33.5**	**+2.3**
LALI	**Alcalda de L**	**2.17**	**87**	*e*P	**Pn**	**16 40 34.0**	**+2.8**
BOQS	**Boqueron**	**2.23**	**81**	*e*P	**Pn**	**16 40 33.8**	**+1.5**
BOQS				*e*S	**Sb**	**16 41 02.0**	**-1.4**
BOQS	**Boqueron**

TX32 Lajitas Array 19.44 327 P 16 44 24.3 +2.4
ABTX Abilene, Hawle 20.53 340 P P 16 44 35.2 +1.6
Z51A Franklin 20.67 15 Pn Pn 16 44 38.0 +0.6
Z51A IAmb IAmb 16 44 39.5
comp=Z,9.7nm,0.7s
Y49A Blount Mountai 20.90 12 P P 16 44 38.0 +0.4
Y49A IAmb IAmb 16 45 00.4
comp=Z,21nm,1.4s
SDV Santo Domingo 21.00 100 P P 16 44 37.6 -1.4
comp=Z,1.6nm,0.3s,baz=295,slow=9.2,SNR=1.6
W41B Gary Mavity, V 21.70 358 P P 16 44 46.1 0.0
MNTX Cornudas Mount 22.21 327 P P 16 44 52.9 +1.1
WMOK Wichita Mounta 22.24 344 P P 16 44 52.2 +0.1
WMOK IAmb IAmb 16 44 53.8
comp=Z,18nm,0.7s
HODGE Hodges 22.40 21 P P 16 44 53.7 0.0
W50A Signal Mountai 22.43 13 P P 16 44 53.6 -0.6
W50A IAmb IAmb 16 45 07.9
comp=Z,17nm,1.4s
LCAR Lake Charles 22.59 1 P P 16 44 55.0 -0.7
V48A Smith Brothers 22.66 10 P P 16 44 55.6 -0.9
CPCT Cooper Cave 22.86 15 P P 16 44 58.2 -0.4
MSTX Muleshoe 22.89 335 P P 16 45 00.3 +1.2
TKL Tuckaleechee C 23.25 16 P P 16 44 58.4 -4.3
comp=Z,5.8nm,0.6s,baz=249,slow=8.6,SNR=1.6
TKL LR LR 16 54 51.7
comp=Z,87nm,20.6s,baz=169,slow=40
TKL Tuckaleechee C 23.25 16 P P 16 45 02.5 -0.2
TKL IAmb IAmb 16 45 04.0
comp=Z,7.1nm,0.7s
BAUV El Baul 23.48 98 P P 16 45 04.9 -0.2
BAUV IAmb IAmb 16 45 14.0
comp=Z,9.8nm,0.8s
V53A Saluda 23.54 18 P P 16 45 05.8 +0.2
V53A IAmb IAmb 16 45 09.3
comp=Z,22nm,1.5s
T42A Van Buren 23.54 1 P P 16 45 03.1 -2.4
U49A Red Boiling Sp 23.60 12 P P 16 45 04.2 -1.9
U49A IAmb IAmb 16 45 16.7
comp=Z,16nm,1.4s
TZTN Tazewell 24.15 16 P P 16 45 10.0 -1.3
TZTN IAmb IAmb 16 45 37.0
comp=Z,23nm,1.4s
V55A Taylorsville 24.22 21 P P 16 45 11.4 -0.7
V55A IAmb IAmb 16 45 20.5
comp=Z,12nm,1.1s
S39A Bolivar 24.25 357 P P 16 45 10.9 -1.4
S39A IAmb IAmb 16 45 12.7
comp=Z,5.3nm,0.7s
T50A Nancy 24.29 13 P P 16 45 10.9 -1.7
CCM Cathedral Cave 24.57 1 P P 16 45 13.5 -1.6
CCM IAmb IAmb 16 45 15.3
comp=Z,8.5nm,0.8s
R40A Maddies Statio 24.81 359 P P 16 45 14.7 -2.7
V58A Windy Hill, Pi 24.96 25 P P 16 45 17.4 -1.3
V58A IAmb IAmb 16 45 45.0
comp=Z,18nm,1.4s
ANMO Albuquerque 25.34 330 P P 16 45 23.6 +1.2
comp=Z,0.8nm,0.7s,baz=153,slow=9.0,SNR=4.0
ANMO Albuquerque 25.34 330 IAmb IAmb 16 45 26.2
comp=Z,1.4nm,0.8s
J57A Williamstown 32.77 21 P P 16 46 26.6 -1.7
J58A Remsen 32.98 22 P P 16 46 27.8 -2.3
SADO Sadowa 33.02 16 P P 16 46 27.8 -2.6
PDAR Pinedale Array 33.15 335 P P 16 46 30.6 -1.3
comp=Z,0.3nm,0.7s,baz=134,slow=7.8,SNR=2.5
PDAR PcP **PcP 16 49 16.3 +1.4**
comp=Z,0.2nm,0.7s,baz=160,slow=5.6,SNR=2.2
PDAR Pinedale Array 33.15 335 P P 16 46 32.5 +0.5
REDW Red Top Meadow 34.18 335 P P 16 46 42.1 +1.3
REDW IAmb IAmb 16 46 43.3
comp=Z,3.1nm,0.8s
LOHW Long Hollow 34.28 335 P P 16 46 40.6 -1.1
NVAR Mina Array Bea 34.42 321 P P 16 46 45.5 +2.5
comp=Z,1.9nm,0.8s,baz=130,slow=7.7,SNR=13
F10A Beach Ranch, E 39.05 331 P P 16 47 23.5 +1.3
F10A IAmb IAmb 16 47 25.5
comp=Z,4.7nm,0.8s
PINE Pine Mountain 39.40 326 P P 16 47 27.9 +2.6
FCC Fort Churchill 45.33 358 P P 16 48 11.6 -1.5
SCHQ Schefferville 45.64 20 LR LR 17 07 53.2
comp=Z,118nm,18.1s,baz=127,slow=37
YKA Yellowknife Ar 51.72 347 P P 16 49 01.7 -0.5
comp=Z,1.4nm,0.7s,baz=148,slow=7.6,SNR=26
YKA PcP **PcP 16 50 15.6 +0.1**
comp=Z,0.6nm,0.7s,baz=150,slow=3.6,SNR=8.8
DLBC Dease Lake 53.38 336 P P 16 49 16.8 +2.0
DLBC IAmb IAmb 16 49 18.0
comp=Z,4.1nm,0.8s
M30M Minto, Yukon 58.59 337 P P 16 49 52.7 +0.8
M30M IAmb IAmb 16 50 11.5
comp=Z,5.7nm,1.4s
CTGM Chitina Glacie 59.51 334 P P 16 49 59.8 +1.3
DAWY Dawson 60.40 338 P P 16 50 05.1 +0.7
DAWY IAmb IAmb 16 50 21.7
comp=Z,3.3nm,1.3s
MCARA McCarthy VSAT 60.43 334 P P 16 50 05.4 +0.8
M27K Edge Creek, AK 60.44 336 P P 16 50 06.4 +1.5
BCAR Beaver Creek A 60.77 336 P P 16 50 07.7 +0.8
L27K Beaver Creek, 60.78 336 P P 16 50 07.8 +0.7
L27K IAmb IAmb 16 50 08.8
comp=Z,2.2nm,0.9s
INK Inuvik 61.14 344 P P 16 50 08.6 -0.7
INK IAmb IAmb 16 50 24.3
comp=Z,4.8nm,1.4s
N25K Chitina, Valde 61.20 334 P P 16 50 12.3 +2.3
RES Resolute Bay 61.31 359 P P 16 50 08.6 -1.8
MENT Mentasta 61.47 336 P P 16 50 13.5 +1.8
MENT IAmb IAmb 16 50 25.0
comp=Z,7.5nm,1.4s
KLU Klutina 61.72 334 P P 16 50 15.0 +1.5
A36M Sachs Harbour 61.93 349 P P 16 50 13.2 -1.3
A36M IAmb IAmb 16 50 19.5
comp=Z,2.1nm,1.0s
DOT Dot Lake 61.95 336 P P 16 50 15.2 +0.3
DOT IAmb IAmb 16 50 16.4
comp=Z,3.2nm,1.0s
M24K Tolsona, Glenn 62.09 334 P P 16 50 15.9 0.0
PAX Paxson 62.19 335 P P 16 50 17.8 +1.2
PAX IAmb IAmb 16 50 18.0
comp=Z,3.1nm,0.8s
SML Sawmill 62.89 333 P P 16 50 22.7 +1.4
J25K Salcha River, 62.92 337 P P 16 50 22.9 +1.4
J25K IAmb IAmb 16 50 36.4
comp=Z,7.1nm,1.4s
GHO Glory Hole Cre 63.13 333 P P 16 50 24.2 +1.3
IL31 63.57 337 P P 16 50 26.1 +0.5
ILAR Eielson Array 63.57 337 P P 16 50 26.2 +0.6
comp=Z,1.2nm,0.9s,baz=174,slow=5.0,SNR=18
RND Reindeer 63.76 335 P P 16 50 28.9 +1.8
CCB Clear Creek Bu 63.87 336 P P 16 50 27.1 -0.5
CCB IAmb IAmb 16 50 51.9
comp=Z,5.4nm,1.4s
BMAR Burnt Mountain 64.01 340 P P 16 50 29.4 +0.8
MDM Murphy Dome 64.17 337 P P 16 50 30.1 +0.5
MDM IAmb IAmb 16 50 34.6
comp=Z,5.3nm,1.3s
KTH Kantishna Hill 64.67 335 P P 16 50 33.5 +0.4
KTH IAmb IAmb 16 50 36.1
comp=Z,4.7nm,1.0s
I23K Minto, Yukon-K 64.68 337 P P 16 50 34.0 +1.1
CAST Castle Rocks 65.11 334 P P 16 50 36.0 +0.2
CAST IAmb IAmb 16 50 43.3
comp=Z,8.0nm,1.4s
N19K Bonanza Creek 65.32 331 P P 16 50 37.9 +0.7
O18K Koktuh Hills 65.38 330 P P 16 50 39.1 +1.5
I21K Tanana 65.71 336 P P 16 50 39.7 0.0
I21K IAmb IAmb 16 50 40.7
comp=Z,2.0nm,0.8s
SVW2 Sparrevohn 65.91 331 P P 16 50 42.1 +1.1
K20K Telida 65.93 334 P P 16 50 41.5 +0.4
K20K IAmb IAmb 16 50 42.0
comp=Z,4.4nm,0.9s
N18K Kilae Creek 65.94 331 P P 16 50 42.4 +1.1
H21K Melozitna Rive 66.21 337 P P 16 50 43.1 +0.2
H21K IAmb IAmb 16 51 06.3
comp=Z,3.9nm,1.4s
J20K Nowinta River 66.23 335 P P 16 50 43.4 +0.4
J20K IAmb IAmb 16 50 46.0
comp=Z,1.9nm,0.8s
TOLK Toolik Lake Re 66.24 340 P P 16 50 43.8 +0.8
TOLK IAmb IAmb 16 51 04.6
comp=Z,3.3nm,1.3s
TTA Tatalina 66.64 333 P P 16 50 46.0 +0.2

IMAR Indian Mountai 66.69 337 P P 16 50 45.9 0.0
EUNU Eureka 66.72 1 P P 16 50 45.1 -0.9
EUNU IAmb IAmb 16 50 45.7
comp=Z,3.6nm,0.8s
NOA NORSAR Array B 84.47 28 P P 16 52 26.2 -1.8
comp=Z,0.2nm,0.6s,baz=291,slow=4.8,SNR=2.1
CMAR Chiang Mai Arr 146.71 342 PKPbc PKPdf 16 59 39.0 +2.4
comp=Z,1.8nm,0.8s,baz=342,slow=4.5,SNR=14
CMAR Chiang Mai Arr 146.71 342 PKPdf 16 59 38.6 +2.1

*ATH **10** 17:01:28.4,38°.68N×26°.06E,h28km±1km, ML2.5/6, Error ellipse: s-maj=2.2km s-min=1.3km az=261.0*
*DDA **10** 17:01:28.9±0.0,38°.72N×26°.10E,h7km±4km, ML2.3*
*ISK **10** 17:01:28.2,38°.72N×26°.04E,h15km, ML2.5/9*
*THE **10** 17:01:29.2,38°.70N×25°.98E,h10km±1km, ML2.3/6, Error ellipse: s-maj=1.8km s-min=0.7km az=82.0*
ISC 10 17:01:28.8±0.9,38.72N±0.02×26.05E±0.02,h16km±8km, n46,σ0866/68,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.33**	**179**	P	**Pg**	**17 01 35.9**	**0.0**
CHOS				S	**Sg**	**17 01 40.2**	**-0.4**
CHOS				AML	AML	17 01 41.3	
	comp=N,1109μm,0.3s						
CHOS				AML	AML	17 01 41.9	
	comp=E,2578μm,0.2s						
CHOS	**Chios island**	**0.33**	**179**	P	**Pg**	**17 01 35.8**	**0.0**
CHOS				S	**Sg**	**17 01 40.2**	**-0.4**
	comp=E,922nm,0.2s						
PSRA	**Psara**	**0.42**	**245**	P	**Pb**	**17 01 38.3**	**+0.4**
PSRA				S	**Sb**	**17 01 43.8**	**-0.2**
PSRA				AML	AML	17 01 44.3	
	comp=N,3248μm,0.2s						
PSRA				AML	AML	17 01 48.3	
	comp=E,1791μm,0.2s						
SIGR	**SIGRI**	**0.51**	**343**	P	**Pg**	**17 01 39.3**	**+0.2**
SIGR				AML	AML	17 01 49.3	
	comp=N,591μm,0.2s						
SIGR				AML	AML	17 01 50.6	
	comp=E,639μm,0.2s						
SIGR	**SIGRI**	**0.51**	**343**	P	**Pg**	**17 01 39.3**	**+0.2**
SIGR				S	**Sg**	**17 01 46.4**	**+0.4**
	comp=E,258nm,0.3s						
SIGR	**SIGRI**	**0.51**	**343**	PG	**Pg**	**17 01 39.2**	**+0.2**
SIGR				SG	**Sg**	**17 01 46.2**	**+0.2**
FOCM	**Foa**	**0.53**	**91**	PG	**Pg**	**17 01 39.4**	**0.0**
FOCM				SG	**Sb**	**17 01 47.3**	**0.0**
PRK	**Paraskevi**	**0.55**	**18**	P	**Pb**	**17 01 40.7**	**+0.6**
PRK				S	**Sn**	**17 01 49.9**	**-1.1**
PRK				AML	AML	17 01 52.6	
	comp=E,835μm,0.3s						
PRK				AML	AML	17 01 55.6	
	comp=N,892μm,0.4s						
PRK	**Paraskevi**	**0.55**	**18**	P	**Pb**	**17 01 40.8**	**+0.6**
PRK				S	**Sn**	**17 01 49.6**	**-1.4**
	comp=N,390nm,0.5s						
URLA	**Izmir**	**0.56**	**130**	PG	**Pg**	**17 01 39.8**	**-0.1**
URLA				SG	**Sb**	**17 01 48.1**	**0.0**
URLA	**Izmir**	**0.56**	**130**	P	**Pg**	**17 01 40.0**	**+0.1**
URLA				S	**Sg**	**17 01 47.5**	**+0.1**
URLA				*i* AML	AML	17 01 52.0	
	comp=N,153nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.60**	**143**	P	**Pb**	**17 01 40.8**	**-0.1**
ZEYE				S	**Sg**	**17 01 47.9**	**-0.7**
ZEYE				*i* AML	AML	17 01 51.0	
	comp=N,286nm,0.5s						
ZEYE				*i* AML	AML	17 01 52.0	
	comp=N,257nm,0.7s						
GPNR	**Gulpinar-Canak**	**0.74**	**5**	PG	**Pg**	**17 01 43.2**	**-0.1**
DKL	**Dikili**	**0.75**	**62**	PG	**Pb**	**17 01 43.6**	**0.0**
DKL				SG	**Sb**	**17 01 54.7**	**+1.0**
AYVA	**Ayvalik**	**0.77**	**40**	P	**Pg**	**17 01 43.5**	**-0.4**
AYVA				*i* AML	AML	17 01 57.0	
	comp=N,95nm,0.2s						
AYVA				*i* AML	AML	17 01 59.0	
	comp=N,111nm,0.3s						
KOCA	**Canakkale, Ayv**	**0.78**	**5**	P	**Pg**	**17 01 43.7**	**-0.5**
KOCA				S	**Sn**	**17 01 56.1**	**-0.6**
KOCA				*i* AML	AML	17 02 00.0	
	comp=N,115nm,0.6s						
ZEDA	**zmir-Bergama**	**0.84**	**73**	P	**Pg**	**17 01 45.5**	**+0.4**
DGB	**zmir**	**0.93**	**135**	P	**Pb**	**17 01 46.2**	**-0.4**
DGB				S	**Sg**	**17 01 59.3**	**+0.2**
DGB				*i* AML	AML	17 02 01.0	
	comp=N,72nm,0.2s						
BAYC	**CANAKKALE_Bayr**	**1.09**	**21**	P	**Pb**	**17 01 49.0**	**-0.4**
BAYC				S	**Sg**	**17 02 04.2**	**0.0**
BUHA	**Balikesir, Bur**	**1.12**	**45**	P	**Pb**	**17 01 49.1**	**-0.7**
BUHA				S	**Sg**	**17 02 04.7**	**-0.3**
BOZC	**Bozcaada**	**1.12**	**0**	PN	**Pb**	**17 01 49.6**	**-0.3**
BOZC				SN	**Sg**	**17 02 05.4**	**+0.2**
BOZC	**Bozcaada**	**1.12**	**0**	P	**Pb**	**17 01 50.0**	**+0.1**
EZN	**Ezine**	**1.12**	**11**	P	**Pb**	**17 01 49.6**	**-0.3**
EZN				S	**Sg**	**17 02 06.3**	**+1.0**
	comp=N,95nm,0.4s						
EZN	**Ezine**	**1.12**	**11**	PN	**Pb**	**17 01 49.4**	**-0.5**
SKY	**Skiros Island**	**1.18**	**278**	P	**Pg**	**17 01 52.0**	**+0.3**
SMG	**Samos**	**1.19**	**148**	P	**Pn**	**17 01 50.2**	**-0.7**
SMG				S	**Sg**	**17 02 06.8**	**-0.3**
SMG				AML	AML	17 02 09.9	
	comp=E,1257μm,0.4s						
SMG				AML	AML	17 02 09.9	
	comp=N,750μm,0.4s						
SMG	**Samos**	**1.19**	**148**	P	**Pn**	**17 01 50.1**	**-0.7**
SMG				S	**Sg**	**17 02 08.3**	**+1.1**
	comp=N,568nm,0.5s						
LIA	**Limnos Island**	**1.35**	**331**	P	**Pn**	**17 01 53.4**	**+0.3**
LIA				AML	AML	17 02 14.5	
	comp=E,411μm,0.5s						
LIA				AML	AML	17 02 14.7	
	comp=N,312μm,0.4s						
LIA	**Limnos Island**	**1.35**	**331**	P	**Pn**	**17 01 53.5**	**+0.3**
LIA				S	**Sb**	**17 02 11.8**	**+0.8**
	comp=N,180nm,0.5s						
GCAM	**G?zelcaml?**	**1.38**	**137**	PN	**Pn**	**17 01 53.6**	**+0.1**
GCAM	**G?zelcaml?**	**1.38**	**137**	P	**Pn**	**17 01 53.7**	**+0.3**
GCAM				S	**Sg**	**17 02 13.7**	**+0.3**
GCAM				*i* AML	AML	17 02 15.0	
	comp=N,128nm,0.6s						
GCAM				*i* AML	AML	17 02 23.0	
	comp=N,46nm,0.3s						
AKHS	**Akhisar**	**1.39**	**83**	P	**Pn**	**17 01 53.9**	**+0.3**
AKHS				*i* AML	AML	17 02 18.0	
	comp=N,39nm,0.4s						
KARY	**Karystos**	**1.44**	**242**	P	**Pn**	**17 01 53.6**	**-0.7**
KARY	**Karystos**	**1.44**	**242**	P	**Pn**	**17 01 53.6**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.46**	**63**	P	**Pn**	**17 01 54.7**	**+0.1**
STEP				*i* AML	AML	17 02 21.0	
	comp=N,50nm,0.9s						
KYMI	**Kymi, Euboea I**	**1.53**	**267**	P	**Pb**	**17 01 56.8**	**0.0**
DDIM	**Aydin, Didim**	**1.57**	**143**	P	**Pg**	**17 02 02.6**	**+3.5**
APE	**Apeiranthos**	**1.70**	**194**	P	**Pn**	**17 01 58.0**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.71**	**11**	PN	**Pn**	**17 01 58.4**	**+0.4**
LPK	**Lapseki**	**1.74**	**18**	PN	**Pn**	**17 01 58.6**	**+0.2**
AYDN	**Tasoluk**	**1.79**	**126**	P	**Pb**	**17 02 00.8**	**-0.5**
SMTH	**Samothraki Isl**	**1.79**	**347**	P	**Pn**	**17 01 59.3**	**+0.1**
KRBG	**Karabiga-Canak**	**1.93**	**30**	PN	**Pn**	**17 02 01.0**	**0.0**
BODT	**Bodrum**	**1.93**	**149**	PN	**Pn**	**17 02 00.9**	**-0.2**
BDRM	**Kayabasi**	**1.99**	**146**	P	**Pn**	**17 02 01.1**	**-0.7**
ALN	**Alexandroupoli**	**2.17**	**360**	P	**Pn**	**17 02 04.6**	**+0.2**

*IDC **10** 17:17:04.1±1.5,18°.97S×177°.76W,h336km±15km, mb3.5/15,mb1 3.8/17,mb1mx3.6/34,mbtmp4.3/17, Error ellipse: s-maj=14.2km s-min=9.4km az=120.0*
*NOU **10** 17:17:08.6,18°.92S×177°.41W,h412km,mb4.5/14, Fiji Islands Region*
*NEIC **10** 17:17:08.7±2.1,18°.86S±0°.06×177°.5W±0°.1,h399km±9km, mb4.0/23,Error ellipse: s-maj=15.6km s-min=5.0km az=62.0*
ISC 10 17:17:09.1±0.4,18°.96S±0°.05×177°.53W±0°.06,h400km, n105,σ2893/118,mb3.9/26,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.37**	**286**	P	**Pn**	**17 18 25.0**	**+0.1**
	10nm,0.3s,baz=171,slow=20,SNR=22						
MSVF				S	**S**	**17 19 24.7**	**-1.7**
	baz=226,slow=22,SNR=0.9						
MSVF	**Nonsavu**	**4.37**	**286**	Pn	**Pn**	**17 18 24.5**	**-0.4**
MSVF	**Nonsavu**	**4.37**	**286**	P	**Pn**	**17 18 25.3**	**+0.4**
NIUE	**Niue**	**7.20**	**92**	Pn	**Pn**	**17 18 54.2**	**-0.7**
NIUE	**Niue**	**7.20**	**92**	P	**Pn**	**17 18 54.6**	**-0.4**
AFI	**Afiamalu**	**7.46**	**49**	P	**Pn**	**17 18 55.5**	**-2.6**
	18nm,0.3s,baz=218,slow=2.7,SNR=12						
AFI				S	**S**	**17 20 18.9**	**-8.3**
	26nm,0.3s,baz=43,slow=23,SNR=7.9						
AFI	**Afiamalu**	**7.46**	**49**		**Pn**	**17 18 55.3**	**-2.8**
AFI	**Afiamalu**	**7.46**	**49**	P	**Pn**	**17 18 55.8**	**-2.4**
RAO	**Raoul Island**	**10.25**	**182**	S	**S**	**17 21 18.9**	**-6.1**
	21nm,0.3s,baz=93,slow=23,SNR=1.8						
GLKZ	**Green Lake**	**10.26**	**182**	S	**S**	**17 21 18.6**	**-6.6**
SANVU	**Saraoutou**	**15.00**	**281**	P	**P**	**17 20 20.8**	**-0.8**
DZM	**Mont Dzumac**	**15.33**	**256**	P	**P**	**17 20 24.9**	**-0.4**
	0.1nm,0.3s,baz=70,slow=17,SNR=1.4						
OUZ	**Omahuta**	**18.00**	**204**	P	**P**	**17 20 56.1**	**+2.6**
OUZ				AMb	AMb	17 20 56.9	
	comp=Z,14nm,1.1s						
OUZ	**Omahuta**	**18.00**	**204**	P	**P**	**17 20 56.1**	**+2.6**
OUZ	**Omahuta**	**18.00**	**204**	P	**P**	**17 20 54.7**	**+1.2**
WCZ	**Waipu Caves**	**18.37**	**201**	P	**P**	**17 20 58.3**	**+0.8**
MXZ	**Matakaoa Point**	**18.89**	**190**	P	**P**	**17 21 03.1**	**+0.3**
WIAZ	**Waiheke Island**	**18.90**	**198**	P	**P**	**17 21 04.3**	**+1.4**
WMGZ	**Waiomatatini S**	**19.12**	**190**	P	**P**	**17 21 05.9**	**+0.8**
WMGZ				S	**S**	**17 24 15.1**	**-3.6**
HAZ	**Te Kaha**	**19.17**	**191**	P	**P**	**17 21 05.6**	**-0.1**
HAZ				S	**S**	**17 24 17.7**	**-1.8**
WTAZ	**Waiatarua**	**19.20**	**200**	P	**P**	**17 21 07.6**	**+1.6**
PKGZ	**Pakihiroa**	**19.25**	**191**	P	**P**	**17 21 08.2**	**+1.8**
PKGZ				S	**S**	**17 24 16.4**	**-4.5**
AWAZ	**Awhitu Peninsu**	**19.30**	**199**	P	**P**	**17 21 06.5**	**-0.3**
RUGZ	**Raukumara Rang**	**19.39**	**191**	P	**P**	**17 21 07.5**	**-0.4**
RUGZ				S	**S**	**17 24 23.0**	**-0.4**
PUZ	**Puketiti**	**19.39**	**190**	P	**P**	**17 21 08.2**	**+0.4**
PUZ				S	**S**	**17 24 18.5**	**-4.7**
TWGZ	**Tauwhareparae**	**19.54**	**191**	P	**P**	**17 21 07.0**	**-2.2**
TWGZ				S	**S**	**17 24 25.7**	**0.0**
MWZ	**Matawai**	**19.78**	**192**	P	**P**	**17 21 10.9**	**-0.5**
MWZ				S	**S**	**17 24 30.1**	**+0.6**
URZ	**Urewera**	**19.79**	**193**	P	**P**	**17 21 09.1**	**-2.4**
	comp=Z,3.3nm,0.3s,baz=298,slow=3.0,SNR=20						
URZ				S	**S**	**17 24 30.9**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=113,slow=18,SNR=5.8						
URZ	**Urewera**	**19.79**	**193**	P	**P**	**17 21 09.2**	**-2.2**
URZ	**Urewera**	**19.79**	**193**	P	**P**	**17 21 09.8**	**-1.6**
TKGZ	**Te Karaka**	**19.82**	**191**	P	**P**	**17 21 13.0**	**+1.2**
BKZ	**Black Stump Fm**	**20.79**	**193**	P	**P**	**17 21 17.9**	**-2.8**
BKZ				AMb	AMb	17 21 22.6	
	comp=Z,5.8nm,0.5s						
BKZ	**Black Stump Fm**	**20.79**	**193**	P	**P**	**17 21 17.4**	**-3.3**
BKZ				S	**S**	**17 24 48.3**	**+2.3**
BKZ	**Black Stump Fm**	**20.79**	**193**	P	**P**	**17 21 19.5**	**-1.2**
BFZ	**Birch Farm**	**22.30**	**193**	P	**P**	**17 21 32.7**	**-1.6**
SNZO	**South Karori**	**23.25**	**195**	P	**P**	**17 21 42.7**	**-0.1**
QRZ	**Quartz Range**	**23.40**	**199**	P	**P**	**17 21 43.9**	**-0.4**
KHZ	**Kahutara**	**24.58**	**196**	P	**P**	**17 21 53.3**	**-1.5**
ARMA	**Armidale**	**30.16**	**242**	P	**P**	**17 22 44.7**	**+0.2**
ARMA				AMb	AMb	17 22 45.5	
	comp=Z,5.0nm,0.8s						
ARMA	**Armidale**	**30.16**	**242**	P	**P**	**17 22 45.0**	**+0.6**
CAN	**Canberra**	**33.75**	**234**	P	**P**	**17 23 14.9**	**-0.3**
CAN				AMb	AMb	17 23 16.1	
	comp=Z,12nm,1.1s						
CTAO	**Charters Tower**	**34.11**	**262**	P	**P**	**17 23 17.6**	**-0.9**
CTAO				AMb	AMb	17 23 27.4	
	comp=Z,11nm,1.1s						
TOO	**Toolangi**	**37.17**	**232**	P	**P**	**17 23 43.8**	**-0.1**
TOO				AMb	AMb	17 23 45.8	
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**38.87**	**243**	P	**P**	**17 23 58.0**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=87,slow=10.0,SNR=12						
STKA	**Stephens Creek**	**38.87**	**243**	P	**P**	**17 23 57.3**	**-0.7**
BBOO	**Buckleboo**	**43.64**	**242**	P	**P**	**17 24 35.7**	**-0.6**
WR0	**Warramunga Arr**	**45.08**	**260**	P	**P**	**17 24 47.3**	**-0.4**
WB0	**Warramunga Arr**	**45.24**	**261**	P	**P**	**17 24 46.8**	**-2.2**
WB0				AMb	AMb	17 24 52.5	
	comp=Z,3.3nm,0.9s						
WB2	**Warramunga Arr**	**45.26**	**260**	P	**P**	**17 24 47.7**	**-1.4**
WRAB	**Tennant Creek**	**45.26**	**260**	P	**P**	**17 24 45.3**	**-3.8**
WRAB				AMb	AMb	17 24 46.2	
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**45.27**	**260**	P	**P**	**17 24 47.5**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=98,slow=6.0,SNR=19						
WRA	**Warramunga Arr**	**45.27**	**260**	P	**P**	**17 24 47.2**	**-2.0**
AS31	**Alice Springs**	**45.32**	**255**	P	**P**	**17 24 48.7**	**-0.8**
AS31				AMb	AMb	17 24 57.0	
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**45.32**	**255**	P	**P**	**17 24 48.6**	**-0.9**
	comp=Z,3.4nm,0.5s,baz=90,slow=8.4,SNR=140						
ASAR				PcP	**PcP**	**17 26 22.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=96,slow=5.6,SNR=4.7						
ASAR				ScP	**ScP**	**17 29 41.9**	**+6.6**
	comp=Z,0.7nm,1.0s,baz=104,slow=3.9,SNR=2.8						
ASAR	**Alice Springs**	**45.32**	**255**	P	**P**	**17 24 48.1**	**-1.5**
MTN	**Manton Dam**	**49.61**	**269**	P	**P**	**17 25 19.7**	**-2.4**
MTN				AMb	AMb	17 25 34.6	
	comp=Z,5.9nm,0.9s						
FORT	**Forrest**	**50.32**	**245**	P	**P**	**17 25 26.0**	**-1.3**
SIJI	**Sorong**	**53.29**	**284**	P	**P**	**17 25 46.5**	**-2.6**
	comp=Z,14nm,0.6s,baz=81,slow=3.8,SNR=12						
FITZ	**Fitzroy Crossi**	**53.68**	**261**	P	**P**	**17 25 51.3**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=97,slow=7.7,SNR=6.1						
FITZ	**Fitzroy Crossi**	**53.68**	**261**	P	**P**	**17 25 51.8**	**-0.1**
SBA	**Scott Base**	**59.43**	**184**	P	**P**	**17 26 33.2**	**+2.4**
SBA				AMb	AMb	17 26 50.8	
	comp=Z,1.9nm,0.8s						
VNDA	**Vanda**	**59.47**	**185**	P	**P**	**17 26 33.1**	**+2.0**
	comp=Z,2.7nm,0.8s,baz=355,slow=6.5,SNR=9.4						
MORW	**Morawa**	**60.83**	**247**	P	**P**	**17 26 39.8**	**-1.3**
MORW				AMb	AMb	17 26 41.1	
	comp=Z,2.2nm,0.6s						
MJAR	**Matsushiro Arr**	**69.24**	**323**	P	**P**	**17 27 35.2**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=80,slow=2.9,SNR=6.8						
KIWB	**Kanaga Island**	**70.51**	**0**	P	**P**	**17 27 40.9**	**-0.7**
QSPA	**South Pole Qui**	**71.10**	**180**	P	**P**	**17 27 46.3**	**+1.2**
PETK	**Petropavlovsk-**	**74.91**	**345**	P	**P**	**17 28 08.2**	**+1.1**
	comp=Z,4.0nm,0.7s,baz=114,slow=8.0,SNR=10						
PETK	**Petropavlovsk-**	**74.91**	**345**	P	**P**	**17 28 06.3**	**-0.7**
NVAR	**Mina Array Bea**	**79.61**	**43**	P	**P**	**17 28 36.4**	**+2.9**
	comp=Z,0.8nm,0.7s,baz=225,slow=8.4,SNR=7.7						
BELA	**Belgrano 2**	**81.02**	**173**	P	**P**	**17 28 41.5**	**+1.4**
MAW	**Mawson**	**83.16**	**200**	P	**P**	**17 28 52.2**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=144,slow=6.2,SNR=9.1						
CAST	**Castle Rocks**	**84.49**	**11**	P	**P**	**17 28 58.8**	**+1.0**
CAST				AMb	AMb	17 29 00.3	
	comp=Z,5.2nm,0.8s						
TXAR	**Lajitas Array**	**85.86**	**57**	P	**P**	**17 29 08.7**	**+3.3**
	comp=Z,2.2nm,0.8s,baz=220,slow=6.0,SNR=16						
ILAR	**Eielson Array**	**86.72**	**13**	P	**P**

comp=Z,4.1nm,1.4s
KBA Koelnbreinsper 150.57 345 *e*P **PKiKP 17 36 16.2 +1.0**
comp=Z,0.8nm,0.4s
WTTA Wattenberg 150.79 347 *i* P **PKiKP 17 36 16.3 +0.7**
comp=Z,4.0nm,0.4s
MOTA Moosalm 150.82 348 *i* P **PKiKP 17 36 16.4 +0.7**
comp=Z,1.4nm,0.5s
MYKA Terra Mystica 150.91 344 *e*P **PKiKP 17 36 16.2 +0.4**
comp=Z,2.1nm,0.4s
SQTA Sankt Quirin 150.92 348 *i* P **PKiKP 17 36 16.8 +1.0**
comp=Z,0.8nm,0.2s
ABTA Abfaltersbach 151.08 346 *i* P **PKiKP 17 36 16.1 0.0**
comp=Z,4.0nm,0.6s
DAVA Damuels 151.10 350 *i* P **PKiKP 17 36 17.6 +1.3**
comp=Z,0.9nm,0.4s
FETA Feichten 151.20 348 *e*P **PKiKP 17 36 17.6 +1.1**
comp=Z,0.9nm,0.4s
TORD Torodi Ar. Bea 174.17 173 PKPab **PKPab 17 38 08.1 +1.7**
comp=Z,1.2nm,0.9s,baz=180,slow=3.6,SNR=5.0

DJA ***10*** *17:26:24.7±0.4,0˚N±4˚×12˚2E± ˚, h160km±4km, M3.6/10, mb3.6/2, MLv3.6/10*
IDC ***10*** *17:26:25.5±7.6, 0˚.15N×122˚.15E, h186km±72km, mb3.0/4, mb1 3.2/6, mb1mx3.0/39, mbtmp3.6/6, Error ellipse: s-maj=107.2km s-min=15.5km az=57.0*
ISC 10 17:26:23.4±0.8, 0˚.24N±0˚.06×122˚.15E±0˚.06, h150km, n20, σ2s 48/25, mb4.2/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MRSI	**Marisa**	**0.32**	**319**	P		**Pn**	**17 26 46.6**	**+2.6**
MRSI				S		**Sn**	**17 27 03.2**	**+3.5**
GTOI	**Gorontalo**	**0.95**	**65**	P		**Pn**	**17 26 50.4**	**+2.7**
GTOI				S		**Sn**	**17 27 10.3**	**+4.1**
APSI	**Ampana**	**1.24**	**204**	P		**Pn**	**17 26 53.7**	**+3.3**
APSI				S		**Sn**	**17 27 15.3**	**+4.2**
LUWI	**Luwuk**	**1.41**	**154**	P		**Pn**	**17 26 54.9**	**+2.8**
LUWI				S		**Sn**	**17 27 17.2**	**+3.2**
KMSI	**Cibinong**	**1.86**	**80**	P		**Pn**	**17 27 00.4**	**+3.5**
MPSI	**Mapaga**	**2.25**	**273**	P		**Pn**	**17 27 03.6**	**+2.1**
SANI	**Sanana**	**4.46**	**121**	P		**Pn**	**17 27 29.1**	**-0.6**
SGKI	**Sangatta, Kali**	**4.61**	**261**	P		**Pn**	**17 27 32.6**	**+0.9**
LBMI	**Labuha**	**5.42**	**99**	P		**Pn**	**17 27 42.7**	**+0.3**
	0.1nm8.2nm,1.6s							
KAPI	**Kappang**	**5.74**	**205**	P		**Pn**	**17 27 48.1**	**+1.4**
	0.7nm,0.3s,baz=53,slow=18,SNR=5.0							
FITZ	**Fitzroy Crossi**	**18.54**	**170**	P		**P**	**17 30 27.6**	**-1.0**
	0.3nm,0.3s,baz=10,slow=8.4,SNR=13							
WRA	**Warramunga Arr**	**23.34**	**150**	P		**P**	**17 31 16.6**	**-1.8**
	0.2nm,0.4s,baz=324,slow=11,SNR=6.1							
ASAR	**Alice Springs**	**26.36**	**155**	P		**P**	**17 31 43.9**	**-1.9**
	0.3nm,0.5s,baz=340,slow=10,SNR=12							
ASAR				PcP		**PcP**	**17 35 05.0**	**-2.9**
	0.3nm,0.3s,baz=346,slow=2.2,SNR=10							
CMAR	**Chiang Mai Arr**	**29.11**	**310**	P		**P**	**17 32 09.9**	**-0.4**
	0.2nm,0.4s,baz=134,slow=8.9,SNR=2.4							
GUN	**Gumba**	**44.33**	**311**	*e*P		**P**	**17 34 18.0**	**-1.1**
	6.8nm,0.4s							
GKN	**Gorkha**	**45.31**	**311**	*e*P		**P**	**17 34 25.2**	**-1.5**
	4.2nm,0.3s							
KOLN	**Koldanda**	**45.98**	**310**	*e*P		**P**	**17 34 30.8**	**-1.3**
	3.5nm,0.3s							
DANN	**Dangsing**	**46.15**	**311**	*e*P		**P**	**17 34 32.0**	**-1.5**
	5.5nm,0.3s							
PYUN	**Piuthan**	**46.61**	**310**	*e*P		**P**	**17 34 36.4**	**-0.6**
	8.9nm,0.5s							
MKAR	**Makanchi Array**	**57.97**	**329**	P		**P**	**17 35 58.9**	**-1.3**
	0.6nm,0.3s,baz=127,slow=8.3,SNR=18							

EAF ***10*** *17:29:47.6±0.6, 9˚.82N×39˚.89E, h0km±6km*
AAE 10 17:29:49.0±1.3, 9˚.78N×39˚.85E, h0km±7km, ML3.6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ANKE	**Ethiopia-Afar**	**0.22**	**211**	*e*P		Pg	17 29 52.7	-0.5
ANKE				*e*S		Sg	17 29 56.2	+0.2
ANKE	**Ethiopia-Afar**	**0.22**	**211**	*e*P		Pg	17 29 52.7	-0.5
ANKE				*e*S		Sg	17 29 56.1	+0.1
ANKE				IAML			17 29 57.1	
	comp=N,31μm,0.4s							
AAE	**Adis Abeba**	**1.30**	**235**	*e*P		Pg	17 30 12.1	-1.9
AAE				*e*S		Sg	17 30 29.5	-1.4
AAE	**Adis Abeba**	**1.30**	**235**	*e*P		Pg	17 30 11.8	-2.2
AAE				*e*S		Sg	17 30 29.4	-1.5
AAE	**Adis Abeba**	**1.30**	**235**	*e*P		Pg	17 30 12.0	-2.0
AAE				*e*S		Sg	17 30 29.2	-1.7
AAE				IAML			17 30 35.0	
	comp=N,1μm,0.5s							
FURI	**Furi**	**1.45**	**233**	*e*P		Pn	17 30 15.1	-1.7
FURI				*e*S		Sg	17 30 34.6	-1.1
FURI	**Furi**	**1.45**	**233**	*e*P		Pn	17 30 14.5	-2.3
FURI				*e*S		Sg	17 30 34.6	-1.0
FURI	**Furi**	**1.45**	**233**	*e*P		Pn	17 30 15.0	-1.8
FURI				*e*S		Sg	17 30 34.8	-0.9
FURI				IAML			17 30 36.0	
	comp=N,288nm,0.2s							

BGR ***10*** *17:48:40.6±0.0, 35˚.63N×4˚.08E, h10km*
CRAAG ***10*** *17:48:51.6, 36˚.36N×3˚.39E, Ml5.0*
BJI ***10*** *17:48:51.0±0.0, 36˚.30N×3˚.50E, h10km, mb4.6/46, mB5.1/25, Ms4.9/12, Ms7 4.4/12*
LDG ***10*** *17:48:51.0±0.2, 36˚.30N×3˚.39E, h2km, Ml4.6/25, Error ellipse: s-maj=4.4km s-min=2.8km az=2.0*
IDC ***10*** *17:48:52.1±0.4, 36˚.43N×3˚.44E, h0km, mb4.4/28, mb1 4.6/37, mb1mx4.5/50, mbtmp4.4/37, ML4.3/8, MS4.1/72, Ms1 4.1/72, ms1mx4.0/99, Error ellipse: s-maj=11.9km s-min=10.1km az=144.0*
MED_RC ***10*** *17:48:53.0±0.5, 36˚.21N×3˚.42E, h10km, MW4.8/22, Moment Tensor Solution. Mantle waves: s22,c24; Duration: 1ᵭ1 Moment tensor: Scale 10¹⁶Nm; Mrr1.70±.10; Mθθ-0.44±.08; Mϕϕ-1.26±.06; Mrθ0.15±.52; Mθϕ-0.99±.05; Mϕr-0.58±.34; Best double couple: M₀1.91000×10¹⁶ NP1:ϕs199.00000°, δ53.00000°, λ71.00000°. NP2:ϕs49.00000°, δ41.00000°, λ113.00000°. Principal axes: T 1.8600, Plg74.0000°, Azm55.0000°; N 0.1000, Plg15.0000°, Azm211.0000°; P -1.9600, Plg6.0000°, Azm302.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
SFS ***10*** *17:48:53.0, 36˚.20N×3˚.50W, h11km, ML4.7, BOUIRA (ARGELIA)*
GCMT ***10*** *17:48:53.1±0.4, 36˚.29N±0˚.05×3˚.35E±0˚.04, h20km±1km, MW4.9/71, Moment Tensor Solution. s10,c10; s71,c92; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.62±.34; Mθθ-0.63±.18; Mϕϕ-1.99±.20; Mrθ0.36±.44; Mθϕ-1.18±.09; Mϕr-1.49±.37; Best double couple: M₀3.04900×10¹⁶ NP1:ϕs47.00000°, δ36.00000°, λ120.00000°. NP2: ϕs191.00000°, δ59.00000°, λ70.00000°. Principal axes: T 3.1860, Plg69.0000°, Azm59.0000°; N -0.2760, Plg17.0000°, Azm202.0000°; P -2.9120, Plg12.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MDD ***10*** *17:48:53.4±0.3, 36˚.24N×3˚.57E, h10km, Mb5.1/43, M_mb4.7/44 Error ellipse: s-maj=2.8km s-min=1.7km az=154.0*
NEIC ***10*** *17:48:54.1±2.2, 36˚.37N±0˚.09×3˚.51E±0˚.08, h15km±4km, mb4.8/29, ML5.0(ALG), Error ellipse: s-maj=12.8km s-min=9.1km az=177.0*
MOS ***10*** *17:48:54.7±1.3, 36˚.45N×3˚.47E, h29km, mb4.8/27, MS4.0/5, Error ellipse: s-maj=9.0km s-min=3.3km az=61.0*
CNRM ***10*** *17:48:59.5, 36˚.26N×3˚.03E, h27km, ml4.7*
ISC 10 17:48:54.0±0.7, 36˚.44N±0˚.04×3˚.51E±0˚.03, h12km±4km, n682, σ1s 96/743, mb4.7/87, MS4.2/72, 104C-45D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ADJB	**Djebel Djouab**	**0.29**	**192**	P		**Pg**	**17 48 56.6**	**-3.3**
ABMS	**Boumerdes**	**0.31**	**355**	P		**Pg**	**17 49 01.3**	**+0.9**
AKET	**Djebel Ketaf**	**0.49**	**143**	P		**Pg**	**17 49 01.3**	**-2.4**
ABA	**Alger-Bouzarea**	**0.53**	**313**	P		**Pg**	**17 49 03.8**	**-0.6**
SET	**Setif**	**1.54**	**98**	P		**Pb**	**17 49 22.0**	**-0.6**
CKHR	**Kef el Ahmar**	**1.67**	**104**	P		**Pn**	**17 49 22.9**	**-0.3**
ECHA	**Ech Chlef**	**1.76**	**261**	P		**Pn**	**17 49 20.0**	**-4.3**
DFRA	**Djebel Bou Aff**	**1.91**	**86**	P		**Pn**	**17 49 26.9**	**+0.4**
EANR	**'Ain N'Sour**	**2.01**	**257**	P		Pn	17 49 23.0	-4.9
OKGL	**Djebel Kef Gue**	**2.35**	**261**	P		**Pn**	**17 49 31.0**	**-1.6**
CTEI	**Djebel Teioual**	**2.37**	**98**	P		**Pn**	**17 49 29.0**	**-3.8**
CASM	**Ain Smara**	**2.41**	**93**	P		**Pn**	**17 49 34.9**	**+1.6**
CKFL	**Kef-Lekhel**	**2.59**	**90**	P		**Pn**	**17 49 35.7**	**-0.1**
OJBR	**Djebel Berber**	**2.71**	**253**	P		Pn	17 49 32.0	-5.4
EIBI	**Ibiza**	**3.10**	**327**	⇑Pn		**Pn**	**17 49 42.9**	**+0.1**
EIBI				⇑*i*Vmb_V			17 49 45.8	
	9μm,SNR=29							
EIBI						Sn	**17 50 18.7**	**-1.1**
CMAH	**Djebel Manchou**	**3.15**	**85**	P		**Pn**	**17 49 43.3**	**-0.2**
ODJA	**Bouhanifia**	**3.17**	**251**	P		**Pn**	**17 49 43.0**	**-0.8**
ABSA	**Djebel Ababsia**	**3.20**	**92**	P		**Pn**	**17 49 43.7**	**-0.6**
USTO	**Oran**	**3.37**	**259**	P		**Pg**	**17 50 00.0**	**+1.5**
ETOS	**Mallorca**	**3.37**	**351**	⇑Pn		**Pn**	**17 49 46.6**	**+0.1**
ETOS				⇑*i*Vmb_V			17 49 51.7	
	5μm,SNR=23							
ETOS						Sn	**17 50 25.6**	**-0.8**
MAHO	**Mahon**	**3.50**	**10**	P		**Pn**	**17 49 47.6**	**-0.7**
MAHO				S		**Sn**	**17 50 27.1**	**-2.6**
EBEN2	**Beniarda presa**	**3.69**	**308**	P		**Pn**	**17 49 51.0**	**+0.1**
EBEN2				⇑*i*Vmb_V			17 49 54.8	
	3μm,SNR=6.8							
EBEN2						Sn	**17 50 33.0**	**-1.4**
CART	**Cartagena**	**3.79**	**289**	P		**Pn**	**17 49 51.4**	**-0.8**
CART				S		**Sn**	**17 50 32.8**	**-4.0**
CART	**Cartagena**	**3.79**	**289**	P		**Pn**	**17 49 51.0**	**-1.3**
CART	**Cartagena**	**3.79**	**289**	P		**Pn**	**17 49 52.1**	**-0.1**
CART				S		**Sn**	**17 50 33.0**	**-3.7**
AFON	**Font Roja**	**3.91**	**306**	P		**Pn**	**17 49 53.3**	**-0.7**
AFON				⇑*i*Vmb_V			17 50 01.1	
	1μm,SNR=9.1							
AFON						Sn	**17 50 39.3**	**-0.7**
ECOL	**Islas Columbre**	**4.11**	**328**	P		**Pn**	**17 49 56.3**	**-0.4**
ECOL				S		**Sn**	**17 50 42.0**	**-2.7**
TLOR	**Lorca, Murcia**	**4.34**	**288**	P		**Pn**	**17 49 59.6**	**-0.2**
TLOR				S		**Sn**	**17 50 47.5**	**-2.8**
EZAR	**Zarzadilla de**	**4.40**	**291**	P		**Pn**	**17 49 59.6**	**-1.1**
EZAR				S		**Sn**	**17 50 50.2**	**-1.7**
ETOB	**Tobarra**	**4.59**	**300**	P		**Pn**	**17 50 03.5**	**+0.2**
ETOB				⇑*i*Vmb_V			17 50 07.0	
	2μm,SNR=16							
ETOB						Sn	**17 50 57.1**	**+0.6**
EVIV	**Cofrentes, Val**	**4.63**	**309**	P		**Pn**	**17 50 04.0**	**+0.2**
EVIV				⇑*i*Vmb_V			17 50 06.8	
	3μm,SNR=18							
ENIJ	**Nijar**	**4.63**	**278**	P		**Pn**	**17 50 02.0**	**-1.7**
ENIJ				⇑*i*Vmb_V			17 50 12.5	
	1μm,SNR=8.1							
ENIJ						Sn	**17 50 53.8**	**-3.7**
ECHE	**Chera**	**4.74**	**313**	P		**Pn**	**17 50 05.8**	**+0.5**
ECHE				⇑*i*Vmb_V			17 50 10.6	
	2μm,SNR=16							
ECHE						Sn	**17 50 58.9**	**-1.3**
I48TN	**KESRA INFRASON**	**4.75**	**96**	*i*			18 14 30.0	
	baz=280,slow=320,SNR=1.2							
KEST	**Kesra**	**4.78**	**97**	Pn		**Pn**	**17 50 06.2**	**+0.3**
	18nm,0.3s,baz=235,slow=4.9,SNR=128							
KEST						Sn	**17 51 02.4**	**+1.1**
	25nm,0.3s,baz=35,slow=20,SNR=6.5							
KEST	**Kesra**	**4.78**	**97**	P		**Pn**	**17 50 06.3**	**+0.5**
	SNR=60							
KEST				S		**Sn**	**17 50 59.6**	**-1.6**
EMOS	**Mosqueruela**	**5.02**	**323**	Pn		**Pn**	**17 50 09.6**	**+0.3**
EMOS				⇑*i*Vmb_V			17 50 12.1	
	2μm,SNR=14							
EMOS						Sn	**17 51 03.6**	**-3.6**
TAF	**Taforalt**	**5.09**	**253**	P		**Pn**	**17 50 08.9**	**-1.4**
ERTA	**Horta de San J**	**5.15**	**332**	Pn		**Pn**	**17 50 11.8**	**+0.8**
ERTA				⇑*i*Vmb_V			17 50 20.8	
	2μm,SNR=14							
ERTA						Sn	**17 51 07.1**	**-3.3**
EBER	**Berja**	**5.17**	**277**	Pn		**Pn**	**17 50 09.4**	**-1.9**
EBER				⇑*i*Vmb_V			17 50 19.7	
	1μm,SNR=5.6							
EBER						Sn	**17 51 07.6**	**-3.4**
EPOB	**Poblet**	**5.26**	**340**	Pn		**Pn**	**17 50 12.3**	**-0.2**
EPOB				⇑*i*Vmb_V			17 50 19.2	
	891nm,SNR=6.9							
EPOB						Sn	**17 51 10.6**	**-2.5**
EALB	**Alboran**	**5.32**	**267**	⇑*i*Vmb_V			17 50 17.7	
	1μm,SNR=2.0							
EALB						Sn	**17 51 10.1**	**-4.4**
JBK	**JBK**	**5.39**	**249**	P		**Pn**	**17 50 13.6**	**-0.9**
JBK				S		**Sn**	**17 51 10.3**	**-6.3**
GOG	**Mont Gurugu**	**5.43**	**259**	P		**Pn**	**17 50 12.1**	**-2.7**
GOG				S		**Sn**	**17 51 10.7**	**-6.6**
VSL	**Villasalto**	**5.55**	**55**	Pn		**Pn**	**17 50 16.0**	**-0.4**
VSL	**Villasalto**	**5.55**	**55**	Pn		**Pn**	**17 50 16.4**	**0.0**
VSL				Sn		**Sn**	**17 51 17.0**	**-3.1**
EQUE	**Quentar**	**5.63**	**280**	Pn		**Pn**	**17 50 17.9**	**+0.2**
EQUE				⇑*i*Vmb_V			17 50 22.7	
	1μm,SNR=10							
EQUE						Sn	**17 51 21.0**	**-1.3**
EMIR	**Miracle**	**5.68**	**345**	Pn		**Pn**	**17 50 20.1**	**+1.8**
EMIR				Sn		**Sn**	**17 51 21.3**	**-2.1**
TDRA	**Tendrara**	**5.69**	**235**	P		**Pn**	**17 50 16.6**	**-1.9**
ELGU	**Los Guajares,**	**5.76**	**276**	Pn		**Pn**	**17 50 17.6**	**-1.8**
ELGU				⇑*i*Vmb_V			17 50 21.7	
	695nm,SNR=4.4							
ELGU						Sn	**17 51 22.0**	**-3.3**
FIGM	**Figuig**	**5.84**	**224**	P		**Pn**	**17 50 19.6**	**-0.9**
FIGM				S		**Sn**	**17 51 22.3**	**-5.1**
EJON	**La Jonquera**	**6.02**	**356**	Pn		**Pn**	**17 50 23.7**	**+0.8**
EJON				⇑*i*Vmb_V			17 50 25.3	
	2μm,SNR=8.1							
EJON						Sn	**17 51 29.1**	**-2.7**
ESAC	**San Caprasio**	**6.12**	**331**	Pn		**Pn**	**17 50 25.0**	**+0.7**
ESAC				⇑*i*Vmb_V			17 50 39.1	
	3μm,SNR=15							
ESAC						Sn	**17 51 35.1**	**+0.9**
EGOR	**Sierra Gorda,**	**6.16**	**279**	Pn		**Pn**	**17 50 25.9**	**+1.0**
EGOR				⇑*i*Vmb_V			17 50 28.5	
	798nm,SNR=7.2							
EGOR						Sn	**17 51 36.7**	**+1.4**
ETOR	**Torete**	**6.17**	**317**	Pn		**Pn**	**17 50 27.3**	**+2.3**
ETOR				⇑*i*Vmb_V			17 50 36.6	
	1μm,SNR=11							
ETOR						Sn	**17 51 37.3**	**+1.7**
PALE	**Palemas**	**6.18**	**261**	P		**Pn**	**17 50 23.4**	**-1.7**
AKLM	**AKL**	**6.32**	**254**	P		**Pn**	**17 50 26.2**	**-0.9**
EMAL	**Malaga-Limoner**	**6.40**	**275**	P		**Pn**	**17 50 27.6**	**-0.5**
EMAL				S		**Sn**	**17 51 36.2**	**-4.8**
PVLZ	**Peæn de**	**6.47**	**261**	P		**Pb**	**17 50 49.8**	**+3.3**
UCM	**Universidad Co**	**6.56**	**308**	P		**Pn**	**17 50 30.9**	**+0.5**
UCM				S		**Sn**	**17 51 42.8**	**-2.4**
EADA	**Adamuz**	**6.68**	**287**	Pn		**Pn**	**17 50 31.1**	**-0.9**
EADA				⇑*i*Vmb_V			17 50 34.8	
	492nm,SNR=4.8							
EADA						Sn	**17 51 45.2**	**-2.8**
EMIJ	**Mijas**	**6.68**	**274**	Pn		**Pn**	**17 50 29.6**	**-2.3**
EMIJ				⇑*i*Vmb_V			17 50 35.8	
	305nm,SNR=3.2							
EMIJ						Sn	**17 51 40.9**	**-7.1**
ECHI	**Chisagues Biel**	**6.72**	**339**	Pn		**Pn**	**17 50 33.8**	**+1.1**
ECHI				⇑*i*Vmb_V			17 50 43.9	
	576nm,SNR=5.1							
ECHI						Sn	**17 51 47.7**	**-1.6**
ESBB	**Sonseca Array**	**6.72**	**301**			**Pn**	**17 50 32.9**	**+0.3**
ESDC	**Sonseca Array**	**6.72**	**301**	Pn		**Pn**	**17 50 32.3**	**-0.3**
	3.9nm,0.3s,baz=113,slow=13,SNR=121							
ESDC						Sn	**17 51 48.3**	**-0.9**
	0.2nm,0.3s,baz=114,slow=24,SNR=2.2							
ESDC						LR	LR	
	comp=Z,3μm,21.9s,baz=95,slow=37						17 53 01.6	
ESDC	**Sonseca Array**	**6.72**	**301**			**Pn**	**17 50 32.7**	**+0.1**
ESDC	**Sonseca Array**	**6.72**	**301**	Pn		**Pn**	**17 50 33.0**	**+0.4**
ESDC				⇑*i*Vmb_V			17 50 42.1	
	509nm,SNR=5.1							
ESDC						Sn	**17 51 50.2**	**+1.0**
PAB	**San Pablo**	**6.94**	**299**	P		**Pn**	**17 50 35.2**	**-0.4**
PAB	**San Pablo**	**6.94**	**299**	Pn		**Pn**	**17 50 35.2**	**-0.4**
PAB	**San Pablo**	**6.94**	**299**	Pn		**Pn**	**17 50 34.9**	**-0.7**
PAB				⇑*i*Vmb_V			17 50 40.8	
	463nm,SNR=3.6							
MTLF	**Montolieu**	**6.97**	**352**	*e*Pn		**Pn**	**17 50 37.4**	**+1.5**
MTLF				*e*Sn		**Sn**	**17 51 50.1**	**-4.9**
	120nm,0.8s							
EPF	**Esparros**	**7.02**	**341**	*e*Pn		**Pn**	**17 50 38.5**	**+1.8**
EPF				*e*Sn		**Sn**	**17 51 50.8**	**-5.7**
	233nm,0.9s							
ETSF	**Etsaut**	**7.17**	**335**	*e*Pn		**Pn**	**17 50 39.9**	**+1.1**
ETSF				*e*Sn		**Sn**	**17 51 54.3**	**-6.0**
	190nm,1.0s							
LIJA	**Lijar**	**7.18**	**276**	P		**Pn**	**17 50 41.0**	**+2.1**
ECEU	**Ceuta**	**7.21**	**268**	Pn		**Pn**	**17 50 41.8**	**+2.5**
EJIF	**Jimena Fronter**	**7.24**	**273**	Pn		**Pn**	**17 50 38.5**	**-1.2**
EJIF				Sn		**Sn**	**17 51 57.0**	**-4.8**
LMR	**La Mourre**	**7.26**	**18**	*e*Pn		**Pn**	**17 50 39.2**	**-0.7**
LMR				*e*Sn		**Sn**	**17 51 57.7**	**-4.5**
	56nm,0.5s							
ECAB	**El Cabril**	**7.31**	**286**	Pn		**Pn**	**17 50 39.1**	**-1.5**
ECAB				⇑*i*Vmb_V			17 50 42.4	
	642nm,SNR=4.2							
ECAB						Sn	**17 52 04.1**	**+0.6**
GUD	**Guadarrama**	**7.33**	**307**	Pn		**Pn**	**17 50 41.4**	**+0.4**
GUD				⇑*i*Vmb_V			17 50 46.6	
	351nm,SNR=3.3							
PGF	**Pioggiola**	**7.43**	**33**	*e*Pn		**Pn**	**17 50 41.0**	**-1.3**
PGF				*e*Sn		**Sn**	**17 52 02.0**	**-4.6**
	118nm,0.7s							
EORO	**Oroz-Betelu**	**7.44**	**331**	Pn		**Pn**	**17 50 43.8**	**+1.3**
EORO				⇑*i*Vmb_V			17 50 49.2	
	575nm,SNR=4.3							
EORO						Sn	**17 52 06.5**	**-0.3**
EARA	**Aranguren**	**7.45**	**330**	Pn		**Pn**	**17 50 44.1**	**+1.6**
EARA				⇑*i*Vmb_V			17 50 51.2	
	739nm,SNR=3.0							
FRF	**La Foret Royal**	**7.51**	**18**	*e*Pn		**Pn**	**17 50 42.8**	**-0.5**
FRF				*e*Sn		**Sn**	**17 52 03.7**	**-4.6**
	175nm,0.7s							
ESPR	**Espera**	**7.54**	**276**	Pn		**Pn**	**17 50 45.7**	**+1.9**
ESPR				⇑*i*Vmb_V			17 50 48.3	
	488nm,SNR=3.8							
SJPF	**Ste Jean**	**7.60**	**333**	*e*P		**Pn**	**17 50 46.8**	**+2.2**
SJPF				*e*Sn		**Sn**	**17 52 04.0**	**-6.6**
	173nm,0.8s							
MDT	**Midelt**	**7.61**	**244**	Pn		**Pn**	**17 50 44.0**	**-0.8**
	1.3nm,0.3s,baz=204,slow=7.1,SNR=38							
MDT				Lg		Lg	17 52 47.8	
	1.8nm,0.3s,baz=179,slow=20,SNR=4.1							
MDT	**Midelt**	**7.61**	**244**	P		**Pn**	**17 50 44.8**	**0.0**
LASF	**Ste Croix**	**7.63**	**2**	*e*Pn		**Pn**	**17 50 44.8**	**-0.2**
LASF				*e*Sn		**Sn**	**17 52 05.9**	**-5.6**
	304nm,0.9s							
MD31	**MD31**	**7.69**	**245**	P		**Pn**	**17 50 45.1**	**-0.8**
SMRF	**Simiane la Rot**	**7.69**	**11**	*e*Pn		**Pn**	**17 50 46.3**	**+0.4**
SMRF				*e*Sn		**Sn**	**17 52 08.1**	**-4.8**
	142nm,1.0s							
EALK	**Alkurruntz**	**7.79**	**332**	Pn		**Pn**	**17 50 48.6**	**+1.3**
EALK				⇑*i*Vmb_V			17 50 54.4	
	2μm,SNR=4.4							
EALK						Sn	**17 52 13.1**	**-2.4**
SBF	**Sospel**	**8.00**	**21**	*e*Pn		**Pn**	**17 50 48.3**	**-1.8**
SBF				*e*Sn		**Sn**	**17 52 15.7**	**-4.8**
	152nm,0.7s							
EMIN	**Mina Concepcio**	**8.25**	**282**	Pn		**Pn**	**17 50 53.5**	**+0.1**
EMIN				⇑*i*Vmb_V			17 50 55.1	
	435nm,SNR=2.8							
EPLA	**Plasencia**	**8.37**	**299**	Pn		**Pn**	**17 50 56.1**	**+0.9**
EPLA				⇑*i*Vmb_V			17 51 02.8	
	354nm,SNR=1.9							
VIVF	**Saint-Julien-l**	**8.46**	**6**	*e*Pn		**Pn**	**17 50 57.1**	**+0.8**
VIVF				*e*Sn		**Sn**	**17 52 26.2**	**-5.5**
	125nm,0.8s							
CASP	**Castiglione de**	**8.51**	**40**	Pn		**Pn**	**17 50 57.2**	**+0.2**
CAF	**Calviac**	**8.55**	**353**	*e*P		**Pn**	**17 50 59.5**	**+1.9**
PBAR	**Barrancos**	**8.59**	**285**	*e*P		**Pn**	**17 50 57.7**	**-0.4**
	76nm,1.2s							
ELAN	**Lanestosa**	**8.63**	**324**	Pn		**Pn**	**17 50 59.9**	**+1.1**
ELAN				⇑*i*Vmb_V			17 51 01.9	
	909nm,SNR=3.8							
ELAN						Sn	**17 52 39.1**	**+3.0**
MBDF	**Montbardon**	**8.64**	**16**	*e*Pn		**Pn**	**17 50 59.3**	**+0.3**
MBDF				*e*Sn		**Sn**	**17 52 31.0**	**-5.4**
	66nm,0.7s							
ORIF	**Oris-en-Rattie**	**8.66**	**11**	*e*Pn		**Pn**	**17 51 00.4**	**+1.2**
ORIF				*e*Sn		**Sn**	**17 52 31.5**	**-5.3**
	77nm,0.9s							
EBAD	**Badajoz**	**8.67**	**289**	Pn		**Pn**	**17 50 58.6**	**-0.6**
EBAD				⇑*i*Vmb_V			17 51 00.9	
	578nm,SNR=5.1							
LFF	**La Frestale**	**8.75**	**347**	*e*P		**Pn**	**17 51 02.8**	**+2.5**
VAE	**Valguarnera**	**8.79**	**80**	Pn		**Pn**	**17 51 00.3**	**-0.6**
	0.5nm,0.3s,baz=142,slow=22,SNR=1.3							
VAE				LR		LR	17 54 03.3	
	comp=Z,539nm,20.0s,baz=57,slow=35							
SSB	**Saint Sauveur**	**8.87**	**5**	P		**Pn**	**17 51 02.6**	**+0.7**
SSB	**Saint Sauveur**	**8.87**	**5**	Pn

19nm,0.7s
FIESA Fiescheralp 10.56 18 Pn **Pn 17 51 28.7 +3.3**
SSF Saint Saulge 10.62 360 *eP* **Pn 17 51 28.2 +2.3**
SSF *eSn* **Sn 17 53 17.6 -7.0**
61nm,1.1s
BRANT Les Verrieres 10.72 11 Pn **Pn 17 51 28.5 +1.1**
LOR Lormes 10.82 1 *eP* **Pn 17 51 31.6 +2.8**
baz=181
HYF Humbligny 10.84 357 *eP* **Pn 17 51 32.4 +3.4**
HASLI Hasliberg/Brie 10.88 17 Pn **Pn 17 51 31.3 +1.8**
TUE Stuetta 10.93 22 Pn **Pn 17 51 32.4 +2.0**
TUE Stuetta 10.93 22 Pn **Pn 17 51 32.1 +1.7**
MATE Matera 11.15 64 P Pn 17 51 38.0 +4.8
DAVOX Davos/Dischmat 11.37 23 Pn **Pn 17 51 37.9 +1.5**
1.0nm,0.3s,baz=178,slow=12,SNR=12
DAVOX LR LR 17 55 47.7
comp=Z,792nm,19.4s,baz=214,slow=36
CTI Castel Tesino 11.38 30 P **Pn 17 51 36.8 +0.3**
CTI Castel Tesino 11.38 30 Pn **Pn 17 51 36.8 +0.3**
CLF Chambon-Foret 11.62 356 Pn **Pn 17 51 42.5 +2.9**
CLF Chambon-Foret 11.62 356 Pn **Pn 17 51 44.1 +4.6**
HINF Hinteralfeld 11.63 11 *eP* **Pn 17 51 41.6 +1.7**
HAU Haudompre 11.75 9 *eP* **Pn 17 51 42.8 +1.4**
SFTF Sexfontaines 11.81 5 *eP* **Pn 17 51 45.4 +3.2**
DAVA Damuels 11.83 22 *eP* **Pn 17 51 45.8 +3.2**
25nm,0.8s,SNR=7.7
FETA Feichten 11.86 25 *eP* **Pn 17 51 47.4 +4.4**
20nm,1.0s,SNR=11
SLE Schleitheim 11.90 16 Pn **Pn 17 51 43.0 -0.5**
ECH Echery 12.07 12 P **Pn 17 51 45.7 -0.1**
ECH Echery 12.07 12 Pn **Pn 17 51 45.7 -0.1**
MEZF Maizieres J'vi 12.11 5 *eP* **Pn 17 51 49.2 +2.9**
baz=186
SQTA Sankt Quirin 12.20 26 *eP* **Pn 17 51 51.7 +4.1**
74nm,1.4s,SNR=22
PAGF Fort de Pagny 12.22 7 *eP* **Pn 17 51 50.2 +2.4**
baz=188
SAVF Savonnieres en 12.23 5 *eP* **Pn 17 51 51.1 +3.2**
baz=182
UBR Ueberruh 12.25 21 *eP* **Pn 17 51 50.6 +2.3**
38nm,0.9s,baz=203,slow=13
MOTA Moosalm 12.27 25 *eP* **Pn 17 51 52.4 +3.8**
27nm,0.9s,SNR=16
RETA Reutte 12.28 24 *eP* Pn 17 51 53.7 +5.0
40nm,1.5s,SNR=10
CDF Champ du Feu 12.28 12 *eP* **Pn 17 51 50.2 +1.5**
ABTA Abfaltersbach 12.30 30 *eP* **Pn 17 51 52.2 +3.2**
22nm,1.0s,SNR=11
GRR Gorron 12.37 346 *eP* **Pn 17 51 52.6 +2.8**
GRR *eSn* Sn 17 53 58.8 -8.7
97nm,1.2s
WTTA Wattenberg 12.39 27 *eP* **Pn 17 51 53.7 +3.5**
26nm,1.0s,SNR=6.8
BFO Black Forest 12.40 15 P **Pn 17 51 49.2 -1.1**
BFO Black Forest 12.40 15 Pn **Pn 17 51 49.2 -1.1**
BFO Black Forest 12.40 15 *eP* **Pn 17 51 49.5 -0.8**
18nm,0.9s,baz=203,slow=13
BFO Black Forest 12.40 15 Pn **Pn 17 51 49.4 -1.0**
WATA Walderalm 12.43 26 *eP* **Pn 17 51 53.7 +2.9**
36nm,1.1s,SNR=14
LDF La Druitiere 12.44 349 *eP* **Pn 17 51 52.9 +2.1**
QUIF Quistinic 12.49 339 *eP* **Pn 17 51 53.5 +2.1**
QUIF *eSn* Sn 17 54 01.3 -9.1
237nm,1.4s
FLN La Foliniere 12.66 348 *eP* **Pn 17 51 56.0 +2.2**
baz=168
MYKA Terra Mystica 12.69 33 *eP* **Pn 17 51 57.9 +3.7**
26nm,1.2s,SNR=7.2
ROSF Rostrenen 12.90 339 *eP* **Pn 17 51 58.1 +1.0**
KBA Koelnbreinsper 12.90 31 *eP* **Pn 17 51 59.8 +2.5**
32nm,1.1s,SNR=14
STU Stuttgart 13.01 17 *eP* **Pn 17 51 58.2 -0.4**
50nm,1.0s,baz=203,slow=13
OBKA Obir 13.01 36 *eP* **Pn 17 52 00.6 +1.9**
27nm,1.3s,SNR=6.6
FUR Furstenfeldbru 13.04 24 *eP* **Pn 17 52 03.3 +4.2**
54nm,1.1s,baz=203,slow=13
RJOB Jochberg 13.21 28 *eP* **Pn 17 52 04.0 +2.5**
18nm,0.8s,baz=203,slow=13
WLF Walferdange 13.36 7 P **Pn 17 52 04.8 +1.5**
WLF Walferdange 13.36 7 Pn **Pn 17 52 04.8 +1.5**
WLF Walferdange 13.36 7 *eP* **Pn 17 52 05.6 +2.3**
44nm,0.9s,baz=203,slow=13
WLF Walferdange 13.36 7 *dP* **Pn 17 52 05.3 +2.0**
comp=Z,41nm,0.9s
WLF Walferdange 13.36 7 Pn **Pn 17 52 05.1 +1.8**
SOKA Soboth 13.37 36 *eP* **Pn 17 52 05.8 +2.3**
comp=Z,26nm,1.1s,SNR=20
BIOA Bad Ischl, Aus 13.51 31 *eP* **Pn 17 52 09.0 +3.5**
comp=Z,14nm,0.9s,SNR=5.7
PDG Podgorica 13.55 59 ⇓P **P 17 52 11.1 -4.0**
BAIF Baives 13.62 2 *eP* **Pn 17 52 10.5 +3.6**
DOU Dourbes 13.67 3 *dP* **Pn 17 52 09.4 +1.8**
comp=Z,58nm,0.9s
DOU *dS* **Sn 17 54 32.7 -6.7**
DOU Dourbes 13.67 3 Pn **Pn 17 52 09.8 +2.2**
GIVF Givet 13.69 4 *eP* **Pn 17 52 10.3 +2.4**
RCHB Rochefort 13.77 5 *dP* **Pn 17 52 11.6 +2.7**
comp=Z,53nm,0.7s
BMRD Maredsous 13.89 3 *dP* **Pn 17 52 12.6 +2.1**
comp=Z,27nm,0.8s
MOA Molln 13.90 32 *eP* **Pn 17 52 13.4 +2.7**
comp=Z,19nm,0.9s,SNR=10
BGES Gesves 13.99 4 *dP* **Pn 17 52 14.2 +2.2**
comp=Z,59nm,0.6s
ARSA Arzberg 14.01 36 *eP* **Pn 17 52 14.4 +2.1**
comp=Z,40nm,1.0s,SNR=19
BHOU Houvegnez 14.03 7 *dP* **Pn 17 52 14.7 +2.2**
BCLA Clavier 14.04 5 *dP* **Pn 17 52 15.6 +3.0**
comp=Z,41nm,1.1s
BCLA *dS* **Sn 17 54 46.6 -1.6**
SNF Seneffe 14.08 2 *dP* **Pn 17 52 15.8 +2.7**
BEHE Becsehely 14.10 41 P **Pn 17 52 14.4 +0.9**
BSTI Sart Tilman 14.22 5 *dP* **Pn 17 52 17.6 +2.6**
comp=Z,11nm,0.6s
TNS Taunus Mts 14.23 13 *eP* **Pn 17 52 15.1 -0.2**
comp=Z,23nm,0.9s,baz=203,slow=13
BTNL Ternell 14.27 7 *dP* **Pn 17 52 17.1 +1.3**
comp=Z,21nm,0.9s
MEM Membach 14.28 6 *dP* **Pn 17 52 17.7 +1.8**
comp=Z,36nm,0.7s
AHRW Bad Neuenahr-A 14.33 9 *eP* **Pn 17 52 18.0 +1.4**
comp=Z,35nm,0.9s,baz=203,slow=13
GRF Grafenberg Arr 14.38 21 *eP* **Pn 17 52 18.4 +1.0**
comp=Z,22nm,1.0s,baz=203,slow=13
WET Wettzell 14.42 25 *eP* **Pn 17 52 18.3 +0.3**
comp=Z,15nm,0.9s,baz=203,slow=13
BEBN Eben Emael 14.44 6 *dP* **Pn 17 52 20.9 +2.8**
comp=Z,56nm,0.6s
GEC2 GERESS Array S 14.47 28 **Pn 17 52 19.9 +1.2**
GEC2 GERESS Array S 14.47 28 *eP* **Pn 17 52 20.4 +1.8**
comp=Z,40nm,1.0s,baz=203,slow=13
GERES GERESS Array B 14.47 28 Pn **Pn 17 52 19.5 +0.8**
comp=Z,0.3nm,0.3s,baz=212,slow=14,SNR=119
GERES LR LR 17 57 49.0
comp=Z,390nm,21.4s,baz=227,slow=37
GERES GERESS Array B 14.47 28 Pn **Pn 17 52 20.2 +1.5**
KOVH Kovagotottos 14.58 44 P **Pn 17 52 21.9 +1.8**
CONA Conrad Observa 14.66 35 *eP* **Pn 17 52 23.3 +2.0**
comp=Z,40nm,1.2s,SNR=23
KHC Kasperske Hory 14.66 27 *eP* **Pn 17 52 22.1 +0.9**
KHC Kasperske Hory 14.66 27 *eP* **Pn 17 52 22.1 +0.9**
KHC *ex* x 17 53 00.0
KHC *ex* x 17 53 08.0
KHC Kasperske Hory 14.66 27 Pn **Pn 17 52 21.9 +0.7**
CKRC Cesky Krumlov 14.68 29 *eP* **Pn 17 52 23.2 +1.7**
RONA Rosalia, Austr 14.70 36 *eP* **Pn 17 52 23.8 +2.1**
comp=Z,66nm,1.1s,SNR=23
ROTZ Rotzenmuhle 14.74 23 *eP* **Pn 17 52 21.9 -0.4**
comp=Z,1.7nm,0.9s,baz=203,slow=13
SOP Sopron 14.81 37 P **Pn 17 52 25.2 +2.0**
MANZ Manzenberg 14.90 22 *eP* **Pn 17 52 24.1 -0.4**
comp=Z,3.0nm,1.1s,baz=203,slow=13
MPLH Magyarpolny 14.95 40 P **Pn 17 52 26.3 +1.2**
MORH Mrgy, Hungar 14.96 45 ⇑P **P 17 52 28.7 -2.1**
MORH Mrgy, Hungar 14.96 45 P **Pn 17 52 27.5 +2.2**
EGYH Egyhazaskeszo 15.01 39 P **Pn 17 52 27.9 +2.0**
FRGS Fruska Gora 15.08 50 ⇓P **P 17 52 30.6 -1.6**
UBBA Unterbreizbach 15.11 16 *eP* **Pn 17 52 29.6 +2.5**
comp=Z,39nm,1.4s,baz=203,slow=13
KASTN Kahler Asten 15.17 12 *eP* **Pn 17 52 28.3 +0.2**
comp=Z,11nm,0.9s,baz=203,slow=13
NKC Novy Kostel 15.23 22 *eP* **Pn 17 52 31.2 +2.4**
NKC Novy Kostel 15.23 22 *eP* **Pn 17 52 31.2 +2.4**
BUG Bochum--Univer 15.24 9 *eP* **Pn 17 52 31.2 +2.3**
comp=Z,53nm,0.9s,baz=203,slow=13
WERN Wernitzgruen 15.25 22 *eP* **Pn 17 52 30.9 +1.7**
comp=Z,14nm,1.0s,baz=203,slow=13
PBCC Pribram 15.27 27 *eP* **Pn 17 52 29.4 0.0**
GUNZ Gunzen 15.31 22 *eP* **Pn 17 52 29.4 -0.4**
comp=Z,22nm,1.0s,baz=203,slow=13
MOX Moxa 15.35 20 *eP* **Pn 17 52 32.0 +1.6**
comp=Z,25nm,1.0s,baz=203,slow=13
WERD Werda 15.37 22 *eP* **Pn 17 52 33.1 +2.4**
comp=Z,14nm,1.0s,baz=203,slow=13
TANN Tannenbergstha 15.39 22 *eP* **Pn 17 52 32.5 +1.5**
comp=Z,30nm,1.1s,baz=203,slow=13
ZST Bratislava 15.43 36 *eP* **Pn 17 52 33.7 +2.2**
ZST pmax pmax
comp=Z,89nm,1.2s
ZST Bratislava 15.43 36 *eP* **Pn 17 52 33.7 +2.2**
TREC Trest 15.53 30 *eP* **Pn 17 52 33.8 +1.0**
TREC Trest 15.53 30 *eP* **Pn 17 52 33.8 +1.0**
MODS Modra-Piesok 15.64 36 *eP* **Pn 17 52 36.5 +2.3**
MODS pmax pmax
comp=Z,358nm,2.2s
MODS Modra-Piesok 15.64 36 *eP* **Pn 17 52 36.5 +2.3**
PRU Pruhonice 15.72 27 *eP* **Pn 17 52 36.0 +0.8**
PRU Pruhonice 15.72 27 *eP* **Pn 17 52 36.0 +0.8**
KRUC Moravsky 15.74 33 *ePN* **Pn 17 52 36.8 +1.4**
SRO Srobarova 15.77 39 *eP* **P 17 52 39.1 -0.6**
SRO pmax pmax
comp=Z,48nm,1.2s
SRO Srobarova 15.77 39 *eP* **P 17 52 39.1 -0.6**
GTTG Gottingen 15.79 15 *eP* **Pn 17 52 33.6 -2.4**
comp=Z,68nm,1.4s,baz=203,slow=13
SMOL Smolenice 15.81 36 *eP* **P 17 52 40.9 +0.7**
SMOL pmax pmax
comp=Z,22nm,1.4s
SMOL Smolenice 15.81 36 *eP* **P 17 52 40.9 +0.7**
BUD Budapest 15.93 41 P **P 17 52 40.7 -0.8**
VRAC Vranov 16.01 32 ⇑P **Pn 17 52 40.5 +1.6**
VRAC Vranov 16.01 32 Pn **Pn 17 52 40.2 +1.2**
comp=Z,0.3nm,0.3s,baz=236,slow=13,SNR=10
VRAC LR LR 17 58 37.3
comp=Z,300nm,19.2s,baz=218,slow=36
VRAC Vranov 16.01 32 ⇑P **Pn 17 52 40.5 +1.6**
VRAC Vranov 16.01 32 *ePN* **Pn 17 52 40.2 +1.2**
FBE Freiberg 16.11 23 *eP* **P 17 52 42.6 -0.8**
comp=Z,45nm,1.2s,baz=203,slow=13
KKB Krupnik 16.11 64 *eP* **P 17 52 42.5 -1.1**
MDVR Moldovita 16.11 53 ⇓P **Pn 17 52 41.8 +1.5**
IBBN Ibbenburen 16.15 9 *eP* **P 17 52 44.0 +0.2**
comp=Z,91nm,1.2s,baz=203,slow=13
CLZ Clausthal 16.15 15 *eP* **Pn 17 52 42.6 +1.8**
comp=Z,5.7nm,0.9s,baz=203,slow=13
JAVC Velka Javorina 16.17 35 *ePN* **P 17 52 44.1 -0.1**
AMBH Ambrzfalva 16.24 47 P **P 17 52 43.9 -1.1**
KOLL Kolacno 16.32 37 *eP* **P 17 52 45.7 -0.2**
CLL Collm 16.34 22 *i P* **P 17 52 45.0 -1.0**
CLL pmax pmax
comp=Z,17nm,1.2s
CLL Collm 16.34 22 *i P* **P 17 52 45.0 -1.0**
comp=Z,17nm,1.2s
CLL *i* pP **pP 17 52 47.8 -1.7**
comp=Z,48nm,1.2s
CLL *eS* **S 17 55 54.0 -2.8**
CLL *eSSS* SSS 17 56 18.0
CLL Collm 16.34 22 *eP* **P 17 52 45.1 -1.0**
comp=Z,23nm,1.0s,baz=203,slow=13
VTS Vitosha 16.40 62 ⇓P **P 17 52 48.1 +1.1**
VTS Vitosha 16.40 62 ⇓P **P 17 52 48.1 +1.1**
VTS Vitosha 16.40 62 *eP* **Pn 17 52 44.7 +0.5**
BZS Buzias 16.42 50 ⇑P **P 17 52 46.7 -0.3**
BZS Buzias 16.42 50 ⇑P **P 17 52 46.7 -0.3**
VYHS Vyhne 16.48 38 *eP* **P 17 52 47.1 -0.6**
VYHS pmax pmax
comp=Z,59nm,2.3s
VYHS Vyhne 16.48 38 *eP* **P 17 52 47.1 -0.6**
MMB Musomiste 16.52 66 *eP* **Pn 17 52 45.9 +0.3**
HERR Herculane 16.61 54 ⇑P **P 17 52 50.7 +1.6**
PSZ Piszkesteto 16.66 41 ⇑P **P 17 52 50.0 +0.3**
PSZ Piszkesteto 16.66 41 ⇑P **P 17 52 50.0 +0.3**
PSZ Piszkesteto 16.66 41 P **P 17 52 49.3 -0.4**
KRLC Kraliky 16.67 31 *eP* **Pn 17 52 48.4 +1.0**
KRLC Kraliky 16.67 31 *eP* **Pn 17 52 48.4 +1.0**
DPC Dobruska-Polom 16.70 30 *eP* **Pn 17 52 47.9 +0.2**
DPC Dobruska-Polom 16.70 30 *eP* **Pn 17 52 47.9 +0.2**
UPC Upice 16.70 29 *eP* **P 17 52 51.6 +1.6**
UPC Upice 16.70 29 *eP* **P 17 52 51.6 +1.6**
NRDL Niedersach Rie 16.72 14 *eP* **P 17 52 49.9 -0.2**
comp=Z,32nm,1.1s,baz=203,slow=13
SIRR Siria 16.76 49 ⇓P **P 17 52 52.2 +1.4**
MORC Moravsky Berou 16.77 33 ⇑P **P 17 52 50.6 -0.3**
MORC Moravsky Berou 16.77 33 ⇑P **P 17 52 50.6 -0.3**
MORC Moravsky Berou 16.77 33 *ePN* **Pn 17 52 50.0 +1.3**
CHVC Chvalec 16.78 29 *eP* **Pn 17 52 49.9 +1.1**
FLTG Flechtingen 16.80 17 *eP* **P 17 52 51.1 -0.1**
comp=Z,20nm,1.0s,baz=203,slow=13
OSTC Ostas 16.82 29 *eP* **Pn 17 52 50.4 +1.2**
GZR Gura Zlata 17.05 52 ⇑P **P 17 52 55.5 +1.4**
KSP Ksiaz 17.07 29 *eP* **Pn 17 52 53.6 +1.2**
OKC Ostrava-Krasne 17.09 34 *eP* **P 17 52 55.4 +1.1**
OKC Ostrava-Krasne 17.09 34 *eP* **P 17 52 55.4 +1.1**
LANS Liptovska Anna 17.23 38 *eP* **P 17 52 58.4 +2.4**
LANS pmax pmax
comp=Z,20nm,1.2s
LANS Liptovska Anna 17.23 38 *eP* **P 17 52 58.4 +2.4**
RZN Rozhen 17.27 66 *eP* **P 17 52 57.3 +0.7**
PLD Plovdiv 17.34 64 *eP* **P 17 52 56.8 -0.4**
IDI Anoyia 17.37 87 ⇓P **P 17 52 58.5 +0.9**
RUE Ruedersdorf 17.60 21 *eP* **P 17 53 01.2 +1.3**
comp=Z,28nm,1.0s,baz=203,slow=13
DRGR 17.65 48 ⇑P **P 17 53 02.6 +1.9**
DRGR 17.65 48 ⇑P **P 17 53 02.6 +1.9**
LOT Lotru 17.71 53 ⇑P **P 17 53 03.3 +1.8**
NIE Niedzica 17.82 38 *eP* **P 17 53 06.2 +3.7**
MESR Meseseni 17.97 47 ⇑P **P 17 53 05.8 +1.8**
CRVS Cervenica-Dubn 18.09 41 *eP* **P 17 53 08.2 +2.8**
CRVS pmax pmax
comp=Z,129nm,1.6s
CRVS Cervenica-Dubn 18.09 41 *eP* **P 17 53 08.2 +2.8**
OJC Ojcow 18.11 35 *eP* **P 17 53 07.5 +1.8**
BSEG Bad Segeberg 18.13 13 *eP* **P 17 53 09.5 +3.7**
comp=Z,28nm,1.0s,baz=203,slow=13
ALN Alexandroupoli 18.14 69 P **Pn 17 53 03.9 -1.7**
ALN pmax pmax
comp=Z,57nm,1.5s
ALN Alexandroupoli 18.14 69 Pn **Pn 17 53 03.9 -1.7**
HUMR Humele 18.18 57 ⇓P **P 17 53 08.4 +1.9**
COPA Copaceanca 18.22 58 ⇑P **P 17 53 08.7 +1.8**
TRPA Tarpa 18.24 44 ⇑P **P 17 53 08.1 +1.1**
TRPA Tarpa 18.24 44 P **P 17 53 08.8 +1.8**
ARR Arges 18.25 54 ⇓P **P 17 53 09.2 +1.9**
UZH Uzhgorod 18.38 43 ⇓*eP* **P 17 53 08.5 -0.1**
KOLS Kolonicke sedl 18.54 42 *eP* **Pn 17 53 14.4 +3.8**
KOLS Kolonicke sedl 18.54 42 *eP* **Pn 17 53 14.4 +3.8**
VOIR 18.54 54 ⇑P **Pn 17 53 12.4 +1.7**
VOIR 18.54 54 ⇑P **Pn 17 53 12.4 +1.7**
ARCR ARCALIA 18.78 49 ⇑P **Pn 17 53 14.1 +0.6**
DOPR Dopca 18.96 53 ⇑P **Pn 17 53 16.7 +1.0**
RAZG Razgrad 18.96 61 ⇑P **Pn 17 53 17.3 +1.5**
SECR 19.08 56 ⇑P **Pn 17 53 17.7 +0.5**
KARP Karpathos 19.15 86 P **P 17 53 17.3 +0.1**
KARP lAmb lAmb 17 53 20.9
comp=Z,53nm,0.6s
MLR Muntele Rosu 19.15 55 ⇓P **Pn 17 53 19.1 +0.9**
MLR Muntele Rosu 19.15 55 P **Pn 17 53 19.0 +0.9**
comp=Z,0.3nm,0.3s,baz=247,slow=3.4,SNR=38
MLR LR LR 18 01 22.0
comp=Z,581nm,18.9s,baz=254,slow=39
MLR Muntele Rosu 19.15 55 ⇓P **Pn 17 53 19.1 +0.9**
MLR Muntele Rosu 19.15 55 P **Pn 17 53 19.0 +0.9**
MLR lAmb lAmb 17 53 32.9
comp=Z,55nm,1.0s
KWP Kalwaria Pacla 19.18 41 *eP* **Pn 17 53 20.4 +2.1**
OZUR 19.27 53 ⇓P **Pn 17 53 20.0 +0.5**
NEHR Nehoiu 19.36 55 ⇑P **Pn 17 53 21.2 +0.7**
ISR Istrita 19.43 56 ⇑P **Pn 17 53 21.8 +0.4**
ISR Istrita 19.43 56 ⇑P **Pn 17 53 21.8 +0.4**
EKA Eskdalemuir Ar 19.44 348 P **P 17 53 21.1 +0.9**
baz=151,slow=10,SNR=11
EKA LR LR 18 00 16.4
comp=Z,337nm,20.4s,baz=167,slow=35
COVR Voineasa-Covas 19.45 54 ⇑P **Pn 17 53 22.3 +0.7**
BURAR Bucovina Array 19.54 48 ⇓P **Pn 17 53 23.1 +0.3**
BURAR Bucovina Array 19.54 48 ⇓P **Pn 17 53 23.1 +0.3**
BURAR Bucovina Array 19.54 48 **Pn 17 53 23.4 +0.6**
PGOR Pogoanele 19.66 57 ⇓P **Pn 17 53 24.5 +0.4**
BISRR Bisoca 19.68 55 ⇑P **Pn 17 53 24.9 +0.5**
PLOR Plostina 19.74 54 ⇓P **P 17 53 24.4 +0.8**
PLOR Plostina 19.74 54 ⇓P **P 17 53 24.4 +0.8**
VRI Vrincioaia 19.80 54 ⇑P **Pn 17 53 25.5 -0.2**
VRI Vrincioaia 19.80 54 ⇑P **Pn 17 53 25.5 -0.2**
AMRR Amara 19.81 58 ⇑P **Pn 17 53 25.6 -0.3**
AMRR Amara 19.81 58 ⇑P **Pn 17 53 25.6 -0.3**
ODBI Odobesti 19.98 55 ⇑P Pn 17 53 27.8 0.0
TESR Tescani 19.98 53 ⇑P Pn 17 53 27.8 0.0
LVV L'vov 19.99 42 *eP* Pn 17 53 28.0 0.0
ICOR Ion Corvin 20.01 60 ⇓P Pn 17 53 27.5 -0.7
GIRR Girov 20.05 51 ⇓P Pn 17 53 29.0 +0.3
PANC Panciu 20.07 55 ⇑P Pn 17 53 28.8 -0.2
CVD1 Cernavoda-Powe 20.24 60 ⇑P **P 17 53 30.0 +1.1**
HARR Harsova 20.24 58 ⇓P **P 17 53 29.7 +0.7**
HARR Harsova 20.24 58 ⇓P **P 17 53 29.7 +0.7**
TLBR Topalu 20.29 59 ⇑P **P 17 53 30.3 +0.8**
GHRR 20.31 54 ⇑P Pn 17 53 31.2 -0.6
MANR Mangalia 20.49 61 ⇓P **P 17 53 32.6 +0.9**
TIRR Tirgusor 20.52 59 ⇑P **P 17 53 32.2 +0.2**
TIRR Tirgusor 20.52 59 ⇑P **P 17 53 32.2 +0.2**
TIRR Tirgusor 20.52 59 P **P 17 53 31.9 -0.1**
TIRR lAmb lAmb 17 53 50.8
comp=Z,35nm,1.0s
CFR Carcaliu 20.52 57 ⇓P **P 17 53 32.0 0.0**
CFR Carcaliu 20.52 57 ⇓P **P 17 53 32.0 0.0**
VARL Varlezi 20.55 55 ⇑P **P 17 53 33.4 +1.1**
SCTR Scanteiesti 20.57 56 ⇑P **P 17 53 32.6 0.0**
TPGR Topolog 20.62 58 ⇓P **P 17 53 33.5 +0.3**
VLDR Vladesti 20.68 55 ⇑P **P 17 53 34.3 +0.5**
VASR Vaslui 20.76 53 ⇓P **P 17 53 35.2 +0.6**
TLCR 20.98 58 ⇑P **P 17 53 37.3 +0.3**
TLCR 20.98 58 ⇑P **P 17 53 37.3 +0.3**
DEL Delary 21.22 16 *eP* **P 17 53 40.8 +1.3**
KLNR Kaliningrad 21.51 27 ⇓*iP* **P 17 53 43.3 +0.8**
KLNR pmax pmax
comp=Z,249nm,1.1s
MILM Milestii Mici 21.51 53 ⇑P **P 17 53 43.1 +0.4**
MILM Milestii Mici 21.51 53 ⇑P **P 17 53 43.1 +0.4**
SORM Soroca 21.67 50 ⇑P **P 17 53 44.6 +0.2**
SORM Soroca 21.67 50 ⇑P **P 17 53 44.6 +0.2**
SUW Suwalki 22.25 32 *eP* **P 17 53 49.9 -0.7**
SUW Suwalki 22.25 32 *eP* **P 17 53 50.7 +0.2**
BLS5 Blasjo 23.08 4 *eP* **P 17 54 00.4 +1.1**
PBUR Paburge 23.23 27 *eP* **P 17 54 01.7 +0.9**
TOA0 Torodi Ar. Sit 23.25 184 P **P 17 53 59.7 -1.7**
TOA0 lAmb lAmb 17 54 05.5
comp=Z,34nm,1.2s
TOA0 Torodi Ar. Sit 23.25 184 P **P 17 53 59.5 -1.8**
SNR=9.7
TORD Torodi Ar. Bea 23.25 184 P **P 17 53 59.6 -1.7**
comp=Z,11nm,0.7s,baz=359,slow=10,SNR=48
TORD PcP **PcP 17 57 49.2 +0.2**
comp=Z,1.0nm,0.7s,baz=354,slow=3.4,SNR=2.0
TORD LR LR 18 02 14.3
comp=Z,386nm,18.6s,baz=284,slow=34
TORD Torodi Ar. Bea 23.25 184 P **P 17 53 59.7 -1.7**
AKASG Malin Array Be 23.30 44 P **P 17 53 59.9 -1.7**
comp=Z,21nm,0.9s,baz=244,slow=9.4,SNR=20
AKASG LR LR 18 04 12.0
comp=Z,384nm,18.3s,baz=237,slow=39
AKASG Malin Array Be 23.30 44 P **P 17 53 59.6 -2.0**
AKASG pmax pmax
comp=Z,25nm,1.0s
AKASG Malin Array Be 23.30 44 P **P 17 53 59.6 -2.0**
AKASG lAmb lAmb 17 54 02.5
comp=Z,24nm,0.9s
AKBB Malin Array Si 23.30 44 *ceP* **P 17 54 00.0 -1.6**
KONO Kongsberg 23.56 8 *ceP* **P 17 54 04.5 +0.4**
KONO pmax pmax
comp=Z,41nm,1.3s
KONO Kongsberg 23.56 8 *eP* **P 17 54 04.1 0.0**
PABE Paberze 23.62 30 P **P 17 54 03.5 -1.2**
PABE Paberze 23.62 30 *eP* **P 17 54 04.7 -0.1**
VIKU Vikbolandet 23.72 17 *eP* **P 17 54 06.8 +1.2**
BR131 Keskin Array S 23.89 73 P **P 17 54 07.5 -0.1**
BR131 P **P 17 54 07.5 -0.1**
BRTR Keskin Array B 23.89 73 P **P 17 54 07.7 +0.1**
comp=Z,2.5nm,0.7s,baz=265,slow=7.4,SNR=22
BRTR PcP **PcP 17 57 51.0 +0.7**
comp=Z,1.0nm,0.9s,baz=267,slow=5.1,SNR=3.3
BRTR Keskin Array B 23.89 73 *i P* **P 17 54 07.6 -0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 23.89 73 P **P 17 54 06.4 -1.2**
BZK Bozkurt 24.19 67 ⇑P **P 17 54 09.0 -1.2**
NACGM Naroch 24.41 34 *eP* **P 17 54 13.3 +1.2**
IIGN Ignalina 24.45 32 *eP* **P 17 54 12.9 +0.4**
SKAR Skarslia 24.45 6 *eP* **P 17 54 11.8 -0.8**
SIM Simferopol' 24.60 60 *eP* **P 17 54 10.1 -3.9**
SIM pmax pmax
comp=Z,41nm,1.1s
SLIT Slitere, Latvi 24.60 25 *eP* **P 17 54 14.8 +1.0**
HFS Hagfors 24.60 12 P **P 17 54 13.3 -0.5**
comp=Z,6.5nm,0.8s,baz=20,slow=39,SNR=16
HFS LR LR 18 05 00.5
comp=Z,206nm,18.6s,baz=206,slow=39
IDID Didziasalis 24.65 33 *eP* **P 17 54 14.5 +0.2**
MNK Minsk 24.66 35 *i P* **P 17 54 13.2 -1.2**
MNK *i* 17 54 47.5
MNK *i* 17 57 48.2
MNK *i S* **S 17 58 36.3 +0.8**
MNK *i* SS **SnSn 17 59 25.0 +3.8**
MNK pmax pmax
comp=N,18nm,1.0s
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK pmax pmax
comp=Z,42nm,1.0s
MNK MLR MLR
comp=E,69nm,15.0s
MNK MLR MLR
comp=N,321nm,13.0s
MNK MLR MLR
comp=Z,392nm,14.0s
MNK Minsk 24.66 35 *i P* **P 17 54 13.3 -1.2**
comp=E,5.0nm,1.0s
MNK *i P* **P 17 54 13.3 -1.2**
comp=N,18nm,1.0s
MNK *i P* **P 17 54 13.3 -1.2**
comp=Z,42nm,1.0s,baz=233
MNK *i* PP **PnPn 17 54 47.5 +1.6**
MNK *i S* **S 17 58 36.4 +0.8**
MNK *i* SS **SnSn 17 59 25.0 +3.8**
MNK *i* LR LR 18 02 20.8
MNK *i* LRM MLR 18 06 06.5
comp=E,69nm,15.0s
MNK *i* LRM MLR 18 06 06.9
comp=N,321nm,13.2s
MNK *i* LRM MLR 18 06 20.1
comp=Z,392nm,14.0s
NC602 NORSAR Array S 24.85 9 P **P 17 54 15.3 -0.8**
NC602 NORSAR Array S 24.85 9 *eP* **P 17 54 17.5 +1.4**
NBO00 NORSAR Array S 25.04 8 P **P 17 54 17.1 -0.7**
NB2 NORSAR Subarra 25.10 9 P **P 17 54 18.4 0.0**
comp=Z,29nm,1.7s,baz=191,slow=9.3
NB2 NORSAR Subarra 25.10 9 P **P 17 54 18.4 0.0**
baz=191,slow=9.3
NOA NORSAR Array B 25.10 9 P **P 17 54 18.2 -0.2**
comp=Z,3.3nm,0.9s,baz=192,slow=9.4,SNR=9.7
NOA PcP **PcP 17 57 51.6 -0.8**
comp=Z,0.5nm,0.7s,baz=189,slow=2.6,SNR=3.4
NOA LR LR 18 04 18.6
comp=Z,200nm,18.2s,baz=190,slow=37
UPP Uppsala 25.15 17 *eP* **P 17 54 18.5 -0.2**
NC405 NORSAR Array S 25.24 9 P **P 17 54 18.6 -1.0**
NC405 lAmb lAmb 17 54 20.0
comp=Z,38nm,1.4s
AKN Aaknes 25.86 4 *eP* **P 17 54 26.0 +0.8**
DOMB Dombas 25.86 6 *eP* **P 17 54 25.5 +0.2**
MTSE Matsula 25.95 24 *eP* **P 17 54 27.2 +1.2**
AAL Aland 26.01 19 *eP* **P 17 54 26.1 -0.4**
MMAI Mount Meron Ar 26.37 88 LR LR 18 07 19.9
comp=Z,108nm,20.1s,baz=54,slow=42
VSU Vasula 26.80 27 *eP* **P 17 54 34.1 +0.4**
ANN Anapa 26.91 61 *eP* **P 17 54 34.6 -0.3**
ANN pmax pmax
comp=Z,43nm,0.9s
EIL Elat 27.12 95 P **P 17 54 38.0 +1.1**
comp=Z,5.6nm,0.8s,baz=195,slow=5.7,SNR=6.8
EIL LR LR 18 08 24.2
comp=Z,178nm,18.1s,baz=290,slow=43
RAF Rauma 27.20 19 *eP* **P 17 54 36.8 -0.5**

MEF Metsahovi 27.31 23 *e*P **P** 17 54 38.7 +0.4
SOC Sochi 28.46 64 *e*P **P** 17 54 51.6 +2.8
SOC *e*PPP PPP 17 55 47.7
SOC *e*S **S** 17 59 43.1 +7.1
SOC *e*SS **SnSn** 18 00 56.9 +2.6
SOC *e*SSS SSS 18 01 18.0
SOC pmax pmax
comp=Z,13nm,0.8s
NSS Namsos 28.58 8 *e*P **P** 17 54 49.9 +0.3
FINES FINESS Array B 28.78 23 P **P** 17 54 51.1 -0.3
comp=Z,6.3nm,0.9s,baz=186,slow=6.9,SNR=12
FINES PcP **PcP** 17 58 00.9 0.0
comp=Z,1.1nm,0.8s,baz=251,slow=7.2,SNR=1.6
FINES LR LR 18 05 16.5
comp=Z,119nm,20.8s,baz=230,slow=34
FINES FINESS Array B 28.78 23 P **P** 17 54 50.4 -1.0
FINES FINESS Array B 28.78 23 P **P** 17 54 50.4 -1.0
FIA1 FINESS Array S 28.78 23 P **P** 17 54 50.0 -1.5
OBN Obninsk 29.27 40 LR LR 18 07 29.3
comp=Z,54nm,18.2s,baz=177,slow=38
OBN Obninsk 29.27 40 *i* P **P** 17 54 51.7 -4.1
OBN *i* 17 58 01.7
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,235nm,15.0s
VORR Voronezh 29.48 48 *e*P **P** 17 54 53.5 -4.2
VORR pmax pmax
comp=Z,30nm,0.4s
LPSR Galich'ya Gora 29.60 46 *e*P **P** 17 54 57.6 -1.2
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 30.08 39 *e*P **P** 17 55 00.4 -2.6
MOS MLR MLR
comp=Z,400nm,15.0s
MOR8 Moi Rana 30.45 9 *e*P **P** 17 55 07.1 +0.9
DBIC Dimbokro 30.60 197 P **P** 17 55 07.2 -0.7
comp=Z,4.4nm,1.0s,baz=58,slow=7.6,SNR=3.5
DBIC LR LR 18 07 57.9
comp=Z,518nm,18.6s,baz=26,slow=38
VRH Novokhopyorsk 30.87 49 *e*P **P** 17 55 08.9 -1.1
VRH pmax pmax
comp=Z,10.0nm,0.7s
GOF Gofitskoye 30.91 61⇑ *e*P **P** 17 55 08.7 -1.7
ONI Oni 31.20 66 P **P** 17 55 11.6 -1.5
ONI pmax pmax
comp=Z,7.0nm,0.8s
ONI Oni 31.20 66 P **P** 17 55 11.6 -1.5
FAUS Fauske 31.71 9 *e*P **P** 17 55 17.2 0.0
BORG Borgarnes 31.99 340 LR LR 18 08 01.6
comp=Z,237nm,18.6s,baz=153,slow=36
STEI Steigen 32.23 8 *e*P **P** 17 55 22.3 +0.6
GNI Garni 32.36 71 *i* P **P** 17 55 23.5 0.0
GNI pmax pmax
comp=Z,5.0nm,1.2s
KLMR Klimovskoe 33.38 32 *e*P **P** 17 55 30.4 -1.5
KLMR pmax pmax
comp=Z,30nm,1.1s
KLMR Klimovskoe 33.38 32 *e*P **P** 17 55 30.4 -1.5
KLMR AMP 17 55 41.3
comp=Z,30nm,1.1s
MAK Makhachkala 34.16 65 *e*P P 17 55 33.7 -5.2
MAK *e*S **S** 18 00 59.5 -5.4
MAK pmax pmax
comp=Z,461nm,1.1s
MAK MLR MLR
comp=Z,199nm,15.0s
TRO Tromso 34.30 10 *e*P **P** 17 55 40.1 +0.3
KTK1 Kautokeino 34.40 12 *e*P **P** 17 55 39.7 -1.0
JETT Jettan, Norway 34.43 10 *e*P **P** 17 55 41.2 +0.2
BELG Belogornoye 34.70 49 LR LR 18 11 43.7
comp=Z,239nm,18.4s,baz=291,slow=40
BELG Belogornoye 34.70 49 *i* P **P** 17 55 43.2 -0.3
BELG pmax pmax
comp=Z,4.0nm,1.0s
JMIC Jan Mayen 35.19 353 LR LR 18 07 53.6
comp=Z,115nm,20.9s,baz=161,slow=32
ARA0 ARCESS Array S 35.26 13 *e*P **P** 17 55 48.0 -0.2
ARCES ARCESS Array B 35.26 13 P **P** 17 55 47.7 -0.4
comp=Z,5.6nm,0.7s,baz=199,slow=5.4,SNR=21
ARCES ARCESS Array B 35.26 13 P **P** 17 55 47.6 -0.4
ARCES IAmb IAmb 17 56 16.4
comp=Z,26nm,1.5s
PRGR Permogore 36.37 33 *e*P **P** 17 55 55.5 -2.2
PRGR pmax pmax
comp=Z,5.0nm,0.4s
KIRV Kirov 37.09 39 LR LR 18 11 25.7
comp=Z,202nm,19.6s,baz=260,slow=36
KIRV Kirov 37.09 39*c e*P **P** 17 56 02.3 -1.6
RAYN Ar Rayn 38.29 98 P **P** 17 56 15.1 +0.5
RAYN S **S** 18 02 06.6 -2.1
RAYN Ar Rayn 38.29 98 P **P** 17 56 15.7 +1.2
AKTO Aktyubinsk 41.05 52 LR LR 18 15 43.8
comp=Z,138nm,19.1s,baz=285,slow=39
SAKB Bahrain 41.20 91 P **P** 17 56 39.9 +1.2
SAKB S **S** 18 02 51.6 -0.5
ARU Arti 41.55 43 LR LR 18 15 10.6
comp=Z,231nm,18.4s,baz=236,slow=38
ARU Arti 41.55 43*c i* P **P** 17 56 40.4 -0.8
ARU 17 58 13.7
ARU 17 58 34.0
ARU PPP PPP 17 58 47.6
ARU S **S** 18 02 58.4 +1.8
ARU SS **SS** 18 06 01.7 +0.6
ARU SSS SSS 18 06 39.7
ARU pmax pmax
comp=Z,18nm,0.9s
ARU MLR MLR
comp=Z,305nm,23.0s
SHMA Al-Shehemyia 41.59 91 P **P** 17 56 43.2 +1.3
GHRH Al-Ghuwayriyah 41.85 91 P **P** 17 56 45.3 +1.3
GHRH S **S** 18 03 03.1 +1.4
SMRA Abu-Samra 41.99 92 P **P** 17 56 46.6 +1.5
KHOR Al-Khor Airpor 42.14 91 P **P** 17 56 47.9 +1.6
TRNA Turayna 42.30 92 P **P** 17 56 49.3 +1.6
ABKAR Akbulak array 42.36 54 P **P** 17 56 46.2 -1.7
SVE Sverdlovsk 42.72 43 *e*P **P** 17 56 51.1 +0.4
SVE pmax pmax
comp=Z,14nm,0.9s
SLWR Sila 43.00 93 P **P** 17 56 54.9 +1.6
SLWR S **S** 18 03 17.0 -1.7
GEYT Alibeck 43.00 71 P **P** 17 56 53.0 -0.3
comp=Z,5.0nm,1.0s,baz=255,slow=17,SNR=4.9
GEYT PcP **PcP** 17 58 44.9 +1.3
comp=Z,1.1nm,0.5s,baz=193,slow=18,SNR=1.5
SFJD Kangerlussuaq 43.16 332 LR LR 18 13 07.8
comp=Z,284nm,18.4s,baz=117,slow=34
ATD Arta Tunnel 43.22 115 LR LR 18 17 44.0
comp=Z,333nm,18.0s,baz=326,slow=40
ATD Arta Tunnel 43.22 115 P **P** 17 56 56.1 +0.9
JRN Qarnain Island 43.53 91 P **P** 17 56 57.6 0.0
JRN P **P** 17 56 57.6 0.0
LODK Lodwar 44.04 131 P **P** 17 57 02.3 +0.4
MBAR Mbarara 44.70 139 LR LR 18 16 27.0
comp=Z,577nm,19.3s,baz=314,slow=37
MBAR Mbarara 44.70 139*c i* P **P** 17 57 09.2 +2.0
MBAR pmax pmax
comp=Z,6.0nm,0.9s
MBAR pmax pmax
comp=Z,12nm,1.7s
MBAR Mbarara 44.70 139 P **P** 17 57 08.2 +0.9
MBAR P **P** 17 57 08.2 +0.9
MZWR Madinat Zayed 44.91 92 P **P** 17 57 09.9 +1.2
MZWR P **P** 17 57 09.9 +1.2
MZR Muzera 44.95 93 P **P** 17 57 10.3 +1.3
MZR P **P** 17 57 10.3 +1.3
MZR Muzera 44.95 93 P **P** 17 57 09.6 +0.5
AJN Ajban 45.43 90 P **P** 17 57 15.0 +2.2
UMQ Umm Al-Quwin 45.53 89 P **P** 17 57 15.7 +2.0
ASUD Al Ashush, Dub 45.67 90 P **P** 17 57 16.2 +1.4
ASUD P **P** 17 57 16.2 +1.4
ASUD Al Ashush, Dub 45.67 90 P **P** 17 57 15.0 +0.2
SHME Shamm 45.68 88 P **P** 17 57 16.5 +1.6
SHME P **P** 17 57 16.5 +1.6
SHME Shamm 45.68 88 P **P** 17 57 14.2 -0.6
NAZ Nazwa, Dubai 45.77 89 P **P** 17 57 16.7 +1.2
NAZ P **P** 17 57 16.7 +1.2
NAZ Nazwa, Dubai 45.77 89 P **P** 17 57 15.6 0.0
FAQ Al Faqa, Dubai 45.83 90 P **P** 17 57 17.8 +1.7
BANOM Banah 45.87 88 P **P** 17 57 17.2 +0.9
BANOM Banah 45.87 88 P **P** 17 57 15.2 -1.1
MASF Masafi 46.00 88 P **P** 17 57 18.3 +0.9
MASF P **P** 17 57 18.3 +0.9

MSFE Esma-Masafi 46.01 88 P **P** 17 57 16.9 -0.5
HATD Hatta, Dubai 46.23 89 P **P** 17 57 20.1 +0.9
HATD P **P** 17 57 20.1 +0.9
HATD Hatta, Dubai 46.23 89 *i* P **P** 17 57 18.7 -0.5
SNR=7.8
UOSS Minazif 46.23 89 P **P** 17 57 18.5 -0.7
UOSS Minazif 46.23 89 P **P** 17 57 20.8 +1.6
UOSS P **P** 17 57 20.8 +1.6
UOSS Minazif 46.23 89 *i* P **P** 17 57 18.6 -0.6
SNR=8.0
ASHO Ashiyiah 46.23 89 P **P** 17 57 20.0 +0.7
ASHO P **P** 17 57 20.0 +0.7
ASHO Ashiyiah 46.23 89 *i* P **P** 17 57 19.0 -0.3
SNR=6.7
ALNE Al Ain 46.28 90 P **P** 17 57 20.8 +1.2
ALNE P **P** 17 57 20.8 +1.2
ALNE Al Ain 46.28 90 *i* P **P** 17 57 20.2 +0.6
SNR=5.8
UMZA Um Al Zommool 46.44 92 P **P** 17 57 22.2 +1.3
UMZA P **P** 17 57 22.2 +1.3
ARQ Araqi 47.24 91 P **P** 17 57 28.6 +1.4
DOK Doka 47.71 98 P **P** 17 57 31.9 +1.2
ABTO Aybut 47.73 100 P **P** 17 57 32.5 +1.5
HOQ Hoqain 47.76 90 P **P** 17 57 32.5 +1.3
HOQ P **P** 17 57 32.5 +1.3
WHFO Wadi Hawf 47.80 99 P **P** 17 57 32.5 +1.0
BSY Bisya 48.07 91 P **P** 17 57 35.0 +1.4
SNR=6.1
BSY P **P** 17 57 35.0 +1.4
SNR=6.1
RBK Rabkut 48.37 99 P **P** 17 57 37.1 +1.1
BRVK Borovoye 48.43 48*ce*P **P** 17 57 35.9 -0.1
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 48.43 48 P **P** 17 57 35.6 -0.4
BRVK IAmb IAmb 17 57 48.9
comp=Z,9.7nm,1.0s
BRVK Borovoye 48.43 48 P P 17 57 41.1 +5.1
BIDO Bidbid 48.45 90 P **P** 17 57 38.5 +2.1
SNR=5.3
SMDO Samad 48.60 90 P **P** 17 57 40.0 +2.2
SNR=9.6
SMDO P **P** 17 57 40.0 +2.2
SNR=9.6
KMBO Kilima Mbogo 48.78 132 P **P** 17 57 40.1 +0.7
comp=Z,3.4nm,0.9s,baz=291,slow=7.2,SNR=6.3
KMBO LR LR 18 18 20.3
comp=Z,237nm,18.3s,baz=300,slow=36
KMBO Kilima Mbogo 48.78 132 P **P** 17 57 40.6 +1.2
JMDO Jabal Madar 48.98 91 P **P** 17 57 42.4 +1.8
JMDO P **P** 17 57 42.4 +1.8
WSAR Wadi Sarin 48.99 90 LR LR 18 23 41.4
comp=Z,285nm,18.7s,baz=297,slow=43
WSAR Wadi Sarin 48.99 90 P **P** 17 57 42.6 +1.9
MHTO MHTO 49.56 93 P **P** 17 57 45.2 +0.2
SNR=8.9
MHTO P **P** 17 57 45.2 +0.2
SNR=8.9
WBK Wadi Bani Khal 49.56 90 P **P** 17 57 45.6 +0.5
WBK P **P** 17 57 45.6 +0.5
DQM DQM 49.76 94 P **P** 17 57 46.7 +0.2
DQM P **P** 17 57 46.7 +0.2
JLN Jalan Bani Buh 50.14 90 P **P** 17 57 50.5 +1.0
JLN P **P** 17 57 50.5 +1.0
FRB Frobisher Bay 50.20 327 LR LR 18 16 06.9
comp=Z,256nm,20.0s,baz=90,slow=33
SCHQ Schefferville 50.26 315 P **P** 17 57 49.2 -0.7
comp=Z,12nm,1.0s,baz=92,slow=9.6,SNR=6.2
SCHQ LR LR 18 15 33.3
comp=Z,346nm,21.7s,baz=80,slow=32
SOCY Socotra 51.26 105 P **P** 17 57 57.4 -0.6
AAK Ala-Archa 53.63 60*ce*P **P** 17 58 15.6 +0.2
AAK pmax pmax
comp=Z,2.0nm,1.0s
AAK Ala-Archa 53.63 60 P **P** 17 58 16.1 +0.6
KURK Kurchatov 53.97 49*ce*P **P** 17 58 16.6 -0.9
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 53.97 49 P **P** 17 58 16.7 -0.9
KURK IAmb IAmb 17 58 29.8
comp=Z,13nm,1.0s
KURK Kurchatov 53.97 49 P **P** 17 58 21.8 +4.2
NRIK Noril'sk 54.37 26 P **P** 17 58 21.1 +1.0
comp=Z,6.0nm,0.8s,baz=272,slow=5.5,SNR=12
NRIK Noril'sk 54.37 26*ce*P **P** 17 58 21.0 +0.8
NRIK pmax pmax
comp=Z,14nm,1.1s
NRIK Noril'sk 54.37 26 P **P** 17 58 19.2 -0.9
NRIK IAmb IAmb 17 58 22.7
comp=Z,10nm,1.0s
KSH Kashi 55.75 63 P **P** 17 58 30.0 -0.8
KSH pP pP 17 58 34.5 -0.3
KSH PcP **PcP** 17 59 30.9 +0.9
KSH S **S** 18 06 13.1 -4.4
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH LR LR
comp=Z,220nm,16.5s
KSH LR LR
comp=Z,150nm,14.4s
KSH LR LR
comp=Z,190nm,14.4s
RCBR Riachuelo 55.93 230 LR LR 18 19 04.8
comp=Z,171nm,21.4s,baz=170,slow=32
NIL Nilore 56.01 71 P **P** 17 58 35.5 +2.9
NIL P **P** 17 58 35.5 +2.9
LSZ Lusaka 56.47 151 LR LR 18 24 47.1
comp=Z,790nm,18.0s,baz=344,slow=38
ZALV Zalesovo Beam 56.70 44 P **P** 17 58 36.8 -0.3
comp=Z,2.9nm,0.8s,baz=293,slow=7.9,SNR=13
ZALV LR LR 18 24 57.0
comp=Z,178nm,18.1s,baz=298,slow=38
ZALV Zalesovo Beam 56.70 44 *i* P **P** 17 58 36.7 -0.5
ZALV pmax pmax
comp=Z,3.0nm,0.8s
TSUM Tsumeb 56.92 164 LR LR 18 22 41.3
comp=Z,302nm,19.4s,baz=304,slow=36
RES Resolute Bay 57.40 342 LR LR 18 21 51.8
comp=Z,152nm,19.5s,baz=96,slow=34
MK31 Makanchi Array 57.48 53 P **P** 17 58 42.5 -0.4
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 57.48 53 P **P** 17 58 42.5 -0.4
MKAR Makanchi Array 57.48 53 P **P** 17 58 42.4 -0.5
comp=Z,2.1nm,0.7s,baz=287,slow=6.0,SNR=29
MKAR PcP **PcP** 17 59 36.9 +0.4
comp=Z,6.5nm,1.1s,baz=294,slow=3.9,SNR=4.7
MKAR LR LR 18 24 50.9
comp=Z,101nm,19.8s,baz=295,slow=38
SADO Sadowa 60.76 306 LR LR 18 22 41.7
comp=Z,358nm,19.8s,baz=114,slow=33
WMQ Urumqi 62.15 55 *e*P **P** 17 59 17.4 +2.3
SJG San Juan 63.30 273 LR LR 18 21 18.0
comp=Z,69nm,21.6s,baz=82,slow=31
FCC Fort Churchill 63.31 325 P **P** 17 59 21.3 -1.1
FCC pmax pmax
comp=Z,14nm,1.2s
FCC Fort Churchill 63.31 325 P **P** 17 59 21.3 -1.1
LBTB Lobatse 64.58 158 LR LR 18 27 29.2
comp=Z,321nm,19.5s,baz=337,slow=36
TIXI Tiksi 65.60 16 LR LR 18 32 25.9
comp=Z,75nm,18.8s,baz=356,slow=40
TIXI Tiksi 65.60 16*ce*P **P** 17 59 38.1 +0.9
TIXI pmax pmax
comp=Z,12nm,1.2s
TIXI Tiksi 65.60 16 P **P** 17 59 37.8 +0.6
TIXI IAmb IAmb 17 59 39.0
comp=Z,9.2nm,1.0s
PYUN Piuthan 65.97 72 *e*P **P** 17 59 40.6 0.0
comp=Z,48nm,0.7s
DANN Dangsing 66.44 71 *e*P **P** 17 59 43.7 0.0
comp=Z,51nm,1.0s
MOY Mondy 66.59 42 *e*P **P** 17 59 45.5 +1.4
KOLN Koldanda 66.60 72 *e*P **P** 17 59 44.4 -0.3
comp=Z,37nm,1.2s
GKN Gorkha 67.28 71 *e*P **P** 17 59 48.7 -0.2
comp=Z,39nm,1.0s
DMN Daman 67.84 71 *e*P **P** 17 59 52.6 0.0
comp=Z,51nm,1.0s
BOSA Boshof 67.86 159 P **P** 17 59 53.0 +0.7
comp=Z,2.2nm,0.8s,baz=27,slow=8.7,SNR=4.0
BOSA LR LR 18 29 02.8
comp=Z,268nm,18.1s,baz=348,slow=36
BOSA Boshof 67.86 159 P **P** 17 59 53.0 +0.7
KKN Kakani 67.88 71 *e*P **P** 17 59 52.4 -0.4
comp=Z,18nm,0.7s
HYBB Hyderabad (bro 67.99 84 *e*P **P** 17 59 52.8 -0.6
HYBB *e*pP **pP** 17 59 57.5 0.0
HYBB *e*PP **PP** 18 02 22.4 -0.8
TKL Tuckaleechee C 68.02 299 LR LR 18 29 14.2
comp=Z,209nm,18.1s,baz=68,slow=36
IRK Irkutsk 68.05 41 *e*P **P** 17 59 48.6 -4.6
IRK pmax pmax
comp=Z,34nm,2.7s
PKIN Phulchoki 68.07 71 *e*P **P** 17 59 53.9 -0.2
comp=Z,32nm,1.1s
PKI Pulchoki 68.09 71 *e*P **P** 17 59 53.7 -0.6
comp=Z,36nm,1.1s
GUN Gumba 68.27 71 *e*P **P** 17 59 55.7 +0.3
comp=Z,90nm,1.2s
ULM Lac du Bonnet 68.35 317 P **P** 17 59 53.7 -1.4
comp=Z,13nm,0.9s,baz=68,slow=6.1,SNR=9.6
ULM LR LR 18 26 54.7
comp=Z,239nm,18.2s,baz=84,slow=33
ZAK Zakamensk 68.49 43 *e*P **P** 17 59 56.6 +0.5
ZAK pmax pmax
comp=Z,9.0nm,1.5s
BOD Bodaibo 69.60 32 *e*P **P** 18 00 02.0 -0.7
BOD pmax pmax
comp=Z,10.0nm,1.3s
HMDM Hanimaadhoo 69.66 97 P **P** 18 00 06.3 +2.5
YKA Yellowknife Ar 69.68 334 P **P** 18 00 03.3 +0.2
comp=Z,6.7nm,0.7s,baz=52,slow=6.0,SNR=85
YKA Yellowknife Ar 69.68 334 *i* P **P** 18 00 03.2 +0.1
YKA pmax pmax
comp=Z,7.0nm,0.7s
TAPN Taplejung 69.95 70 *e*P **P** 18 00 05.7 -0.1
comp=Z,26nm,0.9s
ODAN Odare 69.96 71 *e*P **P** 18 00 06.1 +0.3
SUR Sutherland 70.35 165 LR LR 18 32 19.9
comp=Z,352nm,18.2s,baz=338,slow=37
GOMU GeErMu 70.55 59 P **P** 18 00 10.0 +0.5
GOMU pP sP 18 00 16.9 +1.9
GOMU sP pP 18 00 21.5 +8.0
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,110nm,5.1s
INK Inuvik 70.76 344 P **P** 18 00 09.5 -0.1
comp=Z,1.3nm,0.8s,baz=257,slow=7.1,SNR=3.7
INK LR LR 18 32 54.2
comp=Z,158nm,18.1s,baz=40,slow=37
BDFB Brasilia 71.04 233 P **P** 18 00 12.5 +0.3
comp=Z,3.3nm,0.7s,baz=48,slow=6.4,SNR=6.4
BDFB Brasilia 71.04 233 IAmb IAmb 18 00 14.4
comp=Z,3.0nm,0.8s
LSA Lhasa 71.31 67 P **P** 18 00 17.5 +3.3
SONM Songino Array 71.58 44 P **P** 18 00 15.7 +0.5
comp=Z,3.5nm,1.0s,baz=296,slow=7.4,SNR=20
SONM LR LR 18 34 01.6
comp=Z,201nm,19.1s,baz=310,slow=38
SONM Songino Array 71.58 44 P **P** 18 00 15.6 +0.4
SONM pmax pmax
comp=Z,10.0nm,1.3s
SONM Songino Array 71.58 44 P **P** 18 00 15.6 +0.4
SONM IAmb IAmb 18 00 16.9
comp=Z,9.6nm,1.3s
ULN Ulaanbaatar 71.93 44*ce*P **P** 18 00 18.1 +0.8
ULN pmax pmax
comp=Z,6.0nm,1.1s
ULN Ulaanbaatar 71.93 44 P **P** 18 00 22.0 +4.6
ULN P **P** 18 00 22.0 +4.6
GTA Gaotai 72.22 54 *e*P **P** 18 00 20.0 +0.8
GTA sP sP 18 00 26.5 +1.8
GTA pmax pmax
comp=Z,3.0nm,0.8s
YAK Yakutsk 72.71 23 LR LR 18 36 20.5
comp=Z,70nm,18.6s,baz=276,slow=39
YAK Yakutsk 72.71 23*ce*P **P** 18 00 20.2 -1.3
YAK pmax pmax
comp=Z,25nm,1.7s
BILL Bilibino 75.03 7 *i* P **P** 18 00 34.2 -0.8
BILL *i* 18 00 44.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
EDM Edmonton 75.32 326 P **P** 18 00 36.4 -0.6
EDM pmax pmax
comp=Z,21nm,1.0s
EDM Edmonton 75.32 326 P **P** 18 00 36.4 -0.6
PALK Pallekele 75.42 92 LR LR 18 35 48.8
comp=Z,149nm,20.4s,baz=29,slow=37
IMAR Indian Mountai 76.40 351 P **P** 18 00 44.2 +1.3
ILAR Eielson Array 76.48 347 P **P** 18 00 43.7 +0.4
comp=Z,3.3nm,1.2s,baz=11,slow=5.0,SNR=10
ILAR LR LR 18 36 55.2
comp=Z,62nm,18.8s,baz=7.5,slow=38
ROSC El Rosal 77.36 267 LR LR 18 33 18.4
comp=Z,154nm,18.6s,baz=67,slow=34
DLBC Dease Lake 77.83 337 LR LR 18 34 46.2
comp=Z,181nm,18.2s,baz=60,slow=35
HHC Hu-ho-hao-te 78.71 47 *e*P **P** 18 00 54.5 -1.9
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,74nm,5.6s
HHC LR LR
comp=Z,180nm,13.1s
HHC LR LR
comp=Z,170nm,15.2s
HHC LR LR
comp=Z,280nm,17.3s
K20K Telida 78.94 350 P **P** 18 00 57.7 +0.6
XLT XiLinHaoTe 79.34 43 *e*P **P** 18 01 01.0 +1.2
XLT S **S** 18 11 00.9 +0.7
XLT pmax pmax
comp=Z,13nm,1.2s
XLT pmax pmax
comp=Z,120nm,3.6s
XLT LR LR
comp=Z,21nm,14.6s
XLT LR LR
comp=Z,160nm,11.5s
XLT LR LR
comp=Z,170nm,13.8s
BOZ Bozeman (W) 79.60 320 P **P** 18 01 01.5 +0.3
BOZ pmax pmax
comp=Z,9.0nm,1.1s
BOZ Bozeman (W) 79.60 320 P **P** 18 01 01.5 +0.3
BOZ IAmb IAmb 18 01 05.5
comp=Z,9.5nm,1.1s
PDAR Pinedale Array 80.36 317 P **P** 18 01 05.2 -0.3
comp=Z,3.4nm,0.9s,baz=61,slow=6.0,SNR=21
PDAR LR LR 18 33 44.4
comp=Z,240nm,20.2s,baz=44,slow=34
NEW Newport 80.48 324 LR LR 18 34 29.5
comp=Z,130nm,18.4s,baz=65,slow=34
MA2 Magadan 80.57 16 LR LR 18 39 26.0
comp=Z,38nm,18.3s,baz=330,slow=38
PZH PanZhiHua 80.85 64 P **P** 18 01 08.5 +0.3
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,80nm,5.1s
BJI Beijing 81.93 46 P **P** 18 01 14.6 +1.1
BJI pmax pmax
comp=Z,7.0nm,1.1s
BBB Bella Bella 82.17 332 LR LR 18 35 46.0
comp=Z,98nm,20.4s,baz=24,slow=34
KMI Kunming 82.39 65 ⇓P **P** 18 01 17.1 +0.6
KMI pmax pmax
comp=Z,10.0nm,1.7s
JTS Las Juntas de 82.75 277 LR LR 18 34 57.1
comp=Z,71nm,19.4s,baz=158,slow=33
KLR Kul'dur 83.14 31 LR LR 18 41 09.3
comp=Z,126nm,18.2s,baz=319,slow=38
KLR Kul'dur 83.14 31 *i* P **P** 18 01 19.9 +0.2
KLR pmax pmax
comp=Z,2.0nm,1.0s
CHTO Chiang Mai 83.26 72 P **P** 18 01 23.7 +2.8
CM31 Chiang Mai Arr 83.47 72 P **P** 18 01 22.7 +0.7
CMAR Chiang Mai Arr 83.47 72 P **P** 18 01 22.0 +0.1
comp=Z,2.5nm,0.9s,baz=306,slow=7.2,SNR=22
CMAR LR LR 18 44 29.8
comp=Z,26nm,18.4s,baz=270,slow=40
CMAR Chiang Mai Arr 83.47 72 *i* P **P** 18 01 22.3 +0.3
CMAR pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 83.63 309 LR LR 18 37 47.4
comp=Z,162nm,18.4s,baz=55,slow=35
ANMO Albuquerque 83.63 309*ce*P **P** 18 01 24.1 +1.3
ANMO pmax pmax

	comp=Z,4.0nm,1.3s								
BNX	**BinXian**	**83.84**	**36**	⇓P		**P**		**18 01 23.3**	**-0.1**
BNX				pmax		pmax			
	comp=Z,43nm,1.0s								
BNX				pmax		pmax			
	comp=Z,220nm,4.3s								
KDAK	**Kodiak Island**	**84.00**	**347**	LR		LR		18 40 21.0	
	comp=Z,106nm,22.0s,baz=51,slow=37								
CN2	**Changchun**	**84.31**	**38**	*e*P		**P**		**18 01 24.5**	**-1.3**
CN2				S		**S**		**18 11 47.0**	**-4.3**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
CN2				LR		LR			
	comp=Z,200nm,15.0s								
CN2				LR		LR			
	comp=Z,200nm,15.0s								
CN2				LR		LR			
	comp=Z,200nm,17.0s								
GYA	**Guiyang**	**84.40**	**61**	⇑P		**P**		**18 01 27.1**	**+0.4**
GYA				pmax		pmax			
	comp=Z,17nm,1.3s								
CPUP	**Villa Florida**	**84.74**	**232**	P		**P**		**18 01 28.3**	**+0.3**
	comp=Z,6.2nm,0.9s,baz=62,slow=3.9,SNR=11								
CPUP				LR		LR		18 37 44.1	
	comp=Z,184nm,20.6s,baz=52,slow=35								
ELK	**Elko**	**84.85**	**318**	LR		LR		18 36 29.6	
	comp=Z,289nm,20.1s,baz=53,slow=34								
TIA	**Tai'an**	**85.03**	**48**	⇓P		**P**		**18 01 30.7**	**+1.1**
TIA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
TXAR	**Lajitas Array**	**85.40**	**303**	P		**P**		**18 01 32.2**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=76,slow=5.3,SNR=12								
TXAR				PP		**PP**		**18 04 47.6**	**-1.7**
	comp=Z,2.2nm,1.2s,baz=67,slow=6.9,SNR=3.7								
TXAR				LR		LR		18 37 49.8	
	comp=Z,138nm,20.2s,baz=48,slow=34								
LPAZ	**La Paz**	**85.47**	**246**	P		**P**		**18 01 32.1**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=90,slow=3.3,SNR=6.7								
LPAZ	**La Paz**	**85.47**	**246**	P		**P**		**18 01 31.1**	**-1.6**
LPAZ				pmax		pmax			
	comp=Z,2.0nm,0.9s								
LPAZ	**La Paz**	**85.47**	**246**	P		**P**		**18 01 31.1**	**-1.6**
CMIG	**Matias Romero**	**86.56**	**289**	LR		LR		18 39 01.2	
	comp=Z,93nm,18.9s,baz=34,slow=35								
PB16	**IPOC Station P**	**87.78**	**245**	P		**P**		**18 01 43.7**	**-0.2**
PB16				IAmb		IAmb		18 01 45.8	
	comp=Z,5.4nm,0.8s								
YBH	**Yreka Blue Hor**	**87.97**	**323**	LR		LR		18 38 32.8	
	comp=Z,163nm,20.4s,baz=40,slow=34								
PETK	**Petropavlovsk-**	**88.04**	**15**	LR		LR		18 45 54.0	
	comp=Z,60nm,18.2s,baz=339,slow=39								
NVAR	**Mina Array Bea**	**88.16**	**318**	P		**P**		**18 01 45.6**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=39,slow=4.7,SNR=3.0								
NVAR				LR		LR		18 38 44.1	
	comp=Z,282nm,19.7s,baz=24,slow=34								
NJ2	**Nanjing**	**88.90**	**50**	*e*P		**P**		**18 01 47.7**	**-0.7**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
LVC	**Limon Verde**	**90.06**	**242**	LR		LR		18 42 02.9	
	comp=Z,58nm,19.7s,baz=30,slow=36								
PFO	**Pinyon Flats O**	**90.59**	**314**	LR		LR		18 39 49.9	
	comp=Z,56nm,21.9s,baz=72,slow=34								
ASAJ	**Asahikawa**	**91.64**	**28**	LR		LR		18 46 28.9	
	comp=Z,68nm,19.1s,baz=348,slow=38								
PSI	**Prapat**	**92.71**	**85**	LR		LR		18 49 31.5	
	comp=Z,83nm,18.1s,baz=266,slow=39								
LPIG	**La Paz**	**93.30**	**303**	LR		LR		18 41 45.6	
	comp=Z,187nm,21.7s,baz=38,slow=34								
MJAR	**Matsushiro Arr**	**96.09**	**35**	LR		LR		18 48 26.1	
	comp=Z,54nm,19.2s,baz=354,slow=37								
WRA	**Warramunga Arr**	**134.14**	**83**	PKP		**PKPdf**		**18 08 11.1**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=321,slow=1.5,SNR=11								
ASAR	**Alice Springs**	**135.66**	**88**	PKP		**PKPdf**		**18 08 14.2**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=318,slow=1.9,SNR=13								
STKA	**Stephens Creek**	**145.21**	**95**	PKPbc		**PKPdf**		**18 08 31.7**	**+0.1**
	comp=Z,10.0nm,0.9s,baz=306,slow=6.9,SNR=12								

*SOME **10** 18:08:19.9,43˚.37N×78˚.05E,h10km*
*NNC **10** 18:08:19.1±0.2,43˚.36N×78˚.08E,h0km,mb2.2,mpv2.7, Error ellipse: s-maj=3.1km s-min=1.4km az=173.0*
*KRNET **10** 18:08:19.7±0.1,43˚.37N×78˚.08E,h19km,mb2.6*
ISC 10 18:08:19.7±0.8,43˚.37N±0˚.02×78˚.06E±0˚.01,h16km±5km, n61,σ1§55/116,14C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.14**	**34**	*e*P			**Pg**	**18 08 23.8**	**0.0**
KURS	baz=31			*e*S			**Sg**	**18 08 26.6**	**+0.1**
	baz=31								
KURS	**Kuram**	**0.14**	**34**	*e*P			**Pg**	**18 08 23.8**	**0.0**
KURS	5.3nm,0.1s			*e*S			**Sg**	**18 08 26.6**	**+0.1**
	22nm,0.2s								
KURS	**Kuram**	**0.14**	**34**	P			**Pg**	**18 08 23.8**	**0.0**
KURS	5.3nm,0.1s			S			**Sg**	**18 08 26.5**	**+0.1**
	22nm,0.2s								
SATY	**Saty**	**0.40**	**141**	*e*P			**Pb**	**18 08 27.8**	**-0.7**
SATY	baz=42			*e*S			**Sb**	**18 08 33.4**	**-1.0**
	baz=42								
SATY	**Saty**	**0.40**	**141**	*e*P			**Pb**	**18 08 27.8**	**-0.7**
SATY	4.9nm,0.1s			*e*S			**Sb**	**18 08 33.3**	**-1.0**
	83nm,0.1s								
SATY	**Saty**	**0.40**	**141**	P			**Pb**	**18 08 27.8**	**-0.7**
SATY	4.9nm,0.1s			S			**Sb**	**18 08 33.3**	**-1.0**
	83nm,0.1s								
KPKS	**Kokpek**	**0.46**	**78**	*e*P			**Pb**	**18 08 28.8**	**-0.8**
KPKS	baz=78			*e*S			**Sb**	**18 08 35.2**	**-1.0**
	baz=78								
KPKS	**Kokpek**	**0.46**	**78**	*e*P			**Pb**	**18 08 28.8**	**-0.8**
KPKS	27nm,0.1s			*e*S			**Sb**	**18 08 35.1**	**-1.0**
	31nm,0.2s								
ANVS	**Anan'yevo**	**0.65**	**206**	⇑*i*P			**Pb**	**18 08 32.3**	**-0.5**
ANVS	baz=7.0			⇑*i*S			**Sb**	**18 08 41.5**	**-0.2**
	baz=7.0								
KOTS	**Kotyrbulak**	**0.71**	**259**	*e*P			**Pb**	**18 08 33.8**	**+0.1**
KOTS	baz=59			*e*S			**Sb**	**18 08 43.5**	**+0.3**
	baz=59								
KOTS	**Kotyrbulak**	**0.71**	**259**	*e*P			**Pb**	**18 08 33.8**	**+0.1**
KOTS	6.8nm,0.1s			*e*S			**Sb**	**18 08 43.5**	**+0.3**
	5.0nm,0.2s								
KOTS	**Kotyrbulak**	**0.71**	**259**	P			**Pb**	**18 08 33.8**	**+0.1**
KOTS	6.8nm,0.1s			S			**Sb**	**18 08 43.5**	**+0.3**
	5.0nm,0.2s								
UZB	**Uzynbulak**	**0.74**	**107**	*e*P			**Pb**	**18 08 33.3**	**-0.9**
UZB	baz=8.0			*e*S			**Sb**	**18 08 42.8**	**-1.2**
	baz=8.0								
UZB	**Uzynbulak**	**0.74**	**107**	*e*P			**Pb**	**18 08 33.3**	**-0.9**
UZB	3.4nm,0.1s			*e*S			**Sb**	**18 08 42.9**	**-1.2**
	12nm,0.1s								
UZB	**Uzynbulak**	**0.74**	**107**	P			**Pb**	**18 08 33.3**	**-0.9**
UZB	3.4nm,0.1s			S			**Sb**	**18 08 42.9**	**-1.2**
	12nm,0.1s								
MDOK	**Medeo**	**0.77**	**255**	*e*P			**Pb**	**18 08 34.5**	**-0.3**
MDOK	baz=55			*e*S			**Sb**	**18 08 44.9**	**-0.1**
	baz=55								
MDOK	**Medeo**	**0.77**	**255**	*e*P			**Pb**	**18 08 34.5**	**-0.3**
MDOK	2.1nm,0.1s			*e*S			**Sb**	**18 08 44.9**	**-0.1**
	3.1nm,0.2s								
MDOK	**Medeo**	**0.77**	**255**	⇓P			**Pb**	**18 08 34.5**	**-0.3**
MDOK	0.8nm,0.4s			⇑S			**Sb**	**18 08 45.1**	**0.0**
	0.5nm,0.2s								
MDOK	**Medeo**	**0.77**	**255**	Pg			**Pb**	**18 08 34.5**	**-0.3**
MDOK	2.1nm,0.1s			Lg			Lg	18 08 44.9	
	3.1nm,0.2s								
BLB	**Baldybastay**	**0.79**	**22**	*e*P			**Pb**	**18 08 34.5**	**-0.6**
BLB	5.7nm,0.1s			*e*S			**Sb**	**18 08 44.9**	**-0.7**
	29nm,0.1s								
BLB	**Baldybastay**	**0.79**	**22**	P			**Pb**	**18 08 34.5**	**-0.6**
BLB	5.7nm,0.1s			S			**Sb**	**18 08 44.9**	**-0.7**
	29nm,0.1s								
ARXS	**Arharly**	**0.86**	**349**	*e*P			**Pb**	**18 08 36.0**	**-0.3**
ARXS	0.7nm,0.1s			*e*S			**Sb**	**18 08 47.5**	**-0.1**
	3.7nm,0.1s								
ARXS	**Arharly**	**0.86**	**349**	P			**Pb**	**18 08 36.0**	**-0.3**
ARXS	0.7nm,0.1s			S			**Sb**	**18 08 47.5**	**-0.1**
	3.7nm,0.1s								
TNSS	**Tian-Shan**	**0.88**	**248**	*e*P			**Pb**	**18 08 36.6**	**-0.2**
TNSS	baz=49			*e*S			**Sb**	**18 08 48.7**	**+0.2**
	baz=49								
TNSS	**Tian-Shan**	**0.88**	**248**	*e*P			**Pb**	**18 08 36.5**	**-0.2**
TNSS	1.0nm,0.1s			*e*S			**Sb**	**18 08 48.6**	**+0.2**
	3.2nm,0.1s								
TNSS	**Tian-Shan**	**0.88**	**248**	P			**Pb**	**18 08 36.6**	**-0.2**
TNSS	1.0nm,0.1s			S			**Sb**	**18 08 48.6**	**+0.2**
	3.2nm,0.1s								
CHKK	**Chushkaly**	**0.92**	**302**	*e*P			**Pb**	**18 08 36.8**	**-0.4**
CHKK	baz=2.0			*e*S			**Sg**	**18 08 48.8**	**-0.8**
	baz=2.0								
CHKK	**Chushkaly**	**0.92**	**302**	*e*P			**Pb**	**18 08 36.8**	**-0.4**
CHKK	0.6nm,0.1s			*e*S			**Sg**	**18 08 48.8**	**-0.8**
	18nm,0.2s								
CHKK	**Chushkaly**	**0.92**	**302**	P			**Pb**	**18 08 36.8**	**-0.4**
CHKK	0.6nm,0.1s			S			**Sg**	**18 08 48.8**	**-0.8**
	18nm,0.2s								
PDGK	**Podgornoye**	**1.04**	**92**	P			**Pb**	**18 08 38.5**	**-0.9**
PDGK	0.8nm,0.1s			S			**Sb**	**18 08 52.1**	**-0.8**
	1.4nm,0.2s								
PDGK	**Podgornoye**	**1.04**	**92**	⇑P			**Pb**	**18 08 38.6**	**-0.9**
PDGK	0.4nm,0.3s			⇑S			**Sb**	**18 08 52.0**	**-0.8**
	0.8nm,0.4s								
SHLS	**Shalkode**	**1.04**	**101**	*e*P			Pn	18 08 44.3	+4.5
SHLS	baz=99			*e*S			**Sn**	**18 09 01.8**	**+7.7**
	baz=99								
SHLS	**Shalkode**	**1.04**	**101**	*e*P			Pn	18 08 44.3	+4.5
SHLS	1.7nm,0.1s			*e*S			**Sn**	**18 09 01.8**	**+7.7**
	1.6nm,0.2s								
SHLS	**Shalkode**	**1.04**	**101**	P			Pn	18 08 44.3	+4.5
SHLS	1.7nm,0.1s			S			**Sn**	**18 09 01.8**	**+7.7**
	1.6nm,0.2s								
KTBS	**Karatobe**	**1.06**	**289**	*e*P			**Pn**	**18 08 39.8**	**-0.1**
KTBS	baz=89			*e*S			**Sb**	**18 08 53.9**	**+0.6**
	baz=89								
KTBS	**Karatobe**	**1.06**	**289**	*e*P			**Pn**	**18 08 39.8**	**-0.1**
KTBS	1.2nm,0.1s			*e*S			**Sb**	**18 08 53.9**	**+0.6**
	10.0nm,0.2s								
KTBS	**Karatobe**	**1.06**	**289**	P			**Pn**	**18 08 39.8**	**-0.1**
KTBS	1.2nm,0.1s			S			**Sb**	**18 08 53.9**	**+0.6**
	10.0nm,0.2s								
MTBS	**Maitube**	**1.22**	**259**	*e*P			**Pg**	**18 08 42.6**	**-0.6**
MTBS	baz=59			*e*S			**Sn**	**18 08 59.0**	**+0.7**
	baz=59								
MTBS	**Maitube**	**1.22**	**259**	*e*P			**Pg**	**18 08 42.6**	**-0.6**
MTBS	4.8nm,0.3s			*e*S			**Sn**	**18 08 58.9**	**+0.7**
	4.5nm,0.2s								
MTBS	**Maitube**	**1.22**	**259**	P			**Pg**	**18 08 42.6**	**-0.6**
MTBS	4.8nm,0.3s			S			**Sn**	**18 08 58.9**	**+0.7**
	4.5nm,0.2s								
KDJ	**Kajisay**	**1.40**	**208**	⇑*i*P			**Pg**	**18 08 45.5**	**-1.2**
KDJ	baz=8.0			⇑*i*S			**Sg**	**18 09 04.5**	**-0.4**
	baz=8.0								
KST	**Kastek**	**1.57**	**259**	*e*P			**Pg**	**18 08 48.9**	**-1.0**
KST	baz=59			*e*S			**Sg**	**18 09 09.6**	**-0.7**
	baz=59								
KST	**Kastek**	**1.57**	**259**	*e*P			**Pg**	**18 08 48.9**	**-1.0**
KST	1.4nm,0.3s			*e*S			**Sg**	**18 09 09.6**	**-0.7**
	3.1nm,0.3s								
KST	**Kastek**	**1.57**	**259**	P			**Pg**	**18 08 48.8**	**-1.0**
KST	1.4nm,0.3s			S			**Sg**	**18 09 09.6**	**-0.7**
	3.1nm,0.3s								
DJR	**Jarkent**	**1.58**	**52**	*e*P			**Pg**	**18 08 48.5**	**-1.6**
DJR	1.0nm,0.1s			*e*S			**Sg**	**18 09 09.0**	**-1.6**
	4.3nm,0.3s								
DJR	**Jarkent**	**1.58**	**52**	P			**Pg**	**18 08 48.4**	**-1.6**
DJR	1.0nm,0.1s			S			**Sg**	**18 09 09.0**	**-1.6**
	4.3nm,0.3s								
KTMS	**Ketmen**	**1.67**	**87**	*e*P			**Pg**	**18 08 50.6**	**-1.3**
KTMS	baz=87			*e*S			**Sg**	**18 09 12.4**	**-1.2**
	baz=87								
KTMS	**Ketmen**	**1.67**	**87**	*e*P			**Pg**	**18 08 50.6**	**-1.3**
KTMS	0.7nm,0.1s			*e*S			**Sg**	**18 09 12.3**	**-1.2**
	1.7nm,0.1s								
KTMS	**Ketmen**	**1.67**	**87**	P			**Pg**	**18 08 50.6**	**-1.3**
KTMS	0.7nm,0.1s			S			**Sg**	**18 09 12.3**	**-1.2**
	1.7nm,0.1s								
DGS	**Degeres**	**1.68**	**266**	*e*P			**Pb**	**18 08 50.5**	**+0.3**
DGS	baz=66			*e*S			**Sg**	**18 09 12.3**	**-1.4**
	baz=66								
DGS	**Degeres**	**1.68**	**266**	*e*P			**Pb**	**18 08 50.5**	**+0.3**
DGS	0.9nm,0.2s			*e*S			**Sg**	**18 09 12.3**	**-1.4**
	3.9nm,0.3s								
DGS	**Degeres**	**1.68**	**266**	P			**Pb**	**18 08 50.5**	**+0.3**
DGS	0.9nm,0.2s			S			**Sg**	**18 09 12.3**	**-1.4**
	3.9nm,0.3s								
ULHL	**Ulahol**	**1.75**	**231**	⇑*i*P			**Pg**	**18 08 52.1**	**-1.2**
ULHL	baz=31			⇑*i*S			**Sg**	**18 09 15.1**	**-0.9**
	baz=31								
KRBS	**Karabastau**	**1.77**	**281**	*e*P			**Pg**	**18 08 52.3**	**-1.3**
KRBS	baz=81			*e*S			**Sg**	**18 09 15.2**	**-1.4**
	baz=81								
KRBS	**Karabastau**	**1.77**	**281**	*e*P			**Pg**	**18 08 52.3**	**-1.3**
KRBS	0.4nm,0.2s			*e*S			**Sg**	**18 09 15.2**	**-1.4**
	3.2nm,0.2s								
KRBS	**Karabastau**	**1.77**	**281**	P			**Pg**	**18 08 52.3**	**-1.3**
KRBS	0.4nm,0.2s			S			**Sg**	**18 09 15.2**	**-1.4**
	3.2nm,0.2s								
BOOM	**Boomskoye usch**	**1.79**	**241**	⇑*e*P			**Pg**	**18 08 52.6**	**-1.5**
BOOM	baz=41			⇑*e*S			**Sg**	**18 09 16.1**	**-1.2**
	baz=41								
TKM2	**Tokmak 2**	**1.86**	**257**	⇑*i*P			**Pb**	**18 08 53.7**	**+0.3**
TKM2	baz=57			⇑*i*S			**Sg**	**18 09 17.9**	**-1.7**
	baz=57								
TKM2	**Tokmak 2**	**1.86**	**257**	⇓Pg			**Pg**	**18 08 54.4**	**-1.0**
TKM2	0.4nm,0.4s			⇑Lg			Lg	18 09 19.7	
	0.5nm,0.3s								
KAPS	**Kapalarasan**	**2.13**	**25**	*e*P			**Pg**	**18 08 58.7**	**-1.9**
KAPS	0.6nm,0.1s			*e*S			**Sg**	**18 09 26.3**	**-1.9**
	3.5nm,0.2s								
KAPS	**Kapalarasan**	**2.13**	**25**	Pg			**Pg**	**18 08 58.7**	**-1.9**
KAPS	0.6nm,0.1s			Lg			Lg	18 09 26.3	
	3.5nm,0.2s								

*DJA **10** 18:08:35.8±1.5,8˚S±16˚×12˚0E±˚,h154km±10km,M2.8/6, MLv2.8/6*

*IDC **10** 18:08:36.7±9.1,8˚.43S×119˚.91E,h188km±48km,mb3.0/2, mb1 3.0/5,mb1mx2.6/31,mbtmp3.4/5,Error ellipse: s-maj=105.2km s-min=77.3km az=3.0*
ISC 10 18:08:34.3±1.2,8˚.48S±0˚.09×119˚.72E±0˚.07,h170km,n9, σ1§68/12,Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.93**	**154**	P			**Pn**	**18 09 10.6**	**+0.7**
PLAI	**Plampang**	**1.96**	**260**	P			**Pn**	**18 09 11.0**	**+0.8**
PLAI				S			**Sn**	**18 09 38.1**	**+0.1**
BSSI	**Bau Bau, Buton**	**2.44**	**18**	P			**Pn**	**18 09 15.3**	**-0.5**
BATI	**Baumata**	**4.25**	**114**	P			**Pn**	**18 09 39.3**	**+0.9**
	1.5nm,0.3s,baz=270,slow=15,SNR=1.9								
BATI				S			**Sn**	**18 10 29.1**	**+0.6**
	1.4nm,0.3s,baz=345,slow=20,SNR=2.7								
BATI	**Baumata**	**4.25**	**114**	P			**Pn**	**18 09 39.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**11.16**	**150**	P			**Pn**	**18 11 11.0**	**+1.7**
	0.0nm,0.3s,baz=336,slow=14,SNR=2.0								
FITZ				S			**Sn**	**18 13 08.9**	**-4.2**
	0.1nm,0.3s,baz=169,slow=19,SNR=7.8								
WRA	**Warramunga Arr**	**18.17**	**130**	P			**P**	**18 12 33.2**	**-0.9**
	0.1nm,0.3s,baz=302,slow=12,SNR=4.8								
ASAR	**Alice Springs**	**20.31**	**140**	P			**P**	**18 12 57.5**	**+0.1**
	0.4nm,0.5s,baz=314,slow=8.9,SNR=13								
STKA	**Stephens Creek**	**30.91**	**142**	P			**P**	**18 14 35.6**	**+0.5**
	1.8nm,0.8s,baz=321,slow=9.9,SNR=2.2								

*IDC **10** 18:10:48.7±0.9,6˚.46S×124˚.85E,h558km±14km,mb2.8/4, mb1 2.6/7,mb1mx2.4/34,mbtmp3.5/7,Error ellipse: s-maj=23.6km s-min=16.5km az=80.0*
ISC 10 18:10:48.5±0.8,6˚.47S±0˚.08×124˚.8E±0˚.1,h550km,n9, σ1§31/12,mb3.3/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.89**	**197**	P			**P**	**18 12 11.6**	**+2.0**
	20nm,0.3s,baz=68,slow=3.6,SNR=26								
BATI				S			**S**	**18 13 16.7**	**+1.0**
	6.4nm,0.3s,baz=240,slow=20,SNR=4.0								
SIJI	**Sorong**	**8.49**	**49**	P			**P**	**18 12 51.4**	**+0.2**
	3.8nm,0.3s,baz=216,slow=9.8,SNR=25								
SIJI				S			**S**	**18 14 32.9**	**+1.2**
	0.4nm,0.3s,baz=203,slow=23,SNR=1.2								
FITZ	**Fitzroy Crossi**	**11.58**	**176**	P			**P**	**18 13 22.6**	**-0.1**
	0.3nm,0.3s,baz=334,slow=7.8,SNR=12								
FITZ				S			**S**	**18 15 27.9**	**-1.7**
	0.1nm,0.3s,baz=147,slow=19,SNR=2.2								
WRA	**Warramunga Arr**	**16.26**	**146**	P			**P**	**18 14 08.9**	**-1.6**
	0.1nm,0.3s,baz=324,slow=9.5,SNR=1.6								
ASAR	**Alice Springs**	**19.19**	**154**	P			**P**	**18 14 37.8**	**+0.5**
	0.1nm,0.3s,baz=344,slow=15,SNR=7.1								
CMAR	**Chiang Mai Arr**	**35.59**	**315**	P			**P**	**18 17 00.7**	**+0.4**
	0.4nm,0.7s,baz=134,slow=7.7,SNR=2.7								
SONM	**Songino Array**	**56.47**	**345**	P			**P**	**18 19 37.7**	**-0.8**
	0.2nm,0.3s,baz=151,slow=6.3,SNR=3.2								
MKAR	**Makanchi Array**	**65.06**	**329**	P			**P**	**18 20 34.6**	**-0.4**
	0.9nm,0.5s,baz=124,slow=7.9,SNR=24								
ZALV	**Zalesovo Beam**	**68.93**	**336**	P			**P**	**18 20 56.9**	**-1.5**
	0.6nm,0.5s,baz=129,slow=6.5,SNR=3.7								

*SJA **10** 18:10:52.5±0.7,31˚.45S×71˚.99W,h20km±3km,ML4.6, MW4.5*
*GUC **10** 18:10:56.1±0.8,31˚.50S×71˚.73W,h37km±3km,ML4.6, MW4.6*
*IDC **10** 18:10:56.3±0.8,31˚.49S×71˚.59W,h29km±4km,mb4.3/10, mb1 4.3/14,mb1mx4.2/30,mbtmp4.4/14,ML4.1/4,MS3.8/12, Ms1 3.8/12,ms1mx3.5/53,Error ellipse: s-maj=19.9km s-min=16.6km az=79.0*
*NEIC **10** 18:10:57.2±1.2,31˚.49S×71˚.80W,h42km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr6.87; Mθθ0.53; Mϕϕ-7.41; Mrθ0.79; Mθϕ1.26; Mϕr-2.92; Fault plane solution: M₀7.87000×10¹⁵ NP1:ϕs168.50000°, δ56.32000°,λ86.88000°. NP2:ϕs354.11000°,δ33.80000°, λ94.67000°. Principal axes: T 7.4876, Plg78.0000°, Azm67.0000°; N 0.7158, Plg3.0000°, Azm170.0000°; P -8.2034, Plg11.0000°, Azm261.0000°;*
*NEIC **10** 18:10:57.2±2.0,31˚.49S±0˚.03×71˚.8W±0˚.1,h35km±1km, mb4.7/13,Mwr4.5/59,Mwr4.6(GUC) Error ellipse: s-maj=14.4km s-min=4.3km az=88.0*
*VAO **10** 18:10:57.0±0.5,31˚.43S×71˚.78W,h35km,mb4.7*
ISC 10 18:10:54.7±0.5,31˚.50S±0˚.02×71˚.79W±0˚.04,h23km±3km, n191,σ1§35/219,mb4.7/13,MS4.0/7,16C-15D,Fault plane solution: NP1:ϕs315.07501°,δ20.68849°,λ74.66348°. NP2:ϕs151.41396°,δ70.08011°,λ95.70384°. Principal axes: T Plg64.4786°, Azm70.8016°; N Plg5.3615°, Azm329.4649°; P Plg24.8721°, Azm236.9713°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.74**	**66**				**Pb**	**18 11 09.0**	**0.0**
CO02	**Combarbal**	**0.74**	**66**	⇓*i*P			**Pn**	**18 11 09.2**	**-0.6**
CO02				IAML				18 11 21.7	
	comp=E,52μm,0.3s								
CO02	**Combarbal**	**0.74**	**66**	*e*P			**Pn**	**18 11 09.3**	**-0.6**
CO02				*e*S			**Sn**	**18 11 22.6**	**+2.2**
CO02				IAML				18 11 23.7	
	comp=Z,18μm,1.1s								
CO06	**Fray Jorge**	**0.84**	**9**				**Pn**	**18 11 11.7**	**+0.6**
CO06				Sn			**Sn**	**18 11 22.7**	**+0.1**
CO06	**Fray Jorge**	**0.84**	**9**	⇓*i*P			**Pn**	**18 11 11.7**	**+0.6**
CO06				*e*S			**Sn**	**18 11 22.6**	**0.0**
CO06				IAML				18 11 25.8	
	comp=N,19μm,0.6s								
VA06	**Catapilco**	**1.14**	**159**				**Pb**	**18 11 16.2**	**+0.5**
VA06				Sn			**Sn**	**18 11 30.8**	**+0.7**
VA06	**Catapilco**	**1.14**	**159**	⇓*i*P			**Pb**	**18 11 16.2**	**+0.5**
VA06				*i* S			**Sn**	**18 11 30.6**	**+0.6**
VA06				IAML				18 11 33.1	
	comp=E,47μm,0.6s								
CO03	**El Pedregal**	**1.15**	**55**				**Pb**	**18 11 15.7**	**-0.3**
CO03	**El Pedregal**	**1.15**	**55**	⇓*i*P			**Pb**	**18 11 15.6**	**-0.4**
VA01	**Torpederas**	**1.52**	**175**				**Pb**	**18 11 21.9**	**-0.3**
VA01	**Torpederas**	**1.52**	**175**	*e*P			**Pb**	**18 11 22.2**	**0.0**
VA01				*i* S			**Sn**	**18 11 39.8**	**+0.3**
VA01				IAML				18 11 47.9	
	comp=E,5μm,0.7s								
VA01	**Torpederas**	**1.52**	**175**	*e*P			**Pb**	**18 11 22.3**	**0.0**
VA01				*e*S			**Sb**	**18 11 43.4**	**+2.3**
GO04	**Tololo Observa**	**1.57**	**33**				**Pb**	**18 11 22.7**	**-0.7**
GO04				Sn			**Sb**	**18 11 43.0**	**+0.1**
GO04	**Tololo Observa**	**1.57**	**33**	⇑*i*P			**Pb**	**18 11 22.6**	**-0.7**
GO04				⇑*e*S			**Sb**	**18 11 43.2**	**+0.3**
GO04	**Tololo Observa**	**1.57**	**33**

	comp=N,7μm,0.5s									
PEL	**Peldehue**	**1.89**	**151**		*eP*		**Pb**	**18 11 27.8**	**-0.8**
PEL					*eS*		**Sb**	**18 11 53.8**	**+2.2**
MT05	**Renca**	**2.08**	**155**		Pn		**Pb**	**18 11 30.4**	**-1.6**
MT05	**Renca**	**2.08**	**155**	⇑	*iP*		**Pb**	**18 11 30.2**	**-1.6**
MT05					*i* S		**Sb**	**18 11 55.6**	**-1.7**
MT05					IAML			18 12 06.5	
	comp=E,11μm,0.4s								
MT05	**Renca**	**2.08**	**155**		*eP*		**Pb**	**18 11 30.3**	**-1.6**
MT05					*eS*		**Sb**	**18 11 59.1**	**+1.7**
MT05					IAML			18 12 04.5	
	comp=Z,4μm,0.7s								
CO01	**Juntas del Tor**	**2.11**	**44**		Pn		**Pb**	**18 11 31.1**	**-1.3**
VA05	**Santo Domingo**	**2.15**	**176**				**Pn**	**18 11 30.6**	**+1.3**
VA05	**Santo Domingo**	**2.15**	**176**		*eP*		**Pn**	**18 11 30.5**	**+1.3**
VA05					IAML			18 12 11.4	
	comp=N,7μm,0.4s								
AUSP	**Uspallata**	**2.17**	**110**		*eP*		**Pb**	**18 11 33.1**	**-0.4**
FCH	**Farellones**	**2.22**	**146**	⇑	*iP*		**Pb**	**18 11 32.6**	**-1.7**
FCH					*eS*		**Sb**	**18 12 00.5**	**-1.0**
FCH					IAML			18 12 03.6	
	comp=E,2μm,0.2s								
MT03	**Universidad Ad**	**2.26**	**152**				**Pb**	**18 11 33.0**	**-1.9**
MT03	**Universidad Ad**	**2.26**	**152**	⇑	*iP*		**Pb**	**18 11 33.0**	**-1.9**
MT03					*eS*		**Sb**	**18 12 01.0**	**-1.5**
MT03					IAML			18 12 11.6	
	comp=E,9μm,0.6s								
MT03	**Universidad Ad**	**2.26**	**152**		*eP*		**Pb**	**18 11 33.0**	**-1.9**
MT03					*eS*		**Sb**	**18 12 01.8**	**-0.8**
MT03					IAML			18 12 11.5	
	comp=Z,5μm,0.6s								
MT09	**Talagante**	**2.37**	**164**				**Pn**	**18 11 34.4**	**+2.2**
MT09	**Talagante**	**2.37**	**164**	⇑	*iP*		**Pn**	**18 11 34.5**	**+2.2**
MT09					*i* S		**Sn**	**18 12 02.1**	**+1.4**
MT09					IAML			18 12 15.3	
	comp=N,5μm,0.2s								
AROD	**Rodeo**	**2.40**	**57**		*eP*		**Pb**	**18 11 36.8**	**-0.6**
MT01	**Popeta**	**2.40**	**169**				**Pn**	**18 11 34.5**	**+1.9**
MT01	**Popeta**	**2.40**	**169**	⇑	*iP*		**Pn**	**18 11 34.2**	**+1.7**
MT01					*eS*		**Sn**	**18 12 01.8**	**+0.5**
MT01					IAML			18 12 14.2	
	comp=N,4μm,0.6s								
MT01	**Popeta**	**2.40**	**169**		*eP*		**Pn**	**18 11 34.4**	**+1.8**
MT01					*eS*		**Sb**	**18 12 09.0**	**+2.6**
MT01					IAML			18 12 21.6	
	comp=Z,2μm,0.6s								
ACCO	**Cerro Coronel**	**2.51**	**69**		*eP*		**Pb**	**18 11 38.5**	**-0.8**
ACDV	**Cuesta del Vie**	**2.65**	**61**		*eP*		**Pb**	**18 11 39.5**	**-2.1**
ACDV					*eS*		**Sb**	**18 12 22.0**	**+8.2**
ACDV					IAML			18 12 32.4	
	comp=Z,1μm,0.6s								
LCO	**Las Campanas**	**2.66**	**21**		Pn		**Pn**	**18 11 37.6**	**+1.2**
LCO	**Las Campanas**	**2.66**	**21**	⇑	*iP*		**Pn**	**18 11 37.5**	**+1.2**
LCO					*eS*		**Sn**	**18 12 10.2**	**+2.2**
BO04	**La Punta**	**2.67**	**158**				**Pn**	**18 11 38.5**	**+2.1**
BO04	**La Punta**	**2.67**	**158**	⇑	*iP*		**Pn**	**18 11 38.5**	**+2.1**
BO04					*eS*		**Sn**	**18 12 09.7**	**+1.6**
LMEL	**Las Melosas**	**2.69**	**151**				**Pb**	**18 11 39.5**	**-2.9**
BO01	**Tunca**	**2.94**	**169**		Pn		**Pn**	**18 11 42.1**	**+2.1**
BO01	**Tunca**	**2.94**	**169**		*eP*		**Pn**	**18 11 41.6**	**+1.6**
BO01					*eS*		**Sn**	**18 12 15.2**	**+0.6**
BO03	**Pichilemu**	**2.99**	**183**		*eP*		**Pn**	**18 11 41.4**	**+0.7**
BO03					IAML			18 12 35.4	
	comp=E,1μm,0.5s								
AC04	**Llanos de Chal**	**3.34**	**11**		Pn		**Pn**	**18 11 46.6**	**+1.0**
AC04	**Llanos de Chal**	**3.34**	**11**		*eP*		**Pn**	**18 11 45.9**	**+0.3**
AC04					*eS*		**Sn**	**18 12 27.4**	**+2.8**
AC04					IAML			18 12 44.9	
	comp=E,896nm,0.5s								
BO02	**Sierra Bellavi**	**3.39**	**166**				**Pn**	**18 11 48.6**	**+2.3**
BO02	**Sierra Bellavi**	**3.39**	**166**		*eP*		**Pn**	**18 11 48.3**	**+2.0**
BO02					*eS*		**Sn**	**18 12 29.4**	**+3.6**
BO02					IAML			18 12 43.3	
	comp=N,3μm,0.7s								
GO05	**Huala**	**3.50**	**182**				**Pn**	**18 11 48.4**	**+0.6**
GO05	**Huala**	**3.50**	**182**		*eP*		**Pn**	**18 11 48.2**	**+0.4**
GO05					IAML			18 12 56.4	
	comp=N,791nm,0.6s								
GO03	**Copiap**	**4.12**	**20**				**Pn**	**18 11 57.8**	**+1.4**
ML02	**Panimavida**	**4.26**	**176**		Pn		**Pn**	**18 11 59.4**	**+1.2**
AC06	**Mina Casimiro**	**4.32**	**17**				**Pn**	**18 11 59.9**	**+0.9**
AC02	**Maricunga**	**5.20**	**27**		Pn		**Pn**	**18 12 12.9**	**+1.4**
BI05	**Punta Hualpn**	**5.36**	**192**		Pn		**Pn**	**18 12 13.2**	**-0.1**
AC01	**Pan de Azucar**	**5.44**	**11**		Pn		**Pn**	**18 12 12.9**	**-1.5**
H03N1	**Juan Fernandez**	**6.33**	**250**		T		T	18 19 08.8	
	baz=78,slow=72,SNR=7103								
H03N3	**Juan Fernandez**	**6.33**	**250**		T		T	18 19 08.2	
	baz=78,slow=72,SNR=8185								
H03N2	**Juan Fernandez**	**6.34**	**250**		T		T	18 19 09.5	
	baz=78,slow=72,SNR=5706								
GO02	**Mina Guanaco**	**6.61**	**18**		Pn		**Pn**	**18 12 30.0**	**-0.7**
LC01	**Cunco**	**7.38**	**181**		Pn		**Pn**	**18 12 41.6**	**+0.6**
LVC	**Limon Verde**	**9.22**	**17**		Pn		**Pn**	**18 13 03.9**	**-2.8**
	comp=N,0.3nm,0.3s,baz=265,slow=16,SNR=1.5								
LVC						LR	LR	18 16 49.1	
	comp=N,360nm,19.9s,baz=213,slow=38								
LVC	**Limon Verde**	**9.22**	**17**		*eP*		**Pn**	**18 13 07.2**	**+0.6**
PLCA	**Paso Flores**	**9.27**	**174**		Pn		**Pn**	**18 13 08.8**	**+1.9**
	comp=N,0.8nm,0.3s,baz=336,slow=11,SNR=35								
PLCA						LR	LR	18 16 43.8	
	comp=N,301nm,18.6s,baz=339,slow=38								
PLCA	**Paso Flores**	**9.27**	**174**		Pn		**Pn**	**18 13 08.4**	**+1.5**
PLCA	**Paso Flores**	**9.27**	**174**		*eP*		**Pn**	**18 13 08.8**	**+1.9**
ITQB	**Itaqui**	**13.19**	**86**		Pn		**Pn**	**18 14 00.1**	**-0.6**
ITQB	**Itaqui**	**13.19**	**86**		*eP*		**Pn**	**18 14 01.4**	**+0.8**
CPUP	**Villa Florida**	**13.67**	**71**		Pn		**Pn**	**18 14 06.0**	**-1.1**
	comp=N,0.4nm,0.3s,baz=242,slow=12,SNR=7.4								
CPUP						Sn	**Sn**	**18 16 36.5**	**-1.8**
	comp=N,0.6nm,0.3s,baz=153,slow=18,SNR=2.0								
CPUP						LR	LR	18 19 48.4	
	comp=N,544nm,18.3s,baz=246,slow=39								
CPUP	**Villa Florida**	**13.67**	**71**				**Pn**	**18 14 06.2**	**-1.0**
CPUP	**Villa Florida**	**13.67**	**71**		*eP*		**Pn**	**18 14 06.5**	**-0.7**
PLTB	**Pedras Altas**	**15.50**	**96**		*eP*		**Pn**	**18 14 33.5**	**+1.6**
LPAZ	**La Paz**	**15.51**	**13**		Pn		**Pn**	**18 14 33.5**	**+1.0**
	comp=N,0.2nm,0.3s,baz=186,slow=7.6,SNR=4.9								
LPAZ	**La Paz**	**15.51**	**13**				**Pn**	**18 14 32.7**	**+0.1**
CPSB	**Cacapava Do Su**	**15.78**	**91**		*eP*		**Pn**	**18 14 35.3**	**-0.2**
ITAB	**Concordia**	**17.65**	**81**		*eP*		**P**	**18 14 59.3**	**-0.6**
AQDB	**Aquidauana**	**18.14**	**57**		*eP*		**P**	**18 15 06.1**	**+0.8**
SIV	**San Ignacio**	**18.27**	**35**		P		**Pn**	**18 15 06.6**	**-0.2**
	comp=N,0.3nm,0.3s,baz=215,slow=10,SNR=13								
SIV						LR	LR	18 23 25.3	
	comp=N,141nm,19.3s,baz=218,slow=41								
PTGB	**Pitanga**	**18.65**	**74**		*eP*		**Pn**	**18 15 11.5**	**0.0**
PTLB	**Pontes e Lacer**	**19.72**	**39**		*eP*		**P**	**18 15 22.5**	**-0.2**
TER01	**Tubaro-SC**	**19.84**	**87**		*eP*		**P**	**18 15 24.4**	**+0.4**
NNA	**Nana**	**19.97**	**345**		LR		LR	18 22 10.3	
	comp=N,96nm,18.1s,baz=194,slow=34								
PP1B	**Ponte de Pedra**	**20.65**	**52**		*eP*		**P**	**18 15 32.8**	**-0.1**
PCMB	**Pacaembu**	**20.81**	**67**		*eP*		**P**	**18 15 34.0**	**-0.5**
FRTB	**Fartura**	**21.31**	**73**		*eP*		**P**	**18 15 40.5**	**+0.5**
VILB	**Vilhena**	**21.32**	**33**		*eP*		**P**	**18 15 39.9**	**-0.2**
SALV	**Santo Antonio**	**21.37**	**47**		*eP*		**P**	**18 15 39.9**	**-0.6**
ETMB	**Extrema**	**22.19**	**15**		*eP*		**P**	**18 15 50.2**	**+0.8**
ITRB	**Iturama**	**22.57**	**64**		*eP*		**P**	**18 15 52.3**	**-1.2**
PET01	**Itanhaem-SP**	**22.80**	**78**		*eP*		**P**	**18 15 56.4**	**+0.5**
BB19B	**Bebedouro**	**23.26**	**69**		*eP*		**P**	**18 16 00.1**	**-0.6**
RCLB	**Rio Claro- Sao**	**23.40**	**73**		*eP*		**P**	**18 16 02.0**	**0.0**
VAO	**Valinhos**	**23.60**	**75**		*eP*		**P**	**18 16 03.8**	**-0.3**
CZSB	**Cruzeiro do Su**	**23.67**	**358**		*eP*		**P**	**18 16 04.5**	**-0.1**
PDRB	**Porto dos Gac**	**24.19**	**38**		*eP*		**P**	**18 16 09.0**	**-0.6**
IPMB	**Ipameri, GO**	**25.22**	**63**		*eP*		**P**	**18 16 17.9**	**-1.1**
CLDB	**Colider**	**25.31**	**39**		*eP*		**P**	**18 16 19.6**	**-0.1**
BDFB	**Brasilia**	**26.82**	**59**		P		**P**	**18 16 32.4**	**-1.1**
	comp=N,14nm,0.9s,baz=227,slow=6.9,SNR=18								
BDFB	**Brasilia**	**26.82**	**59**		P		**P**	**18 16 32.4**	**-1.1**
BDFB					IAmb		IAmb	18 16 47.0	
	comp=Z,30nm,0.9s								
BDFB	**Brasilia**	**26.82**	**59**		*eP*		**P**	**18 16 32.8**	**-0.8**
VAS01	**Vassouras-RJ**	**26.84**	**77**		*eP*		**P**	**18 16 33.5**	**0.0**
SNDB	**Serra Nova Dou**	**27.11**	**49**		*eP*		**P**	**18 16 35.7**	**-0.4**
TBTG	**Tabatinga, AM**	**27.23**	**4**		*eP*		**P**	**18 16 38.2**	**+1.2**
DUB01	**Friburgo-RJ**	**27.81**	**78**		*eP*		**P**	**18 16 43.1**	**+0.8**
CAM01	**Campos-RJ**	**28.52**	**78**		*eP*		**P**	**18 16 48.9**	**+0.4**
DIAM	**Diamantina, MG**	**28.60**	**69**		*eP*		**P**	**18 16 48.9**	**-0.5**
NPGB	**Novo Progresso**	**28.77**	**36**		*eP*		**P**	**18 16 49.3**	**-1.5**
PEXB	**Peixe**	**29.01**	**54**		*eP*		**P**	**18 16 52.7**	**-0.3**
JANB	**Januaria**	**29.96**	**63**		*eP*		**P**	**18 17 00.8**	**-0.7**
SJMB	**Sao Joao De Ma**	**30.39**	**73**		*eP*		**P**	**18 17 04.5**	**-0.7**
ITTB	**Itaituba**	**30.93**	**32**		*eP*		**P**	**18 17 08.7**	**-1.2**
SDBA	**SAO DESIDERIO**	**31.21**	**59**		*eP*		**P**	**18 17 11.9**	**-0.6**
NAN01	**Guarapari, ES**	**31.70**	**72**		*eP*		**P**	**18 17 16.0**	**-0.7**
SMTB	**Santa Maria do**	**31.84**	**50**		*eP*		**P**	**18 17 17.9**	**-0.2**
PRPB	**Parauapebas**	**32.53**	**44**		*eP*		**P**	**18 17 23.1**	**-0.9**
GUA01	**Guaratinga, BA**	**32.62**	**70**		*eP*		**P**	**18 17 25.0**	**+0.2**
CMC01	**Camacan, BA**	**33.52**	**69**		*eP*		**P**	**18 17 33.6**	**+0.9**
BOAV	**Boa Vista**	**35.37**	**20**		*eP*		**P**	**18 17 48.8**	**+0.1**
NBPN	**Ponto Novo - B**	**35.71**	**62**		*eP*		**P**	**18 17 50.5**	**-1.2**
MCPB	**Macapa, AP**	**36.17**	**35**		*eP*		**P**	**18 17 55.1**	**-0.5**
NBLA	**Lagarto - SE**	**37.45**	**65**		*eP*		**P**	**18 18 05.5**	**-1.1**
NBMA	**Muriti-CE**	**39.05**	**59**		*eP*		**P**	**18 18 19.4**	**-0.6**
NBPS	**Pedro II - PI**	**39.23**	**53**		*eP*		**P**	**18 18 20.8**	**-0.8**
NBPB	**Pedra_Branca-C**	**39.71**	**56**		*eP*		**P**	**18 18 24.9**	**-0.6**
BAUV	**El Baul**	**40.38**	**6**		P		**P**	**18 18 28.6**	**-2.3**
BAUV					IAmb		IAmb	18 18 31.9	
	comp=Z,14nm,0.9s								
MDP	**Montagnes des**	**40.73**	**30**		LR		LR	18 37 41.0	
	comp=Z,116nm,18.8s,baz=231,slow=40								
RCBR	**Riachuelo**	**42.19**	**60**		LR		LR	18 36 57.1	
	comp=Z,223nm,18.5s,baz=342,slow=37								
RCBR	**Riachuelo**	**42.19**	**60**		*eP*		**P**	**18 18 45.8**	**-0.1**
NBPV	**Pedro Velho**	**42.26**	**62**		*eP*		**P**	**18 18 45.9**	**-0.5**
BELA	**Belgrano 2**	**49.30**	**170**		P		**P**	**18 19 41.9**	**+0.6**
BELA					IAmb		IAmb	18 19 44.1	
	comp=Z,7.4nm,0.9s								
VNA3	**Neumayer Olymp**	**51.59**	**159**		P		**P**	**18 20 00.1**	**+1.4**
VNA1	**Neumayer--Stat**	**51.89**	**158**		P		**P**	**18 20 02.7**	**+1.8**
VNA2	**Neumayer--Watz**	**52.23**	**158**		P		**P**	**18 20 04.9**	**+1.3**
	baz=291,slow=8.0								
SNAA	**Sanae**	**53.82**	**159**		P		**P**	**18 20 16.5**	**+1.3**
SNAA	**Sanae**	**53.82**	**159**		P		**P**	**18 20 16.0**	**+0.8**
	comp=Z,6.3nm,0.8s,baz=281,slow=7.6,SNR=8.8								
SNAA	**Sanae**	**53.82**	**159**		P		**P**	**18 20 16.1**	**+0.8**
SNAA					IAmb		IAmb	18 20 17.3	
	comp=Z,11nm,1.0s								
QSPA	**South Pole Qui**	**58.73**	**180**		P		**P**	**18 20 52.0**	**+1.5**
QSPA					IAmb		IAmb	18 20 52.7	
	comp=Z,6.4nm,0.9s								
TXAR	**Lajitas Array**	**67.67**	**330**		P		**P**	**18 21 51.3**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=149,slow=5.8,SNR=5.6								
TXAR					pP		**sP**	**18 22 00.5**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=161,slow=8.2,SNR=3.6								
DBIC	**Dimbokro**	**74.19**	**72**		P		**P**	**18 22 29.8**	**-0.1**
	comp=Z,14nm,0.8s,baz=219,slow=7.7,SNR=11								
DBIC					pP		**sP**	**18 22 39.0**	**-1.0**
	comp=Z,24nm,1.0s,baz=225,slow=1.9,SNR=8.1								
DBIC					LR		LR	18 51 45.7	
	comp=Z,68nm,21.9s,baz=207,slow=33								
DBIC	**Dimbokro**	**74.19**	**72**		P		**P**	**18 22 28.2**	**-1.8**
MAW	**Mawson**	**75.51**	**164**		P		**P**	**18 22 37.8**	**+1.1**
	comp=Z,4.9nm,0.8s,baz=249,slow=8.0,SNR=5.6								
MAW	**Mawson**	**75.51**	**164**		P		**P**	**18 22 37.7**	**+1.0**
TSUM	**Tsumeb**	**79.70**	**106**		LR		LR	18 52 46.0	
	comp=Z,74nm,19.0s,baz=172,slow=32								
BOSA	**Boshof**	**81.05**	**118**		P		**P**	**18 23 08.1**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=251,slow=3.2,SNR=10.0								
BOSA	**Boshof**	**81.05**	**118**		P		**P**	**18 23 07.4**	**-0.8**
BOSA					IAmb		IAmb	18 23 09.1	
	comp=Z,6.2nm,0.9s								
PDAR	**Pinedale Array**	**81.64**	**333**		P		**P**	**18 23 13.0**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=116,slow=8.4,SNR=1.6								
NVAR	**Mina Array Bea**	**81.96**	**325**		P		**P**	**18 23 14.3**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=140,slow=4.8,SNR=4.1								
LBTB	**Lobatse**	**83.16**	**115**		LR		LR	18 55 59.1	
	comp=Z,102nm,21.6s,baz=204,slow=33								
TOA0	**Torodi Ar. Sit**	**83.17**	**70**		P		**P**	**18 23 19.3**	**0.0**
TORD	**Torodi Ar. Bea**	**83.17**	**70**		P		**P**	**18 23 19.3**	**0.0**
	comp=Z,13nm,0.8s,baz=254,slow=4.5,SNR=75								
TORD					pP		**sP**	**18 23 28.4**	**-1.0**
	comp=Z,5.0nm,0.9s,baz=251,slow=5.1,SNR=5.6								
TORD					LR		LR	18 59 24.7	
	comp=Z,58nm,19.3s,baz=238,slow=35								
TORD	**Torodi Ar. Bea**	**83.17**	**70**		P		**P**	**18 23 19.3**	**0.0**
ULM	**Lac du Bonnet**	**84.15**	**345**		P		**P**	**18 23 24.1**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=171,slow=6.9,SNR=3.2								
MDT	**Midelt**	**90.09**	**51**		LR		LR	19 03 29.1	
	comp=Z,88nm,18.4s,baz=336,slow=35								
YKA	**Yellowknife Ar**	**99.77**	**341**		P		**Pdif**	**18 24 36.2**	**0.0**
	comp=Z,0.2nm,0.6s,baz=142,slow=4.3,SNR=6.2								
ASAR	**Alice Springs**	**119.88**	**207**		PKP		**PKPdf**	**18 29 43.2**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=125,slow=1.8,SNR=2.8								
ASAR					pPKP		**sPKPdf**	**18 29 53.9**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=134,slow=1.7,SNR=2.8								
AKASG	**Malin Array Be**	**120.34**	**46**		PKP		**PKPdf**	**18 29 43.0**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=275,slow=2.4,SNR=6.6								
BRTR	**Keskin Array B**	**120.42**	**60**		PKP		**PKPdf**	**18 29 44.1**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=224,slow=3.4,SNR=3.8								
ARCES	**ARCESS Array B**	**121.66**	**24**		PKP		**PKiKP**	**18 29 45.8**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=219,slow=2.3,SNR=1.5								
WRA	**Warramunga Arr**	**123.04**	**210**		PKP		**PKPdf**	**18 29 49.7**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=155,slow=1.7,SNR=4.6								
H11S2	**WAKE ISLAND Hyl**	**25.98**	**271**		T		T	20 48 50.6	
	baz=116,slow=75,SNR=67								
H11S1	**WAKE ISLAND Hyl**	**25.99**	**271**		T		T	20 48 50.4	
	baz=116,slow=75,SNR=46								
H11S3	**WAKE ISLAND Hyl**	**26.00**	**271**		T		T	20 48 51.6	
	baz=116,slow=75,SNR=34								
H11N3	**WAKE ISLAND Hyl**	**26.33**	**272**		T		T	20 49 10.8	
	baz=117,slow=75,SNR=34								
H11N1	**WAKE ISLAND Hyl**	**26.35**	**272**		T		T	20 49 10.1	
	baz=117,slow=75,SNR=12								
H11N2	**WAKE ISLAND Hyl**	**26.35**	**272**		T		T	20 49 12.1	
	baz=117,slow=75,SNR=73								
FITZ	**Fitzroy Crossi**	**127.92**	**201**		PKP		**PKiKP**	**18 29 59.7**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=184,slow=4.8,SNR=3.5								
BRVK	**Borovoye**	**145.21**	**41**				**PKPdf**	**18 30 30.8**	**+0.9**
TOLI2	**Tolitoli**	**147.52**	**204**				**PKPbc**	**18 30 37.5**	**-0.1**
KKAR	**Karatay Array**	**148.11**	**58**				**PKPbc**	**18 30 38.8**	**+0.4**
PSI	**Prapat**	**150.14**	**161**		PKPbc		**PKPbc**	**18 30 43.7**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=204,slow=6.9,SNR=4.2								
KURK	**Kurchatov**	**150.88**	**40**				**PKiKP**	**18 30 45.6**	**0.0**
ZAA0	**Zalesovo Array**	**151.99**	**30**				**PKiKP**	**18 30 48.1**	**+0.4**
ZALV	**Zalesovo Beam**	**151.99**	**30**		PKP		**PKPdf**	**18 30 41.1**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=313,slow=3.3,SNR=7.7								
ZALV					PKPbc		**PKiKP**	**18 30 47.9**	**+0.2**
	comp=Z,38nm,0.7s,baz=306,slow=2.7,SNR=100								
ZALV					PKPab		**PKPab**	**18 30 57.0**	**+0.3**
	comp=Z,15nm,0.6s,baz=308,slow=3.3,SNR=14								
ZALV	**Zalesovo Beam**	**151.99**	**30**				**PKiKP**	**18 30 48.1**	**+0.3**
KSH	**Kashi**	**152.68**	**64**		PKPbc		**PKPdf**	**18 30 42.7**	**+0.2**
KSH					pPKP		PKiKP	18 30 50.0	+0.2
KSH					sPKP			18 30 59.3	
KSH					PKS		**PKSdf**	**18 34 11.0**	**-6.1**
MKAR	**Makanchi Array**	**154.91**	**45**		PKP		**PKPdf**	**18 30 45.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=344,slow=1.9,SNR=8.4								
MKAR					PKPbc		**PKPbc**	**18 30 54.1**	**0.0**
	comp=Z,2.6nm,0.7s,baz=317,slow=1.9,SNR=3.7								
MKAR					PKPab		**PKPab**	**18 31 09.7**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=305,slow=4.3,SNR=8.7								
MKAR	**Makanchi Array**	**154.91**	**45**		PKPbc		**PKiKP**	**18 30 54.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**164.54**	**145**		PKPab		**PKPab**	**18 31 51.2**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=245,slow=3.9,SNR=4.3								
GOMU	**GeErMu**	**167.92**	**64**		PKP		**PKPdf**	**18 30 57.5**	**-2.2**
GOMU					pPKP		sPKPdf	18 31 18.1	+8.4
GOMU					sPKP			18 31 30.2	
GOMU					AMB		AMB		
	comp=Z,31nm,3.9s								
PZH	**PanZhiHua**	**172.46**	**130**		PKP		**PKPdf**	**18 31 01.3**	**-1.0**

*IDC **10** 18:13:30.9±7.1, 8.°82S×115.°65E, h70km±58km, mb3.3/4, mb1 3.7/7, mb1mx3.2/34, mbtmp3.8/7, ML3.9/3 Error ellipse: s-maj=86.6km s-min=22.5km az=63.0*
*DJA **10** 18:13:37.0±0.3, 9.°S±5.°×11.°6E±.°, h90km±5km, M4.0/14, mb4.1/3, mB4.3/1, MLv3.9/14, Mw(mB)3.5/1*
ISC 10 18:13:35.7±0.8, **8.°82S**±0.°08×**116.°07E**±0.°04, **h103**km, **n24,** σ1°**20**/29, **mb3.8**/3, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DNP	**Denpasar**	**0.86**	**279**	P		**Pn**	**18 13 56.5**	**+1.7**
IGBI	**Denpasar**	**0.91**	**270**	P		**Pn**	**18 13 56.9**	**+1.5**
IGBI				S		**Sn**	**18 14 10.9**	**+0.7**
SRBI	**Singaraja**	**1.12**	**311**	P		**Pn**	**18 13 58.1**	**+0.5**
SRBI				S		**Sn**	**18 14 14.8**	**+0.7**
PLAI	**Plampang**	**1.69**	**90**	P		**Pn**	**18 14 06.4**	**+2.0**
PLAI				S		**Sn**	**18 14 27.4**	**+1.1**
JAGI	**Jajag, Banyuwa**	**1.93**	**280**	P		**Pn**	**18 14 08.0**	**+0.6**
ABJI	**Asem Bagus**	**2.08**	**299**	P		**Pn**	**18 14 10.2**	**+0.8**
GMJI	**Gumukmas**	**2.65**	**282**	P		**Pn**	**18 14 17.4**	**+0.6**
BLJI	**Banyuglugur**	**2.67**	**293**	P		**Pn**	**18 14 18.2**	**+1.1**
WBSI	**Waikabubak, Su**	**3.38**	**104**	P		**Pn**	**18 14 27.0**	**+0.4**
BASI	**Baing, Sumba**	**4.66**	**108**	P		**Pn**	**18 14 44.2**	**+0.4**
PCJI	**Pacitan**	**4.88**	**277**	P		**Pn**	**18 14 47.7**	**+0.9**
BSSI	**Bau Bau, Buton**	**5.13**	**59**	P		**Pn**	**18 14 51.8**	**+1.6**
	0.1nm16nm,1.0s							
KAPI	**Kappang**	**5.26**	**44**	P		**Pn**	**18 14 52.4**	**+0.4**
	3.7nm,0.3s,baz=172,slow=7.1,SNR=12							
KAPI				S		**Sn**	**18 15 52.1**	**+0.7**
	baz=24,slow=20,SNR=1.2							
BKSI	**Bulukumba**	**5.32**	**49**	P		**Pn**	**18 14 53.8**	**+1.1**
BATI	**Baumata**	**7.62**	**101**	P		**Pn**	**18 15 24.5**	**+0.4**
	1.7nm,0.3s,baz=312,slow=15,SNR=1.7							
BATI				S		**Sn**	**18 16 48.1**	**-0.7**
	2.5nm,0.3s,baz=65,slow=22,SNR=1.8							
FITZ	**Fitzroy Crossi**	**13.10**	**136**	P		**Pn**	**18 16 37.4**	**-0.5**
	0.4nm,0.3s,baz=327,slow=12,SNR=8.7							
FITZ				S		Sn	18 18 52.7	-9.3
	0.2nm,0.3s,baz=156,slow=5.2,SNR=1.7							
WRA	**Warramunga Arr**	**20.84**	**124**	P		**P**	**18 18 09.9**	**+0.6**
	0.7nm,0.4s,baz=299,slow=12,SNR=11							
WRA				S		**S**	**18 21 54.4**	**-1.9**
	0.4nm,0.7s,baz=292,slow=22,SNR=2.2							
WRA				PcP		**PcP**	**18 22 13

LBMI	**Labuha**	**6.11 128**	P		**P**	**18 50 46.6**	**-1.0**	
	1.0nm2μm200nm,0.8s							
SANI	**Sanana**	**6.12 147**	P		**P**	**18 50 45.1**	**-2.6**	
	1.1nm3μm129nm,0.7s							
SANI	**Sanana**	**6.12 147**	P		**P**	**18 50 45.4**	**-2.3**	
BIPH	**Bislig**	**6.23 36**	*eP*		**P**	**18 50 48.2**	**-0.4**	
BIPH			*eS*		**S**	**18 52 10.8**	**-0.1**	
BUTP	**Butuan**	**6.51 27**	*eP*		**P**	**18 50 53.6**	**+2.4**	
TBP	**Tagbilaran**	**6.63 10**	*iP*		**P**	**18 50 52.4**	**+0.1**	
TBP			*iS*		**S**	**18 52 16.4**	**-1.4**	
CNOP	**Candoni, Negro**	**6.66 360**	*iP*		**P**	**18 50 51.9**	**-0.8**	
TTSI	**Tana Toraja**	**6.76 205**	P		**P**	**18 50 55.0**	**+1.4**	
	0.2nm691nm58nm,0.7s							
KKM	**Kota Kinabalu**	**7.05 295**	P		**P**	**18 50 55.6**	**-0.9**	
KKM	**Kota Kinabalu**	**7.05 295**	P		**P**	**18 50 56.0**	**-0.5**	
SPSI	**Sidrap Palu**	**7.61 202**	P		**P**	**18 51 02.7**	**+0.8**	
	0.2nm588nm63nm,0.7s							
BNSI	**Bone**	**7.90 199**	P		**P**	**18 51 06.4**	**+1.7**	
	0.2nm766nm49nm,1.0s							
KAPI	**Kappang**	**8.59 200**	P		**P**	**18 51 13.3**	**+1.7**	
	2.1nm,0.3s,baz=357,slow=5.0,SNR=9.0							
KAPI			S		**S**	**18 52 54.8**	**+1.8**	
	2.2nm,0.3s,baz=163,slow=23,SNR=9.8							
AAI	**Ambon**	**8.74 141**	P		**P**	**18 51 13.5**	**+0.4**	
	28nm,0.6s							
MSAI	**Masohi**	**8.97 136**	P		**P**	**18 51 15.7**	**+0.2**	
	299nm17nm,0.5s							
BSSI	**Bau Bau, Buton**	**9.46 193**	P		**P**	**18 51 19.2**	**-1.2**	
	18nm,0.7s							
SWI	**Sorong**	**9.46 115**	P		**P**	**18 51 21.2**	**+0.8**	
	16nm,0.5s							
SIJI	**Sorong**	**9.47 115**	P		**P**	**18 51 20.8**	**+0.3**	
	5.3nm,0.3s,baz=328,slow=15,SNR=33							
SIJI			S		**S**	**18 53 08.8**	**-0.6**	
	0.2nm,0.3s,baz=334,slow=23,SNR=1.4							
SBUM	**Sibu**	**10.45 267**	P		**P**	**18 51 31.5**	**+0.9**	
LQP	**Lukban**	**10.97 354**	*eP*		P	18 51 43.4	+7.3	
STKI	**Sintang**	**11.59 255**	P		**P**	**18 51 42.8**	**+0.5**	
	6.4nm,0.8s							
KSM	**Kuching**	**12.45 263**	P		**P**	**18 51 50.3**	**-0.9**	
KSM	**Kuching**	**12.45 263**	P		**P**	**18 51 51.4**	**+0.1**	
PLAI	**Plampang**	**12.84 202**	P		**P**	**18 51 55.3**	**+0.1**	
	35nm,0.6s							
WBSI	**Waikabubak, Su**	**13.10 194**	P		**P**	**18 51 58.9**	**+1.0**	
	30nm,0.8s							
BATI	**Baumata**	**13.28 176**	P		**P**	**18 52 00.0**	**+0.2**	
	16nm,0.3s,baz=6.9,slow=1.4,SNR=18							
BATI			S		**S**	**18 54 21.2**	**-0.1**	
	0.8nm,0.3s,baz=344,slow=22,SNR=2.5							
BATI	**Baumata**	**13.28 176**	P		**P**	**18 52 00.2**	**+0.4**	
	1μm82nm,0.8s							
KMMI	**Kalianget**	**13.32 221**	P		**P**	**18 52 00.1**	**-0.1**	
	23nm,0.6s							
IGBI	**Denpasar**	**14.03 212**	P		**P**	**18 52 09.3**	**+1.7**	
	33nm,0.8s							
JAGI	**Jajag, Banyuwa**	**14.31 216**	P		**P**	**18 52 11.6**	**+1.2**	
JAGI	**Jajag, Banyuwa**	**14.31 216**	P		**P**	**18 52 11.3**	**+0.9**	
	23nm,1.5s							
GMJI	**Gumukmas**	**14.59 219**	P		**P**	**18 52 13.7**	**+0.4**	
	22nm,1.3s							
DLV	**T Lat**	**16.55 303**	P		**P**	**18 52 32.9**	**-0.1**	
KPJI	**Karang Pucung**	**17.20 233**	P		**P**	**18 52 39.6**	**+1.0**	
	33nm,0.9s							
PPBI	**Pangkal Pinang**	**17.34 253**	P		**P**	**18 52 40.3**	**+0.4**	
MTN	**Manton Dam**	**17.96 152**	P		**P**	**18 52 45.8**	**+0.2**	
MTN	**Manton Dam**	**17.96 152**	P		**P**	**18 52 46.6**	**+1.0**	
LEM	**Lembang**	**17.98 237**	P		**P**	**18 52 47.2**	**+1.2**	
	1.4nm,0.3s,baz=95,slow=8.4,SNR=8.3							
LEM	**Lembang**	**17.98 237**	P		**P**	**18 52 47.6**	**+1.6**	
	24nm,1.1s							
CBJI	**Citeko**	**18.42 239**	P		**P**	**18 52 51.8**	**+2.0**	
KDU	**Kakadu**	**18.49 148**	P		**P**	**18 52 50.9**	**+0.5**	
CNJI	**Cibinong**	**18.65 236**	P		**P**	**18 52 51.2**	**-0.7**	
	39nm,0.8s							
MYKOM	**Kota Tinggi**	**18.84 266**	P		**P**	**18 52 54.1**	**+0.3**	
BLSI	**Bandar Lampung**	**19.34 244**	P		**P**	**18 53 00.6**	**+2.4**	
CGJI	**Cibinong**	**19.51 240**	P		**P**	**18 52 59.5**	**-0.3**	
	43nm,1.0s							
KNRA	**Kununurra**	**19.63 162**	P		**P**	**18 53 01.2**	**+0.4**	
KNRA	**Kununurra**	**19.63 162**	P		**P**	**18 53 01.5**	**+0.7**	
KASI	**Kota Agung**	**20.08 245**	P		**P**	**18 53 05.4**	**+0.5**	
	38nm,0.9s							
LWLI	**Liwa**	**20.27 247**	P		**P**	**18 53 08.4**	**+1.6**	
	68nm,0.9s							
UBPT	**Khong Chiam**	**20.80 307**	P		**P**	**18 53 11.2**	**-0.2**	
YOJ	**Yonaguni jima**	**21.21 1**	P		**P**	**18 53 15.7**	**+0.6**	
FITZ	**Fitzroy Crossi**	**21.29 172**	P		**P**	**18 53 15.9**	**+0.1**	
	12nm,0.7s,baz=6.1,slow=8.0,SNR=75							
FITZ	**Fitzroy Crossi**	**21.29 172**	P		**P**	**18 53 16.0**	**+0.1**	
FITZ			IAmb		IAmb	18 53 16.8		
	comp=Z,15nm,1.0s							
KULM	**Kulim**	**22.06 276**	P		**P**	**18 53 22.1**	**-0.7**	
KULM			IAmb		IAmb	18 53 23.8		
	comp=Z,6.4nm,0.8s							
PSI	**Prapat**	**23.71 270**	P		**P**	**18 53 37.3**	**-0.4**	
	comp=Z,7.4nm,0.9s,baz=56,slow=3.2,SNR=5.0							
PSA00	**Pilbara Seismi**	**24.70 186**	P		**P**	**18 53 45.5**	**-0.7**	
PSA00			IAmb		IAmb	18 53 46.7		
	comp=Z,11nm,0.8s							
PSA00	**Pilbara Seismi**	**24.70 186**	P		**P**	**18 53 47.1**	**+0.9**	
GSI	**Gunungsitoli**	**25.13 266**	P		**P**	**18 53 49.4**	**-0.7**	
GSI	**Gunungsitoli**	**25.13 266**	P		**P**	**18 53 49.0**	**-1.2**	
	comp=Z,37nm,1.2s							
WB0	**Warramunga Arr**	**25.50 154**	P		**P**	**18 53 52.7**	**-0.6**	
WB0			IAmb		IAmb	18 53 53.5		
	comp=Z,18nm,0.8s							
WRAB	**Tennant Creek**	**25.63 154**	P		**P**	**18 53 54.2**	**-0.3**	
WRAB					**PcP**	**18 57 04.8**	**-1.9**	
WRAB	**Tennant Creek**	**25.63 154**	P		**P**	**18 53 54.1**	**-0.3**	
WRA	**Warramunga Arr**	**25.63 154**	P		**P**	**18 53 53.8**	**-0.7**	
	2.2nm,0.6s,baz=334,slow=9.6,SNR=145							
WRA			S		**S**	**18 57 40.9**	**-3.6**	
	comp=Z,0.6nm,0.9s,baz=326,slow=15,SNR=2.3							
WRA			ScP		**ScP**	**18 59 54.5**	**0.0**	
	comp=Z,2.7nm,0.6s,baz=341,slow=2.8,SNR=26							
WRA	**Warramunga Arr**	**25.63 154**	P		**P**	**18 53 53.0**	**-1.4**	
WB2	**Warramunga Arr**	**25.64 154**	P		**P**	**18 53 54.0**	**-0.5**	
WR0	**Warramunga Arr**	**25.74 154**	P		**P**	**18 53 54.9**	**-0.5**	
WR0			IAmb		IAmb	18 53 55.8		
	comp=Z,14nm,0.9s							
COEN	**Coen**	**26.49 130**	P		**P**	**18 54 03.2**	**+1.1**	
COEN			IAmb		IAmb	18 54 07.7		
	comp=Z,8.6nm,1.1s							
PMG	**Port Moresby**	**27.40 117**	P		**P**	**18 54 10.0**	**-0.1**	
	comp=Z,16nm,0.8s,baz=348,slow=7.7,SNR=3.6							
PMG	**Port Moresby**	**27.40 117**	P		**P**	**18 54 08.9**	**-1.2**	
PMG			IAmb		IAmb	18 54 11.1		
	comp=Z,18nm,0.9s							
CMAR	**Chiang Mai Arr**	**27.78 305**	P		**P**	**18 54 13.9**	**+0.5**	
	comp=Z,3.0nm,0.8s,baz=136,slow=8.2,SNR=26							
CMAR			PcP		**PcP**	**18 57 12.9**	**+1.0**	
	comp=Z,1.0nm,0.8s,baz=126,slow=1.2,SNR=6.9							
CMAR			ScP		**ScP**	**19 00 01.2**	**+0.2**	
	comp=Z,1.3nm,1.1s,baz=151,slow=2.1,SNR=4.8							
GYA	**Guiyang**	**27.82 328**	*iP*		**P**	**18 54 15.0**	**+1.3**	
GYA			pmax		pmax			
	comp=Z,14nm,0.7s							
CHTO	**Chiang Mai**	**27.96 306**	P		**P**	**18 54 14.9**	**0.0**	
CHTO			IAmb		IAmb	18 54 16.4		
	comp=Z,12nm,1.1s							
CHTO	**Chiang Mai**	**27.96 306**	P		**P**	**18 54 16.7**	**+1.8**	
WRKA	**Warakurna**	**28.52 169**	P		**P**	**18 54 20.5**	**+0.7**	
AS31	**Alice Springs**	**28.79 158**	P		**P**	**18 54 22.2**	**+0.1**	
ASAR	**Alice Springs**	**28.79 158**	P		**P**	**18 54 22.4**	**+0.2**	
	comp=Z,8.1nm,0.7s,baz=341,slow=7.6,SNR=218							
ASAR			S		**S**	**18 58 31.9**	**-1.9**	
	comp=Z,0.6nm,0.6s,baz=332,slow=14,SNR=5.0							
ASAR			ScP		**ScP**	**19 00 04.2**	**0.0**	
	comp=Z,3.7nm,0.7s,baz=344,slow=2.7,SNR=29							
ASAR	**Alice Springs**	**28.79 158**	P		**P**	**18 54 21.9**	**-0.2**	
QIS	**Mount Isa**	**28.81 145**	P		**P**	**18 54 23.4**	**+1.1**	
NJ2	**Nanjing**	**29.00 353**	*eP*		**P**	**18 54 25.6**	**+1.9**	
NJ2			pmax		pmax			
	comp=Z,12nm,0.5s							
KMI	**Kunming**	**29.09 321**	*jP*		**P**	**18 54 26.6**	**+1.7**	
KMI			pmax		pmax			
	comp=Z,9.0nm,0.6s							
RABL	**Rabaul**	**30.36 104**	P		**P**	**18 54 36.9**	**+1.0**	
RABL	**Rabaul**	**30.36 104**	P		**P**	**18 54 38.4**	**+2.5**	
PZH	**PanZhiHua**	**30.70 321**	P		**P**	**18 54 39.3**	**+0.6**	
PZH			pmax		pmax			
	comp=Z,20nm,0.8s							
PZH			pmax		pmax			
	comp=Z,50nm,3.9s							
MORW	**Morawa**	**32.63 191**	P		**P**	**18 54 54.9**	**-0.1**	
MORW			IAmb		IAmb	18 54 55.9		
	comp=Z,5.8nm,0.7s							
OOD	**Oodnadatta**	**33.20 159**	P		**P**	**18 55 00.9**	**+1.1**	
XAN	**Xi'an**	**33.32 339**	P		**P**	**18 55 00.9**	**+0.1**	
XAN			pmax		pmax			
	comp=Z,21nm,0.9s							
FORT	**Forrest**	**34.11 172**	P		**P**	**18 55 07.8**	**+0.5**	
FORT	**Forrest**	**34.11 172**	P		**P**	**18 55 08.2**	**+0.9**	
KSRS	**Korea Array**	**34.50 7**	P		**P**	**18 55 11.2**	**+0.7**	
	comp=Z,2.3nm,0.8s,baz=184,slow=9.4,SNR=6.5							
MULG	**Mulgathing**	**34.96 163**	P		**P**	**18 55 15.7**	**+1.2**	
INKA	**Innaminka**	**35.29 152**	P		**P**	**18 55 19.5**	**+2.3**	
QLP	**Quilpie**	**36.15 146**	P		**P**	**18 55 26.8**	**+2.4**	
LCRK	**Leigh Creek**	**36.54 157**	P		**P**	**18 55 29.4**	**+1.8**	
LZH	**Lanzhou**	**37.12 334**	*eP*		**P**	**18 55 34.1**	**+1.6**	
LZH			pP		pwP	18 57 08.2	-2.3	
LZH			sP		sP	18 58 06.8	-1.2	
LZH			pmax		pmax			
	comp=Z,37nm,1.1s							
RK1H	**Rockhampton Ha**	**37.82 136**	P		**P**	**18 55 39.2**	**+1.1**	
BBOO	**Buckleboo**	**37.93 161**	P		**P**	**18 55 39.5**	**+0.6**	
BBOO			IAmb		IAmb	18 55 40.5		
	comp=Z,17nm,0.9s							
JMM	**Marumori**	**38.36 23**	P		**P**	**18 55 42.0**	**-0.3**	
JMM			IAmb		IAmb	18 55 43.2		
	comp=Z,23nm,1.1s							
HHC	**Hu-ho-hao-te**	**38.87 347**	*eP*		**P**	**18 55 47.3**	**+0.8**	
HHC			pmax		pmax			
	comp=Z,19nm,0.9s							
HHC			pmax		pmax			
	comp=Z,140nm,5.9s							
STKA	**Stephens Creek**	**39.19 154**	P		**P**	**18 55 50.1**	**+1.1**	
	comp=Z,14nm,0.7s,baz=329,slow=8.7,SNR=32							
STKA	**Stephens Creek**	**39.19 154**	P		**P**	**18 55 50.2**	**+1.1**	
STKA	**Stephens Creek**	**39.19 154**	P		**P**	**18 55 50.8**	**+1.7**	
HNR	**Honiara**	**39.19 109**	P		**P**	**18 55 49.3**	**-0.1**	
	comp=Z,30nm,0.6s,baz=213,slow=3.8,SNR=2.6							
HTT	**Hallett**	**39.47 158**	P		**P**	**18 55 53.2**	**+1.7**	
EIDS	**Eidsvold**	**39.52 137**	P		**P**	**18 55 51.5**	**-0.4**	
EIDS			IAmb		IAmb	18 55 53.4		
	comp=Z,16nm,1.1s							
EIDS	**Eidsvold**	**39.52 137**	P		**P**	**18 55 54.0**	**+2.1**	
CMSA	**Cobar Meteorol**	**40.85 149**	P		**P**	**18 56 04.4**	**+2.0**	
TAPN	**Taplejung**	**41.17 309**	*eP*		**P**	**18 56 05.7**	**+0.2**	
	comp=Z,27nm,0.5s							
ODAN	**Odare**	**41.19 308**	*eP*		**P**	**18 56 06.0**	**+0.5**	
	comp=Z,44nm,0.7s							
GTA	**Gaotai**	**41.66 333**	*jP*		**P**	**18 56 09.9**	**+1.0**	
GTA			pP		PcP	18 57 53.2	+0.5	
GTA			pmax		pmax			
	comp=Z,17nm,1.0s							
USRK	**Ussuriysk Ar.**	**41.73 10**	P		**P**	**18 56 09.6**	**+0.4**	
	comp=Z,5.4nm,0.5s,baz=207,slow=7.7,SNR=9.5							
USRK	**Ussuriysk Ar.**	**41.73 10**	P		**P**	**18 56 09.1**	**-0.1**	
GOMU	**GeErMu**	**41.76 325**	P		**P**	**18 56 11.1**	**+1.1**	
GOMU			PP		**PcP**	**18 57 54.0**	**+0.6**	
GOMU			PcP		PP	18 58 08.7	+8.1	
GOMU			pmax		pmax			
	comp=Z,5.0nm,1.0s							
GOMU			pmax		pmax			
	comp=Z,50nm,4.1s							
MDJ	**Mudanjiang**	**41.77 7**	P		**P**	**18 56 10.0**	**+0.5**	
MDJ			pmax		pmax			
	comp=Z,15nm,0.9s							
MDJ			pmax		pmax			
	comp=Z,98nm,4.4s							
MDJ	**Mudanjiang**	**41.77 7**	P		**P**	**18 56 10.4**	**+0.9**	
RAMN	**Ramite**	**41.85 308**	*eP*		**P**	**18 56 11.7**	**+1.0**	
	comp=Z,37nm,0.6s							
GUN	**Gumba**	**42.87 309**	*eP*		**P**	**18 56 19.3**	**+0.5**	
	comp=Z,85nm,0.7s							
PKI	**Pulchoki**	**43.07 308**	*eP*		**P**	**18 56 20.5**	**+0.1**	
	comp=Z,14nm,0.5s							
PKIN	**Phulchoki**	**43.09 308**	*eP*		**P**	**18 56 20.5**	**+0.1**	
	comp=Z,18nm,0.6s							
KKN	**Kakani**	**43.28 308**	*eP*		**P**	**18 56 22.1**	**+0.2**	
	comp=Z,26nm,0.6s							
DMN	**Daman**	**43.33 308**	*eP*		**P**	**18 56 22.8**	**+0.5**	
	comp=Z,46nm,0.9s							
ARMA	**Armidale**	**43.33 142**	P		**P**	**18 56 24.7**	**+2.6**	
ARMA			IAmb		IAmb	18 56 25.7		
	comp=Z,24nm,0.8s							
ARMA	**Armidale**	**43.33 142**	P		**P**	**18 56 25.2**	**+3.1**	
ARPS	**Mount Arapiles**	**43.53 157**	P		**P**	**18 56 24.8**	**+1.4**	
GKN	**Gorkha**	**43.88 308**	*eP*		**P**	**18 56 26.7**	**+0.2**	
	comp=Z,36nm,0.7s							
ASAJ	**Asahikawa**	**44.46 21**	P		**P**	**18 56 31.0**	**+0.5**	
	comp=Z,5.7nm,0.6s,baz=222,slow=12,SNR=13							
KOLN	**Koldanda**	**44.59 307**	*eP*		**P**	**18 56 32.6**	**+0.6**	
	comp=Z,100nm,0.8s							
DANN	**Dangsing**	**44.73 308**	*eP*		**P**	**18 56 33.6**	**+0.4**	
	comp=Z,106nm,0.6s							
PYUN	**Piuthan**	**45.22 307**	*eP*		**P**	**18 56 37.7**	**+0.8**	
	comp=Z,73nm,0.6s							
CAN	**Canberra**	**45.52 149**	P		**P**	**18 56 40.9**	**+2.2**	
CAN	**Canberra**	**45.52 149**	P		**P**	**18 56 41.0**	**+2.2**	
PCHI	**Peechi**	**46.53 281**	*eP*		**P**	**18 56 47.0**	**+0.2**	
ULN	**Ulaanbaatar**	**46.56 346**	P		**P**	**18 56 47.2**	**+0.6**	
ULN			IAmb		IAmb	18 56 48.0		
	comp=Z,11nm,0.9s							
SONM	**Songino Array**	**46.70 345**	P		**P**	**18 56 48.1**	**+0.5**	
	comp=Z,9.9nm,0.7s,baz=161,slow=8.8,SNR=70							
SONM			PcP		**PcP**	**18 58 09.0**	**-1.0**	
	comp=Z,1.1nm,0.9s,baz=158,slow=4.2,SNR=3.5							
SONM			ScP		**ScP**	**19 01 11.8**	**+0.2**	
	comp=Z,0.8nm,0.6s,baz=169,slow=2.6,SNR=5.7							
SONM	**Songino Array**	**46.70 345**	P		**P**	**18 56 48.0**	**+0.3**	
SONM			IAmb		IAmb	18 56 48.9		
	comp=Z,11nm,0.9s							
WMQ	**Urumqi**	**50.98 328**	*eP*		**P**	**18 57 20.7**	**+1.4**	
WMQ			pmax		pmax			
	comp=Z,15nm,0.7s							
NIL	**Nilore**	**55.12 309**	P		**P**	**18 57 48.7**	**-0.2**	
NIL			IAmb		IAmb	18 57 50.2		
	comp=Z,12nm,0.5s							
KSH	**Kashi**	**55.66 317**	P		**P**	**18 57 54.0**	**+1.3**	
KSH			PcP		**PcP**	**18 58 44.4**	**+0.4**	
KSH			pmax		pmax			
	comp=Z,6.0nm,0.8s							
MK31	**Makanchi Array**	**55.80 327**	P		**P**	**18 57 53.9**	**+0.5**	
MKAR	**Makanchi Array**	**55.80 327**	P		**P**	**18 57 53.8**	**+0.4**	
	comp=Z,13nm,0.4s,baz=124,slow=8.2,SNR=270							
MKAR			PcP		**PcP**	**18 58 44.1**	**-0.2**	
	comp=Z,3.4nm,0.6s,baz=121,slow=5.0,SNR=9.5							
MKAR			ScP		**ScP**	**19 01 50.4**	**-0.5**	
	comp=Z,0.7nm,0.8s,baz=117,slow=5.7,SNR=3.6							
MAKZ	**Makanchi**	**55.98 327**	P		**P**	**18 57 54.9**	**+0.2**	
MAKZ			IAmb		IAmb	18 57 55.8		
	comp=Z,13nm,0.6s							
TKM2	**Tokmak 2**	**57.56 320**	P		**P**	**18 58 06.5**	**+0.8**	
	SNR=16							
PETK	**Petropavlovsk-**	**57.58 24**	P		**P**	**18 58 05.4**	**-0.1**	
	comp=Z,1.0nm,0.5s,baz=207,slow=6.0,SNR=2.0							
UCH	**Uchtor**	**57.92 319**	P		**P**	**18 58 09.8**	**+1.3**	
	SNR=19							
AAK	**Ala-Archa**	**58.13 320**	P		**P**	**18 58 10.7**	**+1.1**	
	SNR=11							
AAK	**Ala-Archa**	**58.13 320**	P		**P**	**18 58 09.8**	**+0.2**	
AML	**Almayashu**	**58.41 319**	P		**P**	**18 58 12.9**	**+1.1**	
	SNR=25							
USP	**Ospenovka**	**58.43 320**	P		**P**	**18 58 12.1**	**+0.6**	
	SNR=16							
EKS2	**Erkin-Say**	**58.61 319**	P		**P**	**18 58 14.0**	**+1.2**	
	SNR=18							
KBL	**Kabul**	**58.70 309**	P		**P**	**18 58 11.9**	**-1.8**	
KBL			IAmb		IAmb	18 58 14.6		
	comp=Z,18nm,0.7s							
YAK	**Yakutsk**	**59.00 4**	P		**P**	**18 58 14.3**	**-0.5**	
YAK			IAmb		IAmb	18 58 15.6		
	comp=Z,20nm,0.8s							
ZAA0	**Zalesovo Array**	**59.35 335**	P		**P**	**18 58 16.0**	**-1.3**	
ZALV	**Zalesovo Beam**	**59.35 335**	P		**P**	**18 58 16.5**	**-0.8**	
	comp=Z,4.1nm,0.4s,baz=130,slow=5.0,SNR=28							
GAR	**Garm**	**59.39 314**	P		**P**	**18 58 18.4**	**+0.3**	
BTK	**Batken**	**59.46 316**	P		**P**	**18 58 18.3**	**-0.2**	
CHGR	**Chuyangaron**	**60.09 313**	P		**P**	**18 58 21.6**	**-1.1**	
CHGR			IAmb		IAmb	18 58 23.6		
	comp=Z,27nm,0.9s							
KURK	**Kurchatov**	**60.12 329**	P		**P**	**18 58 22.7**	**+0.2**	
KURK			IAmb		IAmb	18 58 23.4		
	comp=Z,34nm,0.8s							
KK31	**Karatay Array**	**60.95 319**	P		**P**	**18 58 28.3**	**+0.1**	
KKAR	**Karatay Array**	**60.95 319**	P		**P**	**18 58 28.2**	**0.0**	
KKAR	**Karatay Array**	**60.95 319**	P		**P**	**18 58 28.0**	**-0.2**	
BRVK	**Borovoye**	**65.73 328**	P		**P**	**18 58 57.8**	**-0.7**	
BRVK			IAmb		IAmb	18 58 59.4		
	comp=Z,15nm,1.1s							
GEYT	**Alibeck**	**68.13 310**	P		**P**	**18 59 14.2**	**+0.5**	
	comp=Z,8.7nm,0.7s,baz=151,slow=6.4,SNR=20							
GEYT	**Alibeck**	**68.13 310**	P		**P**	**18 59 13.9**	**+0.2**	
GEYT			IAmb		IAmb	18 59 15.1		
	comp=Z,8.6nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**68.13 310**	P		**P**	**18 59 13.9**	**+0.2**	
GYA0B			IAmb		IAmb	18 59 15.1		
	comp=Z,11nm,0.7s							
SOCY	**Socotra**	**68.51 282**	P		**P**	**18 59 15.0**	**-1.5**	
TIXI	**Tiksi**	**68.54 2**	P		**P**	**18 59 14.8**	**-0.7**	
TIXI			IAmb		IAmb	18 59 15.6		
	comp=Z,8.1nm,0.7s							
ABKAR	**Akbulak array**	**70.08 322**	P		**P**	**18 59 24.9**	**-0.1**	
ABKAR	**Akbulak array**	**70.08 322**	P		**P**	**18 59 25.0**	**-0.1**	
NRIK	**Noril'sk**	**70.09 347**	P		**P**	**18 59 24.2**	**-0.6**	
	comp=Z,6.8nm,0.8s,baz=124,slow=6.6,SNR=9.4							
ARU	**Arti**	**73.30 329**	P		**P**	**18 59 42.4**	**-1.3**	
ARU			IAmb		IAmb	18 59 43.8		
	comp=Z,9.3nm,0.8s							
RAYN	**Ar Rayn**	**76.99 293**	P		**P**	**19 00 04.5**	**-0.5**	
KBZ	**Khabaz**	**80.45 314**	P		**P**	**19 00 22.9**	**0.0**	
	comp=Z,4.8nm,1.0s,baz=90,slow=2.0,SNR=5.5							
VNDA	**Vanda**	**83.37 172**	P		**P**	**19 00 37.4**	**+0.3**	
	comp=Z,0.9nm,0.6s,baz=324,slow=7.3,SNR=6.0							
KLMR	**Klimovskoe**	**83.94 331**	*eP*		**P**	**19 00 37.6**	**-2.6**	
KLMR			AMP			19 00 40.5		
	comp=Z,12nm,0.7s							
KMBO	**Kilima Mbogo**	**85.48 269**	P		**P**	**19 00 50.3**	**+1.2**	
	comp=Z,2.8nm,0.8s,baz=24,slow=5.0,SNR=5.5							
BRTR	**Keskin Array B**	**87.27 309**	P		**P**	**19 00 55.9**	**-1.1**	
	comp=Z,1.2nm,0.8s,baz=120,slow=6.6,SNR=8.7							
ILAR	**Eielson Array**	**87.39 25**	P		**P**	**19 00 55.2**	**-1.5**	
	comp=Z,0.2nm,0.6s,baz=252,slow=4.4,SNR=4.8							
ARCES	**ARCESS Array B**	**89.60 340**	P		**P**	**19 01 05.4**	**-1.6**	
	comp=Z,1.3nm,0.6s,baz=77,slow=5.3,SNR=10							
AKASG	**Malin Array Be**	**89.79 321**	P		**P**	**19 01 06.7**	**-1.4**	
	comp=Z,1.0nm,0.7s,baz=68,slow=4.7,SNR=4.7							
FINES	**FINESS Array B**	**90.43 331**	P		**P**	**19 01 09.4**	**-1.5**	
	comp=Z,2.4nm,0.6s,baz=69,slow=6.3,SNR=16							
NOA	**NORSAR Array B**	**97.49 333**	P		Pdif	19 01 41.3	-1.8	
	comp=Z,0.4nm,0.7s,baz=71,slow=4.6,SNR=4.1							
TORD	**Torodi Ar. Bea**	**119.23 287**	PKP		**PKPdf**	**19 06 55.3**	**-0.6**	
	comp=Z,1.0nm,0.7s,baz=67,slow=1.7,SNR=7.9							

IDC ***10*** *19:17:20.5±0.6,28.06N×139.85E,h488km±10km,mb2.9/8, mb1 3.1/14,mb1mx2.8/54,mbtmp3.9/14 Error ellipse: s-maj=24.9km s-min=9.8km az=75.0*

JMA ***10*** *19:17:21.7±0.1,28.23N×140.13E,h496km,M3.8*

ISC 10 19:17:20.9±0.7,28.09N±0.07×139.9E±0.1,h500km,n25,
σ1§27/33,mb3.3/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.26**	**115**	P		**P**	**19 18 27.4**	**0.0**
CBIJ				*eS*		**S**	**19 19 19.1**	**-2.3**
JCJ	**Chichijima**	**2.26**	**115**	P		**P**	**19 18 27.2**	**-0.2**
	22nm,0.3s,baz=280,slow=23,SNR=9.8							
JCJ				S		**S**	**19 19 19.3**	**-2.1**
	62nm,0.3s,baz=91,slow=23,SNR=14							
JHH2	**Haha-jima-NKT2**	**2.50**	**125**	P		**P**	**19 18 29.4**	**+0.6**
JHH2				S		**S**	**19 19 23.1**	**-0.7**
JHCJ	**Hachijojimakas**	**4.97**	**359**	P		**P**	**19 18 48.0**	**+0.5**
JHJ2	**Mitsune**	**5.01**	**359**	P		**P**	**19 18 47.7**	**-0.1**
JHJ2				S		**S**	**19 19 55.7**	**-3.2**
JHJ	**Hachijo jima 2**	**5.01**	**359**	P		**P**	**19 18 47.9**	**0.0**
	9.3nm,0.3s,baz=257,slow=22,SNR=13							
JHJ				S		**S**	**19 19 57.4**	**-1.6**
	11nm,0.3s,baz=72,slow=22,SNR=6.7							
BSO1	**Boso 1**	**6.61**	**8**	P		**P**	**19 19 03.7**	**+1.3**
BSO1				S		**S**	**19 20 25.3**	**-0.5**
BSO3	**Boso 3

λ70.32105°. **Principal axes:** T Plg75.7508°, Azm242.2744°; N Plg14.2473°, Azm61.3239°; P Plg0.2267°, Azm151.3815°; **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**1.07**	**69**		**Pn**	**19 34 23.1**	**+0.5**
GASW	**Gareloi Southw**	**1.15**	**58**		**Pb**	**19 34 25.1**	**-0.1**
GASW					**Sb**	**19 34 44.7**	**+5.0**
GALAA	**Gareloi Lava P**	**1.18**	**60**		**Pb**	**19 34 25.6**	**-0.2**
GAEA	**Gareloi East**	**1.21**	**59**		**Pb**	**19 34 26.0**	**-0.1**
TASE	**Tanaga Southea**	**1.62**	**65**		**Pn**	**19 34 31.8**	**+1.5**
TAFL	**Tanaga Flats**	**1.68**	**69**		**Pn**	**19 34 32.4**	**+1.4**
TAFP	**Tanaga Falls P**	**1.68**	**63**		**Pn**	**19 34 32.9**	**+1.8**
TAPA	**Tanaga Point A**	**1.75**	**67**		**Pn**	**19 34 33.3**	**+1.3**
KIMD	**Kanaga Island**	**2.07**	**72**		**Pn**	**19 34 37.4**	**+1.0**
KICM	**Kanaga Island**	**2.14**	**68**		**Pn**	**19 34 39.5**	**+2.1**
KIKV	**Kanaga Island**	**2.14**	**70**		**Pn**	**19 34 39.1**	**+1.7**
KIWB	**Kanaga Island**	**2.15**	**70**		**Pn**	**19 34 39.2**	**+1.7**
KIRH	**Kanaga Island**	**2.19**	**69**		**Pn**	**19 34 39.9**	**+1.8**
ADK	**Adak**	**2.43**	**72**		**Pn**	**19 34 42.4**	**+1.0**
ADK	**Adak**	**2.43**	**72**		**Sb**	**19 35 16.5**	**0.0**
ADK	**Adak**	**2.43**	**72**	P	**Pb**	**19 34 45.0**	**-1.9**
GSCK	**Great Sitkin C**	**2.78**	**71**		**Pn**	**19 34 47.9**	**+1.7**
GSTD	**Great Sitkin T**	**2.80**	**70**		**Pn**	**19 34 48.2**	**+1.6**
GSTD					**Sb**	**19 35 24.5**	**-2.6**
GSMY	**Great Sitkin M**	**2.85**	**71**		**Pn**	**19 34 48.6**	**+1.4**
GSTR	**Great Sitkin T**	**2.86**	**70**		**Pn**	**19 34 49.0**	**+1.7**
SHEM	**Shemya Is, Ala**	**3.74**	**297**	Pn	**Pn**	**19 34 59.9**	**+0.7**
	156nm,0.3s,baz=74,slow=2.2,SNR=49						
SHEM				Sn	**Sn**	**19 35 44.0**	**+1.9**
	76nm,0.3s,baz=90,slow=20,SNR=1.3						
SHEM				LR	LR	19 36 27.8	
	comp=Z,36μm,20.1s,baz=137,slow=39						
SMY	**Shemya**	**3.74**	**297**	P	**Pn**	**19 35 01.1**	**+1.8**
SMY						19 35 47.1	
SMY	**Shemya**	**3.74**	**297**	Pn	**Pn**	**19 35 01.1**	**+1.8**
ATKA	**Atka Island**	**4.00**	**73**		**Pn**	**19 35 04.5**	**+1.6**
ATKA					**Sb**	**19 35 56.9**	**-4.6**
ATKA	**Atka Island**	**4.00**	**73**	P	**Pn**	**19 35 05.4**	**+2.5**
KOKL	**Mount Kliuchef**	**4.03**	**71**		**Pn**	**19 35 05.4**	**+2.1**
KOFP	**Korovin Flat P**	**4.08**	**72**		**Pn**	**19 35 06.4**	**+2.4**
OKFG	**Magazine Ridge**	**7.99**	**69**		**Pn**	**19 36 00.7**	**+3.1**
SPIA	**Saint Paul Isl**	**8.46**	**41**	Pn	Pn	19 36 08.7	+4.6
SPIA	**Saint Paul Isl**	**8.46**	**41**	P	Pn	19 36 09.4	+5.3
	baz=228,SNR=40						
SPIA	**Saint Paul Isl**	**8.46**	**41**	P	Pn	19 36 09.5	+5.4
MSW	**Makushin Switc**	**8.75**	**66**		**Pn**	**19 36 11.0**	**+2.9**
MTBL	**Makushin Table**	**8.82**	**66**		**Pn**	**19 36 12.2**	**+3.1**
UNV	**Unalaska Valle**	**8.89**	**67**	Pn	Sn	19 37 58.8	+10
UNV	**Unalaska Valle**	**8.89**	**67**	P	**Pn**	**19 36 12.1**	**+2.1**
	baz=257,SNR=16						
AKMO	**Akutan Morgan**	**9.23**	**66**		**Pn**	**19 36 18.0**	**+3.4**
AKGG	**Akutan Green G**	**9.27**	**65**		**Pn**	**19 36 18.9**	**+3.7**
AKBBA	**Akutan Broad B**	**9.28**	**66**		**Pn**	**19 36 19.3**	**+4.0**
WECS	**Westdahl Cape**	**10.03**	**64**		**Pn**	**19 36 28.8**	**+3.1**
FALS	**False Pass**	**10.88**	**64**	Pn	**Pn**	**19 36 39.9**	**+2.7**
FALS	**False Pass**	**10.88**	**64**	P	**Pn**	**19 36 40.0**	**+2.9**
	baz=256,SNR=7.2						
FALS	**False Pass**	**10.88**	**64**	P	**Pn**	**19 36 40.5**	**+3.4**
SDPT	**Sand Point**	**12.63**	**63**	Pn	**Pn**	**19 37 01.1**	**0.0**
SDPT	**Sand Point**	**12.63**	**63**	P	**Pn**	**19 37 01.9**	**+0.8**
	baz=258						
PET	**Petropavlovsk**	**13.00**	**286**	*e*P	**Pn**	**19 37 04.9**	**-1.3**
PET				*e*S	**Sn**	**19 39 30.2**	**+0.7**
PET				pmax	pmax		
	comp=Z,1μm,13.8s						
PET				pmax	pmax		
	comp=Z,2μm,13.5s						
PET				pmax	pmax		
	comp=Z,65nm,1.1s						
PET				MLR	MLR		
	comp=Z,7μm,15.0s						
PET				MLR	MLR		
	comp=Z,7μm,15.0s						
PET	**Petropavlovsk**	**13.00**	**286**	P	**Pn**	**19 37 08.2**	**+2.0**
GAMB	**Gambell**	**13.45**	**17**	Pn	Pn	19 37 17.0	+4.8
GAMB	**Gambell**	**13.45**	**17**	P	**Pn**	**19 37 16.5**	**+4.2**
	baz=204,SNR=10						
PEA0B	**Petropavlovsk-**	**13.57**	**287**	P	**Pn**	**19 37 14.6**	**+0.6**
PEA0B	**Petropavlovsk-**	**13.57**	**287**	Pn	**Pn**	**19 37 14.6**	**+0.6**
PETK	**Petropavlovsk-**	**13.57**	**287**	Pn	**Pn**	**19 37 14.5**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=94,slow=16,SNR=14						
PETK				Sn	**Sn**	**19 39 36.9**	**-6.7**
	comp=Z,0.2nm,0.3s,baz=122,slow=23,SNR=1.5						
PETK				LR	LR	19 42 22.2	
	comp=Z,7μm,21.5s,baz=96,slow=37						
PETK	**Petropavlovsk-**	**13.57**	**287**	Pn	**Pn**	**19 37 14.9**	**+0.9**
SKR	**Severo-Kuril's**	**14.80**	**277**	*e*P	**Pn**	**19 37 30.9**	**+0.2**
SKR				*e*S	**Sn**	**19 40 14.3**	**+0.9**
SKR				pmax	pmax		
	comp=Z,112nm,1.0s						
SKR				pmax	pmax		
	comp=Z,700nm,5.1s						
SKR				pmax	pmax		
	comp=Z,600nm,5.4s						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
CHIR	**Chirikof Islan**	**15.43**	**63**		**Pn**	**19 37 38.4**	**-0.5**
CHIR				IAmb	IAmb	19 37 48.4	
	comp=Z,288nm,0.9s						
CHIR	**Chirikof Islan**	**15.43**	**63**	P	**Pn**	**19 37 40.2**	**+1.2**
	baz=262						
ANM	**Nome**	**15.56**	**25**	P	**P**	**19 37 45.7**	**+1.1**
ANM				pmax	pmax		
	comp=Z,64nm,0.8s						
ANM	**Nome**	**15.56**	**25**	P	**P**	**19 37 45.7**	**+1.1**
ANM	**Nome**	**15.56**	**25**	P	**P**	**19 37 47.6**	**+3.0**
	baz=217,SNR=10						
TNA	**Tin City**	**15.79**	**19**	P	**P**	**19 37 48.7**	**+1.6**
TNA				IAmb	IAmb	19 37 52.6	
	comp=Z,405nm,1.5s						
TNA	**Tin City**	**15.79**	**19**	P	**P**	**19 37 48.7**	**+1.6**
	baz=210,SNR=57						
SII	**Sitkinak Islan**	**16.32**	**61**	Pn	**Pn**	**19 37 49.9**	**-0.5**
SII	**Sitkinak Islan**	**16.32**	**61**	P	**Pn**	**19 37 51.9**	**+1.5**
	baz=261,SNR=20						
SII	**Sitkinak Islan**	**16.32**	**61**	P	**P**	**19 37 54.1**	**+1.0**
P18K	**Big Mountain,**	**16.45**	**50**	P	**Pn**	**19 37 53.7**	**+1.7**
	baz=250						
N18K	**Kilae Creek**	**16.61**	**46**	P	**P**	**19 37 57.2**	**+0.9**
N18K				IAmb	IAmb	19 38 05.8	
	comp=Z,940nm,1.6s						
N18K	**Kilae Creek**	**16.61**	**46**	P	**P**	**19 37 58.2**	**+1.9**
	baz=246,SNR=44						
O18K	**Koktuh Hills**	**16.61**	**49**		**P**	**19 37 56.8**	**+0.5**
O18K				IAmb	IAmb	19 38 05.3	
	comp=Z,400nm,0.8s						
O18K	**Koktuh Hills**	**16.61**	**49**	P	**P**	**19 37 57.6**	**+1.2**
	baz=249,SNR=50						
OHAK	**Old Harbor**	**16.91**	**58**	Pn	**Pn**	**19 37 55.6**	**-2.2**
OHAK				IAmb	IAmb	19 38 04.4	
	comp=Z,326nm,0.8s						
OHAK	**Old Harbor**	**16.91**	**58**	P	**Pn**	**19 37 57.9**	**0.0**
	baz=260,SNR=34						
SVW2	**Sparrevohn**	**16.92**	**44**	P	**P**	**19 38 00.3**	**+0.6**
Q19K	**Cape Douglas,**	**17.09**	**53**		**Pn**	**19 38 01.3**	**+1.1**
Q19K				IAmb	IAmb	19 38 13.1	
	comp=Z,377nm,0.6s						
Q19K	**Cape Douglas,**	**17.09**	**53**	P	**Pn**	**19 38 01.7**	**+1.5**
	baz=254						
O19K	**Port Alsworth**	**17.15**	**48**	P	**P**	**19 38 03.0**	**+0.8**
O19K	**Port Alsworth**	**17.15**	**48**	P	**P**	**19 38 03.0**	**+0.8**
	baz=249,SNR=44						
N19K	**Bonanza Creek**	**17.30**	**46**	P	**P**	**19 38 05.4**	**+1.3**
N19K				IAmb	IAmb	19 38 24.9	
	comp=Z,349nm,0.9s						
N19K	**Bonanza Creek**	**17.30**	**46**	P	**P**	**19 38 05.3**	**+1.3**
	baz=247,SNR=89						
KDAK	**Kodiak Island**	**17.38**	**57**	P	**Pn**	**19 38 01.0**	**-2.7**
	comp=Z,6.8nm,0.3s,baz=244,slow=1.5,SNR=41						
KDAK				S	**Sn**	**19 41 12.7**	**-3.2**
	comp=Z,1.1nm,0.3s,baz=343,slow=19,SNR=2.5						
KDAK	**Kodiak Island**	**17.38**	**57**	*i* P	**Pn**	**19 38 01.3**	**-2.4**
KDAK	**Kodiak Island**	**17.38**	**57**	Pn	**Pn**	**19 38 02.5**	**-1.2**
KDAK	**Kodiak Island**	**17.38**	**57**	P	**Pn**	**19 38 04.2**	**+0.5**
	baz=259						
P19K	**Oil Pt**	**17.50**	**50**	P	**P**	**19 38 06.7**	**+0.6**
P19K	**Oil Pt**	**17.50**	**50**	P	**P**	**19 38 07.9**	**+1.7**
	baz=252						
TTA	**Tatalina**	**17.60**	**39**	P	**P**	**19 38 08.7**	**+1.5**
TTA				pmax	pmax		
	comp=Z,232nm,1.1s						
TTA	**Tatalina**	**17.60**	**39**	P	**P**	**19 38 08.7**	**+1.5**
TTA	**Tatalina**	**17.60**	**39**	P	**P**	**19 38 08.7**	**+1.5**
	baz=239,SNR=131						
L19K	**White Mountain**	**17.71**	**42**		**Pn**	**19 38 08.0**	**+0.3**
L19K	**White Mountain**	**17.71**	**42**	P	**P**	**19 38 09.9**	**+1.5**
	baz=243,SNR=138						
M19K	**Big River Lodg**	**17.78**	**43**	P	**P**	**19 38 10.8**	**+1.6**
M19K	**Big River Lodg**	**17.78**	**43**	P	**P**	**19 38 11.2**	**+2.0**
	baz=244						
O20K	**Slope Mountain**	**17.92**	**49**	P	**P**	**19 38 14.5**	**+3.7**
	baz=252,SNR=10						
RSO	**Redoubt South**	**17.98**	**48**	P	**P**	**19 38 13.3**	**+1.8**
BILL	**Bilibino**	**18.13**	**344**	*d* P	**P**	**19 38 14.4**	**+1.4**
BILL				pmax	pmax		
	comp=Z,180nm,1.1s						
BILL				MLR	MLR		
	comp=Z,6μm,16.0s						
BILL	**Bilibino**	**18.13**	**344**	P	**P**	**19 38 14.8**	**+1.9**
L20K	**Farewell, AK**	**18.25**	**42**	P	**P**	**19 38 15.8**	**+1.4**
	baz=244,SNR=53						
HOM	**Homer**	**18.27**	**51**	P	**Pn**	**19 38 18.7**	**+4.0**
	baz=254						
MA2	**Magadan**	**18.28**	**309**	P	**P**	**19 38 15.9**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=96,slow=10,SNR=11						
MA2				LR	LR	19 45 03.3	
	comp=Z,10μm,19.3s,baz=113,slow=36						
MA2	**Magadan**	**18.28**	**309**	*ce* P	**P**	**19 38 15.6**	**+0.9**
MA2				pmax	pmax		
	comp=Z,31nm,0.7s						
MA2	**Magadan**	**18.28**	**309**	P	**P**	**19 38 15.5**	**+0.8**
MA2	**Magadan**	**18.28**	**309**	P	**P**	**19 38 16.2**	**+1.5**
GCSA	**Galena City Sc**	**18.29**	**33**	P	**Pn**	**19 38 16.7**	**+1.9**
	baz=233,SNR=90						
SPU	**Mount Spurr**	**18.54**	**46**	P	**P**	**19 38 18.4**	**+0.8**
K20K	**Telida**	**18.58**	**39**	P	**Pn**	**19 38 19.4**	**+1.1**
K20K				IAmb	IAmb	19 38 38.1	
	comp=Z,449nm,1.5s						
K20K	**Telida**	**18.58**	**39**	P	**Pn**	**19 38 20.0**	**+1.6**
	baz=241,SNR=80						
BRLK	**Bradley Lake**	**18.67**	**51**		**Pn**	**19 38 20.5**	**+1.0**
SEY	**Seymchan**	**18.73**	**319**	P	**P**	**19 38 20.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=132,slow=10.0,SNR=22						
SEY				LR	LR	19 45 01.8	
	comp=Z,8μm,20.8s,baz=116,slow=35						
SEY	**Seymchan**	**18.73**	**319**	*ce* P	**P**	**19 38 20.1**	**+0.5**
SEY				pmax	pmax		
	comp=Z,29nm,0.8s						
BRSE	**Bradley Lake S**	**18.74**	**51**	P	**Pn**	**19 38 21.0**	**+0.7**
	baz=255,SNR=8.4						
J20K	**Nowinta River**	**18.96**	**37**	P	**Pn**	**19 38 23.5**	**+0.6**
J20K				IAmb	IAmb	19 38 28.6	
	comp=Z,618nm,1.5s						
J20K	**Nowinta River**	**18.96**	**37**	P	**Pn**	**19 38 23.5**	**+0.6**
	baz=239,SNR=175						
RDOG	**Red Dog Mine**	**18.97**	**20**	P	**Pn**	**19 38 23.6**	**+0.5**
RDOG	**Red Dog Mine**	**18.97**	**20**	P	**Pn**	**19 38 24.8**	**+1.7**
	baz=216,SNR=36						
PPLA	**Purkeypile**	**19.13**	**41**	P	**Pn**	**19 38 26.8**	**+1.6**
	baz=245,SNR=22						
CAST	**Castle Rocks**	**19.40**	**40**	P	**Pn**	**19 38 28.6**	**+0.3**
CAST				IAmb	IAmb	19 38 46.0	
	comp=Z,170nm,0.8s						
CAST	**Castle Rocks**	**19.40**	**40**	P	**Pn**	**19 38 28.6**	**+0.3**
	baz=244						
O22K	**Cooper Landing**	**19.42**	**49**	P	**Pn**	**19 38 28.7**	**+0.3**
O22K	**Cooper Landing**	**19.42**	**49**	P	**Pn**	**19 38 29.9**	**+1.5**
	baz=255,SNR=32						
SEW	**Seward**	**19.45**	**51**		**P**	**19 38 28.6**	**+1.1**
SEW	**Seward**	**19.45**	**51**	P	**Pn**	**19 38 29.2**	**+0.3**
	baz=256,SNR=9.5						
CHUM	**Lake Minchumin**	**19.52**	**39**	P	**Pn**	**19 38 29.9**	**+0.3**
	baz=242,SNR=153						
RC01	**Rabbit Creek A**	**19.58**	**48**	P	**Pn**	**19 38 31.7**	**+1.4**
	baz=253						
M22K	**Willow**	**19.60**	**46**	P	**P**	**19 38 29.9**	**+0.7**
M22K	**Willow**	**19.60**	**46**	P	**P**	**19 38 30.5**	**+1.3**
	baz=251,SNR=46						
CUT	**Chulitna**	**19.76**	**44**	P	**P**	**19 38 31.6**	**+0.8**
CUT	**Chulitna**	**19.76**	**44**	P	**P**	**19 38 31.2**	**+0.3**
	baz=249,SNR=29						
KTH	**Kantishna Hill**	**19.93**	**40**	P	**P**	**19 38 33.8**	**+1.0**
PMR	**Palmer**	**20.00**	**47**	P	**P**	**19 38 34.1**	**+0.6**
PMR				pmax	pmax		
	comp=Z,245nm,1.7s						
PMR	**Palmer**	**20.00**	**47**	P	**P**	**19 38 34.1**	**+0.6**
PMR	**Palmer**	**20.00**	**47**	P	**P**	**19 38 34.1**	**+0.6**
	baz=252						
IMAR	**Indian Mountai**	**20.08**	**32**	P	**P**	**19 38 35.2**	**+0.9**
BPAW	**Bear Paw Mtn.**	**20.14**	**39**	P	**P**	**19 38 36.4**	**+1.4**
BPAW				IAmb	IAmb	19 38 55.0	
	comp=Z,401nm,1.2s						
BPAW				IAMs_20	IAMs_20	19 46 52.8	
	comp=Z,9μm,18.0s						
BPAW	**Bear Paw Mtn.**	**20.14**	**39**	P	**P**	**19 38 36.2**	**+1.2**
	baz=244,SNR=82						
TRF	**Thorofare Moun**	**20.15**	**41**	P	**P**	**19 38 36.6**	**+1.4**
TRF				IAMs_20	IAMs_20	19 47 12.0	
	comp=Z,13μm,18.0s						
TRF	**Thorofare Moun**	**20.15**	**41**	P	**P**	**19 38 37.1**	**+1.9**
	baz=246,SNR=52						
GHO	**Glory Hole Cre**	**20.15**	**46**	IAMs_20	IAMs_20	19 46 44.7	
	comp=Z,9μm,20.0s						
PWL	**Port Wells**	**20.17**	**49**	P	**P**	**19 38 36.1**	**+0.7**
PWL				IAmb	IAmb	19 38 45.1	
	comp=Z,324nm,0.9s						
PWL	**Port Wells**	**20.17**	**49**	P	**P**	**19 38 36.9**	**+1.5**
	baz=255,SNR=24						
H21K	**Melozitna Rive**	**20.23**	**34**	P	**P**	**19 38 37.8**	**+1.8**
H21K				IAmb	IAmb	19 38 57.3	
	comp=Z,295nm,1.0s						
H21K	**Melozitna Rive**	**20.23**	**34**	P	**P**	**19 38 37.5**	**+1.6**
	baz=237,SNR=327						
KNK	**Knik Glacier**	**20.26**	**47**	P	**P**	**19 38 36.5**	**+0.1**
KNK				IAmb	IAmb	19 38 52.7	
	comp=Z,239nm,1.1s						
KNK				IAMs_20	IAMs_20	19 47 06.8	
	comp=Z,11μm,19.0s						
KNK	**Knik Glacier**	**20.26**	**47**	P	**P**	**19 38 36.5**	**+0.1**
	baz=254,SNR=23						
I21K	**Tanana**	**20.27**	**35**	P	**P**	**19 38 37.7**	**+1.3**
I21K				IAmb	IAmb	19 38 53.9	
	comp=Z,371nm,1.1s						
I21K	**Tanana**	**20.27**	**35**	P	**P**	**19 38 38.0**	**+1.6**
	baz=240,SNR=129						
SML	**Sawmill**	**20.43**	**46**	P	**P**	**19 38 38.2**	**0.0**
SML				IAmb	IAmb	19 39 03.5	
	comp=Z,186nm,1.0s						
SML				IAMs_20	IAMs_20	19 47 04.4	
	comp=Z,10μm,20.0s						
SML	**Sawmill**	**20.43**	**46**	P	**P**	**19 38 38.2**	**0.0**
	baz=253,SNR=26						
WAT1	**Susitna Watana**	**20.65**	**43**	P	**P**	**19 38 40.7**	**+0.1**
	baz=250						
RND	**Reindeer**	**20.73**	**42**	P	**P**	**19 38 41.6**	**+0.1**
RND				pmax	pmax		
	comp=Z,94nm,0.8s						
RND				MLR	MLR		
	comp=Z,10μm,19.0s						
RND	**Reindeer**	**20.73**	**42**	P	**P**	**19 38 41.6**	**+0.1**
RND				IAMs_20	IAMs_20	19 47 06.3	
	comp=Z,10μm,19.0s						
GLI	**Glacier Island**	**20.77**	**49**	P	**P**	**19 38 41.4**	**-0.4**
GLI				IAmb	IAmb	19 39 00.2	
	comp=Z,130nm,0.7s						
GLI	**Glacier Island**	**20.77**	**49**	P	**P**	**19 38 40.8**	**-1.1**
	baz=257,SNR=6.1						
BWN	**Browne**	**20.77**	**39**	P	Pn	19 38 44.3	-0.1
BWN				IAMs_20	IAMs_20	19 47 23.4	
	comp=Z,8μm,18.0s						
MCK	**McKinley**	**20.82**	**41**	P	**P**	**19 38 43.2**	**+0.9**
MCK				pmax	pmax		
	comp=Z,234nm,1.0s						
MCK				MLR	MLR		
	comp=Z,14μm,18.0s						
MCK	**McKinley**	**20.82**	**41**	P	**P**	**19 38 43.2**	**+0.9**
MCK				IAmb	IAmb	19 39 03.1	
	comp=Z,234nm,1.0s						
MCK				IAMs_20	IAMs_20	19 47 41.6	
	comp=Z,14μm,18.0s						
MCK	**McKinley**	**20.82**	**41**	P	**P**	**19 38 43.4**	**+1.1**
	baz=247,SNR=80						
SCM	**Sheep Creek Mo**	**20.89**	**47**	P	**P**	**19 38 42.8**	**-0.5**
SCM				pmax	pmax		
	comp=Z,253nm,0.8s						
SCM				MLR	MLR		
	comp=Z,10μm,19.0s						
SCM	**Sheep Creek Mo**	**20.89**	**47**	P	**P**	**19 38 42.8**	**-0.5**
SCM				IAmb	IAmb	19 39 02.9	
	comp=Z,253nm,0.8s						
SCM				IAMs_20	IAMs_20	19 47 27.7	
	comp=Z,10μm,19.0s						
SCM	**Sheep Creek Mo**	**20.89**	**47**	P	**P**	**19 38 42.6**	**-0.6**
	baz=254,SNR=32						
WAT6	**Susitna Watana**	**20.93**	**44**	P	**P**	**19 38 42.8**	**-0.9**
	baz=252,SNR=94						
FID	**Port Fidalgo**	**21.04**	**50**	P	**P**	**19 38 44.1**	**-0.6**
FID				IAmb	IAmb	19 39 04.5	
	comp=Z,228nm,1.0s						
NEA2	**Nenana**	**21.11**	**39**	P	**P**	**19 38 46.2**	**+0.8**
NEA2				IAMs_20	IAMs_20	19 47 32.4	
	comp=Z,7μm,19.0s						
NEA2	**Nenana**	**21.11**	**39**	P	**P**	**19 38 46.2**	**+0.8**
	baz=245,SNR=119						
I23K	**Minto, Yukon-K**	**21.23**	**37**	P	**P**	**19 38 47.2**	**+0.5**
I23K				IAmb	IAmb	19 39 16.3	
	comp=Z,195nm,1.1s						
I23K				IAMs_20	IAMs_20	19 47 17.8	
	comp=Z,7μm,19.0s						
I23K	**Minto, Yukon-K**	**21.23**	**37**	P	**P**	**19 38 47.8**	**+1.0**
	baz=243,SNR=61						
DHY	**Denali Highway**	**21.24**	**43**	P	**P**	**19 38 47.9**	**+0.9**
DHY				IAmb	IAmb	19 39 05.6	
	comp=Z,298nm,1.0s						
DHY				IAMs_20	IAMs_20	19 47 38.9	
	comp=Z,9μm,18.0s						
DHY	**Denali Highway**	**21.24**	**43**	P	**P**	**19 38 47.1**	**0.0**
	baz=251,SNR=61						
EYAK	**Cordova Ski Ar**	**21.35**	**51**	P	**P**	**19 38 48.7**	**+0.7**
EYAK	**Cordova Ski Ar**	**21.35**	**51**	P	**P**	**19 38 48.4**	**+0.4**
	baz=259						
WRH	**Wood River Hil**	**21.44**	**39**	P	**P**	**19 38 48.7**	**-0.4**
WRH				IAmb	IAmb	19 39 09.9	
	comp=Z,229nm,1.4s						
WRH				IAMs_20	IAMs_20	19 47 51.3	
	comp=Z,7μm,18.0s						
DIV	**Divide**	**21.45**	**49**	P	**P**	**19 38 49.5**	**+0.2**
DIV				IAmb	IAmb	19 39 17.5	
	comp=Z,153nm,0.9s						
KLU	**Klutina**	**21.46**	**48**	P	**P**	**19 38 49.0**	**-0.4**
KLU				IAmb	IAmb	19 39 01.4	
	comp=Z,125nm,0.7s						
KLU				IAMs_20	IAMs_20	19 48 03.6	
	comp=Z,9μm,18.0s						
KLU	**Klutina**	**21.46**	**48**	P	**P**	**19 38 51.2**	**+1.8**
	baz=257,SNR=28						
H23K	**Yukon River**	**21.48**	**35**	P	**P**	**19 38 50.7**	**+1.3**
H23K	**Yukon River**	**21.48**	**35**	P	**P**	**19 38 50.5**	**+1.1**
	baz=242,SNR=100						
M24K	**Tolsona, Glenn**	**21.49**	**46**	P	**P**	**19 38 50.0**	**+0.4**
M24K				IAmb	IAmb	19 39 15.5	
	comp=Z,240nm,0.8s						
M24K				IAMs_20	IAMs_20	19 47 46.5	
	comp=Z,8μm,21.0s						
M24K	**Tolsona, Glenn**	**21.49**	**46**	P	**P**	**19 38 50.6**	**+0.9**
	baz=255,SNR=22						
MDM	**Murphy Dome**	**21.58**	**38**	P	**P**	**19 38 51.2**	**+0.6**
MDM				IAmb	IAmb	19 39 09.4	
	comp=Z,151nm,1.0s						
MDM				IAMs_20	IAMs_20	19 47 47.1	
	comp=Z,8μm,18.0s						
CCB	**Clear Creek Bu**	**21.62**	**39**	P	**P**	**19 38 50.4**	**-0.6**
CCB				IAMs_20	IAMs_20	19 47 48.1	
	comp=Z,7μm,19.0s						
TCOL	**CIGO, UAF Yank**	**21.69**	**38**	P	**P**	**19 38 52.5**	**+0.9**
TCOL				IAmb	IAmb	19 39 12.9	
	comp=Z,134nm,0.8s						
TCOL				IAMs_20	IAMs_20	19 47 49.9	
	comp=Z,8μm,18.0s						
TCOL	**CIGO, UAF Yank**	**21.69**	**38**	P	**P**	**19 38 53.2**	**+1.5**
	baz=246,SNR=24						
COLA	**College**	**21.70**	**38**	*i* P	**P**	**19 38 52.1**	**+0.4**
COLA				pmax	pmax		
	comp=Z,106nm,0.9s						
COLA	**College**	**21.70**	**38**	IAMs_20	IAMs_20	19 47 49.9	
	comp=Z,7μm,18.0s						
COLA	**College**	**21.70**	**38**	P	**P**	**19 38 53.2**	**+1.5**
	baz=246						
RAGM	**Ragged Mountai**	**21.85**	**51**	IAMs_20	IAMs_20	19 47 50.8	
	comp=Z,12μm,22.0s						
KUR	**Kuril'sk**	**21.85**	**267**	*c* P	P	19 38 46.0	-7.5
KUR				*i* S	**S**	**19 42 54.2**	**+1.1**
KUR				*e*SS	**SnSn**	**19 43 25.0**	**+6.1**
KUR				pmax	pmax		
	comp=E,377nm,1.2s						
KUR				pmax	pmax		
	comp=Z,723nm,1.2s						
KUR				pmax	pmax		
	comp=Z,2μm,10.7s						
KUR				MLR	MLR		
	comp=Z,2μm,19.0s						
KUR				MLR	MLR		
	comp=E,2μm,15.0s						
KUR				MLR	MLR		
	comp=N,3μm,19.0s						
HDA	**Harding Lake**	**21.88**	**40**	P	**P**	**19 38 54.5**	**+0.8**
HDA				IAMs_20	IAMs_20	19 48 14.8	
	comp=Z,9μm,18.0s						
HDA	**Harding Lake**	**21.88**	**40**	P	**P**	**19 38 55.7**	**+2.0**
	baz=248,SNR=12						
KAIM	**Kayak Island**	**21.91**	**52**	IAMs_20	IAMs_20	19 48 19.3	
	comp=Z,7μm,19.0s						
COLD	**

baz=252,SNR=20
VRDI Verde Repeater 22.57 49 P P 19 38 59.7 -1.7
VRDI IAmb IAmb 19 39 19.3
comp=Z,145nm,0.8s
VRDI IAMs_20 IAMs_20 19 48 57.1
comp=Z,10µm,22.0s
J25K Salcha River, 22.59 40 P P 19 38 59.7 -1.7
J25K IAMs_20 IAMs_20 19 48 54.6
comp=Z,8µm,18.0s
J25K Salcha River, 22.59 40 P P 19 39 00.1 -1.3
baz=250,SNR=25
WAX Waxell Ridge 22.75 51 P P 19 39 03.9 +0.7
WAX IAmb IAmb 19 39 18.8
comp=Z,130nm,0.9s
WAX IAMs_20 IAMs_20 19 48 49.7
comp=Z,7µm,20.0s
MENT Mentasta 22.80 45 P P 19 39 04.3 +0.7
MENT IAmb IAmb 19 39 29.2
comp=Z,99nm,0.7s
TGL Tana Glacier 22.80 51 P P 19 39 03.0 -0.7
TGL IAmb IAmb 19 39 13.0
comp=Z,125nm,1.0s
MCARA McCarthy VSAT 22.80 49 P P 19 39 03.6 0.0
MCARA IAmb IAmb 19 39 29.3
comp=Z,143nm,0.9s
MCARA IAMs_20 IAMs_20 19 49 05.2
comp=Z,10µm,21.0s
MCARA McCarthy VSAT 22.80 49 P P 19 39 03.7 0.0
baz=260,SNR=13
DOT Dot Lake 22.84 43 P P 19 39 03.8 -0.2
DOT IAmb IAmb 19 39 19.8
comp=Z,144nm,1.0s
A21K Barrow 22.91 20 P P 19 39 05.6 +1.1
A21K Barrow 22.91 20 P P 19 39 05.9 +1.3
baz=221
TOLK Toolik Lake Re 22.93 29 P P 19 39 05.7 +0.8
TOLK IAmb IAmb 19 39 08.6
comp=Z,127nm,0.7s
TOLK Toolik Lake Re 22.93 29 P P 19 39 05.3 +0.4
baz=236,SNR=232
SCRK Sand Creek 22.96 42 P P 19 39 04.4 -0.9
SCRK IAMs_20 IAMs_20 19 48 26.4
comp=Z,10µm,20.0s
SCRK Sand Creek 22.96 42 P P 19 39 03.9 -1.5
baz=253,SNR=67
L26K Log Cabin Wild 22.99 45 P P 19 39 05.8 +0.2
L26K IAmb IAmb 19 39 21.7
comp=Z,143nm,0.8s
L26K IAMs_20 IAMs_20 19 48 34.1
comp=Z,9µm,20.0s
L26K Log Cabin Wild 22.99 45 P P 19 39 06.7 +1.1
baz=256,SNR=69
ISLE Juniper Island 23.02 51 P P 19 39 06.9 +0.9
YAH Yahtse 23.29 52 P P 19 39 09.9 +1.1
YAH IAmb IAmb 19 39 33.7
comp=Z,125nm,1.0s
YAH IAMs_20 IAMs_20 19 49 05.8
comp=Z,6µm,19.0s
J26L Joseph Creek 23.29 41 P P 19 39 07.1 -1.6
baz=252,SNR=54
BARN Barnard Glacie 23.41 50 P P 19 39 09.3 -0.7
BARN IAmb IAmb 19 39 27.4
comp=Z,109nm,0.7s
M27K Edge Creek, AK 23.51 47 P P 19 39 10.7 -0.2
M27K IAmb IAmb 19 39 26.5
comp=Z,127nm,0.8s
M27K Edge Creek, AK 23.51 47 P P 19 39 11.6 +0.7
baz=259,SNR=38
CTG Chitna Glacier 23.55 50 P P 19 39 12.0 +0.7
baz=263,SNR=16
CTGM Chitina Glacie 23.56 50 P P 19 39 11.0 -0.3
CTGM IAmb IAmb 19 39 43.0
comp=Z,147nm,1.2s
TABL Table Mountain 23.59 52 P P 19 39 11.7 -0.1
TABL IAmb IAmb 19 39 29.0
comp=Z,198nm,1.0s
L27K Beaver Creek, 23.67 45 P P 19 39 12.0 -0.3
L27K Beaver Creek, 23.67 45 P P 19 39 12.3 0.0
baz=258,SNR=91
YUK Yuzh-Kuril'sk 23.68 266 eP P 19 39 10.5 -1.9
YUK *e* 19 39 40.2
YUK pmax pmax
comp=Z,472nm,0.9s
YUK pmax pmax
comp=N,97nm,0.6s
YUK pmax pmax
comp=E,128nm,0.7s
YUK pmax pmax
comp=Z,576nm,1.1s
YUK MLR MLR
comp=E,8µm,20.0s
YUK MLR MLR
comp=Z,4µm,20.0s
YUK MLR MLR
comp=N,3µm,18.0s
BCAR Beaver Creek A 23.69 45 P P 19 39 11.9 -0.6
LOGN Logan Glacier 23.70 51 P P 19 39 12.1 -0.6
LOGN IAmb IAmb 19 39 30.0
comp=Z,114nm,0.8s
NKL Nikolayevsk 23.75 290 eP P 19 39 13.2 +0.2
NKL pmax pmax
comp=E,4.0nm,0.9s
NKL pmax pmax
comp=N,1.0nm,0.6s
NKL pmax pmax
comp=Z,161nm,1.2s
NKL MLR MLR
comp=E,8.0nm,11.0s
NKL MLR MLR
comp=N,1.0nm,17.0s
NKL MLR MLR
comp=Z,3µm,17.0s
BMAR Burnt Mountain 23.96 34 P P 19 39 15.6 +0.5
UGL Uglegorsk 23.98 280 eP P 19 39 16.1 +0.9
UGL pmax pmax
comp=Z,190nm,1.0s
BVCY Beaver Creek 23.99 47 P P 19 39 14.9 -0.3
baz=260,SNR=32
PINM Pinnacle 24.01 53 P P 19 39 14.9 -0.6
baz=266
YUK3 Moose Creek 24.08 48 P P 19 39 15.5 -0.8
baz=262,SNR=53
BCPM Bancas Point 24.31 53 IAMs_20 IAMs_20 19 49 52.8
comp=Z,7µm,20.0s
YSS Yuzh-Sakhalins 24.33 275 deP P 19 39 19.1 +0.6
YSS *e**SP **sP** 19 39 31.4 +0.3
YSS *e*S **S** 19 43 36.1 +0.7
YSS pmax pmax
comp=Z,60nm,1.1s
YSS pmax pmax
comp=Z,1µm,4.1s
YSS MLR MLR
comp=Z,4µm,19.0s
YSS MLR MLR
comp=N,2µm,18.0s
YSS Yuzh-Sakhalins 24.33 275 IAMs_20 IAMs_20 19 47 47.6
comp=Z,6µm,20.0s
YSS Yuzh-Sakhalins 24.33 275 P P 19 39 19.6 +1.1
EGAK Eagle 24.36 41 P P 19 39 18.5 -0.1
EGAK IAmb IAmb 19 39 36.7
comp=Z,215nm,1.1s
EGAK IAMs_20 IAMs_20 19 49 35.5
comp=Z,7µm,18.0s
EGAK Eagle 24.36 41 P P 19 39 18.1 -0.6
baz=255,SNR=94
PNL Peninsula 24.42 54 P P 19 39 19.1 -0.1
baz=268
YUK4 Talbot Arm 24.89 50 P P 19 39 24.4 +0.7
baz=264,SNR=67
DAWY Dawson 24.95 43 P P 19 39 23.7 -0.3
DAWY IAmb IAmb 19 39 45.9
comp=Z,96nm,0.8s
DAWY Dawson 24.95 43 P P 19 39 23.8 -0.2
baz=258,SNR=47
YUK6 Outpost Mounta 25.00 51 P P 19 39 24.8 +0.1
baz=266,SNR=9.7
HYT Haines Junctio 25.41 51 P P 19 39 28.8 +0.5
HYT Haines Junctio 25.41 51 P P 19 39 28.8 +0.5
baz=267,SNR=18
I29M Ogilvie Camp, 25.68 40 IAMs_20 IAMs_20 19 50 44.3
comp=Z,8µm,18.0s
I29M Ogilvie Camp, 25.68 40 P P 19 39 30.4 -0.2
baz=257,SNR=8.4
JKA Kamikawa-asahi 25.69 269 P P 19 39 30.7 -0.1
ASAJ Asahikawa 25.69 269 P P 19 39 30.5 -0.3
comp=Z,147nm,0.9s,baz=24,slow=7.1,SNR=28
ASAJ LR LR 19 49 13.7
comp=Z,3µm,20.5s,baz=78,slow=36
M30M Minto, Yukon 25.88 47 P P 19 39 32.3 -0.2
M30M IAMs_20 IAMs_20 19 50 44.5
comp=Z,10µm,19.0s
M30M Minto, Yukon 25.88 47 P P 19 39 33.4 +1.0
baz=264,SNR=56
N31M Braeburn, Yuko 26.28 50 IAMs_20 IAMs_20 19 50 35.9
comp=Z,6µm,20.0s
N31M Braeburn, Yuko 26.28 50 P P 19 39 37.2 +1.2
baz=267
MAYO Mayo, Yukon 26.40 45 P P 19 39 42.4 +5.2
baz=263
ERM Erimo 26.42 264 ceP P 19 39 37.5 +0.1
ERM pmax pmax
comp=Z,86nm,1.1s
ERM Erimo 26.42 264 P P 19 39 37.8 +0.4
SKAG Skagway 26.49 54 P P 19 39 38.0 +0.1
SKAG Skagway 26.49 54 P P 19 39 38.2 +0.3
baz=272
SIT Sitka 26.67 60 P P 19 39 45.9 +6.4
baz=276
WHY Whitehorse 26.69 51 P P 19 39 40.8 +0.9
WHY Whitehorse 26.69 51 P P 19 39 40.6 +0.7
baz=270
GRNR Gornyy 26.90 286 ⇑iP P 19 39 41.8 +0.1
GRNR *e*S **S** 19 44 17.9 +1.6
GRNR pmax pmax
comp=E,30nm,0.9s
GRNR pmax pmax
comp=N,8.0nm,1.0s
GRNR pmax pmax
comp=Z,50nm,1.0s
GRNR smax smax
comp=N,2.0nm,0.6s
M31M Drury Creek, Y 26.97 48 P P 19 39 42.9 +0.7
M31M Drury Creek, Y 26.97 48 P P 19 39 43.0 +0.7
baz=267,SNR=26
JIS Juneau Island 27.05 57 P P 19 39 44.1 +1.1
JIS IAMs_20 IAMs_20 19 50 44.0
comp=Z,5µm,21.0s
FARO Faro, Yukon 27.46 48 P P 19 39 47.3 +0.6
baz=268
INK Inuvik 28.20 35 P P 19 39 53.1 -0.1
comp=Z,12nm,0.5s,baz=230,slow=9.6,SNR=21
INK PcP **PcP** 19 43 06.8 +0.9
comp=Z,14nm,0.7s,baz=310,slow=5.4,SNR=5.5
INK ScP **ScP** 19 46 45.3 +1.1
comp=Z,7.8nm,0.9s,baz=292,slow=5.4,SNR=14
INK Inuvik 28.20 35 P P 19 39 54.4 +1.2
INK PcP **PcP** 19 43 07.8 +1.9
INK Inuvik 28.20 35 P P 19 39 54.0 +0.8
baz=256,SNR=25
WRAK Wrangell Islan 28.39 60 IAMs_20 IAMs_20 19 50 26.6
comp=Z,5µm,20.0s
MMPY Sheldon Lake, 28.44 47 P P 19 39 55.4 0.0
baz=269
YAK Yakutsk 28.79 312 P P 19 39 57.6 -0.9
comp=Z,38nm,0.8s,baz=107,slow=5.3,SNR=31
YAK PcP **PcP** 19 43 07.1 -0.4
comp=Z,13nm,0.7s,baz=230,slow=1.9,SNR=5.4
YAK ScP **ScP** 19 46 46.5 +0.3
comp=Z,7.8nm,0.8s,baz=90,slow=4.0,SNR=5.9
YAK LR LR 19 51 27.8
comp=Z,5µm,19.4s,baz=106,slow=36
YAK Yakutsk 28.79 312 c iP P 19 39 57.2 -1.3
YAK *e**PP **pP** 19 40 04.8 -2.8
YAK *e*PPP PPP 19 40 54.9
YAK *e* 19 43 07.4
YAK *e*S **S** 19 44 45.1 -0.6
YAK *e* 19 50 40.2
YAK pmax pmax
comp=Z,111nm,1.0s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,61nm,1.3s
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,15nm,0.9s
YAK pmax pmax
comp=E,17nm,0.9s
YAK smax smax
comp=E,59nm,2.0s
YAK smax smax
comp=N,45nm,1.4s
YAK MLR MLR
comp=Z,6µm,16.0s
YAK MLR MLR
comp=E,4µm,16.0s
YAK MLR MLR
comp=N,3µm,17.0s
YAK Yakutsk 28.79 312 P P 19 39 57.2 -1.3
YAK IAmb IAmb 19 40 00.8
comp=Z,93nm,0.9s
YAK PcP **PcP** 19 43 08.3 +0.9
YAK IAMs_20 IAMs_20 19 51 16.2
comp=Z,5µm,20.0s
DIB Dawson Inlet, 29.03 67 P P 19 39 59.1 -1.5
DLBC Dease Lake 29.31 56 P P 19 40 04.6 +1.4
comp=Z,5.0nm,0.9s,baz=263,slow=8.1,SNR=8.4
DLBC LR LR 19 52 39.5
comp=Z,5µm,20.9s,baz=282,slow=38
TGTN Hyland Airport 29.87 49 P P 19 40 09.8 +1.6
baz=274,SNR=18
KLR Kul'dur 30.26 285 P P 19 40 11.5 -0.1
comp=Z,139nm,0.9s,baz=66,slow=7.8,SNR=363
KLR LR LR 19 55 43.9
comp=Z,2µm,18.1s,baz=58,slow=43
KLR Kul'dur 30.26 285 ceP P 19 40 11.2 -0.4
KLR pmax pmax
comp=Z,158nm,0.9s
TIXI Tiksi 30.32 331 P P 19 40 11.4 -0.5
comp=Z,7.4nm,0.7s,baz=121,slow=5.9,SNR=23
TIXI PcP **PcP** 19 43 10.7 -0.5
comp=Z,12nm,0.8s,baz=117,slow=6.8,SNR=6.4
TIXI LR LR 19 53 08.9
comp=Z,7µm,18.5s,baz=78,slow=38
TIXI Tiksi 30.32 331 ceP P 19 40 11.1 -0.8
TIXI pmax pmax
comp=Z,9.0nm,0.8s
TIXI Tiksi 30.32 331 P P 19 40 11.4 -0.5
TIXI **PcP** 19 43 11.0 -0.2
TIXI IAMs_20 IAMs_20 19 52 57.7
comp=Z,7µm,19.0s
ZEA Zeya 31.40 296 eP P 19 40 20.4 -1.2
ZEA *e* 19 41 30.9
ZEA *e*S S 19 45 18.8 -8.0
ZEA pmax pmax
comp=E,200nm,4.3s
ZEA pmax pmax
comp=Z,300nm,3.9s
ZEA pmax pmax
comp=E,50nm,0.9s
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,80nm,1.0s
ZEA smax smax
comp=N,300nm,19.1s
ZEA smax smax
comp=E,500nm,18.2s
ZEA MLR MLR
comp=E,2µm,18.0s
ZEA MLR MLR
comp=Z,2µm,19.0s
A36M Sachs Harbour 31.75 29 P P 19 40 25.4 +0.9
A36M Sachs Harbour 31.75 29 P P 19 40 25.3 +0.8
baz=259,SNR=188
C36M Paulatuk 31.76 34 P P 19 40 24.7 +0.1
C36M IAmb IAmb 19 40 27.0
comp=Z,53nm,1.1s
C36M Paulatuk 31.76 34 P P 19 40 24.4 -0.2
baz=264,SNR=55
BBB Bella Bella 31.86 67 P P 19 40 24.9 -0.8
comp=Z,16nm,0.9s,baz=274,slow=8.5,SNR=4.4
BBB LR LR 19 53 14.0
comp=Z,2µm,18.9s,baz=291,slow=36
WRGLY Wrigley 31.98 46 P P 19 40 26.7 +0.1
baz=275
USRK Ussuriysk Ar. 32.31 276 P P 19 40 28.9 -0.8
comp=Z,16nm,0.8s,baz=49,slow=7.3,SNR=14
USRK PcP **PcP** 19 43 17.6 +0.6
comp=Z,9.9nm,0.9s,baz=58,slow=2.4,SNR=7.2
USRK LR LR 19 53 00.7
comp=Z,2µm,20.4s,baz=60,slow=35
USRK Ussuriysk Ar. 32.31 276 P P 19 40 29.8 +0.1
USRK PcP **PcP** 19 43 18.0 +1.0
MAJO Matsushiro 32.75 260 i P P 19 40 33.6 -0.1
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 32.75 260 P P 19 40 33.4 -0.3
MAJO Matsushiro 32.75 260 P P 19 40 33.8 +0.1
MJAR Matsushiro Arr 32.75 260 P P 19 40 33.0 -0.6
comp=Z,11nm,0.9s,baz=20,slow=6.3,SNR=20
MJAR PcP **PcP** 19 43 18.1 -0.4
comp=Z,7.4nm,0.8s,baz=126,slow=3.4,SNR=6.0
MJAR LR LR 19 51 50.1
comp=Z,3µm,21.4s,baz=62,slow=33
MJAR Matsushiro Arr 32.75 260 P P 19 40 34.1 +0.4
MJAR PcP **PcP** 19 43 19.4 +1.0
H11N2 WAKE ISLAND Hy 32.94 202 T T 20 16 26.1
baz=18,slow=75,SNR=39
H11N3 WAKE ISLAND Hy 32.95 202 T T 20 16 18.4
baz=18,slow=75,SNR=147
H11N1 WAKE ISLAND Hy 32.96 202 T T 20 16 19.6
baz=18,slow=75,SNR=94
WAKE Wake Island 33.43 203 IAMs_20 IAMs_20 19 52 22.9
comp=Z,4µm,18.0s
MDJ Mudanjiang 33.60 279 P P 19 40 40.4 -0.7
MDJ IAMs_20 IAMs_20 19 53 45.1
comp=Z,5µm,20.0s
MDJ Mudanjiang 33.60 279 P P 19 40 39.7 -1.3
MDJ pP sP 19 40 52.8 -0.9
MDJ sP pP 19 40 59.6 +10
MDJ PcP **PcP** 19 43 21.1 +0.5
MDJ S **S** 19 46 05.1 +3.8
MDJ pmax pmax
comp=Z,26nm,0.9s
MDJ pmax pmax
comp=Z,380nm,7.4s
MDJ LR LR
comp=Z,1µm,19.6s
MDJ LR LR
comp=Z,4µm,19.5s
MDJ LR LR
comp=Z,6µm,20.1s
MDJ Mudanjiang 33.60 279 P P 19 40 40.1 -0.9
MSHR Mys Shultsa 33.66 275 ceP P 19 40 41.3 -0.2
MSHR pmax pmax
comp=Z,51nm,1.0s
JGF Kuroka 33.89 259 P P 19 40 43.1 -0.5
JHJ Hachijo jima 2 34.07 254 LR LR 19 55 39.5
comp=Z,1µm,18.7s,baz=91,slow=38
H11S1 WAKE ISLAND Hy 34.16 202 T T 20 17 50.3
baz=18,slow=76,SNR=158
H11S2 WAKE ISLAND Hy 34.18 202 T T 20 17 50.3
baz=18,slow=76,SNR=80
H11S3 WAKE ISLAND Hy 34.18 202 T T 20 17 50.6
baz=18,slow=76,SNR=80
BNX BinXian 34.42 282 ⇑P P 19 40 46.6 -1.5
BNX pP **sP** 19 40 58.2 -2.5
BNX sP **pP** 19 41 02.6 +5.6
BNX S **S** 19 46 11.1 -2.7
BNX sS **sS** 19 46 31.8 +3.1
BNX pmax pmax
comp=Z,710nm,9.2s
BNX LR LR
comp=Z,2µm,13.0s
BNX LR LR
comp=Z,4µm,15.4s
BNX LR LR
comp=Z,8µm,20.6s
OZB Mount Ozzard 34.63 72 P P 19 40 51.1 +1.2
CLRS Cowichan Lake 35.50 71 P P 19 40 58.9 +1.5
CLRS IAmb IAmb 19 41 16.1
comp=Z,80nm,1.0s
PGC Sidney 35.98 71 P P 19 41 02.0 +0.6
LLLB Lillooet 36.07 67 P P 19 41 03.3 +1.0
LLLB PcP **PcP** 19 43 30.0 +2.2
YKA Yellowknife Ar 36.10 46 P P 19 41 01.8 -0.6
comp=Z,36nm,0.7s,baz=281,slow=8.1,SNR=97
YKA PcP **PcP** 19 43 27.4 -0.2
comp=Z,9.3nm,0.8s,baz=291,slow=3.3,SNR=7.2
YKA ScP **ScP** 19 47 11.5 +0.2
comp=Z,2.7nm,0.8s,baz=290,slow=3.6,SNR=5.9
YKA LR LR 19 57 28.4
comp=Z,12µm,18.7s,baz=282,slow=39
YKA Yellowknife Ar 36.10 46 P P 19 41 02.0 -0.3
A04D Lummi Island 36.40 71 P P 19 41 06.7 +1.7
baz=296
CN2 Changchun 36.59 280 eP P 19 41 05.4 -1.3
CN2 *es*P sP 19 41 21.1 +1.7
CN2 *e*S **S** 19 46 42.9 -4.3
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,3µm,20.0s
CN2 LR LR
comp=Z,3µm,20.0s
CN2 LR LR
comp=Z,4µm,21.0s
D03D Eldon 36.70 73 P P 19 41 09.2 +1.5
baz=297,SNR=61
E03A Lebam 36.88 74 P P 19 41 10.7 +1.6
JHS Saijyo 36.91 262 P P 19 41 10.4 +0.8
JHS IAmb IAmb 19 41 12.1
comp=Z,64nm,1.0s
B05A Bryant 36.96 71 P P 19 41 11.1 +1.3
baz=297,SNR=20
POHA Pohakuloa 36.97 139 IAMs_20 IAMs_20 19 53 09.8
comp=Z,5µm,19.0s
D04E Lakebay 37.06 73 P P 19 41 14.2 +3.5
baz=298,SNR=5.5
JCJ Chichijima 37.08 244 LR LR 19 53 47.1
comp=Z,2µm,21.1s,baz=6.0,slow=32
BOD Bodaibo 37.29 306 ⇓iP P 19 41 11.2 -1.3
BOD pmax pmax
comp=Z,168nm,1.0s
HHU Hamhung 37.41 273 P P 19 41 13.5 -0.2
HIA Hailar 37.42 291 IAMs_20 IAMs_20 19 59 11.4
comp=Z,3µm,18.0s
HEBO Mount Hebo 37.42 76 P P 19 41 15.0 +1.1
HEBO IAmb IAmb 19 41 33.1
comp=Z,150nm,1.1s
F04D Rainier, OR 37.44 75 P P 19 41 16.3 +2.4
baz=299,SNR=6.6
E04D Cinebar 37.48 74 P P 19 41 16.0 +1.7
E04D IAMs_20 IAMs_20 19 53 19.4
comp=Z,3µm,22.0s
E04D Cinebar 37.48 74 P P 19 41 16.2 +2.0
baz=299,SNR=29
D05A Enumclaw 37.53 73 P P 19 41 16.6 +2.0
G03D McMinnville, O 37.72 76 P P 19 41 18.4 +2.1
G03D IAMs_20 IAMs_20 19 53 20.8
comp=Z,3µm,22.0s
G03D McMinnville, O 37.72 76 P P 19 41 19.4 +3.1
baz=300,SNR=6.7
F04A Amboy 37.88 75 P P 19 41 19.9 +2.3
I02E Swisshome, OR 37.93 78 IAMs_20 IAMs_20 19 53 23.3
comp=Z,3µm,21.0s
I02E Swisshome, OR 37.93 78 P P 19 41 19.9 +1.9
baz=301
COR Corvallis 38.02 77 IAMs_20 IAMs_20 19 53 15.6
comp=Z,3µm,22.0s
LTY Liberty 38.28 72 P P 19 41 21.7 +0.6
LTY IAmb IAmb 19 41 39.2
comp=Z,66nm,0.9s
J01E Myrtle Point 38.37 79 IAMs_20 IAMs_20 19 53 33.2
comp=Z,4µm,21.0s
J01E Myrtle Point 38.37 79 P P 19 41 28.1 +6.3
baz=302,SNR=7.0
H04D Lebanon 38.39 77 P P 19 41 23.6 +1.6
baz=301,SNR=24
I03D Drain, OR 38.45 78 P P 19 41 25.6 +3.2
baz=302,SNR=8.7
F05D White Salmon 38.48 74 IAMs_20 IAMs_20 19 58 28.9
comp=Z,2µm,18.0s
F05D White Salmon 38.48 74 P P 19 41 25.0 +2.3
baz=300
B08A Colville Reser 38.56 69 P P 19 41 24.1 +0.7
B08A IAmb IAmb 19 41 39.6
comp=Z,79nm,1.0s
KSRS Korea Array 38.63 270 P P 19 41 24.4 +0.4
comp=Z,26nm,0.9s,baz=59,slow=8.2,SNR=44
KSRS PcP **PcP** 19 43 35.1 -0.6
comp=Z,9.7nm,0.8s,baz=51,slow=3.0,SNR=12
KSRS LR LR 19 57 46.9
comp=Z,1µm,19.3s,baz=60,slow=37
H04A Detroit Lake 38.65 76 P P 19 41 26.2 +2.0
KSAR Wonju Array Be 38.66 270 P P 19 41 23.2 -1.1

KSAR 19 43 36.8
KSAR Wonju Array Be 38.66 270 P **P** **19 41 23.1 -1.1**
KSAR PcP **PcP** **19 43 36.8 +0.9**
K02D Willamette Mer 38.79 80 P **P** **19 41 28.2 +2.8**
baz=303,SNR=6.0
DBO Dodson Butte 38.82 79 P **P** **19 41 26.1 +0.4**
DBO IAmb IAmb 19 41 44.9
comp=Z,79nm,1.0s
G05D Wamic, OR 38.89 75 P **P** **19 41 28.5 +2.2**
baz=300,SNR=14
I04A Tendick Farm, 38.98 78 P **P** **19 41 28.3 +1.3**
baz=302,SNR=40
PYAG Pyongyang 39.03 273 P **P** **19 41 27.1 -0.3**
E07A Sunnyside 39.11 72 P **P** **19 41 29.1 +1.1**
E07A IAmb IAmb 19 41 46.4
comp=Z,89nm,1.0s
L02E Cave Junction 39.12 80 IAMs_20 IAMs_20 19 57 19.0
comp=Z,3μm,18.0s
L02E Cave Junction 39.12 80 P **P** **19 41 31.6 +3.4**
baz=303
SUJ Sinuiju 39.21 276 P **P** **19 41 28.3 -0.5**
SUJ sP **sP** **19 41 44.2 +2.6**
SUJ S **S** **19 47 29.8 +3.0**
SUJ AmB
comp=Z,450nm,2.7s
SUJ AMS AMS
comp=N,332nm,1.8s
SUJ AMS AMS
comp=E,2μm,10.5s
SUJ AMS AMS
comp=Z,1μm,7.5s
HUMO Hull Mountain 39.27 79 IAMs_20 IAMs_20 19 53 51.0
comp=Z,4μm,22.0s
I05D Terrebonne, OR 39.34 76 P **P** **19 41 31.7 +1.6**
baz=301,SNR=20
HAWA Hanford 39.39 72 P **P** **19 41 30.9 +0.6**
HAWA IAmb IAmb 19 41 48.7
comp=Z,139nm,0.9s
INCN Inchon 39.42 271 P **P** **19 41 31.3 +0.6**
INCN P **P** **19 41 31.3 +0.6**
INCN Inchon 39.42 271 P **P** **19 41 31.4 +0.7**
D08A Wollman Farm, 39.42 71 P **P** **19 41 31.0 +0.4**
D08A IAmb IAmb 19 41 48.4
comp=Z,75nm,0.9s
J04D Umpqua Nationa 39.46 78 IAMs_20 IAMs_20 19 54 32.8
comp=Z,3μm,21.0s
J04D Umpqua Nationa 39.46 78 P **P** **19 41 34.0 +2.8**
baz=302,SNR=27
JNU Nakatsue 39.54 262 P **P** **19 41 31.4 -0.3**
comp=Z,41nm,0.9s,baz=40,slow=8.2,SNR=14
JNU Nakatsue 39.54 262 P **P** **19 41 31.7 -0.1**
JNU Nakatsue 39.54 262 P **P** **19 41 32.4 +0.6**
E08A Dider Farm, El 39.62 72 P **P** **19 41 33.0 +0.8**
E08A IAmb IAmb 19 41 50.3
comp=Z,93nm,0.8s
TJN Taejon 39.64 269 *ce*P **P** **19 41 32.9 +0.4**
TJN Taejon 39.64 269 P **P** **19 41 33.2 +0.7**
HJU Haeju 39.65 272 P **P** **19 41 31.8 -0.7**
HJU pP **pP** **19 41 41.8 +0.1**
HJU S **S** **19 47 36.7 +3.1**
HJU AmB
comp=Z,378nm,1.8s
HJU AMS AMS
comp=N,189nm,0.8s
HJU AMS AMS
comp=E,768nm,3.3s
HJU AMS AMS
comp=Z,924nm,3.9s
CIT Chita 39.75 298 *e*P **P** **19 41 33.2 -0.1**
CIT *e* 19 41 45.1
CIT *e* 19 43 09.4
CIT *e* 19 43 37.8
CIT pmax pmax
comp=Z,192nm,1.7s
KMPM Mount Pierce 39.78 83 P **P** **19 41 34.8 +1.1**
KMPM IAmb IAmb 19 41 52.4
comp=Z,133nm,1.4s
EDM Edmonton 39.79 60 P **P** **19 41 33.6 0.0**
EDM pmax pmax
comp=Z,61nm,0.7s
EDM Edmonton 39.79 60 P **P** **19 41 33.6 0.0**
EDM IAmb IAmb 19 41 40.0
comp=Z,61nm,0.7s
PINE Pine Mountain 39.88 77 P **P** **19 41 36.1 +1.5**
L04D Klamath Falls 39.89 80 IAMs_20 IAMs_20 19 54 33.4
comp=Z,3μm,22.0s
L04D Klamath Falls 39.89 80 P **P** **19 41 37.3 +2.6**
baz=303,SNR=14
NEW Newport 39.90 69 P **P** **19 41 34.9 +0.3**
comp=Z,24nm,0.5s,baz=299,slow=8.6,SNR=3.5
NEW LR LR 19 57 02.8
comp=Z,1μm,19.8s,baz=302,slow=35
NEW Newport 39.90 69 P **P** **19 41 34.7 +0.1**
NEW pmax pmax
comp=Z,86nm,1.1s
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 39.90 69 P **P** **19 41 34.7 +0.1**
NEW IAmb IAmb 19 41 50.4
comp=Z,86nm,1.1s
NEW Newport 39.90 69 P **P** **19 41 34.7 +0.1**
baz=298,SNR=44
YBH Yreka Blue Hor 39.91 80 P **P** **19 41 35.4 +0.6**
comp=Z,22nm,0.9s,baz=291,slow=4.6,SNR=18
YBH LR LR 19 56 10.6
comp=Z,2μm,20.4s,baz=300,slow=33
YBH Yreka Blue Hor 39.91 80 P **P** **19 41 37.4 +2.6**
YBH IAmb IAmb 19 41 54.2
comp=Z,138nm,1.4s
YBH IAMs_20 IAMs_20 19 54 42.9
comp=Z,3μm,21.0s
J05D Fort Rock, OR 39.97 77 P **P** **19 41 36.6 +1.2**
baz=302,SNR=41
K04D Chiloquin, OR 40.01 79 P **P** **19 41 38.9 +3.2**
baz=303
M02C Callahan 40.01 81 P **P** **19 41 38.8 +3.2**
baz=304,SNR=8.3
N02D Trinity Center 40.34 81 P **P** **19 41 41.3 +3.0**
baz=304,SNR=10.0
RES Resolute Bay 40.34 24 P **P** **19 41 38.0 +0.2**
comp=Z,20nm,0.9s,baz=276,slow=9.1,SNR=50
RES PcP **PcP** **19 43 40.3 -0.2**
comp=Z,24nm,0.8s,baz=284,slow=4.2,SNR=4.9
RES ScP **ScP** **19 47 28.6 +1.4**
comp=Z,4.3nm,1.1s,baz=284,slow=5.1,SNR=4.8
RES LR LR 20 01 58.8
comp=Z,3μm,18.2s,baz=268,slow=42
RES Resolute Bay 40.34 24 P **P** **19 41 38.5 +0.6**
M04C Macdoel 40.42 80 P **P** **19 41 40.6 +1.5**
M04C IAmb IAmb 19 41 58.1
comp=Z,151nm,1.1s
M04C IAMs_20 IAMs_20 19 58 04.4
comp=Z,3μm,19.0s
M04C Macdoel 40.42 80 P **P** **19 41 41.1 +2.0**
baz=304,SNR=51
KCPM Cahto Peak 40.54 84 P **P** **19 41 40.8 +0.8**
O02D Mt. Diablo Mer 40.75 82 IAMs_20 IAMs_20 19 54 41.1
comp=Z,3μm,22.0s
O02D Mt. Diablo Mer 40.75 82 P **P** **19 41 44.4 +2.7**
baz=305,SNR=11
EUNU Eureka 40.75 15 P **P** **19 41 42.0 +0.7**
JSU Suzuyama 40.90 261 P **P** **19 41 41.6 -1.4**
F10A Beach Ranch, E 40.98 72 P **P** **19 41 44.1 +0.5**
HOPS Hopland Field 41.27 84 IAMs_20 IAMs_20 19 56 06.8
comp=Z,4μm,20.0s
O03E Paynes Creek 41.29 82 P **P** **19 41 47.1 +0.9**
O03E IAmb IAmb 19 42 06.1
comp=Z,154nm,1.1s
O03E Paynes Creek 41.29 82 P **P** **19 41 48.2 +1.9**
baz=305,SNR=28
MOD Modoc Plateau 41.31 79 P **P** **19 41 47.6 +1.2**
MOD IAMs_20 IAMs_20 19 55 18.7
comp=Z,3μm,21.0s
WALA Waterton Lakes 41.38 66 P **P** **19 41 47.0 +0.1**
WALA IAmb IAmb 19 42 04.7
comp=Z,86nm,1.1s
BMO Blue Mountains 41.52 73 P **P** **19 41 49.3 +1.2**
BMO pmax pmax
comp=Z,161nm,1.4s
BMO MLR MLR
comp=Z,2μm,19.0s
BMO Blue Mountains 41.52 73 P **P** **19 41 49.3 +1.2**
BMO IAmb IAmb 19 42 06.3
comp=Z,161nm,1.4s
DL2 Dalian 41.71 276 P **P** **19 41 48.2 -1.3**
DL2 pP **sP** **19 41 59.4 -2.9**
DL2 S **S** **19 48 08.3 +4.2**
DL2 pmax pmax
comp=Z,36nm,1.2s
DL2 pmax pmax
comp=Z,320nm,8.0s
DL2 LR LR
comp=Z,900nm,17.3s
DL2 LR LR
comp=Z,900nm,14.5s
DL2 LR LR
comp=Z,2μm,16.5s
JTMT Jette 41.81 68 P **P** **19 41 50.4 -0.1**
JTMT IAmb IAmb 19 42 06.3
comp=Z,122nm,1.3s
MCCM Marconi Confer 41.89 85 IAMs_20 IAMs_20 19 57 45.5
comp=Z,3μm,18.0s
ORV Oroville 41.91 82 P **P** **19 41 51.5 +0.3**
ORV pmax pmax
comp=Z,68nm,1.4s
ORV MLR MLR
comp=Z,2μm,20.0s
ORV Oroville 41.91 82 P **P** **19 41 51.5 +0.3**
WVOR Wild Horse Val 42.03 77 P **P** **19 41 53.4 +1.1**
WVOR pmax pmax
comp=Z,69nm,0.9s
WVOR MLR MLR
comp=Z,3μm,22.0s
WVOR Wild Horse Val 42.03 77 P **P** **19 41 53.4 +1.1**
WVOR IAmb IAmb 19 42 12.9
comp=Z,69nm,0.8s
WVOR IAMs_20 IAMs_20 19 55 35.7
comp=Z,3μm,22.0s
PLID Pearl Lake 42.18 72 P **P** **19 41 54.5 +0.9**
PLID IAMs_20 IAMs_20 20 00 44.3
comp=Z,3μm,18.0s
XLT XiLinHaoTe 42.28 286 ⇑*i*P **P** **19 41 54.7 +0.4**
XLT pP sP 19 42 09.4 +2.4
XLT sP pP 19 42 13.9 +11
XLT S **S** **19 48 15.6 +2.9**
XLT sS sS 19 48 28.7 +1.1
XLT SS **SS** **19 51 11.8 -10**
XLT pmax pmax
comp=Z,140nm,0.9s
XLT pmax pmax
comp=Z,540nm,3.8s
XLT LR LR
comp=Z,2μm,18.3s
XLT LR LR
comp=Z,3μm,16.6s
BEKR Beckworth 42.44 81 P **P** **19 41 56.5 +0.8**
MSO Missoula 42.48 69 P **P** **19 41 55.8 -0.1**
MSO IAmb IAmb 19 42 11.5
comp=Z,104nm,1.1s
MSO IAMs_20 IAMs_20 20 00 46.8
comp=Z,2μm,18.0s
MSO Missoula 42.48 69 P **P** **19 41 55.6 -0.3**
baz=301,SNR=45
ALE Alert 43.00 10 IAMs_20 IAMs_20 20 01 38.0
comp=Z,3μm,19.0s
PAHR Pah Rah Range 43.14 81 P **P** **19 42 02.7 +1.3**
PNTR Pine Nut 43.38 82 P **P** **19 42 04.5 +1.1**
PNTR IAmb IAmb 19 42 23.0
comp=Z,96nm,0.8s
CMB Columbia Colle 43.52 83 P **P** **19 42 05.9 +1.5**
CMB pmax pmax
comp=Z,37nm,1.1s
CMB MLR MLR
comp=Z,2μm,20.0s
CMB Columbia Colle 43.52 83 P **P** **19 42 05.9 +1.5**
SAO San Andreas Ge 43.64 86 P **P** **19 42 06.6 +1.4**
SAO pmax pmax
comp=Z,54nm,1.5s
SAO MLR MLR
comp=Z,3μm,18.0s
SAO San Andreas Ge 43.64 86 P **P** **19 42 06.6 +1.4**
SAO IAMs_20 IAMs_20 19 59 18.7
comp=Z,3μm,18.0s
YERR Yerington 43.66 81 P **P** **19 42 06.4 +0.7**
YERR IAmb IAmb 19 42 25.1
comp=Z,116nm,1.4s
LRM Limekiln Ridge 43.89 69 P **P** **19 42 07.4 -0.1**
HLID Hailey 43.97 73 P **P** **19 42 08.7 +0.7**
HLID IAmb IAmb 19 42 26.2
comp=Z,152nm,1.1s
HLID Hailey 43.97 73 P **P** **19 42 08.9 +0.8**
baz=304,SNR=38
NRIK Noril'sk 44.07 329 P **P** **19 42 08.7 +0.4**
comp=Z,27nm,0.9s,baz=74,slow=7.2,SNR=34
NRIK PcP **PP** **19 43 52.6 +1.7**
comp=Z,26nm,0.9s,baz=108,slow=2.7,SNR=7.3
NRIK LR LR 20 01 49.1
comp=Z,4μm,18.6s,baz=64,slow=38
NRIK Noril'sk 44.07 329 P **P** **19 42 08.8 +0.6**
BCYI Bear Canyon 44.16 72 P **P** **19 42 10.2 +0.7**
MCMT McKenzie Canyo 44.20 71 P **P** **19 42 10.1 +0.1**
EGMT Eagleton 44.28 65 P **P** **19 42 11.0 +0.7**
EGMT IAmb IAmb 19 42 12.9
comp=Z,71nm,0.8s
EGMT IAMs_20 IAMs_20 20 00 21.0
comp=Z,2μm,20.0s
EGMT Eagleton 44.28 65 P **P** **19 42 10.2 -0.2**
baz=302,SNR=21
KVN Kaiserville 44.33 81 P **P** **19 42 11.5 +0.5**
KVN pmax pmax
comp=Z,102nm,1.3s
KVN Kaiserville 44.33 81 P **P** **19 42 11.5 +0.5**
KVN IAmb IAmb 19 42 30.3
comp=Z,102nm,1.3s
BJI Beijing 44.42 281 P **P** **19 42 11.6 +0.1**
BJI pP **sP** **19 42 23.6 -0.6**
BJI sP pP 19 42 28.7 +8.1
BJI PcP **PP** **19 43 56.0 +0.8**
BJI PP **PcP** **19 43 57.9 +3.2**
BJI ScP **ScP** **19 47 41.8 -2.3**
BJI PcS **PcS** **19 47 46.9 -1.1**
BJI S **S** **19 48 42.2 -1.7**
BJI ScS **SS** **19 52 01.1 -2.2**
BJI pmax pmax
comp=Z,52nm,0.9s
BJI pmax pmax
comp=Z,430nm,9.2s
BJI LR LR
comp=Z,2μm,20.2s
BJI LR LR
comp=Z,2μm,20.4s
BJI LR LR
comp=Z,3μm,20.9s
BJT Baijiatuan 44.44 281 IAMs_20 IAMs_20 20 00 07.1
comp=Z,3μm,20.0s
BOZ Bozeman (W) 44.50 69 P **P** **19 42 11.7 -0.5**
BOZ pmax pmax
comp=Z,118nm,0.8s
BOZ MLR MLR
comp=Z,2μm,18.0s
BOZ Bozeman (W) 44.50 69 P **P** **19 42 11.7 -0.5**
BOZ IAMs_20 IAMs_20 20 02 08.7
comp=Z,2μm,18.0s
BOZ Bozeman (W) 44.50 69 P **P** **19 42 12.1 -0.1**
baz=303,SNR=145
NVAR Mina Array Bea 44.58 81 P **P** **19 42 13.6 +0.6**
comp=Z,10nm,0.8s,baz=291,slow=7.7,SNR=63
NVAR PcP **PcP** **19 43 55.9 +0.3**
comp=Z,8.9nm,0.8s,baz=280,slow=3.4,SNR=3.9
NVAR ScP **ScP** **19 47 46.0 +0.8**
comp=Z,2.2nm,0.8s,baz=258,slow=5.6,SNR=3.9
NVAR LR LR 19 59 03.2
comp=Z,2μm,20.3s,baz=300,slow=34
NV11 Mina Array Sit 44.67 81 P **P** **19 42 14.4 +0.7**
NV11 IAmb IAmb 19 42 31.5
comp=Z,60nm,1.1s
IRK Irkutsk 44.70 302 *e*P **P** **19 42 12.7 -0.8**
IRK pmax pmax
comp=Z,82nm,3.4s
QLMT Earthquake Lak 45.04 70 P **P** **19 42 17.2 +0.6**
PAGB Antelope Grade 45.04 86 P **P** **19 42 17.3 +0.8**
PAGB IAmb IAmb 19 42 32.8
comp=Z,44nm,0.6s
FFC Flin Flon 45.08 53 P **P** **19 42 16.7 +0.2**
FFC pmax pmax
comp=Z,45nm,0.9s
FFC MLR MLR
comp=Z,5μm,18.0s
FFC Flin Flon 45.08 53 P **P** **19 42 16.7 +0.2**
FFC IAmb IAmb 19 43 59.1
comp=Z,45nm,0.9s
ELK Elko 45.09 77 LR LR 19 58 08.4
comp=Z,2μm,21.6s,baz=319,slow=32
ELK Elko 45.09 77 P **P** **19 42 18.1 +1.0**
ELK pmax pmax
comp=Z,38nm,0.9s
ELK MLR MLR
comp=Z,3μm,22.0s
ELK Elko 45.09 77 P **P** **19 42 18.1 +1.0**
ELK IAMs_20 IAMs_20 19 57 34.8
comp=Z,3μm,22.0s
VOG Valley Oaks Go 45.21 85 P **P** **19 42 19.5 +1.7**
baz=309
YMR Madison River 45.41 70 P **P** **19 42 19.8 +0.3**
YHH Holmes Hill 45.41 70 P **P** **19 42 19.6 -0.1**
ULN Ulaanbaatar 45.44 296 *ce*P **P** **19 42 19.9 +0.2**
ULN pmax pmax
comp=Z,51nm,1.1s
ULN Ulaanbaatar 45.44 296 P **P** **19 42 20.0 +0.3**
ULN Ulaanbaatar 45.44 296 P **P** **19 42 19.9 +0.2**
ULN P **P** **19 42 19.9 +0.2**
SMMC Simmler 45.47 86 P **P** **19 42 21.9 +2.0**
baz=310,SNR=9.2
TIN Tinemaha, Big 45.48 83 P **P** **19 42 21.9 +1.9**
baz=308,SNR=5.5
TULEG Thule 45.48 18 P **P** **19 42 19.6 +0.2**
TULEG IAmb IAmb 19 44 03.6
comp=Z,146nm,1.7s
TULEG Thule 45.48 18 *i*P **P** **19 42 18.0 -1.4**
JOW Kunigami 45.54 258 P **P** **19 42 19.4 -1.1**
comp=Z,55nm,0.9s,baz=83,slow=5.5,SNR=8.6
JOW LR LR 20 00 30.4
comp=Z,574nm,19.9s,baz=34,slow=35
JOW Kunigami 45.54 258 P **P** **19 42 20.6 +0.1**
GCMT Greycliff 45.54 68 P **P** **19 42 21.3 +0.8**
VES Vestal, Richgr 45.70 85 P **P** **19 42 22.4 +0.8**
baz=309,SNR=29
LCH Last Change Ra 45.73 82 P **P** **19 42 22.8 +0.7**
H17A Grant Village 45.79 70 P **P** **19 42 24.1 +1.5**
H17A Grant Village 45.79 70 P **P** **19 42 24.1 +1.5**
baz=304,SNR=147
LKWY Lake 45.80 70 P **P** **19 42 23.3 +0.6**
LKWY pmax pmax
comp=Z,118nm,0.9s
LKWY Lake 45.80 70 P **P** **19 42 23.3 +0.6**
SONM Songino Array 45.83 296 P **P** **19 42 23.0 +0.3**
comp=Z,24nm,0.9s,baz=56,slow=7.2,SNR=79
SONM LR LR 20 03 23.6
comp=Z,7μm,18.2s,baz=56,slow=38
SONM Songino Array 45.83 296 P **P** **19 42 23.0 +0.3**
SONM Songino Array 45.83 296 P **P** **19 42 23.2 +0.5**
YMP Mirror Lake Pl 45.84 69 P **P** **19 42 23.1 +0.1**
GRAC Grapevine Rang 46.05 82 P **P** **19 42 26.5 +2.0**
baz=309,SNR=18
MOOW Moose Ponds 46.06 71 P **P** **19 42 24.7 0.0**
MOOW IAmb IAmb 19 42 43.3
comp=Z,57nm,1.3s
TPAW Teton Pass 46.08 71 P **P** **19 42 25.6 +0.6**
TPAW IAmb IAmb 19 42 42.5
comp=Z,100nm,1.3s
RLMT Red Lodge 46.15 68 P **P** **19 42 26.1 +0.8**
RLMT IAMs_20 IAMs_20 20 03 29.3
comp=Z,2μm,18.0s
RLMT Red Lodge 46.15 68 P **P** **19 42 25.6 +0.3**
baz=304,SNR=109
TIA Tai'an 46.18 276 ⇑P **P** **19 42 25.1 -0.4**
TIA S **S** **19 49 15.2 +5.7**
TIA sS **sS** **19 49 26.9 +2.2**
TIA ScS **ScS** **19 52 18.4 +0.1**
TIA pmax pmax
comp=Z,43nm,0.9s
TIA pmax pmax
comp=Z,380nm,9.6s
TIA LR LR
comp=Z,890nm,20.0s
TIA LR LR
comp=Z,820nm,20.8s
TIA LR LR
comp=Z,1μm,19.3s
ZAK Zakamensk 46.19 300 *e*P **P** **19 42 25.9 +0.4**
ZAK *e* 19 44 02.1
ZAK pmax pmax
comp=Z,99nm,1.4s
ZAK pmax pmax
comp=Z,29nm,1.5s
ISA Isabella, Lake 46.20 85 P **P** **19 42 24.8 -0.9**
ISA pmax pmax
comp=Z,44nm,1.2s
ISA Isabella, Lake 46.20 85 P **P** **19 42 24.8 -0.9**
ISA Isabella, Lake 46.20 85 P **P** **19 42 25.3 -0.4**
baz=310,SNR=16
SNOW Snow King Moun 46.22 71 IAMs_20 IAMs_20 20 02 43.1
comp=Z,2μm,18.0s
LOHW Long Hollow 46.22 71 P **P** **19 42 26.4 +0.4**
LOHW IAmb IAmb 19 42 42.2
comp=Z,43nm,1.0s
ARVC Arvin 46.32 85 P **P** **19 42 27.8 +1.2**
baz=310
R11A Troy Canyon, C 46.32 80 P **P** **19 42 27.0 +0.2**
R11A Troy Canyon, C 46.32 80 P **P** **19 42 26.9 +0.2**
baz=308,SNR=47
MPMC Manual Prospec 46.56 83 P **P** **19 42 29.0 +0.2**
baz=309,SNR=22
S11A Rachel 46.65 81 P **P** **19 42 30.3 +0.9**
FURC Furnace Creek, 46.70 83 P **P** **19 42 30.1 +0.6**
baz=309,SNR=16
MOY Mondy 46.73 303 *e*P **P** **19 42 29.9 +0.2**
MOY pmax pmax
comp=Z,70nm,1.3s
HHC Hu-ho-hao-te 46.77 285 *e*P **P** **19 42 30.9 +0.8**
HHC sP sP 19 42 47.7 +4.8
HHC S **S** **19 49 20.5 +2.5**
HHC pmax pmax
comp=Z,70nm,1.0s
HHC pmax pmax
comp=Z,350nm,5.6s
HHC LR LR
comp=Z,1μm,17.9s
HHC LR LR
comp=Z,960nm,17.9s
HHC LR LR
comp=Z,2μm,17.1s
TPNV Topopah Spring 46.78 82 P **P** **19 42 30.7 +0.4**
TPNV pmax pmax
comp=Z,29nm,0.7s
TPNV MLR MLR
comp=Z,1μm,19.0s
TPNV Topopah Spring 46.78 82 P **P** **19 42 30.7 +0.4**
TPNV IAmb IAmb 19 42 50.7
comp=Z,29nm,0.7s
TPNV Topopah Spring 46.78 82 P **P** **19 42 30.7 +0.4**
baz=309,SNR=75
GUMO Guam 46.80 229 LR LR 20 00 34.9
comp=Z,1μm,19.7s,baz=37,slow=34
LRMC Laurel Mtn Rad 46.81 84 P **P** **19 42 30.5 -0.1**
baz=310,SNR=15
FCC Fort Churchill 46.83 45 P **P** **19 42 29.3 -0.9**
FCC pmax pmax
comp=Z,128nm,1.5s
FCC Fort Churchill 46.83 45 P **P** **19 42 29.3 -0.9**
DUG Dugway, Tooele 46.90 76 IAMs_20 IAMs_20 20 03 17.7
comp=Z,2μm,18.0s
DUG Dugway, Tooele 46.90 76 P **P** **19 42 32.0 +0.8**
baz=307,SNR=98
HNS HongShan 46.94 279 ⇑P **P** **19 42 31.7 +0.3**
HNS PP **PP** **19 44 24.2 +2.3**
HNS pmax pmax
comp=Z,26nm,1.0s
HNS pmax pmax
comp=Z,190nm,6.9s
HNS LR LR
comp=Z,780nm,19.5s
HNS LR LR
comp=Z,770nm,19.5s
HNS LR LR
comp=Z,1μm,22.2s
SSE Sheshan 46.98 268 P **P** **19 42 29.8 -1.9**
SSE PP **PP** **19 44 20.0 -2.4**
SSE S **S** **19 49 19.3 -1.6**
SSE pmax pmax
comp=Z,18nm,0.7s
SSE pmax pmax
comp=Z,220nm,7.8s
SSE LR LR
comp=Z,340nm,19.7s
EDW2 Edwards Air Fo 47.00 85 P **P** **19 42 32.0 0.0**
baz=310,SNR=14
LAO LASA Array 47.03 65 IAMs_20 IAMs_20 20 02 06.5

comp=Z,2µm,20.0s
LAO **LASA Array** 47.03 65 P P 19 42 31.2 -0.8
baz=304
LAO **LASA Array** 47.03 65 P P 19 42 31.4 -0.6
baz=304
DGMT **Dagmar** 47.17 62 IAMs_20 IAMs_20 20 04 13.4
comp=Z,3µm,18.0s
DGMT **Dagmar** 47.17 62 P P 19 42 34.8 +1.7
baz=303
NOR **Nord** 47.18 3 eP P 19 42 32.4 -0.3
DECC **Green Verdugo** 47.20 86 P P 19 42 35.3 +1.8
baz=310
PRN **Pahroc Range** 47.23 80 P P 19 42 34.6 +0.7
BW06 **Boulder Array** 47.33 71 P P 19 42 34.9 +0.2
BW06 IAMs_20 IAMs_20 20 03 28.7
comp=Z,2µm,18.0s
BW06 **Boulder Array** 47.33 71 P P 19 42 34.8 +0.1
baz=306,SNR=195
PD31 **Pinedale Array** 47.33 71 P P 19 42 35.1 +0.4
PDAR **Pinedale Array** 47.33 71 P P 19 42 34.8 +0.1
comp=Z,91nm,0.7s,baz=306,slow=3.1,SNR=321
PDAR LR LR 20 00 04.9
comp=Z,2µm,21.8s,baz=321,slow=33
PDAR **Pinedale Array** 47.33 71 P P 19 42 34.9 +0.2
PASC **Pasadena Art C** 47.34 86 IAMs_20 IAMs_20 20 01 47.7
comp=Z,2µm,19.0s
SHOC **Shoshone, Teco** 47.42 83 P P 19 42 36.1 +0.9
baz=310
GSC **Goldstone, Bar** 47.48 84 P P 19 42 35.7 0.0
baz=310,SNR=27
PATS **Pohnpei** 47.60 209 IAMs_20 IAMs_20 20 01 40.4
comp=Z,3µm,20.0s
BFSC **Mount Baldy Ra** 47.63 86 P P 19 42 37.5 +0.5
baz=311,SNR=17
SHPR **Sheep Range** 47.73 81 P P 19 42 38.1 +0.3
NJ2 **Nanjing** 47.80 271 ⇑P P 19 42 37.6 -0.5
NJ2 pP sP 19 42 49.1 -2.0
NJ2 sP pP 19 42 55.1 +7.6
NJ2 PP PP 19 44 31.0 +1.1
NJ2 S S 19 49 37.4 +4.8
NJ2 sS sS 19 49 48.1 +0.1
NJ2 pmax pmax
comp=Z,21nm,0.8s
NJ2 pmax pmax
comp=Z,350nm,6.4s
NJ2 LR LR
comp=Z,1µm,16.1s
NJ2 LR LR
comp=Z,1µm,16.6s
NJ2 LR LR
comp=Z,2µm,17.1s
TUQ **Turquoise Moun** 47.94 83 P P 19 42 40.0 +0.6
baz=310,SNR=18
HEC **Hector,Ludlow** 48.07 84 P P 19 42 42.0 +1.7
baz=310,SNR=6.9
TIY **Taiyuan** 48.16 281 ⇑P P 19 42 40.6 -0.3
TIY PP PP 19 44 33.4 +0.3
TIY pmax pmax
comp=Z,64nm,0.8s
TIY pmax pmax
comp=Z,400nm,5.2s
TIY LR LR
comp=Z,720nm,13.7s
TIY LR LR
comp=Z,1µm,19.1s
TIY LR LR
comp=Z,2µm,22.7s
ELS **Elsinore Mount** 48.16 86 P P 19 42 40.9 -0.1
ELS IAmb IAmb 19 42 43.3
comp=Z,126nm,1.9s
MURC **Murrieta** 48.34 86 P P 19 42 43.6 +1.2
baz=311,SNR=12
GMRC **Granite Mounta** 48.53 84 P P 19 42 44.3 +0.4
baz=310,SNR=24
P17A **Butcher Ranch,** 48.60 75 P P 19 42 45.7 +1.2
P17A IAmb IAmb 19 43 02.2
comp=Z,45nm,0.9s
Q16A **Castle Valley** 48.69 76 P P 19 42 46.6 +1.5
Q16A IAmb IAmb 19 43 04.3
comp=Z,42nm,0.7s
PFO **Pinyon Flats O** 48.79 85 LR LR 20 02 22.6
comp=Z,2µm,18.1s,baz=302,slow=35
PFO **Pinyon Flats O** 48.79 85 P P 19 42 45.8 -0.1
PFO pmax pmax
comp=Z,43nm,1.2s
PFO MLR MLR
comp=Z,2µm,18.0s
PFO **Pinyon Flats O** 48.79 85 P P 19 42 45.8 -0.1
PFO **Pinyon Flats O** 48.79 85 IAMs_20 IAMs_20 20 02 27.1
comp=Z,2µm,18.0s
PFO **Pinyon Flats O** 48.79 85 P P 19 42 46.2 +0.3
baz=311,SNR=9.0
BELC **Belle Mtn. Jos** 48.83 85 P P 19 42 47.1 +0.9
baz=311,SNR=17
109C **Camp Elliot, M** 48.86 86 P P 19 42 47.5 +1.2
baz=312,SNR=7.8
NEE2 **Needles Airpor** 49.19 83 P P 19 42 49.9 +1.1
baz=310,SNR=5.1
K22A **Casper** 49.20 69 P P 19 42 49.0 0.0
baz=307,SNR=18
IRM **Iron Mountain** 49.26 84 P P 19 42 49.6 +0.2
baz=311,SNR=18
BAR **Barrett** 49.27 86 P P 19 42 49.6 +0.1
BAR IAmb IAmb 19 42 51.9
comp=Z,43nm,0.8s
MONP2 **Monument Peak** 49.29 86 P P 19 42 50.3 +0.4
baz=312,SNR=12
RWWY **Rawlins** 49.38 71 IAMs_20 IAMs_20 20 05 04.7
comp=Z,2µm,18.0s
BC3 **Big Chuckawall** 49.39 84 P P 19 42 50.4 -0.1
baz=311,SNR=9.8
U15A **North Rim** 49.56 80 P P 19 42 52.5 +0.5
SWSC **Sam W. Stewart** 49.65 85 P P 19 42 52.8 +0.5
baz=312
IKP **In-Ko-Pah, Jac** 49.65 86 P P 19 42 52.8 +0.4
baz=312,SNR=8.1
O20A **White River Ci** 49.71 73 P P 19 42 53.7 +0.8
O20A **White River Ci** 49.71 73 P P 19 42 52.9 -0.1
baz=308,SNR=44
YUH **Yuha Desert** 49.77 86 P 19 42 52.4 -0.9
RSSD **Black Hills** 49.77 66 P P 19 42 52.4 -1.0
RSSD pmax pmax
comp=Z,52nm,1.3s
RSSD **Black Hills** 49.77 66 P P 19 42 52.4 -1.0
RSSD IAmb IAmb 19 43 08.6
comp=Z,52nm,1.2s
RSSD **Black Hills** 49.77 66 P P 19 42 51.4 -2.0
baz=307,SNR=14
RSSD **Black Hills** 49.77 66 P P 19 42 53.9 +0.5
baz=307
PDMCI **Parker Dam,Lak** 49.79 83 P P 19 42 53.3 0.0
baz=311,SNR=16
BLYC **Blythe** 49.91 84 P P 19 42 54.3 0.0
BLYC IAmb IAmb 19 43 11.5
comp=Z,67nm,0.9s
KBS **Kingsbay** 49.95 357 ceP P 19 42 54.6 +0.6
KBS pmax pmax
comp=Z,112nm,0.7s
KBS **Kingsbay** 49.95 357 P P 19 42 54.6 +0.6
KBS **Kingsbay** 49.95 357 IAMs_20 IAMs_20 20 05 34.8
comp=Z,3µm,19.0s
KBS **Kingsbay** 49.95 357 eP P 19 42 54.3 +0.3
KBS **Kingsbay** 49.95 357 eP P 19 42 54.5 +0.5
LYN **LuoYang** 50.16 278 ⇓P P 19 42 55.7 -0.5
LYN sP sP 19 43 12.9 +3.8
LYN PP PP 19 44 47.7 -3.6
LYN S S 19 50 09.6 +3.9
LYN pmax pmax
comp=Z,70nm,0.9s
LYN pmax pmax
comp=Z,480nm,10.8s
LYN LR LR
comp=Z,1µm,17.8s
LYN LR LR
comp=Z,2µm,17.8s
LYN LR LR
comp=Z,2µm,17.4s
GLA **Glamis** 50.19 85 P P 19 42 57.2 +0.7
baz=312,SNR=11
UPNV **Upernavik** 50.49 19 eP P 19 42 58.3 +0.1
SPA0 **Spitsbergen Ar** 50.50 356 eP P 19 42 57.8 -0.4
SPITS **Spitsbergen Ar** 50.50 356 P P 19 42 56.4 -1.9
comp=Z,113nm,0.6s,baz=8.4,slow=18,SNR=42
SPITS LR LR 20 04 15.4
comp=Z,2µm,20.6s,baz=288,slow=36
SPB2 **Spitsbergen Ar** 50.51 356 P P 19 42 57.9 -0.3

N23A **Red Feather La** 50.62 71 P P 19 43 00.5 +0.5
baz=308,SNR=32
ULM **Lac du Bonnet** 50.64 56 P P 19 42 59.0 -0.6
comp=Z,6.8nm,0.4s,baz=307,slow=8.0,SNR=10
ULM PcP PcP 19 44 16.2 -0.5
comp=Z,13nm,0.9s,baz=305,slow=4.3,SNR=3.2
ULM LR LR 20 04 35.5
comp=Z,3µm,21.2s,baz=312,slow=36
ULM **Lac du Bonnet** 50.64 56 iP P 19 42 58.3 -1.3
WUAZ **Wupatki** 50.72 80 P P 19 43 01.0 +0.4
WUAZ IAmb IAmb 19 43 18.8
comp=Z,75nm,0.9s
WUAZ IAMs_20 IAMs_20 20 04 27.0
comp=Z,3µm,19.0s
WUAZ **Wupatki** 50.72 80 P P 19 43 01.0 +0.4
baz=310,SNR=30
SMCO **Snowmass** 51.07 73 IAMs_20 IAMs_20 20 01 28.1
comp=Z,2µm,22.0s
TATO **Taipei** 51.09 262 IAMs_20 IAMs_20 20 02 26.1
comp=Z,2µm,22.0s
TATO **Taipei** 51.09 262 P P 19 43 05.3 +2.0
YHNB **Yeheng** 51.38 262 IAMs_20 IAMs_20 20 02 35.9
comp=Z,2µm,21.0s
MVCO **Mesa Verde** 51.40 76 IAMs_20 IAMs_20 20 01 16.8
comp=Z,2µm,22.0s
MVCO **Mesa Verde** 51.40 76 P P 19 43 06.0 +0.2
baz=310,SNR=28
ISCO **Idaho Springs** 51.50 72 IAMs_20 IAMs_20 20 02 06.9
comp=Z,2µm,22.0s
ISCO **Idaho Springs** 51.50 72 P P 19 43 07.0 +0.4
baz=309,SNR=44
ISCO **Idaho Springs** 51.50 72 P P 19 43 07.1 +0.6
baz=309,SNR=44
HOPEN **Hopen** 51.55 353 eP P 19 43 05.7 -0.3
HSPB **Hornsund (broa** 51.70 355 eP P 19 43 07.0 -0.1
HSPB eL L 20 03 32.9
comp=Z,3µm,23.2s
HSPB **Hornsund (broa** 51.70 355 eP P 19 43 07.1 -0.1
DAG **Danmarks Havn** 51.80 5 iP P 19 43 07.0 -0.9
DAG IAmb IAmb 19 43 09.0
comp=Z,26nm,0.7s
AGMN **Agassiz Nation** 51.81 58 IAMs_20 IAMs_20 20 04 38.0
comp=Z,3µm,21.0s
AGMN **Agassiz Nation** 51.81 58 P P 19 43 07.4 -0.9
baz=307,SNR=8.1
AGMN **Agassiz Nation** 51.81 58 P P 19 43 08.4 +0.1
baz=307,SNR=8.1
W18A **Petrified Fore** 51.99 79 P P 19 43 11.4 +1.2
baz=311,SNR=15
NUUG **Nuugaatsiaq** 52.03 19 eP P 19 43 07.2 -2.4
S22A **4UR Ranch, Cre** 52.07 75 P P 19 43 11.6 +0.7
baz=310,SNR=40
214A **Organ Pipe Nat** 52.18 84 P P 19 43 10.8 -0.6
214A **Organ Pipe Nat** 52.18 84 P P 19 43 12.5 +1.0
baz=312
SSLB **Suanglung** 52.28 261 P P 19 43 11.5 -0.7
SSLB IAmb IAmb 19 43 14.2
comp=Z,56nm,0.9s
SSLB **Suanglung** 52.28 261 P P 19 43 12.0 -0.3
Q24A **Divide** 52.30 72 P P 19 43 13.1 +0.5
baz=310,SNR=12
YULB **Yu-li** 52.36 261 P P 19 43 11.7 -1.1
SUSD **Miller** 52.47 63 P P 19 43 12.8 -0.6
baz=308,SNR=7.2
SUSD **Miller** 52.47 63 P P 19 43 13.9 +0.5
baz=308,SNR=7.2
XAN **Xi'an** 52.70 280 P P 19 43 14.6 -0.7
XAN pP sP 19 43 29.2 +1.0
XAN pmax pmax
comp=Z,27nm,1.0s
TPUB **Ta-pu** 52.84 261 IAMs_20 IAMs_20 20 04 22.7
comp=Z,2µm,21.0s
TPUB **Ta-pu** 52.84 261 P P 19 43 17.4 +1.0
SDCO **Great Sand Dun** 52.87 74 IAMs_20 IAMs_20 20 06 34.8
comp=Z,2µm,19.0s
SDCO **Great Sand Dun** 52.87 74 P P 19 43 17.1 +0.2
baz=310,SNR=29
SDCO **Great Sand Dun** 52.87 74 P P 19 43 17.3 +0.5
baz=310,SNR=29
OGNE **Ogallala** 52.89 68 IAMs_20 IAMs_20 20 07 53.8
comp=Z,2µm,19.0s
OGNE **Ogallala** 52.89 68 P P 19 43 18.2 +1.5
baz=309,SNR=6.0
OGNE **Ogallala** 52.89 68 P P 19 43 18.4 +1.8
baz=309,SNR=6.0
B35A **Bob, Littlefor** 52.90 57 P P 19 43 15.6 -0.8
baz=308,SNR=6.1
QZH **Quanzhou** 52.92 264 ⇑iP P 19 43 16.8 -0.1
QZH pP pwP 19 43 28.4 -1.0
QZH S S 19 50 47.5 +3.6
QZH LR LR
comp=Z,700nm,18.0s
QZH LR LR
comp=Z,300nm,18.5s
QZH LR LR
comp=Z,860nm,18.5s
TUC **Tucson** 53.21 82 P P 19 43 19.1 0.0
TUC pmax pmax
comp=Z,46nm,1.1s
TUC MLR MLR
comp=Z,2µm,19.0s
TUC **Tucson** 53.21 82 P P 19 43 19.1 0.0
TUC IAmb IAmb 19 43 36.4
comp=Z,46nm,1.1s
TUC **Tucson** 53.21 82 IAMs_20 IAMs_20 20 03 27.0
comp=Z,1µm,19.0s
TUC **Tucson** 53.21 82 P P 19 43 19.2 0.0
baz=312
ZAA0 **Zalesovo Array** 53.43 313 P P 19 43 19.7 -0.6
ZALV **Zalesovo Beam** 53.43 313 P P 19 43 19.4 -0.9
comp=Z,16nm,0.8s,baz=47,slow=6.9,SNR=39
ZALV PcP PcP 19 44 26.3 -0.8
comp=Z,21nm,0.7s,baz=13,slow=3.6,SNR=8.4
ZALV LR LR 20 07 41.1
comp=Z,3µm,19.2s,baz=54,slow=38
ZALV **Zalesovo Beam** 53.43 313 P P 19 43 19.6 -0.6
K31A **O'Neill** 53.72 65 P P 19 43 23.4 +0.7
baz=309
KSCO **Kaye Shedlock'** 53.78 71 P P 19 43 23.9 +0.6
baz=310,SNR=26
KSCO **Kaye Shedlock'** 53.78 71 P P 19 43 24.1 +0.8
baz=310,SNR=26
T25A **Trinidad** 53.93 74 P P 19 43 25.2 +0.7
baz=311,SNR=38
BJO1 **Bjornoya** 53.93 354 eP P 19 43 23.2 -0.5
DBG **Daneborg** 54.09 7 eP P 19 43 23.2 -1.6
ANMO **Albuquerque** 54.13 77 LR LR 20 03 52.4
comp=Z,2µm,21.9s,baz=314,slow=33
ANMO **Albuquerque** 54.13 77 iP P 19 43 25.2 -0.7
ANMO pmax pmax
comp=Z,30nm,1.0s
ANMO **Albuquerque** 54.13 77 P P 19 43 25.9 0.0
ANMO **Albuquerque** 54.13 77 IAMs_20 IAMs_20 20 03 19.0
comp=Z,2µm,22.0s
ANMO **Albuquerque** 54.13 77 P P 19 43 26.2 +0.3
baz=312,SNR=22
ANMO **Albuquerque** 54.13 77 P P 19 43 26.5 +0.6
baz=312
ECSD **EROS Data Cent** 54.23 63 P P 19 43 26.0 -0.3
ECSD **EROS Data Cent** 54.23 63 IAMs_20 IAMs_20 20 06 45.1
comp=Z,3µm,20.0s
ECSD **EROS Data Cent** 54.23 63 P P 19 43 24.7 -1.6
baz=310,SNR=14
ECSD **EROS Data Cent** 54.23 63 P P 19 43 26.0 -0.3
baz=309,SNR=14
EYMN **Ely** 54.32 56 P P 19 43 27.0 +0.1
EYMN IAmb IAmb 19 43 41.7
comp=Z,70nm,1.1s
EYMN **Ely** 54.32 56 IAMs_20 IAMs_20 20 06 35.6
comp=Z,2µm,20.0s
EYMN **Ely** 54.32 56 P P 19 43 27.0 +0.1
baz=309
EYMN **Ely** 54.32 56 P P 19 43 27.0 +0.1
baz=309
LZH **Lanzhou** 54.47 285 eP P 19 43 28.8 +0.5
LZH pP sP 19 43 39.9 -1.4
LZH sP pP 19 43 44.0 +6.3
LZH S S 19 51 06.4 +1.4
LZH pmax pmax
comp=Z,46nm,1.0s
LZH pmax pmax
comp=Z,490nm,4.6s
LZH LR LR
comp=Z,3µm,15.7s
LZH LR LR
comp=Z,2µm,16.0s
LZH LR LR

comp=Z,4µm,16.8s
Y22A **Socorro** 54.49 78 P P 19 43 28.7 +0.1
baz=312,SNR=29
F36A **Milaca** 54.57 59 P P 19 43 29.2 +0.4
baz=309,SNR=5.4
GTA **Gaotai** 54.70 291 ⇑P P 19 43 29.8 -0.1
GTA pP sP 19 43 42.3 -0.5
GTA sP pP 19 43 46.7 +7.5
GTA PcP PcP 19 44 33.2 +0.8
GTA S S 19 50 59.2 -8.8
GTA sS sS 19 51 21.1 -2.2
GTA pmax pmax
comp=Z,26nm,0.9s
GTA pmax pmax
comp=Z,380nm,11.1s
GTA LR LR
comp=Z,2µm,16.3s
GTA LR LR
comp=Z,3µm,17.9s
GTA LR LR
comp=Z,4µm,16.3s
BGNE **Belgrade** 54.85 66 P P 19 43 30.9 0.0
baz=310,SNR=6.3
BGNE **Belgrade** 54.85 66 P P 19 43 31.3 +0.4
baz=310,SNR=6.3
121A **Cookes Peak, D** 54.92 80 P P 19 43 31.6 -0.1
baz=313,SNR=11
121A **Cookes Peak, D** 54.92 80 P P 19 43 32.0 +0.3
baz=313,SNR=11
E38A **The Farm, Brul** 55.15 57 P P 19 43 32.4 -0.5
E38A IAmb IAmb 19 43 47.3
comp=Z,69nm,0.9s
E38A **The Farm, Brul** 55.15 57 P P 19 43 31.6 -1.3
baz=310,SNR=7.4
SPMN **Marine on St.** 55.37 59 P P 19 43 35.5 +1.0
baz=310
L34A **Svendsen Farm,** 55.50 64 P P 19 43 35.5 0.0
baz=310,SNR=5.5
CBKS **Cedar Bluff** 55.62 69 P P 19 43 37.0 +0.5
CBKS pmax pmax
comp=Z,257nm,1.1s
CBKS MLR MLR
comp=Z,1µm,19.0s
CBKS **Cedar Bluff** 55.62 69 P P 19 43 37.0 +0.5
CBKS IAMs_20 IAMs_20 20 09 27.9
comp=Z,1µm,19.0s
CBKS **Cedar Bluff** 55.62 69 P P 19 43 36.7 +0.3
baz=311,SNR=21
CBKS **Cedar Bluff** 55.62 69 P P 19 43 36.8 +0.3
baz=311,SNR=21
I37B **Waseca** 55.83 61 P P 19 43 37.5 -0.4
baz=310,SNR=8.3
SFJD **Kangerlussuaq** 56.21 21 P P 19 43 40.0 -0.2
SFJD pmax pmax
comp=Z,139nm,1.8s
SFJD **Kangerlussuaq** 56.21 21 P P 19 43 40.0 -0.2
SFJD IAmb IAmb 19 44 38.6
comp=Z,139nm,1.8s
KIDD **KIDD Seismic O** 56.23 80 P P 19 43 41.1 +0.1
baz=313,SNR=7.4
R32A **Long Quarter,** 56.48 69 P P 19 43 42.1 -0.5
baz=312,SNR=16
ICESG **Greenland Ices** 56.62 16 eP P 19 43 42.1 -1.4
N35A **Tabor** 56.64 65 P P 19 43 44.0 +0.4
N35A **Tabor** 56.64 65 P P 19 43 44.1 +0.4
baz=311,SNR=42
COWI **Conover** 56.75 56 IAMs_20 IAMs_20 20 07 50.7
comp=Z,2µm,20.0s
MNTX **Cornudas Mount** 56.98 79 P P 19 43 46.7 +0.4
baz=313,SNR=26
MSTX **Muleshoe** 57.03 75 P P 19 43 46.5 -0.2
baz=313,SNR=16
MSTX **Muleshoe** 57.03 75 P P 19 43 48.0 +1.3
baz=313,SNR=16
KSU1 **Kansas State U** 57.25 67 IAMs_20 IAMs_20 20 12 08.2
comp=Z,2µm,18.0s
KSU1 **Kansas State U** 57.25 67 P P 19 43 47.6 -0.5
baz=312,SNR=18
KSU1 **Kansas State U** 57.25 67 P P 19 43 47.5 -0.5
baz=312,SNR=18
HAMF **Hammerfest** 57.25 351 eP P 19 43 47.3 -0.3
SCIA **State Center** 57.31 62 IAMs_20 IAMs_20 20 08 42.8
comp=Z,3µm,20.0s
SCIA **State Center** 57.31 62 P P 19 43 49.9 +1.5
baz=312
SCIA **State Center** 57.31 62 P P 19 43 49.5 +1.0
baz=312
I40A **Norwalk** 57.42 59 P P 19 43 50.4 +1.2
baz=312
F42A **Maple Grove Fa** 57.50 56 P P 19 43 50.4 +0.8
baz=312
DY2G **Dye2** 57.61 20 eP P 19 43 49.1 -1.3
ZSN **Zaisan** 57.62 307 eP P 19 43 49.3 -1.3
ZSN eS S 19 51 45.3 -1.0
ZSN pmax pmax
comp=Z,35nm,1.2s
ZSN **Zaisan** 57.62 307 eP P 19 43 49.3 -1.3
comp=Z,35nm,1.2s,baz=307
ZSN eS S 19 51 45.4 -1.0
baz=307
SCO **Scoresbysund** 57.65 8 P P 19 43 50.2 -0.2
SCO pmax pmax
comp=Z,27nm,0.9s
SCO MLR MLR
comp=Z,4µm,19.0s
SCO **Scoresbysund** 57.65 8 P P 19 43 50.2 -0.2
SCO **Scoresbysund** 57.65 8 eP P 19 43 48.1 -2.2
SCO IAmb IAmb 19 43 52.2
comp=Z,24nm,0.8s
U32A **Winter Ranch,** 57.67 71 P P 19 43 50.8 -0.3
baz=312,SNR=9.8
E43A **Lone Tree Farm** 57.68 55 P P 19 43 51.4 +0.5
E43A IAmb IAmb 19 43 58.1
comp=Z,44nm,1.0s
KEV **Kevo** 57.73 349 IAMs_20 IAMs_20 20 12 37.0
comp=Z,2µm,18.0s
SEM **Semipalatinsk** 57.88 312 eP P 19 43 50.1 -2.4
SEM eS S 19 51 47.2 -2.8
SEM pmax pmax
comp=Z,38nm,2.0s
SEM **Semipalatinsk** 57.88 312 eP P 19 43 50.1 -2.4
comp=Z,38nm,2.0s,baz=312
SEM eS S 19 51 47.2 -2.8
baz=312
JMIC **Jan Mayen** 58.01 3 LR LR 20 10 59.6
comp=Z,606nm,18.6s,baz=344,slow=38
N38A **Joes South For** 58.05 63 P P 19 43 53.2 -0.4
baz=312,SNR=10
ARA0 **ARCESS Array S** 58.11 350 eP P 19 43 52.3 -1.4
ARCES **ARCESS Array B** 58.11 350 P P 19 43 52.8 -0.9
comp=Z,34nm,0.8s,baz=14,slow=7.5,SNR=44
ARCES LR LR 20 11 34.2
comp=Z,2µm,18.6s,baz=7.5,slow=39
ARCES **ARCESS Array B** 58.11 350 P P 19 43 52.7 -0.9
ARCES IAmb IAmb 19 43 55.1
comp=Z,38nm,0.8s
JFWS **Jewell Farm** 58.27 60 P P 19 43 55.0 -0.1
JFWS pmax pmax
comp=Z,57nm,0.8s
JFWS MLR MLR
comp=Z,4µm,18.0s
JFWS **Jewell Farm** 58.27 60 P P 19 43 55.0 -0.1
JFWS IAmb IAmb 19 43 56.9
comp=Z,57nm,0.8s
JFWS **Jewell Farm** 58.27 60 P P 19 43 54.0 -1.2
baz=312,SNR=12
JFWS **Jewell Farm** 58.27 60 P P 19 43 55.1 -0.1
baz=312,SNR=12
L40A **Anamosa** 58.31 61 P P 19 43 54.4 -1.0
baz=312,SNR=6.5
I42A **Draeger Farm,** 58.34 58 P P 19 43 55.5 -0.1
I42A IAmb IAmb 19 44 13.1
comp=Z,55nm,0.8s
LVZ **Lovozero** 58.38 345 ⇑iP P 19 43 54.1 -1.5
LVZ pmax pmax
comp=Z,10.0nm,0.6s
LVZ **Lovozero** 58.38 345 P P 19 43 54.3 -1.3
LVZ IAmb IAmb 19 43 57.3
comp=Z,61nm,0.9s
KURK **Kurchatov** 58.42 313 ⇑iP P 19 43 56.1 +0.1
KURK pmax pmax
comp=Z,271nm,1.5s
KURK **Kurchatov** 58.42 313 P P 19 43 56.2 +0.1
KURK **Kurchatov** 58.42 313 P P 19 43 56.1 +0.1
KURK P P 19 43 56.1 +0.1
KURBB **Kurchatov Arra** 58.53 313 LR LR 20 11 00.8
comp=Z,5µm,18.4s,baz=30,slow=38

WMQ Urumqi 58.60 302 eP P 19 43 58.1 +0.6
WMQ pP sP 19 44 12.5 +2.1
WMQ pmax pmax
comp=Z,72nm,1.1s
WMQ pmax pmax
comp=Z,650nm,4.9s
WMQ LR LR
comp=Z,6μm,15.7s
WMQ LR LR
comp=Z,4μm,17.1s
WMQ LR LR
comp=Z,6μm,17.1s
JETT Jettan, Norway 58.62 352 eP P 19 43 56.6 -0.6
P38A Dawn 58.66 65 P P 19 43 56.8 -1.1
baz=313,SNR=32
TRO Tromso 58.67 352 eP P 19 43 56.6 -0.9
SOEG Soedalen 58.72 13 eP P 19 43 57.1 -0.8
T35B Sooner Cattle 58.78 69 P P 19 43 57.9 -0.9
baz=313,SNR=12
KTK1 Kautokeino 58.86 350 eP P 19 43 58.2 -0.6
APA Apatity 58.88 346 i/P P 19 43 54.8 -4.2
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,3μm,17.0s
WMOK Wichita Mounta 58.92 72 IAMs_20 IAMs_20 20 11 12.4
comp=Z,2μm,18.0s
WMOK Wichita Mounta 58.92 72 P P 19 43 59.9 +0.1
baz=313,SNR=34
WMOK Wichita Mounta 58.92 72 P P 19 43 60.0 +0.1
baz=313,SNR=34
E46A Sault Ste Mari 59.05 53 P P 19 44 01.4 +0.8
L42A Oliver, Polo 59.21 60 P P 19 44 01.0 -0.6
L42A IAmb IAmb 19 44 19.2
comp=Z,42nm,0.8s
L42A Oliver, Polo 59.21 60 P P 19 43 59.8 -1.9
baz=313,SNR=7.0
LPIG La Paz 59.25 89 LR LR 20 06 13.2
comp=Z,562nm,19.2s,baz=282,slow=33
GYA Guiyang 59.34 275 ⇑P P 19 44 02.1 -0.8
GYA S S **19 52 06.7 -2.6**
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,420nm,11.7s
GYA LR LR
comp=Z,490nm,21.5s
GYA LR LR
comp=Z,1μm,17.9s
GYA LR LR
comp=Z,1μm,19.7s
MK31 Makanchi Array 59.36 308 i P P 19 44 01.9 -0.8
MK31 pmax pmax
comp=Z,17nm,0.6s
MK31 Makanchi Array 59.36 308 P P 19 44 01.8 -0.8
MK31 IAmb IAmb 19 44 04.6
comp=Z,39nm,1.2s
MKAR Makanchi Array 59.36 308 P P 19 44 01.8 -0.9
comp=Z,10nm,0.3s,baz=41,slow=6.7,SNR=184
MKAR LR LR 20 11 09.1
comp=Z,3μm,19.8s,baz=42,slow=38
N41A Harden Midland 59.44 62 P P 19 44 02.9 -0.3
N41A Harden Midland 59.44 62 P P 19 44 02.8 -0.5
baz=313,SNR=14
MAKZ Makanchi 59.51 308 P P 19 44 03.2 -0.5
MAKZ pmax pmax
comp=Z,34nm,0.9s
MAKZ MLR MLR
comp=Z,3μm,20.0s
MAKZ Makanchi 59.51 308 P P 19 44 03.2 -0.5
MAKZ IAmb IAmb 19 44 05.1
comp=Z,34nm,0.8s
P40A Paris 59.57 64 P P 19 44 03.2 -1.0
baz=313,SNR=51
TGY Tagaytay City 59.61 254 P P 19 44 05.2 +0.4
comp=Z,79nm,0.3s,baz=164,slow=5.6,SNR=6.7
TX31 Lajitas Ar. Si 59.68 80 P P 19 44 04.9 -0.4
TX31 Lajitas Ar. Si 59.68 80 P P 19 44 04.8 -0.5
baz=315,SNR=36
TX32 Lajitas Array 59.68 80 P P 19 44 05.0 -0.3
TX32 IAmb IAmb 19 44 28.8
comp=Z,36nm,1.1s
TXAR Lajitas Array 59.69 80 P P 19 44 04.9 -0.3
comp=Z,16nm,0.8s,baz=297,slow=4.4,SNR=70
TXAR LR LR 20 10 07.1
comp=Z,2μm,18.1s,baz=321,slow=36
TXAR Lajitas Array 59.69 80 P P 19 44 05.1 -0.2
TXAR Lajitas Array 59.69 80 P P 19 44 05.1 -0.2
GOMU GeErMu 59.78 291 P P 19 44 05.7 -0.5
GOMU PcP **PcP 19 44 52.9 +0.2**
GOMU PP **PP 19 46 19.5 +1.6**
GOMU S S **19 52 17.3 +1.9**
GOMU pmax pmax
comp=Z,37nm,0.8s
GOMU pmax pmax
comp=Z,230nm,6.5s
GOMU LR LR
comp=Z,590nm,21.8s
GOMU LR LR
comp=Z,620nm,21.2s
GOMU LR LR
comp=Z,450nm,20.0s
ABTX Abilene, Hawle 59.86 74 P P 19 44 06.4 +0.1
baz=314,SNR=7.1
ABTX Abilene, Hawle 59.86 74 P P 19 44 07.7 +1.4
baz=314,SNR=7.1
TUL1 Leonard 59.89 69 IAMs_20 IAMs_20 20 12 11.1
comp=Z,2μm,18.0s
TUL1 Leonard 59.89 69 P P 19 44 06.2 -0.3
baz=314,SNR=19
TUL1 Leonard 59.89 69 P P 19 44 06.6 +0.1
baz=314,SNR=19
ISOG Isortoq, Green 59.89 17 eP P 19 44 04.1 -1.9
L44A Lake County Fo 60.04 59 P P 19 44 07.2 -0.2
L44A Lake County Fo 60.04 59 P P 19 44 06.1 -1.2
baz=313,SNR=6.1
L44A Lake County Fo 60.04 59 P P 19 44 07.9 +0.5
baz=313,SNR=6.1
KRVT Keravat (AS076 60.10 212 LR LR 20 08 02.7
comp=Z,1μm,19.1s,baz=151,slow=34
S39A Bolivar 60.10 66 P P 19 44 06.2 -1.7
baz=314,SNR=12
R40A Maddies Statio 60.29 65 P P 19 44 09.0 -0.2
R40A Maddies Statio 60.29 65 P P 19 44 07.5 -1.7
baz=314,SNR=16
BRVK Borovoye 60.40 319 ceP P 19 44 09.5 -0.2
BRVK pmax pmax
comp=Z,109nm,0.9s
BRVK Borovoye 60.40 319 P P 19 44 10.1 +0.5
BRVK Borovoye 60.40 319 P P 19 44 10.2 +0.5
BRVK P P **19 44 10.2 +0.5**
HDIL Hopedale 60.40 61 P P 19 44 09.8 -0.1
baz=314,SNR=11
HDIL Hopedale 60.40 61 P P 19 44 09.7 -0.2
baz=314,SNR=11
M44A Midewin, Midew 60.51 60 P P 19 44 09.4 -1.2
baz=314,SNR=8.9
STEI Steigen 60.64 353 eP P 19 44 10.1 -1.0
HHAR Hobbs 60.72 68 P P 19 44 10.7 -1.5
baz=314
SCHQ Schefferville 60.78 37 P P 19 44 11.2 -1.1
comp=Z,26nm,0.9s,baz=309,slow=6.5,SNR=15
SCHQ LR LR 20 12 12.8
comp=Z,3μm,20.7s,baz=322,slow=38
Z35A Perchaven, San 60.81 72 P P 19 44 13.2 +0.4
baz=314
P43A Skaggs, Pawnee 60.91 62 P P 19 44 12.5 -0.9
baz=314,SNR=19
CCM Cathedral Cave 61.04 64 P P 19 44 13.7 -0.6
CCM pmax pmax
comp=Z,86nm,1.5s
CCM MLR MLR
comp=Z,1μm,19.0s
CCM Cathedral Cave 61.04 64 P P 19 44 13.7 -0.6
CCM IAmb IAmb 19 44 31.3
comp=Z,86nm,1.5s
CCM Cathedral Cave 61.04 64 P P 19 44 14.3 0.0
baz=314,SNR=13
CCM Cathedral Cave 61.04 64 P P 19 44 14.3 0.0
baz=314
X37A Clayton 61.05 70 P P 19 44 15.0 +0.6
X37A Clayton 61.05 70 P P 19 44 14.3 -0.1
baz=314,SNR=22
FAUS Fauske 61.17 353 eP P 19 44 14.1 -0.6
VLDQ Val d'Or 61.18 48 P P 19 44 12.3 -2.7
VLDQ IAmb IAmb 19 44 28.1
comp=Z,50nm,1.2s
SVE Sverdlovsk 61.21 327 d i P P 19 44 16.4 +1.3
SVE pmax pmax
comp=Z,82nm,1.0s
SVE MLR MLR
comp=Z,3μm,19.0s
JCT Junction City 61.26 76 P P 19 44 15.5 -0.4
baz=315,SNR=8.8
JCT Junction City 61.26 76 P P 19 44 15.6 -0.4
baz=315,SNR=8.8
U40A Yellville 61.30 67 IAMs_20 IAMs_20 20 12 57.3
comp=Z,1μm,20.0s
U40A Yellville 61.30 67 P P 19 44 13.7 -2.3
baz=314,SNR=9.3
U40A P P **19 44 13.7 -2.3**
baz=314,SNR=9.3
U40A Yellville 61.30 67 P P 19 44 15.2 -0.8
baz=314,SNR=9.3
FVM French Village 61.55 64 P P 19 44 18.0 +0.2
FVM pmax pmax
comp=Z,26nm,0.7s
FVM French Village 61.55 64 P P 19 44 18.0 +0.2
FVM IAmb IAmb 19 44 30.2
comp=Z,26nm,0.7s
FVM French Village 61.55 64 P P 19 44 16.6 -1.2
baz=314,SNR=9.4
W39A Magazine 61.56 68 P P 19 44 17.5 -0.3
baz=314,SNR=26
WHTX Lake Whitney, 61.62 73 P P 19 44 17.7 -0.6
baz=315,SNR=5.2
WHTX Lake Whitney, 61.62 73 P P 19 44 20.1 +1.8
baz=315,SNR=5.2
BRZS Berezniki 61.63 315 eP P 19 44 16.0 -2.1
BRZS pmax pmax
comp=Z,54nm,0.9s
BRZS Berezniki 61.63 315 eP P 19 44 16.0 -2.1
comp=Z,54nm,0.9s,baz=316
PRGR Permogore 61.70 337 eP P 19 44 17.1 -1.3
PRGR e 19 44 59.4
PRGR e 19 46 29.9
PRGR eS S **19 52 34.2 -4.2**
PRGR pmax pmax
comp=Z,15nm,0.7s
SFIN Lafayette 61.73 60 P P 19 44 18.8 -0.1
SFIN Lafayette 61.73 60 P P 19 44 17.4 -1.5
baz=314,SNR=19
SFIN Lafayette 61.73 60 P P 19 44 18.7 -0.1
baz=314,SNR=19
FCAR Ozark Folk Cen 62.05 67 P P 19 44 20.4 -0.7
MIAR Mount Ida 62.14 69 P P 19 44 21.8 +0.1
MIAR pmax pmax
comp=Z,151nm,1.0s
MIAR MLR MLR
comp=Z,2μm,19.0s
MIAR Mount Ida 62.14 69 P P 19 44 21.8 +0.1
MIAR IAMs_20 IAMs_20 20 14 31.6
comp=Z,2μm,19.0s
MIAR Mount Ida 62.14 69 P P 19 44 21.9 +0.2
baz=315,SNR=46
MIAR Mount Ida 62.14 69 P P 19 44 21.9 +0.2
baz=315,SNR=46
KONS Konsvik 62.20 354 eP P 19 44 21.0 -0.6
P46A Rosedale 62.20 61 P P 19 44 22.0 -0.1
baz=315,SNR=12
Z38A Mt. Pleasant 62.21 71 P P 19 44 22.9 +0.7
baz=315,SNR=9.1
AAM Ann Arbor 62.22 56 IAMs_20 IAMs_20 20 12 10.5
comp=Z,2μm,20.0s
ARU Arti 62.24 327 LR LR 20 14 01.7
comp=Z,3μm,20.5s,baz=36,slow=39
ARU Arti 62.24 327 i P P 19 44 22.0 0.0
ARU pmax pmax
comp=Z,95nm,0.9s
ARU Arti 62.24 327 P P 19 44 22.3 +0.3
OLIL Olney 62.33 62 P P 19 44 23.1 0.0
OLIL Olney 62.33 62 P P 19 44 23.0 0.0
baz=315,SNR=20
NRS Narsarsuaq 62.37 23 eP P 19 44 23.0 +0.2
WHAR Wooly Hollow 62.37 67 P P 19 44 22.4 -0.8
STOK Stokkvaagen 62.37 354 eP P 19 44 22.1 -0.7
PZH PanZhiHua 62.38 279 P P 19 44 22.7 -0.9
PZH pP **pP 19 44 33.1 0.0**
PZH PP **PP 19 46 44.4 +3.6**
PZH S S **19 52 44.5 -3.7**
PZH sS **sS 19 53 04.5 +0.6**
PZH ScS **SKKSac 19 54 10.2 -3.3**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,320nm,4.9s
PZH LR LR
comp=Z,900nm,15.7s
PZH LR LR
comp=Z,920nm,15.7s
PZH LR LR
comp=Z,1μm,15.9s
435B Jarrell 62.40 74 IAMs_20 IAMs_20 20 11 39.9
comp=Z,2μm,18.0s
435B Jarrell 62.40 74 P P 19 44 24.1 +0.6
baz=315
S44A Carbondale 62.42 63 P P 19 44 23.4 -0.1
baz=315,SNR=11
MOR8 Moi Rana 62.43 353 eP P 19 44 21.2 -2.0
DAV Davao City (W) 62.48 245 LR LR 20 07 57.3
comp=Z,2μm,21.0s,baz=60,slow=33
DAV Davao City (W) 62.48 245 IAMs_20 IAMs_20 20 06 41.0
comp=Z,2μm,20.0s
W41B Gary Mavity, V 62.48 67 P P 19 44 23.2 -0.7
W41B Gary Mavity, V 62.48 67 P P 19 44 23.2 -0.7
baz=315,SNR=40
LCAR Lake Charles 62.48 66 P P 19 44 22.3 -1.7
baz=315,SNR=12
TDK Taldyqorghan 62.55 308 eP P 19 44 23.5 -0.9
TDK pmax pmax
comp=Z,34nm,0.9s
TDK MLR MLR
comp=Z,2μm,19.0s
TDK Taldyqorghan 62.55 308 eP P 19 44 23.5 -0.9
comp=Z,34nm,0.9s,baz=308
TDK LR LR 20 11 16.8
comp=Z,2μm,18.7s,baz=308
X40A Basin Creek Fa 62.62 68 IAMs_20 IAMs_20 20 13 14.2
comp=Z,1μm,20.0s
X40A Basin Creek Fa 62.62 68 P P 19 44 24.7 -0.2
baz=315,SNR=14
X40A P P **19 44 24.7 -0.2**
baz=315,SNR=14
X40A Basin Creek Fa 62.62 68 P P 19 44 24.9 0.0
baz=315,SNR=14
HNR Honiara 62.71 202 LR LR 20 09 51.5
comp=Z,2μm,18.7s,baz=7.0,slow=34
HNR Honiara 62.71 202 IAMs_20 IAMs_20 20 08 14.2
comp=Z,2μm,20.0s
KMI Kunming 62.75 277 ⇑P P 19 44 27.2 +1.0
KMI pP sP 19 44 42.9 +3.6
KMI PcP **PcP 19 45 06.2 +1.6**
KMI S S **19 52 53.0 0.0**
KMI SKS **ScS 19 54 13.8 -2.8**
KMI pmax pmax
comp=Z,17nm,1.1s
KMI pmax pmax
comp=Z,350nm,10.3s
KMI LR LR
comp=Z,1μm,18.5s
KMI LR LR
comp=Z,750nm,18.5s
KMI LR LR
comp=Z,1μm,18.5s
SADO Sadowa 62.76 52 LR LR 20 13 30.0
comp=Z,2μm,18.4s,baz=352,slow=38
O48B Farmland 62.87 59 P P 19 44 25.3 -1.2
baz=315,SNR=9.0
O48B Farmland 62.87 59 P P 19 44 26.0 -0.6
baz=315,SNR=9.0
N49A Columbus Grove 62.92 58 P P 19 44 25.9 -0.9
N49A IAmb IAmb 19 45 07.0
comp=Z,28nm,0.8s
N49A Columbus Grove 62.92 58 P P 19 44 26.4 -0.4
baz=315
N49A P P **19 44 26.4 -0.4**
baz=315
833A Chaparral WMA, 63.04 78 P P 19 44 28.3 +0.4
baz=316
OTUK Ortayu 63.06 314 P P 19 44 27.5 -0.2
PDGK Podgornoye 63.21 306 P P 19 44 28.3 -0.6
BORG Borgarnes 63.28 10 LR LR 20 14 22.0
comp=Z,2μm,18.3s,baz=337,slow=38
BORG Borgarnes 63.28 10 P P 19 44 28.6 -0.2
BORG pmax pmax
comp=Z,34nm,0.9s
BORG Borgarnes 63.28 10 P P 19 44 28.6 -0.2
BORG IAmb IAmb 19 44 31.7
comp=Z,34nm,0.8s
P48A Milroy 63.29 60 P P 19 44 28.2 -1.1
baz=315,SNR=20
P48A P P **19 44 28.2 -1.1**
baz=315,SNR=20
KIRV Kirov 63.31 333 LR LR 20 15 47.4
comp=Z,2μm,18.3s,baz=27,slow=40
KIRV Kirov 63.31 333 i P P 19 44 28.9 -0.2
SHLS Shalkode 63.35 306 eP P 19 44 26.6 -3.2
SHLS eS S **19 52 55.5 -4.4**
SHLS pmax pmax
comp=Z,24nm,0.8s
SHLS Shalkode 63.35 306 eP P 19 44 26.7 -3.2
comp=Z,24nm,0.8s,baz=306
SHLS eS S **19 52 55.6 -4.4**
baz=306
O49A Covington 63.36 58 P P 19 44 29.6 -0.2
baz=316
O49A P P **19 44 29.6 -0.2**
baz=316
NATX Nacogdoches 63.47 72 IAMs_20 IAMs_20 20 09 51.7
comp=Z,2μm,22.0s
NATX Nacogdoches 63.47 72 P P 19 44 31.3 +0.7
baz=315
Z41A Richland Creek 63.50 69 P P 19 44 28.9 -1.9
baz=315,SNR=6.4
Z41A P P **19 44 28.9 -1.9**
baz=315,SNR=6.4
Z41A Richland Creek 63.50 69 P P 19 44 32.0 +1.1
baz=315,SNR=6.4
KPKS Kokpek 63.52 307 eP P 19 44 28.9 -2.0
KPKS pmax pmax
comp=Z,17nm,0.8s
KPKS Kokpek 63.52 307 eP P 19 44 28.9 -2.0
comp=Z,17nm,0.8s,baz=307
UZB Uzunbulak 63.58 307 eP P 19 44 29.5 -1.9
UZB eS S **19 53 00.6 -2.2**
UZB pmax pmax
comp=Z,25nm,1.2s
UZB Uzunbulak 63.58 307 eP P 19 44 29.5 -1.9
comp=Z,25nm,1.2s,baz=307
UZB eS S **19 53 00.7 -2.2**
baz=307
P49A Miami Univ. Ec 63.62 59 P P 19 44 29.9 -1.6
baz=316,SNR=6.7
P49A Miami Univ. Ec 63.62 59 P P 19 44 31.7 +0.2
baz=316,SNR=6.7
DELO Deloro Mine 63.69 51 P P 19 44 31.7 -0.2
DELO IAmb IAmb 19 45 10.2
comp=Z,29nm,1.1s
KLMR Klimovskoe 63.82 340 eP P 19 44 30.5 -1.9
KLMR e 19 45 07.0
KLMR eSS SS 19 57 10.2 -2.0
KLMR pmax pmax
comp=Z,41nm,1.1s
KLMR MLR MLR
comp=Z,2μm,17.0s
KLMR Klimovskoe 63.82 340 eP P 19 44 30.5 -1.9
KLMR AMP 19 44 34.0
comp=Z,41nm,1.1s
KLMR ePcP **PcP 19 45 07.0 -1.1**
KLMR eSS **SS 19 57 10.2 -2.0**
KLMR eSS **SS 19 57 10.2 -2.0**
KLMR LQ LQ 20 06 05.5
KLMR LQ LQ 20 06 05.5
KLMR LR LR 20 09 21.2
KLMR AMP 20 16 48.9
comp=Z,2μm,16.9s
SATY Saty 63.95 307 eP P 19 44 32.1 -1.7
SATY pmax pmax
comp=Z,36nm,1.4s
SATY Saty 63.95 307 eP P 19 44 32.2 -1.7
comp=Z,36nm,1.4s,baz=307
ACSO Alum Creek Sta 64.05 58 IAMs_20 IAMs_20 20 12 17.0
comp=Z,2μm,20.0s
ACSO Alum Creek Sta 64.05 58 P P 19 44 34.7 +0.4
baz=316
CHKK Chushkaly 64.08 308 eP P 19 44 33.1 -1.4
CHKK Chushkaly 64.08 308 eP P 19 44 33.2 -1.3
baz=308
J54A Appleton 64.09 53 P P 19 44 34.4 -0.1
baz=317
J54A P P **19 44 34.4 -0.1**
baz=317
T47A Sharon Grove 64.12 63 P P 19 44 35.1 +0.2
T47A Sharon Grove 64.12 63 P P 19 44 35.5 +0.7
baz=316,SNR=45
NSS Namsos 64.23 354 eP P 19 44 34.5 -0.6
WVT Waverly 64.33 64 P P 19 44 36.5 +0.3
WVT pmax pmax
comp=Z,40nm,0.9s
WVT MLR MLR
comp=Z,2μm,20.0s
WVT Waverly 64.33 64 P P 19 44 36.5 +0.3
WVT IAmb IAmb 19 44 38.5
comp=Z,40nm,0.8s
WVT Waverly 64.33 64 IAMs_20 IAMs_20 20 12 28.5
comp=Z,2μm,20.0s
WVT Waverly 64.33 64 P P 19 44 36.5 +0.3
baz=316,SNR=21
WVT Waverly 64.33 64 P P 19 44 36.5 +0.3
baz=316
M53A WI Miller and 64.39 55 P P 19 44 36.2 -0.3
baz=316
MDOK Medeo 64.56 308 eP P 19 44 36.3 -1.5
MDOK MLR MLR
comp=Z,1μm,14.0s
MDOK Medeo 64.56 308 eP P 19 44 36.4 -1.5
baz=308
MDOK LR LR 20 12 39.8
comp=Z,1μm,14.3s,baz=308
OXF Oxford 64.59 66 P P 19 44 38.2 +0.3
baz=316,SNR=13
OXF Oxford 64.59 66 P P 19 44 38.4 +0.5
baz=316,SNR=13
AAA Alma-Ata 64.59 308 eP P 19 44 36.6 -1.3
AAA pmax pmax
comp=Z,42nm,0.9s
AAA MLR MLR
comp=Z,3μm,20.0s
AAA Alma-Ata 64.59 308 eP P 19 44 36.6 -1.3
comp=Z,42nm,0.9s,baz=308
AAA LR LR 20 12 41.0
comp=Z,3μm,20.3s,baz=308
BTLS Baital 64.64 311 eP P 19 44 35.8 -2.2
BTLS pmax pmax
comp=Z,30nm,1.4s
BTLS Baital 64.64 311 eP P 19 44 35.9 -2.2
comp=Z,30nm,1.4s,baz=311
TNSS Tian-Shan 64.70 308 eP P 19 44 37.7 -1.3
TNSS Tian-Shan 64.70 308 eP P 19 44 37.7 -1.3
baz=308
Q51A Peebles 64.72 59 P P 19 44 38.7 0.0
Q51A IAmb IAmb 19 45 17.1
comp=Z,42nm,0.8s
Q51A Peebles 64.72 59 P P 19 44 38.2 -0.6
baz=316,SNR=10
Q51A P P **19 44 38.2 -0.6**
baz=316,SNR=10
R50A Paris 64.73 60 P P 19 44 38.4 -0.4
baz=316,SNR=8.7
R50A P P **19 44 38.4 -0.4**
baz=316,SNR=8.7
O52A Adamsville 64.74 57 P P 19 44 38.2 -0.6
baz=316,SNR=13
O52A P P **19 44 38.2 -0.6**
baz=316,SNR=13
WVNY West Valley, N 64.74 53 P P 19 44 38.7 -0.1
WVNY IAmb IAmb 19 45 14.7
comp=Z,76nm,1.2s
WVNY West Valley, N 64.74 53 P P 19 44 38.4 -0.5
baz=317
MMNY Mt. Morris Dam 64.85 53 P P 19 44 39.2 -0.3
MMNY IAmb IAmb 19 45 15.0
comp=Z,54nm,1.1s
P52A Corning 64.93 58 P P 19 44 40.0 -0.1
P52A Corning 64.93 58 P P 19 44 39.7 -0.5
baz=316
BMNY Brushton-Moira 64.96 49 P P 19 44 39.5 -0.7
baz=318
O53A New Philadelph 64.97 56 P P 19 44 39.7 -0.6

baz=317
J56A Wolcott 64.97 52 P P 19 44 40.0 -0.2
J56A IAmb IAmb 19 45 15.0
comp=Z,31nm,0.9s
PLAL Pickwick Lake 65.01 65 P P 19 44 40.8 +0.1
LONY Lake Ozonia 65.08 49 IAMs_20 IAMs_20 20 13 36.2
comp=Z,2µm,20.0s
N54A Moraine State 65.09 55 P P 19 44 40.9 -0.2
N54A IAmb IAmb 19 45 15.6
comp=Z,34nm,0.8s
N54A Moraine State 65.09 55 P **P 19 44 40.9 -0.2**
baz=317
V48A Smith Brothers 65.18 63 P **P 19 44 42.0 +0.2**
baz=316,SNR=8.7
U49A Red Boiling Sp 65.20 62 P **P 19 44 40.6 -1.3**
baz=316,SNR=14
AFI Afiamalu 65.25 171 LR LR 20 09 43.7
comp=Z,2µm,19.0s,baz=348,slow=33
KDJ Kajisay 65.25 307 P **P 19 44 43.0 +0.6**
KDJ pmax pmax
comp=Z,64nm,1.0s
KDJ Kajisay 65.25 307 P **P 19 44 43.0 +0.6**
Q52A Bidwell 65.35 58 P **P 19 44 41.6 -1.2**
baz=317
Q52A P **P 19 44 41.6 -1.2**
baz=317
T50A Nancy 65.36 61 P **P 19 44 43.2 +0.3**
TKM2 Tokmak 2 65.45 308 P **P 19 44 44.0 +0.2**
SNR=80
TKM2 Tokmak 2 65.45 308 *i* P **P 19 44 43.6 -0.1**
TKM2 pmax pmax
comp=Z,59nm,0.9s
L56A Greenwood 65.47 53 P **P 19 44 42.1 -1.5**
baz=318,SNR=25
L56A P **P 19 44 42.1 -1.5**
baz=318,SNR=25
SGDS Sogindy 65.53 309 *eP* **P 19 44 42.2 -1.8**
SGDS Sogindy 65.53 309 *eP* **P 19 44 42.2 -1.8**
baz=310
VBMS Vicksburg 65.59 69 IAMs_20 IAMs_20 20 16 36.9
comp=Z,2µm,19.0s
VBMS Vicksburg 65.59 69 P **P 19 44 46.1 +1.7**
baz=316
S51A Beattyville 65.59 60 P **P 19 44 42.9 -1.5**
baz=317,SNR=7.0
S51A P **P 19 44 42.9 -1.5**
baz=317,SNR=7.0
BOOM Boomskoye usch 65.60 308 P **P 19 44 45.0 +0.3**
BOOM pmax pmax
comp=Z,84nm,1.1s
BOOM Boomskoye usch 65.60 308 P **P 19 44 45.0 +0.3**
TBLU Trondheim 65.61 355 *eP* **P 19 44 42.6 -1.5**
ULHL Ulahol 65.63 308 P **P 19 44 45.8 +0.9**
SNR=15
USP Ospenovka 65.73 309 P **P 19 44 45.9 +0.6**
SNR=108
NCB Newcomb 65.74 50 P **P 19 44 44.7 -0.6**
baz=318
FIA1 FINESS Array S 65.75 346 P **P 19 44 43.7 -1.3**
FIA1 IAmb IAmb 19 44 46.3
comp=Z,47nm,1.0s
FINES FINESS Array B 65.75 346 P **P 19 44 43.8 -1.2**
comp=Z,30nm,0.9s,baz=32,slow=7.6,SNR=55
FINES PKPPKP P'P'df 20 13 20.7 -8.7
comp=Z,1.4nm,0.9s,baz=151,slow=3.2,SNR=3.3
FINES LR LR 20 16 26.8
comp=Z,1µm,19.4s,baz=22,slow=39
CHMS Chumysh 65.81 309 P **P 19 44 46.2 +0.4**
SNR=41
CHMS Chumysh 65.81 309 *i* P **P 19 44 45.9 +0.1**
CHMS pmax pmax
comp=Z,55nm,1.0s
KBK Karagaybulak 65.97 309 P **P 19 44 47.4 +0.4**
SNR=53
R53A Hurricane 65.98 58 P **P 19 44 46.3 -0.6**
baz=317,SNR=7.9
R53A P **P 19 44 46.3 -0.6**
baz=317,SNR=7.9
X48A Hartselle 65.98 65 P **P 19 44 45.9 -1.1**
baz=316,SNR=16
SWI Sorong 65.99 235 P **P 19 44 46.5 -0.7**
comp=Z,1µmcomp=Z,85nm,1.1s
SIJI Sorong 66.00 235 P **P 19 44 45.8 -1.4**
comp=Z,47nm,0.9s,baz=13,slow=7.1,SNR=18
SIJI LR LR 20 08 55.7
comp=Z,1µm,21.4s,baz=36,slow=32
344A Westbrook Farm 66.02 69 P **P 19 44 47.8 +0.6**
baz=316,SNR=8.5
Q54A Coxs Mills 66.10 57 P **P 19 44 48.2 +0.6**
Q54A IAmb IAmb 19 45 20.3
comp=Z,64nm,1.4s
146A Union 66.14 67 P **P 19 44 48.5 +0.5**
146A Union 66.14 67 P **P 19 44 48.5 +0.5**
baz=316,SNR=30
BINY Binghamton 66.20 52 P **P 19 44 49.4 +1.1**
baz=318
AAK Ala-Archa 66.21 309 P **P 19 44 49.0 +0.5**
SNR=61
AAK Ala-Archa 66.21 309 LR LR 20 15 08.7
comp=Z,3µm,20.7s,baz=45,slow=37
AAK Ala-Archa 66.21 309 *i* P **P 19 44 48.6 +0.1**
AAK pmax pmax
comp=Z,60nm,1.0s
AAK Ala-Archa 66.21 309 P **P 19 44 49.1 +0.5**
AAK IAmb IAmb 19 44 53.0
comp=Z,59nm,1.0s
AAK Ala-Archa 66.21 309 P **P 19 44 49.0 +0.5**
AAK P **P 19 44 49.0 +0.5**
AAK Ala-Archa 66.21 309 *i* P **P 19 44 48.9 +0.5**
SNR=89
M57A Sunshine Farm, 66.28 53 P **P 19 44 49.4 +0.7**
M57A IAmb IAmb 19 45 21.2
comp=Z,42nm,0.9s
M57A Sunshine Farm, 66.28 53 P **P 19 44 49.2 +0.5**
baz=318,SNR=6.0
M57A P **P 19 44 49.2 +0.5**
baz=318,SNR=6.0
Z47A Carrollton 66.30 66 P **P 19 44 48.5 -0.5**
baz=317,SNR=38
O56A Blue Knob Stat 66.33 55 P **P 19 44 49.2 0.0**
baz=318
SSPA Standing Stone 66.41 54 P **P 19 44 49.2 -0.4**
SSPA IAmb IAmb 19 45 21.5
comp=Z,44nm,1.1s
SSPA Standing Stone 66.41 54 P **P 19 44 48.3 -1.4**
baz=318
SSPA Standing Stone 66.41 54 P **P 19 44 49.5 -0.1**
baz=318
TZTN Tazewell 66.42 61 P **P 19 44 50.2 +0.4**
TZTN IAmb IAmb 19 45 05.8
comp=Z,39nm,0.9s
TZTN Tazewell 66.42 61 P **P 19 44 49.7 -0.1**
baz=317
W50A Signal Mountai 66.42 63 P **P 19 44 50.1 +0.3**
W50A IAmb IAmb 19 45 05.4
comp=Z,58nm,0.9s
W50A Signal Mountai 66.42 63 P **P 19 44 48.5 -1.4**
baz=317,SNR=11
MOL Molde 66.42 356 *eP* **P 19 44 49.4 +0.1**
UCH Uchtor 66.50 309 P **P 19 44 51.2 +0.4**
SNR=37
V51A Loudon 66.51 62 P **P 19 44 50.8 +0.4**
V51A IAmb IAmb 19 45 07.1
comp=Z,44nm,0.8s
V51A Loudon 66.51 62 P **P 19 44 50.1 -0.2**
baz=317,SNR=6.9
EKS2 Erkin-Say 66.54 309 P **P 19 44 51.2 +0.6**
SNR=108
PMG Port Moresby 66.54 215 LR LR 20 12 08.3
comp=Z,1µm,19.4s,baz=51,slow=34
PMG Port Moresby 66.54 215 IAMs_20 IAMs_20 20 13 33.5
comp=Z,2µm,19.0s
LSA Lhasa 66.55 289 IAMs_20 IAMs_20 20 15 29.2
comp=Z,2µm,20.0s
LSA Lhasa 66.55 289 P **P 19 44 51.9 +0.6**
LSA pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 66.55 289 P **P 19 44 52.2 +1.0**
LSA Lhasa 66.55 289 P **P 19 44 52.3 +1.0**
CPCT Cooper Cave 66.68 62 P **P 19 44 51.2 -0.2**
CPCT IAmb IAmb 19 45 07.6
comp=Z,54nm,1.2s
H62A Milan 66.73 47 P **P 19 44 50.5 -1.1**
baz=320
H62A P **P 19 44 50.5 -1.1**
baz=320
RAF Rauma 66.75 348 *eP* **P 19 44 50.4 -1.0**
Y49A Blount Mountai 66.77 65 P **P 19 44 50.5 -1.6**
baz=317,SNR=11
346A Big Creek Wild 66.81 68 P **P 19 44 52.7 +0.4**
baz=317,SNR=5.5
AKN Aaknes 66.84 356 *eP* **P 19 44 52.2 +0.2**
ITAN ITANAGAR 66.86 285 *eP* **P 19 44 53.1 +0.4**
DOMB Dombas 66.88 355 *eP* **P 19 44 52.0 -0.3**
V52A Sevierville 66.90 61 P **P 19 44 52.8 -0.1**
V52A IAmb IAmb 19 45 24.4
comp=Z,35nm,0.9s
V52A Sevierville 66.90 61 P **P 19 44 53.8 +0.9**
baz=317,SNR=9.2
TKL Tuckaleechee C 66.94 62 LR LR 20 15 13.1
comp=Z,2µm,19.6s,baz=321,slow=37
TKL Tuckaleechee C 66.94 62 P **P 19 44 53.5 +0.5**
baz=317,SNR=11
MOKO MOKOCHONG 66.97 284 *eP* **P 19 44 53.9 +0.3**
MOKO IAmb IAmb 19 44 56.6
comp=Z,140nm,1.0s
AML Almayashu 66.98 309 P **P 19 44 54.5 +0.8**
SNR=71
AML Almayashu 66.98 309 P **P 19 44 54.7 +1.0**
AML Almayashu 66.98 309 *i* P **P 19 44 54.5 +0.8**
SNR=12
LRAL Lakeview Retre 67.04 66 P **P 19 44 53.4 -0.3**
LRAL IAmb IAmb 19 44 55.2
comp=Z,37nm,1.0s
LRAL IAMs_20 IAMs_20 20 17 25.2
comp=Z,1µm,18.0s
LRAL Lakeview Retre 67.04 66 P **P 19 44 52.6 -1.1**
baz=317,SNR=15
LRAL Lakeview Retre 67.04 66 P **P 19 44 52.8 -0.9**
baz=317,SNR=15
X51A Calhoun 67.14 63 P **P 19 44 53.1 -1.2**
baz=317,SNR=5.2
X51A P **P 19 44 53.1 -1.2**
baz=317,SNR=5.2
MEF Metsahovi 67.17 347 *eP* **P 19 44 53.2 -0.9**
AKTO Aktyubinsk 67.26 324 LR LR 20 17 00.8
comp=Z,5µm,19.4s,baz=32,slow=38
N59A State Game Lan 67.27 53 P **P 19 44 55.6 +0.5**
N59A IAmb IAmb 19 44 58.3
comp=Z,34nm,0.8s
N59A State Game Lan 67.27 53 P **P 19 44 54.7 -0.4**
baz=319,SNR=12
N59A State Game Lan 67.27 53 P **P 19 44 54.7 -0.4**
baz=319,SNR=12
U54A Nelsons Funny 67.38 60 P **P 19 44 56.0 +0.1**
baz=318,SNR=5.3
U54A P **P 19 44 56.0 +0.1**
baz=318,SNR=5.3
V53A Saluda 67.46 61 P **P 19 44 56.3 -0.2**
baz=318,SNR=5.9
V53A P **P 19 44 56.3 -0.2**
baz=318,SNR=5.9
AB31 Akbulak array 67.48 322 *i* P **P 19 44 56.1 -0.2**
ABKAR Akbulak array 67.48 322 P **P 19 44 56.7 +0.4**
FOO Floro 67.49 357 *eP* **P 19 44 56.8 +0.7**
NC204 NORSAR Array S 67.54 354 P **P 19 44 56.1 -0.4**
DZA Taraz 67.54 311 *eP* **P 19 44 55.7 -1.1**
DZA pmax pmax
comp=Z,17nm,1.1s
DZA Taraz 67.54 311 *eP* **P 19 44 55.8 -1.1**
comp=Z,18nm,1.1s,baz=311
NC303 NORSAR Array S 67.55 354 P **P 19 44 56.2 -0.4**
BLA Blacksburg 67.62 58 P **P 19 44 56.7 -0.7**
baz=318
KOHI KOHIMA 67.66 284 *eP* **P 19 44 57.9 0.0**
KOHI IAmb IAmb 19 45 00.3
comp=Z,64nm,0.9s
NB2 NORSAR Subarra 67.75 354 P **P 19 44 57.0 -0.8**
comp=Z,84nm,0.8s,baz=7.7,slow=6.5
NB2 NORSAR Subarra 67.75 354 P **P 19 44 57.0 -0.8**
baz=7.7,slow=6.5
NOA NORSAR Array B 67.75 354 P **P 19 44 57.0 -0.8**
comp=Z,56nm,0.8s,baz=8.1,slow=6.4,SNR=206
NOA PKPPKP P'P'df 20 13 18.8 -7.3
comp=Z,1.1nm,1.0s,baz=188,slow=3.1,SNR=3.4
NOA LR LR 20 16 16.5
comp=Z,774nm,18.6s,baz=5.0,slow=37
KK31 Karatay Array 67.77 312 *i* P **P 19 44 58.0 -0.2**
KK31 Karatay Array 67.77 312 P **P 19 44 58.6 +0.4**
KK31 IAmb IAmb 19 45 01.4
comp=Z,47nm,0.8s
KKAR Karatay Array 67.77 312 P **P 19 44 58.6 +0.4**
KKAR Karatay Array 67.77 312 P **P 19 44 58.6 +0.4**
AAL Aland 67.78 349 *eP* **P 19 44 56.6 -1.3**
KSH Kashi 67.80 306 P **P 19 45 02.5 +3.9**
KSH pP sP 19 45 10.1 -1.4
KSH PcP **PcP 19 45 24.4 -0.8**
KSH PP PP 19 47 36.5 +8.6
KSH S **S 19 53 48.5 -5.9**
KSH SS **SS 19 58 22.5 +7.2**
KSH pmax pmax
comp=Z,90nm,1.1s
KSH LR LR
comp=Z,2µm,22.7s
KSH LR LR
comp=Z,2µm,22.0s
KSH LR LR
comp=Z,3µm,19.9s
TEZP TEZPUR 67.80 285 *eP* **P 19 44 57.9 -0.7**
TEZP IAmb IAmb 19 45 00.4
comp=Z,46nm,0.8s
Z51A Franklin 67.87 64 P **P 19 44 58.4 -0.6**
baz=317,SNR=7.6
HYA Hoyanger 67.88 357 *eP* **P 19 44 58.5 -0.1**
CASEE Lake Jocassee 67.89 61 P **P 19 44 58.9 -0.2**
baz=318,SNR=9.5
NAO01 NORSAR Array S 67.96 354 P **P 19 44 59.4 +0.2**
NC602 NORSAR Array S 68.03 354 *eP* **P 19 44 58.9 -0.6**
SUE Sulen 68.04 357 *eP* **P 19 44 59.8 +0.2**
Y52A Lilburn 68.10 63 P **P 19 44 59.3 -1.1**
baz=318,SNR=6.7
Y52A P **P 19 44 59.3 -1.1**
baz=318,SNR=6.7
PAL Palisades 68.13 51 P **P 19 45 01.0 +0.5**
baz=319
TUPA Temple Univers 68.13 53 P **P 19 44 59.6 -0.9**
baz=319,SNR=9.8
V55A Taylorsville 68.20 60 P **P 19 45 01.5 +0.5**
baz=318,SNR=6.0
V55A P **P 19 45 01.5 +0.5**
baz=318,SNR=6.0
250A Grady 68.23 66 P **P 19 45 00.9 -0.3**
baz=317,SNR=21
SKAR Skarslia 68.28 355 *eP* **P 19 45 01.0 -0.1**
U56A King 68.28 59 P **P 19 45 01.9 +0.4**
baz=318,SNR=5.7
U56A P **P 19 45 01.9 +0.4**
baz=318,SNR=5.7
UPP Uppsala 68.36 350 *eP* **P 19 45 01.2 -0.4**
BRAL Brewton 68.37 67 IAMs_20 IAMs_20 20 19 13.6
comp=Z,2µm,18.0s
BRAL Brewton 68.37 67 P **P 19 45 02.9 +0.8**
baz=318,SNR=9.6
BRAL Brewton 68.37 67 P **P 19 45 03.5 +1.4**
baz=317,SNR=9.6
T57A Hurt 68.40 58 P **P 19 45 02.3 0.0**
baz=318,SNR=7.1
T57A P **P 19 45 02.3 0.0**
baz=318,SNR=7.1
HFS Hagfors 68.46 352 LR LR 20 16 06.0
comp=Z,1µm,18.9s,baz=7.5,slow=37
VSU Vasula 68.49 345 *eP* **P 19 45 02.3 -0.1**
LMN Caledonia Moun 68.56 43 P **P 19 45 02.6 -0.5**
ASK Askoy 68.60 357 *eP* **P 19 45 02.4 -0.7**
152A Waverly Hall 68.61 64 P **P 19 45 02.5 -1.1**
baz=318,SNR=7.4
MSVF Nonsavu 68.62 182 LR LR 20 09 55.4
comp=Z,1µm,19.8s,baz=355,slow=31
PAULI Pauline 68.64 61 P **P 19 45 04.4 +0.6**
baz=318,SNR=5.1
KMSC Kings Mountain 68.66 60 P **P 19 45 04.0 0.0**
KMSC Kings Mountain 68.66 60 P **P 19 45 03.0 -0.9**
baz=318,SNR=20
KMSC Kings Mountain 68.66 60 P **P 19 45 04.6 +0.7**
baz=318,SNR=20
BER Bergen 68.70 357 *eP* **P 19 45 04.7 +1.0**
MTSE Matsula 68.70 347 *eP* **P 19 45 03.2 -0.5**
IUG luzhnay 68.73 311 *eP* **P 19 45 02.7 -1.7**
IUG luzhnay 68.73 311 *eP* **P 19 45 02.8 -1.7**
baz=311
GOGA Godfrey 68.77 63 P **P 19 45 03.7 -0.9**
baz=318,SNR=7.7
GOGA Godfrey 68.77 63 P **P 19 45 03.7 -0.9**
baz=318,SNR=7.7
HODGE Hodges 68.83 62 P **P 19 45 04.8 -0.2**
HODGE IAmb IAmb 19 45 07.2
comp=Z,36nm,0.7s
HODGE Hodges 68.83 62 P **P 19 45 04.7 -0.2**
baz=318,SNR=14
MOS Moscow 68.88 338 *eP* **P 19 45 03.2 -1.7**
MOS *e* 19 45 28.7
MOS pmax pmax
comp=Z,77nm,0.8s
MOS pmax pmax
comp=Z,100nm,1.0s
MOS MLR MLR
comp=Z,4µm,18.0s
MOS MLR MLR
comp=E,1µm,17.0s
MOS MLR MLR
comp=N,4µm,18.0s
OSL Oslo 68.88 354 *eP* **P 19 45 04.7 -0.1**
ODD1 Odda 69.12 356 *eP* **P 19 45 06.2 -0.2**
SHL Shillong 69.13 285 *eP* **P 19 45 06.5 -0.7**
SHL IAmb IAmb 19 45 09.3
comp=Z,80nm,0.6s
BELG Belogornoye 69.14 331 LR LR 20 19 53.8
comp=Z,2µm,18.1s,baz=22,slow=40
BELG Belogornoye 69.14 331 *i* P **P 19 45 05.4 -1.2**
BELG pmax pmax
comp=Z,12nm,0.9s
TAOE Nuku Hiva Isla 69.15 137 *eS* S 19 54 22.7 +12
comp=Z,3µm,26.2s
TAOE Nuku Hiva Isla 69.15 137 *eLR* LR 20 06 30.9
comp=Z,4µm,21.9s,baz=346
TAOE Nuku Hiva Isla 69.15 137 *eT* T 21 00 33.5
comp=Z,37nm,0.3s
KONO Kongsberg 69.23 355 P **P 19 45 07.1 +0.1**
KONO pmax pmax
comp=Z,108nm,0.9s
KONO Kongsberg 69.23 355 P **P 19 45 07.1 +0.1**
KONO Kongsberg 69.23 355 *eP* **P 19 45 06.9 -0.1**
T59A Double "B" Far 69.32 57 P **P 19 45 07.4 -0.6**
baz=319,SNR=8.5
T59A P **P 19 45 07.4 -0.6**
baz=319,SNR=8.5
JSC Jenkinsville 69.34 61 P **P 19 45 08.0 -0.2**
JSC pmax pmax
comp=Z,36nm,0.9s
JSC Jenkinsville 69.34 61 P **P 19 45 08.0 -0.2**
JSC IAmb IAmb 19 45 24.6
comp=Z,36nm,0.9s
JSC Jenkinsville 69.34 61 P **P 19 45 07.5 -0.6**
baz=318,SNR=9.3
W57A Gilead 69.39 59 P **P 19 45 05.9 -2.4**
baz=319,SNR=6.0
W57A P **P 19 45 05.9 -2.4**
baz=319,SNR=6.0
BIRD Birdtown, Kers 69.51 60 P **P 19 45 08.5 -0.6**
baz=318,SNR=6.3
BLS5 Blasjo 69.62 356 *eP* **P 19 45 08.4 -1.0**
OBN Obninsk 69.69 338 *i* P **P 19 45 09.3 -0.6**
OBN Obninsk 69.69 338 LR LR 20 20 14.8
comp=Z,991nm,18.0s,baz=22,slow=40
OBN Obninsk 69.69 338 *i* P **P 19 45 08.3 -1.6**
OBN *i* 19 45 32.4
OBN *i* S **S 19 54 15.6 -0.4**
OBN pmax pmax
comp=Z,54nm,0.9s
OBN MLR MLR
comp=Z,4µm,18.0s
UNM Universidad Na 69.74 84 IAMs_20 IAMs_20 20 14 18.9
comp=Z,1µm,19.0s
CHTO Chiang Mai 69.76 275 P **P 19 45 10.3 -0.6**
CHTO pmax pmax
comp=Z,26nm,0.9s
CHTO MLR MLR
comp=Z,800nm,20.0s
CHTO Chiang Mai 69.76 275 P **P 19 45 10.3 -0.6**
CHTO IAmb IAmb 19 45 12.7
comp=Z,26nm,0.9s
CHTO Chiang Mai 69.76 275 P **P 19 45 10.9 0.0**
CHTO P **P 19 45 10.9 0.0**
CHTO Chiang Mai 69.76 275 P **P 19 45 10.0 -0.9**
SANI Sanana 69.78 239 P **P 19 45 09.3 -1.7**
comp=Z,26nm,1.0s
SANI Sanana 69.78 239 P **P 19 45 09.6 -1.4**
VIKU Vikbolandet 69.79 351 *eP* **P 19 45 10.3 -0.2**
GTK Tadong 69.81 289 *eP* **P 19 45 11.5 +0.1**
GTK IAmb IAmb 19 45 14.2
comp=Z,80nm,1.2s
HAW Hawthorne Fire 69.84 62 P **P 19 45 12.1 +0.9**
baz=318,SNR=7.6
KMY Karmoy 69.87 357 *eP* **P 19 45 10.8 -0.2**
MRSI Marisa 69.92 244 P **P 19 45 09.7 -2.2**
comp=Z,717nmcomp=Z,52nm,1.0s
DHUB DHUBRI 69.94 287 *eP* **P 19 45 11.1 -0.8**
BTK Batken 69.96 309 P **P 19 45 12.6 +0.6**
BTK pmax pmax
comp=Z,98nm,0.8s
BTK Batken 69.96 309 P **P 19 45 12.6 +0.6**
SLIT Slitere, Latvi 69.97 347 *eP* **P 19 45 12.6 +1.0**
CM31 Chiang Mai Arr 70.02 275 P **P 19 45 11.8 -0.8**
CM31 P **P 19 45 11.8 -0.8**
CMAR Chiang Mai Arr 70.02 275 P **P 19 45 11.8 -0.8**
comp=Z,15nm,0.8s,baz=26,slow=6.7,SNR=77
CMAR PKPPKP P'P'df 20 13 10.8 -7.2
comp=Z,0.5nm,0.8s,baz=236,slow=5.3,SNR=5.6
CMAR LR LR 20 16 07.0
comp=Z,614nm,21.0s,baz=35,slow=36
CMAR Chiang Mai Arr 70.02 275 P **P 19 45 12.0 -0.6**
CMAR Chiang Mai Arr 70.02 275 P **P 19 45 11.9 -0.6**
TOLI2 Tolitoli 70.07 245 P **P 19 45 11.3 -1.5**
TURI Tura 70.08 286 *eP* **P 19 45 12.6 -0.2**
TURI IAmb IAmb 19 45 14.7
comp=Z,68nm,0.8s
TIGA Tifton 70.16 64 P **P 19 45 14.0 +0.8**
baz=318
TAPN Taplejung 70.32 289 *eP* **P 19 45 14.8 +0.1**
comp=Z,309nm,0.9s
SNART Snartemo 70.67 356 *eP* **P 19 45 15.7 -0.1**
HOMB Homborsund 70.67 355 *eP* **P 19 45 15.6 -0.3**
NHSC New Hope 70.82 61 P **P 19 45 18.8 +1.6**
baz=319
ODAN Odare 70.88 289 *eP* **P 19 45 18.1 +0.1**
comp=Z,156nm,0.9s
GUN Gumba 70.99 291 *eP* **P 19 45 19.0 +0.2**
comp=Z,336nm,0.9s
GAR Garm 71.03 309 P **P 19 45 18.8 +0.2**
MPSI Mapaga 71.20 246 P **P 19 45 17.7 -2.0**
comp=Z,411nmcomp=Z,36nm,0.9s
Y60A Bolivia 71.21 59 P **P 19 45 19.2 -0.4**
Y60A IAmb IAmb 19 45 32.6
comp=Z,44nm,0.8s
RAMN Ramite 71.28 290 *eP* **P 19 45 20.6 +0.2**
comp=Z,174nm,0.7s
LPSR Galich'ya Gora 71.41 336 *eP* **P 19 45 19.7 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR MLR MLR
comp=Z,2µm,16.0s
KKN Kakani 71.43 291 *eP* **P 19 45 21.5 +0.2**
comp=Z,185nm,0.8s
IDID Didziasalis 71.50 344 *eP* **P 19 45 20.8 -0.1**
PKI Pulchoki 71.52 291 *eP* **P 19 45 21.9 -0.1**
comp=Z,215nm,1.1s
PKIN Phulchoki 71.52 291 *eP* **P 19 45 21.8 -0.1**
comp=Z,150nm,1.0s
IIGN Ignalina 71.55 344 *eP* **P 19 45 21.1 -0.2**
MCD Coleburn Disti 71.58 2 *eP* **P 19 45 22.1 +0.7**
KAC Achnashellach 71.61 3 *eP* **P 19 45 22.3 +0.6**
GKN Gorkha 71.65 292 *eP* **P 19 45 22.5 0.0**
comp=Z,274nm,1.0s
DMN Daman 71.67 291 *eP* **P 19 45 23.0 +0.2**
comp=Z,162nm,0.9s
MDO Dochfour 71.70 2 *eP* **P 19 45 22.4 +0.2**
PMOR Pomariorio Ree 71.76 147 *eP* P 19 45 35.0 +12
comp=Z,62nm,0.9s
PMOR Pomariorio Ree 71.76 147 *eT* T 21 03 45.9
comp=Z,17nm,0.2s
KPL Plockton 71.76 3 *eP* **P 19 45 22.3 -0.2**
PABE Paberze 71.77 346 *eP* **P 19 45 21.9 -0.6**
CHGR Chuyangaron 71.86 309 P **P 19 45 24.0 +0.5**
NACGM Naroch 71.88 344 *eP* **P 19 45 23.1 -0.2**
DANN Dangsing 71.90 293 *eP* **P 19 45 24.3 +0.1**
comp=Z,346nm,0.9s
VRH Novokhopyorsk 71.92 334 *eP* **P 19 45 22.1 -1.5**
VRH pmax pmax
comp=Z,30nm,0.7s

VRH MLR MLR
comp=Z,3µm,19.0s
VAH Vaihoa 72.06 147 *eP* P 19 45 36.7 +12
comp=Z,63nm,0.9s
MNK Minsk 72.07 343 *i* P **P** **19 45 21.6 -2.8**
MNK *i* *SP **PcP** **19 45 41.7 -1.0**
MNK *i* 19 48 03.2
MNK *i* PPP PPP 19 49 47.7
MNK *i* S **S** **19 54 40.0 -3.6**
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,19nm,0.8s
MNK pmax pmax
comp=Z,48nm,0.8s
MNK MLR MLR
comp=E,278nm,18.0s
MNK Minsk 72.07 343 *i* P **P** **19 45 21.6 -2.8**
comp=E,1.0nm,0.8s
MNK *i* P **P** **19 45 21.6 -2.8**
comp=N,19nm,0.8s
MNK *i* P **P** **19 45 21.6 -2.8**
comp=Z,48nm,0.8s,baz=18
MNK *i* pP **sP** **19 45 37.5 +0.3**
MNK *i* sP **PcP** **19 45 41.8 -1.0**
MNK *i* PP **PP** **19 48 03.3 -0.7**
MNK *i* PPP PPP 19 49 47.8
MNK *i* S **S** **19 54 40.0 -3.6**
MNK *i* SS SS 19 58 51.9 -28
MNK *i* SSS SSS 20 02 54.0
MNK *i* LQ LQ 20 13 08.9
MNK *i* LR LR 20 17 40.4
MNK *i* LRM MLR 20 22 07.4
comp=E,278nm,18.1s
MNK *i* LRM MLR 20 22 26.1
comp=Z,2µm,15.9s
MNK *i* LRM MLR 20 22 33.8
comp=N,1µm,17.6s
DEL Delary 72.07 352 *eP* **P** **19 45 23.9 -0.4**
VORR Voronezh 72.18 335 *eP* **P** **19 45 25.5 +0.4**
VORR pmax pmax
comp=Z,50nm,0.4s
DRUM Mains of Drumt 72.26 1 *eP* **P** **19 45 25.3 -0.2**
KOLN Koldanda 72.43 292 *eP* **P** **19 45 27.2 -0.1**
comp=Z,111nm,0.9s
MUD Monsted U'grnd 72.44 354 *eP* **P** **19 45 28.8 +2.2**
MUD IAmb IAmb 19 45 29.4
comp=Z,99nm,1.3s
PYUN Piuthan 72.53 293 *eP* **P** **19 45 27.9 0.0**
comp=Z,272nm,1.0s
VSR Storozhevoye 72.61 335 *eP* **P** **19 45 26.6 -1.1**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=Z,4µm,21.0s
EDU Dundee 72.62 2 *eP* **P** **19 45 27.6 0.0**
INVG Invergeldie, C 72.72 2 *eP* **P** **19 45 27.3 -0.9**
INVG IAmb IAmb 19 45 30.4
comp=Z,45nm,0.8s
VORD Divnogorie 72.80 335 *eP* **P** **19 45 28.3 -0.5**
VORD pmax pmax
comp=Z,20nm,0.8s
LAWE Loch Awe, Argy 72.85 3 *eP* **P** **19 45 28.8 -0.2**
LAWE IAmb IAmb 19 45 30.9
comp=Z,92nm,0.8s
EAB Aberfoyle 72.95 2 *eP* **P** **19 45 29.5 -0.2**
PTH Pithoragarh 73.03 296 *eP* **P** **19 45 30.0 -0.7**
LGTI Lohaghat 73.08 296 *eP* **P** **19 45 31.3 +0.5**
ESY Stoneypath 73.26 1 *eP* **P** **19 45 31.5 +0.1**
THN Thein Dam 73.32 301 *eP* **P** **19 45 32.4 +0.3**
PGBU Glenifferbraes 73.33 2 *eP* **P** **19 45 31.6 -0.3**
PGBU IAmb IAmb 19 45 34.5
comp=Z,62nm,1.0s
SUW Suwalki 73.33 346 *eP* **P** **19 45 32.0 +0.1**
SUW *eL* L 20 17 09.6
comp=Z,2µm,23.2s
SUW Suwalki 73.33 346 *eP* **P** **19 45 32.5 +0.6**
SMLA Simla 73.53 299 *eP* **P** **19 45 32.7 -0.8**
SMLA IAmb IAmb 19 45 38.6
comp=Z,116nm,1.0s
JMU Jammu 73.54 302 *eP* **P** **19 45 35.3 +1.8**
PPT Papeete 73.59 149 LR LR 20 14 46.3
comp=Z,1µm,18.4s,baz=330,slow=33
PPT2 Papeete2 73.61 149 *eP* P 19 45 46.2 +12
comp=Z,44nm,1.4s
PPT2 *eS* S 19 55 11.5 +10
comp=Z,4µm,28.0s
PPT2 Papeete2 73.61 149 *eLR* LR 20 08 38.3
comp=Z,3µm,25.0s,baz=339
PPT2 Papeete2 73.61 149 *eT* T 21 06 05.1
comp=Z,7.9nm,0.3s
PAE Paea 73.68 149 *eP* P 19 45 46.0 +12
comp=Z,5.2nm,0.8s
NIL Nilore 73.69 303 P **P** **19 45 34.7 +0.3**
NIL P **P** **19 45 34.7 +0.3**
BHK Bhakra 73.72 300 *eP* **P** **19 45 34.8 +0.2**
EKA Eskdalemuir Ar 73.83 2 LR LR 20 17 56.1
comp=Z,544nm,19.7s,baz=327,slow=36
DZM Mont Dzumac 73.84 193 LR LR 20 11 44.3
comp=Z,2µm,21.6s,baz=34,slow=31
DZM Mont Dzumac 73.84 193 *eP* P 19 45 47.9 +13
comp=Z,58nm,1.1s
DZM *eS* **S** **19 55 12.5 +8.0**
comp=Z,2µm,27.4s
DZM Mont Dzumac 73.84 193 *eLR* LR 20 08 40.2
comp=Z,4µm,22.8s,baz=32
ESK Eskdalemuir 73.85 2 P **P** **19 45 34.5 -0.4**
ESK pmax pmax
comp=Z,43nm,0.9s
ESK Eskdalemuir 73.85 2 P **P** **19 45 34.5 -0.4**
ESK IAmb IAmb 19 45 37.3
comp=Z,43nm,0.9s
DWPF Disney Wildern 73.89 65 IAMs_20 IAMs_20 20 19 43.8
comp=Z,1µm,20.0s
DWPF Disney Wildern 73.89 65 P **P** **19 45 36.6 +0.9**
baz=320
CLGH Cloghs, Cushen 74.00 3 *eP* **P** **19 45 36.2 +0.3**
NEWG New Galloway 74.03 2 *eP* **P** **19 45 36.1 +0.1**
BOK Bokaro 74.07 288 *eP* **P** **19 45 36.7 0.0**
BOK IAmb IAmb 19 45 39.3
comp=Z,78nm,0.9s
CMIG Matias Romero 74.10 82 LR LR 20 17 44.9
comp=Z,783nm,19.1s,baz=306,slow=35
RAR Rarotonga 74.33 160 LR LR 20 12 06.5
comp=Z,3µm,19.8s,baz=308,slow=31
BSEG Bad Segeberg 74.88 353 *eP* **P** **19 45 41.3 +0.4**
comp=Z,49nm,1.0s,baz=7.7,slow=5.6
IOMK Kirk Michael 74.88 3 *eP* **P** **19 45 41.0 +0.1**
IOMK IAmb IAmb 19 45 42.9
comp=Z,238nm,1.1s
KBL Kabul 75.16 307 P **P** **19 45 42.8 -0.4**
KBL pmax pmax
comp=Z,88nm,0.8s
KBL Kabul 75.16 307 P **P** **19 45 42.8 -0.4**
KBL Kabul 75.16 307 P **P** **19 45 42.6 -0.6**
SNR=53
KBL P **P** **19 45 42.6 -0.6**
SNR=53
HPK Haverah Park 75.23 1 *eP* **P** **19 45 42.6 -0.4**
AKASG Malin Array Be 75.42 341 P **P** **19 45 43.0 -1.1**
comp=Z,25nm,0.8s,baz=24,slow=6.0,SNR=50
AKASG LR LR 20 23 07.3
comp=Z,2µm,19.9s,baz=30,slow=39
AKBB Malin Array Si 75.42 341 P **P** **19 45 43.5 -0.6**
AKBB pmax pmax
comp=Z,45nm,1.1s
AKBB Malin Array Si 75.42 341 P **P** **19 45 43.5 -0.6**
AKBB IAmb IAmb 19 45 45.6
comp=Z,44nm,1.1s
KDU Kakadu 75.61 228 P **P** **19 45 44.8 -0.7**
MTSU Mount Surprise 75.62 215 P **P** **19 45 45.6 0.0**
KAPI Kappang 75.66 243 LR LR 20 14 31.1
comp=Z,286nm,22.0s,baz=39,slow=32
LBWR Ladybower, Pea 75.79 1 *eP* **P** **19 45 45.2 -0.9**
LBWR IAmb IAmb 19 45 48.6
comp=Z,75nm,1.0s
BEL Belsk 75.81 347 *eP* **P** **19 45 47.6 +1.3**
BEL *eL* L 20 23 32.4
comp=Z,2µm,18.0s
KSM Kuching 75.97 255 P **P** **19 45 47.4 -0.3**
RUE Ruedersdorf 76.03 351 *eP* **P** **19 45 48.7 +1.2**
RUE Ruedersdorf 76.03 351 *eP* **P** **19 45 47.9 +0.4**
comp=Z,14nm,0.8s,baz=7.7,slow=5.6
KUDL Kundal 76.20 298 *eP* **P** **19 45 48.7 -0.2**
FOEL Foel Wylfa 76.28 2 *eP* **P** **19 45 48.3 -0.7**

NRDL Niedersach Rie 76.32 353 *eP* **P** **19 45 49.1 0.0**
comp=Z,25nm,1.0s,baz=7.7,slow=5.6
STKI Sintang 76.38 253 P **P** **19 45 49.0 -1.1**
comp=Z,1µmcomp=Z,8.4nm,1.1s
MTN Manton Dam 76.38 229 P **P** **19 45 48.6 -1.3**
FLTG Flechtingen 76.40 353 *eP* **P** **19 45 49.5 -0.1**
comp=Z,21nm,0.9s,baz=7.7,slow=5.6
ASSE Asse, Remlinge 76.64 353 *eP* **P** **19 45 51.7 +0.7**
comp=Z,18nm,1.2s,baz=7.7,slow=5.6
IBBN Ibbenburen 76.66 355 *eP* **P** **19 45 51.4 +0.3**
comp=Z,77nm,1.0s,baz=7.7,slow=5.6
CTA Charters Tower 76.76 212 P **P** **19 45 51.1 -0.9**
comp=Z,9.0nm,0.9s,baz=47,slow=6.2,SNR=6.9
CTA LR LR 20 18 41.1
comp=Z,518nm,18.6s,baz=14,slow=35
CTA Charters Tower 76.76 212 P **P** **19 45 51.8 -0.2**
BWNR Bhubaneshwar 76.77 286 *eP* **P** **19 45 52.0 -0.2**
CLZ Clausthal 76.95 353 *eP* **P** **19 45 53.1 +0.2**
comp=Z,40nm,1.1s,baz=7.7,slow=5.6
GOF Gofitskoye 77.04 330⇑ *eP* **P** **19 45 53.6 +0.2**
GOF pmax pmax
comp=Z,186nm,0.9s
JHNI Jhansi 77.10 294 *eP* **P** **19 45 52.8 -1.3**
MCH1 Michaelchurch 77.18 2 *eP* **P** **19 45 53.5 -0.6**
MCH1 IAmb IAmb 19 45 56.0
comp=Z,82nm,0.9s
RSBS Rosebush, Pemb 77.18 3 *eP* **P** **19 45 54.0 -0.1**
LVV L'vov 77.25 344 *eP* **P** **19 45 55.5 +1.0**
LVV *e* 19 46 08.3
LVV *eS* **S** **19 55 47.8 +6.2**
CLL Collm 77.26 351 *iP* **P** **19 45 53.5 -1.0**
CLL *eS* S 19 55 54.0 +12
CLL pmax pmax
comp=Z,66nm,1.9s
CLL MLR MLR
comp=Z,1µm,18.9s
CLL Collm 77.26 351 *iP* **P** **19 45 53.5 -1.0**
comp=Z,66nm,1.9s
CLL *ePP* **PP** **19 48 49.0 +1.1**
CLL *eS* S 19 55 54.0 +12
CLL *ex* x 19 57 06.0
CLL *eSS* SS 20 00 54.0 +15
CLL *e(SSS)* 20 04 36.0
CLL *eSSSS* 20 06 42.0
CLL Lm MLR 20 26 00.0
comp=N,1µm,18.0s
CLL Lm MLR 20 26 00.0
comp=E,500nm,20.5s
CLL Lm MLR 20 26 00.0
comp=Z,1µm,18.9s
CLL Collm 77.26 351 *eP* **P** **19 45 53.8 -0.7**
comp=Z,7.8nm,0.8s,baz=7.7,slow=5.6
GTTG Gottingen 77.28 353 *eP* **P** **19 45 54.7 +0.1**
comp=Z,31nm,1.0s,baz=7.7,slow=5.6
STRD Stroud 77.41 1 *eP* **P** **19 45 55.0 -0.4**
STRD IAmb IAmb 19 45 57.5
comp=Z,120nm,1.0s
MAK Makhachkala 77.41 326 *eP* **P** **19 45 53.0 -2.5**
MAK *e* 19 48 50.7
MAK *ePPP* PPP 19 50 41.6
MAK *eS* **S** **19 55 38.9 -4.7**
MAK *eSSS* SSS 20 04 07.6
MAK pmax pmax
comp=Z,342nm,1.1s
MAK MLR MLR
comp=Z,4µm,19.0s
NEUB Neuenburg 77.47 352 *eP* **P** **19 45 55.7 0.0**
comp=Z,46nm,1.1s,baz=7.7,slow=5.6
OJC Ojcow 77.53 347 *eP* **P** **19 45 57.2 +1.2**
OJC *eL* L 20 26 29.6
comp=Z,2µm,17.6s
GEYT Alibeck 77.54 316 P **P** **19 45 56.9 +0.5**
comp=Z,40nm,0.9s,baz=329,slow=1.7,SNR=50
GEYT LR LR 20 25 16.1
comp=Z,4µm,18.2s,baz=50,slow=40
BUG Bochum--Univer 77.55 355 *eP* **P** **19 45 55.7 -0.4**
comp=Z,40nm,1.2s,baz=7.7,slow=5.6
BRG Berggiesshubel 77.60 351 *eP* **P** **19 45 55.6 -0.8**
BRG Amp 19 45 58.7
comp=Z,32nm,1.4s
BRG *ex* x 19 46 07.3
BRG Amp 19 46 08.1
comp=Z,10nm,1.1s
BRG Amp 20 23 21.0
comp=Z,1.4nm,18.8s
BRG Amp 20 23 28.0
comp=N,1.1nm,12.3s
BRG Amp 20 23 32.0
comp=E,1.4nm,19.1s
BRG Berggiesshubel 77.60 351 *eP* **P** **19 45 55.6 -0.8**
BRG *e* 19 46 07.3
BRG pmax pmax
comp=Z,32nm,1.4s
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG MLR MLR
comp=Z,1µm,18.8s
BRG MLR MLR
comp=N,1µm,12.3s
BRG MLR MLR
comp=E,1µm,19.1s
BRG Berggiesshubel 77.60 351 *eP* **P** **19 45 55.5 -1.0**
comp=E,32nm,1.4s,baz=7.7,slow=5.6
FBE Freiberg 77.61 351 *eP* **P** **19 45 56.1 -0.4**
comp=E,15nm,1.0s,baz=7.7,slow=5.6
CHVC Chvalec 77.65 349 *eP* **P** **19 45 56.1 -0.7**
CHVC AMS AMS 20 24 00.0
comp=E,1µm,19.8s
KWP Kalwaria Pacla 77.65 345 *eP* **P** **19 45 56.8 0.0**
KWP *eL* L 20 20 00.1
comp=E,2µm,24.3s
OSTC Ostas 77.66 349 *eP* **P** **19 45 56.4 -0.4**
OSTC AMS AMS 20 23 00.0
comp=E,1µm,21.1s
SWN1 Swindon 77.68 1 *eP* **P** **19 45 56.8 0.0**
SWN1 IAmb IAmb 19 45 59.2
comp=Z,200nm,1.1s
KASTN Kahler Asten 77.72 354 *eP* **P** **19 45 56.1 -1.1**
comp=Z,12nm,0.9s,baz=7.7,slow=5.6
UPC Upice 77.73 349 *eP* **P** **19 45 57.0 -0.2**
UPC MLR MLR
comp=Z,2µm,18.4s
UPC Upice 77.73 349 *eP* **P** **19 45 57.0 -0.2**
UPC AMS AMS 20 24 20.0
comp=Z,2µm,18.4s
DGPR DIGLIPUR 77.78 276 *eP* **P** **19 45 56.8 -1.1**
DGPR IAmb IAmb 19 45 59.3
comp=Z,86nm,1.1s
GROC Groznyy 77.79 327 *eP* **P** **19 45 58.5 +0.9**
GROC *e* 19 46 07.1
GROC *e*PP **sP** **19 46 10.9 +0.3**
GROC pmax pmax
comp=Z,18nm,0.7s
DPC Dobruska-Polom 77.85 349 *eP* **P** **19 45 57.3 -0.6**
DPC MLR MLR
comp=Z,1µm,22.2s
DPC Dobruska-Polom 77.85 349 *eP* **P** **19 45 57.3 -0.6**
DPC AMS AMS 20 23 20.0
comp=Z,1µm,22.2s
BATI Baumata 77.86 237 P **P** **19 45 57.1 -1.2**
comp=Z,35nm,0.9s,baz=124,slow=1.5,SNR=6.8
BATI LR LR 20 17 54.8
comp=Z,169nm,20.0s,baz=52,slow=34
PVCC Panska Ves 77.87 350 *eP* **P** **19 45 58.2 +0.2**
PVCC MLR MLR
comp=Z,2µm,20.7s
PVCC Panska Ves 77.87 350 *eP* **P** **19 45 58.2 +0.2**
PVCC AMS AMS 20 23 20.0
comp=Z,2µm,20.7s
UBBA Unterbreizbach 78.00 353 *eP* **P** **19 45 58.5 0.0**
comp=Z,8.8nm,1.1s,baz=7.7,slow=5.6
SORM Soroca 78.04 341⇑ P **P** **19 45 58.2 -0.7**
MOX Moxa 78.04 352 *eP* **P** **19 45 58.5 -0.4**
comp=Z,24nm,1.2s,baz=7.7,slow=5.6
MOX *eL* L 20 29 39.1
comp=Z,983nm,18.3s
KRLC Kraliky 78.07 349 *eP* **P** **19 45 58.0 -1.1**
KRLC MLR MLR
comp=Z,1µm,14.3s
KRLC Kraliky 78.07 349 *eP* **P** **19 45 58.0 -1.1**
KRLC AMS AMS 20 27 00.0
comp=Z,1µm,14.3s
OKC Ostrava-Krasne 78.13 348 AMS AMS 20 25 10.0
comp=Z,1µm,21.3s
KVAR Kislovodsk Arr 78.14 330 LR LR 20 25 16.7
comp=Z,1µm,20.2s,baz=273,slow=39

KIV Kislovodsk 78.14 330⇑ P **P** **19 46 00.3 +0.6**
KIV Kislovodsk 78.14 330 *eP* **P** **19 45 59.7 0.0**
KIV *eS* **S** **19 55 51.2 -0.5**
KIV *eSS* **SS** **20 00 55.0 +2.5**
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,975nm,19.0s
KIV Kislovodsk 78.14 330 IAMs_20 IAMs_20 20 25 20.1
comp=Z,997nm,20.0s
KIV Kislovodsk 78.14 330 P **P** **19 45 59.5 -0.2**
KIV P **P** **19 45 59.5 -0.2**
KIV Kislovodsk 78.14 330 *i* P **P** **19 46 00.6 +0.8**
SNR=8.8
TANN Tannenbergstha 78.19 352 *eP* **P** **19 45 59.6 -0.3**
comp=Z,16nm,1.2s,baz=7.7,slow=5.6
NIE Niedzica 78.23 346 *eP* **P** **19 46 02.2 +2.1**
NIE *eL* L 20 23 45.9
comp=Z,814nm,18.9s
GUNZ Gunzen 78.26 352 *eP* **P** **19 45 59.9 -0.3**
comp=Z,14nm,1.0s,baz=7.7,slow=5.6
MORC Moravsky Berou 78.27 348⇑ P **P** **19 45 59.9 -0.3**
MORC Moravsky Berou 78.27 348 *eP* **P** **19 45 59.4 -0.8**
BEBN Eben Emael 78.27 356 *dP* **P** **19 46 00.1 0.0**
KBZ Khabaz 78.28 329 P **P** **19 46 00.6 +0.2**
comp=Z,21nm,0.8s,baz=40,slow=4.5,SNR=30
KBZ LR LR 20 24 41.6
comp=Z,2µm,21.7s,baz=23,slow=39
WERN Wernitzgruen 78.33 352 *eP* **P** **19 46 00.5 0.0**
comp=Z,22nm,1.0s,baz=7.7,slow=5.6
NKC Novy Kostel 78.38 352 *eP* **P** **19 45 59.7 -1.1**
NKC MLR MLR
comp=Z,1µm,13.9s
NKC Novy Kostel 78.38 352 *eP* **P** **19 45 59.7 -1.1**
NKC AMS AMS 20 26 30.0
comp=Z,1µm,13.9s
KOLS Kolonicke sedl 78.40 345 *eP* **P** **19 46 02.9 +2.0**
KOLS pmax pmax
comp=Z,37nm,0.9s
KOLS Kolonicke sedl 78.40 345 *eP* **P** **19 46 02.9 +2.0**
PRU Pruhonice 78.41 350 *eP* **P** **19 46 00.2 -0.8**
PRU MLR MLR
comp=Z,2µm,20.5s
PRU Pruhonice 78.41 350 *eP* **P** **19 46 00.2 -0.8**
PRU AMS AMS 20 25 20.0
comp=Z,2µm,20.5s
MEM Membach 78.44 356 *dP* **P** **19 46 01.1 -0.1**
comp=Z,39nm,0.9s
AHRW Bad Neuenahr-A 78.46 355 *eP* **P** **19 46 00.7 -0.5**
comp=Z,17nm,0.8s,baz=7.7,slow=5.6
BTNL Ternell 78.46 356 *dP* **P** **19 46 01.0 -0.2**
comp=Z,29nm,1.1s
BSTI Sart Tilman 78.49 356 *dP* **P** **19 46 01.4 0.0**
comp=Z,6.3nm,0.8s
AJM Ajmer 78.52 298 *eP* **P** **19 46 02.6 +0.6**
CRVS Cervenica-Dubn 78.56 345 *eP* **P** **19 46 02.9 +1.1**
CRVS pmax pmax
comp=Z,36nm,1.2s
CRVS Cervenica-Dubn 78.56 345 *eP* **P** **19 46 02.9 +1.1**
SNF Seneffe 78.61 357 *dP* **P** **19 46 02.0 -0.1**
comp=Z,27nm,0.9s
LANS Liptovska Anna 78.62 347 *eP* **P** **19 46 03.3 +1.1**
LANS pmax pmax
comp=Z,33nm,1.1s
LANS Liptovska Anna 78.62 347 *eP* **P** **19 46 03.3 +1.1**
MANZ Manzenberg 78.65 352 *eP* **P** **19 46 01.8 -0.5**
comp=Z,3.5nm,1.1s,baz=7.7,slow=5.6
BCLA Clavier 78.67 356 *κP* **P** **19 46 02.1 -0.3**
comp=Z,19nm,0.9s
UZH Uzhgorod 78.69 345⇑ *iP* **P** **19 46 02.4 -0.1**
UZH *i* 19 46 07.7
TNS Taunus Mts 78.70 354 *eP* **P** **19 46 02.4 -0.2**
comp=Z,14nm,0.8s,baz=7.7,slow=5.6
BHOU Houvegnez 78.70 356 *dP* **P** **19 46 04.2 +1.6**
comp=Z,10.0nm,1.1s
BGES Gesves 78.71 356 *dP* **P** **19 46 01.9 -0.7**
comp=Z,17nm,1.1s
PBCC Pribram 78.77 351 *eP* **P** **19 46 01.9 -1.1**
ZEI Tsey 78.80 328 *eP* **P** **19 46 02.2 -1.3**
ZEI pmax pmax
comp=Z,38nm,0.8s
BMRD Maredsous 78.80 357 *dP* **P** **19 46 02.9 -0.2**
comp=Z,27nm,1.1s
VRAC Vranov 78.84 349⇓ P **P** **19 46 03.3 -0.1**
VRAC Vranov 78.84 349 LR LR 20 23 41.2
comp=Z,647nm,19.0s,baz=20,slow=38
VRAC Vranov 78.84 349 *eP* **P** **19 46 03.0 -0.4**
ROTZ Rotzenmuhle 78.86 352 *eP* **P** **19 46 03.4 0.0**
comp=Z,2.8nm,1.0s,baz=7.7,slow=5.6
RCHB Rochefort 78.93 356 *dP* **P** **19 46 02.7 -1.1**
comp=Z,17nm,1.0s
ANN Anapa 78.94 334 *eP* **P** **19 46 00.7 -3.3**
ANN pmax pmax
comp=Z,32nm,1.1s
ANN MLR MLR
comp=Z,2µm,21.0s
TREC Trest 78.99 349 AMS AMS 20 23 40.0
comp=Z,2µm,20.2s
DOU Dourbes 79.02 357 *dP* **P** **19 46 04.1 -0.1**
comp=Z,18nm,1.1s
KIS Kishinev 79.02 340 *eP* **P** **19 46 03.0 -1.4**
KIS *eL* L 20 17 49.0
KIS LRM MLR 20 24 35.0
comp=Z,750nm,18.0s
KIS Kishinev 79.02 340 *eP* **P** **19 46 03.0 -1.4**
KIS MLR MLR
comp=Z,900nm,17.0s
KIS MLR MLR
comp=N,750nm,18.0s
GRF Grafenberg Arr 79.02 352 *eP* **P** **19 46 04.7 +0.4**
comp=N,74nm,1.3s,baz=7.7,slow=5.6
GRF *eL* L 20 24 56.2
comp=N,740nm,21.4s
SEKA Sheki 79.06 325 P **P** **19 46 04.5 -0.3**
MILM Milestii Mici 79.10 340 *eP* **P** **19 46 03.0 -1.8**
comp=N,40nm,0.9s
MILM *eL* L 20 17 50.0
MILM LRM MLR 20 25 43.0
comp=N,1µm,19.0s
MILM Milestii Mici 79.10 340⇑ P **P** **19 46 04.5 -0.3**
MILM Milestii Mici 79.10 340 *eP* **P** **19 46 03.0 -1.8**
MILM pmax pmax
comp=Z,280nm,8.2s
MILM MLR MLR
comp=Z,2µm,17.0s
MILM MLR MLR
comp=N,1µm,19.0s
IAS Iasi 79.10 341⇓ P **P** **19 46 04.3 -0.5**
KRUC Moravsky 79.11 349 *eP* **P** **19 46 05.1 +0.3**
KECS Kecovo 79.12 346 *eP* **P** **19 46 06.6 +1.7**
KECS Kecovo 79.12 346 *eP* **P** **19 46 06.6 +1.7**
BUR08 Bucovina Ar. S 79.13 343 P **P** **19 46 05.2 +0.1**
BUR08 IAmb IAmb 19 46 08.7
comp=Z,39nm,0.9s
TRPA Tarpa 79.13 345⇓ P **P** **19 46 05.6 +0.6**
TRPA Tarpa 79.13 345 P **P** **19 46 05.5 +0.6**
IZAB Izabela 79.13 347 *eP* **P** **19 46 06.7 +1.6**
IZAB pmax pmax
comp=Z,14nm,1.0s
JAVC Velka Javorina 79.15 348 *eP* **P** **19 46 05.7 +0.6**
BURAR Bucovina Array 79.15 343⇑ P **P** **19 46 05.0 -0.3**
BURAR Bucovina Array 79.15 343 P **P** **19 46 05.0 -0.3**
BURAR IAmb IAmb 19 46 09.2
comp=Z,52nm,0.9s
KOLL Kolacno 79.33 347 *eP* **P** **19 46 06.5 +0.5**
VYHS Vyhne 79.35 347 *eP* **P** **19 46 06.4 +0.2**
VYHS pmax pmax
comp=Z,15nm,1.1s
VYHS Vyhne 79.35 347 *eP* **P** **19 46 06.3 +0.1**
KHC Kasperske Hory 79.36 351 *eP* **P** **19 46 05.7 -0.5**
KHC MLR MLR
comp=Z,2µm,23.1s
KHC Kasperske Hory 79.36 351 *eP* **P** **19 46 05.7 -0.5**
KHC AMS AMS 20 25 20.0
comp=Z,2µm,23.1s
WLF Walferdange 79.38 356 *eP* **P** **19 46 06.0 -0.3**
comp=Z,11nm,0.9s,baz=7.7,slow=5.6
WLF Walferdange 79.38 356 *dP* **P** **19 46 05.2 -1.0**
comp=Z,13nm,1.1s
SOC Sochi 79.40 332 *eP* **P** **19 46 05.1 -1.4**
SOC *e* 19 49 01.7
SOC *ePPP* PPP 19 50 57.7
SOC *eS* **S** **19 56 04.2 -0.7**
SOC *eSS* **SS** **20 01 13.2 +2.2**
SOC *eSSS* SSS 20 04 37.6

SOC pmax pmax
comp=Z,27nm,0.8s
SOC MLR MLR
comp=Z,3µm,20.0s
BMR Baia Mare 79.41 344 ⇑P **P 19 46 06.7 +0.3**
WET Wettzell 79.41 351 *e*P **P 19 46 06.5 -0.1**
comp=Z,9.2nm,1.1s,baz=7.7,slow=5.6
BHPL Bhopal 79.46 294 *e*P **P 19 46 05.7 -1.5**
BHPL IAmb IAmb 19 46 08.7
comp=Z,63nm,1.1s
MNGR Mingechevir, A 79.49 325 P **P 19 46 07.3 +0.3**
SMOL Smolenice 79.52 348 *e*P **P 19 46 08.2 +1.1**
SMOL pmax pmax
comp=Z,21nm,1.3s
SMOL Smolenice 79.52 348 *e*P **P 19 46 08.2 +1.1**
GIRR Girov 79.54 342 P **P 19 46 07.2 0.0**
VASR Vaslui 79.58 341 ⇑P **P 19 46 08.0 +0.6**
QIS Mount Isa 79.59 218 P **P 19 46 07.8 +0.1**
CKRC Cesky Krumlov 79.59 350 *e*P **P 19 46 06.6 -0.9**
GEC2 GERESS Array S 79.63 351 *e*P **P 19 46 07.4 -0.4**
comp=Z,6.8nm,0.9s,baz=7.7,slow=5.6
GERES GERESS Array B 79.63 351 P **P 19 46 07.3 -0.5**
comp=Z,3.6nm,0.7s,baz=26,slow=3.4,SNR=29
GERES LR LR 20 27 15.5
comp=Z,969nm,18.2s,baz=21,slow=40
MODS Modra-Piesok 79.68 348 *e*P **P 19 46 09.1 +1.1**
MODS Modra-Piesok 79.68 348 *e*P **P 19 46 09.1 +1.1**
SIM Simferopol' 79.70 336 *e*P **P 19 46 08.7 +0.6**
SIM pmax pmax
comp=Z,18nm,0.8s
SIM MLR MLR
comp=Z,520nm,18.1s
PSZ Piszkesteto 79.76 346 ⇑P **P 19 46 09.4 +0.9**
PSZ Piszkesteto 79.76 346 P **P 19 46 09.0 +0.6**
ARCR ARCALIA 79.82 343 ⇑P **P 19 46 09.5 +0.7**
GANJ Ganja 79.87 326 P **P 19 46 08.6 -0.6**
ZST Bratislava 79.87 348 *e*P **P 19 46 09.7 +0.7**
ZST pmax pmax
comp=Z,113nm,1.2s
ZST Bratislava 79.87 348 *e*P **P 19 46 09.7 +0.7**
TESR Tescani 79.93 341 ⇑P **P 19 46 08.8 -0.6**
KNRA Kununurra 79.96 229 P **P 19 46 08.8 -0.9**
LTVH Ltavrtes, Hu 79.96 345 P **P 19 46 11.0 +1.5**
MESR Meseseni 80.01 344 ⇑P **P 19 46 10.8 +1.0**
SRO Srobarova 80.09 347 *e*P **P 19 46 12.3 +2.2**
SRO pmax pmax
comp=Z,23nm,1.1s
SRO Srobarova 80.09 347 *e*P **P 19 46 12.3 +2.2**
STU Stuttgart 80.09 354 *e*P **P 19 46 10.3 +0.2**
comp=Z,32nm,0.7s,baz=7.7,slow=5.6
RAO Raoul Island 80.11 178 LR LR 20 16 28.9
comp=Z,1µm,19.7s,baz=9.0,slow=32
AKH Akhalkalaki 80.16 328 ⇑P **P 19 46 11.5 +0.6**
SNET Serv Nac Est T 80.21 80 IAMs_20 IAMs_20 20 24 14.0
comp=Z,818nm,19.0s
GHRR 80.21 341 ⇑P **P 19 46 09.9 -0.9**
VLDR Vladesti 80.28 340 ⇑P **P 19 46 11.8 +0.6**
CONA Conrad Observa 80.29 349 *i* P **P 19 46 11.5 +0.2**
comp=Z,26nm,1.2s,SNR=12
BSZH Besenyszg 80.30 346 ⇑P **P 19 46 11.9 +0.6**
BSZH Besenyszg 80.30 346 P **P 19 46 12.5 +1.2**
BUD Budapest 80.31 347 P **P 19 46 12.2 +0.9**
CJR Cluj-Napoca 80.32 344 ⇑P **P 19 46 12.1 +0.6**
DRGR 80.40 344 ⇑P **P 19 46 12.4 +0.5**
PANC Panciu 80.44 341 ⇑P **P 19 46 11.1 -1.0**
SOP Sopron 80.45 348 P **P 19 46 13.0 +0.9**
RONA Rosalia, Austr 80.46 349 *e*P **P 19 46 12.5 +0.2**
comp=Z,23nm,1.3s,SNR=7.1
OZUR 80.50 342 ⇓P **P 19 46 13.3 +0.8**
FUR Furstenfeldbru 80.53 352 *e*P **P 19 46 12.9 +0.3**
comp=Z,28nm,1.0s,baz=7.7,slow=5.6
CSKK Cskako 80.53 347 P **P 19 46 13.2 +0.6**
VRI Vrincioaia 80.54 341 ⇑P **P 19 46 13.2 +0.6**
MOA Molln 80.55 350 *e*P **P 19 46 12.6 -0.1**
comp=Z,14nm,1.4s
PLOR Plostina 80.57 341 ⇓P **P 19 46 13.0 +0.2**
ODBI Odobesti 80.57 341 ⇓P **P 19 46 13.4 +0.7**
BFO Black Forest 80.59 354 P **P 19 46 13.0 +0.1**
BFO pmax pmax
comp=Z,13nm,0.9s
BFO Black Forest 80.59 354 P **P 19 46 13.0 +0.1**
BFO Black Forest 80.59 354 *e*P **P 19 46 13.0 +0.1**
comp=Z,8.0nm,0.8s,baz=7.7,slow=5.6
EGYH Egyhazaskeszo 80.61 348 P **P 19 46 13.8 +0.8**
IZVR Izvoarele 80.63 340 ⇑P **P 19 46 13.1 0.0**
COVR Voineasa-Covas 80.66 341 ⇑P **P 19 46 13.8 +0.5**
LKRN Lenkeran, Azer 80.67 323 P **P 19 46 13.8 +0.4**
DOPR Dopca 80.70 342 ⇓P **P 19 46 14.6 +1.1**
TLCR 80.74 340 ⇓P **P 19 46 13.2 -0.4**
BIOA Bad Ischl, Aus 80.78 350 *i* P **P 19 46 14.6 +0.7**
comp=Z,32nm,1.2s,SNR=10
RJOB Jochberg 80.81 351 *e*P **P 19 46 14.5 +0.3**
comp=Z,11nm,0.8s,baz=7.7,slow=5.6
MPLH Magyarpolny 80.82 348 P **P 19 46 14.8 +0.7**
GNI Garni 80.86 327 LR LR 20 27 40.8
comp=Z,3µm,18.3s,baz=31,slow=40
GNI Garni 80.86 327 P **P 19 46 15.6 +0.9**
GNI P **P 19 46 15.6 +0.9**
GNI Garni 80.86 327 P **P 19 46 16.2 +1.5**
CFR Carcaliu 80.90 340 ⇑P **P 19 46 14.7 +0.2**
GRER 80.95 341 ⇓P **P 19 46 14.8 0.0**
ARSA Arzberg 81.00 349 *i* P **P 19 46 15.2 +0.1**
comp=Z,25nm,1.1s,SNR=12
DSRI Dabo 81.01 258 P **P 19 46 14.7 -0.8**
comp=Z,15nm,1.1s
NEHR Nehoiu 81.04 341 ⇑P **P 19 46 15.1 -0.2**
MLR Muntele Rosu 81.05 342 ⇓P **P 19 46 14.3 +0.8**
MLR Muntele Rosu 81.05 342 LR LR 20 26 03.9
comp=Z,3µm,19.9s,baz=28,slow=38
MLR Muntele Rosu 81.05 342 P **P 19 46 16.6 +1.0**
MLR pmax pmax
comp=Z,20nm,0.8s
MLR MLR MLR
comp=Z,3µm,20.0s
MLR Muntele Rosu 81.05 342 P **P 19 46 16.6 +1.0**
SIRR Siria 81.09 345 ⇑P **P 19 46 16.3 +0.7**
UBR Ueberruh 81.11 353 *e*P **P 19 46 17.4 +1.7**
comp=Z,7.2nm,0.8s,baz=7.7,slow=5.6
JURR Jurilovca 81.13 339 ⇑P **P 19 46 15.9 +0.2**
TGUH Tegucigalpa,Un 81.14 79 IAMs_20 IAMs_20 20 21 13.6
comp=Z,913nm,21.0s
TPGR Topolog 81.14 340 ⇑P **P 19 46 15.4 -0.5**
AMBH Ambrzfalva 81.16 345 P **P 19 46 16.5 +0.6**
WRAB Tennant Creek 81.16 223 IAMs_20 IAMs_20 20 20 56.6
comp=Z,1µm,20.0s
WRAB Tennant Creek 81.16 223 P **P 19 46 15.0 -1.1**
WRA Warramunga Arr 81.17 223 P **P 19 46 14.5 -1.7**
comp=Z,6.5nm,0.8s,baz=39,slow=6.5,SNR=29
WRA PKKPbc **PKKPbc 20 04 51.5 +0.6**
comp=Z,0.5nm,0.9s,baz=229,slow=2.1,SNR=5.0
WRA LR LR 20 20 58.1
comp=Z,1µm,19.6s,baz=17,slow=35
RETA Reutte 81.25 352 *i* P **P 19 46 16.5 0.0**
comp=Z,12nm,0.8s
VOIR 81.28 342 ⇓P **P 19 46 17.6 +0.9**
WATA Walderalm 81.33 352 *e*P **P 19 46 16.6 -0.4**
comp=Z,50nm,1.0s,SNR=13
MOTA Moosalm 81.36 352 *e*P **P 19 46 16.4 -0.8**
comp=Z,43nm,1.2s,SNR=16
WTTA Wattenberg 81.39 352 *e*P **P 19 46 17.3 -0.1**
comp=Z,36nm,0.8s,SNR=15
HARR Harsova 81.41 340 ⇑P **P 19 46 16.9 -0.3**
KBA Koelnbreinsper 81.41 351 *i* P **P 19 46 17.6 +0.1**
comp=Z,103nm,1.4s,SNR=38
ARR Arges 81.43 342 ⇓P **P 19 46 17.7 +0.2**
SECR 81.47 341 ⇑P **P 19 46 18.6 +1.0**
NAX Nakhchivan 81.47 326 P **P 19 46 18.5 +0.7**
SQTA Sankt Quirin 81.47 352 *e*P **P 19 46 17.4 -0.3**
comp=Z,28nm,1.0s,SNR=14
LOT Lotru 81.51 343 ⇑P **P 19 46 18.2 +0.3**
TLBR Topalu 81.52 340 ⇓P **P 19 46 18.3 +0.4**
TIRR Tirgusor 81.52 340 ⇓P **P 19 46 18.6 +0.7**
MORH Mrgy, Hungar 81.61 347 ⇑P **P 19 46 18.2 0.0**
MORH Mrgy, Hungar 81.61 347 P **P 19 46 17.9 -0.4**
BEHE Becsehely 81.61 348 P **P 19 46 20.4 +2.1**
SOKA Soboth 81.62 349 *e*P **P 19 46 18.2 -0.2**
comp=Z,78nm,1.4s,SNR=38
PERS Pernice 81.65 349 *e*P **P 19 46 18.4 -0.3**
AKL Akola 81.68 293 *e*P **P 19 46 19.3 +0.3**
FETA Feichten 81.71 352 *e*P **P 19 46 18.9 -0.2**
comp=Z,34nm,1.0s,SNR=11
BZS Buzias 81.72 345 ⇑P **P 19 46 18.3 -0.7**
GZR Gura Zlata 81.74 344 ⇑P **P 19 46 18.5 -0.6**
KTUT Trabzon 81.75 330 ⇓P **P 19 46 19.0 -0.1**

GROS Grobnik 81.78 349 *e*P **P 19 46 18.8 -0.5**
MFTR Murfatlar 81.79 339 ⇓P **P 19 46 19.9 +0.7**
KOVH Kovagotottos 81.81 347 P **P 19 46 19.7 +0.3**
ABTA Abfaltersbach 81.82 351 *i* P **P 19 46 19.0 -0.6**
comp=Z,27nm,1.0s,SNR=14
MYKA Terra Mystica 81.82 350 *e*P **P 19 46 20.2 +0.6**
comp=Z,20nm,1.0s,SNR=5.6
EFOR EFORIE 81.83 339 ⇑P **P 19 46 19.2 -0.3**
OBKA Obir 81.84 350 *e*P **P 19 46 19.6 0.0**
comp=Z,33nm,0.9s,SNR=13
LEHL Lehliu 81.85 341 ⇓P **P 19 46 18.8 -0.8**
RMQ Roma 81.97 208 P **P 19 46 20.2 0.0**
PSI Prapat 81.97 264 LR LR 20 23 57.3
comp=Z,168nm,19.9s,baz=9.0,slow=36
ICOR Ion Corvin 81.98 340 ⇑P **P 19 46 19.4 -0.9**
DAVOX Davos/Dischmat 82.02 353 LR LR 20 25 02.6
comp=Z,510nm,19.5s,baz=8.0,slow=37
MANR Mangalia 82.09 339 ⇑P **P 19 46 21.3 +0.4**
HUMR Humele 82.17 342 ⇑P **P 19 46 20.6 -0.7**
VNDS Vrh nad Dolski 82.23 349 *i* P **P 19 46 22.0 +0.4**
HERR Herculane 82.30 344 ⇓P **P 19 46 21.3 -0.7**
FRGS Fruska Gora 82.46 346 ⇑P **P 19 46 23.3 +0.5**
COPA Copaceanca 82.50 342 ⇑P **P 19 46 22.2 -0.7**
MDVR Moldovita 82.52 344 ⇓P **P 19 46 23.1 0.0**
RAZG Razgrad 82.78 341 ⇑P **P 19 46 23.8 -0.8**
VLAD Vladila 82.79 342 ⇑P **P 19 46 24.8 +0.3**
PRD Provadia 82.94 340 *e*P **P 19 46 27.6 +2.3**
SZH Strazhica 83.19 341 *e*P **P 19 46 26.3 -0.3**
HYB Hyderabad 83.33 289 *e*P **P 19 46 27.5 -0.3**
HYB IAmb IAmb 19 46 29.8
comp=Z,55nm,0.7s
HYBB Hyderabad (bro 83.33 289 *e*P **P 19 46 27.4 -0.3**
HYBB *es*P **PcP 19 46 29.5 -2.7**
HYBB *e*PcP **pP 19 46 31.6 -5.8**
HYBB *e*PP **PP 19 49 38.9 -0.4**
HYBB *e*SKSac **S 19 56 48.2 +1.7**
HYBB *e*SKKSac **SKKSac 19 56 54.7 +2.5**
HYBB *e*ScS **ScS 19 57 03.3 +3.1**
HYBB *e*SS **SS 20 02 16.8 +5.5**
HYBB *e*PKKPdf **PKKPdf 20 04 37.2 +2.1**
BOAB BOACO BROADBA 83.36 79 IAMs_20 IAMs_20 20 23 39.6
comp=Z,1µm,21.0s
QLP Quilpie 83.46 211 P **P 19 46 27.9 -0.1**
DIVS Divibare 83.47 345 P **P 19 46 27.8 -0.3**
DIVS IAmb IAmb 19 46 30.4
comp=Z,40nm,1.1s
DIVS IAMs_20 IAMs_20 20 27 20.9
comp=Z,1µm,20.0s
BLKB Belogradchik 83.47 343 ⇑P **P 19 46 27.9 -0.3**
FITZ Fitzroy Crossi 83.54 231 LR LR 20 25 11.2
comp=Z,556nm,18.9s,baz=56,slow=37
MTDJ Mount Denham 83.79 69 IAMs_20 IAMs_20 20 26 39.0
comp=Z,1µm,21.0s
BNI Bardonecchia 83.96 355 P **P 19 46 31.5 +0.8**
BNI pmax pmax
comp=Z,35nm,1.0s
BNI Bardonecchia 83.96 355 P **P 19 46 31.5 +0.8**
BNI IAmb IAmb 19 46 34.1
comp=Z,35nm,1.0s
LEM Lembang 84.16 252 LR LR 20 22 08.2
comp=Z,392nm,20.5s,baz=7.5,slow=34
VTS Vitosha 84.34 343 ⇑P **P 19 46 32.1 -0.6**
VTS Vitosha 84.34 343 *e*P **P 19 46 32.1 -0.6**
AS31 Alice Springs 84.66 221 P **P 19 46 33.9 -0.3**
ASAR Alice Springs 84.66 221 P **P 19 46 33.1 -1.1**
comp=Z,3.6nm,0.8s,baz=27,slow=4.4,SNR=26
ASAR PKKPbc **PKKPbc 20 04 43.2 +0.2**
comp=Z,0.4nm,0.6s,baz=215,slow=2.1,SNR=2.8
ASAR LR LR 20 23 33.5
comp=Z,805nm,19.1s,baz=32,slow=35
ASAR Alice Springs 84.66 221 P **P 19 46 33.3 -0.9**
ASAR Alice Springs 84.66 221 P **P 19 46 33.3 -0.9**
BR131 Keskin Array S 84.70 334 P **P 19 46 34.7 +0.2**
SNR=16
BR131 P **P 19 46 34.7 +0.2**
SNR=16
BRTR Keskin Array B 84.70 334 P **P 19 46 34.4 -0.2**
comp=Z,25nm,0.7s,baz=49,slow=2.6,SNR=114
BRTR PKKPbc **PKKPbc 20 04 41.3 -0.4**
comp=Z,0.4nm,0.7s,baz=163,slow=4.8,SNR=4.5
BRTR LR LR 20 31 12.1
comp=Z,992nm,18.7s,baz=67,slow=40
GRTK Grand Turk 84.85 62 IAMs_20 IAMs_20 20 25 03.9
comp=Z,1µm,19.0s
KKB Krupnik 85.10 343 *e*P **P 19 46 39.0 +2.6**
PDG Podgorica 85.21 346 ⇓P **P 19 46 37.3 +0.4**
PDG Podgorica 85.21 346 IAMs_20 IAMs_20 20 27 50.0
comp=Z,862nm,19.0s
POO Poona 85.22 294 *e*P **P 19 46 36.6 -0.7**
POO IAmb IAmb 19 46 40.0
comp=Z,48nm,0.9s
JTS Las Juntas de 85.47 79 LR LR 20 26 33.3
comp=Z,320nm,18.8s,baz=15,slow=37
INKA Innaminka 85.71 214 P **P 19 46 38.7 -0.6**
SDDR Presa de Saban 86.78 64 IAMs_20 IAMs_20 20 33 22.2
comp=Z,968nm,18.0s
PBRG Braganca 87.23 5 *e*P P 19 46 53.1 +6.2
ISP Isparta 87.31 336 IAMs_20 IAMs_20 20 30 41.3
comp=Z,801nm,19.0s
CMSA Cobar Meteorol 87.61 208 P **P 19 46 48.6 +0.1**
OOD Oodnadatta 87.63 218 P **P 19 46 49.2 +0.5**
MVO Moncorvo 87.86 5 *e*P **P 19 46 49.9 -0.1**
PVIS Viseu 88.25 6 *e*P **P 19 46 55.2 +3.4**
comp=Z,88nm,1.9s
WRKA Warakurna 88.28 225 P **P 19 46 51.4 -0.5**
SHME Shamm 88.44 311 P **P 19 46 53.3 +0.4**
SHME P **P 19 46 53.3 +0.4**
SHME Shamm 88.44 311 P **P 19 46 52.4 -0.5**
BANOM Banah 88.47 311 P **P 19 46 53.7 +0.7**
BANOM P **P 19 46 53.7 +0.7**
BANOM Banah 88.47 311 *i* P **P 19 46 53.1 0.0**
SNR=6.0
MTE Manteigas 88.59 5 *e*P **P 19 46 53.6 +0.1**
MTE *epP* **PcP 19 46 59.1 +4.0**
COI Coimbra 88.72 6 IAMs_20 IAMs_20 20 13 15.9
comp=Z,1µm,21.0s
TIP Timpagrande 88.77 347 IAMs_20 IAMs_20 20 33 02.0
comp=Z,1µm,18.0s
PCAS Casmilo, Conde 88.87 6 *e*P **P 19 46 58.0 +3.3**
MASF Masafi 89.00 311 P **P 19 46 56.1 +0.5**
MASF P **P 19 46 56.1 +0.5**
LCRK Leigh Creek 89.07 215 P **P 19 46 55.3 -0.2**
URZ Urewera 89.09 182 LR LR 20 20 51.3
comp=Z,2µm,21.0s,baz=37,slow=32
UMQ Umm Al-Quwin 89.11 311 P **P 19 46 56.3 +0.3**
PCBR Castelo Branco 89.15 5 *e*P P 19 47 00.9 +4.9
STKA Stephens Creek 89.22 212 P **P 19 46 55.2 -0.9**
comp=Z,4.6nm,0.8s,baz=342,slow=6.4,SNR=6.3
STKA LR LR 20 25 14.9
comp=Z,1µm,19.2s,baz=23,slow=34
STKA Stephens Creek 89.22 212 P **P 19 46 56.5 +0.4**
CSS Mathiatis 89.24 333 IAMs_20 IAMs_20 20 33 58.7
comp=Z,1µm,21.0s
UOSS Minazif 89.34 311 IAMs_20 IAMs_20 20 31 10.2
comp=Z,1µm,21.0s
UOSS Minazif 89.34 311 P **P 19 46 57.8 +0.6**
UOSS P **P 19 46 57.8 +0.6**
UOSS Minazif 89.34 311 P **P 19 46 55.4 -1.8**
PSBE So Bento 89.39 6 *e*P P 19 47 02.3 +5.1
ESDC Sonseca Array 89.47 3 P **P 19 46 56.8 -0.8**
comp=Z,3.5nm,0.9s,baz=351,slow=5.4,SNR=13
ESDC Sonseca Array 89.47 3 P **P 19 46 56.9 -0.7**
HATD Hatta, Dubai 89.48 311 P **P 19 46 58.5 +0.6**
HATD P **P 19 46 58.5 +0.6**
HATD Hatta, Dubai 89.48 311 P **P 19 46 56.7 -1.1**
NAZ Nazwa, Dubai 89.56 311 P **P 19 46 58.6 +0.4**
NAZ P **P 19 46 58.6 +0.4**
WSAR Wadi Sarin 89.60 308 LR LR 20 31 50.9
comp=Z,719nm,19.3s,baz=67,slow=39
WSAR Wadi Sarin 89.60 308 P **P 19 46 59.5 +1.1**
BIDO Bidbid 89.61 308 P **P 19 46 59.3 +0.9**
ASHO Ashiyiah 89.64 311 P **P 19 46 58.9 +0.3**
ASHO P **P 19 46 58.9 +0.3**
ASHO Ashiyiah 89.64 311 P **P 19 46 57.1 -1.8**
FAQ Al Faqa, Dubai 89.81 311 P **P 19 47 00.1 +0.8**
FAQ P **P 19 47 00.1 +0.8**
PALK Pallekele 89.93 281 LR LR 20 28 43.4
comp=Z,422nm,21.9s,baz=131,slow=36
PALK Pallekele 89.93 281 P **P 19 47 01.8 +1.7**
PALK P **P 19 47 01.8 +1.7**
WBK Wadi Bani Khal 89.96 307 P **P 19 47 01.3 +1.2**
WBK P **P 19 47 01.3 +1.2**
HOQ Hoqain 89.96 309 P **P 19 47 01.0 +0.9**
HOQ P **P 19 47 01.0 +0.9**

ASUD Al Ashush, Dub 90.03 311 P **P 19 47 01.0 +0.7**
ASUD P **P 19 47 01.0 +0.7**
ASUD Al Ashush, Dub 90.03 311 *i* P **P 19 46 59.5 -0.9**
SNR=8.3
SMDO Samad 90.04 308 P **P 19 47 01.3 +0.7**
SMDO P **P 19 47 01.3 +0.7**
PESTR Estremoz 90.11 6 *e*P **P 19 47 00.7 +0.2**
comp=Z,58nm,1.9s
JLN Jalan Bani Buh 90.12 307 P **P 19 47 02.0 +1.1**
JLN P **P 19 47 02.0 +1.1**
AJN Ajban 90.25 311 P **P 19 47 02.0 +0.7**
KARP Karpathos 90.30 338 IAMs_20 IAMs_20 20 30 34.9
comp=Z,1µm,21.0s
ALNE Al Ain 90.31 311 P **P 19 47 02.2 +0.5**
ALNE P **P 19 47 02.2 +0.5**
ALNE Al Ain 90.31 311 *i* P **P 19 47 00.8 -0.9**
SNR=8.7
SJG San Juan 90.34 60 LR LR 20 30 17.6
comp=Z,786nm,19.4s,baz=295,slow=37
SJG San Juan 90.34 60 IAMs_20 IAMs_20 20 29 47.3
comp=Z,1µm,20.0s
MMAI Mount Meron Ar 90.43 331 LR LR 20 31 50.0
comp=Z,735nm,21.7s,baz=188,slow=38
MULG Mulgathing 90.48 218 P **P 19 47 01.2 -0.8**
ARQ Araqi 90.55 310 P **P 19 47 04.0 +1.1**
SNR=5.1
ARQ P **P 19 47 04.0 +1.1**
SNR=5.1
JMDO Jabal Madar 90.59 308 P **P 19 47 03.7 +0.6**
JMDO P **P 19 47 03.7 +0.6**
MTP Monte Pirata 90.68 60 P **P 19 47 03.8 +0.3**
BSY Bisya 90.72 309 P **P 19 47 04.5 +0.9**
SNR=7.0
BSY P **P 19 47 04.5 +0.9**
SNR=7.0
VAE Valguarnera 90.77 348 LR LR 20 30 35.5
comp=Z,576nm,19.1s,baz=21,slow=37
PBAR Barrancos 90.83 5 *e*P **P 19 47 04.1 +0.2**
comp=Z,35nm,1.5s
GHRH Al-Ghuwayriyah 90.85 315 P **P 19 47 04.7 +0.6**
JRN Qarnain Island 90.92 313 P **P 19 47 04.8 +0.3**
JRN P **P 19 47 04.8 +0.3**
KHOR Al-Khor Airpor 90.93 315 P **P 19 47 05.1 +0.8**
SHMA Al-Shehemyia 90.98 315 P **P 19 47 05.5 +0.8**
SAKB Bahrain 91.06 316 P **P 19 47 05.8 +0.7**
IDI Anoyia 91.07 340 IAMs_20 IAMs_20 20 35 25.2
comp=Z,987nm,18.0s
UMZA Um Al Zommool 91.74 310 P **P 19 47 08.9 +0.6**
UMZA P **P 19 47 08.9 +0.6**
MHTO MHTO 91.82 307 P **P 19 47 09.3 +0.6**
MHTO P **P 19 47 09.3 +0.6**
TRNA Turayna 91.84 315 P **P 19 47 09.1 +0.4**
SMRA Abu-Samra 92.00 315 P **P 19 47 09.7 +0.2**
SMRT St. Maarten 92.05 58 IAMs_20 IAMs_20 20 29 16.4
comp=Z,1µm,20.0s
SLWR Sila 92.20 314 P **P 19 47 10.7 +0.3**
MZR Muzera 92.29 312 P **P 19 47 11.7 +0.8**
SNR=7.1
MZR P **P 19 47 11.7 +0.8**
SNR=7.1
MZR Muzera 92.29 312 *i* P **P 19 47 09.8 -1.1**
SNR=15
DQM DQM 92.92 307 P **P 19 47 14.4 +0.6**
KEST Kesra 93.04 352 P **P 19 47 13.7 -0.5**
comp=Z,9.5nm,0.9s,baz=326,slow=4.3,SNR=9.3
HATO Hato, Curacao 93.57 66 IAMs_20 IAMs_20 20 34 10.4
comp=Z,1µm,19.0s
EIL Elat 93.68 330 LR LR 20 34 55.0
comp=Z,1µm,20.4s,baz=46,slow=39
MEEK Meekatharra 94.19 232 P **P 19 47 18.8 -0.6**
RPZ Rata Peaks 94.80 186 LR LR 20 23 54.3
comp=Z,2µm,20.1s,baz=37,slow=32
SDV Santo Domingo 95.23 69 LR LR 20 33 27.3
comp=Z,570nm,19.3s,baz=347,slow=37
SDV Santo Domingo 95.23 69 IAMs_20 IAMs_20 20 33 07.4
comp=Z,846nm,21.0s
SDV Santo Domingo 95.23 69 *e*P **P 19 47 24.7 0.0**
RAYN Ar Rayn 95.37 319 P **P 19 47 24.4 -0.7**
RAYN pmax pmax
comp=Z,25nm,1.1s
RAYN MLR MLR
comp=Z,2µm,20.0s
RAYN Ar Rayn 95.37 319 P **P 19 47 24.4 -0.7**
RAYN IAmb IAmb 19 47 27.1
comp=Z,25nm,1.1s
RAYN Ar Rayn 95.37 319 P **P 19 47 26.1 +1.0**
RAYN Ar Rayn 95.37 319 *i* P **P 19 47 24.5 -0.6**
SNR=29
ROSC El Rosal 96.24 74 LR LR 20 36 56.7
comp=Z,252nm,18.1s,baz=5.5,slow=39
MDT Midelt 96.29 4 LR LR 20 33 30.8
comp=Z,302nm,19.2s,baz=356,slow=37
GRGR Grenville 97.69 60 IAMs_20 IAMs_20 20 32 06.2
comp=Z,996nm,20.0s
RPN Rapa Nui 99.81 121 LR LR 20 23 51.6
comp=Z,425nm,20.5s,baz=340,slow=30
SOCY Socotra 101.26 306 IAMs_20 IAMs_20 20 40 50.3
comp=Z,792nm,19.0s
FURI Furi 111.31 318 IAMs_20 IAMs_20 20 42 50.9
comp=Z,997nm,22.0s
TORD Torodi Ar. Bea 115.92 358 PKP **PKiKP 19 52 42.7 -0.8**
comp=Z,3.0nm,0.7s,baz=344,slow=2.8,SNR=18
TORD PP **PP 19 53 43.6 -2.8**
comp=Z,1.9nm,0.8s,baz=5.4,slow=5.3,SNR=5.7
TORD PKKPbc **PKKPbc 20 03 12.1 -0.5**
comp=Z,1.2nm,0.9s,baz=158,slow=2.6,SNR=5.3
LPAZ La Paz 116.47 83 PKP **PKPdf 19 52 44.5 -0.7**
comp=Z,1.0nm,0.8s,baz=5.5,slow=2.0,SNR=4.9
LODK Lodwar 117.63 319 IAMs_20 IAMs_20 20 49 12.4
comp=Z,830nm,20.0s
KMBO Kilima Mbogo 120.89 315 PKP **PKPdf 19 52 53.3 -0.1**
comp=Z,3.9nm,0.8s,baz=275,slow=2.3,SNR=6.9
KMBO Kilima Mbogo 120.89 315 P **PKPdf 19 52 54.0 +0.6**
PTLB Pontes e Lacer 121.39 75 *e*P **PKPdf 19 52 52.8 -1.1**
KIBK Kibwezi 121.60 313 IAMs_20 IAMs_20 20 50 49.5
comp=Z,786nm,20.0s
H03N2 Juan Fernandez 122.07 105 T T 22 07 12.3
baz=316,slow=77,SNR=6.7
H03N1 Juan Fernandez 122.08 105 T T 22 07 21.4
baz=316,slow=77,SNR=13
H03N3 Juan Fernandez 122.08 105 T T 22 07 15.1
baz=316,slow=77,SNR=18
DBIC Dimbokro 122.26 5 PKP **PKPdf 19 52 55.0 -0.7**
comp=Z,5.2nm,0.6s,baz=17,slow=3.7,SNR=11
TIC Toumodi 122.28 5 *e*P **PKPdf 19 52 55.0 -0.8**
KIC Kosan Boka 122.57 5 *e*P **PKPdf 19 52 55.4 -0.9**
comp=Z,11nm,0.7s
LIC Lamto 122.69 5 *e*P **PKPdf 19 52 57.0 +0.4**
comp=Z,17nm,0.7s
SMTB Santa Maria do 122.80 60 *e*P **PKPdf 19 52 56.2 -0.5**
NBCL Cascavel-CE 123.53 47 *e*P **PKPdf 19 52 57.7 -0.5**
SALV Santo Antonio 123.82 72 *e*P **PKPdf 19 52 57.3 -1.3**
NBPB Pedra_Branca-C 124.08 49 *e*P **PKPdf 19 52 58.4 -0.8**
PEXB Peixe 125.08 62 *e*P **PKPdf 19 53 00.4 -0.7**
PP1B Ponte de Pedra 125.62 73 *e*P **PKPdf 19 53 01.4 -0.6**
NBMA Muriti-CE 126.06 50 *e*P **PKPdf 19 53 01.9 -1.1**
NBPV Pedro Velho 126.83 45 *e*P **PKPdf 19 53 03.5 -0.9**
SDBA SAO DESIDERIO 127.20 59 *e*P **PKPdf 19 53 04.1 -1.1**
AQDB Aquidauana 127.32 76 *e*P **PKPdf 19 53 04.1 -1.0**
BDFB Brasilia 128.10 65 PKP **PKPdf 19 53 06.3 -0.6**
comp=Z,8.9nm,0.9s,baz=186,slow=1.6,SNR=15
BDFB Brasilia 128.10 65 *e*P **PKPdf 19 53 05.8 -1.0**
NBPN Ponto Novo - B 128.35 53 *e*P **PKPdf 19 53 06.0 -1.3**
NBAN Anadia - AL 129.25 48 *e*P **PKPdf 19 53 08.0 -1.1**
NBLA Lagarto - SE 129.67 51 *e*P **PKPdf 19 53 09.0 -0.8**
JANB Januaria 129.70 61 *e*P **PKPdf 19 53 09.2 -0.7**
IPMB Ipameri, GO 129.86 67 *e*P **PKPdf 19 53 08.6 -1.5**
ITRB Iturama 129.94 70 *e*P **PKPdf 19 53 09.2 -1.0**
CPUP Villa Florida 130.63 82 PKP **PKPdf 19 53 10.7 -0.6**
comp=Z,7.2nm,0.9s,baz=350,slow=2.7,SNR=13
CPUP SKPbc **SKPbc 19 56 32.3 -0.1**
comp=Z,2.1nm,0.7s,baz=311,slow=3.6,SNR=5.1
CPUP Villa Florida 130.63 82 *e*P **PKPdf 19 53 10.5 -0.7**
PCMB Pacaembu 130.87 73 *e*P **PKPdf 19 53 12.1 +0.2**
GDU01 Guandu, BA 131.10 55 *e*P **PKPdf 19 53 12.1 -0.4**
PLCA Paso Flores 131.88 106 PKP **PKPdf 19 53 13.6 +0.3**
comp=Z,3.0nm,0.6s,baz=247,slow=3.1,SNR=12
PLCA Paso Flores 131.88 106 *e*P **PKPdf 19 53 12.1 -1.2**
BB19B Bebedouro 132.08 70 *e*P **PKPdf 19 53 13.4 -0.8**
CMC01 Camacan, BA 132.51 56 *e*P **PKPdf 19 53 14.0 -1.1**
DIAM Diamantina, MG 132.69 62 *e*P **PKPdf 19 53 14.6 -0.9**
PTGB Pitanga 132.71 76 *e*P **PKPdf 19 53 14.0 -1.3**
FRTB Fartura 133.20 73 *e*P **PKPdf 19 53 15.8 -0.5**
GUA01 Guaratinga, BA 133.38 57 *e*P **PKPdf 19 53 15.8 -0.9**
ITQB Itaqui 133.42 85 *e*P **PKPdf 19 53 15.0 -1.4**

RCLB	Rio Claro- Sao	133.71	70	eP		PKPdf	19 53 15.8	-1.5
BSCB	Bom Sucesso	134.21	66	eP		PKPdf	19 53 16.8	-1.5
NAN01	Guarapari, ES	134.26	58	eP		PKPdf	19 53 17.4	-1.0
SJMB	Sao Joao De Ma	134.39	60	eP		PKPdf	19 53 17.9	-0.6
VAO	Valinhos	134.49	70	eP		PKPdf	19 53 17.9	-0.8
ITAB	Concordia	134.50	79	eP		PKPdf	19 53 17.4	-1.2
TIJ01	Guaruva-PR	135.02	74	eP		PKPdf	19 53 18.9	-0.8
PET01	Itanhaem-SP	135.28	71	eP		PKPdf	19 53 19.5	-0.6
RIB01	Linhares ES	135.31	60	eP		PKPdf	19 53 19.3	-1.0
PARB	Paraibuna	135.54	69	eP		PKPdf	19 53 18.9	-1.8
CPSB	Cacapava Do Su	135.92	83	eP		PKPdf	19 53 20.1	-1.0
VAS01	Vassouras-RJ	135.98	65	eP		PKPdf	19 53 19.7	-1.8
MAN01	Angra dos Reis	136.14	67	eP		PKPdf	19 53 20.9	-0.9
ALF01	Guarapari-ES	136.19	61	eP		PKPdf	19 53 20.7	-1.2
DUB01	Friburgo-RJ	136.43	64	eP		PKPdf	19 53 21.2	-1.1
PLTB	Pedras Altas	136.74	84	eP		PKPdf	19 53 21.1	-1.6
TER01	Tubaro-SC	137.28	77	eP		PKPdf	19 53 22.2	-1.5
QSPA	South Pole Qui baz=27,slow=2.6	140.93	180		PKhKP	PKPpre	19 53 23.8	
QSPA	comp=Z,5.7nm,0.6s,baz=344,slow=1.0				PKP	PKPdf	19 53 29.5	+0.3
EFI	East Falkland	144.86	114		PKIKP	PKPab	19 53 36.2	+0.5
EFI	East Falkland	144.86	114		PKPdf	PKPab	19 53 36.2	+0.5
MAW	Mawson comp=Z,9.8nm,0.9s,baz=82,slow=5.2,SNR=12	145.71	217		PKPdf	PKPdf	19 53 37.4	0.0
MAW	Mawson	145.71	217		PKPdf	PKPab	19 53 39.3	+1.0
LBTB	Lobatse baz=25,slow=2.9	147.14	313		PKPbc	PKPdf	19 53 43.4	+2.0
BOSA	Boshof comp=Z,35nm,0.8s,baz=31,slow=1.9,SNR=54	150.35	310		PKPbc	PKPbc	19 53 51.2	-0.6
BOSA	Boshof	150.35	310		PKPbc	PKPbc	19 53 52.0	+0.2
BELA	Belgrano 2	150.40	166		PKPbc	PKPbc	19 53 50.6	+0.3
SNAA	Sanae	159.40	178		PKPdf	PKPdf	19 53 56.2	-1.3
VNA3	Neumayer Olymp	159.43	171		PKPdf	PKPdf	19 53 56.2	-1.2
VNA2	Neumayer--Watz baz=30,slow=1.0	159.92	173		PKPdf	PKPdf	19 53 55.6	-2.5

*IDC **10** 19:37:48.5±1.1,51˚.30N×179˚.61E,h0km,mb4.1/15, mb1 4.3/15,mb1mx4.0/62,mbtmp4.1/15 Error ellipse: s-maj=33.5km s-min=17.1km az=172.0*

*NEIC **10** 19:37:49.8±2.1,50˚.77N±0˚.06×179˚.68E±0˚.02,h19km±2km, mb4.5/15,ML4.0/19(AEIC),Error ellipse: s-maj=9.6km s-min=2.9km az=175.0*

*AEIC **10** 19:37:51±2.7,50˚.97N±0˚.10×179˚.51E±0˚.10,h22km±6km, Error ellipse: s-maj=16.0km s-min=4.6km az=150.0*

ISC 10 19:37:49.1±0.8,50˚9N±0˚.1×179˚68E±0˚05,h10km,n50, σ1s77/55,mb4.3/19,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAKI	Gareloi-Kavalg	1.16	54			Pn	19 38 12.2	+0.9
GASW	Gareloi Southw	1.28	45			Pn	19 38 14.2	+1.1
GASW						Sb	19 38 32.0	+2.2
GALAA	Gareloi Lava P	1.31	47			Pn	19 38 14.8	+1.4
GAEA	Gareloi East	1.33	47			Pn	19 38 15.0	+1.2
GAEA						Sn	19 38 33.4	+1.9
GANO	Gareloi North	1.33	45			Pn	19 38 15.2	+1.4
TASE	Tanaga Southea	1.72	56			Pn	19 38 21.1	+2.0
TASE						Sn	19 38 43.1	+2.1
TAFL	Tanaga Flats	1.75	59			Pn	19 38 21.7	+2.2
TAFP	Tanaga Falls P	1.78	54			Pn	19 38 21.8	+1.9
TAFP						Sn	19 38 45.8	+3.2
TAPA	Tanaga Point A	1.83	58			Sn	19 38 22.5	+2.0
KIKV	Kanaga Island	2.21	62			Pn	19 38 27.9	+2.1
KICM	Kanaga Island	2.21	61			Pn	19 38 27.8	+2.0
ADK	Adak	2.49	65			Pn	19 38 32.5	+3.0
GSTD	Great Sitkin T	2.86	64			Pn	19 38 37.5	+2.8
SHEM	Shemya Is, Ala 34nm,0.3s,baz=79,slow=5.2,SNR=2.8	3.92	300	Pn		Pn	19 38 51.3	+2.0
SHEM				Sn		Sn	19 39 40.0	+4.6
SMY	11nm,0.3s,baz=254,slow=22,SNR=1.5 Shemya	3.92	300	Pn		Pn	19 38 51.7	+2.4
ATKA	Atka Island	4.04	69			Pn	19 38 53.8	+2.9
SPIA	Saint Paul Isl	8.64	39	Pn		Pn	19 39 54.3	+0.3
P18K	Big Mountain,	16.59	49	Pn		Pn	19 41 41.5	0.0
P18K				IAmb		IAmb	19 41 43.9	
K20K	comp=Z,39nm,1.3s Telida	18.77	38	P		P	19 42 07.1	-0.9
J20K	Nowinta River	19.16	36	P		P	19 42 11.6	-0.7
KTH	Kantishna Hill	20.11	40	P		P	19 42 21.9	-0.9
KTH				IAmb		IAmb	19 42 28.4	
IMAR	comp=Z,52nm,1.3s Indian Mountai	20.30	32	P		P	19 42 23.6	-1.1
H21K	Melozitna Rive	20.43	33	P		P	19 42 26.5	+0.3
H21K				IAmb		IAmb	19 42 35.0	
SML	comp=Z,18nm,1.1s Sawmill	20.59	46	P		P	19 42 28.1	+0.1
DHY	Denali Highway	21.41	43	P		P	19 42 37.1	+0.2
CCB	Clear Creek Bu	21.81	39	P		P	19 42 39.3	-1.7
CCB				IAmb		IAmb	19 42 53.5	
HDA	comp=Z,13nm,0.8s Harding Lake	22.06	39	P		P	19 42 42.9	-0.9
PAX	Paxson	22.21	44	P		P	19 42 45.4	0.0
TOLK	Toolik Lake Re	23.15	28	P		P	19 42 53.6	-1.7
TOLK				IAmb		IAmb	19 42 57.5	
L26K	comp=Z,13nm,0.7s Log Cabin Wild	23.16	44	P		P	19 42 54.9	-0.4
L26K				IAmb		IAmb	19 42 57.9	
BARN	comp=Z,10nm,0.8s Barnard Glacie	23.55	49	P		P	19 42 56.0	-3.5
BARN				IAmb		IAmb	19 43 05.1	
ASAJ	comp=Z,7.2nm,0.8s Asahikawa	25.74	269	P		P	19 43 21.3	+1.7
KLR	comp=Z,16nm,1.0s,baz=55,slow=12,SNR=3.8 Kul'dur	30.39	286	P		P	19 44 00.7	-0.4
YKA	comp=Z,11nm,0.6s,baz=78,slow=7.0,SNR=12 Yellowknife Ar	36.26	46	P		P	19 44 50.8	-1.2
NEW	comp=Z,1.1nm,0.5s,baz=282,slow=7.7,SNR=1.9 Newport	39.95	68	P		P	19 45 23.6	+0.3
JTMT	comp=Z,2.6nm,0.8s,baz=292,slow=9.4,SNR=1.6 Jette	41.87	68	P		P	19 45 37.9	-1.4
MCMT	McKenzie Canyo	44.24	70	P		P	19 45 57.9	-0.8
SONM	Songino Array	46.01	296	P		P	19 46 12.1	-0.4
PD31	comp=Z,1.2nm,1.0s,baz=55,slow=13,SNR=1.5 Pinedale Array	47.37	71	P		P	19 46 22.2	-1.2
PD31				IAmb		IAmb	19 46 38.1	
PDAR	comp=Z,13nm,1.5s Pinedale Array	47.37	71	P		P	19 46 23.9	+0.5
PDAR	comp=Z,2.3nm,0.6s,baz=332,slow=3.3,SNR=4.1 Pinedale Array	47.37	71	P		P	19 46 22.9	-0.5
SPITS	Spitsbergen Ar	50.80	356	P		P	19 46 46.9	-1.9
ZALV	comp=Z,4.9nm,0.4s,baz=32,slow=6.9,SNR=12 Zalesovo Beam	53.67	313	P		P	19 47 09.2	-1.3
MKAR	comp=Z,0.6nm,0.4s,baz=56,slow=6.1,SNR=1.5 Makanchi Array	59.59	308	P		P	19 47 51.2	-1.4
TXAR	comp=Z,1.4nm,0.4s,baz=44,slow=7.2,SNR=7.9 Lajitas Array	59.68	80	P		P	19 47 54.1	+0.4
NOA	comp=Z,0.5nm,0.5s,baz=303,slow=5.3,SNR=1.8 NORSAR Array B	68.04	354	P		P	19 48 46.5	-1.6
CMAR	comp=Z,2.1nm,0.8s,baz=7.9,slow=6.3,SNR=6.1 Chiang Mai Arr	70.11	275	P		P	19 49 01.7	+0.1
AKASG	comp=Z,0.8nm,0.8s,baz=34,slow=6.7,SNR=2.7 Malin Array Be	75.71	341	P		P	19 49 32.7	-1.6
WRA	comp=Z,0.3nm,0.3s,baz=20,slow=6.4,SNR=1.9 Warramunga Arr	81.00	223	P		P	19 50 06.3	+2.5
BRTR	comp=Z,0.8nm,1.0s,baz=31,slow=5.9,SNR=1.0 Keskin Array B	84.99	334	P		P	19 50 23.8	-0.8
	comp=Z,1.5nm,0.8s,baz=68,slow=3.7,SNR=3.8							

*IDC **10** 19:39:00.6±0.8,51˚.23N×179˚.52E,h0km,mb4.2/21, mb1 4.4/23,mb1mx4.2/67,mbtmp4.2/23,ML4.6/1, Error ellipse: s-maj=24.5km s-min=13.2km az=168.0*

*NEIC **10** 19:39:03.6±1.2,51˚.04N±0˚.10×179˚.46E±0˚.08,h19km±2km, mb4.7/22,ML4.0/20(AEIC),Error ellipse: s-maj=18.2km s-min=5.1km az=156.0*

*AEIC **10** 19:39:03±1.5,50˚.83N±0˚.09×179˚.48E±0˚.09,h26km±6km, Error ellipse: s-maj=15.1km s-min=5.0km az=152.0*

ISC 10 19:39:04.9±1.9,51˚2N±0˚.1×179˚49E±0˚04,h30km±11km, n83,σ1s00/88,mb4.7/41,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAKI	Gareloi-Kavalg	1.14	69			Pn	19 39 24.8	0.0
GASW	Gareloi Southw	1.21	58			Pb	19 39 26.7	-0.5
GASW						Sb	19 39 44.8	+2.4
GALAA	Gareloi Lava P	1.24	60			Pb	19 39 27.3	-0.5
GANO	Gareloi North	1.26	58			Pb	19 39 27.5	-0.5
GANO						Sb	19 39 46.7	+2.9
TASE	Tanaga Southea	1.69	65			Pn	19 39 33.4	+0.9
TASE						Sb	19 39 56.5	+0.3
TAFP	Tanaga Falls P	1.75	64			Pn	19 39 33.4	+0.2
TAFP						Sb	19 39 58.9	+1.1
TAPA	Tanaga Point A	1.81	68			Pn	19 39 34.9	+0.8
KIMD	Kanaga Island	2.14	72			Pn	19 39 39.0	+0.5
KIKV	Kanaga Island	2.21	70			Pn	19 39 40.3	+0.8
KIKV						Sb	19 40 09.1	-2.0
KINC	Kanaga Island	2.25	69			Pn	19 39 41.5	+1.4
ADK	Adak	2.50	72			Pn	19 39 43.4	-0.1
ADK						Sb	19 40 16.9	-2.5
GSTD	Great Sitkin T	2.87	70			Pn	19 39 49.9	+1.2
SHEM	Shemya Is, Ala 52nm,0.3s,baz=141,slow=4.1,SNR=4.9	3.69	297	Pn		Pn	19 40 02.8	+3.0
SHEM				Sn		Sb	19 40 50.0	-3.5
SMY	6.8nm,0.3s,baz=52,slow=24,SNR=1.3 Shemya	3.69	297			Pn	19 40 00.4	+0.6
PETK	Petropavlovsk- baz=94,slow=16,SNR=1.7	13.52	287	Pn		Pn	19 42 14.4	-0.1
KDAK	Kodiak Island 1.9nm,0.3s,baz=279,slow=7.7,SNR=1.4	17.44	57	P		Pn	19 43 03.7	-2.0
KDAK	Kodiak Island	17.44	57	Pn		Pn	19 43 04.7	-1.1
KDAK	comp=Z,70nm,1.5s			IAmb		IAmb	19 43 11.9	
BILL	Bilibino	18.13	344	P		Pn	19 43 13.8	-0.3
J20K	Nowinta River	19.01	37	P		Pn	19 43 25.1	+0.3
IMAR	Indian Mountai	20.13	32	P		Pn	19 43 37.7	-0.5
H21K	Melozitna Rive	20.27	34	P		Pn	19 43 39.4	-0.5
SCM	Sheep Creek Mo	20.95	47	P		P	19 43 44.8	-0.3
SCM	comp=Z,33nm,1.0s			IAmb		IAmb	19 43 59.6	
FID	Port Fidalgo	21.09	50	P		P	19 43 46.8	+0.1
NEA2	Nenana	21.16	39	P		P	19 43 48.1	+0.8
NEA2	comp=Z,25nm,1.1s			IAmb		IAmb	19 43 55.4	
M24K	Tolsona, Glenn	21.55	46	P		P	19 43 51.9	+0.3
MDM	Murphy Dome	21.64	38	P		P	19 43 53.4	+1.0
POKR	Poker Plat Res	22.01	38	P		P	19 43 56.1	-0.3
POKR	comp=Z,27nm,1.4s			IAmb		IAmb	19 43 56.5	
ILAR	Eielson Array comp=Z,1.0nm,0.5s,baz=241,slow=9.2,SNR=1.6	22.09	39	P		P	19 43 57.2	-0.1
ILAR	Eielson Array	22.09	39	P		P	19 43 58.1	+0.9
PAX	Paxson	22.09	44	P		P	19 43 58.2	+0.7
PAX	comp=Z,18nm,1.1s			IAmb		IAmb	19 44 12.7	
H24K	Noodor Dome	22.14	36	P		P	19 43 58.6	+0.7
GLB	Gilahina Butte	22.50	49	P		P	19 44 02.8	+1.1
GLB	comp=Z,39nm,1.5s			IAmb		IAmb	19 44 17.2	
TOLK	Toolik Lake Re	22.97	29	P		P	19 44 07.3	+0.6
TOLK	comp=Z,38nm,1.4s			IAmb		IAmb	19 44 15.6	
BCAR	Beaver Creek A	23.75	45	P		P	19 44 15.4	+1.1
BMAR	Burnt Mountain	24.01	34	P		P	19 44 16.6	-0.2
ASAJ	Asahikawa comp=Z,32nm,0.9s,baz=54,slow=5.6,SNR=8.7	25.63	269	P		P	19 44 32.7	+1.2
KLR	Kul'dur comp=Z,18nm,0.6s,baz=70,slow=7.4,SNR=18	30.20	285	P		P	19 45 12.9	+0.5
YKA	Yellowknife Ar comp=Z,1.0nm,0.4s,baz=282,slow=9.4,SNR=9.9	36.16	46	P		P	19 46 03.6	-0.5
KSRS	Korea Array comp=Z,4.4nm,1.0s,baz=54,slow=8.2,SNR=4.7	38.56	270	P		P	19 46 25.4	+0.6
NEW	Newport comp=Z,1.5nm,0.4s,baz=299,slow=11,SNR=2.8	39.97	68	P		P	19 46 36.2	-0.2
MCMT	McKenzie Canyo	44.27	71	P		P	19 47 11.0	-0.8
NVAR	Mina Array Bea comp=Z,0.7nm,0.7s,baz=291,slow=7.6,SNR=1.8	44.65	81	P		P	19 47 15.1	+0.2
YHL	Hebgen Lake	45.24	70	P		P	19 47 19.1	-0.6
YHL	comp=Z,22nm,1.3s			IAmb		IAmb	19 47 35.2	
YHH	Holmes Hill	45.47	69	P		P	19 47 21.2	-0.3
YHH	comp=Z,10nm,1.0s			IAmb		IAmb	19 47 22.7	
SONM	Songino Array comp=Z,2.9nm,0.9s,baz=59,slow=10,SNR=5.1	45.78	296	P		P	19 47 23.9	+0.3
BW06	Boulder Array	47.40	71	P		P	19 47 36.6	+0.1
BW06	comp=Z,8.2nm,0.8s			IAmb		IAmb	19 47 37.4	
PD31	Pinedale Array	47.40	71	P		P	19 47 36.8	+0.2
PD31	comp=Z,8.0nm,0.9s			IAmb		IAmb	19 47 37.4	
PDAR	Pinedale Array comp=Z,7.3nm,0.9s,baz=309,slow=5.0,SNR=5.8	47.40	71	P		P	19 47 36.5	0.0
PDAR	Pinedale Array	47.40	71	P		P	19 47 36.4	-0.2
SPITS	Spitsbergen Ar comp=Z,2.7nm,0.3s,baz=52,slow=5.4,SNR=34	50.51	356	P		P	19 47 59.3	-0.3
ZALV	Zalesovo Beam comp=Z,1.0nm,0.4s,baz=45,slow=6.0,SNR=2.5	53.40	313	P		P	19 48 21.1	-0.3
ARCES	ARCESS Array B comp=Z,4.2nm,0.8s,baz=22,slow=7.6,SNR=8.7	58.12	350	P		P	19 48 54.6	-0.4
MKAR	Makanchi Array comp=Z,5.3nm,0.8s,baz=42,slow=6.7,SNR=21	59.32	308	P		P	19 49 03.5	-0.3
TXAR	Lajitas Array comp=Z,1.2nm,0.8s,baz=330,slow=4.8,SNR=3.0	59.75	80	P		P	19 49 07.1	+0.1
FINES	FINESS Array B comp=Z,2.7nm,0.9s,baz=12,slow=7.7,SNR=2.8	65.75	346	P		P	19 49 45.6	-0.7
AAK	Ala-Archa	66.17	309	P		P	19 49 49.7	+0.1
AAK	comp=Z,6.7nm,0.9s			IAmb		IAmb	19 49 52.4	
ABKAR	Akbulak array	67.45	322	P		P	19 49 58.5	+1.0
NC204	NORSAR Array S	67.55	354	P		P	19 49 57.7	-0.3
NC303	NORSAR Array S	67.56	354	P		P	19 49 57.5	-0.5
NB201	NORSAR Array S	67.74	354	P		P	19 49 59.2	+0.1
NB2	NORSAR Subarra comp=Z,3.0nm,1.0s,baz=9.2,slow=6.5	67.76	354	P		P	19 49 58.2	-1.0
NOA	NORSAR Array B comp=Z,4.3nm,0.9s,baz=8.2,slow=6.3,SNR=8.7	67.76	354	P		P	19 49 58.8	-0.4
CMAR	Chiang Mai Arr comp=Z,1.8nm,0.8s,baz=29,slow=6.8,SNR=5.9	69.96	275	P		P	19 50 13.7	+0.1
TAPN	Taplejung comp=Z,48nm,1.0s	70.27	289	eP		P	19 50 16.1	+0.4
ODAN	Odare comp=Z,30nm,1.1s	70.82	289	eP		P	19 50 19.4	+0.4
GUN	Gumba comp=Z,45nm,0.8s	70.94	291	eP		P	19 50 20.5	+0.7
RAMN	Ramite comp=Z,26nm,0.6s	71.22	290	eP		P	19 50 22.0	+0.6
KKN	Kakani comp=Z,15nm,0.7s	71.38	291	eP		P	19 50 23.0	+0.7
PKI	Puchoki comp=Z,36nm,1.0s	71.47	291	eP		P	19 50 23.5	+0.5
PKIN	Phulchoki comp=Z,38nm,1.2s	71.47	291	eP		P	19 50 23.3	+0.4
GKN	Gorkha comp=Z,19nm,0.7s	71.59	292	eP		P	19 50 24.1	+0.6
DMN	Daman	71.61	291	eP		P	19 50 24.6	+0.8
DANN	Dangsing comp=Z,28nm,0.9s	71.85	293	eP		P	19 50 26.0	+0.8
KOLN	Koldanda comp=Z,22nm,1.0s	72.37	292	eP		P	19 50 28.8	+0.5
PYUN	Piuthan comp=Z,32nm,1.0s	72.48	293	eP		P	19 50 29.4	+0.5
AKASG	Malin Array Be comp=Z,0.5nm,0.3s,baz=20,slow=5.9,SNR=4.3	75.42	341	P		P	19 50 45.0	-0.4
CLL	Collm	77.27	351	eP		P	19 50 54.0	-1.9
BURAR	Bucovina Array	79.15	343	P		P	19 51 05.6	-0.9
WRA	Warramunga Arr comp=Z,1.0nm,1.0s,baz=30,slow=5.9,SNR=1.5	81.12	222	P		P	19 51 18.2	+0.9
ASAR	Alice Springs comp=Z,0.7nm,0.9s,baz=31,slow=6.1,SNR=2.8	84.61	221	P		P	19 51 34.6	-0.7
BRTR	Keskin Array B comp=Z,1.7nm,0.7s,baz=49,slow=3.2,SNR=5.2	84.69	334	P		P	19 51 35.7	-0.1
LBTB	Lobatse comp=Z,6.7nm,1.0s,baz=273,slow=1.2,SNR=5.7	147.11	313	PKPbc		PKPbc	19 58 45.1	+0.3
BOSA	Boshof comp=Z,4.5nm,0.9s,baz=47,slow=2.0,SNR=3.9	150.31	310	PKPbc		PKPbc	19 58 53.2	+0.1

*IDC **10** 19:41:45.0±2.7,51˚.15N×179˚.58E,h0km,mb4.0/5, mb1 4.1/6,mb1mx3.6/67,mbtmp4.0/6,ML4.1/1, Error ellipse: s-maj=77.0km s-min=23.9km az=175.0*

*AEIC **10** 19:41:51.3±2.9,51˚.2N±0˚.1×179˚.82E±0˚.08,h10km±6km, Error ellipse: s-maj=17.4km s-min=5.3km az=160.0*

*NEIC **10** 19:41:51.1±1.7,51˚.4N±0˚.2×179˚.61E±0˚.08,h19km±2km, mb4.4/11,ML3.4/24(AEIC),Error ellipse: s-maj=28.4km s-min=3.6km az=164.0*

ISC 10 19:41:47.4±2.5,51˚0N±0˚.2×179˚60E±0˚04,h17km±11km, n40,σ1s78/46,mb4.2/7,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAKI	Gareloi-Kavalg	1.12	62			Pb	19 42 08.8	+0.5
GASW	Gareloi Southw	1.22	52			Pg	19 42 10.8	-0.1
GASW						Sg	19 42 27.3	+0.5
GALAA	Gareloi Lava P	1.25	54			Pg	19 42 11.2	-0.3
GANO	Gareloi North	1.27	52			Pb	19 42 11.4	+0.6
GANO						Sg	19 42 28.2	-0.2
GAEA	Gareloi East	1.27	54			Pb	19 42 11.5	+0.6
TASE	Tanaga Southea	1.68	61			Pb	19 42 17.8	0.0
TAFL	Tanaga Flats	1.73	65			Pb	19 42 18.1	-0.4
TAFP	Tanaga Falls P	1.74	60			Pb	19 42 18.4	-0.4
TAFP						Sn	19 42 39.5	+1.0
TAPA	Tanaga Point A	1.80	63			Pb	19 42 19.2	-0.6
TAPA						Sb	19 42 42.3	+0.3
KIMD	Kanaga Island	2.11	69			Pb	19 42 24.1	-1.0
KIKV	Kanaga Island	2.19	66			Pb	19 42 25.2	-1.2
KIWB	Kanaga Island	2.19	67			Pb	19 42 25.6	-0.9
ADK	Adak	2.48	69			Pn	19 42 29.0	+2.2
ADK						Sb	19 43 04.9	-2.0
GSTD	Great Sitkin T	2.85	67			Sn	19 43 07.9	+2.1
GSTR	Great Sitkin T	2.91	67			Pn	19 42 34.9	+2.1
SHEM	Shemya Is, Ala 26nm,0.3s,baz=46,slow=1.2,SNR=4.1	3.80	299	Pn		Pn	19 42 49.0	+4.0
SHEM				Sn		Sb	19 43 35.2	-4.4
SMY	8.2nm,0.3s,baz=81,slow=22,SNR=1.2 Shemya	3.80	299			Pn	19 42 49.1	+4.1
ATKA	Atka Island	4.04	71			Pn	19 42 50.7	+2.4
KOKL	Mount Kliuchef	4.07	69			Pn	19 42 51.2	+2.4
KOFP	Korovin Flat P	4.12	70			Pn	19 42 51.5	+2.1
KDAK	Kodiak Island 0.7nm,0.3s,baz=234,slow=5.6,SNR=5.6	17.45	56	P		Pn	19 45 49.7	+0.1
KDAK	Kodiak Island	17.45	56	P		Pn	19 45 47.7	-1.9
KDAK	comp=Z,78nm,1.5s			IAmb		IAmb	19 46 11.5	
IMAR	Indian Mountai	20.19	32	P		P	19 46 21.2	+0.4
I21K	Tanana	20.38	35	P		P	19 46 23.7	+0.9
I21K	comp=Z,10nm,0.8s			IAmb		IAmb	19 46 39.8	
RND	Reindeer	20.82	41	P		P	19 46 27.4	-0.3
RND	comp=Z,9.4nm,0.7s			IAmb		IAmb	19 46 41.1	
MCK	McKinley	20.91	41	P		P	19 46 26.8	-1.8
MCK	comp=Z,16nm,1.0s			IAmb		IAmb	19 46 30.2	
Q23K	Middleton Isla	20.95	53	P		P	19 46 28.8	-0.2
MID	Middleton Isla	20.95	53	P		P	19 46 28.9	-0.1
SCM	Sheep Creek Mo	20.98	46	P		P	19 46 27.8	-1.6
SCM	comp=Z,21nm,1.2s			IAmb		IAmb	19 46 55.7	
FID	Port Fidalgo	21.12	50	P		P	19 46 29.0	-1.8
FID	comp=Z,59nm,1.4s			IAmb		IAmb	19 46 43.7	
NEA2	Nenana	21.21	38	P		P	19 46 27.0	-4.7
NEA2	comp=Z,14nm,0.9s			IAmb		IAmb	19 46 37.6	
IL31		22.14	39	P		P	19 46 40.4	-1.3
L26K	Log Cabin Wild	23.08	45	P		P	19 46 53.0	+1.2
KLR	Kul'dur comp=Z,3.4nm,0.6s,baz=83,slow=8.2,SNR=6.2	30.30	286	P		P	19 47 57.9	+0.5
YKA	Yellowknife Ar comp=Z,0.5nm,0.5s,baz=283,slow=7.5,SNR=2.6	36.19	46	P		P	19 48 48.2	-0.3
PDAR	Pinedale Array comp=Z,0.9nm,0.7s,baz=301,slow=3.1,SNR=5.2	47.37	71	P		P	19 50 20.6	+0.1
PDAR	Pinedale Array	47.37	71	P		P	19 50 20.2	-0.3
SPITS	Spitsbergen Ar comp=Z,1.0nm,0.4s,baz=359,slow=10,SNR=9.4	50.64	356	P		P	19 50 43.9	-0.8
MKAR	Makanchi Array comp=Z,0.5nm,0.3s,baz=45,slow=6.4,SNR=8.9	59.45	308	P		P	19 51 48.5	-0.4
MKAR	Makanchi Array	59.45	308	P		P	19 51 48.2	-0.7

*IDC **10** 19:46:34.9±1.0,51˚.44N×179˚.55E,h0km,mb4.0/18, mb1 4.1/20,mb1mx3.9/73,mbtmp4.0/20,ML4.0/1, Error ellipse: s-maj=29.1km s-min=14.4km az=169.0*

*NEIC **10** 19:46:35.9±1.7,50˚.93N±0˚.08×179˚.50E±0˚.09,h19km±2km, mb4.3/28,ML3.7/21(AEIC),Error ellipse: s-maj=15.3km s-min=6.0km az=145.0*

*AEIC **10** 19:46:37±2.5,50˚.85N±0˚.06×179˚.68E±0˚.09,h25km±5km, Error ellipse: s-maj=11.4km s-min=4.3km az=136.0*

ISC 10 19:46:35.9±0.7,51˚2N±0˚.1×179˚50E±0˚04,h0km,n91, σ1s49/96,mb4.3/39,1C,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAKI	Gareloi-Kavalg	1.12	70			Pn	19 46 57.6	-0.1
GASW	Gareloi Southw	1.19	59			Pn	19 46 59.6	+1.0
GASW						Sb	19 47 16.6	+2.5
GALAA	Gareloi Lava P	1.23	61			Pn	19 47 00.2	+1.0
GAEA	Gareloi East	1.25	60			Pn	19 47 00.6	+1.1
GAEA						Sb	19 47 19.1	+3.2
TASE	Tanaga Southea	1.68	66			Pn	19 47 06.4	+1.0
TAFP	Tanaga Falls P	1.73	64			Pn	19 47 07.2	+1.1
TAFP						Sn	19 47 29.3	+1.1
T

YHH				IAmb	IAmb	19 55 09.0		
	comp=Z,4.1nm,0.8s							
SONM	**Songino Array**	**45.78**	**296**	P	**P**	**19 54 57.4**	**-0.1**	
	comp=Z,0.5nm,0.6s,baz=50,slow=9.6,SNR=4.9							
RLMT	**Red Lodge**	**46.20**	**68**	P	**P**	**19 54 59.9**	**-1.1**	
HHC	**Hu-ho-hao-te**	**46.71**	**285**	*eP*	**P**	**19 55 05.9**	**+1.0**	
HHC				pmax	pmax			
	comp=Z,13nm,0.9s							
HHC				pmax	pmax			
	comp=Z,100nm,6.1s							
TPNV	**Topopah Spring**	**46.83**	**82**	P	**P**	**19 55 03.6**	**-2.4**	
TPNV				IAmb	IAmb	19 55 23.6		
	comp=Z,4.1nm,0.9s							
BW06	**Boulder Array**	**47.39**	**71**	P	**P**	**19 55 08.4**	**-2.0**	
PD31	**Pinedale Array**	**47.39**	**71**	P	**P**	**19 55 08.7**	**-1.6**	
PD31				IAmb	IAmb	19 55 10.3		
	comp=Z,3.5nm,0.8s							
PDAR	**Pinedale Array**	**47.39**	**71**	P	**P**	**19 55 09.6**	**-0.7**	
	comp=Z,3.1nm,0.7s,baz=307,slow=3.5,SNR=29							
PDAR	**Pinedale Array**	**47.39**	**71**	P	**P**	**19 55 09.1**	**-1.2**	
P18A	**Preston Nutter**	**48.87**	**75**	P	**P**	**19 55 19.6**	**-2.3**	
P18A				IAmb	IAmb	19 55 24.4		
	comp=Z,2.9nm,0.7s							
SPITS	**Spitsbergen Ar**	**50.50**	**356**	P	**P**	**19 55 32.2**	**-1.3**	
	comp=Z,2.3nm,0.3s,baz=19,slow=9.3,SNR=24							
PV13	**Radium Mtn., P**	**50.65**	**75**	P	**P**	**19 55 34.4**	**-1.0**	
ZALV	**Zalesovo Beam**	**53.39**	**313**	P	**P**	**19 55 54.3**	**-1.0**	
	comp=Z,0.5nm,0.4s,baz=40,slow=5.8,SNR=4.0							
ZALV	**Zalesovo Beam**	**53.39**	**313**	P	**P**	**19 55 54.7**	**-0.6**	
GTA	**Gaotai**	**54.65**	**291**	⇑P	**P**	**19 56 05.0**	**+0.2**	
GTA				pP	sP	19 56 10.0	+1.3	
GTA				sP	pwP	19 56 14.0	+6.3	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KURK	**Kurchatov**	**58.38**	**313**	P	**P**	**19 56 30.0**	**-1.0**	
WMQ	**Urumqi**	**58.55**	**302**	*eP*	**P**	**19 56 37.1**	**+4.6**	
WMQ				pmax	pmax			
	comp=Z,19nm,0.7s							
MK31	**Makanchi Array**	**59.32**	**308**	P	**P**	**19 56 36.7**	**-1.0**	
MK31				IAmb	IAmb	19 56 38.2		
	comp=Z,1.1nm,0.6s							
MKAR	**Makanchi Array**	**59.32**	**308**	P	**P**	**19 56 37.0**	**-0.7**	
	comp=Z,0.9nm,0.3s,baz=50,slow=6.6,SNR=24							
MKAR	**Makanchi Array**	**59.32**	**308**	P	**P**	**19 56 36.1**	**-1.6**	
MAKZ	**Makanchi**	**59.46**	**308**	P	**P**	**19 56 37.7**	**-1.0**	
MAKZ				IAmb	IAmb	19 56 38.6		
	comp=Z,2.3nm,0.9s							
FINES	**FINESS Array B**	**65.74**	**346**	P	**P**	**19 57 18.2**	**-2.0**	
	comp=Z,2.0nm,0.9s,baz=28,slow=6.3,SNR=4.9							
AKTO	**Aktyubinsk**	**67.22**	**324**	P	**P**	**19 57 30.4**	**+0.5**	
	comp=Z,4.2nm,0.8s,baz=44,slow=6.8,SNR=10.0							
ABKAR	**Akbulak array**	**67.45**	**322**	P	**P**	**19 57 30.9**	**-0.5**	
NB2	**NORSAR Subarra**	**67.74**	**354**	P	**P**	**19 57 31.8**	**-1.3**	
	comp=Z,0.8nm,0.7s,baz=6,slow=6.5							
NOA	**NORSAR Array B**	**67.74**	**354**	P	**P**	**19 57 32.0**	**-1.2**	
	comp=Z,1.4nm,0.8s,baz=7.7,slow=6.4,SNR=9.4							
KSH	**Kashi**	**67.76**	**306**	P	**P**	**19 57 37.0**	**+3.3**	
KSH				sP	PcP	19 57 57.3	-3.2	
KSH				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**69.97**	**275**	P	**P**	**19 57 47.1**	**-0.5**	
	comp=Z,0.9nm,0.8s,baz=35,slow=5.8,SNR=6.9							
TAPN	**Taplejung**	**70.27**	**289**	*eP*	**P**	**19 57 50.0**	**+0.3**	
	comp=Z,7.7nm,0.6s							
GUN	**Gumba**	**70.94**	**291**	*eP*	**P**	**19 57 54.2**	**+0.4**	
	comp=Z,6.4nm,0.4s							
RAMN	**Ramite**	**71.23**	**290**	*eP*	**P**	**19 57 55.6**	**+0.1**	
PKI	**Pulchoki**	**71.47**	**291**	*eP*	**P**	**19 57 57.0**	**0.0**	
	comp=Z,2.7nm,0.5s							
PKIN	**Phulchoki**	**71.47**	**291**	*eP*	**P**	**19 57 57.0**	**+0.1**	
	comp=Z,3.9nm,0.4s							
GKN	**Gorkha**	**71.60**	**292**	*eP*	**P**	**19 57 57.7**	**+0.1**	
	comp=Z,4.5nm,0.5s							
DANN	**Dangsing**	**71.85**	**293**	*eP*	**P**	**19 57 59.4**	**+0.1**	
	comp=Z,15nm,0.9s							
PYUN	**Piuthan**	**72.48**	**293**	*eP*	**P**	**19 58 02.9**	**0.0**	
AKASG	**Malin Array Be**	**75.40**	**341**	P	**P**	**19 58 18.0**	**-1.4**	
	comp=Z,0.3nm,0.3s,baz=20,slow=6.0,SNR=3.4							
WRA	**Warramunga Arr**	**81.13**	**222**	P	**P**	**19 58 54.0**	**+2.6**	
	comp=Z,0.2nm,0.6s,baz=32,slow=6.1,SNR=1.2							
BRTR	**Keskin Array B**	**84.68**	**334**	P	**P**	**19 59 09.5**	**-0.4**	
	comp=Z,0.9nm,0.7s,baz=72,slow=3.0,SNR=7.1							
BOSA	**Boshof**				**PKPbc**	**20 06 27.1**	**-0.2**	
	comp=Z,1.4nm,0.7s,baz=82,slow=3.7,SNR=5.8							

*IDC **10** 19:47:37.7±1.8,51.31N×179.61E,h0km,mb4.0/12, mb1 4.2/13,mb1mx3.8/70,mbtmp4.0/13,ML4.0/1,Error ellipse: s-maj=50.7km s-min=18.2km az=178.0*
*NEIC **10** 19:47:38.4±0.4,51.1N±0.2×179.5E±0.2,h3km±7km,Error ellipse: s-maj=28.0km s-min=8.6km az=151.0*
*AEIC **10** 19:47:39±1.1,50.75N±0.04×179.64E±0.08,h25km±8km, ML3.4/19,Error ellipse: s-maj=8.2km s-min=5.4km az=124.0*

ISC 10 19:47:37.8±2.2,51.0N±0.2×179.48E±0.07,h10km±12km, n27,σ1s06/33,mb3.9/13,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**1.21**	**62**		**Pg**	**19 48 01.1**	**+0.1**
GASW	**Gareloi Southw**	**1.30**	**53**		**Pb**	**19 48 02.9**	**+0.5**
GASW					**Sn**	**19 48 20.3**	**+0.7**
GALAA	**Gareloi Lava P**	**1.33**	**55**		**Pg**	**19 48 03.3**	**-0.1**
GANO	**Gareloi North**	**1.35**	**52**		**Pg**	**19 48 03.6**	**-0.1**
GANO					**Sn**	**19 48 22.5**	**+1.6**
GAEA	**Gareloi East**	**1.36**	**54**		**Pg**	**19 48 03.9**	**0.0**
TANO	**Tanaga North**	**1.76**	**58**		**Pn**	**19 48 09.5**	**+1.2**
TANO					**Sb**	**19 48 32.9**	**+0.6**
TASE	**Tanaga Southea**	**1.76**	**61**		**Pn**	**19 48 09.4**	**+0.9**
TAFP	**Tanaga Falls P**	**1.82**	**59**		**Pn**	**19 48 10.2**	**+0.9**
TAFP					**Sb**	**19 48 34.5**	**+0.3**
TAPA	**Tanaga Point A**	**1.88**	**63**		**Pn**	**19 48 11.1**	**+1.0**
TAPA					**Sn**	**19 48 35.6**	**+1.7**
KIMD	**Kanaga Island**	**2.19**	**68**		**Pn**	**19 48 15.3**	**+0.9**
KIKV	**Kanaga Island**	**2.27**	**66**		**Pn**	**19 48 16.3**	**+0.8**
ADK	**Adak**	**2.56**	**68**		**Pn**	**19 48 19.8**	**+0.4**
ADK					**Sn**	**19 48 50.3**	**-0.2**
GSTR	**Great Sitkin T**	**2.99**	**67**		**Pn**	**19 48 26.0**	**+0.7**
KDAK	**Kodiak Island**	**17.53**	**56**	P	**Pn**	**19 51 39.0**	**-3.1**
	0.5nm,0.3s,baz=319,slow=9.3,SNR=1.9						
ILAR	**Eielson Array**	**22.21**	**39**	P	**P**	**19 52 32.7**	**-1.4**
	0.4nm,0.9s,baz=237,slow=8.4,SNR=1.3						
KLR	**Kul'dur**	**30.24**	**286**	P	**P**	**19 53 49.9**	**+1.4**
	5.1nm,0.5s,baz=70,slow=7.6,SNR=12						
YKA	**Yellowknife Ar**	**36.27**	**46**	P	**P**	**19 54 40.0**	**-0.9**
	0.7nm,0.6s,baz=285,slow=7.3,SNR=5.6						
SONM	**Songino Array**	**45.84**	**296**	P	**P**	**19 56 01.1**	**+1.1**
	0.3nm,0.4s,baz=54,slow=7.3,SNR=1.9						
PDAR	**Pinedale Array**	**47.45**	**71**	P	**P**	**19 56 12.8**	**0.0**
	1.8nm,0.6s,baz=315,slow=2.4,SNR=6.1						
SPITS	**Spitsbergen Ar**	**50.67**	**356**	P	**P**	**19 56 35.6**	**-1.1**
	3.0nm,0.4s,baz=42,slow=6.7,SNR=11						
ZALV	**Zalesovo Beam**	**53.50**	**313**	P	**P**	**19 56 57.7**	**-0.3**
	0.5nm,0.5s,baz=68,slow=8.3,SNR=1.6						
ARCES	**ARCESS Array B**	**58.27**	**350**	P	**P**	**19 57 31.0**	**-1.0**
	3.4nm,1.0s,baz=34,slow=6.6,SNR=2.2						
MKAR	**Makanchi Array**	**59.41**	**308**	P	**P**	**19 57 40.2**	**-0.1**
	0.7nm,0.4s,baz=43,slow=6.7,SNR=7.0						
TXAR	**Lajitas Array**	**59.78**	**80**	P	**P**	**19 57 43.4**	**+0.2**
	0.2nm,0.4s,baz=310,slow=4.2,SNR=1.7						
AKTO	**Aktyubinsk**	**67.36**	**324**	P	**P**	**19 58 33.5**	**+0.7**
	2.0nm,0.5s,baz=46,slow=9.5,SNR=4.6						
NOA	**NORSAR Array B**	**67.91**	**354**	P	**P**	**19 58 35.7**	**-0.5**
	0.4nm,0.5s,baz=7.2,slow=6.2,SNR=2.9						
BRTR	**Keskin Array B**	**84.83**	**334**	P	**P**	**20 00 13.0**	**+0.4**
	0.6nm,0.7s,baz=20,slow=4.4,SNR=3.9						

*IDC **10** 19:48:57.8±1.1,15.62N×146.63E,h0km,mb3.4/5, mb1 3.7/6,mb1mx3.4/65,mbtmp3.5/6,ML3.8/1,Error ellipse: s-maj=53.4km s-min=19.1km az=116.0*
*NEIC **10** 19:49:04.7±0.6,15.73N±0.04×146.4E±0.2,h62km±9km, mb4.4/9,Error ellipse: s-maj=22.0km s-min=5.4km az=85.0*

ISC 10 19:49:02.2±0.8,15.6N±0.1×146.6E±0.2,h35km,n17, σ1s20/18,mb4.0/11,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.64**	**220**	Pn	**Pn**	**19 49 43.7**	**+1.3**
	17nm,0.3s,baz=320,slow=6.9,SNR=11						
GUMO				Sn	**Sn**	**19 50 13.6**	**+0.5**
	108nm,0.3s,baz=248,slow=22,SNR=6.3						
GUMO	**Guam**	**2.64**	**220**		**Pn**	**19 49 44.2**	**+1.8**
MJAR	**Matsushiro Arr**	**22.13**	**342**	P	**P**	**19 53 52.9**	**-1.9**
WR0	**Warramunga Arr**	**37.31**	**199**	P	**P**	**19 56 09.7**	**-1.6**
WR0				IAmb	IAmb	19 56 25.4	
	comp=Z,2.4nm,1.0s						
WRAB	**Tennant Creek**	**37.34**	**199**	P	**P**	**19 56 10.1**	**-1.4**
WRA	**Warramunga Arr**	**37.35**	**199**	P	**P**	**19 56 11.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=21,slow=9.0,SNR=4.4						
WRA	**Warramunga Arr**	**37.35**	**199**	P	**P**	**19 56 11.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.37**	**212**	P	**P**	**19 56 28.7**	**0.0**
FITZ				IAmb	IAmb	19 56 40.3	
	comp=Z,2.8nm,1.1s						
ASAR	**Alice Springs**	**40.99**	**198**	P	**P**	**19 56 42.4**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=30,slow=7.5,SNR=5.5						
PZH	**PanZhiHua**	**43.05**	**292**	P	**P**	**19 56 58.8**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
BBOO	**Buckleboo**	**49.22**	**192**	P	**P**	**19 57 46.4**	**-0.8**
BBOO				IAmb	IAmb	19 57 51.3	
	comp=Z,5.9nm,1.1s						
FORT	**Forrest**	**49.48**	**201**	P	**P**	**19 57 48.5**	**-0.7**
TOO	**Toolangi**	**52.93**	**181**	P	**P**	**19 58 15.2**	**+0.1**
TOO				IAmb	IAmb	19 58 23.2	
	comp=Z,7.2nm,1.1s						
MORW	**Morawa**	**53.36**	**214**	P	**P**	**19 58 16.7**	**-1.7**
MORW				IAmb	IAmb	19 58 32.7	
	comp=Z,6.1nm,1.1s						
MKAR	**Makanchi Array**	**61.22**	**315**	P	**P**	**19 59 14.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=85,slow=8.8,SNR=1.8						
ILAR	**Eielson Array**	**66.01**	**25**	P	**P**	**19 59 45.9**	**+0.9**
	0.6nm,0.3s,baz=255,slow=6.0,SNR=5.4						
YKA	**Yellowknife Ar**	**80.28**	**28**	P	**P**	**20 01 10.8**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=286,slow=5.1,SNR=5.3						

*IDC **10** 19:55:00.4±1.6,14.19S×166.56E,h0km,mb3.7/6, mb1 3.8/7,mb1mx3.7/47,mbtmp3.7/7,ML3.7/1,Error ellipse: s-maj=51.3km s-min=27.5km az=117.0*

ISC 10 19:55:04.3±1.3,14.32S±0.10×166.7E±0.2,h28km,n7, σ0s95/8,mb3.6/6,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.71**	**182**	Pn	**Pn**	**19 56 55.0**	**+0.2**
	1.1nm,0.3s,baz=351,slow=17,SNR=9.5						
DZM				Sn	**Sn**	**19 58 20.6**	**-0.7**
	0.2nm,0.3s,baz=144,slow=19,SNR=1.9						
STKA	**Stephens Creek**	**28.82**	**228**	P	**P**	**20 01 01.7**	**+1.5**
	1.1nm,0.5s,baz=59,slow=5.9,SNR=2.0						
WRA	**Warramunga Arr**	**31.36**	**255**	P	**P**	**20 01 22.5**	**-0.3**
	0.4nm,0.9s,baz=84,slow=8.1,SNR=2.2						
ASAR	**Alice Springs**	**32.27**	**248**	P	**P**	**20 01 29.9**	**-1.0**
	0.2nm,0.6s,baz=77,slow=9.5,SNR=4.3						
SONM	**Songino Array**	**81.82**	**324**	P	**P**	**20 07 20.2**	**-0.8**
	0.2nm,0.5s,baz=108,slow=4.7,SNR=2.4						
ILAR	**Eielson Array**	**86.32**	**18**	P	**P**	**20 07 43.6**	**+0.3**
	0.8nm,0.8s,baz=229,slow=6.3,SNR=6.2						
MKAR	**Makanchi Array**	**96.51**	**317**	P	**P**	**20 08 31.4**	**+0.1**
	0.3nm,0.7s,baz=92,slow=7.5,SNR=3.5						

*IDC **10** 20:01:06.3±8.5,50.16N×179.89E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.2/60,mbtmp3.3/3,Error ellipse: s-maj=226.2km s-min=34.8km az=167.0*
*AEIC **10** 20:01:16±0.6,50.9N±0.1×179.59E±0.10,h24km±9km, ML3.3/24,Error ellipse: s-maj=17.2km s-min=9.1km az=174.0*
*NEIC **10** 20:01:17.3±0.7,50.9N±0.1×179.59E±0.09,h24km±11km, Error ellipse: s-maj=16.6km s-min=2.9km az=151.0*

ISC 10 20:01:16.5±3.6,51.1N±0.3×179.4E±0.1,h32km±21km,n24, σ1s22/29,mb3.3/3,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**1.23**	**65**		**Pn**	**20 01 37.5**	**0.0**
GASW	**Gareloi Southw**	**1.32**	**56**		**Pn**	**20 01 39.4**	**+0.7**
GASW					**Sn**	**20 01 56.2**	**+1.0**
GALAA	**Gareloi Lava P**	**1.35**	**57**		**Pn**	**20 01 39.9**	**+0.8**
GALAA					**Sb**	**20 01 57.7**	**-0.5**
GANO	**Gareloi North**	**1.37**	**55**		**Pn**	**20 01 40.0**	**+0.6**
GAEA	**Gareloi East**	**1.38**	**57**		**Pn**	**20 01 40.3**	**+0.8**
TANO	**Tanaga North**	**1.78**	**60**		**Pn**	**20 01 45.6**	**+0.5**
TANO					**Sn**	**20 02 07.8**	**+1.3**
TASE	**Tanaga Southea**	**1.79**	**63**		**Pn**	**20 01 45.9**	**+0.7**
TAFL	**Tanaga Flats**	**1.84**	**66**		**Pn**	**20 01 46.4**	**+0.5**
TAFP	**Tanaga Falls P**	**1.85**	**61**		**Pn**	**20 01 46.2**	**+0.2**
TAFP					**Sn**	**20 02 09.4**	**+1.2**
TAPA	**Tanaga Point A**	**1.91**	**65**		**Pn**	**20 01 47.6**	**+0.7**
KIMD	**Kanaga Island**	**2.23**	**70**		**Pn**	**20 01 51.5**	**+0.3**
KIKV	**Kanaga Island**	**2.30**	**67**		**Pn**	**20 01 52.9**	**+0.6**
KIWB	**Kanaga Island**	**2.31**	**68**	Pn	**Pn**	**20 01 53.6**	**+1.3**
ADK	**Adak**	**2.59**	**70**		**Pn**	**20 01 56.5**	**+0.3**
ADK					**Sn**	**20 02 28.1**	**+1.6**
GSCK	**Great Sitkin C**	**2.94**	**69**		**Pn**	**20 02 01.5**	**+0.6**
GSTD	**Great Sitkin T**	**2.96**	**68**		**Pn**	**20 02 01.6**	**+0.3**
GSMY	**Great Sitkin M**	**3.01**	**69**		**Pn**	**20 02 02.2**	**+0.3**
SMY	**Shemya**	**3.69**	**299**		**Pn**	**20 02 15.0**	**+3.7**
ATKA	**Atka Island**	**4.16**	**71**		**Pn**	**20 02 17.6**	**-0.1**
KOFP	**Korovin Flat P**	**4.23**	**71**		**Pn**	**20 02 20.3**	**+1.5**
SPIA	**Saint Paul Isl**	**8.64**	**41**	Pn	**Pn**	**20 03 20.8**	**+1.7**
ILAR	**Eielson Array**	**22.21**	**39**	P	**P**	**20 06 08.8**	**-1.1**
	0.1nm,0.5s,baz=251,slow=8.5,SNR=1.2						
YKA	**Yellowknife Ar**	**36.28**	**46**	P	**P**	**20 08 14.6**	**-1.9**
	0.2nm,0.5s,baz=282,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	**59.34**	**308**	P	**P**	**20 11 15.3**	**+0.1**
	0.3nm,0.4s,baz=41,slow=7.0,SNR=9.8						

*IDC **10** 20:03:32.3±1.7,43.66N×105.47W,h0km,mb1 3.6/5, mb1mx3.3/46,mbtmp3.3/5,ML2.8/4,Error ellipse: s-maj=45.6km s-min=9.9km az=149.0*
*NEIC **10** 20:03:36.9±1.8,43.56N±0.05×105.53W±0.10,h0km±2km, ML3.1/36,Error ellipse: s-maj=12.1km s-min=9.2km az=79.0*

ISC 10 20:03:33.9±1.7,43.67N±0.06×105.4W±0.1,h0km,n33, σ1s24/32,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.33**	**220**		**Pg**	**20 03 58.6**	**-0.8**
K22A				IAML		20 04 22.6	
	comp=N,251nm,0.7s						
PHWY	**Pilot Hill**	**2.37**	**182**	Pn	**Pn**	**20 04 14.7**	**+0.4**
PHWY				IAML		20 04 49.4	
	comp=N,88nm,0.5s						
RWWY	**Rawlins**	**2.40**	**215**	Pn	**Pn**	**20 04 16.2**	**+1.4**
N23A	**Red Feather La**	**2.80**	**189**		**Pn**	**20 04 21.4**	**+1.1**
N23A				IAML		20 05 02.7	
	comp=N,105nm,0.8s						
N23A				IAML		20 05 05.4	
	comp=E,91nm,0.7s						
RLMT	**Red Lodge**	**3.16**	**299**	Pn	**Pn**	**20 04 26.0**	**+0.9**
RLMT				IAML		20 05 20.8	
	comp=E,40nm,0.8s						
RLMT				IAML		20 05 28.2	
	comp=E,42nm,0.9s						
BW06	**Boulder Array**	**3.20**	**255**		**Pn**	**20 04 26.2**	**+0.5**
BW06				IAML		20 05 14.3	
	comp=E,58nm,0.7s						
PD31	**Pinedale Array**	**3.20**	**255**		**Pn**	**20 04 26.3**	**+0.6**
PDAR	**Pinedale Array**	**3.20**	**255**	Pn	**Pn**	**20 04 26.6**	**+0.9**
	comp=E,3.7nm,0.3s,baz=76,slow=15,SNR=38						
PDAR				Lg	Lg	20 05 09.1	
	comp=E,4.8nm,0.3s,baz=77,slow=29,SNR=2.3						
PDAR	**Pinedale Array**	**3.20**	**255**	Pn	**Pn**	**20 04 26.2**	**+0.5**
YMP	**Mirror Lake PI**	**3.61**	**289**		**Pn**	**20 04 32.5**	**+1.1**
GCMT	**Greycliff**	**3.73**	**306**		**Pn**	**20 04 34.3**	**+1.3**
LOHW	**Long Hollow**	**3.81**	**271**		**Pn**	**20 04 33.4**	**-0.6**
LOHW				IAML		20 05 45.8	
	comp=E,20nm,1.0s						
H17A	**Grant Village**	**3.83**	**283**		**Pn**	**20 04 36.9**	**+2.4**
H17A				IAML		20 05 41.1	
	comp=N,23nm,1.0s						
H17A				IAML		20 05 46.0	
	comp=E,21nm,1.2s						
ISCO	**Idaho Springs**	**3.87**	**183**		**Pn**	**20 04 36.1**	**+1.2**
FLWY	**Flagg Ranch**	**3.88**	**278**		**Pn**	**20 04 36.4**	**+1.3**
FLWY				IAML		20 05 48.0	
	comp=E,46nm,1.3s						
FLWY				IAML		20 05 52.6	
	comp=E,29nm,1.8s						
MOOW	**Moose Ponds**	**3.91**	**273**		**Pn**	**20 04 37.2**	**+1.8**
TPAW	**Teton Pass**	**4.07**	**269**		**Pn**	**20 04 39.2**	**+1.6**
TPAW				IAML		20 05 57.3	
	comp=E,17nm,0.8s						
TPAW				IAML		20 06 07.5	
	comp=E,33nm,0.9s						
YHH	**Holmes Hill**	**4.10**	**288**	Pn	**Pn**	**20 04 39.0**	**+0.8**
YHH				IAML		20 05 52.7	
	comp=N,17nm,1.1s						
O20A	**White River Ci**	**4.13**	**212**		**Pn**	**20 04 40.0**	**+1.5**
O20A				IAML		20 05 56.1	
	comp=E,37nm,0.8s						
BOZ	**Bozeman (W)**	**4.87**	**295**		**Pn**	**20 04 49.0**	**+0.4**
BOZ				IAML		20 06 15.5	
	comp=E,13nm,1.0s						
BOZ				IAML		20 06 15.8	
	comp=E,13nm,2.9s						
HWUT	**Hardware Ranch**	**5.02**	**248**		**Pn**	**20 04 51.8**	**+1.1**
P18A	**Preston Nutter**	**5.45**	**224**		**Pn**	**20 04 57.0**	**+0.4**
LRM	**Limekiln Ridge**	**5.49**	**296**	Pn	**Pn**	**20 04 59.0**	**+1.7**
PV07	**Paradox Valley**	**5.79**	**207**		**Pn**	**20 05 02.9**	**+1.7**
P17A	**Butcher Ranch,**	**5.82**	**226**	Pn	**Pn**	**20 05 03.8**	**+2.2**
PV11	**David Mesa, Pa**	**5.99**	**208**		**Pn**	**20 05 05.1**	**+1.2**
PV13	**Radium Mtn., P**	**6.09**	**207**		**Pn**	**20 05 06.3**	**+0.8**
Q16A	**Castle Valley**	**6.46**	**225**		**Pn**	**20 05 10.8**	**+0.4**
DUG	**Dugway, Tooele**	**6.55**	**241**		**Pn**	**20 05 12.3**	**+0.6**
ELK	**Elko**	**7.89**	**252**	Pn	**Pn**	**20 05 29.7**	**-0.5**
	comp=E,0.1nm,0.3s,baz=73,slow=10,SNR=1.9						
ULM	**Lac du Bonnet**	**9.24**	**41**	Pn	**Pn**	20 05 44.6	-3.7
	comp=E,1.7nm,0.3s,baz=238,slow=14,SNR=8.3						
NVAR	**Mina Array Bea**	**11.08**	**246**	Pn	**Pn**	**20 06 14.1**	**+0.2**
	comp=E,0.1nm,0.3s,baz=63,slow=13,SNR=3.2						
YKA	**Yellowknife Ar**	**19.62**	**347**	P	**P**	**20 08 02.2**	**-1.5**
	comp=E,0.1nm,0.3s,baz=162,slow=12,SNR=7.6						

*NOU **10** 20:13:11.9,36.62S×177.96E,h302km,MLv4.5/9,Off E. Coast of N. Island, N.Z.*
*IDC **10** 20:13:14.4±1.5,36.99S×177.59E,h286km±14km,mb3.7/2, mb1 3.9/3,mb1mx3.4/26,mbtmp4.4/3,Error ellipse: s-maj=46.5km s-min=29.8km az=137.0*
*WEL **10** 20:13:18.0±0.9,37°S±8'×17°7'E±', h234km±9km,M3.4/24, ML3.9/7,MLv3.4/24,Error ellipse: s-maj=0.0km s-min=0.0km az=33.0*

ISC 10 20:13:14.4±1.2,36.69S±0.08×177.28E±0.08,h281km±7km, n146,σ1s56/162,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.14**	**159**	P	**Pn**	**20 13 53.0**	**-0.4**
HAZ				S	**S**	**20 14 20.8**	**-3.5**
MXZ	**Matakaoa Point**	**1.20**	**137**	P	**Pn**	**20 13 53.6**	**-0.2**
MXZ				S	**S**	**20 14 22.5**	**-2.4**
KUZ	**Kuaotunu**	**1.25**	**267**	P	**Pn**	**20 13 53.2**	**-0.9**
OPRZ	**Ohinepanea**	**1.29**	**206**	P	**Pn**	**20 13 55.6**	**+1.4**
RUGZ	**Raukumara Rang**	**1.31**	**166**	P	**Pn**	**20 13 54.0**	**-0.5**
RUGZ				S	**S**	**20 14 21.4**	**-5.0**
PKGZ	**Pakihiroa**	**1.36**	**152**	P	**Pn**	**20 13 54.9**	**+0.1**
PKGZ				S	**S**	**20 14 25.4**	**-1.4**
MARZ	**Manawahe**	**1.38**	**200**	P	**Pn**	**20 13 56.8**	**+2.0**
WMGZ	**Waiomatatini S**	**1.45**	**142**	P	**Pn**	**20 13 55.6**	**+0.3**
WMGZ				S	**S**	**20 14 26.0**	**-1.7**
GRZ	**Great Barrier**	**1.53**	**286**	P	**Pn**	**20 13 54.5**	**-1.4**
URZ	**Urewera**	**1.57**	**185**	P	**Pn**	**20 13 56.5**	**+0.4**
	24nm,0.3s,baz=85,slow=14,SNR=87						
URZ				S	**S**	**20 14 26.9**	**-2.4**
	34nm,0.3s,baz=53,slow=20,SNR=6.5						
URZ	**Urewera**	**1.57**	**185**	P	**Pn**	**20 13 56.6**	**+0.4**
URZ				S	**S**	**20 14 27.7**	**-1.5**
+URZ	**Urewera**	**1.57**	**185**	P	**Pn**	**20 13 56.9**	**+0.8**
PUZ	**Puketiti**	**1.59**	**151**	P	**Pn**	**20 13 56.7**	**+0.5**
PUZ				S	**S**	**20 14 27.5**	**-2.0**
TWGZ	**Tauwhareparae**	**1.59**	**160**	P	**Pn**	**20 13 57.5**	**+1.2**
TWGZ				S	**S**	**20 14 29.7**	**+0.1**
MWZ	**Matawai**	**1.66**	**173**	P	**Pn**	**20 13 57.8**	**+1.0**
MWZ				S	**S**	**20 14 30.5**	**0.0**
TARZ	**Mount Tarawera**	**1.66**	**201**	P	**Pn**	**20 13 58.4**	**+1.5**
**

CPWZ	**Castlepoint**	**4.30**	**191**	P		**Pn**	**20 14 24.5**	**+1.6**
HOWZ	**Holdsworth Sta**	**4.42**	**198**	P		**Pn**	**20 14 24.7**	**+0.3**
OGWZ	**Otaki Gorge**	**4.44**	**201**	P		**Pn**	**20 14 25.0**	**+0.5**
TMWZ	**Te Maipa**	**4.54**	**193**	P		**Pn**	**20 14 26.9**	**+1.1**
KIW	**Kapiti Island**	**4.56**	**203**	P		**Pn**	**20 14 26.4**	**+0.4**
MTW	**Mount Morrison**	**4.67**	**197**	P		**Pn**	**20 14 28.1**	**+0.8**
CAW	**Cannon Point**	**4.74**	**201**	P		**Pn**	**20 14 28.2**	**+0.2**
TRWZ	**Traveller**	**4.86**	**194**	P		**Pn**	**20 14 30.7**	**+1.2**
DUWZ	**D'Urville Isla**	**4.87**	**212**	P		**Pn**	**20 14 30.0**	**+0.4**
PAWZ	**Paruwai Farm**	**4.90**	**197**	P		**Pn**	**20 14 31.3**	**+1.3**
MSWZ	**Moikau Station**	**4.98**	**198**	P		**Pn**	**20 14 31.3**	**+0.4**
SNZO	**South Karori**	**5.03**	**203**	P		**Pn**	**20 14 33.4**	**+2.0**
BHW	**Baring Head**	**5.07**	**201**	P		**Pn**	**20 14 32.3**	**+0.4**
TCW	**Tory Channel**	**5.08**	**206**	P		**Pn**	**20 14 32.3**	**+0.2**
PLWZ	**Palliser**	**5.12**	**197**	P		**Pn**	**20 14 32.7**	**+0.1**
TUWZ	**Tuamarina**	**5.40**	**208**	P		**Pn**	**20 14 36.3**	**+0.5**
NNZ	**Nelson**	**5.45**	**213**	P		**Pn**	**20 14 37.0**	**+0.6**
TKNZ	**Takaka Hill**	**5.49**	**216**	P		**Pn**	**20 14 37.5**	**+0.5**
QRZ	**Quartz Range**	**5.55**	**220**	P		**Pn**	**20 14 39.9**	**+2.2**
BSWZ	**Blackbirch Sta**	**5.67**	**207**	P		**Pn**	**20 14 40.3**	**+1.2**
MRNZ	**Matariki Terra**	**5.87**	**215**	P		**Pn**	**20 14 41.9**	**+0.3**
THZ	**Tophouse**	**6.10**	**212**	P		**Pn**	**20 14 44.3**	**0.0**
KHZ	**Kahutara**	**6.41**	**206**	P		**Pn**	**20 14 48.5**	**+0.5**
KHZ	**Kahutara**	**6.41**	**206**	P		**Pn**	**20 14 50.0**	**+2.0**
DSZ	**Denniston Nort**	**6.60**	**218**	P		**Pn**	**20 14 50.2**	**-0.3**
GVZ	**Greta Valley S**	**7.07**	**206**	P		**Pn**	**20 14 56.8**	**+0.6**
LTZ	**Lake Taylor**	**7.20**	**211**	P		**Pn**	**20 14 58.5**	**+0.6**
AMCZ	**Amberley**	**7.39**	**207**	P		**Pn**	**20 15 00.5**	**+0.4**
INZ	**Inchbonnie**	**7.52**	**215**	P		**Pn**	**20 15 01.9**	**+0.2**
OKCZ	**Okains Bay**	**7.73**	**203**	P		**Pn**	**20 15 05.5**	**+1.1**
OXZ	**Oxford**	**7.75**	**210**	P		**Pn**	**20 15 04.3**	**-0.4**
MOZ	**McQueen's Vall**	**7.85**	**205**	P		**Pn**	**20 15 05.6**	**-0.2**
AKCZ	**Akaroa Harbour**	**7.91**	**204**	P		**Pn**	**20 15 07.3**	**+0.7**
RACZ	**Rakaia**	**8.05**	**208**	P		**Pn**	**20 15 08.5**	**+0.2**
WACZ	**Wakanui South**	**8.35**	**208**	P		**Pn**	**20 15 12.3**	**+0.3**
GLKZ	**Green Lake**	**8.43**	**30**	S		S	20 16 30.2	-19
RPZ	**Rata Peaks**	**8.48**	**212**	P		**Pn**	**20 15 14.2**	**+0.6**
	3.4nm,0.3s,baz=166,slow=5.1,SNR=6.0							
RPZ				S		**S**	**20 16 46.1**	**-4.2**
	4.4nm,0.3s,baz=319,slow=20,SNR=8.7							
RPZ	**Rata Peaks**	**8.48**	**212**	P		**Pn**	**20 15 14.1**	**+0.4**
RPZ	**Rata Peaks**	**8.48**	**212**	P		**Pn**	**20 15 14.7**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**8.50**	**217**	P		**Pn**	**20 15 13.7**	**-0.2**
ARCZ	**Arundel**	**8.62**	**211**	P		**Pn**	**20 15 15.6**	**+0.2**
FOZ	**Fox Glacier**	**8.91**	**218**	P		**Pn**	**20 15 18.4**	**-0.5**
TMZ	**Timaru**	**9.04**	**210**	P		**Pn**	**20 15 21.3**	**+0.6**
LBZ	**Lake Benmore**	**9.39**	**213**	P		**Pn**	**20 15 25.3**	**+0.3**
ODZ	**Otahua Downs**	**9.74**	**209**	P		**Pn**	**20 15 30.2**	**+0.9**
ODZ	**Otahua Downs**	**9.74**	**209**	P		**Pn**	**20 15 31.3**	**+2.0**
JCZ	**Jackson Bay**	**9.81**	**219**	P		**Pn**	**20 15 30.8**	**+0.5**
WKZ	**Wanaka**	**10.26**	**215**	P		**Pn**	**20 15 35.7**	**0.0**
MLZ	**Mavora Lakes**	**11.08**	**216**	P		**Pn**	**20 15 47.3**	**+1.4**
ASAR	**Alice Springs**	**39.36**	**277**	P		**P**	**20 20 19.4**	**+2.2**
	2.9nm,0.5s,baz=118,slow=8.0,SNR=91							
WRA	**Warramunga Arr**	**40.95**	**282**	P		**P**	**20 20 31.9**	**+1.7**
	2.2nm,0.5s,baz=122,slow=7.6,SNR=40							
FINES	**FINESS Array B**	**149.33**	**333**	PKPbc		**PKiKP**	**20 32 28.6**	**-1.6**
	0.9nm,0.7s,baz=41,slow=4.4,SNR=7.1							

*IDC **10** 20:23:25.7±2.5,50.68N×179.65E,h0km,mb3.6/8, mb1 3.9/10,mb1mx3.7/51,mbtmp3.8/10,ML4.2/2,Error ellipse: s-maj=65.8km s-min=18.7km az=0.0*
*AEIC **10** 20:23:31±1.7,51.1N±0.1×179.41E±0.08,h14km±6km, Error ellipse: s-maj=19.0km s-min=5.3km az=162.0*
*NEIC **10** 20:23:32.6±1.6,51.1N±0.1×179.46E±0.08,h19km±2km, mb4.4/12,ML3.5/24(AEIC),Error ellipse: s-maj=19.0km s-min=5.0km az=156.0*

ISC 10 20:23:29.3±1.0, 50.9N±0.1×179.48E±0.05, h10km, n55, σ1s52/53, mb4.1/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAKI	**Gareloi-Kavalg**	**1.27**	**57**			**Pb**	**20 23 53.3**	**+0.1**
GASW	**Gareloi Southw**	**1.38**	**49**			**Pn**	**20 23 55.0**	**+0.4**
GALAA	**Gareloi Lava P**	**1.41**	**51**			**Pn**	**20 23 55.8**	**+0.8**
GALAA						**Sg**	**20 24 14.8**	**+0.2**
GANO	**Gareloi North**	**1.43**	**48**			**Pn**	**20 23 55.8**	**+0.5**
GAEA	**Gareloi East**	**1.43**	**50**			**Pn**	**20 23 56.3**	**+1.0**
TASE	**Tanaga Southea**	**1.83**	**57**			**Pn**	**20 24 02.2**	**+1.5**
TASE						**Sn**	**20 24 25.7**	**+1.8**
TAFL	**Tanaga Flats**	**1.86**	**61**			**Pn**	**20 24 02.6**	**+1.4**
TAFP	**Tanaga Falls P**	**1.89**	**56**			**Pn**	**20 24 02.9**	**+1.3**
TAFP						**Sn**	**20 24 27.0**	**+1.5**
TAPA	**Tanaga Point A**	**1.94**	**60**			**Pn**	**20 24 03.7**	**+1.4**
KIMD	**Kanaga Island**	**2.24**	**66**			**Pn**	**20 24 07.9**	**+1.5**
KIKV	**Kanaga Island**	**2.32**	**63**			**Pn**	**20 24 09.3**	**+1.7**
KIWB	**Kanaga Island**	**2.33**	**64**			**Pn**	**20 24 08.8**	**+1.3**
KICM	**Kanaga Island**	**2.33**	**62**			**Sn**	**20 24 38.4**	**+2.2**
ADK	**Adak**	**2.60**	**66**			**Pn**	**20 24 12.9**	**+1.5**
ADK						**Sn**	**20 24 44.4**	**+1.3**
GSCK	**Great Sitkin C**	**2.95**	**66**			**Pn**	**20 24 17.8**	**+1.6**
GSTD	**Great Sitkin T**	**2.98**	**65**			**Sn**	**20 24 55.0**	**+2.6**
GSMY	**Great Sitkin M**	**3.02**	**66**			**Pn**	**20 24 18.8**	**+1.6**
SHEM	**Shemya Is, Ala**	**3.82**	**301**	Pn		**Pn**	**20 24 30.4**	**+2.3**
	23nm,0.3s,baz=174,slow=2.7,SNR=13							
SHEM				Sn		**Sn**	**20 25 16.4**	**+3.4**
	2.6nm,0.3s,baz=84,slow=20,SNR=1.2							
SMY	**Shemya**	**3.82**	**301**			**Pn**	**20 24 28.1**	**+0.1**
ATKA	**Atka Island**	**4.16**	**69**			**Pn**	**20 24 34.8**	**+2.0**
KOFP	**Korovin Flat P**	**4.24**	**68**			**Pn**	**20 24 36.4**	**+2.4**
SPIA	**Saint Paul Isl**	**8.73**	**40**			**Pn**	**20 25 37.7**	**+2.2**
PETK	**Petropavlovsk-**	**13.60**	**288**	Pn		**Pn**	**20 26 44.8**	**+2.8**
	0.1nm,0.3s,baz=102,slow=12,SNR=2.1							
PETK	**Petropavlovsk-**	**13.60**	**288**			**Pn**	**20 26 41.0**	**-1.0**
KDAK	**Kodiak Island**	**17.60**	**56**	P		**Pn**	**20 27 31.2**	**-3.1**
	0.5nm,0.3s,baz=329,slow=5.4,SNR=11							
KDAK	**Kodiak Island**	**17.60**	**56**			**Pn**	**20 27 32.5**	**-1.9**
NEA2	**Nenana**	**21.38**	**38**	P		**P**	**20 28 16.4**	**-0.2**
ILAR	**Eielson Array**	**22.31**	**39**	P		**P**	**20 28 26.4**	**-0.1**
	0.2nm,0.5s,baz=255,slow=11,SNR=5.2							
ILAR	**Eielson Array**	**22.31**	**39**	P		**P**	**20 28 27.0**	**+0.4**
TOLK	**Toolik Lake Re**	**23.22**	**29**	P		**P**	**20 28 35.6**	**-0.5**
TOLK				IAmb		IAmb	20 28 53.4	
	comp=Z,28nm,2.0s							
L27K	**Beaver Creek,**	**23.93**	**45**	P		**P**	**20 28 43.1**	**0.0**
BCAR	**Beaver Creek A**	**23.95**	**45**	P		**P**	**20 28 42.5**	**-0.9**
EGAK	**Eagle**	**24.63**	**41**	P		**P**	**20 28 50.1**	**+0.5**
EGAK				IAmb		IAmb	20 29 35.1	
	comp=Z,24nm,2.0s							
M30M	**Minto, Yukon**	**26.13**	**47**	P		**P**	**20 29 04.2**	**+1.1**
M30M				IAmb		IAmb	20 29 57.1	
	comp=Z,14nm,1.8s							
JEW	**Eniwo**	**26.97**	**268**	P		**P**	**20 29 12.8**	**+2.0**
M31M	**Drury Creek, Y**	**27.22**	**48**	P		**P**	**20 29 13.5**	**+0.5**
M31M				IAmb		IAmb	20 29 44.8	
	comp=Z,23nm,1.9s							
A36M	**Sachs Harbour**	**32.05**	**29**	P		**P**	**20 29 55.3**	**-0.3**
A36M				IAmb		IAmb	20 30 00.7	
	comp=Z,3.8nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**32.64**	**202**	T		T	21 05 13.3	
	baz=20							
H11N3	**WAKE ISLAND Hy**	**32.65**	**202**	T		T	21 05 12.7	
	baz=20							
H11N1	**WAKE ISLAND Hy**	**32.66**	**202**	T		T	21 05 11.6	
	baz=20							
H11S1	**WAKE ISLAND Hy**	**33.86**	**202**	T		T	21 06 44.4	
	baz=18							
H11S2	**WAKE ISLAND Hy**	**33.88**	**202**	T		T	21 06 43.8	
	baz=18							
H11S3	**WAKE ISLAND Hy**	**33.88**	**202**	T		T	21 06 43.2	
	baz=18							
YKA	**Yellowknife Ar**	**36.36**	**46**	P		**P**	**20 30 31.1**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=280,slow=9.0,SNR=12							
YKA	**Yellowknife Ar**	**36.36**	**46**	P		**P**	**20 30 31.5**	**-1.5**
YHH	**Holmes Hill**	**45.57**	**69**	P		**P**	**20 31 49.7**	**+0.2**
SONM	**Songino Array**	**45.90**	**296**	P		**P**	**20 31 50.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=56,slow=5.4,SNR=2.8							
PDAR	**Pinedale Array**	**47.49**	**71**	P		P	20 32 02.6	-1.9
	comp=Z,1.3nm,0.8s,baz=317,slow=3.5,SNR=12							
PDAR	**Pinedale Array**	**47.49**	**71**	P		**P**	**20 32 04.2**	**-0.4**
ZALV	**Zalesovo Beam**	**53.51**	**313**	P		**P**	**20 32 49.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=37,slow=7.9,SNR=2.5							
MK31	**Makanchi Array**	**59.49**	**308**	P		**P**	**20 33 31.9**	**-0.3**
MKAR	**Makanchi Array**	**59.49**	**308**	P		**P**	**20 33 31.7**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=44,slow=6.6,SNR=22							
NB2	**NORSAR Subarra**	**68.03**	**354**	P		**P**	**20 34 27.0**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=7.1,slow=6.5							
NOA	**NORSAR Array B**	**68.03**	**354**	P		**P**	**20 34 27.1**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=2.5,slow=5.7,SNR=5.1							
BRTR	**Keskin Array B**	**84.94**	**334**	P		**P**	**20 36 04.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=40,slow=3.2,SNR=2.8							

2016 APR

*AEIC **10** 21:06:59.1±1.9,50.80N±0.07×179.50E±0.08,h26km±5km, ML3.5/25,mb4.1/13(NEIC),Error ellipse: s-maj=11.5km s-min=4.5km az=146.0*
*NEIC **10** 21:07:01.4±1.8,50.8N±0.1×179.59E±0.03,h42km±10km, Error ellipse: s-maj=16.5km s-min=1.7km az=185.0*
*IDC **10** 21:07:05.8±3.5,51.33N×179.64E,h68km±27km,mb3.2/10, mb1 3.5/11,mb1mx3.3/40,mbtmp3.6/11,Error ellipse: s-maj=49.3km s-min=14.4km az=3.0*

ISC 10 21:07:02.8±2.2, 51.0N±0.2×179.58E±0.04, h54km±15km, n50, σ1s13/56, mb3.9/17, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAKI	**Gareloi-Kavalg**	**1.17**	**59**			**Pn**	**21 07 21.3**	**-1.6**
GASW	**Gareloi Southw**	**1.28**	**49**			**Pn**	**21 07 23.4**	**-0.9**
GASW						**Sn**	**21 07 41.4**	**+1.0**
GALAA	**Gareloi Lava P**	**1.31**	**52**			**Pn**	**21 07 23.9**	**-0.8**
GANO	**Gareloi North**	**1.33**	**49**			**Pn**	**21 07 24.2**	**-0.8**
GANO						**Sn**	**21 07 43.5**	**+1.8**
GAEA	**Gareloi East**	**1.33**	**51**			**Pn**	**21 07 24.4**	**-0.7**
TASE	**Tanaga Southea**	**1.73**	**59**			**Pn**	**21 07 30.1**	**-0.4**
TAFP	**Tanaga Falls P**	**1.79**	**57**			**Pn**	**21 07 30.8**	**-0.5**
TAFP						**Sn**	**21 07 55.0**	**+2.1**
TAPA	**Tanaga Point A**	**1.84**	**61**			**Pn**	**21 07 31.7**	**-0.4**
KIMD	**Kanaga Island**	**2.15**	**67**			**Pn**	**21 07 35.7**	**-0.5**
KIKV	**Kanaga Island**	**2.23**	**64**			**Pn**	**21 07 37.2**	**-0.1**
KIWB	**Kanaga Island**	**2.23**	**65**			**Pn**	**21 07 37.1**	**-0.2**
KIWB						**Sn**	**21 08 06.3**	**+2.6**
KICM	**Kanaga Island**	**2.23**	**63**			**Pn**	**21 07 37.1**	**-0.2**
ADK	**Adak**	**2.51**	**67**			**Pn**	**21 07 40.6**	**-0.5**
ADK	**Adak**	**2.51**	**67**	Sn		**Sn**	**21 08 10.0**	**-0.6**
GSTD	**Great Sitkin T**	**2.88**	**66**			**Pn**	**21 07 45.6**	**-0.8**
GSTD						**Sn**	**21 08 21.7**	**+1.9**
GSMY	**Great Sitkin M**	**2.93**	**67**			**Pn**	**21 07 46.2**	**-0.7**
GSTR	**Great Sitkin T**	**2.95**	**66**			**Pn**	**21 07 46.6**	**-0.6**
SHEM	**Shemya Is, Ala**	**3.83**	**300**	P		**Pn**	**21 08 00.0**	**+0.8**
	25nm,0.3s,baz=126,slow=1.1,SNR=14							
SHEM				S		**Sn**	**21 08 44.0**	**+1.0**
	3.6nm,0.3s,baz=106,slow=23,SNR=1.7							
SMY	**Shemya**	**3.83**	**300**			**Pn**	**21 07 57.7**	**-1.5**
ATKA	**Atka Island**	**4.07**	**70**			**Pn**	**21 08 01.8**	**-0.7**
KOFP	**Korovin Flat P**	**4.15**	**69**			**Pn**	**21 08 03.0**	**-0.7**
OHAK	**Old Harbor**	**17.03**	**58**	Pn		**Pn**	**21 10 55.3**	**-1.6**
Q19K	**Cape Douglas,**	**17.23**	**52**			**P**	**21 10 59.7**	**-0.6**
KDAK	**Kodiak Island**	**17.50**	**56**	P		**Pn**	**21 11 00.1**	**-2.7**
	0.8nm,0.3s,baz=337,slow=7.3,SNR=7.5							
KDAK	**Kodiak Island**	**17.50**	**56**	P		**Pn**	**21 11 02.1**	**-0.6**
NEA2	**Nenana**	**21.27**	**38**	P		**P**	**21 11 43.7**	**-0.6**
NEA2				IAmb		IAmb	21 11 56.0	
	comp=Z,8.9nm,1.2s							
I23K	**Minto, Yukon-K**	**21.41**	**37**	P		**P**	**21 11 46.9**	**+1.3**
I23K				IAmb		IAmb	21 11 57.8	
	comp=Z,2.8nm,0.4s							
WRH	**Wood River Hil**	**21.61**	**39**	P		**P**	**21 11 47.8**	**-0.1**
WRH				IAmb		IAmb	21 12 13.1	
	comp=Z,8.7nm,1.4s							
CCB	**Clear Creek Bu**	**21.79**	**39**	P		**P**	**21 11 51.1**	**+1.3**
ILAR	**Eielson Array**	**22.21**	**39**	P		**P**	**21 11 52.4**	**-1.9**
	comp=Z,0.3nm,0.9s,baz=248,slow=9.5,SNR=2.1							
H24K	**Noodor Dome**	**22.27**	**36**	P		**P**	**21 11 54.9**	**-0.1**
H24K				IAmb		IAmb	21 12 03.0	
	comp=Z,9.0nm,1.3s							
TOLK	**Toolik Lake Re**	**23.12**	**29**	P		**P**	**21 12 03.6**	**-0.2**
M27K	**Edge Creek, AK**	**23.66**	**46**	P		**P**	**21 12 12.0**	**+2.9**
M27K				IAmb		IAmb	21 12 28.6	
	comp=Z,4.9nm,1.0s							
BCAR	**Beaver Creek A**	**23.85**	**45**	P		**P**	**21 12 10.8**	**+0.1**
KLR	**Kul'dur**	**30.31**	**286**	P		**P**	**21 13 09.7**	**+0.9**
	comp=Z,3.8nm,0.6s,baz=72,slow=6.9,SNR=14							
A36M	**Sachs Harbour**	**31.94**	**29**	P		**P**	**21 13 23.5**	**+0.6**
A36M				IAmb		IAmb	21 13 30.0	
	comp=Z,3.7nm,0.8s							
YKA	**Yellowknife Ar**	**36.25**	**46**	P		**P**	**21 13 59.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=283,slow=7.8,SNR=8.9							
YKA	**Yellowknife Ar**	**36.25**	**46**	P		**P**	**21 13 59.4**	**-0.9**
NVAR	**Mina Array Bea**	**44.62**	**81**	P		**P**	**21 15 11.1**	**+1.2**
	comp=Z,1.0nm,0.4s,baz=291,slow=7.5,SNR=2.1							
YHH	**Holmes Hill**	**45.48**	**69**	P		**P**	**21 15 18.1**	**+1.3**
YHH				IAmb		IAmb	21 15 19.1	
	comp=Z,1.8nm,0.8s							
PDAR	**Pinedale Array**	**47.41**	**71**	P		**P**	**21 15 32.8**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=308,slow=3.7,SNR=9.1							
PDAR	**Pinedale Array**	**47.41**	**71**	P		**P**	**21 15 31.7**	**-0.1**
MK31	**Makanchi Array**	**59.49**	**308**	P		**P**	**21 17 00.1**	**+0.1**
MKAR	**Makanchi Array**	**59.49**	**308**	P		**P**	**21 17 00.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=50,slow=7.0,SNR=17							
MKAR	**Makanchi Array**	**59.49**	**308**	P		**P**	**21 17 00.2**	**+0.2**
TXAR	**Lajitas Array**	**59.73**	**80**	P		**P**	**21 17 01.9**	**0.0**
	comp=Z,0.1nm,0.5s,baz=328,slow=8.5,SNR=2.0							
NB2	**NORSAR Subarra**	**67.96**	**354**	P		**P**	**21 17 55.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=6.9,slow=6.5							
NOA	**NORSAR Array B**	**67.96**	**354**	P		**P**	**21 17 54.8**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=8.4,slow=6.5,SNR=4.3							
AKASG	**Malin Array Be**	**75.62**	**341**	P		**P**	**21 18 40.2**	**-1.3**
	comp=Z,0.2nm,0.2s,baz=24,slow=5.2,SNR=2.6							
BRTR	**Keskin Array B**	**84.89**	**334**	P		**P**	**21 19 31.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=36,slow=6.4,SNR=3.8							

*NEIC **10** 21:21:55.3±1.6,18.82N±0.08×145.7E±0.2,h198km±7km, mb3.8/13,Error ellipse: s-maj=22.5km s-min=11.7km az=86.0*
*IDC **10** 21:21:55.4±1.8,18.84N×145.45E,h205km±17km, mb3.6/15,mb1 3.7/16,mb1mx3.4/49,mbtmp4.1/16,Error ellipse: s-maj=20.2km s-min=10.5km az=93.0*

ISC 10 21:21:54.5±1.0, 18.84N±0.06×145.6E±0.1, h199km±8km, n38, σ1s28/48, mb3.8/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**5.26**	**187**	P		**Pn**	**21 23 13.4**	**+1.0**
	6.3nm,0.3s,baz=124,slow=20,SNR=1.9							
GUMO				S		**Sn**	**21 24 13.3**	**-0.5**
	16nm,0.3s,baz=330,slow=18,SNR=1.8							
GUMO	**Guam**	**5.26**	**187**			**Pn**	**21 23 11.9**	**-0.4**
JCJ	**Chichijima**	**8.79**	**340**	S		**Sn**	**21 25 34.1**	**-2.5**
	12nm,0.3s,baz=275,slow=21,SNR=2.1							
JCJ	**Chichijima**	**8.79**	**340**	Pn		**Pn**	**21 23 59.8**	**+1.8**
JCJ						**Sn**	**21 25 33.9**	**-2.8**
JOW	**Kunigami**	**17.80**	**300**	P		**Pn**	**21 25 52.8**	**+2.4**
	2.9nm,0.3s,baz=151,slow=13,SNR=5.1							
JOW	**Kunigami**	**17.80**	**300**	P		**Pn**	**21 25 50.3**	**-0.1**
MJAR	**Matsushiro Arr**	**18.79**	**341**	P		**Pn**	**21 26 02.9**	**+1.1**
	0.1nm,0.3s,baz=135,slow=16,SNR=3.6							
MJAR	**Matsushiro Arr**	**18.79**	**341**	P		**Pn**	**21 26 01.1**	**-0.7**
MJAR				IAmb		IAmb	21 26 15.4	
	comp=Z,1.4nm,0.8s							
KLR	**Kul'dur**	**32.30**	**343**	P		**P**	**21 28 04.7**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=164,slow=6.4,SNR=7.5							
KLR				PcP		**PcP**	**21 30 48.5**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=111,slow=17,SNR=2.3							
SBUM	**Sibu**	**36.48**	**247**	P		**P**	**21 28 42.5**	**+1.6**
WB0	**Warramunga Arr**	**39.90**	**197**	P		**P**	**21 29 10.0**	**+0.7**
WR0	**Warramunga Arr**	**40.05**	**196**	P		**P**	**21 29 10.7**	**+0.2**
WR0				IAmb		IAmb	21 29 13.4	
	comp=Z,3.2nm,0.9s							
WB2	**Warramunga Arr**	**40.08**	**197**	P		**P**	**21 29 11.3**	**+0.5**
WB2				IAmb		IAmb	21 29 12.8	
	comp=Z,5.1nm,0.8s							
WRA	**Warramunga Arr**	**40.08**	**197**	P		**P**	**21 29 11.7**	**+0.8**
	comp=Z,3.0nm,0.3s,baz=21,slow=8.6,SNR=71							
WRA				PcP		**PcP**	**21 31 11.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=22,slow=3.7,SNR=4.8							
WRA				ScP		**ScP**	**21 34 39.0**	**-2.8**
	comp=Z,0.5nm,1.0s,baz=17,slow=4.2,SNR=4.6							
WRA	**Warramunga Arr**	**40.08**	**197**	P		**P**	**21 29 10.4**	**-0.4**
WRA						**PcP**	**21 31 11.3**	**-0.2**
WRA						**ScP**	**21 34 39.3**	**-2.5**
AS31	**Alice Springs**	**43.75**	**196**	P		**P**	**21 29 41.1**	**+0.5**
AS31				IAmb		IAmb	21 29 43.5	
	comp=Z,1.2nm,0.3s							
ASAR	**Alice Springs**	**43.75**	**196**	P		**P**	**21 29 40.9**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=14,slow=7.8,SNR=17							
ASAR				PcP		**PcP**	**21 31 23.3**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=30,slow=4.6,SNR=4.2							
ASAR	**Alice Springs**	**43.75**	**196**	P		**P**	**21 29 40.5**	**-0.1**
ASAR						**PcP**	**21 31 21.2**	**-2.5**
STKA	**Stephens Creek**	**50.57**	**184**	P		**P**	**21 30 32.0**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=336,slow=12,SNR=4.2							
STKA	**Stephens Creek**	**50.57**	**184**	P		**P**	**21 30 31.4**	**-1.5**
MK31	**Makanchi Array**	**58.27**	**314**	P		**P**	**21 31 29.0**	**+0.6**
MKAR	**Makanchi Array**	**58.27**	**314**	P		**P**	**21 31 28.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=90,slow=8.3,SNR=9.2							
MKAR				PcP		**pwP**	**21 32 15.6**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=90,slow=5.4,SNR=2.1							
MKAR	**Makanchi Array**	**58.27**	**314**	P		**P**	**21 31 29.4**	**+1.0**
KURK	**Kurchatov**	**61.08**	**318**	P		**P**	**21 31 48.6**	**+1.2**
KURK				IAmb		IAmb	21 32 04.1	
	comp=Z,2.3nm,1.0s							
KURBB	**Kurchatov Arra**	**61.13**	**318**	P		**P**	**21 31 47.8**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=96,slow=7.0,SNR=13							
ILAR	**Eielson Array**	**63.58**	**26**	P		**P**	**21 32 03.1**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=249,slow=5.6,SNR=8.2							
ILAR	**Eielson Array**	**63.58**	**26**	P		**P**	**21 32 02.7**	**-1.1**
BVAR	**Borovoye Array**	**66.29**	**320**	P		**P**	**21 32 21.3**	**-0.1**
	comp=Z,1.5nm,0.5s							
INK	**Inuvik**	**69.29**	**23**	P		**P**	**21 32 40.8**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=248,slow=8.0,SNR=4.2							
INK	**Inuvik**	**69.29**	**23**	P		**P**	**21 32 40.5**	**+0.7**
INK				IAmb		IAmb	21 32 41.7	
	comp=Z,1.4nm,0.7s							
DLBC	**Dease Lake**	**71.24**	**34**	P		**P**	**21 32 53.4**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=18,slow=18,SNR=3.7							
DLBC	**Dease Lake**	**71.24**	**34**	P		**P**	**21 32 52.2**	**+0.2**
DLBC				IAmb		IAmb	21 33 00.1	
	comp=Z,0.6nm,0.8s							
ARU	**Arti**	**72.88**	**325**	P		**P**	**21 33 01.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=84,slow=19,SNR=2.8							
YKA	**Yellowknife Ar**	**77.92**	**28**	P		**P**	**21 33 31.0**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=289,slow=5.4,SNR=20							
ARCES	**ARCESS Array B**	**82.32**	**342**	P		**P**	**21 33 53.5**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=78,slow=7.3,SNR=9.2							
**NVA

	baz=277							
TWF1				S		Sn	21 25 35.7	+0.6
	baz=277							
FULB	**Fuli**	**0.32**	**255**	*i* P		**Pb**	**21 25 29.9**	**-0.2**
	baz=245							
FULB				S		**Sb**	**21 25 36.3**	**+0.7**
	baz=245							
YULB	**Yu-li**	**0.32**	**290**	*i* P		**Pb**	**21 25 30.0**	**-0.1**
	baz=286							
YULB				*e*S		**Sn**	**21 25 35.3**	**-0.2**
	baz=286							
EHY	**Hungye**	**0.36**	**308**	*i* P		**Pb**	**21 25 30.3**	**-0.3**
	baz=308							
EHY				*e*S		**Sb**	**21 25 36.2**	**-0.3**
	baz=308							
ECS	**Chishang**	**0.42**	**244**	*i* P		**Pb**	**21 25 32.1**	**+0.6**
	baz=249							
ECS				*i* S		**Sn**	**21 25 39.7**	**+1.4**
	baz=249							
EGFH	**Guangfu**	**0.43**	**335**	*i* P		**Pb**	**21 25 31.2**	**-0.3**
	baz=327							
EGFH				*e*S		**Sb**	**21 25 37.9**	**-0.2**
	baz=327							
EDH	**Donghe**	**0.43**	**224**	*i* P		**Pb**	**21 25 31.7**	**+0.1**
	baz=210							
EDH				*e*S		**Sb**	**21 25 38.1**	**0.0**
	baz=210							
TEGC	**Jichi Village**	**0.43**	**349**	*i* P		**Pb**	**21 25 31.6**	**-0.1**
	baz=358							
TEGC				*i* S		**Sb**	**21 25 38.7**	**+0.5**
	baz=358							
ESL	**Shilin**	**0.56**	**341**	*i* P		**Pn**	**21 25 33.0**	**-0.7**
	baz=335							
ESL				*e*S		**Sb**	**21 25 40.0**	**-1.6**
	baz=335							
ELDTW	**Lidau**	**0.57**	**261**	*i* P		**Pn**	**21 25 32.8**	**-1.0**
	baz=256							
TEYL	**Yanliau Villag**	**0.58**	**357**	*i* P		**Pn**	**21 25 34.0**	**0.0**
	baz=10.0							
TEYL				*i* S		**Sb**	**21 25 42.9**	**+0.7**
	baz=10.0							
LONT	**Longtian**	**0.59**	**231**	*i* P		**Pn**	**21 25 33.5**	**-0.5**
	baz=234							
LONT				*e*S		**Sb**	**21 25 42.0**	**-0.5**
	baz=234							
LDUT	**Ludao**	**0.62**	**194**	P		**Pn**	**21 25 33.7**	**-0.8**
	baz=189							
LDUT				*e*S		**Sb**	**21 25 42.7**	**-0.6**
	baz=189							
VWDT	**VWDT**	**0.65**	**317**	*i* P		**Pn**	**21 25 34.4**	**-0.4**
	baz=317							
TWGBT	**Beinan**	**0.68**	**228**	*i* P		**Pn**	**21 25 34.8**	**-0.6**
	baz=233							
TWGBT				*e*S		**Sn**	**21 25 43.4**	**-1.5**
	baz=233							
ETM	**Tongmen**	**0.69**	**350**	*i* P		**Pn**	**21 25 34.6**	**-0.9**
	baz=343							
HWA	**Hwalien**	**0.69**	**358**	P		**Pn**	**21 25 34.9**	**-0.6**
	baz=10.0							
HWA				S		**Sn**	**21 25 45.0**	**0.0**
	baz=10.0							
OWD	**Renai**	**0.79**	**328**	*i* P		**Pn**	**21 25 36.2**	**-0.7**
	baz=337							
OWD				*e*S		**Sn**	**21 25 45.7**	**-1.9**
	baz=337							
ALS	**Alishan**	**0.79**	**287**	*i* P		**Pn**	**21 25 37.2**	**+0.1**
	baz=285							
ALS				*e*S		**Sn**	**21 25 47.5**	**-0.3**
	baz=285							
STYH	**Taoyuan**	**0.79**	**262**	*i* P		**Pn**	**21 25 36.9**	**0.0**
	baz=256							
STYH				*e*S		**Sn**	**21 25 46.5**	**-1.0**
	baz=256							
TWD	**Chiawan**	**0.79**	**358**	P		**Pn**	**21 25 36.1**	**-0.8**
	baz=349							
TWD				*e*S		**Sn**	**21 25 46.4**	**-1.2**
	baz=349							
SSLB	**Suanglung**	**0.80**	**309**	*i* P		**Pn**	**21 25 36.4**	**-0.5**
	baz=309							
SSLB				*e*S		**Sn**	**21 25 45.9**	**-1.8**
	baz=309							
STYT	**Tauyuan**	**0.81**	**262**	*i* P		**Pn**	**21 25 37.2**	**0.0**
	baz=256							
STYT				*e*S		**Sn**	**21 25 47.9**	**-0.1**
	baz=256							
WUSB	**Renai**	**0.85**	**327**	P		**Pn**	**21 25 37.2**	**-0.6**
	baz=335							
WUSB				*e*S		**Sn**	**21 25 47.2**	**-1.8**
	baz=335							
CHGB	**Renai**	**0.88**	**332**	*i* P		**Pn**	**21 25 38.1**	**-0.2**
	baz=339							
CHGB				*e*S		**Sn**	**21 25 48.9**	**-1.1**
	baz=339							
NACB	**Ninganchiao**	**0.89**	**358**	P		**Pn**	**21 25 37.3**	**-0.9**
	baz=350							
NACB				S		**Sn**	**21 25 48.7**	**-1.2**
	baz=350							
SMLT	**Sun Moon Lake**	**0.90**	**312**	*i* P		**Pn**	**21 25 38.3**	**-0.1**
	baz=316							
SMLT				S		**Sn**	**21 25 49.8**	**-0.5**
	baz=316							
TPUB	**Ta-pu**	**0.92**	**271**	*e*P		**Pn**	**21 25 39.4**	**+0.8**
	baz=269							
TPUB				*i* S		**Sn**	**21 25 50.9**	**+0.3**
	baz=269							
WHF	**Hehuan Shan**	**0.92**	**339**	*i* P		**Pn**	**21 25 38.2**	**-0.9**
	baz=349							
ECL	**Taimali**	**0.92**	**222**	*e*P		**Pn**	**21 25 37.5**	**-1.2**
	baz=218							
ECL				*e*S		**Sn**	**21 25 48.5**	**-2.2**
	baz=218							
ETLH	**Xiulin Townshi**	**0.93**	**352**	P		**Pn**	**21 25 37.8**	**-1.1**
	baz=354							
ETLH				*e*S		**Sn**	**21 25 49.0**	**-2.1**
	baz=354							
WTP	**Ta-pu**	**0.93**	**268**	*i* P		**Pn**	**21 25 39.3**	**+0.5**
	baz=265							
WTP				*i* S		**Sn**	**21 25 51.9**	**+0.9**
	baz=265							
TYC	**Yuchr**	**0.94**	**311**	*i* P		**Pn**	**21 25 39.0**	**+0.2**
	baz=319							
TYC				S		**Sn**	**21 25 51.4**	**+0.2**
	baz=319							
SLGT	**Liugui**	**0.95**	**252**	*e*P		**Pn**	**21 25 40.3**	**+1.3**
	baz=249							
SLGT				*e*S		**Sb**	**21 25 52.7**	**+0.4**
	baz=249							
WPL	**Puli Township**	**0.95**	**320**	*i* P		**Pn**	**21 25 39.1**	**0.0**
	baz=321							
WPL				*e*S		**Sn**	**21 25 50.7**	**-0.8**
	baz=321							
SGST	**Jiashian**	**0.98**	**258**	P		**Pn**	**21 25 39.5**	**0.0**
	baz=255							
SGST				S		**Sn**	**21 25 53.1**	**+0.9**
	baz=255							
WJS	**Zhushan**	**0.98**	**303**	*e*P		**Pn**	**21 25 40.7**	**+1.1**
	baz=303							
WJS				*e*S		**Sn**	**21 25 53.2**	**+0.9**
	baz=303							
WCS	**Beigang Elemen**	**1.01**	**320**	P		**Pn**	**21 25 40.2**	**+0.3**
	baz=320							
WCS				*e*S		**Sn**	**21 25 53.5**	**+0.5**
	baz=320							
CHN1	**Nanshi**	**1.02**	**265**	*i* P		**Pn**	**21 25 41.0**	**+1.0**
	baz=262							
CHN1				*e*S		**Sb**	**21 25 54.6**	**+0.3**
	baz=262							
FUSS	**Fushou**	**1.02**	**340**	*e*P		**Pn**	**21 25 40.2**	**0.0**
	baz=350							
FUSS				*e*S		**Sn**	**21 25 52.0**	**-1.6**
	baz=350							
SNST	**Tainan City**	**1.04**	**267**	*i* P		**Pn**	**21 25 41.3**	**+1.0**
	baz=264							
TWK	**Hsinying**	**1.05**	**269**	*i* P		**Pn**	**21 25 41.3**	**+0.9**
	baz=267							
TWK				*i* S		**Sn**	**21 25 55.2**	**+1.3**
	baz=267							
TWT	**Tachien**	**1.05**	**337**	*i* P		**Pn**	**21 25 40.8**	**+0.2**
	baz=345							
TWT				*e*S		**Sn**	**21 25 52.6**	**-1.6**
	baz=345							
WGK	**Gukeng**	**1.06**	**293**	*e*P		**Pn**	**21 25 41.8**	**+1.3**
	baz=291							
WGK				*e*S		**Sb**	**21 25 56.0**	**+0.6**
	baz=291							
SSD	**Sandimen**	**1.06**	**240**	*e*P		**Pn**	**21 25 41.9**	**+1.3**
	baz=231							
WDLH	**Douliu**	**1.08**	**292**	P		**Pn**	**21 25 41.6**	**+0.8**
	baz=291							
WDLH				*e*S		**Sn**	**21 25 55.9**	**+1.3**
	baz=291							
SCST	**Cishan**	**1.12**	**249**	*e*P		**Pn**	**21 25 42.8**	**+1.5**
	baz=246							
SCST				*e*S		**Sb**	**21 25 58.4**	**+1.3**
	baz=246							
CHY	**Chiayi**	**1.13**	**281**	P		**Pn**	**21 25 42.2**	**+0.8**
	baz=280							
CHY				S		**Sn**	**21 25 56.9**	**+1.1**
	baz=280							
MASBT	**Mashibuluo**	**1.13**	**234**	P		**Pn**	**21 25 41.7**	**+0.1**
	baz=225							
MASBT				*e*S		**Sb**	**21 25 58.2**	**+0.6**
	baz=225							
WWF	**Wufeng**	**1.14**	**312**	*e*P		**Pn**	**21 25 43.0**	**+1.4**
	baz=312							
WWF				*i* S		**Sn**	**21 25 57.8**	**+1.7**
	baz=312							
TAW	**Tawu**	**1.14**	**216**	*e*P		**Pn**	**21 25 43.1**	**+1.5**
	baz=212							
TAW				*e*S		**Sn**	**21 25 54.5**	**-1.6**
	baz=212							
ENA	**Nanau**	**1.15**	**5**	*e*P		**Pn**	**21 25 41.6**	**-0.1**
	baz=19							
TAWH	**Dawu Township**	**1.16**	**216**	*e*P		**Pn**	**21 25 39.8**	**-2.1**
	baz=212							
TAWH				*e*S		**Sn**	**21 25 55.2**	**-1.4**
	baz=212							
EWUT	**Wuta**	**1.17**	**7**	P		**Pn**	**21 25 41.4**	**-0.6**
	baz=9.0							
EWUT				*e*S		**Sn**	**21 25 56.2**	**-0.6**
	baz=9.0							
WHP	**Taichung City**	**1.17**	**328**	P		**Pn**	**21 25 42.7**	**+0.6**
	baz=333							
WHP				*e*S		**Sb**	**21 25 59.1**	**+0.4**
	baz=333							
WYL	**Yuanlin Townsh**	**1.17**	**305**	*e*P		**Pn**	**21 25 43.6**	**+1.5**
	baz=294							
WYL				*e*S		**Sn**	**21 25 58.7**	**+1.8**
	baz=294							
NNS	**Nan Shan**	**1.18**	**349**	P		**Pn**	**21 25 42.3**	**0.0**
	baz=360							
NNS				S		**Sn**	**21 25 56.8**	**-0.4**
	baz=360							
LYUB	**Lan-yu**	**1.28**	**182**	*e*P		**Pn**	**21 25 42.5**	**-1.1**
	baz=175							
LYUB				*e*S		**Sn**	**21 25 58.3**	**-1.2**
	baz=175							
CHN8	**Yiju**	**1.30**	**273**	P		**Pn**	**21 25 44.8**	**+0.9**
	baz=271							
CHN8				*i* S		**Sn**	**21 26 01.5**	**+1.4**
	baz=271							
TWQ1	**Liyutan**	**1.32**	**324**	*e*P		**Pn**	**21 25 45.8**	**+1.7**
	baz=335							
TWQ1				*e*S		**Sn**	**21 26 02.6**	**+2.0**
	baz=335							
TWC	**Suao**	**1.34**	**9**	*i* P		**Pn**	**21 25 44.9**	**+0.6**
	baz=11							
TWC				S		**Sn**	**21 26 01.7**	**+0.7**
	baz=11							
NDS	**Dongshan**	**1.35**	**3**	P		**Pn**	**21 25 45.1**	**+0.6**
	baz=356							
NSY	**Sanyi**	**1.38**	**325**	*e*P		**Pb**	**21 25 47.1**	**-0.2**
	baz=326							
NSY				*e*S		**Sb**	**21 26 04.7**	**+0.1**
	baz=326							
NWLT	**Wulai**	**1.49**	**356**	P		**Pn**	**21 25 47.1**	**+0.5**
	baz=358							
NWLT				S		**Sn**	**21 26 05.0**	**+0.1**
	baz=358							
JYNG	**Yonagunijimaku**	**1.68**	**46**	P		**Pn**	**21 25 49.8**	**+0.8**
JYNG				*e*S		**Sn**	**21 26 10.1**	**+0.7**
YOJ	**Yonaguni jima**	**1.73**	**47**	P		**Pn**	**21 25 50.4**	**+0.7**
YOJ				S		**Sn**	**21 26 11.3**	**+0.7**
WDGT	**Dungji**	**1.81**	**270**	*i* P		**Pn**	**21 25 50.8**	**-0.1**
	baz=267							
PHUB	**P'eng-hu**	**1.90**	**277**	*e*P		**Pn**	**21 25 52.0**	**-0.1**
	baz=276							
PNG	**Penghu**	**1.92**	**279**	*e*P		**Pn**	**21 25 52.4**	**0.0**
	baz=265							
PNG				*e*S		**Sn**	**21 26 15.3**	**-0.2**
	baz=265							
VCHM	**Qimei**	**2.02**	**268**	*e*P		**Pn**	**21 25 53.3**	**-0.5**
	baz=267							
VCHM				*e*S		**Sn**	**21 26 16.1**	**-1.8**
	baz=267							
HATJ	**Hateruma jima**	**2.14**	**68**	P		**Pn**	**21 25 56.0**	**+0.6**
HATJ				S		**Sn**	**21 26 21.1**	**+0.3**
IRIF	**Iriomote-Funau**	**2.19**	**61**	P		**Pn**	**21 25 57.3**	**+1.2**
IRIF				*e*S		**Sn**	**21 26 23.7**	**+1.6**
JKRS	**Kuro-shima**	**2.38**	**66**	P		**Pn**	**21 25 59.9**	**+1.2**
JKRS				S		**Sn**	**21 26 27.7**	**+1.0**
JIJ	**Ishigaki jima**	**2.54**	**64**	P		**Pn**	**21 26 01.2**	**+0.3**
JIJ				S		**Sn**	**21 26 30.3**	**-0.5**
VWUC	**VWUC**	**2.62**	**311**	*e*P		**Pn**	**21 26 01.6**	**-0.4**
	baz=311							
VWUC				*e*S		**Sn**	**21 26 30.4**	**-2.2**
	baz=311							
JISG	**Ishigakijimahi**	**2.78**	**62**	P		**Pn**	**21 26 04.3**	**+0.1**
JISG				S		**Sn**	**21 26 35.5**	**-1.0**
JTJ	**Tarama**	**3.12**	**64**	P		**Pn**	**21 26 10.3**	**+1.4**
JTJ				S		**Sn**	**21 26 45.1**	**+0.1**
KNMB	**Chin-men Tao**	**3.19**	**292**	*e*P		**Pn**	**21 26 08.8**	**-1.0**
	baz=291							
MATB	**Ma-tsu**	**3.24**	**332**	*e*P		**Pn**	**21 26 09.8**	**-0.8**
	baz=332							
MATB				*e*S		**Sn**	**21 26 46.2**	**-1.7**
	baz=332							
MHZQ	**Yeshan**	**3.67**	**320**	*e*P		**Pn**	**21 26 16.1**	**-0.3**
	baz=322							
AXDP	**Jialang**	**3.71**	**296**	*e*P		**Pn**	**21 26 16.3**	**-0.6**
	baz=296							
AXDP				*e*S		**Sn**	**21 26 57.4**	**-2.2**
	baz=296							

IDC ***10*** *21:33:18.6±2.4, 50°.84N×179°.80E, h0km, mb3.5/8, mb1 3.8/10, mb1mx3.5/63, mbtmp3.7/10, ML3.8/2, Error ellipse: s-maj=60.5km s-min=19.0km az=176.0*
AEIC ***10*** *21:33:23±1.1, 50°.7N±0°.1×179°.7E±0°.1, h25km±7km, ML3.2/22, Error ellipse: s-maj=20.3km s-min=8.8km az=167.0*
NEIC ***10*** *21:33:24.8±0.6, 50°.8N±0°.1×179°.62E±0°.04, h41km±11km, Error ellipse: s-maj=18.6km s-min=2.3km az=190.0*

ISC 10 21:33:24.8±1.2, 50°.8N±0°.2×179°.69E±0°.04, h48km, n35, σ1§14/34, mb3.6/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**1.23**	**49**		**Pn**	**21 33 45.3**	**-0.3**
GASW	**Gareloi Southw**	**1.37**	**41**		**Pn**	**21 33 47.6**	**+0.1**
GASW					**Sn**	**21 34 04.7**	**+0.2**
GALAA	**Gareloi Lava P**	**1.39**	**43**		**Pn**	**21 33 47.8**	**0.0**
GAEA	**Gareloi East**	**1.42**	**43**		**Pn**	**21 33 48.2**	**0.0**
GANO	**Gareloi North**	**1.42**	**41**		**Pn**	**21 33 48.2**	**0.0**
TASE	**Tanaga Southea**	**1.79**	**52**		**Pn**	**21 33 53.2**	**0.0**
TANO	**Tanaga North**	**1.79**	**49**		**Pn**	**21 33 53.5**	**+0.2**
TAFL	**Tanaga Flats**	**1.81**	**56**		**Pn**	**21 33 53.7**	**+0.2**
TAFP	**Tanaga Falls P**	**1.85**	**51**		**Pn**	**21 33 54.5**	**+0.4**
TAFP					**Sn**	**21 34 17.8**	**+1.5**
KIMD	**Kanaga Island**	**2.18**	**61**		**Pn**	**21 33 58.8**	**+0.3**
KIWB	**Kanaga Island**	**2.27**	**60**		**Pn**	**21 33 59.7**	**0.0**
KICM	**Kanaga Island**	**2.27**	**58**		**Pn**	**21 34 00.0**	**+0.2**
ADK	**Adak**	**2.54**	**62**	Pn	**Pn**	**21 34 01.9**	**-1.6**
ADK				Sn	**Sn**	**21 34 34.0**	**+0.9**
GSCK	**Great Sitkin C**	**2.88**	**63**		**Pn**	**21 34 09.1**	**+0.8**
GSTD	**Great Sitkin T**	**2.91**	**62**		**Pn**	**21 34 09.5**	**+0.8**
SHEM	**Shemya Is, Ala**	**3.99**	**302**	Pn	**Pn**	**21 34 23.0**	**-0.4**
	5.2nm,0.3s,baz=59,slow=15,SNR=2.7						
SHEM				Sn	**Sn**	**21 35 12.2**	**+3.4**
	5.6nm,0.3s,baz=41,slow=20,SNR=1.1						
SMY	**Shemya**	**3.99**	**302**		**Pn**	**21 34 22.5**	**-0.9**
ATKA	**Atka Island**	**4.09**	**67**		**Pn**	**21 34 24.9**	**+0.2**
ATKA					**Sn**	**21 35 14.6**	**+3.5**
KOFP	**Korovin Flat P**	**4.17**	**66**		**Pn**	**21 34 26.3**	**+0.5**
KDAK	**Kodiak Island**	**17.56**	**56**	P	**Pn**	**21 37 24.4**	**-1.4**
	0.4nm,0.3s,baz=289,slow=4.8,SNR=9.2						
ILAR	**Eielson Array**	**22.32**	**38**	P	**P**	**21 38 16.0**	**-2.0**
	0.1nm,0.6s,baz=234,slow=7.7,SNR=1.2						
KLR	**Kul'dur**	**30.43**	**286**	P	**P**	**21 39 32.4**	**0.0**
	1.8nm,0.6s,baz=49,slow=7.0,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**32.58**	**203**	T	T	22 15 01.6	
	baz=19						
H11N3	**WAKE ISLAND Hy**	**32.59**	**203**	T	T	22 14 58.8	
	baz=19						
H11N1	**WAKE ISLAND Hy**	**32.60**	**203**	T	T	22 15 02.3	
	baz=19						
YKA	**Yellowknife Ar**	**36.35**	**46**	P	**P**	**21 40 23.3**	**-0.3**
	0.2nm,0.4s,baz=281,slow=7.8,SNR=5.7						
SONM	**Songino Array**	**46.07**	**296**	P	**P**	**21 41 44.5**	**+0.7**
	0.1nm,0.4s,baz=52,slow=7.5,SNR=1.7						
PDAR	**Pinedale Array**	**47.41**	**71**	P	**P**	**21 41 54.1**	**-0.4**
	0.4nm,0.5s,baz=329,slow=2.8,SNR=4.1						
PDAR	**Pinedale Array**	**47.41**	**71**	P	**P**	**21 41 54.7**	**+0.3**
SPITS	**Spitsbergen Ar**	**50.92**	**356**	P	**P**	**21 42 19.3**	**-1.2**
	2.4nm,0.6s,baz=42,slow=5.1,SNR=10						
MKAR	**Makanchi Array**	**59.66**	**308**	P	**P**	**21 43 24.5**	**+0.7**
	0.2nm,0.3s,baz=42,slow=7.3,SNR=11						
NOA	**NORSAR Array B**	**68.17**	**354**	P	**P**	**21 44 19.5**	**0.0**
	0.4nm,0.8s,baz=8.0,slow=6.3,SNR=2.1						
H03S2	**Juan Fernandez**	**122.17**	**105**	T	T	00 05 31.8	
	SNR=16						
H03S3	**Juan Fernandez**	**122.18**	**105**	T	T	00 05 32.4	
	SNR=14						
H03S1	**Juan Fernandez**	**122.19**	**105**	T	T	00 05 32.9	
	SNR=56						

IDC ***10*** *21:36:52.1±1.6, 33°.44S×179°.63W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/36, mbtmp3.8/3, ML3.6/1, MS4.1/1, Ms1 4.1/1, ms1mx2.8/59, Error ellipse: s-maj=43.8km s-min=38.3km az=136.0*
NEIC ***10*** *21:36:56.6±1.5, 33°.83S±0°.07×179°.3W±0°.2, h35km±2km, mb4.3/4, Error ellipse: s-maj=25.2km s-min=9.5km az=73.0.*

ISC 10 21:36:58.0±1.2, 33°.9S±0°.1×179°.3W±0°.2, h53km, n19, σ1§47/19, mb3.9/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.27**	**213**	Pn	**Pn**	**21 38 15.8**	**+1.6**
	1.9nm,0.3s,baz=91,slow=6.9,SNR=11						
URZ				Sn	**Sn**	**21 39 14.7**	**+1.1**
	1.7nm,0.3s,baz=356,slow=15,SNR=1.9						
URZ	**Urewera**	**5.27**	**213**		**Pn**	**21 38 13.7**	**-0.4**
OUZ	**Omahuta**	**6.05**	**255**	Pn	**Pn**	**21 38 26.1**	**+1.2**
BKZ	**Black Stump Fm**	**6.29**	**212**	Pn	**Pn**	**21 38 27.5**	**-0.7**
THZ	**Tophouse**	**10.01**	**216**	Pn	**Pn**	**21 39 18.1**	**-1.1**
LTZ	**Lake Taylor**	**11.10**	**214**	Pn	**Pn**	**21 39 31.7**	**-2.3**
ASAR	**Alice Springs**	**41.99**	**271**	P	**P**	**21 44 43.0**	**-1.3**
	0.7nm,0.5s,baz=113,slow=7.5,SNR=9.2						
ASAR	**Alice Springs**	**41.99**	**271**	P	**P**	**21 44 43.3**	**-0.9**
WR0	**Warramunga Arr**	**43.12**	**277**	P	**P**	**21 44 52.1**	**-1.3**
WR0				IAmb	IAmb	21 45 08.4	
	comp=Z,6.2nm,1.3s						
WB2	**Warramunga Arr**	**43.29**	**277**	P	**P**	**21 44 52.5**	**-2.2**
WB2				IAmb	IAmb	21 44 53.8	
	comp=Z,8.5nm,1.4s						
WRA	**Warramunga Arr**	**43.30**	**277**	P	**P**	**21 44 52.2**	**-2.6**
	comp=Z,0.5nm,0.4s,baz=114,slow=8.9,SNR=14						
WRA	**Warramunga Arr**	**43.30**	**277**	P	**P**	**21 44 54.4**	**-0.4**
QSPA	**South Pole Qui**	**56.24**	**180**	P	**P**	**21 46 33.6**	**+1.0**
BATI	**Baumata**	**57.13**	**280**	LR	LR	22 12 11.5	
	comp=Z,155nm,18.2s,baz=199,slow=37						
FINES	**FINESS Array B**	**147.99**	**337**	PKPbc	**PKPbc**	**21 56 36.5**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=72,slow=4.5,SNR=7.4						
FINES	**FINESS Array B**	**147.99**	**337**		**PKPbc**	**21 56 35.9**	**-0.7**
NB2	**NORSAR Subarra**	**151.99**	**349**	PKP	**PKiKP**	**21 56 46.9**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=31,slow=2.6						
NOA	**NORSAR Array B**	**151.99**	**349**	PKPbc	**PKiKP**	**21 56 47.7**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=19,slow=4.7,SNR=6.3						
TORD	**Torodi Ar. Bea**	**159.34**	**183**	PKPab	**PKPab**	**21 57 30.5**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=177,slow=2.9,SNR=1.8						

IDC ***10*** *22:13:01.2±1.5, 42°.13S×16°.43W, h0km, mb4.1/8, mb1 4.1/8, mb1mx3.9/27, mbtmp4.1/8, MS4.2/41, Ms1 4.2/41, ms1mx4.1/51, Error ellipse: s-maj=51.4km s-min=23.7km az=3.0*
GCMT ***10*** *22:13:08.0±0.3, 41°.68S±0°.04×16°.40W±0°.03, h12km, MW4.9/97, Moment Tensor Solution. s16,c17; s97,c126; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.62±.10; Mθθ=0.57±.12; Mϕϕ=2.05±.09; Mrθ=1.85±.49; Mϕθ=-0.84±.08; Mϕr=-0.48±.37; Best double couple: Mo=3.11000×10^16 NP1:ϕs=172.00000°, δ=34.00000°, λ=-55.00000°. NP2: ϕs=311.00000°, δ=62.00000°, λ=-112.00000°. Principal axes: T 2.7500, Plg=15.0000°, Azm=57.0000°; N 0.7190, Plg=19.0000°, Azm=322.0000°; P -3.4690, Plg=66.0000°, Azm=182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 10 22:13:03.2±1.3, 42°.1S±0°.3×16°.2W±0°.1, h10km, n68, σ1§51/30, mb4.2/9, MS4.2/41, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**30.38**	**172**	LR	LR	22 28 32.8	
	comp=Z,214nm,21.3s,baz=266,slow=31						
SUR	**Sutherland**	**30.82**	**84**	LR	LR	22 28 41.8	
	comp=Z,569nm,21.0s,baz=241,slow=30						
PET01	**Itanhaem-SP**	**31.25**	**295**	*e*P	**P**	**22 19 25.0**	**+2.0**
GUA01	**Guaratinga, BA**	**32.49**	**314**	*e*P	**P**	**22 19 32.5**	**-1.4**
FRTB	**Fartura**	**33.43**	**293**	*e*P	**P**	**22 19 44.4**	**+2.1**
BB19B	**Bebedouro**	**34.30**	**298**	*e*P	**P**	**22 19 50.7**	**+0.9**
ITQB	**Itaqui**	**34.70**	**278**	*e*P	P	22 20 00.1	+7.0
PMSA	**Palmer Station**	**35.16**	**213**	LR	LR	22 32 19.0	
	comp=Z,195nm,18.1s,baz=72,slow=33						
BOSA	**Boshof**	**36.04**	**82**	P	**P**	**22 20 05.5**	**+0.6**
	1.5nm,0.8s,baz=247,slow=11,SNR=3.7						
BOSA				LR	LR	22 31 43.4	
	comp=Z,251nm,20.9s,baz=210,slow=31						
IPMB	**Ipameri, GO**	**36.33**	**302**	*e*P	**P**	**22 20 07.5**	**+0.2**
TSUM	**Tsumeb**	**36.59**	**62**	LR	LR	22 31 53.7	
	comp=Z,310nm,19.8s,baz=156,slow=31						
CPUP	**Villa Florida**	**37.08**	**282**	P	**P**	**22 20 14.6**	**+1.1**
	2.6nm,0.8s,baz=125,slow=9.5,SNR=4.3						
CPUP				LR	LR	22 34 11.3	
	comp=Z,394nm,18.3s,baz=138,slow=34						
NBPN	**Ponto Novo - B**	**37.55**	**319**	*e*P	**P**	**22 20 16.2**	**-1.4**
BDFB	**Brasilia**	**37.97**	**304**	P	**P**	**22 20 20.4**	**-1.0**
	5.0nm,0.9s,baz=134,slow=9.3,SNR=8.2						
BDFB				LR	LR	22 33 26.9	
	comp=Z,215nm,20.4s,baz=141,slow=32						
BDFB	**Bras

MBAR	**Mbarara**	**59.00**	**58**	LR	LR		22 46 17.2	
	comp=Z,619nm,18.0s,baz=218,slow=34							
NNA	**Nana**	**60.34**	**281**	LR	LR		22 48 50.6	
	comp=Z,242nm,20.5s,baz=133,slow=36							
VNDA	**Vanda**	**60.65**	**180**	LR	LR		22 46 16.3	
	comp=Z,134nm,20.3s,baz=199,slow=33							
KMBO	**Kilima Mbogo**	**62.87**	**65**	LR	LR		22 48 51.6	
	comp=Z,192nm,18.4s,baz=264,slow=34							
ROSC	**El Rosal**	**70.38**	**296**	LR	LR		22 53 58.9	
	comp=Z,533nm,18.2s,baz=149,slow=35							
SDV	**Santo Domingo**	**71.01**	**302**	LR	LR		22 54 41.3	
	comp=Z,123nm,18.6s,baz=136,slow=35							
RPN	**Rapa Nui**	**74.53**	**247**	LR	LR		22 52 52.1	
	comp=Z,70nm,20.7s,baz=352,slow=32							
MDT	**Midelt**	**75.30**	**10**	LR	LR		22 52 34.5	
	comp=Z,157nm,20.7s,baz=178,slow=32							
SJG	**San Juan**	**75.57**	**311**	LR	LR		22 56 37.0	
	comp=Z,48nm,18.8s,baz=90,slow=35							
ATD	**Arta Tunnel**	**75.97**	**60**	LR	LR		22 55 13.3	
	comp=Z,266nm,21.9s,baz=183,slow=33							
KEST	**Kesra**	**80.91**	**21**	LR	LR		22 56 39.0	
	comp=Z,276nm,20.8s,baz=216,slow=32							
JTS	**Las Juntas de**	**81.55**	**292**	LR	LR		23 01 22.2	
	comp=Z,128nm,19.3s,baz=160,slow=36							
ESDC	**Sonseca Array**	**82.15**	**10**	P	**P**		**22 25 25.0**	**+1.2**
	2.8nm,1.1s,baz=190,slow=6.5,SNR=5.7							
ESDC				LR	LR		22 57 19.3	
	comp=Z,68nm,19.9s,baz=190,slow=32							
EIL	**Elat**	**85.57**	**43**	LR	LR		23 01 23.8	
	comp=Z,191nm,18.3s,baz=270,slow=34							
MMAI	**Mount Meron Ar**	**88.50**	**41**	LR	LR		23 03 50.0	
	comp=Z,212nm,19.2s,baz=35,slow=34							
H01W2	**Cape Leeuwin H**	**90.89**	**141**	T	T		00 08 26.8	
	baz=215,slow=76							
H01W3	**Cape Leeuwin H**	**90.91**	**141**	T	T		00 08 35.3	
	baz=215,slow=76							
H01W1	**Cape Leeuwin H**	**90.91**	**141**	T	T		00 08 32.0	
	baz=215,slow=76							
DAVOX	**Davos/Dischmat**	**91.48**	**18**	LR	LR		23 02 12.2	
	comp=Z,83nm,19.8s,baz=242,slow=32							
BRTR	**Keskin Array B**	**93.15**	**36**	P	**P**		**22 26 16.9**	**-0.4**
	0.2nm,0.5s,baz=254,slow=4.2,SNR=1.9							
BRTR				LR	LR		23 06 59.4	
	comp=Z,90nm,20.4s,baz=226,slow=35							
CMIG	**Matias Romero**	**93.17**	**290**	LR	LR		23 04 35.8	
	comp=Z,40nm,21.6s,baz=152,slow=33							
GERES	**GERESS Array B**	**94.31**	**19**	LR	LR		23 04 57.8	
	comp=Z,98nm,21.6s,baz=254,slow=33							
WSAR	**Wadi Sarin**	**94.76**	**63**	LR	LR		23 06 40.2	
	comp=Z,133nm,20.4s,baz=236,slow=34							
VRAC	**Vranov**	**95.48**	**21**	LR	LR		23 07 09.6	
	comp=Z,65nm,18.4s,baz=234,slow=34							
GNI	**Garni**	**98.74**	**43**	LR	LR		23 10 48.7	
	comp=Z,152nm,18.5s,baz=214,slow=35							
MKAR	**Makanchi Array**	**124.11**	**55**	PKP	**PKiKP**		**22 32 02.4**	**+0.8**
	0.4nm,1.0s,baz=257,slow=2.5,SNR=3.4							
YKA	**Yellowknife Ar**	**129.94**	**323**	PKP	**PKPdf**		**22 32 11.2**	**-0.7**
	0.7nm,0.9s,baz=98,slow=2.0,SNR=6.4							
SONM	**Songino Array**	**139.79**	**62**	PKP	**PKPdf**		**22 32 28.6**	**-2.4**
	0.2nm,0.6s,baz=206,slow=1.9,SNR=1.9							
ILAR	**Eielson Array**	**144.23**	**326**	PKP	PKPbc		22 32 37.2	+0.8
	0.9nm,1.0s,baz=46,slow=2.6,SNR=5.5							

*NEIC **10** 22:14:17.9±1.3,36°.51N±0°.03×70°.30E±0°.07,h219km±5km, mb4.0/15, Error ellipse: s-maj=8.6km s-min=2.9km az=67.0*

*IDC **10** 22:14:18.5±0.9,36°.43N×70°.50E,h226km±8km,mb3.5/22, mb1 3.6/27,mb1mx3.4/50,mbtmp4.2/27, Error ellipse: s-maj=10.0km s-min=9.9km az=23.0*

*NNC **10** 22:14:28.1±3.3,37°.51N×70°.51E,h218km±36km,mb3.4, mpv4.2, Error ellipse: s-maj=31.5km s-min=19.7km az=173.0*

ISC 10 22:14:16.6±0.4, 36°.49N±0°.04×70°.50E±0°.04, h204km, n122, σ2s25/141, mb3.9/27, 12C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.28**	**212**	Pn		**Pn**	**22 15 00.2**	**+1.6**
KBL				Sn		**S**	**22 15 31.3**	**+0.6**
CHGR	**Chuyangaron**	**2.41**	**334**			**Pn**	**22 15 01.1**	**+1.4**
GAR	**Garm**	**2.51**	**357**			**Pn**	**22 15 02.9**	**+2.0**
CEP	**Cherat**	**2.90**	**156**	P		**Pn**	**22 15 08.2**	**+2.6**
CEP				S		**S**	**22 15 46.0**	**+2.9**
DRK	**Karamyk**	**3.15**	**19**			**Pn**	**22 15 11.0**	**+2.5**
BTK	**Batken**	**3.57**	**4**	Pn		**Pn**	**22 15 16.1**	**+2.8**
CHCP	**Chirah Chowk**	**3.63**	**140**	P		**Pn**	**22 15 16.8**	**+2.8**
NIL	**Nilore**	**3.63**	**141**	Pn		**Pn**	**22 15 17.1**	**+3.1**
THW	**Thamme Wali**	**3.83**	**164**	P		**Pn**	**22 15 18.3**	**+1.8**
TAS	**Tashkent**	**4.92**	**349**			**Pn**	**22 15 31.2**	**+1.3**
JMU	**Jammu**	**5.23**	**135**	*eP*		**Pn**	**22 15 32.1**	**-1.9**
JMU				*eS*		**S**	**22 16 33.1**	**-1.8**
THN	**Thein Dam**	**5.92**	**132**	*eP*		**Pn**	**22 15 44.8**	**+2.0**
THN				*eS*		**S**	**22 16 51.6**	**+0.8**
AML	**Almayashu**	**6.15**	**23**	P		**Pn**	**22 15 47.4**	**+1.2**
	SNR=112							
UCH	**Uchtor**	**6.52**	**27**	P		**Pn**	**22 15 52.4**	**+1.4**
	SNR=45							
KK31	**Karatay Array**	**6.60**	**0**	Pn		**Pn**	**22 15 52.3**	**+0.7**
KK31	**Karatay Array**	**6.60**	**0**	⇑P		**Pn**	**22 15 52.1**	**+0.4**
	3.9nm,0.2s,baz=179,slow=13,SNR=163							
KK31				⇑S		S	22 16 57.2	-10
	29nm,0.5s,baz=189,slow=21,SNR=11							
KKAR	**Karatay Array**	**6.60**	**0**	Pn		**Pn**	**22 15 52.3**	**+0.7**
KKAR	**Karatay Array**	**6.60**	**0**			**Pn**	**22 15 52.4**	**+0.7**
EKS2	**Erkin-Say**	**6.66**	**21**	P		**Pn**	**22 15 54.0**	**+1.6**
	SNR=34							
AAK	**Ala-Archa**	**6.87**	**25**	P		**Pn**	**22 15 56.8**	**+1.5**
	SNR=30							
AAK	**Ala-Archa**	**6.87**	**25**	P		**Pn**	**22 15 56.6**	**+1.3**
	10.0nm,0.3s,baz=177,slow=4.8,SNR=168							
AAK				S		**S**	**22 17 11.9**	**-1.4**
	5.8nm,0.3s,baz=331,slow=20,SNR=19							
AAK	**Ala-Archa**	**6.87**	**25**			**Pn**	**22 15 56.7**	**+1.5**
KBK	**Karagaybulak**	**7.05**	**28**	P		**Pn**	**22 15 59.4**	**+1.8**
	SNR=12							
HRA	**Herat**	**7.06**	**255**	Pn		**Pn**	**22 15 57.0**	**-0.8**
BHK	**Bhakra**	**7.06**	**134**	*eP*		**Pn**	**22 15 58.7**	**+1.0**
BHK				*eS*		**S**	**22 17 16.3**	**-1.5**
FRU1	**Bishkek**	**7.07**	**26**			**Pn**	**22 15 58.6**	**+0.9**
ULHL	**Ulahol**	**7.26**	**36**	P		**Pn**	**22 16 02.4**	**+2.0**
	SNR=33							
CHMS	**Chumysh**	**7.28**	**25**	P		**Pn**	**22 16 01.5**	**+1.1**
	SNR=8.4							
BOOM	**Boomskoye usch**	**7.32**	**33**	Pn		**Pn**	**22 16 02.4**	**+1.3**
USP	**Ospenovka**	**7.43**	**23**	P		**Pn**	**22 16 03.7**	**+1.3**
	SNR=18							
TKM2	**Tokmak 2**	**7.53**	**30**	P		**Pn**	**22 16 05.2**	**+1.4**
	SNR=14							
TKM2	**Tokmak 2**	**7.53**	**30**	⇓P		**Pn**	**22 16 04.7**	**+0.9**
	16nm,0.6s							
TKM2				⇓S		S	22 17 17.7	-11
	24nm,0.9s							
SMLA	**Simla**	**7.71**	**132**	*eP*		**Pn**	**22 16 06.9**	**+0.9**
SMLA				*eS*		**S**	**22 17 30.3**	**-2.9**
SMLA				IAML			22 17 32.8	
	comp=N,283nm,0.5s							
TARG	**Taragay, Kyrgy**	**7.72**	**45**			**Pn**	**22 16 07.7**	**+1.2**
MDOK	**Medeo**	**8.35**	**35**	⇑P		**Pn**	**22 16 15.7**	**+1.2**
	comp=N,9.0nm,0.4s							
MDOK				S		**S**	**22 17 42.1**	**-6.4**
	comp=N,8.1nm,0.8s							
KNDC	**Almaty**	**8.36**	**35**	⇑P		**Pn**	**22 16 16.6**	**+2.1**
	comp=N,28nm,0.5s							
KNDC				⇑S		**S**	**22 17 42.3**	**-6.2**
	comp=N,58nm,1.1s							
DDI	**Dehra Dun**	**8.82**	**132**	*eS*		**S**	**22 17 57.3**	**-2.5**
DDI				IAML			22 17 59.4	
	comp=N,221nm,0.3s							
NDI	**New Delhi**	**9.63**	**142**	*eS*		**S**	**22 18 12.5**	**-6.5**
PDGK	**Podgornoye**	**9.71**	**43**	⇓P		**Pn**	**22 16 33.0**	**+1.0**
	comp=N,6.0nm,1.4s							
KUDL	**Kundal**	**9.74**	**147**	*eP*		**Pn**	**22 16 32.2**	**-0.3**
KUDL				*eS*		**S**	**22 18 14.5**	**-7.3**
SONA	**Sohna**	**9.93**	**144**	*eP*		**Pn**	**22 16 34.9**	**0.0**
SONA				*eS*		**S**	**22 18 19.1**	**-6.9**
GEYT	**Alibeck**	**9.98**	**282**	P		**Pn**	**22 16 34.1**	**-1.4**
	comp=N,0.5nm,0.3s,baz=98,slow=11,SNR=6.1							
GEYT				S		**S**	**22 18 23.3**	**-4.0**
	comp=N,1.0nm,0.3s,baz=87,slow=30,SNR=2.1							
GYA0B	**ALIBECK ARRAY**	**9.98**	**282**	⇓P		**P**	**22 16 43.6**	**+0.5**
AJM	**Ajmer**	**10.59**	**159**	*eP*		**Pn**	**22 16 42.9**	**-0.6**
AJM				*eS*		**S**	**22 18 36.8**	**-5.4**
PTH	**Pithoragarh**	**10.70**	**128**	*eP*		**Pn**	**22 16 44.0**	**-1.0**
PTH				*eS*		**S**	**22 18 37.1**	**-7.7**
OTUK	**Ortayu**	**11.82**	**6**	⇑P		**Pn**	**22 16 58.5**	**-0.5**
	comp=N,5.2nm,0.5s							
OTUK				⇑S		S	22 18 54.8	-15
	comp=N,12nm,0.8s							
JHNI	**Jhansi**	**12.97**	**146**	*eP*		**Pn**	**22 17 15.1**	**+1.5**
JHNI				*eS*		S	22 19 28.7	-9.3
MAKZ	**Makanchi**	**13.40**	**36**	P		**Pn**	**22 17 19.9**	**+1.1**
MAKZ	**Makanchi**	**13.40**	**36**	⇑P		**Pn**	**22 17 19.2**	**+0.4**
	comp=N,6.7nm,0.5s							
PYUN	**Piuthan**	**13.47**	**125**	*eP*		**P**	**22 17 25.2**	**+2.7**
	comp=N,50nm,0.5s							
MK31	**Makanchi Array**	**13.54**	**37**	Pn		**Pn**	**22 17 21.6**	**+1.1**
MK31	**Makanchi Array**	**13.54**	**37**	P		**Pn**	**22 17 20.9**	**+0.3**
	comp=N,1.0nm,0.3s,baz=233,slow=9.6,SNR=92							
MKAR	**Makanchi Array**	**13.54**	**37**	P		**Pn**	**22 17 20.5**	**0.0**
	comp=N,0.5nm,0.3s,baz=221,slow=13,SNR=29							
MKAR	**Makanchi Array**	**13.54**	**37**			**Pn**	**22 17 21.4**	**+0.8**
DANN	**Dangsing**	**13.83**	**122**	*eP*		**P**	**22 17 29.6**	**+3.0**
KOLN	**Koldanda**	**14.09**	**124**	*eP*		**P**	**22 17 32.0**	**+2.6**
	comp=N,24nm,0.3s							
BHPL	**Bhopal**	**14.50**	**154**	*eP*		**P**	**22 17 34.7**	**+0.9**
BHPL				IAmb		IAmb	22 17 36.8	
	comp=Z,18nm,0.8s							
BHPL				*eS*		S	22 20 04.7	-9.1
GKN	**Gorkha**	**14.64**	**121**	*eP*		**P**	**22 17 38.6**	**+3.1**
	comp=Z,61nm,0.3s							
AB31	**Akbulak array**	**14.90**	**332**	⇑P		**Pn**	**22 17 36.1**	**-1.1**
	comp=Z,10.0nm,0.6s,baz=150,slow=11,SNR=121							
AB31				⇓S		**S**	**22 20 17.6**	**-4.6**
	comp=Z,1.8nm,0.6s,baz=158,slow=23,SNR=2.9							
ABKAR	**Akbulak array**	**14.90**	**332**			**Pn**	**22 17 36.4**	**-0.8**
ABKAR	**Akbulak array**	**14.90**	**332**	P		**Pn**	**22 17 36.6**	**-0.6**
DMN	**Daman**	**15.21**	**121**	*eP*		**P**	**22 17 45.7**	**+3.8**
	comp=Z,32nm,0.2s							
KKN	**Kakani**	**15.22**	**121**	*eP*		**P**	**22 17 45.6**	**+3.6**
	comp=Z,97nm,0.5s							
KURBB	**Kurchatov Arra**	**15.26**	**20**	P		**Pn**	**22 17 41.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=210,slow=11,SNR=30							
KURBB	**Kurchatov Arra**	**15.26**	**20**	⇑P		**Pn**	**22 17 40.2**	**-1.4**
	comp=Z,8.0nm,0.6s							
KURK	**Kurchatov**	**15.37**	**20**			**P**	**22 17 43.4**	**+0.3**
KURK				IAmb		IAmb	22 17 46.2	
	comp=Z,5.9nm,0.7s							
KURK	**Kurchatov**	**15.37**	**20**	⇑P		**Pn**	**22 17 42.9**	**0.0**
	comp=Z,4.0nm,0.7s							
PKIN	**Phulchoki**	**15.44**	**121**	*eP*		**P**	**22 17 48.0**	**+3.6**
	comp=Z,81nm,0.4s							
PKI	**Pulchoki**	**15.45**	**121**	*eP*		**P**	**22 17 48.2**	**+3.6**
GUN	**Gumba**	**15.57**	**119**	*eP*		**Pn**	**22 17 49.6**	**+3.7**
	comp=Z,55nm,0.4s							
JIRN	**Jiri**	**15.94**	**119**	*eP*		**Pn**	**22 17 54.5**	**+4.1**
	comp=Z,3.0nm,0.7s							
BVA1	**Borovoye Array**	**16.53**	**360**	⇓P		**Pn**	**22 17 57.5**	**+0.6**
	comp=Z,9.7nm,0.6s							
BRVK	**Borovoye**	**16.56**	**360**	P		**P**	**22 17 56.5**	**+0.2**
BRVK	**Borovoye**	**16.56**	**360**	⇓P		**Pn**	**22 17 57.5**	**+0.2**
	comp=Z,13nm,0.6s							
AKTO	**Aktyubinsk**	**16.59**	**331**	P		**Pn**	**22 17 57.5**	**0.0**
	comp=Z,3.7nm,0.3s,baz=141,slow=10,SNR=53							
AKTO	**Aktyubinsk**	**16.59**	**331**	⇓P		**P**	**22 17 56.5**	**0.0**
	comp=Z,38nm,1.2s							
RAMN	**Ramite**	**16.66**	**120**	*eP*		**Pn**	**22 18 00.5**	**+1.6**
	comp=Z,87nm,0.4s							
WSAR	**Wadi Sarin**	**16.72**	**221**	P		**Pn**	**22 18 00.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=40,slow=6.2,SNR=2.2							
ODAN	**Odare**	**17.27**	**119**	*eP*		**Pn**	**22 18 07.2**	**+1.1**
	comp=Z,44nm,0.5s							
LSA	**Lhasa**	**18.57**	**105**	P		**P**	**22 18 19.8**	**+1.0**
LSA				IAmb		IAmb	22 18 24.8	
	comp=Z,4.9nm,0.6s							
ZAA0	**Zalesovo Array**	**20.09**	**25**	P		**P**	**22 18 35.1**	**+0.7**
ZAA0	**Zalesovo Array**	**20.09**	**25**	⇑P		**P**	**22 18 34.8**	**+0.3**
	comp=Z,1.1nm,0.7s							
ZALV	**Zalesovo Beam**	**20.09**	**25**	P		**P**	**22 18 34.9**	**+0.5**
	comp=Z,5.9nm,0.3s,baz=219,slow=11,SNR=34							
ZALV	**Zalesovo Beam**	**20.09**	**25**	P		**P**	**22 18 35.3**	**+0.9**
GNI	**Garni**	**20.51**	**288**	P		**P**	**22 18 41.2**	**+2.0**
	comp=Z,2.9nm,0.6s,baz=21,slow=16,SNR=3.9							
ARU	**Arti**	**21.51**	**342**	P		**P**	**22 18 50.0**	**+0.7**
	comp=Z,2.8nm,0.4s,baz=131,slow=2.9,SNR=23							
KBZ	**Khabaz**	**22.24**	**297**	P		**P**	**22 18 56.9**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=107,slow=14,SNR=1.7							
BELG	**Belogornoye**	**22.64**	**322**	P		**P**	**22 19 00.9**	**+0.8**
	comp=Z,13nm,0.6s,baz=114,slow=20,SNR=5.1							
RAYN	**Ar Rayn**	**25.12**	**246**	P		**P**	**22 19 21.4**	**-1.6**
RAYN				IAmb		IAmb	22 19 23.6	
	comp=Z,2.3nm,1.1s							
KIRV	**Kirov**	**26.07**	**335**	P		**P**	**22 19 32.0**	**+1.0**
	comp=Z,14nm,0.6s,baz=124,slow=4.5,SNR=7.2							
SONM	**Songino Array**	**28.67**	**55**	P		**P**	**22 19 56.3**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=258,slow=9.4,SNR=8.4							
SONM				sP		**PP**	**22 21 07.8**	**+4.4**
	comp=Z,0.5nm,0.8s,baz=262,slow=10.0,SNR=2.8							
SONM	**Songino Array**	**28.67**	**55**	P		**P**	**22 19 55.6**	**+1.1**
BRTR	**Keskin Array B**	**29.05**	**288**	P		**P**	**22 19 59.1**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=111,slow=7.9,SNR=2.2							
BRTR				pP		**pP**	**22 20 43.0**	**+3.6**
	comp=Z,0.7nm,0.8s,baz=92,slow=8.4,SNR=4.1							
CHTO	**Chiang Mai**	**30.58**	**117**	P		**P**	**22 20 12.0**	**+0.6**
CHTO				IAmb		IAmb	22 20 14.0	
	comp=Z,2.6nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.81**	**118**	P		**P**	**22 20 13.8**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=298,slow=8.4,SNR=17							
CMAR	**Chiang Mai Arr**	**30.81**	**118**	P		**P**	**22 20 14.0**	**+0.5**
AKASG	**Malin Array Be**	**32.63**	**309**	P		**P**	**22 20 28.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=83,slow=6.6,SNR=4.3							
AKASG				PP		**PP**	**22 21 48.7**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=90,slow=11,SNR=6.2							
NRIK	**Noril'sk**	**34.21**	**11**	P		**P**	**22 20 44.2**	**+1.8**
	comp=Z,3.5nm,0.4s,baz=194,slow=6.1,SNR=5.5							
NRIK	**Noril'sk**	**34.21**	**11**	P		**P**	**22 20 43.0**	**+0.6**
FIA1	**FINESS Array S**	**37.26**	**326**	P		**P**	**22 21 08.4**	**0.0**
FIA1				IAmb		IAmb	22 21 09.8	
	comp=Z,3.5nm,0.8s							
FINES	**FINESS Array B**	**37.26**	**326**	P		**P**	**22 21 08.7**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=117,slow=9.3,SNR=12							
FINES				PP		**PnPn**	**22 22 40.4**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=104,slow=11,SNR=3.7							
FINES	**FINESS Array B**	**37.26**	**326**	P		**P**	**22 21 07.8**	**-0.6**
UBPT	**Khong Chiam**	**37.59**	**115**	P		**P**	**22 21 12.3**	**+0.6**
UBPT				IAmb		IAmb	22 21 13.8	
	comp=Z,6.3nm,1.1s							
KEV	**Kevo**	**40.66**	**338**	P		**P**	**22 21 36.3**	**-0.1**
KEV				IAmb		IAmb	22 21 39.5	
	comp=Z,9.1nm,1.1s							
ARCES	**ARCESS Array B**	**41.00**	**338**	P		**P**	**22 21 40.0**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=115,slow=8.3,SNR=24							
ARCES				pP		**pP**	**22 22 25.4**	**+2.5**
	comp=Z,1.1nm,0.7s,baz=107,slow=6.5,SNR=1.6							
ARCES	**ARCESS Array B**	**41.00**	**338**	P		**P**	**22 21 38.8**	**-0.5**
NC405	**NORSAR Array S**	**43.31**	**323**	P		**P**	**22 22 02.0**	**-0.7**
NB2	**NORSAR Subarra**	**44.14**	**323**	P		**P**	**22 22 04.0**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.14**	**323**	P		**P**	**22 22 04.3**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=97,slow=7.8,SNR=6.5							
TIXI	**Tiksi**	**45.93**	**22**	P		**P**	**22 22 19.2**	**+0.7**
TIXI				IAmb		IAmb	22 22 20.1	
	comp=Z,1.9nm,0.4s							
KMBO	**Kilima Mbogo**	**48.53**	**227**	P		**P**	**22 22 40.1**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=47,slow=16,SNR=6.5							
KMBO	**Kilima Mbogo**	**48.53**	**227**	P		**P**	**22 22 37.5**	**-2.0**
TORD	**Torodi Ar. Bea**	**65.31**	**268**	P		**P**	**22 24 34.9**	**-2.2**
	comp=Z,0.9nm,0.4s,baz=49,slow=5.9,SNR=22							
MATP	**Matopo**	**69.13**	**222**	P		**P**	**22 25 00.6**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=31,slow=6.3,SNR=8.7							
DBIC	**Dimbokro**	**74.29**	**267**	P		**P**	**22 25 31.7**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=72,slow=3.2,SNR=1.4							
ILAR	**Eielson Array**	**74.89**	**16**	P		**P**	**22 25 34.5**	**0.0**
	comp=Z,0.6nm,0.9s,baz=297,slow=4.0,SNR=4.2							
BOSA	**Boshof**	**77.48**	**220**	P		**P**	**22 25 48.6**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=11,slow=3.4,SNR=7.4							
BOSA	**Boshof**	**77.48**	**220**	P		**P**	**22 25 48.7**	**-1.0**
BOSA				IAmb		IAmb	22 26 01.8	
	comp=Z,1.5nm,0.9s							
YKA	**Yellowknife Ar**	**81.27**	**2**	pP		pP	22 27 03.1	+3.5
	comp=Z,0.6nm,0.6s,baz=350,slow=5.3,SNR=4.5							
WRA	**Warramunga Arr**	**82.33**	**122**	P		**P**	**22 26 14.1**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=322,slow=5.1,SNR=18							
WRA	**Warramunga Arr**	**82.33**	**122**	P		**P**	**22 26 14.3**	**-1.4**
ASAR	**Alice Springs**	**84.58**	**125**	P		**P**	**22 26 25.7**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=311,slow=5.0,SNR=21							

*IDC **10** 22:17:51.1±0.8,41°.62S×16°.38W,h0km,mb4.2/9, mb1 4.3/9,mb1mx4.0/26,mbtmp4.2/9, Error ellipse: s-maj=24.9km s-min=21.1km az=10.0*

*NEIC **10** 22:17:51.9±1.6,41°.71S±0°.07×16°.3W±0°.2,h10km±1km, mb4.6/13, Error ellipse: s-maj=24.1km s-min=11.6km az=100.0*

ISC 10 22:17:52.1±0.6, 41°.7S±0°.1×16°.5W±0°.1, h10km, n34, σ1s11/26, mb4.3/13, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ORCD	**Orcadas**	**25.69**	**212**	P		**P**	**22 23 19.7**	**-2.2**
PLTB	**Pedras Altas**	**31.18**	**276**	P		**P**	**22 24 10.0**	**-1.2**
H10S2	**ASCENSION HYDR**	**32.64**	**3**	T		T	22 58 41.3	
	baz=182,slow=74,SNR=6.8							
H10S3	**ASCENSION HYDR**	**32.65**	**3**	T		T	22 58 49.9	
	baz=38,slow=74,SNR=9.6							
H10N1	**ASCENSION HYDR**	**33.75**	**4**	T		T	23 00 07.4	
	baz=181							
H10N3	**ASCENSION HYDR**	**33.76**	**3**	T		T	23 00 11.2	
	baz=181							
H10N2	**ASCENSION HYDR**	**33.77**	**3**	T		T	23 00 07.4	
	baz=181							
CPUP	**Villa Florida**	**36.82**	**281**	P		**P**	**22 25 01.6**	**+1.3**
	2.3nm,0.7s,baz=110,slow=7.1,SNR=5.6							
CPUP	**Villa Florida**	**36.82**	**281**	P		**P**	**22 25 01.2**	**+0.9**
CPUP				IAmb		IAmb	22 25 12.3	
	comp=Z,21nm,1.9s							
BELA	**Belgrano 2**	**37.05**	**186**	P		**P**	**22 25 01.4**	**-0.3**
BELA				IAmb		IAmb	22 25 05.8	
	comp=Z,11nm,1.3s							
BDFB	**Brasilia**	**37.59**	**304**	P		**P**	**22 25 08.0**	**+1.0**
	comp=Z,4.6nm,0.9s,baz=130,slow=8.2,SNR=6.7							
BDFB	**Brasilia**	**37.59**	**304**	P		**P**	**22 25 08.8**	**+1.8**
BDFB				IAmb		IAmb	22 25 10.3	
	comp=Z,9.0nm,1.1s							
PLCA	**Paso Flores**	**40.14**	**253**	P		**P**	**22 25 29.9**	**+1.7**
	comp=Z,4.4nm,1.1s,baz=135,slow=9.4,SNR=4.3							
PLCA	**Paso Flores**	**40.14**	**253**	P		**P**	**22 25 28.4**	**+0.3**
MATP	**Matopo**	**43.36**	**75**	P		**P**	**22 25 55.4**	**+0.6**
	comp=Z,4.1nm,1.1s,baz=236,slow=5.8,SNR=4.7							
MAW	**Mawson**	**48.30**	**150**	P		**P**	**22 26 34.0**	**+1.1**
	comp=Z,5.2nm,1.1s,baz=265,slow=5.5,SNR=4.0							
MAW	**Mawson**	**48.30**	**150**	P		**P**	**22 26 31.9**	**-1.1**
QSPA	**South Pole Qui**	**48.57**	**180**	P		**P**	**22 26 36.5**	**+1.2**
GO01	**Chusmiza**	**49.54**	**280**	P		**P**	**22 26 43.2**	**-0.5**
GO01				IAmb		IAmb	22 26 45.1	
	comp=Z,23nm,1.4s							
LPAZ	**La Paz**	**50.90**	**284**	P		**P**	**22 26 53.6**	**-0.7**
	comp=Z,1.9nm,1.1s,baz=110,slow=9.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**57.08**	**21**	P		**P**	**22 27 37.3**	**-1.2**
	comp=Z,2.7nm,1.1s,baz=202,slow=6.2,SNR=5.7			

ARCES	**ARCESS Array B**	**88.10**	**342**	P	**P**	**22 49 37.2**	**-0.2**	
	comp=Z,0.7nm,0.5s,baz=69,slow=6.6,SNR=16							
ARCES	**ARCESS Array B**	**88.10**	**342**	P	**P**	**22 49 37.5**	**0.0**	
PLID	**Pearl Lake**	**88.68**	**44**	P	**P**	**22 49 41.4**	**+0.4**	
PLID				IAmb	IAmb	22 49 43.8		
	comp=Z,2.1nm,0.8s							
NVAR	**Mina Array Bea**	**88.75**	**51**	P	**P**	**22 49 43.0**	**+1.5**	
	comp=Z,1.8nm,0.6s,baz=264,slow=5.5,SNR=20							
NVAR	**Mina Array Bea**	**88.75**	**51**	P	**P**	**22 49 42.0**	**+0.5**	
TPNV	**Topopah Spring**	**90.70**	**52**	P	**P**	**22 49 49.2**	**-1.3**	
FINES	**FINESS Array B**	**91.97**	**335**	P	**P**	**22 49 54.6**	**-1.0**	
	comp=Z,0.9nm,0.4s,baz=59,slow=4.9,SNR=24							
PDAR	**Pinedale Array**	**93.82**	**45**	P	**P**	**22 50 05.6**	**+0.7**	
	comp=Z,0.2nm,0.6s,baz=223,slow=4.3,SNR=4.5							
NOA	**NORSAR Array B**	**97.98**	**339**	P	**P**	**22 50 22.0**	**-1.2**	
	comp=Z,0.3nm,0.8s,baz=51,slow=4.2,SNR=3.2							
TORD	**Torodi Ar. Bea**	**134.68**	**302**	PKP	**PKPdf**	**22 56 04.6**	**-2.1**	
	comp=Z,0.5nm,0.9s,baz=7.4,slow=3.3,SNR=3.6							
LPAZ	**La Paz**	**148.93**	**101**	PKPbc	**PKiKP**	**22 56 37.8**	**-0.2**	
	comp=Z,1.8nm,0.7s,baz=291,slow=1.0,SNR=9.8							

*NOU **10** 23:14:51.8,37°.46S×176°.44E,h232km,MLv3.6/6,North Island, New Zealand*
*WEL **10** 23:14:56.0±1.1,37°.5±4°×17°.7E±°,h186km±13km,M2.7/26, ML2.8/8,MLv2.7/26,Error ellipse: s-maj=0.0km s-min=0.0km az=83.5*

ISC 10 23:14:49.0±2.2,37°.38S±0°.07×176°.58E±0°.07, h249km±13km,n85,σ1§46/100,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**0.93**	**312**	P	**Pn**	**23 15 23.9**	**+0.4**
URZ	**Urewera**	**0.98**	**155**	P	**Pn**	**23 15 24.1**	**+0.5**
URZ	**Urewera**	**0.98**	**155**	P	**Pn**	**23 15 24.2**	**+0.5**
HAZ	**Te Kaha**	**1.03**	**112**	P	**Pn**	**23 15 24.2**	**+0.3**
RUGZ	**Raukumara Rang**	**1.05**	**124**	P	**Pn**	**23 15 24.2**	**-0.1**
MUGZ	**Murupara**	**1.11**	**172**	P	**Pn**	**23 15 25.5**	**+1.0**
MKAZ	**Moumakai**	**1.17**	**283**	P	**Pn**	**23 15 26.0**	**+1.1**
MWZ	**Matawai**	**1.21**	**142**	P	**Pn**	**23 15 26.2**	**+1.0**
RTZ	**Ruatahuna**	**1.28**	**166**	P	**Pn**	**23 15 26.7**	**+1.1**
PKGZ	**Pakihiroa**	**1.29**	**114**	P	**Pn**	**23 15 27.0**	**+1.3**
WIAZ	**Waiheke Island**	**1.29**	**296**	P	**Pn**	**23 15 26.6**	**+0.9**
TWGZ	**Tauwhareparae**	**1.37**	**126**	P	**Pn**	**23 15 28.1**	**+1.9**
MXZ	**Matakaoa Point**	**1.39**	**98**	P	**Pn**	**23 15 27.0**	**+0.7**
GRZ	**Great Barrier**	**1.44**	**321**	P	**Pn**	**23 15 27.3**	**+0.6**
MRHZ	**Matea Rd**	**1.46**	**185**	P	**Pn**	**23 15 28.2**	**+1.3**
TKGZ	**Te Karaka**	**1.46**	**137**	P	**Pn**	**23 15 28.3**	**+1.5**
MBAZ	**Motutapu North**	**1.48**	**294**	P	**Pn**	**23 15 28.3**	**+1.3**
MTHZ	**Maungataniwha**	**1.49**	**172**	P	**Pn**	**23 15 28.4**	**+1.4**
PUZ	**Puketiti**	**1.50**	**118**	P	**Pn**	**23 15 28.4**	**+1.3**
WMGZ	**Waiomatatini S**	**1.52**	**107**	P	**Pn**	**23 15 28.8**	**+1.5**
SNGZ	**Shannon Statio**	**1.52**	**151**	P	**Pn**	**23 15 29.0**	**+1.7**
AWAZ	**Awhitu Peninsu**	**1.58**	**281**	P	**Pn**	**23 15 29.1**	**+1.4**
RAHZ	**Arahi**	**1.59**	**166**	P	**Pn**	**23 15 29.8**	**+2.0**
ABAZ	**Army Bay**	**1.60**	**298**	P	**Pn**	**23 15 29.4**	**+1.4**
RATZ	**Rangitukua**	**1.62**	**203**	P	**Pn**	**23 15 29.9**	**+1.8**
RIGZ	**Rimuhau**	**1.62**	**145**	P	**Pn**	**23 15 30.2**	**+2.1**
CNGZ	**Carnagh Statio**	**1.70**	**131**	P	**Pn**	**23 15 30.8**	**+2.1**
NMHZ	**Naumai**	**1.73**	**174**	P	**Pn**	**23 15 31.3**	**+2.3**
KATZ	**Kakaramea**	**1.74**	**203**	P	**Pn**	**23 15 31.8**	**+2.7**
BKZ	**Black Stump Fm**	**1.79**	**182**	P	**Pn**	**23 15 30.6**	**+1.2**
BKZ				S	**S**	**23 15 59.0**	**-2.5**
BKZ	**Black Stump Fm**	**1.79**	**182**	P	**Pn**	**23 15 30.7**	**+1.2**
KNZ	**Kokohu**	**1.85**	**153**	P	**Pn**	**23 15 31.6**	**+1.6**
KNZ				S	**S**	**23 16 00.8**	**-1.5**
NTVZ	**North Tongarir**	**1.86**	**202**	P	**Pn**	**23 15 32.0**	**+1.8**
TMVZ	**Te Maari**	**1.87**	**201**	P	**Pn**	**23 15 32.1**	**+1.9**
ETVZ	**East Tongariro**	**1.89**	**201**	P	**Pn**	**23 15 32.0**	**+1.6**
WTVZ	**West Tongariro**	**1.90**	**204**	P	**Pn**	**23 15 32.2**	**+1.7**
NNVZ	**North Ngauruho**	**1.91**	**203**	P	**Pn**	**23 15 32.6**	**+1.9**
ARHZ	**Aropaoanui**	**1.91**	**170**	P	**Pn**	**23 15 32.4**	**+1.9**
ARHZ				S	**S**	**23 16 01.0**	**-2.3**
OTVZ	**Oturere**	**1.92**	**202**	P	**Pn**	**23 15 32.7**	**+2.0**
SNVZ	**South Ngauruho**	**1.95**	**202**	P	**Pn**	**23 15 32.8**	**+1.8**
NGZ	**Ngauruhoe**	**1.95**	**203**	P	**Pn**	**23 15 33.1**	**+2.1**
KWHZ	**Kaweka Forest**	**2.05**	**183**	P	**Pn**	**23 15 33.5**	**+1.8**
KWHZ				S	**S**	**23 16 05.4**	**-0.2**
MHGZ	**Mahia Peninsul**	**2.06**	**150**	P	**Pn**	**23 15 33.6**	**+1.8**
MHGZ				S	**S**	**23 16 04.5**	**-1.1**
MCHZ	**McNeill Hill**	**2.07**	**178**	P	**Pn**	**23 15 34.1**	**+2.2**
MCHZ				S	**S**	**23 16 04.4**	**-1.3**
WNVZ	**Wahianoa**	**2.10**	**201**	P	**Pn**	**23 15 33.9**	**+1.6**
MOVZ	**Moawhango**	**2.13**	**198**	P	**Pn**	**23 15 33.8**	**+1.2**
MOVZ				S	**S**	**23 16 05.3**	**-1.7**
BHHZ	**Black Hill Sta**	**2.15**	**191**	P	**Pn**	**23 15 34.0**	**+1.3**
BHHZ				S	**S**	**23 16 05.3**	**-2.0**
VRZ	**Vera Road**	**2.26**	**219**	P	**Pn**	**23 15 36.6**	**+2.9**
KRHZ	**Kereru**	**2.27**	**184**	P	**Pn**	**23 15 35.4**	**+1.6**
KRHZ				S	**S**	**23 16 08.4**	**-0.9**
CKHZ	**Cape Kidnapper**	**2.31**	**170**	P	**Pn**	**23 15 36.2**	**+2.0**
CKHZ				S	**S**	**23 16 09.2**	**-0.8**
KAHZ	**Kahuranaki**	**2.42**	**175**	P	**Pn**	**23 15 37.2**	**+1.9**
KAHZ				S	**S**	**23 16 10.5**	**-1.5**
PNHZ	**Pukenui**	**2.55**	**187**	P	**Pn**	**23 15 38.1**	**+1.5**
PNHZ				S	**S**	**23 16 13.1**	**-1.2**
PXZ	**Pawanui**	**2.66**	**175**	P	**Pn**	**23 15 39.2**	**+1.5**
PXZ				S	**S**	**23 16 15.0**	**-1.2**
WPHZ	**Waipukurau**	**2.69**	**182**	P	**Pn**	**23 15 39.6**	**+1.6**
WPHZ				S	**S**	**23 16 15.7**	**-1.0**
TSZ	**Takapari Road**	**2.72**	**190**	P	**Pn**	**23 15 39.6**	**+1.3**
TSZ				S	**S**	**23 16 17.2**	**-0.2**
PKE	**Pukeiti**	**2.73**	**228**	P	**Pn**	**23 15 40.8**	**+2.4**
PRHZ	**Porangahau**	**2.88**	**179**	P	**Pn**	**23 15 41.6**	**+1.6**
DVHZ	**Dannevirke**	**2.94**	**186**	P	**Pn**	**23 15 41.7**	**+1.1**
ANWZ	**Angora Road**	**3.08**	**181**	P	**Pn**	**23 15 43.9**	**+1.8**
OUZ	**Omahuta**	**3.23**	**311**	P	**Pn**	**23 15 45.6**	**+1.7**
OUZ	**Omahuta**	**3.23**	**311**	P	**Pn**	**23 15 45.6**	**+1.7**
BFZ	**Birch Farm**	**3.31**	**184**	P	**Pn**	**23 15 45.7**	**+1.0**
MRZ	**Mangatainoka R**	**3.37**	**193**	P	**Pn**	**23 15 46.1**	**+0.7**
OGWZ	**Otaki Gorge**	**3.61**	**197**	P	**Pn**	**23 15 49.0**	**+0.9**
HOWZ	**Holdsworth Sta**	**3.61**	**193**	P	**Pn**	**23 15 48.8**	**+0.7**
KIW	**Kapiti Island**	**3.71**	**200**	P	**Pn**	**23 15 50.0**	**+0.7**
CAW	**Cannon Point**	**3.91**	**197**	P	**Pn**	**23 15 52.2**	**+0.7**
DUWZ	**D'Urville Isla**	**4.00**	**210**	P	**Pn**	**23 15 53.3**	**+0.7**
MSWZ	**Moikau Station**	**4.16**	**194**	P	**Pn**	**23 15 55.0**	**+0.4**
TCW	**Tory Channel**	**4.22**	**204**	P	**Pn**	**23 15 56.0**	**+0.8**
PLWZ	**Palliser**	**4.31**	**193**	P	**Pn**	**23 15 56.7**	**+0.3**
TUWZ	**Tuamarina**	**4.53**	**206**	P	**Pn**	**23 15 59.7**	**+0.7**
TKNZ	**Takaka Hill**	**4.61**	**216**	P	**Pn**	**23 16 01.0**	**+1.1**
QRZ	**Quartz Range**	**4.67**	**221**	P	**Pn**	**23 16 01.1**	**+0.5**
QRZ	**Quartz Range**	**4.67**	**221**	P	**Pn**	**23 16 01.0**	**+0.5**
BSWZ	**Blackbirch Sta**	**4.81**	**205**	P	**Pn**	**23 16 03.6**	**+1.3**
THZ	**Tophouse**	**5.22**	**212**	P	**Pn**	**23 16 08.4**	**+1.0**
KHZ	**Kahutara**	**5.55**	**204**	P	**Pn**	**23 16 12.0**	**+0.7**
KHZ	**Kahutara**	**5.55**	**204**	P	**Pn**	**23 16 12.1**	**+0.8**
DSZ	**Denniston Nort**	**5.71**	**219**	P	**Pn**	**23 16 13.8**	**+0.3**
GVZ	**Greta Valley S**	**6.21**	**205**	P	**Pn**	**23 16 20.3**	**+0.7**
LTZ	**Lake Taylor**	**6.33**	**210**	P	**Pn**	**23 16 21.3**	**+0.2**
MQZ	**McQueen's Vall**	**6.99**	**204**	P	**Pn**	**23 16 29.2**	**-0.2**
AKCZ	**Akaroa Harbour**	**7.06**	**202**	P	**Pn**	**23 16 31.3**	**+1.0**
TMZ	**Timaru**	**8.17**	**209**	P	**Pn**	**23 16 45.4**	**+1.0**

*CNRM **10** 23:56:59.5,36°.52N×0°.17E,h636km,ml3.0*
*CRAAG **10** 23:57:02.4,36°.36N×3°.45E,Ml2.9*
*MDD **10** 23:57:03.3±1.5,36°.32N×3°.56E,h0km,Mb4.2/6, M_mb3.6/6,Error ellipse: s-maj=12.7km s-min=8.1km az=131.0*

ISC 10 23:57:03.1±2.1,36°.36N±0°.06×3°.7E±0°.1,h18km,n11, σ1§99/16,5C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADJB	**Djebel Djouab**	**0.26**	**221**	P	**Pg**	**23 57 08.0**	**-1.1**
ABMS	**Boumerdes**	**0.42**	**341**	P	**Pg**	**23 57 12.2**	**+0.5**
ABA	**Alger-Bouzarea**	**0.67**	**312**	P	**Pb**	**23 57 14.9**	**-1.3**
EIBI	**Ibiza**	**3.23**	**326**	Pn	**Pn**	**23 57 53.9**	**+1.0**
EIBI				⇑*i*Vmb_V		23 58 01.7	
	405nm,SNR=1.1						
EIBI				Sn	**Sn**	**23 58 29.3**	**-1.7**
ETOS	**Mallorca**	**3.47**	**349**	Pn	**Pn**	**23 57 58.0**	**+1.8**
ETOS				⇑*i*Vmb_V		23 57 59.3	
	388nm,SNR=1.2						
ETOS				Sn	**Sn**	**23 58 35.2**	**-1.7**
ETOB	**Tobarra**	**4.72**	**300**	⇑*i*Vmb_V		23 58 14.4	
	241nm,SNR=1.5						
ETOB				Pn	**Pn**	**23 58 14.4**	**+0.9**
ETOB				Sn	**Sn**	**23 59 05.7**	**-2.1**
ECHE	**Chera**	**4.87**	**313**	Pn	**Pn**	**23 58 17.0**	**+1.5**
ECHE				⇑*i*Vmb_V		23 58 18.5	
	243nm,SNR=1.5						
EMOS	**Mosqueruela**	**5.15**	**322**	Pn	**Pn**	**23 58 21.0**	**+1.6**
EMOS				⇑*i*Vmb_V		23 58 23.4	
	193nm,SNR=1.1						
EMOS				Sn	**Sn**	**23 59 18.1**	**-0.3**
TAF	**Taforalt**	**5.18**	**254**	P	**Pn**	**23 58 19.8**	**+0.1**
JBK	**JBK**	**5.47**	**250**	P	**Pn**	**23 58 23.5**	**-0.3**
JBK				S	**Sn**	**23 59 31.6**	**+5.3**
TDRA	**Tendrara**	**5.73**	**236**	P	**Pn**	**23 58 27.9**	**+0.4**

*ANF **11** 00:32:35.6±0.3,60°.24N×153°.19W,h159km±2km,ML3.8/55, ML3.8/54,Error ellipse: s-maj=2.6km s-min=2.4km az=9.0*
*IDC **11** 00:32:35.4±1.4,60°.33N×153°.42W,h148km±14km, mb3.7/16,mb1 3.7/21,mb1mx3.5/71,mbtmp4.0/21,Error ellipse: s-maj=18.7km s-min=10.3km az=32.0*
*NEIC **11** 00:32:35.9±1.5,60°.26N±0°.04×153°.20W±0°.05, h162km±3km,Error ellipse: s-maj=5.9km s-min=1.5km az=149.0*
*AEIC **11** 00:32:36±1.7,60°.24N±0°.04×153°.21W±0°.08,h163km±3km, ML3.6,mb4.0/33(NEIC),ML3.7/130(NEIC),Error ellipse: s-maj=5.9km s-min=5.6km az=195.0*

ISC 11 00:32:36.1±0.5,60°.26N±0°.03×153°.19W±0°.03, h163km±4km,n324,σ1§16/355,mb4.0/28,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.25**	**160**		**Pn**	**00 32 57.7**	**-0.5**
IVE					**Sn**	**00 33 14.7**	**-0.3**
RED	**Redoubt Volcan**	**0.26**	**51**		**Pn**	**00 32 57.7**	**-0.5**
RED					**Sn**	**00 33 14.4**	**-0.7**
RDWB	**Redoubt West**	**0.29**	**36**		**Pn**	**00 32 57.9**	**-0.5**
RDWB					**Sn**	**00 33 13.6**	**-1.8**
RSO	**Redoubt South**	**0.30**	**46**		**Pn**	**00 32 57.8**	**-0.6**
RSO				Sn	**Sn**	**00 33 15.4**	**-0.1**
O20K	**Slope Mountain**	**0.33**	**122**		**Pn**	**00 32 58.1**	**-0.3**
O20K					**Sn**	**00 33 15.1**	**-0.2**
O20K	**Slope Mountain**	**0.33**	**122**	P	**Pn**	**00 32 58.1**	**-0.3**
	baz=299,SNR=13						
O20K				S	**Sn**	**00 33 14.7**	**-0.6**
	baz=299						
NCT	**North Crescent**	**0.33**	**22**		**Pn**	**00 32 58.1**	**-0.3**
NCT					**Sn**	**00 33 14.5**	**-1.0**
RDJH	**Redoubt Jeurge**	**0.39**	**29**		**Pn**	**00 32 58.2**	**-0.5**
RDJH					**Sn**	**00 33 15.1**	**-0.8**
DFR	**Drift River**	**0.42**	**36**		**Pn**	**00 32 58.1**	**-0.6**
DFR					**Sn**	**00 33 15.1**	**-0.9**
O19K	**Port Alsworth**	**0.57**	**264**	Pn	**Pn**	**00 32 58.5**	**-0.6**
O19K				Sn	**Sn**	**00 33 15.7**	**-1.1**
O19K	**Port Alsworth**	**0.57**	**264**	P	**Pn**	**00 32 58.6**	**-0.6**
	baz=85,SNR=25						
O19K				S	**Sn**	**00 33 15.6**	**-1.3**
	baz=85						
OPT	**Oil Point**	**0.60**	**182**		**Pn**	**00 32 59.2**	**-0.3**
P19K	**Oil Pt**	**0.60**	**182**	Pn	**Pn**	**00 32 58.9**	**-0.6**
P19K				Sn	**Sn**	**00 33 16.9**	**-0.4**
P19K	**Oil Pt**	**0.60**	**182**	P	**Pn**	**00 32 59.2**	**-0.3**
	baz=1.2						
P19K				S	**Sn**	**00 33 16.8**	**-0.6**
	baz=1.2						
N19K	**Bonanza Creek**	**0.85**	**312**	Pn	**Pn**	**00 33 00.5**	**-0.5**
N19K				Sn	**Sn**	**00 33 18.9**	**-1.4**
N19K	**Bonanza Creek**	**0.85**	**312**	P	**Pn**	**00 33 00.6**	**-0.5**
	baz=132,SNR=105						
N19K				S	**Sn**	**00 33 18.9**	**-1.4**
	baz=132						
AUL	**Augustine Lava**	**0.89**	**188**		**Pn**	**00 33 01.1**	**-0.2**
AUL					**Sn**	**00 33 19.8**	**-0.6**
AU22	**Augustine Moun**	**0.89**	**186**		**Pn**	**00 33 00.9**	**-0.3**
AU22					**Sn**	**00 33 19.5**	**-0.9**
AUH	**Augustine H**	**0.90**	**188**		**Pn**	**00 33 01.3**	**-0.2**
AUQ	**Augustine Qik'**	**0.91**	**187**		**Pn**	**00 33 01.2**	**-0.3**
HOM	**Homer**	**0.98**	**127**	Pn	**Pn**	**00 33 01.6**	**-0.3**
HOM				Sn	**Sn**	**00 33 21.5**	**-0.2**
HOM				IAML		00 33 23.0	
	comp=E,3μm,0.6s						
HOM	**Homer**	**0.98**	**127**	P	**Pn**	**00 33 02.1**	**+0.2**
	baz=308,SNR=20						
HOM				S	**Sn**	**00 33 21.3**	**-0.4**
	baz=308						
CKT	**Bend**	**1.06**	**26**		**Pn**	**00 33 02.4**	**-0.3**
SPU	**Mount Spurr**	**1.08**	**30**		**Pn**	**00 33 02.0**	**-0.8**
SPU				Sn	**Sn**	**00 33 22.5**	**-0.9**
O18K	**Koktuh Hills**	**1.09**	**249**		**Pn**	**00 33 02.5**	**-0.4**
O18K				Sn	**Sn**	**00 33 22.5**	**-0.8**
O18K	**Koktuh Hills**	**1.09**	**249**	P	**Pn**	**00 33 02.3**	**-0.6**
	baz=68,SNR=23						
O18K				S	**Sn**	**00 33 21.8**	**-1.6**
	baz=68						
CAPN	**Captain Cook N**	**1.13**	**62**	Pn	**Pn**	**00 33 01.7**	**-1.4**
CAPN				Sn	**Sn**	**00 33 23.1**	**-0.7**
CAPN				IAML		00 33 27.6	
	comp=E,3μm,0.8s						
CAPN				IAML		00 33 27.6	
	comp=N,3μm,0.9s						
CAPN	**Captain Cook N**	**1.13**	**62**	P	**Pn**	**00 33 04.1**	**+1.0**
	baz=243						
SPCG	**Spurr Capps Gl**	**1.19**	**28**		**Pn**	**00 33 03.4**	**-0.4**
SPCG					**Sn**	**00 33 24.8**	**-0.3**
CNPM	**China Poot**	**1.23**	**126**	Pn	**Pn**	**00 33 03.6**	**-0.4**
CNPM				IAML		00 33 25.4	
	comp=N,1μm,0.5s						
CNPM				IAML		00 33 26.3	
	comp=E,2μm,0.5s						
CNPM	**China Poot**	**1.23**	**126**		**Sn**	**00 33 24.4**	**-1.1**
BRLK	**Bradley Lake**	**1.26**	**112**	Pn	**Pn**	**00 33 04.2**	**-0.2**
BRLK				IAML		00 33 26.1	
	comp=N,1μm,0.4s						
BRLK				IAML		00 33 26.4	
	comp=E,1μm,0.6s						
BRLK	**Bradley Lake**	**1.26**	**112**		**Sn**	**00 33 24.9**	**-1.1**
BRSE	**Bradley Lake S**	**1.33**	**112**		**Pn**	**00 33 04.9**	**-0.1**
BRSE	**Bradley Lake S**	**1.33**	**112**	P	**Pn**	**00 33 05.0**	**0.0**
	baz=293,SNR=249						
BRSE				S	**Sn**	**00 33 25.5**	**-1.7**
	baz=293						
P18K	**Big Mountain,**	**1.35**	**231**		**Pn**	**00 33 04.5**	**-0.6**
P18K					**Sn**	**00 33 25.5**	**-2.1**
P18K	**Big Mountain,**	**1.35**	**231**	P	**Pn**	**00 33 04.4**	**-0.8**
	baz=49						
P18K				S	**Sn**	**00 33 25.4**	**-2.1**
	baz=49						
Q19K	**Cape Douglas,**	**1.35**	**190**		**Pn**	**00 33 04.5**	**-0.8**
Q19K	**Cape Douglas,**	**1.35**	**190**	Sn	**Sn**	**00 33 26.3**	**-1.2**
Q19K				IAML		00 33 28.0	
	comp=E,1μm,0.7s						
Q19K				IAML		00 33 31.3	
	comp=N,1μm,0.9s						
Q19K	**Cape Douglas,**	**1.35**	**190**	P	**Pn**	**00 33 04.5**	**-0.8**
	baz=9.4,SNR=30						
Q19K				S	**Sn**	**00 33 25.9**	**-1.6**
	baz=9.4						
N18K	**Kilae Creek**	**1.41**	**289**		**Pn**	**00 33 05.2**	**-0.5**
N18K	**Kilae Creek**	**1.41**	**289**	Sn	**Sn**	**00 33 27.2**	**-1.3**
N18K	**Kilae Creek**	**1.41**	**289**	P	**Pn**	**00 33 05.3**	**-0.5**
	baz=107,SNR=84						
N18K				S	**Sn**	**00 33 26.9**	**-1.6**
	baz=107						
STLK	**Strandline Lak**	**1.41**	**27**		**Pn**	**00 33 05.4**	**-0.4**
SVW2	**Sparrevohn**	**1.45**	**307**		**Pn**	**00 33 05.5**	**-0.7**
SLKM	**Skilak Lake**	**1.49**	**79**		**Pn**	**00 33 05.7**	**-0.9**
O22K	**Cooper Landing**	**1.73**	**81**		**Pn**	**00 33 07.9**	**-1.1**
O22K				IAML		00 33 39.4	
	comp=N,1μm,0.7s						
O22K				IAML		00 33 49.5	
	comp=E,977nm,0.7s						
O22K	**Cooper Landing**	**1.73**	**81**	P	**Pn**	**00 33 08.4**	**-0.6**
	baz=264						
O22K				S	**Sn**	**00 33 32.9**	**-1.5**
	baz=264						
M19K	**Big River Lodg**	**1.75**	**341**		**Pn**	**00 33 08.9**	**-0.4**
M19K	**Big River Lodg**	**1.75**	**341**	P	**Pn**	**00 33 09.1**	**-0.2**
	baz=160						
M19K				S	**Sn**	**00 33 33.9**	**-1.0**
	baz=160						
SEW	**Seward**	**1.87**	**93**		**Pn**	**00 33 10.1**	**-0.4**
SEW	**Seward**	**1.87**	**93**	P	**Pn**	**00 33 10.2**	**-0.4**
	baz=276,SNR=26						
SEW				S	**Sn**	**00 33 35.1**	**-1.9**
	baz=276						
RC01	**Rabbit Creek A**	**1.89**	**62**	Pn	**Pn**	**00 33 09.6**	**-1.2**
RC01				Sn	**Sn**	**00 33 36.0**	**-1.6**
RC01				IAML		00 33 37.1	
	comp=N,473nm,0.8s						
RC01				IAML		00 33 37.3	
	comp=E,502nm,0.7s						
RC01	**Rabbit Creek A**	**1.89**	**62**	P	**Pn**	**00 33 09.8**	**-1.0**
	baz=245						
RC01				S	**Sn**	**00 33 36.2**	**-1.4**
	baz=245						
L19K	**White Mountain**	**2.10**	**338**		**Pn**	**00 33 12.6**	**-0.4**
L19K	**White Mountain**	**2.10**	**338**	Sn	**Sn**	**00 33 40.0**	**-1.7**
L19K	**White Mountain**	**2.10**	**338**	P	**Pn**	**00 33 12.7**	**-0.4**
	baz=157,SNR=112						
L19K				S	**Sn**	**00 33 40.7**	**-1.0**
	baz=157						
M22K	**Willow**	**2.12**	**43**		**Pn**	**00 33 13.2**	**-0.1**
M22K	**Willow**	**2.12**	**43**		**Sn**	**00 33 41.5**	**-0.5**
M22K	**Willow**	**2.12**	**43**	P	**Pn**	**00 33 12.7**	**-0.6**
	baz=226						
M22K				S	**Sn**	**00 33 41.2**	**-0.9**
	baz=226						
L20K	**Farewell, AK**	**2.26**	**352**		**Pn**	**00 33 15.2**	**+0.2**
L20K	**Farewell, AK**	**2.26**	**352**	P	**Pn**	**00 33 15.2**	**+0.2**
	baz=172,SNR=143						
KABU	**Katmai Buttres**	**2.26**	**209**		**Pn**	**00 33 14.4**	**-0.7**
PMR	**Palmer**	**2.39**	**54**		**Pn**	**00 33 15.1**	**-1.4**
PMR				IAML		00 33 47.0	
	comp=E,301nm,0.8s						
PMR				IAML		00 33 47.0	
	comp=N,192nm,0.5s						
PMR	**Palmer**	**2.39**	**54**	P	**Pn**	**00 33 15.0**	**-1.4**
	baz=238						
PMR				S	**Sn**	**00 33 45.2**	**-2.6**
	baz=238						
PWL	**Port Wells**	**2.47**	**74**		**Pn**	**00 33 17.3**	**-0.2**
PWL				IAML		00 33 49.0	
	comp=E,216nm,0.6s						
PWL				IAML		00 33 51.8	
	comp=N,397nm,0.5s						
PWL	**Port Wells**	**2.47**	**74**	P	**Pn**	**00 33 16.3**	**-1.2**
	baz=258						
PWL				S	**Sn**	**00 33 47.7**	**-1.9**
	baz=258						
KDAK	**Kodiak Island**	**2.50**	**173**	P	**Pn**	**00 33 15.6**	**-2.2**
	comp=N,5.1nm,0.3s,baz=34,slow=7.0,SNR=51						
KDAK				S	**Sn**	**00 33 46.7**	**-3.4**
	comp=N,43nm,0.3s,baz=322,slow=20,SNR=87						
KDAK	**Kodiak Island**	**2.50**	**173**		**Pn**	**00 33 15.7**	**-2.1**
KDAK				Sn	**Sn**	**00 33 47.0**	**-3.1**
KDAK				IAML		00 33 48.2	
	comp=N,606nm,0.5s						
KDAK				IAML		00 33 48.7	
	comp=N,606nm,0.4s						
KDAK	**Kodiak Island**	**2.50**	**173**	P	**Pn**	**00 33 15.6**	**-2.2**
	baz=353						
GHO	**Glory Hole Cre**	**2.57**	**52**		**Pn**	**00 33 17.3**	**-1.5**
GHO	**Glory Hole Cre**	**2.57**	**52**	IAML		00 33 54.2	
	comp=N,462nm,0.7s						
CUT	**Chulitna**	**2.58**	**32**		**Pn**	**00 33 17.9**	**-0.8**
CUT	**Chulitna**	**2.58**	**32**		**Sn**	**00 33 50.3**	**-1.3**
CUT	**Chulitna**	**2.58**	**32**	P	**Pn**	**00 33 18.0**	**-0.7**
	baz=214,SNR=12						
KNK	**Knik Glacier**	**2.59**	**61**	Pn	**Pn**	**00 33 17.4**	**-1.5**
KNK				IAML		00 33 51.3	
	comp=E,322nm,0.7s						
KNK				IAML		00 33 51.9	
	comp=N,306nm,0.7s						
KNK	**Knik Glacier**	**2.59**	**61**	P	**Pn**	**00 33 17.6**	**-1.3**
	baz=245						
PPLA	**Purkeypile**	**2.69**	**10**		**Pn**	**00 33 20.4**	**+0.1**
PPLA					**Sn**	**00 33 55.5**	**+0.9**
PPLA	**Purkeypile**	**2.69**	**10**	P	**Pn**	**00 33 20.5**	**+0.2**
	baz=191,SNR=10						
SML	**Sawmill**	**2.83**	**55**	Pn	**Pn**	**00 33 20.2**	**-1.7**
SML				IAML		00 33 55.3	
	comp=N,223nm,0.6s						
SML				IAML		00 33 56.8	
	comp=E,285nm,0.7s						
SML	**Sawmill**	**2.83**	**55**	P	**Pn**	**00 33 20.4**	**-1.4**
	baz=239						
TT01	**Tatalina**	**2.99**	**334**		**Pn**	**00 33 23.1**	**-0.6**
TTA	**Tatalina**	**3.00**	**335**		**Pn**	**00 33 23.3**	**-0.7**
TTA	**Tatalina**	**3.00**	**335**	P	**Pn**	**00 33 23.4**	**-0.7**
	baz=152,SNR=47						
OHAK	**Old Harbor**	**3.04**	**181**	Pn	**Pn**	**00 33 23.7**	**-0.8**
OHAK				IAML		00 33 59.9	
	comp=E,268nm,0.3s						
OHAK				IAML		00 34 00.4	
	comp=N,287nm,0.6s						
OHAK	**Old Harbor**	**3.04**	**181**	P	**Pn**	**00 33 21.8**	**-2.6**
	baz=0.8						
GLI	**Glacier Island**	**3.07**	**76**		**Pn**	**00 33 23.4**	**-1.4**
GLI					**Sn**	**00 34 00.9**	**-

DHY	Denali Highway	3.96	42			Pn	00 33 35.6	-0.7
DHY	Denali Highway	3.96	42	IAML			00 34 23.8	
	comp=E,155nm,0.5s							
DHY				IAML			00 34 27.4	
	comp=N,121nm,0.6s							
DHY	Denali Highway	3.96	42	P		Pn	00 33 35.5	-0.7
	baz=227							
J20K	Nowinta River	3.96	354	Pn		Pn	00 33 36.0	0.0
J20K	Nowinta River	3.96	354	P		Pn	00 33 36.1	+0.1
	baz=173,SNR=106							
BPAW	Bear Paw Mtn.	3.99	14			Pn	00 33 35.6	-0.9
BPAW	Bear Paw Mtn.	3.99	14	IAML			00 34 22.1	
	comp=E,45nm,0.8s							
BPAW	Bear Paw Mtn.	3.99	14	P		Pn	00 33 35.6	-0.9
	baz=196,SNR=26							
MCK	McKinley	4.02	28	Pn		Pn	00 33 36.0	-0.9
MCK				IAML			00 34 24.5	
	comp=E,57nm,0.7s							
MCK				IAML			00 34 25.0	
	comp=N,60nm,0.5s							
MCK	McKinley	4.02	28	P		Pn	00 33 36.1	-0.9
	baz=212,SNR=9.1							
PS11	TAPS Pump St11	4.16	61			Sn	00 34 28.0	+0.5
GOAT	Goat Mountain	4.21	82			Pn	00 33 38.5	-0.8
RAGM	Ragged Mountai	4.24	85	Pn		Pn	00 33 39.4	-0.3
RAGM				Sn		Sn	00 34 27.8	-1.5
RAGM				IAML			00 34 44.8	
	comp=E,158nm,0.8s							
BMRM	Bremner River	4.29	77	Pn		Pn	00 33 40.2	-0.2
BMRM				Sn		Sn	00 34 28.5	-2.1
BMRM				IAML			00 34 30.2	
	comp=E,157nm,0.7s							
BMRM	Bremner River	4.29	77	P		Pn	00 33 39.5	-0.9
	baz=264							
BWN	Browne	4.30	22	Pn		Pn	00 33 40.1	-0.3
BWN				IAML			00 34 54.7	
	comp=N,86nm,0.9s							
BWN				IAML			00 35 10.5	
	comp=E,70nm,0.9s							
KAIM	Kayak Island	4.40	90	Pn		Pn	00 33 41.2	-0.7
KAIM	Kayak Island	4.40	90	P		Pn	00 33 41.9	0.0
	baz=278							
N25K	Chitina, Valde	4.40	68			Pn	00 33 41.5	-0.5
N25K	Chitina, Valde	4.40	68	P		Pn	00 33 41.5	-0.5
	baz=256,SNR=25							
HARP	HAARP	4.43	57			Pn	00 33 41.7	-0.5
HARP	HAARP	4.43	57	P		Pn	00 33 41.9	-0.2
	baz=244,SNR=8.4							
PAX	Paxson	4.58	50			Pn	00 33 43.8	-0.4
PAX	Paxson	4.58	50	P		Pn	00 33 43.3	-0.9
	baz=237							
CHIR	Chirikof Islan	4.63	197	P		Pn	00 33 44.1	-0.7
	baz=15							
GLB	Gilahina Butte	4.74	71			Pn	00 33 45.9	-0.4
GLB	Gilahina Butte	4.74	71	IAML			00 34 40.5	
	comp=E,81nm,0.6s							
GLB				IAML			00 34 41.2	
	comp=N,104nm,0.8s							
PS10	TAPS Pump St10	4.74	45			Sn	00 34 40.5	-0.5
NEA2	Nenana	4.75	22			Pn	00 33 45.0	-1.4
NEA2				IAML			00 34 39.2	
	comp=N,24nm,1.0s							
NEA2	Nenana	4.75	22	P		Pn	00 33 45.2	-1.2
	baz=206,SNR=23							
GCSA	Galena City Sc	4.82	341			Pn	00 33 46.2	-0.9
GCSA	Galena City Sc	4.82	341	P		Pn	00 33 46.3	-0.9
	baz=158							
WRH	Wood River Hil	4.85	27			Pn	00 33 46.5	-1.1
WRH	Wood River Hil	4.85	27	IAML			00 34 44.8	
	comp=E,29nm,0.6s							
WRH				IAML			00 34 45.2	
	comp=N,32nm,1.0s							
VRDI	Verde Repeater	4.88	74			Pn	00 33 48.0	-0.2
VRDI				IAML			00 34 46.3	
	comp=E,52nm,0.7s							
KHIT	Khitrov Hills	4.94	84			Pn	00 33 48.7	-0.2
BGLC	Bering Glacier	4.95	87	P		Pn	00 33 47.9	-1.0
	baz=276							
I21K	Tanana	4.97	6			Pn	00 33 48.5	-0.7
I21K	Tanana	4.97	6	IAML			00 34 44.4	
	comp=E,23nm,0.9s							
I21K	Tanana	4.97	6	P		Pn	00 33 48.6	-0.7
	baz=187,SNR=31							
CCB	Clear Creek Bu	5.07	27			Pn	00 33 49.2	-1.3
CCB	Clear Creek Bu	5.07	27	IAML			00 34 47.2	
	comp=E,29nm,0.8s							
HDA	Harding Lake	5.08	32			Pn	00 33 50.2	-0.5
HDA	Harding Lake	5.08	32	P		Pn	00 33 49.8	-0.9
	baz=218,SNR=25							
MCARA	McCarthy VSAT	5.10	73	Pn		Pn	00 33 50.8	-0.2
MCARA				IAML			00 35 05.1	
	comp=E,99nm,0.8s							
MCARA	McCarthy VSAT	5.10	73			Sn	00 34 49.5	0.0
MCARA	McCarthy VSAT	5.10	73	P		Pn	00 33 51.0	0.0
	baz=262,SNR=7.1							
WAX	Waxell Ridge	5.14	83			Pn	00 33 51.0	-0.5
TGL	Tana Glacier	5.14	80			Pn	00 33 51.3	-0.4
TGL				IAML			00 34 50.5	
	comp=N,63nm,0.7s							
TGL				IAML			00 35 07.3	
	comp=E,55nm,1.4s							
I23K	Minto, Yukon-K	5.22	18			Pn	00 33 51.4	-1.0
I23K				IAML			00 34 51.6	
	comp=E,21nm,0.9s							
I23K				IAML			00 34 51.8	
	comp=N,32nm,0.9s							
I23K	Minto, Yukon-K	5.22	18	P		Pn	00 33 51.5	-1.0
	baz=202,SNR=34							
MDM	Murphy Dome	5.25	24			Pn	00 33 51.8	-1.0
MDM	Murphy Dome	5.25	24	IAML			00 34 55.5	
	comp=N,19nm,1.1s							
MDM				IAML			00 35 10.6	
	comp=E,20nm,0.8s							
TCOL	CIGO, UAF Yank	5.25	26			Pn	00 33 52.0	-0.8
TCOL	CIGO, UAF Yank	5.25	26	P		Pn	00 33 51.9	-0.9
	baz=210,SNR=5.4							
COLA	College	5.25	26			Pn	00 33 52.0	-0.8
COLA	College	5.25	26	P		Pn	00 33 52.1	-0.8
	baz=210							
RIDG	Independent Ri	5.26	45			Pn	00 33 54.0	+0.9
RIDG	Independent Ri	5.26	45	P		Pn	00 33 52.7	-0.4
	baz=232,SNR=6.4							
MENT	Mentasta	5.26	55			Pn	00 33 53.8	+0.7
MENT				IAML			00 35 18.6	
	comp=E,87nm,0.7s							
PTPK	Patty Peak	5.35	75			Pn	00 33 54.9	+0.5
KIAG	Kiagna River	5.38	78			Pn	00 33 54.9	+0.1
ISLE	Juniper Island	5.38	82			Pn	00 33 54.5	-0.4
IL31		5.39	30			Pn	00 33 53.7	-1.0
ILAR	Eielson Array	5.39	30	P		Pn	00 33 53.6	-1.1
	comp=E,2.0nm,0.3s,baz=221,slow=13,SNR=127							
ILAR				S		Sn	00 34 50.4	-5.9
	comp=E,4.4nm,0.3s,baz=211,slow=16,SNR=10							
BALM	Baldy	5.39	77			Pn	00 33 55.0	+0.1
H21K	Melozitna Rive	5.43	2	Pn		Pn	00 33 54.1	-1.1
H21K	Melozitna Rive	5.43	2	P		Pn	00 33 54.6	-0.6
	baz=182,SNR=19							
L26K	Log Cabin Wild	5.45	55	Pn		Pn	00 33 54.9	-0.6
BAGL	Bagley Icefiel	5.51	83			Pn	00 33 56.1	-0.2
POKR	Poker Plat Res	5.55	26			Pn	00 33 55.4	-1.5
POKR	Poker Plat Res	5.55	26	P		Pn	00 33 55.3	-1.5
	baz=211,SNR=6.4							
GRNC	Granite Creek	5.67	80			Pn	00 33 58.7	0.0
J25K	Salcha River,	5.68	36			Pn	00 33 58.0	-0.6
J25K	Salcha River,	5.68	36	P		Pn	00 33 58.0	-0.6
	baz=223,SNR=37							
YAH	Yahtse	5.69	84			Pn	00 33 58.9	-0.1
SCRK	Sand Creek	5.71	45	Pn		Pn	00 33 59.6	+0.6
SCRK	Sand Creek	5.71	45	P		Pn	00 33 58.3	-0.8
	baz=233							
BARN	Barnard Glacie	5.73	77			Pn	00 33 59.3	-0.1
IM03		5.76	358			Pn	00 33 59.2	-0.3
H23K	Yukon River	5.83	15			Pn	00 33 59.4	-1.1
H23K	Yukon River	5.83	15	P		Pn	00 33 59.3	-1.3
	baz=198,SNR=18							
PS06	TAPS Pump Stn6	5.84	14			Pn	00 33 59.7	-0.9
M27K	Edge Creek, AK	5.84	64			Pn	00 34 01.3	+0.5
M27K	Edge Creek, AK	5.84	64	P		Pn	00 34 01.3	+0.5
	baz=254,SNR=19							
CTG	Chitna Glacier	5.88	78	P		Pn	00 34 01.4	0.0
	baz=268							
CTGM	Chitina Glacie	5.88	78			Pn	00 34 01.5	+0.1
TABL	Table Mountain	5.98	83			Pn	00 34 02.7	-0.1
LOGN	Logan Glacier	6.04	79			Pn	00 34 03.3	-0.2
L27K	Beaver Creek,	6.10	58	Pn		Pn	00 34 04.0	-0.2
L27K	Beaver Creek,	6.10	58	P		Pn	00 34 04.3	+0.2
	baz=248,SNR=5.2							
H24K	Noodor Dome	6.10	21	Pn		Pn	00 34 03.2	-0.9
H24K	Noodor Dome	6.10	21	P		Pn	00 34 03.2	-0.9
	baz=206,SNR=13							
BC03		6.12	58			Pn	00 34 03.9	-0.4
BCAR	Beaver Creek A	6.12	58	Pn		Pn	00 34 03.8	-0.6
J26L	Joseph Creek	6.17	42	P		Pn	00 34 05.2	0.0
	baz=231,SNR=44							
SAMH	Samovar Hills	6.19	86			Pn	00 34 05.0	-0.5
BVCY	Beaver Creek	6.31	65			Pn	00 34 06.6	-0.4
BVCY	Beaver Creek	6.31	65	P		Pn	00 34 07.5	+0.5
	baz=255,SNR=7.1							
YUK3	Moose Creek	6.37	71			Pn	00 34 07.8	-0.2
YUK3	Moose Creek	6.37	71	P		Pn	00 34 08.0	0.0
	baz=262,SNR=7.7							
PCA	Pinnacle	6.45	86			Pn	00 34 08.0	-0.9
BCPM	Bancas Point	6.78	87	Pn		Pn	00 34 14.6	+1.4
YKU2	Yakutat	6.84	90	Pn		Pn	00 34 15.7	+1.8
PNL	Peninsula	6.95	89			Pn	00 34 14.4	-1.0
PNL	Peninsula	6.95	89	P		Pn	00 34 15.1	-0.3
	baz=281							
ANM	Nome	7.12	313	Pn		Pn	00 34 17.2	-0.4
ANM	Nome	7.12	313	P		Pn	00 34 17.0	-0.6
	baz=122							
COLD	Coldfoot	7.12	9			Pn	00 34 16.0	-1.6
COLD	Coldfoot	7.12	9	P		Pn	00 34 16.5	-1.1
	baz=192,SNR=6.4							
EGAK	Eagle	7.17	46			Pn	00 34 17.3	-1.0
YUK4	Talbot Arm	7.20	75	P		Pn	00 34 19.2	+0.3
	baz=267							
YUK6	Outpost Mounta	7.33	78	P		Pn	00 34 20.4	-0.3
	baz=271							
YUK7	Dusty Glacier	7.46	81			Pn	00 34 20.5	-1.9
DAWY	Dawson	7.50	53	Pn		Pn	00 34 21.5	-1.2
HYT	Haines Junctio	7.75	79	Pn		Pn	00 34 27.4	+1.2
HYT	Haines Junctio	7.75	79	P		Pn	00 34 26.2	0.0
	baz=273							
ISLZ	Isanotski Laza	7.92	230			Pn	00 34 26.8	-1.6
BM03	Burnt Mountain	8.12	24			Pn	00 34 29.2	-1.7
BMAR	Burnt Mountain	8.13	24	Pn		Pn	00 34 29.3	-1.8
M30M	Minto, Yukon	8.20	66	Pn		Pn	00 34 32.1	+0.2
I29M	Ogilvie Camp,	8.51	47			Pn	00 34 37.1	+1.1
TNA	Tin City	8.56	315			Pn	00 34 35.0	-1.7
TNA	Tin City	8.56	315	P		Pn	00 34 36.5	-0.2
	baz=122							
TOLK	Toolik Lake Re	8.56	9			Pn	00 34 37.2	+0.5
TOLK	Toolik Lake Re	8.56	9	P		Pn	00 34 36.3	-0.5
	baz=192							
N31M	Braeburn, Yuko	8.58	74	Pn		Pn	00 34 37.3	+0.3
RDOG	Red Dog Mine	8.89	336	Pn		Pn	00 34 41.1	0.0
SKAG	Skagway	9.02	87	Pn		Pn	00 34 44.0	+1.2
WHY	Whitehorse	9.05	79			Pn	00 34 44.5	+1.1
WHY	Whitehorse	9.05	79	P		Pn	00 34 42.6	-0.8
	baz=275							
M31M	Drury Creek, Y	9.27	70	Pn		Pn	00 34 47.2	+1.2
BESE	Bessie Mountai	9.49	92			Pn	00 34 47.3	-1.8
UNV	Unalaska Valle	9.68	234			Pn	00 34 49.9	-1.6
JIS	Juneau Island	9.82	93	Pn		Pn	00 34 54.9	+1.5
SIT	Sitka	9.84	101			Pn	00 34 51.9	-1.7
WRAK	Wrangell Islan	11.59	100	Pn		Pn	00 35 19.5	+3.0
CRAG	Craig	11.69	105	Pn		Pn	00 35 18.2	+0.4
INK	Inuvik	11.69	38	P		Pn	00 35 17.3	-0.4
	comp=E,0.2nm,0.3s,baz=233,slow=14,SNR=12							
INK				S		Sn	00 37 23.9	-3.0
	baz=272,slow=16,SNR=1.9							
INK	Inuvik	11.69	38			Pn	00 35 17.9	+0.2
DLBC	Dease Lake	11.94	89	P		Pn	00 35 22.6	+1.5
	comp=E,0.5nm,0.3s,baz=291,slow=11,SNR=11							
DLBC	Dease Lake	11.94	89	Pn		Pn	00 35 20.4	-0.8
DIB	Dawson Inlet,	13.34	113	Pn		Pn	00 35 38.7	-0.2
RUBB	Prince Rupert	13.70	106	Pn		Pn	00 35 42.7	-0.8
GRNB	Grenville Isla	14.12	107	Pn		Pn	00 35 47.7	-1.2
C36M	Paulatuk	15.21	41			P	00 36 03.1	-0.2
C36M	Paulatuk	15.21	41	P		Pn	00 36 02.1	-0.1
	baz=248							
A36M	Sachs Harbour	16.09	32			P	00 36 13.5	+0.4
A36M				IAmb		IAmb	00 36 14.7	
	comp=E,4.1nm,0.8s							
YKA	Yellowknife Ar	18.43	66	P		P	00 36 39.4	+0.6
	comp=Z,0.1nm,0.3s,baz=276,slow=9.9,SNR=18							
YKA				PcP		PcP	00 41 01.8	+0.3
	comp=Z,0.0nm,0.3s,baz=288,slow=1.5,SNR=7.5							
YKA				ScP		ScP	00 44 20.8	-0.5
	comp=Z,0.1nm,0.3s,baz=288,slow=2.2,SNR=12							
YKA	Yellowknife Ar	18.43	66	P		P	00 36 38.9	+0.1
BILL	Bilibino	18.97	311	P		P	00 36 44.0	-0.6
SMY	Shemya	19.40	262	P		P	00 36 50.1	+0.7
OZB	Mount Ozzard	19.46	113	P		P	00 36 49.9	-0.2
B04A	Port Angeles	21.02	112	P		P	00 37 06.7	-0.1
EDM	Edmonton	22.66	90	P		P	00 37 22.7	-0.6
EDM				IAmb		IAmb	00 37 25.6	
	comp=E,4.8nm,0.8s							
NEW	Newport	23.90	104	P		P	00 37 35.8	+1.1
	comp=Z,1.2nm,0.5s,baz=344,slow=7.4,SNR=2.8							
H04A	Detroit Lake	24.17	116	P		P	00 37 35.6	-1.5
PINE	Pine Mountain	25.42	116	P		P	00 37 48.1	-0.6
BEKR	Beckworth	28.84	120	P		P	00 38 21.6	+2.4
BEKR				IAmb		IAmb	00 38 22.0	
	comp=Z,2.0nm,0.6s							
PAHR	Pah Rah Range	29.40	119	P		P	00 38 25.9	+1.8
MPK	Martis Peak	29.46	120	P		P	00 38 25.2	+0.4
MPK				IAmb		IAmb	00 38 30.2	
	comp=Z,4.9nm,1.1s							
PNTR	Pine Nut	29.82	120	P		P	00 38 30.6	+2.7
PNTR				IAmb		IAmb	00 38 32.8	
	comp=Z,2.7nm,0.6s							
RLMT	Red Lodge	29.95	100	P		P	00 38 32.4	+3.4
RLMT				IAmb		IAmb	00 38 33.1	
	comp=Z,1.8nm,0.7s							
ELK	Elko	30.42	113	P		P	00 38 35.9	+2.7
	comp=Z,2.1nm,0.7s,baz=308,slow=11,SNR=7.5							
ELK	Elko	30.42	113	IAmb		IAmb	00 38 36.9	
	comp=Z,1.6nm,0.7s							
KVN	Kaiserville	30.50	118	P		P	00 38 36.4	+2.5
KVN				IAmb		IAmb	00 38 37.2	
	comp=Z,1.4nm,0.6s							
RYN	Ryan	30.67	119	P		P	00 38 37.2	+2.0
RYN				IAmb		IAmb	00 38 38.4	
	comp=Z,1.2nm,0.7s							
NVAR	Mina Array Bea	30.93	119	P		P	00 38 40.4	+2.8
	comp=Z,1.4nm,0.7s,baz=313,slow=8.8,SNR=17							
NV11	Mina Array Sit	30.99	119	P		P	00 38 37.9	-0.2
NV11				IAmb		IAmb	00 38 41.8	
	comp=Z,1.5nm,0.5s							
PDAR	Pinedale Array	31.55	104	P		P	00 38 44.7	+1.7
	comp=Z,2.2nm,0.4s,baz=334,slow=3.0,SNR=4.6							
R11A	Troy Canyon, C	32.20	116	P		P	00 38 50.3	+1.6
NLU	North Lily Min	32.52	110	P		P	00 38 53.5	+2.0
NLU				IAmb		IAmb	00 38 54.8	
	comp=Z,1.7nm,0.8s							
TPNV	Topopah Spring	33.06	118	P		P	00 38 58.6	+2.4
TPNV				IAmb		IAmb	00 38 59.3	
	comp=Z,1.0nm,0.5s							
CCUT	Cedar City	33.86	114	P		P	00 39 05.9	+2.7
SHPR	Sheep Range	33.91	117	P		P	00 39 04.8	+1.3
SRU	San Rafael Swe	33.91	109	P		P	00 39 06.3	+2.7
MTPU	Mount Pierson	34.00	112	P		P	00 39 07.1	+2.6
O20A	White River Ci	34.20	106	P		P	00 39 08.4	+2.4
O20A				IAmb		IAmb	00 39 13.8	
	comp=Z,2.6nm,1.0s							
PV13	Radium Mtn., P	35.48	108	P		P	00 39 19.2	+2.2
EYMN	Ely	36.81	81	P		P	00 39 28.0	+0.1
NRIK	Noril'sk	43.62	333	P		P	00 40 23.9	+0.3
	comp=Z,5.6nm,0.5s,baz=46,slow=6.7,SNR=10							
NRIK	Noril'sk	43.62	333	P		P	00 40 23.9	+0.3
NRIK				IAmb		IAmb	00 40 24.5	
	comp=Z,4.5nm,0.8s							
TXAR	Lajitas Array	45.16	110	P		P	00 40 38.2	+1.7
	comp=Z,0.5nm,0.5s,baz=341,slow=6.8,SNR=3.5							
USRK	Usuriysk Ar.	45.88	285	P		P	00 40 41.5	-0.3
	comp=Z,1.5nm,0.6s,baz=55,slow=8.9,SNR=2.3							
JCT	Junction City	46.03	106	P		P	00 40 43.8	+0.6
	baz=326,SNR=5.7							
KSRS	Korea Array	53.03	282	P		P	00 41 36.7	+0.7
	comp=Z,1.7nm,0.4s,baz=31,slow=6.7,SNR=4.7							
SONM	Songino Array	54.56	306	P		P	00 41 47.9	+0.7
	comp=Z,1.8nm,0.7s,baz=42,slow=7.5,SNR=16							
SONM	Songino Array	54.56	306	IAmb		IAmb	00 41 49.5	
	comp=Z,2.8nm,1.0s							
ZALV	Zalesovo Beam	57.11	323	P		P	00 42 05.1	+0.1
	comp=Z,5.2nm,0.5s,baz=31,slow=6.9,SNR=28							
KIRV	Kirov	60.18	347	P		P	00 42 25.4	-0.6
	comp=Z,4.7nm,0.6s,baz=315,slow=6.1,SNR=2.8							
KURK	Kurchatov	61.77	325	P		P	00 42 37.2	+0.3
KURK	Kurchatov	61.77	325	IAmb		IAmb	00 42 37.4	
	comp=Z,2.5nm,0.8s							
BVAR	Borovoye Array	61.80	332	P		P	00 42 37.0	-0.1
	comp=Z,2.0nm,0.6s							
KURBB	Kurchatov Arra	61.87	325	P		P	00 42 37.2	-0.4
	comp=Z,2.0nm,0.6s,baz=29,slow=6.5,SNR=8.9							
MKAR	Makanchi Array	64.17	321	P		P	00 42 52.0	-0.9
	comp=Z,1.0nm,0.5s,baz=38,slow=6.9,SNR=20							
AKTO	Aktyubinsk	66.82	339	P		P	00 43 09.5	-0.3
	comp=Z,0.7nm,0.4s,baz=78,slow=9.3,SNR=2.2							
CMAR	Chiang Mai Arr	82.67	294	P		P	00 44 41.1	-0.3
	comp=Z,0.4nm,0.3s,baz=29,slow=4.1,SNR=1.0							

IDC ***11*** *00:41:50.7±1.1,37.°44N×78.°37E, h0km, mb3.4/10, mb1 3.5/15, mb1mx3.4/66, mbtmp3.4/15, ML3.3/5, MS3.3/1, Ms1 3.3/1, ms1mx2.4/60, Error ellipse: s-maj=20.4km s-min=17.9km az=81.0*

NNC ***11*** *00:41:55.6±1.3,37.°68N×78.°34E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=11.7km s-min=8.9km az=78.0*

ISC 11 00:41:52.7±0.9, 37.°51N±0.°08×78.°37E±0.°08, h10km, n37, σ2s96/38, mb3.3/9, 4C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SATY	Saty	5.54	0	Pg	Pb	00	43 33.6	+4.0
	9.0nm,0.6s							
SATY				Lg	Lg	00	44 47.7	
	19nm,0.7s							
TNSS	Tian-Shan	5.63	349	Pg	Pb	00	43 34.0	+2.7
	19nm,0.5s							
TNSS				Lg	Lg	00	44 49.0	
	7.2nm,0.6s							
UZB	Uzynbulak	5.65	5	Pg	Pb	00	43 35.2	+3.7
	6.5nm,0.4s							
UZB				Lg	Lg	00	44 50.7	
	7.0nm,0.5s							
SHLS	Shalkode	5.70	8	Pg	Pg	00	43 37.8	-4.1
	8.6nm,0.5s							
SHLS				Lg	Lg	00	44 55.8	
	17nm,0.5s							
MDOK	Medeo	5.74	350	⇑Pg	Pb	00	43 36.9	+4.0
	8.0nm,0.6s							
MDOK				⇑Lg	Lg	00	44 51.7	
	19nm,0.9s							
MDOK	Medeo	5.74	350	Pg	Pb	00	43 35.6	+2.7
	6.4nm,0.5s							
MDOK				Lg	Lg	00	44 50.7	
	13nm,0.7s							
KOTS	Kotyrbulak	5.80	351	Pg	Pb	00	43 37.8	+3.8
	7.4nm,0.6s							
KOTS				Lg	Lg	00	44 54.3	
	20nm,0.5s							
MTBS	Maitube	5.80	346	Pg	Pb	00	43 38.1	+4.0
	3.3nm,0.4s							
MTBS				Lg	Lg	00	44 55.4	
	5.8nm,0.4s							
TKM2	Tokmak 2	5.80	339	⇓Pn	Pn	00	43 21.6	+2.6
	0.7nm,0.5s							
TKM2				⇑Pg	Pg	00	43 40.4	-3.4
	3.1nm,0.6s							
TKM2				⇓Lg	Lg	00	44 54.1	
	6.6nm,0.7s							
KST	Kastek	5.82	342	Pg	Pg	00	43 39.4	-4.8
	2.3nm,0.3s							
KST				Lg	Lg	00	44 58.3	
	9.8nm,0.7s							
PDGK	Podgornoye	5.87	8	Pg	Pb	00	43 39.6	+4.3
	2.9nm,0.4s							
PDGK				Lg	Lg	00	44 57.9	
	6.8nm,0.6s							
PDGK	Podgornoye	5.87	8	⇓Pn	Pn	00	43 22.3	+2.4
	3.4nm,0.4s							
PDGK				⇓Pg	Pg	00	43 40.6	-4.5
	3.8nm,0.5s							
PDGK				⇑Lg	Lg	00	44 56.9	
	12nm,0.6s							
AAK	Ala-Archa	5.92	331	Pn	Pn	00	43 23.9	+3.3
	0.5nm,0.3s,baz=148,slow=7.4,SNR=6.3							
AAK				Pg	Pb	00	43 38.8	+2.8
	2.5nm,0.3s,baz=133,slow=8.5,SNR=15							
AAK				Lg	Lg	00	45 01.0	
	0.6nm,0.3s,baz=90,slow=19,SNR=1.8							
KURS	Kuram	5.97	359	Pg	Pg	00	43 42.8	-4.3
	7.0nm,0.7s							
KURS				Lg	Lg	00	45 03.0	
	13nm,1.0s							
DGS	Degeres	6.06	342	Pg	Pb	00	43 42.2	+3.9
	10.0nm,0.5s							
DGS				Lg	Lg	00	45 02.8	
	7.5nm,0.6s							
KTBS	Karatobe	6.33	349	Pg	Pb	00	43 46.1	+3.2
	2.3nm,0.3s							
KTBS				Lg	Lg	00	45 09.8	
	18nm,0.6s							
CHKK	Chushkaly	6.42	351	Pg	Pb	00	43 48.9	+4.3
	3.8nm,0.3s							
CHKK				Lg	Lg	00	45 13.3	
	8.8nm,0.4s							
KRBS	Karabastau	6.

Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.65±.19; $M_{\theta\theta}$0.58±.11; $M_{\phi\phi}$2.07±.12; $M_{r\theta}$-0.51±.19; $M_{r\phi}$0.60±.07; $M_{\theta\phi}$0.06±.17; Best double couple: $M_0$2.51000×10^{16} NP1:ϕ_s191.00000°,δ44.00000°,λ-103.00000°. NP2: ϕ_s29.00000°,δ47.00000°,λ-77.00000°. Principal axes: T 2.2860, Plg1.0000°, Azm110.0000°; N 0.4490, Plg9.0000°, Azm200.0000°; P -2.7330, Plg81.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 11 00:50:18.2±0.3,5°94S±0°04×152°97E±0°07,h33km,n197,
σ1°07/182,mb4.8/68,MS3.7/41,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
KRVT	**Keravat (AS076**	**1.87**	**330**	Pn			**Pn**	**00 50 46.9**	**-1.2**
KRVT	404nm,0.3s,baz=227,slow=3.1,SNR=94			Sn			**Sn**	**00 51 10.2**	**-0.4**
RABL	386nm,0.3s,baz=150,slow=20,SNR=10.0 **Rabaul**	**1.91**	**335**	Pn			**Pn**	**00 50 47.8**	**-0.8**
RABL				Sn			**Sn**	**00 51 12.4**	**+0.9**
PMG	**Port Moresby**	**6.71**	**239**	Pn			**Pn**	**00 51 53.3**	**-1.3**
PMG	14nm,0.3s,baz=52,slow=6.3,SNR=17			Sn			**Sn**	**00 53 10.1**	**+0.1**
PMG	8.6nm,0.3s,baz=33,slow=23,SNR=3.1			LR			LR	00 54 19.3	
PMG	comp=Z,560nm,21.7s,baz=44,slow=37 **Port Moresby**	**6.71**	**239**	Pn			**Pn**	**00 51 54.9**	**+0.3**
MANU	**Manus Island**	**6.80**	**304**	Pn			**Pn**	**00 51 56.2**	**+0.4**
PATS	**Pohnpei**	**13.76**	**23**	Pn			**Pn**	**00 53 29.9**	**-1.3**
CTA	**Charters Tower**	**15.51**	**204**	Pn			**Pn**	**00 53 52.3**	**-2.4**
SANVU	0.2nm,0.3s,baz=338,slow=5.4,SNR=1.3 **Saraoutou**	**16.86**	**125**				**Pn**	**00 54 12.3**	**+0.3**
SANVU				IAmb			IAmb	00 54 17.9	
EIDS	comp=Z,71nm,0.9s **Eidsvold**	**19.41**	**185**				**Pn**	**00 54 42.3**	**-0.7**
DZM	**Mont Dzumac**	**20.66**	**142**	P			**P**	**00 54 54.3**	**-1.2**
DZM	comp=Z,2.8nm,0.6s,baz=344,slow=9.8,SNR=4.5			LR			LR	01 01 29.3	
DZM	comp=Z,162nm,20.7s,baz=348,slow=33 **Mont Dzumac**	**20.66**	**142**	*e*P			Pn	00 54 57.5	-0.4
DZM	comp=Z,106nm,1.2s			*e*LR			LR	00 59 45.3	
DZM	comp=Z,635nm,29.3s **Mont Dzumac**	**20.66**	**142**	P			**P**	**00 54 56.6**	**+1.1**
DZM				IAmb			IAmb	00 55 06.5	
ONTNC	comp=Z,70nm,1.3s **Ouen Toro**	**20.84**	**143**	P			**P**	**00 54 57.0**	**-0.4**
ONTNC				IAmb			IAmb	00 55 11.8	
GUMO	comp=Z,72nm,1.4s **Guam**	**21.00**	**338**	LR			LR	01 04 11.4	
OUENC	comp=Z,109nm,18.3s,baz=322,slow=40 **Ouen Island, N**	**21.16**	**142**	P			**P**	**00 55 01.2**	**+0.4**
OUENC				IAmb			IAmb	00 55 13.6	
SIJI	comp=Z,46nm,1.4s **Sorong**	**22.24**	**282**	LR			LR	01 05 05.8	
MTN	comp=Z,165nm,19.4s,baz=336,slow=40 **Manton Dam**	**22.60**	**251**	P			**P**	**00 55 16.7**	**+0.3**
MTN				IAmb			IAmb	00 55 21.8	
WR0	comp=Z,50nm,1.0s **Warramunga Arr**	**22.70**	**230**	P			**P**	**00 55 16.9**	**-0.4**
WR0				IAmb			IAmb	00 55 19.9	
WB0	comp=Z,48nm,1.5s **Warramunga Arr**	**22.70**	**231**	P			**P**	**00 55 17.0**	**-0.4**
WB0				IAmb			IAmb	00 55 19.8	
WB2	comp=Z,55nm,1.4s **Warramunga Arr**	**22.83**	**231**	P			**P**	**00 55 17.8**	**-1.0**
WB2				IAmb			IAmb	00 55 21.1	
WRA	comp=Z,34nm,1.2s **Warramunga Arr**	**22.84**	**231**	P			**P**	**00 55 17.2**	**-1.6**
WRA	comp=Z,15nm,1.0s,baz=50,slow=9.3,SNR=29			PcP			**PcP**	**00 59 10.4**	**+1.0**
WRA	comp=Z,0.7nm,0.6s,baz=53,slow=2.2,SNR=5.0			LR			LR	01 04 45.6	
WRA	comp=Z,162nm,18.2s,baz=355,slow=38 **Warramunga Arr**	**22.84**	**231**	P			**P**	**00 55 18.0**	**-0.8**
ARMA	**Armidale**	**24.39**	**183**	P			**P**	**00 55 34.9**	**+1.1**
AS31	**Alice Springs**	**25.44**	**224**	P			**P**	**00 55 43.1**	**-0.2**
ASAR	**Alice Springs**	**25.45**	**224**	P			**P**	**00 55 42.9**	**-0.4**
ASAR	comp=Z,7.7nm,0.7s,baz=60,slow=9.0,SNR=66			LR			LR	01 06 07.0	
ASAR	comp=Z,145nm,18.6s,baz=44,slow=38 **Alice Springs**	**25.45**	**224**	P			**P**	**00 55 42.4**	**-0.9**
KNRA	**Kununurra**	**25.65**	**246**	P			**P**	**00 55 45.3**	**+0.1**
LHI	**Lord Howe Isla**	**26.08**	**168**	P			**P**	**00 55 49.6**	**+0.6**
MSVF	**Nonsavu**	**27.16**	**118**	LR			LR	01 06 09.9	
H11S3	comp=Z,123nm,20.8s,baz=78,slow=35 **WAKE ISLAND Hy**	**27.79**	**29**	T			T	01 25 43.8	
H11S2	baz=208 **WAKE ISLAND Hy**	**27.80**	**29**	T			T	01 25 41.3	
H11S1	baz=208,slow=74 **WAKE ISLAND Hy**	**27.81**	**29**	T			T	01 25 41.2	
STKA	baz=208,slow=74 **Stephens Creek**	**27.92**	**201**	P			**P**	**00 56 04.3**	**-1.1**
STKA	comp=Z,5.9nm,0.8s,baz=34,slow=9.4,SNR=7.5			LR			LR	01 07 22.9	
STKA	comp=Z,78nm,18.1s,baz=23,slow=37 **Stephens Creek**	**27.92**	**201**	P			**P**	**00 56 05.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**29.29**	**243**	P			**P**	**00 56 16.9**	**-0.9**
FITZ	comp=Z,19nm,0.6s,baz=56,slow=8.3,SNR=100			LR			LR	01 06 56.2	
FITZ	comp=Z,105nm,21.6s,baz=68,slow=34 **Fitzroy Crossi**	**29.29**	**243**	P			**P**	**00 56 17.2**	**-0.6**
FITZ				IAmb			IAmb	00 56 18.4	
BATI	comp=Z,18nm,0.7s **Baumata**	**29.32**	**260**	LR			LR	01 08 46.4	
DAV	comp=Z,236nm,21.0s,baz=111,slow=38 **Davao City (W)**	**30.23**	**295**	LR			LR	01 06 26.7	
BBOO	comp=Z,94nm,21.4s,baz=152,slow=32 **Buckleboo**	**31.04**	**208**	P			**P**	**00 56 32.8**	**-0.3**
KAPI	**Kappang**	**33.08**	**270**	LR			LR	01 11 48.2	
FORT	comp=Z,45nm,21.1s,baz=80,slow=39 **Forrest**	**34.03**	**220**	P			**P**	**00 56 58.8**	**-0.5**
MBWA	**Marble Bar**	**35.57**	**242**	P			**P**	**00 57 12.2**	**-0.6**
MBWA				pP			**pP**	**00 57 21.0**	**+0.3**
MBWA				sP			**sP**	**00 57 24.8**	**+1.4**
AFI	**Afiamalu**	**35.58**	**106**	LR			LR	01 08 46.0	
PSA00	comp=Z,152nm,20.0s,baz=231,slow=31 **Pilbara Seismi**	**35.62**	**241**	P			**P**	**00 57 12.3**	**-0.9**
PSA00	**Pilbara Seismi**	**35.62**	**241**	P			**P**	**00 57 11.8**	**-1.4**
PSA00				IAmb			IAmb	00 57 14.2	
MYLDM	comp=Z,13nm,1.1s **Lahad Datu**	**36.15**	**287**	P			**P**	**00 57 17.9**	**0.0**
MYLDM				IAmb			IAmb	00 57 23.2	
QRZ	comp=Z,8.2nm,0.6s **Quartz Range**	**38.90**	**156**	P			**P**	**00 57 42.0**	**+1.2**
URZ	**Urewera**	**38.93**	**149**	LR			LR	01 13 08.7	
URZ	comp=Z,104nm,18.7s,baz=256,slow=35 **Urewera**	**38.93**	**149**	P			**P**	**00 57 40.1**	**-0.9**
URZ				IAmb			IAmb	00 57 40.7	
THZ	comp=Z,33nm,1.3s **Tophouse**	**39.85**	**157**	P			**P**	**00 57 49.7**	**+0.9**
THZ				IAmb			IAmb	00 57 53.4	
BSWZ	comp=Z,27nm,1.2s **Blackbirch Sta**	**40.20**	**156**	P			**P**	**00 57 52.0**	**+0.4**
BFZ	**Birch Farm**	**40.39**	**152**	P			**P**	**00 57 50.7**	**-2.5**
BFZ				IAmb			IAmb	00 58 04.0	
PLWZ	comp=Z,20nm,1.0s **Palliser**	**40.66**	**154**	P			**P**	**00 57 56.3**	**+0.8**
RPZ	**Rata Peaks**	**40.85**	**160**	LR			LR	01 12 03.7	
OXZ	comp=Z,124nm,19.5s,baz=256,slow=32 **Oxford**	**40.86**	**159**	P			**P**	**00 57 56.8**	**-0.2**
OXZ				IAmb			IAmb	00 58 04.2	
LBZ	comp=Z,37nm,1.3s **Lake Benmore**	**41.16**	**161**	P			**P**	**00 57 59.7**	**+0.2**
MORW	**Morawa**	**41.78**	**232**	P			**P**	**00 58 04.2**	**-0.6**
MJAR	**Matsushiro Arr**	**44.46**	**343**	LR			LR	01 14 17.4	
LEM	comp=Z,39nm,21.5s,baz=172,slow=32 **Lembang**	**45.07**	**266**	LR			LR	01 21 00.9	
RAR	comp=Z,84nm,18.1s,baz=120,slow=41 **Rarotonga**	**48.17**	**113**	LR			LR	01 15 38.6	
NJ2	comp=Z,53nm,21.5s,baz=268,slow=32 **Nanjing**	**49.83**	**321**	*e*P			**P**	**00 59 10.1**	**+1.8**
NJ2				pmax			pmax		
ASAJ	comp=Z,12nm,0.5s **Asahikawa**	**50.70**	**350**	LR			LR	01 19 24.5	
USA0B	comp=Z,30nm,19.5s,baz=120,slow=34 **Ussuriysk Arra**	**53.37**	**341**	P			**P**	**00 59 34.6**	**0.0**
USRK	**Ussuriysk Ar.**	**53.37**	**341**	P			**P**	**00 59 34.4**	**-0.1**
PSI	**Prapat**	**54.67**	**278**	LR			LR	01 27 52.5	
CN2	comp=Z,25nm,20.9s,baz=94,slow=41 **Changchun**	**55.40**	**336**	*e*P			**P**	**00 59 49.7**	**+0.4**
CN2				PcP			**PcP**	**01 00 49.0**	**-0.4**
CN2	comp=Z,10.0nm,0.6s			pmax			pmax		
PPT	**Papeete**	**57.22**	**107**	LR			LR	01 23 29.5	
PPT2	comp=Z,36nm,18.1s,baz=1.5,slow=35 **Papeete2**	**57.23**	**107**	*e*LR			LR	01 16 46.6	
XAN	comp=Z,90nm,29.2s **Xi'an**	**57.56**	**317**	P			**P**	**01 00 04.4**	**-0.6**
XAN				pP			pP	01 00 13.9	+0.9
XAN				pmax			pmax		
XAN	comp=Z,8.0nm,1.0s			LR			LR		
XAN	comp=N,120nm,14.4s			LR			LR		
XAN	comp=E,88nm,13.1s			LR			LR		
CMAR	comp=Z,140nm,15.8s **Chiang Mai Arr**	**58.52**	**296**	P			**P**	**01 00 12.5**	**+0.6**
CMAR	comp=Z,1.0nm,0.3s,baz=116,slow=5.0,SNR=12			LR			LR	01 26 23.3	
CMAR	comp=Z,20nm,18.0s,baz=140,slow=37 **Chiang Mai Arr**	**58.52**	**296**	P			**P**	**01 00 13.2**	**+1.3**
CHTO	**Chiang Mai**	**58.63**	**296**	P			**P**	**01 00 13.3**	**+0.6**
PETK	**Petropavlovsk-**	**58.96**	**3**	P			**P**	**01 00 14.1**	**-0.2**
PETK	comp=Z,4.7nm,0.6s,baz=170,slow=5.9,SNR=10.0 **Petropavlovsk-**	**58.96**	**3**	P			**P**	**01 00 14.8**	**+0.6**
PZH	**PanZhiHua**	**59.17**	**306**	P			**P**	**01 00 19.7**	**+3.3**
PZH	comp=Z,10.0nm,0.5s			pmax			pmax		
PZH	comp=Z,100nm,5.8s			pmax			pmax		
XLT	**XiLinHaoTe**	**59.73**	**330**	*e*P			**P**	**01 00 19.9**	**0.0**
XLT	comp=Z,7.0nm,0.8s			pmax			pmax		
XLT	comp=Z,96nm,5.1s			pmax			pmax		
HHC	**Hu-ho-hao-te**	**60.07**	**325**	*e*P			**P**	**01 00 25.4**	**+3.1**
HHC	comp=Z,26nm,1.0s			pmax			pmax		
HHC	comp=Z,40nm,4.3s			pmax			pmax		
SHEM	**Shemya Is, Ala**	**61.14**	**14**	LR			LR	01 25 39.3	
DRV	comp=Z,56nm,18.6s,baz=268,slow=35 **Dumont d'Urvil**	**61.29**	**186**	P			**P**	**01 00 31.2**	**+1.2**
DRV				pP			**sP**	**01 00 42.3**	**+1.2**
MA2	**Magadan**	**65.33**	**359**	P			**P**	**01 00 56.6**	**-0.3**
MA2	comp=Z,13nm,0.7s,baz=161,slow=7.1,SNR=11 **Magadan**	**65.33**	**359**	P			**P**	**01 00 56.8**	**0.0**
MA2	**Magadan**	**65.33**	**359**	P			**P**	**01 00 57.2**	**+0.3**
MA2				pP			**sP**	**01 01 08.5**	**+0.3**
GTA	**Gaotai**	**66.60**	**318**	*e*P			**P**	**01 01 07.1**	**+1.4**
GTA				pP			sP	01 01 17.3	+0.3
GTA				sP			pwP	01 01 21.8	-0.6
GTA	comp=Z,5.0nm,0.9s			pmax			pmax		
GTA	comp=Z,61nm,8.3s			pmax			pmax		
GTA	comp=N,92nm,17.1s			LR			LR		
GTA	comp=E,240nm,20.7s			LR			LR		
GTA	comp=Z,90nm,18.9s			LR			LR		
ULN	**Ulaanbaatar**	**67.05**	**328**	P			**P**	**01 01 08.5**	**+0.1**
ULN	comp=Z,10.0nm,1.5s			IAmb			IAmb	01 01 10.7	
SONM	**Songino Array**	**67.37**	**328**	P			**P**	**01 01 10.9**	**+0.5**
SONM	comp=Z,5.0nm,1.0s,baz=145,slow=5.6,SNR=22 **Songino Array**	**67.37**	**328**	P			**P**	**01 01 10.9**	**+0.5**
SONM	comp=Z,9.1nm,1.2s			IAmb			IAmb	01 01 12.6	
GOMU	**GeErMu**	**68.65**	**312**	P			**P**	**01 01 20.0**	**+1.0**
GOMU				pP			pP	01 01 23.0	-4.1
GOMU				sP			sP	01 01 27.4	-3.0
GOMU	comp=Z,4.0nm,1.0s			pmax			pmax		
GOMU	comp=Z,69nm,4.5s			pmax			pmax		
SEY	**Seymchan**	**68.68**	**360**	P			**P**	**01 01 18.4**	**+0.4**
LSA	comp=Z,1.5nm,0.6s,baz=186,slow=4.8,SNR=6.6 **Lhasa**	**69.02**	**305**	P			**P**	**01 01 21.8**	**+0.3**
YAK	**Yakutsk**	**70.12**	**349**	LR			LR	01 34 19.4	
YAK	comp=Z,21nm,18.4s,baz=91,slow=38 **Yakutsk**	**70.12**	**349**	P			**P**	**01 01 27.8**	**+0.8**
CCD	**Concordia, Ant**	**71.17**	**188**	P			**P**	**01 01 34.7**	**+0.9**
CCD				pP			**pwP**	**01 01 48.4**	**-1.4**
VNDA	**Vanda**	**71.69**	**178**	P			**P**	**01 01 37.2**	**+0.8**
VNDA	comp=Z,1.3nm,0.7s,baz=328,slow=7.5,SNR=9.6 **Vanda**	**71.69**	**178**	P			**P**		
PALK	**Pallekele**	**73.29**	**279**	P			**P**	**01 01 38.2**	**+1.8**
PALK	comp=Z,5.3nm,0.9s,baz=207,slow=1.9,SNR=3.6			LR			LR	**01 01 47.4**	**+0.2**
PALK	comp=Z,19nm,20.0s,baz=234,slow=42 **Pallekele**	**73.29**	**279**	P			**P**	01 40 58.1	
PALK	comp=Z,9.1nm,1.1s			IAmb			IAmb	**01 01 46.9**	**-0.3**
BILL	**Bilibino**	**74.40**	**5**	P			**P**	01 01 48.5	
BILL	comp=Z,9.1nm,0.8s			IAmb			IAmb	**01 01 53.6**	**+1.1**
GAMB	**Gambell**	**74.42**	**15**	P			**P**	01 01 54.7	
GAMB	comp=Z,9.8nm,0.9s			IAmb			IAmb	**01 01 53.0**	**+0.4**
WMQ	**Urumqi**	**76.69**	**317**	*e*P			**P**	01 01 55.0	
ANM	**Nome**	**76.80**	**17**	P			**P**	**01 02 08.7**	**+2.5**
P18K	**Big Mountain,**	**76.91**	**24**	P			**P**	**01 02 07.0**	**+0.6**
P18K	comp=Z,13nm,0.9s			IAmb			IAmb	**01 02 07.5**	**+0.4**
KDAK	**Kodiak Island**	**77.11**	**27**	LR			LR	01 02 07.6	
CNPM	comp=Z,49nm,20.0s,baz=231,slow=32 **China Poot**	**78.66**	**25**	P			**P**	01 31 14.5	
L19K	**White Mountain**	**78.73**	**22**	P			**P**	**01 02 17.5**	**+0.7**
L19K	comp=Z,10nm,0.9s			IAmb			IAmb	**01 02 18.6**	**+1.4**
M19K	**Big River Lodg**	**78.74**	**23**	P			**P**	01 02 20.0	
M19K	comp=Z,7.9nm,1.0s			IAmb			IAmb	**01 02 15.7**	**-1.5**
TTA	**Tatalina**	**78.76**	**21**	P			**P**	01 02 22.2	
TIXI	**Tiksi**	**79.04**	**352**	P			**P**	**01 02 18.4**	**+1.1**
TIXI	comp=Z,12nm,1.4s			IAmb			IAmb	**01 02 18.5**	**-0.1**
K20K	**Telida**	**79.72**	**21**	P			**P**	01 02 22.2	
RDOG	**Red Dog Mine**	**80.03**	**15**	P			**P**	**01 02 23.8**	**+1.3**
J20K	**Nowinta River**	**80.18**	**21**	P			**P**	**01 02 24.6**	**+0.6**
J20K	comp=Z,9.6nm,1.1s			IAmb			IAmb	**01 02 26.3**	**+1.4**
CAST	**Castle Rocks**	**80.49**	**22**	P			**P**	01 02 27.0	
BPAW	**Bear Paw Mtn.**	**81.27**	**22**	P			**P**	**01 02 26.6**	**-0.1**
BPAW	comp=Z,13nm,1.5s			IAmb			IAmb	**01 02 31.0**	**+0.2**
MK31	**Makanchi Array**	**81.29**	**319**	P			**P**	01 02 32.9	
MKAR	**Makanchi Array**	**81.29**	**319**	P			**P**	**01 02 31.9**	**+0.6**
MAKZ	comp=Z,6.7nm,1.0s,baz=102,slow=5.7,SNR=39 **Makanchi**	**81.50**	**319**	P			**P**	**01 02 31.2**	**-0.1**
MAKZ	comp=Z,13nm,1.1s			IAmb			IAmb	**01 02 33.1**	**+0.6**
H21K	**Melozitna Rive**	**81.52**	**20**	P			**P**	01 02 34.2	
I21K	**Tanana**	**81.52**	**20**	P			**P**	**01 02 32.9**	**+0.8**
I21K	comp=Z,9.7nm,1.1s			IAmb			IAmb	**01 02 33.3**	**+1.2**
RND	**Reindeer**	**81.70**	**23**	P			**P**	01 02 34.1	
MCK	**McKinley**	**81.84**	**22**	P			**P**	**01 02 33.5**	**+0.3**
MCK				IAmb			IAmb	**01 02 33.8**	**-0.1**
KLU	comp=Z,7.7nm,0.8s **Klutina**	**81.93**	**25**	P			**P**	01 02 34.9	
KLU				IAmb			IAmb	**01 02 34.7**	**+0.3**
DHY	comp=Z,16nm,1.1s **Denali Highway**	**82.11**	**23**	P			**P**	01 02 36.5	
ZAA0	**Zalesovo Array**	**82.19**	**326**	P			**P**	**01 02 36.0**	**+0.6**
ZALV	**Zalesovo Beam**	**82.19**	**326**	P			**P**	**01 02 35.5**	**-0.4**
ZALV	comp=Z,3.2nm,0.7s,baz=118,slow=5.9,SNR=14			LR			LR	**01 02 35.0**	**-0.9**
ZALV	comp=Z,32nm,18.7s,baz=114,slow=37 **Zalesovo Beam**	**82.19**	**326**	P			**P**	01 41 13.4	
NEA2	**Nenana**	**82.24**	**22**	P			**P**	**01 02 35.2**	**-0.7**
WRH	**Wood River Hil**	**82.54**	**22**	P			**P**	**01 02 35.7**	**-0.3**
WRH				IAmb			IAmb	**01 02 37.4**	**-0.1**
H23K	comp=Z,7.6nm,1.1s **Yukon River**	**82.73**	**20**	P			**P**	01 02 38.3	
H23K				IAmb			IAmb	**01 02 39.4**	**+0.9**
TCOL	comp=Z,12nm,1.4s **CIGO, UAF Yank**	**82.83**	**22**	P			**P**	01 02 40.7	
TCOL				IAmb			IAmb	**01 02 39.1**	**+0.1**
COLA	comp=Z,8.5nm,0.8s **College**	**82.84**	**22**	P			**P**	01 02 39.8	
COLA				IAmb			IAmb	**01 02 38.7**	**-0.3**
IL31	comp=Z,9.0nm,0.8s	**83.14**	**22**	P			**P**	01 02 39.8	
ILAR	**Eielson Array**	**83.14**	**22**	P			**P**	**01 02 40.3**	**-0.2**
ILAR	comp=Z,2.1nm,0.8s,baz=240,slow=5.7,SNR=20			LR			LR	**01 02 39.5**	**-1.1**
ILAR	comp=Z,52nm,18.8s,baz=280,slow=34 **Eielson Array**	**83.14**	**22**	P			**P**	01 37 51.5	
BARN	**Barnard Glacie**	**83.58**	**26**	P			**P**	**01 02 40.3**	**-0.3**
BARN				IAmb			IAmb	**01 02 44.4**	**+1.2**
CTGM	comp=Z,8.8nm,1.1s **Chitina Glacie**	**83.68**	**27**	P			**P**	01 02 47.6	
KSH	**Kashi**	**83.80**	**311**	P			**P**	**01 02 45.4**	**+1.8**
KSH				pP			sP	**01 02 47.0**	**+2.3**
KSH				sP			pwP	01 02 58.5	+2.2
KSH				pmax			pmax	01 03 02.2	+0.4
SCRK	comp=Z,6.0nm,1.3s **Sand Creek**	**83.87**	**23**	P			**P**	**01 02 45.7**	**+1.2**
M27K	**Edge Creek, AK**	**84.03**	**25**	P			**P**	**01 02 46.7**	**+1.3**
M27K				IAmb			IAmb	01 02 58.8	
QSPA	comp=Z,11nm,1.1s **South Pole Qui**	**84.03**	**180**	P			**P**	**01 02 46.1**	**+0.7**
QSPA				IAmb			IAmb	01 02 57.0	
TOLK	comp=Z,10nm,1.4s **Toolik Lake Re**	**84.24**	**18**	P			**P**	**01 02 47.7**	**+1.5**
BCAR	**Beaver Creek A**	**84.36**	**25**	P			**P**	**01 02 47.3**	**+0.3**
BOOM	**Boomskoye usch**	**84.50**	**314**	P			**P**	**01 02 48.3**	**0.0**
MAW	**Mawson**	**84.59**	**203**	P			**P**	**01 02 47.8**	**-0.2**
NIL	comp=Z,3.0nm,0.8s,baz=84,slow=3.8,SNR=4.3 **Nilore**	**84.76**	**304**	P			**P**	**01 02 49.1**	**-0.5**
NIL				IAmb			IAmb	01 02 50.5	
KURK	comp=Z,9.4nm,0.9s **Kurchatov**	**84.77**	**322**	P			**P**	**01 02 49.3**	**+0.1**
TKM2	**Tokmak 2**	**84.84**	**314**	P			**P**	**01 02 51.0**	**+1.0**
EGAK	SNR=7.6 **Eagle**	**85.33**	**23**	P			**P**	**01 02 52.8**	**+1.1**
EGAK				IAmb			IAmb	01 02 57.4	
CHMS	comp=Z,7.4nm,1.1s **Chumysh**	**85.46**	**314**	P			**P**	**01 02 54.1**	**+1.2**
UCH	SNR=6.6 **Uchtor**	**85.47**	**313**	P			**P**	**01 02 55.1**	**+1.6**
AAK	SNR=6.2 **Ala-Archa**	**85.57**	**314**	P			**P**	**01 02 54.6**	**+1.0**
AAK	SNR=6.3 **Ala-Archa**	**85.57**	**314**	LR			LR	01 43 27.7	
AAK	comp=Z,28nm,18.1s,baz=138,slow=37 **Ala-Archa**	**85.57**	**314**	P			**P**	**01 02 54.0**	**+0.3**
AAK	comp=Z,6.4nm,0.9s			IAmb			IAmb	01 02 56.7	
USP	**Ospenovka**	**85.70**	**314**	P			**P**	**01 02 54.9**	**+0.8**
AML	SNR=9.8 **Almayashu**	**86.05**	**313**	P			**P**	**01 02 58.0**	**+1.8**
N31M	SNR=21 **Braeburn, Yuko**	**86.37**	**27**	P			**P**	**01 02 55.1**	**-1.9**
N31M				IAmb			IAmb	01 02 59.2	
BBB	comp=Z,9.9nm,1.0s **Bella Bella**	**87.89**	**37**	LR			LR	01 36 37.1	
DLBC	comp=Z,28nm,18.9s,baz=312,slow=32 **Dease Lake**	**88.26**	**31**	P			**P**	**01 03 05.5**	**-0.8**
KKAR	comp=Z,0.6nm,0.3s,baz=296,slow=13,SNR=3.1 **Karatay Array**	**88.53**	**313**	P			**P**	**01 03 07.4**	**-0.4**
CHGR	**Chuyangaron**	**88.86**	**309**	P			**P**	**01 03 07.2**	**-2.3**
INK	**Inuvik**	**89.45**	**21**	P			**P**	**01 03 12.2**	**+0.7**
INK	comp=Z,5.9nm,1.1s,baz=225,slow=5.8,SNR=11			LR			LR	01 43 08.9	
INK	comp=Z,40nm,18.3s,baz=51,slow=36 **Inuvik**	**89.45**	**21**	P			**P**	**01 03 10.4**	**-1.0**
YBH	**Yreka Blue Hor**	**89.68**	**48**	LR			LR	01 37 52.9	
BRVK	comp=Z,54nm,19.4s,baz=293,slow=32 **Borovoye**	**90.32**	**323**	P			**P**	**01 03 14.9**	**-1.0**
BRVK				IAmb			IAmb	01 03 16.7	
LHV	comp=Z,5.5nm,0.8s **Little Huntoon**	**92.47**	**52**	P			**P**	**01 03 26.3**	**0.0**
LHV				IAmb			IAmb	01 03 32.8	
RYN	comp=Z,4.5nm,1.1s **Ryan**	**92.50**	**52**	P			**P**	**01 03 26.4**	**-0.2**
RYN				IAmb			IAmb	01 03 30.8	
NVAR	comp=Z,5.2nm,1.4s **Mina Array Bea**	**92.65**	**52**	P			**P**	**01 03 28.8**	**+1.4**
SYO	comp=Z,1.2nm,0.9s,baz=250,slow=5.6,SNR=8.3 **Syowa Base**	**92.66**	**199**	*e*P			**P**	**01 03 27.0**	**+0.6**
NV11	**Mina Array Sit**	**92.76**	**52**	P			**P**	**01 03 27.9**	**+0.1**
NV11	comp=Z,3.0nm,1.0s			IAmb			IAmb	01 03 31.9	
C36M	**Paulatuk**	**93.03**	**21**	P			**P**	**01 03 28.2**	**+0.1**
A36M	**Sachs Harbour**	**93.06**	**18**	P			**P**	**01 03 28.6**	**+0.5**
ELK	**Elko**	**95.19**	**50**	LR			LR	01 41 11.4	
YKA	comp=Z,31nm,18.9s,baz=213,slow=32 **Yellowknife Ar**	**96.34**	**28**	P			**P**	**01 03 44.3**	**+0.9**
YKA	comp=Z,1.4nm,1.0s,baz=267,slow=4.5,SNR=12			PKKPbc			**PKKPbc**	**01 20 28.2**	**-3.3**
ARU	comp=Z,0.2nm,0.8s,baz=102,slow=2.3,SNR=3.9 **Arti**	**97.35**	**326**	LR			LR	01 51 12.6	
ARU	comp=Z,26nm,18.8s,baz=151,slow=38 **Arti**	**97.35**	**326**	P			**P**	**01 03 46.8**	**-1.3**
ARU	comp=Z,3.9nm,0.9s			IAmb			IAmb	01 03 48.1	
GEYT	**Ailbeck**	**97.44**	**307**	LR			LR	01 48 43.6	
AKTO	comp=Z,19nm,20.9s,baz=150,slow=36 **Aktyubinsk**	**97.70**	**320**	LR			LR	01 50 12.8	
LPIG	comp=Z,19nm,18.2s,baz=34,slow=37 **La Paz**	**98.52**	**67**	LR			LR	01 47 38.4	
PDAR	comp=Z,25nm,18.1s,baz=280,slow=35 **Pinedale Array**	**99.48**	**48**	P			**Pdif**	**01 03 58.5**	**+0.2**
PDAR	comp=Z,0.4nm,0.7s,baz=260,slow=2.7,SNR=2.5			LR			LR	01 43 11.2	
FINES	comp=Z,41nm,18.8s,baz=297,slow=32 **FINESS Array B**	**112.15**	**335**	PKiKP			**PKiKP**	**01 08 50.1**	**0.0**
MNK	comp=Z,0.9nm,0.7s,baz=95,slow=4.6,SNR=4.5 **Minsk**	**114.64**	**328**	*i* PKP			**PKiKP**	**01 08 52.6**	**-2.5**
MNK	comp=E,1.0nm,1.0s			*i* PKP			**PKiKP**	**01 08 52.6**	**-2.5**
MNK	comp=N,10.0nm,1.0s			*i* PKP			**PKiKP**	**01 08 52.6**	**-2.5**
MNK	comp=Z,

mb4.7/16, Error ellipse: s-maj=19.2km s-min=3.0km az=100.0
NOU 11 01:18:22.5, 15°.24S×167°.30E, h9km, MLv4.2/6, Vanuatu Islands
ISC 11 01:18:06.4±0.6, 14°.31S±0°.07×166°.6E±0°.1, h28km, n50, σ1§04/44, mb4.3/21, MS3.4/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.28**	**152**	**Pn**	**Pn**	**01 18 27.0**	**-1.4**
SANVU	**Saraoutou**	**1.28**	**152**	**P**	**Pn**	**01 18 28.0**	**-0.5**
DVP	**Devils Point**	**3.73**	**156**	**P**	**Pn**	**01 19 04.8**	**+2.6**
KOUNC	**Koumac, New Ca**	**6.58**	**199**	Pn	**Pn**	**01 19 41.9**	**+0.5**
DZM	**Mont Dzumac**	**7.72**	**181**	**Pn**	**Pn**	**01 19 57.0**	**-0.1**
	1.0nm,0.3s,baz=342,slow=20,SNR=12						
DZM				Sn	**Sn**	**01 21 21.4**	**-2.3**
	0.6nm,0.3s,baz=288,slow=20,SNR=1.5						
DZM				LR	LR	01 22 28.9	
	comp=Z,200nm,21.9s,baz=212,slow=34						
DZM	**Mont Dzumac**	**7.72**	**181**	**Pn**	**Pn**	**01 19 57.1**	**+0.1**
OUENC	**Ouen Island, N**	**8.07**	**178**	Pn	**Pn**	**01 20 00.4**	**-1.4**
PINNC	**Pines Island,**	**8.30**	**174**	Pn	**Pn**	**01 20 07.0**	**+2.0**
EIDS	**Eidsvold**	**18.24**	**231**		**P**	**01 22 17.9**	**+0.2**
PMG	**Port Moresby**	**19.61**	**282**	LR	LR	01 29 00.9	
	comp=Z,186nm,19.3s,baz=60,slow=34						
CTA	**Charters Tower**	**20.24**	**251**	P	**P**	**01 22 39.6**	**+0.1**
	7.7nm,1.0s,baz=69,slow=16,SNR=4.6						
CTA				LR	LR	01 29 44.3	
	comp=Z,97nm,18.5s,baz=82,slow=35						
AFI	**Afiamalu**	**21.00**	**92**	LR	LR	01 28 56.7	
	comp=Z,79nm,20.7s,baz=211,slow=31						
BKZ	**Black Stump Fm**	**26.26**	**162**	P	**P**	**01 23 39.8**	**+0.4**
BKZ				IAmb	IAmb	01 24 07.8	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**28.76**	**228**	P	**P**	**01 24 02.0**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=6.2,slow=18,SNR=3.5						
STKA				LR	LR	01 33 42.4	
	comp=Z,80nm,19.8s,baz=35,slow=33						
STKA	**Stephens Creek**	**28.76**	**228**	P	**P**	**01 24 01.7**	**-0.1**
WB0	**Warramunga Arr**	**31.21**	**255**	P	**P**	**01 24 24.3**	**+0.7**
WRA	**Warramunga Arr**	**31.28**	**255**	P	**P**	**01 24 22.7**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=84,slow=9.2,SNR=5.1						
WRA				LR	LR	01 37 04.2	
	comp=Z,75nm,18.0s,baz=141,slow=36						
ASAR	**Alice Springs**	**32.20**	**248**	P	**P**	**01 24 31.3**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=73,slow=9.5,SNR=5.5						
ASAR				LR	LR	01 36 03.2	
	comp=Z,66nm,21.6s,baz=144,slow=34						
BBOO	**Buckleboo**	**33.31**	**231**	P	**P**	**01 24 43.5**	**+1.6**
BBOO				IAmb	IAmb	01 24 54.0	
	comp=Z,17nm,1.3s						
FITZ	**Fitzroy Crossi**	**39.44**	**259**	LR	LR	01 42 12.8	
	comp=Z,53nm,18.4s,baz=111,slow=37						
FITZ	**Fitzroy Crossi**	**39.44**	**259**	P	**P**	**01 25 33.8**	**-0.6**
PPT	**Papeete**	**42.22**	**100**	LR	LR	01 40 50.7	
	comp=Z,44nm,19.9s,baz=174,slow=32						
KSRS	**Korea Array**	**63.02**	**326**	P	**P**	**01 28 31.3**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=136,slow=37,SNR=4.1						
VNDA	**Vanda**	**63.27**	**181**	P	**P**	**01 28 32.9**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=357,slow=5.4,SNR=7.4						
VNDA	**Vanda**	**63.27**	**181**	P	**P**	**01 28 32.7**	**+0.7**
SBA	**Scott Base**	**63.55**	**180**	P	**P**	**01 28 35.2**	**+1.3**
USRK	**Ussuriysk Ar.**	**66.21**	**333**	P	**P**	**01 28 50.7**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=69,slow=18,SNR=1.9						
CMAR	**Chiang Mai Arr**	**74.17**	**294**	P	**P**	**01 29 42.7**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=121,slow=4.1,SNR=5.1						
CMAR	**Chiang Mai Arr**	**74.17**	**294**	P	**P**	**01 29 41.3**	**+0.4**
QSPA	**South Pole Qui**	**75.72**	**180**	P	**P**	**01 29 49.3**	**+0.1**
QSPA				IAmb	IAmb	01 30 01.1	
	comp=Z,8.5nm,1.1s						
SONM	**Songino Array**	**81.76**	**324**	P	**P**	**01 30 21.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=140,slow=6.6,SNR=4.8						
CAST	**Castle Rocks**	**83.79**	**17**	P	**P**	**01 30 32.9**	**+0.1**
CAST				IAmb	IAmb	01 30 33.4	
	comp=Z,5.3nm,0.9s						
J20K	**Nowinta River**	**83.81**	**16**	P	**P**	**01 30 33.8**	**+1.0**
I21K	**Tanana**	**85.17**	**16**	P	**P**	**01 30 40.3**	**+0.6**
H21K	**Melozitna Rive**	**85.32**	**16**	P	**P**	**01 30 40.6**	**+0.2**
H21K				IAmb	IAmb	01 30 50.9	
	comp=Z,6.8nm,1.2s						
HDA	**Harding Lake**	**86.06**	**18**	P	**P**	**01 30 43.8**	**-0.3**
IL31		**86.34**	**18**	P	**P**	**01 30 44.4**	**-1.0**
IL31				IAmb	IAmb	01 31 00.1	
	comp=Z,3.9nm,0.8s						
ILAR	**Eielson Array**	**86.34**	**18**	P	**P**	**01 30 44.4**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=237,slow=5.6,SNR=22						
ILAR				LR	LR	02 04 59.2	
	comp=Z,29nm,18.8s,baz=356,slow=33						
J25K	**Salcha River,**	**86.69**	**19**	P	**P**	**01 30 47.3**	**0.0**
J25K				IAmb	IAmb	01 31 10.4	
	comp=Z,7.2nm,1.2s						
SCRK	**Sand Creek**	**86.69**	**20**	P	**P**	**01 30 47.4**	**0.0**
SCRK				IAmb	IAmb	01 30 48.3	
	comp=Z,3.4nm,1.0s						
PFO	**Pinyon Flats O**	**87.30**	**54**	LR	LR	02 06 25.0	
	comp=Z,50nm,18.4s,baz=204,slow=33						
NVAR	**Mina Array Bea**	**87.51**	**49**	P	**P**	**01 30 52.6**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=241,slow=11,SNR=2.8						
NVAR				LR	LR	02 01 44.2	
	comp=Z,54nm,21.0s,baz=248,slow=30						
ELK	**Elko**	**90.51**	**48**	LR	LR	02 08 32.3	
	comp=Z,32nm,18.1s,baz=215,slow=34						
MKAR	**Makanchi Array**	**96.44**	**317**	P	**P**	**01 31 33.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=101,slow=6.3,SNR=8.0						
MKAR	**Makanchi Array**	**96.44**	**317**	P	**P**	**01 31 33.4**	**+0.4**
ZALV	**Zalesovo Beam**	**96.66**	**324**	P	**P**	**01 31 32.9**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=116,slow=6.6,SNR=2.3						
TXAR	**Lajitas Array**	**96.67**	**62**	LR	LR	02 05 41.2	
	comp=Z,25nm,21.3s,baz=352,slow=30						
YKA	**Yellowknife Ar**	**97.48**	**27**	P	**P**	**01 31 35.6**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=255,slow=4.4,SNR=6.0						
YKA	**Yellowknife Ar**	**97.48**	**27**	P	**P**	**01 31 36.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**165.27**	**267**	PKPab	**PKPab**	**01 39 06.2**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=35,slow=3.5,SNR=2.6						

IDC 11 01:30:37.9±9.3, 6°.55S×127°.24E, h472km±137km, mb2.6/1, mb1 2.7/4, mb1mx2.3/43, mbtmp3.5/4, Error ellipse: s-maj=108.9km s-min=53.9km az=40.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.59**	**188**	P	P	01 33 12.7	+0.6
	baz=1.8,slow=11						
WRA	**Warramunga Arr**	**14.99**	**153**	P	P	01 33 47.0	-1.6
	0.3nm,0.3s,baz=330,slow=11,SNR=13						
ASAR	**Alice Springs**	**18.19**	**160**	P	P	01 34 21.7	+0.2
	0.1nm,0.3s,baz=348,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**66.37**	**328**	P	P	01 40 38.9	0.0
	0.2nm,0.6s,baz=122,slow=7.0,SNR=2.6						

NOU 11 01:34:07.0, 15°.54S×167°.54E, h75km, mb3.8/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.34**	**286**	P	Pn	01 34 20.4	+1.4
DVP	**Devils Point**	**2.26**	**164**	P	Pn	01 34 42.7	+0.4
YATNC	**Mamie plateau,**	**6.51**	**185**	P	Pn	01 35 38.8	-1.4
	21nm,1.1s						
DZM	**Mont Dzumac**	**6.58**	**189**	P	Pn	01 35 40.5	-0.7
NOUC	**Port Laguerre**	**6.63**	**190**	P	Pn	01 35 42.5	+0.7
OUENC	**Ouen Island, N**	**6.87**	**185**	P	Pn	01 35 46.4	+1.2
	15nm,1.8s						

IDC 11 01:34:26.1±1.3, 38°.24N×72°.21E, h0km, mb3.4/6, mb1 3.5/12, mb1mx3.4/48, mbtmp3.4/12, ML3.0/5, Error ellipse: s-maj=23.3km s-min=18.3km az=145.0
NNC 11 01:34:28.5±2.5, 38°.15N×72°.61E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=18.0km s-min=10.3km az=179.0
ISC 11 01:34:27.6±1.0, 38°.10N±0°.08×72°.37E±0°.06, h10km, n28, σ2§72/28, mb3.3/6, 2C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**4.42**	**337**	Pg	**Pb**	**01 35 49.8**	**+4.4**
	1μm,0.7s						
IUG				Lg	Lg	01 36 51.3	
	70nm,0.7s						
MRKS	**Merke**	**4.68**	**8**	Pg	**Pg**	**01 35 53.7**	**-3.6**
	12nm,0.5s						
MRKS				Lg	Lg	01 36 58.6	
	12nm,0.7s						
AAK	**Ala-Archa**	**4.81**	**19**	Pn	**Pn**	**01 35 43.1**	**+2.8**
	1.0nm,0.3s,baz=214,slow=12,SNR=9.9						
AAK				Sn	**Sn**	**01 36 38.9**	**+2.8**
	0.3nm,0.3s,baz=184,slow=16,SNR=3.9						
KK31	**Karatay Array**	**5.19**	**345**	⇑Pn	**Pn**	**01 35 49.0**	**+3.6**
	2.3nm,0.2s,baz=160,slow=12,SNR=49						
KK31				⇑Sn	**Sn**	**01 36 48.4**	**+3.1**
	0.7nm,0.2s,baz=166,slow=26						
BRLS	**Borolday**	**5.29**	**339**	Pg	**Pb**	**01 36 01.8**	**+1.7**
	7.6nm,0.8s						
BRLS				Lg	Lg	01 37 11.0	
	9.3nm,0.7s						
KST	**Kastek**	**5.64**	**28**	Pg	**Pb**	**01 36 08.6**	**+2.4**
	5.6nm,1.2s						
KST				Lg	Lg	01 37 23.2	
	17nm,0.8s						
DGS	**Degeres**	**5.75**	**26**	Pg	**Pg**	**01 36 13.4**	**-4.2**
	6.0nm,0.8s						
DGS				Lg	Lg	01 37 31.0	
	12nm,0.8s						
MTBS	**Maitube**	**5.89**	**30**	Pg	**Pb**	**01 36 13.1**	**+2.6**
	5.9nm,0.6s						
MTBS				Lg	Lg	01 37 30.9	
	5.6nm,1.0s						
TNSS	**Tian-Shan**	**6.03**	**34**	Pg	**Pb**	**01 36 16.0**	**+2.9**
	4.2nm,0.4s						
TNSS				Lg	Lg	01 37 36.1	
	5.0nm,0.7s						
KRBS	**Karabastau**	**6.12**	**23**	Pg	**Pb**	**01 36 17.3**	**+3.0**
	5.7nm,0.7s						
KRBS				Lg	Lg	01 37 38.1	
	4.2nm,0.9s						
MDOK	**Medeo**	**6.18**	**34**	Pg	**Pb**	**01 36 16.1**	**+0.7**
	4.2nm,0.6s						
MDOK				Lg	Lg	01 37 36.1	
	9.4nm,0.9s						
KOTS	**Kotyrbulak**	**6.26**	**34**	Pg	Pg	01 36 20.7	-6.9
	4.1nm,0.9s						
KOTS				Lg	Lg	01 37 43.4	
	15nm,0.7s						
KTBS	**Karatobe**	**6.48**	**29**	Pg	**Pb**	**01 36 23.7**	**+3.2**
	2.5nm,0.6s						
KTBS				Lg	Lg	01 37 49.0	
	9.6nm,0.8s						
CHKK	**Chushkaly**	**6.72**	**30**	Pg	Pb	01 36 28.8	+4.2
	0.7nm,0.1s						
CHKK				Lg	Lg	01 37 57.2	
	7.5nm,0.4s						
ARXS	**Arharly**	**7.36**	**32**	Pg	Pg	01 36 40.8	-7.7
	4.3nm,0.7s						
ARXS				Lg	Lg	01 38 17.8	
	5.7nm,0.8s						
PDGK	**Podgornoye**	**7.51**	**44**	Pg	**Pb**	**01 36 39.5**	**+1.4**
	1.4nm,0.6s						
PDGK				Lg	Lg	01 38 16.1	
	2.9nm,1.2s						
GEYT	**Alibeck**	**11.25**	**274**	Pn	Pn	01 37 05.9	-2.6
	0.2nm,0.3s,baz=94,slow=16,SNR=2.2						
GEYT				Sn	**Sn**	**01 39 15.8**	**+1.4**
	0.2nm,0.3s,baz=171,slow=21,SNR=2.6						
MKAR	**Makanchi Array**	**11.35**	**37**	Pn	**Pn**	**01 37 10.3**	**+0.5**
	0.1nm,0.3s,baz=202,slow=19,SNR=1.8						
KURBB	**Kurchatov Arra**	**13.26**	**17**	Pn	**Pn**	**01 37 34.3**	**-1.5**
	baz=206,slow=11,SNR=1.9						
AKTO	**Aktyubinsk**	**16.02**	**325**	Pn	**Pn**	**01 38 08.7**	**-4.2**
	0.1nm,0.3s,baz=144,slow=12,SNR=2.4						
AKTO				Sn	**Sn**	**01 41 08.1**	**-2.4**
	0.1nm,0.3s,baz=14,slow=13,SNR=2.5						
ZALV	**Zalesovo Beam**	**18.00**	**24**	P	**Pn**	**01 38 35.8**	**-2.1**
	0.2nm,0.3s,baz=211,slow=2.6,SNR=2.2						
ARU	**Arti**	**20.52**	**338**	P	**P**	**01 39 06.6**	**+0.8**
	0.5nm,0.4s,baz=125,slow=10,SNR=3.8						
SONM	**Songino Array**	**26.54**	**58**	P	**P**	**01 40 06.0**	**+0.4**
	0.2nm,0.4s,baz=225,slow=13,SNR=1.7						
CMAR	**Chiang Mai Arr**	**30.33**	**123**	P	**P**	**01 40 42.4**	**+3.0**
	0.9nm,0.4s,baz=20,slow=27,SNR=2.8						
FINES	**FINESS Array B**	**36.79**	**325**	P	**P**	**01 41 34.2**	**-1.0**
	1.0nm,0.9s,baz=118,slow=25,SNR=1.8						
NOA	**NORSAR Array B**	**43.78**	**322**	P	**P**	**01 42 32.9**	**-0.3**
	0.1nm,0.6s,baz=180,slow=13,SNR=1.7						
TORD	**Torodi Ar. Bea**	**66.85**	**269**	P	**P**	**01 45 17.7**	**-2.3**
	0.3nm,0.9s,baz=146,slow=9.0,SNR=1.6						
YKA	**Yellowknife Ar**	**79.59**	**3**	P	**P**	**01 46 32.9**	**-1.7**
	0.2nm,0.7s,baz=349,slow=5.8,SNR=3.8						

ISN 11 01:54:19.6±1.3, 34°.41N×45°.52E, h8km±12km, ML3.4
TEH 11 01:54:21.6, 34°.43N×45°.53E, h11km, ML3.2
ISC 11 01:54:21.7±1.6, 34°.39N±0°.04×45°.48E±0°.04, h3km±13km, n24, σ0§96/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.81**	**67**	*e*Pg	**Pg**	**01 54 36.2**	**-1.0**
IDHR				*e*		01 54 48.9	
	comp=Z,17μm,0.3s						
IGHG	**Ghaleghazi**	**0.90**	**93**	*e*Pg	**Pg**	**01 54 38.6**	**-0.4**
IGHG				*e*		01 54 39.8	
	comp=Z,16μm,0.2s						
IGHG				*e*Sg	**Sb**	**01 54 51.7**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.29**	**95**	*e*Pg	**Pg**	**01 54 45.5**	**-1.0**
KCHF				*e*Sg	**Sn**	**01 55 04.2**	**-0.6**
IBDR	**Badra**	**1.33**	**164**	*e*Pn	**Pn**	**01 54 46.0**	**-1.1**
IBDR				*e*Sn	**Sb**	**01 55 05.0**	**+0.4**
ILIN	**Lien**	**1.33**	**66**	*e*Pg	**Pb**	**01 54 46.6**	**-0.8**
KER	**Kermanshah**	**1.36**	**90**	*e*Pg	**Pn**	**01 54 47.0**	**-0.8**
KER				*e*Sg	**Sn**	**01 55 05.9**	**-0.5**
IKRK	**Kirkuk**	**1.38**	**317**	*e*Pn	**Pn**	**01 54 47.0**	**-0.9**
IKRK				*e*Sn	**Sb**	**01 55 07.0**	**+0.8**
IKRK				AML	AML	01 55 12.1	
	comp=E,527nm,0.3s						
IKRK				AML	AML	01 55 12.2	
	comp=N,944nm,0.5s						
BHD	**Baghdad**	**1.44**	**220**	*e*Pn	**Pn**	**01 54 48.0**	**-0.7**
BHD				*e*Sn	**Sn**	**01 55 09.0**	**+0.9**
BHD				AML	AML	01 55 18.1	
	comp=E,577nm,0.4s						
IBZA	**Bozab**	**1.97**	**87**	*e*Pn	**Pb**	**01 54 57.6**	**-0.7**
IBZA				*e*		01 55 27.9	
	comp=Z,3μm,0.4s						
IKFM	**Kafar-mosalman**	**2.15**	**113**	*e*Pn	**Pn**	**01 54 58.9**	**+0.6**
DHL1	**Dehloran**	**2.27**	**138**	*e*Sg	**Sg**	**01 55 37.5**	**+2.9**
DHL1				*e*Pg	**Pg**	**01 55 04.7**	**-0.5**
MAHB	**Mahabad**	**2.38**	**4**	*e*Pn	**Pn**	**01 55 01.9**	**+0.1**
MAHB				*e*		01 55 36.8	
	comp=Z,2μm,0.5s						
HSAM	**Samen**	**2.59**	**93**	*e*Pn	**Pn**	**01 55 05.3**	**+0.6**
RAFI	**Al-Rafai**	**2.71**	**169**	*e*Pn	**Pn**	**01 55 06.0**	**-0.1**
RAFI				*e*Sn	**Sn**	**01 55 40.0**	**+0.6**
HAGD	**Aghdareh**	**3.05**	**81**	*e*Pn	**Pn**	**01 55 11.6**	**+0.6**
HAGD				*e*		01 55 18.5	
	comp=Z,415nm,0.3s						
ZNJK	**Zanjan**	**3.47**	**48**	*e*Pn	**Pn**	**01 55 18.0**	**+1.2**
ASAO	**Ashtian**	**3.76**	**86**	*e*Pn	**Pn**	**01 55 21.8**	**+1.0**
KHMZ	**Khomeyn**	**3.77**	**99**	*e*Pn	**Pn**	**01 55 21.9**	**+0.9**
IRAZ	**Razeghan**	**3.79**	**73**	*e*Pn	**Pn**	**01 55 21.0**	**-0.2**
IRAZ				*e*		01 56 39.9	
	comp=Z,242nm,0.9s						
ISRB	**Sarab**	**3.86**	**27**	*e*Pn	**Pn**	**01 55 22.9**	**+0.7**
ISRB				*e*		01 55 24.3	
	comp=Z,184nm,0.2s						
GRMI	**Germi**	**4.82**	**23**	*e*Pn	**Pn**	**01 55 36.6**	**+1.3**
QAMS	**Qamsar**	**4.95**	**96**	*e*Pn	**Pn**	**01 55 37.0**	**-0.2**
KRSH	**Karshahi**	**5.53**	**92**	*e*Pn	**Pn**	**01 55 45.5**	**+0.4**
ISFB	**Sefidab**	**5.59**	**88**	*e*Pn	**Pn**	**01 55 45.4**	**-0.4**

BJI 11 02:07:02.0±0.0, 4°.71N×133°.58E, h10km, mb4.8/46, mB4.8/26, Ms4.4/8, Ms7 4.1/4
IDC 11 02:07:08.0±0.4, 5°.37N×133°.04E, h0km, mb4.6/26, mb1 4.7/29, mb1mx4.6/44, mbtmp4.6/29, ML4.6/3, MS3.4/24, Ms1 3.4/24, ms1mx3.2/77, Error ellipse: s-maj=19.5km s-min=10.1km az=73.0
NEIC 11 02:07:12.6±1.3, 5°.32N±0°.08×133°.03E±0°.09, h24km±4km, mb4.8/104, Error ellipse: s-maj=13.6km s-min=11.5km az=66.0
DJA 11 02:07:13.6±1.3, 5°N±5°×13°3E±°, h33km±10km, M4.8/40, mB5.3/16, mb4.9/40, MLv5.1/6, Mw(mB)4.7/16
ISC 11 02:07:09.8±0.3, 5°.38N±0°.05×133°.08E±0°.07, h10km, n238, σ1§12/211, mb4.8/90, MS3.5/23, 1C-4D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**6.46**	**196**	P	**Pn**	**02 08 43.8**	**-1.2**
SIJI	**Sorong**	**6.46**	**196**	Pn	**Pn**	**02 08 43.4**	**-1.6**
	6.1nm,0.3s,baz=31,slow=8.3,SNR=11						
TNTI	**Ternate**	**7.31**	**231**	Pn	**Pn**	**02 08 56.4**	**-0.3**
TNTI	**Ternate**	**7.31**	**231**	P	**Pn**	**02 08 57.8**	**+1.1**
	0.4nm2μm108nm,1.7s						
TNTI	**Ternate**	**7.31**	**231**	P	**Pn**	**02 08 58.6**	**+1.9**
DAV	**Davao City (W)**	**7.64**	**283**	LR	LR	02 12 41.8	
	comp=Z,199nm,18.4s,baz=99,slow=44						
SGSI	**Sangihe**	**7.71**	**258**	P	**Pn**	**02 09 04.1**	**+1.9**
LBMI	**Labuha**	**8.17**	**223**	P	**Pn**	**02 09 11.5**	**+3.0**
	2μm62nm,0.9s						
MSAI	**Masohi**	**9.60**	**206**	P	**Pn**	**02 09 30.0**	**+1.8**
KMSI	**Cibinong**	**10.26**	**243**	P	**Pn**	**02 09 40.4**	**+3.2**
	200nm,0.9s						
GTOI	**Gorontalo**	**11.10**	**245**	P	**Pn**	**02 09 50.3**	**+1.6**
	258nm28nm,0.8s						
LUWI	**Luwuk**	**12.11**	**239**	Pn	**Pn**	**02 10 02.5**	**0.0**
MRSI	**Marisa**	**12.14**	**247**	P	**Pn**	**02 10 05.4**	**+2.5**
	2μm210nm,0.8s						
TOLI2	**Tolitoli**	**12.98**	**251**	Pn	**Pn**	**02 10 12.3**	**-2.2**
MPSI	**Mapaga**	**14.08**	**250**	P	**Pn**	**02 10 33.1**	**+3.6**
	26nm,0.8s						
MYLDM	**Lahad Datu**	**14.52**	**270**		**Pn**	**02 10 35.2**	**-0.3**
TTSI	**Tana Toraja**	**15.66**	**238**	P	**Pn**	**02 10 50.7**	**-0.1**
	997nm69nm,0.8s						
BNSI	**Bone**	**16.19**	**233**	P	**Pn**	**02 10 57.8**	**+0.2**
	49nm,0.8s						
SPSI	**Sidrap Palu**	**16.21**	**235**	P	**Pn**	**02 10 59.8**	**+2.0**
	43nm,1.5s						
BKSI	**Bulukumba**	**16.74**	**231**	P	**Pn**	**02 11 06.8**	**+2.2**
	30nm,0.7s						
KKM	**Kota Kinabalu**	**16.79**	**273**	Pn	**Pn**	**02 11 04.8**	**-0.6**
KAPI	**Kappang**	**16.84**	**232**	Pn	**Pn**	**02 11 06.5**	**+0.7**
	1.6nm,0.3s,baz=49,slow=14,SNR=2.2						
KAPI				LR	LR	02 17 15.5	
	comp=Z,99nm,20.0s,baz=55,slow=36						
KAPI	**Kappang**	**16.84**	**232**	Pn	**Pn**	**02 11 05.9**	**0.0**
SMKI	**Samarinda**	**16.87**	**250**	P	**Pn**	**02 11 06.3**	**0.0**
	151nm,0.5s						
BKB	**Balikpapan**	**17.46**	**248**	P	**Pn**	**02 11 14.4**	**+0.9**
BKB				IAmb	IAmb	02 11 20.5	
	comp=Z,131nm,1.3s						
MMRI	**Maumere**	**17.62**	**218**		**Pn**	**02 11 15.9**	**+0.2**
MMRI				IAmb	IAmb	02 11 25.4	
	comp=Z,60nm,1.0s						
BATI	**Baumata**	**18.10**	**211**	P	**Pn**	**02 11 22.5**	**+1.0**
	comp=Z,5.0nm,0.3s,baz=311,slow=9.3,SNR=4.3						
BATI				LR	LR	02 17 43.4	
	comp=Z,214nm,21.6s,baz=75,slow=35						
BATI	**Baumata**	**18.10**	**211**	P	**Pn**	**02 11 23.0**	**+1.5**
	comp=Z,28nm,0.8s						
MTN	**Manton Dam**	**18.20**	**186**	P	**Pn**	**02 11 22.2**	**-0.6**
MTN	**Manton Dam**	**18.20**	**186**	P	**Pn**	**02 11 24.4**	**+1.6**
MTKI	**Muara Teweh, K**	**19.21**	**251**	P	**P**	**02 11 36.3**	**+2.1**
WBSI	**Waikabubak, Su**	**20.21**	**222**	P	**P**	**02 11 46.1**	**+1.0**
	comp=Z,34nm,0.8s						
BBKI	**Banjar Baru**	**20.22**	**245**	P	**P**	**02 11 48.1**	**+2.9**
	comp=Z,24nm,1.0s						
PLAI	**Plampang**	**20.78**	**227**	P	**P**	**02 11 52.6**	**+1.4**
	comp=Z,782nmcomp=Z,36nm,0.8s						
PLAI	**Plampang**	**20.78**	**227**	P	**P**	**02 11 52.1**	**+0.9**
SBUM	**Sibu**	**21.01**	**263**	P	**P**	**02 11 54.9**	**+1.2**
SBUM				IAmb	IAmb	02 12 13.7	
	comp=Z,37nm,1.1s						
YULB	**Yu-li**	**21.21**	**329**	P	**P**	**02 11 56.3**	**+0.5**
KRVT	**Keravat (AS076**	**21.23**	**117**	P	**P**	**02 11 57.0**	**+0.9**
	comp=Z,26nm,0.7s,baz=309,slow=11,SNR=4.7						
YOJ	**Yonaguni jima**	**21.30**	**334**	P	**P**	**02 11 58.2**	**+1.4**
YOJ	**Yonaguni jima**	**21.30**	**334**	P	**P**	**02 12 00.4**	**+3.6**
KNRA	**Kununurra**	**21.35**	**191**	P	**P**	**02 11 57.0**	**-0.3**
KNRA				IAmb	IAmb	02 12 00.5	
	comp=Z,42nm,0.7s						
KNRA	**Kununurra**	**21.35**	**191**	P	**P**	**02 11 58.2**	**+0.9**
COEN	**Coen**	**21.66**	**153**	P	**P**	**02 12 00.3**	**-0.5**
COEN	**Coen**	**21.66**	**153**	P	**P**	**02 12 03.7**	**+3.0**
NACB	**Ninganchiao**	**21.71**	**331**	P	**P**	**02 12 01.3**	**+0.1**
NACB				IAmb	IAmb	02 12 02.9	
	comp=Z,49nm,1.0s						
YHNB	**Yeheng**	**22.24**	**331**	P	**P**	**02 12 07.2**	**+0.2**
KMMI	**Kalianget**	**22.72**	**237**	P	**P**	**02 12 13.4**	**+1.3**
	comp=Z,52nm,1.3s						
KSM	**Kuching**	**23.05**	**261**	P	**P**	**02 12 15.7**	**+0.1**
KSM				IAmb	IAmb	02 12 25.0	
	comp=Z,54nm,1.1s						
KSM	**Kuching**	**23.05**	**261**	P	**P**	**02 12 17.2**	**+1.6**
JCJ	**Chichijima**	**23.28**	**21**	LR	LR	02 18 59.1	
	comp=Z,98nm,21.5s,baz=296,slow=30						
JAGI	**Jajag, Banyuwa**

CM31				IAmb	IAmb	02 14 10.8	
	comp=Z,11nm,1.1s						
CMAR	**Chiang Mai Arr**	**35.76**	**294**	P	**P**	**02 14 09.6**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=119,slow=6.7,SNR=27						
CMAR				PcP	**PcP**	**02 16 37.7**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=74,slow=1.4,SNR=6.4						
CMAR				LR	LR	02 29 10.8	
	comp=Z,12nm,20.3s,baz=165,slow=37						
CMAR	**Chiang Mai Arr**	**35.76**	**294**	P	**P**	**02 14 08.8**	**-0.5**
CMAR					**PcP**	**02 16 37.7**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**35.85**	**64**	T	T	02 52 14.2	
	baz=250,slow=75,SNR=50						
CHTO	**Chiang Mai**	**35.86**	**295**	P	**P**	**02 14 09.8**	**-0.4**
CHTO	**Chiang Mai**	**35.86**	**295**	P	**P**	**02 14 11.2**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**35.86**	**64**	T	T	02 52 11.6	
	baz=250,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**35.87**	**64**	T	T	02 52 15.8	
	baz=250,slow=75,SNR=68						
LCRK	**Leigh Creek**	**35.96**	**172**	P	**P**	**02 14 11.1**	**+0.4**
HNS	**HongShan**	**36.02**	**335**	⇓P	**P**	**02 14 12.2**	**+1.0**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
FORT	**Forrest**	**36.27**	**187**	P	**P**	**02 14 12.6**	**-0.8**
FORT	**Forrest**	**36.27**	**187**	P	**P**	**02 14 14.8**	**+1.4**
XAN	**Xi'an**	**36.27**	**325**	P	**P**	**02 14 14.0**	**+0.5**
XAN				pP	pP	02 14 17.5	+2.0
XAN				pmax	pmax		
	comp=Z,13nm,1.5s						
PZH	**PanZhiHua**	**36.55**	**309**	P	**P**	**02 14 17.9**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,60nm,4.5s						
CD2	**Chengdu**	**37.47**	**316**	P	**P**	**02 14 24.3**	**+0.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
BJT	**Baijiatuau**	**37.71**	**339**	P	**P**	**02 14 25.4**	**-0.1**
STKA	**Stephens Creek**	**37.92**	**168**	P	**P**	**02 14 27.0**	**-0.5**
	comp=Z,8.3nm,0.7s,baz=337,slow=7.7,SNR=16						
STKA				LR	LR	02 30 20.9	
	comp=Z,82nm,18.8s,baz=20,slow=37						
STKA	**Stephens Creek**	**37.92**	**168**	P	**P**	**02 14 26.1**	**-1.4**
STKA	**Stephens Creek**	**37.92**	**168**	P	**P**	**02 14 27.4**	**-0.1**
BBOO	**Buckleboo**	**38.08**	**176**	P	**P**	**02 14 28.2**	**-0.6**
BBOO				IAmb	IAmb	02 14 29.4	
	comp=Z,14nm,0.9s						
CMSA	**Cobar Meteorol**	**38.63**	**163**	P	**P**	**02 14 34.0**	**+0.6**
NAPP	**Napperby**	**38.65**	**173**	P	**P**	**02 14 34.1**	**+0.6**
USRK	**Ussuriysk Ar.**	**38.68**	**359**	P	**P**	**02 14 34.5**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=190,slow=8.4,SNR=6.2						
USRK	**Ussuriysk Ar.**	**38.68**	**359**	P	**P**	**02 14 34.1**	**+0.4**
MDJ	**Mudanjiang**	**39.20**	**356**	P	**P**	**02 14 38.1**	**0.0**
ASAJ	**Asahikawa**	**39.48**	**11**	LR	LR	02 28 46.9	
	comp=Z,56nm,21.5s,baz=184,slow=33						
ARMA	**Armidale**	**39.78**	**155**	P	**P**	**02 14 43.8**	**+0.6**
HHC	**Hu-ho-hao-te**	**40.24**	**334**	*e*P	**P**	**02 14 48.4**	**+1.4**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,82nm,5.4s						
BNX	**BinXian**	**40.51**	**354**	⇓P	**P**	**02 14 49.3**	**+0.4**
BNX				pmax	pmax		
	comp=Z,20nm,1.1s						
BNX				pmax	pmax		
	comp=Z,210nm,7.0s						
TWOA	**Tennyson Woods**	**40.52**	**173**	P	**P**	**02 14 50.1**	**+0.9**
LZH	**Lanzhou**	**40.68**	**323**	*e*P	P	02 14 46.0	-4.8
LZH				sP	pP	02 14 52.2	-0.6
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
LZH				LR	LR		
	comp=N,130nm,15.6s						
LZH				LR	LR		
	comp=E,160nm,15.9s						
LZH				LR	LR		
	comp=Z,170nm,17.4s						
BTO	**Baotou**	**40.73**	**333**	*e*P	**P**	**02 14 53.2**	**+2.2**
ARPS	**Mount Arapiles**	**42.72**	**170**	P	**P**	**02 15 06.5**	**-0.6**
KLR	**Kul'dur**	**43.72**	**359**	LR	LR	02 34 39.8	
	comp=Z,38nm,18.2s,baz=344,slow=38						
HIA	**Hailar**	**45.18**	**348**	P	**P**	**02 15 27.3**	**+0.5**
HIA				IAmb	IAmb	02 15 29.5	
	comp=Z,8.8nm,0.9s						
GTA	**Gaotai**	**45.27**	**323**	⇑P	**P**	**02 15 28.7**	**+0.9**
GTA				pP	sP	02 15 33.1	+2.5
GTA				sP	pwP	02 15 35.6	+1.0
GTA				pmax	pmax		
	comp=Z,13nm,1.2s						
GTA				pmax	pmax		
	comp=Z,71nm,6.8s						
GTA				LR	LR		
	comp=Z,58nm,15.6s						
GTA				LR	LR		
	comp=Z,190nm,18.9s						
LSA	**Lhasa**	**46.34**	**307**	P	**P**	**02 15 35.8**	**-1.1**
LSA				IAmb	IAmb	02 15 45.2	
	comp=Z,6.4nm,0.6s						
GOMU	**GeErMu**	**46.60**	**316**	P	**P**	**02 15 38.0**	**-0.7**
GOMU				pP	pP	02 15 41.2	+0.5
GOMU				sP	sP	02 15 45.8	+4.3
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,84nm,4.4s						
ULN	**Ulaanbaatar**	**47.84**	**337**	P	**P**	**02 15 48.7**	**+0.8**
ULN				IAmb	IAmb	02 15 50.1	
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**48.08**	**336**	P	**P**	**02 15 50.5**	**+0.8**
	comp=Z,5.5nm,0.7s,baz=150,slow=8.9,SNR=34						
SONM				PcP	**PcP**	**02 17 17.4**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=141,slow=6.1,SNR=1.8						
SONM	**Songino Array**	**48.08**	**336**	P	**P**	**02 15 50.2**	**+0.5**
MSVF	**Nonsavu**	**49.97**	**118**	P	**P**	**02 16 05.1**	**+0.5**
	comp=Z,6.1nm,0.7s,baz=194,slow=23,SNR=2.1						
MSVF	**Nonsavu**	**49.97**	**118**	P	**P**	**02 16 04.9**	**+0.3**
PALK	**Pallekele**	**52.07**	**275**	LR	LR	02 41 12.9	
	comp=Z,28nm,18.1s,baz=222,slow=39						
WMQ	**Urumqi**	**55.22**	**321**	*e*P	**P**	**02 16 44.8**	**+1.6**
WMQ				pP	sP	02 16 49.2	+3.2
WMQ				pmax	pmax		
	comp=Z,24nm,0.9s						
SHEM	**Shemya Is, Ala**	**57.95**	**28**	LR	LR	02 38 44.4	
	comp=Z,52nm,20.9s,baz=296,slow=33						
AFI	**Afiamalu**	**57.97**	**110**	LR	LR	02 39 09.7	
	comp=Z,48nm,18.3s,baz=70,slow=33						
RPZ	**Rata Peaks**	**59.67**	**149**	P	**P**	**02 17 14.6**	**+0.2**
	comp=Z,8.0nm,0.6s,baz=32,slow=21,SNR=1.9						
BKZ	**Black Stump Fm**	**59.75**	**142**	P	**P**	**02 17 15.2**	**+0.1**
BKZ				IAmb	IAmb	02 17 16.0	
	comp=Z,11nm,0.8s						
MK31	**Makanchi Array**	**59.99**	**322**	P	**P**	**02 17 17.2**	**+0.5**
MK31				IAmb	IAmb	02 17 17.9	
	comp=Z,8.5nm,0.8s						
MKAR	**Makanchi Array**	**59.99**	**322**	P	**P**	**02 17 17.4**	**+0.7**
	comp=Z,12nm,0.7s,baz=115,slow=8.2,SNR=152						
MKAR	**Makanchi Array**	**59.99**	**322**	P	**P**	**02 17 17.1**	**+0.4**
MAKZ	**Makanchi**	**60.19**	**322**	P	**P**	**02 17 18.4**	**+0.3**
KDJ	**Kajisay**	**61.48**	**315**	P	**P**	**02 17 26.9**	**-0.2**
KSH	**Kashi**	**61.49**	**312**	P	**P**	**02 17 28.4**	**+1.2**
KSH				pP	pwP	02 17 35.3	+1.3
KSH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NIL	**Nilore**	**62.05**	**305**	P	**P**	**02 17 30.2**	**-0.7**
ZAA0	**Zalesovo Array**	**62.17**	**330**	P	**P**	**02 17 30.7**	**-0.5**
ZALV	**Zalesovo Beam**	**62.17**	**330**	P	**P**	**02 17 30.8**	**-0.4**
	comp=Z,11nm,0.7s,baz=108,slow=5.6,SNR=49						
ZALV	**Zalesovo Beam**	**62.17**	**330**	P	**P**	**02 17 30.6**	**-0.6**
BOOM	**Boomskoye usch**	**62.47**	**316**	P	**P**	**02 17 34.6**	**+0.9**
BOOM				IAmb	IAmb	02 17 37.1	
	comp=Z,5.3nm,0.9s						
BOOM					**PcP**	**02 18 12.7**	**-0.4**
TKM2	**Tokmak 2**	**62.85**	**316**	P	**P**	**02 17 37.0**	**+0.7**
	SNR=6.6						
UCH	**Uchtor**	**63.39**	**315**	P	**P**	**02 17 41.0**	**+0.8**
	SNR=9.8						
AAK	**Ala-Archa**	**63.53**	**315**	LR	LR	02 48 26.5	
	comp=Z,28nm,18.4s,baz=58,slow=39						
USP	**Ospenovka**	**63.72**	**316**	P	**P**	**02 17 42.4**	**+0.5**
	SNR=7.3						
KURK	**Kurchatov**	**63.91**	**325**	P	**P**	**02 17 43.0**	**+0.2**
AML	**Almayashu**	**63.94**	**315**	P	**P**	**02 17 44.9**	**+1.1**
	SNR=7.7						
EKS2	**Erkin-Say**	**64.04**	**315**	P	**P**	**02 17 45.3**	**+1.2**
	SNR=6.0						
BTK	**Batken**	**65.46**	**312**	P	**P**	**02 17 53.1**	**-0.3**
BTK				IAmb	IAmb	02 17 54.1	
	comp=Z,6.5nm,1.1s						
GAR	**Garm**	**65.58**	**310**	P	**P**	**02 17 53.8**	**-0.4**
KBL	**Kabul**	**65.65**	**305**	P	**P**	**02 17 53.7**	**-1.1**
TIXI	**Tiksi**	**66.25**	**359**	P	**P**	**02 17 56.8**	**-0.9**
TIXI				IAmb	IAmb	02 17 58.9	
	comp=Z,5.6nm,0.8s						
CHGR	**Chuyangaron**	**66.39**	**310**	P	**P**	**02 17 58.1**	**-1.3**
BILL	**Bilibino**	**66.44**	**13**	P	**P**	**02 17 59.4**	**+0.3**
KK31	**Karatay Array**	**66.47**	**315**	P	**P**	**02 17 59.8**	**+0.1**
KK31				IAmb	IAmb	02 18 00.9	
	comp=Z,7.4nm,0.9s						
KKAR	**Karatay Array**	**66.47**	**315**	P	**P**	**02 17 59.3**	**-0.4**
BRVK	**Borovoye**	**69.58**	**325**	P	**P**	**02 18 18.9**	**-0.1**
NRIK	**Noril'sk**	**70.45**	**344**	P	**P**	**02 18 23.9**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=125,slow=6.7,SNR=8.9						
NRIK	**Noril'sk**	**70.45**	**344**	P	**P**	**02 18 23.3**	**-0.7**
NRIK				IAmb	IAmb	02 18 25.0	
	comp=Z,6.9nm,0.8s						
HRA	**Herat**	**71.18**	**304**	P	**P**	**02 18 28.6**	**-0.8**
SDPT	**Sand Point**	**72.32**	**33**	P	**P**	**02 18 35.9**	**+0.2**
ANM	**Nome**	**73.22**	**23**	P	**P**	**02 18 41.5**	**+0.8**
GEYT	**Alibeck**	**74.86**	**308**	P	**P**	**02 18 51.7**	**+0.7**
	comp=Z,5.6nm,0.9s,baz=72,slow=12,SNR=9.6						
GEYT	**Alibeck**	**74.86**	**308**	P	**P**	**02 18 50.7**	**-0.3**
GYA0B	**ALIBECK ARRAY**	**74.86**	**308**	P	**P**	**02 18 51.1**	**+0.1**
GYA0B				IAmb	IAmb	02 18 52.9	
	comp=Z,8.8nm,0.9s						
ABKAR	**Akbulak array**	**74.96**	**320**	P	**P**	**02 18 50.7**	**-0.5**
RDOG	**Red Dog Mine**	**75.51**	**20**	P	**P**	**02 18 55.1**	**+1.0**
RDOG				IAmb	IAmb	02 18 55.9	
	comp=Z,8.4nm,0.8s						
TTA	**Tatalina**	**76.60**	**26**	P	**P**	**02 19 01.5**	**+1.0**
ARU	**Arti**	**77.00**	**327**	P	**P**	**02 19 01.5**	**-1.2**
ARU				IAmb	IAmb	02 19 03.1	
	comp=Z,11nm,0.8s						
M19K	**Big River Lodg**	**77.09**	**28**	P	**P**	**02 19 02.5**	**-0.7**
M19K				IAmb	IAmb	02 19 06.8	
	comp=Z,11nm,1.3s						
KDAK	**Kodiak Island**	**77.14**	**32**	LR	LR	02 48 41.3	
	comp=Z,40nm,21.4s,baz=248,slow=32						
K20K	**Telida**	**77.56**	**26**	P	**P**	**02 19 06.7**	**+0.9**
J20K	**Nowinta River**	**77.71**	**25**	P	**P**	**02 19 07.3**	**+0.7**
J20K				IAmb	IAmb	02 19 08.6	
	comp=Z,7.1nm,0.9s						
SOCY	**Socotra**	**78.24**	**281**	P	**P**	**02 19 09.2**	**-1.5**
SOCY				IAmb	IAmb	02 19 21.1	
	comp=Z,15nm,1.1s						
IMAR	**Indian Mountai**	**78.30**	**24**	P	**P**	**02 19 10.6**	**+0.8**
CAST	**Castle Rocks**	**78.45**	**26**	P	**P**	**02 19 11.5**	**+0.8**
CAST				IAmb	IAmb	02 19 13.5	
	comp=Z,5.6nm,0.8s						
H21K	**Melozitna Rive**	**78.60**	**24**	P	**P**	**02 19 12.2**	**+0.7**
H21K				IAmb	IAmb	02 19 13.9	
	comp=Z,8.1nm,1.0s						
I21K	**Tanana**	**78.84**	**25**	P	**P**	**02 19 13.5**	**+0.7**
I21K				IAmb	IAmb	02 19 15.2	
	comp=Z,8.7nm,1.0s						
BPAW	**Bear Paw Mtn.**	**79.06**	**26**	P	**P**	**02 19 13.8**	**-0.3**
BPAW				IAmb	IAmb	02 19 15.9	
	comp=Z,9.9nm,1.3s						
TRF	**Thorofare Moun**	**79.25**	**26**	P	**P**	**02 19 14.1**	**-1.2**
TRF				IAmb	IAmb	02 19 15.7	
	comp=Z,7.9nm,1.0s						
PMR	**Palmer**	**79.49**	**28**	P	**P**	**02 19 16.1**	**-0.3**
PMR				IAmb	IAmb	02 19 17.8	
	comp=Z,12nm,0.9s						
PPT	**Papeete**	**79.62**	**109**	LR	LR	02 50 12.6	
	comp=Z,50nm,19.3s,baz=182,slow=32						
MCK	**McKinley**	**79.89**	**26**	P	**P**	**02 19 18.4**	**-0.2**
MCK				IAmb	IAmb	02 19 19.6	
	comp=Z,9.5nm,0.8s						
I23K	**Minto, Yukon-K**	**79.92**	**25**	IAmb	IAmb	02 19 20.7	
	comp=Z,9.1nm,0.9s						
H23K	**Yukon River**	**79.96**	**24**	IAmb	IAmb	02 19 21.1	
	comp=Z,6.5nm,0.8s						
WRH	**Wood River Hil**	**80.36**	**26**	P	**P**	**02 19 19.9**	**-1.2**
TOLK	**Toolik Lake Re**	**80.42**	**21**	P	**P**	**02 19 22.1**	**+0.7**
TOLK				IAmb	IAmb	02 19 25.0	
	comp=Z,7.4nm,0.8s						
IL31		**80.91**	**25**	P	**P**	**02 19 23.7**	**-0.3**
ILAR	**Eielson Array**	**80.91**	**25**	P	**P**	**02 19 23.3**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=247,slow=5.9,SNR=25						
ILAR				LR	LR	02 48 46.9	
	comp=Z,30nm,20.8s,baz=181,slow=31						
ILAR	**Eielson Array**	**80.91**	**25**	P	**P**	**02 19 23.7**	**-0.4**
BMRM	**Bremner River**	**81.59**	**29**	P	**P**	**02 19 28.5**	**+0.7**
BMRM				IAmb	IAmb	02 19 30.1	
	comp=Z,16nm,1.1s						
RIDG	**Independent Ri**	**81.70**	**26**	P	**P**	**02 19 27.7**	**-0.6**
RIDG				IAmb	IAmb	02 19 29.7	
	comp=Z,9.8nm,1.2s						
BMAR	**Burnt Mountain**	**82.12**	**23**	P	**P**	**02 19 32.5**	**+2.0**
TGL	**Tana Glacier**	**82.45**	**30**	P	**P**	**02 19 31.8**	**-0.6**
GRNC	**Granite Creek**	**82.98**	**30**	P	**P**	**02 19 36.6**	**+1.3**
GRNC				IAmb	IAmb	02 19 37.3	
	comp=Z,11nm,0.8s						
L27K	**Beaver Creek,**	**83.01**	**27**	IAmb	IAmb	02 19 38.8	
	comp=Z,5.8nm,1.1s						
BCAR	**Beaver Creek A**	**83.03**	**27**	P	**P**	**02 19 36.6**	**+1.3**
TABL	**Table Mountain**	**83.27**	**30**	P	**P**	**02 19 38.5**	**+1.7**
DAWY	**Dawson**	**84.12**	**26**	P	**P**	**02 19 41.6**	**+0.7**
VNDA	**Vanda**	**84.32**	**174**	P	**P**	**02 19 41.0**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=322,slow=5.1,SNR=11						
VNDA	**Vanda**	**84.32**	**174**	P	**P**	**02 19 40.5**	**-1.0**
VNDA				IAmb	IAmb	02 19 54.6	
	comp=Z,7.5nm,1.4s						
I29M	**Ogilvie Camp,**	**84.57**	**25**	P	**P**	**02 19 43.8**	**+0.6**
GNI	**Garni**	**85.30**	**310**	P	**P**	**02 19 48.0**	**+0.5**
M30M	**Minto, Yukon**	**85.33**	**28**	IAmb	IAmb	02 19 49.6	
	comp=Z,9.4nm,0.9s						
RAYN	**Ar Rayn**	**85.67**	**293**	P	**P**	**02 19 48.9**	**-0.6**
ONI	**Oni**	**86.13**	**312**	IAmb	IAmb	02 20 01.5	
	comp=Z,8.8nm,1.0s						
INK	**Inuvik**	**86.30**	**22**	LR	LR	02 55 39.9	
	comp=Z,26nm,20.4s,baz=70,slow=34						
KBZ	**Khabaz**	**86.46**	**313**	P	**P**	**02 19 53.5**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=43,slow=4.5,SNR=6.1						
KLMR	**Klimovskoe**	**87.08**	**331**	*e*P	P	02 19 51.9	-3.7
KLMR				AMP		02 19 54.7	
	comp=Z,8.0nm,0.8s						
GURO	**Guroymak-BITLI**	**87.51**	**308**	P	**P**	**02 19 58.9**	**+0.5**
GURO				IAmb	IAmb	02 20 00.9	
	comp=Z,7.6nm,0.8s						
MAW	**Mawson**	**87.52**	**201**	P	**P**	**02 19 56.0**	**-1.5**
	comp=Z,2.3nm,0.8s,baz=275,slow=8.3,SNR=2.4						
WRAK	**Wrangell Islan**	**88.09**	**34**	P	**P**	**02 20 00.8**	**+0.3**
A36M	**Sachs Harbour**	**88.52**	**18**	IAmb	IAmb	02 20 04.2	
	comp=Z,6.4nm,0.9s						
ARCES	**ARCESS Array B**	**91.07**	**340**	P	P	02 20 12.2	-2.1
	comp=Z,4.1nm,0.8s,baz=72,slow=5.6,SNR=8.8						
BBB	**Bella Bella**	**91.18**	**37**	LR	LR	02 52 33.4	
	comp=Z,56nm,21.5s,baz=315,slow=30						
FINES	**FINESS Array B**	**93.34**	**333**	P	**P**	**02 20 23.4**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=68,slow=4.1,SNR=21						
BRTR	**Keskin Array B**	**93.83**	**310**	P	P	02 20 25.6	-2.2
	comp=Z,0.6nm,0.7s,baz=100,slow=2.0,SNR=5.3						
AKASG	**Malin Array Be**	**94.58**	**322**	P	**P**	**02 20 29.4**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=67,slow=4.0,SNR=5.7						
YKA	**Yellowknife Ar**	**95.34**	**26**	P	**P**	**02 20 33.3**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=294,slow=4.8,SNR=24						
KMBO	**Kilima Mbogo**	**95.91**	**269**	P	**P**	**02 20 36.3**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=40,slow=7.9,SNR=2.0						
SYO	**Syowa Base**	**96.24**	**201**	⇓*e*P	**P**	**02 20 38.6**	**+0.7**
YBH	**Yreka Blue Hor**	**96.96**	**47**	LR	LR	02 59 04.5	
	comp=Z,36nm,18.8s,baz=292,slow=32						
BURAR	**Bucovina Array**	**97.94**	**319**	IAmb	IAmb	02 20 47.2	
	comp=Z,2.4nm,0.8s						
BUR08	**Bucovina Ar. S**	**97.94**	**319**	P	**P**	**02 20 45.5**	**-0.8**
BUR08				IAmb	IAmb	02 20 46.6	
	comp=Z,2.4nm,0.9s						
NB2	**NORSAR Subarra**	**100.05**	**335**	P	**Pdif**	**02 20 53.3**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=61,slow=4.6						
NOA	**NORSAR Array B**	**100.05**	**335**	P	**Pdif**	**02 20 53.5**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=62,slow=4.6,SNR=6.0						
NVAR	**Mina Array Bea**	**101.07**	**49**	P	**Pdif**	**02 21 00.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=251,slow=2.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**128.33**	**291**	PKP	**PKPdf**	**02 26 16.8**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=84,slow=1.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**128.33**	**291**		**PKPdf**	**02 26 16.5**	**-1.2**
PLCA	**Paso Flores**	**138.91**	**152**	PKP	**PKPdf**	**02 26 37.4**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=258,slow=6.3,SNR=3.1						
PLCA	**Paso Flores**	**138.91**	**152**	PKPdf	**PKPdf**	**02 26 37.0**	**-0.1**
LPAZ	**La Paz**	**156.54**	**119**	PKPab	**PKPab**	**02 27 36.8**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=250,slow=2.0,SNR=8.4						
CPUP	**Villa Florida**	**156.91**	**156**	PKPab	**PKPab**	**02 27 36.0**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=235,slow=5.2,SNR=9.1						
CPUP	**Villa Florida**	**156.91**	**156**	PKPab	**PKPab**	**02 27 35.1**	**-1.0**

NEIC ***11*** *02:43:26.7±1.8, 15°.39S±0°.08×73°.82W±0°.09, h67km±6km, mb4.2/14, ML4.2(ARE), Error ellipse: s-maj=15.8km s-min=8.3km az=49.0*

ARE ***11*** *02:43:27±4.2, 15°.50S±0°.08×73°.9W±0°.1, h99km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=144.0*

IDC ***11*** *02:43:28.0±0.8, 15°.34S×73°.79W, h86km±5km, mb3.7/7, mb1 3.8/11, mb1mx3.6/33, mbtmp3.9/11, MS2.4/2, Ms1 2.5/2, ms1mx2.4/61, Error ellipse: s-maj=28.2km s-min=12.3km az=43.0*

ISC 11 02:43:26.2±0.5, 15°.47S±0°.08×73°.9W±0°.1, h71km, n58, σ1°26/61, mb4.1/12, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.51**	**320**	P	**Pn**	**02 44 32.3**	**+0.2**
	19nm,0.3s,baz=132,slow=12,SNR=36						
NNA				S	**Sn**	**02 45 23.6**	**+0.3**
	14nm,0.3s,baz=46,slow=21,SNR=2.0						
NNA				LR	LR	02 46 12.4	
	comp=Z,44nm,20.5s,baz=170,slow=37						
NNA	**Nana**	**4.51**	**320**	Pn	**Pn**	**02 44 32.7**	**+0.7**
PB12	**IPOC Station P**	**4.61**	**133**		**Pn**	**02 44 34.1**	**+0.6**
PB16	**IPOC Station P**	**5.06**	**125**	Pn	**Pn**	**02 44 41.6**	**+1.5**
LPAZ	**La Paz**	**5.59**	**99**	P	**Pn**	**02 44 49.0**	**+1.7**
	1.5nm,0.3s,baz=268,slow=12,SNR=24						
LPAZ				LR	LR	02 47 09.3	
	comp=Z,38nm,18.8s,baz=248,slow=40						
LPAZ	**La Paz**	**5.59**	**99**	Pn	**Pn**	**02 44 50.8**	**+3.5**
PB11	**IPOC Station P**	**5.86**	**137**	Pn	**Pn**	**02 44 50.8**	**+0.1**
GO01	**Chusmiza**	**6.11**	**134**	Pn	**Pn**	**02 44 55.7**	**+1.4**
TA01	**Diego Aracena**	**6.17**	**146**	Pn	**Pn**	**02 44 55.2**	**+0.6**
PATCX	**Punta Patache**	**6.39**	**147**	Pn	**Pn**	**02 44 58.4**	**+0.6**
PB08	**IPOC Station P**	**6.46**	**137**	Pn	**Pn**	**02 44 60.0**	**+0.9**
PB01	**IPOC Station P**	**6.93**	**144**	Pn	**Pn**	**02 45 06.1**	**+0.8**
PB02	**IPOC Station P**	**6.94**	**148**	Pn	**Pn**	**02 45 05.7**	**+0.4**
PB07	**IPOC Station P**	**7.28**	**149**	Pn	**Pn**	**02 45 10.1**	**0.0**
PB09	**IPOC Station P**	**7.67**	**146**	Pn	**Pn**	**02 45 16.8**	**+1.4**
PB04	**IPOC Station P**	**7.68**	**153**	Pn	**Pn**	**02 45 15.5**	**-0.1**
PB06	**IPOC Station P**	**8.27**	**151**	Pn	**Pn**	**02 45 23.3**	**-0.2**
LVC	**Limon Verde**	**8.51**	**147**	P	**Pn**	**02 45 28.3**	**+1.2**
	1.1nm,0.3s,baz=339,slow=9.8,SNR=9.4						
LVC				S	**Sn**	**02 46 58.9**	**-2.9**
	0.8nm,0.3s,baz=131,slow=11,SNR=3.9						
LVC	**Limon Verde**	**8.51**	**147**	Pn	**Pn**	**02 45 27.7**	**+0.6**
PB15	**IPOC Station P**	**8.75**	**152**	Pn	**Pn**	**02 45 28.5**	**-1.7**
GO02	**Mina Guanaco**	**10.45**	**158**	Pn	**Pn**	**02 45 55.1**	**+1.7**
AC01	**Pan de Azucar**	**11.05**	**164**	Pn	**Pn**	**02 46 00.9**	**-0.6**
AC02	**Maricunga**	**12.14**	**159**	Pn	**Pn**	**02 46 19.1**	**+2.3**
AC06	**Mina Casimiro**	**12.27**	**165**	Pn	**Pn**	**02 46 18.8**	**+0.7**
SIV	**San Ignacio**	**12.34**	**94**	P	**Pn**	**02 46 17.7**	**-1.4**
	0.3nm,0.3s,baz=281,slow=9.1,SNR=6.7						
BOSC	**San Juan Bosco**	**13.06**	**339**	Pn	**Pn**	**02 46 27.7**	**-1.3**
H03N1	**Juan Fernandez**	**18.46**	**193**	T	T	03 06 15.6	
	baz=16,slow=74,SNR=763						
H03N2	**Juan Fernandez**	**18.47**	**193**	T	T	03 06 15.0	
	baz=16,slow=74,SNR=789						
H03N3	**Juan Fernandez**	**18.48**	**193**	T	T	03 06 14.3	
	baz=16,slow=74,SNR=897						
ZARC	**Zaragoza, Cauc**	**22.84**	**357**	P	**P**	**02 48 22.9**	**-0.7**
PLCA	**Paso Flores**	**25.34**	**174**	P	**P**	**02 48 47.3**	**+0.8**
	1.8nm,1.0s,baz=25,slow=8.4,SNR=2.4						
TX31	**Lajitas Ar. Si**	**53.03**	**327**	P	**P**	**02 52 36.2**	**0.0**
TX32	**Lajitas Array**	**53.03**	**327**	P	**P**	**02 52 36.3**	**+0.1**
TX32				IAmb	IAmb	02 52 37.0	
	comp=Z,

GANO	**Gareloi North**	**1.50**	**42**		**Pb**	03 15 00.5	-0.2
TASE	**Tanaga Southea**	**1.87**	**52**		**Pb**	03 15 06.8	-0.2
TASE					**Sg**	03 15 33.9	+1.1
TAFL	**Tanaga Flats**	**1.89**	**56**		**Pb**	03 15 07.3	-0.1
TAFP	**Tanaga Falls P**	**1.93**	**51**		**Pb**	03 15 08.3	+0.2
TAFP					**Sb**	03 15 31.9	-0.4
TAPA	**Tanaga Point A**	**1.97**	**55**		**Pb**	03 15 08.9	+0.2
TAPA					**Sg**	03 15 33.9	-2.2
KIMD	**Kanaga Island**	**2.26**	**61**		**Pb**	03 15 12.7	-0.8
KIWB	**Kanaga Island**	**2.34**	**60**		**Pn**	03 15 12.8	+1.5
ADK	**Adak**	**2.62**	**62**		**Pn**	03 15 16.6	+1.6
ADK				Sn	**Sn**	03 15 45.2	-1.7
GSCK	**Great Sitkin C**	**2.96**	**62**		**Pn**	03 15 22.0	+2.1
GSTD	**Great Sitkin T**	**2.99**	**62**		**Pn**	03 15 22.1	+1.8
GSMY	**Great Sitkin M**	**3.04**	**62**		**Pn**	03 15 22.9	+2.0
GSTR	**Great Sitkin T**	**3.06**	**62**	Pn	**Pn**	03 15 21.8	+0.7
SHEM	**Shemya Is, Ala**	**3.96**	**303**	Pn	**Pn**	03 15 33.2	-0.3
	2.2nm,0.3s,baz=88,slow=13,SNR=1.5						
SHEM				Sn	**Sn**	03 16 23.2	+3.2
	4.1nm,0.3s,baz=223,slow=13,SNR=1.7						
SMY	**Shemya**	**3.96**	**303**	Pn	**Pn**	03 15 34.8	+1.2
ATKA	**Atka Island**	**4.16**	**67**		**Pn**	03 15 39.8	+3.5
KOKL	**Mount Kliuchef**	**4.20**	**65**		**Pn**	03 15 40.2	+3.2
KOFP	**Korovin Flat P**	**4.24**	**66**		**Pn**	03 15 40.7	+3.2
OHAK	**Old Harbor**	**17.16**	**57**	Pn	**Pn**	03 18 30.6	-1.7
KDAK	**Kodiak Island**	**17.64**	**56**	P	**Pn**	03 18 37.7	-0.6
	0.3nm,0.3s,baz=252,slow=6.4,SNR=8.0						
KDAK	**Kodiak Island**	**17.64**	**56**	P	**Pn**	03 18 37.8	-0.6
KDAK				IAmb	IAmb	03 19 04.2	
	comp=Z,41nm,1.3s						
J20K	**Nowinta River**	**19.33**	**36**	P	**Pn**	03 18 58.5	-0.5
RC01	**Rabbit Creek A**	**19.89**	**47**	P	**P**	03 19 03.7	-0.3
NEA2	**Nenana**	**21.47**	**38**	P	**P**	03 19 22.0	+0.9
DHY	**Denali Highway**	**21.58**	**42**	P	**P**	03 19 23.0	+0.6
DHY				IAmb	IAmb	03 19 32.0	
	comp=Z,4.4nm,1.0s						
ILAR	**Eielson Array**	**22.40**	**38**	P	**P**	03 19 30.8	-0.2
	comp=Z,0.2nm,0.7s,baz=243,slow=10.0,SNR=1.6						
TOLK	**Toolik Lake Re**	**23.33**	**28**	P	**P**	03 19 40.1	-0.7
TOLK				IAmb	IAmb	03 19 45.7	
	comp=Z,4.3nm,1.4s						
YKA	**Yellowknife Ar**	**36.42**	**46**	P	**P**	03 21 36.4	-0.7
	comp=Z,0.1nm,0.4s,baz=280,slow=9.1,SNR=6.2						
YKA	**Yellowknife Ar**	**36.42**	**46**	P	**P**	03 21 36.5	-0.6
JCJ	**Chichijima**	**36.88**	**244**	LR	LR	03 33 42.5	
	comp=Z,54nm,21.7s,baz=343,slow=31						
SONM	**Songino Array**	**46.03**	**296**	P	**P**	03 22 55.6	-0.8
	comp=Z,0.2nm,0.5s,baz=54,slow=8.0,SNR=1.8						
PDAR	**Pinedale Array**	**47.49**	**71**	P	**P**	03 23 07.9	0.0
	comp=Z,0.3nm,0.5s,baz=324,slow=5.1,SNR=4.6						
PDAR	**Pinedale Array**	**47.49**	**71**	P	**P**	03 23 07.5	-0.5
BNM	**Barren Site**	**54.65**	**78**	P	**P**	03 24 02.3	+0.4
KURK	**Kurchatov**	**58.73**	**313**	P	**P**	03 24 30.4	0.0
KURK				IAmb	IAmb	03 24 49.8	
	comp=Z,1.7nm,1.2s						
MK31	**Makanchi Array**	**59.64**	**308**	P	**P**	03 24 36.5	-0.2
MK31				IAmb	IAmb	03 24 38.9	
	comp=Z,1.7nm,1.4s						
MKAR	**Makanchi Array**	**59.64**	**308**	P	**P**	03 24 36.2	-0.6
	comp=Z,0.3nm,0.4s,baz=52,slow=6.4,SNR=6.5						

JMA ***11*** *03:25:23.8±0.1, 24°.55N×121°.80E, h66km±2km, M3.7*
TAP ***11*** *03:25:24.1, 24°.56N×121°.80E, h65km, ML4.2, B*
NEIC ***11*** *03:25:24.2±1.5, 24°.57N±0°.04×121°.81E±0°.05, h63km±5km, mb3.9/5, ML4.3(TAP), Error ellipse: s-maj=7.0km s-min=4.6km az=121.0*
IDC ***11*** *03:25:25.7±5.0, 24°.50N×121°.95E, h93km±49km, mb3.0/5, mb1 3.2/7, mb1mx3.0/44, mbtmp3.5/7, Error ellipse: s-maj=48.0km s-min=21.7km az=69.0*

ISC 11 03:25:24.2±0.6, 24°.60N±0°.02×121°.81E±0°.02, h70km±4km, n164, σ1$00/268, mb3.6/8, 36C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.04**	**66**	⇑*i*	*i*	P	**Pn**	**03 25 34.4**	**+0.1**
	baz=49								
TWC					*i*	S	**Sn**	03 25 41.8	0.0
	baz=49								
NDS	**Dongshan**	**0.10**	**294**	⇑*i*	*i*	P	**Pn**	**03 25 34.5**	**0.0**
	baz=307								
NDS						S	**Sn**	03 25 41.9	-0.1
	baz=307								
EWUT	**Wuta**	**0.15**	**192**			P	**Pn**	**03 25 34.5**	**-0.2**
	baz=188								
EWUT						S	**Sn**	03 25 42.0	-0.2
	baz=188								
ENA	**Nanau**	**0.18**	**202**	⇑*i*	*i*	P	**Pn**	**03 25 34.5**	**-0.2**
	baz=198								
ENA						S	**Sn**	03 25 42.2	-0.2
	baz=198								
ILA	**Ilan**	**0.18**	**341**	⇑*i*	*i*	P	**Pn**	**03 25 35.3**	**+0.5**
	baz=340								
ILA						S	**Sn**	03 25 43.0	+0.6
	baz=340								
TWE	**Neicheng**	**0.18**	**313**	⇑*i*	*i*	P	**Pn**	**03 25 34.9**	**+0.1**
	baz=321								
TWE						S	**Sn**	03 25 42.5	0.0
	baz=321								
ENTT	**Nioudou**	**0.23**	**281**	⇑*i*	*i*	P	**Pn**	**03 25 35.0**	**0.0**
	baz=292								
ENTT						S	**Sn**	03 25 42.6	-0.4
	baz=292								
NTC	**Toucheng**	**0.26**	**3**	P		P	**Pn**	**03 25 35.9**	**+0.7**
	baz=358								
NTC						S	**Sn**	03 25 43.5	+0.4
	baz=358								
FUSB	**Fushanzhiwuyua**	**0.26**	**309**	⇑*i*	*i*	P	**Pn**	**03 25 35.3**	**0.0**
	baz=304								
FUSB						S	**Sn**	03 25 43.0	-0.4
	baz=304								
LATG	**Datong**	**0.27**	**257**	⇑*i*	*i*	P	**Pn**	**03 25 35.3**	**-0.1**
	baz=265								
LATG						S	**Sn**	03 25 43.1	-0.4
	baz=265								
EGS		**0.27**	**23**	*e*	*e*	P	**Pn**	**03 25 36.0**	**+0.8**
	baz=30								
EGS					*e*	S	**Sn**	03 25 44.4	+1.1
	baz=30								
NDT	**Datong Townshi**	**0.27**	**272**	⇑*i*	*i*	P	**Pn**	**03 25 35.2**	**0.0**
	baz=280								
NDT						S	**Sn**	03 25 42.8	-0.5
	baz=280								
EHP	**Heping Village**	**0.29**	**193**	*e*	*e*	P	**Pn**	**03 25 34.9**	**-0.5**
	baz=195								
EHP					*e*	S	**Sn**	03 25 43.8	+0.3
	baz=195								
NWLT	**Wulai**	**0.34**	**303**	⇑*i*	*i*	P	**Pn**	**03 25 35.6**	**-0.2**
	baz=309								
NWLT					*i*	S	**Sn**	03 25 43.5	-0.6
	baz=309								
TIPB	**Shuangxi**	**0.38**	**2**	⇑*i*	*i*	P	**Pn**	**03 25 36.5**	**+0.4**
	baz=353								
TIPB					*i*	S	**Sn**	03 25 45.1	+0.4
	baz=353								
YHNB	**Yeheng**	**0.41**	**281**			Pn	**Pn**	**03 25 35.3**	**-1.0**
YHNB	**Yeheng**	**0.41**	**281**	⇑*i*	*i*	P	**Pn**	**03 25 36.0**	**-0.3**
	baz=286								
YHNB					*i*	S	**Sn**	03 25 44.3	-0.8
	baz=286								
NSK	**Sanguang**	**0.42**	**281**	⇑*i*	*i*	P	**Pn**	**03 25 36.1**	**-0.3**
	baz=297								
NSK					*i*	S	**Sn**	03 25 44.5	-0.9
	baz=297								
NNSB	**Datong**	**0.43**	**247**	⇑*i*	*i*	P	**Pn**	**03 25 36.5**	**-0.1**
	baz=245								
NNSB					*i*	S	**Sn**	03 25 44.9	-0.7
	baz=245								
NNS	**Nan Shan**	**0.43**	**249**	⇑*i*	*i*	P	**Pn**	**03 25 36.5**	**-0.1**
	baz=246								
NNS					*i*	S	**Sn**	03 25 45.1	-0.5
	baz=246								
TWA	**Mucha**	**0.44**	**332**	⇑*i*	*i*	P	**Pn**	**03 25 36.7**	**+0.2**
	baz=326								
TWA					*i*	S	**Sn**	03 25 45.6	+0.1
	baz=326								
TWB1	**Santiao Chiao**	**0.44**	**21**	⇑*i*	*i*	P	**Pn**	**03 25 36.8**	**+0.2**
	baz=32								
TWB1					*i*	S	**Sn**	03 25 46.0	+0.4
	baz=32								
NHDH	**Xindian Distri**	**0.45**	**325**	⇑*i*	*i*	P	**Pn**	**03 25 36.6**	**0.0**
	baz=319								
NHDH						S	**Sn**	03 25 45.7	0.0
	baz=319								
NACB	**Ninganchiao**	**0.46**	**205**	Pn		P	**Pn**	**03 25 35.6**	**-1.1**
	baz=206								
NACB						S	**Sn**	03 25 44.6	-1.3
	baz=206								
ETL	**Fush Village**	**0.47**	**202**	⇓*i*	*i*	P	**Pn**	**03 25 35.9**	**-0.9**
	baz=212								
ETL					*e*	S	**Sn**	03 25 44.8	-1.2
	baz=212								
NWF	**Wu-fen Shan**	**0.47**	**356**	⇑*i*	*i*	P	**Pn**	**03 25 37.3**	**+0.4**
	baz=351								
NWF					*i*	S	**Sn**	03 25 46.7	+0.5
	baz=351								
WFSB	**Wu-fen Shan**	**0.47**	**356**	*i*	*i*	P	**Pn**	**03 25 37.4**	**+0.6**
	baz=351								
WFSB					*i*	S	**Sn**	03 25 46.8	+0.8
	baz=351								
TATO	**Taipei**	**0.48**	**322**	Pn			**Pn**	**03 25 36.7**	**-0.2**
ETLH	**Xiulin Townshi**	**0.49**	**218**	P		P	**Pn**	**03 25 36.5**	**-0.6**
	baz=227								
ETLH					*e*	S	**Sn**	03 25 44.8	-1.6
	baz=227								
NHY	**Taipei**	**0.49**	**333**	⇑*i*	*i*	P	**Pn**	**03 25 37.3**	**+0.3**
	baz=328								
NHY						S	**Sn**	03 25 46.7	+0.3
	baz=328								
SXI1	**Grass Mountain**	**0.50**	**6**	⇑*i*	*i*	P	**Pn**	**03 25 37.4**	**+0.3**
	baz=359								
SXI1						S	**Sn**	03 25 47.1	+0.5
	baz=359								
TAP	**Taipei**	**0.52**	**328**	P		P	**Pn**	**03 25 37.4**	**+0.1**
	baz=325								
TAP						S	**Sn**	03 25 46.7	-0.1
	baz=325								
TWD	**Chiawan**	**0.55**	**201**	⇑*i*	*i*	P	**Pn**	**03 25 36.5**	**-1.1**
	baz=209								
TWD						S	**Sn**	03 25 45.6	-1.7
	baz=209								
TNOU	**National Taiwa**	**0.55**	**356**	*i*	*i*	P	**Pn**	**03 25 37.9**	**+0.3**
	baz=351								
TNOU					*i*	S	**Sn**	03 25 47.5	+0.1
	baz=351								
YM01	**YM01**	**0.59**	**338**	⇑*i*	*i*	P	**Pn**	**03 25 38.1**	**+0.1**
	baz=333								
YM01						S	**Sn**	03 25 48.2	0.0
	baz=333								
TWS1	**Kuangyinshan**	**0.62**	**325**	⇑*i*	*i*	P	**Pn**	**03 25 38.5**	**+0.2**
	baz=322								
TWS1					*i*	S	**Sn**	03 25 48.9	+0.3
	baz=322								
FUSS	**Fushou**	**0.62**	**236**	P		P	**Pn**	**03 25 38.7**	**+0.1**
	baz=232								
FUSS						S	**Sn**	03 25 48.6	-0.5
	baz=232								
YM08	**YM08**	**0.62**	**341**	*i*	*i*	P	**Pn**	**03 25 38.5**	**+0.1**
	baz=337								
YM08					*e*	S	**Sn**	03 25 48.2	-0.6
	baz=337								
NFF	**Wufeng Townshi**	**0.63**	**274**	P		P	**Pn**	**03 25 38.4**	**-0.1**
	baz=283								
NFF						S	**Sn**	03 25 48.3	-0.7
	baz=283								
HWA	**Hwalien**	**0.64**	**197**	*e*		P	**Pn**	**03 25 38.0**	**-0.5**
	baz=207								
HWA					*e*	S	**Sn**	03 25 50.6	+1.6
	baz=207								
ANP	**Anpu**	**0.65**	**336**	⇑*i*	*i*	P	**Pn**	**03 25 38.6**	**-0.1**
	baz=333								
ANP						S	**Sn**	03 25 49.3	0.0
	baz=333								
NTST	**Danshui**	**0.66**	**330**	P		P	**Pn**	**03 25 39.0**	**+0.3**
	baz=340								
NTST						S	**Sn**	03 25 49.8	+0.5
	baz=340								
WHF	**Hehuan Shan**	**0.67**	**228**	⇑*i*	*i*	P	**Pn**	**03 25 38.8**	**-0.5**
	baz=227								
WHF					*i*	S	**Sn**	03 25 49.7	-0.6
	baz=227								
TWT	**Tachien**	**0.67**	**240**	⇑*i*	*i*	P	**Pn**	**03 25 39.5**	**+0.4**
	baz=236								
TWT					*i*	S	**Sn**	03 25 49.9	-0.1
	baz=236								
NCU	**National Centr**	**0.68**	**303**	⇑*i*	*i*	P	**Pn**	**03 25 39.0**	**+0.1**
	baz=307								
NCU					*i*	S	**Sn**	03 25 49.9	+0.1
	baz=307								
NCUH	**Zhongli**	**0.68**	**303**	⇑*i*		P	**Pn**	**03 25 39.0**	**+0.1**
	baz=306								
NCUH						S	**Sn**	03 25 50.0	+0.2
	baz=306								
ETM	**Tongmen**	**0.69**	**205**	P		P	**Pn**	**03 25 37.8**	**-1.3**
	baz=205								
TWY	**Chenhua**	**0.70**	**344**	⇑*i*	*i*	P	**Pn**	**03 25 39.8**	**+0.6**
	baz=338								
TWY						S	**Sn**	03 25 51.5	+1.3
	baz=338								
LIOB	**Emei**	**0.73**	**274**	⇑*i*	*i*	P	**Pn**	**03 25 39.5**	**0.0**
	baz=277								
LIOB					*i*	S	**Sn**	03 25 50.4	-0.3
	baz=277								
NSTT	**Nanjuang**	**0.74**	**273**	P		P	**Pn**	**03 25 39.6**	**0.0**
	baz=286								
NSTT						S	**Sn**	03 25 50.2	-0.8
	baz=286								
HSN1	**Hsinchu**	**0.75**	**284**	P		P	**Pn**	**03 25 40.0**	**+0.3**
	baz=296								
TEYL	**Yanliau Villag**	**0.75**	**195**	*e*		P	**Pn**	**03 25 39.2**	**-0.5**
	baz=205								
SBCB	**Hsinchu**	**0.78**	**285**	P		P	**Pn**	**03 25 40.1**	**+0.1**
	baz=298								
SBCB						S	**Sn**	03 25 51.4	-0.4
	baz=298								
CHGB	**Renai**	**0.79**	**228**	⇑*i*	*i*	P	**Pn**	**03 25 40.4**	**0.0**
	baz=229								
CHGB					*i*	S	**Sn**	03 25 52.0	-0.4
	baz=229								
HSN	**Hsinchu**	**0.80**	**285**	*e*		P	**Pn**	**03 25 40.1**	**-0.1**
	baz=291								
HSN						S	**Sn**	03 25 51.4	-0.7
	baz=291								
ESL	**Shilin**	**0.85**	**204**	*e*		P	**Pn**	**03 25 39.3**	**-1.6**
	baz=203								
WHP	**Taichung City**	**0.85**	**248**	⇓*i*		P	**Pn**	**03 25 41.6**	**+0.6**
	baz=251								
WHP						S	**Sn**	03 25 53.6	+0.2
	baz=251								
OWD	**Renai**	**0.86**	**223**	P		P	**Pn**	**03 25 41.0**	**-0.2**
	baz=218								
OWD						S	**Sn**	03 25 52.9	-0.9
	baz=218								
WUSB	**Renai**	**0.87**	**227**	⇑*i*		P	**Pn**	**03 25 41.4**	**+0.1**
	baz=228								
WUSB					*i*	S	**Sn**	03 25 53.5	-0.5
	baz=228								
NMLH	**Miaoli**	**0.93**	**267**	*e*		P	**Pn**	**03 25 41.8**	**-0.1**
	baz=269								
NMLH					*e*	S	**Sn**	03 25 54.2	-0.8
	baz=269								
WPL	**Puli Township**	**0.97**	**234**	*i*		P	**Pn**	**03 25 43.5**	**+1.0**
	baz=230								
NSY	**Sanyi**	**0.97**	**260**	P		P	**Pn**	**03 25 42.8**	**+0.3**
	baz=262								
NSY						S	**Sn**	03 25 55.9	-0.1
	baz=262								
TWQ1	**Liyutan**	**0.98**	**256**	⇓*i*		P	**Pn**	**03 25 42.6**	**+0.1**
	baz=257								
TWQ1					*i*	S	**Sn**	03 25 55.7	-0.4
	baz=257								
WCS	**Beigang Elemen**	**0.98**	**237**	*e*		P	**Pn**	**03 25 43.2**	**+0.7**
	baz=248								
WCS					*e*	S	**Sn**	03 25 56.1	0.0
	baz=248								
DPDB	**Guoxing**	**0.98**	**236**	*i*		P	**Pn**	**03 25 43.5**	**+0.9**
	baz=247								
EGFH	**Guangfu**	**0.99**	**201**	*e*		P	**Pn**	**03 25 42.8**	**+0.3**
	baz=205								
EGFH					*e*	S	**Sn**	03 25 54.7	-1.5
	baz=205								
VWDT	**VWDT**	**1.04**	**216**	⇑P		P	**Pn**	**03 25 43.2**	**0.0**
	baz=211								
VWDT					*e*	S	**Sn**	03 25 57.8	+0.5
	baz=211								
JYNG	**Yonagunijimaku**	**1.04**	**98**	P		P	**Pn**	**03 25 43.1**	**-0.1**
JYNG						*e*S	**Sn**	03 25 56.5	-0.9
SMLT	**Sun Moon Lake**	**1.09**	**230**	⇓P		P	**Pn**	**03 25 44.4**	**+0.3**
	baz=225								
SMLT						S	**Sn**	03 26 00.1	+1.3
	baz=225								
WDJ	**Dajia District**	**1.10**	**257**	*e*		P	**Pn**	**03 25 44.1**	**+0.1**
	baz=259								
WDJ					*e*	S	**Sn**	03 25 58.2	-0.5
	baz=259								
YOJ	**Yonaguni jima**	**1.10**	**97**			P	**Pn**	**03 25 43.8**	**-0.2**
YOJ						S	**Sn**	03 25 58.2	-0.5
YOJ	**Yonaguni jima**	**1.10**	**97**			Pn	**Pn**	**03 25 43.7**	**-0.3**
SSLB	**Suanglung**	**1.12**	**224**			Pn	**Pn**	**03 25 44.5**	**+0.2**
SSLB	**Suanglung**	**1.12**	**224**	⇓P			**Pn**	**03 25 44.7**	**+0.3**
	baz=230								
SSLB					*e*	S	**Sn**	03 25 59.6	+0.3
	baz=230								
TCU	**Taichung**	**1.13**	**247**	*e*		P	**Pn**	**03 25 44.4**	**+0.1**
	baz=259								
TCU					*e*	S	**Sn**	03 25 59.2	-0.2
	baz=259								
HGSD	**Ruisui**	**1.15**	**198**	*e*		P	**Pn**	**03 25 44.4**	**-0.3**
	baz=206								
HGSD					*e*	S	**Sn**	03 26 00.5	+0.5
	baz=206								
WWF	**Wufeng**	**1.16**	**242**	*i*		P	**Pn**	**03 25 45.3**	**+0.6**
	baz=254								
WWF						S	**Sn**	03 26 00.5	+0.4
	baz=254								
EHY	**Hungye**	**1.17**	**203**	*e*		P	**Pn**	**03 25 44.5**	**-0.4**
	baz=202								
EHY					*e*	S	**Sn**	03 25 58.3	-2.1
	baz=202								
WCHH	**Zhanghua**	**1.25**	**246**	*e*		P	**Pn**	**03 25 45.8**	**-0.1**
	baz=248								
WCHH					*e*	S	**Sn**	03 26 01.5	-0.7
	baz=248								
WJS	**Zhushan**	**1.25**	**232**	*e*		P	**Pn**	**03 25 46.3**	**+0.3**
	baz=246								
WJS					*e*	S	**Sn**	03 26 02.7	+0.4
	baz=246								
YULB	**Yu-li**	**1.29**	**202**	Pn			**Pn**	**03 25 44.6**	**-1.8**
YULB	**Yu-li**	**1.29**	**202**	*e*		P	**Pn**	**03 25 45.1**	**-1.4**
	baz=201								
EYUL	**Yuli**	**1.32**	**200**	*e*		P	**Pn**	**03 25 47.6**	**+0.8**
	baz=205								
EYUL					*e*	S	**Sn**	03 26 04.3	+0.4
	baz=205								
TWF1	**Yuli**	**1.32**	**201**	*e*		P	**Pn**	**03 25 46.7**	**-0.2**
	baz=200								
ALS	**Alishan**	**1.42**	**221**	⇑P		P	**Pn**	**03 25 49.2**	**+0.8**
	baz=232								
ALS						S	**Sn**	03 26 07.9	+1.3
	baz=232								
CHN5	**Tsauling**	**1.44**	**226**	*e*		P	**Pn**	**03 25 49.0**	**+0.5**
	baz=238								
CHN5					*e*	S	**Sn**	03 26 07.5	+0.9
	baz=238								
WDLH	**Douliu**	**1.47**	**233**	*e*		P	**Pn**	**03 25 49.3**	**+0.4**
	baz=245								
WDLH					*e*	S	**Sn**	03 26 07.4	0.0
	baz=245								
WRL	**Guolierlin Hig**	**1.48**	**243**	*e*		P	**Pn**	**03 25 48.7**	**-0.3**
	baz=253								
WRL					*e*	S	**Sn**	03 26 06.4	-1.2
	baz=253								
CHKT	**Chengkung**	**1.54**	**195**	*e*		P	**Pn**	**03 25 49.5**	**-0.3**
	baz=185								
CHKT					*e*	S	**Sn**	03 26 08.8	-0.3
	baz=185								
WTCT	**Ta-ch'eng**	**1.58**	**243**	*e*		S	**Sn**	**03 26 09.2**	**-0.6**
	baz=252								
ELDTW	**Lidau**	**1.58**	**208**	P		P	**Pn**	**03 25 50.4**	**+0.1**
	baz=200								
WTK	**Tuku**	**1.58**	**236**	P		P	**Pn**	**03 25 50.5**	**+0.2**
	baz=248								
WTK						S	**Sn**	03 26 09.7	-0.3
	baz=248								
CHN4	**Tsaushan**	**1.67**	**222**	P		P	**Pn**	**03 25 52.1**	**+0.7**
	baz=224								
CHN4						S	**Sn**	03 26 14.4	+2.3
	baz=224								
CHY	**Chiayi**	**1.68**	**230**	*e*		P	**Pn**	**03 25 51.9**	**+0.3**
	baz=241								
CHY					*e*	S	**Sn**	03 26 13.1	+0.9
	baz=241								
EDH	**Donghe**	**1.68**	**196**	*e*		P	**Pn**	**03 25 51.0**	**-0.6**
	baz=204								
EDH					*e*	S	**Sn**	03 26 11.4	-0.9
	baz=204								
TPUB	**Ta-pu**	**1.68**	**220**	Pn			**Pn**	**03 25 52.2**	**+0.5**
TPUB	**Ta-pu**	**1.68**	**220**	*e*		P	**Pn**	**03 25 52.3**	**+0.6**
	baz=233								
TPUB					*e*	S	**Sn**	03 26 14.0	+1.6
	baz=233								
STYH	**Taoyuan**	**1.71**	**214**	*e*		P	**Pn**	**03 25 53.2**	**+1.3**
	baz=205								
STYH					*e*	S	**Sn**	03 26 14.0	+1.1
	baz=205								
STYT	**Tauyuan**	**1.72**	**214**	P		P	**Pn**	**03 25 54.0**	**+1.7**
	baz=205								
STYT					*e*	S	**Sn**	03 26 16.0	+2.6
	baz=205								
WTP	**Ta-pu**	**1.73**	**220**	*e*		P	**Pn**	**03 25 53.8**	**+1.4**
	baz=232								
WTP					*e*	S	**Sn**	03 26 16.4	+2.8
	baz=232								
WSF	**Szhu**	**1.74**	**237**	*e*		S	**Sn**	**03 26 13.7**	**0.0**
	baz=238								
IRIF	**Iriomote-Funau**	**1.77**	**98**	P		P	**Pn**	**03 25 52.5**	**-0.2**
IRIF						*e*S	**Sn**	03 26 13.6	-0.7
LONT	**Longtian**	**1.79**	**201**	*e*		P	**Pn**	**03 25 54.0**	**+0.9**
	baz=191								
TWK	**Hsinying**	**1.79**	**223**	*e*		P	**Pn**	**03 25 53.7**	**+0.5**
	baz=237								
TWK					*e*	S	**Sn**	03 26 16.9	+1.8
	baz=237								
WSL	**Shuilin Townsh**	**1.80**	**234**	*e*		P	**Pn**	**03 25 53.2**	**0.0**
	baz=245								
WSL					*e*	S	**Sn**	03 26 14.9	-0.3
	baz=245								
SNST	**Tainan City**	**1.82**	**222**	*e*		P	**Pn**	**03 25 53.1**	**-0.4**
	baz=236								
SNST					*e*	S	**Sn**	03 26 18.6	+2.9
	baz=236								
CHN1	**Nanshi**	**1.83**	**220**	*e*		P	**Pn**	**03 25 54.4**	**+0.7**
	baz=234								
CHN1					*e*	S	**Sn**	03 26 18.1	+2.2
	baz=234								
ICHU	**Yijhu**	**1.86**	**229

PHUB					*e*S		**Sn**	**03 26 24.6**	**-3.0**
	baz=244								
MSUT	**Lienchiang**	**2.32**	**313**	*e*P			**Pn**	**03 25 59.8**	**-0.4**
	baz=311								
MSUT					*e*S		**Sn**	**03 26 25.9**	**-1.8**
	baz=311								
EAST	**Anshuo**	**2.37**	**202**	*e*P			**Pn**	**03 26 03.0**	**+2.0**
	baz=194								
WDGT	**Dungji**	**2.38**	**236**	*e*P			**Pn**	**03 26 00.7**	**-0.3**
	baz=237								
SSPT	**Xinbi**	**2.39**	**209**	*e*P			**Pn**	**03 26 03.8**	**+2.6**
	baz=208								
SCZT	**Fangliau**	**2.47**	**207**	*e*P			**Pn**	**03 26 02.7**	**+0.5**
	baz=205								
SLIU	**Shizi**	**2.54**	**202**	*e*P			**Pn**	**03 26 04.5**	**+1.2**
	baz=201								
LAY	**Lan-yu**	**2.56**	**185**	*e*P			**Pn**	**03 26 02.1**	**-1.3**
	baz=184								
JTJ	**Tarama**	**2.63**	**88**	P			**Pn**	**03 26 05.1**	**+0.7**
JTJ					*e*S		**Sn**	**03 26 36.4**	**+1.2**
LYJJ	**Jianjiangzhen**	**2.69**	**317**	*e*P			**Pn**	**03 26 04.5**	**-0.7**
	baz=315								
XPSS	**Dashiqiu**	**2.75**	**328**	*e*P			**Pn**	**03 26 05.5**	**-0.5**
	baz=326								
MHZQ	**Yeshan**	**2.93**	**301**	*e*P			**Pn**	**03 26 07.6**	**-0.9**
	baz=300								
JIRB	**Irabujima**	**3.06**	**85**	P			**Pn**	**03 26 11.4**	**+1.1**
JIRB				S			**Sn**	**03 26 46.5**	**+0.7**
KNM	**Kinmen**	**3.08**	**267**	*e*P			**Pn**	**03 26 11.6**	**+1.1**
	baz=268								
KNMB	**Chin-men Tao**	**3.12**	**268**	Pn			**Pn**	**03 26 09.9**	**-1.1**
KNMB	**Chin-men Tao**	**3.12**	**268**	*e*P			**Pn**	**03 26 10.2**	**-0.9**
	baz=269								
JIKM	**Ikemajima**	**3.14**	**83**	P			**Pn**	**03 26 12.8**	**+1.5**
JMJ2	**Miyako jima3**	**3.20**	**87**	P			**Pn**	**03 26 13.5**	**+1.3**
JMJ2				S			**Sn**	**03 26 49.4**	**+0.2**
JOGS	**Gusukube**	**3.27**	**86**	P			**Pn**	**03 26 14.5**	**+1.4**
JOGS				S			**Sn**	**03 26 51.2**	**+0.3**
AXDP	**Jialang**	**3.51**	**276**	*e*P			**Pn**	**03 26 15.8**	**-0.5**
	baz=276								
ZPLA	**Ao Xicun**	**3.77**	**261**	*e*P			**Pn**	**03 26 19.1**	**-0.8**
	baz=262								
JOW	**Kunigami**	**6.24**	**68**	P			**Pn**	**03 26 53.6**	**-0.1**
	3.1nm,0.3s,baz=166,slow=22,SNR=2.8								
JOW				S			**Sn**	**03 27 57.1**	**-6.5**
	baz=280,slow=26,SNR=0.7								
JOW	**Kunigami**	**6.24**	**68**	Pn			**Pn**	**03 26 53.5**	**-0.2**
KSRS	**Korea Array**	**13.84**	**21**	P			**Pn**	**03 28 39.7**	**+2.6**
	0.2nm,0.3s,baz=201,slow=12,SNR=1.6								
KS19	**Wonju Array Si**	**13.87**	**20**	Pn			**Pn**	**03 28 35.7**	**-1.8**
ULN	**Ulaanbaatar**	**26.01**	**337**	P			**P**	**03 30 53.3**	**+2.6**
ULN				IAmb			IAmb	03 31 15.9	
	comp=Z,1.5nm,0.7s								
SONM	**Songino Array**	**26.22**	**336**	P			**P**	**03 30 52.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=132,slow=4.3,SNR=2.9								
SONM	**Songino Array**	**26.22**	**336**	P			**P**	**03 30 53.1**	**+0.5**
MKAR	**Makanchi Array**	**38.45**	**315**	P			**P**	**03 32 40.0**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=101,slow=7.6,SNR=2.9								
FITZ	**Fitzroy Crossi**	**42.60**	**175**	P			**P**	**03 33 13.9**	**+0.4**
FITZ				IAmb			IAmb	03 33 19.0	
	comp=Z,2.7nm,1.1s								
WRA	**Warramunga Arr**	**45.92**	**163**	P			**P**	**03 33 38.4**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=343,slow=8.7,SNR=2.7								
ASAR	**Alice Springs**	**49.39**	**165**	P			**P**	**03 34 04.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=339,slow=7.4,SNR=1.8								
ABKAR	**Akbulak array**	**53.57**	**314**	P			**P**	**03 34 37.7**	**-0.2**
ABKAR				IAmb			IAmb	03 35 01.4	
	comp=Z,3.8nm,1.5s								
FORT	**Forrest**	**55.38**	**173**	P			**P**	**03 34 50.4**	**-0.8**
BMAR	**Burnt Mountain**	**68.92**	**24**	P			**P**	**03 36 22.3**	**+0.9**
BCAR	**Beaver Creek A**	**71.20**	**29**	P			**P**	**03 36 36.5**	**+1.0**
FINES	**FINESS Array B**	**71.38**	**330**	P			**P**	**03 36 36.5**	**0.0**
YKA	**Yellowknife Ar**	**82.37**	**23**	P			**P**	**03 37 37.4**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=310,slow=5.1,SNR=6.4								

IDC ***11*** *03:31:15.3±1.1,48˚.79S×165˚.01E,h0km,mb4.3/5, mb1 4.5/7,mb1mx4.0/35,mbtmp4.3/7,ML3.7/2,MS3.6/6, Ms1 3.6/6,ms1mx3.2/48,Error ellipse: s-maj=38.3km s-min=23.3km az=177.0*

NEIC ***11*** *03:31:18.5±2.4,48˚.97S±0˚.06×164˚.9E±0˚.2,h20km±5km, mb4.4/12,Error ellipse: s-maj=16.7km s-min=7.8km az=110.0*

ISC 11 03:31:21.6±0.6,**48˚.92S**±0˚.08×**164˚.90E**±0˚.08,**h49**km,**n90,** σ1°**37/88,mb4.4**/10,**MS3.5**/4,**Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**2.95**	**46**	P	**Pn**	**03 32 07.5**	**+1.6**
APZ				S	**Sn**	**03 32 41.8**	**+1.7**
WHZ	**Wether Hill Ro**	**3.67**	**36**	Pn	**Pn**	**03 32 15.2**	**-0.6**
WHZ	**Wether Hill Ro**	**3.67**	**36**	P	**Pn**	**03 32 15.1**	**-0.6**
WHZ				S	**Sn**	**03 32 57.0**	**-0.7**
SYZ	**Scrubby Hill**	**3.72**	**52**	P	**Pn**	**03 32 16.7**	**+0.2**
SYZ				S	**Sn**	**03 32 56.1**	**-3.0**
DCZ	**Deep Cove**	**3.78**	**25**	Pn	**Pn**	**03 32 16.2**	**-1.1**
DCZ	**Deep Cove**	**3.78**	**25**	P	**Pn**	**03 32 16.3**	**-1.1**
DCZ				S	**Sn**	**03 32 58.0**	**-2.4**
MLZ	**Mavora Lakes**	**4.18**	**33**	Pn	**Pn**	**03 32 22.6**	**-0.2**
MLZ	**Mavora Lakes**	**4.18**	**33**	P	**Pn**	**03 32 22.6**	**-0.2**
MLZ				S	**Sn**	**03 33 11.1**	**+0.8**
TUZ	**Tuapeka**	**4.37**	**49**	P	**Pn**	**03 32 25.4**	**0.0**
TUZ				S	**Sn**	**03 33 16.4**	**+1.4**
MSZ	**Milford Sound**	**4.73**	**27**	P	**Pn**	**03 32 31.4**	**+1.1**
EAZ	**Earnscleugh**	**4.76**	**41**	P	**Pn**	**03 32 30.2**	**-0.6**
HHSZ	**Highcliff Hill**	**4.92**	**54**	P	**Pn**	**03 32 33.7**	**+0.8**
WKZ	**Wanaka**	**4.97**	**36**	Pn	**Pn**	**03 32 33.6**	**-0.1**
WKZ	**Wanaka**	**4.97**	**36**	P	**Pn**	**03 32 34.0**	**+0.3**
ODZ	**Otahua Downs**	**5.52**	**48**	Pn	**Pn**	**03 32 39.8**	**-1.4**
ODZ	**Otahua Downs**	**5.52**	**48**	P	**Pn**	**03 32 40.1**	**-1.1**
JCZ	**Jackson Bay**	**5.54**	**30**	P	**Pn**	**03 32 42.4**	**+0.9**
LBZ	**Lake Benmore**	**5.81**	**41**	Pn	**Pn**	**03 32 42.5**	**-2.7**
LBZ	**Lake Benmore**	**5.81**	**41**	P	**Pn**	**03 32 43.1**	**-2.1**
TMZ	**Timaru**	**6.18**	**45**	P	**Pn**	**03 32 48.8**	**-1.5**
FOZ	**Fox Glacier**	**6.37**	**34**	P	**Pn**	**03 32 52.7**	**-0.2**
ARCZ	**Arundel**	**6.60**	**43**	P	**Pn**	**03 32 54.7**	**-1.2**
MCQ	**Macquarie Isla**	**6.70**	**211**	Pn	**Pn**	**03 32 55.0**	**-2.3**
RPZ	**Rata Peaks**	**6.72**	**42**	Pn	**Pn**	**03 32 53.8**	**-3.9**
	2.7nm,0.3s,baz=230,slow=7.0,SNR=6.6						
RPZ				*e*Sn	**Sn**	**03 34 08.7**	**-4.2**
	5.3nm,0.3s,baz=48,slow=10,SNR=1.8						
RPZ				LR	LR	03 35 45.7	
	comp=Z,509nm,20.4s,baz=182,slow=41						
RPZ	**Rata Peaks**	**6.72**	**42**	P	**Pn**	**03 32 54.8**	**-3.0**
GCSZ	**Gaunt Creek Bo**	**6.75**	**36**	P	**Pn**	**03 32 57.9**	**-0.2**
RACZ	**Rakaia**	**7.21**	**47**	P	**Pn**	**03 33 03.0**	**-1.4**
MQZ	**McQueen's Vall**	**7.48**	**49**	Pn	**Pn**	**03 33 06.3**	**-1.8**
MQZ	**McQueen's Vall**	**7.48**	**49**	P	**Pn**	**03 33 07.0**	**-1.0**
AKCZ	**Akaroa Harbour**	**7.49**	**51**	P	**Pn**	**03 33 08.2**	**0.0**
OKCZ	**Okains Bay**	**7.67**	**50**	P	**Pn**	**03 33 11.8**	**+1.1**
INZ	**Inchbonnie**	**7.70**	**39**	P	**Pn**	**03 33 11.3**	**+0.3**
LTZ	**Lake Taylor**	**8.01**	**43**	P	**Pn**	**03 33 14.9**	**-0.4**
DSZ	**Denniston Nort**	**8.66**	**37**	P	**Pn**	**03 33 22.6**	**-1.7**
KHZ	**Kahutara**	**8.88**	**46**	P	**Pn**	**03 33 26.2**	**-1.0**
THZ	**Tophouse**	**9.10**	**41**	P	**Pn**	**03 33 30.7**	**+0.4**
MRNZ	**Matariki Terra**	**9.34**	**39**	P	**Pn**	**03 33 33.0**	**-0.6**
QRZ	**Quartz Range**	**9.73**	**37**	Pn	**Pn**	**03 33 36.8**	**-2.1**
QRZ	**Quartz Range**	**9.73**	**37**	P	**Pn**	**03 33 37.9**	**-1.0**
NNZ	**Nelson**	**9.76**	**41**	P	**Pn**	**03 33 40.4**	**+1.2**
TCW	**Tory Channel**	**10.16**	**44**	P	**Pn**	**03 33 45.9**	**+1.1**
DUWZ	**D'Urville Isla**	**10.33**	**42**	P	**Pn**	**03 33 48.1**	**+1.0**
KHEZ	**Kahui Hut**	**11.63**	**38**	P	**Pn**	**03 34 04.5**	**-0.4**
PKE	**Pukeiti**	**11.70**	**37**	P	**Pn**	**03 34 06.2**	**+0.4**
TAU	**Tasmania Unive**	**13.62**	**290**	Pn	Pn	03 34 25.8	-6.1
CTZ	**Chatham Island**	**13.77**	**75**	P	**Pn**	**03 34 33.9**	**-0.2**
URZ	**Urewera**	**13.83**	**44**	Pn	Pn	03 34 29.9	-4.9
	0.2nm,0.3s,baz=322,slow=22,SNR=1.6						
URZ				LR	LR	03 40 07.4	
	comp=Z,402nm,20.5s,baz=221,slow=39						
OUZ	**Omahuta**	**15.12**	**28**	Pn	**Pn**	**03 34 51.9**	**0.0**
OUZ				IAmb	IAmb	03 35 01.4	
	comp=Z,27nm,1.3s						
CAN	**Canberra**	**17.94**	**313**	Pn	**Pn**	**03 35 24.6**	**-2.8**
TOO	**Toolangi**	**18.07**	**302**	P	**P**	**03 35 28.1**	**-0.8**
TOO				IAmb	IAmb	03 35 29.8	
	comp=Z,20nm,0.7s						
RAO	**Raoul Island**	**23.64**	**40**	LR	LR	03 44 52.4	
	comp=Z,166nm,21.7s,baz=118,slow=35						
STKA	**Stephens Creek**	**24.44**	**306**	P	**P**	**03 36 35.6**	**0.0**
	comp=Z,3.6nm,0.8s,baz=139,slow=12,SNR=7.7						
STKA				LR	LR	03 45 20.3	
	comp=Z,93nm,18.2s,baz=201,slow=35						
STKA	**Stephens Creek**	**24.44**	**306**	P	**P**	**03 36 36.6**	**+1.1**
EIDS	**Eidsvold**	**25.87**	**330**	P	**P**	**03 36 50.1**	**+1.5**
EIDS				IAmb	IAmb	03 36 50.8	
	comp=Z,16nm,1.5s						
VNDA	**Vanda**	**28.73**	**181**	LR	LR	03 46 19.4	
	comp=Z,99nm,18.4s,baz=295,slow=31						
ASAR	**Alice Springs**	**35.07**	**305**	P	**P**	**03 38 09.6**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=137,slow=7.7,SNR=41						
ASAR				PcP	**PcP**	**03 40 41.7**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=134,slow=4.0,SNR=3.1						
AS31	**Alice Springs**	**35.07**	**305**	P	**P**	**03 38 09.5**	**-0.4**
AS31				IAmb	IAmb	03 38 19.0	
	comp=Z,2.7nm,0.7s						
WR0	**Warramunga Arr**	**37.77**	**309**	P	**P**	**03 38 32.2**	**-0.7**
WR0				IAmb	IAmb	03 38 41.6	
	comp=Z,6.3nm,0.9s						
WB2	**Warramunga Arr**	**37.88**	**309**	P	**P**	**03 38 33.0**	**-0.9**
WRA	**Warramunga Arr**	**37.89**	**309**	P	**P**	**03 38 33.2**	**-0.7**
	comp=Z,5.8nm,0.9s,baz=145,slow=8.1,SNR=11						
WRA				PcP	**PcP**	**03 40 50.5**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=162,slow=2.1,SNR=6.1						
WRA	**Warramunga Arr**	**37.89**	**309**	P	**P**	**03 38 33.6**	**-0.3**
WB0	**Warramunga Arr**	**38.01**	**309**	P	**P**	**03 38 34.7**	**-0.2**
WB0				IAmb	IAmb	03 38 38.4	
	comp=Z,8.3nm,1.1s						
H01W1	**Cape Leeuwin H**	**39.55**	**271**	T	T	04 20 31.4	
	baz=127,slow=76,SNR=9.3						
H01W2	**Cape Leeuwin H**	**39.55**	**271**	T	T	04 20 32.6	
	baz=127,slow=76,SNR=7.9						
H01W3	**Cape Leeuwin H**	**39.56**	**271**	T	T	04 20 33.2	
	baz=127,slow=76,SNR=9.6						
QSPA	**South Pole Qui**	**41.21**	**180**	LR	LR	03 53 33.7	
	comp=Z,78nm,18.6s,baz=355,slow=32						
FITZ	**Fitzroy Crossi**	**44.12**	**300**	P	**P**	**03 39 25.3**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=175,slow=8.4,SNR=17						
FITZ	**Fitzroy Crossi**	**44.12**	**300**	P	**P**	**03 39 25.6**	**+0.5**
PMSA	**Palmer Station**	**60.44**	**158**	P	**P**	**03 41 23.6**	**-1.9**
H08S2	**Diego Garcia H**	**85.88**	**263**	T	T	05 18 20.7	
	baz=138,slow=76,SNR=240						
H08S1	**Diego Garcia H**	**85.89**	**263**	T	T	05 18 18.1	
	baz=138,slow=76,SNR=158						
H08S3	**Diego Garcia H**	**85.90**	**263**	T	T	05 18 22.2	
	baz=138,slow=76,SNR=199						
CMAR	**Chiang Mai Arr**	**88.93**	**300**	P	**P**	**03 44 12.0**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=159,slow=3.4,SNR=12						
CMAR	**Chiang Mai Arr**	**88.93**	**300**	P	**P**	**03 44 12.7**	**+2.0**
CN2	**Changchun**	**98.60**	**332**	*e*P	**P**	**03 44 54.6**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PDAR	**Pinedale Array**	**118.08**	**56**	PKP	**PKiKP**	**03 50 03.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=202,slow=1.0,SNR=1.7						
MKAR	**Makanchi Array**	**119.19**	**309**	PKP	**PKPdf**	**03 50 03.7**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=135,slow=0.6,SNR=3.3						
ILAR	**Eielson Array**	**119.38**	**22**	PKP	**PKiKP**	**03 50 05.3**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=295,slow=3.4,SNR=5.5						
YKA	**Yellowknife Ar**	**127.96**	**36**	PKP	**PKPdf**	**03 50 20.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=251,slow=1.7,SNR=7.9						
YKA	**Yellowknife Ar**	**127.96**	**36**		**PKPdf**	**03 50 20.6**	**0.0**
TORD	**Torodi Ar. Bea**	**141.72**	**207**	PKhKP	PKPpre	03 50 43.4	
	comp=Z,0.4nm,0.5s,baz=153,slow=3.5,SNR=7.7						
TORD	**Torodi Ar. Bea**	**141.72**	**207**	PKPpre		03 50 43.1	
BRTR	**Keskin Array B**	**144.48**	**274**	PKP	**PKPdf**	**03 50 52.3**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=146,slow=4.6,SNR=24						
ARCES	**ARCESS Array B**	**151.60**	**331**	PKPbc	**PKiKP**	**03 51 09.9**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=48,slow=1.8,SNR=12						
ARCES				PKPab	**PKPab**	**03 51 19.1**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=79,slow=2.6,SNR=6.5						
ARCES	**ARCESS Array B**	**151.60**	**331**		**PKiKP**	**03 51 11.3**	**+2.0**
ARCES					**PKPab**	**03 51 19.9**	**+2.1**
AKASG	**Malin Array Be**	**151.66**	**291**	PKPbc	**PKiKP**	**03 51 10.5**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=87,slow=2.6,SNR=7.7						
AKASG	**Malin Array Be**	**151.66**	**291**	PKPbc	**PKiKP**	**03 51 10.1**	**+0.2**
FINES	**FINESS Array B**	**153.85**	**314**	PKPbc	**PKiKP**	**03 51 14.8**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=66,slow=4.8,SNR=6.2						
FINES	**FINESS Array B**	**153.85**	**314**		**PKiKP**	**03 51 15.4**	**+1.3**
GERES	**GERESS Array B**	**161.10**	**281**	PKPab	**PKPab**	**03 51 59.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=116,slow=4.5,SNR=3.8						

IDC ***11*** *03:52:54.2±0.5,14˚.15S×166˚.55E,h0km,mb4.5/20, mb1 4.6/25,mb1mx4.5/36,mbtmp4.5/25,ML5.3/3,MS3.8/28, Ms1 3.8/28,ms1mx3.5/65,Error ellipse: s-maj=17.4km s-min=14.5km az=92.0*

MOS ***11*** *03:52:56.7±1.1,14˚.19S×166˚.38E,h23km,mb5.1/25,Error ellipse: s-maj=11.1km s-min=8.4km az=131.0*

NEIC ***11*** *03:52:57.2±2.4,14˚.17S±0˚.04×166˚.52E±0˚.09,h13km±3km, mb5.0/68,Error ellipse: s-maj=13.1km s-min=5.1km az=80.0*

BJI ***11*** *03:52:59.4±0.0,13˚.67S×166˚.02E,h8km,mb4.6/40, mB5.0/24,Ms4.4/3,Ms7 4.2/6*

NOU ***11*** *03:53:21.1,15˚.43S×167˚.58E,h14km,MLv4.7/5,Vanuatu Islands*

ISC 11 03:53:00.0±0.3,**14˚.23S**±0˚.05×**166˚.46E**±0˚.06,**h35**km,**n259,** σ1°**50**/233,**mb5.0**/86,**MS3.9**/30,**15C-3D,Fault plane solution: NP1:**φs336.06781°,δ58.44106°,λ92.68932°. **NP2:**φs150.93936°,δ31.66153°,λ85.63163°. **Principal axes:** T Plg76.3963°, Azm254.1769°; N Plg2.2913°, Azm154.6595°; P Plg13.4020°, Azm64.1133°; **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.41**	**149**	Pn	**Pn**	**03 53 22.4**	**-0.8**
DVP	**Devils Point**	**3.85**	**155**	P	**Pn**	**03 53 59.9**	**+3.1**
KOUNC	**Koumac, New Ca**	**6.62**	**198**	Pn	**Pn**	**03 54 35.7**	**+0.9**
MARNC	**Mare, Loyalty**	**7.36**	**168**	Pn	**Pn**	**03 54 45.5**	**+0.5**
DZM	**Mont Dzumac**	**7.80**	**180**	Pn	**Pn**	**03 54 50.9**	**-0.2**
	1.6nm,0.3s,baz=155,slow=19,SNR=14						
DZM				Sn	**Sn**	**03 56 15.7**	**-2.5**
	baz=344,slow=18,SNR=1.1						
DZM				LR	LR	03 57 24.3	
	comp=Z,357nm,20.1s,baz=24,slow=34						
DZM	**Mont Dzumac**	**7.80**	**180**	*e*Pn	**Pn**	**03 54 51.8**	**+0.7**
	38nm,0.7s						
DZM				*e*Sn	**Sn**	**03 56 22.3**	**+4.0**
	22nm,0.7s						
DZM				*e*LR	LR	03 56 43.7	
	comp=Z,486nm,25.3s						
DZM	**Mont Dzumac**	**7.80**	**180**		**Pn**	**03 54 51.7**	**+0.5**
HNR	**Honiara**	**7.96**	**306**	Pn	**Pn**	**03 54 52.6**	**-0.7**
	46nm,0.3s,baz=4.4,slow=2.0,SNR=7.9						
HNR				LR	LR	03 58 07.2	
	comp=Z,407nm,18.2s,baz=100,slow=39						
ONTNC	**Ouen Toro**	**8.03**	**180**	Pn	**Pn**	**03 54 53.2**	**-1.0**
OUENC	**Ouen Island, N**	**8.15**	**177**	Pn	**Pn**	**03 54 54.2**	**-1.7**
PINNC	**Pines Island,**	**8.39**	**174**	Pn	**Pn**	**03 54 59.8**	**+0.6**
MSVF	**Nonsavu**	**11.68**	**109**	Pn	**Pn**	**03 55 41.9**	**-2.5**
	0.5nm,0.3s,baz=160,slow=22,SNR=1.6						
MSVF				LR	LR	03 59 20.3	
	comp=Z,906nm,18.9s,baz=3.4,slow=33						
MSVF	**Nonsavu**	**11.68**	**109**	P	**Pn**	**03 55 45.4**	**+1.0**
MSVF	**Nonsavu**	**11.68**	**109**	Pn	**Pn**	**03 55 45.4**	**+1.0**
KRVT	**Keravat (AS076**	**17.31**	**303**	P	**Pn**	**03 56 58.3**	**-0.8**
	21nm,0.3s,baz=275,slow=5.1,SNR=3.2						
EIDS	**Eidsvold**	**18.20**	**230**	P	**P**	**03 57 09.1**	**-1.0**
PMG	**Port Moresby**	**19.48**	**282**	P	**Pn**	**03 57 25.2**	**-0.4**
	2.9nm,0.3s,baz=77,slow=9.4,SNR=3.6						
PMG				LR	LR	04 03 58.2	
	comp=Z,149nm,18.2s,baz=70,slow=34						
PMG	**Port Moresby**	**19.48**	**282**	*i* P	**P**	**03 57 23.9**	**-0.3**
PMG				pmax	pmax		
	comp=Z,5.0nm,0.2s						
PMG	**Port Moresby**	**19.48**	**282**		**Pn**	**03 57 24.3**	**-1.3**
CTA	**Charters Tower**	**20.16**	**250**	P	Pn	03 57 31.9	-1.6
	comp=Z,21nm,0.9s,baz=73,slow=11,SNR=16						
CTA				LR	LR	04 04 43.7	
	comp=Z,207nm,18.4s,baz=80,slow=35						
AFI	**Afiamalu**	**21.12**	**92**	LR	LR	04 03 51.3	
	comp=Z,230nm,20.6s,baz=258,slow=31						
ARMA	**Armidale**	**21.12**	**218**	P	**P**	**03 57 42.8**	**+0.8**
COEN	**Coen**	**22.58**	**268**	P	**P**	**03 57 57.0**	**-0.7**
URZ	**Urewera**	**25.73**	**160**	P	**P**	**03 58 26.3**	**-0.8**
	comp=Z,5.3nm,0.8s,baz=20,slow=16,SNR=1.3						
URZ	**Urewera**	**25.73**	**160**	P	**P**	**03 58 26.5**	**-0.6**
BKZ	**Black Stump Fm**	**26.37**	**162**	P	**P**	**03 58 33.3**	**+0.3**
BKZ				IAmb	IAmb	03 58 51.7	
	comp=Z,85nm,2.0s						
STKA	**Stephens Creek**	**28.73**	**228**	P	**P**	**03 58 55.2**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=94,slow=8.0,SNR=5.6						
STKA				LR	LR	04 10 28.3	
	comp=Z,310nm,18.4s,baz=40,slow=36						
STKA	**Stephens Creek**	**28.73**	**228**	*i* P	**P**	**03 58 54.8**	**+0.6**
STKA	**Stephens Creek**	**28.73**	**228**	P	**P**	**03 58 55.2**	**+1.0**
WR0	**Warramunga Arr**	**31.00**	**255**	P	**P**	**03 59 13.7**	**-0.8**
WB0	**Warramunga Arr**	**31.12**	**255**	P	**P**	**03 59 13.7**	**-1.9**
WB2	**Warramunga Arr**	**31.18**	**255**	P	**P**	**03 59 14.5**	**-1.6**
WB2				IAmb	IAmb	04 00 15.7	
	comp=Z,30nm,1.7s						
WRAB	**Tennant Creek**	**31.18**	**255**	*i* P	**P**	**03 59 13.7**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,20nm,2.7s						
WRA	**Warramunga Arr**	**31.19**	**255**	P	**P**	**03 59 14.5**	**-1.7**
	comp=Z,5.8nm,1.0s,baz=84,slow=8.5,SNR=20						
WRA				PcP	**PcP**	**04 02 10.7**	**0.0**
	comp=Z,1.0nm,1.0s,baz=77,slow=1.7,SNR=2.9						
WRA				LR	LR	04 11 35.4	
	comp=Z,187nm,18.3s,baz=86,slow=36						
WRA	**Warramunga Arr**	**31.19**	**255**	*i* P	**P**	**03 59 13.6**	**-2.6**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRA	**Warramunga Arr**	**31.19**	**255**	P	**P**	**03 59 12.7**	**-3.4**
AS31	**Alice Springs**	**32.12**	**248**	P	**P**	**03 59 22.2**	**-2.2**
ASAR	**Alice Springs**	**32.12**	**248**	P	**P**	**03 59 22.7**	**-1.7**
	comp=Z,3.5nm,0.9s,baz=75,slow=9.5,SNR=17						
ASAR				PcP	**PcP**	**04 02 13.2**	**0.0**
	comp=Z,0.8nm,0.8s,baz=79,slow=4.9,SNR=2.2						
ASAR				LR	LR	04 12 09.7	
	comp=Z,222nm,18.0s,baz=137,slow=36						
ASAR	**Alice Springs**	**32.12**	**248**	P	**P**	**03 59 23.4**	**-1.0**
ASAR	**Alice Springs**	**32.12**	**248**	P	**P**	**03 59 23.4**	**-1.0**
RAR	**Rarotonga**	**32.86**	**107**	LR	LR	04 12 22.3	
	comp=Z,80nm,18.4s,baz=210,slow=36						
BBOO	**Buckleboo**	**33.27**	**231**	P	**P**	**03 59 34.8**	**+0.6**
BBOO				IAmb	IAmb	03 59 46.7	
	comp=Z,28nm,0.9s						
KNRA	**Kununurra**	**36.42**	**263**	P	**P**	**04 00 00.3**	**-1.3**
KNRA				IAmb	IAmb	04 00 02.1	
	comp=Z,22nm,1.1s						
SIJI	**Sorong**	**37.24**	**288**	LR	LR	04 16 57.7	
	comp=Z,137nm,19.0s,baz=306,slow=39						
FORT	**Forrest**	**38.88**	**238**	P	**P**	**04 00 21.2**	**-1.1**
FORT				IAmb	IAmb	04 00 22.9	
	comp=Z,30nm,1.0s						
FITZ	**Fitzroy Crossi**	**39.34**	**259**	LR	LR	04 15 45.5	
	comp=Z,157nm,19.0s,baz=80,slow=35						
FITZ	**Fitzroy Crossi**	**39.34**	**259**	P	**P**	**04 00 24.7**	**-1.6**
BATI	**Baumata**	**41.97**	**270**	LR	LR	04 18 22.8	
	comp=Z,160nm,18.6s,baz=116,slow=36						
BATI	**Baumata**	**41.97**	**270**	P	**P**	**04 00 48.7**	**+0.6**
	comp=Z,722nmcomp=Z,64nm,0.9s						
PPT2	**Papeete2**	**42.35**	**101**	*e*LR	LR	04 12 52.7	
	comp=Z,160nm,28.0s						
PPT	**Papeete**	**42.35**	**101**	LR	LR	04 13 44.5	
	comp=Z,106nm,21.1s,baz=296,slow=30						
MMRI	**Maumere**	**43.65**	**272**	P	**P**	**04 01 01.0**	**-0.7**
**LU

KMI pmax pmax
comp=Z,7.0nm,1.2s
XLT XiLinHaoTe 73.84 325 *e*P **P 04 04 32.6 +1.3**
XLT S **S 04 14 06.7 +6.2**
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,69nm,3.5s
XLT LR LR
comp=Z,440nm,24.6s
CMAR Chiang Mai Arr 74.03 294 P **P 04 04 33.5 +0.8**
comp=Z,1.1nm,0.3s,baz=134,slow=3.5,SNR=5.5
CMAR Chiang Mai Arr 74.03 294 P **P 04 04 33.4 +0.6**
CHTO Chiang Mai 74.16 295 P P 04 04 37.8 +4.3
CHTO pmax pmax
comp=Z,4.0nm,0.8s
MA2 Magadan 74.64 352 *i* P **P 04 04 34.6 -0.9**
MA2 pmax pmax
comp=Z,8.0nm,1.1s
HHC Hu-ho-hao-te 74.70 320 *e*P **P 04 04 38.0 +1.6**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.8s
PZH PanZhiHua 74.77 303 P **P 04 04 38.3 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,5.4s
ZEA Zeya 75.53 337 *e*P P 04 04 46.2 +5.5
ZEA pmax pmax
comp=Z,10.0nm,0.8s
BTO Baotou 75.53 319 *e*P **P 04 04 44.2 +3.0**
LZH Lanzhou 77.41 313 *e*P P 04 05 02.7 +11
LZH pP pwP 04 05 09.6 +1.4
LZH pmax pmax
comp=Z,15nm,1.2s
SEY Seymchan 77.70 353 *i* P **P 04 04 52.4 -0.3**
SEY pmax pmax
comp=Z,16nm,1.0s
KDAK Kodiak Island 79.28 21 LR LR 04 34 34.7
comp=Z,57nm,18.5s,baz=213,slow=32
N18K Kilae Creek 80.49 18 P **P 04 05 09.6 +1.5**
baz=217
ULN Ulaanbaatar 81.27 324 *i* P **P 04 05 13.9 +1.2**
ULN pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 81.27 324 P **P 04 05 14.0 +1.2**
YAK Yakutsk 81.33 343 *e*P **P 04 05 13.9 +1.4**
YAK pmax pmax
comp=Z,25nm,1.5s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK Yakutsk 81.33 343 P **P 04 05 12.6 +0.1**
ANM Nome 81.44 12 P **P 04 05 12.4 -0.7**
ANM pmax pmax
comp=Z,13nm,1.1s
ANM Nome 81.44 12 P **P 04 05 12.4 -0.7**
ANM IAmb IAmb 04 05 22.9
comp=Z,13nm,1.1s
ANM Nome 81.44 12 P **P 04 05 13.7 +0.6**
baz=208
SONM Songino Array 81.63 324 P **P 04 05 13.9 -0.7**
comp=Z,2.1nm,0.9s,baz=144,slow=3.5,SNR=12
SONM Songino Array 81.63 324 P **P 04 05 16.1 +1.5**
SONM IAmb IAmb 04 05 32.1
comp=Z,24nm,1.8s
GTA Gaotai 81.76 314 *e*P **P 04 05 18.2 +2.7**
GTA pP PcP 04 05 21.9 +0.7
GTA sP pP 04 05 24.3 -0.5
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,79nm,4.7s
GTA LR LR
comp=Z,74nm,18.2s
GTA LR LR
comp=Z,53nm,16.7s
TNA Tin City 81.86 10 P **P 04 05 15.3 +0.1**
baz=205
M19K Big River Lodg 81.91 18 P **P 04 05 16.4 +0.8**
M19K IAmb IAmb 04 05 26.0
comp=Z,16nm,1.2s
M19K Big River Lodg 81.91 18 P **P 04 05 17.2 +1.6**
baz=218
L19K White Mountain 81.99 17 P **P 04 05 17.4 +1.4**
L19K IAmb IAmb 04 05 26.0
comp=Z,24nm,1.6s
L19K White Mountain 81.99 17 P **P 04 05 17.5 +1.4**
baz=218
BILL Bilibino 82.05 360 ⇑ *i*P **P 04 05 15.7 -0.5**
BILL *i* 04 05 23.5
BILL *e* 04 08 21.3
BILL *e*PPP PPP 04 10 17.7
BILL pmax pmax
comp=Z,14nm,0.7s
BILL MLR MLR
comp=Z,126nm,24.0s
BILL Bilibino 82.05 360 P **P 04 05 15.4 -0.8**
BILL IAmb IAmb 04 05 25.1
comp=Z,19nm,0.9s
MAW Mawson 82.05 202 P **P 04 05 16.6 +0.3**
comp=Z,2.4nm,0.9s,baz=27,slow=4.2,SNR=2.5
TTA Tatalina 82.27 16 P **P 04 05 18.4 +0.8**
baz=216
L20K Farewell, AK 82.51 17 P **P 04 05 20.2 +1.4**
baz=219
RC01 Rabbit Creek A 82.73 20 P **P 04 05 20.7 +0.8**
baz=222
PWL Port Wells 83.03 20 P **P 04 05 21.7 +0.2**
baz=224
M22K Willow 83.10 19 P **P 04 05 22.5 +0.7**
baz=222
K20K Telida 83.14 17 P **P 04 05 22.5 +0.4**
K20K IAmb IAmb 04 05 27.0
comp=Z,22nm,1.6s
K20K Telida 83.14 17 P **P 04 05 22.5 +0.4**
baz=218
PMR Palmer 83.30 20 P **P 04 05 23.8 +1.0**
baz=223
PPLA Purkeypile 83.33 18 P **P 04 05 24.0 +0.8**
baz=220
KNK Knik Glacier 83.39 20 P **P 04 05 23.3 -0.1**
baz=224
CUT Chulitna 83.54 19 P **P 04 05 24.5 +0.5**
baz=222
BOD Bodaibo 83.69 335 *e*P **P 04 05 25.8 +0.9**
BOD pmax pmax
comp=Z,13nm,2.1s
SML Sawmill 83.72 20 P **P 04 05 25.1 0.0**
baz=224
CAST Castle Rocks 83.76 17 P **P 04 05 24.6 -0.6**
baz=220
J20K Nowinta River 83.77 16 IAmb IAmb 04 05 27.1
comp=Z,6.6nm,0.8s
J20K Nowinta River 83.77 16 P **P 04 05 25.5 +0.3**
baz=218
CHUM Lake Minchumin 84.05 17 P **P 04 05 26.5 -0.1**
baz=220
GOMU GeErMu 84.07 309 P **P 04 05 29.7 +1.8**
GOMU pP pP 04 05 35.8 -1.5
GOMU sP sP 04 05 36.9 -3.9
GOMU pmax pmax
comp=Z,1.0nm,0.4s
GOMU pmax pmax
comp=Z,52nm,4.8s
SCM Sheep Creek Mo 84.07 20 P **P 04 05 27.0 +0.1**
baz=225
KTH Kantishna Hill 84.20 18 P P **04 05 26.4 -1.2**
KLU Klutina 84.31 21 P **P 04 05 28.2 +0.1**
baz=226
TRF Thorofare Moun 84.31 18 IAmb IAmb 04 05 37.3
comp=Z,15nm,0.9s
TRF Thorofare Moun 84.31 18 P **P 04 05 26.9 -1.3**
baz=222
WAT6 Susitna Watana 84.47 19 P **P 04 05 27.8 -1.2**
baz=224
BPAW Bear Paw Mtn. 84.59 17 IAmb IAmb 04 05 37.6
comp=Z,8.1nm,1.0s
BPAW Bear Paw Mtn. 84.59 17 P **P 04 05 27.7 -1.7**
baz=221
ZAK Zakamensk 84.69 325 *e*P **P 04 05 30.6 +0.2**
ZAK pmax pmax
comp=Z,18nm,1.5s
RND Reindeer 84.72 19 P **P 04 05 29.1 -1.0**
RND pmax pmax
comp=Z,35nm,1.0s
RND Reindeer 84.72 19 P **P 04 05 29.1 -1.0**
MCK McKinley 84.93 18 P **P 04 05 30.2 -0.9**
baz=223
DHY Denali Highway 84.94 19 P **P 04 05 29.9 -1.5**
baz=224
I21K Tanana 85.14 16 P **P 04 05 32.1 0.0**
baz=220
MCARA McCarthy VSAT 85.26 22 P **P 04 05 33.2 +0.4**
baz=229
H21K Melozitna Rive 85.28 16 P **P 04 05 32.6 -0.3**
H21K IAmb IAmb 04 05 42.7
comp=Z,16nm,1.1s
H21K Melozitna Rive 85.28 16 P **P 04 05 32.6 -0.3**
baz=219
NEA2 Nenana 85.52 18 IAmb IAmb 04 05 42.4
comp=Z,22nm,1.3s
NEA2 Nenana 85.52 18 P **P 04 05 32.6 -1.4**
baz=223
YBH Yreka Blue Hor 85.62 45 LR LR 04 36 30.8
comp=Z,30nm,19.1s,baz=303,slow=31
I23K Minto, Yukon-K 85.84 17 P **P 04 05 34.6 -1.0**
baz=223
CCB Clear Creek Bu 85.94 18 P **P 04 05 34.1 -1.9**
CCB IAmb IAmb 04 05 44.3
comp=Z,11nm,0.9s
HDA Harding Lake 86.02 18 P **P 04 05 35.6 -0.9**
baz=225
TCOL CIGO, UAF Yank 86.08 18 P **P 04 05 36.3 -0.4**
baz=224
COLA College 86.08 18 *i* P **P 04 05 35.5 -1.3**
COLA pmax pmax
comp=Z,8.0nm,0.7s
RIDG Independent Ri 86.22 20 IAmb IAmb 04 05 46.3
comp=Z,8.2nm,0.8s
RIDG Independent Ri 86.22 20 P **P 04 05 36.5 -1.1**
baz=227
L26K Log Cabin Wild 86.23 21 P **P 04 05 37.1 -0.6**
baz=228
H23K Yukon River 86.29 17 IAmb IAmb 04 05 47.1
comp=Z,17nm,1.1s
H23K Yukon River 86.29 17 P **P 04 05 37.5 -0.3**
baz=222
IL31 86.30 18 P **P 04 05 36.5 -1.4**
IL31 IAmb IAmb 04 05 46.4
comp=Z,12nm,0.8s
ILAR Eielson Array 86.30 18 P **P 04 05 36.4 -1.6**
comp=Z,6.1nm,0.8s,baz=236,slow=5.2,SNR=56
ILAR LR LR 04 42 28.2
comp=Z,40nm,18.5s,baz=182,slow=34
M27K Edge Creek, AK 86.31 22 P **P 04 05 36.7 -1.5**
baz=230
POKR Poker Plat Res 86.38 18 P **P 04 05 36.8 -1.5**
baz=224
J25K Salcha River, 86.66 19 IAmb IAmb 04 05 48.8
comp=Z,14nm,0.9s
J25K Salcha River, 86.66 19 P **P 04 05 38.7 -1.0**
baz=226
SCRK Sand Creek 86.66 20 IAmb IAmb 04 05 49.1
comp=Z,8.8nm,0.8s
SCRK Sand Creek 86.66 20 P **P 04 05 38.9 -1.0**
baz=228
L27K Beaver Creek, 86.78 21 P **P 04 05 39.7 -0.6**
baz=230
BBB Bella Bella 86.81 34 LR LR 04 43 30.0
comp=Z,27nm,18.2s,baz=304,slow=35
J26L Joseph Creek 87.15 19 P **P 04 05 42.0 -0.2**
baz=228
COLD Coldfoot 87.16 16 P **P 04 05 42.7 +0.7**
baz=222
J05D Fort Rock, OR 87.23 44 P **P 04 05 43.2 0.0**
baz=248
BELA Belgrano 2 87.28 176 P **P 04 05 41.8 -0.8**
PFO Pinyon Flats O 87.35 55 LR LR 04 44 42.4
comp=Z,33nm,18.1s,baz=234,slow=36
NVAR Mina Array Bea 87.55 49 P **P 04 05 43.2 -1.7**
comp=Z,0.8nm,0.8s,baz=239,slow=7.0,SNR=3.3
NVAR LR LR 04 37 16.4
comp=Z,70nm,19.7s,baz=254,slow=30
PALK Pallekele 87.68 278 LR LR 04 47 57.8
comp=Z,35nm,18.7s,baz=258,slow=38
DAWY Dawson 88.26 21 P **P 04 05 46.8 -0.7**
baz=232
TOLK Toolik Lake Re 88.38 15 IAmb IAmb 04 05 57.9
comp=Z,8.6nm,1.1s
TOLK Toolik Lake Re 88.38 15 P **P 04 05 48.1 +0.2**
baz=222
SYO Syowa Base 88.95 197 ⇑ *e*P **P 04 05 51.8 +1.1**
TIXI Tiksi 89.33 349 *i* P **P 04 05 51.4 -0.8**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 89.33 349 P **P 04 05 50.7 -1.5**
TIXI IAmb IAmb 04 06 02.0
comp=Z,9.7nm,1.2s
LPIG La Paz 89.70 65 LR LR 04 41 53.6
comp=Z,36nm,18.2s,baz=312,slow=33
ELK Elko 90.54 48 LR LR 04 41 12.9
comp=Z,57nm,18.8s,baz=284,slow=32
WMQ Urumqi 91.82 315 *e*P **P 04 06 05.9 +1.3**
HYBB Hyderabad (bro 92.23 287 *e*P **P 04 06 06.9 -0.1**
HYBB *e*pP **PcP 04 06 11.1 +3.3**
HYBB *e*PP **PP 04 09 47.3 -0.5**
TROLL Troll, Antarti 93.29 185 P **P 04 06 11.9 +0.8**
SNAA Sanae 94.00 183 P **P 04 06 17.4 +3.2**
VNA3 Neumayer Olymp 94.69 181 P **P 04 06 15.3 -2.0**
VNA2 Neumayer--Watz 94.95 182 P **P 04 06 18.8 +0.3**
baz=124,slow=4.0
PDAR Pinedale Array 95.19 47 LR LR 04 43 27.9
comp=Z,40nm,18.7s,baz=327,slow=32
ANMO Albuquerque 95.67 56 LR LR 04 46 33.4
comp=Z,62nm,18.0s,baz=286,slow=34
C36M Paulatuk 96.19 20 IAmb IAmb 04 06 31.4
comp=Z,6.4nm,1.0s
C36M Paulatuk 96.19 20 P **P 04 06 21.9 -2.0**
baz=246
MK31 Makanchi Array 96.30 317 P **P 04 06 23.5 -1.5**
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 96.30 317 P **P 04 06 23.5 -1.5**
MKAR Makanchi Array 96.30 317 P **P 04 06 25.3 +0.2**
comp=Z,2.2nm,0.9s,baz=98,slow=5.4,SNR=14
MKAR PP **PP 04 10 17.6 -1.4**
comp=Z,0.6nm,1.0s,baz=101,slow=7.5,SNR=3.8
MKAR Makanchi Array 96.30 317 *i* P **P 04 06 26.0 +0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 96.30 317 P **P 04 06 25.1 +0.1**
MAKZ Makanchi 96.52 317 P **P 04 06 26.0 0.0**
MAKZ pmax pmax
comp=Z,5.0nm,1.2s
MAKZ Makanchi 96.52 317 P **P 04 06 26.0 0.0**
MAKZ IAmb IAmb 04 06 29.5
comp=Z,4.6nm,1.1s
ZAA0 Zalesovo Array 96.53 324 P **P 04 06 24.4 -1.4**
ZAA0 IAmb IAmb 04 06 34.4
comp=Z,4.7nm,0.9s
ZALV Zalesovo Beam 96.53 324 P **P 04 06 24.3 -1.5**
comp=Z,0.7nm,0.6s,baz=118,slow=8.6,SNR=7.0
ZALV Zalesovo Beam 96.53 324 *i* P **P 04 06 26.7 +0.9**
ZALV pmax pmax
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 96.53 324 P **P 04 06 24.0 -1.8**
TXAR Lajitas Array 96.73 62 PP **PP 04 10 24.9 +2.0**
comp=Z,0.2nm,0.5s,baz=259,slow=4.2,SNR=4.1
TXAR LR LR 04 46 17.9
comp=Z,36nm,18.0s,baz=318,slow=33
A36M Sachs Harbour 96.93 17 P **P 04 06 26.2 -1.0**
baz=245
YKA Yellowknife Ar 97.47 27 P **P 04 06 28.2 -1.6**
comp=Z,1.4nm,0.8s,baz=255,slow=4.6,SNR=20
YKA PKiKP **PKiKP 04 11 04.0 -0.5**
comp=Z,0.1nm,0.7s,baz=243,slow=1.6,SNR=2.3
NRIK Noril'sk 99.33 339 P **Pdif 04 06 37.5 -0.6**
comp=Z,1.0nm,0.4s,baz=0.0,slow=0.0,SNR=1.7
NRIK Noril'sk 99.33 339 *i* P **Pdif 04 06 40.5 +2.4**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 119.57 345 PKP **PKiKP 04 11 45.1 -0.5**
comp=Z,2.7nm,0.8s,baz=78,slow=1.0,SNR=4.1
ARCES ARCESS Array B 119.57 345 PKIKP **PKiKP 04 11 44.9 -0.7**
ARCES ARCESS Array B 119.57 345 PKPdf **PKiKP 04 11 44.9 -0.7**
KLMR Klimovskoe 119.89 333 *e*PKIKP **PKiKP 04 11 52.2 +5.8**
KLMR pmax pmax
comp=Z,6.0nm,1.1s
KLMR Klimovskoe 119.89 333 *e*PKPdf **PKiKP 04 11 52.2 +5.8**
KLMR AMP 04 11 59.8
comp=Z,6.0nm,1.1s
SCHQ Schefferville 122.32 33 PKP **PKiKP 04 11 50.5 -0.9**
comp=Z,4.4nm,0.9s,baz=281,slow=5.0,SNR=2.6
OBN Obninsk 123.86 328 *e*PKIKP **PKiKP 04 11 54.6 +0.2**
OBN *e* 04 13 40.1
OBN pmax pmax
comp=Z,3.0nm,0.8s
SDV Santo Domingo 123.92 89 PKPdf **PKPdf 04 11 54.2 -1.5**
FINES FINESS Array B 124.97 338 PKP **PKiKP 04 11 55.9 -0.6**
comp=Z,1.7nm,0.9s,baz=338,slow=8.5,SNR=4.5
FINES FINESS Array B 124.97 338 PKIKP **PKiKP 04 11 55.7 -0.7**
FINES FINESS Array B 124.97 338 PKPdf **PKiKP 04 11 55.7 -0.7**
AKASG Malin Array Be 129.88 326 PKP **PKiKP 04 12 06.2 -0.4**
comp=Z,0.7nm,0.7s,baz=5.7,slow=1.9,SNR=2.7
NB2 NORSAR Subarra 129.94 345 PKPdf **PKiKP 04 12 13.3 +6.8**
comp=Z,4.1nm,1.2s,baz=27,slow=1.8
NOA NORSAR Array B 129.94 345 PKP **PKPdf 04 12 05.2 -0.5**
comp=Z,1.1nm,1.2s,baz=49,slow=2.4,SNR=2.6
BRTR Keskin Array B 131.59 311 PKP **PKiKP 04 12 09.5 -1.1**
comp=Z,0.3nm,0.7s,baz=92,slow=1.3,SNR=2.4
BDFB Brasilia 134.81 130 PKP **PKPdf 04 12 15.0 -1.3**
comp=Z,2.2nm,0.7s,baz=207,slow=9.6,SNR=5.8
BDFB Brasilia 134.81 130 PKIKP **PKPdf 04 12 14.0 -2.3**
BDFB Brasilia 134.81 130 **PKPdf 04 12 14.0 -2.3**
GERES GERESS Array B 138.84 333 PKP **PKiKP 04 12 24.0 -1.0**
comp=Z,0.3nm,0.5s,baz=296,slow=4.3,SNR=3.5
GERES GERESS Array B 138.84 333 PKIKP **PKPdf 04 12 21.7 -1.1**
GERES GERESS Array B 138.84 333 PKPdf **PKPdf 04 12 21.6 -1.1**
BNI Bardonecchia 144.82 335 PKIKP **PKPdf 04 12 34.1 +0.4**
BNI Bardonecchia 144.82 335 PKPdf **PKPdf 04 12 34.0 +0.4**
VSL Villasalto 147.76 326 PKPbc **PKPbc 04 12 39.4 -2.1**
KEST Kesra 150.33 320 PKPbc **PKiKP 04 12 48.6 -0.4**
comp=Z,8.7nm,0.8s,baz=279,slow=3.6,SNR=11
KEST Kesra 150.33 320 PKPbc **PKiKP 04 12 48.4 -0.6**
ESDC Sonseca Array 153.29 343 PKPbc **PKiKP 04 12 54.9 0.0**
comp=Z,0.9nm,1.0s,baz=9.9,slow=1.5,SNR=2.9
TORD Torodi Ar. Bea 165.15 268 PKP **PKPdf 04 13 01.1 -0.5**
comp=Z,0.5nm,0.7s,baz=46,slow=0.4,SNR=3.7
TORD PKPab **PKPab 04 13 59.3 +0.5**
comp=Z,1.3nm,1.1s,baz=86,slow=2.7,SNR=2.6
TORD Torodi Ar. Bea 165.15 268 **PKPdf 04 12 58.9 -2.7**

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*IDC **11** 03:55:20.6±6.9, 6°.70N×72°.82W, h156km±43km, mb2.6/1, mb1 3.1/2, mb1mx2.8/24, mbtmp3.3/2 Error ellipse: s-maj=140.6km s-min=40.6km az=101.0*
*RSNC **11** 03:55:23.0±1.3, 6°.84N×73°.32W, h140km±6km, ML3.2, Mw3.6*
ISC 11 03:55:21.1±0.9, **6°.83N**±0°.03×**73°.28W**±0°.03, **h153**km±6km, **n35**, σ1**s56**/66, **5C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**158**	⇑ *e*P		**Pn**	**03 55 42.2**	**0.0**
BARC				*e*S		**Sn**	**03 55 56.2**	**-2.0**
BARC				*i*			03 55 58.7	
	comp=Z,322nm,0.2s							
PAMC	**Pamplona, Colo**	**0.77**	**49**	⇓ *i*P		**Pn**	**03 55 45.7**	**+0.8**
PAMC				*e*S		**Sn**	**03 56 03.4**	**+0.3**
PAMC				*i*			03 56 05.5	
	comp=Z,332nm,0.6s							
RUSC	**La Rusia**	**0.95**	**168**	*e*P		**Pn**	**03 55 46.2**	**-0.2**
RUSC				*e*S		**Sn**	**03 56 04.8**	**-0.8**
PTBC	**PUERTO BERRIO,**	**1.20**	**256**	⇑ *i*P		**Pn**	**03 55 47.5**	**-0.4**
PTBC				*e*S		**Sn**	**03 56 07.4**	**-1.0**
PTBC				*i*			03 56 08.5	
	comp=Z,378nm,0.1s							
OCAC	**Ocana**	**1.40**	**358**	⇑ *e*P		**Pn**	**03 55 50.7**	**+0.6**
OCAC				*e*S		**Sn**	**03 56 12.1**	**-0.2**
SPBC	**San Pablo de B**	**1.41**	**214**	*e*P		**Pn**	**03 55 49.8**	**-0.3**
SPBC				*e*S		**Sn**	**03 56 11.6**	**-0.7**
SPBC				*i*			03 56 17.2	
	comp=Z,264nm,0.2s							
TAMC	**Tame, Arauca**	**1.53**	**105**	⇓ *i*P		**Pn**	**03 55 52.2**	**+1.0**
TAMC				*e*S		**Sn**	**03 56 14.9**	**+0.6**
TAMC				*i*			03 56 21.7	
	comp=Z,124nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.70**	**293**	*e*P		**Pn**	**03 55 52.8**	**-0.2**
ZARC				*e*S		**Sn**	**03 56 17.1**	**-0.4**
ZARC				*i*			03 56 24.0	
	comp=Z,308nm,0.3s							
NORC	**Norcasia**	**2.02**	**232**	⇑ *e*P		**Pn**	**03 55 57.0**	**+0.3**
NORC				*e*S		**Sn**	**03 56 23.0**	**-1.1**
NORC				*i*			03 56 25.0	
	comp=Z,166nm,0.5s							
ROSC	**El Rosal**	**2.23**	**208**	P		**Pn**	**03 56 01.4**	**+1.8**
	comp=Z,45nm,0.3s,baz=168,slow=20,SNR=73							
ROSC				S		**Sn**	**03 56 32.3**	**+3.2**
	comp=Z,28nm,0.3s,baz=14,slow=22,SNR=11							
ROSC	**El Rosal**	**2.23**	**208**	⇓ *e*P		**Pn**	**03 56 01.2**	**+1.6**
ROSC				*e*S		**Sn**	**03 56 32.6**	**+3.5**
ROSC				*i*			03 56 40.4	
	comp=Z,68nm,0.5s							
CHIC	**Chingaza**	**2.23**	**192**	*e*P		**Pn**	**03 56 00.3**	**+0.7**
CHIC				*e*S		**Sn**	**03 56 29.2**	**+0.1**
CHIC				*i*			03 56 35.1	
	comp=Z,58nm,0.2s							
HELC	**Santa Helena**	**2.32**	**254**	*e*P		**Pn**	**03 56 00.2**	**-0.3**
HELC				*e*S		**Sn**	**03 56 30.0**	**-0.9**
HELC				*i*			03 56 37.9	
	comp=Z,127nm,0.2s							
UREC	**San Jos de Ur**	**2.42**	**292**	*e*P		**Pn**	**03 56 00.5**	**-0.8**
UREC				*e*S		**Sn**	**03 56 30.0**	**-2.4**
UREC				*i*			03 56 33.0	
	comp=Z,197nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.62**	**233**	*e*P		**Pn**	**03 56 05.0**	**+0.7**
GUY2C				*e*S		**Sn**	**03 56 38.7**	**+1.2**
GUY2C				*i*			03 56 50.3	
	comp=Z,103nm,0.5s							
LL1C	**La Loma 1 Cana**	**2.71**	**354**	*e*P		**Pn**	**03 56 07.4**	**+2.4**
LL1C				*e*S		**Sn**	**03 56 42.4**	**+3.5**
SOCV	**Socops**	**2.80**	**59**	*e*P		**Pn**	**03 56 06.7**	**+0.5**
SOCV				*e*S		**Sn**	**03 56 40.5**	**-0.5**
PTGC	**Puerto Gaitan,**	**2.85**	**156**	*e*P		**Pn**	**03 56 06.1**	**-0.7**
PTGC				*e*S		**Sn**	**03 56 39.6**	**-2.5**
PTGC				*i*			03 56 42.3	
	comp=Z,65nm,0.2s							
CBOC	**Ciudad Bolivar**	**2.88**	**251**	*e*P		**Pn**	**03 56 08.1**	**+0.8**
CBOC				*e*S		**Sn**	**03 56 42.4**	**-0.5**
CBOC				*i*			03 56 55.7	
	comp=Z,37nm,0.5s							
LL6C	**La Loma 6 Bece**	**2.89**	**0**	*e*P		**Pn**	**03 56 07.7**	**+0.5**
LL6C				*e*S		**Sn**	**03 56 42.5**	**-0.4**
LL6C				*i*			03 56 53.3	
	comp=Z,47nm,0.5s							
ANIL	**Santa Ana**	**3.14**	**222**	*e*P		**Pn**	**03 56 12.2**	**+1.5**
ANIL				*e*S		**Sn**	**03 56 53.1**	**+4.1**
ANIL				*i*			03 56 56.1	
	comp=Z,156nm,0.3s							
SDV	**Santo Domingo**	**3.32**	**52**	*e*P		**Pn**	**03 56 13.7**	**+0.8**
SDV				*e*S		**Sn**	**03 56 52.3**	**-0.7**
SDV				*i*			03 56 57.3	
	comp=Z,27nm,0.5s							
ORTC	**Ortega, Tolima**	**3.50**	**214**	*e*P		**Pn**	**03 56 15.1**	**+0.1**
ORTC				*e*S		**Sn**	**03 56 59.9**	**+3.0**
ORTC				*i*			03 57 06.0	
	comp=Z,64nm,0.4s							
PLMC	**San Jos del P**	**3.55**	**238**	*e*P		**Pn**	**03 56 16.2**	**+0.6**
PLMC				*e*S		**Sn**	**03 56 56.1**	**-1.9**
PLMC				*i*			03 57 04.3	
	comp=Z,28nm,0.5s							
SJCC	**San Jacinto, C**	**3.58**	**328**	⇑ *e*P		**Pn**	**03 56 15.1**	**-1.0**
SJCC				*e*S		**Sn**	**03 56 55.5**	**-3.2**
SJCC				*i*			03 57 00.0	
	comp=Z,36nm,0.4s							
CRJC	**Cerrejon, Guaj**	**4.18**	**5**	*e*P		**Pn**	**03 56 23.5**	**-0.5**
CRJC				*e*S		**Sn**	**03 57 10.5**	**-2.4**
CRJC				*i*			03 57 18.6	
	comp=Z,49nm,0.2s							
GUVC	**San Jose del G**	**4.31**	**171**	*e*P		**Pn**	**03 56 25.1**	**-0.4**
GUVC				*e*S		**Sn**	**03 57 13.8**	**-1.9**
GUVC				*i*			03 57 17.1	
	comp=Z,69nm,0.2s							
MACC	**Macarena, Meta**	**4.69**	**187**	*e*P		**Pn**	**03 56 29.2**	**-1.3**
MACC				*e*S		**Sn**	**03 57 20.6**	**-4.1**
MACC				*i*			03 57 42.7	
	comp=Z,19nm,0.4s							
MARP	**Paez Belalcaza**	**4.77**	**214**	*e*P		**Pn**	**03 56 32.1**	**+0.1**
MARP				*e*S		**Sn**	**03 57 27.0**	**-0.1**
GARC	**Garzon, Huila**	**5.11**	**206**	*e*P		**Pn**	**03 56 35.6**	**-0.8**
GARC				*e*S		**Sn**	**03 57 34.9**	**-0.2**
GARC				*i*			03 57 38.2	
	comp=Z,23nm,0.3s							
POPC	**Popayan, Colom**	**5.44**	**219**	*e*P		**Pn**	**03 56 40.2**	**-0.5**

PCON	**Cinco Dias**	**5.45**	**215**	*eP*	**Pn**	**03 56 42.2 +1.2**
YKA	**Yellowknife Ar**	**63.20**	**340**	P	**P**	**04 05 33.6 +0.8**
	comp=Z,0.1nm,0.6s,baz=138,slow=6.4,SNR=2.6					
YKA				pP	**PcP**	**04 06 09.3 +0.5**
	comp=Z,0.1nm,0.5s,baz=134,slow=7.0,SNR=5.4					
ASAR	**Alice Springs**	**148.99**	**234**	PKPbc	**PKPbc**	**04 14 51.4 -0.6**
	comp=Z,0.4nm,0.5s,baz=124,slow=3.5,SNR=5.1					
WRA	**Warramunga Arr**	**150.20**	**241**	PKPbc	**PKPbc**	**04 14 54.5 -0.6**
	comp=Z,0.3nm,0.4s,baz=117,slow=1.4,SNR=7.9					

SOME ***11*** *04:15:40.5, 40.°90N×71.°22E, h5km*

KRNET ***11*** *04:15:40.3±0.1, 40.°87N×71.°23E, h12km, mb2.9*

ISU ***11*** *04:15:42, 40.°77N×71.°26E, h5km, Hypocentre not reviewed by the ISC*

NNC ***11*** *04:15:42.3±3.4, 40.°90N×71.°25E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=26.3km s-min=10.3km az=6.0*

ISC 11 04:15:39.7±1.2, 40.89N±0.03×71.26E±0.03, h19km±3km, n22, σ1°34/39, 6C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.64**	**352**	⇑*i*P	**Pg**	**04 15 51.9**	**-0.7**
	baz=56						
TRKS				⇑*i*S	**Sg**	**04 16 00.2**	**-1.0**
	baz=56						
FRG	**Fergana**	**0.65**	**142**	P		04 15 54.3	
FRG				S		04 16 04.1	
CHMI	**Chimion**	**0.65**	**162**	P		04 15 53.5	
CHMI				S		04 16 03.2	
ANR	**Andizhan**	**0.85**	**99**	S		04 16 12.1	
BTK	**Batken**	**0.90**	**202**	⇓*i*P	**Pb**	**04 15 56.6**	**-0.1**
	baz=2.0						
BTK				⇓*i*S	**Sb**	**04 16 08.4**	**+0.1**
	baz=2.0						
TSTA	**Tashata**	**0.98**	**108**	P		04 16 02.3	
TSTA				S		04 16 14.9	
SHAK	**Shakhimardan**	**1.01**	**159**	P		04 16 02.4	
SHAK				S		04 16 13.4	
OHH	**Osh**	**1.22**	**107**	⇓*i*P	**Pg**	**04 16 03.5**	**+0.2**
	baz=6.0						
OHH				⇓*i*S	**Sn**	**04 16 19.7**	**+2.0**
	baz=6.0						
DRK	**Karamyk**	**1.47**	**163**	⇑*i*P	**Pg**	**04 16 07.8**	**-0.3**
	baz=62						
DRK				⇑*i*S	**Sg**	**04 16 27.2**	**-0.1**
	baz=62						
TAS	**Tashkent**	**1.55**	**287**	⇓*i*P	**Pg**	**04 16 09.0**	**-0.5**
	baz=88						
TAS				⇓*i*S	**Sg**	**04 16 29.3**	**-0.4**
	baz=88						
IUG	**Iuzhnay**	**1.56**	**324**	*eP*	**Pg**	**04 16 09.9**	**+0.2**
	2μm,0.3s						
IUG				*eS*	**Sg**	**04 16 31.2**	**+1.2**
	310nm,0.8s						
IUG	**Iuzhnay**	**1.56**	**324**	P	**Pg**	**04 16 09.9**	**+0.2**
	2μm,0.3s						
IUG				S	**Sg**	**04 16 31.2**	**+1.2**
	310nm,0.8s						
CHM	**Chimkent**	**1.89**	**319**	*eP*	**Pg**	**04 16 16.3**	**+0.2**
	4.9nm,0.7s						
CHM				*eS*	**Sg**	**04 16 41.8**	**+1.1**
	515nm,0.4s						
KK31	**Karatay Array**	**2.28**	**346**	Pn	**Pb**	**04 16 20.4**	**+0.2**
	5.6nm,0.4s,baz=160,slow=16,SNR=87						
KK31				Sn	**Sg**	**04 16 52.5**	**-0.5**
	28nm,0.5s,baz=161,slow=26,SNR=20						
MRKS	**Merke**	**2.36**	**38**	*eP*	**Pg**	**04 16 26.9**	**+1.8**
	6.4nm,0.4s						
MRKS				*eS*	**Sg**	**04 17 00.2**	**+4.5**
	18nm,0.5s						
MRKS	**Merke**	**2.36**	**38**	Pg	**Pg**	**04 16 26.9**	**+1.8**
	6.4nm,0.4s						
MRKS				Lg	Lg	04 17 00.2	
	18nm,0.5s						
BRLS	**Borolday**	**2.39**	**334**	*eP*	**Pb**	**04 16 21.4**	**-0.6**
	6.0nm,0.2s						
BRLS				*eS*	**Sb**	**04 16 50.6**	**-0.4**
	49nm,0.3s						
BRLS	**Borolday**	**2.39**	**334**	Pg	**Pb**	**04 16 21.4**	**-0.6**
	6.0nm,0.2s						
BRLS				Lg	Lg	04 16 50.6	
	49nm,0.3s						
UCH	**Uchtor**	**2.78**	**60**	⇑*e*P	**Pb**	**04 16 28.0**	**-1.0**
	baz=60						
UCH				⇑*i*S	**Sb**	**04 17 02.5**	**-0.4**
	baz=60						
DGS	**Degeres**	**4.10**	**54**	*eP*	**Pg**	**04 16 57.0**	**-1.2**
	4.2nm,0.6s						
DGS				*eS*	**Sg**	**04 17 51.6**	**+0.4**
	4.4nm,0.7s						
DGS	**Degeres**	**4.10**	**54**	Pg	**Pg**	**04 16 57.0**	**-1.2**
	4.2nm,0.6s						
DGS				Lg	Lg	04 17 51.6	
	4.4nm,0.7s						
KST	**Kastek**	**4.11**	**57**	*eP*	**Pg**	**04 16 58.0**	**-0.5**
	2.5nm,0.7s						
KST				*eS*	**Sg**	**04 17 53.4**	**+1.6**
	5.9nm,0.8s						
KST	**Kastek**	**4.11**	**57**	Pg	**Pg**	**04 16 58.0**	**-0.5**
	2.5nm,0.7s						
KST				Lg	Lg	04 17 53.4	
	5.9nm,0.8s						
KRBS	**Karabastau**	**4.31**	**48**	*eP*	**Pg**	**04 17 00.8**	**-1.4**
	0.7nm,0.6s						
KRBS				*eS*	**Sg**	**04 17 58.1**	**+0.1**
	2.8nm,0.7s						
KRBS	**Karabastau**	**4.31**	**48**	Pg	**Pg**	**04 17 00.8**	**-1.4**
	1.0nm,0.5s						
KRBS				Lg	Lg	04 17 58.1	
	2.8nm,0.7s						
BTLS	**Baital**	**4.62**	**25**	*eP*	**Pg**	**04 17 06.9**	**-1.3**
	1.0nm,0.2s						
BTLS				*eS*	**Sg**	**04 18 08.3**	**+0.2**
	2.7nm,0.6s						
KTBS	**Karatobe**	**4.91**	**53**	*eP*	**Pg**	**04 17 11.0**	**-2.7**
	0.6nm,0.5s						
KTBS				*eS*	**Sg**	**04 18 15.3**	**-1.9**
	3.1nm,0.5s						

IDC 11 04:22:05.7±2.0, 2.°90N×126.°02E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/31, mbtmp3.3/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/26, Error ellipse: s-maj=116.5km s-min=27.5km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.87**	**181**	P	P	04 26 49.5	0.0
	0.8nm,1.1s,baz=5.2,slow=11,SNR=0.8						
WRA	**Warramunga Arr**	**24.13**	**161**	P	P	04 27 23.7	+0.2
	1.6nm,0.9s,baz=338,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**27.50**	**164**	P	P	04 27 54.6	+0.5
	0.2nm,0.6s,baz=347,slow=7.8,SNR=1.6						
JCJ	**Chichijima**	**28.61**	**31**	LR	LR	04 37 48.2	
	comp=Z,39nm,22.0s,baz=30,slow=33						
MKAR	**Makanchi Array**	**57.83**	**326**	P	P	04 31 58.4	-0.7
	0.2nm,0.6s,baz=111,slow=6.8,SNR=2.5						

NEIC ***11*** *04:32:26.8±1.1, 2.°6N±0.°1×128.°5E±0.°2, h181km±7km, mb4.0/14, Error ellipse: s-maj=25.1km s-min=13.3km az=70.0*

DJA ***11*** *04:32:27.8±0.5, 3.°N±5.°×12.°8E±.°, h180km±5km, M3.9/8, mb4.0/4, mB4.8/2, MLv3.9/8, Mw(mB)4.1/2*

IDC ***11*** *04:32:28.4±6.7, 2.°56N×128.°59E, h206km±63km, mb3.5/10, mb1 3.6/10, mb1mx3.4/34, mbtmp3.9/10, Error ellipse: s-maj=70.1km s-min=16.2km az=69.0*

ISC 11 04:32:28.1±0.6, 2.°51N±0.°08×128.°3E±0.°1, h200km, n44, σ0°86/42, mb3.9/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.98**	**209**	Pn	**Pn**	**04 33 05.8**	**-0.7**
TNTI	**Ternate**	**1.98**	**209**	P	**Pn**	**04 33 04.4**	**-2.0**
LBMI	**Labuha**	**3.24**	**195**	P	**Pn**	**04 33 19.9**	**-0.7**
SWI	**Sorong**	**4.44**	**139**	P	**Pn**	**04 33 34.6**	**-0.8**
SANI	**Sanana**	**5.11**	**207**	P	**Pn**	**04 33 42.4**	**-1.5**
	0.2nm860nm45nm,1.1s						
GTOI	**Gorontalo**	**5.65**	**251**	P	**Pn**	**04 33 50.6**	**-0.2**
	0.0nm6.7nm,0.8s						
LUWI	**Luwuk**	**6.59**	**238**	Pn	**Pn**	**04 34 05.0**	**+1.9**
APSI	**Ampana**	**7.51**	**243**	P	**Pn**	**04 34 14.2**	**-0.7**
	0.3nm21nm,0.5s						
TOLI2	**Tolitoli**	**7.69**	**260**	Pn	**Pn**	**04 34 16.1**	**-1.2**
BAKI	**Biak**	**8.59**	**115**	P	**Pn**	**04 34 29.6**	**+0.5**
MPSI	**Mapaga**	**8.71**	**256**	P	**Pn**	**04 34 29.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**20.65**	**187**	P	**P**	**04 36 53.2**	**+0.8**
	1.3nm,0.8s,baz=11,slow=10,SNR=1.6						
FITZ	**Fitzroy Crossi**	**20.65**	**187**		**P**	**04 36 53.9**	**+1.4**
FITZ				IAmb	IAmb	04 37 21.9	
	comp=Z,9.2nm,1.5s						
WB0	**Warramunga Arr**	**22.92**	**165**	P	**P**	**04 37 14.7**	**-0.1**
WB0				IAmb	IAmb	04 37 20.5	
	comp=Z,8.2nm,1.2s						
WRA	**Warramunga Arr**	**23.08**	**165**	P	**P**	**04 37 15.5**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=344,slow=10,SNR=21						
WRA	**Warramunga Arr**	**23.08**	**165**	P	**P**	**04 37 14.8**	**-1.4**
WB2	**Warramunga Arr**	**23.08**	**165**	P	**P**	**04 37 16.5**	**+0.2**
WB2				IAmb	IAmb	04 37 24.2	
	comp=Z,11nm,1.5s						
WR0	**Warramunga Arr**	**23.14**	**165**	P	**P**	**04 37 17.2**	**+0.4**
WR0				IAmb	IAmb	04 37 43.1	
	comp=Z,8.8nm,1.5s						
ASAR	**Alice Springs**	**26.58**	**169**	P	**P**	**04 37 47.4**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=357,slow=8.1,SNR=6.1						
ASAR				PcP	**PcP**	**04 41 06.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=349,slow=1.9,SNR=5.2						
STKA	**Stephens Creek**	**36.44**	**161**	P	**P**	**04 39 14.1**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=345,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**36.44**	**161**	P	**P**	**04 39 14.5**	**+0.7**
H11N1	**WAKE ISLAND Hy**	**41.35**	**63**	T	T	05 24 14.3	
	baz=250						
H11N2	**WAKE ISLAND Hy**	**41.36**	**63**	T	T	05 24 14.7	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**41.37**	**63**	T	T	05 24 23.1	
	baz=250						
SONM	**Songino Array**	**48.97**	**340**	P	**P**	**04 40 54.7**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=140,slow=7.3,SNR=2.7						
MK31	**Makanchi Array**	**59.47**	**325**	P	**P**	**04 42 10.6**	**+0.5**
MK31				IAmb	IAmb	04 42 11.3	
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**59.47**	**325**	P	**P**	**04 42 10.6**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=118,slow=8.2,SNR=16						
MKAR	**Makanchi Array**	**59.47**	**325**	P	**P**	**04 42 10.1**	**0.0**
MAKZ	**Makanchi**	**59.66**	**325**	P	**P**	**04 42 11.7**	**+0.4**
MAKZ				IAmb	IAmb	04 42 12.2	
	comp=Z,1.4nm,0.5s						
KURK	**Kurchatov**	**63.63**	**327**	P	**P**	**04 42 37.9**	**+0.1**
KURK				IAmb	IAmb	04 42 38.7	
	comp=Z,1.8nm,0.8s						
KKAR	**Karatay Array**	**65.22**	**317**	P	**P**	**04 42 48.6**	**+0.4**
NRIK	**Noril'sk**	**71.99**	**346**	P	**P**	**04 43 28.9**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=169,slow=2.1,SNR=3.6						
NRIK	**Noril'sk**	**71.99**	**346**	P	**P**	**04 43 29.3**	**-0.2**
NRIK				IAmb	IAmb	04 43 30.0	
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**74.11**	**321**	P	**P**	**04 43 42.5**	**+0.2**
VNDA	**Vanda**	**82.03**	**173**	P	**P**	**04 44 26.3**	**+1.0**
IMAR	**Indian Mountai**	**82.80**	**24**	P	**P**	**04 44 31.0**	**+1.5**
RND	**Reindeer**	**84.54**	**27**	P	**P**	**04 44 38.1**	**-0.4**
SML	**Sawmill**	**84.64**	**28**	P	**P**	**04 44 38.6**	**-0.4**
ARCES	**ARCESS Array B**	**92.14**	**340**	P	**P**	**04 45 13.7**	**-0.8**
	comp=Z,3.5nm,1.1s,baz=58,slow=4.8,SNR=3.9						
ARCES	**ARCESS Array B**	**92.14**	**340**	P	**P**	**04 45 13.7**	**-0.8**
FINES	**FINESS Array B**	**93.66**	**332**	P	**P**	**04 45 20.4**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=85,slow=6.0,SNR=1.7						
YKA	**Yellowknife Ar**	**99.93**	**25**	P	**Pdif**	**04 45 49.0**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=291,slow=5.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**124.83**	**288**	PKP	**PKiKP**	**04 51 05.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=60,slow=1.6,SNR=7.6						
TORD	**Torodi Ar. Bea**	**124.83**	**288**		**PKiKP**	**04 51 05.6**	**+0.1**

IDC ***11*** *04:47:56.6±1.2, 14.°05S×167.°24E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/39, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=48.9km s-min=26.0km az=112.0*

NOU ***11*** *04:48:04.8, 14.°39S×166.°76E, h0km, MLv4.6/6, Vanuatu Islands*

ISC 11 04:48:02.6±0.9, 14.°03S±0.°09×166.°9E±0.°2, h35km, n9, σ1°76/10, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.44**	**168**	P	**Pn**	**04 48 25.9**	**-0.2**
DVP	**Devils Point**	**3.88**	**161**	P	**Pn**	**04 49 02.0**	**+2.3**
DZM	**Mont Dzumac**	**8.01**	**183**	Pn	**Pn**	**04 49 54.2**	**-2.3**
	0.9nm,0.3s,baz=279,slow=20,SNR=7.9						
DZM				Sn	**Sn**	**04 51 25.2**	**-0.8**
	0.2nm,0.3s,baz=292,slow=21,SNR=1.4						
ASAR	**Alice Springs**	**32.59**	**248**	P	**P**	**04 54 33.9**	**+2.9**
	0.6nm,0.7s,baz=84,slow=9.3,SNR=6.7						
SONM	**Songino Array**	**81.72**	**324**	P	**P**	**05 00 17.6**	**-0.1**
	0.4nm,0.6s,baz=157,slow=8.0,SNR=3.6						
ILAR	**Eielson Array**	**85.98**	**18**	P	**P**	**05 00 38.7**	**-0.1**
	1.3nm,0.6s,baz=242,slow=5.1,SNR=21						
MKAR	**Makanchi Array**	**96.45**	**316**	P	**P**	**05 01 27.6**	**-0.7**
	0.3nm,0.6s,baz=96,slow=5.8,SNR=2.9						
YKA	**Yellowknife Ar**	**97.10**	**27**	P	**P**	**05 01 30.1**	**-0.6**
	0.2nm,0.6s,baz=258,slow=4.8,SNR=8.0						
ARCES	**ARCESS Array B**	**119.49**	**345**	PKP	**PKPdf**	**05 06 46.8**	**-1.1**
	2.3nm,0.9s,baz=48,slow=1.8,SNR=5.4						

IDC ***11*** *04:49:05.1±1.7, 0.°39S×125.°72E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/35, mbtmp3.9/3, Error ellipse: s-maj=168.9km s-min=24.3km az=64.0*

NEIC ***11*** *04:49:08.8±1.0, 0.°3S±0.°1×125.°81E±0.°07, h19km±7km, mb4.1/9, Error ellipse: s-maj=20.8km s-min=6.8km az=154.0*

DJA ***11*** *04:49:20.8±0.4, 0.°N±2.°×12.°7E±.°, h96km±7km, M3.8/13, mb3.3/2, mB4.9/2, MLv4.0/13, Mw(mB)4.2/2*

ISC 11 04:49:17.2±0.8, 0.°13N±0.°06×127.°08E±0.°07, h100km, n25, σ3°08/26, mb4.0/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.70**	**24**		**Pn**	**04 49 39.2**	**+4.6**
TNTI	**Ternate**	**0.70**	**24**	P	**Pn**	**04 49 39.0**	**+4.4**
LBMI	**Labuha**	**0.87**	**151**	P	**Pn**	**04 49 40.6**	**+4.3**
LBMI				S	**Sn**	**04 49 55.3**	**+4.7**
SANI	**Sanana**	**2.42**	**207**	P	**Pn**	**04 49 58.6**	**+3.3**
SANI				S	**Sn**	**04 50 26.0**	**+1.4**
KMSI	**Cibinong**	**3.13**	**278**	P	**Pn**	**04 50 08.9**	**+4.2**
MSAI	**Masohi**	**3.92**	**152**	P	**Pn**	**04 50 18.7**	**+3.4**
AAI	**Ambon**	**3.95**	**164**	P	**Pn**	**04 50 19.3**	**+3.5**
GTOI	**Gorontalo**	**4.10**	**277**	P	**Pn**	**04 50 24.1**	**+6.3**
APSI	**Ampana**	**5.53**	**259**	P	**Pn**	**04 50 41.0**	**+3.9**
MPSI	**Mapaga**	**7.19**	**272**	P	**Pn**	**04 51 04.1**	**+4.4**
WB0	**Warramunga Arr**	**21.03**	**160**	P	**P**	**04 53 51.5**	**-1.6**
WB0				IAmb	IAmb	04 53 54.0	
	comp=Z,8.4nm,1.1s						
WRA	**Warramunga Arr**	**21.18**	**161**	P	**P**	**04 53 52.9**	**-1.7**
	comp=Z,4.0nm,0.6s,baz=335,slow=10,SNR=25						
WRA	**Warramunga Arr**	**21.18**	**161**	P	**P**	**04 53 52.1**	**-2.6**
WB2	**Warramunga Arr**	**21.18**	**161**	P	**P**	**04 53 53.1**	**-1.6**
WB2				IAmb	IAmb	04 53 55.7	
	comp=Z,5.8nm,0.7s						
WR0	**Warramunga Arr**	**21.26**	**160**	P	**P**	**04 53 54.0**	**-1.5**
WR0				IAmb	IAmb	04 53 58.1	
	comp=Z,10nm,1.2s						
AS31	**Alice Springs**	**24.56**	**165**	P	**P**	**04 54 26.0**	**-1.9**
ASAR	**Alice Springs**	**24.57**	**165**	P	**P**	**04 54 26.2**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=354,slow=16,SNR=14						
ASAR	**Alice Springs**	**24.57**	**165**	P	**P**	**04 54 28.9**	**+1.0**
FORT	**Forrest**	**30.75**	**178**	P	**P**	**04 55 21.0**	**-2.1**
BBOO	**Buckleboo**	**33.84**	**166**	P	**P**	**04 55 48.2**	**-1.9**
STKA	**Stephens Creek**	**34.67**	**158**	P	**P**	**04 55 55.5**	**-1.8**
STKA				IAmb	IAmb	04 56 19.5	
	comp=Z,1.9nm,1.3s						
MKAR	**Makanchi Array**	**60.71**	**326**	P	**P**	**04 59 17.2**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=116,slow=7.8,SNR=7.7						
KURK	**Kurchatov**	**64.96**	**328**	P	**P**	**04 59 44.8**	**-1.4**
KURK				IAmb	IAmb	04 59 45.4	
	comp=Z,1.5nm,0.5s						
ABKAR	**Akbulak array**	**75.15**	**321**	P	**P**	**05 00 46.8**	**-1.8**
TORD	**Torodi Ar. Bea**	**124.31**	**286**	PKP	**PKPdf**	**05 08 03.2**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=69,slow=1.4,SNR=7.2						

IDC ***11*** *04:52:44.2±0.8, 3.°38S×134.°14E, h0km, mb3.9/5, mb1 4.1/8, mb1mx3.9/31, mbtmp4.0/8, ML3.6/3, MS3.5/5, Ms1 3.5/5, ms1mx2.9/68, Error ellipse: s-maj=37.2km s-min=18.0km az=63.0*

NEIC ***11*** *04:52:46.9±2.2, 3.°48S±0.°08×133.°9E±0.°1, h10km±1km, mb4.0/11, Error ellipse: s-maj=25.9km s-min=7.9km az=62.0*

ISC 11 04:52:46.0±0.7, 3.°57S±0.°08×133.°9E±0.°1, h13km, n35, σ1°45/32, mb4.1/6, MS3.4/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.78**	**315**	P	**Pn**	**04 53 44.1**	**0.0**
	7.1nm,0.3s,baz=232,slow=22,SNR=14						
SIJI				Pg	**Pb**	**04 53 53.3**	**+0.6**
	8.7nm,0.3s,baz=113,slow=12,SNR=7.2						
SIJI				Sn	**Sn**	**04 54 26.0**	**-2.5**
	8.4nm,0.3s,baz=119,slow=16,SNR=4.7						
SIJI				Lg	Lg	04 54 42.6	
	8.3nm,0.3s,baz=318,slow=20,SNR=5.9						
MTN	**Manton Dam**	**9.62**	**197**		**Pn**	**04 55 06.2**	**+1.9**
KNRA	**Kununurra**	**13.06**	**203**		**Pn**	**04 55 52.0**	**+0.6**
COEN	**Coen**	**13.77**	**139**	Pn	**Pn**	**04 56 01.5**	**+0.3**
PMG	**Port Moresby**	**14.36**	**114**	LR	LR	05 03 20.1	
	comp=Z,177nm,18.9s,baz=270,slow=45						
WB0	**Warramunga Arr**	**16.10**	**178**	Pn	**Pn**	**04 56 32.7**	**+0.4**
WB0				IAmb	IAmb	04 56 52.5	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**16.27**	**179**	Pn	**Pn**	**04 56 35.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=358,slow=12,SNR=6.0						
WRA				Sn	Sn	04 59 25.9	-9.2
	comp=Z,0.2nm,0.3s,baz=356,slow=22,SNR=6.0						
WRA	**Warramunga Arr**	**16.27**	**179**	Pn	**Pn**	**04 56 36.4**	**+1.9**
WB2	**Warramunga Arr**	**16.28**	**179**		**P**	**04 56 37.8**	**+0.3**
WB2				IAmb	IAmb	04 56 46.5	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**16.30**	**178**		**P**	**04 56 38.2**	**+0.4**
WR0				IAmb	IAmb	04 56 42.5	
	comp=Z,17nm,1.2s						
FITZ	**Fitzroy Crossi**	**16.56**	**209**	Pn	**Pn**	**04 56 39.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=39,slow=13,SNR=6.9						
FITZ				Sn	Sn	04 59 32.1	-10
	comp=Z,0.1nm,0.3s,baz=296,slow=6.1,SNR=1.7						
FITZ	**Fitzroy Crossi**	**16.56**	**209**	Pn	**Pn**	**04 56 38.2**	**0.0**
AS31	**Alice Springs**	**19.98**	**180**	P	Pn	04 57 21.9	+1.9
AS31				IAmb	IAmb	04 57 26.0	
	comp=Z,4.5nm,1.1s						
ASAR	**Alice Springs**	**19.98**	**180**	P	Pn	04 57 21.7	+1.7
	comp=Z,7.3nm,0.8s,baz=3.5,slow=11,SNR=44						
ASAR				S	**S**	**05 00 56.9**	**-5.9**
	comp=Z,1.0nm,0.6s,baz=1.4,slow=28,SNR=4.3						
ASAR				LR	LR	05 06 12.5	
	comp=Z,213nm,18.5s,baz=322,slow=40						
CTA	**Charters Tower**	**20.34**	**145**	P	**P**	**04 57 23.2**	**+0.9**
	comp=Z,3.2nm,0.7s,baz=326,slow=13,SNR=2.0						
KSM	**Kuching**	**24.14**	**282**	P	**P**	**04 58 03.8**	**+1.7**
STKA	**Stephens Creek**	**29.06**	**166**	LR	LR	05 11 08.1	
	comp=Z,97nm,19.3s,baz=24,slow=38						
CHTO	**Chiang Mai**	**41.00**	**304**	P	**P**	**05 00 29.5**	**+0.3**
CHTO				IAmb	IAmb	05 00 30.1	
	comp=Z,2.2nm,0.7s						
KSRS	**Korea Array**	**41.20**	**353**	LR	LR	05 15 25.2	
	comp=Z,29nm,21.6s,baz=150,slow=33						
URZ	**Urewera**	**52.33**	**137**	LR	LR	05 25 00.2	
	comp=Z,94nm,18.4s,baz=32,slow=37						
MK31	**Makanchi Array**	**67.63**	**324**	P	**P**	**05 03 43.1**	**+0.4**
MK31				IAmb	IAmb	05 03 44.7	
	comp=Z,2.5nm,1.2s						
MKAR	**Makanchi Array**	**67.63**	**324**	P	**P**	**05 03 43.4**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=116,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**67.63**	**324**	P	**P**	**05 03 43.0**	**+0.2**
MAKZ	**Makanchi**	**67.82**	**324**	P	**P**	**05 03 44.4**	**+0.5**
ZALV	**Zalesovo Beam**	**70.35**	**332**	P	**P**	**05 03 59.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=120,slow=8.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**70.35**	**332**	P	**P**	**05 03 59.6**	**+0.2**
KK31	**Karatay Array**	**73.44**	**317**	P	**P**	**05 04 18.6**	**+0.3**
KK31				IAmb	IAmb	05 04 21.9	
	comp=Z,2.0nm,1.1s						
KKAR	**Karatay Array**	**73.44**	**317**	P	**P**	**05 04 18.2**	**-0.1**
ILAR	**Eielson Array**	**88.61**	**25**	P	**P**	**05 05 37.0**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=265,slow=4.7,SNR=8.9						
ILAR	**Eielson Array**	**88.61**	**25**	P	**P**	**05 05 38.5**	**0.0**
CPUP	**Villa Florida**	**148.34**	**160**	PKPbc	**PKPbc**	**05 12 33.0**	**+0.1**
	comp=Z,3.8nm,1.0s,baz=335,slow=2.1,SNR=5.1						
CPUP	**Villa Florida**	**148.34**	**160**		**PKiKP**	**05 12 33.7**	**-0.9**
LPAZ	**La Paz**	**150.59**	**133**	PKPbc	**PKPbc**	**05 12 39.2**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=342,slow=3.2,SNR=2.7						
ROSC	**El Rosal**	**151.80**	**86**	PKPbc	**PKiKP**	**05 12 42.1**	**-0.5**
	comp=Z,6.2nm,0.7s,baz=49,slow=21,SNR=6.4						
ROSC	**El Rosal**	**151.80**	**86**		**PKiKP**	**05 12 42.5**	**-0.1**

IDC ***11*** *05:07:25.2±1.3, 42.°39N×100.°47W, h0km, mb2.9/2, mb1 3.5/5, mb1mx3.3/46, mbtmp3.2/5, ML2.9/2, Error ellipse: s-maj=19.7km s-min=10.5km az=128.0*

ANF ***11*** *05:07:26.9±0.3, 42.°33N×100.°46W, h5km, ML4.3/11, Error ellipse: s-maj=4.1km s-min=3.5km az=155.0*

NEIC ***11*** *05:07:27.7±1.6, 42.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E28A	Huff	4.27	358		Pn	05 08 31.8	+0.5
E28A	Huff	4.27	358	P	Pn	05 08 32.0	+0.7
	baz=178						
N23A	Red Feather La	4.33	253		Pn	05 08 34.1	+1.6
N23A	Red Feather La	4.33	253	P	Pn	05 08 33.9	+1.5
	baz=69,SNR=15						
KSU1	Kansas State U	4.35	136	Pn	Pn	05 08 33.0	+0.6
KSU1	Kansas State U	4.35	136	P	Pn	05 08 33.1	+0.7
	baz=319,SNR=5.2						
KSU1	Kansas State U	4.35	136	P	Pn	05 08 33.0	+0.6
	baz=319,SNR=6.7						
KSU1				S	Sn	05 09 22.3	-0.7
	baz=319						
K22A	Casper	4.48	276	Pn	Pn	05 08 35.5	+1.1
K22A	Casper	4.48	276	P	Pn	05 08 35.9	+1.4
	baz=92,SNR=30						
K22A	Casper	4.48	276	P	Pn	05 08 35.5	+1.1
	baz=92,SNR=7.6						
K22A				S	Sn	05 09 27.5	+1.0
	baz=92						
ISCO	Idaho Springs	4.62	239	Pn	Pn	05 08 37.5	+1.1
ISCO				IAmb_Lg		05 09 58.5	
	comp=Z,46nm,0.8s						
ISCO	Idaho Springs	4.62	239	P	Pn	05 08 37.5	+1.1
	baz=56,SNR=7.9						
ISCO				S	Sn	05 09 29.2	-0.9
	baz=56						
F33A	5 Mile Ranch,	4.64	39		Pn	05 08 36.5	+0.1
F33A				IAmb_Lg		05 09 53.6	
	comp=Z,37nm,0.8s						
F33A	5 Mile Ranch,	4.64	39	P	Pn	05 08 36.3	-0.1
	baz=222,SNR=15						
Q24A	Divide	4.88	228	Pn	Pn	05 08 41.0	+1.0
Q24A	Divide	4.88	228	P	Pn	05 08 40.9	+1.0
	baz=45						
Q24A				S	Sn	05 09 35.6	-0.8
	baz=45						
RWWY	Rawlins	5.05	265	Pn	Pn	05 08 43.3	+0.9
RWWY				IAmb_Lg		05 10 18.6	
	comp=Z,33nm,0.8s						
SCIA	State Center	5.42	92	IAmb_Lg		05 10 24.7	
	comp=Z,31nm,0.7s						
SCIA	State Center	5.42	92	S	Sn	05 09 47.5	-1.8
	baz=277						
D32A	Dogwood Acres,	5.42	26	IAmb_Lg		05 10 19.6	
	comp=Z,33nm,0.8s						
I37A	Lemond, Waseca	5.45	69	Pn	Pn	05 08 49.0	+1.5
MDND	Maddock	5.57	6	Pn	Pn	05 08 49.1	-0.1
MDND				IAmb_Lg		05 10 38.8	
	comp=Z,42nm,0.7s						
MDND	Maddock	5.57	6	P	Pn	05 08 49.4	+0.2
	baz=186						
N38A	Joes South For	5.64	103	Pn	Pn	05 08 50.0	-0.2
K38A	Parkersburg	5.71	84	IAmb_Lg		05 10 39.2	
	comp=Z,38nm,0.9s						
SMCO	Snowmass	5.84	240		Pn	05 08 54.7	+1.5
P38A	Dawn	5.90	115	Pn	Pn	05 08 55.7	+2.0
P38A				IAmb_Lg		05 10 38.1	
	comp=Z,38nm,0.8s						
SDCO	Great Sand Dun	5.97	222	Pn	Pn	05 08 55.9	+0.9
SDCO				IAmb_Lg		05 10 41.5	
	comp=Z,37nm,1.1s						
SDCO	Great Sand Dun	5.97	222	P	Pn	05 08 56.2	+1.2
	baz=39,SNR=15						
SDCO	Great Sand Dun	5.97	222	P	Pn	05 08 56.1	+1.2
	baz=39						
T25A	Trinidad	5.99	212		Pn	05 08 56.1	+1.0
T25A	Trinidad	5.99	212	P	Pn	05 08 56.0	+0.8
	baz=29						
LAO	LASA Array	6.00	319	Pn	Pn	05 08 55.7	+0.5
LAO	LASA Array	6.00	319	P	Pn	05 08 55.6	+0.5
	baz=135						
U32A	Winter Ranch,	6.03	169	IAmb_Lg		05 10 44.0	
	comp=Z,28nm,0.8s						
F36A	Milaca	6.14	52		Pn	05 08 57.4	+0.4
F36A				IAmb_Lg		05 10 39.2	
	comp=Z,30nm,0.8s						
T35A	Sooner Cattle	6.20	149	Pn	Pn	05 08 57.9	+0.1
O20A	White River Ci	6.24	252	Pn	Pn	05 09 00.0	+1.4
SPMN	Marine on St.	6.28	60	Pn	Pn	05 08 59.3	+0.5
SPMN	Marine on St.	6.28	60	P	Pn	05 08 58.8	-0.1
	baz=245						
S22A	4UR Ranch, Cre	6.67	229	Pn	Pn	05 09 05.7	+1.1
DGMT	Dagmar	6.69	338	Pn	Pn	05 09 04.3	-0.3
DGMT	Dagmar	6.69	338	P	Pn	05 09 06.2	+1.5
	baz=156,SNR=15						
DGMT	Dagmar	6.69	338	P	Pn	05 09 05.5	+0.9
	baz=156						
BW06	Boulder Array	6.72	277	Pn	Pn	05 09 06.6	+1.4
BW06	Boulder Array	6.72	277	P	Pn	05 09 06.1	+0.9
	baz=91,SNR=5.4						
PD31	Pinedale Array	6.72	277		Pn	05 09 06.1	+0.9
PDAR	Pinedale Array	6.72	277	Pn	Pn	05 09 06.5	+1.2
	comp=Z,1.4nm,0.3s,baz=100,slow=16,SNR=39						
PDAR				Lg	Lg	05 10 54.7	
	comp=Z,1.9nm,0.3s,baz=86,slow=33,SNR=3.8						
PDAR	Pinedale Array	6.72	277	Pn	Pn	05 09 05.6	+0.4
AGMN	Agassiz Nation	6.81	27	IAmb_Lg		05 11 11.7	
	comp=Z,26nm,0.8s						
L40A	Anamosa	6.88	89	Pn	Pn	05 09 07.9	+0.7
L40A				IAmb_Lg		05 11 12.5	
	comp=Z,23nm,0.8s						
RLMT	Red Lodge	6.96	297	Pn	Pn	05 09 08.4	-0.1
RLMT				IAmb_Lg		05 11 18.0	
	comp=Z,22nm,1.0s						
RLMT	Red Lodge	6.96	297	P	Pn	05 09 08.8	+0.4
	baz=111,SNR=5.5						
P40A	Paris	6.96	111	IAmb_Lg		05 11 14.1	
	comp=Z,36nm,0.8s						
RDMU	Red Mountain	7.05	259		Pn	05 09 11.7	+2.1
S39A	Bolivar	7.17	128	Pn	Pn	05 09 11.9	+0.7
PV07	Paradox Valley	7.33	241	Pn	Pn	05 09 14.4	+0.8
TUL1	Leonard	7.35	149	Pn	Pn	05 09 13.1	-0.6
TUL1	Leonard	7.35	149	P	Pn	05 09 13.0	-0.6
	baz=332						
I40A	Norwalk	7.39	74	Pn	Pn	05 09 14.1	0.0
N41A	Harden Midland	7.40	99	Pn	Pn	05 09 13.6	-0.6
N41A				IAmb_Lg		05 11 34.4	
	comp=Z,23nm,0.7s						
YMP	Mirror Lake Pl	7.44	292	Pn	Pn	05 09 14.2	-0.9
R40A	Maddies Statio	7.45	120	Pn	Pn	05 09 15.9	+1.0
GCMT	Greycliff	7.48	301	Pn	Pn	05 09 16.3	+0.8
LOHW	Long Hollow	7.54	283	Pn	Pn	05 09 18.2	+1.8
PV11	David Mesa, Pa	7.56	241	Pn	Pn	05 09 18.4	+1.7
PV11				IAmb_Lg		05 11 34.2	
	comp=Z,22nm,1.0s						
PV23	Carpenter Ridg	7.56	242	Pn	Pn	05 09 17.2	+0.4
PV23				IAmb_Lg		05 11 35.6	
	comp=Z,22nm,0.8s						
JFWS	Jewell Farm	7.57	82	Pn	Pn	05 09 16.2	-0.5
PV13	Radium Mtn., P	7.61	240	Pn	Pn	05 09 19.3	+1.9
PV10	Paradox Valley	7.62	242	Pn	Pn	05 09 20.3	+2.7
SNOW	Snow King Moun	7.63	282	Pn	Pn	05 09 18.1	+0.4
MOOW	Moose Ponds	7.66	284	Pn	Pn	05 09 19.8	+1.8
FLWY	Flagg Ranch	7.67	287	Pn	Pn	05 09 20.2	+1.9
WMOK	Wichita Mounta	7.68	169	Pn	Pn	05 09 17.1	-1.0
WMOK	Wichita Mounta	7.68	169	P	Pn	05 09 17.8	-0.3
	baz=351						
W35A	Tecumseh	7.68	157	Pn	Pn	05 09 17.1	-1.0
E38A	The Farm, Brul	7.69	53	Pn	Pn	05 09 19.6	+1.3
E38A				IAmb_Lg		05 11 31.7	
	comp=Z,27nm,0.8s						
B35A	Bob, Littlefor	7.70	36	Pn	Pn	05 09 20.8	+2.5
B35A				IAmb_Lg		05 11 32.8	
	comp=Z,22nm,0.9s						
REDW	Red Top Meadow	7.70	281	Pn	Pn	05 09 19.8	+1.2
TPAW	Teton Pass	7.78	282	Pn	Pn	05 09 20.4	+0.6
P18A	Preston Nutter	7.86	253		Pn	05 09 23.1	+2.2
HHAR	Hobbs	7.87	138	Pn	Pn	05 09 22.0	+1.3
HHAR				IAmb_Lg		05 11 39.1	
	comp=Z,26nm,0.8s						
YHH	Holmes Hill	7.93	292	Pn	Pn	05 09 21.1	-0.8
L42A	Oliver, Polo	8.04	89	Pn	Pn	05 09 23.2	+0.2
CCM	Cathedral Cave	8.25	118	Pn	Pn	05 09 25.7	-0.2
CCM	Cathedral Cave	8.25	118	P	Pn	05 09 26.4	+0.5
	baz=304						
SRU	San Rafael Swe	8.27	251	Pn	Pn	05 09 26.3	-0.1
P17A	Butcher Ranch,	8.27	253	Pn	Pn	05 09 28.1	+1.7
U40A	Yellville	8.38	133	Pn	Pn	05 09 27.9	+0.2
U40A				IAmb_Lg		05 12 03.1	
	comp=Z,27nm,0.7s						
U40A	Yellville	8.38	133	P	Pn	05 09 27.6	-0.1
	baz=318						
JLU	Jordanelle	8.41	262	Pn	Pn	05 09 27.8	-0.6
EYMN	Ely	8.49	45	Pn	Pn	05 09 28.2	-1.1
EYMN				IAmb_Lg		05 11 59.3	
	comp=Z,18nm,0.9s						
MSTX	Muleshoe	8.52	193	Pn	Pn	05 09 29.3	-0.5
MSTX	Muleshoe	8.52	193	P	Pn	05 09 29.6	-0.1
	baz=12						
ULM	Lac du Bonnet	8.56	20	Pn	Pn	05 09 27.4	-2.7
	comp=Z,1.1nm,0.3s,baz=201,slow=12,SNR=12						
ULM				Sn	Sn	05 10 55.6	-11
	comp=Z,3.0nm,0.3s,baz=126,slow=12,SNR=3.9						
ULM				Lg	Lg	05 11 47.1	
	comp=Z,2.1nm,0.3s,baz=296,slow=21,SNR=3.2						
ULM	Lac du Bonnet	8.56	20	Pn	Pn	05 09 28.8	-1.4
HDIL	Hopedale	8.59	98	Pn	Pn	05 09 30.6	0.0
HDIL	Hopedale	8.59	98	P	Pn	05 09 30.1	-0.4
	baz=286						
I42A	Draeger Farm,	8.61	76	Pn	Pn	05 09 30.5	-0.4
CTU	Camp Tracy	8.61	263	Pn	Pn	05 09 30.1	-1.0
TMUT	Trail Mountain	8.68	253	Pn	Pn	05 09 32.1	0.0
X37A	Clayton	8.69	151	Pn	Pn	05 09 31.8	-0.2
BOZ	Bozeman (W)	8.69	296	Pn	Pn	05 09 31.9	-0.2
EGMT	Eagleton	8.69	314	Pn	Pn	05 09 31.7	-0.4
EGMT				IAmb_Lg		05 12 02.8	
	comp=Z,22nm,0.7s						
ANMO	Albuquerque	8.71	214	Pg	Pg	05 10 04.3	-9.0
	comp=Z,0.2nm,0.3s,baz=50,slow=16,SNR=2.2						
ANMO				Lg	Lg	05 11 55.9	
	comp=Z,0.4nm,0.3s,baz=322,slow=4.9,SNR=2.8						
Q16A	Castle Valley	8.81	251	Pn	Pn	05 09 36.0	+2.2
W39A	Magazine	8.82	141	Pn	Pn	05 09 33.3	-0.5
W39A	Magazine	8.82	141	P	Pn	05 09 33.1	-0.6
	baz=326						
FVM	French Village	8.83	116	Pn	Pn	05 09 33.6	-0.2
NLU	North Lily Min	9.06	259	Pn	Pn	05 09 37.4	+0.1
FCAR	Ozark Folk Cen	9.12	132	IAmb_Lg		05 12 20.6	
	comp=Z,19nm,0.9s						
HVU	Hansel Valley	9.16	271	Pn	Pn	05 09 39.0	+0.4
MCMT	McKenzie Canyo	9.33	290	Pn	Pn	05 09 42.4	+1.5
MIAR	Mount Ida	9.45	143	IAmb_Lg		05 12 48.3	
	comp=Z,16nm,0.8s						
MIAR	Mount Ida	9.45	143	P	Pn	05 09 42.2	-0.3
	baz=327						
LCAR	Lake Charles	9.55	128	IAmb_Lg		05 12 37.7	
	comp=Z,18nm,1.0s						
W41B	Gary Mavity, V	9.59	135	IAmb_Lg		05 12 46.7	
	comp=Z,20nm,0.8s						
W41B	Gary Mavity, V	9.59	135	P	Pn	05 09 43.6	-0.8
	baz=321						
ABTX	Abilene, Hawle	9.69	176	IAmb_Lg		05 12 52.3	
	comp=Z,20nm,1.1s						
X40A	Basin Creek Fa	9.84	140	IAmb_Lg		05 12 44.3	
	comp=Z,17nm,0.7s						
X40A	Basin Creek Fa	9.84	140	P	Pn	05 09 47.1	-0.7
	baz=325						
UALR	University of	9.85	137	IAmb_Lg		05 13 01.4	
	comp=Z,18nm,0.8s						
NEW	Newport	13.13	303	Lg	Lg	05 14 09.6	
	comp=Z,0.1nm,0.3s,baz=186,slow=8.3,SNR=3.4						
TXAR	Lajitas Array	13.20	192	Pn	Pn	05 10 33.1	-0.8
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=2.2						
TXAR				Pg	Pg	05 11 25.6	
	comp=Z,0.1nm,0.3s,baz=22,slow=15,SNR=2.2						
TXAR				Lg	Lg	05 14 18.4	
	comp=Z,0.1nm,0.3s,baz=359,slow=26,SNR=2.2						
YKA	Yellowknife Ar	21.88	342	P	P	05 12 17.8	-1.2
	comp=Z,0.2nm,0.7s,baz=148,slow=10,SNR=3.6						
ILAR	Eielson Array	34.40	327	P	P	05 14 12.2	-1.0
	comp=Z,0.3nm,0.6s,baz=103,slow=7.5,SNR=2.7						

*IDC **11** 05:15:53.6±0.8, 11°.37N×140°.93E, h0km, mb4.0/12, mb1 4.2/12, mb1mx3.9/41, mbtmp4.0/12, MS3.1/1, Ms1 3.1/1, ms1mx2.3/78, Error ellipse: s-maj=31.2km s-min=19.4km az=82.0*

*NEIC **11** 05:15:55.8±1.2, 11°.3N±0°.1×140°.9E±0°.2, h10km±1km, mb4.5/21, Error ellipse: s-maj=26.7km s-min=19.7km az=297.0*

ISC 11 05:15:55.0±0.7**, 11°.3N**±0°.1×**140°.9E**±0°.1**, h10km, n39, σ1s.00**/40**, mb4.4**/22**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.53	59	Pn	Pn	05 17 03.3	-0.4
PMG	Port Moresby	21.48	163	LR	LR	05 28 04.3	
	comp=Z,52nm,21.6s,baz=59,slow=34						
JMN	Monobe	23.24	345	P	P	05 21 03.5	+0.9
JMN				IAmb	IAmb	05 21 12.5	
	comp=Z,31nm,1.2s						
JNU	Nakatsue	23.60	339	P	P	05 21 05.9	-0.3
WRAB	Tennant Creek	31.68	192	P	P	05 22 17.1	-1.7
WRA	Warramunga Arr	31.69	192	P	P	05 22 19.1	+0.1
	comp=Z,1.0nm,0.9s,baz=11,slow=9.9,SNR=5.4						
ASAR	Alice Springs	35.40	191	P	P	05 22 52.4	+1.1
	comp=Z,0.6nm,0.6s,baz=17,slow=12,SNR=8.4						
SONM	Songino Array	46.49	328	P	P	05 24 22.5	-0.1
	comp=Z,0.5nm,0.4s,baz=136,slow=6.3,SNR=3.4						
MK31	Makanchi Array	60.49	318	P	P	05 26 06.4	+1.0
MKAR	Makanchi Array	60.49	318	P	P	05 26 06.2	+0.9
	comp=Z,0.7nm,0.6s,baz=94,slow=9.1,SNR=8.3						
MKAR	Makanchi Array	60.49	318	P	P	05 26 05.4	+0.1
ZAA0	Zalesovo Array	61.28	326	P	P	05 26 09.4	-1.1
ZALV	Zalesovo Beam	61.28	326	P	P	05 26 09.8	-0.6
	comp=Z,1.3nm,0.5s,baz=111,slow=6.8,SNR=7.1						
KURK	Kurchatov	63.87	321	P	P	05 26 28.0	+0.1
KURK				IAmb	IAmb	05 26 29.9	
	comp=Z,3.5nm,0.7s						
KURBB	Kurchatov Arra	63.91	321	P	P	05 26 28.3	+0.3
	comp=Z,2.1nm,0.6s,baz=106,slow=6.8,SNR=17						
BVAR	Borovoye Array	69.34	323	P	P	05 27 02.9	+0.1
	comp=Z,1.4nm,0.5s						
BRVK	Borovoye	69.41	323	P	P	05 27 03.9	+0.7
BRVK				IAmb	IAmb	05 27 05.0	
	comp=Z,2.2nm,0.8s						
CAST	Castle Rocks	69.78	26	P	P	05 27 05.7	+0.4
CAST				IAmb	IAmb	05 27 10.1	
	comp=Z,2.8nm,1.1s						
IMAR	Indian Mountai	69.84	23	P	P	05 27 06.1	+0.5
RND	Reindeer	71.18	27	P	P	05 27 13.6	-0.4
RND				IAmb	IAmb	05 27 31.2	
	comp=Z,4.4nm,1.1s						
MCK	McKinley	71.22	26	P	P	05 27 13.3	-0.8
I23K	Minto, Yukon-K	71.37	25	P	P	05 27 15.6	+0.7
DHY	Denali Highway	71.77	27	P	P	05 27 17.4	-0.1
DHY				IAmb	IAmb	05 27 27.4	
	comp=Z,8.8nm,1.3s						
MDM	Murphy Dome	71.79	25	P	P	05 27 18.2	+0.6
MDM				IAmb	IAmb	05 27 38.6	
	comp=Z,5.7nm,1.3s						
H24K	Noodor Dome	72.13	24	P	P	05 27 20.1	+0.6
KLU	Klutina	72.15	29	P	P	05 27 19.6	-0.3
TOLK	Toolik Lake Re	72.16	21	P	P	05 27 20.8	+1.1
TOLK				IAmb	IAmb	05 27 34.1	
	comp=Z,4.1nm,1.4s						
IL31		72.31	25	P	P	05 27 19.8	-0.8
IL31				IAmb	IAmb	05 27 28.0	
	comp=Z,8.6nm,1.4s						
ILAR	Eielson Array	72.31	25	P	P	05 27 19.6	-1.1
	comp=Z,0.6nm,0.5s,baz=247,slow=5.7,SNR=14						
RIDG	Independent Ri	73.00	27	P	P	05 27 25.2	+0.4
RIDG				IAmb	IAmb	05 27 40.3	
	comp=Z,8.9nm,1.4s						
BMAR	Burnt Mountain	73.73	23	P	P	05 27 30.6	+1.5
GRNC	Granite Creek	74.06	30	P	P	05 27 31.5	+0.2
YKA	Yellowknife Ar	86.68	27	P	P	05 28 39.0	+0.2
	comp=Z,1.0nm,0.6s,baz=290,slow=5.0,SNR=24						
ARCES	ARCESS Array B	88.04	341	P	P	05 28 44.8	-0.5
	comp=Z,1.3nm,0.7s,baz=51,slow=4.7,SNR=6.5						
NVAR	Mina Array Bea	91.40	51	P	P	05 29 02.0	+0.1
	comp=Z,0.4nm,0.7s,baz=274,slow=6.3,SNR=3.7						
FINES	FINESS Array B	91.56	334	P	P	05 29 00.4	-1.5
	comp=Z,1.0nm,0.4s,baz=51,slow=4.9,SNR=10						
TORD	Torodi Ar. Bea	132.78	300	PKP	PKPdf	05 35 11.0	-0.4
	comp=Z,0.2nm,0.5s,baz=71,slow=2.7,SNR=1.9						
LPAZ	La Paz	151.41	103	PKPbc	PKiKP	05 35 52.1	+0.7
	comp=Z,1.0nm,0.5s,baz=347,slow=6.8,SNR=7.5						
LPAZ	La Paz	151.41	103	PKPdf	PKPdf	05 35 42.5	-2.4
LPAZ					sPKPdf	05 35 49.2	+1.2
LPAZ				PKPab	sPKPbc	05 35 57.1	+3.1

IDC 11 05:27:45.1±2.8**, 54°.00N**×**87°.16E, h0km, mb1 2.8**/2**, mb1mx2.7**/49**, mbtmp2.8**/2**, ML2.3**/2**, Error ellipse: s-maj=23.1km s-min=15.2km az=70.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.38	269	*i*		05 37 00.0	
	baz=83,slow=340,SNR=2.8						
ZALV	Zalesovo Beam	1.38	269	Pg	Pg	05 28 09.9	-1.6
	1.5nm,0.3s,baz=84,slow=16,SNR=21						
ZALV				Lg	Lg	05 28 29.8	
	1.1nm,0.3s,baz=86,slow=25,SNR=11						
KURBB	Kurchatov Arra	6.28	241	Pn	Pn	05 29 19.6	+0.8
	0.1nm,0.3s,baz=56,slow=14,SNR=7.3						
KURBB				Sn	Sn	05 30 32.2	+1.1
	0.0nm,0.3s,baz=43,slow=19,SNR=1.1						
KURBB				Lg	Lg	05 31 02.2	
	baz=55,slow=33,SNR=4.9						
MKAR	Makanchi Array	7.85	205	Pn	Pn	05 29 43.0	+2.5
	0.0nm,0.3s,baz=17,slow=12,SNR=2.5						
MKAR				Sn	Sn	05 31 07.0	-3.0
	0.2nm,0.3s,baz=16,slow=27,SNR=9.3						
MKAR				Lg	Lg	05 31 51.6	
	0.1nm,0.3s,baz=15,slow=23,SNR=1.6						

*IDC **11** 05:27:55.8±0.7, 11°.39N×141°.01E, h0km, mb4.2/18, mb1 4.4/20, mb1mx4.2/45, mbtmp4.3/20, ML4.4/2, MS3.1/7, Ms1 3.1/7, ms1mx2.8/82, Error ellipse: s-maj=22.5km s-min=15.6km az=81.0*

*NEIC **11** 05:27:58.0±1.7, 11°.4N±0°.1×141°.03E±0°.05, h10km±1km, mb4.7/62, Error ellipse: s-maj=18.8km s-min=7.6km az=172.0*

ISC 11 05:27:57.7±0.6**, 11°.36N**±0°.09×**140°.90E**±0°.08**, h10km, n94, σ0s.87**/85**, mb4.6**/48**, MS3.4**/4**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.46	60	Pn	Pn	05 29 04.1	-1.4
	7.4nm,0.3s,baz=137,slow=19,SNR=1.8						
GUMO				Sn	Sn	05 30 00.0	+2.5
	9.6nm,0.3s,baz=11,slow=22,SNR=1.3						
GUMO				LR	LR	05 30 23.9	
	comp=Z,36nm,19.7s,baz=108,slow=34						
SIJI	Sorong	15.47	219	LR	LR	05 36 14.7	
	comp=Z,51nm,21.7s,baz=26,slow=32						
JCJ	Chichijima	15.70	4	LR	LR	05 36 44.4	
	comp=Z,81nm,18.1s,baz=9.5,slow=34						
JOW	Kunigami	19.45	324	P	P	05 32 25.8	+1.2
	2.9nm,0.3s,baz=333,slow=23,SNR=2.8						
PMG	Port Moresby	21.55	163	LR	LR	05 41 20.0	
	comp=Z,125nm,18.2s,baz=104,slow=37						
LUWI	Luwuk	21.83	237	P	P	05 32 50.5	0.0
LUWI				IAmb	IAmb	05 33 05.0	
	comp=Z,42nm,0.8s						
JSU	Suzuyama	22.25	336	P	P	05 32 57.1	+2.2
JSU				IAmb	IAmb	05 33 02.1	
	comp=Z,49nm,1.4s						
MYLDM	Lahad Datu	22.99	256	P	P	05 33 03.9	+0.9
MYLDM				IAmb	IAmb	05 33 30.4	
	comp=Z,18nm,1.1s						
JMN	Monobe	23.18	345	P	P	05 33 06.5	+1.9
JMN				IAmb	IAmb	05 33 19.7	
	comp=Z,33nm,1.2s						
JNU	Nakatsue	23.54	339	P	P	05 33 08.7	+0.4
	comp=Z,12nm,0.8s,baz=177,slow=5.0,SNR=5.7						
JNU	Nakatsue	23.54	339	IAmb	IAmb	05 33 31.4	
	comp=Z,26nm,1.2s						
MJAR	Matsushiro Arr	25.19	355	LR	LR	05 41 41.9	
	comp=Z,56nm,20.6s,baz=290,slow=33						
H11N1	WAKE ISLAND Hy	26.35	68	T	T	06 02 16.4	
	baz=260						
H11N2	WAKE ISLAND Hy	26.36	68	T	T	06 02 19.3	
	baz=260						
H11N3	WAKE ISLAND Hy	26.37	68	T	T	06 02 23.7	
	baz=260						
KSRS	Korea Array	28.48	338	P	P	05 33 53.1	0.0
	comp=Z,1.0nm,0.6s,baz=158,slow=8.5,SNR=2.7						
JTM	Tenmabayashi	29.31	0	P	P	05 33 59.1	-1.4
WB0	Warramunga Arr	31.59	192	P	P	05 34 20.3	-0.5
WB0				IAmb	IAmb	05 34 21.9	
	comp=Z,10nm,1.4s						
CTA	Charters Tower	31.69	170	LR	LR	05 47 21.1	
	comp=Z,71nm,18.2s,baz=342,slow=37						
WR0	Warramunga Arr	31.75	191	P	P	05 34 21.5	-0.7
WR0				IAmb	IAmb	05 34 38.6	
	comp=Z,7.8nm,1.2s						
WB2	Warramunga Arr	31.77	192	P	P	05 34 21.6	-0.8
WB2				IAmb	IAmb	05 34 25.6	
	comp=Z,10nm,1.3s						
WRA	Warramunga Arr	31.77	192	P	P	05 34 21.5	-0.9
	comp=Z,1.1nm,0.7s,baz=11,slow=9.8,SNR=11						
AS31	Alice Springs	35.48	191	P	P	05 34 54.8	+0.1
ASAR	Alice Springs	35.48	191	P	P	05 34 55.0	+0.3
	comp=Z,0.7nm,0.6s,baz=19,slow=12,SNR=15						
ASAR				PcP	PcP	05 37 24.9	+0.7
	comp=Z,0.7nm,0.7s,baz=45,slow=3.1,SNR=2.1						
ASAR	Alice Springs	35.48	191	P	P	05 34 53.5	-1.2
BJT	Baijiatuau	35.97	327	P	P	05 34 58.7	0.0
BJT				IAmb	IAmb	05 34 59.7	
	comp=Z,7.2nm,0.8s						
KLR	Kul'dur	38.51	350	P	P	05 35 20.9	+0.7
	comp=Z,4.5nm,0.7s,baz=152,slow=7.2,SNR=18						
CMAR	Chiang Mai Arr	41.08	285	P	P	05 35 43.6	+1.6
	comp=Z,0.8nm,0.4s,baz=87,slow=6.1,SNR=6.6						
BBOO	Buckleboo	44.16	186	P	P	05 36 08.1	+1.3
BBOO				IAmb	IAmb	05 36 16.7	
	comp=Z,20nm,1.3s						
ULN	Ulaanbaatar	46.13	329	P	P	05 36 23.3	+0.8
SONM	Songino Array	46.44	328	P	P	05 36 25.8	+0.9
	comp=Z,1.3nm,0.4s,baz=132,slow=6.1,SNR=9.6						
SONM	Songino Array	46.44	328	IAmb	IAmb	05 36 27.6	
	comp=Z,4.1nm,1.2s						
MK31	Makanchi Array	60.46	318	P	P	05 38 07.8	0.0
MKAR	Makanchi Array	60.46	318	P	P	05 38 08.1	+0.3
	comp=Z,1.5nm,0.6s,baz=87,slow=8.7,SNR=19						
MKAR	Makanchi Array	60.46	318	P	P	05 38 07.7	-0.1
MAKZ	Makanchi	60.67	318	P	P	05 38 09.3	0.0
ZALV	Zalesovo Beam	61.23	326	P	P	05 38 12.5	-0.4
	comp=Z,2.6nm,0.5s,baz=109,slow=7.6,SNR=8.8						
KDJ	Kajisay	63.02	312	P	P	05 38 26.5	+1.1
KDJ				IAmb	IAmb	05 38 41.0	
	comp=Z,10nm,1.2s						
KURK	Kurchatov	63.83	321	P	P	05 38 30.5	+0.2
NRIK	Noril'sk	67.00	342	P	P	05 38 49.7	-0.8
	comp=Z,2.3nm,0.5s,baz=99,slow=9.0,SNR=3.6						
N19K	Bonanza Creek	67.87	29	P	P	05 38 57.0	+0.7
N19K				IAmb	IAmb	05 39 20.9	
	comp=Z,11nm,1.1s						
GAR	Garm	67.88	308	P	P	05 38 55.5	-1.2
GAR				IAmb	IAmb	05 39 04.1	
	comp=Z,6.0nm,0.7s						
KK31	Karatay Array	68.02	312	P	P	05 38 57.1	-0.4
KKAR	Karatay Array	68.02	312	P	P	05 38 57.2	-0.3
CHGR	Chuyangaron	68.76	307	P	P	05 39 01.9	-0.4
BRVK	Borovoye	69.36	323	P	P	05 39 05.4	-0.3
BRVK				IAmb	IAmb	05 39 07.2	
	comp=Z,5.5nm,0.7s						
CAST	Castle Rocks	69.69	26	P	P	05 39 07.1	-0.4
CAST				IAmb	IAmb	05 39 08.0	
	comp=Z,3.0nm,0.6s						
I21K	Tanana	70.22	24	P	P	05 39 10.8	+0.1
I21K				IAmb	IAmb	05 39 27.6	
	comp=Z,6.3nm,1.2s						
PWL	Port Wells	70.80	29	P	P	05 39 14.1	-0.2
KNK	Knik Glacier	70.86	29	P	P	05 39 14.4	-0.3
SML	Sawmill	71.00	28	P	P	05 39 15.2	-0.3
RND	Reindeer	71.10	27	P	P	05 39 15.4	-0.8
RND				IAmb	IAmb	05 39 20.5	
	comp=Z,11nm,1.5s						
MCK	McKinley	71.14	26	P	P	05 39 16.3	0.0
MCK				IAmb	IAmb	05 39 39.7	
	comp=Z,10.0nm,1.4s						
I23K	Minto, Yukon-K	71.28	25	P	P	05 39 16.9	-0.2
H23K	Yukon River	71.37	24	P	P	05 39 18.4	+0.7
WRH	Wood River Hil	71.66	26	P	P	05 39 18.8	-0.7
WRH				IAmb	IAmb	05 39 28.8	
	comp=Z,5.3nm,1.2s						
FID	Port Fidalgo	71.68	30	P	P	05 39 19.1	-0.5
DHY	Denali Highway	71.68	27	P	P	05 39 19.0	-0.8
MDM	Murphy Dome	71.71	25	P	P	05 39 19.8	0.0
MDM				IAmb	IAmb	05 39 35.1	
	comp=Z,6.9nm,1.4s						
CCB	Clear Creek Bu	71.82	25	P	P	05 39 19.4	-0.9
CCB				IAmb	IAmb	05 39 20.8	
	comp=Z,7.1nm,1.4s						
H24K	Noodor Dome	72.04	24	P	P	05 39 21.5	-0.3
H24K				IAmb	IAmb	05 39 51.0	
	comp=Z,6.0nm,1.4s						

KLU	**Klutina**	**72.07**	**29**	P	**P**	**05 39 22.5**	**+0.5**
KLU				IAmb	IAmb	05 39 24.3	
	comp=Z,9.2nm,1.2s						
TOLK	**Toolik Lake Re**	**72.08**	**21**	P	**P**	**05 39 22.7**	**+0.8**
HDA	**Harding Lake**	**72.13**	**26**	P	**P**	**05 39 21.1**	**-1.2**
HDA				IAmb	IAmb	05 39 27.3	
	comp=Z,7.3nm,1.4s						
IL31		**72.23**	**25**	P	**P**	**05 39 22.0**	**-0.8**
ILAR	**Eielson Array**	**72.23**	**25**	P	**P**	**05 39 21.3**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=246,slow=6.0,SNR=17						
J25K	**Salcha River,**	**72.84**	**26**	P	**P**	**05 39 25.7**	**-0.9**
RIDG	**Independent Ri**	**72.92**	**27**	P	**P**	**05 39 26.6**	**-0.5**
RIDG				IAmb	IAmb	05 39 29.2	
	comp=Z,6.2nm,1.1s						
SCRK	**Sand Creek**	**73.33**	**26**	P	**P**	**05 39 29.6**	**0.0**
SCRK				IAmb	IAmb	05 39 54.1	
	comp=Z,6.0nm,1.4s						
BMAR	**Burnt Mountain**	**73.64**	**23**	P	**P**	**05 39 32.1**	**+0.8**
ISLE	**Juniper Island**	**73.68**	**30**	P	**P**	**05 39 31.7**	**0.0**
GRNC	**Granite Creek**	**73.98**	**30**	P	**P**	**05 39 34.0**	**+0.4**
GRNC				IAmb	IAmb	05 39 34.0	
	comp=Z,8.3nm,0.9s						
BARN	**Barnard Glacie**	**74.05**	**30**	P	**P**	**05 39 34.6**	**+0.6**
BARN				IAmb	IAmb	05 39 41.4	
	comp=Z,12nm,1.4s						
BCAR	**Beaver Creek A**	**74.20**	**27**	P	**P**	**05 39 35.1**	**+0.5**
CTGM	**Chitina Glacie**	**74.20**	**30**	P	**P**	**05 39 35.8**	**+1.0**
CTGM				IAmb	IAmb	05 40 03.6	
	comp=Z,22nm,1.5s						
TABL	**Table Mountain**	**74.25**	**30**	P	**P**	**05 39 35.5**	**+0.3**
LOGN	**Logan Glacier**	**74.35**	**30**	P	**P**	**05 39 35.9**	**+0.2**
BCPM	**Bancas Point**	**74.97**	**31**	P	**P**	**05 39 38.7**	**-0.3**
ABKAR	**Akbulak array**	**75.59**	**318**	P	**P**	**05 39 42.3**	**-0.5**
ARU	**Arti**	**76.39**	**325**	P	**P**	**05 39 46.1**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=77,slow=5.8,SNR=5.6						
AKTO	**Aktyubinsk**	**76.81**	**319**	P	**P**	**05 39 48.4**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=74,slow=9.3,SNR=4.3						
A36M	**Sachs Harbour**	**80.47**	**18**	P	**P**	**05 40 09.4**	**-0.1**
YKA	**Yellowknife Ar**	**86.60**	**27**	P	**P**	**05 40 41.0**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=289,slow=5.0,SNR=43						
YKA	**Yellowknife Ar**	**86.60**	**27**	P	**P**	**05 40 40.7**	**-0.5**
ARCES	**ARCESS Array B**	**87.98**	**341**	P	**P**	**05 40 46.2**	**-1.6**
	comp=Z,2.1nm,0.7s,baz=79,slow=6.3,SNR=11						
ARCES	**ARCESS Array B**	**87.98**	**341**	P	**P**	**05 40 46.8**	**-1.0**
B08A	**Colville Reser**	**88.00**	**41**	P	**P**	**05 40 48.4**	**+0.1**
B08A				IAmb	IAmb	05 40 55.2	
	comp=Z,3.3nm,0.8s						
PINE	**Pine Mountain**	**88.04**	**46**	P	**P**	**05 40 50.1**	**+1.2**
PINE				IAmb	IAmb	05 40 56.6	
	comp=Z,5.6nm,0.7s						
OBN	**Obninsk**	**88.82**	**326**	LR	LR	06 22 44.0	
	comp=Z,13nm,20.0s,baz=1.5,slow=37						
NVAR	**Mina Array Bea**	**91.32**	**51**	P	**P**	**05 41 04.4**	**0.0**
	comp=Z,1.1nm,0.7s,baz=264,slow=5.8,SNR=11						
FINES	**FINESS Array B**	**91.50**	**334**	P	**P**	**05 41 02.2**	**-2.1**
	comp=Z,2.3nm,0.4s,baz=65,slow=5.1,SNR=21						
AKASG	**Malin Array Be**	**94.55**	**324**	P	**P**	**05 41 19.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=57,slow=6.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**132.77**	**300**	PKP	**PKPdf**	**05 47 14.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=69,slow=2.7,SNR=2.1						
LPAZ	**La Paz**	**151.40**	**103**	PKPbc	**PKiKP**	**05 47 54.0**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=294,slow=1.7,SNR=16						

NNC 11 05:28:02.8±8.8, 36.95N×70.75E, h175km±120km, mb2.6, mpv3.5, 2C-1D, Error ellipse: s-maj=110.9km s-min=44.2km az=40.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.15**	**358**	P	Pn	05 29 31.4	-0.3
	1.3nm,0.3s,baz=172,slow=10,SNR=70						
KK31				⇑S	Sn	05 30 42.1	+0.5
	1.4nm,0.3s,baz=188,slow=23,SNR=13						
TKM2	**Tokmak 2**	**7.03**	**30**	⇑P	Pn	05 29 43.6	+0.1
	2.2nm,0.6s						
AB31	**Akbulak array**	**14.59**	**331**	P	P	05 31 22.2	-0.4
	0.2nm,0.3s,baz=164,slow=12,SNR=18						
AKTO	**Aktyubinsk**	**16.29**	**330**	⇓P	P	05 31 40.3	-1.1
	0.8nm,0.5s						

*MOS **11** 05:45:06.8±1.0, 24.66N×122.20E, h55km, mb5.2/64, Error ellipse: s-maj=6.2km s-min=4.1km az=111.7*

*GCMT **11** 05:45:07.9±0.4, 24.50N±0.02×122.16E±0.03, h67km±3km, MW4.9/68, Moment Tensor Solution. s21,c21; s68,c87; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.24±.13; Mθθ 1.24±.12; Mϕϕ 2.48±.12; Mrθ 0.62±.07; Mθϕ 0.75±.09; Mϕr 0.96±.08; Best double couple: Mo 2.48700×10^16 NP1: ϕs 49.00000°, δ 50.00000°, λ 153.00000°. NP2: ϕs 157.00000°, δ 70.00000°, λ 43.00000°. Principal axes: T 2.1730, Plg45.0000°, Azm21.0000°; N 0.6260, Plg43.0000°, Azm177.0000°; P -2.8000, Plg12.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*JMA **11** 05:45:08.4±0.1, 24.50N×122.13E, h69km±2km, M4.9*

JMA Felt I J1.

*NIED **11** 05:45:08.5, 24.50N×122.13E, h69km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr 0.29; Mθθ 1.52; Mϕϕ 1.23; Mrθ 1.12; Mθϕ 0.93; Mϕr 1.00; Fault plane solution: Mo 2.19000×10^16 NP1: ϕs 59.00000°, δ 48.00000°, λ -178.00000°. NP2: ϕs 328.00000°, δ 88.00000°, λ -42.00000°.*

*NEIC **11** 05:45:08.9±1.9, 24.56N±0.05×122.14E±0.04, h58km±4km, mb5.2/276, Mwr 4.8/20, ML5.5(TAP) Error ellipse: s-maj=6.8km s-min=4.7km az=184.0*

*NEIC **11** 05:45:09.3, 24.56N×122.15E, h58km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 1.47; Mθθ 0.03; Mϕϕ 1.50; Mrθ 0.85; Mθϕ -0.78; Mϕr 0.98; Fault plane solution: Mo 2.12000×10^16 NP1: ϕs 173.45000°, δ 62.62000°, λ 56.33000°. NP2: ϕs 48.83000°, δ 42.35000°, λ 136.95000°. Principal axes: T 2.2652, Plg58.0000°, Azm36.0000°; N -0.3191, Plg29.0000°, Azm190.0000°; P -1.9461, Plg11.0000°, Azm287.0000°;*

*BJI **11** 05:45:09.0±0.0, 24.62N×121.99E, h59km, mb4.7/70, mB4.6/43, ML4.6/10, Ms4.4/53, Ms7 4.0/47*

*ASIES **11** 05:45:09.1, 24.57N×122.18E, h50km, MW4.6*

*TAP **11** 05:45:09.1, 24.55N×122.13E, h60km, ML5.7, C*

*IDC **11** 05:45:10.6±1.6, 24.65N×122.25E, h80km±13km, mb4.5/25, mb1 4.6/29, mb1mx4.5/37, mbtmp4.8/29, MS3.7/55, Ms1 3.7/55, ms1mx3.6/93, Error ellipse: s-maj=11.7km s-min=10.4km az=60.0*

ISC 11 05:45:07.9±0.3, 24.56N±0.02×122.15E±0.02, h58km±2km, h58km: pP-P, n964, σ1 9 50/1127, mb5.1/211, MS3.8/60, 107C-97D, Fault plane solution: NP1: ϕs 157.96291°, δ 62.23515°, λ 40.54877°. **NP2:** ϕs 46.23293°, δ 54.88303°, λ 145.28424°. **Principal axes:** T Plg47.4056°, Azm15.4139°; N Plg42.2501°, Azm186.5309°; P Plg4.4368°, Azm280.5725°; **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.28**	**280**	⇑*i*P	**Pn**	**05 45 19.1**	**+1.4**
	baz=283						
TWC				*i* S	**Sn**	**05 45 26.0**	**+1.3**
	baz=283						
EGS		**0.34**	**325**	⇑P	**Pn**	**05 45 19.8**	**+1.5**
	baz=330						
EGS				*i* S	**Sn**	**05 45 27.2**	**+1.5**
	baz=330						
EWUT	**Wuta**	**0.36**	**251**	⇑*i*P	**Pn**	**05 45 20.0**	**+1.7**
	baz=252						
EWUT				S	**Sn**	**05 45 27.9**	**+2.1**
	baz=252						
ENA	**Nanau**	**0.39**	**250**	⇑*i*P	**Pn**	**05 45 20.4**	**+1.7**
	baz=254						
ENA				*i* S	**Sn**	**05 45 28.5**	**+2.1**
	baz=254						
NDS	**Dongshan**	**0.40**	**281**	⇑P	**Pn**	**05 45 20.4**	**+1.6**
	baz=286						
NDS				S	**Sn**	**05 45 28.3**	**+1.7**
	baz=286						
NTC	**Toucheng**	**0.41**	**315**	⇑P	**Pn**	**05 45 20.3**	**+1.5**
	baz=322						
NTC				*e*S	**Sn**	**05 45 28.2**	**+1.4**
	baz=322						
ILA	**Ilan**	**0.42**	**299**	P	**Pn**	**05 45 20.7**	**+1.8**
	baz=302						
ILA				S	**Sn**	**05 45 29.1**	**+2.2**
	baz=302						
EHP	**Heping Village**	**0.45**	**236**	P	**Pn**	**05 45 20.9**	**+1.7**
	baz=235						
EHP				S	**Sn**	**05 45 29.8**	**+2.4**
	baz=235						
TWE	**Neicheng**	**0.47**	**290**	⇑*i*P	**Pn**	**05 45 21.1**	**+1.8**
	baz=292						
TWE				*i* S	**Sn**	**05 45 29.6**	**+1.9**
	baz=292						
TWB1	**Santiao Chiao**	**0.47**	**342**	⇓*i*P	**Pn**	**05 45 20.7**	**+1.3**
	baz=340						
TWB1				S	**Sn**	**05 45 28.5**	**+0.8**
	baz=340						
TIPB	**Shuangxi**	**0.50**	**324**	⇓*i*P	**Pn**	**05 45 21.2**	**+1.4**
	baz=332						
TIPB				*i* S	**Sn**	**05 45 29.6**	**+1.1**
	baz=332						
ENTT	**Nioudou**	**0.54**	**279**	⇓P	**Pn**	**05 45 22.3**	**+2.1**
	baz=283						
ENTT				S	**Sn**	**05 45 31.3**	**+2.2**
	baz=283						
FUSB	**Fushanzhiwuyua**	**0.55**	**291**	⇓*i*P	**Pn**	**05 45 22.2**	**+1.9**
	baz=298						
FUSB				*e*S	**Sn**	**05 45 30.3**	**+0.9**
	baz=298						
LATG	**Datong**	**0.57**	**268**	⇓*i*P	**Pn**	**05 45 22.4**	**+1.8**
	baz=268						
LATG				*i* S	**Sn**	**05 45 31.9**	**+2.0**
	baz=268						
NDT	**Datong Townshi**	**0.58**	**274**	⇓*i*P	**Pn**	**05 45 22.9**	**+2.2**
	baz=278						
NDT				S	**Sn**	**05 45 32.1**	**+2.2**
	baz=278						
SXI1	**Grass Mountain**	**0.59**	**335**	⇓*i*P	**Pn**	**05 45 22.2**	**+1.4**
	baz=342						
SXI1				*e*S	**Sn**	**05 45 30.7**	**+0.5**
	baz=342						
NWF	**Wu-fen Shan**	**0.61**	**327**	⇓*i*P	**Pn**	**05 45 22.6**	**+1.5**
	baz=329						
NWF				*i* S	**Sn**	**05 45 31.6**	**+1.0**
	baz=329						
WFSB	**Wu-fen Shan**	**0.61**	**327**	⇓*i*P	**Pn**	**05 45 22.6**	**+1.6**
	baz=329						
WFSB				*i* S	**Sn**	**05 45 31.5**	**+1.0**
	baz=329						
ETL	**Fush Village**	**0.62**	**230**	P	**Pn**	**05 45 22.2**	**+1.0**
	baz=229						
ETL				S	**Sn**	**05 45 32.0**	**+1.1**
	baz=229						
NWLT	**Wulai**	**0.63**	**290**	⇓*i*P	**Pn**	**05 45 23.2**	**+1.9**
	baz=294						
NWLT				S	**Sn**	**05 45 33.2**	**+2.3**
	baz=294						
NACB	**Ninganchiao**	**0.64**	**233**		**Pn**	**05 45 22.2**	**+0.9**
NACB				Sn	**Sn**	**05 45 32.9**	**+1.9**
NACB	**Ninganchiao**	**0.64**	**233**	⇑*i*P	**Pn**	**05 45 22.2**	**+0.9**
	baz=224						
NACB				S	**Sn**	**05 45 32.1**	**+1.0**
	baz=224						
TWA	**Mucha**	**0.66**	**309**	⇓*i*P	**Pn**	**05 45 23.2**	**+1.6**
	baz=319						
TWA				S	**Sn**	**05 45 32.6**	**+0.9**
	baz=319						
TNOU	**National Taiwa**	**0.68**	**330**	⇓*i*P	**Pn**	**05 45 23.1**	**+1.3**
	baz=332						
TNOU				*i* S	**Sn**	**05 45 32.6**	**+0.7**
	baz=332						
NHDH	**Xindian Distri**	**0.69**	**305**	⇓P	**Pn**	**05 45 23.7**	**+1.7**
	baz=316						
NHDH				S	**Sn**	**05 45 33.6**	**+1.3**
	baz=316						
TWD	**Chiawan**	**0.69**	**227**	⇑*i*P	**Pn**	**05 45 22.9**	**+0.9**
	baz=225						
TWD				S	**Sn**	**05 45 33.6**	**+1.3**
	baz=225						
ETLH	**Xiulin Townshi**	**0.70**	**240**	*i* P	**Pn**	**05 45 23.5**	**+1.3**
	baz=232						
ETLH				*e*S	**Sn**	**05 45 33.9**	**+1.2**
	baz=232						
NNSB	**Datong**	**0.71**	**259**	⇓*i*P	**Pn**	**05 45 23.9**	**+1.6**
	baz=252						
NNSB				*e*S	**Sn**	**05 45 33.4**	**+0.6**
	baz=252						
NHY	**Taipei**	**0.71**	**312**	P	**Pn**	**05 45 23.8**	**+1.6**
	baz=323						
NHY				S	**Sn**	**05 45 33.6**	**+1.0**
	baz=323						
YHNB	**Yeheng**	**0.71**	**279**		**Pn**	**05 45 23.6**	**+1.3**
YHNB				Sn	**Sn**	**05 45 35.2**	**+2.4**
YHNB	**Yeheng**	**0.71**	**279**	P	**Pn**	**05 45 24.3**	**+2.0**
YHNB	**Yeheng**	**0.71**	**279**	⇓*i*P	**Pn**	**05 45 24.3**	**+2.0**
	baz=280						
YHNB				*i* S	**Sn**	**05 45 34.9**	**+2.1**
	baz=280						
NNS	**Nan Shan**	**0.72**	**261**	⇓*i*P	**Pn**	**05 45 24.0**	**+1.6**
	baz=253						
NNS				S	**Sn**	**05 45 33.9**	**+0.9**
	baz=253						
NSK	**Sanguang**	**0.73**	**279**	⇓*i*P	**Pn**	**05 45 24.4**	**+1.9**
	baz=280						
NSK				*e*S	**Sn**	**05 45 34.8**	**+1.7**
	baz=280						
TATO	**Taipei**	**0.73**	**305**		**Pn**	**05 45 23.7**	**+1.3**
TATO				Sn	**Sn**	**05 45 34.0**	**+1.0**
JYNG	**Yonagunijimaku**	**0.73**	**98**	P	**Pn**	**05 45 24.0**	**+1.5**
JYNG				S	**Sn**	**05 45 35.2**	**+2.1**
TAP1	**Taipei**	**0.74**	**310**	*e*P	**Pn**	**05 45 24.4**	**+1.8**
	baz=322						
TAP1				*e*S	**Sn**	**05 45 34.2**	**+0.9**
	baz=322						
TAP	**Taipei**	**0.75**	**309**	⇓*e*P	**Pn**	**05 45 24.3**	**+1.5**
	baz=322						
TAP				S	**Sn**	**05 45 35.1**	**+1.5**
	baz=322						
HWA	**Hwalien**	**0.76**	**221**	⇑*i*P	**Pn**	**05 45 24.3**	**+1.4**
	baz=210						
HWA				*e*S	**Sn**	**05 45 35.1**	**+1.3**
	baz=210						
BACT	**New Taipei Cit**	**0.78**	**304**	*e*P	**Pn**	**05 45 24.6**	**+1.6**
	baz=314						
NWRT	**Kuosheng**	**0.78**	**325**	*e*P	**Pn**	**05 45 24.0**	**+1.0**
	baz=327						
NWRT				*e*S	**Sn**	**05 45 35.0**	**+0.9**
	baz=327						
YM01	**YM01**	**0.79**	**318**	⇓*i*P	**Pn**	**05 45 24.5**	**+1.3**
	baz=319						
YM01				S	**Sn**	**05 45 35.2**	**+0.8**
	baz=319						
YOJ	**Yonaguni jima**	**0.79**	**97**	P	**Pn**	**05 45 24.7**	**+1.5**
YOJ				S	**Sn**	**05 45 36.1**	**+1.7**
YOJ	**Yonaguni jima**	**0.79**	**97**	P	**Pn**	**05 45 24.3**	**+1.1**
YOJ						05 45 36.5	
YOJ	**Yonaguni jima**	**0.79**	**97**		**Pn**	**05 45 24.3**	**+1.1**
YOJ				Sn	**Sn**	**05 45 36.5**	**+2.0**
YOJ	**Yonaguni jima**	**0.79**	**97**	P	**Pn**	**05 45 24.8**	**+1.5**
YM08	**YM08**	**0.80**	**321**	⇓*i*P	**Pn**	**05 45 24.4**	**+1.0**
	baz=322						
YM08				S	**Sn**	**05 45 34.9**	**+0.2**
	baz=322						
ETM	**Tongmen**	**0.84**	**225**	⇑P	**Pn**	**05 45 24.9**	**+1.0**
	baz=224						
ETM				*e*S	**Sn**	**05 45 36.2**	**+0.6**
	baz=224						
ANP	**Anpu**	**0.84**	**318**	⇓P	**Pn**	**05 45 25.0**	**+1.0**
	baz=319						
TEYL	**Yanliau Villag**	**0.85**	**216**	⇑*i*P	**Pn**	**05 45 24.9**	**+0.9**
	baz=209						
TEYL				S	**Sn**	**05 45 36.9**	**+1.1**
	baz=209						
TWS1	**Kuangyinshan**	**0.85**	**309**	⇓*i*P	**Pn**	**05 45 25.7**	**+1.7**
	baz=319						
TWS1				*i* S	**Sn**	**05 45 37.5**	**+1.7**
	baz=319						
TWY	**Chenhua**	**0.87**	**325**	⇓*i*P	**Pn**	**05 45 25.8**	**+1.6**
	baz=327						
TWY				S	**Sn**	**05 45 37.8**	**+1.6**
	baz=327						
NTST	**Danshui**	**0.87**	**314**	⇓P	**Pn**	**05 45 26.0**	**+1.7**
	baz=323						
NTST				S	**Sn**	**05 45 37.5**	**+1.2**
	baz=323						
FUSS	**Fushou**	**0.88**	**249**	*e*P	**Pn**	**05 45 26.2**	**+1.6**
	baz=243						
FUSS				*e*S	**Sn**	**05 45 38.4**	**+1.5**
	baz=243						
NSM	**Shimen**	**0.88**	**325**	*e*P	**Pn**	**05 45 26.2**	**+1.8**
	baz=326						
NTY	**Taoyuan**	**0.89**	**300**	*e*P	**Pn**	**05 45 26.4**	**+2.0**
	baz=309						
NTY				*e*S	**Sn**	**05 45 39.8**	**+3.1**
	baz=309						
WHF	**Hehuan Shan**	**0.91**	**243**	⇑*i*P	**Pn**	**05 45 26.5**	**+1.4**
	baz=235						
WHF				*i* S	**Sn**	**05 45 38.5**	**+0.8**
	baz=235						
TWT	**Tachien**	**0.94**	**251**	*e*P	**Pn**	**05 45 27.4**	**+2.1**
	baz=246						
TWT				*i* S	**Sn**	**05 45 40.0**	**+1.9**
	baz=246						
NFF	**Wufeng Townshi**	**0.94**	**275**	⇓*i*P	**Pn**	**05 45 27.3**	**+2.1**
	baz=285						
NFF				*i* S	**Sn**	**05 45 40.1**	**+2.2**
	baz=285						
NCU	**National Centr**	**0.96**	**295**	⇓*i*P	**Pn**	**05 45 27.6**	**+2.2**
	baz=296						
NCU				*e*S	**Sn**	**05 45 40.8**	**+2.4**
	baz=296						
NCUH	**Zhongli**	**0.96**	**295**	⇓*i*P	**Pn**	**05 45 27.7**	**+2.2**
	baz=296						
NCUH				S	**Sn**	**05 45 40.9**	**+2.5**
	baz=296						
NJD	**Zhudong**	**0.98**	**280**	P	**Pn**	**05 45 28.1**	**+2.5**
	baz=281						
NJD				S	**Sn**	**05 45 41.7**	**+2.9**
	baz=281						
ESL	**Shilin**	**0.99**	**221**	⇑P	**Pn**	**05 45 26.4**	**+0.7**
	baz=230						
ESL				*e*S	**Sn**	**05 45 38.6**	**-0.4**
	baz=230						
TEGC	**Jichi Village**	**1.01**	**213**	*e*P	**Pn**	**05 45 27.2**	**+1.1**
	baz=202						
TEGC				S	**Sn**	**05 45 41.0**	**+1.5**
	baz=202						
CHGB	**Renai**	**1.02**	**241**	⇑*i*P	**Pn**	**05 45 28.1**	**+1.7**
	baz=232						
CHGB				S	**Sn**	**05 45 40.6**	**+0.7**
	baz=232						
LIOB	**Emei**	**1.03**	**275**	⇓*i*P	**Pn**	**05 45 28.5**	**+2.1**
	baz=275						
LIOB				*i* S	**Sn**	**05 45 42.6**	**+2.6**
	baz=275						
NSTT	**Nanjuang**	**1.05**	**274**	⇓*i*P	**Pn**	**05 45 28.5**	**+2.0**
	baz=286						
NSTT				*i* S	**Sn**	**05 45 42.6**	**+2.3**
	baz=286						
HSN1	**Hsinchu**	**1.05**	**282**	⇓*i*P	**Pn**	**05 45 28.7**	**+2.1**
	baz=283						
HSN1				S	**Sn**	**05 45 43.0**	**+2.6**
	baz=283						
OWD	**Renai**	**1.07**	**236**	⇑*i*P	**Pn**	**05 45 28.4**	**+1.4**
	baz=228						
OWD				S	**Sn**	**05 45 42.0**	**+0.9**
	baz=228						
SBCB	**Hsinchu**	**1.08**	**283**	⇓*i*P	**Pn**	**05 45 29.1**	**+2.1**
	baz=283						
SBCB				S	**Sn**	**05 45 43.5**	**+2.3**
	baz=283						
NHW	**Xinwu Township**	**1.09**	**294**	⇓*i*P	**Pn**	**05 45 29.2**	**+2.0**
	baz=304						
NHW				*e*S	**Sn**	**05 45 44.1**	**+2.7**
	baz=304						
WUSB	**Renai**	**1.10**	**239**	⇑*i*P	**Pn**	**05 45 29.1**	**+1.8**
	baz=231						
WUSB				*i* S	**Sn**	**05 45 42.7**	**+1.0**
	baz=231						
HSN	**Hsinchu**	**1.10**	**283**	⇓P	**Pn**	**05 45 28.8**	**+1.6**
	baz=285						
HSN				S	**Sn**	**05 45 42.9**	**+1.4**
	baz=285						
EGFH	**Guangfu**	**1.10**	**217**	⇑P	**Pn**	**05 45 28.0**	**+0.7**
	baz=226						
EGFH				*e*S	**Sn**	**05 45 41.6**	**-0.1**
	baz=226						
WHP	**Taichung City**	**1.13**	**256**	⇓*i*P	**Pn**	**05 45 30.4**	**+2.7**
	baz=252						
WHP				*i* S	**Sn**	**05 45 44.5**	**+2.1**
	baz=252						
NJN	**Zhunan**	**1.17**	**276**	*e*P	**Pn**	**05 45 30.2**	**+2.1**
	baz=277						
NJN				*e*S	**Sn**	**05 45 45.2**	**+2.0**
	baz=277						
WPL	**Puli Township**	**1.22**	**244**	P	**Pn**	**05 45 30.8**	**+2.0**
	baz=238						
WPL				S	**Sn**	**05 45 45.7**	**+1.4**
	baz=238						
VWDT	**VWDT**	**1.22**	**229**	⇑*i*P	**Pn**	**05 45 30.5**	**+1.7**
	baz=221						
VWDT				*i* S	**Sn**	**05 45 45.0**	**+0.6**
	baz=221						
DPDB	**Guoxing**	**1.23**	**245**	*e*P	**Pn**	**05 45 31.4**	**+2.4**
	baz=240						
DPDB				*e*S	**Sn**	**05 45 46.9**	**+2.1**
	baz=240						
WCS	**Beigang Elemen**	**1.23**	**246**	⇓*e*P	**Pn**	**05 45 31.9**	**+2.9**
	baz=242						
NMLH	**Miaoli**	**1.24**	**269**	⇓P	**Pn**	**05 45 30.9**	**+1.9**
	baz=269						
NMLH				S	**Sn**	**05 45 47.3**	**+2.5**
	baz=269						
HGSD	**Ruisui**	**1.25**	**212**	⇑*i*P	**Pn**	**05 45 30.1**	**+0.8**
	baz=201						
HGSD				*e*S	**Sn**	**05 45 44.9**	**-0.3**
	baz=201						
TWQ1	**Liyutan**	**1.27**	**261**	⇓*i*P	**Pn**	**05 45 31.6**	**+2.1**
	baz=261						
TWQ1				S	**Sn**	**05 45 47.9**	**+2.2**
	baz=261						
NSY	**Sanyi**	**1.27**	**264**	⇓*i*P	**Pn**	**05 45 31.8**	**+2.3**
	baz=264						
NSY				S	**Sn**	**05 45 47.8**	**+2.1**
	baz=264						
EHY	**Hungye**	**1.29**	**216**	⇑*i*P	**Pn**	**05 45 30.0**	**+0.2**
	baz=224						
EHY				*e*S	**Sn**	**05 45 45.1**	**-1.1**
	baz=224						
SMLT	**Sun Moon Lake**	**1.32**	**240**	⇑*i*P	**Pn**	**05 45 32.4**	**+2.1**
	baz=231						
SMLT				S	**Sn**	**05 45 48.5**	**+1.4**
	baz=231						
SSLB	**Suanglung**	**1.33**	**235**		**Pn**	**05 45 32.0**	**+1.6**
SSLB				Sn	**Sn**	**05 45 48.1**	**+0.9**
SSLB	**Suanglung**	**1.33**	**235**	P	**Pn**	**05 45 32.4**	**+2.0**
SSLB	**Suanglung**	**1.33**	**235**	⇑*i*P	**Pn**	**05 45 31.9**	**+1.6**
	baz=229						
SSLB				S	**Sn**	**05 45 47.4**	**+0.2**
	baz=229						
TYC	**Yuchr**	**1.35**	**241**	⇑*i*P	**Pn**	**05 45 32.7**	**+2.2**
	baz=234						
TYC				*i* S	**Sn**	**05 45 49.6**	**+2.1**
	baz=234						
WDJ	**Dajia District**	**1.39**	**262**	⇓*i*P	**Pn**	**05 45 33.2**	**+2.1**
	baz=261						
ECBN	**Changbin**	**1.39**	**207**	⇑*i*P	**Pn**	**05 45 31.8**	**+0.7**
	baz=198						
ECBN				S	**Sn**	**05 45 48.2**	**-0.3**
	baz=198						
YULB	**Yu-li**	**1.40**	**214**		**Pn**	**05 45 31.3**	**+0.1**
YULB	**Yu-li**	**1.40**	**214**	⇑*i*P	**Pn**	**05 45 31.4**	**+0.1**
	baz=221						
TCU	**Taichung**	**1.40**	**253**	⇓P	**Pn**	**05 45 33.6**	**+2.3**
	baz=252						
WWF	**Wufeng**	**1.42**	**249**	⇓P	**Pn**	**05 45 34.0**	**+2.5**
	baz=262						
WWF				*e*S	**Sn**	**05 45 52.3**	**+3.1**

FULB	**Fuli**	**1.56**	**210**	⇑	*i*	P	**Pn**	**05 45 34.1**	**+0.6**
	baz=219								
FULB					*e*	S	**Sn**	**05 45 53.0**	**+0.2**
	baz=219								
HATJ	**Hateruma jima**	**1.59**	**108**			P	**Pn**	**05 45 35.3**	**+1.5**
HATJ						S	**Sn**	**05 45 55.4**	**+2.0**
ALS	**Alishan**	**1.61**	**230**	⇑	*i*	P	**Pn**	**05 45 36.5**	**+2.2**
	baz=221								
ALS						S	**Sn**	**05 45 56.1**	**+1.8**
	baz=221								
CHKT	**Chengkung**	**1.62**	**206**	⇑		P	**Pn**	**05 45 34.3**	**+0.1**
	baz=195								
CHKT					*e*	S	**Sn**	**05 45 52.6**	**-1.4**
	baz=195								
CHN5	**Tsauling**	**1.65**	**235**	⇑		P	**Pn**	**05 45 37.4**	**+2.7**
	baz=245								
CHN5						S	**Sn**	**05 45 58.1**	**+3.2**
	baz=245								
ECS	**Chishang**	**1.69**	**210**		*e*	P	**Pn**	**05 45 35.5**	**+0.3**
	baz=219								
ECS					*e*	S	**Sn**	**05 45 56.4**	**+0.7**
	baz=219								
WGK	**Gukeng**	**1.69**	**239**			P	**Pn**	**05 45 37.8**	**+2.7**
	baz=250								
WGK						S	**Sn**	**05 45 59.0**	**+3.3**
	baz=250								
WDLH	**Douliu**	**1.71**	**240**	⇓		P	**Pn**	**05 45 38.1**	**+2.8**
	baz=250								
WDLH					*e*	S	**Sn**	**05 45 59.7**	**+3.5**
	baz=250								
ELDTW	**Lidau**	**1.71**	**217**	⇑		P	**Pn**	**05 45 36.0**	**+0.4**
	baz=216								
ELDTW						S	**Sn**	**05 45 56.2**	**-0.3**
	baz=216								
JKRS	**Kuro-shima**	**1.73**	**100**			P	**Pn**	**05 45 37.4**	**+1.8**
JKRS						S	**Sn**	**05 45 58.8**	**+2.2**
WRL	**Guolierlin Hig**	**1.75**	**248**		*e*	P	**Pn**	**05 45 37.6**	**+1.7**
	baz=257								
EDH	**Donghe**	**1.76**	**206**	⇑	*i*	P	**Pn**	**05 45 36.4**	**+0.2**
	baz=197								
EDH					*e*	S	**Sn**	**05 45 56.2**	**-1.2**
	baz=197								
WTK	**Tuku**	**1.83**	**242**	⇓	*e*	P	**Pn**	**05 45 39.3**	**+2.3**
	baz=241								
WTK					*e*	S	**Sn**	**05 46 01.6**	**+2.5**
	baz=241								
JIJ	**Ishigaki jima**	**1.83**	**96**			P	**Pn**	**05 45 38.2**	**+1.2**
JIJ						S	**Sn**	**05 45 59.6**	**+0.5**
WTCT	**Ta-ch'eng**	**1.84**	**248**	⇓		P	**Pn**	**05 45 38.9**	**+1.7**
	baz=258								
WTCT					*i*	S	**Sn**	**05 46 01.0**	**+1.7**
	baz=258								
CHN2	**Minshiung**	**1.84**	**237**	⇓	*e*	P	**Pn**	**05 45 40.0**	**+2.8**
	baz=248								
CHN2					*e*	S	**Sn**	**05 46 03.1**	**+3.7**
	baz=248								
CHN4	**Tsaushan**	**1.86**	**230**			P	**Pn**	**05 45 40.0**	**+2.4**
	baz=220								
CHN4					*e*	S	**Sn**	**05 46 03.5**	**+3.5**
	baz=220								
STYH	**Taoyuan**	**1.87**	**223**	⇑		P	**Pn**	**05 45 39.6**	**+2.0**
	baz=221								
STYH					*e*	S	**Sn**	**05 46 01.6**	**+1.5**
	baz=221								
TPUB	**Ta-pu**	**1.87**	**228**				**Pn**	**05 45 40.0**	**+2.3**
TPUB	**Ta-pu**	**1.87**	**228**			P	**Pn**	**05 45 40.7**	**+3.0**
TPUB	**Ta-pu**	**1.87**	**228**	⇑		P	**Pn**	**05 45 40.1**	**+2.4**
	baz=219								
TPUB					*e*	S	**Sn**	**05 46 02.6**	**+2.4**
	baz=219								
STYT	**Tauyuan**	**1.89**	**223**	⇑		P	**Pn**	**05 45 39.9**	**+2.0**
	baz=221								
STYT					*e*	S	**Sn**	**05 46 01.9**	**+1.3**
	baz=221								
LONT	**Longtian**	**1.89**	**210**	⇑	*e*	P	**Pn**	**05 45 38.0**	**0.0**
	baz=209								
LONT					*e*	S	**Sn**	**05 46 00.3**	**-0.4**
	baz=209								
CHY	**Chiayi**	**1.90**	**236**	⇓	*e*	P	**Pn**	**05 45 40.6**	**+2.7**
	baz=248								
CHY					*e*	S	**Sn**	**05 46 04.4**	**+3.6**
	baz=248								
WMLT	**Mailiao**	**1.91**	**247**		*e*	P	**Pn**	**05 45 40.0**	**+1.8**
	baz=257								
WMLT						S	**Sn**	**05 46 02.8**	**+1.6**
	baz=257								
WTP	**Ta-pu**	**1.92**	**227**	⇑		P	**Pn**	**05 45 40.8**	**+2.4**
	baz=218								
WTP					*e*	S	**Sn**	**05 46 04.5**	**+3.0**
	baz=218								
JISG	**Ishigakijimahi**	**1.97**	**89**			P	**Pn**	**05 45 40.3**	**+1.4**
JISG					*e*	S	**Sn**	**05 46 03.5**	**+1.0**
LDUT	**Ludao**	**1.98**	**198**		*e*	P	**Pn**	**05 45 38.6**	**-0.5**
	baz=197								
LDUT					*e*	S	**Sn**	**05 46 00.6**	**-2.2**
	baz=197								
WSF	**Szhu**	**1.98**	**243**	⇓	*i*	P	**Pn**	**05 45 41.1**	**+2.0**
	baz=242								
WSF					*i*	S	**Sn**	**05 46 05.1**	**+2.2**
	baz=242								
TWGBT	**Beinan**	**1.99**	**210**	⇑		P	**Pn**	**05 45 39.1**	**-0.2**
	baz=208								
TWGBT					*e*	S	**Sn**	**05 46 01.1**	**-2.1**
	baz=208								
TWK	**Hsinying**	**1.99**	**230**	⇓	*i*	P	**Pn**	**05 45 41.6**	**+2.3**
	baz=228								
TWK						S	**Sn**	**05 46 05.7**	**+2.5**
	baz=228								
TWG	**Pinlang**	**1.99**	**210**				**Pn**	**05 45 39.1**	**-0.2**
TWG				Sn			**Sn**	**05 46 01.9**	**-1.2**
SNST	**Tainan City**	**2.02**	**229**		*e*	P	**Pn**	**05 45 42.1**	**+2.6**
	baz=227								
SNST						S	**Sn**	**05 46 06.4**	**+2.7**
	baz=227								
CHN1	**Nanshi**	**2.02**	**228**			P	**Pn**	**05 45 42.2**	**+2.5**
	baz=226								
CHN1						S	**Sn**	**05 46 05.9**	**+2.1**
	baz=226								
TTN	**Taitung**	**2.02**	**207**		*e*	P	**Pn**	**05 45 40.6**	**+0.9**
	baz=206								
TTN					*e*	S	**Sn**	**05 46 04.2**	**+0.4**
	baz=206								
WSL	**Shuilin Townsh**	**2.04**	**240**	⇓	*e*	P	**Pn**	**05 45 42.0**	**+2.1**
	baz=250								
WSL					*e*	S	**Sn**	**05 46 06.6**	**+2.4**
	baz=250								
SGST	**Jiashian**	**2.05**	**225**	⇑	*e*	P	**Pn**	**05 45 41.9**	**+1.8**
	baz=216								
SGST					*i*	S	**Sn**	**05 46 07.2**	**+2.5**
	baz=216								
SLGT	**Liugui**	**2.08**	**222**		*e*	P	**Pn**	**05 45 43.5**	**+3.0**
	baz=220								
ICHU	**Yijhu**	**2.08**	**235**	⇓	*e*	P	**Pn**	**05 45 43.0**	**+2.4**
	baz=223								
ICHU					*e*	S	**Sn**	**05 46 08.3**	**+2.9**
	baz=223								
CHN8	**Yiju**	**2.15**	**236**		*e*	P	**Pn**	**05 45 43.5**	**+2.2**
	baz=247								
CHN8					*e*	S	**Sn**	**05 46 10.3**	**+3.5**
	baz=247								
CHN3	**Shinhua**	**2.20**	**228**		*e*	P	**Pn**	**05 45 45.0**	**+2.9**
	baz=237								
ECL	**Taimali**	**2.24**	**210**		*e*	P	**Pn**	**05 45 42.1**	**-0.6**
	baz=202								
ECL					*e*	S	**Sn**	**05 46 07.0**	**-2.2**
	baz=202								
SHHT	**Tainan City**	**2.25**	**227**		*e*	P	**Pn**	**05 45 45.7**	**+2.9**
	baz=237								
SCST	**Cishan**	**2.25**	**223**		*e*	P	**Pn**	**05 45 45.8**	**+3.0**
	baz=221								
SCLT	**Jiali**	**2.26**	**233**		*e*	P	**Pn**	**05 45 45.6**	**+2.7**
	baz=221								
SCLT					*e*	S	**Sn**	**05 46 12.0**	**+2.4**
	baz=221								
SSD	**Sandimen**	**2.28**	**218**		*e*	P	**Pn**	**05 45 45.0**	**+1.8**
	baz=216								
SSD					*e*	S	**Sn**	**05 46 11.9**	**+1.8**
	baz=216								
TSMG	**Majia**	**2.30**	**217**		*e*	P	**Pn**	**05 45 45.5**	**+2.0**
	baz=216								
TSMG					*e*	S	**Sn**	**05 46 12.9**	**+2.2**
	baz=216								
TAI1	**Yung-k'ang**	**2.32**	**230**		*e*	P	**Pn**	**05 45 46.5**	**+2.7**
	baz=228								
JTJ	**Tarama**	**2.33**	**88**			P	**Pn**	**05 45 45.9**	**+2.1**
JTJ					*e*	S	**Sn**	**05 46 13.3**	**+2.0**
TWM1	**Shoushan**	**2.34**	**223**		*e*	P	**Pn**	**05 45 48.0**	**+3.9**
	baz=221								
SGLT	**Jiouru**	**2.38**	**220**		*e*	P	**Pn**	**05 45 48.5**	**+4.0**
	baz=218								
MASBT	**Mashibuluo**	**2.39**	**216**	⇑	*e*	P	**Pn**	**05 45 46.2**	**+1.5**
	baz=215								
MASBT					*e*	S	**Sn**	**05 46 14.8**	**+2.1**
	baz=215								
TSPT	**Pingtung City**	**2.41**	**219**		*e*	P	**Pn**	**05 45 49.1**	**+4.2**
	baz=217								
EAST	**Anshuo**	**2.47**	**209**	⇑	*e*	P	**Pn**	**05 45 46.0**	**+0.1**
	baz=200								
TAW	**Tawu**	**2.48**	**208**		*e*	P	**Pn**	**05 45 46.0**	**+0.1**
	baz=206								
TAW					*e*	S	**Sn**	**05 46 13.5**	**-1.4**
	baz=206								
VWUC	**VWUC**	**2.49**	**280**	⇓	*e*	P	**Pn**	**05 45 47.0**	**+1.0**
	baz=281								
VWUC					*e*	S	**Sn**	**05 46 14.2**	**-1.1**
	baz=281								
TAWH	**Dawu Township**	**2.50**	**208**		*e*	P	**Pn**	**05 45 46.3**	**+0.2**
	baz=207								
TAWH					*e*	S	**Sn**	**05 46 14.2**	**-1.2**
	baz=207								
SSPT	**Xinbi**	**2.52**	**215**		*e*	P	**Pn**	**05 45 49.4**	**+2.8**
	baz=214								
SSPT					*e*	S	**Sn**	**05 46 17.9**	**+1.8**
	baz=214								
MATB	**Ma-tsu**	**2.54**	**309**	⇓	*e*	P	**Pn**	**05 45 47.7**	**+0.9**
	baz=309								
MATB					*e*	S	**Sn**	**05 46 16.6**	**-0.1**
	baz=309								
PNG	**Penghu**	**2.57**	**248**	⇓	*i*	P	**Pn**	**05 45 47.8**	**+0.6**
	baz=246								
PNG					*e*	S	**Sn**	**05 46 16.1**	**-1.1**
	baz=246								
LAY	**Lan-yu**	**2.57**	**192**	⇑	*e*	P	**Pn**	**05 45 46.6**	**-0.6**
	baz=191								
LAY					*e*	S	**Sn**	**05 46 13.8**	**-3.5**
	baz=191								
MSUT	**Lienchiang**	**2.57**	**309**		*e*	P	**Pn**	**05 45 48.2**	**+1.0**
	baz=309								
MSUT					*e*	S	**Sn**	**05 46 16.9**	**-0.4**
	baz=309								
PHUB	**P'eng-hu**	**2.58**	**247**			P	**Pn**	**05 45 47.8**	**+0.6**
	baz=245								
PHUB					*e*	S	**Sn**	**05 46 15.6**	**-1.8**
	baz=245								
SCZT	**Fangliau**	**2.59**	**213**		*e*	P	**Pn**	**05 45 49.2**	**+1.7**
	baz=212								
SCZT						S	**Sn**	**05 46 19.1**	**+1.4**
	baz=212								
LYUB	**Lan-yu**	**2.60**	**192**	⇑	*e*	P	**Pn**	**05 45 46.6**	**-1.0**
	baz=190								
KAU	**Kaohsiung**	**2.60**	**221**		*e*	P	**Pn**	**05 45 51.8**	**+4.2**
	baz=219								
WDGT	**Dungji**	**2.62**	**241**	⇓	*i*	P	**Pn**	**05 45 49.0**	**+1.2**
	baz=239								
WDGT					*e*	S	**Sn**	**05 46 18.2**	**-0.2**
	baz=239								
SLIU	**Shizi**	**2.64**	**208**		*e*	P	**Pn**	**05 45 49.0**	**+0.8**
	baz=206								
WLCH	**Liuqiu**	**2.73**	**217**		*e*	P	**Pn**	**05 45 52.8**	**+3.4**
	baz=215								
TWP	**Hsiaoliuchiu**	**2.75**	**217**		*e*	P	**Pn**	**05 45 54.2**	**+4.6**
	baz=215								
JIRB	**Irabujima**	**2.76**	**84**			P	**Pn**	**05 45 51.9**	**+2.1**
JIRB						S	**Sn**	**05 46 24.9**	**+2.9**
PTMZ	**Houxiangcun**	**2.79**	**280**	⇓	*e*	P	**Pn**	**05 45 49.1**	**-1.1**
	baz=281								
SMST	**Manzhou Townsh**	**2.80**	**206**		*e*	P	**Pn**	**05 45 51.4**	**+1.0**
	baz=197								
VCHM	**Qimei**	**2.83**	**242**		*e*	P	**Pn**	**05 45 51.8**	**+1.1**
	baz=240								
VCHM					*e*	S	**Sn**	**05 46 23.2**	**-0.4**
	baz=240								
JIKM	**Ikemajima**	**2.84**	**82**			P	**Pn**	**05 45 53.3**	**+2.5**
JIKM						S	**Sn**	**05 46 26.3**	**+2.4**
HEN	**Hengchun**	**2.85**	**207**		*e*	P	**Pn**	**05 45 53.0**	**+1.9**
	baz=201								
HEN					*e*	S	**Sn**	**05 46 24.9**	**+0.6**
	baz=201								
JMJ	**Miyako jima 2**	**2.87**	**84**			P	**Pn**	**05 45 54.8**	**+3.5**
TWK1	**Hengchun**	**2.88**	**206**	⇑		P	**Pn**	**05 45 52.5**	**+1.1**
	baz=198								
TWK1					*e*	S	**Sn**	**05 46 24.1**	**-0.8**
	baz=198								
TWKBT	**Hengchun**	**2.88**	**205**	⇑	*i*	P	**Pn**	**05 45 52.5**	**+1.1**
	baz=198								
TWKBT					*e*	S	**Sn**	**05 46 23.9**	**-1.0**
	baz=198								
TSEB	**Hengchuen, Pin**	**2.89**	**204**	⇑		P	**Pn**	**05 45 52.9**	**+1.4**
	baz=196								
TSEB						S	**Sn**	**05 46 25.8**	**+0.8**
	baz=196								
JMJ2	**Miyako jima3**	**2.90**	**86**			P	**Pn**	**05 45 54.2**	**+2.6**
JMJ2						S	**Sn**	**05 46 29.0**	**+3.7**
LYJJ	**Jianjiangzhen**	**2.93**	**313**	⇓	*e*	P	**Pn**	**05 45 53.0**	**+0.9**
	baz=321								
XPSS	**Dashiqiu**	**2.95**	**324**	⇓	*e*	P	**Pn**	**05 45 53.1**	**+0.8**
	baz=324								
JOGS	**Gusukube**	**2.97**	**85**			P	**Pn**	**05 45 55.4**	**+2.8**
MHZQ	**Yeshan**	**3.21**	**299**	⇓	*e*	P	**Pn**	**05 45 56.6**	**+0.7**
	baz=300								
QZH	**Quanzhou**	**3.25**	**277**	⇓	*i*	P	**Pn**	**05 45 57.3**	**+0.8**
QZH						S	**Sn**	**05 46 31.8**	**-2.2**
QZH						smax	smax		
	comp=N,2μm,0.5s								
QZH						smax	smax		
	comp=E,960nm,0.5s								
QZH						LR	LR		
	comp=E,3μm,5.2s								
QZH						LR	LR		
	comp=Z,3μm,6.3s								
KNM	**Kinmen**	**3.39**	**268**	⇓	*e*	P	**Pn**	**05 46 00.7**	**+2.4**
	baz=268								
KNMB	**Chin-men Tao**	**3.43**	**269**			Pn	**Pn**	**05 45 59.4**	**+0.5**
KNMB	**Chin-men Tao**	**3.43**	**269**	⇓	*e*	P	**Pn**	**05 45 59.4**	**+0.5**
	baz=269								
AXDP	**Jialang**	**3.81**	**276**	⇓		P	**Pn**	**05 46 05.4**	**+1.2**
	baz=276								
ZPLA	**Ao Xicun**	**4.06**	**262**		*e*	P	**Pn**	**05 46 08.3**	**+0.7**
	baz=261								
BBP	**Basco**	**4.10**	**182**	⇓	*i*	P	**Pn**	**05 46 08.7**	**+0.6**
SXFK	**Yanhouchang**	**4.46**	**295**		*e*	P	**Pn**	**05 46 14.3**	**+1.2**
	baz=296								
JOW	**Kunigami**	**5.97**	**66**			P	**Pn**	**05 46 35.2**	**+1.4**
	21nm,0.3s,baz=151,slow=18,SNR=16								
JOW						S	**Sn**	**05 47 41.9**	**+1.1**
	13nm,0.3s,baz=135,slow=24,SNR=1.6								
JOW						LR	LR	05 48 52.0	
	comp=Z,984nm,21.1s,baz=196,slow=38								
JOW	**Kunigami**	**5.97**	**66**			P	**Pn**	**05 46 37.5**	**+3.7**
VDOS	**Pratas Island**	**6.31**	**234**	⇓	*e*	P	**Pn**	**05 46 40.9**	**+2.6**
	baz=233								
VDOS					*e*	S	**Sn**	**05 47 46.8**	**-2.3**
	baz=233								
SSE	**Sheshan**	**6.56**	**353**			P	**Pn**	**05 46 43.8**	**+2.0**
SSE						S	Sn	05 48 06.2	+11
SSE						smax	smax		
	comp=N,100nm,1.0s								
SSE						smax	smax		
	comp=E,130nm,1.2s								
APYP	**Conner**	**6.72**	**187**		*e*	P	**Pn**	**05 46 46.5**	**+2.5**
APYP	**Conner**	**6.72**	**187**	⇓	*i*	P	**Pn**	**05 46 46.9**	**+2.9**
APYP					*e*	S	**Sn**	**05 47 58.2**	**-0.9**
HKPS	**Hong Kong Po S**	**7.70**	**254**			Pn	**Pn**	**05 46 58.1**	**+0.8**
NJ2	**Nanjing**	**8.01**	**339**	⇑	*i*	P	**Pn**	**05 47 01.9**	**+0.3**
NJ2						S	**Sn**	**05 48 28.5**	**-2.2**
NJ2						pmax	pmax		
	comp=Z,46nm,0.6s								
NJ2						smax	smax		
	comp=N,220nm,1.0s								
NJ2						smax	smax		
	comp=E,290nm,0.9s								
NJ2						LR	LR		
	comp=N,600nm,4.0s								
NJ2						LR	LR		
	comp=E,2μm,4.4s								
NJ2						LR	LR		
	comp=Z,410nm,7.5s								
BOLP	**Bolinao**	**8.40**	**195**		*e*	P	Pn	05 47 12.9	+5.8
SMPP	**San Manuel, Pa**	**8.48**	**190**		*e*	P	**Pn**	**05 47 10.8**	**+2.6**
WHN	**Wuhan**	**9.13**	**312**	⇑		P	**Pn**	**05 47 17.8**	**+0.8**
WHN						sP		05 47 33.2	
WHN						S	**Sn**	**05 49 00.1**	**+1.9**
WHN						LR	LR		
	comp=N,1μm,4.1s								
WHN						LR	LR		
	comp=E,2μm,5.5s								
WHN						LR	LR		
	comp=Z,2μm,5.1s								
LQP	**Lukban**	**10.41**	**183**	⇓	*e*	P	Pn	05 47 43.5	+8.8
GULI	**GuiLin**	**10.72**	**276**	⇑		P	**Pn**	**05 47 40.8**	**+2.1**
GULI						S	**Sn**	**05 49 31.9**	**-5.3**
GULI						pmax	pmax		
	comp=Z,40nm,0.4s								
GULI						LR	LR		
	comp=N,740nm,3.8s								
GULI						LR	LR		
	comp=E,870nm,4.6s								
GULI						LR	LR		
	comp=Z,620nm,7.6s								
JNU	**Nakatsue**	**11.45**	**40**			P	**Pn**	**05 47 53.0**	**+4.2**
	0.8nm,0.3s,baz=187,slow=5.9,SNR=7.0								
JNU						LR	LR	05 53 08.0	
	comp=Z,607nm,21.8s,baz=211,slow=42								
JNU	**Nakatsue**	**11.45**	**40**			Pn	**Pn**	**05 47 49.7**	**+1.0**
JNU	**Nakatsue**	**11.45**	**40**			P	**Pn**	**05 47 53.5**	**+4.7**
TIA	**Tai'an**	**12.39**	**341**			P	**P**	**05 48 08.4**	**-3.3**
TIA						S	S	05 50 33.2	-10
TIA						pmax	pmax		
	comp=Z,7.0nm,0.8s								
TIA						pmax	pmax		
	comp=Z,64nm,2.2s								
TIA						LR	LR		
	comp=N,110nm,3.0s								
TIA						LR	LR		
	comp=E,300nm,3.3s								
TIA						LR	LR		
	comp=Z,130nm,6.1s								
TJN	**Taejon**	**12.60**	**20**			P	**Pn**	**05 48 02.8**	**-1.6**
TJN	**Taejon**	**12.60**	**20**				**Pn**	**05 48 02.8**	**-1.6**
TJN	**Taejon**	**12.60**	**20**			P	**P**	**05 48 09.3**	**-4.7**
QIZ	**Qiongzhong**	**12.68**	**247**			P	**Pn**	**05 48 06.5**	**+0.9**
QIZ						S	**Sn**	**05 50 27.0**	**+1.8**
QIZ						LR	LR		
	comp=Z,630nm,16.3s								
QIZ						LR	LR		
	comp=Z,620nm,19.8s								
QIZ						LR	LR		
	comp=Z,680nm,19.6s								
LYN	**LuoYang**	**13.03**	**322**		*e*	P	**Pn**	**05 48 13.1**	**+2.8**
LYN						pP	P	05 48 22.9	+4.1
LYN						sP		05 48 31.7	
LYN						S	**Sn**	**05 50 32.9**	**-0.7**
LYN						LR	LR		
	comp=Z,400nm,8.0s								
LYN						LR	LR		
	comp=Z,600nm,9.0s								
LYN						LR	LR		
	comp=Z,550nm,9.6s								
INCN	**Inchon**	**13.44**	**16**			P	**P**	**05 48 21.2**	**-2.1**
KSAR	**Wonju Array Be**	**13.74**	**20**			P	**Pn**	**05 48 18.0**	**-1.9**
KSAR	**Wonju Array Be**	**13.74**	**20**			Pn	**Pn**	**05 48 18.0**	**-1.9**
KSRS	**Korea Array**	**13.77**	**20**			P	**Pn**	**05 48 23.3**	**+3.1**
	comp=Z,0.7nm,0.3s,baz=203,slow=13,SNR=46								
KSRS						LR	LR	05 54 12.3	
	comp=Z,238nm,18.6s,baz=205,slow=40								
KS19	**Wonju Array Si**	**13.79**	**19**			Pn	**Pn**	**05 48 21.6**	**+1.0**
JHS	**Saijyo**	**14.09**	**40**			Pn	**Pn**	**05 48 27.1**	**+2.5**
GYA	**Guiyang**	**14.11**	**281**	⇑		P	**Pn**	**05 48 27.3**	**+2.3**
GYA						pP	P	05 48 37.3	+6.3
GYA						S	**Sn**	**05 51 02.2**	**+2.1**
GYA						pmax	pmax		
	comp=Z,58nm,1.0s								
GYA						LR	LR		
	comp=Z,780nm,4.2s								
GYA						LR	LR		
	comp=Z,510nm,3.8s								
GYA						LR	LR		
	comp=Z,620nm,6.4s								
HNS	**HongShan**	**14.29**	**335**	⇓		P	**P**	**05 48 32.2**	**-0.5**
HNS						S	**Sn**	**05 51 12.8**	**+8.6**
HNS						pmax	pmax		
	comp=Z,6.0nm,1.1s								
HNS						LR	LR		
	comp=Z,220nm,9.6s								
HNS						LR	LR		
	comp=Z,240nm,10.8s								
HNS						LR	LR		
	comp=Z,190nm,17.5s								
DL2	**Dalian**	**14.31**	**358**			P	**P**	**05 48 36.4**	**+3.5**
DL2						S	**S**	**05 51 21.5**	**-0.4**
DL2						pmax	pmax		
	comp=Z,120nm,0.8s								
DL2						pmax	pmax		
	comp=Z,350nm,3.7s								
DL2						LR	LR		
	comp=N,350nm,13.0s								
DL2						LR	LR		
	comp=E,230nm,13.2s								
DL2						LR	LR		
	comp=Z,340nm,9.0s								
XAN	**Xi'an**	**14.90**	**312**			P	**Pn**	**05 48 36.9**	**+1.7**
XAN						pP	P	05 48 46.4	+6.8
XAN						sP		05 48 52.4	
XAN						S	**Sn**	**05 51 23.8**	**+4.7**
XAN						pmax	pmax		
	comp=Z,44nm,1.4s								
XAN						pmax	pmax		
	comp=Z,370nm,3.5s								
XAN						LR	LR		
	comp=Z,520nm,8.6s								
XAN						LR	LR		
	comp=Z,550nm,8.4s								
XAN						LR	LR		
	comp=Z,470nm,16.7s								
BJT	**Baijiatuau**	**16.21**	**343**			P	**Pn**	**05 48 52.3**	**+0.4**
BJT						pmax	pmax		
	comp=Z,12nm,0.8s								
BJT	**Baijiatuau**	**16.21**	**343**			Pn	**Pn**	**05 48 52.3**	**+0.4**
BJI	**Beijing**	**16.23**	**343**			P	**P**	**05 48 53.5**	**-0.8**
BJI						pP	**pP**	**05 49 03.6**	**-3.2**
BJI						sP	**sP**	**05 49 11.9**	**-2.4**
BJI						S	**Sn**	**05 51 48.5**	**-2.7**
BJI						pmax	pmax		
	comp=Z,12nm,1.5s								
BJI						pmax	pmax		
	comp=Z,74nm,3.6s								
INU	**Inuyama**	**16.76**	**47**			Pn	**Pn**	**05 48 58.2**	**-0.5**
CD2	**Chengdu**	**17.46**	**295**			P	**P**	**05 49 08.7**	**+0.7**
CD2						pP	pP	05 49 19.1	-1.6
CD2						S	**Sn**	**05 52 21.8**	**+0.7**
CD2						pmax	pmax		
	comp=Z,80nm,0.9s								
CD2						pmax	pmax		
	comp=Z,170nm,6.1s								
CD2						LR	LR		
	comp=Z,670nm,5.1s								
CD2						LR	LR		
	comp=Z,510nm,7.1s								
KMI	**Kunming**	**17.63**	**276**	⇓		P	**P**	**05 49 11.5**	**+1.4**

MJAR pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 18.24 45 P **P** **05 49 15.8 -0.7**
HHC Hu-ho-hao-te 18.50 334 *e*P **Pn** **05 49 23.2 +3.1**
HHC PP **sP** **05 49 40.4 +0.8**
HHC S **Sn** **05 52 46.2 0.0**
HHC pmax pmax
comp=Z,36nm,1.1s
HHC pmax pmax
comp=Z,150nm,4.4s
HHC LR LR
comp=Z,170nm,12.7s
HHC LR LR
comp=Z,230nm,13.3s
HHC LR LR
comp=Z,240nm,13.1s
PZH PanZhiHua 18.52 280 P **Pn** **05 49 22.8 +2.3**
PZH PP **sP** **05 49 38.1 -2.0**
PZH sS **sS** **05 53 02.6 -5.8**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,140nm,4.0s
PZH LR LR
comp=Z,1μm,15.6s
PZH LR LR
comp=Z,940nm,16.7s
PZH LR LR
comp=Z,2μm,19.4s
BTO Baotou 18.95 330 *e*P **Pn** **05 49 29.6 +4.0**
BTO S **Sn** **05 52 59.4 +2.3**
BTO LR LR
comp=Z,1μm,9.8s
BTO LR LR
comp=Z,1μm,17.1s
CN2 Changchun 19.38 7⇑*i*P **Pn** **05 49 30.9 +0.4**
CN2 *e*S **S** **05 53 00.9 -4.1**
CN2 pmax pmax
comp=Z,90nm,0.8s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,18.0s
MSHR Mys Shultsa 19.45 20*ce*P **Pn** **05 49 30.7 -0.7**
MSHR pmax pmax
comp=Z,86nm,1.0s
LZH Lanzhou 19.50 310 *e*P **P** **05 49 28.7 -1.8**
LZH pP pP 05 49 40.6 -2.7
LZH sP sP 05 49 49.9 -0.9
LZH PP **PnPn** **05 49 52.6 +5.4**
LZH S **Sn** **05 53 10.7 +0.2**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,85nm,4.6s
LZH LR LR
comp=Z,340nm,9.8s
LZH LR LR
comp=Z,420nm,10.3s
LZH LR LR
comp=Z,500nm,12.7s
MYLDM Lahad Datu 19.59 191 P **P** **05 49 30.8 -0.6**
XLT XiLinHaoTe 19.92 347⇑*i*P **Pn** **05 49 37.1 +0.1**
XLT pP pP 05 49 49.1 +1.5
XLT sP sP 05 49 55.5 +0.6
XLT S **Sn** **05 53 19.4 -1.0**
XLT sS sS 05 53 35.0 -1.4
XLT pmax pmax
comp=Z,61nm,1.1s
XLT pmax pmax
comp=Z,200nm,3.8s
JMM Marumori 20.69 46 P **P** **05 49 41.7 -1.5**
MDJ Mudanjiang 20.91 15 P Pn 05 49 47.3 -1.2
MDJ Mudanjiang 20.91 15 P Pn 05 49 47.9 -0.6
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,120nm,3.6s
MDJ LR LR
comp=Z,230nm,19.6s
MDJ LR LR
comp=Z,320nm,13.5s
MDJ LR LR
comp=Z,310nm,19.2s
USA0B Ussuriysk Arra 21.18 20 P **P** **05 49 49.8 +1.5**
USA0B pmax pmax
comp=Z,14nm,0.8s
USA0B Ussuriysk Arra 21.18 20 P **P** **05 49 49.8 +1.5**
USRK Ussuriysk Ar. 21.18 20 P **P** **05 49 49.6 +1.3**
comp=Z,19nm,0.9s,baz=206,slow=9.4,SNR=15
USRK LR LR 05 57 15.9
comp=Z,103nm,21.9s,baz=193,slow=34
USRK Ussuriysk Ar. 21.18 20 P **P** **05 49 49.1 +0.7**
BNX BinXian 21.55 10⇑P **P** **05 49 52.5 +0.2**
BNX pmax pmax
comp=Z,66nm,1.2s
BNX pmax pmax
comp=Z,260nm,4.6s
CHTO Chiang Mai 22.29 260 P **P** **05 50 01.5 +0.9**
CHTO pmax pmax
comp=Z,14nm,1.0s
CHTO Chiang Mai 22.29 260 P **P** **05 50 01.5 +0.9**
CM31 Chiang Mai Arr 22.41 259 P **P** **05 50 04.4 +2.6**
CMAR Chiang Mai Arr 22.41 259 P **P** **05 50 04.2 +2.3**
comp=Z,4.5nm,0.8s,baz=64,slow=8.6,SNR=32
CMAR LR LR 05 59 33.9
comp=Z,249nm,18.1s,baz=65,slow=38
CMAR Chiang Mai Arr 22.41 259 P **P** **05 50 00.9 -1.0**
TOLI2 Tolitoli 23.35 183 P **P** **05 50 13.3 +2.0**
GTA Gaotai 23.95 314 *e*P **P** **05 50 19.4 +2.5**
GTA pP pP 05 50 32.3 +1.0
GTA sP sP 05 50 37.6 -0.4
GTA PcP **PcP** **05 53 58.8 +0.9**
GTA sS sS 05 54 54.1 +0.5
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA pmax pmax
comp=Z,61nm,4.9s
GTA LR LR
comp=Z,100nm,12.7s
GTA LR LR
comp=Z,230nm,13.1s
GTA LR LR
comp=Z,160nm,13.8s
SBUM Sibu 23.98 205 P **P** **05 50 16.8 -0.4**
GUMO Guam 24.05 113 LR LR 05 57 52.3
comp=Z,182nm,21.9s,baz=356,slow=32
MPSI Mapaga 24.18 186 P P 05 50 34.3 +15
TNTI Ternate 24.18 167 P **P** **05 50 20.7 +1.7**
TNTI IAmb IAmb 05 50 46.4
comp=Z,51nm,1.1s
ERM Erimo 24.62 40 P **P** **05 50 21.6 -1.2**
ERM pmax pmax
comp=Z,209nm,1.7s
ERM Erimo 24.62 40 P **P** **05 50 21.6 -1.2**
ERM IAmb IAmb 05 50 56.9
comp=Z,209nm,1.6s
LBMI Labuha 25.58 168 P **P** **05 50 32.3 +0.6**
comp=Z,41nm,0.7s
ASAJ Asahikawa 25.68 36 P **P** **05 50 31.3 -1.1**
comp=Z,10nm,0.4s,baz=223,slow=11,SNR=6.4
JKA Kamikawa-asahi 25.68 36 P **P** **05 50 31.3 -1.1**
KLR Kul'dur 25.75 15 P **P** **05 50 33.3 +0.3**
comp=Z,20nm,0.6s,baz=205,slow=8.0,SNR=46
KLR PcP **PcP** **05 54 02.1 +0.6**
comp=Z,3.8nm,0.6s,baz=178,slow=2.5,SNR=6.4
KLR LR LR 06 01 32.0
comp=Z,159nm,20.4s,baz=209,slow=38
KLR Kul'dur 25.75 15*ce*P **P** **05 50 33.7 +0.7**
KLR pmax pmax
comp=Z,18nm,0.7s
ULN Ulaanbaatar 26.16 337*ce*P **P** **05 50 37.8 +0.9**
ULN pmax pmax
comp=Z,49nm,0.8s
ULN Ulaanbaatar 26.16 337 P **P** **05 50 37.5 +0.6**
ULN IAmb IAmb 05 50 39.0
comp=Z,43nm,0.7s
GOMU GeErMu 26.19 303 P **P** **05 50 40.2 +2.7**
GOMU S **S** **05 55 06.7 +1.0**
GOMU pmax pmax
comp=Z,5.0nm,0.8s
GOMU pmax pmax
comp=Z,85nm,5.3s
GOMU LR LR
comp=Z,83nm,9.0s
GOMU LR LR
comp=Z,120nm,8.9s
GOMU LR LR
comp=Z,62nm,9.4s
SONM Songino Array 26.38 336 P **P** **05 50 39.7 +0.9**
comp=Z,78nm,1.0s,baz=148,slow=9.1,SNR=222
SONM PcP **PcP** **05 54 03.6 +0.4**
comp=Z,2.3nm,0.4s,baz=147,slow=2.8,SNR=6.3
SONM ScP **ScP** **05 57 36.4 -1.8**
comp=Z,2.7nm,1.1s,baz=164,slow=4.3,SNR=7.1
SONM LR LR 06 02 18.2
comp=Z,169nm,18.1s,baz=162,slow=39
SONM Songino Array 26.38 336 P **P** **05 50 39.8 +1.0**
SONM 05 54 03.9
SONM pmax pmax
comp=Z,61nm,0.8s
SONM Songino Array 26.38 336 P **P** **05 50 39.8 +1.0**
SONM IAmb IAmb 05 50 41.0
comp=Z,61nm,0.8s
SONM **PcP** **05 54 03.9 +0.7**
YSS Yuzh-Sakhalins 27.75 31 *e*P **P** **05 50 53.5 +2.6**
YSS *e* 05 51 14.0
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 27.75 31 P **P** **05 50 52.0 +1.1**
LSA Lhasa 28.01 287 P **P** **05 50 53.4 -0.7**
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 28.01 287 P **P** **05 50 53.4 -0.7**
LSA Lhasa 28.01 287 P **P** **05 50 56.6 +2.5**
LSA pmax pmax
comp=Z,12nm,0.8s
ZEA Zeya 29.39 6 *e*P **P** **05 51 05.9 +0.4**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA MLR MLR
comp=N,200nm,13.0s
KAPI Kappang 29.49 185 LR LR 06 04 27.6
comp=N,54nm,18.5s,baz=1.0,slow=39
ZAK Zakamensk 29.64 335 *e*P **P** **05 51 07.1 -0.7**
ZAK *e* 05 54 11.3
ZAK pmax pmax
comp=Z,14nm,1.0s
ZAK pmax pmax
comp=Z,7.0nm,1.4s
IRK Irkutsk 30.81 338 *e*P **P** **05 51 15.9 -2.2**
IRK pmax pmax
comp=Z,56nm,0.8s
TAPN Taplejung 31.03 283 *e*P **P** **05 51 23.1 +2.4**
comp=Z,12nm,0.6s
PSI Prapat 31.14 230 LR LR 06 03 29.1
comp=Z,331nm,20.7s,baz=74,slow=35
GUN Gumba 32.63 284 *e*P **P** **05 51 37.0 +2.3**
comp=Z,19nm,0.6s
DMN Daman 33.33 283 *e*P **P** **05 51 43.0 +2.2**
comp=Z,11nm,0.6s
BOD Bodaibo 33.74 352 *e*P **P** **05 51 43.1 -0.5**
BOD pmax pmax
comp=Z,7.0nm,1.9s
WMQ Urumqi 34.04 313 *e*P **P** **05 51 48.7 +2.2**
WMQ pP pP 05 52 03.4 +2.3
WMQ sP sP 05 52 11.7 +3.8
WMQ pmax pmax
comp=Z,23nm,1.3s
LEM Lembang 34.26 206 LR LR 06 06 51.0
comp=Z,66nm,18.7s,baz=260,slow=38
DANN Dangsing 34.48 285 *e*P **P** **05 51 52.7 +1.9**
comp=Z,19nm,0.7s
KOLN Koldanda 34.65 284 *e*P **P** **05 51 53.5 +1.3**
comp=Z,36nm,0.9s
PYUN Piuthan 35.17 284 *e*P **P** **05 51 58.3 +1.7**
comp=Z,21nm,0.7s
ZSN Zaisan 37.32 317 *e*P **P** **05 52 14.6 +0.1**
ZSN Zaisan 37.32 317 *e*P **P** **05 52 14.7 +0.2**
baz=317
YAK Yakutsk 37.80 6 LR LR 06 09 13.8
comp=Z,78nm,21.3s,baz=256,slow=38
YAK Yakutsk 37.80 6 *e*P **P** **05 52 18.4 +0.1**
YAK *e**PP **pP** **05 52 32.1 -0.7**
YAK *e* 05 53 47.5
YAK *e* 05 54 33.5
YAK *e*S **S** **05 58 03.5 -1.3**
YAK *e*SS **SnSn** **06 00 47.9 -2.0**
YAK pmax pmax
comp=Z,27nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,0.4s
YAK smax smax
comp=E,8.0nm,1.0s
YAK Yakutsk 37.80 6 P **P** **05 52 18.1 -0.2**
YAK IAmb IAmb 05 52 20.3
comp=Z,38nm,0.8s
MTN Manton Dam 38.20 166 P **P** **05 52 21.7 -0.4**
MTN IAmb IAmb 05 52 22.9
comp=Z,15nm,0.6s
MK31 Makanchi Array 38.69 315⇑*i*P **P** **05 52 27.1 +1.1**
MK31 Makanchi Array 38.69 315 P **P** **05 52 26.8 +0.7**
MKAR Makanchi Array 38.69 315 P **P** **05 52 27.0 +1.0**
comp=Z,6.9nm,0.5s,baz=99,slow=11,SNR=81
MKAR PcP **PcP** **05 54 36.9 -0.1**
comp=Z,4.6nm,0.9s,baz=90,slow=5.1,SNR=5.7
MKAR ScP **S** **05 58 18.2 -0.5**
comp=Z,1.0nm,0.7s,baz=113,slow=5.8,SNR=5.4
MKAR LR LR 06 09 46.6
comp=Z,73nm,18.4s,baz=106,slow=38
MKAR Makanchi Array 38.69 315 P **P** **05 52 27.2 +1.2**
MAKZ Makanchi 38.89 315 P **P** **05 52 29.0 +1.3**
MAKZ pmax pmax
comp=Z,23nm,1.3s
MAKZ Makanchi 38.89 315 P **P** **05 52 29.0 +1.3**
MAKZ IAmb IAmb 05 52 29.8
comp=Z,23nm,1.2s
MAKZ Makanchi 38.89 315⇑P **P** **05 52 28.6 +0.9**
MAKZ ⇑pP **pP** **05 52 46.0 +3.4**
PETK Petropavlovsk- 39.07 34 P **P** **05 52 27.7 -1.4**
comp=Z,1.2nm,0.5s,baz=262,slow=8.2,SNR=1.9
PETK Petropavlovsk- 39.07 34 P **P** **05 52 27.3 -1.8**
SHLS Shalkode 39.51 309 *e*P **P** **05 52 31.1 -2.0**
SHLS Shalkode 39.51 309 *e*P **P** **05 52 31.2 -2.0**
baz=309
PDGK Podgornoye 39.53 309 P **P** **05 52 33.7 +0.4**
UZB Uzynbulak 39.82 309 *e*P **P** **05 52 36.4 +0.7**
UZB Uzynbulak 39.82 309 *e*P **P** **05 52 36.4 +0.7**
baz=308
KPKS Kokpek 40.13 309 *e*P **P** **05 52 38.9 +0.7**
KPKS Kokpek 40.13 309 *e*P **P** **05 52 39.0 +0.7**
baz=309
SATY Saty 40.24 308 *e*P **P** **05 52 40.0 +0.9**
SATY Saty 40.24 308 *e*P **P** **05 52 40.1 +0.9**
baz=308
MA2 Magadan 40.30 22 LR LR 06 10 28.3
comp=Z,132nm,18.3s,baz=224,slow=38
ZAA0 Zalesovo Array 40.41 326 P **P** **05 52 40.1 -0.1**
ZAA0 IAmb IAmb 05 52 41.1
comp=Z,32nm,1.1s
ZALV Zalesovo Beam 40.41 326 P **P** **05 52 40.2 0.0**
comp=Z,11nm,0.5s,baz=115,slow=8.1,SNR=83
ZALV PcP **PcP** **05 54 42.0 -0.3**
comp=Z,1.9nm,0.5s,baz=130,slow=4.2,SNR=3.2
ZALV ScP **ScP** **05 58 22.6 -4.0**
comp=Z,1.9nm,0.7s,baz=130,slow=4.6,SNR=6.7
ZALV LR LR 06 10 35.5
comp=Z,118nm,18.7s,baz=138,slow=38
KNRA Kununurra 40.51 170 P **P** **05 52 41.4 +0.1**
TDK Taldyqorghan 40.71 311 *e*P **P** **05 52 44.4 +1.5**
TDK pmax pmax
comp=Z,17nm,0.5s
TDK Taldyqorghan 40.71 311 *e*P **P** **05 52 44.4 +1.5**
comp=Z,17nm,0.5s,baz=311
KDJ Kajisay 40.93 307 P **P** **05 52 44.6 -0.3**
KDJ pmax pmax
comp=Z,15nm,0.8s
KDJ Kajisay 40.93 307 P **P** **05 52 44.6 -0.3**
HYBB Hyderabad (bro 41.19 269 *e*P P 05 53 03.2 +16
MDOK Medeo 41.23 308 *e*P **P** **05 52 48.9 +1.6**
MDOK Medeo 41.23 308 *e*P **P** **05 52 48.9 +1.6**
baz=308
TNSS Tian-Shan 41.28 308 *e*P **P** **05 52 49.9 +1.9**
TNSS Tian-Shan 41.28 308 *e*P **P** **05 52 49.9 +1.9**
baz=308
SEM Semipalatinsk 41.29 320 *e*P **P** **05 52 47.2 -0.6**
SEM pmax pmax
comp=Z,13nm,0.7s
SEM Semipalatinsk 41.29 320 *e*P **P** **05 52 47.3 -0.6**
comp=Z,13nm,0.7s,baz=320
AAA Alma-Ata 41.34 308 *e*P **P** **05 52 49.4 +1.3**
AAA Alma-Ata 41.34 308 *e*P **P** **05 52 49.4 +1.3**
baz=308
CHKK Chushkaly 41.42 309 *e*P **P** **05 52 49.6 +0.9**
CHKK Chushkaly 41.42 309 *e*P **P** **05 52 49.6 +0.9**
baz=309
KSH Kashi 41.44 303 P P 05 52 53.9 +4.9
KSH pP sP 05 53 10.1 -0.6
KSH sP pP 05 53 15.9 +12
KSH pmax pmax
comp=Z,6.0nm,0.9s
PMG Port Moresby 41.66 141 LR LR 06 07 07.8
comp=Z,52nm,21.7s,baz=349,slow=32
PMG Port Moresby 41.66 141 P **P** **05 52 51.7 +0.8**
PMG pmax pmax
comp=Z,24nm,0.8s
PMG Port Moresby 41.66 141 P **P** **05 52 51.7 +0.8**
PMG IAmb IAmb 05 52 53.1
comp=Z,24nm,0.8s
BOOM Boomskoye usch 41.90 307 P **P** **05 52 54.6 +1.7**
BOOM pmax pmax
comp=Z,6.0nm,0.7s
BOOM Boomskoye usch 41.90 307 P **P** **05 52 54.6 +1.7**
TKM2 Tokmak 2 42.23 307 P **P** **05 52 56.7 +1.1**
KURK Kurchatov 42.37 319*ce*P **P** **05 52 56.1 -0.2**
KURK pmax pmax
comp=Z,24nm,1.3s
KURK Kurchatov 42.37 319 P **P** **05 52 56.5 +0.1**
KURK IAmb IAmb 05 52 58.0
comp=Z,70nm,1.9s
KURK Kurchatov 42.37 319 P **P** **05 52 57.2 +0.9**
KURBB Kurchatov Arra 42.39 319 P **P** **05 52 56.2 -0.3**
AAK Ala-Archa 42.98 307 LR LR 06 13 46.4
comp=Z,102nm,20.1s,baz=95,slow=40
AAK Ala-Archa 42.98 307 *i*P **P** **05 53 02.8 +1.2**
AAK pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 42.98 307 P **P** **05 53 03.2 +1.6**
SGDS Sogindy 43.02 308 *e*P **P** **05 53 02.7 +0.9**
SGDS Sogindy 43.02 308 *e*P **P** **05 53 02.8 +0.9**
baz=308
PALK Pallekele 43.19 254 LR LR 06 12 45.1
comp=Z,73nm,18.1s,baz=174,slow=38
SEY Seymchan 43.33 20 LR LR 06 11 37.7
comp=Z,135nm,21.2s,baz=227,slow=37
SEY Seymchan 43.33 20*ce*P **P** **05 53 03.5 -0.4**
SEY pmax pmax
comp=Z,7.0nm,1.5s
NIL Nilore 43.34 294 P **P** **05 53 06.5 +2.0**
NIL pmax pmax
comp=Z,13nm,1.0s
NIL Nilore 43.34 294 P **P** **05 53 06.5 +2.0**
COEN Coen 43.44 150 P **P** **05 53 06.6 +1.3**
COEN IAmb IAmb 05 54 16.3
comp=Z,42nm,0.6s
BTLS Baital 43.73 310 *e*P **P** **05 53 07.9 +0.5**
BTLS Baital 43.73 310 *e*P **P** **05 53 08.0 +0.5**
baz=310
DRK Karamyk 44.65 302 P **P** **05 53 17.8 +2.6**
DZA Taraz 45.32 307 *e*P **P** **05 53 20.4 +0.2**
DZA Taraz 45.32 307 *e*P **P** **05 53 20.4 +0.2**
baz=307
BTK Batken 45.44 303 P **P** **05 53 22.0 +0.8**
BTK pmax pmax
comp=Z,6.0nm,0.6s
BTK Batken 45.44 303 P **P** **05 53 22.0 +0.8**
WB0 Warramunga Arr 45.65 164 P **P** **05 53 23.8 +0.9**
WB0 IAmb IAmb 05 53 24.4
comp=Z,31nm,0.8s
BRZS Berezniki 45.76 317 *e*P **P** **05 53 24.0 +0.5**
BRZS pmax pmax
comp=Z,4.0nm,0.3s
BRZS Berezniki 45.76 317 *e*P **P** **05 53 24.1 +0.5**
comp=Z,4.0nm,0.3s,baz=317
GAR Garm 45.77 301 P **P** **05 53 26.1 +2.2**
GAR IAmb IAmb 05 53 27.5
comp=Z,26nm,0.7s
WRAB Tennant Creek 45.79 164 *i*P **P** **05 53 24.8 +0.8**
WRAB pmax pmax
comp=Z,42nm,0.8s
WRAB Tennant Creek 45.79 164 P **P** **05 53 25.1 +1.1**
WRAB IAmb IAmb 05 53 25.6
comp=Z,33nm,0.7s
WRAB Tennant Creek 45.79 164 P **P** **05 53 25.1 +1.1**
WRAB pP **pP** **05 53 36.3 -2.1**
WRA Warramunga Arr 45.80 164 P **P** **05 53 24.6 +0.5**
comp=Z,39nm,0.7s,baz=346,slow=8.8,SNR=185
WRA PcP **PcP** **05 55 00.9 +0.1**
comp=Z,3.7nm,0.6s,baz=346,slow=3.7,SNR=6.7
WRA LR LR 06 19 02.7
comp=Z,18nm,18.1s,baz=158,slow=44
WRA Warramunga Arr 45.80 164 P **P** **05 53 25.3 +1.2**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 45.80 164 P **P** **05 53 25.3 +1.2**
WB2 Warramunga Arr 45.80 164 P **P** **05 53 24.8 +0.7**
WR0 Warramunga Arr 45.87 164 P **P** **05 53 25.5 +0.9**
PSA00 Pilbara Seismi 45.91 183 P **P** **05 53 24.5 -0.4**
KK31 Karatay Array 45.95 307 P **P** **05 53 27.2 +2.1**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KK31 Karatay Array 45.95 307 P **P** **05 53 27.2 +2.1**
KKAR Karatay Array 45.95 307 P **P** **05 53 25.0 -0.1**
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 45.95 307 P **P** **05 53 25.0 -0.1**
KKAR Karatay Array 45.95 307 P **P** **05 53 24.4 -0.7**
IUG luzhnay 46.20 306 *e*P **P** **05 53 27.8 +0.6**
IUG luzhnay 46.20 306 *e*P **P** **05 53 27.8 +0.6**
baz=306
BRLS Boroldaу 46.43 307 *e*P **P** **05 53 30.6 +1.7**
BRLS Boroldaу 46.43 307 *e*P **P** **05 53 30.7 +1.7**
baz=306
CHGR Chuyangaron 46.66 301 P **P** **05 53 32.0 +1.2**
CHGR IAmb IAmb 05 53 34.2
comp=Z,24nm,0.7s
KBL Kabul 46.80 295 P **P** **05 53 33.8 +1.6**
KBL pmax pmax
comp=Z,21nm,0.8s
KBL Kabul 46.80 295 P **P** **05 53 33.8 +1.6**
KBL IAmb IAmb 05 53 36.4
comp=Z,21nm,0.8s
TIXI Tiksi 47.27 3 LR LR 06 14 40.0
comp=Z,114nm,21.8s,baz=180,slow=38
TIXI Tiksi 47.27 3⇑*i*P **P** **05 53 34.3 -0.7**
TIXI pmax pmax
comp=Z,69nm,0.8s
TIXI Tiksi 47.27 3 P **P** **05 53 34.2 -0.7**
TIXI Tiksi 47.27 3 P **P** **05 53 34.5 -0.4**
TIXI pP **pP** **05 53 45.3 -4.7**
SHEM Shemya Is, Ala 47.98 40 LR LR 06 12 57.4
comp=Z,39nm,21.8s,baz=294,slow=35
BRVK Borovoye 48.01 320*ce*P **P** **05 53 41.6 +0.6**
BRVK pmax pmax
comp=Z,20nm,0.8s
BRVK Borovoye 48.01 320 P **P** **05 53 41.7 +0.7**
BRVK IAmb IAmb 05 53 42.8
comp=Z,29nm,1.1s
BRVK Borovoye 48.01 320 P **P** **05 53 41.7 +0.7**
BRVK pP **pP** **05 53 59.1 +2.9**
NRIK Noril'sk 49.27 345 P **P** **05 53 49.5 -0.9**
comp=Z,13nm,0.8s,baz=123,slow=8.1,SNR=15
NRIK PcP **PcP** **05 55 12.4 -0.1**
comp=Z,13nm,0.7s,baz=138,slow=5.4,SNR=7.5
NRIK ScP **ScP** **05 59 01.2 -1.6**
comp=Z,1.6nm,0.5s,baz=125,slow=4.7,SNR=5.0
NRIK LR LR 06 16 12.8
comp=Z,75nm,20.2s,baz=147,slow=38
NRIK Noril'sk 49.27 345*ce*P **P** **05 53 49.1 -1.3**
NRIK pmax pmax
comp=Z,16nm,1.0s
NRIK Noril'sk 49.27 345 P **P** **05 53 49.7 -0.7**
NRIK IAmb IAmb 05 53 50.8
comp=Z,18nm,1.0s
AS31 Alice Springs 49.28 166 P **P** **05 53 52.1 +1.1**
ASAR Alice Springs 49.28 166 P **P** **05 53 51.9 +0.9**

comp=Z,9.9nm,0.8s,baz=341,slow=7.3,SNR=75
ASAR PcP **PcP** **05 55 13.2 0.0**
comp=Z,4.7nm,0.5s,baz=344,slow=2.8,SNR=9.9
ASAR Alice Springs 49.28 166 P **P** **05 53 52.7 +1.6**
ASAR Alice Springs 49.28 166 P **P** **05 53 52.7 +1.6**
CTA Charters Tower 50.20 150 LR LR 06 13 26.8
comp=Z,66nm,21.6s,baz=332,slow=34
CTAO Charters Tower 50.20 150 P **P** **05 53 60.0 +1.9**
CTAO pP **sP** **05 54 16.8 -2.6**
BILL Bilibino 51.03 20 *eP* **P** **05 54 03.6 -0.2**
BILL *e**PP **pP** **05 54 20.2 +1.4**
BILL *e**SP **sP** **05 54 27.4 +2.0**
BILL *e* 05 55 19.2
BILL *e* 05 55 58.5
BILL *e*PPP PPP 05 57 00.3
BILL pmax pmax
comp=Z,6.0nm,0.7s
BILL MLR MLR
comp=Z,130nm,21.0s
BILL Bilibino 51.03 20 P **P** **05 54 02.9 -0.9**
BILL lAmb lAmb 05 55 20.3
comp=Z,17nm,0.7s
BILL Bilibino 51.03 20 P **P** **05 54 03.6 -0.2**
BILL sP **sP** **05 54 27.6 +2.2**
AB31 Akbulak array 53.81 314 *i* P **P** **05 54 25.7 +1.1**
ABKAR Akbulak array 53.81 314 P **P** **05 54 25.8 +1.1**
SVE Sverdlovsk 54.26 323 *eP* **P** **05 54 28.8 +1.0**
SVE pmax pmax
comp=Z,39nm,0.9s
AKTO Aktyubinsk 55.12 315 P **P** **05 54 34.5 +0.4**
FORT Forrest 55.32 174 P **P** **05 54 36.6 +1.0**
FORT lAmb lAmb 05 55 44.9
comp=Z,16nm,0.8s
ARU Arti 55.34 323 *c i*P **P** **05 54 35.6 0.0**
ARU *PP **pP** **05 54 50.2 -0.8**
ARU 05 55 33.0
ARU 05 56 35.8
ARU S **S** **06 02 16.0 +0.7**
ARU SS **SS** **06 05 53.0 -7.1**
ARU pmax pmax
comp=Z,42nm,1.1s
ARU Arti 55.34 323 P **P** **05 54 35.6 0.0**
GEYT Alibeck 55.37 300 P **P** **05 54 36.9 +0.7**
comp=Z,17nm,0.7s,baz=84,slow=6.1,SNR=17
GEYT LR LR 06 21 58.8
comp=Z,123nm,20.6s,baz=113,slow=40
GEYT Alibeck 55.37 300 P **P** **05 54 36.0 -0.2**
GEYT lAmb lAmb 05 54 40.3
comp=Z,16nm,0.7s
GYA0 ALIBECK ARRAY 55.37 300 P **P** **05 54 36.6 +0.4**
GYA0B ALIBECK ARRAY 55.37 300 P **P** **05 54 36.3 +0.1**
GYA0B lAmb lAmb 05 54 40.2
comp=Z,20nm,0.7s
EIDS Eidsvold 56.99 149 P **P** **05 54 47.0 -0.7**
WSAR Wadi Sarin 57.61 283 LR LR 06 21 36.6
comp=Z,74nm,21.3s,baz=106,slow=38
SPIA Saint Paul Isl 57.61 37 P **P** **05 54 51.7 0.0**
baz=266
GAMB Gambell 57.73 29 P **P** **05 54 52.3 -0.1**
baz=260
BBOO Buckleboo 58.57 166 P **P** **05 54 59.6 +1.0**
BBOO lAmb lAmb 05 55 00.1
comp=Z,17nm,0.6s
STKA Stephens Creek 59.12 161 P **P** **05 55 03.3 +0.8**
comp=Z,18nm,0.7s,baz=343,slow=6.6,SNR=41
STKA LR LR 06 21 43.8
comp=Z,27nm,20.2s,baz=229,slow=37
STKA Stephens Creek 59.12 161 *j i*P **P** **05 55 02.7 +0.2**
STKA Stephens Creek 59.12 161 P **P** **05 55 03.3 +0.8**
SANVU Saraoutou 59.28 127 P **P** **05 55 04.6 +0.8**
SANVU Saraoutou 59.28 127 P **P** **05 55 04.7 +0.8**
SANVU pP **pP** **05 55 21.9 +2.6**
TNA Tin City 59.61 27 P **P** **05 55 05.5 0.0**
baz=262
KIRV Kirov 60.42 325 LR LR 06 23 46.9
comp=Z,74nm,18.7s,baz=90,slow=38
KIRV Kirov 60.42 325 *ce*P **P** **05 55 10.6 -0.5**
ANM Nome 60.58 28 P **P** **05 55 12.7 +0.6**
ANM pmax pmax
comp=Z,8.0nm,0.8s
ANM Nome 60.58 28 P **P** **05 55 12.7 +0.6**
ANM lAmb lAmb 05 55 14.7
comp=Z,8.2nm,0.8s
ANM Nome 60.58 28 P **P** **05 55 12.5 +0.4**
baz=266,SNR=13
BELG Belogornoye 61.60 318 *i* P **P** **05 55 19.4 +0.2**
BELG pmax pmax
comp=Z,6.0nm,0.9s
RDOG Red Dog Mine 61.84 24 P **P** **05 55 21.8 +1.1**
baz=266
PRGR Permogore 62.32 328 *eP* **P** **05 55 22.8 -1.1**
PRGR pmax pmax
comp=Z,39nm,0.6s
DZM Mont Dzumac 63.25 133 LR LR 06 18 45.0
comp=Z,47nm,21.7s,baz=358,slow=32
DZM Mont Dzumac 63.25 133 *e*LR LR 06 14 33.2
comp=Z,267nm,26.3s
GCSA Galena City Sc 64.23 28 P **P** **05 55 37.0 +0.6**
baz=273
TTA Tatalina 64.74 30 P **P** **05 55 40.6 +0.6**
TTA pmax pmax
comp=Z,9.0nm,0.6s
TTA Tatalina 64.74 30 P **P** **05 55 40.6 +0.6**
TTA lAmb lAmb 05 55 42.1
comp=Z,9.0nm,0.6s
TTA Tatalina 64.74 30 P **P** **05 55 40.2 +0.2**
baz=275,SNR=11
CAN Canberra 64.76 156 P **P** **05 55 41.1 +0.8**
CAN pmax pmax
comp=Z,89nm,2.0s
CAN Canberra 64.76 156 P **P** **05 55 41.1 +0.8**
CAN lAmb lAmb 05 57 43.2
comp=Z,89nm,2.0s
CAN Canberra 64.76 156 P **P** **05 55 41.9 +1.6**
N18K Kilae Creek 65.01 33 P **P** **05 55 43.1 +1.4**
N18K Kilae Creek 65.01 33 P **P** **05 55 42.5 +0.8**
baz=276
SVW2 Sparrevohn 65.12 32 P **P** **05 55 43.4 +1.0**
SOCY Socotra 65.30 273 P **P** **05 55 44.2 -0.1**
SOCY lAmb lAmb 05 57 54.2
comp=Z,35nm,1.9s
GNI Garni 65.31 305 LR LR 06 29 36.9
comp=Z,32nm,20.0s,baz=90,slow=41
KLMR Klimovskoe 65.32 328 *eP* **P** **05 55 41.9 -1.7**
KLMR pmax pmax
comp=Z,39nm,1.2s
KLMR Klimovskoe 65.32 328 *eP* **P** **05 55 41.9 -1.7**
KLMR AMP 05 55 44.8
comp=Z,39nm,1.2s
L19K White Mountain 65.35 31 P **P** **05 55 44.8 +0.9**
L19K White Mountain 65.35 31 P **P** **05 55 44.3 +0.4**
baz=276,SNR=8.6
ZEI Tsey 65.40 308 *eP* **P** **05 55 44.7 -0.1**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
O18K Koktuh Hills 65.44 33 P **P** **05 55 44.6 +0.1**
baz=277
IMAR Indian Mountai 65.45 27 P **P** **05 55 44.4 0.0**
J20K Nowinta River 65.46 29 P **P** **05 55 45.4 +0.9**
J20K lAmb lAmb 05 56 18.0
comp=Z,11nm,0.8s
J20K Nowinta River 65.46 29 P **P** **05 55 45.0 +0.5**
baz=276,SNR=15
P18K Big Mountain, 65.48 34 P **P** **05 55 45.4 +0.6**
baz=277
K20K Telida 65.58 29 P **P** **05 55 46.3 +1.0**
K20K lAmb lAmb 05 56 18.6
comp=Z,15nm,1.0s
K20K Telida 65.58 29 P **P** **05 55 46.0 +0.7**
baz=276,SNR=7.6
TOO Toolangi 65.59 160 P **P** **05 55 46.8 +1.2**
TOO pmax pmax
comp=Z,26nm,0.7s
TOO Toolangi 65.59 160 P **P** **05 55 46.8 +1.2**
TOO lAmb lAmb 05 55 47.8
comp=Z,26nm,0.7s
M19K Big River Lodg 65.59 31 P **P** **05 55 46.5 +1.0**
M19K lAmb lAmb 05 55 52.2
comp=Z,24nm,1.4s
M19K Big River Lodg 65.59 31 P **P** **05 55 45.8 +0.4**
baz=277
N19K Bonanza Creek 65.68 32 P **P** **05 55 46.5 +0.3**
N19K lAmb lAmb 05 56 18.8
comp=Z,10nm,0.8s
N19K Bonanza Creek 65.68 32 P **P** **05 55 46.4 +0.3**
baz=277
ONI Oni 65.76 307 P **P** **05 55 48.6 +1.6**
ONI pmax pmax
comp=Z,15nm,1.2s
ONI Oni 65.76 307 P **P** **05 55 48.5 +1.6**
L20K Farewell, AK 65.77 30 P **P** **05 55 47.1 +0.5**
baz=277
O19K Port Alsworth 65.84 33 P **P** **05 55 47.5 +0.6**
baz=277
H21K Melozitna Rive 65.87 27 P **P** **05 55 48.1 +1.0**
H21K lAmb lAmb 05 55 49.7
comp=Z,20nm,0.8s
H21K Melozitna Rive 65.87 27 P **P** **05 55 47.6 +0.5**
baz=276,SNR=25
KBZ Khabaz 65.93 309 P **P** **05 55 48.0 +0.2**
comp=Z,6.8nm,1.1s,baz=72,slow=9.5,SNR=5.4
KBZ Khabaz 65.93 309 *i* P **P** **05 55 48.5 +0.6**
KBZ pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 66.03 309 *eP* **P** **05 55 49.9 +1.2**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,38nm,17.0s
KIV Kislovodsk 66.03 309 P **P** **05 55 49.8 +1.0**
KIV lAmb lAmb 05 55 51.6
comp=Z,19nm,0.9s
I21K Tanana 66.27 27 P **P** **05 55 50.5 +0.8**
I21K lAmb lAmb 05 55 52.4
comp=Z,17nm,0.8s
I21K Tanana 66.27 27 P **P** **05 55 50.7 +1.0**
baz=277,SNR=19
CHUM Lake Minchumin 66.30 29 P **P** **05 55 50.4 +0.5**
baz=278,SNR=9.2
Q19K Cape Douglas, 66.36 34 P **P** **05 55 51.0 +0.6**
baz=279
CAST Castle Rocks 66.46 29 P **P** **05 55 51.2 +0.2**
CAST lAmb lAmb 05 55 53.2
comp=Z,14nm,0.8s
CAST Castle Rocks 66.46 29 P **P** **05 55 51.3 +0.4**
baz=278,SNR=14
PPLA Purkeypile 66.48 30 P **P** **05 55 51.6 +0.2**
baz=278,SNR=7.4
O20K Slope Mountain 66.69 33 P **P** **05 55 52.8 +0.2**
baz=279
COLD Coldfoot 66.72 25 P **P** **05 55 52.8 +0.2**
baz=278,SNR=12
TOLK Toolik Lake Re 66.76 23 P **P** **05 55 53.2 +0.4**
TOLK lAmb lAmb 05 55 54.9
comp=Z,22nm,0.7s
TOLK Toolik Lake Re 66.76 23 P **P** **05 55 53.1 +0.2**
baz=278,SNR=26
OHAK Old Harbor 66.81 36 P **P** **05 55 53.4 +0.2**
baz=280
BPAW Bear Paw Mtn. 66.84 28 P **P** **05 55 53.5 +0.1**
BPAW lAmb lAmb 05 55 55.5
comp=Z,12nm,0.7s
BPAW Bear Paw Mtn. 66.84 28 P **P** **05 55 53.8 +0.4**
baz=279,SNR=13
KTH Kantishna Hill 66.96 29 P **P** **05 55 54.8 +0.6**
MOS Moscow 67.04 322 *eP* **P** **05 55 53.5 -1.3**
MOS *e* 05 56 07.4
APA Apatity 67.08 335 *j i*P **P** **05 55 54.4 -0.4**
APA pmax pmax
comp=Z,12nm,1.1s
APA MLR MLR
comp=Z,300nm,15.0s
KDAK Kodiak Island 67.09 35 LR LR 06 27 38.0
comp=Z,43nm,19.2s,baz=255,slow=38
KDAK Kodiak Island 67.09 35 P **P** **05 55 55.1 +0.1**
baz=280
H23K Yukon River 67.19 27 P **P** **05 55 56.4 +0.8**
H23K lAmb lAmb 05 55 58.4
comp=Z,27nm,0.8s
H23K Yukon River 67.19 27 P **P** **05 55 56.6 +1.0**
baz=279,SNR=35
TRF Thorofare Moun 67.25 29 P **P** **05 55 56.5 +0.3**
TRF lAmb lAmb 05 55 58.8
comp=Z,12nm,0.8s
TRF Thorofare Moun 67.25 29 P **P** **05 55 56.5 +0.3**
baz=280,SNR=8.9
CAPN Captain Cook N 67.30 32 P **P** **05 55 56.7 +0.4**
baz=280
I23K Minto, Yukon-K 67.37 27 P **P** **05 55 57.0 +0.4**
I23K lAmb lAmb 05 56 26.2
comp=Z,13nm,0.8s
I23K Minto, Yukon-K 67.37 27 P **P** **05 55 56.9 +0.2**
baz=280,SNR=11
CUT Chulitna 67.44 30 P **P** **05 55 56.9 -0.2**
CUT lAmb lAmb 05 55 58.4
comp=Z,22nm,0.8s
CUT Chulitna 67.44 30 P **P** **05 55 57.4 +0.2**
baz=280
BWN Browne 67.49 28 P **P** **05 55 58.6 +1.1**
BWN lAmb lAmb 05 56 54.9
comp=Z,46nm,1.1s
NEA2 Nenana 67.59 28 P **P** **05 55 58.2 0.0**
NEA2 lAmb lAmb 05 56 00.0
comp=Z,28nm,0.8s
NEA2 Nenana 67.59 28 P **P** **05 55 58.1 0.0**
baz=280,SNR=36
M22K Willow 67.62 31 P **P** **05 55 56.9 -1.4**
M22K Willow 67.62 31 P **P** **05 55 57.5 -0.8**
baz=280,SNR=7.1
BRSE Bradley Lake S 67.69 33 P **P** **05 55 58.7 -0.1**
baz=281
OBN Obninsk 67.75 322 *eP* **P** **05 55 59.7 +0.5**
OBN *e**PP **pP** **05 56 17.2 +2.1**
OBN *e* 05 58 32.1
OBN *e*PPP PPP 06 00 13.7
OBN pmax pmax
comp=Z,13nm,1.1s
OBN MLR MLR
comp=Z,52nm,17.0s
MCK McKinley 67.80 29 P **P** **05 55 59.3 -0.2**
MCK pmax pmax
comp=Z,16nm,1.0s
MCK McKinley 67.80 29 P **P** **05 55 59.3 -0.2**
MCK lAmb lAmb 05 56 26.6
comp=Z,16nm,1.0s
MCK McKinley 67.80 29 P **P** **05 55 59.0 -0.5**
baz=280,SNR=9.5
H24K Noodor Dome 67.86 26 P **P** **05 56 01.0 +1.2**
H24K lAmb lAmb 05 56 27.7
comp=Z,13nm,0.8s
H24K Noodor Dome 67.86 26 P **P** **05 56 00.5 +0.6**
baz=281,SNR=10
MDM Murphy Dome 67.88 27 P **P** **05 56 00.2 +0.2**
MDM lAmb lAmb 05 56 02.0
comp=Z,26nm,0.8s
RND Reindeer 67.90 29 P **P** **05 55 59.6 -0.5**
RND pmax pmax
comp=Z,47nm,0.8s
RND Reindeer 67.90 29 P **P** **05 55 59.6 -0.5**
RC01 Rabbit Creek A 67.92 32 P **P** **05 56 00.6 +0.3**
baz=281
HOPEN Hopen 67.96 345 *eP* **P** **05 56 00.6 +0.3**
WRH Wood River Hil 68.03 28 P **P** **05 56 01.0 +0.1**
WRH lAmb lAmb 05 56 03.9
comp=Z,18nm,1.0s
TCOL CIGO, UAF Yank 68.05 27 P **P** **05 56 00.7 -0.2**
TCOL lAmb lAmb 05 56 03.3
comp=Z,12nm,0.6s
TCOL CIGO, UAF Yank 68.05 27 P **P** **05 56 01.0 0.0**
baz=281
O22K Cooper Landing 68.05 32 P **P** **05 56 01.1 +0.1**
baz=281
COLA College 68.05 27 *i* P **P** **05 56 01.8 +0.8**
COLA pmax pmax
comp=Z,9.0nm,0.7s
COLA College 68.05 27 P **P** **05 56 00.7 -0.2**
COLA lAmb lAmb 05 56 03.3
comp=Z,12nm,0.7s
COLA College 68.05 27 P **P** **05 56 01.3 +0.3**
baz=281
COLA College 68.05 27 P **P** **05 56 01.9 +0.9**
COLA pP **pP** **05 56 13.3 -3.3**
COLA sP **sP** **05 56 20.7 -2.3**
CCB Clear Creek Bu 68.11 28 P **P** **05 56 01.5 +0.2**
PMR Palmer 68.11 31 P **P** **05 56 00.7 -0.7**
PMR pmax pmax
comp=Z,72nm,2.0s
PMR Palmer 68.11 31 P **P** **05 56 00.7 -0.7**
PMR lAmb lAmb 05 56 04.2
comp=Z,72nm,2.0s
PMR Palmer 68.11 31 P **P** **05 56 00.7 -0.7**
baz=281
WAT1 Susitna Watana 68.14 30 P **P** **05 56 01.0 -0.7**
baz=281
GHO Glory Hole Cre 68.18 31 P **P** **05 56 02.0 +0.1**
POKR Poker Plat Res 68.18 27 P **P** **05 56 01.9 +0.1**
POKR lAmb lAmb 05 56 04.0
comp=Z,22nm,0.8s
POKR Poker Plat Res 68.18 27 P **P** **05 56 02.2 +0.4**
baz=281,SNR=6.1
SEW Seward 68.25 33 P **P** **05 56 01.7 -0.6**
baz=282
SML Sawmill 68.45 31 P **P** **05 56 03.2 -0.4**
SML lAmb lAmb 05 56 29.8
comp=Z,21nm,1.0s
SML Sawmill 68.45 31 P **P** **05 56 03.1 -0.4**
baz=282
KNK Knik Glacier 68.47 31 P **P** **05 56 03.9 +0.2**
KNK lAmb lAmb 05 56 04.6
comp=Z,25nm,1.0s
KNK Knik Glacier 68.47 31 P **P** **05 56 02.7 -1.0**
baz=282
IL31 68.48 27 P **P** **05 56 03.0 -0.6**
ILAR Eielson Array 68.48 27 P **P** **05 56 02.2 -1.4**
comp=Z,2.1nm,0.6s,baz=251,slow=3.1,SNR=38
ILAR Eielson Array 68.48 27 P **P** **05 56 02.6 -1.1**
ILAR Eielson Array 68.48 27 P **P** **05 56 02.6 -1.1**
HDA Harding Lake 68.53 28 P **P** **05 56 03.1 -0.8**
HDA lAmb lAmb 05 56 04.6
comp=Z,14nm,0.8s
HDA Harding Lake 68.53 28 P **P** **05 56 02.8 -1.2**
baz=282,SNR=15
WAT6 Susitna Watana 68.56 30 P **P** **05 56 04.1 -0.3**
baz=282,SNR=13
DHY Denali Highway 68.62 29 P **P** **05 56 04.5 -0.3**
DHY lAmb lAmb 05 56 30.5
comp=Z,12nm,0.6s
DHY Denali Highway 68.62 29 P **P** **05 56 03.7 -1.0**
baz=282
PWL Port Wells 68.64 32 P **P** **05 56 04.6 -0.1**
PWL lAmb lAmb 05 56 05.8
comp=Z,42nm,1.0s
PWL Port Wells 68.64 32 P **P** **05 56 04.4 -0.4**
baz=282,SNR=5.8
BMAR Burnt Mountain 68.82 24 P **P** **05 56 06.5 +0.7**
SCM Sheep Creek Mo 68.91 31 P **P** **05 56 06.3 -0.2**
SCM pmax pmax
comp=Z,29nm,0.8s
SCM Sheep Creek Mo 68.91 31 P **P** **05 56 06.3 -0.2**
SCM lAmb lAmb 05 56 07.6
comp=Z,29nm,0.8s
SCM Sheep Creek Mo 68.91 31 P **P** **05 56 06.3 -0.2**
baz=283,SNR=8.7
KEV Kevo 68.95 338 P **P** **05 56 06.8 +0.3**
KEV pmax pmax
comp=Z,105nm,1.8s
KEV Kevo 68.95 338 P **P** **05 56 06.8 +0.3**
RAYN Ar Rayn 69.08 287 P **P** **05 56 08.6 +0.4**
RAYN pmax pmax
comp=Z,7.0nm,1.0s
RAYN Ar Rayn 69.08 287 P **P** **05 56 08.6 +0.4**
J25K Salcha River, 69.15 27 P **P** **05 56 07.0 -0.9**
J25K Salcha River, 69.15 27 P **P** **05 56 07.0 -0.9**
baz=283
GLI Glacier Island 69.23 32 P **P** **05 56 07.9 -0.5**
baz=283
SPB2 Spitsbergen Ar 69.30 348 P **P** **05 56 08.8 +0.2**
SPB2 lAmb lAmb 05 56 09.3
comp=Z,29nm,0.7s
SPA0 Spitsbergen Ar 69.30 348 *eP* **P** **05 56 08.5 -0.1**
SPITS Spitsbergen Ar 69.30 348 LR LR 06 31 23.3
comp=Z,70nm,18.7s,baz=234,slow=40
SPITS Spitsbergen Ar 69.30 348 P **P** **05 56 08.8 +0.2**
SPITS pmax pmax
comp=Z,85nm,1.6s
M24K Tolsona, Glenn 69.38 30 P **P** **05 56 09.8 +0.4**
M24K lAmb lAmb 05 56 11.5
comp=Z,44nm,0.8s
M24K Tolsona, Glenn 69.38 30 P **P** **05 56 09.8 +0.4**
baz=284,SNR=8.5
PAX Paxson 69.49 29 P **P** **05 56 09.8 -0.3**
baz=284,SNR=8.8
ARA0 ARCESS Array S 69.52 338 *eP* **P** **05 56 10.2 +0.2**
ARCES ARCESS Array B 69.52 338 P **P** **05 56 10.3 +0.2**
comp=Z,6.5nm,0.7s,baz=60,slow=7.5,SNR=52
ARCES ARCESS Array B 69.52 338 P **P** **05 56 09.9 -0.2**
ARCES lAmb lAmb 05 58 14.2
comp=Z,82nm,2.0s
RIDG Independent Ri 69.58 28 P **P** **05 56 09.8 -0.7**
RIDG lAmb lAmb 05 56 34.4
comp=Z,17nm,0.8s
RIDG Independent Ri 69.58 28 P **P** **05 56 09.9 -0.7**
baz=284,SNR=6.8
KLU Klutina 69.64 31 P **P** **05 56 11.1 +0.1**
KLU lAmb lAmb 05 56 13.0
comp=Z,13nm,0.6s
KLU Klutina 69.64 31 P **P** **05 56 10.8 -0.2**
baz=284,SNR=6.2
HARP HAARP 69.77 30 P **P** **05 56 11.6 -0.1**
baz=284
HAMF Hammerfest 69.82 339 *eP* **P** **05 56 12.7 +0.8**
KBS Kingsbay 69.83 349 P **P** **05 56 11.3 -0.5**
KBS pmax pmax
comp=Z,52nm,1.2s
KBS Kingsbay 69.83 349 P **P** **05 56 11.3 -0.5**
KBS lAmb lAmb 05 57 32.5
comp=Z,52nm,1.2s
KBS Kingsbay 69.83 349 *eP* **P** **05 56 12.0 +0.2**
SCRK Sand Creek 69.89 28 P **P** **05 56 12.0 -0.6**
SCRK Sand Creek 69.89 28 P **P** **05 56 11.9 -0.6**
baz=285,SNR=8.3
HSPB Hornsund (broa 69.90 347 *eP* **P** **05 56 12.2 -0.1**
J26L Joseph Creek 69.93 27 P **P** **05 56 12.0 -0.8**
baz=285,SNR=22
EYAK Cordova Ski Ar 69.95 32 P **P** **05 56 12.5 -0.3**
baz=284
N25K Chitina, Valde 70.22 30 P **P** **05 56 14.9 +0.2**
N25K lAmb lAmb 05 56 18.4
comp=Z,15nm,0.8s
N25K Chitina, Valde 70.22 30 P **P** **05 56 14.5 -0.1**
baz=285,SNR=5.8
MENT Mentasta 70.27 29 P **P** **05 56 15.0 +0.2**
MENT lAmb lAmb 05 56 21.1
comp=Z,20nm,0.8s
BMRM Bremner River 70.39 31 P **P** **05 56 15.2 -0.4**
BMRM lAmb lAmb 05 56 19.4
comp=Z,21nm,0.8s
BMRM Bremner River 70.39 31 P **P** **05 56 15.3 -0.3**
baz=285
L26K Log Cabin Wild 70.41 29 P **P** **05 56 16.3 +0.6**
L26K Log Cabin Wild 70.41 29 P **P** **05 56 15.7 0.0**
baz=286
KTK1 Kautokeino 70.44 338 *eP* **P** **05 56 16.0 +0.3**
GLB Gilahina Butte 70.63 31 P **P** **05 56 17.1 0.0**
GLB lAmb lAmb 05 56 21.1
comp=Z,18nm,0.7s
EGAK Eagle 70.85 27 P **P** **05 56 18.3 +0.1**
EGAK lAmb lAmb 05 56 19.6
comp=Z,16nm,0.8s
EGAK Eagle 70.85 27 P **P** **05 56 17.8 -0.5**
baz=287
VRDI Verde Repeater 70.86 31 P **P** **05 56 18.9 +0.2**
VRDI lAmb lAmb 05 56 20.2
comp=Z,14nm,0.8s
MCARA McCarthy VSAT 71.01 30 P **P** **05 56 20.0 +0.7**
MCARA lAmb lAmb 05 56 22.8
comp=Z,24nm,0.8s
MCARA McCarthy VSAT 71.01 30 P **P** **05 56 19.4 +0.1**
baz=286,SNR=6.8
L27K Beaver Creek, 71.07 29 P **P** **05 56 20.3 +0.6**
L27K lAmb lAmb 05 56 22.1
comp=Z,16nm,0.8s
L27K Beaver Creek, 71.07 29 P **P** **05 56 20.3 +0.6**
baz=287,SNR=19
BCAR Beaver Creek A 71.08 29 P **P** **05 56 20.1 +0.3**
JETT Jettan, Norway 71.22 339 *eP* **P** **05 56 20.9 +0.5**
M27K Edge Creek, AK 71.25 29 P **P** **05 56 20.7 -0.2**
M27K lAmb lAmb 05 56 22.8
comp=Z,15nm,0.8s
M27K Edge Creek, AK 71.25 29 P **P** **05 56 21.0 +0.1**
baz=287,SNR=8.6
TGL Tana Glacier 71.28 31 P **P** **05 56 21.1 +0.1**
TGL lAmb lAmb 05 56 22.6
comp=Z,22nm,0.8s
WAX Waxell Ridge 71.36 31 P **P** **05 56 22.3 +0.8**
FIA1 FINESS Array S 71.56 330 P **P** **05 56 23.0 +0.4**
FINES FINESS Array B 71.56 330 P **P** **05 56 22.9 +0.3**

comp=Z,8.7nm,0.8s,baz=74,slow=6.8,SNR=32
FINES LR LR 06 30 59.0
comp=Z,92nm,19.0s,baz=76,slow=38
FINES FINESS Array B 71.56 330 *ce* P **P 05 56 22.8 +0.2**
FINES pmax pmax
comp=Z,9.0nm,0.8s
TRO Tromso 71.68 339 *e* P **P 05 56 22.7 -0.4**
BARN Barnard Glacie 71.74 31 P **P 05 56 24.2 +0.2**
BARN IAmb IAmb 05 56 26.3
comp=Z,18nm,0.7s
GRNC Granite Creek 71.79 31 P **P 05 56 24.5 +0.2**
GRNC IAmb IAmb 05 56 26.9
comp=Z,14nm,0.8s
DAWY Dawson 71.80 27 P **P 05 56 24.1 +0.1**
DAWY IAmb IAmb 05 56 26.2
comp=Z,20nm,0.8s
DAWY Dawson 71.80 27 P **P 05 56 24.2 +0.1**
baz=289,SNR=26
I29M Ogilvie Camp, 71.82 26 P **P 05 56 24.4 +0.2**
I29M IAmb IAmb 05 56 43.8
comp=Z,14nm,0.8s
I29M Ogilvie Camp, 71.82 26 P **P 05 56 24.3 +0.2**
baz=289
CTG Chitna Glacier 71.91 31 P **P 05 56 24.9 -0.1**
baz=288,SNR=10
CTGM Chitina Glacie 71.92 31 P **P 05 56 25.1 +0.1**
CTGM IAmb IAmb 05 56 27.4
comp=Z,28nm,0.6s
YUK3 Moose Creek 72.06 30 P **P 05 56 26.0 0.0**
baz=288
LOGN Logan Glacier 72.11 31 P **P 05 56 25.6 -0.5**
LOGN IAmb IAmb 05 56 28.1
comp=Z,15nm,0.8s
VSU Vasula 72.15 327 *e* P **P 05 56 27.0 +0.9**
J29M Klondike Camp 72.16 27 P **P 05 56 26.9 +0.6**
baz=290,SNR=13
BNN Bunyan 72.30 305 P **P 05 56 28.5 +0.9**
BNN IAmb IAmb 05 56 30.7
comp=Z,45nm,1.2s
INK Inuvik 72.55 22 LR LR 06 30 19.8
comp=Z,46nm,19.9s,baz=286,slow=37
INK Inuvik 72.55 22 P **P 05 56 28.4 0.0**
INK pmax pmax
comp=Z,29nm,1.1s
INK Inuvik 72.55 22 P **P 05 56 28.4 0.0**
INK IAmb IAmb 05 56 30.0
comp=Z,29nm,1.1s
INK Inuvik 72.55 22 P **P 05 56 28.0 -0.3**
baz=292
PCA Pinnacle 72.70 31 P **P 05 56 30.8 +1.3**
PCA IAmb IAmb 05 56 33.8
comp=Z,34nm,0.9s
MEF Metsahovi 72.73 329 *e* P **P 05 56 30.7 +1.1**
MNK Minsk 72.77 322 *i* P **P 05 56 28.4 -1.5**
MNK *i* *PP **pP 05 56 44.9 -1.0**
MNK *i* 05 59 10.5
MNK *i* PPP PPP 06 00 58.6
MNK *i* S **S 06 05 49.6 -1.4**
MNK *i* *SS **sS 06 06 18.0 -0.4**
MNK *i* SSS SSS 06 13 49.5
MNK pmax pmax
comp=Z,14nm,1.3s
MNK pmax pmax
comp=N,23nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK Minsk 72.77 322 *i* P **P 05 56 28.5 -1.5**
comp=E,4.0nm,0.8s
MNK *i* P **P 05 56 28.5 -1.5**
comp=N,23nm,0.8s,baz=72
MNK *i* P **P 05 56 28.5 -1.5**
comp=Z,14nm,1.3s
MNK *i* pP **pP 05 56 45.0 -1.0**
MNK *i* PP **PP 05 59 10.5 -1.5**
MNK *i* PPP PPP 06 00 58.7
MNK *i* S **S 06 05 49.6 -1.4**
MNK *i* sS **sS 06 06 18.1 -0.4**
MNK *i* SS **SS 06 10 24.7 -6.4**
MNK *i* SSS SSS 06 13 49.5
MNK *i* LQ LQ 06 23 36.5
MNK *i* LR LR 06 29 04.2
MNK *i* LRM MLR 06 34 50.2
comp=N,312nm,21.6s
MNK *i* LRM MLR 06 34 56.5
comp=E,86nm,28.0s
MNK *i* LRM MLR 06 34 59.1
comp=Z,194nm,20.4s
YUK4 Talbot Arm 73.03 30 P **P 05 56 31.9 +0.3**
baz=290
AKASG Malin Array Be 73.17 318 P **P 05 56 31.8 -0.6**
comp=Z,2.8nm,0.6s,baz=59,slow=7.0,SNR=12
AKASG Malin Array Be 73.17 318 P **P 05 56 32.1 -0.3**
AKASG pmax pmax
comp=Z,7.0nm,1.4s
AKASG Malin Array Be 73.17 318 P **P 05 56 32.1 -0.3**
AKSI Malin Array Si 73.17 318 *ce* P **P 05 56 32.4 0.0**
AKBB Malin Array Si 73.17 318 P **P 05 56 31.9 -0.5**
NACGM Naroch 73.25 323 *e* P **P 05 56 32.8 +0.1**
PNL Peninsula 73.25 32 P **P 05 56 33.3 +0.5**
baz=290
YUK6 Outpost Mounta 73.29 30 P **P 05 56 33.6 +0.3**
baz=290
M30M Minto, Yukon 73.41 28 P **P 05 56 34.0 +0.3**
M30M Minto, Yukon 73.41 28 P **P 05 56 34.3 +0.7**
baz=291,SNR=9.6
A36M Sachs Harbour 73.50 17 P **P 05 56 33.0 -0.9**
A36M IAmb IAmb 05 56 35.8
comp=Z,23nm,0.8s
A36M Sachs Harbour 73.50 17 P **P 05 56 33.3 -0.6**
baz=299
MTSE Matsula 73.52 327 *e* P **P 05 56 34.4 +0.2**
STEI Steigen 73.58 338 *e* P **P 05 56 34.5 0.0**
BR131 Keskin Array S 73.66 307 P **P 05 56 36.0 +0.3**
BR131 pmax pmax
comp=Z,19nm,1.1s
BR131 Keskin Array S 73.66 307 P **P 05 56 36.0 +0.3**
BR131 IAmb IAmb 05 56 38.5
comp=Z,19nm,1.1s
BRTR Keskin Array B 73.66 307 P **P 05 56 35.5 -0.2**
comp=Z,8.1nm,0.9s,baz=102,slow=5.2,SNR=34
BRTR LR LR 06 31 52.9
comp=Z,44nm,18.7s,baz=90,slow=38
BRTR Keskin Array B 73.66 307 *ce* P **P 05 56 36.5 +0.8**
BRTR pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 73.66 307 P **P 05 56 36.0 +0.3**
RAF Rauma 73.67 330 *e* P **P 05 56 35.6 +0.5**
HYT Haines Junctio 73.73 30 P **P 05 56 36.4 +0.7**
HYT Haines Junctio 73.73 30 P **P 05 56 36.3 +0.7**
baz=291,SNR=6.1
FAUS Fauske 73.80 337 *e* P **P 05 56 36.5 +0.8**
N31M Braeburn, Yuko 74.26 29 P **P 05 56 39.4 +0.7**
N31M Braeburn, Yuko 74.26 29 P **P 05 56 39.9 +1.3**
baz=292,SNR=5.2
EUNU Eureka 74.45 5 P **P 05 56 39.0 -0.5**
PABE Paberze 74.56 324 *e* P **P 05 56 41.7 +1.3**
M31M Drury Creek, Y 74.59 28 P **P 05 56 40.9 +0.4**
M31M IAmb IAmb 05 56 42.2
comp=Z,11nm,0.7s
M31M Drury Creek, Y 74.59 28 P **P 05 56 40.6 +0.1**
baz=293,SNR=11
MOR8 Moi Rana 74.62 336 *e* P **P 05 56 39.4 -1.2**
AFI Afiamalu 74.94 113 LR LR 06 27 11.3
comp=Z,73nm,19.1s,baz=172,slow=34
KONS Konsvik 74.95 337 *e* P **P 05 56 42.8 +0.4**
WHY Whitehorse 74.98 30 P **P 05 56 43.7 +0.7**
WHY Whitehorse 74.98 30 P **P 05 56 43.3 +0.4**
baz=293
STOK Stokkvaagen 75.07 337 *e* P **P 05 56 44.2 +1.1**
C36M Paulatuk 75.16 20 P **P 05 56 42.9 -0.7**
C36M IAmb IAmb 05 56 45.1
comp=Z,26nm,0.8s
C36M Paulatuk 75.16 20 P **P 05 56 42.8 -0.7**
baz=300
SKAG Skagway 75.25 31 P **P 05 56 45.0 +0.6**
SKAG IAmb IAmb 05 56 46.8
comp=Z,13nm,0.6s
SKAG Skagway 75.25 31 P **P 05 56 43.9 -0.4**
baz=293
SUW Suwalki 75.53 323 *e* P **P 05 56 47.5 +1.5**
BORA Eskisehir 75.92 308 P **P 05 56 48.5 -0.1**
UPP Uppsala 76.02 330 *e* P **P 05 56 49.2 +0.6**
SIT Sitka 76.22 33 P **P 05 56 49.5 -0.3**
baz=294
NSS Namsos 76.30 335 *e* P **P 05 56 49.4 -0.8**

VRI Vrincioaia 76.37 314 P **P 05 56 52.6 +1.6**
BUR08 Bucovina Ar. S 76.70 316 P **P 05 56 52.4 -0.6**
BURAR Bucovina Array 76.70 316 P **P 05 56 53.3 +0.3**
BURAR pmax pmax
comp=Z,2.0nm,0.7s
BURAR Bucovina Array 76.70 316 P **P 05 56 52.8 -0.2**
MLR Muntele Rosu 77.02 314 LR LR 06 34 37.9
comp=Z,72nm,19.7s,baz=146,slow=38
TGTN Hyland Airport 77.49 28 P **P 05 56 57.2 +0.2**
baz=299,SNR=20
HFS Hagfors 77.67 331 LR LR 06 33 31.9
comp=Z,191nm,18.4s,baz=61,slow=37
CRAG Craig 78.00 34 P **P 05 57 01.3 +1.4**
baz=296
NC405 NORSAR Array S 78.05 332 P **P 05 56 59.5 -0.6**
NC405 IAmb IAmb 05 57 01.8
comp=Z,17nm,0.7s
RES Resolute Bay 78.15 9 P **P 05 56 59.9 -0.5**
RES pmax pmax
comp=Z,7.0nm,0.7s
RES Resolute Bay 78.15 9 P **P 05 56 59.9 -0.5**
DLBC Dease Lake 78.17 31 LR LR 06 35 46.9
comp=Z,55nm,18.9s,baz=272,slow=39
DLBC Dease Lake 78.17 31 P **P 05 57 01.6 +0.6**
NB2 NORSAR Subarra 78.30 332 P **P 05 57 00.8 -0.8**
comp=Z,1.6nm,0.6s,baz=56,slow=5.3
NB2 NORSAR Subarra 78.30 332 P **P 05 56 58.2 -3.4**
NB2 NORSAR Subarra 78.30 332 P **P 05 57 00.8 -0.8**
baz=56,slow=5.3
NOA NORSAR Array B 78.30 332 P **P 05 57 00.9 -0.6**
comp=Z,3.4nm,0.8s,baz=56,slow=5.7,SNR=20
NOA LR LR 06 35 12.5
comp=Z,62nm,19.2s,baz=70,slow=38
NOA NORSAR Array B 78.30 332 P **P 05 57 01.0 -0.6**
NORES NORESS Array B 78.31 332 P **P 05 57 02.0 +0.4**
NC204 NORSAR Array S 78.37 333 P **P 05 57 01.5 -0.5**
CRVS Cervenica-Dubn 78.51 319 *e* P **P 05 57 06.1 +3.2**
CRVS Cervenica-Dubn 78.51 319 *e* P **P 05 57 06.1 +3.2**
DOMB Dombas 78.68 334 *e* P **P 05 57 03.9 +0.3**
AKN Aaknes 79.43 334 *e* P **P 05 57 09.0 +1.4**
SKAR Skarslia 79.71 333 *e* P **P 05 57 10.8 +1.5**
VTS Vitosha 79.94 312 P **P 05 57 11.8 +0.8**
VTS pmax pmax
comp=Z,7.0nm,0.9s
VTS Vitosha 79.94 312 P **P 05 57 11.8 +0.8**
VYHS Vyhne 80.26 319 *e* P **P 05 57 14.9 +2.4**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 80.26 319 *e* P **P 05 57 14.9 +2.4**
SUE Sulen 80.94 334 *e* P **P 05 57 16.8 +1.1**
BBB Bella Bella 82.16 36 LR LR 06 34 48.3
comp=Z,43nm,19.0s,baz=314,slow=36
YKA Yellowknife Ar 82.28 23 P **P 05 57 22.5 -0.3**
comp=Z,12nm,0.5s,baz=309,slow=5.2,SNR=266
YKA PKiKP **PKiKP 06 02 42.4 -1.5**
comp=Z,0.1nm,0.5s,baz=321,slow=1.8,SNR=6.6
YKA LR LR 06 39 22.0
comp=Z,28nm,18.2s,baz=300,slow=40
KHC Kasperske Hory 83.04 321 *e* P **P 05 57 27.5 +0.4**
KHC Kasperske Hory 83.04 321 *e* P **P 05 57 27.5 +0.4**
GERES GERESS Array B 83.11 321 P **P 05 57 27.7 +0.1**
comp=Z,1.2nm,0.6s,baz=126,slow=1.8,SNR=8.0
KIBK Kibwezi 85.60 265 P **P 05 57 40.4 -0.4**
KIBK IAmb IAmb 05 57 45.9
comp=Z,15nm,1.3s
STU Stuttgart 85.70 322 P P 05 57 46.2 +5.7
KMBO Kilima Mbogo 85.82 267 P **P 05 57 42.9 +0.8**
comp=Z,5.0nm,0.9s,baz=48,slow=10.0,SNR=9.2
KMBO LR LR 06 35 54.5
comp=Z,40nm,21.0s,baz=98,slow=35
KMBO Kilima Mbogo 85.82 267 P **P 05 57 41.1 -0.9**
LLLB Lillooet 86.30 35 P **P 05 57 44.1 +0.6**
LLLB IAmb IAmb 05 57 47.3
comp=Z,9.4nm,0.8s
NRCA Norcia 86.47 316 P **P 05 57 44.5 -0.1**
PGC Sidney 86.56 37 P **P 05 57 45.5 +0.7**
PGC IAmb IAmb 05 57 46.5
comp=Z,21nm,0.8s
BORG Borgarnes 86.59 345 LR LR 06 38 54.0
comp=Z,35nm,21.1s,baz=26,slow=37
A04D Lummi Island 86.93 37 P **P 05 57 47.1 +0.5**
baz=304
NLWA Neilton Lookou 87.03 38 P **P 05 57 48.0 +0.8**
NLWA IAmb IAmb 05 57 49.5
comp=Z,21nm,0.9s
WISH Wishkah 87.24 39 P **P 05 57 49.1 +1.1**
D03D Eldon 87.39 38 P **P 05 57 50.1 +1.3**
baz=304,SNR=19
B05A Bryant 87.53 37 P **P 05 57 50.4 +0.9**
baz=305,SNR=8.6
E03A Lebam 87.67 39 P **P 05 57 51.1 +0.9**
B06A Marblemount 87.72 37 P **P 05 57 51.0 +0.7**
D04E Lakebay 87.77 38 P **P 05 57 50.9 +0.3**
baz=304
EKA Eskdalemuir Ar 87.79 332 LR LR 06 40 19.2
comp=Z,129nm,20.6s,baz=158,slow=38
D05A Enumclaw 88.20 38 P **P 05 57 53.9 +1.2**
E04D Cinebar 88.24 39 P **P 05 57 52.8 -0.1**
E04D IAmb IAmb 05 57 55.1
comp=Z,22nm,0.9s
E04D Cinebar 88.24 39 P **P 05 57 54.1 +1.2**
baz=305,SNR=9.8
F04D Rainier, OR 88.25 39 P **P 05 57 54.0 +1.0**
baz=304
C06D Leavenworth 88.38 37 P **P 05 57 54.5 +0.9**
baz=306
G03D McMinnville, O 88.59 40 P **P 05 57 55.4 +0.8**
G03D McMinnville, O 88.59 40 P **P 05 57 55.7 +1.1**
baz=304
F04A Amboy 88.67 39 P **P 05 57 55.8 +0.9**
EDM Edmonton 88.85 30 P **P 05 57 56.1 +0.4**
EDM pmax pmax
comp=Z,29nm,0.8s
EDM Edmonton 88.85 30 P **P 05 57 56.1 +0.4**
I02E Swisshome, OR 88.86 41 P **P 05 57 57.1 +1.3**
baz=304
LTY Liberty 88.89 37 P **P 05 57 55.9 -0.2**
COR Corvallis 88.92 41 P **P 05 57 58.2 +2.1**
COR pmax pmax
comp=Z,59nm,0.8s
COR Corvallis 88.92 41 P **P 05 57 58.2 +2.1**
B08A Colville Reser 88.97 36 P **P 05 57 56.9 +0.6**
F05D White Salmon 89.25 39 P **P 05 57 58.3 +0.6**
F05D IAmb IAmb 05 57 59.9
comp=Z,15nm,0.7s
F05D White Salmon 89.25 39 P **P 05 57 58.8 +1.1**
baz=305
H04D Lebanon 89.29 40 P **P 05 57 59.3 +1.4**
H04D Lebanon 89.29 40 P **P 05 57 59.3 +1.4**
baz=305,SNR=9.7
BUCK Buck Mountain 89.33 41 P **P 05 57 59.8 +1.6**
J01E Myrtle Point 89.34 42 P **P 05 57 59.5 +1.4**
J01E Myrtle Point 89.34 42 P **P 05 57 59.1 +1.0**
baz=304
I03D Drain, OR 89.39 41 P **P 05 57 59.2 +0.8**
baz=304,SNR=9.2
HOOD Mount Hood Mea 89.47 39 P **P 05 58 00.4 +1.5**
H04A Detroit Lake 89.52 40 P **P 05 58 00.1 +1.1**
G05D Wamic, OR 89.71 39 P **P 05 58 01.0 +1.1**
baz=306,SNR=10
K02D Willamette Mer 89.76 42 P **P 05 58 00.9 +0.6**
baz=304
E07A Sunnyside 89.76 38 P **P 05 58 01.3 +1.2**
DBO Dodson Butte 89.78 42 P **P 05 58 00.2 -0.1**
DBO IAmb IAmb 05 58 02.4
comp=Z,19nm,1.0s
C09A Chrisman Ranch 89.87 36 P **P 05 58 01.5 +1.0**
I04A Tendick Farm, 89.90 41 P **P 05 58 01.6 +0.8**
baz=305,SNR=16
D08A Wollman Farm, 89.97 37 P **P 05 58 02.0 +1.0**
HAWA Hanford 90.04 38 P **P 05 58 02.5 +1.1**
L02E Cave Junction 90.09 43 P **P 05 58 02.1 +0.4**
baz=304
F07A Phinny Hill Vi 90.11 38 P **P 05 58 02.8 +1.1**
NEW Newport 90.19 35 P **P 05 58 03.1 +1.0**
NEW pmax pmax
comp=Z,28nm,0.9s
NEW Newport 90.19 35 P **P 05 58 03.1 +1.0**
NEW Newport 90.19 35 P **P 05 58 03.0 +1.0**
baz=309,SNR=30
I05D Terrebonne, OR 90.22 40 P **P 05 58 03.4 +1.1**
baz=306,SNR=18
E08A Dider Farm, El 90.24 37 P **P 05 58 03.6 +1.3**
HUMO Hull Mountain 90.24 42 P **P 05 58 03.4 +1.0**
HUMO IAmb IAmb 05 58 05.4

comp=Z,11nm,0.7s
J04D Umpqua Nationa 90.39 41 P **P 05 58 04.6 +1.2**
J04D Umpqua Nationa 90.39 41 P **P 05 58 04.5 +1.1**
baz=305,SNR=22
E09A Wood Farm, Sta 90.73 37 P **P 05 58 05.7 +1.1**
PINE Pine Mountain 90.77 40 P **P 05 58 06.5 +1.4**
L04D Klamath Falls 90.86 42 P **P 05 58 06.3 +0.9**
L04D Klamath Falls 90.86 42 P **P 05 58 06.3 +0.9**
baz=305,SNR=25
YBH Yreka Blue Hor 90.89 43 LR LR 06 33 10.6
comp=Z,20nm,21.2s,baz=321,slow=32
YBH Yreka Blue Hor 90.89 43 P **P 05 58 06.6 +1.1**
YBH pmax pmax
comp=Z,17nm,1.1s
YBH Yreka Blue Hor 90.89 43 P **P 05 58 06.6 +1.1**
YBH IAmb IAmb 05 58 07.6
comp=Z,17nm,1.1s
J05D Fort Rock, OR 90.89 41 P **P 05 58 06.9 +1.3**
baz=306,SNR=27
K04D Chiloquin, OR 90.96 42 P **P 05 58 06.8 +0.9**
baz=305
M02C Callahan 90.99 43 P **P 05 58 07.0 +1.0**
M02C IAmb IAmb 05 58 08.3
comp=Z,14nm,0.9s
M02C Callahan 90.99 43 P **P 05 58 07.3 +1.3**
baz=304,SNR=6.8
G08A Pilot Rock 91.02 38 P **P 05 58 07.2 +1.1**
G08A IAmb IAmb 05 58 11.8
comp=Z,7.3nm,0.9s
N02D Trinity Center 91.32 43 P **P 05 58 09.2 +1.7**
N02D IAmb IAmb 05 58 09.7
comp=Z,9.2nm,0.8s
N02D Trinity Center 91.32 43 P **P 05 58 08.2 +0.7**
baz=305
WALA Waterton Lakes 91.32 33 P **P 05 58 08.5 +1.1**
M04C Macdoel 91.39 42 P **P 05 58 08.8 +0.8**
M04C Macdoel 91.39 42 P **P 05 58 08.7 +0.8**
baz=305,SNR=20
K05A Summer Lake 91.42 41 P **P 05 58 09.4 +1.3**
I07A Izee 91.43 39 P **P 05 58 09.4 +1.4**
F10A Beach Ranch, E 91.56 37 P **P 05 58 09.2 +0.6**
FRB Frobisher Bay 91.59 5 LR LR 06 42 29.9
comp=Z,34nm,19.4s,baz=8.0,slow=38
O02D Mt. Diablo Mer 91.72 44 P **P 05 58 10.3 +0.9**
O02D Mt. Diablo Mer 91.72 44 P **P 05 58 10.5 +1.1**
baz=304,SNR=9.1
FCC Fort Churchill 91.72 18 P **P 05 58 08.4 -0.4**
FCC pmax pmax
comp=Z,19nm,0.9s
FCC Fort Churchill 91.72 18 P **P 05 58 08.4 -0.4**
JTMT Jette 91.99 34 P **P 05 58 11.3 +0.7**
BMO Blue Mountains 92.21 38 P **P 05 58 12.3 +0.7**
BMO pmax pmax
comp=Z,17nm,0.8s
BMO Blue Mountains 92.21 38 P **P 05 58 12.2 +0.7**
MOD Modoc Plateau 92.26 41 P **P 05 58 12.9 +0.9**
O03E Paynes Creek 92.27 43 P **P 05 58 12.3 +0.4**
O03E IAmb IAmb 05 58 13.0
comp=Z,15nm,1.0s
O03E Paynes Creek 92.27 43 P **P 05 58 11.9 0.0**
baz=305,SNR=6.2
FFC Flin Flon 92.43 24 P **P 05 58 12.2 -0.1**
FFC pmax pmax
comp=Z,20nm,0.8s
FFC Flin Flon 92.43 24 P **P 05 58 12.2 -0.1**
J08A Circle Bar Ran 92.47 40 P **P 05 58 14.1 +1.3**
MSO Missoula 92.77 35 P **P 05 58 14.4 +0.2**
MSO IAmb IAmb 05 58 15.4
comp=Z,12nm,0.8s
MSO Missoula 92.77 35 P **P 05 58 14.3 +0.2**
baz=311,SNR=18
PLID Pearl Lake 92.79 37 P **P 05 58 14.4 -0.1**
ORV Oroville 92.88 44 P **P 05 58 14.7 0.0**
ORV pmax pmax
comp=Z,11nm,0.8s
ORV Oroville 92.88 44 P **P 05 58 14.7 0.0**
ORV IAmb IAmb 05 58 15.6
comp=Z,11nm,0.8s
WVOR Wild Horse Val 92.93 40 P **P 05 58 16.0 +1.0**
WVOR pmax pmax
comp=Z,15nm,1.0s
WVOR Wild Horse Val 92.93 40 P **P 05 58 16.0 +1.0**
WVOR IAmb IAmb 05 58 17.1
comp=Z,15nm,0.9s
BEKR Beckworth 93.42 43 P **P 05 58 18.1 +0.7**
HRY Holter Researc 93.93 34 P **P 05 58 20.1 +0.6**
MFID Camas Ranch 93.94 38 P **P 05 58 20.6 +0.9**
MFID IAmb IAmb 05 58 21.7
comp=Z,14nm,0.9s
MPK Martis Peak 93.96 43 P **P 05 58 20.8 +0.7**
RUBR Rubicon Trail 94.03 44 P **P 05 58 20.6 +0.4**
EGMT Eagleton 94.06 32 P **P 05 58 20.4 +0.4**
EGMT Eagleton 94.06 32 P **P 05 58 20.0 0.0**
baz=314,SNR=11
EMB Emerald Bay 94.10 44 P **P 05 58 21.3 +0.7**
PAHR Pah Rah Range 94.12 43 P **P 05 58 20.9 +0.4**
VCNR Virginia City 94.20 43 P **P 05 58 21.7 +0.7**
LRM Limekiln Ridge 94.21 35 P **P 05 58 21.9 +0.9**
PNTR Pine Nut 94.35 43 P **P 05 58 22.6 +0.8**
DLMT Dillon 94.44 35 P **P 05 58 22.7 +0.8**
CMB Columbia Colle 94.47 45 P **P 05 58 22.4 +0.3**
CMB pmax pmax
comp=Z,14nm,1.0s
CMB Columbia Colle 94.47 45 P **P 05 58 22.4 +0.3**
CMB IAmb IAmb 05 58 23.3
comp=Z,14nm,0.9s
YERR Yerington 94.64 43 P **P 05 58 23.6 +0.6**
YERR IAmb IAmb 05 58 24.6
comp=Z,12nm,1.1s
HLID Hailey 94.64 37 P **P 05 58 24.2 +1.3**
HLID IAmb IAmb 05 58 25.2
comp=Z,13nm,0.9s
HLID Hailey 94.64 37 P **P 05 58 24.1 +1.2**
baz=310,SNR=27
MCMT McKenzie Canyo 94.66 36 P **P 05 58 23.4 +0.4**
BOZ Bozeman (W) 94.79 35 P **P 05 58 24.1 +0.6**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 94.79 35 P **P 05 58 24.1 +0.6**
BOZ IAmb IAmb 05 58 24.8
comp=Z,3.9nm,0.8s
BOZ Bozeman (W) 94.79 35 P **P 05 58 24.0 +0.6**
baz=313,SNR=9.6
BBGB Big Mountain B 94.90 46 P **P 05 58 25.6 +1.5**
BBGB IAmb IAmb 05 58 31.6
comp=Z,14nm,0.9s
BMN Battle Mountai 95.00 41 P **P 05 58 24.7 +0.1**
BMN pmax pmax
comp=Z,15nm,1.2s
BMN Battle Mountai 95.00 41 P **P 05 58 24.7 +0.1**
BMN IAmb IAmb 05 58 26.8
comp=Z,15nm,1.2s
RYN Ryan 95.30 43 P **P 05 58 26.8 +0.8**
RYN IAmb IAmb 05 58 27.7
comp=Z,12nm,0.9s
KVN Kaiserville 95.31 43 P **P 05 58 26.5 +0.4**
KVN pmax pmax
comp=Z,17nm,1.1s
KVN Kaiserville 95.31 43 P **P 05 58 26.5 +0.4**
KVN IAmb IAmb 05 58 27.8
comp=Z,17nm,1.1s
QLMT Earthquake Lak 95.41 35 P **P 05 58 27.4 +1.0**
YHL Hebgen Lake 95.52 35 P **P 05 58 28.1 +1.0**
YHL IAmb IAmb 05 58 29.0
comp=Z,8.9nm,1.0s
LHV Little Huntoon 95.54 44 P **P 05 58 28.3 +1.4**
LHV IAmb IAmb 05 58 29.2
comp=Z,17nm,1.1s
NVAR Mina Array Bea 95.56 43 P **P 05 58 26.8 -0.5**
comp=Z,6.2nm,0.7s,baz=295,slow=5.2,SNR=43
NVAR Mina Array Bea 95.56 43 P **P 05 58 27.8 +0.5**
OMMB Old Mammoth Mi 95.61 44 P **P 05 58 27.8 +0.1**
OMMB IAmb IAmb 05 58 29.1
comp=Z,5.7nm,1.0s
PPT2 Papeete2 95.62 107 *e* LR LR 06 29 28.6
comp=Z,125nm,24.2s
NV11 Mina Array Sit 95.65 43 P **P 05 58 28.1 +0.5**
NV11 IAmb IAmb 05 58 29.2
comp=Z,4.8nm,0.9s
MLAC Mammoth, Mammo 95.70 44 P **P 05 58 28.7 +0.8**
baz=307,SNR=5.6
YHH Holmes Hill 95.74 35 P **P 05 58 27.7 -0.4**
YMR Madison River 95.76 35 P **P 05 58 29.3 +1.2**
YMR IAmb IAmb 05 58 30.2
comp=Z,6.8nm,0.9s

PAGB	Antelope Grade	95.91	46	P	P	05 58 29.3	+0.6
ELK	Elko	95.98	40	LR	LR	06 36 48.0	
	comp=Z,21nm,21.9s,baz=330,slow=32						
ELK	Elko	95.98	40	P	P	05 58 29.2	0.0
ELK				pmax	pmax		
	comp=Z,11nm,1.8s						
ELK	Elko	95.98	40	P	P	05 58 29.2	0.0
ELK				IAmb	IAmb	05 58 31.6	
	comp=Z,11nm,1.8s						
YFT	Old Faithful	95.98	35	P	P	05 58 30.9	+1.9
YFT				IAmb	IAmb	05 58 32.4	
	comp=Z,9.4nm,0.9s						
LKWY	Lake	96.13	35	P	P	05 58 31.6	+1.8
LKWY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LKWY	Lake	96.13	35	P	P	05 58 31.6	+1.8
LKWY				IAmb	IAmb	05 58 34.0	
	comp=Z,6.2nm,0.8s						
YMP	Mirror Lake Pl	96.13	35	P	P	05 58 31.2	+1.4
YMP				IAmb	IAmb	05 58 32.1	
	comp=Z,5.0nm,1.0s						
H17A	Grant Village	96.15	35	P	P	05 58 31.9	+2.0
H17A				IAmb	IAmb	05 58 33.3	
	comp=Z,7.9nm,1.1s						
H17A	Grant Village	96.15	35	P	P	05 58 31.4	+1.5
	baz=313,SNR=6.2						
FLWY	Flagg Ranch	96.30	35	P	P	05 58 31.6	+1.1
FLWY				IAmb	IAmb	05 58 32.9	
	comp=Z,7.3nm,0.8s						
DGMT	Dagmar	96.30	29	P	P	05 58 30.2	0.0
DGMT	Dagmar	96.30	29	P	P	05 58 30.3	0.0
	baz=319						
SMMC	Simmler	96.32	47	P	P	05 58 30.6	0.0
	baz=306						
RLMT	Red Lodge	96.32	34	P	P	05 58 29.5	-1.1
RLMT				IAmb	IAmb	05 58 35.2	
	comp=Z,4.3nm,0.7s						
RLMT	Red Lodge	96.32	34	P	P	05 58 30.9	+0.3
	baz=314,SNR=7.1						
TIN	Tinemaha, Big	96.43	44	P	P	05 58 31.1	0.0
	baz=307						
TPH	Tonopah	96.45	43	P	P	05 58 31.3	0.0
TPH				pmax	pmax		
	comp=Z,38nm,0.8s						
TPH	Tonopah	96.45	43	P	P	05 58 31.3	0.0
TPAW	Teton Pass	96.57	36	P	P	05 58 32.5	+0.7
VES	Vestal, Richgr	96.61	46	P	P	05 58 31.6	-0.2
	baz=307						
LAO	LASA Array	96.70	31	P	P	05 58 32.6	+0.5
LAO				IAmb	IAmb	05 58 32.9	
	comp=Z,7.8nm,1.1s						
LAO	LASA Array	96.70	31	P	P	05 58 32.1	+0.1
	baz=317						
LCH	Last Change Ra	96.70	44	P	P	05 58 33.0	+0.6
LCH				IAmb	IAmb	05 58 33.8	
	comp=Z,7.0nm,1.1s						
HVU	Hansel Valley	96.72	38	P	P	05 58 32.9	+0.5
HVU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HVU	Hansel Valley	96.72	38	P	P	05 58 32.9	+0.5
HVU				IAmb	IAmb	05 58 34.1	
	comp=Z,3.2nm,0.8s						
AHID	Auburn Hatcher	96.98	36	P	P	05 58 34.3	+0.6
SBC	Santa Barbara	97.02	47	P	Pdif	05 58 34.2	+0.4
	baz=306						
ISA	Isabella, Lake	97.11	46	P	P	05 58 33.9	-0.3
	baz=307						
ARVC	Arvin	97.20	46	P	Pdif	05 58 34.8	+0.2
	baz=307						
R11A	Troy Canyon, C	97.29	42	P	P	05 58 35.1	0.0
R11A	Troy Canyon, C	97.29	42	P	Pdif	05 58 35.4	+0.2
	baz=309,SNR=8.2						
MPMC	Manual Prospec	97.51	45	P	Pdif	05 58 36.3	+0.1
	baz=308,SNR=8.8						
S11A	Rachel	97.63	43	P	Pdif	05 58 37.6	+1.0
S11A				IAmb	IAmb	05 58 39.1	
	comp=Z,6.7nm,1.0s						
FURC	Furnace Creek,	97.66	44	P	Pdif	05 58 36.8	+0.2
	baz=308						
DUG	Dugway, Tooele	97.74	39	P	Pdif	05 58 37.2	+0.1
DUG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DUG	Dugway, Tooele	97.74	39	P	Pdif	05 58 37.1	+0.1
DUG	Dugway, Tooele	97.74	39	P	Pdif	05 58 37.3	+0.2
	baz=311						
TPNV	Topopah Spring	97.75	44	P	P	05 58 36.9	-0.3
TPNV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TPNV	Topopah Spring	97.75	44	P	P	05 58 36.9	-0.3
TPNV				IAmb	IAmb	05 58 40.3	
	comp=Z,5.9nm,1.1s						
TPNV	Topopah Spring	97.75	44	P	Pdif	05 58 37.4	+0.2
	baz=309,SNR=5.7						
BW06	Boulder Array	97.81	36	P	P	05 58 36.7	-0.7
	baz=314						
PD31	Pinedale Array	97.81	36	P	P	05 58 36.2	-1.2
PDAR	Pinedale Array	97.81	36	P	P	05 58 37.1	-0.3
	comp=Z,0.6nm,0.5s,baz=54,slow=0.9,SNR=9.6						
PDAR				LR	LR	06 46 22.2	
	comp=Z,26nm,18.2s,baz=356,slow=38						
EDW2	Edwards Air Fo	97.90	46	P	Pdif	05 58 37.8	+0.1
	baz=307						
GWY	Greenwater Val	97.96	44	P	Pdif	05 58 38.2	+0.1
GWY				IAmb	IAmb	05 58 39.3	
	comp=Z,3.8nm,1.0s						
QSM	Queen of Sheba	97.97	45	P	Pdif	05 58 38.4	+0.4
QSM				IAmb	IAmb	05 58 39.4	
	comp=Z,5.7nm,0.9s						
PSUT	Pine Spring	98.21	41	P	P	05 58 39.3	0.0
ULM	Lac du Bonnet	98.25	24	LR	LR	06 48 26.0	
	comp=Z,27nm,18.6s,baz=59,slow=39						
SHOC	Shoshone, Teco	98.39	44	P	Pdif	05 58 40.0	+0.1
	baz=308						
GSC	Goldstone, Bar	98.41	45	P	P	05 58 40.0	-0.1
	baz=308						
BFSC	Mount Baldy Ra	98.50	46	P	P	05 58 40.4	-0.2
	baz=307						
SHPR	Sheep Range	98.71	43	P	P	05 58 39.9	-1.6
SHPR				IAmb	IAmb	05 58 44.3	
	comp=Z,4.3nm,1.0s						
HEC	Hector,Ludlow	99.01	45	P	Pdif	05 58 42.7	-0.1
	baz=308						
P17A	Butcher Ranch,	99.41	39	P	Pdif	05 58 43.8	-0.8
P17A				IAmb	IAmb	05 58 48.2	
	comp=Z,3.6nm,0.8s						
GMRC	Granite Mounta	99.47	45	P	Pdif	05 58 44.2	-0.6
	baz=309						
K22A	Casper	99.47	34	P	Pdif	05 58 44.1	-0.7
	baz=316						
PFO	Pinyon Flats O	99.68	46	LR	LR	06 40 25.5	
	comp=Z,40nm,18.3s,baz=194,slow=33						
PFO	Pinyon Flats O	99.68	46	P	Pdif	05 58 45.5	-0.3
	baz=308						
TPFO	Pinon Flats	99.68	46	P	Pdif	05 58 45.6	-0.2
	baz=308						
LSZ	Lusaka	99.72	258	LR	LR	06 41 16.3	
	comp=Z,43nm,18.6s,baz=156,slow=34						
BELC	Belle Mtn. Jos	99.74	46	P	Pdif	05 58 46.0	-0.1
	baz=308						
IRM	Iron Mountain	100.19	45	P	Pdif	05 58 48.2	+0.2
	baz=309						
O20A	White River Ci	100.35	37	P	Pdif	05 58 48.5	-0.3
	baz=315						
TAOE	Nuku Hiva Isla	100.59	95	eLR	LR	06 31 45.8	
	comp=Z,67nm,28.4s						
N23A	Red Feather La	101.04	35	P	Pdif	05 58 51.1	-0.8
	baz=316						
WUAZ	Wupatki	101.69	42	P	Pdif	05 58 54.7	0.0
	baz=312						
ISCO	Idaho Springs	102.01	36	P	Pdif	05 58 55.9	-0.4
	baz=317						
214A	Organ Pipe Nat	103.10	46	P	Pdif	05 59 00.9	0.0
	baz=310						
ECSD	EROS Data Cent	103.29	28	P	Pdif	05 59 01.2	-0.4
	baz=324						
TXAR	Lajitas Array	110.65	42	Pdiff	Pdif	05 59 32.6	-2.1
	comp=Z,0.4nm,0.9s,baz=318,slow=3.8,SNR=2.4						
TXAR				PKiKP	PKiKP	06 03 34.4	-0.3
	comp=Z,0.5nm,0.4s,baz=173,slow=1.3,SNR=16						
TORD	Torodi Ar. Bea	110.86	296	PKiKP	PKiKP	06 03 34.4	-0.9
	comp=Z,0.8nm,0.5s,baz=31,slow=2.0,SNR=8.3						
JCT	Junction City	112.09	39	P	PKiKP	06 03 37.1	-0.2
	baz=319						
LRAL	Lakeview Retre	116.34	27	P	PKPdf	06 03 44.7	-0.6
	baz=330						
KMSC	Kings Mountain	116.59	21	P	PKPdf	06 03 45.2	-0.6
	baz=336						
BRAL	Brewton	117.94	28	P	PKPdf	06 03 48.0	-0.4
	baz=330						
DBIC	Dimbokro	119.78	294	PKP	PKPdf	06 03 51.5	-0.9
	comp=Z,2.7nm,0.6s,baz=93,slow=3.6,SNR=7.0						
TROLL	Troll, Antarti	122.19	199	PKPdf	PKiKP	06 03 55.8	+0.1
BELA	Belgrano 2	125.51	186		PKiKP	06 04 01.8	-0.1
VNA2	Neumayer--Watz	125.52	198	PKPdf	PKPdf	06 04 01.8	+0.1
	baz=78,slow=2.0						
VNA1	Neumayer--Stat	125.91	198	PKPdf	PKiKP	06 04 02.7	-0.1
VNA3	Neumayer Olymp	125.98	197	PKPdf	PKPdf	06 04 02.3	-0.4
OCAC	Ocana	144.08	27		PKPab	06 04 35.2	-0.4
ZARC	Zaragoza, Cauc	144.08	30		PKPab	06 04 34.5	-1.0
SDV	Santo Domingo	144.49	22	PKPdf	PKPab	06 04 36.9	-0.3
BAUV	El Baul	145.25	18		PKPbc	06 04 38.9	-0.7
ROSC	El Rosal	146.67	31	PKPbc	PKPdf	06 04 42.9	0.0
	comp=Z,35nm,0.7s,baz=15,slow=3.4,SNR=16						
ROSC	El Rosal	146.67	31	PKP2	PKPbc	06 04 44.5	0.0
ROSC	El Rosal	146.67	31	PKPbc	PKPbc	06 04 44.5	0.0
TULM	Tulcn-Chalpat	148.30	40		PKPbc	06 04 49.7	+0.6
PLCA	Paso Flores	160.69	150	PKPab	PKPab	06 05 43.2	-0.2
	comp=Z,2.6nm,1.0s,baz=217,slow=3.3,SNR=7.4						
CO02	Combarbal	166.63	123		PKPdf	06 05 05.6	-1.7
BDFB	Brasilia	167.19	312	PKP	PKPdf	06 05 07.4	-0.7
	comp=Z,2.3nm,0.7s,baz=195,slow=4.7,SNR=5.8						
LPAZ	La Paz	167.33	51	PKP	PKPdf	06 05 08.3	-0.5
	comp=Z,4.9nm,1.1s,baz=328,slow=0.9,SNR=8.1						
LPAZ				PKPab	PKPab	06 06 12.8	-1.2
	comp=Z,4.3nm,0.8s,baz=352,slow=6.3,SNR=8.6						

INET ***11*** *05:50:14.4±1.0, 12.07N×87.92W, h15km±10km, MW3.6*
SNET ***11*** *05:50:15.9±0.8, 12.17N×88.01W, h8km±10km, ML3.0*
UCR ***11*** *05:50:15.5±0.8, 12.09N×87.84W, h29km±9km, MW4.1*

ISC 11 05:50:15.6±2.7, 12.11N±0.07×87.81W±0.06, h23km±23km, n34, σ0.59/43, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.90	16	eP		Pn	05 50 32.3	-0.5
CRIN	San Cristobal	0.95	52	eP		Pn	05 50 33.7	+0.1
TEL3	Telica 3	1.05	64	eP		Pn	05 50 34.3	-0.6
TELN	Telica	1.07	63	eP		Pn	05 50 35.1	-0.2
CNGN	Cerro Negro	1.15	70	eP		Pn	05 50 34.9	-1.4
COPN	Copaltepe	1.19	87	eP		Pn	05 50 36.6	-0.3
LCND	La Caada	1.19	356	eP		Pn	05 50 36.4	-0.5
LCND				eS		Sb	05 50 52.9	+0.3
LCND	La Caada	1.19	356	eP		Pn	05 50 36.4	-0.5
LCND				eS		Sb	05 50 52.9	+0.3
LCND					IAML		05 51 01.2	
	comp=Z,735nm,0.4s							
JUCU	Jucuarn	1.21	339	eP		Pn	05 50 36.3	-0.9
JUCU	Jucuarn	1.21	339	eP		Pn	05 50 36.3	-0.9
JUCU					IAML		05 51 00.8	
	comp=Z,321nm,0.3s							
MOMN	Momotombo	1.28	76	eP		Pn	05 50 37.5	-0.5
APYN	Apoyeque	1.43	85	eP		Pn	05 50 39.4	-0.8
TISN	Laguna Tiscapa	1.51	89	eP		Pn	05 50 39.9	-1.3
MGAN	Managua	1.53	88	eP		Pn	05 50 41.3	-0.2
COEB	Comit de Eme	1.55	333	eP		Pn	05 50 41.0	-0.8
COEB				eS		Sn	05 51 01.4	+0.1
COEB	Comit de Eme	1.55	333	eP		Pn	05 50 41.0	-0.8
COEB				eS		Sn	05 51 01.4	+0.1
COEB					IAML		05 51 14.2	
	comp=Z,134nm,0.5s							
SCLA	Alcaldia de Sa	1.82	331	eP		Pn	05 50 45.1	-0.4
SCLA				eS		Sn	05 51 08.6	+0.7
SCLA	Alcaldia de Sa	1.82	331	eP		Pn	05 50 45.1	-0.4
SCLA				eS		Sn	05 51 08.6	+0.7
COEG	Centro de Oper	1.83	325	eP		Pn	05 50 45.3	-0.4
COEG				eS		Sn	05 51 08.5	+0.4
COEG	Centro de Oper	1.83	325	eP		Pn	05 50 45.3	-0.4
COEG				eS		Sn	05 51 08.5	+0.4
COEG					IAML		05 51 17.5	
	comp=Z,165nm,0.4s							
SJTE	Alcalda de S	1.90	322	eP		Pn	05 50 46.6	0.0
SJTE	Alcalda de S	1.90	322	eP		Pn	05 50 46.6	0.0
PAVA	Las Pavas	1.94	326	eP		Pn	05 50 47.1	-0.1
PAVA				eS		Sn	05 51 11.2	+0.3
PAVA	Las Pavas	1.94	326	eP		Pn	05 50 47.1	-0.1
PAVA				eS		Sn	05 51 11.2	+0.3
PAVA					IAML		05 51 20.2	
	comp=Z,114nm,0.4s							
MATN	Matagalpa	2.01	66	eP		Pn	05 50 48.4	+0.2
BOAB	BOACO BROADBAN	2.12	81	eP		Pn	05 50 49.3	-0.4
CEVE	Cerro Verde	2.46	314	IAML			05 51 34.2	
	comp=Z,165nm,0.3s							
HZTE	Horizontes, Gu	2.58	122	eP		Pn	05 50 56.2	+0.3
ACON	Acoyapa	2.58	93	eP		Pn	05 50 55.7	-0.3
ACON	Acoyapa	2.58	93	eP		Pn	05 50 56.0	0.0
SAJU	San Juanillo,	2.89	134	eP		Pn	05 50 59.3	-1.0
PLVR	Palo Verde	2.98	126	eP		Pn	05 51 01.6	-0.1
JTS	Las Juntas de	3.34	123	eP		Pn	05 51 06.8	+0.4
LAFE	Finca La Fe, P	3.65	129	eP		Pn	05 51 10.2	-0.6

ATH ***11*** *06:06:32.5, 39.05N×21.88E, h22km±1km, ML3.6/4, Error ellipse: s-maj=1.8km s-min=1.0km az=68.0*
NEIC ***11*** *06:06:32.1±1.8, 39.11N±0.04×21.82E±0.04, h10km±2km, Error ellipse: s-maj=7.8km s-min=5.3km az=195.0*
THE ***11*** *06:06:33.1, 39.06N×21.84E, h13km, ML4.0/4, Error ellipse: s-maj=0.6km s-min=0.3km az=199.0*
SOF ***11*** *06:06:35.4, 39.30N×22.27E, h2km, MD3.0*
ISK ***11*** *06:06:35.1, 38.99N×22.18E, h27km, ML3.4/14*
IDC ***11*** *06:06:37.4±2.9, 39.09N×21.87E, h49km±31km, mb3.4/9, mb1 3.5/12, mb1mx3.3/52, mbtmp3.6/12, ML3.8/3, Error ellipse: s-maj=24.9km s-min=18.9km az=149.0*
DDA ***11*** *06:06:38.0±0.0, 39.16N×22.33E, h15km, MW3.5*

ISC 11 06:06:32.7±1.2, 39.04N±0.02×21.88E±0.02, h13km±8km, n116, σ1.36/134, mb3.6/10, 13C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EVR	Evrytania	0.14	204	P		Pb	06 06 36.5	-0.6
EVR				S		Sb	06 06 39.2	-0.9
	66μm,0.3s							
MAKR	Makrakomi, Fth	0.20	99	P		Pb	06 06 38.0	-0.1
MAKR				S		Sb	06 06 41.0	-0.8
MAKR					AML	AML	06 06 42.5	
	comp=N,39668μm,0.5s							
MAKR					AML	AML	06 06 43.4	
	comp=E,35464μm,0.3s							
MAKR	Makrakomi, Fth	0.20	99	P		Pb	06 06 38.0	-0.1
MAKR				S		Sb	06 06 41.9	+0.1
	comp=E,65μm,0.2s							
AGG	Agios Georgios	0.35	93	P		Pb	06 06 40.4	-0.4
AGG				S		Sb	06 06 46.3	+0.1
AGG					AML	AML	06 06 47.6	
	comp=N,18558μm,0.3s							
AGG					AML	AML	06 06 48.2	
	comp=E,11331μm,0.2s							
AGG	Agios Georgios	0.35	93	P		Pb	06 06 40.5	-0.3
AGG				S		Sb	06 06 46.9	+0.7
AGG	Agios Georgios	0.35	93	PG		Pb	06 06 40.4	-0.4
AGG				SG		Sb	06 06 44.9	-1.3
AGG	Agios Georgios	0.35	93			Pb	06 06 40.4	-0.4
THL	Klokotos Trika	0.53	11	P		Pg	06 06 43.1	0.0
THL				S		Sg	06 06 50.6	+0.4
THL					AML	AML	06 06 52.0	
	comp=N,9427μm,0.6s							
THL					AML	AML	06 06 52.4	
	comp=E,7367μm,0.4s							
THL	Klokotos Trika	0.53	11	P		Pg	06 06 43.1	0.0
EFP	Efpalio	0.62	178	P		Pb	06 06 44.9	-0.3
EFP				S		Sb	06 06 54.5	+0.7
EFP					AML	AML	06 06 55.7	
	comp=E,38416μm,0.4s							
EFP					AML	AML	06 06 56.0	
	comp=N,54839μm,0.3s							
EFP	Efpalio	0.62	178	P		Pb	06 06 45.1	-0.1
EFP				S		Sb	06 06 54.5	+0.7
	comp=N,24μm,0.3s							
DLFA	Delphi	0.74	139	P		Pb	06 06 46.4	-1.0
DLFA				S		Sb	06 06 57.2	-0.2
LAKA	Lakka	0.81	174	P		Pb	06 06 47.9	-0.6
LAKA	Lakka	0.81	174	P		Pb	06 06 48.4	-0.1
LAKA				S		Sn	06 07 00.9	-0.6
	comp=N,7μm,0.4s							
ATAL	Atalanti	0.96	111	P		Pn	06 06 50.8	-0.9
ATAL	Atalanti	0.96	111	P		Pn	06 06 51.4	-0.3
ATAL				S		Sn	06 07 06.1	+0.9
LKR	Lokris	0.96	114	P		Pn	06 06 50.7	-1.1
LKR	Lokris	0.96	114	P		Pn	06 06 51.8	+0.1
LKR				S		Sn	06 07 05.8	+0.6
LKD2	Lefkada island	0.99	255	P		Pb	06 06 51.7	+0.1
LKD2	Lefkada island	0.99	255	P		Pb	06 06 51.4	-0.2
KPRO	Kipourio	0.99	336	P		Pb	06 06 51.1	-0.7
KPRO	Kipourio	0.99	336	P		Pb	06 06 51.0	-0.7
JAN	Janina	1.01	308	P		Pb	06 06 51.5	-0.4
JAN	Janina	1.01	308	P		Pb	06 06 51.2	-0.7
XOR	Xorichti	1.07	72	P		Pn	06 06 53.1	-0.2
XOR	Xorichti	1.07	72	P		Pn	06 06 53.1	-0.2
XOR				S		Sn	06 07 08.8	+0.8
NEO	Neokhori	1.08	75	P		Pn	06 06 53.7	+0.3
NEO	Neokhori	1.08	75	P		Pn	06 06 53.2	-0.2
NEO				S		Sn	06 07 09.0	+0.8
DRO	Drossia	1.10	187	P		Pg	06 06 53.6	-0.2
LIT	Litokhoron	1.16	24	P		Pb	06 06 54.0	-0.4
LIT	Litokhoron	1.16	24			Pb	06 06 54.1	-0.4
THAL	Thalero	1.18	148	P		Pg	06 06 55.3	0.0
VIL2	Platees	1.37	127	P		Pg	06 06 59.0	+0.1
EPID	Epidavros	1.73	145	P		Pb	06 07 03.6	-0.6
KEK	Kerkira	1.75	293	Pn		Pn	06 07 01.5	-1.1
KBN	Korca	1.79	332	Pn		Pn	06 07 02.0	-1.2
HORT	Hortiatis	1.81	31	PN		Pn	06 07 03.8	+0.2
HORT				SN		Sn	06 07 26.2	-0.3
ATHU	Athens Univers	1.84	125	P		Pb	06 07 04.9	-1.2
ITM	Ithomi	1.86	179	PN		Pb	06 07 05.8	-0.7
ITM	Ithomi	1.86	179			Pn	06 07 04.7	+0.5
OUR	Ouranopolis	2.07	51	PN		Pn	06 07 07.3	+0.2
OUR				SN		Sn	06 07 30.2	-2.5
OHR	Ohrid	2.23	338	*i* Pn		Pg	06 07 14.7	-0.7
KARY	Karystos	2.25	116	P		Pn	06 07 10.3	+0.9
VLO	Vlora	2.33	309	Pn		Pn	06 07 08.8	-1.7
VAY	Valandovo	2.34	13	*i* Pn		Pb	06 07 13.9	-0.6
STIP	Stip	2.66	5	*i* Pn		Pn	06 07 17.4	+2.2
TIR	Tirane	2.77	327	⇑P		Pn	06 07 18.6	+2.0
TIR	Tirane	2.77	327			Pn	06 07 14.8	-1.9
SCTE	Santa Cesarea	2.83	292	Pn		Pn	06 07 16.3	-1.2
MMB	Musomiste	2.91	28	*i* P		Pn	06 07 18.8	+0.2
KKB	Krupnik	2.97	18	*i* P		Pn	06 07 20.7	+1.3
SIGR	SIGRI	3.10	86	PN		Pn	06 07 20.3	-0.8
BOZC	Bozcaada	3.33	75	PN		Pn	06 07 23.8	-0.5
BOZC	Bozcaada	3.33	75	P		Pn	06 07 24.8	+0.5
BOZC				S		Sn	06 07 59.5	-4.2
KOCA	Canakkale, Ayv	3.34	81	P		Pn	06 07 23.0	-1.5
KOCA				S		Sn	06 08 01.7	-2.2
RZN	Rozhen	3.42	38	*i* P		Pn	06 07 26.5	+0.8
RDO	Rodhopi	3.50	52	Pn		Pn	06 07 24.4	-2.4
EZN	Ezine	3.53	76	PN		Pn	06 07 26.9	-0.2
BAYC	CANAKKALE_Bayr	3.68	78	P		Pn	06 07 30.1	+0.8
BAYC				S		Sn	06 08 09.9	-2.6
ALN	Alexandroupoli	3.70	59	Pn		Pn	06 07 28.8	-0.6
VTS	Vitosha	3.72	16	⇑P		Pn	06 07 32.0	+2.2
VTS	Vitosha	3.72	16			Pn	06 07 28.3	-1.5
VTS	Vitosha	3.72	16	*i* P		Pn	06 07 31.1	+1.3
URLA	Izmir	3.75	99	PN		Pn	06 07 29.7	-0.5
URLA	Izmir	3.75	99	P		Pn	06 07 31.5	+1.3
GELI	Tayfur-Gelibol	3.79	68	PN		Pn	06 07 30.7	0.0
ERIK	Erikli-Kesan	3.92	64	PN		Pn	06 07 32.7	+0.3
PDG	Podgorica	3.93	330	⇑P		Pn	06 07 35.0	+2.4
PDG	Podgorica	3.93	330			Pn	06 07 33.0	+0.4
IMMV	Iera Moni Meta	3.95	154	PN		Pn	06 07 33.7	+0.8
TIP	Timpagrande	3.99	274	⇑P		Pn	06 07 36.6	+3.2
ZEDA	zmir-Bergama	4.05	89	P		Pn	06 07 35.0	+0.7
BUHA	Balikesir, Bur	4.06	82	P		Pn	06 07 35.5	+1.1
MATE	Matera	4.29	294	⇑P		Pn	06 07 40.7	+3.1
IDI	Anoyia	4.45	146	PN		Pn	06 07 40.4	+0.5
BLKB	Belagradchik	4.62	7	⇑P		Pn	06 07 44.8	+2.7
BODT	Bodrum	4.72	113	PN		Pn	06 07 43.0	+0.5
KIRK	Kirklareli	4.83	54	P		Pn	06 07 48.4	+3.4
ARMN	Kirklareli, Me	5.08	55	P		Pn	06 07 49.8	+1.3
ZKR	Zakros	5.23	137	PN		Pn	06 07 51.2	+0.7
DIVS	Divibare	5.25	345			Pn	06 07 49.3	-1.5
SGRT	San Giovanni R	5.41	302	Pn		Pn	06 07 53.6	+0.6
KARP	Karpathos	5.47	128	Pn		Pn	06 07 52.1	-1.7
MDVR	Moldovita	5.74	359	⇑P		Pn	06 08 00.1	+2.7
HERR	Herculane	5.85	4	⇑P		Pn	06 08 01.5	+2.6
PAOL	Paolisi	5.95	292	Pn		Pn	06 07 59.0	-1.5
GZR	Gura Zlata	6.38	6	⇓P		Pn	06 08 09.0	+2.7
BORA	Eskisehir	6.69	80	Pn		Pn	06 08 10.3	-0.3
VOIR		6.81	19	⇑P		Pn	06 08 14.1	+1.9
MLR	Muntele Rosu	7.11	24	⇑P		Pn	06 08 19.1	+2.6
MLR	Muntele Rosu	7.11	24	P		Pn	06 08 19.2	+2.8
	comp=N,1.1nm,0.3s,baz=225,slow=6.8,SNR=7.4							
MLR	Muntele Rosu	7.11	24	Pn		Pn	06 08 14.8	-1.7
TPGR	Topolog	7.58	38	⇑P		Pn	06 08 25.7	+3.0
NRCA	Norcia	7.64	303			Pn	06 08 21.3	-2.4
PLOR	Plostina	7.66	26	⇑P		Pn	06 08 26.7	+2.8
VRI	Vrincioaia	7.70	26	⇑P		Pn	06 08 26.5	+2.1
MURB	Monte Urbino	8.22	304	Pn		Pn	06 08 30.0	-1.6
PSZ	Piszkesteto	8.99	351	Pn		Pn	06 08 40.7	-1.4
BR131	Keskin Array S	9.13

JMZ					IAmb	IAmb	06 26 47.0		
	comp=Z,34nm,1.0s								
FITZ	**Fitzroy Crossi**	**27.36**	**182**	P		**P**	**06 28 32.8**	**-0.7**
	comp=Z,3.9nm,1.1s,baz=116,slow=20,SNR=3.1								
KSRS	**Korea Array**	**27.94**	**2**	P		**P**	**06 28 38.7**	**0.0**
	comp=Z,0.9nm,0.4s,baz=194,slow=9.7,SNR=4.6								
WB0	**Warramunga Arr**	**30.03**	**165**	P		**P**	**06 28 58.0**	**+0.6**
WB0					IAmb	IAmb	06 29 18.6		
	comp=Z,8.7nm,1.2s								
WRA	**Warramunga Arr**	**30.18**	**165**	P		**P**	**06 29 00.4**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=348,slow=9.3,SNR=5.0								
WB2	**Warramunga Arr**	**30.19**	**165**	P		**P**	**06 29 00.1**	**+1.4**
WB2					IAmb	IAmb	06 29 12.4		
	comp=Z,9.2nm,1.4s								
WR0	**Warramunga Arr**	**30.25**	**165**	P		**P**	**06 28 59.2**	**-0.2**
ASAR	**Alice Springs**	**33.67**	**168**	P		**P**	**06 29 31.8**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=346,slow=7.2,SNR=1.6								
KLR	**Kul'dur**	**39.93**	**5**	P		**P**	**06 30 22.6**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=194,slow=12,SNR=4.3								
H11S3	**WAKE ISLAND Hy**	**39.96**	**72**	T		T	07 13 16.9		
	baz=262,slow=75,SNR=21								
H11S1	**WAKE ISLAND Hy**	**39.98**	**72**	T		T	07 13 25.2		
	baz=262,slow=75,SNR=9.6								
H11S2	**WAKE ISLAND Hy**	**39.98**	**72**	T		T	07 13 23.1		
	baz=262,slow=75,SNR=12								
H11N1	**WAKE ISLAND Hy**	**40.33**	**71**	T		T	07 14 00.8		
	baz=265,slow=74,SNR=20								
H11N2	**WAKE ISLAND Hy**	**40.33**	**71**	T		T	07 13 55.0		
	baz=265,slow=74,SNR=15								
H11N3	**WAKE ISLAND Hy**	**40.34**	**71**	T		T	07 13 56.8		
	baz=265,slow=74,SNR=18								
SONM	**Songino Array**	**41.89**	**340**	P		**P**	**06 30 39.1**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=160,slow=8.8,SNR=1.7								
BBOO	**Buckleboo**	**42.97**	**168**	P		**P**	**06 30 48.2**	**+0.7**
PETK	**Petropavlovsk-**	**50.32**	**24**	P		**P**	**06 31 44.3**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=223,slow=5.9,SNR=2.2								
MK31	**Makanchi Array**	**52.83**	**323**	P		**P**	**06 32 03.5**	**-0.4**
MKAR	**Makanchi Array**	**52.83**	**323**	P		**P**	**06 32 03.6**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=122,slow=8.0,SNR=22								
MAKZ	**Makanchi**	**53.02**	**323**	P		**P**	**06 32 05.1**	**-0.3**
MAKZ					IAmb	IAmb	06 32 07.4		
	comp=Z,1.8nm,0.6s								
ZALV	**Zalesovo Beam**	**55.47**	**332**	P		**P**	**06 32 21.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=140,slow=6.7,SNR=2.5								
KURK	**Kurchatov**	**56.89**	**326**	P		**P**	**06 32 33.4**	**+0.2**
KURK					IAmb	IAmb	06 32 35.2		
	comp=Z,3.3nm,0.7s								
GAR	**Garm**	**58.00**	**310**	P		**P**	**06 32 40.4**	**-1.0**
KKAR	**Karatay Array**	**59.00**	**315**	P		**P**	**06 32 47.1**	**-1.0**
TIXI	**Tiksi**	**62.19**	**1**	P		**P**	**06 33 10.4**	**+1.0**
	comp=Z,1.6nm,0.4s,baz=91,slow=22,SNR=7.0								
TIXI	**Tiksi**	**62.19**	**1**	IAmb		IAmb	06 33 10.9		
	comp=Z,2.0nm,0.6s								
NRIK	**Noril'sk**	**64.89**	**346**	P		**P**	**06 33 26.9**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=138,slow=12,SNR=2.0								
ABKAR	**Akbulak array**	**67.66**	**319**	P		**P**	**06 33 44.7**	**-0.7**
ILAR	**Eielson Array**	**80.11**	**26**	P		**P**	**06 34 57.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=239,slow=5.2,SNR=4.6								
ARCES	**ARCESS Array B**	**85.06**	**340**	P		**P**	**06 35 23.6**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=77,slow=6.9,SNR=18								
FINES	**FINESS Array B**	**86.74**	**332**	P		**P**	**06 35 31.4**	**-0.9**
	comp=Z,2.3nm,1.1s,baz=48,slow=2.8,SNR=5.7								
YKA	**Yellowknife Ar**	**94.44**	**24**	P		**P**	**06 36 09.3**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=302,slow=4.5,SNR=16								
TORD	**Torodi Ar. Bea**	**120.78**	**291**	PKP		**PKPdf**	**06 41 40.6**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=107,slow=3.7,SNR=2.9								
PLCA	**Paso Flores**	**145.34**	**157**	PKPbc		**PKPbc**	**06 42 26.0**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=90,slow=1.0,SNR=1.2								

NNC ***11*** *06:58:03.4±2.5,54.04N×86.62E,h0km,mb2.6,mpv2.5, Error ellipse: s-maj=21.2km s-min=10.4km az=28.0, Suspected Mining explosion.*

IDC 11 06:58:05.2±2.3,53.93N×86.44E,h0km,mb1 2.9/2, mb1mx2.8/50,mbtmp2.9/2,ML2.9/2,6C-1D,Error ellipse: s-maj=19.4km s-min=12.1km az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**272**	*i*			07 05 07.6	
	baz=91,slow=340,SNR=4.3							
ZAA0	**Zalesovo Array**	**0.96**	**272**	⇑P		Pg	06 58 23.3	-0.2
	0.2nm,0.3s							
ZAA0				⇑S		Sb	06 58 38.8	+0.9
	0.5nm,0.3s							
ZALV	**Zalesovo Beam**	**0.96**	**272**	Pg		Pg	06 58 22.5	-1.0
	1.3nm,0.3s,baz=93,slow=15,SNR=9.7							
ZALV				Lg		Lg	06 58 36.8	
	2.1nm,0.3s,baz=91,slow=27,SNR=9.6							
KURBB	**Kurchatov Arra**	**5.88**	**239**	Pn		Pn	06 59 34.5	+1.0
	0.2nm,0.3s,baz=56,slow=13,SNR=8.6							
KURBB				Lg		Lg	07 01 12.7	
	0.0nm,0.3s,baz=56,slow=28,SNR=2.7							
KURBB	**Kurchatov Arra**	**5.88**	**239**	⇓Pn		Pn	06 59 34.9	+1.5
	0.9nm,0.2s							
KURBB				⇑Lg		Lg	07 01 15.5	
	0.4nm,0.1s							
MK31	**Makanchi Array**	**7.62**	**202**	⇑Pn		Pn	06 59 58.5	+1.1
	0.1nm,0.3s,baz=19,slow=11,SNR=16							
MK31				⇑Sn		Sn	07 01 26.7	+2.3
	0.1nm,0.4s							
MK31				⇑Lg		Lg	07 02 07.6	
	1.4nm,0.8s,baz=31,slow=28,SNR=5.2							
MKAR	**Makanchi Array**	**7.62**	**202**	Pn		Pn	06 59 58.5	+1.1
	0.2nm,0.3s,baz=25,slow=14,SNR=10.0							
MKAR				Lg		Lg	07 02 07.4	
	0.1nm,0.3s,baz=22,slow=31,SNR=7.4							

NEIC ***11*** *07:01:29.2±1.3,11.3N±0.1×140.9E±0.1,h10km±1km, mb4.5/42,Error ellipse: s-maj=19.6km s-min=17.2km az=122.0*

IDC ***11*** *07:01:35.8±3.0,11.31N×140.97E,h70km±29km,mb3.9/13, mb1 4.1/14,mb1mx3.8/46,mbtmp4.2/14,MS3.4/14, Ms1 3.4/14,ms1mx3.0/79,Error ellipse: s-maj=21.9km s-min=13.7km az=105.0*

ISC 11 07:01:33.4±0.5,11.30N±0.08×140.87E±0.09,h45km,n72, σ0.83/59,mb4.4/33,MS3.3/14,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**4.53**	**59**	P		**Pn**	**07 02 40.7**	**+1.3**
	5.7nm,0.3s,baz=215,slow=11,SNR=2.4							
GUMO				S		**Sn**	**07 03 31.5**	**+0.7**
	2.0nm,0.3s,baz=15,slow=23,SNR=0.9							
GUMO	**Guam**	**4.53**	**59**			**Pn**	**07 02 37.0**	**-2.4**
LUWI	**Luwuk**	**21.77**	**237**	P		P	**07 06 20.6**	**-0.8**
JSU	**Suzuyama**	**22.30**	**336**	P		P	**07 06 27.7**	**+0.7**
MYLDM	**Lahad Datu**	**22.94**	**256**	P		P	**07 06 34.4**	**+0.3**
MYLDM					IAmb	IAmb	07 06 49.5	
	comp=Z,23nm,1.2s							
JMN	**Monobe**	**23.23**	**345**	P		**P**	**07 06 37.4**	**+0.7**
COEN	**Coen**	**25.20**	**175**	P		**P**	**07 06 55.0**	**+0.1**
COEN					IAmb	IAmb	07 07 25.6	
	comp=Z,21nm,1.5s							
MJAR	**Matsushiro Arr**	**25.25**	**355**	LR		LR	07 15 36.4	
	comp=Z,36nm,19.0s,baz=197,slow=33							
KSRS	**Korea Array**	**28.52**	**338**	LR		LR	07 17 23.3	
	comp=Z,65nm,20.3s,baz=160,slow=33							
WB0	**Warramunga Arr**	**31.52**	**192**	P		**P**	**07 07 50.8**	**-0.6**
WB0					IAmb	IAmb	07 07 52.3	
	comp=Z,15nm,1.5s							
CTA	**Charters Tower**	**31.64**	**170**	LR		LR	07 20 11.2	
	comp=Z,59nm,19.8s,baz=80,slow=35							
CTAO	**Charters Tower**	**31.64**	**170**	P		**P**	**07 07 53.6**	**+1.2**
CTAO					IAmb	IAmb	07 07 56.7	
	comp=Z,8.2nm,1.2s							
WR0	**Warramunga Arr**	**31.68**	**191**	P		**P**	**07 07 52.8**	**0.0**
WR0					IAmb	IAmb	07 07 54.2	
	comp=Z,12nm,1.4s							
WB2	**Warramunga Arr**	**31.70**	**192**	P		**P**	**07 07 52.9**	**-0.1**
WB2					IAmb	IAmb	07 08 03.8	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**31.70**	**192**	P		**P**	**07 07 52.6**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=12,slow=9.5,SNR=9.6							
WRA					LR	LR	07 18 57.8	
	comp=Z,42nm,21.7s,baz=48,slow=33							
WRA	**Warramunga Arr**	**31.70**	**192**		IAmb	IAmb	07 08 01.8	
	comp=Z,0.4nm,1.1s							
ASAJ	**Asahikawa**	**32.73**	**2**	LR		LR	07 20 11.0	
	comp=Z,23nm,20.7s,baz=64,slow=34							
USRK	**Ussuriysk Ar.**	**33.67**	**348**	LR		LR	07 20 24.9	
	comp=Z,71nm,20.0s,baz=309,slow=34							
AS31	**Alice Springs**	**35.41**	**191**	P		**P**	**07 08 26.1**	**+0.8**

ASAR	**Alice Springs**	**35.41**	**191**	P		**P**	**07 08 25.8**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=18,slow=12,SNR=28								
KLR	**Kul'dur**	**38.57**	**350**	P		**P**	**07 08 52.0**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=133,slow=10,SNR=11								
KLR					LR	LR	07 24 38.8		
	comp=Z,29nm,18.2s,baz=289,slow=36								
CMAR	**Chiang Mai Arr**	**41.06**	**285**	P		**P**	**07 09 13.8**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=83,slow=6.7,SNR=6.2								
STKA	**Stephens Creek**	**42.94**	**179**	P		**P**	**07 09 27.7**	**-0.3**
	comp=Z,2.4nm,1.0s,baz=314,slow=7.3,SNR=3.9								
STKA					LR	LR	07 27 51.1		
	comp=Z,33nm,19.1s,baz=207,slow=37								
ULN	**Ulaanbaatar**	**46.16**	**329**	P		**P**	**07 09 54.2**	**+0.5**
ULN					IAmb	IAmb	07 10 05.7		
	comp=Z,3.5nm,0.9s								
SONM	**Songino Array**	**46.48**	**328**	P		**P**	**07 09 56.6**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=137,slow=9.0,SNR=7.7								
SONM	**Songino Array**	**46.48**	**328**		IAmb	IAmb	07 09 58.0		
	comp=Z,4.3nm,1.2s								
URZ	**Urewera**	**59.82**	**147**	LR		LR	07 33 22.2		
	comp=Z,35nm,20.5s,baz=30,slow=32								
MKAR	**Makanchi Array**	**60.48**	**318**	P		**P**	**07 11 39.3**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=106,slow=7.8,SNR=11								
MAKZ	**Makanchi**	**60.69**	**318**	P		**P**	**07 11 38.8**	**-1.4**
MAKZ					IAmb	IAmb	07 11 40.8		
	comp=Z,3.8nm,1.0s								
ZAA0	**Zalesovo Array**	**61.26**	**326**	P		**P**	**07 11 44.2**	**+0.3**
ZALV	**Zalesovo Beam**	**61.26**	**326**	LR		LR	07 38 42.7		
	comp=Z,33nm,19.1s,baz=60,slow=36								
ZALV	**Zalesovo Beam**	**61.26**	**326**	P		**P**	**07 11 45.5**	**+1.6**
KURK	**Kurchatov**	**63.85**	**321**	P		**P**	**07 12 00.4**	**-0.8**
ANM	**Nome**	**64.79**	**23**	P		**P**	**07 12 07.0**	**-0.2**
NRIK	**Noril'sk**	**67.05**	**342**	P		**P**	**07 12 21.1**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=57,slow=3.6,SNR=4.1								
NRIK	**Noril'sk**	**67.05**	**342**		IAmb	IAmb	07 12 22.6		
	comp=Z,2.4nm,0.7s								
KK31	**Karatay Array**	**68.03**	**312**	P		**P**	**07 12 28.8**	**+0.5**
KK31					IAmb	IAmb	07 12 36.0		
	comp=Z,3.5nm,1.2s								
KKAR	**Karatay Array**	**68.03**	**312**	P		**P**	**07 12 28.4**	**+0.1**
KDAK	**Kodiak Island**	**68.07**	**32**	LR		LR	07 41 30.1		
	comp=Z,29nm,19.5s,baz=217,slow=35								
J20K	**Nowinta River**	**69.11**	**25**	P		**P**	**07 12 35.1**	**+0.6**
J20K					IAmb	IAmb	07 12 52.3		
	comp=Z,4.4nm,1.2s								
IMAR	**Indian Mountai**	**69.83**	**23**	P		**P**	**07 12 38.9**	**-0.1**
I21K	**Tanana**	**70.29**	**24**	P		**P**	**07 12 42.2**	**+0.3**
I21K					IAmb	IAmb	07 12 43.8		
	comp=Z,3.6nm,0.8s								
I23K	**Minto, Yukon-K**	**71.35**	**25**	P		**P**	**07 12 47.9**	**-0.4**
I23K					IAmb	IAmb	07 13 04.9		
	comp=Z,6.3nm,1.5s								
H23K	**Yukon River**	**71.44**	**24**	P		**P**	**07 12 49.0**	**+0.1**
MDM	**Murphy Dome**	**71.78**	**25**	P		**P**	**07 12 51.4**	**+0.5**
MDM					IAmb	IAmb	07 12 59.1		
	comp=Z,6.0nm,1.4s								
CCB	**Clear Creek Bu**	**71.89**	**25**	P		**P**	**07 12 50.6**	**-0.9**
CCB					IAmb	IAmb	07 13 07.2		
	comp=Z,4.6nm,1.5s								
H24K	**Noodor Dome**	**72.11**	**24**	P		**P**	**07 12 52.6**	**-0.4**
M24K	**Tolsona, Glenn**	**72.12**	**28**	P		**P**	**07 12 53.4**	**+0.3**
TOLK	**Toolik Lake Re**	**72.15**	**21**	P		**P**	**07 12 53.6**	**+0.5**
TOLK					IAmb	IAmb	07 12 53.9		
	comp=Z,3.1nm,0.8s								
HDA	**Harding Lake**	**72.20**	**26**	P		**P**	**07 12 52.2**	**-1.2**
HDA					IAmb	IAmb	07 13 02.5		
	comp=Z,10nm,1.5s								
IL31		**72.30**	**25**	P		**P**	**07 12 52.7**	**-1.2**
IL31					IAmb	IAmb	07 13 09.3		
	comp=Z,7.5nm,1.4s								
ILAR	**Eielson Array**	**72.30**	**25**	P		**P**	**07 12 52.2**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=245,slow=5.9,SNR=22								
ILAR	**Eielson Array**	**72.30**	**25**	P		**P**	**07 12 53.9**	**-0.1**
N25K	**Chitina, Valde**	**72.78**	**29**	P		**P**	**07 12 56.9**	**-0.2**
J25K	**Salcha River,**	**72.91**	**26**	P		**P**	**07 12 56.8**	**-1.0**
RIDG	**Independent Ri**	**72.99**	**27**	P		**P**	**07 12 57.2**	**-1.0**
RIDG					IAmb	IAmb	07 13 07.2		
	comp=Z,7.1nm,1.2s								
SCRK	**Sand Creek**	**73.41**	**26**	P		**P**	**07 13 01.0**	**+0.3**
SCRK					IAmb	IAmb	07 13 03.3		
	comp=Z,6.0nm,1.4s								
L26K	**Log Cabin Wild**	**73.56**	**27**	P		**P**	**07 13 01.8**	**+0.3**
L26K					IAmb	IAmb	07 13 05.6		
	comp=Z,4.8nm,1.3s								
BMAR	**Burnt Mountain**	**73.72**	**23**	P		**P**	**07 13 03.1**	**+0.7**
ISLE	**Juniper Island**	**73.75**	**30**	P		**P**	**07 13 02.3**	**-0.5**
L27K	**Beaver Creek,**	**74.25**	**27**	P		**P**	**07 13 06.1**	**+0.5**
BCAR	**Beaver Creek A**	**74.27**	**27**	P		**P**	**07 13 05.7**	**0.0**
CTGM	**Chitina Glacie**	**74.28**	**30**	P		**P**	**07 13 06.2**	**+0.3**
EGAK	**Eagle**	**74.73**	**26**	P		**P**	**07 13 08.7**	**+0.5**
ARU	**Arti**	**76.42**	**326**	LR		LR	07 49 14.5		
	comp=Z,69nm,18.9s,baz=38,slow=37								
YKA	**Yellowknife Ar**	**86.67**	**27**	P		**P**	**07 14 12.0**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=287,slow=4.9,SNR=24								
GNI	**Garni**	**87.43**	**310**	LR		LR	07 58 15.0		
	comp=Z,20nm,18.6s,baz=254,slow=39								
ARCES	**ARCESS Array B**	**88.03**	**341**	P		**P**	**07 14 17.0**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=32,slow=5.5,SNR=5.2								
NVAR	**Mina Array Bea**	**91.39**	**51**	P		**P**	**07 14 35.9**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=279,slow=4.8,SNR=9.0								
FINES	**FINESS Array B**	**91.54**	**334**	P		**P**	**07 14 33.2**	**-1.9**
	comp=Z,1.9nm,0.7s,baz=85,slow=6.3,SNR=6.2								
NOA	**NORSAR Array B**	**97.73**	**338**	LR		LR	08 02 59.5		
	comp=Z,18nm,18.2s,baz=205,slow=38								
TORD	**Torodi Ar. Bea**	**132.76**	**300**	PKP		**PKiKP**	**07 20 45.0**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=2.9,slow=2.9,SNR=2.0								

IDC ***11*** *07:34:14.0±2.9,36.31N×71.18E,h212km±26km,mb3.3/13, mb1 3.4/18,mb1mx3.2/54,mbtmp3.9/18,MS3.8/1, Ms1 3.8/1,ms1mx2.4/58,Error ellipse: s-maj=18.8km s-min=15.6km az=27.0*

NEIC ***11*** *07:34:14.9±1.6,36.43N±0.07×71.1E±0.1,h219km±7km, mb4.0/15,Error ellipse: s-maj=12.3km s-min=9.8km az=88.0*

ISC 11 07:34:13.5±0.5,36.38N±0.05×71.17E±0.06,h200km,n74, σ1.42/79,mb3.8/19,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.53**	**224**			**Pn**	**07 35 00.3**	**+2.4**
CEP	**Cherat**	**2.62**	**166**	P		**Pn**	**07 35 01.8**	**+2.9**
CEP				S		**Sn**	**07 35 37.0**	**+2.7**
GAR	**Garm**	**2.70**	**346**	Pn		**Pn**	**07 35 01.5**	**+1.8**
CHGR	**Chuyangaron**	**2.78**	**325**			**Pn**	**07 35 02.3**	**+1.7**
DRK	**Karamyk**	**3.13**	**9**			**Pn**	**07 35 07.0**	**+2.1**
CHCP	**Chirah Chowk**	**3.21**	**147**	P		**Pn**	**07 35 08.8**	**+3.1**
NIL	**Nilore**	**3.21**	**147**			**Pn**	**07 35 08.8**	**+3.1**
THW	**Thamme Wali**	**3.61**	**172**	P		**Pn**	**07 35 12.7**	**+2.2**
BTK	**Batken**	**3.68**	**356**	Pn		**Pn**	**07 35 13.4**	**+2.1**
SARP	**Sargodha**	**4.62**	**164**	P		**Pn**	**07 35 24.9**	**+1.9**
JMU	**Jammu**	**4.78**	**139**	*e*S		**Sn**	**07 36 19.9**	**-1.5**
THN	**Thein Dam**	**5.44**	**135**	*e*P		**Pn**	**07 35 35.8**	**+2.3**
THN				*e*S		**Sn**	**07 36 37.1**	**+0.4**
AML	**Almayashu**	**6.07**	**18**	P		**Pn**	**07 35 42.9**	**+1.0**
	SNR=90							
UCH	**Uchtor**	**6.39**	**23**	P		**Pn**	**07 35 47.2**	**+1.2**
	SNR=21							
EKS2	**Erkin-Say**	**6.59**	**17**	P		**Pn**	**07 35 48.9**	**+0.6**
	SNR=11							
BHK	**Bhakra**	**6.60**	**137**	*e*P		**Pn**	**07 35 49.8**	**+1.3**
BHK				*e*S		**Sn**	**07 37 01.6**	**-2.1**
KK31	**Karatay Array**	**6.73**	**356**	Pn		**Pn**	**07 35 50.8**	**+0.7**
KKAR	**Karatay Array**	**6.73**	**356**			**Pn**	**07 35 50.8**	**+0.7**
KKAR	**Karatay Array**	**6.73**	**356**	Pn		**Pn**	**07 35 50.7**	**+0.6**
AAK	**Ala-Archa**	**6.75**	**21**	P		**Pn**	**07 35 51.9**	**+1.3**
	SNR=24							
AAK	**Ala-Archa**	**6.75**	**21**	P		**Pn**	**07 35 51.8**	**+1.3**
	9.3nm,0.3s,baz=178,slow=5.9,SNR=26							
AAK						S	**Sn**	**07 37 06.1**	**-1.5**
	1.0nm,0.3s,baz=327,slow=22,SNR=16							
AAK	**Ala-Archa**	**6.75**	**21**			**Pn**	**07 35 51.7**	**+1.1**
KBK	**Karagaybulak**	**6.91**	**24**	P		**Pn**	**07 35 54.4**	**+1.8**
	SNR=13							
BOOM	**Boomskoye usch**	**7.13**	**30**	Pn		**Pn**	**07 35 56.6**	**+1.2**
CHMS	**Chumysh**	**7.16**	**22**	P		**Pn**	**07 35 56.8**	**+1.1**
	SNR=8.7							
SMLA	**Simla**	**7.24**	**135**	*e*P		**Pn**	**07 35 57.8**	**+1.1**
SMLA				*e*S		**Sn**	**07 37 14.9**	**-3.9**
SMLA					IAML		07 37 18.4	
	comp=N,110nm,0.4s							
SMLA					IAML		07 37 19.8	
	comp=E,102nm,0.3s							

USP	**Ospenovka**	**7.34**	**19**	P		**Pn**	**07 35 58.8**	**+0.8**
	SNR=8.0								
TKM2	**Tokmak 2**	**7.37**	**26**	P		**Pn**	**07 35 59.7**	**+1.1**
	SNR=6.0								
KDJ	**Kajisay**	**7.39**	**37**	Pn		**Pn**	**07 35 59.4**	**+0.5**
TARG	**Taragay, Kyrgy**	**7.42**	**42**	Pn		**Pn**	**07 35 59.5**	**-0.1**
HRA	**Herat**	**7.56**	**257**	Pn		**Pn**	**07 36 02.0**	**+0.9**
KUDL	**Kundal**	**9.36**	**150**	*e*P		**Pn**	**07 36 24.4**	**0.0**
KUDL				*e*S		Sn	07 38 02.3	-7.0
PTH	**Pithoragarh**	**10.20**	**129**	*e*P		**Pn**	**07 36 37.5**	**+2.0**
PTH				*e*S		Sn	07 38 23.1	-6.5
MAKZ	**Makanchi**	**13.17**	**34**			**Pn**	**07 37 12.6**	**-0.3**
MK31	**Makanchi Array**	**13.31**	**35**	Pn		**Pn**	**07 37 14.6**	**-0.1**
MKAR	**Makanchi Array**	**13.31**	**35**	P		**Pn**	**07 37 15.0**	**+0.4**
	comp=E,0.3nm,0.3s,baz=222,slow=14,SNR=20								
MKAR					S	**Sn**	**07 39 45.6**	**+2.6**
	comp=E,0.0nm,0.3s,baz=228,slow=19,SNR=3.0								
MKAR	**Makanchi Array**	**13.31**	**35**	Pn		**Pn**	**07 37 14.1**	**-0.6**
KURBB	**Kurchatov Arra**	**15.19**	**18**	P		**Pn**	**07 37 37.2**	**-0.5**
	comp=E,0.1nm,0.3s,baz=206,slow=11,SNR=5.8								
ABKAR	**Akbulak array**	**15.26**	**331**	Pn		**Pn**	**07 37 36.3**	**-2.2**
KURK	**Kurchatov**	**15.30**	**18**			**Pn**	**07 37 36.8**	**-2.3**
BRVK	**Borovoye**	**16.69**	**358**	P		**P**	**07 37 54.4**	**-0.3**
BRVK					IAmb	IAmb	07 37 58.3		
	comp=Z,3.5nm,0.5s								
AKTO	**Aktyubinsk**	**16.95**	**330**	P		**P**	**07 37 58.8**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=140,slow=11,SNR=22								
WSAR	**Wadi Sarin**	**17.01**	**223**	P		**P**	**07 37 59.4**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=63,slow=13,SNR=4.3								
ZAA0	**Zalesovo Array**	**19.97**	**24**	P		**P**	**07 38 29.6**	**-0.6**
ZALV	**Zalesovo Beam**	**19.97**	**24**	P		**P**	**07 38 30.2**	**+0.1**
	comp=Z,3.5nm,0.3s,baz=218,slow=11,SNR=15								
ZALV	**Zalesovo Beam**	**19.97**	**24**	P		**P**	**07 38 29.6**	**-0.6**
ARU	**Arti**	**21.79**	**341**	P		**P**	**07 38 49.5**	**+0.2**
	comp=Z,1.6nm,0.2s,baz=78,slow=6.8,SNR=6.0								
SONM	**Songino Array**	**28.29**	**55**	P		**P**	**07 39 49.2**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=267,slow=10.0,SNR=4.3								
NRIK	**Noril'sk**	**34.22**	**10**	P		**P**	**07 40 39.5**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=163,slow=5.1,SNR=5.1								
LVZ	**Lovozero**	**37.62**	**338**	P		**P**	**07 41 08.4**	**-0.2**
FINES	**FINESS Array B**	**37.66**	**326**	P		**P**	**07 41 09.0**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=134,slow=8.0,SNR=2.3								
FINES	**FINESS Array B**	**37.66**	**326**	P		**P**	**07 41 08.6**	**-0.3**
ARCES	**ARCESS Array B**	**41.31**	**338**	P		**P**	**07 41 39.3**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=108,slow=8.0,SNR=11								
ARCES	**ARCESS Array B**	**41.31**	**338**	P		**P**	**07 41 38.9**	**-0.1**
ARCES					IAmb	IAmb	07 41 48.6		
	comp=Z,14nm,1.4s								
HFS	**Hagfors**	**43.24**	**322**	P		**P**	**07 41 54.0**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=90,slow=8.6,SNR=2.3								
**

CHAN				S	Sn	07 41 09.2	+2.0		
CHAN				AML	AML	07 41 12.7			
	comp=N,13544µm,0.9s								
CHAN				AML	AML	07 41 14.8			
	comp=E,11105µm,0.7s								
PRNS	**Prines Rethymn**	**1.31**	**70**	P	**Pb**	**07 40 56.0**	**-0.5**		
PRNS				S	**Sb**	**07 41 13.6**	**+0.2**		
KTHA	**Kythira Island**	**1.34**	**2**	P	**Pn**	**07 40 58.2**	**+1.6**		
KTHA				S	**Sn**	**07 41 16.2**	**+1.8**		
KTHA				AML	AML	07 41 26.8			
	comp=E,3742µm,0.9s								
KTHA				AML	AML	07 41 30.2			
	comp=N,1961µm,0.5s								
KTHA	**Kythira Island**	**1.34**	**2**	P	**Pn**	**07 40 58.1**	**+1.6**		
KTHR	**Kythira**	**1.34**	**0**	P	**Pn**	**07 40 58.0**	**+1.4**		
KTHR				AML	AML	07 41 22.0			
	comp=E,7799µm,0.3s								
KTHR				AML	AML	07 41 26.0			
	comp=N,7126µm,0.4s								
KTHR	**Kythira**	**1.34**	**0**	P	**Pn**	**07 40 58.0**	**+1.4**		
IDI	**Anoyia**	**1.60**	**76**	P	**Pn**	**07 41 01.8**	**+1.6**		
IDI				S	**Sg**	**07 41 25.4**	**+2.2**		
IDI				AML	AML	07 41 31.6			
	comp=N,1137µm,0.5s								
IDI				AML	AML	07 41 44.0			
	comp=E,1161µm,0.7s								
IDI	**Anoyia**	**1.60**	**76**	P	**Pn**	**07 41 00.9**	**+0.8**		
IDI	**Anoyia**	**1.60**	**76**	PN	**Pn**	**07 41 00.2**	**+0.1**		
IDI				SN	**Sn**	**07 41 17.8**	**-3.1**		
IDI	**Anoyia**	**1.60**	**76**	Pn	**Pn**	**07 41 00.7**	**+0.5**		
HRKL	**Herakleio**	**1.77**	**77**	PN	**Pn**	**07 41 02.7**	**+0.2**		
VLI	**Veliai**	**1.80**	**359**	P	**Pn**	**07 41 05.1**	**+2.3**		
ITM	**Ithomi**	**2.42**	**339**	PN	**Pn**	**07 41 14.3**	**+2.9**		
ITM	**Ithomi**	**2.42**	**339**	Pn	**Pn**	**07 41 11.4**	**0.0**		
KRND	**KRANIDI**	**2.46**	**3**	P	**Pn**	**07 41 15.6**	**+3.6**		
ZKR	**Zakros**	**2.65**	**85**	PN	**Pn**	**07 41 15.8**	**+1.2**		
APE	**Apeiranthos**	**2.97**	**43**	*i* P	**Pn**	**07 41 17.3**	**-1.7**		
KARP	**Karpathos**	**3.47**	**78**	Pn	**Pn**	**07 41 27.2**	**+1.3**		
KOSK	**Kos Island**	**3.72**	**59**	PN	**Pn**	**07 41 29.8**	**+0.6**		
AGG	**Agios Georgios**	**4.13**	**353**	P	**Pn**	**07 41 34.6**	**-0.4**		
AGG	**Agios Georgios**	**4.13**	**353**	PN	**Pn**	**07 41 37.1**	**+2.2**		
AGG	**Agios Georgios**	**4.13**	**353**		**Pn**	**07 41 34.6**	**-0.4**		
DAT	**Datca**	**4.14**	**63**	PN	**Pn**	**07 41 36.1**	**+1.0**		
URLA	**Izmir**	**4.49**	**39**	PN	**Pn**	**07 41 40.4**	**+0.5**		
TURN	**Turunc**	**4.65**	**65**	PN	**Pn**	**07 41 42.6**	**+0.6**		
YER	**Yerkesik**	**4.83**	**61**	PN	**Pn**	**07 41 45.1**	**+0.6**		
SIGR	**SIGRI**	**4.86**	**27**	PN	**Pn**	**07 41 44.6**	**-0.3**		
DALY	**Dalyan (Mula)**	**4.97**	**66**	PN	**Pn**	**07 41 47.2**	**+0.8**		
PAIG	**Paliouri**	**5.03**	**6**	P	**Pn**	**07 41 47.2**	**-0.1**		
IGT	**Igoumenitsa**	**5.07**	**336**	P	**Pn**	**07 41 47.7**	**-0.1**		
LIT	**Litokhoron**	**5.19**	**356**	P	Pn	07 41 46.3	-3.2		
LIT	**Litokhoron**	**5.19**	**356**	Pn	Pn	07 41 46.3	-3.1		
DKL	**Dikili**	**5.20**	**36**	PN	**Pn**	**07 41 50.2**	**+0.7**		
FETY	**Fethiye**	**5.24**	**69**	PN	**Pn**	**07 41 50.7**	**+0.5**		
KEK	**Kerkira**	**5.42**	**333**	Pn	Pn	07 41 51.2	-1.4		
PLG	**Polygyros**	**5.46**	**4**	P	**Pn**	**07 41 55.0**	**+1.8**		
OUR	**Ouranopolis**	**5.46**	**8**	P	**Pn**	**07 41 53.5**	**+0.3**		
KZN	**Kozani**	**5.47**	**350**	P	**Pn**	**07 41 55.0**	**+1.7**		
CAME	**Cameli-Denizli**	**5.50**	**67**	PN	**Pn**	**07 41 53.9**	**0.0**		
AKAS	**Kas**	**5.55**	**74**	PN	**Pn**	**07 41 55.2**	**+0.7**		
AKAS	**Kas**	**5.55**	**74**	Pn	**Pn**	**07 41 54.0**	**-0.5**		
EZN	**Ezine**	**5.57**	**27**	PN	**Pn**	**07 41 55.4**	**+0.7**		
MANT	**Manisa**	**5.72**	**50**	Pn	**Pn**	**07 41 55.2**	**-1.7**		
KULA	**Kula-Manisa**	**5.80**	**50**	PN	**Pn**	**07 41 58.2**	**+0.3**		
KBN	**Korca**	**5.96**	**344**	P	**Pn**	**07 41 58.6**	**-1.5**		
KBN	**Korca**	**5.96**	**344**	Pn	**Pn**	**07 41 58.6**	**-1.5**		
ALN	**Alexandroupoli**	**6.44**	**21**	P	**Pn**	**07 42 04.4**	**-2.2**		
ALN	**Alexandroupoli**	**6.44**	**21**	Pn	**Pn**	**07 42 04.4**	**-2.2**		
RDO	**Rodhopi**	**6.54**	**17**	Pn	**Pn**	**07 42 06.9**	**-1.0**		
TIP	**Timpagrande**	**6.55**	**312**	Pn	Pn	07 42 06.7	-1.5		
TIR	**Tirane**	**6.88**	**340**	P	Pn	07 42 11.1	-1.5		
TIR	**Tirane**	**6.88**	**340**	Pn	Pn	07 42 11.1	-1.5		
BORA	**Eskisehir**	**7.73**	**48**	Pn	**Pn**	**07 42 23.5**	**-0.9**		
SGRT	**San Giovanni R**	**8.89**	**322**	Pn	Pn	07 42 38.9	-1.3		
DIVS	**Divibare**	**9.46**	**347**	Pn	Pn	07 42 45.1	-2.9		
BRTR	**Keskin Array B**	**9.74**	**57**	Pn	**Pn**	**07 42 51.2**	**-0.8**		
	comp=E,0.2nm,0.3s,baz=238,slow=12,SNR=11								
BRTR				LR	LR	07 47 18.7			
	comp=E,106nm,18.3s,baz=252,slow=43								
BRTR	**Keskin Array B**	**9.74**	**57**	P	**Pn**	**07 42 52.6**	**+0.6**		
BRTR	**Keskin Array B**	**9.74**	**57**		**Pn**	**07 42 52.6**	**+0.6**		
BR131	**Keskin Array S**	**9.74**	**57**	*i* P	**Pn**	**07 42 51.1**	**-0.9**		
BR131	**Keskin Array S**	**9.74**	**57**		**Pn**	**07 42 52.9**	**+0.9**		
MLR	**Muntele Rosu**	**10.80**	**11**	Pn	**Pn**	**07 43 06.0**	**-0.5**		
	comp=E,0.2nm,0.3s,baz=158,slow=16,SNR=3.4								
MLR				LR	LR	07 48 25.5			
	comp=E,69nm,18.8s,baz=293,slow=45								
CASP	**Castiglione de**	**12.29**	**313**		Pn	07 43 24.7	-2.1		
OSSC	**Osservatorio P**	**12.51**	**317**	Pn	Pn	07 43 27.9	-2.0		
BUR08	**Bucovina Ar. S**	**12.82**	**7**	Pn	**Pn**	**07 43 33.2**	**-1.0**		
GERES	**GERESS Array B**	**15.52**	**337**	P	**Pn**	**07 44 07.4**	**-3.3**		
GERES	**GERESS Array B**	**15.52**	**337**	Pn	**Pn**	**07 44 07.4**	**-3.3**		
KHC	**Kasperske Hory**	**15.81**	**337**	*eP*	**Pn**	**07 44 18.0**	**+3.6**		
KHC	**Kasperske Hory**	**15.81**	**337**	Pn	**Pn**	**07 44 12.8**	**-1.6**		
KHC	**Kasperske Hory**	**15.81**	**337**	*eP*	**Pn**	**07 44 18.0**	**+3.6**		
AKASG	**Malin Array Be**	**16.41**	**14**	Pn	**Pn**	**07 44 18.1**	**-3.9**		
	comp=E,4.4nm,0.3s,baz=208,slow=9.4,SNR=7.9								
AKASG				LR	LR	07 51 06.4			
	comp=E,59nm,20.6s,baz=72,slow=39								
AKASG	**Malin Array Be**	**16.41**	**14**	P	**Pn**	**07 44 19.0**	**-3.1**		
AKASG	**Malin Array Be**	**16.41**	**14**	Pn	**Pn**	**07 44 19.0**	**-3.1**		
AKBB	**Malin Array Si**	**16.41**	**14**	P	**Pn**	**07 44 21.4**	**-0.6**		
AKBB				pmax	pmax				
	comp=Z,6.0nm,1.4s								
AKBB	**Malin Array Si**	**16.41**	**14**	Pn	**Pn**	**07 44 21.4**	**-0.6**		
KIV	**Kislovodsk**	**17.66**	**53**	*eP*	**Pn**	**07 44 37.1**	**-0.7**		
KIV				pmax	pmax				
	comp=Z,9.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,34nm,17.0s								
PABE	**Paberze**	**20.60**	**2**	P	**P**	**07 45 08.2**	**-2.6**		
PABE				IAmb	IAmb	07 45 10.1			
	comp=Z,20nm,0.9s								
OBN	**Obninsk**	**22.28**	**21**	*eP*	**P**	**07 45 26.8**	**-2.1**		
OBN				*e*		07 45 49.1			
OBN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
FINES	**FINESS Array B**	**26.62**	**3**	P	**P**	**07 46 07.0**	**-3.1**		
	comp=Z,0.8nm,0.4s,baz=166,slow=9.9,SNR=6.5								
FINES	**FINESS Array B**	**26.62**	**3**	*i* P	**P**	**07 46 07.8**	**-2.3**		
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
NC602	**NORSAR Array S**	**26.87**	**348**	P	**P**	**07 46 10.7**	**-1.7**		
NC602				IAmb	IAmb	07 46 26.9			
	comp=Z,15nm,1.3s								
NORES	**NORESS Array B**	**26.87**	**348**	P	**P**	**07 46 11.8**	**-0.6**		
NB201	**NORSAR Array S**	**27.21**	**348**	P	**P**	**07 46 14.0**	**-1.5**		
NB201				IAmb	IAmb	07 46 32.2			
	comp=Z,4.1nm,1.1s								
NB2	**NORSAR Subarra**	**27.21**	**347**	P	**P**	**07 46 15.9**	**+0.4**		
	comp=Z,0.1nm,0.2s,baz=156,slow=9.3								
NOA	**NORSAR Array B**	**27.21**	**347**	P	**P**	**07 46 14.8**	**-0.8**		
	comp=Z,0.2nm,0.4s,baz=148,slow=12,SNR=6.2								
EKA	**Eskdalemuir Ar**	**27.24**	**327**	P	**P**	**07 46 13.7**	**-2.0**		
	comp=Z,0.3nm,0.3s,baz=123,slow=7.7,SNR=1.8								
GEYT	**Alibeck**	**28.32**	**74**	P	P	07 46 21.2	-4.5		
	comp=Z,1.4nm,0.5s,baz=304,slow=8.5,SNR=2.0								
TORD	**Torodi Ar. Bea**	**29.00**	**227**	P	**P**	**07 46 33.7**	**+1.9**		
	comp=Z,0.3nm,0.6s,baz=30,slow=8.8,SNR=5.1								
ARU	**Arti**	**32.31**	**37**	*c i* P	P	07 46 57.6	-3.1		
ARU						07 48 03.8			
ARU						07 49 43.2			
ARU				S	S	07 52 05.5	-8.7		
ARU				pmax	pmax				
	comp=Z,4.0nm,1.1s								
ARCES	**ARCESS Array B**	**34.70**	**2**	P	P	07 47 18.3	-3.0		
	comp=Z,2.5nm,0.9s,baz=200,slow=10.0,SNR=8.0								
SOCY	**Socotra**	**36.07**	**121**	P	P	07 47 32.5	-1.3		
KK31	**Karatay Array**	**37.40**	**63**	P	**P**	**07 47 43.8**	**-1.0**		
KK31				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KK31	**Karatay Array**	**37.40**	**63**	P	**P**	**07 47 43.8**	**-1.0**		
KK31				IAmb	IAmb	07 47 43.9			
	comp=Z,2.2nm,0.6s								
KKAR	**Karatay Array**	**37.40**	**63**	P	**P**	**07 47 43.5**	**-1.3**		
KKAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KKAR	**Karatay Array**	**37.40**	**63**	P	**P**	**07 47 43.5**	**-1.3**		
KKAR				IAmb	IAmb	07 47 43.9			
	comp=Z,2.2nm,0.6s								
GAR	**Garm**	**37.70**	**70**	P	**P**	**07 47 46.3**	**-1.3**		
GAR				IAmb	IAmb	07 48 14.7			
	comp=Z,3.9nm,0.9s								

BRVK	**Borovoye**	**37.74**	**46**	P	P	07 47 45.6	-2.0		
BRVK				pmax	pmax				
	comp=Z,4.0nm,1.4s								
BRVK	**Borovoye**	**37.74**	**46**	P	P	07 47 45.6	-2.0		
DBIC	**Dimbokro**	**38.05**	**229**	P	**P**	**07 47 51.5**	**+1.0**		
	comp=Z,1.5nm,0.7s,baz=69,slow=6.3,SNR=1.5								
AAK	**Ala-Archa**	**40.36**	**63**	*ce*P	**P**	**07 48 08.0**	**-1.7**		
AAK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
AAK	**Ala-Archa**	**40.36**	**63**	P	**P**	**07 48 08.1**	**-1.7**		
BOOM	**Boomskoye usch**	**41.43**	**63**	P	**P**	**07 48 17.7**	**-1.0**		
BOOM				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BOOM	**Boomskoye usch**	**41.43**	**63**	P	**P**	**07 48 17.7**	**-1.0**		
BOOM				IAmb	IAmb	07 48 19.2			
	comp=Z,2.2nm,0.6s								
KDJ	**Kajisay**	**42.40**	**63**	P	P	07 48 24.0	-2.6		
KDJ				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KDJ	**Kajisay**	**42.40**	**63**	P	P	07 48 24.0	-2.5		
KDJ				IAmb	IAmb	07 48 26.5			
	comp=Z,4.8nm,0.9s								
KURK	**Kurchatov**	**42.71**	**51**	P	P	07 48 25.8	-3.0		
KURK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KURK	**Kurchatov**	**42.71**	**51**	P	P	07 48 25.8	-3.0		
KURK				IAmb	IAmb	07 48 39.2			
	comp=Z,2.6nm,0.8s								
TARG	**Taragay, Kyrgy**	**42.92**	**64**	P	P	07 48 27.9	-3.2		
MK31	**Makanchi Array**	**45.39**	**56**	P	P	07 48 47.6	-2.8		
MK31				pmax	pmax				
	comp=Z,3.0nm,1.3s								
MK31	**Makanchi Array**	**45.39**	**56**	P	P	07 48 47.6	-2.7		
MK31				IAmb	IAmb	07 48 48.6			
	comp=Z,3.3nm,1.2s								
MKAR	**Makanchi Array**	**45.39**	**56**	P	P	07 48 48.0	-2.4		
	comp=Z,0.7nm,0.3s,baz=270,slow=8.2,SNR=23								
MKAR	**Makanchi Array**	**45.39**	**56**	*ce*P	P	07 48 48.0	-2.4		
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MKAR	**Makanchi Array**	**45.39**	**56**	P	P	07 48 47.4	-2.9		
ZAA0	**Zalesovo Array**	**46.45**	**46**	P	P	07 48 55.6	-3.0		
ZAA0				IAmb	IAmb	07 48 56.1			
	comp=Z,1.8nm,0.6s								
ZALV	**Zalesovo Beam**	**46.45**	**46**	P	P	07 48 55.5	-3.0		
	comp=Z,1.7nm,0.4s,baz=265,slow=11,SNR=7.9								
PALK	**Pallekele**	**59.52**	**103**	P	P	07 50 33.9	-1.7		
PALK				pmax	pmax				
	comp=Z,7.0nm,1.2s								
PALK	**Pallekele**	**59.52**	**103**	P	P	07 50 33.9	-1.8		
SONM	**Songino Array**	**61.01**	**50**	P	P	07 50 43.1	-2.4		
	comp=Z,0.7nm,0.5s,baz=294,slow=6.6,SNR=5.3								
SONM	**Songino Array**	**61.01**	**50**	P	P	07 50 42.5	-2.9		
SONM				IAmb	IAmb	07 50 44.4			
	comp=Z,2.1nm,1.3s								
ULN	**Ulaanbaatar**	**61.41**	**50**	*ce*P	P	07 50 45.6	-2.6		
ULN				pmax	pmax				
	comp=Z,1.0nm,0.5s								
TIXI	**Tiksi**	**62.01**	**20**	*ce*P	P	07 50 49.2	-2.5		
TIXI				pmax	pmax				
	comp=Z,5.0nm,2.5s								
CMAR	**Chiang Mai Arr**	**68.37**	**82**	P	P	07 51 30.9	-2.9		
	comp=Z,0.3nm,0.2s,baz=284,slow=3.6,SNR=1.3								
A36M	**Sachs Harbour**	**71.09**	**350**	P	**P**	**07 51 49.1**	**-0.5**		
A36M				IAmb	IAmb	07 51 50.2			
	comp=Z,4.2nm,1.1s								
DELO	**Deloro Mine**	**73.15**	**313**	P	**P**	**07 52 02.2**	**-0.3**		
C36M	**Paulatuk**	**73.26**	**348**	P	**P**	**07 52 02.2**	**-0.5**		
YKA	**Yellowknife Ar**	**77.12**	**341**	P	**P**	**07 52 24.4**	**-0.6**		
	comp=Z,0.4nm,0.4s,baz=32,slow=5.1,SNR=16								
USRK	**Ussuriysk Ar.**	**78.26**	**44**	P	P	07 52 28.5	-3.3		
	comp=Z,1.1nm,0.4s,baz=298,slow=6.5,SNR=1.8								
ULM	**Lac du Bonnet**	**79.50**	**325**	LR	LR	08 30 05.2			
	comp=Z,36nm,18.5s,baz=68,slow=37								
WRA	**Warramunga Arr**	**118.33**	**95**	PKP	**PKPdf**	**07 59 17.9**	**-1.9**		
	comp=Z,0.2nm,0.4s,baz=319,slow=1.7,SNR=5.2								
WRA	**Warramunga Arr**	**118.33**	**95**	*c i*PKIKP	**PKPdf**	**07 59 18.6**	**-1.2**		
ASAR	**Alice Springs**	**119.76**	**99**	PKP	**PKPdf**	**07 59 21.0**	**-1.5**		
	comp=Z,0.3nm,0.5s,baz=308,slow=1.2,SNR=5.4								

ROM 11 07:40:46.3±0.1, 42.907N±0.004×12.983E±0.007, h11km, Md1.2/3, 4C-1D, Error ellipse: s-maj=0.6km s-min=0.4km az=238.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
FEMA	**Monte Fema**	**0.07**	**42**	P	Pg	07 40 49.2	+0.4	
FEMA				S	Sg	07 40 51.1	+0.4	
CESI	**CESI - Serrava**	**0.11**	**329**	P	Pg	07 40 49.7	+0.4	
CESI				S	Sg	07 40 51.9	+0.5	
CESI				AML	AML			
	comp=E,37µm,1.4s							
CESI				AML	AML			
	comp=N,72µm,0.3s							
CESI				END				
NRCA	**Norcia**	**0.12**	**127**	P	Pg	07 40 49.8	+0.4	
NRCA				S	Sg	07 40 52.1	+0.5	
FDMO	**Fiordimonte**	**0.15**	**31**	⇑P	Pg	07 40 50.3	+0.5	
FDMO				S	Sg	07 40 53.1	+0.9	
FDMO				AML	AML			
	comp=E,89µm,0.2s							
FDMO				AML	AML			
	comp=N,47µm,0.1s							
FDMO				END				
CSP1	**Cessapalombo**	**0.25**	**41**	P	Pg	07 40 52.0	+0.5	
CSP1				S	Sg	07 40 56.1	+1.2	
CSP1				END				
NDIM	**Novi di Modena**	**2.49**	**323**	⇑P	Pn	07 41 26.6	-0.2	
CAPR	**Capriolo**	**3.50**	**322**	S	Sg	07 42 38.0	-0.6	
EUCT	**Pavia**	**3.60**	**311**	P	Pb	07 41 52.1	+2.1	
ZAG	**Zagreb**	**3.63**	**35**	S	Sb	07 42 36.0	+1.6	
SPS2	**Spezzano della**	**4.41**	**144**	P	Pn	07 41 52.8	-0.5	
SPS2				AML	AML			
	comp=E,39µm,1.1s							
SPS2				AML	AML			
	comp=N,36µm,0.2s							
SERS	**Sersale**	**4.78**	**143**	P	Pn	07 42 01.8	+3.4	
ERC	**Erice**	**4.87**	**184**	P	Pn	07 41 53.7	-5.9	
SCTE	**Santa Cesarea**	**5.00**	**123**	Pn	Pn	07 42 03.4	+2.1	
SCTE	**Santa Cesarea**	**5.00**	**123**	⇓P	Pn	07 42 03.6	+2.4	
HLNI	**Lentini**	**5.74**	**165**	⇑P	Pn	07 42 15.1	+3.7	
MEU	**Monte Lauro**	**5.99**	**165**	P	Pn	07 42 17.1	+2.2	
KBN	**Korca**	**6.26**	**109**	P	Pn	07 42 18.3	-0.5	
THL	**Klokotos Trika**	**7.58**	**113**	⇑P	Pn	07 42 35.8	-0.9	

IDC 11 08:11:55.6±0.9, 13.99N×60.64W, h143km±4km, mb3.1/5, mb1 3.6/7, mb1mx3.2/42, mbtmp3.7/7, Error ellipse: s-maj=31.5km s-min=13.1km az=73.0
TRN 11 08:11:56.0, 13.81N×61.24W, h132km, MD3.7
ISC 11 08:11:56.0±0.8, 13.81N±0.03×61.19W±0.05, h136km±5km, n54, σ1s07/82, mb3.3/5, 4D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MCLT	**Moule a Chique**	**0.26**	**112**	*eP*	**Pn**	**08 12 15.0**	**+0.1**	
MCLT				*eS*	**Sn**	**08 12 28.7**	**-0.3**	
SLCP	**Castries, St.**	**0.28**	**45**	*eP*	**Pn**	**08 12 15.4**	**+0.6**	
SLCP	**Castries, St.**	**0.28**	**45**	*e*	Pn	08 12 26.3	+11	
SLCP				*eS*	**Sn**	**08 12 30.1**	**+0.9**	
SLBI	**Saint Lucia, B**	**0.30**	**45**	⇓*i*P	**Pn**	**08 12 15.5**	**+0.6**	
SLBI				*eS*	**Sn**	**08 12 29.6**	**+0.3**	
SVV	**Soufriere Volc**	**0.49**	**183**	⇓*i*P	**Pn**	**08 12 16.6**	**+0.8**	
SVV				*eS*	**Sn**	**08 12 31.6**	**+0.8**	
SVB	**Belmont**	**0.54**	**186**	⇓*i*P	**Pn**	**08 12 16.8**	**+0.7**	
SVB				*eS*	**Sn**	**08 12 31.5**	**+0.2**	
SVOC	**Richmond Hill,**	**0.65**	**182**	*eP*	**Pn**	**08 12 17.1**	**+0.3**	
SVOC				*eS*	**Sn**	**08 12 32.3**	**-0.2**	
H05S1	**Guadeloupe/Mar**	**0.70**	**29**	P	**Pn**	**08 12 17.4**	**+0.3**	
H05S1				S	**Sn**	**08 12 33.0**	**-0.1**	
MPOM	**Morne Pois Mar**	**0.71**	**27**	⇓*i*P	**Pn**	**08 12 17.3**	**+0.2**	
MPOM				*eS*	**Sn**	**08 12 32.7**	**-0.5**	
BIM	**Bigot**	**0.71**	**10**	*eP*	**Pn**	**08 12 17.8**	**+0.5**	
BIM				*eS*	**Sn**	**08 12 33.2**	**-0.1**	
TRMF	**Trois Ilets**	**0.74**	**11**	*eP*	**Pn**	**08 12 17.9**	**+0.6**	
ZAM	**Aeronautique**	**0.78**	**12**	*eP*	**Pn**	**08 12 18.3**	**+0.7**	
LPMF	**Morne Lapointe**	**0.79**	**16**	*eP*	**Pn**	**08 12 18.4**	**+0.7**	
MVM	**Montagne Vaucl**	**0.80**	**21**	*eP*	**Pn**	**08 12 18.4**	**+0.6**	
FDF	**Fort de France**	**0.92**	**3**	*eP*	**Pn**	**08 12 19.5**	**+0.6**	
FDF				*eS*	**Sn**	**08 12 36.7**	**+0.4**	
PML	**Morne Lenard**	**0.97**	**1**	*eP*	**Pn**	**08 12 20.6**	**+1.4**	
GBMF	**Grand Be**	**0.98**	**2**	*eP*	**Pn**	**08 12 20.4**	**+1.0**	
PCM	**Pelee Case Pet**	**1.00**	**359**	*eP*	**Pn**	**08 12 20.4**	**+0.8**	
BAMF	**Morne Balai**	**1.00**	**3**	*eP*	**Pn**	**08 12 20.8**	**+1.1**	
ILAM	**Ilet Lapin Mar**	**1.01**	**18**	*eP*	**Pn**	**08 12 20.1**	**+0.5**	
ILAM				*eS*	**Sn**	**08 12 37.2**	**-0.4**	
SVN	**Savane Anatole**	**1.03**	**1**	*eP*	**Pn**	**08 12 20.6**	**+0.8**	
GCMP	**Grenada, Carri**	**1.33**	**190**	*eP*	**Pn**	**08 12 23.4**	**+0.6**	
GCMP				*eS*	**Sn**	**08 12 43.1**	**-0.2**	
MDN	**Morne-Daniel**	**1.51**	**353**	*eP*	**Pn**	**08 12 25.9**	**+1.2**	
MDN				*eS*	**Sn**	**08 12 48.1**	**+1.4**	
DLPL	**La Plaine**	**1.52**	**358**	*eP*	**Pn**	**08 12 25.7**	**+1.0**	
DLPL				*eS*	**Sn**	**08 12 47.3**	**+0.5**	
GRSS	**Sisters**	**1.56**	**195**	*eP*	**Pn**	**08 12 25.4**	**+0.2**	
GRSS				*eS*	**Sn**	**08 12 48.4**	**+0.9**	
DSLB	**Salisbury**	**1.63**	**352**	*eP*	**Pn**	**08 12 26.9**	**+0.8**	
DSLB				*eS*	**Sn**	**08 12 49.8**	**+0.6**	
GRHS	**Sauteurs**	**1.64**	**196**	*eP*	**Pn**	**08 12 25.8**	**-0.3**	
GRHS				*eS*	**Sn**	**08 12 49.3**	**+0.3**	
BCHC	**Barbados, Cave**	**1.66**	**114**	*eP*	**Pn**	**08 12 28.1**	**+1.7**	
BCHC				*eS*	**Sn**	**08 12 51.6**	**+2.0**	
BBGH	**Gun Hill**	**1.72**	**112**	*eP*	**Pn**	**08 12 28.1**	**+1.0**	
BBGH				*eS*	**Sn**	**08 12 52.4**	**+1.6**	
GRGR	**Grenville**	**1.73**	**195**	*eP*	**Pn**	**08 12 28.0**	**+0.8**	
GRGR				*eS*	**Sn**	**08 12 51.8**	**+0.8**	
BBSP	**Saint Philip**	**1.83**	**112**	*eP*	**Pn**	**08 12 29.8**	**+1.5**	
BBSP				*eS*	**Sn**	**08 12 54.7**	**+1.7**	
GRFF	**Grenada Fort F**	**1.83**	**197**	*eP*	**Pn**	**08 12 28.8**	**+0.5**	
GRFF				*eS*	**Sn**	**08 12 53.5**	**+0.4**	
TDBA	**Terre de Bas,**	**2.07**	**348**	*eP*	**Pn**	**08 12 32.5**	**+1.2**	
TDBA				*eS*	**Sn**	**08 12 58.2**	**-0.1**	
TBG	**Guadaloupe-3**	**2.08**	**348**	*eP*	**Pn**	**08 12 29.0**	**-2.3**	
TBG				*eS*	**Sn**	**08 12 57.2**	**-1.2**	
MAGL	**Barre de l'ile**	**2.13**	**358**	*eP*	**Pn**	**08 12 32.4**	**+0.5**	
MAGL				*eS*	**Sn**	**08 13 00.1**	**-0.6**	
CBE	**Ff, Capester**	**2.28**	**350**	*eP*	**Pn**	**08 12 35.2**	**+1.3**	
CBE				*eS*	**Sn**	**08 13 04.2**	**+1.3**	
H05N1	**Guadeloupe/Mar**	**2.50**	**3**	P	**Pn**	**08 12 36.1**	**-0.4**	
	SNR=187							
H05N1				S	**Sn**	**08 13 04.6**	**-3.1**	
TOSP	**Speyside**	**2.58**	**165**	*i* P	**Pn**	**08 12 38.0**	**+0.5**	
TOSP				*eS*	**Sn**	**08 13 09.3**	**-0.1**	
ABD	**La Joyeuse, An**	**2.67**	**354**	*eP*	**Pn**	**08 12 39.3**	**+0.7**	
ABD				*eS*	**Sn**	**08 13 11.1**	**-0.3**	
MLYT	**Lee's Yard**	**3.05**	**342**	*eP*	**Pn**	**08 12 45.2**	**+1.7**	
MBFL	**Flemmings, Mon**	**3.08**	**342**	*eP*	**Pn**	**08 12 45.4**	**+1.4**	
TRN	**Trinidad (W)

DDFL			*i* AML	AML	08 13 37.0		
	comp=E,46nm,0.4s						
HOPA	**Hopa-Artvin**	**1.83 273**	PN	**Pn**	**08 13 01.3**	**0.0**	
CHVG	**Ch'k'valeri**	**1.94 317**	P	**Pn**	**08 13 00.0**	**-2.8**	
CHVG			S	**Sn**	**08 13 27.1**	**-0.4**	
LSNR	**Lesken**	**1.96 359**	*e*Pg	**Pb**	**08 13 06.3**	**+0.9**	
LSNR			*e*Sg	**Sb**	**08 13 30.6**	**+0.5**	
KOPR	**Koprukoy-ERZUR**	**2.03 230**	PN	**Pn**	**08 13 03.9**	**-0.3**	
NEY	**Neytrino**	**2.12 336**	*e*Pg	**Pb**	**08 13 08.2**	**+0.1**	
NEY			*e*Sg	**Sb**	**08 13 34.5**	**-0.2**	
BTLR	**Botlikh**	**2.21 52**	*e*Pg	**Pb**	**08 13 09.7**	**+0.2**	
BTLR			*i* Sg	**Sb**	**08 13 37.0**	**-0.1**	
DVE	**Vedeno**	**2.34 45**	*e*Pg	**Pb**	**08 13 10.8**	**-1.1**	
DVE			*e*Sg	**Sn**	**08 13 39.8**	**+2.4**	
CHOM	**Cayeli-Rize**	**2.37 266**	PN	**Pn**	**08 13 08.7**	**+0.1**	
GNBR	**Gunib**	**2.54 64**	*e*Pn	**Pb**	**08 13 16.1**	**+0.9**	
GNBR			*i* Sn	**Sb**	**08 13 47.1**	**+0.3**	
SHA1	**Shidzhatmaz**	**2.58 340**	*e*Pn	**Pg**	**08 13 18.1**	**-0.6**	
SHA1			*e*Sn	**Sb**	**08 13 49.6**	**+1.3**	
AKT	**Akhty**	**2.90 85**	*e*Pn	**Pb**	**08 13 20.7**	**-0.7**	
AKT			*e*Sn	**Sb**	**08 13 55.9**	**-1.3**	

IDC 11 08:40:18.9±5.0, 30.75N×92.94E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/32, mbtmp3.4/3, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/83, Error ellipse: s-maj=514.0km s-min=36.5km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**18.02 336**		P	Pn	08 44 30.6	0.0
	0.1nm,0.3s,baz=145,slow=14,SNR=5.1						
WSAR	**Wadi Sarin**	**31.39 265**		LR	LR	09 02 41.0	
	comp=Z,31nm,18.9s,baz=148,slow=43						
WRA	**Warramunga Arr**	**64.21 136**		P	P	08 50 56.7	+0.9
	0.5nm,0.8s,baz=323,slow=8.5,SNR=4.8						
ASAR	**Alice Springs**	**66.86 139**		P	P	08 51 12.2	-0.7
	0.4nm,0.6s,baz=329,slow=6.4,SNR=8.8						

IDC 11 08:48:28.1±2.7, 53.77N×86.88E, h0km, mb1 2.6/2, mb1mx2.6/38, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=24.3km s-min=15.0km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.24 279**	*i*			08 57 18.6	
	baz=101,slow=333,SNR=4.0						
ZALV	**Zalesovo Beam**	**1.24 279**		Pg	Pg	08 48 50.2	-1.6
	0.9nm,0.3s,baz=99,slow=19,SNR=19						
ZALV				Lg	Lg	08 49 08.2	
	0.7nm,0.3s,baz=98,slow=29,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.03 242**		Pn	Pn	08 49 59.7	+1.3
	0.0nm,0.3s,baz=58,slow=13,SNR=2.4						
KURBB				Lg	Lg	08 51 41.9	
	baz=55,slow=31,SNR=2.8						
MKAR	**Makanchi Array**	**7.58 205**		Pn	Pn	08 50 21.0	+1.3
	0.1nm,0.3s,baz=25,slow=14,SNR=6.4						

IDC 11 08:50:20.3±3.1, 53.57N×87.89E, h0km, mb1 2.9/2, mb1mx2.8/39, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=27.7km s-min=18.1km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.86 283**	*i*			09 02 58.3	
	baz=98,slow=342,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.86 283**		Pn	Pn	08 50 52.8	-0.6
	1.1nm,0.3s,baz=96,slow=14,SNR=11						
ZALV				Lg	Lg	08 51 19.2	
	3.3nm,0.3s,baz=103,slow=23,SNR=19						
KURBB	**Kurchatov Arra**	**6.48 247**		Pn	Pn	08 51 57.8	+1.0
	0.1nm,0.3s,baz=62,slow=14,SNR=4.4						
KURBB				Lg	Lg	08 53 44.4	
	0.0nm,0.3s,baz=67,slow=28,SNR=2.0						
MKAR	**Makanchi Array**	**7.67 210**		Pn	Pn	08 52 14.4	+1.1
	0.1nm,0.3s,baz=26,slow=15,SNR=2.8						
MKAR				Lg	Lg	08 54 22.3	
	0.1nm,0.3s,baz=30,slow=32,SNR=3.4						

*NNC **11** 08:56:06.5±1.5, 54.36N×86.89E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=12.8km s-min=8.1km az=2.0, Suspected Mining explosion.*

IDC 11 08:56:06.1±2.9, 54.37N×87.13E, h0km, mb1 3.0/2, mb1mx2.9/39, mbtmp3.0/2, ML2.6/2, 5C-6D, Error ellipse: s-maj=23.0km s-min=17.9km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.42 254**	*i*			09 04 30.7	
	baz=76,slow=335,SNR=12						
ZAA0	**Zalesovo Array**	**1.42 254**	⇑	P	Pn	08 56 30.4	-2.7
	0.3nm,0.3s						
ZAA0			⇑	S	Sg	08 56 48.6	-3.1
	13nm,0.9s						
ZALV	**Zalesovo Beam**	**1.42 254**		Pg	Pn	08 56 30.6	-2.6
	2.2nm,0.3s,baz=72,slow=16,SNR=29						
ZALV				Lg	Lg	08 56 50.4	
	2.1nm,0.3s,baz=79,slow=32,SNR=13						
KURK	**Kurchatov**	**6.35 238**	⇑	Pn	Pn	08 57 39.5	-1.3
	1.4nm,0.3s						
KURK			⇓	Sn	Sn	08 58 52.8	-1.2
	1.1nm,0.5s						
KURK			⇓	Lg	Lg	08 59 25.5	
	5.9nm,0.9s						
KURBB	**Kurchatov Arra**	**6.45 238**		Pn	Pn	08 57 43.5	+1.3
	0.1nm,0.3s,baz=55,slow=14,SNR=6.2						
KURBB				Sn	Sn	08 58 56.8	+0.3
	0.0nm,0.3s,baz=59,slow=20,SNR=5.1						
KURBB				Lg	Lg	08 59 28.6	
	0.1nm,0.3s,baz=56,slow=33,SNR=3.8						
KURBB	**Kurchatov Arra**	**6.45 238**	⇓	Pn	Pn	08 57 41.1	-1.2
	0.7nm,0.3s						
KURBB			⇓	Sn	Sn	08 58 53.8	-2.6
	3.8nm,0.6s						
KURBB			⇓	Lg	Lg	08 59 26.5	
	4.1nm,0.7s						
MK31	**Makanchi Array**	**8.18 204**	⇑	Pn	Pn	08 58 06.9	+0.9
	0.5nm,0.7s,baz=24,slow=12,SNR=9.6						
MK31			⇑	Sn	Sn	08 59 39.7	+0.5
	0.3nm,0.5s						
MK31			⇓	Lg	Lg	09 00 23.0	
	1.7nm,0.8s,baz=31,slow=32,SNR=4.3						
MKAR	**Makanchi Array**	**8.18 204**		Pn	Pn	08 58 06.5	+0.5
	0.1nm,0.3s,baz=26,slow=14,SNR=6.1						
MKAR				Sn	Sn	08 59 41.1	+1.9
	0.1nm,0.3s,baz=19,slow=27,SNR=3.6						
MKAR				Lg	Lg	09 00 23.8	
	0.0nm,0.3s,baz=27,slow=29,SNR=6.0						

IDC 11 09:01:37.6±3.5, 54.28N×87.28E, h0km, mb1 2.6/2, mb1mx2.6/45, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=29.3km s-min=17.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.48 258**	*i*			09 10 36.6	
	baz=80,slow=339,SNR=6.5						
ZALV	**Zalesovo Beam**	**1.48 258**		Pg	Pn	09 02 03.4	-2.2
	0.4nm,0.3s,baz=82,slow=19,SNR=7.7						
ZALV				Lg	Lg	09 02 24.6	
	1.1nm,0.3s,baz=76,slow=24,SNR=4.4						
KURBB	**Kurchatov Arra**	**6.48 239**		Pn	Pn	09 03 14.8	+0.7
	0.1nm,0.3s,baz=58,slow=14,SNR=2.6						
MKAR	**Makanchi Array**	**8.14 205**		Pn	Pn	09 03 38.2	+1.2
	0.1nm,0.3s,baz=23,slow=10,SNR=2.6						
MKAR				Sn	Sn	09 05 09.8	+0.2
	0.1nm,0.3s,baz=23,slow=24,SNR=8.3						
MKAR				Lg	Lg	09 05 58.6	
	0.0nm,0.3s,baz=23,slow=30,SNR=6.5						

*NOU **11** 09:02:29.1, 21.27S×178.97W, h619km, mb4.5/42, Fiji Islands Region*
*NEIC **11** 09:02:29.1±2.1, 21.25S±0.10×179.2W±0.1, h594km±6km, mb4.7/104, Error ellipse: s-maj=15.2km s-min=13.7km az=111.0*
*IDC **11** 09:02:31.2±1.0, 21.19S×179.28W, h624km±11km,*

mb3.8/21, mb1 3.9/23, mb1mx3.8/30, mbtmp4.7/23, Error ellipse: s-maj=11.7km s-min=9.6km az=133.0

ISC 11 09:02:28.7±0.3, 21.29S±0.04×179.11W±0.06, h602km, n292, σ1°93/312, mb4.6/69, 22C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.43 322**		P	**P**	**09 04 00.3**	**+2.7**
	81nm,0.3s,baz=157,slow=6.0,SNR=191						
MSVF	**Nonsavu**	**4.43 322**		P	**P**	**09 03 59.2**	**+1.7**
MSVF	**Nonsavu**	**4.43 322**		P	**P**	**09 04 00.6**	**+3.0**
RIZ	**Raoul Island**	**8.00 173**		P	**P**	**09 04 28.6**	**+0.7**
RAO	**Raoul Island**	**8.01 173**		P	**P**	**09 04 28.3**	**+0.3**
	133nm,0.3s,baz=70,slow=10,SNR=8.9						
RAO				S	**S**	**09 06 06.4**	**+0.6**
	47nm,0.3s,baz=107,slow=22,SNR=7.7						
RAO	**Raoul Island**	**8.01 173**		P	**P**	**09 04 29.2**	**+1.2**
GLKZ	**Green Lake**	**8.02 173**		P	**P**	**09 04 28.6**	**+0.5**
GLKZ				S	**S**	**09 06 05.9**	**0.0**
NIUE	**Niue**	**8.90 77**		P	**P**	**09 04 36.4**	**-0.3**
AFI	**Afiamalu**	**10.13 45**		P	**P**	**09 04 47.5**	**-1.4**
	11nm,0.3s,baz=65,slow=5.4,SNR=13						
AFI				S	**S**	**09 06 38.9**	**-5.1**
	6.4nm,0.3s,baz=81,slow=22,SNR=8.2						
AFI	**Afiamalu**	**10.13 45**		P	**P**	**09 04 47.8**	**-1.2**
AFI					**S**	**09 06 42.3**	**-1.8**
AFI	**Afiamalu**	**10.13 45**		P	**P**	**09 04 48.3**	**-0.7**
MARNC	**Mare, Loyalty**	**11.98 267**		P	**P**	**09 05 07.3**	**0.0**
PINNC	**Pines Island,**	**12.55 261**		P	**P**	**09 05 09.9**	**-3.0**
DZM	**Mont Dzumac**	**13.46 264**		P	**P**	**09 05 22.3**	**0.0**
	1.1nm,0.3s,baz=84,slow=22,SNR=11						
DZM				S	**S**	**09 07 45.6**	**+1.0**
	baz=30,slow=20,SNR=1.2						
DZM	**Mont Dzumac**	**13.46 264**		P	**P**	**09 05 21.8**	**-0.4**
DZM	**Mont Dzumac**	**13.46 264**		P	**P**	**09 05 23.0**	**+0.8**
SANVU	**Saraoutou**	**14.23 292**		P	**P**	**09 05 29.2**	**-0.6**
SANVU	**Saraoutou**	**14.23 292**		P	**P**	**09 05 29.5**	**-0.3**
OUZ	**Omahuta**	**15.29 203**		P	**P**	**09 05 42.8**	**+3.6**
OUZ	**Omahuta**	**15.29 203**		P	**P**	**09 05 42.3**	**+3.1**
WCZ	**Waipu Caves**	**15.68 200**		P	**P**	**09 05 46.8**	**+4.0**
WIAZ	**Waiheke Island**	**16.25 197**		P	**P**	**09 05 51.3**	**+3.3**
MXZ	**Matakaoa Point**	**16.38 187**		P	**P**	**09 05 49.7**	**+0.6**
MXZ	**Matakaoa Point**	**16.38 187**		P	**P**	**09 05 49.9**	**+0.8**
MXZ				S	**S**	**09 08 25.6**	**-6.8**
MYRZ	**Mayor Island**	**16.44 193**		P	**P**	**09 05 53.3**	**+3.5**
WMGZ	**Waiomatatini S**	**16.62 187**		P	**P**	**09 05 52.1**	**+0.7**
WMGZ				S	**S**	**09 08 31.4**	**-5.0**
HAZ	**Te Kaha**	**16.63 189**		P	**P**	**09 05 52.2**	**+0.7**
HAZ				S	**S**	**09 08 29.2**	**-7.4**
PKGZ	**Pakihiroa**	**16.72 188**		P	**P**	**09 05 52.7**	**+0.2**
PKGZ				S	**S**	**09 08 31.4**	**-6.9**
RUGZ	**Raukumara Rang**	**16.85 189**		P	**P**	**09 05 53.6**	**-0.1**
RUGZ				S	**S**	**09 08 32.9**	**-7.6**
TGRZ	**Tauranga**	**16.87 193**		P	**P**	**09 05 56.5**	**+2.8**
PUZ	**Puketiti**	**16.88 187**		P	**P**	**09 05 53.8**	**0.0**
PUZ				S	**S**	**09 08 37.6**	**-3.2**
TWGZ	**Tauwhareparae**	**17.02 188**		P	**P**	**09 05 55.7**	**+0.6**
TWGZ				S	**S**	**09 08 39.5**	**-3.5**
TOZ	**Tahuroa Road**	**17.04 195**		P	**P**	**09 05 58.0**	**+2.7**
KMRZ	**Kaimai**	**17.05 193**		P	**P**	**09 05 57.2**	**+1.8**
URZ	**Urewera**	**17.23 190**		P	**P**	**09 05 55.6**	**-1.4**
	15nm,0.3s,baz=19,slow=3.4,SNR=93						
URZ				S	**S**	**09 08 39.4**	**-6.9**
	1.2nm,0.3s,baz=191,slow=23,SNR=9.6						
URZ	**Urewera**	**17.23 190**		P	**P**	**09 05 55.9**	**-1.1**
URZ	**Urewera**	**17.23 190**		P	**P**	**09 05 55.4**	**-1.6**
URZ				S	**S**	**09 08 40.8**	**-5.5**
URZ	**Urewera**	**17.23 190**		P	**P**	**09 05 57.4**	**+0.4**
MWZ	**Matawai**	**17.24 189**		P	**P**	**09 05 56.1**	**-1.0**
MWZ				S	**S**	**09 08 41.0**	**-5.6**
TKGZ	**Te Karaka**	**17.30 188**		P	**P**	**09 05 58.2**	**+0.6**
TKGZ				S	**S**	**09 08 42.5**	**-4.9**
RRRZ	**Republican Roa**	**17.41 192**		P	**P**	**09 05 59.9**	**+1.2**
MUGZ	**Murupara**	**17.50 191**		P	**P**	**09 05 59.4**	**-0.1**
MUGZ				S	**S**	**09 08 41.5**	**-9.3**
RIGZ	**Rimuhau**	**17.57 188**		P	**P**	**09 05 59.7**	**-0.5**
RIGZ				S	**S**	**09 08 48.5**	**-3.4**
PRRZ	**Plateau Road**	**17.59 192**		P	**P**	**09 06 00.9**	**+0.6**
SNGZ	**Shannon Statio**	**17.70 189**		P	**P**	**09 06 01.0**	**-0.3**
SNGZ				S	**S**	**09 08 49.9**	**-4.2**
PRGZ	**Paritu Road**	**17.77 188**		P	**P**	**09 06 03.8**	**+1.9**
PRGZ				S	**S**	**09 08 56.1**	**+0.9**
RAHZ	**Arahi**	**17.88 190**		P	**P**	**09 06 03.5**	**+0.7**
RAHZ				S	**S**	**09 08 52.4**	**-4.4**
KNZ	**Kokohu**	**17.89 188**		P	**P**	**09 06 02.7**	**-0.3**
KNZ				S	**S**	**09 08 49.3**	**-7.7**
MRHZ	**Matea Rd**	**17.91 191**		P	**P**	**09 06 03.0**	**-0.3**
HIZ	**Hauiti**	**17.94 196**		P	**P**	**09 06 05.7**	**+2.3**
HIZ	**Hauiti**	**17.94 196**		P	**P**	**09 06 07.6**	**+4.1**
HIZ	**Hauiti**	**17.94 196**		P	**P**	**09 06 04.7**	**+1.2**
MHGZ	**Mahia Peninsul**	**17.99 188**		P	**P**	**09 06 04.8**	**+0.8**
MHGZ				S	**S**	**09 08 53.6**	**-5.1**
WHHZ	**Waihua**	**18.01 189**		P	**P**	**09 06 02.7**	**-1.4**
WHHZ				S	**S**	**09 08 49.8**	**-9.1**
RATZ	**Rangitukua**	**18.07 193**		P	**P**	**09 06 05.0**	**+0.3**
NMHZ	**Naumai**	**18.10 190**		P	**P**	**09 06 06.0**	**+1.0**
RITZ	**Rihia Road**	**18.16 193**		P	**P**	**09 06 06.2**	**+0.8**
BKZ	**Black Stump Fm**	**18.22 191**		P	**P**	**09 06 05.3**	**-0.8**
BKZ				IAmb	IAmb	09 06 05.5	
	comp=Z,26nm,1.3s						
BKZ	**Black Stump Fm**	**18.22 191**		P	**P**	**09 06 05.3**	**-0.8**
BKZ	**Black Stump Fm**	**18.22 191**		P	**P**	**09 06 04.7**	**-1.3**
ARHZ	**Aropaoanui**	**18.23 190**		P	**P**	**09 06 06.7**	**+0.6**
TMVZ	**Te Maari**	**18.32 193**		P	**P**	**09 06 07.3**	**+0.2**
ETVZ	**East Tongariro**	**18.34 193**		P	**P**	**09 06 07.4**	**+0.2**
WTVZ	**West Tongariro**	**18.34 193**		P	**P**	**09 06 08.3**	**+1.1**
NNVZ	**North Ngauruho**	**18.36 193**		P	**P**	**09 06 08.8**	**+1.4**
NGZ	**Ngauruhoe**	**18.40 193**		P	**P**	**09 06 08.4**	**+0.6**
SNVZ	**South Ngauruho**	**18.40 193**		P	**P**	**09 06 08.1**	**+0.2**
MCHZ	**McNeill Hill**	**18.45 190**		P	**P**	**09 06 08.1**	**0.0**
KWHZ	**Kaweka Forest**	**18.48 191**		P	**P**	**09 06 07.9**	**-0.6**
FWVZ	**Far West T-bar**	**18.49 193**		P	**P**	**09 06 09.4**	**+0.7**
WNVZ	**Wahianoa**	**18.55 193**		P	**P**	**09 06 08.9**	**-0.3**
MOVZ	**Moawhango**	**18.59 193**		P	**P**	**09 06 09.5**	**0.0**
BHHZ	**Black Hill Sta**	**18.61 192**		P	**P**	**09 06 08.8**	**-0.9**
KRHZ	**Kereru**	**18.70 191**		P	**P**	**09 06 10.0**	**-0.5**
KAHZ	**Kahuranaki**	**18.77 190**		P	**P**	**09 06 11.2**	**+0.2**
PKE	**Pukeiti**	**18.81 197**		P	**P**	**09 06 15.7**	**+4.4**
KHEZ	**Kahui Hut**	**18.89 197**		P	**P**	**09 06 16.4**	**+4.2**
PNHZ	**Pukenui**	**19.00 191**		P	**P**	**09 06 12.8**	**-0.3**
PXZ	**Pawanui**	**19.00 190**		P	**P**	**09 06 13.1**	**+0.1**
TSZ	**Takapari Road**	**19.18 192**		P	**P**	**09 06 14.3**	**-0.5**
BFZ	**Birch Farm**	**19.73 191**		P	**P**	**09 06 19.4**	**-0.3**
MSWZ	**Moikau Station**	**20.63 192**		P	**P**	**09 06 27.6**	**-0.1**
SNZO	**South Karori**	**20.64 193**		P	**P**	**09 06 28.1**	**+0.3**
SNZO	**South Karori**	**20.64 193**		P	**P**	**09 06 27.8**	**0.0**
BHW	**Baring Head**	**20.70 193**		P	**P**	**09 06 28.4**	**0.0**
QRZ	**Quartz Range**	**20.73 198**		P	**P**	**09 06 29.9**	**+1.2**
QRZ	**Quartz Range**	**20.73 198**		P	**P**	**09 06 30.0**	**+1.2**
PLWZ	**Palliser**	**20.78 192**		P	**P**	**09 06 28.7**	**-0.5**
NNZ	**Nelson**	**20.86 196**		P	**P**	**09 06 30.1**	**+0.3**
TUWZ	**Tuamarina**	**20.93 195**		P	**P**	**09 06 28.9**	**-1.5**
THZ	**Tophouse**	**21.50 196**		P	**P**	**09 06 35.7**	**+0.1**
THZ				IAmb	IAmb	09 06 38.7	
	comp=Z,25nm,0.8s						
KHZ	**Kahutara**	**21.96 195**		P	**P**	**09 06 39.1**	**-0.5**
KHZ	**Kahutara**	**21.96 195**		P	**P**	**09 06 39.1**	**-0.5**
LTZ	**Lake Taylor**	**22.62 197**		P	**P**	**09 06 45.3**	**-0.3**
HNR	**Honiara**	**23.35 297**		P	**P**	**09 06 52.4**	**+0.1**
	comp=Z,38nm,0.4s,baz=112,slow=5.4,SNR=4.1						
HNR	**Honiara**	**23.35 297**		IAmb	IAmb	09 06 53.3	
	comp=Z,54nm,0.8s						
RPZ	**Rata Peaks**	**23.82 198**		P	**P**	**09 06 57.5**	**+1.3**
	comp=Z,9.5nm,0.4s,baz=200,slow=0.8,SNR=9.7						
RPZ	**Rata Peaks**	**23.82 198**		P	**P**	**09 06 56.6**	**+0.4**
ODZ	**Otahua Downs**	**25.16 197**		P	**P**	**09 07 07.8**	**-0.1**
WHZ	**Wether Hill Ro**	**26.74 200**		P	**P**	**09 07 22.8**	**+1.0**
EIDS	**Eidsvold**	**27.64 256**		P	**P**	**09 07 31.0**	**+1.0**
EIDS				IAmb	IAmb	09 07 31.7	
	comp=Z,5.1nm,0.6s						
ARMA	**Armidale**	**27.80 245**		P	**P**	**09 07 33.2**	**+1.8**
ARMA				IAmb	IAmb	09 07 46.7	
	comp=Z,14nm,1.3s						
ARMA	**Armidale**	**27.80 245**		P	**P**	**09 07 33.3**	**+1.8**
MGCD	**Mangrove Creek**	**28.92 239**		P	**P**	**09 07 41.2**	**+0.2**
CNB	**Canberra Magne**	**30.93 236**		P	**P**	**09 07 59.8**	**+1.5**
CTA	**Charters Tower**	**32.39 266**		P	**P**	**09 08 11.7**	**+0.9**
	comp=Z,18nm,0.4s,baz=95,slow=10,SNR=12						
CTA	**Charters Tower**	**32.39 266**		P	**P**	**09 08 11.6**	**+0.8**
CTAO	**Charters Tower**	**32.39 266**		P	**P**	**09 08 11.4**	**+0.6**
CMSA	**Cobar Meteorol**	**33.01 245**		P	**P**	**09 08 16.9**	**+1.0**
PMG	**Port Moresby**	**34.52 285**		P	**P**	**09 08 28.5**	**-0.2**
MTSU	**Mount Surprise**	**34.53 269**		P	**P**	**09 08 29.5**	**+0.8**
TOO	**Toolangi**	**34.60 234**		P	**P**	**09 08 30.2**	**+1.2**
TOO				IAmb	IAmb	09 08 31.3	
	comp=Z,29nm,1.2s						
TOO	**Toolangi**	**34.60 234**		P	**P**	**09 08 29.3**	**+0.2**
TAU	**Tasmania Unive**	**35.34 225**		P	**P**	**09 08 36.7**	**+1.7**
PATS	**Pohnpei**	**35.67 319**		P	**P**	**09 08 39.1**	**+1.0**
STKA	**Stephens Creek**	**36.52 245**		P	**P**	**09 08 46.0**	**+1.1**
	comp=Z,4.5nm,0.4s,baz=95,slow=11,SNR=44						
STKA	**Stephens Creek**	**36.52 245**		P	**P**	**09 08 45.9**	**+0.9**
STKA	**Stephens Creek**	**36.52 245**		P	**P**	**09 08 46.0**	**+1.1**
COEN	**Coen**	**36.61 275**		IAmb	IAmb	09 08 47.8	
	comp=Z,26nm,0.8s						
QIS	**Mount Isa**	**38.49 263**		P	**P**	**09 09 01.3**	**+0.1**
HTT	**Hallett**	**38.95 243**		P	**P**	**09 09 05.6**	**+0.9**
LCRK	**Leigh Creek**	**39.28 248**		P	**P**	**09 09 08.4**	**+1.1**
NAPP	**Napperby**	**39.56 243**		P	**P**	**09 09 10.8**	**+1.3**
BBOO	**Buckleboo**	**41.27 244**		P	**P**	**09 09 23.9**	**+0.8**
BBOO				IAmb	IAmb	09 09 24.1	
	comp=Z,10nm,0.5s						
BBOO	**Buckleboo**	**41.27 244**		P	**P**	**09 09 23.8**	**+0.7**
OOD	**Oodnadatta**	**41.45 252**		P	**P**	**09 09 26.2**	**+1.6**
MULG	**Mulgathing**	**42.86 248**		P	**P**	**09 09 36.3**	**+0.7**
WR0	**Warramunga Arr**	**43.28 263**		P	**P**	**09 09 38.7**	**-0.3**
AS31	**Alice Springs**	**43.33 258**		P	**P**	**09 09 40.0**	**+0.6**
ASAR	**Alice Springs**	**43.34 258**		P	**P**	**09 09 39.9**	**+0.5**
	comp=Z,14nm,0.8s,baz=97,slow=7.9,SNR=217						
ASAR				ScP	**ScP**	**09 14 09.6**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=110,slow=4.1,SNR=9.5						
ASAR				S	**S**	**09 15 22.2**	**-2.6**
	comp=Z,6.4nm,0.7s,baz=94,slow=16,SNR=31						
WB0	**Warramunga Arr**	**43.45 263**		P	**P**	**09 09 40.2**	**-0.1**
WB0				IAmb	IAmb	09 09 40.9	
	comp=Z,16nm,0.6s						
WB2	**Warramunga Arr**	**43.46 263**		P	**P**	**09 09 40.4**	**0.0**
WB2				IAmb	IAmb	09 09 41.1	
	comp=Z,18nm,0.9s						
WB2				S	**S**	**09 15 23.6**	**-3.0**
WRAB	**Tennant Creek**	**43.46 263**		P	**P**	**09 09 39.5**	**-0.9**
WRAB				IAmb	IAmb	09 10 02.1	
	comp=Z,16nm,0.6s						
WRAB	**Tennant Creek**	**43.46 263**		P	**P**	**09 09 40.3**	**-0.1**
WRA	**Warramunga Arr**	**43.47 263**		P	**P**	**09 09 40.2**	**-0.3**
	comp=Z,9.5nm,0.6s,baz=97,slow=7.6,SNR=179						
WRA				ScP	**ScP**	**09 14 09.0**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=100,slow=3.6,SNR=4.7						
WRA				S	**S**	**09 15 22.6**	**-4.2**
	comp=Z,5.4nm,1.0s,baz=99,slow=13,SNR=6.5						
WRA	**Warramunga Arr**	**43.47 263**		P	**P**	**09 09 39.8**	**-0.7**
FORT	**Forrest**	**48.03 247**		P	**P**	**09 10 14.8**	**0.0**
MTN	**Manton Dam**	**48.14 272**		P	**P**	**09 10 15.4**	**-0.4**
MTN				IAmb	IAmb	09 10 16.1	
	comp=Z,24nm,0.7s						
KNRA	**Kununurra**	**49.58 267**		P	**P**	**09 10 26.1**	**-0.3**
KNRA				IAmb	IAmb	09 10 27.0	
	comp=Z,17nm,0.7s						
SBA	**Scott Base**	**57.02 184**		P	**P**	**09 11 21.0**	**+3.1**
SBA				IAmb	IAmb	09 11 22.5	
	comp=Z,31nm,1.0s						
VNDA	**Vanda**	**57.04 185**		P	**P**	**09 11 20.3**	**+2.3**
	comp=Z,5.8nm,0.7s,baz=357,slow=6.6,SNR=59						
VNDA	**Vanda**	**57.04 185**		P	**P**	**09 11 20.5**	**+2.4**
MORW	**Morawa**	**58.57 248**		P	**P**	**09 11 29.7**	**+0.4**
JCJ	**Chichijima**	**60.97 320**		P	**P**	**09 11 44.9**	**-0.1**
KAPI	**Kappang**	**61.33 276**		P	**P**	**09 11 46.6**	**-1.1**
	comp=Z,12nm,1.5s						
GIRL	**Giralia**	**61.35 255**		P	**P**	**09 11 48.0**	**+0.3**
PLAI	**Plampang**	**61.85 271**		P	**P**	**09 11 50.9**	**-0.2**
TOLI2	**Tolitoli**	**62.76 283**		P	**P**	**09 11 57.2**	**+0.3**
CASY	**Casey**	**62.81 205**		P	**P**	**09 11 57.2**	**+0.9**
CASY				IAmb	IAmb	09 11 58.3	
	comp=Z,38nm,1.1s						
QSPA	**South Pole Qui**	**68.79 180**		P	**P**	**09 12 35.2**	**+1.6**
QSPA		

comp=Z,8.1nm,0.7s
CCB Clear Creek Bu 89.01 13 IAmb IAmb 09 14 20.0
comp=Z,12nm,1.0s
L27K Beaver Creek, 89.05 16 IAmb IAmb 09 14 21.3
comp=Z,5.0nm,0.9s
WHY Whitehorse 89.14 20 IAmb IAmb 09 14 21.9
comp=Z,6.6nm,1.1s
MDM Murphy Dome 89.19 13 IAmb IAmb 09 14 20.9
comp=Z,9.3nm,0.9s
TCOL CIGO, UAF Yank 89.19 13 IAmb IAmb 09 14 20.9
comp=Z,11nm,0.7s
COLA College 89.20 13 P **P 09 14 20.1 -0.7**
IL31 89.31 13 IAmb IAmb 09 14 22.3
comp=Z,4.7nm,0.8s
ILAR Eielson Array 89.31 13 P **P 09 14 20.6 -0.8**
comp=Z,2.8nm,0.6s,baz=214,slow=5.1,SNR=46
CMAR Chiang Mai Arr 89.40 290 P **P 09 14 24.6 +1.7**
comp=Z,2.2nm,0.4s,baz=124,slow=3.1,SNR=10
PLCA Paso Flores 89.48 134 P **P 09 14 24.4 +1.4**
comp=Z,4.9nm,0.9s,baz=247,slow=4.5,SNR=12
J25K Salcha River, 89.50 14 IAmb IAmb 09 14 22.9
comp=Z,3.8nm,0.6s
CHTO Chiang Mai 89.54 290 P **P 09 14 23.1 -0.4**
CHTO IAmb IAmb 09 14 25.3
comp=Z,5.5nm,0.7s
CHTO Chiang Mai 89.54 290 P **P 09 14 22.9 -0.6**
M30M Minto, Yukon 90.03 18 IAmb IAmb 09 14 26.7
comp=Z,7.5nm,0.8s
PDAR Pinedale Array 90.24 44 P **P 09 14 26.4 -0.1**
comp=Z,0.8nm,0.7s,baz=195,slow=4.0,SNR=12
DAWY Dawson 90.50 16 IAmb IAmb 09 14 28.6
comp=Z,10nm,1.3s
INK Inuvik 95.30 15 P **P 09 14 48.0 -0.7**
comp=Z,2.5nm,1.1s,baz=250,slow=3.5,SNR=4.2
INK Inuvik 95.30 15 IAmb IAmb 09 14 49.3
comp=Z,3.8nm,1.2s
SONM Songino Array 95.67 319 P **P 09 14 50.5 -0.5**
comp=Z,0.3nm,0.4s,baz=92,slow=4.5,SNR=1.9
SONM PP **PP 09 18 51.4 -2.0**
comp=Z,0.6nm,0.8s,baz=115,slow=6.8,SNR=3.6
SONM Songino Array 95.67 319 IAmb IAmb 09 14 54.0
comp=Z,0.9nm,1.0s
YKA Yellowknife Ar 97.66 25 P Pdif 09 14 59.3 -0.1
comp=Z,0.6nm,0.7s,baz=247,slow=4.5,SNR=10
YKA PP **PP 09 19 10.6 +2.7**
comp=Z,0.4nm,0.9s,baz=247,slow=7.7,SNR=3.8
MKAR Makanchi Array 110.98 313 PKiKP **PKiKP 09 19 53.3 -1.2**
comp=Z,0.3nm,0.4s,baz=216,slow=1.3,SNR=6.9
MKAR PP **PP 09 20 42.3 -3.1**
comp=Z,0.7nm,1.0s,baz=89,slow=7.9,SNR=4.1
ARCES ARCESS Array B 129.50 349 PKP **PKPdf 09 20 27.9 -1.4**
comp=Z,2.4nm,0.6s,baz=85,slow=1.7,SNR=22
ARCES SKPbc SKPab 09 22 55.7 -0.1
comp=Z,12nm,0.9s,baz=35,slow=3.8,SNR=13
FINES FINESS Array B 136.22 343 PKP **PKPdf 09 20 40.8 -1.3**
comp=Z,1.6nm,0.6s,baz=72,slow=4.5,SNR=7.7
NB2 NORSAR Subarra139.62 352 PKP PKPdf 09 20 40.3 -8.1
comp=Z,0.6nm,0.4s,baz=15,slow=4.0
NB2 NORSAR Subarra139.62 352 PKP 09 23 27.3
comp=Z,6.1nm,1.2s,baz=19,slow=4.4
NOA NORSAR Array B139.62 352 PKhKP PKPpre 09 20 41.3
comp=Z,0.2nm,0.4s,baz=24,slow=4.3,SNR=6.4
NOA PKP **PKiKP 09 20 50.3 -0.7**
comp=Z,0.5nm,0.4s,baz=14,slow=3.9,SNR=4.4
NOA SKPbc **SKPbc 09 23 25.7 -2.4**
comp=Z,0.6nm,0.8s,baz=6.3,slow=4.0,SNR=4.0
NOA SKPab **SKPab 09 23 39.9 -0.4**
comp=Z,0.9nm,0.8s,baz=15,slow=3.2,SNR=4.6
HFS Hagfors 140.14 350 PKhKP PKPpre 09 20 42.0
comp=Z,1.7nm,0.6s,baz=22,slow=40,SNR=4.5
AKASG Malin Array Be 143.18 330 PKP PKPab 09 20 52.3 -0.9
comp=Z,10nm,0.4s,baz=43,slow=4.5,SNR=101
AKASG SKPbc **SKPbc 09 23 35.8 -1.6**
comp=Z,0.7nm,0.4s,baz=53,slow=2.4,SNR=9.3
SORM Soroca 145.31 327 ↑P **PKPdf 09 20 59.3 +0.6**
BNN Bunyan 145.32 308 PKPbc 09 21 00.3 -0.3
EKA Eskdalemuir Ar 145.87 4 PKPbc **PKPbc 09 21 01.0 -0.4**
comp=Z,6.2nm,0.7s,baz=348,slow=3.1,SNR=7.2
BR131 Keskin Array S 146.58 311 PKPbc 09 21 03.4 -0.7
BRTR Keskin Array B 146.58 311 PKPbc **PKPbc 09 21 03.5 -0.5**
comp=Z,3.1nm,0.6s,baz=129,slow=3.6,SNR=20
BRTR Keskin Array B 146.58 311 PKPbc 09 21 03.1 -1.0
VLDR Vladesti 146.93 324 ↑P **PKPbc 09 21 05.2 +0.6**
BURAR Bucovina Array 147.22 329 ↑P **PKPbc 09 21 06.2 +0.7**
BURAR Bucovina Array 147.22 329 PKPbc 09 21 05.2 -0.2
TESR Tescani 147.26 326 ↑P **PKPbc 09 21 04.3 -1.1**
CFR Carcaliu 147.31 323 ↑P **PKPbc 09 21 05.7 +0.1**
TPGR Topolog 147.34 322 ↑P **PKPbc 09 21 06.1 +0.4**
VRI Vrincioaia 147.64 325 ↑P **PKPbc 09 21 04.7 -1.8**
PLOR Plostina 147.69 325 ↑P **PKPbc 09 21 05.6 -1.1**
BISRR Bisoca 147.85 325 ↑P **PKPab 09 21 11.9 0.0**
CRVS Cervenica-Dubn 147.92 334 *e*PKP **PKPbc 09 21 07.4 +0.3**
TRPA Tarpa 148.06 332 ↑P **PKPbc 09 21 07.0 -0.4**
DOPR Dopca 148.27 327 ↑P **PKPbc 09 21 08.4 +0.4**
MLR Muntele Rosu 148.30 325 ↓P **PKiKP 09 21 09.2 -0.2**
MLR Muntele Rosu 148.30 325 PKPbc **PKPbc 09 21 08.2 -0.1**
comp=Z,4.8nm,0.8s,baz=45,slow=1.4,SNR=6.9
LANS Liptovska Anna 148.50 336 *e*PKP **PKiKP 09 21 09.9 +0.3**
DPC Dobruska-Polom 148.54 341 *e*PKP **PKPbc 09 21 09.1 +0.5**
DPC *ex* x 09 21 15.3
CLL Collm 148.57 345 *i* PKPbc **PKPbc 09 21 08.3 -0.3**
comp=Z,11nm,0.7s
CLL *i* PKiKP **PKPab 09 21 12.5 -2.0**
CLL *i* PKPab **PKiKP 09 21 14.2 +4.6**
comp=Z,7.0nm,0.9s
CLL *ex* x 09 23 34.0
MORC Moravsky Berou 148.65 339 ↑P **PKPbc 09 21 08.9 0.0**
MORC Moravsky Berou 148.65 339 *e*PKP **PKPbc 09 21 09.2 +0.3**
MORC *e* 09 21 15.3
VOIR 148.80 326 ↑P **PKPbc 09 21 08.9 -0.5**
DRGR 148.99 330 ↑P **PKPab 09 21 15.4 -1.1**
ARR Arges 149.07 326 ↑P **PKiKP 09 21 11.4 +0.5**
VYHS Vyhne 149.28 336 *e*PKP **PKiKP 09 21 10.8 -0.4**
VYHS *e* 09 21 18.2
KOLL Kolacno 149.37 337 *e*PKP **PKiKP 09 21 11.2 -0.2**
KOLL *e* 09 21 18.3
VRAC Vranov 149.37 340 PKPbc **PKPbc 09 21 10.2 -0.4**
comp=Z,1.8nm,0.4s,baz=11,slow=5.2,SNR=2.2
VRAC PKPab **PKPab 09 21 18.6 +0.7**
comp=Z,2.3nm,0.6s,baz=16,slow=4.4,SNR=4.7
VRAC Vranov 149.37 340 *e*PKP **PKPbc 09 21 10.2 -0.4**
VRAC *e* 09 21 18.4
PRU Pruhonice 149.39 343 *e*PKP **PKPbc 09 21 10.7 +0.1**
JAVC Velka Javorina 149.39 338 *e*PKP **PKiKP 09 21 12.1 +0.6**
JAVC *e* 09 21 19.6
KRUC Moravsky 149.65 340 *e*PKP **PKPbc 09 21 11.2 0.0**
KRUC *e* 09 21 19.4
SIRR Siria 149.87 331 ↑P **PKPbc 09 21 12.0 +0.1**
MODS Modra-Piesok 149.94 338 *e*PKP **PKiKP 09 21 12.7 +0.1**
GZR Gura Zlata 149.98 328 ↑P **PKPbc 09 21 11.2 -1.0**
BZS Buzias 150.37 330 ↑P **PKPbc 09 21 13.2 +0.1**
KHC Kasperske Hory 150.43 343 PKPbc 09 21 12.1 -1.1
KHC **PKPab 09 21 23.1 +0.7**
KHC Kasperske Hory 150.43 343 *e*PKP **PKPbc 09 21 13.3 +0.2**
KHC *ex* x 09 21 23.1
CKRC Cesky Krumlov 150.50 342 *e*PKP **PKiKP 09 21 13.5 -0.2**
HERR Herculane 150.53 328 ↑P **PKPbc 09 21 12.6 -0.8**
GERES GERESS Array B 150.66 343 PKPbc **PKPbc 09 21 13.7 -0.1**
comp=Z,2.6nm,0.6s,baz=45,slow=0.7,SNR=17
GERES PKPab **PKPab 09 21 22.9 -0.5**
comp=Z,1.2nm,0.7s,baz=18,slow=4.6,SNR=4.9
CONA Conrad Observa 150.81 339 *e*P **PKPbc 09 21 13.9 -0.2**
comp=Z,6.3nm,0.6s
CONA *e*P **PKPab 09 21 24.6 +0.5**
comp=Z,5.0nm,0.6s
RONA Rosalia, Austr 150.86 338 *e*P **PKiKP 09 21 14.4 -0.1**
comp=Z,6.7nm,0.5s
RONA *e*P **PKPab 09 21 25.0 +0.7**
comp=Z,7.2nm,0.8s
MDVR Moldovita 150.94 329 ↑P **PKPbc 09 21 11.3 -3.1**
MOA Molln 151.39 341 *e*P **PKPbc 09 21 14.9 -0.4**
comp=Z,2.0nm,0.6s
MOA *e*P **PKPab 09 21 27.4 +0.9**
comp=Z,4.6nm,0.9s
VTS Vitosha 151.67 324 ↑P **PKiKP 09 21 16.3 -0.2**
SOKA Soboth 152.18 339 *e*P **PKPbc 09 21 16.2 -1.0**
comp=Z,3.1nm,0.9s
SOKA *e*P **PKPab 09 21 29.9 0.0**
comp=Z,2.8nm,0.6s
KBA Koelnbreinsper 152.36 341 *e*P **PKPbc 09 21 17.0 -0.7**
comp=Z,2.3nm,0.7s
KBA *e*P **PKPab 09 21 31.0 +0.2**
comp=Z,4.0nm,0.7s
WTTA Wattenberg 152.66 344 *e*P **PKPbc 09 21 17.9 -0.5**
comp=Z,5.8nm,0.8s
WTTA *e*P **PKPab 09 21 32.3 +0.2**
comp=Z,4.5nm,0.8s
RETA Reutte 152.67 345 *e*P **PKPbc 09 21 18.2 0.0**
comp=Z,1.1nm,0.4s
RETA *e*P **PKPab 09 21 32.3 +0.4**
comp=Z,5.5nm,0.8s
MYKA Terra Mystica 152.67 341 *e*P **PKPbc 09 21 17.3 -1.0**
comp=Z,1.7nm,0.4s
MYKA *e*P **PKPab 09 21 31.6 -0.4**
comp=Z,2.4nm,0.5s
MOTA Moosalm 152.72 345 *e*P **PKPbc 09 21 18.4 0.0**
comp=Z,3.0nm,0.7s
MOTA *e*P **PKPab 09 21 32.3 +0.1**
comp=Z,1.4nm,0.4s
ABTA Abfaltersbach 152.90 342 *e*P **PKPbc 09 21 18.1 -0.7**
comp=Z,6.3nm,0.8s
ABTA *e*P **PKPab 09 21 32.5 -0.5**
comp=Z,5.8nm,0.7s
DAVA Damuels 153.06 346 *e*P **PKPab 09 21 33.8 +0.1**
comp=Z,5.5nm,0.7s
FETA Feichten 153.11 345 *e*P **PKPbc 09 21 19.2 -0.1**
comp=Z,3.8nm,0.9s
FETA *e*P **PKPab 09 21 33.8 -0.2**
comp=Z,3.7nm,1.0s
DAVOX Davos/Dischmat 153.54 346 PKPbc **PKPbc 09 21 19.9 -0.3**
comp=Z,3.6nm,0.5s,baz=294,slow=1.8,SNR=4.0
DAVOX PKPab **PKPab 09 21 36.3 +0.5**
comp=Z,3.6nm,0.6s,baz=52,slow=3.2,SNR=3.7
ESDC Sonseca Array 161.21 12 PKPab **PKPab 09 22 08.4 -0.7**
comp=Z,1.7nm,0.9s,baz=335,slow=6.6,SNR=5.4
KEST Kesra 163.81 335 PKPab **PKPab 09 22 20.8 0.0**
comp=Z,4.8nm,0.8s,baz=301,slow=5.3,SNR=5.9
DBIC Dimbokro 164.44 158 PKP **PKPdf 09 21 24.3 -0.8**
comp=Z,1.6nm,0.7s,baz=289,slow=4.0,SNR=3.1
TORD Torodi Ar. Bea 171.87 186 PKP **PKPdf 09 21 29.1 -1.0**
comp=Z,1.1nm,0.9s,baz=147,slow=6.6,SNR=5.8
TORD PKPab **PKPab 09 22 56.6 0.0**
comp=Z,2.0nm,0.8s,baz=180,slow=4.0,SNR=9.7
TORD PP **PP 09 26 47.8 +0.5**
comp=Z,0.7nm,0.8s,baz=168,slow=3.4,SNR=4.8

*IDC **11** 09:22:53.0± 14.0, 36.10N× 71.99E, h250km± 173km, mb2.7/1, mb1 2.9/4, mb1mx2.6/56, mbtmp3.6/4, Error ellipse: s-maj=296.9km s-min=72.3km az=131.0*
*NNC **11** 09:22:54.5± 11.0, 37.33N× 70.62E, h151km± 169km, mb2.8, mpv3.6, Error ellipse: s-maj=110.3km s-min=67.6km az=179.0*
ISC 11 09:22:52.6± 2.9, 37.2N± 0.2× 70.6E± 0.1, h150km, n8, σ 1§85/9, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.91**	**360**	P		**Pn**		**09 24 16.4**	**-1.6**
	1.4nm,0.3s,baz=180,slow=13,SNR=21								
KK31				S		**Sn**		**09 25 27.1**	**+2.3**
	3.2nm,0.4s,baz=189,slow=24,SNR=5.8								
TKM2	**Tokmak 2**	**6.90**	**32**	↑P		**Pn**		**09 24 33.7**	**+2.4**
	3.2nm,0.5s								
TKM2				↓S		**Sn**		**09 25 46.7**	**-2.1**
	1.1nm,0.6s								
MKAR	**Makanchi Array**	**12.95**	**39**	P		**Pn**		**09 25 51.2**	**+0.2**
	0.1nm,0.3s,baz=207,slow=11,SNR=5.2								
AB31	**Akbulak array**	**14.32**	**331**	P		**Pn**		**09 26 08.1**	**-0.2**
	0.2nm,0.2s,baz=147,slow=12,SNR=29								
KURBB	**Kurchatov Arra**	**14.59**	**20**	P		**P**		**09 26 15.0**	**+1.1**
	0.1nm,0.3s,baz=202,slow=11,SNR=3.6								
AKTO	**Aktyubinsk**	**16.01**	**330**	↑P		**P**		**09 26 30.8**	**+1.0**
	0.8nm,0.5s								
ZALV	**Zalesovo Beam**	**19.43**	**26**	P		**P**		**09 27 06.5**	**-0.7**
	0.6nm,0.3s,baz=217,slow=10,SNR=12								
TORD	**Torodi Ar. Bea**	**65.40**	**268**	P		P		09 33 16.4	-2.9
	0.2nm,0.6s,baz=64,slow=5.0,SNR=1.4								

*IDC **11** 09:27:35.8± 3.9, 53.57N× 90.77E, h0km, mb1 3.6/3, mb1mx3.1/67, mbtmp3.6/3, ML3.0/3, Error ellipse: s-maj=39.9km s-min=23.4km az=29.0*
*NNC **11** 09:27:38.8± 2.5, 53.52N× 90.56E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=18.7km s-min=13.8km az=53.0, Suspected Mining explosion.*
ISC 11 09:27:37.2± 4.1, 53.7N± 0.1× 90.6E± 0.2, h0km, n11, σ 0§93/14, 9C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.43**	**277**	*i*				09 51 55.0	
	baz=91,slow=334,SNR=8.3								
ZAA0	**Zalesovo Array**	**3.43**	**277**	↑Pg		**Pg**		**09 28 42.7**	**-0.2**
	3.3nm,0.5s								
ZAA0				↑Lg		Lg		09 29 28.1	
	34nm,1.0s								
ZALV	**Zalesovo Beam**	**3.43**	**277**	Pn		**Pn**		**09 28 32.7**	**+0.7**
	0.8nm,0.3s,baz=93,slow=12,SNR=5.9								
ZALV				Lg		Lg		09 29 27.1	
	7.0nm,0.3s,baz=104,slow=24,SNR=10								
KURK	**Kurchatov**	**7.93**	**253**	↑Pn		**Pn**		**09 29 34.1**	**+0.4**
	1.0nm,0.3s								
KURK				↓Sn		**Sn**		**09 31 04.8**	**+0.7**
	14nm,0.6s								
KURK				↑Lg		Lg		09 31 49.6	
	37nm,0.9s								
KURBB	**Kurchatov Arra**	**8.02**	**252**	Pn		**Pn**		**09 29 34.6**	**-0.4**
	0.3nm,0.3s,baz=65,slow=14,SNR=5.4								
KURBB				Sn		**Sn**		**09 31 05.6**	**-0.7**
	0.1nm,0.3s,baz=66,slow=25,SNR=6.2								
KURBB				Lg		Lg		09 31 50.5	
	0.1nm,0.3s,baz=71,slow=34,SNR=4.0								
KURBB	**Kurchatov Arra**	**8.02**	**252**	↑Pn		**Pn**		**09 29 34.5**	**-0.4**
	4.3nm,0.5s								
KURBB				↑Sn		**Sn**		**09 31 05.1**	**-1.2**
	65nm,0.9s								
KURBB				↓Lg		Lg		09 31 55.1	
	80nm,1.1s								
MK31	**Makanchi Array**	**8.70**	**221**	Pn		**Pn**		**09 29 44.4**	**+0.1**
	1.7nm,0.6s,baz=33,slow=12,SNR=24								
MK31				↑Sn		**Sn**		**09 31 24.3**	**+1.3**
	3.5nm,0.7s,baz=53,slow=25,SNR=3.7								
MK31				↑Lg		Lg		09 32 13.3	
	14nm,0.9s,baz=29,slow=34,SNR=4.9								
MKAR	**Makanchi Array**	**8.70**	**221**	Pn		**Pn**		**09 29 43.2**	**-1.1**
	1.0nm,0.3s,baz=41,slow=13,SNR=32								
MKAR				Sn		**Sn**		**09 31 24.6**	**+1.6**
	0.5nm,0.3s,baz=38,slow=26,SNR=3.1								
MKAR				Lg		Lg		09 32 04.9	
	0.2nm,0.3s,baz=40,slow=25,SNR=2.1								
MAKZ	**Makanchi**	**8.81**	**222**	↓Pn		**Pn**		**09 29 45.1**	**-0.7**
	1.2nm,0.5s								
MAKZ				↓Sn		**Sn**		**09 31 26.0**	**+0.3**
	10nm,1.1s								
MAKZ				↑Lg		Lg		09 32 17.5	
	11nm,1.1s								
SONM	**Songino Array**	**11.58**	**114**	Lg		Lg		09 33 23.9	
	0.1nm,0.3s,baz=304,slow=29,SNR=3.5								
AAK	**Ala-Archa**	**15.37**	**231**	Lg		Lg		09 35 41.9	
	0.2nm,0.3s,baz=251,slow=10,SNR=1.1								

*RSNC **11** 09:29:06.5± 1.1, 6.97N× 76.69W, h20km± 10km, ML3.3*
*NEIC **11** 09:29:11.3± 2.9, 7.00N± 0.04× 76.52W± 0.06, h49km± 13km, mb4.0/8, Error ellipse: s-maj=10.0km s-min=4.8km az=61.0*
ISC 11 09:29:06.6± 0.7, 7.00N± 0.04× 76.65W± 0.05, h18km, n53, σ 1§98/53, mb4.1/4, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**1.08**	**225**	*e*P		**Pb**		**09 29 24.9**	**-1.8**
SOLC				*i*				09 29 27.0	
	comp=Z,2μm,0.0s								
PTAC	**Punta Ardita,**	**1.16**	**277**	*e*P		**Pn**		**09 29 25.7**	**-2.3**
CBOC	**Ciudad Bolivar**	**1.29**	**151**	↓*e*P		**Pn**		**09 29 28.9**	**-1.0**
UREC	**San Jos de Ur**	**1.33**	**56**	*e*P		**Pn**		**09 29 29.1**	**-1.3**
HELC	**Santa Helena**	**1.37**	**126**	↓*e*P		**Pn**		**09 29 30.2**	**-1.0**
HELC				*i*				09 29 31.2	
	comp=Z,488nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.84**	**74**	Pn		**Pn**		**09 29 38.2**	**+0.8**
ZARC	**Zaragoza, Cauc**	**1.84**	**74**	*e*P		**Pn**		**09 29 36.9**	**-0.5**
LCBC	**Los crdobas,**	**1.87**	**9**	*e*P		**Pn**		**09 29 37.6**	**-0.2**
UPD2	**Meteti**	**2.05**	**319**	*e*P		**Pn**		**09 29 39.5**	**-0.8**
PLMC	**San Jos del P**	**2.11**	**170**	*e*P		**Pn**		**09 29 38.5**	**-2.7**
PLMC				*e*S		**Sn**		**09 30 06.0**	**-1.1**
GUY2C	**Guyana, Caldas**	**2.18**	**144**	*e*P		**Pn**		**09 29 44.2**	**+1.8**
PTBC	**PUERTO BERRIO,**	**2.22**	**102**	*e*P		**Pn**		**09 29 43.2**	**+0.6**
NORC	**Norcasia**	**2.27**	**129**	*e*P		**Pn**		**09 29 45.0**	**+1.7**
NORC				*i*				09 29 47.4	
	comp=Z,298nm,0.6s								
ANIL	**Santa Ana**	**2.78**	**154**	*e*P		**Pn**		**09 29 52.5**	**+1.9**
SPBC	**San Pablo de B**	**2.89**	**117**	*e*P		**Pn**		**09 29 54.5**	**+2.6**
SPBC				*e*S		**Sn**		**09 30 20.5**	**-5.8**
YOTC	**Yotoco, Valle**	**3.01**	**174**	*e*P		**Pn**		**09 29 51.1**	**-2.5**
YOTC				*i*				09 29 59.6	
	comp=Z,52nm,0.4s								
ROSC	**El Rosal**	**3.16**	**133**	Pn		**Pn**		**09 29 58.8**	**+3.0**
ROSC	**El Rosal**	**3.16**	**133**	*e*P		**Pb**		**09 30 00.1**	**-2.4**
ROSC				*i*				09 30 07.5	
	comp=Z,150nm,0.5s								
SJCC	**San Jacinto, C**	**3.23**	**27**	Pn		**Pn**		**09 29 58.9**	**+2.4**
SJCC	**San Jacinto, C**	**3.23**	**27**	*e*P		**Pn**		**09 29 55.5**	**-1.0**
ORTC	**Ortega, Tolima**	**3.37**	**155**	*e*P		**Pn**		**09 30 01.4**	**+2.9**
OCAC	**Ocana**	**3.52**	**69**			**Pn**		**09 30 03.1**	**+2.5**
OCAC	**Ocana**	**3.52**	**69**	*e*P		**Pn**		**09 30 01.9**	**+1.2**
AZU	**Azuero**	**3.68**	**283**	*e*P		**Pn**		**09 30 00.9**	**-1.8**
RUSC	**La Rusia**	**3.71**	**107**	*e*P		**Pn**		**09 30 06.4**	**+2.9**
RUSC				*i*				09 30 15.4	
	comp=Z,42nm,0.5s								
CHIC	**Chingaza**	**3.74**	**129**	*e*P		**Pn**		**09 30 07.8**	**+4.0**
CHIC				*i*				09 30 15.8	
	comp=Z,22nm,0.2s								
BCIP	**Isla Barro Col**	**3.82**	**305**	Pn		**Pn**		**09 30 07.3**	**+2.6**
BCIP	**Isla Barro Col**	**3.82**	**305**	*e*P		**Pn**		**09 30 02.7**	**-2.0**
CACAO	**El Cacao, Vera**	**4.20**	**275**	*e*P		**Pn**		**09 30 08.0**	**-1.8**
POPC	**Popayan, Colom**	**4.43**	**180**	*e*P		**Pn**		**09 30 12.9**	**-0.3**
GMAL	**Guarumal, Vera**	**4.61**	**280**	*e*P		**Pn**		**09 30 14.8**	**-0.7**
SMRC	**Santa Marta, M**	**4.78**	**30**	*e*P		**Pn**		**09 30 17.5**	**-0.3**
TAMC	**Tame, Arauca**	**4.86**	**96**	*e*P		**Pn**		**09 30 20.3**	**+1.4**
GARC	**Garzon, Huila**	**4.92**	**166**	*e*P		**Pn**		**09 30 22.4**	**+2.4**
GARC				*i*				09 30 32.0	
	comp=Z,26nm,0.3s								
CRJC	**Cerrejon, Guaj**	**5.46**	**43**	*e*P		**Pn**		**09 30 27.7**	**+0.5**
SDV	**Santo Domingo**	**6.25**	**72**	Pn		**Pn**		**09 30 40.4**	**+2.3**
TULM	**Tulcn-Chalpat**	**6.34**	**190**			Pn		09 30 45.2	+5.4
URIC	**Uribia, Colomb**	**6.55**	**44**	Pn		**Pn**		**09 30 43.4**	**+1.2**
URIC	**Uribia, Colomb**	**6.55**	**44**	*e*P		**Pn**		**09 30 43.0**	**+0.8**
OTAV	**Otavalo**	**6.95**	**195**	Pn		**Pn**		**09 30 49.3**	**+1.2**
BAUV	**El Baul**	**8.74**	**77**	Pn		**Pn**		**09 31 13.1**	**+0.8**
ESPN	**Las Esperanzas**	**9.14**	**305**	Pn		Pn		09 31 22.9	+5.1
BIRV	**Birongo**	**10.82**	**71**	Pn		**Pn**		**09 31 42.5**	**+1.7**
MTDJ	**Mount Denham**	**11.19**	**356**	Pn		**Pn**		**09 31 47.4**	**+1.4**
MCRA	**Macar, Loja**	**11.77**	**196**	Pn		**Pn**		**09 31 55.8**	**+2.0**
GTBY	**Guantanamo Bay**	**12.94**	**6**	Pn		**Pn**		**09 32 11.5**	**+1.8**
AOPR	**Arecibo Observ**	**14.84**	**40**	Pn		**Pn**		**09 32 34.7**	**-1.0**
PB11	**IPOC Station P**	**27.47**	**166**	P		**P**		**09 34 52.1**	**0.0**
PB01	**IPOC Station P**	**28.74**	**166**	P		**P**		**09 35 02.7**	**-0.7**
PB01				IAmb	IAmb			09 35 04.2	
	comp=Z,3.5nm,0.6s								
W39A	**Magazine**	**32.18**	**333**	P		**P**		**09 35 35.4**	**+1.8**
W39A				IAmb	IAmb			09 35 39.1	
	comp=Z,1.3nm,0.3s								
WMOK	**Wichita Mounta**	**34.32**	**327**	P		**P**		**09 35 50.9**	**-1.4**
WMOK				IAmb	IAmb			09 35 57.0	
	comp=Z,1.5nm,1.1s								
BO04	**La Punta**	**41.16**	**172**	P		**P**		**09 36 50.7**	**+0.5**
F36A	**Milaca**	**41.38**	**342**	P		**P**		**09 36 53.2**	**+1.5**
F36A				IAmb	IAmb			09 36 58.3	
	comp=Z,1.9nm,0.8s								

*UPA **11** 09:29:25.3± 1.1, 7.03N× 76.69W, h1km± 5km, MW5.1*
*MOS **11** 09:29:26.6± 1.1, 7.06N× 76.76W, h25km, mb5.4/48, MS4.7/5, Error ellipse: s-maj=8.4km s-min=6.1km az=93.6*
*VAO **11** 09:29:27.9± 0.3, 6.98N× 76.56W, h21km, mb5.1*
*RSNC **11** 09:29:28.1± 1.2, 6.99N× 76.70W, h22km± 9km, ML4.8, Mw5.2*
*NEIC **11** 09:29:28.4± 2.6, 7.03N± 0.05× 76.62W± 0.05, h22km± 3km, mb5.0/494, Mwr5.1/36, ML5.2(RSNC), Error ellipse: s-maj=8.1km s-min=7.1km az=216.0*
*NEIC **11** 09:29:29, 7.01N× 76.63W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}3.44; $M_{\theta\theta}$-2.77; $M_{\phi\phi}$-0.67; $M_{r\theta}$-2.19; $M_{\theta\phi}$-3.95; $M_{r\phi}$0.39; Fault plane solution: $M_0$5.53000×10^{16} NP1:ϕ_s260.70000°, δ62.28000°, λ128.40000°. NP2:ϕ_s21.10000°, δ46.07000°, λ40.23000°. Principal axes: T 4.7747, Plg55.0000°, Azm221.0000°; N 1.2802, Plg33.0000°, Azm60.0000°; P -6.0549, Plg9.0000°, Azm324.0000°;*
*GCMT **11** 09:29:29.5± 0.1, 7.18N± 0.01× 76.68W± 0.01, h28km, MW5.3/129, Moment Tensor Solution. s99,c154; s129,c219; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.29±.01; $M_{\theta\theta}$-0.28±.01; $M_{\phi\phi}$-0.01±.01; $M_{r\theta}$-0.52±.02; $M_{\theta\phi}$-0.70±.01; $M_{r\phi}$0.36±.02; Best double couple: $M_0$0.97700×10^{17} NP1:ϕ_s13.00000°, δ55.00000°, λ23.00000°. NP2:ϕ_s270.00000°, δ72.00000°, λ143.00000°. Principal axes: T 1.0630, Plg39.0000°, Azm226.0000°; N -0.1720, Plg49.0000°, Azm67.0000°; P -0.8910, Plg10.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **11** 09:29:32.2± 1.6, 7.01N× 76.81W, h64km± 15km, mb4.3/27, mb1 4.4/30, mb1mx4.4/35, mbtmp4.6/30, MS4.5/51, Ms1 4.5/51, ms1mx4.5/58 Error ellipse: s-maj=15.3km s-min=8.6km az=46.0*
ISC 11 09:29:27.0± 0.3, 7.02N± 0.02× 76.69W± 0.02, h20km± 3km, h21km; pP-P, n813, σ 1§39/711, mb5.0/233, MS4.7/67, 13C-21D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**1.06**	**222**	*e*P		**Pb**		**09 29 46.1**	**-0.5**
SOLC				*e*S		**Sn**		**09 30 01.0**	**+0.2**
SOLC				*i*				09 30 04.9	
	comp=Z,8μm,0.3s								
SOLC	**Bahia Solano**	**1.06**	**222**	*e*P		**Pb**		**09 29 46.1**	**-0.5**
SOLC				*e*S		**Sn**		**

comp=Z,3µm,0.3s
ANIL Santa Ana 2.82 153 eP Pn 09 30 13.8 +2.5
SPBC San Pablo de B 2.94 117 eP Pn 09 30 14.6 +1.9
SPBC eS Sb 09 30 54.3 0.0
SPBC i 09 30 59.9
comp=Z,2µm,0.6s
YOTC Yotoco, Valle 3.03 173 eP Pn 09 30 12.0 -2.0
YOTC eS Sn 09 30 45.6 -4.2
YOTC i 09 30 48.8
comp=Z,3µm,0.4s
ROSC El Rosal 3.20 132 P Pn 09 30 20.0 +3.4
comp=Z,189nm,0.3s,baz=315,slow=9.4,SNR=36
ROSC S Sb 09 31 01.1 -1.1
comp=Z,205nm,0.3s,baz=321,slow=16,SNR=7.1
ROSC El Rosal 3.20 132 P Pn 09 30 19.3 +2.7
ROSC El Rosal 3.20 132 Pn Pn 09 30 19.3 +2.7
ROSC El Rosal 3.20 132‖ eP Pn 09 30 19.9 +3.3
ROSC eS Sb 09 31 02.0 -0.2
CHPO Chepo, Panama 3.21 312 eP Pn 09 30 16.1 -0.3
CHPO eS Sn 09 30 57.2 +3.1
SJCC San Jacinto, C 3.23 28 Pn Pn 09 30 16.2 -0.5
SJCC San Jacinto, C 3.23 28 eP Pn 09 30 17.3 +0.6
TABO3 Taboga, Panama 3.34 302 eP Pn 09 30 16.1 -2.0
ORTC Ortega, Tolima 3.41 155 eP Pn 09 30 22.2 +3.1
UPA Univ. de Panam 3.42 305 eP Pn 09 30 19.0 -0.3
UPA eS Sn 09 30 58.5 -0.8
UPA Univ. de Panam 3.42 305 eP Pn 09 30 18.7 -0.6
UPA eS Sn 09 30 59.8 +0.5
BARC Barichara 3.51 97 eP Pn 09 30 22.5 +1.7
BARC eS Sn 09 31 04.0 +2.2
CHOR3 La Chorrera 3.57 302 eP Pn 09 30 23.9 +2.6
CHOR3 eS Sn 09 31 02.2 -0.7
AZU Azuero 3.63 282 eP Pn 09 30 21.0 -1.1
AZU eS Sn 09 31 02.1 -2.4
AZU i 09 31 10.9
comp=Z,2µm,0.5s
AZU Azuero 3.63 282‖ eP Pn 09 30 22.1 -0.1
AZU eS Sn 09 31 04.4 -0.1
ZANG Zanguenga, Cho 3.69 302 eP Pn 09 30 23.0 +0.1
ZANG eS Sn 09 31 06.3 +0.5
VTON El Valle, Cocl 3.74 295 eS Sn 09 31 10.5 +3.3
RUSC La Rusia 3.76 107 eP Pn 09 30 25.3 +1.0
RUSC eS Sn 09 31 11.0 +2.7
RUSC i 09 31 27.3
comp=N,3µm,0.9s
BCIP Isla Barro Col 3.77 305 P Pn 09 30 24.1 0.0
BCIP Isla Barro Col 3.77 305 Pn Pn 09 30 24.1 0.0
BCIP Isla Barro Col 3.77 305 eP Pn 09 30 25.1 +1.0
BCIP Isla Barro Col 3.77 305 eP Pn 09 30 25.1 +1.0
BCIP eS Sn 09 31 07.3 -0.7
CHIC Chingaza 3.78 129‖ eP Pn 09 30 27.2 +2.6
CHIC eS Sn 09 31 13.6 +4.8
CHIC i 09 31 35.6
comp=Z,847nm,0.9s
CHIT3 Chitre 3.81 284 eP Pn 09 30 23.7 -0.9
CHIT3 eS Sn 09 31 07.2 -1.6
SABA3 Sabanitas, Col 3.85 307 eP Pn 09 30 28.0 +2.8
SABA3 eS Sb 09 31 19.6 -1.0
PAMC Pamplona, Colo 3.98 85 eP Pn 09 30 29.9 +2.5
PAMC eS Sn 09 31 11.8 -1.8
CACAO El Cacao, Vera 4.15 275 eP Pn 09 30 28.3 -1.0
CACAO eS Sn 09 31 13.2 -4.0
MARP Paez Belalcaza 4.21 170 eP Pn 09 30 32.1 +1.7
BETC Betania 4.48 164 eP Pn 09 30 38.5 +4.6
GARC Garzon, Huila 4.94 166 eP Pn 09 30 43.6 +3.2
CRUC La Cruz 5.42 183 eP Pn 09 30 49.8 +2.7
CRJC Cerrejon, Guaj 5.48 43 eP Pn 09 30 48.6 +1.0
CRJC eS Sn 09 31 46.5 -3.6
GUVC San Jose del G 6.01 137 eP Pn 09 30 57.2 +2.3
GUVC eS Sn 09 32 10.4 +7.2
BRU2 Volcan 6.20 287 Pn 09 31 00.8 +3.2
SDV Santo Domingo 6.28 72 P Pn 09 31 00.1 +1.3
comp=Z,46nm,0.3s,baz=273,slow=7.6,SNR=26
SDV S Sn 09 32 11.0 +0.8
comp=Z,101nm,0.3s,baz=11,slow=16,SNR=5.6
SDV LR LR 09 34 03.5
comp=Z,5µm,21.4s,baz=246,slow=42
SDV Santo Domingo 6.28 72 Pn Pn 09 31 00.2 +1.4
CDITO Canoas 6.31 285 Pn 09 31 03.0 +3.9
URIC Uribia, Colomb 6.57 45 Pn 09 31 03.2 +0.6
DRK0 Durika 6.86 289 Pn 09 31 07.1 +0.4
CUSE Cuicocha Este 6.86 194 eP Pn 09 31 09.4 +2.2
OTAV Otavalo P 6.96 195 P Pn 09 31 10.0 +1.7
OTAV Otavalo 6.96 195 Pn Pn 09 31 10.0 +1.7
SRBA San Rafael, Bu 6.96 289 Pn 09 31 08.8 +0.8
RIOS Rincon, Osa 6.96 284 Pn 09 31 09.4 +1.5
DABV Dabajuro 7.13 57 eP Pn 09 31 14.0 +3.7
DABV eS Sn 09 32 26.6 -4.2
BATAN Batan 7.28 295 Pn 09 31 13.2 +0.8
PEZE Perez Zeledon, 7.30 289 Pn 09 31 15.8 +3.1
CVTR Volcan Turrial 7.60 294 Pn 09 31 18.0 +1.0
RIMA Rio Macho 7.60 292 Pn 09 31 17.8 +0.9
PRVC Isla de Provid 7.81 324 Pn Pn 09 31 19.7 0.0
HDC Heredia 7.92 293 Pn 09 31 22.4 +1.2
JACO JACO, Garabito 8.31 289 Pn 09 31 28.9 +2.5
COVE Coope Vega, Sa 8.46 296 Pn 09 31 29.6 +1.1
BAUV El Baul 8.78 77 Pn Pn 09 31 31.5 -1.4
JTS Las Juntas de 8.79 292 P Pn 09 31 34.7 +1.6
comp=Z,1.6nm,0.3s,baz=160,slow=17,SNR=6.9
JTS Las Juntas de 8.79 292 P Pn 09 31 34.9 +1.8
JTS Las Juntas de 8.79 292 Pn Pn 09 31 34.9 +1.8
ESPN Las Esperanzas 9.09 305 Pn 09 31 37.9 +0.7
HATO Hato, Curacao 9.19 55 Pn 09 31 39.1 +0.5
DUNO Dulce Nombre, 9.22 290 Pn Pn 09 31 43.0 +4.1
ACON Acoyapa 9.70 301 Pn 09 31 47.6 +2.0
BOAB BOACO BROADBAN 10.36 302 Pn 09 31 55.9 +1.3
BIRV Birongo 10.86 71 Pn 09 31 59.7 -1.8
MCJ Malvern 10.89 355 i P Pn 09 32 03.7 +1.8
HOJ Hope 10.92 360 i P Pn 09 32 03.9 +1.6
GWJ Greenwich 10.99 360 i P Pn 09 32 05.0 +1.6
STH Stony Hill 10.99 359 i P Pn 09 32 04.2 +0.9
ARNL Arenillas 11.02 198 Pn 09 32 05.8 +2.1
CMJ Castle Mountai 11.06 2 i P Pn 09 32 06.3 +2.2
MTDJ Mount Denham 11.17 356 Pn Pn 09 32 06.7 +0.9
MCRA Macar, Loja 11.77 196 Pn 09 32 15.5 +1.5
JAKH Jacmel 11.87 20 Pn 09 32 15.0 -0.3
LGNH Logne 12.10 19 Pn 09 32 18.7 +0.3
TGUH Tegucigalpa,Un 12.53 305 Pn 09 32 24.4 -0.1
GTBY Guantanamo Bay 12.93 7 Pn 09 32 30.6 +1.0
SDDR Presa de Saban 13.01 23 Pn 09 32 32.2 +1.3
TBTG Tabatinga, AM 13.03 148 eP Pn 09 32 31.3 +0.2
SC01 Santiago de lo 13.63 25 Pn 09 32 41.5 +2.1
DR12 Loma Pena Alta 13.70 31 Pn 09 32 37.7 -2.6
SJG San Juan 15.07 42 P Pn 09 32 54.9 -4.1
comp=Z,8.7nm,0.3s,baz=220,slow=11,SNR=8.9
SJG S Sn 09 35 35.4 -10
comp=Z,3.2nm,0.3s,baz=52,slow=22,SNR=2.1
SJG LR LR 09 39 37.6
comp=Z,2µm,20.2s,baz=207,slow=40
SJG San Juan 15.07 42 lAmb lAmb 09 33 14.3
comp=Z,70nm,0.8s
EMPR Esperanza - Ma 15.09 40 Pn Pn 09 32 59.0 -0.2
PDPR Patillas Dam, 15.09 43 lAmb lAmb 09 33 24.4
comp=Z,52nm,0.8s
CZSB Cruzeiro do Su 15.18 165 eP Pn 09 33 00.5 +0.1
HUMP Col San Antoni 15.30 43 lAmb lAmb 09 33 27.8
comp=Z,60nm,0.8s
CBYP Canovanas 15.38 42 lAmb lAmb 09 33 16.9
comp=Z,156nm,1.3s
MTP Monte Pirata 15.47 44 lAmb lAmb 09 33 27.9
comp=Z,99nm,1.1s
PAYG Puerto Ayora 15.56 241 P 09 33 11.7 +2.1
GRGR Grenville 15.68 70 Pn Pn 09 33 06.3 -0.6
GRGR Grenville 15.68 70 e Pn 09 33 06.8 0.0
CUPR Culebra, Puert 15.80 44 P Pn 09 33 04.9 -3.5
CUPR lAmb lAmb 09 33 21.1
comp=Z,70nm,0.8s
GCMP Grenada, Carri 15.99 69 e P 09 33 12.9 -1.5
STVI Saint Thomas 16.05 44 lAmb lAmb 09 33 22.9
comp=Z,216nm,1.4s
PETF Flores 16.20 309 lAmb lAmb 09 33 29.4
comp=Z,170nm,1.4s
SVB Belmont 16.42 67 P Pn 09 33 17.6 +1.2
SVB lAmb lAmb 09 33 26.6
comp=Z,143nm,0.9s
BOAV Boa Vista 16.75 105 eP Pn 09 33 17.5 -3.2
SOR Soroa 16.82 339 P Pn 09 33 18.9 -2.6
SOR pmax pmax
comp=Z,366nm,2.0s
SOR Soroa 16.82 339 Pn 09 33 18.9 -2.6
SLBI Saint Lucia, B 16.95 64 e Pn 09 33 23.9 +0.8
BIM Bigot 17.05 63 e P 09 33 30.6 +4.5
FDF Fort de France 17.07 62 e P 09 33 35.1 +8.7
DSLB Salisbury 17.15 59 e P 09 33 31.1 +3.8
MPOM Morne Pois Mar 17.21 63 e P 09 33 32.9 +5.0
SMRT St. Maarten 17.22 49 e P 09 33 28.6 +0.7
GDHS Morne Mazeau, 17.26 56 lAmb lAmb 09 33 53.8
comp=Z,161nm,1.1s
CBE Ff, Capester 17.29 57 e P 09 33 28.1 -0.7
ILAM Ilet Lapin Mar 17.33 62 e P 09 33 29.5 +0.3
MAGL Barre de l'ile 17.51 58 e Pn 09 33 29.1 -1.1
ABD La Joyeuse, An 17.59 56 e P 09 33 36.3 +4.2
ANBD Bethesda, Anti 17.67 54 e Pn 09 33 30.7 -1.4
CCIG Comitan 17.69 303 P P 09 33 33.2 -0.2
BBGH Gun Hill 17.93 69 e P 09 33 38.9 +3.0
ANWB Willy Bob 17.99 53 e P 09 33 36.9 +0.4
NNA Nana 18.88 180 P Pn 09 33 48.3 +1.3
comp=Z,0.1nm,0.3s,baz=351,slow=11,SNR=4.8
NNA LR LR 09 42 09.6
comp=Z,2µm,21.4s,baz=352,slow=40
NNA Nana 18.88 180 i P Pn 09 33 47.8 +0.8
NNA Nana 18.88 180 P 09 33 46.4 +0.1
ETMB Extrema 19.71 148 eP P 09 33 54.5 -0.9
CMIG Matias Romero 20.39 301 P Pn 09 34 04.0 -1.0
comp=Z,2.3nm,0.6s,baz=101,slow=10,SNR=6.4
CMIG LR LR 09 43 10.8
comp=Z,2µm,18.9s,baz=127,slow=40
DWPF Disney Wildern 21.46 348 P P 09 34 15.9 +1.7
DWPF Disney Wildern 21.46 348 P P 09 34 15.4 +1.2
baz=167
ITTB Itaituba 23.78 118 eP P 09 34 37.3 -1.2
MDP Montagnes des 23.99 93 P P 09 34 40.8 +0.2
comp=Z,36nm,0.7s,baz=270,slow=7.6,SNR=5.9
MDP LR LR 09 44 19.9
comp=Z,4µm,18.7s,baz=276,slow=37
MALB Monte Alegre 24.06 111 eP P 09 34 40.4 -0.8
LPAZ La Paz 24.66 160 P P 09 34 46.6 -0.7
comp=Z,51nm,1.1s,baz=358,slow=9.8,SNR=44
LPAZ LR LR 09 45 11.6
comp=Z,2µm,19.2s,baz=327,slow=38
LPAZ La Paz 24.66 160 P P 09 34 45.8 -1.5
LPAZ pmax pmax
comp=Z,53nm,1.1s
LPAZ La Paz 24.66 160 P P 09 34 45.8 -1.5
LPAZ lAmb lAmb 09 34 50.0
comp=Z,53nm,1.1s
LPAZ La Paz 24.66 160 eP P 09 34 46.6 -0.7
TIGA Tifton 25.14 346 P P 09 34 52.1 +1.2
baz=164
NPGB Novo Progresso 25.46 123 eP P 09 34 52.3 -1.7
VILB Vilhena 25.73 140 eP P 09 34 56.2 -0.3
BRAL Brewton 25.91 339 P P 09 34 58.4 +0.5
baz=156
NHSC New Hope 26.16 353 P P 09 35 00.6 +0.5
baz=172,SNR=7.6
PB16 IPOC Station P 26.17 164 lAmb lAmb 09 35 05.9
comp=Z,32nm,0.7s
PB12 IPOC Station P 26.23 166 P P 09 35 00.5 -0.4
PB12 lAmb lAmb 09 35 04.0
comp=Z,34nm,0.8s
152A Waverly Hall 26.59 345 lAmb lAmb 09 35 14.6
comp=Z,50nm,1.1s
GOGA Godfrey 27.01 347 P P 09 35 10.2 +2.5
GOGA pmax pmax
comp=Z,43nm,1.5s
GOGA Godfrey 27.01 347 lAmb lAmb 09 35 14.7
comp=Z,45nm,1.1s
GOGA Godfrey 27.01 347 P P 09 35 08.8 +1.0
baz=165,SNR=6.4
PDRB Porto dos Gac 27.15 133 eP P 09 35 07.8 -1.4
Z51A Franklin 27.33 344 lAmb lAmb 09 35 21.3
comp=Z,33nm,0.9s
CLDB Colider 27.36 130 eP P 09 35 11.1 0.0
GO01 Chusmiza 27.52 165 P P 09 35 12.7 -0.4
HODGE Hodges 27.57 350 lAmb lAmb 09 35 23.4
comp=Z,51nm,1.3s
SIV San Ignacio 27.60 146 P P 09 35 11.4 -1.9
comp=Z,12nm,1.0s,baz=323,slow=9.6,SNR=32
SIV LR LR 09 46 35.9
comp=Z,3µm,20.7s,baz=338,slow=37
LRAL Lakeview Retre 27.60 341 P P 09 35 14.8 +1.7
LRAL lAmb lAmb 09 35 23.8
comp=Z,38nm,1.2s
LRAL Lakeview Retre 27.60 341 P P 09 35 14.2 +1.1
baz=157
PB08 IPOC Station P 27.99 165 lAmb lAmb 09 35 19.5
comp=Z,19nm,0.8s
VBMS Vicksburg 28.19 335 P P 09 35 19.3 +1.0
baz=150
PTLB Pontes e Lacer 28.30 142 eP P 09 35 18.1 -1.4
KMSC Kings Mountain 28.32 352 P P 09 35 20.1 +0.6
baz=170
PATCX Punta Patache 28.40 167 P P 09 35 20.5 +0.1
BG3 Lake Jocassee 28.43 349 lAmb lAmb 09 35 31.5
comp=Z,29nm,1.0s
X51A Calhoun 28.43 346 lAmb lAmb 09 35 28.8
comp=Z,57nm,1.4s
FPAL Fort Paine 28.60 344 lAmb lAmb 09 35 30.6
comp=Z,26nm,1.1s
PB01 IPOC Station P 28.77 166 P P 09 35 23.0 -0.6
X48A Hartselle 28.93 342 lAmb lAmb 09 35 34.5
comp=Z,46nm,1.5s
PB02 IPOC Station P 28.94 167 lAmb lAmb 09 35 28.5
comp=Z,39nm,0.9s
V53A Saluda 29.07 350 lAmb lAmb 09 35 36.5
comp=Z,25nm,0.9s
TKL Tuckaleechee C 29.24 348 P P 09 35 28.7 +1.1
comp=Z,3.6nm,0.8s,baz=185,slow=11,SNR=2.1
TKL LR LR 09 48 54.1
comp=Z,1µm,19.3s,baz=179,slow=40
TKL Tuckaleechee C 29.24 348 P P 09 35 28.7 +1.1
TKL pmax pmax
comp=Z,16nm,1.2s
SWET Sewanee 29.32 344 lAmb lAmb 09 35 38.7
comp=Z,37nm,1.4s
PB07 IPOC Station P 29.33 167 lAmb lAmb 09 35 32.2
comp=Z,40nm,1.1s
V52A Seville 29.38 349 lAmb lAmb 09 35 39.4
comp=Z,17nm,0.8s
U56A King 29.39 354 lAmb lAmb 09 35 40.1
comp=Z,37nm,1.1s
V51A Loudon 29.50 347 lAmb lAmb 09 35 39.5
comp=Z,23nm,0.9s
OXF Oxford 29.77 339 P P 09 35 33.0 +0.6
baz=154
NATX Nacogdoches 29.79 328 P P 09 35 32.4 -0.2
baz=147
T59A Double "B" Far 29.83 359 lAmb lAmb 09 35 42.4
comp=Z,29nm,0.9s
PRPB Parauapebas 29.85 115 eP P 09 35 32.0 -1.3
T57A Hurt 29.94 356 lAmb lAmb 09 35 43.4
comp=Z,24nm,1.0s
TMAB Tom-Au,PA,Br 30.03 107 eP P 09 35 33.8 -1.1
TZTN Tazewell 30.05 349 P P 09 35 35.2 +0.4
baz=166
Z41A Richland Creek 30.09 332 P P 09 35 35.8 +0.6
baz=147
833A Chaparral WMA, 30.16 317 lAmb lAmb 09 35 56.1
comp=Z,26nm,1.0s
833A Chaparral WMA, 30.16 317 P P 09 35 36.6 +0.7
baz=130
BLA Blacksburg 30.25 354 P P 09 35 38.3 +1.7
baz=173
PB06 IPOC Station P 30.35 167 lAmb lAmb 09 35 39.3
comp=Z,32nm,1.0s
LVC Limon Verde 30.41 166 P P 09 35 39.6 +1.1
comp=Z,60nm,1.0s,baz=3.7,slow=7.1,SNR=21
LVC LR LR 09 51 19.6
comp=Z,785nm,19.6s,baz=316,slow=43
LVC Limon Verde 30.41 166 P P 09 35 39.9 +1.3
LVC pmax pmax
comp=Z,49nm,0.9s
LVC Limon Verde 30.41 166 P P 09 35 39.9 +1.3
U49A Red Boiling Sp 30.51 345 lAmb lAmb 09 35 49.2
comp=Z,16nm,0.8s
435B Jarrell 30.70 323 P P 09 35 41.8 +1.2
baz=136
WVT Waverly 30.72 342 P P 09 35 41.2 +0.5
WVT pmax pmax
comp=Z,16nm,1.0s
WVT Waverly 30.72 342 P P 09 35 41.2 +0.5
WVT lAmb lAmb 09 35 50.3
comp=Z,16nm,0.9s
WVT Waverly 30.72 342 P P 09 35 41.2 +0.5
baz=158
SALV Santo Antonio 30.84 138 eP P 09 35 40.5 -1.5
PB15 IPOC Station P 30.86 167 lAmb lAmb 09 35 44.1
comp=Z,29nm,1.0s
S51A Beattyville 31.12 349 lAmb lAmb 09 35 54.8
comp=Z,30nm,1.0s
X40A Basin Creek Fa 31.13 334 lAmb lAmb 09 35 54.9
comp=Z,22nm,0.8s
X40A Basin Creek Fa 31.13 334 P P 09 35 45.0 +0.6
baz=148,SNR=14
Z38A Mt. Pleasant 31.14 329 lAmb lAmb 09 35 49.5
comp=Z,34nm,1.0s
UALR University of 31.16 335 lAmb lAmb 09 35 53.7
comp=Z,29nm,1.1s
R55A Marlinton 31.28 355 lAmb lAmb 09 35 56.2
comp=Z,20nm,0.9s
W41B Gary Mavity, V 31.46 335 lAmb lAmb 09 35 54.8
comp=Z,26nm,1.2s
W41B Gary Mavity, V 31.46 335 P P 09 35 47.6 +0.3
baz=149
WHTX Lake Whitney, 31.50 325 P P 09 35 47.1 -0.6
baz=138
MIAR Mount Ida 31.51 333 lAmb lAmb 09 35 56.8
comp=Z,18nm,0.9s
MIAR Mount Ida 31.51 333 P P 09 35 47.8 0.0
baz=147,SNR=6.1
SNDB Serra Nova Dou 31.53 127 eP P 09 35 47.2 -0.9
JCT Junction City 31.85 320 P P 09 35 51.1 +0.2
baz=132
Q54A Coxs Mills 32.05 354 lAmb lAmb 09 36 00.1
comp=Z,27nm,1.2s
W39A Magazine 32.15 333 P P 09 35 52.6 -0.8
baz=147
PP1B Ponte de Pedra 32.60 139 eP P 09 35 56.2 -1.2
MCWV Mont Chateau 32.62 355 P P 09 35 57.9 +0.5
baz=174
U40A Yellville 32.73 335 P P 09 35 58.5 0.0
baz=149,SNR=37
P52A Corning 32.84 352 P P 09 35 59.2 -0.2
baz=170
SMTB Santa Maria do 33.02 118 eP P 09 36 00.6 -0.6
O56A Blue Knob Stat 33.15 357 P P 09 36 03.4 +1.2
baz=176,SNR=5.3
P49A Miami Univ. Ec 33.17 349 P P 09 36 03.0 +0.7
baz=165
O54A Avella 33.19 355 lAmb lAmb 09 36 10.6
comp=Z,34nm,1.2s
ABTX Abilene, Hawle 33.23 323 lAmb lAmb 09 36 12.6
comp=Z,26nm,1.0s
ABTX Abilene, Hawle 33.23 323 P P 09 36 02.6 -0.4
baz=135
O53A New Philadelph 33.34 354 P P 09 36 04.1 +0.4
baz=172
SSPA Standing Stone 33.49 358 P P 09 36 06.3 +1.2
SSPA Standing Stone 33.49 358 P P 09 36 06.1 +1.1
baz=178
ACSO Alum Creek Sta 33.55 351 P P 09 36 06.2 +0.6
baz=169
CCM Cathedral Cave 33.60 339 P P 09 36 05.7 -0.3
CCM pmax pmax
comp=Z,78nm,0.8s
CCM Cathedral Cave 33.60 339 P P 09 36 05.7 -0.3
CCM Cathedral Cave 33.60 339 P P 09 36 06.4 +0.4
baz=153
TUL1 Leonard 33.66 331 P P 09 36 06.6 0.0
baz=144,SNR=18
X34A Smith Ranch, M 33.66 328 lAmb lAmb 09 36 15.6
comp=Z,35nm,1.3s
TXAR Lajitas Array 33.74 315 P P 09 36 07.1 -0.3
comp=Z,1.1nm,0.8s,baz=124,slow=8.7,SNR=11
TXAR PcP PcP 09 38 46.2 -0.7
comp=Z,2.9nm,1.1s,baz=139,slow=5.9,SNR=2.9
N59A State Game Lan 33.77 1 lAmb lAmb 09 36 18.4
comp=Z,25nm,1.0s
N59A State Game Lan 33.77 1 P P 09 36 07.4 -0.1
baz=182
N54A Moraine State 33.93 356 P P 09 36 07.8 -1.1
baz=174
PAL Palisades 33.94 4 P P 09 36 07.1 -1.7
baz=185
O48B Farmland 33.96 348 P P 09 36 09.6 +0.5
baz=165,SNR=13
ROSB Rosrio 33.97 106 eP P 09 36 09.8 +0.3
PEXB Peixe 34.03 124 eP P 09 36 08.9 -1.2
AQDB Aquidauana 34.24 143 P P 09 36 10.3 -1.5
AQDB lAmb lAmb 09 36 22.9
comp=Z,20nm,1.0s
AQDB Aquidauana 34.24 143 eP P 09 36 10.4 -1.3
WMOK Wichita Mounta 34.28 327 lAmb lAmb 09 36 20.3
comp=Z,34nm,1.2s
WMOK Wichita Mounta 34.28 327 P P 09 36 11.6 -0.4
baz=138,SNR=14
M54A Oil Creek Stat 34.45 356 P P 09 36 12.3 -1.1
baz=175
M53A WI Miller and 34.46 355 P P 09 36 13.9 +0.5
baz=173
SFIN Lafayette 34.50 346 P P 09 36 14.3 +0.5
baz=162
L56A Greenwood 34.98 359 lAmb lAmb 09 36 27.9
comp=Z,21nm,0.9s
BINY Binghamton 35.04 1 P P 09 36 19.1 +0.6
baz=181,SNR=6.0
ERPA Erie 35.08 356 P P 09 36 18.9 +0.1
baz=174
HDIL Hopedale 35.25 343 P P 09 36 19.6 -0.7
baz=158,SNR=9.8
L61B Northampton 35.47 5 P P 09 36 21.4 -0.7
baz=187
HRV Adam Dziewonsk 35.64 7 P P 09 36 22.9 -0.6
baz=189
K62A Royalston 35.72 6 P P 09 36 26.9 +2.6
SLBS Sierra La Lagu 35.96 301 P P 09 36 29.1 +2.4
MSTX Muleshoe 36.06 322 P P 09 36 27.3 -0.1
baz=132
BDFB Brasilia 36.25 129 LR LR 09 52 04.9
comp=Z,5µm,18.1s,baz=310,slow=37
BDFB Brasilia 36.25 129 eP P 09 36 28.8 -0.5
LCO Las Campanas 36.28 171 P P 09 36 30.8 +1.3
LCO pmax pmax
comp=Z,64nm,1.1s
LCO Las Campanas 36.28 171 P P 09 36 30.8 +1.3
MNTX Cornudas Mount 36.32 316 P P 09 36 30.1 +0.5
MNTX Cornudas Mount 36.32 316 P P 09 36 29.3 -0.3
baz=126,SNR=12
L44A Lake County Fo 36.40 346 P P 09 36 31.2 +1.1
baz=161
KSU1 Kansas State U 36.64 334 P P 09 36 32.5 +0.3
baz=146,SNR=7.3
NCB Newcomb 36.87 3 lAmb lAmb 09 36 44.7
comp=Z,29nm,0.8s
NBPS Pedro II - PI 36.96 107 eP P 09 36 35.7 +0.3
K43A Burlington 37.00 346 lAmb lAmb 09 36 40.5
comp=Z,45nm,1.2s
SDBA SAO DESIDERIO 37.03 121 eP P 09 36 34.9 -0.9
R32A Long Quarter, 37.07 331 lAmb lAmb 09 36 43.5
comp=Z,28nm,0.9s
ITRB Iturama 37.11 136 eP P 09 36 35.1 -1.4
LBNH Lisbon 37.31 6 P P 09 36 39.0 +1.2
baz=188
LONY Lake Ozonia 37.50 2 lAmb lAmb 09 36 49.9
comp=Z,32nm,0.9s
LONY Lake Ozonia 37.50 2 P P 09 36 40.4 +1.0
baz=183,SNR=5.5
IPMB Ipameri, GO 37.52 132 eP P 09 36 38.6 -1.4
SADO Sadowa 37.67 357 LR LR 09 53 52.0
comp=Z,983nm,18.2s,baz=182,slow=39
JFWS Jewell Farm 37.70 344 P P 09 36 41.4 +0.2
baz=158
SCIA State Center 37.71 340 P P 09 36 41.2 -0.1
baz=152
FRNY Flat Rock 37.77 4 lAmb lAmb 09 36 52.2
comp=Z,20nm,0.9s
PCMB Pacaembu 37.84 139 eP P 09 36 42.2 -0.4
CBKS Cedar Bluff 37.88 330 P P 09 36 42.7 -0.1
baz=141
NBMO Morrinhos-CE 37.99 104 eP P 09 36 43.9 -0.2
CPUP Villa Florida 38.11 151 P P 09 36 40.8 -3.9
comp=Z,4.7nm,1.0s,baz=316,slow=12,SNR=7.7
CPUP LR LR 09 52 60.0
comp=Z,1µm,20.8s,baz=333,slow=37
GLMI Grayling 38.29 351 P P 09 36 46.8 +0.7
baz=167
MNTQ Montreal, Queb 38.43 3 P P 09 36 49.3 +2.0
G62A West of Eustis 38.43 7 P P 09 36 49.1 +1.7
G62A lAmb lAmb 09 36 57.8
comp=Z,27nm,0.9s
121A Cookes Peak, D 38.47 315 P P 09 36 48.7 +0.7
baz=125
PKME Peaks-Kenny Pk 38.64 8 P P 09 36 50.4 +1.4
baz=192
Y22D IRIS PASSCAL I 38.78 318 P P 09 36 52.2 +1.6

baz=127
JANB Januaria 38.88 124 *e*P **P 09 36 50.4 -1.1**
GGN Saint George 38.91 11 P **P 09 36 53.7 +2.4**
GGN IAmb IAmb 09 37 01.4
comp=Z,40nm,1.0s
L34A Svendsen Farm, 38.94 336 IAmb IAmb 09 36 58.9
comp=Z,39nm,0.9s
ANMO Albuquerque 39.01 320 *c*e**P P 09 36 53.0 +0.5**
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO Albuquerque 39.01 320 P **P 09 36 53.1 +0.5**
ANMO Albuquerque 39.01 320 P **P 09 36 53.1 +0.5**
baz=128
NBPB Pedra_Branca-C 39.08 108 *e*P **P 09 36 52.4 -0.8**
T25A Trinidad 39.18 324 IAmb IAmb 09 37 11.0
comp=Z,34nm,1.3s
T25A Trinidad 39.18 324 P **P 09 36 54.4 +0.4**
baz=133
BGNE Belgrade 39.21 334 P **P 09 36 54.7 +0.8**
baz=145
BB19B Bebedouro 39.29 136 *e*P **P 09 36 53.4 -1.5**
KSCO Kaye Shedlock' 39.51 328 IAmb IAmb 09 37 07.0
comp=Z,44nm,1.0s
KSCO Kaye Shedlock' 39.51 328 P **P 09 36 57.2 +0.6**
baz=137
PTGB Pitanga 39.63 144 *e*P **P 09 36 56.3 -1.4**
E46A Sault Ste Mari 39.75 352 IAmb IAmb 09 37 05.3
comp=Z,30nm,1.1s
G40A Rib Lake 39.87 345 IAmb IAmb 09 37 06.0
comp=Z,26nm,1.1s
FRTB Fartura 40.17 139 *e*P **P 09 37 01.4 -0.8**
SDCO Great Sand Dun 40.23 324 IAmb IAmb 09 37 14.0
comp=Z,26nm,0.9s
SDCO Great Sand Dun 40.23 324 P **P 09 37 04.2 +1.4**
baz=132,SNR=6.3
LATQ La Tuque 40.36 4 P **P 09 37 06.1 +2.8**
MT02 Curacav 40.40 173 IAmb IAmb 09 37 19.6
comp=Z,35nm,1.1s
NBPN Ponto Novo - B 40.43 116 *e*P **P 09 37 03.7 -0.7**
NBMA Muriti-CE 40.44 110 *e*P **P 09 37 03.9 -0.6**
D62A Allapoint, All 40.46 8 P **P 09 37 06.6 +2.5**
D62A IAmb IAmb 09 37 14.4
comp=Z,32nm,1.0s
TUC Tucson 40.48 313 P **P 09 37 05.7 +1.0**
TUC pmax pmax
comp=Z,8.0nm,1.2s
TUC Tucson 40.48 313 P **P 09 37 05.7 +1.0**
TUC Tucson 40.48 313 P **P 09 37 05.0 +0.3**
baz=121
ECSD EROS Data Cent 40.53 338 IAmb IAmb 09 37 10.7
comp=Z,26nm,1.1s
ECSD EROS Data Cent 40.53 338 P **P 09 37 05.3 +0.5**
baz=149
SPMN Marine on St. 40.55 342 IAmb IAmb 09 37 10.6
comp=Z,69nm,1.6s
SPMN Marine on St. 40.55 342 P **P 09 37 06.0 +1.0**
baz=155
OGNE Ogallala 40.64 330 P **P 09 37 06.8 +0.9**
baz=139
Q24A Divide 40.86 325 P **P 09 37 08.3 +0.3**
baz=134
RCLB Rio Claro- Sao 40.88 136 *e*P **P 09 37 07.3 -0.8**
VLDQ Val d'Or 40.96 359 P **P 09 37 10.4 +2.2**
VLDQ IAmb IAmb 09 37 18.3
comp=Z,19nm,0.8s
MT01 Popeta 40.98 173 IAmb IAmb 09 37 18.0
comp=Z,24nm,0.9s
S22A 4UR Ranch, Cre 41.02 323 IAmb IAmb 09 37 20.7
comp=Z,28nm,1.2s
S22A 4UR Ranch, Cre 41.02 323 P **P 09 37 10.5 +1.1**
baz=131,SNR=12
DIAM Diamantina, MG 41.16 128 *e*P **P 09 37 09.4 -1.2**
BO04 La Punta 41.19 172 P **P 09 37 11.8 +1.4**
BO01 Tunca 41.52 173 P **P 09 37 14.4 +1.3**
ITAB Concordia 41.53 146 P **P 09 37 10.9 -2.4**
VAO Valinhos 41.66 137 *e*P **P 09 37 12.5 -2.0**
ISCO Idaho Springs 41.69 326 P **P 09 37 15.5 +0.6**
ISCO pmax pmax
comp=Z,42nm,1.6s
ISCO Idaho Springs 41.69 326 P **P 09 37 15.5 +0.6**
ISCO IAmb IAmb 09 37 31.1
comp=Z,42nm,1.6s
ISCO Idaho Springs 41.69 326 P **P 09 37 15.8 +0.9**
baz=134
MVCO Mesa Verde 41.71 321 IAmb IAmb 09 37 25.9
comp=Z,47nm,1.7s
MVCO Mesa Verde 41.71 321 P **P 09 37 16.2 +1.3**
baz=128
214A Organ Pipe Nat 41.80 311 P **P 09 37 16.4 +0.9**
baz=119
SUSD Miller 42.04 336 P **P 09 37 19.0 +1.7**
baz=146
GDU01 Guandu, BA 42.22 119 *e*P **P 09 37 18.1 -0.9**
F33A 5 Mile Ranch, 42.23 340 IAmb IAmb 09 37 26.4
comp=Z,22nm,0.9s
PET01 Itanhaem-SP 42.33 138 *e*P **P 09 37 17.5 -2.3**
PV13 Radium Mtn., P 42.50 322 IAmb IAmb 09 37 30.7
comp=Z,30nm,0.9s
PV07 Paradox Valley 42.56 322 IAmb IAmb 09 37 33.0
comp=Z,23nm,1.0s
WUAZ Wupatki 42.60 317 P **P 09 37 23.9 +1.8**
WUAZ Wupatki 42.60 317 P **P 09 37 22.8 +0.7**
baz=124,SNR=12
N23A Red Feather La 42.64 327 IAmb IAmb 09 37 52.4
comp=Z,47nm,1.8s
N23A Red Feather La 42.64 327 P **P 09 37 23.1 +0.6**
baz=134
NBLA Lagarto - SE 42.65 114 *e*P **P 09 37 21.9 -0.8**
RCBR Riachuelo 42.66 106 LR LR 09 56 38.0
comp=Z,2µm,21.6s,baz=84,slow=38
RCBR Riachuelo 42.66 106 *e*P **P 09 37 21.9 -0.9**
EYMN Ely 42.69 345 P **P 09 37 22.6 +0.1**
baz=158
PARB Paraibuna 42.81 136 *e*P **P 09 37 21.9 -1.9**
CMC01 Camacan, BA 43.02 121 *e*P **P 09 37 25.0 -0.6**
SJMB Sao Joao De Ma 43.35 127 *e*P **P 09 37 27.6 -0.6**
GUA01 Guaratinga, BA 43.38 123 *e*P **P 09 37 27.8 -0.6**
O20A White River Ci 43.41 324 P **P 09 37 28.6 -0.1**
baz=131
NBAN Anadia - AL 43.54 112 *e*P **P 09 37 29.1 -0.8**
VAS01 Vassouras-RJ 43.69 133 *e*P **P 09 37 30.1 -0.8**
U15A North Rim 43.72 317 IAmb IAmb 09 38 02.0
comp=Z,25nm,1.4s
NAN01 Guarapari, ES 43.75 125 *e*P **P 09 37 30.8 -0.6**
GLA Glamis 43.81 311 P **P 09 37 32.1 +0.2**
baz=118
PDMCI Parker Dam,Lak 43.91 313 P **P 09 37 33.1 +0.6**
baz=120
RSSD Black Hills 44.01 332 P **P 09 37 35.1 +1.6**
RSSD pmax pmax
comp=Z,25nm,1.1s
RSSD Black Hills 44.01 332 P **P 09 37 35.1 +1.6**
RSSD IAmb IAmb 09 37 43.4
comp=Z,25nm,1.1s
RSSD Black Hills 44.01 332 P **P 09 37 34.2 +0.7**
baz=139
K22A Casper 44.18 328 IAmb IAmb 09 37 44.4
comp=Z,21nm,1.3s
K22A Casper 44.18 328 P **P 09 37 34.9 +0.1**
baz=135
TER01 Tubaro-SC 44.23 144 *e*P **P 09 37 33.2 -1.9**
AGMN Agassiz Nation 44.24 342 P **P 09 37 34.7 -0.3**
baz=152,SNR=6.4
RIB01 Linhares ES 44.31 127 *e*P **P 09 37 35.0 -0.9**
DUB01 Friburgo-RJ 44.35 132 *e*P **P 09 37 35.2 -1.1**
KNB Kanab 44.40 318 IAmb IAmb 09 37 48.5
comp=Z,51nm,1.9s
RDMU Red Mountain 44.47 324 IAmb IAmb 09 37 47.5
comp=Z,21nm,1.3s
P17A Butcher Ranch, 44.48 322 IAmb IAmb 09 37 46.4
comp=Z,21nm,1.2s
SWSC Sam W. Stewart 44.49 311 P **P 09 37 38.2 +0.9**
baz=117
MTPU Mount Pierson 44.55 319 IAmb IAmb 09 37 46.8
comp=Z,28nm,1.8s
BC3 Big Chuckawall 44.56 312 P **P 09 37 38.5 +0.6**
baz=118
IRM Iron Mountain 44.57 313 P **P 09 37 38.5 +0.6**
baz=118
IKP In-Ko-Pah, Jac 44.59 310 P **P 09 37 37.7 -0.4**
baz=116
CAM01 Campos-RJ 44.74 131 *e*P **P 09 37 38.4 -0.9**
ALF01 Guarapari-ES 44.76 129 *e*P **P 09 37 38.5 -1.0**
MONP2 Monument Peak 44.94 310 P **P 09 37 40.8 -0.2**
baz=116
BELC Belle Mtn. Jos 45.12 312 P **P 09 37 42.4 0.0**
baz=118,SNR=8.0
MDND Maddock 45.13 338 P **P 09 37 42.2 +0.2**
baz=147
GMRC Granite Mounta 45.24 313 P **P 09 37 43.8 +0.5**
baz=118
TPFO Pinon Flats 45.28 311 P **P 09 37 44.0 +0.3**
baz=117
PFO Pinyon Flats O 45.28 311 P **P 09 37 44.2 +0.5**
comp=Z,4.7nm,0.9s,baz=125,slow=3.4,SNR=6.3
PFO LR LR 10 00 36.3
comp=Z,381nm,19.1s,baz=122,slow=41
PFO Pinyon Flats O 45.28 311 *i* P **P 09 37 43.9 +0.2**
PFO pmax pmax
comp=Z,14nm,1.1s
PFO Pinyon Flats O 45.28 311 P **P 09 37 45.3 +1.6**
PFO Pinyon Flats O 45.28 311 P **P 09 37 44.5 +0.7**
baz=117
109C Camp Elliot, M 45.45 310 P **P 09 37 45.8 +0.9**
baz=116
NLU North Lily Min 45.60 321 P **P 09 37 46.3 +0.1**
NLU **pP 09 37 53.0 +0.3**
SHPR Sheep Range 45.73 316 P **P 09 37 48.0 +0.8**
TUQ Turquoise Moun 45.74 314 P **P 09 37 47.8 +0.5**
baz=119
HEC Hector,Ludlow 45.75 313 P **P 09 37 47.7 +0.4**
baz=118
MURC Murrieta 45.83 311 P **P 09 37 48.3 +0.4**
baz=116
BW06 Boulder Array 45.89 326 IAmb IAmb 09 37 58.5
comp=Z,21nm,1.4s
BW06 Boulder Array 45.89 326 P **P 09 37 49.0 +0.5**
baz=131
PDAR Pinedale Array 45.89 326 P **P**
comp=Z,1.5nm,0.6s,baz=131,slow=6.7,SNR=12
PDAR LR LR 10 01 01.1
comp=Z,298nm,18.9s,baz=148,slow=41
BBRC Big Bear Solar 45.92 312 P **P 09 37 48.9 +0.1**
baz=117
ULM Lac du Bonnet 45.98 343 P **P 09 37 47.9 -0.9**
comp=Z,14nm,0.8s,baz=143,slow=7.6,SNR=10
ULM Lac du Bonnet 45.98 343 *i* P **P 09 37 48.2 -0.6**
DUG Dugway, Tooele 46.20 321 IAmb IAmb 09 38 00.0
comp=Z,12nm,0.9s
DUG Dugway, Tooele 46.20 321 P **P 09 37 51.6 +0.8**
baz=126,SNR=12
HWUT Hardware Ranch 46.29 324 IAmb IAmb 09 38 01.2
comp=Z,12nm,0.8s
GSC Goldstone, Bar 46.31 313 P **P 09 37 51.9 +0.2**
baz=118
RPN Rapa Nui 46.38 222 LR LR 09 53 22.4
comp=Z,440nm,19.6s,baz=20,slow=31
CIS Catalina Islan 46.67 310 P **P 09 37 54.3 -0.2**
baz=115
FMP Fort Macarthur 46.70 311 P **P 09 37 54.1 -0.6**
baz=115
TPNV Topopah Spring 46.71 316 P **P 09 37 55.9 +1.0**
baz=120,SNR=6.9
S11A Rachel 46.71 317 IAmb IAmb 09 38 26.4
comp=Z,19nm,1.2s
AHID Auburn Hatcher 46.75 325 IAmb IAmb 09 38 05.2
comp=Z,15nm,1.1s
BGU Big Grassy Mou 46.76 322 IAmb IAmb 09 38 04.0
comp=Z,20nm,1.3s
FURC Furnace Creek, 46.90 315 P **P 09 37 56.8 +0.6**
baz=119,SNR=8.9
LAO LASA Array 46.96 332 IAmb IAmb 09 38 03.1
comp=Z,15nm,1.1s
LAO LASA Array 46.96 332 P **P 09 37 57.7 +1.1**
baz=138
R11A Troy Canyon, C 46.97 318 IAmb IAmb 09 38 25.9
comp=Z,15nm,1.4s
R11A Troy Canyon, C 46.97 318 P **P 09 37 56.9 -0.1**
baz=122,SNR=9.6
EDW2 Edwards Air Fo 46.99 312 P **P 09 37 57.4 +0.4**
baz=116
SNOW Snow King Moun 47.01 326 IAmb IAmb 09 38 07.8
comp=Z,19nm,0.9s
LOHW Long Hollow 47.02 326 IAmb IAmb 09 38 07.6
comp=Z,28nm,1.3s
LRMC Laurel Mtn Rad 47.03 313 P **P 09 37 58.2 +0.8**
baz=117
CCAC Calif City Air 47.12 312 IAmb IAmb 09 37 59.8
comp=Z,11nm,0.7s
TPAW Tehachapi Pass 47.13 326 IAmb IAmb 09 38 16.3
comp=Z,9.7nm,0.8s
MPMC Manual Prospec 47.16 314 P **P 09 37 58.5 0.0**
baz=118
RLMT Red Lodge 47.32 329 IAmb IAmb 09 38 13.0
comp=Z,21nm,1.2s
RLMT Red Lodge 47.32 329 P **P 09 38 00.9 +1.3**
baz=133
DGMT Dagmar 47.43 335 P **P 09 38 00.9 +0.7**
baz=142
GRAC Grapevine Rang 47.51 315 P **P 09 38 01.2 +0.1**
baz=119
ARVC Arvin 47.71 312 P **P 09 38 02.8 +0.2**
baz=116
PLCA Paso Flores 47.85 174 P **P 09 38 03.6 +0.1**
comp=Z,28nm,1.0s,baz=350,slow=8.2,SNR=36
PLCA LR LR 09 58 29.9
comp=Z,345nm,21.6s,baz=341,slow=36
PLCA Paso Flores 47.85 174 P **P 09 38 03.7 +0.1**
PLCA pmax pmax
comp=Z,43nm,1.0s
PLCA Paso Flores 47.85 174 P **P 09 38 03.7 +0.1**
PLCA Paso Flores 47.85 174 *e*P **P 09 38 04.1 +0.5**
YMR Madison River 47.91 327 IAmb IAmb 09 38 18.4
comp=Z,26nm,1.3s
ELK Elko 48.03 320 P **P 09 38 05.4 +0.1**
comp=Z,1.9nm,0.7s,baz=99,slow=7.3,SNR=8.5
ELK LR LR 10 01 15.2
comp=Z,208nm,19.3s,baz=160,slow=40
TIN Timmaha, Big 48.15 315 P **P 09 38 06.7 +0.6**
baz=118
VES Vestal, Richgr 48.21 313 P **P 09 38 07.1 +0.7**
baz=116
SCHQ Schefferville 48.34 8 P **P 09 38 07.4 +0.3**
comp=Z,12nm,0.8s,baz=183,slow=7.1,SNR=23
SCHQ LR LR 10 00 13.9
comp=Z,693nm,18.7s,baz=208,slow=38
SCHQ Schefferville 48.34 8 P **P 09 38 08.3 +1.2**
SMMC Simmler 48.65 312 P **P 09 38 11.0 +1.0**
baz=115
NV11 Mina Array Sit 48.75 316 IAmb IAmb 09 38 20.1
comp=Z,13nm,1.1s
MLAC Mammoth, Mammo 48.84 315 P **P 09 38 11.6 0.0**
baz=118
NVAR Mina Array Bea 48.85 316 P **P 09 38 11.9 +0.3**
comp=Z,3.2nm,0.8s,baz=132,slow=6.4,SNR=26
BOZ Bozeman (W) 48.87 328 IAmb IAmb 09 38 21.1
comp=Z,22nm,1.4s
BOZ Bozeman (W) 48.87 328 P **P 09 38 12.8 +1.2**
baz=131,SNR=10
LHV Little Huntoon 48.91 316 IAmb IAmb 09 38 21.0
comp=Z,18nm,1.2s
KVN Kaiserville 49.02 317 IAmb IAmb 09 38 41.1
comp=Z,19nm,1.6s
BMN Battle Mountai 49.13 319 IAmb IAmb 09 38 22.5
comp=Z,13nm,1.1s
HLID Hailey 49.15 324 P **P 09 38 13.4 -0.3**
baz=127
DLMT Dillon 49.24 327 IAmb IAmb 09 38 24.2
comp=Z,24nm,1.4s
EGMT Eagleton 49.58 331 IAmb IAmb 09 39 02.7
comp=Z,16nm,1.0s
EGMT Eagleton 49.58 331 P **P 09 38 17.6 +0.8**
baz=135
YERR Yerington 49.76 316 IAmb IAmb 09 38 29.4
comp=Z,13nm,1.0s
MFID Camas Ranch 49.90 323 IAmb IAmb 09 38 29.9
comp=Z,16nm,1.1s
PAHR Pah Rah Range 50.20 317 IAmb IAmb 09 38 49.4
comp=Z,22nm,1.7s
MPK Martis Peak 50.45 316 IAmb IAmb 09 38 33.5
comp=Z,24nm,1.2s
MSO Missoula 50.90 328 P **P 09 38 28.0 +1.1**
baz=129
AY01 Puyuhuapi 51.33 176 IAmb IAmb 09 38 39.2
comp=Z,21nm,0.9s
JTMT Jette 51.66 328 IAmb IAmb 09 38 42.0
comp=Z,17nm,1.1s
FFC Flin Flon 51.72 342 P **P 09 38 32.7 -0.1**
FFC pmax pmax
comp=Z,33nm,1.5s
FFC Flin Flon 51.72 342 P **P 09 38 32.7 -0.1**
FFC IAmb IAmb 09 38 39.7
comp=Z,34nm,1.4s
O03E Paynes Creek 52.12 317 P **P 09 38 36.5 +0.4**
baz=117
F10A Beach Ranch, E 52.19 325 IAmb IAmb 09 38 52.2
comp=Z,18nm,1.3s
O02D Mt. Diablo Mer 52.74 316 P **P 09 38 41.8 +1.1**
baz=116
G08A Pilot Rock 52.81 323 IAmb IAmb 09 38 51.4
comp=Z,48nm,1.7s
M04C Macdoel 52.83 318 IAmb IAmb 09 38 50.0
comp=Z,15nm,1.0s
M04C Macdoel 52.83 318 P **P 09 38 42.0 +0.6**
baz=118
J05D Fort Rock, OR 53.16 320 P **P 09 38 44.2 +0.3**
baz=120
PINE Pine Mountain 53.23 321 IAmb IAmb 09 38 53.3
comp=Z,23nm,1.3s
L04D Klamath Falls 53.34 319 IAmb IAmb 09 38 57.7
comp=Z,26nm,1.1s
L04D Klamath Falls 53.34 319 P **P 09 38 45.4 +0.2**
baz=118
YBH Yreka Blue Hor 53.39 318 P **P 09 38 44.1 -1.4**
comp=Z,1.6nm,0.5s,baz=144,slow=4.4,SNR=3.2
NEW Newport 53.48 327 P **P 09 38 45.1 -0.8**
comp=Z,2.0nm,0.8s,baz=135,slow=3.8,SNR=4.6
NEW LR LR 10 06 04.2
comp=Z,335nm,18.8s,baz=166,slow=41
NEW Newport 53.48 327 P **P 09 38 45.1 -0.8**
NEW pmax pmax
comp=Z,21nm,1.2s
NEW Newport 53.48 327 IAmb IAmb 09 38 54.6
comp=Z,21nm,1.2s
NEW Newport 53.48 327 P **P 09 38 46.2 +0.3**
baz=127
J04D Umpqua Nationa 53.70 320 P **P 09 38 47.2 -0.7**
baz=119
I05D Terrebonne, OR 53.75 321 P **P 09 38 48.7 +0.7**
baz=120
D08A Wollman Farm, 53.77 325 P **P 09 38 48.7 +0.6**
D08A **sP 09 38 56.4 -0.6**
I04A Tendick Farm, 54.16 320 P **P 09 38 51.8 +0.7**
baz=119
G05D Wamic, OR 54.20 322 P **P 09 38 52.7 +1.5**
baz=121
H04A Detroit Lake 54.45 321 IAmb IAmb 09 39 10.8
comp=Z,12nm,0.8s
K02D Willamette Mer 54.46 319 P **P 09 38 53.5 +0.2**
baz=117
I03D Drain, OR 54.71 320 P **P 09 38 55.2 +0.2**
baz=118
H04D Lebanon 54.72 321 P **P 09 38 55.2 +0.1**
baz=119
B08A Colville Reser 54.73 326 IAmb IAmb 09 39 03.4
comp=Z,19nm,1.1s
J01E Myrtle Point 54.84 319 P **P 09 38 55.8 -0.1**
baz=117
LTY Liberty 54.87 325 IAmb IAmb 09 39 06.5
comp=Z,34nm,1.6s
I02E Swisshome, OR 55.22 320 P **P 09 38 58.9 +0.3**
baz=118
GO08 Villa O'Higgin 55.36 177 IAmb IAmb 09 39 02.4
comp=Z,19nm,1.0s
G03D McMinnville, O 55.38 321 P **P 09 38 59.8 0.0**
baz=119
B05A Bryant 56.22 325 P **P 09 39 06.9 +1.2**
baz=122
D03D Eldon 56.42 324 P **P 09 39 07.6 +0.4**
baz=120
A04D Lummi Island 56.81 325 P **P 09 39 10.4 +0.5**
baz=121
FRB Frobisher Bay 56.93 4 LR LR 10 04 23.7
comp=Z,645nm,20.5s,baz=194,slow=37
LLLB Lillooet 57.37 328 IAmb IAmb 09 39 23.9
comp=Z,24nm,1.1s
BBB Bella Bella 61.53 327 P **P 09 39 41.0 -1.6**
comp=Z,8.1nm,0.9s,baz=141,slow=13,SNR=1.5
YKA Yellowknife Ar 61.90 341 P **P 09 39 44.0 -0.9**
comp=Z,5.0nm,0.7s,baz=131,slow=7.2,SNR=46
YKA LR LR 10 08 41.2
comp=Z,470nm,18.0s,baz=126,slow=38
SFJD Kangerlussuaq 62.48 11 LR LR 10 05 11.8
comp=Z,520nm,21.6s,baz=214,slow=34
ISOG Isortoq, Green 64.08 16 *e*P **P 09 39 58.5 -0.8**
ISOG IAmb IAmb 09 40 04.8
comp=Z,82nm,1.3s
TAOE Nuku Hiva Isla 65.17 257 *e*S **S 09 48 47.7 -2.4**
comp=Z,68nm,24.4s
TAOE *e*LQ LQ 09 56 59.0
comp=Z,394nm,31.4s
TAOE *e*LR LR 09 59 45.1
comp=Z,567nm,23.6s
DLBC Dease Lake 65.48 332 IAmb IAmb 09 40 19.0
comp=Z,13nm,1.0s
TGTN Hyland Airport 66.29 336 P **P 09 40 14.9 +1.1**
baz=122,SNR=6.7
ICESG Greenland Ices 66.57 14 *e*P **P 09 40 15.3 -0.5**
ICESG IAmb IAmb 09 40 24.5
comp=Z,64nm,1.2s
RES Resolute Bay 68.44 355 LR LR 10 12 12.1
comp=Z,944nm,18.5s,baz=144,slow=37
RES Resolute Bay 68.44 355 IAmb IAmb 09 40 33.1
comp=Z,19nm,1.1s
WHY Whitehorse 68.70 333 P **P 09 40 29.8 +0.7**
baz=115
M31M Drury Creek, Y 69.15 335 IAmb IAmb 09 40 45.2
comp=Z,12nm,1.0s
M31M Drury Creek, Y 69.15 335 P **P 09 40 32.7 +0.8**
baz=116
C36M Paulatuk 69.39 344 P **P 09 40 34.7 +1.6**
baz=129
BORG Borgarnes 69.42 22 LR LR 10 07 47.0
comp=Z,641nm,21.7s,baz=236,slow=33
N31M Braeburn, Yuko 69.44 334 P **P 09 40 35.1 +1.4**
baz=114
HYT Haines Junctio 69.94 333 P **P 09 40 37.4 +0.5**
baz=113
M30M Minto, Yukon 70.33 335 P **P 09 40 39.8 +0.7**
baz=114,SNR=6.9
YUK6 Outpost Mounta 70.38 333 P **P 09 40 40.6 +0.9**
baz=112
PNL Peninsula 70.39 331 P **P 09 40 39.5 0.0**
baz=110
YUK4 Talbot Arm 70.65 333 P **P 09 40 41.7 +0.4**
baz=112
TIC Toumodi 71.10 85 *e*PKP1 **P 09 40 45.3 +0.6**
LIC Lamto 71.13 86 *e*PKP1 **P 09 40 46.2 +1.4**
comp=Z,35nm,1.1s
MDT Midelt 71.18 58 LR LR 10 10 07.5
comp=Z,182nm,18.1s,baz=280,slow=34
DBIC Dimbokro 71.26 85 P **P 09 40 45.3 -0.3**
comp=Z,17nm,0.9s,baz=282,slow=7.2,SNR=11
DBIC LR LR 10 10 35.5
comp=Z,284nm,19.4s,baz=280,slow=34
DBIC Dimbokro 71.26 85 P **P 09 40 44.9 -0.7**
DBIC pmax pmax
comp=Z,43nm,1.2s
DBIC Dimbokro 71.26 85 P **P 09 40 44.9 -0.7**
A36M Sachs Harbour 71.35 346 P **P 09 40 44.4 -0.7**
baz=128,SNR=34
KIC Kosan Boka 71.40 86 *e*PKP1 **P 09 40 46.6 +0.1**
comp=Z,58nm,1.2s
KOWA Kowa 71.55 77 P **P 09 40 47.8 +0.4**
YUK3 Moose Creek 71.62 333 P **P 09 40 47.4 +0.3**
baz=110
INK Inuvik 71.67 341 P **P 09 40 46.6 -0.4**
comp=Z,1.9nm,0.6s,baz=107,slow=5.3,SNR=15
INK Inuvik 71.67 341 P **P 09 40 47.6 +0.6**
baz=119
EPYK Eagle Plains 71.88 338 IAmb IAmb 09 40 59.0
comp=Z,23nm,1.4s
EPYK Eagle Plains 71.88 338 P **P 09 40 48.8 +0.4**
baz=115
PAB San Pablo 71.96 51 P **P 09 40 50.9 +1.4**
PAB pmax pmax
comp=Z,34nm,1.2s
PAB San Pablo 71.96 51 P **P 09 40 50.9 +1.4**
DAWY Dawson 71.99 336 IAmb IAmb 09 41 34.9
comp=Z,26nm,1.9s
DAWY Dawson 71.99 336 P **P 09 40 49.5 +0.3**
baz=112
BVCY Beaver Creek 72.02 334 P **P 09 40 49.2 -0.1**
baz=110
I29M Ogilvie Camp, 72.06 337 P **P 09 40 49.9 +0.4**
baz=113
ESDC Sonseca Array 72.27 51 P **P 09 40 51.9 +0.6**
comp=Z,9.9nm,1.0s,baz=270,slow=5.8,SNR=20
ESDC LR LR 10 06 42.6
comp=Z,152nm,22.0s,baz=262,slow=31
M27K Edge Creek, AK 72.44 334 IAmb IAmb 09 41 04.4
comp=Z,19nm,1.1s

M27K **Edge Creek, AK** 72.44 334 P P 09 40 52.8 +0.8
baz=109
BCAR **Beaver Creek A** 72.64 334 P P 09 40 53.7 +0.7
MCARA **McCarthy VSAT** 72.65 332 P P 09 40 54.2 +1.2
baz=108
L27K **Beaver Creek,** 72.66 334 IAmb IAmb 09 41 01.0
comp=Z,16nm,1.0s
L27K **Beaver Creek,** 72.66 334 P P 09 40 54.0 +0.8
baz=109,SNR=15
EGAK **Eagle** 72.96 336 IAmb IAmb 09 40 56.4
comp=Z,37nm,1.9s
BMRM **Bremner River** 73.26 332 IAmb IAmb 09 41 49.4
comp=Z,21nm,1.0s
BMRM **Bremner River** 73.26 332 P P 09 40 56.3 -0.5
baz=106
L26K **Log Cabin Wild** 73.30 334 IAmb IAmb 09 41 08.5
comp=Z,34nm,1.6s
L26K **Log Cabin Wild** 73.30 334 P P 09 40 57.4 +0.5
baz=108
N25K **Chitina, Valde** 73.44 332 P P 09 40 58.4 +0.6
baz=106
J26L **Joseph Creek** 73.85 336 P P 09 41 00.2 0.0
baz=108,SNR=6.2
SCRK **Sand Creek** 73.86 335 P P 09 41 00.5 +0.1
baz=108
RIDG **Independent Ri** 74.16 335 IAmb IAmb 09 41 10.2
comp=Z,18nm,1.0s
RIDG **Independent Ri** 74.16 335 P P 09 41 02.3 +0.3
baz=107,SNR=5.0
PAX **Paxson** 74.21 334 P P 09 41 03.2 +0.8
baz=106
M24K **Tolsona, Glenn** 74.29 333 P P 09 41 03.2 +0.4
baz=105
DBG **Daneborg** 74.58 14 *e*P P 09 41 04.6 +0.4
DBG IAmb IAmb 09 41 13.8
comp=Z,9.5nm,1.1s
J25K **Salcha River,** 74.63 335 P P 09 41 05.1 +0.4
baz=106
SJPF **Ste Jean** 74.63 47 *e*P P 09 41 06.2 +1.1
SJPF pmax pmax
comp=Z,59nm,1.2s
SCM **Sheep Creek Mo** 74.75 332 P P 09 41 05.4 -0.1
baz=104
EKA **Eskdalemuir Ar** 74.91 35 LR LR 10 12 00.0
comp=Z,171nm,18.1s,baz=348,slow=34
EKA **Eskdalemuir Ar** 74.91 35 P P 09 41 06.8 +0.4
ETSF **Etsaut** 75.10 48 *e*P P 09 41 08.9 +1.0
ETSF pmax pmax
comp=Z,13nm,1.2s
WAT6 **Susitna Watana** 75.12 333 P P 09 41 08.0 +0.3
baz=104
KNK **Knik Glacier** 75.18 332 P P 09 41 07.6 -0.3
baz=103
SML **Sawmill** 75.21 332 P P 09 41 08.5 +0.4
baz=103
HDA **Harding Lake** 75.23 335 IAmb IAmb 09 41 30.8
comp=Z,14nm,1.0s
HDA **Harding Lake** 75.23 335 P P 09 41 07.8 -0.3
baz=105,SNR=7.5
ILAR **Eielson Array** 75.30 335 P P 09 41 08.0 -0.5
comp=Z,1.6nm,0.8s,baz=122,slow=4.7,SNR=15
ILAR PP PP 09 43 59.0 +1.8
comp=Z,2.4nm,1.0s,baz=106,slow=6.7,SNR=4.9
ILAR LR LR 10 16 36.7
comp=Z,218nm,21.0s,baz=172,slow=38
GRR **Gorron** 75.38 42 *e*P P 09 41 09.7 +0.4
GRR pmax pmax
comp=Z,60nm,1.4s
GHO **Glory Hole Cre** 75.48 332 IAmb IAmb 09 41 22.5
comp=Z,17nm,0.9s
WAT1 **Susitna Watana** 75.54 333 P P 09 41 08.7 -1.3
baz=103
FLN **La Foliniere** 75.67 42 *e*P P 09 41 11.5 +0.6
FLN pmax pmax
comp=Z,128nm,1.7s
MFF **Saint Martin d** 75.69 44 *e*P P 09 41 11.7 +0.6
MFF pmax pmax
comp=Z,57nm,1.3s
COLA **College** 75.72 335 *i* P P 09 41 08.1 -2.8
COLA pmax pmax
comp=Z,9.0nm,1.5s
EPF **Esparros** 75.77 47 *e*P P 09 41 12.7 +1.0
EPF pmax pmax
comp=Z,75nm,1.4s
LDF **La Druitiere** 75.89 42 *e*P P 09 41 12.6 +0.4
LDF pmax pmax
comp=Z,103nm,1.7s
MDM **Murphy Dome** 75.90 335 IAmb IAmb 09 41 21.4
comp=Z,38nm,1.8s
MCK **McKinley** 75.91 334 P P 09 41 12.6 +0.5
baz=103
H24K **Noodor Dome** 75.97 336 P P 09 41 12.5 +0.1
baz=104
PPT **Papeete** 75.98 250 LR LR 10 06 51.6
comp=Z,169nm,20.6s,baz=97,slow=30
PPT2 **Papeete2** 75.98 250 *e*LQ LQ 10 01 32.4
PPT2 *e*LR LR 10 04 44.8
comp=Z,878nm,26.0s
NEA2 **Nenana** 76.17 335 P P 09 41 13.0 -0.5
baz=103
DAG **Danmarks Havn** 76.17 12 *i* P P 09 41 12.0 -1.2
DAG IAmb IAmb 09 41 21.1
comp=Z,15nm,1.0s
LFF **La Frestale** 76.19 46 *e*P P 09 41 14.3 +0.3
LFF pmax pmax
comp=Z,14nm,0.9s
BWN **Browne** 76.24 334 IAmb IAmb 09 41 22.4
comp=Z,24nm,1.1s
CAPN **Captain Cook N** 76.33 331 P P 09 41 13.2 -1.3
baz=100
JMIC **Jan Mayen** 76.38 18 LR LR 10 11 49.2
comp=Z,239nm,21.9s,baz=256,slow=33
HOM **Homer** 76.39 330 P P 09 41 14.1 -0.6
baz=100
I23K **Minto, Yukon-K** 76.41 335 IAmb IAmb 09 41 34.3
comp=Z,24nm,1.6s
I23K **Minto, Yukon-K** 76.41 335 P P 09 41 14.2 -0.6
baz=103
TRF **Thorofare Moun** 76.44 334 P P 09 41 14.7 -0.6
baz=102
KDAK **Kodiak Island** 76.58 328 LR LR 10 17 20.8
comp=Z,194nm,20.1s,baz=113,slow=38
KDAK **Kodiak Island** 76.58 328 P P 09 41 15.6 -0.3
baz=98
H23K **Yukon River** 76.64 336 P P 09 41 15.9 -0.2
baz=103
RJF **Les Rejaudoux** 76.76 45 *e*P P 09 41 17.6 +0.4
RJF pmax pmax
comp=Z,27nm,1.2s
BPAW **Bear Paw Mtn.** 76.88 334 IAmb IAmb 09 41 31.5
comp=Z,13nm,1.0s
BPAW **Bear Paw Mtn.** 76.88 334 P P 09 41 17.1 -0.5
baz=101
CAF **Calviac** 77.12 46 *e*P P 09 41 19.8 +0.5
CAF pmax pmax
comp=Z,39nm,1.2s
MTLF **Montolieu** 77.16 47 *e*P P 09 41 20.0 +0.5
MTLF pmax pmax
comp=Z,66nm,1.4s
TOA0 **Torodi Ar. Sit** 77.17 78 IAmb IAmb 09 41 30.8
comp=Z,9.8nm,0.9s
TORD **Torodi Ar. Bea** 77.17 78 P P 09 41 19.7 -0.4
comp=Z,4.5nm,0.8s,baz=266,slow=4.1,SNR=22
TORD LR LR 10 13 52.9
comp=Z,449nm,21.7s,baz=225,slow=34
PPLA **Purkeypile** 77.19 333 P P 09 41 19.3 -0.1
baz=100
COLD **Coldfoot** 77.20 337 P P 09 41 19.4 +0.1
baz=102,SNR=8.5
CAST **Castle Rocks** 77.23 333 P P 09 41 19.5 -0.1
baz=100
TOLK **Toolik Lake Re** 77.29 339 IAmb IAmb 09 42 40.3
comp=Z,18nm,1.6s
TOLK **Toolik Lake Re** 77.29 339 P P 09 41 19.4 -0.4
baz=103
TCF **Toulx Ste Croi** 77.30 44 *e*P P 09 41 20.4 +0.1
TCF pmax pmax
comp=Z,29nm,1.4s
CHUM **Lake Minchumin** 77.41 334 P P 09 41 20.1 -0.4
baz=100
I21K **Tanana** 77.50 335 P P 09 41 20.7 -0.2
baz=100
BGF **Bois d'Agland** 77.75 44 *e*P P 09 41 23.0 +0.2
BGF pmax pmax
comp=Z,65nm,1.5s
O19K **Port Alsworth** 77.80 330 P P 09 41 22.6 -0.1
baz=97
L20K **Farewell, AK** 77.89 332 P P 09 41 22.8 -0.5
baz=98
H21K **Melozitna Rive** 77.92 336 P P 09 41 23.1 -0.2
baz=100
M19K **Big River Lodg** 78.05 332 P P 09 41 24.0 -0.1
baz=98
K20K **Telida** 78.11 333 P P 09 41 23.7 -0.7
baz=98
SSF **Saint Saulge** 78.23 43 *e*P P 09 41 25.3 -0.1
SSF pmax pmax
comp=Z,67nm,1.7s
J20K **Nowinta River** 78.26 334 P P 09 41 23.8 -1.4
J20K **Nowinta River** 78.26 334 P P 09 41 24.6 -0.6
baz=98,SNR=7.4
L19K **White Mountain** 78.31 332 P P 09 41 24.8 -0.8
baz=97
IMAR **Indian Mountai** 78.36 336 P P 09 41 25.4 -0.3
LOR **Lormes** 78.47 43 *e*P P 09 41 26.7 -0.1
LOR pmax pmax
comp=Z,45nm,1.5s
N18K **Kilae Creek** 78.63 330 P P 09 41 27.0 -0.3
baz=96
NOR **Nord** 78.87 7 *e*P P 09 41 28.5 +0.2
NOR IAmb IAmb 09 41 37.5
comp=Z,14nm,1.0s
TTA **Tatalina** 78.93 333 P P 09 41 28.6 -0.4
baz=96
VIVF **Saint-Julien-l** 78.97 46 *e*P P 09 41 30.7 +1.1
VIVF pmax pmax
comp=Z,88nm,1.7s
DOU **Dourbes** 79.07 40 *d*P P 09 41 30.7 +0.7
comp=Z,9.5nm,1.0s
DOU *d*x x 09 41 36.4
BMRD **Maredsous** 79.19 40 *b*P P 09 41 31.5 +1.0
comp=Z,9.0nm,1.0s
BMRD *d*x x 09 41 37.6
GIVF **Givet** 79.22 40 *e*P P 09 41 31.2 +0.4
GIVF pmax pmax
comp=Z,60nm,1.4s
BGES **Gesves** 79.39 40 *b*P P 09 41 32.8 +1.1
BGES *d*x x 09 41 38.6
RCHB **Rochefort** 79.48 40 *d*P P 09 41 32.8 +0.6
comp=Z,9.9nm,1.0s
RCHB *d*x x 09 41 38.1
GCSA **Galena City Sc** 79.50 335 P P 09 41 32.4 +0.4
baz=96
BCLA **Clavier** 79.53 40 *b*P P 09 41 33.5 +1.0
BSTI **Sart Tilman** 79.71 40 *d*P P 09 41 34.6 +1.2
BHOU **Houvegnez** 79.98 40 *b*P P 09 41 35.4 +0.4
BHOU *d*x x 09 41 41.3
WLF **Walferdange** 80.06 41 *d*P P 09 41 36.6 +1.2
comp=Z,25nm,0.9s
WLF *d*x x 09 41 42.8
HAU **Haudompre** 80.17 43 *e*P P 09 41 34.7 -1.4
HAU pmax pmax
comp=Z,9.0nm,0.9s
LPG **La Plagne** 80.45 45 *e*P P 09 41 38.9 +1.0
LPG pmax pmax
comp=Z,28nm,1.2s
HINF **Hinteralfeld** 80.51 43 *e*P P 09 41 37.7 -0.2
HINF pmax pmax
comp=Z,19nm,1.1s
CDF **Champ du Feu** 80.80 42 *e*P P 09 41 39.6 +0.1
CDF pmax pmax
comp=Z,48nm,1.5s
KONO **Kongsberg** 82.12 31 *ce*P P 09 41 44.5 -1.6
KONO pmax pmax
comp=Z,17nm,2.5s
FALS **False Pass** 82.43 324 P P 09 41 48.2 +0.4
baz=89
VSL **Villasalto** 82.56 51 P P 09 41 49.2 +0.3
DAVA **Damuels** 82.57 43 *i* P P 09 41 49.9 +0.9
comp=Z,23nm,1.0s,SNR=7.1
DAVOX **Davos/Dischmat** 82.59 44 LR LR 10 14 12.9
comp=Z,149nm,21.7s,baz=262,slow=32
KEST **Kesra** 82.74 55 P P 09 41 50.8 +0.8
comp=Z,5.8nm,0.8s,baz=45,slow=2.1,SNR=3.8
KEST **Kesra** 82.74 55 P P 09 41 50.8 +0.8
KEST **pP** 09 41 56.6 -0.2
KEST IAmb IAmb 09 42 04.6
comp=Z,24nm,1.4s
NB2 **NORSAR Subarra** 82.90 29 P P 09 41 51.0 +0.8
comp=Z,10nm,1.7s,baz=272,slow=5.3
NB2 **NORSAR Subarra** 82.90 29 P P 09 41 51.0 +0.8
baz=272,slow=5.3
NOA **NORSAR Array B** 82.90 29 P P 09 41 50.9 +0.8
comp=Z,4.9nm,0.8s,baz=276,slow=5.0,SNR=24
NOA LR LR 10 15 03.6
comp=Z,157nm,21.8s,baz=280,slow=33
NB201 **NORSAR Array S** 82.94 29 P P 09 41 51.7 +1.3
NC303 **NORSAR Array S** 82.97 29 IAmb IAmb 09 41 58.8
comp=Z,25nm,1.4s
NORES **NORESS Array B** 83.07 30 P P 09 41 51.2 +0.2
NORES pmax pmax
comp=Z,2.0nm,0.9s
ANM **Nome** 83.15 334 P P 09 41 52.3 +0.9
baz=88
RETA **Reutte** 83.16 43 *e*P P 09 41 52.9 +0.9
comp=Z,9.2nm,1.1s
FETA **Feichten** 83.16 44 *i* P P 09 41 53.0 +1.0
comp=Z,16nm,1.0s,SNR=7.0
MOTA **Moosalm** 83.40 43 *e*P P 09 41 53.7 +0.5
comp=Z,13nm,1.1s
SQTA **Sankt Quirin** 83.48 43 *e*P P 09 41 54.4 +0.7
comp=Z,5.2nm,0.7s
CASP **Castiglione de** 83.50 48 P P 09 41 53.0 -0.7
WATA **Walderalm** 83.72 43 *e*P P 09 41 56.0 +1.1
comp=Z,6.7nm,1.0s
WTTA **Wattenberg** 83.77 43 *e*P P 09 41 55.5 +0.3
comp=Z,18nm,1.7s
SPITS **Spitsbergen Ar** 83.81 12 LR LR 10 18 11.0
comp=Z,384nm,21.0s,baz=42,slow=35
NKC **Novy Kostel** 84.11 40 AMS AMS 10 11 50.0
comp=Z,500nm,21.9s
HFS **Hagfors** 84.17 30 LR LR 10 17 58.2
comp=Z,165nm,18.1s,baz=275,slow=34
TNA **Tin City** 84.18 335 P P 09 41 57.5 +0.9
baz=86
CLL **Collm** 84.39 39 ǁ *i*P P 09 41 58.9 +0.9
CLL *i* *PP **pP** 09 42 04.4 -0.4
CLL *e*S S 09 52 26.0 +2.9
CLL pmax pmax
comp=Z,15nm,1.1s
CLL **Collm** 84.39 39 P P 09 41 58.6 +0.6
CLL **Collm** 84.39 39 ǁ *i*P P 09 41 58.9 +0.9
comp=Z,15nm,1.1s
CLL *i* pP **pP** 09 42 04.4 -0.4
comp=Z,32nm,1.4s
CLL *e*S **S** 09 52 26.0 +2.9
CLL *e*PS **PnS** 09 53 18.0 0.0
CLL *e*SS SS 09 58 12.0 +19
CLL *e*x x 10 00 36.0
ABTA **Abfaltersbach** 84.40 44 *e*P P 09 41 59.1 +0.8
comp=Z,13nm,1.0s
KHC **Kasperske Hory** 84.93 41 *c* *i*P P 09 42 00.9 +0.1
KHC pmax pmax
comp=Z,34nm,1.1s
KHC **Kasperske Hory** 84.93 41 *e*P P 09 42 02.2 +1.4
KHC *e*pP **pP** 09 42 07.5 -0.2
KHC AMS AMS 10 12 20.0
comp=Z,500nm,24.5s
KBA **Koelnbreinsper** 84.94 43 *i* P P 09 42 01.8 +0.6
comp=Z,15nm,1.3s,SNR=7.1
BRG **Berggiesshubel** 85.02 39 *e*P P 09 42 02.0 +0.8
BRG Amp 09 42 03.3
comp=Z,9.4nm,0.8s
BRG *e*x x 09 42 07.2
BRG Amp 09 42 10.4
comp=Z,26nm,1.5s
BRG **Berggiesshubel** 85.02 39 *e*P P 09 42 02.0 +0.8
BRG *e* 09 42 07.1
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,26nm,1.5s
GERES **GERESS Array B** 85.03 42 P P 09 42 02.1 +0.6
comp=Z,6.9nm,0.9s,baz=255,slow=5.2,SNR=30
GERES LR LR 10 20 01.2
comp=Z,135nm,18.3s,baz=276,slow=36
BIOA **Bad Ischl, Aus** 85.09 43 *e*P P 09 42 02.5 +0.8
comp=Z,39nm,1.4s
NRCA **Norcia** 85.14 48 IAmb IAmb 09 42 10.1
comp=Z,19nm,1.3s
MYKA **Terra Mystica** 85.19 44 *e*P P 09 42 02.8 +0.6
comp=Z,8.0nm,0.7s
CADS **Cadrg** 85.29 44 *i* P P 09 42 03.3 +0.6
CKRC **Cesky Krumlov** 85.44 42 AMS AMS 10 12 30.0
comp=Z,500nm,22.4s
PVCC **Panska Ves** 85.44 40 AMS AMS 10 13 00.0
comp=Z,500nm,27.1s
PRU **Pruhonice** 85.48 40 *e*P P 09 42 05.3 +1.8
PRU *e**PP **sP** 09 42 12.6 -0.2
PRU MLR MLR
comp=Z,600nm,22.5s
PRU **Pruhonice** 85.48 40 *e*P P 09 42 05.3 +1.8
PRU *e*pP **sP** 09 42 12.6 -0.2
PRU AMS AMS 10 13 10.0
comp=Z,600nm,22.5s
MOA **Molln** 85.50 42 *e*P P 09 42 03.9 +0.2
comp=Z,6.5nm,0.4s
SKDS **Skadanscina** 85.54 45 *i* P P 09 42 04.5 +0.5
OBKA **Obir** 85.82 44 *e*P P 09 42 06.0 +0.6
comp=Z,18nm,1.2s
VIKU **Vikbolandet** 85.85 32 *e*P P 09 42 05.6 +0.5
GAMB **Gambell** 85.97 334 P P 09 42 06.3 +0.6
baz=82
RAR **Rarotonga** 86.10 248 LR LR 10 12 18.4
comp=Z,214nm,18.7s,baz=130,slow=30
SOKA **Soboth** 86.14 44 *e*P P 09 42 07.1 +0.2
comp=Z,4.7nm,0.8s
UPP **Uppsala** 86.16 30 *e*P P 09 42 06.9 +0.2
TREC **Trest** 86.16 41 AMS AMS 10 13 40.0
comp=Z,600nm,25.0s
UPC **Upice** 86.36 40 *e*P P 09 42 09.6 +1.7
UPC MLR MLR
comp=Z,600nm,23.2s
UPC **Upice** 86.36 40 *e*P P 09 42 09.6 +1.7
UPC AMS AMS 10 14 00.0
comp=Z,600nm,23.2s
CHVC **Chvalec** 86.38 40 *e*P P 09 42 09.6 +1.6
CHVC *e*pP **pP** 09 42 14.8 -0.1
CHVC AMS AMS 10 14 50.0
comp=Z,600nm,6.9s
ARSA **Arzberg** 86.41 43 *e*P P 09 42 09.0 +0.8
comp=Z,12nm,1.0s
OSTC **Ostas** 86.48 40 *e*P P 09 42 10.3 +1.8
OSTC *e*pP **pP** 09 42 15.4 0.0
OSTC AMS AMS 10 14 00.0
comp=Z,500nm,23.1s
CONA **Conrad Observa** 86.56 42 *i* P P 09 42 10.0 +1.0
comp=Z,10.0nm,0.8s,SNR=6.7
DPC **Dobruska-Polom** 86.58 40 *e*P P 09 42 10.8 +1.8
DPC *e**PP **pP** 09 42 15.7 -0.2
DPC **Dobruska-Polom** 86.58 40 *e*P P 09 42 10.8 +1.8
DPC *e*pP **pP** 09 42 15.7 -0.2
DPC AMS AMS 10 14 00.0
comp=Z,600nm,28.5s
KRUC **Moravsky** 86.78 41 *e*P P 09 42 10.9 +0.9
KRUC *e* 09 42 15.8
RONA **Rosalia, Austr** 86.88 42 *e*P P 09 42 11.5 +1.0
comp=Z,8.2nm,0.8s
VRAC **Vranov** 86.88 41 LR LR 10 17 10.5
comp=Z,182nm,21.1s,baz=268,slow=33
VRAC **Vranov** 86.88 41 *e*P P 09 42 11.6 +1.1
VRAC *e* 09 42 16.5
KRLC **Kraliky** 86.90 40 *e*P P 09 42 12.2 +1.6
KRLC *e**PP **pP** 09 42 17.7 +0.2
KRLC MLR MLR
comp=Z,400nm,27.0s
KRLC **Kraliky** 86.90 40 *e*P P 09 42 12.2 +1.6
KRLC *e*pP **pP** 09 42 17.7 +0.2
KRLC AMS AMS 10 13 40.0
comp=Z,400nm,27.0s
SOP **Sopron** 87.05 42 P P 09 42 13.9 +2.5
AAL **Aland** 87.29 30 *e*P P 09 42 12.1 -0.1
ZST **Bratislava** 87.35 42 *e*P P 09 42 14.2 +1.4
ZST pmax pmax
comp=Z,122nm,1.7s
ZST **Bratislava** 87.35 42 *e*P P 09 42 14.2 +1.4
MORC **Moravsky Berou** 87.43 40 *e*P P 09 42 14.2 +1.0
MODS **Modra-Piesok** 87.44 42 *e*P P 09 42 14.9 +1.7
MODS pmax pmax
comp=Z,57nm,1.4s
MODS **Modra-Piesok** 87.44 42 *e*P P 09 42 14.9 +1.7
MODS *e* 10 17 16.7
ARCES **ARCESS Array B** 87.72 20 P P 09 42 14.8 +0.7
comp=Z,10nm,0.8s,baz=280,slow=3.7,SNR=20
ARCES LR LR 10 18 45.1
comp=Z,124nm,19.9s,baz=277,slow=34
ARCES **ARCESS Array B** 87.72 20 P P 09 42 14.0 -0.1
ARCES pmax pmax
comp=Z,15nm,0.9s
ARCES **ARCESS Array B** 87.72 20 P P 09 42 14.0 -0.1
MPLH **Magyarpolny** 87.78 43 P P 09 42 16.0 +1.2
OKC **Ostrava-Krasne** 87.81 40 AMS AMS 10 14 40.0
comp=Z,700nm,23.9s
BELA **Belgrano 2** 87.87 172 P P 09 42 14.1 -0.5
RAF **Rauma** 88.00 29 *e*P P 09 42 15.8 +0.2
VYHS **Vyhne** 88.45 41 *e*P P 09 42 19.7 +1.7
VYHS pmax pmax
comp=Z,10.0nm,1.6s
VYHS **Vyhne** 88.45 41 *e*P P 09 42 19.7 +1.7
LANS **Liptovska Anna** 88.77 41 *e*P P 09 42 22.2 +2.7
LANS pmax pmax
comp=Z,12nm,1.2s
LANS **Liptovska Anna** 88.77 41 *e*P P 09 42 22.2 +2.7
SLIT **Slitere, Latvi** 88.92 32 *e*P P 09 42 19.8 -0.2
IZAB **Izabela** 89.02 41 *e*P P 09 42 22.7 +2.0
VNA3 **Neumayer Olymp** 89.40 163 P P 09 42 21.2 -0.7
MEF **Metsahovi** 89.44 29 *e*P P 09 42 22.5 +0.1
VNA1 **Neumayer--Stat** 89.59 162 P P 09 42 22.0 -0.7
FINES **FINESS Array B** 89.94 28 P P 09 42 25.1 +0.4
comp=Z,6.7nm,0.8s,baz=307,slow=2.8,SNR=18
FINES LR LR 10 19 46.7
comp=Z,188nm,20.4s,baz=292,slow=34
FIA1 **FINESS Array S** 89.94 28 IAmb IAmb 09 42 25.8
comp=Z,9.0nm,0.8s
DIVS **Divibare** 89.95 46 IAmb IAmb 09 42 35.7
comp=Z,13nm,1.1s
VNA2 **Neumayer--Watz** 89.96 162 P P 09 42 24.4 -0.1
baz=287,slow=5.0
CRVS **Cervenica-Dubn** 90.10 41 *e*P P 09 42 28.1 +2.3
CRVS pmax pmax
comp=Z,30nm,1.4s
CRVS **Cervenica-Dubn** 90.10 41 *e*P P 09 42 28.1 +2.3
SUW **Suwalki** 90.14 36 *e*P P 09 42 26.9 +1.1
PABE **Paberze** 90.27 34 *e*P P 09 42 26.9 +0.6
UZH **Uzhgorod** 90.69 41 *e*P P 09 42 27.5 -1.0
UZH *i* 09 42 36.0
SNAA **Sanae** 91.59 162 LR LR 10 24 16.3
comp=Z,280nm,20.9s,baz=329,slow=36
NACGM **Naroch** 91.98 34 *e*P P 09 42 28.0 -6.3
VALR **Valaam** 92.18 27 *i* P P 09 42 36.1 +1.0
VALR pmax pmax
comp=Z,19nm,1.1s
MNK **Minsk** 92.70 34 *i* P P 09 42 35.4 -2.2
MNK *i* 09 46 18.4
MNK *i* S **SKSac** 09 53 07.5 -2.8
MNK *i* SS **SS** 09 59 55.0 +1.4
MNK *i* SSS SSS 10 03 31.3
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,14nm,0.9s
MNK MLR MLR
comp=Z,182nm,23.0s
MNK MLR MLR
comp=N,234nm,16.0s
MNK MLR MLR
comp=E,70nm,23.0s
MNK **Minsk** 92.70 34 *i* P P 09 42 35.4 -2.2
comp=E,2.0nm,1.0s
MNK *i* P P 09 42 35.4 -2.2
comp=N,14nm,0.9s
MNK *i* P P 09 42 35.4 -2.2
comp=Z,17nm,0.9s,baz=286
MNK *i* PP **PP** 09 46 18.4 -0.9
MNK *i* PPP PPP 09 48 16.1
MNK *i* S **SKSac** 09 53 07.5 -2.8
MNK *i* SS **SS** 09 59 55.1 +1.4
MNK *i* SSS SSS 10 03 31.4
MNK *i* LQ LQ 10 18 29.1
MNK *i* LR LR 10 24 46.6
MNK *i* LRM MLR 10 27 00.2
comp=Z,182nm,22.9s
MNK *i* LRM MLR 10 27 19.3
comp=N,234nm,15.9s

MNK *i* LRM MLR 10 27 30.7
comp=E,70nm,22.9s
BUR08 Bucovina Ar. S 92.81 41 IAmb IAmb 09 42 46.4
comp=Z,7.2nm,1.3s
BILL Bilibino 93.28 340⇓ *eP* **P 09 42 39.4 -0.7**
BILL *e* 09 46 28.0
BILL pmax pmax
comp=Z,3.0nm,1.0s
TROLL Troll, Antarti 93.31 162 P **P 09 42 39.8 -0.4**
MLR Muntele Rosu 93.81 43 LR LR 10 20 47.4
comp=Z,171nm,21.5s,baz=286,slow=33
AKASG Malin Array Be 94.56 38 LR LR 10 25 59.7
comp=Z,215nm,18.9s,baz=250,slow=36
AKBB Malin Array Si 94.56 38 *ceP* **P 09 42 44.5 -1.8**
SHEM Shemya Is, Ala 95.87 325 LR LR 10 31 24.1
comp=Z,103nm,18.4s,baz=80,slow=39
KLMR Klimovskoe 96.25 26 *eP* **P 09 42 52.2 -1.6**
KLMR pmax pmax
comp=Z,21nm,1.3s
KLMR Klimovskoe 96.25 26 *eP* **P 09 42 52.2 -1.6**
KLMR AMP 09 43 02.4
comp=Z,21nm,1.3s
TSUM Tsumeb 96.30 109 LR LR 10 25 21.5
comp=Z,286nm,18.2s,baz=328,slow=35
TSUM Tsumeb 96.30 109 P **P 09 42 55.1 0.0**
AFI Afiamalu 96.57 257 LR LR 10 16 15.7
comp=Z,188nm,21.8s,baz=80,slow=29
QSPA South Pole Qui 97.02 180 P Pdif 09 42 57.4 +0.1
OBN Obninsk 97.23 32 LR LR 10 23 29.0
comp=Z,43nm,21.6s,baz=323,slow=33
OBN Obninsk 97.23 32 *eP* Pdif 09 42 58.6 +0.2
OBN pmax pmax
comp=Z,10.0nm,1.0s
SYO Syowa Base 105.76 160⇑ *eP* Pdiff **Pdif 09 43 37.0 +1.0**
ZALV Zalesovo Beam 117.30 12 PKP **PKPdf 09 48 10.2 -0.9**
comp=Z,1.0nm,0.6s,baz=318,slow=2.0,SNR=6.1
DZM Mont Dzumac 117.47 249 *e* LR LR 10 23 53.4
comp=Z,182nm,28.1s
MKAR Makanchi Array 123.26 17 PKP **PKPdf 09 48 21.9 -0.9**
comp=Z,0.9nm,0.8s,baz=352,slow=2.5,SNR=7.5
MKAR Makanchi Array 123.26 17 *c iP* KIKP **PKPdf 09 48 21.8 -1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
AAK Ala-Archa 124.05 25 *i* PKIKP **PKiKP 09 48 24.8 -0.1**
ULN Ulaanbaatar 125.26 357 *i* PKIKP **PKPdf 09 48 25.9 -0.8**
SONM Songino Array 125.32 357 PKP **PKPdf 09 48 26.7 -0.1**
SONM PP **PP 09 50 11.9 -3.8**
comp=Z,1.2nm,0.7s,baz=353,slow=0.9,SNR=7.3
comp=Z,0.5nm,0.4s,baz=347,slow=5.9,SNR=2.6
WMQ Urumqi 127.46 14 *eP* **PKiKP 09 48 32.8 +1.3**
WMQ LR LR
comp=E,350nm,20.3s
WMQ LR LR
comp=Z,170nm,19.9s
XLT XiLinHaoTe 128.02 348 *e* PKP **PKPdf 09 48 31.0 -1.1**
XLT PP PP 09 50 23.6 -10
XLT PKS **PKSdf 09 52 07.6 -1.1**
XLT SKS SKSdf 09 55 28.5 -14
XLT XiLinHaoTe 128.02 348 SS SS 10 07 23.4 -22
KSRS Korea Array 130.14 334 PKP **PKPdf 09 48 35.3 -0.8**
comp=Z,2.4nm,0.9s,baz=26,slow=1.3,SNR=8.6
KSAR Wonju Array Be 130.17 334 PKIKP **PKPdf 09 48 35.1 -1.1**
KSAR Wonju Array Be 130.17 334 PKPdf **PKPdf 09 48 35.0 -1.1**
HHC Hu-ho-hao-te 131.77 352 *eP* **PKPdf 09 48 38.0 -1.3**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,58nm,4.1s
HHC LR LR
comp=N,200nm,12.1s
HHC LR LR
comp=E,430nm,12.1s
HHC LR LR
comp=Z,540nm,14.0s
GTA Gaotai 133.70 4 *eP* **PKPdf 09 48 42.2 -0.8**
GTA sP pPKPdf 09 48 48.0 -2.0
GTA pmax pmax
comp=Z,3.0nm,0.6s
GOMU GeErMu 136.28 10 PKP PKPdf 09 48 37.8 -10
GOMU GeErMu 136.28 10 SS SS 10 09 18.0 -8.6
GOMU AMB AMB
comp=Z,62nm,4.8s
GOMU LR LR
comp=N,85nm,18.4s
GOMU LR LR
comp=E,220nm,18.0s
GOMU LR LR
comp=Z,140nm,18.6s
CTA Charters Tower 136.41 248 PKP **PKPdf 09 48 49.0 +0.6**
comp=Z,1.3nm,0.3s,baz=90,slow=2.0,SNR=2.9
CTA Charters Tower 136.41 248 PKIKP **PKPdf 09 48 49.0 +0.6**
STKA Stephens Creek 136.60 230 PKP **PKPdf 09 48 47.9 -0.5**
comp=Z,4.5nm,0.9s,baz=122,slow=1.6,SNR=6.9
NJ2 Nanjing 138.41 340 *eP* **PKPdf 09 48 52.4 +0.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
XAN Xi'an 138.82 353 sPKP 09 48 51.3
HYBB Hyderabad (bro 145.54 45 *e* PKPbc **PKPdf 09 49 03.9 -1.0**
HYBB *e* PKiKP **PKiKP 09 49 08.8 -0.1**
AS31 Alice Springs 146.28 237 PKPdf **PKPdf 09 49 05.5 -0.5**
ASAR Alice Springs 146.29 237 PKPbc **PKPdf 09 49 05.5 -0.5**
comp=Z,7.1nm,0.7s,baz=122,slow=3.9,SNR=43
ASAR Alice Springs 146.29 237 PKIKP **PKPdf 09 49 05.0 -1.0**
ASAR Alice Springs 146.29 237 PKPdf **PKPdf 09 49 05.0 -1.0**
GYA Guiyang 146.57 355 ⇓P **PKPab 09 49 09.3 +0.4**
GYA pmax pmax
comp=Z,21nm,0.8s
PZH PanZhiHua 146.65 3 PKPbc **PKPdf 09 49 06.4 -0.3**
PZH pPKP **pPKPdf 09 49 13.2 -0.5**
PZH PP **PP 09 52 34.8 +5.0**
PZH AMB AMB
comp=Z,50nm,7.5s
PZH LR LR
comp=N,350nm,18.0s
PZH LR LR
comp=E,280nm,19.8s
PZH LR LR
comp=Z,500nm,23.1s
WRAB Tennant Creek 147.27 244 *i* PKIKP **PKPdf 09 49 06.1 -1.6**
WRA Warramunga Arr 147.28 244 PKPbc **PKPdf 09 49 06.8 -0.9**
comp=Z,2.7nm,0.6s,baz=99,slow=1.1,SNR=28
WRA Warramunga Arr 147.28 244 PKIKP **PKPdf 09 49 07.3 -0.5**
WRA Warramunga Arr 147.28 244 **PKPdf 09 49 07.3 -0.5**
WB0 Warramunga Arr 147.28 244 PKPdf **PKPdf 09 49 06.9 -0.9**
PCHI Peechi 148.00 57⇑ *eP* **PKPbc 09 49 11.8 -0.3**
PCHI *ex* x 10 04 57.1
KMI Kunming 148.05 1 ⇑⇑PKPbc **PKPdf 09 49 10.7 +1.5**
KMI pPKP PKPab 09 49 14.6 -0.3
KMI sPKP 09 49 18.0
KMI LR LR
comp=N,260nm,15.7s
KMI LR LR
comp=E,200nm,18.1s
KMI LR LR
comp=Z,300nm,33.8s
MTN Manton Dam 152.00 256 **PKPbc 09 49 20.4 -1.5**
CMAR Chiang Mai Arr 154.32 10 PKP **PKPdf 09 49 18.8 +0.1**
comp=Z,0.7nm,0.4s,baz=302,slow=2.2,SNR=7.2
CMAR PKPbc **PKPbc 09 49 26.6 -0.4**
comp=Z,3.5nm,0.9s,baz=314,slow=2.7,SNR=14
FITZ Fitzroy Crossi 155.61 241 PKP **PKPdf 09 49 19.6 -0.7**
comp=Z,4.1nm,1.0s,baz=180,slow=2.0,SNR=3.9
FITZ PKPbc **pPKPdf 09 49 27.4 0.0**
comp=Z,3.5nm,0.8s,baz=174,slow=4.5,SNR=5.2
PSI Prapat 169.31 24 PKPab **PKPab 09 50 46.0 -0.3**
comp=Z,14nm,1.0s,baz=127,slow=20,SNR=6.9
PSI Prapat 169.31 24 PKP2 **PKPab 09 50 46.0 -0.3**
RPSI Rantau Prapat 169.41 25 **PKPab 09 50 46.0 -0.6**

IDC ***11*** *09:38:13.5±1.9, 18°.58N×145°.66E, h200km±19km, mb3.5/19, mb1 3.7/20, mb1mx3.5/51, mbtmp4.0/20, Error ellipse: s-maj=19.0km s-min=9.5km az=92.0*
NEIC ***11*** *09:38:15.5±1.2, 18°.60N±0°.09×145°.70E±0°.08, h211km±6km, mb4.5/31, Error ellipse: s-maj=13.9km s-min=10.9km az=153.0*
ISC 11 09:38:13.5±0.5, 18°.64N±0°.05×145°.7E±0°.1, h200km, n58, σ1§18/59, mb4.3/36, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.08**	**189**	P	**Pn**	**09 39 30.2**	**+1.2**
	7.3nm,0.3s,baz=41,slow=22,SNR=1.6						
GUMO				S	**Sn**	**09 40 26.9**	**-1.7**
	21nm,0.3s,baz=333,slow=22,SNR=2.1						
GUMO	**Guam**	**5.08**	**189**	Pn	**Pn**	**09 39 29.2**	**+0.2**
JCJ	**Chichijima**	**9.00**	**340**	S	**Sn**	**09 41 56.4**	**-4.3**
	5.4nm,0.3s,baz=260,slow=16,SNR=2.0						
KSRS	**Korea Array**	**24.34**	**324**	P	**P**	**09 43 13.3**	**+0.3**
	0.8nm,0.7s,baz=146,slow=9.2,SNR=2.5						
ASAJ	**Asahikawa**	**25.53**	**355**	P	**P**	**09 43 25.8**	**+2.1**
	4.2nm,0.8s,baz=135,slow=8.6,SNR=1.7						
MYLDM	**Lahad Datu**	**29.69**	**247**	P	**P**	**09 44 03.5**	**+2.5**
MYLDM				IAmb	IAmb	09 44 44.8	
	comp=Z,18nm,1.2s						
COEN	**Coen**	**32.48**	**184**	P	**P**	**09 44 25.4**	**-0.1**
COEN				IAmb	IAmb	09 44 27.0	
	comp=Z,7.3nm,0.7s						
KLR	**Kul'dur**	**32.51**	**343**	P	**P**	**09 44 25.2**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=162,slow=8.6,SNR=5.2						
MTN	**Manton Dam**	**34.41**	**206**	P	**P**	**09 44 42.1**	**0.0**
MTN				IAmb	IAmb	09 44 42.3	
	comp=Z,10nm,0.5s						
SBUM	**Sibu**	**36.49**	**248**	P	**P**	**09 45 00.6**	**+0.8**
SBUM				IAmb	IAmb	09 45 01.6	
	comp=Z,7.6nm,0.5s						
KNRA	**Kununurra**	**37.94**	**207**	P	**P**	**09 45 12.0**	**0.0**
KNRA				IAmb	IAmb	09 45 13.0	
	comp=Z,26nm,1.5s						
CTA	**Charters Tower**	**38.49**	**179**	P	**P**	**09 45 15.1**	**-1.5**
	comp=Z,2.5nm,0.6s,baz=356,slow=6.2,SNR=2.6						
CTAO	**Charters Tower**	**38.49**	**179**	P	**P**	**09 45 16.5**	**-0.1**
WB0	**Warramunga Arr**	**39.74**	**197**	P	**P**	**09 45 27.2**	**+0.3**
WB0				IAmb	IAmb	09 45 28.0	
	comp=Z,8.5nm,0.5s						
WR0	**Warramunga Arr**	**39.88**	**196**	P	**P**	**09 45 27.8**	**-0.2**
WRAB	**Tennant Creek**	**39.91**	**197**	P	**P**	**09 45 28.5**	**+0.3**
WRAB				IAmb	IAmb	09 47 04.1	
	comp=Z,12nm,0.7s						
WB2	**Warramunga Arr**	**39.92**	**197**	P	**P**	**09 45 28.2**	**-0.1**
WB2				IAmb	IAmb	09 45 29.0	
	comp=Z,7.3nm,0.5s						
WRA	**Warramunga Arr**	**39.92**	**197**	P	**P**	**09 45 28.1**	**-0.3**
	comp=Z,4.7nm,0.3s,baz=18,slow=8.6,SNR=93						
WRA				PcP	**PcP**	**09 47 29.2**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=18,slow=3.6,SNR=5.3						
WRA	**Warramunga Arr**	**39.92**	**197**	P	**P**	**09 45 27.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**41.47**	**209**	P	**P**	**09 45 40.8**	**-0.3**
	comp=Z,2.9nm,0.3s,baz=39,slow=11,SNR=35						
FITZ	**Fitzroy Crossi**	**41.47**	**209**	IAmb	IAmb	09 45 42.7	
	comp=Z,3.6nm,0.8s						
SONM	**Songino Array**	**43.16**	**321**	P	**P**	**09 45 54.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=144,slow=9.4,SNR=2.8						
UGM	**Wanagama**	**43.56**	**236**	P	**P**	**09 45 57.7**	**-0.3**
AS31	**Alice Springs**	**43.59**	**196**	P	**P**	**09 45 58.0**	**-0.1**
ASAR	**Alice Springs**	**43.59**	**196**	P	**P**	**09 45 57.8**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=15,slow=6.3,SNR=31						
ASAR				PcP	**PcP**	**09 47 41.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=24,slow=4.7,SNR=4.7						
CMAR	**Chiang Mai Arr**	**44.19**	**278**	P	**P**	**09 46 04.4**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=67,slow=6.9,SNR=1.3						
PSA00	**Pilbara Seismi**	**47.28**	**213**	P	**P**	**09 46 27.1**	**+0.1**
STKA	**Stephens Creek**	**50.38**	**184**	P	**P**	**09 46 48.6**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=348,slow=6.1,SNR=10.0						
FORT	**Forrest**	**51.97**	**199**	P	**P**	**09 47 02.3**	**+0.1**
BBOO	**Buckleboo**	**51.98**	**190**	P	**P**	**09 47 02.3**	**0.0**
MORW	**Morawa**	**55.39**	**212**	P	**P**	**09 47 27.1**	**0.0**
MORW				IAmb	IAmb	09 47 51.9	
	comp=Z,25nm,1.4s						
ZALV	**Zalesovo Beam**	**58.04**	**323**	P	**P**	**09 47 44.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=108,slow=7.8,SNR=2.5						
MKAR	**Makanchi Array**	**58.48**	**314**	P	**P**	**09 47 49.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=92,slow=9.0,SNR=7.1						
CAST	**Castle Rocks**	**61.16**	**27**	P	**P**	**09 48 07.8**	**+1.2**
CAST				IAmb	IAmb	09 48 40.9	
	comp=Z,15nm,1.8s						
IMAR	**Indian Mountai**	**61.28**	**24**	P	**P**	**09 48 08.7**	**+1.3**
NRIK	**Norilsk**	**61.65**	**340**	P	**P**	**09 48 09.7**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=108,slow=3.2,SNR=1.9						
BPAW	**Bear Paw Mtn.**	**61.82**	**26**	P	**P**	**09 48 12.4**	**+1.4**
BPAW				IAmb	IAmb	09 49 03.7	
	comp=Z,8.9nm,1.5s						
PMR	**Palmer**	**62.02**	**29**	P	**P**	**09 48 11.1**	**-1.2**
I23K	**Minto, Yukon-K**	**62.78**	**26**	P	**P**	**09 48 18.6**	**+1.3**
I23K				IAmb	IAmb	09 48 38.1	
	comp=Z,22nm,2.0s						
MDM	**Murphy Dome**	**63.20**	**26**	P	**P**	**09 48 21.1**	**+1.0**
MDM				IAmb	IAmb	09 50 36.5	
	comp=Z,18nm,2.0s						
H24K	**Noodor Dome**	**63.55**	**25**	P	**P**	**09 48 23.7**	**+1.3**
H24K				IAmb	IAmb	09 49 41.9	
	comp=Z,16nm,1.7s						
TOLK	**Toolik Lake Re**	**63.66**	**22**	P	**P**	**09 48 24.5**	**+1.4**
TOLK				IAmb	IAmb	09 48 45.9	
	comp=Z,20nm,1.9s						
ILAR	**Eielson Array**	**63.71**	**26**	P	**P**	**09 48 23.1**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=239,slow=6.3,SNR=6.7						
BKZ	**Black Stump Fm**	**64.34**	**154**	P	**P**	**09 48 27.1**	**-0.8**
BMAR	**Burnt Mountain**	**65.18**	**24**	P	**P**	**09 48 35.1**	**+2.1**
BCAR	**Beaver Creek A**	**65.65**	**28**	P	**P**	**09 48 37.3**	**+1.2**
KHZ	**Kahutara**	**65.97**	**158**	P	**P**	**09 48 36.3**	**-2.0**
KKAR	**Karatay Array**	**66.78**	**310**	P	**P**	**09 48 44.5**	**+0.9**
INK	**Inuvik**	**69.44**	**23**	P	**P**	**09 49 00.5**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=246,slow=7.1,SNR=5.6						
INK	**Inuvik**	**69.44**	**23**	IAmb	IAmb	09 49 25.8	
	comp=Z,12nm,1.8s						
ABKAR	**Akbulak array**	**73.36**	**317**	P	**P**	**09 49 21.9**	**-1.5**
EUNU	**Eureka**	**77.79**	**8**	P	**P**	**09 49 48.8**	**+0.7**
EUNU				IAmb	IAmb	09 51 29.0	
	comp=Z,13nm,1.6s						
YKA	**Yellowknife Ar**	**78.06**	**28**	P	**P**	**09 49 50.1**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=286,slow=5.5,SNR=10						
ARCES	**ARCESS Array B**	**82.54**	**342**	P	**P**	**09 50 13.3**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=75,slow=6.9,SNR=7.2						
NVAR	**Mina Array Bea**	**83.20**	**52**	P	**P**	**09 50 19.0**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=276,slow=4.7,SNR=7.0						
FINES	**FINESS Array B**	**86.92**	**335**	P	**P**	**09 50 33.5**	**-2.1**
	comp=Z,0.8nm,0.4s,baz=72,slow=3.8,SNR=8.8						
PDAR	**Pinedale Array**	**87.89**	**45**	P	**P**	**09 50 40.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=75,slow=1.7,SNR=4.1						
LPAZ	**La Paz**	**147.71**	**91**	PKPbc	**PKPbc**	**09 57 36.6**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=22,slow=9.1,SNR=6.0						

IDC ***11*** *09:51:13.2±0.6, 15°.90N×96°.20W, h0km, mb4.2/23, mb1 4.4/24, mb1mx4.3/43, mbtmp4.2/24, ML3.9/1, MS4.0/12, Ms1 4.0/12, ms1mx3.6/70, Error ellipse: s-maj=19.5km s-min=11.3km az=58.0*
NEIC ***11*** *09:51:17.2±3.0, 15°.84N±0°.07×96°.40W±0°.04, h23km±5km, mb4.7/276, Md5.0/24(MEX), Error ellipse: s-maj=9.9km s-min=5.8km az=193.0*
MEX ***11*** *09:51:17.6±1.0, 15°.76N×96°.37W, h36km±14km, MD4.8*
ISC 11 09:51:16.8±0.8, 15°.84N±0°.04×96°.38W±0°.02, h28km±6km, n440, σ1§37/369, mb4.7/115, MS3.9/12, 5C-1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.27**	**104**		**Pb**	**09 51 23.4**	**-0.3**
HUIG					**Sb**	**09 51 28.4**	**0.0**
HUIG	**Huatulco**	**0.27**	**104**⇑	*eP*	**Pb**	**09 51 23.4**	**-0.3**
HUIG				*i* S	**Sb**	**09 51 28.4**	**0.0**
PEIG	**Puerto Escondi**	**0.75**	**282**⇑	*eP*	**Pb**	**09 51 30.1**	**-1.4**
PEIG				*i* S	**Sb**	**09 51 40.0**	**-1.4**
OXLC	**Oaxaca**	**1.26**	**346**	*i* P	**Pn**	**09 51 38.4**	**-0.3**
OXLC				*e* S	**Sn**	**09 51 54.4**	**-0.5**
OXBJ	**Oaxaca**	**1.27**	**345**	*i* P	**Pn**	**09 51 38.5**	**-0.4**
OXBJ				*e* S	**Sn**	**09 51 54.2**	**-0.8**
VHO	**Vista Hermosa**	**1.27**	**345**	*i* P	**Pn**	**09 51 38.5**	**-0.5**
VHO				*e* S	**Sn**	**09 51 54.5**	**-0.7**
YOIG	**Yosondua**	**1.51**	**312**	*eP*	**Pn**	**09 51 42.0**	**-0.3**
YOIG				*i* S	**Sn**	**09 52 00.6**	**-0.5**
PNIG	**Pinotepa**	**1.77**	**288**		**Pn**	**09 51 44.5**	**-1.0**
PNIG					**Sn**	**09 52 03.9**	**-3.2**
PNIG	**Pinotepa**	**1.77**	**288**⇑	*eP*	**Pn**	**09 51 44.5**	**-1.0**
PNIG				*e* S	**Sn**	**09 52 03.9**	**-3.2**
CMIG	**Matias Romero**	**1.90**	**49**	Pn	**Pn**	**09 51 45.7**	**-1.6**
	88nm,0.3s,baz=232,slow=9.6,SNR=811						
CMIG				Sn	**Sn**	**09 52 09.2**	**-1.3**
	390nm,0.3s,baz=266,slow=9.5,SNR=9.8						
CMIG				LR	LR	09 52 27.3	
	comp=Z,2μm,21.4s,baz=274,slow=43						
CMIG	**Matias Romero**	**1.90**	**49**		**Pn**	**09 51 45.8**	**-1.6**
CMIG					**Sn**	**09 52 10.2**	**-0.3**
CMIG	**Matias Romero**	**1.90**	**49**	*eP*	**Pn**	**09 51 45.8**	**-1.6**
CMIG				*e* S	**Sn**	**09 52 10.2**	**-0.3**
TXIG	**Tlaxiaco**	**1.94**	**317**⇑	*eP*	**Pn**	**09 51 48.5**	**+0.3**
TXIG				*e* S	**Sn**	**09 52 10.4**	**-1.2**
TOIG	**Toxpalan**	**2.34**	**344**	*eP*	**Pn**	**09 51 54.4**	**+0.9**
TOIG				*i* S	**Sn**	**09 52 23.0**	**+1.6**
TLIG	**Tlapa**	**2.71**	**310**		**Pn**	**09 51 59.6**	**+1.0**
MIHL	**Minatitlan**	**2.77**	**39**	*i* P	**Pn**	**09 51 58.9**	**-0.5**
MIHL				*i* S	**Sn**	**09 52 25.3**	**-6.6**
THEZ	**Tehuacan**	**2.80**	**340**	*eP*	**Pb**	**09 52 04.8**	**-1.4**
THEZ				*i* S	**Sb**	**09 52 40.8**	**+0.6**
HMTT	**Tlapaneco**	**2.86**	**313**	*eP*	**Pn**	**09 52 04.5**	**+3.9**
HMTT				*eS*	**Sb**	**09 52 41.2**	**-0.6**
TUIG	**Tuzandepetl**	**2.88**	**40**		**Pn**	**09 52 00.1**	**-0.8**
TUIG					**Sn**	**09 52 33.1**	**-1.5**
TUIG	**Tuzandepetl**	**2.88**	**40**	*eP*	**Pn**	**09 52 00.1**	**-0.8**
TUIG				*i* S	**Sn**	**09 52 33.1**	**-1.5**
PCIG		**3.05**	**92**		**Pn**	**09 52 02.0**	**-1.2**
PCIG					**Sn**	**09 52 36.2**	**-2.5**
PCIG		**3.05**	**92**⇓	*eP*	**Pn**	**09 52 02.0**	**-1.2**
PCIG				*eS*	**Sn**	**09 52 36.2**	**-2.5**
TGIG		**3.27**	**73**	*i* P	**Pn**	**09 52 06.3**	**+0.1**
TGIG				*eS*	**Sn**	**09 52 48.1**	**+3.9**
TGBT	**Tuxtla Gutierr**	**3.30**	**73**	*i* P	Pn	09 51 59.4	-7.1
TGBT				*eS*	**Sb**	**09 52 50.7**	**-3.7**
ACP2	**Acapulco**	**3.52**	**288**	*i* P	**Pn**	**09 52 09.4**	**-0.2**
ACP2				*eS*	**Sn**	**09 52 44.6**	**-5.7**
PHPU	**Puebla**	**3.62**	**332**	*eP*	**Pb**	**09 52 18.7**	**-1.6**
PHPU				*eS*	**Sb**	**09 53 00.9**	**-2.9**
PATR	**El Naranjo**	**4.06**	**100**	*eP*	**Pn**	**09 52 16.7**	**-0.7**
THIG		**4.08**	**103**	*i* P	**Pb**	**09 52 24.7**	**-3.2**
PAVE	**Pavencul**	**4.10**	**98**	*eP*	**Pn**	**09 52 18.0**	**+0.1**
CCIG	**Comitan**	**4.11**	**83**		**Sn**	**09 53 02.4**	**-2.7**
CCIG	**Comitan**	**4.11**	**83**		**Pn**	**09 52 19.8**	**+1.9**
CCIG	**Comitan**	**4.11**	**83**	*eP*	**Pn**	**09 52 17.4**	**-0.5**
CCIG				*eS*	**Sn**	**09 53 02.4**	**-2.7**
ATYC	**Atoyac**	**4.12**	**290**	*eP*	**Pn**	**09 52 19.7**	**+1.8**
ATYC				*eS*	**Sn**	**09 52 58.7**	**-6.4**
CHUJ	**Union Juarez**	**4.19**	**100**	*eP*	**Pn**	**09 52 18.9**	**-0.2**
UNM	**Universidad Na**	**4.38**	**323**	Pn	**Pn**	**09 52 24.3**	**+2.6**
ARIG	**Puente Sto Nin**	**4.50**	**303**		**Pn**	**09 52 25.1**	**+1.8**
ARIG					**Sn**	**09 53 13.2**	**-1.5**
ARIG	**Puente Sto Nin**	**4.50**	**303**⇑	*iP*	**Pn**	**09 52 25.1**	**+1.8**
ARIG				*eS*	**Sn**	**09 53 13.2**	**-1.5**
RTAL	**Retalhuleu**	**4.71**	**105**	Pn	**Pn**	**09 52 26.3**	**+0.3**
HUEH	**Huehuetenango**	**4.73**	**96**		**Pn**	**09 52 28.4**	**+1.9**
MOIG	**Morelia**	**5.96**	**311**		**Pn**	**09 52 46.7**	**+3.2**
PETF	**Flores**	**6.34**	**79**		**Pn**	**09 52 48.6**	**+0.1**
IGIG	**Irapuato, Guan**	**6.78**	**317**		**Pn**	**09 52 52.2**	**-2.5**
IGIG	**Irapuato, Guan**	**6.78**	**317**	*eP*	**Pn**	**09 52 52.2**	**-2.5**
IGIG				*eS*	**Sn**	**09 54 15.9**	**+4.8**
ESQI	**Esquipulas**	**6.91**	**100**		**Pn**	**09 52 58.1**	**+1.7**
MTO3	**Montecristo**	**6.93**	**101**		**Pn**	**09 52 58.2**	**+1.5**
ZAIG	**Zacatecas**	**9.04**	**321**	Pn	**Pn**	**09 53 26.4**	**+0.7**
ACON	**Acoyapa**	**11.54**	**108**	Pn	**Pn**	**09 54 00.3**	**+0.5**
ORTG	**Ortega, Santa**	**11.95**	**116**		**Pn**	**09 54 08.4**	**+2.9**
DUNO	**Dulce Nombre,**	**12.05**	**117**		**Pn**	**09 54 09.0**	**+2.1**
JTS	**Las Juntas de**	**12.42**	**115**	Pn	**Pn**	**09 54 12.5**	**+0.6**
	0.9nm,0.3s,baz=36,slow=7.6,SNR=4.4						
JTS	**Las Juntas de**	**12.42**	**115**	Pn	**Pn**	**09 54 13.9**	**+2.1**
833A	**Chaparral WMA,**	**12.74**	**348**	Pn	**Pn**	**09 54 19.3**	**+3.2**
833A	**Chaparral WMA,**	**12.74**	**348**	P	**Pn**	**09 54 18.9**	**+2.8**
	baz=166,SNR=15						
RIMA	**Rio Macho**	**13.61**	**115**		**Pn**	**09 54 30.8**	**+2.5**
PEZE	**Perez Zeledon,**	**13.96**	**116**		**P**	**09 54 38.7**	**-1.9**
SRBA	**San Rafael, Bu**	**14.30**	**116**	Pn	**Pn**	**09 54 39.6**	**+1.9**
SOR	**Soroa**	**14.39**	**59**	Pn	**Pn**	**09 54 35.9**	**-2.8**
RIOS	**Rincon, Osa**	**14.43**	**118**	P	**P**	**09 54 45.2**	**-0.7**
JCT	**Junction City**	**14.91**	**348**	Pn	**Pn**	**09 54 48.2**	**+2.2**
JCT	**Junction City**	**14.91**	**348**	P	**Pn**	**09 54 47.8**	**+2.1**
	baz=166,SNR=9.6						
435B	**Jarrell**	**14.92**	**356**	Pn	**Pn**	**09 54 47.8**	**+2.0**
435B	**Jarrell**	**14.92**	**356**	P	**Pn**	**09 54 47.5**	**+1.6**
	baz=175						
TXAR	**Lajitas Array**	**15.02**	**335**	Pn	**Pn**	**09 54 48.5**	**+1.3**
	0.1nm,0.3s,baz=144,slow=12,SNR=13						
TXAR				Lg	Lg	09 59 20.3	
	0.0nm,0.3s,baz=157,slow=30,SNR=3.5						
TXAR	**Lajitas Array**	**15.02**	**335**	P	**P**	**09 54 53.1**	**+0.8**
TX31	**Lajitas Ar. Si**	**15.02**	**335**	P	**P**	**09 54 52.0**	**-0.4**
TX32	**Lajitas Array**	**15.02**	**335**	P	**P**	**09 54 52.9**	**+0.5**
342A	**Flagon Creek P**	**15.91**	**13**		**Pn**	**09 55 01.1**	**+2.4**
342A				IAmb	IAmb	09 55 11.2	
	comp=Z,68nm,0.8s						
NATX	**Nacogdoches**	**15.93**	**5**	P	**Pn**	**09 55 01.1**	**+2.1**
NATX				IAmb	IAmb	09 55 14.7	
	comp=Z,93nm,1.2s						
NATX	**Nacogdoches**	**15.93**	**5**	P	**Pn**	**09 54 59.6**	**+0.5**
	baz=185						
WHTX	**Lake Whitney,**	**16.11**	**357**	P	**Pn**	**09 55 01.1**	**-0.3**
	baz=176						
344A	**Westbrook Farm**	**16.38**	**17**	Pn	**Pn**	**09 55 05.3**	**+0.6**
344A				IAmb	IAmb	09 55 28.5	
	comp=Z,74nm,1.2s						
ABTX	**Abilene, Hawle**	**16.97**	**351**	IAmb	IAmb	09 55 27.5	
	comp=Z,120nm,1.3s						
ABTX	**Abilene, Hawle**	**16.97**	**351**	P	**Pn**	**09 55 13.6**	**+1.3**
	baz=168						
VBMS	**Vicksburg**	**17.16**	**17**	P	**Pn**	**09 55 14.7**	**+0.2**
	baz=199						
Z38A	**Mt. Pleasant**	**17.39**	**4**	P	**Pn**	**09 55 18.4**	**+0.9**
Z35A	**Perchaven, San**	**17.44**	**358**	P	**P**	**09 55 22.0**	**+2.9**
Z35A				IAmb	IAmb	09 55 40.0	
	com

TUL1 **Leonard** 20.00 1 P P 09 55 46.8 -0.4
baz=181,SNR=9.1
W45A **Hickory Valley** 20.29 17 IAmb IAmb 09 56 23.1
comp=Z,37nm,0.8s
FCAR **Ozark Folk Cen** 20.33 10 P P 09 55 50.4 -0.4
PLAL **Pickwick Lake** 20.47 20 P P 09 55 52.4 0.0
HHAR **Hobbs** 20.48 6 P P 09 55 51.6 -0.8
HHAR IAmb IAmb 09 56 19.9
comp=Z,33nm,1.0s
Y22D **IRIS PASSCAL I** 20.49 334 P P 09 55 53.2 +0.4
baz=149
U40A **Yellville** 20.68 8 P P 09 55 53.7 -0.8
baz=189,SNR=14
LCAR **Lake Charles** 20.68 12 IAmb IAmb 09 56 18.8
comp=Z,21nm,0.9s
TUC **Tucson** 20.98 324 Pn 09 56 00.8 +0.1
TUC IAmb IAmb 09 56 13.7
comp=Z,25nm,0.9s
TUC **Tucson** 20.98 324 P P 09 55 59.4 +1.5
baz=137
GOGA **Godfrey** 21.04 31 P P 09 55 57.2 -1.2
baz=217
ANMO **Albuquerque** 21.07 336 P P 09 56 00.9 +1.9
comp=Z,3.3nm,0.8s,baz=151,slow=12,SNR=13
ANMO LR LR 10 05 03.0
comp=Z,503nm,18.9s,baz=138,slow=39
ANMO **Albuquerque** 21.07 336 P P 09 55 59.9 +0.8
ANMO IAmb IAmb 09 56 17.1
comp=Z,24nm,1.1s
ANMO **Albuquerque** 21.07 336 P P 09 56 00.2 +1.2
baz=151
SWET **Sewanee** 21.45 24 P P 09 56 02.4 -0.6
PBMO **Poplar Bluff** 21.52 13 IAmb IAmb 09 56 20.6
comp=Z,22nm,0.7s
MGMO **Mountain Grove** 21.55 9 P P 09 56 03.3 -0.6
MGMO IAmb IAmb 09 56 23.7
comp=Z,17nm,0.8s
V48A **Smith Brothers** 21.59 22 IAmb IAmb 09 56 15.1
comp=Z,19nm,0.8s
WVT **Waverly** 21.60 19 P P 09 56 06.1 +1.6
WVT IAmb IAmb 09 56 20.4
comp=Z,20nm,0.8s
WVT **Waverly** 21.60 19 P P 09 56 04.2 -0.3
baz=202
214A **Organ Pipe Nat** 21.93 320 P P 09 56 09.8 +1.7
214A IAmb IAmb 09 56 12.8
comp=Z,33nm,1.3s
214A **Organ Pipe Nat** 21.93 320 P P 09 56 09.5 +1.4
baz=132,SNR=7.2
S39A **Bolivar** 21.94 7 IAmb IAmb 09 56 19.5
comp=Z,35nm,1.0s
CLTN **Cedars of Leba** 22.07 22 IAmb IAmb 09 56 38.2
comp=Z,26nm,1.3s
X18A **Snowflake** 22.25 329 IAmb IAmb 09 56 27.8
comp=Z,51nm,1.2s
T25A **Trinidad** 22.38 343 P P 09 56 13.5 +0.4
baz=159,SNR=8.4
CCM **Cathedral Cave** 22.59 11 P P 09 56 13.8 -1.3
CCM **Cathedral Cave** 22.59 11 P P 09 56 14.2 -0.9
baz=193
ZARC **Zaragoza, Cauc** 22.63 109 P P 09 56 14.4 -1.4
R40A **Maddies Statio** 22.66 8 IAmb IAmb 09 56 24.8
comp=Z,36nm,1.0s
S44A **Carbondale** 22.67 15 IAmb IAmb 09 56 30.8
comp=Z,18nm,0.8s
SIUC **Southern Illin** 22.70 15 IAmb IAmb 09 56 31.0
comp=Z,24nm,0.7s
TKL **Tuckaleechee C** 22.73 27 P P 09 56 18.5 +1.8
comp=Z,3nm,0.6s,baz=199,slow=11,SNR=4.8
X16A **Lo Mia Camp, P** 22.93 327 IAmb IAmb 09 56 35.1
comp=Z,31nm,1.0s
CBKS **Cedar Bluff** 23.08 353 P P 09 56 19.7 -0.5
baz=171
KSU1 **Kansas State U** 23.18 360 IAmb IAmb 09 56 36.2
comp=Z,33nm,0.9s
KSU1 **Kansas State U** 23.18 360 P P 09 56 20.6 -0.6
baz=179
SDCO **Great Sand Dun** 23.27 341 P P 09 56 22.5 +0.1
baz=157,SNR=25
Y14A **Wickenburg** 23.44 323 IAmb IAmb 09 56 28.6
comp=Z,29nm,1.3s
TZTN **Tazewell** 23.57 27 P P 09 56 23.4 -1.7
baz=212
S22A **4UR Ranch, Cre** 23.70 339 P P 09 56 27.0 +0.3
baz=154
KSCO **Kaye Shedlock'** 23.73 348 P P 09 56 27.1 +0.4
baz=164
WUAZ **Wupatki** 23.75 328 IAmb IAmb 09 56 45.0
comp=Z,30nm,1.1s
WUAZ **Wupatki** 23.75 328 P P 09 56 28.3 +1.4
baz=141,SNR=22
P38A **Dawn** 23.83 5 IAmb IAmb 09 56 50.6
comp=Z,30nm,1.1s
MVCO **Mesa Verde** 23.85 336 IAmb IAmb 09 56 46.2
comp=Z,50nm,1.4s
MVCO **Mesa Verde** 23.85 336 P P 09 56 28.9 +0.9
baz=149,SNR=8.5
P40A **Paris** 23.91 8 IAmb IAmb 09 56 36.0
comp=Z,34nm,0.9s
GLA **Glamis** 23.93 319 IAmb IAmb 09 56 32.5
comp=Z,19nm,0.8s
GLA **Glamis** 23.93 319 P P 09 56 30.2 +1.6
baz=131,SNR=6.0
BLYC **Blythe** 24.21 321 P P 09 56 32.8 +1.7
ROSC **El Rosal** 24.27 114 P P 09 56 34.2 +2.0
comp=Z,4.7nm,0.4s,baz=208,slow=23,SNR=0.9
ROSC LR LR 10 05 17.2
comp=Z,388nm,18.8s,baz=85,slow=35
Q24A **Divide** 24.29 343 P P 09 56 32.8 +0.7
baz=159
PDMCI **Parker Dam,Lak** 24.36 322 P P 09 56 34.4 +1.9
baz=134
R49A **Shelbyville** 24.45 22 IAmb IAmb 09 56 44.4
comp=Z,25nm,0.9s
SWSC **Sam W. Stewart** 24.48 318 P P 09 56 35.5 +1.9
baz=129
S51A **Beattyville** 24.49 25 IAmb IAmb 09 56 44.2
comp=Z,20nm,0.8s
IKP **In-Ko-Pah, Jac** 24.50 317 P P 09 56 36.0 +2.1
baz=128
BC3 **Big Chuckawall** 24.72 319 P P 09 56 37.7 +1.8
baz=131,SNR=11
TKX **Tecate** 24.78 316 IAmb IAmb 09 56 40.9
comp=Z,19nm,1.1s
PV13 **Radium Mtn., P** 24.79 336 IAmb IAmb 09 56 52.8
comp=Z,32nm,1.2s
MONP2 **Monument Peak** 24.86 317 P P 09 56 38.1 +0.9
baz=128,SNR=11
IRM **Iron Mountain** 24.86 321 P P 09 56 38.9 +1.8
baz=132,SNR=18
BAR **Barrett** 24.89 316 IAmb IAmb 09 56 40.6
comp=Z,21nm,1.4s
U15A **North Rim** 24.92 328 IAmb IAmb 09 56 56.2
comp=Z,28nm,1.1s
NEE2 **Needles Airpor** 24.97 322 P P 09 56 40.4 +2.4
baz=134
PV07 **Paradox Valley** 24.97 337 IAmb IAmb 09 56 55.7
comp=Z,35nm,1.2s
SMCO **Snowmass** 25.04 340 IAmb IAmb 09 56 58.2
comp=Z,17nm,0.9s
ISCO **Idaho Springs** 25.20 343 IAmb IAmb 09 56 57.9
comp=Z,14nm,0.8s
ISCO **Idaho Springs** 25.20 343 P P 09 56 41.2 +0.8
baz=158,SNR=12
BELC **Belle Mtn. Jos** 25.29 319 P P 09 56 41.4 +0.3
baz=130,SNR=7.4
109C **Camp Elliot, M** 25.31 316 P P 09 56 42.6 +1.5
109C IAmb IAmb 09 56 45.3
comp=Z,12nm,0.9s
109C **Camp Elliot, M** 25.31 316 P P 09 56 42.9 +1.9
baz=127
TPFO **Pinon Flats** 25.32 318 P P 09 56 42.9 +1.5
baz=129
PFO **Pinyon Flats O** 25.33 318 P P 09 56 43.1 +1.6
comp=Z,5.0nm,1.0s,baz=122,slow=11,SNR=6.8
PFO **Pinyon Flats O** 25.33 318 P P 09 56 43.3 +1.9
PFO **Pinyon Flats O** 25.33 318 P P 09 56 42.2 +0.7
baz=129
HDIL **Hopedale** 25.39 13 P P 09 56 41.0 -0.7
baz=196
P48A **Milroy** 25.41 20 IAmb IAmb 09 56 53.7
comp=Z,36nm,1.2s
OGNE **Ogallala** 25.50 350 P P 09 56 42.1 -0.7
baz=167
BGNE **Belgrade** 25.53 357 P P 09 56 43.4 +0.4
baz=176
BLA **Blacksburg** 25.56 31 P P 09 56 42.2 -1.2
baz=218

GMRC **Granite Mounta** 25.60 321 P P 09 56 45.0 +1.1
baz=132,SNR=8.8
P49A **Miami Univ. Ec** 25.72 21 IAmb IAmb 09 56 56.0
comp=Z,36nm,1.1s
P49A **Miami Univ. Ec** 25.72 21 P P 09 56 43.8 -1.0
baz=206
SFIN **Lafayette** 25.75 16 IAmb IAmb 09 56 59.2
comp=Z,29nm,0.8s
SFIN **Lafayette** 25.75 16 P P 09 56 44.2 -0.8
baz=201
R53A **Hurricane** 25.76 27 IAmb IAmb 09 56 56.8
comp=Z,25nm,1.1s
Q51A **Peebles** 25.78 24 IAmb IAmb 09 56 54.3
comp=Z,30nm,1.1s
MURC **Murrieta** 25.80 317 P P 09 56 46.3 +0.7
baz=128
BBRC **Big Bear Solar** 26.04 319 P P 09 56 49.9 +1.9
baz=129
HEC **Hector,Ludlow** 26.04 320 P P 09 56 48.3 +0.5
baz=131,SNR=7.4
SDV **Santo Domingo** 26.06 102 P P 09 56 48.4 0.0
comp=Z,5.2nm,0.5s,baz=277,slow=5.1,SNR=8.0
SDV LR LR 10 07 45.4
comp=Z,333nm,19.0s,baz=245,slow=38
SDV **Santo Domingo** 26.06 102 P P 09 56 50.0 +1.7
SDV IAmb IAmb 09 56 57.9
comp=Z,11nm,0.8s
MTPU **Mount Pierson** 26.15 331 IAmb IAmb 09 57 04.0
comp=Z,19nm,0.8s
TUQ **Turquoise Moun** 26.20 322 P P 09 56 50.2 +0.9
baz=133
O48B **Farmland** 26.22 20 P P 09 56 47.8 -1.5
baz=205
N23A **Red Feather La** 26.31 343 IAmb IAmb 09 57 11.8
comp=Z,14nm,1.1s
N23A **Red Feather La** 26.31 343 P P 09 56 50.9 +0.5
baz=158
O20A **White River Ci** 26.32 339 IAmb IAmb 09 57 07.9
comp=Z,21nm,1.1s
O20A **White River Ci** 26.32 339 P P 09 56 51.2 +0.7
baz=153
SCI2 **San Clemente I** 26.34 314 P P 09 56 51.5 +1.1
baz=124
CIS **Catalina Islan** 26.50 315 P P 09 56 52.8 +0.9
baz=125
BFSC **Mount Baldy Ra** 26.50 318 P P 09 56 53.0 +0.9
baz=128
FMP **Fort Macarthur** 26.60 316 P P 09 56 53.3 +0.6
baz=126
GSC **Goldstone, Bar** 26.64 320 P P 09 56 55.1 +1.8
baz=131
L42A **Oliver, Polo** 26.71 11 IAmb IAmb 09 57 09.4
comp=Z,39nm,1.4s
SHOC **Shoshone, Teco** 26.73 322 P P 09 56 55.0 +1.0
baz=133
P52A **Corning** 26.78 25 IAmb IAmb 09 57 10.4
comp=Z,16nm,0.9s
P52A **Corning** 26.78 25 P P 09 56 52.8 -1.5
baz=212
Q54A **Coxs Mills** 26.79 28 IAmb IAmb 09 57 01.5
comp=Z,34nm,1.4s
DECC **Green Verdugo** 26.95 317 P P 09 56 57.5 +1.5
baz=127
ACSO **Alum Creek Sta** 26.96 23 IAmb IAmb 09 57 09.9
comp=Z,18nm,0.8s
ACSO **Alum Creek Sta** 26.96 23 P P 09 56 55.3 -0.7
baz=209
P53A **Whipple** 26.97 26 IAmb IAmb 09 57 13.1
comp=Z,16nm,0.8s
EDW2 **Edwards Air Fo** 27.12 318 P P 09 56 58.7 +1.2
baz=128
L44A **Lake County Fo** 27.25 14 P P 09 56 57.9 -0.6
baz=198
LRMC **Laurel Mtn Rad** 27.30 320 P P 09 57 00.1 +0.8
baz=130
O52A **Adamsville** 27.31 25 IAmb IAmb 09 57 12.4
comp=Z,18nm,1.0s
OSI **Osito Audit: C** 27.42 317 P P 09 57 01.0 +0.8
baz=127
TPNV **Topopah Spring** 27.44 324 P P 09 57 02.2 +1.7
baz=134
FURC **Furnace Creek,** 27.46 322 P P 09 57 01.3 +0.9
baz=212
JFWS **Jewell Farm** 27.49 10 IAmb IAmb 09 57 19.5
comp=Z,17nm,0.8s
JFWS **Jewell Farm** 27.49 10 P P 09 56 59.7 -1.0
baz=192
MPMC **Manual Prospec** 27.56 321 P P 09 57 02.7 +1.1
baz=131,SNR=7.7
S11A **Rachel** 27.66 325 IAmb IAmb 09 57 08.4
comp=Z,17nm,1.3s
O53A **New Philadelph** 27.68 26 P P 09 57 01.8 -0.6
baz=213
ARVC **Arvin** 27.81 318 P P 09 57 04.1 +0.5
baz=128
ECSD **EROS Data Cent** 27.81 360 IAmb IAmb 09 57 17.3
comp=Z,26nm,1.4s
ECSD **EROS Data Cent** 27.81 360 P P 09 57 03.0 -0.6
baz=179
ISA **Isabella, Lake** 27.91 319 P P 09 57 06.1 +1.5
baz=129
L48A **N Adams** 27.98 19 IAmb IAmb 09 57 24.4
comp=Z,15nm,0.8s
R11A **Troy Canyon, C** 28.08 327 P P 09 57 06.4 +0.1
baz=137
K22A **Casper** 28.11 344 P P 09 57 07.2 +0.8
baz=158
GRAC **Grapevine Rang** 28.12 323 IAmb IAmb 09 57 21.7
comp=Z,14nm,1.1s
GRAC **Grapevine Rang** 28.12 323 P P 09 57 07.4 +1.0
baz=132
DUG **Dugway, Tooele** 28.18 333 P P 09 57 07.3 +0.2
baz=144
VES **Vestal, Richgr** 28.41 319 P P 09 57 10.1 +1.1
baz=128,SNR=5.5
TIN **Tinemaha, Big** 28.67 322 P P 09 57 11.8 +0.4
baz=131
SMMC **Simmler** 28.68 317 P P 09 57 12.2 +0.8
baz=126
TPH **Tonopah** 28.78 324 IAmb IAmb 09 57 27.3
comp=Z,20nm,0.9s
N54A **Moraine State** 28.79 26 P P 09 57 11.6 -0.7
baz=214
M53A **WI Miller and** 28.90 25 P P 09 57 11.6 -1.6
baz=212
SJG **San Juan** 28.99 81 LR LR 10 09 44.7
comp=Z,155nm,20.2s,baz=268,slow=39
BW06 **Boulder Array** 29.12 340 P P 09 57 15.0 -0.5
baz=153
PDAR **Pinedale Array** 29.12 340 P P 09 57 16.4 +0.9
comp=Z,1.1nm,0.7s,baz=142,slow=9.3,SNR=13
M54A **Oil Creek Stat** 29.38 26 IAmb IAmb 09 57 25.5
comp=Z,17nm,0.9s
M54A **Oil Creek Stat** 29.38 26 P P 09 57 16.2 -1.4
baz=214
SPMN **Marine on St.** 29.45 5 P P 09 57 17.0 -1.2
baz=167
SSPA **Standing Stone** 29.47 29 P P 09 57 16.8 -1.5
baz=218
NV11 **Mina Array St** 29.55 324 IAmb IAmb 09 57 34.7
comp=Z,16nm,0.9s
LHV **Little Huntoon** 29.63 323 IAmb IAmb 09 57 45.8
comp=Z,13nm,1.0s
NVAR **Mina Array Bea** 29.64 324 P P 09 57 22.9 +2.8
comp=Z,9.0nm,0.9s,baz=145,slow=9.2,SNR=62
NVAR PcP PcP 10 00 25.6 +1.2
comp=Z,1.1nm,0.8s,baz=176,slow=2.5,SNR=3.6
ELK **Elko** 29.73 330 P P 09 57 23.4 +2.4
comp=Z,2.8nm,0.8s,baz=150,slow=7.9,SNR=10
ELK LR LR 10 11 02.5
comp=Z,707nm,18.9s,baz=139,slow=40
F36A **Milaca** 30.03 4 IAmb IAmb 09 57 31.1
comp=Z,8.3nm,0.8s
REDW **Red Top Meadow** 30.09 339 IAmb IAmb 09 57 34.4
comp=Z,9.2nm,0.8s
LOHW **Long Hollow** 30.22 339 IAmb IAmb 09 57 35.5
comp=Z,9.2nm,0.8s
TPAW **Teton Pass** 30.23 339 IAmb IAmb 09 57 39.7
comp=Z,9.8nm,0.9s
YERR **Yerington** 30.55 323 IAmb IAmb 09 57 47.0
comp=Z,8.5nm,0.9s
PNTR **Pine Nut** 30.83 323 IAmb IAmb 09 57 45.9
comp=Z,12nm,0.9s
VCNR **Virginia City** 31.00 323 IAmb IAmb 09 57 47.5
comp=Z,11nm,1.3s
RLMT **Red Lodge** 31.15 342 IAmb IAmb 09 57 43.9
comp=Z,9.1nm,0.8s
RLMT **Red Lodge** 31.15 342 P P 09 57 33.1 -0.4
baz=155,SNR=8.3
MPK **Martis Peak** 31.21 323 IAmb IAmb 09 57 49.6
comp=Z,15nm,0.9s
YMR **Madison River** 31.28 340 IAmb IAmb 09 57 45.3
comp=Z,7.1nm,0.8s
BINY **Binghamton** 31.59 30 P P 09 57 36.0 -1.0
baz=220
HLID **Hailey** 31.62 335 IAmb IAmb 09 57 48.1
comp=Z,7.7nm,1.1s
HLID **Hailey** 31.62 335 P P 09 57 38.2 +0.7
baz=145,SNR=7.8
PAL **Palisades** 31.75 33 P P 09 57 36.8 -1.6
baz=224
BEKR **Beckworth** 31.79 324 IAmb IAmb 09 57 58.5
comp=Z,10nm,1.2s
LAO **LASA Array** 31.84 347 P P 09 57 40.4 +1.2
baz=161
EYMN **Ely** 32.27 6 P P 09 57 43.7 +0.7
baz=188
SADO **Sadowa** 32.31 23 P P 09 57 42.4 -1.0
comp=Z,6.0nm,0.5s,baz=270,slow=8.0,SNR=4.7
BOZ **Bozeman (W)** 32.32 340 P P 09 57 43.7 +0.1
baz=151
AGMN **Agassiz Nation** 32.37 1 P P 09 57 44.0 +0.2
baz=181
WVOR **Wild Horse Val** 32.67 329 IAmb IAmb 09 57 49.5
comp=Z,12nm,1.1s
O03E **Paynes Creek** 32.90 323 P P 09 57 48.8 +0.1
baz=130
J08A **Circle Bar Ran** 33.28 330 IAmb IAmb 09 58 08.7
comp=Z,12nm,0.8s
M04C **Macdoel** 33.90 325 IAmb IAmb 09 58 14.0
comp=Z,16nm,1.2s
M04C **Macdoel** 33.90 325 P P 09 57 58.1 +0.6
baz=132
MSO **Missoula** 34.18 338 IAmb IAmb 09 58 09.8
comp=Z,7.0nm,0.8s
MSO **Missoula** 34.18 338 P P 09 57 59.9 +0.1
baz=148
M02C **Callahan** 34.22 323 P P 09 58 01.1 +0.9
baz=130
ULM **Lac du Bonnet** 34.33 1 P P 09 57 59.8 -1.0
comp=Z,1.9nm,0.4s,baz=181,slow=9.3,SNR=3.0
ULM **Lac du Bonnet** 34.33 1 IAmb IAmb 09 58 13.5
comp=Z,15nm,1.1s
YBH **Yreka Blue Hor** 34.36 324 P P 09 58 01.4 +0.1
comp=Z,1.4nm,0.7s,baz=90,slow=13,SNR=2.7
L04D **Klamath Falls** 34.45 325 P P 09 58 03.1 +0.8
baz=132
J05D **Fort Rock, OR** 34.61 327 P P 09 58 04.9 +1.3
baz=134
F10A **Beach Ranch, E** 34.75 334 IAmb IAmb 09 58 15.3
comp=Z,13nm,0.9s
G08A **Pilot Rock** 34.97 332 IAmb IAmb 09 58 16.6
comp=Z,9.4nm,1.3s
J04D **Umpqua Nationa** 35.04 326 IAmb IAmb 09 58 09.4
comp=Z,12nm,0.9s
J04D **Umpqua Nationa** 35.04 326 P P 09 58 07.9 +0.6
baz=133
LBNH **Lisbon** 35.09 31 P P 09 58 06.7 -0.8
baz=224
JTMT **Jette** 35.09 339 IAmb IAmb 09 58 17.6
comp=Z,13nm,1.2s
I05D **Terrebonne, OR** 35.41 328 P P 09 58 10.7 +0.4
baz=135
I04A **Tendick Farm,** 35.58 327 P P 09 58 13.2 +1.4
baz=133
J01E **Myrtle Point** 35.97 325 P P 09 58 16.9 +1.8
baz=130
I03D **Drain, OR** 36.01 326 P P 09 58 16.3 +0.8
baz=132
G05D **Wamic, OR** 36.05 330 P P 09 58 16.7 +0.9
baz=136
H04D **Lebanon** 36.25 328 P P 09 58 18.0 +0.6
baz=133
I02E **Swisshome, OR** 36.55 326 P P 09 58 20.5 +0.5
baz=131
NEW **Newport** 36.56 337 P P 09 58 20.3 +0.2
comp=Z,1.8nm,0.8s,baz=165,slow=5.2,SNR=3.8
NEW **Newport** 36.56 337 IAmb IAmb 09 58 29.7
comp=Z,3.7nm,1.0s
NEW **Newport** 36.56 337 P P 09 58 20.2 +0.1
baz=145
F05D **White Salmon** 36.58 330 IAmb IAmb 09 58 37.9
comp=Z,15nm,0.8s
F05D **White Salmon** 36.58 330 P P 09 58 21.1 +0.8
baz=136
G03D **McMinnville, O** 36.99 328 P P 09 58 24.5 +0.6
baz=133
D03D **Eldon** 38.55 331 P P 09 58 36.9 0.0
baz=136
FFC **Flin Flon** 39.05 355 P P 09 58 41.5 +0.4
A04D **Lummi Island** 39.24 332 P P 09 58 42.3 -0.4
baz=137
EDM **Edmonton** 39.62 344 IAmb IAmb 09 58 49.2
comp=Z,13nm,1.0s
LPAZ **La Paz** 42.38 138 P P 09 59 09.8 +0.2
comp=Z,1.9nm,0.9s,baz=336,slow=12,SNR=4.4
LPAZ LR LR 10 14 58.4
comp=Z,206nm,21.7s,baz=14,slow=34
FCC **Fort Churchill** 42.89 2 P P 09 59 12.8 +0.3
PB16 **IPOC Station P** 43.05 141 P P 09 59 17.2 +2.2
MDP **Montagnes des** 44.22 99 LR LR 10 20 05.9
comp=Z,91nm,20.9s,baz=260,slow=39
SCHQ **Schefferville** 45.12 24 P P 09 59 28.6 -1.9
comp=Z,2.6nm,0.9s,baz=233,slow=5.2,SNR=4.1
LVC **Limon Verde** 46.73 144 P P 09 59 44.5 +0.5
comp=Z,3.3nm,0.9s,baz=319,slow=9.3,SNR=2.1
LVC **Limon Verde** 46.73 144 IAmb IAmb 09 59 54.9
comp=Z,6.2nm,0.8s
YKA **Yellowknife Ar** 48.34 349 P P 09 59 55.2 -0.4
comp=Z,2.9nm,0.8s,baz=156,slow=7.5,SNR=40
GO02 **Mina Guanaco** 48.40 147 P P 09 59 58.6 +1.7
AC02 **Maricunga** 50.00 148 P P 10 00 10.7 +1.3
SIT **Sitka** 50.49 334 P P 10 00 12.3 +0.2
baz=128
TGTN **Hyland Airport** 50.98 341 P P 10 00 16.2 +0.4
baz=139,SNR=5.4
WHY **Whitehorse** 52.63 337 P P 10 00 29.0 +0.8
baz=131
M31M **Drury Creek, Y** 53.48 339 P P 10 00 35.2 +0.8
baz=132
N31M **Braeburn, Yuko** 53.50 338 P P 10 00 34.8 +0.3
baz=130
PNL **Peninsula** 53.78 335 P P 10 00 36.7 +0.1
baz=125
YUK6 **Outpost Mounta** 54.13 336 P P 10 00 40.0 +0.6
baz=127
YUK4 **Talbot Arm** 54.48 337 P P 10 00 42.2 +0.3
baz=127
M30M **Minto, Yukon** 54.57 338 P P 10 00 43.2 +0.9
baz=130
YUK3 **Moose Creek** 55.44 336 P P 10 00 49.3 +0.5
baz=125
BVCY **Beaver Creek** 55.96 337 P P 10 00 53.3 +0.9
baz=125
MCARA **McCarthy VSAT** 56.23 335 P P 10 00 54.2 -0.1
baz=122
M27K **Edge Creek, AK** 56.32 336 P P 10 00 55.8 +0.8
baz=124
DAWY **Dawson** 56.42 339 IAmb IAmb 10 01 06.3
comp=Z,7.0nm,1.2s
DAWY **Dawson** 56.42 339 P P 10 00 56.2 +0.6
baz=128
CPUP **Villa Florida** 56.55 137 P P 10 00 56.6 -0.4
comp=Z,2.0nm,1.1s,baz=338,slow=6.7,SNR=2.9
BCAR **Beaver Creek A** 56.69 337 P P 10 00 58.5 +1.0
L27K **Beaver Creek,** 56.70 337 IAmb IAmb 10 01 08.0
comp=Z,5.7nm,0.9s
L27K **Beaver Creek,** 56.70 337 P P 10 00 57.1 -0.5
baz=125
EYAK **Cordova Ski Ar** 56.94 333 P P 10 00 59.3 0.0
baz=119
N25K **Chitina, Valde** 56.99 335 P P 10 01 00.1 +0.4
baz=121
EPYK **Eagle Plains** 57.05 342 P P 10 00 59.6 -0.5
baz=132
BDFB **Brasilia** 57.08 121 P P 10 01 01.0 -0.1
comp=Z,1.3nm,0.3s,baz=291,slow=17,SNR=1.9
L26K **Log Cabin Wild** 57.26 337 P P 10 01 01.4 -0.1
baz=123
EGAK **Eagle** 57.47 339 IAmb IAmb 10 01 12.5
comp=Z,8.0nm,0.8s
KLU **Klutina** 57.48 334 P P 10 01 02.8 -0.4
baz=119
INK **Inuvik** 57.52 345 P P 10 01 03.5 +0.2
comp=Z,6.4nm,0.8s,baz=126,slow=7.0,SNR=31
INK **Inuvik** 57.52 345 P P 10 01 02.5 -0.7

INK			IAmb	IAmb	10 01 12.8	
	comp=Z,9.6nm,0.8s					
INK	**Inuvik**	**57.52 345**	P	**P**	**10 01 02.5**	**-0.7**
	baz=136,SNR=9.8					
SCRK	**Sand Creek**	**58.02 337**	IAmb	IAmb	10 01 17.8	
	comp=Z,7.8nm,0.9s					
SCRK	**Sand Creek**	**58.02 337**	P	**P**	**10 01 06.3**	**-0.7**
	baz=123,SNR=5.7					
PAX	**Paxson**	**58.05 336**	P	**P**	**10 01 06.6**	**-0.6**
	baz=121					
J26L	**Joseph Creek**	**58.15 338**	P	**P**	**10 01 08.0**	**+0.1**
	baz=124,SNR=6.3					
RIDG	**Independent Ri**	**58.21 337**	P	**P**	**10 01 07.6**	**-0.7**
	baz=122					
SML	**Sawmill**	**58.64 334**	P	**P**	**10 01 11.1**	**-0.2**
	baz=117					
A36M	**Sachs Harbour**	**58.67 350**	IAmb	IAmb	10 01 20.2	
	comp=Z,9.7nm,0.9s					
A36M	**Sachs Harbour**	**58.67 350**	P	**P**	**10 01 10.7**	**-0.5**
	baz=147,SNR=7.1					
WAT6	**Susitna Watana**	**58.76 335**	P	**P**	**10 01 12.0**	**-0.2**
	baz=118					
DHY	**Denali Highway**	**58.85 336**	P	**P**	**10 01 12.9**	**0.0**
	baz=119					
RES	**Resolute Bay**	**58.86 0**	P	**P**	**10 01 11.8**	**-0.8**
	comp=Z,1.3nm,1.0s,baz=166,slow=8.0,SNR=4.0					
J25K	**Salcha River,**	**58.87 338**	IAmb	IAmb	10 01 26.9	
	comp=Z,6.2nm,1.0s					
J25K	**Salcha River,**	**58.87 338**	P	**P**	**10 01 13.3**	**+0.4**
	baz=122					
PMR	**Palmer**	**58.88 334**	P	**P**	**10 01 13.0**	**+0.2**
	baz=116					
RC01	**Rabbit Creek A**	**58.92 333**	P	**P**	**10 01 12.9**	**-0.3**
	baz=115					
KDAK	**Kodiak Island**	**58.95 329**	P	**P**	**10 01 13.6**	**+0.2**
	baz=111					
OHAK	**Old Harbor**	**59.11 328**	P	**P**	**10 01 14.5**	**0.0**
	baz=110					
WAT1	**Susitna Watana**	**59.21 335**	P	**P**	**10 01 15.0**	**-0.2**
	baz=118					
HDA	**Harding Lake**	**59.35 337**	IAmb	IAmb	10 01 25.9	
	comp=Z,6.6nm,0.7s					
HDA	**Harding Lake**	**59.35 337**	P	**P**	**10 01 16.6**	**+0.5**
	baz=120					
IL31		**59.51 337**	IAmb	IAmb	10 01 27.1	
	comp=Z,8.1nm,0.9s					
ILAR	**Eielson Array**	**59.51 337**	P	**P**	**10 01 17.7**	**+0.5**
	comp=Z,7.0nm,1.1s,baz=131,slow=4.7,SNR=27					
ILAR	**Eielson Array**	**59.51 337**	P	**P**	**10 01 17.1**	**-0.1**
CUT	**Chulitna**	**59.72 334**	P	**P**	**10 01 18.7**	**0.0**
	baz=116					
MCK	**McKinley**	**59.78 336**	IAmb	IAmb	10 01 28.9	
	comp=Z,6.0nm,0.9s					
MCK	**McKinley**	**59.78 336**	P	**P**	**10 01 19.2**	**0.0**
	baz=118					
WRH	**Wood River Hil**	**59.81 337**	IAmb	IAmb	10 01 28.7	
	comp=Z,5.7nm,0.9s					
Q19K	**Cape Douglas,**	**59.88 330**	P	**P**	**10 01 19.2**	**-0.7**
	baz=110					
POKR	**Poker Plat Res**	**59.89 338**	P	**P**	**10 01 19.4**	**-0.4**
	baz=120					
CHIR	**Chirikof Islan**	**59.89 326**	P	**P**	**10 01 20.5**	**+0.6**
	baz=107					
COLA	**College**	**59.92 337**	P	**P**	**10 01 20.4**	**+0.5**
COLA			IAmb	IAmb	10 01 29.6	
	comp=Z,9.2nm,0.9s					
COLA	**College**	**59.92 337**	P	**P**	**10 01 20.8**	**+0.8**
	baz=119					
TCOL	**CIGO, UAF Yank**	**59.92 337**	P	**P**	**10 01 20.5**	**+0.5**
	baz=119					
TRF	**Thorofare Moun**	**60.19 335**	P	**P**	**10 01 22.2**	**+0.1**
	baz=116					
NEA2	**Nenana**	**60.24 337**	P	**P**	**10 01 22.4**	**+0.2**
	baz=118					
H24K	**Noodor Dome**	**60.41 338**	P	**P**	**10 01 22.8**	**-0.6**
	baz=120					
I23K	**Minto, Yukon-K**	**60.61 337**	P	**P**	**10 01 24.2**	**-0.5**
	baz=118,SNR=7.9					
O19K	**Port Alsworth**	**60.65 331**	P	**P**	**10 01 24.6**	**-0.4**
	baz=110					
PPLA	**Purkeypile**	**60.74 334**	P	**P**	**10 01 25.4**	**-0.4**
	baz=114					
BPAW	**Bear Paw Mtn.**	**60.76 336**	P	**P**	**10 01 26.1**	**+0.2**
	baz=116					
CAST	**Castle Rocks**	**60.91 335**	IAmb	IAmb	10 01 36.2	
	comp=Z,9.4nm,1.0s					
CAST	**Castle Rocks**	**60.91 335**	P	**P**	**10 01 27.1**	**+0.3**
	baz=114					
N19K	**Bonanza Creek**	**60.94 332**	P	**P**	**10 01 27.0**	**-0.2**
N19K	**Bonanza Creek**	**60.94 332**	P	**P**	**10 01 27.0**	**-0.2**
	baz=110,SNR=5.8					
H23K	**Yukon River**	**61.00 338**	P	**P**	**10 01 26.8**	**-0.6**
	baz=118					
PLCA	**Paso Flores**	**61.18 158**	P	**P**	**10 01 29.9**	**+0.9**
	comp=Z,6.6nm,0.9s,baz=322,slow=7.0,SNR=12					
PLCA	**Paso Flores**	**61.18 158**	P	**P**	**10 01 30.4**	**+1.4**
CHUM	**Lake Minchumin**	**61.20 335**	P	**P**	**10 01 28.1**	**-0.6**
	baz=114					
L20K	**Farewell, AK**	**61.29 333**	P	**P**	**10 01 29.6**	**+0.1**
	baz=112,SNR=5.4					
M19K	**Big River Lodg**	**61.30 333**	P	**P**	**10 01 30.0**	**+0.5**
	baz=111					
N18K	**Kilae Creek**	**61.55 331**	P	**P**	**10 01 30.8**	**-0.4**
	baz=109					
L19K	**White Mountain**	**61.60 333**	P	**P**	**10 01 31.9**	**+0.4**
	baz=111					
I21K	**Tanana**	**61.62 337**	P	**P**	**10 01 31.2**	**-0.3**
	baz=115					
K20K	**Telida**	**61.70 334**	P	**P**	**10 01 31.6**	**-0.7**
	baz=112,SNR=5.3					
COLD	**Coldfoot**	**61.90 339**	P	**P**	**10 01 33.1**	**-0.4**
	baz=118					
PPT	**Papeete**	**62.05 240**	LR	LR	10 21 13.2	
	comp=Z,74nm,19.6s,baz=108,slow=29					
J20K	**Nowinta River**	**62.05 335**	P	**P**	**10 01 35.0**	**+0.5**
J20K			IAmb	IAmb	10 01 48.2	
	comp=Z,9.5nm,1.1s					
J20K	**Nowinta River**	**62.05 335**	P	**P**	**10 01 34.4**	**-0.1**
	baz=112					
H21K	**Melozitna Rive**	**62.13 337**	IAmb	IAmb	10 01 44.5	
	comp=Z,5.7nm,1.0s					
H21K	**Melozitna Rive**	**62.13 337**	P	**P**	**10 01 34.9**	**-0.1**
	baz=115					
TTA	**Tatalina**	**62.37 334**	P	**P**	**10 01 37.2**	**+0.4**
	baz=110					
TOLK	**Toolik Lake Re**	**62.38 341**	IAmb	IAmb	10 01 47.8	
	comp=Z,5.3nm,1.1s					
TOLK	**Toolik Lake Re**	**62.38 341**	P	**P**	**10 01 36.5**	**-0.2**
	baz=119					
GCSA	**Galena City Sc**	**63.37 335**	P	**P**	**10 01 43.8**	**+0.6**
	baz=110					
RCBR	**Riachuelo**	**63.61 105**	LR	LR	10 30 30.0	
	comp=Z,166nm,18.1s,baz=62,slow=37					
UNV	**Unalaska Valle**	**65.65 322**	P	**P**	**10 01 59.1**	**+0.7**
	baz=96					
ANM	**Nome**	**66.82 334**	P	**P**	**10 02 05.5**	**-0.2**
	baz=102					
TNA	**Tin City**	**68.08 335**	P	**P**	**10 02 13.6**	**+0.1**
	baz=100					
DAG	**Danmarks Havn**	**71.88 14**	*i* P	**P**	**10 02 36.0**	**-0.8**
BILL	**Bilibino**	**78.17 338**	P	**P**	**10 03 13.2**	**0.0**
AFI	**Afiamalu**	**80.16 252**	LR	LR	10 28 51.1	
	comp=Z,52nm,21.7s,baz=24,slow=28					
ESDC	**Sonseca Array**	**81.89 51**	P	**P**	**10 03 34.1**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=283,slow=4.4,SNR=4.8					
ESDC			LR	LR	10 36 54.0	
	comp=Z,166nm,19.5s,baz=258,slow=34					
NB2	**NORSAR Subarra**	**84.53 28**	P	**P**	**10 03 47.6**	**+0.4**
	comp=Z,11nm,1.2s,baz=298,slow=5.3					
NOA	**NORSAR Array B**	**84.53 28**	P	**P**	**10 03 47.6**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=298,slow=4.9,SNR=8.9					
TIXI	**Tiksi**	**87.56 347**	P	**P**	**10 04 00.3**	**-1.5**
TIXI			IAmb	IAmb	10 04 01.9	
	comp=Z,2.5nm,0.7s					
DAVOX	**Davos/Dischmat**	**89.33 41**	LR	LR	10 44 53.3	
	comp=Z,69nm,18.7s,baz=261,slow=36					
TORD	**Torodi Ar. Bea**	**94.04 75**	P	**P**	**10 04 33.9**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=308,slow=5.3,SNR=2.1					
TORD	**Torodi Ar. Bea**	**94.04 75**	IAmb	IAmb	10 04 40.8	
	comp=Z,3.6nm,1.4s					
BOSA	**Boshof**	**124.97 114**	PKP	**PKPdf**	**10 10 14.9**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=108,slow=2.6,SNR=4.7					
STKA	**Stephens Creek**	**125.22 242**	PKP	**PKPdf**	**10 10 15.9**	**+0.6**
	comp=Z,3.8nm,0.9s,baz=239,slow=1.4,SNR=4.7					
WRA	**Warramunga Arr**	**131.70 257**	PKP	**PKPdf**	**10 10 28.6**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=84,slow=2.1,SNR=11					
ASAR	**Alice Springs**	**132.23 252**	PKP	**PKPdf**	**10 10 30.1**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=118,slow=1.8,SNR=10					
PZH	**PanZhiHua**	**134.38 337**	PKP	**PKPdf**	**10 10 33.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**142.73 336**	PKP	**PKPdf**	**10 10 47.8**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=334,slow=2.7,SNR=6.6					

JMA 11 10:01:30.1±0.4, 37.08N×135.27E, h380km±4km, M3.5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**1.80**	**177**	P	Pn	10 02 22.9	-0.1
JYTA	**Yamagatataniai**	**1.90**	**141**	P	Pn	10 02 24.1	+0.5
JNG	**Nsakai**	**2.37**	**106**	P	Pn	10 02 26.6	-0.3
JMM	**Marumori**	**4.46**	**78**	P	Pn	10 02 45.9	+0.4
JFK	**Kawauchi**	**4.48**	**85**	P	Pn	10 02 46.1	+0.4
JFK				*e*S	S	10 03 45.0	-2.1
JMK	**Ichinoseki**	**5.06**	**67**	P	Pn	10 02 52.0	+0.4

*IDC **11** 10:19:07.8±2.9, 36.12N×77.08E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.4/68, mbtmp3.7/8, ML3.3/3, Error ellipse: s-maj=63.8km s-min=31.0km az=126.0*
*NNC **11** 10:19:24.9±5.7, 37.24N×76.75E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=54.5km s-min=28.0km az=152.0*
ISC 11 10:19:20.7±1.5, 36.7N±0.1×77.0E±0.1, h77km, n11, σ2s02/16, mb3.4/5, 4C-1D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.26**	**343**	Pn	**Pn**	**10 20 54.3**	**+3.7**
	0.7nm,0.3s,baz=127,slow=7.5,SNR=3.5						
AAK				Sn	**Sn**	**10 22 01.0**	**+0.3**
	0.5nm,0.3s,baz=180,slow=20,SNR=1.8						
PDGK	**Podgornoye**	**6.91**	**15**	⇑P	**Pn**	**10 21 01.8**	**+2.4**
	3.8nm,0.5s						
PDGK				⇑S	**Sn**	**10 22 16.5**	**-0.2**
	5.9nm,0.8s						
KK31	**Karatay Array**	**8.13**	**324**	⇑P	**Pn**	**10 21 16.9**	**+1.0**
	1.1nm,0.4s,baz=140,slow=13,SNR=30						
KK31				⇑S	**Sn**	**10 22 43.7**	**-2.5**
	3.6nm,0.5s,baz=143,slow=24,SNR=4.6						
MK31	**Makanchi Array**	**10.85**	**20**	P	**Pn**	**10 21 54.6**	**+1.6**
	0.1nm,0.2s,baz=199,slow=12,SNR=26						
MK31				⇓S	**Sn**	**10 23 50.1**	**-2.5**
	0.3nm,0.3s,baz=201,slow=24,SNR=5.4						
MKAR	**Makanchi Array**	**10.85**	**20**	Pn	**Pn**	**10 21 54.4**	**+1.3**
	0.7nm,0.3s,baz=202,slow=13,SNR=30						
MKAR				Sn	**Sn**	**10 23 49.5**	**-3.2**
	0.2nm,0.3s,baz=192,slow=25,SNR=1.8						
ZALV	**Zalesovo Beam**	**18.11**	**15**	P	**P**	**10 23 27.9**	**+1.7**
	0.1nm,0.3s,baz=202,slow=11,SNR=2.8						
FINES	**FINESS Array B**	**40.09**	**325**	P	**P**	**10 26 48.5**	**+0.2**
	0.7nm,0.3s,baz=114,slow=10.0,SNR=6.0						
ARCES	**ARCESS Array B**	**42.88**	**336**	P	**P**	**10 27 11.5**	**+0.4**
	4.4nm,1.1s,baz=106,slow=9.1,SNR=7.1						
NOA	**NORSAR Array B**	**47.16**	**323**	P	**P**	**10 27 44.5**	**-0.6**
	0.2nm,0.4s,baz=94,slow=7.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**70.55**	**272**	P	**P**	**10 30 26.2**	**-1.5**
	0.3nm,0.5s,baz=50,slow=5.4,SNR=6.8						
YKA	**Yellowknife Ar**	**80.73**	**5**	P	**P**	**10 31 24.5**	**-0.6**
	0.2nm,0.7s,baz=344,slow=4.8,SNR=4.6						

*IDC **11** 10:23:43.6±0.5, 32.11N×141.78E, h0km, mb4.5/38, mb1 4.6/42, mb1mx4.5/65, mbtmp4.5/42, ML3.6/2, MS3.8/15, Ms1 3.8/15, ms1mx3.4/91, Error ellipse: s-maj=13.5km s-min=11.4km az=74.0*
*MOS **11** 10:23:45.8±1.1, 32.12N×141.74E, h27km, mb4.8/39, Error ellipse: s-maj=11.7km s-min=5.4km az=106.6*
*JMA **11** 10:23:46.9±0.2, 32.25N×141.87E, h50km, M4.1*
*NEIC **11** 10:23:47.6±1.7, 32.12N±0.06×141.85E±0.1, h27km±5km, mb4.7/197, Error ellipse: s-maj=12.8km s-min=8.8km az=70.0*
ISC 11 10:23:47.6±0.3, 32.12N±0.04×141.85E±0.05, h29km, n412, σ1s41/330, mb4.7/159, MS4.0/22, 13C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.80**	**282**	P	**Pn**	**10 24 16.0**	**-0.7**
JHCJ	**Hachijojimakas**	**1.98**	**299**	P	**Pn**	**10 24 18.2**	**-0.9**
JHCJ				*e*S	**Sn**	**10 24 41.0**	**-1.9**
JHJ2	**Mitsune**	**1.98**	**301**	P	**Pn**	**10 24 18.3**	**-0.8**
JHJ2				*e*S	**Sn**	**10 24 41.5**	**-1.5**
JHJ2	**Mitsune**	**1.98**	**301**		**Pn**	**10 24 18.3**	**-0.8**
JHJ	**Hachijo jima 2**	**2.01**	**300**	Pn	**Pn**	**10 24 18.5**	**-1.1**
	60nm,0.3s,baz=147,slow=23,SNR=21						
JHJ				Sn	**Sn**	**10 24 41.0**	**-2.7**
	122nm,0.3s,baz=90,slow=20,SNR=6.2						
JMKN	**Mikurajimanish**	**2.60**	**314**	*e*S	**Sn**	**10 24 55.9**	**-2.3**
BSO1	**Boso 1**	**2.63**	**344**	P	**Pn**	**10 24 26.4**	**-1.2**
BSO1				*e*S	**Sn**	**10 24 55.5**	**-2.8**
BSO3	**Boso 3**	**2.90**	**338**	P	**Pn**	**10 24 30.1**	**-1.5**
JOD2	**Odawara 2**	**3.89**	**324**	P	**Pn**	**10 24 44.6**	**-0.8**
JYT	**Yasato**	**4.32**	**342**		**Pn**	**10 24 50.2**	**-1.2**
JRY	**Ryogami san**	**4.59**	**329**	P	**Pn**	**10 24 54.8**	**-0.3**
CBIJ	**Chichi jima**	**5.01**	**177**	P	**Pn**	**10 25 00.2**	**-0.7**
CBIJ				*e*S	**Sn**	**10 25 54.9**	**-3.0**
JCJ	**Chichijima**	**5.01**	**177**	Pn	**Pn**	**10 24 60.0**	**-0.9**
	39nm,0.3s,baz=290,slow=22,SNR=21						
JCJ				Sn	**Sn**	**10 25 55.2**	**-2.6**
	60nm,0.3s,baz=270,slow=20,SNR=6.0						
JCJ				LR	LR	10 26 36.5	
	comp=Z,272nm,20.1s,baz=40,slow=34						
JCJ	**Chichijima**	**5.01**	**177**	Pn	**Pn**	**10 25 01.1**	**+0.2**
JCJ					**Sn**	**10 25 56.1**	**-1.8**
JGF	**Kuroka**	**5.10**	**314**		**Pn**	**10 25 02.7**	**+0.6**
INU	**Inuyama**	**5.16**	**310**		**Pn**	**10 25 03.7**	**+0.9**
MJAR	**Matsushiro Arr**	**5.34**	**327**	Pn	**Pn**	**10 25 04.7**	**-0.7**
	1.1nm,0.3s,baz=108,slow=7.3,SNR=19						
MJAR				LR	LR	10 27 26.1	
	comp=Z,841nm,19.4s,baz=130,slow=42						
MJAR	**Matsushiro Arr**	**5.34**	**327**		**Pn**	**10 25 04.3**	**-1.1**
MAJO	**Matsushiro**	**5.34**	**327**	*i* P	**Pn**	**10 25 05.1**	**-0.3**
MAJO	**Matsushiro**	**5.34**	**327**		**Pn**	**10 25 04.9**	**-0.5**
MAT	**Matsushiro**	**5.34**	**327**	P	**Pn**	**10 25 05.3**	**-0.1**
MJB9	**Matsu-Tunnel**	**5.35**	**327**		**Pn**	**10 25 05.4**	**0.0**
JFT	**Otama**	**5.53**	**347**	P	**Pn**	**10 25 06.1**	**-1.8**
JFT				*e*S	**Sn**	**10 26 06.3**	**-4.2**
JMM	**Marumori**	**5.80**	**352**		**Pn**	**10 25 08.8**	**-2.8**
JNU	**Nakatsue**	**9.31**	**279**	Pn	Pn	10 26 10.0	+10
	0.3nm,0.3s,baz=121,slow=12,SNR=1.9						
ERM	**Erimo**	**9.93**	**6**	*i* P	**Pn**	**10 26 04.7**	**-3.6**
NMR	**Nemuro--Hokkai**	**11.64**	**14**	*e*P	Pn	10 26 26.3	-5.4
GLVR	**Golovnino**	**11.95**	**13**	*e*P	Pn	10 26 30.7	-5.2
JKA	**Kamikawa-asahi**	**11.99**	**3**		**Pn**	**10 26 32.8**	**-3.7**
ASAJ	**Asahikawa**	**11.99**	**3**	Pn	**Pn**	**10 26 32.8**	**-3.7**
	1.6nm,0.3s,baz=194,slow=12,SNR=21						
RUSJ	**Misakicho**	**12.26**	**12**	*e*P	**Pn**	**10 26 39.9**	**-0.2**
SHO	**Shikotan**	**12.37**	**17**	*e*P	**Pn**	**10 26 37.6**	**-4.0**
SHO				pmax	pmax		
	comp=N,2.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,6.0nm,0.2s						
KSRS	**Korea Array**	**12.62**	**299**	Pn	**Pn**	**10 26 47.2**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=107,slow=14,SNR=2.9						
JOW	**Kunigami**	**12.95**	**249**	LR	LR	10 31 47.4	
	comp=Z,491nm,18.5s,baz=176,slow=38						
USRK	**Ussuriysk Ar.**	**14.33**	**330**	Pn	**Pn**	**10 27 07.0**	**-1.3**
	baz=137,slow=11,SNR=7.8						
YSS	**Yuzh-Sakhalins**	**14.83**	**2**	*e*P	**Pn**	**10 27 11.1**	**-4.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
MDJ	**Mudanjiang**	**15.73**	**326**	P	**Pn**	**10 27 25.9**	**-1.1**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,39nm,3.6s						
MDJ				LR	LR		
	comp=N,570nm,15.0s						
MDJ				LR	LR		
	comp=E,280nm,18.1s						
MDJ				LR	LR		
	comp=Z,710nm,15.7s						
CN2	**Changchun**	**17.38**	**317**	*e*P	**Pn**	**10 27 44.5**	**-3.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,500nm,14.0s						
CN2				LR	LR		
	comp=E,600nm,14.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
GUMO	**Guam**	**18.65**	**171**	P	**P**	**10 28 02.9**	**-0.2**
	comp=Z,9.0nm,0.3s,baz=63,slow=3.9,SNR=5.8						
GUMO	**Guam**	**18.65**	**171**	IAmb	IAmb	10 28 07.4	
	comp=Z,258nm,1.0s						
KLR	**Kul'dur**	**18.70**	**339**	P	**P**	**10 28 02.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=132,slow=12,SNR=12						
KLR	**Kul'dur**	**18.70**	**339**	*i* P	**Pn**	**10 28 03.6**	**-0.4**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GRNR	**Gornyy**	**19.06**	**349**	*e*P	**Pn**	**10 28 11.7**	**+3.3**
NJ2	**Nanjing**	**19.48**	**276**	*e*P	**Pn**	**10 28 12.3**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
HNS	**HongShan**	**22.88**	**291**	*e*P	**P**	**10 28 50.2**	**+1.5**
HNS				*e*S	**S**	**10 32 57.0**	**+0.5**
HNS				LR	LR		
	comp=N,170nm,14.9s						
HNS				LR	LR		
	comp=E,430nm,15.9s						
HNS				LR	LR		
	comp=Z,360nm,15.9s						
XLT	**XiLinHaoTe**	**23.37**	**308**	*e*P	**P**	**10 28 51.6**	**-2.1**
XLT				S	**S**	**10 33 01.1**	**-3.7**
XLT				sS	pS	10 33 05.3	-6.9
XLT				SS	**SnSn**	**10 33 42.3**	**+1.5**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,77nm,4.3s						
XLT				LR	LR		
	comp=N,30nm,13.6s						
XLT				LR	LR		
	comp=E,430nm,15.0s						
XLT				LR	LR		
	comp=Z,470nm,15.3s						
HIA	**Hailar**	**23.83**	**322**	*i* P	**P**	**10 28 56.1**	**-2.0**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PETK	**Petropavlovsk-**	**23.90**	**24**	P	**P**	**10 29 00.5**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=266,slow=8.7,SNR=2.3						
ZEA	**Zeya**	**24.02**	**338**	*e*P	**P**	**10 29 02.3**	**+2.6**
ZEA				pmax	pmax		
	comp=N,30nm,0.8s						
ZEA				pmax	pmax		
	comp=E,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,50nm,0.9s						
ZEA				MLR	MLR		
	comp=E,200nm,11.0s						
ZEA				MLR	MLR		
	comp=N,100nm,16.0s						
H11N2	**WAKE ISLAND Hy**	**25.61**	**113**	T	T	10 55 56.6	
	baz=303,slow=75						
H11N1	**WAKE ISLAND Hy**	**25.62**	**113**	T	T	10 55 57.0	
	baz=303,slow=75						
H11N3	**WAKE ISLAND Hy**	**25.63**	**113**	T	T	10 55 58.1	
	baz=303,slow=75						
HHC	**Hu-ho-hao-te**	**25.76**	**298**	*e*P	**P**	**10 29 15.2**	**-0.7**
HHC				S	**S**	**10 33 42.0**	**-1.3**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,73nm,4.4s						
HHC				LR	LR		
	comp=N,210nm,12.1s						
HHC				LR	LR		
	comp=E,440nm,12.7s						
HHC				LR	LR		
	comp=Z,540nm,13.3s						
H11S3	**WAKE ISLAND Hy**	**26.15**	**115**	T	T	10 56 46.6	
	baz=307						
H11S1	**WAKE ISLAND Hy**	**26.15**	**115**	T	T	10 56 51.0	
	baz=307						
H11S2	**WAKE ISLAND Hy**	**26.17**	**115**	T	T	10 56 54.5	
	baz=307						
BTO	**Baotou**	**26.88**	**297**	*e*P	**P**	**10 29 27.3**	**+1.3**
BTO				S	**S**	**10 34 06.4**	**+5.4**
BTO				LR	LR		
	comp=N,1μm,14.5s						
BTO				LR	LR		
	comp=E,2μm,15.9s						
XAN	**Xi'an**	**27.60**	**283**	P	**P**	**10 29 29.3**	**-3.1**
XAN				pP	pP	10 29 33.6	-5.3
XAN				S	**S**	**10 34 09.2**	**-3.0**
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN				LR	LR		
	comp=N,260nm,13.1s						
XAN				LR	LR		
	comp=E,200nm,18.6s						
XAN				LR	LR		
	comp=Z,380nm,15.1s						
ULN	**Ulaanbaatar**	**30.64**	**311**	*ce*P	**P**	**10 30 00.7**	**+1.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	**Ulaanbaatar**	**30.64**	**311**	P	**P**	**10 30 00.3**	**+0.8**
YAK	**Yakutsk**	**30.94**	**349**	*ce*P	**P**	**10 30 01.3**	**-0.4**
YAK				pmax	pmax		
	comp=Z,13nm,0.5s						
SONM	**Songino Array**	**31.05**	**311**	P	**P**	**10 30 04.4**	**+1.4**
	comp=Z,3.5nm,0.8s,baz=114,slow=8.3,SNR=11						
SONM	**Songino Array**	**31.05**	**311**	P	**P**	**10 30 03.2**	**+0.2**
SEY	**Seymchan**	**31.55**	**9**	P	**P**	**10 30 07.6**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=207,slow=7.6,SNR=8.9						
SEY	**Seymchan**	**31.55**	**9**	*ce*P	**P**	**10 30 06.7**	**-0.4**
SEY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LZH	**Lanzhou**	**31.59**	**288**	*e*P	P	10 30 00.0	-7.9
LZH				pP	pP	10 30 06.2	-8.3
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
BOD	**Bodaibo**	**31.95**	**332**	*e*P	**P**	**10 30 10.2**	**-0.4**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.8s						
ZAK	**Zakamensk**	**33.78**	**314**	*e*P	**P**	**10 30 22.7**	**-4.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
SIJI	**Sorong**	**34.31**	**199**	LR	LR	10 42 00.2	
	comp=Z,178nm,19.9s,baz=82,slow=32						
PZH	**PanZhiHua**	**35.27**	**271**	P	**P**	**10 30 40.5**	**+0.4**
PZH				S	**S**	**10 36 14.0**	**+1.7**
PZH				p

comp=Z,18nm,0.7s
TNA Tin City 45.01 27 P P 10 32 01.7 +1.7
baz=247
ZAA0 Zalesovo Array 45.59 316 P P 10 32 04.7 -0.2
ZALV Zalesovo Beam 45.59 316 P P 10 32 04.4 -0.5
comp=Z,5.7nm,0.9s,baz=96,slow=6.1,SNR=14
ZALV PcP PcP 10 33 42.9 0.0
comp=Z,1.7nm,0.6s,baz=112,slow=3.5,SNR=2.9
ZALV Zalesovo Beam 45.59 316 *i* **P P 10 32 04.6 -0.3**
ZALV pmax pmax
comp=Z,6.0nm,0.9s
ZALV Zalesovo Beam 45.59 316 P P 10 32 03.7 -1.1
ANM Nome 45.66 29 P P 10 32 06.4 +1.2
ANM pmax pmax
comp=Z,5.0nm,1.0s
ANM Nome 45.66 29 P P 10 32 06.4 +1.2
ANM Nome 45.66 29 P P 10 32 07.0 +1.8
baz=251
MK31 Makanchi Array 47.17 306 *i* **P P 10 32 17.4 0.0**
MK31 Makanchi Array 47.17 306 IAmb IAmb 10 32 22.3
comp=Z,6.1nm,0.8s
MKAR Makanchi Array 47.17 306 P P 10 32 17.6 +0.2
comp=Z,6.2nm,0.8s,baz=89,slow=9.8,SNR=29
MAKZ Makanchi 47.38 306 P P 10 32 18.7 -0.4
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 47.38 306 P P 10 32 18.7 -0.4
MAKZ IAmb IAmb 10 32 20.0
comp=Z,5.0nm,0.8s
RDOG Red Dog Mine 47.77 25 IAmb IAmb 10 32 24.1
comp=Z,12nm,1.0s
NRIK Noril'sk 47.90 337 P P 10 32 22.8 +0.1
comp=Z,3.0nm,0.7s,baz=117,slow=8.6,SNR=4.5
NRIK Noril'sk 47.90 337 *ce* **P P 10 32 22.3 -0.4**
NRIK pmax pmax
comp=Z,7.0nm,1.0s
NRIK Noril'sk 47.90 337 P P 10 32 22.3 -0.4
N18K Kilae Creek 49.08 35 P P 10 32 33.4 +1.5
baz=264
GCSA Galena City Sc 49.24 30 P P 10 32 34.6 +1.6
baz=259
P18K Big Mountain, 49.29 37 P P 10 32 34.5 +0.9
baz=265
TTA Tatalina 49.31 32 P P 10 32 34.9 +1.1
baz=262
O18K Koktuh Hills 49.34 36 P P 10 32 35.6 +1.7
baz=265
KURK Kurchatov 49.35 312 *ce* **P P 10 32 33.3 -0.8**
KURK pmax pmax
comp=Z,21nm,1.0s
KURK Kurchatov 49.35 312 P P 10 32 34.0 -0.2
KURBB Kurchatov Arra 49.42 311 P P 10 32 34.5 -0.1
comp=Z,12nm,0.9s,baz=87,slow=7.5,SNR=27
M19K Big River Lodg 49.93 34 P P 10 32 38.1 -0.3
baz=264
L20K Farewell, AK 50.23 33 P P 10 32 41.1 +0.4
baz=264
K20K Telida 50.24 32 P P 10 32 41.8 +1.1
K20K IAmb IAmb 10 32 43.8
comp=Z,9.5nm,1.1s
K20K Telida 50.24 32 P P 10 32 42.5 +1.7
baz=263,SNR=5.7
J20K Nowinta River 50.31 31 IAmb IAmb 10 32 43.5
comp=Z,10nm,1.2s
J20K Nowinta River 50.31 31 P P 10 32 42.9 +1.6
baz=262,SNR=5.3
KDAK Kodiak Island 50.59 39 P P 10 32 43.3 -0.1
comp=Z,20nm,0.7s,baz=274,slow=4.9,SNR=23
KDAK LR LR 10 57 32.6
comp=Z,35nm,18.1s,baz=83,slow=40
KDAK Kodiak Island 50.59 39 IAmb IAmb 10 32 45.0
comp=Z,29nm,1.0s
KDAK Kodiak Island 50.59 39 P P 10 32 43.7 +0.3
baz=269
H21K Melozitna Rive 51.08 29 P P 10 32 48.0 +0.9
H21K IAmb IAmb 10 32 49.8
comp=Z,13nm,1.1s
H21K Melozitna Rive 51.08 29 P P 10 32 47.8 +0.8
baz=262,SNR=9.0
CHUM Lake Minchumin 51.08 31 P P 10 32 48.0 +1.0
baz=264,SNR=5.0
CAST Castle Rocks 51.14 32 IAmb IAmb 10 32 50.4
comp=Z,11nm,1.1s
CAST Castle Rocks 51.14 32 P P 10 32 48.4 +0.9
baz=265,SNR=6.6
I21K Tanana 51.36 30 P P 10 32 50.4 +1.3
baz=264,SNR=5.7
BRSE Bradley Lake S 51.59 37 P P 10 32 51.6 +0.6
baz=269
BPAW Bear Paw Mtn. 51.68 31 P P 10 32 52.4 +0.8
baz=265
M22K Willow 51.94 34 P P 10 32 54.2 +0.7
baz=268
TRF Thorofare Moun 51.95 32 P P 10 32 53.8 0.0
baz=267
WB0 Warramunga Arr 52.08 189 P P 10 32 54.0 -1.0
WRAB Tennant Creek 52.25 189 *ce* **P P 10 32 55.9 -0.3**
WRAB pmax pmax
comp=Z,28nm,0.8s
WB2 Warramunga Arr 52.26 189 P P 10 32 55.9 -0.4
WRA Warramunga Arr 52.26 189 P P 10 32 56.4 +0.1
comp=Z,24nm,0.9s,baz=7.3,slow=7.9,SNR=83
COLD Coldfoot 52.31 27 P P 10 32 57.0 +0.8
baz=264
PMR Palmer 52.41 34 P P 10 32 57.2 +0.3
baz=269
H23K Yukon River 52.44 29 IAmb IAmb 10 33 00.3
comp=Z,11nm,1.0s
H23K Yukon River 52.44 29 P P 10 32 58.3 +1.1
baz=265,SNR=9.1
I23K Minto, Yukon-K 52.46 30 IAmb IAmb 10 32 60.0
comp=Z,14nm,1.2s
I23K Minto, Yukon-K 52.46 30 P P 10 32 57.9 +0.6
baz=266,SNR=7.8
NEA2 Nenana 52.55 31 P P 10 32 58.7 +0.7
baz=267,SNR=19
MCK McKinley 52.57 32 P P 10 32 58.9 +0.7
baz=268
RND Reindeer 52.59 32 IAmb IAmb 10 32 60.0
comp=Z,13nm,1.0s
TOLK Toolik Lake Re 52.71 25 IAmb IAmb 10 33 01.8
comp=Z,11nm,1.0s
TOLK Toolik Lake Re 52.71 25 P P 10 33 00.5 +1.3
baz=263
WAT1 Susitna Watana 52.71 33 P P 10 32 59.4 +0.2
baz=269
KNK Knik Glacier 52.73 35 P P 10 32 59.8 +0.4
baz=270
PWL Port Wells 52.79 35 P P 10 33 00.9 +1.1
baz=270
SML Sawmill 52.79 34 P P 10 33 00.0 +0.1
baz=270
KSH Kashi 52.87 298 P P 10 33 07.6 +6.7
KSH sP pwP 10 33 14.6 -1.5
KSH LR LR
comp=N,390nm,22.7s
KSH LR LR
comp=E,230nm,19.2s
KSH LR LR
comp=Z,300nm,15.9s
MDM Murphy Dome 52.93 30 P P 10 33 01.9 +1.1
WAT6 Susitna Watana 53.08 33 P P 10 33 02.1 0.0
baz=270
TCOL CIGO, UAF Yank 53.08 30 IAmb IAmb 10 33 05.3
comp=Z,7.5nm,0.8s
TCOL CIGO, UAF Yank 53.08 30 P P 10 33 02.4 +0.5
baz=268,SNR=5.1
COLA College 53.09 30 *i* **P P 10 33 03.4 +1.5**
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA College 53.09 30 P P 10 33 02.9 +1.0
COLA IAmb IAmb 10 33 05.3
comp=Z,7.4nm,0.8s
COLA College 53.09 30 P P 10 33 02.7 +0.8
baz=268
CCB Clear Creek Bu 53.10 30 IAmb IAmb 10 33 04.9
comp=Z,10nm,1.2s
H24K Noodor Dome 53.12 29 IAmb IAmb 10 33 05.1
comp=Z,9.8nm,0.9s
H24K Noodor Dome 53.12 29 P P 10 33 02.7 +0.5
baz=267,SNR=8.3
DHY Denali Highway 53.25 32 P P 10 33 02.8 -0.5
baz=270
AAK Ala-Archa 53.26 302 P P 10 33 03.2 -0.6
comp=Z,1.1nm,0.6s,baz=158,slow=5.4,SNR=1.8
AAK Ala-Archa 53.26 302 *ce* **P P 10 33 03.2 -0.6**
AAK pmax pmax
comp=Z,2.0nm,1.3s
SCM Sheep Creek Mo 53.27 34 P P 10 33 03.4 0.0
baz=270
POKR Poker Plat Res 53.27 30 IAmb IAmb 10 33 06.0
comp=Z,13nm,0.9s
POKR Poker Plat Res 53.27 30 P P 10 33 03.5 +0.2
baz=268
HDA Harding Lake 53.46 31 IAmb IAmb 10 33 06.0
comp=Z,10.0nm,0.8s
HDA Harding Lake 53.46 31 P P 10 33 04.5 -0.3
baz=269,SNR=7.5
IL31 53.49 30 IAmb IAmb 10 33 06.2
comp=Z,12nm,0.9s
ILAR Eielson Array 53.49 30 P P 10 33 05.2 +0.2
comp=Z,7.7nm,0.9s,baz=265,slow=6.1,SNR=66
KLU Klutina 53.95 34 P P 10 33 07.7 -0.7
baz=272
EYAK Cordova Ski Ar 54.07 36 P P 10 33 09.4 +0.2
baz=273
J25K Salcha River, 54.15 31 P P 10 33 09.6 -0.2
baz=270
BVAR Borovoye Array 54.22 315 P P 10 33 10.4 -0.1
comp=Z,2.5nm,0.7s
HARP HAARP 54.28 33 P P 10 33 09.8 -1.0
baz=272
BRVK Borovoye 54.28 315 *ce* **P P 10 33 10.9 0.0**
BRVK pmax pmax
comp=Z,14nm,2.5s
BRVK Borovoye 54.28 315 P P 10 33 10.2 -0.7
BRVK IAmb IAmb 10 33 14.1
comp=Z,6.9nm,1.2s
RIDG Independent Ri 54.38 32 P P 10 33 10.5 -1.0
baz=271
BMRM Bremner River 54.61 35 P P 10 33 12.3 -0.9
baz=274
SCRK Sand Creek 54.76 31 IAmb IAmb 10 33 16.2
comp=Z,14nm,1.1s
SCRK Sand Creek 54.76 31 P P 10 33 14.0 -0.3
baz=272,SNR=11
MENT Mentasta 54.92 33 IAmb IAmb 10 33 19.4
comp=Z,6.0nm,0.9s
J26L Joseph Creek 54.93 31 P P 10 33 15.4 -0.1
baz=272,SNR=9.2
L26K Log Cabin Wild 55.09 32 IAmb IAmb 10 33 18.7
comp=Z,5.3nm,0.8s
L26K Log Cabin Wild 55.09 32 P P 10 33 16.8 +0.2
baz=273,SNR=6.1
BGLC Bering Glacier 55.32 36 P P 10 33 18.6 +0.3
baz=275
MCARA McCarthy VSAT 55.34 34 P P 10 33 19.0 +0.6
baz=274
L27K Beaver Creek, 55.77 32 IAmb IAmb 10 33 24.4
comp=Z,12nm,1.3s
L27K Beaver Creek, 55.77 32 P P 10 33 22.8 +1.2
baz=274,SNR=5.5
BCAR Beaver Creek A 55.79 32 P P 10 33 22.9 +1.2
M27K Edge Creek, AK 55.81 33 IAmb IAmb 10 33 25.3
comp=Z,14nm,1.2s
M27K Edge Creek, AK 55.81 33 P P 10 33 22.6 +0.6
baz=275
EGAK Eagle 55.95 30 IAmb IAmb 10 33 24.2
comp=Z,4.5nm,0.7s
AS31 Alice Springs 55.99 189 P P 10 33 22.0 -1.5
ASAR Alice Springs 55.99 189 P P 10 33 23.5 0.0
comp=Z,4.3nm,1.0s,baz=357,slow=5.6,SNR=39
ASAR Alice Springs 55.99 189 P P 10 33 22.9 -0.6
KK31 Karatay Array 56.01 303 IAmb IAmb 10 33 24.4
comp=Z,5.1nm,0.8s
KKAR Karatay Array 56.01 303 IAmb IAmb 10 33 24.4
comp=Z,5.1nm,0.8s
CTG Chitna Glacier 56.20 35 P P 10 33 24.7 0.0
baz=276
BVCY Beaver Creek 56.27 33 P P 10 33 25.8 +0.6
baz=276
YUK3 Moose Creek 56.53 34 P P 10 33 27.0 -0.1
baz=276
DAWY Dawson 56.77 31 IAmb IAmb 10 33 33.0
comp=Z,6.8nm,0.9s
DAWY Dawson 56.77 31 P P 10 33 28.2 -0.5
baz=276
I29M Ogilvie Camp, 57.10 29 P P 10 33 31.4 +0.4
baz=276,SNR=14
J29M Klondike Camp 57.24 31 P P 10 33 32.6 +0.6
baz=277
GAR Garm 57.24 298 IAmb IAmb 10 33 36.9
comp=Z,10nm,0.8s
YUK4 Talbot Arm 57.45 34 P P 10 33 34.7 +1.0
baz=278,SNR=8.7
YUK6 Outpost Mounta 57.64 35 P P 10 33 36.0 +0.9
baz=279
EPYK Eagle Plains 57.64 28 P P 10 33 35.9 +1.1
baz=277
EIDS Eidsvold 57.84 170 P P 10 33 36.4 -0.1
EIDS IAmb IAmb 10 33 39.1
comp=Z,10nm,1.0s
HYT Haines Junctio 58.07 35 P P 10 33 39.1 +1.1
baz=280,SNR=7.8
M30M Minto, Yukon 58.13 33 P P 10 33 39.2 +1.0
baz=279,SNR=9.4
INK Inuvik 58.62 26 P P 10 33 42.5 +1.0
comp=Z,3.7nm,0.5s,baz=292,slow=5.5,SNR=37
INK Inuvik 58.62 26 IAmb IAmb 10 33 43.6
comp=Z,16nm,1.4s
INK Inuvik 58.62 26 P P 10 33 42.2 +0.7
baz=278
N31M Braeburn, Yuko 58.78 34 P P 10 33 43.9 +1.1
baz=280,SNR=10
DZM Mont Dzumac 58.80 153 LR LR 11 01 16.6
comp=Z,76nm,18.3s,baz=29,slow=38
M31M Drury Creek, Y 59.30 33 P P 10 33 47.4 +1.1
baz=281,SNR=12
WHY Whitehorse 59.37 35 P P 10 33 48.5 +1.5
baz=282,SNR=9.4
ARU Arti 60.33 321 P P 10 33 53.0 -0.5
comp=Z,2.3nm,0.6s,baz=117,slow=4.0,SNR=9.7
ARU Arti 60.33 321 *c i* **P P 10 33 53.4 -0.1**
ARU 10 36 09.4
ARU S S 10 42 07.7 +1.8
ARU SS SS 10 45 57.0 -6.1
ARU pmax pmax
comp=Z,14nm,1.2s
A36M Sachs Harbour 60.69 21 P P 10 33 57.0 +1.3
baz=284
ABKAR Akbulak array 61.45 312 P P 10 34 00.6 -0.7
ABKAR Akbulak array 61.45 312 IAmb IAmb 10 34 02.0
comp=Z,6.4nm,1.1s
C36M Paulatuk 61.75 24 P P 10 34 03.7 +0.8
baz=286
TGTN Hyland Airport 62.27 33 P P 10 34 07.9 +1.2
baz=287,SNR=12
AKTO Aktyubinsk 62.29 314 P P 10 34 07.0 +0.1
comp=Z,4.3nm,0.9s,baz=88,slow=5.8,SNR=10
AKTO Aktyubinsk 62.29 314 P P 10 34 07.0 +0.1
DLBC Dease Lake 62.31 36 IAmb IAmb 10 34 10.3
comp=Z,9.0nm,1.1s
STKA Stephens Creek 63.65 180 P P 10 34 16.4 +0.5
comp=Z,5.3nm,0.8s,baz=336,slow=10,SNR=9.6
STKA Stephens Creek 63.65 180 *i* **P P 10 34 16.0 +0.1**
STKA Stephens Creek 63.65 180 IAmb IAmb 10 34 17.8
comp=Z,1.3nm,0.8s
KIRV Kirov 64.42 325 P P 10 34 21.2 +0.5
comp=Z,22nm,0.7s,baz=14,slow=8.3,SNR=5.8
KIRV Kirov 64.42 325 *ce* **P P 10 34 20.7 0.0**
PRGR Permogore 65.11 328 *eP* **P 10 34 24.8 -0.4**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
SPITS Spitsbergen Ar 65.41 349 P P 10 34 29.5 +2.5
comp=Z,5.6nm,0.9s,baz=200,slow=6.7,SNR=1.5
GEYT Alibeck 66.60 301 P P 10 34 35.9 +0.5
comp=Z,2.0nm,0.5s,baz=244,slow=12,SNR=1.8
BELG Belogornoye 67.68 319 P P 10 34 41.3 -0.5
comp=Z,7.5nm,0.6s,baz=96,slow=2.7,SNR=4.8
BELG Belogornoye 67.68 319 *i* **P P 10 34 39.2 -2.6**
BELG pmax pmax
comp=Z,3.0nm,1.1s
YKA Yellowknife Ar 67.89 29 P P 10 34 43.4 +0.4
comp=Z,5.1nm,0.7s,baz=295,slow=6.3,SNR=57
YKA Yellowknife Ar 67.89 29 P P 10 34 42.9 -0.1
KLMR Klimovskoe 68.12 329 *eP* **P 10 34 43.6 -0.9**
KLMR pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 68.12 329 *eP* **P 10 34 43.7 -0.8**
KLMR AMP 10 34 47.7
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 68.72 340 P P 10 34 49.6 +1.5
comp=Z,4.3nm,1.0s,baz=27,slow=10,SNR=2.3
D03D Eldon 70.22 46 P P 10 34 59.4 +1.6
baz=296
B05A Bryant 70.50 45 P P 10 35 00.5 +1.1
baz=297
DAG Danmarks Havn 70.69 355 P P 10 35 00.6 +0.5
DAG pmax pmax
comp=Z,5.0nm,1.3s
DAG Danmarks Havn 70.69 355 *i* **P P 10 35 00.0 -0.1**
MAK Makhachkala 71.81 310 *eP* **P 10 35 05.9 -1.6**
MAK *e* 10 37 47.2
MAK *eS* **S 10 44 27.0 +0.9**
MAK *eSS* **SS 10 49 07.6 +5.8**
MAK pmax pmax
comp=Z,629nm,1.7s
MAK MLR MLR
comp=Z,337nm,18.0s
H04A Detroit Lake 72.06 48 P P 10 35 09.8 +0.8
H04A IAmb IAmb 10 35 11.5
comp=Z,9.0nm,0.9s
OBN Obninsk 72.27 324 *i* **P P 10 35 08.6 -1.3**
OBN pmax pmax
comp=Z,6.0nm,0.9s
I04A Tendick Farm, 72.33 49 P P 10 35 12.2 +1.6
baz=298
G05D Wamic, OR 72.35 47 P P 10 35 12.5 +1.7
baz=298
WSAR Wadi Sarin 72.56 287 P P 10 35 12.5 +0.2
comp=Z,3.7nm,0.7s,baz=98,slow=3.6,SNR=3.6
I05D Terrebonne, OR 72.76 48 P P 10 35 14.4 +1.1
baz=298
J04D Umpqua Nationa 72.79 50 P P 10 35 14.5 +0.9
baz=298
L04D Klamath Falls 73.14 51 P P 10 35 16.5 +0.9
baz=298
PINE Pine Mountain 73.27 49 IAmb IAmb 10 35 19.6
comp=Z,13nm,0.9s
J05D Fort Rock, OR 73.33 49 P P 10 35 17.9 +1.2
baz=299
FIA1 FINESS Array S 73.34 333 IAmb IAmb 10 35 17.2
comp=Z,8.0nm,1.1s
FINES FINESS Array B 73.34 333 P P 10 35 16.2 +0.1
comp=Z,3.3nm,0.7s,baz=76,slow=8.0,SNR=10
FINES LR LR 11 10 29.4
comp=Z,40nm,19.6s,baz=40,slow=38
FINES FINESS Array B 73.34 333 P P 10 35 15.6 -0.6
NEW Newport 73.43 43 P P 10 35 18.5 +1.4
NEW pmax pmax
comp=Z,8.0nm,1.4s
NEW Newport 73.43 43 IAmb IAmb 10 35 19.5
comp=Z,5.9nm,1.1s
NEW Newport 73.43 43 P P 10 35 17.7 +0.7
baz=300,SNR=5.2
K05A Summer Lake 73.81 50 IAmb IAmb 10 35 22.7
comp=Z,14nm,1.1s
O03E Paynes Creek 74.39 52 P P 10 35 23.8 +0.9
baz=299
KBZ Khabaz 74.41 312 P P 10 35 23.9 +1.1
comp=Z,6.0nm,0.9s,baz=0.0,slow=0.0,SNR=8.7
KBZ Khabaz 74.41 312 *ce* **P P 10 35 23.7 +0.9**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 74.43 312 *eP* **P 10 35 23.5 +0.4**
KIV pmax pmax
comp=Z,15nm,1.1s
WALA Waterton Lakes 74.86 41 IAmb IAmb 10 35 28.1
comp=Z,8.4nm,1.1s
VSU Vasula 74.88 330 *eP* **P 10 35 25.9 +0.7**
J08A Circle Bar Ran 75.05 48 IAmb IAmb 10 35 29.6
comp=Z,8.0nm,1.1s
RAF Rauma 75.23 334 *eP* **P 10 35 27.5 +0.3**
JTMT Jette 75.33 43 IAmb IAmb 10 35 30.9
comp=Z,10nm,1.0s
WVOR Wild Horse Val 75.41 49 P P 10 35 30.5 +1.7
WVOR pmax pmax
comp=Z,5.0nm,1.8s
MTSE Matsula 75.92 332 *eP* **P 10 35 31.4 +0.2**
MSO Missoula 76.01 43 P P 10 35 32.9 +0.8
baz=302,SNR=5.1
MPK Martis Peak 76.07 52 IAmb IAmb 10 35 35.3
comp=Z,8.2nm,1.2s
AAL Aland 76.44 334 *eP* **P 10 35 34.3 +0.2**
MFID Camas Ranch 76.68 47 IAmb IAmb 10 35 38.7
comp=Z,11nm,1.1s
HLID Hailey 77.47 46 P P 10 35 41.8 +1.3
baz=302,SNR=5.8
DLMT Dillon 77.59 44 IAmb IAmb 10 35 43.6
comp=Z,8.7nm,0.9s
LHV Little Huntoon 77.63 53 IAmb IAmb 10 35 44.3
comp=Z,8.1nm,1.2s
FFC Flin Flon 77.65 32 P P 10 35 41.1 0.0
FFC pmax pmax
comp=Z,7.0nm,1.2s
FFC Flin Flon 77.65 32 P P 10 35 41.1 0.0
FFC IAmb IAmb 10 35 42.8
comp=Z,6.5nm,1.1s
NVAR Mina Array Bea 77.67 52 P P 10 35 43.2 +1.4
comp=Z,2.3nm,0.8s,baz=286,slow=5.9,SNR=24
EGMT Eagleton 77.73 41 IAmb IAmb 10 35 44.1
comp=Z,12nm,1.3s
EGMT Eagleton 77.73 41 P P 10 35 42.1 +0.3
baz=305
BOZ Bozeman (W) 78.03 43 IAmb IAmb 10 35 46.0
comp=Z,8.5nm,1.1s
BOZ Bozeman (W) 78.03 43 P P 10 35 44.6 +1.0
baz=304,SNR=9.3
FCC Fort Churchill 78.23 26 P P 10 35 44.3 +0.1
FCC pmax pmax
comp=Z,8.0nm,1.2s
FCC Fort Churchill 78.23 26 P P 10 35 44.3 +0.1
FCC IAmb IAmb 10 35 46.2
comp=Z,7.5nm,1.2s
AKASG Malin Array Be 78.42 323 P P 10 35 45.4 0.0
comp=Z,1.6nm,0.6s,baz=45,slow=6.7,SNR=12
AKASG LR LR 11 13 31.9
comp=Z,193nm,18.8s,baz=66,slow=38
AKASG Malin Array Be 78.42 323 *i* **P P 10 35 44.5 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 78.42 323 P P 10 35 45.2 -0.2
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 78.42 323 P P 10 35 45.2 -0.2
AKBB IAmb IAmb 10 35 49.1
comp=Z,6.8nm,0.9s
VES Vestal, Richgr 78.47 55 P P 10 35 46.4 +0.4
baz=301
NC303 NORSAR Array S 78.67 338 IAmb IAmb 10 35 49.9
comp=Z,18nm,1.3s
YHL Hebgen Lake 78.71 44 IAmb IAmb 10 35 50.3
comp=Z,9.4nm,1.1s
HFS Hagfors 78.72 336 P P 10 35 46.8 -0.1
comp=Z,3.5nm,0.8s,baz=27,slow=45,SNR=8.7
VIKU Vikbolandet 78.82 334 *eP* **P 10 35 47.1 -0.3**
NB2 NORSAR Subarra 78.86 338 P P 10 35 47.4 -0.3
comp=Z,10.0nm,1.0s,baz=41,slow=5.3
NOA NORSAR Array B 78.86 338 P P 10 35 47.5 -0.3
comp=Z,4.8nm,0.8s,baz=40,slow=5.3,SNR=18
NOA LR LR 11 16 45.0
comp=Z,83nm,18.4s,baz=20,slow=40
YHH Holmes Hill 78.94 44 IAmb IAmb 10 36 06.9
comp=Z,9.8nm,1.5s
YMR Madison River 78.94 44 IAmb IAmb 10 35 51.7
comp=Z,10nm,1.1s
H17A Grant Village 79.32 44 IAmb IAmb 10 35 55.3
comp=Z,14nm,1.1s
H17A Grant Village 79.32 44 P P 10 35 52.5 +1.6
baz=305,SNR=8.9
LKWY Lake 79.33 44 IAmb IAmb 10 35 55.3
comp=Z,9.5nm,1.1s
YMP Mirror Lake Pl 79.38 44 IAmb IAmb 10 35 54.6
comp=Z,13nm,1.4s
FLWY Flagg Ranch 79.43 44 IAmb IAmb 10 35 55.0
comp=Z,8.4nm,1.1s
HVU Hansel Valley 79.46 47 IAmb IAmb 10 35 54.3
comp=Z,6.0nm,0.9s
MPMC Manual Prospec 79.46 54 P P 10 35 52.4 +0.7
baz=302
R11A Troy Canyon, C 79.53 51 P P 10 35 52.2 +0.3
baz=303,SNR=7.9
TPAW Teton Pass 79.61 45 IAmb IAmb 10 35 55.0
comp=Z,4.2nm,0.8s
LRMC Laurel Mtn Rad 79.63 55 P P 10 35 54.0 +1.5
baz=302
RLMT Red Lodge 79.67 43 P P 10 35 54.0 +1.3
baz=305,SNR=5.6
FURC Furnace Creek, 79.67 53 P P 10 35 53.6 +1.1
baz=302
REDW Red Top Meadow 79.75 45 IAmb IAmb 10 35 56.7

	comp=Z,7.9nm,1.3s						
SNOW	**Snow King Moun**	**79.75**	**45**	IAmb	IAmb	10 35 56.2	
	comp=Z,8.9nm,1.2s						
TPNV	**Topopah Spring**	**79.83**	**53**	P	**P**	**10 35 54.1**	**+0.4**
	baz=303,SNR=8.0						
AHID	**Auburn Hatcher**	**79.94**	**46**	IAmb	IAmb	10 35 56.6	
	comp=Z,6.0nm,1.0s						
QSM	**Queen of Sheba**	**79.94**	**54**	IAmb	IAmb	10 35 56.2	
	comp=Z,12nm,1.2s						
GWY	**Greenwater Val**	**79.96**	**54**	IAmb	IAmb	10 35 56.4	
	comp=Z,9.3nm,1.1s						
HWUT	**Hardware Ranch**	**80.31**	**47**	IAmb	IAmb	10 35 58.9	
	comp=Z,10.0nm,1.0s						
BFSC	**Mount Baldy Ra**	**80.31**	**56**	P	**P**	**10 35 58.2**	**+2.0**
	baz=302						
DUG	**Dugway, Tooele**	**80.31**	**49**	IAmb	IAmb	10 35 58.8	
	comp=Z,9.9nm,0.9s						
DUG	**Dugway, Tooele**	**80.31**	**49**	P	**P**	**10 35 57.3**	**+1.2**
	baz=304,SNR=10						
GSC	**Goldstone, Bar**	**80.33**	**54**	IAmb	IAmb	10 35 58.4	
	comp=Z,7.4nm,1.3s						
GSC	**Goldstone, Bar**	**80.33**	**54**	P	**P**	**10 35 57.0**	**+0.7**
	baz=303						
SHOC	**Shoshone, Teco**	**80.38**	**54**	P	**P**	**10 35 57.5**	**+1.1**
	baz=303						
LAO	**LASA Array**	**80.46**	**40**	P	**P**	**10 35 57.6**	**+0.9**
	baz=307						
PSUT	**Pine Spring**	**80.56**	**50**	IAmb	IAmb	10 36 00.4	
	comp=Z,6.0nm,1.0s						
CTU	**Camp Tracy**	**80.71**	**48**	IAmb	IAmb	10 36 00.7	
	comp=Z,7.5nm,0.9s						
SHPR	**Sheep Range**	**80.81**	**53**	P	**P**	**10 35 59.9**	**+1.0**
SHPR				IAmb	IAmb	10 36 01.4	
	comp=Z,6.1nm,1.0s						
BW06	**Boulder Array**	**80.86**	**45**	P	**P**	**10 35 59.9**	**+0.7**
	baz=306,SNR=5.1						
PDAR	**Pinedale Array**	**80.86**	**45**	P	**P**	**10 36 00.2**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=273,slow=2.7,SNR=18						
TUQ	**Turquoise Moun**	**80.87**	**54**	P	**P**	**10 35 59.4**	**+0.2**
	baz=303						
NLU	**North Lily Min**	**80.92**	**48**	IAmb	IAmb	10 36 01.9	
	comp=Z,6.7nm,0.9s						
JLU	**Jordanelle**	**80.95**	**48**	IAmb	IAmb	10 36 02.3	
	comp=Z,12nm,1.2s						
GMRC	**Granite Mounta**	**81.40**	**54**	P	**P**	**10 36 02.9**	**+0.9**
	baz=303						
CCUT	**Cedar City**	**81.43**	**51**	IAmb	IAmb	10 36 04.8	
	comp=Z,5.6nm,1.0s						
PFO	**Pinyon Flats O**	**81.48**	**56**	LR	LR	11 13 05.4	
	comp=Z,50nm,18.2s,baz=311,slow=36						
PFO	**Pinyon Flats O**	**81.48**	**56**	P	**P**	**10 36 02.4**	**-0.1**
	baz=303						
TPFO	**Pinon Flats**	**81.49**	**56**	P	**P**	**10 36 02.9**	**+0.3**
	baz=303						
BELC	**Belle Mtn. Jos**	**81.60**	**55**	P	**P**	**10 36 03.2**	**+0.1**
	baz=303						
LCMT	**Little Creek M**	**81.81**	**51**	IAmb	IAmb	10 36 06.7	
	comp=Z,8.1nm,1.0s						
SOCY	**Socotra**	**81.84**	**279**	P	**P**	**10 36 02.1**	**-2.5**
MTPU	**Mount Pierson**	**81.93**	**50**	IAmb	IAmb	10 36 07.9	
	comp=Z,7.2nm,1.0s						
Q16A	**Castle Valley**	**82.08**	**49**	IAmb	IAmb	10 36 08.3	
	comp=Z,15nm,1.3s						
KNB	**Kanab**	**82.09**	**51**	P	**P**	**10 36 06.4**	**+0.7**
KNB				pmax	pmax		
	comp=Z,12nm,1.0s						
KNB	**Kanab**	**82.09**	**51**	P	**P**	**10 36 06.4**	**+0.7**
KNB				IAmb	IAmb	10 36 08.5	
	comp=Z,12nm,1.0s						
IRM	**Iron Mountain**	**82.10**	**55**	P	**P**	**10 36 06.5**	**+0.9**
	baz=304						
BC3	**Big Chuckawall**	**82.16**	**55**	P	**P**	**10 36 07.0**	**+0.9**
	baz=304						
P18A	**Preston Nutter**	**82.26**	**48**	IAmb	IAmb	10 36 10.2	
	comp=Z,7.6nm,1.0s						
BUR08	**Bucovina Ar. S**	**82.39**	**322**	IAmb	IAmb	10 36 09.1	
	comp=Z,5.7nm,1.1s						
BRTR	**Keskin Array B**	**82.40**	**312**	P	**P**	**10 36 07.7**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=75,slow=3.7,SNR=9.1						
BRTR	**Keskin Array B**	**82.40**	**312**	*i* P	**P**	**10 36 08.0**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**82.40**	**312**	P	**P**	**10 36 05.9**	**-1.3**
BURAR	**Bucovina Array**	**82.40**	**322**	P	**P**	**10 36 07.5**	**+0.5**
BURAR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BURAR	**Bucovina Array**	**82.40**	**322**	P	**P**	**10 36 06.4**	**-0.6**
BORG	**Borgarnes**	**82.56**	**353**	LR	LR	11 14 31.9	
	comp=Z,20nm,20.4s,baz=200,slow=37						
RAYN	**Ar Rayn**	**82.89**	**293**	P	**P**	**10 36 08.7**	**-1.2**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
RAYN	**Ar Rayn**	**82.89**	**293**	P	**P**	**10 36 08.7**	**-1.2**
RAYN				IAmb	IAmb	10 36 12.9	
	comp=Z,4.6nm,0.7s						
O20A	**White River Ci**	**83.21**	**47**	IAmb	IAmb	10 36 13.6	
	comp=Z,8.5nm,0.9s						
O20A	**White River Ci**	**83.21**	**47**	P	**P**	**10 36 11.7**	**+0.1**
	baz=307,SNR=7.1						
RSSD	**Black Hills**	**83.26**	**41**	P	**P**	**10 36 12.7**	**+1.0**
	baz=309						
OJC	**Ojcow**	**83.33**	**327**	IAmb	IAmb	10 36 13.2	
	comp=Z,13nm,1.2s						
Y14A	**Wickenburg**	**83.70**	**54**	IAmb	IAmb	10 36 16.1	
	comp=Z,6.3nm,1.1s						
113A	**Mohawk Valley,**	**83.83**	**55**	IAmb	IAmb	10 36 16.6	
	comp=Z,7.8nm,1.1s						
WUAZ	**Wupatki**	**83.90**	**52**	IAmb	IAmb	10 36 17.5	
	comp=Z,6.6nm,1.0s						
WUAZ	**Wupatki**	**83.90**	**52**	P	**P**	**10 36 15.9**	**+0.8**
	baz=305						
N23A	**Red Feather La**	**84.15**	**45**	P	**P**	**10 36 17.4**	**+1.1**
	baz=308,SNR=5.8						
PHWY	**Pilot Hill**	**84.19**	**44**	IAmb	IAmb	10 36 18.9	
	comp=Z,6.2nm,1.2s						
LANS	**Liptovska Anna**	**84.22**	**326**	*e*P	**P**	**10 36 18.6**	**+2.3**
LANS	**Liptovska Anna**	**84.22**	**326**	*e*P	**P**	**10 36 18.6**	**+2.3**
X16A	**Lo Mia Camp, P**	**84.49**	**53**	IAmb	IAmb	10 36 21.2	
	comp=Z,5.2nm,1.0s						
SMCO	**Snowmass**	**84.57**	**47**	IAmb	IAmb	10 36 21.3	
	comp=Z,7.5nm,1.2s						
MORC	**Moravsky Berou**	**84.68**	**327**	IAmb	IAmb	10 36 20.1	
	comp=Z,11nm,1.3s						
MORC	**Moravsky Berou**	**84.68**	**327**	*e*P	**P**	**10 36 18.7**	**+0.1**
MVCO	**Mesa Verde**	**84.79**	**49**	IAmb	IAmb	10 36 21.7	
	comp=Z,4.7nm,1.1s						
MVCO	**Mesa Verde**	**84.79**	**49**	P	**P**	**10 36 20.2**	**+0.5**
	baz=307						
DPC	**Dobruska-Polom**	**84.81**	**328**	P	**P**	**10 36 20.6**	**+1.3**
DPC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
214A	**Organ Pipe Nat**	**84.96**	**55**	IAmb	IAmb	10 36 22.6	
	comp=Z,8.2nm,1.0s						
214A	**Organ Pipe Nat**	**84.96**	**55**	P	**P**	**10 36 20.8**	**+0.4**
	baz=305						
VYHS	**Vyhne**	**84.98**	**326**	*e*P	**P**	**10 36 21.7**	**+1.6**
VYHS	**Vyhne**	**84.98**	**326**	*e*P	**P**	**10 36 21.7**	**+1.6**
ISCO	**Idaho Springs**	**85.02**	**46**	IAmb	IAmb	10 36 24.5	
	comp=Z,7.0nm,1.4s						
ISCO	**Idaho Springs**	**85.02**	**46**	P	**P**	**10 36 21.6**	**+0.8**
	baz=308						
JAVC	**Velka Javorina**	**85.27**	**327**	*e*P	**P**	**10 36 22.7**	**+1.1**
VRAC	**Vranov**	**85.44**	**328**	P	**P**	**10 36 23.5**	**+1.1**
	comp=Z,2.1nm,0.4s,baz=45,slow=8.0,SNR=5.3						
VRAC				LR	LR	11 18 07.8	
	comp=Z,73nm,18.1s,baz=32,slow=38						
VRAC	**Vranov**	**85.44**	**328**	*e*P	**P**	**10 36 22.9**	**+0.5**
BRG	**Berggiesshubel**	**85.47**	**330**	*e*P	**P**	**10 36 22.6**	**+0.2**
BRG				Amp		10 36 25.8	
	comp=Z,8.4nm,1.2s						
BRG	**Berggiesshubel**	**85.47**	**330**	*e*P	**P**	**10 36 22.6**	**+0.2**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
S22A	**4UR Ranch, Cre**	**85.53**	**48**	P	**P**	**10 36 24.4**	**+1.0**
	baz=308						
CLL	**Collm**	**85.54**	**331**	*i* P	**P**	**10 36 22.8**	**0.0**
CLL				pmax	pmax		
	comp=Z,12nm,1.0s						
CLL	**Collm**	**85.54**	**331**	*i* P	**P**	**10 36 22.8**	**0.0**
	comp=Z,12nm,1.0s						
KRUC	**Moravsky**	**85.71**	**328**	*e*P	**P**	**10 36 23.9**	**+0.2**
MODS	**Modra-Piesok**	**85.80**	**327**	*e*P	**P**	**10 36 25.5**	**+1.3**
MODS	**Modra-Piesok**	**85.80**	**327**	*e*P	**P**	**10 36 25.5**	**+1.3**
Q24A	**Divide**	**85.82**	**46**	P	**P**	**10 36 25.9**	**+1.1**
	baz=309						
TUC	**Tucson**	**86.16**	**54**	P	**P**	**10 36 27.3**	**+0.9**
	baz=306						
SDCO	**Great Sand Dun**	**86.36**	**47**	P	**P**	**10 36 28.2**	**+0.7**
	baz=308						
GERES	**GERESS Array B**	**87.08**	**329**	LR	LR	11 18 18.8	
	comp=Z,59nm,18.8s,baz=351,slow=38						
ANMO	**Albuquerque**	**87.47**	**50**	LR	LR	11 18 02.7	
	comp=Z,51nm,18.6s,baz=334,slow=37						
ANMO	**Albuquerque**	**87.47**	**50**	P	**P**	**10 36 33.1**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ANMO	**Albuquerque**	**87.47**	**50**	P	**P**	**10 36 33.1**	**+0.2**
ANMO	**Albuquerque**	**87.47**	**50**	P	**P**	**10 36 33.3**	**+0.4**
	baz=308						
ECSD	**EROS Data Cent**	**87.55**	**38**	IAmb	IAmb	10 36 34.7	
	comp=Z,5.5nm,0.9s						
ECSD	**EROS Data Cent**	**87.55**	**38**	P	**P**	**10 36 31.4**	**-1.4**
	baz=314						
EKA	**Eskdalemuir Ar**	**87.88**	**341**	P	**P**	**10 36 34.9**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=50,slow=7.0,SNR=2.6						
DAVOX	**Davos/Dischmat**	**90.32**	**329**	P	**P**	**10 36 46.3**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=346,slow=13,SNR=4.1						
DAVOX				LR	LR	11 21 49.2	
	comp=Z,98nm,19.2s,baz=148,slow=39						
WMOK	**Wichita Mounta**	**92.44**	**46**	P	**P**	**10 36 56.1**	**+0.2**
	baz=312						
TXAR	**Lajitas Array**	**92.82**	**53**	P	**P**	**10 36 59.1**	**+1.3**
	comp=Z,3.9nm,0.8s,baz=296,slow=3.1,SNR=45						
U40A	**Yellville**	**94.79**	**41**	IAmb	IAmb	10 37 07.6	
	comp=Z,4.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**121.00**	**313**	PKP	**PKiKP**	**10 42 37.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=6.5,slow=2.0,SNR=4.9						
LPAZ	**La Paz**	**148.58**	**67**	PKPbc	**PKiKP**	**10 43 34.0**	**-0.5**
	comp=Z,5.2nm,0.9s,baz=312,slow=1.7,SNR=14						
LPAZ	**La Paz**	**148.58**	**67**		**PKiKP**	**10 43 33.5**	**-1.1**

IDC 11 10:27:05.6±498.0, 52°.94N×33°.36E, h0km, Error ellipse: s-maj=183.3km s-min=91.1km az=31.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.40**	**29**	*i*		10 55 30.0	
	baz=212,slow=325,SNR=1.4						
I26DE	**FREYUNG INFRAS**	**13.05**	**260**	*i*		11 48 50.0	
	baz=64,slow=324,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**15.49**	**90**	*i*		12 02 00.0	
	baz=290,slow=322,SNR=2.6						

IDC 11 10:36:09.4±1.0, 29°.41N×79°.93E, h0km, mb3.5/10, mb1 3.6/11, mb1mx3.4/49, mbtmp3.5/11, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/85, Error ellipse: s-maj=35.2km s-min=18.9km az=49.0
NDI 11 10:36:11.6±2.9, 29°.95N×80°.27E, h10km, ML3.7

ISC 11 10:36:12.8±2.9, 29.79N±0.04×80.00E±0.04, h13km±19km, n23, σ1s80/33, mb3.6/9, 1D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**0.30**	**142**	*e*P	**Pb**	**10 36 19.5**	**-0.6**
PTH				*e*S	**Sb**	**10 36 24.6**	**-0.5**
LGTI	**Lohaghat**	**0.40**	**148**	*e*P	**Pb**	**10 36 22.9**	**+1.2**
LGTI				*e*S	**Sn**	**10 36 31.4**	**-0.1**
DDI	**Dehra Dun**	**1.77**	**288**	*e*P	**Pb**	**10 36 44.8**	**-0.3**
DDI				*e*S	**Sb**	**10 37 08.9**	**+1.6**
DDI				IAML		10 37 11.1	
	comp=E,1μm,0.2s						
DDI				IAML		10 37 11.3	
	comp=N,1μm,0.4s						
NDI	**New Delhi**	**2.67**	**246**	*e*P	**Pb**	**10 36 58.8**	**-1.7**
NDI				*e*P	Pn	10 37 02.0	+6.5
SMLA	**Simla**	**2.79**	**299**	*e*P	**Pn**	**10 36 57.5**	**+0.4**
SMLA				*e*S	**Sn**	**10 37 31.1**	**+0.5**
SMLA				IAML		10 37 39.4	
	comp=E,344nm,0.5s						
SMLA				IAML		10 37 43.3	
	comp=N,309nm,0.3s						
SONA	**Sohna**	**2.98**	**240**	*e*P	**Pb**	**10 37 04.9**	**-0.8**
SONA				*e*S	**Sb**	**10 37 42.7**	**+0.6**
KUDL	**Kundal**	**3.49**	**243**	*e*P	**Pb**	**10 37 12.2**	**-2.2**
KUDL				*e*S	**Sn**	**10 37 51.5**	**+3.7**
JHNI	**Jhansi**	**4.50**	**197**	*e*P	**Pn**	**10 37 22.8**	**+2.2**
JHNI				*e*S	**Sn**	**10 38 14.1**	**+1.3**
THN	**Thein Dam**	**4.53**	**307**	*e*P	**Pn**	**10 37 22.7**	**+1.7**
THN				*e*S	**Sn**	**10 38 12.6**	**-0.8**
JBP	**Jabalpur**	**6.59**	**180**	*ex*	**Pn**	**10 37 51.7**	**+2.3**
JBP				*e*P	**Pn**	**10 37 51.7**	**+2.3**
JBP				⇓*e*S	**Sn**	**10 39 05.5**	**+1.1**
BHPL	**Bhopal**	**6.92**	**200**	*e*P	**Pn**	**10 37 53.4**	**-0.5**
BHPL				*e*S	**Sn**	**10 39 10.6**	**-1.9**
BHPL				IAML		10 39 13.3	
	comp=N,71nm,0.4s						
BHPL				IAML		10 39 13.5	
	comp=E,82nm,0.3s						
MKAR	**Makanchi Array**	**17.07**	**5**	Pn	**Pn**	**10 40 09.6**	**-1.5**
	comp=E,0.1nm,0.3s,baz=188,slow=11,SNR=3.7						
CMAR	**Chiang Mai Arr**	**20.61**	**119**	P	**P**	**10 40 48.5**	**-3.3**
	comp=E,0.6nm,0.7s,baz=309,slow=12,SNR=5.1						
ZALV	**Zalesovo Beam**	**24.40**	**7**	P	**P**	**10 41 31.3**	**+0.7**
	comp=E,1.6nm,0.5s,baz=194,slow=9.3,SNR=2.7						
AKTO	**Aktyubinsk**	**26.43**	**327**	P	**P**	**10 41 51.0**	**+1.8**
	comp=E,0.3nm,0.4s,baz=98,slow=7.1,SNR=1.6						
SONM	**Songino Array**	**27.14**	**41**	P	**P**	**10 41 58.5**	**+2.8**
	comp=E,0.2nm,0.3s,baz=223,slow=5.9,SNR=4.0						
FINES	**FINESS Array B**	**47.20**	**328**	P	**P**	**10 44 45.6**	**+0.7**
	comp=E,0.4nm,0.4s,baz=106,slow=10,SNR=1.7						
ARCES	**ARCESS Array B**	**50.19**	**338**	P	**P**	**10 45 08.3**	**+0.5**
	comp=E,3.9nm,1.1s,baz=116,slow=9.3,SNR=1.4						
KAPI	**Kappang**	**51.47**	**125**	LR	LR	11 10 13.4	
	comp=E,95nm,20.6s,baz=294,slow=40						
HFS	**Hagfors**	**52.94**	**325**	P	**P**	**10 45 30.0**	**+1.5**
	comp=E,0.8nm,0.5s,baz=108,slow=4.7,SNR=2.0						
WRA	**Warramunga Arr**	**71.99**	**127**	P	**P**	**10 47 34.3**	**-2.1**
	comp=E,0.5nm,0.8s,baz=325,slow=6.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**73.54**	**276**	P	**P**	**10 47 44.1**	**-1.7**
	comp=E,0.2nm,0.7s,baz=48,slow=5.9,SNR=1.7						
ASAR	**Alice Springs**	**74.20**	**130**	P	**P**	**10 47 47.1**	**-2.3**
	comp=E,0.3nm,0.4s,baz=313,slow=5.9,SNR=8.6						

KRSC 11 10:38:08.3±1.5, 48°.66N×155°.70E, h16km±31km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.05**	**7**	P	Pb	10 38 44.0	-1.1
SKR				S	Sb	10 39 09.3	-1.0
PAU	**Pauzhetka**	**2.90**	**14**	S	Sb	10 39 33.0	-2.0
KDTR	**Khodutka, Kamc**	**3.51**	**25**	P	Pn	10 39 05.6	+3.5
KDTR				S	Sn	10 39 46.5	+3.3
MIPR	**Malaya Ipel'ka**	**3.69**	**10**	P	Pn	10 39 06.9	+2.2
ASAK	**Asacha**	**3.99**	**20**	P	Pn	10 39 12.5	+3.7
ASAK				S	Sn	10 39 58.9	+3.6
MTVR	**Mutnovka**	**4.15**	**21**	P	Pn	10 39 15.3	+4.2
MTVR				S	Sn	10 40 03.7	+4.5
GRL	**Gorelyy**	**4.18**	**20**	P	Pn	10 39 15.9	+4.3
GRL				S	Sn	10 40 05.3	+5.1
RUS	**Russkaya**	**4.19**	**24**	P	Pn	10 39 14.6	+3.1
RUS				S	Sn	10 40 03.8	+3.8
PET	**Petropavlovsk**	**4.76**	**22**	S	Sn	10 40 19.0	+4.9
DALK	**Dalny**	**4.79**	**23**	P	Pn	10 39 24.6	+4.9
DALK				S	Sn	10 40 19.9	+5.1
SMAR	**Somma**	**5.01**	**22**	P	Pn	10 39 27.9	+4.9

GUC 11 10:59:05.4±0.6, 18°.51S×69°.24W, h126km±4km, ML3.4
IDC 11 10:59:05.8±1.3, 18°.62S×68°.91W, h134km±11km, mb3.2/3, mb1 3.2/6, mb1mx3.1/29, mbtmp3.6/6, Error ellipse: s-maj=26.4km s-min=10.3km az=101.0

ISC 11 10:59:05.3±1.1, 18°.56S±0°.04×69°.33W±0°.08, h127km±8km, n19, σ0s66/31, 4C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.28**	**322**	⇑*i* P	**Pn**	**10 59 23.4**	**-0.4**
PB16				*e*S	**Sn**	**10 59 37.1**	**-0.7**
PB16				IAML		10 59 38.2	
	comp=E,795nm,0.3s						
PB12	**IPOC Station P**	**0.95**	**267**	⇑*i* P	**Pn**	**10 59 27.7**	**0.0**
PB12				*e*S	**Sn**	**10 59 44.8**	**+0.3**
PB12				IAML		10 59 46.6	
	comp=N,1μm,0.2s						
AP01	**Chacalluta**	**0.98**	**281**	*e*P	**Pn**	**10 59 28.1**	**+0.3**
AP01				*e*S	**Sn**	**10 59 45.3**	**+0.5**
GO01	**Chusmiza**	**1.11**	**174**	*e*P	**Pn**	**10 59 29.8**	**+0.2**
GO01				*e*S	**Sn**	**10 59 48.8**	**+0.8**
GO01				IAML		10 59 51.0	
	comp=E,887nm,0.1s						
PB11	**IPOC Station P**	**1.23**	**195**	⇑*i* P	**Pn**	**10 59 30.5**	**0.0**
PB11				*e*S	**Sn**	**10 59 49.9**	**+0.2**
PB11				IAML		10 59 50.9	
	comp=N,857nm,0.2s						
PB08	**IPOC Station P**	**1.58**	**174**	*e*P	**Pn**	**10 59 34.9**	**+0.3**
PB08				*e*S	**Sn**	**10 59 57.5**	**+0.7**
HMBC	**Humberstone**	**1.79**	**197**	⇓*i* P	**Pn**	**10 59 36.6**	**-0.1**
HMBC				*e*S	**Sn**	**11 00 00.1**	**-0.7**
HMBC				IAML		11 00 04.5	
	comp=N,242nm,0.2s						
TA02	**Huaiquique**	**1.86**	**204**	*e*P	**Pn**	**10 59 37.4**	**-0.1**
TA02				*e*S	**Sn**	**11 00 01.7**	**-0.4**
TA02				IAML		11 00 07.7	
	comp=N,405nm,0.1s						
TA01	**Diego Aracena**	**2.15**	**202**	⇓*e*P	**Pn**	**10 59 40.9**	**-0.1**
TA01				*e*S	**Sn**	**11 00 07.5**	**-0.9**
TA01				IAML		11 00 17.1	
	comp=E,146nm,0.3s						
PATCX	**Punta Patache**	**2.38**	**199**	⇑*e*P	**Pn**	**10 59 43.5**	**-0.5**
PATCX				*e*S	**Sn**	**11 00 12.1**	**-1.6**
PATCX				IAML		11 00 24.3	
	comp=E,113nm,0.6s						
PB01	**IPOC Station P**	**2.47**	**184**	*e*P	**Pn**	**10 59 45.1**	**-0.1**
PB01				*e*S	**Sn**	**11 00 15.2**	**-0.7**
PB01				IAML		11 00 18.3	
	comp=N,114nm,0.2s						
LPAZ	**La Paz**	**2.53**	**27**	P	**Pn**	**10 59 46.1**	**-0.4**
	comp=N,8.8nm,0.3s,baz=183,slow=3.3,SNR=237						
LPAZ				S	**Sn**	**11 00 17.4**	**-0.5**
	comp=N,0.4nm,0.3s,baz=233,slow=20,SNR=1.5						
PB02	**IPOC Station P**	**2.80**	**191**	*e*P	**Pn**	**10 59 49.5**	**+0.2**
PB02				*e*S	**Sn**	**11 00 23.1**	**-0.1**
PB02				IAML		11 00 31.3	
	comp=E,168nm,0.4s						
PB07	**IPOC Station P**	**3.19**	**189**	*e*P	**Pn**	**10 59 53.8**	**-0.7**
PB07				*e*S	**Sn**	**11 00 32.4**	**-0.1**
PB07				IAML		11 00 42.4	
	comp=E,86nm,0.4s						
LVC	**Limon Verde**	**4.05**	**175**	P	**Pn**	**11 00 07.2**	**+1.2**
	comp=E,2.0nm,0.3s,baz=43,slow=9.6,SNR=9.6						
LVC				S	**Sn**	**11 00 51.6**	**-1.4**
	comp=E,1.4nm,0.3s,baz=229,slow=20,SNR=4.1						
SIV	**San Ignacio**	**8.29**	**73**	P	Pn	11 00 58.4	-4.3
	comp=E,0.6nm,0.3s,baz=256,slow=13,SNR=8.8						
SIV				S	Sn	11 02 27.1	-7.7
	comp=E,0.1nm,0.3s,baz=337,slow=22,SNR=1.5						
BDFB	**Brasilia**	**20.57**	**85**	P	P	11 03 30.5	-3.8
	comp=E,2.4nm,0.4s,baz=248,slow=5.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**76.76**	**71**	P	P	11 10 41.1	-2.2
	comp=E,0.3nm,0.3s,baz=250,slow=5.0,SNR=6.0						
YKA	**Yellowknife Ar**	**88.30**	**341**	P	**P**	**11 11 42.5**	**+0.5**
	comp=E,0.1nm,0.5s,baz=132,slow=5.0,SNR=2.0						

ATH 11 11:03:28.3, 38°.73N×20°.63E, h10km±1km, ML2.2/7, Error ellipse: s-maj=2.5km s-min=0.8km az=289.0
THE 11 11:03:28.9, 38°.74N×20°.62E, h4km±1km, ML2.5/5, Error ellipse: s-maj=1.5km s-min=0.3km az=52.0

ISC 11 11:03:27.6±0.9, 38.72N±0.03×20.63E±0.04, h13km±5km, n24, σ0s36/37, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NYDR	**Nydri-Lefkada**	**0.05**	**99**	P	**Pg**	**11 03 30.2**	**+0.2**
NYDR				S	**Sg**	**11 03 31.7**	**-0.1**
	5μm,0.2s						
DRAG	**Dragano-Lefkad**	**0.06**	**230**	P	**Pg**	**11 03 30.2**	**+0.1**
DRAG				S	**Sg**	**11 03 31.5**	**-0.4**
DRAG	**Dragano-Lefkad**	**0.06**	**230**	P	**Pg**	**11 03 30.2**	**+0.1**
DRAG				S	**Sg**	**11 03 31.5**	**-0.4**
	7μm,0.1s						
LKD2	**Lefkada island**	**0.07**	**17**	P	**Pg**	**11 03 30.2**	**-0.1**
LKD2				S	**Sg**	**11 03 31.4**	**-0.8**
EVGI	**Lefkada island**	**0.10**	**169**	P	**Pb**	**11 03 31.2**	**-0.2**
EVGI				S	**Sb**	**11 03 33.6**	**-0.3**
EVGI	**Lefkada island**	**0.10**	**169**	P	**Pb**	**11 03 31.2**	**-0.2**
EVGI				S	**Sg**	**11 03 33.3**	**+0.6**
	6μm,0.2s						
TSLK	**Tsoukalades, L**	**0.10**	**10**	P	**Pg**	**11 03 30.9**	**+0.3**
TSLK				S	**Sg**	**11 03 32.6**	**-0.2**
TSLK				AML	AML	11 03 33.2	
	comp=E,20176μm,0.3s						
TSLK				AML	AML	11 03 33.2	
	comp=N,10518μm,0.4s						
TSLK	**Tsoukalades, L**	**0.10**	**10**	P	**Pg**	**11 03 30.9**	**+0.3**
TSLK				S	**Sg**	**11 03 32.4**	**-0.4**
	comp=N,8μm,0.3s						
FSK	**Fiskardo**	**0.27**	**192**	P	**Pb**	**11 03 34.3**	**+0.1**
FSK				S	**Sb**	**11 03 38.2**	**-0.5**
FSK				AML	AML	11 03 40.0	
	comp=N,1044μm,0.3s						

ELGU				*i* Vmb_Lg		11 08 47.8		
EMAL	**Malaga-Limoner**	**1.25**	**328**	P	**Pg**	**11 08 28.6**	**+0.2**
EMAL				S	**Sn**	**11 08 44.5**	**-0.3**
EMIJ	**Mijas**	**1.28**	**312**	Pg	**Pb**	**11 08 28.5**	**-0.1**
EMIJ				Sg	**Sb**	**11 08 44.4**	**-0.8**
EMIJ				*i* Vmb_Lg		11 08 45.5	
EBER	**Berja**	**1.32**	**26**	Pg	**Pg**	**11 08 29.8**	**0.0**
EBER				Sg	**Sg**	**11 08 47.5**	**+0.5**
EBER				*i* Vmb_Lg		11 08 50.8	
TAF	**Taforalt**	**1.32**	**132**	P	**Pn**	**11 08 28.7**	**-0.3**
TAF				S	**Sb**	**11 08 45.6**	**-0.8**
SMIR	**Smir Dam**	**1.45**	**269**	P	**Pn**	**11 08 29.5**	**-1.2**
SMIR				S	**Sn**	**11 08 46.9**	**-3.0**
EGOR	**Sierra Gorda,**	**1.46**	**344**	Pg	**Pb**	**11 08 31.4**	**-0.4**
EGOR				Sg	**Sg**	**11 08 51.9**	**+0.5**
EGOR				*i* Vmb_Lg		11 09 03.1	
JBK	**JBK**	**1.61**	**148**	P	**Pn**	**11 08 32.9**	**-0.3**
JBK				S	**Sn**	**11 08 51.8**	**-2.4**
EADA	**Adamuz**	**2.58**	**343**	Pn	**Pb**	**11 08 48.7**	**-2.1**
EADA				Sn	**Sn**	**11 09 18.8**	**+1.1**
EADA				*i* Vmb_Lg		11 09 27.3	
ECAB	**El Cabril**	**2.77**	**329**	Pn	**Pb**	**11 08 51.7**	**-2.5**
ECAB				Sn	**Sn**	**11 09 24.1**	**+1.5**
ECAB				*i* Vmb_Lg		11 09 34.3	
MD31	**MD31**	**2.99**	**199**	P	**Pn**	**11 08 53.1**	**+1.1**
MD31				S	**Sn**	**11 09 28.5**	**+0.4**
MDT	**Midelt**	**3.01**	**196**	P	**Pn**	**11 08 53.9**	**+1.6**
EMIN	**Mina Concepcio**	**3.21**	**311**	Pn	**Pn**	**11 08 56.1**	**+1.1**
EMIN				Sn	**Sn**	**11 09 32.4**	**-1.0**
EGRO	**El Granado**	**3.62**	**301**	Pn	**Pn**	**11 09 01.8**	**+1.3**
EGRO				Sn	**Sn**	**11 09 42.5**	**-0.8**
PBAR	**Barrancos**	**3.69**	**313**	*e*Pn	**Pn**	**11 09 04.0**	**+2.4**
PBAR				*e*Sn	**Sn**	**11 09 46.0**	**+0.8**
PBAR				A	A	11 09 51.8	
	2.8nm,0.9s						
PVAQ	**Vaqueiros**	**3.72**	**298**	*e*Pn	**Pn**	**11 09 03.4**	**+1.4**
PVAQ				*e*Sn	**Sn**	**11 09 46.1**	**+0.2**
PVAQ				A	A	11 09 49.4	
	3.1nm,0.6s						
PVAQ	**Vaqueiros**	**3.72**	**298**	P	**Pn**	**11 09 04.3**	**+2.3**
PVAQ				S	**Sn**	**11 09 45.3**	**-0.6**
PCVE	**Castro Verde**	**4.05**	**300**	*e*Pn	**Pn**	**11 09 08.1**	**+1.5**
PNCL	**Nicolau / Gran**	**4.62**	**303**	*e*Pn	**Pn**	**11 09 15.8**	**+1.4**
PMRV	**Marv??o**	**4.78**	**322**	*e*Pn	**Pn**	**11 09 18.7**	**+2.1**
PMRV				*e*Sn	**Sn**	**11 10 11.5**	**-0.6**
PMTG	**Montargil**	**4.98**	**314**	*e*Pn	**Pn**	**11 09 21.1**	**+1.8**
PMTG				*e*Sn	**Sn**	**11 10 16.7**	**-0.2**

TAP ***11*** *11:27:21.1,24.0°8N×122.7°49E,h39km,ML3.2,D*
JMA ***11*** *11:27:21.7±0.1,24.0°03N×122.7°38E,h30km±3km,M2.6*
ISC 11 11:27:22.0±1.2,24°02N±0.04×122°40E±0.02,h25km±13km,
n99,σ0s73/103,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.66**	**49**	P	**Pb**	**11 27 34.5**	**-0.3**
JYNG				S	**Sb**	**11 27 43.1**	**-0.5**
EHP	**Heping Village** baz=288	**0.67**	**296**	*e*P	**Pb**	**11 27 34.9**	**-0.2**
YOJ	**Yonaguni jima**	**0.71**	**51**	P	**Pb**	**11 27 35.5**	**-0.2**
YOJ				*e*S	**Sb**	**11 27 44.9**	**-0.2**
ETL	**Fush Village** baz=275	**0.72**	**281**	*i* P	**Pb**	**11 27 36.1**	**+0.1**
ENA	**Nanau** baz=297	**0.73**	**304**	*i* P	**Pn**	**11 27 35.5**	**-1.2**
ENA				*i* S	**Sb**	**11 27 46.6**	**+1.0**
HWA	**Hwalien** baz=251	**0.73**	**267**	*e*P	**Pn**	**11 27 35.8**	**-1.0**
TWD	**Chiawan** baz=270	**0.74**	**275**	*i* P	**Pn**	**11 27 36.2**	**-0.6**
TEYL	**Yanliau Villag** baz=247	**0.75**	**259**	*i* P	**Pn**	**11 27 36.2**	**-0.8**
TEYL				*i* S	**Sb**	**11 27 47.3**	**+1.1**
NACB	**Ninganchiao** baz=263	**0.75**	**282**	*i* P	Pn	11 27 35.5	-1.6
TWC	**Suao** baz=303	**0.77**	**319**	*i* P	Pn	11 27 35.9	-1.5
TWC	baz=303			*e*S	**Sb**	**11 27 46.3**	**-0.6**
ETM	**Tongmen** baz=254	**0.83**	**267**	*e*P	**Pn**	**11 27 37.3**	**-0.9**
ETLH	**Xiulin Townshi** baz=277	**0.86**	**283**	*e*P	Pn	11 27 37.2	-1.5
ESL	**Shilin** baz=246	**0.91**	**257**	*e*P	Pn	11 27 37.1	-2.1
EGS	baz=327	**0.93**	**333**	*e*P	**Pn**	**11 27 39.0**	**-0.4**
LATG	**Datong** baz=297	**0.95**	**303**	P	**Pn**	**11 27 39.3**	**-0.6**
EGFH	**Guangfu** baz=246	**0.96**	**249**	*e*P	Pn	11 27 38.1	-1.8
TWE	**Neicheng** baz=311	**0.97**	**316**	*e*P	**Pn**	**11 27 40.1**	**0.0**
TWE	baz=311			*e*S	**Sn**	**11 27 53.0**	**0.0**
ENTT	**Nioudou** baz=292	**0.98**	**309**	*e*P	**Pn**	**11 27 40.0**	**-0.3**
NTC	**Toucheng** baz=322	**0.98**	**328**	*e*P	**Pn**	**11 27 40.3**	**+0.1**
NTC	baz=322			*e*S	**Sn**	**11 27 53.8**	**+0.5**
NDT	**Datong Townshi** baz=289	**1.00**	**306**	*e*P	**Pn**	**11 27 40.2**	**-0.3**
NNSB	**Datong** baz=289	**1.02**	**294**	P	**Pn**	**11 27 40.1**	**-0.7**
NNSB	baz=289			S	**Sn**	**11 27 54.2**	**-0.1**
NNS	**Nan Shan** baz=289	**1.03**	**294**	P	**Pn**	**11 27 40.4**	**-0.6**
NNS	baz=289			S	**Sn**	**11 27 54.6**	**-0.1**
HGSD	**Ruisui** baz=238	**1.04**	**240**	*e*P	Pn	11 27 39.1	-1.9
WHF	**Hehuan Shan** baz=273	**1.05**	**277**	*e*P	**Pn**	**11 27 40.3**	**-1.2**
WHF	baz=273			*e*S	**Sn**	**11 27 55.2**	**-0.3**
FUSB	**Fushanzhiwuyua** baz=297	**1.05**	**315**	P	**Pn**	**11 27 41.0**	**-0.1**
TWB1	**Santiao Chiao** baz=334	**1.05**	**339**	*e*P	**Pn**	**11 27 40.8**	**-0.5**
TIPB	**Shuangxi** baz=326	**1.08**	**331**	*e*P	**Pn**	**11 27 41.4**	**-0.2**
TIPB	baz=326			*e*S	**Sn**	**11 27 56.3**	**+0.4**
EHY	**Hungye** baz=241	**1.11**	**243**	*e*P	**Pn**	**11 27 40.6**	**-1.4**
NWLT	**Wulai** baz=307	**1.11**	**313**	*e*P	**Pn**	**11 27 41.9**	**-0.2**
ECBN	**Changbin** baz=230	**1.12**	**231**	*e*P	**Pn**	**11 27 41.2**	**-0.8**
CHGB	**Renai** baz=268	**1.12**	**272**	P	**Pn**	**11 27 41.6**	**-0.8**
CHGB	baz=268			S	**Sn**	**11 27 56.9**	**-0.2**
OWD	**Renai** baz=255	**1.12**	**267**	P	**Pn**	**11 27 41.6**	**-0.7**
YHNB	**Yeheng** baz=289	**1.14**	**305**	*e*P	**Pn**	**11 27 42.2**	**-0.2**
NSK	**Sanguang** baz=289	**1.16**	**305**	*e*P	**Pn**	**11 27 42.4**	**-0.3**
SXI1	**Grass Mountain** baz=343	**1.17**	**336**	*e*P	**Pn**	**11 27 42.5**	**-0.5**
WUSB	**Renai** baz=258	**1.18**	**269**	*e*P	**Pn**	**11 27 42.8**	**-0.2**
VWDT	**VWDT** baz=250	**1.18**	**257**	*e*P	**Pn**	**11 27 42.0**	**-0.9**
YULB	**Yu-li** baz=237	**1.19**	**239**	*e*P	Pn	11 27 41.4	-1.7
NWF	**Wu-fen Shan** baz=327	**1.19**	**332**	*e*P	**Pn**	**11 27 43.0**	**-0.2**
WFSB	**Wu-fen Shan** baz=327	**1.19**	**332**	*e*P	**Pn**	**11 27 42.8**	**-0.3**
TWF1	**Yuli** baz=226	**1.21**	**237**	*e*P	**Pn**	**11 27 41.9**	**-1.5**
TWF1	baz=226			*e*S	**Sn**	**11 27 57.3**	**-1.7**
TWA	**Mucha** baz=332	**1.21**	**322**	*e*P	**Pn**	**11 27 44.2**	**+0.8**
NHDH	**Xindian Distri** baz=328	**1.23**	**320**	*e*P	**Pn**	**11 27 44.4**	**+0.7**
IRIF	**Iriomote-Funau**	**1.25**	**75**	P	**Pn**	**11 27 44.0**	**+0.1**
HATJ	**Hateruma jima**	**1.28**	**88**	P	**Pn**	**11 27 44.5**	**+0.1**
HATJ				*e*S	**Sn**	**11 28 01.3**	**+0.5**
FULB	**Fuli** baz=230	**1.30**	**231**	*e*P	Pn	11 27 42.6	-2.0
CHKT	**Chengkung** baz=225	**1.32**	**226**	*e*P	Pn	11 27 42.5	-2.3
SSLB	**Suanglung** baz=257	**1.34**	**260**	*e*P	**Pn**	**11 27 45.1**	**-0.1**
YM01	**YM01** baz=322	**1.35**	**326**	*e*P	**Pn**	**11 27 45.2**	**-0.2**
WHP	**Taichung City** baz=269	**1.35**	**281**	*e*P	**Pn**	**11 27 46.6**	**+1.1**
YM08	**YM08** baz=323	**1.38**	**328**	*e*P	**Pn**	**11 27 45.7**	**0.0**
SMLT	**Sun Moon Lake** baz=261	**1.38**	**265**	*e*P	**Pn**	**11 27 46.7**	**+0.9**
LIOB	**Emei** baz=292	**1.41**	**297**	*e*P	**Pn**	**11 27 47.1**	**+0.9**
ANP	**Anpu** baz=321	**1.41**	**326**	*e*P	**Pn**	**11 27 46.1**	**-0.1**
NSTT	**Nanjuang** baz=291	**1.42**	**296**	*e*P	**Pn**	**11 27 47.1**	**+0.9**
TYC	**Yuchr** baz=262	**1.42**	**266**	*e*P	**Pn**	**11 27 47.6**	**+1.4**
ECS	**Chishang** baz=242	**1.42**	**230**	*e*P	**Pn**	**11 27 45.2**	**-1.1**
JKRS	**Kuro-shima**	**1.48**	**81**	P	**Pn**	**11 27 47.5**	**+0.4**
ELDTW	**Lidau** baz=236	**1.52**	**237**	*e*P	Pn	11 27 46.1	-1.5
TWQ1	**Liyutan** baz=279	**1.52**	**283**	*e*P	**Pn**	**11 27 48.2**	**+0.5**
WJS	**Zhushan** baz=260	**1.54**	**263**	*e*P	**Pn**	**11 27 48.4**	**+0.4**
ALS	**Alishan** baz=249	**1.55**	**251**	*e*P	**Pn**	**11 27 48.4**	**+0.1**
NSY	**Sanyi** baz=281	**1.55**	**285**	*e*P	**Pn**	**11 27 48.4**	**+0.4**
NMLH	**Miaoli** baz=286	**1.56**	**290**	*e*P	**Pn**	**11 27 48.9**	**+0.7**
TCU	**Taichung** baz=271	**1.58**	**275**	*e*P	**Pn**	**11 27 49.0**	**+0.6**
JIJ	**Ishigaki jima**	**1.63**	**77**	P	**Pn**	**11 27 48.9**	**-0.2**
JIJ				*e*S	**Sn**	**11 28 09.4**	**+0.1**
CHN5	**Tsauling** baz=253	**1.63**	**255**	*e*P	**Pn**	**11 27 50.1**	**+0.8**
WCHH	**Zhanghua** baz=269	**1.69**	**272**	*e*P	**Pn**	**11 27 50.7**	**+0.8**
TWGBT	**Beinan** baz=236	**1.70**	**226**	*e*P	**Pn**	**11 27 48.7**	**-1.5**
WGK	**Gukeng** baz=256	**1.72**	**259**	*e*P	**Pn**	**11 27 50.9**	**+0.6**
STYT	**Tauyuan** baz=230	**1.73**	**241**	*e*P	**Pn**	**11 27 50.2**	**-0.4**
WDLH	**Douliu** baz=257	**1.74**	**259**	*e*P	**Pn**	**11 27 51.4**	**+0.8**
TPUB	**Ta-pu** baz=245	**1.77**	**247**	*e*P	**Pn**	**11 27 51.5**	**+0.4**
WTP	**Ta-pu** baz=243	**1.81**	**245**	*e*P	**Pn**	**11 27 52.4**	**+0.7**
JISG	**Ishigakijimahi**	**1.83**	**72**	P	**Pn**	**11 27 51.7**	**-0.2**
JISG				S	**Sn**	**11 28 14.5**	**+0.2**
CHY	**Chiayi** baz=252	**1.89**	**254**	*e*P	**Pn**	**11 27 53.6**	**+0.9**
TWK	**Hsinying** baz=245	**1.91**	**247**	*e*P	**Pn**	**11 27 53.7**	**+0.7**
CHN1	**Nanshi** baz=243	**1.91**	**245**	*e*P	**Pn**	**11 27 54.1**	**+1.1**
SGST	**Jiashian** baz=231	**1.91**	**241**	*e*P	**Pn**	**11 27 53.2**	**+0.2**
SNST	**Tainan City** baz=244	**1.92**	**246**	*e*P	**Pn**	**11 27 54.3**	**+1.2**
ECL	**Taimali** baz=232	**1.94**	**224**	*e*P	**Pn**	**11 27 53.6**	**+0.1**
SSD	**Sandimen** baz=225	**2.06**	**232**	*e*P	**Pn**	**11 27 55.6**	**+0.5**
CHN8	**Yiju** baz=250	**2.12**	**252**	*e*P	**Pn**	**11 27 56.2**	**+0.4**
LYUB	**Lan-yu** baz=201	**2.14**	**201**	*e*P	Pn	11 27 53.9	-2.3
MASBT	**Mashibuluo** baz=221	**2.15**	**230**	*e*P	**Pn**	**11 27 55.6**	**-0.6**
TAW	**Tawu** baz=228	**2.16**	**220**	*e*P	**Pn**	**11 27 57.6**	**+1.2**
EAST	**Anshuo** baz=221	**2.17**	**222**	*e*P	**Pn**	**11 27 56.7**	**+0.2**
TWM1	**Shoushan** baz=236	**2.17**	**237**	*e*P	**Pn**	**11 27 57.8**	**+1.2**
SSPT	**Xinbi** baz=222	**2.28**	**228**	*e*P	**Pn**	**11 27 59.4**	**+1.4**
SCZT	**Fangliau** baz=224	**2.32**	**225**	*e*P	**Pn**	**11 27 59.6**	**+1.1**
HEN	**Hengchun** baz=217	**2.52**	**218**	*e*P	**Pn**	**11 28 02.7**	**+1.3**
TWKBT	**Hengchun** baz=215	**2.53**	**216**	*e*P	**Pn**	**11 28 00.8**	**-0.8**
TWK1	**Hengchun** baz=215	**2.54**	**216**	*e*P	**Pn**	**11 28 01.9**	**+0.3**
PHUB	**P'eng-hu** baz=271	**2.64**	**260**	*e*P	**Pn**	**11 28 04.0**	**+1.0**
PNG	**Penghu** baz=258	**2.65**	**261**	*e*P	**Pn**	**11 28 04.2**	**+1.1**
VWUC	**VWUC** baz=287	**2.86**	**290**	*e*P	**Pn**	**11 28 05.6**	**-0.4**
MATB	**Ma-tsu** baz=311	**3.08**	**314**	*e*P	**Pn**	**11 28 08.6**	**-0.4**
PTMZ	**Houxiangcun** baz=286	**3.16**	**289**	*e*P	Pn	11 28 07.7	-2.5
XPSS	**Dashiqiu** baz=324	**3.52**	**326**	*e*P	**Pn**	**11 28 14.8**	**-0.4**

IDC ***11*** *11:28:52.5±3.0,36.1°1N×71.2°2E,h90km±26km,mb3.5/15,*
mb1 3.6/20,mb1mx3.4/63,mbtmp3.9/20,MS3.3/1,
Ms1 3.3/1,ms1mx2.3/85, Error ellipse: s-maj=20.6km
s-min=17.1km az=40.0
NEIC ***11*** *11:28:54.2±1.6,36.2°7N±0.0°4×71.2°5E±0.0°9,h101km±6km,*
mb4.1/15, Error ellipse: s-maj=10.9km s-min=6.0km
az=89.0
NNC ***11*** *11:28:58.0±3.8,36.1°5N×71.1°5E,h112km±54km,mb3.7,*
mpv4.3, Error ellipse: s-maj=37.3km s-min=26.5km
az=148.0
ISC 11 11:28:52.7±0.5,36°19N±0°05×71°23E±0°06,h100km,n84,
σ1s99/83,mb3.8/21,6C-3D,Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.43**	**228**	Pn	**Pn**	**11 29 34.5**	**+3.4**
GAR	**Garm**	**2.90**	**346**		**Pn**	**11 29 39.0**	**+1.7**
CHGR	**Chuyangaron**	**2.96**	**327**		**Pn**	**11 29 38.5**	**+0.5**
NIL	**Nilore**	**3.03**	**146**		**Pn**	**11 29 41.0**	**+2.0**
DRK	**Karamyk**	**3.32**	**8**		**Pn**	**11 29 46.2**	**+3.2**
BTK	**Batken**	**3.88**	**355**	Pn	**Pn**	**11 29 53.0**	**+2.7**
JMU	**Jammu**	**4.60**	**138**	*e*P	**Pn**	**11 30 00.5**	**+0.4**
JMU				*e*S	**Sn**	**11 30 48.9**	**-3.5**
THN	**Thein Dam**	**5.28**	**134**	i*e*P	**Pn**	**11 30 10.1**	**+0.9**
THN				*e*S	**Sn**	**11 31 06.9**	**-1.8**
AML	**Almayashu** SNR=65	**6.24**	**17**	P	**Pn**	**11 30 23.7**	**+1.1**
UCH	**Uchtor** SNR=11	**6.55**	**22**	P	**Pn**	**11 30 27.8**	**+1.0**
EKS2	**Erkin-Say** SNR=13	**6.76**	**16**	P	**Pn**	**11 30 30.8**	**+1.4**
AAK	**Ala-Archa** SNR=12	**6.92**	**20**	P	**Pn**	**11 30 33.0**	**+1.4**
AAK	**Ala-Archa** 2.1nm,0.3s,baz=194,slow=6.8,SNR=22	**6.92**	**20**	P	**Pn**	**11 30 32.9**	**+1.4**
AAK	1.1nm,0.3s,baz=299,slow=9.2,SNR=6.2			S	**Sn**	**11 31 47.9**	**-0.9**
AAK	**Ala-Archa**	**6.92**	**20**		**Pn**	**11 30 33.0**	**+1.4**
KK31	**Karatay Array**	**6.93**	**356**	Pn	**Pn**	**11 30 32.1**	**+0.6**
KK31	**Karatay Array** 19nm,0.3s,baz=178,slow=12,SNR=522	**6.93**	**356**	P	**Pn**	**11 30 32.2**	**+0.6**
KK31	13nm,0.3s,baz=186,slow=24,SNR=5.4			i*e*S	**Sn**	**11 31 45.9**	**-3.0**
KKAR	**Karatay Array**	**6.93**	**356**	Pn	**Pn**	**11 30 31.9**	**+0.4**
KKAR	**Karatay Array**	**6.93**	**356**	Pn	**Pn**	**11 30 32.0**	**+0.4**
SMLA	**Simla**	**7.07**	**134**	*e*P	**Pn**	**11 30 32.1**	**-1.4**
SMLA				*e*S	**Sn**	**11 31 47.0**	**-5.4**
SMLA	comp=N,55nm,0.4s			IAML		11 31 50.7	
SMLA	comp=E,108nm,0.3s			IAML		11 31 51.1	
BOOM	**Boomskoye usch**	**7.27**	**29**	Pn	**Pn**	**11 30 37.2**	**+0.8**
USP	**Ospenovka**	**7.50**	**19**	P	**Pn**	**11 30 40.5**	**+1.0**
	SNR=8.4						
KDJ	**Kajisay**	**7.52**	**36**	Pn	**Pn**	**11 30 38.5**	**-1.3**
TKM2	**Tokmak 2** SNR=8.7	**7.52**	**25**	P	**Pn**	**11 30 41.7**	**+1.8**
TKM2	**Tokmak 2** comp=E,8.6nm,0.8s	**7.52**	**25**	⇓P	**Pn**	**11 30 40.9**	**+1.1**
TKM2	comp=E,2.8nm,0.7s			⇓S	**Sn**	**11 32 02.2**	**-1.4**
TARG	**Taragay, Kyrgy**	**7.54**	**41**	Pn	**Pn**	**11 30 40.1**	**-0.2**
KUDL	**Kundal**	**9.18**	**149**	*e*P	**Pn**	**11 31 00.2**	**-2.0**
KUDL				*e*S	Sn	11 32 34.2	-9.4
PTH	**Pithoragarh**	**10.04**	**129**	i*e*P	**Pn**	**11 31 13.6**	**-0.6**
LGTI	**Lohaghat**	**10.13**	**129**	i*e*P	**Pn**	**11 31 12.8**	**-2.4**
LGTI				i*e*S	Sn	11 32 58.5	-8.4
GEYT	**Alibeck** comp=E,0.6nm,0.3s,baz=106,slow=11,SNR=1.9	**10.62**	**283**	P	**Pn**	**11 31 20.4**	**-1.5**
GEYT	comp=E,2.5nm,0.3s,baz=106,slow=27,SNR=4.3			S	**Sn**	**11 33 15.1**	**-3.8**
GEYT	**Alibeck**	**10.62**	**283**		**Pn**	**11 31 22.0**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**10.62**	**283**	Pn	**Pn**	**11 31 21.8**	**-0.1**
PYUN	**Piuthan** comp=E,50nm,0.4s	**12.81**	**126**	*e*P	Pn	11 31 47.6	-3.8
DANN	**Dangsing** comp=E,21nm,0.3s	**13.16**	**123**	*e*P	Pn	11 31 52.7	-3.4
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=212,slow=16,SNR=4.0	**13.44**	**35**	P	**Pn**	**11 31 58.9**	**-0.3**
GKN	**Gorkha** comp=E,16nm,0.2s	**13.98**	**122**	*e*P	Pn	11 32 03.1	-3.5
DMN	**Daman** comp=E,18nm,0.3s	**14.55**	**122**	*e*P	Pn	11 32 10.5	-3.5
KKN	**Kakani**	**14.56**	**121**	*e*P	Pn	11 32 10.8	-3.3
PKIN	**Phulchoki** comp=E,17nm,0.4s	**14.77**	**122**	*e*P	Pn	11 32 13.5	-3.3
PKI	**Pulchoki** comp=E,9.7nm,0.3s	**14.78**	**122**	*e*P	Pn	11 32 13.8	-3.2
GUN	**Gumba** comp=E,18nm,0.4s	**14.90**	**120**	*e*P	Pn	11 32 14.7	-3.9
KURBB	**Kurchatov Arra** comp=E,0.1nm,0.3s,baz=204,slow=10,SNR=2.3	**15.36**	**18**	P	**Pn**	**11 32 24.8**	**+1.0**
AB31	**Akbulak array** comp=E,0.6nm,0.3s,baz=146,slow=11,SNR=49	**15.44**	**331**	i⇑P	**Pn**	**11 32 23.8**	**-1.1**
ABKAR	**Akbulak array**	**15.44**	**331**	P	**Pn**	**11 32 24.1**	**-0.8**
ABKAR	**Akbulak array**	**15.44**	**331**		**Pn**	**11 32 24.7**	**-0.2**
AKTO	**Aktyubinsk** comp=E,0.7nm,0.3s,baz=140,slow=11,SNR=30	**17.14**	**330**	P	**P**	**11 32 47.1**	**+1.2**
AKTO	comp=E,0.3nm,0.3s,baz=76,slow=19,SNR=3.8			S	**Sn**	**11 35 46.1**	**-10**
AKTO	**Aktyubinsk** comp=E,8.9nm,0.8s	**17.14**	**330**	⇓P	**P**	**11 32 47.2**	**+1.2**
ZAA0	**Zalesovo Array**	**20.12**	**24**	P	**P**	**11 33 18.6**	**+0.1**
ZALV	**Zalesovo Beam** comp=E,2.7nm,0.3s,baz=201,slow=9.9,SNR=21	**20.12**	**24**	P	**P**	**11 33 18.9**	**+0.4**
ZALV	**Zalesovo Beam**	**20.12**	**24**	P	**P**	**11 33 18.2**	**-0.3**
ARU	**Arti** comp=E,1.0nm,0.5s,baz=152,slow=7.5,SNR=5.5	**21.98**	**341**	P	**P**	**11 33 41.0**	**+2.6**
ARU	**Arti**	**21.98**	**341**	P	**P**	**11 33 41.8**	**+3.5**
ARU	comp=E,6.7nm,1.1s			IAmb	IAmb	11 33 43.6	
BELG	**Belogornoye** comp=Z,6.9nm,0.5s,baz=50,slow=7.6,SNR=2.6	**23.25**	**322**	P	**P**	**11 33 53.6**	**+2.5**
KIRV	**Kirov** comp=Z,5.9nm,0.6s,baz=133,slow=9.3,SNR=1.8	**26.60**	**334**	P	**P**	**11 34 20.3**	**-1.0**
CMAR	**Chiang Mai Arr** comp=Z,0.3nm,0.3s,baz=304,slow=9.7,SNR=1.4	**30.14**	**118**	P	**P**	**11 34 55.2**	**+1.9**
ALN	**Alexandroupoli**	**35.35**	**292**	P	**P**	**11 35 39.0**	**+0.6**
ALN	comp=Z,2.5nm,0.9s			IAmb	IAmb	11 35 58.9	
FINES	**FINESS Array B** comp=Z,0.5nm,0.6s,baz=123,slow=10,SNR=3.2	**37.84**	**326**	P	**P**	**11 36 00.3**	**+1.0**
FINES	**FINESS Array B**	**37.84**	**326**	P	**P**	**11 35 60.0**	**+0.6**
ARCES	**ARCESS Array B** comp=Z,0.5nm,0.4s,baz=116,slow=7.5,SNR=9.2	**41.50**	**338**	P	**P**	**11 36 31.6**	**+2.0**
ARCES	**ARCESS Array B**	**41.50**	**338**	P	**P**	**11 36 31.1**	**+1.5**
HFS	**Hagfors** comp=Z,0.8nm,0.6s,baz=146,slow=16,SNR=2.8	**43.42**	**322**	P	**P**	**11 36 45.9**	**+0.6**
NB2	**NORSAR Subarra** comp=Z,0.4nm,0.4s,baz=97,slow=7.9	**44.74**	**323**	P	**P**	**11 36 56.9**	**+1.1**
NOA	**NORSAR Array B** comp=Z,0.1nm,0.3s,baz=108,slow=7.8,SNR=4.5	**44.74**	**323**	P	**P**	**11 36 56.8**	**+1.0**
NC204	**NORSAR Array S**	**44.98**	**324**	P	**P**	**11 36 59.6**	**+1.9**
NC204	comp=Z,3.0nm,0.9s			IAmb	IAmb	11 37 15.0	
TIXI	**Tiksi** comp=Z,2.6nm,1.2s	**45.99**	**22**	P	**P**	**11 37 05.8**	**+0.3**
TIXI				IAmb	IAmb	11 37 20.1	
SPITS	**Spitsbergen Ar** comp=Z,7.4nm,1.0s,baz=140,slow=11,SNR=1.6	**47.84**	**347**	P	**P**	**11 37 21.4**	**+1.6**
BORG	**Borgarnes** comp=Z,28nm,21.5s,baz=159,slow=35	**58.97**	**330**	LR	LR	12 03 05.7	
TOA0	**Torodi Ar. Sit**	**65.89**	**269**	P	**P**	**11 39 27.9**	**-0.3**
TOA0	comp=Z,4.0nm,1.4s			IAmb	IAmb	11 39 53.4	
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.7s,baz=51,slow=5.9,SNR=8.0	**65.89**	**269**	P	**P**	**11 39 27.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**65.89**	**269**	P	**P**	**11 39 27.9**	**-0.3**
TOLK	**Toolik Lake Re**	**71.18**	**15**	P	**P**	**11 40 01.7**	**+1.4**
TOLK	comp=Z,3.2nm,1.4s			IAmb	IAmb	11 40 08.9	
IMAR	**Indian Mountai**	**72.41**	**18**	P	**P**	**11 40 07.6**	**0.0**
BMAR	**Burnt Mountain**	**73.20**	**14**	P	**P**	**11 40 13.7**	**+1.4**
C36M	**Paulatuk**	**74.17**	**6**	P	**P**	**11 40 18.5**	**+0.7**
C36M	comp=Z,1.8nm,0.4s			IAmb	IAmb	11 40 18.9	
INK	**Inuvik** comp=Z,0.4nm,0.4s,baz=329,slow=5.2,SNR=4.8	**74.18**	**9**	P	**P**	**11 40 18.9**	**+1.0**
INK	**Inuvik**	**74.18**	**9**	P	**P**	**11 40 19.3**	**+1.3**
INK	comp=Z,3.5nm,1.4s			IAmb	IAmb	11 40 45.0	
LBTB	**Lobatse**	**74.57**	**222**	P	**P**	**11 40 22.5**	**+1.6**
BCAR	**Beaver Creek A**	**77.62**	**15**	P	**P**	**11 40 38.8**	**+1.1**
BOSA	**Boshof** comp=Z,1.5nm,0.6s,baz=14,slow=4.1,SNR=5.9	**77.63**	**220**	P	**P**	**11 40 40.0**	**+1.9**
BOSA	**Boshof**	**77.63**	**220**	P	**P**	**11 40 39.4**	**+1.2**
BOSA	comp=Z,4.8nm,1.4s			IAmb	IAmb	11 40 57.9	
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.5s,baz=349,slow=5.3,SNR=19	**81.55**	**3**	P	**P**	**11 40 59.9**	**+1.1**
YKA	**Yellowknife Ar**	**81.55**	**3**	P	**P**	**11 40 59.6**	**+0.8**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.7s,baz=330,slow=5.1,SNR=1.6	**81.67**	**122**	P	**P**	**11 41 00.3**	**+0.1**
WB2	**Warramunga Arr**	**81.68**	**122**	P	**P**	**11 41 00.4**	**+0.2**
ASAR	**Alice Springs** comp=Z,0.2nm,0.8s,baz=310,slow=4.5,SNR=1.9	**83.93**	**125**	P	**P**	**11 41 11.5**	**-0.2**

CRAAG ***11*** *11:40:59.1,36.3°33N×3.7°40E,Ml3.6*
IDC ***11*** *11:41:00.0±1.4,36.3°6N×3.7°45E,h0km,mb3.3/2,mb1 3.6/6,*
mb1mx3.3/66,mbtmp3.4/6,ML3.5/4, Error ellipse:
s-maj=26.1km s-min=25.1km az=11.0
MDD ***11*** *11:41:02.8±1.5,36.3°2N×3.7°48E,h18km±33km,Mb4.4/7,*
M_mb3.8/7, Error ellipse: s-maj=33.3km s-min=7.8km
az=132.0
**ISC 11 11:41:01.3±1.4,36°38N±

ETOB				⇑*i*Vmb_V			11 42 20.9	
	224nm,SNR=1.7							
ETOB				S		**Sn**	**11 43 02.3**	**-2.1**
ECHE	**Chera**	**4.77**	**314**	P		**Pn**	**11 42 13.5**	**+0.4**
ECHE				⇑*i*Vmb_V			11 42 21.1	
	334nm,SNR=2.0							
KEST	**Kesra**	**4.78**	**96**	Pn		**Pn**	**11 42 15.1**	**+1.8**
	0.8nm,0.3s,baz=241,slow=13,SNR=2.9							
KEST				Sn		**Sn**	**11 43 11.0**	**+2.3**
	0.6nm,0.3s,baz=311,slow=19,SNR=1.7							
EMOS	**Mosqueruela**	**5.06**	**323**	P		**Pn**	**11 42 17.3**	**+0.2**
EMOS				⇑*i*Vmb_V			11 42 21.0	
	253nm,SNR=2.4							
EMOS				S		**Sn**	**11 43 11.7**	**-3.9**
EJON	**La Jonquera**	**6.08**	**356**	P		**Pn**	**11 42 31.8**	**+0.7**
EJON				⇑*i*Vmb_V			11 42 34.2	
	350nm,SNR=1.9							
ETOR	**Torete**	**6.21**	**317**	P		**Pn**	**11 42 36.3**	**+3.3**
ESDC	**Sonseca Array**	**6.75**	**301**	Pn		**Pn**	**11 42 40.7**	**+0.4**
	0.6nm,0.3s,baz=113,slow=13,SNR=26							
ESDC				Sn		**Sn**	**11 43 54.4**	**-2.7**
	0.2nm,0.3s,baz=114,slow=25,SNR=1.4							
MDT	**Midelt**	**7.57**	**244**	Pn		**Pn**	**11 42 52.5**	**+0.9**
	0.2nm,0.3s,baz=41,slow=12,SNR=1.7							
GERES	**GERESS Array B**	**14.53**	**28**	Pn		**Pn**	**11 44 27.6**	**+0.7**
	0.1nm,0.3s,baz=235,slow=12,SNR=1.5							
TORD	**Torodi Ar. Bea**	**23.19**	**184**	P		**P**	**11 46 07.8**	**-0.3**
	0.6nm,0.5s,baz=358,slow=10,SNR=8.3							
YKA	**Yellowknife Ar**	**69.72**	**334**	P		**P**	**11 52 10.8**	**0.0**
	0.2nm,0.5s,baz=52,slow=6.1,SNR=4.9							

*IDC **11** 11:42:57.8±1.8,2˚.49S×142˚.15E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.6/37,mbtmp3.6/7,ML3.6/1,Error ellipse: s-maj=67.7km s-min=20.9km az=101.0*

ISC 11 11:43:01.8±1.6,2.5S±0.2×142.1E±0.4,h26km,n10, σ0.54/7,mb3.6/6,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.91**	**203**	P	**P**	**11 47 20.6**	**-0.1**
	0.2nm,0.3s,baz=27,slow=11,SNR=8.8						
FITZ	**Fitzroy Crossi**	**22.37**	**225**	P	**P**	**11 47 58.0**	**-0.3**
	0.7nm,0.6s,baz=40,slow=16,SNR=1.7						
ASAR	**Alice Springs**	**22.48**	**200**	P	**P**	**11 47 59.6**	**+0.2**
	1.2nm,0.8s,baz=29,slow=11,SNR=22						
H11S3	**WAKE ISLAND Hy**	**31.96**	**48**	T	T	12 23 14.0	
	baz=232,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**31.97**	**48**	T	T	12 23 14.8	
	baz=232,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**31.98**	**48**	T	T	12 23 16.0	
	baz=232,slow=75,SNR=11						
KSRS	**Korea Array**	**41.88**	**343**	P	**P**	**11 50 49.9**	**-0.1**
	0.5nm,0.4s,baz=158,slow=6.7,SNR=4.6						
MKAR	**Makanchi Array**	**71.72**	**321**	P	**P**	**11 54 21.3**	**-0.5**
	0.5nm,0.7s,baz=112,slow=6.7,SNR=3.9						
BVAR	**Borovoye Array**	**81.10**	**325**	P	**P**	**11 55 15.6**	**+0.8**
	0.3nm,0.4s						
ILAR	**Eielson Array**	**84.26**	**24**	P	**P**	**11 55 30.8**	**-0.2**
	0.6nm,1.0s,baz=262,slow=5.4,SNR=2.7						

*TEH **11** 11:44:41.9,28˚.60N×52˚.11E,h12km,ML4.1*
*IDC **11** 11:44:41.0±0.7,28˚.54N×52˚.09E,h0km,mb3.9/25, mb1 4.0/29,mb1mx3.9/61,mbtmp3.9/29,ML3.6/4,MS3.3/15, Ms1 3.3/15,ms1mx3.0/87,Error ellipse: s-maj=16.0km s-min=13.7km az=12.0*
*NEIC **11** 11:44:45.9±2.2,28˚.51N±0.07˚×52˚.17E±0.09,h31km±5km, mb4.2/33,mb_Lg4.1(TEH),Error ellipse: s-maj=11.3km s-min=10.9km az=82.0*
*DSN **11** 11:44:46.0±1.2,28˚.29N×52˚.33E,h10km,ML4.0/10,Error ellipse: s-maj=17.4km s-min=11.0km az=35.0*
*OMAN **11** 11:44:45.8±0.1,28˚.57N×52˚.29E,h30km,mb4.0/16, ml4.5/13,ms3.0/2,Error ellipse: s-maj=1.0km s-min=0.5km az=356.0*
*GII **11** 11:46:50.7±0.0,28˚.54N×52˚.12E,h30km,Mm4.5/1*

ISC 11 11:44:42.8±1.3,28˚.54N±0.03×52˚.12E±0.03,h12km±8km, n217,σ1.88/251,mb4.0/33,MS3.3/10,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.79**	**294**	*e*Pg	**Pn**	**11 44 58.8**	**-0.9**
QIR1	**Qir**	**0.82**	**94**	*e*Pg	**Pg**	**11 44 56.0**	**-2.6**
QIR1				*e*		11 45 19.9	
	comp=Z,66μm,0.8s						
SHI	**Shiraz**	**1.15**	**17**	*e*Sg	**Sn**	**11 45 19.7**	**-0.9**
SHI				*e*Pg	**Pb**	**11 45 03.0**	**-1.7**
SHI				*e*		11 45 29.2	
	comp=Z,38μm,0.8s						
KAZ1	**Kazerun**	**1.16**	**339**	*e*Pg	**Pn**	**11 45 03.3**	**-1.6**
KAZ1				*e*		11 45 33.4	
	comp=Z,586nm,0.5s						
JHRM	**Jahrom**	**1.28**	**91**	*e*Sg	**Sg**	**11 45 26.6**	**+2.5**
JHRM				*e*Pg	**Pb**	**11 45 06.3**	**-0.6**
LMD1	**Lamerd**	**1.51**	**142**	*e*Pg	**Pg**	**11 45 11.8**	**0.0**
LMD1				*e*Sg	**Sg**	**11 45 35.2**	**+3.8**
LAR1	**LAR**	**2.17**	**113**	*e*Pn	**Pb**	**11 45 21.0**	**-1.0**
KLNJ	**Kolanjah**	**2.50**	**350**	*e*Pn	**Pn**	**11 45 23.5**	**-0.1**
ABEH	**Behbahan**	**2.62**	**322**	*e*Pn	**Pb**	**11 45 26.7**	**-2.9**
SHMA	**Al-Shehemyia**	**2.86**	**201**	P	**Pb**	**11 45 31.7**	**-2.1**
SHMA				S	**Sb**	**11 46 10.0**	**+1.2**
SAKB	**Bahrain**	**2.92**	**209**	P	**Pb**	**11 45 32.4**	**-2.3**
SAKB				S	**Sb**	**11 46 11.2**	**+1.0**
KHOR	**Al-Khor Airpor**	**2.96**	**191**	P	**Pb**	**11 45 32.5**	**-2.8**
KHOR				S	**Sb**	**11 46 15.3**	**+3.9**
IRAM	**Ramesheh**	**3.27**	**4**	*e*Pn	**Pn**	**11 45 34.3**	**+0.3**
IRAM				*e*		11 46 31.4	
	comp=Z,3μm,0.7s						
IBRJ	**Brojen**	**3.44**	**348**	*e*Pn	**Pn**	**11 45 36.4**	**0.0**
IMEH	**Mehriz**	**3.57**	**37**	*e*Pn	**Pn**	**11 45 39.2**	**+1.0**
IMEH				*e*		11 45 41.8	
	comp=Z,3μm,0.2s						
ISAD	**Sadrabad**	**3.62**	**22**	*e*Pn	**Pn**	**11 45 39.7**	**+0.7**
JRN	**Qarnain Island**	**3.64**	**170**	*e*Pn	**Pn**	**11 45 40.8**	**+1.9**
JRN	**Qarnain Island**	**3.64**	**170**	P	**Pn**	**11 45 40.5**	**+1.6**
JRN				S	**Sn**	**11 46 24.7**	**+2.9**
GENO	**Geno**	**3.76**	**107**	*e*Pn	**Pn**	**11 45 42.6**	**+1.9**
GENO				*e*		11 47 05.5	
	comp=Z,3μm,0.9s						
IGAR	**Gharneh**	**3.85**	**359**	*e*Pn	**Pn**	**11 45 41.8**	**-0.2**
TRNA	**Turayna**	**3.88**	**192**	P	**Pn**	**11 45 44.4**	**+2.3**
TRNA				S	**Sn**	**11 46 31.9**	**+4.4**
SMRA	**Abu-Samra**	**3.95**	**197**	P	**Pn**	**11 45 45.8**	**+2.6**
SMRA				S	**Sn**	**11 46 34.5**	**+5.0**
NGRK	**Negar Kerman**	**4.18**	**74**	*e*Pn	**Pn**	**11 45 47.2**	**+0.5**
NGRK				*e*		11 47 04.6	
	comp=Z,2μm,1.0s						
ICHK	**Chekchek**	**4.19**	**28**	*e*Pn	**Pn**	**11 45 47.8**	**+1.1**
ICHK				*e*		11 46 39.6	
	comp=Z,2μm,0.4s						
KHGB	**Koh Gabri**	**4.22**	**63**	*e*Pn	**Pn**	**11 45 47.3**	**+0.2**
KHGB				*e*		11 46 05.6	
	comp=Z,2μm,0.6s						
IPIR	**Pirpir**	**4.26**	**346**	*e*Pn	**Pn**	**11 45 47.4**	**-0.4**
NASN	**Na'in**	**4.29**	**8**	*e*Pn	**Pn**	**11 45 48.1**	**0.0**
KRBR	**Kerman**	**4.30**	**69**	*e*Pn	**Pn**	**11 45 48.6**	**+0.3**
TVBK	**TV Kerman**	**4.30**	**69**	*e*Pn	**Pn**	**11 45 49.3**	**+0.9**
TVBK				*e*		11 46 49.8	
	comp=Z,3μm,0.6s						
IZEF	**Zefreh**	**4.35**	**2**	*e*Pn	**Pn**	**11 45 49.4**	**+0.5**
SHME	**Shamm**	**4.35**	**124**	P	**Pn**	**11 45 48.8**	**+0.1**
SHME				S	**Sn**	**11 46 41.1**	**+1.7**
YZKH	**Yazd**	**4.39**	**28**	*e*Pn	**Pn**	**11 45 50.3**	**+1.0**
SLWR	**Sila**	**4.47**	**185**	*e*Pn	**Pn**	**11 45 53.1**	**+2.8**
SLWR	**Sila**	**4.47**	**185**	P	**Pn**	**11 45 52.8**	**+2.5**
SLWR				S	**Sn**	**11 46 44.9**	**+2.7**
BANOM	**Banah**	**4.54**	**124**	*e*Pn	**Pn**	**11 45 52.2**	**+0.8**
BANOM	**Banah**	**4.54**	**124**	P	**Pn**	**11 45 51.4**	**0.0**
BANOM				S	**Sn**	**11 46 44.4**	**+0.2**
BANOM	**Banah**	**4.54**	**124**	*i* P	**Pn**	**11 45 51.9**	**+0.5**
	SNR=14						
GHWR	**Ruwais**	**4.61**	**171**	P	**Pn**	**11 45 56.0**	**+3.8**
GHWR				S	**Sn**	**11 46 47.3**	**+1.7**
AJN	**Ajban**	**4.72**	**146**	P	**Pn**	**11 45 55.9**	**+2.1**
AJN				S	**Sn**	**11 46 51.1**	**+2.7**
NAZ	**Nazwa, Dubai**	**4.75**	**137**	*e*Pn	**Pn**	**11 45 55.2**	**+1.1**
NAZ	**Nazwa, Dubai**	**4.75**	**137**	P	**Pn**	**11 45 55.3**	**+1.1**
NAZ				S	**Sn**	**11 46 49.0**	**-0.1**
NAZ	**Nazwa, Dubai**	**4.75**	**137**	P	**Pn**	**11 45 54.8**	**+0.6**
IKLH	**Kolahrood**	**4.79**	**355**	*e*Pn	**Pn**	**11 45 55.1**	**+0.2**
MASF	**Masafi**	**4.79**	**130**	P	**Pn**	**11 45 55.3**	**+0.6**
MASF				S	**Sn**	**11 46 49.3**	**-0.9**
MSFE	**Esma-Masafi**	**4.80**	**130**	*e*Pn	**Pn**	**11 45 55.3**	**+0.4**
MSFE	**Esma-Masafi**	**4.80**	**130**	*i* P	**Pn**	**11 45 55.2**	**+0.3**
	SNR=9.3						
ANAR	**Anarak**	**4.84**	**16**	*e*Pn	**Pn**	**11 45 56.4**	**+0.9**
ASUD	**Al Ashush, Dub**	**4.84**	**143**	*e*Pn	**Pn**	**11 45 56.9**	**+1.5**
ASUD	**Al Ashush, Dub**	**4.84**	**143**	P	**Pn**	**11 45 57.2**	**+1.8**
ASUD				S	**Sn**	**11 46 52.8**	**+1.3**
ASUD	**Al Ashush, Dub**	**4.84**	**143**	*i* P	**Pn**	**11 45 56.6**	**+1.2**
	SNR=21						
FAQ	**Al Faqa, Dubai**	**4.89**	**140**	*e*Pn	**Pn**	**11 45 56.7**	**+0.6**
FAQ	**Al Faqa, Dubai**	**4.89**	**140**	P	**Pn**	**11 45 57.6**	**+1.4**
FAQ				S	**Sn**	**11 46 53.8**	**+1.1**
FAQ	**Al Faqa, Dubai**	**4.89**	**140**	P	**Pn**	**11 45 56.4**	**+0.2**
CHMN	**Cheshme madani**	**4.92**	**73**	*e*Pn	**Pn**	**11 45 57.1**	**+0.3**
CHMN				*e*		11 46 57.3	
	comp=Z,1μm,0.6s						
MZWR	**Madinat Zayed**	**5.01**	**161**	*e*Pn	**Pn**	**11 45 59.4**	**+1.6**
MZWR	**Madinat Zayed**	**5.01**	**161**	P	**Pn**	**11 45 59.8**	**+2.0**
MZWR				S	**Sn**	**11 47 00.2**	**+4.5**
UOSS	**Minazif**	**5.11**	**133**	Pn	**Pn**	**11 45 58.3**	**-0.9**
UOSS	**Minazif**	**5.11**	**133**	*e*Pn	**Pn**	**11 45 58.8**	**-0.4**
UOSS	**Minazif**	**5.11**	**133**	P	**Pn**	**11 45 59.1**	**0.0**
UOSS				S	**Sn**	**11 46 58.2**	**0.0**
UOSS	**Minazif**	**5.11**	**133**	P	**Pn**	**11 45 58.1**	**-1.0**
HATD	**Hatta, Dubai**	**5.15**	**135**	*e*Pn	**Pn**	**11 46 00.4**	**+0.7**
HATD	**Hatta, Dubai**	**5.15**	**135**	P	**Pn**	**11 46 01.4**	**+1.6**
HATD				S	**Sn**	**11 46 59.9**	**+0.8**
HATD	**Hatta, Dubai**	**5.15**	**135**	*i* P	**Pn**	**11 46 00.9**	**+1.2**
	SNR=7.5						
HATD				S	**Sn**	**11 46 55.7**	**-3.5**
ASHO	**Ashiyiah**	**5.21**	**137**	*e*Pn	**Pn**	**11 46 00.6**	**0.0**
ASHO	**Ashiyiah**	**5.21**	**137**	P	**Pn**	**11 46 00.8**	**+0.2**
ASHO				S	**Sn**	**11 46 59.9**	**-0.8**
ASHO	**Ashiyiah**	**5.21**	**137**	*i* P	**Pn**	**11 46 00.1**	**-0.5**
	SNR=19						
ASHO				S	**Sn**	**11 46 56.1**	**-4.6**
QAMS	**Qamsar**	**5.22**	**353**	*e*Pn	**Pn**	**11 46 00.8**	**0.0**
KRSH	**Karshahi**	**5.41**	**0**	*e*Pn	**Pn**	**11 46 02.7**	**-0.7**
KHMZ	**Khomeyn**	**5.50**	**341**	*e*Pn	**Pn**	**11 46 05.5**	**+0.8**
ALNE	**Al Ain**	**5.53**	**143**	*e*Pn	**Pn**	**11 46 04.6**	**-0.3**
ALNE	**Al Ain**	**5.53**	**143**	P	**Pn**	**11 46 05.8**	**+0.9**
ALNE				S	**Sn**	**11 47 08.3**	**0.0**
KBAM	**BAM**	**5.59**	**82**	*e*		11 46 12.8	
	comp=Z,1μm,0.3s						
KBAM				*e*Pn	**Pn**	**11 46 06.4**	**+0.6**
MZR	**Muzera**	**5.65**	**167**	*e*Pn	**Pn**	**11 46 08.5**	**+1.9**
MZR	**Muzera**	**5.65**	**167**	P	**Pn**	**11 46 08.4**	**+1.8**
MZR				S	**Sn**	**11 47 13.6**	**+2.2**
MZR	**Muzera**	**5.65**	**167**	*i* P	**Pn**	**11 46 08.1**	**+1.5**
	SNR=8.5						
ISFB	**Sefidab**	**5.79**	**1**	*e*Pn	**Pn**	**11 46 08.1**	**-0.5**
SOHO	**SOHO**	**5.91**	**137**	*e*Pn	**Pn**	**11 46 09.9**	**-0.2**
SOHO	**SOHO**	**5.91**	**137**	P	**Pn**	**11 46 10.0**	**-0.1**
SOHO				S	**Sn**	**11 47 17.2**	**-0.5**
SOHO	**SOHO**	**5.91**	**137**	*i* P	**Pn**	**11 46 09.6**	**-0.5**
	SNR=6.0						
TPRV	**Parvadeh(Tabas**	**5.95**	**40**	*e*Pn	**Pn**	**11 46 11.3**	**+0.5**
GHVR	**GHOM**	**5.96**	**353**	*e*Pn	**Pn**	**11 46 11.5**	**+0.6**
IKFM	**Kafar-mosalman**	**6.17**	**325**	*e*Pn	**Pn**	**11 46 14.1**	**+0.4**
ASAO	**Ashtian**	**6.25**	**344**	*e*Pn	**Pn**	**11 46 16.0**	**+1.0**
IQOM	**Qom**	**6.35**	**352**	*e*Pn	**Pn**	**11 46 15.6**	**-0.7**
HSAM	**Samen**	**6.40**	**333**	*e*Pn	**Pn**	**11 46 17.9**	**+0.8**
UMZA	**Um Al Zommool**	**6.42**	**154**	*e*Pn	**Pn**	**11 46 17.0**	**-0.1**
UMZA	**Um Al Zommool**	**6.42**	**154**	P	**Pn**	**11 46 18.6**	**+1.5**
UMZA				S	**Sn**	**11 47 29.8**	**-0.4**
IVRN	**Varamin**	**6.45**	**357**	*e*Pn	**Pn**	**11 46 17.4**	**-0.1**
ARQ	**Araqi**	**6.52**	**142**	P	**Pn**	**11 46 19.4**	**+0.8**
ARQ				S	**Sn**	**11 47 34.0**	**+1.1**
TKDS	**Koohdasht(Taba**	**6.63**	**39**	*e*Pn	**Pn**	**11 46 20.6**	**+0.5**
TNSJ	**Nastanj**	**6.63**	**34**	*e*Pn	**Pn**	**11 46 20.6**	**+0.5**
TABS	**Tabas**	**6.66**	**39**	*e*Pn	**Pn**	**11 46 20.7**	**+0.2**
HAGD	**Aghdareh**	**6.76**	**339**	*e*Pn	**Pn**	**11 46 22.6**	**+0.6**
HOQ	**Hoqain**	**6.79**	**135**	P	**Pn**	**11 46 22.5**	**+0.2**
HOQ				S	**Sn**	**11 47 40.4**	**+0.8**
BSRN	**Basiran**	**6.96**	**59**	*e*Pn	**Pn**	**11 46 25.0**	**+0.4**
IDMV	**Damavand**	**7.02**	**359**	*e*Pn	**Pn**	**11 46 25.7**	**+0.1**
DAMV	**Damavand**	**7.07**	**359**	*e*Pn	**Pn**	**11 46 26.2**	**-0.1**
IANJ	**Anjilo**	**7.07**	**12**	*e*Pn	**Pn**	**11 46 26.6**	**+0.3**
IRAZ	**Razeghan**	**7.09**	**345**	*e*Pn	**Pn**	**11 46 26.4**	**-0.1**
BSY	**Bisya**	**7.37**	**140**	P	**Pn**	**11 46 30.2**	**0.0**
BSY				P	**Pn**	**11 46 30.2**	**0.0**
BSY				S	**Sn**	**11 47 49.2**	**-4.5**
BSY				S	**Sn**	**11 47 49.2**	**-4.5**
CHTH	**Charan**	**7.39**	**354**	*e*Pn	**Pn**	**11 46 30.1**	**-0.6**
QABG	**Abgarm-Qazvin**	**7.46**	**344**	*e*Pn	**Pn**	**11 46 30.0**	**-1.7**
SMDO	**Samad**	**7.64**	**134**	P	**Pn**	**11 46 33.7**	**-0.3**
SMDO				S	**Sn**	**11 47 58.5**	**-2.0**
ZHDN	**Zahedan**	**7.66**	**82**	*e*Pn	**Pn**	**11 46 34.6**	**+0.3**
AFRZ	**Afriz**	**7.66**	**49**	*e*Pn	**Pn**	**11 46 34.4**	**+0.1**
RAYN	**Ar Rayn**	**7.77**	**231**	Pn	**Pn**	**11 46 35.9**	**+0.1**
RAYN	**Ar Rayn**	**7.77**	**231**	P	**Pn**	**11 46 36.4**	**+0.7**
RAYN				S	**Sn**	**11 48 01.5**	**-2.2**
RAYN	**Ar Rayn**	**7.77**	**231**	*i* P	**Pn**	**11 46 37.0**	**+1.3**
	SNR=11						
IDHR	**Dehrash**	**7.85**	**323**	*e*Pn	**Pn**	**11 46 36.9**	**0.0**
WSAR	**Wadi Sarin**	**7.89**	**131**	Pn	**Pn**	**11 46 36.6**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=302,slow=12,SNR=11						
WSAR				Sn	**Sn**	**11 48 02.2**	**-4.3**
	baz=350,slow=18,SNR=1.2						
WSAR				LR	LR	11 49 59.2	
	comp=Z,47nm,20.9s,baz=349,slow=40						
WSAR	**Wadi Sarin**	**7.89**	**131**	P	**Pn**	**11 46 36.5**	**-0.8**
WSAR				S	**Sn**	**11 48 02.4**	**-4.1**
CHBR	**Chabahar**	**8.01**	**110**	*e*Pn	**Pn**	**11 46 38.1**	**-0.9**
SHRO	**Shahrood**	**8.12**	**23**	*e*Pn	**Pn**	**11 46 41.2**	**+0.6**
JMDO	**Jabal Madar**	**8.18**	**137**	P	**Pn**	**11 46 43.1**	**+1.8**
WBK	**Wadi Bani Khal**	**8.55**	**132**	P	**Pn**	**11 46 45.1**	**-1.3**
WBK				P	**Pn**	**11 46 45.1**	**-1.3**
WBK				S	**Sn**	**11 48 17.3**	**-5.5**
WBK				S	**Sn**	**11 48 17.3**	**-5.5**
NGCH	**Negor - Chabah**	**8.65**	**109**	*e*Pn	**Pn**	**11 46 46.4**	**-1.3**
SHRT	**Shahrakht**	**8.66**	**52**	*e*Pn	**Pn**	**11 46 48.2**	**+0.3**
SBZV	**Sabzevar**	**9.10**	**29**	*e*Pn	**Pn**	**11 46 54.6**	**+0.6**
SRVN	**Saravan**	**9.16**	**95**	*e*Pn	**Pn**	**11 46 54.6**	**-0.3**
JLN	**Jalan Bani Buh**	**9.16**	**132**	P	**Pn**	**11 46 52.9**	**-1.8**
JLN				S	**Sn**	**11 48 30.7**	**-7.1**
MHTO	**MHTO**	**9.21**	**143**	P	**Pn**	**11 46 54.8**	**-0.5**
MHTO				S	**Sn**	**11 48 35.4**	**-3.5**
MRVT	**Maraveh tapeh**	**9.68**	**19**	*e*Pn	**Pn**	**11 47 02.6**	**+0.7**
IPAY	**Payeh**	**9.79**	**35**	*e*Pn	**Pn**	**11 47 04.5**	**+0.9**
DQM	**DQM**	**9.89**	**149**	P	**Pn**	**11 47 07.3**	**+2.5**
DQM				S	**Sn**	**11 48 53.8**	**-2.0**
DOK	**Doka**	**10.05**	**169**	P	**Pn**	**11 47 06.9**	**0.0**
DOK				S	**Sn**	**11 48 53.6**	**-6.0**
BJRD	**Bojnurd**	**10.15**	**25**	*e*Pn	**Pn**	**11 47 09.0**	**+0.6**
GEYT	**Alibeck**	**10.62**	**27**	Pn	**Pn**	**11 47 16.1**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=215,slow=18,SNR=4.5						
GEYT	**Alibeck**	**10.62**	**27**		**Pn**	**11 47 15.3**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**10.62**	**27**	Pn	**Pn**	**11 47 16.3**	**+1.6**
WHFO	**Wadi Hawf**	**10.68**	**171**	P	**Pn**	**11 47 14.6**	**-1.1**
WHFO				S	**Sn**	**11 49 08.4**	**-6.8**
SHAO	**Shalim**	**10.95**	**162**	P	**Pn**	**11 47 18.6**	**-0.8**
SHAO				S	**Sn**	**11 49 16.5**	**-5.4**
DMTO	**DMTO**	**11.08**	**166**	P	**Pn**	**11 47 20.0**	**-1.1**
DMTO				S	**Sn**	**11 49 18.4**	**-6.6**
ABTO	**Aybut**	**11.19**	**174**	P	**Pn**	**11 47 21.7**	**-0.9**
ABTO				S	**Sn**	**11 49 19.7**	**-8.0**
MARD	**Mardin**	**12.93**	**315**	Pn	**Pn**	**11 47 44.2**	**-2.1**
GNI	**Garni**	**13.08**	**334**	LR	LR	11 53 03.4	
	comp=Z,82nm,19.9s,baz=150,slow=38						
GEM	**Giv'at Ha'Em**	**14.88**	**292**	Sn	Sg	11 53 02.9	
HRFI	**Mount Harif**	**14.98**	**280**	Sn	Sg	11 53 05.8	
PRNI	**Paran**	**15.02**	**281**	Sn	Sg	11 53 07.5	
MMAI	**Mount Meron Ar**	**15.04**	**291**	LR	LR	11 55 12.1	
	comp=Z,71nm,19.3s,baz=257,slow=42						
EIL	**Elat**	**15.05**	**278**	Sn	Sg	11 53 06.5	
MBRI	**Mt Berech**	**15.09**	**279**	Sn	Sg	11 53 07.5	
KZIT	**Kziot**	**15.58**	**283**	Sn	Sg	11 53 20.1	
SOCY	**Socotra**	**16.36**	**174**	P	**Pn**	**11 48 26.7**	**-5.8**
KBZ	**Khabaz**	**16.87**	**336**	Pn	**P**	**11 48 39.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=244,slow=21,SNR=1.5						
CHGR	**Chuyangaron**	**17.39**	**50**	P	**P**	**11 48 48.1**	**+1.5**
CHGR				IAmb	IAmb	11 48 50.3	
	comp=Z,21nm,0.9s						
GAR	**Garm**	**18.34**	**51**	P	**P**	**11 48 56.9**	**-0.3**
GAR				IAmb	IAmb	11 49 01.1	
	comp=Z,16nm,0.7s						
BRTR	**Keskin Array B**	**18.90**	**311**	P	**Pn**	**11 49 04.3**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=136,slow=13,SNR=9.8						
BRTR				LR	LR	11 58 37.2	
	comp=Z,137nm,18.5s,baz=126,slow=44						
BRTR	**Keskin Array B**	**18.90**	**311**	P	**Pn**	**11 49 04.6**	**+0.8**
BR131	**Keskin Array S**	**18.90**	**311**	P	**Pn**	**11 49 04.0**	**+0.1**
ATD	**Arta Tunnel**	**19.02**	**209**	LR	LR	11 57 44.9	
	comp=Z,113nm,18.4s,baz=24,slow=41						
BTK	**Batken**	**19.21**	**48**	P	**Pn**	**11 49 07.5**	**-0.1**
BTK				IAmb	IAmb	11 49 16.5	
	comp=Z,5.5nm,0.8s						
DRK	**Karamyk**	**19.59**	**51**	P	**P**	**11 49 09.7**	**-1.3**
KK31	**Karatay Array**	**20.76**	**41**	P	Pn	**11 49 24.2**	**-1.6**
KK31				IAmb	IAmb	11 49 34.2	
	comp=Z,3.9nm,0.8s						
KKAR	**Karatay Array**	**20.76**	**41**	P	Pn	**11 49 24.4**	**-1.4**
KKAR	**Karatay Array**	**20.76**	**41**	P	Pn	**11 49 24.5**	**-1.3**
ABKAR	**Akbulak array**	**21.54**	**14**	P	**P**	**11 49 31.3**	**-0.4**
ABKAR	**Akbulak array**	**21.54**	**14**	P	**P**	**11 49 31.4**	**-0.3**
ABKAR				IAmb	IAmb	11 49 37.3	
	comp=Z,2.9nm,0.8s						
AML	**Almayashu**	**22.14**	**47**	*i* P	**P**	**11 49 40.6**	**+1.9**
	SNR=8.3						
POO	**Poona**	**22.24**	**112**	*ex*	**P**	**11 49 39.0**	**-0.6**
AKTO	**Aktyubinsk**	**22.32**	**10**	P	**P**	**11 49 40.4**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=222,slow=12,SNR=4.6						
AAK	**Ala-Archa**	**22.91**	**46**	P	**P**	**11 49 48.2**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=236,slow=9.0,SNR=5.1						
AAK				LR	LR	12 00 24.9	
	comp=Z,87nm,19.4s,baz=243,slow=41						
AAK	**Ala-Archa**	**22.91**	**46**	P	**P**	**11 49 48.0**	**+1.3**
AAK				IAmb	IAmb	11 49 57.6	
	comp=Z,4.4nm,1.0s						
BOOM	**Boomskoye usch**	**23.77**	**48**	P	**P**	**11 49 55.5**	**+0.2**
BOOM				IAmb	IAmb	11 50 20.9	
	comp=Z,3.9nm,0.8s						
IDI	**Anoyia**	**24.03**	**293**		**P**	**11 49 57.0**	**-0.6**
MLR	**Muntele Rosu**	**26.72**	**316**	P	**P**	**11 50 22.9**	**+0.8**
	comp=Z,2.5nm,0.4s,baz=224,slow=12,SNR=4.5						
MLR	**Muntele Rosu**	**26.72**	**316**	P	**P**	**11 50 22.4**	**+0.4**
MLR				IAmb	IAmb	11 50 48.1	
	comp=Z,6.6nm,0.9s						
BVAR	**Borovoye Array**	**27.94**	**24**	P	**P**	**11 50 32.6**	**-0.1**
	comp=Z,0.4nm,0.5s						
AKASG	**Malin Array Be**	**28.09**	**328**	P	**P**	**11 50 33.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=125,slow=7.3,SNR=5.9						
MAKZ	**Makanchi**	**29.59**	**44**	P	**P**	**11 50 49.2**	**+1.6**
MAKZ				IAmb	IAmb	11 50 53.9	
	comp=Z,3.1nm,1.1s						
KURBB	**Kurchatov Arra**	**29.73**	**35**	P	**P**	**

477nm,0.5s
K05A Summer Lake 1.39 314 Pg 11 49 32.8 +0.4
K05A **Sg 11 49 52.1 +1.7**
K05A IAML 11 49 55.2
comp=E,402nm,0.7s
K05A IAML 11 49 55.8
comp=N,333nm,0.8s
M04C Macdoel 1.71 271 Pn 11 49 36.4 -0.4
M04C Macdoel 1.71 271 P **Pn 11 49 36.2 -0.5**
baz=91,SNR=356
M04C Sb **Sg 11 50 00.7 -0.1**
baz=91
J08A Circle Bar Ran 1.78 26 Pb 11 49 37.8 -1.4
J08A IAML 11 50 07.5
comp=E,242nm,0.4s
K04D Chiloquin, OR 1.85 298 P **Pn 11 49 38.5 -0.2**
baz=118,SNR=100
K04D S **Sn 11 50 02.2 -0.5**
baz=118
J05D Fort Rock, OR 1.97 321 Pb **Pb 11 49 42.8 +0.4**
baz=142,SNR=305
J05D Sb **Sg 11 50 10.1 +1.1**
baz=142
BEKR Beckworth 1.99 198 Pb 11 49 41.9 -0.8
PAHR Pah Rah Range 2.06 176 Pn 11 49 41.3 -0.1
PAHR IAML 11 50 11.8
comp=E,121nm,0.7s
L04D Klamath Falls 2.10 283 Pn 11 49 41.7 -0.4
L04D IAML 11 50 17.9
comp=N,176nm,0.5s
L04D IAML 11 50 21.4
comp=E,207nm,0.6s
L04D Klamath Falls 2.10 283 P **Pn 11 49 41.4 -0.7**
baz=103,SNR=94
L04D Sb **Sg 11 50 12.7 -0.7**
baz=103
BMN Battle Mountai 2.20 126 Pb 11 49 45.3 -1.1
BMN IAML 11 50 17.5
comp=E,101nm,0.3s
BMN IAML 11 50 25.1
comp=N,88nm,0.7s
O03E Paynes Creek 2.25 230 Pn 11 49 43.7 -0.4
O03E IAML 11 50 22.4
comp=E,168nm,0.6s
O03E IAML 11 50 22.7
comp=N,90nm,1.0s
O03E Paynes Creek 2.25 230 P **Pn 11 49 43.3 -0.7**
baz=49,SNR=28
O03E Sb **Sb 11 50 15.5 0.0**
baz=49
PINE Pine Mountain 2.27 334 Pg 11 49 48.5 -0.9
PINE IAML 11 50 28.2
comp=N,129nm,0.5s
I07A Izee 2.32 1 Pb 11 49 47.9 -0.5
I07A IAML 11 50 22.8
comp=E,133nm,0.6s
I07A IAML 11 50 22.8
comp=N,143nm,0.6s
YBH Yreka Blue Hor 2.37 270 Pn **Pn 11 49 46.4 +0.7**
J04D Umpqua Nationa 2.40 309 Pb 11 49 47.8 -2.0
J04D Umpqua Nationa 2.40 309 Pb **Pb 11 49 50.0 +0.1**
baz=128,SNR=40
VCNR Virginia City 2.46 182 Pb 11 49 49.2 -1.7
MPK Martis Peak 2.49 189 Pb 11 49 51.5 +0.2
MPK IAML 11 50 27.5
comp=N,119nm,0.4s
N02D Trinity Center 2.50 253 Pb 11 49 52.1 +0.6
N02D IAML 11 50 29.4
comp=N,155nm,0.7s
N02D Trinity Center 2.50 253 Sb **Sb 11 50 23.5 +0.8**
baz=71
M02C Callahan 2.51 263 Pn **Pn 11 49 49.2 +1.6**
M02C Callahan 2.51 263 Sb **Sg 11 50 25.1 -1.2**
baz=81
ORV Oroville 2.66 215 Pn **Pn 11 49 50.5 +0.9**
PNTR Pine Nut 2.67 181 Pb 11 49 54.3 -0.1
PNTR IAML 11 50 37.2
comp=E,104nm,0.9s
HUMO Hull Mountain 2.67 290 Pn 11 49 49.4 -0.4
RUBR Rubicon Trail 2.75 190 Pb 11 49 54.5 -1.2
RUBR IAML 11 50 34.8
comp=E,120nm,0.7s
RUBR IAML 11 50 35.9
comp=N,84nm,0.7s
YERR Yerington 2.78 175 Pn 11 49 53.1 +1.6
YERR IAML 11 50 37.5
comp=N,124nm,0.5s
EMB Emerald Bay 2.82 189 Pb 11 49 57.0 +0.1
EMB IAML 11 50 35.8
comp=E,97nm,0.2s
EMB IAML 11 50 36.3
comp=N,77nm,0.2s
I05D Terrebonne, OR 2.89 334 Pb **Pb 11 49 58.8 +0.7**
baz=153,SNR=22
I05D Sb **Sg 11 50 38.2 -0.4**
baz=153
O02D Mt. Diablo Mer 2.92 238 Pb 11 49 57.0 -1.6
O02D Mt. Diablo Mer 2.92 238 Pb **Pb 11 49 57.2 -1.3**
baz=56,SNR=9.6
O02D Sb **Sb 11 50 35.7 +0.9**
baz=56
KVN Kaiserville 2.92 157 Pn 11 49 55.8 +2.4
KVN IAML 11 50 39.4
comp=E,66nm,0.6s
KVN IAML 11 50 39.8
comp=N,40nm,0.5s
I04A Tendick Farm, 2.93 315 Pb **Pb 11 49 59.2 +0.5**
baz=134,SNR=25
I04A Sb **Sg 11 50 38.7 -1.1**
baz=134
L02E Cave Junction 3.05 279 Pn 11 49 56.5 +1.5
L02E Cave Junction 3.05 279 P **Pn 11 49 55.5 +0.5**
baz=97
L02E Sb **Sb 11 50 39.8 +1.4**
baz=97
DBO Dodson Butte 3.05 298 Pn 11 49 57.5 +2.4
K02D Willamette Mer 3.20 288 P **Pn 11 49 57.6 +0.5**
baz=106
K02D Sb **Sb 11 50 44.6 +1.9**
baz=106
MFID Camas Ranch 3.21 58 Pn **Pn 11 49 58.3 +1.1**
RYN Ryan 3.23 166 Pn **Pn 11 49 58.7 +1.1**
RYN IAML 11 50 49.2
comp=E,50nm,0.6s
RYN IAML 11 50 51.1
comp=N,59nm,0.6s
ELK Elko 3.40 106 Pn 11 50 01.8 +1.7
ELK Elko 3.40 106 IAML 11 50 53.7
comp=N,36nm,0.3s
I03D Drain, OR 3.40 306 Pb **Pb 11 50 06.8 +0.1**
baz=124
Q09A Carvers 3.44 147 Pn **Pn 11 49 59.5 -1.0**
NVAR Mina Array Bea 3.46 164 Pn 11 50 03.1 +2.3
NV11 Mina Array Sit 3.49 162 Pn 11 50 01.0 -0.3
NV11 IAML 11 50 58.4
comp=N,28nm,0.5s
NV11 IAML 11 51 00.9
comp=E,32nm,0.8s
BMO Blue Mountains 3.50 27 Pn 11 50 00.3 -0.9
H04A Detroit Lake 3.50 327 Pn 11 49 59.3 -1.9
KMRM Mail Ridge 3.50 245 Pn **Pn 11 50 00.3 -1.0**
KMRM IAML 11 51 03.3
comp=N,40nm,1.0s
KMRM IAML 11 51 05.8
comp=E,50nm,1.2s
BUCK Buck Mountain 3.51 315 Pg **Pg 11 50 11.2 -1.7**
BUCK IAML 11 50 37.0
comp=E,29nm,3.3s
J01E Myrtle Point 3.53 295 Pn 11 50 02.7 +1.1
J01E IAML 11 50 37.8
comp=N,23nm,1.5s
J01E IAML 11 50 37.0
comp=E,29nm,2.9s
J01E Myrtle Point 3.53 295 Pb **Pb 11 50 09.1 +0.1**
baz=113
G08A Pilot Rock 3.55 7 Pn 11 49 59.9 -2.1
LHV Little Huntoon 3.60 167 Pn 11 50 05.0 +2.5
H04D Lebanon 3.62 321 Pn 11 50 02.0 -0.7
H04D IAML 11 50 28.5
comp=N,22nm,1.0s
H04D Lebanon 3.62 321 Pb **Pb 11 50 11.1 +0.7**
baz=140
KCPM Cahto Peak 3.70 237 Pn **Pn 11 50 02.0 -2.0**
KCPM IAML 11 51 14.9
comp=N,30nm,1.1s
KCPM IAML 11 51 38.0
comp=E,40nm,2.8s
CMB Columbia Colle 3.78 190 Pn **Pb 11 50 09.3 -3.8**
CMB Pg 11 50 13.5 -4.7
CMB IAML 11 51 04.6
comp=N,23nm,0.8s
CMB IAML 11 51 05.2
comp=E,37nm,0.7s
HOPS Hopland Field 3.86 225 Pn **Pn 11 50 06.8 +0.7**
HOPS IAML 11 51 59.4
comp=E,41nm,3.3s
HOPS IAML 11 52 14.9
comp=N,44nm,2.9s
I02E Swisshome, OR 3.93 308 Pn **Pn 11 50 05.8 -1.3**
I02E IAML 11 50 38.2
comp=E,25nm,3.5s
I02E IAML 11 52 40.4
comp=N,30nm,3.8s
I02E Swisshome, OR 3.93 308 Pg **Pg 11 50 21.6 +0.5**
baz=126
COR Corvallis 3.94 317 Pn **Pn 11 50 06.0 -1.2**
COR IAML 11 51 02.2
comp=N,28nm,3.0s
COR IAML 11 51 19.7
comp=N,27nm,3.0s
OMMB Old Mammoth Mi 4.17 174 Pn 11 50 11.2 +0.6
HLID Hailey 4.19 63 Pn **Pn 11 50 10.4 -0.4**
HLID Pb 11 50 11.5 -8.8
HLID IAML 11 51 20.0
comp=N,22nm,0.8s
HLID IAML 11 51 21.6
comp=N,22nm,0.9s
PLID Pearl Lake 4.21 37 Pn **Pn 11 50 08.7 -2.5**
PLID Pb 11 50 10.5 -10
G03D McMinnville, O 4.38 323 Pn 11 50 11.9 -1.4
G03D IAML 11 50 48.4
comp=E,23nm,2.7s
G03D IAML 11 51 30.3
comp=N,21nm,2.2s
F10A Beach Ranch, E 4.53 21 Pn 11 50 17.3 +1.9
F10A IAML 11 51 44.9
comp=E,12nm,1.2s
F10A IAML 11 51 45.5
comp=N,11nm,1.1s
R11A Troy Canyon, C 4.57 137 Pn **Pn 11 50 18.8 +2.8**
R11A Troy Canyon, C 4.57 137 Pg **Pg 11 50 33.3 +0.1**
baz=319
HEBO Mount Hebo 4.61 320 Pn **Pn 11 50 14.8 -1.7**
HAWA Hanford 4.63 0 Pn **Pn 11 50 16.3 -0.4**
F04A Amboy 4.66 334 Pn **Pn 11 50 16.7 -0.4**
F04A IAML 11 50 56.3
comp=N,9.7nm,3.5s
F04A IAML 11 51 34.7
comp=E,14nm,0.8s
LCH Last Change Ra 4.76 161 Pn 11 50 18.9 +0.3
LCH IAML 11 51 43.4
comp=E,10nm,1.8s
S11A Rachel 5.05 143 Pn 11 50 23.9 +1.3
GRAC Grapevine Rang 5.05 160 Pn **Pn 11 50 21.5 -1.0**
GRAC IAML 11 51 50.4
comp=E,16nm,0.7s
GRAC IAML 11 51 56.0
comp=N,16nm,0.7s
HVU Hansel Valley 5.07 88 Pn 11 50 24.2 +1.4
BCYI Bear Canyon 5.17 58 Pn 11 50 26.1 +1.7
DUG Dugway, Tooele 5.33 105 Pn 11 50 26.3 -0.2
DUG IAML 11 52 06.4
comp=N,14nm,0.8s
DUG Dugway, Tooele 5.33 105 Pg **Pg 11 50 48.0 +0.1**
baz=289
PSUT Pine Spring 5.42 125 Pn 11 50 29.3 +1.5
TPNV Topopah Spring 5.44 151 Pn 11 50 29.2 +1.2
TPNV Topopah Spring 5.44 151 Pg **Pg 11 50 49.4 -0.7**
baz=333
PRN Pahroc Range 5.56 140 Pn 11 50 31.2 +1.5
NLU North Lily Min 5.95 105 Pn 11 50 35.8 +0.8
HWUT Hardware Ranch 5.98 89 Pn 11 50 35.1 -0.3
GWY Greenwater Val 6.00 157 Pn **Pn 11 50 35.7 0.0**
ISA Isabella, Lake 6.15 172 Pn **Pn 11 50 36.7 -0.9**
DLMT Dillon 6.20 52 Pn **Pn 11 50 39.8 +1.3**
CCUT Cedar City 6.36 129 Pn 11 50 43.3 +2.6
SZCU Shurtz Canyon 6.49 128 Pn 11 50 44.2 +1.7
MOOW Moose Ponds 6.78 70 Pn 11 50 45.8 -0.7
LCMT Little Creek M 6.80 132 Pn 11 50 49.5 +2.7
TMUT Trail Mountain 6.81 108 Pn 11 50 45.6 -1.4
FLWY Flagg Ranch 6.90 67 Pn 11 50 47.2 -0.8
BOZ Bozeman (W) 6.90 54 Pn **Pn 11 50 50.0 +2.0**
KNB Kanab 7.04 130 Pn 11 50 50.3 +0.3

IDC 11 11:58:38.0±2.5, 93.65N×92.68E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/65, mbtmp3.6/4, ML4.2/1, Error ellipse: s-maj=76.4km s-min=28.5km az=69.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	0.6nm,0.3s,baz=225,slow=15,SNR=28						
CMAR	**Chiang Mai Arr**	**10.65**	**34**	Pn	Pn	12 01 11.6	-0.4
	baz=47						
H08S3	**Diego Garcia H**	**26.45**	**230**	T	T	12 31 56.3	
	baz=47						
H08S2	**Diego Garcia H**	**26.45**	**230**	T	T	12 32 15.3	
	baz=47						
H08S1	**Diego Carcia H**	**26.46**	**230**	T	T	12 31 59.9	
	baz=47						
MKAR	**Makanchi Array**	**38.06**	**348**	P	P	12 05 58.5	+0.2
	0.2nm,0.3s,baz=162,slow=7.1,SNR=2.9						
WRA	**Warramunga Arr**	**50.47**	**126**	P	P	12 07 37.9	-0.2
	0.3nm,0.6s,baz=306,slow=8.3,SNR=5.6						
ASAR	**Alice Springs**	**52.16**	**130**	P	P	12 07 50.5	-0.2
	0.4nm,0.6s,baz=304,slow=7.1,SNR=7.7						

*IDC **11** 12:00:38.3±1.2, 51.28N×179.09W, h0km, mb3.3/8, mb1 3.8/10, mb1mx3.5/64, mbtmp3.5/10, ML3.8/2, MS2.6/3, Ms1 2.6/3, ms1mx2.3/49, Error ellipse: s-maj=35.9km s-min=19.4km az=168.0*
*AEIC **11** 12:00:44±1.5, 51.22N±0.08×178.88W±0.07, h30km±2km, Error ellipse: s-maj=11.9km s-min=4.5km az=158.0*
*NEIC **11** 12:00:44.9±1.5, 51.21N±0.08×178.95W±0.08, h41km±15km, mb3.8/25, ML3.7(AEIC), Error ellipse: s-maj=11.4km s-min=7.1km az=162.0*

ISC 11 12:00:42.9±1.8, 51.18N±0.10×178.92W±0.05, h28km±12km, n73, σ1.9 38/70, mb3.8/15, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.59**	**9**		**Pn**	**12 00 56.1**	**+0.7**
GASW	**Gareloi Southw**	**0.60**	**4**		**Pn**	**12 00 56.0**	**+0.4**
GAEA	**Gareloi East**	**0.61**	**10**		**Pn**	**12 00 56.4**	**+0.6**
TASE	**Tanaga Southea**	**0.86**	**40**		**Pn**	**12 00 59.9**	**+0.8**
TAFL	**Tanaga Flats**	**0.86**	**47**		**Pn**	**12 00 59.9**	**+0.8**
TAFL					**Sn**	**12 01 11.4**	**+0.7**
TAFP	**Tanaga Falls P**	**0.93**	**39**		**Pn**	**12 01 00.8**	**+0.7**
TAFP					**Sn**	**12 01 13.6**	**+1.2**
TAPA	**Tanaga Point A**	**0.94**	**47**		**Pn**	**12 01 01.1**	**+0.8**
KIMD	**Kanaga Island**	**1.20**	**60**		**Pb**	**12 01 04.5**	**-0.5**
KIMD					**Sb**	**12 01 19.8**	**-0.3**
KIWB	**Kanaga Island**	**1.29**	**58**		**Pb**	**12 01 06.0**	**-0.6**
KIKV	**Kanaga Island**	**1.30**	**57**		**Pb**	**12 01 06.3**	**-0.3**
KICM	**Kanaga Island**	**1.31**	**55**		**Pb**	**12 01 06.6**	**-0.2**
KINC	**Kanaga Island**	**1.35**	**55**		**Pb**	**12 01 07.2**	**-0.2**
ADK	**Adak**	**1.56**	**62**		**Pb**	**12 01 09.8**	**-1.4**
ADK					**Sb**	**12 01 31.4**	**+0.9**
GSCK	**Great Sitkin C**	**1.91**	**63**		**Pb**	**12 01 15.3**	**-1.7**
GSTD	**Great Sitkin T**	**1.94**	**62**		**Pb**	**12 01 16.1**	**-1.5**
GSTD					**Sb**	**12 01 41.3**	**-0.1**
GSMY	**Great Sitkin M**	**1.98**	**63**		**Pb**	**12 01 16.2**	**-2.0**
GSTR	**Great Sitkin T**	**2.00**	**62**		**Pb**	**12 01 17.0**	**-1.6**
ATKA	**Atka Island**	**3.11**	**69**		**Pn**	**12 01 32.2**	**+2.2**
ATKA					**Sn**	**12 02 08.2**	**+2.0**
KOKL	**Mount Kliuchef**	**3.15**	**67**		**Pn**	**12 01 32.5**	**+1.9**
SHEM	**Shemya Is, Ala**	**4.59**	**292**	Pn	**Pn**	**12 01 47.7**	**-2.6**
	3.4nm,0.3s,baz=151,slow=22,SNR=2.6						
SHEM				Sn	**Sn**	**12 02 46.1**	**+3.5**
	0.9nm,0.3s,baz=100,slow=22,SNR=0.9						
SHEM				LR	LR	12 03 17.5	
	comp=Z,32nm,20.3s,baz=304,slow=36						
SMY	**Shemya**	**4.59**	**292**		**Pn**	**12 01 53.0**	**+2.7**
SPIA	**Saint Paul Isl**	**7.87**	**37**		**Pn**	**12 02 38.7**	**+3.4**
UNV	**Unalaska Valle**	**8.03**	**66**		**Pn**	**12 02 40.8**	**+3.3**
GAMB	**Gambell**	**13.20**	**14**	Pn	**Pn**	**12 03 50.2**	**+2.0**
PETK	**Petropavlovsk-**	**14.47**	**287**	LR	LR	12 09 49.2	
	comp=Z,40nm,19.5s,baz=102,slow=38						
OHAK Old Harbor 16.11 58 Pn **Pn 12 04 27.4 +0.4**
KDAK Kodiak Island 16.60 56 Pn **Pn 12 04 31.2 -2.0**
0.5nm,0.3s,baz=204,slow=2.9,SNR=10
KDAK Sn **Sn 12 07 32.6 -3.9**
0.1nm,0.3s,baz=191,slow=17,SNR=2.3
KDAK Kodiak Island 16.60 56 P **Pn 12 04 32.4 -0.9**
L19K White Mountain 17.09 41 P **P 12 04 41.4 +0.4**
MA2 Magadan 19.02 308 LR LR 12 11 28.9
comp=Z,22nm,19.9s,baz=150,slow=34
KTH Kantishna Hill 19.32 39 P **P 12 05 06.2 +0.6**
TRF Thorofare Moun 19.54 40 P **P 12 05 08.1 +0.1**
TRF IAmb IAmb 12 05 30.9
comp=Z,10nm,1.5s
BPAW Bear Paw Mtn. 19.55 38 P **Pn 12 05 09.1 -0.4**
BPAW IAmb IAmb 12 05 24.0
comp=Z,6.5nm,1.5s
IMAR Indian Mountai 19.59 31 P **P 12 05 08.9 +0.6**
DHY Denali Highway 20.60 43 P **P 12 05 19.9 +0.3**
I23K Minto, Yukon-K 20.67 36 P **P 12 05 19.3 -0.8**
I23K IAmb IAmb 12 05 24.7
comp=Z,2.3nm,0.6s
WRH Wood River Hil 20.85 39 P **P 12 05 23.0 +0.9**
H23K Yukon River 20.94 34 P **P 12 05 23.8 +0.8**
H23K IAmb IAmb 12 05 47.7
comp=Z,7.6nm,1.5s
MDM Murphy Dome 21.01 37 P **P 12 05 24.2 +0.4**
CCB Clear Creek Bu 21.04 38 P **P 12 05 24.1 +0.1**
IL31 21.45 38 P **P 12 05 27.9 -0.5**
IL31 IAmb IAmb 12 05 51.9
comp=Z,4.5nm,1.4s
ILAR Eielson Array 21.45 38 P **P 12 05 27.1 -1.4**
comp=Z,0.3nm,0.5s,baz=238,slow=8.3,SNR=8.9
ILAR Eielson Array 21.45 38 P **P 12 05 29.4 +0.9**
H24K Noodor Dome 21.54 35 P **P 12 05 28.9 -0.7**
H24K IAmb IAmb 12 05 38.5
comp=Z,6.2nm,1.4s
RIDG Independent Ri 21.90 42 P **P 12 05 34.3 +0.9**
J25K Salcha River, 21.99 40 P **P 12 05 33.9 -0.5**
SCRK Sand Creek 22.33 42 P **P 12 05 37.4 -0.8**
TOLK Toolik Lake Re 22.48 28 P **P 12 05 39.8 +0.2**
TOLK IAmb IAmb 12 06 02.4
comp=Z,5.5nm,1.4s
L27K Beaver Creek, 23.01 45 P **P 12 05 45.7 +0.5**
L27K IAmb IAmb 12 06 10.9
comp=Z,4.6nm,1.4s
BCAR Beaver Creek A 23.03 45 P **P 12 05 45.9 +0.5**
BMAR Burnt Mountain 23.44 33 P **P 12 05 49.3 -0.2**
EGAK Eagle 23.75 41 P **P 12 05 51.5 -0.9**
EGAK IAmb IAmb 12 05 52.7
comp=Z,1.8nm,0.7s
DAWY Dawson 24.30 43 P **P 12 05 56.2 -1.4**
DAWY IAmb IAmb 12 06 01.4
comp=Z,3.3nm,1.2s
H11N2 WAKE ISLAND Hy 33.32 205 T T 12 42 38.4
baz=16,slow=76,SNR=23
H11N3 WAKE ISLAND Hy 33.33 205 T T 12 42 40.7
baz=16,slow=76,SNR=24
H11N1 WAKE ISLAND Hy 33.34 205 T T 12 42 39.7
baz=16,slow=76,SNR=21
H11S1 WAKE ISLAND Hy 34.54 205 T T 12 44 11.8
baz=16,slow=77,SNR=18
H11S2 WAKE ISLAND Hy 34.55 205 T T 12 44 09.3
baz=16,slow=77,SNR=11
H11S3 WAKE ISLAND Hy 34.55 205 T T 12 44 08.6
baz=16,slow=77,SNR=10
YKA Yellowknife Ar 35.42 46 P **P 12 07 35.4 -0.6**
comp=Z,0.2nm,0.4s,baz=276,slow=9.4,SNR=5.3
NVAR Mina Array Bea 43.65 82 P **P 12 08 45.2 +0.2**
comp=Z,0.1nm,0.6s,baz=315,slow=8.9,SNR=1.6
YHH Holmes Hill 44.52 70 P **P 12 08 52.6 +0.5**
YHH IAmb IAmb 12 08 53.8
comp=Z,1.5nm,0.8s
BW06 Boulder Array 46.44 72 P **P 12 09 08.0 +0.8**
PD31 Pinedale Array 46.44 72 P **P 12 09 08.2 +1.0**
PD31 IAmb IAmb 12 09 08.4
comp=Z,0.9nm,0.7s
PDAR Pinedale Array 46.44 72 P **P 12 09 07.8 +0.6**
comp=Z,1.0nm,0.5s,baz=312,slow=3.3,SNR=11
PDAR Pinedale Array 46.44 72 P **P 12 09 08.4 +1.2**
TXAR Lajitas Array 58.76 81 P **P 12 10 38.6 +0.3**
comp=Z,0.1nm,0.4s,baz=308,slow=4.4,SNR=2.5
MKAR Makanchi Array 60.10 308 P **P 12 10 46.6 -0.7**
comp=Z,0.1nm,0.4s,baz=60,slow=8.0,SNR=2.0
FINES FINESS Array B 65.96 347 P **P 12 11 24.4 -1.5**
comp=Z,0.5nm,0.5s,baz=34,slow=10,SNR=1.4
ASAR Alice Springs 85.29 222 P **P 12 13 16.6 -0.3**
comp=Z,0.5nm,0.9s,baz=20,slow=6.5,SNR=4.3
H03N2 Juan Fernandez 121.16 106 T T 14 32 38.5
baz=317,slow=77,SNR=11
H03N1 Juan Fernandez 121.18 106 T T 14 32 39.2
baz=317,slow=77,SNR=9.2
H03N3 Juan Fernandez 121.18 106 T T 14 32 40.4
baz=317,slow=77,SNR=10

IDC 11 12:01:15.4±7.3, 4.98S×145.87E, h125km±74km, mb3.3/3, mb1 3.5/5, mb1mx3.1/49, mbtmp3.7/5, Error ellipse: s-maj=65.0km s-min=27.0km az=144.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.58**	**164**	P	Pn	12 02 24.4	+1.6
	2.8nm,0.3s,baz=328,slow=6.7,SNR=8.8						
PMG				S	Sn	12 03 14.6	-0.7
	9.4nm,0.3s,baz=159,slow=20,SNR=16						
WRA	**Warramunga Arr**	**18.64**	**216**	P	P	12 05 24.5	+0.9
	0.2nm,0.3s,baz=35,slow=11,SNR=27						
ASAR	**Alice Springs**	**21.88**	**211**	P	P	12 05 59.0	+0.5
	0.2nm,0.5s,baz=38,slow=7.6,SNR=10						
FITZ	**Fitzroy Crossi**	**23.69**	**235**	P	P	12 06 15.4	-0.6
	4.0nm,0.5s,baz=55,slow=11,SNR=47						
ILAR	**Eielson Array**	**84.99**	**23**	P	P	12 13 36.5	0.0
	0.5nm,0.7s,baz=250,slow=4.8,SNR=6.2						

*IDC **11** 12:16:52.3±1.0, 51.77N×179.55E, h0km, mb3.6/12, mb1 3.9/15, mb1mx3.7/48, mbtmp3.7/15, ML3.9/2, MS3.4/9, Ms1 3.4/9, ms1mx2.9/97, Error ellipse: s-maj=31.2km s-min=14.2km az=168.0*
*NEIC **11** 12:16:53.0±1.9, 51.5N±0.2×179.5E±0.1, h10km±2km, mb4.0/44, ML3.5/26(AEIC), Error ellipse: s-maj=41.4km s-min=10.8km az=180.0*
*AEIC **11** 12:16:54±1.6, 50.9N±0.2×179.5E±0.1, h24km±9km, Error ellipse: s-maj=33.8km s-min=10.5km az=177.0*

ISC 11 12:16:53.5±0.8, 51.6N±0.1×179.56E±0.04, h10km, n76, σ0.99/67, mb4.0/21, MS3.6/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**2.06**	**82**		**Pb**	**12 17 29.9**	**-1.0**
ADK	**Adak**	**2.35**	**82**		**Pn**	**12 17 33.5**	**+1.4**
GSTR	**Great Sitkin T**	**2.76**	**78**	Pn	**Pn**	**12 17 37.8**	**0.0**
SHEM	**Shemya Is, Ala**	**3.54**	**290**	Pn	**Pn**	**12 17 49.6**	**+1.3**
	8.0nm,0.3s,baz=6.4,slow=3.4,SNR=4.3						
SHEM				Sn	**Sb**	**12 18 37.6**	**-1.4**
	baz=141,slow=19,SNR=1.1						
SMY	**Shemya**	**3.54**	**290**		**Pn**	**12 17 48.9**	**+0.5**
PETK	**Petropavlovsk-**	**13.43**	**285**	Pn	**Pn**	**12 20 03.9**	**0.0**
	0.0nm,0.3s,baz=87,slow=14,SNR=1.7						
N18K	**Kilae Creek**	**16.32**	**47**	P	**Pn**	**12 20 44.5**	**+2.1**
O18K	**Koktuh Hills**	**16.34**	**50**		**P**	**12 20 46.1**	**+0.4**
SVW2	**Sparrevohn**	**16.62**	**46**	P	**Pn**	**12 20 47.8**	**+1.5**
OHAK	**Old Harbor**	**16.70**	**60**	P	**Pn**	**12 20 46.9**	**-0.4**
Q19K	**Cape Douglas,**	**16.84**	**54**	P	**P**	**12 20 51.3**	**+0.1**
N19K	**Bonanza Creek**	**17.01**	**47**	P	**Pn**	**12 20 51.9**	**+0.6**
N19K				IAmb	IAmb	12 21 05.5	
	comp=Z,10nm,1.1s						
KDAK	**Kodiak Island**	**17.16**	**58**	Pn	**Pn**	**12 20 51.7**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=302,slow=1.4,SNR=12						
KDAK	**Kodiak Island**	**17.16**	**58**	P	**Pn**	**12 20 53.2**	**+0.1**
TTA	**Tatalina**	**17.27**	**40**	P	**P**	**12 20 56.5**	**+0.5**
L19K	**White Mountain**	**17.39**	**43**	P	**P**	**12 20 57.7**	**+0.4**
L19K				IAmb	IAmb	12 21 06.9	
	comp=Z,15nm,1.3s						
M19K	**Big River Lodg**	**17.47**	**44**	P	**P**	**12 20 58.9**	**+0.7**
J20K	**Nowinta River**	**18.61**	**37**	P	**Pn**	**12 21 11.8**	**+0.8**
J20K				IAmb	IAmb	12 21 22.8	
	comp=Z,15nm,1.4s						
CAST	**Castle Rocks**	**19.07**	**41**	P	**P**	**12 21 15.3**	**-0.4**
CAST				IAmb	IAmb	12 21 28.1	
	comp=Z,8.0nm,1.1s						
KTH	**Kantishna Hill**	**19.61**	**41**	P	**Pn**	**12 21 23.2**	**+0.3**
KTH				IAmb	IAmb	12 21 33.4	

comp=Z,13nm,1.0s
IMAR Indian Mountai 19.72 33 P **Pn 12 21 25.7 +1.5**
BPAW Bear Paw Mtn. 19.81 40 P **Pn 12 21 25.7 +0.4**
BPAW IAmb IAmb 12 21 34.3
comp=Z,9.5nm,1.3s
GHO Glory Hole Cre 19.86 47 P **P 12 21 24.3 -0.1**
GHO IAmb IAmb 12 21 35.5
comp=Z,12nm,1.4s
H21K Melozitna Rive 19.87 34 P **P 12 21 25.8 +1.4**
H21K IAmb IAmb 12 21 37.2
comp=Z,9.5nm,1.3s
PWL Port Wells 19.90 50 P **P 12 21 24.4 -0.4**
I21K Tanana 19.92 36 P **P 12 21 26.3 +1.3**
I21K IAmb IAmb 12 21 37.6
comp=Z,8.2nm,1.1s
KNK Knik Glacier 19.98 48 P **P 12 21 25.8 +0.1**
KNK IAmb IAmb 12 21 51.6
comp=Z,10nm,1.0s
SML Sawmill 20.14 47 P **P 12 21 27.4 -0.1**
RND Reindeer 20.41 43 P **P 12 21 31.8 +1.4**
RND IAmb IAmb 12 21 41.6
comp=Z,6.1nm,1.2s
SCM Sheep Creek Mo 20.61 47 P **P 12 21 33.5 +1.0**
NEA2 Nenana 20.77 39 P **P 12 21 35.3 +1.0**
NEA2 IAmb IAmb 12 22 00.4
comp=Z,10nm,1.0s
I23K Minto, Yukon-K 20.89 38 P **P 12 21 35.6 +0.1**
I23K IAmb IAmb 12 21 45.6
comp=Z,7.3nm,1.4s
DHY Denali Highway 20.93 44 P **P 12 21 36.7 +0.6**
DHY IAmb IAmb 12 21 55.0
comp=Z,5.9nm,0.8s
WRH Wood River Hil 21.11 40 P **P 12 21 38.5 +0.6**
WRH IAmb IAmb 12 22 01.5
comp=Z,5.7nm,1.1s
H23K Yukon River 21.13 36 P **P 12 21 39.4 +1.4**
KLU Klutina 21.18 49 P **P 12 21 39.7 +1.0**
KLU IAmb IAmb 12 21 43.7
comp=Z,11nm,1.3s
M24K Tolsona, Glenn 21.20 47 P **P 12 21 39.3 +0.4**
MDM Murphy Dome 21.25 39 P **P 12 21 40.4 +1.0**
MDM IAmb IAmb 12 21 53.5
comp=Z,9.3nm,1.3s
CCB Clear Creek Bu 21.30 40 P **P 12 21 41.0 +1.2**
IL31 21.71 40 P **P 12 21 44.1 -0.1**
ILAR Eielson Array 21.71 40 P **P 12 21 43.5 -0.7**
comp=Z,0.2nm,0.4s,baz=258,slow=11,SNR=2.1
BMRM Bremner River 21.71 51 P **P 12 21 44.1 -0.2**
H24K Noodor Dome 21.75 37 P **P 12 21 45.1 +0.4**
GLB Gilahina Butte 22.17 49 P **P 12 21 49.3 0.0**
GLB IAmb IAmb 12 22 13.9
comp=Z,12nm,1.4s
RIDG Independent Ri 22.22 43 P **P 12 21 51.1 +1.3**
RIDG IAmb IAmb 12 22 17.2
comp=Z,6.3nm,1.2s
J25K Salcha River, 22.27 41 P **P 12 21 50.9 +0.5**
VRDI Verde Repeater 22.30 50 P **P 12 21 51.7 +0.8**
TOLK Toolik Lake Re 22.55 29 P **P 12 21 55.2 +1.9**
TOLK IAmb IAmb 12 22 14.4
comp=Z,8.1nm,1.4s
SCRK Sand Creek 22.65 43 P **P 12 21 54.1 -0.4**
BARN Barnard Glacie 23.14 51 P **P 12 21 59.5 -0.2**
M27K Edge Creek, AK 23.22 48 P **P 12 22 01.8 +1.3**
M27K IAmb IAmb 12 22 16.8
comp=Z,5.5nm,1.1s
L27K Beaver Creek, 23.38 46 P **P 12 22 02.4 +0.5**
L27K IAmb IAmb 12 22 16.6
comp=Z,5.9nm,1.2s
BCAR Beaver Creek A 23.39 46 P **P 12 22 01.6 -0.6**
BMAR Burnt Mountain 23.61 34 P **P 12 22 05.1 +0.9**
ASAJ Asahikawa 25.68 268 LR LR 12 31 42.3
comp=Z,32nm,20.7s,baz=14,slow=35
INK Inuvik 27.85 36 P **P 12 22 43.1 +0.5**
comp=Z,0.1nm,0.3s,baz=296,slow=12,SNR=1.2
KLR Kul'dur 30.12 285 P **P 12 23 02.4 -0.6**
comp=Z,6.7nm,0.5s,baz=70,slow=8.0,SNR=27
KLR LR LR 12 35 51.8
comp=Z,21nm,20.1s,baz=313,slow=38
MJAR Matsushiro Arr 32.81 259 LR LR 12 34 38.8
comp=Z,33nm,21.0s,baz=65,slow=32
H11N2 WAKE ISLAND Hy 33.34 202 T T 12 58 32.0
baz=10
H11N3 WAKE ISLAND Hy 33.35 202 T T 12 58 29.8
baz=10
H11N1 WAKE ISLAND Hy 33.36 202 T T 12 58 34.9
baz=10
YKA Yellowknife Ar 35.81 46 P **P 12 23 52.5 0.0**
comp=Z,0.7nm,0.6s,baz=280,slow=7.8,SNR=14
KSRS Korea Array 38.61 269 P **P 12 24 15.4 -1.1**
comp=Z,0.9nm,0.7s,baz=70,slow=11,SNR=4.2
NVAR Mina Array Bea 44.54 82 P **P 12 25 03.9 -1.5**
comp=Z,0.2nm,0.7s,baz=284,slow=3.6,SNR=2.1
SONM Songino Array 45.62 296 P **P 12 25 13.7 -0.1**
comp=Z,0.7nm,0.7s,baz=82,slow=8.4,SNR=5.3
SONM LR LR 12 46 04.0
comp=Z,60nm,18.3s,baz=356,slow=38
PDAR Pinedale Array 47.21 71 P **P 12 25 25.7 -0.8**
comp=Z,1.4nm,0.5s,baz=302,slow=3.5,SNR=13
MKAR Makanchi Array 59.07 307 P **P 12 26 52.9 -0.7**
comp=Z,0.9nm,0.5s,baz=52,slow=7.3,SNR=14
SADO Sadowa 62.50 52 LR LR 12 55 28.9
comp=Z,45nm,18.7s,baz=22,slow=37
KIRV Kirov 62.90 333 LR LR 12 59 05.9
comp=Z,49nm,18.1s,baz=303,slow=40
AKTO Aktyubinsk 66.89 324 LR LR 12 59 21.1
comp=Z,39nm,18.7s,baz=19,slow=38
NOA NORSAR Array B 67.30 354 P **P 12 27 47.8 -0.1**
comp=Z,0.9nm,0.8s,baz=8.1,slow=6.4,SNR=3.5
AKASG Malin Array Be 74.99 341 LR LR 13 04 52.3
comp=Z,26nm,20.7s,baz=321,slow=38
GEYT Alibeck 77.20 316 LR LR 13 08 23.3
comp=Z,37nm,19.4s,baz=176,slow=40
WRA Warramunga Arr 81.49 222 P **P 12 29 13.3 +2.5**
comp=Z,0.9nm,0.9s,baz=31,slow=6.0,SNR=1.4
BRTR Keskin Array B 84.29 334 P **P 12 29 24.8 -0.7**
comp=Z,0.7nm,0.6s,baz=81,slow=1.9,SNR=4.2
ASAR Alice Springs 84.98 221 P **P 12 29 31.2 +2.4**
comp=Z,0.3nm,0.9s,baz=22,slow=5.4,SNR=1.9

*ROM **11** 12:27:02.5±0.2,41°.781N×0°.008×15°.961E±0°.010, h18km±1km, ML2.8/19, Error ellipse: s-maj=0.9km s-min=0.7km az=31.0*

ISC 11 12:27:01.5±1.1, 41°.83N±0°.03×16°.01E±0°.03, h19km±2km, n51, σ0s67/65, 2C-1D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.13**	**213**	⇓P	**Pg**	**12 27 06.2**	**+0.5**
MSAG				S	**Sg**	**12 27 09.1**	**+0.4**
SGRT	**San Giovanni R**	**0.21**	**250**	⇑P	**Pg**	**12 27 07.0**	**+0.3**
SGRT				S	**Sg**	**12 27 10.5**	**+0.2**
SGRT				AML	AML		
	comp=E,1910μm,1.4s						
SGRT				AML	AML		
	comp=N,1820μm,0.9s						
APRC	**Apricena**	**0.35**	**259**	P	**Pg**	**12 27 09.1**	**+0.1**
APRC				S	**Sg**	**12 27 14.0**	**-0.2**
APRC				AML	AML		
	comp=E,8410μm,0.2s						
APRC				AML	AML		
	comp=N,10235μm,0.1s						
APRC				AML	AML		
	comp=N,10210μm,0.1s						
TREM	**Isole Tremiti**	**0.47**	**309**	P	**Pb**	**12 27 12.2**	**+0.9**
TREM				S	**Sb**	**12 27 19.5**	**+1.6**
MELA	**Melanico ??? S**	**0.67**	**260**	P	**Pb**	**12 27 14.5**	**0.0**
MELA				S	**Sb**	**12 27 24.0**	**+0.7**
MELA				AML	AML		
	comp=N,2980μm,0.3s						
MELA				AML	AML		
	comp=E,2450μm,0.6s						
MELA				AML	AML		
	comp=E,2455μm,0.6s						
MELA				AML	AML		
	comp=N,2720μm,0.3s						
CAPA	**Cerignola FG**	**0.68**	**192**	P	**Pb**	**12 27 14.3**	**-0.3**
CAPA				S	**Sb**	**12 27 23.5**	**-0.1**
CAPA				AML	AML		
	comp=E,849μm,1.1s						
CAPA				AML	AML		
	comp=N,674μm,0.5s						
MRVN	**Minervino Murg**	**0.78**	**169**	P	**Pb**	**12 27 15.8**	**-0.5**
MRVN				S	**Sb**	**12 27 26.6**	**+0.1**
MRVN				AML	AML		
	comp=E,1165μm,0.3s						
MRVN				AML	AML		
	comp=N,759μm,0.3s						
CIGN	**Sant'Elia a Pi**	**0.84**	**259**	P	**Pb**	**12 27 17.9**	**+0.5**
CIGN				S	**Sb**	**12 27 28.3**	**-0.1**
CIGN				AML	AML		
	comp=N,172μm,1.4s						
CIGN				AML	AML		
	comp=E,144μm,0.4s						
GATE	**Gambatesa**	**0.88**	**250**	P	**Pg**	**12 27 19.1**	**+0.4**
GATE				AML	AML		
	comp=E,636μm,0.9s						
GATE				AML	AML		
	comp=E,259μm,0.5s						
GATE				AML	AML		
	comp=E,636μm,0.9s						
GATE				AML	AML		
	comp=N,1150μm,0.7s						
GATE				AML	AML		
	comp=N,1200μm,0.7s						
PALZ	**Palazzo San Ge**	**0.88**	**182**	P	**Pb**	**12 27 17.9**	**-0.2**
PALZ				S	**Sb**	**12 27 29.8**	**+0.2**
PALZ				AML	AML		
	comp=E,682μm,1.4s						
PALZ				AML	AML		
	comp=N,476μm,0.5s						
VULT	**Monte Vulture**	**0.92**	**199**	P	**Pb**	**12 27 18.6**	**-0.2**
VULT				S	**Sb**	**12 27 31.3**	**+0.6**
VULT				AML	AML		
	comp=E,753μm,1.3s						
VULT				AML	AML		
	comp=N,972μm,0.2s						
VULT				AML	AML		
	comp=N,971μm,0.2s						
VULT				AML	AML		
	comp=E,754μm,1.3s						
CAFE	**Carife**	**0.98**	**216**	P	**Pb**	**12 27 19.8**	**-0.1**
FRES	**Fresagrandinar**	**1.01**	**279**	P	**Pb**	**12 27 20.5**	**+0.2**
FRES				AML	AML		
	comp=E,138μm,0.5s						
FRES				AML	AML		
	comp=N,87μm,0.7s						
ACER	**Acerenza**	**1.04**	**183**	P	**Pb**	**12 27 20.8**	**0.0**
ACER				S	**Sb**	**12 27 34.8**	**+0.7**
ACER				AML	AML		
	comp=E,1710μm,0.7s						
ACER				AML	AML		
	comp=N,2987μm,0.7s						
ACER				AML	AML		
	comp=E,614μm,0.2s						
ACER				AML	AML		
	comp=N,428μm,0.3s						
ACER				AML	AML		
	comp=E,1710μm,0.7s						
ACER				AML	AML		
	comp=N,2986μm,0.7s						
MRB1	**Monte Rocchett**	**1.04**	**228**	P	**Pb**	**12 27 21.3**	**+0.3**
SACR	**S. Croce Del S**	**1.06**	**247**	P	**Pb**	**12 27 21.1**	**-0.2**
PSB1	**Pescosannita**	**1.08**	**237**	P	**Pb**	**12 27 21.3**	**-0.3**
BSSO	**Busso**	**1.09**	**256**	P	**Pb**	**12 27 22.1**	**+0.3**
BSSO				AML	AML		
	comp=E,63μm,0.4s						
BSSO				AML	AML		
	comp=N,49μm,0.8s						
LIO3	**Lioni**	**1.12**	**214**	P	**Pn**	**12 27 21.8**	**-0.4**
MRLC	**Muro Lucano**	**1.14**	**200**	⇑P	**Pn**	**12 27 22.3**	**-0.1**
MRLC				AML	AML		
	comp=E,320μm,0.4s						
MRLC				AML	AML		
	comp=N,189μm,0.3s						
LSTV	**Lastovo**	**1.15**	**35**	*e*Pg	**Pn**	**12 27 22.4**	**-0.2**
VITU	**Vitulano (BN)**	**1.22**	**239**	P	**Pn**	**12 27 23.8**	**+0.2**
MCRV	**Calabrutti - M**	**1.22**	**212**	P	**Pn**	**12 27 23.2**	**-0.4**
MIGL	**Miglionico**	**1.26**	**165**	P	**Pn**	**12 27 24.8**	**+0.7**
MIGL				S	**Sg**	**12 27 42.0**	**-0.4**
MIGL				AML	AML		
	comp=E,886μm,1.1s						
MIGL				AML	AML		
	comp=N,957μm,1.3s						
MIGL				AML	AML		
	comp=N,956μm,1.3s						
MIGL				AML	AML		
	comp=E,885μm,1.1s						
MATE	**Matera**	**1.29**	**156**	P	**Pn**	**12 27 25.1**	**+0.7**
MATE				S	**Sb**	**12 27 42.5**	**+1.3**
MATE				AML	AML		
	comp=E,539μm,0.3s						
MATE				AML	AML		
	comp=N,621μm,0.3s						
SGG	**Gregorio Mates**	**1.30**	**251**	P	**Pn**	**12 27 24.9**	**+0.2**
CAFR	**Castel Frentan**	**1.30**	**289**	AML	AML		
	comp=N,186μm,0.2s						
CAFR				AML	AML		
	comp=E,158μm,1.2s						
NOCI	**Noci**	**1.31**	**142**	P	**Pb**	**12 27 25.9**	**+0.5**
NOCI				AML	AML		
	comp=E,454μm,0.3s						
NOCI				AML	AML		
	comp=N,680μm,0.1s						
MIDA	**Miranda**	**1.32**	**263**	P	**Pb**	**12 27 26.9**	**+1.1**
PAOL	**Paolisi**	**1.34**	**234**	P	**Pg**	**12 27 27.2**	**-0.2**
LTRZ	**Laterza**	**1.37**	**153**	P	**Pb**	**12 27 27.2**	**+0.8**
LTRZ				S	**Sg**	**12 27 45.2**	**-0.4**
LPEL	**Lama dei Pelig**	**1.38**	**280**	P	**Pn**	**12 27 26.0**	**+0.3**
LPEL				AML	AML		
	comp=E,180μm,0.3s						
LPEL				AML	AML		
	comp=N,185μm,0.2s						
VAGA	**Valle Agricola**	**1.39**	**253**	P	**Pb**	**12 27 27.3**	**+0.4**
HVAR	**Hvar**	**1.39**	**13**	*e*Pg	**Pn**	**12 27 25.8**	**-0.1**
HVAR				Sg	**Sn**	**12 27 42.8**	**-0.9**
CDRU	**Civita di Ruta**	**1.44**	**202**	P	**Pn**	**12 27 25.8**	**-0.8**
CDRU				AML	AML		
	comp=N,62μm,0.7s						
CDRU				AML	AML		
	comp=E,109μm,0.3s						
SLCN	**Sala Consilina**	**1.46**	**191**	P	**Pb**	**12 27 28.4**	**+0.3**
CRAC	**Craco**	**1.49**	**167**	P	**Pb**	**12 27 29.6**	**+1.0**
CRAC				AML	AML		
	comp=N,458μm,0.3s						
CRAC				AML	AML		
	comp=N,458μm,0.3s						
CRAC				AML	AML		
	comp=E,793μm,0.2s						
MCEL	**Monticello**	**1.51**	**186**	P	**Pb**	**12 27 28.7**	**-0.1**
MCEL				AML	AML		
	comp=N,206μm,0.7s						
MCEL				AML	AML		
	comp=E,130μm,0.2s						
MTSN	**Montesano sull**	**1.57**	**187**	AML	AML		
	comp=N,95μm,0.2s						
MTSN				AML	AML		
	comp=E,70μm,1.4s						
MTSN				AML	AML		
	comp=N,95μm,0.2s						
INTR	**Introdacqua**	**1.58**	**277**	AML	AML		
	comp=E,63μm,0.4s						
INTR				AML	AML		
	comp=N,158μm,0.8s						
INTR				AML	AML		
	comp=E,63μm,0.4s						
INTR				AML	AML		
	comp=N,159μm,0.8s						
STON	**Ston**	**1.63**	**50**	*e*Pn	**Pn**	**12 27 28.5**	**-0.7**
SIRI	**Monte Sirino -**	**1.65**	**184**	AML	AML		
	comp=N,121μm,0.2s						
SIRI				AML	AML		
	comp=E,140μm,1.5s						
SIRI				AML	AML		
	comp=N,121μm,0.2s						
T0110	**Collepietro**	**1.71**	**284**	AML	AML		
	comp=N,101μm,1.2s						
T0110				AML	AML		
	comp=N,101μm,1.2s						
T0110				AML	AML		
	comp=E,135μm,0.4s						
ZIRJ	**Zirje**	**1.85**	**352**	*e*Pn	**Pn**	**12 27 31.5**	**-0.6**
ZIRJ				Sn	**Sn**	**12 27 54.5**	**-0.5**
RICI	**Ricice**	**1.86**	**26**	*i* Pn	**Pn**	**12 27 32.4**	**0.0**
RICI				Sn	**Sn**	**12 27 55.3**	**-0.1**
SALB	**San Lorenzo Be**	**1.96**	**172**	AML	AML		
	comp=N,59μm,1.0s						
SALB				AML	AML		
	comp=E,80μm,1.2s						
MORI	**Morici**	**2.05**	**354**	*e*Pn	**Pn**	**12 27 34.1**	**-0.8**
MORI				Sn	**Sn**	**12 27 58.3**	**-1.7**
KIJV	**Kijevo**	**2.20**	**8**	*e*Pn	**Pn**	**12 27 37.5**	**+0.6**
KIJV				Sn	**Sn**	**12 28 03.3**	**-0.4**
DUGI	**Dugi Otok**	**2.27**	**342**	*e*Pn	**Pn**	**12 27 37.3**	**-0.7**
DUGI				Sn	**Sn**	**12 28 03.9**	**-1.6**
NRCA	**Norcia**	**2.37**	**296**	AML	AML		
	comp=N,45μm,0.4s						
NRCA				AML	AML		
	comp=E,30μm,1.3s						
VIRC	**Vir**	**2.56**	**345**	*e*Pn	**Pn**	**12 27 41.5**	**-0.5**
VIRC				Sn	**Sn**	**12 28 10.7**	**-1.9**

IDC 11 12:28:57.3±762.0, 54°.99N×6°.02E, h0km, Error ellipse: s-maj=377.4km s-min=49.5km az=18.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**15.27**	**17**	*i*		14 08 10.0	
	baz=208,slow=327,SNR=1.4						
I43RU	**DUBNA INFRASONI**	**17.53**	**72**	*i*		14 12 00.0	
	baz=278,slow=318,SNR=1.4						
I31KZ	**AKTYUBINSK INF**	**31.25**	**76**	*i*		15 41 00.0	
	baz=299,slow=321,SNR=1.8						

*IDC **11** 12:33:09.7±1.2,21°.24S×68°.34W, h110km±14km, mb3.1/3, mb1 3.3/6, mb1mx3.2/30, mbtmp3.5/6, Error ellipse: s-maj=33.7km s-min=16.5km az=111.0*

*GUC **11** 12:33:10.1±0.7,21°.25S×68°.71W, h119km±4km, ML3.7*

ISC 11 12:33:09.5±0.9, 21°.19S±0°.03×68°.62W±0°.08, h115km±8km, n26, σ1s64/41, mb3.4/3, 6C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.82**	**280**	⇓*i*P	**Pn**	**12 33 28.9**	**-0.6**
PB01				*i* S	**Sn**	**12 33 44.1**	**-0.5**
PB01				IAML		12 33 45.0	
	comp=E,4μm,0.1s						
PB09	**IPOC Station P**	**0.84**	**223**	*i* S	**Sn**	**12 33 44.5**	**-0.6**
PB09				IAML		12 33 45.8	
	comp=N,894nm,0.4s						
PB08	**IPOC Station P**	**1.15**	**334**	⇓*i*P	**Pn**	**12 33 34.1**	**+1.0**
PB08				*i* S	**Sn**	**12 33 52.3**	**+1.3**
PB08				IAML		12 33 54.2	
	comp=E,932nm,0.2s						
PB02	**IPOC Station P**	**1.20**	**263**	⇑*i*P	**Pn**	**12 33 32.6**	**-0.7**
PB02				*i* S	**Sn**	**12 33 50.1**	**-1.2**
PB02				IAML		12 33 51.9	
	comp=E,3μm,0.2s						
PB07	**IPOC Station P**	**1.30**	**245**	⇑*i*P	**Pn**	**12 33 33.6**	**-0.9**
PB07				*i* S	**Sn**	**12 33 51.7**	**-1.7**
PB07				IAML		12 33 52.4	
	comp=N,2μm,0.2s						
LVC	**Limon Verde**	**1.44**	**191**	P	**Pn**	**12 33 36.1**	**-0.3**
	comp=N,9.4nm,0.3s,baz=36,slow=8.8,SNR=59						
LVC				S	**Sn**	**12 33 56.6**	**-0.1**
	comp=N,18nm,0.3s,baz=248,slow=23,SNR=9.2						
LVC	**Limon Verde**	**1.44**	**191**	*e*P	**Pn**	**12 33 36.0**	**-0.3**
LVC				*i* S	**Sn**	**12 33 56.5**	**-0.2**
PATCX	**Punta Patache**	**1.48**	**284**	⇑*i*P	**Pn**	**12 33 36.0**	**-0.4**
PATCX				*i* S	**Sn**	**12 33 55.9**	**-1.0**
PATCX				IAML		12 33 57.8	
	comp=E,2μm,0.3s						
HMBC	**Humberstone**	**1.49**	**307**	⇑*i*P	**Pn**	**12 33 36.2**	**-0.5**
HMBC				*i* S	**Sn**	**12 33 56.6**	**-0.7**
HMBC				IAML		12 33 57.8	
	comp=N,2μm,0.4s						
TA01	**Diego Aracena**	**1.58**	**293**	⇑*i*P	**Pn**	**12 33 36.9**	**-0.7**
TA01				*i* S	**Sn**	**12 33 57.6**	**-1.4**
TA01				IAML		12 33 59.5	
	comp=N,2μm,0.4s						
GO01	**Chusmiza**	**1.60**	**340**	*e*P	**Pn**	**12 33 39.2**	**+0.9**
GO01				*i* S	**Sn**	**12 34 02.0**	**+1.8**
GO01				IAML		12 34 04.0	
	comp=N,1μm,0.3s						
TA02	**Huaiquique**	**1.68**	**302**	IAML		12 34 01.9	
PB11	**IPOC Station P**	**1.72**	**325**	⇓*i*P	**Pn**	**12 33 39.4**	**0.0**
PB11				*i* S	**Sn**	**12 34 02.3**	**+0.2**
PB11				IAML		12 34 04.4	
	comp=E,1μm,0.4s						
PB06	**IPOC Station P**	**1.75**	**210**	⇑*i*P	**Pn**	**12 33 39.1**	**-0.7**
PB06				*i* S	**Sn**	**12 34 01.5**	**-1.4**
PB06				IAML		12 34 02.4	
	comp=N,401nm,0.3s						
PB04	**IPOC Station P**	**1.82**	**231**	*e*P	**Pn**	**12 33 39.4**	**-1.3**
PB04				*i* S	**Sn**	**12 34 01.8**	**-2.7**
PB04				IAML		12 34 05.4	
	comp=E,529nm,0.2s						
PB15	**IPOC Station P**	**2.16**	**201**	*e*P	**Pn**	**12 33 44.7**	**-0.2**
PB15				*i* S	**Sn**	**12 34 11.1**	**-1.1**
PB15				IAML		12 34 14.3	
	comp=E,1μm,0.5s						
PB16	**IPOC Station P**	**2.96**	**343**	*e*P	**Pn**	**12 33 57.2**	**+1.5**
PB12	**IPOC Station P**	**3.02**	**328**	*e*P	**Pn**	**12 33 54.5**	**-1.5**
PB12				*i* S	**Sn**	**12 34 29.8**	**-2.0**
PB12				IAML		12 34 34.4	
	comp=E,128nm,0.5s						
GO02	**Mina Guanaco**	**4.06**	**193**	*e*P	**Pn**	**12 34 08.7**	**-1.3**
GO02				IAML		12 34 57.0	
	comp=N,87nm,0.1s						
LPAZ	**La Paz**	**4.89**	**6**	P	**Pn**	**12 34 21.9**	**+0.3**
	comp=N,0.4nm,0.3s,baz=190,slow=5.8,SNR=7.5						
LPAZ				S	**Sn**	**12 35 10.6**	**-6.8**
	comp=N,0.2nm,0.3s,baz=213,slow=2.7,SNR=5.8						
SIV	**San Ignacio**	**8.82**	**55**	P	**Pn**	**12 35 12.3**	**-1.9**
	comp=N,2.6nm,0.3s,baz=256,slow=9.3,SNR=34						
PLCA	**Paso Flores**	**19.56**	**184**	P	**P**	**12 37 28.1**	**-0.2**
	comp=N,0.0nm,0.3s,baz=9.5,slow=6.1,SNR=1.8						
TXAR	**Lajitas Array**	**60.53**	**325**	P	**P**	**12 43 10.4**	**+2.6**
	comp=N,0.1nm,0.4s,baz=133,slow=13,SNR=2.9						
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P	**P**	**12 44 49.4**	**-0.7**
	comp=N,0.3nm,0.4s,baz=246,slow=4.2,SNR=4.7						
YKA	**Yellowknife Ar**	**90.98**	**340**	P	**P**	**12 46 00.6**	**+0.5**
	comp=N,0.2nm,0.6s,baz=136,slow=5.2,SNR=5.9						
MKAR	**Makanchi Array**	**145.22**	**36**	PKPbc	**PKPab**	**12 52 34.2**	**+0.6**
	comp=N,0.6nm,0.6s,baz=318,slow=3.0,SNR=8.2						

*IDC **11** 12:34:42.2±0.8, 37°.43N×105°.87E, h0km, mb3.6/10, mb1 3.8/14, mb1mx3.7/47, mbtmp3.7/14, ML3.7/4, MS3.5/3, Ms1 3.4/3, ms1mx2.7/90, Error ellipse: s-maj=21.2km s-min=16.4km az=65.0*

*MOS **11** 12:34:48.9±1.9, 37°.68N×105°.80E, h56km, mb4.2/9, Error ellipse: s-maj=13.6km s-min=9.1km az=92.9*

ISC 11 12:34:46.3±0.5, 37°.56N±0°.05×105°.55E±0°.04, h10km, n41, σ2s81/41, mb3.9/14, MS3.6/4, 6C-1D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**2.01**	**224**	Pg	**Pn**	**12 35 19.7**	**-0.7**
LZH				Sg	**Sn**	**12 35 44.3**	**-1.4**
LZH				smax	smax		
	comp=N,7μm,0.8s						
LZH				smax	smax		
	comp=E,6μm,0.8s						
XAN	**Xi'an**	**4.45**	**141**	Pn	Pn	12 35 47.9	-6.0
XAN				P*	Pb	12 35 55.9	-8.7
XAN				Pg	Pg	12 36 00.6	-11
XAN				Sn	Sn	12 36 34.0	-12
XAN				S*	Sb	12 36 46.8	-12
XAN				Sg	Sg	12 36 54.0	-15
XAN				smax	smax		
	comp=N,380nm,1.0s						
XAN				smax	smax		
	comp=E,300nm,0.5s						
XAN				LR	LR		
	comp=N,620nm,4.5s						
XAN				LR	LR		
	comp=E,570nm,5.3s						
XAN				LR	LR		
	comp=Z,380nm,9.2s						
GTA	**Gaotai**	**4.87**	**294**	Pg	**Pn**	**12 36 03.7**	**+4.0**
GTA				Sg	**Sg**	**12 37 23.8**	**+1.3**
GTA				smax	smax		
	comp=N,360nm,1.1s						
GTA				smax	smax		
	comp=E,220nm,0.6s						
GTA				LR	LR		
	comp=N,610nm,9.2s						
GTA				LR	LR		
	comp=E,400nm,8.0s						
GTA				LR	LR		
	comp=Z,320nm,10.8s						

TIY	**Taiyuan**	**5.46**	**86**	Pn	Pn	12 36 04.7	-3.1		
TIY				Pg	**Pb**	**12 36 21.7**	**-0.1**		
TIY				Sn	**Sn**	**12 37 04.2**	**-6.5**		
TIY				Sg	**Sb**	**12 37 25.8**	**-1.6**		
TIY				smax	smax				
	comp=N,630nm,0.4s								
TIY				smax	smax				
	comp=E,540nm,0.9s								
LYN	**LuoYang**	**6.35**	**116**	*e*Pg	Pb	12 36 31.7	-5.2		
LYN				Sn	Sn	12 37 19.4	-13		
LYN				Sg	**Sb**	**12 37 51.0**	**-2.0**		
LYN				smax	smax				
	comp=N,180nm,0.6s								
LYN				smax	smax				
	comp=E,90nm,0.6s								
LYN				LR	LR				
	comp=N,440nm,4.4s								
LYN				LR	LR				
	comp=E,420nm,3.5s								
LYN				LR	LR				
	comp=Z,330nm,11.4s								
HNS	**HongShan**	**7.28**	**88**	⇑Pn	**Pn**	**12 36 34.5**	**+1.8**		
HNS				Pg	**Pb**	**12 36 55.5**	**+2.8**		
HNS				Sn	**Sn**	**12 38 00.3**	**+4.9**		
HNS				Sg	**Sb**	**12 38 25.7**	**+6.1**		
HNS				smax	smax				
	comp=N,240nm,1.0s								
HNS				smax	smax				
	comp=E,100nm,0.7s								
GOMU	**GeErMu**	**8.71**	**264**	Pn	**Pn**	**12 36 52.8**	**+0.1**		
GOMU				Pg	Pg	12 37 30.0	-3.1		
GOMU				Sn	**Sn**	**12 38 31.7**	**+0.5**		
GOMU				Sg	Sg	12 39 16.1	-10		
GOMU				smax	smax				
	comp=N,29nm,0.8s								
GOMU				smax	smax				
	comp=E,20nm,0.9s								
TIA	**Tai'an**	**9.37**	**95**	P	Pn	12 37 35.7	+34		
TIA				pmax	pmax				
	comp=Z,7.0nm,0.4s								
TIA				LR	LR				
	comp=N,95nm,5.4s								
TIA				LR	LR				
	comp=E,150nm,6.4s								
TIA				LR	LR				
	comp=Z,310nm,7.8s								
WHN	**Wuhan**	**10.11**	**131**	P	**Pn**	**12 37 11.8**	**+0.4**		
WHN				S	**Sn**	**12 39 05.4**	**+0.6**		
SONM	**Songino Array**	**10.29**	**3**	Pn	**Pn**	**12 37 14.7**	**+0.7**		
	comp=Z,0.4nm,0.3s,baz=184,slow=14,SNR=12								
SONM				Sn	**Sn**	**12 39 08.3**	**-1.1**		
	comp=Z,1.2nm,0.3s,baz=188,slow=28,SNR=6.2								
SONM				Lg	Lg	12 40 12.8			
	comp=Z,1.0nm,0.3s,baz=176,slow=28,SNR=2.3								
ULN	**Ulaanbaatar**	**10.36**	**6**	*ce*P	**Pn**	**12 37 15.6**	**+0.6**		
ULN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
WMQ	**Urumqi**	**14.91**	**300**	*e*P	**Pn**	**12 38 20.6**	**+3.5**		
WMQ				pP	P	12 38 23.2	+0.4		
WMQ				sP		12 38 29.0			
WMQ				pmax	pmax				
	comp=Z,23nm,0.7s								
HIA	**Hailar**	**15.56**	**37**	*i* P	**Pn**	**12 38 25.6**	**-0.1**		
KSRS	**Korea Array**	**17.75**	**84**	P	Pn	12 38 47.9	-5.5		
	comp=Z,0.2nm,0.3s,baz=274,slow=10,SNR=5.2								
MK31	**Makanchi Array**	**19.50**	**306**	*i* P	**P**	**12 39 13.9**	**+0.5**		
MKAR	**Makanchi Array**	**19.50**	**306**	P	**P**	**12 39 13.6**	**+0.2**		
	comp=Z,0.2nm,0.3s,baz=107,slow=13,SNR=13								
CMAR	**Chiang Mai Arr**	**19.89**	**199**	P	**P**	**12 39 16.3**	**-1.6**		
	comp=Z,0.1nm,0.3s,baz=7.3,slow=10.0,SNR=1.6								
CMAR	**Chiang Mai Arr**	**19.89**	**199**	*ce*P	**Pn**	**12 39 22.1**	**+2.6**		
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MSHR	**Mys Shultsa**	**20.19**	**68**	*ce*P	**P**	**12 39 18.1**	**-2.9**		
MSHR				pmax	pmax				
	comp=Z,13nm,1.3s								
ZALV	**Zalesovo Beam**	**21.73**	**326**	P	**P**	**12 39 38.1**	**+0.6**		
	comp=Z,3.5nm,0.6s,baz=126,slow=11,SNR=21								
KLR	**Kul'dur**	**22.20**	**50**	P	**P**	**12 39 40.5**	**-2.1**		
	comp=Z,1.3nm,0.8s,baz=255,slow=5.9,SNR=4.6								
KLR				LR	LR	12 49 17.6			
	comp=Z,57nm,18.3s,baz=276,slow=40								
KLR	**Kul'dur**	**22.20**	**50**	*ce*P	**P**	**12 39 40.6**	**-2.1**		
KLR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
KSH	**Kashi**	**23.18**	**284**	P	P	12 40 00.8	+7.7		
KSH				pP	sP	12 40 15.9	+18		
KSH				pmax	pmax				
	comp=Z,5.0nm,0.6s								
KSH				LR	LR				
	comp=N,260nm,15.8s								
KSH				LR	LR				
	comp=E,230nm,17.5s								
KURK	**Kurchatov**	**23.22**	**313**	P	**P**	**12 39 53.3**	**0.0**		
KURBB	**Kurchatov Arra**	**23.24**	**313**	P	**P**	**12 39 53.3**	**-0.2**		
	comp=E,0.5nm,0.3s,baz=114,slow=12,SNR=6.5								
AAK	**Ala-Archa**	**24.21**	**292**	P	**P**	**12 40 04.5**	**+1.3**		
	comp=E,1.7nm,0.6s,baz=145,slow=6.2,SNR=5.3								
AAK	**Ala-Archa**	**24.21**	**292**	*ce*P	**P**	**12 40 04.2**	**+0.9**		
AAK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
TIXI	**Tiksi**	**36.20**	**12**	*i* P	**P**	**12 41 47.9**	**-0.8**		
TIXI				pmax	pmax				
	comp=Z,5.0nm,2.0s								
ARU	**Arti**	**36.31**	**317**	*d* iP	**P**	**12 41 47.5**	**-2.3**		
ARU						12 43 11.0			
ARU				S	S	12 47 23.1	-7.2		
ARU				SS	**SnSn**	**12 49 47.2**	**-10**		
ARU				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BILL	**Bilibino**	**44.87**	**28**	*e*P	**P**	**12 42 58.8**	**-1.6**		
BILL				pmax	pmax				
	comp=Z,6.0nm,1.9s								
KBZ	**Khabaz**	**46.94**	**298**	LR	LR	13 05 56.9			
	comp=Z,36nm,19.1s,baz=88,slow=40								
NOA	**NORSAR Array B**	**59.93**	**326**	P	**P**	**12 44 50.1**	**-2.2**		
	comp=Z,0.2nm,0.4s,baz=65,slow=6.7,SNR=2.1								
CLL	**Collm**	**63.23**	**315**	*e*P	P	12 45 12.0	-2.6		
WRA	**Warramunga Arr**	**63.29**	**150**	P	P	12 45 11.0	-4.3		
	comp=Z,0.5nm,0.9s,baz=332,slow=7.8,SNR=2.4								
WRA	**Warramunga Arr**	**63.29**	**150**	*i* P	**P**	**12 45 16.6**	**+1.3**		
ILAR	**Eielson Array**	**63.53**	**27**	P	P	12 45 13.4	-3.0		
	comp=Z,0.5nm,0.6s,baz=298,slow=5.2,SNR=6.6								
INK	**Inuvik**	**65.69**	**20**	P	P	12 45 26.6	-3.8		
	comp=Z,0.7nm,0.6s,baz=310,slow=8.2,SNR=4.7								
ASAR	**Alice Springs**	**66.49**	**152**	P	P	12 45 31.9	-4.3		
	comp=Z,0.2nm,0.5s,baz=336,slow=6.5,SNR=7.9								
KMBO	**Kilima Mbogo**	**73.63**	**256**	*i* P	**P**	**12 46 21.5**	**+1.0**		
KMBO				pmax	pmax				
	comp=Z,2.0nm,0.2s								
YKA	**Yellowknife Ar**	**75.19**	**18**	P	**P**	**12 46 27.4**	**-1.1**		
	comp=Z,0.8nm,0.5s,baz=329,slow=5.2,SNR=18								
OPO	**Ambohidratompo**	**78.28**	**236**	LR	LR	13 20 14.0			
	comp=Z,76nm,18.7s,baz=112,slow=35								

*IDC **11** 12:45:33.3±2.9, 49.°08N×128.°54W, h0km, mb3.4/1, mb1 3.7/6, mb1mx3.4/34, mbtmp3.3/6, ML3.3/5, MS2.8/4, Ms1 2.8/4, ms1mx2.5/49, Error ellipse: s-maj=59.3km s-min=13.7km az=67.0*

*PGC **11** 12:45:34.8±0.1, 49.°11N×127.°97W, h10km, MLSn2.8/32, Mw3.4/32, 149km west of Tofino, Bc Vancouver Island, Canada Region*

ISC 11 12:45:35.5±1.7, **49.°20N**±0.°05×**127.°91W**±0.°05, **h16**km±10km, **n61**, σ1**83**/82, **Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.85**	**37**	P	**Pg**	**12 45 51.5**	**-0.6**
EDB				S	**Sg**	**12 46 02.8**	**-0.5**
ETB	**Estevan Point**	**0.91**	**78**	P	**Pg**	**12 45 52.6**	**-0.7**
BPBC	**Brooks Peninsu**	**0.96**	**5**	P	**Pg**	**12 45 53.2**	**-1.0**
PACB	**Port Alice, BC**	**1.27**	**12**	P	**Pn**	**12 45 57.7**	**-0.9**
PACB				S	**Sb**	**12 46 13.6**	**-1.6**
MAYB	**Maynard**	**1.30**	**21**	P	**Pn**	**12 45 58.5**	**-0.7**
WOSB	**Woss**	**1.30**	**41**	P	**Pn**	**12 45 58.5**	**-0.6**
TOFB	**Tofino**	**1.31**	**91**	P	**Pn**	**12 45 57.5**	**-1.7**
TOFB				S	**Sb**	**12 46 13.3**	**-3.1**
GDR	**Gold River**	**1.35**	**64**	P	**Pn**	**12 45 58.7**	**-1.1**
HOLB	**Holberg**	**1.45**	**354**	Pn	**Pn**	**12 46 00.0**	**-1.2**
HOLB				Sn	**Sn**	**12 46 17.5**	**-2.5**
PHC	**Port Hardy**	**1.54**	**11**	Pn	**Pn**	**12 46 01.9**	**-0.5**
PHC				Sn	**Sn**	**12 46 21.0**	**-1.1**
B012	**Ucluelet**	**1.58**	**99**	Pn	**Pn**	**12 46 01.0**	**-1.8**
B012				Sn	**Sn**	**12 46 19.5**	**-3.5**
BTB	**Buttle Lake**	**1.58**	**79**	Pn	**Pn**	**12 46 02.1**	**-1.1**
BTB				Sn	**Sn**	**12 46 21.6**	**-1.8**
OZB	**Mount Ozzard**	**1.60**	**98**	Pn	**Pn**	**12 46 01.6**	**-1.7**
OZB				Sn	**Sn**	**12 46 19.5**	**-4.2**
SPLB	**Strathcona Par**	**1.62**	**64**	Pn	**Pn**	**12 46 03.3**	**-0.2**
SPLB				Sn	**Sn**	**12 46 23.6**	**-0.6**
NCRB	**Newcastle Ridg**	**1.70**	**44**	Pn	**Pn**	**12 46 04.7**	**-0.1**
MWAB	**Mount Washingt**	**1.78**	**71**	Pn	**Pn**	**12 46 05.3**	**-0.5**
MWAB				Sn	**Sn**	**12 46 26.7**	**-1.5**
CBB	**Campbell River**	**1.85**	**62**	Pn	**Pn**	**12 46 06.5**	**-0.2**
CBB				Sn	**Sn**	**12 46 29.4**	**-0.4**
BFSB	**Bamfield**	**1.86**	**100**	Pn	**Pn**	**12 46 05.3**	**-1.5**
BFSB				Sn	**Sn**	**12 46 26.4**	**-3.5**
B928	**Bamfield**	**1.86**	**100**	Pn	**Pn**	**12 46 05.2**	**-1.5**
B928				Sn	**Sn**	**12 46 26.1**	**-3.7**
MGB	**Mount Grey**	**2.12**	**94**	Pn	**Pn**	**12 46 09.3**	**-1.2**
TXB	**Texada**	**2.32**	**76**	Pn	**Pn**	**12 46 12.9**	**-0.2**
OCP	**Olym-Cheeka Pk**	**2.35**	**111**	Pn	**Pn**	**12 46 12.3**	**-1.2**
PFB	**Port Renfrew**	**2.37**	**104**	Pn	**Pn**	**12 46 12.4**	**-1.5**
CLRS	**Cowichan Lake**	**2.51**	**97**	Pn	**Pn**	**12 46 15.1**	**-0.6**
NLLB	**Nanaimo Lost L**	**2.57**	**88**	Pn	**Pn**	**12 46 17.4**	**+0.9**
SHB	**Sechelt**	**2.66**	**80**	Pn	**Pn**	**12 46 18.1**	**+0.2**
SHB				Sn	**Sn**	**12 46 51.0**	**+1.0**
B010	**North Saanich**	**2.99**	**99**	Pn	**Pn**	**12 46 21.5**	**-0.8**
B010				Sn	**Sn**	**12 46 55.3**	**-2.4**
PGC	**Sidney**	**2.99**	**99**	Pn	**Pn**	**12 46 21.7**	**-0.5**
B009	**North Saanich**	**2.99**	**99**	Pn	**Pn**	**12 46 21.9**	**-0.4**
B009				Sn	**Sn**	**12 46 55.3**	**-2.4**
B011	**North Saanich**	**2.99**	**99**	Pn	**Pn**	**12 46 21.6**	**-0.6**
B011				Sn	**Sn**	**12 46 54.9**	**-2.9**
BBB	**Bella Bella**	**2.99**	**358**	Pn	**Pn**	**12 46 22.3**	**-0.1**
	3.7nm,0.3s,baz=184,slow=7.3,SNR=83						
BBB				Sn	**Sn**	**12 46 56.3**	**-1.6**
	9.0nm,0.3s,baz=108,slow=20,SNR=7.9						
BBB				LR	LR	12 47 24.8	
	comp=Z,44nm,18.4s,baz=136,slow=36						
BBB	**Bella Bella**	**2.99**	**358**	Pn	**Pn**	**12 46 22.2**	**-0.2**
BBB				Sn	**Sn**	**12 46 56.2**	**-1.6**
HG4B	**Hotspring**	**3.74**	**327**	Pn	**Pn**	**12 46 32.8**	**+0.2**
HG4B				Sn	**Sn**	**12 47 14.3**	**-1.9**
VDB	**Vedder Mountai**	**3.82**	**90**	Pn	**Pn**	**12 46 34.4**	**+0.7**
A05A	**Maple Falls**	**3.83**	**91**	Pn	**Pn**	**12 46 34.6**	**+0.8**
BUTB	**Butedale**	**3.89**	**355**	Pn	**Pn**	**12 46 34.8**	**+0.1**
BUTB				Sn	**Sn**	**12 47 18.7**	**-1.3**
MBW	**Mount Baker**	**3.98**	**94**	Pn	**Pn**	**12 46 36.6**	**+0.5**
LLLB	**Lillooet**	**4.14**	**68**	Pn	**Pn**	**12 46 39.8**	**+1.6**
BNKB	**Banks Island**	**4.33**	**344**	Pn	**Pn**	**12 46 40.4**	**-0.3**
BNKB				Sn	**Sn**	**12 47 27.7**	**-3.0**
UBRB	**Upper Baezaeko**	**4.42**	**32**	Pn	**Pn**	**12 46 43.5**	**+1.5**
HWKB	**Hawksbury Isla**	**4.48**	**350**	Pn	**Pn**	**12 46 43.4**	**+0.6**
HWKB				Sn	**Sn**	**12 47 32.3**	**-2.3**
BNAB	**Bonilla**	**4.63**	**339**	Pn	**Pn**	**12 46 45.1**	**+0.3**
BNAB				Sn	**Sn**	**12 47 34.8**	**-3.4**
GRNB	**Grenville Isla**	**4.83**	**345**	Pn	**Pn**	**12 46 48.0**	**+0.4**
GRNB				Sn	**Sn**	**12 47 41.2**	**-2.0**
KITB	**Kitimat**	**4.91**	**355**	Pn	**Pn**	**12 46 49.7**	**+1.1**
H02S1	**DAWSON INLET T**	**4.93**	**326**	Sn	**Sn**	**12 47 40.4**	**-5.2**
	SNR=3.7						
RUBB	**Prince Rupert**	**5.34**	**345**	Pn	**Pn**	**12 46 55.3**	**+0.8**
RUBB				Sn	**Sn**	**12 47 53.4**	**-2.3**
FSJB	**Fort St James**	**5.72**	**22**	Pn	**Pn**	**12 47 01.1**	**+1.2**
FSB	**Fort Saint Jam**	**5.73**	**21**	Pn	**Pn**	**12 47 01.7**	**+1.7**
MNB	**Mounoet Dainar**	**6.75**	**60**	Pn	**Pn**	**12 47 16.2**	**+2.0**
NEW	**Newport**	**7.19**	**93**	LR	LR	12 50 01.8	
	comp=Z,86nm,18.9s,baz=274,slow=35						
NBC5	**NorthernBC 5**	**8.90**	**19**	Pn	**Pn**	**12 47 46.0**	**+2.4**
DLBC	**Dease Lake**	**9.34**	**353**	Pn	**Pn**	**12 47 51.8**	**+2.2**
	0.1nm,0.3s,baz=181,slow=4.1,SNR=2.0						
DLBC				Sn	**Sn**	**12 49 35.4**	**+1.2**
	0.1nm,0.3s,baz=189,slow=22,SNR=1.5						
ELK	**Elko**	**12.31**	**129**	LR	LR	12 53 16.0	
	comp=Z,62nm,20.6s,baz=344,slow=37						
NVAR	**Mina Array Bea**	**12.79**	**144**	Pn	**Pn**	**12 48 41.6**	**+4.7**
	0.1nm,0.3s,baz=320,slow=14,SNR=4.2						
PDAR	**Pinedale Array**	**14.27**	**110**	Pn	**P**	**12 49 05.0**	**+0.7**
	0.0nm,0.3s,baz=307,slow=7.4,SNR=7.4						
YKA	**Yellowknife Ar**	**15.23**	**24**	Pn	**Pn**	**12 49 09.2**	**-0.4**
	0.1nm,0.3s,baz=212,slow=13,SNR=9.3						
KDAK	**Kodiak Island**	**16.93**	**310**	LR	LR	12 54 14.8	
	comp=Z,76nm,19.6s,baz=136,slow=31						
TXAR	**Lajitas Array**	**27.11**	**128**	P	**P**	**12 51 19.8**	**+2.0**
	0.5nm,0.9s,baz=310,slow=7.7,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**59.17**	**265**	T	T	14 00 19.5	
	baz=43,slow=75,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**59.17**	**265**	T	T	14 00 22.3	
	baz=43,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**59.18**	**265**	T	T	14 00 24.0	
	baz=43,slow=75,SNR=4.6						

*DNK **11** 12:56:24.0±5.9, 78.°29N×7.°51E, h17km±21km, Mc3.5, ML2.0*

*NAO **11** 12:56:25.4±1.8, 78.°21N×8.°08E, ML2.2*

*BER **11** 12:56:26.4±3.1, 78.°21N×7.°60E, h17km±12km, ML1.9, ML2.2(NAO), Confirmed Earthquake*

ISC 11 12:56:24.0±1.7, **78.°22N**±0.°07×**7.°62E**±0.°05, **h18**km±10km, **n21**, σ1**49**/38, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.12**	**48**	Pg	**Pn**	**12 56 46.0**	**+1.3**
KBS				Lg	Lg	12 56 58.7	
KBS	**Kingsbay**	**1.12**	**48**	*i* P	**Pn**	**12 56 46.2**	**+1.5**
KBS				*e*S	**Sb**	**12 56 58.1**	**-0.8**
KBS				IAML		12 57 00.8	
	comp=Z,70nm,0.1s						
KBS	**Kingsbay**	**1.12**	**48**	*e*P	**Pn**	**12 56 45.8**	**+1.1**
KBS				*e*S	**Sb**	**12 56 58.5**	**-0.4**
KBS				IAML		12 57 00.8	
	comp=Z,70nm,0.1s						
BRBB	**Barentsburg B**	**1.37**	**92**	Pg	**Pg**	**12 56 49.6**	**-0.7**
BRBB				Lg	Lg	12 57 05.4	
BRBB	**Barentsburg B**	**1.37**	**92**	*e*P	**Pg**	**12 56 49.6**	**-0.7**
BRBB				*e*S	**Sb**	**12 57 05.3**	**-0.7**
BRBB				*e*Sg	**Sn**	**12 57 08.6**	**+2.9**
BRBB	**Barentsburg B**	**1.37**	**92**	*e*P	**Pg**	**12 56 49.6**	**-0.7**
BRBB				*e*S	**Sb**	**12 57 05.3**	**-0.7**
BRBB				*e*Sg	**Sn**	**12 57 08.6**	**+2.9**
BRBA	**Barentsburg A**	**1.37**	**93**	Pg	**Pg**	**12 56 49.8**	**-0.6**
BRBA				Lg	Lg	12 57 05.5	
BRBA	**Barentsburg A**	**1.37**	**93**	*e*P	**Pn**	**12 56 49.4**	**+1.2**
BRBA				*e*S	**Sb**	**12 57 05.5**	**-0.7**
BRBA				IAML		12 57 09.3	
	comp=Z,29nm,0.6s						
BRBA	**Barentsburg A**	**1.37**	**93**	*e*P	**Pn**	**12 56 49.4**	**+1.2**
BRBA				*e*S	**Sb**	**12 57 05.5**	**-0.7**
BRBA				IAML		12 57 09.3	
	comp=Z,29nm,0.6s						
SPA0	**Spitsbergen Ar**	**1.80**	**87**	Pn	**Pb**	**12 56 56.8**	**+0.5**
	baz=270,slow=12						
SPA0				Pg	**Pg**	**12 56 57.6**	**-0.9**
	baz=262,slow=14						
SPA0				Lg	Lg	12 57 19.2	
	baz=268,slow=28						
SPA0	**Spitsbergen Ar**	**1.80**	**87**	Pn	**Pb**	**12 56 56.8**	**+0.5**
	baz=270,slow=12						
SPA0				Pg	**Pg**	**12 56 57.6**	**-0.9**
	baz=262,slow=14						
SPA0				Sg	**Sb**	**12 57 19.2**	**+0.6**
	baz=268,slow=28						
HSPB	**Hornsund (broa**	**2.10**	**122**	Pn	**Pn**	**12 56 59.5**	**+1.4**
HSPB				Sn	**Sn**	**12 57 22.8**	**-0.9**
HSPB	**Hornsund (broa**	**2.10**	**122**	*e*P	**Pn**	**12 56 59.5**	**+1.4**
HSPB				*e*S	**Sn**	**12 57 22.2**	**-1.5**
HSPB				IAML		12 57 23.1	
	comp=Z,6.5nm,0.3s						
HOPEN	**Hopen**	**4.18**	**106**	Pn	**Pn**	**12 57 28.3**	**+1.6**
HOPEN				Sn	**Sn**	**12 58 13.6**	**-1.3**
HOPEN	**Hopen**	**4.18**	**106**	*e*P	**Pn**	**12 57 27.8**	**+1.2**
HOPEN				*e*S	**Sn**	**12 58 12.8**	**-2.1**
HOPEN				IAML		12 58 15.3	
	comp=Z,5.6nm,0.5s						
NOR	**Nord**	**5.40**	**320**	*e*S	**Sn**	**12 58 42.9**	**-2.2**
NOR				*e*Sg	**Sb**	**12 59 04.0**	**+2.0**
NOR	**Nord**	**5.40**	**320**	*e*S	**Sn**	**12 58 42.9**	**-2.2**
NOR				*e*Sg	**Sb**	**12 59 04.0**	**+2.0**
DAG	**Danmarks Havn**	**5.85**	**269**	*i* P	**Pn**	**12 57 51.0**	**+1.4**
DAG				*e*S	Sn	12 58 50.4	-5.7
DAG	**Danmarks Havn**	**5.85**	**269**	*e*P	**Pn**	**12 57 51.3**	**+1.6**
DAG				*e*S	Sn	12 58 50.3	-5.8
DBG	**Daneborg**	**7.62**	**253**	Pn	**Pn**	**12 58 15.9**	**+2.0**
DBG	**Daneborg**	**7.62**	**253**	*e*P	**Pn**	**12 58 12.8**	**-1.1**
DBG				*e*S	Sn	12 59 33.3	-6.3

*THE **11** 13:02:03.1, 40.°33N×19.°14E, h2km±1km, ML3.0/8, Error ellipse: s-maj=2.4km s-min=1.4km az=99.0*

*TIR **11** 13:02:05.3, 40.°37N×19.°34E, h20km±26km, Mb3.1*

*ATH **11** 13:02:06.1, 40.°20N×19.°29E, h31km±1km, ML3.0/13, Error ellipse: s-maj=3.7km s-min=1.2km az=197.0*

*PDG **11** 13:02:06.3±0.7, 40.°31N×19.°35E, h0km±11km, ML3.0/11, Error ellipse: s-maj=1.3km s-min=1.8km az=0.0*

ISC 11 13:02:05.1±1.0, **40.°29N**±0.°02×**19.°25E**±0.°03, **h11**km±8km, **n57**, σ1**75**/90, **3C-4D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.26**	**47**	P	**Pg**	**13 02 08.9**	**-1.5**
VLO				S	**Sg**	**13 02 12.8**	**-1.1**
	48μm,0.2s						
VLO	**Vlora**	**0.26**	**47**	P	**Pg**	**13 02 09.1**	**-1.2**
	baz=48						
VLO				S	**Sg**	**13 02 12.6**	**-1.3**
	baz=48						
VLO				AMP			
	comp=E,184nm,0.2s,baz=48						
SCTE	**Santa Cesarea**	**0.64**	**250**	P	**Pb**	**13 02 19.8**	**+1.6**
SCTE				S	**Sb**	**13 02 28.4**	**+1.3**
SCTE				AML	AML	13 02 31.5	
	comp=E,1953μm,0.4s						
SCTE				AML	AML	13 02 32.0	
	comp=N,2390μm,0.4s						
SCTE	**Santa Cesarea**	**0.64**	**250**	P	**Pb**	**13 02 19.7**	**+1.6**
	baz=247						
SCTE				AMP			
	comp=E,3.8nm,0.4s,baz=247						
SRN	**Sarande**	**0.71**	**125**	P	**Pg**	**13 02 17.4**	**-1.4**
SRN				S	**Sg**	**13 02 30.2**	**+2.2**
	comp=E,592nm,0.5s						
SRN	**Sarande**	**0.71**	**125**	P	**Pg**	**13 02 19.1**	**+0.4**
	baz=133						
SRN				AMP			
	comp=N,2.7nm,0.5s,baz=133						
KEK	**Kerkira**	**0.71**	**144**	P	**Pg**	**13 02 18.0**	**-0.9**
KEK				AML	AML	13 02 31.5	
	comp=N,1536μm,0.4s						
KEK				AML	AML	13 02 31.6	
	comp=E,1541μm,0.4s						
KEK	**Kerkira**	**0.71**	**144**	P	**Pg**	**13 02 18.0**	**-0.9**
KEK				S	**Sg**	**13 02 29.1**	**+0.8**
	comp=E,770nm,0.4s						
KASA	**Kassiopi**	**0.76**	**136**	P	**Pg**	**13 02 20.1**	**+0.4**
KASA				S	**Sg**	**13 02 30.7**	**+1.1**
KASA				AML	AML	13 02 34.8	
	comp=E,1477μm,0.6s						
KASA				AML	AML	13 02 37.4	
	comp=N,1401μm,0.6s						
LSK	**Leskovik**	**1.04**	**97**	P	**Pb**	**13 02 23.5**	**-1.7**
LSK				S	**Sg**	**13 02 41.3**	**+2.6**
	comp=N,1μm,0.7s						
IGT	**Igoumenitsa**	**1.13**	**132**	P	**Pb**	**13 02 25.9**	**-0.6**
IGT				S	**Sb**	**13 02 41.0**	**-0.2**
IGT				AML	AML	13 02 46.2	
	comp=N,884μm,0.6s						
IGT				AML	AML	13 02 47.5	
	comp=E,1213μm,0.5s						
IGT	**Igoumenitsa**	**1.13**	**132**	P	**Pb**	**13 02 25.9**	**-0.6**
IGT				S	**Sg**	**13 02 43.9**	**+2.5**
	comp=E,515nm,0.8s						
TIR	**Tirane**	**1.15**	**24**	P	**Pn**	**13 02 25.8**	**-1.4**
	baz=21						
TIR				AMP			
	comp=E,1.0nm,0.7s,baz=21						
KBN	**Korca**	**1.22**	**74**	P	**Pn**	**13 02 28.2**	**+0.1**
KBN				S	**Sb**	**13 02 45.8**	**+1.8**
	comp=E,1μm,0.6s						
KBN	**Korca**	**1.22**	**74**	P	**Pn**	**13 02 27.3**	**-0.9**
	baz=76						
KBN				S	**Sb**	**13 02 44.1**	**+0.1**
	baz=76						
KBN				AMP			
	comp=E,1.7nm,0.6s,baz=76						
JAN	**Janina**	**1.38**	**117**	P	**Pn**	**13 02 29.6**	**-0.7**
JAN				AML	AML	13 02 52.7	
	comp=N,1650μm,0.5s						
JAN				AML	AML	13 02 53.1	
	comp=E,1740μm,0.5s						
JAN	**Janina**	**1.38**	**117**	P	**Pn**	**13 02 29.9**	**-0.5**
JAN				S	**Sb**	**13 02 50.0**	**+1.3**
	comp=E,848nm,0.4s						
KPRO	**Kipourio**	**1.66**	**101**	P	**Pn**	**13 02 35.0**	**+0.9**
KPRO				S	**Sn**	**13 02 55.1**	**-0.3**
KPRO				AML	AML	13 03 03.4	
	comp=E,873μm,0.6s						
KPRO				AML	AML	13 03 04.0	
	comp=N,1111μm,0.7s						
KPRO	**Kipourio**	**1.66**	**101**	P	**Pn**	**13 02 34.4**	**+0.3**
KPRO				S	**Sn**	**13 02 57.0**	**+1.6**
	comp=N,492nm,0.8s						
PHP	**Peshkopia

UPM	**Unac-Piva**	**2.92**	**355**	*e*Pn		**Pn**	**13 02 55.3**	**+3.7**
UPM				*i* Sn		**Sb**	**13 03 32.5**	**-0.6**
LSTV	**Lastovo**	**3.04**	**325**	*e*Pn		**Pn**	**13 02 52.0**	**-1.1**
LSTV				Sn		**Sn**	**13 03 26.0**	**-3.5**
KLV	**Kalavryta, Ach**	**3.18**	**134**	P		**Pn**	**13 02 56.3**	**+1.1**
HVAR	**Hvar**	**3.56**	**325**	*e*Pn		**Pn**	**13 02 59.9**	**-0.5**
RICI	**Ricice**	**3.57**	**334**	*e*Pn		**Pn**	**13 02 59.7**	**-0.7**
RICI				Sn		**Sn**	**13 03 39.4**	**-3.2**
KIJV	**Kijevo**	**4.27**	**331**	*e*Pn		**Pn**	**13 03 10.3**	**+0.2**
KIJV				Sn		**Sn**	**13 03 56.5**	**-3.4**
ZIRJ	**Zirje**	**4.30**	**323**	*i* Pn		**Pn**	**13 03 09.8**	**-0.6**
ZIRJ				Sn		**Sn**	**13 03 56.8**	**-3.8**
MORI	**Morici**	**4.44**	**325**	*e*Pn		**Pn**	**13 03 11.9**	**-0.4**
MORI				Sn		**Sn**	**13 04 01.4**	**-2.6**
DUGI	**Dugi Otok**	**4.83**	**321**	*e*Pn		**Pn**	**13 03 17.6**	**-0.2**
DUGI				Sn		**Sn**	**13 04 11.3**	**-2.4**
VIRC	**Vir**	**5.07**	**323**	*e*Pn		**Pn**	**13 03 20.9**	**0.0**
NVLJ	**Novalja**	**5.36**	**324**	*e*Pn		**Pn**	**13 03 25.1**	**+0.2**
NVLJ				Sn		**Sn**	**13 04 22.2**	**-4.4**
A250A	**Rusevo Krmpots**	**5.76**	**328**	*e*Pn		**Pn**	**13 03 30.6**	**+0.1**
SMRN	**Sveta Marina**	**6.05**	**323**	*e*Pn		**Pn**	**13 03 35.3**	**+0.9**
BRJN	**Brijuni**	**6.14**	**320**	*e*Pn		**Pn**	**13 03 35.3**	**-0.4**
BRJN				Sn		**Sn**	**13 04 41.5**	**-4.4**

*MDD **11** 13:07:17.9±0.8, 35°.57N×3°.79W, h0^{km}±5^{km}, mb_Lg2.6/6, Error ellipse: s-maj=5.7km s-min=3.9km az=19.0*
*CNRM **11** 13:07:18.9, 35°.05N×3°.70W, h0^{km}, ml1.7*
ISC 11 13:07:17.1±1.0, 35°.41N±0°.05×3°.76W±0°.04, h27^{km}±10^{km}, n12, σ0°.80/21, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.24**	**218**	P	**Pb**	**13 07 23.5**	**0.0**
PALE				S	**Sb**	**13 07 28.0**	**+0.2**
GOG	**Mont Gurugu**	**0.65**	**106**	P	**Pb**	**13 07 29.7**	**-0.2**
GOG				S	**Sb**	**13 07 38.9**	**+0.2**
EMEL	**Melilla**	**0.67**	**99**	Pg	**Pn**	**13 07 31.8**	**+1.1**
EMEL				Sg	**Sn**	**13 07 40.5**	**+0.2**
EALB	**Alboran**	**0.79**	**48**	Pg	**Pb**	**13 07 31.7**	**-0.6**
EALB				Sg	**Sb**	**13 07 41.8**	**-0.9**
EALB				*i* Vmb_Lg		13 07 42.9	
TAF	**Taforalt**	**1.25**	**118**	P	**Pb**	**13 07 40.9**	**+0.8**
EMIJ	**Mijas**	**1.42**	**325**	Pg	**Pn**	**13 07 41.6**	**+0.5**
EMIJ				Sg	**Sn**	**13 07 58.5**	**-0.5**
JBK	**JBK**	**1.45**	**137**	P	**Pn**	**13 07 40.3**	**-1.5**
ELGU	**Los Guajares,**	**1.46**	**4**	Pg	**Pn**	**13 07 41.7**	**-0.1**
ELGU				Sg	**Sn**	**13 07 59.9**	**-0.2**
ELGU				*i* Vmb_Lg		13 08 01.7	
EBER	**Berja**	**1.64**	**25**	Pg	**Pn**	**13 07 44.9**	**+0.5**
EBER				Sg	**Sn**	**13 08 05.1**	**+0.3**
EBER				*i* Vmb_Lg		13 08 17.6	
EMIN	**Mina Concepcio**	**3.32**	**316**	Pn	**Pn**	**13 08 08.2**	**+0.8**
EMIN				Sn	**Sn**	**13 08 45.0**	**-0.9**
EMIN				*i* Vmb_Lg		13 10 13.3	
EGRO	**El Granado**	**3.67**	**306**	Pn	**Pn**	**13 08 12.7**	**+0.6**
EGRO				*i* Vmb_Lg		13 08 59.6	
ETOB	**Tobarra**	**3.68**	**28**	Pn	**Pn**	**13 08 13.7**	**+1.3**
ETOB				Sn	**Sn**	**13 08 53.9**	**-1.0**
ETOB				*i* Vmb_Lg		13 10 22.9	

*IDC **11** 13:33:21.4±1.0, 32°.19S×73°.22W, h0^{km}, mb3.6/2, mb1 4.0/5, mb1mx3.7/30, mbtmp3.8/5, ML4.0/3, MS2.9/4, Ms1 2.9/4, ms1mx2.7/46, Error ellipse: s-maj=33.5km s-min=23.3km az=135.0*
*GUC **11** 13:33:26.0±0.8, 32°.24S×72°.91W, h41^{km}±5^{km}, ML3.9*
ISC 11 13:33:20.7±1.8, 32°.11S±0°.04×73°.04W±0°.05, h6^{km}±11^{km}, n35, σ1°.88/56, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.49**	**128**	*e*P	**Pg**	**13 33 49.4**	**+0.2**
VA01				*e*S	**Sn**	**13 34 06.7**	**-1.0**
VA01				IAML		13 34 07.4	
	comp=N,2μm,0.2s						
VA06	**Catapilco**	**1.54**	**107**	⇓ *i* P	**Pg**	**13 33 50.2**	**0.0**
VA06				*e*S	**Sn**	**13 34 08.2**	**-0.8**
VA06				IAML		13 34 10.3	
	comp=E,4μm,0.4s						
CO06	**Fray Jorge**	**1.87**	**40**	⇓ *i* P	**Pn**	**13 33 53.8**	**+0.6**
CO06				*e*S	**Sn**	**13 34 15.3**	**-1.8**
ROCH	**El Roble**	**1.92**	**117**	*e*P	**Pb**	**13 33 55.8**	**-0.3**
ROCH				*e*P	**Pn**	**13 33 53.5**	**-0.6**
ROCH				*e*S	**Sn**	**13 34 15.7**	**-2.9**
ROCH				IAML		13 34 17.3	
	comp=N,995nm,0.3s						
ROCH				*e*S	**Sb**	**13 34 18.5**	**-1.9**
VA05	**Santo Domingo**	**1.95**	**143**	*e*P	**Pb**	**13 33 55.5**	**-1.1**
VA05				*e*S	**Sn**	**13 34 16.9**	**-2.2**
CO02	**Combarbal**	**1.96**	**63**	*e*P	**Pb**	**13 33 56.2**	**-0.7**
CO02				*e*S	**Sn**	**13 34 19.4**	**-0.1**
MT02	**Curacav**	**1.97**	**126**	*e*P	**Pb**	**13 33 56.5**	**-0.5**
MT02				*e*S	**Sn**	**13 34 19.4**	**-0.3**
MT02				IAML		13 34 21.9	
	comp=E,513nm,0.3s						
VA03	**San Esteban**	**2.20**	**108**	*e*P	**Pb**	**13 33 59.9**	**-1.0**
VA03				*e*S	**Sn**	**13 34 25.6**	**+0.1**
VA03				IAML		13 34 27.5	
	comp=N,2μm,0.4s						
MT01	**Popeta**	**2.31**	**140**	*e*P	**Pb**	**13 34 00.6**	**-2.1**
MT01				*e*S	**Sn**	**13 34 26.1**	**-1.8**
MT05	**Renca**	**2.32**	**124**	*e*P	**Pb**	**13 34 02.6**	**-0.3**
MT05				*e*S	**Sb**	**13 34 29.9**	**-2.0**
MT05				IAML		13 34 30.6	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**2.37**	**58**	*i* P	**Pn**	**13 34 02.1**	**+1.9**
CO03				*e*S	**Sn**	**13 34 30.3**	**+0.6**
MT09	**Talagante**	**2.39**	**135**	*e*P	**Pb**	**13 34 02.7**	**-1.5**
MT09				*e*S	**Sn**	**13 34 29.7**	**-0.6**
MT09				IAML		13 34 31.8	
	comp=N,678nm,0.3s						
MT03	**Universidad Ad**	**2.54**	**124**	*e*P	**Pb**	**13 34 05.6**	**-1.1**
MT03				*e*S	**Sn**	**13 34 34.7**	**+0.9**
MT03				IAML		13 34 38.0	
	comp=N,1μm,0.2s						
BO03	**Pichilemu**	**2.54**	**160**	*e*P	**Pn**	**13 34 03.8**	**+1.3**
BO03				*e*S	**Sn**	**13 34 30.9**	**-2.8**
CO05	**La Serena**	**2.68**	**36**	*e*P	**Pn**	**13 34 05.2**	**+0.9**
CO05				*e*S	**Sn**	**13 34 35.3**	**-1.7**
CO05				IAML		13 34 38.5	
	comp=E,879nm,0.3s						
GO04	**Tololo Observa**	**2.72**	**45**	*e*P	**Pn**	**13 34 06.3**	**+1.1**
GO04				*e*S	**Sn**	**13 34 37.6**	**-0.9**
BO04	**La Punta**	**2.77**	**133**	*e*P	**Pb**	**13 34 08.2**	**-2.4**
BO04				*e*S	**Sn**	**13 34 40.0**	**+0.5**
BO02	**Sierra Bellavi**	**3.27**	**145**	*e*P	**Pn**	**13 34 14.8**	**+2.2**
BO02				*e*S	**Sn**	**13 34 50.8**	**-1.1**
BO02				IAML		13 34 54.6	
	comp=E,565nm,0.2s						
GO03	**Copiap**	**5.12**	**29**	*e*P	**Pn**	**13 34 38.5**	**+0.5**
H03N1	**Juan Fernandez**	**5.12**	**253**	Pn	**Pn**	**13 34 37.3**	**-0.4**
	baz=81,slow=12,SNR=86						
H03N1				T	T	13 39 46.3	
	baz=79,slow=71,SNR=23						
H03N3	**Juan Fernandez**	**5.14**	**253**	Pn	**Pn**	**13 34 37.3**	**-0.6**
	baz=81,slow=12,SNR=68						
H03N3				T	T	13 39 47.5	
	baz=79,slow=71,SNR=31						
H03N2	**Juan Fernandez**	**5.14**	**253**	Pn	**Pn**	**13 34 37.7**	**-0.2**
	baz=81,slow=12,SNR=64						
H03N2				T	T	13 39 47.9	
	baz=79,slow=71,SNR=28						
H03S3	**Juan Fernandez**	**5.22**	**249**	Pn	**Pn**	**13 34 37.5**	**-1.6**
	SNR=10						
H03S3				Sn	Sn	13 35 30.0	-9.4
	SNR=3.0						
H03S1	**Juan Fernandez**	**5.22**	**249**	Pn	**Pn**	**13 34 37.6**	**-1.5**
H03S1				Sn	Sn	13 35 29.7	-10
	SNR=6.0						
H03S2	**Juan Fernandez**	**5.24**	**249**	Pn	**Pn**	**13 34 37.6**	**-1.7**
H03S2				Sn	Sn	13 35 29.8	-10
	SNR=8.6						
PLCA	**Paso Flores**	**8.84**	**168**	Pn	**Pn**	**13 35 31.4**	**+2.5**
	comp=E,0.4nm,0.3s,baz=342,slow=11,SNR=14						
PLCA				Sn	**Sn**	**13 37 07.5**	**-1.4**
	baz=343,slow=16,SNR=1.6						
PLCA				LR	LR	13 38 39.5	
	comp=E,53nm,19.8s,baz=90,slow=36						
LVC	**Limon Verde**	**10.15**	**22**	Pn	**Pn**	**13 35 45.6**	**-1.6**
	comp=E,0.4nm,0.3s,baz=150,slow=5.9,SNR=6.6						
LVC				Sn	**Sn**	**13 37 33.5**	**-8.1**
	comp=E,0.4nm,0.3s,baz=287,slow=14,SNR=1.5						
LVC				LR	LR	13 39 20.8	
	comp=E,53nm,21.0s,baz=220,slow=35						
CPUP	**Villa Florida**	**14.87**	**71**	LR	LR	13 41 56.5	
	comp=E,42nm,21.1s,baz=184,slow=34						
LPAZ	**La Paz**	**16.37**	**17**	Pn	**P**	**13 37 15.2**	**+0.4**
	comp=E,0.2nm,0.3s,baz=175,slow=6.3,SNR=11						
SIV	**San Ignacio**	**19.39**	**37**	P	**Pn**	**13 37 50.7**	**+2.2**
	comp=E,0.8nm,0.3s,baz=215,slow=10,SNR=36						
SIV				LR	LR	13 46 02.6	
	comp=E,65nm,18.7s,baz=282,slow=39						
TXAR	**Lajitas Array**	**67.68**	**331**	P	**P**	**13 44 20.4**	**+1.6**
	comp=E,0.3nm,0.5s,baz=150,slow=8.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**84.37**	**71**	P	**P**	**13 45 55.4**	**+1.3**
	comp=E,0.6nm,0.9s,baz=288,slow=5.7,SNR=4.3						
ASAR	**Alice Springs**	**118.85**	**208**	PKP	**PKiKP**	**13 52 10.5**	**-0.1**
	comp=E,0.2nm,0.7s,baz=126,slow=1.5,SNR=1.6						
WRA	**Warramunga Arr**	**121.98**	**211**	PKP	**PKiKP**	**13 52 16.8**	**0.0**
	comp=E,0.2nm,0.4s,baz=145,slow=1.4,SNR=1.4						
ZALV	**Zalesovo Beam**	**153.04**	**29**	PKPbc	**PKiKP**	**13 53 22.8**	**+4.0**
	comp=E,1.2nm,0.5s,baz=304,slow=2.4,SNR=7.9						

*PGC **11** 13:45:00.9±0.1, 49°.13N×127°.96W, h10^{km}, MLSn2.3/19, Mw2.9/19, 147km Wsw of Gold R., Bc Vancouver Island, Canada Region*
*IDC **11** 13:45:00.5±3.4, 49°.31N×128°.74W, h0^{km}, mb3.2/1, mb1 3.4/5, mb1mx3.2/39, mbtmp3.0/5, ML2.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/26, Error ellipse: s-maj=65.3km s-min=13.0km az=74.0*
ISC 11 13:44:59.7±1.9, 49°.18N±0°.06×127°.82W±0°.06, h15^{km}±11^{km}, n34, σ1°.11/48, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.83**	**33**	P	**Pn**	**13 45 17.2**	**+0.4**
EDB				S	**Sn**	**13 45 28.8**	**0.0**
ETB	**Estevan Point**	**0.86**	**77**	P	**Pn**	**13 45 18.4**	**+1.2**
BPBC	**Brooks Peninsu**	**0.97**	**2**	P	**Pb**	**13 45 19.1**	**+0.8**
TOFB	**Tofino**	**1.25**	**91**	P	**Pg**	**13 45 23.8**	**+0.1**
TOFB				S	**Sb**	**13 45 38.5**	**-0.4**
WOSB	**Woss**	**1.27**	**39**	P	**Pg**	**13 45 24.2**	**+0.1**
PACB	**Port Alice, BC**	**1.27**	**9**	P	**Pn**	**13 45 23.6**	**+0.7**
PACB				S	**Sb**	**13 45 39.2**	**-0.3**
MAYB	**Maynard**	**1.29**	**19**	P	**Pn**	**13 45 24.1**	**+0.8**
GDR	**Gold River**	**1.31**	**62**	P	**Pg**	**13 45 24.7**	**-0.1**
HOLB	**Holberg**	**1.47**	**352**	Pn	**Pn**	**13 45 25.9**	**+0.1**
HOLB				Sn	**Sn**	**13 45 43.3**	**-1.4**
B012	**Ucluelet**	**1.52**	**99**	Sn	**Sn**	**13 45 45.1**	**-0.6**
BTB	**Buttle Lake**	**1.53**	**78**	Pn	**Pb**	**13 45 28.0**	**+0.2**
BTB				Sn	**Sb**	**13 45 47.4**	**+0.4**
OZB	**Mount Ozzard**	**1.54**	**97**	Pn	**Pn**	**13 45 27.2**	**+0.6**
OZB				Sn	**Sn**	**13 45 45.6**	**-0.8**
PHC	**Port Hardy**	**1.54**	**9**	Pn	**Pn**	**13 45 27.5**	**+0.9**
PHC				Sn	**Sn**	**13 45 47.0**	**+0.5**
SPLB	**Strathcona Par**	**1.58**	**62**	Pn	**Pb**	**13 45 29.4**	**+0.9**
SPLB				Sn	**Sg**	**13 45 49.2**	**-1.3**
NCRB	**Newcastle Ridg**	**1.67**	**42**	Pn	**Pb**	**13 45 30.4**	**+0.2**
BFSB	**Bamfield**	**1.80**	**100**	Sn	**Sn**	**13 45 52.3**	**-0.3**
B928	**Bamfield**	**1.80**	**100**	Pn	**Pn**	**13 45 30.9**	**+0.8**
B928				Sn	**Sn**	**13 45 52.1**	**-0.5**
CBB	**Campbell River**	**1.81**	**61**	Pn	**Pb**	**13 45 32.5**	**0.0**
CBB				Sn	**Sb**	**13 45 54.7**	**-0.2**
MGB	**Mount Grey**	**2.06**	**94**	Pn	**Pn**	**13 45 35.2**	**+1.3**
TXB	**Texada**	**2.26**	**76**	Pn	**Pn**	**13 45 38.8**	**+2.3**
OCP	**Olym-Cheeka Pk**	**2.29**	**112**	Pn	**Pn**	**13 45 38.3**	**+1.4**
PFB	**Port Renfrew**	**2.31**	**104**	Pn	**Pn**	**13 45 38.4**	**+1.2**
PFB				Sn	**Sn**	**13 46 05.7**	**+0.3**
SHB	**Sechelt**	**2.61**	**79**	Pn	**Pb**	**13 45 45.0**	**-1.1**
SHB				Sn	**Sb**	**13 46 15.5**	**-2.5**
BBB	**Bella Bella**	**3.01**	**356**	Pn	**Pn**	**13 45 47.5**	**+0.7**
	0.5nm,0.3s,baz=194,slow=4.2,SNR=22						
BBB				Sn	**Sn**	**13 46 21.5**	**-1.0**
	2.6nm,0.3s,baz=129,slow=7.1,SNR=13						
BBB	**Bella Bella**	**3.01**	**356**	Pn	**Pn**	**13 45 48.1**	**+1.3**
BBB				Sn	**Sn**	**13 46 22.5**	**-0.1**
HG4B	**Hotspring**	**3.78**	**327**	Sn	**Sn**	**13 46 40.6**	**-1.1**
BUTB	**Butedale**	**3.91**	**354**	Pn	**Pn**	**13 46 00.9**	**+1.7**
BUTB				Sn	**Sn**	**13 46 44.8**	**0.0**
BNKB	**Banks Island**	**4.36**	**343**	Pn	**Pn**	**13 46 06.4**	**+1.1**
BNKB				Sn	**Sn**	**13 46 52.8**	**-3.0**
GRNB	**Grenville Isla**	**4.86**	**345**	Pn	**Pn**	**13 46 13.8**	**+1.6**
GRNB				Sn	**Sn**	**13 47 07.0**	**-1.1**
NVAR	**Mina Array Bea**	**12.74**	**144**	Pn	**P**	**13 48 10.7**	**-0.9**
	0.1nm,0.3s,baz=319,slow=12,SNR=2.2						
PDAR	**Pinedale Array**	**14.21**	**110**	Pn	P	13 48 34.4	+6.5
	0.1nm,0.3s,baz=305,slow=8.3,SNR=4.7						
YKA	**Yellowknife Ar**	**15.21**	**24**	Pn	**Pn**	**13 48 35.4**	**+1.7**
	0.0nm,0.3s,baz=219,slow=14,SNR=2.0						
TXAR	**Lajitas Array**	**27.05**	**128**	P	P	13 50 50.7	+9.2
	0.2nm,0.7s,baz=316,slow=6.4,SNR=2.7						
RES	**Resolute Bay**	**29.09**	**17**	LR	LR	14 02 59.6	
	comp=Z,35nm,20.6s,baz=110,slow=37						

*RSPR **11** 13:59:32.9, 18°.21N×68°.55W, h144^{km}±2^{km}, MD3.3/10*
*NEIC **11** 13:59:33.4±2.0, 18°.4N±0°.1×68°.47W±0°.06, h143^{km}±10^{km}, Error ellipse: s-maj=20.4km s-min=8.0km az=190.0*
*OSPL **11** 13:59:35.7±2.0, 18°.34N×68°.45W, h134^{km}±12^{km}, ML2.8*
ISC 11 13:59:32.5±1.5, 18°.3N±0°.1×68°.52W±0°.03, h148^{km}±9^{km}, n55, σ0°.94/65, 11C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.25**	**31**	⇑ *e*P	**Pn**	**13 59 53.0**	**+0.3**
PCDR	**Punta Cana, DR**	**0.25**	**31**	*e*S	**Sn**	**14 00 08.7**	**+0.7**
PCDR	**Punta Cana, DR**	**0.25**	**31**		**Pn**	**13 59 53.0**	**+0.3**
PCDR					**Sn**	**14 00 08.7**	**+0.7**
PCDR	**Punta Cana, DR**	**0.25**	**31**	*i* P	**Pn**	**13 59 53.0**	**+0.3**
PCDR				*e*S	**Sn**	**14 00 05.9**	**-2.2**
PCDR				IAML		14 00 12.4	
	comp=Z,166nm,0.3s						
DR12	**Loma Pena Alta**	**0.95**	**301**	⇑ *e*P	**Pn**	**13 59 56.7**	**-0.1**
DR12				*e*S	**Sn**	**14 00 14.7**	**-0.6**
DR12	**Loma Pena Alta**	**0.95**	**301**		**Pn**	**13 59 56.4**	**-0.4**
IDE	**Isla Desecheo**	**0.99**	**85**	⇑ *e*P	**Pn**	**13 59 57.9**	**+0.8**
IDE	**Isla Desecheo**	**0.99**	**85**	*e*S	**Sn**	**14 00 16.7**	**+1.0**
PRSN	**Puerto Rico Se**	**1.31**	**93**	Pn	**Pn**	**14 00 00.1**	**+0.1**
PRSN				IAML		14 00 28.7	
	comp=E,312nm,0.2s						
SDD	**Santo Domingo**	**1.33**	**277**	Pn	**Pn**	**14 00 00.4**	**+0.2**
SDD				IAML		14 00 24.2	
	comp=N,207nm,0.3s						
SDD				IAML		14 00 26.6	
	comp=E,188nm,0.3s						
SDD	**Santo Domingo**	**1.33**	**277**	*e*S	**Sn**	**14 00 19.8**	**-1.5**
AGPR	**Aguadilla, PR**	**1.35**	**83**	⇑ *e*P	**Pn**	**14 00 02.0**	**+1.7**
AGPR	**Aguadilla, PR**	**1.35**	**83**	*e*S	**Sn**	**14 00 21.0**	**-0.6**
AGPR	**Aguadilla, PR**	**1.35**	**83**		**Pn**	**14 00 01.4**	**+1.1**
AGPR				IAML		14 00 27.2	
	comp=E,222nm,0.6s						
AGPR				IAML		14 00 27.3	
	comp=N,217nm,0.4s						
AGPR	**Aguadilla, PR**	**1.35**	**83**		**Sn**	**14 00 21.0**	**-0.6**
AGPR	**Aguadilla, PR**	**1.35**	**83**	*i* P	**Pn**	**14 00 01.7**	**+1.3**
AGPR				IAML		14 00 26.7	
	comp=Z,56nm,0.1s						
CRPR	**Cabo Rojo, PR**	**1.37**	**102**	⇑ *e*P	**Pn**	**14 00 00.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.37**	**102**	*e*S	**Sn**	**14 00 22.4**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.37**	**102**		**Pn**	**14 00 00.7**	**+0.1**
CRPR					**Sn**	**14 00 22.4**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.37**	**102**	*i* P	**Pn**	**14 00 00.7**	**+0.2**
CRPR				*e*S	**Sn**	**14 00 19.5**	**-2.5**
CRPR				IAML		14 00 26.7	
	comp=Z,32nm,0.2s						
MLPR	**Magueyes Islan**	**1.44**	**103**	⇑ *e*P	**Pn**	**14 00 00.3**	**-1.0**
MLPR	**Magueyes Islan**	**1.44**	**103**	*e*S	**Sn**	**14 00 22.5**	**-0.8**
MLPR	**Magueyes Islan**	**1.44**	**103**		**Pn**	**14 00 00.3**	**-1.0**
MLPR					**Sn**	**14 00 22.5**	**-0.8**
LONA1	**Toro Cenizo, N**	**1.67**	**310**	*e*S	**Sn**	**14 00 26.2**	**-1.4**
LONA1				IAML		14 00 39.3	
	comp=Z,699nm,0.6s						
AOPR	**Arecibo Observ**	**1.68**	**88**	⇑ *e*P	**Pn**	**14 00 04.5**	**+0.7**
AOPR	**Arecibo Observ**	**1.68**	**88**	*e*S	**Sn**	**14 00 28.4**	**+0.6**
AOPR	**Arecibo Observ**	**1.68**	**88**		**Pn**	**14 00 04.5**	**+0.7**
AOPR					**Sn**	**14 00 28.4**	**+0.6**
BANI	**BANI**	**1.75**	**273**		**Pn**	**14 00 04.8**	**0.0**
OBIP	**Obispado Ponce**	**1.83**	**98**	⇑ *e*P	**Pn**	**14 00 05.9**	**+0.3**
OBIP	**Obispado Ponce**	**1.83**	**98**	*e*S	**Sn**	**14 00 31.3**	**+0.3**
OBIP	**Obispado Ponce**	**1.83**	**98**		**Pn**	**14 00 05.9**	**+0.3**
OBIP					**Sn**	**14 00 31.3**	**+0.3**
CELP	**Cerrillos**	**1.86**	**97**	⇑ *e*P	**Pn**	**14 00 05.5**	**-0.3**
CELP	**Cerrillos**	**1.86**	**97**	*e*S	**Sn**	**14 00 31.8**	**+0.4**
CELP	**Cerrillos**	**1.86**	**97**		**Sn**	**14 00 31.8**	**+0.4**
CELP	**Cerrillos**	**1.86**	**97**		**Pn**	**14 00 06.0**	**+0.1**
CELP				IAML		14 00 34.6	
	comp=N,104nm,0.3s						
EMPR	**Esperanza - Ma**	**1.90**	**84**	⇑ *e*P	**Pn**	**14 00 06.9**	**+0.6**
EMPR	**Esperanza - Ma**	**1.90**	**84**	*e*S	**Sn**	**14 00 33.7**	**+1.5**
EMPR	**Esperanza - Ma**	**1.90**	**84**		**Pn**	**14 00 06.9**	**+0.6**
EMPR					**Sn**	**14 00 33.7**	**+1.5**
EMPR	**Esperanza - Ma**	**1.90**	**84**	IAML		14 00 38.5	
	comp=N,131nm,0.3s						
EMPR				IAML		14 00 44.8	
	comp=E,141nm,0.5s						
SJG	**San Juan**	**2.26**	**94**	Pn	**Pn**	**14 00 08.4**	**-2.2**
SJG				IAML		14 00 44.5	
	comp=E,109nm,0.5s						
SJG				IAML		14 00 44.8	
	comp=E,85nm,0.2s						
GCPR	**Guaynabo City**	**2.31**	**89**	⇑ *e*P	**Pn**	**14 00 10.2**	**-1.1**
GCPR	**Guaynabo City**	**2.31**	**89**		**Pn**	**14 00 10.2**	**-1.1**
GCPR	**Guaynabo City**	**2.31**	**89**	IAML		14 00 44.5	
	comp=E,71nm,0.3s						
GCPR				IAML		14 00 46.3	
	comp=N,62nm,0.5s						
SC01	**Santiago de lo**	**2.37**	**299**	Pn	**Pn**	**14 00 13.5**	**+1.5**
PDPR	**Patillas Dam,**	**2.39**	**96**	Pn	**Pn**	**14 00 12.0**	**-0.2**
PDPR				IAML		14 00 48.5	
	comp=E,99nm,0.1s						
CBYP	**Canovanas**	**2.53**	**90**	Pn	**Pn**	**14 00 13.0**	**-0.9**
HUMP	**Col San Antoni**	**2.54**	**93**	Pn	**Pn**	**14 00 13.2**	**-0.9**
SDDR	**Presa de Saban**	**2.71**	**285**	Pn	**Pn**	**14 00 16.8**	**+0.6**
SDDR				IAML		14 00 59.0	
	comp=E,86nm,0.7s						
SDDR				IAML		14 01 00.8	
	comp=E,75nm,0.6s						
SDDR	**Presa de Saban**	**2.71**	**285**	*i* P	**Pn**	**14 00 17.7**	**+1.4**
SDDR				*e*S	**Sn**	**14 00 50.5**	**+0.5**
SDDR				IAML		14 00 58.6	
	comp=Z,8.3nm,0.1s						
LONE2	**Loma La Sidra**	**2.82**	**276**	*i* P	**Pn**	**14 00 18.5**	**+0.9**
LONE2				*e*S	**Sn**	**14 00 52.3**	**-0.1**
LONE2				IAML		14 00 57.2	
	comp=Z,83nm,0.4s						
MTP	**Monte Pirata**	**2.83**	**94**	Pn	**Pn**	**14 00 18.0**	**+0.4**
MTP				IAML		14 00 57.2	
	comp=N,63nm,0.4s						
MTP				IAML		14 00 59.4	
	comp=E,78nm,0.3s						
CUPR	**Culebra, Puert**	**3.07**	**89**	Pn	**Pn**	**14 00 20.1**	**-0.6**
CUPR				IAML		14 01 02.1	
	comp=N,36nm,0.4s						
LOPE2	**Hotel El Peder**	**3.08**	**266**	*i* P	**Pn**	**14 00 21.9**	**+1.1**
LOPE2				*e*S	**Sn**	**14 00 57.9**	**-0.2**
LOPE2				IAML		14 01 08.7	
	comp=Z,68nm,0.9s						
STVI	**Saint Thomas**	**3.39**	**89**	Pn	**Pn**	**14 00 24.5**	**-0.3**
GRTK	**Grand Turk**	**4.03**	**323**	Pn	**Pn**	**14 00 31.9**	**-1.2**

IDC 11 13:59:56.5±2.5, 10°.45N×94°.24E, h0^{km}, mb3.3/3, mb1 3.5/4, mb1mx3.1/54, mbtmp3.2/4, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/46, Error ellipse: s-maj=82.4km s-min=28.6km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.91**	**148**	LR	LR	14 05 39.0	
	comp=Z,62nm,18.6s,baz=320,slow=38						
CMAR	**Chiang Mai Arr**	**9.17**	**29**	Pn	Pn	14 02 11.0	+0.9
	0.1nm,0.3s,baz=213,slow=15,SNR=2.9						
MKAR	**Makanchi Array**	**37.61**	**347**	P	P

5.6nm,1.3s
WB0 Warramunga Arr 12.97 159 Pn 14 23 05.6 -1.7
WRAB Tennant Creek 13.11 159 Pn 14 23 06.5 -2.7
WRA Warramunga Arr 13.12 160 P **Pn 14 23 07.4 -1.8**
2.9nm,0.3s,baz=342,slow=13,SNR=29
WRA S **Sn 14 25 26.9 -6.6**
5.7nm,0.3s,baz=334,slow=21,SNR=12
WRA LR LR 14 28 46.7
comp=Z,53nm,20.5s,baz=262,slow=40
WRA Warramunga Arr 13.12 160 Pn 14 23 06.6 -2.6
WB2 Warramunga Arr 13.12 159 Pn 14 23 07.3 -2.0
WR0 Warramunga Arr 13.20 159 Pn 14 23 08.1 -2.2
COEN Coen 14.83 116 Pn 14 23 31.9 +0.4
BBKI Banjar Baru 15.16 285 P **P 14 23 39.8 +1.4**
AS31 Alice Springs 16.50 166 P **Pn 14 23 53.0 +0.7**
ASAR Alice Springs 16.50 166 P **Pn 14 23 52.3 0.0**
1.2nm,0.3s,baz=347,slow=9.3,SNR=32
ASAR S **Sn 14 26 48.0 -7.5**
1.6nm,0.3s,baz=350,slow=26,SNR=7.2
ASAR ScP **ScP 14 32 06.8 +2.9**
0.1nm,0.3s,baz=358,slow=1.5,SNR=4.4
ASAR Alice Springs 16.50 166 P **Pn 14 23 53.1 +0.7**
PSA00 Pilbara Seismi 16.71 213 Pn 14 23 56.0 +1.2
PSA00 IAmb IAmb 14 24 04.0
comp=Z,9.6nm,1.1s
UGM Wanagama 18.80 268 P **P 14 24 17.9 -0.8**
CTA Charters Tower 20.42 129 P **P 14 24 36.7 +0.6**
comp=Z,3.5nm,0.8s,baz=290,slow=13,SNR=1.7
KSM Kuching 21.17 294 P **P 14 24 43.5 -0.7**
KSM IAmb IAmb 14 24 47.9
comp=Z,10nm,0.7s
STKA Stephens Creek 26.64 157 P **P 14 25 38.5 +2.4**
comp=Z,2.3nm,0.4s,baz=324,slow=14,SNR=3.0
TPUB Ta-pu 31.93 344 P **P 14 26 21.4 -1.8**
UBPT Khong Chiam 32.94 314 P **P 14 26 32.1 +0.1**
UBPT IAmb IAmb 14 26 45.5
comp=Z,17nm,1.5s
CMAR Chiang Mai Arr 39.76 311 P **P 14 27 29.4 -0.7**
comp=Z,0.9nm,0.5s,baz=140,slow=7.4,SNR=8.0
CMAR LR LR 14 45 22.0
comp=Z,17nm,18.0s,baz=245,slow=38
JNU Nakatsue 40.54 2 P P 14 27 32.9 -3.4
PZH PanZhiHua 43.32 323 P **P 14 28 00.9 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
KSRS Korea Array 44.87 358 P **P 14 28 10.4 -0.7**
comp=Z,1.0nm,0.8s,baz=178,slow=9.1,SNR=1.5
HHC Hu-ho-hao-te 50.98 343 *eP* **P 14 28 59.9 +1.5**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,67nm,4.8s
CN2 Changchun 51.31 356 P **P 14 29 03.7 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
TAPN Taplejung 53.33 312 *eP* **P 14 29 16.4 +0.1**
comp=Z,19nm,0.4s
GOMU GeErMu 54.42 326 P **P 14 29 23.5 -0.7**
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,49nm,5.6s
GUN Gumba 54.99 312 *eP* **P 14 29 28.5 +0.1**
comp=Z,24nm,0.5s
GKN Gorkha 55.96 311 *eP* **P 14 29 35.1 -0.1**
comp=Z,22nm,0.4s
PYUN Piuthan 57.25 310 *eP* **P 14 29 44.4 0.0**
comp=Z,14nm,0.7s
SONM Songino Array 58.87 342 P **P 14 29 55.5 +0.3**
comp=Z,0.7nm,0.7s,baz=161,slow=7.7,SNR=4.2
SONM LR LR 14 59 31.3
comp=Z,42nm,18.2s,baz=324,slow=40
SONM Songino Array 58.87 342 IAmb IAmb 14 30 22.4
comp=Z,2.1nm,1.2s
WMQ Urumqi 63.65 327 *eP* **P 14 30 28.8 +1.4**
WMQ pmax pmax
comp=Z,13nm,0.7s
NIL Nilore 67.25 311 P **P 14 30 51.1 +0.3**
NIL IAmb IAmb 14 30 52.2
comp=Z,6.9nm,0.8s
MK31 Makanchi Array 68.47 327 P **P 14 30 58.8 +0.6**
MKAR Makanchi Array 68.47 327 P **P 14 30 59.0 +0.8**
comp=Z,1.9nm,0.4s,baz=117,slow=7.9,SNR=33
MKAR Makanchi Array 68.47 327 P **P 14 30 58.8 +0.5**
MAKZ Makanchi 68.65 327 P **P 14 30 59.9 +0.6**
MAKZ IAmb IAmb 14 31 01.9
comp=Z,2.1nm,0.6s
KBL Kabul 70.78 310 P **P 14 31 11.5 -1.4**
KBL IAmb IAmb 14 31 12.1
comp=Z,3.5nm,0.4s
ZAA0 Zalesovo Array 71.92 334 P **P 14 31 17.4 -1.7**
ZALV Zalesovo Beam 71.92 334 P **P 14 31 18.5 -0.5**
comp=Z,1.6nm,0.6s,baz=128,slow=4.3,SNR=8.0
ZALV Zalesovo Beam 71.92 334 P **P 14 31 17.6 -1.4**
KURK Kurchatov 72.79 329 P **P 14 31 23.3 -0.9**
KURK IAmb IAmb 14 31 27.2
comp=Z,3.4nm,0.9s
KKAR Karatay Array 73.48 319 P **P 14 31 27.0 -1.6**
TIXI Tiksi 79.11 360 P **P 14 32 00.1 +0.3**
TIXI IAmb IAmb 14 32 01.2
comp=Z,2.3nm,0.5s
ABKAR Akbulak array 82.69 322 P **P 14 32 19.0 -0.2**
ATD Arta Tunnel 88.25 282 LR LR 15 13 48.5
comp=Z,34nm,18.1s,baz=70,slow=37
ILAR Eielson Array 94.12 25 P **P 14 33 13.1 -0.7**
comp=Z,0.6nm,1.1s,baz=282,slow=4.3,SNR=4.4
TXAR Lajitas Array 125.67 59 PKP **PKPdf 14 38 58.7 +1.3**
comp=Z,0.1nm,0.5s,baz=11,slow=0.9,SNR=2.0
TORD Torodi Ar. Bea 128.44 281 PKP **PKPdf 14 39 04.5 +1.6**
comp=Z,0.3nm,0.6s,baz=48,slow=2.1,SNR=1.9

*IDC **11** 14:20:30.6±1.0,5°.71S×150°.64E, h94km±14km, mb3.5/3, mb1 3.8/4, mb1mx3.2/34, mbtmp3.9/4, Error ellipse: s-maj=62.2km s-min=10.0km az=134.0*
*NEIC **11** 14:20:31.1±1.5,5°.78S±0°.08×150°.79E±0°.08, h96km±13km, mb4.3/10, Error ellipse: s-maj=15.0km s-min=5.3km az=136.0*
ISC 11 14:20:32.1±0.7,**5°.72S**±0°.08×**150°.74E**±0°.08,**h114**km,**n19,**
σ1§**40**/20,**mb4.2**/8,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.90**	**42**	P	**Pn**		**14 21 02.4**	**-1.6**
	27nm,0.3s,baz=210,slow=20,SNR=39							
KRVT				S	**Sn**		**14 21 27.2**	**-1.2**
	51nm,0.3s,baz=95,slow=8.9,SNR=7.7							
RABL	**Rabaul**	**2.08**	**43**	Pn	**Pn**		**14 21 04.5**	**-1.9**
MANU	**Manus Island**	**4.97**	**317**	Pn	**Pn**		**14 21 44.7**	**+0.1**
PMG	**Port Moresby**	**5.10**	**224**	P	**Pn**		**14 21 45.6**	**-0.8**
	7.5nm,0.3s,baz=39,slow=9.0,SNR=24							
PMG				S	**Sn**		**14 22 40.7**	**-3.5**
	22nm,0.3s,baz=344,slow=18,SNR=16							
PMG	**Port Moresby**	**5.10**	**224**		**Pn**		**14 21 44.8**	**-1.6**
EIDS	**Eidsvold**	**19.54**	**179**	Pn	**P**		**14 24 52.0**	**+1.2**
EIDS				IAmb	IAmb		14 24 52.7	
	comp=Z,5.0nm,0.6s							
MTN	**Manton Dam**	**20.59**	**249**	P	**P**		**14 25 01.8**	**-0.4**
WRA	**Warramunga Arr**	**21.31**	**227**	P	**P**		**14 25 08.9**	**-1.1**
	comp=Z,2.2nm,0.4s,baz=51,slow=10,SNR=3.6							
WRA	**Warramunga Arr**	**21.31**	**227**	IAmb	IAmb		14 25 29.6	
	comp=Z,0.8nm,0.6s							
DZM	**Mont Dzumac**	**22.24**	**138**	P	**P**		**14 25 20.3**	**+0.5**
DZM				IAmb	IAmb		14 25 35.3	
	comp=Z,15nm,1.2s							
ASAR	**Alice Springs**	**24.11**	**221**	P	**P**		**14 25 37.8**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=59,slow=8.9,SNR=2.7							
ARMA	**Armidale**	**24.58**	**178**	P	**P**		**14 25 43.6**	**+2.0**
ARMA				IAmb	IAmb		14 26 09.0	
	comp=Z,20nm,1.4s							
CAN	**Canberra**	**29.50**	**183**	P	**P**		**14 26 26.4**	**+0.8**
CAN				IAmb	IAmb		14 26 52.7	
	comp=Z,26nm,1.4s							
GIRL	**Giralia**	**39.03**	**241**	P	**P**		**14 27 48.6**	**+0.7**
BKZ	**Black Stump Fm**	**40.62**	**149**	P	**P**		**14 28 02.1**	**+1.2**
BKZ				IAmb	IAmb		14 28 02.5	
	comp=Z,9.4nm,1.0s							
TUWZ	**Tuamarina**	**41.14**	**153**	P	**P**		**14 28 04.6**	**-0.5**
VNDA	**Vanda**	**72.00**	**177**	P	**P**		**14 31 43.6**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=321,slow=6.7,SNR=5.0							
QSPA	**South Pole Qui**	**84.24**	**180**	P	**P**		**14 32 51.1**	**+0.2**
QSPA				IAmb	IAmb		14 32 52.0	
	comp=Z,2.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**148.61**	**286**	PKPbc	**PKPbc**		**14 40 06.8**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=68,slow=3.0,SNR=2.1							

IDC 11 14:29:00.3±11.0,**31°.26S×179°.96E,h155**km±124km, **mb3.1/3,mb1 3.4/4,mb1mx3.2/24,mbtmp3.6/4,ML3.0/1, Error ellipse: s-maj=103.6km s-min=35.3km az=176.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.36**	**198**	P	P		14 30 45.5	+0.3
	0.2nm,0.3s,baz=337,slow=3.2,SNR=2.4							
URZ				S	Sn		14 32 07.5	0.0
	0.4nm,0.3s,baz=42,slow=2.5,SNR=2.2							
ASAR	**Alice Springs**	**41.32**	**269**	P	P		14 36 30.9	-0.1
	0.3nm,0.5s,baz=106,slow=7.3,SNR=9.2							
WRA	**Warramunga Arr**	**42.39**	**274**	P	P		14 36 39.5	-0.2
	0.5nm,0.4s,baz=111,slow=8.0,SNR=13							
NVAR	**Mina Array Bea**	**90.07**	**44**	P	P		14 41 42.7	0.0
	0.2nm,0.6s,baz=230,slow=7.0,SNR=1.3							

*IDC **11** 14:35:44.2±1.0,54°.12N×170°.49E, h0km, mb3.3/7, mb1 3.6/9, mb1mx3.4/52, mbtmp3.3/9, ML2.9/2, Error ellipse: s-maj=32.2km s-min=18.2km az=5.0*
*NEIC **11** 14:35:46.5±1.9,53°.9N±0°.1×170°.3E±0°.1, h26km, 7km, mb4.2/11, Error ellipse: s-maj=16.6km s-min=10.9km az=184.0*
ISC 11 14:35:48.4±0.6,**54°.0N**±0°.1×**170°.33E**±0°.06,**h35**km,**n31,**
σ1§**18**/27,**mb3.4**/11,**Near Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.59**	**118**	Pn	**Pn**		**14 36 27.6**	**-0.2**
	7.8nm,0.3s,baz=262,slow=5.6,SNR=6.6							
SHEM				Sn	**Sn**		**14 36 58.6**	**+0.5**
	20nm,0.3s,baz=231,slow=22,SNR=8.5							
SMY	**Shemya**	**2.59**	**118**	Pn	**Pn**		**14 36 25.8**	**-2.0**
PEA0B	**Petropavlovsk-**	**7.58**	**268**	Pn	**Pn**		**14 37 36.5**	**+0.3**
PETK	**Petropavlovsk-**	**7.58**	**268**	Pn	**Pn**		**14 37 36.6**	**+0.4**
	0.2nm,0.3s,baz=99,slow=19,SNR=8.8							
PETK				Sn	**Sn**		**14 38 58.9**	**-1.8**
	0.2nm,0.3s,baz=73,slow=35,SNR=1.3							
BILL	**Bilibino**	**14.22**	**354**	Pn	**Pn**		**14 39 06.3**	**-0.6**
YSS	**Yuzh-Sakhalins**	**18.83**	**259**	P	**P**		**14 40 02.5**	**-2.4**
YSS				IAmb	IAmb		14 40 49.3	
	comp=Z,21nm,1.4s							
M19K	**Big River Lodg**	**20.10**	**53**	Pn	**Pn**		**14 40 21.4**	**+0.7**
M19K				IAmb	IAmb		14 41 20.2	
	comp=Z,6.8nm,1.2s							
J20K	**Nowinta River**	**20.61**	**46**	P	**P**		**14 40 23.9**	**-0.2**
J20K				IAmb	IAmb		14 41 08.6	
	comp=Z,9.3nm,1.5s							
IMAR	**Indian Mountai**	**21.24**	**42**	P	**P**		**14 40 31.8**	**+0.9**
H21K	**Melozitna Rive**	**21.52**	**43**	P	**P**		**14 40 34.4**	**+0.5**
WRH	**Wood River Hil**	**23.25**	**47**	P	**P**		**14 40 51.5**	**-0.7**
CCB	**Clear Creek Bu**	**23.40**	**46**	P	**P**		**14 40 53.2**	**-0.4**
CCB				IAmb	IAmb		14 41 18.7	
	comp=Z,16nm,1.8s							
TOLK	**Toolik Lake Re**	**23.59**	**36**	P	**P**		**14 40 54.9**	**-0.6**
ILAR	**Eielson Array**	**23.80**	**46**	P	**P**		**14 40 56.7**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=254,slow=8.9,SNR=4.6							
J25K	**Salcha River,**	**24.44**	**47**	P	**P**		**14 41 02.6**	**-0.9**
J25K				IAmb	IAmb		14 41 26.1	
	comp=Z,14nm,1.8s							
BMAR	**Burnt Mountain**	**25.12**	**40**	P	**P**		**14 41 09.3**	**-0.2**
GRNC	**Granite Creek**	**26.18**	**56**	P	**P**		**14 41 19.1**	**-0.4**
EGAK	**Eagle**	**26.25**	**47**	P	**P**		**14 41 18.6**	**-1.2**
EGAK				IAmb	IAmb		14 41 52.9	
	comp=Z,14nm,1.8s							
HYT	**Haines Junctio**	**28.23**	**55**	P	**P**		**14 41 36.9**	**-0.9**
HYT				IAmb	IAmb		14 42 04.8	
	comp=Z,13nm,1.5s							
H11N2	**WAKE ISLAND Hy**	**34.31**	**186**	T	T		15 19 09.1	
	baz=3.5,slow=76,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**34.32**	**186**	T	T		15 19 14.6	
	baz=3.5,slow=76,SNR=3.0							
H11N1	**WAKE ISLAND Hy**	**34.33**	**186**	T	T		15 19 11.6	
	baz=3.5,slow=76,SNR=6.3							
H11S1	**WAKE ISLAND Hy**	**35.53**	**186**	T	T		15 20 44.6	
	baz=3.6,slow=76,SNR=4.1							
H11S3	**WAKE ISLAND Hy**	**35.55**	**186**	T	T		15 20 45.1	
	baz=3.6,slow=76,SNR=3.0							
H11S2	**WAKE ISLAND Hy**	**35.55**	**186**	T	T		15 20 46.0	
	baz=3.6,slow=76,SNR=3.9							
YKA	**Yellowknife Ar**	**38.23**	**46**	P	**P**		**14 43 04.1**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=300,slow=8.3,SNR=2.0							
SONM	**Songino Array**	**39.53**	**288**	P	**P**		**14 43 18.5**	**+2.8**
	comp=Z,0.3nm,0.5s,baz=66,slow=4.9,SNR=1.6							
NVAR	**Mina Array Bea**	**49.63**	**78**	P	**P**		**14 44 35.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=304,slow=7.4,SNR=2.5							
KURBB	**Kurchatov Arra**	**52.38**	**307**	P	**P**		**14 44 56.2**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=53,slow=8.1,SNR=2.2							
TXAR	**Lajitas Array**	**64.58**	**75**	P	**P**		**14 46 22.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=302,slow=3.9,SNR=7.3							
ASAR	**Alice Springs**	**83.49**	**213**	P	**P**		**14 48 14.0**	**+1.8**
	comp=Z,0.3nm,0.9s,baz=30,slow=5.1,SNR=2.0							

*IDC **11** 14:39:34.2±1.5,37°.64N×77°.91E, h0km, mb3.6/6, mb1 3.7/11, mb1mx3.5/54, mbtmp3.6/11, ML3.2/5, MS3.2/3, Ms1 3.2/3, ms1mx2.5/85, Error ellipse: s-maj=31.0km s-min=18.0km az=52.0*
*NNC **11** 14:39:38.8±2.0, 37°.72N×77°.77E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=15.7km s-min=13.6km az=127.0*
ISC 11 14:39:37.3±1.3,**37°.7N**±0°.1×**77°.96E**±0°.08,**h17**km,**n39,**
σ2§**65**/36,**mb3.5**/6,**11C-7D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.38**	**4**	Pg	**Pg**		**14 41 17.1**	**-3.2**
	5.7nm,0.4s							
SATY				Lg	Lg		14 42 28.7	
	44nm,0.9s							
TNSS	**Tian-Shan**	**5.40**	**352**	Pg	**Pg**		**14 41 17.6**	**-3.1**
	6.7nm,0.4s							
TNSS				Lg	Lg		14 42 28.7	
	21nm,0.6s							
MDOK	**Medeo**	**5.51**	**353**	⇓Pn	**Pn**		**14 41 01.5**	**+2.8**
	1.1nm,0.4s							
MDOK				⇑Pg	**Pg**		**14 41 18.2**	**-4.6**
	12nm,0.6s							
MDOK				⇑Lg	Lg		14 42 32.4	
	54nm,1.0s							
MDOK	**Medeo**	**5.51**	**353**	Pg	**Pg**		**14 41 19.1**	**-3.7**
	4.0nm,0.3s							
MDOK				Lg	Lg		14 42 31.3	
	36nm,0.9s							
UZB	**Uzynbulak**	**5.51**	**8**	Pg	**Pg**		**14 41 19.9**	**-3.0**
	4.0nm,0.3s							
UZB				Lg	Lg		14 42 33.0	
	22nm,1.1s							
TKM2	**Tokmak 2**	**5.53**	**342**	⇓Pn	**Pn**		**14 41 02.4**	**+3.4**
	1.8nm,0.6s							
TKM2				⇑Pg	**Pb**		**14 41 16.9**	**+3.4**
	15nm,1.1s							
TKM2				⇑Lg	Lg		14 42 37.5	
	28nm,0.7s							
MTBS	**Maitube**	**5.56**	**348**	Pg	**Pg**		**14 41 19.4**	**-4.4**
	3.7nm,0.4s							
MTBS				Lg	Lg		14 42 31.8	
	20nm,0.5s							
KST	**Kastek**	**5.56**	**345**	Pg	**Pb**		**14 41 17.6**	**+3.6**
	4.6nm,0.3s							
KST				Lg	Lg		14 42 28.7	
	46nm,0.9s							
KNDC	**Almaty**	**5.58**	**353**	⇑Pg	**Pg**		**14 41 21.3**	**-2.8**
	17nm,0.5s							
KNDC				⇓Lg	Lg		14 42 35.2	
	88nm,0.8s							
KOTS	**Kotyrbulak**	**5.58**	**354**	Pg	**Pg**		**14 41 21.4**	**-2.7**
	5.3nm,0.3s							
KOTS				Lg	Lg		14 42 34.8	
	45nm,0.6s							
SHLS	**Shalkode**	**5.58**	**11**	Pg	**Pg**		**14 41 20.9**	**-3.3**
	5.3nm,0.2s							
SHLS				Lg	Lg		14 42 34.8	
	46nm,0.8s							
AAK	**Ala-Archa**	**5.61**	**333**	Pn	**Pn**		**14 41 03.2**	**+3.1**
	1.0nm,0.3s,baz=138,slow=8.3,SNR=12							
AAK				Pg	**Pb**		**14 41 16.4**	**+1.5**
	2.7nm,0.3s,baz=140,slow=8.3,SNR=9.1							
AAK				Lg	Lg		14 42 32.1	
	4.9nm,0.3s,baz=151,slow=19,SNR=8.2							
AAK				LR	LR		14 43 42.0	
	comp=Z,93nm,18.5s,baz=138,slow=44							
PDGK	**Podgornoye**	**5.75**	**11**	Pg	Pg		14 41 22.7	-4.8
	1.5nm,0.4s							
PDGK				Lg	Lg		14 42 37.4	
	18nm,0.9s							
PDGK	**Podgornoye**	**5.75**	**11**	⇓Lg	Lg		14 42 39.0	
	42nm,0.8s							
KURS	**Kuram**	**5.80**	**2**	Pg	**Pg**		**14 41 25.7**	**-2.6**
	5.3nm,0.8s							
KURS				Lg	Lg		14 42 42.6	
	39nm,1.1s							
CHMS	**Chumysh**	**5.84**	**336**	⇓Pg	**Pg**		**14 41 26.3**	**-2.9**
	14nm,1.1s							
CHMS				⇑Lg	Lg		14 42 41.1	
	33nm,1.0s							
CHKK	**Chushkaly**	**6.20**	**354**	Pg	**Pg**		**14 41 31.9**	**-4.2**
	4.0nm,0.4s							
CHKK				Lg	Lg		14 42 52.5	
	13nm,0.5s							
MRKS	**Merke**	**6.21**	**326**	Pg	**Pg**		**14 41 33.5**	**-2.7**
	3.2nm,0.4s							
MRKS				Lg	Lg		14 42 55.9	
	17nm,0.7s							
KRBS	**Karabastau**	**6.25**	**345**	Pg	**Pg**		**14 41 32.2**	**-4.6**
	1.3nm,0.3s							
KRBS				Lg	Lg		14 42 53.4	
	12nm,0.7s							
ARXS	**Arharly**	**6.52**	**359**	Pg	Pg		14 41 36.4	-5.7
	3.7nm,0.7s							
ARXS				Lg	Lg		14 43 00.3	
	32nm,0.6s							
KNOS	**Konyrlen**	**6.73**	**8**	Pg	**Pg**		**14 41 46.4**	**+0.3**
	3.8nm,0.3s							
KNOS				Lg	Lg		14 43 17.5	
	9.2nm,0.8s							
DJR	**Jarkent**	**6.78**	**11**	Pg	Pg		14 41 41.6	-5.5
	3.1nm,0.3s							
DJR				Lg	Lg		14 43 09.3	
	6.9nm,0.5s							
KAPS	**Kapalarasan**	**7.66**	**7**	Pg	Pb		14 41 59.5	+10
	1.8nm,0.5s							
KAPS				Lg	Lg		14 43 40.0	
	7.7nm,0.6s							
KK31	**Karatay Array**	**7.84**	**316**	⇑Pn	**Pn**		**14 41 31.3**	**+0.7**
	0.4nm,0.3s,baz=137,slow=12,SNR=6.0							
KK31				⇑Pg	Pb		14 42 00.2	+7.5
	0.4nm,0.3s,baz=134,slow=17,SNR=5.5							
KK31				⇑Sn	**Sn**		**14 42 58.8**	**-0.1**
	2.6nm,0.5s,baz=139,slow=24							
KK31				⇓Lg	Lg		14 43 40.7	
	1.8nm,0.5s,baz=128,slow=30							
MAKZ	**Makanchi**	**9.59**	**17**	⇑Pn	**Pn**		**14 41 55.7**	**+1.2**
	2.6nm,0.8s							
MAKZ				⇑Sn	Sn		14 43 27.6	-14
	1.1nm,0.4s							
MK31	**Makanchi Array**	**9.65**	**18**	Pn	**Pn**		**14 41 56.1**	**+0.8**
	0.6nm,0.3s,baz=197,slow=13,SNR=98							
MK31				⇓Sn	Sn		14 43 23.8	-20
	1.3nm,0.5s,baz=164,slow=24,SNR=4.3							
MKAR	**Makanchi Array**	**9.65**	**18**	Pn	**Pn**		**14 41 56.3**	**+0.9**
	1.5nm,0.3s,baz=200,slow=13,SNR=84							
MKAR				Sn	Sn		14 43 24.3	-19
	0.9nm,0.3s,baz=149,slow=29,SNR=5.3							
KURBB	**Kurchatov Arra**	**12.94**	**2**	Pn	**Pn**		**14 42 39.4**	**-0.9**
	0.0nm,0.3s,baz=186,slow=12,SNR=5.8							
KURBB				Lg	Lg		14 46 28.1	
	0.0nm,0.3s,baz=188,slow=31,SNR=4.5							
BVAR	**Borovoye Array**	**16.22**	**343**	Pn	**Pn**		**14 43 24.5**	**+0.3**
ZALV	**Zalesovo Beam**	**16.94**	**14**	Pn	**Pn**		**14 43 34.0**	**+0.7**
	0.3nm,0.3s,baz=203,slow=11,SNR=5.4							
AKTO	**Aktyubinsk**	**19.10**	**318**	P	**Pn**		**14 43 59.5**	**-0.5**
	0.1nm,0.3s,baz=96,slow=8.3,SNR=2.8							
SONM	**Songino Array**	**23.09**	**55**	P	**P**		**14 44 42.4**	**+0.1**
	1.3nm,0.9s,baz=264,slow=7.4,SNR=7.7							
CMAR	**Chiang Mai Arr**	**26.54**	**130**	P	**P**		**14 45 13.8**	**-0.5**
	0.1nm,0.4s,baz=313,slow=9.7,SNR=1.8							
KIRV	**Kirov**	**27.92**	**328**	LR	LR		14 57 25.5	
	comp=Z,49nm,19.1s,baz=205,slow=38							
FINES	**FINESS Array B**	**39.72**	**324**	P	**P**		**14 47 08.6**	**+0.2**
	0.6nm,0.4s,baz=104,slow=8.0,SNR=6.0							
ARCES	**ARCESS Array B**	**42.27**	**336**	P	**P**		**14 47 28.7**	**-0.8**
	2.4nm,0.9s,baz=100,slow=10,SNR=1.8							
NOA	**NORSAR Array B**	**46.82**	**322**	P	**P**		**14 48 05.1**	**-0.7**
	0.6nm,0.8s,baz=89,slow=7.6,SNR=2.8							
KAPI	**Kappang**	**57.56**	**128**	LR	LR		15 17 30.0	
	comp=Z,55nm,18.4s,baz=74,slow=40							
YKA	**Yellowknife Ar**	**79.65**	**6**	P	**P**		**14 51 42.5**	**-0.9**
	0.3nm,0.6s,baz=344,slow=5.1,SNR=5.5							

*NEIC **11** 15:22:49.7±2.2,8°.15S±0°.05×127°.75E±0°.07, h121km±13km, mb4.4/5, Error ellipse: s-maj=11.4km s-min=5.7km az=116.0*
*IDC **11** 15:22:50.1±7.2,8°.04S×127°.48E, h186km±78km, mb2.6/1, mb1 3.5/5, mb1mx3.1/30, mbtmp3.9/5, Error ellipse: s-maj=85.3km s-min=23.7km az=41.0*
ISC 11 15:22:47.8±0.8,**8°.17S**±0°.07×**127°.75E**±0°.08,**h100**km,**n20,**
σ1§**82**/23,**mb4.4**/4,**Timor region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.52**	**87**	Pn	**Pn**		**15 23 43.0**	**+2.5**
BATI	**Baumata**	**4.52**	**243**	P	**Pn**		**15 23 56.5**	**+2.4**
	10nm,0.3s,baz=137,slow=1.3,SNR=18							
BATI				S	**Sn**		**15 24 47.7**	**+2.1**
	7.1nm,0.3s,baz=62,slow=15,SNR=3.5							
MTN	**Manton Dam**	**5.71**	**145**		**Pn**		**15 24 12.9**	**+2.7**
KNRA	**Kununurra**	**7.53**	**173**		**Pn**		**15 24 38.5**	**+3.5**
KAPI	**Kappang**	**8.54**	**291**	Pn	**Pn**		**15 24 48.3**	**-0.5**
LUWI	**Luwuk**	**8.65**	**325**	Pn	**Pn**		**15 24 48.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.08**	**192**	P	**Pn**		**15 25 10.3**	**+0.6**
	0.3nm,0.3s,baz=6.2,slow=12,SNR=16							
FITZ				S	**Sn**		**15 27 00.5**	**-0.5**
	1.0nm,0.3s,baz=74,slow=13,SNR=7.8							
FITZ	**Fitzroy Crossi**	**10.08**	**192**		**Pn**		**15 25 10.1**	**+0.4**
WB0	**Warramunga Arr**	**13.20**	**152**	Pn	**Pn**		**15 25 52.2**	**+0.8**
WRA	**Warramunga Arr**	**13.33**	**152**	P	**Pn**		**15 25 54.7**	**+1.5**
	0.6nm,0.3s,baz=328,slow=12,SNR=29							
WRA				S	**Sn**		**15 28 17.6**	**-2.2**
	1.2nm,0.3s,baz=330,slow=22,SNR=16							
WRA	**Warramunga Arr**	**13.33**	**152**	Pn	**Pn**		**15 25 53.3**	**+0.1**
WB2	**Warramunga Arr**	**13.34**	**152**	Pn	**Pn**		**15 25 53.2**	**0

PMG	Port Moresby	7.40	135	P		Pn	15 39 56.4	+1.4
COEN	Coen	9.81	172			Pn	15 40 28.6	+0.9
COEN	Coen	9.81	172	P		Pn	15 40 29.5	+1.8
KRVT	Keravat (AS076	10.15	91	P		Pn	15 40 32.4	+0.1
	0.3nm,0.3s,baz=319,slow=19,SNR=2.5							
RABL	Rabaul	10.28	90			Pn	15 40 34.9	+0.7
RABL	Rabaul	10.28	90	P		Pn	15 40 44.1	+10
	33nm,0.7s							
SIJI	Sorong	11.07	287	P		Pn	15 40 45.6	+0.7
	2.9nm,0.3s,baz=109,slow=19,SNR=17							
SIJI				S		Sn	15 42 42.8	-3.9
	0.7nm,0.3s,baz=169,slow=23,SNR=7.7							
SWI	Sorong	11.08	287	P		Pn	15 40 47.6	+2.7
	25nm,1.2s							
SAUI	Saumlaki	11.15	250	Pn		Pn	15 40 46.1	+0.2
KDU	Kakadu	12.55	227	P		Pn	15 41 04.5	+0.1
MTN	Manton Dam	13.65	230	Pn		Pn	15 41 17.9	-0.9
MTN	Manton Dam	13.65	230	P		Pn	15 41 18.7	-0.1
MTSU	Mount Surprise	14.08	170	P		Pn	15 41 25.5	+1.1
LBMI	Labuha	14.76	283	P		P	15 41 39.6	+3.4
	21nm,1.8s							
TNTI	Ternate	15.29	288	P		P	15 41 41.9	-0.1
TNTI				IAmb		IAmb	15 42 00.4	
	comp=Z,17nm,0.8s							
CTA	Charters Tower	16.39	165	P		Pn	15 41 53.1	-0.3
	comp=Z,0.3nm,0.3s,baz=352,slow=14,SNR=3.1							
CTA				LR		LR	15 49 01.5	
	comp=Z,182nm,19.6s,baz=9.0,slow=40							
CTA	Charters Tower	16.39	165	P		P	15 41 54.5	+0.3
QIS	Mount Isa	16.43	187	P		P	15 41 54.9	+0.2
WB0	Warramunga Arr	17.12	205	P		P	15 42 01.6	-0.6
WB0				IAmb		IAmb	15 42 06.9	
	comp=Z,32nm,0.7s							
KNRA	Kununurra	17.22	227	P		P	15 42 02.7	-0.6
KNRA				IAmb		IAmb	15 42 09.3	
	comp=Z,43nm,0.8s							
KNRA	Kununurra	17.22	227	P		Pn	15 42 03.6	+0.2
WR0	Warramunga Arr	17.23	204	P		P	15 42 03.2	-0.3
WRAB	Tennant Creek	17.29	204	P		P	15 42 03.7	-0.4
WRAB	Tennant Creek	17.29	204	P		P	15 42 04.0	-0.1
WB2	Warramunga Arr	17.30	204	P		P	15 42 03.9	-0.3
WRA	Warramunga Arr	17.30	204	P		P	15 42 03.9	-0.4
	comp=Z,12nm,0.3s,baz=26,slow=12,SNR=70							
WRA				S		Sn	15 45 12.1	-5.2
	comp=Z,0.4nm,0.3s,baz=40,slow=21,SNR=3.9							
WRA	Warramunga Arr	17.30	204	P		P	15 42 03.8	-0.5
SGSI	Sangihe	18.08	295	P		Pn	15 42 16.7	+2.8
	comp=Z,126nm,0.4s							
KMSI	Cibinong	18.47	284	P		Pn	15 42 19.9	+1.3
	comp=Z,1µmcomp=Z,97nm,0.7s							
HNR	Honiara	18.70	107	P		P	15 42 18.8	-0.9
HNR				IAmb		IAmb	15 42 30.9	
	comp=Z,40nm,0.9s							
BATI	Baumata	19.01	251	P		Pn	15 42 25.7	+0.7
	comp=Z,11nm,0.3s,baz=59,slow=1.3,SNR=22							
BATI				S		S	15 45 51.1	-2.2
	comp=Z,1.0nm,0.3s,baz=109,slow=18,SNR=2.0							
BATI	Baumata	19.01	251	P		Pn	15 42 26.3	+1.3
	comp=Z,1µmcomp=Z,106nm,0.6s							
BBSI	Bau Bau	19.26	265	P		Pn	15 42 31.0	+3.1
	comp=Z,125nmcomp=Z,7.1nm,1.0s							
LUWI	Luwuk	19.31	279	P		P	15 42 23.5	-2.8
LUWI				IAmb		IAmb	15 42 33.3	
	comp=Z,28nm,0.8s							
LUWI	Luwuk	19.31	279	P		Pn	15 42 29.4	+0.9
	comp=Z,916nmcomp=Z,40nm,0.8s							
LUWI	Luwuk	19.31	279	P		Pn	15 42 34.2	+5.7
	comp=Z,40nm,0.8s							
GTOI	Gorontalo	19.42	284	P		Pn	15 42 31.1	+1.3
	comp=Z,264nmcomp=Z,25nm,0.7s							
MMRI	Maumere	19.99	256	P		P	15 42 32.5	-1.2
MMRI				IAmb		IAmb	15 42 37.3	
	comp=Z,68nm,1.1s							
MMRI	Maumere	19.99	256	P		P	15 42 34.7	+1.1
	comp=Z,1µmcomp=Z,65nm,0.8s							
MMRI	Maumere	19.99	256	P		Pn	15 42 37.2	+0.8
MRSI	Marisa	20.43	283	P		Pn	15 42 40.1	-1.4
	comp=Z,42nm,0.7s							
APSI	Ampana	20.44	279	P		Pn	15 42 43.3	+1.7
	comp=Z,385nmcomp=Z,21nm,1.2s							
AS31	Alice Springs	20.84	201	P		P	15 42 42.9	+0.1
AS31				IAmb		IAmb	15 42 47.4	
	comp=Z,19nm,0.6s							
ASAR	Alice Springs	20.84	201	P		P	15 42 43.0	+0.2
	comp=Z,46nm,0.6s,baz=29,slow=10,SNR=541							
ASAR				pP		pP	15 43 05.3	+1.3
	comp=Z,24nm,0.8s,baz=34,slow=11,SNR=4.6							
ASAR				S		S	15 46 29.6	+0.2
	comp=Z,1.7nm,0.8s,baz=20,slow=28,SNR=3.0							
ASAR	Alice Springs	20.84	201	P		P	15 42 42.9	0.0
FITZ	Fitzroy Crossi	21.05	228	P		P	15 42 45.3	+0.2
	comp=Z,13nm,0.6s,baz=51,slow=14,SNR=50							
FITZ				S		S	15 46 29.6	-3.9
	comp=Z,5.2nm,0.7s,baz=159,slow=22,SNR=2.9							
FITZ	Fitzroy Crossi	21.05	228	P		P	15 42 45.1	+0.1
FITZ	Fitzroy Crossi	21.05	228	P		P	15 42 46.0	+0.9
BKSI	Bulukumba	21.69	266	P		P	15 42 53.1	+1.2
	comp=Z,266nmcomp=Z,13nm,0.8s							
BNSI	Bone	21.69	269	P		P	15 42 53.9	+2.0
	comp=Z,23nm,0.7s							
TOLI2	Tolitoli	21.70	284	P		P	15 42 52.8	+0.8
TOLI2				IAmb		IAmb	15 42 59.9	
	comp=Z,13nm,0.8s							
BASI	Baing, Sumba	21.94	253	P		P	15 42 55.9	+1.4
	comp=Z,874nmcomp=Z,89nm,0.9s							
TTSI	Tana Toraja	22.02	272	P		P	15 43 05.7	+10
SPSI	Sidrap Palu	22.03	270	P		P	15 42 56.9	+1.4
	comp=Z,13nm,1.0s							
KAPI	Kappang	22.05	267	P		P	15 42 54.7	-0.9
	comp=Z,6.1nm,0.5s,baz=127,slow=5.9,SNR=5.5							
KAPI	Kappang	22.05	267	P		P	15 42 54.2	-1.4
KAPI	Kappang	22.05	267	P		P	15 43 00.4	+4.7
	comp=Z,14nm,0.9s							
MPSI	Mapaga	22.39	281	P		P	15 43 00.5	+1.3
	comp=Z,6.9nm,0.6s							
QLP	Quilpie	22.40	174	P		P	15 42 59.8	+0.6
EIDS	Eidsvold	22.86	158	P		P	15 43 04.3	+0.5
EIDS	Eidsvold	22.86	158	P		P	15 43 05.3	+1.4
WBSI	Waikabubak, Su	22.94	255	P		P	15 43 04.4	-0.4
RMQ	Roma	23.15	164	P		P	15 43 08.2	+1.6
INKA	Innaminka	23.46	182	P		P	15 43 10.0	+0.6
OOD	Oodnadatta	24.21	193	P		P	15 43 17.6	+1.4
WRKA	Warakurna	24.50	211	P		P	15 43 19.6	+0.7
LCRK	Leigh Creek	26.36	187	P		P	15 43 36.4	+0.8
MULG	Mulgathing	26.99	195	P		P	15 43 41.5	+0.2
SANVU	Saraoutou	27.34	116	P		P	15 43 44.9	+0.4
SANVU				IAmb		IAmb	15 44 09.8	
	comp=Z,28nm,1.2s							
CMSA	Cobar Meteorol	27.46	173	P		P	15 43 47.4	+1.9
PSA00	Pilbara Seismi	27.48	229	P		P	15 43 44.6	-1.2
STKA	Stephens Creek	27.56	180	P		P	15 43 46.4	+0.1
	comp=Z,5.9nm,0.7s,baz=354,slow=8.3,SNR=19							
STKA				LR		LR	15 56 56.6	
	comp=Z,83nm,18.1s,baz=17,slow=41							
STKA	Stephens Creek	27.56	180	P		P	15 43 46.5	+0.1
STKA	Stephens Creek	27.56	180	P		P	15 43 47.3	+0.9
ARMA	Armidale	27.69	162	P		P	15 43 48.6	+1.0
ARMA				IAmb		IAmb	15 43 53.9	
	comp=Z,31nm,1.4s							
KMMI	Kalianget	27.90	263	P		P	15 43 48.3	-1.3
	comp=Z,25nm,1.8s							
BBOO	Buckleboo	29.00	190	P		P	15 43 58.8	-0.4
NAPP	Napperby	29.07	186	P		P	15 44 00.7	+1.0
	comp=Z,19nm,0.6s							
FORT	Forrest	29.49	205	P		P	15 44 04.0	+0.4
FORT	Forrest	29.49	205	P		P	15 44 07.0	+3.5
CAN	Canberra	31.69	169	P		P	15 44 24.6	+1.6
CAN	Canberra	31.69	169	P		P	15 44 25.3	+2.4
KSM	Kuching	32.02	279	P		P	15 44 25.8	-0.2
BRAT	Ballarat	33.27	177	P		P	15 44 39.3	+2.7
	comp=Z,27nm,0.9s							
TOO	Toolangi	33.41	175	P		P	15 44 39.4	+1.6
GEXS	Deakin Univers	33.94	177	P		P	15 44 45.9	+3.5
	comp=Z,100nm,0.9s							
YULB	Yu-li	33.95	325	P		P	15 44 41.3	-1.4
YULB				IAmb		IAmb	15 44 47.0	
	comp=Z,13nm,0.9s							
TPUB	Ta-pu	34.27	324	P		P	15 44 44.1	-1.4
SSLB	Suanglung	34.46	325	P		P	15 44 45.6	-1.5
MORW	Morawa	34.82	222	P		P	15 44 51.0	+0.9
MORW				IAmb		IAmb	15 44 52.5	
	comp=Z,14nm,1.1s							
YHNB	Yeheng	34.91	326	P		P	15 44 51.4	+0.4
JMN	Monobe	38.44	349	P		P	15 45 20.3	-0.5
JNU	Nakatsue	38.52	345	P		P	15 45 20.7	-0.8
TAU	Tasmania Unive	38.88	174	P		P	15 45 26.3	+2.0
UBPT	Khong Chiam	40.89	299	P		P	15 45 40.9	-0.4
UBPT				IAmb		IAmb	15 46 02.9	
	comp=Z,11nm,1.4s							
NJ2	Nanjing	42.15	330	eP		P	15 45 52.2	+0.8
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
KSRS	Korea Array	43.40	344	P		P	15 46 01.4	0.0
	comp=Z,2.4nm,0.7s,baz=166,slow=9.2,SNR=8.2							
KSRS				LR		LR	16 03 08.1	
	comp=Z,21nm,19.6s,baz=155,slow=34							
RPSI	Rantau Prapat	43.44	278	P		P	15 46 00.8	-1.3
PSI	Prapat	43.45	278	P		P	15 46 00.8	-1.6
	comp=Z,10nm,0.6s,baz=79,slow=6.0,SNR=5.7							
BKZ	Black Stump Fm	46.89	143	P		P	15 46 29.8	+0.7
BKZ				IAmb		IAmb	15 46 48.0	
	comp=Z,29nm,1.5s							
CMAR	Chiang Mai Arr	47.88	299	P		P	15 46 37.2	+0.1
	comp=Z,2.2nm,0.7s,baz=125,slow=6.2,SNR=17							
CMAR				PcP		PcP	15 48 03.8	-0.3
	comp=Z,2.6nm,1.2s,baz=111,slow=1.8,SNR=5.0							
CMAR	Chiang Mai Arr	47.88	299	P		P	15 46 36.9	-0.2
ASAJ	Asahikawa	48.07	1	LR		LR	16 13 20.0	
	comp=Z,9.5nm,18.0s,baz=174,slow=44							
USRK	Ussuriysk Ar.	48.96	351	P		P	15 46 44.7	-0.1
	comp=Z,4.0nm,0.7s,baz=186,slow=9.6,SNR=5.6							
USRK	Ussuriysk Ar.	48.96	351	P		P	15 46 44.4	-0.4
XAN	Xi'an	49.09	323	P		P	15 46 46.3	+0.2
XAN				pP		pP	15 47 11.9	0.0
XAN				pmax		pmax		
	comp=Z,12nm,1.2s							
PZH	PanZhiHua	49.35	310	P		P	15 46 48.2	-0.1
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,5.5s							
CN2	Changchun	49.99	345	eP		P	15 46 51.6	-1.1
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC	Hu-ho-hao-te	52.68	331	eP		P	15 47 14.4	+1.4
HHC				pmax		pmax		
	comp=Z,22nm,1.0s							
HHC				pmax		pmax		
	comp=Z,130nm,4.9s							
LZH	Lanzhou	53.55	322	eP		P	15 47 20.0	+0.5
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
KLR	Kul'dur	53.91	352	LR		LR	16 07 33.3	
	comp=Z,18nm,19.5s,baz=239,slow=33							
GTA	Gaotai	58.12	322	↑P		P	15 47 52.8	+0.8
GTA				pP		pP	15 48 21.1	+2.5
GTA				sP		sP	15 48 34.0	+3.4
GTA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
PETK	Petropavlovsk-	58.62	11	pP		pP	15 48 23.3	+1.7
	comp=Z,4.3nm,1.0s,baz=217,slow=7.1,SNR=3.6							
GOMU	GeErMu	59.52	317	P		P	15 48 03.9	+1.8
GOMU				pmax		pmax		
	comp=Z,1.0nm,0.5s							
GOMU				pmax		pmax		
	comp=Z,52nm,6.4s							
ULN	Ulaanbaatar	60.13	334	P		P	15 48 05.3	-0.5
SONM	Songino Array	60.40	333	P		P	15 48 07.6	0.0
	comp=Z,0.7nm,0.6s,baz=155,slow=6.3,SNR=6.4							
SONM				pP		pP	15 48 36.1	+1.9
	comp=Z,1.8nm,1.2s,baz=161,slow=9.4,SNR=3.1							
SONM				LR		LR	16 13 55.3	
	comp=Z,18nm,20.0s,baz=174,slow=36							
SONM	Songino Array	60.40	333	P		P	15 48 07.5	-0.1
PALK	Pallekele	62.07	280	P		P	15 48 19.5	0.0
PALK				IAmb		IAmb	15 48 20.6	
	comp=Z,6.1nm,0.9s							
GUN	Gumba	62.60	304	eP		P	15 48 23.5	+0.5
	comp=Z,19nm,0.7s							
KKN	Kakani	63.05	304	eP		P	15 48 26.3	+0.4
DMN	Daman	63.13	304	eP		P	15 48 27.2	+0.7
GKN	Gorkha	63.66	304	eP		P	15 48 30.3	+0.5
	comp=Z,25nm,0.6s							
MA2	Magadan	63.94	5	P		P	15 48 29.9	-0.9
	comp=Z,1.8nm,0.6s,baz=84,slow=20,SNR=1.2							
MA2				LR		LR	16 13 50.5	
	comp=Z,12nm,20.6s,baz=83,slow=34							
DANN	Dangsing	64.50	304	eP		P	15 48 35.7	+0.2
	comp=Z,22nm,0.7s							
PYUN	Piuthan	65.06	303	eP		P	15 48 39.1	+0.1
SEY	Seymchan	67.40	5	P		P	15 48 52.0	-0.9
	comp=Z,0.8nm,0.6s,baz=141,slow=7.5,SNR=5.6							
SEY				pP		pP	15 49 21.7	+1.6
	comp=Z,1.1nm,0.7s,baz=213,slow=6.2,SNR=3.9							
WMQ	Urumqi	68.11	321	eP		P	15 48 59.0	+1.1
WMQ				pmax		pmax		
	comp=Z,17nm,0.7s							
MK31	Makanchi Array	72.86	322	P		P	15 49 26.3	-0.5
MK31				IAmb		IAmb	15 49 27.9	
	comp=Z,5.1nm,0.9s							
MKAR	Makanchi Array	72.86	322	P		P	15 49 26.9	+0.1
	comp=Z,6.5nm,0.8s,baz=110,slow=7.0,SNR=66							
MKAR				pP		pP	15 49 56.0	+1.7
	comp=Z,3.5nm,1.0s,baz=108,slow=7.8,SNR=3.4							
MKAR	Makanchi Array	72.86	322	P		P	15 49 26.7	0.0
MAKZ	Makanchi	73.06	322	P		P	15 49 27.9	0.0
MAKZ				IAmb		IAmb	15 49 29.0	
	comp=Z,8.2nm,0.8s							
VNDA	Vanda	74.07	176	P		P	15 49 33.9	+0.6
	comp=Z,1.6nm,0.8s,baz=332,slow=7.9,SNR=8.4							
VNDA				pP		pP	15 50 01.4	+0.5
	comp=Z,0.8nm,0.7s,baz=263,slow=4.1,SNR=2.8							
VNDA	Vanda	74.07	176	P		P	15 49 33.5	+0.3
KDJ	Kajisay	74.39	316	P		P	15 49 36.2	+0.3
ZAA0	Zalesovo Array	74.78	329	P		P	15 49 37.0	-0.8
ZALV	Zalesovo Beam	74.78	329	P		P	15 49 36.7	-1.0
	comp=Z,2.6nm,0.7s,baz=110,slow=5.7,SNR=13							
BOOM	Boomskoye usch	75.38	316	P		P	15 49 42.0	+0.4
SDPT	Sand Point	75.80	30	P		P	15 49 42.3	-1.2
GAR	Garm	78.41	311	P		P	15 49 58.4	-0.3
GAR				IAmb		IAmb	15 49 59.0	
	comp=Z,4.8nm,0.8s							
CHIR	Chirikof Islan	78.46	31	P		P	15 49 56.7	-1.7
CHGR	Chuyangaron	79.20	310	P		P	15 50 03.1	+0.1
CHGR				IAmb		IAmb	15 50 03.8	
	comp=Z,11nm,0.7s							
KKAR	Karatay Array	79.37	315	P		P	15 50 02.9	-0.8
OHAK	Old Harbor	80.22	30	P		P	15 50 07.1	-0.8
O18K	Koktuh Hills	80.41	27	P		P	15 50 07.7	-1.2
O18K				IAmb		IAmb	15 50 21.9	
	comp=Z,17nm,1.4s							
Q19K	Cape Douglas,	80.74	28	P		P	15 50 09.7	-1.0
SVW2	Sparrevohn	80.79	26	P		P	15 50 10.0	-0.9
SVW2				IAmb		IAmb	15 50 12.1	
	comp=Z,5.7nm,1.0s							
KDAK	Kodiak Island	80.79	30	P		P	15 50 10.0	-0.9
	comp=Z,5.5nm,0.6s,baz=230,slow=7.3,SNR=4.5							
KDAK	Kodiak Island	80.79	30	P		P	15 50 10.2	-0.8
N19K	Bonanza Creek	81.15	26	P		P	15 50 12.2	-0.7
N19K				IAmb		IAmb	15 50 13.8	
	comp=Z,7.5nm,0.8s							
TTA	Tatalina	81.43	24	P		P	15 50 13.6	-0.7
L19K	White Mountain	81.58	25	P		P	15 50 14.3	-0.8
L19K				IAmb		IAmb	15 50 15.7	
	comp=Z,8.9nm,1.1s							
M19K	Big River Lodg	81.66	25	P		P	15 50 15.2	-0.3
M19K				IAmb		IAmb	15 50 15.4	
	comp=Z,16nm,1.5s							
MAW	Mawson	81.96	202	P		P	15 50 17.4	+0.5
	comp=Z,4.1nm,0.7s,baz=100,slow=9.8,SNR=6.1							
MAW	Mawson	81.96	202	P		P	15 50 18.2	+1.2
NRIK	Noril'sk	82.01	343	P		P	15 50 16.2	-1.0
	comp=Z,2.7nm,0.7s,baz=121,slow=6.9,SNR=6.9							
NRIK	Noril'sk	82.01	343	IAmb		IAmb	15 50 17.6	
	comp=Z,5.6nm,1.1s							
CNPM	China Poot	82.12	28	P		P	15 50 17.4	-0.6
BRVK	Borovoye	82.38	325	P		P	15 50 18.7	-0.7
BRVK				IAmb		IAmb	15 50 21.2	
	comp=Z,7.3nm,1.4s							
J20K	Nowinta River	82.73	23	P		P	15 50 20.5	-0.5
J20K				IAmb		IAmb	15 50 22.5	
	comp=Z,4.1nm,0.8s							
CAST	Castle Rocks	83.25	24	P		P	15 50 22.9	-0.8
RC01	Rabbit Creek A	83.39	27	P		P	15 50 22.8	-1.6
RC01				IAmb		IAmb	15 50 30.0	
	comp=Z,17nm,1.0s							
IMAR	Indian Mountai	83.66	22	P		P	15 50 24.7	-1.1
KTH	Kantishna Hill	83.78	25	P		P	15 50 24.7	-1.9
KTH				IAmb		IAmb	15 50 25.5	
	comp=Z,10nm,1.1s							
BPAW	Bear Paw Mtn.	83.97	24	P		P	15 50 26.3	-1.1
I21K	Tanana	84.00	23	P		P	15 50 26.3	-1.1
TRF	Thorofare Moun	84.01	25	P		P	15 50 26.6	-1.2
TRF				IAmb		IAmb	15 50 47.2	
	comp=Z,6.8nm,1.3s							
SML	Sawmill	84.27	27	P		P	15 50 27.7	-1.4
SML				IAmb		IAmb	15 50 52.4	
	comp=Z,24nm,1.4s							
GLI	Glacier Island	84.53	28	P		P	15 50 29.0	-1.3
GLI				IAmb		IAmb	15 50 40.9	
	comp=Z,16nm,1.1s							
RND	Reindeer	84.60	25	P		P	15 50 28.7	-1.9
RND				IAmb		IAmb	15 50 29.4	
	comp=Z,7.1nm,0.8s							
MCK	McKinley	84.68	25	P		P	15 50 29.0	-2.0
MCK				IAmb		IAmb	15 50 29.9	
	comp=Z,7.5nm,0.8s							
SCM	Sheep Creek Mo	84.73	27	P		P	15 50 30.2	-1.1
DHY	Denali Highway	85.11	26	P		P	15 50 31.7	-1.7
DHY				IAmb		IAmb	15 50 32.9	
	comp=Z,6.7nm,0.7s							
H23K	Yukon River	85.18	23	P		P	15 50 32.7	-0.8
H23K				IAmb		IAmb	15 50 47.1	
	comp=Z,7.2nm,1.5s							
WRH	Wood River Hil	85.28	24	P		P	15 50 31.6	-2.4
WRH				IAmb		IAmb	15 50 32.6	
	comp=Z,3.8nm,0.7s							
M24K	Tolsona, Glenn	85.33	27	P		P	15 50 33.2	-1.1
MDM	Murphy Dome	85.39	24	P		P	15 50 32.4	-2.1
MDM				IAmb		IAmb	15 50 47.6	
	comp=Z,7.1nm,1.4s							
CCB	Clear Creek Bu	85.46	24	P		P	15 50 32.6	-2.2
CCB				IAmb		IAmb	15 50 33.3	
	comp=Z,5.5nm,0.7s							
HMT	Hamilton	85.70	29	P		P	15 50 35.1	-1.0
HDA	Harding Lake	85.73	24	P		P	15 50 35.1	-1.0
HDA				IAmb		IAmb	15 50 38.5	
	comp=Z,7.3nm,1.4s							
H24K	Noodor Dome	85.83	23	P		P	15 50 34.8	-2.0
IL31		85.87	24	P		P	15 50 34.2	-2.6
IL31				IAmb		IAmb	15 50 35.0	
	comp=Z,4.7nm,0.8s							
ILAR	Eielson Array	85.87	24	P		P	15 50 34.1	-2.8
	comp=Z,3.7nm,0.7s,baz=257,slow=4.6,SNR=36							
ILAR				pP		pP	15 51 05.8	+0.6
	comp=Z,1.5nm,0.8s,baz=245,slow=5.0,SNR=3.6							
TOLK	Toolik Lake Re	86.20	20	P		P	15 50 37.9	-0.6
VRDI	Verde Repeater	86.32	28	P		P	15 50 38.1	-1.3
VRDI				IAmb		IAmb	15 50 45.0	
	comp=Z,14nm,1.5s							
RIDG	Independent Ri	86.40	25	P		P	15 50 38.3	-1.3
RIDG				IAmb		IAmb	15 50 39.1	
	comp=Z,6.9nm,1.0s							
WAX	Waxell Ridge	86.40	29	P		P	15 50 39.0	-0.7
J25K	Salcha River,	86.44	24	P		P	15 50 38.0	-1.8
ISLE	Juniper Island	86.69	29	P		P	15 50 39.9	-1.2
ISLE				IAmb		IAmb	15 50 58.0	
	comp=Z,11nm,1.3s							
SCRK	Sand Creek	86.83	25	P		P	15 50 40.2	-1.6
GRNC	Granite Creek	87.00	29	P		P	15 50 41.7	-1.1
GRNC				IAmb		IAmb	15 51 09.3	
	comp=Z,11nm,1.3s							
BARN	Barnard Glacie	87.12	28	P		P	15 50 42.5	-0.8
BARN				IAmb		IAmb	15 50 43.5	
	comp=Z,7.7nm,0.6s							
TABL	Table Mountain	87.22	29	P		P	15 50 42.5	-1.4
CTGM	Chitina Glacie	87.25	28	P		P	15 50 43.2	-0.7
CTGM				IAmb		IAmb	15 50 43.8	
	comp=Z,6.1nm,0.7s							
M27K	Edge Creek, AK	87.34	27	P		P	15 50 42.9	-1.4
M27K				IAmb		IAmb	15 50 44.5	
	comp=Z,5.1nm,0.8s							
LOGN	Logan Glacier	87.38	29	P		P	15 50 43.6	-0.9
LOGN				IAmb		IAmb	15 51 04.7	
	comp=Z,16nm,1.4s							
L27K	Beaver Creek,	87.53	26	P		P	15 50 44.3	-0.8
BCAR	Beaver Creek A	87.55	26	P		P	15 50 44.4	-0.8
BMAR	Burnt Mountain	87.58	22	P		P	15 50 44.7	-0.5
ABKAR	Akbulak array	87.86	320	P		P	15 50 45.4	-1.4
DAWV	Dawson	88.82	26			P	15 50 50.6	-0.5
DAWY				IAmb		IAmb	15 50 51.5	
	comp=Z,5.7nm,0.9s							
I29M	Ogilvie Camp,	89.53	24	P		P	15 50 53.2	-1.2
I29M				IAmb		IAmb	15 50 53.9	
	comp=Z,3.1nm,0.8s							
YKA	Yellowknife Ar	99.93	27	P		Pdif	15 51 40.3	-1.5
	comp=Z,0.2nm,0.6s,baz=278,slow=5.5,SNR=4.9							
PLCA	Paso Flores	126.37	150	PKP		PKPdf	15 56 59.5	-0.6
	comp=Z,2

TRF	**Thorofare Moun**	**15.70**	**38**	P	P	15 46 59.9	-0.4
TRF				IAmb	IAmb	15 47 15.2	
	comp=Z,7.4nm,1.4s						
BPAW	**Bear Paw Mtn.**	**15.82**	**36**	P	P	15 47 02.1	+0.6
FID	**Port Fidalgo**	**16.14**	**50**	P	P	15 47 04.3	-0.7
SCM	**Sheep Creek Mo**	**16.14**	**46**	P	Pn	15 47 05.9	-0.7
I21K	**Tanana**	**16.16**	**32**	P	P	15 47 03.6	-1.6
IMAR	**Indian Mountai**	**16.19**	**28**	P	P	15 47 04.9	-0.6
RND	**Reindeer**	**16.23**	**40**	P	P	15 47 05.3	-0.7
H21K	**Melozitna Rive**	**16.23**	**29**	P	P	15 47 05.5	-0.4
H21K				IAmb	IAmb	15 47 33.6	
	comp=Z,6.1nm,1.4s						
KLU	**Klutina**	**16.64**	**48**	P	P	15 47 10.8	+0.3
KLU				IAmb	IAmb	15 47 35.1	
	comp=Z,9.3nm,1.3s						
DHY	**Denali Highway**	**16.65**	**42**	P	P	15 47 10.2	-0.5
DHY				IAmb	IAmb	15 47 28.8	
	comp=Z,10nm,1.5s						
NEA2	**Nenana**	**16.79**	**36**	P	P	15 47 11.8	-0.2
I23K	**Minto, Yukon-K**	**17.01**	**34**	P	P	15 47 14.5	+0.1
I23K				IAmb	IAmb	15 47 23.5	
	comp=Z,4.0nm,1.3s						
WRH	**Wood River Hil**	**17.07**	**37**	P	P	15 47 14.1	-1.0
WRH				IAmb	IAmb	15 47 18.8	
	comp=Z,4.6nm,1.3s						
BMRM	**Bremner River**	**17.08**	**50**	P	P	15 47 15.7	+0.4
CCB	**Clear Creek Bu**	**17.27**	**37**	P	P	15 47 16.0	-1.2
N25K	**Chitina, Valde**	**17.27**	**48**		Pn	15 47 19.2	-0.6
N25K				IAmb	IAmb	15 47 30.9	
	comp=Z,6.8nm,1.1s						
H23K	**Yukon River**	**17.36**	**32**		Pn	15 47 20.6	-0.1
HDA	**Harding Lake**	**17.46**	**38**	P	P	15 47 19.6	+0.3
HDA				IAmb	IAmb	15 47 20.4	
	comp=Z,3.7nm,0.5s						
GLB	**Gilahina Butte**	**17.58**	**49**		Pn	15 47 23.3	-0.2
IL31		**17.67**	**37**	P	P	15 47 21.4	-0.2
IL31				IAmb	IAmb	15 47 43.9	
	comp=Z,5.1nm,1.2s						
ILAR	**Eielson Array**	**17.67**	**37**	P	P	15 47 22.2	+0.6
H24K	**Noodor Dome**	**17.91**	**33**	P	P	15 47 24.6	+0.3
H24K				IAmb	IAmb	15 47 36.0	
	comp=Z,4.1nm,1.4s						
RIDG	**Independent Ri**	**17.97**	**41**	P	P	15 47 24.2	-0.7
RIDG				IAmb	IAmb	15 47 26.1	
	comp=Z,3.2nm,0.6s						
J25K	**Salcha River,**	**18.16**	**39**	P	P	15 47 26.0	-0.9
J25K				IAmb	IAmb	15 47 27.7	
	comp=Z,3.1nm,0.6s						
SCRK	**Sand Creek**	**18.41**	**41**	P	P	15 47 29.3	-0.4
BILL	**Bilibino**	**18.54**	**334**	P	P	15 47 29.2	-1.8
L27K	**Beaver Creek,**	**18.97**	**45**	P	P	15 47 36.1	+0.5
L27K				IAmb	IAmb	15 47 42.4	
	comp=Z,3.6nm,1.4s						
BCAR	**Beaver Creek A**	**18.99**	**45**	P	P	15 47 36.0	+0.2
TOLK	**Toolik Lake Re**	**19.23**	**25**	P	P	15 47 37.7	-0.6
TOLK				IAmb	IAmb	15 48 02.8	
	comp=Z,2.5nm,0.8s						
EGAK	**Eagle**	**19.86**	**40**	P	P	15 47 45.2	+0.2
EGAK				IAmb	IAmb	15 48 05.2	
	comp=Z,7.0nm,1.5s						
DAWY	**Dawson**	**20.33**	**43**	P	P	15 47 49.9	-0.2
DAWY				IAmb	IAmb	15 47 51.9	
	comp=Z,4.4nm,1.4s						
DLBC	**Dease Lake**	**24.17**	**59**	P	P	15 48 26.0	-0.2
DLBC				IAmb	IAmb	15 48 50.0	
	comp=Z,4.1nm,1.2s						

IDC 11 16:14:20.7±5.6, 15°32S×178°03W, h419km±48km, mb2.7/3, mb1 3.0/4, mb1mx2.8/28, mbtmp3.6/4, Error ellipse: s-maj=364.9km s-min=36.9km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.46**	**237**	P	P	16 15 38.5	+0.2
	3.1nm,0.3s,baz=222,slow=23,SNR=11						
WRA	**Warramunga Arr**	**45.51**	**257**	P	P	16 22 00.5	-0.7
	0.2nm,0.9s,baz=95,slow=6.7,SNR=1.3						
ASAR	**Alice Springs**	**45.89**	**252**	P	P	16 22 04.2	+0.1
	0.8nm,0.5s,baz=83,slow=8.4,SNR=20						
ILAR	**Eielson Array**	**83.29**	**13**	P	P	16 26 01.5	0.0
	0.2nm,0.5s,baz=216,slow=4.5,SNR=2.3						

NOU 11 16:17:22.0, 15°29S×169°32E, h310km, mb3.7/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.05**	**265**	P	Pn	16 18 10.5	+0.5
RTV	**Rentapao**	**2.63**	**199**	P	Pn	16 18 15.7	+0.7
DVP	**Devils Point**	**2.65**	**204**	P	Pn	16 18 15.0	-0.2
MARNC	**Mare, Loyalty**	**6.28**	**191**	P	Pn	16 18 54.2	-0.7
DZM	**Mont Dzumac**	**7.27**	**202**	P	Pn	16 19 06.9	0.0
NOUC	**Port Laguerre**	**7.35**	**202**	P	Pn	16 19 07.6	-0.2
OUENC	**Ouen Island, N**	**7.47**	**198**	P	Pn	16 19 09.4	+0.2
ONTNC	**Ouen Toro**	**7.49**	**201**	P	Pn	16 19 09.5	+0.1

*MDD **11** 16:21:14.8±2.2, 35°.36N×3°.79W, h59km±64km, Mb3.1/4, M_mb2.2/4, Error ellipse: s-maj=13.4km s-min=11.9km az=149.0*
*CNRM **11** 16:21:16.0, 35°.46N×3°.73W, h22km, ml1.7*
ISC 11 16:21:14.6±1.1, 35°.54N±0°.03×3°.75W±0°.03, h17km±11km, n12, σ1°89/19, 4C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.36**	**206**	P	**Pg**	**16 21 22.2**	**+0.1**
PALE				S	**Sg**	**16 21 27.6**	**+0.3**
EMEL	**Melilla**	**0.69**	**110**	Pg	**Pg**	**16 21 28.8**	**+0.6**
EMEL				⇑*i*Vmb_V		16 21 29.2	
	7µm,SNR=4.0						
EMEL				Sg	**Sg**	**16 21 38.7**	**+1.3**
GOG	**Mont Gurugu**	**0.69**	**117**	P	**Pg**	**16 21 28.8**	**+0.5**
GOG				S	**Sg**	**16 21 38.4**	**+0.9**
EALB	**Alboran**	**0.70**	**55**	Pg	**Pg**	**16 21 28.8**	**+0.3**
EALB				⇑*i*Vmb_V		16 21 30.7	
	939nm,SNR=4.9						
EALB				Sg	**Sg**	**16 21 40.7**	**+2.9**
TAF	**Taforalt**	**1.31**	**123**	P	**Pg**	**16 21 37.9**	**-2.1**
TAF				S	**Sg**	**16 21 54.6**	**-2.5**
EMIJ	**Mijas**	**1.31**	**321**	Pg	Pg	16 21 37.5	-2.5
EMIJ				⇑*i*Vmb_V		16 21 42.3	
	116nm,SNR=1.2						
EMIJ				Sg	**Sg**	**16 21 55.0**	**-2.1**
ELGU	**Los Guajares,**	**1.33**	**4**	Pg	**Pg**	**16 21 39.1**	**-1.1**
ELGU				⇑*i*Vmb_V		16 21 40.2	
	116nm,SNR=1.8						
ELGU				Sg	**Sg**	**16 21 56.7**	**-0.9**
SMIR	**Smir Dam**	**1.34**	**276**	P	**Pg**	**16 21 40.0**	**-0.4**
SMIR				S	**Sg**	**16 21 58.9**	**+1.0**
EBER	**Berja**	**1.52**	**27**	Sg	**Sg**	**16 22 01.5**	**-2.3**
JBK	**JBK**	**1.55**	**141**	P	Pn	16 21 41.1	-0.4
JBK				S	**Sg**	**16 22 00.5**	**-4.0**
EGOR	**Sierra Gorda,**	**1.59**	**350**	Sg	**Sn**	**16 22 03.3**	**+1.0**
MD31	**MD31**	**2.80**	**198**	P	**Pn**	**16 21 59.5**	**+0.9**

*IDC **11** 16:28:36.8±1.6, 8°.77S×130°.42E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.3/35, mbtmp3.6/6, ML3.5/3, Error ellipse: s-maj=64.5km s-min=25.2km az=80.0*
ISC 11 16:28:41.4±1.4, 8°93S±0°.10×130°.6E±0°.1, h35km, n6, σ1°90/9, mb3.5/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.30**	**207**	Pn	**Pn**	**16 31 08.9**	**+2.2**
	0.5nm,0.3s,baz=28,slow=13,SNR=40						
FITZ				Sn	**Sn**	**16 32 59.5**	**-1.5**
	0.9nm,0.3s,baz=167,slow=21,SNR=11						
WRA	**Warramunga Arr**	**11.53**	**162**	Pn	**Pn**	**16 31 24.9**	**+1.3**
	0.2nm,0.3s,baz=338,slow=13,SNR=12						
WRA				Sn	**Sn**	**16 33 31.5**	**+0.3**
	0.7nm,0.3s,baz=334,slow=22,SNR=9.5						
ASAR	**Alice Springs**	**14.99**	**168**	Pn	**Pn**	**16 32 11.3**	**+0.5**
	0.2nm,0.3s,baz=349,slow=9.4,SNR=9.5						
ASAR				Sn	**Sn**	**16 34 52.8**	**-3.0**
	0.1nm,0.3s,baz=351,slow=27,SNR=2.6						
MKAR	**Makanchi Array**	**70.15**	**327**	P	**P**	**16 39 50.8**	**+0.3**
	0.4nm,0.5s,baz=133,slow=7.2,SNR=11						
ZALV	**Zalesovo Beam**	**73.56**	**334**	P	**P**	**16 40 08.9**	**-1.8**
	0.2nm,0.3s,baz=140,slow=9.1,SNR=2.0						
KURBB	**Kurchatov Arra**	**74.45**	**329**	P	**P**	**16 40 15.6**	**-0.4**
	0.2nm,0.6s,baz=116,slow=5.3,SNR=4.1						

IDC 11 17:08:28.4±1.6, 6°.86S×150°.06E, h79km±20km, mb2.9/3, mb1 3.1/5, mb1mx2.8/33, mbtmp3.3/5, Error ellipse: s-maj=78.4km s-min=9.2km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.20**	**38**	P	Pn	17 09 15.6	-0.9
	0.7nm,0.3s,baz=200,slow=22,SNR=1.6						
KRVT				S	Sn	17 09 54.5	+0.8
	1.8nm,0.3s,baz=208,slow=22,SNR=6.2						
PMG	**Port Moresby**	**3.83**	**228**	P	Pn	17 09 24.9	-0.1
	0.7nm,0.3s,baz=91,slow=20,SNR=2.2						
PMG				S	Sn	17 10 09.1	+0.3
	1.8nm,0.3s,baz=205,slow=21,SNR=5.9						
WRA	**Warramunga Arr**	**20.05**	**228**	P	Pn	17 12 57.3	-0.5
	0.7nm,0.5s,baz=55,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**22.81**	**221**	P	P	17 13 24.5	-0.4
	0.2nm,0.3s,baz=56,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**80.09**	**320**	P	P	17 20 29.1	-0.7
	0.2nm,0.8s,baz=106,slow=3.7,SNR=2.1						

*IDC **11** 17:11:41.4±1.2, 21°.57S×68°.13W, h114km±13km, mb3.6/4, mb1 3.8/7, mb1mx3.6/29, mbtmp3.9/7, Error ellipse: s-maj=26.3km s-min=19.6km az=153.0*
*NEIC **11** 17:11:42.1±1.2, 21°.58S±0°.05×68°.4W±0°.1, h118km±7km, Error ellipse: s-maj=15.9km s-min=7.0km az=90.0*
*GUC **11** 17:11:42.3±0.7, 21°.58S×68°.37W, h126km±4km, ML4.0*
ISC 11 17:11:41.5±0.7, 21°.58S±0°.03×68°.34W±0°.07, h125km±6km, n59, σ1°97/81, mb3.7/4, 13C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.87**	**256**		**Pn**	**17 12 02.9**	**-0.1**
PB09				S	**Sn**	**17 12 19.7**	**+0.6**
PB09	**IPOC Station P**	**0.87**	**256**	⇑*i*P	**Pn**	**17 12 03.6**	**+0.7**
PB09				*i* S	**Sn**	**17 12 20.0**	**+0.9**
LVC	**Limon Verde**	**1.15**	**207**	P	**Pn**	**17 12 06.6**	**+0.7**
	169nm,0.3s,baz=48,slow=8.3,SNR=1324						
LVC				S	**Sn**	**17 12 24.6**	**+0.3**
	68nm,0.3s,baz=108,slow=20,SNR=73						
LVC	**Limon Verde**	**1.15**	**207**		**Pn**	**17 12 06.2**	**+0.3**
LVC	**Limon Verde**	**1.15**	**207**	*e*P	**Pn**	**17 12 06.1**	**+0.3**
LVC				*i* S	**Sn**	**17 12 24.9**	**+0.6**
PB01	**IPOC Station P**	**1.20**	**296**		**Pn**	**17 12 05.4**	**-0.7**
PB01				S	**Sn**	**17 12 23.5**	**-1.2**
PB01	**IPOC Station P**	**1.20**	**296**	⇑*i*P	**Pn**	**17 12 06.1**	**0.0**
PB01				*i* S	**Sn**	**17 12 24.2**	**-0.4**
PB01				IAML		17 12 26.7	
	comp=E,2µm,0.6s						
PB07	**IPOC Station P**	**1.45**	**264**		**Pn**	**17 12 08.2**	**-0.6**
PB07				S	**Sn**	**17 12 29.2**	**-0.5**
PB07	**IPOC Station P**	**1.45**	**264**	⇑*i*P	**Pn**	**17 12 08.8**	**0.0**
PB07				*i* S	**Sn**	**17 12 29.0**	**-0.7**
PB07				IAML		17 12 31.0	
	comp=E,1µm,0.2s						
PB02	**IPOC Station P**	**1.48**	**280**		**Pn**	**17 12 08.8**	**-0.3**
PB02	**IPOC Station P**	**1.48**	**280**	*i*P	**Pn**	**17 12 08.9**	**-0.2**
PB02				*i* S	**Sn**	**17 12 29.5**	**-0.6**
PB02				IAML		17 12 32.1	
	comp=E,2µm,0.5s						
PB06	**IPOC Station P**	**1.60**	**226**		**Pn**	**17 12 10.7**	**+0.1**
PB06				S	**Sn**	**17 12 32.7**	**-0.1**
PB06	**IPOC Station P**	**1.60**	**226**	⇑*i*P	**Pn**	**17 12 11.0**	**+0.4**
PB06				*i* S	**Sn**	**17 12 33.0**	**+0.3**
PB06				IAML		17 12 34.1	
	comp=E,953nm,0.4s						
PB08	**IPOC Station P**	**1.63**	**332**		**Pn**	**17 12 11.4**	**+0.3**
PB08				S	**Sn**	**17 12 33.8**	**+0.2**
PB08	**IPOC Station P**	**1.63**	**332**	⇑*i*P	**Pn**	**17 12 12.1**	**+1.0**
PB08				*i* S	**Sn**	**17 12 34.4**	**+0.7**
PB08				IAML		17 12 37.1	
	comp=E,985nm,0.3s						
PB04	**IPOC Station P**	**1.84**	**246**		**Pn**	**17 12 13.2**	**-0.3**
PB04	**IPOC Station P**	**1.84**	**246**	⇑*i*P	**Pn**	**17 12 13.2**	**-0.3**
PB04				*i* S	**Sn**	**17 12 37.3**	**-0.6**
PB04				IAML		17 12 46.5	
	comp=E,1µm,0.2s						
PATCX	**Punta Patache**	**1.86**	**294**		**Pn**	**17 12 13.2**	**-0.4**
PATCX				S	**Sn**	**17 12 37.2**	**-0.8**
PATCX	**Punta Patache**	**1.86**	**294**	⇑*i*P	**Pn**	**17 12 13.6**	**0.0**
PATCX				*i* S	**Sn**	**17 12 37.5**	**-0.6**
PATCX				IAML		17 12 38.9	
	comp=N,3µm,0.4s						
PB15	**IPOC Station P**	**1.93**	**213**		**Pn**	**17 12 14.8**	**+0.3**
PB15	**IPOC Station P**	**1.93**	**213**	⇑*i*P	**Pn**	**17 12 15.2**	**+0.6**
PB15				*i* S	**Sn**	**17 12 40.7**	**+0.8**
PB15				IAML		17 12 47.5	
	comp=E,3µm,0.2s						
HMBC	**Humberstone**	**1.95**	**312**	⇑*i*P	**Pn**	**17 12 14.4**	**-0.3**
HMBC				*i* S	**Sn**	**17 12 39.1**	**-0.9**
HMBC				IAML		17 12 42.1	
	comp=N,2µm,0.3s						
TA01	**Diego Aracena**	**2.00**	**300**		**Pn**	**17 12 14.7**	**-0.4**
TA01	**Diego Aracena**	**2.00**	**300**	⇑*i*P	**Pn**	**17 12 14.8**	**-0.4**
TA01				*i* S	**Sn**	**17 12 39.8**	**-1.2**
TA01				IAML		17 12 41.3	
	comp=E,2µm,0.2s						
GO01	**Chusmiza**	**2.07**	**337**		**Pn**	**17 12 16.9**	**+0.3**
GO01	**Chusmiza**	**2.07**	**337**	⇑*i*P	**Pn**	**17 12 17.1**	**+0.5**
GO01				*i* S	**Sn**	**17 12 45.2**	**+1.9**
GO01				IAML		17 12 48.4	
	comp=N,3µm,0.1s						
TA02	**Huaiquique**	**2.13**	**308**		**Pn**	**17 12 16.1**	**-0.7**
TA02	**Huaiquique**	**2.13**	**308**	*e*P	**Pn**	**17 12 16.1**	**-0.7**
TA02				*i* S	**Sn**	**17 12 42.3**	**-1.5**
PB11	**IPOC Station P**	**2.19**	**325**		**Pn**	**17 12 17.3**	**-0.5**
PB11	**IPOC Station P**	**2.19**	**325**	⇑*i*P	**Pn**	**17 12 17.5**	**-0.3**
PB11				*i* S	**Sn**	**17 12 45.0**	**-0.6**
PB11				IAML		17 12 46.9	
	comp=E,2µm,0.1s						
PB10	**IPOC Station P**	**2.81**	**226**	Pn	**Pn**	**17 12 24.9**	**-0.6**
PB10	**IPOC Station P**	**2.81**	**226**	*e*P	**Pn**	**17 12 25.5**	**0.0**
PB10				*i* S	**Sn**	**17 12 58.8**	**-0.6**
PB10				IAML		17 13 10.1	
	comp=E,152nm,0.3s						
PB16	**IPOC Station P**	**3.41**	**341**		**Pn**	**17 12 34.3**	**+0.4**
PB16	**IPOC Station P**	**3.41**	**341**	*e*P	**Pn**	**17 12 34.4**	**+0.4**
PB16				IAML		17 13 20.6	
	comp=N,100nm,0.4s						
PB12	**IPOC Station P**	**3.50**	**327**	Pn	**Pn**	**17 12 32.6**	**-2.0**
PB12	**IPOC Station P**	**3.50**	**327**	*e*P	**Pn**	**17 12 32.7**	**-1.9**
PB14	**IPOC Station P**	**3.58**	**212**	Pn	**Pn**	**17 12 34.6**	**-1.3**
GO02	**Mina Guanaco**	**3.75**	**198**	Pn	**Pn**	**17 12 37.4**	**-0.7**
GO02	**Mina Guanaco**	**3.75**	**198**	*e*P	**Pn**	**17 12 38.2**	**+0.1**
AC01	**Pan de Azucar**	**5.00**	**204**		**Pn**	**17 12 52.5**	**-2.0**
AC02	**Maricunga**	**5.28**	**188**	Pn	**Pn**	**17 12 58.5**	**-0.2**
AC06	**Mina Casimiro**	**6.04**	**197**	Pn	**Pn**	**17 13 07.4**	**-1.1**
AC04	**Llanos de Chal**	**7.05**	**200**	Pn	**Pn**	**17 13 18.0**	**-4.1**
SIV	**San Ignacio**	**8.84**	**52**	P	**Pn**	**17 13 43.7**	**-2.8**
	comp=N,3.1nm,0.3s,baz=236,slow=14,SNR=7.4						
CPUP	**Villa Florida**	**11.12**	**117**	P	**Pn**	**17 14 14.4**	**-2.5**
	comp=N,0.2nm,0.3s,baz=319,slow=12,SNR=5.0						
CPUP	**Villa Florida**	**11.12**	**117**	Pn	**Pn**	**17 14 15.3**	**-1.6**
AQDB	**Aquidauana**	**11.85**	**87**	Pn	**Pn**	**17 14 25.0**	**-1.7**
PLCA	**Paso Flores**	**19.18**	**185**	P	**P**	**17 15 57.3**	**+1.8**
	comp=N,0.1nm,0.3s,baz=353,slow=11,SNR=3.5						
PLCA	**Paso Flores**	**19.18**	**185**	IAmb	IAmb	17 16 47.1	
	comp=Z,10nm,1.4s						
TXAR	**Lajitas Array**	**61.00**	**325**	P	**P**	**17 21 43.1**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=153,slow=8.1,SNR=2.3						
TXAR	**Lajitas Array**	**61.00**	**325**	P	**P**	**17 21 41.9**	**-0.2**
NVAR	**Mina Array Bea**	**75.89**	**322**	P	**P**	**17 23 16.9**	**+2.3**
	comp=Z,0.3nm,0.4s,baz=158,slow=6.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**76.88**	**70**	P	**P**	**17 23 20.4**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=252,slow=5.7,SNR=21						
TORD	**Torodi Ar. Bea**	**76.88**	**70**	P	**P**	**17 23 19.9**	**-0.5**
TORD				IAmb	IAmb	17 23 21.0	
	comp=Z,2.4nm,0.8s						
YKA	**Yellowknife Ar**	**91.44**	**340**	P	**P**	**17 24 34.2**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=134,slow=4.5,SNR=25						
ASAR	**Alice Springs**	**130.09**	**207**	PKP	**PKPdf**	**17 30 37.6**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=152,slow=4.1,SNR=1.6						
WRA	**Warramunga Arr**	**133.15**	**210**	PKP	**PKPdf**	**17 30 42.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=161,slow=1.7,SNR=5.1						
MKAR	**Makanchi Array**	**145.38**	**36**	PKPbc	**PKPdf**	**17 31 05.8**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=336,slow=2.9,SNR=14						
PZH	**PanZhiHua**	**169.69**	**60**	PKP	**PKPdf**	**17 31 33.8**	**-1.2**

*DJA **11** 17:18:00.3±0.5, 3°.5S×12°.9E±°, h11km±6km, M3.1/6, MLv3.1/6*
*IDC **11** 17:18:06.2±5.8, 3°.10S×129°.31E, h80km±72km, mb3.0/2, mb1 3.3/5, mb1mx3.1/36, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=97.8km s-min=22.8km az=87.0*
ISC 11 17:18:02.0±0.8, 3°.12S±0°.05×128°.93E±0°.06, h33km, n10, σ0°75/15, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.23**	**181**	P	**Pn**	**17 18 08.4**	**-0.4**
MSAI				S	**Sb**	**17 18 14.0**	**+0.4**
AAI	**Ambon**	**0.93**	**233**	P	**Pb**	**17 18 19.8**	**+0.1**
AAI				S	**Sb**	**17 18 33.5**	**+1.7**
LBMI	**Labuha**	**2.85**	**330**	P	**Pn**	**17 18 44.7**	**-0.5**
LBMI				S	**Sn**	**17 19 17.5**	**-0.9**
SANI	**Sanana**	**3.13**	**290**	P	**Pn**	**17 18 49.1**	**0.0**
SIJI	**Sorong**	**3.23**	**46**	P	**Pn**	**17 18 51.0**	**+0.6**
	6.7nm,0.3s,baz=221,slow=19,SNR=23						
SIJI				S	**Sn**	**17 19 28.1**	**+0.2**
	3.9nm,0.3s,baz=253,slow=19,SNR=9.9						
SWI	**Sorong**	**3.23**	**46**	P	**Pn**	**17 18 51.0**	**+0.5**
SWI				S	**Sn**	**17 19 27.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**15.23**	**192**	P	**P**	**17 21 39.6**	**+0.2**
	0.1nm,0.3s,baz=14,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**17.54**	**163**	P	**P**	**17 22 04.1**	**-0.9**
	0.1nm,0.3s,baz=332,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**20.99**	**167**	P	**P**	**17 22 42.3**	**-0.4**
	1.5nm,0.7s,baz=351,slow=12,SNR=26						
MKAR	**Makanchi Array**	**64.42**	**326**	P	**P**	**17 28 35.3**	**+0.2**
	0.2nm,0.7s,baz=142,slow=4.9,SNR=2.3						

*IDC **11** 17:24:09.7±3.1, 1°.85S×97°.61E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/40, mbtmp3.6/7, Error ellipse: s-maj=122.9km s-min=19.6km az=58.0*
ISC 11 17:24:15.0±3.2, 1°.8S±0°.4×97°.7E±0°.7, h35km, n8, σ0°68/8, mb3.6/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.18**	**3**	P	**P**	**17 28 47.0**	**+0.4**
	0.8nm,0.8s,baz=192,slow=10,SNR=6.9						
FITZ	**Fitzroy Crossi**	**31.83**	**122**	P	**P**	**17 30 36.9**	**+0.1**
	0.9nm,0.7s,baz=315,slow=7.1,SNR=1.6						
WRA	**Warramunga Arr**	**40.08**	**119**	P	**P**	**17 31 46.4**	**-1.1**
	0.5nm,1.1s,baz=292,slow=9.8,SNR=3.4						
ASAR	**Alice Springs**	**41.23**	**125**	P	**P**	**17 31 57.8**	**+0.8**
	0.7nm,0.6s,baz=294,slow=8.1,SNR=13						
SONM	**Songino Array**	**50.02**	**8**	P	**P**	**17 33 06.2**	**+0.1**
	0.3nm,0.8s,baz=188,slow=7.0,SNR=2.1						
MKAR	**Makanchi Array**	**50.26**	**346**	P	**P**	**17 33 07.4**	**-0.5**
	0.6nm,0.6s,baz=149,slow=8.5,SNR=7.2						
ZALV	**Zalesovo Beam**	**56.59**	**351**	P	**P**	**17 33 54.0**	**-0.1**
	0.9nm,0.6s,baz=168,slow=7.4,SNR=5.3						
TXAR	**Lajitas Array**	**145.89**	**35**	PKPbc	**PKPab**	**17 43 52.4**	**+0.3**
	0.3nm,0.5s,baz=234,slow=2.1,SNR=6.7						

IDC 11 17:32:41.1±2.1, 2°.15S×128°.83E, h0km, mb2.9/2, mb1 3.4/4, mb1mx3.1/34, mbtmp3.2/4, ML3.2/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/37, Error ellipse: s-maj=55.2km s-min=27.1km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.16**	**191**	Pn	Pn	17 36 29.5	-0.4
	0.0nm,0.3s,baz=13,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**18.49**	**163**	P	Pn	17 36 59.6	+0.6
	0.1nm,0.3s,baz=339,slow=11,SNR=6.5						
LEM	**Lembang**	**21.65**	**257**	P	P	17 37 35.1	+1.5
	11nm,0.4s,baz=90,slow=12,SNR=2.1						
ASAR	**Alice Springs**	**21.95**	**167**	P	P	17 37 34.9	-1.7
	0.1nm,0.3s,baz=342,slow=8.8,SNR=4.1						
KSRS	**Korea Array**	**39.41**	**359**	LR	LR	17 56 56.9	
	comp=Z,11nm,19.1s,baz=190,slow=37						
MKAR	**Makanchi Array**	**63.56**	**326**	P	P	17 43 13.6	0.0
	0.1nm,0.6s,baz=131,slow=6.6,SNR=2.3						

*EAF **11** 17:40:01.8±8.5, 11°.58N×42°.92E, h0km±54km*
AAE 11 17:40:04.0±10.0, 11°.56N×42°.89E, h0km±71km, ML3.4, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**0.05**	**237**	*e*P	Pg	17 39 57.9	-7.1
ATD				*i* Sg	Sg	17 40 02.6	-3.1
ATD	**Arta Tunnel**	**0.05**	**237**	*e*P	Pg	17 39 57.6	-7.4
ATD				*i* Sg	Sg	17 40 02.5	-3.2
ATD	**Arta T

baz=308,SNR=27
HHAR Hobbs 3.65 92 Pn 18 09 18.2 +0.5
HHAR IAmb_Lg 18 10 22.6
comp=Z,49nm,0.7s
ABTX Abilene, Hawle 3.97 195 Pn 18 09 21.7 -0.5
ABTX Abilene, Hawle 3.97 195 P Pn 18 09 22.5 +0.3
baz=14,SNR=9.8
W39A Magazine 4.00 107 Pn 18 09 23.7 +1.1
W39A Magazine 4.00 107 P Pn 18 09 24.0 +1.3
baz=290,SNR=30
KSCO Kaye Shedlock' 4.16 309 Pn 18 09 25.6 +0.5
KSCO IAmb_Lg 18 10 30.5
comp=Z,38nm,0.8s
S39A Bolivar 4.28 72 Pn 18 09 26.8 +0.4
S39A IAmb_Lg 18 10 39.0
comp=Z,42nm,0.9s
Z38A Mt. Pleasant 4.29 137 Pn Pn 18 09 26.2 -0.4
Z38A IAmb_Lg 18 10 44.2
comp=Z,45nm,0.8s
MIAR Mount Ida 4.42 114 IAmb_Lg 18 10 47.7
comp=Z,39nm,0.8s
U40A Yellville 4.52 90 Pn 18 09 30.4 +0.6
WHTX Lake Whitney, 4.55 169 Pn Pn 18 09 30.6 +0.4
WHTX Lake Whitney, 4.55 169 P Pn 18 09 30.7 +0.4
baz=350,SNR=19
T25A Trinidad 4.83 280 Pn 18 09 34.5 +0.3
N35A Tabor 4.90 26 IAmb_Lg 18 11 07.0
comp=Z,64nm,0.8s
BGNE Belgrade 4.93 3 IAmb_Lg 18 10 58.4
comp=Z,64nm,0.8s
P38A Dawn 5.00 50 IAmb_Lg 18 11 10.2
comp=Z,31nm,0.9s
X40A Basin Creek Fa 5.00 112 Pn Pn 18 09 38.0 +1.8
MGMO Mountain Grove 5.01 80 Pn 18 09 36.7 +0.2
WHAR Wooly Hollow 5.14 101 IAmb_Lg 18 11 08.7
comp=Z,56nm,0.8s
FCAR Ozark Folk Cen 5.15 95 IAmb_Lg 18 11 05.9
comp=Z,46nm,0.8s
W41B Gary Mavity, V 5.21 103 IAmb_Lg 18 11 07.1
comp=Z,35nm,0.8s
R40A Maddies Statio 5.25 68 Pn Pn 18 09 40.2 +0.4
OGNE Ogallala 5.27 329 Pn 18 09 40.8 +0.7
OGNE IAmb_Lg 18 11 16.6
comp=Z,58nm,0.8s
Z41A Richland Creek 5.65 123 IAmb_Lg 18 11 37.4
comp=Z,35nm,0.8s
435B Jarrell 5.72 172 IAmb_Lg 18 11 25.6
comp=Z,34nm,0.7s
SDCO Great Sand Dun 5.77 285 Pn 18 09 46.4 -0.8
Q24A Divide 5.86 297 IAmb_Lg 18 11 36.5
comp=Z,44nm,0.9s
P40A Paris 5.90 57 IAmb_Lg 18 11 29.4
comp=Z,30nm,0.8s
N38A Joes South For 5.94 42 IAmb_Lg 18 11 37.4
comp=Z,51nm,0.9s
CCM Cathedral Cave 5.96 73 IAmb_Lg 18 11 31.9
comp=Z,42nm,0.9s
JCT Junction City 6.09 191 IAmb_Lg 18 11 39.4
comp=Z,23nm,0.7s
K31A O'Neill 6.14 358 IAmb_Lg 18 11 40.7
comp=Z,49nm,0.8s
PBMO Poplar Bluff 6.46 85 IAmb_Lg 18 11 55.6
comp=Z,39nm,0.8s
ISCO Idaho Springs 6.54 303 Pn 18 09 58.8 +0.9
ISCO IAmb_Lg 18 11 53.1
comp=Z,36nm,1.1s
FVM French Village 6.58 74 IAmb_Lg 18 11 47.1
comp=Z,34nm,0.9s
ANMO Albuquerque 6.69 259 Pn Pn 18 10 01.1 +1.4
comp=Z,0.2nm,0.3s,baz=80,slow=15,SNR=2.1
ANMO Pg **Pb 18 10 19.4 +1.6**
comp=Z,0.6nm,0.3s,baz=86,slow=13,SNR=4.0
ANMO Lg Lg 18 11 47.7
comp=Z,1.5nm,0.3s,baz=24,slow=12,SNR=9.6
143A Socs Landing, 6.92 121 IAmb_Lg 18 12 09.3
comp=Z,29nm,0.9s
BNM Barren Site 7.07 253 Pn Pn 18 10 02.9 -2.2
BNM LR 18 12 05.5
PHWY Pilot Hill 7.28 314 IAmb_Lg 18 12 22.7
comp=Z,18nm,0.8s
N23A Red Feather La 7.33 309 Pn Pn 18 10 05.0 -3.7
N23A IAmb_Lg 18 12 25.6
comp=Z,33nm,0.8s
ECSD EROS Data Cent 7.38 10 Pn Pn 18 10 06.6 -2.5
S44A Carbondale 7.45 78 IAmb_Lg 18 12 20.8
comp=Z,25nm,0.8s
SIUC Southern Illin 7.48 78 IAmb_Lg 18 12 19.7
comp=Z,26nm,0.7s
K38A Parkersburg 7.56 34 IAmb_Lg 18 12 31.3
comp=Z,30nm,0.8s
OXF Oxford 7.63 102 IAmb_Lg 18 12 38.3
comp=Z,21nm,0.7s
L40A Anamosa 7.91 43 IAmb_Lg 18 12 37.5
comp=Z,16nm,0.7s
TX32 Lajitas Array 8.36 213 Pn Pn 18 10 18.7 -3.9
TXAR Lajitas Array 8.36 213 Pn Pn 18 10 21.6 -1.1
comp=Z,0.3nm,0.3s,baz=34,slow=11,SNR=13
TXAR Lg Lg 18 12 40.0
comp=Z,0.8nm,0.3s,baz=32,slow=28,SNR=5.8
TXAR Lajitas Array 8.36 213 Pn 18 10 19.3 -3.3
I37A Lemond, Waseca 8.46 26 IAmb_Lg 18 12 47.0
comp=Z,18nm,1.0s
RWWY Rawlins 8.57 310 IAmb_Lg 18 12 55.3
comp=Z,31nm,1.3s
RSSD Black Hills 8.74 333 IAmb_Lg 18 13 09.4
comp=Z,20nm,1.1s
K22A Casper 8.76 317 IAmb_Lg 18 13 07.0
comp=Z,22nm,0.8s
L42A Oliver, Polo 8.77 48 IAmb_Lg 18 13 15.2
comp=Z,18nm,0.8s
JFWS Jewell Farm 9.01 42 IAmb_Lg 18 13 30.5
comp=Z,17nm,0.8s
PDAR Pinedale Array 10.62 310 Pn Pn 18 10 54.5 +0.9
comp=Z,0.1nm,0.3s,baz=121,slow=15,SNR=2.5
PDAR Lg Lg 18 13 53.6
comp=Z,0.4nm,0.3s,baz=120,slow=34,SNR=5.7
TKL Tuckaleechee C 11.91 90 Sn Sn 18 13 19.4 -4.7
comp=Z,0.2nm,0.3s,baz=278,slow=7.1,SNR=1.6
TKL Lg Lg 18 14 26.2
comp=Z,0.3nm,0.3s,baz=292,slow=19,SNR=1.7
YKA Yellowknife Ar 27.91 344 P P 18 14 13.7 +2.6
comp=Z,0.1nm,0.6s,baz=149,slow=8.8,SNR=2.2

NNC 11 18:10:06.7±9.5, 37.09N×70.39E, h0km, mb3.6, mpv3.3, 4C-1D, Error ellipse: s-maj=97.0km s-min=54.2km az=156.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.01**	**1**	P	Pn	18 11 37.9	+1.0
	0.8nm,0.3s,baz=186,slow=13,SNR=15						
KK31				⇑S	Sn	18 12 50.1	+3.8
	0.6nm,0.3s,baz=173,slow=17,SNR=5.8						
TKM2	**Tokmak 2**	**7.06**	**33**	⇓P	Pn	18 11 53.1	+1.6
	1.8nm,0.6s						
TKM2				⇑S	Sn	18 13 11.8	-0.7
	2.9nm,1.2s						
AB31	**Akbulak array**	**14.33**	**331**	⇑P	Pn	18 13 27.9	-2.9
	0.2nm,0.3s,baz=166,slow=11,SNR=14						
AKTO	**Aktyubinsk**	**16.03**	**330**	⇑P	Pn	18 13 51.3	-2.0
	2.0nm,0.9s						

*IDC **11** 18:24:34.5±0.8, 13.96N×145.37E, h116km±6km, mb3.5/13, mb1 3.8/14, mb1mx3.6/38, mbtmp4.0/14, Error ellipse: s-maj=28.1km s-min=12.4km az=93.0*
*NEIC **11** 18:24:35.9±1.5, 13.97N±0.04×145.2E±0.1, h122km±7km, mb4.5/35, Error ellipse: s-maj=15.1km s-min=5.9km az=84.0*

ISC 11 18:24:33.2±0.6, 14.06N±0.08×145.6E±0.1, h100km, n58, σ1§28/53, mb4.4/30, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.84**	**237**	P	Pn	**18 24 54.3**	**+2.3**
	1μm,0.3s,baz=167,slow=11,SNR=1285						
GUMO				S	Sn	**18 25 08.0**	**+1.9**
	2μm,0.3s,baz=115,slow=24,SNR=44						
GUMO				LR	LR	18 25 14.7	
	comp=Z,4μm,21.8s,baz=90,slow=65						
RABL	**Rabaul**	**19.26**	**160**		Pn	**18 28 53.2**	**+1.1**
RABL				IAmb	IAmb	18 28 54.2	
	comp=Z,15nm,0.7s						
JHJ	**Hachijo jima 2**	**19.70**	**345**	P	P	**18 28 54.6**	**0.0**
	comp=Z,21nm,0.3s,baz=83,slow=17,SNR=2.0						
H11S3	**WAKE ISLAND Hy 20.72**		**75**	T	T	18 51 23.2	
	baz=261,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy 20.73**		**75**	T	T	18 51 21.7	
	baz=261,slow=75,SNR=9.0						
H11S2	**WAKE ISLAND Hy 20.73**		**75**	T	T	18 51 24.0	
	baz=261,slow=75,SNR=9.0						
H11N1	**WAKE ISLAND Hy 21.13**		**72**	T	T	18 52 10.8	
	baz=258,slow=75						
H11N2	**WAKE ISLAND Hy 21.14**		**72**	T	T	18 52 25.0	
	baz=258						
H11N3	**WAKE ISLAND Hy 21.15**		**72**	T	T	18 52 26.4	
	baz=258,slow=75						
MJAR	**Matsushiro Arr**	**23.35**	**345**	P	**P**	**18 29 31.9**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=171,slow=11,SNR=4.1						
MAJO	**Matsushiro**	**23.35**	**345**	P	**P**	**18 29 32.8**	**0.0**
MJB9	**Matsu-Tunnel**	**23.35**	**345**	P	**P**	**18 29 32.8**	**-0.1**
PMG	**Port Moresby**	**23.36**	**176**	P	**P**	**18 29 30.8**	**-2.2**
	comp=Z,18nm,0.9s,baz=314,slow=2.1,SNR=4.0						
PMG	**Port Moresby**	**23.36**	**176**	P	**P**	**18 29 32.5**	**-0.5**
PMG				IAmb	IAmb	18 29 34.2	
	comp=Z,17nm,0.9s						
KSRS	**Korea Array**	**28.12**	**329**	P	**P**	**18 30 15.0**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=134,slow=10,SNR=2.4						
KSRS	**Korea Array**	**28.12**	**329**	P	**P**	**18 30 15.0**	**-0.7**
KNRA	**Kununurra**	**33.91**	**210**	P	**P**	**18 31 05.2**	**-1.6**
KNRA				IAmb	IAmb	18 31 11.8	
	comp=Z,8.0nm,1.1s						
CTAO	**Charters Tower**	**33.94**	**179**	P	**P**	**18 31 08.0**	**+1.0**
CTAO				IAmb	IAmb	18 31 18.0	
	comp=Z,20nm,1.4s						
WB0	**Warramunga Arr**	**35.37**	**198**	P	**P**	**18 31 18.0**	**-1.4**
WR0	**Warramunga Arr**	**35.51**	**198**	P	**P**	**18 31 19.0**	**-1.6**
WR0				IAmb	IAmb	18 31 19.8	
	comp=Z,4.1nm,1.1s						
WB2	**Warramunga Arr**	**35.55**	**198**	P	**P**	**18 31 19.4**	**-1.5**
WB2				IAmb	IAmb	18 31 36.7	
	comp=Z,7.0nm,1.2s						
WRA	**Warramunga Arr**	**35.55**	**198**	P	**P**	**18 31 19.2**	**-1.8**
	comp=Z,1.8nm,0.6s,baz=22,slow=9.9,SNR=19						
FITZ	**Fitzroy Crossi**	**37.52**	**212**	P	**P**	**18 31 35.8**	**-1.9**
FITZ				IAmb	IAmb	18 31 55.7	
	comp=Z,6.6nm,1.4s						
ASAR	**Alice Springs**	**39.19**	**197**	P	**P**	**18 31 50.4**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=20,slow=11,SNR=12						
PEA0B	**Petropavlovsk-**	**40.13**	**11**	P	**P**	**18 31 57.7**	**-1.4**
PEA0B				IAmb	IAmb	18 32 25.7	
	comp=Z,9.3nm,1.1s						
PETK	**Petropavlovsk-**	**40.13**	**11**	P	**P**	**18 32 00.8**	**+1.7**
	comp=Z,1.9nm,0.7s,baz=166,slow=6.7,SNR=4.6						
PETK	**Petropavlovsk-**	**40.13**	**11**	P	**P**	**18 31 57.2**	**-1.9**
STKA	**Stephens Creek**	**45.83**	**185**	P	**P**	**18 32 44.2**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=356,slow=5.9,SNR=3.5						
SONM	**Songino Array**	**46.76**	**324**	P	**P**	**18 32 52.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=136,slow=6.4,SNR=1.8						
MKAR	**Makanchi Array**	**61.65**	**316**	P	**P**	**18 34 39.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=93,slow=8.5,SNR=8.9						
O18K	**Koktuh Hills**	**62.67**	**29**	P	**P**	**18 34 49.0**	**+2.0**
KDAK	**Kodiak Island**	**63.30**	**32**	P	**P**	**18 34 53.0**	**+1.8**
P19K	**Oil Pt**	**63.55**	**30**	P	**P**	**18 34 54.2**	**+1.3**
CNPM	**China Poot**	**64.48**	**30**	P	**P**	**18 35 00.0**	**+1.0**
PPLA	**Purkeypile**	**65.06**	**27**	P	**P**	**18 35 04.2**	**+1.3**
PPLA				IAmb	IAmb	18 35 05.2	
	comp=Z,18nm,1.5s						
CAST	**Castle Rocks**	**65.27**	**26**	P	**P**	**18 35 05.1**	**+1.0**
CAST				IAmb	IAmb	18 35 06.8	
	comp=Z,2.9nm,0.8s						
KTH	**Kantishna Hill**	**65.81**	**26**	P	**P**	**18 35 08.6**	**+1.0**
KTH				IAmb	IAmb	18 35 11.5	
	comp=Z,8.7nm,1.4s						
PWL	**Port Wells**	**66.23**	**29**	P	**P**	**18 35 09.6**	**-0.7**
KNK	**Knik Glacier**	**66.31**	**29**	P	**P**	**18 35 11.4**	**+0.6**
KNK				IAmb	IAmb	18 35 25.6	
	comp=Z,11nm,1.3s						
RND	**Reindeer**	**66.66**	**27**	P	**P**	**18 35 13.3**	**+0.3**
RND				IAmb	IAmb	18 35 40.1	
	comp=Z,8.4nm,1.4s						
SCM	**Sheep Creek Mo**	**66.94**	**28**	P	**P**	**18 35 17.0**	**+2.2**
FID	**Port Fidalgo**	**67.09**	**30**	P	**P**	**18 35 17.0**	**+1.2**
ILAR	**Eielson Array**	**67.85**	**25**	P	**P**	**18 35 19.7**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=252,slow=5.8,SNR=9.4						
J25K	**Salcha River,**	**68.44**	**26**	P	**P**	**18 35 25.4**	**+1.2**
VRDI	**Verde Repeater**	**68.63**	**29**	P	**P**	**18 35 26.5**	**+0.9**
VRDI				IAmb	IAmb	18 35 30.3	
	comp=Z,11nm,1.4s						
GRNC	**Granite Creek**	**69.37**	**30**	P	**P**	**18 35 30.1**	**-0.2**
GRNC				IAmb	IAmb	18 35 42.3	
	comp=Z,16nm,1.4s						
BMAR	**Burnt Mountain**	**69.40**	**23**	P	**P**	**18 35 30.4**	**+0.2**
CTGM	**Chitina Glacie**	**69.61**	**30**	P	**P**	**18 35 32.8**	**+1.1**
CTGM				IAmb	IAmb	18 35 53.4	
	comp=Z,12nm,1.5s						
TABL	**Table Mountain**	**69.63**	**30**	P	**P**	**18 35 30.6**	**-1.2**
TABL				IAmb	IAmb	18 35 46.5	
	comp=Z,22nm,1.2s						
BCAR	**Beaver Creek A**	**69.70**	**28**	P	**P**	**18 35 32.7**	**+0.6**
LOGN	**Logan Glacier**	**69.75**	**30**	P	**P**	**18 35 32.6**	**+0.1**
LOGN				IAmb	IAmb	18 35 37.3	
	comp=Z,13nm,1.4s						
PCA	**Pinnacle**	**70.02**	**31**	P	**P**	**18 35 35.7**	**+1.7**
EPYK	**Eagle Plains**	**72.29**	**24**	P	**P**	**18 35 47.8**	**+0.2**
YKA	**Yellowknife Ar**	**82.12**	**28**	P	**P**	**18 36 42.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=285,slow=4.9,SNR=7.9						
PLID	**Pearl Lake**	**86.00**	**45**	P	**P**	**18 37 04.3**	**+1.4**
PLID				IAmb	IAmb	18 37 04.7	
	comp=Z,2.9nm,0.6s						
NVAR	**Mina Array Bea**	**86.08**	**52**	P	**P**	**18 37 05.0**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=263,slow=6.5,SNR=5.9						
PDAR	**Pinedale Array**	**91.14**	**45**	P	**P**	**18 37 28.1**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=204,slow=3.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**135.18**	**305**	PKP	**PKPdf**	**18 43 40.8**	**-1.2**
	comp=Z,0.7nm,1.2s,baz=103,slow=2.4,SNR=2.9						

*IDC **11** 18:36:45.6±4.5, 6.60N×72.77W, h169km±36km, mb3.1/2, mb1 3.5/3, mb1mx3.0/23, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/14, Error ellipse: s-maj=69.7km s-min=37.4km az=85.0*
*RSNC **11** 18:36:47.1±1.0, 6.82N×73.16W, h150km±3km, ML3.4, Mw3.7*

ISC 11 18:36:45.9±0.9, 6.83N±0.03×73.12W±0.03, h155km±6km, n40, σ1§62/74, 5C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**194**	⇓*i*P	Pn	**18 37 07.3**	**+0.1**
BARC				*e*S	Sn	**18 37 22.6**	**-0.9**
BARC				*i*		18 37 25.1	
	comp=Z,532nm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**40**	⇑*i*P	Pn	**18 37 10.2**	**+1.0**
PAMC				*e*S	Sn	**18 37 27.5**	**+0.5**
PAMC				*i*		18 37 30.4	
	comp=Z,418nm,0.3s						
RUSC	**La Rusia**	**0.94**	**178**	⇓*i*P	Pn	**18 37 11.2**	**0.0**
RUSC				*e*S	Sn	**18 37 30.0**	**-0.5**
RUSC				*i*		18 37 34.5	
	comp=Z,115nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*P	Pn	**18 37 13.8**	**-0.6**
PTBC				*e*S	Sn	**18 37 35.2**	**-1.0**
PTBC				*i*		18 37 40.2	
	comp=Z,248nm,0.4s						
TAMC	**Tame, Arauca**	**1.38**	**107**	⇑*i*P	Pn	**18 37 15.8**	**+1.1**
TAMC				*i*		18 37 36.6	
	comp=Z,238nm,0.4s						
TAMC				*e*S	Sn	**18 37 37.6**	**+0.9**
OCAC	**Ocana**	**1.41**	**352**	*e*P	Pn	**18 37 15.3**	**+0.2**
OCAC				*e*S	Sn	**18 37 38.1**	**+0.6**
OCAC				*i*		18 37 42.9	
	comp=Z,537nm,0.3s						
SPBC	**San Pablo de B**	**1.51**	**219**	*e*P	Pn	**18 37 16.2**	**+0.2**
SPBC				*e*S	Sn	**18 37 38.1**	**-1.0**
SPBC				*i*		18 37 44.3	
	comp=Z,475nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	Pn	**18 37 19.9**	**+0.3**
ZARC				*e*S	Sn	**18 37 45.2**	**-0.2**
ZARC				*i*		18 37 50.2	
	comp=Z,252nm,0.5s						
NORC	**Norcasia**	**2.15**	**234**	*e*P	Pn	**18 37 23.5**	**+0.4**
NORC				*e*S	Sn	**18 37 50.9**	**-0.8**
NORC				*i*		18 37 56.4	
	comp=Z,234nm,0.4s						
CHIC	**Chingaza**	**2.27**	**196**	*e*P	Pn	**18 37 25.2**	**+0.3**
CHIC				*e*S	Sn	**18 37 55.0**	**0.0**
CHIC				*i*		18 37 59.8	
	comp=Z,156nm,0.4s						
ROSC	**El Rosal**	**2.31**	**211**	P	Pn	**18 37 27.3**	**+1.9**
	comp=Z,61nm,0.3s,baz=70,slow=15,SNR=88						
ROSC				S	Sn	**18 37 57.7**	**+1.9**
	comp=Z,159nm,0.3s,baz=52,slow=20,SNR=15						
ROSC	**El Rosal**	**2.31**	**211**	⇓*e*P	Pn	**18 37 27.0**	**+1.6**
ROSC				*e*S	Sn	**18 37 57.6**	**+1.9**
ROSC				*i*		18 38 02.0	
	comp=Z,461nm,0.4s						
HELC	**Santa Helena**	**2.48**	**255**	*e*P	Pn	**18 37 27.7**	**+0.4**
HELC				*e*S	Sn	**18 38 01.1**	**+1.9**
HELC				*i*		18 38 05.8	
	comp=Z,174nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	Pn	**18 37 27.8**	**-0.2**
UREC				*e*S	Sn	**18 37 58.0**	**-2.5**
UREC				*i*		18 38 09.4	
	comp=Z,137nm,0.2s						
SOCV	**Socops**	**2.67**	**57**	⇑*i*P	Pn	**18 37 30.2**	**+0.8**
SOCV				*e*S	Sn	**18 38 02.3**	**-0.7**
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*e*P	Pn	**18 37 32.4**	**+2.3**
LL1C				*e*S	Sn	**18 38 08.2**	**+3.9**
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P	Pn	**18 37 31.5**	**+0.8**
GUY2C				*e*S	Sn	**18 38 07.8**	**+2.4**
GUY2C				*i*		18 38 13.7	
	comp=Z,196nm,0.7s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	Pn	**18 37 31.0**	**+0.3**
VILC				*e*S	Sn	**18 38 04.9**	**-0.4**
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇓*i*P	Pn	**18 37 30.5**	**-0.4**
PTGC				*e*S	Sn	**18 38 04.0**	**-1.8**
PTGC				*i*		18 38 09.5	
	comp=Z,104nm,0.2s						
LL6C	**La Loma 6 Bece**	**2.89**	**357**	*e*P	Pn	**18 37 33.0**	**+0.9**
LL6C				*e*S	Sn	**18 38 07.0**	**-0.8**
LL6C				*i*		18 38 21.1	
	comp=Z,58nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*e*P	Pn	**18 37 34.9**	**+0.9**
CBOC				*e*S	Sn	**18 38 12.6**	**+1.4**
CBOC				*i*		18 38 28.4	
	comp=Z,54nm,0.6s						
DBBC	**Dabeiba**	**3.07**	**274**	⇑*i*P	Pn	**18 37 34.6**	**+0.2**
DBBC				*e*S	Sn	**18 38 10.8**	**-1.3**
SDV	**Santo Domingo**	**3.20**	**50**	⇑*i*P	Pn	**18 37 36.8**	**+0.6**
SDV				*e*S	Sn	**18 38 14.1**	**-1.0**
SDV				*i*		18 38 18.0	
	comp=Z,26nm,0.6s						
ANIL	**Santa Ana**	**3.25**	**224**	*e*P	Pn	**18 37 38.6**	**+1.7**
ANIL				*e*S	Sn	**18 38 18.5**	**+2.0**
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P	Pn	**18 37 41.5**	**+0.4**
ORTC				*e*S	Sn	**18 38 24.6**	**+0.7**
ORTC				*i*		18 38 31.1	
	comp=Z,83nm,0.3s						
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P	Pn	**18 37 41.0**	**-1.0**
SJCC				*e*S	Sn	**18 38 22.5**	**-3.1**
SJCC				*i*		18 38 37.0	
	comp=Z,50nm,0.8s						
PLMC	**San Jos del P**	**3.68**	**239**	*e*P	Pn	**18 37 42.8**	**+0.5**
PLMC				*e*S	Sn	**18 38 25.0**	**-1.0**
PLMC				*i*		18 38 29.0	
	comp=Z,38nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P	Pn	**18 37 47.6**	**-0.9**
CRJC				*e*S	Sn	**18 38 35.6**	**-1.8**
CRJC				*i*		18 38 42.4	
	comp=Z,61nm,0.2s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	Pn	**18 37 50.0**	**-0.1**
YOTC				*e*S	Sn	**18 38 41.3**	**+1.2**
GUVC	**San Jose del G**	**4.29**	**173**	*e*P	Pn	**18 37 50.0**	**-0.1**
GUVC				*e*S	Sn	**18 38 37.9**	**-2.3**
GUVC				*i*		18 38 44.6	
	comp=Z,86nm,0.2s						
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P	Pn	**18 37 52.3**	**+0.2**
SMRC				*e*S	Sn	**18 38 40.5**	**-3.1**
SMRC				*i*		18 38 44.5	
	comp=Z,37nm,0.4s						
DABV	**Dabajuro**	**4.75**	**31**	*e*P	Pn	**18 37 56.4**	**+0.2**
DABV				*e*S	Sn	**18 38 49.1**	**-1.8**
URIC	**Uribia, Colomb**	**4.96**	**13**	*e*P	Pn	**18 37 55.6**	**-3.4**
URIC				*e*S	Sn	18 38 43.7	-12
URIC				*i*		18 39 00.3	
	comp=Z,9.9nm,0.5s						
GARC	**Garzon, Huila**	**5.18**	**207**	*e*P	Pn	**18 38 01.5**	**-0.7**
GARC				*e*S	Sn	**18 38 55.9**	**-5.7**
GARC				*i*		18 39 03.3	
	comp=Z,35nm,0.3s						
PCON	**Cinco Dias**	**5.54**	**216**	*e*P	Pn	**18 38 08.2**	**+1.1**
PCON				*e*S	Sn	**18 39 07.9**	**-2.6**
PCON				*i*		18 39 44.0	
	comp=Z,11nm,0.4s						
POPC	**Popayan, Colom**	**5.54**	**220**	*e*P	Pn	**18 38 06.7**	**-0.2**
POPC				*e*S	Sn	**18 39 06.6**	**-3.5**
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**18 43 37.6**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=128,slow=10.0,SNR=1.8						
ANMO	**Albuquerque**	**41.50**	**317**	LR	LR	19 04 21.1	
	comp=Z,32nm,19.3s,baz=44,slow=40						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**18 46 57.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=132,slow=6.7,SNR=15						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**18 56 18.4**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=106,slow=3.0,SNR=4.6						

CRAAG 11 18:53:01.0, 36.34N×3.43E, Ml2.6, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADJB	**Djebel Djouab**	**0.18**	**178**	P	Pg	18 53 05.9	+1.4
EMHD	**Djebel Mahouad**	**0.41**	**250**	P	Pb	18 53 10.2	-1.0
AKET	**Djebel Ketaf**	**0.47**	**128**	P	Pb	18 53 11.2	-1.0

*MOS **11** 18:53:42.5±1.2, 38.18N×20.24E, h13km, mb4.8/28, Error ellipse: s-maj=4.3km s-min=2.6km az=73.3*
*TIR **11** 18:53:43.9, 38.20N×19.93E, h29km, Md4.5, Ml4.8*
*NEIC **11** 18:53:44.9±1.9, 38.31N±0.06×20.34E±0.06, h10km±1km, mb4.6/64, Error ellipse: s-maj=9.4km s-min=8.3km az=176.0*
*ATH **11** 18:53:45.0, 38.21N×20.33E, h20km, ML4.3/18, Error ellipse: s-maj=2.0km s-min=0.7km az=244.0*
*IDC **11** 18:53:44.7±2.4, 38.23N×20.35E, h18km±15km, mb4.2/27, mb1 4.3/39, mb1mx4.2/49, mbtmp4.3/39, ML4.3/11, MS3.7/41, Ms1 3.7/41, ms1mx3.5/97, Error ellipse: s-maj=11.5km s-min=9.7km az=157.0*
*MED_RC **11** 18:53:45.0±0.5, 38.22N×20.30E, h15km±7km, MW4.4/12, Moment Tensor Solution. Mantle waves: s12,c17; Duration: 1§0 Moment tensor: Scale 10^15 Nm; Mrr-0.13±.26; Mθθ 1.43±.35; Mϕϕ-1.30±.28; Mrθ 2.63±1.43; Mθϕ-0.17±.18; Mϕr-3.44±1.88; Best double couple: M₀ 4.54000×10^15 NP1:ϕs321.00000°, δ90.00000°, λ-72.00000°. NP2:ϕs52.00000°, δ18.00000°, λ-179.00000°. Principal axes: T 4.4300, Plg42.0000°, Azm35.0000°; N 0.2200, Plg18.0000°, Azm141.0000°; P -4.6500, Plg43.0000°, Azm248.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*PDG **11** 18:53:45.4±0.6, 38.27N×20.26E, h17km, MD4.8/5, ML4.7/14 Error ellipse: s-maj=0.9km s-min=1.0km az=0.0*

**ISC 11 18:53:45.6±0.5, 38.23N±0.02×20.34E±0.03, h19km±1km, n637, σ1§81/686, mb4.5

LKD2	**Lefkada island**	**0.61**	**24**	P	**Pb**	**18 53 57.5**	**-0.1**
LKD2				AML	AML	18 54 13.7	
	comp=E,56849µm,0.4s						
LKD2				AML	AML	18 54 13.8	
	comp=N,48064µm,0.3s						
LKD2	**Lefkada island**	**0.61**	**24**	P	**Pb**	**18 53 57.5**	**-0.1**
	baz=43						
LKD2				S	**Sn**	**18 54 11.8**	**+3.3**
	baz=43						
TSLK	**Tsoukalades, L**	**0.64**	**22**	P	**Pb**	**18 53 58.2**	**+0.1**
TSLK				S	**Sg**	**18 54 07.0**	**-0.1**
TSLK				AML	AML	18 54 15.2	
	comp=N,68388µm,0.5s						
TSLK				AML	AML	18 54 15.5	
RLS	**Riolos of Patr**	**0.90**	**101**	P	**Pb**	**18 54 02.1**	**-0.4**
RLS				AML	AML	18 54 21.6	
	comp=N,22464µm,0.6s						
RLS				AML	AML	18 54 30.5	
	comp=E,14287µm,0.5s						
DRO	**Drossia**	**1.11**	**104**	P	**Pn**	**18 54 06.0**	**-0.1**
DRO				AML	AML	18 54 31.9	
	comp=E,14844µm,0.6s						
DRO				AML	AML	18 54 32.2	
	comp=N,28642µm,0.6s						
EFP	**Efpalio**	**1.25**	**80**	P	**Pb**	**18 54 08.3**	**-0.1**
EFP				AML	AML	18 54 32.5	
	comp=E,24330µm,1.0s						
EFP				AML	AML	18 54 36.0	
	comp=N,19826µm,1.1s						
LAKA	**Lakka**	**1.29**	**89**	P	**Pn**	**18 54 08.8**	**+0.2**
LAKA				AML	AML	18 54 39.0	
	comp=N,9178µm,0.5s						
LAKA				AML	AML	18 54 40.2	
	comp=E,15386µm,1.0s						
IGT	**Igoumenitsa**	**1.30**	**360**	P	**Pb**	**18 54 10.0**	**+0.5**
IGT				AML	AML	18 54 39.7	
	comp=N,24719µm,0.7s						
IGT				AML	AML	18 54 47.4	
	comp=E,26164µm,0.7s						
IGT	**Igoumenitsa**	**1.30**	**360**	P	**Pb**	**18 54 09.9**	**+0.5**
IGT	**Igoumenitsa**	**1.30**	**360**	P	**Pg**	**18 54 10.3**	**-0.4**
	baz=13						
IGT				S	**Sg**	**18 54 29.1**	**+1.2**
	baz=13						
EVR	**Evrytania**	**1.34**	**59**	P	**Pb**	**18 54 10.0**	**-0.1**
EVR				AML	AML	18 54 40.1	
	comp=N,12079µm,0.8s						
EVR				AML	AML	18 54 40.8	
	comp=E,13808µm,1.0s						
KLV	**Kalavryta, Ach**	**1.44**	**97**	P	**Pb**	**18 54 11.7**	**0.0**
KLV				AML	AML	18 54 46.1	
	comp=E,8676µm,1.2s						
KLV				AML	AML	18 54 46.4	
	comp=N,6778µm,1.0s						
JAN	**Janina**	**1.48**	**15**	P	**Pb**	**18 54 12.0**	**-0.4**
JAN				AML	AML	18 54 43.4	
	comp=N,20318µm,0.7s						
JAN				AML	AML	18 54 43.5	
	comp=E,28549µm,0.6s						
JAN	**Janina**	**1.48**	**15**	P	**Pb**	**18 54 12.0**	**-0.4**
KEK	**Kerkira**	**1.54**	**344**	P	**Pb**	**18 54 13.3**	**-0.2**
KEK				AML	AML	18 54 45.6	
	comp=E,23581µm,0.8s						
KEK				AML	AML	18 54 48.0	
	comp=N,19477µm,0.6s						
KEK	**Kerkira**	**1.54**	**344**	⇑P	**Pb**	**18 54 13.1**	**-0.4**
KASA	**Kassiopi**	**1.55**	**348**	P	**Pb**	**18 54 13.8**	**+0.2**
KASA				AML	AML	18 54 40.5	
	comp=E,29267µm,0.7s						
KASA				AML	AML	18 54 44.4	
	comp=N,21474µm,0.6s						
MAKR	**Makrakomi, Fth**	**1.60**	**60**	P	**Pb**	**18 54 15.1**	**+0.5**
MAKR				AML	AML	18 54 49.0	
	comp=E,18658µm,0.7s						
MAKR				AML	AML	18 54 52.0	
	comp=N,30262µm,1.0s						
ITM	**Ithomi**	**1.64**	**129**	P	**Pg**	**18 54 16.7**	**-0.4**
ITM				S	**Sg**	**18 54 41.4**	**+3.0**
ITM	**Ithomi**	**1.64**	**129**	P	**Pb**	**18 54 15.0**	**0.0**
ITM	**Ithomi**	**1.64**	**129**		**Pb**	**18 54 15.1**	**0.0**
ITM	**Ithomi**	**1.64**	**129**	⇑P	**Pb**	**18 54 15.1**	**0.0**
SRN	**Sarande**	**1.67**	**351**	P	**Pb**	**18 54 15.4**	**-0.3**
	baz=1.0						
SRN				S	**Sg**	**18 54 41.0**	**+1.5**
	baz=1.0						
SRN				AMP			
	comp=N,22nm,0.7s,baz=1.0						
DLFA	**Delphi**	**1.71**	**81**	P	**Pb**	**18 54 16.5**	**+0.1**
PYL	**PYLOS**	**1.73**	**140**	P	**Pn**	**18 54 15.4**	**+0.8**
PYL				AML	AML	18 54 58.6	
	comp=N,3248µm,0.9s						
PYL				AML	AML	18 55 03.0	
	comp=E,4021µm,0.7s						
AGG	**Agios Georgios**	**1.75**	**62**	P	**Pb**	**18 54 18.1**	**+1.1**
AGG				S	**Sg**	**18 54 46.8**	**+4.9**
AGG	**Agios Georgios**	**1.75**	**62**	P	**Pb**	**18 54 17.4**	**+0.4**
AGG				AML	AML	18 54 52.6	
	comp=N,11786µm,0.7s						
AGG				AML	AML	18 54 53.5	
	comp=E,10907µm,0.9s						
AGG	**Agios Georgios**	**1.75**	**62**	P	**Pb**	**18 54 17.6**	**+0.6**
AGG	**Agios Georgios**	**1.75**	**62**	Pg	**Pb**	**18 54 17.6**	**+0.6**
AGG	**Agios Georgios**	**1.75**	**62**	⇑P	**Pb**	**18 54 17.7**	**+0.7**
THAL	**Thalero**	**1.84**	**95**	P	**Pb**	**18 54 18.1**	**-0.5**
THL	**Klokotos Trika**	**1.87**	**44**	P	**Pb**	**18 54 18.9**	**-0.1**
THL				AML	AML	18 54 57.0	
	comp=N,12225µm,1.7s						
THL				AML	AML	18 54 57.2	
	comp=E,8838µm,0.7s						
LSK	**Leskovik**	**1.93**	**6**	P	**Pb**	**18 54 20.6**	**+0.5**
	baz=14						
LSK				S	**Sg**	**18 54 49.3**	**+1.5**
	baz=14						
LKR	**Lokris**	**2.13**	**78**	P	**Pb**	**18 54 22.2**	**-1.3**
ATAL	**Atalanti**	**2.15**	**77**	P	**Pb**	**18 54 22.7**	**-1.2**
EPID	**Epidavros**	**2.28**	**105**	P	**Pn**	**18 54 23.7**	**+1.6**
VLO	**Platees**	**2.30**	**90**	P	**Pb**	**18 54 24.8**	**-1.7**
VLO	**Vlora**	**2.33**	**344**	P	**Pn**	**18 54 22.2**	**-0.6**
VLO	**Vlora**	**2.33**	**344**		**Pn**	**18 54 22.2**	**-0.6**
VLO	**Vlora**	**2.33**	**344**	P	**Pn**	**18 54 22.4**	**-0.4**
	baz=352						
SCTE	**Santa Cesarea**	**2.35**	**322**		**Pn**	**18 54 23.8**	**+0.7**
SCTE				Sn	**Sn**	**18 54 50.9**	**-0.5**
KZN	**Kozani**	**2.35**	**28**	P	**Pb**	**18 54 25.8**	**-1.6**
KZN	**Kozani**	**2.35**	**28**	P	**Pb**	**18 54 26.6**	**-0.8**
KRND	**KRANIDI**	**2.38**	**110**	P	**Pn**	**18 54 24.8**	**+1.4**
KBN	**Korca**	**2.42**	**8**	P	**Pb**	**18 54 26.8**	**-1.6**
KBN				S	**Sb**	**18 54 59.0**	**+1.1**
KBN	**Korca**	**2.42**	**8**		**Pb**	**18 54 26.8**	**-1.6**
KBN	**Korca**	**2.42**	**8**	P	**Pb**	**18 54 26.9**	**-1.6**
	baz=15						
KBN				S	**Sb**	**18 54 59.0**	**+1.1**
	baz=15						
KBN				AMP			
	comp=E,17nm,0.7s,baz=15						
XOR	**Xorichti**	**2.50**	**62**	P	**Pn**	**18 54 27.3**	**+2.1**
LIT	**Litokhoron**	**2.51**	**41**	P	**Pb**	**18 54 27.7**	**-2.2**
LIT	**Litokhoron**	**2.51**	**41**	P	**Pn**	**18 54 27.0**	**+1.7**
LIT	**Litokhoron**	**2.51**	**41**		**Pn**	**18 54 27.0**	**+1.7**
LIT	**Litokhoron**	**2.51**	**41**	⇑P	**Pb**	**18 54 27.8**	**-2.1**
ATHU	**Athens Univers**	**2.73**	**94**	P	**Pn**	**18 54 29.7**	**+1.4**
VLY	**Voula,Athens**	**2.75**	**97**	P	**Pn**	**18 54 29.9**	**+1.3**
PTL	**Penteli**	**2.78**	**93**	P	**Pn**	**18 54 30.6**	**+1.5**
OHR	**Ohrid**	**2.90**	**7**	*i* Pn	**Pb**	**18 54 33.9**	**-2.8**
TIP	**Timpagrande**	**2.96**	**290**	⇑P	**Pn**	**18 54 33.1**	**+1.5**
TIP	**Timpagrande**	**2.96**	**290**		**Pn**	**18 54 32.2**	**+0.6**
TIP	**Timpagrande**	**2.96**	**290**	⇑P	**Pn**	**18 54 32.5**	**+0.9**
KYMI	**Kymi, Euboea I**	**2.98**	**81**	P	**Pn**	**18 54 33.3**	**+1.6**
PAIG	**Paliouri**	**3.10**	**56**	P	**Pn**	**18 54 35.9**	**+2.5**
TIR	**Tirane**	**3.14**	**353**	⇓P	**Pn**	**18 54 35.2**	**+1.3**
TIR	**Tirane**	**3.14**	**353**	P	**Pn**	**18 54 35.7**	**+1.8**
TIR	**Tirane**	**3.14**	**353**		**Pn**	**18 54 35.7**	**+1.8**
TIR	**Tirane**	**3.14**	**353**	⇑P	**Pn**	**18 54 35.4**	**+1.4**
TIR	**Tirane**	**3.14**	**353**	P	**Pn**	**18 54 35.7**	**+1.8**
	baz=0.0						
TIR				S	**Sb**	**18 55 15.3**	**-3.2**
	baz=0.0						
THE	**Thessaloniki**	**3.14**	**39**	P	**Pn**	**18 54 36.4**	**+2.4**
GRG	**Griva**	**3.15**	**30**	P	**Pn**	**18 54 34.9**	**+0.7**
GRG	**Griva**	**3.15**	**30**	P	**Pn**	**18 54 35.6**	**+1.4**
HORT	**Hortiatis**	**3.19**	**41**	P	**Pn**	**18 54 36.5**	**+1.8**
SOH	**Sokhos**	**3.48**	**41**	P	**Pn**	**18 54 41.0**	**+2.3**
CEL	**Celeste**	**3.50**	**272**		**Pn**	**18 54 39.8**	**+0.7**
CEL	**Celeste**	**3.50**	**272**	⇑P	**Pn**	**18 54 39.8**	**+0.7**

OUR	**Ouranopolis**	**3.52**	**52**	P	**Pn**	**18 54 41.8**	**+2.6**
OUR	**Ouranopolis**	**3.52**	**52**	P	**Pn**	**18 54 41.4**	**+2.2**
VAY	**Valandovo**	**3.53**	**28**	P	**Pn**	**18 54 41.1**	**+1.7**
VAY	**Valandovo**	**3.53**	**28**	*i* Pn	**Pn**	**18 54 41.0**	**+1.7**
MATE	**Matera**	**3.71**	**312**	⇓P	**Pn**	**18 54 42.7**	**+0.9**
MATE	**Matera**	**3.71**	**312**	⇑P	**Pn**	**18 54 42.6**	**+0.9**
STIP	**Stip**	**3.74**	**22**	*i* Pn	**Pn**	**18 54 45.6**	**+3.4**
RODP	**Rodopos**	**3.82**	**133**	*e*P	**Pn**	**18 54 45.4**	**+2.1**
SRS	**Serrai**	**3.82**	**40**	P	**Pn**	**18 54 44.9**	**+1.6**
ULC	**Ulcinj**	**3.83**	**348**	⇑*i* Pn	**Pn**	**18 54 43.8**	**+0.4**
ULC				*i* Sn	**Sn**	**18 55 26.7**	**-1.1**
SKO	**Skopje**	**3.83**	**12**	*i* Pn	**Pn**	**18 54 45.2**	**+1.8**
KNDR	**Palaiochora Ch**	**4.02**	**137**	*e*P	**Pn**	**18 54 48.9**	**+2.9**
IMMV	**Iera Moni Meta**	**4.02**	**132**	*e*P	**Pn**	**18 54 48.4**	**+2.4**
DRME	**Dracevica, Mon**	**4.05**	**348**	⇑*i* Pn	**Pn**	**18 54 46.5**	**0.0**
DRME	**Dracevica, Mon**	**4.05**	**348**	⇓*i* Pn	**Pn**	**18 54 47.4**	**+0.9**
DRME				*i* Sn	**Sn**	**18 55 33.0**	**-0.4**
BCI	**Bajram Curri**	**4.14**	**357**	P	**Pn**	**18 54 50.6**	**+2.9**
	baz=1.0						
KKB	**Krupnik**	**4.20**	**29**	P	**Pn**	**18 54 50.0**	**+1.5**
BUM	**Brajici-Budva**	**4.22**	**345**	*e*Pn	**Pn**	**18 54 49.5**	**+0.7**
BUM				*i* Sn	**Sn**	**18 55 36.9**	**-0.6**
MMB	**Musomiste**	**4.25**	**37**	P	**Pn**	**18 54 50.0**	**+0.8**
MRVN	**Minervino Murg**	**4.27**	**313**	⇑P	**Pn**	**18 54 50.3**	**+0.7**
APE	**Apeiranthos**	**4.28**	**104**	*e*P	**Pb**	**18 54 56.3**	**-3.8**
APE	**Apeiranthos**	**4.28**	**104**	*i* P	**Pn**	**18 54 51.5**	**+1.9**
PDG	**Podgorica**	**4.28**	**349**	Pn	**Pn**	**18 54 49.5**	**-0.1**
PDG	**Podgorica**	**4.28**	**349**	⇑*i* Pn	**Pn**	**18 54 49.8**	**+0.3**
PDG	**Podgorica**	**4.28**	**349**	⇑P	**Pn**	**18 54 49.9**	**+0.3**
TTG	**Podgorica**	**4.28**	**349**	*e*Pn	**Pn**	**18 54 50.4**	**+0.8**
TTG				*i* Sn	**Sn**	**18 55 38.5**	**-0.4**
PVY	**Plav**	**4.37**	**356**	⇑*i* Pn	**Pn**	**18 54 52.1**	**+1.1**
PVY				*i* Sn	**Sn**	**18 55 40.8**	**-0.6**
SIGR	**SIGRI**	**4.42**	**75**	*e*P	**Pn**	**18 54 53.6**	**+2.0**
HCY	**Herceg Novi**	**4.45**	**342**	*e*Pn	**Pn**	**18 54 51.1**	**-0.8**
HCY	**Herceg Novi**	**4.45**	**342**	*e*Pn	**Pn**	**18 54 51.7**	**-0.2**
HCY				*i* Sn	**Sn**	**18 55 42.3**	**-0.8**
CEME	**Cevo**	**4.45**	**346**	⇓*i* Pn	**Pn**	**18 54 52.5**	**+0.5**
CEME				*i* Sn	**Sn**	**18 55 42.5**	**-0.8**
GVD	**Gavdhos**	**4.53**	**137**	*e*P	**Pn**	**18 54 57.6**	**+4.5**
IVA	**Berane**	**4.65**	**356**	⇓*i* Pn	**Pn**	**18 54 55.9**	**+1.1**
IVA				*i* Sn	**Sn**	**18 55 47.5**	**-0.8**
NKME	**Niksic**	**4.66**	**347**	⇑*i* Pn	**Pn**	**18 54 55.5**	**+0.7**
NKME				*i* Sn	**Sn**	**18 55 47.5**	**-0.8**
KOME	**Kolasin**	**4.66**	**352**	⇑*i* Pn	**Pn**	**18 54 55.9**	**+1.0**
KOME				*i* Sn	**Sn**	**18 55 47.7**	**-0.8**
IDI	**Anoyia**	**4.68**	**127**	*e*P	**Pn**	**18 54 58.8**	**+3.6**
IDI	**Anoyia**	**4.68**	**127**	Pn	**Pn**	**18 54 57.9**	**+2.6**
IDI	**Anoyia**	**4.68**	**127**	⇑P	**Pn**	**18 54 59.7**	**+4.5**
NKY	**Niksic**	**4.69**	**348**	P	**Pn**	**18 54 56.9**	**+1.5**
NKY	**Niksic**	**4.69**	**348**	⇑*i* Pn	**Pn**	**18 54 56.3**	**+0.9**
NKY				*i* Sn	**Sn**	**18 55 48.3**	**-1.1**
BOZC	**Bozcaada**	**4.73**	**68**	*e*P	**Pn**	**18 54 58.5**	**+2.7**
TREB	**Trebinje**	**4.73**	**342**	*e*Pn	**Pn**	**18 54 55.6**	**-0.3**
VAE	**Valguarnera**	**4.75**	**263**	Pn	**Pn**	**18 54 56.9**	**+0.6**
	comp=E,4.4nm,0.3s,baz=54,slow=8.7,SNR=7.1						
VAE				Sn	**Sn**	**18 55 51.0**	**+0.2**
	comp=E,6.8nm,0.3s,baz=29,slow=13,SNR=4.1						
RZN	**Rozhen**	**4.82**	**43**	P	**Pn**	**18 54 59.0**	**+1.8**
BRY	**Bratogost**	**4.87**	**344**	P	**Pn**	**18 54 57.9**	**+0.1**
BRY	**Bratogost**	**4.87**	**344**	*e*Pn	**Pn**	**18 54 57.2**	**-0.6**
BRY	**Bratogost**	**4.87**	**344**	⇑*i* Pn	**Pn**	**18 54 57.8**	**0.0**
BRY				*i* Sn	**Sn**	**18 55 52.4**	**-1.3**
VTS	**Vitosha**	**4.91**	**26**	⇑P	**Pn**	**18 55 00.4**	**+2.0**
VTS	**Vitosha**	**4.91**	**26**	P	**Pn**	**18 54 59.7**	**+1.3**
VTS	**Vitosha**	**4.91**	**26**	Pn	**Pn**	**18 54 59.7**	**+1.3**
VTS	**Vitosha**	**4.91**	**26**	⇑P	**Pn**	**18 54 59.9**	**+1.6**
VTS	**Vitosha**	**4.91**	**26**	P	**Pn**	**18 55 00.0**	**+1.6**
URLA	**Izmir**	**4.92**	**87**	*e*P	**Pn**	**18 55 02.5**	**+4.0**
EZN	**Ezine**	**4.92**	**69**	*e*P	**Pn**	**18 55 01.1**	**+2.7**
EZN	**Ezine**	**4.92**	**69**	P	**Pn**	**18 54 57.9**	**-0.5**
RDO	**Rodhopi**	**4.95**	**52**	⇑P	**Pn**	**18 55 00.5**	**+1.6**
SGRT	**San Giovanni R**	**4.99**	**316**	Pn	**Pn**	**18 55 00.0**	**+0.6**
STON	**Ston**	**5.06**	**337**	⇑*i* Pn	**Pn**	**18 54 59.6**	**-0.7**
UPM	**Unac-Piva**	**5.09**	**348**	*e*Pn	**Pn**	**18 55 01.2**	**+0.3**
UPM	**Unac-Piva**	**5.09**	**348**	*e*Pn	**Pn**	**18 55 01.8**	**+0.9**
UPM				*i* Sn	**Sn**	**18 55 57.8**	**-1.4**
PLE	**Pljevlja**	**5.15**	**352**	P	**Pn**	**18 55 03.7**	**+2.0**
PLE	**Pljevlja**	**5.15**	**352**	⇑*i* Pn	**Pn**	**18 54 57.8**	**+1.0**
PLE				*i* Sn	**Sn**	**18 55 59.3**	**-1.3**
ALN	**Alexandroupoli**	**5.15**	**57**	P	**Pn**	**18 55 03.2**	**+1.7**
ALN	**Alexandroupoli**	**5.15**	**57**	Pn	**Pn**	**18 55 03.2**	**+1.7**
ALN	**Alexandroupoli**	**5.15**	**57**	⇑P	**Pn**	**18 55 03.3**	**+1.7**
KDZ	**Kurdzhali**	**5.18**	**47**	P	**Pn**	**18 55 03.0**	**+0.9**
DKL	**Dikili**	**5.21**	**79**	*e*P	Pn	18 55 07.3	+5.0
PGB	**Panagyurishte**	**5.21**	**33**	P	**Pn**	**18 55 04.0**	**+1.5**
PAOL	**Paolisi**	**5.26**	**304**		**Pn**	**18 55 05.0**	**+1.8**
RUDO	**Rudo**	**5.43**	**353**	⇑*i* Pn	**Pn**	**18 55 05.2**	**-0.3**
GCAM	**G?zelcaml?**	**5.47**	**93**	*e*P	Pn	18 55 11.2	+5.2
BODT	**Bodrum**	**5.65**	**100**	*e*P	**Pn**	**18 55 11.9**	**+3.4**
ZKR	**Zakros**	**5.65**	**122**	*e*P	**Pn**	**18 55 11.5**	**+3.0**
BLKB	**Belogradchik**	**5.67**	**17**	⇓P	**Pn**	**18 55 10.6**	**+1.9**
CLTB	**Caltabellotta**	**5.67**	**266**	Pn	**Pn**	**18 55 10.5**	**+1.6**
CLTB	**Caltabellotta**	**5.67**	**266**	⇑P	**Pn**	**18 55 11.8**	**+3.0**
BBLS	**Lazići**	**5.68**	**353**	⇑*i* Pn	**Pn**	**18 55 08.7**	**-0.2**
DIVS	**Divibare**	**5.87**	**358**	Pn	**Pn**	**18 55 11.4**	**-0.1**
DIVS	**Divibare**	**5.87**	**358**	⇑*i* Pn	**Pn**	**18 55 11.0**	**-0.6**
DIVS	**Divibare**	**5.87**	**358**	⇑P	**Pn**	**18 55 11.1**	**-0.4**
KARP	**Karpathos**	**6.08**	**114**	Pn	**Pn**	**18 55 17.5**	**+3.0**
KARP	**Karpathos**	**6.08**	**114**	⇑P	**Pn**	**18 55 18.9**	**+4.4**
SRKY	**Kupres RS**	**6.31**	**339**	*e*Pn	**Pn**	**18 55 18.1**	**+0.5**
TEKS	**Tekeris**	**6.34**	**355**	*e*Pn	**Pn**	**18 55 16.0**	**-2.0**
SZH	**Strazhica**	**6.58**	**38**	P	**Pn**	**18 55 23.4**	**+2.2**
MDVR	**Moldovita**	**6.63**	**8**	⇓P	**Pn**	**18 55 21.9**	**0.0**
MGRS	**Mrkonjic Grad**	**6.65**	**339**	*e*Pn	**Pn**	**18 55 22.9**	**+0.7**
DOB	**Doboj**	**6.71**	**346**	*e*Pn	**Pn**	**18 55 21.8**	**-1.2**
AQU	**L'Aquila**	**6.72**	**310**	P	**Pn**	**18 55 25.2**	**+2.0**
AQU	**L'Aquila**	**6.72**	**310**	Pn	**Pn**	**18 55 25.2**	**+2.0**
AQU	**L'Aquila**	**6.72**	**310**	⇑*i* Pn	**Pn**	**18 55 26.0**	**+2.8**
AQU	**L'Aquila**	**6.72**	**310**	⇑P	**Pn**	**18 55 26.3**	**+3.2**
HERR	**Herculane**	**6.83**	**12**	⇑P	**Pn**	**18 55 25.4**	**+0.8**
BLY	**Banja Luka**	**6.93**	**341**	⇑*i* Pn	**Pn**	**18 55 25.9**	**-0.1**
BLY	**Banja Luka**	**6.93**	**341**	⇑P	**Pn**	**18 55 26.2**	**+0.2**
FRGS	**Fruska Gora**	**6.94**	**357**	⇑*i* Pn	**Pn**	**18 55 24.1**	**-2.0**
COPA	**Copaceanca**	**6.95**	**30**	⇓P	**Pn**	**18 55 28.4**	**+2.1**
NRCA	**Norcia**	**7.17**	**312**		**Pn**	**18 55 31.6**	**+2.2**
HUMR	**Humele**	**7.19**	**27**	⇓P	**Pn**	**18 55 31.7**	**+2.0**
PRIJ	**Prijedor**	**7.27**	**339**	*e*Pn	**Pn**	**18 55 28.4**	**-2.2**
PRD	**Provadia**	**7.30**	**45**	P	**Pn**	**18 55 34.0**	**+2.9**
SGRR	**Singureni**	**7.34**	**34**	⇑P	**Pn**	**18 55 34.1**	**+2.5**
GZR	**Gura Zlata**	**7.39**	**13**	⇓P	**Pn**	**18 55 33.1**	**+0.8**
BZS	**Buzias**	**7.44**	**7**	⇑P	**Pn**	**18 55 33.0**	**0.0**
BZS	**Buzias**	**7.44**	**7**	P	**Pn**	**18 55 33.0**	**0.0**
LOT	**Lotru**	**7.65**	**18**	⇓P	**Pn**	**18 55 37.0**	**+0.9**
ELL	**Elmali**	**7.75**	**98**	P	**Pn**	**18 55 40.8**	**+3.4**
ELL	**Elmali**	**7.75**	**98**		**Pn**	**18 55 40.8**	**+3.4**
MURB	**Monte Urbino**	**7.78**	**313**		**Pn**	**18 55 38.8**	**+1.1**
MGAB	**Montegabbione**	**7.82**	**309**	⇑P	**Pn**	**18 55 41.0**	**+2.8**
ARR	**Arges**	**7.82**	**23**	⇓P	**Pn**	**18 55 40.4**	**+2.2**
SULR		**7.82**	**33**	⇓P	**Pn**	**18 55 41.3**	**+3.0**
LATE	**Laterza**	**7.85**	**307**	Pn	**Pn**	**18 55 37.1**	**-1.6**
VOIR		**8.01**	**24**	⇑P	**Pn**	**18 55 43.5**	**+2.5**
VOIR		**8.01**	**24**	P	**Pn**	**18 55 43.4**	**+2.5**
KOVH	**Kovagotottos**	**8.03**	**349**	P	**Pn**	**18 55 40.2**	**-0.9**
SECR		**8.04**	**30**	⇑P	**Pn**	**18 55 44.3**	**+3.1**
MORH	**Mrgy, Hungar**	**8.08**	**352**	⇑P	**Pn**	**18 55 41.1**	**-0.7**
MORH	**Mrgy, Hungar**	**8.08**	**352**	⇑*i* Pn	**Pn**	**18 55 40.3**	**-1.5**
MORH	**Mrgy, Hungar**	**8.08**	**352**	P	**Pn**	**18 55 40.6**	**-1.2**
ICOR	**Ion Corvin**	**8.14**	**41**	⇑P	**Pn**	**18 55 45.2**	**+2.7**
BOJS	**Bojanci**	**8.20**	**334**	*i* Pn	**Pn**	**18 55 44.1**	**+0.7**
BOJS				*e*Sn	**Sn**	**18 57 12.6**	**-2.9**
BOJS				IAML		18 57 20.1	
	comp=Z,81nm,0.4s						
ZAG	**Zagreb**	**8.25**	**338**	*e*Pn	**Pn**	**18 55 43.1**	**-1.1**
ISR	**Istrita**	**8.30**	**32**	⇑P	**Pn**	**18 55 47.3**	**+2.4**
ISR	**Istrita**	**8.30**	**32**	P	**Pn**	**18 55 47.2**	**+2.4**
RIY	**Rijeka**	**8.33**	**330**	*e*Pn	**Pn**	**18 55 45.1**	**-0.1**
MLR	**Muntele Rosu**	**8.37**	**28**	⇓P	**Pn**	**18 55 48.0**	**+2.1**
MLR	**Muntele Rosu**	**8.37**	**28**	Pn	**Pn**	**18 55 47.6**	**+1.7**
	comp=Z,2.1nm,0.3s,baz=229,slow=3.2,SNR=34						
MLR				LR	LR	18 59 48.0	
	comp=Z,1µm,19.4s,baz=186,slow=43						
MLR	**Muntele Rosu**	**8.37**	**28**	P	**Pn**	**18 55 47.9**	**+2.0**
MLR	**Muntele Rosu**	**8.37**	**28**	Pn	**Pn**	**18 55 47.9**	**+2.0**
CRES	**Cresnjev**	**8.42**	**336**	⇑*i* Pn	**Pn**	**18 55 46.0**	**-0.4**
TLBR	**Topalu**	**8.56**	**40**	⇓P	**Pn**	**18 55 50.9**	**+2.5**
DOPR	**Dopca**	**8.59**	**24**	⇓P	**Pn**	**18 55 50.7**	**+1.8**
HARR	**Harsova**	**8.61**	**39**	⇑P	**Pn**	**18 55 51.4**	**+2.4**
HARR	**Harsova**	**8.61**	**39**	P	**Pn**	**18 55 51.4**	**+2.4**
VSL	**Villasalto**	**8.65**	**282**	Pn	**Pn**	**18 55 49.3**	**-0.3**

OSSC	**Osservatorio P**	**8.69**	**310**		**Pn**	**18 55 49.1**	**-1.0**
TIRR	**Tirgusor**	**8.69**	**42**	⇓P	**Pn**	**18 55 52.2**	**+2.1**
TIRR	**Tirgusor**	**8.69**	**42**	P	**Pn**	**18 55 51.4**	**+1.2**
TIRR	**Tirgusor**	**8.69**	**42**	Pn	**Pn**	**18 55 51.4**	**+1.2**
TIRR	**Tirgusor**	**8.69**	**42**	⇑P	**Pn**	**18 55 51.6**	**+1.5**
CEY	**Cerknica**	**8.70**	**331**	⇑*i* Pn	**Pn**	**18 55 50.6**	**+0.3**
SKDS	**Skadanscina**	**8.70**	**329**	⇑*i* Pn	**Pn**	**18 55 49.2**	**-1.1**
MDUB	**Mudurnu**	**8.70**	**72**	Pn	**Pn**	**18 55 52.4**	**+2.0**
COVR	**Voineasa-Covas**	**8.77**	**28**	⇓P	**Pn**	**18 55 53.9**	**+2.7**
OZUR		**8.84**	**25**	⇑P	**Pn**	**18 55 55.0**	**+2.8**
TIH	**Tihany**	**8.85**	**349**	P	Pn	18 55 46.9	-5.4
LJU	**Ljubljana**	**8.92**	**333**	⇑*i* Pn	**Pn**	**18 55 53.1**	**-0.2**
TRI	**Trieste**	**8.93**	**329**	P	**Pn**	**18 55 53.0**	**-0.5**
TRI	**Trieste**	**8.93**	**329**	Pn	**Pn**	**18 55 53.0**	**-0.5**
TRI	**Trieste**	**8.93**	**329**	⇑P	**Pn**	**18 55 54.0**	**+0.5**
PLOR	**Plostina**	**8.94**	**30**	⇑P	**Pn**	**18 55 56.6**	**+2.9**
TPGR	**Topolog**	**8.97**	**40**	⇑P	**Pn**	**18 55 56.1**	**+2.1**
VRI	**Vrincioaia**	**8.99**	**30**	⇓P	**Pn**	**18 55 56.9**	**+2.6**
KEST	**Kesra**	**9.15**	**258**	Pn	**Pn**	**18 55 57.0**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=45,slow=8.9,SNR=12						
KEST				Sn	**Sn**	**18 57 37.0**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=1.9,slow=18,SNR=1.4						
KEST				LR	LR	19 00 21.8	
	comp=Z,300nm,20.8s,baz=66,slow=43						
MPLH	**Magyarpolny**	**9.17**	**348**	P	**Pn**	**18 55 55.6**	**-1.1**
LTVH	**Ltavrtes, Hu**	**9.22**	**7**	P	**Pn**	**18 55 58.3**	**+0.9**
CSKK	**Cskako**	**9.26**	**351**	P	**Pn**	**18 55 57.1**	**-0.8**
CSKK				S	Sn	18 57 30.9	-11

VRAC *e* 18 58 31.9
CKRC Cesky Krumlov 11.45 340 *e*PN **Pn** **18 56 27.7 -0.3**
CKRC *e*SN **Sn** **18 58 28.8 -6.5**
DAVOX Davos/Dischmat 11.51 321 Pn **Pn** **18 56 28.9 0.0**
comp=E,1.1nm,0.3s,baz=120,slow=18,SNR=13
DAVOX Sn **Sn** **18 58 31.2 -5.8**
comp=E,5.5nm,0.3s,baz=162,slow=20,SNR=8.6
DAVOX LR LR 19 03 03.0
comp=E,107nm,18.0s,baz=180,slow=48
KWP Kalwaria Pacla 11.53 8 *e*P **Pn** **18 56 31.2 +2.2**
KWP Kalwaria Pacla 11.53 8 P **Pn** **18 56 31.2 +2.2**
KWP Kalwaria Pacla 11.53 8 ⇑P **Pn** **18 56 31.7 +2.7**
KWP Kalwaria Pacla 11.53 8 ⇑P **Pn** **18 56 31.7 +2.7**
TUE Stuetta 11.57 319 Pn **Pn** **18 56 30.3 +0.6**
TUE Stuetta 11.57 319 ⇑P **Pn** **18 56 31.2 +1.5**
RETA Reutte 11.61 326 *i* Pn **Pn** **18 56 31.8 +1.5**
comp=E,3.7nm,0.4s
RETA *e*Sn **Sn** **18 58 36.8 -2.5**
comp=E,38nm,0.5s
GEC2 GERESS Array S 11.65 338 **Pn** **18 56 29.9 -0.9**
GERES GERESS Array B 11.65 338 Pn **Pn** **18 56 29.6 -1.1**
comp=E,1.8nm,0.3s,baz=156,slow=15,SNR=42
GERES Sn **Sn** **18 58 33.2 -7.0**
comp=E,3.6nm,0.3s,baz=146,slow=22,SNR=11
MORC Moravsky Berou 11.72 351 P **Pn** **18 56 29.5 -2.1**
MORC Moravsky Berou 11.72 351 Pn **Pn** **18 56 29.5 -2.1**
MORC Moravsky Berou 11.72 351 *e*PN **Pn** **18 56 30.7 -0.9**
DAVA Damuels 11.87 323 *i* Pn **Pn** **18 56 36.0 +2.2**
comp=E,2.8nm,0.3s
DAVA *e*Sn **Sn** **18 58 40.9 -4.8**
comp=E,40nm,0.4s
KHC Kasperske Hory 11.94 338 *e*P **Pn** **18 56 33.7 -1.0**
KHC *e* 18 58 40.2
KHC Kasperske Hory 11.94 338 **Pn** **18 56 33.2 -1.5**
KHC Kasperske Hory 11.94 338 *e*PN **Pn** **18 56 33.7 -1.0**
KHC *e*SN **Sn** **18 58 40.2 -7.1**
KHC Kasperske Hory 11.94 338 ⇓P **Pn** **18 56 33.6 -1.1**
OJC Ojcow 11.99 358 P **Pn** **18 56 31.9 -3.5**
OJC Ojcow 11.99 358 Pn **Pn** **18 56 31.9 -3.5**
MBDF Montbardon 12.07 307 *e*P **Pn** **18 56 38.4 +1.9**
MBDF pmax pmax
comp=Z,16nm,1.0s
KRLC Kraliky 12.12 349 *e*P **Pn** **18 56 37.4 +0.3**
KRLC Kraliky 12.12 349 *e*PN **Pn** **18 56 37.4 +0.3**
BNN Bunyan 12.16 82 Pn **Pn** **18 56 38.2 +0.4**
DPC Dobruska-Polom 12.45 348 *e*P **Pn** **18 56 41.8 +0.1**
DPC Dobruska-Polom 12.45 348 *e*PN **Pn** **18 56 41.8 +0.1**
LPG La Plagne 12.46 310 *e*P **Pn** **18 56 43.6 +1.6**
LPG pmax pmax
comp=Z,2.0nm,0.3s
PRU Pruhonice 12.47 342 *e*P **Pn** **18 56 41.5 -0.3**
PRU *e* 18 58 55.1
PRU Pruhonice 12.47 342 *e*PN **Pn** **18 56 41.5 -0.3**
PRU *e*SN **Sn** **18 58 55.1 -5.0**
LPL La Plagne 12.48 310 *e*P **Pn** **18 56 44.0 +1.8**
LPL pmax pmax
comp=Z,5.0nm,0.7s
SENIN Lac Senin/Sane 12.61 314 **Pn** **18 56 44.7 +0.7**
TOKA Tokat 12.68 75 Pn **Pn** **18 56 45.4 +0.6**
ORIF Oris-en-Rattie 12.72 306 *e*P **Pn** **18 56 49.7 +4.3**
ORIF pmax pmax
comp=Z,5.0nm,0.8s
NKC Novy Kostel 13.26 337 *e*P **Pn** **18 56 53.6 +0.9**
NKC *e* 18 59 12.1
NKC Novy Kostel 13.26 337 *e*PN **Pn** **18 56 53.6 +0.9**
NKC *e*SN **Sn** **18 59 12.1 -7.4**
MMAI Mount Meron Ar 13.31 108 Pn **Pn** **18 56 52.5 -0.9**
comp=Z,1.0nm,0.3s,baz=265,slow=28,SNR=1.9
MMAI Sn **Sn** **18 59 14.2 -6.7**
comp=Z,1.7nm,0.3s,baz=359,slow=40,SNR=2.4
MMAI LR LR 19 03 08.5
comp=Z,93nm,18.7s,baz=80,slow=42
BFO Black Forest 13.35 323 P **Pn** **18 56 55.2 +1.3**
BFO Black Forest 13.35 323 Pn **Pn** **18 56 55.2 +1.3**
BRG Berggiesshubel 13.43 342 *i* P **Pn** **18 56 54.4 -0.6**
BRG Amp 18 56 56.5
comp=Z,4.0nm,0.8s
BRG *ex* x 18 57 05.4
BRG Amp 18 57 08.3
comp=Z,5.7nm,0.9s
BRG Berggiesshubel 13.43 342 *i* P **Pn** **18 56 54.4 -0.6**
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,0.9s
CABF La Chapelle 13.44 313 *e*P **Pn** **18 56 55.1 -0.1**
CABF pmax pmax
comp=Z,66nm,2.0s
VIVF Saint-Julien-l 13.47 304 *e*P **Pn** **18 56 59.1 +3.6**
VIVF pmax pmax
comp=Z,41nm,1.9s
HINF Hinteralfeld 13.74 319 *e*P **Pn** **18 56 59.0 -0.2**
HINF pmax pmax
comp=Z,3.0nm,0.3s
ECH Echery 13.84 320 P **Pn** **18 57 01.2 +0.6**
ECH Echery 13.84 320 Pn **Pn** **18 57 01.2 +0.6**
ECH Echery 13.84 320 ⇑P **Pn** **18 57 02.1 +1.6**
AKASG Malin Array Be 13.97 24 Pn **Pn** **18 57 01.4 -0.9**
comp=Z,2.0nm,0.3s,baz=213,slow=11,SNR=14
AKASG LR LR 19 03 44.1
comp=Z,591nm,18.8s,baz=208,slow=43
AKASG Malin Array Be 13.97 24 P **Pn** **18 57 01.6 -0.8**
AKASG Malin Array Be 13.97 24 Pn **Pn** **18 57 01.6 -0.8**
AKBB Malin Array Si 13.97 24 P **Pn** **18 57 02.0 -0.4**
AKBB Malin Array Si 13.97 24 Pn **Pn** **18 57 02.0 -0.4**
CLL Collm 14.07 341 *e*P **Pn** **18 57 01.0 -2.7**
CLL pmax pmax
comp=Z,14nm,1.0s
CLL Collm 14.07 341 Pn **Pn** **18 57 01.8 -1.8**
CLL Collm 14.07 341 *e*Px Px 18 57 01.0
CLL *es*P **Pn** **18 57 07.0 +3.3**
CLL *e*PP **PnPn** **18 57 12.0 +0.4**
comp=Z,14nm,1.0s
CLL *ex* x 18 57 24.0
CLL Lmax 19 04 00.0
GHAJ Ghor Haditha 14.28 114 Pn **Pn** **18 57 06.8 +0.1**
ANN Anapa 14.38 57 *e*P **Pn** **18 57 05.8 -2.1**
ANN *e*S **Sn** **18 59 43.4 -3.3**
ANN pmax pmax
comp=Z,38nm,1.3s
EIL Elat 14.81 121 Pn **Pn** **18 57 12.9 -1.0**
comp=Z,0.3nm,0.3s,baz=353,slow=8.1,SNR=7.7
EIL Sn Sn 18 59 46.5 -11
comp=Z,0.8nm,0.3s,baz=40,slow=23,SNR=2.2
LOR Lormes 15.08 312 *e*P **Pn** **18 57 18.7 +1.2**
LOR pmax pmax
comp=Z,2.0nm,0.4s
SSF Saint Saulge 15.19 311 *e*P **P** **18 57 24.9 +1.1**
SSF pmax pmax
comp=Z,8.0nm,0.7s
CAF Calviac 15.21 302 *e*P **P** **18 57 25.2 +1.1**
CAF pmax pmax
comp=Z,25nm,1.6s
WLF Walferdange 15.30 323 P **P** **18 57 26.2 +1.2**
WLF pmax pmax
comp=Z,35nm,0.9s
WLF Walferdange 15.30 323 P **P** **18 57 26.2 +1.2**
WLF IAmb IAmb 18 57 34.7
comp=Z,35nm,0.9s
WLF Walferdange 15.30 323 ⇓p **P** **18 57 29.8 +4.7**
WLF Walferdange 15.30 323 *dx* x 18 57 29.2
SOC Sochi 15.58 64 *e*P **P** **18 57 27.9 -0.3**
SOC *e* 19 00 23.4
SOC pmax pmax
comp=Z,50nm,0.8s
SOC MLR MLR
comp=Z,58nm,16.0s
KOPT Kop Dagi 15.74 77 P **P** **18 57 29.3 -1.0**
SUW Suwalki 15.91 6 *e*P **Pn** **18 57 28.9 +0.8**
SUW Suwalki 15.91 6 P **Pn** **18 57 25.9 -2.2**
SUW pmax pmax
comp=Z,193nm,1.2s
SUW Suwalki 15.91 6 **Pn** **18 57 25.9 -2.2**
SUW Suwalki 15.91 6 *e*P **Pn** **18 57 28.9 +0.8**
SUW Suwalki 15.91 6 ⇑P **Pn** **18 57 28.5 +0.3**
MEM Membach 16.03 325 *d*PP **P** **18 57 37.7 +4.6**
MARD Mardin 16.19 87 **Pn** **18 57 32.7 +0.7**
DOU Dourbes 16.34 322 *dx* x 18 57 41.2
BMRD Maredsous 16.39 322 *dx* x 18 57 40.7
GURO Guroymak-BITLI 17.01 82 **Pn** **18 57 41.0 -1.4**
MNK Minsk 17.07 15 *i* P **Pn** **18 57 40.0 -2.9**
MNK *i* S **Sn** **19 00 47.7 -4.3**
MNK pmax pmax
comp=Z,65nm,1.1s
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=N,56nm,1.1s
MNK MLR MLR
comp=E,24nm,17.0s
MNK MLR MLR
comp=Z,221nm,18.0s
MNK MLR MLR
comp=N,214nm,17.0s
MNK Minsk 17.07 15 *i* P **Pn** **18 57 40.1 -2.9**
comp=E,3.0nm,1.1s
MNK *i* P **Pn** **18 57 40.1 -2.9**
comp=N,56nm,1.1s
MNK *i* P **Pn** **18 57 40.1 -2.9**
comp=Z,65nm,1.1s,baz=201
MNK *i* PP **pP** **18 57 49.9 +0.4**
MNK *i* S **Sn** **19 00 47.8 -4.3**
MNK *i* SS **S** **19 01 02.4 +0.9**
MNK *i* LQ LQ 19 02 43.6
MNK *i* LR LR 19 03 55.7
MNK *i* LRM MLR 19 04 42.2
comp=E,24nm,17.1s
MNK *i* LRM MLR 19 04 46.7
comp=Z,221nm,18.4s
MNK *i* LRM MLR 19 04 53.1
comp=N,214nm,17.4s
NACGM Naroch 17.25 13 *e*P **Pn** **18 57 45.6 +0.5**
PABE Paberze 17.46 7 Pn **Pn** **18 57 46.0 -1.6**
PABE IAmb IAmb 18 57 48.2
comp=Z,65nm,0.8s
PABE Paberze 17.46 7 *e*P **Pn** **18 57 47.2 -0.4**
PABE IAmb IAmb 18 57 58.1
comp=Z,102nm,1.3s
IIGN Ignalina 17.58 11 *e*P **Pn** **18 57 48.5 -0.8**
IDID Didziasalis 17.63 12 *e*P **Pn** **18 57 49.4 -0.5**
IDID IAmb IAmb 18 58 05.0
comp=Z,11nm,1.0s
NEY Neytrino 17.67 66 *i* P **P** **18 57 52.6 +1.1**
SHA1 Shidzhatmaz 17.70 65 *i* P **Pn** **18 57 51.5 +0.4**
KARS Kars 17.72 75 P **P** **18 57 52.8 +0.7**
KARS pmax pmax
comp=Z,68nm,0.7s
KARS Kars 17.72 75 P **P** **18 57 52.8 +0.7**
KIV Kislovodsk 17.77 64 *e*P **P** **18 57 53.0 +0.6**
KIV pmax pmax
comp=Z,34nm,1.1s
KIV MLR MLR
comp=Z,30nm,14.0s
KIV Kislovodsk 17.77 64 **P** **18 57 53.1 +0.6**
KIV IAmb IAmb 18 57 58.5
comp=Z,42nm,1.2s
KIV Kislovodsk 17.77 64 ⇑P **P** **18 57 53.9 +1.5**
GEVA Gevas 17.84 83 P **P** **18 57 54.0 +0.6**
GEVA IAmb IAmb 18 58 03.6
comp=Z,44nm,1.2s
KBZ Khabaz 17.87 65 Pn **P** **18 57 55.2 +1.7**
comp=Z,0.5nm,0.3s,baz=268,slow=8.5,SNR=24
KBZ Khabaz 17.87 65 *c*e**P** **P** **18 57 55.6 +2.1**
LDF La Druitiere 18.07 312 *e*P **P** **18 57 58.4 +2.7**
LDF pmax pmax
comp=Z,56nm,2.0s
ONI Oni 18.11 69 P **P** **18 57 56.6 +0.3**
ONI pmax pmax
comp=Z,16nm,1.0s
ONI Oni 18.11 69 **P** **18 57 56.6 +0.3**
GOF Gofitskoye 18.25 61 ⇓ *i*P **P** **18 57 59.5 +1.8**
GOF pmax pmax
comp=Z,68nm,1.3s
NCK Nalchik 18.34 66 ⇓ *i*P **P** **18 58 01.5 +2.8**
NCK pmax pmax
comp=Z,11nm,0.5s
FLN La Foliniere 18.36 312 *e*P **Pn** **18 58 04.0 +5.1**
FLN pmax pmax
comp=Z,31nm,1.5s
ZEI Tsey 18.46 68 *e*P **Pn** **18 58 01.5 +1.1**
ZEI pmax pmax
comp=Z,25nm,0.9s
VORD Divnogorie 18.48 40 *e*P **Pn** **18 58 00.8 +0.4**
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 18.57 40 *e*P **P** **18 58 00.7 -0.5**
VSR pmax pmax
comp=Z,40nm,1.7s
VORR Voronezh 18.87 39 *e*P **P** **18 58 04.2 -0.2**
VORR pmax pmax
comp=Z,20nm,1.2s
ESDC Sonseca Array 18.95 282 P **P** **18 58 05.8 +0.3**
comp=Z,0.2nm,0.3s,baz=77,slow=10,SNR=13
ESDC LR LR 19 05 30.1
comp=Z,87nm,21.1s,baz=98,slow=37
GNI Garni 19.00 77 P **Pn** **18 58 07.1 +0.2**
comp=Z,1.1nm,0.3s,baz=317,slow=18,SNR=23
GNI Garni 19.00 77 *c*e**P** **Pn** **18 58 07.0 +0.1**
GNI pmax pmax
comp=Z,104nm,1.7s
GNI Garni 19.00 77 P **Pn** **18 58 07.3 +0.4**
GNI Garni 19.00 77 ⇓P **Pn** **18 58 08.0 +1.1**
LPSR Galich'ya Gora 19.33 36 *e*P **P** **18 58 09.4 0.0**
LPSR pmax pmax
comp=Z,50nm,0.9s
NAX Nakhchivan 19.64 79 P **P** **18 58 13.6 +0.5**
VRH Novokhopyorsk 19.88 42 *e*P **P** **18 58 15.9 +0.4**
VRH pmax pmax
comp=Z,70nm,1.4s
GROC Groznyy 19.89 67 *e*P **Pn** **18 58 17.7 +0.3**
GROC pmax pmax
comp=Z,40nm,0.8s
GROC MLR MLR
comp=Z,695nm,16.0s
DDFL Dedoflistskaro 20.03 73 P Pn 18 58 21.3 +2.2
LGD Lagodekhi 20.13 72 P Pn 18 58 19.7 -0.5
OBN Obninsk 20.14 28 P **P** **18 58 16.6 -1.7**
comp=Z,6.4nm,0.6s,baz=293,slow=13,SNR=10
OBN LR LR 19 06 54.2
comp=Z,54nm,18.6s,baz=198,slow=39
OBN Obninsk 20.14 28 *de*P **P** **18 58 18.0 -0.3**
OBN *e* 18 58 34.1
OBN pmax pmax
comp=Z,70nm,1.3s
OBN MLR MLR
comp=Z,380nm,17.0s
OBN Obninsk 20.14 28 P **P** **18 58 17.7 -0.6**
GANJ Ganja 20.19 75 P Pn 18 58 20.2 -0.8
ZKTA Zakatala 20.41 72 P **P** **18 58 22.2 +0.8**
VIKU Vikbolandet 20.43 355 *e*P **P** **18 58 22.1 +0.8**
MTSE Matsula 20.62 5 *e*P **P** **18 58 24.1 +0.6**
VSU Vasula 20.67 10 *c i*P **P** **18 58 23.3 -0.7**
VSU Vasula 20.67 10 *e*P **P** **18 58 24.6 +0.6**
VSU Vasula 20.67 10 ⇑P **P** **18 58 24.1 +0.2**
MNGR Mingechevir, A 20.77 75 P **P** **18 58 26.2 +1.0**
SEKA Sheki 20.84 73 P Pn 18 58 28.6 0.0
MDT Midelt 20.99 263 P **P** **18 58 28.7 +0.9**
comp=Z,4.0nm,0.9s,baz=49,slow=10,SNR=3.3
MDT LR LR 19 06 29.3
comp=Z,89nm,20.8s,baz=79,slow=36
MOS Moscow 21.01 28 *e*P **P** **18 58 26.6 -1.1**
MOS *e*S **S** **19 02 22.0 +1.3**
MOS pmax pmax
comp=Z,94nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.1s
MAK Makhachkala 21.12 68 *c i*P **P** **18 58 28.0 -1.0**
MAK *e*S **S** **19 02 21.2 -1.8**
MAK pmax pmax
comp=Z,406nm,1.2s
MAK MLR MLR
comp=Z,91nm,14.0s
MVO Moncorvo 21.23 287 *e*P **P** **18 58 31.1 +0.8**
comp=Z,66nm,2.1s
HOMB Homborsund 21.49 343 *e*P **P** **18 58 33.8 +1.0**
PBAR Barrancos 21.50 278 *e*P **P** **18 58 35.3 +2.2**
comp=Z,41nm,2.1s
PMRV Marv??o 21.61 282 *e*P **P** **18 58 34.2 -0.2**
comp=Z,37nm,1.5s
UPP Uppsala 21.72 356 *e*P **P** **18 58 35.2 0.0**
AAL Aland 21.97 360 *e*P **P** **18 58 37.8 -0.2**
MEF Metsahovi 22.16 5 *e*P **P** **18 58 39.2 -0.8**
LKRN Lenkeran, Azer 22.24 80 P **P** **18 58 42.3 +1.3**
PMTG Montargil 22.30 281 *e*P **P** **18 58 41.1 -0.6**
comp=Z,49nm,1.8s
HFS Hagfors 22.33 351 P **P** **18 58 40.9 -0.9**
comp=Z,12nm,0.8s,baz=178,slow=16,SNR=21
PCVE Castro Verde 22.36 277 *e*P **P** **18 58 42.3 -0.1**
comp=Z,54nm,1.4s
PUL Pulkovo 22.48 13 *c*e**P** **P** **18 58 42.8 -0.7**
PUL pmax pmax
comp=Z,57nm,0.4s
KONO Kongsberg 22.51 346 *c*e**P** **P** **18 58 44.3 +0.5**
KONO pmax pmax
comp=Z,39nm,2.5s
KONO Kongsberg 22.51 346 P **P** **18 58 43.9 +0.1**
KONO IAmb IAmb 18 58 45.6
comp=Z,22nm,1.1s
KONO Kongsberg 22.51 346 ⇓P **P** **18 58 44.6 +0.8**
KONO Kongsberg 22.51 346 *e*P **P** **18 58 44.6 +0.8**
OSL Oslo 22.58 347 *e*P **P** **18 58 44.3 -0.1**
RAF Rauma 22.84 2 *e*P **P** **18 58 46.5 -0.6**
BLS5 Blasjo 23.00 342 *e*P **P** **18 58 50.0 +1.0**
NC602 NORSAR Array S 23.20 349 P **P** **18 58 50.4 -0.6**
NC602 IAmb IAmb 18 58 56.4
comp=Z,25nm,0.8s
NC602 NORSAR Array S 23.20 349 *e*P **P** **18 58 51.0 0.0**
NORES NORESS Array B 23.20 349 P **P** **18 58 50.0 -1.0**
NORES pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 23.31 325 P **P** **18 58 51.6 -0.4**
comp=Z,7.5nm,0.7s,baz=125,slow=9.5,SNR=13
NAO01 NORSAR Array S 23.41 348 P **P** **18 58 52.6 -0.4**
FINES FINESS Array B 23.51 7 P **P** **18 58 52.2 -1.8**
comp=Z,6.3nm,0.4s,baz=175,slow=9.4,SNR=85
FINES ScP **ScP** **19 06 15.4 -0.7**
comp=Z,2.1nm,1.0s,baz=144,slow=7.1,SNR=4.4
FINES LR LR 19 09 15.7
comp=Z,201nm,18.4s,baz=222,slow=40
FINES FINESS Array B 23.51 7 *i* P **P** **18 58 53.2 -0.8**
FINES pmax pmax
comp=Z,7.0nm,0.4s
FINES FINESS Array B 23.51 7 P **P** **18 58 52.9 -1.1**
FIA1 FINESS Array S 23.52 7 P **P** **18 58 53.1 -0.9**
FIA1 IAmb IAmb 18 58 55.2
comp=Z,29nm,1.1s
NC405 NORSAR Array S 23.54 349 P **P** **18 58 53.7 -0.6**
NB201 NORSAR Array S 23.54 349 P **P** **18 58 54.0 -0.3**
NB2 NORSAR Subarra 23.54 349 P **P** **18 58 54.2 -0.2**
comp=Z,21nm,1.0s,baz=162,slow=10
NB2 NORSAR Subarra 23.54 349 P **P** **18 58 54.2 -0.2**
baz=162,slow=10
NOA NORSAR Array B 23.54 349 P **P** **18 58 53.0 -1.4**
comp=Z,7.9nm,0.8s,baz=161,slow=9.4,SNR=54
NOA LR LR 19 09 14.4
comp=Z,66nm,18.1s,baz=155,slow=40
NBO00 NORSAR Array S 23.60 348 P **P** **18 58 54.8 -0.1**
BELG Belogornoye 23.66 44 P **P** **18 58 54.9 -0.7**
comp=Z,45nm,0.3s,baz=297,slow=2.3,SNR=33
BELG LR LR 19 08 58.1
comp=Z,80nm,20.2s,baz=148,slow=39
BELG Belogornoye 23.66 44 *c i*P **P** **18 58 55.4 -0.2**
BELG pmax pmax
comp=Z,20nm,1.1s
NC303 NORSAR Array S 23.70 349 P **P** **18 58 55.5 -0.3**
NC303 IAmb IAmb 18 59 03.0
comp=Z,37nm,1.2s
SKAR Skarslia 23.72 345 *e*P **P** **18 58 57.5 +1.4**
NC300 NORSAR Array S 23.72 349 P **P** **18 58 55.6 -0.5**
NC300 IAmb IAmb 18 59 03.3
comp=Z,24nm,0.9s
NC204 NORSAR Array S 23.84 349 P **P** **18 58 57.4 +0.1**
VALR Valaam 24.07 12 *c i*P **P** **18 58 58.2 -1.1**
VALR pmax pmax
comp=Z,39nm,1.1s
ASK Askoy 24.24 342 *e*P **P** **18 59 02.4 +1.4**
HYA Hoyanger 24.61 343 *e*P **P** **18 59 04.9 +0.7**
DOMB Dombas 24.84 347 *e*P **P** **18 59 07.6 +1.2**
AKN Aaknes 25.35 345 *e*P **P** **18 59 12.1 +1.1**
KLMR Klimovskoe 25.64 22 *e*P **P** **18 59 12.0 -1.6**
KLMR pmax pmax
comp=Z,50nm,1.4s
KLMR Klimovskoe 25.64 22 *e*P **P** **18 59 12.0 -1.6**
KLMR AMP 18 59 26.2
comp=Z,50nm,1.4s
KLMR LQ LQ 19 07 54.8
KLMR LQ LQ 19 07 54.8
KLMR LR LR 19 09 09.6
RAYN Ar Rayn 25.99 117 P **P** **18 59 18.2 +1.0**
RAYN pmax pmax
comp=Z,5.0nm,1.0s
RAYN Ar Rayn 25.99 117 P **P** **18 59 18.2 +1.0**
NSS Namsos 26.80 352 *e*P **P** **18 59 24.1 +0.1**
KIRV Kirov 27.69 33 P **P** **18 59 31.3 -0.8**
comp=Z,16nm,0.5s,baz=273,slow=5.4,SNR=5.9
KIRV LR LR 19 11 16.7
comp=Z,159nm,18.6s,baz=227,slow=38
PRGR Permogore 28.18 26 *e*P **P** **18 59 34.1 -2.3**
PRGR pmax pmax
comp=Z,11nm,0.6s
MOR8 Moi Rana 28.19 355 *e*P **P** **18 59 38.5 +2.0**
KONS Konsvik 28.62 354 *e*P **P** **18 59 40.7 +0.4**
AKTO Aktyubinsk 29.26 53 P **P** **18 59 45.4 -0.9**
comp=Z,1.6nm,0.3s,baz=251,slow=6.6,SNR=10
AKTO PP **PnPn** **19 00 29.1 -10**
comp=Z,1.5nm,0.5s,baz=265,slow=10,SNR=3.9
AKTO LR LR 19 13 44.4
comp=Z,109nm,19.6s,baz=285,slow=41
FAUS Fauske 29.34 356 *e*P **P** **18 59 47.1 +0.4**
GEYT Alibeck 29.60 79 P **P** **18 59 47.5 -1.9**
comp=Z,2.8nm,0.6s,baz=251,slow=13,SNR=4.1
GEYT LR LR 19 15 08.5
comp=Z,62nm,18.4s,baz=314,slow=43
GEYT Alibeck 29.60 79 P **P** **18 59 48.7 -0.8**
GYA0B ALIBECK ARRAY 29.60 79 P **P** **18 59 48.5 -0.9**
GYA0B IAmb IAmb 19 00 07.0
comp=Z,9.2nm,1.1s
STEI Steigen 29.89 356 *e*P **P** **18 59 52.2 +0.6**
TOA0 Torodi Ar. Sit 29.98 219 P **P** **18 59 53.7 +0.8**
TOA0 IAmb IAmb 18 59 56.4
comp=Z,7.6nm,0.9s
TORD Torodi Ar. Bea 29.98 219 P **P** **18 59 52.2 -0.7**
comp=Z,7.8nm,1.0s,baz=33,slow=9.0,SNR=38
TORD ScP **ScP** **19 06 33.2 -2.9**
comp=Z,1.2nm,1.1s,baz=359,slow=1.6,SNR=4.1
TORD LR LR 19 12 30.9
comp=Z,135nm,18.7s,baz=222,slow=38
TORD Torodi Ar. Bea 29.98 219 P **P** **18 59 53.6 +0.7**
ABKAR Akbulak array 30.33 56 P **P** **18 59 55.5 -0.1**
ABKAR Akbulak array 30.33 56 P **P** **18 59 55.6 0.0**
ABKAR Akbulak array 30.33 56 ⇑P **P** **18 59 55.6 0.0**
KTK1 Kautokeino 30.88 2 *e*P **P** **19 00 00.7 +0.4**
ARU Arti 31.11 42 LR LR 19 14 04.3
comp=Z,105nm,19.8s,baz=232,slow=39
ARU Arti 31.11 42 *c i*P **P** **19 00 01.6 -0.9**
ARU 19 01 02.6
ARU S **S** **19 05 06.4 -0.5**
ARU SS **SnSn** **19 06 48.7 +0.1**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU MLR MLR
comp=Z,139nm,12.0s
ARU Arti 31.11 42 ⇑P **P** **19 00 02.0 -0.5**
TRO Tromso 31.47 359 *e*P **P** **19 00 05.9 +0.4**
ARA0 ARCESS Array S 31.49 3 *e*P **P** **19 00 05.7 0.0**
ARCES ARCESS Array B 31.49 3 P **P** **19 00 04.8 -1.0**
comp=Z,1.5nm,0.4s,baz=189,slow=11,SNR=47
ARCES PcP **PcP** **19 02 58.3 +0.1**
comp=Z,2.0nm,0.8s,baz=200,slow=3.3,SNR=8.2
ARCES LR LR 19 13 56.2
comp=Z,130nm,19.2s,baz=143,slow=38
ARCES ARCESS Array B 31.49 3 IAmb IAmb 19 00 10.8
comp=Z,26nm,1.5s
KOWA Kowa 31.98 229 P **P** **19 00 11.5 +1.0**
SVE Sverdlovsk 32.33 42 ⇑ *e*P **P** **19 00 13.5 +0.3**
SVE pmax pmax
comp=Z,19nm,0.8s
HRA Herat 33.77 83 P **P** **19 00 25.5 -0.8**
WSAR Wadi Sarin 35.87 103 LR LR 19 19 46.2
comp=Z,71nm,18.5s,baz=291,slow=44
BRVK Borovoye 37.13 50 *c*e**P** **P** **19 00 55.0 +0.3**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 37.13 50 P **P** **19 00 54.9 +0.3**
BRVK Borovoye 37.13 50 ⇓P **P** **19 00 55.1 +0.4**
CHGR Chuyangaron 37.87 74 P **P** **19 01 01.9 +0.6**
CHGR pmax pmax
comp=Z,17nm,0.7s
CHGR Chuyangaron 37.87 74 P **P** **19 01 01.9 +0.6**
KK31 Karatay Array 37.90 66 P **P** **19 01 01.4 0.0**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KK31 Karatay Array 37.90 66 P **P** **19 01 01.4 0.0**

KK31 IAmb IAmb 19 01 07.9
comp=Z,7.1nm,0.7s
KKAR Karatay Array 37.90 66 P **P** **19 01 01.3 -0.1**
KKAR 19 01 01.6
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 37.90 66 P **P** **19 01 01.6 +0.1**
KKAR IAmb IAmb 19 01 07.8
comp=Z,7.1nm,0.7s
KKAR Karatay Array 37.90 66 P **P** **19 01 01.3 -0.1**
KKAR Karatay Array 37.90 66 ⇓P **P** **19 01 01.8 +0.4**
BTK Batken 38.77 71 P **P** **19 01 08.7 -0.1**
BTK pmax pmax
comp=Z,4.0nm,0.7s
BTK Batken 38.77 71 P **P** **19 01 08.7 -0.1**
DBIC Dimbokro 38.84 222 P **P** **19 01 08.0 -1.4**
comp=Z,8.4nm,0.9s,baz=24,slow=6.9,SNR=7.6
DBIC LR LR 19 17 27.8
comp=Z,204nm,19.6s,baz=12,slow=37
DBIC Dimbokro 38.84 222 P **P** **19 01 10.1 +0.6**
DBIC pmax pmax
comp=Z,13nm,1.1s
DBIC Dimbokro 38.84 222 P **P** **19 01 10.1 +0.6**
DBIC IAmb IAmb 19 01 10.7
comp=Z,13nm,1.1s
SCO Scoresbysund 39.09 339 P **P** **19 01 13.2 +2.3**
SCO pmax pmax
comp=Z,15nm,1.2s
SCO Scoresbysund 39.09 339 P **P** **19 01 13.2 +2.3**
SCO IAmb IAmb 19 01 17.7
comp=Z,15nm,1.2s
SCO Scoresbysund 39.09 339 ⇓P **P** **19 01 13.7 +2.7**
MBAR Mbarara 39.81 164 *ce*P **P** **19 01 20.9 +3.1**
MBAR pmax pmax
comp=Z,5.0nm,1.0s
SPA0 Spitsbergen Ar 40.09 359 *e*P **P** **19 01 20.6 +1.2**
AAK Ala-Archa 40.87 66 LR LR 19 22 51.5
comp=Z,47nm,19.6s,baz=290,slow=43
AAK Ala-Archa 40.87 66 *ce*P **P** **19 01 26.5 +0.2**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 40.87 66 P **P** **19 01 26.4 +0.2**
AAK Ala-Archa 40.87 66 ⇓P **P** **19 01 26.8 +0.5**
FRU1 Bishkek 40.92 66 P **P** **19 01 26.6 -0.1**
FRU1 pmax pmax
comp=Z,20nm,1.2s
FRU1 Bishkek 40.92 66 P **P** **19 01 26.6 -0.1**
FRU1 IAmb IAmb 19 01 33.8
comp=Z,20nm,1.1s
BOOM Boomskoye usch 41.94 66 P **P** **19 01 34.9 -0.3**
BOOM pmax pmax
comp=Z,4.0nm,0.6s
BOOM Boomskoye usch 41.94 66 P **P** **19 01 34.9 -0.3**
KMBO Kilima Mbogo 42.16 154 P **P** **19 01 35.2 -2.0**
comp=Z,0.7nm,0.5s,baz=24,slow=10.0,SNR=1.6
KURK Kurchatov 42.36 53 *i*P **P** **19 01 37.0 -1.2**
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURK Kurchatov 42.36 53 P **P** **19 01 37.4 -0.8**
KURK Kurchatov 42.36 53 ⇓P **P** **19 01 38.0 -0.2**
NIL Nilore 42.60 79 P **P** **19 01 40.5 0.0**
NIL pmax pmax
comp=Z,13nm,0.9s
NIL Nilore 42.60 79 P **P** **19 01 40.5 0.0**
NIL IAmb IAmb 19 01 46.9
comp=Z,12nm,0.9s
KSH Kashi 42.74 70 P **P** **19 01 40.5 -1.1**
KSH sP sP 19 01 49.6 -0.4
KSH pmax pmax
comp=Z,3.0nm,1.0s
KDJ Kajisay 42.92 66 P **P** **19 01 43.0 -0.1**
KDJ pmax pmax
comp=Z,12nm,1.4s
KDJ Kajisay 42.92 66 P **P** **19 01 43.0 -0.1**
KDJ IAmb IAmb 19 01 50.3
comp=Z,12nm,1.4s
MAKZ Makanchi 45.18 58 P **P** **19 02 00.6 -0.4**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 45.18 58 P **P** **19 02 00.6 -0.4**
MAKZ Makanchi 45.18 58 ⇑P **P** **19 01 59.5 -1.5**
MK31 Makanchi Array 45.39 58 *d*i P **P** **19 02 02.3 -0.4**
MK31 Makanchi Array 45.39 58 P **P** **19 02 01.7 -1.0**
MK31 IAmb IAmb 19 02 03.0
comp=Z,3.9nm,0.7s
MKAR Makanchi Array 45.39 58 P **P** **19 02 01.9 -0.8**
comp=Z,3.9nm,0.5s,baz=275,slow=7.3,SNR=97
MKAR ScP **ScP** **19 07 34.4 +1.0**
comp=Z,0.3nm,0.8s,baz=265,slow=7.8,SNR=2.9
MKAR LR LR 19 25 09.3
comp=Z,34nm,19.6s,baz=273,slow=42
MKAR Makanchi Array 45.39 58 *i*P **P** **19 02 02.2 -0.5**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 45.39 58 P **P** **19 02 01.8 -0.9**
ZAA0 Zalesovo Array 45.76 48 P **P** **19 02 05.2 -0.3**
ZALV Zalesovo Beam 45.76 48 P **P** **19 02 04.4 -1.1**
comp=Z,14nm,0.5s,baz=276,slow=8.4,SNR=76
ZALV LR LR 19 24 04.2
comp=Z,113nm,18.3s,baz=326,slow=40
ZALV Zalesovo Beam 45.76 48 *i*P **P** **19 02 05.0 -0.5**
ZALV pmax pmax
comp=Z,14nm,0.5s
ZALV Zalesovo Beam 45.76 48 P **P** **19 02 04.9 -0.6**
NRIK Noril'sk 46.81 27 P **P** **19 02 13.4 -0.1**
comp=Z,1.0nm,0.3s,baz=288,slow=6.8,SNR=4.8
NRIK LR LR 19 24 09.8
comp=Z,148nm,21.5s,baz=254,slow=39
NRIK Noril'sk 46.81 27 *i*P **P** **19 02 11.9 -1.6**
NRIK pmax pmax
comp=Z,10.0nm,1.5s
NRIK Noril'sk 46.81 27 P **P** **19 02 13.2 -0.3**
NRIK IAmb IAmb 19 02 16.0
comp=Z,12nm,1.4s
WMQ Urumqi 49.86 61 *e*P **P** **19 02 40.0 +2.5**
LSZ Lusaka 53.73 171 LR LR 19 26 56.4
comp=Z,129nm,18.3s,baz=342,slow=37
MOY Mondy 55.82 48 *e*P **P** **19 03 22.1 +0.7**
MOY pmax pmax
comp=Z,12nm,1.4s
TSUM Tsumeb 57.18 183 LR LR 19 29 38.2
comp=Z,86nm,18.4s,baz=341,slow=38
ZAK Zakamensk 57.63 49 *e*P **P** **19 03 34.8 +0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
GOMU GeErMu 57.80 67 P P 19 03 28.5 -7.5
GOMU pP pP 19 03 34.5 -7.8
GOMU sP sP 19 03 37.1 -7.2
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU pmax pmax
comp=Z,46nm,4.0s
SCHQ Schefferville 58.33 317 P **P** **19 03 38.6 -0.4**
comp=Z,1.7nm,0.5s,baz=93,slow=5.7,SNR=6.4
SCHQ Schefferville 58.33 317 IAmb IAmb 19 03 47.7
comp=Z,4.6nm,0.9s
TIXI Tiksi 59.65 20 LR LR 19 33 30.1
comp=Z,386nm,18.5s,baz=358,slow=40
TIXI Tiksi 59.65 20 *i*P **P** **19 03 48.7 +0.8**
TIXI pmax pmax
comp=Z,8.0nm,2.1s
TIXI Tiksi 59.65 20 P **P** **19 03 48.3 +0.4**
GTA Gaotai 59.92 62 ⇓P **P** **19 03 50.2 -0.3**
GTA pP sP 19 03 58.4 -0.2
GTA pmax pmax
comp=Z,4.0nm,0.7s
BOD Bodaibo 60.42 38 *e*P **P** **19 03 52.6 -0.8**
BOD pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 60.53 51 P **P** **19 03 53.6 -0.9**
comp=Z,1.8nm,0.7s,baz=286,slow=8.8,SNR=16
SONM LR LR 19 32 51.2
comp=Z,82nm,18.6s,baz=328,slow=39
SONM Songino Array 60.53 51 P **P** **19 03 54.3 -0.2**
SONM pmax pmax
comp=Z,6.0nm,1.3s
SONM Songino Array 60.53 51 P **P** **19 03 54.3 -0.2**
SONM IAmb IAmb 19 03 59.7
comp=Z,5.7nm,1.3s
SHL Shillong 60.68 79 P **P** **19 03 53.7 -2.2**
SHL pmax pmax
comp=Z,8.0nm,1.2s
SHL Shillong 60.68 79 P **P** **19 03 53.7 -2.2**
SHL IAmb IAmb 19 04 22.7
comp=Z,8.2nm,1.2s

ULN Ulaanbaatar 60.92 50 *i*P **P** **19 03 56.6 -0.6**
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 60.92 50 P **P** **19 03 56.9 -0.3**
ULN IAmb IAmb 19 03 57.6
comp=Z,3.3nm,0.9s
LBTB Lobatse 63.10 175 LR LR 19 33 54.4
comp=Z,89nm,18.5s,baz=5.0,slow=38
LZH Lanzhou 64.31 63 *e*P **P** **19 04 19.7 -0.3**
LZH pP sP 19 04 28.2 +0.1
LZH pmax pmax
comp=Z,9.0nm,1.1s
YAK Yakutsk 65.13 29 LR LR 19 36 56.4
comp=Z,76nm,18.0s,baz=232,slow=40
YAK Yakutsk 65.13 29 *e*P **P** **19 04 24.0 -0.7**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK Yakutsk 65.13 29 P **P** **19 04 24.0 -0.7**
BOSA Boshof 66.65 175 P **P** **19 04 34.5 -0.5**
comp=E,3.0nm,1.1s,baz=267,slow=2.7,SNR=2.2
BOSA LR LR 19 36 02.3
comp=E,150nm,18.5s,baz=12,slow=38
HHC Hu-ho-hao-te 67.12 55 *e*P **P** **19 04 37.2 -0.8**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,67nm,5.9s
HIA Hailar 67.58 44 P **P** **19 04 40.5 -0.2**
HIA pmax pmax
comp=Z,9.0nm,0.9s
HIA Hailar 67.58 44 P **P** **19 04 40.5 -0.2**
PZH PanZhiHua 67.72 73 P **P** **19 04 41.3 -0.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,5.8s
RCBR Riachuelo 68.09 243 LR LR 19 35 11.5
comp=Z,119nm,18.2s,baz=146,slow=36
ZEA Zeya 68.92 38 *e*P **P** **19 04 50.4 +1.5**
CHTO Chiang Mai 69.82 82 P **P** **19 04 54.5 -0.5**
CHTO pmax pmax
comp=Z,4.0nm,1.1s
CHTO Chiang Mai 69.82 82 P **P** **19 04 54.5 -0.5**
CHTO IAmb IAmb 19 05 00.7
comp=Z,4.2nm,1.1s
CMAR Chiang Mai Arr 70.02 82 P **P** **19 04 55.0 -1.2**
comp=Z,1.8nm,0.9s,baz=307,slow=8.0,SNR=14
CMAR Chiang Mai Arr 70.02 82 *i*P **P** **19 04 56.0 -0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 70.02 82 P **P** **19 04 55.6 -0.7**
BILL Bilibino 71.00 13 *e*P **P** **19 05 01.4 -0.1**
BILL *e* 19 05 21.7
BILL *e*PPP PPP 19 09 21.3
BILL pmax pmax
comp=Z,11nm,1.7s
BILL Bilibino 71.00 13 P **P** **19 05 01.3 -0.1**
BILL IAmb IAmb 19 05 10.0
comp=Z,6.1nm,1.2s
SEY Seymchan 72.14 21 LR LR 19 40 49.2
comp=Z,62nm,19.1s,baz=306,slow=39
SEY Seymchan 72.14 21 *i*P **P** **19 05 09.1 +0.7**
SEY pmax pmax
comp=Z,7.0nm,1.5s
YKA Yellowknife Ar 73.30 340 P **P** **19 05 15.2 -0.1**
comp=Z,0.4nm,0.5s,baz=34,slow=5.4,SNR=9.1
YKA Yellowknife Ar 73.30 340 *i*P **P** **19 05 16.2 +1.0**
MDP Montagnes des 73.50 263 LR LR 19 35 39.0
comp=Z,46nm,19.9s,baz=123,slow=34
BNX BinXian 73.86 44 ⇓P **P** **19 05 19.3 +0.5**
BNX pmax pmax
comp=Z,24nm,1.1s
BNX pmax pmax
comp=Z,220nm,5.0s
KLR Kul'dur 73.92 39 *c*i P **P** **19 05 18.9 -0.3**
KLR pmax pmax
comp=Z,7.0nm,0.7s
CN2 Changchun 73.95 47 *e*P **P** **19 05 19.6 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 74.30 24 *i*P **P** **19 05 22.8 +1.6**
MA2 pmax pmax
comp=Z,17nm,1.0s
I29M Ogilvie Camp, 75.41 351 P **P** **19 05 28.2 +0.7**
I29M IAmb IAmb 19 05 49.8
comp=Z,4.8nm,0.9s
ULM Lac du Bonnet 75.58 324 P **P** **19 05 27.3 -1.5**
comp=Z,3.2nm,0.6s,baz=91,slow=4.7,SNR=4.4
ULM Lac du Bonnet 75.58 324 P **P** **19 05 28.9 +0.2**
ULM pmax pmax
comp=Z,4.0nm,0.9s
ULM Lac du Bonnet 75.58 324 P **P** **19 05 28.9 +0.2**
ULM IAmb IAmb 19 05 33.2
comp=Z,4.4nm,0.8s
H23K Yukon River 75.98 356 P **P** **19 05 30.4 -0.4**
H23K IAmb IAmb 19 05 33.9
comp=Z,5.4nm,1.1s
IMAR Indian Mountai 76.02 358 P **P** **19 05 32.6 +1.6**
H21K Melozitna Rive 76.31 357 P **P** **19 05 32.4 -0.2**
ILAR Eielson Array 76.84 354 P **P** **19 05 34.9 -0.9**
comp=Z,0.6nm,0.8s,baz=352,slow=4.1,SNR=5.7
NJ2 Nanjing 76.91 60 *e*P **P** **19 05 36.1 -0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
USRK Ussuriysk Ar. 77.34 43 P **P** **19 05 38.4 -0.4**
comp=Z,4.2nm,0.8s,baz=294,slow=4.4,SNR=7.5
USRK LR LR 19 42 08.0
comp=Z,36nm,18.4s,baz=309,slow=38
DHY Denali Highway 78.56 354 P **P** **19 05 45.2 -0.3**
DHY IAmb IAmb 19 05 49.6
comp=Z,4.0nm,0.9s
KSAR Wonju Array Be 79.39 51 P **P** **19 05 50.3 0.0**
KSAR Wonju Array Be 79.39 51 P **P** **19 05 50.3 0.0**
KSRS Korea Array 79.41 51 P **P** **19 05 49.0 -1.4**
comp=Z,1.8nm,0.7s,baz=306,slow=4.8,SNR=6.4
KSRS LR LR 19 44 47.8
comp=Z,33nm,18.5s,baz=5.0,slow=39
DLBC Dease Lake 80.56 345 LR LR 19 43 47.0
comp=Z,88nm,18.1s,baz=274,slow=37
YSS Yuzh-Sakhalins 80.81 36 *e*P **P** **19 05 59.0 +1.2**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS MLR MLR
comp=Z,400nm,15.0s
PETK Petropavlovsk- 81.81 24 LR LR 19 47 21.0
comp=Z,87nm,18.4s,baz=292,slow=39
MJAR Matsushiro Anr 86.05 46 LR LR 19 45 54.1
comp=Z,75nm,21.4s,baz=128,slow=36
PDAR Pinedale Array 87.43 326 P **P** **19 06 31.7 -0.2**
comp=Z,0.2nm,0.6s,baz=21,slow=7.8,SNR=2.8
TXAR Lajitas Array 94.84 313 P **P** **19 07 07.4 +1.0**
comp=Z,0.5nm,0.8s,baz=104,slow=5.3,SNR=5.5
CPUP Villa Florida 96.95 242 LR LR 19 52 22.9
comp=Z,112nm,18.1s,baz=54,slow=36
WRA Warramunga Arr 120.68 92 PKP **PKPdf** **19 12 34.7 -1.8**
comp=Z,0.5nm,0.8s,baz=314,slow=1.5,SNR=5.2
ASAR Alice Springs 122.32 96 PKP **PKPdf** **19 12 39.2 -0.3**
comp=Z,0.3nm,0.4s,baz=299,slow=1.3,SNR=7.3

*IDC **11** 18:54:42.5±2.5,0.°07S×123.°18E,h143km±24km, mb3.2/6, mb1 3.4/9, mb1mx3.2/40, mbtmp3.7/9, MS2.7/2, Ms1 2.7/2, ms1mx2.2/25, Error ellipse: s-maj=23.5km s-min=15.3km az=56.0*
*DJA **11** 18:54:43.8±0.2,0°S±2°×12°3E±°, h117km±4km, M4.0/18, mb3.9/9, mBA5/2, MLv4.0/18, Mw(mB)3.6/2*
ISC 11 18:54:43.4±0.6,**0.°10S**±0.°05×**123.°29E**±0.°04,**h157**km,**n34,**
σ2s25/s43,mb3.5/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.78**	**339**	P	**Pn**	**18 55 06.4**	**-0.8**
GTOI				S	**Sn**	**18 55 23.8**	**-1.7**
KMSI	**Cibinong**	**0.96**	**46**	P	**Pn**	**18 55 06.3**	**-2.2**
LUWI	**Luwuk**	**1.07**	**209**	P	**Pn**	**18 55 07.4**	**-2.0**
LUWI				S	**Sn**	**18 55 24.8**	**-4.6**
LUWI	**Luwuk**	**1.07**	**209**	P	**Pn**	**18 55 07.5**	**-2.0**
MRSI	**Marisa**	**1.47**	**293**	P	**Pn**	**18 55 10.2**	**-2.9**
MRSI				S	**Sn**	**18 55 29.8**	**-6.1**
APSI	**Ampana**	**1.83**	**244**	P	**Pn**	**18 55 14.7**	**-2.3**
APSI				S	**Sn**	**18 55 38.1**	**-4.7**

TOLI2 Tolitoli 2.78 296 P **Pn** **18 55 27.1 -1.2**
SANI Sanana 3.32 126 P **Pn** **18 55 32.6 -2.5**
SANI S **Sn** **18 56 10.7 -4.5**
SANI Sanana 3.32 126 P **Pn** **18 55 33.3 -1.8**
MPSI Mapaga 3.42 277 P **Pn** **18 55 35.0 -1.4**
MPSI S **Sn** **18 56 16.3 -1.2**
TNTI Ternate 4.17 78 P **Pn** **18 55 46.0 0.0**
TNTI S **Sn** **18 56 32.5 -2.3**
TNTI Ternate 4.17 78 P **Pn** **18 55 46.1 0.0**
LBMI Labuha 4.25 97 P **Pn** **18 55 46.5 -0.6**
LBMI S **Sn** **18 56 33.5 -3.1**
TTSI Tana Toraja 4.54 230 P **Pn** **18 55 50.4 -0.5**
SPSI Sidrap Palu 5.21 222 P **Pn** **18 55 59.9 +0.2**
0.1nm389nm27nm,0.7s
BNSI Bone 5.33 217 P **Pn** **18 56 00.9 -0.4**
0.1nm20nm,0.6s
BBSI Bau Bau 5.40 188 P **Pn** **18 56 01.2 -1.1**
0.0nm2.0nm,0.7s
KAPI Kappang 6.03 216 P **Pn** **18 56 08.1 -2.5**
1.9nm,0.3s,baz=12,slow=9.1,SNR=5.1
KAPI S **Sn** **18 57 17.1 -1.8**
baz=36,slow=21,SNR=1.1
BKSI Bulukumba 6.08 211 P **Pn** **18 56 11.9 +0.7**
0.0nm9.1nm,0.8s
BSSI Bau Bau, Buton 6.62 205 P **Pn** **18 56 19.0 +0.5**
0.1nm25nm,0.8s
DAV Davao City (W) 7.48 18 LR LR 18 59 40.4
comp=Z,23nm,18.4s,baz=46,slow=40
SIJI Sorong 8.01 95 P **Pn** **18 56 37.1 0.0**
0.6nm,0.3s,baz=333,slow=6.8,SNR=2.1
KKM Kota Kinabalu 9.33 311 P **Pn** **18 56 57.0 +2.3**
BATI Baumata 10.05 178 LR LR 19 01 38.2
comp=Z,96nm,18.4s,baz=118,slow=41
MTN Manton Dam 14.86 149 P **P** **18 58 09.6 +1.9**
UGM Wanagama 14.90 238 P **P** **18 58 11.0 +2.8**
61nm,0.6s
FITZ Fitzroy Crossi 18.03 173 P **Pn** **18 58 43.7 -0.6**
0.4nm,0.3s,baz=9.5,slow=8.0,SNR=18
WRA Warramunga Arr 22.50 152 P **P** **18 59 30.8 +0.8**
1.6nm,0.5s,baz=331,slow=10,SNR=34
ASAR Alice Springs 25.59 157 P **P** **18 59 59.5 +1.3**
0.4nm,0.5s,baz=345,slow=15,SNR=7.3
ASAR PcP **PcP** **19 03 26.0 +0.8**
0.3nm,0.3s,baz=349,slow=2.1,SNR=6.9
CMAR Chiang Mai Arr 30.20 309 P **P** **19 00 39.8 +0.5**
0.5nm,0.7s,baz=135,slow=7.1,SNR=6.7
STKA Stephens Creek 36.04 153 P **P** **19 01 31.4 +1.7**
1.5nm,0.6s,baz=326,slow=7.3,SNR=1.7
SONM Songino Array 49.96 345 P **P** **19 03 22.2 +0.8**
0.2nm,0.4s,baz=155,slow=6.4,SNR=3.6
MKAR Makanchi Array 58.85 328 P **P** **19 04 24.9 -0.7**
0.4nm,0.5s,baz=123,slow=7.7,SNR=1.8
MKAR PcP **PcP** **19 05 11.3 -2.1**
0.2nm,0.4s,baz=161,slow=3.1,SNR=1.3
TORD Torodi Ar. Bea 120.71 285 PKP **PKPdf** **19 13 17.0 -0.8**
0.2nm,0.6s,baz=107,slow=2.7,SNR=2.2

*IDC **11** 19:12:38.5±1.2,43.°76N×127.°31W,h0km,mb3.4/8, mb1 3.7/14,mb1mx3.6/52,mbtmp3.5/14,ML3.3/6,MS3.0/9, Ms1 3.0/9,ms1mx2.9/37,Error ellipse: s-maj=31.6km s-min=10.8km az=44.0*
*NEIC **11** 19:12:41.2±2.3,43.°65N±0.°07×127.°6W±0.°1,h10km±2km, mb3.7/8,ML3.4/59,Error ellipse: s-maj=13.3km s-min=11.3km az=275.0*
*ANF **11** 19:12:41.9±0.8,43.°57N×127.°43W,h10km,ML3.9/19, Error ellipse: s-maj=8.0km s-min=4.5km az=69.0*
ISC 11 19:12:40.5±0.8,**43.°55N**±0.°06×**127.°62W**±0.°07,**h15**km,
n141,σ1s47/138,mb3.4/9,**MS3.3**/3,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**2.71**	**97**		**Pn**	**19 13 22.4**	**-1.1**
J01E				IAML		19 13 58.9	
	comp=N,200nm,0.4s						
J01E				IAML		19 14 01.4	
	comp=E,162nm,0.6s						
J01E	**Myrtle Point**	**2.71**	**97**	S	**Sn**	**19 13 55.9**	**-0.2**
	baz=282						
I02E	**Swisshome, OR**	**2.78**	**77**		**Pn**	**19 13 23.7**	**-0.7**
I02E	**Swisshome, OR**	**2.78**	**77**	P	**Pn**	**19 13 23.8**	**-0.7**
	baz=261,SNR=8.6						
I02E				S	**Sn**	**19 13 57.4**	**-0.4**
	baz=261						
K02D	**Willamette Mer**	**3.02**	**105**	P	**Pn**	**19 13 26.6**	**-1.2**
	baz=291,SNR=5.6						
K02D				S	**Sn**	**19 14 03.1**	**-0.5**
	baz=291						
I03D	**Drain, OR**	**3.10**	**86**	P	**Pn**	**19 13 28.4**	**-0.5**
	baz=271,SNR=49						
I03D				S	**Sn**	**19 14 05.9**	**+0.3**
	baz=271						
DBO	**Dodson Butte**	**3.22**	**96**		**Pn**	**19 13 29.7**	**-0.8**
DBO				IAML		19 14 13.7	
	comp=E,74nm,0.8s						
DBO				IAML		19 14 15.9	
	comp=N,56nm,0.5s						
HEBO	**Mount Hebo**	**3.23**	**58**		**Pn**	**19 13 30.7**	**0.0**
HEBO				IAML		19 14 12.5	
	comp=N,176nm,1.0s						
HEBO				IAML		19 14 12.6	
	comp=E,190nm,0.4s						
L02E	**Cave Junction**	**3.26**	**114**	Pn	**Pn**	**19 13 31.2**	**+0.1**
L02E	**Cave Junction**	**3.26**	**114**	S	**Sn**	**19 14 09.3**	**-0.3**
	baz=300						
COR	**Corvallis**	**3.27**	**70**		**Pn**	**19 13 31.6**	**+0.4**
COR				IAML		19 14 17.1	
	comp=E,65nm,0.6s						
COR				IAML		19 14 17.6	
	comp=E,58nm,0.6s						
G03D	**McMinnville, O**	**3.53**	**61**		**Pn**	**19 13 34.9**	**+0.1**
G03D				IAML		19 14 22.7	
	comp=N,199nm,0.6s						
G03D	**McMinnville, O**	**3.53**	**61**	P	**Pn**	**19 13 34.8**	**+0.1**
	baz=244,SNR=152						
HUMO	**Hull Mountain**	**3.54**	**104**		**Pn**	**19 13 34.5**	**-0.4**
HUMO				IAML		19 14 21.6	
	comp=N,72nm,1.1s						
H04D	**Lebanon**	**3.65**	**73**		**Pn**	**19 13 36.7**	**+0.4**
H04D				IAML		19 14 04.9	
	comp=N,59nm,0.6s						
H04D				IAML		19 14 28.9	
	comp=E,71nm,0.4s						
H04D	**Lebanon**	**3.65**	**73**	P	**Pn**	**19 13 36.8**	**+0.4**
	baz=257,SNR=28						
I04A	**Tendick Farm,**	**3.78**	**85**	P	**Pn**	**19 13 39.2**	**+0.9**
	baz=270,SNR=110						
J04D	**Umpqua Nationa**	**4.03**	**93**		**Pn**	**19 13 43.0**	**+1.2**
J04D	**Umpqua Nationa**	**4.03**	**93**	P	**Pn**	**19 13 42.8**	**+1.0**
	baz=278,SNR=67						
YBH	**Yreka Blue Hor**	**4.05**	**115**	Pn	**Pn**	**19 13 41.7**	**-0.2**
	comp=E,1.5nm,0.3s,baz=299,slow=14,SNR=23						
YBH				Sn	**Sn**	**19 14 28.4**	**-0.8**
	comp=E,0.8nm,0.3s,baz=234,slow=19,SNR=6.0						
YBH				LR	LR	19 14 41.9	
	comp=E,41nm,20.0s,baz=304,slow=31						
YBH	**Yreka Blue Hor**	**4.05**	**115**		**Pn**	**19 13 43.4**	**+1.4**
H04A	**Detroit Lake**	**4.07**	**72**		**Pn**	**19 13 42.8**	**+0.6**
H04A				IAML		19 14 10.3	
	comp=E,46nm,0.5s						
H04A				IAML		19 14 10.5	
	comp=N,54nm,0.5s						
L04D	**Klamath Falls**	**4.12**	**107**		**Pn**	**19 13 44.6**	**+1.5**
L04D				IAML		19 14 38.3	
	comp=N,46nm,0.9s						
L04D				IAML		19 14 41.8	
	comp=E,68nm,0.6s						
L04D	**Klamath Falls**	**4.12**	**107**	P	**Pn**	**19 13 44.0**	**+1.0**
	baz=293,SNR=14						
F04D	**Rainier, OR**	**4.14**	**51**	P	**Pn**	**19 13 43.7**	**+0.6**
	baz=234,SNR=10.0						
E03A	**Lebam**	**4.15**	**42**		**Pn**	**19 13 42.9**	**-0.3**
K04D	**Chiloquin, OR**	**4.39**	**100**	P	**Pn**	**19 13 46.8**	**+0.1**
	baz=286,SNR=7.8						
K04D				S	**Sn**	**19 14 38.0**	**+0.3**
	baz=286						
F04A	**Amboy**	**4.40**	**55**		**Pn**	**19 13 47.7**	**+1.0**
KMRM	**Mail Ridge**	**4.42**	**137**	Pn	**Pn**	**19 13 49.2**	**+2.1**
KMRM				IAML		19 14 46.0	
	comp=N,25nm,3.5s						
KMRM				IAML		19 15 43.8	
	comp=E,31nm,3.8s						
WISH	**Wishkah**	**4.48**	**36**		**Pn**	**19 13 47.5**	**-0.2**
WISH				IAML		19 14 43.4	
	comp=E,65nm,0.5s						

WISH					IAML			19 14 45.5
	comp=N,96nm,0.6s							
I05D	**Terrebonne, OR**	**4.60**	**78**	P		**Pn**		**19 13 50.2 +0.7**
	baz=263,SNR=18							
M04C	**Macdoel**	**4.61**	**111**	Pn		**Pn**		**19 13 50.1 +0.3**
M04C					IAML			19 14 49.1
	comp=N,23nm,1.6s							
HOOD	**Mount Hood Mea**	**4.62**	**65**			**Pn**		**19 13 51.1 +1.2**
HOOD					IAML			19 14 30.1
	comp=N,51nm,1.0s							
HOOD					IAML			19 14 49.3
	comp=E,54nm,0.5s							
NLWA	**Neilton Lookou**	**4.66**	**33**			**Pn**		**19 13 49.9 -0.3**
J05D	**Fort Rock, OR**	**4.66**	**91**	P		**Pn**		**19 13 50.7 +0.3**
	baz=277,SNR=22							
E04D	**Cinebar**	**4.67**	**48**	Pn		**Pn**		**19 13 50.8 +0.5**
E04D					IAML			19 14 48.4
	comp=E,63nm,0.6s							
E04D					IAML			19 14 49.4
	comp=N,56nm,0.3s							
E04D	**Cinebar**	**4.67**	**48**	P		**Pn**		**19 13 50.9 +0.5**
	baz=232,SNR=84							
E04D					S	**Sn**		**19 14 45.1 +0.8**
	baz=232							
G05D	**Wamic, OR**	**4.82**	**67**	P		**Pn**		**19 13 53.7 +1.2**
	baz=252,SNR=40							
PINE	**Pine Mountain**	**4.85**	**85**			**Pn**		**19 13 53.6 +0.6**
C03A	**Quillayute Air**	**4.88**	**25**	Pn		**Pn**		**19 13 53.4 +0.1**
O02D	**Mt. Diablo Mer**	**4.94**	**131**	Pn		**Pn**		**19 13 56.4 +2.2**
F05D	**White Salmon**	**4.97**	**60**			**Pn**		**19 13 55.8 +1.3**
F05D	**White Salmon**	**4.97**	**60**	P		**Pn**		**19 13 55.9 +1.4**
	baz=244,SNR=46							
D04E	**Lakebay**	**4.98**	**42**	P		**Pn**		**19 13 55.4 +0.8**
	baz=224,SNR=6.1							
K05A	**Summer Lake**	**4.99**	**97**			**Pn**		**19 13 56.0 +1.1**
K05A					IAML			19 14 57.7
	comp=E,18nm,4.0s							
K05A					IAML			19 15 14.4
	comp=N,16nm,3.1s							
D03D	**Eldon**	**5.09**	**37**	P		**Pn**		**19 13 56.0 -0.2**
	baz=220,SNR=6.4							
D03D					S	**Sn**		**19 14 55.6 +0.9**
	baz=220							
D05A	**Enumclaw**	**5.38**	**46**			**Pn**		**19 14 01.3 +1.2**
OZB	**Mount Ozzard**	**5.60**	**14**	Pn		**Pn**		**19 14 04.0 +0.7**
HOPS	**Hopland Field**	**5.70**	**142**			**Pn**		**19 14 06.7 +2.2**
CLRS	**Cowichan Lake**	**5.79**	**23**	Pn		**Pn**		**19 14 05.5 -0.4**
PGC	**Sidney**	**5.86**	**28**	Pn		**Pn**		**19 14 05.3 -1.4**
I07A	**Izee**	**5.89**	**82**			**Pn**		**19 14 08.6 +1.3**
F07A	**Phinny Hill Vi**	**5.96**	**64**			**Pn**		**19 14 08.9 +0.9**
ORV	**Oroville**	**6.08**	**129**	Pn		**Pn**		**19 14 14.5 +4.7**
B05A	**Bryant**	**6.08**	**37**	P		**Pn**		**19 14 10.1 +0.4**
	baz=221,SNR=13							
B05A					S	**Sn**		**19 15 20.1 +1.0**
	baz=221							
LTY	**Liberty**	**6.13**	**50**			**Pn**		**19 14 11.9 +1.3**
A04D	**Lummi Island**	**6.19**	**32**	P		**Pn**		**19 14 12.1 +0.9**
	baz=214,SNR=8.9							
A04D					S	**Sn**		**19 15 22.3 +0.7**
	baz=214							
E07A	**Sunnyside**	**6.26**	**59**			**Pn**		**19 14 13.7 +1.3**
HAWA	**Hanford**	**6.40**	**61**			**Pn**		**19 14 15.4 +1.2**
C06D	**Leavenworth**	**6.42**	**45**	P		**Pn**		**19 14 14.9 +0.4**
	baz=229							
G08A	**Pilot Rock**	**6.44**	**71**	Pn		**Pn**		**19 14 15.6 +0.8**
B06A	**Marblemount**	**6.54**	**39**			**Pn**		**19 14 16.5 +0.4**
BEKR	**Beckworth**	**6.56**	**122**			**Pn**		**19 14 20.7 +4.2**
J08A	**Circle Bar Ran**	**6.66**	**89**			**Pn**		**19 14 18.7 +0.9**
E08A	**Dider Farm, El**	**6.74**	**61**	Pn		**Pn**		**19 14 19.0 +0.3**
D08A	**Wollman Farm,**	**7.06**	**57**	Pn		**Pn**		**19 14 24.2 +1.0**
EMB	**Emerald Bay**	**7.28**	**126**			**Pn**		**19 14 30.6 +4.2**
PNTR	**Pine Nut**	**7.50**	**124**			**Pn**		**19 14 31.4 +1.9**
B08A	**Colville Reser**	**7.51**	**47**			**Pn**		**19 14 28.9 -0.4**
BMO	**Blue Mountains**	**7.52**	**77**			**Pn**		**19 14 30.1 +0.4**
CMB	**Columbia Colle**	**7.77**	**133**	Pn		**Pn**		**19 14 37.3 +4.2**
F10A	**Beach Ranch, E**	**7.78**	**68**			**Pn**		**19 14 32.4 -0.7**
YERR	**Yerington**	**7.78**	**123**	Pn		**Pn**		**19 14 33.5 +0.1**
C09A	**Chrisman Ranch**	**7.80**	**54**	Pn		**Pn**		**19 14 34.0 +0.6**
LLLB	**Lillooet**	**8.07**	**27**			**Pn**		**19 14 38.3 +1.3**
PLID	**Pearl Lake**	**8.47**	**76**	Pn		**Pn**		**19 14 42.6 -0.1**
BBB	**Bella Bella**	**8.64**	**358**	Pn		**Pn**		**19 14 43.0 -1.8**
	comp=N,0.5nm,0.3s,baz=224,slow=8.5,SNR=4.0							
LHV	**Little Huntoon**	**8.70**	**124**			**Pn**		**19 14 47.4 +1.8**
NEW	**Newport**	**8.70**	**54**	LR		LR		19 18 07.9
	comp=N,174nm,19.5s,baz=260,slow=39							
NEW	**Newport**	**8.70**	**54**	Pn		**Pn**		**19 14 45.8 0.0**
NEW	**Newport**	**8.70**	**54**	P		**Pn**		**19 14 46.0 +0.3**
	baz=241,SNR=10							
NVAR	**Mina Array Bea**	**8.70**	**123**	Pn		**Pn**		**19 14 47.0 +1.0**
	comp=N,0.1nm,0.3s,baz=298,slow=14,SNR=8.9							
NVAR				LR		LR		19 18 11.7
	comp=N,118nm,19.0s,baz=332,slow=38							
NVAR	**Mina Array Bea**	**8.70**	**123**			**Pn**		**19 14 45.5 -0.5**
OMMB	**Old Mammoth Mi**	**8.84**	**129**	Pn		**Pn**		**19 14 51.6 +3.7**
ELK	**Elko**	**9.61**	**103**	Pn		**Pn**		**19 14 57.9 -0.6**
	comp=N,0.1nm,0.3s,baz=211,slow=21,SNR=1.5							
ELK				LR		LR		19 18 02.0
	comp=N,30nm,19.2s,baz=282,slow=34							
MSO	**Missoula**	**10.19**	**67**			**Pn**		**19 15 07.1 +0.8**
MSO	**Missoula**	**10.19**	**67**	P		**Pn**		**19 15 06.8 +0.6**
	baz=256							
JTMT	**Jette**	**10.23**	**61**	Pn		**Pn**		**19 15 07.6 +0.8**
ISA	**Isabella, Lake**	**10.57**	**135**	Pn		**Pn**		**19 15 13.3 +1.9**
MCMT	**McKenzie Canyo**	**10.68**	**78**	Pn		**Pn**		**19 15 13.1 -0.1**
DLMT	**Dillon**	**10.89**	**75**			**Pn**		**19 15 18.4 +2.5**
WALA	**Waterton Lakes**	**10.96**	**55**	Pn		**Pn**		**19 15 18.6 +1.9**
LRM	**Limekiln Ridge**	**11.03**	**73**	Pn		**Pn**		**19 15 17.6 -0.3**
GWY	**Greenwater Val**	**11.17**	**128**			**Pn**		**19 15 17.6 -2.1**
CCAC	**Calif City Air**	**11.20**	**135**	Pn		**Pn**		**19 15 24.3 +4.3**
QSM	**Queen of Sheba**	**11.21**	**129**			Pn		19 15 25.8 +5.6
BOZ	**Bozeman (W)**	**11.59**	**74**			**Pn**		**19 15 26.4 +1.0**
SHPR	**Sheep Range**	**11.85**	**122**	Pn		**Pn**		**19 15 28.8 -0.3**
YMR	**Madison River**	**12.02**	**79**	Pn		**Pn**		**19 15 31.0 -0.4**
AHID	**Auburn Hatcher**	**12.09**	**88**			**Pn**		**19 15 32.3 0.0**
TPAW	**Teton Pass**	**12.10**	**85**	Pn		**Pn**		**19 15 34.0 +1.4**
YHH	**Holmes Hill**	**12.11**	**78**	Pn		**Pn**		**19 15 33.6 +1.0**
YFT	**Old Faithful**	**12.12**	**80**	Pn		**Pn**		**19 15 32.6 -0.1**
MOOW	**Moose Ponds**	**12.23**	**83**	Pn		**Pn**		**19 15 36.1 +1.9**
YNR	**Norris Junctio**	**12.23**	**79**	Pn		**Pn**		**19 15 34.4 +0.1**
FLWY	**Flagg Ranch**	**12.23**	**82**	Pn		**Pn**		**19 15 38.5 +4.2**
H17A	**Grant Village**	**12.31**	**80**	Pn		**Pn**		**19 15 39.1 +3.7**
LKWY	**Lake**	**12.43**	**79**	Pn		**Pn**		**19 15 35.0 -2.0**
PFO	**Pinyon Flats O**	**13.20**	**135**	LR		LR		19 20 47.1
	comp=N,60nm,21.1s,baz=311,slow=37							
BW06	**Boulder Array**	**13.21**	**87**	Pn		**Pn**		**19 15 50.9 +3.3**
PD31	**Pinedale Array**	**13.21**	**87**	Pn		**Pn**		**19 15 46.4 -1.2**
PDAR	**Pinedale Array**	**13.21**	**87**	Pn		**Pn**		**19 15 47.1 -0.6**
	comp=N,0.0nm,0.3s,baz=254,slow=9.3,SNR=1.7							
PDAR				LR		LR		19 21 14.5
	comp=N,110nm,21.8s,baz=286,slow=40							
PDAR	**Pinedale Array**	**13.21**	**87**	Pn		**Pn**		**19 15 49.6 +1.9**
EGMT	**Eagleton**	**13.24**	**64**	Pn		**Pn**		**19 15 47.2 -0.6**
O20A	**White River Ci**	**14.84**	**97**	Pn		**Pn**		**19 16 11.7 +1.8**
DLBC	**Dease Lake**	**14.98**	**355**	Pn		**Pn**		**19 16 10.4 -1.1**
	comp=N,0.1nm,0.3s,baz=220,slow=7.9,SNR=1.9							
X16A	**Lo Mia Camp, P**	**15.52**	**121**	Pn		**P**		**19 16 21.9 -1.3**
N23A	**Red Feather La**	**16.27**	**92**	Pn		**Pn**		**19 16 29.5 +0.9**
N23A					IAmb	IAmb		19 16 53.0
	comp=Z,6.5nm,1.0s							
ISCO	**Idaho Springs**	**16.85**	**95**	Pn		**Pn**		**19 16 35.4 -0.7**
ISCO					IAmb	IAmb		19 16 42.8
	comp=Z,4.5nm,1.0s							
RSSD	**Black Hills**	**17.01**	**80**	P		**P**		**19 16 40.4 +0.6**
Q24A	**Divide**	**17.49**	**98**	Pn		**Pn**		**19 16 42.9 -1.1**
Q24A					IAmb	IAmb		19 16 50.3
	comp=Z,4.2nm,0.8s							
SDCO	**Great Sand Dun**	**17.73**	**102**	Pn		**Pn**		**19 16 45.3 -1.8**
YKA	**Yellowknife Ar**	**20.45**	**17**	P		**P**		**19 17 15.6 -1.4**
	comp=Z,0.9nm,0.7s,baz=207,slow=11,SNR=13							
DAWY	**Dawson**	**21.62**	**346**	P		**P**		**19 17 30.3 +0.5**
DAWY					IAmb	IAmb		19 17 42.6
	comp=Z,5.6nm,1.1s							
TXAR	**Lajitas Array**	**23.82**	**119**	P		**P**		**19 17 53.0 +0.1**
	comp=Z,0.7nm,0.9s,baz=255,slow=8.9,SNR=5.1							
ILAR	**Eielson Array**	**23.87**	**340**	P		**P**		**19 17 50.6 -2.4**
	comp=Z,0.4nm,0.8s,baz=146,slow=9.9,SNR=5.1							
LPIG	**La Paz**	**24.06**	**138**	LR		LR		19 26 16.5
	comp=Z,39nm,18.1s,baz=222,slow=34							
INK	**Inuvik**	**25.01**	**355**	P		**P**		**19 18 02.7 -0.6**
	comp=Z,0.5nm,0.4s,baz=170,slow=2.1,SNR=2.3							
TKL	**Tuckaleechee C**	**34.36**	**88**	LR		LR		19 34 13.1
	comp=Z,78nm,19.6s,baz=318,slow=38							
RES	**Resolute Bay**	**34.47**	**15**	P		**P**		**19 19 25.6 -1.6**
	comp=Z,0.7nm,0.8s,baz=208,slow=7.5,SNR=1.4							
CMIG	**Matias Romero**	**38.24**	**123**	LR		LR		19 36 26.0
	comp=Z,44nm,18.6s,baz=316,slow=37							
H11N3	**WAKE ISLAND Hy**	**59.03**	**268**	T		T		20 26 36.9
	baz=50,slow=75,SNR=142							
H11N2	**WAKE ISLAND Hy**	**59.03**	**268**	T		T		20 26 37.1
	baz=50,slow=75,SNR=124							
H11N1	**WAKE ISLAND Hy**	**59.05**	**268**	T		T		20 26 28.3
	baz=50,slow=75,SNR=92							
H11S1	**WAKE ISLAND Hy**	**59.95**	**267**	T		T		20 27 40.0
	baz=50,slow=75,SNR=235							
H11S2	**WAKE ISLAND Hy**	**59.96**	**267**	T		T		20 27 37.3
	baz=50,slow=75,SNR=170							
H11S3	**WAKE ISLAND Hy**	**59.97**	**267**	T		T		20 27 39.5
	baz=50,slow=75,SNR=140							
MJAR	**Matsushiro Arr**	**68.63**	**300**	P		**P**		**19 23 44.2 +1.2**
	comp=Z,1.1nm,0.5s,baz=31,slow=3.8,SNR=2.1							
NOA	**NORSAR Array B**	**70.52**	**20**	P		**P**		**19 23 56.4 +2.2**
	comp=Z,0.2nm,0.6s,baz=338,slow=8.1,SNR=1.3							
SONM	**Songino Array**	**77.32**	**326**	P		**P**		**19 24 33.5 -0.9**
	comp=Z,0.3nm,0.8s,baz=27,slow=3.5,SNR=2.9							
MKAR	**Makanchi Array**	**86.22**	**340**	P		**P**		**19 25 21.4 +0.2**
	comp=Z,0.1nm,0.5s,baz=39,slow=5.5,SNR=1.6							

*IDC **11** 19:15:33.3±1.5, 49.60N×130.07W, h0km, mb3.9/3, mb1 3.7/11, mb1mx3.5/52, mbtmp3.5/11, ML3.4/8, MS3.5/3, Ms1 3.4/3, ms1mx2.7/88, Error ellipse: s-maj=26.6km s-min=14.6km az=72.0*

*PGC **11** 19:15:34.0±0.3, 49.48N×130.05W, h10km, MLSn3.1/19, Mw3.7/19, 231km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

ISC 11 19:15:33.7±3.4, 49.68N±0.07×129.93W±0.06, h3km±24km, n40, σ1s19/41, mb3.9/3, MS3.6/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.47**	**70**	Pn	**Pn**	**19 16 00.1**	**-1.1**
HOLB	**Holberg**	**1.50**	**49**	Pn	**Pb**	**19 16 01.7**	**-0.6**
HOLB				Sn	**Sn**	**19 16 22.2**	**+0.4**
PACB	**Port Alice, BC**	**1.74**	**63**	Pn	**Pn**	**19 16 04.1**	**-0.7**
PACB				Sn	**Sn**	**19 16 26.8**	**-0.7**
EDB	**Eliza Dome**	**1.83**	**83**	Pn	**Pn**	**19 16 04.5**	**-1.5**
EDB				Sn	**Sn**	**19 16 28.1**	**-1.6**
PHC	**Port Hardy**	**1.91**	**56**	Pn	**Pn**	**19 16 06.6**	**-0.5**
PHC				Sn	**Sb**	**19 16 32.1**	**-1.1**
MAYB	**Maynard**	**1.92**	**67**	Pn	**Pn**	**19 16 06.7**	**-0.7**
WOSB	**Woss**	**2.22**	**76**	Pn	**Pn**	**19 16 11.3**	**-0.2**
GDR	**Gold River**	**2.53**	**86**	Pn	**Pn**	**19 16 14.8**	**-0.8**
NCRB	**Newcastle Ridg**	**2.60**	**72**	Pn	**Pn**	**19 16 17.2**	**+0.4**
HG4B	**Hotspring**	**2.74**	**343**	Pn	**Pn**	**19 16 16.6**	**-2.0**
BBB	**Bella Bella**	**2.76**	**24**	Pn	**Pn**	**19 16 20.1**	**+1.3**
	13nm,0.3s,baz=196,slow=6.9,SNR=102						
BBB				Sn	**Sn**	**19 16 53.3**	**+0.7**
	10.0nm,0.3s,baz=101,slow=23,SNR=1.8						
BBB	**Bella Bella**	**2.76**	**24**	Pn	**Pn**	**19 16 20.1**	**+1.3**
BBB				Sn	**Sn**	**19 16 53.3**	**+0.7**
BTB	**Buttle Lake**	**2.88**	**92**	Pn	**Pn**	**19 16 20.4**	**-0.2**
CBB	**Campbell River**	**2.97**	**81**	Pn	**Pn**	**19 16 21.9**	**+0.1**
OZB	**Mount Ozzard**	**2.99**	**102**	Pn	**Pn**	**19 16 21.4**	**-0.6**
BNB	**Barry Inlet**	**3.12**	**339**	Pn	**Pn**	**19 16 21.5**	**-2.4**
MGB	**Mount Grey**	**3.49**	**99**	Pn	**Pn**	**19 16 28.4**	**-0.6**
BUTB	**Butedale**	**3.51**	**15**	Pn	**Pn**	**19 16 30.5**	**+1.2**
TXB	**Texada**	**3.56**	**88**	Pn	**Pn**	**19 16 30.3**	**+0.4**
BNKB	**Banks Island**	**3.66**	**0**	Pn	**Pn**	**19 16 31.6**	**+0.4**
MOBC	**Moresby Island**	**3.70**	**341**	Pn	**Pn**	**19 16 30.8**	**-1.0**
PFB	**Port Renfrew**	**3.77**	**105**	Pn	**Pn**	**19 16 34.0**	**+1.3**
SHB	**Sechelt**	**3.93**	**89**	Pn	**Pn**	**19 16 36.1**	**+1.0**
HWKB	**Hawksbury Isla**	**3.96**	**7**	Pn	**Pn**	**19 16 36.0**	**+0.7**
GRNB	**Grenville Isla**	**4.18**	**360**	Pn	**Pn**	**19 16 39.0**	**+0.7**
DLBC	**Dease Lake**	**8.78**	**360**	Pn	**Pn**	**19 17 43.3**	**+1.8**
	0.1nm,0.3s,baz=184,slow=15,SNR=2.0						
YBH	**Yreka Blue Hor**	**9.41**	**145**	Pn	**Pn**	**19 17 52.8**	**+2.6**
	0.1nm,0.3s,baz=335,slow=19,SNR=2.2						
NVAR	**Mina Array Bea**	**13.99**	**139**	Pn	**Pn**	**19 18 55.4**	**+2.4**
	0.1nm,0.3s,baz=96,slow=7.4,SNR=2.4						
YKA	**Yellowknife Ar**	**15.37**	**28**	Pn	**Pn**	**19 19 11.0**	**-0.3**
	0.1nm,0.3s,baz=213,slow=12,SNR=5.4						
PDAR	**Pinedale Array**	**15.67**	**108**	P	**P**	**19 19 18.1**	**-1.8**
	0.1nm,0.3s,baz=310,slow=10,SNR=13						
ILAR	**Eielson Array**	**17.60**	**336**	P	**Pn**	**19 19 38.8**	**-0.9**
	0.0nm,0.3s,baz=176,slow=36,SNR=2.3						
INK	**Inuvik**	**18.77**	**356**	P	**P**	**19 19 52.8**	**-0.9**
	0.1nm,0.3s,baz=249,slow=3.8,SNR=3.0						
ULM	**Lac du Bonnet**	**21.81**	**75**	P	**P**	**19 20 27.3**	**+0.6**
	3.4nm,0.7s,baz=315,slow=11,SNR=3.1						
ULM				LR	LR	19 29 32.1	
	comp=Z,42nm,19.1s,baz=284,slow=38						
SADO	**Sadowa**	**34.29**	**78**	LR	LR	19 36 50.1	
	comp=Z,113nm,21.0s,baz=354,slow=37						
SCHQ	**Schefferville**	**37.80**	**57**	LR	LR	19 37 23.4	
	comp=Z,101nm,19.2s,baz=71,slow=35						
H11N2	**WAKE ISLAND Hy**	**57.91**	**263**	T	T	20 27 48.9	
	baz=43,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**57.91**	**263**	T	T	20 27 48.8	
	baz=43,slow=76,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**57.92**	**263**	T	T	20 27 50.2	
	baz=43,slow=76,SNR=9.5						
ARCES	**ARCESS Array B**	**59.74**	**10**	P	**P**	**19 25 39.3**	**+0.1**
	4.3nm,0.9s,baz=342,slow=7.7,SNR=2.6						
SONM	**Songino Array**	**71.39**	**324**	P	**P**	**19 26 55.5**	**+0.5**
	0.3nm,0.6s,baz=92,slow=4.5,SNR=2.4						

IDC 11 19:24:41.8±2.0, 5.49S×152.35E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/24, mbtmp3.4/3, Error ellipse: s-maj=47.9km s-min=13.9km az=90.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.22**	**345**	Pg	Pg	19 25 05.4	+0.2
	55nm,0.3s,baz=214,slow=0.9,SNR=54						
KRVT				Lg	Lg	19 25 21.2	
	155nm,0.3s,baz=233,slow=21,SNR=36						
WRA	**Warramunga Arr**	**22.65**	**229**	P	P	19 29 44.8	0.0
	0.4nm,0.4s,baz=55,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**25.34**	**223**	P	P	19 30 10.4	-0.2
	0.4nm,0.3s,baz=59,slow=9.1,SNR=7.6						
ILAR	**Eielson Array**	**82.97**	**22**	P	P	19 37 08.7	+0.2
	0.5nm,0.9s,baz=232,slow=5.6,SNR=2.1						

*RSNC **11** 19:33:10.3±1.1, 6.83N×73.12W, h154km±4km, ML3.9, Mw4.0*

*NEIC **11** 19:33:10.8±2.2, 6.94N±0.07×73.14W±0.05, h154km±9km, mb4.1/9, Error ellipse: s-maj=10.8km s-min=5.6km az=155.0*

*IDC **11** 19:33:10.1±0.7, 6.76N×72.95W, h164km±8km, mb3.3/6, mb1 3.7/8, mb1mx3.4/31, mbtmp3.8/8, Error ellipse: s-maj=21.4km s-min=7.6km az=129.0*

ISC 11 19:33:09.9±0.7, 6.83N±0.03×73.12W±0.03, h156km±6km, n67, σ1s51/105, mb3.8/10, 7C-7D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**195**	iP	**Pn**	**19 33 31.4**	**+0.1**
BARC				eS	**Sn**	**19 33 46.6**	**-1.0**
BARC				i		19 33 47.6	
	comp=Z,3μm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**39**	iP	**Pn**	**19 33 34.2**	**+0.8**
PAMC				eS	**Sn**	**19 33 50.9**	**-0.3**
PAMC				i		19 33 53.6	
	comp=Z,2μm,0.5s						
RUSC	**La Rusia**	**0.93**	**178**	iP	**Pn**	**19 33 35.2**	**0.0**
RUSC				eS	**Sn**	**19 33 54.3**	**-0.3**
RUSC				i		19 33 55.6	
	comp=Z,1μm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	eP	**Pn**	**19 33 37.8**	**-0.7**
PTBC				eS	**Sn**	**19 33 59.2**	**-1.3**
PTBC				i		19 34 00.9	
	comp=Z,608nm,0.4s						
TAMC	**Tame, Arauca**	**1.38**	**106**	iP	**Pn**	**19 33 39.7**	**+1.0**
TAMC				eS	**Sn**	**19 34 01.1**	**+0.4**
OCAC	**Ocana**	**1.42**	**352**	Pn	**Pn**	**19 33 39.3**	**+0.1**
OCAC	**Ocana**	**1.42**	**352**	eP	**Pn**	**19 33 39.4**	**+0.2**
OCAC				eS	**Sn**	**19 34 01.9**	**0.0**
OCAC				i		19 34 06.2	
	comp=Z,2μm,0.5s						
SPBC	**San Pablo de B**	**1.50**	**219**	eP	**Pn**	**19 33 40.2**	**+0.1**
SPBC				eS	**Sn**	**19 34 02.7**	**-0.6**
SPBC				i		19 34 06.9	
	comp=Z,2μm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	Pn	**Pn**	**19 33 43.4**	**-0.3**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	eP	**Pn**	**19 33 43.7**	**0.0**
ZARC				eS	**Sn**	**19 34 09.5**	**-0.2**
ZARC				i		19 34 14.9	
	comp=Z,706nm,0.3s						
NORC	**Norcasia**	**2.15**	**234**	eP	**Pn**	**19 33 47.0**	**-0.1**
NORC				eS	**Sn**	**19 34 15.5**	**-0.3**
NORC				i		19 34 19.7	
	comp=Z,448nm,0.2s						
CHIC	**Chingaza**	**2.27**	**196**	eP	**Pn**	**19 33 49.2**	**+0.2**
CHIC				eS	**Sn**	**19 34 18.5**	**-0.6**
CHIC				i		19 34 22.2	
	comp=Z,510nm,0.5s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**19 33 51.5**	**+2.0**
	comp=Z,138nm,0.3s,baz=20,slow=8.9,SNR=36						
ROSC				S	**Sn**	**19 34 21.8**	**+1.9**
	comp=Z,357nm,0.3s,baz=126,slow=16,SNR=11						
ROSC	**El Rosal**	**2.31**	**211**		**Pn**	**19 33 50.6**	**+1.2**
ROSC	**El Rosal**	**2.31**	**211**	eP	**Pn**	**19 33 51.0**	**+1.5**
ROSC				eS	**Sn**	**19 34 17.8**	**-2.0**
ROSC				i		19 34 29.1	
	comp=Z,1μm,0.4s						
HELC	**Santa Helena**	**2.48**	**255**	eP	**Pn**	**19 33 53.1**	**+1.7**
HELC				eS	**Sn**	**19 34 23.5**	**+0.2**
HELC				i		19 34 30.4	
	comp=Z,535nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	eP	**Pn**	**19 33 51.0**	**-1.1**
UREC				eS	**Sn**	**19 34 22.4**	**-2.3**
UREC				i		19 34 33.7	
	comp=Z,501nm,0.3s						
SOCV	**Socops**	**2.67**	**57**	eP	**Pn**	**19 33 53.9**	**+0.5**
SOCV				eS	**Sn**	**19 34 26.4**	**-0.7**
LL1C	**La Loma 1 Cana**	**2.73**	**351**	eP	**Pn**	**19 33 55.9**	**+1.7**
LL1C				eS	**Sn**	**19 34 31.8**	**+3.4**
GUY2C	**Guyana, Caldas**	**2.74**	**235**	eP	**Pn**	**19 33 55.2**	**+0.4**
GUY2C				eS	**Sn**	**19 34 29.9**	**+0.5**
GUY2C				i		19 34 37.6	
	comp=Z,475nm,0.4s						
VILC	**Villavicencio,**	**2.76**	**192**	eP	**Pn**	**19 33 54.8**	**+0.1**
VILC				eS	**Sn**	**19 34 29.1**	**-0.2**
PTGC	**Puerto Gaitan,**	**2.79**	**159**	iP	**Pn**	**19 33 54.3**	**-0.6**
PTGC				eS	**Sn**	**19 34 27.5**	**-2.3**
PTGC				i		19 34 32.5	
	comp=Z,242nm,0.4s						
LL6C	**La Loma 6 Bece**	**2.89**	**357**	iP	**Pn**	**19 33 55.9**	**-0.3**
LL6C				eS	**Sn**	**19 34 31.1**	**-1.0**
LL6C				i		19 34 37.2	
	comp=Z,241nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.03**	**252**	eP	**Pn**	**19 33 58.9**	**+0.8**
CBOC				eS	**Sn**	**19 34 35.8**	**+0.5**
CBOC				i		19 34 49.0	
	comp=Z,126nm,0.6s						
DBBC	**Dabeiba**	**3.08**	**274**	eP	**Pn**	**19 33 58.7**	**+0.1**
DBBC				eS	**Sn**	**19 34 35.3**	**-0.9**
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**19 34 00.7**	**+0.5**
	comp=Z,28nm,0.3s,baz=231,slow=9.4,SNR=124						
SDV				S	**Sn**	**19 34 38.1**	**-1.1**
	comp=Z,67nm,0.3s,baz=275,slow=18,SNR=26						
SDV	**Santo Domingo**	**3.20**	**50**		**Pn**	**19 34 00.6**	**+0.4**
SDV	**Santo Domingo**	**3.20**	**50**	iP	**Pn**	**19 34 00.8**	**+0.5**
SDV				eS	**Sn**	**19 34 38.0**	**-1.3**
SDV				i		19 34 40.2	
	comp=Z,149nm,0.5s						
ORTC	**Ortega, Tolima**	**3.59

Moment Tensor Solution. s10 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.07; $M_{\theta\theta}$1.47; $M_{\phi\phi}$0.60; $M_{r\theta}$2.19; $M_{\theta\phi}$0.58; $M_{r\phi}$1.29; Fault plane solution: M_o3.18000×10^{16} NP1: ϕ_s65.00000°,δ19.00000°,λ-85.00000°. NP2:ϕ_s240.00000°, δ71.00000°,λ-92.00000°. Principal axes: T -3342.6000, Plg26.0000°, Azm331.0000°; N 3023.8400, Plg2.0000°, Azm240.0000°; P 318.7600, Plg64.0000°, Azm147.0000°;

*NOU **11** 19:41:05.7,41.07S×175.72E,h37km,mb5.0/26, North Island, New Zealand*

*NEIC **11** 19:41:06.7±1.7,40.93S±0.03×175.51E±0.06,h31km±3km, mb5.0/31,Mwr4.8/42, Error ellipse: s-maj=7.2km s-min=2.9km az=126.0*

*NEIC **11** 19:41:06.2,40.93S×175.51E,h32km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.49; $M_{\theta\theta}$0.78; $M_{\phi\phi}$0.71; $M_{r\theta}$1.26; $M_{\theta\phi}$0.69; $M_{r\phi}$0.82; Fault plane solution: M_o2.10000×10^{16} NP1:ϕ_s233.70000°,δ67.94000°, λ-84.76000°. NP2:ϕ_s39.97000°,δ22.64000°, λ-102.71000°. Principal axes: T 2.0610, Plg23.0000°, Azm320.0000°; N 0.0758, Plg5.0000°, Azm52.0000°; P -2.1368, Plg67.0000°, Azm153.0000°;*

*WEL **11** 19:41:06.6,41.3S±2.7×175.5E±, h24km±3km, M5.2/58, ML5.5/58,MLv5.2/58 Error ellipse: s-maj=0.0km s-min=0.0km az=94.1*

*IASPEI **11** 19:41:06.5±1.0,40.89S±0.03×175.48E±0.03, h29km±5km, mb5.1/39,MS4.2/22,Error ellipse: s-maj=4.8km s-min=3.4km az=136.1,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*IDC **11** 19:41:10.1±2.5,40.75S×175.36E,h64km±21km,mb4.4/14, mb1 4.5/14,mb1mx4.3/36,mbtmp4.7/14,MS4.2/23, Ms1 4.2/23,ms1mx4.1/47,Error ellipse: s-maj=19.1km s-min=12.1km az=47.0*

ISC 11 19:41:06.5±0.4, 40.91S±0.02×175.51E±0.02, h34km±1km, n347,σ1°30/359,mb5.1/39,MS4.2/22, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOWZ	**Holdsworth Sta**	**0.01**	**13**	**P**		**Pb**		**19 41 11.1**	**-1.0**
HOWZ				S		**Sb**		**19 41 14.4**	**-1.5**
MTW	**Mount Morrison**	**0.25**	**182**	**P**		**Pn**		**19 41 13.7**	**+0.4**
MRZ	**Mangatainoka R**	**0.26**	**12**	**P**		**Pb**		**19 41 12.9**	**-0.9**
MRZ				S		**Sb**		**19 41 17.6**	**-1.1**
OGWZ	**Otaki Gorge**	**0.28**	**290**	**P**		**Pb**		**19 41 13.2**	**-0.8**
OGWZ				S		**Sb**		**19 41 18.0**	**-1.1**
TIWZ	**Tintock**	**0.32**	**65**	**P**		**Pn**		**19 41 14.3**	**-0.4**
TIWZ				S		**Sn**		**19 41 19.9**	**+0.4**
TMWZ	**Te Maipa**	**0.35**	**124**	**P**		**Pn**		**19 41 15.4**	**+0.2**
TMWZ				S		**Sn**		**19 41 22.2**	**+1.6**
CAW	**Cannon Point**	**0.39**	**240**	**P**		**Pn**		**19 41 15.2**	**-0.6**
KIW	**Kapiti Island**	**0.46**	**276**	**P**		**Pn**		**19 41 16.3**	**-0.5**
PAWZ	**Paruwai Farm**	**0.47**	**188**	**P**		**Pn**		**19 41 17.3**	**+0.3**
PRWZ	**Pori Road**	**0.50**	**45**	**P**		**Pn**		**19 41 17.4**	**+0.1**
TRWZ	**Traveller**	**0.51**	**165**	**P**		**Pn**		**19 41 17.7**	**+0.4**
CPWZ	**Castlepoint**	**0.52**	**90**	**P**		**Pn**		**19 41 18.5**	**+1.0**
MSWZ	**Moikau Station**	**0.54**	**201**	Pn		**Pn**		**19 41 18.0**	**+0.3**
MSWZ						**Sn**		**19 41 25.9**	**+0.2**
MSWZ	**Moikau Station**	**0.54**	**201**	**P**		**Pn**		**19 41 18.1**	**+0.3**
POWZ	**Post Office Ro**	**0.55**	**21**	**P**		**Pn**		**19 41 17.6**	**-0.3**
BFZ	**Birch Farm**	**0.60**	**68**	Pn		**Pn**		**19 41 18.8**	**+0.2**
BFZ	**Birch Farm**	**0.60**	**68**	P		**Pn**		**19 41 19.0**	**+0.4**
BFZ	**Birch Farm**	**0.60**	**68**	P		**Pn**		**19 41 19.3**	**+0.7**
WEL	**Wellington**	**0.67**	**236**	P		**Pn**		**19 41 20.0**	**+0.4**
PLWZ	**Palliser**	**0.69**	**196**	Pn		**Pn**		**19 41 19.8**	**-0.1**
PLWZ	**Palliser**	**0.69**	**196**	P		**Pn**		**19 41 20.0**	**+0.2**
BHW	**Baring Head**	**0.69**	**224**	Pn		**Pn**		**19 41 19.9**	**0.0**
BHW	**Baring Head**	**0.69**	**224**	P		**Pn**		**19 41 20.1**	**+0.3**
OHWZ	**Ohakea**	**0.72**	**348**	P		**Pn**		**19 41 20.9**	**+0.7**
SNZO	**South Karori**	**0.73**	**236**			**Pn**		**19 41 20.6**	**+0.2**
SNZO	**South Karori**	**0.73**	**236**	P		**Pn**		**19 41 21.2**	**+0.8**
DVHZ	**Dannevirke**	**0.79**	**39**	P		**Pn**		**19 41 21.6**	**+0.3**
ANWZ	**Angora Road**	**0.86**	**59**	P		**Pb**		**19 41 22.5**	**-0.5**
TSZ	**Takapari Road**	**0.92**	**22**	P		**Pb**		**19 41 23.5**	**-0.5**
TCW	**Tory Channel**	**0.98**	**252**	P		**Pb**		**19 41 24.4**	**-0.6**
PRHZ	**Porangahau**	**1.07**	**53**	P		**Pn**		**19 41 25.2**	**+0.1**
WPHZ	**Waipukurau**	**1.10**	**40**	P		**Pb**		**19 41 26.2**	**-0.9**
PNHZ	**Pukenui**	**1.13**	**28**	P		**Pb**		**19 41 26.4**	**-1.1**
DUWZ	**D'Urville Isla**	**1.21**	**275**	P		**Pb**		**19 41 28.3**	**-0.6**
WAZ	**Wanganui**	**1.22**	**341**	P		**Pb**		**19 41 29.4**	**+0.3**
CMWZ	**Cape Campbell**	**1.29**	**229**	Pn		**Pn**		**19 41 28.6**	**+0.6**
CMWZ	**Cape Campbell**	**1.29**	**229**	P		**Pn**		**19 41 28.9**	**-1.2**
TUWZ	**Tuamarina**	**1.29**	**246**			**Pn**		**19 41 27.9**	**-0.2**
TUWZ	**Tuamarina**	**1.29**	**246**	P		**Pn**		**19 41 28.3**	**+0.2**
PXZ	**Pawanui**	**1.35**	**50**	P		**Pn**		**19 41 28.8**	**-0.2**
KRHZ	**Kereru**	**1.43**	**28**	P		**Pn**		**19 41 30.3**	**+0.3**
BSWZ	**Blackbirch Sta**	**1.47**	**236**			**Pn**		**19 41 30.6**	**0.0**
BSWZ	**Blackbirch Sta**	**1.47**	**236**	P		**Pn**		**19 41 30.8**	**+0.2**
BHHZ	**Black Hill Sta**	**1.48**	**17**	P		**Pn**		**19 41 31.6**	**+0.8**
MOVZ	**Moawhango**	**1.51**	**7**	P		**Pn**		**19 41 32.2**	**+0.9**
MTVZ	**Mangateitei**	**1.52**	**359**	P		**Pb**		**19 41 33.3**	**-0.9**
KAHZ	**Kahuranaki**	**1.53**	**44**	P		**Pn**		**19 41 31.4**	**-0.1**
WNVZ	**Wahianoa**	**1.58**	**2**	P		**Pb**		**19 41 33.7**	**-1.5**
TRVZ	**Turoa**	**1.61**	**1**	P		**Pb**		**19 41 34.4**	**-1.4**
PKVZ	**Pokaka**	**1.62**	**355**	P		**Pb**		**19 41 34.6**	**-1.3**
WHVZ	**Whangaehu Hut**	**1.63**	**2**	P		**Pb**		**19 41 34.5**	**-1.5**
DRZ	**Dome Shelter**	**1.63**	**1**	P		**Pb**		**19 41 34.9**	**-1.3**
NNZ	**Nelson**	**1.64**	**259**			**Pn**		**19 41 33.3**	**+0.4**
NNZ	**Nelson**	**1.64**	**259**	P		**Pn**		**19 41 33.8**	**+0.9**
KWHZ	**Kaweka Forest**	**1.64**	**25**	P		**Pn**		**19 41 33.8**	**+0.2**
TUVZ	**Tukino**	**1.65**	**4**	P		**Pb**		**19 41 34.7**	**-1.6**
FWVZ	**Far West T-bar**	**1.65**	**1**	P		**Pb**		**19 41 34.9**	**-1.6**
LREZ	**Lake Rotokare**	**1.68**	**329**	P		**Pb**		**19 41 36.2**	**-0.6**
MCHZ	**McNeill Hill**	**1.72**	**32**	P		**Pn**		**19 41 34.3**	**+0.3**
SNVZ	**South Ngauruho**	**1.73**	**3**	P		**Pb**		**19 41 35.9**	**-1.8**
CKHZ	**Cape Kidnapper**	**1.73**	**44**	P		**Pn**		**19 41 33.6**	**-0.6**
NGZ	**Ngauruhoe**	**1.73**	**2**	P		**Pb**		**19 41 36.1**	**-1.7**
OTVZ	**Oturere**	**1.75**	**4**	P		**Pb**		**19 41 36.4**	**-1.7**
NNVZ	**North Ngauruho**	**1.78**	**3**	P		**Pb**		**19 41 36.7**	**-1.9**
ETVZ	**East Tongariro**	**1.78**	**5**	P		**Pn**		**19 41 36.4**	**+1.4**
WTVZ	**West Tongariro**	**1.79**	**2**	P		**Pb**		**19 41 36.9**	**-2.0**
TMVZ	**Te Maari**	**1.80**	**5**	P		**Pn**		**19 41 36.6**	**+1.4**
NTVZ	**North Tongarir**	**1.81**	**4**	P		**Pn**		**19 41 36.9**	**+1.4**
KRVZ	**Karewarewa**	**1.82**	**3**	P		**Pb**		**19 41 37.1**	**-2.1**
VRZ	**Vera Road**	**1.88**	**342**	P		**Pb**		**19 41 38.3**	**-1.8**
PREZ	**Palmer Road**	**1.88**	**326**	P		**Pb**		**19 41 39.1**	**-1.1**
BKZ	**Black Stump Fm**	**1.90**	**24**			**Pn**		**19 41 36.4**	**-0.1**
BKZ	**Black Stump Fm**	**1.90**	**24**	P		**Pn**		**19 41 36.4**	**-0.1**
BKZ	**Black Stump Fm**	**1.90**	**24**	P		**Pn**		**19 41 36.7**	**+0.2**
TKNZ	**Takaka Hill**	**1.94**	**266**	P		**Pn**		**19 41 38.2**	**+1.2**
KATZ	**Kakaramea**	**1.94**	**4**	P		**Pn**		**19 41 38.6**	**+1.4**
NMEZ	**Namu Road**	**1.95**	**320**	P		**Pb**		**19 41 40.4**	**-1.0**
RITZ	**Rihia Road**	**1.95**	**8**	P		**Pn**		**19 41 38.5**	**+1.3**
NEZ	**North Egmont**	**1.97**	**326**	P		**Pb**		**19 41 40.3**	**-1.4**
KHEZ	**Kahui Hut**	**1.98**	**324**	P		**Pb**		**19 41 40.8**	**-1.2**
DREZ	**Durham Road**	**1.99**	**329**	P		**Pb**		**19 41 41.1**	**-1.0**
ARHZ	**Aropaoanui**	**2.00**	**35**	P		**Pn**		**19 41 37.8**	**-0.1**
RATZ	**Rangitukua**	**2.05**	**6**	P		**Pn**		**19 41 39.7**	**+1.1**
HATZ	**Hinemaiaia**	**2.07**	**13**	P		**Pn**		**19 41 39.5**	**+0.6**
NMHZ	**Naumai**	**2.07**	**29**	P		**Pn**		**19 41 39.0**	**+0.1**
NBEZ	**Newall Road No**	**2.07**	**322**	P		**Pb**		**19 41 42.1**	**-1.3**
PKE	**Pukeiti**	**2.08**	**325**	P		**Pb**		**19 41 42.2**	**-1.3**
KHZ	**Kahutara**	**2.11**	**224**	Pn		**Pn**		**19 41 38.7**	**-0.7**
KHZ	**Kahutara**	**2.11**	**224**	P		**Pn**		**19 41 38.8**	**-0.5**
KHZ	**Kahutara**	**2.11**	**224**	P		**Pn**		**19 41 39.0**	**-0.3**
MRNZ	**Matariki Terra**	**2.13**	**256**	P		**Pn**		**19 41 40.6**	**+0.8**
THZ	**Tophouse**	**2.14**	**246**	Pn		**Pn**		**19 41 39.5**	**-0.3**
THZ	**Tophouse**	**2.14**	**246**	P		**Pn**		**19 41 39.8**	**0.0**
MRHZ	**Matea Rd**	**2.19**	**19**	P		**Pn**		**19 41 40.4**	**-0.1**
WATZ	**Wairara**	**2.21**	**5**	P		**Pn**		**19 41 41.6**	**+0.8**
WHHZ	**Waihua**	**2.26**	**36**	P		**Pn**		**19 41 39.2**	**-2.3**
QRZ	**Quartz Range**	**2.26**	**271**			**Pn**		**19 41 41.8**	**+0.3**
QRZ	**Quartz Range**	**2.26**	**271**	P		**Pn**		**19 41 42.5**	**+1.1**
QRZ	**Quartz Range**	**2.26**	**271**	P		**Pn**		**19 41 42.6**	**+1.1**
WHTZ	**Whakaora**	**2.27**	**9**	P		**Pn**		**19 41 42.5**	**+0.9**
MTHZ	**Maungataniwha**	**2.30**	**27**	P		**Pn**		**19 41 41.8**	**-0.2**
RAHZ	**Arahi**	**2.33**	**32**	P		**Pn**		**19 41 42.1**	**-0.4**
KUTZ	**Kaahu Road**	**2.43**	**6**	P		**Pn**		**19 41 44.7**	**+0.8**
ALRZ	**Allen Road**	**2.43**	**16**	P		**Pn**		**19 41 43.7**	**-0.2**
WPRZ	**Whakapapatarin**	**2.44**	**12**	P		**Pn**		**19 41 44.1**	**+0.2**
HIZ	**Hauiti**	**2.45**	**348**			**Pn**		**19 41 45.4**	**+1.4**
HIZ	**Hauiti**	**2.45**	**348**	P		**Pn**		**19 41 45.7**	**+1.7**
HIZ	**Hauiti**	**2.45**	**348**	P		**Pn**		**19 41 45.7**	**+1.7**
PRRZ	**Plateau Road**	**2.50**	**16**	P		**Pn**		**19 41 44.6**	**-0.2**
KNZ	**Kokohu**	**2.51**	**42**	P		**Pn**		**19 41 43.7**	**-1.2**
MHGZ	**Mahia Peninsul**	**2.54**	**47**	P		**Pn**		**19 41 44.4**	**-1.0**
SNGZ	**Shannon Statio**	**2.55**	**34**	P		**Pn**		**19 41 44.6**	**-0.8**
RTZ	**Ruatahuna**	**2.56**	**27**	P		**Pn**		**19 41 44.9**	**-0.7**
TLZ	**Tolley Road**	**2.58**	**0**	P		**Pn**		**19 41 46.7**	**+0.8**
HRRZ	**Handcock Road**	**2.59**	**14**	P		**Pn**		**19 41 46.3**	**+0.3**
GRRZ	**Galatos Road**	**2.60**	**10**	P		**Pn**		**19 41 46.7**	**+0.5**
MUGZ	**Murupara**	**2.62**	**22**	P		**Pn**		**19 41 45.4**	**-1.0**
HSRZ	**Hossack Road**	**2.66**	**13**	P		**Pn**		**19 41 47.2**	**+0.2**
RRRZ	**Republican Roa**	**2.68**	**17**	P		**Pn**		**19 41 46.8**	**-0.5**
HLRZ	**Highlands Stat**	**2.73**	**14**	P		**Pn**		**19 41 49.0**	**+1.0**
GVZ	**Greta Valley S**	**2.76**	**221**	P		**Pn**		**19 41 47.4**	**-1.0**
TARZ	**Mount Tarawera**	**2.78**	**16**	P		**Pn**		**19 41 48.5**	**-0.2**
UTU	**Utuhina**	**2.78**	**11**	P		**Pn**		**19 41 49.0**	**+0.4**
RIGZ	**Rimuhau**	**2.80**	**39**	P		**Pn**		**19 41 47.9**	**-1.0**
NGRZ	**Ngongotaha**	**2.85**	**11**	P		**Pn**		**19 41 49.9**	**+0.3**
MKRZ	**Makatiti**	**2.87**	**15**	P		**Pb**		**19 41 53.5**	**-3.5**
OMRZ	**Omania**	**2.88**	**14**	P		**Pn**		**19 41 49.8**	**-0.2**
OMRZ				P		**Pn**		**19 41 50.0**	**0.0**
DSZ	**Denniston Nort**	**2.91**	**252**	P		**Pn**		**19 41 50.5**	**0.0**
URZ	**Urewera**	**2.92**	**26**	P		**Pn**		**19 41 47.3**	**-3.2**
	27nm,0.3s,baz=224,slow=6.2,SNR=103								
URZ						S	**Sn**	**19 42 23.7**	**-0.8**
	152nm,0.3s,baz=324,slow=8.0,SNR=13								
URZ						LR	LR	19 42 53.2	
	comp=Z,1μm,18.9s,baz=215,slow=36								
URZ	**Urewera**	**2.92**	**26**	Pn		**Pn**		**19 41 48.6**	**-2.0**
URZ	**Urewera**	**2.92**	**26**	P		**Pn**		**19 41 48.9**	**-1.6**
URZ	**Urewera**	**2.92**	**26**	P		**Pn**		**19 41 49.1**	**-1.5**
KARZ	**Kakaroa**	**2.94**	**11**	P		**Pn**		**19 41 51.1**	**+0.2**
EDRZ	**Edgecumbe**	**2.96**	**19**	P		**Pn**		**19 41 50.4**	**-0.8**
MWZ	**Matawai**	**3.01**	**32**	P		**Pn**		**19 41 50.1**	**-1.7**
TKGZ	**Te Karaka**	**3.06**	**37**	P		**Pn**		**19 41 51.0**	**-1.4**
LTZ	**Lake Taylor**	**3.06**	**231**	Pn		**Pn**		**19 41 51.0**	**-1.5**
LTZ	**Lake Taylor**	**3.06**	**231**	P		**Pn**		**19 41 51.5**	**-0.9**
KMRZ	**Kaimai**	**3.08**	**6**	P		**Pn**		**19 41 53.3**	**+0.5**
AMCZ	**Amberley**	**3.11**	**222**	P		**Pn**		**19 41 51.8**	**-1.3**
OPRZ	**Ohinepanea**	**3.17**	**15**	P		**Pn**		**19 41 53.5**	**-0.5**
TOZ	**Tahuroa Road**	**3.18**	**360**	P		**Pn**		**19 41 54.8**	**+0.8**
CNGZ	**Carnagh Statio**	**3.19**	**42**	P		**Pn**		**19 41 53.5**	**-0.8**
WHRZ	**Whale Island**	**3.25**	**21**	P		**Pn**		**19 41 55.8**	**+0.7**
TWGZ	**Tauwhareparae**	**3.33**	**36**	P		**Pn**		**19 41 55.2**	**-1.1**
OKCZ	**Okains Bay**	**3.35**	**212**	P		**Pn**		**19 41 55.0**	**-1.4**
RUGZ	**Raukumara Rang**	**3.39**	**30**	P		**Pn**		**19 41 55.5**	**-1.5**
MQZ	**McQueen's Vall**	**3.51**	**216**	Pn		**Pn**		**19 41 55.9**	**-2.6**
MQZ	**McQueen's Vall**	**3.51**	**216**	P		**Pn**		**19 41 56.4**	**-2.2**
OXZ	**Oxford**	**3.54**	**226**			**Pn**		**19 41 56.7**	**-2.2**
OXZ	**Oxford**	**3.54**	**226**	P		**Pn**		**19 41 56.9**	**-2.1**
INZ	**Inchbonnie**	**3.54**	**238**	P		**Pn**		**19 41 58.4**	**-0.6**
PUZ	**Puketiti**	**3.54**	**38**	P		**Pn**		**19 41 56.9**	**-2.2**
HAZ	**Te Kaha**	**3.61**	**30**	P		**Pn**		**19 41 59.2**	**-0.8**
MYRZ	**Mayor Island**	**3.67**	**9**	P		**Pn**		**19 42 01.5**	**+0.7**
RACZ	**Rakaia**	**3.76**	**220**	P		**Pn**		**19 42 00.4**	**-1.7**
MKAZ	**Moumakai**	**3.81**	**356**	P		**Pn**		**19 42 03.6**	**+0.9**
WMGZ	**Waiomatatini S**	**3.82**	**37**	P		**Pn**		**19 42 01.3**	**-1.6**
AWAZ	**Awhitu Peninsu**	**3.90**	**350**	P		**Pn**		**19 42 05.8**	**+1.8**
ETAZ	**East Tamaki Re**	**3.98**	**353**	P		**Pb**		19 42 10.5	-5.4
MXZ	**Matakaoa Point**	**3.99**	**34**	Pn		**Pn**		**19 42 03.5**	**-1.7**
MXZ	**Matakaoa Point**	**3.99**	**34**	P		**Pn**		**19 42 03.6**	**-1.6**
WTAZ	**Waiatarua**	**4.04**	**349**	P		**Pn**		**19 42 07.7**	**+1.8**
WACZ	**Wakanui South**	**4.07**	**221**	P		**Pn**		**19 42 04.6**	**-1.7**
EPAZ	**Eden Park BICE**	**4.07**	**351**	P		**Pn**		**19 42 07.9**	**+1.5**
HBAZ	**Herne Bay Bore**	**4.10**	**351**	P		**Pn**		**19 42 08.2**	**+1.5**
WIAZ	**Waiheke Island**	**4.12**	**356**	P		**Pn**		**19 42 08.1**	**+1.1**
KUZ	**Kuaotunu**	**4.16**	**2**	P		**Pn**		**19 42 07.9**	**+0.3**
WVZ	**Waitaha Valley**	**4.16**	**237**	P		**Pn**		**19 42 06.7**	**-0.9**
MBAZ	**Motutapu North**	**4.16**	**353**	P		**Pn**		**19 42 08.6**	**+1.0**
RVAZ	**Riverhead Bore**	**4.20**	**350**	P		**Pn**		**19 42 10.1**	**+2.0**
RPZ	**Rata Peaks**	**4.33**	**228**	P		**Pn**		**19 42 06.2**	**-3.8**
	19nm,0.3s,baz=87,slow=3.3,SNR=39								
RPZ						S	**Sn**	**19 42 55.8**	**-3.5**
	49nm,0.3s,baz=325,slow=22,SNR=15								
RPZ						LR	LR	19 44 21.7	
	comp=Z,3μm,19.0s,baz=72,slow=44								
RPZ	**Rata Peaks**	**4.33**	**228**			**Pn**		**19 42 08.4**	**-1.5**
RPZ	**Rata Peaks**	**4.33**	**228**	P		**Pn**		**19 42 08.1**	**-1.9**
RPZ	**Rata Peaks**	**4.33**	**228**	P		**Pn**		**19 42 08.8**	**-1.2**
ABAZ	**Army Bay**	**4.34**	**353**	P		**Pn**		**19 42 11.3**	**+1.3**
ARCZ	**Arundel**	**4.42**	**225**	P		**Pn**		**19 42 09.4**	**-1.7**
GCSZ	**Gaunt Creek Bo**	**4.54**	**236**	P		**Pn**		**19 42 11.9**	**-0.9**
GRZ	**Great Barrier**	**4.65**	**359**	P		**Pn**		**19 42 14.5**	**+0.1**
TMZ	**Timaru**	**4.80**	**222**	P		**Pn**		**19 42 14.9**	**-1.5**
FOZ	**Fox Glacier**	**4.97**	**236**			**Pn**		**19 42 17.4**	**-1.3**
FOZ	**Fox Glacier**	**4.97**	**236**	P		**Pn**		**19 42 17.5**	**-1.2**
LBZ	**Lake Benmore**	**5.24**	**227**			**Pn**		**19 42 21.4**	**-1.0**
LBZ	**Lake Benmore**	**5.24**	**227**	P		**Pn**		**19 42 21.3**	**-1.2**
ODZ	**Otahua Downs**	**5.46**	**219**			**Pn**		**19 42 23.4**	**-2.0**
ODZ	**Otahua Downs**	**5.46**	**219**	P		**Pn**		**19 42 23.6**	**-1.7**
ODZ	**Otahua Downs**	**5.46**	**219**	P		**Pn**		**19 42 23.7**	**-1.7**
OUZ	**Omahuta**	**5.88**	**345**			**Pn**		**19 42 31.4**	**+0.2**
OUZ	**Omahuta**	**5.88**	**345**	P		**Pn**		**19 42 33.2**	**+2.0**
OUZ	**Omahuta**	**5.88**	**345**	P		**Pn**		**19 42 33.2**	**+2.0**
JCZ	**Jackson Bay**	**5.89**	**235**	P		**Pn**		**19 42 30.1**	**-1.3**
HHSZ	**Highcliff Hill**	**6.12**	**214**	P		**Pn**		**19 42 33.1**	**-1.4**
WKZ	**Wanaka**	**6.17**	**228**	Pn		**Pn**		**19 42 32.8**	**-2.4**
WKZ	**Wanaka**	**6.17**	**228**	P		**Pn**		**19 42 32.3**	**-2.9**
EAZ	**Earnscleugh**	**6.27**	**224**	P		**Pn**		**19 42 34.8**	**-1.7**
CTZ	**Chatham Island**	**6.48**	**118**	P		**Pn**		**19 42 38.7**	**-0.8**
TUZ	**Tuapeka**	**6.61**	**218**	P		**Pn**		**19 42 39.8**	**-1.4**
MLZ	**Mavora Lakes**	**7.00**	**228**	Pn		**Pn**		**19 42 44.2**	**-2.5**
MLZ	**Mavora Lakes**	**7.00**	**228**	P		**Pn**		**19 42 45.2**	**-1.4**
SYZ	**Scrubby Hill**	**7.27**	**217**	P		**Pn**		**19 42 49.6**	**-0.7**
WHZ	**Wether Hill Ro**	**7.42**	**225**	Pn		**Pn**		**19 42 49.4**	**-3.0**
DCZ	**Deep Cove**	**7.62**	**231**	Pn		**Pn**		**19 42 52.5**	**-2.5**
APZ	**The Paps**	**8.03**	**220**	P		**Pn**		**19 42 59.4**	**-1.3**
RAO	**Raoul Island**	**12.81**	**27**	LR		LR		19 48 57.8	
	comp=Z,1μm,19.5s,baz=216,slow=37								
OUENC	**Ouen Island, N**	**19.84**	**336**	P		**P**		**19 45 33.8**	**-0.6**
OUENC				IAmb		IAmb		19 45 47.3	
	comp=Z,74nm,1.3s								
DZM	**Mont Dzumac**	**20.29**	**335**	P		**P**		**19 45 38.8**	**-0.6**
	comp=Z,5.8nm,1.0s,baz=308,slow=17,SNR=1.9								
DZM				LR		LR		19 53 06.8	
	comp=Z,850nm,18.0s,baz=192,slow=36								
DZM	**Mont Dzumac**	**20.29**	**335**	*e*P		P		19 45 51.2	+10
	comp=Z,161nm,1.3s								
DZM				*e*S		Sn		19 49 39.5	+10
	comp=Z,494nm,24.1s								
DZM				*e*LR		LR		19 50 48.3	
	comp=Z,2μm,25.9s								
DZM	**Mont Dzumac**	**20.29**	**335**	P		**P**		**19 45 38.7**	**-0.8**
DZM				IAmb		IAmb		19 45 59.3	
	comp=Z,91nm,1.3s								
DZM	**Mont Dzumac**	**20.29**	**335**	P		Pn		19 45 40.9	-0.7
ARMA	**Armidale**	**21.98**	**291**	P		**P**		**19 45 59.6**	**+1.9**
	baz=22,SNR=5.0								
ARMA	**Armidale**	**21.98**	**291**	P		**P**		**19 45 59.2**	**+1.5**
MSVF	**Nonsavu**	**23.20**	**6**	P		**P**		**19 46 09.3**	**-1.2**
	comp=Z,9.4nm,0.8s,baz=154,slow=13,SNR=2.8								
MSVF	**Nonsavu**	**23.20**	**6**	P		**P**		**19 46 09.3**	**-1.2**
MSVF				IAmb		IAmb		19 46 24.1	
	comp=Z,29nm,1.1s								
TOO	**Toolangi**	**23.43**	**268**	P		**P**		**19 46 12.8**	**+0.1**
	baz=23,SNR=5.9								
TOO	**Toolangi**	**23.43**	**268**	P		**P**		**19 46 13.5**	**+0.8**
TOO				IAmb		IAmb		19 46 16.4	
	comp=Z,28nm,1.0s								
TOO	**Toolangi**	**23.43**	**268**	P		**P**		**19 46 13.9**	**+1.2**
EIDS	**Eidsvold**	**25.55**	**300**	P		**P**		**19 46 33.5**	**+1.4**
	baz=26,SNR=3.8								
EIDS	**Eidsvold**	**25.55**	**300**	P		**P**		**19 46 32.4**	**+0.3**
EIDS				IAmb		IAmb		19 46 45.0	
	comp=Z,39nm,1.2s								
STKA	**Stephens Creek**	**28.61**	**277**	P		**P**		**19 46 59.0**	**-0.6**
	comp=Z,9.0nm,0.8s,baz=105,slow=10,SNR=15								
STKA				PcP		**PcP**		**19 50 10.0**	**0.0**
	comp=Z,2.2nm,0.8s,baz=18,slow=6.0,SNR=2.9								
STKA				LR		LR		19 58 01.0	
	comp=Z,433nm,18.6s,baz=109,slow=36								
STKA	**Stephens Creek**	**28.61**	**277**	P		**P**		**19 47 00.0**	**+0.5**
	baz=29,SNR=11								
STKA	**Stephens Creek**	**28.61**	**277**	P		**P**		**19 47 00.1**	**+0.5**
STKA	**Stephens Creek**	**28.61**	**277**	P		**P**		**19 46 59.9**	**+0.3**
RAR	**Rarotonga**	**28.71**	**54**	LR		LR		19 57 49.5	
	comp=Z,192nm,18.9s,baz=218,slow=35								
AFI	**Afiamalu**	**29.10**	**26**	LR		LR		19 58 40.4	
	comp=Z,83nm,19.7s,baz=158,slow=36								
QLP	**Quilpie**	**29.49**	**289**	P		**P**		**19 47 07.6**	**+0.1**
	baz=30,SNR=4.9								
QLP	**Quilpie**	**29.49**	**289**	P		**P**		**19 47 08.5**	**+1.0**
HTT	**Hallett**	**29.93**	**273**	P		**P**		**19 47 11.8**	**+0.3**
	baz=30,SNR=4.9								
HTT	**Hallett**	**29.93**	**273**	P		**P**		**19 47 11.7**	**+0.3**
LCRK	**Leigh Creek**	**31.83**	**277**	P		**P**		**19 47 28.4**	**+0.3**
BBOO	**Buckleboo**	**32.37**	**272**	P		**P**		**19 47 32.9**	**+0.2**
	baz=32,SNR=24								
BBOO	**Buckleboo**	**32.37**	**272**	P		**P**		**19 47 32.7**	**-0.1**
BBOO	**Buckleboo**	**32.37**	**272**	P		**P**		**19 47 32.8**	**0.0**
CTA	**Charters Tower**	**32.41**	**301**	LR		LR		20 00 48.6	
	comp=

LL02	**Futaleuf**	**76.61**	**136**	P	**P**	**19 52 55.3**	**+1.7**
LL02				IAmb	IAmb	19 52 56.9	
	comp=Z,19nm,1.1s						
PLCA	**Paso Flores**	**79.03**	**135**	P	**P**	**19 53 08.9**	**+1.8**
	comp=Z,5.6nm,1.0s,baz=247,slow=6.9,SNR=8.4						
PLCA	**Paso Flores**	**79.03**	**135**	P	**P**	**19 53 09.0**	**+1.8**
PLCA				IAmb	IAmb	19 53 10.2	
	comp=Z,9.2nm,1.1s						
LC01	**Cunco**	**79.60**	**133**	P	**P**	**19 53 12.1**	**+1.9**
KSRS	**Korea Array**	**89.33**	**324**	P	**P**	**19 53 58.7**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=108,slow=14,SNR=4.1						
NJ2	**Nanjing**	**89.47**	**315**	*eP*	**P**	**19 54 02.2**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
CM31	**Chiang Mai Arr**	**92.19**	**292**	P	**P**	**19 54 13.7**	**+0.9**
CM31				IAmb	IAmb	19 54 23.1	
	comp=Z,10nm,1.1s						
CMAR	**Chiang Mai Arr**	**92.19**	**292**	P	**P**	**19 54 13.2**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=153,slow=3.5,SNR=17						
CMAR				PP	**PP**	**19 57 54.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=175,slow=12,SNR=2.3						
CMAR	**Chiang Mai Arr**	**92.19**	**292**	P	**P**	**19 54 12.6**	**-0.2**
PZH	**PanZhiHua**	**95.72**	**300**	P	**P**	**19 54 31.9**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.0s						
HHC	**Hu-ho-hao-te**	**99.94**	**316**	*eP*	**Pdif**	**19 54 51.3**	**+3.7**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,61nm,5.0s						
ILAR	**Eielson Array**	**109.39**	**16**	PKiKP	**PKiKP**	**19 59 31.3**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=265,slow=3.0,SNR=4.6						
INK	**Inuvik**	**115.35**	**19**	PKP	**PKPdf**	**19 59 43.0**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=192,slow=2.3,SNR=4.4						
WMQ	**Urumqi**	**115.42**	**307**	*eP*	**PKPdf**	**19 59 44.0**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,120nm,5.1s						
LRAL	**Lakeview Retre**	**115.91**	**68**		**PKPdf**	**19 59 44.1**	**-1.3**
YKA	**Yellowknife Ar**	**117.18**	**29**	PKP	**PKPdf**	**19 59 46.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=250,slow=1.5,SNR=18						
YKA				PKKPbc	**PKKPbc**	**20 10 11.0**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=54,slow=3.9,SNR=4.1						
MKAR	**Makanchi Array**	**120.22**	**307**	PKP	**PKPdf**	**19 59 51.8**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=207,slow=1.3,SNR=4.1						
FCC	**Fort Churchill**	**124.03**	**39**		**PKPdf**	**19 59 59.6**	**-0.6**
KURK	**Kurchatov**	**124.15**	**310**		**PKPdf**	**19 59 59.4**	**-1.3**
KURBB	**Kurchatov Arra**	**124.17**	**310**	PKP	**PKPdf**	**19 59 59.4**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=112,slow=1.8,SNR=7.3						
GAR	**Garm**	**124.31**	**294**		**PKPdf**	**20 00 01.7**	**+0.1**
GEYT	**Alibeck**	**132.46**	**288**	PKP	**PKPdf**	**20 00 17.1**	**0.0**
	comp=Z,1.3nm,0.6s,baz=39,slow=52,SNR=2.7						
GURO	**Guroymak-BITLI**	**144.47**	**282**		PKPbc	20 00 38.4	+0.7
KBZ	**Khabaz**	**145.22**	**291**	PKPbc	**PKPbc**	**20 00 38.9**	**-0.9**
	comp=Z,12nm,0.8s,baz=93,slow=3.4,SNR=22						
LIC	**Lamto**	**145.46**	**179**	*eP*	**PKPab**	**20 00 43.0**	**+1.4**
	comp=Z,65nm,1.1s						
KIC	**Kosan Boka**	**145.60**	**180**	*eP*	**PKPab**	**20 00 42.8**	**+0.7**
	comp=Z,57nm,1.0s						
TIC	**Tounodi**	**145.88**	**179**	*eP*	**PKPdf**	**20 00 39.8**	**-2.4**
DBIC	**Dimbokro**	**145.90**	**179**	PKPbc	**PKPbc**	**20 00 43.2**	**+0.4**
	comp=Z,9.6nm,0.8s,baz=187,slow=1.9,SNR=11						
KLMR	**Klimovskoe**	**146.69**	**322**	*e*	**PKPdf**	**20 00 40.9**	**-1.1**
KLMR				AMP		20 00 53.3	
	comp=Z,34nm,1.4s						
ARCES	**ARCESS Array B**	**147.30**	**341**	PKPbc	**PKPbc**	**20 00 44.6**	**-0.6**
	comp=Z,4.7nm,0.7s,baz=65,slow=2.4,SNR=20						
ARCES	**ARCESS Array B**	**147.30**	**341**		**PKPbc**	**20 00 44.8**	**-0.5**
BRTR	**Keskin Array B**	**151.05**	**280**	PKP	**PKPdf**	**20 00 47.0**	**-3.0**
	comp=Z,0.2nm,0.4s,baz=266,slow=30,SNR=2.5						
BRTR				PKPbc	**PKPbc**	**20 00 55.6**	**-0.2**
	comp=Z,6.9nm,0.7s,baz=141,slow=5.9,SNR=49						
BRTR	**Keskin Array B**	**151.05**	**280**		**PKPdf**	**20 00 48.9**	**-1.0**
BRTR					**PKPbc**	**20 00 55.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**151.82**	**193**	PKP	**PKPdf**	**20 00 51.9**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=319,slow=2.3,SNR=4.2						
TORD				PKPbc	**PKPbc**	**20 00 58.1**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=156,slow=2.9,SNR=21						
TORD	**Torodi Ar. Bea**	**151.82**	**193**		**PKPdf**	**20 00 51.6**	**-0.1**
TORD					**PKPbc**	**20 00 57.7**	**-0.3**
FIA1	**FINESS Array S**	**152.34**	**328**		**PKPbc**	**20 00 57.1**	**-0.6**
FINES	**FINESS Array B**	**152.34**	**328**	PKPbc	**PKPbc**	**20 00 57.1**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=98,slow=5.8,SNR=16						
NB2	**NORSAR Subarra**	**157.67**	**340**	PKP	**PKPab**	**20 01 28.2**	**-2.6**
	comp=Z,3.5nm,1.0s,baz=33,slow=4.4						
NOA	**NORSAR Array B**	**157.67**	**340**	PKP	**PKPdf**	**20 00 55.9**	**-2.4**
	comp=Z,0.1nm,0.6s,baz=324,slow=20,SNR=2.2						
NOA				PKPab	**PKPab**	**20 01 28.1**	**-2.7**
	comp=Z,0.2nm,0.6s,baz=31,slow=4.2,SNR=2.0						
GERES	**GERESS Array B**	**164.88**	**308**	PKPab	**PKPab**	**20 02 03.0**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=48,slow=4.2,SNR=3.8						

IDC ***11*** *19:43:16.3±2.9, 10˚.82N×140˚.87E, h0km, mb3.9/11, mb1 4.1/13, mb1mx3.7/56, mbtmp4.0/13, ML4.0/2, Error ellipse: s-maj=66.5km s-min=27.9km az=173.0*

ISC 11 19:43:21.7±2.5, 10˚.9N±0˚.4×140˚.8E±0˚.1, h34km, n13, σ1§10/14, mb3.8/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.79**	**55**	Pn	**Pn**	**19 44 31.0**	**-0.6**
	2.6nm,0.3s,baz=166,slow=20,SNR=1.5						
GUMO				Sn	**Sn**	**19 45 26.6**	**+0.7**
	5.6nm,0.3s,baz=194,slow=22,SNR=1.2						
JOW	**Kunigami**	**19.80**	**325**	P	**P**	**19 47 48.5**	**-0.9**
	1.0nm,0.3s,baz=156,slow=17,SNR=1.3						
KLR	**Kul'dur**	**38.98**	**351**	P	**P**	**19 50 43.4**	**-1.3**
	0.9nm,0.5s,baz=160,slow=12,SNR=5.9						
SONM	**Songino Array**	**46.81**	**329**	P	**P**	**19 51 48.9**	**+0.5**
	0.4nm,0.5s,baz=128,slow=7.3,SNR=4.1						
YAK	**Yakutsk**	**51.71**	**353**	P	**P**	**19 52 26.4**	**+1.1**
	6.7nm,0.5s,baz=152,slow=0.7,SNR=1.5						
SEY	**Seymchan**	**52.64**	**7**	P	**P**	**19 52 32.9**	**+0.6**
	0.4nm,0.4s,baz=180,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**60.76**	**318**	P	**P**	**19 53 30.9**	**+0.6**
	0.3nm,0.6s,baz=99,slow=9.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**61.59**	**326**	P	**P**	**19 53 36.0**	**+0.3**
	0.5nm,0.4s,baz=101,slow=7.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**64.19**	**321**	P	**P**	**19 53 53.6**	**+0.5**
	1.0nm,0.8s,baz=105,slow=6.7,SNR=7.0						
ILAR	**Eielson Array**	**72.70**	**25**	P	**P**	**19 54 44.5**	**-1.5**
	0.5nm,0.6s,baz=245,slow=5.8,SNR=5.6						
YKA	**Yellowknife Ar**	**87.06**	**27**	P	**P**	**19 56 04.3**	**+0.6**
	0.3nm,0.5s,baz=289,slow=4.9,SNR=7.0						
ARCES	**ARCESS Array B**	**88.41**	**341**	P	**P**	**19 56 11.7**	**+1.6**
	3.5nm,1.0s,baz=82,slow=6.5,SNR=3.9						
FINES	**FINESS Array B**	**91.90**	**334**	P	**P**	**19 56 24.9**	**-1.5**
	0.6nm,0.4s,baz=62,slow=5.8,SNR=7.4						

IDC ***11*** *19:43:19.6±0.7, 35˚.31N×140˚.55E, h0km, mb3.7/16, mb1 3.9/22, mb1mx3.7/62, mbtmp3.7/22, ML3.4/5, Error ellipse: s-maj=18.2km s-min=12.9km az=85.0*

JMA ***11*** *19:43:27.6±0.1, 35˚.44N×140˚.45E, h52km±2km, M3.4 Broadband fault plane solution: P waves. NP1: φs354.00000°, δ85.00000°, λ80.00000°. NP2: φs237.00000°, δ11.00000°, λ153.00000°. Principal axes: T Plg49.0000°, Azm253.0000°; N Plg10.0000°, Azm355.0000°; P Plg39.0000°, Azm93.0000°;*

JMA Felt II J1.

NIED ***11*** *19:43:27.6, 35˚.44N×140˚.45E, h52km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.73; Mθθ2.41; Mφφ-1.68; Mrθ3.08; Mθφ1.32; Mφr6.58; Fault plane solution: M0 7.68000×10¹⁴ NP1: φs111.00000°, δ19.00000°, λ-7.00000°. NP2:φs208.00000°, δ88.00000°, λ-109.00000°.*

ISC 11 19:43:27.0±0.7, 35˚.37N±0˚.05×140˚.47E±0˚.05, h58km±6km, n41, σ1§67/41, mb3.6/16, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.23**	**282**	P	**Pn**	**19 43 36.7**	**+0.4**
KTR	**Katsuura**	**0.26**	**210**	⇓P	**Pn**	**19 43 36.9**	**+0.3**
KTR				S	**Sn**	**19 43 43.8**	**+0.3**
JSMT	**Sammumatsuo**	**0.27**	**356**	⇓P	**Pn**	**19 43 36.5**	**-0.2**
JKUC	**kamogawauchiur**	**0.31**	**227**	⇓P	**Pn**	**19 43 37.1**	**+0.2**
JKUC				S	**Sn**	**19 43 44.2**	**+0.1**
BSO4	**Boso 4**	**0.40**	**196**	P	**Pn**	**19 43 38.5**	**+0.9**
CHOJ	**Chosi**	**0.46**	**44**	P	**Pn**	**19 43 38.4**	**+0.1**
CHOJ				*eS*	**Sn**	**19 43 46.4**	**-0.2**
BSO3	**Boso 3**	**0.57**	**177**	P	**Pn**	**19 43 40.1**	**+0.8**
BSO1	**Boso 1**	**0.83**	**150**	⇑P	**Pn**	**19 43 42.7**	**+0.5**
JYT	**Yasato**	**0.88**	**345**	P	**Pn**	**19 43 42.7**	**-0.7**
JIM2	**Oshima 3**	**1.07**	**233**	P	**Pn**	**19 43 45.6**	**-0.4**
JOD2	**Odawara 2**	**1.14**	**265**	⇓P	**Pn**	**19 43 46.8**	**0.0**
JOD2				*eS*	**Sn**	**19 44 00.8**	**-0.7**
JAG	**Ashikaga**	**1.34**	**322**	⇓P	**Pn**	**19 43 49.5**	**+0.1**
JRY	**Ryogami san**	**1.43**	**297**	⇓P	**Pn**	**19 43 51.1**	**+0.4**
MJAR	**Matsushiro Ar**	**2.17**	**303**	Pn	**Pn**	**19 43 59.4**	**-1.4**
	5.8nm,0.3s,baz=123,slow=12,SNR=110						
MJAR				Sn	**Sn**	**19 44 27.2**	**+0.6**
	6.5nm,0.3s,baz=45,slow=19,SNR=3.2						
JHJ	**Hachijo jima 2**	**2.32**	**194**	Pn	Pn	19 43 57.2	-5.6
	16nm,0.3s,baz=66,slow=18,SNR=1.7						
JHJ				Sn	**Sn**	**19 44 27.9**	**-2.2**
	136nm,0.3s,baz=343,slow=19,SNR=4.6						
JCJ	**Chichijima**	**8.38**	**169**	Pn	Pn	19 45 20.1	-5.7
	2.7nm,0.3s,baz=289,slow=21,SNR=1.9						
JCJ				Sn	**Sn**	**19 46 52.5**	**-6.5**
	6.1nm,0.3s,baz=285,slow=19,SNR=2.0						
ASAJ	**Asahikawa**	**8.88**	**10**	Pn	**Pn**	**19 45 29.0**	**-3.6**
	0.5nm,0.3s,baz=216,slow=21,SNR=5.9						
ASAJ				Sn	**Sn**	**19 47 06.4**	**-4.7**
	0.2nm,0.3s,baz=99,slow=19,SNR=1.8						
USRK	**Ussuriysk Ar.**	**10.96**	**326**	Pn	**Pn**	**19 45 59.2**	**-1.7**
	baz=125,slow=12,SNR=2.1						
KLR	**Kul'dur**	**15.26**	**338**	Pn	**Pn**	**19 46 57.5**	**-1.2**
	0.1nm,0.3s,baz=176,slow=12,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**28.02**	**117**	T	T	20 18 36.6	
	baz=309,slow=75,SNR=168						
H11N1	**WAKE ISLAND Hy**	**28.02**	**117**	T	T	20 18 36.7	
	baz=309,slow=75,SNR=108						
H11N3	**WAKE ISLAND Hy**	**28.03**	**117**	T	T	20 18 37.6	
	baz=309,slow=75,SNR=96						
SONM	**Songino Array**	**28.12**	**307**	P	**P**	**19 49 13.3**	**-0.2**
	0.7nm,0.6s,baz=106,slow=8.6,SNR=4.9						
SEY	**Seymchan**	**28.57**	**11**	P	**P**	**19 49 18.3**	**+1.3**
	0.2nm,0.3s,baz=263,slow=7.9,SNR=2.0						
H11S2	**WAKE ISLAND Hy**	**28.66**	**119**	T	T	20 19 26.1	
	baz=311,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.66**	**119**	T	T	20 19 17.3	
	baz=311,slow=75,SNR=46						
H11S2	**WAKE ISLAND Hy**	**28.68**	**119**	T	T	20 19 27.3	
	baz=311,slow=75,SNR=31						
CMAR	**Chiang Mai Arr**	**40.35**	**256**	P	**P**	**19 51 00.2**	**+1.0**
	0.4nm,0.6s,baz=97,slow=6.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**42.49**	**314**	P	**P**	**19 51 16.9**	**+0.7**
	0.8nm,0.4s,baz=94,slow=6.5,SNR=6.3						
MKAR	**Makanchi Array**	**44.38**	**303**	P	**P**	**19 51 32.5**	**+1.0**
	0.5nm,0.5s,baz=88,slow=10,SNR=9.4						
KURBB	**Kurchatov Arra**	**46.44**	**309**	P	**P**	**19 51 48.4**	**+0.6**
	1.5nm,0.4s,baz=83,slow=7.6,SNR=31						
ILAR	**Eielson Array**	**51.30**	**32**	P	**P**	**19 52 26.1**	**+1.3**
	0.6nm,0.6s,baz=266,slow=5.9,SNR=6.3						
FITZ	**Fitzroy Crossi**	**55.01**	**197**	P	**P**	**19 52 53.3**	**+0.8**
	1.6nm,0.6s,baz=22,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**55.32**	**187**	P	**P**	**19 52 54.5**	**-0.3**
	0.8nm,0.5s,baz=1.3,slow=7.5,SNR=8.3						
ASAR	**Alice Springs**	**59.05**	**187**	P	**P**	**19 53 21.5**	**+0.5**
	0.4nm,0.7s,baz=17,slow=12,SNR=6.4						
YKA	**Yellowknife Ar**	**65.62**	**30**	P	**P**	**19 54 04.0**	**-0.5**
	0.2nm,0.6s,baz=296,slow=5.8,SNR=2.8						
FINES	**FINESS Array B**	**69.93**	**332**	P	**P**	**19 54 32.1**	**+0.5**
	0.8nm,0.7s,baz=29,slow=4.4,SNR=5.1						
AKASG	**Malin Array Be**	**75.14**	**322**	P	**P**	**19 55 03.3**	**+0.5**
	0.4nm,0.3s,baz=46,slow=6.0,SNR=4.7						
NOA	**NORSAR Array B**	**75.42**	**337**	P	**P**	**19 55 04.7**	**+0.5**
	0.2nm,0.8s,baz=44,slow=5.4,SNR=2.8						
NVAR	**Mina Array Bea**	**76.60**	**52**	P	**P**	**19 55 13.0**	**+1.4**
	0.3nm,0.5s,baz=316,slow=2.5,SNR=2.4						
PDAR	**Pinedale Array**	**79.38**	**45**	P	**P**	**19 55 28.0**	**+1.0**
	0.5nm,0.6s,baz=268,slow=2.1,SNR=7.1						

MDD ***11*** *19:57:22.2±1.2, 36˚.06N×3˚.81E, h12km±29km, Mb4.3/8, M_mb3.7/7, Error ellipse: s-maj=34.5km s-min=6.9km az=138.0*

CRAAG ***11*** *19:57:24.1, 36˚.31N×3˚.51E, Ml2.9*

ISC 11 19:57:24.7±1.3, 36˚.30N±0˚.06×3˚.51E±0˚.06, h12km±11km, n14, σ2§09/20, 7C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADJB	**Djebel Djouab**	**0.15**	**202**	P	**Pg**	**19 57 28.8**	**+0.4**
AKET	**Djebel Ketaf**	**0.39**	**129**	P	**Pb**	**19 57 33.4**	**-0.3**
ABMS	**Boumerdes**	**0.45**	**357**	P	**Pg**	**19 57 34.1**	**+0.4**
EMHD	**Djebel Mahouad**	**0.46**	**258**	P	**Pg**	**19 57 31.2**	**-2.6**
EIBI	**Ibiza**	**3.22**	**328**	P	**Pn**	**19 58 15.5**	**+0.4**
EIBI				⇑*iVmb_V*		19 58 17.6	
	341nm,SNR=1.4						
EIBI				S	**Sn**	**19 58 53.1**	**-0.3**
ETOS	**Mallorca**	**3.51**	**351**	P	**Pn**	**19 58 18.9**	**-0.1**
ETOS				⇑*iVmb_V*		19 58 21.6	
	313nm,SNR=1.1						
ETOS				S	**Sn**	**19 58 57.5**	**-3.0**
EMUR	**La Murta**	**4.10**	**294**	P	**Pn**	**19 58 28.2**	**+1.0**
EMUR				⇑*iVmb_V*		19 58 31.4	
	272nm,SNR=1.7						
EMUR				S	**Sn**	**19 59 18.1**	**+3.1**
ECOL	**Islas Columbre**	**4.23**	**329**	P	**Pn**	**19 58 30.0**	**+1.1**
ETOB	**Tobarra**	**4.65**	**302**	P	**Pn**	**19 58 35.7**	**+0.9**
ETOB				⇑*iVmb_V*		19 58 45.4	
	214nm,SNR=1.7						
ETOB				S	**Sn**	**19 59 31.1**	**+2.4**
ECHE	**Chera**	**4.83**	**314**	P	**Pn**	**19 58 38.3**	**+1.1**
ECHE				⇑*iVmb_V*		19 58 44.4	
	271nm,SNR=1.6						
ECHE				S	**Sn**	**19 59 36.4**	**+3.3**
EMOS	**Mosqueruela**	**5.12**	**324**	P	**Pn**	**19 58 42.2**	**+0.8**
EMOS				⇑*iVmb_V*		19 58 43.6	
	202nm,SNR=1.4						
EMOS				S	**Sn**	**19 59 35.9**	**-4.6**
EBER	**Berja**	**5.18**	**279**	⇑*iVmb_V*		19 58 41.4	
	171nm,SNR=1.3						
EBER				P	**Pn**	**19 58 41.7**	**-0.4**
EJON	**La Jonquera**	**6.16**	**356**	P	**Pn**	**19 58 56.1**	**+0.6**
ETOR	**Torete**	**6.27**	**318**	P	**Pn**	**19 58 57.9**	**+0.8**

IDC ***11*** *19:58:50.8±2.3, 2˚.03S×139˚.46E, h0km, mb3.6/5, mb1 4.0/7, mb1mx3.6/38, mbtmp3.8/7, ML4.2/2, MS4.0/1, Ms1 4.0/1, ms1mx2.8/53, Error ellipse: s-maj=67.9km s-min=22.9km az=91.0*

NEIC ***11*** *19:58:54.2±2.0, 2˚.0S±0˚.1×139˚.27E±0˚.05, h10km±1km, mb4.0/12, Error ellipse: s-maj=23.2km s-min=8.6km az=170.0*

ISC 11 19:58:56.0±0.8, 2˚.0S±0˚.1×139˚.3E±0˚.1, h27km, n23, σ1§15/22, mb3.8/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**8.09**	**90**	Pn	**Pn**	**20 00 50.8**	**-1.1**
MTN	**Manton Dam**	**13.44**	**216**	Pn	**Pn**	**20 02 05.2**	**+0.1**
KNRA	**Kununurra**	**17.07**	**217**		**Pn**	**20 02 52.4**	**-0.6**
BATI	**Baumata**	**17.51**	**242**	P	**Pn**	**20 02 57.9**	**-0.6**
	0.9nm,0.3s,baz=246,slow=22,SNR=2.0						
WB0	**Warramunga Arr**	**18.28**	**195**	P	**P**	**20 03 07.0**	**-0.8**
WR0	**Warramunga Arr**	**18.43**	**194**	P	**Pn**	**20 03 10.0**	**+0.4**
WR0				IAmb	IAmb	20 03 20.1	
	comp=Z,5.1nm,0.6s						
WB2	**Warramunga Arr**	**18.46**	**195**	P	**Pn**	**20 03 09.8**	**-0.2**
WB2				IAmb	IAmb	20 03 20.3	
	comp=Z,7.4nm,0.5s						
WRA	**Warramunga Arr**	**18.46**	**195**	P	**P**	**20 03 09.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=19,slow=12,SNR=20						
FITZ	**Fitzroy Crossi**	**20.84**	**219**	P	**P**	**20 03 36.0**	**+0.1**
	comp=Z,2.3nm,1.0s,baz=26,slow=12,SNR=2.4						
FITZ	**Fitzroy Crossi**	**20.84**	**219**	P	**P**	**20 03 35.7**	**-0.2**
FITZ				IAmb	IAmb	20 03 41.5	
	comp=Z,7.0nm,1.4s						
AS31	**Alice Springs**	**22.14**	**193**	P	**P**	**20 03 50.7**	**+0.9**
AS31				IAmb	IAmb	20 03 55.3	
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**22.14**	**193**	P	**P**	**20 03 48.0**	**-1.9**
	comp=Z,1.5nm,0.5s,baz=23,slow=10,SNR=36						
PSA00	**Pilbara Seismi**	**27.12**	**223**	P	**P**	**20 04 37.1**	**+0.1**
FORT	**Forrest**	**30.52**	**199**	P	**P**	**20 05 08.9**	**+1.8**
LEM	**Lembang**	**31.91**	**260**	LR	LR	20 22 11.2	
	comp=Z,253nm,19.9s,baz=165,slow=44						
CMAR	**Chiang Mai Arr**	**44.58**	**299**	P	**P**	**20 07 06.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=108,slow=5.9,SNR=3.0						
MKAR	**Makanchi Array**	**69.58**	**322**	P	**P**	**20 10 04.0**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=106,slow=7.6,SNR=6.4						
MKAR	**Makanchi Array**	**69.58**	**322**	P	**P**	**20 10 02.2**	**-0.6**
MAKZ	**Makanchi**	**69.78**	**322**	P	**P**	**20 10 03.6**	**-0.4**
MAKZ				IAmb	IAmb	20 10 30.0	
	comp=Z,2.7nm,1.4s						
ZALV	**Zalesovo Beam**	**71.62**	**330**	P	**P**	**20 10 13.2**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=76,slow=19,SNR=2.1						
SDPT	**Sand Point**	**75.25**	**31**	P	**P**	**20 10 39.0**	**+2.7**
BRVK	**Borovoye**	**79.14**	**325**	P	**P**	**20 10 57.1**	**-1.1**
BRVK				IAmb	IAmb	20 11 19.2	
	comp=Z,1.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**136.59**	**287**	PKP	**PKPdf**	**20 18 15.8**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=14,slow=0.2,SNR=1.9						

MOS ***11*** *20:10:35.6±0.9, 51˚.87N×176˚.67E, h35km, mb5.9/102, MS5.1/79, Error ellipse: s-maj=5.4km s-min=3.9km az=33.1*

NEIC ***11*** *20:10:35.9±1.8, 51˚.86N±0˚.08×176˚.68E±0˚.08, h23km±1km, mb5.6/852, Ms_20 5.1/296, Mwb5.6/51, Mww5.6, ML5.5(AEIC), Error ellipse: s-maj=12.9km s-min=8.3km az=184.0*

BJI ***11*** *20:10:35.3±0.0, 52˚.18N×176˚.40E, h20km, mb5.7/90, mB5.4/56, Ms5.3/95, Ms7 5.2/88*

AEIC ***11*** *20:10:36±2.0, 52˚.45N±0˚.08×176˚.95E±0˚.08, h11km±1km, Error ellipse: s-maj=11.8km s-min=7.0km az=182.0*

IDC ***11*** *20:10:36.8±0.6, 51˚.86N×176˚.70E, h26km±3km, mb5.3/65, mb1 5.3/69, mb1mx5.2/79, mbtmp5.4/69, ML4.9/4, MS5.0/91, Ms1 5.0/91, ms1mx5.0/98, Error ellipse: s-maj=7.6km s-min=6.9km az=141.0*

GCMT ***11*** *20:10:37.9±0.1, 51˚.86N±0˚.01×176˚.70E±0˚.01, h21km, MW5.6/159, Moment Tensor Solution. s137,c256; s159,c331; Duration: 1§6 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.96±.04; Mθθ-1.11±.04; Mφφ3.08±.03; Mrθ1.50±.08; Mθφ1.75±.03; Mφr1.11±.07; Best double couple: M0 3.61200×10¹⁷ NP1:φs345.00000°, δ43.00000°, λ-147.00000°. NP2:φs229.00000°, δ68.00000°, λ-52.00000°. Principal axes: T 4.1240, Plg15.0000°, Azm293.0000°; N -1.0140, Plg35.0000°, Azm33.0000°; P -3.1000, Plg52.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***11*** *20:10:38.2, 51˚.88N×176˚.65E, h21km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.59; Mθθ-1.89; Mφφ2.48; Mrθ0.88; Mθφ1.15; Mφr0.24; Fault plane solution: M0 2.68000×10¹⁷ NP1:φs330.71000°, δ68.28000°, λ-168.79000°. NP2:φs236.52000°, δ79.59000°, λ-22.10000°. Principal axes: T 2.8213, Plg8.0000°, Azm285.0000°; N -0.3141, Plg66.0000°, Azm33.0000°; P -2.5073, Plg23.0000°, Azm192.0000°;*

NEIC ***11*** *20:10:39, 51˚.94N×176˚.62E, h16km, Moment Tensor Solution. Duration: 8§0 Moment tensor: Scale 10¹⁷Nm; Mrr-2.29; Mθθ-0.92; Mφφ3.21; Mrθ1.30; Mθφ1.52; Mφr-0.03; Fault plane solution: M0 3.50000×10¹⁷ NP1: φs348.00000°, δ51.00000°, λ-137.00000°. NP2: φs228.00000°, δ58.00000°, λ-47.00000°. Principal axes: T 3.7392, Plg4.0000°, Azm289.0000°; N -0.5463, Plg35.0000°, Azm22.0000°; P -3.1929, Plg55.0000°, Azm194.0000°;*

ISC 11 20:10:36.9±0.3, 51˚.80N±0˚.03×176˚.60E±0˚.02, h28km±1km, h29km:pP-P, n2388, σ1§41/2683, mb5.6/734, MS5.1/303, 316C-186D, Fault plane solution: NP1:φs207.84850°, δ86.04385°, λ-27.15757°. **NP2:φs**299.87552°, δ62.91245°, λ-175.55551°. **Principal axes:** T Plg15.8546°, Azm257.0022°; N Plg62.5775°, Azm20.1887°; P Plg21.7630°, Azm160.4921°; **Fault plane solution: NP1:φs**241.08122°, δ87.88991°, λ-66.86724°. **NP2:** φs336.00714°, δ23.22353°, λ-174.64218°. **Principal axes:** T Plg38.5925°, Azm310.2621°; N Plg23.1162°, Azm60.1800°; P Plg42.5200°, Azm173.2235°; **Rat Islands**

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|---|---|---|---|---

APC S **Sn** **20 15 32.7 -4.3**
MIPR Malaya Ipel'ka 12.23 280 P **Pn** **20 13 30.2 +1.2**
PAU Pauzhetka 12.30 276 P **Pn** **20 13 30.3 +0.4**
FALS False Pass 12.32 68 Pn **Pn** **20 13 31.5 +1.4**
FALS False Pass 12.32 68 P **Pn** **20 13 31.2 +1.1**
baz=266,SNR=30
FALS False Pass 12.32 68 P **Pn** **20 13 32.2 +2.0**
comp=Z,1µm,1.4s
SKR Severo-Kuril's 12.88 273⇑*i*P **Pn** **20 13 37.8 -0.1**
SKR pmax pmax
comp=Z,294nm,1.0s
SKR pmax pmax
comp=Z,600nm,4.2s
SKR MLR MLR
comp=Z,2µm,20.0s
GAMB Gambell 13.49 23 Pn **Pn** **20 13 46.7 +0.6**
GAMB Gambell 13.49 23 P **Pn** **20 13 48.1 +2.0**
baz=213,SNR=28
SDPT Sand Point 14.05 66 **Pn** **20 13 54.5 +0.8**
SDPT Sand Point 14.05 66 P **Pn** **20 13 53.6 -0.2**
baz=266,SNR=15
SDPT S **Sn** **20 16 36.8 +8.3**
baz=266
ANM Nome 15.85 29 P **P** **20 14 20.3 -0.9**
ANM pmax pmax
comp=Z,279nm,1.2s
ANM Nome 15.85 29 **P** **20 14 20.3 -0.9**
ANM Nome 15.85 29 P **Pn** **20 14 18.7 +1.0**
baz=225,SNR=51
ANM S **S** **20 17 26.2 +0.3**
baz=225
TNA Tin City 15.89 24 **P** **20 14 20.6 -1.0**
TNA IAmb IAmb 20 14 25.8
comp=Z,358nm,1.0s
TNA Tin City 15.89 24 P **P** **20 14 20.5 -1.1**
baz=217,SNR=154
TNA S **S** **20 17 27.0 +0.1**
baz=217
MA2 Magadan 16.43 308 Pn **Pn** **20 14 25.8 +0.8**
comp=Z,1.3nm,0.3s,baz=109,slow=10,SNR=46
MA2 LR LR 20 20 14.6
comp=Z,8µm,18.4s,baz=104,slow=35
MA2 ScP **ScP** **20 22 47.6 -0.6**
comp=Z,0.5nm,0.3s,baz=58,slow=1.4,SNR=6.2
MA2 Magadan 16.43 308*c i*P **Pn** **20 14 23.4 -1.6**
MA2 Magadan 16.43 308 P **Pn** **20 14 26.1 +1.1**
MA2 IAmb IAmb 20 14 30.6
comp=Z,456nm,1.3s
MA2 Magadan 16.43 308 P **P** **20 14 26.8 -0.8**
comp=Z,306nm,1.3s
CHIR Chirikof Islan 16.83 65 Pn **Pn** **20 14 29.3 -0.9**
CHIR IAmb IAmb 20 14 31.3
comp=Z,391nm,0.8s
CHIR Chirikof Islan 16.83 65 P **Pn** **20 14 29.3 -0.9**
baz=269,SNR=5.2
SEY Seymchan 17.04 320 P **Pn** **20 14 32.2 -0.6**
comp=Z,0.7nm,0.3s,baz=122,slow=12,SNR=39
SEY PcP **PcP** **20 19 17.9 +1.1**
comp=Z,0.6nm,0.3s,baz=147,slow=4.2,SNR=1.1
SEY LR LR 20 21 01.8
comp=Z,10µm,18.0s,baz=118,slow=37
SEY ScP **ScP** **20 22 48.9 -0.4**
comp=Z,0.3nm,0.3s,baz=129,slow=4.1,SNR=14
SEY Seymchan 17.04 320*ce*P **Pn** **20 14 32.5 -0.3**
SEY pmax pmax
comp=Z,121nm,1.2s
BILL Bilibino 17.05 347*de*P **P** **20 14 34.7 +0.3**
BILL *eS* **Sn** **20 17 40.6 -0.5**
BILL pmax pmax
comp=Z,701nm,1.7s
BILL MLR MLR
comp=Z,10µm,18.0s
BILL Bilibino 17.05 347 P **P** **20 14 34.4 +0.1**
BILL IAmb IAmb 20 14 38.8
comp=Z,421nm,1.1s
N18K Kilae Creek 17.56 49 **Pn** **20 14 39.4 +0.2**
N18K Kilae Creek 17.56 49 P **P** **20 14 40.1 0.0**
baz=253,SNR=81
N18K S **S** **20 18 06.5 +5.5**
baz=253
O18K Koktuh Hills 17.65 52 P **P** **20 14 42.1 +1.0**
baz=256
SII Sitkinak Islan 17.67 63 **Pn** **20 14 39.2 -1.4**
SII IAmb IAmb 20 14 59.8
comp=Z,663nm,1.3s
SII Sitkinak Islan 17.67 63 P **Pn** **20 14 39.7 -0.9**
baz=268
SII Sitkinak Islan 17.67 63 P **Pn** **20 14 39.9 -0.7**
comp=Z,295nm,0.8s
SVW2 Sparrevohn 17.83 48 P **P** **20 14 43.3 +0.2**
O19K Port Alsworth 18.17 51 P **P** **20 14 48.8 +2.0**
O19K Port Alsworth 18.17 51 P **P** **20 14 48.5 +1.7**
baz=256,SNR=239
O19K S **S** **20 18 11.7 -1.4**
baz=256
OHAK Old Harbor 18.21 61 **Pn** **20 14 44.8 -2.4**
OHAK IAmb IAmb 20 15 11.0
comp=Z,433nm,1.3s
OHAK Old Harbor 18.21 61 P **Pn** **20 14 44.8 -2.4**
baz=267,SNR=19
OHAK S **S** **20 18 14.8 +0.9**
baz=267
Q19K Cape Douglas, 18.23 55 P **P** **20 14 48.3 +0.7**
Q19K Cape Douglas, 18.23 55 P **P** **20 14 48.0 +0.4**
baz=261,SNR=20
Q19K S **S** **20 18 15.9 +1.4**
baz=261
N19K Bonanza Creek 18.26 49 P **P** **20 14 49.7 +1.8**
N19K IAmb IAmb 20 15 03.8
comp=Z,468nm,0.8s
N19K Bonanza Creek 18.26 49 P **P** **20 14 50.0 +2.1**
baz=254,SNR=160
N19K S **S** **20 18 16.1 +0.9**
baz=254
TTA Tatalina 18.33 42 P **Pn** **20 14 50.1 +1.4**
TTA pmax pmax
comp=Z,285nm,1.0s
TTA Tatalina 18.33 42 Pn **Pn** **20 14 50.1 +1.4**
TTA Tatalina 18.33 42 P **Pn** **20 14 50.3 +1.6**
baz=246,SNR=196
TTA S **S** **20 18 17.2 +0.7**
baz=246
L19K White Mountain 18.53 45 P **Pn** **20 14 52.5 +1.3**
L19K White Mountain 18.53 45 P **Pn** **20 14 52.5 +1.3**
baz=250,SNR=105
L19K S **S** **20 18 21.1 +0.7**
baz=250
P19K Oil Pt 18.58 53 P **Pn** **20 14 53.4 +1.6**
P19K IAmb IAmb 20 15 03.5
comp=Z,822nm,1.1s
P19K Oil Pt 18.58 53 P **Pn** **20 14 52.8 +1.1**
baz=259
KDAK Kodiak Island 18.63 59 P **P** **20 14 49.7 -2.3**
comp=Z,14nm,0.3s,baz=252,slow=6.5,SNR=111
KDAK S **Sn** **20 18 16.5 -3.1**
comp=Z,0.4nm,0.3s,baz=217,slow=20,SNR=1.6
KDAK LR LR 20 22 35.6
comp=Z,3µm,19.4s,baz=263,slow=39
KDAK Kodiak Island 18.63 59*d i*P **P** **20 14 50.1 -1.8**
KDAK pmax pmax
comp=Z,506nm,1.1s
KDAK MLR MLR
comp=Z,9µm,17.0s
KDAK Kodiak Island 18.63 59 P **P** **20 14 49.8 -2.1**
KDAK IAmb IAmb 20 15 10.5
comp=Z,360nm,1.1s
KDAK Kodiak Island 18.63 59 P **P** **20 14 50.2 -1.7**
baz=266
KDAK S **S** **20 18 21.0 -1.4**
baz=266
M19K Big River Lodg 18.64 46 P **Pn** **20 14 53.9 +1.5**
M19K IAmb IAmb 20 15 09.1
comp=Z,353nm,1.1s
M19K Big River Lodg 18.64 46 P **Pn** **20 14 54.0 +1.5**
baz=251,SNR=106
M19K S **S** **20 18 24.1 +1.6**
baz=251
GCSA Galena City Sc 18.84 36 P **Pn** **20 14 55.9 +1.1**
baz=240,SNR=26
GCSA S **S** **20 18 29.5 +3.1**
baz=240
O20K Slope Mountain 18.97 52 P **Pn** **20 14 57.4 +0.9**
baz=259,SNR=30
O20K S **S** **20 18 32.4 +3.3**
baz=259
RSO Redoubt South 18.99 51 P **Pn** **20 14 57.9 +1.1**
L20K Farewell, AK 19.06 44 P **Pn** **20 14 58.2 +0.6**
baz=250,SNR=153
L20K S **S** **20 18 32.5 +1.5**
baz=250
RDOG Red Dog Mine 19.09 24 P **Pn** **20 14 58.9 +1.1**
RDOG IAmb IAmb 20 15 07.8
comp=Z,515nm,0.8s
RDOG Red Dog Mine 19.09 24 P **Pn** **20 14 58.8 +1.0**
baz=222,SNR=266
RDOG S **S** **20 18 37.2 +5.8**
baz=222
HOM Homer 19.37 54 P **Pn** **20 15 00.9 -0.4**
HOM Homer 19.37 54 P **P** **20 15 00.0 0.0**
baz=261,SNR=12
HOM S **Sn** **20 18 39.5 +2.0**
baz=261
SPU Mount Spurr 19.50 49 P **Pn** **20 15 02.7 -0.1**
CNPM China Poot 19.55 54 P **P** **20 15 02.1 +0.1**
J20K Nowinta River 19.62 40 P **Pn** **20 15 03.9 -0.3**
J20K IAmb IAmb 20 15 15.3
comp=Z,452nm,1.1s
J20K Nowinta River 19.62 40 P **Pn** **20 15 04.1 0.0**
baz=245,SNR=266
J20K S **Sn** **20 18 45.6 +2.4**
baz=245
BRLK Bradley Lake 19.77 54 P **P** **20 15 04.2 -0.1**
CAPN Captain Cook N 19.83 51 P **P** **20 15 05.3 +0.4**
baz=258
BRSE Bradley Lake S 19.84 54 P **P** **20 15 04.9 -0.2**
baz=262,SNR=69
BRSE S **Sn** **20 18 49.6 +0.9**
baz=262
PPLA Purkeypile 19.94 44 **Pn** **20 15 08.5 +0.3**
PPLA IAmb IAmb 20 15 19.3
comp=Z,552nm,1.0s
PPLA Purkeypile 19.94 44 P **Pn** **20 15 07.1 -1.1**
baz=251,SNR=180
PPLA S **Sn** **20 18 54.0 +2.7**
baz=251
KUR Kuril'sk 20.05 262*eP* Pn 20 15 08.9 -0.5
KUR *e* 20 15 25.8
KUR S Sn 20 18 55.0 +1.0
KUR *eSS* **SnSn** **20 19 14.5 +6.3**
KUR pmax pmax
comp=Z,931nm,1.2s
KUR pmax pmax
comp=E,365nm,1.3s
KUR pmax pmax
comp=N,149nm,1.4s
KUR MLR MLR
comp=Z,2µm,14.0s
CAST Castle Rocks 20.16 43 P Pn 20 15 10.3 -0.3
CAST IAmb IAmb 20 15 15.6
comp=Z,378nm,1.0s
CAST Castle Rocks 20.16 43 P Pn 20 15 09.9 -0.7
baz=250,SNR=265
CHUM Lake Minchumin 20.24 41 P Pn 20 15 10.9 -0.6
baz=248,SNR=347
CHUM S Sn 20 19 01.9 +3.8
baz=248
FIS Fire Island 20.35 50 Pn 20 15 14.3 +1.5
FIS IAMs_20 IAMs_20 20 23 23.5
comp=Z,8µm,20.0s
O22K Cooper Landing 20.46 52 P **P** **20 15 12.7 +0.8**
O22K IAMs_20 IAMs_20 20 23 08.4
comp=Z,9µm,20.0s
O22K Cooper Landing 20.46 52 P **P** **20 15 11.8 -0.1**
baz=261,SNR=91
O22K S **S** **20 18 59.7 +0.5**
baz=261
SEW Seward 20.53 53 P **P** **20 15 12.6 0.0**
SEW Seward 20.53 53 P **P** **20 15 11.4 -1.2**
baz=262,SNR=88
SEW S **S** **20 19 01.3 +0.7**
baz=262
M22K Willow 20.54 48 P **P** **20 15 13.1 +0.5**
M22K IAMs_20 IAMs_20 20 23 53.3
comp=Z,9µm,18.0s
M22K Willow 20.54 48 P **P** **20 15 12.6 0.0**
baz=257,SNR=107
M22K S **S** **20 19 02.1 +1.5**
baz=257
RC01 Rabbit Creek A 20.57 50 P **P** **20 15 14.0 +0.9**
RC01 IAMs_20 IAMs_20 20 23 30.2
comp=Z,6µm,19.0s
RC01 Rabbit Creek A 20.57 50 P **P** **20 15 14.0 +0.9**
baz=259,SNR=111
RC01 S **S** **20 19 01.4 0.0**
baz=259
IMAR Indian Mountai 20.60 35 P Pn 20 15 14.7 -0.9
CUT Chulitna 20.64 46 P Pn 20 15 14.8 -1.3
CUT Chulitna 20.64 46 P **P** **20 15 14.1 +0.3**
baz=255,SNR=42
CUT S Sn 20 19 05.1 -2.7
baz=255
KTH Kantishna Hill 20.70 43 P Pn 20 15 16.4 -0.5
KTH IAMs_20 IAMs_20 20 23 29.5
comp=Z,7µm,20.0s
H21K Melozitna Rive 20.79 36 P Pn 20 15 17.2 -0.6
H21K IAmb IAmb 20 15 21.3
comp=Z,453nm,0.9s
H21K Melozitna Rive 20.79 36 P Pn 20 15 16.5 -1.4
baz=243,SNR=524
BPAW Bear Paw Mtn. 20.86 41 P Pn 20 15 17.9 -0.9
baz=250,SNR=213
BPAW S Sn 20 19 11.9 -1.4
baz=250
I21K Tanana 20.89 38 P Pn 20 15 18.1 -0.9
I21K IAmb IAmb 20 15 22.9
comp=Z,471nm,1.1s
I21K Tanana 20.89 38 P Pn 20 15 18.1 -0.9
baz=246,SNR=440
I21K S **S** **20 19 10.0 +2.5**
baz=246
TRF Thorofare Moun 20.93 43 P Pn 20 15 18.5 -1.3
TRF IAMs_20 IAMs_20 20 23 46.8
comp=Z,7µm,20.0s
TRF Thorofare Moun 20.93 43 P Pn 20 15 18.4 -1.4
baz=252,SNR=122
TRF S **S** **20 19 10.3 +1.5**
baz=252
PMR Palmer 20.96 49 P **P** **20 15 16.7 -0.5**
PMR pmax pmax
comp=Z,160nm,1.0s
PMR Palmer 20.96 49 P **P** **20 15 16.7 -0.5**
PMR Palmer 20.96 49 P **P** **20 15 15.8 -1.4**
baz=258,SNR=40
PMR S **S** **20 19 08.0 -1.0**
baz=258
GHO Glory Hole Cre 21.10 48 IAMs_20 IAMs_20 20 23 46.0
comp=Z,9µm,19.0s
TYV Tymovskoe 21.12 281*eP* **P** **20 15 22.5 +3.4**
TYV *eS* Sn 20 19 19.8 +0.1
TYV pmax pmax
comp=Z,3µm,1.7s
TYV pmax pmax
comp=Z,986nm,1.0s
PWL Port Wells 21.20 51 P **P** **20 15 19.3 -0.5**
PWL IAMs_20 IAMs_20 20 23 41.9
comp=Z,9µm,19.0s
PWL Port Wells 21.20 51 P **P** **20 15 19.4 -0.5**
baz=261,SNR=106
PWL S **S** **20 19 12.8 -1.1**
baz=261
KNK Knik Glacier 21.24 49 P **P** **20 15 20.3 0.0**
KNK Knik Glacier 21.24 49 P **P** **20 15 19.9 -0.4**
baz=260,SNR=150
KNK S **S** **20 19 11.9 -2.8**
baz=260
SML Sawmill 21.38 48 P **P** **20 15 21.3 -0.5**
SML pmax pmax
comp=Z,1µm,0.9s
SML Sawmill 21.38 48 P **P** **20 15 21.3 -0.5**
SML IAMs_20 IAMs_20 20 23 55.5
comp=Z,8µm,20.0s
SML Sawmill 21.38 48 P **P** **20 15 20.7 -1.1**
baz=259,SNR=316
SML S **S** **20 19 14.8 -2.7**
baz=259
BWN Browne 21.51 42 P **P** **20 15 24.1 +1.0**
WAT1 Susitna Watana 21.51 46 P **P** **20 15 22.5 -0.7**
baz=256
WAT1 S **S** **20 19 20.5 +0.5**
baz=256
RND Reindeer 21.54 44 P **P** **20 15 23.8 +0.3**
RND pmax pmax
comp=Z,261nm,1.2s
RND MLR MLR
comp=Z,8µm,19.0s
RND Reindeer 21.54 44 P **P** **20 15 23.8 +0.3**
RND IAmb IAmb 20 15 48.3
comp=Z,261nm,1.2s
RND IAMs_20 IAMs_20 20 24 23.6
comp=Z,8µm,19.0s
MCK McKinley 21.60 43 P **P** **20 15 24.2 +0.1**
MCK pmax pmax
comp=Z,219nm,0.9s
MCK MLR MLR
comp=Z,7µm,20.0s
MCK McKinley 21.60 43 P **P** **20 15 24.2 +0.1**
MCK IAmb IAmb 20 15 28.1
comp=Z,219nm,0.9s
MCK IAMs_20 IAMs_20 20 24 07.3
comp=Z,7µm,20.0s
MCK McKinley 21.60 43 P **P** **20 15 24.1 0.0**
baz=253,SNR=148
MCK S **S** **20 19 22.4 +0.8**
baz=253
NKL Nikolayevsk 21.78 288*eP* **P** **20 15 26.7 +0.6**
NKL *eS* **S** **20 19 28.8 +3.5**
NKL pmax pmax
comp=E,4.0nm,1.2s
NKL pmax pmax
comp=Z,624nm,1.2s
NKL smax smax
comp=E,3.0nm,2.7s
NKL smax smax
comp=N,1.0nm,1.5s
NKL MLR MLR
comp=N,1.0nm,17.0s
NKL MLR MLR
comp=E,9.0nm,16.0s
NKL MLR MLR
comp=Z,3µm,16.0s
GLI Glacier Island 21.80 51 P **P** **20 15 25.6 -0.7**
GLI IAMs_20 IAMs_20 20 24 08.8
comp=Z,8µm,19.0s
GLI Glacier Island 21.80 51 P **P** **20 15 25.3 -1.0**
baz=262,SNR=112
GLI S **S** **20 19 24.2 -1.4**
baz=262
NEA2 Nenana 21.82 41 P **P** **20 15 26.9 +0.5**
NEA2 Nenana 21.82 41 P **P** **20 15 27.4 +1.0**
baz=251,SNR=660
NEA2 S **S** **20 19 28.1 +2.2**
baz=251
WAT6 Susitna Watana 21.82 47 P **P** **20 15 26.2 -0.5**
baz=258,SNR=360
WAT6 S **S** **20 19 26.9 +0.7**
baz=258
SCM Sheep Creek Mo 21.85 49 P **P** **20 15 27.3 +0.4**
SCM pmax pmax
comp=Z,726nm,0.8s
SCM MLR MLR
comp=Z,9µm,19.0s
SCM Sheep Creek Mo 21.85 49 P **P** **20 15 27.3 +0.4**
SCM IAMs_20 IAMs_20 20 25 10.0
comp=Z,9µm,19.0s
SCM Sheep Creek Mo 21.85 49 P **P** **20 15 27.1 +0.2**
baz=260,SNR=238
SCM S **S** **20 19 27.6 +0.9**
baz=260
I23K Minto, Yukon-K 21.89 39 P **P** **20 15 28.1 +0.9**
I23K IAmb IAmb 20 15 43.0
comp=Z,216nm,1.1s
I23K Minto, Yukon-K 21.89 39 P **P** **20 15 27.7 +0.6**
baz=249,SNR=182
I23K S **S** **20 19 30.8 +3.6**
baz=249
YUK Yuzh-Kuril'sk 21.89 261*i* P **P** **20 15 28.3 +0.9**
Q23K Middleton Isla 22.02 55 P **P** **20 15 29.1 +0.5**
Q23K Middleton Isla 22.02 55 P **P** **20 15 28.7 +0.1**
baz=267
MID Middleton Isla 22.03 55 P **P** **20 15 29.6 +1.0**
MID pmax pmax
comp=Z,919nm,1.2s
MID Middleton Isla 22.03 55 P **P** **20 15 29.6 +1.0**
UGL Uglegorsk 22.04 277⇑*i*P **P** **20 15 31.5 +2.6**
UGL *eS* **S** **20 19 31.7 +1.4**
UGL pmax pmax
comp=Z,700nm,1.0s
UGL smax smax
comp=E,5µm,16.0s
UGL smax smax
comp=N,3µm,10.0s
UGL MLR MLR
comp=N,4µm,15.0s
UGL MLR MLR
comp=E,3µm,15.0s
H23K Yukon River 22.08 38 P **P** **20 15 30.2 +1.0**
H23K IAmb IAmb 20 15 33.5
comp=Z,366nm,1.1s
H23K Yukon River 22.08 38 P **P** **20 15 30.4 +1.1**
baz=247,SNR=270
H23K S **S** **20 19 35.2 +4.3**
baz=247
FID Port Fidalgo 22.09 52 P **P** **20 15 28.6 -0.7**
FID IAMs_20 IAMs_20 20 24 34.6
comp=Z,8µm,19.0s
DHY Denali Highway 22.10 45 P **P** **20 15 30.0 +0.4**
DHY IAMs_20 IAMs_20 20 24 44.5
comp=Z,7µm,18.0s
DHY Denali Highway 22.10 45 P **P** **20 15 29.4 -0.2**
baz=257,SNR=269
DHY S **S** **20 19 30.4 -1.1**
baz=257
WRH Wood River Hil 22.18 42 P **P** **20 15 30.3 +0.1**
WRH IAmb IAmb 20 15 36.7
comp=Z,180nm,0.8s
MDM Murphy Dome 22.28 40 P **P** **20 15 32.4 +1.1**
MDM IAmb IAmb 20 15 34.6
comp=Z,431nm,1.0s
MDM IAMs_20 IAMs_20 20 24 53.2
comp=Z,6µm,18.0s
CCB Clear Creek Bu 22.35 41 P **P** **20 15 31.5 -0.6**
CCB IAmb IAmb 20 15 59.1
comp=Z,207nm,1.0s
TCOL CIGO, UAF Yank 22.40 41 P **P** **20 15 33.0 +0.4**
TCOL IAmb IAmb 20 15 36.1
comp=Z,296nm,0.8s
TCOL IAMs_20 IAMs_20 20 25 05.4
comp=Z,6µm,19.0s
TCOL CIGO, UAF Yank 22.40 41 P **P** **20 15 32.6 0.0**
baz=252,SNR=16
TCOL S **S** **20 19 38.9 +2.2**
baz=252
COLA College 22.40 41*c i*P **P** **20 15 33.3 +0.7**
COLA pmax pmax
comp=Z,274nm,0.8s
COLA College 22.40 41 P **P** **20 15 32.9 +0.3**
COLA IAmb IAmb 20 15 36.0
comp=Z,293nm,0.8s
COLA College 22.40 41 P **P** **20 15 33.0 +0.4**
baz=252
COLA S **S** **20 19 38.4 +1.6**
baz=252
EYAK Cordova Ski Ar 22.42 52 P **P** **20 15 32.2 -0.7**
EYAK IAmb IAmb 20 15 58.1
comp=Z,350nm,1.1s
EYAK Cordova Ski Ar 22.42 52 P **P** **20 15 32.2 -0.7**
baz=265,SNR=46
EYAK S **S** **20 19 38.1 +0.9**
baz=265
YSS Yuzh-Sakhalins 22.43 271*ceP* **P** **20 15 35.0 +1.9**
YSS *eS* **S** **20 19 35.8 -1.8**
YSS pmax pmax
comp=Z,430nm,1.0s
YSS pmax pmax
comp=Z,800nm,3.3s
YSS smax smax
comp=E,4µm,9.8s
YSS Yuzh-Sakhalins 22.43 271 P **P** **20 15 35.0 +1.9**
YSS Yuzh-Sakhalins 22.43 271 P **P** **20 15 35.4 +2.2**
comp=E,492nm,1.0s
COLD Coldfoot 22.44 34 P **P** **20 15 33.5 +0.5**
COLD Coldfoot 22.44 34 P **P** **20 15 33.7 +0.6**
baz=243,SNR=63
COLD S **S** **20 19 36.7 -0.7**
baz=243
M24K Tolsona, Glenn 22.44 48 P **P** **20 15 34.3 +1.1**
M24K IAMs_20 IAMs_20 20 25 28.5
comp=Z,8µm,18.0s
M24K Tolsona, Glenn 22.44 48 P **P** **20 15 33.7 +0.5**
baz=260,SNR=205
M24K S **S** **20 19 39.4 +1.8**

baz=260
KLU Klutina 22.45 50 P P 20 15 33.4 0.0
KLU IAmb IAmb 20 15 44.0
comp=Z,332nm,1.0s
KLU IAMs_20 IAMs_20 20 24 23.0
comp=Z,9µm,19.0s
KLU Klutina 22.45 50 P P 20 15 33.0 -0.4
baz=262,SNR=126
KLU S S 20 19 35.8 -2.2
baz=262
DIV Divide 22.48 51 P P 20 15 33.2 -0.4
HDA Harding Lake 22.63 42 P P 20 15 33.4 -1.7
HDA IAmb IAmb 20 15 51.7
comp=Z,142nm,0.9s
HDA Harding Lake 22.63 42 P P 20 15 33.7 -1.4
baz=254,SNR=88
HDA S S 20 19 39.9 -1.1
baz=254
HDA S S 20 19 39.9 -1.1
baz=254
POKR Poker Plat Res 22.65 40 P P 20 15 35.8 +0.5
POKR IAmb IAmb 20 15 38.6
comp=Z,200nm,0.8s
POKR Poker Plat Res 22.65 40 P P 20 15 35.6 +0.2
baz=252,SNR=59
POKR S S 20 19 41.5 +0.2
baz=252
H24K Noodor Dome 22.72 38 P P 20 15 36.4 +0.3
H24K Noodor Dome 22.72 38 P P 20 15 36.8 +0.7
baz=250,SNR=739
H24K S S 20 19 43.7 +1.1
baz=250
IL31 22.76 41 P P 20 15 34.9 -1.5
IL31 IAmb IAmb 20 15 38.5
comp=Z,183nm,0.8s
ILAR Eielson Array 22.76 41 P P 20 15 35.2 -1.3
comp=Z,150nm,0.9s,baz=242,slow=9.3,SNR=196
ILAR ScP **ScP 20 23 02.9 +0.3**
comp=Z,4.3nm,0.8s,baz=285,slow=3.5,SNR=8.9
ILAR LR LR 20 24 54.4
comp=Z,4µm,20.7s,baz=245,slow=38
ILAR Eielson Array 22.76 41 P P 20 15 34.9 -1.6
ILAR Eielson Array 22.76 41 P P 20 15 34.9 -1.6
PAX Paxson 22.92 46 P P 20 15 37.9 -0.4
PAX pmax pmax
comp=Z,355nm,0.8s
PAX Paxson 22.92 46 P P 20 15 37.9 -0.4
PAX Paxson 22.92 46 P P 20 15 38.4 +0.1
baz=259,SNR=356
PAX S S 20 19 44.6 -1.6
baz=259
RAGM Ragged Mountai 22.93 53 P P 20 15 37.8 -0.6
RAGM IAMs_20 IAMs_20 20 25 02.7
comp=Z,6µm,19.0s
HARP HAARP 22.96 48 P P 20 15 38.9 +0.3
baz=261,SNR=66
HARP S S 20 19 49.5 +2.8
baz=261
A21K Barrow 22.98 22 P P 20 15 38.9 +0.3
A21K IAMs_20 IAMs_20 20 24 58.7
comp=Z,6µm,20.0s
A21K Barrow 22.98 22 P P 20 15 38.7 0.0
baz=226
BMRM Bremner River 23.02 51 P P 20 15 39.2 -0.1
BMRM IAMs_20 IAMs_20 20 25 19.0
comp=Z,6µm,20.0s
BMRM Bremner River 23.02 51 P P 20 15 39.2 -0.1
baz=265,SNR=113
BMRM S S 20 19 47.7 -0.2
baz=265
KAIM Kayak Island 23.03 54 P P 20 15 37.5 -1.8
N25K Chitina, Valde 23.10 50 P P 20 15 40.0 -0.1
N25K IAMs_20 IAMs_20 20 24 52.0
comp=Z,9µm,19.0s
N25K Chitina, Valde 23.10 50 P P 20 15 40.2 +0.1
baz=263,SNR=161
N25K S S 20 19 49.5 +0.3
baz=263
HMT Hamilton 23.14 53 P P 20 15 40.2 -0.3
TOLK Toolik Lake Re 23.32 31 P P 20 15 42.6 +0.4
TOLK IAmb IAmb 20 16 10.7
comp=Z,328nm,0.9s
TOLK Toolik Lake Re 23.32 31 P P 20 15 42.5 +0.4
baz=241
J25K Salcha River, 23.34 42 P P 20 15 40.6 -1.9
J25K IAmb IAmb 20 15 43.7
comp=Z,201nm,1.4s
J25K Salcha River, 23.34 42 P P 20 15 40.5 -2.0
baz=255,SNR=102
J25K S S 20 19 51.3 -1.9
baz=255
RIDG Independent Ri 23.36 44 P P 20 15 41.9 -0.7
RIDG IAmb IAmb 20 15 49.0
comp=Z,209nm,1.0s
RIDG IAMs_20 IAMs_20 20 26 14.8
comp=Z,8µm,18.0s
RIDG Independent Ri 23.36 44 P P 20 15 41.7 -1.0
baz=258,SNR=111
RIDG S S 20 19 50.9 -2.5
baz=258
SUCK Suckling Hills 23.36 54 P P 20 15 43.1 +0.4
SUCK IAMs_20 IAMs_20 20 26 16.0
comp=Z,5µm,19.0s
GLB Gilahina Butte 23.45 50 P P 20 15 43.6 0.0
GLB IAMs_20 IAMs_20 20 24 35.4
comp=Z,6µm,20.0s
VRDI Verde Repeater 23.60 51 P P 20 15 45.0 -0.2
VRDI IAmb IAmb 20 15 47.7
comp=Z,307nm,0.9s
VRDI IAMs_20 IAMs_20 20 25 38.4
comp=Z,5µm,19.0s
BGLC Bering Glacier 23.61 54 P P 20 15 44.5 -0.5
baz=268
DOT Dot Lake 23.68 45 P P 20 15 44.6 -1.2
DOT IAmb IAmb 20 15 47.8
comp=Z,212nm,0.8s
MENT Mentasta 23.70 47 P P 20 15 46.0 +0.1
SCRK Sand Creek 23.78 44 P P 20 15 45.5 -1.3
SCRK IAmb IAmb 20 15 49.1
comp=Z,345nm,1.0s
SCRK IAMs_20 IAMs_20 20 25 36.9
comp=Z,6µm,21.0s
SCRK Sand Creek 23.78 44 P P 20 15 45.9 -0.9
baz=258,SNR=440
SCRK S S 20 19 58.8 -1.5
baz=258
MCARA McCarthy VSAT 23.82 51 P P 20 15 47.2 +0.1
MCARA IAMs_20 IAMs_20 20 25 35.2
comp=Z,5µm,20.0s
MCARA McCarthy VSAT 23.82 51 P P 20 15 47.5 +0.4
baz=265,SNR=178
MCARA S S 20 20 01.3 +0.5
baz=265
SNH Sunshine Point 23.84 54 P P 20 15 48.1 +0.9
WAX Waxell Ridge 23.84 53 P P 20 15 47.8 +0.4
WAX IAMs_20 IAMs_20 20 26 32.7
comp=Z,6µm,18.0s
JKA Kamikawa-asahi 23.86 265 P P 20 15 49.2 +1.6
ASAJ Asahikawa 23.86 265 P P 20 15 49.1 +1.6
comp=Z,464nm,0.9s,baz=73,slow=5.9,SNR=79
ASAJ LR LR 20 27 09.8
comp=Z,2µm,18.3s,baz=84,slow=42
TGL Tana Glacier 23.87 52 P P 20 15 48.3 +0.6
TGL IAMs_20 IAMs_20 20 26 04.4
comp=Z,5µm,18.0s
L26K Log Cabin Wild 23.88 46 P P 20 15 48.1 +0.4
L26K IAMs_20 IAMs_20 20 25 14.7
comp=Z,9µm,20.0s
L26K Log Cabin Wild 23.88 46 P P 20 15 48.0 +0.3
baz=261,SNR=293
L26K S S 20 20 06.2 +4.4
baz=261
J26L Joseph Creek 24.07 43 P P 20 15 48.8 -0.7
baz=258,SNR=716
J26L S S 20 20 02.5 -2.4
baz=258
ISLE Juniper Island 24.10 53 P P 20 15 50.0 +0.1
GRNC Granite Creek 24.40 52 P P 20 15 52.7 0.0
BARN Barnard Glacie 24.46 51 P P 20 15 53.2 +0.1
BARN IAMs_20 IAMs_20 20 26 14.0
comp=Z,6µm,18.0s
M27K Edge Creek, AK 24.46 48 P P 20 15 53.4 +0.3
M27K IAMs_20 IAMs_20 20 26 18.1
comp=Z,7µm,18.0s
M27K Edge Creek, AK 24.46 48 P P 20 15 53.6 +0.5
baz=264,SNR=473

BMAR Burnt Mountain 24.51 36 P P 20 15 53.8 +0.4
L27K Beaver Creek, 24.57 47 P P 20 15 54.3 +0.2
L27K IAMs_20 IAMs_20 20 25 55.0
comp=Z,6µm,18.0s
L27K Beaver Creek, 24.57 47 P P 20 15 54.2 +0.2
baz=263,SNR=918
L27K S S 20 20 14.7 +1.8
baz=263
BCAR Beaver Creek A 24.59 47 P P 20 15 54.3 +0.1
CTG Chitna Glacier 24.61 52 P P 20 15 54.7 +0.2
baz=268,SNR=353
CTG S S 20 20 16.2 +2.5
baz=268
CTGM Chitina Glacie 24.61 52 P P 20 15 54.5 0.0
CTGM IAMs_20 IAMs_20 20 26 11.0
comp=Z,6µm,18.0s
ERM Erimo 24.66 260 *ce* P **P 20 15 56.2 +1.3**
ERM pmax pmax
comp=Z,667nm,1.3s
ERM Erimo 24.66 260 P P 20 15 56.5 +1.6
ERM Erimo 24.66 260 P P 20 15 57.1 +2.2
comp=Z,640nm,1.3s
TABL Table Mountain 24.69 53 P P 20 15 55.2 -0.1
TABL IAMs_20 IAMs_20 20 26 25.0
comp=Z,7µm,19.0s
LOGN Logan Glacier 24.77 52 P P 20 15 56.1 +0.1
GRNR Gornyy 24.93 284 ⇑ *i* P **P 20 15 58.4 +1.0**
GRNR pmax pmax
comp=E,100nm,0.7s
GRNR pmax pmax
comp=N,30nm,1.0s
GRNR pmax pmax
comp=Z,190nm,1.0s
BVCY Beaver Creek 24.94 48 P P 20 15 57.4 0.0
baz=265,SNR=210
YUK3 Moose Creek 25.08 50 P P 20 15 58.7 -0.1
baz=267,SNR=430
YUK3 S S 20 20 25.2 +3.8
baz=267
PINM Pinnacle 25.13 54 P P 20 15 58.9 -0.2
baz=271
EGAK Eagle 25.14 43 P P 20 15 58.8 -0.3
EGAK Eagle 25.14 43 P P 20 15 59.3 +0.2
baz=260,SNR=902
EGAK S S 20 20 21.0 -1.0
baz=260
JEW Eniwo 25.25 263 P P 20 16 00.7 +0.5
BCPM Bancas Point 25.44 54 P P 20 16 00.8 -1.0
BCPM IAMs_20 IAMs_20 20 27 26.9
comp=Z,5µm,18.0s
PNL Peninsula 25.57 55 P P 20 16 02.5 -0.5
baz=272,SNR=17
DAWY Dawson 25.79 45 P P 20 16 05.3 +0.3
DAWY Dawson 25.79 45 P P 20 16 05.6 +0.6
baz=263,SNR=502
YUK4 Talbot Arm 25.93 51 P P 20 16 06.7 +0.2
baz=269,SNR=250
YUK4 S S 20 20 40.2 +5.4
baz=269
YUK6 Outpost Mounta 26.06 52 P P 20 16 07.3 -0.4
baz=271,SNR=82
YUK6 S S 20 20 51.0 +14
baz=271
J29M Klondike Camp 26.35 44 P P 20 16 10.4 +0.3
baz=263,SNR=78
J29M S S 20 20 55.3 +14
baz=263
I29M Ogilvie Camp, 26.44 42 P P 20 16 10.2 -0.7
I29M Ogilvie Camp, 26.44 42 P P 20 16 10.2 -0.7
baz=262,SNR=29
I29M S S 20 20 57.1 +15
baz=262
HYT Haines Junctio 26.48 52 P P 20 16 11.6 +0.2
HYT Haines Junctio 26.48 52 P P 20 16 11.5 +0.2
baz=272,SNR=219
HYT S S 20 20 57.5 +14
baz=272
JTM Tenmabayashi 26.65 260 P P 20 16 15.7 +2.8
JTM IAmb IAmb 20 16 30.3
comp=Z,213nm,1.2s
M30M Minto, Yukon 26.84 48 P P 20 16 13.9 -0.6
M30M IAMs_20 IAMs_20 20 28 07.8
comp=Z,7µm,18.0s
M30M Minto, Yukon 26.84 48 P P 20 16 14.1 -0.4
baz=269,SNR=64
YAK Yakutsk 26.97 311 P P 20 16 14.4 -1.2
comp=Z,126nm,0.8s,baz=85,slow=4.6,SNR=193
YAK pP **pP 20 16 23.5 0.0**
comp=Z,255nm,0.8s,baz=60,slow=1.0,SNR=19
YAK S S **20 20 47.7 -3.1**
comp=Z,27nm,0.9s,baz=32,slow=20,SNR=10
YAK ScP **ScP 20 23 14.0 -0.4**
comp=Z,10nm,0.5s,baz=88,slow=3.8,SNR=7.2
YAK LR LR 20 26 39.0
comp=Z,4µm,18.4s,baz=107,slow=36
YAK Yakutsk 26.97 311 *c i* P **P 20 16 14.7 -0.9**
YAK *e** PP **pP 20 16 23.0 -0.5**
YAK *e* 20 19 38.1
YAK *eS* **S 20 20 47.9 -2.9**
YAK *e** SS **sS 20 21 02.8 -1.2**
YAK *e*SSS SSS 20 22 07.7
YAK *e* 20 27 01.5
YAK pmax pmax
comp=Z,396nm,0.9s
YAK pmax pmax
comp=N,43nm,1.1s
YAK pmax pmax
comp=E,220nm,1.1s
YAK pmax pmax
comp=Z,344nm,1.3s
YAK pmax pmax
comp=N,111nm,1.2s
YAK pmax pmax
comp=E,422nm,1.5s
YAK smax smax
comp=N,746nm,1.9s
YAK smax smax
comp=E,310nm,1.3s
YAK MLR MLR
comp=Z,6µm,17.0s
YAK MLR MLR
comp=N,2µm,13.0s
YAK MLR MLR
comp=E,2µm,13.0s
YAK Yakutsk 26.97 311 P **P 20 16 14.6 -0.9**
YAK IAMs_20 IAMs_20 20 26 53.8
comp=Z,6µm,18.0s
TEY Ternei 27.12 272 ⇑ *e* P **P 20 16 17.5 +0.4**
TEY pmax pmax
comp=E,10.0nm,1.7s
TEY pmax pmax
comp=Z,20nm,1.8s
TEY pmax pmax
comp=N,10.0nm,1.7s
TEY pmax pmax
comp=E,100nm,1.9s
TEY pmax pmax
comp=Z,100nm,1.9s
TEY MLR MLR
comp=E,100nm,13.0s
TEY MLR MLR
comp=Z,100nm,16.0s
EPYK Eagle Plains 27.24 40 P **P 20 16 17.5 -0.6**
EPYK IAmb IAmb 20 16 19.5
comp=Z,238nm,0.9s
EPYK Eagle Plains 27.24 40 P **P 20 16 17.9 -0.2**
baz=261,SNR=169
N31M Braeburn, Yuko 27.31 51 P **P 20 16 18.9 +0.1**
N31M IAmb IAmb 20 16 41.7
comp=Z,209nm,0.9s
N31M Braeburn, Yuko 27.31 51 P **P 20 16 18.9 +0.1**
baz=272,SNR=43
SKAG Skagway 27.64 55 P **P 20 16 21.6 0.0**
SKAG Skagway 27.64 55 P **P 20 16 21.9 +0.2**
baz=276,SNR=14
WHY Whitehorse 27.78 52 P **P 20 16 23.3 +0.3**
WHY Whitehorse 27.78 52 P **P 20 16 22.6 -0.4**
baz=274,SNR=15
M31M Drury Creek, Y 27.95 49 P **P 20 16 24.6 +0.1**
M31M IAmb IAmb 20 16 30.0
comp=Z,101nm,0.8s
M31M IAMs_20 IAMs_20 20 27 27.3
comp=Z,8µm,20.0s
M31M Drury Creek, Y 27.95 49 P **P 20 16 25.0 +0.5**
baz=272,SNR=115
SIT Sitka 27.97 60 P **P 20 16 25.0 +0.4**
SIT pmax pmax
comp=Z,71nm,1.1s
SIT Sitka 27.97 60 P **P 20 16 25.0 +0.4**
SIT Sitka 27.97 60 P **P 20 16 24.2 -0.3**
baz=281
BESE Bessie Mountai 27.99 57 P **P 20 16 23.6 -1.3**
JIS Juneau Island 28.27 57 P **P 20 16 27.9 +0.7**
JIS IAmb IAmb 20 16 44.0
comp=Z,92nm,1.1s
JIS IAMs_20 IAMs_20 20 26 57.9
comp=Z,6µm,20.0s
KLR Kul'dur 28.30 283 P **P 20 16 28.1 +0.5**
comp=Z,134nm,0.7s,baz=63,slow=9.0,SNR=473
KLR LR LR 20 27 26.0
comp=Z,3µm,21.9s,baz=72,slow=36
KLR Kul'dur 28.30 283 *ce* P **P 20 16 27.7 +0.1**
KLR pmax pmax
comp=Z,326nm,1.3s
JMM Marumori 28.64 255 P **P 20 16 32.0 +1.3**
INK Inuvik 28.78 36 P **P 20 16 31.9 +0.2**
comp=Z,45nm,0.8s,baz=248,slow=7.5,SNR=137
INK S **S 20 21 16.4 -2.7**
comp=Z,4.2nm,0.8s,baz=284,slow=19,SNR=1.0
INK ScP **ScP 20 23 19.2 -0.6**
comp=Z,18nm,1.1s,baz=244,slow=4.7,SNR=6.5
INK ScS **ScS 20 27 13.3 +0.4**
comp=Z,6.2nm,1.0s,baz=266,slow=17,SNR=11
INK LR LR 20 28 05.0
comp=Z,3µm,21.6s,baz=237,slow=36
INK Inuvik 28.78 36 P **P 20 16 31.9 +0.2**
INK IAmb IAmb 20 16 58.8
comp=Z,114nm,1.1s
INK Inuvik 28.78 36 P **P 20 16 31.9 +0.2**
baz=261,SNR=58
TIXI Tiksi 28.86 331 P **P 20 16 31.6 -0.8**
comp=Z,14nm,0.6s,baz=90,slow=20,SNR=59
TIXI PcP **PcP 20 19 41.2 +0.3**
comp=Z,31nm,0.5s,baz=86,slow=18,SNR=34
TIXI ScP **ScP 20 23 19.4 -0.7**
comp=Z,29nm,0.9s,baz=90,slow=20,SNR=17
TIXI ScS **ScS 20 27 13.0 -0.3**
comp=Z,2.9nm,0.9s,baz=90,slow=20,SNR=17
TIXI LR LR 20 28 45.7
comp=Z,3µm,18.8s,baz=172,slow=38
TIXI Tiksi 28.86 331 *ce* P **P 20 16 31.7 -0.7**
TIXI pmax pmax
comp=Z,26nm,1.0s
TIXI Tiksi 28.86 331 P **P 20 16 31.3 -1.1**
ZEA Zeya 29.44 294 *ce* P **P 20 16 37.6 -0.2**
ZEA *e* 20 17 30.4
ZEA *eS* **S 20 21 29.3 -0.6**
ZEA pmax pmax
comp=E,80nm,1.2s
ZEA pmax pmax
comp=N,40nm,0.7s
ZEA pmax pmax
comp=Z,210nm,1.3s
ZEA pmax pmax
comp=E,200nm,2.6s
ZEA pmax pmax
comp=N,100nm,1.3s
ZEA pmax pmax
comp=Z,300nm,2.3s
ZEA smax smax
comp=N,600nm,4.9s
CRAG Craig 29.50 63 P **P 20 16 37.9 -0.4**
baz=285
CRAG S **S 20 21 33.1 +2.4**
baz=285
WRAK Wrangell Islan 29.70 61 P **P 20 16 40.0 0.0**
WRAK Wrangell Islan 29.70 61 IAMs_20 IAMs_20 20 27 40.8
comp=Z,4µm,20.0s
WRAK Wrangell Islan 29.70 61 P **P 20 16 39.9 -0.1**
baz=284,SNR=7.2
JSD Sado 30.06 258 P **P 20 16 44.6 +1.2**
JSD IAmb IAmb 20 16 47.7
comp=Z,138nm,1.4s
JYT Yasato 30.08 253 P **P 20 16 44.6 +1.0**
JYT IAmb IAmb 20 16 59.1
comp=Z,109nm,1.1s
USA0B Ussuriysk Arra 30.40 273 P **P 20 16 46.6 +0.3**
USA0B pmax pmax
comp=Z,73nm,0.8s
USA0B Ussuriysk Arra 30.40 273 P **P 20 16 46.6 +0.3**
USA0B IAmb IAmb 20 16 47.7
comp=Z,72nm,0.8s
USRK Ussuriysk Ar. 30.40 273 P **P 20 16 46.6 +0.3**
comp=Z,74nm,0.8s,baz=56,slow=8.0,SNR=71
USRK sP **pwP 20 16 58.0 +0.9**
comp=Z,3.0nm,0.5s,baz=76,slow=9.4,SNR=4.5
USRK PcP **PcP 20 19 46.1 +0.7**
comp=Z,7.0nm,0.7s,baz=21,slow=0.9,SNR=4.4
USRK ScP **ScP 20 23 25.8 +0.2**
comp=Z,9.6nm,1.1s,baz=72,slow=2.4,SNR=7.2
USRK Ussuriysk Ar. 30.40 273 P **P 20 16 46.5 +0.2**
USRK Ussuriysk Ar. 30.40 273 P **P 20 16 46.5 +0.2**
USRK **PcP 20 19 45.7 +0.4**
DLBC Dease Lake 30.51 56 P **P 20 16 48.1 +0.9**
comp=Z,23nm,0.8s,baz=279,slow=7.0,SNR=26
DLBC LR LR 20 29 38.4
comp=Z,3µm,18.5s,baz=277,slow=38
DLBC Dease Lake 30.51 56 P **P 20 16 48.3 +1.1**
TGTN Hyland Airport 30.89 50 P **P 20 16 50.3 -0.2**
baz=278,SNR=186
VLA Vladivostok 31.02 272 *c i* P **P 20 16 53.0 +1.2**
VLA pmax pmax
comp=Z,164nm,1.0s
MJAR Matsushiro Arr 31.06 256 P **P 20 16 53.7 +1.4**
comp=Z,13nm,1.0s,baz=51,slow=15,SNR=5.3
MJAR PcP **PcP 20 19 47.6 +0.3**
comp=Z,4.1nm,0.6s,baz=122,slow=3.3,SNR=5.4
MJAR ScP **ScP 20 23 28.2 +0.3**
comp=Z,15nm,1.1s,baz=308,slow=4.5,SNR=11
MJAR Matsushiro Arr 31.06 256 P **P 20 16 53.9 +1.6**
MJAR pmax pmax
comp=Z,18nm,1.1s
MJAR Matsushiro Arr 31.06 256 P **P 20 16 53.9 +1.6**
MJB9 Matsu-Tunnel 31.06 256 P **P 20 16 54.3 +2.0**
MJB9 IAmb IAmb 20 16 55.6
comp=Z,75nm,1.1s
MAJO Matsushiro 31.06 256 *i* P **P 20 16 53.7 +1.5**
MAJO pmax pmax
comp=Z,79nm,1.2s
MAJO Matsushiro 31.06 256 P **P 20 16 53.9 +1.6**
MAJO IAmb IAmb 20 16 55.6
comp=Z,72nm,1.1s
MAJO Matsushiro 31.06 256 P **P 20 16 53.8 +1.6**
comp=Z,67nm,1.1s
MDJ Mudanjiang 31.67 276 P **P 20 16 56.6 -0.9**
MDJ IAmb IAmb 20 16 58.5
comp=Z,105nm,1.2s
MDJ Mudanjiang 31.67 276 P **P 20 16 57.5 0.0**
MDJ S **S 20 22 05.3 +0.3**
MDJ PcS **PcS 20 23 35.9 +2.7**
MDJ pmax pmax
comp=Z,84nm,1.0s
MDJ pmax pmax
comp=Z,92nm,3.8s
MDJ LR LR
comp=Z,2µm,17.1s
MDJ LR LR
comp=Z,1µm,17.1s
MDJ LR LR
comp=Z,3µm,17.1s
GRNB Grenville Isla 31.72 65 P **P 20 16 58.4 +0.5**
MSHR Mys Shultsa 31.77 271 *ce* P **P 20 16 59.9 +1.6**
MSHR pmax pmax
comp=Z,142nm,1.3s
A36M Sachs Harbour 32.12 30 P **P 20 17 02.1 +1.0**
A36M IAmb IAmb 20 17 25.1
comp=Z,106nm,0.8s
A36M Sachs Harbour 32.12 30 P **P 20 17 01.4 +0.2**
baz=263,SNR=31
JGF Kuroka 32.20 255 P **P 20 17 04.3 +2.0**
JGF IAmb IAmb 20 17 05.9
comp=Z,78nm,1.0s
C36M Paulatuk 32.30 35 P **P 20 17 02.9 +0.1**
C36M IAmb IAmb 20 17 04.8
comp=Z,123nm,1.1s
C36M Paulatuk 32.30 35 P **P 20 17 03.2 +0.5**
baz=268,SNR=75
BNX BinXian 32.47 279 ⇑ P **P 20 17 04.0 -0.5**
BNX pP **pwP 20 17 15.3 -0.2**
BNX sP **sP 20 17 18.7 +3.5**
BNX S **S 20 22 12.6 -4.7**
BNX sS **sS 20 22 30.6 +0.1**
BNX pmax pmax

comp=Z,400nm,0.7s
BNX pmax pmax
comp=Z,570nm,4.8s
BNX LR LR
comp=Z,4µm,15.9s
BNX LR LR
comp=Z,2µm,14.2s
BNX LR LR
comp=Z,6µm,18.2s
JHJ Hachijo jima 2 32.50 249 LR LR 20 28 28.5
comp=Z,2µm,20.6s,baz=72,slow=33
INU Inuyama 32.58 255 P **P** **20 17 07.3 +1.8**
comp=Z,40nm,1.2s
H11N2 WAKE ISLAND Hy 32.90 197 T T 20 52 10.1
baz=11,slow=76,SNR=1993
H11N3 WAKE ISLAND Hy 32.91 197 T T 20 52 09.2
baz=11,slow=76,SNR=1703
H11N1 WAKE ISLAND Hy 32.92 197 T T 20 52 09.2
baz=11,slow=76,SNR=60
BBB Bella Bella 33.34 67 LR LR 20 29 05.5
comp=Z,2µm,20.8s,baz=294,slow=33
BBB Bella Bella 33.34 67 P **P** **20 17 12.6 +0.6**
BBB IAmb IAmb 20 17 13.5
comp=Z,62nm,1.1s
WAKE Wake Island 33.38 197 P **P** **20 17 13.4 +0.8**
WAKE Wake Island 33.38 197 P **P** **20 17 12.7 +0.1**
comp=Z,196nm,1.3s
H11S1 WAKE ISLAND Hy 34.13 197 T T 20 53 40.4
baz=11,slow=76,SNR=1367
H11S3 WAKE ISLAND Hy 34.15 197 T T 20 53 41.6
baz=11,slow=76,SNR=988
H11S2 WAKE ISLAND Hy 34.15 197 T T 20 53 41.8
baz=11,slow=76,SNR=762
CN2 Changchun 34.65 277⇑ *i*P **P** **20 17 23.3 -0.2**
CN2 PP **PnPn** **20 18 40.5 +1.1**
CN2 *e*S **S** **20 22 50.5 -0.6**
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,3µm,16.0s
CN2 LR LR
comp=Z,2µm,16.0s
CN2 LR LR
comp=Z,2µm,15.0s
JHS Saijyo 35.17 259 P **P** **20 17 30.5 +2.4**
JHS IAmb IAmb 20 17 31.1
comp=Z,76nm,0.8s
BOD Bodaibo 35.40 305 *e*P **P** **20 17 29.1 -0.7**
BOD *e*S **S** **20 23 00.9 -1.5**
BOD pmax pmax
comp=Z,353nm,0.9s
HIA Hailar 35.45 289 P **P** **20 17 29.8 -0.5**
HIA pmax pmax
comp=Z,364nm,1.4s
HIA MLR MLR
comp=Z,4µm,20.0s
HIA Hailar 35.45 289 P **P** **20 17 29.8 -0.5**
HIA Hailar 35.45 289 IAMs_20 IAMs_20 20 32 21.8
comp=Z,4µm,20.0s
JCJ Chichijima 35.73 240 P **P** **20 17 34.8 +1.8**
comp=Z,40nm,0.6s,baz=90,slow=16,SNR=4.5
JCJ LR LR 20 29 46.4
comp=Z,706nm,20.6s,baz=36,slow=32
JCJ Chichijima 35.73 240 P **P** **20 17 32.2 -0.8**
CBB Campbell River 35.80 69 P **P** **20 17 32.6 -0.7**
OPA Opana 35.93 137 P **P** **20 17 35.1 +0.4**
OPA pmax pmax
comp=Z,180nm,1.0s
OPA Opana 35.93 137 P **P** **20 17 35.1 +0.4**
KIP Kipapa 36.16 137 *i* P **P** **20 17 38.3 +1.6**
KIP pmax pmax
comp=Z,104nm,1.0s
KIP Kipapa 36.16 137 P **P** **20 17 37.7 +1.0**
KIP Kipapa 36.16 137 P **P** **20 17 39.0 +2.3**
comp=Z,247nm,1.1s
OZB Mount Ozzard 36.20 71 P **P** **20 17 35.1 -1.7**
OZB IAmb IAmb 20 17 38.0
comp=Z,49nm,0.9s
KSRS Korea Array 36.78 267 P **P** **20 17 43.7 +1.9**
comp=Z,39nm,0.9s,baz=59,slow=8.3,SNR=78
KSRS PcP **PcP** **20 20 04.5 +1.1**
comp=Z,2.1nm,0.6s,baz=26,slow=2.2,SNR=4.7
KSRS ScP **ScP** **20 23 48.8 +0.8**
comp=Z,4.8nm,1.0s,baz=49,slow=4.7,SNR=8.9
KSRS LR LR 20 32 35.3
comp=Z,902nm,19.1s,baz=50,slow=36
KS19 Wonju Array Si 36.78 267 P **P** **20 17 43.8 +1.9**
KS19 IAmb IAmb 20 17 45.0
comp=Z,78nm,1.1s
KSAR Wonju Array Be 36.81 267 P **P** **20 17 42.7 +0.6**
KSAR Wonju Array Be 36.81 267 P **P** **20 17 42.7 +0.6**
SNY Shenyang 36.88 276⇑ P **P** **20 17 43.5 +0.9**
SNY S **S** **20 23 18.3 -6.9**
SNY pmax pmax
comp=Z,68nm,1.1s
SNY LR LR
comp=Z,3µm,23.0s
SNY LR LR
comp=Z,2µm,27.9s
SNY LR LR
comp=Z,3µm,16.0s
YKA Yellowknife Ar 37.01 46 P **P** **20 17 43.9 +0.4**
comp=Z,166nm,0.7s,baz=283,slow=8.3,SNR=798
YKA PcP **PcP** **20 20 03.6 -0.1**
comp=Z,13nm,0.8s,baz=288,slow=3.2,SNR=4.5
YKA ScP **ScP** **20 23 48.7 +0.3**
comp=Z,6.9nm,1.0s,baz=288,slow=3.4,SNR=6.6
YKA PKiKP **PKiKP** **20 27 21.5 +0.7**
comp=Z,0.2nm,0.6s,baz=310,slow=1.6,SNR=1.6
YKA P3KPbc 20 48 08.1
comp=Z,0.5nm,0.8s,baz=98,slow=5.1,SNR=6.4
YKA Yellowknife Ar 37.01 46 P **P** **20 17 43.2 -0.2**
YKA Yellowknife Ar 37.01 46 P **P** **20 17 43.2 -0.2**
CLRS Cowichan Lake 37.06 70 P **P** **20 17 44.1 0.0**
KHLH Kahului Airpor 37.31 136 P **P** **20 17 47.1 +0.7**
HLK Haleakala 37.51 135 P **P** **20 17 49.3 +0.9**
LLLB Lillooet 37.55 67 P **P** **20 17 47.5 -0.8**
INCN Inchon 37.56 268 P **P** **20 17 49.9 +1.4**
INCN pmax pmax
comp=Z,233nm,1.2s
INCN Inchon 37.56 268 P **P** **20 17 49.9 +1.4**
INCN Inchon 37.56 268 P **P** **20 17 49.5 +1.0**
INCN Inchon 37.56 268 P **P** **20 17 50.2 +1.7**
comp=Z,204nm,1.1s
CIT Chita 37.80 296 *e*P **P** **20 17 50.9 +0.5**
CIT *e* 20 17 57.6
CIT *e* 20 18 09.0
CIT *e* 20 19 17.1
CIT *e* 20 20 07.4
CIT *e*S **S** **20 23 39.5 +0.3**
CIT *e* 20 26 13.9
CIT *e* 20 28 04.0
CIT pmax pmax
comp=Z,677nm,1.2s
JNU Nakatsue 37.81 259 P **P** **20 17 52.5 +1.9**
comp=Z,109nm,1.0s,baz=47,slow=5.0,SNR=31
JNU PcP **PcP** **20 20 06.2 -0.6**
comp=Z,11nm,0.8s,baz=73,slow=2.0,SNR=1.7
JNU Nakatsue 37.81 259 P **P** **20 17 51.9 +1.3**
JNU IAmb IAmb 20 17 54.3
comp=Z,148nm,1.0s
JNU Nakatsue 37.81 259 P **P** **20 17 52.7 +2.1**
comp=Z,176nm,1.1s
TJN Taejon 37.81 266*c e*P **P** **20 17 52.1 +1.6**
TJN Taejon 37.81 266 P **P** **20 17 52.0 +1.4**
TJN Taejon 37.81 266 P **P** **20 17 51.9 +1.4**
comp=Z,466nm,1.0s
NLWA Neilton Lookou 37.90 72 P **P** **20 17 52.1 +0.9**
NLWA IAMs_20 IAMs_20 20 31 42.9
comp=Z,2µm,18.0s
A04D Lummi Island 37.94 70 P **P** **20 17 49.9 -1.6**
baz=299
WISH Wishkah 38.09 73 P **P** **20 17 50.3 -2.5**
D03D Eldon 38.29 72 P **P** **20 17 53.7 -0.8**
baz=300,SNR=37
HPAH Hawaii Prepara 38.39 135 P **P** **20 17 56.8 +1.1**
E03A Lebam 38.50 73 P **P** **20 17 57.1 +0.8**
E03A IAmb IAmb 20 17 58.5
comp=Z,76nm,0.9s
B05A Bryant 38.52 70 P **P** **20 17 55.4 -0.9**
baz=300,SNR=16
HUH Hualalai 38.63 136 P **P** **20 17 58.1 +0.2**
D04E Lakebay 38.65 72 P **P** **20 17 56.5 -1.0**
baz=301

POHA Pohakuloa 38.70 135 P **P** **20 17 59.2 +0.8**
POHA IAmb IAmb 20 18 10.6
comp=Z,183nm,0.8s
POHA Pohakuloa 38.70 135 P **P** **20 18 00.9 +2.4**
comp=Z,292nm,1.0s
B06A Marblemount 38.75 70 P **P** **20 17 56.9 -1.4**
HMH Humu'ula Sheep 38.86 135 P **P** **20 17 59.7 -0.1**
MLOA Mauna Loa Obse 38.88 135 P **P** **20 17 58.8 -1.4**
F04D Rainier, OR 39.07 74 P **P** **20 17 59.2 -1.8**
baz=302
E04D Cinebar 39.09 73 P **P** **20 18 00.6 -0.6**
E04D IAmb IAmb 20 18 06.3
comp=Z,77nm,0.8s
E04D Cinebar 39.09 73 P **P** **20 18 00.8 -0.4**
baz=301,SNR=22
D05A Enumclaw 39.11 72 P **P** **20 18 00.8 -0.6**
G03D McMinnville, O 39.37 75 P **P** **20 18 04.2 +0.7**
G03D McMinnville, O 39.37 75 P **P** **20 18 02.3 -1.3**
baz=303
F04A Amboy 39.50 74 P **P** **20 18 03.9 -0.7**
I02E Swisshome, OR 39.61 77 P **P** **20 18 06.3 +0.7**
I02E Swisshome, OR 39.61 77 P **P** **20 18 04.2 -1.4**
baz=304
COR Corvallis 39.68 76 P **P** **20 18 06.3 +0.1**
COR pmax pmax
comp=Z,67nm,0.8s
COR MLR MLR
comp=Z,2µm,20.0s
COR Corvallis 39.68 76 P **P** **20 18 06.3 +0.1**
COR IAmb IAmb 20 18 08.4
comp=Z,67nm,0.8s
DL2 Dalian 39.79 273 P **P** **20 18 07.9 +0.8**
DL2 PP **PP** **20 19 37.9 -0.7**
DL2 S **S** **20 24 09.8 +0.4**
DL2 pmax pmax
comp=Z,110nm,0.6s
DL2 pmax pmax
comp=Z,220nm,5.7s
DL2 LR LR
comp=Z,2µm,21.3s
DL2 LR LR
comp=Z,1µm,19.9s
DL2 LR LR
comp=Z,2µm,17.9s
LTY Liberty 39.85 71 P **P** **20 18 06.2 -1.5**
H04D Lebanon 40.06 76 P **P** **20 18 09.1 -0.2**
H04D Lebanon 40.06 76 P **P** **20 18 09.1 -0.2**
baz=304,SNR=15
B08A Colville Reser 40.08 69 P **P** **20 18 08.0 -1.5**
J01E Myrtle Point 40.08 78 IAMs_20 IAMs_20 20 31 34.9
comp=Z,3µm,20.0s
F05D White Salmon 40.09 73 P **P** **20 18 09.3 -0.4**
F05D White Salmon 40.09 73 P **P** **20 18 08.7 -0.9**
baz=302
I03D Drain, OR 40.14 77 P **P** **20 18 08.9 -1.1**
baz=304,SNR=7.7
HOOD Mount Hood Mea 40.28 74 P **P** **20 18 10.0 -1.3**
H04A Detroit Lake 40.30 75 P **P** **20 18 10.6 -0.8**
XLT XiLinHaoTe 40.31 283⇑ *i*P **P** **20 18 12.3 +0.8**
XLT pP pP 20 18 17.6 -1.5
XLT sP sP 20 18 21.5 -0.9
XLT PcS **PcS** **20 24 04.9 -0.2**
XLT S **S** **20 24 16.9 -0.4**
XLT sS pS 20 24 28.0 +1.3
XLT pmax pmax
comp=Z,300nm,0.9s
XLT pmax pmax
comp=Z,420nm,4.0s
XLT LR LR
comp=Z,2µm,18.1s
XLT LR LR
comp=Z,2µm,18.1s
K02D Willamette Mer 40.51 79 P **P** **20 18 11.2 -1.9**
baz=305
G05D Wamic, OR 40.52 74 P **P** **20 18 12.5 -0.7**
baz=303,SNR=25
G05D S **S** **20 24 22.9 +2.7**
baz=303
DBO Dodson Butte 40.52 78 P **P** **20 18 13.1 -0.1**
RES Resolute Bay 40.53 24 P **P** **20 18 13.1 +0.2**
comp=Z,36nm,0.9s,baz=267,slow=9.5,SNR=74
RES PcP **PcP** **20 20 14.4 -0.2**
comp=Z,16nm,0.6s,baz=249,slow=4.9,SNR=7.4
RES LR LR 20 39 17.1
comp=Z,714nm,18.3s,baz=270,slow=42
RES Resolute Bay 40.53 24 P **P** **20 18 12.7 -0.2**
RES pmax pmax
comp=Z,70nm,1.2s
RES Resolute Bay 40.53 24 P **P** **20 18 12.7 -0.2**
EUNU Eureka 40.64 15 P **P** **20 18 14.0 +0.2**
I04A Tendick Farm, 40.65 76 P **P** **20 18 13.3 -1.0**
baz=304,SNR=17
E07A Sunnyside 40.69 71 P **P** **20 18 14.2 -0.4**
L02E Cave Junction 40.85 79 P **P** **20 18 15.6 -0.3**
L02E IAMs_20 IAMs_20 20 31 27.2
comp=Z,3µm,22.0s
L02E Cave Junction 40.85 79 P **P** **20 18 14.1 -1.8**
baz=306,SNR=8.8
HAWA Hanford 40.97 71 P **P** **20 18 15.6 -1.2**
C09A Chrisman Ranch 40.97 69 P **P** **20 18 15.4 -1.5**
D08A Wollman Farm, 40.98 70 P **P** **20 18 15.0 -1.9**
HUMO Hull Mountain 40.99 78 P **P** **20 18 17.2 +0.2**
HUMO IAMs_20 IAMs_20 20 31 32.8
comp=Z,3µm,21.0s
I05D Terrebonne, OR 41.00 75 P **P** **20 18 15.0 -2.1**
baz=304,SNR=11
F07A Phinny Hill Vi 41.00 72 P **P** **20 18 16.3 -0.7**
EDM Edmonton 41.09 59 P **P** **20 18 16.3 -1.4**
EDM pmax pmax
comp=Z,154nm,0.8s
EDM Edmonton 41.09 59 P **P** **20 18 16.3 -1.4**
EDM IAmb IAmb 20 18 21.8
comp=Z,154nm,0.8s
J04D Umpqua Nationa 41.14 77 P **P** **20 18 17.9 -0.6**
J04D IAmb IAmb 20 18 47.3
comp=Z,75nm,0.8s
J04D IAMs_20 IAMs_20 20 32 11.9
comp=Z,2µm,19.0s
J04D Umpqua Nationa 41.14 77 P **P** **20 18 16.7 -1.8**
baz=305,SNR=20
KRPM Rodgers 41.17 81 P **P** **20 18 18.1 -0.5**
E08A Dider Farm, El 41.19 71 P **P** **20 18 17.9 -0.7**
JCC Jacoby Creek, 41.36 81 IAMs_20 IAMs_20 20 33 40.9
comp=Z,2µm,18.0s
NEW Newport 41.40 68 LR LR 20 35 53.2
comp=Z,1µm,18.1s,baz=296,slow=37
NEW Newport 41.40 68 P **P** **20 18 18.7 -1.7**
NEW pmax pmax
comp=Z,53nm,0.9s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 41.40 68 P **P** **20 18 18.7 -1.7**
NEW Newport 41.40 68 P **P** **20 18 18.3 -2.0**
baz=301,SNR=37
KHMM Horse Mountain 41.51 81 P **P** **20 18 21.3 -0.2**
PINE Pine Mountain 41.54 76 P **P** **20 18 21.3 -0.4**
KMPM Mount Pierce 41.55 82 P **P** **20 18 22.8 +1.1**
KMPM IAmb IAmb 20 18 24.9
comp=Z,117nm,0.9s
L04D Klamath Falls 41.60 78 P **P** **20 18 21.6 -0.6**
L04D IAmb IAmb 20 18 43.7
comp=Z,77nm,1.0s
L04D IAMs_20 IAMs_20 20 32 04.2
comp=Z,3µm,21.0s
L04D Klamath Falls 41.60 78 P **P** **20 18 20.8 -1.5**
baz=306,SNR=23
L04D S **S** **20 24 34.6 -2.0**
baz=306
YBH Yreka Blue Hor 41.64 79 P **P** **20 18 22.6 +0.1**
comp=Z,41nm,0.9s,baz=337,slow=5.2,SNR=35
YBH PcP **PcP** **20 20 19.7 +0.8**
comp=Z,4.5nm,0.8s,baz=284,slow=4.2,SNR=0.7
YBH Yreka Blue Hor 41.64 79 P **P** **20 18 22.7 +0.3**
YBH IAMs_20 IAMs_20 20 31 41.1
comp=Z,3µm,22.0s
J05D Fort Rock, OR 41.65 76 P **P** **20 18 20.9 -1.7**
baz=305,SNR=35
K04D Chiloquin, OR 41.71 77 P **P** **20 18 21.5 -1.5**
baz=306
E09A Wood Farm, Sta 41.72 70 P **P** **20 18 22.6 -0.4**
M02C Callahan 41.75 80 P **P** **20 18 23.8 +0.4**
M02C IAMs_20 IAMs_20 20 32 26.0
comp=Z,2µm,20.0s
M02C Callahan 41.75 80 P **P** **20 18 21.6 -1.8**
baz=306,SNR=16

G08A Pilot Rock 41.90 72 P **P** **20 18 23.0 -1.6**
KMRM Mail Ridge 41.91 82 P **P** **20 18 25.7 +0.9**
KMRM IAmb IAmb 20 18 27.4
comp=Z,72nm,0.8s
N02D Trinity Center 42.08 80 P **P** **20 18 26.0 -0.1**
N02D IAMs_20 IAMs_20 20 32 33.9
comp=Z,2µm,20.0s
N02D Trinity Center 42.08 80 P **P** **20 18 24.7 -1.4**
baz=307,SNR=15
M04C Macdoel 42.14 79 P **P** **20 18 26.8 +0.2**
M04C IAmb IAmb 20 18 48.1
comp=Z,76nm,0.8s
M04C IAMs_20 IAMs_20 20 32 20.3
comp=Z,2µm,21.0s
M04C Macdoel 42.14 79 P **P** **20 18 26.0 -0.6**
baz=306,SNR=34
K05A Summer Lake 42.17 77 P **P** **20 18 26.8 -0.2**
I07A Izee 42.24 74 P **P** **20 18 26.1 -1.3**
KCPM Cahto Peak 42.31 82 P **P** **20 18 28.4 +0.4**
KCPM IAmb IAmb 20 18 30.2
comp=Z,70nm,0.9s
BJI Beijing 42.48 279 P **P** **20 18 30.3 +1.1**
BJI pP **pP** **20 18 36.0 -0.8**
BJI sP **sP** **20 18 39.3 -0.8**
BJI PP **PP** **20 20 11.2 +3.5**
BJI PcP **PcP** **20 20 23.1 +1.5**
BJI ScP **ScP** **20 24 10.4 +0.4**
BJI S **S** **20 24 47.6 -1.6**
BJI ScS **ScS** **20 28 29.0 +0.6**
BJI pmax pmax
comp=Z,77nm,0.9s
BJI pmax pmax
comp=Z,280nm,3.5s
BJI LR LR
comp=Z,2µm,19.2s
BJI LR LR
comp=Z,2µm,19.8s
BJI LR LR
comp=Z,2µm,20.2s
BJT Baijiatuau 42.49 279 P **P** **20 18 30.1 +0.8**
BJT pmax pmax
comp=Z,69nm,1.0s
BJT MLR MLR
comp=Z,2µm,21.0s
BJT Baijiatuau 42.49 279 P **P** **20 18 30.1 +0.8**
O02D Mt. Diablo Mer 42.51 81 P **P** **20 18 29.8 +0.3**
O02D IAMs_20 IAMs_20 20 32 15.1
comp=Z,3µm,22.0s
O02D Mt. Diablo Mer 42.51 81 P **P** **20 18 28.9 -0.6**
baz=308,SNR=27
O02D S **S** **20 24 52.0 +2.2**
baz=308
F10A Beach Ranch, E 42.55 71 P **P** **20 18 28.4 -1.4**
NRIK Noril'sk 42.57 328 P **P** **20 18 29.4 -0.1**
comp=Z,84nm,1.0s,baz=83,slow=8.5,SNR=68
NRIK PcP **PcP** **20 20 22.5 +1.1**
comp=Z,18nm,0.7s,baz=72,slow=3.2,SNR=2.8
NRIK LR LR 20 37 29.2
comp=Z,2µm,18.5s,baz=75,slow=38
NRIK Noril'sk 42.57 328*c i*P **P** **20 18 29.2 -0.4**
NRIK pmax pmax
comp=Z,148nm,1.2s
NRIK Noril'sk 42.57 328 P **P** **20 18 29.1 -0.4**
NRIK IAmb IAmb 20 18 30.7
comp=Z,163nm,1.2s
ALE Alert 42.69 10 IAMs_20 IAMs_20 20 38 05.7
comp=Z,2µm,19.0s
IRK Irkutsk 42.77 300 *e*P **P** **20 18 30.5 -1.0**
IRK *e*S **S** **20 24 47.5 -5.8**
IRK pmax pmax
comp=Z,221nm,1.4s
WALA Waterton Lakes 42.81 65 P **P** **20 18 30.4 -1.6**
WALA IAmb IAmb 20 18 36.2
comp=Z,88nm,0.9s
MOD Modoc Plateau 43.00 77 P **P** **20 18 32.9 -0.8**
MOD IAMs_20 IAMs_20 20 33 12.1
comp=Z,3µm,20.0s
O03E Paynes Creek 43.04 80 P **P** **20 18 33.2 -0.7**
O03E IAmb IAmb 20 18 52.1
comp=Z,99nm,0.9s
O03E Paynes Creek 43.04 80 P **P** **20 18 32.7 -1.2**
baz=308,SNR=30
O03E S **S** **20 24 55.9 -1.8**
baz=308
HOPS Hopland Field 43.05 83 P **P** **20 18 33.5 -0.3**
HOPS IAmb IAmb 20 18 35.8
comp=Z,102nm,1.0s
HOPS IAMs_20 IAMs_20 20 33 03.5
comp=Z,4µm,20.0s
BMO Blue Mountains 43.12 72 P **P** **20 18 32.9 -1.6**
BMO pmax pmax
comp=Z,22nm,0.8s
BMO MLR MLR
comp=Z,2µm,20.0s
BMO Blue Mountains 43.12 72 P **P** **20 18 32.9 -1.6**
J08A Circle Bar Ran 43.26 75 P **P** **20 18 34.4 -1.3**
JTMT Jette 43.30 67 P **P** **20 18 34.4 -1.5**
GDXM Geysers 43.33 83 P **P** **20 18 36.4 +0.1**
GDXM IAmb IAmb 20 18 39.2
comp=Z,92nm,1.2s
ULN Ulaanbaatar 43.48 294*c i*P **P** **20 18 38.1 +0.7**
ULN pmax pmax
comp=Z,128nm,0.9s
ULN Ulaanbaatar 43.48 294 P **P** **20 18 37.9 +0.4**
ULN IAmb IAmb 20 18 39.3
comp=Z,173nm,0.9s
ULN Ulaanbaatar 43.48 294 IAMs_20 IAMs_20 20 36 45.1
comp=Z,3µm,21.0s
ULN Ulaanbaatar 43.48 294 P **P** **20 18 38.3 +0.8**
ORV Oroville 43.67 81 P **P** **20 18 38.1 -0.8**
ORV pmax pmax
comp=Z,29nm,0.8s
ORV Oroville 43.67 81 P **P** **20 18 38.1 -0.8**
MCCM Marconi Confer 43.69 84 IAMs_20 IAMs_20 20 33 27.5
comp=Z,3µm,20.0s
WVOR Wild Horse Val 43.70 76 P **P** **20 18 38.2 -1.0**
WVOR pmax pmax
comp=Z,44nm,0.9s
WVOR MLR MLR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 43.70 76 P **P** **20 18 38.2 -1.0**
WVOR IAMs_20 IAMs_20 20 33 59.5
comp=Z,2µm,21.0s
PLID Pearl Lake 43.75 71 P **P** **20 18 38.4 -1.3**
PLID IAMs_20 IAMs_20 20 37 16.7
comp=Z,2µm,19.0s
SONM Songino Array 43.87 294 P **P** **20 18 41.5 +0.9**
comp=Z,151nm,0.5s,baz=63,slow=7.9,SNR=1548
SONM PcP **PcP** **20 20 27.3 +1.0**
comp=Z,6.5nm,0.6s,baz=45,slow=3.4,SNR=2.1
SONM ScP **ScP** **20 24 16.1 +0.3**
comp=Z,6.7nm,1.0s,baz=52,slow=3.8,SNR=6.7
SONM LR LR 20 37 20.5
comp=Z,3µm,22.0s,baz=56,slow=36
SONM Songino Array 43.87 294 P **P** **20 18 41.0 +0.4**
SONM pmax pmax
comp=Z,179nm,0.6s
SONM Songino Array 43.87 294 P **P** **20 18 41.0 +0.4**
JOW Kunigami 43.88 254 P **P** **20 18 42.1 +1.4**
comp=Z,63nm,0.9s,baz=67,slow=7.0,SNR=7.1
JOW LR LR 20 38 40.5
comp=Z,688nm,18.3s,baz=24,slow=38
JOW Kunigami 43.88 254 P **P** **20 18 42.3 +1.7**
JOW IAmb IAmb 20 18 43.5
comp=Z,69nm,0.9s
JOW Kunigami 43.88 254 P **P** **20 18 42.9 +2.2**
comp=Z,86nm,1.1s
MSO Missoula 43.99 68 P **P** **20 18 39.7 -1.8**
MSO Missoula 43.99 68 P **P** **20 18 39.7 -1.8**
baz=304,SNR=24
BEKR Beckworth 44.18 80 P **P** **20 18 42.2 -1.0**
ZAK Zakamensk 44.25 298 *e*P **P** **20 18 43.8 +0.3**
ZAK *e* 20 20 28.0
ZAK pmax pmax
comp=Z,213nm,1.4s
ZAK pmax pmax
comp=Z,58nm,1.5s
TIA Tai'an 44.27 274 P **P** **20 18 44.7 +1.0**
TIA pP **pP** **20 18 51.3 -0.2**
TIA sP **pwP** **20 19 01.9 +7.1**
TIA PP **PcP** **20 20 28.9 +1.2**
TIA S **S** **20 25 16.4 +0.9**
TIA pmax pmax
comp=Z,110nm,0.8s
TIA LR LR

comp=Z,1µm,16.4s
TIA LR LR
comp=Z,1µm,18.5s
TIA LR LR
comp=Z,2µm,19.2s
MPK Martis Peak 44.73 80 P **P** **20 18 46.7 -1.0**
MPK IAmb IAmb 20 19 13.4
comp=Z,165nm,1.3s
RUBR Rubicon Trail 44.80 81 P **P** **20 18 47.3 -0.9**
RUBR IAmb IAmb 20 18 55.7
comp=Z,66nm,0.7s
HHC Hu-ho-hao-te 44.80 283 *e*P **P** **20 18 49.3 +1.2**
HHC S **S** **20 25 22.6 -0.8**
HHC pmax pmax
comp=Z,190nm,1.3s
HHC pmax pmax
comp=Z,720nm,4.4s
HHC LR LR
comp=Z,1µm,15.7s
HHC LR LR
comp=Z,1µm,14.1s
HHC LR LR
comp=Z,3µm,15.3s
MFID Camas Ranch 44.81 73 P **P** **20 18 46.2 -1.9**
MOY Mondy 44.81 301 *e*P **P** **20 18 46.3 -1.7**
MOY pmax pmax
comp=Z,183nm,1.5s
PAHR Pah Rah Range 44.87 79 P **P** **20 18 47.9 -0.8**
PAHR IAmb IAmb 20 18 53.2
comp=Z,40nm,0.8s
EMB Emerald Bay 44.88 81 P **P** **20 18 48.1 -0.8**
EMB IAmb IAmb 20 19 13.8
comp=Z,62nm,1.0s
VCNR Virginia City 44.96 80 P **P** **20 18 48.9 -0.6**
VCNR IAmb IAmb 20 19 06.0
comp=Z,44nm,0.8s
HNS HongShan 45.01 277 ⇑P **P** **20 18 51.2 +1.7**
HNS pP **sP** **20 18 58.9 -1.6**
HNS S **S** **20 25 29.7 +3.5**
HNS sS **sS** **20 25 38.9 +0.1**
HNS pmax pmax
comp=Z,100nm,1.1s
HNS LR LR
comp=Z,1µm,16.8s
HNS LR LR
comp=Z,570nm,17.4s
HNS LR LR
comp=Z,910nm,15.9s
PNTR Pine Nut 45.12 80 P **P** **20 18 50.4 -0.3**
SSE Sheshan 45.16 265 P **P** **20 18 52.6 +1.8**
SSE pP **pP** **20 18 55.9 -2.8**
SSE S **S** **20 25 24.8 -3.6**
SSE pmax pmax
comp=Z,84nm,1.0s
SSE LR LR
comp=Z,700nm,24.2s
HRY Holter Researc 45.26 67 P **P** **20 18 49.7 -1.9**
CMB Columbia Colle 45.29 82 P **P** **20 18 50.4 -1.5**
CMB pmax pmax
comp=Z,47nm,1.2s
CMB MLR MLR
comp=Z,2µm,20.0s
CMB Columbia Colle 45.29 82 P **P** **20 18 50.4 -1.5**
CMB IAMs_20 IAMs_20 20 34 24.9
comp=Z,2µm,20.0s
YERR Yerington 45.40 80 P **P** **20 18 52.0 -1.0**
YERR IAmb IAmb 20 19 15.7
comp=Z,101nm,1.4s
LRM Limekiln Ridge 45.41 68 P **P** **20 18 50.9 -2.1**
SAO San Andreas Ge 45.44 84 P **P** **20 18 52.3 -0.7**
SAO pmax pmax
comp=Z,34nm,0.9s
SAO MLR MLR
comp=Z,3µm,19.0s
SAO San Andreas Ge 45.44 84 P **P** **20 18 52.3 -0.7**
SAO IAMs_20 IAMs_20 20 36 35.0
comp=Z,3µm,19.0s
TULEG Thule 45.45 17 P **P** **20 18 52.0 -0.6**
TULEG Thule 45.45 17 *i*P **P** **20 18 52.0 -0.6**
TULEG IAmb IAmb 20 19 19.3
comp=Z,38nm,1.0s
HLID Hailey 45.56 72 P **P** **20 18 52.5 -1.6**
HLID Hailey 45.56 72 P **P** **20 18 52.5 -1.6**
baz=306,SNR=53
DLMT Dillon 45.58 69 P **P** **20 18 53.1 -1.1**
EGMT Eagleton 45.70 64 P **P** **20 18 53.1 -2.0**
EGMT IAmb IAmb 20 19 12.8
comp=Z,46nm,0.8s
EGMT Eagleton 45.70 64 P **P** **20 18 53.1 -2.0**
baz=304,SNR=25
BCYI Bear Canyon 45.72 70 P **P** **20 18 53.9 -1.5**
MCMT McKenzie Canyo 45.74 70 P **P** **20 18 53.8 -1.8**
BMN Battle Mountai 45.75 77 P **P** **20 18 54.9 -0.7**
BMN pmax pmax
comp=Z,35nm,0.6s
BMN Battle Mountai 45.75 77 P **P** **20 18 54.9 -0.7**
BMN IAmb IAmb 20 18 57.4
comp=Z,35nm,0.6s
BBGB Big Mountain B 45.81 84 P **P** **20 18 55.9 -0.2**
BBGB IAmb IAmb 20 19 26.3
comp=Z,88nm,0.8s
GUMO Guam 45.85 225 LR LR 20 36 34.4
comp=Z,1µm,20.4s,baz=42,slow=34
BTO Baotou 45.89 283 *e*P **P** **20 18 58.4 +1.8**
BTO S **S** **20 25 40.5 +1.5**
BTO LR LR
comp=Z,20µm,19.6s
BTO LR LR
comp=Z,14µm,19.4s
NJ2 Nanjing 45.95 268 ⇑P **P** **20 18 57.7 +0.7**
NJ2 sP **pwP** **20 19 07.8 -0.1**
NJ2 PP **PP** **20 20 44.9 +0.1**
NJ2 S **S** **20 25 40.4 +0.6**
NJ2 sS **sS** **20 25 51.1 -1.7**
NJ2 ScS **ScS** **20 28 50.3 -0.3**
NJ2 pmax pmax
comp=Z,97nm,0.9s
NJ2 pmax pmax
comp=Z,350nm,3.5s
NJ2 LR LR
comp=Z,800nm,17.5s
NJ2 LR LR
comp=Z,750nm,17.5s
NJ2 LR LR
comp=Z,1µm,17.7s
BOZ Bozeman (W) 46.01 68 P **P** **20 18 55.6 -2.0**
BOZ pmax pmax
comp=Z,39nm,1.1s
BOZ Bozeman (W) 46.01 68 P **P** **20 18 55.6 -2.0**
BOZ Bozeman (W) 46.01 68 P **P** **20 18 55.6 -2.0**
baz=306,SNR=56
KVN Kaiserville 46.06 79 P **P** **20 18 57.1 -1.1**
KVN pmax pmax
comp=Z,42nm,1.0s
KVN Kaiserville 46.06 79 P **P** **20 18 57.1 -1.1**
RYN Ryan 46.06 80 P **P** **20 18 57.1 -1.0**
RYN IAmb IAmb 20 19 02.7
comp=Z,43nm,0.8s
FFC Flin Flon 46.19 53 P **P** **20 18 57.6 -1.1**
FFC pmax pmax
comp=Z,31nm,0.9s
FFC MLR MLR
comp=Z,4µm,18.0s
FFC Flin Flon 46.19 53 P **P** **20 18 57.6 -1.1**
PMPB Monarch Peak 46.19 84 P **P** **20 18 59.0 -0.1**
PMPB IAmb IAmb 20 19 22.7
comp=Z,49nm,0.8s
TIY Taiyuan 46.21 279 ⇑P **P** **20 19 01.0 +1.8**
TIY pP **pP** **20 19 05.6 -1.3**
TIY sP **pwP** **20 19 10.2 -0.2**
TIY PP **PP** **20 20 51.0 +3.4**
TIY S **S** **20 25 45.9 +2.2**
TIY sS **sS** **20 25 57.5 +0.3**
TIY pmax pmax
comp=Z,76nm,0.6s
TIY pmax pmax
comp=Z,350nm,3.5s
TIY LR LR
comp=Z,1µm,17.2s
TIY LR LR
comp=Z,600nm,16.7s
TIY LR LR
comp=Z,1µm,20.6s
LHV Little Huntoon 46.31 80 P **P** **20 18 59.9 0.0**
LHV IAmb IAmb 20 19 16.7
comp=Z,67nm,0.9s
NVAR Mina Array Bea 46.32 80 P **P** **20 18 59.8 -0.4**
comp=Z,39nm,0.7s,baz=293,slow=6.8,SNR=112
NVAR PcP **PcP** **20 20 35.4 +0.3**
comp=Z,6.7nm,0.7s,baz=317,slow=3.8,SNR=1.5
NVAR ScP **ScP** **20 24 26.9 +0.7**
comp=Z,4.2nm,0.8s,baz=302,slow=4.1,SNR=6.5
NVAR LR LR 20 35 06.7
comp=Z,2µm,21.6s,baz=291,slow=32
NVAR Mina Array Bea 46.32 80 P **P** **20 18 59.5 -0.7**
OMMB Old Mammoth Mi 46.41 81 P **P** **20 19 00.8 -0.3**
NV11 Mina Array Sit 46.41 80 P **P** **20 19 00.1 -0.8**
MLAC Mammoth, Mammo 46.50 81 S **S** **20 25 49.7 +1.5**
baz=310
QLMT Earthquake Lak 46.56 69 P **P** **20 19 00.9 -1.1**
NOR Nord 46.65 3 P **P** **20 19 02.1 +0.1**
NOR pmax pmax
comp=Z,16nm,2.0s
NOR Nord 46.65 3 *e*P **P** **20 18 59.5 -2.5**
NOR IAmb IAmb 20 19 49.2
comp=Z,46nm,1.5s
ELK Elko 46.75 76 LR LR 20 36 18.7
comp=Z,2µm,20.0s,baz=297,slow=33
ELK Elko 46.75 76 P **P** **20 19 02.6 -1.0**
ELK pmax pmax
comp=Z,32nm,0.9s
ELK MLR MLR
comp=Z,2µm,19.0s
ELK Elko 46.75 76 P **P** **20 19 02.6 -1.0**
ELK IAMs_20 IAMs_20 20 36 07.3
comp=Z,2µm,19.0s
Q09A Carvers 46.76 79 P **P** **20 19 03.5 -0.1**
PAGB Antelope Grade 46.85 84 P **P** **20 19 03.3 -0.9**
PAGB IAmb IAmb 20 19 05.7
comp=Z,55nm,0.6s
YHH Holmes Hill 46.92 68 P **P** **20 19 03.2 -1.7**
YMR Madison River 46.93 69 P **P** **20 19 03.0 -1.9**
YMR IAmb IAmb 20 19 05.7
comp=Z,62nm,1.2s
VOG Valley Oaks Go 47.00 83 P **P** **20 19 03.8 -1.5**
baz=311
GCMT Greycliff 47.02 67 P **P** **20 19 03.8 -1.7**
YNR Norris Junctio 47.06 68 P **P** **20 19 04.7 -1.3**
YFT Old Faithful 47.13 69 P **P** **20 19 05.1 -1.4**
YUF Upper Falls 47.16 68 P **P** **20 19 04.5 -2.2**
TPH Tonopah 47.21 80 P **P** **20 19 06.4 -0.8**
TPH pmax pmax
comp=Z,281nm,0.8s
TPH Tonopah 47.21 80 P **P** **20 19 06.4 -0.8**
TIN Tinemaha, Big 47.24 81 P **P** **20 19 06.9 -0.4**
baz=311,SNR=22
SMMC Simmler 47.28 85 P **P** **20 19 06.7 -0.9**
baz=312
H17A Grant Village 47.31 69 P **P** **20 19 07.2 -0.7**
H17A IAmb IAmb 20 19 30.8
comp=Z,38nm,1.0s
H17A Grant Village 47.31 69 P **P** **20 19 07.4 -0.6**
baz=307,SNR=28
LKWY Lake 47.31 68 P **P** **20 19 06.8 -1.2**
LKWY pmax pmax
comp=Z,20nm,0.9s
LKWY Lake 47.31 68 P **P** **20 19 06.8 -1.2**
YMP Mirror Lake Pl 47.35 68 P **P** **20 19 07.1 -1.2**
FLWY Flagg Ranch 47.43 69 P **P** **20 19 07.6 -1.2**
LCH Last Change Ra 47.48 81 P **P** **20 19 08.7 -0.6**
LCH IAmb IAmb 20 19 10.8
comp=Z,41nm,0.9s
VES Vestal, Richgr 47.50 83 P **P** **20 19 08.4 -0.7**
baz=311,SNR=6.9
HVU Hansel Valley 47.59 73 P **P** **20 19 08.6 -1.4**
HVU pmax pmax
comp=Z,48nm,1.0s
HVU Hansel Valley 47.59 73 P **P** **20 19 08.6 -1.4**
HVU IAmb IAmb 20 19 13.3
comp=Z,48nm,1.0s
MOOW Moose Ponds 47.60 70 P **P** **20 19 08.5 -1.7**
TPAW Teton Pass 47.63 70 P **P** **20 19 09.0 -1.4**
RLMT Red Lodge 47.64 67 P **P** **20 19 08.5 -1.9**
RLMT IAmb IAmb 20 19 11.5
comp=Z,49nm,1.1s
RLMT Red Lodge 47.64 67 P **P** **20 19 09.3 -1.2**
baz=307,SNR=31
PKM Mcpherson Peak 47.67 85 P **P** **20 19 10.3 -0.4**
baz=312
FCC Fort Churchill 47.71 45 P **P** **20 19 09.8 -0.6**
FCC pmax pmax
comp=Z,80nm,0.9s
FCC Fort Churchill 47.71 45 P **P** **20 19 09.8 -0.6**
FCC IAmb IAmb 20 19 12.2
comp=Z,80nm,0.8s
LOHW Long Hollow 47.76 70 P **P** **20 19 09.8 -1.7**
REDW Red Top Meadow 47.77 70 P **P** **20 19 09.8 -1.7**
GRAC Grapevine Rang 47.81 81 P **P** **20 19 11.0 -0.6**
GRAC IAmb IAmb 20 19 32.6
comp=Z,46nm,0.9s
GRAC Grapevine Rang 47.81 81 P **P** **20 19 10.5 -1.1**
baz=311,SNR=23
GRAC S **S** **20 26 09.1 +2.7**
baz=311
BCW Bitter Crk WRg 47.88 84 P **P** **20 19 12.1 -0.2**
BCW IAmb IAmb 20 19 16.5
comp=Z,63nm,0.8s
BGU Big Grassy Mou 47.96 74 P **P** **20 19 11.2 -1.7**
AHID Auburn Hatcher 47.98 71 P **P** **20 19 11.6 -1.5**
AHID IAMs_20 IAMs_20 20 39 36.6
comp=Z,2µm,18.0s
ISA Isabella, Lake 47.99 83 P **P** **20 19 11.5 -1.6**
ISA pmax pmax
comp=Z,31nm,1.1s
ISA Isabella, Lake 47.99 83 P **P** **20 19 11.5 -1.6**
ISA Isabella, Lake 47.99 83 P **P** **20 19 11.8 -1.3**
baz=312,SNR=13
SBC Santa Barbara 48.02 85 P **P** **20 19 12.1 -1.1**
baz=312
R11A Troy Canyon, C 48.03 78 P **P** **20 19 11.9 -1.6**
R11A Troy Canyon, C 48.03 78 P **P** **20 19 12.2 -1.3**
baz=310,SNR=98
ARVC Arvin 48.12 84 P **P** **20 19 12.5 -1.5**
baz=312
LYN LuoYang 48.23 275 ⇑*i*P **P** **20 19 16.0 +1.1**
LYN pP pwP 20 19 25.8 -0.2
LYN PP **PP** **20 21 09.5 +2.4**
LYN S **S** **20 26 10.6 -1.8**
LYN sS sS 20 26 29.9 +4.8
LYN pmax pmax
comp=Z,130nm,0.8s
LYN pmax pmax
comp=Z,510nm,3.9s
LYN LR LR
comp=Z,910nm,24.3s
LYN LR LR
comp=Z,2µm,20.0s
LYN LR LR
comp=Z,1µm,19.0s
MPMC Manual Prospec 48.34 82 P **P** **20 19 14.8 -1.1**
baz=311,SNR=63
MPMC S **S** **20 26 15.1 +0.8**
baz=311
S11A Rachel 48.38 79 P **P** **20 19 15.7 -0.4**
S11A IAmb IAmb 20 19 40.2
comp=Z,82nm,1.0s
HWUT Hardware Ranch 48.41 72 P **P** **20 19 15.2 -1.2**
LAO LASA Array 48.44 64 P **P** **20 19 14.8 -1.6**
LAO IAMs_20 IAMs_20 20 38 25.4
comp=Z,2µm,21.0s
LAO LASA Array 48.44 64 P **P** **20 19 15.0 -1.4**
baz=306,SNR=7.8
LAO LASA Array 48.44 64 P **P** **20 19 15.5 -0.8**
baz=307,SNR=7.8
LAO S **S** **20 26 18.6 +3.5**
baz=307
FURC Furnace Creek, 48.46 81 P **P** **20 19 15.6 -1.0**
baz=311,SNR=32
DGMT Dagmar 48.51 61 P **P** **20 19 15.3 -1.6**
DGMT IAmb IAmb 20 19 30.4
comp=Z,78nm,1.2s
DGMT Dagmar 48.51 61 IAMs_20 IAMs_20 20 42 02.2
comp=Z,3µm,19.0s
DGMT Dagmar 48.51 61 P **P** **20 19 16.2 -0.7**
baz=306
TPNV Topopah Spring 48.52 80 P **P** **20 19 16.3 -1.0**
TPNV pmax pmax
comp=Z,57nm,0.9s
TPNV MLR MLR
comp=Z,2µm,19.0s
TPNV Topopah Spring 48.52 80 P **P** **20 19 16.3 -1.0**
TPNV IAmb IAmb 20 19 19.1
comp=Z,57nm,0.9s
TPNV Topopah Spring 48.52 80 P **P** **20 19 16.4 -0.9**
baz=311,SNR=167
TPNV S **S** **20 26 16.5 -0.3**
baz=311
OSI Osito Audit: C 48.52 84 P **P** **20 19 15.3 -1.9**
baz=312
OSI S **S** **20 26 17.3 +0.7**
baz=312
DUG Dugway, Tooele 48.55 75 P **P** **20 19 16.1 -1.3**
DUG pmax pmax
comp=Z,45nm,0.9s
DUG Dugway, Tooele 48.55 75 P **P** **20 19 16.1 -1.3**
DUG IAmb IAmb 20 19 20.3
comp=Z,45nm,0.8s
DUG Dugway, Tooele 48.55 75 P **P** **20 19 16.0 -1.4**
baz=309,SNR=72
DUG S **S** **20 26 21.9 +4.9**
baz=309
LRMC Laurel Mtn Rad 48.60 83 P **P** **20 19 16.8 -1.0**
baz=312,SNR=18
CCAC Calif City Air 48.60 83 P **P** **20 19 17.6 -0.2**
GWY Greenwater Val 48.76 81 P **P** **20 19 18.4 -0.7**
GWY IAmb IAmb 20 19 20.2
comp=Z,50nm,0.9s
QSM Queen of Sheba 48.78 82 P **P** **20 19 18.2 -0.9**
QSM IAmb IAmb 20 19 37.2
comp=Z,42nm,1.0s
EDW2 Edwards Air Fo 48.80 83 P **P** **20 19 18.3 -1.0**
baz=312,SNR=22
EDW2 S **S** **20 26 21.8 +1.3**
baz=312
CTU Camp Tracy 48.87 73 P **P** **20 19 18.6 -1.4**
CTU IAmb IAmb 20 19 23.0
comp=Z,44nm,1.1s
BW06 Boulder Array 48.88 70 P **P** **20 19 18.1 -2.0**
BW06 Boulder Array 48.88 70 P **P** **20 19 18.3 -1.7**
baz=308,SNR=43
PD31 Pinedale Array 48.88 70 P **P** **20 19 17.9 -2.1**
PDAR Pinedale Array 48.88 70 P **P** **20 19 18.4 -1.6**
comp=Z,17nm,0.7s,baz=310,slow=3.4,SNR=117
PDAR PcP **PcP** **20 20 44.1 -0.1**
comp=Z,18nm,1.1s,baz=325,slow=1.4,SNR=0.9
PDAR ScP **ScP** **20 24 37.0 0.0**
comp=Z,5.4nm,1.0s,baz=253,slow=0.9,SNR=4.2
PDAR LR LR 20 39 03.7
comp=Z,811nm,19.7s,baz=313,slow=35
PDAR Pinedale Array 48.88 70 P **P** **20 19 17.9 -2.1**
SNCC San Nicolas Is 48.94 86 P **P** **20 19 20.3 0.0**
SNCC IAmb IAmb 20 19 29.2
comp=Z,72nm,0.8s
SNCC San Nicolas Is 48.94 86 P **P** **20 19 18.3 -2.0**
baz=313
PRN Pahroc Range 48.96 79 P **P** **20 19 19.7 -0.9**
PRN IAmb IAmb 20 19 37.5
comp=Z,90nm,1.0s
PSUT Pine Spring 48.96 77 P **P** **20 19 19.7 -1.0**
PSUT IAmb IAmb 20 19 45.7
comp=Z,40nm,0.8s
DECC Green Verdugo 49.00 84 P **P** **20 19 19.2 -1.6**
baz=312
DECC S **S** **20 26 24.7 +1.4**
baz=312
JLU Jordanelle 49.10 73 P **P** **20 19 20.6 -1.2**
JLU IAmb IAmb 20 19 25.1
comp=Z,41nm,1.0s
NLU North Lily Min 49.14 74 P **P** **20 19 20.5 -1.6**
PASC Pasadena Art C 49.15 84 P **P** **20 19 20.9 -1.0**
PASC IAmb IAmb 20 19 38.9
comp=Z,43nm,0.9s
SHOC Shoshone, Teco 49.19 81 P **P** **20 19 21.7 -0.5**
baz=312,SNR=12
SHOC S **S** **20 26 26.7 +0.8**
baz=312
KBS Kingsbay 49.21 356 *e*P **P** **20 19 22.5 +0.7**
GSC Goldstone, Bar 49.25 82 P **P** **20 19 21.8 -1.0**
GSC pmax pmax
comp=Z,73nm,0.8s
GSC Goldstone, Bar 49.25 82 P **P** **20 19 21.8 -1.0**
GSC IAmb IAmb 20 19 24.0
comp=Z,73nm,0.8s
GSC Goldstone, Bar 49.25 82 P **P** **20 19 21.9 -1.0**
baz=312,SNR=53
MPU Maple Canyon 49.36 74 P **P** **20 19 23.3 -0.5**
FMP Fort Macarthur 49.39 85 P **P** **20 19 21.9 -1.8**
baz=313
RRX Edison Barstow 49.41 83 P **P** **20 19 22.8 -1.2**
baz=312
BFSC Mount Baldy Ra 49.43 84 P **P** **20 19 23.6 -0.6**
baz=313,SNR=22
BFSC S **S** **20 26 30.8 +1.2**
baz=313
SHPR Sheep Range 49.47 80 P **P** **20 19 23.1 -1.5**
CIS Catalina Islan 49.52 85 P **P** **20 19 23.2 -1.7**
baz=313
CIS S **S** **20 26 27.3 -3.3**
baz=313
YHNB Yeheng 49.64 259 P **P** **20 19 26.3 +0.4**
YHNB IAmb IAmb 20 19 28.3
comp=Z,34nm,0.7s
YHNB Yeheng 49.64 259 P **P** **20 19 27.0 +1.1**
comp=Z,54nm,0.8s
TUQ Turquoise Moun 49.71 81 P **P** **20 19 25.1 -1.2**
baz=312,SNR=16
TUQ S **S** **20 26 33.9 +0.5**
baz=312
SPA0 Spitsbergen Ar 49.72 355 *e*P **P** **20 19 25.0 -0.7**
SPITS Spitsbergen Ar 49.72 355 P **P** **20 19 25.0 -0.7**
comp=Z,18nm,0.4s,baz=8.9,slow=10,SNR=38
SPITS LR LR 20 41 57.5
comp=Z,1µm,18.0s,baz=283,slow=38
SPITS Spitsbergen Ar 49.72 355 P **P** **20 19 25.0 -0.7**
SPB2 Spitsbergen Ar 49.72 355 P **P** **20 19 25.2 -0.5**
SPB2 IAmb IAmb 20 19 39.8
comp=Z,98nm,1.1s
SCI2 San Clemente I 49.72 86 P **P** **20 19 24.7 -1.6**
baz=313
TCRU Three Creeks R 49.77 76 P **P** **20 19 25.4 -1.5**
WHN Wuhan 49.78 270 ⇑*i*P **P** **20 19 27.4 +0.7**
WHN pP **sP** **20 19 37.0 -0.7**
WHN sP **pwP** **20 19 41.0 +3.3**
WHN PcP **PcP** **20 20 48.5 +1.2**
WHN S **S** **20 26 31.0 -3.1**
WHN pmax pmax
comp=Z,400nm,0.8s
WHN LR LR
comp=Z,2µm,13.3s
WHN LR LR
comp=Z,1µm,13.4s
WHN LR LR
comp=Z,3µm,19.4s
HEC Hector,Ludlow 49.85 82 P **P** **20 19 26.2 -1.2**
baz=312,SNR=26
HEC S **S** **20 26 35.9 +0.5**
baz=312
BBRC Big Bear Solar 49.87 83 P **P** **20 19 26.4 -1.3**
baz=313
NACB Ninganchiao 49.88 258 P **P** **20 19 27.2 -0.3**
NACB IAmb IAmb 20 19 32.0
comp=Z,47nm,1.0s
CCUT Cedar City 49.89 78 P **P** **20 19 26.8 -1.0**
ELS Elsinore Mount 49.97 84 P **P** **20 19 27.7 -0.6**
ELS IAmb IAmb 20 19 29.1
comp=Z,31nm,0.7s
MSU Marysvale 49.99 76 P **P** **20 19 27.8 -0.8**
MSU Marysvale 49.99 76 P **P** **20 19 27.8 -0.8**
SZCU Shurtz Canyon 50.03 77 P **P** **20 19 27.7 -1.2**
TMUT Trail Mountain 50.07 74 P **P** **20 19 28.3 -1.0**
TMUT IAmb IAmb 20 19 32.2
comp=Z,43nm,0.9s
MURC Murrieta 50.14 84 P **P** **20 19 28.6 -1.0**
baz=313,SNR=10
P17A Butcher Ranch, 50.24 74 P **P** **20 19 29.3 -1.1**
RDMU Red Mountain 50.24 72 P **P** **20 19 29.0 -1.4**
MTPU Mount Pierson 50.29 76 P **P** **20 19 27.9 -3.1**
GMRC Granite Mounta 50.30 82 P **P** **20 19 29.8 -1.0**
baz=312,SNR=53
GMRC S **S** **20 26 42.0 +0.4**
baz=312
LCMT Little Creek M 50.31 78 P **P** **20 19 30.3 -0.7**
LCMT IAmb IAmb 20 19 36.1
comp=Z,49nm,0.9s
Q16A Castle Valley 50.34 75 P **P** **20 19 30.1 -1.0**
P18A Preston Nutter 50.44 73 P **P** **20 19 31.2 -0.9**
UPNV Upernavik 50.48 18 *i*P **P** **20 19 31.9 +0.4**

UPNV IAmb IAmb 20 19 32.6
comp=Z,203nm,1.1s
SSLB Suanglung 50.55 258 P P 20 19 31.0 -1.8
SSLB IAmb IAmb 20 19 52.7
comp=Z,58nm,0.9s
SSLB Suanglung 50.55 258 P P 20 19 34.0 +1.3
comp=Z,57nm,1.0s
KNB Kanab 50.57 78 P P 20 19 32.2 -0.7
KNB pmax pmax
comp=Z,29nm,0.8s
KNB Kanab 50.57 78 P P 20 19 32.2 -0.7
PFO Pinyon Flats O 50.59 84 LR LR 20 37 27.7
comp=Z,2µm,20.6s,baz=293,slow=32
PFO Pinyon Flats O 50.59 84 P P 20 19 31.6 -1.4
PFO pmax pmax
comp=Z,22nm,0.9s
PFO MLR MLR
comp=Z,2µm,20.0s
PFO Pinyon Flats O 50.59 84 P P 20 19 31.6 -1.4
PFO Pinyon Flats O 50.59 84 IAMs_20 IAMs_20 20 37 05.3
comp=Z,2µm,20.0s
PFO Pinyon Flats O 50.59 84 P P 20 19 31.9 -1.2
baz=313,SNR=10
PFO S **S 20 26 46.5 +0.8**
baz=313
TPFO Pinon Flats 50.60 84 P P 20 19 31.7 -1.4
baz=313,SNR=10
TPFO S **S 20 26 46.1 +0.3**
baz=313
PKCU Pink Cliffs 50.60 77 P P 20 19 32.8 -0.5
SRU San Rafael Swe 50.60 74 P P 20 19 32.3 -0.8
SRU pmax pmax
comp=Z,42nm,0.9s
SRU San Rafael Swe 50.60 74 P P 20 19 32.3 -0.8
SRU IAmb IAmb 20 19 36.6
comp=Z,42nm,0.9s
BELC Belle Mtn. Jos 50.61 83 P P 20 19 31.8 -1.4
baz=313,SNR=24
YULB Yu-li 50.64 258 P P 20 19 33.3 -0.1
YULB IAmb IAmb 20 19 49.4
comp=Z,71nm,1.0s
HOPEN Hopen 50.67 352 *e*P **P 20 19 33.0 +0.1**
109C Camp Elliot, M 50.68 85 P P 20 19 33.2 -0.3
109C IAmb IAmb 20 19 38.1
comp=Z,50nm,0.8s
109C Camp Elliot, M 50.68 85 P P 20 19 31.7 -1.8
baz=314
109C S **S 20 26 46.7 0.0**
baz=314
K22A Casper 50.71 68 P P 20 19 31.4 -2.5
K22A Casper 50.71 68 P P 20 19 31.9 -2.1
baz=309,SNR=12
K22A Casper 50.71 68 P P 20 19 31.8 -2.1
baz=309,SNR=12
XAN Xi'an 50.76 277 P P 20 19 34.4 +0.2
XAN pP pP 20 19 39.9 -2.2
XAN PP **PP 20 21 34.4 +4.2**
XAN S **S 20 26 48.7 +0.8**
XAN ScS **ScS 20 29 21.3 -1.6**
XAN SS **SS 20 30 16.9 -5.3**
XAN pmax pmax
comp=Z,120nm,1.2s
XAN pmax pmax
comp=Z,280nm,3.6s
XAN LR LR
comp=Z,2µm,16.5s
XAN LR LR
comp=Z,2µm,15.8s
XAN LR LR
comp=Z,3µm,16.1s
HSPB Hornsund (broa 50.91 355 *e*P **P 20 19 34.4 -0.2**
HSPB *e*L L 20 42 34.7
comp=Z,2µm,18.4s
HSPB Hornsund (broa 50.91 355 *e*P **P 20 19 34.0 -0.7**
RWWY Rawlins 50.92 70 P **P 20 19 33.4 -2.2**
NEE2 Needles Airpor 50.95 81 P **P 20 19 34.1 -1.5**
baz=312,SNR=5.4
IRM Iron Mountain 51.03 82 P P 20 19 35.0 -1.2
baz=313,SNR=26
IRM S **S 20 26 52.2 +0.5**
baz=313
BAR Barrett 51.09 85 P P 20 19 36.1 -0.5
BAR IAmb IAmb 20 19 37.6
comp=Z,37nm,0.8s
MONP2 Monument Peak 51.10 84 P P 20 19 35.6 -1.4
baz=314,SNR=21
MONP2 S **S 20 26 54.0 +1.1**
baz=314
TPUB Ta-pu 51.12 258 P P 20 19 36.4 -0.5
TPUB Ta-pu 51.12 258 P P 20 19 38.4 +1.4
comp=Z,122nm,0.9s
QZH Quanzhou 51.14 261 ⇓*i*P **P 20 19 39.0 +1.9**
QZH S **S 20 26 55.5 +2.3**
QZH pmax pmax
comp=Z,100nm,0.9s
QZH LR LR
comp=Z,560nm,16.6s
QZH LR LR
comp=Z,750nm,19.9s
QZH LR LR
comp=Z,680nm,13.3s
W13A Hualapai Mount 51.18 80 P P 20 19 36.9 -0.6
BC3 Big Chuckawall 51.18 83 P P 20 19 36.2 -1.2
baz=313,SNR=15
TKX Tecate 51.20 85 P P 20 19 36.6 -1.0
TWG Pinlang 51.21 257 P P 20 19 36.9 -0.8
TWG IAmb IAmb 20 19 41.6
comp=Z,32nm,0.6s
RSSD Black Hills 51.22 65 P P 20 19 35.7 -2.0
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD MLR MLR
comp=Z,2µm,19.0s
RSSD Black Hills 51.22 65 P P 20 19 35.7 -2.0
RSSD Black Hills 51.22 65 IAMs_20 IAMs_20 20 41 40.0
comp=Z,2µm,19.0s
RSSD Black Hills 51.22 65 P P 20 19 36.2 -1.5
baz=309,SNR=11
RSSD Black Hills 51.22 65 P P 20 19 36.3 -1.5
baz=309
U15A North Rim 51.27 78 P P 20 19 37.7 -0.6
U15A IAmb IAmb 20 20 06.2
comp=Z,63nm,0.9s
O20A White River Ci 51.30 72 P P 20 19 36.9 -1.5
O20A White River Ci 51.30 72 P P 20 19 36.7 -1.7
baz=310,SNR=16
DAG Danmarks Havn 51.33 4 P P 20 19 37.3 -0.5
DAG pmax pmax
comp=Z,24nm,0.8s
DAG Danmarks Havn 51.33 4 *i*P **P 20 19 36.0 -1.8**
DAG IVmB_BB 20 20 05.8
comp=Z,503nm,2.5s
DAG IAmb IAmb 20 20 07.4
comp=Z,115nm,1.9s
MDND Maddock 51.35 59 P P 20 19 37.3 -1.1
MDND Maddock 51.35 59 P P 20 19 36.3 -2.1
baz=308,SNR=10
MDND Maddock 51.35 59 P P 20 19 37.3 -1.1
baz=308,SNR=10
SWSC Sam W. Stewart 51.45 84 P P 20 19 37.3 -2.0
baz=314
IKP In-Ko-Pah, Jac 51.45 84 P P 20 19 38.7 -0.8
baz=314,SNR=19
RMX La Rumorosa 51.51 84 P P 20 19 39.4 -0.6
E28A Huff 51.55 61 P P 20 19 38.7 -1.2
E28A Huff 51.55 61 P P 20 19 38.0 -1.9
baz=308
PDMCI Parker Dam,Lak 51.55 81 P P 20 19 39.5 -0.6
baz=313,SNR=14
YUH Yuha Desert 51.57 84 P P 20 19 39.5 -0.7
ZAA0 Zalesovo Array 51.62 311 P P 20 19 39.4 -0.9
ZAA0 IAmb IAmb 20 19 40.7
comp=Z,76nm,1.4s
ZALV Zalesovo Beam 51.62 311 P P 20 19 39.5 -0.9
comp=Z,20nm,0.6s,baz=53,slow=6.2,SNR=78
ZALV PcP **PcP 20 20 54.5 +0.7**
comp=Z,21nm,0.5s,baz=72,slow=3.4,SNR=16
ZALV LR LR 20 43 37.0
comp=Z,3µm,18.1s,baz=52,slow=38
CCX Cicese 51.64 85 P P 20 19 40.6 -0.1
CCX IAmb IAmb 20 19 44.7
comp=Z,41nm,0.8s
BLYC Blythe 51.69 82 P P 20 19 40.7 -0.4
ULM Lac du Bonnet 51.81 55 P P 20 19 40.4 -1.4
comp=Z,38nm,0.6s,baz=306,slow=7.7,SNR=46
ULM ScP **ScP 20 24 48.3 -0.8**
comp=Z,7.4nm,0.7s,baz=282,slow=3.8,SNR=4.7
ULM LR LR 20 43 06.4
comp=Z,3µm,18.1s,baz=310,slow=38
ULM Lac du Bonnet 51.81 55 *i*P P 20 19 40.8 -1.0
ULM Lac du Bonnet 51.81 55 P P 20 19 40.6 -1.2
ULM IAmb IAmb 20 19 42.4
comp=Z,46nm,0.6s
PV23 Carpenter Ridg 51.93 74 P P 20 19 41.8 -1.4
PV23 IAmb IAmb 20 20 10.5
comp=Z,50nm,0.8s
PV10 Paradox Valley 51.96 74 P P 20 19 42.3 -1.1
PV10 IAmb IAmb 20 20 02.2
comp=Z,50nm,0.8s
PV14 Lion Creek, Pa 51.97 74 P P 20 19 42.1 -1.4
GLA Glamis 51.97 83 P P 20 19 43.1 -0.2
GLA pmax pmax
comp=Z,64nm,1.0s
GLA Glamis 51.97 83 P P 20 19 43.1 -0.2
GLA IAmb IAmb 20 20 00.3
comp=Z,64nm,1.0s
GLA Glamis 51.97 83 P P 20 19 42.4 -0.9
baz=314,SNR=10.0
PV20 West Nyswonger 52.02 74 P P 20 19 42.2 -1.6
PV20 IAmb IAmb 20 20 09.5
comp=Z,41nm,0.8s
PV04 Paradox Valley 52.03 74 P P 20 19 42.4 -1.4
PV04 IAmb IAmb 20 20 09.6
comp=Z,50nm,0.8s
PV19 Morning Glory 52.04 74 P P 20 19 42.7 -1.3
PV19 IAmb IAmb 20 20 10.0
comp=Z,36nm,0.7s
PV17 East Wray Mesa 52.07 74 P P 20 19 42.9 -1.3
PV17 IAmb IAmb 20 20 10.3
comp=Z,87nm,0.8s
PV16 Nyswonger Mesa 52.08 74 P P 20 19 42.6 -1.6
PV16 IAmb IAmb 20 20 10.0
comp=Z,47nm,0.8s
PV11 David Mesa, Pa 52.11 74 P P 20 19 43.3 -1.2
PV11 IAmb IAmb 20 20 02.5
comp=Z,82nm,0.7s
PV18 Skein Mesa, Pa 52.12 74 P P 20 19 43.2 -1.3
PV18 IAmb IAmb 20 20 08.0
comp=Z,64nm,0.8s
PV12 Saucer Basin, 52.14 74 P P 20 19 43.1 -1.7
PV12 IAmb IAmb 20 20 04.8
comp=Z,58nm,0.9s
PV03 Paradox Valley 52.15 74 P P 20 19 43.5 -1.3
PV03 IAmb IAmb 20 20 08.6
comp=Z,57nm,0.9s
PV07 Paradox Valley 52.15 74 P P 20 19 43.5 -1.3
N23A Red Feather La 52.16 70 P P 20 19 43.2 -1.7
N23A Red Feather La 52.16 70 P P 20 19 43.8 -1.1
baz=310
PHWY Pilot Hill 52.18 69 P P 20 19 43.8 -1.3
PV13 Radium Mtn., P 52.23 74 P P 20 19 44.2 -1.3
PV13 IAmb IAmb 20 20 11.6
comp=Z,107nm,0.8s
PV15 Paradox Valley 52.31 74 P P 20 19 44.6 -1.5
PV15 IAmb IAmb 20 20 14.1
comp=Z,54nm,1.0s
PV01 Paradox Valley 52.40 74 P P 20 19 45.1 -1.6
PV01 IAmb IAmb 20 20 10.6
comp=Z,51nm,1.0s
WUAZ Wupatki 52.43 78 P P 20 19 45.6 -1.2
WUAZ IAMs_20 IAMs_20 20 38 52.8
comp=Z,3µm,20.0s
WUAZ Wupatki 52.43 78 P P 20 19 45.2 -1.6
baz=312,SNR=28
Y14A Wickenburg 52.49 81 P P 20 19 46.5 -0.7
LZH Lanzhou 52.50 283 *e*P **P 20 19 49.0 +1.7**
LZH pP pP 20 19 54.0 -1.2
LZH sP sP 20 19 58.2 -0.1
LZH *e*S **S 20 27 12.1 0.0**
LZH sS sS 20 27 24.5 -1.2
LZH SS **SS 20 30 47.5 -2.3**
LZH pmax pmax
comp=Z,290nm,1.0s
LZH pmax pmax
comp=Z,580nm,4.1s
LZH LR LR
comp=Z,4µm,17.9s
LZH LR LR
comp=Z,4µm,17.6s
LZH LR LR
comp=Z,3µm,19.8s
SMCO Snowmass 52.66 72 ⇑P **P 20 19 47.2 -1.6**
GTA Gaotai 52.73 289 ⇑P **P 20 19 50.0 +1.1**
GTA pP pP 20 19 56.5 -0.8
GTA sP sP 20 19 58.8 -1.1
GTA ScP **ScP 20 24 53.1 -0.3**
GTA S **S 20 27 16.1 +1.1**
GTA ScS **ScS 20 29 34.5 -2.0**
GTA pmax pmax
comp=Z,280nm,1.0s
GTA pmax pmax
comp=Z,480nm,7.2s
GTA LR LR
comp=Z,4µm,18.7s
GTA LR LR
comp=Z,3µm,19.9s
GTA LR LR
comp=Z,3µm,19.9s
113A Mohawk Valley, 52.82 82 P P 20 19 48.8 -0.7
ENH Enshi 52.98 273 P P 20 19 50.4 -0.4
ENH IAmb IAmb 20 19 52.1
comp=Z,75nm,0.9s
AGMN Agassiz Nation 53.03 57 P P 20 19 49.4 -1.5
AGMN IAmb IAmb 20 19 55.0
comp=Z,60nm,0.8s
AGMN Agassiz Nation 53.03 57 P P 20 19 49.9 -1.0
baz=309,SNR=25
AGMN Agassiz Nation 53.03 57 P P 20 19 49.3 -1.6
baz=310,SNR=25
MVCO Mesa Verde 53.05 75 P P 20 19 50.1 -1.3
MVCO Mesa Verde 53.05 75 P P 20 19 49.5 -2.0
baz=312
MVCO S **S 20 27 17.1 -2.5**
baz=312
ISCO Idaho Springs 53.06 70 P P 20 19 50.7 -0.9
ISCO pmax pmax
comp=Z,17nm,0.9s
ISCO MLR MLR
comp=Z,1µm,19.0s
ISCO Idaho Springs 53.06 70 P P 20 19 50.7 -0.9
ISCO IAMs_20 IAMs_20 20 45 16.0
comp=Z,1µm,19.0s
ISCO Idaho Springs 53.06 70 P P 20 19 50.7 -0.9
baz=311,SNR=17
ISCO Idaho Springs 53.06 70 P P 20 19 49.5 -2.1
baz=311,SNR=17
BJO1 Bjornoya 53.08 353 *e*P **P 20 19 50.3 -0.6**
X16A Lo Mia Camp, P 53.13 79 P P 20 19 51.8 -0.2
DBG Daneborg 53.66 6 *i*P **P 20 19 53.3 -1.8**
DBG IAmb IAmb 20 20 03.5
comp=Z,46nm,0.8s
S22A 4UR Ranch, Cre 53.69 73 P P 20 19 55.6 -0.7
S22A 4UR Ranch, Cre 53.69 73 P P 20 19 54.2 -2.1
baz=312
SUSD Miller 53.84 62 P P 20 19 56.7 -0.2
SUSD IAmb IAmb 20 19 57.4
comp=Z,69nm,0.9s
SUSD Miller 53.84 62 P P 20 19 54.9 -2.0
baz=311
Q24A Divide 53.88 71 P P 20 19 56.6 -1.0
Q24A Divide 53.88 71 P P 20 19 56.0 -1.6
baz=312,SNR=8.7
X18A Snowflake 53.96 78 P P 20 19 57.8 -0.3
214A Organ Pipe Nat 53.96 82 P P 20 19 57.6 -0.4
214A Organ Pipe Nat 53.96 82 P P 20 19 56.9 -1.1
baz=314,SNR=15
B35A Bob, Littlefor 54.09 55 P P 20 19 57.5 -1.1
B35A IAmb IAmb 20 19 59.6
comp=Z,49nm,0.8s
B35A Bob, Littlefor 54.09 55 P P 20 19 57.6 -1.1
baz=310,SNR=11
FRB Frobisher Bay 54.12 30 LR LR 20 45 43.8
comp=Z,3µm,18.0s,baz=308,slow=39
FRB Frobisher Bay 54.12 30 P P 20 19 58.1 -0.5
FRB pmax pmax
comp=Z,108nm,0.9s
F33A 5 Mile Ranch, 54.38 59 P P 20 20 00.4 -0.4
F33A 5 Mile Ranch, 54.38 59 P P 20 19 59.8 -0.9
baz=310
OGNE Ogallala 54.38 67 IAMs_20 IAMs_20 20 43 05.9
comp=Z,1µm,20.0s
OGNE Ogallala 54.38 67 P P 20 19 59.5 -1.5
baz=312
OGNE S **S 20 27 38.1 +0.7**
baz=312
SDCO Great Sand Dun 54.48 72 P P 20 20 01.0 -1.0
SDCO Great Sand Dun 54.48 72 P P 20 20 01.4 -0.6
baz=312,SNR=20
SDCO Great Sand Dun 54.48 72 P P 20 20 00.3 -1.7
baz=312,SNR=20
TUC Tucson 54.96 81 P P 20 20 04.7 -0.6
TUC pmax pmax
comp=Z,28nm,1.0s
TUC MLR MLR
comp=Z,1µm,18.0s
TUC Tucson 54.96 81 P P 20 20 04.7 -0.6
TUC Tucson 54.96 81 IAMs_20 IAMs_20 20 43 25.9
comp=Z,1µm,18.0s
TUC Tucson 54.96 81 P P 20 20 03.8 -1.5
baz=314
TUC S **S 20 27 46.6 +1.3**
baz=314
KSCO Kaye Shedlock' 55.32 69 P P 20 20 07.1 -0.7
KSCO IAmb IAmb 20 20 34.9
comp=Z,89nm,1.3s
KSCO Kaye Shedlock' 55.32 69 P P 20 20 06.0 -1.8
baz=312,SNR=7.8
KSCO Kaye Shedlock' 55.32 69 P P 20 20 06.2 -1.7
baz=312,SNR=7.8
EYMN Ely 55.50 55 P P 20 20 07.9 -1.0
EYMN IAmb IAmb 20 20 10.2
comp=Z,70nm,0.8s
EYMN Ely 55.50 55 IAMs_20 IAMs_20 20 44 09.9
comp=Z,3µm,19.0s
EYMN Ely 55.50 55 P P 20 20 08.2 -0.6
baz=311,SNR=10
EYMN Ely 55.50 55 P P 20 20 07.7 -1.2
baz=312,SNR=10
EYMN S **S 20 27 56.6 +4.6**
baz=312
T25A Trinidad 55.53 72 P P 20 20 08.5 -0.9
T25A Trinidad 55.53 72 P P 20 20 08.0 -1.5
baz=313,SNR=15
ECSD EROS Data Cent 55.58 61 P P 20 20 07.4 -2.2
ECSD EROS Data Cent 55.58 61 IAMs_20 IAMs_20 20 44 07.3
comp=Z,2µm,19.0s
ECSD EROS Data Cent 55.58 61 P P 20 20 07.7 -1.9
baz=311,SNR=10
ECSD EROS Data Cent 55.58 61 P P 20 20 07.3 -2.2
baz=312,SNR=10
ZSN Zaisan 55.74 305*c i*P **P 20 20 10.9 +0.3**
ZSN *e*S **S 20 27 55.7 +0.5**
ZSN pmax pmax
comp=Z,67nm,0.6s
ZSN Zaisan 55.74 305 ⇑*i*P **P 20 20 11.0 +0.3**
comp=Z,67nm,0.6s,baz=305
ZSN *e*S **S 20 27 55.8 +0.5**
baz=305
ANMO Albuquerque 55.79 75 LR LR 20 44 01.3
comp=Z,1µm,18.2s,baz=316,slow=36
ANMO Albuquerque 55.79 75 *i*P **P 20 20 09.5 -1.9**
ANMO pmax pmax
comp=Z,11nm,1.0s
ANMO Albuquerque 55.79 75 P P 20 20 10.5 -0.8
ANMO Albuquerque 55.79 75 P P 20 20 11.0 -0.3
baz=313,SNR=11
ANMO Albuquerque 55.79 75 P P 20 20 09.8 -1.6
baz=314
F36A Milaca 55.83 58 P P 20 20 09.5 -1.7
F36A Milaca 55.83 58 P P 20 20 09.7 -1.6
baz=312,SNR=12
GULI GuiLin 55.98 268 ⇓P **P 20 20 14.4 +1.8**
GULI S **S 20 27 59.3 +0.5**
GULI pmax pmax
comp=Z,80nm,0.9s
GULI LR LR
comp=Z,1µm,23.7s
GULI LR LR
comp=Z,960nm,22.4s
GULI LR LR
comp=Z,970nm,17.4s
LENM Lemitar 56.01 76 P P 20 20 13.0 +0.1
SEM Semipalatinsk 56.05 310*c i*P **P 20 20 12.3 -0.8**
SEM pmax pmax
comp=Z,45nm,0.6s
SEM Semipalatinsk 56.05 310 ⇑*i*P **P 20 20 12.3 -0.8**
comp=Z,45nm,0.6s,baz=310
CD2 Chengdu 56.08 278 P P 20 20 13.9 +0.6
CD2 S **S 20 27 53.9 -6.2**
CD2 sS pS 20 28 09.5 -0.9
CD2 SS **SS 20 31 50.0 +3.8**
CD2 pmax pmax
comp=Z,160nm,1.0s
CD2 pmax pmax
comp=Z,230nm,4.1s
CD2 LR LR
comp=Z,150nm,21.8s
CD2 LR LR
comp=Z,1µm,17.1s
CD2 LR LR
comp=Z,1µm,23.7s
Y22A Socorro 56.17 77 P P 20 20 14.0 -0.1
baz=314,SNR=12
BNM Barren Site 56.23 76 P P 20 20 13.7 -0.9
BGNE Belgrade 56.27 64 P P 20 20 13.3 -1.2
baz=312
SFJD Kangerlussuaq 56.28 20 LR LR 20 49 22.0
comp=Z,928nm,18.1s,baz=324,slow=41
SFJD Kangerlussuaq 56.28 20 P P 20 20 13.5 -0.6
SFJD pmax pmax
comp=Z,96nm,1.5s
SFJD Kangerlussuaq 56.28 20 P P 20 20 13.5 -0.6
SFJD IAmb IAmb 20 20 14.7
comp=Z,96nm,1.4s
SFJD Kangerlussuaq 56.28 20 *i*P **P 20 20 12.9 -1.3**
HAMF Hammerfest 56.31 349 *e*P **P 20 20 13.1 -1.2**
E38A The Farm, Brul 56.36 56 P P 20 20 13.8 -1.2
E38A The Farm, Brul 56.36 56 P P 20 20 13.8 -1.2
baz=312,SNR=12
ICESG Greenland Ices 56.51 15 *i*P **P 20 20 14.7 -1.4**
ICESG IAmb IAmb 20 20 26.8
comp=Z,80nm,1.0s
319A Douglas 56.53 80 P P 20 20 16.2 -0.4
319A IAmb IAmb 20 20 31.8
comp=Z,60nm,1.0s
KURK Kurchatov 56.62 311*c i*P **P 20 20 16.6 -0.2**
KURK pmax pmax
comp=Z,664nm,1.0s
KURK MLR MLR
comp=Z,3µm,16.0s
KURK Kurchatov 56.62 311 P P 20 20 16.8 0.0
KURK Kurchatov 56.62 311 P P 20 20 16.8 0.0
SPMN Marine on St. 56.63 58 P P 20 20 16.2 -0.8
SPMN IAmb IAmb 20 20 21.0
comp=Z,37nm,0.8s
SPMN Marine on St. 56.63 58 P P 20 20 16.3 -0.7
baz=312,SNR=7.6
SPMN Marine on St. 56.63 58 P P 20 20 16.2 -0.7
baz=312,SNR=7.6
121A Cookes Peak, D 56.64 78 P P 20 20 17.1 -0.4
121A Cookes Peak, D 56.64 78 P P 20 20 17.2 -0.2
baz=314,SNR=16
121A Cookes Peak, D 56.64 78 P P 20 20 16.4 -1.1
baz=315,SNR=16
WMQ Urumqi 56.67 300 ⇑*i*P **P 20 20 18.4 +1.0**
WMQ sP sP 20 20 28.7 -0.3
WMQ PP **PP 20 22 25.0 +1.8**
WMQ S **S 20 28 08.9 +1.1**
WMQ sS pS 20 28 17.3 -0.7
WMQ pmax pmax
comp=Z,81nm,0.7s
WMQ pmax pmax
comp=Z,190nm,4.3s
WMQ LR LR
comp=Z,9µm,17.3s
WMQ LR LR
comp=Z,5µm,20.9s
WMQ LR LR
comp=Z,4µm,19.7s
KURBB Kurchatov Arra 56.72 311 S **S 20 28 05.3 -2.7**
comp=Z,2.4nm,0.9s,baz=36,slow=12,SNR=6.3
KURBB LR LR 20 45 43.5
comp=Z,3µm,18.1s,baz=26,slow=37
KURBB PKP2bc 20 50 25.8
comp=Z,0.5nm,0.8s,baz=250,slow=2.7,SNR=5.3
KEV Kevo 56.74 348 P P 20 20 16.7 -0.6
KEV pmax pmax

comp=Z,28nm,1.0s
KEV Kevo 56.74 348 P **P** **20 20 16.7 -0.6**
KEV IAMs_20 IAMs_20 20 48 17.2
comp=Z,1μm,19.0s
L34A Svendsen Farm, 56.89 63 P **P** **20 20 16.4 -2.5**
L34A IAmb IAmb 20 20 22.7
comp=Z,72nm,0.7s
N33A J Bar K, Exete 57.12 64 P **P** **20 20 18.8 -1.7**
N33A IAmb IAmb 20 20 44.9
comp=Z,54nm,0.7s
CBKS Cedar Bluff 57.12 68 P **P** **20 20 19.5 -1.1**
CBKS pmax pmax
comp=Z,179nm,1.4s
CBKS MLR MLR
comp=Z,1μm,20.0s
CBKS Cedar Bluff 57.12 68 P **P** **20 20 19.4 -1.1**
CBKS IAMs_20 IAMs_20 20 44 52.3
comp=Z,1μm,20.0s
CBKS Cedar Bluff 57.12 68 P **P** **20 20 19.4 -1.3**
baz=313,SNR=8.7
CBKS Cedar Bluff 57.12 68 P **P** **20 20 18.8 -1.8**
baz=313,SNR=8.7
I37A Lemond, Waseca 57.13 59 P **P** **20 20 19.8 -0.7**
I37A IAmb IAmb 20 20 24.8
comp=Z,98nm,0.9s
I37B Waseca 57.13 59 P **P** **20 20 20.1 -0.4**
baz=312,SNR=15
ARA0 ARCESS Array S 57.14 348 *e*P **P** **20 20 19.4 -0.8**
ARCES ARCESS Array B 57.14 348 P **P** **20 20 19.5 -0.8**
comp=Z,21nm,0.7s,baz=30,slow=7.4,SNR=35
ARCES LR LR 20 48 37.3
comp=Z,2μm,18.0s,baz=18,slow=40
ARCES ARCESS Array B 57.14 348 P **P** **20 20 19.7 -0.5**
HSIG 57.16 84 P **P** **20 20 20.3 -0.6**
LVZ Lovozero 57.28 344 P **P** **20 20 18.3 -3.0**
LVZ pmax pmax
comp=Z,180nm,0.7s
LVZ MLR MLR
comp=Z,1μm,19.0s
LVZ Lovozero 57.28 344 P **P** **20 20 18.3 -3.0**
LVZ IAMs_20 IAMs_20 20 48 37.7
comp=Z,1μm,19.0s
SCO Scoresbysund 57.29 7 P **P** **20 20 19.9 -1.3**
SCO pmax pmax
comp=Z,53nm,1.2s
SCO MLR MLR
comp=Z,1μm,21.0s
SCO Scoresbysund 57.29 7 P **P** **20 20 19.9 -1.3**
SCO IAmb IAmb 20 20 34.5
comp=Z,52nm,1.2s
SCO IAMs_20 IAMs_20 20 47 38.3
comp=Z,1μm,21.0s
SCO Scoresbysund 57.29 7 *i* P **P** **20 20 20.8 -0.4**
SCO IAmb IAmb 20 20 34.0
comp=Z,51nm,1.2s
SCO IVmB_BB 20 21 09.8
comp=Z,663nm,3.6s
GYA Guiyang 57.43 272 ⇓P **P** **20 20 24.0 +1.0**
GYA sP sP 20 20 32.9 -1.2
GYA PP **PP** **20 22 35.0 +4.6**
GYA S **S** **20 28 16.1 -2.2**
GYA sS sS 20 28 30.3 -0.9
GYA pmax pmax
comp=Z,130nm,1.1s
GYA pmax pmax
comp=Z,240nm,3.5s
GYA LR LR
comp=Z,1μm,16.8s
GYA LR LR
comp=Z,610nm,18.3s
GYA LR LR
comp=Z,650nm,17.2s
JMIC Jan Mayen 57.46 2 LR LR 20 44 02.1
comp=Z,471nm,21.7s,baz=6.0,slow=35
MK31 Makanchi Array 57.49 306*c i*P **P** **20 20 22.4 -0.7**
MK31 Makanchi Array 57.49 306 P **P** **20 20 22.6 -0.5**
MKAR Makanchi Array 57.49 306 P **P** **20 20 22.6 -0.5**
comp=Z,82nm,0.5s,baz=51,slow=6.1,SNR=1324
MKAR S **S** **20 28 16.4 -1.9**
comp=Z,5.6nm,1.1s,baz=42,slow=12,SNR=7.0
MKAR LR LR 20 45 53.2
comp=Z,2μm,20.9s,baz=38,slow=37
MKAR PKPPKP **P'P'df** **20 50 12.0 -3.0**
comp=Z,1.2nm,0.9s,baz=186,slow=1.4,SNR=5.0
D41A Chassel 57.57 54 P **P** **20 20 24.0 +0.4**
D41A IAmb IAmb 20 20 37.0
comp=Z,95nm,1.1s
SRIG Santa Rosalia 57.57 86 P **P** **20 20 23.7 -0.1**
SRIG IAmb IAmb 20 20 27.4
comp=Z,42nm,0.8s
MAKZ Makanchi 57.64 306 P **P** **20 20 23.4 -0.7**
MAKZ pmax pmax
comp=Z,127nm,0.7s
MAKZ MLR MLR
comp=Z,3μm,21.0s
MAKZ Makanchi 57.64 306 P **P** **20 20 23.4 -0.7**
DY2G Dye2 57.64 19 *i* P **P** **20 20 22.7 -1.4**
DY2G IAmb IAmb 20 20 23.7
comp=Z,178nm,1.5s
JETT Jettan, Norway 57.70 350 *e*P **P** **20 20 24.1 -0.1**
TRO Tromso 57.78 351 *e*P **P** **20 20 24.2 -0.5**
APA Apatity 57.79 344⇓*i* P P 20 20 32.0 +7.2
APA *i* PPP PPP 20 24 04.0
APA *i* S S 20 28 32.0 +10
APA *i* PS **PnS** **20 28 41.0 +6.3**
APA pmax pmax
comp=Z,21nm,0.8s
GOMU GeErMu 57.81 289 P **P** **20 20 26.4 +0.5**
GOMU pP pP 20 20 33.3 -1.1
GOMU sP sP 20 20 35.8 -1.2
GOMU PcP **PcP** **20 21 19.6 +1.3**
GOMU PP **PP** **20 22 34.8 +0.9**
GOMU S **S** **20 28 24.7 +1.1**
GOMU sS pS 20 28 32.8 -0.7
GOMU SS **SS** **20 32 16.7 +2.8**
GOMU pmax pmax
comp=Z,150nm,1.0s
GOMU LR LR
comp=Z,2μm,17.7s
GOMU LR LR
comp=Z,2μm,17.9s
GOMU LR LR
comp=Z,980nm,17.3s
KTK1 Kautokeino 57.91 349 *e*P **P** **20 20 25.2 -0.5**
COWI Conover 57.93 55 P **P** **20 20 24.8 -1.4**
COWI IAmb IAmb 20 20 27.3
comp=Z,48nm,0.8s
COWI IAMs_20 IAMs_20 20 45 45.3
comp=Z,2μm,20.0s
COWI Conover 57.93 55 P **P** **20 20 25.0 -1.2**
baz=313
EPT El Paso 57.95 78 IAMs_20 IAMs_20 20 44 22.8
comp=Z,1μm,19.0s
G40A Rib Lake 57.96 56 P **P** **20 20 25.2 -1.2**
G40A IAmb IAmb 20 20 27.2
comp=Z,32nm,0.8s
G40A Rib Lake 57.96 56 P **P** **20 20 25.1 -1.2**
baz=313,SNR=7.7
R32A Long Quarter, 57.97 67 P **P** **20 20 24.9 -1.7**
R32A IAmb IAmb 20 20 30.1
comp=Z,33nm,0.8s
R32A Long Quarter, 57.97 67 P **P** **20 20 25.2 -1.4**
baz=313,SNR=6.5
N35A Tabor 58.04 63 P **P** **20 20 26.1 -0.9**
N35A Tabor 58.04 63 P **P** **20 20 26.5 -0.5**
baz=313,SNR=8.5
K38A Parkersburg 58.39 60 P **P** **20 20 27.5 -1.9**
K38A IAmb IAmb 20 20 33.1
comp=Z,55nm,0.9s
SOEG Soedalen 58.51 12 *i* P **P** **20 20 29.4 -0.4**
SOEG IAmb IAmb 20 20 39.0
comp=Z,24nm,0.8s
SCIA State Center 58.66 61 P **P** **20 20 30.0 -1.3**
SCIA IAMs_20 IAMs_20 20 46 39.8
comp=Z,2μm,19.0s
SCIA State Center 58.66 61 P **P** **20 20 30.0 -1.3**
baz=314
MSTX Muleshoe 58.67 74 P **P** **20 20 30.3 -1.3**
MSTX IAmb IAmb 20 20 53.7
comp=Z,43nm,1.1s
MSTX Muleshoe 58.67 74 P **P** **20 20 30.2 -1.4**
baz=315
F42A Maple Grove Fa 58.68 55 P **P** **20 20 30.6 -0.8**
F42A Maple Grove Fa 58.68 55 P **P** **20 20 31.2 -0.1**
baz=314,SNR=7.6
I40A Norwalk 58.68 58 P **P** **20 20 29.8 -1.7**
I40A IAmb IAmb 20 20 32.6
comp=Z,62nm,0.7s
I40A Norwalk 58.68 58 P **P** **20 20 30.5 -0.9**
baz=314,SNR=13
MNTX Cornudas Mount 58.68 77 P **P** **20 20 31.1 -0.5**
MNTX IAmb IAmb 20 20 33.1
comp=Z,31nm,0.8s
MNTX IAMs_20 IAMs_20 20 42 57.2
comp=Z,1μm,20.0s
MNTX Cornudas Mount 58.68 77 P **P** **20 20 31.2 -0.4**
baz=315,SNR=36
MNTX Cornudas Mount 58.68 77 P **P** **20 20 30.8 -0.8**
baz=315,SNR=36
MNTX S **S** **20 28 33.9 -0.4**
baz=315
BRVK Borovoye 58.69 317*c i*P **P** **20 20 31.3 0.0**
BRVK pmax pmax
comp=Z,163nm,0.6s
BRVK MLR MLR
comp=Z,4μm,16.0s
BRVK Borovoye 58.69 317 P **P** **20 20 31.3 0.0**
BRVK Borovoye 58.69 317 P **P** **20 20 31.6 +0.3**
KSU1 Kansas State U 58.70 65 P **P** **20 20 29.7 -2.0**
KSU1 IAmb IAmb 20 20 34.8
comp=Z,36nm,0.8s
KSU1 Kansas State U 58.70 65 IAMs_20 IAMs_20 20 46 15.2
comp=Z,2μm,19.0s
KSU1 Kansas State U 58.70 65 P **P** **20 20 30.3 -1.3**
baz=314
KSU1 Kansas State U 58.70 65 P **P** **20 20 29.7 -2.0**
baz=314
E43A Lone Tree Farm 58.82 54 P **P** **20 20 31.8 -0.6**
E43A Lone Tree Farm 58.82 54 P **P** **20 20 32.0 -0.4**
baz=314,SNR=15
SGF Sodankyl 58.97 347 P **P** **20 20 32.9 -0.1**
SGF pmax pmax
comp=Z,82nm,1.2s
MANU Manus Island 59.09 215 P **P** **20 20 34.8 +0.3**
MANU IAmb IAmb 20 20 36.4
comp=Z,102nm,1.5s
U32A Winter Ranch, 59.21 69 P **P** **20 20 33.5 -1.8**
U32A IAmb IAmb 20 20 49.9
comp=Z,36nm,0.8s
N38A Joes South For 59.41 62 P **P** **20 20 34.5 -2.1**
N38A IAmb IAmb 20 20 37.3
comp=Z,65nm,0.8s
N38A Joes South For 59.41 62 P **P** **20 20 35.0 -1.6**
baz=314,SNR=5.3
RABL Rabaul 59.54 209 P **P** **20 20 37.4 -0.2**
RABL IAmb IAmb 20 20 53.2
comp=Z,58nm,0.9s
RABL Rabaul 59.54 209 P **P** **20 20 38.5 +0.9**
comp=Z,73nm,1.1s
JFWS Jewell Farm 59.55 58 P **P** **20 20 35.5 -1.9**
JFWS pmax pmax
comp=Z,65nm,0.7s
JFWS MLR MLR
comp=Z,3μm,20.0s
JFWS Jewell Farm 59.55 58 P **P** **20 20 35.5 -1.9**
JFWS Jewell Farm 59.55 58 P **P** **20 20 36.2 -1.2**
baz=314,SNR=13
JFWS Jewell Farm 59.55 58 P **P** **20 20 35.5 -1.9**
baz=314,SNR=13
I42A Draeger Farm, 59.57 57 P **P** **20 20 36.6 -0.9**
I42A Draeger Farm, 59.57 57 P **P** **20 20 36.7 -0.9**
baz=314,SNR=20
L40A Anamosa 59.62 60 P **P** **20 20 36.2 -1.8**
L40A IAmb IAmb 20 20 38.6
comp=Z,63nm,0.7s
L40A Anamosa 59.62 60 P **P** **20 20 36.8 -1.2**
baz=314,SNR=18
SVE Sverdlovsk 59.65 325*d i*P **P** **20 20 38.9 +1.0**
SVE *e*S **S** **20 28 48.4 +2.4**
SVE pmax pmax
comp=Z,162nm,1.4s
SVE MLR MLR
comp=Z,4μm,18.0s
KRVT Keravat (AS076 59.69 209 P **P** **20 20 38.9 +0.3**
comp=Z,13nm,0.4s,baz=292,slow=5.2,SNR=9.2
KRVT LR LR 20 42 21.3
comp=Z,1μm,20.9s,baz=147,slow=32
H43A Windswept, Lux 59.76 56 P **P** **20 20 38.0 -0.8**
H43A Windswept, Lux 59.76 56 P **P** **20 20 38.2 -0.6**
baz=314,SNR=9.0
STEI Steigen 59.77 352 *e*P **P** **20 20 37.8 -0.8**
BRZS Berezniki 59.85 314*c i*P **P** **20 20 39.1 -0.3**
BRZS pmax pmax
comp=Z,107nm,1.1s
BRZS Berezniki 59.85 314⇑*i*P **P** **20 20 39.2 -0.3**
comp=Z,107nm,1.1s,baz=314
ANGG Ammassalik, Gr 60.00 16 P **P** **20 20 38.6 -1.6**
ANGG Ammassalik, Gr 60.00 16 *i* P **P** **20 20 38.6 -1.6**
ANGG IAmb IAmb 20 20 46.4
comp=Z,118nm,1.1s
MSF Maaselka 60.02 345 P **P** **20 20 40.2 -0.1**
MSF pmax pmax
comp=Z,128nm,1.1s
P38A Dawn 60.06 63 P **P** **20 20 38.8 -2.2**
P38A IAmb IAmb 20 21 04.8
comp=Z,44nm,0.8s
P38A Dawn 60.06 63 P **P** **20 20 39.4 -1.6**
baz=314,SNR=11
E46A Sault Ste Mari 60.16 52 P **P** **20 20 40.9 -0.7**
E46A Sault Ste Mari 60.16 52 P **P** **20 20 41.3 -0.2**
baz=315,SNR=19
T35A Sooner Cattle 60.27 67 P **P** **20 20 40.5 -2.0**
T35B Sooner Cattle 60.27 67 P **P** **20 20 41.0 -1.5**
baz=315,SNR=6.4
FAUS Fauske 60.31 352 *e*P **P** **20 20 41.6 -0.6**
PRGR Permogore 60.38 335 *e*P **P** **20 20 41.6 -1.2**
PRGR *e**SP **sP** **20 20 55.3 +0.8**
PRGR *e*S **S** **20 28 57.8 +2.6**
PRGR *e* 20 30 29.1
PRGR pmax pmax
comp=Z,67nm,0.7s
G45A Suttons Bay 60.43 54 P **P** **20 20 41.9 -1.5**
G45A Suttons Bay 60.43 54 P **P** **20 20 42.4 -1.1**
baz=315,SNR=5.6
G45A P **P** **20 20 42.4 -1.1**
baz=315,SNR=5.6
PZH PanZhiHua 60.45 276 P **P** **20 20 44.4 +0.4**
PZH pP **pP** **20 20 50.8 -1.2**
PZH sP **sP** **20 20 54.2 -0.9**
PZH S **S** **20 28 57.4 0.0**
PZH sS **sS** **20 29 09.1 -1.1**
PZH ScS SKKSac 20 30 31.0 -1.7
PZH SS **SS** **20 32 53.2 -1.9**
PZH pmax pmax
comp=Z,150nm,1.2s
PZH pmax pmax
comp=Z,400nm,3.7s
PZH LR LR
comp=Z,2μm,16.9s
PZH LR LR
comp=Z,2μm,18.0s
PZH LR LR
comp=Z,2μm,16.7s
WMOK Wichita Mounta 60.49 70 P **P** **20 20 43.6 -0.4**
WMOK pmax pmax
comp=Z,24nm,0.8s
WMOK Wichita Mounta 60.49 70 P **P** **20 20 43.2 -0.8**
baz=315,SNR=5.5
WMOK Wichita Mounta 60.49 70 P **P** **20 20 42.7 -1.4**
baz=315,SNR=5.5
L42A Oliver, Polo 60.49 59 P **P** **20 20 41.7 -2.2**
L42A IAmb IAmb 20 20 44.5
comp=Z,46nm,0.7s
L42A Oliver, Polo 60.49 59 P **P** **20 20 42.2 -1.8**
baz=315,SNR=6.2
TDK Taldyqorghan 60.68 306*c i*P **P** **20 20 45.6 +0.4**
TDK *e*S **S** **20 28 59.2 -0.6**
TDK pmax pmax
comp=Z,87nm,0.7s
TDK Taldyqorghan 60.68 306⇑*i*P **P** **20 20 45.6 +0.4**
comp=Z,87nm,0.7s,baz=306
TDK *e*S **S** **20 28 59.2 -0.6**
baz=306
ARU Arti 60.69 326 P **P** **20 20 45.5 +0.5**
comp=Z,23nm,0.6s,baz=36,slow=3.8,SNR=138
ARU PcP **PcP** **20 21 29.2 +0.3**
comp=Z,7.8nm,0.5s,baz=108,slow=3.2,SNR=3.7
ARU S **S** **20 29 01.2 +1.8**
comp=Z,0.3nm,0.3s,baz=108,slow=20,SNR=7.6
ARU PKP2bc 20 50 13.5
comp=Z,0.7nm,0.7s,baz=224,slow=3.2,SNR=4.3
ARU LR LR 20 50 27.8
comp=Z,2μm,18.5s,baz=36,slow=39
ARU Arti 60.69 326*c i*P **P** **20 20 45.5 +0.5**
ARU 20 21 25.1
ARU 20 22 58.0
ARU S **S** **20 29 01.1 +1.8**
ARU 20 30 27.5
ARU SS **SS** **20 32 58.9 +1.7**
ARU SSS SSS 20 35 28.1
ARU pmax pmax
comp=Z,211nm,1.2s
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 60.69 326 P **P** **20 20 44.8 -0.2**
K43A Burlington 60.71 57 P **P** **20 20 43.8 -1.5**
K43A Burlington 60.71 57 P **P** **20 20 42.9 -2.4**
baz=315,SNR=9.1
N41A Harden Midland 60.77 60 P **P** **20 20 43.6 -2.2**
N41A IAmb IAmb 20 20 46.8
comp=Z,63nm,0.9s
KMI Kunming 60.83 274 ⇑P **P** **20 20 47.1 +0.4**
KMI pP sP 20 20 56.4 -1.4
KMI sP pwP 20 21 02.4 +4.5
KMI PP **PP** **20 23 01.6 +1.0**
KMI S **S** **20 28 54.7 -7.8**
KMI ScS SKKSac 20 30 35.1 -0.7
KMI SS **SS** **20 33 01.7 +0.4**
KMI pmax pmax
comp=Z,160nm,3.5s
KMI LR LR
comp=Z,1μm,20.2s
KMI LR LR
comp=Z,640nm,20.5s
KMI LR LR
comp=Z,720nm,19.4s
FNO Franklin 60.93 69 **P** **20 20 45.6 -1.3**
FNO IAmb IAmb 20 20 48.0
comp=Z,37nm,0.8s
QIZ Qiongzhong 60.93 264 P **P** **20 20 49.3 +2.1**
QIZ PP **PP** **20 23 02.4 +1.0**
QIZ S **S** **20 29 07.6 +4.1**
QIZ SS **SS** **20 33 04.7 +1.9**
QIZ pmax pmax
comp=Z,50nm,0.8s
QIZ LR LR
comp=Z,770nm,15.7s
QIZ LR LR
comp=Z,740nm,15.2s
QIZ LR LR
comp=Z,690nm,19.1s
P40A Paris 60.95 62 P **P** **20 20 45.4 -1.6**
P40A IAmb IAmb 20 20 47.8
comp=Z,61nm,0.8s
P40A Paris 60.95 62 P **P** **20 20 45.5 -1.6**
baz=315,SNR=20
DAV Davao City (W) 61.09 242 LR LR 20 43 11.5
comp=Z,408nm,21.8s,baz=53,slow=32
LPIG La Paz 61.09 87 LR LR 20 44 35.2
comp=Z,610nm,18.1s,baz=268,slow=33
GLMI Grayling 61.10 53 P **P** **20 20 46.1 -1.9**
baz=316
X34A Smith Ranch, M 61.14 70 **P** **20 20 47.1 -1.3**
X34A IAmb IAmb 20 21 11.4
comp=Z,35nm,1.1s
OUL Oulu 61.27 346 P **P** **20 20 48.5 -0.3**
OUL pmax pmax
comp=Z,138nm,1.1s
L44A Lake County Fo 61.30 58 P **P** **20 20 48.1 -1.2**
L44A IAMs_20 IAMs_20 20 46 03.4
comp=Z,2μm,22.0s
L44A Lake County Fo 61.30 58 P **P** **20 20 48.7 -0.7**
baz=315,SNR=7.9
L44A Lake County Fo 61.30 58 P **P** **20 20 47.1 -2.2**
baz=316,SNR=7.9
W35A Tecumseh 61.30 69 **P** **20 20 48.2 -1.3**
KONS Konsvik 61.36 353 *e*P **P** **20 20 48.8 -0.6**
TUL1 Leonard 61.39 67 **P** **20 20 48.5 -1.6**
TUL1 IAMs_20 IAMs_20 20 50 22.5
comp=Z,2μm,18.0s
TUL1 Leonard 61.39 67 P **P** **20 20 48.2 -1.9**
baz=315
TUL1 Leonard 61.39 67 P **P** **20 20 47.9 -2.3**
baz=316
TX31 Lajitas Ar. Si 61.40 78 P **P** **20 20 49.2 -1.2**
TX31 Lajitas Ar. Si 61.40 78 P **P** **20 20 50.1 -0.3**
baz=316,SNR=44
TX32 Lajitas Aray 61.40 78 P **P** **20 20 49.5 -0.9**
TX32 IAmb IAmb 20 21 17.5
comp=Z,39nm,0.9s
TXAR Lajitas Array 61.40 78 P **P** **20 20 49.6 -0.8**
comp=Z,22nm,0.8s,baz=303,slow=4.7,SNR=106
TXAR LR LR 20 47 04.2
comp=Z,1μm,18.1s,baz=302,slow=36
TXAR PKP2bc 20 50 12.3
comp=Z,1.0nm,0.9s,baz=141,slow=4.2,SNR=4.1
TXAR P4KPbc 20 57 53.1
comp=Z,0.2nm,0.7s,baz=267,slow=1.8,SNR=3.7
TXAR Lajitas Array 61.40 78 P **P** **20 20 49.0 -1.3**
SCHQ Schefferville 61.40 36 P **P** **20 20 49.4 -0.5**
comp=Z,38nm,0.4s,baz=322,slow=6.7,SNR=220
SCHQ LR LR 20 48 35.4
comp=Z,2μm,18.6s,baz=318,slow=37
SCHQ PKPPKP **P'P'df** **20 50 03.9 -5.9**
comp=Z,4.7nm,1.0s,baz=68,slow=5.4,SNR=3.6
SCHQ Schefferville 61.40 36 P **P** **20 20 49.0 -0.8**
SCHQ IAmb IAmb 20 20 53.8
comp=Z,66nm,0.9s
SHLS Shalkode 61.46 304*c i*P **P** **20 20 49.5 -1.1**
SHLS *e*S **S** **20 29 06.9 -3.0**
SHLS pmax pmax
comp=Z,51nm,0.5s
SHLS Shalkode 61.46 304⇑*i*P **P** **20 20 49.6 -1.1**
comp=Z,51nm,0.5s,baz=304
SHLS *e*S **S** **20 29 06.9 -3.0**
baz=304
ABTX Abilene, Hawle 61.47 73 P **P** **20 20 49.9 -0.8**
ABTX Abilene, Hawle 61.47 73 P **P** **20 20 50.5 -0.2**
baz=316,SNR=14
ABTX Abilene, Hawle 61.47 73 P **P** **20 20 49.1 -1.6**
baz=316,SNR=14
STOK Stokkvaagen 61.53 353 *e*P **P** **20 20 50.0 -0.5**
S39A Bolivar 61.54 64 P **P** **20 20 48.1 -3.0**
MOR8 Moi Rana 61.57 352 *e*P **P** **20 20 49.0 -1.9**
SLBS Sierra La Lagu 61.62 87 P **P** **20 20 52.3 +0.3**
SLBS IAmb IAmb 20 20 53.3
comp=Z,45nm,0.9s
KPKS Kokpek 61.64 305*c i*P **P** **20 20 52.1 +0.3**
KPKS pmax pmax
comp=Z,53nm,0.7s
KPKS Kokpek 61.64 305⇑*i*P **P** **20 20 52.2 +0.3**
comp=Z,53nm,0.7s,baz=305
UZB Uzunbulak 61.69 305*c i*P **P** **20 20 52.4 +0.2**
UZB *e*S **S** **20 29 12.4 -0.5**
UZB pmax pmax
comp=Z,57nm,1.2s
UZB Uzunbulak 61.69 305⇑*i*P **P** **20 20 52.4 +0.2**
comp=Z,57nm,1.2s,baz=304
UZB *e*S **S** **20 29 12.5 -0.5**
baz=304
R40A Maddies Statio 61.70 63 P **P** **20 20 49.5 -2.7**
R40A Maddies Statio 61.70 63 P **P** **20 20 49.8 -2.3**
baz=315,SNR=9.9
HDIL Hopedale 61.72 60 P **P** **20 20 50.4 -1.8**
HDIL IAMs_20 IAMs_20 20 48 01.6
comp=Z,2μm,20.0s
HDIL Hopedale 61.72 60 P **P** **20 20 51.0 -1.3**
baz=315,SNR=15
HDIL Hopedale 61.72 60 P **P** **20 20 50.6 -1.6**
baz=316,SNR=15
M44A Midewin, Midew 61.79 58 P **P** **20 20 51.0 -1.7**
M44A Midewin, Midew 61.79 58 P **P** **20 20 51.6 -1.1**
baz=316,SNR=18
KIRV Kirov 61.89 332 P **P** **20 20 53.9 +0.8**
comp=Z,94nm,0.6s,baz=19,slow=2.9,SNR=50
KIRV LR LR 20 51 40.2
comp=Z,2μm,18.0s,baz=27,slow=40
KIRV Kirov 61.89 332*c i*P **P** **20 20 53.8 +0.7**
HPIG 61.90 81 P **P** **20 20 52.3 -1.6**
SATY Saty 62.07 305*c i*P **P** **20 20 55.2 +0.4**
SATY *e*S **S** **20 29 18.0 +0.4**
SATY pmax pmax
comp=Z,76nm,1.3s
SATY Saty 62.07 305⇑*i*P **P** **20 20 55.2 +0.4**
comp=Z,76nm,1.3s,baz=305
SATY *e*S **S** **20 29 18.1 +0.4**
baz=305
VLDQ Val d'Or 62.13 47 P **P** **20 20 52.0 -2.9**

VLDQ IAmb IAmb 20 20 54.0
comp=Z,41nm,0.8s
J47A Sunmer 62.13 55 P **P** **20 20 53.9 -1.1**
J47A Sunmer 62.13 55 P **P** **20 20 54.5 -0.5**
baz=316,SNR=5.1
J47A P **P** **20 20 54.5 -0.5**
baz=316,SNR=5.1
HHAR Hobbs 62.19 66 P **P** **20 20 53.3 -2.1**
HHAR Hobbs 62.19 66 P **P** **20 20 53.4 -2.1**
baz=316
CHKK Chushkaly 62.22 306⇑ *i*P **P** **20 20 55.0 -0.5**
CHKK Chushkaly 62.22 306⇑ *i*P **P** **20 20 55.1 -0.5**
baz=306
P43A Skaggs, Pawnee 62.24 61 P **P** **20 20 54.1 -1.7**
P43A IAmb IAmb 20 20 56.2
comp=Z,40nm,0.7s
P43A Skaggs, Pawnee 62.24 61 P **P** **20 20 54.3 -1.5**
baz=316,SNR=9.2
L46A Eue Claire 62.26 57 P **P** **20 20 54.5 -1.4**
L46A Eue Claire 62.26 57 P **P** **20 20 54.8 -1.0**
baz=316,SNR=6.5
L46A P **P** **20 20 54.8 -1.0**
baz=316,SNR=6.5
Z35A Perchaven, San 62.38 71 P **P** **20 20 56.3 -0.5**
Z35A IAmb IAmb 20 21 05.5
comp=Z,30nm,0.7s
CCM Cathedral Cave 62.43 63 P **P** **20 20 54.7 -2.4**
CCM pmax pmax
comp=Z,25nm,1.3s
CCM MLR MLR
comp=Z,1μm,20.0s
CCM Cathedral Cave 62.43 63 P **P** **20 20 54.7 -2.4**
CCM Cathedral Cave 62.43 63 P **P** **20 20 54.8 -2.4**
baz=316
CCM Cathedral Cave 62.43 63 P **P** **20 20 54.9 -2.2**
baz=316
SMPI Sarmi 62.44 224 P **P** **20 20 56.6 -0.7**
comp=Z,35nm,2.0s
O44A Mansfield 62.45 59 P **P** **20 20 55.3 -1.8**
O44A IAmb IAmb 20 20 57.9
comp=Z,54nm,0.7s
O44A Mansfield 62.45 59 P **P** **20 20 55.8 -1.4**
baz=316,SNR=10
NRS Narsarsuaq 62.49 21 P **P** **20 20 56.0 -1.1**
NRS pmax pmax
comp=Z,67nm,1.2s
NRS Narsarsuaq 62.49 21 P **P** **20 20 56.0 -1.1**
NRS IAmb IAmb 20 21 00.4
comp=Z,67nm,1.2s
MGMO Mountain Grove 62.51 64 P **P** **20 20 54.5 -3.1**
KLMR Klimovskoe 62.55 338 *e*P **P** **20 20 55.1 -2.4**
KLMR *e*S **S** **20 29 19.8 -3.1**
KLMR pmax pmax
comp=Z,149nm,1.1s
KLMR Klimovskoe 62.55 338 *e*P **P** **20 20 55.2 -2.3**
KLMR AMP 20 20 59.4
comp=Z,149nm,1.1s
KLMR *e*S **S** **20 29 19.8 -3.1**
KLMR *e*S **S** **20 29 19.8 -3.1**
KLMR *e*SSS SSS 20 36 18.7
KLMR *e*SSS SSS 20 36 18.7
KLMR LQ LQ 20 41 37.8
KLMR LQ LQ 20 41 37.8
KLMR LR LR 20 45 39.6
KLMR AMP 20 53 58.3
comp=Z,2μm,16.2s
X37A Clayton 62.57 68 P **P** **20 20 56.7 -1.3**
X37A Clayton 62.57 68 P **P** **20 20 57.1 -0.9**
baz=316,SNR=6.6
SLM Saint Louis 62.57 62 P **P** **20 20 55.5 -2.5**
SLM pmax pmax
comp=Z,27nm,0.7s
SLM Saint Louis 62.57 62 P **P** **20 20 55.5 -2.5**
SLM IAmb IAmb 20 21 01.9
comp=Z,27nm,0.7s
HNR Honiara 62.66 199 LR LR 20 43 25.3
comp=Z,1μm,21.4s,baz=9.5,slow=31
HNR Honiara 62.66 199 IAMs_20 IAMs_20 20 43 02.1
comp=Z,1μm,21.0s
MDOK Medeo 62.68 306 *i*P **P** **20 20 59.0 +0.2**
MDOK *e*S **S** **20 29 25.4 0.0**
MDOK Medeo 62.68 306 *i*P **P** **20 20 59.1 +0.2**
baz=306
MDOK *e*S **S** **20 29 25.5 0.0**
baz=306
AAA Alma-Ata 62.72 306*c i*P **P** **20 20 59.6 +0.6**
AAA pmax pmax
comp=Z,106nm,0.7s
AAA Alma-Ata 62.72 306⇑ *i*P **P** **20 20 59.7 +0.6**
comp=Z,106nm,0.7s,baz=306
U40A Yellville 62.75 65 P **P** **20 20 56.5 -2.7**
U40A IAmb IAmb 20 21 20.3
comp=Z,40nm,0.9s
U40A IAMs_20 IAMs_20 20 48 49.2
comp=Z,2μm,20.0s
U40A Yellville 62.75 65 P **P** **20 20 57.0 -2.3**
baz=316,SNR=17
U40A P **P** **20 20 57.0 -2.3**
baz=316,SNR=17
U40A Yellville 62.75 65 P **P** **20 20 56.5 -2.7**
baz=316,SNR=17
BTLS Baital 62.80 309*c i*P **P** **20 20 59.4 0.0**
BTLS *e*S **S** **20 29 26.8 +0.3**
BTLS pmax pmax
comp=Z,54nm,0.7s
BTLS Baital 62.80 309⇑ *i*P **P** **20 20 59.5 0.0**
comp=Z,54nm,0.7s,baz=309
BTLS *e*S **S** **20 29 26.8 +0.3**
baz=309
TNSS Tian-Shan 62.83 306 *i*P **P** **20 21 00.4 +0.3**
TNSS Tian-Shan 62.83 306 *i*P **P** **20 21 00.4 +0.3**
baz=306
BAKI Biak 62.88 227 P **P** **20 20 59.6 -0.6**
comp=Z,107nm,1.1s
JCT Junction City 62.91 75 P **P** **20 20 57.5 -2.9**
JCT pmax pmax
comp=Z,60nm,1.2s
JCT MLR MLR
comp=Z,2μm,20.0s
JCT Junction City 62.91 75 P **P** **20 20 57.5 -2.9**
JCT IAmb IAmb 20 21 17.3
comp=Z,60nm,1.2s
JCT IAMs_20 IAMs_20 20 46 12.0
comp=Z,2μm,20.0s
JCT Junction City 62.91 75 P **P** **20 20 59.1 -1.3**
baz=316,SNR=8.9
JCT Junction City 62.91 75 P **P** **20 20 58.6 -1.8**
baz=317,SNR=8.9
FVM French Village 62.94 62 P **P** **20 20 58.3 -2.1**
FVM pmax pmax
comp=Z,14nm,0.8s
FVM French Village 62.94 62 P **P** **20 20 58.3 -2.1**
FVM French Village 62.94 62 P **P** **20 20 58.7 -1.7**
baz=316,SNR=6.6
BORG Borgarnes 62.96 9 P **P** **20 21 01.2 +1.1**
comp=Z,10nm,0.6s,baz=341,slow=6.0,SNR=12
BORG LR LR 20 48 13.7
comp=Z,534nm,21.4s,baz=348,slow=36
BORG Borgarnes 62.96 9 P **P** **20 20 56.8 -3.4**
SFIN Lafayette 63.01 58 P **P** **20 20 59.5 -1.4**
SFIN Lafayette 63.01 58 P **P** **20 20 60.0 -0.9**
baz=316,SNR=31
SFIN Lafayette 63.01 58 P **P** **20 20 59.8 -1.1**
baz=317,SNR=31
Q44A Meyer Farm, Va 63.05 61 P **P** **20 20 59.3 -1.8**
Q44A IAmb IAmb 20 21 05.2
comp=Z,42nm,0.9s
Q44A Meyer Farm, Va 63.05 61 P **P** **20 21 00.6 -0.5**
baz=316,SNR=8.4
W39A Magazine 63.05 67 P **P** **20 20 59.6 -1.6**
W39A IAmb IAmb 20 21 23.2
comp=Z,49nm,1.2s
W39A IAMs_20 IAMs_20 20 48 32.3
comp=Z,2μm,19.0s
W39A Magazine 63.05 67 P **P** **20 20 59.9 -1.3**
baz=316,SNR=15
W39A Magazine 63.05 67 P **P** **20 20 59.7 -1.6**
baz=316,SNR=15
WHTX Lake Whitney, 63.22 72 P **P** **20 21 00.6 -1.8**
WHTX IAmb IAmb 20 21 07.2
comp=Z,31nm,0.8s
WHTX Lake Whitney, 63.22 72 P **P** **20 21 01.1 -1.2**
baz=316,SNR=6.5
WHTX Lake Whitney, 63.22 72 P **P** **20 21 00.6 -1.8**
baz=317,SNR=6.5
L48A N Adams 63.27 56 P **P** **20 21 00.6 -2.0**
L48A N Adams 63.27 56 P **P** **20 21 01.6 -0.9**
baz=317,SNR=8.9
L48A P **P** **20 21 01.6 -0.9**
baz=317,SNR=8.9
KDJ Kajisay 63.37 305 P **P** **20 21 03.8 +0.3**
KDJ pmax pmax
comp=Z,450nm,1.5s
KDJ Kajisay 63.37 305 P **P** **20 21 03.8 +0.3**
N47A Urbana 63.39 57 P **P** **20 21 01.7 -1.7**
N47A IAmb IAmb 20 21 03.5
comp=Z,33nm,0.7s
N47A Urbana 63.39 57 P **P** **20 21 01.9 -1.5**
baz=317,SNR=6.1
N47A P **P** **20 21 01.9 -1.5**
baz=317,SNR=6.1
NSS Namsos 63.39 353 *e*P **P** **20 21 02.0 -1.0**
AAM Ann Arbor 63.40 55 P **P** **20 21 01.8 -1.7**
AAM pmax pmax
comp=Z,36nm,0.6s
AAM MLR MLR
comp=Z,2μm,20.0s
AAM Ann Arbor 63.40 55 P **P** **20 21 01.8 -1.7**
AAM IAmb IAmb 20 21 04.5
comp=Z,36nm,0.6s
AAM IAMs_20 IAMs_20 20 49 13.1
comp=Z,2μm,20.0s
AAM Ann Arbor 63.40 55 P **P** **20 21 01.6 -1.9**
baz=317
SRPI Serui, Papua 63.42 226 P **P** **20 21 05.0 +1.2**
comp=Z,2μmcomp=Z,40nm,1.0s
FCAR Ozark Folk Cen 63.49 65 P **P** **20 21 01.9 -2.2**
FCAR IAmb IAmb 20 21 25.1
comp=Z,69nm,0.9s
P46A Rosedale 63.50 59 P **P** **20 21 03.0 -1.2**
P46A Rosedale 63.50 59 P **P** **20 21 03.2 -1.0**
baz=316,SNR=10
K50A Casco 63.58 54 P **P** **20 21 03.6 -1.0**
K50A IAmb IAmb 20 21 06.1
comp=Z,49nm,1.0s
TKM2 Tokmak 2 63.59 306 P **P** **20 21 05.3 +0.3**
SNR=169
MIAR Mount Ida 63.64 67 P **P** **20 21 03.9 -1.2**
MIAR pmax pmax
comp=Z,62nm,1.2s
MIAR MLR MLR
comp=Z,2μm,20.0s
MIAR Mount Ida 63.64 67 P **P** **20 21 03.9 -1.2**
MIAR IAmb IAmb 20 21 27.3
comp=Z,62nm,1.2s
MIAR IAMs_20 IAMs_20 20 48 53.8
comp=Z,1μm,20.0s
MIAR Mount Ida 63.64 67 P **P** **20 21 03.8 -1.2**
baz=316,SNR=26
MIAR Mount Ida 63.64 67 P **P** **20 21 03.3 -1.8**
baz=317,SNR=26
OLIL Olney 63.66 60 P **P** **20 21 03.6 -1.6**
OLIL IAmb IAmb 20 21 06.3
comp=Z,68nm,0.8s
OLIL Olney 63.66 60 P **P** **20 21 04.1 -1.2**
baz=316,SNR=10.0
SGDS Sogindy 63.68 307*c i*P **P** **20 21 05.9 +0.6**
SGDS *e*S **S** **20 29 38.5 +0.9**
SGDS pmax pmax
comp=Z,74nm,1.2s
SGDS Sogindy 63.68 307⇑ *i*P **P** **20 21 06.0 +0.6**
comp=Z,74nm,1.2s,baz=307
SGDS *e*S **S** **20 29 38.6 +0.9**
baz=307
BOOM Boomskoye usch 63.73 306 P **P** **20 21 06.1 +0.2**
BOOM pmax pmax
comp=Z,286nm,1.4s
BOOM Boomskoye usch 63.73 306 P **P** **20 21 06.1 +0.2**
Z38A Mt. Pleasant 63.75 69 P **P** **20 21 02.9 -3.0**
Z38A IAmb IAmb 20 21 07.2
comp=Z,75nm,1.0s
ULHL Ulahol 63.76 305 P **P** **20 21 06.7 +0.6**
SNR=199
S44A Carbondale 63.79 62 P **P** **20 21 03.5 -2.6**
S44A IAmb IAmb 20 21 06.8
comp=Z,31nm,0.8s
SIUC Southern Illin 63.79 62 P **P** **20 21 03.9 -2.2**
SIUC IAmb IAmb 20 21 06.7
comp=Z,33nm,0.8s
PBMO Poplar Bluff 63.80 63 P **P** **20 21 04.0 -2.1**
PBMO IAmb IAmb 20 21 09.9
comp=Z,50nm,0.8s
PBMO Poplar Bluff 63.80 63 P **P** **20 21 04.4 -1.7**
baz=316,SNR=16
SADO Sadowa 63.82 50 LR LR 20 49 05.7
comp=Z,3μm,20.9s,baz=352,slow=36
SADO Sadowa 63.82 50 P **P** **20 21 02.6 -3.5**
SADO IAmb IAmb 20 21 07.2
comp=Z,31nm,1.0s
WHAR Wooly Hollow 63.83 66 P **P** **20 21 04.2 -2.1**
WHAR IAmb IAmb 20 21 27.7
comp=Z,48nm,1.1s
USP Ospenovka 63.88 307 P **P** **20 21 07.6 +0.9**
SNR=268
LCAR Lake Charles 63.91 64 P **P** **20 21 04.5 -2.4**
LCAR Lake Charles 63.91 64 P **P** **20 21 04.1 -2.8**
baz=316,SNR=13
VALR Valaam 63.91 342*c i*P **P** **20 21 06.0 -0.5**
VALR pmax pmax
comp=Z,202nm,1.0s
SGSI Sangihe 63.94 240 P **P** **20 21 06.4 -0.9**
comp=Z,5μmcomp=Z,204nm,0.4s
W41B Gary Mavity, V 63.94 66 P **P** **20 21 04.5 -2.5**
W41B IAmb IAmb 20 21 28.5
comp=Z,32nm,0.9s
W41B Gary Mavity, V 63.94 66 P **P** **20 21 04.8 -2.2**
baz=316,SNR=9.9
W41B Gary Mavity, V 63.94 66 P **P** **20 21 05.2 -1.9**
baz=317,SNR=9.9
CHMS Chumysh 63.95 307 P **P** **20 21 07.9 +0.8**
SNR=84
435B Jarrell 64.01 73 P **P** **20 21 05.6 -2.0**
435B IAmb IAmb 20 21 09.6
comp=Z,64nm,1.1s
435B Jarrell 64.01 73 P **P** **20 21 05.7 -2.0**
baz=317
435B S **S** **20 29 41.9 0.0**
baz=317
X40A Basin Creek Fa 64.10 67 P **P** **20 21 06.2 -2.0**
X40A IAMs_20 IAMs_20 20 49 25.1
comp=Z,2μm,19.0s
X40A Basin Creek Fa 64.10 67 P **P** **20 21 06.3 -1.8**
baz=316,SNR=7.3
X40A P **P** **20 21 06.3 -1.8**
baz=316,SNR=7.3
X40A Basin Creek Fa 64.10 67 P **P** **20 21 06.4 -1.8**
baz=317,SNR=7.3
KBK Karagaybulak 64.11 307 P **P** **20 21 09.1 +0.7**
SNR=174
O48B Farmland 64.12 57 P **P** **20 21 06.1 -2.1**
baz=317,SNR=16
O48B Farmland 64.12 57 P **P** **20 21 06.3 -1.9**
baz=317,SNR=16
WAMI Wamena 64.14 223 P **P** **20 21 08.8 +0.2**
comp=Z,4μmcomp=Z,66nm,0.8s
N49A Columbus Grove 64.14 56 P **P** **20 21 06.9 -1.4**
N49A Columbus Grove 64.14 56 P **P** **20 21 06.4 -1.9**
baz=317,SNR=18
N49A P **P** **20 21 06.4 -1.9**
baz=317,SNR=18
FRU1 Bishkek 64.15 307 P **P** **20 21 09.2 +0.7**
FRU1 pmax pmax
comp=Z,563nm,1.3s
FRU1 Bishkek 64.15 307 P **P** **20 21 09.2 +0.7**
BLO Bloomington 64.19 59 P **P** **20 21 07.1 -1.6**
BLO pmax pmax
comp=Z,42nm,0.7s
BLO Bloomington 64.19 59 P **P** **20 21 07.1 -1.6**
BLO IAmb IAmb 20 21 09.3
comp=Z,42nm,0.7s
AAK Ala-Archa 64.35 307 P **P** **20 21 10.9 +1.0**
SNR=25
AAK Ala-Archa 64.35 307 PKP2bc 20 50 06.7
comp=Z,1.2nm,0.8s,baz=225,slow=2.9,SNR=4.1
AAK LR LR 20 50 55.4
comp=Z,2μm,19.1s,baz=44,slow=38
AAK Ala-Archa 64.35 307*c i*P **P** **20 21 10.4 +0.5**
AAK pmax pmax
comp=Z,284nm,1.4s
AAK MLR MLR
comp=Z,2μm,16.0s
AAK Ala-Archa 64.35 307 P **P** **20 21 10.4 +0.5**
AAK Ala-Archa 64.35 307 P **P** **20 21 10.6 +0.7**
AAK Ala-Archa 64.35 307 *i*P **P** **20 21 10.6 +0.7**
SNR=23
M50A Fremont 64.37 55 P **P** **20 21 08.9 -0.9**
M50A IAmb IAmb 20 21 10.9
comp=Z,27nm,0.7s
USIN University of 64.46 61 P **P** **20 21 09.1 -1.3**
P48A Milroy 64.56 58 P **P** **20 21 08.8 -2.3**
P48A Milroy 64.56 58 P **P** **20 21 09.5 -1.6**
baz=317,SNR=29
P48A P **P** **20 21 09.5 -1.6**
baz=317,SNR=29
LSA Lhasa 64.58 286 P **P** **20 21 13.4 +1.4**
LSA pmax pmax
comp=Z,111nm,0.6s
LSA MLR MLR
comp=Z,1μm,19.0s
LSA Lhasa 64.58 286 P **P** **20 21 13.4 +1.4**
LSA IAMs_20 IAMs_20 20 51 46.3
comp=Z,1μm,19.0s
LSA Lhasa 64.58 286 P **P** **20 21 13.4 +1.4**
LSA S **S** **20 29 49.2 -0.8**
LSA pmax pmax
comp=Z,180nm,0.7s
LSA LR LR
comp=Z,820nm,18.5s
LSA LR LR
comp=Z,530nm,18.5s
LSA LR LR
comp=Z,870nm,21.4s
LSA Lhasa 64.58 286 P **P** **20 21 13.4 +1.4**
O49A Covington 64.60 57 P **P** **20 21 09.8 -1.6**
O49A IAmb IAmb 20 21 12.4
comp=Z,48nm,0.8s
O49A Covington 64.60 57 P **P** **20 21 10.0 -1.4**
baz=317,SNR=18
O49A P **P** **20 21 10.0 -1.4**
baz=317,SNR=18
UCH Uchtor 64.64 307 P **P** **20 21 12.9 +0.8**
SNR=97
FIA1 FINESS Array S 64.68 345 P **P** **20 21 10.7 -0.7**
FINES FINESS Array B 64.68 345 P **P** **20 21 10.8 -0.6**
comp=Z,38nm,0.7s,baz=28,slow=7.6,SNR=163
FINES PKPPKP **P'P'df** **20 49 59.7 -5.2**
comp=Z,5.5nm,1.1s,baz=214,slow=1.5,SNR=5.7
FINES LR LR 20 53 25.0
comp=Z,1μm,18.8s,baz=28,slow=40
EKS2 Erkin-Say 64.69 307 P **P** **20 21 13.0 +1.0**
SNR=279
833A Chaparral WMA, 64.71 76 P **P** **20 21 11.5 -0.8**
833A IAmb IAmb 20 21 37.8
comp=Z,75nm,1.5s
833A Chaparral WMA, 64.71 76 P **P** **20 21 10.3 -2.0**
baz=318
DELO Deloro Mine 64.73 50 P **P** **20 21 10.7 -1.4**
DELO IAmb IAmb 20 21 11.7
comp=Z,55nm,1.4s
LATQ La Tuque 64.75 45 P **P** **20 21 10.8 -1.4**
LATQ IAmb IAmb 20 21 11.7
comp=Z,58nm,0.7s
TBLU Trondheim 64.78 353 *e*P **P** **20 21 11.0 -1.1**
TRQ Mont Tremblant 64.85 47 P **P** **20 21 10.8 -2.2**
TRQ IAmb IAmb 20 21 13.0
comp=Z,38nm,0.9s
SWI Sorong 64.87 232 P **P** **20 21 14.0 +0.6**
SWI pmax pmax
comp=Z,180nm,1.3s
SWI Sorong 64.87 232 P **P** **20 21 13.6 +0.2**
comp=Z,2μmcomp=Z,182nm,1.3s
SIJI Sorong 64.87 232 LR LR 20 44 53.0
comp=Z,552nm,21.8s,baz=56,slow=32
P49A Miami Univ. Ec 64.88 58 P **P** **20 21 11.5 -1.8**
P49A IAmb IAmb 20 21 13.5
comp=Z,47nm,0.7s
P49A IAMs_20 IAMs_20 20 48 13.3
comp=Z,2μm,22.0s
P49A Miami Univ. Ec 64.88 58 P **P** **20 21 11.7 -1.5**
baz=318,SNR=12
P49A Miami Univ. Ec 64.88 58 P **P** **20 21 11.3 -2.0**
baz=318,SNR=12
Z41A Richland Creek 65.01 68 P **P** **20 21 12.5 -1.6**
Z41A IAmb IAmb 20 21 40.4
comp=Z,32nm,1.1s
Z41A Richland Creek 65.01 68 P **P** **20 21 12.2 -1.9**
baz=317
NATX Nacogdoches 65.02 70 P **P** **20 21 12.3 -1.9**
NATX IAmb IAmb 20 21 41.5
comp=Z,32nm,0.8s
NATX IAMs_20 IAMs_20 20 49 40.7
comp=Z,2μm,18.0s
NATX Nacogdoches 65.02 70 P **P** **20 21 12.1 -2.1**
baz=317
N51A Ashland 65.07 55 P **P** **20 21 12.5 -1.9**
N51A IAmb IAmb 20 21 15.0
comp=Z,53nm,0.6s
N51A Ashland 65.07 55 P **P** **20 21 12.9 -1.5**
baz=318,SNR=12
N51A P **P** **20 21 12.9 -1.5**
baz=318,SNR=12
AML Almayashu 65.12 307 P **P** **20 21 16.3 +1.1**
SNR=303
AML Almayashu 65.12 307 P **P** **20 21 16.4 +1.1**
AML Almayashu 65.12 307 *i*P **P** **20 21 16.3 +1.1**
SNR=307
M52A Chesterland 65.12 54 P **P** **20 21 13.0 -1.8**
M52A IAmb IAmb 20 21 34.4
comp=Z,52nm,1.1s
J54A Appleton 65.17 51 P **P** **20 21 13.9 -1.2**
J54A IAmb IAmb 20 21 16.9
comp=Z,63nm,1.1s
ACSO Alum Creek Sta 65.27 56 P **P** **20 21 14.2 -1.5**
ACSO IAmb IAmb 20 21 16.9
comp=Z,47nm,0.8s
ACSO IAMs_20 IAMs_20 20 49 20.5
comp=Z,2μm,20.0s
ACSO Alum Creek Sta 65.27 56 P **P** **20 21 13.9 -1.8**
baz=318,SNR=9.2
ACSO Alum Creek Sta 65.27 56 P **P** **20 21 13.8 -1.9**
baz=318,SNR=9.2
MEDO Medina 65.34 51 P **P** **20 21 14.4 -1.7**
MEDO IAmb IAmb 20 21 28.9
comp=Z,88nm,1.1s
ERPA Erie 65.38 53 P **P** **20 21 15.3 -1.1**
ERPA Erie 65.38 53 P **P** **20 21 15.2 -1.2**
baz=318,SNR=7.8
ERPA Erie 65.38 53 P **P** **20 21 14.8 -1.6**
baz=319,SNR=7.8
TNTI Ternate 65.42 236 P **P** **20 21 16.5 -0.4**
TNTI IAmb IAmb 20 21 18.6
comp=Z,49nm,1.2s
TNTI Ternate 65.42 236 P **P** **20 21 16.6 -0.4**
comp=Z,823nmcomp=Z,40nm,1.7s
TNTI Ternate 65.42 236 P **P** **20 21 17.9 +0.9**
comp=Z,40nm,1.7s
PECO Prince Edward 65.46 50 P **P** **20 21 14.8 -2.1**
PECO IAmb IAmb 20 21 17.7
comp=Z,44nm,0.9s
T47A Sharon Grove 65.47 61 P **P** **20 21 15.9 -1.2**
T47A Sharon Grove 65.47 61 P **P** **20 21 16.4 -0.7**
baz=317,SNR=24
M53A WI Miller and 65.54 54 P **P** **20 21 16.4 -1.1**
M53A WI Miller and 65.54 54 P **P** **20 21 15.7 -1.8**
baz=319,SNR=16
R49A Shelbyville 65.56 59 P **P** **20 21 16.2 -1.3**
J55A Hilton 65.58 51 P **P** **20 21 16.5 -1.2**
J55A IAmb IAmb 20 21 18.7
comp=Z,52nm,0.8s
J55A Hilton 65.58 51 P **P** **20 21 15.6 -2.1**
baz=319,SNR=10.0
J55A P **P** **20 21 15.6 -2.1**
baz=319,SNR=10.0
AKTO Aktyubinsk 65.63 322 P **P** **20 21 18.5 +0.6**
comp=Z,72nm,0.6s,baz=50,slow=7.0,SNR=217
AKTO S **S** **20 30 02.9 +1.5**
comp=Z,5.2nm,1.2s,baz=36,slow=19,SNR=24
AKTO LR LR 20 52 24.4
comp=Z,4μm,19.5s,baz=30,slow=38
ALLY Alegheny Colle 65.65 53 P **P** **20 21 17.1 -1.0**
ALLY Alegheny Colle 65.65 53 P **P** **20 21 17.2 -1.0**
baz=319,SNR=12
W45A Hickory Valley 65.67 64 P **P** **20 21 17.3 -1.1**
LMQ La Malbaie 65.68 43 P **P** **20 21 17.0 -1.3**
LMQ IAmb IAmb 20 21 27.5
comp=Z,34nm,0.9s
DZA Taraz 65.71 309 *e*P **P** **20 21 18.8 +0.3**
DZA *e*S **S** **20 30 02.9 +0.3**

DZA pmax pmax
comp=Z,68nm,0.9s
DZA Taraz 65.71 309 *e*P **P 20 21 18.8 +0.3**
comp=Z,68nm,0.9s,baz=309
DZA *e*S **S 20 30 02.1 -0.5**
baz=309
WVT Waverly 65.71 62 P **P 20 21 17.3 -1.3**
WVT pmax pmax
comp=Z,34nm,0.9s
WVT MLR MLR
comp=Z,1µm,19.0s
WVT Waverly 65.71 62 P **P 20 21 17.3 -1.3**
WVT IAmb IAmb 20 21 19.8
comp=Z,34nm,0.8s
WVT Waverly 65.71 62 IAMs_20 IAMs_20 20 51 00.4
comp=Z,1µm,19.0s
WVT Waverly 65.71 62 P **P 20 21 17.2 -1.4**
baz=318,SNR=14
WVT Waverly 65.71 62 P **P 20 21 16.7 -1.9**
baz=318
RAF Rauma 65.73 347 *e*P **P 20 21 18.0 -0.3**
P51A Williamsport 65.78 57 P **P 20 21 17.2 -1.9**
P51A IAmb IAmb 20 21 19.8
comp=Z,31nm,0.6s
P51A Williamsport 65.78 57 P **P 20 21 16.9 -2.1**
baz=318,SNR=8.3
P51A P **P 20 21 16.9 -2.1**
baz=318,SNR=8.3
ABKAR Akbulak array 65.82 320 P **P 20 21 19.4 +0.3**
MNTQ Montreal, Queb 65.83 47 P **P 20 21 16.8 -2.4**
MNTQ IAmb IAmb 20 21 19.5
comp=Z,45nm,1.2s
WVNY West Valley, N 65.84 52 P **P 20 21 18.3 -1.1**
WVNY West Valley, N 65.84 52 P **P 20 21 18.3 -1.1**
baz=319,SNR=16
KSH Kashi 65.91 304 P **P 20 21 24.2 +4.2**
KSH pP sP 20 21 29.8 -2.2
KSH sP pP 20 21 33.8 +5.3
KSH PcP **PcP 20 21 54.6 +3.9**
KSH S **S 20 30 10.2 +4.9**
KSH sS sS 20 30 24.1 +4.8
KSH SS **SS 20 34 25.2 +5.5**
KSH pmax pmax
comp=Z,280nm,1.1s
KSH LR LR
comp=Z,2µm,16.8s
KSH LR LR
comp=Z,1µm,16.8s
KSH LR LR
comp=Z,3µm,16.1s
BMNY Brushton-Moira 65.93 47 P **P 20 21 17.9 -2.0**
baz=320,SNR=11
N53A Lisbon 65.93 54 P **P 20 21 18.2 -1.8**
N53A IAmb IAmb 20 21 40.1
comp=Z,64nm,1.4s
N53A Lisbon 65.93 54 P **P 20 21 18.4 -1.6**
baz=319,SNR=5.7
N53A P **P 20 21 18.4 -1.6**
baz=319,SNR=5.7
MMNY Mt. Morris Dam 65.93 51 P **P 20 21 18.8 -1.2**
MMNY IAmb IAmb 20 21 21.4
comp=Z,71nm,1.0s
KK31 Karatay Array 65.94 310 P **P 20 21 20.3 +0.3**
KK31 pmax pmax
comp=Z,156nm,0.6s
KK31 Karatay Array 65.94 310 P **P 20 21 20.3 +0.3**
KKAR Karatay Array 65.94 310 P **P 20 21 20.1 +0.1**
KKAR Karatay Array 65.94 310 P **P 20 21 20.2 +0.1**
KKAR Karatay Array 65.94 310 P **P 20 21 20.1 +0.1**
O52A Adamsville 65.94 55 P **P 20 21 18.7 -1.3**
O52A Adamsville 65.94 55 P **P 20 21 18.8 -1.3**
baz=318,SNR=17
O52A P **P 20 21 18.8 -1.3**
baz=318,SNR=17
Q51A Peebles 65.97 57 P **P 20 21 19.2 -1.1**
Q51A Peebles 65.97 57 P **P 20 21 19.6 -0.7**
baz=318,SNR=34
Q51A P **P 20 21 19.6 -0.7**
baz=318,SNR=34
M54A Oil Creek Stat 66.00 53 P **P 20 21 19.5 -1.0**
M54A IAmb IAmb 20 21 44.8
comp=Z,37nm,0.8s
M54A Oil Creek Stat 66.00 53 P **P 20 21 19.3 -1.1**
baz=319,SNR=7.7
M54A Oil Creek Stat 66.00 53 P **P 20 21 18.4 -2.0**
baz=319,SNR=7.7
R50A Paris 66.01 58 P **P 20 21 19.3 -1.2**
R50A IAmb IAmb 20 21 21.6
comp=Z,32nm,0.8s
R50A Paris 66.01 58 P **P 20 21 19.8 -0.7**
baz=318,SNR=12
R50A P **P 20 21 19.8 -0.7**
baz=318,SNR=12
OXF Oxford 66.02 64 P **P 20 21 19.2 -1.4**
OXF pmax pmax
comp=Z,191nm,1.2s
OXF MLR MLR
comp=Z,1µm,20.0s
OXF Oxford 66.02 64 P **P 20 21 19.1 -1.4**
OXF IAMs_20 IAMs_20 20 50 06.8
comp=Z,1µm,20.0s
OXF Oxford 66.02 64 P **P 20 21 19.4 -1.2**
baz=318,SNR=27
OXF Oxford 66.02 64 P **P 20 21 18.4 -2.2**
baz=318,SNR=27
J56A Wolcott 66.03 50 P **P 20 21 18.9 -1.6**
J56A IAmb IAmb 20 21 21.7
comp=Z,90nm,1.2s
J56A Wolcott 66.03 50 P **P 20 21 19.4 -1.1**
baz=320
J56A P **P 20 21 19.4 -1.1**
baz=320
PMG Port Moresby 66.03 212 P **P 20 21 20.6 -0.1**
comp=Z,18nm,1.0s,baz=7.6,slow=9.9,SNR=6.8
PMG LR LR 20 45 53.1
comp=Z,1µm,21.7s,baz=42,slow=32
PMG Port Moresby 66.03 212 P **P 20 21 20.9 +0.2**
PMG IAmb IAmb 20 21 22.7
comp=Z,74nm,1.4s
PMG Port Moresby 66.03 212 IAMs_20 IAMs_20 20 45 29.2
comp=Z,1µm,21.0s
AKN Aaknes 66.06 355 *e*P **P 20 20 20.5 0.0**
LONY Lake Ozonia 66.06 48 P **P 20 21 18.8 -2.0**
LONY IAMs_20 IAMs_20 20 51 33.1
comp=Z,2µm,18.0s
LONY Lake Ozonia 66.06 48 P **P 20 21 18.4 -2.4**
baz=320,SNR=6.8
DOMB Dombas 66.07 354 *e*P **P 20 21 20.1 -0.5**
MEF Metsahovi 66.11 345 *e*P **P 20 21 20.6 -0.2**
P52A Corning 66.15 56 P **P 20 21 19.8 -1.6**
P52A IAmb IAmb 20 21 21.8
comp=Z,24nm,0.6s
P52A IAMs_20 IAMs_20 20 51 39.8
comp=Z,2µm,18.0s
P52A Corning 66.15 56 P **P 20 21 19.4 -2.0**
baz=319,SNR=8.9
O53A New Philadelph 66.16 55 P **P 20 21 19.7 -1.8**
O53A IAmb IAmb 20 21 22.1
comp=Z,32nm,0.6s
O53A IAMs_20 IAMs_20 20 49 37.0
comp=Z,2µm,19.0s
O53A New Philadelph 66.16 55 P **P 20 21 19.7 -1.8**
baz=319,SNR=7.3
AFI Afiamalu 66.21 168 LR LR 20 43 18.1
comp=Z,597nm,21.8s,baz=12,slow=30
N54A Moraine State 66.24 54 P **P 20 21 21.1 -1.0**
N54A IAmb IAmb 20 21 22.9
comp=Z,40nm,0.6s
N54A Moraine State 66.24 54 P **P 20 21 20.2 -1.9**
baz=319,SNR=13
N54A Moraine State 66.24 54 P **P 20 21 20.1 -1.9**
baz=319,SNR=13
J57A Williamstown 66.33 49 P **P 20 21 20.9 -1.6**
J57A Williamstown 66.33 49 P **P 20 21 20.2 -2.3**
baz=320,SNR=6.4
J57A P **P 20 21 20.2 -2.3**
baz=320,SNR=6.4
FRNY Flat Rock 66.35 47 P **P 20 21 20.2 -2.4**
PLAL Pickwick Lake 66.42 63 P **P 20 21 21.1 -2.0**
PLAL IAmb IAmb 20 21 24.0
comp=Z,40nm,0.8s
Y45A Yeager Farm, C 66.42 65 P **P 20 21 22.3 -0.9**
Y45A Yeager Farm, C 66.42 65 P **P 20 21 22.5 -0.7**
baz=318,SNR=9.3
M55A Ridgway 66.47 52 P **P 20 21 22.5 -1.0**
M55A Ridgway 66.47 52 P **P 20 21 22.9 -0.5**
baz=319,SNR=25
M55A P **P 20 21 22.9 -0.5**
baz=319,SNR=25
UBPT Khong Chiam 66.48 265 P **P 20 21 24.4 +0.6**
U49A Red Boiling Sp 66.54 61 P **P 20 21 22.5 -1.5**
U49A IAmb IAmb 20 21 24.8
comp=Z,32nm,0.7s
U49A Red Boiling Sp 66.54 61 P **P 20 21 22.9 -1.0**
baz=318,SNR=14
V48A Smith Brothers 66.55 62 P **P 20 21 22.5 -1.5**
V48A IAmb IAmb 20 21 25.1
comp=Z,32nm,0.9s
V48A Smith Brothers 66.55 62 P **P 20 21 22.8 -1.2**
baz=318,SNR=8.6
L56A Greenwood 66.55 51 P **P 20 21 23.2 -0.8**
L56A Greenwood 66.55 51 P **P 20 21 23.5 -0.5**
baz=320,SNR=30
L56A P **P 20 21 23.5 -0.5**
baz=320,SNR=30
CLTN Cedars of Leba 66.56 61 P **P 20 21 23.0 -1.1**
LBMI Labuha 66.56 235 P **P 20 21 24.6 +0.3**
comp=Z,889nmcomp=Z,51nm,0.8s
Q52A Bidwell 66.58 56 P **P 20 21 22.8 -1.3**
Q52A IAmb IAmb 20 21 24.8
comp=Z,42nm,0.7s
Q52A Bidwell 66.58 56 P **P 20 21 22.9 -1.2**
baz=318,SNR=12
Q52A P **P 20 21 22.9 -1.2**
baz=318,SNR=12
D62A Allapoint, All 66.59 43 P **P 20 21 22.8 -1.3**
D62A IAmb IAmb 20 21 33.6
comp=Z,58nm,1.1s
D62A Allapoint, All 66.59 43 P **P 20 21 22.7 -1.3**
baz=322,SNR=11
D62A P **P 20 21 22.7 -1.3**
baz=322,SNR=11
K57A Scipio Center 66.60 50 P **P 20 21 22.9 -1.4**
K57A IAmb IAmb 20 21 25.6
comp=Z,82nm,1.1s
K57A Scipio Center 66.60 50 P **P 20 21 22.5 -1.7**
baz=320,SNR=10
MYLDM Lahad Datu 66.61 247 P **P 20 21 26.3 +1.8**
O54A Avella 66.63 54 P **P 20 21 22.6 -1.9**
O54A Avella 66.63 54 P **P 20 21 23.0 -1.5**
baz=319
O54A P **P 20 21 23.0 -1.5**
baz=319
P53A Whipple 66.64 56 P **P 20 21 22.8 -1.8**
P53A Whipple 66.64 56 P **P 20 21 23.1 -1.4**
baz=319,SNR=6.8
P53A P **P 20 21 23.1 -1.4**
baz=319,SNR=6.8
NC300 NORSAR Array S 66.66 352 P **P 20 21 24.1 -0.3**
T50A Nancy 66.67 60 P **P 20 21 23.7 -1.1**
T50A IAmb IAmb 20 21 25.8
comp=Z,47nm,0.8s
T50A Nancy 66.67 60 P **P 20 21 23.1 -1.7**
baz=318
T50A P **P 20 21 23.1 -1.7**
baz=318
J58A Remsen 66.70 49 P **P 20 21 23.6 -1.3**
J58A IAmb IAmb 20 21 26.0
comp=Z,53nm,1.1s
J58A Remsen 66.70 49 P **P 20 21 23.3 -1.6**
baz=320,SNR=12
J58A P **P 20 21 23.3 -1.6**
baz=320,SNR=12
NC204 NORSAR Array S 66.70 353 P **P 20 21 24.1 -0.6**
NC303 NORSAR Array S 66.70 352 P **P 20 21 23.9 -0.7**
NC303 IAmb IAmb 20 21 33.8
comp=Z,94nm,1.1s
NCB Newcomb 66.73 48 P **P 20 21 23.3 -1.8**
NCB IAmb IAmb 20 21 32.4
comp=Z,56nm,1.4s
NCB Newcomb 66.73 48 P **P 20 21 23.3 -1.8**
baz=320
FOO Floro 66.75 356 *e*P **P 20 21 24.9 0.0**
NC405 NORSAR Array S 66.79 352 P **P 20 21 24.6 -0.6**
AAL Aland 66.79 348 *e*P **P 20 21 24.5 -0.6**
ZAIG Zacatecas 66.86 82 P **P 20 21 26.3 -0.2**
ZAIG IAmb IAmb 20 21 31.5
comp=Z,40nm,1.1s
S51A Beattyville 66.87 58 P **P 20 21 24.7 -1.4**
S51A IAmb IAmb 20 21 27.2
comp=Z,36nm,0.7s
S51A Beattyville 66.87 58 P **P 20 21 24.1 -2.0**
baz=318,SNR=16
S51A P **P 20 21 24.1 -2.0**
baz=318,SNR=16
NB201 NORSAR Array S 66.88 352 P **P 20 21 25.2 -0.6**
IUG luzhnay 66.90 309 *c i*P **P 20 21 27.2 +0.9**
IUG *e*S **S 20 30 18.0 +0.8**
IUG luzhnay 66.90 309 ⇑ *i*P **P 20 21 27.3 +0.9**
baz=309
IUG *e*S **S 20 30 18.1 +0.8**
baz=309
NB2 NORSAR Subarra 66.90 352 P **P 20 21 25.3 -0.6**
comp=Z,74nm,1.1s,baz=9.4,slow=6.5
NB2 NORSAR Subarra 66.90 352 P **P 20 21 25.3 -0.6**
baz=9.4,slow=6.5
NOA NORSAR Array B 66.90 352 P **P 20 21 25.2 -0.6**
comp=Z,1.7nm,0.4s,baz=360,slow=5.2,SNR=105
PKPPKP **P'P'df**
NOA comp=Z,1.6nm,1.0s,baz=188,slow=3.1,SNR=4.0 LR LR 20 49 54.5 -6.8
NOA LR LR 20 53 53.2
comp=Z,622nm,18.0s,baz=15,slow=39
NBO00 NORSAR Array S 66.94 353 P **P 20 21 25.6 -0.6**
NBO00 IAmb IAmb 20 21 27.0
comp=Z,75nm,1.2s
J59A Piesco 66.99 48 P **P 20 21 24.8 -1.9**
J59A IAmb IAmb 20 21 25.8
comp=Z,30nm,0.6s
J59A Piesco 66.99 48 P **P 20 21 24.8 -1.9**
baz=320,SNR=15
J59A P **P 20 21 24.8 -1.9**
baz=320,SNR=15
VBMS Vicksburg 67.08 67 IAMs_20 IAMs_20 20 51 19.0
comp=Z,2µm,19.0s
HYA Hoyanger 67.12 355 *e*P **P 20 21 27.5 +0.3**
NAO01 NORSAR Array S 67.12 352 P **P 20 21 26.7 -0.5**
NAO01 IAmb IAmb 20 21 34.9
comp=Z,62nm,1.1s
VT1 Waterbury 67.12 47 P **P 20 21 26.0 -1.6**
VT1 IAmb IAmb 20 21 34.8
comp=Z,46nm,1.2s
SHL Shillong 67.17 283 P **P 20 21 28.1 -0.2**
SHL pmax pmax
comp=Z,258nm,1.0s
SHL Shillong 67.17 283 P **P 20 21 28.1 -0.2**
SHL Shillong 67.17 283 P **P 20 21 28.6 +0.3**
SNR=102
NC602 NORSAR Array S 67.17 352 P **P 20 21 26.9 -0.7**
NC602 IAmb IAmb 20 21 49.6
comp=Z,100nm,1.1s
NC602 NORSAR Array S 67.17 352 *e*P **P 20 21 27.1 -0.5**
NORES NORESS Array B 67.17 352 P **P 20 21 26.9 -0.7**
R53A Hurricane 67.22 57 P **P 20 21 26.9 -1.4**
R53A Hurricane 67.22 57 P **P 20 21 27.1 -1.1**
baz=319,SNR=28
R53A P **P 20 21 27.1 -1.1**
baz=319,SNR=28
KKM Kota Kinabalu 67.22 250 P **P 20 21 27.8 -0.9**
KKM IAmb IAmb 20 21 41.9
comp=Z,72nm,1.3s
KKM Kota Kinabalu 67.22 250 P **P 20 21 30.6 +2.0**
comp=Z,51nm,1.8s
BINY Binghamton 67.26 50 P **P 20 21 27.5 -1.0**
BINY IAmb IAmb 20 21 30.2
comp=Z,55nm,1.0s
BINY Binghamton 67.26 50 P **P 20 21 27.6 -0.9**
baz=320,SNR=14
BINY Binghamton 67.26 50 P **P 20 21 26.8 -1.6**
baz=320,SNR=14
MCWV Mont Chateau 67.30 54 P **P 20 21 27.5 -1.2**
MCWV IAmb IAmb 20 21 29.7
comp=Z,25nm,0.6s
MCWV Mont Chateau 67.30 54 P **P 20 21 27.7 -1.0**
baz=319,SNR=6.7
MCWV Mont Chateau 67.30 54 P **P 20 21 26.7 -2.0**
baz=320,SNR=6.7
SUE Sulen 67.30 356 *e*P **P 20 21 27.4 -0.9**
Q54A Coxs Mills 67.30 56 P **P 20 21 27.6 -1.2**
Q54A IAmb IAmb 20 21 30.2
comp=Z,36nm,1.1s
Q54A Coxs Mills 67.30 56 P **P 20 21 27.6 -1.2**
baz=319,SNR=7.9
Q54A P **P 20 21 27.6 -1.2**
baz=319,SNR=7.9
MCVT Middlebury Col 67.31 47 P **P 20 21 26.6 -2.1**
baz=321
PQI Presque Isle 67.35 42 P **P 20 21 26.8 -2.1**
PQI IAmb IAmb 20 21 28.1
comp=Z,23nm,0.6s
M57A Sunshine Farm, 67.37 52 P **P 20 21 28.2 -0.9**
M57A Sunshine Farm, 67.37 52 P **P 20 21 28.3 -0.8**
baz=320,SNR=23
M57A P **P 20 21 28.3 -0.8**
baz=320,SNR=23
KMSI Cibinong 67.37 239 P **P 20 21 30.5 +1.1**
comp=Z,1µmcomp=Z,62nm,0.8s
E63A Oxbow 67.38 43 P **P 20 21 26.7 -2.4**
baz=322
E63A P **P 20 21 26.7 -2.4**
baz=322
X48A Hartselle 67.38 63 P **P 20 21 27.2 -2.0**
VSU Vasula 67.38 343 *e*P **P 20 21 29.2 +0.3**
UPP Uppsala 67.40 349 *e*P **P 20 21 29.0 0.0**
G62A West of Eustis 67.42 45 P **P 20 21 28.4 -1.1**
G62A IAmb IAmb 20 21 38.2
comp=Z,51nm,1.1s
G62A West of Eustis 67.42 45 P **P 20 21 28.5 -0.9**
baz=322,SNR=9.4
G62A P **P 20 21 28.5 -0.9**
baz=322,SNR=9.4
SWET Sewanee 67.42 62 P **P 20 21 28.1 -1.6**
SWET IAmb IAmb 20 21 30.3
comp=Z,36nm,0.8s
ACCN Adirondack Com 67.44 48 P **P 20 21 27.8 -1.8**
ACCN IAmb IAmb 20 21 28.9
comp=Z,31nm,0.8s
ACCN Adirondack Com 67.44 48 P **P 20 21 28.0 -1.5**
baz=321,SNR=10
SANVU Saraoutou 67.47 190 P **P 20 21 29.7 -0.1**
SANVU Saraoutou 67.47 190 P **P 20 21 30.9 +1.1**
comp=Z,102nm,1.2s
SKAR Skarsila 67.47 354 *e*P **P 20 21 29.5 -0.1**
O56A Blue Knob Stat 67.48 53 P **P 20 21 29.0 -0.9**
O56A IAmb IAmb 20 21 31.1
comp=Z,94nm,1.4s
O56A Blue Knob Stat 67.48 53 P **P 20 21 28.2 -1.7**
baz=320,SNR=9.8
O56A Blue Knob Stat 67.48 53 P **P 20 21 27.7 -2.2**
baz=320,SNR=9.8
SSPA Standing Stone 67.53 53 P **P 20 21 29.1 -1.1**
SSPA Standing Stone 67.53 53 P **P 20 21 29.1 -1.1**
baz=320,SNR=30
SSPA Standing Stone 67.53 53 P **P 20 21 28.7 -1.5**
baz=320
LBNH Lisbon 67.56 46 P **P 20 21 28.5 -1.9**
LBNH pmax pmax
comp=Z,49nm,1.3s
LBNH MLR MLR
comp=Z,3µm,18.0s
LBNH Lisbon 67.56 46 P **P 20 21 28.5 -1.9**
LBNH IAmb IAmb 20 21 31.0
comp=Z,49nm,1.2s
LBNH Lisbon 67.56 46 P **P 20 21 28.4 -1.9**
baz=321,SNR=6.3
LBNH Lisbon 67.56 46 P **P 20 21 28.5 -1.9**
baz=322,SNR=6.3
HFS Hagfors 67.57 351 P **P 20 21 29.2 -0.8**
comp=Z,45nm,1.2s,baz=132,slow=2.2,SNR=28
HFS LR LR 20 54 00.7
comp=Z,948nm,19.0s,baz=9.5,slow=39
MOS Moscow 67.57 336 *e*P **P 20 21 28.9 -1.2**
MOS *e* 20 21 51.5
MOS *e*S **S 20 30 23.2 -1.4**
MOS *e* 20 31 21.9
MOS pmax pmax
comp=Z,169nm,0.7s
MOS pmax pmax
comp=Z,200nm,0.8s
MOS smax smax
comp=E,900nm,4.3s
MOS MLR MLR
comp=N,3µm,18.0s
MOS MLR MLR
comp=E,2µm,18.0s
MOS MLR MLR
comp=Z,4µm,18.0s
146A Union 67.60 66 P **P 20 21 29.4 -1.4**
HCNY Howe Caverns 67.63 49 P **P 20 21 29.5 -1.3**
baz=321,SNR=5.5
MTSE Matsula 67.64 345 *e*P **P 20 21 30.7 +0.2**
H62A Milan 67.65 46 P **P 20 21 29.5 -1.3**
H62A IAmb IAmb 20 21 31.0
comp=Z,85nm,1.0s
H62A Milan 67.65 46 P **P 20 21 29.9 -0.9**
baz=322,SNR=14
H62A P **P 20 21 29.9 -0.9**
baz=322,SNR=14
F63A Nahmakanta, Br 67.66 44 P **P 20 21 29.7 -1.2**
F63A IAmb IAmb 20 21 31.5
comp=Z,27nm,0.8s
F63A Nahmakanta, Br 67.66 44 P **P 20 21 28.7 -2.2**
baz=322,SNR=6.5
F63A P **P 20 21 28.7 -2.2**
baz=322,SNR=6.5
BELG Belogornoye 67.66 329 P **P 20 21 31.4 +0.6**
comp=Z,166nm,0.8s,baz=344,slow=0.6,SNR=115
BELG S **S 20 30 26.4 +0.7**
comp=Z,5.4nm,0.9s,baz=341,slow=23,SNR=6.4
PKPPKP **P'P'df**
BELG comp=Z,8.6nm,1.1s,baz=194,slow=5.1,SNR=4.8 LR LR 20 49 53.7 -5.7
BELG LR LR 20 54 39.2
comp=Z,3µm,18.1s,baz=28,slow=39
BELG Belogornoye 67.66 329 *c i*P **P 20 21 31.1 +0.3**
BELG pmax pmax
comp=Z,66nm,1.3s
BATG Bathurst New B 67.67 41 P **P 20 21 29.8 -1.2**
BATG IAmb IAmb 20 21 30.8
comp=Z,42nm,1.1s
L59A Walton 67.72 50 P **P 20 21 29.9 -1.5**
L59A IAmb IAmb 20 21 32.8
comp=Z,76nm,1.2s
L59A Walton 67.72 50 P **P 20 21 29.9 -1.5**
baz=321,SNR=9.7
L59A P **P 20 21 29.9 -1.5**
baz=321,SNR=9.7
TZTN Tazewell 67.72 59 P **P 20 21 30.6 -0.8**
TZTN IAmb IAmb 20 21 32.6
comp=Z,28nm,0.8s
TZTN Tazewell 67.72 59 P **P 20 21 30.5 -1.0**
baz=319,SNR=8.7
TZTN Tazewell 67.72 59 P **P 20 21 30.0 -1.5**
baz=319,SNR=8.7
Z47A Carrollton 67.74 64 P **P 20 21 29.8 -1.8**
Z47A IAmb IAmb 20 21 55.9
comp=Z,45nm,0.9s
Z47A Carrollton 67.74 64 P **P 20 21 30.2 -1.3**
baz=318,SNR=7.5
W50A Signal Mountai 67.77 61 P **P 20 21 30.3 -1.6**
W50A IAmb IAmb 20 21 32.5
comp=Z,40nm,0.9s
W50A Signal Mountai 67.77 61 P **P 20 21 30.6 -1.3**
baz=318,SNR=16
HNH Hanover 67.82 47 P **P 20 21 30.5 -1.5**
HNH IAMs_20 IAMs_20 20 50 19.6
comp=Z,2µm,22.0s
V51A Loudon 67.84 60 P **P 20 21 30.8 -1.4**
V51A IAmb IAmb 20 21 33.5
comp=Z,67nm,1.1s
V51A Loudon 67.84 60 P **P 20 21 31.1 -1.1**
baz=319,SNR=16
GTOI Gorontalo 67.84 240 P **P 20 21 31.7 -0.7**
comp=Z,238nmcomp=Z,14nm,0.8s
F64A Sherman 67.85 43 P **P 20 21 31.1 -1.0**
F64A IAmb IAmb 20 21 31.8
comp=Z,56nm,0.8s
F64A Sherman 67.85 43 P **P 20 21 31.2 -0.8**
baz=323,SNR=15
F64A P **P 20 21 31.2 -0.8**
baz=323,SNR=15
ASK Askoy 67.85 355 *e*P **P 20 21 31.6 -0.2**
CHTO Chiang Mai 67.85 272 P **P 20 21 32.7 +0.2**
CHTO pmax pmax
comp=Z,91nm,1.0s
CHTO MLR MLR
comp=Z,1µm,20.0s
CHTO Chiang Mai 67.85 272 P **P 20 21 32.7 +0.2**
CHTO Chiang Mai 67.85 272 IAMs_20 IAMs_20 20 52 43.7
comp=Z,954nm,20.0s

CHTO	Chiang Mai	67.85	272	P	P	20 21 33.0	+0.5			
CHTO	Chiang Mai	67.85	272	P	P	20 21 33.1	+0.6			
	comp=Z,69nm,1.1s									
KSPA	Keystone Colle	67.86	51	P	P	20 21 30.7	-1.5			
KSPA				IAmb	IAmb	20 21 32.0				
	comp=Z,26nm,0.8s									
KSPA	Keystone Colle	67.86	51	P	P	20 21 31.0	-1.3			
	baz=320,SNR=6.2									
TAS	Tashkent	67.88	309	P	P	20 21 32.8	+0.4			
TAS				pmax	pmax					
	comp=Z,707nm,1.4s									
TAS	Tashkent	67.88	309	P	P	20 21 32.8	+0.4			
PKME	Peaks-Kenny Pk	67.92	44	P	P	20 21 31.4	-1.2			
PKME				IAmb	IAmb	20 21 40.2				
	comp=Z,77nm,1.4s									
PKME	Peaks-Kenny Pk	67.92	44	P	P	20 21 31.3	-1.2			
	baz=323									
TRY	Troy	67.94	48	P	P	20 21 31.5	-1.2			
TRY				IAmb	IAmb	20 21 33.7				
	comp=Z,46nm,1.2s									
TRY				IAMs_20	IAMs_20	20 50 58.9				
	comp=Z,2µm,21.0s									
BER	Bergen	67.94	355	P	P	20 21 32.5	+0.1			
BER				pmax	pmax					
	comp=Z,24nm,0.7s									
BER	Bergen	67.94	355	eP	P	20 21 32.8	+0.4			
S54A	Dingess, Beckl	67.95	57	P	P	20 21 31.6	-1.3			
S54A				IAmb	IAmb	20 21 33.9				
	comp=Z,32nm,0.7s									
S54A	Dingess, Beckl	67.95	57	P	P	20 21 31.8	-1.1			
	baz=319,SNR=14									
S54A				P	P	20 21 31.8	-1.1			
	baz=319,SNR=14									
N58A	Sunbury	67.95	52	P	P	20 21 31.5	-1.3			
N58A	Sunbury	67.95	52	P	P	20 21 32.0	-0.8			
	baz=320,SNR=25									
N58A				P	P	20 21 32.0	-0.8			
	baz=320,SNR=25									
J61A	Chester	67.98	47	P	P	20 21 31.8	-1.2			
J61A				IAmb	IAmb	20 21 42.0				
	comp=Z,52nm,1.2s									
J61A	Chester	67.98	47	P	P	20 21 31.1	-1.9			
	baz=321,SNR=6.9									
J61A				P	P	20 21 31.1	-1.9			
	baz=321,SNR=6.9									
CPCT	Cooper Cave	68.01	60	P	P	20 21 31.8	-1.5			
CPCT				IAmb	IAmb	20 21 34.6				
	comp=Z,79nm,1.5s									
OSL	Oslo	68.03	352	eP	P	20 21 33.0	0.0			
DRK	Karamyk	68.06	306	P	P	20 21 34.4	+0.4			
Q56A	Snyder Ridge,	68.10	54	P	P	20 21 32.3	-1.5			
Q56A	Snyder Ridge,	68.10	54	P	P	20 21 32.6	-1.2			
	baz=320									
Q56A				P	P	20 21 32.6	-1.2			
	baz=320									
FPAL	Fort Paine	68.10	62	P	P	20 21 32.2	-1.7			
FPAL				IAmb	IAmb	20 21 34.9				
	comp=Z,41nm,0.8s									
BTK	Batken	68.11	307	P	P	20 21 33.9	-0.1			
BTK				pmax	pmax					
	comp=Z,279nm,0.8s									
BTK	Batken	68.11	307	P	P	20 21 33.9	-0.1			
I62A	Tamworth	68.12	46	P	P	20 21 32.8	-1.1			
CM31	Chiang Mai Arr	68.12	272	P	P	20 21 35.3	+1.1			
CM31				IAmb	IAmb	20 21 36.1				
	comp=Z,64nm,0.8s									
CM31	Chiang Mai Arr	68.12	272	P	P	20 21 35.7	+1.5			
	SNR=24									
CMAR	Chiang Mai Arr	68.12	272	P	P	20 21 34.9	+0.7			
	comp=Z,46nm,0.8s,baz=25,slow=7.2,SNR=260									
CMAR				PKPPKP	P'P'df	20 49 52.1	-2.3			
	comp=Z,1.3nm,1.0s,baz=206,slow=3.6,SNR=6.3									
CMAR				LR	LR	20 53 01.6				
	comp=Z,797nm,20.5s,baz=40,slow=37									
CMAR	Chiang Mai Arr	68.12	272	P	P	20 21 34.6	+0.4			
CMAR	Chiang Mai Arr	68.12	272	P	P	20 21 34.6	+0.4			
MSAI	Masohi	68.16	233	P	P	20 21 34.4	0.0			
	comp=Z,8.4nm,0.6s									
Y49A	Blount Mountai	68.17	63	P	P	20 21 32.2	-2.1			
R55A	Marlinton	68.20	56	P	P	20 21 33.2	-1.4			
R55A				IAmb	IAmb	20 21 36.1				
	comp=Z,28nm,0.8s									
R55A	Marlinton	68.20	56	P	P	20 21 33.1	-1.4			
	baz=320,SNR=13									
R55A				P	P	20 21 33.1	-1.4			
	baz=320,SNR=13									
V52A	Sevierville	68.22	60	P	P	20 21 33.1	-1.5			
V52A				IAmb	IAmb	20 21 35.5				
	comp=Z,32nm,0.9s									
V52A	Sevierville	68.22	60	P	P	20 21 32.2	-2.4			
	baz=319,SNR=13									
TKL	Tuckaleechee C	68.26	60	LR	LR	20 52 16.9				
	comp=Z,2µm,19.5s,baz=326,slow=37									
TKL	Tuckaleechee C	68.26	60	P	P	20 21 33.3	-1.5			
TKL				pmax	pmax					
	comp=Z,37nm,0.9s									
TKL	Tuckaleechee C	68.26	60	P	P	20 21 33.3	-1.5			
TKL				IAmb	IAmb	20 21 36.1				
	comp=Z,37nm,0.8s									
TKL	Tuckaleechee C	68.26	60	P	P	20 21 33.7	-1.2			
	baz=319,SNR=18									
FFD	Franklin Falls	68.29	47	P	P	20 21 33.4	-1.5			
I63A	Otisfield	68.31	46	P	P	20 21 34.0	-1.0			
I63A				IAmb	IAmb	20 21 35.0				
	comp=Z,39nm,0.8s									
I63A	Otisfield	68.31	46	P	P	20 21 34.0	-1.0			
	baz=322,SNR=6.4									
I63A				P	P	20 21 34.0	-1.0			
	baz=322,SNR=6.4									
WVL	Waterville	68.32	45	P	P	20 21 34.0	-1.0			
WVL				IAmb	IAmb	20 21 38.0				
	comp=Z,45nm,0.9s									
ODD1	Odda	68.34	355	eP	P	20 21 34.9	-0.1			
P57A	Homestead Farm	68.35	53	P	P	20 21 34.4	-0.9			
P57A				IAmb	IAmb	20 21 36.8				
	comp=Z,42nm,1.2s									
P57A	Homestead Farm	68.35	53	P	P	20 21 33.8	-1.5			
	baz=320,SNR=9.7									
P57A				P	P	20 21 33.8	-1.5			
	baz=320,SNR=9.7									
N59A	State Game Lan	68.35	51	P	P	20 21 34.2	-1.2			
N59A	State Game Lan	68.35	51	P	P	20 21 34.6	-0.8			
	baz=321,SNR=14									
N59A	State Game Lan	68.35	51	P	P	20 21 34.1	-1.2			
	baz=321,SNR=14									
TAPN	Taplejung	68.35	287	eP	P	20 21 36.9	+1.0			
	comp=Z,675nm,1.1s									
OBN	Obninsk	68.40	337	⇑P	P	20 21 35.4	0.0			
OBN	Obninsk	68.40	337	P	P	20 21 35.4	0.0			
	comp=Z,17nm,0.7s,baz=37,slow=2.2,SNR=33									
OBN				LR	LR	20 54 20.2				
	comp=Z,817nm,20.5s,baz=22,slow=38									
OBN	Obninsk	68.40	337	*c* *i*P	P	20 21 34.9	-0.4			
OBN				*e**SP	sP	20 21 45.8	-1.3			
OBN				*e*		20 21 55.8				
OBN				*e*		20 24 06.0				
OBN				*e*PPP	PPP	20 25 40.8				
OBN				*i* S	S	20 30 35.7	+1.3			
OBN				*e*SS	SS	20 35 00.2	+3.2			
OBN				pmax	pmax					
	comp=Z,167nm,1.4s									
OBN				MLR	MLR					
	comp=Z,3µm,20.0s									
OBN	Obninsk	68.40	337	P	P	20 21 35.1	-0.2			
KONO	Kongsberg	68.41	353	*c* *i*P	P	20 21 35.5	+0.2			
KONO				pmax	pmax					
	comp=Z,58nm,1.2s									
KONO	Kongsberg	68.41	353	P	P	20 21 35.2	-0.1			
KONO				IAmb	IAmb	20 21 50.6				
	comp=Z,43nm,0.9s									
KONO	Kongsberg	68.41	353	IAMs_20	IAMs_20	20 53 37.5				
	comp=Z,1µm,21.0s									
KONO	Kongsberg	68.41	353	eP	P	20 21 35.1	-0.2			
PAGS	Pennsylvania G	68.42	52	P	P	20 21 34.1	-1.6			
PAGS				IAmb	IAmb	20 21 50.2				
	comp=Z,56nm,1.0s									
LRAL	Lakeview Retre	68.46	64	P	P	20 21 34.4	-1.7			
LRAL				IAMs_20	IAMs_20	20 51 40.2				
	comp=Z,982nm,20.0s									
LRAL	Lakeview Retre	68.46	64	P	P	20 21 35.0	-1.1			
	baz=319,SNR=7.5									
LRAL	Lakeview Retre	68.46	64	P	P	20 21 34.7	-1.4			
	baz=319,SNR=7.5									
X51A	Calhoun	68.49	61	P	P	20 21 35.1	-1.2			
X51A				IAmb	IAmb	20 21 37.4				
	comp=Z,37nm,1.1s									
X51A	Calhoun	68.49	61	P	P	20 21 35.1	-1.2			
	baz=319,SNR=5.8									
X51A				P	P	20 21 35.1	-1.2			
	baz=319,SNR=5.8									
SANI	Sanana	68.54	236	P	P	20 21 36.0	-0.7			
	comp=Z,793nmcomp=Z,47nm,1.2s									
SANI	Sanana	68.54	236	P	P	20 21 36.4	-0.3			
	comp=Z,47nm,1.3s									
MRSI	Marisa	68.56	241	P	P	20 21 36.5	-0.4			
	comp=Z,2µmcomp=Z,152nm,0.7s									
W52A	Murphy	68.60	60	P	P	20 21 35.7	-1.3			
W52A				IAmb	IAmb	20 21 59.0				
	comp=Z,55nm,1.2s									
W52A	Murphy	68.60	60	P	P	20 21 36.1	-0.9			
	baz=319,SNR=9.1									
L61B	Northampton	68.62	48	P	P	20 21 35.4	-1.6			
L61B	Northampton	68.62	48	P	P	20 21 35.2	-1.8			
	baz=322									
U54A	Nelsons Funny	68.65	58	P	P	20 21 36.4	-0.9			
U54A				IAmb	IAmb	20 21 38.6				
	comp=Z,48nm,0.7s									
U54A	Nelsons Funny	68.65	58	P	P	20 21 36.8	-0.5			
	baz=319,SNR=14									
U54A				P	P	20 21 36.8	-0.5			
	baz=319,SNR=14									
K62A	Royalston	68.66	48	P	P	20 21 35.7	-1.5			
K62A				IAmb	IAmb	20 21 36.9				
	comp=Z,31nm,1.0s									
TOLI2	Tolitoli	68.66	243	P	P	20 21 37.0	-0.6			
TOLI2				IAmb	IAmb	20 22 02.8				
	comp=Z,45nm,0.9s									
TOLI2	Tolitoli	68.66	243	P	P	20 21 37.8	+0.3			
	comp=Z,54nm,0.9s									
G65A	Princeton	68.71	43	P	P	20 21 36.2	-1.3			
G65A				IAmb	IAmb	20 21 46.9				
	comp=Z,66nm,1.1s									
G65A	Princeton	68.71	43	P	P	20 21 36.2	-1.3			
	baz=323,SNR=5.7									
G65A				P	P	20 21 36.2	-1.3			
	baz=323,SNR=5.7									
V53A	Saluda	68.77	59	P	P	20 21 36.8	-1.3			
V53A				IAmb	IAmb	20 21 39.2				
	comp=Z,32nm,0.8s									
V53A	Saluda	68.77	59	P	P	20 21 37.3	-0.8			
	baz=319,SNR=16									
V53A				P	P	20 21 37.3	-0.8			
	baz=319,SNR=16									
MVL	Millersville	68.77	52	P	P	20 21 36.8	-1.2			
MVL				IAmb	IAmb	20 21 39.5				
	comp=Z,46nm,0.9s									
ODNJ	Ogdensburg	68.78	50	P	P	20 21 37.1	-1.0			
ODNJ				IAmb	IAmb	20 21 39.3				
	comp=Z,52nm,1.3s									
ODNJ	Ogdensburg	68.78	50	P	P	20 21 37.0	-1.0			
	baz=321,SNR=6.0									
LUPA	Lehigh Univers	68.79	51	P	P	20 21 37.2	-0.8			
KSCT	Kent School, K	68.81	49	P	P	20 21 36.3	-1.9			
AAI	Ambon	68.82	233	P	P	20 21 39.3	+0.8			
AAI				pmax	pmax					
	comp=Z,128nm,1.6s									
AAI	Ambon	68.82	233	P	P	20 21 38.4	-0.1			
	comp=Z,2µmcomp=Z,130nm,1.6s									
VIKU	Vikbolandet	68.84	349	eP	P	20 21 37.9	-0.1			
BLS5	Blasjo	68.84	355	eP	P	20 21 38.1	0.0			
ODAN	Odare	68.91	287	eP	P	20 21 40.0	+0.7			
SLIT	Slitere, Latvi	68.92	346	eP	P	20 21 38.3	-0.2			
UNH	University of	68.94	46	P	P	20 21 37.0	-1.9			
	baz=322									
SDMD	Soldier's Deli	68.99	53	P	P	20 21 38.1	-1.2			
SDMD	Soldier's Deli	68.99	53	P	P	20 21 38.3	-1.0			
	baz=320,SNR=9.9									
GUN	Gumba	69.02	289	eP	P	20 21 41.1	+1.0			
GGN	Saint George	69.08	43	P	P	20 21 38.5	-1.3			
GGN				IAmb	IAmb	20 21 39.5				
	comp=Z,52nm,0.8s									
HRV	Adam Dziewonsk	69.09	47	P	P	20 21 38.4	-1.5			
	baz=322									
BRNJ	Basking Ridge	69.11	50	P	P	20 21 39.0	-1.0			
	baz=321									
KMY	Karmoy	69.12	355	eP	P	20 21 39.7	-0.1			
EMMW	East Machias	69.15	43	P	P	20 21 39.3	-0.9			
GAR	Garm	69.17	307	P	P	20 21 41.1	+0.5			
PAL	Palisades	69.17	50	P	P	20 21 39.2	-1.2			
PAL				pmax	pmax					
	comp=Z,76nm,1.2s									
PAL				MLR	MLR					
	comp=Z,2µm,20.0s									
PAL	Palisades	69.17	50	P	P	20 21 39.2	-1.2			
PAL				IAmb	IAmb	20 21 49.6				
	comp=Z,76nm,1.1s									
PAL	Palisades	69.17	50	P	P	20 21 39.4	-1.0			
	baz=321									
PAL	Palisades	69.17	50	P	P	20 21 38.8	-1.6			
	baz=322									
WUPA	West Chester U	69.19	52	P	P	20 21 39.9	-0.6			
S57A	Dark Hollow, R	69.19	55	P	P	20 21 39.5	-1.1			
S57A				IAmb	IAmb	20 21 41.8				
	comp=Z,24nm,0.6s									
S57A	Dark Hollow, R	69.19	55	P	P	20 21 39.8	-0.9			
	baz=320,SNR=8.5									
S57A				P	P	20 21 39.8	-0.9			
	baz=320,SNR=8.5									
BG3	Lake Jocassee	69.21	60	P	P	20 21 39.8	-1.0			
BG3				IAmb	IAmb	20 21 41.9				
	comp=Z,47nm,0.8s									
CASEE	Lake Jocassee	69.21	60	P	P	20 21 39.9	-0.9			
	baz=319,SNR=18									
TUPA	Temple Univers	69.21	51	P	P	20 21 38.9	-1.8			
	baz=321,SNR=12									
MSVF	Nonsavu	69.25	179	P	P	20 21 42.2	+1.1			
	comp=Z,21nm,1.0s,baz=76,slow=4.4,SNR=5.7									
MSVF				LR	LR	20 45 26.2				
	comp=Z,2µm,21.9s,baz=6.4,slow=30									
MSVF	Nonsavu	69.25	179	P	P	20 21 43.2	+2.1			
MSVF				IAmb	IAmb	20 22 02.8				
	comp=Z,100nm,1.5s									
MSVF	Nonsavu	69.25	179	P	P	20 21 43.2	+2.1			
	comp=Z,40nm,1.6s									
Z51A	Franklin	69.26	62	P	P	20 21 39.1	-1.9			
PANJ	Princeton	69.28	51	P	P	20 21 39.8	-1.3			
	baz=321									
DRLN	Deer Lake	69.29	35	P	P	20 21 40.0	-1.0			
DRLN				IAmb	IAmb	20 21 41.2				
	comp=Z,59nm,1.1s									
WES	Weston	69.29	47	P	P	20 21 40.1	-1.0			
WES				pmax	pmax					
	comp=Z,28nm,0.7s									
WES				MLR	MLR					
	comp=Z,2µm,18.0s									
WES	Weston	69.29	47	P	P	20 21 40.1	-1.0			
WES				IAmb	IAmb	20 21 44.2				
	comp=Z,28nm,0.7s									
RAMN	Ramite	69.31	287	eP	P	20 21 42.6	+0.8			
	comp=Z,261nm,0.5s									
CPNY	Central Park	69.31	50	P	P	20 21 40.2	-1.0			
CPNY				IAmb	IAmb	20 21 42.9				
	comp=Z,107nm,1.3s									
WSPT	Westport, CT	69.32	49	P	P	20 21 40.0	-1.3			
WSPT				IAmb	IAmb	20 21 40.7				
	comp=Z,36nm,1.0s									
LMN	Caledonia Moun	69.33	41	P	P	20 21 40.0	-1.3			
LMN				IAmb	IAmb	20 21 44.7				
	comp=Z,55nm,0.9s									
UCCT	U. Connecticut	69.34	48	P	P	20 21 39.6	-1.9			
UCCT				IAmb	IAmb	20 21 48.5				
	comp=Z,47nm,1.0s									
LUWI	Luwuk	69.38	240	P	P	20 21 41.0	-0.9			
LUWI	Luwuk	69.38	240	P	P	20 21 41.0	-0.9			
	comp=Z,2µmcomp=Z,150nm,0.7s									
LUWI	Luwuk	69.38	240	P	P	20 21 41.6	-0.4			
	comp=Z,149nm,0.7s									
Y52A	Lilburn	69.45	61	P	P	20 21 40.9	-1.4			
Y52A				IAmb	IAmb	20 21 43.5				
	comp=Z,40nm,0.8s									
Y52A	Lilburn	69.45	61	P	P	20 21 40.6	-1.7			
	baz=319,SNR=11									
Y52A				P	P	20 21 40.6	-1.7			
	baz=319,SNR=11									
KKN	Kakani	69.46	289	eP	P	20 21 43.6	+0.9			
V55A	Taylorsville	69.47	58	P	P	20 21 41.4	-1.0			
V55A				IAmb	IAmb	20 21 43.9				
	comp=Z,28nm,0.8s									
V55A	Taylorsville	69.47	58	P	P	20 21 41.0	-1.4			
	baz=320,SNR=16									
V55A				P	P	20 21 41.0	-1.4			
	baz=320,SNR=16									
U56A	King	69.53	57	P	P	20 21 41.5	-1.3			
U56A				IAmb	IAmb	20 21 44.3				
	comp=Z,74nm,1.1s									
U56A	King	69.53	57	P	P	20 21 41.7	-1.1			
	baz=320									
U56A				P	P	20 21 41.7	-1.1			
	baz=320									
PKI	Pulchoki	69.55	289	eP	P	20 21 44.1	+0.7			
PKIN	Phulchoki	69.55	289	eP	P	20 21 44.0	+0.7			
BRYW	Bryant College	69.56	48	P	P	20 21 41.4	-1.5			
BRYW				IAmb	IAmb	20 21 51.3				
	comp=Z,78nm,1.3s									
R58B	Mineral	69.58	54	P	P	20 21 41.9	-1.1			
R58B	Mineral	69.58	54	P	P	20 21 42.2	-0.8			
	baz=320,SNR=6.1									
R58B				P	P	20 21 42.2	-0.8			
	baz=320,SNR=6.1									
T57A	Hurt	69.62	56	P	P	20 21 41.9	-1.4			
T57A				IAmb	IAmb	20 21 44.4				
	comp=Z,32nm,0.6s									
T57A	Hurt	69.62	56	P	P	20 21 41.9	-1.4			
	baz=320,SNR=14									
T57A				P	P	20 21 41.9	-1.4			
	baz=320,SNR=14									
250A	Grady	69.66	64	P	P	20 21 42.2	-1.4			
250A				IAmb	IAmb	20 21 44.7				
	comp=Z,53nm,0.8s									
GKN	Gorkha	69.68	290	eP	P	20 21 44.7	+0.7			
	comp=Z,686nm,1.1s									
DMN	Daman	69.70	289	eP	P	20 21 45.2	+1.0			
M63A	Gales Ferry	69.73	48	P	P	20 21 42.8	-1.0			
M63A	Gales Ferry	69.73	48	P	P	20 21 42.2	-1.6			
	baz=322,SNR=7.0									
M63A				P	P	20 21 42.2	-1.6			
	baz=322,SNR=7.0									
JSRW	J. Sargeant Re	69.79	55	P	P	20 21 42.9	-1.4			
MPSI	Mapaga	69.79	243	P	P	20 21 44.5	0.0			
	comp=Z,940nmcomp=Z,66nm,0.9s									
BRAL	Brewton	69.83	65	IAMs_20	IAMs_20	20 52 07.6				
	comp=Z,2µm,21.0s									
HOMB	Homborsund	69.86	353	eP	P	20 21 43.9	-0.4			
APSI	Ampana	69.87	241	P	P	20 21 44.9	-0.1			
	comp=Z,772nmcomp=Z,74nm,0.8s									
SNART	Snartemo	69.88	354	eP	P	20 21 44.4	-0.1			
DANN	Dangsing	69.93	290	eP	P	20 21 46.5	+0.8			
	comp=Z,798nm,1.0s									
PAULI	Pauline	69.94	59	P	P	20 21 43.6	-1.7			
PAULI				IAmb	IAmb	20 21 46.7				
	comp=Z,76nm,1.3s									
PAULI	Pauline	69.94	59	P	P	20 21 44.2	-1.1			
	baz=320,SNR=11									
KMSC	Kings Mountain	69.95	59	P	P	20 21 44.0	-1.4			
KMSC	Kings Mountain	69.95	59	P	P	20 21 44.4	-0.9			
	baz=320,SNR=23									
KMSC	Kings Mountain	69.95	59	P	P	20 21 43.2	-2.1			
	baz=320,SNR=23									
152A	Waverly Hall	70.00	63	P	P	20 21 44.4	-1.3			
152A	Waverly Hall	70.00	63	P	P	20 21 43.7	-2.0			
	baz=319									
CHGR	Chuyangaron	70.01	307	P	P	20 21 46.0	+0.3			
CHGR				pmax	pmax					
	comp=Z,641nm,0.6s									
CHGR	Chuyangaron	70.01	307	P	P	20 21 46.0	+0.3			
MOIG	Morelia	70.02	83	P	P	20 21 46.5	+0.3			
MOIG				IAmb	IAmb	20 21 51.6				
	comp=Z,88nm,1.0s									
LPSR	Galich'ya Gora	70.05	334	eP	P	20 21 45.6	0.0			
LPSR				eS	S	20 30 54.5	+0.4			
LPSR				pmax	pmax					
	comp=Z,30nm,0.6s									
LPSR				smax	smax					
	comp=N,260nm,2.0s									
LPSR				MLR	MLR					
	comp=Z,1µm,18.0s									
GOGA	Godfrey	70.12	61	P	P	20 21 44.6	-1.8			
GOGA				pmax	pmax					
	comp=Z,37nm,1.2s									
GOGA				MLR	MLR					
	comp=Z,3µm,19.0s									
GOGA	Godfrey	70.12	61	P	P	20 21 44.6	-1.8			
GOGA				IAmb	IAmb	20 21 47.4				
	comp=Z,37nm,1.1s									
GOGA	Godfrey	70.12	61	P	P	20 21 44.8	-1.6			
	baz=320,SNR=7.9									
GOGA	Godfrey	70.12	61	P	P	20 21 44.5	-1.9			
	baz=320,SNR=7.9									
GOGA				S	S	20 30 56.9	+1.4			
	baz=320									
HODGE	Hodges	70.15	60	P	P	20 21 45.5	-1.1			
HODGE				IAmb	IAmb	20 21 48.0				
	comp=Z,60nm,0.7s									
HODGE	Hodges	70.15	60	P	P	20 21 45.3	-1.2			
	baz=320,SNR=23									
IDID	Didziasalis	70.36	342	eP	P	20 21 48.0	+0.5			
IIGN	Ignalina	70.42	343	eP	P	20 21 48.5	+0.7			
KOLN	Koldanda	70.46	290	eP	P	20 21 49.4	+0.6			
T59A	Double "B" Far	70.51	55	P	P	20 21 47.5	-1.2			
T59A				IAmb	IAmb	20 21 50.4				
	comp=Z,34nm,0.8s									
T59A	Double "B" Far	70.51	55	P	P	20 21 47.9	-0.8			
	baz=321,SNR=12									
T59A				P	P	20 21 47.9	-0.8			
	baz=321,SNR=12									
VRH	Novokhopyorsk	70.51	332	eP	P	20 21 48.0	-0.5			
VRH				eS	S	20 30 58.8	-0.7			
VRH				pmax	pmax					
	comp=Z,90nm,0.6s									
VRH				smax	smax					
	comp=N,170nm,1.2s									
VRH				MLR	MLR					
	comp=Z,2µm,15.0s									
PBUR	Paburge	70.52	345	eP	P	20 21 47.6	-0.8			
PYUN	Piuthan	70.57	291	eP	P	20 21 50.2	+0.7			
	comp=Z,807nm,1.1s									
V58A	Windy Hill, Pi	70.62

MNK *i* SS **SS** **20 35 36.2 +0.7**
MNK pmax pmax
comp=N,72nm,1.1s
MNK pmax pmax
comp=Z,90nm,1.0s
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK MLR MLR
comp=E,151nm,16.0s
MNK MLR MLR
comp=Z,1µm,14.0s
MNK MLR MLR
comp=N,982nm,16.0s
MNK Minsk 70.90 341 *i* P **P** **20 21 51.3 +0.5**
comp=E,4.0nm,0.9s
MNK *i* P **P** **20 21 51.3 +0.5**
comp=N,72nm,1.1s
MNK *i* P **P** **20 21 51.3 +0.5**
comp=Z,90nm,0.9s,baz=20
MNK *i* PP **PP** **20 24 28.0 +0.7**
MNK *i* PPP PPP 20 26 10.8
MNK *i* S **S** **20 31 04.8 +0.9**
MNK *i* SS **SS** **20 35 36.3 +0.7**
MNK *i* SSS SSS 20 38 56.3
MNK *i* LQ LQ 20 48 08.4
MNK *i* LR LR 20 53 32.0
MNK *i* LRM MLR 20 57 32.9
comp=E,151nm,15.8s
MNK *i* LRM MLR 20 57 37.5
comp=Z,1µm,13.8s
MNK *i* LRM MLR 20 57 39.4
comp=N,982nm,15.8s
TAOE Nuku Hiva Isla 70.91 134 *e*S **S** **20 31 04.8 -0.3**
comp=N,405nm,29.8s
TAOE Nuku Hiva Isla 70.91 134 *e*LR LR 20 43 30.0
comp=N,3µm,21.8s,baz=337
TAOE Nuku Hiva Isla 70.91 134 *e*T T 21 39 05.3
comp=N,50nm,0.2s
154A Montrose 70.92 61 P **P** **20 21 49.9 -1.4**
154A IAmb IAmb 20 22 13.0
comp=Z,70nm,1.1s
MCD Coleburn Disti 70.97 360 *e*P **P** **20 21 51.1 -0.1**
GBN Guysborough 71.02 39 P **P** **20 21 50.5 -1.2**
GBN IAmb IAmb 20 22 11.1
comp=Z,66nm,1.2s
KAC Achnashellach 71.05 1 *e*P **P** **20 21 52.0 +0.3**
MDO Dochfour 71.11 1 *e*P **P** **20 21 52.3 +0.2**
DEL Delary 71.15 350 *e*P **P** **20 21 51.9 -0.4**
HAW Hawthorne Fire 71.16 60 P **P** **20 21 51.8 -0.9**
baz=320,SNR=17
VSR Storozhevoye 71.23 333 *e*P **P** **20 21 52.6 -0.2**
VSR *e*S **S** **20 31 07.4 -0.4**
VSR pmax pmax
comp=Z,120nm,1.3s
VSR smax smax
comp=E,230nm,4.0s
VSR MLR MLR
comp=Z,3µm,18.0s
Y57A Sumter 71.31 59 P **P** **20 21 51.7 -1.9**
Y57A IAmb IAmb 20 21 55.0
comp=Z,73nm,1.1s
VORD Divnogorie 71.42 333 *e*P **P** **20 21 54.2 +0.2**
VORD pmax pmax
comp=Z,50nm,0.6s
X58A Rowland 71.45 58 P **P** **20 21 52.0 -2.5**
X58A IAmb IAmb 20 21 56.0
comp=Z,36nm,0.8s
TIGA Tifton 71.55 63 P **P** **20 21 54.1 -1.0**
baz=320
MUD Monsted U'grnd 71.61 353 P **P** **20 21 55.9 +0.9**
MUD pmax pmax
comp=Z,53nm,1.2s
MUD Monsted U'grnd 71.61 353 *i* P **P** **20 21 55.8 +0.9**
MUD IAmb IAmb 20 22 05.5
comp=Z,71nm,1.2s
COEN Coen 71.62 214 P **P** **20 21 55.5 0.0**
COEN IAmb IAmb 20 21 56.6
comp=Z,42nm,1.1s
COEN Coen 71.62 214 P **P** **20 21 56.3 +0.7**
comp=Z,47nm,1.5s
CNNC Cliffs of the 71.68 56 P **P** **20 21 55.0 -0.8**
baz=321
NIL Nilore 71.78 301 P **P** **20 21 57.1 +0.6**
NIL pmax pmax
comp=Z,712nm,1.3s
NIL MLR MLR
comp=Z,2µm,18.0s
NIL Nilore 71.78 301 P **P** **20 21 57.0 +0.6**
Y58A Scranton 71.78 58 P **P** **20 21 54.0 -2.5**
255A Hazlehurst 71.79 62 P **P** **20 21 55.8 -0.7**
255A IAmb IAmb 20 21 58.1
comp=Z,75nm,1.1s
255A Hazlehurst 71.79 62 P **P** **20 21 56.0 -0.6**
baz=320,SNR=6.3
SMKI Samarinda 71.94 245 P **P** **20 21 59.8 +2.2**
EDU Dundee 72.01 360 *e*P **P** **20 21 57.0 -0.5**
NHSC New Hope 72.12 59 P **P** **20 21 57.5 -1.0**
NHSC New Hope 72.12 59 P **P** **20 21 57.3 -1.2**
baz=321
INVG Invergeldie, C 72.13 0 *e*P **P** **20 21 57.3 -0.9**
Y59A Loris 72.13 58 P **P** **20 21 56.8 -1.8**
SUW Suwalki 72.24 344 *e*P **P** **20 21 58.2 -0.6**
SUW *e*L L 20 53 26.0
comp=Z,2µm,23.3s
SUW Suwalki 72.24 344 P **P** **20 21 58.0 -0.8**
SUW pmax pmax
comp=Z,107nm,1.0s
SUW MLR MLR
comp=Z,2µm,20.0s
SUW Suwalki 72.24 344 P **P** **20 21 58.0 -0.8**
SUW IAmb IAmb 20 21 59.8
comp=Z,107nm,1.0s
SUW Suwalki 72.24 344 *e*P **P** **20 21 58.4 -0.4**
LAWE Loch Awe, Argy 72.29 1 *e*P **P** **20 21 59.1 0.0**
LAWE IAmb IAmb 20 21 59.8
comp=Z,109nm,1.3s
BSD Bornholm Skovb 72.37 349 *i* P **P** **20 21 59.3 -0.3**
BSD IAmb IAmb 20 22 14.1
comp=Z,79nm,1.3s
EAB Aberfoyle 72.37 1 *e*P **P** **20 21 59.5 -0.2**
SBUM Sibu 72.45 251 P **P** **20 22 01.2 +0.6**
SBUM IAmb IAmb 20 22 13.0
comp=Z,74nm,1.4s
ESY Stoneypath 72.64 360 *e*P **P** **20 22 01.1 -0.2**
TTSI Tana Toraja 72.64 241 P **P** **20 22 02.1 +0.3**
comp=Z,858nmcomp=Z,71nm,1.2s
RGN Rugen 73.11 350 IAMs_20 IAMs_20 20 52 57.8
comp=Z,1µm,22.0s
BBSI Bau Bau 73.23 237 P **P** **20 22 07.1 +1.9**
comp=Z,328nmcomp=Z,8.0nm,0.8s
EKA Eskdalemuir Ar 73.23 360 P **P** **20 22 04.6 -0.1**
comp=Z,9.6nm,0.6s,baz=357,slow=4.4,SNR=37
TLIG Tlapa 73.23 83 P **P** **20 22 05.4 0.0**
TLIG IAmb IAmb 20 22 21.9
comp=Z,64nm,1.3s
ESK Eskdalemuir 73.25 360 P **P** **20 22 05.0 +0.2**
ESK pmax pmax
comp=Z,91nm,1.4s
ESK Eskdalemuir 73.25 360 P **P** **20 22 05.0 +0.2**
ESK IAmb IAmb 20 22 33.7
comp=Z,91nm,1.4s
KBL Kabul 73.28 305 P **P** **20 22 05.0 -0.6**
KBL pmax pmax
comp=Z,279nm,0.7s
KBL Kabul 73.28 305 P **P** **20 22 05.0 -0.6**
KBL Kabul 73.28 305 P **P** **20 22 05.5 -0.2**
SNR=163
PMOR Pomariorio Ree 73.33 144 *e*T T 21 42 07.9
comp=Z,121nm,0.3s
SPSI Sidrap Palu 73.44 241 P **P** **20 22 06.7 +0.2**
comp=Z,636nmcomp=Z,34nm,1.6s
BNSI Bone 73.62 240 P **P** **20 22 08.1 +0.6**
comp=Z,619nmcomp=Z,35nm,1.1s
MTKI Muara Teweh, K 73.65 247 P **P** **20 22 07.5 -0.3**
comp=Z,2µmcomp=Z,28nm,0.7s
GKP Gorka Klasztor 73.88 347 *e*P **P** **20 22 08.3 -0.2**
GKP *e*L L 20 55 45.8
comp=Z,2µm,21.5s
GKP Gorka Klasztor 73.88 347 *e*P **P** **20 22 08.8 +0.3**
YATNC Mamie plateau, 74.03 189 P **P** **20 22 11.8 +2.1**
comp=Z,43nm,0.9s
DZM Mont Dzumac 74.09 190 P **P** **20 22 11.6 +1.4**
comp=Z,60nm,1.1s,baz=41,slow=7.8,SNR=18
DZM LR LR 20 48 06.8
comp=Z,2µm,21.9s,baz=8.5,slow=30
DZM Mont Dzumac 74.09 190 *e*P **P** **20 22 12.2 +2.0**
comp=Z,265nm,1.4s
DZM *e*S **S** **20 31 41.9 +0.8**
comp=Z,967nm,28.2s
DZM Mont Dzumac 74.09 190 *e*LR LR 20 44 58.1
comp=Z,4µm,23.9s,baz=19
DZM Mont Dzumac 74.09 190 P **P** **20 22 11.8 +1.7**
DZM Mont Dzumac 74.09 190 P **P** **20 22 12.5 +2.3**
comp=Z,98nm,1.3s
NOUC Port Laguerre 74.14 190 P **P** **20 22 12.6 +2.3**
comp=Z,54nm,1.8s
AKASG Malin Array Be 74.19 339 P **P** **20 22 10.2 -0.2**
comp=Z,44nm,0.5s,baz=23,slow=6.3,SNR=104
AKASG S **S** **20 31 41.6 0.0**
comp=Z,2.7nm,0.9s,baz=24,slow=10,SNR=5.0
AKASG PKPPKP **P'P'df** **20 49 43.2 -4.9**
comp=Z,0.1nm,0.3s,baz=146,slow=1.4,SNR=4.1
AKASG LR LR 20 58 18.2
comp=Z,2µm,19.6s,baz=24,slow=39
AKASG Malin Array Be 74.19 339 P **P** **20 22 09.9 -0.6**
AKASG pmax pmax
comp=Z,59nm,1.0s
AKASG Malin Array Be 74.19 339 P **P** **20 22 09.9 -0.6**
AKASG IAmb IAmb 20 22 12.1
comp=Z,59nm,0.9s
AKBB Malin Array Si 74.19 339 P **P** **20 22 10.0 -0.4**
AKBB pmax pmax
comp=Z,64nm,0.6s
AKBB Malin Array Si 74.19 339 P **P** **20 22 10.0 -0.4**
KAPI Kappang 74.32 240 P **P** **20 22 12.1 +0.4**
comp=Z,15nm,0.5s,baz=358,slow=3.2,SNR=11
KAPI LR LR 20 51 50.3
comp=Z,404nm,21.3s,baz=38,slow=33
KAPI Kappang 74.32 240 P **P** **20 22 11.8 +0.1**
KAPI pmax pmax
comp=Z,24nm,0.9s
KAPI Kappang 74.32 240 P **P** **20 22 11.8 +0.1**
KAPI Kappang 74.32 240 P **P** **20 22 12.8 +1.1**
KAPI Kappang 74.32 240 P **P** **20 22 12.8 +1.1**
comp=Z,42nm,0.7s
ONTNC Ouen Toro 74.33 190 P **P** **20 22 13.3 +1.9**
ONTNC Ouen Toro 74.33 190 P **P** **20 22 13.6 +2.2**
comp=Z,96nm,1.4s
KSM Kuching 74.36 252 P **P** **20 22 12.2 +0.3**
KSM IAmb IAmb 20 22 23.9
comp=Z,72nm,1.5s
KSM Kuching 74.36 252 P **P** **20 22 12.4 +0.5**
comp=Z,21nm,0.8s
BKSI Bulukumba 74.38 240 P **P** **20 22 12.7 +0.7**
comp=Z,803nmcomp=Z,61nm,1.6s
OUENC Ouen Island, N 74.39 189 P **P** **20 22 13.7 +1.9**
OUENC IAmb IAmb 20 22 14.5
comp=Z,56nm,1.1s
OUENC Ouen Island, N 74.39 189 P **P** **20 22 14.1 +2.3**
comp=Z,48nm,2.0s
PINNC Pines Island, 74.53 189 P **P** **20 22 13.7 +1.1**
PINNC IAmb IAmb 20 22 15.5
comp=Z,87nm,1.1s
KDU Kakadu 74.70 225 P **P** **20 22 14.0 +0.3**
comp=Z,199nm,0.8s
BEL Belsk 74.74 345 *e*P **P** **20 22 14.2 +0.6**
BEL *e*L L 20 56 25.5
comp=Z,2µm,21.6s
BEL Belsk 74.74 345 P **P** **20 22 14.3 +0.7**
BEL pmax pmax
comp=Z,224nm,1.1s
STKI Sintang 74.81 250 P **P** **20 22 14.6 +0.1**
comp=Z,26nm,0.8s
BSSI Bau Bau, Buton 74.88 239 P **P** **20 22 14.3 -0.6**
comp=Z,686nmcomp=Z,60nm,1.6s
RUE Rudersdorf 75.09 349 *e*P **P** **20 22 15.6 0.0**
PPT Papeete 75.11 147 LR LR 20 49 39.9
comp=Z,2µm,19.3s,baz=333,slow=31
MTSU Mount Surprise 75.13 212 P **P** **20 22 17.0 +0.8**
comp=Z,24nm,1.2s
PPT2 Papeete2 75.13 147 *e*S **S** **20 31 52.1 -0.7**
comp=Z,2µm,30.0s
PPT2 Papeete2 75.13 147 *e*LR LR 20 45 28.4
comp=Z,4µm,23.0s,baz=342
PPT2 Papeete2 75.13 147 *e*T T 21 44 23.0
comp=Z,16nm,0.3s
PAE Paea 75.20 147 *e*T T 21 44 27.0
comp=Z,2.8nm,0.2s
SRIT Nakonsritamara 75.26 265 P **P** **20 22 18.1 +0.9**
SRIT IAmb IAmb 20 22 19.6
comp=Z,104nm,1.2s
DWPF Disney Wildern 75.30 63 IAMs_20 IAMs_20 20 57 00.6
comp=Z,1µm,20.0s
DWPF Disney Wildern 75.30 63 P **P** **20 22 16.2 -1.0**
baz=322
MTN Manton Dam 75.43 226 P **P** **20 22 17.7 -0.3**
MTN Manton Dam 75.43 226 P **P** **20 22 18.6 +0.6**
comp=Z,195nm,1.3s
GOF Gofitskoye 75.54 328⇑ *i*P **P** **20 22 19.2 +0.8**
GOF *e*S **S** **20 32 00.8 +3.9**
GOF pmax pmax
comp=Z,250nm,0.9s
GOF smax smax
comp=E,85nm,1.6s
GOF smax smax
comp=N,53nm,1.6s
RAR Rarotonga 75.59 157 LR LR 20 48 01.4
comp=N,2µm,20.5s,baz=346,slow=30
FOEL Foel Wylfa 75.68 360 *e*P **P** **20 22 18.6 -0.4**
FOEL IAmb IAmb 20 22 23.0
comp=Z,44nm,0.7s
BBKI Banjar Baru 75.75 245 P **P** **20 22 19.7 -0.2**
comp=Z,807nmcomp=Z,39nm,1.6s
GEYT Alibeck 75.78 314 P **P** **20 22 20.7 +0.8**
comp=Z,82nm,0.9s,baz=12,slow=7.7,SNR=77
GEYT LR LR 20 58 53.8
comp=Z,5µm,19.4s,baz=50,slow=38
GEYT Alibeck 75.78 314 P **P** **20 22 20.6 +0.7**
GEYT IAmb IAmb 20 22 24.8
comp=Z,108nm,1.0s
GYA0B ALIBECK ARRAY 75.78 314 P **P** **20 22 20.6 +0.7**
MAK Makhachkala 75.83 324 *e*P **P** **20 22 18.1 -1.9**
MAK *e* 20 25 06.5
MAK *e*S **S** **20 31 54.7 -5.4**
MAK pmax pmax
comp=Z,407nm,1.5s
MAK MLR MLR
comp=Z,3µm,18.0s
CMIG Matias Romero 75.86 80 LR LR 20 53 57.1
comp=Z,577nm,19.7s,baz=296,slow=34
HLM1 Long Mynd 76.05 360 *e*P **P** **20 22 20.0 -1.2**
MMRI Maumere 76.07 236 P **P** **20 22 20.7 -0.9**
MMRI IAmb IAmb 20 22 43.4
comp=Z,52nm,0.8s
MMRI Maumere 76.07 236 P **P** **20 22 20.9 -0.8**
comp=Z,1µmcomp=Z,74nm,1.3s
MMRI Maumere 76.07 236 P **P** **20 22 21.7 0.0**
comp=Z,74nm,1.2s
LVV L'vov 76.10 342 *e*P **P** **20 22 21.5 0.0**
LVV *e* 20 25 08.9
LVV *e*S **S** **20 32 02.0 -0.9**
LVV *e* 20 32 27.3
LVV *e* 20 32 46.4
LVV *e* 20 37 01.1
LVV pmax pmax
comp=Z,160nm,1.2s
LVV MLR MLR
comp=N,2µm,21.0s
LVV MLR MLR
comp=E,1µm,21.0s
LVV MLR MLR
comp=Z,2µm,21.0s
GROC Groznyy 76.23 325 *e*P **P** **20 22 22.5 +0.2**
GROC *e**PP **PcP** **20 22 34.6 +0.3**
GROC *e**SP **sP** **20 22 38.6 +4.3**
GROC *e* 20 25 13.0
GROC *e*S **S** **20 32 06.2 +1.7**
GROC *e*S SKSac 20 32 19.3 -12
GROC pmax pmax
comp=Z,78nm,1.4s
CLL Collm 76.33 349 *i* P **P** **20 22 22.1 -0.6**
CLL *e* 20 22 35.0
CLL *e*S S 20 31 55.0 -10
CLL pmax pmax
comp=Z,25nm,1.4s
CLL Collm 76.33 349 P **P** **20 22 21.4 -1.3**
CLL IAMs_20 IAMs_20 20 55 08.1
comp=Z,1µm,22.0s
CLL Collm 76.33 349 *i* P **P** **20 22 22.1 -0.6**
comp=Z,25nm,1.4s
CLL *e*PcP **PcP** **20 22 35.0 +0.5**
CLL *e*S **S** **20 32 03.0 -2.3**
CLL *e*PS **PnS** **20 32 42.0 -2.5**
CLL *e*SS **SS** **20 36 48.0 -10**
CLL *e*x x 20 38 30.0
CLL *e*x x 20 41 06.0
CLL *e*SSSS 20 42 24.0
CTA Charters Tower 76.35 209 P **P** **20 22 23.0 -0.1**
comp=Z,46nm,0.9s,baz=11,slow=7.6,SNR=34
CTA pP **sP** **20 22 32.3 -2.4**
comp=Z,23nm,0.8s,baz=19,slow=6.7,SNR=7.3
CTA LR LR 20 52 01.4
comp=Z,741nm,20.8s,baz=20,slow=32
CTA Charters Tower 76.35 209 P **P** **20 22 23.6 +0.5**
comp=Z,97nm,1.3s
KSP Ksiaz 76.38 347 *e*P **P** **20 22 22.9 0.0**
KSP *e*PcP **PcP** **20 22 35.8 +1.0**
KSP *e*L L 20 57 22.2
comp=Z,2µm,21.9s
KSP Ksiaz 76.38 347 P **P** **20 22 23.0 0.0**
KSP pmax pmax
comp=Z,18nm,0.6s
OJC Ojcow 76.46 345 *e*P **P** **20 22 23.9 +0.3**
OJC *e*L L 20 59 03.6
comp=Z,2µm,20.4s
OJC Ojcow 76.46 345 P **P** **20 22 23.1 -0.4**
OJC pmax pmax
comp=Z,144nm,1.5s
OJC Ojcow 76.46 345 P **P** **20 22 23.1 -0.4**
OJC IAmb IAmb 20 22 24.9
comp=Z,144nm,1.5s
KWP Kalwaria Pacla 76.53 343 *e*P **P** **20 22 24.8 +0.9**
KWP *e*PcP **PcP** **20 22 38.0 +2.5**
KWP *e*L L 20 56 25.3
comp=Z,2µm,23.9s
KWP Kalwaria Pacla 76.53 343 P **P** **20 22 24.5 +0.6**
KWP pmax pmax
comp=Z,2µm,0.8s
KWP MLR MLR
comp=Z,12µm,21.0s
KWP Kalwaria Pacla 76.53 343 P **P** **20 22 24.5 +0.6**
MCH1 Michaelchurch 76.57 360 *e*P **P** **20 22 23.6 -0.4**
MCH1 IAmb IAmb 20 22 24.7
comp=Z,30nm,1.0s
RSBS Rosebush, Pemb 76.61 1 *e*P **P** **20 22 23.6 -0.7**
RSBS IAmb IAmb 20 22 25.6
comp=Z,93nm,1.3s
KVAR Kislovodsk Arr 76.63 328 P **P** **20 22 25.8 +1.1**
comp=Z,3.8nm,0.4s,baz=90,slow=19,SNR=5.0
KVAR LR LR 21 01 04.9
comp=Z,786nm,18.7s,baz=274,slow=40
KIV Kislovodsk 76.64 328 *e*P **P** **20 22 25.3 +0.6**
KIV *e* 20 25 17.6
KIV *e*S **S** **20 32 09.5 +0.3**
KIV *e*SS **SS** **20 37 05.8 +2.3**
KIV pmax pmax
comp=Z,51nm,1.1s
KIV pmax pmax
comp=Z,35nm,3.4s
KIV MLR MLR
comp=Z,1µm,18.0s
KIV Kislovodsk 76.64 328 P **P** **20 22 24.5 -0.2**
KIV IAmb IAmb 20 22 40.8
comp=Z,60nm,1.1s
KIV Kislovodsk 76.64 328 P **P** **20 22 25.6 +0.9**
KIV Kislovodsk 76.64 328 *i* P **P** **20 22 25.6 +0.9**
SNR=18
BRG Berggiesshubel 76.65 349⇓ *i*P **P** **20 22 24.6 0.0**
BRG Amp 20 22 26.9
comp=Z,13nm,0.9s
BRG *e*x x 20 22 32.2
BRG Amp 20 22 33.2
comp=Z,20nm,1.1s
BRG Berggiesshubel 76.65 349⇓ *i*P **P** **20 22 24.5 0.0**
BRG *e* 20 22 32.1
BRG pmax pmax
comp=Z,13nm,0.9s
BRG pmax pmax
comp=Z,20nm,1.1s
CHVC Chvalec 76.66 347 *e*P **P** **20 22 24.7 0.0**
CHVC AMS AMS 20 57 00.0
comp=Z,1µm,21.1s
OSTC Ostas 76.67 347 *e*P **P** **20 22 24.9 +0.2**
OSTC AMS AMS 20 57 00.0
comp=Z,2µm,20.7s
BATI Baumata 76.68 234 P **P** **20 22 25.6 +0.4**
comp=Z,86nm,0.7s,baz=121,slow=5.9,SNR=23
BATI LR LR 20 52 44.6
comp=Z,223nm,21.2s,baz=60,slow=33
BATI Baumata 76.68 234 P **P** **20 22 25.3 +0.1**
comp=Z,704nmcomp=Z,80nm,1.0s
BUG Bochum--Univer 76.74 353 P **P** **20 22 25.4 +0.4**
BUG pmax pmax
comp=Z,33nm,0.9s
NCK Nalchik 76.74 327*c* *i*P **P** **20 22 26.4 +1.2**
NCK pmax pmax
comp=Z,200nm,1.6s
UPC Upice 76.74 347 *e*P **P** **20 22 25.3 +0.2**
UPC MLR MLR
comp=Z,2µm,21.4s
UPC Upice 76.74 347 *e*P **P** **20 22 25.3 +0.2**
UPC AMS AMS 20 57 00.0
comp=Z,2µm,21.4s
KBZ Khabaz 76.77 327 P **P** **20 22 26.5 +1.2**
comp=Z,43nm,1.1s,baz=49,slow=1.5,SNR=39
KBZ LR LR 21 00 54.7
comp=Z,840nm,19.8s,baz=10,slow=39
KBZ Khabaz 76.77 327*c* *i*P **P** **20 22 26.2 +0.9**
KBZ pmax pmax
comp=Z,63nm,1.2s
HRA Herat 76.77 309 P **P** **20 22 26.6 +0.9**
STRD Stroud 76.79 359 *e*P **P** **20 22 25.2 -0.1**
SORM Soroca 76.80 339⇑ P **P** **20 22 25.5 +0.1**
SORM Soroca 76.80 339⇑ P **P** **20 22 25.5 +0.1**
SHA1 Shidzhatmaz 76.84 328*c* *i*P **P** **20 22 26.9 +0.8**
DPC Dobruska-Polom 76.85 347 *e*P **P** **20 22 25.5 -0.3**
DPC MLR MLR
comp=Z,1µm,22.4s
DPC Dobruska-Polom 76.85 347 *e*P **P** **20 22 25.5 -0.3**
DPC AMS AMS 20 56 50.0
comp=Z,1µm,22.4s
PVCC Panska Ves 76.91 348 *e*P **P** **20 22 26.1 +0.1**
PVCC MLR MLR
comp=Z,900nm,19.0s
PVCC Panska Ves 76.91 348 *e*P **P** **20 22 26.1 +0.1**
PVCC AMS AMS 20 55 50.0
comp=Z,900nm,19.0s
PBKI Pangkalan Bun 76.94 248 P **P** **20 22 26.4 -0.2**
comp=Z,1µmcomp=Z,64nm,0.7s
SWN1 Swindon 77.05 359 *e*P **P** **20 22 27.2 +0.4**
SWN1 IAmb IAmb 20 22 30.2
comp=Z,148nm,1.3s
KRLC Kraliky 77.06 347 *e*P **P** **20 22 27.2 +0.2**
KRLC MLR MLR
comp=Z,1µm,19.6s
KRLC Kraliky 77.06 347 *e*P **P** **20 22 27.2 +0.2**
KRLC AMS AMS 20 57 30.0
comp=Z,1µm,19.6s
OKC Ostrava-Krasne 77.09 346 *e*P **P** **20 22 27.7 +0.6**
OKC MLR MLR
comp=Z,2µm,20.0s
OKC Ostrava-Krasne 77.09 346 *e*P **P** **20 22 27.7 +0.6**
OKC AMS AMS 20 58 20.0
comp=Z,2µm,20.0s
PBA Port Blair 77.15 272 P **P** **20 22 27.8 -0.1**
PBA Port Blair 77.15 272 P **P** **20 22 28.3 +0.4**
SNR=8.1
NIE Niedzica 77.15 344 *e*P **P** **20 22 28.9 +1.4**
NIE *e*L L 20 58 26.6
comp=Z,1µm,20.6s
NIE Niedzica 77.15 344 P **P** **20 22 29.1 +1.6**
NIE pmax pmax
comp=Z,19nm,1.4s
KULM Kulim 77.18 262 P **P** **20 22 27.9 -0.2**
KULM IAmb IAmb 20 22 30.1
comp=Z,43nm,1.0s
MORC Moravsky Berou 77.24 346 P **P** **20 22 27.5 -0.5**
MORC pmax pmax
comp=Z,34nm,1.2s
MORC Moravsky Berou 77.24 346 P **P** **20 22 27.5 -0.5**
MORC Moravsky Berou 77.24 346 *e*P **P** **20 22 28.1 +0.1**
NEY Neytrino 77.25 327 *i* P **P** **20 22 28.9 +0.6**
NEY pmax pmax
comp=Z,22nm,1.5s
ZEI Tsey 77.26 326 *e*P **P** **20 22 26.5 -1.9**
ZEI pmax pmax
comp=Z,79nm,0.9s

LGD	**Lagodekhi**	**77.27 324**	P		**P**	**20 22 28.9 +0.7**		
KOLS	**Kolonicke sedl**	**77.28 343**	*e*P		**P**	**20 22 29.2 +1.0**		
KOLS	**Kolonicke sedl**	**77.28 343**	*e*P		**P**	**20 22 29.2 +1.0**		
PRU	**Pruhonice**	**77.44 348**	*e*P		**P**	**20 22 29.1 +0.1**		
PRU			MLR	MLR				
	comp=Z,1μm,25.4s							
PRU	**Pruhonice**	**77.44 348**	*e*P		**P**	**20 22 29.1 +0.1**		
PRU			AMS	AMS		20 56 00.0		
	comp=Z,1μm,25.4s							
NKC	**Novy Kostel**	**77.45 350**	*e*P		**P**	**20 22 28.8 -0.3**		
NKC			MLR	MLR				
	comp=Z,800nm,15.8s							
NKC	**Novy Kostel**	**77.45 350**	*e*P		**P**	**20 22 28.8 -0.3**		
NKC			AMS	AMS		21 00 00.0		
	comp=Z,800nm,15.8s							
CRVS	**Cervenica-Dubn**	**77.45 343**	*e*P		**P**	**20 22 30.0 +0.9**		
CRVS			pmax	pmax				
	comp=Z,176nm,1.7s							
CRVS	**Cervenica-Dubn**	**77.45 343**	*e*P		**P**	**20 22 30.0 +0.9**		
SEKA	**Sheki**	**77.46 323**	P		**P**	**20 22 30.2 +0.8**		
BEBN	**Eben Emael**	**77.49 354**	*d*P		**P**	**20 22 29.5 +0.3**		
	comp=Z,31nm,1.2s							
ANN	**Anapa**	**77.53 332**	*e*P		**P**	**20 22 27.1 -2.5**		
ANN			*e**PP		**pP**	**20 22 36.4 -1.8**		
ANN			*e*S		**S**	**20 32 14.8 -3.7**		
ANN			pmax	pmax				
	comp=Z,28nm,0.6s							
ANN			MLR	MLR				
	comp=N,3μm,20.0s							
ANN			MLR	MLR				
	comp=Z,1μm,18.0s							
LANS	**Liptovska Anna**	**77.55 345**	*e*P		**P**	**20 22 31.3 +1.6**		
LANS			pmax	pmax				
	comp=Z,56nm,1.1s							
LANS	**Liptovska Anna**	**77.55 345**	*e*P		**P**	**20 22 31.3 +1.6**		
UZH	**Uzhgorod**	**77.56 343**	*d*P		**P**	**20 22 29.9 +0.2**		
UZH			*i*			20 22 38.1		
UZH			*e*			20 22 42.1		
UZH			*i* S		**S**	**20 32 16.5 -2.4**		
UZH			*e*PS		**PnS**	**20 32 48.4 -12**		
IPM	**Ipoh**	**77.58 261**	P		**P**	**20 22 29.5 -0.9**		
IPM			IAmb	IAmb		20 22 31.7		
	comp=Z,32nm,0.8s							
IPM	**Ipoh**	**77.58 261**	P		**P**	**20 22 30.3 0.0**		
	comp=Z,50nm,0.9s							
ONI	**Oni**	**77.59 327**	P		**P**	**20 22 29.0 -1.0**		
ONI			pmax	pmax				
	comp=Z,42nm,0.9s							
ONI	**Oni**	**77.59 327**	P		**P**	**20 22 29.0 -1.0**		
ONI			IAmb	IAmb		20 22 46.0		
	comp=Z,42nm,0.9s							
MEM	**Membach**	**77.65 354**	P		**P**	**20 22 30.2 0.0**		
MEM			pmax	pmax				
	comp=Z,67nm,1.1s							
MEM	**Membach**	**77.65 354**	*d*P		**P**	**20 22 29.6 -0.6**		
	comp=Z,35nm,1.0s							
DDFL	**Dedoflistskaro**	**77.65 324**	P		**P**	**20 22 34.2 +3.7**		
BTNL	**Ternell**	**77.67 354**	*d*P		**P**	**20 22 30.6 +0.3**		
	comp=Z,28nm,1.2s							
BSTI	**Sart Tilman**	**77.71 354**	*d*P		**P**	**20 22 30.7 +0.2**		
KIS	**Kishinev**	**77.77 338**	*e*P		**P**	**20 22 30.0 -0.9**		
	comp=Z,100nm,1.2s							
KIS			*e*S		**S**	**20 32 20.0 -1.1**		
KIS			*e*LR	LR		20 52 47.0		
	comp=Z,700nm,15.0s							
KIS	**Kishinev**	**77.77 338**	*e*P		**P**	**20 22 30.0 -0.9**		
KIS			*e*S		**S**	**20 32 20.0 -1.1**		
KIS			pmax	pmax				
	comp=Z,100nm,1.2s							
KIS			MLR	MLR				
	comp=Z,700nm,15.0s							
PBCC	**Pribram**	**77.81 349**	AMS	AMS		20 56 20.0		
	comp=Z,800nm,22.0s							
VRAC	**Vranov**	**77.83 347**	⇑P		**P**	**20 22 31.9 +0.6**		
VRAC	**Vranov**	**77.83 347**	P		**P**	**20 22 31.5 +0.2**		
	comp=Z,17nm,0.9s,baz=5.0,slow=6.7,SNR=13							
VRAC			LR	LR		20 58 43.1		
	comp=Z,2μm,22.0s,baz=20,slow=37							
VRAC	**Vranov**	**77.83 347**	*e*P		**P**	**20 22 31.5 +0.2**		
MILM	**Milestii Mici**	**77.84 338**	⇑*i*P		**P**	**20 22 31.0 -0.3**		
	comp=Z,190nm,1.4s							
MILM	**Milestii Mici**	**77.84 338**	PV			20 22 33.5		
	comp=Z,240nm,2.8s							
MILM	**Milestii Mici**	**77.84 338**	*e*PcP		**PcP**	**20 22 39.0 -2.1**		
MILM			*i* S		**S**	**20 32 21.0 -0.9**		
MILM			*e*LQ	LQ		20 48 19.0		
	comp=Z,2μm,20.0s							
MILM			*e*LR	LR		20 57 51.0		
	comp=Z,2μm,15.5s							
MILM	**Milestii Mici**	**77.84 338**	⇑P		**P**	**20 22 30.4 -0.9**		
MILM	**Milestii Mici**	**77.84 338**	*c* *i*P		**P**	**20 22 31.0 -0.3**		
MILM			*e*			20 22 39.0		
MILM			*i* S		**S**	**20 32 21.0 -0.9**		
MILM			pmax	pmax				
	comp=Z,240nm,2.8s							
TNS	**Taunus Mts**	**77.85 352**	P		**P**	**20 22 31.6 +0.2**		
IAS	**Iasi**	**77.87 339**	⇓P		**P**	**20 22 30.2 -1.2**		
IAS	**Iasi**	**77.87 339**	P		**P**	**20 22 31.5 +0.1**		
IAS			pmax	pmax				
	comp=Z,243nm,1.3s							
MNGR	**Mingechevir, A**	**77.89 323**	P		**P**	**20 22 32.1 +0.5**		
BCLA	**Clavier**	**77.89 354**	*d*P		**P**	**20 22 30.9 -0.6**		
	comp=Z,22nm,1.0s							
SOC	**Sochi**	**77.93 329**	*e*P		**P**	**20 22 30.3 -1.5**		
SOC			*e*			20 25 24.5		
SOC			*e*PPP	PPP		20 27 14.7		
SOC			*e*S		**S**	**20 32 21.0 -2.0**		
SOC			*e*SS		**SS**	**20 37 24.2 +1.4**		
SOC			*e*SSS	SSS		20 40 49.0		
SOC			pmax	pmax				
	comp=Z,31nm,0.7s							
SOC			MLR	MLR				
	comp=Z,2μm,18.0s							
BGES	**Gesves**	**77.93 354**	*d*P		**P**	**20 22 31.8 0.0**		
	comp=Z,25nm,1.0s							
CHVG	**Ch'k'valeri**	**77.94 327**	⇓P		**P**	**20 22 33.4 +1.5**		
CHVG	**Ch'k'valeri**	**77.94 327**	⇓P		**P**	**20 22 33.4 +1.5**		
BUR08	**Bucovina Ar. S**	**77.95 341**	P		**P**	**20 22 32.3 +0.3**		
BUR08			IAmb	IAmb		20 22 41.5		
	comp=Z,72nm,0.9s							
BURAR	**Bucovina Array**	**77.97 341**	⇑P		**P**	**20 22 32.8 +0.7**		
BURAR	**Bucovina Array**	**77.97 341**	P		**P**	**20 22 32.5 +0.3**		
BURAR			pmax	pmax				
	comp=Z,85nm,0.8s							
BURAR	**Bucovina Array**	**77.97 341**	P		**P**	**20 22 32.5 +0.3**		
BURAR			IAmb	IAmb		20 22 41.9		
	comp=Z,86nm,0.8s							
MYKOM	**Kota Tinggi**	**77.97 257**	P		**P**	**20 22 32.1 -0.4**		
MYKOM			IAmb	IAmb		20 22 45.0		
	comp=Z,74nm,1.4s							
TREC	**Trest**	**78.00 347**	*e*P		**P**	**20 22 32.3 +0.1**		
TREC			MLR	MLR				
	comp=Z,1μm,23.1s							
TREC	**Trest**	**78.00 347**	*e*P		**P**	**20 22 32.3 +0.1**		
TREC			AMS	AMS		20 57 10.0		
	comp=Z,1μm,23.1s							
TRPA	**Tarpa**	**78.00 343**	P		**P**	**20 22 33.3 +1.2**		
KECS	**Kecovo**	**78.03 344**	*e*P		**P**	**20 22 33.3 +1.0**		
KECS	**Kecovo**	**78.03 344**	*e*P		**P**	**20 22 33.3 +1.0**		
BMRD	**Maredsous**	**78.03 355**	*d*P		**P**	**20 22 32.3 0.0**		
	comp=Z,27nm,1.1s							
IZAB	**Izabela**	**78.07 345**	*e*P		**P**	**20 22 33.6 +1.0**		
KRUC	**Moravsky**	**78.10 347**	P		**P**	**20 22 33.1 +0.4**		
KRUC			pmax	pmax				
	comp=Z,35nm,1.4s							
KRUC	**Moravsky**	**78.10 347**	*e*P		**P**	**20 22 32.8 +0.1**		
JAVC	**Velka Javorina**	**78.11 346**	*e*P		**P**	**20 22 34.3 +1.4**		
GRA1	**Grafenberg Arr**	**78.12 350**	P		**P**	**20 22 32.5 -0.3**		
GRA1			IAmb	IAmb		20 22 47.0		
	comp=Z,58nm,1.2s							
GRA1			IAMs_20	IAMs_20		20 59 55.4		
	comp=Z,721nm,19.0s							
GRF	**Grafenberg Arr**	**78.12 350**	P		**P**	**20 22 32.5 -0.3**		
GRF			pmax	pmax				
	comp=Z,58nm,1.2s							
GRF			MLR	MLR				
	comp=Z,700nm,19.0s							
GRFO	**Grafenberg**	**78.12 350**	P		**P**	**20 22 32.3 -0.5**		
GRFO			pmax	pmax				
	comp=Z,62nm,1.3s							
GRFO			MLR	MLR				
	comp=Z,700nm,20.0s							
GRFO	**Grafenberg**	**78.12 350**	P		**P**	**20 22 32.3 -0.5**		
GRFO			IAmb	IAmb		20 22 47.0		
	comp=Z,62nm,1.3s							
GRFO			IAMs_20	IAMs_20		20 59 55.4		
	comp=Z,736nm,20.0s							
DYA	**Yadsworthy**	**78.14 0**	*e*P		**P**	**20 22 32.3 -0.6**		
DYA			IAmb	IAmb		20 22 33.4		
	comp=Z,126nm,1.2s							
CCIG	**Comitan**	**78.15 79**	P		**P**	**20 22 34.6 +0.9**		
CCIG			IAmb	IAmb		20 22 58.8		
	comp=Z,65nm,1.3s							
RCHB	**Rochefort**	**78.15 354**	*d*P		**P**	**20 22 32.5 -0.4**		
	comp=Z,14nm,1.1s							
GIVF	**Givet**	**78.23 355**	*e*P		**P**	**20 22 32.9 -0.5**		
GIVF			pmax	pmax				
	comp=Z,44nm,1.3s							
DOU	**Dourbes**	**78.25 355**	*b*P		**P**	**20 22 33.0 -0.5**		
	comp=Z,20nm,1.1s							
BMR	**Baia Mare**	**78.26 342**	⇑P		**P**	**20 22 34.8 +1.2**		
BMR	**Baia Mare**	**78.26 342**	⇑P		**P**	**20 22 34.8 +1.2**		
BASI	**Baing, Sumba**	**78.26 236**	P		**P**	**20 22 34.9 +0.9**		
	comp=Z,2μmcomp=Z,172nm,0.8s							
KOLL	**Kolacno**	**78.28 345**	*e*P		**P**	**20 22 34.5 +0.8**		
GANJ	**Ganja**	**78.28 324**	P		**P**	**20 22 34.7 +0.8**		
VYHS	**Vyhne**	**78.29 345**	*e*P		**P**	**20 22 34.5 +0.7**		
VYHS			pmax	pmax				
	comp=Z,28nm,1.2s							
VYHS	**Vyhne**	**78.29 345**	*e*P		**P**	**20 22 34.5 +0.7**		
BAIF	**Baives**	**78.31 355**	*e*P		**P**	**20 22 33.6 -0.2**		
BAIF			pmax	pmax				
	comp=Z,62nm,1.4s							
SIM	**Simferopol'**	**78.34 334**	*e*P		**P**	**20 22 33.5 -0.6**		
SIM			*e*			20 22 41.5		
SIM			pmax	pmax				
	comp=Z,33nm,1.2s							
VASR	**Vaslui**	**78.34 339**	⇓P		**P**	**20 22 34.9 +0.9**		
LEOM	**Leova**	**78.39 338**	⇑P		**P**	**20 22 34.8 +0.4**		
LEOM	**Leova**	**78.39 338**	⇑P		**P**	**20 22 34.8 +0.4**		
KHC	**Kasperske Hory**	**78.41 349**	*i* P		**P**	**20 22 33.3 -1.2**		
KHC			pmax	pmax				
	comp=Z,76nm,1.5s							
KHC	**Kasperske Hory**	**78.41 349**	P		**P**	**20 22 34.3 -0.2**		
KHC	**Kasperske Hory**	**78.41 349**	*e*P		**P**	**20 22 34.8 +0.3**		
KHC			pP		**pP**	**20 22 42.0 -1.1**		
KHC			AMS	AMS		20 56 10.0		
	comp=Z,1μm,23.2s							
SMOL	**Smolenice**	**78.49 346**	*e*P		**P**	**20 22 35.9 +1.0**		
SMOL			pmax	pmax				
	comp=Z,40nm,1.5s							
SMOL	**Smolenice**	**78.49 346**	*e*P		**P**	**20 22 35.9 +1.0**		
PLAI	**Plampang**	**78.57 240**	P		**P**	**20 22 34.1 -1.6**		
	comp=Z,1μmcomp=Z,85nm,1.5s							
PLAI	**Plampang**	**78.57 240**	P		**P**	**20 22 34.8 -0.9**		
	comp=Z,85nm,1.5s							
WLF	**Walferdange**	**78.58 354**	P		**P**	**20 22 34.4 -1.0**		
WLF			pmax	pmax				
	comp=Z,33nm,1.1s							
WLF	**Walferdange**	**78.58 354**	P		**P**	**20 22 34.4 -1.0**		
WLF	**Walferdange**	**78.58 354**	*d*P		**P**	**20 22 34.0 -1.4**		
	comp=Z,17nm,1.2s							
CKRC	**Cesky Krumlov**	**78.62 348**	*e*P		**P**	**20 22 35.5 -0.1**		
CKRC			AMS	AMS		20 57 00.0		
	comp=Z,1μm,27.9s							
ARCR	**ARCALIA**	**78.65 341**	⇑P		**P**	**20 22 37.7 +1.9**		
GEC2	**GERESS Array S**	**78.67 349**	P		**P**	**20 22 35.6 -0.4**		
GERES	**GERESS Array B**	**78.67 349**	P		**P**	**20 22 35.8 -0.2**		
	comp=Z,3.0nm,0.7s,baz=46,slow=3.9,SNR=13							
GERES			LR	LR		21 01 49.6		
	comp=Z,763nm,18.6s,baz=20,slow=39							
GERES	**GERESS Array B**	**78.67 349**	P		**P**	**20 22 35.5 -0.5**		
GERES	**GERESS Array B**	**78.67 349**	P		**P**	**20 22 35.5 -0.5**		
PSZ	**Piszkesteto**	**78.67 344**	⇑P		**P**	**20 22 37.1 +1.1**		
PSZ	**Piszkesteto**	**78.67 344**	P		**P**	**20 22 36.7 +0.7**		
PSZ			pmax	pmax				
	comp=Z,99nm,1.3s							
PSZ			MLR	MLR				
	comp=Z,2μm,18.0s							
PSZ	**Piszkesteto**	**78.67 344**	P		**P**	**20 22 36.7 +0.7**		
PSZ			IAmb	IAmb		20 22 46.0		
	comp=Z,99nm,1.3s							
PSZ	**Piszkesteto**	**78.67 344**	P		**P**	**20 22 37.0 +1.0**		
TESR	**Tescani**	**78.72 339**	⇑P		**P**	**20 22 36.6 +0.5**		
BIR	**Birlad**	**78.73 339**	⇑P		**P**	**20 22 37.8 +1.6**		
BIR	**Birlad**	**78.73 339**	⇑P		**P**	**20 22 37.8 +1.6**		
LTVH	**Ltavrtes, Hu**	**78.84 343**	⇑P		**P**	**20 22 38.0 +1.2**		
LTVH	**Ltavrtes, Hu**	**78.84 343**	P		**P**	**20 22 38.0 +1.2**		
ZST	**Bratislava**	**78.85 346**	*e*P		**P**	**20 22 38.1 +1.3**		
ZST			pmax	pmax				
	comp=Z,121nm,1.0s							
ZST	**Bratislava**	**78.85 346**	*e*P		**P**	**20 22 38.1 +1.3**		
MESR	**Meseseni**	**78.87 342**	⇑P		**P**	**20 22 38.2 +1.3**		
GHRR		**78.97 339**	⇑P		**P**	**20 22 38.9 +1.3**		
QIS	**Mount Isa**	**78.98 215**	P		**P**	**20 22 37.5 -0.3**		
	comp=Z,38nm,1.6s							
KNRA	**Kununurra**	**78.99 227**	P		**P**	**20 22 37.5 -0.4**		
KNRA			IAmb	IAmb		20 22 40.2		
	comp=Z,115nm,1.4s							
KNRA	**Kununurra**	**78.99 227**	P		**P**	**20 22 38.2 +0.3**		
	comp=Z,78nm,1.3s							
VLDR	**Vladesti**	**79.03 338**	⇑P		**P**	**20 22 38.8 +0.9**		
VARL	**Varlezi**	**79.03 338**	⇓P		**P**	**20 22 38.9 +1.1**		
LKRN	**Lenkeran, Azer**	**79.03 321**	P		**P**	**20 22 38.7 +0.7**		
SRO	**Srobarova**	**79.03 345**	*e*P		**P**	**20 22 39.2 +1.3**		
SRO			pmax	pmax				
	comp=Z,60nm,1.3s							
SRO	**Srobarova**	**79.03 345**	*e*P		**P**	**20 22 39.2 +1.3**		
CJR	**Cluj-Napoca**	**79.16 341**	⇑P		**P**	**20 22 39.5 +0.9**		
CJR	**Cluj-Napoca**	**79.16 341**	⇑P		**P**	**20 22 39.5 +0.9**		
KMMI	**Kalianget**	**79.18 244**	P		**P**	**20 22 39.1 +0.1**		
	comp=Z,2μmcomp=Z,97nm,1.3s							
SCTR	**Scanteiesti**	**79.20 338**	⇑P		**P**	**20 22 39.4 +0.5**		
BSZH	**Besenyszg**	**79.21 344**	⇑P		**P**	**20 22 40.5 +1.7**		
BSZH	**Besenyszg**	**79.21 344**	P		**P**	**20 22 39.9 +1.1**		
BUD	**Budapest**	**79.24 345**	P		**P**	**20 22 40.7 +1.7**		
BUD			pmax	pmax				
	comp=Z,56nm,1.2s							
BUD	**Budapest**	**79.24 345**	P		**P**	**20 22 40.1 +1.1**		
DRGR		**79.25 342**	⇑P		**P**	**20 22 39.8 +0.6**		
DRGR		**79.25 342**	⇑P		**P**	**20 22 39.8 +0.6**		
CONA	**Conrad Observa**	**79.29 347**	*i* P		**P**	**20 22 40.1 +0.8**		
	comp=Z,48nm,1.4s,SNR=18							
GNI	**Garni**	**79.29 324**	P		**P**	**20 22 41.4 +1.7**		
	comp=Z,25nm,0.8s,baz=351,slow=3.2,SNR=29							
GNI			LR	LR		21 02 29.3		
	comp=Z,3μm,19.3s,baz=34,slow=39							
GNI	**Garni**	**79.29 324**	*c* *i*P		**P**	**20 22 41.1 +1.5**		
GNI			pmax	pmax				
	comp=Z,124nm,1.7s							
GNI	**Garni**	**79.29 324**	P		**P**	**20 22 41.4 +1.7**		
GNI	**Garni**	**79.29 324**	P		**P**	**20 22 40.5 +0.9**		
GNI	**Garni**	**79.29 324**	P		**P**	**20 22 41.4 +1.7**		
OZUR		**79.30 340**	⇑P		**P**	**20 22 40.4 +1.0**		
VRI	**Vrincioaia**	**79.31 339**	⇑P		**P**	**20 22 40.0 +0.6**		
VRI	**Vrincioaia**	**79.31 339**	⇑P		**P**	**20 22 40.0 +0.6**		
DSRI	**Dabo**	**79.33 255**	P		**P**	**20 22 41.9 +2.0**		
	comp=Z,573nmcomp=Z,35nm,1.7s							
SLCR	**Slobozia Conac**	**79.34 338**	⇓P		**P**	**20 22 39.6 +0.1**		
PLOR	**Plostina**	**79.34 339**	⇑P		**P**	**20 22 40.0 +0.4**		
PLOR	**Plostina**	**79.34 339**	⇑P		**P**	**20 22 40.0 +0.4**		
SRBI	**Singaraja**	**79.34 242**	P		**P**	**20 22 39.3 -0.6**		
	comp=Z,858nmcomp=Z,41nm,1.0s							
JVM	**Valle D.L. Mar**	**79.35 359**	*e*P		**P**	**20 22 39.8 +0.3**		
SOP	**Sopron**	**79.43 346**	P		**P**	**20 22 41.3 +1.3**		
SOP			pmax	pmax				
	comp=Z,49nm,1.1s							
SOP	**Sopron**	**79.43 346**	P		**P**	**20 22 40.9 +0.9**		
COVR	**Voineasa-Covas**	**79.44 339**	⇑P		**P**	**20 22 41.7 +1.5**		
RONA	**Rosalia, Austr**	**79.45 347**	*i* P		**P**	**20 22 41.1 +0.9**		
	comp=Z,13nm,0.8s,SNR=14							
KARS	**Kars**	**79.46 326**	P		**P**	**20 22 40.1 -0.4**		
KARS			pmax	pmax				
	comp=Z,184nm,1.2s							
KARS	**Kars**	**79.46 326**	P		**P**	**20 22 40.1 -0.4**		
TLCR		**79.47 337**	⇓P		**P**	**20 22 41.0 +0.7**		
TLCR		**79.47 337**	⇓P		**P**	**20 22 41.0 +0.7**		
CSKK	**Cskako**	**79.48 345**	P		**P**	**20 22 41.3 +1.0**		
DOPR	**Dopca**	**79.50 340**	⇑P		**P**	**20 22 42.0 +1.5**		
LHMI	**Lhok Sumawe**	**79.51 265**	P		**P**	**20 22 42.3 +1.3**		
LHMI	**Lhok Sumawe**	**79.51 265**	P		**P**	**20 22 42.1 +1.2**		
	comp=Z,3μmcomp=Z,462nm,0.8s							
LHMI	**Lhok Sumawe**	**79.51 265**	P		**P**	**20 22 43.3 +2.4**		
	comp=Z,466nm,0.8s							
EGYH	**Egyhazaskeszo**	**79.57 346**	P		**P**	**20 22 41.5 +0.7**		
MOA	**Molln**	**79.58 348**	*i* P		**P**	**20 22 41.1 +0.2**		
	comp=Z,15nm,1.3s							
CFR	**Carcaliu**	**79.64 338**	⇑P		**P**	**20 22 41.4 +0.2**		
CFR	**Carcaliu**	**79.64 338**	⇑P		**P**	**20 22 41.4 +0.2**		
PPBI	**Pangkal Pinang**	**79.74 253**	P		**P**	**20 22 41.7 -0.5**		
	comp=Z,5μmcomp=Z,24nm,1.0s							
CDF	**Champ du Feu**	**79.75 353**	*e*P		**P**	**20 22 41.3 -0.6**		
CDF			pmax	pmax				
	comp=Z,12nm,0.8s							
RTAL	**Retalhuleu**	**79.78 80**	P		**P**	**20 22 41.6 -0.8**		
MPLH	**Magyarpolny**	**79.78 346**	P		**P**	**20 22 42.7 +0.8**		
BIOA	**Bad Ischl, Aus**	**79.81 348**	*e*P		**P**	**20 22 43.0 +0.8**		
	comp=Z,31nm,1.6s,SNR=12							
MLR	**Muntele Rosu**	**79.84 340**	⇑P		**P**	**20 22 44.0 +1.5**		
MLR	**Muntele Rosu**	**79.84 340**	P		**P**	**20 22 43.2 +0.8**		
	comp=Z,30nm,0.8s,baz=6.4,slow=4.7,SNR=33							
MLR			LR	LR		21 02 08.0		
	comp=Z,1μm,20.5s,baz=24,slow=39							
MLR	**Muntele Rosu**	**79.84 340**	P		**P**	**20 22 42.9 +0.4**		
MLR			pmax	pmax				
	comp=Z,141nm,1.5s							
MLR			MLR	MLR				
	comp=Z,1μm,21.0s							
MLR	**Muntele Rosu**	**79.84 340**	P		**P**	**20 22 42.9 +0.4**		
MLR			IAmb	IAmb		20 22 45.2		
	comp=Z,141nm,1.5s							
MLR			IAMs_20	IAMs_20		21 01 36.4		
	comp=Z,1μm,21.0s							
JURR	**Jurilovca**	**79.85 337**	⇓P		**P**	**20 22 42.6 +0.3**		
TSI	**Tuntungan**	**79.86 263**	P		**P**	**20 22 43.1 +0.3**		
	comp=Z,127nm,0.6s							
NAX	**Nakhchivan**	**79.87 323**	P		**P**	**20 22 42.9 +0.2**		
TPGR	**Topolog**	**79.88 338**	⇓P		**P**	**20 22 43.4 +0.8**		
LDF	**La Druitiere**	**79.94 358**	*e*P		**P**	**20 22 41.9 -0.9**		
LDF			pmax	pmax				
	comp=Z,30nm,0.9s							
ECH	**Echery**	**79.95 353**	P		**P**	**20 22 42.3 -0.6**		
ECH			pmax	pmax				
	comp=Z,31nm,1.2s							
ECH			MLR	MLR				
	comp=Z,900nm,20.0s							
ECH	**Echery**	**79.95 353**	P		**P**	**20 22 42.3 -0.6**		
ECH			IAMs_20	IAMs_20		21 00 51.8		
	comp=Z,887nm,20.0s							
SIRR	**Siria**	**79.96 343**	⇑P		**P**	**20 22 43.8 +0.9**		
TIH	**Tihany**	**79.99 345**	P		**P**	**20 22 39.6 -3.5**		
ARSA	**Arzberg**	**80.00 347**	*i* P		**P**	**20 22 44.0 +0.8**		
	comp=Z,16nm,0.7s,SNR=16							
EIDS	**Eidsvold**	**80.04 203**	P		**P**	**20 22 44.0 +0.5**		
EIDS	**Eidsvold**	**80.04 203**	P		**P**	**20 22 44.4 +1.0**		
	comp=Z,40nm,1.5s							
AMBH	**Ambrzfalva**	**80.05 343**	P		**P**	**20 22 43.8 +0.4**		
ISR	**Istrita**	**80.06 339**	⇑P		**P**	**20 22 44.1 +0.5**		
ISR	**Istrita**	**80.06 339**	⇑P		**P**	**20 22 44.1 +0.5**		
VOIR		**80.08 340**	⇑P		**P**	**20 22 45.0 +1.3**		
VOIR		**80.08 340**	⇑P		**P**	**20 22 45.0 +1.3**		
HARR	**Harsova**	**80.15 338**	⇑P		**P**	**20 22 44.2 +0.2**		
HARR	**Harsova**	**80.15 338**	⇑P		**P**	**20 22 44.2 +0.2**		
PSI	**Prapat**	**80.19 262**	P		**P**	**20 22 45.0 +0.3**		
	comp=Z,26nm,0.7s,baz=326,slow=2.6,SNR=19							
PSI			LR	LR		20 59 03.2		
	comp=Z,281nm,20.5s,baz=26,slow=36							
HAU	**Haudompre**	**80.22 353**	*e*P		**P**	**20 22 43.5 -0.9**		
HAU			pmax	pmax				
	comp=Z,15nm,0.7s							
ARR	**Arges**	**80.23 340**	⇑P		**P**	**20 22 46.5 +1.9**		
WB0	**Warramunga Arr**	**80.23 220**	P		**P**	**20 22 43.9 -0.8**		
WB0			IAmb	IAmb		20 22 46.4		
	comp=Z,62nm,0.9s							
ROSF	**Rostrenen**	**80.24 360**	*e*P		**P**	**20 22 44.2 -0.2**		
ROSF			pmax	pmax				
	comp=Z,142nm,1.7s							
SECR		**80.25 339**	⇑P		**P**	**20 22 45.6 +1.1**		
KTUT	**Trabzon**	**80.25 328**	⇑P		**P**	**20 22 43.5 -1.1**		
TIRR	**Tirgusor**	**80.25 337**	⇑P		**P**	**20 22 45.2 +0.7**		
TIRR	**Tirgusor**	**80.25 337**	P		**P**	**20 22 44.7 +0.2**		
TIRR			pmax	pmax				
	comp=Z,137nm,1.2s							
TIRR			MLR	MLR				
	comp=Z,6μm,20.0s							
TIRR	**Tirgusor**	**80.25 337**	P		**P**	**20 22 44.7 +0.2**		
TIRR			IAmb	IAmb		20 22 46.7		
	comp=Z,138nm,1.2s							
TLBR	**Topalu**	**80.26 338**	⇓P		**P**	**20 22 45.2 +0.7**		
RETA	**Reutte**	**80.35 350**	*i* P		**P**	**20 22 45.1 0.0**		
	comp=Z,9.7nm,0.8s							
WR0	**Warramunga Arr**	**80.35 220**	P		**P**	**20 22 44.7 -0.5**		
WR0			IAmb	IAmb		20 22 45.6		
	comp=Z,40nm,0.8s

LOBO Lobor 80.99 346 P P 20 22 48.7 +0.2
PSN Preselentsi 81.04 337 P P 20 22 49.0 +0.2
LOR Lormes 81.11 355 P P 20 22 49.2 +0.1
LOR pmax pmax
comp=Z,19nm,1.6s
BZK Bozkurt 81.13 333 P P 20 22 47.2 -2.0
BZK IAmb IAmb 20 23 00.3
comp=Z,45nm,0.8s
DAVOX Davos/Dischmat 81.14 351 P P 20 22 49.7 +0.2
comp=Z,10nm,0.6s,baz=349,slow=6.4,SNR=8.2
HERR Herculane 81.15 342 ⇓P P 20 22 49.9 +0.5
PMBI Palembang 81.16 254 P P 20 22 51.4 +1.6
comp=Z,118nm,0.7s
SMRI Semarang 81.17 247 P P 20 22 49.5 -0.3
comp=Z,52nm,1.7s
PWJI Pagerwojo 81.19 245 P P 20 22 50.0 +0.1
comp=Z,61nm,1.8s
PTJ Puntijarka 81.25 346 P P 20 22 50.1 +0.1
ROBS Robic 81.25 348 *i* P P 20 22 49.1 -0.7
COPA Copaceanca 81.29 340 ⇑P P 20 22 50.0 -0.1
MTO3 Montecristo 81.30 78 P P 20 22 50.1 -0.7
LJIJ Ljubljana 81.32 347 ⇑*i* P P 20 22 49.9 -0.3
SSF Saint Saulge 81.34 355 *e*P P 20 22 49.7 -0.6
SSF pmax pmax
comp=Z,14nm,0.6s
HYBB Hyderabad (bro 81.36 287 *e*P P 20 22 51.5 +0.6
HYBB *ep*P **PcP** 20 22 56.3 -0.7
HYBB *e*PcP **pP** 20 22 58.8 -0.4
HYBB *e*PP **PP** 20 25 57.3 +0.7
HYBB *e*S **S** 20 33 05.2 +5.1
HYBB *e*ScS **ScS** 20 33 21.2 +3.4
FRGS Fruska Gora 81.36 344 ⇑P P 20 22 50.1 -0.4
FRGS Fruska Gora 81.36 344 ⇑*i* P P 20 22 49.9 -0.6
MDVR Moldovita 81.38 342 ⇑P P 20 22 51.0 +0.3
CRES Cresnjev 81.40 347 ⇑*i* P P 20 22 50.7 0.0
MOSL Moslavina 81.42 346 P P 20 22 50.9 +0.1
A252A Venje 81.42 345 P P 20 22 50.7 -0.1
TUE Stuetta 81.49 351 P P 20 22 51.4 0.0
TUE IAmb IAmb 20 23 18.9
comp=Z,71nm,1.2s
TUE IAMs_20 IAMs_20 20 59 18.6
comp=Z,1µm,22.0s
GEVA Gevas 81.52 325 P P 20 22 52.4 +0.7
RAZG Razgrad 81.54 339 ⇑P P 20 22 51.5 0.0
VLAD Vladila 81.59 340 ⇑P P 20 22 52.1 +0.4
OZLJ Ozalj 81.61 347 P P 20 22 51.8 +0.1
AVF Avril sur Loir 81.61 355 *e*P P 20 22 50.9 -0.9
AVF pmax pmax
comp=Z,47nm,1.4s
CABF La Chapelle 81.63 353 *e*P P 20 22 51.5 -0.5
CABF pmax pmax
comp=Z,38nm,1.2s
CEY Cerknica 81.63 347 ⇑*i* P P 20 22 51.4 -0.5
CTI Castel Tesino 81.67 349 P P 20 22 51.8 -0.4
CTI pmax pmax
comp=Z,30nm,0.9s
CTI Castel Tesino 81.67 349 P P 20 22 51.8 -0.4
GURO Guroymak-BITLI 81.67 326 P P 20 22 52.8 +0.4
PRD Provadia 81.68 338 P P 20 22 52.0 -0.2
RMQ Roma 81.70 205 P P 20 22 53.7 +1.4
comp=Z,69nm,1.2s
SMF Signal de Mont 81.73 355 *e*P P 20 22 51.7 -0.7
SMF pmax pmax
comp=Z,20nm,0.6s
SENIN Lac Senin/Sane 81.78 353 P P 20 22 52.6 -0.3
UGM Wanagama 81.83 246 P P 20 22 58.1 +4.8
comp=Z,82nm,1.4s
UGM Wanagama 81.83 246 P P 20 22 52.7 -0.6
comp=Z,82nm,1.4s
BGF Bois d'Agland 81.87 356 *e*P P 20 22 53.0 -0.1
BGF pmax pmax
comp=Z,9,0nm,0.6s
SKDS Skadanscina 81.87 348 ⇑*i* P P 20 22 52.6 -0.6
SKDS Skadanscina 81.87 348 *i* P P 20 22 52.6 -0.6
SKDS *ep*P **PcP** 20 22 59.9 +1.1
TOKA Tokat 81.90 330 P P 20 22 54.7 +1.3
TOKA IAmb IAmb 20 22 55.8
comp=Z,102nm,1.5s
MFF Saint Martin d 81.93 358 *e*P P 20 22 53.0 -0.5
MFF pmax pmax
comp=Z,31nm,1.2s
SZH Strazhica 81.96 339 P P 20 22 53.6 0.0
TEKS Tekeris 82.00 344 ⇑*i* P P 20 22 53.4 -0.5
RIY Rijeka 82.03 347 ⇑*i* P P 20 22 53.6 -0.4
TCF Toulx Ste Croi 82.17 356 *e*P P 20 22 54.1 -0.7
TCF pmax pmax
comp=Z,13nm,0.9s
GSI Gunungsitoli 82.19 262 P P 20 22 55.3 +0.1
GSI IAmb IAmb 20 23 20.9
comp=Z,38nm,0.8s
GSI Gunungsitoli 82.19 262 P P 20 22 55.3 +0.1
comp=Z,66nm,0.7s
GSI Gunungsitoli 82.19 262 P P 20 22 56.3 +1.1
comp=Z,66nm,0.7s
BLY Banja Luka 82.20 345 ⇑*i* P P 20 22 54.8 -0.1
A250A Rusevo Krmpots 82.21 347 P P 20 22 54.4 -0.5
SALO Salr 82.22 350 P P 20 22 54.8 -0.2
SALO IAmb IAmb 20 23 10.9
comp=Z,71nm,0.8s
PLIT Plitvice 82.31 346 P P 20 22 55.4 -0.1
TEOL Teolo 82.35 349 P P 20 22 55.6 0.0
SMRN Sveta Marina 82.36 348 P P 20 22 55.0 -0.6
DIVS Divibare 82.36 343 P P 20 22 56.1 +0.3
DIVS IAmb IAmb 20 23 05.1
comp=Z,65nm,1.1s
DIVS Divibare 82.36 343 ⇑*i* P P 20 22 56.1 +0.3
KRJI Kerinci 82.49 257 P P 20 23 04.1 +7.2
comp=Z,170nm,1.5s
FITZ Fitzroy Crossi 82.53 228 P P 20 22 57.5 +0.7
comp=Z,60nm,0.6s,baz=24,slow=4.9,SNR=330
FITZ LR LR 20 58 16.1
comp=Z,203nm,20.8s,baz=34,slow=35
FITZ Fitzroy Crossi 82.53 228 P P 20 22 57.5 +0.7
MGRS Mrkonjic Grad 82.54 345 *e*P P 20 22 57.3 +0.6
BRJN Brijuni 82.54 348 P P 20 22 55.8 -0.8
RABC Rab 82.55 347 P P 20 22 56.2 -0.5
KLI Kotabumi 82.66 253 P P 20 22 56.7 -0.9
LPL La Plagne 82.67 353 *e*P P 20 22 58.2 +0.6
LPL pmax pmax
comp=Z,17nm,0.9s
LPG La Plagne 82.68 353 *e*P P 20 22 58.3 +0.5
LPG pmax pmax
comp=Z,32nm,1.1s
BBLS Lazići 82.69 344 ⇑*i* P P 20 22 58.4 +0.9
NVLJ Novalja 82.72 347 P P 20 22 57.0 -0.5
TGUH Tegucigalpa,Un 82.83 77 P P 20 22 58.6 -0.1
BLSI Bandar Lampung 82.83 252 P P 20 22 56.9 -1.6
comp=Z,69nm,0.5s
MASI Maura Aman, Be 82.85 256 P P 20 22 58.7 0.0
comp=Z,3µmcomp=Z,205nm,1.4s
SRKY Kupres RS 82.86 345 *e*P P 20 22 59.3 +0.8
RUDO Rudo 82.93 344 *e*P P 20 22 58.5 -0.3
VIRC Vir 82.96 347 P P 20 22 58.1 -0.7
PGB Panagyurishte 83.03 340 P P 20 23 00.0 +0.7
KIJV Kijevo 83.04 346 P P 20 22 59.3 0.0
SSB Saint Sauveur 83.06 354 P P 20 22 58.9 -0.5
SSB pmax pmax
comp=Z,19nm,1.0s
SSB Saint Sauveur 83.06 354 P P 20 22 58.9 -0.5
QLP Quilpie 83.06 209 P P 20 23 00.2 +0.8
comp=Z,160nm,1.3s
EDRB Edirne 83.12 338 P P 20 22 59.6 -0.1
BNI Bardonecchia 83.13 353 P P 20 23 00.6 +0.7
BNI pmax pmax
comp=Z,59nm,1.0s
BNI Bardonecchia 83.13 353 P P 20 23 00.6 +0.7
BNI IAmb IAmb 20 23 28.3
comp=Z,59nm,1.0s
VTS Vitosha 83.16 341 ⇓P P 20 23 00.7 +0.6
VTS Vitosha 83.16 341 P P 20 22 59.5 -0.6
VTS pmax pmax
comp=Z,31nm,0.9s
VTS Vitosha 83.16 341 P P 20 22 59.5 -0.6
VTS IAmb IAmb 20 23 14.9
comp=Z,31nm,0.9s
VTS Vitosha 83.16 341 P P 20 23 00.0 -0.1
RJF Les Rejaudoux 83.18 357 *e*P P 20 22 59.2 -0.8
RJF pmax pmax
comp=Z,43nm,1.5s
MARD Mardin 83.22 326 P P 20 23 01.2 +0.7
LWLI Liwa 83.25 253 P P 20 23 00.1 -0.8
comp=Z,56nm,1.1s
DUGI Dugi Otok 83.26 347 P P 20 22 59.2 -1.2
MORI Morici 83.28 346 P P 20 22 60.0 -0.6

MDUB Mudurnu 83.29 334 P P 20 23 00.8 +0.1
BR131 Keskin Array S 83.30 332 *c i* P P 20 23 01.1 +0.3
BR131 Keskin Array S 83.30 332 P P 20 23 00.9 0.0
BR131 IAmb IAmb 20 23 05.1
comp=Z,30nm,0.7s
BR131 Keskin Array S 83.30 332 P P 20 23 01.2 +0.3
SNR=19
BRTR Keskin Array B 83.30 332 P P 20 23 01.2 +0.3
comp=Z,13nm,0.6s,baz=48,slow=2.8,SNR=63
BRTR PKKPbc **PKKPbc** 20 41 20.9 +2.6
comp=Z,0.2nm,0.3s,baz=188,slow=4.4,SNR=4.6
BRTR PKPPKP **P'P'df** 20 49 26.2 -5.2
comp=Z,1.2nm,1.1s,baz=165,slow=5.1,SNR=4.1
BRTR LR LR 21 07 22.9
comp=Z,532nm,18.0s,baz=9.0,slow=41
BRTR Keskin Array B 83.30 332 P P 20 23 00.8 -0.1
BRTR Keskin Array B 83.30 332 P P 20 23 00.8 -0.1
PLD Plovdiv 83.34 339 P P 20 23 01.0 +0.2
UPM Unac-Piva 83.42 344 *eP* P 20 23 00.9 -0.6
ZCCA Zocca 83.42 350 P P 20 23 01.3 0.0
RICI Ricice 83.43 345 P P 20 23 00.7 -0.6
BR231 Keskin MP Arra 83.44 333 P P 20 23 02.9 +1.3
BR231 IAmb IAmb 20 23 04.4
comp=Z,69nm,1.2s
BNN Bunyan 83.44 330 P P 20 23 01.9 +0.3
ZIRJ Zirje 83.50 346 P P 20 23 00.9 -0.8
CAF Calviac 83.53 356 *e*P P 20 23 02.9 +1.0
CAF pmax pmax
comp=Z,24nm,1.2s
MSSA Maissana 83.61 351 P P 20 23 01.5 -0.9
MSSA IAmb IAmb 20 23 30.8
comp=Z,30nm,0.9s
MAKA Makarska 83.65 345 P P 20 23 01.4 -1.0
BRY Bratogost 83.77 344 *eP* P 20 23 03.1 -0.2
HVAR Hvar 83.84 346 P P 20 23 02.1 -1.3
AS31 Alice Springs 83.94 219 P P 20 23 04.1 +0.1
ASAR Alice Springs 83.94 219 P P 20 23 04.5 +0.5
comp=Z,35nm,0.6s,baz=20,slow=5.4,SNR=672
ASAR PKiKP **PKiKP** 20 28 19.9 +0.3
comp=Z,0.6nm,0.8s,baz=16,slow=2.7,SNR=2.2
ASAR PKKPbc **PKKPbc** 20 41 18.9 +0.8
comp=Z,0.4nm,0.7s,baz=201,slow=1.9,SNR=5.2
ASAR PKPPKP **P'P'df** 20 49 25.6 +5.1
comp=Z,1.2nm,1.2s,baz=187,slow=4.4,SNR=2.2
ASAR LR LR 20 59 06.3
comp=Z,133nm,18.8s,baz=19,slow=35
ASAR Alice Springs 83.94 219 P P 20 23 04.1 +0.1
ASAR Alice Springs 83.94 219 P P 20 23 04.1 +0.1
STON Ston 83.94 345 ⇑*i* P P 20 23 02.6 -1.3
STON Ston 83.94 345 P P 20 23 02.7 -1.2
TREB Trebinje 83.98 344 *eP* P 20 23 03.8 -0.4
MMB Musomiste 84.04 340 P P 20 23 05.0 +0.5
BORA Eskisehir 84.04 334 P P 20 23 04.6 0.0
BORA IAmb IAmb 20 23 06.8
comp=Z,85nm,1.2s
RDO Rodhopi 84.06 338 P P 20 23 04.9 +0.3
PDG Podgorica 84.11 343 ⇑P P 20 23 04.5 -0.3
PDG Podgorica 84.11 343 P P 20 23 04.0 -0.7
PDG IAmb IAmb 20 23 13.5
comp=Z,60nm,0.9s
PDG Podgorica 84.11 343 ⇑*i* P P 20 23 04.6 -0.1
SKO Skopje 84.14 342 *i* Pg P 20 23 05.8 +0.8
LSTV Lastovo 84.17 345 P P 20 23 04.5 -0.6
ALN Alexandroupoli 84.18 338 P P 20 23 04.7 -0.5
ALN Alexandroupoli 84.18 338 P P 20 23 05.0 -0.2
ALN pmax pmax
comp=Z,52nm,1.1s
ALN Alexandroupoli 84.18 338 P P 20 23 05.0 -0.2
ALN IAmb IAmb 20 23 07.2
comp=Z,52nm,1.1s
OSSC Osservatorio P 84.21 349 P P 20 23 04.9 -0.4
HCY Herceg Novi 84.22 344 *eP* P 20 23 04.8 -0.6
NVR Nevrokopi 84.24 340 P P 20 23 05.7 +0.2
STIP Stip 84.26 341 *i* Pg P 20 23 04.9 -0.7
ENEZ Enez 84.31 338 P P 20 23 04.1 -1.7
MURB Monte Urbino 84.31 348 P P 20 23 06.2 +0.2
DRME Dracevica, Mon 84.36 343 ⇑*i* P P 20 23 06.0 -0.1
MATN Matagalpa 84.52 76 P P 20 23 06.4 -0.9
SRS Serrai 84.52 340 P P 20 23 06.5 -0.4
VAY Valandovo 84.54 341 *i* Pg P 20 23 07.6 +0.6
NRCA Norcia 84.66 348 P P 20 23 07.2 -0.5
SMTH Samothraki Isl 84.71 338 P P 20 23 02.6 -5.3
ARMA Armidale 84.76 201 P P 20 23 08.0 -0.1
ARMA IAmb IAmb 20 23 10.4
comp=Z,46nm,0.8s
ARMA Armidale 84.76 201 P P 20 23 09.7 +1.6
comp=Z,72nm,1.4s
THAS Thassos island 84.76 339 P P 20 23 03.2 -4.9
SOH Sokhos 84.86 340 P P 20 23 09.2 +0.5
SOH pmax pmax
comp=Z,16nm,1.3s
GRG Griva 84.93 341 P P 20 23 09.2 +0.2
TIR Tirane 85.04 343 P P 20 23 10.9 +1.4
TIR pmax pmax
comp=Z,58nm,1.2s
BOAB BOACO BROADBAN 85.05 76 P P 20 23 09.4 -0.5
BOAB IAMs_20 IAMs_20 21 01 24.6
comp=Z,1µm,20.0s
AQU L'Aquila 85.09 348 P P 20 23 09.8 0.0
AQU pmax pmax
comp=Z,115nm,1.1s
AQU MLR MLR
comp=Z,1µm,20.0s
AQU L'Aquila 85.09 348 P P 20 23 09.8 0.0
AQU IAMs_20 IAMs_20 21 07 21.0
comp=Z,1µm,20.0s
AQU L'Aquila 85.09 348 ⇑*i* P P 20 23 10.3 +0.5
OUR Ouranopolis 85.19 339 P P 20 23 09.4 -0.8
INKA Innaminka 85.23 211 P P 20 23 11.2 +0.8
comp=Z,84nm,1.5s
MTDJ Mount Denham 85.28 67 IAMs_20 IAMs_20 21 04 43.9
comp=Z,996nm,18.0s
GTBY Guantanamo Bay 85.28 64 IAMs_20 IAMs_20 21 04 33.9
comp=Z,851nm,18.0s
LIA Limnos Island 85.33 338 P P 20 23 10.0 -1.0
SGRT San Giovanni R 85.34 346 P P 20 23 10.4 -0.7
SGRT IAmb IAmb 20 23 19.9
comp=Z,46nm,0.7s
SJPF Ste Jean 85.44 358 *e*P P 20 23 11.7 +0.2
SJPF pmax pmax
comp=Z,12nm,1.0s
EPF Esparros 85.49 357 *e*P P 20 23 10.9 -0.9
EPF pmax pmax
comp=Z,21nm,1.3s
ETSF Etsaut 85.64 358 *e*P P 20 23 12.5 -0.1
ETSF pmax pmax
comp=Z,18nm,0.9s
ACON Acoyapa 85.72 76 P P 20 23 13.1 -0.1
ACON IAmb IAmb 20 23 16.4
comp=Z,56nm,1.2s
MANT Manisa 85.85 335 P P 20 23 13.6 -0.2
MANT IAmb IAmb 20 23 38.5
comp=Z,40nm,1.3s
ESPN Las Esperanzas 86.07 75 P P 20 23 14.9 -0.1
SHME Shamm 86.61 309 P P 20 23 16.9 -0.7
SNR=12
SHME Shamm 86.61 309 *i* P P 20 23 16.8 -0.7
SNR=29
BANOM Banah 86.64 309 P P 20 23 17.3 -0.4
SNR=14
BANOM Banah 86.64 309 *i* P P 20 23 17.3 -0.4
SNR=18
OUZ Omahuta 86.69 182 P P 20 23 18.9 +1.5
ORTG Ortega, Santa 86.81 77 P P 20 23 19.0 +0.3
ORTG IAmb IAmb 20 23 20.1
comp=Z,66nm,1.1s
DUNO Dulce Nombre, 87.01 78 P P 20 23 19.3 -0.3
OOD Oodnadatta 87.01 216 P P 20 23 19.7 +0.5
comp=Z,63nm,0.9s
ELL Elmali 87.12 334 P P 20 23 19.6 -0.4
ELL Elmali 87.12 334 P P 20 23 19.6 -0.4
MASF Masafi 87.17 309 P P 20 23 19.8 -0.5
SNR=10
MSFE Esma-Masafi 87.18 309 *i* P P 20 23 19.5 -0.9
SNR=7.9
UMQ Umm Al-Quwin 87.28 309 P P 20 23 21.1 +0.3
UMQ Umm Al-Quwin 87.28 309 P P 20 23 21.0 +0.2
CMSA Cobar Meteorol 87.31 206 P P 20 23 21.9 +1.4
comp=Z,94nm,1.8s
MVO Moncorvo 87.36 3 *eP* P 20 23 21.1 +0.1
WRKA Warakurna 87.44 223 P P 20 23 22.0 +0.6
comp=Z,145nm,1.2s
UOSS Minazif 87.50 308 P P 20 23 20.6 -1.4
UOSS IAmb IAmb 20 23 22.5
comp=Z,48nm,0.8s
UOSS Minazif 87.50 308 IAMs_20 IAMs_20 21 03 29.9
comp=Z,1µm,22.0s
UOSS Minazif 87.50 308 P P 20 23 20.9 -1.0
UOSS Minazif 87.50 308 *i* P P 20 23 20.9 -1.0
SNR=8.1
CAO2 Cobano, Puntar 87.55 78 P P 20 23 22.8 +0.5
MGCD Mangrove Creek 87.56 201 P P 20 23 23.7 +2.0
comp=Z,44nm,1.1s
HATD Hatta, Dubai 87.64 308 P P 20 23 22.0 -0.6
SNR=20
HATD Hatta, Dubai 87.64 308 *i* P P 20 23 21.8 -0.7
SNR=20
TIP Timpagrande 87.70 344 ⇑P P 20 23 22.5 -0.2
TIP Timpagrande 87.70 344 P P 20 23 22.2 -0.5
WSAR Wadi Sarin 87.73 306 LR LR 21 07 18.4
comp=Z,946nm,19.6s,baz=49,slow=39
WSAR Wadi Sarin 87.73 306 P P 20 23 23.3 +0.2
SNR=15
NAZ Nazwa, Dubai 87.73 309 P P 20 23 22.3 -0.7
SNR=12
NAZ Nazwa, Dubai 87.73 309 *i* P P 20 23 22.1 -0.8
SNR=14
BIDO Bidbid 87.75 306 P P 20 23 23.4 +0.3
ASHO Ashiyiah 87.80 308 P P 20 23 22.7 -0.6
SNR=22
ASHO Ashiyiah 87.80 308 *i* P P 20 23 22.4 -1.0
SNR=27
CSS Mathiatis 87.80 331 P P 20 23 22.6 -0.6
CSS IAmb IAmb 20 23 35.6
comp=Z,28nm,1.0s
CSS IAMs_20 IAMs_20 21 08 17.0
comp=Z,1µm,22.0s
JACO JACO, Garabito 87.84 77 P P 20 23 24.3 +0.7
FAQ Al Faqa, Dubai 87.97 309 P P 20 23 23.1 -1.0
SNR=10
FAQ Al Faqa, Dubai 87.97 309 *i* P P 20 23 23.1 -1.0
SNR=16
PALK Pallekele 87.98 279 LR LR 21 07 11.9
comp=Z,267nm,20.3s,baz=141,slow=39
PALK Pallekele 87.98 279 P P 20 23 25.0 +0.7
PALK pmax pmax
comp=Z,49nm,1.1s
PALK Pallekele 87.98 279 P P 20 23 25.0 +0.7
PALK IAmb IAmb 20 23 36.1
comp=Z,49nm,1.1s
PALK Pallekele 87.98 279 P P 20 23 25.1 +0.7
WBK Wadi Bani Khal 88.08 305 P P 20 23 25.0 +0.3
SNR=11
HOQ Hoqain 88.10 307 P P 20 23 24.7 -0.1
MTE Manteigas 88.10 3 *eP* P 20 23 26.2 +1.6
SDDR Presa de Saban 88.15 61 IAMs_20 IAMs_20 21 06 43.7
comp=Z,1µm,19.0s
SMDO Samad 88.17 306 P P 20 23 25.0 -0.2
SNR=12
ASUD Al Ashush, Dub 88.20 309 P P 20 23 25.0 -0.2
SNR=14
ASUD Al Ashush, Dub 88.20 309 *i* P P 20 23 24.6 -0.6
SNR=21
JLN Jalan Bani Buh 88.23 304 P P 20 23 25.6 +0.2
SNR=9.0
PSA00 Pilbara Seismi 88.26 231 P P 20 23 24.3 -1.0
PSA00 IAmb IAmb 20 23 25.4
comp=Z,19nm,0.7s
PSA00 Pilbara Seismi 88.26 231 P P 20 23 24.4 -0.9
PSA00 IAmb IAmb 20 23 25.3
comp=Z,13nm,0.7s
PSA00 Pilbara Seismi 88.26 231 P P 20 23 24.8 -0.5
comp=Z,34nm,1.4s
VSL Villasalto 88.39 350 P P 20 23 25.4 -0.6
VSL IAMs_20 IAMs_20 21 07 20.3
comp=Z,797nm,20.0s
PCAS Casmilo, Conde 88.41 4 *eP* P 20 23 26.4 +0.4
AJN Ajban 88.42 309 P P 20 23 25.2 -1.0
SNR=7.6
AJN Ajban 88.42 309 *i* P P 20 23 25.2 -1.0
SNR=6.5
ALNE Al Ain 88.47 308 P P 20 23 25.9 -0.6
SNR=16
ALNE Al Ain 88.47 308 *i* P P 20 23 25.8 -0.8
SNR=8.8
LCRK Leigh Creek 88.56 212 P P 20 23 27.2 +0.7
comp=Z,129nm,1.5s
PEZE Perez Zeledon, 88.65 77 P P 20 23 26.6 -1.0
PEZE IAmb IAmb 20 23 30.3
comp=Z,47nm,1.2s
PCBR Castelo Branco 88.66 3 *eP* P 20 23 27.1 -0.1
comp=Z,54nm,1.5s
ARQ Araqi 88.70 307 P P 20 23 27.3 -0.4
SNR=20
JMDO Jabal Madar 88.72 306 P P 20 23 27.5 -0.2
SNR=16
CEL Celeste 88.74 345 IAMs_20 IAMs_20 21 10 55.6
comp=Z,775nm,19.0s
STKA Stephens Creek 88.81 209 P P 20 23 28.4 +0.7
comp=Z,20nm,0.7s,baz=351,slow=6.7,SNR=44
STKA LR LR 21 02 20.9
comp=Z,589nm,18.8s,baz=4.7,slow=35
STKA Stephens Creek 88.81 209 P P 20 23 27.9 +0.3
STKA pmax pmax
comp=Z,8.0nm,0.9s
STKA Stephens Creek 88.81 209 P P 20 23 27.9 +0.3
STKA Stephens Creek 88.81 209 P P 20 23 28.6 +0.9
comp=Z,13nm,1.5s
ESDC Sonseca Array 88.90 0 P P 20 23 27.0 -1.4
comp=Z,1.9nm,0.8s,baz=348,slow=3.3,SNR=7.7
ESDC Sonseca Array 88.90 0 P P 20 23 26.6 -1.8
MMAI Mount Meron Ar 88.94 328 P P 20 23 28.2 -0.5
comp=Z,3.0nm,0.7s,baz=54,slow=20,SNR=2.7
MMAI LR LR 21 07 13.1
comp=Z,1µm,21.1s,baz=184,slow=38
SRBA San Rafael, Bu 88.96 76 P P 20 23 29.5 +0.4
JRN Qarnain Island 89.11 311 P P 20 23 29.3 -0.2
KHOR Al-Khor Airpor 89.15 312 P P 20 23 29.9 +0.2
SHMA Al-Shehemyia 89.20 313 P P 20 23 29.9 0.0
ASF Jabal al Asfar 89.21 327 P P 20 23 30.0 0.0
comp=Z,14nm,0.6s,baz=26,slow=5.2,SNR=6.3
SAKB Bahrain 89.29 313 P P 20 23 30.2 -0.1
RIOS Rincon, Osa 89.29 77 P P 20 23 32.2 +1.8
URZ Urewera 89.69 180 LR LR 20 57 37.4
comp=Z,1µm,21.8s,baz=34,slow=31
VAE Valguarnera 89.73 346 LR LR 21 06 46.5
comp=Z,610nm,21.8s,baz=9.5,slow=38
MULG Mulgathing 89.86 216 P P 20 23 33.2 +0.6
comp=Z,74nm,1.4s
UMZA Um Al Zommool 89.89 308 P P 20 23 32.4 -0.8
MHTO MHTO 89.94 305 P P 20 23 33.1 -0.3
SNR=8.1
EVO Evora 89.95 4 *eP* P 20 23 32.7 -0.5
comp=Z,56nm,1.7s
HIZ Hauiti 89.95 181 P P 20 23 33.5 +0.7
CNB Canberra Magne 89.98 202 P P 20 23 35.0 +1.9
comp=Z,43nm,1.3s
TRNA Turayna 90.05 312 P P 20 23 33.5 -0.4
CAN Canberra 90.07 202 P P 20 23 33.7 +0.2
CAN pmax pmax
comp=Z,76nm,1.4s
CAN Canberra 90.07 202 P P 20 23 33.7 +0.2
CAN IAmb IAmb 20 23 36.8
comp=Z,76nm,1.4s
CAN Canberra 90.07 202 P P 20 23 35.4 +1.9
comp=Z,63nm,1.5s
SMRA Abu-Samra 90.22 312 P P 20 23 34.6 -0.1
PBAR Barrancos 90.34 3 *eP* P 20 23 36.1 +1.1
comp=Z,51nm,1.7s
MZR Muzera 90.46 309 P P 20 23 35.4 -0.4
SNR=11
MZR Muzera 90.46 309 *i* P P 20 23 35.5 -0.4
SNR=33
BKZ Black Stump Fm 90.59 180 P P 20 23 35.1 -0.7
BKZ IAmb IAmb 20 23 36.4
comp=Z,68nm,1.4s
BKZ IAMs_20 IAMs_20 20 59 08.6
comp=Z,929nm,19.0s
HTT Hallett 91.08 211 P P 20 23 39.2 +0.9
comp=Z,97nm,1.2s
NAPP Napperby 91.10 211 P P 20 23 39.7 +1.4
comp=Z,54nm,1.3s
WHYH Whyalla 91.15 212 P P 20 23 39.6 +1.1
comp=Z,48nm,1.2s
OBIP Obispado Ponce 91.43 58 P P 20 23 38.9 -1.4
OBIP IAmb IAmb 20 23 55.0
comp=Z,56nm,1.4s
BBOO Buckleboo 91.45 213 P P 20 23 40.0 0.0
BBOO Buckleboo 91.45 213 P P 20 23 40.6 +0.6
comp=Z,64nm,1.2s

GCPR	**Guaynabo City**	**91.48**	**58**	P	**P**	**20 23 39.5**	**-1.2**
GCPR				IAmb	IAmb	20 23 44.4	
	comp=Z,66nm,1.4s						
SJG	**San Juan**	**91.61**	**58**	LR	LR	21 06 43.9	
	comp=Z,905nm,19.2s,baz=321,slow=37						
SJG	**San Juan**	**91.61**	**58**	IAMs_20	IAMs_20	21 06 22.3	
	comp=Z,1μm,19.0s						
MTP	**Monte Pirata**	**91.94**	**57**	P	**P**	**20 23 42.1**	**-0.6**
MTP				IAmb	IAmb	20 23 53.2	
	comp=Z,35nm,1.0s						
KEST	**Kesra**	**92.12**	**350**	P	**P**	**20 23 42.6**	**-0.9**
	comp=Z,4.9nm,0.7s,baz=323,slow=3.4,SNR=7.2						
KEST				LR	LR	21 05 35.1	
	comp=Z,517nm,21.7s,baz=342,slow=36						
KEST	**Kesra**	**92.12**	**350**	P	**P**	**20 23 42.9**	**-0.6**
KEST				IAmb	IAmb	20 24 06.4	
	comp=Z,21nm,1.1s						
EIL	**Elat**	**92.16**	**327**	P	**P**	**20 23 43.3**	**-0.4**
	comp=Z,5.0nm,0.7s,baz=112,slow=1.1,SNR=4.5						
EIL				LR	LR	21 11 53.3	
	comp=Z,2μm,19.0s,baz=36,slow=40						
QRZ	**Quartz Range**	**92.32**	**183**	P	**P**	**20 23 44.8**	**+1.1**
	comp=Z,42nm,1.3s						
FORT	**Forrest**	**92.60**	**220**	P	**P**	**20 23 45.9**	**+0.6**
FORT	**Forrest**	**92.60**	**220**	P	**P**	**20 23 46.2**	**+0.9**
	comp=Z,85nm,1.0s						
TOO	**Toolangi**	**93.07**	**204**	P	**P**	**20 23 48.5**	**+1.2**
TOO				pmax	pmax		
	comp=Z,17nm,0.8s						
TOO	**Toolangi**	**93.07**	**204**	P	**P**	**20 23 48.5**	**+1.2**
TOO				IAmb	IAmb	20 23 49.0	
	comp=Z,17nm,0.8s						
TOO	**Toolangi**	**93.07**	**204**	P	**P**	**20 23 49.0**	**+1.6**
	comp=Z,35nm,1.5s						
MEEK	**Meekatharra**	**93.15**	**229**	P	**P**	**20 23 48.1**	**+0.1**
	comp=Z,69nm,1.2s						
BRAT	**Ballarat**	**93.46**	**205**	P	**P**	**20 23 51.1**	**+2.1**
	comp=Z,9.7nm,0.8s						
RAYN	**Ar Rayn**	**93.64**	**316**	P	**P**	**20 23 50.0**	**-0.7**
RAYN				pmax	pmax		
	comp=Z,38nm,1.3s						
RAYN				MLR	MLR		
	comp=Z,1μm,20.0s						
RAYN	**Ar Rayn**	**93.64**	**316**	P	**P**	**20 23 50.0**	**-0.7**
RAYN				IAmb	IAmb	20 23 52.2	
	comp=Z,38nm,1.3s						
RAYN	**Ar Rayn**	**93.64**	**316**	*i* P	**P**	**20 23 50.4**	**-0.2**
	SNR=20						
ANWB	**Willy Bob**	**94.23**	**55**	IAMs_20	IAMs_20	21 11 07.5	
	comp=Z,899nm,19.0s						
HATO	**Hato, Curacao**	**94.98**	**63**	IAMs_20	IAMs_20	21 10 32.9	
	comp=Z,826nm,19.0s						
RPZ	**Rata Peaks**	**95.26**	**184**	LR	LR	21 02 08.0	
	comp=Z,652nm,21.1s,baz=38,slow=32						
ZARC	**Zaragoza, Cauc**	**95.41**	**71**	P	**P**	**20 23 57.6**	**-1.2**
MDT	**Midelt**	**95.74**	**1**	P	**P**	**20 24 00.4**	**+0.2**
	comp=Z,3.5nm,1.1s,baz=323,slow=0.9,SNR=4.1						
MORW	**Morawa**	**96.42**	**230**	P	**P**	**20 24 02.3**	**-0.6**
MORW				IAmb	IAmb	20 24 03.8	
	comp=Z,13nm,0.8s						
MORW	**Morawa**	**96.42**	**230**	P	**P**	**20 24 03.5**	**+0.6**
	comp=Z,18nm,1.7s						
SDV	**Santo Domingo**	**96.73**	**67**	LR	LR	21 07 40.2	
	comp=Z,436nm,21.9s,baz=348,slow=35						
SDV	**Santo Domingo**	**96.73**	**67**	IAMs_20	IAMs_20	21 06 32.4	
	comp=Z,844nm,22.0s						
FDF	**Fort de France**	**97.03**	**56**	IAMs_20	IAMs_20	21 08 24.7	
	comp=Z,1μm,20.0s						
ROSC	**El Rosal**	**97.85**	**72**	LR	LR	21 10 30.2	
	comp=Z,433nm,20.6s,baz=10,0,slow=37						
SOCY	**Socotra**	**99.37**	**303**	IAMs_20	IAMs_20	21 15 52.8	
	comp=Z,637nm,20.0s						
FURI	**Furi**	**109.57**	**315**	IAMs_20	IAMs_20	21 22 13.7	
	comp=Z,723nm,19.0s						
TORD	**Torodi Ar. Bea**	**115.17**	**355**	Pdiff	**Pdif**	**20 25 35.2**	**+8.3**
	comp=Z,0.1nm,0.7s,baz=3.6,slow=4.6,SNR=1.0						
TORD				PKP	**PKiKP**	**20 29 14.7**	**-0.9**
	comp=Z,4.5nm,0.5s,baz=352,slow=2.0,SNR=74						
TORD				PKKPbc	**PKKPbc**	**20 39 48.0**	**-0.5**
	comp=Z,5.5nm,1.0s,baz=180,slow=1.7,SNR=6.4						
TORD				SKKP		20 43 46.5	
	comp=Z,1.6nm,1.0s,baz=144,slow=2.7,SNR=3.7						
LODK	**Lodwar**	**115.90**	**316**	IAMs_20	IAMs_20	21 26 59.4	
	comp=Z,633nm,18.0s						
LPAZ	**La Paz**	**118.23**	**80**	PKP	**PKPdf**	**20 29 21.9**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=17,slow=9.1,SNR=3.6						
LPAZ				PKKPab	**PKKPab**	**20 39 41.4**	**-1.9**
	comp=Z,1.5nm,0.7s,baz=139,slow=5.4,SNR=5.3						
LPAZ	**La Paz**	**118.23**	**80**	PKIKP	**PKPdf**	**20 29 22.0**	**-0.1**
KMBO	**Kilima Mbogo**	**119.10**	**312**	PKP	**PKiKP**	**20 29 25.3**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=51,slow=19,SNR=4.9						
DBIC	**Dimbokro**	**121.74**	**2**	PKP	**PKPdf**	**20 29 27.6**	**-0.5**
	comp=Z,7.5nm,0.4s,baz=8.0,slow=2.5,SNR=33						
DBIC	**Dimbokro**	**121.74**	**2**	PKIKP	**PKPdf**	**20 29 27.5**	**-0.7**
DBIC	**Dimbokro**	**121.74**	**2**	PKPdf	**PKPdf**	**20 29 27.5**	**-0.7**
TIC	**Toumodi**	**121.77**	**2**	*e*PKP1	**PKPdf**	**20 29 27.5**	**-0.8**
KIC	**Kosan Boka**	**122.05**	**2**	*e*PKP1	**PKPdf**	**20 29 28.1**	**-0.7**
	comp=Z,14nm,0.5s						
LIC	**Lamto**	**122.18**	**2**	*e*PKP1	**PKPdf**	**20 29 28.9**	**-0.2**
	comp=Z,40nm,1.5s						
SIV	**San Ignacio**	**122.27**	**74**	PKP	**PKPdf**	**20 29 28.4**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=256,slow=3.2,SNR=6.0						
SIV				SKP		20 33 01.9	
	comp=Z,1.7nm,0.8s,baz=346,slow=4.2,SNR=3.0						
PTLB	**Pontes e Lacer**	**123.00**	**72**	*e*P	**PKPdf**	**20 29 30.1**	**-0.3**
NBPS	**Pedro II - PI**	**123.18**	**47**	*e*P	**PKPdf**	**20 29 30.8**	**-0.2**
SMTB	**Santa Maria do**	**124.05**	**56**	*e*P	**PKPdf**	**20 29 32.1**	**-0.5**
SNDB	**Serra Nova Dou**	**124.68**	**62**	*e*P	**PKPdf**	**20 29 33.3**	**-0.4**
NBPB	**Pedra Branca-C**	**125.03**	**46**	*e*P	**PiKiP**	**20 29 35.0**	**+0.1**
NBMA	**Muriti-CE**	**127.02**	**46**	*e*P	**PiKiP**	**20 29 39.3**	**+0.5**
AQDB	**Aquidauana**	**128.95**	**73**	PKPdf	**PiKiP**	**20 29 42.1**	**-0.3**
AQDB	**Aquidauana**	**128.95**	**73**	*e*P	**PiKiP**	**20 29 42.1**	**-0.3**
VNDA	**Vanda**	**129.38**	**184**	PKP	**PKPdf**	**20 29 40.9**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=321,slow=4.1,SNR=10						
VNDA				SKPbc	SKPbc	20 33 01.1	+0.8
	comp=Z,2.6nm,1.1s,baz=343,slow=3.0,SNR=3.0						
VNDA	**Vanda**	**129.38**	**184**	PKPdf	**PKPdf**	**20 29 41.0**	**+0.2**
NBPN	**Ponto Novo - B**	**129.42**	**50**	*e*P	**PiKiP**	**20 29 43.2**	**-0.4**
BDFB	**Brasilia**	**129.48**	**61**	PKP	**PKPdf**	**20 29 43.1**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=40,slow=1.3,SNR=3.5						
BDFB				SKPbc	SKPbc	20 33 03.1	+0.5
	comp=Z,3.7nm,0.8s,baz=243,slow=4.5,SNR=3.2						
BDFB	**Brasilia**	**129.48**	**61**	*e*P	**PiKiP**	**20 29 43.4**	**-0.3**
SBA	**Scott Base**	**129.53**	**183**	PKIKP	**PiKiP**	**20 29 41.7**	**-0.1**
SBA	**Scott Base**	**129.53**	**183**	PKPdf	**PiKiP**	**20 29 41.7**	**-0.1**
JANB	**Januaria**	**130.97**	**57**	*e*P	**PKPdf**	**20 29 45.9**	**+0.1**
IPMB	**Ipameri, GO**	**131.28**	**63**	*e*P	**PKPdf**	**20 29 45.6**	**-0.7**
LC01	**Cunco**	**131.91**	**103**	PKPdf	**PKPdf**	**20 29 45.9**	**-0.9**
GDU01	**Guandu, BA**	**132.21**	**51**	*e*P	**PiKiP**	**20 29 49.5**	**+0.4**
CPUP	**Villa Florida**	**132.37**	**79**	PKhKP	PKPpre	20 29 43.6	
	comp=Z,2.7nm,0.3s,baz=52,slow=3.2,SNR=4.9						
CPUP				PKP	**PiKiP**	**20 29 48.9**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=18,slow=4.9,SNR=3.6						
CPUP				SKPbc	**SKPbc**	**20 33 11.9**	**-0.6**
	comp=Z,13nm,0.7s,baz=305,slow=4.1,SNR=21						
CPUP	**Villa Florida**	**132.37**	**79**	PKIKP	**PKPdf**	**20 29 45.3**	**-2.7**
CPUP	**Villa Florida**	**132.37**	**79**	PKPdf	**PKPdf**	**20 29 45.3**	**-2.7**
PCMB	**Pacaembu**	**132.43**	**69**	*e*P	**PiKiP**	**20 29 49.5**	**+0.1**
CMC01	**Camacan, BA**	**133.65**	**52**	*e*P	**PiKiP**	**20 29 52.1**	**+0.1**
PLCA	**Paso Flores**	**133.85**	**104**	PKP	**PiKiP**	**20 29 51.3**	**-0.4**
	comp=Z,7.4nm,0.7s,baz=246,slow=3.0,SNR=12						
PLCA				SKPbc	**SKPbc**	**20 33 16.9**	**-0.3**
	comp=Z,7.5nm,0.7s,baz=293,slow=4.5,SNR=15						
PLCA	**Paso Flores**	**133.85**	**104**	PKPdf	**PiKiP**	**20 29 51.2**	**-0.6**
PLCA	**Paso Flores**	**133.85**	**104**	*e*P	**PiKiP**	**20 29 51.4**	**-0.4**
DIAM	**Diamantina, MG**	**134.00**	**59**	*e*P	**PiKiP**	**20 29 52.8**	**0.0**
LL02	**Futaleuf**	**134.54**	**107**		**PKPdf**	**20 29 52.1**	**+0.5**
BSCB	**Bom Sucesso**	**135.61**	**62**	*e*P	**PiKiP**	**20 29 55.9**	**-0.1**
SJMB	**Sao Joao De Ma**	**135.64**	**56**	*e*P	**PiKiP**	**20 29 55.5**	**-0.5**
CPSB	**Cacapava Do Su**	**137.67**	**80**	*e*P	**PiKiP**	**20 29 59.4**	**-0.4**
PLTB	**Pedras Altas**	**138.52**	**81**	*e*P	**PiKiP**	**20 30 00.4**	**-1.1**
TSUM	**Tsumeb**	**143.53**	**325**	PKPdf	PKPbc	20 30 06.8	+0.6
MAW	**Mawson**	**145.06**	**218**	PKPbc	**PKPab**	**20 30 09.6**	**+0.1**
	comp=Z,80nm,0.8s,baz=98,slow=3.7,SNR=74						
MAW	**Mawson**	**145.06**	**218**	PKIKP	**PKPbc**	**20 30 09.3**	**-0.1**
MAW	**Mawson**	**145.06**	**218**		**PKPbc**	**20 30 09.3**	**-0.1**
BOSA	**Boshof**	**148.49**	**306**	PKPbc	**PKPbc**	**20 30 19.5**	**-1.1**
	comp=Z,26nm,0.5s,baz=37,slow=2.8,SNR=89						
BOSA	**Boshof**	**148.49**	**306**		**PKPbc**	**20 30 20.8**	**+0.1**
BELA	**Belgrano 2**	**151.45**	**167**	PKPdf	**PKPdf**	**20 30 18.4**	**-1.7**
BELA				PKPbc	**PKPbc**	**20 30 25.2**	**-1.0**
SYO	**Syowa Base**	**153.49**	**213**↑	*e*PKPdf	**PKPdf**	**20 30 23.2**	**0.0**
SYO	**Syowa Base**	**153.49**	**213**↓	*e*pPKPdf	pPKPdf	20 30 32.0	+0.3
TROLL	**Troll, Antarti**	**159.55**	**185**	PKPdf	**PKPdf**	**20 30 33.1**	**+1.9**
SNAA	**Sanae**	**160.06**	**181**	PKPdf	**PKPdf**	**20 30 25.0**	**-6.7**
VNA3	**Neumayer Olymp**	**160.29**	**174**	PKPdf	**PKPdf**	**20 30 31.2**	**-0.8**
VNA2	**Neumayer--Watz**	**160.72**	**176**	PKPdf	**PKPdf**	**20 30 31.1**	**-1.3**
	baz=244,slow=1.0						
VNA1	**Neumayer--Stat**	**160.96**	**175**	PKPdf	**PKPdf**	**20 30 31.0**	**-1.6**

*IDC **11** 20:15:42.2±1.6,51°.78N×176°.62E,h0km,mb4.0/6, mb1 4.1/6,mb1mx3.7/72,mbtmp4.0/6 Error ellipse: s-maj=41.3km s-min=26.7km az=11.0*
*NEIC **11** 20:15:45.9±0.9,51°.9N±0°.8×176°.7E±0°.3,h16km±24km, Error ellipse: s-maj=124.3km s-min=6.2km az=192.0*
*AEIC **11** 20:15:46±0.7,52°.0N±0°.3×176°.8E±0°.2,h23km±9km,ML3.7, Error ellipse: s-maj=51.4km s-min=6.3km az=197.0*

ISC 11 20:15:47.8±1.1,**51°.8N**±0°.2×**176°.69E**±0°.07,**h40**km,**n26,**
σ0s**85**/21,**mb3.9/6,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**1.84**	**301**	Pn	**Pn**	**20 16 16.1**	**-0.7**
	172nm,0.3s,baz=104,slow=3.3,SNR=5.1						
SHEM				Sn	**Sn**	**20 16 39.6**	**+0.7**
	71nm,0.3s,baz=306,slow=22,SNR=7.1						
SMY	**Shemya**	**1.84**	**301**	Pn	**Pn**	**20 16 16.0**	**-0.9**
GANO	**Gareloi North**	**2.80**	**88**		**Pn**	**20 16 29.2**	**-0.9**
GAEA	**Gareloi East**	**2.84**	**88**		**Pn**	**20 16 29.9**	**-0.7**
TANO	**Tanaga North**	**3.22**	**86**		**Pn**	**20 16 35.4**	**-0.5**
TAFP	**Tanaga Falls P**	**3.31**	**86**		**Pn**	**20 16 36.1**	**-0.9**
TAFL	**Tanaga Flats**	**3.37**	**89**		**Pn**	**20 16 37.2**	**-0.6**
TAPA	**Tanaga Point A**	**3.42**	**88**		**Pn**	**20 16 37.9**	**-0.7**
KIMD	**Kanaga Island**	**3.78**	**88**		**Pn**	**20 16 42.6**	**-0.9**
KIWB	**Kanaga Island**	**3.83**	**87**	Pn	**Pn**	**20 16 43.0**	**-1.1**
ADK	**Adak**	**4.11**	**86**	Pn	**Pn**	**20 16 47.5**	**-0.5**
GSCK	**Great Sitkin C**	**4.43**	**84**		**Pn**	**20 16 52.5**	**0.0**
GSMY	**Great Sitkin M**	**4.50**	**84**		**Pn**	**20 16 53.1**	**-0.3**
ATKA	**Atka Island**	**5.65**	**82**		**Pn**	**20 17 08.6**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**32.91**	**197**	T	T	20 57 17.9	
	baz=11,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**32.92**	**197**	T	T	20 57 17.7	
	baz=11,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**32.93**	**197**	T	T	20 57 24.3	
	baz=11,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**34.14**	**197**	T	T	20 58 53.0	
	baz=11						
H11S3	**WAKE ISLAND Hy**	**34.16**	**197**	T	T	20 58 55.5	
	baz=11						
H11S2	**WAKE ISLAND Hy**	**34.16**	**197**	T	T	20 58 51.8	
	baz=11						
YKA	**Yellowknife Ar**	**36.98**	**46**	P	**P**	**20 22 53.7**	**+0.9**
	1.7nm,0.7s,baz=287,slow=8.6,SNR=3.7						
SONM	**Songino Array**	**43.92**	**294**	P	**P**	**20 23 51.4**	**+0.9**
	0.8nm,0.4s,baz=63,slow=6.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**51.66**	**311**	P	**P**	**20 24 48.3**	**-1.9**
	2.2nm,0.7s,baz=46,slow=8.3,SNR=2.9						
MKAR	**Makanchi Array**	**57.53**	**306**	P	**P**	**20 25 32.4**	**-0.5**
	5.3nm,1.1s,baz=52,slow=5.7,SNR=2.0						
AKASG	**Malin Array Be**	**74.22**	**339**	P	**P**	**20 27 20.3**	**+0.3**
	0.2nm,0.3s,baz=21,slow=6.3,SNR=1.6						
ASAR	**Alice Springs**	**83.97**	**219**	P	**P**	**20 28 14.0**	**+0.4**
	0.3nm,0.5s,baz=22,slow=5.5,SNR=1.2						

*NEIC **11** 20:17:36±1.7, 10°.8N±0°.1×140°.8E±0°.1,h10km±1km, mb4.6/11, Error ellipse: s-maj=24.5km s-min=8.6km az=138.0*
*IDC **11** 20:17:48.0±3.6, 11°.40N×140°.85E,h79km±32km,mb3.7/11, mb1 3.9/12,mb1mx3.6/63,mbtmp4.0/12, Error ellipse: s-maj=24.7km s-min=23.2km az=157.0*

ISC 11 20:17:36.0±0.7,**10°.7N**±0°.1×**140°.8E**±0°.1,**h10**km,**n30,**
σ1s**59**/30,**mb4.3**/18,**Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.88**	**54**	P	**Pn**	**20 18 52.0**	**+2.6**
	6.1nm,0.3s,baz=41,slow=21,SNR=2.1						
GUMO				S	**Sn**	**20 19 46.3**	**+0.4**
	4.0nm,0.3s,baz=21,slow=24,SNR=1.5						
GUMO	**Guam**	**4.88**	**54**		**Pn**	**20 18 49.3**	**-0.1**
SIJI	**Sorong**	**14.93**	**220**	P	**P**	**20 21 13.6**	**+0.7**
SIJI	**Sorong**	**14.93**	**220**	P	**P**	**20 21 13.6**	**+0.7**
	104nm,0.9s,baz=22,slow=7.2,SNR=36						
ASAR	**Alice Springs**	**34.84**	**191**	P	P	20 24 36.5	+9.1
	2.0nm,0.8s,baz=25,slow=7.7,SNR=0.9						
KLR	**Kul'dur**	**39.13**	**351**	P	**P**	**20 25 02.9**	**-0.7**
	1.2nm,0.6s,baz=153,slow=12,SNR=4.6						
CMAR	**Chiang Mai Arr**	**41.17**	**286**	P	**P**	**20 25 25.0**	**+4.0**
	1.5nm,1.0s,baz=76,slow=7.5,SNR=2.6						
CMAR	**Chiang Mai Arr**	**41.17**	**286**	P	**P**	**20 25 20.6**	**-0.4**
SONM	**Songino Array**	**46.94**	**329**	P	**P**	**20 26 07.5**	**+0.4**
	0.9nm,0.7s,baz=137,slow=8.7,SNR=1.8						
BFZ	**Birch Farm**	**60.72**	**150**	P	**P**	**20 27 47.2**	**-0.6**
MKAR	**Makanchi Array**	**60.87**	**318**	P	**P**	**20 27 49.6**	**+0.7**
	0.7nm,0.7s,baz=105,slow=6.4,SNR=1.9						
MKAR	**Makanchi Array**	**60.87**	**318**	P	**P**	**20 27 46.4**	**-2.5**
ZALV	**Zalesovo Beam**	**61.71**	**326**	P	**P**	**20 27 53.6**	**-0.7**
	0.7nm,0.4s,baz=108,slow=8.6,SNR=1.9						
KURBB	**Kurchatov Arra**	**64.31**	**321**	P	**P**	**20 28 11.3**	**-0.4**
	1.5nm,0.7s,baz=105,slow=7.5,SNR=5.8						
BRVK	**Borovoye**	**69.82**	**323**	P	**P**	**20 28 46.2**	**-0.5**
BRVK				IAmb	IAmb	20 29 03.4	
	comp=Z,8.1nm,1.3s						
BPAW	**Bear Paw Mtn.**	**70.95**	**26**	P	**P**	**20 28 53.1**	**-0.3**
BPAW				IAmb	IAmb	20 29 08.0	
	comp=Z,5.3nm,1.4s						
RND	**Reindeer**	**71.70**	**27**	P	**P**	**20 28 57.5**	**-0.6**
RND				IAmb	IAmb	20 29 01.4	
	comp=Z,5.3nm,1.2s						
TOLK	**Toolik Lake Re**	**72.69**	**21**	P	**P**	**20 29 02.0**	**-1.9**
ILAR	**Eielson Array**	**72.83**	**25**	P	**P**	**20 29 02.9**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=251,slow=5.8,SNR=6.9						
RIDG	**Independent Ri**	**73.52**	**27**	P	**P**	**20 29 08.4**	**-0.4**
RIDG				IAmb	IAmb	20 29 28.6	
	comp=Z,9.1nm,1.4s						
SNH	**Sunshine Point**	**73.97**	**30**	P	**P**	**20 29 09.6**	**-1.9**
CTGM	**Chitina Glacie**	**74.79**	**30**	P	**P**	**20 29 16.8**	**+0.3**
CTGM				IAmb	IAmb	20 29 44.0	
	comp=Z,13nm,1.4s						
ABKAR	**Akbulak array**	**76.01**	**318**	P	**P**	**20 29 22.6**	**-0.9**
M30M	**Minto, Yukon**	**77.05**	**28**	P	**P**	**20 29 30.0**	**+0.8**
M30M				IAmb	IAmb	20 29 53.3	
	comp=Z,6.6nm,1.4s						
EPYK	**Eagle Plains**	**77.22**	**24**	P	**P**	**20 29 30.3**	**+0.2**
EPYK				IAmb	IAmb	20 29 57.2	
	comp=Z,8.9nm,1.4s						
ARCES	**ARCESS Array B**	**88.56**	**341**	P	**P**	**20 30 28.1**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=76,slow=7.5,SNR=1.3						
NVAR	**Mina Array Bea**	**91.79**	**51**	P	**P**	**20 30 46.8**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=266,slow=6.2,SNR=2.5						
FINES	**FINESS Array B**	**92.04**	**334**	P	**P**	**20 30 43.7**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=57,slow=5.1,SNR=10						
TORD	**Torodi Ar. Bea**	**133.01**	**299**	PKP	**PKiKP**	**20 36 55.6**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=46,slow=1.6,SNR=1.4						
LPAZ	**La Paz**	**151.33**	**104**	PKPbc	**PKPab**	**20 37 36.1**	**-3.7**
	comp=Z,0.9nm,0.5s,baz=279,slow=2.3,SNR=2.8						

*PRU **11** 20:17:41.9±0.0,50°.24N×18°.98E,h0km*
*IPEC **11** 20:17:41.6±0.1,50°.21N×19°.02E,h1km,ML2.7/3,Error ellipse: s-maj=2.4km s-min=0.7km az=169.0*
*VIE **11** 20:17:41.6±0.5,50°.13N×19°.04E,h0km,mb2.3/5,ml2.6/4, Error ellipse: s-maj=6.2km s-min=3.8km az=164.0 14 km SSE of Katowice Suspected Mining induced.*
*IDC **11** 20:17:42.9±0.7,50°.14N×18°.95E,h0km,mb3.2/1, mb1 3.4/7,mb1mx3.3/56,mbtmp3.2/7,ML3.0/6,Error ellipse: s-maj=14.0km s-min=7.0km az=158.0*

ISC 11 20:17:40.7±0.7,**50°.27N**±0°.03×**19°.03E**±0°.02,**h0**km,**n59,**
σ0s**96**/96,**6C-4D,Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.50**	**95**	*e*Pg	**Pg**	**20 17 51.0**	**+0.8**
OJC				*e*Sg	**Sg**	**20 18 50.0**	**+1.4**
RAC	**Raciborz**	**0.57**	**252**	*e*PG	**Pb**	**20 17 53.7**	**+0.2**
RAC				*e*SG	**Sb**	**20 18 02.0**	**-0.1**
OKC	**Ostrava-Krasne**	**0.71**	**233**	*e*PG	**Pg**	**20 17 54.8**	**+0.5**
OKC				*e*SG	**Sg**	**20 18 02.3**	**-1.2**
	comp=Z,75nm,0.5s						
MORC	**Moravsky Berou**	**1.08**	**244**	↓P	**Pg**	**20 18 01.7**	**+0.4**
MORC				↑S	**Sb**	**20 18 17.0**	**+0.2**
MORC	**Moravsky Berou**	**1.08**	**244**	*e*Pg	**Pg**	**20 18 01.4**	**+0.1**
	baz=65						
MORC				*e*Sg	**Sg**	**20 18 14.2**	**-1.0**
	152nm,0.4s,baz=65						
LANS	**Liptovska Anna**	**1.15**	**165**	*e*PG	**Pg**	**20 18 03.0**	**+0.3**
LANS				*e*SG	**Sb**	**20 18 18.6**	**-0.4**
LANS				*e*LG	Lg	20 18 23.7	
NIE	**Niedzica**	**1.18**	**135**	*e*Pg	**Pb**	**20 18 03.9**	**-0.1**
NIE				*e*Sg	**Sn**	**20 18 21.1**	**-0.2**
KRLC	**Kraliky**	**1.46**	**263**	*e*PG	**Pn**	**20 18 07.9**	**-0.4**
KRLC				*e*SG	**Sg**	**20 18 27.7**	**+0.2**
	comp=Z,107nm,0.6s						
JAVC	**Velka Javorina**	**1.66**	**213**	*e*Pn	**Pn**	**20 18 11.2**	**+0.1**
	baz=32						
JAVC	**Velka Javorina**	**1.66**	**213**	*e*PN	**Pn**	**20 18 11.3**	**+0.1**
STHS	**Stebnicka Huta**	**1.67**	**120**	*e*PN	**Pb**	**20 18 12.2**	**-0.1**
STHS				*e*SN	**Sg**	**20 18 35.2**	**+1.0**
DPC	**Dobruska-Polom**	**1.74**	**274**	*e*PG	**Pn**	**20 18 12.6**	**+0.4**
DPC				*e*SG	**Sg**	**20 18 36.8**	**+0.3**
	comp=Z,97nm,0.8s						
VYHS	**Vyhne**	**1.78**	**184**	*e*PN	**Pn**	**20 18 12.2**	**-0.5**
VYHS				*e*SN	**Sn**	**20 18 36.0**	**0.0**
OSTC	**Ostas**	**1.82**	**280**	*e*PG	**Pn**	**20 18 14.1**	**+0.8**
OSTC				*e*SG	**Sg**	**20 18 40.8**	**+1.6**
	comp=Z,104nm,0.9s						
KSP	**Ksiaz**	**1.84**	**289**	*e*Pn	**Pn**	**20 18 13.4**	**-0.1**
KSP				*e*Pg	**Pg**	**20 18 16.8**	**+0.8**
KSP				*e*Sg	**Sg**	**20 18 41.4**	**+1.6**
VRAC	**Vranov**	**1.85**	**240**	↓P	**Pn**	**20 18 14.3**	**+0.7**
VRAC				↓S	**Sn**	**20 18 38.2**	**+0.5**
VRAC	**Vranov**	**1.85**	**240**	Pn	**Pn**	**20 18 14.0**	**+0.3**
	17nm,0.3s,baz=59,slow=13,SNR=46						
VRAC				Lg	Lg	20 18 37.9	
	10nm,0.3s,baz=137,slow=22,SNR=15						
VRAC	**Vranov**	**1.85**	**240**	*e*Pn	**Pn**	**20 18 13.9**	**+0.3**
	baz=59						
VRAC				*e*Sg	**Sn**	**20 18 38.4**	**+0.8**
	57nm,0.7s,baz=59						
VRAC	**Vranov**	**1.85**	**240**	*e*PN	**Pn**	**20 18 14.0**	**+0.3**
VRAC				*e*SG	**Sn**	**20 18 38.5**	**+0.8**
CHVC	**Chvalec**	**1.93**	**281**	*e*PG	**Pn**	**20 18 15.3**	**+0.5**
CHVC				*e*SG	**Sg**	**20 18 43.1**	**+0.4**
	comp=Z,40nm,0.6s						
UPC	**Upice**	**1.95**	**278**	*e*PG	**Pn**	**20 18 15.6**	**+0.6**
UPC				*e*SG	**Sg**	**20 18 44.4**	**+1.2**
	comp=Z,40nm,0.6s						
KECS	**Kecovo**	**2.02**	**151**	*e*PN	**Pn**	**20 18 15.5**	**-0.5**
KECS				*e*SN	**Sn**	**20 18 40.7**	**-1.3**
SMOL	**Smolenice**	**2.04**	**211**	*e*PN	**Pn**	**20 18 15.9**	**-0.4**
CRVS	**Cervenica-Dubn**	**2.09**	**130**

BHW	**Baring Head**	**0.67**	**221**	P	Pb	20 20 47.9 +0.2
BHW				S	Sb	20 20 57.1 +0.4
PLWZ	**Palliser**	**0.68**	**193**	P	Pb	20 20 47.9 -0.1
PLWZ				S	Sn	20 20 58.4 -0.5
OHWZ	**Ohakea**	**0.70**	**351**	P	Pn	20 20 49.1 +0.1
OHWZ				S	Sn	20 20 59.8 +0.6
DVHZ	**Dannevirke**	**0.81**	**42**	P	Pb	20 20 49.9 -0.1
DVHZ				S	Sn	20 21 01.6 -0.3
ANWZ	**Angora Road**	**0.89**	**61**	P	Pb	20 20 50.8 -0.7
ANWZ				S	Sn	20 21 03.9 0.0
TSZ	**Takapari Road**	**0.93**	**25**	P	Pb	20 20 51.8 -0.3
TCW	**Tory Channel**	**0.94**	**250**	P	Pb	20 20 52.3 0.0
PRHZ	**Porangahau**	**1.10**	**55**	P	Pn	20 20 53.6 -1.0
WPHZ	**Waipukurau**	**1.12**	**42**	P	Pn	20 20 54.5 -0.4
PNHZ	**Pukenui**	**1.14**	**30**	P	Pn	20 20 54.8 -0.4
DUWZ	**D'Urville Isla**	**1.17**	**274**	P	Pb	20 20 55.9 -0.2
WAZ	**Wanganui**	**1.20**	**342**	P	Pb	20 20 57.4 +0.7
TUWZ	**Tuamarina**	**1.26**	**245**	P	Pn	20 20 56.1 -0.7
CMWZ	**Cape Campbell**	**1.26**	**227**	P	Pn	20 20 56.7 -0.1
BSWZ	**Blackbirch Sta**	**1.44**	**235**	P	Pn	20 20 58.7 -0.6
BHHZ	**Black Hill Sta**	**1.48**	**18**	P	Pn	20 20 58.5 -1.4
MOVZ	**Moawhango**	**1.51**	**9**	P	Pn	20 21 00.4 +0.1
WNVZ	**Wahianoa**	**1.58**	**4**	P	Pn	20 21 01.9 +0.6
NNZ	**Nelson**	**1.60**	**258**	P	Pn	20 21 01.7 +0.3
TRVZ	**Turoa**	**1.60**	**3**	P	Pn	20 20 59.1 -2.6
PKVZ	**Pokaka**	**1.61**	**357**	P	Pb	20 21 03.1 -0.7
WHVZ	**Whangaehu Hut**	**1.62**	**4**	P	Pn	20 21 02.7 +0.8
TUVZ	**Tukino**	**1.64**	**5**	P	Pn	20 21 03.1 +1.0
FWVZ	**Far West T-bar**	**1.65**	**3**	P	Pn	20 21 03.2 +0.9
LREZ	**Lake Rotokare**	**1.65**	**330**	P	Pb	20 21 04.2 -0.1
SNVZ	**South Ngauruho**	**1.72**	**5**	P	Pn	20 21 01.6 -1.6
NGZ	**Ngauruhoe**	**1.73**	**4**	P	Pn	20 21 04.3 +0.9
OTVZ	**Ohurere**	**1.74**	**5**	P	Pn	20 21 04.5 +0.9
NNVZ	**North Ngauruho**	**1.77**	**4**	P	Pn	20 21 04.9 +0.9
ETVZ	**East Tongariro**	**1.77**	**6**	P	Pn	20 21 04.8 +0.8
WTVZ	**West Tongariro**	**1.79**	**3**	P	Pn	20 21 05.0 +0.9
TMVZ	**Te Maari**	**1.79**	**6**	P	Pn	20 21 04.8 +0.6
NTVZ	**North Tongarir**	**1.81**	**5**	P	Pn	20 21 05.4 +0.9
KRVZ	**Karewarewa**	**1.81**	**5**	P	Pn	20 21 05.5 +1.0
PREZ	**Palmer Road**	**1.85**	**327**	P	Pb	20 21 07.4 -0.4
VRZ	**Vera Road**	**1.85**	**343**	P	Pb	20 21 06.4 -1.4
TKNZ	**Takaka Hill**	**1.89**	**265**	P	Pn	20 21 06.0 +0.5
NEZ	**North Egmont**	**1.93**	**327**	P	Pb	20 21 08.6 -0.6
RITZ	**Rihia Road**	**1.95**	**9**	P	Pn	20 21 05.9 -0.4
KHEZ	**Kahui Hut**	**1.95**	**325**	P	Pb	20 21 08.9 -0.6
NBEZ	**Newall Road No**	**2.04**	**323**	P	Pb	20 21 10.5 -0.5
PKE	**Pukeiti**	**2.04**	**326**	P	Pb	20 21 11.0 -0.1
RATZ	**Rangitukua**	**2.05**	**7**	P	Pn	20 21 08.4 +0.8
KHZ	**Kahutara**	**2.09**	**223**	P	Pn	20 21 06.5 -1.6
MRNZ	**Matariki Terra**	**2.10**	**255**	P	Pn	20 21 08.4 +0.1
THZ	**Tophouse**	**2.10**	**245**	P	Pn	20 21 07.6 -0.9
WATZ	**Wairara**	**2.20**	**6**	P	Pn	20 21 09.9 +0.1
QRZ	**Quartz Range**	**2.22**	**271**	P	Pn	20 21 11.1 +1.1
HIZ	**Hauiti**	**2.43**	**349**	P	Pn	20 21 13.9 +1.0
TLZ	**Tolley Road**	**2.57**	**1**	P	Pb	20 21 17.5 -2.6
GVZ	**Greta Valley S**	**2.74**	**220**	P	Pn	20 21 15.2 -2.0
LTZ	**Lake Taylor**	**3.03**	**231**	P	Pn	20 21 19.6 -1.6
OKCZ	**Okains Bay**	**3.33**	**211**	P	Pn	20 21 22.8 -2.5
MQZ	**McQueen's Vall**	**3.49**	**216**	P	Pn	20 21 24.9 -2.5
TMZ	**Timaru**	**4.78**	**222**	P	Pn	20 21 43.0 -2.2

IDC ***11*** *20:21:12.7±1.4, 28°.04N×141°.50E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/53, mbtmp3.7/6, Error ellipse: s-maj=58.7km s-min=18.4km az=64.0*

ISC 11 20:21:17.5±1.5, 28°.1N±0°.2×141°.7E±0°.4, h35km, n7, σ1°22/7, mb3.8/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.05**	**155**	Pn	**Pn**	**20 21 35.4**	**-0.3**
	12nm,0.3s,baz=348,slow=18,SNR=7.3						
WRA	**Warramunga Arr**	**48.24**	**189**	P	**P**	**20 29 54.9**	**-0.2**
	1.6nm,0.7s,baz=10.0,slow=8.2,SNR=7.5						
FITZ	**Fitzroy Crossi**	**48.44**	**201**	P	**P**	**20 29 57.6**	**+1.1**
	1.1nm,0.8s,baz=25,slow=7.2,SNR=1.7						
MKAR	**Makanchi Array**	**49.53**	**309**	P	**P**	**20 30 04.2**	**-0.6**
	0.4nm,0.7s,baz=95,slow=7.8,SNR=1.6						
ASAR	**Alice Springs**	**51.96**	**189**	P	**P**	**20 30 22.5**	**-0.7**
	0.1nm,0.4s,baz=10,slow=7.4,SNR=4.1						
KURBB	**Kurchatov Arra**	**52.06**	**314**	P	**P**	**20 30 22.2**	**-1.4**
	0.5nm,0.5s,baz=90,slow=6.7,SNR=8.0						
FINES	**FINESS Array B**	**76.90**	**334**	P	**P**	**20 33 07.1**	**+1.3**
	1.0nm,0.8s,baz=67,slow=4.7,SNR=4.7						

IDC ***11*** *20:35:17.8±4.8, 14°.62N×91°.70W, h0km, mb3.6/1, mb1 3.7/2, mb1mx3.4/24, mbtmp3.3/2, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/64, Error ellipse: s-maj=196.6km s-min=83.4km az=54.0*

MEX ***11*** *20:35:19.1±0.6, 14°.26N×93°.19W, h113km±25km, MD4.1*

ISC 11 20:35:21.3±2.0, 14°.3N±0°.1×93°.23W±0°.08, h35km, n12, σ1°62/17, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.12**	**56**	*i* P	**Pn**	**20 35 39.9**	**-0.7**
THIG				*i* S	**Sn**	**20 35 56.5**	**+1.7**
PATR	**El Naranjo**	**1.27**	**49**	*i* P	**Pn**	**20 35 42.1**	**-0.8**
PATR				*i* S	**Sn**	**20 36 00.5**	**+1.6**
CHUJ	**Union Juarez**	**1.35**	**53**	*i* P	**Pn**	**20 35 43.1**	**-0.8**
CHUJ				*i* S	**Sn**	**20 36 01.1**	**+0.2**
PAVE	**Pavencul**	**1.37**	**48**	*i* P	**Pn**	**20 35 43.5**	**-0.7**
PAVE				*i* S	**Sn**	**20 36 02.1**	**+1.0**
PCIG		**1.43**	**0**	*eP*	**Pn**	**20 35 43.9**	**-0.8**
PCIG				*i* S	**Sn**	**20 35 59.6**	**-2.7**
CCIG	**Comitan**	**2.26**	**28**	*e*	Pn	20 35 59.6	+3.2
CCIG				*i* S	**Sn**	**20 36 22.5**	**-0.5**
TGIG		**2.49**	**2**	*i* P	**Pn**	**20 36 01.5**	**+2.0**
TGIG				*i* S	**Sn**	**20 36 28.0**	**-0.7**
UXUV	**UXUV**	**3.16**	**344**	*eP*	**Pn**	**20 36 10.8**	**+2.3**
UXUV				*eS*	**Sn**	**20 36 43.3**	**-1.7**
CMIG	**Matias Romero**	**3.23**	**331**	LR	LR	20 37 25.4	
	comp=Z,102nm,21.7s,baz=156,slow=32						
TXAR	**Lajitas Array**	**17.83**	**329**	P	P	20 39 34.3	+6.9
	0.0nm,0.3s,baz=150,slow=15,SNR=2.8						
YKA	**Yellowknife Ar**	**50.50**	**347**	P	**P**	**20 44 17.1**	**+1.4**
	0.9nm,0.8s,baz=152,slow=7.6,SNR=9.1						
CMAR	**Chiang Mai Arr**	**145.34**	**339**	PKPbc	**PKiKP**	**20 54 58.0**	**-2.4**
	0.3nm,0.7s,baz=18,slow=3.1,SNR=2.6						

DJA ***11*** *20:39:46.0±0.8, 4°.1N±4°×12°.8E±°, h38km±18km, M4.2/12, mB5.0/4, mb4.2/12, MLv4.3/12, Mw(mB)4.3/4*

NEIC ***11*** *20:39:47.7±1.0, 3°.9N±0°.1×128°.0E±0°.1, h72km±9km, mb4.2/12, Error ellipse: s-maj=18.3km s-min=12.9km az=57.0*

IDC ***11*** *20:39:47.3±3.9, 3°.98N×128°.07E, h73km±39km, mb3.5/12, mb1 3.6/13, mb1mx3.4/56, mbtmp3.8/13, ML3.3/1, Error ellipse: s-maj=38.0km s-min=15.9km az=70.0*

ISC 11 20:39:46.9±0.6, 3°.94N±0°.06×128°.01E±0°.07, h71km, n41, σ1°04/45, mb3.9/17, 1C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.49**	**264**	P	**Pn**	**20 40 23.4**	**-1.8**
SGSI				S	**Sn**	**20 40 52.7**	**-1.9**
TNTI	**Ternate**	**3.21**	**192**		**Pn**	**20 40 36.7**	**+1.7**
TNTI	**Ternate**	**3.21**	**192**	P	**Pn**	**20 40 36.0**	**+0.9**
GSPH	**General Santos**	**3.72**	**305**	*eP*	**Pn**	**20 40 40.1**	**-2.0**
KCP	**Kidapawan**	**4.21**	**316**	*eP*	**Pn**	**20 40 48.3**	**-0.4**
KCP				*i* S	**Sn**	**20 41 39.1**	**+2.4**
LBMI	**Labuha**	**4.58**	**186**	P	**Pn**	**20 40 54.4**	**+0.7**
KMSI	**Cibinong**	**5.24**	**230**	P	**Pn**	**20 41 03.1**	**+0.4**
	0.7nm3μm159nm,0.5s						
KMSI				S	**Sn**	**20 42 02.3**	**+0.6**
	0.7nm3μm159nm,0.5s						
SWI	**Sorong**	**5.77**	**146**	P	**Pn**	**20 41 09.0**	**-1.0**
	0.1nm12nm,0.6s						
SIJI	**Sorong**	**5.78**	**146**	P	**Pn**	**20 41 10.5**	**+0.3**
	0.9nm,0.3s,baz=214,slow=23,SNR=7.2						
SIJI				S	**Sn**	**20 42 12.7**	**-2.5**
	0.8nm,0.3s,baz=352,slow=24,SNR=2.0						
GTOI	**Gorontalo**	**5.98**	**237**	P	**Pn**	**20 41 12.2**	**-0.7**
	0.1nm226nm14nm,0.6s						
SANI	**Sanana**	**6.29**	**199**	P	**Pn**	**20 41 16.6**	**-0.5**
	0.1nm5.7nm,0.4s						
MRSI	**Marisa**	**6.97**	**241**	P	**Pn**	**20 41 26.2**	**-0.3**
	0.3nm964nm97nm,0.9s						
LUWI	**Luwuk**	**7.21**	**227**	Pn	**Pn**	**20 41 29.0**	**-0.6**
LUWI	**Luwuk**	**7.21**	**227**	P	**Pn**	**20 41 30.3**	**+0.7**
	0.3nm2μm23nm,1.2s						
TOLI2	**Tolitoli**	**7.75**	**249**		**Pn**	**20 41 34.9**	**-2.2**
APSI	**Ampana**	**7.98**	**233**	P	**Pn**	**20 41 40.3**	**+0.1**
	0.1nm28nm,0.5s						
MPSI	**Mapaga**	**8.86**	**246**	P	**Pn**	**20 41 50.8**	**-1.5**
	7.9nm,0.7s						
MYLDM	**Lahad Datu**	**9.56**	**278**		**Pn**	**20 42 02.8**	**+1.0**
SBUM	**Sibu**	**15.84**	**265**	P	**P**	**20 43 28.2**	**0.0**
STKI	**Sintang**	**16.96**	**257**	P	**Pn**	**20 43 40.1**	**+0.3**
	4.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.03**	**186**	P	**P**	**20 44 35.1**	**-0.6**
	1.1nm,0.9s,baz=19,slow=11,SNR=1.5						
FITZ	**Fitzroy Crossi**	**22.03**	**186**	IAmb	IAmb	20 44 51.2	
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**24.54**	**166**	P	**P**	**20 45 00.8**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=343,slow=10,SNR=16						
WB2	**Warramunga Arr**	**24.54**	**166**	P	**P**	**20 44 59.7**	**-0.4**
WB2				IAmb	IAmb	20 45 23.7	
	comp=Z,5.6nm,1.1s						
WR0	**Warramunga Arr**	**24.61**	**165**	P	**P**	**20 45 01.0**	**+0.3**
WR0				IAmb	IAmb	20 45 11.6	
	comp=Z,6.8nm,1.4s						
ASAR	**Alice Springs**	**28.04**	**168**	P	**P**	**20 45 32.6**	**+1.0**
	comp=Z,0.1nm,0.8s,baz=351,slow=7.4,SNR=1.4						
ASAR				PcP	**PcP**	**20 48 45.0**	**0.0**
	comp=Z,0.5nm,1.1s,baz=343,slow=2.2,SNR=1.8						
CMAR	**Chiang Mai Arr**	**31.88**	**299**	P	**P**	**20 46 06.3**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=119,slow=7.0,SNR=11						
KSRS	**Korea Array**	**33.35**	**360**	P	**P**	**20 46 18.3**	**0.0**
	comp=Z,1.2nm,0.6s,baz=177,slow=8.2,SNR=3.6						
SHL	**Shillong**	**40.79**	**305**	P	**P**	**20 47 21.9**	**+0.1**
SHL				IAmb	IAmb	20 47 23.2	
	comp=Z,5.8nm,0.6s						
SONM	**Songino Array**	**47.52**	**340**	P	**P**	**20 48 15.4**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=155,slow=7.6,SNR=8.4						
MK31	**Makanchi Array**	**58.12**	**325**	P	**P**	**20 49 33.3**	**+0.1**
MK31				IAmb	IAmb	20 49 34.5	
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**58.12**	**325**	P	**P**	**20 49 33.1**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=116,slow=8.0,SNR=32						
MKAR	**Makanchi Array**	**58.12**	**325**	P	**P**	**20 49 33.5**	**+0.3**
MAKZ	**Makanchi**	**58.31**	**324**	P	**P**	**20 49 34.9**	**+0.4**
MAKZ				IAmb	IAmb	20 49 35.5	
	comp=Z,1.7nm,0.6s						
KDJ	**Kajisay**	**59.04**	**318**	P	**P**	**20 49 40.0**	**0.0**
ZALV	**Zalesovo Beam**	**60.98**	**332**	P	**P**	**20 49 51.9**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=119,slow=8.2,SNR=4.6						
AAK	**Ala-Archa**	**61.06**	**317**	P	**P**	**20 49 55.2**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=140,slow=7.9,SNR=3.0						
KURK	**Kurchatov**	**62.26**	**327**	P	**P**	**20 50 01.3**	**0.0**
KURBB	**Kurchatov Arra**	**62.26**	**327**	P	**P**	**20 50 01.3**	**0.0**
	comp=Z,2.1nm,0.5s,baz=127,slow=6.3,SNR=56						
ILAR	**Eielson Array**	**84.36**	**25**	P	**P**	**20 52 11.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=273,slow=4.9,SNR=1.6						
ARCES	**ARCESS Array B**	**90.69**	**340**	P	**P**	**20 52 40.5**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=69,slow=5.0,SNR=4.1						

IDC ***11*** *20:43:29.5±8.9, 36°.81N×70°.83E, h215km±56km, mb3.4/1, mb1 3.0/5, mb1mx2.7/56, mbtmp3.6/5, Error ellipse: s-maj=88.6km s-min=60.4km az=163.0*

NNC ***11*** *20:43:36.0±12.0, 40°.35N×70°.39E, h680km±327km, mb1.8, mpv3.3, Error ellipse: s-maj=787.6km s-min=69.3km az=177.0*

ISC 11 20:43:29.5±2.6, 36°.8N±0°.2×71°.0E±0°.2, h200km, n14, σ2°00/18, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.67**	**20**	P	**Pn**	**20 44 53.9**	**+1.1**
	SNR=82						
UCH	**Uchtor**	**6.01**	**26**	P	**Pn**	**20 44 58.5**	**+1.2**
	SNR=17						
EKS2	**Erkin-Say**	**6.18**	**19**	P	**Pn**	**20 45 01.0**	**+1.8**
	SNR=11						
KK31	**Karatay Array**	**6.26**	**356**	P	**Pn**	**20 44 60.0**	**-0.1**
	1.4nm,0.3s,baz=180,slow=13,SNR=29						
KK31				S	**Sn**	**20 46 11.7**	**-0.2**
	3.7nm,0.4s,baz=187,slow=23,SNR=15						
AAK	**Ala-Archa**	**6.37**	**24**	P	**Pn**	**20 45 03.1**	**+1.5**
	SNR=12						
AAK	**Ala-Archa**	**6.37**	**24**	P	**Pn**	**20 45 02.8**	**+1.2**
	1.5nm,0.3s,baz=207,slow=9.2,SNR=35						
AAK				S	**Sn**	**20 46 18.0**	**+3.3**
	0.6nm,0.3s,baz=327,slow=23,SNR=18						
KBK	**Karagaybulak**	**6.54**	**26**	P	**Pn**	**20 45 05.5**	**+1.7**
	SNR=8.1						
TKM2	**Tokmak 2**	**7.01**	**29**	P	**Pn**	**20 45 11.6**	**+1.6**
	SNR=16						
TKM2	**Tokmak 2**	**7.01**	**29**	⇓P	**Pn**	**20 45 10.9**	**+0.9**
	6.4nm,0.6s						
TKM2				⇑S	**Sn**	**20 46 26.3**	**-3.4**
	1.0nm,0.6s						
MDOK	**Medeo**	**7.82**	**34**	P	**Pn**	**20 45 21.6**	**+1.2**
	4.7nm,0.6s						
MDOK				S	**Sn**	**20 46 45.2**	**-3.6**
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**13.00**	**37**	P	**Pn**	**20 46 28.4**	**+1.6**
	0.1nm,0.3s,baz=224,slow=13,SNR=6.4						
KURBB	**Kurchatov Arra**	**14.79**	**19**	P	**P**	**20 46 50.7**	**+0.9**
	0.0nm,0.3s,baz=205,slow=10,SNR=5.4						
ZALV	**Zalesovo Beam**	**19.59**	**25**	P	**P**	**20 47 42.0**	**-0.2**
	0.6nm,0.3s,baz=216,slow=11,SNR=9.3						
ARCES	**ARCESS Array B**	**40.84**	**337**	P	**P**	**20 50 49.4**	**-1.8**
	2.0nm,0.9s,baz=108,slow=8.6,SNR=1.0						

WEL 11 21:15:57.9±1.8, 31°.S±12°×17°.8E±1°.9, h33km, M4.2/3, mB4.4/2, ML4.5/4, MLv4.2/3, Mw(mB)3.5/2, Error ellipse: s-maj=0.0km s-min=0.0km az=121.6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.62**	**61**	P	Pn	21 16 52.0	+0.3
GLKZ				S	Sn	21 17 33.0	-0.3
HAZ	**Te Kaha**	**6.67**	**185**	P	Pn	21 17 35.3	+1.8
HAZ				S	Sn	21 18 50.1	+1.8
PKGZ	**Pakihiroa**	**6.78**	**183**	P	Pn	21 17 36.6	+1.4
PKGZ				S	Sn	21 18 52.8	+1.5
RUGZ	**Raukumara Rang**	**6.88**	**185**	P	Pn	21 17 37.5	+0.9
RUGZ				S	Sn	21 18 54.7	+0.8
TSZ	**Takapari Road**	**9.17**	**192**	S	Pn	21 18 06.7	-1.3
TSZ				S	Sn	21 19 46.4	-3.6

IDC ***11*** *21:25:53.6±1.6, 26°.44S×176°.46W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/38, mbtmp3.9/3, ML4.4/1, MS3.6/6, Ms1 3.6/6, ms1mx3.1/63, Error ellipse: s-maj=47.4km s-min=30.7km az=111.0*

NEIC ***11*** *21:25:54.7±1.5, 26°.43S±0°.1×176°.0W±0°.1, h26km±8km, mb4.5/9, Error ellipse: s-maj=20.0km s-min=11.8km az=118.0*

ISC 11 21:25:55.9±0.9, 26°.38S±0°.09×176°.1W±0°.1, h32km, n30, σ1°32/24, mb4.5/7, MS3.7/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.27**	**209**	Pn	**Pn**	**21 26 45.0**	**+0.1**
	43nm,0.3s,baz=59,slow=19,SNR=1.9						
RAO				Sn	**Sn**	**21 27 23.8**	**+1.0**
	39nm,0.3s,baz=90,slow=22,SNR=1.4						
RAO	**Raoul Island**	**3.27**	**209**		**Pn**	**21 26 44.3**	**-0.7**
NIUE	**Niue**	**9.24**	**39**	Pn	**Pn**	**21 28 05.6**	**-1.4**
MSVF	**Nonsavu**	**10.16**	**327**	LR	LR	21 31 48.6	
	comp=Z,193nm,20.8s,baz=186,slow=35						
MSVF	**Nonsavu**	**10.16**	**327**	Pn	**Pn**	**21 28 19.8**	**0.0**
URZ	**Urewera**	**13.15**	**204**	Sn	Sn	21 31 16.0	-9.4
	0.3nm,0.3s,baz=35,slow=22,SNR=2.0						
BKZ	**Black Stump Fm**	**14.17**	**204**	Pn	**Pn**	**21 29 13.3**	**-1.1**
RAR	**Rarotonga**	**15.81**	**74**	LR	LR	21 34 04.2	
	comp=Z,172nm,20.4s,baz=186,slow=30						
DZM	**Mont Dzumac**	**16.48**	**281**	LR	LR	21 34 48.1	
	comp=Z,199nm,19.4s,baz=98,slow=33						
THZ	**Tophouse**	**17.81**	**208**		**Pn**	**21 30 00.2**	**-1.1**
PPT	**Papeete**	**26.09**	**76**	LR	LR	21 39 32.5	
	comp=Z,73nm,18.9s,baz=267,slow=31						
ARMA	**Armidale**	**28.60**	**254**	P	**P**	**21 31 49.6**	**+0.1**
EIDS	**Eidsvold**	**29.49**	**265**	P	**P**	**21 31 57.4**	**+0.1**
EIDS				IAmb	IAmb	21 31 58.0	
	comp=Z,11nm,1.2s						
CTA	**Charters Tower**	**35.05**	**272**	LR	LR	21 45 01.8	
	comp=Z,131nm,18.5s,baz=42,slow=33						
AS31	**Alice Springs**	**45.15**	**262**	P	**P**	**21 34 09.0**	**-0.8**
ASAR	**Alice Springs**	**45.15**	**262**	P	**P**	**21 34 09.5**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=92,slow=7.7,SNR=6.8						
ASAR				LR	LR	21 52 53.3	
	comp=Z,90nm,18.3s,baz=320,slow=36						
ASAR	**Alice Springs**	**45.15**	**262**	P	**P**	**21 34 08.2**	**-1.6**
WR0	**Warramunga Arr**	**45.60**	**267**	P	**P**	**21 34 12.2**	**-1.2**
WR0				IAmb	IAmb	21 34 25.7	
	comp=Z,7.7nm,1.2s						
WB2	**Warramunga Arr**	**45.77**	**267**	P	**P**	**21 34 13.0**	**-1.7**
WB2				IAmb	IAmb	21 34 22.4	
	comp=Z,7.9nm,1.3s						
WRA	**Warramunga Arr**	**45.78**	**267**	P	**P**	**21 34 13.7**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=102,slow=7.9,SNR=4.4						
WRA	**Warramunga Arr**	**45.78**	**267**	P	**P**	**21 34 14.2**	**-0.7**
WB0	**Warramunga Arr**	**45.79**	**268**	P	**P**	**21 34 13.7**	**-1.2**
WB0				IAmb	IAmb	21 34 26.0	
	comp=Z,6.4nm,1.4s						
FITZ	**Fitzroy Crossi**	**54.16**	**266**	P	**P**	**21 35 16.8**	**-1.7**
FITZ				IAmb	IAmb	21 35 35.9	
	comp=Z,6.3nm,1.3s						
FINES	**FINESS Array B**	**141.88**	**343**	PKPpre	PKPpre	21 45 20.4	
NC303	**NORSAR Array S**	**144.80**	**354**		**PKPdf**	**21 45 29.8**	**+0.8**
NB2	**NORSAR Subarra**	**145.00**	**354**	PKP	**PKPdf**	**21 45 31.0**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=14,slow=3.7						
NOA	**NORSAR Array B**	**145.00**	**354**	PKPbc	**PKPdf**	**21 45 31.2**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=5.7,slow=2.7,SNR=4.4						
AKASG	**Malin Array Be**	**148.94**	**328**	PKPbc	**PKiKP**	**21 45 42.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=45,slow=4.2,SNR=2.0						
BRTR	**Keskin Array B**	**151.88**	**306**	PKPab	**PKPab**	**21 45 60.0**	**+2.9**
	comp=Z,0.5nm,0.6s,baz=68,slow=3.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**166.67**	**171**	PKPab	**PKPab**	**21 47 02.3**	**+1.0**
	comp=Z,0.6nm,1.0s,baz=199,slow=3.9,SNR=2.0						

CNRM ***11*** *21:30:49.5, 35°.59N×3°.86W, h14km, ml2.3*

MDD ***11*** *21:30:50.1±0.6, 35°.56N×3°.81W, h0km, mb_Lg2.8/9, Error ellipse: s-maj=5.1km s-min=3.1km az=12.0*

SFS ***11*** *21:30:52.0, 35°.54N×3°.77W, h10km, ML3.2, ALBORAN*

INMG ***11*** *21:30:52.8±1.3, 35°.39N×4°.10W, h0km, ML2.2, Error ellipse: s-maj=10.7km s-min=3.8km az=76.0*

ISC 11 21:30:49.7±1.0, 35°.58N±0°.02×3°.79W±0°.02, h10km±9km, n40, σ1°41/62, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.38**	**199**	P	**Pg**	**21 30 57.1**	**0.0**
PALE	**Palemas**	**0.38**	**199**	P	**Pg**	**21 30 57.1**	**0.0**
PALE				S	**Sg**	**21 31 02.1**	**+0.5**
EALB	**Alboran**	**0.71**	**59**	Pg	**Pb**	**21 31 04.4**	**+0.1**
EALB				Sg	**Sn**	**21 31 16.0**	**-0.9**
EALB				*i* Vmb_Lg		21 31 18.9	
EMEL	**Melilla**	**0.73**	**112**	Pg	**Pg**	**21 31 03.4**	**-0.4**
EMEL				Sg	**Sg**	**21 31 13.1**	**-0.3**
GOG	**Mont Gurugu**	**0.74**	**118**	P	**Pg**	**21 31 04.0**	**+0.1**
GOG	**Mont Gurugu**	**0.74**	**118**	P	**Pg**	**21 31 04.5**	**+0.6**
GOG				S	**Sg**	**21 31 14.1**	**+0.5**
EMIJ	**Mijas**	**1.27**	**321**	Pg	**Pb**	**21 31 12.6**	**-1.1**
EMIJ				Sg	**Sg**	**21 31 28.6**	**-1.9**
EMIJ				*i* Vmb_Lg		21 31 37.2	
EMAL	**Malaga-Limoner**	**1.29**	**337**	P	**Pg**	**21 31 13.9**	**-0.6**
EMAL				S	**Sn**	**21 31 30.8**	**-0.4**
ELGU	**Los Guajares,**	**1.30**	**6**	Pg	**Pn**	**21 31 12.6**	**-1.4**
ELGU				Sg	**Sn**	**21 31 32.0**	**+0.5**
ELGU				*i* Vmb_Lg		21 31 40.6	
SMIR	**Smir Dam**	**1.30**	**275**	P	**Pn**	**21 31 12.1**	**-1.8**
CHEFC	**Chefchaouen**	**1.35**	**250**	S	**Sb**	**21 31 32.1**	**-0.4**
TAF	**Taforalt**	**1.36**	**124**	P	**Pn**	**21 31 15.0**	**+0.2**
TAF	**Taforalt**	**1.36**	**124**	P	**Pn**	**

WR0				IAmb	IAmb	21 39 48.4	
	comp=Z,6.0nm,1.1s						
WB0	**Warramunga Arr**	**31.45**	**250**	P	**P**	**21 39 46.5**	**-3.0**
WB0				IAmb	IAmb	21 39 49.3	
	comp=Z,3.0nm,0.8s						
WB2	**Warramunga Arr**	**31.53**	**250**	P	**P**	**21 39 48.5**	**-1.6**
WB2				IAmb	IAmb	21 40 11.5	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**31.54**	**250**	P	**P**	**21 39 48.3**	**-2.0**
	comp=Z,2.0nm,0.7s,baz=81,slow=9.1,SNR=13						
WRA	**Warramunga Arr**	**31.54**	**250**	P	**P**	**21 39 47.5**	**-2.7**
ASAR	**Alice Springs**	**32.87**	**243**	P	**P**	**21 40 00.1**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=70,slow=9.4,SNR=11						
MORW	**Morawa**	**49.70**	**241**	P	**P**	**21 42 20.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**62.81**	**333**	P	**P**	**21 43 52.6**	**-0.6**
SONM	**Songino Array**	**78.54**	**324**	P	**P**	**21 45 29.3**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=134,slow=4.2,SNR=1.6						
IMAR	**Indian Mountai**	**82.27**	**16**	P	**P**	**21 45 48.7**	**+0.1**
ILAR	**Eielson Array**	**83.36**	**19**	P	**P**	**21 45 54.6**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=231,slow=5.7,SNR=2.0						
MKAR	**Makanchi Array**	**93.41**	**317**	P	**P**	**21 46 41.8**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=93,slow=6.1,SNR=3.1						

JMA ***11*** *21:38:28.2±0.1,36°.03N×139°.49E,h97km±1km,M2.9*
IDC ***11*** *21:38:29.3±1.2,35°.86N×138°.82E,h109km±7km,mb3.2/4, mb1 3.4/5,mb1mx3.0/50,mbtmp3.7/5,MS2.8/1,Ms1 2.8/1, ms1mx2.5/30,Error ellipse: s-maj=36.2km s-min=17.1km az=69.0*

ISC 11 21:38:27.4±1.0,**36°.03N**±0°.05×**139°.39E**±0°.09,**h105**km±6km, **n14**,σ0**73**/22,**mb3.6**/4,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**0.20**	**205**	P		P	**Pn**	**21 38 42.8**	**+0.5**
JHU				S		S	**Sn**	**21 38 53.2**	**-0.1**
JAG	**Ashikaga**	**0.39**	**8**	P		P	**Pn**	**21 38 43.1**	**0.0**
JAG				S		S	**Sn**	**21 38 54.0**	**-0.8**
JRY	**Ryogami san**	**0.40**	**268**	P		P	**Pn**	**21 38 43.7**	**+0.6**
JRY				S		S	**Sn**	**21 38 55.0**	**+0.1**
JKT	**Katashina**	**0.74**	**351**	P		P	**Pn**	**21 38 46.1**	**+0.3**
JKT				S		S	**Sn**	**21 38 59.7**	**+0.1**
JOD2	**Odawara 2**	**0.81**	**198**	P		P	**Pn**	**21 38 46.0**	**-0.3**
JOD2				S		S	**Sn**	**21 38 59.6**	**-0.9**
JYN	**Shimob**	**0.87**	**232**	P		P	**Pn**	**21 38 47.5**	**+0.5**
JYN				S		S	**Sn**	**21 39 02.2**	**+0.5**
MJAR	**Matsushiro Arr**	**1.08**	**298**	P		P	**Pn**	**21 38 48.1**	**-0.9**
	4.9nm,0.3s,baz=149,slow=13,SNR=150								
MJAR				S			**Sn**	**21 39 04.2**	**-1.2**
	3.9nm,0.3s,baz=136,slow=17,SNR=8.9								
MAT	**Matsushiro**	**1.08**	**298**	P		P	**Pn**	**21 38 49.7**	**+0.6**
MAT				*e*S			**Sn**	**21 39 06.0**	**+0.5**
JHJ	**Hachijo jima 2**	**2.93**	**173**	P		P	**Pn**	**21 39 13.3**	**+1.0**
	60nm,0.3s,baz=307,slow=20,SNR=7.3								
JHJ				S			**Sn**	**21 39 45.4**	**-1.5**
	8.6nm,0.3s,baz=39,slow=14,SNR=1.6								
KSRS	**Korea Array**	**9.31**	**282**	LR		LR		21 44 13.6	
	comp=Z,54nm,20.2s,baz=340,slow=39								
MKAR	**Makanchi Array**	**43.28**	**303**	P			**P**	**21 46 18.1**	**-0.4**
	0.1nm,0.5s,baz=92,slow=9.7,SNR=1.9								
KURBB	**Kurchatov Arra**	**45.34**	**309**	P			**P**	**21 46 34.4**	**-0.4**
	0.4nm,0.5s,baz=86,slow=8.2,SNR=4.1								
WRA	**Warramunga Arr**	**55.88**	**186**	P			**P**	**21 47 54.2**	**+0.1**
	0.3nm,0.3s,baz=0.6,slow=7.4,SNR=11								
ARCES	**ARCESS Array B**	**64.35**	**339**	P			**P**	**21 48 52.0**	**+0.5**
	2.5nm,0.9s,baz=64,slow=8.4,SNR=1.3								

ISU ***11*** *22:02:19.9,41°.45N×72°.75E,h6km,Hypocentre not reviewed by the ISC*
KRNET ***11*** *22:02:37.4±0.1,41°.79N×72°.64E,h23km,mb2.3*
SOME ***11*** *22:02:39.6,41°.73N×72°.73E,h10km*
NNC ***11*** *22:02:39.3±1.8,41°.77N×72°.58E,h0km,mb3.1,mpv3.0, Error ellipse: s-maj=19.3km s-min=6.5km az=172.0*

ISC 11 22:02:37.5±0.8,**41°.72N**±0°.03×**72°.69E**±0°.02,**h10**km,**n41**, σ1**36**/72,**22C-9D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.55**	**278**	⇓*i*	P		**Pg**	**22 02 47.5**	**-0.7**
	baz=72								
ARK				⇓*i*	S		**Sg**	**22 02 54.7**	**-0.7**
	baz=72								
MRKS	**Merke**	**1.10**	**21**	*e*	P		**Pn**	**22 03 01.0**	**+1.9**
	4.9nm,0.1s								
MRKS				*e*	S		**Sn**	**22 03 16.1**	**+1.8**
	25nm,0.2s								
MRKS	**Merke**	**1.10**	**21**	P			**Pn**	**22 03 01.2**	**+2.2**
	4.9nm,0.1s								
MRKS				S			**Sn**	**22 03 16.1**	**+1.8**
	25nm,0.2s								
TRKS	**Terek-Say**	**1.18**	**261**	⇑*i*	P		**Pb**	**22 02 58.7**	**-1.3**
	baz=54								
TRKS				⇑*i*	S		**Sg**	**22 03 14.1**	**-1.3**
	baz=54								
OHH	**Osh**	**1.20**	**176**	⇑*i*	P		**Pg**	**22 03 00.5**	**0.0**
	baz=75								
OHH				⇑*i*	S		**Sn**	**22 03 17.6**	**+0.9**
	baz=75								
EKS2	**Erkin-Say**	**1.24**	**40**	⇑*i*	P		**Pn**	**22 02 59.6**	**-1.4**
	baz=43								
EKS2				⇑*i*	S		**Sb**	**22 03 16.0**	**-1.2**
	baz=43								
UCH	**Uchtor**	**1.45**	**69**	⇑*i*	P		**Pn**	**22 03 04.3**	**+0.1**
	baz=72								
UCH				⇑*i*	S		**Sb**	**22 03 23.9**	**+0.3**
	baz=72								
DZA	**Taraz**	**1.54**	**320**	*e*	P		**Pg**	**22 03 07.8**	**+0.7**
	8.0nm,0.1s								
DZA				*e*	S		**Sg**	**22 03 27.0**	**-0.1**
	87nm,0.3s								
DZA	**Taraz**	**1.54**	**320**	P			**Pg**	**22 03 07.8**	**+0.7**
	8.0nm,0.1s								
DZA				S			**Sg**	**22 03 27.0**	**-0.1**
	87nm,0.3s								
AAK	**Ala-Archa**	**1.62**	**55**	⇑*i*	P		**Pn**	**22 03 06.8**	**+0.5**
	baz=58								
AAK				⇑*i*	S		**Sb**	**22 03 28.6**	**+0.3**
	baz=58								
CHMI	**Chimion**	**1.70**	**212**	P				22 03 10.2	
CHMI				S				22 03 30.7	
MINT	**Mingtut**	**1.80**	**226**	P				22 03 12.2	
MINT				S				22 03 35.0	
FRU1	**Bishkek**	**1.81**	**52**	⇑*i*	P		**Pb**	**22 03 09.9**	**-0.8**
	baz=54								
FRU1				⇑*i*	S		**Sb**	**22 03 33.6**	**+0.2**
	baz=54								
SHAK	**Shakhimardan**	**1.91**	**203**	P				22 03 13.4	
SHAK				S				22 03 35.2	
KBK	**Karagaybulak**	**1.92**	**60**	⇑*i*	P		**Pb**	**22 03 11.7**	**-1.0**
	baz=62								
KBK				⇑*i*	S		**Sb**	**22 03 36.8**	**0.0**
	baz=62								
CHMS	**Chumysh**	**1.99**	**49**	⇓*e*	P		**Pb**	**22 03 12.4**	**-1.4**
	baz=51								
CHMS				⇓*e*	S		**Sb**	**22 03 37.8**	**-0.9**
	baz=51								
CHMS	**Chumysh**	**1.99**	**49**	⇑	Pn		**Pg**	**22 03 14.9**	**-0.7**
	1.0nm,0.3s								
CHMS				⇑	Sn		**Sg**	**22 03 42.1**	**+0.6**
	6.0nm,0.4s								
IUG	**luzhnay**	**2.03**	**283**	*e*	P		**Pg**	**22 03 16.4**	**+0.1**
	30nm,0.1s								
IUG				*e*	S		**Sg**	**22 03 42.1**	**-0.6**
	25nm,0.3s								
IUG	**luzhnay**	**2.03**	**283**	Pg			**Pg**	**22 03 16.4**	**+0.1**
	30nm,0.1s								
IUG				Lg			Lg	22 03 42.1	
	25nm,0.3s								
KK31	**Karatay Array**	**2.12**	**311**	Pn			**Pb**	**22 03 16.1**	**+0.1**
	1.0nm,0.3s,baz=135,slow=14,SNR=18								
KK31				⇑	Sn		**Sg**	**22 03 44.8**	**-0.9**
	2.3nm,0.2s,baz=129,slow=26,SNR=15								
BTK	**Batken**	**2.18**	**221**	⇓*i*	P		**Pb**	**22 03 15.7**	**-1.4**
	baz=19								
BTK				⇓*i*	S		**Sb**	**22 03 43.9**	**-0.4**
	baz=19								
BTK	**Batken**	**2.18**	**221**	P				22 03 18.2	
BTK				S				22 03 46.8	
SGDS	**Sogindy**	**2.25**	**39**	*e*	P		**Pg**	**22 03 20.8**	**+0.3**
	2.4nm,0.2s								
SGDS				*e*	S		**Sg**	**22 03 49.1**	**-0.6**
	12nm,0.2s								
TKM2	**Tokmak 2**	**2.47**	**60**	⇓*i*	P		**Pn**	**22 03 19.6**	**+1.6**
	baz=62								
TKM2				⇓*i*	S		**Sn**	**22 03 50.0**	**+1.7**
	baz=62								
TKM2	**Tokmak 2**	**2.47**	**60**	⇓	Pn		**Pb**	**22 03 22.0**	**0.0**
	3.3nm,0.6s								
TKM2				⇑	Sn		**Sg**	**22 03 56.5**	**-0.3**
	4.9nm,0.6s								
BRLS	**Borolday**	**2.49**	**303**	*e*	P		**Pg**	**22 03 24.6**	**-0.6**
	2.0nm,0.2s								
BRLS				*e*	S		**Sg**	**22 03 55.9**	**-1.4**
	18nm,0.5s								
BRLS	**Borolday**	**2.49**	**303**	Pg			**Pg**	**22 03 24.6**	**-0.6**
	2.0nm,0.2s								
BRLS				Lg			Lg	22 03 55.9	
	18nm,0.5s								
BOOM	**Boomskoye usch**	**2.54**	**71**	⇑*i*	P		**Pn**	**22 03 20.6**	**+1.7**
	baz=73								
BOOM				⇑*i*	S		**Sb**	**22 03 52.3**	**-2.3**
	baz=73								
ULHL	**Ulahol**	**2.70**	**78**	⇑	eP		**Pn**	**22 03 23.0**	**+1.8**
	baz=79								
ULHL				⇑*i*	S		**Sn**	**22 03 55.9**	**+1.9**
	baz=79								
DGS	**Degeres**	**2.74**	**55**	*e*	P		**Pg**	**22 03 28.6**	**-1.4**
	2.1nm,0.6s								
DGS				*e*	S		**Sb**	**22 04 02.7**	**+2.4**
	7.6nm,0.3s								
DGS	**Degeres**	**2.74**	**55**	Pg			**Pg**	**22 03 28.6**	**-1.4**
	2.1nm,0.6s								
DGS				Lg			Lg	22 04 02.7	
	7.6nm,0.3s								
KST	**Kastek**	**2.76**	**60**	*e*	P		**Pg**	**22 03 30.6**	**+0.2**
	2.1nm,0.3s								
KST				*e*	S		**Sg**	**22 04 06.0**	**-0.2**
	8.6nm,0.3s								
KST	**Kastek**	**2.76**	**60**	Pg			**Pg**	**22 03 30.6**	**+0.2**
	2.1nm,0.3s								
KST				Lg			Lg	22 04 06.0	
	8.6nm,0.3s								
KRBS	**Karabastau**	**2.96**	**47**	*e*	P		**Pg**	**22 03 32.4**	**-1.7**
	1.3nm,0.4s								
KRBS				*e*	S		**Sb**	**22 04 09.0**	**+2.5**
	2.5nm,0.3s								
KRBS	**Karabastau**	**2.96**	**47**	Pg			**Pg**	**22 03 32.4**	**-1.7**
	1.3nm,0.4s								
KRBS				Lg			Lg	22 04 09.0	
	2.5nm,0.3s								
MTBS	**Maitube**	**3.11**	**62**	*e*	P		**Pg**	**22 03 35.4**	**-1.6**
	0.5nm,0.1s								
MTBS				*e*	S		**Sg**	**22 04 14.2**	**-3.0**
	3.0nm,0.2s								
MTBS	**Maitube**	**3.11**	**62**	Pg			**Pg**	**22 03 35.4**	**-1.6**
	0.5nm,0.1s								
MTBS				Lg			Lg	22 04 14.2	
	3.0nm,0.2s								
BTLS	**Baital**	**3.46**	**16**	*e*	P		**Pg**	**22 03 41.8**	**-2.0**
	0.9nm,0.2s								
BTLS				*e*	S		**Sg**	**22 04 25.3**	**-3.3**
	2.9nm,0.3s								
BTLS	**Baital**	**3.46**	**16**	Pg			**Pg**	**22 03 41.8**	**-2.0**
	0.9nm,0.2s								
BTLS				Lg			Lg	22 04 25.3	
	2.9nm,0.3s								
MDOK	**Medeo**	**3.53**	**64**	*e*	P		**Pg**	**22 03 45.1**	**-0.1**
	0.7nm,0.3s								
MDOK				*e*	S		**Sg**	**22 04 30.9**	**-0.1**
	2.9nm,0.8s								
MDOK	**Medeo**	**3.53**	**64**	Pg			**Pg**	**22 03 45.1**	**-0.1**
	0.7nm,0.3s								
MDOK				Lg			Lg	22 04 30.8	
	2.9nm,0.8s								
KTBS	**Karatobe**	**3.55**	**55**	*e*	P		**Pg**	**22 03 44.1**	**-1.4**
	0.5nm,0.3s								
KTBS				*e*	S		**Sg**	**22 04 29.0**	**-2.5**
	2.8nm,0.4s								
KTBS	**Karatobe**	**3.55**	**55**	Pg			**Pg**	**22 03 44.1**	**-1.4**
	0.5nm,0.3s								
KTBS				Lg			Lg	22 04 29.0	
	2.8nm,0.4s								
KOTS	**Kotyrbulak**	**3.60**	**64**	*e*	P		**Pg**	**22 03 47.0**	**+0.4**
	0.6nm,0.2s								
KOTS				*e*	S		**Sg**	**22 04 33.9**	**+0.6**
	4.7nm,0.6s								
KOTS	**Kotyrbulak**	**3.60**	**64**	Pg			**Pg**	**22 03 48.2**	**+1.6**
	1.1nm,0.3s								
KOTS				Lg			Lg	22 04 36.0	
	4.8nm,0.7s								

IDC ***11*** *22:07:13.1±1.2,6°.20N×73°.23W,h183km±13km,mb3.0/1, mb1 3.2/2,mb1mx2.7/45,mbtmp3.4/2,Error ellipse: s-maj=72.7km s-min=9.2km az=133.0*
RSNC ***11*** *22:07:14.3±0.9,6°.12N×73°.30W,h166km±4km,ML2.9, Mw3.3*

ISC 11 22:07:12.9±1.0,**6°.17N**±0°.03×**73°.25W**±0°.04,**h175**km±7km, **n26**,σ1**61**/50,**2C-1D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.32**	**149**	⇓*i*	P		**Pn**	**22 07 37.3**	**+0.1**
RUSC				*e*	S		**Sn**	**22 07 55.0**	**-0.7**
RUSC				*i*				22 07 55.9	
	comp=Z,77nm,0.3s								
BARC	**Barichara**	**0.42**	**9**	⇑	eP		**Pn**	**22 07 37.4**	**+0.2**
BARC				*e*	S		**Sn**	**22 07 54.6**	**-1.3**
BARC				*i*				22 07 56.4	
	comp=Z,146nm,0.3s								
SPBC	**San Pablo de B**	**0.97**	**238**	*e*	P		**Pn**	**22 07 40.0**	**0.0**
SPBC				*e*	S		**Sn**	**22 07 59.4**	**-1.5**
SPBC				*i*				22 08 03.4	
	comp=Z,157nm,0.1s								
PTBC	**PUERTO BERRIO,**	**1.25**	**287**	⇑	eP		**Pn**	**22 07 41.9**	**-0.3**
PTBC				*e*	S		**Sn**	**22 08 03.7**	**-1.1**
PTBC				*i*				22 08 05.2	
	comp=Z,136nm,0.1s								
PAMC	**Pamplona, Colo**	**1.28**	**25**	*e*	P		**Pn**	**22 07 44.4**	**+1.4**
PAMC				*e*	S		**Sn**	**22 08 06.6**	**+0.3**
PAMC				*i*				22 08 10.8	
	comp=Z,72nm,0.6s								
TAMC	**Tame, Arauca**	**1.47**	**80**	*e*	P		**Pn**	**22 07 45.0**	**+0.8**
TAMC				*e*	S		**Sn**	**22 08 08.6**	**+0.2**
TAMC				*i*				22 08 10.1	
	comp=Z,53nm,0.3s								
CHIC	**Chingaza**	**1.61**	**197**	*e*	P		**Pn**	**22 07 45.6**	**-0.4**
CHIC				*e*	S		**Sn**	**22 08 09.6**	**-2.0**
CHIC				*i*				22 08 11.5	
	comp=Z,61nm,0.4s								
ROSC	**El Rosal**	**1.70**	**219**	P			**Pn**	**22 07 47.8**	**+0.9**
	comp=Z,8.1nm,0.3s,baz=237,slow=21,SNR=13								
ROSC				S			**Sn**	**22 08 15.2**	**+2.0**
	comp=Z,25nm,0.3s,baz=134,slow=23,SNR=13								
ROSC	**El Rosal**	**1.70**	**219**	*e*	P		**Pn**	**22 07 48.0**	**+1.2**
ROSC				*e*	S		**Sn**	**22 08 14.7**	**+1.6**
ROSC				*i*				22 08 20.7	
	comp=Z,62nm,0.3s								
NORC	**Norcasia**	**1.72**	**249**	*e*	P		**Pn**	**22 07 46.9**	**+0.1**
NORC				*e*	S		**Sn**	**22 08 11.4**	**-1.5**
NORC				*i*				22 08 18.4	
	comp=Z,101nm,0.5s								
OCAC	**Ocana**	**2.05**	**358**	*e*	P		**Pn**	**22 07 51.2**	**+0.8**
OCAC				*e*	S		**Sn**	**22 08 20.4**	**+0.8**
OCAC				*i*				22 08 23.2	
	comp=Z,159nm,0.2s								
ZARC	**Zaragoza, Cauc**	**2.07**	**309**	*e*	P		**Pn**	**22 07 50.1**	**-0.3**
ZARC				*e*	S		**Sn**	**22 08 18.6**	**-0.9**
ZARC				*i*				22 08 27.8	
	comp=Z,98nm,0.4s								
VILC	**Villavicencio,**	**2.10**	**192**	*e*	P		**Pn**	**22 07 49.8**	**-1.0**
VILC				*e*	S		**Sn**	**22 08 17.5**	**-2.8**
PTGC	**Puerto Gaitan,**	**2.25**	**150**	*e*	P		**Pn**	**22 07 52.0**	**-0.5**
PTGC				*e*	S		**Sn**	**22 08 19.3**	**-4.0**
PTGC				*i*				22 08 24.9	
	comp=Z,42nm,0.3s								
HELC	**Santa Helena**	**2.27**	**271**	*e*	P		**Pn**	**22 07 53.3**	**+0.3**
HELC				*e*	S		**Sn**	**22 08 22.6**	**-1.4**
HELC				*i*				22 08 33.9	
	comp=Z,42nm,0.2s								
GUY2C	**Guyana, Caldas**	**2.31**	**246**	*e*	P		**Pn**	**22 07 55.1**	**+1.5**
GUY2C				*e*	S		**Sn**	**22 08 26.6**	**+1.5**
GUY2C				*i*				22 08 36.6	
	comp=Z,40nm,0.7s								
ANIL	**Santa Ana**	**2.72**	**232**	*e*	P		**Pn**	**22 07 59.7**	**+1.5**
ANIL				*e*	S		**Sn**	**22 08 34.3**	**+0.9**
ANIL				*i*				22 08 36.6	
	comp=Z,57nm,0.3s								
UREC	**San Jos de Ur**	**2.76**	**305**	*e*	P		**Pn**	**22 07 57.6**	**-0.8**
UREC				*e*	S		**Sn**	**22 08 31.4**	**-2.4**
UREC				*i*				22 08 33.2	
	comp=Z,62nm,0.1s								
CBOC	**Ciudad Bolivar**	**2.77**	**264**	*e*	P		**Pn**	**22 07 59.3**	**+0.7**
CBOC				*e*	S		**Sn**	**22 08 33.5**	**-0.7**
CBOC				*i*				22 08 35.5	
	comp=Z,24nm,0.2s								
ORTC	**Ortega, Tolima**	**3.00**	**222**	*e*	P		**Pn**	**22 07 58.8**	**-2.6**
ORTC				*e*	S		**Sn**	**22 08 37.6**	**-1.6**
ORTC				*i*				22 08 42.3	
	comp=Z,25nm,0.3s								
DBBC	**Dabeiba**	**3.06**	**286**	*e*	P		**Pn**	**22 08 02.7**	**+0.6**
DBBC				*e*	S		**Sn**	**22 08 39.4**	**-1.0**
DBBC				*i*				22 08 47.8	
	comp=Z,112nm,0.7s								
SDV	**Santo Domingo**	**3.74**	**44**	P			**Pn**	**22 08 11.1**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=236,slow=10,SNR=5.1								
SDV				S			**Sn**	**22 08 56.1**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=72,slow=15,SNR=11								
SJCC	**San Jacinto, C**	**4.16**	**333**	*e*	P		**Pn**	**22 08 15.2**	**-0.8**
SJCC				*e*	S		**Sn**	**22 09 02.8**	**-2.7**
SJCC				*i*				22 09 08.8	
	comp=Z,6.9nm,0.4s								
CRJC	**Cerrejon, Guaj**	**4.83**	**4**	*e*	P		**Pn**	**22 08 24.5**	**-0.1**
CRJC				*e*	S		**Sn**	**22 09 16.8**	**-4.2**
CRJC				*i*				22 09 22.0	
	comp=Z,16nm,0.1s								
YKA	**Yellowknife Ar**	**63.83**	**340**	P			**P**	**22 17 25.6**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=134,slow=6.3,SNR=6.6								
WRA	**Warramunga Arr**	**149.91**	**240**	PKPbc			**PKPdf**	**22 26 42.1**	**+3.8**
	comp=Z,0.2nm,0.4s,baz=105,slow=2.8,SNR=1.7								

JMA ***11*** *22:17:51.3±0.6,22°.74N×122°.86E,h57km,M2.6*
TAP ***11*** *22:17:52.9,22°.66N×122°.72E,h62km±1km,ML2.6,D*

ISC 11 22:17:48.9±1.9,**22°.70N**±0°.05×**122°.84E**±0°.04,**h17**km±13km, **n42**,σ0**93**/61,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**1.35**	**240**	*i*	P		**Pb**	**22 18 13.9**	**+0.1**
	baz=238								
LYUB				*i*	S		**Sn**	**22 18 29.4**	**-1.2**
	baz=238								
LAY	**Lan-yu**	**1.36**	**242**	*e*	P		**Pb**	**22 18 14.8**	**+0.8**
	baz=240								
CHKT	**Chengkung**	**1.42**	**287**	*e*	P		**Pn**	**22 18 14.3**	**+0.4**
	baz=295								
FULB	**Fuli**	**1.51**	**290**	*e*	P		**Pn**	**22 18 15.5**	**+0.2**
	baz=301								
HGSD	**Ruisui**	**1.53**	**302**	*e*	P		**Pg**	**22 18 18.1**	**-0.3**
	baz=305								
ECS	**Chishang**	**1.55**	**285**	*e*	P		**Pb**	**22 18 16.9**	**-0.3**
	baz=288								
TWF1	**Yuli**	**1.57**	**295**	*e*	P		**Pn**	**22 18 16.7**	**+0.7**
	baz=304								
YULB	**Yu-li**	**1.58**	**296**	*e*	P		**Pn**	**22 18 17.1**	**+0.9**
	baz=305								
EHY	**Hungye**	**1.61**	**300**	*e*	P		**Pb**	**22 18 18.0**	**-0.4**
	baz=309								
HATJ	**Hateruma jima**	**1.62**	**33**	P			**Pn**	**22 18 17.6**	**+0.9**
HATJ				S			**Sn**	**22 18 36.2**	**-0.9**
TWGBT	**Beinan**	**1.63**	**275**	*e*	P		**Pb**	**22 18 18.5**	**-0.1**
	baz=277								
ECL	**Taimali**	**1.75**	**267**	*e*	P		**Pb**	**22 18 20.5**	**-0.1**
	baz=279								
ECL				*e*	S		**Sn**	**22 18 39.3**	**-1.0**
	baz=279								
IRIF	**Iriomote-Funau**	**1.82**	**26**	P			**Pn**	**22 18 20.4**	**+0.9**
IRIF				S			**Sn**	**22 18 41.9**	**-0.3**
NACB	**Ninganchiao**	**1.86**	**322**	*e*	P		**Pn**	**22 18 20.7**	**+0.6**
	baz=326								
NACB				S			**Sn**	**22 18 41.7**	**-1.6**
	baz=326								
EAST	**Anshuo**	**1.87**	**261**	*e*	P		**Pb**	**22 18 22.0**	**-0.7**
	baz=252								
EAST				S			**Sn**	**22 18 43.0**	**-0.4**
	baz=252								
VWDT	**VWDT**	**1.89**	**304**	*e*	P		**Pn**	**22 18 22.0**	**+1.6**
	baz=308								
VWDT				*e*	S		**Sn**	**22 18 43.8**	**+0.1**
	baz=308								
ETLH	**Xiulin Townshi**	**1.96**	**321**	*e*	P		**Pn**	**22 18 22.6**	**+1.2**
	baz=324								
STYT	**Tauyuan**	**1.98**	**284**	P			**Pb**	**22 18 23.7**	**-0.8**
	baz=286								
STYT				*e*	S		**Sn**	**22 18 45.8**	**-0.4**
	baz=286								
OWD	**Renai**	**1.98**	**310**	*e*	P		**Pn**	**22 18 22.9**	**+1.1**
	baz=313								
OWD				*e*	S		**Sn**	**22 18 45.2**	**-1.1**
	baz=313								
ALS	**Alishan**	**2.04**	**294**	*e*	P		**Pb**	**22 18 25.4**	**-0.4**
	baz=301								
JIJ	**Ishigaki jima**	**2.04**	**35**	P			**Pn**	**22 18 23.4**	**+0.8**
JIJ				S			**Sn**	**22 18 46.0**	**-1.7**
WHF	**Hehuan Shan**	**2.04**	**315**	*e*	P		**Pn**	**22 18 24.0**	**+1.0**
	baz=318								
WUSB	**Renai**	**2.04**	**309**	P			**Pn**	**22 18 24.3**	**+1.6**
	baz=313								
CHGB	**Renai**	**2.05**	**312**	P			**Pn**	**22 18 24.3**	**+1.5**
	baz=315								
SSLB	**Suanglung**	**2.05**	**302**	*e*	P		**Pb**	**22 18 25.2**	**-0.5**
	baz=312								
WTP	**Ta-pu**	**2.12**	**285**	*e*	P		**Pb**	**22 18 26.9**	**-0.2**

PFVI					*e*Sn		**Sn**	**22 25 25.8**	**+0.1**
PFVI					A		A	22 25 28.5	
	15nm,0.4s								
PFVI	**Vila Bisbo**	**1.95**	**74**		P		**Pn**	**22 25 03.9**	**+1.5**
PFVI					S		**Sn**	**22 25 25.4**	**-0.3**
MORF	**Marmelete**	**2.13**	**70**		*e*P		**Pn**	**22 25 06.6**	**+1.6**
MORF					*e*S		**Sn**	**22 25 30.2**	**-0.1**
MORF					IAML			22 25 34.3	
	comp=N,23nm,0.3s								
MORF	**Marmelete**	**2.13**	**70**		*e*Pn		**Pn**	**22 25 06.6**	**+1.6**
MORF					*e*Sn		**Sn**	**22 25 30.6**	**+0.3**
MORF					A		A	22 25 32.1	
	comp=N,17nm,0.3s								
PTEO	**Sao Teotonio**	**2.17**	**64**		*e*Pn		**Pn**	**22 25 07.0**	**+1.6**
PTEO					*e*Sn		**Sn**	**22 25 31.2**	**+0.1**
PTEO					A		A	22 25 32.0	
	comp=N,17nm,0.5s								
PNCL	**Nicolau / Gran**	**2.58**	**54**		*e*Pn		**Pn**	**22 25 12.7**	**+1.5**
PNCL					*e*Sn		**Sn**	**22 25 41.1**	**-0.3**
PNCL					A		A	22 25 43.6	
	comp=N,14nm,0.7s								
PMST	**Lisbon--Monsan**	**2.65**	**36**		*e*Sn		**Sn**	**22 25 43.6**	**+0.7**
PMST					A		A	22 25 46.7	
	comp=N,17nm,0.3s								
PBDV	**Barranco-do-Ve**	**2.67**	**75**		*e*Pn		**Pn**	**22 25 14.2**	**+1.8**
PBDV					*e*Sn		**Sn**	**22 25 45.0**	**+1.5**
PBDV					A		A	22 25 47.6	
	comp=N,6.1nm,1.5s								
PCVE	**Castro Verde**	**2.70**	**67**		*e*Pn		**Pn**	**22 25 14.4**	**+1.6**
PCVE					*e*Sn		**Sn**	**22 25 44.2**	**-0.1**
PCVE					A		A	22 25 45.7	
	comp=N,6.7nm,0.2s								
PMAFR	**Mafra**	**2.78**	**32**		*e*Pn		**Pn**	**22 25 16.0**	**+2.1**
PMAFR					*e*Sn		**Sn**	**22 25 45.6**	**-0.7**
PMAFR					A		A	22 25 46.3	
	comp=N,26nm,0.7s								
PACT	**Alcochete**	**2.84**	**40**		*e*Pn		**Pn**	**22 25 16.5**	**+1.8**
PACT					*e*Sn		**Sn**	**22 25 49.3**	**+1.5**
PVAQ	**Vaqueiros**	**2.88**	**73**		*e*Pn		**Pn**	**22 25 16.9**	**+1.7**
PVAQ					*e*Sn		**Sn**	**22 25 48.5**	**0.0**
PVAQ					A		A	22 25 54.6	
	comp=N,5.7nm,0.1s								
PVAQ	**Vaqueiros**	**2.88**	**73**		P		**Pn**	**22 25 16.9**	**+1.7**
PVAQ					S		**Sn**	**22 25 52.1**	**+3.6**
PBEJ	**Beja**	**2.99**	**61**		*e*Sn		**Sn**	**22 25 50.8**	**-0.6**
PBEJ					A		A	22 25 54.9	
	comp=N,6.1nm,0.2s								
EGRO	**El Granado**	**3.09**	**71**		P		**Pn**	**22 25 20.2**	**+2.1**
EGRO					⇑*i*Vmb_V			22 25 22.6	
	comp=N,437nm,SNR=2.2								
EGRO					S		**Sn**	**22 25 53.7**	**-0.1**
EVO	**Evora**	**3.16**	**52**		*e*Sn		**Sn**	**22 25 55.6**	**0.0**
EVO					A		A	22 25 59.8	
	comp=N,10nm,0.1s								
PMTG	**Montargil**	**3.39**	**43**		*e*Pn		**Pn**	**22 25 23.6**	**+1.4**
PMTG					*e*Sn		**Sn**	**22 26 00.4**	**-0.8**
PMTG					A		A	22 26 04.1	
	comp=N,4.0nm,0.2s								
PSBE	**So Bento**	**3.46**	**32**		*e*Pn		**Pn**	**22 25 24.2**	**+1.0**
PSBE					*e*Sn		**Sn**	**22 26 02.4**	**-0.5**
PSBE					A		A	22 26 10.3	
	comp=N,11nm,0.5s								
PESTR	**Estremoz**	**3.63**	**50**		*e*Pn		**Pn**	**22 25 28.4**	**+2.9**
PESTR					*e*Sn		**Sn**	**22 26 06.3**	**-0.8**
PESTR					A		A	22 26 12.4	
	comp=N,3.8nm,0.6s								
PESTR	**Estremoz**	**3.63**	**50**		P		**Pn**	**22 25 28.0**	**+2.4**
PBAR	**Barrancos**	**3.64**	**63**		*e*Pn		**Pn**	**22 25 27.4**	**+1.7**
PBAR					*e*Sn		**Sn**	**22 26 06.8**	**-0.7**
PBAR					A		A	22 26 10.8	
	comp=N,4.4nm,0.2s								
EMIN	**Mina Concepcio**	**3.77**	**71**		P		**Pn**	**22 25 28.9**	**+1.4**
EMIN					⇑*i*Vmb_V			22 25 35.2	
	comp=N,170nm,SNR=1.2								
EMIN					S		**Sn**	**22 26 09.9**	**-0.7**
EBAD	**Badajoz**	**3.93**	**56**		P		**Pn**	**22 25 31.1**	**+1.4**
EBAD					⇑*i*Vmb_V			22 25 34.4	
	comp=N,210nm,SNR=1.2								
EBAD					S		**Sn**	**22 26 13.6**	**-1.0**
PCAS	**Casmilo, Conde**	**4.03**	**31**		*e*Pn		**Pn**	**22 25 32.6**	**+1.5**
PCAS					*e*Sn		**Sn**	**22 26 17.4**	**+0.3**
PCAS					A		A	22 26 18.3	
	comp=N,6.3nm,0.5s								
PMRV	**Marv??o**	**4.10**	**45**		*e*Pn		**Pn**	**22 25 32.7**	**+0.6**
PMRV					*e*Sn		**Sn**	**22 26 17.6**	**-1.3**
PMRV					A		A	22 26 20.9	
	comp=N,6.9nm,0.5s								
ESPR	**Espera**	**4.27**	**85**		P		**Pn**	**22 25 36.9**	**+2.5**
ESPR					⇑*i*Vmb_V			22 25 38.9	
	comp=N,224nm,SNR=1.7								
ESPR					S		**Sn**	**22 26 22.6**	**-0.5**
PCBR	**Castelo Branco**	**4.34**	**41**		*e*Pn		**Pn**	**22 25 36.8**	**+1.4**
PCBR					*e*Sn		**Sn**	**22 26 23.3**	**-1.5**
PCBR					A		A	22 26 25.1	
	comp=N,4.3nm,0.5s								
MTE	**Manteigas**	**4.74**	**36**		*e*Sn		**Sn**	**22 26 32.9**	**-1.6**
MTE					A		A	22 26 36.7	
	comp=N,5.1nm,0.6s								
ECAB	**El Cabril**	**4.81**	**70**		P		**Pn**	**22 25 43.6**	**+1.8**
ECAB					⇑*i*Vmb_V			22 25 46.8	
	comp=N,144nm,SNR=1.2								
ECAB					S		**Sn**	**22 26 35.2**	**-1.1**
PVIS	**Viseu**	**4.84**	**31**		*e*Sn		**Sn**	**22 26 36.0**	**-1.0**
PVIS					A		A	22 26 38.3	
	comp=N,4.5nm,0.1s								
SRHM	**Skhour des Reh**	**4.93**	**146**		P		**Pn**	**22 25 45.3**	**+1.8**
EPLA	**Plasencia**	**5.28**	**48**		P		**Pn**	**22 25 49.8**	**+1.5**
EPLA					⇑*i*Vmb_V			22 25 50.9	
	comp=N,144nm,SNR=0.7								
EPLA					S		**Sn**	**22 26 46.9**	**-1.1**
PVRL	**Vila Real**	**5.38**	**29**		*e*Sn		**Sn**	**22 26 47.0**	**-3.5**
POLO	**Lamas de Olo**	**5.44**	**28**		*e*Sn		**Sn**	**22 26 49.1**	**-2.8**
POLO					A		A	22 26 52.1	
	comp=N,1.4nm,0.5s								
EADA	**Adamuz**	**5.47**	**71**		P		**Pn**	**22 25 52.0**	**+1.1**
EADA					⇑*i*Vmb_V			22 25 54.9	
	comp=N,81nm,SNR=0.7								
EADA					S		**Sn**	**22 26 52.1**	**-0.6**
MVO	**Moncorvo**	**5.58**	**34**		*e*Sn		**Sn**	**22 26 52.5**	**-2.9**
MVO					A		A	22 26 54.7	
	comp=N,7.0nm,0.6s								
PCAB	**Cabril**	**5.65**	**25**		*e*Sn		**Sn**	**22 26 54.3**	**-2.8**
ELOB	**Lobios**	**5.78**	**24**		P		**Pn**	**22 25 54.6**	**-0.6**
ELOB					⇑*i*Vmb_V			22 25 57.1	
	comp=N,223nm,SNR=0.6								
ELOB					S		**Sn**	**22 26 57.0**	**-3.4**
PGAV	**Gavieira, Arco**	**5.81**	**22**		*e*Sn		**Sn**	**22 26 58.6**	**-2.3**
PGAV					A		A	22 26 58.7	
	comp=N,4.5nm,0.8s								
EZAM	**Zamans**	**5.86**	**18**		S		**Sn**	**22 26 57.3**	**-4.8**
LCRM	**LCR**	**5.93**	**118**		P		**Pn**	**22 25 58.2**	**+0.9**
LCRM					S		**Sn**	**22 27 02.5**	**-1.7**
OUK	**Oukaimeden**	**6.04**	**152**		P		**Pn**	**22 26 00.6**	**+1.5**
OUK					S		**Sn**	**22 27 01.8**	**-5.3**
ELGU	**Los Guajares,**	**6.06**	**85**		S		**Sn**	**22 27 05.1**	**-2.1**
PAB	**San Pablo**	**6.13**	**59**		⇑*i*Vmb_V			22 26 01.3	
	comp=N,108nm,SNR=1.1								
PAB					P		**Pn**	**22 26 01.5**	**+1.6**
PAB					S		**Sn**	**22 27 06.0**	**-2.9**
PBRG	**Braganca**	**6.23**	**32**		*e*Sn		**Sn**	**22 27 09.3**	**-1.9**
PBRG					A		A	22 27 10.8	
	comp=N,2.7nm,0.4s								
MD31	**MD31**	**6.46**	**123**		P		**Pn**	**22 26 05.9**	**+1.4**
MD31					S		**Sn**	**22 27 12.9**	**-4.2**
MDT	**Midelt**	**6.59**	**123**		P		**Pn**	**22 27 07.7**	**+1.4**
MDT					S		**Sn**	**22 27 16.8**	**-3.6**
OUZM	**OUZ**	**6.76**	**146**		P		**Pn**	**22 26 10.3**	**+1.6**
OUZM					S		**Sn**	**22 27 21.3**	**-3.2**
GUD	**Guadarrama**	**6.81**	**52**		S		**Sn**	**22 27 21.6**	**-4.1**

NNC ***11*** *22:26:18.9±0.3,42°.68N×70°.28E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=2.8km s-min=1.4km az=120.0, Suspected Mining explosion.*
SOME ***11*** *22:26:19.7,42°.67N×70°.37E, h10km*
KRNET ***11*** *22:26:20.1±0.1,42°.54N×70°.25E, mb2.0*
ISC 11 22:26:20.0±0.9,**42°.68N**±0°.02×**70°.25E**±0°.03,**h0km**,**n29**, σ1§**20**/53,**24C-6D**,**Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KK07	**Karatay Array**	**0.45**	**24**	⇑P		**Pg**	**22 26 27.8**	**-0.9**
KK07				⇑S		**Sg**	**22 26 33.7**	**-0.8**
KK08	**Karatay Array**	**0.46**	**22**	⇑P		**Pg**	**22 26 28.0**	**-0.9**
KK08				⇑S		**Sg**	**22 26 34.1**	**-0.7**
KK03	**Karatay Array**	**0.47**	**23**	⇑P		**Pg**	**22 26 28.0**	**-0.9**
KK03				⇓S		**Sg**	**22 26 34.3**	**-0.7**
KK06	**Karatay Array**	**0.47**	**26**	⇑P		**Pg**	**22 26 28.0**	**-0.9**
KK06				⇓S		**Sg**	**22 26 34.2**	**-0.7**
BRLS	**Boroldav**	**0.47**	**319**	*e*P		**Pg**	**22 26 28.1**	**-0.9**
	14nm,0.1s							
BRLS				*e*S		**Sg**	**22 26 34.4**	**-0.6**
	55nm,0.1s							
BRLS	**Boroldav**	**0.47**	**319**	P		**Pg**	**22 26 28.0**	**-0.9**
	14nm,0.1s							
BRLS				S		**Sg**	**22 26 34.4**	**-0.6**
	55nm,0.1s							
KK01	**Karatay Array**	**0.47**	**24**	⇑P		**Pg**	**22 26 28.1**	**-0.9**
KK01				⇓S		**Sg**	**22 26 34.4**	**-0.7**
KK02	**Karatay Array**	**0.47**	**24**	⇑P		**Pg**	**22 26 28.1**	**-0.9**
KK02				⇓S		**Sg**	**22 26 34.4**	**-0.7**
KK31	**Karatay Array**	**0.47**	**24**	⇑P		**Pg**	**22 26 28.2**	**-0.8**
	2.0nm,0.2s,baz=8.4,slow=55,SNR=290							
KK31				⇑S		**Sg**	**22 26 34.6**	**-0.5**
	18nm,0.2s,baz=116,slow=32,SNR=56							
KK04	**Karatay Array**	**0.47**	**23**	⇑P		**Pg**	**22 26 28.2**	**-0.8**
KK04				⇑S		**Sg**	**22 26 34.5**	**-0.7**
KK09	**Karatay Array**	**0.48**	**22**	⇑P		**Pg**	**22 26 28.3**	**-0.9**
KK09				⇑S		**Sg**	**22 26 34.9**	**-0.6**
KK05	**Karatay Array**	**0.48**	**24**	⇓P		**Pg**	**22 26 28.4**	**-0.9**
KK05				⇓S		**Sg**	**22 26 34.9**	**-0.7**
IUG	**luzhnay**	**0.55**	**197**	*e*P		**Pg**	**22 26 29.9**	**-0.7**
	104nm,0.2s							
IUG				*e*S		**Sg**	**22 26 37.5**	**-0.2**
	158nm,0.3s							
IUG	**luzhnay**	**0.55**	**197**	P		**Pg**	**22 26 29.9**	**-0.7**
	104nm,0.2s							
IUG				S		**Sg**	**22 26 37.5**	**-0.2**
	158nm,0.3s							
TRKS	**Terek-Say**	**1.32**	**150**	⇑*i*P		**Pg**	**22 26 44.5**	**-0.8**
	baz=47							
TRKS				⇑*i*S		**Sg**	**22 27 02.1**	**-0.4**
	baz=47							
ARK	**Arkit**	**1.54**	**124**	⇑*i*P		**Pn**	**22 26 47.8**	**-1.1**
	baz=19							
ARK				⇑*i*S		**Sg**	**22 27 08.3**	**-1.3**
	baz=19							
MRKS	**Merke**	**2.19**	**87**	*e*P		**Pb**	**22 27 00.4**	**-0.2**
	2.4nm,0.3s							
MRKS				*e*S		**Sg**	**22 27 29.8**	**-0.7**
	8.7nm,0.5s							
MRKS	**Merke**	**2.19**	**87**	Pg		**Pb**	**22 27 00.4**	**-0.2**
	2.4nm,0.3s							
MRKS				Lg		Lg	22 27 29.8	
	8.7nm,0.5s							
EKS2	**Erkin-Say**	**2.60**	**89**	⇑*i*P		**Pb**	**22 27 05.6**	**-2.0**
	baz=86							
EKS2				⇑*i*S		**Sb**	**22 27 38.9**	**-1.2**
	baz=86							
BTK	**Batken**	**2.65**	**171**	⇑*i*P		**Pn**	**22 27 04.5**	**+0.5**
	baz=70							
BTK				⇑*i*S		**Sn**	**22 27 36.3**	**-0.6**
	baz=70							
UCH	**Uchtor**	**3.19**	**97**	⇑*i*P		**Pn**	**22 27 13.8**	**+2.0**
	baz=94							
UCH				⇑*i*S		**Sn**	**22 27 53.1**	**+2.4**
	baz=94							
BTLS	**Baital**	**3.62**	**48**	*e*P		**Pb**	**22 27 25.8**	**+0.9**
	0.7nm,0.1s							
BTLS				*e*S		**Sg**	**22 28 12.9**	**-3.5**
	1.0nm,0.4s							
BTLS	**Baital**	**3.62**	**48**	Pg		**Pb**	**22 27 25.8**	**+0.9**
	0.7nm,0.1s							
BTLS				Lg		Lg	22 28 12.9	
	1.0nm,0.4s							
DGS	**Degeres**	**4.09**	**80**	*e*P		**Pb**	**22 27 32.3**	**-0.7**
	0.6nm,0.3s							
DGS				*e*S		**Sb**	**22 28 24.3**	**+1.3**
	1.9nm,0.4s							
DGS	**Degeres**	**4.09**	**80**	Pg		**Pb**	**22 27 32.3**	**-0.7**
	0.6nm,0.3s							
DGS				Lg		Lg	22 28 24.3	
	1.9nm,0.4s							
KRBS	**Karabastau**	**4.10**	**74**	*e*P		**Pb**	**22 27 32.4**	**-0.6**
	0.4nm,0.2s							
KRBS				*e*S		**Sb**	**22 28 24.4**	**+1.3**
	2.5nm,0.4s							
KRBS	**Karabastau**	**4.10**	**74**	Pg		**Pb**	**22 27 32.4**	**-0.6**
	0.4nm,0.2s							
KRBS				Lg		Lg	22 28 24.4	
	2.5nm,0.4s							
KTBS	**Karatobe**	**4.81**	**75**	*e*P		**Pb**	**22 27 46.1**	**+0.8**
	0.4nm,0.3s							
KTBS				*e*S		**Sb**	**22 28 47.7**	**+4.0**
	2.6nm,0.5s							
KTBS	**Karatobe**	**4.81**	**75**	Pg		**Pb**	**22 27 46.1**	**+0.8**
	0.4nm,0.3s							
KTBS				Lg		Lg	22 28 47.7	
	2.6nm,0.5s							

EAF ***11*** *22:30:57.2±5.3, 11°.68N×43°.10E, h0km±33km*
AAE 11 22:30:59.1±7.6,**11°.67N**×**43°.07E**,**h0km**±41**km**,**ML4.1**, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**0.26**	**238**	*e*P		Pg	22 30 59.6	-4.5
ATD				*e*S		Sg	22 31 04.2	-3.3
ATD	**Arta Tunnel**	**0.26**	**238**	*e*P		Pg	22 30 59.6	-4.5
ATD				*e*S		Sg	22 31 04.1	-3.3
ATD	**Arta Tunnel**	**0.26**	**238**	*e*P		Pg	22 30 59.6	-4.5
ATD				*e*S		Sg	22 31 04.2	-3.3
AAE	**Adis Abeba**	**4.98**	**239**	*e*P		Pn	22 32 12.8	-2.7
AAE				*e*S		Sn	22 33 11.2	-2.8
AAE	**Adis Abeba**	**4.98**	**239**	*e*P		Pn	22 32 12.8	-2.7
AAE				*e*S		Sn	22 33 11.2	-2.8
AAE				IAML			22 33 17.6	
	comp=N,193nm,0.6s							
FURI	**Furi**	**5.13**	**238**	*e*P		Pn	22 32 15.8	-1.7
FURI				*e*S		Sn	22 33 16.1	-1.5
FURI	**Furi**	**5.13**	**238**	*e*P		Pn	22 32 15.8	-1.7
FURI				*e*S		Sn	22 33 16.1	-1.5
FURI				IAML			22 33 32.5	
	comp=N,81nm,0.6s							

IDC 11 22:39:04.0±1.4,**50°.37N**×**144°.06E**,**h0km**,**mb3.5**/5, **mb1 3.7**/5,**mb1mx3.3**/45,**mbtmp3.5**/5,**MS2.8**/1,**Ms1 2.8**/1, **ms1mx2.2**/75,**Error ellipse: s-maj=40.7km s-min=31.4km az=137.0**,**Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**9.99**	**20**	LR	LR		22 44 54.2	
	comp=Z,46nm,18.6s,baz=204,slow=35							
ILAR	**Eielson Array**	**37.62**	**41**	P		P	22 46 21.2	+1.2
	0.5nm,0.9s,baz=282,slow=8.5,SNR=4.1							
MKAR	**Makanchi Array**	**39.98**	**290**	P		P	22 46 40.5	+0.3
	0.8nm,1.0s,baz=54,slow=8.1,SNR=3.1							
YKA	**Yellowknife Ar**	**51.55**	**36**	P		P	22 48 09.8	-1.3
	0.1nm,0.6s,baz=302,slow=7.2,SNR=2.2							
FINES	**FINESS Array B**	**58.04**	**330**	P		P	22 48 57.6	-0.6
	0.8nm,0.6s,baz=32,slow=11,SNR=4.5							
ASAR	**Alice Springs**	**74.26**	**190**	P		P	22 50 42.7	0.0
	0.2nm,0.4s,baz=9.5,slow=5.7,SNR=1.4							

NEIC ***11*** *22:43:32.5±0.5,56°.1S±0°.1×27°.7W±0°.2, h108km±8km, mb4.5/14, Error ellipse: s-maj=24.1km s-min=15.4km az=221.0*
IDC ***11*** *22:43:35.4±3.0,56°.03S×27°.71W, h139km±25km, mb4.0/7, mb1 4.1/7, mb1mx3.8/24, mbtmp4.4/7, Error ellipse: s-maj=29.6km s-min=16.5km az=88.0*
ISC 11 22:43:32.0±0.6,**55°.99S**±0°.10×**27°.7W**±0°.1,**h112**km,**n37**, σ1§**17**/35,**mb4.4**/11,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.35**	**285**			**Pn**	**22 44 49.6**	**+0.2**
VNA1	**Neumayer--Stat**	**16.95**	**158**	P		**Pn**	**22 47 21.9**	**0.0**
VNA3	**Neumayer Olymp**	**17.13**	**160**	P		**P**	**22 47 23.5**	**-0.6**
VNA2	**Neumayer--Watz**	**17.34**	**158**	P		**P**	**22 47 26.0**	**-0.3**
	baz=317,slow=13							
SNAA	**Sanae**	**18.90**	**156**	P		**P**	**22 47 43.5**	**+0.1**
SNAA	**Sanae**	**18.90**	**156**	P		**P**	**22 47 43.5**	**+0.1**
TROLL	**Troll, Antarti**	**20.41**	**153**	P		**P**	**22 47 59.7**	**-0.2**
BELA	**Belgrano 2**	**22.12**	**184**	P		**P**	**22 48 17.1**	**-0.7**
BELA				IAmb		IAmb	22 48 19.2	
	comp=Z,35nm,1.1s							
QSPA	**South Pole Qui**	**34.26**	**180**	P		**P**	**22 50 07.5**	**+0.6**
	comp=Z,7.8nm,0.8s,baz=211,slow=2.7,SNR=28							
QSPA	**South Pole Qui**	**34.26**	**180**	P		**P**	**22 50 07.4**	**+0.5**
QSPA				IAmb		IAmb	22 50 08.0	
	comp=Z,8.4nm,0.8s							
MAW	**Mawson**	**40.35**	**144**	P		**P**	**22 50 58.2**	**+0.2**
	comp=Z,5.8nm,0.8s,baz=219,slow=8.0,SNR=8.3							
MAW	**Mawson**	**40.35**	**144**	P		**P**	**22 50 58.5**	**+0.5**
GO02	**Mina Guanaco**	**43.23**	**298**	P		**P**	**22 51 22.6**	**+0.3**
GO02				IAmb		IAmb	22 51 25.6	
	comp=Z,17nm,1.4s							
LVC	**Limon Verde**	**45.04**	**301**	P		**P**	**22 51 37.4**	**+0.5**
LVC				IAmb		IAmb	22 51 37.9	
	comp=Z,9.4nm,1.5s							
PB07	**IPOC Station P**	**46.27**	**300**	P		**P**	**22 51 46.5**	**+0.3**
VNDA	**Vanda**	**46.62**	**183**	P		**P**	**22 51 48.8**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=189,slow=6.5,SNR=20							
VNDA	**Vanda**	**46.62**	**183**	P		**P**	**22 51 49.0**	**+0.9**
PB01	**IPOC Station P**	**46.66**	**301**	P		**P**	**22 51 49.7**	**+0.5**
GO01	**Chusmiza**	**47.69**	**302**	P		**P**	**22 51 58.5**	**+0.8**
GO01				IAmb		IAmb	22 52 22.6	
	comp=Z,4.6nm,1.0s							
H10N1	**ASCENSION HYDR**	**49.14**	**17**	T		T	23 46 09.6	
	baz=191							
H10N3	**ASCENSION HYDR**	**49.14**	**17**	T		T	23 46 17.4	
	baz=191,slow=74							
H10N2	**ASCENSION HYDR**	**49.16**	**17**	T		T	23 46 18.4	
	baz=191,slow=74							
LPAZ	**La Paz**	**50.13**	**306**	P		**P**	**22 52 16.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=114,slow=4.5,SNR=5.0							
LPAZ	**La Paz**	**50.13**	**306**	P		**P**	**22 52 17.2**	**+0.8**
CASY	**Casey**	**54.05**	**161**	P		**P**	**22 52 44.8**	**+0.7**
DBIC	**Dimbokro**	**65.22**	**25**	P		**P**	**22 54 02.0**	**+0.8**
	comp=Z,3.6nm,1.1s,baz=168,slow=5.6,SNR=3.6							
TOA0	**Torodi Ar. Sit**	**73.14**	**30**	P		**P**	**22 54 51.3**	**+1.2**
TOA0				IAmb		IAmb	22 54 52.0	
	comp=Z,6.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**73.14**	**30**	P		**P**	**22 54 51.1**	**+1.1**
	comp=Z,5.2nm,0.6s,baz=198,slow=6.8,SNR=46							
TORD	**Torodi Ar. Bea**	**73.14**	**30**	P		**P**	**22 54 51.2**	**+1.1**
TORD				IAmb		IAmb	22 54 52.0	
	comp=Z,4.3nm,0.8s							
ASAR	**Alice Springs**	**99.12**	**163**	P		**Pdif**	**22 56 59.6**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=187,slow=4.4,SNR=5.6							
FINES	**FINESS Array B**	**124.45**	**28**	PKP		**PKPdf**	**23 02 14.9**	**-1.4**
	comp=Z,1.1nm,0.9s,baz=242,slow=3.0,SNR=2.2							
CMAR	**Chiang Mai Arr**	**125.33**	**111**	PKP		**PKPdf**	**23 02 18.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=228,slow=3.5,SNR=1.9							
CMAR	**Chiang Mai Arr**	**125.33**	**111**			**PKPdf**	**23 02 15.3**	**-4.1**
YKA	**Yellowknife Ar**	**135.95**	**318**	PKP		**PKPdf**	**23 02 37.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=127,slow=2.5,SNR=5.8							
YKA				SKPbc		**SKPbc**	**23 05 55.7**	**-3.5**
	comp=Z,0.3nm,0.8s,baz=124,slow=1.9,SNR=5.7							
YKA	**Yellowknife Ar**	**135.95**	**318**			**PKPdf**	**23 02 37.3**	**-0.8**
ILAR	**Eielson Array**	**149.88**	**312**	PKPbc		**PKPbc**	**23 03 07.5**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=144,slow=1.7,SNR=17							
SONM	**Songino Array**	**150.99**	**87**	PKPbc		**PKPbc**	**23 03 10.6**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=220,slow=3.5,SNR=27							

NEIC ***11*** *22:45:28.2±2.2,30°.34S±0°.07×177°.8W±0°.3, h29km±6km, mb4.5/9, Error ellipse: s-maj=32.5km s-min=8.9km az=95.0*
IDC ***11*** *22:45:31.5±3.2,30°.10S×177°.91W, h64km±25km, mb3.8/5, mb1 4.0/5, mb1mx3.6/36, mbtmp4.1/5, Error ellipse: s-maj=47.6km s-min=27.4km az=155.0*
ISC 11 22:45:27.1±1.2,**30°.36S**±0°.07×**177°.7W**±0°.2,**h33**km,**n29**, σ1§**45**/25,**mb4.4**/9,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.12**	**350**	P		**Pb**	**22 45 48.3**	**+0.3**
	137nm,0.3s,baz=150,slow=19,SNR=8.5							
RAO				S		**Sb**	**22 46 00.7**	**-1.6**
	765nm,0.3s,baz=125,slow=23,SNR=16							
URZ	**Urewera**	**8.97**	**207**	P		**Pn**	**22 47 35.4**	**+1.1**
	0.3nm,0.3s,baz=23,slow=15,SNR=1.9							
URZ				S		**Sn**	**22 49 10.4**	**-3.8**
	0.7nm,0.3s,baz=162,slow=20,SNR=1.8							
URZ	**Urewera**	**8.97**	**207**			**Pn**	**22 47 35.5**	**+1.2**
CTA	**Charters Tower**	**34.06**	**279**	P		**P**	**22 52 08.7**	**+0.2**
	3.1nm,0.7s,baz=104,slow=8.3,SNR=2.0							
CTAO	**Charters Tower**	**34.06**	**279**	P		**P**	**22 52 10.8**	**+2.3**
STKA	**Stephens Creek**	**34.75**	**257**	P		**

FITZ	**Fitzroy Crossi**	**22.93**	**237**	P		**P**	**22 58 30.5**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=48,slow=7.1,SNR=6.1							
FITZ	**Fitzroy Crossi**	**22.93**	**237**	P		**P**	**22 58 30.6**	**-0.8**
ARMA	**Armidale**	**24.62**	**168**	P		**P**	**22 58 47.4**	**+0.7**
STKA	**Stephens Creek**	**25.76**	**188**	P		**P**	**22 58 55.6**	**-1.5**
	comp=Z,4.0nm,0.7s,baz=355,slow=10,SNR=9.0							
STKA	**Stephens Creek**	**25.76**	**188**	P		**P**	**22 58 59.2**	**+2.2**
USRK	**Ussuriysk Ar.**	**51.78**	**347**	P		**P**	**23 02 32.7**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=162,slow=5.2,SNR=2.0							
CMAR	**Chiang Mai Arr**	**52.36**	**299**	P		**P**	**23 02 38.4**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=120,slow=5.9,SNR=16							
CMAR	**Chiang Mai Arr**	**52.36**	**299**	P		**P**	**23 02 37.7**	**+0.2**
SONM	**Songino Array**	**64.09**	**332**	P		**P**	**23 03 59.7**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=134,slow=11,SNR=5.6							
SONM	**Songino Array**	**64.09**	**332**	P		**P**	**23 04 00.5**	**+1.7**
SONM				IAmb		IAmb	23 04 01.6	
	comp=Z,4.3nm,1.5s							
MK31	**Makanchi Array**	**76.98**	**321**	P		**P**	**23 05 16.8**	**-0.1**
MK31				IAmb		IAmb	23 05 18.2	
	comp=Z,2.5nm,1.2s							
MKAR	**Makanchi Array**	**76.98**	**321**	P		**P**	**23 05 17.2**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=100,slow=7.5,SNR=11							
MKAR	**Makanchi Array**	**76.98**	**321**	P		**P**	**23 05 17.1**	**+0.1**
MAKZ	**Makanchi**	**77.18**	**321**	P		**P**	**23 05 17.4**	**-0.6**
MAKZ				IAmb		IAmb	23 05 19.3	
	comp=Z,5.1nm,1.2s							
ZALV	**Zalesovo Beam**	**78.64**	**328**	P		**P**	**23 05 24.9**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=92,slow=7.2,SNR=6.8							
ZALV	**Zalesovo Beam**	**78.64**	**328**	P		**P**	**23 05 24.3**	**-1.6**
KDJ	**Kajisay**	**78.67**	**315**	P		**P**	**23 05 27.8**	**+1.1**
KDJ				IAmb		IAmb	23 05 28.2	
	comp=Z,1.6nm,0.8s							
NIL	**Nilore**	**79.15**	**306**	P		**P**	**23 05 29.2**	**0.0**
BOOM	**Boomskoye usch**	**79.65**	**315**	P		**P**	**23 05 32.5**	**+0.6**
BOOM				IAmb		IAmb	23 05 33.0	
	comp=Z,1.5nm,0.6s							
KURK	**Kurchatov**	**80.75**	**324**	P		**P**	**23 05 37.9**	**+0.5**
KURK				IAmb		IAmb	23 05 38.4	
	comp=Z,2.8nm,0.8s							
KKAR	**Karatay Array**	**83.66**	**315**	P		**P**	**23 05 53.4**	**+0.6**
QSPA	**South Pole Qui**	**83.68**	**180**	P		**P**	**23 05 52.3**	**-0.3**
ILAR	**Eielson Array**	**86.20**	**23**	P		**P**	**23 06 04.0**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=256,slow=5.3,SNR=1.8							
TORD	**Torodi Ar. Bea**	**144.03**	**284**	PKP		**PKPab**	**23 12 57.5**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=84,slow=3.1,SNR=5.9							
TORD	**Torodi Ar. Bea**	**144.03**	**284**			**PKPab**	**23 12 57.2**	**-0.3**
DBIC	**Dimbokro**	**150.87**	**272**	PKPbc		**PKPbc**	**23 13 16.0**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=134,slow=3.5,SNR=3.7							

*JMA **11** 23:06:28.1±0.5,22.˚77N×122.˚84E,h56km,M2.8*
*TAP **11** 23:06:29.1,22.˚67N×122.˚74E,h61km±1km,ML2.7,C*
ISC 11 23:06:27.6±1.4**,22.˚67N**±0.˚05×**122.˚87E**±0.˚04**,h50**km**,n43,** σ1⁰**08**/63**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**1.36**	**241**	*i* P	**Pn**	**23 06 50.4**	**+0.2**
	baz=238						
LYUB				*i* S	**Sn**	**23 07 06.0**	**-1.2**
	baz=238						
LAY	**Lan-yu**	**1.37**	**243**	*i* P	**Pn**	**23 06 50.4**	**0.0**
	baz=240						
CHKT	**Chengkung**	**1.45**	**287**	*e*P	**Pn**	**23 06 50.9**	**-0.5**
	baz=294						
FULB	**Fuli**	**1.54**	**290**	*e*P	**Pn**	**23 06 52.1**	**-0.6**
	baz=300						
HGSD	**Ruisui**	**1.56**	**302**	*e*P	**Pn**	**23 06 52.8**	**-0.1**
	baz=305						
TWF1	**Yuli**	**1.60**	**295**	*i* P	**Pn**	**23 06 53.2**	**-0.2**
	baz=304						
YULB	**Yu-li**	**1.62**	**297**	*e*P	**Pn**	**23 06 53.5**	**-0.1**
	baz=304						
HATJ	**Hateruma jima**	**1.63**	**32**	P	**Pn**	**23 06 54.0**	**+0.2**
HATJ				S	**Sn**	**23 07 12.8**	**-0.8**
EHY	**Hungye**	**1.65**	**301**	P	**Pn**	**23 06 53.8**	**-0.3**
	baz=308						
TWGBT	**Beinan**	**1.66**	**275**	*e*P	**Pn**	**23 06 54.8**	**+0.6**
	baz=281						
TWGBT				*e*S	**Sn**	**23 07 13.5**	**-0.9**
	baz=281						
ESL	**Shilin**	**1.74**	**311**	*e*P	**Pn**	**23 06 54.8**	**-0.7**
	baz=314						
ECL	**Taimali**	**1.77**	**268**	*i* P	**Pn**	**23 06 56.0**	**+0.2**
	baz=278						
ECL				S	**Sn**	**23 07 16.0**	**-1.2**
	baz=278						
ELDTW	**Lidau**	**1.78**	**287**	*e*P	**Pn**	**23 06 55.9**	**-0.2**
	baz=289						
ETM	**Tongmen**	**1.81**	**316**	P	**Pn**	**23 06 56.3**	**+0.1**
	baz=325						
IRIF	**Iriomote-Funau**	**1.84**	**25**	P	**Pn**	**23 06 57.1**	**+0.4**
IRIF				S	**Sn**	**23 07 17.9**	**-0.8**
JKRS	**Kuro-shima**	**1.88**	**34**	P	**Pn**	**23 06 57.9**	**+0.7**
JKRS				S	**Sn**	**23 07 19.4**	**-0.4**
EAST	**Anshuo**	**1.89**	**262**	P	**Pn**	**23 06 58.2**	**+0.8**
	baz=252						
EAST				S	**Sn**	**23 07 19.5**	**-0.6**
	baz=252						
NACB	**Ninganchiao**	**1.90**	**322**	P	**Pn**	**23 06 57.2**	**-0.3**
	baz=325						
NACB				*e*S	**Sn**	**23 07 18.0**	**-2.3**
	baz=325						
VWDT	**VWDT**	**1.92**	**304**	*e*P	**Pn**	**23 06 58.5**	**+0.7**
	baz=307						
VWDT				*e*S	**Sn**	**23 07 20.2**	**-0.6**
	baz=307						
ETLH	**Xiulin Townshi**	**1.99**	**320**	*e*P	**Pn**	**23 06 58.9**	**0.0**
	baz=329						
ETLH				S	**Sn**	**23 07 21.6**	**-1.1**
	baz=329						
OWD	**Renai**	**2.01**	**310**	*i* P	**Pn**	**23 06 59.5**	**+0.2**
	baz=312						
OWD				*e*S	**Sn**	**23 07 21.6**	**-1.7**
	baz=312						
ENA	**Nanau**	**2.03**	**330**	*e*P	**Pn**	**23 07 00.1**	**+0.7**
	baz=325						
ENA				*e*S	**Sn**	**23 07 23.0**	**-0.5**
	baz=325						
TWKBT	**Hengchun**	**2.04**	**250**	*e*P	**Pn**	**23 07 00.6**	**+1.1**
	baz=255						
TWK1	**Hengchun**	**2.04**	**250**	*e*P	**Pn**	**23 07 00.6**	**+1.1**
	baz=255						
JIJ	**Ishigaki jima**	**2.05**	**35**	P	**Pn**	**23 07 00.2**	**+0.6**
JIJ				S	**Sn**	**23 07 22.9**	**-1.1**
ALS	**Alishan**	**2.08**	**294**	*e*P	**Pn**	**23 07 01.4**	**+1.2**
	baz=301						
WUSB	**Renai**	**2.08**	**310**	*e*P	**Pn**	**23 07 00.7**	**+0.6**
	baz=312						
WHF	**Hehuan Shan**	**2.08**	**315**	*e*P	**Pn**	**23 07 00.4**	**0.0**
	baz=318						
WHF				*e*S	**Sn**	**23 07 24.1**	**-1.3**
	baz=318						
CHGB	**Renai**	**2.08**	**312**	P	**Pn**	**23 07 00.8**	**+0.5**
	baz=322						
CHGB				*e*S	**Sn**	**23 07 24.3**	**-0.8**
	baz=322						
SSLB	**Suanglung**	**2.08**	**303**	*e*P	**Pn**	**23 07 01.0**	**+0.9**
	baz=305						
TPUB	**Ta-pu**	**2.16**	**287**	P	**Pn**	**23 07 02.4**	**+1.3**
	baz=289						
WTP	**Ta-pu**	**2.16**	**286**	*e*P	**Pn**	**23 07 03.1**	**+2.0**
	baz=287						
CHN5	**Tsauling**	**2.22**	**295**	*e*P	**Pn**	**23 07 04.3**	**+2.4**
	baz=303						
CHN1	**Nanshi**	**2.22**	**284**	P	**Pn**	**23 07 04.3**	**+2.4**
	baz=285						
TYC	**Yuchr**	**2.22**	**304**	*e*P	**Pn**	**23 07 03.5**	**+1.6**
	baz=312						
LATG	**Datong**	**2.23**	**327**	*e*P	**Pn**	**23 07 02.7**	**+0.6**
	baz=329						
LATG				*e*S	**Sn**	**23 07 28.0**	**-0.5**
	baz=329						
TWK	**Hsinying**	**2.27**	**286**	*e*P	**Pn**	**23 07 05.0**	**+2.3**
	baz=296						
NDT	**Datong Townshi**	**2.29**	**327**	*e*P	**Pn**	**23 07 03.8**	**+0.9**
	baz=330						
NDT				*e*S	**Sn**	**23 07 29.6**	**-0.3**
	baz=330						
JISG	**Ishigakijimahi**	**2.32**	**34**	P	**Pn**	**23 07 03.5**	**+0.2**
JISG				S	**Sn**	**23 07 30.1**	**-0.5**
WHP	**Taichung City**	**2.38**	**313**	*e*P	**Pn**	**23 07 06.4**	**+2.2**
	baz=321						
NSK	**Sanguang**	**2.43**	**326**	*e*P	**Pn**	**23 07 05.8**	**+1.0**
	baz=328						
NSK				*e*S	**Sn**	**23 07 33.2**	**-0.3**
	baz=328						
TIPB	**Shuangxi**	**2.48**	**338**	*e*P	**Pn**	**23 07 06.9**	**+1.4**
	baz=348						
TIPB				*e*S	**Sn**	**23 07 34.7**	**0.0**
	baz=348						
LIOB	**Emei**	**2.60**	**320**	*e*P	**Pn**	**23 07 09.7**	**+2.5**
	baz=328						

*NOU **11** 23:07:20.4,41.˚10S×175.˚64E,h44km,MLv4.2/7,North Island, New Zealand*
*WEL **11** 23:07:21.1,41.˚5S±2.˚×17.˚5E±.˚,h24km±3km,M3.8/21, ML4.1/21,MLv3.8/21,Error ellipse: s-maj=0.0km s-min=0.0km az=104.3*
ISC 11 23:07:20.7±1.0**,40.˚99S**±0.˚03×**175.˚53E**±0.˚03**,h28**km±7km**, n75,**σ0⁰**95/81,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOWZ	**Holdsworth Sta**	**0.09**	**355**	P	**Pb**	**23 07 25.7**	**0.0**
HOWZ				S	**Sb**	**23 07 29.1**	**0.0**
MTW	**Mount Morrison**	**0.17**	**186**	P	**Pn**	**23 07 28.0**	**+0.5**
TMWZ	**Te Maipa**	**0.30**	**113**	P	**Pn**	**23 07 30.2**	**+0.8**
TMWZ				S	**Sn**	**23 07 37.1**	**+2.2**
OGWZ	**Otaki Gorge**	**0.32**	**302**	P	**Pb**	**23 07 27.7**	**-0.6**
OGWZ				S	**Sb**	**23 07 32.2**	**-1.2**
MRZ	**Mangatainoka R**	**0.33**	**7**	P	**Pb**	**23 07 27.7**	**-0.7**
MRZ				S	**Sb**	**23 07 32.4**	**-1.2**
TIWZ	**Tintock**	**0.35**	**52**	P	**Pb**	**23 07 29.1**	**+0.5**
TIWZ				S	**Sb**	**23 07 34.6**	**+0.5**
CAW	**Cannon Point**	**0.37**	**251**	P	**Pb**	**23 07 29.5**	**+0.6**
PAWZ	**Paruwai Farm**	**0.40**	**191**	P	**Pn**	**23 07 31.5**	**+0.8**
TRWZ	**Traveller**	**0.43**	**163**	P	**Pn**	**23 07 32.2**	**+1.1**
MSWZ	**Moikau Station**	**0.47**	**206**	P	**Pn**	**23 07 32.4**	**+0.7**
KIW	**Kapiti Island**	**0.48**	**285**	P	**Pb**	**23 07 30.6**	**-0.2**
CPWZ	**Castlepoint**	**0.52**	**81**	P	**Pn**	**23 07 33.2**	**+0.9**
PRWZ	**Pori Road**	**0.55**	**38**	P	**Pb**	**23 07 32.2**	**+0.3**
PLWZ	**Palliser**	**0.61**	**199**	P	**Pn**	**23 07 34.3**	**+0.6**
POWZ	**Post Office Ro**	**0.62**	**17**	P	**Pb**	**23 07 32.4**	**-0.7**
BFZ	**Birch Farm**	**0.63**	**61**	P	**Pn**	**23 07 33.6**	**-0.1**
BFZ	**Birch Farm**	**0.63**	**61**	P	**Pn**	**23 07 34.0**	**+0.2**
WEL	**Wellington**	**0.64**	**243**	P	**Pb**	**23 07 34.2**	**+0.8**
BHW	**Baring Head**	**0.65**	**230**	P	**Pb**	**23 07 34.4**	**+0.9**
SNZO	**South Karori**	**0.70**	**242**	P	**Pb**	**23 07 35.0**	**+0.7**
OHWZ	**Ohakea**	**0.80**	**348**	P	**Pb**	**23 07 35.6**	**-0.4**
DVHZ	**Dannevirke**	**0.84**	**35**	P	**Pb**	**23 07 36.3**	**-0.5**
ANWZ	**Angora Road**	**0.89**	**54**	P	**Pb**	**23 07 37.2**	**-0.4**
TCW	**Tory Channel**	**0.97**	**256**	P	**Pn**	**23 07 38.8**	**+0.3**
TSZ	**Takapari Road**	**0.99**	**20**	P	**Pb**	**23 07 38.3**	**-1.0**
PRHZ	**Porangahau**	**1.11**	**50**	P	**Pn**	**23 07 39.9**	**-0.5**
WPHZ	**Waipukurau**	**1.16**	**37**	P	**Pn**	**23 07 40.9**	**-0.2**
PNHZ	**Pukenui**	**1.19**	**26**	P	**Pn**	**23 07 41.2**	**-0.4**
DUWZ	**D'Urville Isla**	**1.23**	**278**	P	**Pn**	**23 07 42.4**	**+0.3**
CMWZ	**Cape Campbell**	**1.25**	**232**	P	**Pn**	**23 07 40.2**	**-2.1**
CMWZ				P	**Pb**	**23 07 40.3**	**-3.3**
TUWZ	**Tuamarina**	**1.27**	**249**	P	**Pn**	**23 07 42.6**	**-0.1**
WAZ	**Wanganui**	**1.30**	**341**	P	**Pn**	**23 07 43.8**	**+0.8**
PXZ	**Pawanui**	**1.40**	**47**	P	**Pn**	**23 07 43.7**	**-0.7**
BSWZ	**Blackbirch Sta**	**1.44**	**239**	P	**Pn**	**23 07 45.2**	**+0.2**
KRHZ	**Kereru**	**1.49**	**26**	P	**Pn**	**23 07 45.1**	**-0.6**
BHHZ	**Black Hill Sta**	**1.55**	**15**	P	**Pn**	**23 07 46.4**	**-0.2**
KAHZ	**Kahuranaki**	**1.58**	**41**	P	**Pn**	**23 07 46.1**	**-0.8**
MOVZ	**Moawhango**	**1.59**	**6**	P	**Pn**	**23 07 46.9**	**-0.2**
MTVZ	**Mangateitei**	**1.60**	**358**	P	**Pn**	**23 07 47.9**	**+0.6**
NNZ	**Nelson**	**1.64**	**261**	P	**Pn**	**23 07 48.1**	**+0.4**
WNVZ	**Wahianoa**	**1.66**	**2**	P	**Pn**	**23 07 48.4**	**+0.2**
TRVZ	**Turoa**	**1.69**	**1**	P	**Pn**	**23 07 48.9**	**+0.3**
WHVZ	**Whangaehu Hut**	**1.71**	**2**	P	**Pn**	**23 07 49.2**	**+0.4**
KWHZ	**Kaweka Forest**	**1.71**	**24**	P	**Pn**	**23 07 48.2**	**-0.5**
TUVZ	**Tukino**	**1.72**	**3**	P	**Pn**	**23 07 49.5**	**+0.5**
FWVZ	**Far West T-bar**	**1.73**	**1**	P	**Pn**	**23 07 49.5**	**+0.3**
LREZ	**Lake Rotokare**	**1.75**	**330**	P	**Pn**	**23 07 50.7**	**+1.5**
MCHZ	**McNeill Hill**	**1.79**	**31**	P	**Pn**	**23 07 49.2**	**-0.5**
SNVZ	**South Ngauruho**	**1.80**	**3**	P	**Pn**	**23 07 50.6**	**+0.4**
NGZ	**Ngauruhoe**	**1.81**	**2**	P	**Pn**	**23 07 50.7**	**+0.5**
OTVZ	**Oturere**	**1.83**	**3**	P	**Pn**	**23 07 50.9**	**+0.4**
NNVZ	**North Ngauruho**	**1.86**	**2**	P	**Pn**	**23 07 51.3**	**+0.4**
WTVZ	**West Tongariro**	**1.87**	**2**	P	**Pn**	**23 07 51.4**	**+0.4**
TMVZ	**Te Maari**	**1.88**	**4**	P	**Pn**	**23 07 51.3**	**+0.2**
NTVZ	**North Tongarir**	**1.89**	**4**	P	**Pn**	**23 07 51.5**	**+0.2**
KRVZ	**Karewarewa**	**1.90**	**3**	P	**Pn**	**23 07 51.9**	**+0.5**
TKNZ	**Takaka Hill**	**1.94**	**268**	P	**Pn**	**23 07 52.4**	**+0.5**
PREZ	**Palmer Road**	**1.95**	**327**	P	**Pn**	**23 07 53.9**	**+1.9**
VRZ	**Vera Road**	**1.95**	**342**	P	**Pn**	**23 07 53.1**	**+1.0**
BKZ	**Black Stump Fm**	**1.97**	**22**	P	**Pn**	**23 07 52.1**	**-0.1**
BKZ	**Black Stump Fm**	**1.97**	**22**	P	**Pn**	**23 07 52.3**	**0.0**
KATZ	**Kakaramea**	**2.02**	**4**	P	**Pn**	**23 07 53.9**	**+0.9**
NMEZ	**Namu Road**	**2.02**	**321**	P	**Pn**	**23 07 54.9**	**+2.0**
RITZ	**Rihia Road**	**2.03**	**7**	P	**Pn**	**23 07 53.3**	**+0.2**
NEZ	**North Egmont**	**2.04**	**327**	P	**Pn**	**23 07 55.0**	**+1.7**
KHEZ	**Kahui Hut**	**2.05**	**325**	P	**Pn**	**23 07 55.5**	**+2.0**
KHZ	**Kahutara**	**2.06**	**226**	P	**Pn**	**23 07 53.0**	**-0.5**
THZ	**Tophouse**	**2.12**	**248**	P	**Pn**	**23 07 54.1**	**-0.3**
MRNZ	**Matariki Terra**	**2.13**	**258**	P	**Pn**	**23 07 55.0**	**+0.6**
NBEZ	**Newall Road No**	**2.14**	**323**	P	**Pn**	**23 07 56.8**	**+2.2**
MRHZ	**Matea Rd**	**2.26**	**18**	P	**Pn**	**23 07 55.1**	**-1.1**
QRZ	**Quartz Range**	**2.28**	**273**	P	**Pn**	**23 07 57.1**	**+0.6**
HIZ	**Hauiti**	**2.53**	**348**	P	**Pn**	**23 08 00.3**	**+0.4**
RPZ	**Rata Peaks**	**4.29**	**229**	P	**Pn**	**23 08 22.8**	**-1.4**
ODZ	**Otahua Downs**	**5.41**	**220**	P	**Pn**	**23 08 38.1**	**-1.4**

*IDC **11** 23:12:02.6±1.1,3.˚05S×101.˚17E,h0km,mb4.1/14, mb1 4.2/14,mb1mx3.8/54,mbtmp4.1/14,Error ellipse: s-maj=45.5km s-min=14.6km az=54.0*
*DJA **11** 23:12:08.7±0.8,3.˚5±3.˚×10.˚1E±.˚,h20km±7km,M4.2/12, mb4.4/3,mB5.1/2,MLv4.1/12,Mw(mB)4.4/2*
*NEIC **11** 23:12:09.6±0.8,3.˚2S±0.˚2×101.˚1E±0.˚1,h45km±6km, mb4.2/15,Error ellipse: s-maj=27.9km s-min=13.6km az=212.0*
ISC 11 23:12:09.3±0.6**,3.˚12S**±0.˚06×**101.˚17E**±0.˚05**,h46**km**,n50,** σ1⁰**04**/49**,mb4.2**/22**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**1.06**	**16**	P	**Pn**	**23 12 28.8**	**+0.9**
KRJI				S	**Sn**	**23 12 42.9**	**+1.3**
MASI	**Maura Aman, Be**	**1.07**	**91**	P	**Pn**	**23 12 28.2**	**+0.2**
MASI				S	**Sn**	**23 12 42.6**	**+0.9**
PPSI	**Pulau Pagai**	**1.21**	**287**	P	**Pn**	**23 12 30.9**	**+1.1**
MNAI	**Manna**	**2.17**	**125**	Pn	**Pn**	**23 12 43.8**	**+0.8**
MNAI	**Manna**	**2.17**	**125**	P	**Pn**	**23 13 43.0**	**0.0**
SISI	**Saibi**	**2.74**	**311**	P	**Pn**	**23 12 51.9**	**+1.1**
PPI	**Padang Panjang**	**2.75**	**344**	P	**Pn**	**23 12 52.9**	**+1.9**
JMBI	**JAMBI**	**2.88**	**59**	P	**Pn**	**23 12 54.0**	**+1.3**
BKNI	**Bangkinang**	**3.42**	**358**	P	**Pn**	**23 13 00.8**	**+0.5**
KASI	**Kota Agung**	**4.09**	**126**	P	**Pn**	**23 13 10.0**	**+0.6**
MNSI	**Mandailing Nat**	**4.20**	**338**	P	**Pn**	**23 13 11.7**	**+0.8**
DSRI	**Dabo**	**4.30**	**52**	P	**Pn**	**23 13 13.4**	**+1.1**
TPRI	**Tanjung Pinang**	**5.23**	**40**	P	**Pn**	**23 13 26.4**	**+1.3**
	0.4nm40nm,0.5s						
CGJI	**Cibinong**	**5.69**	**128**	P	**Pn**	**23 13 31.0**	**-0.4**
UGM	**Wanagama**	**10.46**	**117**	Pn	**Pn**	**23 14 37.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**21.55**	**354**	P	**P**	**23 16 52.4**	**-2.5**
	1.3nm,0.3s,baz=183,slow=8.1,SNR=4.4						
CMAR				LR	LR	23 26 22.6	
	comp=Z,20nm,19.0s,baz=205,slow=40						
FITZ	**Fitzroy Crossi**	**28.22**	**124**	P	**P**	**23 17 57.2**	**-0.9**
	0.8nm,0.4s,baz=302,slow=2.9,SNR=6.4						
FITZ	**Fitzroy Crossi**	**28.22**	**124**	P	**P**	**23 17 57.6**	**-0.6**
FITZ				IAmb	IAmb	23 18 16.5	
	comp=Z,9.7nm,1.5s						
H08S2	**Diego Garcia H**	**28.89**	**260**	T	T	23 47 26.9	
	baz=82,slow=76,SNR=42						
H08S3	**Diego Garcia H**	**28.90**	**260**	T	T	23 47 25.5	
	baz=82,slow=76,SNR=25						
H08S1	**Diego Garcia H**	**28.91**	**260**	T	T	23 47 27.0	
	baz=82,slow=76,SNR=34						
WB0	**Warramunga Arr**	**36.40**	**120**	P	**P**	**23 19 09.3**	**-0.4**
WRA	**Warramunga Arr**	**36.42**	**120**	P	**P**	**23 19 09.6**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=304,slow=9.0,SNR=25						
WRA	**Warramunga Arr**	**36.42**	**120**	P	**P**	**23 19 09.5**	**-0.4**
WB2	**Warramunga Arr**	**36.44**	**120**	P	**P**	**23 19 09.9**	**-0.2**
WB2				IAmb	IAmb	23 19 27.2	
	comp=Z,4.0nm,0.9s						
WR0	**Warramunga Arr**	**36.61**	**120**	P	**P**	**23 19 11.0**	**-0.4**
WR0				IAmb	IAmb	23 19 11.8	
	comp=Z,5.1nm,0.9s						
ASAR	**Alice Springs**	**37.66**	**126**	P	**P**	**23 19 20.0**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=300,slow=8.2,SNR=24						
ASAR	**Alice Springs**	**37.66**	**126**	P	**P**	**23 19 20.6**	**+0.3**

BBOO	**Buckleboo**	**44.04**	**136**	P		**P**	**23 20 16.3**	**+3.5**
STKA	**Stephens Creek**	**47.54**	**132**	P		**P**	**23 20 40.9**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=305,slow=12,SNR=1.9							
KDJ	**Kajisay**	**50.02**	**337**	P		**P**	**23 21 00.5**	**+1.0**
KDJ				IAmb		IAmb	23 21 14.2	
	comp=Z,2.7nm,0.8s							
BOOM	**Boomskoye usch**	**50.82**	**336**	P		**P**	**23 21 06.1**	**+0.6**
BOOM				IAmb		IAmb	23 21 19.8	
	comp=Z,1.5nm,0.7s							
SONM	**Songino Array**	**50.95**	**5**	P		**P**	**23 21 05.6**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=190,slow=8.8,SNR=8.6							
SONM	**Songino Array**	**50.95**	**5**	P		**P**	**23 21 06.8**	**+0.5**
AAK	**Ala-Archa**	**51.54**	**335**	P		**P**	**23 21 09.8**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=61,slow=7.0,SNR=4.0							
MK31	**Makanchi Array**	**52.42**	**344**			**P**	**23 21 17.4**	**+0.3**
MK31				IAmb		IAmb	23 21 17.8	
	comp=Z,1.8nm,1.1s							
MKAR	**Makanchi Array**	**52.42**	**344**	P		**P**	**23 21 17.1**	**0.0**
	comp=Z,0.9nm,0.3s,baz=158,slow=9.4,SNR=43							
MAKZ	**Makanchi**	**52.52**	**343**	P		**P**	**23 21 18.1**	**+0.1**
MAKZ				IAmb		IAmb	23 21 20.1	
	comp=Z,1.8nm,1.1s							
USRK	**Ussuriysk Ar.**	**54.60**	**27**	P		**P**	**23 21 33.4**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=186,slow=4.0,SNR=4.9							
KURK	**Kurchatov**	**57.01**	**343**	P		**P**	**23 21 50.1**	**-0.2**
KURK				IAmb		IAmb	23 22 07.4	
	comp=Z,1.9nm,0.7s							
ZAA0	**Zalesovo Array**	**58.48**	**349**	P		**P**	**23 22 00.1**	**-0.4**
ZALV	**Zalesovo Beam**	**58.48**	**349**	P		**P**	**23 22 00.2**	**-0.4**
	comp=Z,2.4nm,0.4s,baz=159,slow=4.5,SNR=26							
KLR	**Kul'dur**	**58.49**	**23**	P		**P**	**23 21 58.5**	**-2.2**
	comp=Z,1.8nm,0.9s,baz=255,slow=4.7,SNR=5.4							
ABKAR	**Akbulak array**	**63.18**	**331**	P		**P**	**23 22 32.3**	**-0.3**
ABKAR				IAmb		IAmb	23 22 32.9	
	comp=Z,3.3nm,1.1s							
ABKAR	**Akbulak array**	**63.18**	**331**	P		**P**	**23 22 32.1**	**-0.5**
BRTR	**Keskin Array B**	**74.93**	**312**	P		**P**	**23 23 45.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=148,slow=7.8,SNR=3.8							
BURAR	**Bucovina Array**	**82.86**	**319**	P		**P**	**23 24 30.2**	**+1.0**
FINES	**FINESS Array B**	**85.64**	**332**	P		**P**	**23 24 41.7**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=129,slow=5.2,SNR=4.1							
ARCES	**ARCESS Array B**	**87.92**	**340**	P		**P**	**23 24 53.7**	**-0.1**
	comp=Z,4.0nm,1.1s,baz=105,slow=6.8,SNR=1.9							
TXAR	**Lajitas Array**	**144.85**	**40**	PKP		**PKPdf**	**23 31 41.6**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=281,slow=0.9,SNR=15							

*NEIC **11** 23:24:55.1±2.0,17.˚4S±0.˚1×178.˚9W±0.˚1,h542km±8km, mb4.1/80,Error ellipse: s-maj=18.9km s-min=14.6km az=134.0*
*IDC **11** 23:24:56.6±0.8,17.˚55S×179.˚00W,h559km±9km,mb3.4/15, mb1 3.7/16,mb1mx3.5/37,mbtmp4.3/16,Error ellipse: s-maj=19.1km s-min=11.5km az=126.0*
ISC 11 23:24:54.9±0.4**,17.˚43S**±0.˚08×**178.˚89W**±0.˚08**,h539**km**, n108,**σ1⁰**09**/107**,mb4.1**/52**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.93**	**264**	P	**P**	**23 26 10.4**	**+1.7**
	6.2nm,0.3s,baz=99,slow=4.5,SNR=41						
MSVF				S	**S**	**23 27 13.3**	**+4.5**
	0.5nm,0.3s,baz=344,slow=21,SNR=8.5						
MSVF	**Nonsavu**	**2.93**

YERR	**Yerington**	**79.08**	**43**	P	**P**	**23 36 04.8**	**+1.0**
YERR				IAmb	IAmb	23 36 05.8	
	comp=Z,3.8nm,0.6s						
LCH	**Last Change Ra**	**79.21**	**45**	P	**P**	**23 36 05.7**	**+1.2**
PAHR	**Pah Rah Range**	**79.38**	**43**	P	**P**	**23 36 06.4**	**+1.1**
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**23 36 06.8**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=226,slow=8.8,SNR=14						
KVN	**Kaiserville**	**79.87**	**44**	P	**P**	**23 36 09.0**	**+1.0**
N18K	**Kilae Creek**	**80.02**	**11**	P	**P**	**23 36 07.6**	**-0.4**
N18K				IAmb	IAmb	23 36 14.8	
	comp=Z,7.7nm,1.1s						
BRLK	**Bradley Lake**	**80.22**	**14**	P	**P**	**23 36 09.1**	**0.0**
PINE	**Pine Mountain**	**80.70**	**38**	P	**P**	**23 36 13.8**	**+1.6**
HG4B	**Hotspring**	**80.81**	**27**	P	**P**	**23 36 12.2**	**-0.1**
M19K	**Big River Lodg**	**81.43**	**11**	P	**P**	**23 36 15.3**	**0.0**
L19K	**White Mountain**	**81.60**	**11**	P	**P**	**23 36 17.0**	**+0.8**
I07A	**Izee**	**81.72**	**39**	P	**P**	**23 36 18.1**	**+0.7**
I07A				IAmb	IAmb	23 36 19.5	
	comp=Z,3.4nm,0.9s						
PWL	**Port Wells**	**81.79**	**15**	P	**P**	**23 36 16.3**	**-0.9**
PWL				IAmb	IAmb	23 36 17.6	
	comp=Z,8.8nm,0.9s						
J08A	**Circle Bar Ran**	**81.95**	**40**	P	**P**	**23 36 19.9**	**+1.4**
TTA	**Tatalina**	**82.08**	**10**	P	**P**	**23 36 19.2**	**+0.5**
GLI	**Glacier Island**	**82.11**	**15**	P	**P**	**23 36 17.8**	**-0.9**
GLI				IAmb	IAmb	23 36 19.2	
	comp=Z,8.7nm,0.8s						
GHO	**Glory Hole Cre**	**82.45**	**14**	P	**P**	**23 36 20.6**	**+0.1**
GHO				IAmb	IAmb	23 36 21.3	
	comp=Z,5.3nm,0.8s						
PSUT	**Pine Spring**	**82.46**	**46**	P	**P**	**23 36 22.3**	**+1.0**
U15A	**North Rim**	**82.54**	**48**	P	**P**	**23 36 23.7**	**+1.8**
U15A				IAmb	IAmb	23 36 25.1	
	comp=Z,4.7nm,1.1s						
ELK	**Elko**	**82.62**	**43**	P	**P**	**23 36 22.9**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=269,slow=8.2,SNR=5.3						
BELA	**Belgrano 2**	**82.70**	**173**	P	**P**	**23 36 21.5**	**-0.1**
BELA				IAmb	IAmb	23 36 22.3	
	comp=Z,4.7nm,0.8s						
K20K	**Telida**	**82.82**	**11**	P	**P**	**23 36 22.5**	**+0.2**
K20K				IAmb	IAmb	23 36 22.9	
	comp=Z,5.1nm,0.8s						
BMRM	**Bremner River**	**82.83**	**16**	P	**P**	**23 36 22.5**	**0.0**
BMRM				IAmb	IAmb	23 36 40.6	
	comp=Z,5.8nm,0.9s						
SCM	**Sheep Creek Mo**	**82.88**	**14**	P	**P**	**23 36 23.0**	**+0.3**
CAST	**Castle Rocks**	**83.25**	**12**	P	**P**	**23 36 23.5**	**-1.0**
CAST				IAmb	IAmb	23 36 24.0	
	comp=Z,7.2nm,0.9s						
VRDI	**Verde Repeater**	**83.35**	**16**	P	**P**	**23 36 24.7**	**-0.5**
VRDI				IAmb	IAmb	23 36 33.5	
	comp=Z,3.9nm,1.0s						
N25K	**Chitina, Valde**	**83.36**	**16**	P	**P**	**23 36 25.3**	**+0.2**
N25K				IAmb	IAmb	23 36 26.1	
	comp=Z,5.1nm,0.8s						
GLB	**Gilahina Butte**	**83.43**	**16**	P	**P**	**23 36 25.6**	**+0.1**
GLB				IAmb	IAmb	23 36 26.0	
	comp=Z,4.4nm,0.6s						
J20K	**Nowinta River**	**83.56**	**11**	P	**P**	**23 36 26.4**	**+0.5**
KTH	**Kantishna Hill**	**83.61**	**12**	P	**P**	**23 36 25.4**	**-0.9**
KTH				IAmb	IAmb	23 36 27.7	
	comp=Z,4.9nm,1.2s						
TRF	**Thorofare Moun**	**83.64**	**13**	P	**P**	**23 36 26.0**	**-0.6**
TRF				IAmb	IAmb	23 36 27.4	
	comp=Z,7.0nm,0.9s						
BARN	**Barnard Glacie**	**83.71**	**17**	P	**P**	**23 36 26.5**	**-0.5**
BARN				IAmb	IAmb	23 36 34.1	
	comp=Z,3.9nm,0.9s						
CTGM	**Chitina Glacie**	**83.72**	**17**	P	**P**	**23 36 27.3**	**+0.3**
CTGM				IAmb	IAmb	23 36 28.1	
	comp=Z,6.0nm,0.8s						
RND	**Reindeer**	**83.91**	**13**	P	**P**	**23 36 27.9**	**+0.2**
RND				IAmb	IAmb	23 36 28.5	
	comp=Z,6.5nm,0.7s						
BESE	**Bessie Mountai**	**83.92**	**21**	P	**P**	**23 36 28.7**	**+0.8**
BESE				IAmb	IAmb	23 36 37.6	
	comp=Z,4.2nm,0.9s						
DHY	**Denali Highway**	**83.95**	**14**	P	**P**	**23 36 27.9**	**-0.2**
BPAW	**Bear Paw Mtn.**	**84.08**	**12**	P	**P**	**23 36 27.8**	**-0.8**
MAW	**Mawson**	**84.15**	**200**	P	**P**	**23 36 29.0**	**0.0**
	comp=Z,2.1nm,0.5s,baz=293,slow=23,SNR=2.3						
MAW	**Mawson**	**84.15**	**200**	P	**P**	**23 36 29.4**	**+0.5**
M27K	**Edge Creek, AK**	**84.71**	**16**	P	**P**	**23 36 32.2**	**+0.4**
M27K				IAmb	IAmb	23 36 33.3	
	comp=Z,3.7nm,0.9s						
I21K	**Tanana**	**84.87**	**11**	P	**P**	**23 36 31.8**	**-0.5**
ILAR	**Eielson Array**	**85.53**	**13**	P	**P**	**23 36 34.9**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=221,slow=5.1,SNR=14						
ILAR	**Eielson Array**	**85.53**	**13**	P	**P**	**23 36 35.1**	**-0.5**
TXAR	**Lajitas Array**	**86.13**	**58**	P	**P**	**23 36 40.2**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=222,slow=6.2,SNR=10						
YHL	**Hebgen Lake**	**87.23**	**41**	IAmb	IAmb	23 36 46.8	
	comp=Z,3.2nm,1.0s						
PDAR	**Pinedale Array**	**87.32**	**44**	P	**P**	**23 36 45.6**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=215,slow=3.8,SNR=12						
YKA	**Yellowknife Ar**	**94.09**	**25**	P	**P**	**23 37 14.9**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=243,slow=4.4,SNR=16						
BRTR	**Keskin Array B**	**144.12**	**315**	PKP	PKPbc	23 43 29.1	-0.2
	comp=Z,0.4nm,0.7s,baz=12,slow=6.3,SNR=4.0						
CLL	**Collm**	**144.90**	**347**	*i* PKPbc	**PKPdf**	**23 43 31.2**	**+0.7**
	comp=Z,15nm,1.4s						
KHC	**Kasperske Hory**	**146.80**	**345**	*e*PKP	**PKPbc**	**23 43 36.5**	**-0.1**
GERES	**GERESS Array B**	**147.03**	**345**	PKPbc	**PKPdf**	**23 43 36.9**	**+2.5**
	comp=Z,0.8nm,0.5s,baz=29,slow=3.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	**175.71**	**188**	PKPab	**PKPab**	**23 45 43.9**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=250,slow=4.4,SNR=7.7						

*IDC **11** 23:29:48.6±0.8, 10.09N×61.02W, h0km, mb3.6/10, mb1 3.9/11, mb1mx3.7/44, mbtmp3.7/11, ML3.3/1, MS2.9/4, Ms1 2.9/4, ms1mx2.6/71, Error ellipse: s-maj=22.0km s-min=18.6km az=68.0*

*TRN **11** 23:29:53.1, 9.93N×60.96W, h51km, MD4.1*

ISC 11 23:29:50.5±1.8, 9.97N±0.05×61.02W±0.06, h16km±11km, n41, σ1.980/51, mb3.7/10, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.77**	**330**	*e*P	**Pn**	**23 30 09.1**	**+2.4**
TOSP	**Speyside**	**1.40**	**20**	*e*P	**Pg**	**23 30 17.0**	**-0.5**
TOSP				*e*S	**Sn**	**23 30 33.6**	**+0.1**
GRFF	**Grenada Fort F**	**2.18**	**341**	*e*P	**Pb**	**23 30 29.1**	**-0.5**
GRFF				*e*S	**Sn**	**23 30 54.4**	**+1.5**
GRGR	**Grenville**	**2.24**	**344**	*e*P	**Pb**	**23 30 29.2**	**-1.3**
GRGR				*e*S	**Sn**	**23 30 55.8**	**+1.5**
GRHS	**Sauteurs**	**2.32**	**345**	*e*P	**Pb**	**23 30 30.8**	**-1.2**
GRHS				*e*S	**Sn**	**23 30 56.4**	**+0.1**
GRSS	**Sisters**	**2.38**	**346**	*e*P	**Pn**	**23 30 30.6**	**+1.7**
GCMP	**Grenada, Carri**	**2.53**	**351**	*e*P	**Pn**	**23 30 32.7**	**+1.7**
GCMP				*e*S	**Sn**	**23 31 01.7**	**-0.1**
SVB	**Belmont**	**3.29**	**356**	*e*P	**Pn**	**23 30 43.7**	**+2.3**
SVB				*e*S	**Sn**	**23 31 19.7**	**-0.5**
SVV	**Soufriere Volc**	**3.33**	**357**	*e*P	**Pn**	**23 30 44.2**	**+2.2**
SVV				*e*S	**Sn**	**23 31 22.4**	**+1.2**
MCLT	**Moule a Chique**	**3.71**	**1**	*e*P	**Pn**	**23 30 49.0**	**+1.7**
MCLT				*e*S	**Sn**	**23 31 29.8**	**-0.9**
SLCP	**Castries, St.**	**4.01**	**0**	*e*P	**Pn**	**23 30 52.7**	**+1.4**
SLCP				*e*S	**Sn**	**23 31 36.5**	**-1.6**
SLBI	**Saint Lucia, B**	**4.03**	**1**	*e*P	**Pn**	**23 30 53.5**	**+1.9**
SLBI				*e*S	**Sn**	**23 31 37.8**	**-0.5**
H05S1	**Guadeloupe/Mar**	**4.43**	**2**	Pn	**Pn**	**23 30 55.3**	**-1.8**
	SNR=17						
H05S1				Sn	**Sn**	**23 31 44.7**	**-3.6**
MPOM	**Morne Pois Mar**	**4.45**	**2**	*e*P	**Pn**	**23 30 58.9**	**+1.6**
MPOM	**Morne Pois Mar**	**4.45**	**2**	*e*S	**Sn**	**23 31 47.3**	**-1.5**
BIM	**Bigot**	**4.52**	**359**	*e*P	**Pn**	**23 30 59.8**	**+1.5**
BIM	**Bigot**	**4.52**	**359**	*e*S	**Sn**	**23 31 49.6**	**-1.0**
FDF	**Fort de France**	**4.73**	**358**	*e*P	**Pn**	**23 31 03.6**	**+2.3**
FDF	**Fort de France**	**4.73**	**358**	*e*S	**Sn**	**23 31 55.5**	**-0.5**
CBE	**Ff, Capester**	**6.09**	**355**	*e*P	**Pn**	**23 31 22.9**	**+3.0**
CBE	**Ff, Capester**	**6.09**	**355**	*e*S	**Sn**	**23 32 27.2**	**-2.1**
BAUV	**El Baul**	**7.01**	**262**	*e*P	**Pn**	**23 31 34.1**	**+1.6**
BAUV	**El Baul**	**7.01**	**262**	*e*S	**Sn**	**23 32 48.6**	**-3.3**
ANBD	**Bethesda, Anti**	**7.07**	**354**	*e*P	**Pn**	**23 31 36.5**	**+3.1**
ANBD	**Bethesda, Anti**	**7.07**	**354**	*e*S	**Sn**	**23 32 51.0**	**-2.5**
SJG	**San Juan**	**9.50**	**329**	LR	LR	23 36 53.9	
	comp=Z,51nm,18.3s,baz=135,slow=45						
SDV	**Santo Domingo**	**9.55**	**264**	Pn	**Pn**	**23 32 07.9**	**+0.3**
	comp=Z,6.0nm,0.3s,baz=154,slow=6.8,SNR=12						
SDV				Sn	**Sn**	**23 33 50.3**	**-4.5**
	0.8nm,0.3s,baz=40,slow=20,SNR=1.3						
MDP	**Montagnes des**	**9.61**	**120**	Pn	**Pn**	**23 32 05.7**	**-2.5**
	1.6nm,0.3s,baz=316,slow=16,SNR=18						
MDP				Sn	Sn	23 33 45.4	-11
	3.4nm,0.3s,baz=37,slow=17,SNR=12						
MDP				LR	LR	23 36 15.8	
	comp=Z,39nm,19.9s,baz=226,slow=40						
SIV	**San Ignacio**	**25.80**	**180**	P	**P**	**23 35 22.7**	**+1.7**
	1.6nm,0.6s,baz=10,slow=10,SNR=8.3						
LPAZ	**La Paz**	**27.02**	**195**	LR	LR	23 47 21.5	
	comp=Z,41nm,20.1s,baz=59,slow=39						
CMIG	**Matias Romero**	**33.64**	**286**	LR	LR	23 51 43.9	
	comp=Z,21nm,18.8s,baz=32,slow=39						
CPUP	**Villa Florida**	**36.26**	**174**	P	**P**	**23 36 54.6**	**+1.5**
	1.0nm,0.6s,baz=16,slow=6.2,SNR=3.3						
TXAR	**Lajitas Array**	**44.23**	**302**	P	**P**	**23 37 59.5**	**+0.1**
	0.1nm,0.3s,baz=112,slow=9.4,SNR=5.5						
TXAR				PcP	**PcP**	**23 39 44.6**	**+0.6**
	0.2nm,0.7s,baz=99,slow=5.6,SNR=1.9						
SCHQ	**Schefferville**	**44.98**	**355**	P	**P**	**23 38 05.7**	**+0.7**
	2.3nm,0.7s,baz=188,slow=6.3,SNR=6.9						
PDAR	**Pinedale Array**	**53.37**	**317**	P	**P**	**23 39 08.5**	**-1.1**
	0.4nm,0.5s,baz=112,slow=9.2,SNR=7.6						
NVAR	**Mina Array Bea**	**58.36**	**309**	P	**P**	**23 39 46.3**	**+0.9**
	0.2nm,0.5s,baz=101,slow=6.7,SNR=2.5						
ESDC	**Sonseca Array**	**58.47**	**49**	P	**P**	**23 39 45.3**	**-0.7**
	0.6nm,0.9s,baz=250,slow=11,SNR=2.0						
TORD	**Torodi Ar. Bea**	**61.39**	**80**	P	**P**	**23 40 06.9**	**+0.5**
	0.3nm,0.4s,baz=292,slow=7.8,SNR=8.6						
YKA	**Yellowknife Ar**	**64.92**	**336**	P	**P**	**23 40 28.9**	**-0.1**
	0.2nm,0.5s,baz=109,slow=7.2,SNR=7.0						
GERES	**GERESS Array B**	**72.50**	**42**	P	**P**	**23 41 17.3**	**+0.6**
	0.2nm,0.5s,baz=254,slow=7.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**145.51**	**35**	PKPbc	**PKPdf**	**23 49 28.9**	**-0.1**
	0.5nm,0.3s,baz=338,slow=4.7,SNR=4.1						

*IDC **11** 23:34:35.3±0.6, 63.06S×145.07E, h0km, mb4.6/9, mb1 4.7/9, mb1mx4.4/24, mbtmp4.6/9, MS4.3/37, Ms1 4.4/37, ms1mx4.3/46, Error ellipse: s-maj=34.5km s-min=16.6km az=79.0*

*NEIC **11** 23:34:35.7±1.3, 63.36S±0.08×145.0E±0.2, h10km, mb5.0/44, Error ellipse: s-maj=16.5km s-min=13.8km az=292.0*

*GCMT **11** 23:34:37.7±0.2, 63.06S±0.01×144.45E±0.03, h14km±1km, MW5.1/99, Moment Tensor Solution. s52,c73; s99,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.53±.11; $M_{\theta\theta}$-0.35±.11; $M_{\phi\phi}$0.87±.14; $M_{r\theta}$1.59±.29; $M_{r\phi}$4.61±.12; $M_{\theta\phi}$-2.06±.35; Best double couple: M_o5.31500×10^{16} NP1:ϕ_{s1}263.00000°,δ67.00000°,λ-15.00000°. NP2: ϕ_{s2}359.00000°,δ76.00000°,λ-156.00000°. Principal axes: T 4.9670, Plg6.0000°, Azm130.0000°; N 0.6970, Plg63.0000°, Azm28.0000°; P -5.6620, Plg27.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 23:34:36.3±0.3, 63.29S±0.06×145.08E±0.08, h10km, n210, σ1.923/173, mb5.1/42, MS4.4/38, 6C-4D, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**11.34**	**45**	P	**Pn**	**23 37 18.3**	**+0.1**
	baz=11,SNR=4.2						
MCQ	**Macquarie Isla**	**11.34**	**45**	Pn	**Pn**	**23 37 18.2**	**+0.1**
CASY	**Casey**	**14.89**	**243**	Pn	**Pn**	**23 38 05.7**	**-0.9**
VNDA	**Vanda**	**15.24**	**166**	Pn	**Pn**	**23 38 08.5**	**-2.7**
	1.4nm,0.3s,baz=327,slow=13,SNR=138						
VNDA				Sn	Sn	23 40 46.9	-13
	0.4nm,0.3s,baz=331,slow=16,SNR=1.5						
VNDA				LR	LR	23 44 38.4	
	comp=Z,1μm,19.1s,baz=338,slow=39						
VNDA	**Vanda**	**15.24**	**166**	Pn	**Pn**	**23 38 08.4**	**-2.7**
VNDA				IAmb	IAmb	23 38 20.9	
	comp=Z,44nm,0.8s						
SBA	**Scott Base**	**16.10**	**164**	Pn	**Pn**	**23 38 19.4**	**-2.9**
TAU	**Tasmania Unive**	**20.46**	**5**	P	**P**	**23 39 13.3**	**-0.4**
WHZ	**Wether Hill Ro**	**21.68**	**47**	P	**P**	**23 39 27.3**	**+0.4**
MLZ	**Mavora Lakes**	**22.20**	**47**	P	**P**	**23 39 31.6**	**-1.0**
MLZ				IAmb	IAmb	23 39 37.7	
	comp=Z,100nm,1.4s						
LBZ	**Lake Benmore**	**23.76**	**49**	P	**P**	**23 39 47.7**	**-0.9**
RPZ	**Rata Peaks**	**24.65**	**50**	LR	LR	23 47 48.3	
	comp=Z,1μm,18.9s,baz=210,slow=32						
QSPA	**South Pole Qui**	**26.79**	**180**	P	**P**	**23 40 19.0**	**+2.7**
	comp=Z,14nm,0.8s,baz=352,slow=1.6,SNR=32						
QSPA				LR	LR	23 52 05.8	
	comp=Z,2μm,18.3s,baz=7.0,slow=39						
CMWZ	**Cape Campbell**	**27.49**	**52**	P	**P**	**23 40 22.3**	**-0.2**
NNZ	**Nelson**	**27.66**	**50**	P	**P**	**23 40 24.7**	**+0.8**
MSWZ	**Moikau Station**	**28.15**	**53**	P	**P**	**23 40 28.3**	**-0.1**
HIZ	**Hauiti**	**30.58**	**50**	P	**P**	**23 40 49.7**	**-0.3**
BBOO	**Buckleboo**	**31.03**	**345**	P	**P**	**23 40 53.0**	**-0.9**
BBOO				IAmb	IAmb	23 41 01.1	
	comp=Z,25nm,1.0s						
STKA	**Stephens Creek**	**31.51**	**354**	P	**P**	**23 40 57.2**	**-0.9**
	comp=Z,4.2nm,0.8s,baz=172,slow=11,SNR=7.4						
STKA				LR	LR	23 51 21.5	
	comp=Z,624nm,18.8s,baz=178,slow=32						
STKA	**Stephens Creek**	**31.51**	**354**	P	**P**	**23 40 56.5**	**-1.6**
URZ	**Urewera**	**31.61**	**53**	LR	LR	23 53 14.4	
	comp=Z,1μm,18.0s,baz=210,slow=36						
MAW	**Mawson**	**32.06**	**226**	LR	LR	23 55 24.3	
	comp=Z,556nm,18.0s,baz=104,slow=39						
H01W1	**Cape Leeuwin H**	**34.24**	**311**	T	T	00 17 23.2	
	baz=155,slow=76,SNR=38						
H01W2	**Cape Leeuwin H**	**34.24**	**311**	T	T	00 17 28.4	
	baz=155,slow=76,SNR=35						
H01W3	**Cape Leeuwin H**	**34.26**	**311**	T	T	00 17 24.9	
	baz=155,slow=76,SNR=30						
FORT	**Forrest**	**34.30**	**333**	P	**P**	**23 41 22.8**	**+0.2**
FORT				IAmb	IAmb	23 41 31.8	
	comp=Z,25nm,0.8s						
KLBR	**Kellerberrin**	**36.13**	**318**	P	**P**	**23 41 37.3**	**-1.1**
	baz=36,SNR=6.3						
RMQ	**Roma**	**36.88**	**6**	P	**P**	**23 41 45.2**	**+0.4**
	baz=37,SNR=5.2						
BLDU	**Ballidu**	**37.36**	**318**	P	**P**	**23 41 48.2**	**-0.6**
	baz=37,SNR=5.1						
EIDS	**Eidsvold**	**38.12**	**9**	P	**P**	**23 41 55.0**	**-0.3**
EIDS				IAmb	IAmb	23 42 19.7	
	comp=Z,31nm,1.3s						
MORW	**Morawa**	**39.01**	**318**	P	**P**	**23 42 02.7**	**0.0**
	baz=39,SNR=4.4						
MORW	**Morawa**	**39.01**	**318**	P	**P**	**23 42 02.1**	**-0.6**
MORW				IAmb	IAmb	23 42 10.2	
	comp=Z,34nm,1.1s						
BELA	**Belgrano 2**	**39.07**	**180**	P	**P**	**23 42 01.2**	**-1.5**
WRKA	**Warakurna**	**39.83**	**336**	P	**P**	**23 42 08.3**	**-1.4**
	baz=40,SNR=17						
ASAR	**Alice Springs**	**40.31**	**344**	P	**P**	**23 42 11.7**	**-1.9**
	comp=Z,3.2nm,0.7s,baz=166,slow=9.1,SNR=29						
ASAR				LR	LR	23 55 55.4	
	comp=Z,490nm,20.3s,baz=164,slow=32						
ASAR	**Alice Springs**	**40.31**	**344**		**P**	**23 42 12.0**	**-1.6**
AS31	**Alice Springs**	**40.31**	**344**		**P**	**23 42 12.8**	**-0.9**
MEEK	**Meekatharra**	**40.55**	**322**	P	**P**	**23 42 14.4**	**-1.1**
	baz=41,SNR=7.1						
RAO	**Raoul Island**	**41.49**	**53**	LR	LR	23 58 16.1	
	comp=Z,828nm,18.2s,baz=172,slow=34						
QIS	**Mount Isa**	**42.87**	**352**	P	**P**	**23 42 33.7**	**-0.9**
	baz=43,SNR=7.8						
CTA	**Charters Tower**	**43.18**	**2**	LR	LR	23 58 22.8	
	comp=Z,621nm,19.8s,baz=180,slow=33						
SNAA	**Sanae**	**43.52**	**194**	LR	LR	00 00 34.1	
	comp=Z,268nm,20.0s,baz=278,slow=36						
SNAA	**Sanae**	**43.52**	**194**	P	**P**	**23 42 41.4**	**+2.0**
SNAA				IAmb	IAmb	23 42 57.8	
	comp=Z,34nm,1.1s						
DZM	**Mont Dzumac**	**43.65**	**29**	LR	LR	23 57 36.5	
	comp=Z,605nm,18.9s,baz=212,slow=32						
DZM	**Mont Dzumac**	**43.65**	**29**	*e*S	**S**	**23 49 13.1**	**+2.6**
	comp=Z,157nm,26.5s						
DZM				*e*LR	LR	23 54 54.5	
	comp=Z,1μm,25.9s						
WR0	**Warramunga Arr**	**43.90**	**346**	P	**P**	**23 42 41.2**	**-1.7**
WB2	**Warramunga Ar**	**43.93**	**345**	P	**P**	**23 42 41.5**	**-1.7**
WB2				IAmb	IAmb	23 42 49.6	
	comp=Z,23nm,1.0s						
WRA	**Warramunga Arr**	**43.94**	**345**	P	**P**	**23 42 41.5**	**-1.7**
	comp=Z,5.4nm,0.5s,baz=169,slow=7.0,SNR=45						
WRA				PP	**PcP**	**23 44 30.6**	**+1.6**
	comp=Z,5.4nm,1.1s,baz=181,slow=11,SNR=4.6						
WRA				LR	LR	23 58 09.8	
	comp=Z,456nm,20.7s,baz=176,slow=32						
WRA	**Warramunga Arr**	**43.94**	**345**	P	**P**	**23 42 41.4**	**-1.8**
WB0	**Warramunga Arr**	**44.10**	**345**	P	**P**	**23 42 42.4**	**-2.2**
PSA00	**Pilbara Seismi**	**45.04**	**326**	P	**P**	**23 42 50.6**	**-1.4**
PSA00					**pwP**	**23 42 58.4**	**-0.6**
PSA00				IAmb	IAmb	23 42 58.9	
	comp=Z,26nm,1.0s						
PSA00	**Pilbara Seismi**	**45.04**	**326**	P	**P**	**23 42 50.6**	**-1.4**
PSA00					**pwP**	**23 42 58.5**	**-0.6**
PSA00				IAmb	IAmb	23 42 59.5	
	comp=Z,24nm,1.2s						
FITZ	**Fitzroy Crossi**	**47.10**	**334**	LR	LR	00 01 02.2	
	comp=Z,731nm,18.7s,baz=178,slow=34						
FITZ	**Fitzroy Crossi**	**47.10**	**334**	P	**P**	**23 43 06.8**	**-1.4**
PMSA	**Palmer Station**	**50.44**	**164**	LR	LR	00 05 40.4	
	comp=Z,497nm,18.1s,baz=218,slow=37						
MSVF	**Nonsavu**	**50.85**	**42**	LR	LR	00 01 29.6	
	comp=Z,668nm,19.2s,baz=174,slow=32						
CRZF	**Crozet Islands**	**51.19**	**242**	P	P	23 43 35.5	-3.7
KDU	**Kakadu**	**51.32**	**344**	P	**P**	**23 43 39.1**	**-1.3**
	baz=52,SNR=8.9						
PMG	**Port Moresby**	**53.81**	**3**	LR	LR	00 03 29.2	
	comp=Z,370nm,21.6s,baz=187,slow=32						
PMG	**Port Moresby**	**53.81**	**3**	P	**P**	**23 43 59.0**	**+0.1**
PMG				IAmb	IAmb	23 44 16.5	
	comp=Z,22nm,1.1s						
BATI	**Baumata**	**55.17**	**334**	LR	LR	00 06 48.9	
	comp=Z,1μm,18.5s,baz=200,slow=35						
BATI	**Baumata**	**55.17**	**334**	P	**P**	**23 44 09.9**	**+1.0**
	comp=Z,17nm,1.1s						
RAR	**Rarotonga**	**55.82**	**68**	LR	LR	00 04 31.9	
	comp=Z,97nm,19.5s,baz=202,slow=32						
MMRI	**Maumere**	**56.98**	**333**	P	**P**	**23 44 19.9**	**-2.0**
MMRI	**Maumere**	**56.98**	**333**	P	**P**	**23 44 21.3**	**-0.5**
AFI	**Afiamalu**	**57.78**	**52**	LR	LR	00 06 46.0	
	comp=Z,90nm,21.1s,baz=182,slow=34						
IGBI	**Denpasar**	**58.47**	**325**	P	**P**	**23 44 33.7**	**+1.4**
	comp=Z,37nm,1.1s						
JAGI	**Jajag, Banyuwa**	**59.07**	**324**	P	**P**	**23 44 39.6**	**+3.1**
	comp=Z,25nm,1.0s						
KRVT	**Keravat (AS076**	**59.08**	**8**	LR	LR	00 07 26.7	
	comp=Z,112nm,18.6s,baz=316,slow=34						
SRBI	**Singaraja**	**59.16**	**325**	P	**P**	**23 44 37.5**	**+0.4**
	comp=Z,22nm,1.2s						
XMIS	**Christmas Isla**	**59.70**	**314**	P	**P**	**23 44 40.5**	**-0.4**
FUNA	**Funafuti**	**59.91**	**40**	P	**P**	**23 44 41.9**	**-0.3**
PCJI	**Pacitan**	**60.16**	**320**	P	**P**	**23 44 46.0**	**+2.1**
	comp=Z,37nm,1.2s						
BKSI	**Bulukumba**	**60.65**	**331**	P	**P**	**23 44 47.7**	**+0.4**
	comp=Z,13nm,1.0s						
KAPI	**Kappang**	**61.03**	**331**	LR	LR	00 09 48.6	
	comp=Z,250nm,18.2s,baz=175,slow=35						
KAPI	**Kappang**	**61.03**	**331**	P	**P**	**23 44 49.3**	**-0.5**
KAPI				IAmb	IAmb	23 45 00.1	
	comp=Z,31nm,1.2s						
BNSI	**Bone**	**61.55**	**331**	P	**P**	**23 44 53.9**	**+0.5**
	comp=Z,16nm,1.3s						
MG05	**Puerto Natales**	**61.63**	**154**	P	**P**	**23 44 51.9**	**-1.7**
KPJI	**Karang Pucung**	**61.64**	**318**	P	**P**	**23 44 55.1**	**+1.1**
	comp=Z,34nm,1.6s						
SPSI	**Sidrap Palu**	**62.04**	**331**	P	**P**	**23 44 56.7**	**0.0**
	comp=Z,29nm,1.2s						
CNJI	**Cibinong**	**62.21**	**316**	P	**P**	**23 44 58.1**	**+0.2**
	comp=Z,54nm,1.2s						
LEM	**Lembang**	**62.52**	**317**	P	**P**	**23 45 00.2**	**+0.1**
	comp=Z,20nm,0.6s,baz=186,slow=4.0,SNR=4.7						
LEM				LR	LR	00 10 44.4	
	comp=Z,235nm,18.3s,baz=166,slow=35						
LEM	**Lembang**	**62.52**	**317**	P	**P**	**23 45 01.3**	**+1.2**
	comp=Z,36nm,1.4s						
SKJI	**Sukabumi**	**62.68**	**316**	P	**P**	**23 45 04.

MKAR	Makanchi Array	120.41	315	PKP		PKPdf	23 53 26.2	-0.5
	comp=Z,0.2nm,0.6s,baz=132,slow=2.1,SNR=1.6							
TORD	Torodi Ar. Bea	123.70	224	PKP		PKPdf	23 53 33.8	-0.1
	comp=Z,0.6nm,0.9s,baz=143,slow=2.4,SNR=4.1							
KURBB	Kurchatov Arra	124.97	315	PKP		PKPdf	23 53 33.7	-1.5
	comp=Z,0.3nm,0.6s,baz=180,slow=1.8,SNR=4.3							
NVAR	Mina Array Bea	126.38	76	PKP		PKPdf	23 53 40.1	+1.4
	comp=Z,0.6nm,0.8s,baz=191,slow=4.2,SNR=4.7							
BRTR	Keskin Array B	134.05	273	PKP		PKPdf	23 53 52.9	-0.2
	comp=Z,0.5nm,0.7s,baz=128,slow=5.5,SNR=4.3							
ILAR	Eielson Array	137.19	36	PKP		PKPdf	23 53 57.6	-0.3
	comp=Z,0.1nm,0.4s,baz=256,slow=2.7,SNR=1.8							
HARR	Harsova	140.56	272	⇓P		PKPdf	23 54 04.6	-0.1
HERR	Herculane	143.20	268	⇑P		PKPab	23 54 00.9	-4.3
ARCR	ARCALIA	144.00	272	⇑P		PKPbc	23 54 10.1	+1.4
BURAR	Bucovina Array	144.01	273	⇓P		PKPbc	23 54 10.7	+1.8
O52A	Adamsville	144.02	108			PKPab	23 54 08.8	+0.3
BZS	Buzias	144.13	268	⇑P		PKPab	23 54 09.8	+1.1
Q56A	Snyder Ridge,	144.26	111			PKPab	23 54 10.4	+1.0
O53A	New Philadelph	144.40	108			PKPab	23 54 10.3	+0.4
AKASG	Malin Array Be	144.47	280	PKP		PKPab	23 54 09.8	0.0
	comp=Z,9.8nm,0.7s,baz=103,slow=2.7,SNR=45							
AKASG	Malin Array Be	144.47	280			PKPab	23 54 10.4	+0.6
AKBB	Malin Array Si	144.47	280			PKPab	23 54 10.5	+0.7
FRGS	Fruska Gora	144.59	266	⇑P		PKPab	23 54 10.5	0.0
SIRR	Siria	144.60	268	⇑P		PKPbc	23 54 11.8	+1.1
AMBH	Ambrzfalva	145.09	268	⇑P		PKPdf	23 54 13.7	+1.0
AMBH	Ambrzfalva	145.09	268	PKP		PKPdf	23 54 13.6	+1.0
LTVH	Ltavrtes, Hu	145.34	270	PKP		PKPab	23 54 14.2	+1.1
ULM	Lac du Bonnet	145.57	83	PKPbc		PKPdf	23 54 13.2	-0.1
	comp=Z,2.1nm,0.5s,baz=207,slow=1.8,SNR=3.0							
TRPA	Tarpa	145.60	271	⇓P		PKPab	23 54 15.3	+1.2
TRPA	Tarpa	145.60	271	PKP		PKPdf	23 54 14.5	+1.0
YKA	Yellowknife Ar	145.86	54	PKPbc		PKPdf	23 54 14.3	+0.9
	comp=Z,3.4nm,0.8s,baz=224,slow=2.8,SNR=46							
KOLS	Kolonicke sedl	146.31	272	ePKP		PKPab	23 54 18.8	+2.0
PSZ	Piszkesteto	146.64	269	⇓P		PKPbc	23 54 18.7	+1.6
PSZ	Piszkesteto	146.64	269	PKP		PKPbc	23 54 17.6	+0.6
CRVS	Cervenica-Dubn	146.66	271	ePKP		PKPbc	23 54 18.3	+1.3
C36M	Paulatuk	146.77	40			PKPbc	23 54 16.9	+0.3
TIH	Tihany	146.78	266	PKP		PKPdf	23 54 14.3	-1.2
KLMR	Klimovskoe	146.85	300	*e*		PKPdf	23 54 16.7	+1.5
KLMR				AMP			23 54 28.7	
	comp=Z,41nm,1.5s							
CSKK	Cskako	146.96	267	PKP		PKPbc	23 54 19.4	+1.5
MPLH	Magyarpolny	147.14	266	PKP		PKPbc	23 54 19.7	+1.3
SRO	Srobarova	147.28	267	ePKP		PKPbc	23 54 19.9	+1.2
EGYH	Egyhazaskeszo	147.42	266	PKP		PKPab	23 54 21.3	+0.1
VYHS	Vyhne	147.54	269	ePKP		PKPbc	23 54 20.9	+1.4
LANS	Liptovska Anna	147.74	270	ePKP		PKPbc	23 54 21.7	+1.7
A36M	Sachs Harbour	147.89	36			PKPbc	23 54 19.9	+0.3
SOKA	Soboth	147.90	263	*e*P		PKPbc	23 54 22.1	+1.5
	comp=Z,6.9nm,0.9s,SNR=9.1							
SOP	Sopron	147.97	265	PKP		PKPbc	23 54 21.0	+0.4
OBKA	Obir	147.99	262	*e*P		PKPbc	23 54 22.3	+1.5
	comp=Z,6.4nm,0.8s,SNR=6.2							
RONA	Rosalia, Austr	148.10	265	*e*P		PKPbc	23 54 22.0	+1.0
	comp=Z,10nm,1.5s,SNR=6.4							
ARSA	Arzberg	148.11	264	*i* P		PKPbc	23 54 22.7	+1.6
	comp=Z,10.0nm,0.9s							
JAVC	Velka Javorina	148.34	268	*e*PKP		PKiKP	23 54 24.0	+0.8
CONA	Conrad Observa	148.47	265	*e*P		PKPbc	23 54 23.7	+1.6
	comp=Z,4.9nm,1.1s							
MYKA	Terra Mystica	148.49	261	*e*P		PKPbc	23 54 23.6	+1.5
	comp=Z,6.4nm,0.9s							
IDID	Didziasalis	148.71	284	*e*P		PKiKP	23 54 24.4	+0.7
CTI	Castel Tesino	148.92	259			PKPbc	23 54 25.1	+1.9
KBA	Koelnbreinsper	148.96	262	*e*P		PKPbc	23 54 24.2	+0.8
	comp=Z,2.7nm,0.6s,SNR=5.8							
IIGN	Ignalina	148.96	284	*e*P		PKiKP	23 54 24.6	+0.4
MORC	Moravsky Berou	149.06	269	ePKP		PKPbc	23 54 25.0	+1.6
KRUC	Moravsky	149.06	267	ePKP		PKPbc	23 54 24.7	+1.3
ABTA	Abfaltersbach	149.08	260	*i* P		PKPbc	23 54 24.9	+1.2
	comp=Z,8.5nm,0.9s							
MOA	Molln	149.12	263	*e*P		PKPbc	23 54 25.3	+1.7
	comp=Z,2.0nm,0.8s							
VRAC	Vranov	149.15	268	*e*PKP		PKiKP	23 54 25.4	+0.6
BIOA	Bad Ischl, Aus	149.29	263	*e*P		PKPbc	23 54 25.4	+1.4
	comp=Z,3.3nm,1.0s							
SUW	Suwalki	149.44	280	*e*P		PKPbc	23 54 24.4	+0.2
KRLC	Kraliky	149.62	269	*e*PKP		PKPbc	23 54 26.3	+1.5
TREC	Trest	149.64	267	*e*PKP		PKPbc	23 54 26.2	+1.4
WTTA	Wattenberg	149.86	260	*e*P		PKPbc	23 54 26.0	+0.3
	comp=Z,6.0nm,0.8s							
WATA	Walderalm	149.94	260	*i* P		PKPbc	23 54 26.6	+0.8
	comp=Z,2.9nm,0.5s							
SQTA	Sankt Quirin	150.02	260	*e*P		PKPbc	23 54 27.2	+1.2
	comp=Z,12nm,0.6s,SNR=6.5							
DPC	Dobruska-Polom	150.02	269	*e*PKP		PKPbc	23 54 27.0	+1.2
ESDC	Sonseca Array	150.03	233	PKPbc		PKPbc	23 54 26.7	+0.6
	comp=Z,7.0nm,0.8s,baz=159,slow=1.2,SNR=39							
PABE	Paberze	150.05	283			PKPbc	23 54 24.6	-0.9
PABE	Paberze	150.05	283	*e*P		PKPbc	23 54 25.2	-0.4
FETA	Feichten	150.08	259	*e*P		PKPbc	23 54 27.4	+1.2
	comp=Z,10nm,0.9s,SNR=4.2							
GERES	GERESS Array B	150.12	264	PKPbc		PKPbc	23 54 26.2	+0.1
	comp=Z,4.1nm,0.9s,baz=145,slow=3.3,SNR=27							
MOTA	Moosalm	150.16	260	*e*P		PKPbc	23 54 27.7	+1.4
	comp=Z,12nm,1.1s,SNR=6.2							
CHVC	Chvalec	150.31	269	*e*PKP		PKPbc	23 54 27.9	+1.5
KHC	Kasperske Hory	150.38	264	*e*PKP		PKPbc	23 54 27.4	+0.7
RETA	Reutte	150.42	259	*e*P		PKPbc	23 54 28.3	+1.4
	comp=Z,15nm,1.7s							
VSU	Vasula	150.65	289	*e*P		PKiKP	23 54 28.4	+0.9
DAVA	Damuels	150.66	258	*e*P		PKiKP	23 54 29.0	+1.4
	comp=Z,16nm,1.3s,SNR=5.0							
PBUR	Paburge	151.28	282	*e*P		PKPbc	23 54 29.2	+0.8
BRG	Berggiesshubel	151.46	267	*e*PKP		PKiKP	23 54 31.5	+2.0
BRG				Amp			23 54 34.3	
	comp=Z,7.2nm,1.3s							
BRG				*ex*		x	23 54 47.0	
BRG				Amp			23 54 52.0	
	comp=Z,9.9nm,1.3s							
FCC	Fort Churchill	151.89	72			PKPbc	23 54 29.2	-0.5
CLL	Collm	152.19	267	*e*PKPdf		PKPdf	23 54 24.0	0.0
CLL				*e*PKPbc		PKPbc	23 54 32.0	+1.3
	comp=Z,3.0nm,0.8s							
CLL				*e*PKPab		PKPab	23 54 41.0	+0.4
	comp=Z,5.0nm,0.9s							
CLL				*ex*		x	23 54 49.0	
FINES	FINESS Array B	152.57	294	PKPbc		PKPbc	23 54 31.8	+0.5
	comp=Z,2.7nm,0.8s,baz=100,slow=4.3,SNR=10							
ARCES	ARCESS Array B	156.00	311	PKPab		PKPab	23 54 56.6	+0.3
	comp=Z,2.8nm,0.8s,baz=81,slow=5.6,SNR=3.7							
NOA	NORSAR Array B	158.70	285	PKPab		PKPab	23 55 08.3	0.0
	comp=Z,0.7nm,0.9s,baz=112,slow=4.5,SNR=3.6							

*NOU **11** 23:49:44.5,41.°06S×175.°67E,h33km,MLv3.5/6,North Island, New Zealand*
*WEL **11** 23:49:45.0,41.°S±2.°×17.°6E±.°,h23km±3km, M3.3/24, ML3.7/24,MLv3.3/24, Error ellipse: s-maj=0.0km s-min=0.0km az=104.0*
ISC 11 23:49:44.3±1.0, 40.°97S±0.°03×175.°57E±0.°03, h30km±6km, n92, σ1°14/96, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOWZ	Holdsworth Sta	0.08	328	P	Pb	23 49 49.6	0.0
HOWZ				S	Sb	23 49 52.7	-0.4
MTW	Mount Morrison	0.20	195	P	Pn	23 49 52.1	+0.8
TMWZ	Te Maipa	0.28	120	P	Pn	23 49 53.9	+1.4
TMWZ				S	Sn	23 50 00.7	+2.9
TIWZ	Tintock	0.30	52	P	Pb	23 49 52.5	+0.7
TIWZ				S	Sn	23 49 58.0	-0.4
MRZ	Mangatainoka R	0.30	1	P	Pb	23 49 51.3	-0.6
MRZ				S	Sb	23 49 55.7	-1.2
OGWZ	Otaki Gorge	0.34	296	P	Pb	23 49 51.9	-0.4
OGWZ				S	Sb	23 49 56.6	-1.1
CAW	Cannon Point	0.41	250	P	Pb	23 49 53.9	+0.6
PAWZ	Paruwai Farm	0.43	195	P	Pn	23 49 55.9	+1.4
TRWZ	Traveller	0.44	169	P	Pn	23 49 56.2	+1.5
CPWZ	Castlepoint	0.48	83	P	Pn	23 49 56.6	+1.4
MSWZ	Moikau Station	0.51	208	P	Pn	23 49 56.7	+1.0
PRWZ	Pori Road	0.51	37	P	Pb	23 49 55.2	+0.3
KIW	Kapiti Island	0.51	282	P	Pb	23 49 54.9	0.0
BFZ	Birch Farm	0.58	61	P	Pn	23 49 57.3	+0.6
BFZ	Birch Farm	0.58	61	P	Pn	23 49 57.2	+0.6
POWZ	Post Office Ro	0.59	15	P	Pb	23 49 56.0	-0.3
PLWZ	Palliser	0.65	202	P	Pn	23 49 58.6	+1.0
WEL	Wellington	0.69	242	P	Pn	23 49 58.7	+0.6
BHW	Baring Head	0.69	230	P	Pn	23 49 58.9	+0.8
SNZO	South Karori	0.74	242	P	Pn	23 49 59.4	+0.6
OHWZ	Ohakea	0.78	345	P	Pb	23 49 59.4	0.0
DVHZ	Dannevirke	0.81	34	P	Pb	23 49 59.9	+0.1
ANWZ	Angora Road	0.85	54	P	Pn	23 50 00.7	+0.4
TSZ	Takapari Road	0.95	18	P	Pn	23 50 01.9	+0.1
TCW	Tory Channel	1.01	256	P	Pn	23 50 03.2	+0.7
PRHZ	Porangahau	1.07	50	P	Pn	23 50 03.4	+0.1
WPHZ	Waipukurau	1.12	37	P	Pn	23 50 04.5	+0.5
PNHZ	Pukenui	1.16	25	P	Pn	23 50 04.8	+0.2
DUWZ	D'Urville Isla	1.26	277	P	Pn	23 50 06.7	+0.7
CMWZ	Cape Campbell	1.29	232	P	Pn	23 50 07.7	+1.3
WAZ	Wanganui	1.29	339	P	Pb	23 50 07.8	-0.2
TUWZ	Tuamarina	1.31	249	P	Pn	23 50 07.0	+0.3
PXZ	Pawanui	1.36	47	P	Pn	23 50 07.3	0.0
KRHZ	Kereru	1.46	25	P	Pn	23 50 08.7	0.0
BSWZ	Blackbirch Sta	1.48	239	P	Pn	23 50 09.6	+0.6
BHHZ	Black Hill Sta	1.52	14	P	Pn	23 50 10.1	+0.5
KAHZ	Kahuranaki	1.54	41	P	Pn	23 50 09.6	-0.2
MOVZ	Moawhango	1.56	5	P	Pn	23 50 10.6	+0.4
MTVZ	Mangateitei	1.58	357	P	Pb	23 50 12.3	-0.6
TRVZ	Turoa	1.67	359	P	Pn	23 50 12.8	+1.1
KWHZ	Kaweka Forest	1.67	23	P	Pn	23 50 11.8	+0.1
NNZ	Nelson	1.68	261	P	Pn	23 50 12.8	+1.1
WHVZ	Whangaehu Hut	1.68	0	P	Pn	23 50 13.0	+1.0
PKVZ	Pokaka	1.68	354	P	Pn	23 50 13.4	+1.5
TUVZ	Tukino	1.70	2	P	Pn	23 50 13.3	+1.2
FWVZ	Far West T-bar	1.71	360	P	Pn	23 50 13.3	+1.0
MCHZ	McNeill Hill	1.75	30	P	Pn	23 50 12.4	-0.2
LREZ	Lake Rotokare	1.75	329	P	Pn	23 50 14.7	+2.0
SNVZ	South Ngauruho	1.78	2	P	Pn	23 50 14.4	+1.1
NGZ	Ngauruhoe	1.79	1	P	Pn	23 50 14.5	+1.2
OTVZ	Oturere	1.80	2	P	Pn	23 50 14.7	+1.1
ETVZ	East Tongariro	1.83	3	P	Pn	23 50 14.9	+1.0
NNVZ	North Ngauruho	1.83	1	P	Pn	23 50 15.1	+1.1
WTVZ	West Tongariro	1.85	0	P	Pn	23 50 15.2	+1.1
TMVZ	Te Maari	1.85	3	P	Pn	23 50 15.2	+1.0
NTVZ	North Tongarir	1.87	2	P	Pn	23 50 15.3	+0.9
KRVZ	Karewarewa	1.87	2	P	Pn	23 50 15.7	+1.3
BKZ	Black Stump Fm	1.93	22	P	Pn	23 50 15.8	+0.6
BKZ	Black Stump Fm	1.93	22	P	Pn	23 50 16.0	+0.8
VRZ	Vera Road	1.94	341	P	Pn	23 50 16.9	+1.6
PREZ	Palmer Road	1.95	326	P	Pn	23 50 17.8	+2.3
TKNZ	Takaka Hill	1.98	267	P	Pn	23 50 16.7	+0.9
KATZ	Kakaramea	1.99	3	P	Pn	23 50 17.8	+1.7
RITZ	Rihia Road	2.00	6	P	Pn	23 50 17.0	+0.9
NMEZ	Namu Road	2.02	320	P	Pn	23 50 18.9	+2.5
NEZ	North Egmont	2.04	326	P	Pn	23 50 18.9	+2.2
KHEZ	Kahui Hut	2.05	324	P	Pn	23 50 19.4	+2.4
NMHZ	Naumai	2.09	27	P	Pb	23 50 22.3	+0.6
KHZ	Kahutara	2.10	226	P	Pn	23 50 17.3	-0.2
KHZ	Kahutara	2.10	226	P	Pn	23 50 17.3	-0.2
RATZ	Rangitukua	2.10	4	P	Pb	23 50 20.5	-1.3
NBEZ	Newall Road No	2.14	322	P	Pn	23 50 20.7	+2.6
PKE	Pukeiti	2.15	325	P	Pn	23 50 20.6	+2.4
THZ	Tophouse	2.16	248	P	Pn	23 50 18.4	+0.1
MRNZ	Matariki Terra	2.17	258	P	Pn	23 50 19.6	+1.2
MRHZ	Matea Rd	2.23	17	P	Pn	23 50 18.8	-0.5
WATZ	Wairara	2.26	3	P	Pn	23 50 20.0	+0.3
QRZ	Quartz Range	2.31	272	P	Pn	23 50 21.1	+0.7
QRZ	Quartz Range	2.31	272	P	Pn	23 50 21.6	+1.2
MTHZ	Maungataniwha	2.33	25	P	Pn	23 50 21.2	+0.6
RAHZ	Arahi	2.35	30	P	Pb	23 50 24.9	-1.2
HIZ	Hauiti	2.51	347	P	Pn	23 50 24.2	+1.1
HIZ	Hauiti	2.51	347	P	Pn	23 50 24.4	+1.2
TLZ	Tolley Road	2.63	359	P	Pb	23 50 29.8	-1.0
MUGZ	Murupara	2.65	21	P	Pb	23 50 29.1	-2.0
HLRZ	Highlands Stat	2.78	13	P	Pn	23 50 26.8	0.0
DSZ	Denniston Nort	2.94	253	P	Pn	23 50 30.0	+0.9
LTZ	Lake Taylor	3.06	233	P	Pn	23 50 30.5	-0.2
OKCZ	Okains Bay	3.33	213	P	Pn	23 50 33.9	-0.4
MQZ	McQueen's Vall	3.49	217	P	Pn	23 50 35.9	-0.7
INZ	Inchbonnie	3.55	239	P	Pb	23 50 43.9	-2.5
JCZ	Jackson Bay	5.90	236	P	Pn	23 51 16.6	+6.8

*IDC **11** 23:56:17.9±1.9, 10.°48N×92.°79E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/45, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=62.2km s-min=31.7km az=56.0*
ISC 11 23:56:25.7±1.6, 10.7N±0.2×93.1E±0.2, h53km, n6, σ0°28/6, mb3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	9.63	36	Pn	Pn	23 58 41.6	-0.1
	0.2nm,0.3s,baz=228,slow=13,SNR=1.5						
MKAR	Makanchi Array	37.16	348	P	P	00 03 31.8	+0.2
	0.3nm,0.7s,baz=173,slow=8.7,SNR=2.6						
ZALV	Zalesovo Beam	43.68	353	P	P	00 04 25.4	+0.1
	0.3nm,0.3s,baz=172,slow=5.7,SNR=2.8						
WRA	Warramunga Arr	50.76	127	P	P	00 05 20.9	0.0
	0.3nm,0.6s,baz=304,slow=8.8,SNR=2.4						
FINES	FINESS Array B	69.77	332	P	P	00 07 29.8	-0.4
	0.8nm,0.8s,baz=115,slow=6.3,SNR=3.8						
ARCES	ARCESS Array B	72.30	340	P	P	00 07 45.5	+0.1
	3.1nm,1.0s,baz=98,slow=6.6,SNR=1.8						

*IDC **12** 00:02:41.0±1.8, 39.°09N×142.°67E, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.5/44, mbtmp3.7/9, ML2.9/3, MS3.6/6, Ms1 3.6/6, ms1mx2.7/93, Error ellipse: s-maj=42.5km s-min=23.1km az=90.0*
*NEIC **12** 00:02:45.5±2.6, 38.°93N×0.°06×142.°6E±0.°1, h30km±5km, mb4.3/26, Error ellipse: s-maj=13.5km s-min=7.6km az=112.0*
*NIED **12** 00:02:50.9, 38.°93N×141.°92E, h51km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.30; Mθθ-0.03; Mφφ-2.27; Mrθ1.09; Mθφ-1.12; Mφr2.40; Fault plane solution: M₀3.64000×10¹⁴ NP1: φs200.00000°, δ22.00000°, λ87.00000°. NP2:φs24.00000°, δ68.00000°, λ91.00000°.*
*JMA **12** 00:02:50.9±0.1, 38.°92N×141.°92E, h51km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs13.00000°, δ62.00000°, λ90.00000°. NP2:φs193.00000°, δ28.00000°, λ90.00000°. Principal axes: T Plg73.0000°, Azm283.0000°; N Plg0.0000°, Azm13.0000°; P Plg17.0000°, Azm103.0000°;*
JMA Felt I J1.
ISC 12 00:02:42.2±1.7, 38.°92N±0.°04×142.°50E±0.°06, h11km±10km, n72, σ1°77/67, mb4.2/19, MS3.9/5, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	Ofunato	0.66	284	⇓P	Pn	00 02 59.9	+2.4
OFUJ				S	Sb	00 03 06.0	+1.0
JKMT	Kesennumamotoy	0.81	262	⇓P	Pn	00 03 00.7	+1.3
JKMT				*i* S	Sg	00 03 07.4	-0.8
JMK	Ichinoseki	0.99	272	⇓P	Pn	00 03 02.8	+0.7
JMK				S	Sg	00 03 11.2	-3.1
JIO	Ouri	1.01	243	⇓P	Pn	00 03 03.8	+1.5
JIO				S	Sg	00 03 12.6	-2.2
JOM	Ohasama	1.08	301	⇓P	Pn	00 03 05.2	+1.9
JOM				S	Sb	00 03 15.7	-1.4
JRG	Rokugo	1.52	289	⇓P	Pn	00 03 10.0	+0.7
JOU	Okura	1.54	249	⇓P	Pn	00 03 10.2	+0.7
JOU				S	Sn	00 03 24.5	-5.0
JANG	Nango	1.64	333	P	Pg	00 03 15.3	+1.7
JYK	Kaneyama	1.67	271	⇓P	Pn	00 03 11.7	+0.4
JMM	Marumori	1.70	232	P	Pb	00 03 13.3	-0.2
JMM				S	Sn	00 03 30.0	-3.5
JMM	Marumori	1.70	232		Pb	00 03 13.1	-0.3
JTM	Tenmabayashi	2.16	330		Pb	00 03 22.4	+1.1
ERM	Erimo	3.13	9	Pn	Pb	00 03 35.5	-2.3
JYT	Yasato	3.25	215	Pn	Pn	00 03 35.4	+2.3
JSD	Sado	3.44	256		Pn	00 03 36.4	+0.7
JEW	Eniwo	3.99	349	Pn	Pn	00 03 44.3	+1.0
MJAR	Matsushiro Arr	4.14	236	Pn	Pn	00 03 48.8	+3.3
	0.8nm,0.3s,baz=56,slow=11,SNR=8.9						
MJAR	Matsushiro Arr	4.14	236		Pn	00 03 47.4	+2.0
MAJO	Matsushiro	4.15	236	Pn	Pn	00 03 47.6	+2.2
MJB9	Matsu-Tunnel	4.15	236	Pn	Pn	00 03 48.3	+2.9
JKA	Kamikawa-asahi	5.19	1		Pn	00 03 59.1	-0.7
ASAJ	Asahikawa	5.19	1	Pn	Pn	00 03 56.0	-3.8
	0.9nm,0.3s,baz=128,slow=32,SNR=1.7						
ASAJ				Sn	Sn	00 04 59.4	-0.2
	0.4nm,0.3s,baz=90,slow=33,SNR=1.3						
JGF	Kuroka	5.27	233		Pn	00 04 03.5	+2.6
USRK	Ussuriysk Ar.	9.47	307	Pn	Pn	00 04 59.9	+1.3
	baz=118,slow=15,SNR=1.9						
KLR	Kul'dur	12.86	327	LR	LR	00 10 26.6	
	comp=Z,27nm,19.9s,baz=120,slow=36						
PEA0B	Petropavlovsk-	17.63	31		P	00 06 48.1	-0.5
SONM	Songino Array	27.50	301	P	P	00 08 28.2	-0.4
	0.2nm,0.3s,baz=120,slow=8.5,SNR=2.1						
H11N2	WAKE ISLAND Hy	28.46	125	T	T	00 39 13.6	
	baz=317,slow=75,SNR=308						
H11N1	WAKE ISLAND Hy	28.47	125	T	T	00 39 18.8	
	baz=317,slow=75,SNR=451						
H11N3	WAKE ISLAND Hy	28.48	125	T	T	00 39 18.1	
	baz=317,slow=75,SNR=255						
H11S1	WAKE ISLAND Hy	29.24	127	T	T	00 40 14.2	
	baz=318,slow=76,SNR=99						
H11S3	WAKE ISLAND Hy	29.24	127	T	T	00 40 14.3	
	baz=318,slow=76,SNR=84						
H11S2	WAKE ISLAND Hy	29.26	127	T	T	00 40 15.4	
	baz=318,slow=76,SNR=85						
ZAA0	Zalesovo Array	41.30	311	P	P	00 10 27.3	-0.1
ZAA0				IAmb	IAmb	00 10 29.1	
	comp=Z,2.1nm,0.7s						
ZALV	Zalesovo Beam	41.30	311	P	P	00 10 28.1	+0.7
	comp=Z,1.6nm,0.6s,baz=91,slow=8.2,SNR=7.9						
ZALV	Zalesovo Beam	41.30	311	P	P	00 10 28.4	+1.0
MK31	Makanchi Array	43.87	301	P	P	00 10 48.8	+0.4
MK31				IAmb	IAmb	00 10 49.7	
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	43.87	301	P	P	00 10 48.9	+0.4
	comp=Z,1.8nm,0.7s,baz=85,slow=9.8,SNR=20						
MKAR	Makanchi Array	43.87	301	P	P	00 10 48.4	-0.1
KRVT	Keravat (AS076	43.91	166	LR	LR	00 28 18.6	
	comp=Z,35nm,19.1s,baz=267,slow=35						
MAKZ	Makanchi	44.07	301	P	P	00 10 49.3	-0.8
KURK	Kurchatov	45.46	307	P	P	00 11 01.3	+0.3
KURK				IAmb	IAmb	00 11 02.7	
	comp=Z,3.7nm,0.8s						
CNPM	China Poot	45.71	41	P	P	00 11 01.1	-1.8
CNPM				IAmb	IAmb	00 11 07.0	
	comp=Z,5.4nm,0.9s						
O22K	Cooper Landing	46.40	39	P	P	00 11 06.3	-1.9
MDM	Murphy Dome	46.87	33	P	P	00 11 10.4	-1.6
MDM				IAmb	IAmb	00 11 25.6	
	comp=Z,2.3nm,1.1s						
TABL	Table Mountain	50.61	39	P	P	00 11 39.4	-1.7
TABL				IAmb	IAmb	00 11 46.9	
	comp=Z,9.3nm,1.0s						
PCA	Pinnacle	51.12	39	P	P	00 11 45.9	+1.2
KKAR	Karatay Array	52.94	299	P	P	00 11 59.0	+0.6
DIB	Dawson Inlet,	57.28	45	P	P	00 12 30.9	+1.3
ABKAR	Akbulak array	57.39	310	P	P	00 12 31.0	+0.6
ABKAR				IAmb	IAmb	00 12 31.6	
	comp=Z,1.8nm,0.7s						
ABKAR	Akbulak array	57.39	310	P	P	00 12 30.8	+0.4
RUBB	Prince Rupert	58.06	44	P	P	00 12 33.2	-1.8
RUBB				IAmb	IAmb	00 12 38.8	
	comp=Z,12nm,1.2s						
WB0	Warramunga Arr	58.87	189	P	P	00 12 43.0	+2.0
WB0				IAmb	IAmb	00 12 43.9	
	comp=Z,2.4nm,1.0s						
WR0	Warramunga Arr	59.04	189	P	P	00 12 44.0	+1.8
WR0				IAmb	IAmb	00 12 47.4	
	comp=Z,4

σ0$77/13, **mb3.5**/11, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.75**	**66**	P	**Pn**	**00 19 18.5**	**+0.2**
	50nm,0.3s,baz=346,slow=1.8,SNR=11						
GUMO				S	**Sn**	**00 19 43.1**	**+0.1**
	92nm,0.3s,baz=167,slow=21,SNR=12						
WRA	**Warramunga Arr**	**33.78**	**195**	P	**P**	**00 25 13.8**	**0.0**
	0.8nm,0.7s,baz=11,slow=9.4,SNR=6.0						
FITZ	**Fitzroy Crossi**	**35.34**	**210**	P	**P**	**00 25 27.0**	**-0.2**
	1.6nm,0.9s,baz=26,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**37.46**	**194**	P	**P**	**00 25 45.5**	**+0.3**
	0.4nm,0.8s,baz=20,slow=13,SNR=7.6						
CMAR	**Chiang Mai Arr**	**42.91**	**283**	P	**P**	**00 26 31.1**	**+0.8**
	0.4nm,0.3s,baz=79,slow=6.3,SNR=4.9						
SONM	**Songino Array**	**46.40**	**326**	P	**P**	**00 26 58.4**	**+0.8**
	0.2nm,0.6s,baz=133,slow=8.7,SNR=1.4						
MKAR	**Makanchi Array**	**60.89**	**317**	P	**P**	**00 28 41.7**	**-1.2**
	0.3nm,0.8s,baz=79,slow=7.5,SNR=2.4						
ZALV	**Zalesovo Beam**	**61.26**	**325**	P	**P**	**00 28 44.6**	**-0.7**
	0.5nm,0.5s,baz=99,slow=7.4,SNR=2.3						
KURBB	**Kurchatov Arra**	**64.13**	**320**	P	**P**	**00 29 04.8**	**+0.4**
	0.7nm,0.6s,baz=107,slow=6.7,SNR=10						
YKA	**Yellowknife Ar**	**84.21**	**27**	P	**P**	**00 31 01.0**	**+0.6**
	0.1nm,0.4s,baz=290,slow=5.0,SNR=4.1						
NVAR	**Mina Array Bea**	**88.60**	**51**	P	**P**	**00 31 22.3**	**-0.4**
	0.2nm,0.5s,baz=282,slow=5.4,SNR=3.6						
FINES	**FINESS Array B**	**91.11**	**335**	P	**P**	**00 31 32.2**	**-1.3**
	0.4nm,0.6s,baz=66,slow=8.0,SNR=1.4						

IDC **12** *00:18:07.9±8.3, 17°.54S×175°.91W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/39, mbtmp3.9/3, Error ellipse: s-maj=361.4km s-min=68.1km az=143.0*

NEIC **12** *00:19:27.6±1.3, 19°.2S±0°.1×179°.0W±0°.1, h600km±10km, mb3.9/14, Error ellipse: s-maj=20.9km s-min=18.8km az=154.0*

ISC 12 00:19:26.6±0.7, **19°.2S**±0°.2×**178°.9W**±0°.1, **h600**km, **n21**, σ1$**44**/20, **mb3.8**/10, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.19**	**296**		**P**	**00 20 47.9**	**+0.9**
NIUE	**Niue**	**8.52**	**91**	P	**P**	**00 21 28.6**	**-2.4**
COEN	**Coen**	**36.63**	**272**	P	**P**	**00 25 43.3**	**-0.8**
COEN				IAmb	IAmb	00 25 59.1	
	comp=Z,5.8nm,1.1s						
BBOO	**Buckleboo**	**42.37**	**242**	P	**P**	**00 26 31.8**	**+2.0**
BBOO				IAmb	IAmb	00 26 48.5	
	comp=Z,2.4nm,0.8s						
WR0	**Warramunga Arr**	**43.73**	**261**	P	**P**	**00 26 40.5**	**-0.1**
WR0				IAmb	IAmb	00 26 58.8	
	comp=Z,2.9nm,1.1s						
WB0	**Warramunga Arr**	**43.89**	**261**	P	**P**	**00 26 41.5**	**-0.3**
WB0				IAmb	IAmb	00 26 45.6	
	comp=Z,4.3nm,1.1s						
WB2	**Warramunga Arr**	**43.91**	**261**	P	**P**	**00 26 41.2**	**-0.7**
WB2				IAmb	IAmb	00 27 00.6	
	comp=Z,3.3nm,1.1s						
WRA	**Warramunga Arr**	**43.92**	**261**	P	**P**	**00 26 41.5**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=96,slow=7.0,SNR=7.6						
WRA	**Warramunga Arr**	**43.92**	**261**	P	**P**	**00 26 41.7**	**-0.3**
ASAR	**Alice Springs**	**43.98**	**255**	P	**P**	**00 26 43.0**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=90,slow=7.9,SNR=18						
KNRA	**Kununurra**	**49.87**	**265**	P	**P**	**00 27 27.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**52.34**	**262**	P	**P**	**00 27 43.7**	**-0.7**
	comp=Z,1.8nm,1.1s,baz=90,slow=10,SNR=1.0						
FITZ	**Fitzroy Crossi**	**52.34**	**262**	P	**P**	**00 27 43.9**	**-0.5**
FITZ				IAmb	IAmb	00 28 01.4	
	comp=Z,1.9nm,0.9s						
MORW	**Morawa**	**59.52**	**247**	P	**P**	**00 28 33.8**	**0.0**
UGM	**Wanagama**	**69.11**	**269**	P	**P**	**00 29 32.0**	**-2.4**
JMN	**Monobe**	**69.20**	**319**	P	**P**	**00 29 32.7**	**-1.8**
QSPA	**South Pole Qui**	**70.90**	**180**	P	**P**	**00 29 45.2**	**+1.0**
BCW	**Bitter Crk WRg**	**78.01**	**46**	P	**P**	**00 30 25.6**	**+1.1**
BCW				IAmb	IAmb	00 30 42.3	
	comp=Z,3.1nm,0.8s						
WDC	**Whiskeytown Da**	**79.22**	**40**	P	**P**	**00 30 33.5**	**+2.9**
KDAK	**Kodiak Island**	**79.73**	**14**	P	**P**	**00 30 34.2**	**+1.3**
KDAK				IAmb	IAmb	00 30 37.4	
	comp=Z,22nm,1.1s						
BRTR	**Keskin Array B**	**145.28**	**313**	PKPbc	PKPdf	00 37 50.0	-7.5
	comp=Z,0.3nm,0.7s,baz=64,slow=3.4,SNR=2.8						

IDC **12** *00:27:42.2±6.5, 20°.60S×177°.87W, h560km±76km, mb3.1/9, mb1 3.4/10, mb1mx3.1/44, mbtmp4.1/10, Error ellipse: s-maj=49.2km s-min=26.7km az=2.0*

NEIC **12** *00:27:42.2±0.9, 20°.5S±0°.2×177°.8W±0°.1, h559km±9km, mb4.1/31, Error ellipse: s-maj=23.5km s-min=17.1km az=162.0*

ISC 12 00:27:41.1±0.6, **20°.5S**±0°.1×**177°.80W**±0°.10, **h550**km, **n53**, σ0$**98**/51, **mb3.9**/23, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.80**	**304**	P	**P**	**00 29 09.7**	**+0.3**
MARNC	**Mare, Loyalty**	**13.27**	**263**	P	**P**	**00 30 30.3**	**-2.5**
DZM	**Mont Dzumac**	**14.77**	**261**	P	**P**	**00 30 50.1**	**+1.8**
URZ	**Urewera**	**18.23**	**193**	P	**P**	**00 31 20.9**	**0.0**
	1.1nm,0.3s,baz=32,slow=9.5,SNR=4.1						
URZ	**Urewera**	**18.23**	**193**	P	**P**	**00 31 21.4**	**+0.5**
URZ				IAmb	IAmb	00 31 22.4	
	comp=Z,12nm,0.9s						
RPZ	**Rata Peaks**	**24.94**	**199**	P	**P**	**00 32 20.9**	**-0.3**
FOZ	**Fox Glacier**	**25.18**	**202**	P	**P**	**00 32 24.6**	**+1.3**
EIDS	**Eidsvold**	**29.02**	**255**	P	**P**	**00 32 57.2**	**0.0**
EIDS				IAmb	IAmb	00 32 59.9	
	comp=Z,7.9nm,1.1s						
ARMA	**Armidale**	**29.23**	**244**	P	**P**	**00 32 58.2**	**-0.9**
ARMA				IAmb	IAmb	00 33 07.3	
	comp=Z,2.7nm,0.8s						
CTA	**Charters Tower**	**33.67**	**264**	P	**P**	**00 33 37.0**	**0.0**
	comp=Z,4.3nm,0.5s,baz=98,slow=12,SNR=7.1						
CTAO	**Charters Tower**	**33.67**	**264**	P	**P**	**00 33 37.2**	**+0.1**
CTAO				IAmb	IAmb	00 33 38.3	
	comp=Z,6.5nm,1.1s						
COEN	**Coen**	**37.77**	**274**	P	**P**	**00 34 11.2**	**+0.2**
COEN				IAmb	IAmb	00 34 11.4	
	comp=Z,6.0nm,1.0s						
STKA	**Stephens Creek**	**37.95**	**244**	P	**P**	**00 34 10.9**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=96,slow=8.7,SNR=2.1						
BBOO	**Buckleboo**	**42.71**	**244**	P	**P**	**00 34 50.8**	**+0.6**
BBOO				IAmb	IAmb	00 35 04.5	
	comp=Z,7.6nm,1.0s						
WR0	**Warramunga Arr**	**44.59**	**262**	P	**P**	**00 35 05.0**	**0.0**
WR0				IAmb	IAmb	00 35 07.0	
	comp=Z,4.4nm,1.1s						
AS31	**Alice Springs**	**44.70**	**257**	P	**P**	**00 35 06.1**	**+0.3**
ASAR	**Alice Springs**	**44.70**	**257**	P	**P**	**00 35 06.0**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=94,slow=7.6,SNR=40						
ASAR	**Alice Springs**	**44.70**	**257**	P	**P**	**00 35 05.9**	**+0.1**
WB0	**Warramunga Arr**	**44.76**	**262**	P	**P**	**00 35 06.1**	**-0.2**
WB0				IAmb	IAmb	00 35 06.4	
	comp=Z,3.6nm,0.5s						
WB2	**Warramunga Arr**	**44.77**	**262**	P	**P**	**00 35 06.4**	**0.0**
WB2				IAmb	IAmb	00 35 06.6	
	comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**44.78**	**262**	P	**P**	**00 35 06.0**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=96,slow=7.7,SNR=25						
WRA	**Warramunga Arr**	**44.78**	**262**	P	**P**	**00 35 06.1**	**-0.4**
MTN	**Manton Dam**	**49.35**	**270**	P	**P**	**00 35 40.2**	**-0.7**
MTN				IAmb	IAmb	00 35 40.5	
	comp=Z,8.4nm,0.8s						
FORT	**Forrest**	**49.46**	**247**	P	**P**	**00 35 41.3**	**-0.2**
KNRA	**Kununurra**	**50.84**	**266**	P	**P**	**00 35 51.5**	**-0.3**
KNRA				IAmb	IAmb	00 35 53.7	
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.21**	**262**	P	**P**	**00 36 07.5**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=89,slow=4.3,SNR=7.3						
FITZ	**Fitzroy Crossi**	**53.21**	**262**	P	**P**	**00 36 08.8**	**+0.1**
FITZ				IAmb	IAmb	00 36 14.3	
	comp=Z,4.7nm,1.1s						
PSA00	**Pilbara Seismi**	**57.85**	**257**	P	**P**	**00 36 40.9**	**0.0**
PSA00				IAmb	IAmb	00 36 41.5	
	comp=Z,3.9nm,0.7s						
MBWA	**Marble Bar**	**58.03**	**257**	P	**P**	**00 36 42.2**	**+0.1**
MBWA				IAmb	IAmb	00 36 55.4	
	comp=Z,7.6nm,1.1s						
MORW	**Morawa**	**60.00**	**248**	P	**P**	**00 36 55.3**	**+0.1**
RPN	**Rapa Nui**	**62.31**	**111**	P	**P**	**00 37 09.2**	**-1.2**
UGM	**Wanagama**	**70.15**	**269**	P	**P**	**00 37 59.1**	**-0.2**
CCAC	**Calif City Air**	**79.23**	**46**	P	**P**	**00 38 49.8**	**+0.1**
CCAC				IAmb	IAmb	00 38 51.4	
	comp=Z,5.9nm,0.7s						
113A	**Mohawk Valley,**	**80.90**	**50**	P	**P**	**00 39 00.5**	**+2.1**
TPNV	**Topopah Spring**	**81.42**	**45**	P	**P**	**00 38 59.0**	**-2.2**
HEBO	**Mount Hebo**	**81.80**	**35**	P	**P**	**00 39 03.3**	**+0.5**
RSO	**Redoubt South**	**83.21**	**12**	P	**P**	**00 39 10.2**	**+0.5**
SVW2	**Sparrevohn**	**83.28**	**11**	P	**P**	**00 39 09.9**	**+0.1**
SVW2				IAmb	IAmb	00 39 10.8	
	comp=Z,3.4nm,0.8s						
M19K	**Big River Lodg**	**84.24**	**11**	P	**P**	**00 39 14.0**	**-0.5**
M19K				IAmb	IAmb	00 39 32.8	
	comp=Z,3.9nm,1.1s						
CRAG	**Craig**	**84.65**	**24**	P	**P**	**00 39 14.2**	**-2.4**
TXAR	**Lajitas Array**	**86.91**	**57**	P	**P**	**00 39 30.0**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=218,slow=5.6,SNR=2.8						
ILAR	**Eielson Array**	**88.29**	**13**	P	**P**	**00 39 33.2**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=220,slow=4.5,SNR=5.0						
PDAR	**Pinedale Array**	**88.84**	**43**	P	**P**	**00 39 38.0**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=236,slow=6.4,SNR=2.1						
CMAR	**Chiang Mai Arr**	**90.30**	**290**	P	**P**	**00 39 45.9**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=123,slow=3.3,SNR=7.7						
LCO	**Las Campanas**	**94.20**	**123**		pP	00 42 02.9	+0.2
AKASG	**Malin Array Be**	**143.12**	**331**	PKP	PKPab	00 46 09.9	-0.4
	comp=Z,0.6nm,0.4s,baz=44,slow=4.1,SNR=7.6						
BRTR	**Keskin Array B**	**146.99**	**312**	PKPbc	**PKPbc**	**00 46 22.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=156,slow=4.9,SNR=7.5						
CLL	**Collm**	**148.12**	**347**	*i* PKPbc	**PKPbc**	**00 46 25.5**	**+0.5**
	comp=Z,4.0nm,0.6s						
DPC	**Dobruska-Polom**	**148.19**	**343**	*e*PKP	**PKPbc**	**00 46 26.6**	**+1.3**
KRLC	**Kraliky**	**148.31**	**342**	*e*PKP	**PKPbc**	**00 46 26.2**	**+0.6**
KHC	**Kasperske Hory**	**150.03**	**345**	*e*PKP	**PKPbc**	**00 46 30.6**	**+0.8**
CKRC	**Cesky Krumlov**	**150.13**	**344**	*e*PKP	**PKPbc**	**00 46 30.9**	**+0.9**
GERES	**GERESS Array B**	**150.26**	**345**	PKPbc	**PKPbc**	**00 46 29.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=46,slow=3.9,SNR=5.8						

IDC **12** *00:30:20.8±1.4, 30°.55S×177°.35W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/37, mbtmp4.0/4, ML3.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/59, Error ellipse: s-maj=36.2km s-min=25.9km az=103.0*

NEIC **12** *00:30:31.0±2.6, 30°.16S±0°.08×177°.6W±0°.2, h47km±8km, mb4.4/16, Error ellipse: s-maj=19.6km s-min=11.8km az=94.0*

ISC 12 00:30:30.3±0.8, **30°.19S**±0°.07×**177°.6W**±0°.1, **h50**km, **n33**, σ1$**57**/32, **mb4.3**/11, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**342**	Pn	**Pn**	**00 30 47.5**	**-0.3**
	230nm,0.3s,baz=130,slow=11,SNR=14						
RAO				Sn	**Sn**	**00 31 04.2**	**+3.6**
	1µm,0.3s,baz=98,slow=22,SNR=22						
URZ	**Urewera**	**9.17**	**207**	Pn	Pn	00 32 30.7	-9.2
	0.6nm,0.3s,baz=352,slow=21,SNR=1.6						
URZ				Sn	Sn	00 34 09.8	-12
	0.6nm,0.3s,baz=145,slow=20,SNR=2.7						
HIZ	**Hauiti**	**10.39**	**215**	Pn	**Pn**	**00 32 56.9**	**+0.3**
PLWZ	**Palliser**	**12.75**	**205**	Pn	**Pn**	**00 33 30.2**	**+1.4**
QRZ	**Quartz Range**	**13.31**	**214**	Pn	**Pn**	**00 33 37.0**	**+0.4**
KHZ	**Kahutara**	**14.14**	**208**	P	**P**	**00 33 55.0**	**+1.1**
MQZ	**McQueen's Vall**	**15.57**	**207**	Pn	**Pn**	**00 34 07.3**	**+0.9**
DZM	**Mont Dzumac**	**16.46**	**196**	LR	LR	00 39 09.5	
	comp=Z,130nm,21.6s,baz=129,slow=32						
LIFNC	**LIFOU**	**16.59**	**301**	P	**P**	**00 34 22.5**	**+1.2**
ARMA	**Armidale**	**26.55**	**262**	P	**P**	**00 36 02.3**	**-1.4**
KNTN	**Kanton**	**27.83**	**13**	P	**P**	**00 36 15.2**	**+0.2**
KNTN				IAmb	IAmb	00 36 25.1	
	comp=Z,15nm,0.9s						
EIDS	**Eidsvold**	**28.09**	**272**	P	**P**	**00 36 18.8**	**+1.4**
EIDS				IAmb	IAmb	00 36 27.3	
	comp=Z,7.3nm,0.9s						
CTAO	**Charters Tower**	**34.12**	**279**	P	**P**	**00 37 10.6**	**0.0**
CTAO				IAmb	IAmb	00 37 24.0	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**34.88**	**257**	P	**P**	**00 37 16.0**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=100,slow=11,SNR=4.6						
RABL	**Rabaul**	**38.53**	**306**	P	**P**	**00 37 46.6**	**-1.7**
BBOO	**Buckleboo**	**39.38**	**254**	P	**P**	**00 37 54.1**	**-1.0**
BBOO				IAmb	IAmb	00 38 07.6	
	comp=Z,7.5nm,1.1s						
ASAR	**Alice Springs**	**43.48**	**267**	P	**P**	**00 38 26.9**	**-2.1**
	comp=Z,0.8nm,0.7s,baz=103,slow=6.8,SNR=7.7						
ASAR				LR	LR	00 55 41.9	
	comp=Z,69nm,18.3s,baz=142,slow=35						
WR0	**Warramunga Arr**	**44.27**	**272**	P	**P**	**00 38 36.5**	**+1.2**
WB2	**Warramunga Arr**	**44.44**	**272**	P	**P**	**00 38 34.8**	**-1.8**
WB2				IAmb	IAmb	00 38 45.8	
	comp=Z,3.5nm,0.7s						
WRA	**Warramunga Arr**	**44.45**	**272**	P	**P**	**00 38 35.2**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=112,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**44.45**	**272**	P	**P**	**00 38 35.8**	**-0.9**
WB0	**Warramunga Arr**	**44.48**	**272**	P	**P**	**00 38 36.0**	**-0.9**
WB0				IAmb	IAmb	00 38 46.2	
	comp=Z,3.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.73**	**270**	P	**P**	**00 39 39.3**	**-0.9**
FITZ				IAmb	IAmb	00 39 45.7	
	comp=Z,4.6nm,1.1s						
QSPA	**South Pole Qui**	**59.92**	**180**	P	**P**	**00 40 34.0**	**+3.0**
QSPA				IAmb	IAmb	00 40 39.0	
	comp=Z,4.3nm,1.0s						
GIRL	**Giralia**	**60.74**	**259**	P	**P**	**00 40 38.1**	**+0.9**
UNV	**Unalaska Valle**	**84.23**	**7**	P	**P**	**00 42 55.7**	**-0.2**
GCMT	**Greycliff**	**97.45**	**41**	P	**P**	**00 43 58.8**	**+0.2**
FINES	**FINESS Array B**	**145.07**	**340**	PKPbc	**PKPab**	**00 50 00.5**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=56,slow=3.3,SNR=17						
NB2	**NORSAR Subarra**	**148.60**	**352**	PKP	**PKPbc**	**00 50 10.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=11,slow=2.9						
NOA	**NORSAR Array B**	**148.60**	**352**	PKPbc	**PKPdf**	**00 50 08.5**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=15,slow=4.3,SNR=5.1						
AKASG	**Malin Array Be**	**151.35**	**323**	PKPbc	**PKPbc**	**00 50 16.0**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=63,slow=1.7,SNR=1.9						
BRTR	**Keskin Array B**	**152.82**	**299**	PKPbc	**PKPbc**	**00 50 20.9**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=116,slow=3.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**163.03**	**178**	PKPab	**PKPab**	**00 51 13.6**	**-3.7**
	comp=Z,0.3nm,0.9s,baz=204,slow=2.9,SNR=1.4						

DJA **12** *01:11:53.6±0.3, 10°.3°S×10°.9°E±°, h10km, M4.5/20, mb4.6/6, mB5.1/4, MLv4.5/20, Mw(mB)4.5/4*

IDC **12** *01:11:59.6±2.9, 9°.33S×108°.81E, h59km±21km, mb3.6/9, mb1 3.7/11, mb1mx3.5/39, mbtmp3.9/11, ML4.0/2, MS3.0/4, Ms1 3.0/4, ms1mx2.6/71, Error ellipse: s-maj=49.5km s-min=12.0km az=49.0*

ISC 12 01:11:55.6±3.1, **9°.52S**±0°.08×**108°.67E**±0°.05, **h29**km±21km, **n38**, σ1$**51**/47, **mb3.8**/9, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.74**	**353**	P	**Pn**	**01 12 22.9**	**-0.9**
CMJI				S	**Sn**	**01 12 44.0**	**-1.0**
KPJI	**Karang Pucung**	**2.19**	**7**	P	**Pn**	**01 12 31.2**	**+1.2**
KPJI				S	**Sb**	**01 13 00.0**	**-1.1**
YOGI	**Yogyakarta**	**2.33**	**44**	P	**Pn**	**01 12 32.1**	**+0.1**
YOGI				S	**Sn**	**01 13 00.0**	**+0.3**
UGM	**Wanagama**	**2.43**	**49**	P	**Pn**	**01 12 34.5**	**+1.1**
UGM				S	**Sn**	**01 13 01.9**	**-0.2**
CNJI	**Cibinong**	**2.67**	**325**	P	**Pn**	**01 12 35.9**	**-0.8**
CNJI				S	**Sn**	**01 13 03.5**	**-4.6**
PCJI	**Pacitan**	**2.80**	**62**	P	**Pn**	**01 12 38.2**	**-0.3**
PCJI				S	**Sn**	**01 13 10.7**	**-0.7**
LEM	**Lembang**	**2.87**	**339**	P	**Pn**	**01 12 41.6**	**+2.1**
	40nm,0.3s,baz=133,slow=9.1,SNR=34						
LEM				S	**Sn**	**01 13 14.2**	**+1.0**
	25nm,0.3s,baz=348,slow=23,SNR=9.9						
LEM				LR	LR	01 14 09.2	
	comp=Z,191nm,18.9s,baz=198,slow=47						
LEM	**Lembang**	**2.87**	**339**	P	**Pn**	**01 12 41.7**	**+2.1**
LEM				S	**Sn**	**01 13 16.3**	**+3.1**
SMRI	**Semarang**	**3.01**	**36**	P	**Pn**	**01 12 43.7**	**+2.3**
SKJI	**Sukabumi**	**3.26**	**320**	P	**Pn**	**01 12 43.8**	**-0.9**
PWJI	**Pagerwojo**	**3.44**	**65**	P	**Pn**	**01 12 47.9**	**+0.7**
PWJI				S	**Sn**	**01 13 24.2**	**-2.7**
DBJI	**Dramaga**	**3.50**	**327**	P	**Pn**	**01 12 46.4**	**-1.8**
DBJI				S	**Sn**	**01 13 30.9**	**+2.2**
UWJI	**Ujung Watu**	**3.81**	**36**	P	**Pn**	**01 12 53.8**	**+1.4**
CGJI	**Cibinong**	**4.12**	**314**	P	**Pn**	**01 12 55.5**	**-1.2**
TBJI	**Tambak Boyo**	**4.13**	**50**	P	**Pn**	**01 12 58.2**	**+1.4**
GMJI	**Gumukmas**	**4.88**	**76**	P	**Pn**	**01 13 08.4**	**+1.4**
BLJI	**Banyuglugur**	**5.18**	**71**	P	**Pn**	**01 13 12.5**	**+1.3**
JAJI	**Jajag, Banyuwa**	**5.51**	**80**	P	**Pn**	**01 13 17.0**	**+1.2**
KASI	**Kota Agung**	**5.73**	**314**	P	**Pn**	**01 13 19.3**	**+0.5**
	0.2nm36nm,0.9s						
ABJI	**Asem Bagus**	**5.76**	**73**	P	**Pn**	**01 13 20.7**	**+1.5**
LWLI	**Liwa**	**6.39**	**314**	P	**Pn**	**01 13 28.0**	**0.0**
	0.8nm99nm,0.5s						
IGBI	**Denpasar**	**6.43**	**84**	P	**Pn**	**01 13 28.7**	**+0.3**
	0.5nm38nm,0.9s						
DNP	**Denpasar**	**6.51**	**83**	P	**Pn**	**01 13 31.3**	**+1.8**
SRBI	**Singaraja**	**6.62**	**78**	P	**Pn**	**01 13 30.6**	**-0.4**
	0.3nm1µm34nm,0.7s						
PLAI	**Plampang**	**9.02**	**86**	P	**Pn**	**01 14 03.3**	**-0.6**
	18nm,0.7s						
KAPI	**Kappang**	**11.87**	**69**	P	**Pn**	**01 14 44.7**	**+1.7**
	0.6nm,0.3s,baz=42,slow=23,SNR=5.4						
KAPI				LR	LR	01 19 22.5	
	comp=Z,61nm,18.2s,baz=241,slow=38						
FITZ	**Fitzroy Crossi**	**18.54**	**119**	P	**Pn**	**01 16 10.5**	**+0.1**
	baz=315,slow=10.0						
FITZ				S	Sn	01 19 20.8	-16
	baz=180,slow=20						
FITZ				LR	LR	01 23 06.7	
	comp=Z,30nm,20.4s,baz=276,slow=36						
WRA	**Warramunga Arr**	**26.86**	**116**	P	**P**	**01 17 34.8**	**+0.7**
	1.3nm,1.0s,baz=290,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**27.91**	**123**	P	**P**	**01 17 43.9**	**+0.5**
	0.3nm,0.5s,baz=300,slow=9.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**29.41**	**341**	P	**P**	**01 17 55.9**	**-0.8**
	0.6nm,0.4s,baz=165,slow=7.5,SNR=1.8						
PALK	**Pallekele**	**32.47**	**300**	LR	LR	01 30 38.6	
	comp=Z,51nm,18.6s,baz=71,slow=34						
STKA	**Stephens Creek**	**37.74**	**131**	P	**P**	**01 19 10.3**	**+1.2**
	3.9nm,0.7s,baz=312,slow=7.3,SNR=9.1						
SONM	**Songino Array**	**57.13**	**358**	P	**P**	**01 21 40.2**	**+0.6**
	0.3nm,0.5s,baz=181,slow=7.9,SNR=2.8						
MKAR	**Makanchi Array**	**60.80**	**340**	P	**P**	**01 22 05.2**	**+0.1**
	1.3nm,0.6s,baz=141,slow=7.6,SNR=15						
KLR	**Kul'dur**	**61.91**	**17**	P	**P**	**01 22 10.9**	**-1.5**
	0.9nm,0.5s,baz=171,slow=7.2,SNR=6.3						
ZALV	**Zalesovo Beam**	**66.37**	**345**	P	**P**	**01 22 40.4**	**-1.2**
	0.4nm,0.4s,baz=193,slow=5.9,SNR=1.8						
BRTR	**Keskin Array B**	**84.72**	**312**	P	**P**	**01 24 27.9**	**+0.6**
	0.5nm,0.8s,baz=145,slow=6.8,SNR=4.1						
YKA	**Yellowknife Ar**	**118.61**	**21**	PKP	**PKPdf**	**01 30 39.7**	**-0.7**
	0.1nm,0.6s,baz=339,slow=2.1,SNR=2.9						

IDC **12** *01:14:13.9±1.4, 27°.74N×66°.06E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.3/49, mbtmp3.6/6, MS2.9/2, Ms1 3.0/2, ms1mx2.4/86, Error ellipse: s-maj=36.5km s-min=28.6km az=108.0*

DSN **12** *01:14:32.2±1.9, 27°.04N×64°.88E, h10km, ML3.4/5, Error ellipse: s-maj=75.3km s-min=11.8km az=0.0*

ISC 12 01:14:14.8±0.9, **27°.8N**±0°.1×**65°.83E**±0°.10, **h10**km, **n16**, σ3$**33**/19, **mb3.6**/5, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**7.11**	**44**	P	**Pn**	**01 15 58.8**	**-0.2**
CEP	**Cherat**	**7.94**	**40**	P	**Pn**	**01 16 09.0**	**-1.5**
CEP				S	**Sn**	**01 17 38.0**	**-2.4**
WSAR	**Wadi Sarin**	**7.95**	**237**	Pn	**Pn**	**01 16 13.4**	**+2.9**
	baz=73,slow=14						
WSAR				Sn	**Sn**	**01 17 36.3**	**-4.2**
	0.9nm,0.3s,baz=55,slow=18,SNR=3.8						
WSAR				LR	LR	01 20 17.1	
	comp=Z,133nm,19.4s,baz=102,slow=45						
CHCP	**Chirah Chowk**	**8.64**	**46**	P	**Pn**	**01 16 18.9**	**-1.1**
BANOM	**Banah**	**8.72**	**260**	P	**Pn**	**01 16 24.5**	**+3.4**
BANOM				S	**Sn**	**01 17 54.1**	**-5.5**
SHME	**Shamm**	**8.83**	**261**	P	**Pn**	**01 16 27.3**	**+4.8**
SHME				S

0.3nm,0.3s,baz=324,slow=20,SNR=1.3
DZM LR LR 02 38 42.8
comp=Z,274nm,19.5s,baz=28,slow=36
DZM Mont Dzumac 7.31 182 *e*Pn **Pn 02 36 02.9 +0.9**
19nm,0.7s
DZM *e*Sn **Sn 02 37 28.5 +4.7**
13nm,0.8s
DZM *e*LR LR 02 37 52.0
comp=Z,299nm,23.8s
DZM Mont Dzumac 7.31 182 Pn 02 36 00.8 -1.1
OUENC Ouen Island, N 7.65 180 Pn **Pn 02 36 04.6 -1.9**
PINNC Pines Island, 7.87 175 Pn **Pn 02 36 08.4 -1.1**
PMG Port Moresby 19.90 283 LR LR 02 45 39.6
comp=Z,69nm,18.6s,baz=44,slow=35
CTA Charters Tower 20.29 252 P **P 02 38 51.2 +0.7**
2.1nm,0.7s,baz=68,slow=13,SNR=1.5
CTA LR LR 02 45 05.3
comp=Z,60nm,18.1s,baz=82,slow=32
CAN Canberra 25.99 215 P **P 02 39 43.8 -3.4**
CAN IAmb IAmb 02 39 59.0
comp=Z,22nm,1.3s
STKA Stephens Creek 28.63 229 LR LR 02 50 32.1
comp=Z,56nm,19.2s,baz=31,slow=34
WB2 Warramunga Arr 31.35 256 P **P 02 40 34.7 -0.5**
WB2 IAmb IAmb 02 40 49.5
comp=Z,12nm,1.4s
WRA Warramunga Arr 31.36 256 P **P 02 40 33.7 -1.5**
comp=Z,0.5nm,0.8s,baz=83,slow=8.5,SNR=3.0
WRA LR LR 02 52 36.7
comp=Z,66nm,18.1s,baz=118,slow=35
ASAR Alice Springs 32.23 249 P **P 02 40 42.2 -0.7**
comp=Z,0.7nm,0.7s,baz=72,slow=9.9,SNR=8.3
ASAR LR LR 02 54 00.6
comp=Z,69nm,18.1s,baz=148,slow=37
FITZ Fitzroy Crossi 39.55 259 LR LR 02 57 30.9
comp=Z,34nm,18.1s,baz=128,slow=35
KLR Kul'dur 70.82 337 P **P 02 45 30.5 0.0**
comp=Z,1.0nm,0.8s,baz=124,slow=3.6,SNR=2.6
SEY Seymchan 78.23 353 P **P 02 46 13.6 +0.4**
comp=Z,0.4nm,0.3s,baz=154,slow=8.4,SNR=3.5
SONM Songino Array 82.22 324 P **P 02 46 35.7 +0.4**
comp=Z,0.3nm,0.4s,baz=114,slow=3.6,SNR=1.8
I21K Tanana 85.52 16 P **P 02 46 52.8 +1.2**
H21K Melozitna Rive 85.68 16 P **P 02 46 53.8 +1.4**
IL31 86.67 18 P **P 02 46 57.0 -0.2**
IL31 IAmb IAmb 02 46 59.1
comp=Z,2.2nm,0.7s
ILAR Eielson Array 86.67 18 P **P 02 46 57.2 -0.1**
comp=Z,1.6nm,0.6s,baz=241,slow=5.2,SNR=27
ILAR Eielson Array 86.67 18 P **P 02 46 57.4 +0.1**
NVAR Mina Array Bea 87.63 49 P **P 02 47 03.2 +0.4**
comp=Z,0.2nm,0.8s,baz=260,slow=3.3,SNR=1.7
MKAR Makanchi Array 96.88 316 P **P 02 47 45.8 +0.6**
comp=Z,0.3nm,0.8s,baz=106,slow=6.8,SNR=2.5
YKA Yellowknife Ar 97.77 27 P **P 02 47 48.4 -0.3**
comp=Z,0.2nm,0.7s,baz=267,slow=4.8,SNR=3.5
KEST Kesra 150.91 320 PKPbc **PKiKP 02 54 07.9 +0.2**
comp=Z,1.9nm,0.8s,baz=133,slow=6.7,SNR=2.7

NEIC ***12*** *03:07:58.8±0.9,23.94N±0.01×121.74E±0.04,h5km±4km, mb4.4/5,ML4.3(TAP),Error ellipse: s-maj=4.7km s-min=1.9km az=94.0*
NIED ***12*** *03:08:00.4,23.99N×121.66E,h1km,MW4.3,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-1.00; Mθθ0.19; Mφφ0.81; Mrθ2.81; Mθφ-0.36; Mrφ0.50; Fault plane solution: M₀2.92000×10¹⁵ NP1: φs130.00000°,δ8.00000°,λ-44.00000°. NP2:φs263.00000°, δ84.00000°,λ-96.00000°.*
JMA ***12*** *03:08:00.3±0.2,23.99N×121.66E,h1km,M3.5*
TAP ***12*** *03:08:00.7,24.01N×121.61E,h9km,ML4.4,C*
ASIES ***12*** *03:08:00.5,24.01N×121.62E,h20km,MW4.1*
BJI ***12*** *03:08:02.0±0.0,24.00N×121.69E,h13km,mb4.0/14, mB4.4/8,ML4.0/6,Ms4.2/14,Ms7 4.1/12*
IDC ***12*** *03:08:11.9±5.6,23.86N×121.55E,h101km±53km, mb3.4/12,mb1 3.6/13,mb1mx3.4/48,mbtmp3.8/13,MS3.2/9, Ms1 3.3/9,ms1mx2.9/50,Error ellipse: s-maj=25.0km s-min=17.8km az=83.0*
ISC 12 03:08:00.7±0.8,23.98N±0.01×121.68E±0.02,h7km±4km, n194,σ1$15/283,mb3.9/18,MS3.3/10,5C-27D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.07**	**264**	*i*	P		**Pg**	**03 08 02.4**	**-0.1**
	baz=172								
HWA				*i*	S		**Sg**	**03 08 04.6**	**+0.9**
	baz=172								
TWD	**Chiawan**	**0.12**	**323**	*i*	P		**Pg**	**03 08 03.0**	**-0.3**
	baz=357								
TWD				*i*	S		**Sg**	**03 08 04.9**	**-0.2**
	baz=357								
TEYL	**Yanliau Villag**	**0.14**	**212**	*i*	P		**Pg**	**03 08 03.6**	**+0.1**
	baz=183								
TEYL				*i*	S		**Sg**	**03 08 06.8**	**+1.3**
	baz=183								
ETM	**Tongmen**	**0.17**	**264**	*i*	P		**Pg**	**03 08 03.6**	**-0.5**
	baz=246								
ETM					S		**Sg**	**03 08 06.0**	**-0.4**
	baz=246								
ETL	**Fush Village**	**0.18**	**345**	*i*	P		**Pg**	**03 08 04.3**	**-0.1**
	baz=5.0								
ETL				*i*	S		**Sg**	**03 08 07.0**	**0.0**
	baz=5.0								
NACB	**Ninganchiao**	**0.20**	**339**				**Pg**	**03 08 03.8**	**-1.0**
NACB					Sg		**Sg**	**03 08 07.1**	**-0.5**
NACB	**Ninganchiao**	**0.20**	**339**	↓	*i*	P	**Pg**	**03 08 04.5**	**-0.3**
	baz=356								
NACB					S		**Sg**	**03 08 07.2**	**-0.5**
	baz=356								
ESL	**Shilin**	**0.28**	**233**	*i*	P		**Pg**	**03 08 05.6**	**-0.6**
	baz=217								
ESL				*i*	S		**Sg**	**03 08 09.7**	**-0.2**
	baz=217								
ETLH	**Xiulin Townshi**	**0.28**	**322**	↓	*i*	P	**Pg**	**03 08 05.9**	**-0.5**
	baz=329								
ETLH					S		**Sg**	**03 08 09.8**	**-0.3**
	baz=329								
TEGC	**Jichi Village**	**0.30**	**204**	*i*	P		**Pb**	**03 08 08.1**	**-0.3**
	baz=190								
TEGC					*e*S		**Sb**	**03 08 14.3**	**+0.9**
	baz=190								
EHP	**Heping Village**	**0.33**	**10**	*e*	P		**Pb**	**03 08 08.4**	**-0.5**
	baz=24								
EGFH	**Guangfu**	**0.39**	**216**	*e*	P		**Pg**	**03 08 08.0**	**-0.2**
	baz=206								
EGFH					*e*S		**Sg**	**03 08 13.5**	**+0.2**
	baz=206								
WHF	**Hehuan Shan**	**0.41**	**293**	↓	*i*	P	**Pg**	**03 08 08.1**	**-0.6**
	baz=293								
WHF					S		**Sg**	**03 08 13.8**	**-0.4**
	baz=293								
ENA	**Nanau**	**0.45**	**8**	↓	*i*	P	**Pg**	**03 08 09.5**	**+0.1**
	baz=17								
ENA					*e*S		**Sg**	**03 08 15.8**	**+0.5**
	baz=17								
OWD	**Renai**	**0.46**	**267**	↓	*i*	P	**Pg**	**03 08 09.1**	**-0.5**
	baz=262								
OWD					*e*S		**Sg**	**03 08 15.1**	**-0.5**
	baz=262								
CHGB	**Renai**	**0.47**	**280**	↓	*i*	P	**Pg**	**03 08 09.4**	**-0.3**
	baz=277								
EWUT	**Wuta**	**0.47**	**12**	↓	*i*	P	**Pg**	**03 08 09.9**	**+0.1**
	baz=20								
EWUT					*e*S		**Sg**	**03 08 16.3**	**+0.3**
	baz=20								
FUSS	**Fushou**	**0.47**	**304**	↓	*i*	P	**Pg**	**03 08 08.6**	**-1.4**
	baz=305								
FUSS					S		**Sg**	**03 08 15.3**	**-0.9**
	baz=305								
WUSB	**Renai**	**0.51**	**271**	*e*	P		**Pg**	**03 08 10.4**	**-0.2**
	baz=267								
WUSB					*e*S		**Sg**	**03 08 17.1**	**-0.2**
	baz=267								
NNSB	**Datong**	**0.52**	**329**	↓	P		**Pg**	**03 08 10.6**	**-0.2**
	baz=334								
NNSB					*e*S		**Sg**	**03 08 17.5**	**-0.1**
	baz=334								
TWT	**Tachien**	**0.53**	**301**	↓	P		**Pg**	**03 08 11.0**	**0.0**
	baz=300								
TWT					*e*S		**Sb**	**03 08 18.4**	**-1.9**
	baz=300								
NNS	**Nan Shan**	**0.53**	**329**	↓	P		**Pg**	**03 08 10.8**	**-0.2**
	baz=334								
NNS					*e*S		**Sg**	**03 08 18.1**	**+0.1**
	baz=334								
VWDT	**VWDT**	**0.54**	**245**	↓	P		**Pg**	**03 08 10.9**	**-0.2**
	baz=239								
VWDT					*e*S		**Sg**	**03 08 18.7**	**+0.5**
	baz=239								
HGSD	**Ruisui**	**0.54**	**205**		P		**Pb**	**03 08 12.2**	**-0.3**
	baz=198								
HGSD					*e*S		**Sn**	**03 08 23.0**	**-1.1**
	baz=198								
LATG	**Datong**	**0.57**	**346**	↓	*i*	P	**Pg**	**03 08 11.5**	**-0.2**
	baz=352								
LATG					*e*S		**Sg**	**03 08 19.1**	**0.0**
	baz=352								
EHY	**Hungye**	**0.57**	**214**		P		**Pg**	**03 08 11.5**	**-0.3**
	baz=207								
EHY					S		**Sg**	**03 08 20.2**	**+0.9**
	baz=207								
NDT	**Datong Townshi**	**0.63**	**347**	↓	*i*	P	**Pg**	**03 08 13.0**	**+0.1**
	baz=352								
NDT					S		**Sg**	**03 08 21.1**	**-0.2**
	baz=352								
TWC	**Suao**	**0.64**	**14**	*e*	P		**Pg**	**03 08 13.3**	**+0.2**
	baz=21								
TWC					*e*S		**Sg**	**03 08 20.5**	**-1.0**
	baz=21								
NDS	**Dongshan**	**0.65**	**3**	↓	*i*	P	**Pg**	**03 08 13.3**	**+0.1**
	baz=9.0								
NDS					*e*S		**Sg**	**03 08 21.9**	**+0.2**
	baz=9.0								
WPL	**Puli Township**	**0.66**	**273**	*e*	P		**Pg**	**03 08 13.3**	**0.0**
	baz=270								
WPL					*e*S		**Sg**	**03 08 21.5**	**-0.4**
	baz=270								
ENTT	**Nioudou**	**0.66**	**351**	↓	*i*	P	**Pb**	**03 08 13.6**	**-0.9**
	baz=357								
ENTT					*e*S		**Sb**	**03 08 22.4**	**-1.6**
	baz=357								
YULB	**Yu-li**	**0.68**	**211**				**Pg**	**03 08 11.7**	**-2.2**
YULB						Sg	**Sg**	**03 08 21.0**	**-1.7**
YULB	**Yu-li**	**0.68**	**211**		P		**Pg**	**03 08 13.3**	**-0.5**
	baz=205								
YULB					*e*S		**Sb**	**03 08 24.1**	**-0.4**
	baz=205								
DPDB	**Guoxing**	**0.69**	**274**	↓	*e*	P	**Pg**	**03 08 13.9**	**0.0**
	baz=272								
DPDB					*e*S		**Sg**	**03 08 22.8**	**-0.1**
	baz=272								
SSLB	**Suanglung**	**0.69**	**254**				**Pg**	**03 08 13.3**	**-0.6**
SSLB						Sg	**Sg**	**03 08 22.4**	**-0.5**
SSLB	**Suanglung**	**0.69**	**254**	↓	P		**Pg**	**03 08 13.6**	**-0.4**
	baz=250								
SSLB					*e*S		**Sg**	**03 08 22.2**	**-0.7**
	baz=250								
ECBN	**Changbin**	**0.69**	**197**	*e*	P		**Pb**	**03 08 15.1**	**+0.1**
	baz=192								
ECBN					*e*S		**Sn**	**03 08 26.9**	**-1.0**
	baz=192								
WCS	**Beigang Elemen**	**0.70**	**276**	↓	*i*	P	**Pg**	**03 08 14.1**	**-0.1**
	baz=274								
WCS					*e*S		**Sg**	**03 08 23.0**	**-0.3**
	baz=274								
EYUL	**Yuli**	**0.71**	**207**	*e*	P		**Pg**	**03 08 14.5**	**+0.1**
	baz=202								
SMLT	**Sun Moon Lake**	**0.72**	**262**	*e*	P		**Pg**	**03 08 14.3**	**-0.2**
	baz=259								
SMLT					*e*S		**Sg**	**03 08 23.8**	**0.0**
	baz=259								
TWF1	**Yuli**	**0.72**	**209**	*e*	P		**Pg**	**03 08 14.0**	**-0.5**
	baz=203								
TWF1					*e*S		**Sb**	**03 08 26.1**	**+0.5**
	baz=203								
WHP	**Taichung City**	**0.73**	**294**	↓	P		**Pg**	**03 08 14.8**	**+0.1**
	baz=294								
WHP					*e*S		**Sb**	**03 08 25.0**	**-0.9**
	baz=294								
TWE	**Neicheng**	**0.73**	**359**		P		**Pb**	**03 08 15.0**	**-0.8**
	baz=6.0								
TWE					*e*S		**Sb**	**03 08 25.1**	**-0.9**
	baz=6.0								
YHNB	**Yeheng**	**0.74**	**338**		Pg		**Pb**	**03 08 15.0**	**-0.9**
YHNB					Sg		**Sg**	**03 08 24.4**	**-0.1**
YHNB	**Yeheng**	**0.74**	**338**	*e*	P		**Pb**	**03 08 14.9**	**-0.9**
	baz=342								
YHNB					*e*S		**Sg**	**03 08 24.1**	**-0.4**
	baz=342								
NSK	**Sanguang**	**0.75**	**337**	↓	P		**Pb**	**03 08 15.1**	**-0.9**
	baz=341								
NSK					*e*S		**Sb**	**03 08 25.5**	**-1.0**
	baz=341								
TYC	**Yuchr**	**0.75**	**264**	*e*	P		**Pg**	**03 08 14.7**	**-0.4**
	baz=261								
TYC					*e*S		**Sg**	**03 08 24.5**	**-0.5**
	baz=261								
FUSB	**Fushanzhiwuyua**	**0.78**	**354**	↓	*e*	P	**Pb**	**03 08 15.8**	**-0.7**
	baz=359								
FUSB					*e*S		**Sb**	**03 08 26.7**	**-0.7**
	baz=359								
ILA	**Ilan**	**0.78**	**5**	*e*	P		**Pg**	**03 08 15.2**	**-0.5**
	baz=10.0								
NWLT	**Wulai**	**0.81**	**349**	↓	*e*	P	**Pb**	**03 08 16.3**	**-0.7**
	baz=353								
NWLT					*e*S		**Sg**	**03 08 25.6**	**-1.1**
	baz=353								
NFF	**Wufeng Townshi**	**0.82**	**322**	↓	*e*	P	**Pb**	**03 08 16.7**	**-0.7**
	baz=324								
NFF					*e*S		**Sb**	**03 08 27.1**	**-1.5**
	baz=324								
FULB	**Fuli**	**0.86**	**204**	*e*	P		**Pg**	**03 08 17.4**	**+0.3**
	baz=200								
FULB					*e*S		**Sn**	**03 08 31.0**	**-0.9**
	baz=200								
NTC	**Toucheng**	**0.88**	**9**	↓	*e*	P	**Pb**	**03 08 17.8**	**-0.5**
	baz=14								
NTC					*e*S		**Sn**	**03 08 31.3**	**-1.1**
	baz=14								
WJS	**Zhushan**	**0.88**	**260**	*e*	P		**Pb**	**03 08 18.0**	**-0.3**
	baz=257								
EGS		**0.89**	**15**	*e*	P		**Pn**	**03 08 19.2**	**-0.4**
	baz=20								
NSTT	**Nanjuang**	**0.89**	**316**	↓	*e*	P	**Pb**	**03 08 18.0**	**-0.4**
	baz=318								
NSTT					*e*S		**Sb**	**03 08 29.5**	**-1.1**
	baz=318								
LIOB	**Emei**	**0.89**	**318**	↓	*e*	P	**Pn**	**03 08 18.3**	**-1.3**
	baz=319								
LIOB					*e*S		**Sn**	**03 08 30.6**	**-2.2**
	baz=319								
WWF	**Wufeng**	**0.90**	**274**	*e*	P		**Pn**	**03 08 19.6**	**-0.1**
	baz=272								
TWQ1	**Liyutan**	**0.90**	**294**	*e*	P		**Pn**	**03 08 18.4**	**-1.3**
	baz=294								
WNT	**Mingjian**	**0.91**	**264**	*e*	P		**Pn**	**03 08 19.4**	**-0.5**
	baz=261								
WNT					*e*S		**Sn**	**03 08 32.8**	**-0.5**
	baz=261								
WNT1	**Nantou City**	**0.91**	**265**	*e*	P		**Pn**	**03 08 19.5**	**-0.4**
	baz=263								
CHKT	**Chengkung**	**0.93**	**198**	*e*	P		**Pb**	**03 08 18.2**	**-0.8**
	baz=193								
CHKT					*e*S		**Sn**	**03 08 33.3**	**-0.2**
	baz=193								
ALS	**Alishan**	**0.93**	**240**	*e*	P		**Pg**	**03 08 18.5**	**0.0**
	baz=235								
ALS					*e*S		**Sb**	**03 08 31.4**	**-0.4**
	baz=235								
TCU	**Taichung**	**0.93**	**280**	↑	*e*	P	**Pn**	**03 08 19.9**	**-0.2**
	baz=279								
TCU					*e*S		**Sn**	**03 08 33.2**	**-0.4**
	baz=279								
NSY	**Sanyi**	**0.94**	**297**	*e*	P		**Pn**	**03 08 19.8**	**-0.5**
	baz=298								
NMLH	**Miaoli**	**0.98**	**305**	*e*	P		**Pn**	**03 08 20.5**	**-0.3**
	baz=305								
ECS	**Chishang**	**0.98**	**205**	*e*	P		**Pn**	**03 08 21.4**	**+0.6**
	baz=201								
NHDH	**Xindian Distri**	**0.98**	**352**	*e*	P		**Pn**	**03 08 20.2**	**-0.7**
	baz=355								
NHDH					*e*S		**Sg**	**03 08 32.6**	**+0.1**
	baz=355								
CHN5	**Tsauling**	**0.99**	**247**	↑	*e*	P	**Pn**	**03 08 20.4**	**-0.6**
	baz=244								
CHN5					*e*S		**Sn**	**03 08 34.7**	**-0.6**
	baz=244								
HSN1	**Hsinchu**	**0.99**	**323**	*e*	P		**Pn**	**03 08 20.6**	**-0.4**
	baz=325								
TIPB	**Shuangxi**	**0.99**	**8**	*e*	P		**Pg**	**03 08 19.9**	**+0.2**
	baz=12								
ELDTW	**Lidau**	**0.99**	**218**	*e*	P		**Pb**	**03 08 18.7**	**-1.6**
	baz=213								
ELDTW					*e*S		**Sn**	**03 08 34.1**	**-1.4**
	baz=213								
TWA	**Mucha**	**1.00**	**355**	*e*	P		**Pn**	**03 08 20.3**	**-0.7**
	baz=359								
TATO	**Taipei**	**1.00**	**350**				**Pn**	**03 08 20.3**	**-0.8**
TATO						Sg	**Sg**	**03 08 32.6**	**-0.3**
WYL	**Yuanlin Townsh**	**1.00**	**269**	*e*	P		**Pn**	**03 08 21.6**	**+0.5**
	baz=267								
WDJ	**Dajia District**	**1.01**	**291**	*e*	P		**Pn**	**03 08 21.6**	**+0.3**
	baz=291								
WDJ					*e*S		**Sn**	**03 08 35.2**	**-0.5**
	baz=291								
SBCB	**Hsinchu**	**1.02**	**322**	*e*	P		**Pn**	**03 08 20.5**	**-0.9**
	baz=324								
WCHH	**Zhanghua**	**1.03**	**276**	*e*	P		**Pn**	**03 08 21.5**	**+0.1**
	baz=274								
WCHH					*e*S		**Sn**	**03 08 36.2**	**+0.2**
	baz=274								
HSN	**Hsinchu**	**1.04**	**322**	*e*	P		**Pn**	**03 08 21.4**	**-0.2**
	baz=326								
TWB1	**Santiao Chiao**	**1.06**	**16**	*e*	P		**Pn**	**03 08 21.7**	**-0.2**
	baz=20								
TWB1					*e*S		**Sn**	**03 08 36.8**	**-0.1**
	baz=20								
WGK	**Gukeng**	**1.06**	**254**	*e*	P		**Pn**	**03 08 21.8**	**-0.2**
	baz=251								
EDH	**Donghe**	**1.06**	**199**	*e*	P		**Pb**	**03 08 20.2**	**-1.2**
	baz=195								
EDH					*e*S		**Sn**	**03 08 36.9**	**0.0**
	baz=195								
TAP	**Taipei**	**1.06**	**352**	*e*	P		**Pn**	**03 08 22.0**	**+0.1**
	baz=355								
TAP					*e*S		**Sn**	**03 08 35.2**	**-1.8**
	baz=355								
NCUH	**Zhongli**	**1.08**	**336**	*e*	P		**Pn**	**03 08 22.5**	**+0.3**
	baz=338								
NCU	**National Centr**	**1.08**	**336**	*e*	P		**Pn**	**03 08 22.8**	**+0.6**
	baz=338								
WDLH	**Douliu**	**1.08**	**255**	*e*	P		**Pn**	**03 08 22.1**	**-0.1**
	baz=252								
WDLH					*e*S		**Sn**	**03 08 37.0**	**-0.5**
	baz=252								
NWF	**Wu-fen Shan**	**1.09**	**5**	*e*	P		**Pn**	**03 08 22.1**	**-0.3**
	baz=9.0								
WFSB	**Wu-fen Shan**	**1.09**	**5**	*e*	P		**Pn**	**03 08 22.0**	**-0.3**
	baz=8.0								
SXI1	**Grass Mountain**	**1.12**	**9**	*e*	P		**Pg**	**03 08 22.8**	**+0.5**
	baz=13								
TWS1	**Kuangyinshan**	**1.14**	**348**	*e*	P		**Pg**	**03 08 23.7**	**+1.2**
	baz=351								
TWS1					*e*S		**Sn**	**03 08 40.0**	**+1.1**
	baz=351								
STYH	**Taoyuan**	**1.16**	**226**	*e*	P		**Pb**	**03 08 22.1**	**-0.8**
	baz=222								
STYH					*e*S		**Sn**	**03 08 38.6**	**-0.6**
	baz=222								
YM01	**YM01**	**1.16**	**355**	*e*	P		**Pg**	**03 08 23.7**	**+0.7**
	baz=358								
YM01					*e*S		**Sn**	**03 08 38.9**	**-0.6**
	baz=358								
TNOU	**National Taiwa**	**1.17**	**4**	*e*	P		**Pg**	**03 08 23.3**	**+0.2**
	baz=8.0								
NHW	**Xinwu Township**	**1.17**	**331**	*e*	P		**Pg**	**03 08 24.4**	**+1.2**
	baz=333								
STYT	**Tauyuan**	**1.17**	**226**	*e*	P		**Pn**	**03 08 22.8**	**-0.8**
	baz=222								
STYT					*e*S		**Sg**	**03 08 38.8**	**+0.3**
	baz=222								
TPUB	**Ta-pu**	**1.18**	**235**				**Pn**	**03 08 22.6**	**-0.9**
TPUB						Sn	**Sn**	**03 08 39.0**	**-0.8**
TPUB	**Ta-pu**	**1.18**	**235**	↑	*e*	P	**Pg**	**03 08 23.3**	**+0.1**
	baz=232								
TPUB					*e*S		**Sn**	**03 08 40.1**	**+0.3**
	baz=232								
LONT	**Longtian**	**1.18**	**205**	*e*	P		**Pn**	**03 08 21.4**	**-2.2**
	baz=202								
CHN2	**Minshiung**	**1.19**	**248**	*e*	P		**Pg**	**03 08 24.6**	**+1.1**
	baz=245								
WRL	**Guolierlin Hig**	**1.19**	**266**	*e*	P		**Pg**	**03 08 23.7**	**+0.2**
	baz=264								
WRL					*e*S		**Sn**	**03 08 40.1**	**0.0**
	baz=264								
NTST	**Danshui**	**1.19**	**350**	*e*	P		**Pg**	**03 08 24.4**	**+0.8**
	baz=353								
YM08	**YM08**	**1.20**	**356**	*e*	P		**Pg**	**03 08 24.2**	**+0.5**
	baz=359								
YM08					*e*S		**Sn**	**03 08 40.6**	**+0.2**
	baz=359								
ANP	**Anpu**	**1.21**	**353**	*e*	P		**Pg**	**03 08 24.3**	**+0.5**
	baz=356								
WTK	**Tuku**	**1.21**	**256**	*e*	P		**Pg**	**03 08 24.4**	**+0.4**
	baz=254								
WTK					*e*S		**Sg**	**03 08 41.5**	**+1.7**
	baz=254								
WTP	**Ta-pu**	**1.22**	**233**	*e*	P		**Pg**	**03 08 24.0**	**-0.1**
	baz=230								
WTP					*e*S		**Sg**	**03 08 41.7**	**+1.8**
	baz=230								
CHY	**Chiayi**	**1.24**	**247**	*e*	P		**Pg**	**03 08 24.7**	**+0.1**
	baz=245								
CHY					*e*S		**Sg**	**03 08 42.1**	**+1.4**
	baz=245								
JYNG	**Yonagunijimaku**	**1.25**	**68**		P		**Pb**	**03 08 24.4**	**-0.1**
WTCT	**Ta-ch'eng**	**1.28**	**265**	*e*	P		**Pg**	**03 08 25.7**	**+0.5**
	baz=263								
TWG	**Pinlang**	**1.28**	**206**				**Pn**	**03 08 22.4**	**-2.5**
TWGBT	**Beinan**	**1.28**	**205**	*e*	P		**Pn**	**03 08 22.5**	**-2.5**
	baz=202								
TWY	**Chenhua**	**1.29**	**357**	*e*	P		**Pg**	**03 08 26.7**	**+1.3**
	baz=360								
TWK	**Hsinying**	**1.30**	**237**	*e*	P		**Pb**	**03 08 25.2**	**-0.2**
	baz=234								
TWK					*e*S		**Sg**	**03 08 44.5**	**+1.9**
	baz=234								
YOJ	**Yonaguni jima**	**1.31**	**68**		P		**Pb**	**03 08 25.5**	**-0.1**
TTN	**Taitung**	**1.32**	**202**	*e*	P		**Pn**	**03 08 24.4**	**-1.0**
	baz=198								
LDUT	**Ludao**	**1.32**	**188**	*e*	P		**Pn**	**03 08 23.0**	**-2.5**
	baz=185								
LDUT					*e*S		**Sb**	**03 08 42.2**	**-0.6**
	baz=185								
CHN1	**Nanshi**	**1.32**	**233**	*e*	P		**Pg**	**03 08 25.9**	**-0.1**
	baz=230								
CHN1					*e*S		**Sg**	**03 08 44.5**	**+1.4**
	baz=230								
SNST	**Tainan City**	**1.32**	**235**	*e*	P		**Pb**	**03 08 25.5**	**-0.3**
	baz=232								
SNST					*e*S		**Sg**	**03 08 44.7**	**+1.5**
	baz=232								
SGST	**Jiashian**	**1.34**	**228**	*e*	P		**Pn**	**03 08 25.2**	**-0.6**
	baz=225								
SGST					*e*S		**Sg**	**03 08 44.9**	**+0.9**
	baz=225								
SLGT	**Liugui**	**1.36**	**224**	*e*	P		**Pg**	**03 08 27.2**	**+0.3**
	baz=221								
WSF	**Szhu**	**1.38**	**256**	*e*	P		**Pg**	**03 08 26.8**	**-0.3**
	baz=253								
WSF					*e*S		**Sg**	**03 08 46.5**	**+1.6**
	baz=253								
WSL	**Shuilin Townsh**	**1.40**	**251**	*e*	P		**Pg**	**03 08 27.3**	**-0.3**
	baz=249								
ICHU	**Yijhu**	**1.42**	**244**	*e*	P		**Pg**	**03 08 27.8**	**-0.2**
	baz=242								

baz=222
MASBT Mashibuluo 1.67 215 *e*P **Pn** **03 08 29.7 -0.6**
baz=213
MASBT *e*S **Sg** **03 08 54.1 -0.2**
baz=213
EAST Anshuo 1.77 206 *e*P **Pn** **03 08 29.4 -2.3**
baz=203
TAWH Dawu Township 1.79 204 *e*P **Pn** **03 08 31.8 -0.2**
baz=202
TAWH *e*S **Sb** **03 08 56.5 +0.1**
baz=202
SSPT Xinbi 1.81 215 *e*P **Pb** **03 08 33.2 -0.9**
baz=212
SCZT Fangliau 1.88 211 *e*P **Pn** **03 08 33.2 +0.1**
baz=209
IRIF Iriomote-Funau 1.91 79 P **Pn** **03 08 34.3 +0.7**
IRIF S **Sb** **03 08 59.0 -0.8**
SLIU Shizi 1.94 205 *e*P **Pn** **03 08 34.1 +0.1**
baz=203
SLIU *e*S **Sb** **03 09 01.1 +0.5**
baz=203
LAY Lan-yu 1.94 183 *e*P **Pn** **03 08 31.6 -2.4**
baz=181
HATJ Hateruma jima 1.95 87 P **Pn** **03 08 34.1 0.0**
HATJ S **Sb** **03 09 00.2 -0.8**
LYUB Lan-yu 1.97 182 *e*P **Pn** **03 08 31.8 -2.6**
baz=181
LYUB *e*S **Sn** **03 08 57.3 -2.2**
baz=181
PHUB P'eng-hu 1.98 257 *e*P **Pn** **03 08 34.5 -0.1**
baz=255
PHUB *e*S **Sn** **03 08 59.6 -0.1**
baz=255
WDGT Dungji 1.98 249 *e*P **Pn** **03 08 34.9 +0.3**
baz=247
WDGT *e*S **Sn** **03 08 59.7 0.0**
baz=247
PNG Penghu 1.99 258 *e*P **Pn** **03 08 34.8 +0.2**
baz=257
PNG *e*S **Sb** **03 09 00.3 -1.8**
baz=257
JKRS Kuro-shima 2.15 83 P **Pn** **03 08 37.4 +0.5**
TWKBT Hengchun 2.18 202 *e*P **Pn** **03 08 37.4 0.0**
baz=200
VWUC VWUC 2.26 297 *e*P **Pn** **03 08 37.7 -0.8**
baz=296
VWUC *e*S **Sn** **03 09 04.4 -2.2**
baz=296
JIJ Ishigaki jima 2.29 80 P **Pn** **03 08 38.7 -0.1**
JISG Ishigakijimahi 2.48 75 P **Pn** **03 08 41.6 +0.2**
PTMZ Houxiangcun 2.55 295 *e*P **Pn** **03 08 40.4 -2.0**
baz=294
JTJ Tarama 2.84 76 P **Pn** **03 08 46.9 +0.5**
QZH Quanzhou 2.97 289⇑ *i*Pn **Pn** **03 08 48.2 +0.1**
QZH Sn **Sn** **03 09 23.0 -1.0**
QZH smax smax
comp=N,310nm,0.7s
QZH smax smax
comp=E,230nm,0.6s
KNMB Chin-men Tao 3.04 280 **Pn** **03 08 48.3 -0.8**
NJ2 Nanjing 8.41 343 *e*P **Pn** **03 10 03.5 +0.5**
NJ2 S **Sn** **03 11 36.9 -1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 smax smax
comp=N,68nm,0.9s
NJ2 smax smax
comp=E,97nm,0.9s
NJ2 LR LR
comp=N,660nm,5.7s
NJ2 LR LR
comp=E,490nm,5.2s
NJ2 LR LR
comp=Z,870nm,8.3s
WHN Wuhan 9.23 317 P Pn 03 10 26.6 +12
WHN S **Sn** **03 12 04.3 +6.1**
WHN LR LR
comp=N,2μm,8.3s
WHN LR LR
comp=E,1μm,9.6s
WHN LR LR
comp=Z,2μm,9.8s
GYA Guiyang 13.81 283⇑ P **Pn** **03 11 19.5 +2.5**
GYA S **Sn** **03 13 50.1 -0.6**
GYA pmax pmax
comp=Z,11nm,0.6s
GYA pmax pmax
comp=Z,110nm,3.5s
GYA LR LR
comp=Z,360nm,3.8s
GYA LR LR
comp=Z,530nm,5.1s
GYA LR LR
comp=Z,1μm,9.1s
KSRS Korea Array 14.46 20 P **P** **03 11 33.5 +1.0**
comp=Z,0.4nm,0.3s,baz=198,slow=13,SNR=7.0
HNS HongShan 14.65 338 *e*P **P** **03 11 32.3 -2.4**
HNS S S 03 14 19.4 -11
HNS LR LR
comp=Z,190nm,12.0s
HNS LR LR
comp=Z,210nm,11.7s
HNS LR LR
comp=Z,270nm,10.9s
MJAR Matsushiro Arr 18.95 45 LR LR 03 20 32.0
comp=Z,43nm,18.6s,baz=230,slow=39
LZH Lanzhou 19.55 312 *e*P **Pn** **03 12 34.5 +4.1**
LZH pP sP 03 12 40.2 +8.0
LZH pmax pmax
comp=Z,17nm,1.1s
LZH LR LR
comp=Z,380nm,9.2s
LZH LR LR
comp=Z,460nm,8.9s
LZH LR LR
comp=Z,570nm,11.1s
USRK Ussuriysk Ar. 21.86 20 LR LR 03 21 38.6
comp=Z,61nm,19.8s,baz=158,slow=37
CMAR Chiang Mai Arr 21.88 260 P **P** **03 12 55.8 +1.5**
comp=Z,1.4nm,0.3s,baz=63,slow=8.2,SNR=1.7
CMAR LR LR 03 21 55.3
comp=Z,45nm,19.8s,baz=300,slow=38
GTA Gaotai 24.05 315 *e*P **P** **03 13 21.9 +5.4**
GTA sP sP 03 13 30.1 +10
GTA pmax pmax
comp=Z,3.0nm,0.8s
KLR Kul'dur 26.42 15 P **P** **03 13 40.8 +3.0**
comp=Z,1.0nm,0.8s,baz=225,slow=8.5,SNR=4.4
KLR LR LR 03 24 49.8
comp=Z,46nm,19.8s,baz=190,slow=38
SONM Songino Array 26.73 337 P **P** **03 13 42.8 +2.0**
comp=Z,1.5nm,0.8s,baz=163,slow=11,SNR=6.0
SONM LR LR 03 25 36.2
comp=Z,85nm,19.2s,baz=166,slow=39
SONM Songino Array 26.73 337 P **P** **03 13 39.2 -1.6**
KAPI Kappang 28.88 184 LR LR 03 25 29.3
comp=Z,37nm,21.3s,baz=355,slow=36
WMQ Urumqi 34.12 314 *e*P **P** **03 14 48.8 +2.7**
WMQ LR LR
comp=Z,200nm,16.1s
WMQ LR LR
comp=Z,270nm,13.7s
MKAR Makanchi Array 38.79 316 P **P** **03 15 26.4 +0.5**
comp=Z,0.9nm,0.8s,baz=110,slow=9.7,SNR=6.4
MKAR LR LR 03 32 40.4
comp=Z,70nm,18.2s,baz=100,slow=38
MKAR Makanchi Array 38.79 316 P **P** **03 15 24.2 -1.7**
ZALV Zalesovo Beam 40.66 327 P **P** **03 15 40.9 -0.4**
comp=Z,0.6nm,0.3s,baz=124,slow=8.8,SNR=3.0
ZALV LR LR 03 33 32.1
comp=Z,41nm,18.9s,baz=124,slow=37
KSH Kashi 41.38 303 P P 03 15 52.9 +5.2
KSH pmax pmax
comp=Z,5.0nm,0.8s
H11N1 WAKE ISLAND Hy 42.05 87 T T 04 01 18.7
baz=275,slow=74
H11N2 WAKE ISLAND Hy 42.05 87 T T 04 01 19.2
baz=275,slow=74
H11N3 WAKE ISLAND Hy 42.07 87 T T 04 01 18.5
baz=275,slow=74
H11S3 WAKE ISLAND Hy 42.17 89 T T 04 00 56.7
baz=283,slow=74,SNR=56
H11S1 WAKE ISLAND Hy 42.18 89 T T 04 00 58.4
baz=283,slow=74,SNR=34
H11S2 WAKE ISLAND Hy 42.19 89 T T 04 00 57.5
baz=283,slow=74,SNR=33
KURBB Kurchatov Arra 42.55 320 LR LR 03 34 07.5
comp=Z,35nm,19.5s,baz=188,slow=36
WRA Warramunga Arr 45.37 163 P **P** **03 16 19.1 -0.7**
comp=Z,0.7nm,0.5s,baz=345,slow=8.7,SNR=4.4
WB2 Warramunga Arr 45.37 163 P **P** **03 16 16.2 -3.7**
WB2 IAmb IAmb 03 16 24.2
comp=Z,6.6nm,1.2s
WR0 Warramunga Arr 45.44 163 P **P** **03 16 18.6 -1.8**
WR0 IAmb IAmb 03 16 23.2
comp=Z,12nm,1.4s
ASAR Alice Springs 48.83 165 P **P** **03 16 47.0 +0.2**
comp=Z,0.8nm,0.8s,baz=346,slow=6.7,SNR=3.6
ASAR Alice Springs 48.83 165 P **P** **03 16 43.1 -3.8**
ABKAR Akbulak array 53.90 314 P **P** **03 17 23.3 -1.3**
ABKAR Akbulak array 53.90 314 P **P** **03 17 22.4 -2.2**
ABKAR IAmb IAmb 03 17 35.5
comp=Z,2.1nm,1.0s
SANVU Saraoutou 59.27 127 P **P** **03 18 00.4 -2.8**
ILAR Eielson Array 69.19 27 P **P** **03 19 07.3 -0.3**
comp=Z,0.2nm,0.5s,baz=276,slow=5.6,SNR=5.3
ILAR Eielson Array 69.19 27 P **P** **03 19 05.3 -2.3**
MNK Minsk 72.96 323 *i* P P 03 19 22.4 -8.3
comp=E,1.0nm,0.8s
MNK *i* P P 03 19 22.4 -8.3
comp=N,9.0nm,0.9s
MNK *i* P P 03 19 22.4 -8.3
comp=Z,6.0nm,0.7s,baz=72
MNK *i* pP **PcP** **03 19 47.8 +0.1**
MNK *i* PP PP 03 22 02.9 -10
MNK *i* PPP PPP 03 23 51.0
MNK *i* S S 03 28 34.1 -24
MNK *i* sS SKSac 03 29 19.8 -17
MNK *i* SS SS 03 33 14.8 -23
MNK *i* SSS SSS 03 36 35.0
MNK *i* LR LR 03 51 42.3
MNK *i* LRM MLR 03 53 48.8
comp=E,27nm,18.5s
MNK *i* LRM MLR 03 53 48.8
comp=N,172nm,19.8s
MNK *i* LRM MLR 03 53 54.5
comp=Z,237nm,16.6s
INK Inuvik 73.24 22 P **P** **03 19 34.1 +2.0**
comp=Z,1.6nm,0.9s,baz=284,slow=8.8,SNR=5.7
BRTR Keskin Array B 73.65 307 P **P** **03 19 34.2 -1.0**
comp=Z,0.6nm,0.9s,baz=73,slow=7.1,SNR=3.1
NOA NORSAR Array B 78.61 332 P **P** **03 20 04.5 +1.6**
comp=Z,0.3nm,0.8s,baz=56,slow=6.2,SNR=2.1
YKA Yellowknife Ar 82.98 23 P **P** **03 20 25.7 -0.5**
comp=Z,0.6nm,0.6s,baz=310,slow=4.9,SNR=23
YKA Yellowknife Ar 82.98 23 P **P** **03 20 25.2 -1.0**

TAP 12 03:11:36.8,24.05N×121.56E,h7km±1km,ML1.7,1D,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
TWD	**Chiawan**	**0.04**	**43**	*i* P		Pg	03 11 38.7	+0.5
TWD	baz=48			*i* S		Sg	03 11 40.3	+1.0
baz=48								
ETL	**Fush Village**	**0.12**	**26**	P		Pg	03 11 39.9	+0.5
baz=26								
NACB	**Ninganchiao**	**0.13**	**13**	*e*P		Pg	03 11 40.3	+0.7
baz=12								
ETLH	**Xiulin Townshi**	**0.17**	**335**	P		Pg	03 11 41.6	+1.2
baz=334								
ESL	**Shilin**	**0.26**	**207**	*e*P		Pb	03 11 43.9	+0.1
ESL	baz=205			*e*S		Sb	03 11 47.4	-1.2
baz=205								

IDC ***12*** *03:15:12.6±6.2,21.45S×177.20W,h475km±45km,mb2.7/3, mb1 3.2/5,mb1mx2.9/45,mbtmp3.9/5,Error ellipse: s-maj=129.8km s-min=24.4km az=148.0*

ISC 12 03:15:13.5±1.2,21.25S±0.2×177.4W±0.2,h450km,n8, σ3.5s15/6,mb3.2/3,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
MSVF	**Nonsavu**	**5.57**	**308**	P		**P**	**03 16 46.4**	**+2.8**
7.2nm,0.3s,baz=167,slow=5.3,SNR=21								
AFI	**Afiamalu**	**9.01**	**37**	P		**P**	**03 17 20.2**	**+0.1**
13nm,0.3s,baz=149,slow=5.9,SNR=5.0								
ASAR	**Alice Springs**	**44.95**	**257**	P		**P**	**03 22 44.7**	**-2.5**
0.5nm,0.5s,baz=91,slow=8.3,SNR=7.5								
WRA	**Warramunga Arr**	**45.11**	**263**	P		**P**	**03 22 46.5**	**-2.0**
0.1nm,0.3s,baz=96,slow=8.1,SNR=1.5								
VNA3	**Neumayer Olymp**	**87.37**	**176**	P		P	03 27 17.3	+6.0
VNA2	**Neumayer--Watz**	**87.82**	**177**	P		P	03 27 21.4	+8.0
baz=313,slow=17								
VNA1	**Neumayer--Stat**	**88.04**	**176**	P		**P**	**03 27 16.8**	**+2.5**
ILAR	**Eielson Array**	**88.89**	**13**	P		**P**	**03 27 15.9**	**-2.3**
0.2nm,0.4s,baz=213,slow=5.6,SNR=7.0								

IDC ***12*** *03:22:44.4±0.6,3.81S×104.12W,h0km,mb4.8/20, mb1 4.9/20,mb1mx4.8/30,mbtmp4.8/20,MS5.5/57, Ms1 5.5/57,ms1mx5.5/60,Error ellipse: s-maj=22.0km s-min=12.0km az=55.0*

MOS ***12*** *03:22:45.3±1.1,3.72S×103.92W,h10km,mb5.5/29, MS5.3/7,Error ellipse: s-maj=11.6km s-min=7.6km az=98.5*

NEIC ***12*** *03:22:47.7±1.3,3.8S±0.1×103.9W±0.1,h10km±1km, mb5.4/597,Ms_20 5.6/422,Mwb5.8/60,Error ellipse: s-maj=18.8km s-min=17.4km az=263.0*

NEIC ***12*** *03:22:48.2,3.70S×103.91W,h10km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.27; Mθθ-0.63; Mφφ0.36; Mrθ-0.71; Mrφ5.76; Mθφ-0.09; Fault plane solution: M0 5.84000×10^17^ NP1:φ177.48000°, δ82.89000°,λ178.89000°. NP2:φ267.62000°,δ88.90000°, λ7.11000°. Principal axes: T 5.7060, Plg6.0000°, Azm133.0000°; N 0.2501, Plg83.0000°, Azm276.0000°; P -5.9561, Plg4.0000°, Azm42.0000°;*

GCMT ***12*** *03:22:50.7±0.1,3.66S×103.96W,h14km,MW5.8/164, Moment Tensor Solution. s158,c313; s164,c508; Duration: 2θ0 Moment tensor: Scale 10^17^Nm; Mrr0.36±.04; Mθθ-0.55±.04; Mφφ0.19±.05; Mrθ0.31±.09; Mθφ6.91±.05; Mφr0.93±.10; Best double couple: M0 6.99300×10^17^ NP1:φ89.00000°,δ82.00000°, λ3.00000°. NP2:φ358.00000°,δ87.00000°,λ172.00000°. Principal axes: T 6.8620, Plg8.0000°, Azm313.0000°; N 0.2620, Plg82.0000°, Azm156.0000°; P -7.1240, Plg3.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

UPA ***12*** *03:22:52.8±3.8,3.91S×103.01W,h10km±135km,MS5.3, MW5.9*

ISC 12 03:22:48.0±0.2,3.92S±0.04×103.88W±0.04,h18km, n1307,σ1.997/1268,mb5.3/298,MS5.6/288,5C-5D,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PAYG	**Puerto Ayora**	**13.96**	**77**	Pn		**Pn**	**03 26 04.8**	**-0.3**
RTAL	**Retalhuleu**	**21.95**	**33**	P		**P**	**03 27 38.1**	**-2.7**
TLIG	**Tlapa**	**21.98**	**14**	P		**P**	**03 27 39.8**	**-1.5**
TLIG	comp=Z,162nm,1.4s			IAmb	IAmb	IAmb	03 28 07.6	
CMIG	**Matias Romero**	**22.69**	**23**	P		**P**	**03 27 49.5**	**+0.8**
CMIG	comp=Z,43nm,1.1s,baz=203,slow=8.0,SNR=27			LR		LR	03 34 37.3	
comp=Z,32μm,20.0s,baz=196,slow=31								
SNET	**Serv Nac Est T**	**22.74**	**39**	P		**P**	**03 27 48.3**	**-1.2**
SNET	comp=Z,21μm,19.0s			IAMs_20	IAMs_20	IAMs_20	03 34 22.2	
DUNO	**Dulce Nombre,**	**23.00**	**53**	P		**P**	**03 27 51.0**	**-1.0**
DUNO	comp=Z,82nm,1.0s			IAmb		IAmb	03 28 08.3	
CAO2	**Cobano, Puntar**	**23.08**	**54**	P		**P**	**03 27 49.3**	**-3.6**
CCIG	**Comitan**	**23.19**	**30**	P		**P**	**03 27 51.6**	**-2.6**
ORTG	**Ortega, Santa**	**23.19**	**52**	P		**P**	**03 27 54.2**	**+0.1**
MTO3	**Montecristo**	**23.20**	**38**	P		**P**	**03 27 54.2**	**-0.2**
HZTE	**Horizontes, Gu**	**23.30**	**51**	P		**P**	**03 27 56.5**	**+1.5**
ESQI	**Esquipulas**	**23.34**	**38**	P		**P**	**03 27 55.7**	**+0.1**
JACO	**JACO, Garabito**	**23.43**	**55**	P		**P**	**03 27 57.8**	**+1.4**
CRIN	**San Cristobal**	**23.50**	**45**	P		**P**	**03 27 58.7**	**+1.5**
JTS	**Las Juntas de**	**23.55**	**53**	P		**P**	**03 27 58.0**	**+0.4**
JTS	comp=Z,21nm,0.9s,baz=305,slow=7.1,SNR=20			LR		LR	03 34 41.0	
comp=Z,32μm,20.7s,baz=328,slow=30								
JTS	**Las Juntas de**	**23.55**	**53**	P		**P**	**03 27 58.0**	**+0.4**
JTS	**Las Juntas de**	**23.55**	**53**	P		**P**	**03 27 57.8**	**+0.2**
JTS	comp=Z,177nm,1.2s			IAmb		IAmb	03 28 05.7	
JTS	**Las Juntas de**	**23.55**	**53**	*i*P		**P**	**03 27 57.6**	**0.0**
JTS	comp=Z,55μm,18.8s			IAMs_20		IAMs_20	03 34 20.3	
UNM	**Universidad Na**	**23.56**	**11**	IAMs_20		IAMs_20	03 35 05.3	
comp=Z,17μm,19.0s								
RPN	**Rapa Nui**	**23.66**	**192**	LR		LR	03 34 48.4	
comp=Z,9μm,19.4s,baz=6.5,slow=30								
ARNL	**Arenillas**	**23.77**	**90**	P		**P**	**03 28 00.6**	**+0.9**
ARNL	comp=Z,90nm,1.1s			IAmb		IAmb	03 28 18.3	
RIOS	**Rincon, Osa**	**23.86**	**58**	P		**P**	**03 28 02.2**	**+1.6**
MCRA	**Macar, Loja**	**23.87**	**92**	P		**P**	**03 28 00.4**	**-0.4**
MCRA	comp=Z,99nm,1.3s			IAmb		IAmb	03 28 36.5	
HDC	**Heredia**	**24.06**	**55**	P		**P**	**03 28 02.5**	**-0.2**
HDC	comp=Z,101nm,1.0s			IAmb		IAmb	03 28 26.2	
HDC	comp=Z,24μm,21.0s			IAMs_20		IAMs_20	03 34 48.3	
HDC	**Heredia**	**24.06**	**55**	*e*P		**P**	**03 28 05.2**	**+2.6**
PEZE	**Perez Zeledon,**	**24.08**	**57**	P		**P**	**03 28 02.2**	**-0.6**
RIMA	**Rio Macho**	**24.14**	**56**	P		**P**	**03 28 01.7**	**-1.7**
PTPM	**Petroterminale**	**24.16**	**60**	*e*P		**P**	**03 27 59.9**	**-3.6**
COVE	**Coope Vega, Sa**	**24.24**	**53**	P		**P**	**03 28 03.2**	**-0.9**
COVE	comp=Z,123nm,1.1s			IAmb		IAmb	03 28 16.2	
SRBA	**San Rafael, Bu**	**24.27**	**57**	P		**P**	**03 28 04.5**	**-0.1**
TGUH	**Tegucigalpa,Un**	**24.30**	**42**	P		**P**	**03 28 03.2**	**-1.5**
TGUH	**Tegucigalpa,Un**	**24.30**	**42**	*e*P		**P**	**03 28 05.9**	**+1.1**
BOAB	**BOACÓ BROADBA**	**24.33**	**48**	P		**P**	**03 28 03.4**	**-1.6**
CDITO	**Canoas**	**24.35**	**59**	*e*P		**P**	**03 28 06.3**	**+1.2**
ACON	**Acoyapa**	**24.39**	**49**	P		**P**	**03 28 05.4**	**-0.1**
MATN	**Matagalpa**	**24.46**	**47**	P		**P**	**03 28 05.5**	**-0.8**
MLIR3	**Monte Lirio, C**	**24.50**	**59**	*e*P		**P**	**03 28 05.3**	**-1.3**
BRU2	**Volcan**	**24.61**	**59**	P		**P**	**03 28 06.3**	**-1.5**
BRU2	**Volcan**	**24.61**	**59**	*i*P		**P**	**03 28 07.8**	**+0.1**
BRU2	comp=Z,3μm,23.5s			AMP			03 35 00.2	
DVD	**David**	**24.64**	**60**	*e*P		**P**	**03 28 07.0**	**-0.8**
BCO2	**Palmira**	**24.72**	**59**	*e*P		**P**	**03 28 10.1**	**+1.4**
PETF	**Flores**	**24.91**	**33**	P		**P**	**03 28 08.9**	**-1.3**
PETF	comp=Z,96nm,1.0s			IAmb		IAmb	03 28 15.5	
CNI2	**El Empalme, Bo**	**25.12**	**58**	*e*P		**P**	**03 28 10.8**	**-1.3**
ESPN	**Las Esperanzas**	**25.20**	**50**	P		**P**	**03 28 13.0**	**+0.1**
BOSC	**San Juan Bosco**	**25.35**	**89**	P		**P**	**03 28 15.5**	**+1.0**
BOSC	comp=Z,135nm,1.3s			IAmb		IAmb	03 28 26.6	
GMAL	**Guarumal, Vera**	**25.40**	**63**	*e*P		**P**	**03 28 13.8**	**-0.8**
GMAL				*e*S		**S**	**03 32 47.9**	**+7.1**
CACAO	**El Cacao, Vera**	**25.55**	**64**	*e*P		**P**	**03 28 15.0**	**-1.1**
CACAO				*e*S		**S**	**03 32 46.3**	**+3.1**
CACAO	comp=Z,5μm,17.2s			IAMs_20		IAMs_20	03 35 44.8	
CUSE	**Cuicocha Este**	**25.81**	**81**	*e*P		**P**	**03 28 16.6**	**-2.3**
PESE3	**Pese, Herrera**	**26.02**	**63**	*e*P		**P**	**03 28 17.1**	**-3.2**
AZU	**Azuero**	**26.27**	**64**	*e*P		**P**	**03 28 21.1**	**-1.5**
AZU				*e*S		**S**	**03 32 50.5**	**-4.1**
TULM	**Tulcn-Chalpat**	**26.48**	**81**	P		**P**	**03 28 26.4**	**+1.3**
TULM	comp=Z,128nm,1.1s			IAmb		IAmb	03 28 36.9	
TULM	**Tulcn-Chalpat**	**26.48**	**81**	*e*P		**P**	**03 28 23.4**	**-1.6**
CMBC	**Cumbal**	**26.48**	**80**	*e*P		**P**	**03 28 22.9**	**-2.2**
ZAIG	**Zacatecas**	**26.55**	**3**	P		**P**	**03 28 23.9**	**-1.5**
BCIP	**Isla Barro Col**	**27.26**	**61**	IAMs_20		IAMs_20	03 36 45.6	
comp=Z,21μm,20.0s								
BCIP	**Isla Barro Col**	**27.26**	**61**	*i* P		**P**	**03 28 30.3**	**-1.3**
BCIP	comp=Z,18μm,25.0s			IAMs_20		IAMs_20	03 36 37.3	
UPA	**Univ. de Panam**	**27.45**	**62**	*e*P		P	03 28 24.6	-8.6
SOTA	**Rioblanco**	**27.91**	**78**	*e*P		**P**	**03 28 41.0**	**+3.0**
NNA	**Nana**	**27.93**	**108**	P		**P**	**03 28 38.9**	**+1.4**
NNA	comp=Z,7.2nm,0.6s,baz=288,slow=12,SNR=2.2			LR		LR	03 36 46.5	
comp=Z,15μm,21.5s,baz=287,slow=30								
NNA	**Nana**	**27.93**	**108**	*i* P		**P**	**03 28 38.7**	**+1.1**
NNA	comp=Z,91nm,1.6s			pmax		pmax		
NNA	**Nana**	**27.93**	**108**	IAMs_20		IAMs_20	03 36 32.9	
comp=Z,13μm,21.0s								
SLBS	**Sierra La Lagu**	**28.07**	**348**	IAMs_20		IAMs_20	03 36 33.1	
comp=Z,12μm,21.0s								
PCON	**Cinco Dias**	**28.16**	**78**	*e*P		P	03 28 47.9	+7.7
LPIG	**La Paz**	**28.55**	**348**	LR		LR	03 37 06.7	
comp=Z,9μm,20.4s,baz=168,slow=30								
YOTC	**Yotoco, Valle**	**28.61**	**74**	*e*P		**P**	**03 28 48.5**	**+4.7**
UPD2	**Meteti**	**28.61**	**64**	*e*P		P	03 28 53.9	+10
GARC	**Garzon, Huila**	**29.01**	**78**	*e*P		P	03 28 54.2	+6.7
PTLC	**Puerto Leguiza**	**29.34**	**83**	*e*P		**P**	**03 28 51.1**	**+0.9**
CBOC	**Ciudad Bolivar**	**29.48**	**71**	*e*P		**P**	**03 28 54.2**	**+2.7**
GUY2C	**Guyana, Caldas**	**29.90**	**73**	*e*P		**P**	**03 28 55.8**	**+0.2**
HELC	**Santa Helena**	**30.04**	**71**	*e*P		**P**	**03 29 00.2**	**+3.5**
UREC	**San Jos de Ur**	**30.57**	**68**	*e*P		**P**	**03 29 00.5**	**-0.5**
ROSC	**El Rosal**	**30.79**	**74**	P		**P**	**03 29 05.6**	**+2.2**
ROSC	comp=Z,5.0nm,0.4s,baz=103,slow=20,SNR=2.3			LR		LR	03 38 08.8	
comp=Z,8μm,20.6s,baz=246,slow=30								
ZARC	**Zaragoza, Cauc**	**31.10**	**69**	P		**P**	**03 29 05.5**	**-0.2**
ZARC	**Zaragoza, Cauc**	**31.10**	**69**	*e*P		**P**	**03 29 03.6**	**-2.1**
SPBC	**San Pablo de B**	**31.25**	**72**	*e*P		P	03 29 12.3	+5.2
CHIC	**Chingaza**	**31.30**	**75**	*e*P		**P**	03 29 00.5	-7.4
SJCC	**San Jacinto, C**	**31.72**	**64**	P		**P**	**03 29 11.5**	**+0.3**
KVTX	**Kingsville**	**31.81**	**10**	IAMs_20		IAMs_20	03 39 58.8	
comp=Z,8μm,20.0s								
KVTX	**Kingsville**	**31.81**	**10**	S		**S**	**03 34 25.1**	**+3.8**
baz=191								
833A	**Chaparral WMA,**	**32.34**	**7**	P		**P**	**03 29 15.0**	**-1.4**
833A	**Chaparral WMA,**	**32.34**	**7**	P		**P**	**03 29 16.7**	**+0.3**
baz=188								
833A				S		**S**	**03 34 31.6**	**+1.9**
baz=188								
833A	**Chaparral WMA,**	**32.34**	**7**	P		**P**	**03 29 15.7**	**-0.7**
baz=188								
833A				S		**S**	**03 34 31.8**	**+2.1**
baz=188								
BARC	**Barichara**	**32.38**	**71**	*e*P		**P**	**03 29 13.0**	**-4.2**
OCAC	**Ocana**	**32.79**	**68**	P		**P**	**03 29 20.3**	**-0.4**
TX32	**Lajitas Array**	**33.06**	**0**	P		**P**	**03 29 20.6**	**-2.2**
TX32				IAmb		IAmb	03 29 60.0	
comp=Z,63nm,1.9s								
TXAR	**Lajitas Array**	**33.06**	**0**	P		**P**	**03 29 22.6**	**-0.2**
comp=Z,4.6nm,1.1s,baz=192,slow=9.9,SNR=14								
TXAR				PcP		**PcP**	**03 32 05.1**	**-1.1**
comp=Z,1.2nm,0.9s,baz=191,slow=4.4,SNR=2.6								
TXAR				LR		LR	03 41 24.4	
comp=Z,3μm,18.4s,baz=178,slow=34								
TXAR	**Lajitas Array**	**33.06**	**0**	P		**P**	**03 29 20.6**	**-2.1**
TX31	**Lajitas Ar. Si**	**33.06**	**0**	P		**P**	**03 29 20.6**	**-2.2**
TX31	**Lajitas Ar. Si**	**33.06**	**0**	P		**P**	**03 29 22.3**	**-0.5**
baz=180,SNR=17								
TX31				S		**S**	**03 34 43.7**	**+2.6**
baz=180								
SMRC	**Santa Marta, M**	**33.10**	**63**	*e*P		**P**	**03 29 20.6**	**-2.5**
735A	**Kenedy**	**33.10**	**10**	S		**S**	**03 34 41.1**	**-0.3**
baz=191								
LL6C	**La Loma 6 Bece**	**33.38**	**66**	*e*P		P	03 29 19.2	-6.4
SOR	**Soroa**	**33.47**	**37**	P		**P**	**03 29 26.2**	**-0.2**
SOR				pmax		pmax		
comp=Z,95nm,1.5s								
SOR	**Soroa**	**33.47**	**37**	P		**P**	**03 29 26.2**	**-0.2**
SOR				IAmb		IAmb	03 29 48.2	
comp=Z,95nm,1.5s								
TAMC	**Tame, Arauca**	**33.65**	**72**	*e*P		**P**	**03 29 24.3**	**-3.7**
TBTG	**Tabatinga, AM**	**33.89**	**92**	*e*P		**P**	**03 29 26.2**	**-3.9**
MTDJ	**Mount Denham**	**34.04**	**49**	IAMs_20		IAMs_20	03 41 48.2	
comp=Z,11μm,18.0s								
JCT	**Junction City**	**34.42**	**6**	P		**P**	**03 29 33.8**	**-0.8**
JCT				pmax		pmax		
comp=Z,54nm,1.0s								
JCT				MLR		MLR		
comp=Z,4μm,18.0s								
JCT	**Junction City**	**34.42**	**6**	P		**P**	**03 29 33.8**	**-0.8**
JCT				IAmb		IAmb	03 29 40.4	
comp=Z,54nm,0.9s								
JCT	**Junction City**	**34.42**	**6**	P		**P**	**03 29 34.5**	**0.0**
baz=187,SNR=20								
JCT				S		**S**	**03 35 04.5**	**+2.5**
baz=187								
JCT	**Junction City**	**34.42**	**6**	P		**P**	**03 29 33.2**	**-1.4**
baz=187,SNR=20								

JCT S S 03 35 02.8 +0.8
baz=187
435B Jarrell 35.03 9 P P 03 29 38.4 -1.3
baz=191
435B S S 03 35 12.9 +1.7
baz=191
SOCV Socops 35.10 70 eP P 03 29 38.2 -2.4
MNTX Cornudas Mount 35.45 358 P P 03 29 41.6 -1.8
MNTX Cornudas Mount 35.45 358 P P 03 29 42.3 -1.1
baz=178,SNR=23
MNTX S S 03 35 20.3 +2.7
baz=178
MNTX Cornudas Mount 35.45 358 P P 03 29 41.8 -1.6
baz=178,SNR=23
MNTX S S 03 35 19.5 +1.8
baz=178
319A Douglas 35.47 352 P P 03 29 42.6 -1.1
319A IAmb IAmb 03 29 50.9
comp=Z,54nm,1.3s
SDV Santo Domingo 35.50 69 LR LR 03 43 21.9
comp=Z,7µm,19.1s,baz=248,slow=35
SDV Santo Domingo 35.50 69 P P 03 29 44.2 -0.1
SDV IAmb IAmb 03 29 51.8
comp=Z,55nm,0.9s
SDV Santo Domingo 35.50 69 IAMs_20 IAMs_20 03 43 10.7
comp=Z,7µm,19.0s
SDV Santo Domingo 35.50 69 eP P 03 29 45.7 +1.4
KIDD KIDD Seismic O 35.58 356 S S 03 35 23.2 +3.3
baz=176
RKT Rikitea 35.60 235 eT T 04 07 04.5
comp=Z,27nm,0.3s
PB12 IPOC Station P 35.90 117 P P 03 29 49.0 +1.4
441A DeRidder 35.95 16 S S 03 35 27.6 +2.2
baz=198
WHTX Lake Whitney, 36.23 9 P P 03 29 49.3 -0.7
WHTX IAmb IAmb 03 29 55.7
comp=Z,63nm,0.9s
WHTX Lake Whitney, 36.23 9 P P 03 29 49.4 -0.6
baz=191
WHTX S S 03 35 29.4 -0.2
baz=191
WHTX Lake Whitney, 36.23 9 P P 03 29 48.5 -1.5
baz=191
WHTX S S 03 35 29.7 +0.1
baz=191
TAOE Nuku Hiva Isla 36.36 260 eP P 03 29 54.5 +3.0
TAOE comp=Z,248nm,1.4s eS S 03 35 33.4 +1.1
TAOE comp=Z,342nm,22.1s eLQ LQ 03 38 03.9
TAOE comp=Z,10µm,29.3s eLR LR 03 39 37.9
TAOE Nuku Hiva Isla 36.36 260 eT T 04 07 51.2
comp=Z,5µm,25.2s
121A Cookes Peak, D 36.44 354 P P 03 29 50.8 -1.3
121A IAmb IAmb 03 30 00.6
comp=Z,54nm,0.2s
121A Cookes Peak, D 36.44 354 P P 03 29 51.6 -0.4
baz=174,SNR=21
121A S S 03 35 34.1 +0.9
baz=174
121A Cookes Peak, D 36.44 354 P P 03 29 51.1 -1.0
baz=174,SNR=21
121A S S 03 35 35.7 +2.6
baz=174
237A Washetta, Mont 36.54 12 S S 03 35 37.6 +3.3
baz=194
PB16 IPOC Station P 36.54 116 P P 03 29 53.4 -0.2
PB16 IAmb IAmb 03 30 00.9
comp=Z,47nm,1.0s
NATX Nacogdoches 36.55 13 P P 03 29 51.8 -0.9
NATX Nacogdoches 36.55 13 S S 03 35 37.1 +2.6
baz=196
NATX Nacogdoches 36.55 13 P P 03 29 51.4 -1.4
baz=196
NATX S S 03 35 36.5 +1.9
baz=196
ABTX Abilene, Hawle 36.56 6 P P 03 29 52.0 -1.0
ABTX IAmb IAmb 03 29 58.6
comp=Z,104nm,1.4s
ABTX Abilene, Hawle 36.56 6 P P 03 29 51.9 -1.0
baz=187,SNR=20
ABTX S S 03 35 36.0 +1.3
baz=187
ABTX Abilene, Hawle 36.56 6 P P 03 29 51.2 -1.7
baz=187,SNR=20
ABTX S S 03 35 35.8 +1.0
baz=187
TUC Tucson 36.62 350 P P 03 29 51.8 -1.7
TUC pmax pmax
comp=Z,44nm,1.7s
TUC Tucson 36.62 350 P P 03 29 51.8 -1.7
TUC Tucson 36.62 350 P P 03 29 52.3 -1.1
baz=168
TUC S S 03 35 36.7 +1.0
baz=168
TA02 Huaiquique 36.66 119 P P 03 29 55.9 +2.0
214A Organ Pipe Nat 36.67 347 P P 03 29 52.2 -1.7
214A Organ Pipe Nat 36.67 347 P P 03 29 52.4 -1.4
baz=165,SNR=9.5
214A S S 03 35 38.8 +2.3
baz=165
TA01 Diego Aracena 36.73 120 P P 03 29 56.1 +1.6
TA01 IAmb IAmb 03 30 02.9
comp=Z,98nm,1.4s
342A Flagon Creek P 36.78 17 P P 03 29 53.7 -1.1
342A IAmb IAmb 03 30 02.6
comp=Z,89nm,0.9s
342B Flagon Creek P 36.78 17 S S 03 35 41.4 +3.3
baz=200
PATCX Punta Patache 36.85 120 P P 03 29 55.8 +0.2
PATCX IAmb IAmb 03 30 04.1
comp=Z,86nm,1.4s
PB11 IPOC Station P 36.89 118 P P 03 29 57.0 +0.9
PB11 IAmb IAmb 03 30 03.4
comp=Z,88nm,1.0s
LPAZ La Paz 37.20 112 P P 03 30 01.0 +1.8
comp=Z,12nm,1.1s,baz=276,slow=8.4,SNR=12
LPAZ LR LR 03 42 38.4
comp=Z,7µm,19.9s,baz=282,slow=32
LPAZ La Paz 37.20 112 P P 03 30 00.3 +1.0
LPAZ La Paz 37.20 112 eP P 03 30 00.1 +0.8
PB02 IPOC Station P 37.26 121 P P 03 30 00.6 +1.4
GO01 Chusmiza 37.27 118 P P 03 30 00.2 +0.6
344A Westbrook Farm 37.34 19 P P 03 29 58.5 -0.9
344A Westbrook Farm 37.34 19 S S 03 35 47.6 +1.0
baz=202
PB07 IPOC Station P 37.43 121 P P 03 30 02.8 +2.1
PB04 IPOC Station P 37.45 122 P P 03 30 01.8 +0.9
PB04 IAmb IAmb 03 30 12.5
comp=Z,77nm,1.0s
PB08 IPOC Station P 37.47 118 P P 03 30 02.3 +1.0
H03N2 Juan Fernandez 37.48 145 T T 04 09 58.5
baz=317,slow=77,SNR=247
H03N1 Juan Fernandez 37.49 145 T T 04 09 59.5
baz=317,slow=77,SNR=459
H03N3 Juan Fernandez 37.49 145 T T 04 10 12.1
baz=317,slow=77,SNR=292
PB01 IPOC Station P 37.51 120 P P 03 30 02.7 +1.4
PB01 IAmb IAmb 03 30 09.0
comp=Z,57nm,0.9s
Z35A Perchaven, San 37.57 9 P P 03 30 00.4 -1.0
Z35A Perchaven, San 37.57 9 P P 03 30 00.7 -0.8
baz=191,SNR=7.4
Z35A S S 03 35 52.8 +2.7
baz=191
PB10 IPOC Station P 37.61 124 P P 03 30 03.6 +1.6
PB10 IAmb IAmb 03 30 09.0
comp=Z,47nm,1.0s
113A Mohawk Valley, 37.67 346 P P 03 30 01.1 -1.1
113A IAmb IAmb 03 30 08.4
comp=Z,130nm,1.9s
MSTX Muleshoe 37.70 2 P P 03 30 00.9 -1.8
MSTX IAmb IAmb 03 30 08.7
comp=Z,44nm,0.9s
MSTX Muleshoe 37.70 2 P P 03 30 02.2 -0.4
baz=182,SNR=24
MSTX S S 03 35 53.8 +1.6
baz=182
MSTX Muleshoe 37.70 2 P P 03 30 01.1 -1.5
baz=182,SNR=24
MSTX S S 03 35 54.0 +1.8
baz=182
346A Big Creek Wild 37.70 20 S S 03 35 56.2 +4.1
baz=204
Y22A Socorro 37.76 356 P P 03 30 02.7 -0.5
baz=175,SNR=24
Y22A S S 03 35 56.4 +3.1
baz=175
ETMB Extrema 37.83 101 eP P 03 30 04.0 0.0
Y22D IRIS PASSCAL I 37.90 356 P P 03 30 03.5 -0.9
baz=175
Y22D S S 03 36 00.2 +5.0
baz=175
Z38A Mt. Pleasant 37.92 12 P P 03 30 03.1 -1.3
Z38A IAmb IAmb 03 30 12.4
comp=Z,130nm,1.4s
Z38A Mt. Pleasant 37.92 12 P P 03 30 05.5 +1.1
baz=195,SNR=6.3
Z38A S S 03 36 00.1 +4.7
baz=195
BAUV El Baul 37.95 70 P P 03 30 02.8 -2.1
BAUV IAmb IAmb 03 30 15.1
comp=Z,77nm,0.8s
BNM Barren Site 37.95 356 P P 03 30 04.3 -0.6
LENM Lemitar 37.99 356 P P 03 30 03.4 -1.8
PB09 IPOC Station P 38.01 121 P P 03 30 07.1 +1.6
PB09 IAmb IAmb 03 30 13.7
comp=Z,81nm,1.1s
PB06 IPOC Station P 38.09 122 P P 03 30 07.4 +1.2
VBMS Vicksburg 38.12 19 P P 03 30 05.3 -0.7
baz=202
VBMS S S 03 36 03.7 +5.4
baz=202
YUH Yuha Desert 38.12 343 P P 03 30 05.2 -0.9
YUH IAmb IAmb 03 30 12.2
comp=Z,103nm,1.8s
RMX La Rumorosa 38.12 343 P P 03 30 04.6 -1.7
IKP In-Ko-Pah, Jac 38.17 343 P P 03 30 05.5 -1.2
baz=160,SNR=6.1
IKP S S 03 36 01.1 +1.8
baz=160
GLA Glamis 38.20 345 P P 03 30 05.8 -1.0
GLA pmax pmax
comp=Z,124nm,1.7s
GLA Glamis 38.20 345 P P 03 30 05.8 -1.0
GLA IAmb IAmb 03 30 13.0
comp=Z,124nm,1.7s
GLA Glamis 38.20 345 P P 03 30 05.8 -1.0
baz=162
GLA S S 03 36 03.0 +3.3
baz=162
143A Socs Landing, 38.30 17 S S 03 36 05.3 +4.3
baz=200
SWSC Sam W. Stewart 38.36 344 P P 03 30 06.8 -1.3
baz=161,SNR=6.1
SWSC S S 03 36 06.0 +3.9
baz=161
BAR Barrett 38.37 342 P P 03 30 06.5 -1.7
BRAL Brewton 38.41 24 S S 03 36 05.6 +2.9
baz=208
BRAL Brewton 38.41 24 P P 03 30 07.6 -0.9
baz=208
BRAL S S 03 36 06.4 +3.7
baz=208
Z41A Richland Creek 38.43 15 P P 03 30 07.8 -0.9
Z41A IAmb IAmb 03 30 15.2
comp=Z,73nm,1.1s
Z41A Richland Creek 38.43 15 P P 03 30 09.5 +0.8
baz=198
Z41A P P 03 30 09.5 +0.8
baz=198
Z41A S S 03 36 04.7 +1.6
baz=198
Z41A S S 03 36 04.7 +1.6
baz=198
Z41A Richland Creek 38.43 15 P P 03 30 07.8 -0.9
baz=198
Z41A S S 03 36 05.9 +2.8
baz=198
451A Vernon 38.47 26 S S 03 36 08.1 +4.5
baz=210
DWPF Disney Wildern 38.49 33 IAMs_20 IAMs_20 03 43 40.9
comp=Z,9µm,22.0s
DWPF Disney Wildern 38.49 33 S S 03 36 08.3 +4.2
baz=218
DWPF Disney Wildern 38.49 33 P P 03 30 07.9 -1.3
baz=218
DWPF S S 03 36 07.6 +3.5
baz=218
MONP2 Monument Peak 38.49 343 P P 03 30 07.9 -1.6
baz=160,SNR=7.9
MONP2 S S 03 36 08.1 +3.7
baz=160
LVC Limon Verde 38.61 122 P P 03 30 13.1 +2.3
comp=Z,21nm,0.9s,baz=286,slow=6.2,SNR=14
LVC LR LR 03 41 59.6
comp=Z,11µm,19.4s,baz=292,slow=30
LVC Limon Verde 38.61 122 P P 03 30 11.8 +1.0
LVC Limon Verde 38.61 122 IAMs_20 IAMs_20 03 41 38.0
comp=Z,11µm,21.0s
Y14A Wickenburg 38.63 348 P P 03 30 09.4 -1.0
X18A Snowflake 38.67 352 P P 03 30 09.6 -1.3
553A Crawfordville 38.69 27 S S 03 36 12.9 +5.9
baz=212
109C Camp Elliot, M 38.69 342 IAMs_20 IAMs_20 03 41 47.7
comp=Z,6µm,20.0s
109C Camp Elliot, M 38.69 342 P P 03 30 09.4 -1.5
baz=159
109C S S 03 36 07.9 +0.9
baz=159
ANMO Albuquerque 38.73 357 LR LR 03 44 59.3
comp=Z,2µm,19.3s,baz=182,slow=35
ANMO Albuquerque 38.73 357 eP P 03 30 09.5 -2.0
ANMO pmax pmax
comp=Z,36nm,2.5s
ANMO Albuquerque 38.73 357 P P 03 30 10.4 -1.0
ANMO Albuquerque 38.73 357 P P 03 30 10.5 -1.0
baz=176,SNR=14
ANMO S S 03 36 10.4 +2.4
baz=176
ANMO Albuquerque 38.73 357 P P 03 30 10.4 -1.0
baz=176
ANMO S S 03 36 10.0 +2.0
baz=176
X34A Smith Ranch, M 38.73 8 P 03 30 09.7 -1.6
WMOK Wichita Mounta 38.75 7 P P 03 30 10.5 -0.9
baz=188
WMOK S S 03 36 09.6 +1.7
baz=188
WLAR White Oak Lake 38.76 14 P P 03 30 10.4 -1.0
WLAR IAmb IAmb 03 30 19.8
comp=Z,126nm,1.2s
BLYC Blythe 38.79 346 P P 03 30 10.0 -1.7
X16A Lo Mia Camp, P 38.79 350 P P 03 30 11.0 -0.9
AC01 Pan de Azucar 38.79 128 P P 03 30 13.6 +1.7
BC3 Big Chuckawall 38.94 345 P P 03 30 11.8 -1.3
baz=162,SNR=9.6
BC3 S S 03 36 14.0 +3.1
baz=162
146A Union 38.98 20 P P 03 30 12.3 -1.0
146A IAmb IAmb 03 30 55.5
comp=Z,93nm,1.1s
146A Union 38.98 20 S S 03 36 15.1 +3.7
baz=204
X37A Clayton 39.13 11 P 03 30 13.4 -1.1
X37A IAmb IAmb 03 30 28.2
comp=Z,73nm,1.1s
X37A Clayton 39.13 11 P P 03 30 14.4 -0.1
baz=194,SNR=17
X37A S S 03 36 14.9 +1.3
baz=194
GO02 Mina Guanaco 39.13 126 P P 03 30 15.9 +0.7
TPFO Pinon Flats 39.17 343 P P 03 30 13.8 -1.2
baz=160,SNR=13
TPFO S S 03 36 17.6 +3.1
baz=160
PFO Pinyon Flats O 39.18 343 LR LR 03 42 29.6
comp=Z,8µm,21.0s,baz=155,slow=30
PFO Pinyon Flats O 39.18 343 P P 03 30 14.1 -1.0
PFO pmax pmax
comp=Z,47nm,1.3s
PFO Pinyon Flats O 39.18 343 P P 03 30 14.1 -1.0
PFO Pinyon Flats O 39.18 343 IAMs_20 IAMs_20 03 42 34.6
comp=Z,7µm,19.0s
PFO Pinyon Flats O 39.18 343 P P 03 30 14.0 -1.0
baz=160,SNR=13
PFO S S 03 36 17.4 +2.8
baz=160
PDMCI Parker Dam,Lak 39.23 347 P P 03 30 14.4 -1.0
baz=164,SNR=16
PDMCI S S 03 36 18.9 +3.8
baz=164
SCI2 San Clemente I 39.24 340 P P 03 30 14.2 -1.3
baz=156
SCI2 S S 03 36 20.6 +5.3
baz=156
SDDR Presa de Saban 39.33 54 P P 03 30 16.2 -0.3
SDDR IAmb IAmb 03 30 28.5
comp=Z,68nm,1.1s
IRM Iron Mountain 39.33 345 P P 03 30 14.8 -1.5
baz=162,SNR=10.0
IRM S S 03 36 20.1 +3.3
baz=162
MURC Murrieta 39.38 342 P P 03 30 15.4 -1.3
baz=159
MURC S S 03 36 20.7 +3.2
baz=159
BELC Belle Mtn. Jos 39.41 344 P P 03 30 15.8 -1.3
baz=161,SNR=8.4
BELC S S 03 36 22.3 +4.2
baz=161
W35A Tecumseh 39.42 9 P P 03 30 16.1 -0.9
W35A IAmb IAmb 03 30 22.6
comp=Z,93nm,0.9s
250A Grady 39.43 24 P P 03 30 16.9 -0.3
250A Grady 39.43 24 P P 03 30 17.9 +0.8
baz=208,SNR=9.8
250A S S 03 36 20.9 +2.7
baz=208
FNO Franklin 39.44 8 P P 03 30 16.5 -0.7
FNO IAmb IAmb 03 30 23.1
comp=Z,80nm,1.1s
MIAR Mount Ida 39.47 13 P P 03 30 16.5 -0.9
MIAR pmax pmax
comp=Z,70nm,1.1s
MIAR Mount Ida 39.47 13 P P 03 30 16.5 -0.9
MIAR IAmb IAmb 03 30 25.3
comp=Z,70nm,1.1s
MIAR Mount Ida 39.47 13 P P 03 30 16.9 -0.5
baz=196,SNR=40
MIAR S S 03 36 19.5 +0.8
baz=196
MIAR Mount Ida 39.47 13 P P 03 30 16.5 -0.9
baz=196,SNR=40
MIAR S S 03 36 20.0 +1.3
baz=196
ELS Elsinore Mount 39.50 342 P P 03 30 16.0 -1.8
352A Blakely 39.56 26 P P 03 30 17.7 -0.5
352A IAmb IAmb 03 30 28.9
comp=Z,151nm,1.2s
352A Blakely 39.56 26 P P 03 30 18.7 +0.5
baz=211,SNR=9.2
352A S S 03 36 22.5 +2.4
baz=211
AC06 Mina Casimiro 39.58 130 P P 03 30 18.8 +0.3
CIS Catalina Islan 39.58 341 P P 03 30 17.5 -0.9
baz=157
CIS S S 03 36 23.2 +2.6
baz=157
X40A Basin Creek Fa 39.59 14 S S 03 36 24.3 +3.8
baz=198
X40A S S 03 36 24.3 +3.8
baz=198
X40A Basin Creek Fa 39.59 14 P P 03 30 16.8 -1.6
baz=198
X40A S S 03 36 24.2 +3.7
baz=198
NEE2 Needles Airpor 39.78 346 P P 03 30 18.6 -1.5
baz=163
NEE2 S S 03 36 28.1 +4.7
baz=163
GO03 Copiap 39.79 130 P P 03 30 20.7 +0.5
GO03 IAmb IAmb 03 30 42.2
comp=Z,79nm,1.4s
SNCC San Nicolas Is 39.82 339 P P 03 30 17.6 -2.7
baz=155
SNCC S S 03 36 28.6 +4.6
baz=155
FMP Fort Macarthur 39.83 341 P P 03 30 18.4 -2.0
baz=157
Z47A Carrollton 39.84 21 P P 03 30 19.0 -1.5
WUAZ Wupatki 39.85 350 P P 03 30 20.0 -0.7
WUAZ IAMs_20 IAMs_20 03 43 28.2
comp=Z,6µm,19.0s
WUAZ Wupatki 39.85 350 P P 03 30 20.3 -0.5
baz=168,SNR=11
WUAZ S S 03 36 27.9 +3.2
baz=168
BBRC Big Bear Solar 39.92 343 P P 03 30 20.3 -1.1
baz=160
BBRC S S 03 36 29.7 +3.8
baz=160
W13A Hualapai Mount 39.93 347 P P 03 30 20.5 -1.0
Y45A Yeager Farm, C 39.95 19 P P 03 30 20.6 -0.8
Y45A IAmb IAmb 03 30 40.2
comp=Z,94nm,1.1s
Y45A Yeager Farm, C 39.95 19 P P 03 30 21.8 +0.4
baz=203,SNR=5.6
Y45A S S 03 36 28.7 +2.8
baz=203
UALR University of 39.99 15 P P 03 30 21.7 0.0
SC01 Santiago de lo 40.02 53 P P 03 30 20.4 -1.8
W39A Magazine 40.05 13 P P 03 30 21.3 -0.9
W39A IAmb IAmb 03 30 36.1
comp=Z,71nm,1.1s
W39A Magazine 40.05 13 P P 03 30 21.9 -0.2
baz=196,SNR=28
W39A S S 03 36 29.3 +1.9
baz=196
W39A Magazine 40.05 13 P P 03 30 21.6 -0.5
baz=196,SNR=28
W39A S S 03 36 29.6 +2.3
baz=196
GMRC Granite Mounta 40.06 345 P P 03 30 21.5 -0.9
baz=162,SNR=22
GMRC S S 03 36 30.1 +2.3
baz=162
LRAL Lakeview Retre 40.08 22 P P 03 30 21.6 -0.9
LRAL Lakeview Retre 40.08 22 P P 03 30 22.3 -0.2
baz=207,SNR=6.7
LRAL S S 03 36 28.4 +0.5
baz=207
LRAL Lakeview Retre 40.08 22 P P 03 30 22.2 -0.3
baz=207,SNR=6.7
LRAL S S 03 36 29.9 +2.0
baz=207
BIRV Birongo 40.09 69 P P 03 30 22.3 -0.6
BFSC Mount Baldy Ra 40.12 342 P P 03 30 21.7 -1.2
baz=158,SNR=10
BFSC S S 03 36 33.0 +4.3
baz=158
TIGA Tifton 40.13 27 P P 03 30 22.4 -0.4
TIGA Tifton 40.13 27 P P 03 30 23.6 +0.7
baz=212
TIGA S S 03 36 31.6 +3.0
baz=212
TIGA Tifton 40.13 27 P P 03 30 22.6 -0.3
baz=212
TIGA S S 03 36 32.9 +4.3
baz=212
LCO Las Campanas 40.17 132 P P 03 30 24.2 +0.5
LCO pmax pmax
comp=Z,51nm,1.2s
LCO Las Campanas 40.17 132 P P 03 30 24.2 +0.5
PASC Pasadena Art C 40.22 342 IAMs_20 IAMs_20 03 42 55.0
comp=Z,6µm,20.0s
CO05 La Serena 40.27 134 IAmb IAmb 03 30 31.2
comp=Z,88nm,1.2s
AC02 Maricunga 40.28 128 IAmb IAmb 03 30 47.3
comp=Z,102nm,1.6s
456A Hilliard 40.28 30 P P 03 30 23.9 -0.3
456A Hilliard 40.28 30 S S 03 36 31.7 +0.7
baz=215
HEC Hector,Ludlow 40.28 344 P P 03 30 23.4 -0.9
baz=161
HEC S S 03 36 34.9 +3.9
baz=161
TUL1 Leonard 40.34 10 P 03 30 22.7 -1.9
TUL1 Leonard 40.34 10 P P 03 30 23.4 -1.2
baz=193,SNR=8.2
TUL1 S S 03 36 31.4 -0.3
baz=193
TUL1 Leonard 40.34 10 P P 03 30 23.4 -1.2
baz=193,SNR=8.2
TUL1 S S 03 36 32.6 +0.9
baz=193
DECC Green Verdugo 40.34 341 P P 03 30 23.6 -1.1
baz=157
DECC S S 03 36 36.2 +4.3

baz=157
U32A Winter Ranch, 40.35 6 P P 03 30 23.9 -0.8
U32A Winter Ranch, 40.35 6 S **S 03 36 30.6 -1.3**
baz=188
W41B Gary Mavity, V 40.39 15 P **P 03 30 24.5 -0.5**
baz=198,SNR=6.7
W41B S **S 03 36 34.7 +2.3**
baz=198
W41B Gary Mavity, V 40.39 15 P **P 03 30 23.7 -1.3**
baz=198,SNR=6.7
W41B S **S 03 36 35.7 +3.2**
baz=198
WHAR Wooly Hollow 40.49 15 IAmb IAmb 03 30 33.1
comp=Z,98nm,1.4s
RRX Edison Barstow 40.51 343 P **P 03 30 24.9 -1.2**
baz=160
RRX S **S 03 36 37.9 +3.5**
baz=160
OXF Oxford 40.58 18 P **P 03 30 24.8 -1.8**
baz=203
OXF S **S 03 36 37.3 +1.9**
baz=203
152A Waverly Hall 40.67 25 IAmb IAmb 03 30 37.1
comp=Z,58nm,1.1s
152A Waverly Hall 40.67 25 P **P 03 30 26.5 -1.0**
baz=210,SNR=8.5
152A S **S 03 36 37.3 +0.5**
baz=210
GO04 Tololo Observa 40.72 134 IAmb IAmb 03 30 33.3
comp=Z,168nm,1.8s
TUQ Turquoise Moun 40.75 345 P **P 03 30 27.0 -1.2**
baz=161
TUQ S **S 03 36 41.5 +3.4**
baz=161
OSI Osito Audit: C 40.80 341 P **P 03 30 27.5 -1.0**
baz=157
OSI S **S 03 36 39.7 +1.0**
baz=157
EDW2 Edwards Air Fo 40.81 342 P **P 03 30 27.0 -1.6**
baz=158,SNR=11
EDW2 S **S 03 36 40.4 +1.4**
baz=158
GRTK Grand Turk 40.83 50 IAMs_20 IAMs_20 03 44 20.3
comp=Z,11µm,22.0s
T25A Trinidad 40.85 359 P **P 03 30 27.9 -1.1**
baz=179,SNR=22
T25A S **S 03 36 42.4 +2.7**
baz=179
GSC Goldstone, Bar 40.86 344 P **P 03 30 28.2 -0.8**
baz=160,SNR=16
GSC S **S 03 36 41.3 +1.7**
baz=160
U15A North Rim 40.90 350 P **P 03 30 28.7 -0.9**
SBC Santa Barbara 40.97 340 P **P 03 30 28.6 -1.2**
baz=156
SBC S **S 03 36 44.9 +3.8**
baz=156
Y49A Blount Mountai 41.04 22 S **S 03 36 42.9 +0.7**
baz=207
Z51A Franklin 41.05 24 S **S 03 36 43.0 +0.7**
baz=209
255A Hazlehurst 41.05 28 P **P 03 30 30.3 -0.2**
baz=214
255A S **S 03 36 44.5 +2.1**
baz=214
HHAR Hobbs 41.06 12 P **P 03 30 29.5 -1.1**
baz=195
HHAR S **S 03 36 42.9 +0.4**
baz=195
CO01 Juntas del Tor 41.13 133 IAmb IAmb 03 30 53.0
comp=Z,128nm,2.0s
MVCO Mesa Verde 41.14 354 P **P 03 30 30.4 -1.1**
MVCO Mesa Verde 41.14 354 P **P 03 30 30.2 -1.3**
baz=173,SNR=34
MVCO S **S 03 36 46.9 +2.8**
baz=173
CO02 Combarbal 41.16 135 P **P 03 30 32.5 +0.8**
CO02 IAmb IAmb 03 30 48.7
comp=Z,67nm,1.4s
CO03 El Pedregal 41.17 134 IAmb IAmb 03 30 53.8
comp=Z,210nm,1.9s
T35B Sooner Cattle 41.20 9 P **P 03 30 29.0 -2.7**
baz=191,SNR=5.5
T35B S **S 03 36 44.9 +0.4**
baz=191
W45A Hickory Valley 41.25 18 P **P 03 30 31.2 -0.9**
baz=203,SNR=8.7
W45A S **S 03 36 47.9 +2.6**
baz=203
LRMC Laurel Mtn Rad 41.27 343 P **P 03 30 30.7 -1.8**
baz=159
LRMC S **S 03 36 49.3 +3.4**
baz=159
SHOC Shoshone, Teco 41.28 345 P **P 03 30 31.2 -1.1**
baz=161,SNR=8.6
SHOC S **S 03 36 49.3 +3.6**
baz=161
ARVC Arvin 41.30 341 P **P 03 30 31.6 -0.9**
baz=157
ARVC S **S 03 36 47.6 +1.6**
baz=157
X48A Hartselle 41.33 21 P **P 03 30 32.3 -0.5**
baz=206,SNR=9.7
X48A S **S 03 36 47.4 +0.9**
baz=206
154A Montrose 41.33 27 P **P 03 30 33.8 +0.9**
baz=212,SNR=8.5
154A S **S 03 36 49.1 +2.5**
baz=212
U40A Yellville 41.37 14 P **P 03 30 32.4 -0.7**
baz=197,SNR=30
U40A P **P 03 30 32.4 -0.7**
baz=197,SNR=30
U40A S **S 03 36 46.9 -0.2**
baz=197
U40A S **S 03 36 46.9 -0.2**
baz=197
U40A Yellville 41.37 14 P **P 03 30 31.7 -1.4**
baz=197,SNR=30
U40A S **S 03 36 47.8 +0.7**
baz=197
PKM Mcpherson Peak 41.41 340 P **P 03 30 32.5 -1.2**
baz=156
PKM S **S 03 36 49.0 +1.0**
baz=156
PLAL Pickwick Lake 41.45 20 IAmb IAmb 03 30 39.4
comp=Z,60nm,0.9s
SDCO Great Sand Dun 41.48 358 P **P 03 30 33.5 -0.8**
baz=178,SNR=29
SDCO S **S 03 36 52.4 +3.2**
baz=178
SDCO Great Sand Dun 41.48 358 P **P 03 30 33.0 -1.3**
baz=178,SNR=29
SDCO S **S 03 36 52.5 +3.2**
baz=178
LCAR Lake Charles 41.52 16 P **P 03 30 33.3 -1.1**
baz=199,SNR=23
LCAR S **S 03 36 51.6 +2.3**
baz=199
S22A 4UR Ranch, Cre 41.54 356 P **P 03 30 33.9 -1.0**
baz=176,SNR=26
S22A S **S 03 36 51.9 +1.7**
baz=176
KNB Kanab 41.57 349 IAmb IAmb 03 30 37.9
comp=Z,142nm,1.9s
SHPR Sheep Range 41.57 346 P **P 03 30 34.5 -0.4**
ISA Isabella, Lake 41.68 342 P **P 03 30 35.0 -0.8**
ISA pmax pmax
comp=Z,24nm,1.1s
ISA Isabella, Lake 41.68 342 P **P 03 30 35.0 -0.8**
ISA Isabella, Lake 41.68 342 P **P 03 30 34.7 -1.1**
baz=158,SNR=12
ISA S **S 03 36 54.5 +2.7**
baz=158
VA06 Catapilco 41.73 137 P **P 03 30 37.4 +1.3**
VA06 IAmb IAmb 03 30 40.9
comp=Z,89nm,1.4s
MPMC Manual Prospec 41.76 343 P **P 03 30 35.2 -1.4**
baz=159,SNR=22
MPMC S **S 03 36 56.2 +3.0**
baz=159
GOGA Godfrey 41.85 26 IAMs_20 IAMs_20 03 47 20.5
comp=Z,7µm,19.0s
GOGA Godfrey 41.85 26 P **P 03 30 36.4 -0.7**
baz=212,SNR=7.9
GOGA S **S 03 36 56.6 +2.3**
baz=212
GOGA Godfrey 41.85 26 P **P 03 30 36.3 -0.7**
baz=212,SNR=7.9
GOGA S **S 03 36 56.5 +2.3**
baz=212
SMMC Simmler 41.86 340 P **P 03 30 36.2 -1.0**
baz=156
SMMC S **S 03 36 58.1 +3.7**
baz=156
PKCU Pink Cliffs 41.89 350 IAmb IAmb 03 30 46.0
comp=Z,140nm,1.7s
PEBM Pemiscott Bayo 41.93 17 P **P 03 30 36.7 -0.9**
FPAL Fort Paine 41.95 23 IAmb IAmb 03 31 00.3
comp=Z,85nm,1.2s
FURC Furnace Creek, 41.97 344 P **P 03 30 37.1 -0.8**
baz=160,SNR=9.8
FURC S **S 03 36 59.6 +3.8**
baz=160
Y52A Lilburn 41.98 25 P **P 03 30 38.3 +0.2**
baz=210,SNR=6.5
Y52A P **P 03 30 38.3 +0.2**
baz=210,SNR=6.5
Y52A S **S 03 36 55.3 -0.9**
baz=210
Y52A S **S 03 36 55.3 -0.9**
baz=210
VES Vestal, Richgr 42.04 341 P **P 03 30 37.2 -1.3**
baz=157,SNR=9.7
VES S **S 03 37 00.1 +3.2**
baz=157
MT02 Curacav 42.25 138 IAmb IAmb 03 30 56.8
comp=Z,98nm,1.6s
TPNV Topopah Spring 42.26 345 IAMs_20 IAMs_20 03 44 23.1
comp=Z,5µm,20.0s
TPNV Topopah Spring 42.26 345 P **P 03 30 40.2 -0.4**
baz=162,SNR=15
TPNV S **S 03 37 04.4 +3.8**
baz=162
X51A Calhoun 42.27 24 IAmb IAmb 03 30 49.9
comp=Z,66nm,0.9s
X51A Calhoun 42.27 24 P **P 03 30 38.6 -1.8**
baz=209,SNR=8.3
X51A P **P 03 30 38.6 -1.8**
baz=209,SNR=8.3
X51A S **S 03 37 02.9 +2.5**
baz=209
X51A S **S 03 37 02.9 +2.5**
baz=209
MGMO Mountain Grove 42.27 14 IAmb IAmb 03 31 01.5
comp=Z,122nm,1.8s
CWC Cottonwood Cre 42.28 343 P **P 03 30 39.7 -1.1**
baz=159
CWC S **S 03 37 04.0 +3.1**
baz=159
PV10 Paradox Valley 42.35 354 P **P 03 30 39.2 -2.2**
VA03 San Esteban 42.36 137 IAmb IAmb 03 30 57.4
comp=Z,75nm,1.4s
PV07 Paradox Valley 42.37 354 P **P 03 30 40.3 -1.2**
PBMO Poplar Bluff 42.39 16 IAmb IAmb 03 30 46.7
comp=Z,92nm,1.1s
PBMO Poplar Bluff 42.39 16 P **P 03 30 39.8 -1.6**
baz=200,SNR=31
PBMO S **S 03 37 04.2 +2.2**
baz=200
R32A Long Quarter, 42.40 6 P **P 03 30 41.0 -0.5**
baz=188,SNR=7.9
R32A S **S 03 37 03.5 +1.2**
baz=188
SWET Sewanee 42.42 22 IAmb IAmb 03 30 48.7
comp=Z,126nm,1.7s
PV23 Carpenter Ridg 42.42 354 P **P 03 30 40.9 -1.1**
MTPU Mount Pierson 42.45 350 IAmb IAmb 03 31 03.1
comp=Z,98nm,1.8s
PARMO Parma 42.47 17 IAmb IAmb 03 30 47.3
comp=Z,86nm,1.1s
PEL Peldehue 42.49 137 IAMs_20 IAMs_20 03 43 38.8
comp=Z,9µm,20.0s
S39A Bolivar 42.55 12 P **P 03 30 41.8 -0.9**
baz=196,SNR=32
S39A S **S 03 37 04.6 +0.2**
baz=196
V48A Smith Brothers 42.57 21 P **P 03 30 41.9 -1.0**
baz=206,SNR=26
V48A S **S 03 37 03.6 -1.2**
baz=206
VOG Valley Oaks Go 42.57 341 P **P 03 30 41.4 -1.6**
baz=157
WVT Waverly 42.58 19 P **P 03 30 42.2 -0.8**
WVT pmax pmax
comp=Z,60nm,1.1s
WVT MLR MLR
comp=Z,3µm,19.0s
WVT Waverly 42.58 19 P **P 03 30 42.1 -0.8**
WVT IAmb IAmb 03 30 48.5
comp=Z,60nm,1.1s
WVT Waverly 42.58 19 P **P 03 30 42.1 -0.9**
baz=204,SNR=38
WVT S **S 03 37 05.2 +0.3**
baz=204
WVT Waverly 42.58 19 P **P 03 30 41.2 -1.8**
baz=204
WVT S **S 03 37 06.3 +1.4**
baz=204
GRAC Grapevine Rang 42.60 344 P **P 03 30 42.5 -0.7**
GRAC IAmb IAmb 03 30 46.3
comp=Z,84nm,1.3s
GRAC Grapevine Rang 42.60 344 P **P 03 30 42.1 -1.1**
baz=160
GRAC S **S 03 37 08.2 +2.9**
baz=160
W50A Signal Mountai 42.64 23 P **P 03 30 43.3 -0.3**
baz=208
W50A S **S 03 37 07.4 +1.4**
baz=208
HAW Hawthorne Fire 42.65 28 S **S 03 37 08.3 +2.3**
baz=214
Q24A Divide 42.68 359 P **P 03 30 42.9 -1.3**
baz=178
Q24A S **S 03 37 08.5 +1.5**
baz=178
CBKS Cedar Bluff 42.69 5 IAmb IAmb 03 30 49.4
comp=Z,76nm,1.0s
CBKS IAMs_20 IAMs_20 03 46 42.7
comp=Z,7µm,20.0s
CBKS Cedar Bluff 42.69 5 P **P 03 30 43.2 -0.7**
baz=186,SNR=11
CBKS S **S 03 37 07.0 +0.4**
baz=186
CBKS Cedar Bluff 42.69 5 P **P 03 30 41.7 -2.2**
baz=186,SNR=11
CBKS S **S 03 37 07.5 +0.9**
baz=186
KSCO Kaye Shedlock' 42.73 1 IAmb IAmb 03 30 52.2
comp=Z,57nm,1.1s
KSCO Kaye Shedlock' 42.73 1 P **P 03 30 43.8 -0.5**
baz=182
KSCO S **S 03 37 09.4 +2.0**
baz=182
KSCO Kaye Shedlock' 42.73 1 P **P 03 30 42.8 -1.5**
baz=182
KSCO S **S 03 37 10.2 +2.9**
baz=182
OBIP Obispado Ponce 42.74 58 IAmb IAmb 03 30 54.1
comp=Z,45nm,0.8s
S11A Rachel 42.80 346 IAmb IAmb 03 30 49.4
comp=Z,123nm,1.5s
GO05 Huala 42.81 140 IAmb IAmb 03 31 01.8
comp=Z,101nm,1.4s
MT03 Universidad Ad 42.82 137 IAmb IAmb 03 30 57.1
comp=Z,78nm,1.2s
TIN Tinemaha, Big 42.90 343 P **P 03 30 44.0 -1.7**
baz=159
PMPB Monarch Peak 42.95 340 IAmb IAmb 03 31 20.9
comp=Z,102nm,1.4s
BO01 Tunca 42.97 139 IAmb IAmb 03 30 49.0
comp=Z,134nm,1.8s
SMCO Snowmass 42.98 356 IAMs_20 IAMs_20 03 46 16.2
comp=Z,5µm,19.0s
BO04 La Punta 43.04 138 P **P 03 30 47.5 +0.6**
BO04 IAmb IAmb 03 31 19.0
comp=Z,78nm,1.6s
HODGE Hodges 43.08 27 P **P 03 30 46.9 -0.2**
baz=213,SNR=7.7
HODGE S **S 03 37 15.0 +2.7**
baz=213
W52A Murphy 43.10 24 IAmb IAmb 03 31 05.9
comp=Z,69nm,1.1s
W52A Murphy 43.10 24 P **P 03 30 47.0 -0.2**
baz=210,SNR=21
W52A S **S 03 37 15.5 +2.8**
baz=210
MACA Manacapuru-AM 43.12 90 *e*P **P 03 30 48.9 +1.1**
NHSC New Hope 43.13 30 P **P 03 30 47.6 +0.1**
baz=216
NHSC New Hope 43.13 30 P **P 03 30 45.3 -2.1**
baz=216
NHSC S **S 03 37 16.0 +3.0**
baz=216
T45B Paducah 43.13 18 S **S 03 37 12.9 -0.1**
baz=203
T45A Paducah 43.13 18 IAmb IAmb 03 30 54.5
comp=Z,50nm,0.8s
Q16A Castle Valley 43.15 352 IAmb IAmb 03 31 06.9
comp=Z,129nm,2.0s
SJG San Juan 43.16 58 LR LR 03 45 31.8
comp=Z,4µm,20.0s,baz=230,slow=32
SJG San Juan 43.16 58 P **P 03 30 46.1 -1.9**
SJG pmax pmax
comp=Z,57nm,1.1s
SJG San Juan 43.16 58 P **P 03 30 46.0 -1.9**
SJG IAmb IAmb 03 31 08.7
comp=Z,57nm,1.1s
CPCT Cooper Cave 43.17 23 IAmb IAmb 03 31 06.0
comp=Z,59nm,1.1s
PDPR Patillas Dam, 43.22 59 IAmb IAmb 03 30 52.1
comp=Z,124nm,1.8s
LMEL Las Melosas 43.23 138 IAmb IAmb 03 31 00.9
comp=Z,68nm,1.2s
SRU San Rafael Swe 43.25 352 IAmb IAmb 03 30 54.8
comp=Z,67nm,1.4s
GCPR Guaynabo City 43.30 58 P **P 03 30 48.0 -1.1**
GCPR IAmb IAmb 03 31 10.4
comp=Z,92nm,1.4s
KSU1 Kansas State U 43.33 8 IAmb IAmb 03 30 54.6
comp=Z,46nm,0.9s
KSU1 Kansas State U 43.33 8 P **P 03 30 48.2 -0.8**
baz=191,SNR=8.5
KSU1 S **S 03 37 14.5 -1.4**
baz=191
KSU1 Kansas State U 43.33 8 P **P 03 30 46.5 -2.5**
baz=191,SNR=8.5
KSU1 S **S 03 37 16.7 +0.8**
baz=191
R40A Maddies Statio 43.35 13 P **P 03 30 47.8 -1.4**
baz=197,SNR=24
R40A S **S 03 37 17.3 +1.1**
baz=197
BBGB Big Mountain B 43.36 340 P **P 03 30 47.8 -1.6**
BBGB IAmb IAmb 03 31 19.9
comp=Z,57nm,1.1s
CCM Cathedral Cave 43.38 15 P **P 03 30 47.9 -1.5**
CCM pmax pmax
comp=Z,43nm,1.0s
CCM Cathedral Cave 43.38 15 P **P 03 30 47.9 -1.5**
CCM Cathedral Cave 43.38 15 P **P 03 30 48.2 -1.2**
baz=199,SNR=29
CCM S **S 03 37 14.0 -2.6**
baz=199
CCM Cathedral Cave 43.38 15 P **P 03 30 48.6 -0.8**
baz=199
CCM S **S 03 37 18.7 +2.1**
baz=199
BO02 Sierra Bellavi 43.41 139 IAmb IAmb 03 30 59.1
comp=Z,108nm,1.7s
BG3 Lake Jocassee 43.43 25 IAmb IAmb 03 31 04.1
comp=Z,53nm,0.9s
CASEE Lake Jocassee 43.43 25 P **P 03 30 49.6 -0.3**
baz=211,SNR=10
CASEE S **S 03 37 23.1 +5.6**
baz=211
R11A Troy Canyon, C 43.43 347 P **P 03 30 49.0 -1.0**
baz=163,SNR=26
R11A S **S 03 37 23.3 +5.6**
baz=163
FVM French Village 43.52 15 IAmb IAmb 03 30 55.5
comp=Z,54nm,1.1s
FVM French Village 43.52 15 P **P 03 30 50.0 -0.6**
baz=200,SNR=13
FVM S **S 03 37 19.2 +0.5**
baz=200
TMUT Trail Mountain 43.53 352 IAmb IAmb 03 30 57.6
comp=Z,132nm,1.9s
ISCO Idaho Springs 43.53 358 P **P 03 30 50.2 -0.8**
baz=178,SNR=22
ISCO S **S 03 37 23.4 +3.9**
baz=178
ISCO Idaho Springs 43.53 358 P **P 03 30 49.8 -1.2**
baz=178,SNR=22
ISCO S **S 03 37 23.2 +3.7**
baz=178
V51A Loudon 43.55 23 IAmb IAmb 03 31 08.9
comp=Z,56nm,1.1s
V51A Loudon 43.55 23 P **P 03 30 50.5 -0.4**
baz=209,SNR=8.9
V51A S **S 03 37 18.5 -0.6**
baz=209
JSC Jenkinsville 43.57 28 IAmb IAmb 03 31 05.0
comp=Z,45nm,0.9s
JSC Jenkinsville 43.57 28 P **P 03 30 50.4 -0.7**
baz=214,SNR=7.7
S44A Carbondale 43.58 17 IAmb IAmb 03 31 05.0
comp=Z,71nm,1.4s
S44A Carbondale 43.58 17 P **P 03 30 50.0 -1.0**
baz=202
S44A S **S 03 37 19.1 -0.4**
baz=202
T47A Sharon Grove 43.60 20 IAmb IAmb 03 30 57.8
comp=Z,193nm,2.0s
T47A Sharon Grove 43.60 20 P **P 03 30 50.2 -1.0**
baz=205
T47A S **S 03 37 17.2 -2.6**
baz=205
ML02 Panimavida 43.60 141 IAmb IAmb 03 31 21.3
comp=Z,94nm,1.2s
SIUC Southern Illin 43.61 17 IAmb IAmb 03 31 05.2
comp=Z,69nm,1.3s
MLAC Mammoth, Mammo 43.61 343 P **P 03 30 50.5 -1.1**
baz=158
MLAC S **S 03 37 25.0 +4.5**
baz=158
U49A Red Boiling Sp 43.63 21 P **P 03 30 50.1 -1.4**
baz=207,SNR=11
U49A S **S 03 37 19.8 -0.6**
baz=207
TKL Tuckaleechee C 43.65 24 LR LR 03 49 11.4
comp=Z,5µm,18.5s,baz=215,slow=36
TKL Tuckaleechee C 43.65 24 IAmb IAmb 03 31 14.8
comp=Z,68nm,1.2s
TKL Tuckaleechee C 43.65 24 P **P 03 30 51.0 -0.6**
baz=210,SNR=8.4
TKL S **S 03 37 19.7 -1.1**
baz=210
SIV San Ignacio 43.73 109 P **P 03 30 53.5 +0.7**
comp=Z,5.9nm,1.0s,baz=277,slow=8.1,SNR=12
SIV LR LR 03 46 42.9
comp=Z,17µm,21.2s,baz=298,slow=33
Y57A Sumter 43.76 29 IAmb IAmb 03 31 10.0
comp=Z,47nm,1.1s
Y57A Sumter 43.76 29 S **S 03 37 24.9 +2.6**
baz=215
Y57A S **S 03 37 24.9 +2.6**
baz=215
PAULI Pauline 43.77 27 IAmb IAmb 03 31 09.3
comp=Z,71nm,1.1s
PAULI Pauline 43.77 27 P **P 03 30 52.5 -0.2**
baz=213,SNR=11
PAULI S **S 03 37 24.7 +2.2**
baz=213
BOAV Boa Vista 43.78 82 *e*P **P 03 30 52.0 -1.2**
V52A Sevierville 43.88 24 IAmb IAmb 03 31 08.9
comp=Z,97nm,1.9s
V52A Sevierville 43.88 24 S **S 03 37 24.1 +0.1**
baz=210
O20A White River Ci 44.02 355 P **P 03 30 53.9 -0.9**
baz=174,SNR=25
O20A S **S 03 37 29.2 +2.9**
baz=174
Y58A Scranton 44.02 29 S **S 03 37 28.4 +2.3**
baz=216
Y58A S **S 03 37 28.4 +2.3**
baz=216
V53A Saluda 44.06 25 IAmb IAmb 03 31 09.4
comp=Z,62nm,1.0s
V53A Saluda 44.06 25 P **P 03 30 54.9 -0.1**
baz=211,SNR=18
V53A P **P 03 30 54.9 -0.1**
baz=211,SNR=18
V53A S **S 03 37 26.7 0.0**

baz=211
V53A S **S** **03 37 26.7 0.0**
baz=211
VILB Vilhena **44.07 105** *e*P **P** **03 30 56.2 +0.8**
CDVI St. Croix **44.18 60** IAmb IAmb 03 31 06.0
comp=Z,71nm,0.8s
SLM Saint Louis **44.18 15** S **S** **03 37 28.9 +0.6**
baz=200
NVAR Mina Array Bea **44.20 344** P **P** **03 30 54.1 -2.3**
comp=Z,3.3nm,0.9s,baz=167,slow=8.2,SNR=27
NVAR PcP **PP** **03 32 39.7 +0.1**
comp=Z,2.3nm,1.0s,baz=160,slow=2.9,SNR=2.4
NVAR LR LR 03 45 19.0
comp=Z,6μm,21.8s,baz=164,slow=31
BIRD Birdtown, Kers **44.24 28** IAmb IAmb 03 31 10.1
comp=Z,41nm,1.0s
KMSC Kings Mountain **44.25 27** IAmb IAmb 03 31 10.2
comp=Z,42nm,0.9s
KMSC Kings Mountain **44.25 27** P **P** **03 30 55.5 -1.1**
baz=213,SNR=10
KMSC S **S** **03 37 31.8 +2.2**
baz=213
KMSC Kings Mountain **44.25 27** P **P** **03 30 54.7 -1.8**
baz=213,SNR=10
KMSC S **S** **03 37 32.9 +3.4**
baz=213
USIN University of **44.31 18** IAmb IAmb 03 31 01.9
comp=Z,70nm,1.1s
P38A Dawn **44.37 11** IAmb IAmb 03 31 02.5
comp=Z,135nm,1.9s
P38A Dawn **44.37 11** P **P** **03 30 55.9 -1.4**
baz=195,SNR=10
P38A S **S** **03 37 31.8 +0.9**
baz=195
T50A Nancy **44.43 22** P **P** **03 30 56.4 -1.5**
baz=208
T50A P **P** **03 30 56.4 -1.5**
baz=208
T50A S **S** **03 37 34.1 +2.1**
baz=208
T50A S **S** **03 37 34.1 +2.1**
baz=208
RYN Ryan **44.45 344** IAmb IAmb 03 31 00.9
comp=Z,57nm,1.4s
CMB Columbia Colle **44.46 341** IAMs_20 IAMs_20 03 45 46.4
comp=Z,8μm,18.0s
Y59A Loris **44.48 30** S **S** **03 37 38.2 +5.4**
baz=217
Y59A S **S** **03 37 38.2 +5.4**
baz=217
VAH Vaihoa **44.48 252** *e*P **P** **03 31 02.0 +3.3**
comp=Z,221nm,1.5s
TZTN Tazewell **44.51 24** IAmb IAmb 03 31 08.6
comp=Z,73nm,1.0s
TZTN IAMs_20 IAMs_20 03 49 46.7
comp=Z,5μm,18.0s
TZTN Tazewell **44.51 24** P **P** **03 30 57.5 -1.1**
baz=210,SNR=11
TZTN S **S** **03 37 32.7 -0.5**
baz=210
TZTN Tazewell **44.51 24** P **P** **03 30 57.0 -1.6**
baz=210,SNR=11
TZTN S **S** **03 37 33.7 +0.5**
baz=210
RDMU Red Mountain **44.58 354** IAmb IAmb 03 31 07.5
comp=Z,96nm,1.7s
P40A Paris **44.59 13** IAmb IAmb 03 31 04.3
comp=Z,82nm,1.1s
P40A Paris **44.59 13** P **P** **03 30 58.1 -1.0**
baz=197,SNR=31
P40A S **S** **03 37 31.9 -2.3**
baz=197
N23A Red Feather La **44.64 358** IAmb IAmb 03 31 06.1
comp=Z,59nm,1.2s
N23A Red Feather La **44.64 358** P **P** **03 30 58.4 -1.5**
baz=177,SNR=22
N23A S **S** **03 37 37.4 +2.0**
baz=177
DUG Dugway, Tooele **44.66 350** IAmb IAmb 03 31 14.0
comp=Z,50nm,1.4s
DUG Dugway, Tooele **44.66 350** P **P** **03 30 58.8 -1.0**
baz=167,SNR=18
DUG S **S** **03 37 39.1 +3.6**
baz=167
OGNE Ogallala **44.68 2** P **P** **03 30 59.1 -0.8**
OGNE IAMs_20 IAMs_20 03 48 19.2
comp=Z,5μm,18.0s
OGNE Ogallala **44.68 2** P **P** **03 30 58.5 -1.4**
baz=183
OGNE S **S** **03 37 37.8 +2.1**
baz=183
PMOR Pomariorio Ree **44.70 253** *e*P **P** **03 31 03.6 +3.2**
comp=Z,345nm,1.5s
X58A Rowland **44.70 29** IAmb IAmb 03 31 13.8
comp=Z,60nm,0.9s
X58A Rowland **44.70 29** S **S** **03 37 38.0 +1.9**
baz=216
X58A S **S** **03 37 38.0 +1.9**
baz=216
KVN Kaiserville **44.73 344** IAmb IAmb 03 31 03.3
comp=Z,64nm,1.7s
Q44A Meyer Farm, Va **44.77 17** IAmb IAmb 03 31 04.8
comp=Z,75nm,1.1s
Q44A Meyer Farm, Va **44.77 17** P **P** **03 30 59.8 -0.7**
baz=201,SNR=10
Q44A S **S** **03 37 39.7 +2.9**
baz=201
Y60A Bolivia **44.83 31** S **S** **03 37 40.4 +2.6**
baz=218
Y60A S **S** **03 37 40.4 +2.6**
baz=218
N33B J Bar K, Exete **44.83 7** S **S** **03 37 37.0 -0.7**
baz=189
JLU Jordanelle **44.84 352** IAmb IAmb 03 31 05.3
comp=Z,55nm,1.5s
W57A Gilead **44.88 28** IAmb IAmb 03 31 14.8
comp=Z,34nm,0.9s
W57A Gilead **44.88 28** S **S** **03 37 40.8 +2.3**
baz=215
W57A S **S** **03 37 40.8 +2.3**
baz=215
OLIL Olney **44.88 18** IAmb IAmb 03 31 06.3
comp=Z,62nm,1.1s
OLIL Olney **44.88 18** P **P** **03 31 00.4 -1.0**
baz=203,SNR=9.5
OLIL S **S** **03 37 40.6 +2.1**
baz=203
V55A Taylorsville **44.90 26** P **P** **03 31 00.8 -0.8**
baz=213,SNR=12
V55A P **P** **03 31 00.8 -0.8**
baz=213,SNR=12
V55A S **S** **03 37 39.2 +0.4**
baz=213
V55A S **S** **03 37 39.2 +0.4**
baz=213
CTU Camp Tracy **44.98 352** P **P** **03 31 01.4 -1.1**
YERR Yerington **44.99 343** IAmb IAmb 03 31 09.2
comp=Z,67nm,1.4s
PHWY Pilot Hill **45.03 358** IAmb IAmb 03 31 10.7
comp=Z,88nm,1.6s
PNTR Pine Nut **45.19 343** IAmb IAmb 03 31 19.4
comp=Z,66nm,1.0s
N35A Tabor **45.20 9** P **P** **03 31 03.2 -0.8**
baz=192,SNR=9.4
N35A S **S** **03 37 43.7 +0.7**
baz=192
U54A Nelsons Funny **45.20 25** IAmb IAmb 03 31 21.3
comp=Z,74nm,1.4s
EMB Emerald Bay **45.23 342** IAmb IAmb 03 31 19.7
comp=Z,53nm,1.1s
P43A Skaggs, Pawnee **45.32 16** IAmb IAmb 03 31 18.1
comp=Z,44nm,1.1s
P43A Skaggs, Pawnee **45.32 16** P **P** **03 31 05.1 +0.2**
baz=200,SNR=6.4
P43A S **S** **03 37 45.8 +1.1**
baz=200
RUBR Rubicon Trail **45.32 342** IAmb IAmb 03 31 16.3
comp=Z,71nm,1.1s
LC01 Cunco **45.36 144** IAmb IAmb 03 31 15.8
comp=Z,48nm,1.0s
VCNR Virginia City **45.39 343** IAmb IAmb 03 31 17.2
comp=Z,34nm,1.0s
BGU Big Grassy Mou **45.41 350** IAmb IAmb 03 31 27.3
comp=Z,75nm,2.0s
BGNE Belgrade **45.41 6** P **P** **03 31 04.6 -1.1**
baz=188,SNR=6.7
BGNE S **S** **03 37 45.7 -0.5**
baz=188
BGNE Belgrade **45.41 6** P **P** **03 31 03.6 -2.0**
baz=188,SNR=6.7
BGNE S **S** **03 37 46.6 +0.4**
baz=188
R49A Shelbyville **45.44 21** P **P** **03 31 04.9 -1.0**
baz=207,SNR=7.9
R49A P **P** **03 31 04.9 -1.0**
baz=207,SNR=7.9
R49A S **S** **03 37 46.2 -0.4**
baz=207
R49A S **S** **03 37 46.2 -0.4**
baz=207
S51A Beattyville **45.44 23** IAmb IAmb 03 31 21.0
comp=Z,72nm,1.6s
S51A Beattyville **45.44 23** S **S** **03 37 45.6 -1.1**
baz=209
S51A S **S** **03 37 45.6 -1.1**
baz=209
PTLB Pontes e Lacer **45.47 108** *e*P **P** **03 31 06.4 -0.1**
RWWY Rawlins **45.49 357** IAmb IAmb 03 31 14.5
comp=Z,88nm,1.4s
N38A Joes South For **45.55 11** IAmb IAmb 03 31 17.1
comp=Z,57nm,1.1s
N38A Joes South For **45.55 11** S **S** **03 37 47.4 -0.7**
baz=195
LR03 Panguipulli **45.59 146** IAmb IAmb 03 31 24.4
comp=Z,52nm,1.1s
ELK Elko **45.65 348** LR LR 03 47 28.1
comp=Z,5μm,18.2s,baz=168,slow=33
ELK Elko **45.65 348** IAmb IAmb 03 31 11.8
ELK comp=Z,79nm,1.9s IAMs_20 IAMs_20 03 47 25.9
comp=Z,5μm,18.0s
U56A King **45.68 27** IAmb IAmb 03 31 25.9
comp=Z,57nm,1.1s
U56A King **45.68 27** S **S** **03 37 52.2 +1.9**
baz=214
U56A S **S** **03 37 52.2 +1.9**
baz=214
PAHR Pah Rah Range **45.70 343** IAmb IAmb 03 31 23.3
comp=Z,41nm,1.0s
R50A Paris **45.73 22** IAmb IAmb 03 31 24.8
comp=Z,73nm,1.4s
R50A Paris **45.73 22** P **P** **03 31 07.2 -1.0**
baz=208,SNR=7.9
R50A P **P** **03 31 07.2 -1.0**
baz=208,SNR=7.9
R50A S **S** **03 37 46.5 -4.4**
baz=208
R50A S **S** **03 37 46.5 -4.4**
baz=208
V58A Windy Hill, Pi **45.81 28** IAmb IAmb 03 31 26.0
comp=Z,40nm,1.1s
V58A Windy Hill, Pi **45.81 28** S **S** **03 37 54.1 +2.0**
baz=216
V58A S **S** **03 37 54.1 +2.0**
baz=216
HWUT Hardware Ranch **45.85 352** IAmb IAmb 03 31 19.7
comp=Z,45nm,1.1s
HWUT IAMs_20 IAMs_20 03 47 16.2
comp=Z,6μm,19.0s
P46A Rosedale **45.96 18** IAmb IAmb 03 31 17.3
comp=Z,51nm,0.9s
P46A Rosedale **45.96 18** S **S** **03 37 55.6 +1.5**
baz=204
CNNC Cliffs of the **45.97 30** P **P** **03 31 08.7 -1.4**
baz=218
N41A Harden Midland **45.98 14** S **S** **03 37 53.2 -1.2**
baz=198
O44A Mansfield **46.09 16** IAmb IAmb 03 31 15.6
comp=Z,44nm,1.1s
O44A Mansfield **46.09 16** P **P** **03 31 10.9 -0.1**
baz=202
O44A S **S** **03 37 50.7 -5.1**
baz=202
BEKR Beckworth **46.13 342** P **P** **03 31 10.8 -0.8**
L34A Svendsen Farm, **46.17 8** IAmb IAmb 03 31 25.1
comp=Z,45nm,0.9s
L34A Svendsen Farm, **46.17 8** S **S** **03 37 55.5 -1.6**
baz=190
HVU Hansel Valley **46.20 351** IAmb IAmb 03 31 18.0
comp=Z,86nm,1.6s
ORV Oroville **46.20 341** IAmb IAmb 03 31 27.0
comp=Z,50nm,1.1s
HDIL Hopedale **46.23 15** P **P** **03 31 12.4 +0.3**
baz=200,SNR=6.3
HDIL S **S** **03 38 00.4 +2.4**
baz=200
HDIL Hopedale **46.23 15** P **P** **03 31 09.9 -2.2**
baz=200,SNR=6.3
HDIL S **S** **03 37 58.4 +0.4**
baz=200
BLA Blacksburg **46.38 26** IAmb IAmb 03 31 34.5
comp=Z,72nm,1.4s
BLA Blacksburg **46.38 26** S **S** **03 38 02.1 +1.7**
baz=213
BLA Blacksburg **46.38 26** P **P** **03 31 12.1 -1.4**
baz=213
BLA S **S** **03 38 02.0 +1.7**
baz=213
P48A Milroy **46.40 20** IAmb IAmb 03 31 25.6
comp=Z,34nm,1.1s
P48A Milroy **46.40 20** P **P** **03 31 13.9 +0.5**
baz=206
P48A P **P** **03 31 13.9 +0.5**
baz=206
P48A S **S** **03 37 59.0 -1.4**
baz=206
P48A S **S** **03 37 59.0 -1.4**
baz=206
K22A Casper **46.41 357** IAmb IAmb 03 31 27.8
comp=Z,50nm,1.1s
K22A Casper **46.41 357** P **P** **03 31 12.6 -1.1**
baz=176,SNR=11
K22A S **S** **03 38 00.6 -0.2**
baz=176
K22A Casper **46.41 357** P **P** **03 31 11.9 -1.9**
baz=176,SNR=11
K22A S **S** **03 38 01.7 +0.9**
baz=176
LL04 Puerto Octay **46.43 147** IAmb IAmb 03 31 17.7
comp=Z,29nm,1.1s
S54A Dingess, Beckl **46.50 25** IAmb IAmb 03 31 27.5
comp=Z,40nm,1.1s
S54A Dingess, Beckl **46.50 25** S **S** **03 38 02.4 +0.4**
baz=212
S54A S **S** **03 38 02.4 +0.4**
baz=212
K31A O'Neill **46.56 5** P **P** **03 31 13.6 -1.1**
baz=187,SNR=8.7
K31A S **S** **03 38 04.1 +1.5**
baz=187
LL03 Petrohue **46.59 147** IAmb IAmb 03 31 24.6
comp=Z,48nm,1.1s
SCIA State Center **46.63 11** P **P** **03 31 14.1 -1.2**
baz=195
SCIA S **S** **03 38 02.6 -1.0**
baz=195
R53A Hurricane **46.69 24** IAmb IAmb 03 31 33.7
comp=Z,51nm,1.2s
R53A Hurricane **46.69 24** S **S** **03 38 08.2 +3.7**
baz=211
R53A S **S** **03 38 08.2 +3.7**
baz=211
SFIN Lafayette **46.70 18** IAmb IAmb 03 31 37.2
comp=Z,60nm,1.4s
SFIN Lafayette **46.70 18** P **P** **03 31 14.4 -1.3**
baz=203
SFIN S **S** **03 38 05.0 +0.4**
baz=203
P49A Miami Univ. Ec **46.70 20** IAmb IAmb 03 31 32.6
comp=Z,46nm,1.1s
P49A Miami Univ. Ec **46.70 20** P **P** **03 31 14.4 -1.4**
baz=207,SNR=6.6
P49A S **S** **03 38 04.9 +0.1**
baz=207
P49A Miami Univ. Ec **46.70 20** P **P** **03 31 13.6 -2.3**
baz=207,SNR=6.6
P49A S **S** **03 38 05.3 +0.6**
baz=207
T57A Hurt **46.73 27** IAmb IAmb 03 31 33.4
comp=Z,59nm,1.2s
T57A Hurt **46.73 27** S **S** **03 38 06.2 +1.0**
baz=215
T57A S **S** **03 38 06.2 +1.0**
baz=215
Q51A Peebles **46.75 22** IAmb IAmb 03 31 35.6
comp=Z,40nm,1.4s
Q51A Peebles **46.75 22** S **S** **03 38 05.5 +0.1**
baz=209
Q51A S **S** **03 38 05.5 +0.1**
baz=209
BW06 Boulder Array **46.75 354** IAmb IAmb 03 31 21.9
comp=Z,72nm,1.6s
BW06 Boulder Array **46.75 354** P **P** **03 31 14.4 -2.1**
baz=172,SNR=20
BW06 S **S** **03 38 06.8 +0.9**
baz=172
PD31 Pinedale Array **46.75 354** IAmb IAmb 03 31 21.9
comp=Z,65nm,1.6s
PDAR Pinedale Array **46.75 354** P **P** **03 31 14.7 -1.8**
comp=Z,3.5nm,0.6s,baz=167,slow=7.4,SNR=29
PDAR LR LR 03 48 23.0
comp=Z,2μm,18.7s,baz=179,slow=33
PPT Papeete **46.75 250** LR LR 03 45 47.7
comp=Z,3μm,18.9s,baz=77,slow=30
PPT2 Papeete2 **46.76 250** *e*P **P** **03 31 19.9 +3.1**
comp=Z,76nm,1.4s
PPT2 *e*S **S** **03 38 07.9 +1.5**
comp=Z,1μm,24.2s
PPT2 *e*LQ LQ 03 42 14.9
comp=Z,15μm,31.8s
PPT2 *e*LR LR 03 44 23.7
comp=Z,11μm,27.5s,baz=72
PAE Paea **46.78 249** *e*P **P** **03 31 20.0 +3.2**
comp=Z,18nm,1.1s
U59A Littleton **46.90 29** S **S** **03 38 11.9 +4.3**
baz=217
U59A S **S** **03 38 11.9 +4.3**
baz=217
AHID Auburn Hatcher **46.92 353** IAmb IAmb 03 31 38.1
comp=Z,45nm,1.4s
AHID IAMs_20 IAMs_20 03 48 02.7
comp=Z,5μm,18.0s
O03E Paynes Creek **46.97 341** IAmb IAmb 03 31 23.6
comp=Z,34nm,1.2s
O03E Paynes Creek **46.97 341** P **P** **03 31 16.3 -1.7**
baz=155,SNR=6.7
O03E S **S** **03 38 10.0 +1.2**
baz=155
V61A Roper **47.06 31** S **S** **03 38 16.6 +6.7**
baz=219
V61A S **S** **03 38 16.6 +6.7**
baz=219
Q52A Bidwell **47.11 23** S **S** **03 38 10.9 +0.4**
baz=210
Q52A S **S** **03 38 10.9 +0.4**
baz=210
BBGH Gun Hill **47.16 68** IAMs_20 IAMs_20 03 49 03.7
comp=Z,7μm,22.0s
L40A Anamosa **47.19 13** IAmb IAmb 03 31 25.4
comp=Z,30nm,1.3s
L40A Anamosa **47.19 13** S **S** **03 38 09.6 -2.0**
baz=197
O02D Mt. Diablo Mer **47.19 340** IAmb IAmb 03 31 22.1
comp=Z,41nm,1.5s
O02D Mt. Diablo Mer **47.19 340** P **P** **03 31 18.4 -1.4**
baz=154
O02D S **S** **03 38 13.0 +1.2**
baz=154
O48B Farmland **47.20 20** S **S** **03 38 10.8 -1.0**
baz=206
O48B Farmland **47.20 20** P **P** **03 31 17.8 -1.9**
baz=206,SNR=6.6
O48B S **S** **03 38 11.4 -0.5**
baz=206
P51A Williamsport **47.26 22** IAmb IAmb 03 31 36.4
comp=Z,42nm,1.3s
P51A Williamsport **47.26 22** S **S** **03 38 13.3 +0.6**
baz=209
P51A S **S** **03 38 13.3 +0.6**
baz=209
PDRB Porto dos Gac **47.28 102** *e*P **P** **03 31 20.1 -0.8**
PLCA Paso Flores **47.34 145** P **P** **03 31 22.0 +1.0**
comp=Z,21nm,1.1s,baz=305,slow=9.5,SNR=17
PLCA LR LR 03 46 18.8
comp=Z,9μm,19.8s,baz=323,slow=30
PLCA Paso Flores **47.34 145** *e*P **P** **03 31 22.4 +1.4**
M44A Midewin, Midew **47.35 16** S **S** **03 38 13.2 -0.7**
baz=202
R55A Marlinton **47.41 26** S **S** **03 38 13.0 -2.0**
baz=213
R55A S **S** **03 38 13.0 -2.0**
baz=213
O49A Covington **47.42 20** IAmb IAmb 03 31 41.4
comp=Z,30nm,1.1s
O49A Covington **47.42 20** S **S** **03 38 12.8 -2.1**
baz=207
O49A S **S** **03 38 12.8 -2.1**
baz=207
K38A Parkersburg **47.43 11** IAmb IAmb 03 31 46.2
comp=Z,51nm,1.2s
K38A Parkersburg **47.43 11** S **S** **03 38 14.7 -0.3**
baz=195
S57A Dark Hollow, R **47.49 27** IAmb IAmb 03 31 42.5
comp=Z,26nm,1.1s
S57A Dark Hollow, R **47.49 27** S **S** **03 38 20.9 +4.8**
baz=215
S57A S **S** **03 38 20.9 +4.8**
baz=215
L42A Oliver, Polo **47.50 14** S **S** **03 38 12.9 -3.1**
baz=199
T59A Double "B" Far **47.51 29** IAmb IAmb 03 31 44.4
comp=Z,37nm,1.1s
T59A Double "B" Far **47.51 29** S **S** **03 38 17.5 +1.3**
baz=217
T59A S **S** **03 38 17.5 +1.3**
baz=217
KMRM Mail Ridge **47.55 339** P **P** **03 31 21.8 -0.7**
N47A Urbana **47.59 19** S **S** **03 38 16.2 -1.1**
baz=205
N47A S **S** **03 38 16.2 -1.1**
baz=205
TPAW Teton Pass **47.62 353** IAmb IAmb 03 31 35.5
comp=Z,22nm,1.0s
TPAW IAMs_20 IAMs_20 03 48 28.1
comp=Z,4μm,19.0s
Q54A Coxs Mills **47.70 24** P **P** **03 31 22.9 -0.7**
baz=212,SNR=7.4
Q54A P **P** **03 31 22.9 -0.7**
baz=212,SNR=7.4
Q54A S **S** **03 38 22.5 +3.5**
baz=212
Q54A S **S** **03 38 22.5 +3.5**
baz=212
P52A Corning **47.74 23** IAMs_20 IAMs_20 03 51 39.2
comp=Z,5μm,18.0s
P52A Corning **47.74 23** P **P** **03 31 22.6 -1.4**
baz=210,SNR=7.7
P52A S **S** **03 38 19.6 0.0**
baz=210
RSSD Black Hills **47.82 360** P **P** **03 31 23.5 -1.3**
RSSD pmax pmax
comp=Z,37nm,1.1s
RSSD Black Hills **47.82 360** P **P** **03 31 23.5 -1.3**
RSSD IAmb IAmb 03 31 30.4
comp=Z,37nm,1.1s
RSSD Black Hills **47.82 360** P **P** **03 31 23.7 -1.1**
baz=180,SNR=23
RSSD S **S** **03 38 22.6 +1.7**
baz=180
RSSD Black Hills **47.82 360** P **P** **03 31 23.0 -1.8**
baz=180
RSSD S **S** **03 38 22.4 +1.4**
baz=180
N02D Trinity Center **47.88 341** IAmb IAmb 03 31 47.5
comp=Z,30nm,1.0s
N02D IAMs_20 IAMs_20 03 46 43.0
comp=Z,7μm,20.0s
N02D Trinity Center **47.88 341** P **P** **03 31 22.9 -2.2**
baz=154,SNR=7.7
N02D S **S** **03 38 22.4 +0.8**
baz=154
ECSD EROS Data Cent **47.88 7** IAMs_20 IAMs_20 03 50 18.3
comp=Z,6μm,18.0s
ECSD EROS Data Cent **47.88 7** P **P** **03 31 25.1 +0.1**
baz=190,SNR=13
ECSD S **S** **03 38 19.9 -1.5**
baz=190
ECSD EROS Data Cent **47.88 7** P **P** **03 31 23.5 -1.5**
baz=190,SNR=13
ECSD S **S** **03 38 20.5 -1.0**
baz=190
P53A Whipple **47.91 24** P **P** **03 31 25.9 +0.6**
baz=211,SNR=6.2
P53A P **P** **03 31 25.9 +0.6**

baz=211,SNR=6.2
P53A S **S** **03 38 25.3 +3.4**
baz=211
P53A S **S** **03 38 25.3 +3.4**
baz=211
ACSO Alum Creek Sta 47.94 22 IAmb IAmb 03 31 42.2
comp=Z,35nm,1.3s
ACSO Alum Creek Sta 47.94 22 P **P** **03 31 23.1 -2.4**
ACSO S **S** **03 38 22.5 +0.1**
baz=209
WVOR Wild Horse Val 48.04 345 IAMs_20 IAMs_20 03 47 36.2
comp=Z,5µm,21.0s
L44A Lake County Fo 48.12 16 P **P** **03 31 24.2 -2.7**
baz=202
L44A S **S** **03 38 25.2 +0.4**
baz=202
N49A Columbus Grove 48.13 20 S **S** **03 38 21.5 -3.4**
baz=207
N49A S **S** **03 38 21.5 -3.4**
baz=207
KHMM Horse Mountain 48.14 340 IAmb IAmb 03 31 42.1
comp=Z,37nm,1.0s
R58B Mineral 48.15 28 S **S** **03 38 27.2 +1.8**
baz=216
R58B S **S** **03 38 27.2 +1.8**
baz=216
JCC Jacoby Creek, 48.19 339 IAMs_20 IAMs_20 03 47 02.3
comp=Z,7µm,19.0s
HLID Hailey 48.21 350 P **P** **03 31 26.8 -0.9**
HLID IAmb IAmb 03 31 57.5
comp=Z,27nm,1.1s
HLID Hailey 48.21 350 P **P** **03 31 26.3 -1.5**
baz=166,SNR=33
HLID S **S** **03 38 29.4 +2.9**
baz=166
JFWS Jewell Farm 48.22 13 IAmb IAmb 03 31 33.3
comp=Z,54nm,1.2s
JFWS Jewell Farm 48.22 13 P **P** **03 31 25.6 -2.0**
baz=198
JFWS S **S** **03 38 24.9 -1.3**
baz=198
O52A Adamsville 48.27 23 S **S** **03 38 27.0 -0.1**
baz=210
O52A S **S** **03 38 27.0 -0.1**
baz=210
M02C Callahan 48.30 341 IAmb IAmb 03 31 49.6
comp=Z,33nm,1.1s
M02C Callahan 48.30 341 P **P** **03 31 26.8 -1.6**
baz=154,SNR=11
M02C S **S** **03 38 29.2 +1.6**
baz=154
LL02 Futaleuf 48.33 149 IAmb IAmb 03 31 40.0
comp=Z,42nm,1.0s
MFID Camas Ranch 48.33 348 IAmb IAmb 03 31 51.1
comp=Z,49nm,1.4s
MFID IAMs_20 IAMs_20 03 49 05.0
comp=Z,6µm,18.0s
M04C Macdoel 48.34 342 P **P** **03 31 27.0 -1.7**
baz=156,SNR=14
M04C S **S** **03 38 30.5 +2.4**
baz=156
SUSD Miller 48.34 5 S **S** **03 38 27.9 -0.1**
baz=187
SUSD Miller 48.34 5 P **P** **03 31 26.4 -2.2**
baz=187
SUSD S **S** **03 38 28.9 +0.9**
baz=187
Q56A Snyder Ridge, 48.45 26 IAmb IAmb 03 31 52.0
comp=Z,39nm,1.1s
Q56A Snyder Ridge, 48.45 26 S **S** **03 38 30.3 +0.7**
baz=214
Q56A S **S** **03 38 30.3 +0.7**
baz=214
H17A Grant Village 48.47 354 P **P** **03 31 29.0 -0.8**
baz=171,SNR=12
H17A S **S** **03 38 30.1 -0.2**
baz=171
K43A Burlington 48.50 15 S **S** **03 38 27.6 -2.6**
baz=201
YBH Yreka Blue Hor 48.56 341 LR LR 03 47 31.4
comp=Z,6µm,21.2s,baz=168,slow=31
YBH Yreka Blue Hor 48.56 341 IAmb IAmb 03 31 44.4
comp=Z,20nm,0.8s
YBH IAMs_20 IAMs_20 03 47 10.2
comp=Z,6µm,21.0s
CBN Corbin Frederi 48.58 28 P **P** **03 31 29.5 -1.0**
baz=216
LKWY Lake 48.62 354 IAMs_20 IAMs_20 03 51 20.5
comp=Z,4µm,18.0s
O53A New Philadelph 48.63 23 IAMs_20 IAMs_20 03 52 05.7
comp=Z,6µm,18.0s
O53A New Philadelph 48.63 23 P **P** **03 31 29.1 -1.7**
baz=211,SNR=6.1
O53A S **S** **03 38 32.3 +0.3**
baz=211
I37B Waseca 48.64 10 P **P** **03 31 31.2 +0.4**
baz=194,SNR=6.6
I37B S **S** **03 38 31.9 -0.2**
baz=194
MCWV Mont Chateau 48.68 25 P **P** **03 31 30.6 -0.6**
MCWV IAMs_20 IAMs_20 03 51 23.2
comp=Z,7µm,19.0s
MCWV Mont Chateau 48.68 25 S **S** **03 38 26.6 -6.2**
baz=213
MCWV Mont Chateau 48.68 25 P **P** **03 31 30.0 -1.2**
baz=213
MCWV S **S** **03 38 33.3 +0.4**
baz=213
N51A Ashland 48.77 22 S **S** **03 38 31.7 -2.4**
baz=209
N51A S **S** **03 38 31.7 -2.4**
baz=209
AY01 Puyuhuapi 48.80 150 IAmb IAmb 03 31 43.3
comp=Z,41nm,1.0s
SALV Santo Antonio 48.81 108 *e*P **P** **03 31 32.7 0.0**
J08A Circle Bar Ran 48.87 346 IAmb IAmb 03 31 55.0
comp=Z,33nm,1.2s
L04D Klamath Falls 48.88 342 IAmb IAmb 03 32 11.2
comp=Z,65nm,1.3s
L04D Klamath Falls 48.88 342 P **P** **03 31 30.7 -2.2**
baz=155,SNR=5.8
L04D S **S** **03 38 37.4 +1.6**
baz=155
O54A Avella 48.90 24 IAmb IAmb 03 31 50.2
comp=Z,49nm,1.1s
O54A Avella 48.90 24 P **P** **03 31 31.8 -1.2**
baz=212,SNR=5.4
O54A P **P** **03 31 31.8 -1.2**
baz=212,SNR=5.4
O54A S **S** **03 38 35.3 -0.7**
baz=212
O54A S **S** **03 38 35.3 -0.7**
baz=212
L48A N Adams 48.96 19 IAmb IAmb 03 31 39.4
comp=Z,38nm,1.1s
L48A N Adams 48.96 19 S **S** **03 38 34.6 -2.1**
baz=206
L48A S **S** **03 38 34.6 -2.1**
baz=206
QLMT Earthquake Lak 49.00 353 P **P** **03 31 33.2 -0.6**
RLMT Red Lodge 49.06 355 IAmb IAmb 03 31 39.5
comp=Z,39nm,1.1s
RLMT Red Lodge 49.06 355 P **P** **03 31 32.1 -2.2**
baz=173,SNR=25
RLMT S **S** **03 38 38.4 -0.1**
baz=173
I40A Norwalk 49.07 13 IAmb IAmb 03 31 39.9
comp=Z,78nm,1.5s
I40A Norwalk 49.07 13 S **S** **03 38 36.0 -2.1**
baz=198
K04D Chiloquin, OR 49.08 343 P **P** **03 31 32.8 -1.6**
baz=156
K04D S **S** **03 38 38.7 +0.1**
baz=156
L02E Cave Junction 49.24 341 IAmb IAmb 03 31 36.0
comp=Z,37nm,1.3s
L02E Cave Junction 49.24 341 P **P** **03 31 34.2 -1.3**
baz=154
L02E S **S** **03 38 41.2 +0.6**
baz=154
N53A Lisbon 49.25 23 P **P** **03 31 36.7 +1.1**
baz=211,SNR=7.2
N53A P **P** **03 31 36.7 +1.1**
baz=211,SNR=7.2
N53A S **S** **03 38 40.3 -0.5**
baz=211
N53A S **S** **03 38 40.3 -0.5**
baz=211
P57A Homestead Farm 49.33 26 IAmb IAmb 03 31 58.9
comp=Z,78nm,1.4s
P57A Homestead Farm 49.33 26 S **S** **03 38 44.9 +3.0**
baz=215
P57A S **S** **03 38 44.9 +3.0**
baz=215
I42A Draeger Farm, 49.46 14 S **S** **03 38 40.5 -3.2**
baz=200
J05D Fort Rock, OR 49.53 343 P **P** **03 31 36.7 -1.1**
baz=157,SNR=18
J05D S **S** **03 38 45.6 +0.6**
baz=157
AAM Ann Arbor 49.53 20 P **P** **03 31 36.1 -1.5**
baz=207
AAM S **S** **03 38 45.0 +0.2**
baz=207
MALB Monte Alegre 49.59 89 *e*P **P** **03 31 38.1 -0.5**
AQDB Aquidauana 49.66 114 P **P** **03 31 39.8 +0.7**
AQDB Aquidauana 49.66 114 *e*P **P** **03 31 39.8 +0.7**
M52A Chesterland 49.69 22 S **S** **03 38 49.5 +2.5**
baz=210
M52A S **S** **03 38 49.5 +2.5**
baz=210
N54A Moraine State 49.72 24 IAMs_20 IAMs_20 03 52 27.7
comp=Z,6µm,18.0s
N54A Moraine State 49.72 24 S **S** **03 38 50.9 +3.4**
baz=212
N54A Moraine State 49.72 24 P **P** **03 31 37.4 -1.7**
baz=212
N54A S **S** **03 38 47.2 -0.3**
baz=212
O56A Blue Knob Stat 49.73 25 P **P** **03 31 41.8 +2.5**
baz=214,SNR=5.2
O56A S **S** **03 38 49.2 +1.5**
baz=214
O56A Blue Knob Stat 49.73 25 P **P** **03 31 38.3 -1.0**
baz=214,SNR=5.2
O56A S **S** **03 38 50.2 +2.5**
baz=214
K02D Willamette Mer 49.74 341 P **P** **03 31 38.0 -1.3**
baz=154,SNR=8.2
K02D S **S** **03 38 51.8 +4.0**
baz=154
J04D Umpqua Nationa 49.75 343 P **P** **03 31 38.3 -1.2**
baz=156
GCMT Greycliff 49.76 355 P **P** **03 31 37.8 -1.7**
BOZ Bozeman (W) 49.78 353 IAmb IAmb 03 31 46.1
comp=Z,58nm,1.8s
BOZ Bozeman (W) 49.78 353 P **P** **03 31 38.2 -1.5**
baz=170
BOZ S **S** **03 38 48.4 0.0**
baz=170
CPUP Villa Florida 49.78 121 P **P** **03 31 40.3 +0.4**
comp=Z,12nm,0.9s,baz=285,slow=6.7,SNR=14
CPUP LR LR 03 49 30.2
comp=Z,5µm,20.6s,baz=293,slow=32
CPUP Villa Florida 49.78 121 IAmb IAmb 03 31 46.1
comp=Z,32nm,1.1s
CPUP Villa Florida 49.78 121 *e*P **P** **03 31 41.0 +1.1**
I07A Izee 49.80 345 IAmb IAmb 03 31 50.5
comp=Z,40nm,1.0s
M53A WI Miller and 49.86 23 IAMs_20 IAMs_20 03 52 54.0
comp=Z,4µm,18.0s
M53A WI Miller and 49.86 23 S **S** **03 38 49.6 +0.2**
baz=211
PP1B Ponte de Pedra 49.86 110 *e*P **P** **03 31 40.6 -0.1**
SPMN Marine on St. 49.91 10 IAmb IAmb 03 31 46.5
comp=Z,47nm,1.3s
SPMN Marine on St. 49.91 10 S **S** **03 38 47.5 -2.5**
baz=194
SPMN Marine on St. 49.91 10 P **P** **03 31 39.3 -1.2**
baz=194
SPMN S **S** **03 38 48.4 -1.5**
baz=194
PINE Pine Mountain 49.92 344 IAmb IAmb 03 32 05.4
comp=Z,46nm,1.1s
COYC Coyhaique 49.92 151 IAmb IAmb 03 32 06.5
comp=Z,57nm,1.2s
PLID Pearl Lake 49.98 349 IAMs_20 IAMs_20 03 50 07.4
comp=Z,5µm,18.0s
DBO Dodson Butte 49.98 342 IAmb IAmb 03 31 45.9
comp=Z,59nm,1.2s
J47A Sumer 50.00 18 IAmb IAmb 03 31 47.8
comp=Z,46nm,1.0s
BMO Blue Mountains 50.02 348 IAMs_20 IAMs_20 03 49 27.6
comp=Z,5µm,20.0s
J01E Myrtle Point 50.24 341 IAMs_20 IAMs_20 03 48 20.6
comp=Z,7µm,22.0s
J01E Myrtle Point 50.24 341 P **P** **03 31 42.0 -1.1**
baz=154
J01E S **S** **03 38 59.1 +4.5**
baz=154
H43A Windswept, Lux 50.29 15 S **S** **03 38 53.2 -2.0**
baz=201
M54A Oil Creek Stat 50.31 24 IAMs_20 IAMs_20 03 52 56.4
comp=Z,5µm,18.0s
M54A Oil Creek Stat 50.31 24 P **P** **03 31 44.9 +1.2**
baz=212,SNR=5.9
M54A S **S** **03 38 55.4 -0.3**
baz=212
M54A Oil Creek Stat 50.31 24 P **P** **03 31 43.0 -0.7**
baz=212,SNR=5.9
M54A S **S** **03 38 55.2 -0.6**
baz=212
SSPA Standing Stone 50.33 26 P **P** **03 31 43.4 -0.4**
SSPA IAmb IAmb 03 32 04.8
comp=Z,64nm,1.3s
SSPA Standing Stone 50.33 26 P **P** **03 31 41.1 -2.6**
baz=215
SSPA S **S** **03 38 56.9 +1.0**
baz=215
I04A Tendick Farm, 50.34 343 P **P** **03 31 42.2 -1.7**
baz=156,SNR=6.8
I04A S **S** **03 38 58.2 +2.2**
baz=156
F36A Milaca 50.41 9 IAmb IAmb 03 31 51.2
comp=Z,51nm,1.4s
F36A Milaca 50.41 9 P **P** **03 31 45.9 +1.6**
baz=194,SNR=8.1
F36A S **S** **03 38 54.7 -2.2**
baz=194
LAO LASA Array 50.43 358 P **P** **03 31 42.6 -1.9**
baz=177
LAO S **S** **03 38 58.0 +0.7**
baz=177
G40A Rib Lake 50.47 13 S **S** **03 38 57.5 -0.3**
baz=198
MVL Millersville 50.49 27 IAmb IAmb 03 32 06.2
comp=Z,53nm,1.3s
I05D Terrebonne, OR 50.53 344 P **P** **03 31 44.1 -1.2**
baz=157,SNR=7.9
I05D S **S** **03 39 03.5 +4.7**
baz=157
I03D Drain, OR 50.54 342 P **P** **03 31 44.2 -1.0**
baz=154
I03D S **S** **03 39 00.0 +1.3**
baz=154
M55A Ridgway 50.65 24 IAmb IAmb 03 32 03.7
comp=Z,43nm,1.1s
M55A Ridgway 50.65 24 S **S** **03 39 01.1 +0.7**
baz=213
M55A S **S** **03 39 01.1 +0.7**
baz=213
GEDE Greenville 50.68 28 S **S** **03 38 59.5 -1.2**
baz=218
ERPA Erie 50.70 23 IAMs_20 IAMs_20 03 53 19.6
comp=Z,6µm,18.0s
ERPA Erie 50.70 23 S **S** **03 39 01.5 +0.5**
baz=212
ERPA Erie 50.70 23 S **S** **03 39 01.3 +0.3**
baz=212
G08A Pilot Rock 50.81 346 IAmb IAmb 03 31 50.9
comp=Z,90nm,2.0s
N58A Sunbury 51.01 26 S **S** **03 39 07.9 +2.6**
baz=216
N58A S **S** **03 39 07.9 +2.6**
baz=216
I02E Swisshome, OR 51.07 342 IAMs_20 IAMs_20 03 48 50.3
comp=Z,7µm,22.0s
I02E Swisshome, OR 51.07 342 S **S** **03 39 09.1 +3.1**
baz=154
F10A Beach Ranch, E 51.07 348 IAmb IAmb 03 31 50.4
comp=Z,82nm,1.9s
H04A Detroit Lake 51.09 343 IAmb IAmb 03 32 13.0
comp=Z,37nm,1.1s
H04D Lebanon 51.10 343 IAmb IAmb 03 32 15.2
comp=Z,72nm,1.6s
H04D IAMs_20 IAMs_20 03 49 59.3
comp=Z,5µm,18.0s
H04D Lebanon 51.10 343 P **P** **03 31 47.8 -1.7**
baz=156
M57A Sunshine Farm, 51.23 26 S **S** **03 39 08.7 +0.3**
baz=215
M57A S **S** **03 39 08.7 +0.3**
baz=215
I49A Point Hope 51.27 19 S **S** **03 39 09.0 +0.2**
baz=207
I49A S **S** **03 39 09.0 +0.2**
baz=207
MSO Missoula 51.31 351 P **P** **03 31 48.7 -2.4**
baz=167
MSO S **S** **03 39 08.3 -1.2**
baz=167
COR Corvallis 51.33 342 P **P** **03 31 50.9 -0.3**
COR pmax pmax
comp=Z,137nm,1.4s
COR Corvallis 51.33 342 P **P** **03 31 50.9 -0.3**
G05D Wamic, OR 51.36 344 P **P** **03 31 50.0 -1.5**
baz=158
ITQB Itaqui 51.48 125 IAmb IAmb 03 32 09.0
comp=Z,68nm,1.3s
ITQB Itaqui 51.48 125 *e*P **P** **03 31 53.7 +1.0**
N59A State Game Lan 51.49 27 P **P** **03 31 51.5 -1.1**
baz=217
N59A S **S** **03 39 14.0 +1.9**
baz=217
WVNY West Valley, N 51.50 24 IAmb IAmb 03 32 08.6
comp=Z,70nm,1.1s
HOOD Mount Hood Mea 51.52 344 IAmb IAmb 03 32 04.5
comp=Z,45nm,0.9s
PANJ Princeton 51.56 28 S **S** **03 39 12.3 -0.6**
baz=218
MDND Maddock 51.69 4 P **P** **03 31 52.0 -1.9**
baz=186
MDND S **S** **03 39 14.4 -0.1**
baz=186
L56A Greenwood 51.70 25 IAmb IAmb 03 32 16.2
comp=Z,56nm,1.1s
L56A Greenwood 51.70 25 S **S** **03 39 14.5 -0.4**
baz=214
L56A S **S** **03 39 14.5 -0.4**
baz=214
GO08 Villa O'Higgin 51.84 154 IAmb IAmb 03 32 12.6
comp=Z,47nm,1.3s
G03D McMinnville, O 51.88 343 IAMs_20 IAMs_20 03 49 10.9
comp=Z,8µm,22.0s
G03D McMinnville, O 51.88 343 P **P** **03 31 53.9 -1.5**
baz=155
G03D S **S** **03 39 17.6 +0.4**
baz=155
HAWA Hanford 51.98 346 IAmb IAmb 03 32 13.3
comp=Z,103nm,1.9s
EGMT Eagleton 51.98 355 P **P** **03 31 54.4 -1.8**
EGMT Eagleton 51.98 355 P **P** **03 31 54.3 -1.9**
baz=173,SNR=11
EGMT S **S** **03 39 19.5 +0.9**
baz=173
F05D White Salmon 51.99 344 IAmb IAmb 03 32 09.8
comp=Z,118nm,2.0s
F05D White Salmon 51.99 344 P **P** **03 31 54.5 -1.7**
baz=158
F05D S **S** **03 39 23.8 +5.1**
baz=158
ODNJ Ogdensburg 52.16 28 S **S** **03 39 23.2 +2.0**
baz=218
DGMT Dagmar 52.17 360 IAMs_20 IAMs_20 03 52 00.6
comp=Z,3µm,19.0s
DGMT Dagmar 52.17 360 P **P** **03 31 56.0 -1.5**
baz=180,SNR=7.8
DGMT Dagmar 52.17 360 P **P** **03 31 55.8 -1.7**
baz=180,SNR=7.8
DVLD Doverlandia 52.27 108 *e*P **P** **03 31 58.1 -0.8**
BINY Binghamton 52.43 26 S **S** **03 39 25.2 +0.3**
baz=216
BINY Binghamton 52.43 26 P **P** **03 31 57.9 -1.6**
baz=216
BINY S **S** **03 39 26.0 +1.2**
baz=216
PAL Palisades 52.43 28 S **S** **03 39 27.2 +2.4**
baz=219
PAL Palisades 52.43 28 P **P** **03 31 57.2 -2.3**
baz=219
PAL S **S** **03 39 26.1 +1.2**
baz=219
D08A Wollman Farm, 52.47 347 IAmb IAmb 03 32 00.7
comp=Z,89nm,2.0s
AGMN Agassiz Nation 52.47 7 IAmb IAmb 03 32 16.4
comp=Z,47nm,1.1s
AGMN IAMs_20 IAMs_20 03 52 56.6
comp=Z,6µm,19.0s
AGMN Agassiz Nation 52.47 7 S **S** **03 39 23.5 -1.7**
baz=190
AGMN Agassiz Nation 52.47 7 P **P** **03 31 58.8 -0.8**
baz=190
AGMN S **S** **03 39 24.8 -0.4**
baz=190
F04D Rainier, OR 52.60 343 P **P** **03 31 59.7 -1.0**
baz=156
F04D S **S** **03 39 28.4 +1.3**
baz=156
SNDB Serra Nova Dou 52.62 102 *e*P **P** **03 32 01.5 +0.1**
K57A Scipio Center 52.63 25 S **S** **03 39 27.8 +0.2**
baz=215
EYMN Ely 52.78 10 IAmb IAmb 03 32 06.9
comp=Z,66nm,1.3s
EYMN Ely 52.78 10 P **P** **03 32 02.9 +0.9**
baz=196,SNR=6.2
EYMN S **S** **03 39 27.0 -2.5**
baz=196
EYMN Ely 52.78 10 P **P** **03 32 01.3 -0.6**
baz=196,SNR=6.2
EYMN S **S** **03 39 29.0 -0.5**
baz=196
B35A Bob, Littlefor 52.81 8 IAmb IAmb 03 32 05.5
comp=Z,44nm,1.2s
E04D Cinebar 52.91 344 IAmb IAmb 03 32 13.1
comp=Z,69nm,1.3s
E04D Cinebar 52.91 344 P **P** **03 32 01.4 -1.6**
baz=156,SNR=6.7
E04D S **S** **03 39 32.8 +1.5**
baz=156
C09A Chrisman Ranch 53.03 348 IAmb IAmb 03 32 09.3
comp=Z,108nm,2.0s
E03A Lebam 53.18 343 IAmb IAmb 03 32 28.5
comp=Z,52nm,1.0s
NEW Newport 53.24 349 LR LR 03 52 02.7
comp=Z,5µm,18.6s,baz=174,slow=33
NEW Newport 53.24 349 IAMs_20 IAMs_20 03 51 32.9
comp=Z,5µm,20.0s
NEW Newport 53.24 349 P **P** **03 32 03.3 -2.1**
baz=164,SNR=18
NEW S **S** **03 39 36.6 +0.8**
baz=164
SADO Sadowa 53.29 22 LR LR 03 55 03.3
comp=Z,5µm,18.1s,baz=192,slow=36
SADO Sadowa 53.29 22 IAmb IAmb 03 32 25.9
comp=Z,46nm,1.2s
D05A Enumclaw 53.34 345 IAmb IAmb 03 32 20.2
comp=Z,42nm,1.0s
WALA Waterton Lakes 53.48 352 P **P** **03 32 06.1 -1.1**
HCNY Howe Caverns 53.53 27 S **S** **03 39 42.0 +2.2**
baz=218
D04E Lakebay 53.54 344 P **P** **03 32 05.9 -1.6**
baz=156
J58A Remsen 53.67 26 IAmb IAmb 03 32 25.4
comp=Z,48nm,1.2s
C06D Leavenworth 53.74 346 P **P** **03 32 06.7 -2.4**
baz=159
PRPB Parauapebas 53.89 95 *e*P **P** **03 32 10.9 +0.2**
PTGB Pitanga 53.90 118 *e*P **P** **03 32 11.8 +0.9**
D03D Eldon 53.95 344 P **P** **03 32 08.5 -2.1**
baz=156,SNR=6.6
D03D S **S** **03 39 47.2 +1.8**
baz=156
PCMB Pacaembu 53.95 114 *e*P **P** **03 32 10.9 -0.2**
NLWA Neilton Lookou 54.04 343 IAmb IAmb 03 32 25.6
comp=Z,31nm,1.1s
NLWA IAMs_20 IAMs_20 03 51 05.0
comp=Z,6µm,20.0s
L61B Northampton 54.13 28 IAMs_20 IAMs_20 03 53 53.6
comp=Z,7µm,20.0s
L61B Northampton 54.13 28 P **P** **03 32 09.6 -2.4**
baz=220
CPSB Cacapava Do Su 54.33 125 *e*P **P** **03 32 14.5 +0.7**
B05A Bryant 54.36 345 P **P** **03 32 11.0 -2.5**

baz=158,SNR=6.8
B05A S **S** 03 39 51.7 +1.0
baz=158
ULM **Lac du Bonnet** 54.39 6 P **P** 03 32 11.8 -2.0
comp=Z,38nm,1.1s,baz=191,slow=8.3,SNR=12
ULM LR LR 03 54 14.2
comp=Z,6µm,19.1s,baz=192,slow=35
ULM **Lac du Bonnet** 54.39 6 *i* P **P** 03 32 12.5 -1.3
ACCN **Adirondack Com** 54.40 27 IAmb IAmb 03 32 27.5
comp=Z,76nm,1.5s
B06A **Marblemount** 54.44 346 IAmb IAmb 03 32 40.2
comp=Z,24nm,1.0s
ITRB **Iturama** 54.44 111 *e*P **P** 03 32 14.8 0.0
ITAB **Concordia** 54.49 121 *e*P **P** 03 32 15.3 +0.4
PLTB **Pedras Altas** 54.64 127 *e*P **P** 03 32 17.7 +1.6
HRV **Adam Dziewonsk** 54.71 29 P **P** 03 32 14.5 -1.7
baz=221
A04D **Lummi Island** 54.94 345 P **P** 03 32 16.0 -1.7
baz=157,SNR=7.3
LONY **Lake Ozonia** 54.98 25 P **P** 03 32 16.4 -1.8
baz=217
PGC **Sidney** 55.07 344 IAmb IAmb 03 32 31.9
comp=Z,49nm,1.2s
PEXB **Peixe** 55.55 102 *e*P **P** 03 32 23.6 +0.8
FRNY **Flat Rock** 55.58 26 IAmb IAmb 03 32 43.0
comp=Z,47nm,1.4s
TMAB **Tom-Au,PA,Br** 55.72 90 *e*P **P** 03 32 26.3 +2.3
FRTB **Fartura** 55.83 116 *e*P **P** 03 32 25.4 +0.6
LBNH **Lisbon** 55.86 27 P **P** 03 32 23.2 -1.3
baz=220
POHA **Pohakuloa** 55.93 297 IAMs_20 IAMs_20 03 51 12.9
comp=Z,6µm,19.0s
MNTQ **Montreal, Queb** 56.09 25 IAmb IAmb 03 32 43.6
comp=Z,33nm,1.1s
BDFB **Brasilia** 56.11 106 P **P** 03 32 27.7 +0.7
comp=Z,3.0nm,0.7s,baz=252,slow=6.9,SNR=6.0
BDFB LR LR 03 54 45.4
comp=Z,4µm,19.4s,baz=284,slow=34
BDFB **Brasilia** 56.11 106 *e*P **P** 03 32 27.6 +0.7
SMTB **Santa Maria do** 56.11 98 *e*P **P** 03 32 27.4 +0.5
IPMB **Ipameri, GO** 56.20 109 *e*P **P** 03 32 27.1 -0.4
TRQ **Mont Tremblant** 56.28 24 IAmb IAmb 03 32 44.8
comp=Z,34nm,1.1s
BB19B **Bebedouro** 56.36 113 *e*P **P** 03 32 29.8 +1.2
LLLB **Lillooet** 56.48 346 IAmb IAmb 03 32 42.6
comp=Z,52nm,1.5s
TIJ01 **Guaruva-PR** 56.74 118 *e*P **P** 03 32 31.2 -0.1
RAR **Rarotonga** 56.88 247 LR LR 03 51 20.8
comp=Z,1µm,18.4s,baz=83,slow=30
TER01 **Tubaro-SC** 57.39 121 *e*P **P** 03 32 36.3 +0.5
RCLB **Rio Claro- Sao** 57.50 114 *e*P **P** 03 32 37.9 +1.2
LATQ **La Tuque** 57.94 24 IAmb IAmb 03 32 59.6
comp=Z,54nm,1.4s
PET01 **Itanhaem-SP** 58.07 116 *e*P **P** 03 32 40.8 +0.2
VAO **Valinhos** 58.12 115 *e*P **P** 03 32 41.6 +0.6
USHA **Ushuaia** 58.29 157 P **P** 03 32 42.0 +0.5
comp=Z,20nm,0.4s,baz=302,slow=2.9,SNR=2.7
USHA LR LR 03 52 04.9
comp=Z,7µm,20.2s,baz=308,slow=30
FFC **Flin Flon** 58.46 1 P **P** 03 32 40.8 -1.9
FFC pmax pmax
comp=Z,84nm,1.9s
FFC **Flin Flon** 58.46 1 P **P** 03 32 40.8 -1.9
FFC IAmb IAmb 03 32 47.3
comp=Z,84nm,1.9s
SDBA **SAO DESIDERIO** 58.88 102 *e*P **P** 03 32 47.2 +0.7
PARB **Paraibuna** 59.39 115 *e*P **P** 03 32 52.7 +2.8
BBB **Bella Bella** 59.56 343 LR LR 03 55 44.1
comp=Z,2µm,18.1s,baz=160,slow=33
JANB **Januaria** 59.62 105 *e*P **P** 03 32 52.2 +0.6
ROSB **Rosrio** 59.65 91 *e*P **P** 03 32 54.6 +2.9
BSCB **Bom Sucesso** 59.81 112 *e*P **P** 03 32 55.7 +2.9
MC01 **Montes Claros** 60.11 107 *e*P **P** 03 32 57.4 +2.4
DIAM **Diamantina, MG** 60.52 109 *e*P **P** 03 32 58.9 +1.1
BATG **Bathurst New B** 60.86 29 P **P** 03 32 59.6 +0.2
BATG IAmb IAmb 03 33 12.9
comp=Z,40nm,1.2s
EFI **East Falkland** 60.92 149 *ce*P **P** 03 33 00.4 +0.7
EFI pmax pmax
comp=Z,205nm,2.5s
EFI **East Falkland** 60.92 149 P **P** 03 33 01.4 +1.7
NBPS **Pedro II - PI** 62.26 93 *e*P **P** 03 33 11.8 +2.2
SJMB **Sao Joao De Ma** 62.91 109 *e*P **P** 03 33 14.5 +0.8
FCC **Fort Churchill** 62.97 6 P **P** 03 33 11.8 -1.5
FCC pmax pmax
comp=Z,60nm,1.4s
FCC **Fort Churchill** 62.97 6 P **P** 03 33 11.8 -1.5
NBPN **Ponto Novo - B** 63.44 100 *e*P **P** 03 33 17.5 +0.2
ALF01 **Guarapari-ES** 63.53 111 *e*P **P** 03 33 20.4 +2.6
NBMO **Morrinhos-CE** 63.70 92 *e*P **P** 03 33 21.7 +2.6
RIB01 **Linhares ES** 63.71 110 *e*P **P** 03 33 20.3 +1.2
NAN01 **Guarapari, ES** 63.84 108 *e*P **P** 03 33 21.3 +1.4
CRAG **Craig** 63.90 342 P **P** 03 33 18.0 -1.6
baz=147
GUA01 **Guaratinga, BA** 64.06 106 *e*P **P** 03 33 22.9 +1.5
NBPB **Pedra_Branca-C** 64.07 94 *e*P **P** 03 33 24.6 +3.1
GDU01 **Guandu, BA** 64.13 103 *e*P **P** 03 33 22.4 +0.5
CMC01 **Camacan, BA** 64.26 105 *e*P **P** 03 33 23.7 +1.0
WRAK **Wrangell Islan** 64.47 343 P **P** 03 33 21.7 -1.5
baz=148
NBCL **Cascavel-CE** 65.41 93 *e*P **P** 03 33 33.5 +3.2
DLBC **Dease Lake** 65.58 345 LR LR 03 59 16.1
comp=Z,3µm,19.4s,baz=150,slow=34
DLBC **Dease Lake** 65.58 345 P **P** 03 33 29.2 -1.4
DLBC IAmb IAmb 03 33 54.5
comp=Z,33nm,1.1s
SIT **Sitka** 65.91 342 P **P** 03 33 31.5 -1.1
baz=145
SCHQ **Schefferville** 66.09 22 P **P** 03 33 31.5 -2.3
comp=Z,7.4nm,1.1s,baz=248,slow=8.3,SNR=3.9
SCHQ LR LR 04 01 42.9
comp=Z,8µm,19.4s,baz=217,slow=35
SCHQ **Schefferville** 66.09 22 P **P** 03 33 33.3 -0.5
SCHQ IAmb IAmb 03 33 51.0
comp=Z,30nm,1.2s
JIS **Juneau Island** 66.64 343 IAMs_20 IAMs_20 03 57 42.1
comp=Z,3µm,20.0s
YKA **Yellowknife Ar** 66.73 355 P **P** 03 33 35.1 -2.7
comp=Z,12nm,1.0s,baz=163,slow=6.1,SNR=40
YKA LR LR 04 00 15.8
comp=Z,4µm,20.9s,baz=173,slow=34
BESE **Bessie Mountai** 67.03 343 P **P** 03 33 38.6 -1.2
PMSA **Palmer Station** 67.07 163 LR LR 03 55 37.3
comp=Z,5µm,19.4s,baz=288,slow=29
NBAN **Anadia - AL** 67.29 99 *e*P **P** 03 33 45.4 +3.0
AFI **Afiamalu** 67.62 257 LR LR 03 55 15.0
comp=Z,1µm,21.5s,baz=82,slow=29
RCBR **Riachuelo** 67.73 95 LR LR 04 02 12.1
comp=Z,6µm,19.0s,baz=56,slow=35
RCBR **Riachuelo** 67.73 95 IAMs_20 IAMs_20 04 01 41.5
comp=Z,5µm,20.0s
SKAG **Skagway** 67.89 343 P **P** 03 33 44.2 -1.0
baz=146
TGTN **Hyland Airport** 67.92 348 P **P** 03 33 44.3 -1.1
baz=154,SNR=12
TGTN S **S** 03 42 45.4 +2.2
baz=154
WHY **Whitehorse** 68.77 344 IAmb IAmb 03 34 10.6
comp=Z,54nm,1.7s
WHY **Whitehorse** 68.77 344 P **P** 03 33 49.3 -1.5
baz=147
WHY S **S** 03 42 59.6 +6.1
baz=147
PNL **Peninsula** 69.29 342 P **P** 03 33 52.7 -1.3
baz=142
BCPM **Bancas Point** 69.59 342 IAMs_20 IAMs_20 03 58 18.2
comp=Z,2µm,18.0s
HYT **Haines Junctio** 69.64 343 P **P** 03 33 55.5 -0.8
HYT **Haines Junctio** 69.64 343 P **P** 03 33 55.3 -0.9
baz=144
HYT S **S** 03 43 08.2 +4.4
baz=144
N31M **Braeburn, Yuko** 69.70 344 IAMs_20 IAMs_20 03 59 44.2
comp=Z,3µm,20.0s
N31M **Braeburn, Yuko** 69.70 344 P **P** 03 33 55.3 -1.2
baz=146
N31M S **S** 03 43 07.0 +2.6
baz=146
M31M **Drury Creek, Y** 69.94 345 IAmb IAmb 03 34 15.5
comp=Z,54nm,1.6s
M31M IAMs_20 IAMs_20 04 00 49.4
comp=Z,2µm,20.0s
M31M **Drury Creek, Y** 69.94 345 P **P** 03 33 56.7 -1.2
baz=147
M31M S **S** 03 43 10.0 +3.0
baz=147
YUK6 **Outpost Mounta** 69.99 343 P **P** 03 33 57.3 -1.2
baz=143,SNR=8.2
YUK4 **Talbot Arm** 70.39 343 P **P** 03 34 00.1 -0.8
baz=143
TABL **Table Mountain** 70.44 341 IAMs_20 IAMs_20 03 58 15.8
comp=Z,3µm,18.0s
LOGN **Logan Glacier** 70.69 342 IAMs_20 IAMs_20 03 58 52.5
comp=Z,3µm,19.0s
SNH **Sunshine Point** 70.79 341 IAMs_20 IAMs_20 03 58 56.2
comp=Z,3µm,18.0s
GRNC **Granite Creek** 70.86 341 IAMs_20 IAMs_20 03 58 52.9
comp=Z,3µm,19.0s
M30M **Minto, Yukon** 70.87 345 IAmb IAmb 03 34 26.1
comp=Z,60nm,1.6s
M30M IAMs_20 IAMs_20 04 02 01.2
comp=Z,3µm,19.0s
M30M **Minto, Yukon** 70.87 345 P **P** 03 34 02.0 -1.6
baz=145,SNR=7.6
M30M S **S** 03 43 22.2 +4.2
baz=145
CTGM **Chitina Glacie** 70.91 342 IAMs_20 IAMs_20 03 58 59.1
comp=Z,3µm,18.0s
CTG **Chitna Glacier** 70.91 342 P **P** 03 34 02.6 -1.4
baz=140
CTG S **S** 03 43 22.4 +3.7
baz=140
ISLE **Juniper Island** 70.95 341 IAMs_20 IAMs_20 03 58 52.3
comp=Z,3µm,19.0s
WAX **Waxell Ridge** 71.00 341 IAMs_20 IAMs_20 03 58 05.6
comp=Z,3µm,20.0s
SUCK **Suckling Hills** 71.03 340 IAMs_20 IAMs_20 03 57 51.4
comp=Z,3µm,19.0s
BARN **Barnard Glacie** 71.08 342 IAMs_20 IAMs_20 03 59 11.7
comp=Z,3µm,19.0s
KAIM **Kayak Island** 71.14 340 IAMs_20 IAMs_20 03 59 30.4
comp=Z,3µm,18.0s
TGL **Tana Glacier** 71.22 341 IAMs_20 IAMs_20 03 57 20.5
comp=Z,3µm,22.0s
BERG **Berg Lake** 71.24 340 IAMs_20 IAMs_20 03 59 09.0
comp=Z,4µm,18.0s
YUK3 **Moose Creek** 71.27 343 P **P** 03 34 04.4 -1.9
baz=141
YUK3 S **S** 03 43 25.6 +2.7
baz=141
HMT **Hamilton** 71.39 340 IAMs_20 IAMs_20 03 57 43.9
comp=Z,3µm,20.0s
Q23K **Middleton Isla** 71.47 339 IAMs_20 IAMs_20 03 58 20.0
comp=Z,3µm,20.0s
MCARA **McCarthy VSAT** 71.76 341 P **P** 03 34 07.6 -1.4
baz=138
MCARA S **S** 03 43 30.7 +2.5
baz=138
BMRM **Bremner River** 71.97 340 IAMs_20 IAMs_20 03 58 34.2
comp=Z,3µm,20.0s
BMRM **Bremner River** 71.97 340 P **P** 03 34 08.6 -1.7
baz=137,SNR=7.8
BMRM S **S** 03 43 33.0 +2.3
baz=137
EYAK **Cordova Ski Ar** 72.05 340 IAmb IAmb 03 34 29.5
comp=Z,57nm,1.2s
EYAK **Cordova Ski Ar** 72.05 340 P **P** 03 34 08.8 -1.9
baz=136
GLB **Gilahina Butte** 72.05 341 IAMs_20 IAMs_20 03 59 50.5
comp=Z,2µm,18.0s
M27K **Edge Creek, AK** 72.14 342 IAmb IAmb 03 34 31.4
comp=Z,56nm,1.3s
M27K IAMs_20 IAMs_20 04 00 03.7
comp=Z,3µm,18.0s
M27K **Edge Creek, AK** 72.14 342 P **P** 03 34 09.8 -1.7
baz=140,SNR=5.3
N25K **Chitina, Valde** 72.43 341 IAMs_20 IAMs_20 04 00 00.4
comp=Z,2µm,18.0s
N25K **Chitina, Valde** 72.43 341 P **P** 03 34 11.6 -1.5
baz=137
N25K S **S** 03 43 37.1 +1.1
baz=137
FID **Port Fidalgo** 72.45 340 IAMs_20 IAMs_20 03 58 29.6
comp=Z,3µm,20.0s
FRB **Frobisher Bay** 72.47 16 LR LR 04 07 17.7
comp=Z,3µm,18.4s,baz=206,slow=37
M26K **Nabesna, AK** 72.52 342 IAMs_20 IAMs_20 03 59 35.6
comp=Z,3µm,19.0s
L27K **Beaver Creek,** 72.67 343 IAMs_20 IAMs_20 03 58 44.6
comp=Z,2µm,20.0s
L27K **Beaver Creek,** 72.67 343 P **P** 03 34 12.7 -1.8
baz=140,SNR=14
L27K S **S** 03 43 39.9 +1.3
baz=140
GLI **Glacier Island** 72.75 339 IAMs_20 IAMs_20 03 58 38.0
comp=Z,3µm,20.0s
GLI **Glacier Island** 72.75 339 P **P** 03 34 13.3 -1.7
baz=134
SII **Sitkinak Islan** 72.77 334 P **P** 03 34 12.7 -2.4
baz=126
OHAK **Old Harbor** 72.77 334 P **P** 03 34 12.7 -2.4
baz=128
DAWY **Dawson** 72.77 344 IAmb IAmb 03 34 33.1
comp=Z,52nm,1.4s
DAWY **Dawson** 72.77 344 P **P** 03 34 13.3 -1.8
baz=143,SNR=12
DAWY S **S** 03 43 41.1 +1.3
baz=143
J29M **Klondike Camp** 72.78 345 S **S** 03 43 41.6 +1.7
baz=144
KLU **Klutina** 72.79 340 IAMs_20 IAMs_20 03 58 58.9
comp=Z,3µm,20.0s
KLU **Klutina** 72.79 340 P **P** 03 34 13.6 -1.6
baz=136
KLU S **S** 03 43 40.6 +0.5
baz=136
KDAK **Kodiak Island** 72.82 335 LR LR 03 58 16.8
comp=Z,6µm,20.9s,baz=160,slow=29
KDAK **Kodiak Island** 72.82 335 P **P** 03 34 13.9 -1.5
baz=128
SEW **Seward** 73.08 338 P **P** 03 34 14.7 -2.1
baz=132
L26K **Log Cabin Wild** 73.09 342 IAmb IAmb 03 34 34.7
comp=Z,39nm,1.3s
L26K IAMs_20 IAMs_20 03 59 56.9
comp=Z,3µm,19.0s
L26K **Log Cabin Wild** 73.09 342 P **P** 03 34 15.1 -1.9
baz=138
L26K S **S** 03 43 45.1 +1.7
baz=138
MENT **Mentasta** 73.14 342 IAmb IAmb 03 34 35.1
comp=Z,34nm,1.1s
PWL **Port Wells** 73.18 339 IAMs_20 IAMs_20 03 59 17.2
comp=Z,3µm,20.0s
PWL **Port Wells** 73.18 339 P **P** 03 34 16.3 -1.1
baz=133
PWL S **S** 03 43 45.1 +0.6
baz=133
HARP **HAARP** 73.19 341 P **P** 03 34 15.3 -2.2
baz=137
HARP S **S** 03 43 46.5 +1.9
baz=137
M24K **Tolsona, Glenn** 73.31 341 IAMs_20 IAMs_20 03 59 18.7
comp=Z,2µm,21.0s
M24K **Tolsona, Glenn** 73.31 341 P **P** 03 34 16.2 -2.1
baz=136
M24K S **SKiKP** 03 43 48.8 -0.3
baz=136
BRSE **Bradley Lake S** 73.32 337 P **P** 03 34 16.2 -2.2
baz=130
CNPM **China Poot** 73.38 337 IAMs_20 IAMs_20 04 00 05.7
comp=Z,3µm,19.0s
BRLK **Bradley Lake** 73.39 337 IAMs_20 IAMs_20 04 00 16.0
comp=Z,3µm,18.0s
O22K **Cooper Landing** 73.43 338 IAMs_20 IAMs_20 03 59 37.9
comp=Z,2µm,19.0s
O22K **Cooper Landing** 73.43 338 P **P** 03 34 16.7 -2.2
baz=132
SCM **Sheep Creek Mo** 73.50 340 IAMs_20 IAMs_20 03 59 18.8
comp=Z,3µm,21.0s
SCM **Sheep Creek Mo** 73.50 340 P **P** 03 34 17.4 -2.1
baz=134
SCM S **S** 03 43 50.2 +2.0
baz=134
I29M **Ogilvie Camp,** 73.54 346 IAmb IAmb 03 34 36.9
comp=Z,59nm,1.4s
I29M IAMs_20 IAMs_20 04 01 38.5
comp=Z,2µm,20.0s
I29M **Ogilvie Camp,** 73.54 346 P **P** 03 34 17.2 -2.3
baz=144,SNR=9.3
I29M S **SKiKP** 03 43 49.1 -0.2
baz=144
KNK **Knik Glacier** 73.60 339 IAMs_20 IAMs_20 03 59 42.5
comp=Z,3µm,19.0s
KNK **Knik Glacier** 73.60 339 P **P** 03 34 17.8 -2.1
baz=133
KNK S **SKiKP** 03 43 51.0 +1.5
baz=133
HOM **Homer** 73.62 337 IAMs_20 IAMs_20 04 00 13.1
comp=Z,3µm,20.0s
HOM **Homer** 73.62 337 P **P** 03 34 18.0 -2.0
baz=130
PAX **Paxson** 73.71 342 IAmb IAmb 03 34 38.1
comp=Z,77nm,1.5s
PAX **Paxson** 73.71 342 P **P** 03 34 18.2 -2.4
baz=136
PAX S **S** 03 43 51.7 +1.1
baz=136
DOT **Dot Lake** 73.77 343 IAmb IAmb 03 34 38.7
comp=Z,47nm,1.3s
EGAK **Eagle** 73.81 344 IAmb IAmb 03 34 39.1
comp=Z,63nm,1.4s
EGAK IAMs_20 IAMs_20 04 01 46.7
comp=Z,2µm,20.0s
EGAK **Eagle** 73.81 344 P **P** 03 34 19.0 -2.0
baz=141,SNR=13
EGAK S **S** 03 43 52.3 +0.9
baz=141
SML **Sawmill** 73.83 340 IAmb IAmb 03 34 31.7
comp=Z,60nm,1.3s
SML IAMs_20 IAMs_20 04 00 02.5
comp=Z,3µm,19.0s
SML **Sawmill** 73.83 340 P **P** 03 34 19.0 -2.3
baz=133
SML S **S** 03 43 52.4 +0.5
baz=133
RC01 **Rabbit Creek A** 73.84 339 IAMs_20 IAMs_20 03 59 44.8
comp=Z,3µm,18.0s
RC01 **Rabbit Creek A** 73.84 339 P **P** 03 34 19.0 -2.3
baz=132
PMR **Palmer** 73.96 339 P **P** 03 34 19.6 -2.4
baz=132
PMR S **S** 03 43 53.7 +0.5
baz=132
Q19K **Cape Douglas,** 73.97 336 IAMs_20 IAMs_20 03 58 55.4
comp=Z,4µm,20.0s
EPYK **Eagle Plains** 73.99 347 P **P** 03 34 20.3 -1.8
baz=146,SNR=18
EPYK S **S** 03 43 53.6 +0.1
baz=146
SCRK **Sand Creek** 74.00 343 IAmb IAmb 03 34 40.1
comp=Z,50nm,1.3s
SCRK IAMs_20 IAMs_20 04 01 12.8
comp=Z,3µm,19.0s
SCRK **Sand Creek** 74.00 343 P **P** 03 34 19.8 -2.6
baz=138,SNR=9.9
SCRK S **S** 03 43 54.7 +0.9
baz=138
GHO **Glory Hole Cre** 74.01 340 IAmb IAmb 03 34 44.4
comp=Z,38nm,1.3s
GHO IAMs_20 IAMs_20 04 00 05.2
comp=Z,3µm,19.0s
FIS **Fire Island** 74.05 339 IAMs_20 IAMs_20 03 59 39.3
comp=Z,2µm,20.0s
RIDG **Independent Ri** 74.08 342 IAMs_20 IAMs_20 04 00 25.9
comp=Z,3µm,20.0s
RIDG **Independent Ri** 74.08 342 P **P** 03 34 20.6 -2.1
baz=137,SNR=17
RIDG S **S** 03 43 54.9 +0.3
baz=137
WAT6 **Susitna Watana** 74.17 341 P **P** 03 34 21.1 -2.3
baz=134,SNR=14
WAT6 S **S** 03 43 55.1 -0.7
baz=134
RAO **Raoul Island** 74.17 241 LR LR 03 58 41.8
comp=Z,1µm,19.9s,baz=94,slow=29
P19K **Oil Pt** 74.24 336 IAMs_20 IAMs_20 03 58 54.6
comp=Z,3µm,21.0s
J26L **Joseph Creek** 74.27 343 P **P** 03 34 21.9 -1.9
baz=139,SNR=18
J26L S **S** 03 43 57.9 +1.1
baz=139
O20K **Slope Mountain** 74.27 337 P **P** 03 34 21.8 -2.1
baz=129
O20K S **S** 03 43 57.1 +0.2
baz=129
DHY **Denali Highway** 74.39 341 IAmb IAmb 03 34 42.2
comp=Z,64nm,1.4s
DHY IAMs_20 IAMs_20 03 59 53.3
comp=Z,3µm,21.0s
DHY **Denali Highway** 74.39 341 P **P** 03 34 22.2 -2.5
baz=134
DHY S **S** 03 43 58.6 +0.3
baz=134
C36M **Paulatuk** 74.41 353 IAmb IAmb 03 34 41.5
comp=Z,59nm,1.6s
C36M IAMs_20 IAMs_20 04 05 00.5
comp=Z,3µm,19.0s
C36M **Paulatuk** 74.41 353 P **P** 03 34 22.5 -2.0
baz=159
C36M S **S** 03 43 59.6 +1.6
baz=159
M22K **Willow** 74.42 339 IAMs_20 IAMs_20 04 00 07.1
comp=Z,3µm,20.0s
M22K **Willow** 74.42 339 P **P** 03 34 22.5 -2.2
baz=132
M22K S **S** 03 43 59.0 +0.7
baz=132
J25K **Salcha River,** 74.88 343 IAmb IAmb 03 34 45.3
comp=Z,65nm,1.4s
J25K IAMs_20 IAMs_20 04 01 38.0
comp=Z,3µm,19.0s
J25K **Salcha River,** 74.88 343 P **P** 03 34 24.9 -2.5
baz=137,SNR=12
J25K S **S** 03 44 02.8 -0.8
baz=137
P18K **Big Mountain,** 74.90 336 IAMs_20 IAMs_20 03 59 24.1
comp=Z,4µm,21.0s
P18K **Big Mountain,** 74.90 336 P **P** 03 34 25.0 -2.6
baz=126
CUT **Chulitna** 74.91 340 IAMs_20 IAMs_20 04 00 33.9
comp=Z,2µm,19.0s
CUT **Chulitna** 74.91 340 P **P** 03 34 25.4 -2.1
baz=132
INK **Inuvik** 74.97 349 LR LR 04 05 40.3
comp=Z,5µm,18.0s,baz=144,slow=34
INK **Inuvik** 74.97 349 P **P** 03 34 25.9 -1.8
INK pmax pmax
comp=Z,92nm,1.6s
INK **Inuvik** 74.97 349 P **P** 03 34 25.9 -1.8
INK **Inuvik** 74.97 349 P **P** 03 34 25.3 -2.4
baz=149,SNR=26
INK S **S** 03 44 04.4 +0.2
baz=149
O19K **Port Alsworth** 75.01 337 IAMs_20 IAMs_20 03 59 18.8
comp=Z,4µm,22.0s
O19K **Port Alsworth** 75.01 337 P **P** 03 34 25.6 -2.5
baz=127
O19K S **S** 03 44 04.9 -0.1
baz=127
SDPT **Sand Point** 75.05 330 P **P** 03 34 26.0 -2.5
baz=120
RND **Reindeer** 75.10 341 IAMs_20 IAMs_20 04 00 23.2
comp=Z,4µm,20.0s
HDA **Harding Lake** 75.20 342 IAmb IAmb 03 34 46.6
comp=Z,88nm,1.6s
HDA **Harding Lake** 75.20 342 P **P** 03 34 26.9 -2.3
baz=135
HDA S **S** 03 44 05.7 -1.3
baz=135
HDA S **S** 03 44 05.7 -1.3
baz=135
MCK **McKinley** 75.36 341 IAMs_20 IAMs_20 04 00 32.7
comp=Z,3µm,20.0s
MCK **McKinley** 75.36 341 P **P** 03 34 27.8 -2.4
baz=133,SNR=10
MCK S **S** 03 44 08.2 -0.6
baz=133
IL31 **Eielson Array** 75.44 342 IAmb IAmb 03 34 47.9
comp=Z,60nm,1.2s
ILAR **Eielson Array** 75.44 342 P **P** 03 34 28.3 -2.3
comp=Z,14nm,0.8s,baz=155,slow=5.0,SNR=34
N19K **Bonanza Creek** 75.45 337 IAMs_20 IAMs_20 03 59 34.4
comp=Z,3µm,22.0s
N19K **Bonanza Creek** 75.45 337 P **P** 03 34 28.1 -2.7
baz=127
WRH **Wood River Hil** 75.60 342 IAmb IAmb 03 34 41.4
comp=Z,58nm,1.1s
WRH IAMs_20 IAMs_20 04 02 14.1
comp=Z,2µm,18.0s
TRF **Thorofare Moun** 75.61 340 IAMs_20 IAMs_20 04 00 25.5
comp=Z,3µm,21.0s

TRF	Thorofare Moun	75.61	340	P		P		03 34 29.1	-2.7	
	baz=132									
CCB	Clear Creek Bu	75.63	342	IAMs_20		IAMs_20		04 01 12.0		
	comp=Z,2µm,21.0s									
COLA	College	75.81	342	*i* P		P		03 34 31.6	-1.0	
COLA				pmax		pmax				
	comp=Z,25nm,1.6s									
COLA	College	75.81	342	P		P		03 34 31.4	-1.2	
COLA				IAmb		IAmb		03 34 50.1		
	comp=Z,53nm,1.4s									
COLA	College	75.81	342	IAMs_20		IAMs_20		04 01 17.7		
	comp=Z,2µm,21.0s									
COLA	College	75.81	342	P		P		03 34 30.5	-2.1	
	baz=134									
TCOL	CIGO, UAF Yank	75.81	342	IAmb		IAmb		03 34 50.1		
	comp=Z,45nm,1.4s									
TCOL				IAMs_20		IAMs_20		04 01 17.7		
	comp=Z,2µm,21.0s									
TCOL	CIGO, UAF Yank	75.81	342	P		P		03 34 30.2	-2.4	
	baz=134									
TCOL				S		S		03 44 12.7	-1.0	
	baz=134									
BWN	Browne	75.83	341	IAMs_20		IAMs_20		04 00 47.8		
	comp=Z,3µm,20.0s									
POKR	Poker Plat Res	75.85	343	IAMs_20		IAMs_20		04 05 30.8		
	comp=Z,2µm,19.0s									
POKR	Poker Plat Res	75.85	343	P		P		03 34 30.7	-2.2	
	baz=135									
KTH	Kantishna Hill	75.89	340	IAMs_20		IAMs_20		04 00 33.0		
	comp=Z,3µm,21.0s									
PPLA	Purkeypile	75.90	339	P		P		03 34 31.3	-2.1	
	baz=130,SNR=9.4									
PPLA				S		S		03 44 13.7	-1.4	
	baz=130									
N18K	Kilae Creek	75.92	336	IAMs_20		IAMs_20		04 00 18.0		
	comp=Z,3µm,21.0s									
N18K	Kilae Creek	75.92	336	P		P		03 34 31.1	-2.3	
	baz=126									
N18K				S		S		03 44 15.2	0.0	
	baz=126									
MDM	Murphy Dome	75.98	342	IAmb		IAmb		03 34 51.3		
	comp=Z,66nm,1.3s									
MDM				IAMs_20		IAMs_20		04 01 23.3		
	comp=Z,2µm,21.0s									
NEA2	Nenana	75.99	342	IAMs_20		IAMs_20		04 00 58.5		
	comp=Z,2µm,20.0s									
NEA2	Nenana	75.99	342	P		P		03 34 31.6	-2.1	
	baz=133,SNR=13									
NEA2				S		S		03 44 15.9	+0.1	
	baz=133									
SVW2	Sparrevohn	76.05	337	IAmb		IAmb		03 34 51.1		
	comp=Z,60nm,1.2s									
M19K	Big River Lodg	76.08	338	P		P		03 34 32.0	-2.3	
	baz=128,SNR=6.6									
M19K				S		S		03 44 16.4	-0.5	
	baz=128									
CAST	Castle Rocks	76.20	340	IAMs_20		IAMs_20		04 01 27.1		
	comp=Z,3µm,19.0s									
CAST	Castle Rocks	76.20	340	P		P		03 34 32.5	-2.5	
	baz=130,SNR=16									
L20K	Farewell, AK	76.24	339	P		P		03 34 32.5	-2.8	
	baz=128,SNR=8.8									
L20K				S		S		03 44 16.5	-2.2	
	baz=128									
BPAW	Bear Paw Mtn.	76.28	341	IAMs_20		IAMs_20		04 00 58.1		
	comp=Z,3µm,20.0s									
BPAW	Bear Paw Mtn.	76.28	341	P		P		03 34 32.9	-2.5	
	baz=131,SNR=7.0									
BPAW				S		S		03 44 18.6	-0.4	
	baz=131									
L19K	White Mountain	76.42	338	IAMs_20		IAMs_20		04 02 17.1		
	comp=Z,2µm,19.0s									
L19K	White Mountain	76.42	338	P		P		03 34 33.8	-2.4	
	baz=127,SNR=9.0									
I23K	Minto, Yukon-K	76.46	342	IAMs_20		IAMs_20		04 01 34.9		
	comp=Z,2µm,20.0s									
I23K	Minto, Yukon-K	76.46	342	P		P		03 34 34.6	-1.7	
	baz=133,SNR=14									
I23K				S		S		03 44 20.9	+0.1	
	baz=133									
H24K	Noodor Dome	76.49	343	IAMs_20		IAMs_20		04 05 58.7		
	comp=Z,3µm,20.0s									
H24K	Noodor Dome	76.49	343	P		P		03 34 34.7	-1.9	
	baz=134,SNR=24									
H24K				S		S		03 44 21.9	+0.6	
	baz=134									
CHUM	Lake Minchumin	76.58	340	P		P		03 34 34.7	-2.3	
	baz=130,SNR=9.1									
K20K	Telida	76.86	339	IAMs_20		IAMs_20		04 01 44.4		
	comp=Z,2µm,18.0s									
H23K	Yukon River	76.98	342	IAMs_20		IAMs_20		04 05 46.6		
	comp=Z,3µm,19.0s									
H23K	Yukon River	76.98	342	P		P		03 34 37.3	-2.0	
	baz=133									
A36M	Sachs Harbour	77.02	353	IAmb		IAmb		03 34 53.0		
	comp=Z,32nm,1.2s									
A36M				IAMs_20		IAMs_20		04 06 38.5		
	comp=Z,3µm,20.0s									
A36M	Sachs Harbour	77.02	353	P		P		03 34 37.1	-2.2	
	baz=158,SNR=14									
A36M				S		S		03 44 25.8	-1.0	
	baz=158									
TTA	Tatalina	77.30	338	IAmb		IAmb		03 34 57.4		
	comp=Z,34nm,1.4s									
TTA	Tatalina	77.30	338	P		P		03 34 38.4	-2.8	
	baz=126									
TTA				S		S		03 44 29.1	-1.2	
	baz=126									
I21K	Tanana	77.31	341	IAMs_20		IAMs_20		04 02 21.3		
	comp=Z,3µm,19.0s									
I21K	Tanana	77.31	341	P		P		03 34 39.1	-2.0	
	baz=130,SNR=14									
I21K				S		S		03 44 29.5	-0.6	
	baz=130									
J20K	Nowinta River	77.39	340	IAMs_20		IAMs_20		04 02 13.6		
	comp=Z,2µm,19.0s									
J20K	Nowinta River	77.39	340	P		P		03 34 39.5	-2.1	
	baz=128,SNR=12									
J20K				S		S		03 44 28.9	-2.2	
	baz=128									
UNV	Unalaska Valle	77.46	327	P		P		03 34 39.9	-2.2	
	baz=115									
UNV				S		S		03 44 31.6	-0.5	
	baz=115									
MSVF	Nonsavu	77.46	253	LR		LR		04 00 37.8		
	comp=Z,988nm,21.1s,baz=119,slow=29									
MSVF	Nonsavu	77.46	253	*i* P		P		03 34 43.7	+0.6	
MSVF				pmax		pmax				
	comp=Z,101nm,2.0s									
H21K	Melozitna Rive	77.88	341	IAMs_20		IAMs_20		04 02 02.5		
	comp=Z,2µm,20.0s									
H21K	Melozitna Rive	77.88	341	P		P		03 34 42.2	-2.1	
	baz=130,SNR=18									
H21K				S		S		03 44 35.1	-1.3	
	baz=130									
COLD	Coldfoot	78.13	343	P		P		03 34 44.8	-0.8	
	baz=132,SNR=15									
COLD				S		S		03 44 39.7	+0.7	
	baz=132									
NIKH	Nikolski High	78.39	326	P		P		03 34 44.7	-2.7	
	baz=113									
RES	Resolute Bay	78.67	2	LR		LR		04 08 08.3		
	comp=Z,3µm,20.6s,baz=188,slow=35									
RES	Resolute Bay	78.67	2	IAmb		IAmb		03 35 06.1		
	comp=Z,32nm,1.2s									
GCSA	Galena City Sc	78.68	340	P		P		03 34 47.0	-1.8	
	baz=126									
GCSA				S		S		03 44 44.6	-0.3	
	baz=126									
TOLK	Toolik Lake Re	78.92	345	IAmb		IAmb		03 35 08.5		
	comp=Z,48nm,1.5s									
TOLK				IAMs_20		IAMs_20		04 04 45.9		
	comp=Z,3µm,19.0s									
TOLK	Toolik Lake Re	78.92	345	P		P		03 34 48.6	-1.5	
	baz=133,SNR=7.9									
TOLK				S		S		03 44 50.0	+2.4	
	baz=133									
URZ	Urewera	78.95	232	LR		LR		04 04 16.5		
	comp=Z,3µm,18.1s,baz=49,slow=32									
URZ	Urewera	78.95	232	IAMs_20		IAMs_20		04 01 15.3		
	comp=Z,3µm,21.0s									
SFJD	Kangerlussuaq	80.09	19	LR		LR		04 10 03.8		
	comp=Z,4µm,19.6s,baz=233,slow=36									
HIZ	Hauiti	80.74	232	IAMs_20		IAMs_20		04 01 48.5		
	comp=Z,3µm,22.0s									
SNZO	South Karori	80.98	229	IAMs_20		IAMs_20		04 01 47.9		
	comp=Z,4µm,22.0s									
OUZ	Omahuta	81.65	235	P		P		03 35 06.8	+1.4	
OUZ				IAmb		IAmb		03 35 17.3		
	comp=Z,44nm,1.3s									
OUZ				IAMs_20		IAMs_20		04 04 29.6		
	comp=Z,2µm,20.0s									
ANM	Nome	81.70	337	IAmb		IAmb		03 35 24.0		
	comp=Z,72nm,1.5s									
ANM				IAMs_20		IAMs_20		04 03 44.5		
	comp=Z,2µm,21.0s									
ANM	Nome	81.70	337	P		P		03 35 04.1	-1.0	
	baz=118,SNR=7.3									
ANM				S		S		03 45 19.9	+3.2	
	baz=118									
BELA	Belgrano 2	81.89	168	P		P		03 35 08.4	+2.5	
NNZ	Nelson	81.97	229	IAMs_20		IAMs_20		04 04 39.3		
	comp=Z,3µm,20.0s									
THZ	Tophouse	82.34	229	P		P		03 35 09.5	+0.4	
A21K	Barrow	82.51	345	IAMs_20		IAMs_20		04 05 47.6		
	comp=Z,2µm,20.0s									
RDOG	Red Dog Mine	82.52	341	IAMs_20		IAMs_20		04 05 14.2		
	comp=Z,2µm,20.0s									
RDOG	Red Dog Mine	82.52	341	P		P		03 35 08.4	-1.0	
	baz=120,SNR=15									
TULEG	Thule	82.80	8	IAMs_20		IAMs_20		04 11 02.4		
	comp=Z,2µm,20.0s									
LTZ	Lake Taylor	82.84	228	IAMs_20		IAMs_20		04 03 08.3		
	comp=Z,3µm,21.0s									
TNA	Tin City	83.11	338	IAmb		IAmb		03 35 32.8		
	comp=Z,33nm,1.2s									
TNA	Tin City	83.11	338	P		P		03 35 11.2	-1.2	
	baz=115,SNR=9.7									
TNA				S		S		03 45 35.6	+4.5	
	baz=115									
RPZ	Rata Peaks	83.74	227	LR		LR		04 06 03.2		
	comp=Z,5µm,18.8s,baz=72,slow=31									
GAMB	Gambell	83.89	336	IAMs_20		IAMs_20		04 04 34.5		
	comp=Z,4µm,22.0s									
GAMB	Gambell	83.89	336	P		P		03 35 15.3	-1.1	
	baz=112									
GAMB				S		S		03 45 44.4	+5.4	
	baz=112									
ANGG	Ammassalik, Gr	83.97	22	IAMs_20		IAMs_20		04 12 46.3		
	comp=Z,3µm,19.0s									
EUNU	Eureka	84.34	3	IAmb		IAmb		03 35 38.5		
	comp=Z,50nm,1.6s									
QSPA	South Pole Qui	86.13	180	LR		LR		04 06 55.7		
	comp=Z,1µm,20.2s,baz=120,slow=31									
QSPA	South Pole Qui	86.13	180	P		P		03 35 28.7	+0.8	
VNDA	Vanda	87.13	193	LR		LR		04 07 00.7		
	comp=Z,1µm,18.5s,baz=94,slow=30									
VNA3	Neumayer Olymp	87.68	161	P		P		03 35 37.3	+2.1	
DZM	Mont Dzumac	88.25	248	LR		LR		04 06 22.9		
	comp=Z,622nm,21.6s,baz=98,slow=30									
DZM	Mont Dzumac	88.25	248	*e*PP		PP		03 39 06.8	+0.4	
	comp=Z,84nm,27.7s									
DZM				*e*S		S		03 46 23.4	-0.2	
	comp=Z,238nm,29.6s									
DZM				*e*SS		SS		03 52 14.8	+1.9	
	comp=Z,424nm,23.8s									
DZM				*e*LQ		LQ		03 59 58.8		
	comp=Z,2µm,28.9s									
DZM				*e*LR		LR		04 03 41.1		
	comp=Z,2µm,30.4s									
SHEM	Shemya Is, Ala	88.26	323	LR		LR		04 06 39.6		
	comp=Z,6µm,21.0s,baz=112,slow=30									
VNA2	Neumayer--Watz	88.45	161	P		P		03 35 40.0	+1.1	
	baz=298,slow=4.0									
SNAA	Sanae	89.78	162	LR		LR		04 07 47.8		
	comp=Z,1µm,21.8s,baz=292,slow=30									
SNAA	Sanae	89.78	162	IAMs_20		IAMs_20		04 07 25.7		
	comp=Z,1µm,21.0s									
BORG	Borgarnes	90.33	25	LR		LR		04 15 54.3		
	comp=Z,2µm,18.0s,baz=266,slow=35									
BORG	Borgarnes	90.33	25	IAMs_20		IAMs_20		04 14 59.9		
	comp=Z,2µm,18.0s									
H11N3	WAKE ISLAND Hy	90.56	290	T		T		05 15 57.7		
	baz=96,slow=75,SNR=162									
H11N2	WAKE ISLAND Hy	90.57	290	T		T		05 15 57.8		
	baz=96,slow=75,SNR=165									
H11N1	WAKE ISLAND Hy	90.58	290	T		T		05 15 59.5		
	baz=96,slow=75,SNR=115									
H11S2	WAKE ISLAND Hy	90.67	288	T		T		05 16 07.4		
	baz=94,slow=75,SNR=475									
H11S1	WAKE ISLAND Hy	90.68	288	T		T		05 16 00.5		
	baz=94,slow=75,SNR=365									
H11S3	WAKE ISLAND Hy	90.69	288	T		T		05 15 59.1		
	baz=94,slow=75,SNR=511									
BILL	Bilibino	93.55	338	*e*P		P		03 36 01.6	-1.0	
BILL				*e*				03 39 51.6		
BILL				*i* S		S		03 47 07.8	-2.2	
BILL				pmax		pmax				
	comp=Z,13nm,1.2s									
BILL	Bilibino	93.55	338	P		P		03 36 01.5	-1.0	
BILL				IAmb		IAmb		03 36 21.6		
	comp=Z,18nm,1.2s									
BILL				IAMs_20		IAMs_20		04 11 34.9		
	comp=Z,2µm,20.0s									
JMIC	Jan Mayen	95.44	19	LR		LR		04 17 38.1		
	comp=Z,4µm,21.7s,baz=260,slow=34									
HNR	Honiara	95.44	260	LR		LR		04 10 31.2		
	comp=Z,1µm,19.6s,baz=66,slow=30									
COI	Coimbra	96.69	50	IAMs_20		IAMs_20		04 11 35.3		
	comp=Z,2µm,20.0s									
PET	Petropavlovsk	97.61	323	*e*P		Pdif		03 36 25.3	+3.9	
PET				*e*				03 40 27.1		
PET				*e*				03 46 54.0		
PET				*e*S		S		03 47 43.8	-1.9	
PET				*e*PS		PS		03 49 07.8	-2.8	
PET				*e*PPS		PPS		03 49 50.4		
PET				*e*SS		SS		03 54 25.9	+0.5	
PET				pmax		pmax				
	comp=Z,100nm,11.9s									
PET				P		pmax		pmax		
	comp=Z,100nm,13.8s									
PEA0B	Petropavlovsk-	98.18	323	*i* P		P		03 36 23.5	-0.4	
PETK	Petropavlovsk-	98.18	323	P		P		03 36 23.5	-0.5	
	comp=Z,3.3nm,0.9s,baz=169,slow=8.5,SNR=4.1									
PETK				LR		LR		04 12 33.9		
	comp=Z,3µm,20.5s,baz=93,slow=30									
SFS	San Fernando	98.49	54	IAMs_20		IAMs_20		04 16 09.5		
	comp=Z,2µm,20.0s									
ESK	Eskdalemuir	99.28	35	IAMs_20		IAMs_20		04 18 48.7		
	comp=Z,2µm,21.0s									
EKA	Eskdalemuir Ar	99.31	35	LR		LR		04 20 26.3		
	comp=Z,1µm,18.7s,baz=309,slow=35									
DBIC	Dimbokro	99.40	84	LR		LR		04 20 27.9		
	comp=Z,1µm,18.8s,baz=271,slow=35									
SEY	Seymchan	99.71	333	P		Pdif		03 36 30.1	-0.5	
	comp=Z,0.5nm,0.3s,baz=93,slow=2.8,SNR=4.8									
SEY				LR		LR		04 16 29.5		
	comp=Z,2µm,18.2s,baz=74,slow=32									
SEY	Seymchan	99.71	333	*ce*P		Pdif		03 36 30.5	-0.1	
SEY				pmax		pmax				
	comp=Z,5.0nm,1.4s									
SPITS	Spitsbergen Ar	99.79	10	LR		LR		04 22 20.5		
	comp=Z,4µm,18.5s,baz=24,slow=36									
PAB	San Pablo	99.83	51	IAMs_20		IAMs_20		04 15 28.6		
	comp=Z,2µm,20.0s									
KOWA	Kowa	100.51	76	IAMs_20		IAMs_20		04 17 14.9		
	comp=Z,2µm,20.0s									
MA2	Magadan	101.12	330	IAMs_20		IAMs_20		04 15 15.5		
	comp=Z,2µm,21.0s									
CAN	Canberra	101.60	233	IAMs_20		IAMs_20		04 16 26.0		
	comp=Z,2µm,19.0s									
CART	Cartagena	102.59	53	IAMs_20		IAMs_20		04 19 22.8		
	comp=Z,1µm,19.0s									
SSB	Saint Sauveur	105.70	44	IAMs_20		IAMs_20		04 20 29.9		
	comp=Z,1µm,20.0s									
WLF	Walferdange	105.88	39	IAMs_20		IAMs_20		04 18 49.9		
	comp=Z,2µm,22.0s									
TORD	Torodi Ar. Bea	106.04	78	PP		PP		03 41 25.4	+1.8	
	comp=Z,0.7nm,1.0s,baz=282,slow=5.7,SNR=2.8									
TORD				PKKP		PKKPdf		03 52 43.0	-2.8	
	comp=Z,0.7nm,0.9s,baz=104,slow=2.9,SNR=4.1									
ECH	Echery	106.86	41	IAMs_20		IAMs_20		04 19 28.9		
	comp=Z,2µm,21.0s									
CTAO	Charters Tower	107.19	248	IAMs_20		IAMs_20		04 18 23.9		
	comp=Z,1µm,20.0s									
BNI	Bardonecchia	107.23	44	IAMs_20		IAMs_20		04 21 28.3		
	comp=Z,2µm,22.0s									
SENIN	Lac Senin/Sane	107.37	43	IAMs_20		IAMs_20		04 21 08.8		
	comp=Z,2µm,20.0s									
BFO	Black Forest	107.59	40	IAMs_20		IAMs_20		04 24 10.9		
	comp=Z,2µm,21.0s									
PMG	Port Moresby	107.99	259	IAMs_20		IAMs_20		04 16 35.1		
	comp=Z,1µm,20.0s									
STU	Stuttgart	108.03	40	IAMs_20		IAMs_20		04 21 51.9		
	comp=Z,1µm,21.0s									
RGN	Rugen	108.72	33	IAMs_20		IAMs_20		04 23 59.8		
	comp=Z,1µm,21.0s									
GRFO	Grafenberg	109.06	38	IAMs_20		IAMs_20		04 20 46.6		
	comp=Z,2µm,22.0s									
GRA1	Grafenberg Arr	109.06	38	IAMs_20		IAMs_20		04 20 47.7		
	comp=Z,2µm,22.0s									
CLL	Collm	109.63	36	IAMs_20		IAMs_20		04 21 27.6		
	comp=Z,1µm,22.0s									
CLL	Collm	109.63	36	*e*PP		PP		03 41 48.0	-0.6	
CLL				*e*(PPP)				03 44 24.0		
CLL				*ex*		x		03 46 48.0		
CLL				*e*SKSac		SKSac		03 47 54.0	+0.1	
CLL				*e*SKKSac		SKKSac		03 48 54.0	+2.6	
CLL				*e*Sdif		Sdif		03 49 24.0	-2.4	
CLL				*ex*		x		03 49 54.0		
CLL				*e*PS		PS		03 51 12.0	-5.1	
CLL				*e*PPS		PPS		03 52 12.0		
CLL				*ex*		x		03 56 00.0		
CLL				*e*SS		SS		03 57 15.0	+4.3	
CLL				*e*SSS		SSS		04 01 18.0		
CLL				*e*SSSS				04 05 00.0		
CLL				LmV				04 26 00.0		
	comp=Z,800nm,20.4s									
NKC	Novy Kostel	109.65	38	AMS		AMS		04 27 00.0		
	comp=Z,2µm,16.0s									
LVZ	Lovozero	110.23	15	IAMs_20		IAMs_20		04 25 53.6		
	comp=Z,2µm,20.0s									
VSL	Villasalto	110.36	49	IAMs_20		IAMs_20		04 19 13.9		
	comp=Z,1µm,21.0s									
KHC	Kasperske Hory	110.69	39	AMS		AMS		04 21 30.0		
	comp=Z,2µm,19.0s									
PVCC	Panska Ves	110.83	37	AMS		AMS		04 28 00.0		
	comp=Z,1µm,20.1s									
PRU	Pruhonice	111.00	37	AMS		AMS		04 28 00.0		
	comp=Z,2µm,17.3s									
GUMO	Guam	111.56	283	IAMs_20		IAMs_20		04 24 31.5		
	comp=Z,2µm,18.0s									
CHVC	Chvalec	111.69	36	AMS		AMS		04 28 10.0		
	comp=Z,1µm,16.9s									
UPC	Upice	111.70	37	AMS		AMS		04 28 00.0		
	comp=Z,1µm,18.5s									
OSTC	Ostas	111.80	36	AMS		AMS		04 28 00.0		
	comp=Z,1µm,20.5s									
TREC	Trest	111.82	38	AMS		AMS		04 28 20.0		
	comp=Z,2µm,22.5s									
DPC	Dobruska-Polom	111.94	37	AMS		AMS		04 24 20.0		
	comp=Z,1µm,20.9s									
KRLC	Kraliky	112.32	37	AMS		AMS		04 26 40.0		
	comp=Z,1µm,20.3s									
AQU	L'Aquila	112.62	46	IAMs_20		IAMs_20		04 23 36.1		
	comp=Z,2µm,21.0s									
OKC	Ostrava-Krasne	113.22	37	AMS		AMS		04 28 50.0		
	comp=Z,1µm,17.7s									
PABE	Paberze	113.83	29	IAMs_20		IAMs_20		04 27 47.6		
	comp=Z,1µm,21.0s									
SUW	Suwalki	114.18	31	IAMs_20		IAMs_20		04 25 51.1		
	comp=Z,1µm,22.0s									
KLR	Kul'dur	114.86	323	*i* PKIKP		PKPdf		03 41 29.5	+1.7	
PSZ	Piszkesteto	115.05	38	IAMs_20		IAMs_20		04 31 01.0		
	comp=Z,1µm,19.0s									
ZEA	Zeya	115.25	329	*e*PKIKP		PKPdf		03 41 39.2	+11	
ZEA				*e*				03 52 05.4		
ZEA				*e*				03 58 45.9		
ZEA				pmax		pmax				
	comp=Z,10.0nm,0.7s									
NACGM	Naroch	115.52	29	*e*PKP		PKiKP		03 41 24.4	-4.4	
	baz=304									
TIP	Timpagrande	115.97	48	IAMs_20		IAMs_20		04 27 19.3		
	comp=Z,1µm,20.0s									
MNK	Minsk	116.28	29	*i* P		Pdif		03 37 46.0	+1.6	
MNK				*i*				03 42 40.8		
MNK				*i* PPP		PPP		03 45 07.6		
MNK				*i* SS		SS		03 58 44.5	+6.3	
MNK				*i* SSS		SSS		04 03 02.3		
MNK				pmax		pmax				
	comp=Z,4.0nm,0.8s									
MNK				pmax		pmax				
	comp=N,8.0nm,0.9s									
MNK				pmax		pmax				
	comp=E,1.0nm,0.8s									
MNK				MLR		MLR				
	comp=E,93nm,20.0s									
MNK				MLR		MLR				
	comp=Z,759nm,20.0s									
MNK				MLR		MLR				
	comp=N,261nm,17.0s									
MNK	Minsk	116.28	29	*i* P		Pdif		03 37 46.0	+1.6	
	comp=E,1.0nm,0.8s									
MNK				*i* P		Pdif		03 37 46.0	+1.6	
	comp=N,8.0nm,0.9s									
MNK				*i* P		Pdif		03 37 46.0	+1.6	
	comp=Z,4.0nm,0.8s,baz=302									
MNK				*i* PKP		sPKPdf		03 41 36.6	-0.4	
MNK				*i* PP		PP		03 42 40.9	+5.2	
MNK				*i* PPP		PPP		03 45 07.7		
MNK				*i* SKS		SKSdf		03 48 48.8	+7.2	
MNK				*i* SS		SS		03 58 44.5	+6.3	
MNK				*i* SSS		SSS		04 03 02.3		
MNK				*i* LR		LR		04 27 04.7		
MNK				*i* LRM		MLR		04 29 43.8		
	comp=E,93nm,20.4s									
MNK				*i* LRM		MLR		04 29 48.3		
	comp=Z,759nm,19.8s									
MNK				*i* LRM		MLR		04 30 03.6		
	comp=N,261nm,17.2s									
DIVS	Divibare	116.60	42	IAMs_20		IAMs_20		04 28 29.8		
	comp=Z,1µm,20.0s									
PDG	Podgorica	116.70	44	IAM

comp=Z,100nm,19.0s
XLT LR LR
comp=Z,750nm,19.0s
XLT LR LR
comp=Z,1μm,18.9s
ANN Anapa 127.02 34 *i* PKIKP **PKPdf 03 41 51.0 -0.2**
ANN *e* 03 43 46.8
ANN pmax pmax
comp=Z,20nm,0.9s
ANN MLR MLR
comp=Z,2μm,20.0s
BR131 Keskin Array S 127.64 41 *i* PKIKP **PKPdf 03 41 51.5 -1.3**
BRTR Keskin Array B 127.64 41 PKP **PKPdf 03 41 52.2 -0.6**
comp=Z,2.2nm,0.9s,baz=174,slow=1.2,SNR=12
BRTR Keskin Array B 127.64 41 PKPdf **PKPdf 03 41 50.1 -2.7**
ZAK Zakamensk 128.35 338 *e*PKIKP **PKPdf 03 41 51.2 -2.6**
ZAK pmax pmax
comp=Z,11nm,1.5s
ULN Ulaanbaatar 128.79 334 *i* PKIKP **PKPdf 03 41 54.0 -0.8**
SOC Sochi 129.06 34 *i* PKIKP **PKPdf 03 41 53.0 -2.2**
SOC *e* 03 43 58.7
SOC *e* 03 49 02.1
SOC *e*PS **PS 03 54 04.9 -7.0**
SOC *e*SS SS 04 01 17.4 -3.6
SOC *e*SSS SSS 04 06 06.7
SONM Songino Array 129.10 334 PKP **PKPdf 03 41 53.2 -2.1**
comp=Z,1.9nm,0.9s,baz=7.3,slow=1.1,SNR=7.0
ZALV Zalesovo Beam 129.62 353 PKP **PKPdf 03 41 53.0 -2.9**
comp=Z,1.4nm,0.6s,baz=64,slow=3.4,SNR=7.7
ZALV Zalesovo Beam 129.62 353 PKIKP **PKPdf 03 41 53.0 -2.9**
SSE Sheshan 129.74 308 PKP **PKPdf 03 41 55.7 -1.1**
SSE PP **PP 03 44 08.8 +1.2**
SSE SS SS 04 01 29.7 -1.0
SSE AMB AMB
comp=Z,100nm,4.2s
SSE LR LR
comp=Z,660nm,20.1s
SSE LR LR
comp=Z,950nm,21.1s
KIV Kislovodsk 130.41 32 *i* PKIKP **PKPdf 03 41 58.0 +0.1**
KIV *e* 03 44 10.1
KIV *e*PS **PS 03 54 21.0 -2.8**
KIV *e*SS SS 04 01 33.7 -4.0
KIV *e*SSS SSS 04 06 25.6
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,594nm,23.0s
YOJ Yonaguni jima 130.49 299 PKIKP **PKPdf 03 41 56.0 -2.4**
YOJ Yonaguni jima 130.49 299 PKPdf **PKPdf 03 41 56.0 -2.4**
YOJ Yonaguni jima 130.49 299 P **PKPdf 03 41 56.4 -2.0**
SHA1 Shidzhatmaz 130.55 32 *i* PKIKP **PKPdf 03 41 55.7 -2.6**
KBZ Khabaz 130.68 32 PKP **PKPdf 03 41 57.8 -0.4**
comp=Z,3.7nm,0.9s,baz=344,slow=4.9,SNR=4.3
DAV Davao City (W) 130.69 276 IAMs_20 IAMs_20 04 27 48.4
comp=Z,1μm,20.0s
BRVK Borovoye 130.78 5 *i* PKIKP **PKPdf 03 41 58.3 +0.1**
BRVK Borovoye 130.78 5 PKPdf **PKPdf 03 41 57.5 -0.7**
BRVK Borovoye 130.78 5 IAMs_20 IAMs_20 04 42 12.2
comp=Z,2μm,20.0s
NJ2 Nanjing 131.16 310 *e*PKP **PKPdf 03 41 57.3 -2.2**
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,2μm,20.1s
NJ2 LR LR
comp=Z,3μm,19.6s
HHC Hu-ho-hao-te 131.36 324 *e*PKP **PKPdf 03 41 55.9 -3.9**
HHC PKS **PKSdf 03 45 34.0 -2.4**
HHC SS SS 04 01 53.6 +3.9
HHC AMB AMB
comp=Z,180nm,7.3s
HHC LR LR
comp=Z,710nm,17.9s
HHC LR LR
comp=Z,1μm,18.4s
HHC LR LR
comp=Z,2μm,18.4s
HNS HongShan 131.46 318 ⇓PKP **PKiKP 03 42 00.9 0.0**
HNS PP **PP 03 44 24.7 +6.5**
HNS AMB AMB
comp=Z,130nm,7.9s
HNS LR LR
comp=Z,640nm,18.2s
HNS LR LR
comp=Z,620nm,19.4s
HNS LR LR
comp=Z,740nm,17.9s
YULB Yu-li 132.29 298 IAMs_20 IAMs_20 04 35 26.5
comp=Z,1μm,20.0s
TWG Pinlang 132.66 298 IAMs_20 IAMs_20 04 34 41.1
comp=Z,1μm,20.0s
KURK Kurchatov 133.32 358 *i* PKIKP **PKPdf 03 42 01.0 -2.0**
SEM Semipalatinsk 133.54 356 *i* PKIKP **PKPdf 03 42 03.0 -0.8**
SEM Semipalatinsk 133.54 356 *e*PKiKP **PKPdf 03 42 03.0 -0.8**
baz=356
SEM LR LR 04 41 06.7
comp=Z,527nm,18.2s,baz=356
MAK Makhachkala 133.55 29 *i* P **Pdif 03 38 53.1 -8.4**
MAK pmax pmax
comp=Z,159nm,1.0s
GNI Garni 134.15 34 *i* PKIKP **PKPdf 03 42 04.3 -0.9**
KNMB Chin-men Tao 134.49 301 IAMs_20 IAMs_20 04 36 30.1
comp=Z,1μm,19.0s
LYN LuoYang 134.55 317 *e*PKP **PKiKP 03 42 14.4 +7.1**
LYN PP PP 03 45 04.5 +26
LYN SKKS 03 51 41.9
MK31 Makanchi Array 136.96 354 *i* PKIKP **PKPdf 03 42 08.4 -1.6**
MKAR Makanchi Array 136.96 354 PKiKP PKPpre 03 42 05.2
comp=Z,2.4nm,1.0s,baz=354,slow=2.4,SNR=5.2
MKAR PKP **PKPdf 03 42 09.7 -0.4**
comp=Z,2.5nm,1.0s,baz=11,slow=2.5,SNR=10
MKAR PP **PP 03 44 52.6 +0.4**
comp=Z,0.9nm,0.8s,baz=14,slow=5.4,SNR=4.3
MAKZ Makanchi 136.97 354 PKIKP **PKPdf 03 42 09.5 -0.5**
MAKZ Makanchi 136.97 354 **PKPdf 03 42 09.5 -0.5**
XAN Xi'an 137.24 319 PKP **PKPdf 03 42 07.9 -3.1**
XAN AMB AMB
comp=Z,300nm,10.6s
XAN LR LR
comp=Z,1μm,19.9s
XAN LR LR
comp=Z,2μm,19.2s
XAN LR LR
comp=Z,2μm,21.1s
GTA Gaotai 138.65 332 PKP **PKiKP 03 42 15.5 -0.1**
GTA LR LR
comp=Z,1μm,19.9s
GTA LR LR
comp=Z,1μm,21.5s
GTA LR LR
comp=Z,3μm,22.7s
BKB Balikpapan 138.92 264 IAMs_20 IAMs_20 04 47 45.0
comp=Z,1μm,18.0s
WMQ Urumqi 138.96 347 *e*PKP **PKPdf 03 42 14.2 +0.3**
WMQ PP **PP 03 45 10.3 +5.5**
WMQ SS SS 04 03 24.1 +4.6
WMQ AMB AMB
comp=Z,160nm,3.7s
WMQ LR LR
comp=Z,1μm,21.3s
WMQ LR LR
comp=Z,1μm,21.3s
WMQ LR LR
comp=Z,1μm,21.3s
BTLS Baital 139.00 2 *i* PKIKP **PKPdf 03 42 13.4 -0.4**
BTLS Baital 139.00 2 *e*PKiKP **PKPdf 03 42 13.4 -0.4**
baz=2.3
TDK Taldygorghan 139.03 358 LR LR 04 43 07.9
comp=Z,596nm,17.4s,baz=358
LZH Lanzhou 139.04 325 *e*PKP **PKPdf 03 42 13.7 -0.7**
LZH LR LR
comp=Z,1μm,17.6s
LZH LR LR
comp=Z,960nm,15.2s
LZH LR LR
comp=Z,3μm,19.8s
KKM Kota Kinabalu 140.01 275 IAMs_20 IAMs_20 04 35 11.4
comp=Z,1μm,21.0s
JAGI Jajag, Banyuwa 140.12 252 IAMs_20 IAMs_20 04 42 37.0
comp=Z,958nm,20.0s
CHKK Chushkaly 140.22 359 *i* PKIKP **PKPdf 03 42 16.1 0.0**
CHKK Chushkaly 140.22 359 *e*PKiKP **PKPdf 03 42 16.2 0.0**
baz=359
KPKS Kokpek 140.55 357 *e*PKIKP **PKPdf 03 42 14.1 -2.7**
KPKS *i* 03 42 16.8
KPKS Kokpek 140.55 357 *e*PKP **PKPdf 03 42 14.2 -2.6**
baz=357
KPKS *e*PKiKP **PKiKP 03 42 16.9 -2.5**
baz=357
SGDS Sogindy 140.61 2 *i* PKIKP **PKPdf 03 42 16.8 0.0**
SGDS Sogindy 140.61 2 *e*PKiKP **PKPdf 03 42 16.9 0.0**
baz=1.8
SHLS Shalkode 140.81 356 *i* PKIKP **PKPdf 03 42 17.1 -0.2**
SHLS Shalkode 140.81 356 *e*PKiKP **PKPdf 03 42 17.1 -0.2**
baz=356
KMBO Kilima Mbogo 140.84 97 IAMs_20 IAMs_20 04 41 29.3
comp=Z,1μm,20.0s
UZB Uzynbulak 140.85 357 *e*PKIKP **PKPdf 03 42 14.4 -3.0**
UZB Uzynbulak 140.85 357 *e*PKP **PKPdf 03 42 14.4 -3.0**
baz=357
MDOK Medeo 140.91 359 *i* PKIKP **PKPdf 03 42 17.3 -0.2**
MDOK MLR MLR
comp=Z,476nm,19.0s
MDOK Medeo 140.91 359 *e*PKiKP **PKPdf 03 42 17.4 -0.2**
baz=359
MDOK LR LR 04 43 25.0
comp=Z,476nm,19.0s,baz=359
SATY Saty 140.97 357 *i* PKIKP **PKPdf 03 42 17.2 -0.4**
SATY Saty 140.97 357 *e*PKiKP **PKPdf 03 42 17.3 -0.4**
baz=357
TNSS Tian-Shan 141.04 359 *i* PKIKP **PKPdf 03 42 18.1 0.0**
TNSS Tian-Shan 141.04 359 *e*PKiKP **PKPdf 03 42 18.1 0.0**
baz=359
AAK Ala-Archa 141.42 2 *i* PKIKP **PKPdf 03 42 18.7 +0.2**
IUG luzhnay 141.55 7 *e*PKIKP **PKPdf 03 42 15.3 -3.3**
IUG *i* 03 42 19.3
IUG luzhnay 141.55 7 *e*PKP **PKPdf 03 42 15.4 -3.3**
baz=7.3
IUG *e*PKiKP **PKiKP 03 42 19.4 -2.1**
baz=7.3
AML Almayashu 141.89 3 pPKPdf **PKiKP 03 42 22.4 -0.1**
KDJ Kajisay 141.94 359 PKIKP **PKPdf 03 42 16.5 -3.0**
KDJ Kajisay 141.94 359 PKPdf **PKPdf 03 42 16.5 -3.0**
GEYT Alibeck 142.36 24 PKP **PKPdf 03 42 19.9 -0.2**
comp=Z,1.7nm,0.4s,baz=31,slow=8.7,SNR=2.2
CD2 Chengdu 142.59 319 PKP **PKPdf 03 42 20.2 -0.6**
GYA Guiyang 143.16 311 ⇓PKP **PKPdf 03 42 22.8 +0.8**
GYA PP **PP 03 45 33.5 +1.7**
GYA AMB AMB
comp=Z,120nm,10.9s
GYA LR LR
comp=Z,420nm,17.4s
GYA LR LR
comp=Z,730nm,19.0s
GYA LR LR
comp=Z,960nm,18.3s
GOMU GeErMu 143.54 334 PKP **PKiKP 03 42 24.8 -1.3**
GOMU AMB AMB
comp=Z,110nm,5.8s
GOMU LR LR
comp=Z,1μm,20.0s
GOMU LR LR
comp=Z,540nm,19.4s
GOMU LR LR
comp=Z,1μm,20.3s
QIZ Qiongzhong 143.81 297 PKP **PKPdf 03 42 23.7 +0.6**
QIZ PP **PP 03 45 34.4 -1.7**
QIZ SS SS 04 04 19.6 +0.5
QIZ LR LR
comp=Z,860nm,16.5s
QIZ LR LR
comp=Z,980nm,20.0s
QIZ LR LR
comp=Z,1μm,17.7s
SBUM Sibu 143.93 269 IAMs_20 IAMs_20 04 46 31.1
comp=Z,1μm,21.0s
KSH Kashi 144.56 0 PKP **PKPdf 03 42 24.0 -0.1**
KSH pPKP sPKPdf 03 42 30.7 -0.1
KSH SS SS 04 04 27.3 +2.8
KSH LR LR
comp=Z,1μm,22.3s
KSH LR LR
comp=Z,810nm,16.8s
KSH LR LR
comp=Z,3μm,23.4s
RAYN Ar Rayn 144.59 54 PKIKP **PKPab 03 42 22.5 -0.4**
RAYN Ar Rayn 144.59 54 PKPdf **PKPab 03 42 22.5 -0.4**
RAYN Ar Rayn 144.59 54 IAMs_20 04 53 44.9
comp=Z,824nm,21.0s
CHGR Chuyangaron 144.84 9 **PKPab 03 42 22.9 -0.6**
KSM Kuching 145.76 267 **PKPdf 03 42 24.8 -1.9**
KSM IAMs_20 IAMs_20 04 45 19.8
comp=Z,808nm,21.0s
ATD Arta Tunnel 146.20 75 IAMs_20 IAMs_20 04 48 27.6
comp=Z,972nm,21.0s
PZH PanZhiHua 146.75 315 PKPbc **PKPdf 03 42 28.2 0.0**
PZH pPKP **pPKPdf 03 42 33.4 +0.1**
PZH PP **PP 03 45 54.0 +1.0**
PZH PKS **PKSdf 03 45 59.0 -4.8**
PZH SKKS 03 52 39.6
PZH SS **SS 04 04 50.5 -1.2**
PZH AMB AMB
comp=Z,240nm,8.9s
PZH LR LR
comp=Z,390nm,17.3s
PZH LR LR
comp=Z,810nm,17.6s
PZH LR LR
comp=Z,910nm,18.3s
KMI Kunming 146.84 312 ⇑PKPbc **PKPdf 03 42 28.4 -0.1**
KMI sPKP 03 42 34.6
KMI PP **PP 03 45 57.5 +3.6**
KMI AMB AMB
comp=Z,220nm,7.2s
KMI LR LR
comp=Z,1μm,22.9s
KMI LR LR
comp=Z,2μm,22.4s
KMI LR LR
comp=Z,3μm,22.9s
DLV T Lat 147.00 286 IAMs_20 IAMs_20 04 37 57.9
comp=Z,867nm,20.0s
KBL Kabul 148.83 11 PKiKP **PKiKP 03 42 37.0 +0.2**
SNR=21
UBPT Khong Chiam 148.99 293 **PKPdf 03 42 31.3 -0.6**
JRN Qarnain Island 149.37 45 PKiKP **PKPbc 03 42 37.0 +0.3**
NIL Nilore 150.30 5 IAMs_20 IAMs_20 04 52 40.6
comp=Z,960nm,20.0s
SHME Shamm 150.82 39 PKiKP **PKiKP 03 42 40.5 -0.3**
SNR=7.5
SHME Shamm 150.82 39 *i* PKPdf **PKPdf 03 42 34.8 +0.1**
SNR=7.7
BANOM Banah 151.01 39 PKiKP **PKPbc 03 42 40.9 +0.2**
BANOM Banah 151.01 39 PKPdf **PKPdf 03 42 36.6 +1.7**
MZR Muzera 151.03 47 PKiKP **PKiKP 03 42 41.5 +0.1**
SNR=14
MZR Muzera 151.03 47 *i* PKPdf **PKPdf 03 42 37.1 +2.0**
SNR=12
NAZ Nazwa, Dubai 151.26 41 PKiKP **PKiKP 03 42 42.0 +0.2**
SNR=20
NAZ Nazwa, Dubai 151.26 41 *i* PKPbc **PKPbc 03 42 41.0 -0.3**
SNR=16
ASUD Al Ashush, Dub 151.28 42 PKiKP **PKiKP 03 42 42.0 +0.1**
SNR=15
ASUD Al Ashush, Dub 151.28 42 *i* PKPbc **PKPbc 03 42 40.2 -1.2**
SNR=17
MASF Masafi 151.32 40 PKiKP **PKPbc 03 42 41.5 0.0**
SNR=24
MSFE Esma-Masafi 151.32 40 *i* PKPbc **PKPbc 03 42 39.5 -2.0**
SNR=14
FAQ Al Faqa, Dubai 151.38 42 PKiKP **PKiKP 03 42 42.0 -0.1**
SNR=15
UOSS Minazif 151.64 41 **PKPbc 03 42 39.9 -2.2**
UOSS Minazif 151.64 41 PKiKP **PKPbc 03 42 42.2 0.0**
UOSS Minazif 151.64 41 PKPbc **PKPbc 03 42 40.5 -1.6**
HATD Hatta, Dubai 151.68 41 PKiKP **PKiKP 03 42 43.0 +0.3**
SNR=10
HATD Hatta, Dubai 151.68 41 *i* PKPbc **PKPbc 03 42 41.1 -1.2**
SNR=6.5
ASHO Ashiyiah 151.73 41 PKiKP **PKiKP 03 42 43.0 +0.1**
SNR=7.4
ASHO Ashiyiah 151.73 41 PKPbc **PKPbc 03 42 40.2 -2.2**
ALNE Al Ain 151.95 43 PKiKP **PKiKP 03 42 43.3 0.0**
SNR=11
ALNE Al Ain 151.95 43 PKPdf **PKPdf 03 42 37.2 +0.8**
MYKOM Kota Tinggi 152.22 266 IAMs_20 IAMs_20 04 48 51.4
comp=Z,989nm,20.0s
SOHO SOHO 152.42 41 PKPbc **PKPbc 03 42 43.5 -0.4**
SOHO SOHO 152.42 41 PKPbc **PKPbc 03 42 42.1 -1.8**
HOQ Hoqain 153.31 41 pPKPdf pPKPdf 03 42 42.3 -1.3
CMAR Chiang Mai Arr 153.41 305 PKP **PKPdf 03 42 38.6 0.0**
comp=Z,2.4nm,0.9s,baz=264,slow=0.5,SNR=10
CMAR PKPbc **PKiKP 03 42 47.3 +0.9**
comp=Z,13nm,1.0s,baz=23,slow=2.1,SNR=11
BSY Bisya 153.81 43 pPKPdf pPKPdf 03 42 42.5 -1.8
ABTO Aybut 153.94 57 pPKPdf pPKPdf 03 42 43.3 -1.4
DOK Doka 154.00 54 pPKPdf pPKPdf 03 42 43.0 -1.6
BKNI Bangkinang 154.85 262 IAMs_20 IAMs_20 04 45 09.0
comp=Z,838nm,20.0s
IPM Ipoh 155.15 272 IAMs_20 IAMs_20 04 40 48.3
comp=Z,960nm,22.0s
KULM Kulim 155.51 274 IAMs_20 IAMs_20 04 49 58.6
comp=Z,1μm,20.0s
HYBB Hyderabad (bro 166.37 350 *e*PKPdf **PKPdf 03 42 52.6 -0.7**
HYBB *e*PP **PP 03 47 41.5 +1.1**
HYBB *e*SKSdf **SKSdf 03 49 56.5 -0.5**
HYBB *e*SKKSac **SKKSac 03 54 27.4 -1.6**

IDC ***12*** *03:35:44.1±1.1,24.04N×121.93E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.6/54,mbtmp3.6/7,MS2.9/1,Ms1 2.9/1, ms1mx2.4/87,Error ellipse: s-maj=37.1km s-min=22.1km az=68.0*
JMA ***12*** *03:35:45.2,24.01N×121.61E,h7km,ML3.9,C*
ISC 12 03:35:45.5±0.8,24.00N±0.01×121.65E±0.02,h7km±5km, n161,σ0.79/222,mb3.6/7,1C-31D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.05**	**244**	*i* P		**Pg**	**03 35 46.9**	**-0.1**
HWA	baz=174			*i* S		**Sg**	**03 35 48.5**	**+0.4**
TWD	baz=174 **Chiawan**	**0.10**	**329**	⇓*i* P		**Pg**	**03 35 47.4**	**-0.3**
TWD	baz=358			*i* S		**Sg**	**03 35 49.1**	**-0.2**
TEYL	baz=358 **Yanliau Villag**	**0.14**	**200**	⇓*i* P		**Pg**	**03 35 48.1**	**-0.2**
TEYL	baz=183			*i* S		**Sg**	**03 35 50.9**	**+0.5**
ETM	**Tongmen**	**0.15**	**258**	⇓*i* P		**Pg**	**03 35 48.0**	**-0.6**
ETM	baz=248			*i* S		**Sg**	**03 35 50.0**	**-0.6**
ETL	baz=248 **Fush Village**	**0.16**	**351**	⇓P		**Pg**	**03 35 48.6**	**-0.3**
ETL	baz=5.0			*i* S		**Sg**	**03 35 51.0**	**-0.1**
NACB	baz=5.0 **Ninganchiao**	**0.18**	**344**	⇓*i* P		**Pg**	**03 35 48.8**	**-0.4**
NACB	baz=356			*i* S		**Sg**	**03 35 51.3**	**-0.4**
ETLH	baz=356 **Xiulin Townshi**	**0.26**	**324**	⇓*i* P		**Pg**	**03 35 50.3**	**-0.4**
ETLH	baz=330			S		**Sg**	**03 35 54.0**	**-0.2**
ESL	baz=330 **Shilin**	**0.27**	**227**	*e*P		**Pg**	**03 35 50.2**	**-0.6**
ESL	baz=228			S		**Sg**	**03 35 53.8**	**-0.6**
TEGC	baz=228 **Jichi Village**	**0.30**	**199**	*e*P		**Pb**	**03 35 52.5**	**-0.7**
TEGC	baz=195			*e*S		**Sb**	**03 35 58.6**	**+0.2**
EHP	baz=195 **Heping Village**	**0.32**	**15**	*e*P		**Pg**	**03 35 52.1**	**+0.3**
EHP	baz=24			*e*S		**Sg**	**03 35 56.6**	**+0.5**
WHF	baz=24 **Hehuan Shan**	**0.38**	**293**	⇓*i* P		**Pg**	**03 35 52.5**	**-0.6**
WHF	baz=294			S		**Sg**	**03 35 57.8**	**-0.3**
EGFH	baz=294 **Guangfu**	**0.39**	**212**	*e*P		**Pg**	**03 35 53.3**	**+0.3**
OWD	baz=212 **Renai**	**0.44**	**264**	*e*P		**Pg**	**03 35 53.6**	**-0.4**
OWD	baz=273			*e*S		**Sg**	**03 35 59.5**	**-0.2**
ENA	baz=273 **Nanau**	**0.44**	**11**	⇓*i* P		**Pg**	**03 35 53.8**	**-0.2**
ENA	baz=28			S		**Sg**	**03 35 59.6**	**-0.1**
CHGB	baz=28 **Renai**	**0.44**	**278**	⇓*i* P		**Pg**	**03 35 53.8**	**-0.2**
CHGB	baz=278			S		**Sg**	**03 35 59.5**	**-0.4**
FUSS	baz=278 **Fushou**	**0.45**	**304**	⇓P		**Pg**	**03 35 54.1**	**-0.2**
FUSS	baz=306			S		**Sg**	**03 36 00.4**	**+0.3**
EWUT	baz=306 **Wuta**	**0.46**	**15**	⇓*e*P		**Pg**	**03 35 54.3**	**-0.2**
EWUT	baz=30			*e*S		**Sg**	**03 36 00.6**	**+0.1**
WUSB	baz=30 **Renai**	**0.49**	**269**	⇓*i* P		**Pg**	**03 35 54.7**	**-0.2**
WUSB	baz=268			S		**Sg**	**03 36 01.2**	**-0.1**
NNSB	baz=268 **Datong**	**0.49**	**330**	⇓*i* P		**Pg**	**03 35 54.8**	**-0.2**
NNSB	baz=335			S		**Sg**	**03 36 01.4**	**-0.1**
TWT	baz=335 **Tachien**	**0.50**	**301**	⇓P		**Pb**	**03 35 55.3**	**-1.4**
TWT	baz=301			S		**Sb**	**03 36 02.2**	**-2.1**
NNS	baz=301 **Nan Shan**	**0.51**	**330**	⇓*i* P		**Pg**	**03 35 55.1**	**-0.2**
NNS	baz=335			*i* S		**Sg**	**03 36 01.9**	**-0.1**
VWDT	baz=335 **VWDT**	**0.53**	**243**	*e*P		**Pg**	**03 35 55.4**	**-0.2**
VWDT	baz=231			S		**Sg**	**03 36 02.2**	**-0.3**
HGSD	baz=231 **Ruisui**	**0.54**	**202**	*e*P		**Pb**	**03 35 56.6**	**-0.7**
LATG	baz=206 **Datong**	**0.55**	**348**	⇓P		**Pg**	**03 35 55.8**	**-0.3**
LATG	baz=353			S		**Sg**	**03 36 02.8**	**-0.5**
EHY	baz=353 **Hungye**	**0.57**	**212**	*e*P		**Pg**	**03 35 56.1**	**-0.4**
EHY	baz=216			*e*S		**Sg**	**03 36 04.4**	**+0.4**
NDT	baz=216 **Datong Townshi**	**0.61**	**348**	⇓P		**Pb**	**03 35 57.3**	**-1.2**
NDT	baz=342			S		**Sg**	**03 36 05.3**	**-0.1**
WPL	baz=342 **Puli Township**	**0.63**	**271**	*e*P		**Pb**	**03 35 57.8**	**-1.1**
NDS	baz=270 **Dongshan**	**0.64**	**5**	⇓P		**Pg**	**03 35 57.6**	**-0.1**
NDS	baz=10.0			S		**Sg**	**03 36 06.1**	**+0.1**
TWC	baz=10.0 **Suao**	**0.64**	**17**	⇓P		**Pg**	**03 35 57.5**	**-0.2**
TWC	baz=21			*e*S		**Sg**	**03 36 06.2**	**+0.2**
ENTT	baz=21 **Nioudou**	**0.64**	**353**	⇓*i* P		**Pb**	**03 35 57.9**	**-1.2**
ENTT	baz=358			S		**Sg**	**03 36 06.3**	**0.0**
DPDB	baz=358 **Guoxing**	**0.66**	**273**	*e*P		**Pb**	**03 35 58.3**	**-1.1**
SSLB	baz=272 **Suanglung**	**0.67**	**252**	⇓*i* P		**Pg**	**03 35 58.0**	**-0.3**
SSLB	baz=262			S		**Sg**	**03 36 05.8**	**-1.4**
WCS	baz=262 **Beigang Elemen**	**0.68**	**275**	⇓*e*P		**Pb**	**03 35 58.4**	**-1.2**
YULB	baz=274 **Yu-li**	**0.68**	**208**	*e*P		**Pg**	**03 35 58.0**	**-0.7**
YULB	baz=214			*e*S		**Sb**	**03 36 08.4**	**-0.9**
SMLT	baz=214 **Sun Moon Lake**	**0.69**	**261**	⇓*i* P		**Pb**	**03 35 58.8**	**-1.2**
SMLT	baz=259			S		**Sg**	**03 36 07.2**	**-0.8**
WHP	baz=259 **Taichung City**	**0.70**	**294**	⇓P		**Pb**	**03 35 59.1**	**-0.9**
WHP	baz=285			*e*S		**Sb**	**03 36 08.7**	**-1.3**
ECBN	baz=285 **Changbin**	**0.70**	**195**	*e*P		**Pb**	**03 35 59.5**	**-0.5**
EYUL	baz=192 **Yuli**	**0.71**	**205**	*e*P		**Pb**	**03 36 00.1**	**-0.1**

	baz=212								
YHNB	**Yeheng**	**0.71**	**340**	⇓*i*P		**Pb**	**03 35 59.3**	**-1.0**
	baz=334								
YHNB				*e*S		**Sg**	**03 36 08.3**	**-0.2**
	baz=334								
TWF1	**Yuli**	**0.72**	**207**	*e*P		**Pg**	**03 35 58.5**	**-0.8**
	baz=211								
TWE	**Neicheng**	**0.72**	**1**	⇓P		**Pb**	**03 35 59.3**	**-1.0**
	baz=6.0								
TWE				S		**Sg**	**03 36 08.5**	**-0.2**
	baz=6.0								
NSK	**Sanguang**	**0.73**	**339**	⇓*i*P		**Pb**	**03 35 59.4**	**-1.1**
	baz=334								
NSK				S		**Sg**	**03 36 08.6**	**-0.4**
	baz=334								
TYC	**Yuchr**	**0.73**	**263**	⇓*e*P		**Pg**	**03 35 59.2**	**-0.3**
	baz=261								
FUSB	**Fushanzhiwuyua**	**0.76**	**356**	⇓*i*P		**Pb**	**03 36 00.1**	**-1.0**
	baz=360								
FUSB				*e*S		**Sg**	**03 36 09.1**	**-0.9**
	baz=360								
ILA	**Ilan**	**0.77**	**7**	*e*P		**Pb**	**03 36 00.3**	**-0.8**
	baz=11								
ILA				*e*S		**Sg**	**03 36 10.5**	**+0.2**
	baz=11								
NWLT	**Wulai**	**0.79**	**350**	*e*P		**Pb**	**03 36 00.5**	**-1.0**
	baz=354								
NWLT				*e*S		**Sg**	**03 36 10.3**	**-0.6**
	baz=354								
NFF	**Wufeng Townshi**	**0.80**	**323**	⇓P		**Pb**	**03 36 00.9**	**-0.8**
	baz=325								
NFF				*e*S		**Sg**	**03 36 11.0**	**-0.2**
	baz=325								
FULB	**Fuli**	**0.86**	**202**	*e*P		**Pb**	**03 36 02.5**	**-0.2**
	baz=214								
WJS	**Zhushan**	**0.86**	**258**	*e*P		**Pb**	**03 36 02.5**	**-0.2**
	baz=248								
NSTT	**Nanjuang**	**0.86**	**317**	⇓*e*P		**Pb**	**03 36 02.5**	**-0.3**
	baz=319								
NSTT				*e*S		**Sg**	**03 36 12.8**	**-0.6**
	baz=319								
LIOB	**Emei**	**0.87**	**318**	*e*P		**Pb**	**03 36 02.7**	**-0.2**
	baz=320								
LIOB				*e*S		**Sb**	**03 36 13.8**	**-0.8**
	baz=320								
NTC	**Toucheng**	**0.87**	**11**	*e*P		**Pb**	**03 36 02.1**	**-0.8**
	baz=4.0								
WWF	**Wufeng**	**0.87**	**273**	*e*P		**Pg**	**03 36 01.7**	**-0.5**
	baz=271								
TWQ1	**Liyutan**	**0.87**	**294**	*e*P		**Pb**	**03 36 03.0**	**+0.1**
	baz=294								
EGS		**0.88**	**17**	*e*P		**Pb**	**03 36 02.5**	**-0.6**
	baz=31								
WNT	**Mingjian**	**0.89**	**263**	*e*P		**Pb**	**03 36 03.2**	**0.0**
	baz=260								
WNT1	**Nantou City**	**0.89**	**264**	*e*P		**Pb**	**03 36 03.5**	**+0.2**
	baz=263								
TCU	**Taichung**	**0.90**	**280**	*e*P		**Pn**	**03 36 04.2**	**-0.4**
	baz=278								
NSY	**Sanyi**	**0.91**	**297**	*e*P		**Pn**	**03 36 03.9**	**-0.8**
	baz=298								
ALS	**Alishan**	**0.91**	**238**	*e*P		**Pb**	**03 36 02.9**	**-0.9**
	baz=236								
ALS				*e*S		**Sb**	**03 36 15.4**	**-0.8**
	baz=236								
CHKT	**Chengkung**	**0.93**	**196**	*e*P		**Pg**	**03 36 03.0**	**-0.4**
	baz=194								
CHKT				S		**Sb**	**03 36 17.5**	**+1.1**
	baz=194								
NMLH	**Miaoli**	**0.95**	**305**	*e*P		**Pn**	**03 36 05.1**	**-0.1**
	baz=305								
HSN1	**Hsinchu**	**0.97**	**324**	*e*P		**Pb**	**03 36 04.5**	**-0.1**
	baz=325								
NHDH	**Xindian Distri**	**0.97**	**353**	*e*P		**Pb**	**03 36 04.1**	**-0.4**
	baz=357								
CHN5	**Tsauling**	**0.97**	**246**	P		**Pb**	**03 36 04.8**	**+0.1**
	baz=234								
CHN5				S		**Sb**	**03 36 18.7**	**+0.9**
	baz=234								
TWA	**Mucha**	**0.98**	**356**	*e*P		**Pb**	**03 36 04.0**	**-0.7**
	baz=349								
TWA				*e*S		**Sg**	**03 36 16.1**	**-0.9**
	baz=349								
ECS	**Chishang**	**0.98**	**204**	*e*P		**Pb**	**03 36 04.8**	**+0.1**
	baz=203								
TIPB	**Shuangxi**	**0.98**	**9**	*e*P		**Pg**	**03 36 04.0**	**-0.4**
	baz=3.0								
TIPB				*e*S		**Sg**	**03 36 16.3**	**-0.9**
	baz=3.0								
WDJ	**Dajia District**	**0.99**	**291**	*e*P		**Pn**	**03 36 06.3**	**+0.7**
	baz=290								
ELDTW	**Lidau**	**0.99**	**216**	*e*P		**Pg**	**03 36 03.4**	**-1.2**
	baz=200								
SBCB	**Hsinchu**	**1.00**	**323**	*e*P		**Pb**	**03 36 05.2**	**+0.1**
	baz=324								
WCHH	**Zhanghua**	**1.00**	**275**	*e*P		**Pn**	**03 36 05.6**	**-0.3**
	baz=274								
HSN	**Hsinchu**	**1.01**	**322**	*e*P		**Pb**	**03 36 05.3**	**-0.1**
	baz=327								
BACT	**New Taipei Cit**	**1.01**	**349**	*e*P		**Pg**	**03 36 04.5**	**-0.5**
	baz=353								
TAP1	**Taipei**	**1.04**	**354**	*e*P		**Pb**	**03 36 05.8**	**0.0**
	baz=357								
TAP1				*e*S		**Sb**	**03 36 19.4**	**-0.3**
	baz=357								
WGK	**Gukeng**	**1.04**	**253**	*e*P		**Pb**	**03 36 05.3**	**-0.5**
	baz=252								
TAP	**Taipei**	**1.05**	**353**	*e*P		**Pb**	**03 36 05.6**	**-0.2**
	baz=349								
TWB1	**Santiao Chiao**	**1.05**	**17**	*e*P		**Pg**	**03 36 05.2**	**-0.5**
	baz=12								
TWB1				*e*S		**Sg**	**03 36 18.4**	**-0.9**
	baz=12								
NCUH	**Zhongli**	**1.05**	**336**	*e*P		**Pb**	**03 36 05.3**	**-0.8**
	baz=338								
NCU	**National Centr**	**1.06**	**337**	*e*P		**Pn**	**03 36 06.7**	**+0.1**
	baz=346								
WDLH	**Douliu**	**1.06**	**253**	*e*P		**Pn**	**03 36 06.7**	**0.0**
	baz=253								
EDH	**Donghe**	**1.07**	**197**	*e*P		**Pg**	**03 36 04.8**	**-1.2**
	baz=214								
NWF	**Wu-fen Shan**	**1.08**	**6**	P		**Pb**	**03 36 06.0**	**-0.4**
	baz=10.0								
NWF				S		**Sg**	**03 36 19.8**	**-0.4**
	baz=10.0								
WFSB	**Wu-fen Shan**	**1.08**	**6**	*e*P		**Pb**	**03 36 06.2**	**-0.2**
	baz=10.0								
WFSB				*e*S		**Sg**	**03 36 19.6**	**-0.6**
	baz=10.0								
SXI1	**Grass Mountain**	**1.11**	**11**	*e*P		**Pb**	**03 36 06.6**	**-0.5**
	baz=359								
TWS1	**Kuangyinshan**	**1.12**	**349**	*e*P		**Pn**	**03 36 07.3**	**-0.2**
	baz=1.0								
TWS1				*e*S		**Sb**	**03 36 22.3**	**+0.4**
	baz=1.0								
NHW	**Xinwu Township**	**1.15**	**331**	*e*P		**Pn**	**03 36 07.8**	**-0.1**
	baz=332								
YM01	**YM01**	**1.15**	**356**	*e*P		**Pn**	**03 36 07.8**	**-0.2**
	baz=11								
YM01				*e*S		**Sb**	**03 36 23.2**	**+0.5**
	baz=11								
STYH	**Taoyuan**	**1.15**	**224**	*e*P		**Pb**	**03 36 07.2**	**-0.5**
	baz=224								
TNOU	**National Taiwa**	**1.15**	**6**	*e*P		**Pg**	**03 36 07.0**	**-0.6**
	baz=8.0								
TPUB	**Ta-pu**	**1.17**	**234**	*e*P		**Pb**	**03 36 07.8**	**-0.1**
	baz=219								
TPUB				*e*S		**Sb**	**03 36 23.8**	**+0.6**
	baz=219								
STYT	**Tauyuan**	**1.17**	**225**	*e*P		**Pb**	**03 36 07.6**	**-0.4**
	baz=224								
STYT				*e*S		**Sb**	**03 36 24.1**	**+0.7**
	baz=224								
WRL	**Guolierlin Hig**	**1.17**	**266**	*e*P		**Pn**	**03 36 08.0**	**-0.2**
	baz=264								
CHN2	**Minshiung**	**1.17**	**247**	*e*P		**Pn**	**03 36 08.0**	**-0.2**
	baz=247								
NTST	**Danshui**	**1.18**	**351**	*e*P		**Pn**	**03 36 08.3**	**0.0**
	baz=353								
LONT	**Longtian**	**1.19**	**204**	*e*P		**Pg**	**03 36 06.8**	**-1.5**
	baz=204								
YM08	**YM08**	**1.19**	**357**	*e*P		**Pg**	**03 36 07.4**	**-0.8**
	baz=11								
ANP	**Anpu**	**1.19**	**354**	*e*P		**Pb**	**03 36 08.1**	**-0.3**
	baz=357								
WTK	**Tuku**	**1.20**	**255**	*e*P		**Pb**	**03 36 08.3**	**-0.1**
	baz=255								
WTP	**Ta-pu**	**1.21**	**232**	⇑P		**Pb**	**03 36 08.4**	**-0.3**
	baz=231								
WTP				*e*S		**Sn**	**03 36 25.5**	**0.0**
	baz=231								
CHY	**Chiayi**	**1.23**	**246**	*e*P		**Pb**	**03 36 08.8**	**-0.1**
	baz=246								
JYNG	**Yonagunijimaku**	**1.27**	**69**	P		**Pg**	**03 36 09.4**	**-0.4**
JYNG				S		**Sn**	**03 36 27.3**	**+0.5**
TWY	**Chenhua**	**1.27**	**358**	*e*P		**Pn**	**03 36 10.8**	**+1.1**
	baz=346								
TWGBT	**Beinan**	**1.29**	**204**	*e*P		**Pg**	**03 36 07.2**	**-2.9**
	baz=204								
TWK	**Hsinying**	**1.29**	**236**	*e*P		**Pb**	**03 36 09.8**	**-0.2**
	baz=223								
TWK				*e*S		**Sn**	**03 36 28.8**	**+1.3**
	baz=223								
CHN1	**Nanshi**	**1.31**	**232**	*e*P		**Pn**	**03 36 10.4**	**+0.2**
	baz=231								
CHN1				*e*S		**Sn**	**03 36 29.6**	**+1.8**
	baz=231								
SNST	**Tainan City**	**1.31**	**234**	*e*P		**Pn**	**03 36 10.5**	**+0.3**
	baz=235								
SNST				*e*S		**Sn**	**03 36 30.0**	**+2.2**
	baz=235								
YOJ	**Yonaguni jima**	**1.33**	**69**	P		**Pg**	**03 36 10.1**	**-0.8**
YOJ				S		**Sg**	**03 36 28.0**	**-0.1**
SGST	**Jiashian**	**1.34**	**227**	*e*P		**Pg**	**03 36 10.2**	**-0.9**
	baz=227								
SGST				*e*S		**Sn**	**03 36 29.1**	**+0.5**
	baz=227								
WSF	**Szhu**	**1.36**	**255**	*e*P		**Pb**	**03 36 11.3**	**+0.1**
	baz=255								
WSL	**Shuilin Townsh**	**1.39**	**250**	*e*P		**Pb**	**03 36 11.6**	**0.0**
	baz=263								
ICHU	**Yijhu**	**1.41**	**244**	*e*P		**Pb**	**03 36 12.2**	**+0.2**
	baz=245								
ICHU				*e*S		**Sn**	**03 36 32.3**	**+2.0**
	baz=245								
CHN8	**Yiju**	**1.47**	**244**	*e*P		**Pn**	**03 36 12.6**	**+0.3**
	baz=245								
CHN8				*e*S		**Sn**	**03 36 32.3**	**+0.5**
	baz=245								
ECL	**Taimali**	**1.53**	**205**	*e*P		**Pb**	**03 36 13.8**	**-0.3**
	baz=189								
SCST	**Cishan**	**1.53**	**224**	*e*P		**Pg**	**03 36 14.3**	**-0.6**
	baz=226								
SHHT	**Tainan City**	**1.54**	**231**	*e*P		**Pg**	**03 36 14.4**	**-0.6**
	baz=233								
SSD	**Sandimen**	**1.56**	**217**	*e*P		**Pn**	**03 36 13.6**	**+0.1**
	baz=206								
TSMG	**Majia**	**1.58**	**216**	*e*P		**Pn**	**03 36 14.3**	**+0.4**
	baz=206								
TWM1	**Shoushan**	**1.62**	**224**	*e*P		**Pb**	**03 36 15.3**	**-0.4**
	baz=224								
MASBT	**Mashibuluo**	**1.67**	**214**	*e*P		**Pn**	**03 36 15.0**	**0.0**
	baz=204								
EAST	**Anshuo**	**1.77**	**205**	*e*P		**Pn**	**03 36 17.4**	**+1.0**
	baz=194								
TAW	**Tawu**	**1.77**	**203**	*e*P		**Pn**	**03 36 17.2**	**+0.7**
	baz=190								
TAWH	**Dawu Township**	**1.79**	**203**	*e*P		**Pb**	**03 36 18.6**	**0.0**
	baz=191								
SSPT	**Xinbi**	**1.81**	**214**	*e*P		**Pb**	**03 36 18.3**	**-0.5**
	baz=205								
SCZT	**Fangliau**	**1.88**	**211**	*e*P		**Pn**	**03 36 18.2**	**+0.2**
	baz=201								
SLIU	**Shizi**	**1.94**	**204**	*e*P		**Pn**	**03 36 19.9**	**+1.1**
	baz=192								
LAY	**Lan-yu**	**1.95**	**183**	*e*P		**Pn**	**03 36 16.1**	**-2.9**
	baz=168								
PHUB	**P'eng-hu**	**1.96**	**256**	*e*P		**Pn**	**03 36 19.1**	**-0.1**
	baz=257								
PNG	**Penghu**	**1.97**	**258**	*e*P		**Pn**	**03 36 18.9**	**-0.3**
	baz=259								
WDGT	**Dungji**	**1.97**	**248**	*e*P		**Pn**	**03 36 18.8**	**-0.4**
	baz=250								
HATJ	**Hateruma jima**	**1.97**	**88**	P		**Pn**	**03 36 19.9**	**+0.7**
HATJ				S		**Sn**	**03 36 45.0**	**+0.8**
LYUB	**Lan-yu**	**1.99**	**182**	*e*P		**Pn**	**03 36 16.4**	**-3.1**
	baz=182								
JKRS	**Kuro-shima**	**2.17**	**83**	P		**Pn**	**03 36 22.8**	**+0.8**
JKRS				S		**Sn**	**03 36 49.5**	**+0.4**
VCHM	**Qimei**	**2.18**	**249**	*e*P		**Pn**	**03 36 22.4**	**+0.3**
	baz=236								
TWK1	**Hengchun**	**2.19**	**201**	*e*P		**Pb**	**03 36 24.5**	**-0.8**
	baz=205								
TWKBT	**Hengchun**	**2.19**	**201**	*e*P		**Pn**	**03 36 22.7**	**+0.5**
	baz=205								
TSEB	**Hengchuen, Pin**	**2.20**	**198**	*e*P		**Pb**	**03 36 24.3**	**-1.2**
	baz=189								
VWUC	**VWUC**	**2.24**	**297**	*e*P		**Pn**	**03 36 22.2**	**-0.6**
	baz=296								
JIJ	**Ishigaki jima**	**2.31**	**80**	P		**Pn**	**03 36 23.1**	**-0.7**
JIJ				S		**Sn**	**03 36 54.0**	**+1.5**
JISG	**Ishigakijimahi**	**2.50**	**76**	P		**Pn**	**03 36 25.8**	**-0.7**
PTMZ	**Houxiangcun**	**2.53**	**295**	*e*P		**Pn**	**03 36 25.2**	**-1.7**
	baz=294								
MATB	**Ia-tsu**	**2.64**	**325**	*e*P		**Pn**	**03 36 28.4**	**-0.1**
	baz=308								
KNM	**Kinmen**	**2.97**	**279**	*e*P		**Pn**	**03 36 34.6**	**+1.7**
	baz=278								
KNMB	**Chin-men Tao**	**3.01**	**280**	*e*P		**Pn**	**03 36 32.8**	**-0.7**
	baz=279								
LYJJ	**Jianjiangzhen**	**3.06**	**326**	*e*P		**Pn**	**03 36 34.5**	**+0.2**
	baz=325								
MHZQ	**Yeshan**	**3.17**	**312**	*e*P		**Pn**	**03 36 34.9**	**-0.8**
	baz=310								
XPSS	**Dashiqiu**	**3.20**	**336**	*e*P		**Pn**	**03 36 35.6**	**-0.6**
	baz=335								
AXDP	**Jialang**	**3.47**	**286**	*e*P		**Pn**	**03 36 39.5**	**-0.4**
	baz=285								
ZPLA	**Ao Xicun**	**3.57**	**270**	*e*P		**Pn**	**03 36 41.1**	**-0.1**
	baz=269								
SXFK	**Yanhouchang**	**4.34**	**304**	*e*P		**Pn**	**03 36 51.6**	**-0.3**
	baz=303								
KSRS	**Korea Array**	**14.45**	**20**	LR		LR	03 45 08.1		
	comp=Z,40nm,18.4s,baz=185,slow=39								
CMAR	**Chiang Mai Arr**	**21.86**	**260**	P		**P**	**03 40 41.2**	**+2.3**
	0.6nm,0.5s,baz=71,slow=8.2,SNR=6.0								
SONM	**Songino Array**	**26.70**	**337**	P		**P**	**03 41 26.2**	**+0.8**
	0.4nm,0.5s,baz=142,slow=7.3,SNR=2.6								
MKAR	**Makanchi Array**	**38.77**	**316**	P		**P**	**03 43 10.0**	**-0.5**
	1.5nm,0.9s,baz=122,slow=7.8,SNR=0.9								
ZALV	**Zalesovo Beam**	**40.63**	**327**	P		**P**	**03 43 28.1**	**+2.2**
	0.6nm,0.5s,baz=112,slow=11,SNR=1.8								
H11S3	**WAKE ISLAND Hy**	**42.20**	**89**	T		T	04 28 41.2		
	baz=279,slow=75,SNR=9.0								
H11S1	**WAKE ISLAND Hy**	**42.21**	**89**	T		T	04 28 59.0		
	baz=279,slow=75,SNR=12								
H11S2	**WAKE ISLAND Hy**	**42.22**	**89**	T		T	04 28 43.4		
	baz=279,slow=75,SNR=9.2								
WRA	**Warramunga Arr**	**45.39**	**163**	P		**P**	**03 44 04.2**	**-0.6**
	0.6nm,0.8s,baz=343,slow=9.1,SNR=3.0								
ASAR	**Alice Springs**	**48.85**	**165**	P		**P**	**03 44 31.6**	**-0.1**
	0.6nm,0.9s,baz=345,slow=9.1,SNR=5.1								
YKA	**Yellowknife Ar**	**82.97**	**23**	P		**P**	**03 48 09.7**	**-1.3**
	1.0nm,0.9s,baz=312,slow=4.3,SNR=10								

TAP **12** *03:41:39.0,24.52N×121.96E,h12km,ML3.2,C*
JMA **12** *03:41:39.2,24.45N×121.97E,h31km,M2.6*

ISC 12 03:41:37.1±1.0,24.48N±0.02×122.08E±0.02,h8km±9km,
n88,σ**0.66/129,7C-15D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.25**	**301**	⇓*i*P		**Pg**		**03 41 42.5**	**+0.4**
	baz=311								
TWC				*i* S		**Sg**		**03 41 44.5**	**-1.0**
	baz=311								
EWUT	**Wuta**	**0.28**	**263**	⇓P		**Pg**		**03 41 43.3**	**+0.6**
	baz=247								
EWUT				*i* S		**Sg**		**03 41 46.1**	**-0.3**
	baz=247								
ENA	**Nanau**	**0.32**	**260**	⇓*i*P		**Pg**		**03 41 43.9**	**+0.6**
	baz=245								
ENA				S		**Sg**		**03 41 47.0**	**-0.6**
	baz=245								
EHP	**Heping Village**	**0.36**	**241**	*e*P		**Pb**		**03 41 45.0**	**-0.7**
	baz=223								
NDS	**Dongshan**	**0.37**	**294**	⇓*i*P		**Pg**		**03 41 44.7**	**+0.4**
	baz=291								
NDS				S		**Sg**		**03 41 48.4**	**-0.8**
	baz=291								
EGS		**0.39**	**339**	*e*P		**Pb**		**03 41 46.2**	**-0.1**
	baz=351								
EGS				*e*S		**Sg**		**03 41 51.1**	**+1.2**
	baz=351								
ILA	**Ilan**	**0.41**	**313**	*e*P		**Pb**		**03 41 46.1**	**-0.6**
	baz=321								
ILA				*e*S		**Sg**		**03 41 50.6**	**-0.1**
	baz=321								
NTC	**Toucheng**	**0.44**	**328**	*e*P		**Pb**		**03 41 46.6**	**-0.5**
	baz=347								
TWE	**Neicheng**	**0.45**	**302**	*e*P		**Pg**		**03 41 46.2**	**+0.4**
	baz=307								
ENTT	**Nioudou**	**0.50**	**289**	⇓*i*P		**Pg**		**03 41 46.9**	**+0.2**
	baz=288								
LATG	**Datong**	**0.51**	**276**	⇓*i*P		**Pg**		**03 41 47.2**	**+0.2**
	baz=273								
LATG				S		**Sg**		**03 41 53.2**	**-0.5**
	baz=273								
ETL	**Fush Village**	**0.53**	**233**	*e*P		**Pb**		**03 41 48.5**	**-0.2**
	baz=223								
ETL				*e*S		**Sg**		**03 41 54.8**	**+0.5**
	baz=223								
FUSB	**Fushanzhiwuyua**	**0.53**	**302**	⇓*i*P		**Pg**		**03 41 47.9**	**+0.5**
	baz=295								
FUSB				S		**Sg**		**03 41 53.5**	**-0.9**
	baz=295								
TWB1	**Santiao Chiao**	**0.53**	**351**	*e*P		**Pb**		**03 41 48.6**	**-0.2**
	baz=353								
TWB1				*e*S		**Sg**		**03 41 55.5**	**+1.2**
	baz=353								
NDT	**Datong Townshi**	**0.53**	**283**	⇓*i*P		**Pg**		**03 41 47.8**	**+0.4**
	baz=281								
NDT				*e*S		**Sg**		**03 41 53.6**	**-0.8**
	baz=281								
NACB	**Ninganchiao**	**0.54**	**236**	⇑*i*P		**Pb**		**03 41 48.5**	**-0.4**
	baz=226								
NACB				*i* S		**Sg**		**03 41 55.1**	**+0.4**
	baz=226								
TIPB	**Shuangxi**	**0.54**	**334**	⇑*i*P		**Pb**		**03 41 48.5**	**-0.4**
	baz=351								
TIPB				S		**Sg**		**03 41 54.6**	**-0.1**
	baz=351								
TWD	**Chiawan**	**0.60**	**228**	⇑P		**Pb**		**03 41 49.6**	**-0.2**
	baz=227								
TWD				S		**Sg**		**03 41 57.0**	**+0.5**
	baz=227								
NWLT	**Wulai**	**0.60**	**299**	*e*P		**Pg**		**03 41 49.4**	**+0.6**
	baz=292								
NWLT				*e*S		**Sg**		**03 41 55.6**	**-1.1**
	baz=292								
ETLH	**Xiulin Townshi**	**0.61**	**244**	⇑*i*P		**Pb**		**03 41 49.6**	**-0.5**
	baz=237								
ETLH				*e*S		**Sg**		**03 41 57.4**	**+0.4**
	baz=237								
SXI1	**Grass Mountain**	**0.64**	**343**	⇑P		**Pb**		**03 41 50.7**	**+0.1**
	baz=358								
SXI1				S		**Sb**		**03 41 59.2**	**-0.5**
	baz=358								
NNSB	**Datong**	**0.64**	**265**	⇓*i*P		**Pg**		**03 41 49.7**	**+0.1**
	baz=261								
NNSB				S		**Sg**		**03 41 57.1**	**-0.8**
	baz=261								
NWF	**Wu-fen Shan**	**0.65**	**335**	⇑*i*P		**Pb**		**03 41 50.8**	**0.0**
	baz=329								
NWF				S		**Sg**		**03 41 58.9**	**+0.8**
	baz=329								
WFSB	**Wu-fen Shan**	**0.65**	**335**	⇑*i*P		**Pb**		**03 41 50.8**	**+0.1**
	baz=329								
WFSB				S		**Sg**		**03 41 58.9**	**+0.8**
	baz=329								
NNS	**Nan Shan**	**0.65**	**266**	⇓*i*P		**Pg**		**03 41 49.8**	**+0.1**
	baz=262								
NNS				S		**Sg**		**03 41 57.2**	**-0.9**
	baz=262								
HWA	**Hwalien**	**0.67**	**221**	*e*P		**Pn**		**03 41 52.0**	**-0.9**
	baz=218								
YHNB	**Yeheng**	**0.67**	**286**	⇓*i*P		**Pg**		**03 41 50.4**	**+0.3**
	baz=286								
YHNB				*e*S		**Sg**		**03 41 57.6**	**-1.2**
	baz=286								
TWA	**Mucha**	**0.67**	**318**	*e*P		**Pb**		**03 41 50.9**	**-0.3**
	baz=322								
TWA				*e*S		**Sg**		**03 41 58.0**	**-0.9**
	baz=322								
NSK	**Sanguang**	**0.69**	**286**	⇓*i*P		**Pg**		**03 41 50.6**	**+0.2**
	baz=291								
NSK				S		**Sg**		**03 41 58.2**	**-1.2**
	baz=291								
NHDH	**Xindian Distri**	**0.70**	**313**	*e*P		**Pb**		**03 41 52.3**	**+0.7**
	baz=310								
TNOU	**National Taiwa**	**0.72**	**337**	*e*P		**Pb**		**03 41 52.2**	**+0.2**
	baz=335								
NHY	**Taipei**	**0.72**	**320**	*e*P		**Pn**		**03 41 53.4**	**-0.3**
	baz=325								
ETM	**Tongmen**	**0.74**	**226**	*e*P		**Pb**		**03 41 52.4**	**0.0**
	baz=230								
ETM				*e*S		**Sg**		**03 42 01.6**	**+0.4**
	baz=230								
TAP	**Taipei**	**0.76**	**317**	*e*P		**Pb**		**03 41 52.1**	**+0.3**
	baz=321								
JYNG	**Yonagunijimaku**	**0.79**	**92**	P		**Pn**		**03 41 55.4**	**+0.9**
JYNG				S		**Sn**		**03 42 07.1**	**+0.6**
FUSS	**Fushou**	**0.80**	**253**	P		**Pb**		**03 41 53.1**	**-0.4**
	baz=249								
FUSS				*e*S		**Sg**		**03 42 03.0**	**0.0**
	baz=249								
YM01	**YM01**	**0.81**	**325**	*e*P		**Pb**		**03 41 53.9**	**+0.4**
	baz=329								
YM01				*e*S		**Sg**		**03 42 03.3**	**0.0**
	baz=329								
WHF	**Hehuan Shan**	**0.82**	**246**	⇓*i*P		**Pb**		**03 41 53.5**	**-0.4**
	baz=241								
WHF				*e*S		**Sg**		**03 42 03.4**	**-0.2**
	baz=241								
YM08	**YM08**	**0.83**	**328**	*e*P		**Pb**		**03 41 54.3**	**+0.4**
	baz=332								
YOJ	**Yonaguni jima**	**0.85**	**91**	S		**Sn**		**03 42 08.7**	**+0.7**
TWT	**Tachien**	**0.86**	**255**	*e*P		**Pb**		**03 41 54.5**	**+0.1**
	baz=251								
TWT				*e*S		**Sg**		**03 42 04.5**	**-0.4**
	baz=251								
TWS1	**Kuangyinshan**	**0.86**	**316**	*e*P		**Pn**		**03 41 55.7**	**+0.1**
	baz=319								
ANP	**Anpu**	**0.87**	**324**	*e*P		**Pb

baz=223
NMLH Miaoli 1.18 273 *e*P Pn 03 42 01.1 +1.1
baz=271
EHY Hungye 1.20 216 *e*P Pg 03 42 00.6 +0.5
baz=222
NSY Sanyi 1.21 267 *e*P Pg 03 42 01.7 +1.4
baz=264
SMLT Sun Moon Lake 1.23 241 *e*P Pg 03 42 01.5 +0.6
baz=237
SSLB Suanglung 1.24 236 ‖P Pg 03 42 01.4 +0.4
baz=242
SSLB S Sb 03 42 15.8 -1.3
baz=242
TYC Yuchr 1.26 243 *e*P Pg 03 42 01.9 +0.6
baz=239
YULB Yu-li 1.30 214 *e*P Pg 03 42 02.5 +0.4
baz=220
WDJ Dajia District 1.32 264 *e*P Pg 03 42 04.2 +1.7
baz=262
TWF1 Yuli 1.33 213 *e*P Pg 03 42 02.9 +0.1
baz=223
FULB Fuli 1.47 210 *e*P Pg 03 42 05.9 +0.6
baz=221
IRIF Iriomote-Funau 1.51 95 P Pb 03 42 05.7 +0.3
IRIF S Sg 03 42 26.1 +0.4
CHN5 Tsauling 1.56 236 *e*P Pg 03 42 08.1 +1.1
baz=232
STYH Taoyuan 1.77 223 *e*P Pb 03 42 10.1 +0.2
baz=220
JKRS Kuro-shima 1.77 98 P Pb 03 42 10.0 +0.1
JKRS S Sg 03 42 33.4 -0.8
TPUB Ta-pu 1.78 229 *e*P Pg 03 42 11.4 +0.2
baz=226
STYT Tauyuan 1.79 223 *e*P Pg 03 42 11.0 -0.4
baz=220
JIJ Ishigaki jima 1.88 93 P Pb 03 42 10.9 -0.9
JIJ S Sb 03 42 34.6 -0.9
CHN1 Nanshi 1.92 228 *e*P Pg 03 42 13.3 -0.7
baz=226
JISG Ishigakijimahi 2.03 87 P Pb 03 42 13.1 -1.2
JISG S Sb 03 42 38.7 -1.1
MASBT Mashibuluo 2.29 216 *e*P Pb 03 42 18.2 -0.5
baz=214
JTJ Tarama 2.39 86 P Pb 03 42 19.3 -1.1
JTJ S Sb 03 42 48.3 -1.8
VWUC VWUC 2.45 282 *e*P Pn 03 42 17.3 -0.1
baz=280
PHUB P'eng-hu 2.49 248 *e*P Pn 03 42 18.1 +0.1
baz=244
MATB Ma-tsu 2.55 311 *e*P Pn 03 42 19.5 +0.7
baz=311
XPSS Dashiqiu 2.98 325 *e*P Pn 03 42 25.0 +0.4
baz=325

*IDC **12** 03:45:02.0±1.1,54˚.76S×0˚.00E, h0km,mb4.0/6,mb1 4.2/7, mb1mx3.9/25,mbtmp4.0/7,ML3.3/1,Error ellipse: s-maj=35.8km s-min=23.8km az=73.0*
*NEIC **12** 03:45:04.8±1.8,54˚.93S±0˚.08×0˚.2W±0˚.3,h10km±1km, mb4.8/9,Error ellipse: s-maj=28.7km s-min=13.9km az=89.0*
ISC 12 03:45:03.3±0.9,54˚.8S±0˚.1×0˚.1E±0˚.2,h10km,n24, σ0s80/21,mb4.6/7,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**17.01**	**183**	P	**Pn**	**03 49 01.5**	**+0.5**
	0.1nm,0.3s,baz=351,slow=12,SNR=7.0						
SNAA	**Sanae**	**17.01**	**183**		**Pn**	**03 49 00.3**	**-0.7**
QSPA	**South Pole Qui**	**35.47**	**180**	P	**P**	**03 51 59.2**	**-0.4**
	1.7nm,1.1s,baz=237,slow=16,SNR=2.3						
QSPA	**South Pole Qui**	**35.47**	**180**	P	**P**	**03 51 59.3**	**-0.4**
QSPA				IAmb	IAmb	03 52 04.4	
	comp=Z,30nm,1.9s						
LL02	**Futaleuf**	**46.57**	**253**	P	**P**	**03 53 31.1**	**+0.2**
LL02				IAmb	IAmb	03 53 34.2	
	comp=Z,7.5nm,1.1s						
PLCA	**Paso Flores**	**47.46**	**257**	P	**P**	**03 53 38.7**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=124,slow=6.4,SNR=3.5						
PLCA	**Paso Flores**	**47.46**	**257**	P	**P**	**03 53 37.9**	**-0.2**
PLCA				IAmb	IAmb	03 53 39.7	
	comp=Z,34nm,2.0s						
VNDA	**Vanda**	**47.49**	**175**	P	**P**	**03 53 37.7**	**0.0**
	comp=Z,2.1nm,0.9s,baz=216,slow=7.4,SNR=7.4						
VNDA	**Vanda**	**47.49**	**175**	P	**P**	**03 53 38.6**	**+0.9**
LL07	**Hotel Espejo d**	**47.70**	**252**	P	**P**	**03 53 40.3**	**+0.5**
CPUP	**Villa Florida**	**50.22**	**280**	P	**P**	**03 53 59.2**	**0.0**
	comp=Z,4.1nm,1.2s,baz=109,slow=6.8,SNR=3.1						
CPUP	**Villa Florida**	**50.22**	**280**	P	**P**	**03 53 58.1**	**-1.1**
CPUP				IAmb	IAmb	03 54 59.2	
	comp=Z,25nm,1.8s						
LPAZ	**La Paz**	**64.28**	**278**	P	**P**	**03 55 39.2**	**-0.2**
	comp=Z,3.0nm,1.0s,baz=110,slow=4.8,SNR=6.0						
LPAZ	**La Paz**	**64.28**	**278**	P	**P**	**03 55 39.2**	**-0.2**
LPAZ				IAmb	IAmb	03 55 42.3	
	comp=Z,6.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**67.67**	**2**	P	**P**	**03 55 59.5**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=185,slow=7.4,SNR=2.8						
H01W2	**Cape Leeuwin H**	**74.35**	**129**	T	T	05 19 00.7	
	baz=212,slow=76,SNR=28						
H01W1	**Cape Leeuwin H**	**74.36**	**129**	T	T	05 19 03.8	
	baz=212,slow=76,SNR=34						
H01W3	**Cape Leeuwin H**	**74.36**	**129**	T	T	05 19 03.5	
	baz=212,slow=76,SNR=30						
TAU	**Tasmania Unive**	**78.77**	**156**	P	**P**	**03 57 05.4**	**-0.3**
YKA	**Yellowknife Ar**	**146.52**	**310**	PKPbc	**PKPdf**	**04 04 41.7**	**-0.1**
	comp=Z,4.3nm,1.0s,baz=103,slow=3.4,SNR=24						
YKA	**Yellowknife Ar**	**146.52**	**310**		**PKPdf**	**04 04 41.3**	**-0.5**
KLR	**Kul'dur**	**150.25**	**80**	PKPbc	**PKiKP**	**04 04 55.0**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=186,slow=6.9,SNR=4.1						
ILAR	**Eielson Array**	**160.82**	**315**	PKPab	**PKPab**	**04 05 46.2**	**+1.6**
	comp=Z,0.4nm,0.9s,baz=46,slow=3.9,SNR=5.4						
ILAR	**Eielson Array**	**160.82**	**315**		**PKPab**	**04 05 46.4**	**+1.8**

*AEIC **12** 03:48:50±1.8,51˚.9N±0˚.2×176˚.72E±0˚.09,h23km±6km, ML3.6,mb4.1/51(NEIC),Error ellipse: s-maj=25.6km s-min=5.8km az=192.0*
*IDC **12** 03:48:52.5±2.5,51˚.81N×176˚.68E,h43km±20km,mb3.6/18, mb1 3.8/20,mb1mx3.6/56,mbtmp3.8/20,ML3.4/2,Error ellipse: s-maj=23.3km s-min=11.3km az=177.0*
*NEIC **12** 03:48:53.0±1.2,52˚.0N±0˚.2×176˚.73E±0˚.09,h42km±10km, Error ellipse: s-maj=25.6km s-min=6.8km az=191.0*
ISC 12 03:48:52.3±0.6,51˚.9N±0˚.1×176˚.68E±0˚.04,h40km,n108, σ0s86/108,mb4.0/39,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**1.81**	**300**	P	**Pn**	**03 49 20.6**	**-0.2**
	164nm,0.3s,baz=136,slow=2.1,SNR=215						
SHEM				S	**Sn**	**03 49 44.0**	**+1.5**
	106nm,0.3s,baz=251,slow=21,SNR=14						
SMY	**Shemya**	**1.81**	**300**	Pn	**Pn**	**03 49 20.7**	**-0.2**
SMY					**Sn**	**03 49 43.9**	**+1.4**
GASW	**Gareloi Southw**	**2.77**	**90**		**Pn**	**03 49 34.5**	**+0.4**
GASW					**Sn**	**03 50 06.8**	**+0.4**
GANO	**Gareloi North**	**2.80**	**89**		**Pn**	**03 49 34.6**	**0.0**
GANO					**Sn**	**03 50 08.3**	**+1.2**
GALAA	**Gareloi Lava P**	**2.83**	**90**		**Pn**	**03 49 35.3**	**+0.4**
GAEA	**Gareloi East**	**2.84**	**90**		**Pn**	**03 49 35.3**	**+0.2**
TASE	**Tanaga Southea**	**3.28**	**88**		**Pn**	**03 49 41.4**	**+0.3**
TAFP	**Tanaga Falls P**	**3.31**	**87**		**Pn**	**03 49 41.4**	**-0.1**
TAFP					**Sn**	**03 50 20.6**	**+1.0**
TAPA	**Tanaga Point A**	**3.42**	**89**		**Pn**	**03 49 43.2**	**+0.2**
KIMD	**Kanaga Island**	**3.78**	**89**		**Pn**	**03 49 48.2**	**+0.3**
KIKV	**Kanaga Island**	**3.81**	**87**		**Pn**	**03 49 48.5**	**+0.1**
KIWB	**Kanaga Island**	**3.83**	**88**	Pn	**Pn**	**03 49 48.6**	**0.0**
ADK	**Adak**	**4.11**	**87**		**Pn**	**03 49 52.5**	**0.0**
GSTR	**Great Sitkin T**	**4.50**	**84**		**Pn**	**03 49 58.2**	**+0.3**
GSMY	**Great Sitkin M**	**4.50**	**85**		**Pn**	**03 49 58.9**	**+1.1**
ATKA	**Atka Island**	**5.64**	**83**		**Pn**	**03 50 14.2**	**+0.7**
KOFP	**Korovin Flat P**	**5.71**	**82**		**Pn**	**03 50 14.8**	**+0.3**
UNV	**Unalaska Valle**	**10.36**	**72**	Pn	**Pn**	**03 51 19.2**	**+1.1**
PETK	**Petropavlovsk-**	**11.64**	**284**	P	**Pn**	**03 51 34.7**	**-1.0**
	0.2nm,0.3s,baz=95,slow=16,SNR=3.1						
ANM	**Nome**	**15.77**	**29**	Pn	**Pn**	**03 52 29.7**	**-1.5**
TNA	**Tin City**	**15.82**	**24**	Pn	**Pn**	**03 52 30.2**	**-1.6**
SVW2	**Sparrevohn**	**17.76**	**48**		**Pn**	**03 52 54.5**	**-1.6**
L19K	**White Mountain**	**18.46**	**45**	P	**P**	**03 53 01.5**	**-2.7**
KDAK	**Kodiak Island**	**18.56**	**59**	P	**P**	**03 53 04.9**	**-0.5**
	0.7nm,0.3s,baz=296,slow=4.0,SNR=12						
KDAK	**Kodiak Island**	**18.56**	**59**	P	**P**	**03 53 04.5**	**-0.9**
RDOG	**Red Dog Mine**	**19.01**	**24**	P	**P**	**03 53 08.5**	**-1.8**
RDOG				IAmb	IAmb	03 53 14.4	
	comp=Z,10nm,0.6s						
J20K	**Nowinta River**	**19.54**	**40**	P	**P**	**03 53 14.8**	**-1.3**
J20K				IAmb	IAmb	03 53 21.0	
	comp=Z,9.1nm,0.6s						
BRLK	**Bradley Lake**	**19.70**	**54**	P	**P**	**03 53 15.8**	**-2.1**
PPLA	**Purkeypile**	**19.86**	**44**	P	**Pn**	**03 53 22.2**	**+0.6**
PPLA				IAmb	IAmb	03 53 36.6	
	comp=Z,10.0nm,1.1s						
CAST	**Castle Rocks**	**20.09**	**43**	P	Pn	03 53 23.1	-1.0
CAST				IAmb	IAmb	03 53 32.0	
	comp=Z,4.4nm,0.6s						
SEW	**Seward**	**20.46**	**53**	P	**P**	**03 53 25.4**	**-0.7**
IMAR	**Indian Mountai**	**20.52**	**35**	P	**P**	**03 53 26.4**	**-0.4**
KTH	**Kantishna Hill**	**20.62**	**43**	P	**P**	**03 53 28.6**	**+0.7**
H21K	**Melozitna Rive**	**20.71**	**37**	P	**P**	**03 53 27.9**	**-0.9**
H21K				IAmb	IAmb	03 53 34.7	
	comp=Z,4.9nm,0.8s						
BPAW	**Bear Paw Mtn.**	**20.79**	**41**	P	**P**	**03 53 30.3**	**+0.7**
BPAW				IAmb	IAmb	03 53 35.0	
	comp=Z,4.1nm,0.8s						
TRF	**Thorofare Moun**	**20.86**	**43**	P	**P**	**03 53 29.5**	**-1.1**
TRF				IAmb	IAmb	03 53 53.7	
	comp=Z,9.8nm,1.4s						
BWN	**Browne**	**21.44**	**42**	P	**P**	**03 53 37.1**	**+0.5**
BWN				IAmb	IAmb	03 54 02.5	
	comp=Z,9.2nm,0.8s						
RND	**Reindeer**	**21.46**	**44**	P	**P**	**03 53 35.9**	**-1.1**
RND				IAmb	IAmb	03 53 55.5	
	comp=Z,7.4nm,1.3s						
NEA2	**Nenana**	**21.74**	**41**	P	**P**	**03 53 39.4**	**-0.5**
SCM	**Sheep Creek Mo**	**21.78**	**49**	P	**P**	**03 53 39.6**	**-0.8**
H23K	**Yukon River**	**22.00**	**38**	P	**P**	**03 53 41.3**	**-1.4**
H23K				IAmb	IAmb	03 53 48.7	
	comp=Z,7.2nm,1.4s						
DHY	**Denali Highway**	**22.02**	**45**	P	**P**	**03 53 41.6**	**-1.5**
DHY				IAmb	IAmb	03 53 47.4	
	comp=Z,7.2nm,0.5s						
MDM	**Murphy Dome**	**22.20**	**40**	P	**P**	**03 53 44.5**	**-0.3**
MDM				IAmb	IAmb	03 53 48.4	
	comp=Z,9.3nm,0.6s						
CCB	**Clear Creek Bu**	**22.27**	**41**	P	**P**	**03 53 44.3**	**-1.2**
COLD	**Coldfoot**	**22.36**	**34**	P	**P**	**03 53 46.6**	**+0.1**
H24K	**Noodor Dome**	**22.64**	**38**	P	**P**	**03 53 48.5**	**-1.1**
H24K				IAmb	IAmb	03 53 53.7	
	comp=Z,6.3nm,0.8s						
IL31		**22.69**	**41**	P	**P**	**03 53 49.4**	**-0.5**
IL31				IAmb	IAmb	03 53 53.4	
	comp=Z,6.8nm,1.4s						
ILAR	**Eielson Array**	**22.69**	**41**	P	**P**	**03 53 49.6**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=240,slow=9.9,SNR=26						
PAX	**Paxson**	**22.84**	**46**	P	**P**	**03 53 51.4**	**-0.4**
PAX				IAmb	IAmb	03 53 53.4	
	comp=Z,6.7nm,0.5s						
TOLK	**Toolik Lake Re**	**23.24**	**31**	P	**P**	**03 53 55.2**	**-0.4**
TOLK				IAmb	IAmb	03 53 58.4	
	comp=Z,6.0nm,0.8s						
J25K	**Salcha River,**	**23.27**	**42**	P	**P**	**03 53 54.5**	**-1.4**
RIDG	**Independent Ri**	**23.28**	**44**	P	**P**	**03 53 55.5**	**-0.5**
RIDG				IAmb	IAmb	03 53 58.6	
	comp=Z,15nm,1.5s						
DOT	**Dot Lake**	**23.60**	**45**	P	**P**	**03 53 58.8**	**-0.3**
DOT				IAmb	IAmb	03 54 01.5	
	comp=Z,4.2nm,0.7s						
MENT	**Mentasta**	**23.63**	**47**	P	**P**	**03 53 58.6**	**-0.8**
SCRK	**Sand Creek**	**23.70**	**44**	P	**P**	**03 53 59.7**	**-0.5**
SCRK				IAmb	IAmb	03 54 02.5	
	comp=Z,6.3nm,1.0s						
M26K	**Nabesna, AK**	**23.88**	**48**	P	**P**	**03 54 01.3**	**-0.4**
BARN	**Barnard Glacie**	**24.38**	**52**	P	**P**	**03 54 05.6**	**-1.0**
M27K	**Edge Creek, AK**	**24.39**	**48**	P	**P**	**03 54 06.4**	**-0.2**
M27K				IAmb	IAmb	03 54 10.1	
	comp=Z,8.1nm,0.7s						
L27K	**Beaver Creek,**	**24.50**	**47**	P	**P**	**03 54 07.0**	**-0.5**
BCAR	**Beaver Creek A**	**24.52**	**47**	P	**P**	**03 54 06.7**	**-0.9**
EGAK	**Eagle**	**25.07**	**43**	P	**P**	**03 54 12.2**	**-0.3**
EGAK				IAmb	IAmb	03 54 14.0	
	comp=Z,7.8nm,0.8s						
DAWY	**Dawson**	**25.71**	**45**	P	**P**	**03 54 18.4**	**0.0**
DAWY				IAmb	IAmb	03 54 20.5	
	comp=Z,4.3nm,0.7s						
M31M	**Drury Creek, Y**	**27.88**	**49**	P	**P**	**03 54 38.0**	**+0.1**
M31M				IAmb	IAmb	03 54 43.9	
	comp=Z,2.8nm,1.1s						
INK	**Inuvik**	**28.70**	**36**	P	**P**	**03 54 46.4**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=259,slow=8.2,SNR=8.3						
INK	**Inuvik**	**28.70**	**36**	P	**P**	**03 54 43.9**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**32.97**	**197**	T	T	04 30 26.9	
	baz=11,slow=76,SNR=266						
H11N3	**WAKE ISLAND Hy**	**32.98**	**197**	T	T	04 30 25.0	
	baz=11,slow=76,SNR=194						
H11N1	**WAKE ISLAND Hy**	**32.99**	**197**	T	T	04 30 28.2	
	baz=11,slow=76,SNR=216						
H11S1	**WAKE ISLAND Hy**	**34.20**	**197**	T	T	04 31 55.8	
	baz=11,slow=76,SNR=77						
H11S3	**WAKE ISLAND Hy**	**34.22**	**197**	T	T	04 31 59.1	
	baz=11,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**34.22**	**197**	T	T	04 31 57.1	
	baz=11,slow=76,SNR=23						
YKA	**Yellowknife Ar**	**36.93**	**46**	P	**P**	**03 55 57.8**	**+0.9**
	comp=Z,2.3nm,0.6s,baz=280,slow=9.4,SNR=71						
YKA				PcP	**PcP**	**03 58 17.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=293,slow=3.3,SNR=6.2						
YKA	**Yellowknife Ar**	**36.93**	**46**	P	**P**	**03 55 56.1**	**-0.8**
RES	**Resolute Bay**	**40.46**	**24**	P	**P**	**03 56 26.9**	**+0.6**
SONM	**Songino Array**	**43.89**	**294**	P	**P**	**03 56 55.7**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=62,slow=7.5,SNR=5.6						
SONM	**Songino Array**	**43.89**	**294**	P	**P**	**03 56 54.8**	**+0.1**
HHC	**Hu-ho-hao-te**	**44.84**	**283**	*e*P	**P**	**03 57 00.8**	**-1.5**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
NVAR	**Mina Array Bea**	**46.27**	**80**	P	**P**	**03 57 14.7**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=310,slow=7.0,SNR=2.6						
NVAR	**Mina Array Bea**	**46.27**	**80**	P	**P**	**03 57 13.1**	**-0.7**
PDAR	**Pinedale Array**	**48.82**	**70**	P	**P**	**03 57 33.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=302,slow=4.1,SNR=2.2						
ZALV	**Zalesovo Beam**	**51.62**	**311**	PcP	**PcP**	**03 59 07.8**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=26,slow=3.7,SNR=4.3						
KURK	**Kurchatov**	**56.61**	**311**	P	**P**	**03 58 29.9**	**-0.8**
KURK				IAmb	IAmb	03 58 32.2	
	comp=Z,2.2nm,0.8s						
WMQ	**Urumqi**	**56.68**	**300**	*e*P	**P**	**03 58 32.8**	**+1.4**
KURBB	**Kurchatov Arra**	**56.72**	**311**	P	**P**	**03 58 31.7**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=43,slow=6.4,SNR=23						
KURBB				PcP	**PcP**	**03 59 27.3**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=45,slow=3.3,SNR=6.9						
MK31	**Makanchi Array**	**57.49**	**306**	P	**P**	**03 58 36.5**	**-0.5**
MK31				IAmb	IAmb	03 58 37.4	
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**57.49**	**306**	P	**P**	**03 58 36.6**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=53,slow=6.7,SNR=11						
MKAR	**Makanchi Array**	**57.49**	**306**	P	**P**	**03 58 36.5**	**-0.5**
BRVK	**Borovoye**	**58.68**	**317**	P	**P**	**03 58 46.1**	**+0.9**
PZH	**PanZhiHua**	**60.49**	**276**	P	**P**	**03 58 58.6**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,6.3s						
SCHQ	**Schefferville**	**61.32**	**36**	P	**P**	**03 59 03.0**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=315,slow=6.4,SNR=12						
SCHQ	**Schefferville**	**61.32**	**36**	P	**P**	**03 59 03.3**	**-0.1**
TXAR	**Lajitas Array**	**61.34**	**78**	P	**P**	**03 59 03.8**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=298,slow=4.8,SNR=6.7						
FINES	**FINESS Array B**	**64.63**	**345**	P	**P**	**03 59 24.8**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=76,slow=10.0,SNR=4.0						
FINES	**FINESS Array B**	**64.63**	**345**	P	**P**	**03 59 25.3**	**+0.2**
AKTO	**Aktyubinsk**	**65.61**	**322**	P	**P**	**03 59 31.4**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=76,slow=7.9,SNR=6.1						
ABKAR	**Akbulak array**	**65.80**	**320**	P	**P**	**03 59 33.6**	**+0.7**
KK31	**Karatay Array**	**65.94**	**310**	P	**P**	**03 59 34.8**	**+0.8**
KK31				IAmb	IAmb	03 59 35.5	
	comp=Z,2.2nm,0.8s						
KKAR	**Karatay Array**	**65.94**	**310**	P	**P**	**03 59 34.3**	**+0.3**
M55A	**Ridgway**	**66.39**	**53**	P	**P**	**03 59 36.9**	**0.0**
NB2	**NORSAR Subarra**	**66.85**	**352**	P	**P**	**03 59 39.5**	**0.0**
	comp=Z,1.5nm,0.9s,baz=9.2,slow=6.5						
NOA	**NORSAR Array B**	**66.85**	**352**	P	**P**	**03 59 39.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=11,slow=6.4,SNR=4.1						
CMAR	**Chiang Mai Arr**	**68.17**	**272**	P	**P**	**03 59 47.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=40,slow=7.1,SNR=2.2						
GAR	**Garm**	**69.17**	**307**	P	**P**	**03 59 55.5**	**+0.9**
AKASG	**Malin Array Be**	**74.15**	**339**	P	**P**	**04 00 24.4**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=23,slow=5.8,SNR=4.6						
WRA	**Warramunga Arr**	**80.49**	**220**	P	**P**	**04 00 59.1**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=28,slow=5.7,SNR=2.4						
BRTR	**Keskin Array B**	**83.27**	**332**	P	**P**	**04 01 15.6**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=7.6,slow=4.4,SNR=2.4						
ASAR	**Alice Springs**	**84.02**	**219**	P	**P**	**04 01 18.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=19,slow=5.4,SNR=10						
TORD	**Torodi Ar. Bea**	**115.11**	**355**	PKP	**PKiKP**	**04 07 27.5**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=351,slow=1.7,SNR=5.2						

*IDC **12** 04:06:01.3±1.4,36˚.66N×142˚.26E,h0km,mb3.4/5, mb1 3.7/7,mb1mx3.5/49,mbtmp3.6/7,ML3.3/2,Error ellipse: s-maj=28.3km s-min=25.1km az=79.0*
*JMA **12** 04:06:05.1±0.4,36˚.71N×142˚.02E,h38km,M3.6*
ISC 12 04:06:04.5±1.0,36˚.68N±0˚.05×142˚.02E±0˚.07,h19km,n24, σ0s88/22,mb3.4/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.07**	**294**	P	**Pn**	**04 06 23.5**	**-1.0**
JFK	**Kawauchi**	**1.15**	**307**	P	**Pn**	**04 06 24.6**	**-0.9**
JHO	**Hitachi**	**1.17**	**267**	P	**Pn**	**04 06 25.4**	**-0.4**
JHYU	**Hitachinakayam**	**1.20**	**254**	*e*S	**Sn**	**04 06 42.0**	**-0.1**
JFFD	**Fukushimafurud**	**1.24**	**290**	P	**Pn**	**04 06 26.9**	**+0.1**
JMM	**Marumori**	**1.54**	**321**	P	**Pn**	**04 06 30.3**	**-0.6**
JFT	**Otama**	**1.59**	**302**	P	**Pn**	**04 06 32.0**	**+0.4**
JFT				*e*S	**Sn**	**04 06 51.8**	**+0.2**
JIO	**Ouri**	**1.85**	**343**	P	**Pn**	**04 06 35.1**	**-0.1**
JIO				*e*S	**Sn**	**04 06 57.3**	**-0.7**
JOU	**Okura**	**2.00**	**328**	P	**Pn**	**04 06 38.0**	**+0.7**
JAG	**Ashikaga**	**2.08**	**264**	P	**Pn**	**04 06 39.1**	**+0.7**
JMK	**Ichinoseki**	**2.36**	**345**	P	**Pn**	**04 06 42.5**	**+0.4**
MJAR	**Matsushiro Arr**	**3.07**	**269**	Pn	**Pn**	**04 06 53.8**	**+1.8**
	2.0nm,0.3s,baz=57,slow=14,SNR=59						
MJAR				Sn	**Sb**	**04 07 34.3**	**-1.3**
	0.8nm,0.3s,baz=130,slow=26,SNR=2.7						
JHJ	**Hachijo jima 2**	**4.00**	**208**	Pn	**Pn**	**04 07 05.2**	**+0.5**
	10nm,0.3s,baz=100,slow=23,SNR=5.9						
JHJ				Sn	**Sn**	**04 07 49.3**	**-1.8**
	33nm,0.3s,baz=89,slow=23,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**27.55**	**121**	T	T	04 41 12.8	
	baz=313,slow=75,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**27.55**	**121**	T	T	04 41 28.7	
	baz=313,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**27.57**	**121**	T	T	04 41 02.8	
	baz=313,slow=75,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**28.26**	**123**	T	T	04 42 03.6	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**28.26**	**123**	T	T	04 42 04.7	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.27**	**123**	T	T	04 42 03.6	
	baz=314						
SONM	**Songino Array**	**28.39**	**304**	P	**P**	**04 11 58.7**	**+1.1**
	1.3nm,0.8s,baz=93,slow=8.9,SNR=5.6						
MKAR	**Makanchi Array**	**44.72**	**303**	P	**P**	**04 14 17.0**	**+0.7**
	0.3nm,0.7s,baz=87,slow=7.4,SNR=5.0						
ILAR	**Eielson Array**	**49.53**	**32**	P	**P**	**04 14 53.1**	**-0.4**
	0.3nm,0.9s,baz=270,slow=6.5,SNR=1.9						
WRA	**Warramunga Arr**	**56.78**	**189**	P	**P**	**04 15 46.9**	**-0.4**
	0.3nm,0.7s,baz=6.5,slow=6.9,SNR=1.9						
ASAR	**Alice Springs**	**60.51**	**189**	P	**P**	**04 16 13.2**	**-0.1**
	0.1nm,0.3s,baz=3.6,slow=7.4,SNR=1.4						

*IDC **12** 04:19:32.2±2.0,30˚.53N×50˚.67E,h0km,mb3.7/11, mb1 3.8/11,mb1mx3.6/49,mbtmp3.7/11,Error ellipse: s-maj=44.2km s-min=21.3km az=158.0*
*TEH **12** 04:19:34.1,30˚.46N×50˚.82E,h11km,ML3.6*
ISC 12 04:19:34.8±0.6,30˚.43N±0˚.04×50˚.80E±0˚.04,h19km,n63, σ1s63/66,mb3.7/10,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABEH	**Behbahan**	**0.50**	**290**	*e*Pg	**Pb**	**04 19 45.2**	**+0.2**
ABEH				*e*Sg	**Sb**	**04 19 51.9**	**-0.1**
KLNJ	**Kolanjah**	**0.89**	**50**	*e*Pg	**Pb**	**04 19 50.9**	**-1.0**
KLNJ				*e*		04 20 06.5	
	comp=Z,17μm,0.7s						
KAZ1	**Kazerun**	**1.08**	**138**	*e*Pg	**Pg**	**04 19 55.2**	**-0.7**
KAZ1				*e*Sg	**Sg**	**04 20 11.2**	**+1.0**
KAZ1				*e*		04 20 17.9	
	comp=Z,40μm,0.4s						
IBRJ	**Brojen**	**1.52**	**15**	*e*Pn	**Pn**	**04 20 02.0**	**+0.7**
IBRJ				*e*Sg	**Sg**	**04 20 24.9**	**+0.7**
IBRJ				*e*		04 20 27.7	
	comp=Z,8μm,0.6s						
AHBU	**AHRAM**	**1.62**	**164**	*e*Pg	**Pg**

comp=Z,0.6nm,0.6s,baz=238,slow=9.7,SNR=4.4
MKAR Makanchi Array 29.28 47 P **P 04 25 36.4 +0.6**
comp=Z,0.1nm,0.4s,baz=241,slow=9.6,SNR=2.2
ZALV Zalesovo Beam 33.93 36 P **P 04 26 16.8 +0.2**
comp=Z,0.7nm,0.4s,baz=262,slow=10,SNR=5.3
FINES FINESS Array B 35.02 340 P **P 04 26 24.6 -1.2**
comp=Z,0.9nm,0.4s,baz=142,slow=11,SNR=10
NB2 NORSAR Subarra 40.16 331 P **P 04 27 07.5 -2.0**
comp=Z,0.2nm,0.5s,baz=120,slow=8.6
NOA NORSAR Array B 40.16 331 P **P 04 27 07.7 -1.7**
comp=Z,0.3nm,0.6s,baz=124,slow=8.4,SNR=4.4
TORD Torodi Ar. Bea 48.34 260 P **P 04 28 15.0 -0.5**
comp=Z,0.4nm,0.4s,baz=58,slow=8.4,SNR=13
YKA Yellowknife Ar 86.66 353 P **P 04 32 16.2 -0.7**
comp=Z,0.2nm,0.9s,baz=3.3,slow=5.5,SNR=1.4

IDC ***12*** *04:31:57.0±1.1, 11°.3N×141°.10E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/42, mbtmp3.6/8, Error ellipse: s-maj=49.2km s-min=21.9km az=90.0*
ISC 12 04:32:03.3±1.0, 11°.3N±0°.2×141°.1E±0°.3, h45km, n8, σ0s90/8, mb3.6/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.76**	**192**	P		**P**	**04 38 23.5**	**+0.1**
	1.2nm,1.0s,baz=13,slow=9.5,SNR=4.2							
ASAR	**Alice Springs**	**35.46**	**191**	P		**P**	**04 38 55.9**	**+0.2**
	0.5nm,0.6s,baz=20,slow=13,SNR=8.9							
SONM	**Songino Array**	**46.57**	**328**	P		**P**	**04 40 28.0**	**+1.1**
	0.7nm,0.9s,baz=140,slow=9.4,SNR=2.5							
MKAR	**Makanchi Array**	**60.60**	**318**	P		**P**	**04 42 09.6**	**0.0**
	0.2nm,0.4s,baz=91,slow=8.6,SNR=1.8							
KURBB	**Kurchatov Array**	**64.00**	**321**	P		**P**	**04 42 32.0**	**-0.2**
	0.4nm,0.6s,baz=112,slow=7.1,SNR=2.8							
ILAR	**Eielson Array**	**72.20**	**25**	P		**P**	**04 43 23.2**	**-0.2**
	0.3nm,0.8s,baz=246,slow=6.8,SNR=1.9							
YKA	**Yellowknife Ar**	**86.56**	**27**	P		**P**	**04 44 42.2**	**+0.6**
	0.2nm,0.5s,baz=289,slow=4.7,SNR=6.6							
FINES	**FINESS Array B**	**91.62**	**334**	P		**P**	**04 45 03.9**	**-1.5**
	0.4nm,0.5s,baz=57,slow=5.1,SNR=1.5							

JMA ***12*** *04:34:13.5±0.2, 23°.59N×121°.81E, h32km, M2.6*
TAP ***12*** *04:34:13.4, 23°.60N×121°.78E, h38km±1km, ML3.1, D*
ISC 12 04:34:12.9±1.1, 23°.55N±0°.02×121°.82E±0°.03, h25km±11km, n53, σ0s54/91, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.30**	**301**	*i* P		**Pn**	**04 34 21.7**	**0.0**
	baz=297							
TEGC				*i* S		**Sn**	**04 34 27.2**	**-0.2**
	baz=297							
HGSD	**Ruisui**	**0.37**	**261**	*i* P		**Pn**	**04 34 22.3**	**-0.4**
	baz=252							
HGSD				*e*S		**Sn**	**04 34 28.3**	**-0.8**
	baz=252							
TEYL	**Yanliau Villag**	**0.38**	**327**	*i* P		**Pn**	**04 34 22.6**	**-0.1**
	baz=332							
TEYL				S		**Sn**	**04 34 29.3**	**0.0**
	baz=332							
EGFH	**Guangfu**	**0.38**	**288**	*i* P		**Pn**	**04 34 22.7**	**-0.1**
	baz=282							
ESL	**Shilin**	**0.44**	**306**	*i* P		**Pb**	**04 34 22.7**	**+0.5**
	baz=304							
ESL				*e*S		**Sb**	**04 34 28.9**	**+0.3**
	baz=304							
EHY	**Hungye**	**0.46**	**265**	*i* P		**Pn**	**04 34 23.7**	**-0.2**
	baz=257							
EHY				S		**Sn**	**04 34 31.0**	**-0.4**
	baz=257							
HWA	**Hwalien**	**0.47**	**335**	*i* P		**Pn**	**04 34 23.6**	**-0.4**
	baz=338							
EYUL	**Yuli**	**0.51**	**247**	*i* P		**Pn**	**04 34 24.8**	**+0.3**
	baz=239							
YULB	**Yu-li**	**0.51**	**252**	*i* P		**Pn**	**04 34 24.6**	**+0.1**
	baz=245							
ETM	**Tongmen**	**0.51**	**324**	*i* P		**Pb**	**04 34 23.7**	**+0.4**
	baz=324							
TWF1	**Yuli**	**0.52**	**248**	*i* P		**Pn**	**04 34 24.8**	**0.0**
	baz=240							
TWF1				*i* S		**Sn**	**04 34 33.0**	**+0.1**
	baz=240							
TWD	**Chiawan**	**0.57**	**338**	*i* P		**Pb**	**04 34 24.5**	**+0.3**
	baz=341							
TWD				*e*S		**Sb**	**04 34 32.0**	**+0.1**
	baz=341							
FULB	**Fuli**	**0.60**	**234**	*i* P		**Pn**	**04 34 25.4**	**-0.4**
	baz=228							
FULB				*e*S		**Sn**	**04 34 34.7**	**0.0**
	baz=228							
CHKT	**Chengkung**	**0.62**	**223**	*e*P		**Pb**	**04 34 23.8**	**-1.2**
	baz=216							
CHKT				*e*S		**Sb**	**04 34 33.5**	**+0.2**
	baz=216							
ETL	**Fush Village**	**0.63**	**343**	*i* P		**Pb**	**04 34 25.5**	**+0.1**
	baz=345							
NACB	**Ninganchiao**	**0.66**	**341**	P		**Pb**	**04 34 25.6**	**-0.2**
	baz=343							
NACB				*i* S		**Sb**	**04 34 34.2**	**-0.3**
	baz=343							
VWDT	**VWDT**	**0.66**	**288**	P		**Pn**	**04 34 26.7**	**+0.1**
	baz=285							
VWDT				S		**Sb**	**04 34 35.0**	**+0.5**
	baz=285							
ECS	**Chishang**	**0.72**	**231**	P		**Pn**	**04 34 28.0**	**+0.6**
	baz=225							
ECS				*e*S		**Sn**	**04 34 39.2**	**+1.6**
	baz=225							
OWD	**Renai**	**0.72**	**304**	*i* P		**Pn**	**04 34 27.1**	**-0.4**
	baz=302							
OWD				*i* S		**Sb**	**04 34 36.1**	**-0.3**
	baz=302							
ETLH	**Xiulin Townshi**	**0.72**	**334**	*i* P		**Pb**	**04 34 27.1**	**+0.1**
	baz=336							
ETLH				*e*S		**Sb**	**04 34 36.3**	**-0.3**
	baz=336							
EDH	**Donghe**	**0.75**	**220**	*i* P		**Pb**	**04 34 27.6**	**+0.3**
	baz=215							
EDH				*e*S		**Sb**	**04 34 37.4**	**+0.3**
	baz=215							
CHGB	**Renai**	**0.78**	**311**	P		**Pn**	**04 34 28.2**	**-0.3**
	baz=309							
CHGB				S		**Sb**	**04 34 38.2**	**-0.2**
	baz=309							
WUSB	**Renai**	**0.78**	**304**	P		**Pn**	**04 34 28.3**	**-0.1**
	baz=303							
WUSB				S		**Sb**	**04 34 37.7**	**-0.5**
	baz=303							
WHF	**Hehuan Shan**	**0.78**	**319**	*i* P		**Pb**	**04 34 28.0**	**-0.1**
	baz=319							
WHF				*e*S		**Sb**	**04 34 38.4**	**-0.2**
	baz=319							
ELDTW	**Lidau**	**0.82**	**244**	*i* P		**Pb**	**04 34 28.8**	**+0.2**
	baz=239							
SSLB	**Suanglung**	**0.83**	**287**	P		**Pn**	**04 34 29.0**	**-0.1**
	baz=284							
SSLB				*e*S		**Sb**	**04 34 38.6**	**-0.9**
	baz=284							
FUSS	**Fushou**	**0.87**	**323**	P		**Pn**	**04 34 29.8**	**0.0**
	baz=323							
FUSS				S		**Sn**	**04 34 41.1**	**-0.8**
	baz=323							
ENA	**Nanau**	**0.88**	**355**	P		**Pb**	**04 34 29.3**	**-0.2**
	baz=358							
ENA				*e*S		**Sb**	**04 34 40.2**	**-0.6**
	baz=358							
EWUT	**Wuta**	**0.89**	**357**	P		**Pb**	**04 34 29.4**	**-0.3**
EWUT				S		**Sb**	**04 34 40.6**	**-0.6**
LONT	**Longtian**	**0.90**	**225**	P		**Pb**	**04 34 29.8**	**-0.2**
	baz=220							
LONT				S		**Sb**	**04 34 41.9**	**+0.3**
	baz=220							
SMLT	**Sun Moon Lake**	**0.91**	**292**	*e*P		**Pn**	**04 34 30.9**	**+0.8**
	baz=289							
SMLT				*e*S		**Sn**	**04 34 43.2**	**+0.7**
	baz=289							
TWT	**Tachien**	**0.92**	**320**	P		**Pn**	**04 34 30.8**	**+0.5**
	baz=319							
TWT				S		**Sb**	**04 34 42.0**	**-0.1**
	baz=319							
LDUT	**Ludao**	**0.93**	**201**	*ipe*P		**Pb**	**04 34 29.6**	**-0.8**
	baz=197							
LDUT				*e*S		**Sb**	**04 34 41.6**	**-0.8**
	baz=197							
ALS	**Alishan**	**0.94**	**268**	*e*P		**Pn**	**04 34 31.3**	**+0.6**
	baz=264							
NNSB	**Datong**	**0.96**	**335**	P		**Pn**	**04 34 30.8**	**-0.1**
	baz=336							
NNSB				S		**Sb**	**04 34 42.5**	**-0.9**
	baz=336							
WCS	**Beigang Elemen**	**0.98**	**301**	P		**Pb**	**04 34 31.4**	**+0.2**
	baz=300							
WCS				S		**Sb**	**04 34 43.2**	**-0.4**
	baz=300							
NNS	**Nan Shan**	**0.98**	**335**	P		**Pn**	**04 34 31.2**	**+0.1**
	baz=336							
NNS				*e*S		**Sb**	**04 34 42.9**	**-0.9**
	baz=336							
TWGBT	**Beinan**	**1.00**	**223**	P		**Pn**	**04 34 30.9**	**-0.4**
	baz=219							
TWGBT				*e*S		**Sb**	**04 34 43.6**	**-0.7**
	baz=219							
LATG	**Datong**	**1.02**	**345**	P		**Pb**	**04 34 31.7**	**-0.2**
	baz=346							
LATG				S		**Sb**	**04 34 44.2**	**-0.8**
	baz=346							
STYH	**Taoyuan**	**1.03**	**249**	P		**Pb**	**04 34 32.3**	**+0.2**
	baz=245							
TWC	**Suao**	**1.05**	**1**	P		**Pb**	**04 34 32.4**	**-0.1**
	baz=4.0							
TWC				S		**Sn**	**04 34 45.8**	**-0.2**
	baz=4.0							
WHP	**Taichung City**	**1.08**	**312**	*e*P		**Pb**	**04 34 33.3**	**+0.3**
	baz=311							
WHP				S		**Sn**	**04 34 46.7**	**-0.1**
	baz=311							
NDS	**Dongshan**	**1.08**	**355**	P		**Pb**	**04 34 32.6**	**-0.3**
	baz=356							
NDS				*e*S		**Sb**	**04 34 46.0**	**-0.8**
	baz=356							
NDT	**Datong Townshi**	**1.09**	**345**	S		**Sb**	**04 34 46.3**	**-0.4**
	baz=346							
CHN1	**Nanshi**	**1.25**	**253**	*e*P		**Pb**	**04 34 36.7**	**+1.0**
	baz=250							
JYNG	**Yonagunijimaku**	**1.36**	**49**	P		**Pn**	**04 34 36.8**	**+0.5**
JYNG				*e*S		**Sn**	**04 34 53.8**	**+0.3**
YOJ	**Yonaguni jima**	**1.42**	**50**	P		**Pn**	**04 34 37.8**	**+0.8**
YOJ				S		**Sn**	**04 34 55.0**	**+0.2**
LYUB	**Lan-yu**	**1.56**	**188**	*e*P		**Pn**	**04 34 38.1**	**-0.9**
	baz=186							
HATJ	**Hateruma jima**	**1.88**	**74**	*e*S		**Sn**	**04 35 06.0**	**-0.4**
IRIF	**Iriomote-Funau**	**1.91**	**65**	P		**Pn**	**04 34 44.9**	**+1.1**
IRIF				*e*S		**Sn**	**04 35 08.3**	**+1.2**
WDGT	**Dungji**	**2.01**	**262**	*e*P		**Pn**	**04 34 46.5**	**+1.3**
	baz=260							
JIJ	**Ishigaki jima**	**2.27**	**69**	P		**Pn**	**04 34 49.5**	**+0.7**
JIJ				*e*S		**Sn**	**04 35 15.7**	**-0.3**
JISG	**Ishigakijimahi**	**2.50**	**65**	P		**Pn**	**04 34 52.1**	**+0.2**

IDC ***12*** *05:23:48.6±1.2, 21°.40S×113°.46W, h0km, mb4.0/4, mb1 4.4/4, mb1mx3.9/25, mbtmp4.0/4, Error ellipse: s-maj=46.8km s-min=35.3km az=47.0*
NEIC ***12*** *05:23:51.2±1.6, 21°.4S±0°.1×113°.5W±0°.2, h10km±1km, mb4.3/9, Error ellipse: s-maj=36.4km s-min=8.6km az=237.0*
ISC 12 05:23:50.4±0.9, 21°.3S±0°.2×113°.4W±0°.2, h10km, n23, σ0s72/20, mb4.2/7, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**32.77**	**119**	T		T	06 04 42.7	
	baz=287,slow=75,SNR=5.7							
H03N3	**Juan Fernandez**	**32.78**	**119**	T		T	06 04 52.2	
	baz=287,slow=75,SNR=6.5							
H03N1	**Juan Fernandez**	**32.79**	**119**	T		T	06 04 53.7	
	baz=287,slow=75,SNR=6.6							
PB01	**IPOC Station P**	**40.87**	**98**	P		**P**	**05 31 32.8**	**-0.2**
PB09	**IPOC Station P**	**40.99**	**99**	P		**P**	**05 31 34.0**	**0.0**
PB09						IAmb	IAmb	05 32 02.3
	comp=Z,7.9nm,1.4s							
PB16	**IPOC Station P**	**41.33**	**94**	P		**P**	**05 31 38.0**	**+0.7**
LPAZ	**La Paz**	**43.06**	**91**	P		**P**	**05 31 51.7**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=273,slow=6.4,SNR=5.2							
LPAZ	**La Paz**	**43.06**	**91**	P		**P**	**05 31 51.2**	**-0.3**
LPAZ						IAmb	IAmb	05 31 53.5
	comp=Z,6.4nm,1.4s							
SHPR	**Sheep Range**	**57.55**	**358**	P		**P**	**05 33 41.9**	**+1.6**
SHPR						IAmb	IAmb	05 33 44.0
	comp=Z,2.6nm,0.9s							
NVAR	**Mina Array Bea**	**59.62**	**356**	P		**P**	**05 33 55.8**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=184,slow=9.2,SNR=16							
PDAR	**Pinedale Array**	**63.88**	**3**	P		**P**	**05 34 23.3**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=176,slow=6.8,SNR=12							
MFID	**Camas Ranch**	**64.46**	**358**	P		**P**	**05 34 27.2**	**+0.1**
MFID						IAmb	IAmb	05 34 31.0
	comp=Z,2.8nm,1.1s							
J08A	**Circle Bar Ran**	**64.54**	**356**	P		**P**	**05 34 28.7**	**+1.1**
QSPA	**South Pole Qui**	**68.81**	**180**	P		**P**	**05 34 55.4**	**+0.7**
YKA	**Yellowknife Ar**	**83.54**	**359**	P		**P**	**05 36 18.3**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=175,slow=5.7,SNR=27							
BPAW	**Bear Paw Mtn.**	**90.02**	**344**	P		**P**	**05 36 49.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**117.86**	**86**	PKP		**PKPdf**	**05 42 37.7**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=337,slow=1.7,SNR=2.4							
ZALV	**Zalesovo Beam**	**144.60**	**341**	PKP		**PKPab**	**05 43 25.1**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=26,slow=3.7,SNR=15							
ZALV	**Zalesovo Beam**	**144.60**	**341**			**PKPab**	**05 43 24.8**	**-0.7**
BRTR	**Keskin Array B**	**146.48**	**49**	PKPbc		**PKPbc**	**05 43 31.7**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=268,slow=3.9,SNR=3.6							
CMAR	**Chiang Mai Arr**	**149.45**	**270**	PKPbc		**PKPbc**	**05 43 40.7**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=67,slow=1.0,SNR=14							
MKAR	**Makanchi Array**	**151.57**	**337**	PKPbc		**PKPbc**	**05 43 44.2**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=37,slow=2.5,SNR=32							
MKAR	**Makanchi Array**	**151.57**	**337**			**PKPbc**	**05 43 43.7**	**-1.1**

BJI ***12*** *05:41:11.2±0.0, 4°.33S×153°.19E, h63km, mb5.0/65, mB5.3/49, Ms4.8/49, Ms7 4.7/49*
MOS ***12*** *05:41:11.5±1.2, 4°.48S×152°.86E, h61km, mb5.5/36, MS4.5/5, Error ellipse: s-maj=9.0km s-min=5.8km az=114.7*
GCMT ***12*** *05:41:13.6±0.1, 4°.79S±0°.01×152°.88E±0°.01, h58km, MW5.4/132, Moment Tensor Solution. s132,c209; s126,c212; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.25±.03; Mθθ-1.49±.02; Mφφ0.24±.02; Mrθ0.50±.02; Mθφ-0.33±.02; Mφr0.15±.02; Best double couple: Mo1.49600×10^17 NP1:φs263.00000°, δ35.00000°, λ96.00000°. NP2:φs76.00000°, δ55.00000°, λ86.00000°. Principal axes: T 1.3470, Plg79.0000°, Azm331.0000°; N 0.3050, Plg3.0000°, Azm79.0000°; P -1.6450, Plg10.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***12*** *05:41:13.6±1.9, 4°.55S±0°.07×152°.96E±0°.06, h65km±4km, mb5.2/167 Error ellipse: s-maj=10.5km s-min=8.4km az=209.0*
IDC ***12*** *05:41:13.7±0.8, 4°.62S×152°.91E, h69km±6km, mb4.7/28, mb1 4.8/32, mb1mx4.6/42, mbtmp5.0/32, MS4.4/58, Ms1 4.4/58, ms1mx4.4/58, Error ellipse: s-maj=8.7km s-min=7.9km az=100.0*
DJA ***12*** *05:41:14.3±0.3, 5°.5S×3°.3E±°, h80km±3km, M5.2/55, mB5.7/37, mb5.3/55, MLv5.7/3, Mw(mB)5.2/37, MwMwp5.2/8, Mwp5.4/8*
ISC 12 05:41:12.4±0.3, 4°.60S±0°.03×153°.00E±0°.04, h60km±2km, h61km:pP-P, n709, σ1s59/710, mb5.2/177, 24C-18D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.93**	**296**	P	Pn	**Pn**	**05 41 30.0**	**+0.5**
RABL	**Rabaul**	**0.93**	**296**	P		**Pn**	**05 41 30.7**	**+1.2**
KRVT	**Keravat (AS076**	**1.01**	**287**	P		**Pn**	**05 41 31.2**	**+0.5**
	3μm,0.3s,baz=240,slow=1.8,SNR=935							
KRVT				S		**Sn**	**05 41 45.1**	**+1.0**
	baz=286,slow=19							
PMG	**Port Moresby**	**7.51**	**230**	P		**Pn**	**05 43 00.1**	**+0.8**
	14nm,0.3s,baz=21,slow=9.7,SNR=21							
PMG				S		**Sn**	**05 44 22.6**	**-0.4**
	62nm,0.3s,baz=150,slow=15,SNR=11							
PMG	**Port Moresby**	**7.51**	**230**	*ce*P		**Pn**	**05 43 00.6**	**+1.3**
PMG					pmax	pmax		
	comp=Z,159nm,1.0s							
PMG	**Port Moresby**	**7.51**	**230**	P	Pn	**Pn**	**05 43 00.3**	**+0.9**
PMG	**Port Moresby**	**7.51**	**230**	P	P	**Pn**	**05 43 01.0**	**+1.7**
HNR	**Honiara**	**8.40**	**125**	P	P	**Pn**	**05 43 14.0**	**+2.5**
	comp=Z,18nm,0.3s,baz=150,slow=13,SNR=7.8							
HNR				S		**Sn**	**05 44 47.8**	**+2.8**
	baz=305,slow=18,SNR=1.5							
HNR				LR		LR	05 46 39.2	
	comp=Z,7μm,20.2s,baz=289,slow=38							
HNR	**Honiara**	**8.40**	**125**	Pn		**Pn**	**05 43 12.5**	**+0.9**
HNR	**Honiara**	**8.40**	**125**	P		**Pn**	**05 43 14.3**	**+2.8**
PATS	**Pohnpei**	**12.54**	**25**	P		**Pn**	**05 44 09.3**	**+1.2**
	baz=13,SNR=5.6							
PATS	**Pohnpei**	**12.54**	**25**	Pn		**Pn**	**05 44 08.7**	**+0.6**
PATS	**Pohnpei**	**12.54**	**25**	P		**Pn**	**05 44 09.6**	**+1.5**
GENI	**Genyem**	**12.96**	**278**	Pn		**Pn**	**05 44 16.1**	**+2.2**
	comp=Z,4μmcomp=Z,5μmcomp=Z,105nm,2.1s							
GENI	**Genyem**	**12.96**	**278**	P		**Pn**	**05 44 14.4**	**+0.5**
COEN	**Coen**	**13.43**	**226**	P		**Pn**	**05 44 20.4**	**+0.2**
	baz=13							
COEN	**Coen**	**13.43**	**226**	Pn		**Pn**	**05 44 21.0**	**+0.8**
COEN	**Coen**	**13.43**	**226**	P		**Pn**	**05 44 20.3**	**+0.1**
SMPI	**Sarmi**	**14.50**	**280**	P		**Pn**	**05 44 36.1**	**+1.6**
	comp=Z,2μmcomp=Z,76nm,2.2s							
SMPI						Pn	**P**	**05 44 36.3**	**-3.3**
	comp=Z,2μmcomp=Z,76nm,2.2s							
MTSU	**Mount Surprise**	**15.91**	**212**	P		**P**	**05 44 54.4**	**-0.8**
	baz=16,SNR=16							
MTSU	**Mount Surprise**	**15.91**	**212**	P		**P**	**05 44 55.1**	**-0.1**
CTA	**Charters Tower**	**16.74**	**203**	P		**Pn**	**05 45 03.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=32,slow=12,SNR=12							
CTA						LR	LR	05 50 31.9
	comp=Z,3μm,21.9s,baz=26,slow=33							
CTA	**Charters Tower**	**16.74**	**203**	P		**P**	**05 45 03.7**	**-0.7**
	baz=17							
CTA	**Charters Tower**	**16.74**	**203**	P		**P**	**05 45 04.4**	**0.0**
BAKI	**Biak**	**17.20**	**281**	P		**P**	**05 45 10.0**	**+0.4**
	comp=Z,2μmcomp=Z,140nm,1.4s							
SANVU	**Saraoutou**	**17.64**	**129**	P		**P**	**05 45 16.7**	**+2.3**
RK1H	**Rockhampton Ha**	**18.83**	**187**	P		**Pn**	**05 45 28.4**	**-0.2**
KOUNC	**Koumac, New Ca**	**19.29**	**146**	P		**Pn**	**05 45 34.0**	**0.0**
KOUNC						IAmb	IAmb	05 45 49.1
	comp=Z,117nm,1.0s							
KOUNC	**Koumac, New Ca**	**19.29**	**146**	P		**Pn**	**05 45 33.9**	**0.0**
GUMO	**Guam**	**19.79**	**336**	P		**Pn**	**05 45 39.7**	**-0.3**
	comp=Z,5.5nm,0.3s,baz=190,slow=11,SNR=6.3							
GUMO						LR	LR	05 52 31.9
	comp=Z,844nm,20.3s,baz=168,slow=34							
GUMO	**Guam**	**19.79**	**336**	P		**Pn**	**05 45 40.7**	**+0.7**
GUMO	**Guam**	**19.79**	**336**	P		**Pn**	**05 45 40.6**	**+0.6**
QIS	**Mount Isa**	**20.52**	**218**	P		**P**	**05 45 46.5**	**+0.6**
	baz=20,SNR=17							
QIS	**Mount Isa**	**20.52**	**218**	P		**P**	**05 45 47.1**	**+1.1**
EIDS	**Eidsvold**	**20.73**	**185**	P		**P**	**05 45 48.5**	**+0.4**
	baz=21,SNR=12							
EIDS	**Eidsvold**	**20.73**	**185**	P		**P**	**05 45 48.7**	**+0.6**
EIDS						IAmb	IAmb	05 46 06.4
	comp=Z,160nm,1.4s							
EIDS	**Eidsvold**	**20.73**	**185**	P		**P**	**05 45 48.9**	**+0.8**
FAKI	**Fak Fak**	**20.77**	**274**	P		**P**	**05 45 48.4**	**-0.3**
FAKI						IAmb	IAmb	05 45 51.8
	comp=Z,285nm,1.5s							
FAKI	**Fak Fak**	**20.77**	**274**	P		**P**	**05 45 48.7**	**0.0**
	comp=Z,3μmcomp=Z,2μmcomp=Z,113nm,1.5s							
FAKI	**Fak Fak**	**20.77**	**274**	P		**P**	**05 45 49.7**	**+1.0**
LIFNC	**LIFOU**	**21.22**	**141**	P		**P**	**05 45 54.5**	**+1.2**
NOUC	**Port Laguerre**	**21.65**	**145**	P		**P**	**05 45 59.8**	**+1.8**
DZM	**Mont Dzumac**	**21.71**	**144**	P		**P**	**05 45 59.3**	**+0.5**
	comp=Z,170nm,1.0s,baz=343,slow=11,SNR=27							
DZM						LR	LR	05 54 15.8
	comp=Z,1μm,18.9s,baz=322,slow=36							
DZM	**Mont Dzumac**	**21.71**	**144**	*e*P		**P**	**05 45 58.9**	**+0.2**
	comp=Z,338nm,1.0s							
DZM					*ep*P	**pwP**	**05 46 14.8**	**+0.1**
	comp=Z,539nm,1.2s							
DZM				*e*S		**S**	**05 49 49.9**	**-6.0**
	comp=Z,3μm,27.9s							
DZM				*e*LR		LR	05 51 12.7	
	comp=Z,5μm,26.4s							
DZM	**Mont Dzumac**	**21.71**	**144**	P		**P**	**05 45 59.5**	**+0.7**
DZM	**Mont Dzumac**	**21.71**	**144**	P		**P**	**05 45 59.6**	**+0.9**
KDU	**Kakadu**	**21.81**	**247**	P		**P**	**05 45 58.3**	**-1.5**
	baz=22,SNR=185							
KDU	**Kakadu**	**21.81**	**247**	P		**P**	**05 45 59.2**	**-0.5**
ONTNC	**Ouen Toro**	**21.90**	**145**	P		**P**	**05 46 01.1**	**+0.5**
ONTNC						IAmb	IAmb	05 46 41.6
	comp=Z,158nm,1.2s							
ONTNC	**Ouen Toro**	**21.90**	**145**	P		**P**	**05 46 01.6**	**+1.0**
YATNC	**Mamie plateau,**	**21.96**	**143**	P		**P**	**05 46 02.9**	**+1.6**
SIJI	**Sorong**	**22.02**	**279**	P		**P**	**05 46 01.8**	**-0.3**
	comp=Z,74nm,0.8s,baz=90,slow=8.4,SNR=34							
SIJI						LR	LR	05 53 48.7
	comp=Z,1μm,20.9s,baz=108,slow=34							
SWI	**Sorong**	**22.03**	**279**	P		**P**	**05 46 02.5**	**+0.4**
SWI					pmax	pmax		
	comp=Z,160nm,1.1s							
SWI	**Sorong**	**22.03**	**279**	P		**P**	**05 46 02.3**	**+0.2**
	comp=Z,3μmcomp=Z,162nm,1.1s							
RMQ	**Roma**	**22.14**	**190**	P		**P**	**05 46 03.7**	**+0.6**
	baz=22,SNR=6.2							
RMQ	**Roma**	**22.14**	**190**	P		**P**	**05 46 04.0**	**+0.8**
OUENC	**Ouen Island, N**	**22.21**	**144**	P		**P**	**05 46 04.3**	**+0.3**
OUENC						IAmb	IAmb	05 46 40.6
	comp=Z,126nm,1.3s							
OUENC	**Ouen Island, N**	**22.21**	**144**	P		**P**	**05 46 06.2**	**+2.2**
MARNC	**Mare, Loyalty**	**22.23**	**140**	P		**P**	**05 46 05.9**	**+1.7**
PINNC	**Pines Island,**	**22.72**	**143**	P		**P**	**05 46 09.7**	**+0.3**
PINNC						IAmb	IAmb	05 46 18.1
	comp=Z,176nm,1.3s							
PINNC	**Pines Island,**	**22.72**	**143**	P		**P**	**05 46 11.1**	**+1.7**
MTN	**Manton Dam**	**23.09**	**248**	P		**P**	**05 46 13.2**	**-0.1**
	baz=23,SNR=24							
MTN	**Manton Dam**	**23.09**	**248**	P		**P**	**05 46 13.4**	**0.

H11N1	**WAKE ISLAND Hy**	**27.76**	**29**	T	T	06 16 01.9			
	baz=219								
H11N3	**WAKE ISLAND Hy**	**27.77**	**29**	T	T	06 16 21.1			
	baz=219,slow=74								
MSVF	**Nonsavu**	**27.77**	**120**	P	**P**	**05 46 56.9**	**+0.9**		
	comp=Z,12nm,0.8s,baz=314,slow=13,SNR=3.6								
MSVF				LR	LR	05 59 07.1			
	comp=Z,823nm,18.2s,baz=314,slow=38								
MSVF	**Nonsavu**	**27.77**	**120**	IAmb	IAmb	05 47 26.4			
	comp=Z,68nm,1.5s								
H11N2	**WAKE ISLAND Hy**	**27.77**	**29**	T	T	06 16 01.2			
	baz=219,slow=74								
OOD	**Oodnadatta**	**28.35**	**214**	P	**P**	**05 47 00.9**	**0.0**		
STKA	**Stephens Creek**	**29.17**	**200**	P	**P**	**05 47 07.8**	**-0.3**		
	comp=Z,7.1nm,0.7s,baz=21,slow=10.0,SNR=16								
STKA				LR	LR	05 58 24.1			
	comp=Z,2µm,21.5s,baz=19,slow=35								
STKA	**Stephens Creek**	**29.17**	**200**	P	**P**	**05 47 08.6**	**+0.5**		
	baz=29,SNR=9.0								
STKA	**Stephens Creek**	**29.17**	**200**	P	**P**	**05 47 08.6**	**+0.5**		
STKA				pmax	pmax				
	comp=Z,8.0nm,1.2s								
STKA	**Stephens Creek**	**29.17**	**200**	P	**P**	**05 47 08.6**	**+0.5**		
STKA	**Stephens Creek**	**29.17**	**200**	P	**P**	**05 47 09.0**	**+0.9**		
LCRK	**Leigh Creek**	**29.25**	**207**	P	**P**	**05 47 09.6**	**+0.8**		
KMSI	**Cibinong**	**29.44**	**279**	P	**P**	**05 47 10.4**	**-0.3**		
	comp=Z,146nm,1.0s								
BATI	**Baumata**	**29.61**	**257**	LR	LR	06 01 02.7			
	comp=Z,822nm,21.7s,baz=114,slow=40								
FITZ	**Fitzroy Crossi**	**29.93**	**241**	P	**P**	**05 47 13.8**	**-1.2**		
	comp=Z,38nm,0.6s,baz=64,slow=7.1,SNR=74								
FITZ				S	**S**	**05 52 08.1**	**-0.3**		
	comp=Z,3.9nm,0.8s,baz=87,slow=19,SNR=3.1								
FITZ				LR	LR	06 00 34.5			
	comp=Z,630nm,19.9s,baz=74,slow=39								
FITZ	**Fitzroy Crossi**	**29.93**	**241**	P	**P**	**05 47 13.8**	**-1.2**		
	baz=30								
LUWI	**Luwuk**	**30.39**	**276**	P	**P**	**05 47 20.2**	**+1.0**		
MULG	**Mulgathing**	**31.18**	**213**	P	**P**	**05 47 25.7**	**-0.2**		
WRKA	**Warakurna**	**31.24**	**227**	P	**P**	**05 47 25.3**	**-1.2**		
	baz=31,SNR=122								
WRKA	**Warakurna**	**31.24**	**227**	P	**P**	**05 47 25.8**	**-0.8**		
MRSI	**Marisa**	**31.43**	**278**	P	**P**	**05 47 27.6**	**-0.8**		
	comp=Z,830nmcomp=Z,34nm,1.1s								
APSI	**Ampana**	**31.52**	**276**	P	**P**	**05 47 29.7**	**+0.6**		
	comp=Z,1µmcomp=Z,104nm,1.3s								
HTT	**Hallett**	**31.54**	**203**	P	**P**	**05 47 28.9**	**-0.2**		
	baz=32,SNR=16								
HTT	**Hallett**	**31.54**	**203**	P	**P**	**05 47 29.7**	**+0.6**		
BBOO	**Buckleboo**	**32.22**	**207**	P	**P**	**05 47 34.9**	**-0.2**		
BBOO				IAmb	IAmb	05 47 53.8			
	comp=Z,45nm,1.4s								
BBOO	**Buckleboo**	**32.22**	**207**	P	**P**	**05 47 34.4**	**-0.6**		
BSSI	**Bau Bau, Buton**	**32.40**	**266**	P	**P**	**05 47 36.2**	**-0.6**		
	comp=Z,36nm,1.3s								
TOLI2	**Tolitoli**	**32.69**	**279**	P	**P**	**05 47 37.2**	**-2.2**		
TOLI2				IAmb	IAmb	05 47 40.8			
	comp=Z,35nm,1.1s								
TOLI2	**Tolitoli**	**32.69**	**279**	P	**P**	**05 47 40.4**	**+1.1**		
BKSI	**Bulukumba**	**32.76**	**267**	P	**P**	**05 47 38.8**	**-1.2**		
	comp=Z,451nmcomp=Z,32nm,1.1s								
BNSI	**Bone**	**32.79**	**269**	P	**P**	**05 47 40.1**	**-0.1**		
	comp=Z,608nmcomp=Z,64nm,1.3s								
KAPI	**Kappang**	**33.13**	**268**	LR	LR	06 04 45.5			
	comp=Z,129nm,18.4s,baz=75,slow=43								
KAPI	**Kappang**	**33.13**	**268**	P	**P**	**05 47 41.8**	**-1.4**		
KAPI				pmax	pmax				
	comp=Z,59nm,1.2s								
KAPI	**Kappang**	**33.13**	**268**	P	**P**	**05 47 41.8**	**-1.4**		
KAPI				IAmb	IAmb	05 47 43.6			
	comp=Z,59nm,1.1s								
KAPI	**Kappang**	**33.13**	**268**	P	**P**	**05 47 44.4**	**+1.2**		
KAPI	**Kappang**	**33.13**	**268**	P	**P**	**05 47 42.9**	**-0.4**		
TTSI	**Tana Toraja**	**33.14**	**271**	P	**P**	**05 47 43.3**	**0.0**		
	comp=Z,2µmcomp=Z,25nm,0.7s								
SPSI	**Sidrap Palu**	**33.14**	**270**	P	**P**	**05 47 42.3**	**-1.0**		
	comp=Z,46nm,1.1s								
MPSI	**Mapaga**	**33.43**	**278**	P	**P**	**05 47 45.0**	**-0.8**		
	comp=Z,1µmcomp=Z,58nm,1.1s								
ARPS	**Mount Arapiles**	**33.62**	**196**	P	**P**	**05 47 48.0**	**+0.9**		
FORT	**Forrest**	**35.07**	**219**	P	**P**	**05 47 59.7**	**-0.1**		
	baz=35,SNR=29								
FORT	**Forrest**	**35.07**	**219**	P	**P**	**05 47 58.8**	**-0.9**		
FORT	**Forrest**	**35.07**	**219**	P	**P**	**05 48 00.4**	**+0.6**		
MYLDM	**Lahad Datu**	**35.80**	**285**	P	**P**	**05 48 07.1**	**+0.8**		
AFI	**Afiamalu**	**35.93**	**107**	LR	LR	06 00 59.9			
	comp=Z,750nm,19.0s,baz=272,slow=33								
OUZ	**Omahuta**	**35.93**	**151**	IAmb	IAmb	05 48 39.4			
	comp=Z,26nm,1.0s								
MBWA	**Marble Bar**	**36.24**	**240**	⇓P	**P**	**05 48 09.0**	**-1.0**		
PSA00	**Pilbara Seismi**	**36.30**	**239**	P	**P**	**05 48 09.1**	**-1.4**		
PSA00	**Pilbara Seismi**	**36.30**	**239**	IAmb	IAmb	05 48 10.4			
	comp=Z,59nm,1.2s								
PSA00	**Pilbara Seismi**	**36.30**	**239**	P	**P**	**05 48 09.5**	**-1.0**		
RAO	**Raoul Island**	**36.87**	**135**	LR	LR	06 01 26.2			
	comp=Z,829nm,20.3s,baz=314,slow=33								
BBKI	**Banjar Baru**	**38.08**	**270**	P	**P**	**05 48 25.8**	**+0.1**		
KKM	**Kota Kinabalu**	**38.22**	**286**	P	**P**	**05 48 25.9**	**-1.1**		
KKM	**Kota Kinabalu**	**38.22**	**286**	P	**P**	**05 48 28.8**	**+1.8**		
JAGI	**Jajag, Banyuwa**	**38.77**	**262**	P	**P**	**05 48 31.1**	**-0.4**		
	comp=Z,49nm,1.1s								
JOW	**Kunigami**	**39.35**	**324**	LR	LR	06 03 14.4			
	comp=Z,217nm,21.8s,baz=174,slow=34								
MEEK	**Meekatharra**	**39.48**	**233**	P	**P**	**05 48 36.5**	**-0.8**		
	baz=40,SNR=70								
MEEK	**Meekatharra**	**39.48**	**233**	P	**P**	**05 48 37.0**	**-0.3**		
JHJ	**Hachijo jima 2**	**39.55**	**342**	LR	LR	06 04 38.9			
	comp=Z,371nm,18.1s,baz=84,slow=36								
OMRZ	**Omania**	**39.57**	**151**	P	**P**	**05 48 41.6**	**+3.7**		
URZ	**Urewera**	**40.06**	**150**	P	**P**	**05 48 42.7**	**+0.9**		
	comp=Z,26nm,0.8s,baz=311,slow=3.5,SNR=11								
URZ				LR	LR	06 03 23.0			
	comp=Z,600nm,20.4s,baz=26,slow=33								
URZ	**Urewera**	**40.06**	**150**	P	**P**	**05 48 43.0**	**+1.2**		
URZ				IAmb	IAmb	05 49 02.5			
	comp=Z,62nm,1.2s								
RUGZ	**Raukumara Rang**	**40.12**	**149**	P	**P**	**05 48 43.7**	**+1.2**		
PKGZ	**Pakihiroa**	**40.27**	**149**	P	**P**	**05 48 46.1**	**+2.4**		
TWGZ	**Tauwhareparae**	**40.43**	**149**	P	**P**	**05 48 46.7**	**+1.7**		
BKZ	**Black Stump Fm**	**40.47**	**151**	P	**P**	**05 48 45.7**	**+0.4**		
BKZ				IAmb	IAmb	05 49 41.2			
	comp=Z,116nm,1.8s								
BKZ	**Black Stump Fm**	**40.47**	**151**	P	**P**	**05 48 46.1**	**+0.8**		
BKZ	**Black Stump Fm**	**40.47**	**151**	P	**P**	**05 48 46.5**	**+1.2**		
BHHZ	**Black Hill Sta**	**40.52**	**152**	P	**P**	**05 48 46.9**	**+1.1**		
RAHZ	**Arahi**	**40.55**	**151**	P	**P**	**05 48 47.9**	**+1.9**		
TKGZ	**Te Karaka**	**40.57**	**150**	P	**P**	**05 48 47.2**	**+1.1**		
MCHZ	**McNeill Hill**	**40.78**	**152**	P	**P**	**05 48 49.6**	**+1.7**		
CNGZ	**Carnagh Statio**	**40.78**	**149**	P	**P**	**05 48 49.1**	**+1.3**		
PWJI	**Pagerwojo**	**41.07**	**263**	P	**P**	**05 48 48.1**	**-2.5**		
	comp=Z,64nm,1.3s								
PBKI	**Pangkalan Bun**	**41.28**	**271**	P	**P**	**05 48 53.2**	**+0.9**		
	comp=Z,7µmcomp=Z,352nm,1.1s								
SBUM	**Sibu**	**41.34**	**279**	P	**P**	**05 48 53.4**	**+0.6**		
GIRL	**Giralia**	**41.54**	**241**	P	**P**	**05 48 53.7**	**-0.5**		
	baz=42,SNR=12								
GIRL	**Giralia**	**41.54**	**241**	P	**P**	**05 48 54.2**	**0.0**		
GIRL	**Giralia**	**41.54**	**241**	P	**P**	**05 48 55.2**	**+0.9**		
YULB	**Yu-li**	**41.60**	**313**	P	**P**	**05 48 54.4**	**-0.4**		
YULB				IAmb	IAmb	05 49 13.0			
	comp=Z,47nm,1.3s								
LTZ	**Lake Taylor**	**41.70**	**159**	P	**P**	**05 48 57.0**	**+1.6**		
PCJI	**Pacitan**	**41.70**	**263**	P	**P**	**05 48 54.2**	**-1.5**		
	comp=Z,1µmcomp=Z,152nm,1.0s								
STKI	**Sintang**	**41.73**	**275**	P	**P**	**05 48 57.3**	**+1.3**		
	comp=Z,20µmcomp=Z,34nm,0.6s								
KHZ	**Kahutara**	**41.86**	**157**	P	**P**	**05 48 58.0**	**+1.4**		
NACB	**Ninganchiao**	**41.87**	**315**	P	**P**	**05 48 56.9**	**-0.1**		
NACB				IAmb	IAmb	05 49 14.6			
	comp=Z,72nm,1.2s								
RPZ	**Rata Peaks**	**42.09**	**160**	P	**P**	**05 48 59.4**	**+0.9**		
	comp=Z,47nm,0.8s,baz=101,slow=1.8,SNR=14								
RPZ				LR	LR	06 04 20.1			
	comp=Z,2µm,21.8s,baz=319,slow=33								
RPZ	**Rata Peaks**	**42.09**	**160**	P	**P**	**05 48 59.9**	**+1.4**		
RPZ				IAmb	IAmb	05 49 05.5			
	comp=Z,61nm,0.9s								
SSLB	**Suanglung**	**42.09**	**314**	P	**P**	**05 49 00.7**	**+1.9**		
YHNB	**Yeheng**	**42.34**	**315**	P	**P**	**05 49 03.2**	**+2.3**		
LBZ	**Lake Benmore**	**42.41**	**162**	P	**P**	**05 49 01.0**	**-0.1**		
LBZ				IAmb	IAmb	05 49 05.0			
	comp=Z,31nm,0.9s								
KLBR	**Kellerberrin**	**42.59**	**227**	P	**P**	**05 49 01.4**	**-1.3**		
	baz=43,SNR=16								
KLBR	**Kellerberrin**	**42.59**	**227**	P	**P**	**05 49 01.4**	**-1.3**		
MORW	**Morawa**	**42.62**	**231**	P	**P**	**05 49 02.2**	**-0.9**		
	baz=43,SNR=22								
MORW	**Morawa**	**42.62**	**231**	P	**P**	**05 49 02.6**	**-0.5**		
MORW				IAmb	IAmb	05 49 05.8			
	comp=Z,73nm,1.4s								
MORW	**Morawa**	**42.62**	**231**	P	**P**	**05 49 02.6**	**-0.5**		
MLZ	**Mavora Lakes**	**42.70**	**164**	P	**P**	**05 49 06.2**	**+2.8**		
MLZ				IAmb	IAmb	05 49 32.4			
	comp=Z,54nm,0.9s								
BLDU	**Ballidu**	**42.86**	**229**	P	**P**	**05 49 04.3**	**-0.7**		
	baz=43,SNR=12								
BLDU	**Ballidu**	**42.86**	**229**	P	**P**	**05 49 04.3**	**-0.7**		
JNU	**Nakatsue**	**42.98**	**332**	P	**P**	**05 49 06.7**	**+0.8**		
KSM	**Kuching**	**43.08**	**277**	P	**P**	**05 49 06.6**	**-0.3**		
KSM				IAmb	IAmb	05 49 08.6			
	comp=Z,81nm,1.1s								
KSM	**Kuching**	**43.08**	**277**	P	**P**	**05 49 06.9**	**-0.1**		
MJAR	**Matsushiro Arr**	**43.20**	**343**	P	**P**	**05 49 06.4**	**-1.2**		
	comp=Z,2.5nm,0.3s,baz=31,slow=17,SNR=5.7								
MJAR				LR	LR	06 06 53.9			
	comp=Z,352nm,18.8s,baz=178,slow=36								
MJAR	**Matsushiro Arr**	**43.20**	**343**	P	**P**	**05 49 05.9**	**-1.7**		
MJAR				pP	**pP**	**05 49 22.6**	**-0.8**		
MAJO	**Matsushiro**	**43.20**	**343**	*i* P	**P**	**05 49 07.1**	**-0.5**		
MAJO				pmax	pmax				
	comp=Z,28nm,1.6s								
MAJO	**Matsushiro**	**43.20**	**343**	P	**P**	**05 49 07.2**	**-0.4**		
KPJI	**Karang Pucung**	**43.90**	**264**	P	**P**	**05 49 12.7**	**-0.9**		
MUN	**Mundaring**	**43.91**	**227**	P	**P**	**05 49 12.7**	**-0.7**		
	baz=44,SNR=4.0								
MUN	**Mundaring**	**43.91**	**227**	P	**P**	**05 49 12.6**	**-0.8**		
CMJI	**Cimerak**	**44.39**	**264**	P	**P**	**05 49 15.7**	**-1.8**		
	comp=Z,794nmcomp=Z,90nm,1.2s								
JCJI	**Jatiwangi**	**44.55**	**265**	P	**P**	**05 49 18.3**	**-0.5**		
LEM	**Lembang**	**45.20**	**265**	P	**P**	**05 49 22.9**	**-1.1**		
	comp=Z,31nm,0.5s,baz=77,slow=4.4,SNR=5.7								
LEM				LR	LR	06 14 43.6			
	comp=Z,106nm,18.4s,baz=118,slow=45								
LEM	**Lembang**	**45.20**	**265**	P	**P**	**05 49 23.0**	**-1.1**		
LEM	**Lembang**	**45.20**	**265**	P	**P**	**05 49 23.1**	**-1.0**		
	comp=Z,38nm,1.1s								
CNJI	**Cibinong**	**45.69**	**264**	P	**P**	**05 49 26.0**	**-1.8**		
	comp=Z,3µmcomp=Z,320nm,1.2s								
PPBI	**Pangkal Pinang**	**46.84**	**271**	P	**P**	**05 49 36.5**	**-0.3**		
CGJI	**Cibinong**	**47.11**	**265**	P	**P**	**05 49 36.5**	**-2.4**		
	comp=Z,84nm,1.2s								
DLV	**T Lat**	**47.21**	**291**	P	**P**	**05 49 40.9**	**+0.9**		
TJN	**Taejon**	**47.30**	**332**	*ce* P	**P**	**05 49 40.1**	**+0.1**		
TJN	**Taejon**	**47.30**	**332**	P	**P**	**05 49 39.0**	**-1.0**		
TJN	**Taejon**	**47.30**	**332**	P	**P**	**05 49 40.9**	**+0.9**		
KSRS	**Korea Array**	**47.91**	**333**	P	**P**	**05 49 45.1**	**+0.4**		
	comp=Z,13nm,0.8s,baz=151,slow=8.1,SNR=30								
KSRS				LR	LR	06 09 18.0			
	comp=Z,221nm,18.7s,baz=130,slow=35								
KSAR	**Wonju Array Be**	**47.92**	**333**	P	**P**	**05 49 43.4**	**-1.4**		
KSAR				*PP	**pP**	**05 50 00.2**	**-0.6**		
KSAR	**Wonju Array Be**	**47.92**	**333**	P	**P**	**05 49 43.4**	**-1.4**		
KSAR				pP	**pP**	**05 50 00.2**	**-0.6**		
KASI	**Kota Agung**	**48.31**	**267**	P	**P**	**05 49 46.1**	**-2.2**		
	comp=Z,6µmcomp=Z,81nm,1.2s								
INCN	**Inchon**	**48.53**	**332**	P	**P**	**05 49 49.9**	**+0.3**		
INCN				pmax	pmax				
	comp=Z,104nm,1.0s								
INCN	**Inchon**	**48.53**	**332**	P	**P**	**05 49 49.9**	**+0.3**		
INCN	**Inchon**	**48.53**	**332**	P	**P**	**05 49 50.9**	**+1.3**		
INCN	**Inchon**	**48.53**	**332**	P	**P**	**05 49 51.1**	**+1.5**		
INCN				pP	**sP**	**05 50 09.9**	**-2.8**		
DSRI	**Dabo**	**48.53**	**273**	P	**P**	**05 49 49.8**	**-0.2**		
	comp=Z,3µmcomp=Z,31nm,1.4s								
QIZ	**Qiongzhong**	**48.54**	**300**	P	**P**	**05 49 49.5**	**-0.4**		
QIZ				S	**S**	**05 56 47.3**	**-0.1**		
QIZ				LR	LR				
	comp=Z,310nm,18.8s								
QIZ				LR	LR				
	comp=Z,640nm,21.2s								
QIZ				LR	LR				
	comp=Z,760nm,24.5s								
RAR	**Rarotonga**	**48.68**	**114**	LR	LR	06 09 51.8			
	comp=Z,104nm,19.1s,baz=286,slow=35								
NJ2	**Nanjing**	**48.82**	**321**	*eP*	**P**	**05 49 53.2**	**+1.4**		
NJ2				pP	**pP**	**05 50 04.4**	**-3.3**		
NJ2				sP	**sP**	**05 50 14.8**	**+0.1**		
NJ2				sS	**sS**	**05 57 20.4**	**+2.9**		
NJ2				pmax	pmax				
	comp=Z,21nm,0.9s								
NJ2				pmax	pmax				
	comp=Z,320nm,5.9s								
NJ2				LR	LR				
	comp=Z,630nm,18.0s								
NJ2				LR	LR				
	comp=Z,480nm,17.1s								
NJ2				LR	LR				
	comp=Z,890nm,21.8s								
JKA	**Kamikawa-asahi**	**49.39**	**350**	P	**P**	**05 49 55.9**	**0.0**		
JKA				IAmb	IAmb	05 49 58.2			
	comp=Z,32nm,1.0s								
ASAJ	**Asahikawa**	**49.39**	**350**	LR	LR	06 08 10.0			
	comp=Z,342nm,21.7s,baz=169,slow=33								
ASAJ	**Asahikawa**	**49.39**	**350**	P	**P**	**05 49 55.9**	**-0.1**		
ASAJ				pmax	pmax				
	comp=Z,32nm,1.0s								
WHN	**Wuhan**	**50.85**	**316**	⇓P	**P**	**05 50 08.8**	**+1.5**		
WHN				LR	LR				
	comp=Z,2µm,22.1s								
USRK	**Ussuriysk Ar.**	**52.12**	**341**	P	**P**	**05 50 16.9**	**+0.3**		
	comp=Z,18nm,0.7s,baz=171,slow=7.5,SNR=28								
USRK				LR	LR	06 08 46.0			
	comp=Z,197nm,21.6s,baz=145,slow=32								
YSS	**Yuzh-Sakhalins**	**52.13**	**351**	*eP*	**P**	**05 50 16.5**	**0.0**		
YSS				pmax	pmax				
	comp=Z,20nm,0.8s								
YSS				MLR	MLR				
	comp=Z,300nm,16.0s								
TIA	**Tai'an**	**52.67**	**323**	*eP*	**P**	**05 50 19.6**	**-1.2**		
TIA				pmax	pmax				
	comp=Z,25nm,1.1s								
TIA				LR	LR				
	comp=Z,340nm,27.5s								
TIA				LR	LR				
	comp=Z,280nm,25.5s								
TIA				LR	LR				
	comp=Z,680nm,31.4s								
IPM	**Ipoh**	**52.70**	**279**	IAmb	IAmb	05 50 21.7			
	comp=Z,35nm,1.2s								
IPM	**Ipoh**	**52.70**	**279**	P	**P**	**05 50 20.6**	**-0.8**		
KULM	**Kulim**	**53.20**	**280**	IAmb	IAmb	05 50 25.2			
	comp=Z,27nm,1.1s								
MDJ	**Mudanjiang**	**53.30**	**339**	P	**P**	**05 50 26.6**	**+1.3**		
MDJ				pmax	pmax				
	comp=Z,46nm,2.2s								
MDJ				pmax	pmax				
	comp=Z,250nm,6.2s								
MDJ	**Mudanjiang**	**53.30**	**339**	P	**P**	**05 50 25.8**	**+0.5**		
MDJ				pP	**sP**	**05 50 45.7**	**-2.8**		
CN2	**Changchun**	**54.20**	**336**	*eP*	**P**	**05 50 31.3**	**-0.5**		
CN2				*eS*	**S**	**05 58 01.2**	**-3.4**		
CN2				pmax	pmax				
	comp=Z,10.0nm,1.5s								
CN2				pmax	pmax				
	comp=Z,200nm,9.0s								
CN2				LR	LR				
	comp=Z,200nm,17.0s								
CN2				LR	LR				
	comp=Z,300nm,17.0s								
CN2				LR	LR				
	comp=Z,300nm,18.0s								
GYA	**Guiyang**	**54.43**	**307**	⇑P	**P**	**05 50 35.9**	**+1.9**		
GYA				pP	pP	05 50 53.7	+3.4		
GYA				S	**S**	**05 58 07.4**	**-1.2**		
GYA				sS	sS	05 58 37.3	+3.1		
GYA				SS	**SS**	**06 01 51.3**	**-0.6**		
GYA				pmax	pmax				
	comp=Z,23nm,1.2s								
GYA				pmax	pmax				
	comp=Z,400nm,4.4s								
GYA				LR	LR				
	comp=Z,130nm,3.8s								
GYA				LR	LR				
	comp=Z,130nm,3.8s								
GYA				LR	LR				
	comp=Z,370nm,10.9s								
LYN	**LuoYang**	**54.52**	**319**	*eP*	**P**	**05 50 34.5**	**+0.1**		
LYN				pP	pP	05 50 50.2	-0.3		
LYN				sP	sP	05 50 56.9	-0.5		
LYN				PcP	**PcP**	**05 51 38.3**	**+1.2**		
LYN				pmax	pmax				
	comp=Z,160nm,7.8s								
LYN				LR	LR				
	comp=Z,560nm,21.0s								
LYN				LR	LR				
	comp=Z,570nm,20.2s								
LYN				LR	LR				
	comp=Z,1µm,29.6s								
PSI	**Prapat**	**54.53**	**277**	LR	LR	06 16 32.3			
	comp=Z,165nm,19.0s,baz=106,slow=39								
HNS	**HongShan**	**54.91**	**323**	⇑P	**P**	**05 50 37.6**	**+0.5**		
HNS				pP	**pP**	**05 50 48.5**	**-4.7**		
HNS				S	**S**	**05 58 14.8**	**+0.5**		
HNS				sS	**sS**	**05 58 42.3**	**+1.2**		
HNS				pmax	pmax				
	comp=Z,29nm,1.4s								
HNS				pmax	pmax				
	comp=Z,170nm,4.4s								
HNS				LR	LR				
	comp=Z,120nm,15.1s								
HNS				LR	LR				
	comp=Z,230nm,16.5s								
HNS				LR	LR				
	comp=Z,350nm,24.9s								
BNX	**BinXian**	**55.06**	**338**	⇓P	**P**	**05 50 38.0**	**0.0**		
BNX				pmax	pmax				
	comp=Z,180nm,1.2s								
BNX				pmax	pmax				
	comp=Z,290nm,6.3s								
BJI	**Beijing**	**55.84**	**326**	P	**P**	**05 50 43.7**	**0.0**		
BJI				S	**S**	**05 58 26.8**	**+0.2**		
BJI				pmax	pmax				
	comp=Z,11nm,1.7s								
BJI				LR	LR				
	comp=Z,330nm,22.7s								
BJI				LR	LR				
	comp=Z,470nm,19.9s								
BJI				LR	LR				
	comp=Z,850nm,27.0s								
XAN	**Xi'an**	**56.62**	**316**	P	**P**	**05 50 49.4**	**-0.1**		
XAN				pP	pP	05 51 05.5	-0.2		
XAN				S	**S**	**05 58 36.3**	**-1.0**		
XAN				SS	**SS**	**06 02 26.3**	**+0.4**		
XAN				pmax	pmax				
	comp=Z,29nm,1.3s								
XAN				pmax	pmax				
	comp=Z,350nm,7.1s								
XAN				LR	LR				
	comp=Z,360nm,20.6s								
XAN				LR	LR				
	comp=Z,640nm,20.1s								
XAN				LR	LR				
	comp=Z,960nm,21.3s								
KLR	**Kul'dur**	**56.71**	**343**	LR	LR	06 13 42.3			
	comp=Z,122nm,20.8s,baz=176,slow=34								
KLR	**Kul'dur**	**56.71**	**343**	*ce* P	**P**	**05 50 48.2**	**-1.6**		
KLR				pmax	pmax				
	comp=Z,87nm,1.7s								
KMI	**Kunming**	**57.04**	**304**	⇑P	**P**	**05 50 53.8**	**+0.9**		
KMI				pP	pP	05 51 10.4	+1.2		
KMI				S	**S**	**05 58 41.0**	**-2.6**		
KMI				sS	sS	05 59 09.5	-0.4		
KMI				pmax	pmax				
	comp=Z,25nm,1.3s								
KMI				pmax	pmax				
	comp=Z,270nm,4.7s								
KMI				LR	LR				
	comp=Z,170nm,21.3s								
KMI				LR	LR				
	comp=Z,440nm,21.2s								
KMI				LR	LR				
	comp=Z,770nm,25.6s								
PPT	**Papeete**	**57.60**	**108**	LR	LR	06 13 20.6			
	comp=Z,196nm,19.2s,baz=284,slow=33								
PPT2	**Papeete2**	**57.60**	**108**	*eS*	**S**	**05 58 45.2**	**-5.6**		
PPT2				*e*LQ	LQ	06 05 20.4			
	comp=Z,260nm,26.8s								
PPT2				*e*LR	LR	06 07 45.3			
	comp=Z,539nm,29.2s								
PPT2				*e*LR	LR	06 07 45.3			
	comp=Z,334nm,24.0s								
PET	**Petropavlovsk**	**57.61**	**4**	⇑*i* P	**P**	**05 50 56.3**	**+0.3**		
PET				*e**PP	**pP**	**05 51 13.0**	**+0.9**		
PET				*e**SP	**sP**	**05 51 20.4**	**+1.4**		
PET				*e*		05 51 49.1			
PET				*e*		05 53 10.5			
PET				*e*S	**S**	**05 58 48.6**	**-0.9**		
PET				*e*		06 00 34.9			
PET				pmax	pmax				
	comp=Z,34nm,1.0s								
PET				pmax	pmax				
	comp=Z,100nm,13.0s								
PET				pmax	pmax				
	comp=Z,300nm,14.3s								
PET				MLR	MLR				
	comp=Z,400nm,22.0s								
PET	**Petropavlovsk**	**57.61**	**4**	P	**P**	**05 50 55.9**	**-0.1**		
PET				IAmb	IAmb	05 51 50.0			
	comp=Z,23n

HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,160nm,6.6s
HHC LR LR
comp=Z,420nm,23.7s
HHC LR LR
comp=Z,400nm,21.8s
HHC LR LR
comp=Z,910nm,21.6s
SHEM Shemya Is, Ala 59.85 15 LR LR 06 12 48.7
comp=Z,929nm,21.6s,baz=204,slow=32
LZH Lanzhou 61.23 316 *e*P **P 05 51 22.7 +1.1**
LZH pP pP 05 51 38.9 +1.0
LZH sP sP 05 51 46.0 +1.2
LZH *e*S **S 05 59 38.4 +1.1**
LZH sS sS 06 00 02.4 -1.5
LZH SS **SS 06 03 39.5 +1.0**
LZH pmax pmax
comp=Z,55nm,1.2s
LZH pmax pmax
comp=Z,330nm,4.3s
LZH LR LR
comp=Z,350nm,16.8s
LZH LR LR
comp=Z,480nm,15.4s
LZH LR LR
comp=Z,740nm,17.9s
ZEA Zeya 62.01 343 *e*P **P 05 51 27.3 +1.0**
ZEA *e* 05 51 48.4
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,20nm,1.0s
DRV Dumont d'Urvil 62.61 186 ⇑P **P 05 51 30.8 +0.8**
DRV pP **pP 05 51 47.2 +1.2**
MA2 Magadan 64.00 359 LR LR 06 19 26.1
comp=Z,240nm,19.2s,baz=186,slow=36
MA2 Magadan 64.00 359 *ce*P **P 05 51 39.0 -0.3**
MA2 pmax pmax
comp=Z,64nm,1.3s
MA2 Magadan 64.00 359 P **P 05 51 38.6 -0.8**
MA2 pP **pP 05 51 54.7 -1.4**
MA2 Magadan 64.00 359 P **P 05 51 39.5 +0.1**
MA2 Magadan 64.00 359 P **P 05 51 39.5 +0.1**
MA2 pP **pP 05 51 55.7 -0.3**
GTA Gaotai 65.65 317 ⇑P **P 05 51 51.6 +0.9**
GTA pP pP 05 52 07.5 +0.4
GTA sP sP 05 52 14.3 +0.3
GTA pmax pmax
comp=Z,32nm,1.5s
GTA pmax pmax
comp=Z,230nm,10.4s
GTA LR LR
comp=Z,150nm,21.1s
GTA LR LR
comp=Z,510nm,21.1s
GTA LR LR
comp=Z,470nm,20.3s
NIKH Nikolski High 65.75 24 P **P 05 51 50.5 -0.3**
baz=222
ULN Ulaanbaatar 65.93 328 *ce*P **P 05 51 52.8 +0.4**
ULN pmax pmax
comp=Z,38nm,2.5s
ULN Ulaanbaatar 65.93 328 pP pP 05 52 09.2 +0.1
SONM Songino Array 66.26 328 P **P 05 51 55.1 +0.7**
comp=Z,4.6nm,0.6s,baz=147,slow=8.5,SNR=12
SONM LR LR 06 21 31.7
comp=Z,268nm,18.8s,baz=160,slow=36
SHL Shillong 66.38 300 IAmb IAmb 05 51 56.8
comp=Z,30nm,0.9s
TAOE Nuku Hiva Isla 66.46 98 *e*S **S 06 00 37.0 -5.8**
TAOE *e*LQ LQ 06 08 54.5
comp=Z,419nm,34.3s
TAOE *e*LR LR 06 11 53.8
comp=Z,594nm,33.1s
SEY Seymchan 67.35 360 LR LR 06 24 51.1
comp=Z,129nm,18.0s,baz=158,slow=39
SEY Seymchan 67.35 360 *ce*P **P 05 51 59.1 -1.7**
SEY pmax pmax
comp=Z,37nm,1.5s
UNV Unalaska Valle 67.36 25 P **P 05 52 01.9 +0.8**
baz=225
GOMU GeErMu 67.78 312 P **P 05 52 05.1 +0.5**
GOMU pmax pmax
comp=Z,6.0nm,1.5s
GOMU pmax pmax
comp=Z,110nm,5.1s
GOMU LR LR
comp=Z,210nm,19.9s
GOMU LR LR
comp=Z,370nm,19.7s
GOMU LR LR
comp=Z,630nm,19.7s
CASY Casey 68.26 197 P **P 05 52 07.0 +0.5**
CASY IAmb IAmb 05 52 07.8
comp=Z,47nm,1.3s
CASY Casey 68.26 197 P **P 05 52 06.8 +0.2**
CASY pP **pP 05 52 24.2 +1.4**
YAK Yakutsk 68.82 348 LR LR 06 20 43.4
comp=Z,205nm,22.0s,baz=92,slow=34
YAK Yakutsk 68.82 348 *e*P **P 05 52 10.2 +0.1**
YAK *e* 05 52 31.8
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
ZAK Zakamensk 69.43 329 *e*P **P 05 52 13.6 -0.6**
ZAK pmax pmax
comp=Z,25nm,1.1s
BOD Bodaibo 69.68 339 *e*P **P 05 52 14.4 -1.1**
BOD pmax pmax
comp=Z,20nm,1.6s
TAPN Taplejung 70.47 301 *e*P **P 05 52 21.1 -0.3**
ODAN Odare 70.61 300 *e*P **P 05 52 21.6 -0.6**
SDPT Sand Point 70.95 26 P **P 05 52 23.2 -0.1**
baz=230
RAMN Ramite 71.32 300 *e*P **P 05 52 26.4 -0.1**
comp=Z,7.3nm,0.4s
MOY Mondy 71.35 329 *e*P **P 05 52 26.4 +0.4**
MOY pmax pmax
comp=Z,39nm,2.1s
GUN Gumba 72.19 301 *e*P **P 05 52 32.0 +0.2**
PKI Pulchoki 72.50 301 *e*P **P 05 52 33.4 -0.3**
PKIN Phulchoki 72.52 301 *e*P **P 05 52 33.4 -0.3**
KNGR Kungurtug, Tuv 72.63 327 *i*P **P 05 52 34.4 +0.7**
KKN Kakani 72.67 301 *e*P **P 05 52 34.5 0.0**
DMN Daman 72.77 301 *e*P **P 05 52 35.3 +0.1**
VNDA Vanda 73.02 178 P **P 05 52 36.0 +0.6**
comp=Z,13nm,0.8s,baz=333,slow=6.6,SNR=33
VNDA LR LR 06 20 44.8
comp=Z,189nm,21.0s,baz=348,slow=32
VNDA Vanda 73.02 178 IAmb IAmb 05 52 53.9
comp=Z,35nm,1.3s
BILL Bilibino 73.08 5 *di*P **P 05 52 36.2 +0.4**
BILL *e* 05 55 22.4
BILL *e*PPP PPP 05 57 07.5
BILL *i*S SKSac 06 02 23.5 -13
BILL pmax pmax
comp=Z,47nm,1.3s
BILL MLR MLR
comp=Z,212nm,18.0s
BILL Bilibino 73.08 5 P **P 05 52 36.0 +0.2**
BILL IAmb IAmb 05 52 38.0
comp=Z,32nm,1.0s
PALK Pallekele 73.10 279 LR LR 06 25 17.5
comp=Z,96nm,21.8s,baz=214,slow=36
GAMB Gambell 73.14 16 IAmb IAmb 05 52 38.4
comp=Z,23nm,1.1s
GAMB Gambell 73.14 16 P **P 05 52 35.7 -0.5**
baz=217
GKN Gorkha 73.27 301 *e*P **P 05 52 38.2 +0.2**
CHIR Chirikof Islan 73.42 27 P **P 05 52 37.5 -0.5**
baz=234
SBA Scott Base 73.56 177 P **P 05 52 40.2 +1.7**
SBA pmax pmax
comp=Z,121nm,1.8s
SBA Scott Base 73.56 177 P **P 05 52 40.2 +1.7**
KOLN Koldanda 74.11 300 *e*P **P 05 52 42.6 -0.3**
DANN Dangsing 74.11 301 *e*P **P 05 52 42.6 -0.5**
SII Sitkinak Islan 74.50 27 P **P 05 52 43.6 -0.8**
baz=236
PYUN Piuthan 74.71 301 *e*P **P 05 52 45.6 -0.8**
comp=Z,111nm,1.3s

OHAK Old Harbor 75.28 27 P **P 05 52 48.9 +0.1**
baz=236
ANM Nome 75.53 17 P **P 05 52 50.2 +0.1**
ANM pP **pP 05 53 06.3 -0.6**
ANM Nome 75.53 17 P **P 05 52 50.9 +0.7**
baz=223,SNR=8.5
TNA Tin City 75.55 16 P **P 05 52 50.3 +0.1**
TNA Tin City 75.55 16 P **P 05 52 50.5 +0.3**
baz=220
P18K Big Mountain, 75.69 25 P **P 05 52 50.4 -0.8**
baz=234
WMQ Urumqi 75.73 317 *e*P **P 05 52 52.4 +0.6**
WMQ PcP **PcP 05 53 04.7 +0.4**
WMQ sP sP 05 53 15.0 -0.6
WMQ pmax pmax
comp=Z,53nm,1.1s
WMQ pmax pmax
comp=Z,360nm,4.3s
WMQ LR LR
comp=Z,220nm,13.9s
WMQ LR LR
comp=Z,290nm,20.1s
WMQ LR LR
comp=Z,330nm,21.5s
KDAK Kodiak Island 75.91 27 LR LR 06 21 05.9
comp=Z,370nm,20.8s,baz=245,slow=32
O18K Koktuh Hills 75.97 24 P **P 05 52 53.0 +0.3**
baz=234
Q19K Cape Douglas, 76.09 25 P **P 05 52 53.4 0.0**
baz=236
N18K Kilae Creek 76.19 23 P **P 05 52 54.9 +0.9**
N18K IAmb IAmb 05 52 56.6
comp=Z,27nm,1.1s
N18K Kilae Creek 76.19 23 P **P 05 52 54.7 +0.7**
baz=233
O19K Port Alsworth 76.53 24 P **P 05 52 55.2 -0.7**
baz=235
P19K Oil Pt 76.67 25 P **P 05 52 56.3 -0.5**
baz=236
N19K Bonanza Creek 76.83 24 P **P 05 52 57.7 0.0**
baz=234
O20K Slope Mountain 77.17 25 P **P 05 53 01.0 +1.4**
baz=236
HOM Homer 77.35 25 P **P 05 53 01.4 +0.9**
baz=237
L19K White Mountain 77.49 22 IAmb IAmb 05 53 03.6
comp=Z,19nm,0.8s
L19K White Mountain 77.49 22 P **P 05 53 01.9 +0.6**
baz=234
M19K Big River Lodg 77.50 23 IAmb IAmb 05 53 03.9
comp=Z,52nm,1.6s
M19K Big River Lodg 77.50 23 P **P 05 53 02.1 +0.7**
baz=234
TTA Tatalina 77.51 21 P **P 05 53 01.6 +0.2**
TTA pP **pP 05 53 19.5 +1.1**
TTA Tatalina 77.51 21 P **P 05 53 01.4 0.0**
baz=232,SNR=8.0
TIXI Tiksi 77.73 352 P **P 05 53 02.2 -0.1**
comp=Z,2.2nm,0.5s,baz=91,slow=23,SNR=12
TIXI LR LR 06 22 50.7
comp=Z,147nm,21.7s,baz=180,slow=32
TIXI Tiksi 77.73 352 *ce*P **P 05 53 00.7 -1.7**
TIXI pmax pmax
comp=Z,32nm,2.5s
TIXI Tiksi 77.73 352 P **P 05 53 01.1 -1.2**
PCHI Peechi 77.77 282 ‖*e*P **P 05 53 04.0 +0.2**
PCHI *e*S SKSac 06 03 25.3 +12
BRSE Bradley Lake S 77.78 26 P **P 05 53 02.9 0.0**
baz=238
L20K Farewell, AK 78.03 22 P **P 05 53 04.8 +0.4**
baz=235
GCSA Galena City Sc 78.33 20 P **P 05 53 06.1 +0.2**
baz=231,SNR=13
K20K Telida 78.48 22 IAmb IAmb 05 53 09.1
comp=Z,23nm,1.0s
SEW Seward 78.52 26 P **P 05 53 06.6 -0.3**
baz=239
O22K Cooper Landing 78.60 25 P **P 05 53 06.5 -0.9**
baz=239
RDOG Red Dog Mine 78.74 15 IAmb IAmb 05 53 10.2
comp=Z,30nm,0.8s
RDOG Red Dog Mine 78.74 15 P **P 05 53 08.0 0.0**
baz=225
ZSN Zaisan 78.84 320 *e*P **P 05 53 07.9 -1.2**
ZSN pmax pmax
comp=Z,38nm,1.7s
ZSN Zaisan 78.84 320 *e*P **P 05 53 08.0 -1.2**
comp=Z,38nm,1.7s,baz=320
RC01 Rabbit Creek A 78.91 25 P **P 05 53 08.9 -0.3**
baz=239
PPLA Purkeypile 78.91 22 P **P 05 53 08.7 -0.6**
baz=236
J20K Nowinta River 78.93 21 IAmb IAmb 05 53 11.6
comp=Z,24nm,0.8s
J20K Nowinta River 78.93 21 P **P 05 53 09.8 +0.6**
baz=234,SNR=22
CAST Castle Rocks 79.25 22 IAmb IAmb 05 53 12.0
comp=Z,20nm,0.9s
CAST Castle Rocks 79.25 22 P **P 05 53 10.0 -0.9**
baz=236,SNR=15
PWL Port Wells 79.38 25 IAmb IAmb 05 53 13.2
comp=Z,44nm,0.8s
PWL Port Wells 79.38 25 P **P 05 53 11.2 -0.5**
baz=240,SNR=15
CUT Chulitna 79.39 23 P **P 05 53 10.8 -0.9**
baz=238
CHUM Lake Minchumin 79.42 22 P **P 05 53 11.5 -0.3**
baz=236,SNR=22
PMR Palmer 79.42 24 IAmb IAmb 05 53 12.9
comp=Z,24nm,1.1s
PMR Palmer 79.42 24 P **P 05 53 10.9 -1.0**
baz=239,SNR=5.2
Q23K Middleton Isla 79.56 27 P **P 05 53 11.8 -0.8**
baz=242
KNK Knik Glacier 79.61 25 IAmb IAmb 05 53 51.7
comp=Z,53nm,1.6s
KNK Knik Glacier 79.61 25 P **P 05 53 12.2 -0.8**
baz=240
SML Sawmill 79.86 24 P **P 05 53 13.7 -0.7**
baz=240,SNR=7.6
GLI Glacier Island 79.92 25 IAmb IAmb 05 53 16.0
comp=Z,32nm,1.0s
GLI Glacier Island 79.92 25 P **P 05 53 14.1 -0.5**
baz=241
TRF Thofofare Moun 79.94 22 P **P 05 53 13.1 -1.8**
baz=238,SNR=6.3
BPAW Bear Paw Mtn. 80.03 22 P **P 05 53 13.7 -1.5**
baz=237,SNR=7.5
H21K Melozitna Rive 80.26 20 P **P 05 53 16.2 -0.1**
baz=235,SNR=11
I21K Tanana 80.27 21 IAmb IAmb 05 53 18.7
comp=Z,29nm,1.1s
I21K Tanana 80.27 21 P **P 05 53 16.8 +0.4**
baz=236,SNR=21
SCM Shep Creek Mo 80.29 25 IAmb IAmb 05 53 18.4
comp=Z,32nm,1.1s
SCM Sheep Creek Mo 80.29 25 P **P 05 53 16.5 -0.2**
baz=241,SNR=6.9
MK31 Makanchi Array 80.31 319 *ci*P **P 05 53 17.0 -0.1**
MK31 Makanchi Array 80.31 319 IAmb IAmb 05 53 18.9
comp=Z,51nm,1.4s
MKAR Makanchi Array 80.31 319 P **P 05 53 17.2 +0.2**
comp=Z,7.9nm,0.5s,baz=98,slow=7.6,SNR=87
MKAR PKKPbc **PKKPbc 06 12 00.6 -0.9**
comp=Z,1.0nm,0.9s,baz=318,slow=1.6,SNR=8.6
MKAR LR LR 06 27 58.9
comp=Z,201nm,20.2s,baz=100,slow=35
MKAR Makanchi Array 80.31 319 P **P 05 53 16.9 -0.2**
EYAK Cordova Ski Ar 80.35 26 P **P 05 53 17.2 +0.3**
baz=242
RND Reindeer 80.47 23 IAmb IAmb 05 53 18.3
comp=Z,22nm,0.9s
WAT6 Susitna Watana 80.49 24 P **P 05 53 17.1 -0.7**
baz=240,SNR=9.1
MAKZ Makanchi 80.52 319 P **P 05 53 18.0 -0.2**
MAKZ pmax pmax
comp=Z,72nm,1.3s
MAKZ Makanchi 80.52 319 P **P 05 53 18.0 -0.2**
MCK McKinley 80.60 23 IAmb IAmb 05 53 19.5
comp=Z,47nm,1.1s
MCK McKinley 80.60 23 P **P 05 53 17.4 -0.9**
baz=239,SNR=18
BWN Browne 80.63 22 IAmb IAmb 05 53 20.2
comp=Z,45nm,1.2s
KLU Klutina 80.71 25 IAmb IAmb 05 53 21.5
comp=Z,29nm,1.0s
KLU Klutina 80.71 25 P **P 05 53 18.6 -0.4**
baz=242,SNR=11
DHY Denali Highway 80.88 23 P **P 05 53 19.3 -0.6**
baz=241,SNR=8.1
M24K Tolsona, Glenn 80.90 25 IAmb IAmb 05 53 22.0
comp=Z,41nm,0.9s
M24K Tolsona, Glenn 80.90 25 P **P 05 53 19.8 -0.2**
baz=242
NEA2 Nenana 81.00 22 IAmb IAmb 05 53 20.9
comp=Z,18nm,0.9s
NEA2 Nenana 81.00 22 P **P 05 53 19.4 -1.0**
baz=239,SNR=7.5
BMRM Bremner River 81.04 26 IAmb IAmb 05 53 25.4
comp=Z,63nm,1.6s
BMRM Bremner River 81.04 26 P **P 05 53 21.0 +0.3**
baz=244
ZALV Zalesovo Beam 81.10 326 P **P 05 53 20.8 -0.3**
comp=Z,5.2nm,0.4s,baz=115,slow=6.3,SNR=27
ZALV LR LR 06 28 15.8
comp=Z,191nm,21.9s,baz=110,slow=35
I23K Minto, Yukon-K 81.18 21 P **P 05 53 20.9 -0.3**
baz=238,SNR=5.9
SHLS Shalkode 81.23 315 *e*P **P 05 53 19.3 -2.9**
SHLS pmax pmax
comp=Z,20nm,1.5s
SHLS Shalkode 81.23 315 *e*P **P 05 53 19.3 -2.9**
comp=Z,20nm,1.5s,baz=315
PDGK Podgornoye 81.26 315 P **P 05 53 21.8 -0.6**
WRH Wood River Hil 81.30 22 IAmb IAmb 05 53 23.1
comp=Z,19nm,1.0s
N25K Chitina, Valde 81.33 25 IAmb IAmb 05 53 24.2
comp=Z,30nm,1.3s
N25K Chitina, Valde 81.33 25 P **P 05 53 22.5 +0.2**
baz=243,SNR=5.9
HARP HAARP 81.46 25 P **P 05 53 22.4 -0.5**
baz=243
H23K Yukon River 81.48 21 IAmb IAmb 05 53 24.7
comp=Z,34nm,1.4s
H23K Yukon River 81.48 21 P **P 05 53 22.9 0.0**
baz=238,SNR=11
UZB Uzunbulak 81.54 315 *e*P **P 05 53 22.8 -1.1**
UZB pmax pmax
comp=Z,41nm,1.9s
UZB Uzunbulak 81.54 315 *e*P **P 05 53 22.8 -1.1**
comp=Z,41nm,1.9s,baz=315
TCOL CIGO, UAF Yank 81.59 22 IAmb IAmb 05 53 23.9
comp=Z,25nm,0.8s
TCOL CIGO, UAF Yank 81.59 22 P **P 05 53 22.1 -1.3**
baz=240
PAX Paxson 81.59 24 P **P 05 53 23.3 -0.3**
baz=242,SNR=5.9
COLA College 81.59 22 *ci*P **P 05 53 21.7 -1.7**
COLA pmax pmax
comp=Z,26nm,0.9s
COLA College 81.59 22 P **P 05 53 22.0 -1.4**
COLA IAmb IAmb 05 53 23.9
comp=Z,22nm,0.8s
COLA College 81.59 22 P **P 05 53 22.0 -1.4**
baz=240
GLB Gilahina Butte 81.59 26 P **P 05 53 23.4 -0.2**
GLB IAmb IAmb 05 53 25.8
comp=Z,29nm,1.0s
GLB pP **pP 05 53 40.1 -0.5**
VRDI Verde Repeater 81.66 26 P **P 05 53 24.1 0.0**
VRDI IAmb IAmb 05 53 25.7
comp=Z,22nm,1.0s
VRDI **pP 05 53 42.2 +2.1**
HDA Harding Lake 81.70 22 P **P 05 53 23.4 -0.7**
baz=241
KPKS Kokpek 81.86 315 *e*P **P 05 53 23.2 -2.3**
KPKS pmax pmax
comp=Z,36nm,1.9s
KPKS Kokpek 81.86 315 *e*P **P 05 53 23.3 -2.3**
comp=Z,36nm,1.9s,baz=315
POKR Poker Flat Res 81.87 22 P **P 05 53 23.2 -1.8**
baz=240
ILAR Eielson Array 81.90 22 P **P 05 53 23.8 -1.3**
comp=Z,8.2nm,0.8s,baz=247,slow=5.4,SNR=52
ILAR PKKPbc **PKKPbc 06 11 57.4 -1.3**
comp=Z,0.8nm,0.8s,baz=0.0,slow=1.8,SNR=7.6
ILAR LR LR 06 25 09.3
comp=Z,159nm,21.9s,baz=224,slow=32
MCARA McCarthy VSAT 81.91 26 IAmb IAmb 05 53 27.6
comp=Z,26nm,1.0s
MCARA McCarthy VSAT 81.91 26 P **P 05 53 25.4 +0.2**
baz=245
SATY Saty 81.96 314 *e*P **P 05 53 24.0 -2.0**
SATY pmax pmax
comp=Z,42nm,2.5s
SATY Saty 81.96 314 *e*P **P 05 53 24.1 -2.0**
comp=Z,42nm,2.5s,baz=314
COLD Coldfoot 82.00 19 IAmb IAmb 05 53 28.0
comp=Z,43nm,1.7s
COLD Coldfoot 82.00 19 P **P 05 53 26.2 +0.6**
baz=237
H24K Noodor Dome 82.07 21 P **P 05 53 25.0 -1.1**
baz=240,SNR=6.9
TARG Taragay, Kyrgy 82.08 313 IAmb IAmb 05 53 29.6
comp=Z,28nm,1.5s
RIDG Independent Ri 82.20 23 IAmb IAmb 05 53 28.1
comp=Z,28nm,1.2s
RIDG Independent Ri 82.20 23 P **P 05 53 26.1 -0.6**
baz=243,SNR=6.2
BARN Barnard Glacie 82.38 26 IAmb IAmb 05 53 29.8
comp=Z,17nm,0.8s
J25K Salcha River, 82.40 22 IAmb IAmb 05 53 28.9
comp=Z,30nm,1.0s
J25K Salcha River, 82.40 22 P **P 05 53 27.2 -0.7**
baz=242,SNR=29
TDK Taldyqorghan 82.43 316 *e*P **P 05 53 26.7 -1.6**
TDK pmax pmax
comp=Z,19nm,0.9s
TDK Taldyqorghan 82.43 316 *e*P **P 05 53 26.8 -1.6**
comp=Z,19nm,0.9s,baz=316
CTG Chitna Glacier 82.48 27 P **P 05 53 28.4 0.0**
baz=246,SNR=6.6
L26K Log Cabin Wild 82.48 24 P **P 05 53 28.0 -0.2**
baz=244,SNR=9.1
CTGM Chitina Glacie 82.48 27 IAmb IAmb 05 53 30.9
comp=Z,25nm,1.1s
KDJ Kajisay 82.62 313 IAmb IAmb 05 53 31.9
comp=Z,48nm,1.4s
SCRK Sand Creek 82.64 23 P **P 05 53 28.9 -0.3**
baz=244,SNR=10
SEM Semipalatinsk 82.65 322 *e*P **P 05 53 27.9 -1.7**
SEM Semipalatinsk 82.65 322 *e*P **P 05 53 28.0 -1.7**
baz=322
M27K Edge Creek, AK 82.81 25 IAmb IAmb 05 53 32.9
comp=Z,41nm,1.1s
M27K Edge Creek, AK 82.81 25 P **P 05 53 30.5 +0.4**
baz=246,SNR=18
MDOK Medeo 82.95 314 *e*P **P 05 53 29.5 -1.7**
MDOK Medeo 82.95 314 *e*P **P 05 53 29.6 -1.7**
baz=314
KSH Kashi 82.96 311 P **P 05 53 33.4 +2.1**
KSH pP pP 05 53 48.2 -0.4
KSH PP **PP 05 56 47.9 +5.2**
KSH pmax pmax
comp=Z,21nm,1.6s
KSH pmax pmax
comp=Z,410nm,5.6s
KSH LR LR
comp=Z,400nm,22.2s
TOLK Toolik Lake Re 82.97 18 P **P 05 53 31.1 +0.4**
baz=238
TNSS Tian-Shan 82.99 314 *e*P **P 05 53 30.6 -1.2**
TNSS Tian-Shan 82.99 314 *e*P **P 05 53 30.7 -1.2**
baz=314
J26L Joseph Creek 83.04 23 P **P 05 53 31.0 -0.1**
baz=244,SNR=8.8
AAA Alma-Ata 83.05 314 *e*P **P 05 53 30.6 -1.1**
AAA Alma-Ata 83.05 314 *e*P **P 05 53 30.7 -1.1**
baz=314
L27K Beaver Creek, 83.13 25 P **P 05 53 31.7 +0.1**
baz=246,SNR=16
CHKK Chushkaly 83.15 315 *e*P **P 05 53 30.9 -1.2**
CHKK Chushkaly 83.15 315 *e*P **P 05 53 31.0 -1.2**
baz=315
YUK3 Moose Creek 83.19 26 P **P 05 53 32.3 +0.1**
baz=247
ULHL Ulahol 83.33 313 P **P 05 53 34.0 +0.7**
SNR=16
KURK Kurchatov 83.73 322 *ce*P **P 05 53 34.6 -0.3**
KURK pmax pmax
comp=Z,71nm,1.3s
KURK Kurchatov 83.73 322 P **P 05 53 34.2 -0.6**
KURBB Kurchatov Arra 83.77 322 LR LR 06 30 33.5
comp=Z,158nm,20.5s,baz=103,slow=35

KURBB **Kurchatov Arra** 83.77 322 P P 05 53 34.1 -0.9
YUK4 **Talbot Arm** 83.83 27 P P 05 53 36.0 +0.6
baz=249,SNR=9.7
TKM2 **Tokmak 2** 83.94 314 P P 05 53 36.9 +0.5
SNR=20
TKM2 **Tokmak 2** 83.94 314 P P 05 53 35.9 -0.5
SIT **Sitka** 84.00 31 P P 05 53 36.2 +0.1
baz=252
NIL **Nilore** 84.03 304 P P 05 53 36.4 -0.4
NIL pmax pmax
comp=Z,122nm,1.5s
NIL **Nilore** 84.03 304 P P 05 53 36.4 -0.4
EGAK **Eagle** 84.10 23 P P 05 53 36.7 +0.3
baz=246
HYT **Haines Junctio** 84.17 27 IAmb IAmb 05 53 40.0
comp=Z,26nm,0.9s
HYT **Haines Junctio** 84.17 27 P P 05 53 37.3 +0.3
baz=250,SNR=12
KBK **Karagaybulak** 84.35 314 P P 05 53 39.1 +0.6
SNR=10
DAWY **Dawson** 84.53 24 IAmb IAmb 05 53 40.9
comp=Z,33nm,1.6s
DAWY **Dawson** 84.53 24 P P 05 53 38.8 +0.1
baz=248,SNR=10
CHMS **Chumysh** 84.56 314 P P 05 53 39.5 +0.1
SNR=12
UCH **Uchtor** 84.58 313 P P 05 53 41.2 +1.2
SNR=56
AAK **Ala-Archa** 84.67 313 P P 05 53 40.8 +0.7
SNR=18
AAK **Ala-Archa** 84.67 313 *ce*P P 05 53 40.6 +0.5
AAK pmax pmax
comp=Z,72nm,1.7s
AAK **Ala-Archa** 84.67 313 P P 05 53 40.6 +0.5
CRAG **Craig** 84.71 33 P P 05 53 40.0 +0.2
baz=254
SKAG **Skagway** 84.75 29 P P 05 53 40.5 +0.6
baz=252
USP **Ospenovka** 84.79 314 P P 05 53 41.2 +0.7
SNR=11
M30M **Minto, Yukon** 85.09 26 P P 05 53 42.3 +0.7
baz=250,SNR=5.7
J29M **Klondike Camp** 85.15 24 P P 05 53 42.3 +0.5
baz=249
AML **Almayashu** 85.16 313 P P 05 53 43.9 +1.1
SNR=82
N31M **Braeburn, Yuko** 85.18 27 IAmb IAmb 05 53 44.3
comp=Z,65nm,1.8s
N31M **Braeburn, Yuko** 85.18 27 P P 05 53 42.1 +0.1
baz=251
EKS2 **Erkin-Say** 85.20 313 P P 05 53 43.5 +0.9
SNR=27
WHY **Whitehorse** 85.33 28 P P 05 53 42.9 0.0
baz=252
QSPA **South Pole Qui** 85.36 180 P P 05 53 43.0 +0.1
QSPA LR LR 06 29 28.7
comp=Z,142nm,19.7s,baz=354,slow=34
QSPA **South Pole Qui** 85.36 180 P P 05 53 42.4 -0.6
WRAK **Wrangell Islan** 85.39 33 P P 05 53 43.3 +0.2
baz=255
I29M **Ogilvie Camp,** 85.44 23 IAmb IAmb 05 56 15.9
comp=Z,11nm,0.7s
I29M **Ogilvie Camp,** 85.44 23 P P 05 53 42.5 -0.7
baz=249,SNR=5.7
BTLS **Baital** 85.46 316 *e*P P 05 53 40.8 -2.9
BTLS pmax pmax
comp=Z,52nm,1.6s
BTLS **Baital** 85.46 316 *e*P P 05 53 40.8 -2.9
comp=Z,52nm,1.6s,baz=316
MAW **Mawson** 85.83 203 P P 05 53 45.1 0.0
comp=Z,6.7nm,0.6s,baz=109,slow=6.3,SNR=9.1
MAW LR LR 06 28 31.4
comp=Z,450nm,21.6s,baz=100,slow=33
MAW **Mawson** 85.83 203 P P 05 53 44.7 -0.4
baz=86
MAW **Mawson** 85.83 203 P P 05 53 44.1 -1.0
NRIK **Noril'sk** 85.84 341 P P 05 53 45.1 0.0
comp=Z,5.8nm,0.5s,baz=114,slow=4.4,SNR=22
NRIK LR LR 06 30 49.0
comp=Z,221nm,21.3s,baz=127,slow=35
NRIK **Noril'sk** 85.84 341 *ce*P P 05 53 44.7 -0.4
NRIK pmax pmax
comp=Z,46nm,1.5s
M31M **Drury Creek, Y** 86.03 27 IAmb IAmb 05 53 49.6
comp=Z,22nm,1.6s
M31M **Drury Creek, Y** 86.03 27 P P 05 53 46.2 0.0
baz=252,SNR=6.5
EPYK **Eagle Plains** 86.41 22 IAmb IAmb 05 54 06.9
comp=Z,34nm,1.1s
EPYK **Eagle Plains** 86.41 22 P P 05 53 48.1 0.0
baz=250,SNR=20
BBB **Bella Bella** 86.82 37 LR LR 06 25 20.9
comp=Z,192nm,21.9s,baz=274,slow=30
DZA **Taraz** 87.01 313 *e*P P 05 53 50.3 -1.2
DZA **Taraz** 87.01 313 *e*P P 05 53 50.4 -1.2
baz=313
DLBC **Dease Lake** 87.11 31 P P 05 53 52.3 +0.6
comp=Z,10.0nm,1.0s,baz=242,slow=4.2,SNR=10
DLBC LR LR 06 25 51.6
comp=Z,497nm,21.4s,baz=279,slow=31
DLBC **Dease Lake** 87.11 31 IAmb IAmb 05 53 54.5
comp=Z,14nm,1.1s
OTUK **Ortayu** 87.20 319 P P 05 53 51.2 -1.1
BRZS **Berezniki** 87.29 320 *e*P P 05 53 51.2 -1.4
BRZS **Berezniki** 87.29 320 *e*P P 05 53 51.3 -1.4
baz=320
KK31 **Karatay Array** 87.64 313 *e*P P 05 53 54.3 -0.2
KK31 **Karatay Array** 87.64 313 IAmb IAmb 05 53 55.9
comp=Z,22nm,1.4s
KKAR **Karatay Array** 87.64 313 IAmb IAmb 05 53 55.9
comp=Z,22nm,1.4s
IUG **luzhnay** 87.85 312 *e*P P 05 53 54.0 -1.6
IUG **luzhnay** 87.85 312 *e*P P 05 53 54.1 -1.6
baz=312
J01E **Myrtle Point** 88.07 47 P P 05 53 55.6 -0.9
baz=262
INK **Inuvik** 88.20 21 LR LR 06 29 33.4
comp=Z,333nm,22.0s,baz=216,slow=33
INK **Inuvik** 88.20 21 IAmb IAmb 05 54 15.9
comp=Z,18nm,1.2s
INK **Inuvik** 88.20 21 P P 05 53 56.1 -0.4
baz=253,SNR=17
I02E **Swisshome, OR** 88.26 46 P P 05 53 57.5 +0.2
baz=262
O02D **Mt. Diablo Mer** 88.52 50 P P 05 53 58.6 -0.2
baz=263
I03D **Drain, OR** 88.56 46 P P 05 53 57.7 -1.1
baz=262
TGTN **Hyland Airport** 88.66 28 P P 05 53 59.7 +0.7
baz=258
YBH **Yreka Blue Hor** 88.77 48 LR LR 06 26 19.4
comp=Z,312nm,21.9s,baz=276,slow=30
D03D **Eldon** 89.25 42 P P 05 54 02.2 +0.2
baz=262
BRVK **Borovoye** 89.27 323 *ce*P P 05 54 00.9 -1.0
BRVK pmax pmax
comp=Z,73nm,1.7s
BRVK **Borovoye** 89.27 323 P P 05 54 00.3 -1.6
J05D **Fort Rock, OR** 90.04 47 P P 05 54 06.6 +0.7
baz=264
I05D **Terrebonne, OR** 90.08 46 P P 05 54 05.9 -0.1
baz=264
PINE **Pine Mountain** 90.31 46 P P 05 54 07.4 +0.2
I07A **Izee** 91.37 46 P P 05 54 12.4 +0.4
C36M **Paulatuk** 91.78 21 IAmb IAmb 05 54 31.0
comp=Z,7.9nm,1.0s
C36M **Paulatuk** 91.78 21 P P 05 54 12.5 -0.7
baz=262
A36M **Sachs Harbour** 91.79 18 IAmb IAmb 05 54 33.2
comp=Z,8.3nm,0.9s
A36M **Sachs Harbour** 91.79 18 P P 05 54 12.2 -1.0
baz=261,SNR=8.6
NVAR **Mina Array Bea** 91.81 52 P P 05 54 14.5 +0.1
comp=Z,0.9nm,0.8s,baz=254,slow=6.2,SNR=6.8
NVAR LR LR 06 28 27.4
comp=Z,410nm,21.4s,baz=271,slow=31
CWC **Cottonwood Cre** 91.83 54 P P 05 54 14.5 0.0
baz=266
BFSC **Mount Baldy Ra** 92.01 56 P P 05 54 15.6 +0.2
baz=266
LRMC **Laurel Mtn Rad** 92.08 55 P P 05 54 16.4 +0.8
baz=266
MPMC **Manual Prospec** 92.28 54 P P 05 54 17.0 +0.4
baz=266
FURC **Furnace Creek,** 92.81 54 P P 05 54 19.4 +0.7
baz=266

MONP2 **Monument Peak** 92.95 57 P P 05 54 20.4 +0.7
baz=266
PFO **Pinyon Flats O** 92.97 57 LR LR 06 30 49.0
comp=Z,111nm,19.3s,baz=273,slow=32
PFO **Pinyon Flats O** 92.97 57 *i* P P 05 54 18.2 -1.5
PFO pmax pmax
comp=Z,37nm,4.0s
PFO **Pinyon Flats O** 92.97 57 P P 05 54 18.8 -0.9
baz=266
TPFO **Pinon Flats** 92.97 57 P P 05 54 19.0 -0.7
baz=267
BMO **Blue Mountains** 92.99 45 IAmb IAmb 05 54 21.0
comp=Z,16nm,1.7s
SHOC **Shoshone, Teco** 93.25 54 P P 05 54 21.5 +0.6
baz=267
NEW **Newport** 93.32 42 LR LR 06 29 21.7
comp=Z,207nm,21.6s,baz=278,slow=31
NEW **Newport** 93.32 42 P P 05 54 20.8 -0.1
baz=267
TPNV **Topopah Spring** 93.33 53 P P 05 54 21.4 0.0
baz=267
BELC **Belle Mtn. Jos** 93.37 56 P P 05 54 22.0 +0.4
baz=267
SWSC **Sam W. Stewart** 93.48 57 P P 05 54 22.4 +0.5
baz=267
TUQ **Turquoise Moun** 93.51 55 P P 05 54 22.5 +0.3
baz=267
GMRC **Granite Mounta** 93.69 56 P P 05 54 23.3 +0.2
baz=267
BC3 **Big Chuckawall** 93.81 57 P P 05 54 24.3 +0.8
baz=267
SYO **Syowa Base** 93.92 199 ‖ *ep*P pP 05 54 42.0 +2.0
R11A **Troy Canyon, C** 93.93 52 P P 05 54 24.3 +0.2
baz=267
IRM **Iron Mountain** 94.09 56 P P 05 54 25.4 +0.6
baz=267
ELK **Elko** 94.31 50 LR LR 06 29 58.4
comp=Z,347nm,21.2s,baz=278,slow=31
RPN **Rapa Nui** 94.73 118 LR LR 06 30 44.3
comp=Z,179nm,20.4s,baz=283,slow=31
YKA **Yellowknife Ar** 95.16 28 P P 05 54 28.8 -0.1
comp=Z,3.1nm,0.9s,baz=270,slow=4.7,SNR=39
YKA PKiKP **PKiKP** 05 59 09.8 +0.1
comp=Z,0.4nm,0.8s,baz=249,slow=1.6,SNR=5.7
YKA PKKPbc **PKKPdf** 06 11 24.4 -0.9
comp=Z,0.4nm,0.7s,baz=91,slow=2.7,SNR=11
YKA LR LR 06 33 33.5
comp=Z,298nm,20.3s,baz=289,slow=33
AB31 **Akbulak array** 95.45 319 *i* P P 05 54 28.5 -2.1
ABKAR **Akbulak array** 95.45 319 IAmb IAmb 05 54 30.1
comp=Z,20nm,1.4s
WALA **Waterton Lakes** 95.47 41 IAmb IAmb 05 54 32.9
comp=Z,14nm,1.6s
DUG **Dugway, Tooele** 96.14 50 P P 05 54 33.6 -0.5
baz=269
ARU **Arti** 96.26 326 *c* iP P 05 54 31.9 -2.2
ARU 05 58 27.6
ARU S **SKSac** 06 05 03.4 -2.0
ARU SS **SS** 06 12 19.3 -2.9
ARU pmax pmax
comp=Z,22nm,1.1s
AKTO **Aktyubinsk** 96.70 320 LR LR 06 37 25.1
comp=Z,157nm,21.7s,baz=82,slow=35
BOZ **Bozeman (W)** 97.02 45 P P 05 54 37.3 -0.7
baz=271
BELA **Belgrano 2** 97.53 178 IAmb IAmb 05 54 56.9
comp=Z,14nm,1.2s
LPIG **La Paz** 97.96 66 LR LR 06 36 28.0
comp=Z,98nm,18.0s,baz=278,slow=34
EGMT **Eagleton** 98.25 42 P Pdif 05 54 44.0 +0.6
baz=272
BW06 **Boulder Array** 98.57 48 P Pdif 05 54 45.2 +0.1
baz=272
PDAR **Piedale Array** 98.57 48 P P 05 54 45.1 -0.1
comp=Z,0.2nm,0.7s,baz=264,slow=3.0,SNR=4.6
PDAR PP **PP** 05 58 49.3 +2.9
comp=Z,1.2nm,1.0s,baz=262,slow=5.7,SNR=6.2
PDAR LR LR 06 33 29.8
comp=Z,198nm,20.5s,baz=286,slow=32
RLMT **Red Lodge** 98.70 45 P P 05 54 44.9 -0.8
baz=272
O20A **White River Ci** 99.64 50 P **Pdif** 05 54 49.6 -0.4
baz=272
TROLL **Troll, Antarti** 101.17 189 Pdiff **Pdif** 05 54 54.6 -1.4
KLMR **Klimovskoe** 105.30 332 *e*P **Pdif** 05 55 12.0 -2.3
KLMR pmax pmax
comp=Z,11nm,1.3s
KLMR **Klimovskoe** 105.30 332 *e*Pdif **Pdif** 05 55 12.0 -2.3
KLMR AMP 05 55 29.9
comp=Z,11nm,1.3s
ARCES **ARCESS Array B** 106.74 343 PKiKP **PKiKP** 05 59 30.5 0.0
comp=Z,3.4nm,0.9s,baz=98,slow=1.5,SNR=12
ECSD **EROS Data Cent** 107.85 46 P **PKiKP** 05 59 33.7 +0.3
baz=281
FINES **FINESS Array B** 110.95 336 PKiKP **PKiKP** 05 59 38.9 +0.3
comp=Z,2.0nm,0.7s,baz=27,slow=3.4,SNR=5.4
W39A **Magazine** 111.56 54 P **PKiKP** 05 59 40.1 -0.5
baz=280
MIAR **Mount Ida** 111.84 55 P **PKiKP** 05 59 40.6 -0.5
baz=280
U40A **Yellville** 112.10 53 P **PKiKP** 05 59 41.2 -0.4
baz=281
MNK **Minsk** 113.53 329 *i* P **Pdif** 05 56 03.1 +12
MNK *i* 06 00 45.2
MNK *i* PPP PPP 06 03 09.1
MNK *i* SS SS 06 16 28.8 +11
MNK pmax pmax
comp=N,20nm,0.9s
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK MLR MLR
comp=Z,190nm,23.0s
MNK MLR MLR
comp=N,125nm,14.0s
MNK MLR MLR
comp=E,57nm,28.0s
MNK **Minsk** 113.53 329 *i* P **Pdif** 05 56 03.1 +12
comp=E,1.0nm,0.8s
MNK *i* P **Pdif** 05 56 03.1 +12
comp=N,20nm,0.9s
MNK *i* P **Pdif** 05 56 03.1 +12
comp=Z,4.0nm,0.7s,baz=62
MNK *i* PP PP 06 00 45.2 +10
MNK *i* PPP PPP 06 03 09.1
MNK *i* SKS **SKSdf** 06 06 59.6 +8.9
MNK *i* PS **PKKPbc** 06 10 22.4 -7.4
MNK *i* SS SS 06 16 28.9 +11
MNK *i* SSS SSS 06 20 43.0
MNK *i* LR LR 06 40 59.4
MNK *i* LRM MLR 06 45 57.1
comp=Z,190nm,23.0s
MNK *i* LRM MLR 06 46 09.8
comp=N,125nm,14.1s
MNK *i* LRM MLR 06 46 30.3
comp=E,57nm,28.1s
FRB **Frobisher Bay** 113.78 19 PKiKP **PKiKP** 05 59 43.4 -0.5
comp=E,2.1nm,0.6s,baz=252,slow=0.7,SNR=9.5
AKASG **Malin Array Be** 114.45 325 PKP **PKiKP** 05 59 45.5 -0.1
comp=E,1.0nm,0.3s,baz=60,slow=2.4,SNR=12
AKASG PKKPbc **PKKPbc** 06 10 25.1 -1.5
comp=E,0.6nm,0.5s,baz=258,slow=3.4,SNR=4.5
BRTR **Keskin Array B** 115.32 312 PKP **PKiKP** 05 59 47.7 -0.1
comp=E,0.8nm,0.6s,baz=270,slow=33,SNR=5.3
WVT **Waverly** 116.11 52 P **PKPdf** 05 59 48.9 -0.3
baz=284
NB2 **NORSAR Subarra** 116.79 340 PKPdf **PKiKP** 05 59 50.3 +0.4
comp=Z,2.0nm,0.9s,baz=44,slow=1.9
NOA **NORSAR Array B** 116.79 340 PKP **PKPdf** 05 59 49.7 -0.2
comp=Z,2.3nm,0.7s,baz=45,slow=1.9,SNR=14
L48A **N Adams** 116.96 45 **PKiKP** 05 59 51.1 +0.4
O48B **Farmland** 116.99 47 P **PKPdf** 05 59 50.7 -0.1
baz=288
LRAL **Lakeview Retre** 117.51 55 P **PKPdf** 05 59 51.6 -0.4
baz=283
P49A **Miami Univ. Ec** 117.53 48 P **PKiKP** 05 59 52.0 0.0
baz=288
ACSO **Alum Creek Sta** 118.57 46 P **PKPdf** 05 59 53.4 -0.5
baz=290
TZTN **Tazewell** 119.32 50 P **PKPdf** 05 59 54.7 -0.7
baz=288
P52A **Corning** 119.39 47 P **PKPdf** 05 59 54.8 -0.7
baz=290
UZH **Uzhgorod** 119.40 325 *e*PKiKP PKiKP 06 00 03.2 +8.0

UZH *e* 06 00 19.6
TKL **Tuckaleechee C** 119.41 51 PKP **PKiKP** 05 59 55.8 +0.1
comp=Z,5.0nm,0.8s,baz=108,slow=3.9,SNR=4.6
SADO **Sadowa** 119.45 40 PKP **PKiKP** 05 59 55.8 +0.3
comp=Z,9.8nm,0.9s,baz=78,slow=6.5,SNR=3.9
M53A **WI Miller and** 119.77 44 P **PKPdf** 05 59 55.8 -0.4
baz=292
PLCA **Paso Flores** 119.82 143 PKP **PKiKP** 05 59 56.7 +0.2
comp=Z,5.3nm,1.1s,baz=219,slow=1.5,SNR=13
PLCA **Paso Flores** 119.82 143 **PKPdf** 05 59 55.9 -0.5
O53A **New Philadelph** 119.83 46 P **PKPdf** 05 59 55.8 -0.5
baz=291
BOSA **Boshof** 119.90 233 PKP **PKiKP** 05 59 57.2 +0.2
comp=Z,4.7nm,1.0s,baz=112,slow=3.1,SNR=5.3
P53A **Whipple** 119.98 47 **PKiKP** 05 59 56.8 +0.1
GOGA **Godfrey** 120.28 54 P **PKPdf** 05 59 56.8 -0.6
baz=286
ALN **Alexandroupoli** 120.41 315 PKiKP **PKPdf** 05 59 56.7 -0.7
ALN **Alexandroupoli** 120.41 315 PKPdf **PKPdf** 05 59 56.7 -0.7
N54A **Moraine State** 120.43 45 P **PKPdf** 05 59 57.2 -0.2
baz=293
M54A **Oil Creek Stat** 120.44 44 P **PKPdf** 05 59 57.0 -0.4
baz=293
SCHQ **Schefferville** 120.52 25 PKP **PKiKP** 05 59 57.5 +0.1
comp=Z,3.3nm,0.7s,baz=51,slow=7.8,SNR=4.5
TIGA **Tifton** 120.70 56 P **PKPdf** 05 59 58.0 -0.3
baz=285
MCWV **Mont Chateau** 121.03 46 P **PKPdf** 05 59 58.2 -0.5
baz=292
MORC **Moravsky Berou** 121.42 328 PKiKP **PKiKP** 05 59 59.8 +0.5
MORC **Moravsky Berou** 121.42 328 PKPdf **PKiKP** 05 59 59.8 +0.5
MORC **Moravsky Berou** 121.42 328 *e*PKP **PKiKP** 05 59 59.7 +0.5
MORC *e* 06 00 15.8
KMSC **Kings Mountain** 121.47 51 P **PKPdf** 05 59 58.9 -0.7
baz=288
BLA **Blacksburg** 121.48 49 P **PKPdf** 05 59 58.9 -0.7
baz=290
VTS **Vitosha** 121.63 318 PKiKP **PKPdf** 05 59 59.8 -0.1
VTS **Vitosha** 121.63 318 PKPdf **PKPdf** 05 59 59.8 -0.1
KRLC **Kraliky** 121.64 328 *e*PKiKP **PKiKP** 06 00 00.7 +1.0
KRLC *e* 06 00 16.2
KRLC **Kraliky** 121.64 328 *e*PKPdf **PKiKP** 06 00 00.7 +1.0
KRLC *ep*PKP **pPKPdf** 06 00 16.2 -1.2
OSTC **Ostas** 121.65 329 *e*PKPdf **PKiKP** 06 00 01.6 +1.9
O56A **Blue Knob Stat** 121.70 45 P **PKPdf** 05 59 59.8 -0.2
baz=294
DPC **Dobruska-Polom** 121.72 329 *e*PKiKP **PKiKP** 06 00 01.4 +1.6
DPC **Dobruska-Polom** 121.72 329 *e*PKPdf **PKiKP** 06 00 01.4 +1.6
JAVC **Velka Javorina** 121.87 327 *e*PKP **PKiKP** 06 00 01.3 +1.1
JAVC *e* 06 00 17.8
SSPA **Standing Stone** 122.02 44 P **PKPdf** 06 00 00.2 -0.3
baz=294
VRAC **Vranov** 122.19 328 *e*PKP **PKiKP** 06 00 01.3 +0.5
VRAC *e* 06 00 17.0
LONY **Lake Ozonia** 122.41 39 P **PKPdf** 06 00 01.0 -0.2
baz=300
KRUC **Moravsky** 122.44 328 *e*PKP **PKiKP** 06 00 02.2 +1.0
KRUC *e* 06 00 17.6
BRG **Berggiesshubel** 122.59 330 *e*PKP **PKiKP** 06 00 02.2 +0.7
BRG Amp 06 00 04.2
comp=Z,8.2nm,0.7s
BRG *ex* x 06 00 18.3
BRG Amp 06 00 20.5
comp=Z,17nm,1.2s
BRG **Berggiesshubel** 122.59 330 *e*PKIKP **PKiKP** 06 00 02.1 +0.7
BRG *e* 06 00 18.2
BRG pmax pmax
comp=Z,8.0nm,0.7s
BRG pmax pmax
comp=Z,17nm,1.2s
BINY **Binghamton** 122.64 42 P **PKPdf** 06 00 01.7 0.0
baz=297
CLL **Collm** 122.77 331 *i* PKIKP **PKiKP** 06 00 03.1 +1.3
CLL *i* 06 00 17.4
CLL pmax pmax
comp=Z,12nm,0.9s
CLL MLR MLR
comp=Z,300nm,21.1s
CLL **Collm** 122.77 331 *i* PKPdf **PKiKP** 06 00 03.1 +1.3
comp=Z,12nm,0.9s
CLL *i* (pPKPdf) 06 00 17.4
CLL *e*PP **PP** 06 01 42.0 +2.4
CLL *e*SKKSac SKKSac 06 08 30.0 -3.8
CLL *e*Sdif **Sdif** 06 09 24.0 -6.9
CLL *e*PS **PS** 06 11 33.0 -3.2
CLL *es*PS 06 12 00.0
CLL *e*SPP SPP 06 12 52.0
CLL *es*PPS 06 13 25.0
CLL *ex* x 06 15 18.0
CLL *es*SS 06 19 00.0
CLL *es*SSS 06 23 24.0
CLL *e*(SSSS) 06 26 54.0
CLL Lm MLR 06 55 00.0
comp=N,200nm,20.9s
CLL Lm MLR 06 55 00.0
comp=E,200nm,21.7s
CLL Lm MLR 06 55 00.0
comp=Z,300nm,21.1s
RONA **Rosalia, Austr** 123.28 326 *e*P **PKiKP** 06 00 03.7 +0.7
comp=Z,11nm,1.0s
RONA *e*P **pPKPdf** 06 00 19.5 -1.1
comp=Z,9.2nm,1.0s
N59A **State Game Lan** 123.36 43 P **PKiKP** 06 00 03.4 0.0
baz=296
CONA **Conrad Observa** 123.39 327 *e*P **PKiKP** 06 00 04.2 +0.9
comp=Z,5.7nm,0.7s
CONA *e*P **pPKPdf** 06 00 19.3 -1.6
comp=Z,20nm,1.3s
CKRC **Cesky Krumlov** 123.69 328 *e*PKPDF **PKiKP** 06 00 05.2 +1.5
CKRC *ex* x 06 00 20.2
KHC **Kasperske Hory** 123.87 329 *e*PKIKP **PKiKP** 06 00 05.1 +1.0
KHC *e* 06 00 20.5
KHC **Kasperske Hory** 123.87 329 *e*PKPDF **PKiKP** 06 00 05.1 +1.0
KHC *ep*PKP **pPKPdf** 06 00 20.5 -1.2
GERES **GERESS Array B** 123.99 329 PKP **PKiKP** 06 00 04.3 -0.1
comp=Z,4.5nm,0.6s,baz=95,slow=1.6,SNR=33
MT03 **Universidad Ad** 124.08 136 **PKiKP** 06 00 05.3 +0.2
LBNH **Lisbon** 124.24 38 P **PKiKP** 06 00 04.9 0.0
baz=302
MOA **Molln** 124.30 327 *i* P **PKPdf** 06 00 03.8 -0.8
comp=Z,5.6nm,1.0s
MOA *e*P **pPKPdf** 06 00 22.1 -0.4
comp=Z,4.9nm,0.6s
PERS **Pernice** 124.56 326 *ep*PKPdf pPKPdf 06 00 21.4 -1.8
PAL **Palisades** 124.58 42 P **PKiKP** 06 00 05.6 -0.1
baz=298
SOKA **Soboth** 124.58 326 *e*P **PKiKP** 06 00 05.8 +0.2
comp=Z,13nm,1.0s
SOKA *e*P **pPKPdf** 06 00 22.1 -1.2
comp=Z,12nm,1.2s
L61B **Northampton** 124.68 40 P **PKiKP** 06 00 06.4 +0.6
baz=300
BIOA **Bad Ischl, Aus** 124.73 328 *i* P **PKiKP** 06 00 06.0 +0.1
comp=Z,6.8nm,0.9s
BIOA *e*P **pPKPdf** 06 00 22.8 -0.6
comp=Z,4.4nm,0.6s
OBKA **Obir** 124.95 326 *i* P **PKPdf** 06 00 05.7 -0.3
comp=Z,5.0nm,0.8s
OBKA *e*P **pPKPdf** 06 00 22.1 -1.9
comp=Z,9.8nm,1.1s
LJU **Ljubljana** 125.24 326 *e*PKPdf **PKiKP** 06 00 07.9 +1.0
PKME **Peaks-Kenny Pk** 125.25 36 P **PKiKP** 06 00 07.3 +0.4
baz=305
KBA **Koelnbreinsper** 125.27 327 *i* P **PKPdf** 06 00 06.8 +0.1
comp=Z,8.4nm,1.2s
KBA *e*P **pPKPdf** 06 00 22.7 -2.0
comp=Z,11nm,1.2s
GBAS **Gorenja Brezov** 125.35 326 *e*PKPdf **PKPdf** 06 00 06.5 -0.2
GBAS *i* pPKPdf **pPKPdf** 06 00 22.9 -1.7
HRV **Adam Dziewonsk** 125.37 40 P **PKiKP** 06 00 07.4 +0.2
baz=301
MYKA **Terra Mystica** 125.38 327 *e*P **PKPdf** 06 00 06.6 -0.2
comp=Z,8.1nm,0.8s
MYKA *e*P **pPKPdf** 06 00 22.8 -2.0
comp=Z,8.0nm,1.0s
ABTA **Abfaltersbach** 125.92 327 *i* P **PKPdf** 06 00 08.0 +0.1
comp=Z,13nm,0.9s
ABTA *e*P **pPKPdf** 06 00 23.8 -2.0
comp=Z,18nm,1.1s
WATA **Walderalm** 126.05 328 *i* P **PKiKP** 06 00 08.8 +0.1
comp=Z,21nm,1.3s
WATA *e*P **pPKPdf** 06 00 24.5 -1.6
comp=Z,18nm,1.1s
WTTA **Wattenberg** 126.06 328 *e*P **PKiKP** 06 00 09.3 +0.5
comp=Z,26nm,1.0s,SNR=7.1

WTTA			*e*P	**pPKPdf**	**06 00 24.6**	**-1.6**
	comp=Z,39nm,1.4s						
MOTA	**Moosalm**	**126.29 329**	*e*P	**PKiKP**	**06 00 09.3**	**+0.2**
	comp=Z,14nm,0.7s,SNR=6.6						
MOTA			*e*P	**pPKPdf**	**06 00 25.0**	**-1.6**
	comp=Z,30nm,1.3s						
SQTA	**Sankt Quirin**	**126.31 328**	*e*P	**PKiKP**	**06 00 09.7**	**+0.5**
	comp=Z,13nm,1.0s						
SQTA			*e*P	**pPKPdf**	**06 00 25.6**	**-1.0**
	comp=Z,24nm,1.3s						
RETA	**Reutte**	**126.37 329**	*i* P	**PKiKP**	**06 00 09.5**	**+0.3**
	comp=Z,4.7nm,0.7s						
RETA			*e*P	**pPKPdf**	**06 00 25.0**	**-1.6**
	comp=Z,7.3nm,0.9s						
BTNL	**Ternell**	**126.41 334**	*d*PKiKP	**PKiKP**	**06 00 10.0**	**+0.9**
BTNL			*d*pPKP	**pPKPdf**	**06 00 25.3**	**-1.2**
MEM	**Membach**	**126.44 334**	*d*PKiKP	**PKiKP**	**06 00 10.0**	**+0.9**
MEM			*d*pPKP	**pPKPdf**	**06 00 25.8**	**-0.7**
BSTI	**Sart Tilman**	**126.65 335**	*d*PKiKP	**PKPdf**	**06 00 08.7**	**-0.3**
FETA	**Feichten**	**126.69 329**	*e*P	**PKiKP**	**06 00 10.3**	**+0.4**
	comp=Z,14nm,0.9s,SNR=6.3						
FETA			*e*P	**pPKPdf**	**06 00 26.1**	**-1.3**
	comp=Z,24nm,1.2s						
BCLA	**Clavier**	**126.89 335**	*d*pPKP	pPKPdf	06 00 27.0	-0.4
SGRT	**San Giovanni R**	**126.91 321**	PKPdf	**PKPdf**	**06 00 08.6**	**-1.4**
DAVA	**Damuels**	**126.95 329**	*e*P	**PKiKP**	**06 00 11.0**	**+0.5**
	comp=Z,12nm,0.9s						
DAVA			*e*P	**pPKPdf**	**06 00 26.5**	**-1.4**
	comp=Z,25nm,1.4s						
WLF	**Walferdange**	**127.07 334**	*d*pPKP	pPKPdf	06 00 27.4	-0.4
RCHB	**Rochefort**	**127.11 335**	*d*PKiKP	**PKiKP**	**06 00 12.3**	**+1.8**
RCHB			*d*pPKP	**pPKPdf**	**06 00 26.4**	**-1.4**
BMRD	**Maredsous**	**127.20 335**	*d*PKiKP	**PKiKP**	**06 00 12.1**	**+1.4**
DOU	**Dourbes**	**127.43 335**	*d*PKiKP	**PKiKP**	**06 00 12.3**	**+1.2**
DOU			*d*pPKP	**pPKPdf**	**06 00 28.0**	**-0.4**
TIP	**Timpagrande**	**127.57 317**	PKPdf	**PKPdf**	**06 00 10.0**	**-1.3**
TUE	**Stuetta**	**127.77 329**	PKPdf	**PKPdf**	**06 00 11.6**	**0.0**
LVC	**Limon Verde**	**130.92 125**	SKPbc	**SKPab**	**06 03 40.9**	**+2.9**
	comp=Z,3.8nm,0.8s,baz=216,slow=3.3,SNR=9.1						
PB11	**IPOC Station P**	**131.58 121**	PKPdf	**PKPdf**	**06 00 19.7**	**+0.2**
ROSC	**El Rosal**	**132.85 88**	PKP	**PKPdf**	**06 00 22.6**	**+0.3**
	comp=Z,4.2nm,0.4s,baz=15,slow=1.5,SNR=5.5						
LPAZ	**La Paz**	**134.34 118**	PKP	**PKiKP**	**06 00 26.5**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=293,slow=2.3,SNR=18						
LPAZ			SKPbc	**SKPab**	**06 03 52.1**	**-1.1**
	comp=Z,4.7nm,1.2s,baz=248,slow=2.3,SNR=6.3						
LPAZ	**La Paz**	**134.34 118**	PKPdf	**PKPdf**	**06 00 24.5**	**-0.8**
SDV	**Santo Domingo**	**136.48 82**	PKP	**PKPdf**	**06 00 29.6**	**+0.7**
	comp=Z,22nm,0.8s,baz=189,slow=0.5,SNR=31						
CPUP	**Villa Florida**	**137.48 138**	PKP	**PKPdf**	**06 00 30.9**	**+0.8**
	comp=Z,6.1nm,0.8s,baz=298,slow=1.3,SNR=12						
CPUP	**Villa Florida**	**137.48 138**	PKiKP	**PKPdf**	**06 00 31.0**	**+0.8**
BAUV	**El Baul**	**139.04 82**	PKPdf	**PKPdf**	**06 00 33.7**	**+0.3**
ESDC	**Sonseca Array**	**139.34 332**	PKP	**PKPdf**	**06 00 33.8**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=4.4,slow=2.2,SNR=5.4						
PDPR	**Patillas Dam,**	**139.59 68**		**PKPdf**	**06 00 32.7**	**-1.5**
SIV	**San Ignacio**	**140.56 122**	PKhKP	PKPpre	06 00 29.6	
	comp=Z,1.1nm,0.6s,baz=196,slow=4.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**150.43 289**	PKP	**PKPdf**	**06 00 53.0**	**+0.1**
	comp=Z,16nm,1.1s,baz=73,slow=0.2,SNR=23						
TORD			PKPbc	**PKPbc**	**06 00 57.7**	**-0.6**
	comp=Z,8.7nm,0.7s,baz=360,slow=0.7,SNR=34						
BDFB	**Brasilia**	**151.06 134**	PKP	**PKPdf**	**06 00 54.5**	**+0.5**
	comp=Z,17nm,1.1s,baz=100,slow=1.3,SNR=14						
BDFB			PKPbc	**PKiKP**	**06 01 00.3**	**-0.1**
	comp=Z,38nm,0.8s,baz=203,slow=0.8,SNR=43						
BDFB	**Brasilia**	**151.06 134**	PKiKP	**PKPdf**	**06 00 55.4**	**+1.4**
BDFB	**Brasilia**	**151.06 134**		**PKPdf**	**06 00 55.4**	**+1.4**
KOWA	**Kowa**	**155.32 295**	PKPdf	**PKPdf**	**06 00 57.6**	**-2.5**
KOWA				**pPKPdf**	**06 01 09.0**	**-9.0**
DBIC	**Dimbokro**	**157.87 276**	PKP	**PKPdf**	**06 01 03.8**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=342,slow=3.2,SNR=2.4						

IDC ***12*** *05:49:13.9±3.2, 34°.79S×178°.75W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.7/45, mbtmp4.1/4, ML4.3/1, Error ellipse: s-maj=70.6km s-min=36.7km az=123.0*

WEL ***12*** *05:49:14.8±0.8, 35°.S±8°×17°.9W±1°.7, h33km, M4.5/12, mB4.9/3, ML4.5/15, MLv4.5/12, Mw(mB)4.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=115.3*

ISC 12 05:49:12.1±1.9, **34°.8S**±0°.1×**178°.1W**±0°.2, **h28**km, **n37**, σ1§**56**/56, **mb4.1/3**, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.00**	**225**	P	**Pn**	**05 50 11.1**	**-0.4**
MXZ				S	**Sn**	**05 50 55.5**	**-2.0**
WMGZ	**Waiomatatini S**	**4.12**	**222**	P	**Pn**	**05 50 13.9**	**+0.7**
WMGZ				S	**Sn**	**05 51 00.0**	**-0.3**
PKGZ	**Pakihiroa**	**4.35**	**224**	P	**Pn**	**05 50 16.5**	**0.0**
PKGZ				S	**Sn**	**05 51 05.0**	**-1.4**
PUZ	**Puketiti**	**4.38**	**221**	P	**Pn**	**05 50 15.1**	**-1.8**
PUZ				S	**Sn**	**05 51 05.4**	**-1.6**
HAZ	**Te Kaha**	**4.44**	**227**	P	**Pn**	**05 50 18.3**	**+0.7**
HAZ				S	**Sn**	**05 51 08.4**	**+0.1**
TWGZ	**Tauwhareparae**	**4.61**	**222**	P	**Pn**	**05 50 21.0**	**+1.0**
TWGZ				S	**Sn**	**05 51 12.3**	**-0.3**
CNGZ	**Carnagh Statio**	**4.72**	**218**	P	**Pn**	**05 50 22.1**	**+0.7**
CNGZ				S	**Sn**	**05 51 15.5**	**+0.3**
TKGZ	**Te Karaka**	**4.87**	**221**	P	**Pn**	**05 50 24.0**	**+0.5**
TKGZ				S	**Sn**	**05 51 17.2**	**-1.8**
MWZ	**Matawai**	**4.97**	**224**	P	**Pn**	**05 50 25.3**	**+0.3**
MWZ				S	**Sn**	**05 51 18.2**	**-3.4**
RIGZ	**Rimuhau**	**5.12**	**219**	P	**Pn**	**05 50 27.0**	**+0.1**
RIGZ				S	**Sn**	**05 51 24.2**	**-0.9**
RAGZ	**Rawiri**	**5.15**	**223**	P	**Pn**	**05 50 28.9**	**+1.5**
RAGZ				S	**Sn**	**05 51 23.6**	**-2.4**
URZ	**Urewera**	**5.17**	**227**	Pn	**Pn**	**05 50 28.3**	**+0.7**
	14nm,0.3s,baz=4.4,slow=15,SNR=32						
URZ				S	**Sn**	**05 51 23.3**	**-3.0**
	14nm,0.3s,baz=164,slow=19,SNR=12						
URZ	**Urewera**	**5.17**	**227**	P	**Pn**	**05 50 28.3**	**+0.7**
URZ				S	**Sn**	**05 51 23.0**	**-3.3**
PRGZ	**Paritu Road**	**5.22**	**217**	P	**Pn**	**05 50 28.9**	**+0.6**
MHGZ	**Mahia Peninsul**	**5.39**	**215**	P	**Pn**	**05 50 30.1**	**-0.5**
MHGZ				S	**Sn**	**05 51 31.2**	**-0.5**
SNGZ	**Shannon Statio**	**5.39**	**221**	P	**Pn**	**05 50 32.4**	**+1.7**
SNGZ				S	**Sn**	**05 51 30.0**	**-2.0**
KNZ	**Kokohu**	**5.40**	**218**	P	**Pn**	**05 50 30.3**	**-0.4**
RTZ	**Ruatahuna**	**5.48**	**225**	P	**Pn**	**05 50 32.8**	**+0.9**
RTZ				S	**Sn**	**05 51 32.0**	**-2.1**
MUGZ	**Murupara**	**5.51**	**227**	P	**Pn**	**05 50 32.9**	**+0.5**
MUGZ				S	**Sn**	**05 51 30.7**	**-4.1**
GLKZ	**Green Lake**	**5.53**	**2**	P	**Pn**	**05 50 31.3**	**-1.2**
GLKZ				S	**Sn**	**05 51 31.6**	**-3.5**
MTHZ	**Maungataniwha**	**5.72**	**224**	P	**Pn**	**05 50 37.3**	**+2.1**
MTHZ				S	**Sn**	**05 51 38.7**	**-1.3**
NMHZ	**Naumai**	**5.91**	**222**	P	**Pn**	**05 50 39.4**	**+1.6**
BKZ	**Black Stump Fm**	**6.13**	**223**	P	**Pn**	**05 50 41.9**	**+1.0**
MCHZ	**McNeill Hill**	**6.22**	**220**	P	**Pn**	**05 50 42.9**	**+0.9**
KWHZ	**Kaweka Forest**	**6.35**	**222**	P	**Pn**	**05 50 44.2**	**+0.3**
KAHZ	**Kahuranaki**	**6.39**	**217**	P	**Pn**	**05 50 43.6**	**-0.7**
KRHZ	**Kereru**	**6.54**	**221**	P	**Pn**	**05 50 47.2**	**+0.7**
TMVZ	**Te Maari**	**6.56**	**227**	P	**Pn**	**05 50 47.7**	**+0.8**
BHHZ	**Black Hill Sta**	**6.60**	**223**	P	**Pn**	**05 50 47.9**	**+0.6**
MOVZ	**Moawhango**	**6.72**	**225**	P	**Pn**	**05 50 49.1**	**+0.1**
TSZ	**Takapari Road**	**7.05**	**220**	P	**Pn**	**05 50 52.1**	**-1.4**
DVHZ	**Dannevirke**	**7.12**	**218**	P	**Pn**	**05 50 54.1**	**-0.4**
MRZ	**Mangatainoka R**	**7.69**	**219**	P	**Pn**	**05 51 01.6**	**-0.7**
CTA	**Charters Tower**	**34.66**	**286**	P	**P**	**05 56 01.9**	**+2.6**
	1.6nm,0.5s,baz=96,slow=10,SNR=1.4						
ASAR	**Alice Springs**	**42.97**	**272**	P	**P**	**05 57 10.3**	**+1.3**
	0.6nm,0.4s,baz=116,slow=7.6,SNR=10.0						
WRA	**Warramunga Arr**	**44.35**	**277**	P	**P**	**05 57 21.2**	**+1.1**
	1.8nm,0.6s,baz=118,slow=7.6,SNR=30						
FINES	**FINESS Array B**	**149.20**	**337**	PKPbc	**PKPab**	**06 09 02.3**	**+0.7**
	0.6nm,0.4s,baz=46,slow=4.0,SNR=4.3						

DJA ***12*** *05:54:07.3±1.3, 7°.S±3°×12°.4E±°, h25km±13km, M4.5/18, mb4.9/8, mB4.8/7, MLv4.7/18, Mw(mB)4.1/7*

IDC ***12*** *05:54:09.4±2.1, 0°.34S×124°.14E, h81km±21km, mb3.7/13, mb1 3.9/16, mb1mx3.7/42, mbtmp4.1/16, Error ellipse: s-maj=15.4km s-min=13.4km az=109.0*

NEIC ***12*** *05:54:09.6±2.0, 0°.29S±0°.07×124°.14E±0°.06, h76km±8km, mb4.3/18, Error ellipse: s-maj=10.1km s-min=8.8km az=145.0*

ISC 12 05:54:09.8±0.5, **0°.28S**±0°.05×**124°.18E**±0°.05, **h88**km, **n56**, σ1§**55**/57, **mb4.2/20**, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.87**	**347**	P	**Pn**	**05 54 24.5**	**-3.5**
KMSI				S	**Sn**	**05 54 37.6**	**-3.9**
GTOI	**Gorontalo**	**1.48**	**308**	P	**Pn**	**05 54 34.4**	**-0.8**
LUWI	**Luwuk**	**1.59**	**242**	Pn	**Pn**	**05 54 36.0**	**-0.7**
LUWI	**Luwuk**	**1.59**	**242**	P	**Pn**	**05 54 34.3**	**-2.4**
LUWI				S	**Sn**	**05 54 56.0**	**-1.1**
MRSI	**Marisa**	**2.36**	**289**	P	**Pn**	**05 54 42.9**	**-3.8**
SANI	**Sanana**	**2.52**	**134**	P	Pn	05 54 43.6	-5.3
APSI	**Ampana**	**2.60**	**256**	P	**Pn**	**05 54 49.0**	**-1.0**
LBMI	**Labuha**	**3.34**	**96**	P	**Pn**	**05 54 57.3**	**-2.7**
TNTI	**Ternate**	**3.36**	**72**		**Pn**	**05 55 01.7**	**+1.5**
TNTI	**Ternate**	**3.36**	**72**	P	**Pn**	**05 54 57.4**	**-2.8**
TOLI2	**Tolitoli**	**3.67**	**292**		**Pn**	**05 55 02.8**	**-1.6**
MPSI	**Mapaga**	**4.32**	**278**	P	**Pn**	**05 55 13.8**	**+0.5**
TTSI	**Tana Toraja**	**5.15**	**238**	P	**Pn**	**05 55 22.5**	**-2.0**
	1.1nm3µm246nm,0.8s						
AAI	**Ambon**	**5.25**	**130**	P	**Pn**	**05 55 23.4**	**-2.5**
	0.5nm96nm,0.5s						
SPSI	**Sidrap Palu**	**5.72**	**230**	P	**Pn**	**05 55 31.3**	**-1.1**
	0.5nm2µm91nm,0.7s						
BNSI	**Bone**	**5.77**	**225**	P	**Pn**	**05 55 31.9**	**-1.0**
	0.4nm799nm85nm,0.6s						
BKSI	**Bulukumba**	**6.44**	**219**	P	**Pn**	**05 55 41.4**	**-0.7**
	0.3nm538nm38nm,0.5s						
KAPI	**Kappang**	**6.45**	**223**	P	**Pn**	**05 55 42.0**	**-0.2**
	4.8nm,0.3s,baz=50,slow=5.4,SNR=17						
KAPI				S	**Sn**	**05 56 52.5**	**-2.0**
	6.2nm,0.3s,baz=207,slow=21,SNR=5.9						
KAPI	**Kappang**	**6.45**	**223**		**Pn**	**05 55 41.2**	**-1.0**
SIJI	**Sorong**	**7.11**	**95**	P	**Pn**	**05 55 52.2**	**+0.9**
	6.4nm,0.3s,baz=245,slow=9.4,SNR=4.1						
SIJI				S	**Sn**	**05 57 10.3**	**-0.4**
	3.0nm,0.3s,baz=210,slow=20,SNR=1.4						
MYLDM	**Lahad Datu**	**7.85**	**314**		**Pn**	**05 56 01.9**	**+0.6**
FAKI	**Fak Fak**	**8.48**	**108**	Pn	**Pn**	**05 56 06.2**	**-3.8**
KKM	**Kota Kinabalu**	**10.13**	**308**		**Pn**	**05 56 32.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**17.76**	**175**	P	**Pn**	**05 58 10.5**	**-1.0**
	baz=14,slow=10						
FITZ	**Fitzroy Crossi**	**17.76**	**175**	IAmb	IAmb	05 58 17.8	
	comp=Z,6.6nm,1.1s						
WB0	**Warramunga Arr**	**21.80**	**153**	P	**P**	**05 58 53.3**	**-1.6**
WB0				IAmb	IAmb	05 59 15.5	
	comp=Z,9.5nm,0.9s						
WRA	**Warramunga Arr**	**21.93**	**154**	P	**P**	**05 58 54.8**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=336,slow=10,SNR=4.0						
WB2	**Warramunga Arr**	**21.93**	**154**	P	**P**	**05 58 56.6**	**+0.3**
WB2				IAmb	IAmb	05 59 02.6	
	comp=Z,7.1nm,1.1s						
WR0	**Warramunga Arr**	**22.03**	**153**	P	**P**	**05 58 56.9**	**-0.5**
COEN	**Coen**	**23.20**	**127**	P	**P**	**05 59 09.5**	**+0.1**
COEN				IAmb	IAmb	05 59 22.1	
	comp=Z,9.2nm,1.0s						
ASAR	**Alice Springs**	**25.09**	**159**	P	**P**	**05 59 26.5**	**0.0**
	comp=Z,2.6nm,0.8s,baz=343,slow=16,SNR=20						
ASAR				PcP	**PcP**	**06 03 00.1**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=351,slow=1.8,SNR=5.9						
FORT	**Forrest**	**30.55**	**173**	P	**P**	**06 00 15.0**	**-0.1**
FORT				IAmb	IAmb	06 00 30.0	
	comp=Z,13nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.01**	**308**	P	**P**	**06 00 20.0**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=147,slow=7.9,SNR=4.2						
JMN	**Monobe**	**35.04**	**14**	P	**P**	**06 00 55.6**	**+1.3**
KSRS	**Korea Array**	**37.71**	**5**	P	**P**	**06 01 18.1**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=170,slow=8.9,SNR=4.1						
MAJO	**Matsushiro**	**38.89**	**18**	P	**P**	**06 01 27.2**	**+0.4**
MJAR	**Matsushiro Arr**	**38.89**	**18**	P	**P**	**06 01 28.0**	**+1.2**
	comp=Z,12nm,0.7s,baz=178,slow=10,SNR=18						
MJAR	**Matsushiro Arr**	**38.89**	**18**	P	**P**	**06 01 27.8**	**+0.9**
MJAR				IAmb	IAmb	06 01 28.5	
	comp=Z,4.7nm,0.7s						
JMM	**Marumori**	**40.94**	**20**	P	**P**	**06 01 45.8**	**+2.0**
CAN	**Canberra**	**41.84**	**149**	P	**P**	**06 01 53.2**	**+1.9**
CAN				IAmb	IAmb	06 02 05.8	
	comp=Z,16nm,1.3s						
USRK	**Ussuriysk Ar.**	**44.83**	**8**	P	**P**	**06 02 15.9**	**+0.8**
	comp=Z,4.7nm,0.7s,baz=201,slow=9.5,SNR=7.5						
MK31	**Makanchi Array**	**59.47**	**328**	P	**P**	**06 04 03.1**	**-0.6**
MK31				IAmb	IAmb	06 04 16.5	
	comp=Z,3.0nm,1.5s						
MKAR	**Makanchi Array**	**59.47**	**328**	P	**P**	**06 04 03.4**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=119,slow=8.3,SNR=12						
PETK	**Petropavlovsk-**	**60.09**	**23**	P	**P**	**06 04 08.6**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=204,slow=5.7,SNR=4.1						
PETK	**Petropavlovsk-**	**60.09**	**23**	P	**P**	**06 04 08.4**	**+0.7**
ZALV	**Zalesovo Beam**	**63.06**	**335**	P	**P**	**06 04 27.4**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=112,slow=6.9,SNR=3.0						
KURK	**Kurchatov**	**63.81**	**330**	P	**P**	**06 04 32.0**	**-0.7**
KURK				IAmb	IAmb	06 04 34.9	
	comp=Z,3.8nm,0.7s						
NRIK	**Noril'sk**	**73.72**	**347**	P	**P**	**06 05 34.2**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=90,slow=5.5,SNR=4.9						
NRIK	**Noril'sk**	**73.72**	**347**	IAmb	IAmb	06 05 37.2	
	comp=Z,3.4nm,0.8s						
VNDA	**Vanda**	**79.81**	**172**	P	**P**	**06 06 08.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=327,slow=9.2,SNR=2.3						
VNDA	**Vanda**	**79.81**	**172**	P	**P**	**06 06 08.8**	**+0.8**
ILAR	**Eielson Array**	**89.80**	**25**	P	**P**	**06 06 58.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=252,slow=5.2,SNR=6.8						
INK	**Inuvik**	**94.80**	**21**	P	**P**	**06 07 22.1**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=301,slow=4.4,SNR=10						
INK	**Inuvik**	**94.80**	**21**	IAmb	IAmb	06 07 28.0	
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**121.62**	**285**	PKP	**PKiKP**	**06 12 54.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=40,slow=3.1,SNR=4.2						
SCHQ	**Schefferville**	**124.88**	**8**	PKP	**PKiKP**	**06 12 59.8**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=50,slow=2.7,SNR=7.1						

IDC ***12*** *06:08:19.5±1.3, 13°.89S×170°.29E, h617km±16km, mb3.5/16, mb1 3.8/18, mb1mx3.6/35, mbtmp4.4/18, Error ellipse: s-maj=20.1km s-min=12.2km az=149.0*

NEIC ***12*** *06:08:20.2±1.5, 13°.9S±0°.1×170°.3E±0°.1, h621km±7km, mb4.3/67, Error ellipse: s-maj=17.8km s-min=16.4km az=121.0*

ISC 12 06:08:21.5±0.4, **14°.03S**±0°.07×**170°.23E**±0°.08, **h650**km, **n112**, σ1§**46**/106, **mb4.2**/49, **Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.25**	**244**	P	**P**	**06 09 43.0**	**-3.2**
SANVU					**S**	**06 10 50.2**	**-4.9**
LIFNC	**LIFOU**	**7.29**	**203**	P	**P**	**06 10 14.3**	**-2.0**
MARNC	**Mare, Loyalty**	**7.70**	**195**	P	**P**	**06 10 17.4**	**-2.4**
MSVF	**Nonsavu**	**8.38**	**117**	P	**P**	**06 10 24.4**	**-1.8**
	2.2nm,0.3s,baz=246,slow=9.4,SNR=7.7						
MSVF	**Nonsavu**	**8.38**	**117**	P	**P**	**06 10 23.6**	**-2.6**
YATNC	**Mamie plateau,**	**8.59**	**201**	P	**P**	**06 10 26.7**	**-1.3**
KOUNC	**Koumac, New Ca**	**8.61**	**220**	P	**P**	**06 10 27.5**	**-0.8**
DZM	**Mont Dzumac**	**8.77**	**204**	P	**P**	**06 10 29.3**	**-0.5**
	2.1nm,0.3s,baz=250,slow=20,SNR=20						
DZM	**Mont Dzumac**	**8.77**	**204**	P	**P**	**06 10 28.7**	**-1.1**
DZM	**Mont Dzumac**	**8.77**	**204**	P	**P**	**06 10 29.2**	**-0.5**
PINNC	**Pines Island,**	**8.94**	**197**	P	**P**	**06 10 29.8**	**-1.3**
OUENC	**Ouen Island, N**	**8.94**	**201**	P	**P**	**06 10 30.6**	**-0.6**
OUENC	**Ouen Island, N**	**8.94**	**201**	P	**P**	**06 10 31.0**	**-0.3**
ONTNC	**Ouen Toro**	**8.98**	**203**	P	**P**	**06 10 31.0**	**-0.7**
ONTNC	**Ouen Toro**	**8.98**	**203**	P	**P**	**06 10 31.3**	**-0.3**
EIDS	**Eidsvold**	**21.23**	**235**	P	**P**	**06 12 24.6**	**+0.4**
EIDS				IAmb	IAmb	06 12 41.2	
	comp=Z,8.0nm,0.7s						
ARMA	**Armidale**	**23.66**	**223**	P	**P**	**06 12 47.0**	**+1.3**
ARMA				IAmb	IAmb	06 12 47.4	
	comp=Z,9.4nm,0.9s						
URZ	**Urewera**	**24.89**	**167**	P	**P**	**06 12 55.5**	**-0.9**
MLZ	**Mavora Lakes**	**31.29**	**183**	P	**P**	**06 13 51.7**	**+0.2**
STKA	**Stephens Creek**	**31.64**	**231**	P	**P**	**06 13 55.2**	**+0.5**
	comp=Z,4.3nm,0.5s,baz=59,slow=7.4,SNR=11						
STKA				PcP	**PcP**	**06 16 27.1**	**+1.3**
	comp=Z,2.1nm,0.5s,baz=97,slow=4.3,SNR=4.3						
STKA	**Stephens Creek**	**31.64**	**231**	P	**P**	**06 13 55.6**	**+1.0**
TOO	**Toolangi**	**32.15**	**219**	P	**P**	**06 14 00.1**	**+1.2**
WR0	**Warramunga Arr**	**34.59**	**255**	P	**P**	**06 14 19.0**	**-0.4**
WR0				IAmb	IAmb	06 14 24.3	
	comp=Z,8.1nm,1.3s						
WB0	**Warramunga Arr**	**34.71**	**256**	P	**P**	**06 14 20.5**	**+0.1**
WB2	**Warramunga Arr**	**34.76**	**255**	P	**P**	**06 14 20.7**	**-0.2**
WB2				IAmb	IAmb	06 14 21.5	
	comp=Z,5.1nm,0.8s						
WRA	**Warramunga Arr**	**34.77**	**255**	P	**P**	**06 14 20.9**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=83,slow=7.3,SNR=72						
WRA				PcP	**PcP**	**06 16 36.1**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=86,slow=3.1,SNR=11						
WRA				S	**S**	**06 19 05.8**	**-2.3**
	comp=Z,1.2nm,0.9s,baz=88,slow=14,SNR=5.7						
WRA	**Warramunga Arr**	**34.77**	**255**	IAmb	IAmb	06 14 21.5	
	comp=Z,0.3nm,0.9s						
AS31	**Alice Springs**	**35.59**	**249**	P	**P**	**06 14 28.2**	**+0.4**
ASAR	**Alice Springs**	**35.60**	**249**	P	**P**	**06 14 28.1**	**+0.3**
	comp=Z,6.5nm,0.8s,baz=75,slow=9.3,SNR=40						
ASAR				PcP	**PcP**	**06 16 38.5**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=90,slow=2.6,SNR=16						
ASAR				S	**S**	**06 19 19.2**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=79,slow=16,SNR=16						
ASAR				ScP	**ScP**	**06 19 26.9**	**+3.7**
	comp=Z,1.2nm,0.6s,baz=89,slow=3.8,SNR=6.9						
ASAR	**Alice Springs**	**35.60**	**249**	P	**P**	**06 14 27.9**	**+0.2**
BBOO	**Buckleboo**	**36.28**	**233**	P	**P**	**06 14 33.7**	**+0.5**
KNRA	**Kununurra**	**40.07**	**262**	P	**P**	**06 15 04.1**	**+0.3**
FORT	**Forrest**	**42.12**	**239**	P	**P**	**06 15 20.4**	**+0.7**
FORT				IAmb	IAmb	06 15 31.7	
	comp=Z,10nm,0.8s						
FITZ	**Fitzroy Crossi**	**42.96**	**258**	P	**P**	**06 15 27.2**	**+0.8**
PSA00	**Pilbara Seismi**	**48.38**	**254**	P	**P**	**06 16 07.9**	**+0.7**
PSA00				IAmb	IAmb	06 16 08.9	
	comp=Z,13nm,0.8s						
TOLI2	**Tolitoli**	**51.22**	**283**	P	**P**	**06 16 26.9**	**-1.1**
TOLI2				IAmb	IAmb	06 16 28.8	
	comp=Z,16nm,0.8s						
NWAO	**Narrogin (SRO)**	**51.56**	**239**	P	**P**	**06 16 30.3**	**+0.1**
NWAO				IAmb	IAmb	06 16 38.2	
	comp=Z,27nm,1.5s						
MORW	**Morawa**	**52.15**	**244**	P	**P**	**06 16 34.8**	**+0.3**
MORW				IAmb	IAmb	06 16 54.7	
	comp=Z,10nm,1.2s						
MYLDM	**Lahad Datu**	**54.75**	**287**	P	**P**	**06 16 54.5**	**+1.6**
MYLDM				IAmb	IAmb	06 16 56.8	
	comp=Z,15nm,1.0s						
JAGI	**Jajag, Banyuwa**	**55.17**	**269**	P	**P**	**06 16 55.1**	**-0.7**
UGM	**Wanagama**	**58.80**	**269**	P	**P**	**06 17 20.8**	**+0.4**
JSD	**Sado**	**59.84**	**331**	P	**P**	**06 17 27.1**	**+0.4**
JSD				IAmb	IAmb	06 17 39.3	
	comp=Z,22nm,1.0s						
SSLB	**Suanglung**	**61.09**	**308**	P	**P**	**06 17 34.1**	**-1.2**
SSLB				IAmb	IAmb	06 17 35.4	
	comp=Z,13nm,0.5s						
JTU	**Tsushima**	**61.94**	**322**	P	**P**	**06 17 39.2**	**-1.3**
XMIS	**Christmas Isla**	**63.04**	**265**	P	**P**	**06 17 49.0**	**+1.0**
VNDA	**Vanda**	**63.64**	**182**	P	**P**	**06 17 52.0**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=351

comp=Z,7.6nm,1.0s
RETA Reutte 142.51 337 *i* P **PKPdf 06 26 40.5 -1.9**
comp=Z,6.4nm,0.7s
SQTA Sankt Quirin 142.56 336 *i* P **PKPdf 06 26 40.6 -1.9**
comp=Z,8.2nm,0.7s
FETA Feichten 142.91 337 *i* P **PKPdf 06 26 42.2 -1.0**
comp=Z,8.0nm,0.6s
DAVA Damuels 143.01 338 *i* P **PKPdf 06 26 42.5 -0.8**
comp=Z,13nm,0.6s
ITM Ithomi 143.56 315 PKPbc 06 26 43.2 -0.4
TUE Stuetta 143.89 337 **PKPdf 06 26 45.0 0.0**
SGRT San Giovanni R 144.60 326 PKPdf PKPbc 06 26 46.5 -0.2
SENIN Lac Senin/Sane 144.71 339 PKPdf **PKPdf 06 26 46.5 +0.1**
TORD Torodi Ar. Bea 168.81 267 PKP **PKPdf 06 27 16.8 +0.2**
comp=Z,1.1nm,0.8s,baz=14,slow=0.7,SNR=7.9

MOS ***12*** *06:24:20.4±0.8, 44°.55N×143°.52E, h103km, mb4.2/1, Error ellipse: s-maj=21.4km s-min=15.5km az=126.3*
JMA ***12*** *06:24:21.9±0.2, 43°.53N×143°.45E, h186km±2km, M3.2*
SKHL ***12*** *06:24:21.4±0.4, 43°.60N×143°.50E, h175km±4km, mb4.3/3, msha5.2/3*
IDC ***12*** *06:24:21.9±1.0, 43°.58N×143°.49E, h187km±5km, mb3.2/11, mb1 3.3/12, mb1mx3.1/50, mbtmp3.7/12, Error ellipse: s-maj=19.9km s-min=16.0km az=167.0*
ISC 12 06:24:21.5±0.7, 43°.53N±0°.06×143°.55E±0°.04, h187km±5km, n45, σ0s61/58, mb3.4/11, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.28**	**146**	P			**Pn**	**06 24 47.1**	**+0.7**
JAR				*e*S			**Sn**	**06 25 05.8**	**+0.2**
JMP	**Maruseppu**	**0.49**	**344**	P			**Pn**	**06 24 47.3**	**+0.2**
JMP				*e*S			**Sn**	**06 25 06.4**	**-0.6**
JTKR	**Abashiri--Toko**	**0.51**	**30**	P			**Pn**	**06 24 47.7**	**+0.6**
JTKR				*e*S			**Sn**	**06 25 06.9**	**-0.1**
JOB	**Onbets**	**0.66**	**162**	P			**Pn**	**06 24 48.5**	**+0.7**
JOB				*e*S			**Sn**	**06 25 08.7**	**+0.6**
JKK2	**Kamakawa 2**	**0.67**	**301**	P			**Pn**	**06 24 48.1**	**+0.2**
JKK2				*e*S			**Sn**	**06 25 07.7**	**-0.6**
JFR	**Furan**	**0.79**	**242**	P			**Pn**	**06 24 48.9**	**+0.3**
JFR				*e*S			**Sn**	**06 25 09.0**	**-0.4**
JKA	**Kamikawa-asahi**	**0.90**	**311**	*e*P			**Pn**	**06 24 49.6**	**+0.4**
JKA				*e*S			**Sn**	**06 25 10.8**	**+0.1**
ASAJ	**Asahikawa**	**0.90**	**311**	P			**Pn**	**06 24 49.5**	**+0.3**
	47nm,0.3s,baz=221,slow=4.9,SNR=152								
ASAJ				S			**Sn**	**06 25 10.8**	**0.0**
	1.7nm,0.3s,baz=81,slow=19,SNR=2.5								
ASAJ	**Asahikawa**	**0.90**	**311**	P			**Pn**	**06 24 49.5**	**+0.3**
ASAJ				*e*S			**Sn**	**06 25 10.4**	**-0.3**
JCH	**Churui**	**0.93**	**189**	P			**Pn**	**06 24 49.3**	**-0.1**
JCH				*e*S			**Sn**	**06 25 09.5**	**-1.5**
JAK	**Akkeshi**	**0.99**	**122**	P			**Pn**	**06 24 50.3**	**+0.5**
JAK				*e*S			**Sn**	**06 25 11.8**	**+0.1**
AKK	**Akkeshi**	**1.07**	**118**	*e*P			**Pn**	**06 24 50.9**	**+0.5**
AKK				*e*S			**Sn**	**06 25 12.8**	**0.0**
JNBK	**Urakawa-nobuka**	**1.38**	**205**	P			**Pn**	**06 24 52.9**	**-0.1**
JNBK				*e*S			**Sn**	**06 25 16.1**	**-1.2**
JSS	**Shosan**	**1.50**	**306**	P			**Pn**	**06 24 54.1**	**+0.1**
JSE	**Soyaes**	**1.59**	**334**	P			**Pn**	**06 24 54.5**	**-0.3**
NMR	**Nemuro--Hokkai**	**1.59**	**95**	*e*PN			**Pn**	**06 24 55.0**	**+0.1**
NMR				*e*S			**Sn**	**06 25 19.5**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.59**	**95**	*e*P			**Pn**	**06 24 55.3**	**+0.4**
NMR				AMB			AMB	06 24 55.5	
	30nm,0.2s								
NMR				*e*S			**Sn**	**06 25 20.4**	**-0.3**
NMR				A			A	06 25 25.2	
	320nm,0.2s								
NEM2	**Nemuro 2**	**1.60**	**95**	P			**Pn**	**06 24 55.3**	**+0.3**
NEM2				*e*S			**Sn**	**06 25 20.2**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**1.75**	**73**	*e*P			**Pn**	**06 24 56.3**	**-0.1**
YUK				AMB			AMB	06 24 58.0	
	70nm,0.2s								
YUK				*e*S			**Sn**	**06 25 22.9**	**-0.6**
YUK				A			A	06 25 26.7	
	560nm,0.8s								
YUK				A			A	06 25 26.7	
	360nm,0.8s								
JWK2	**Keihoku**	**2.14**	**327**	P			**Pn**	**06 25 00.6**	**+0.1**
SHO	**Shikotan**	**2.40**	**81**	*d i* PN			**Pn**	**06 25 03.7**	**+0.3**
SHO				*i* S			**Sn**	**06 25 34.9**	**-1.1**
SHO				pmax		pmax			
	comp=N,7.0nm,0.3s								
SHO				pmax		pmax			
	comp=E,14nm,0.3s								
SHO				pmax		pmax			
	comp=Z,22nm,0.3s								
SHO				smax		smax			
	comp=N,269nm,0.2s								
SHO				smax		smax			
	comp=E,153nm,0.3s								
SHO	**Shikotan**	**2.40**	**81**	*i* P			**Pn**	**06 25 03.9**	**+0.5**
SHO				AMB			AMB	06 25 04.1	
	comp=E,20nm,0.3s								
SHO				*i* S			**Sn**	**06 25 34.9**	**-1.1**
SHO				A			A	06 25 36.3	
	comp=E,270nm,0.3s								
SHO				A			A	06 25 36.3	
	comp=E,150nm,0.3s								
KLR	**Kul'dur**	**9.94**	**309**	P			**Pn**	**06 26 38.8**	**-1.2**
	comp=E,0.2nm,0.3s,baz=112,slow=13,SNR=4.7								
SONM	**Songino Array**	**26.14**	**293**	P			**P**	**06 29 39.4**	**+1.1**
	comp=E,2.4nm,0.6s,baz=83,slow=8.7,SNR=7.4								
H11N2	**WAKE ISLAND Hy**	**30.76**	**133**	T			T	07 02 03.9	
	baz=328,slow=75,SNR=5.1								
H11N1	**WAKE ISLAND Hy**	**30.77**	**133**	T			T	07 02 04.6	
	baz=328,slow=75,SNR=4.6								
H11N3	**WAKE ISLAND Hy**	**30.77**	**133**	T			T	07 02 05.2	
	baz=328,slow=75,SNR=7.6								
H11S1	**WAKE ISLAND Hy**	**31.67**	**135**	T			T	07 03 14.5	
	baz=329,slow=75,SNR=6.3								
H11S3	**WAKE ISLAND Hy**	**31.67**	**135**	T			T	07 03 13.9	
	baz=329,slow=75,SNR=6.8								
H11S2	**WAKE ISLAND Hy**	**31.68**	**135**	T			T	07 03 15.1	
	baz=329,slow=75,SNR=5.1								
ZALV	**Zalesovo Beam**	**39.04**	**307**	P			**P**	**06 31 29.6**	**-0.1**
	comp=E,0.4nm,0.3s,baz=82,slow=8.4,SNR=2.5								
MKAR	**Makanchi Array**	**42.36**	**297**	P			**P**	**06 31 56.4**	**-0.7**
	comp=E,0.6nm,0.5s,baz=83,slow=9.1,SNR=7.5								
ILAR	**Eielson Array**	**43.20**	**36**	P			**P**	**06 32 04.0**	**+0.5**
	comp=E,0.6nm,0.9s,baz=259,slow=6.3,SNR=5.4								
ILAR	**Eielson Array**	**43.20**	**36**	P			**P**	**06 32 04.0**	**+0.5**
KURK	**Kurchatov**	**43.47**	**303**	P			**P**	**06 32 05.9**	**+0.1**
KURK	**Kurchatov**	**43.47**	**303**	*e*P			**P**	**06 32 05.9**	**+0.1**
KURBB	**Kurchatov Arra**	**43.55**	**303**	P			**P**	**06 32 05.9**	**-0.6**
	comp=E,1.2nm,0.4s,baz=73,slow=8.9,SNR=10.0								
BVAR	**Borovoye Array**	**47.61**	**308**	P			**P**	**06 32 38.2**	**-0.1**
	comp=E,1.3nm,0.5s								
INK	**Inuvik**	**47.90**	**30**	P			**P**	**06 32 40.4**	**+0.2**
	comp=E,0.3nm,0.3s,baz=295,slow=5.6,SNR=8.7								
YKA	**Yellowknife Ar**	**57.41**	**293**	P			**P**	**06 33 50.2**	**+0.2**
	comp=E,0.2nm,0.4s,baz=302,slow=6.5,SNR=8.8								
WRA	**Warramunga Arr**	**63.73**	**190**	P			**P**	**06 34 33.0**	**-0.1**
	comp=E,0.2nm,0.5s,baz=6.2,slow=6.7,SNR=1.9								
WRA	**Warramunga Arr**	**63.73**	**190**	P			**P**	**06 34 33.0**	**-0.1**
FINES	**FINESS Array B**	**63.85**	**332**	P			**P**	**06 34 32.7**	**-0.8**
	comp=E,1.1nm,0.7s,baz=53,slow=9.2,SNR=2.7								
ASAR	**Alice Springs**	**67.45**	**190**	P			**P**	**06 34 58.0**	**+1.0**
	comp=E,0.1nm,0.3s,baz=336,slow=4.1,SNR=2.4								
ASAR	**Alice Springs**	**67.45**	**190**	P			**P**	**06 34 58.0**	**+1.0**

IDC ***12*** *06:28:20.3±3.3, 60°.70S×26°.85W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/17, mbtmp4.0/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/45, Error ellipse: s-maj=107.6km s-min=44.7km az=3.0*
ISC 12 06:28:23.1±0.9, 60°.7S±0°.2×27°.0W±0°.3, h19km, n9, σ0s50/9, mb4.0/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.52**	**150**	P			**Pn**	**06 31 20.1**	**+0.2**
VNA3	**Neumayer Olymp**	**12.62**	**154**	P			**Pn**	**06 31 21.2**	**-0.1**
VNA2	**Neumayer--Watz**	**12.91**	**150**	P			**Pn**	**06 31 25.3**	**0.0**
	baz=311,slow=14								
SNAA	**Sanae**	**14.52**	**149**	P			**Pn**	**06 31 47.7**	**+0.4**
CPUP	**Villa Florida**	**40.11**	**315**	P			**P**	**06 35 57.5**	**+0.2**
	1.3nm,0.7s,baz=147,slow=9.2,SNR=4.0								
CPUP				LR			LR	06 51 36.8	
	comp=Z,81nm,21.8s,baz=238,slow=35								
LPAZ	**La Paz**	**53.26**	**308**	P			**P**	**06 37 41.4**	**+0.3**
	1.1nm,0.5s,baz=153,slow=9.0,SNR=11								
TORD	**Torodi Ar. Bea**	**77.10**	**29**	P			**P**	**06 40 14.9**	**+0.1**
	0.9nm,0.5s,baz=186,slow=6.6,SNR=7.2								
YKA	**Yellowknife Ar**	**139.63**	**314**	PKP			**PKiKP**	**06 47 49.1**	**-1.0**
	0.2nm,0.6s,baz=131,slow=2.2,SNR=8.2								
INK	**Inuvik**	**149.37**	**316**	PKPbc			**PKPbc**	**06 48 08.5**	**-0.4**
	0.5nm,0.6s,baz=82,slow=1.5,SNR=7.4								

IDC ***12*** *06:38:26.8±3.3, 54°.49N×87°.31E, h0km, mb1 2.9/2, mb1mx2.8/61, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=26.8km s-min=19.6km az=54.0*
NNC 12 06:38:27.0±1.4, 54°.59N×86°.93E, h0km, mb3.1, mpv2.9, 10C-2D, Error ellipse: s-maj=15.6km s-min=8.1km az=165.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**243**	*i*				06 46 40.0	
	baz=73,slow=335,SNR=3.2								
ZAA0	**Zalesovo Array**	**1.40**	**243**	⇑P			**Pn**	06 38 52.8	-0.9
	0.3nm,0.2s								
ZAA0				⇑S			Sg	06 39 11.9	+0.1
	1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**1.40**	**243**	Pg			**Pn**	06 38 53.4	-0.3
	1.7nm,0.3s,baz=65,slow=16,SNR=15								
ZALV				Lg			Lg	06 39 16.8	
	1.6nm,0.3s,baz=75,slow=30,SNR=4.7								
KURK	**Kurchatov**	**6.37**	**236**	⇑Pn			**Pn**	06 40 03.2	+1.2
	2.1nm,1.1s								
KURK				⇑Lg			Lg	06 41 48.6	
	3.9nm,1.0s								
KURBB	**Kurchatov Arra**	**6.48**	**236**	Pn			**Pn**	06 40 05.4	+1.9
	0.1nm,0.3s,baz=54,slow=13,SNR=8.7								
KURBB				Lg			Lg	06 41 56.1	
	0.0nm,0.3s,baz=58,slow=33,SNR=4.6								
KURBB	**Kurchatov Arra**	**6.48**	**236**	⇓Pn			**Pn**	06 40 03.1	-0.4
	2.1nm,0.8s								
KURBB				⇑Sn			Sn	06 41 19.9	+1.9
	3.2nm,0.6s								
KURBB				⇓Lg			Lg	06 41 55.4	
	4.0nm,0.9s								
MK31	**Makanchi Array**	**8.34**	**203**	⇑Pn			**Pn**	06 40 30.1	+0.9
	0.1nm,0.2s,baz=25,slow=14,SNR=8.0								
MK31				⇑Sn			Sn	06 42 05.7	+1.6
	0.4nm,0.6s,baz=27,slow=15,SNR=4.3								
MK31				⇑Lg			Lg	06 42 51.7	
	2.3nm,1.0s,baz=57,slow=2.9,SNR=3.7								
MKAR	**Makanchi Array**	**8.34**	**203**	Pn			**Pn**	06 40 30.0	+0.8
	0.1nm,0.3s,baz=24,slow=14,SNR=2.4								
MKAR				Sn			Sn	06 42 03.8	-0.3
	0.1nm,0.3s,baz=17,slow=24,SNR=3.8								
MKAR				Lg			Lg	06 42 52.6	
	0.0nm,0.3s,baz=21,slow=29,SNR=3.7								
MAKZ	**Makanchi**	**8.40**	**204**	⇑Pn			**Pn**	06 40 28.1	-1.9
	0.7nm,0.6s								
MAKZ				⇑Lg			Lg	06 42 53.5	
	3.9nm,1.2s								

NOU ***12*** *06:47:31.8, 41°.14S×175°.86E, h66km, MLv3.7/7, North Island, New Zealand*
WEL ***12*** *06:47:33.8, 41°.5±2°.×17°.5E±°, h23km±3km, M3.4/23, ML3.8/23, MLv3.4/23, Error ellipse: s-maj=0.0km s-min=0.0km az=111.7*
ISC 12 06:47:33.6±1.0, 40°.95S±0°.03×175°.54E±0°.03, h26km±6km, n105, σ1s14/110, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOWZ	**Holdsworth Sta**	**0.05**	**336**	P			**Pb**	**06 47 38.4**	**+0.2**
HOWZ				S			**Sb**	**06 47 41.5**	**+0.3**
MTW	**Mount Morrison**	**0.21**	**189**	P			**Pb**	**06 47 40.7**	**+1.2**
MRZ	**Mangatainoka R**	**0.29**	**5**	P			**Pb**	**06 47 40.3**	**-0.2**
MRZ				S			**Sb**	**06 47 44.8**	**-0.5**
TMWZ	**Te Maipa**	**0.31**	**121**	P			**Pn**	**06 47 42.8**	**+0.4**
TMWZ				S			**Sn**	**06 47 49.7**	**+1.5**
TIWZ	**Tintock**	**0.31**	**57**	P			**Pb**	**06 47 41.7**	**+0.8**
OGWZ	**Otaki Gorge**	**0.31**	**295**	P			**Pb**	**06 47 40.4**	**-0.5**
OGWZ				S			**Sb**	**06 47 44.7**	**-1.1**
CAW	**Cannon Point**	**0.40**	**246**	P			**Pb**	**06 47 42.3**	**+0.1**
PAWZ	**Paruwai Farm**	**0.44**	**191**	P			**Pb**	**06 47 44.3**	**0.0**
TRWZ	**Traveller**	**0.46**	**167**	P			**Pn**	**06 47 45.0**	**+0.2**
KIW	**Kapiti Island**	**0.49**	**280**	P			**Pb**	**06 47 43.3**	**-0.4**
KIW				S			**Sb**	**06 47 49.7**	**-0.8**
CPWZ	**Castlepoint**	**0.50**	**86**	P			**Pn**	**06 47 45.8**	**+0.8**
PRWZ	**Pori Road**	**0.51**	**40**	P			**Pb**	**06 47 44.7**	**+0.7**
MSWZ	**Moikau Station**	**0.52**	**205**	P			**Pb**	**06 47 45.2**	**+1.0**
POWZ	**Post Office Ro**	**0.58**	**17**	P			**Pb**	**06 47 45.0**	**-0.2**
BFZ	**Birch Farm**	**0.59**	**64**	P			**Pb**	**06 47 46.3**	**+0.8**
BFZ	**Birch Farm**	**0.59**	**64**	P			**Pb**	**06 47 46.7**	**+1.3**
PLWZ	**Palliser**	**0.66**	**199**	P			**Pb**	**06 47 47.1**	**+0.5**
WEL	**Wellington**	**0.68**	**240**	P			**Pb**	**06 47 47.0**	**+0.2**
BHW	**Baring Head**	**0.69**	**228**	P			**Pb**	**06 47 47.2**	**+0.2**
SNZO	**South Karori**	**0.73**	**240**	P			**Pb**	**06 47 48.1**	**+0.4**
OHWZ	**Ohakea**	**0.76**	**347**	P			**Pb**	**06 47 48.2**	**0.0**
DVHZ	**Dannevirke**	**0.80**	**36**	P			**Pb**	**06 47 49.0**	**+0.1**
ANWZ	**Angora Road**	**0.86**	**56**	P			**Pb**	**06 47 49.8**	**-0.1**
TSZ	**Takapari Road**	**0.94**	**20**	P			**Pb**	**06 47 50.1**	**-0.4**
TCW	**Tory Channel**	**0.99**	**254**	P			**Pn**	**06 47 51.5**	**-0.3**
PRHZ	**Porangahau**	**1.07**	**51**	P			**Pn**	**06 47 52.6**	**-0.4**
WPHZ	**Waipukurau**	**1.12**	**38**	P			**Pn**	**06 47 53.6**	**+0.1**
PNHZ	**Pukenui**	**1.15**	**26**	P			**Pn**	**06 47 53.9**	**-0.1**
DUWZ	**D'Urville Isla**	**1.24**	**276**	P			**Pn**	**06 47 55.2**	**0.0**
WAZ	**Wanganui**	**1.27**	**340**	P			**Pn**	**06 47 56.5**	**+0.9**
CMWZ	**Cape Campbell**	**1.28**	**231**	P			**Pb**	**06 48 00.3**	**+3.3**
TUWZ	**Tuamarina**	**1.30**	**248**	P			**Pn**	**06 47 55.4**	**-0.7**
KRHZ	**Kereru**	**1.45**	**26**	P			**Pn**	**06 47 57.7**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.47**	**238**	P			**Pn**	**06 47 58.0**	**-0.5**
BHHZ	**Black Hill Sta**	**1.51**	**15**	P			**Pn**	**06 47 59.1**	**+0.1**
KAHZ	**Kahuranaki**	**1.54**	**42**	P			**Pn**	**06 47 58.7**	**-0.6**
MOVZ	**Moawhango**	**1.55**	**6**	P			**Pn**	**06 47 59.5**	**0.0**
MTVZ	**Mangateitei**	**1.56**	**358**	P			**Pn**	**06 48 00.7**	**+0.9**
WNVZ	**Wahianoa**	**1.62**	**1**	P			**Pn**	**06 48 01.0**	**+0.4**
TRVZ	**Turoa**	**1.65**	**0**	P			**Pn**	**06 48 01.7**	**+0.7**
NNZ	**Nelson**	**1.66**	**260**	P			**Pn**	**06 48 00.9**	**0.0**
KWHZ	**Kaweka Forest**	**1.66**	**24**	P			**Pn**	**06 48 00.4**	**-0.5**
PKVZ	**Pokaka**	**1.66**	**355**	P			**Pn**	**06 48 02.2**	**+1.1**
WHVZ	**Whangaehu Hut**	**1.66**	**1**	P			**Pn**	**06 48 01.9**	**+0.6**
TUVZ	**Tukino**	**1.68**	**3**	P			**Pn**	**06 48 01.9**	**+0.5**
FWVZ	**Far West T-bar**	**1.69**	**0**	P			**Pn**	**06 48 02.3**	**+0.7**
LREZ	**Lake Rotokare**	**1.72**	**329**	P			**Pn**	**06 48 03.4**	**+1.5**
MCHZ	**McNeill Hill**	**1.74**	**31**	P			**Pn**	**06 48 02.1**	**0.0**
SNVZ	**South Ngauruho**	**1.76**	**2**	P			**Pn**	**06 48 03.3**	**+0.7**
NGZ	**Ngauruhoe**	**1.77**	**1**	P			**Pn**	**06 48 03.4**	**+0.8**
OTVZ	**Oturere**	**1.78**	**3**	P			**Pn**	**06 48 03.6**	**+0.7**
ETVZ	**East Tongariro**	**1.81**	**4**	P			**Pn**	**06 48 03.9**	**+0.7**
NNVZ	**North Ngauruho**	**1.81**	**2**	P			**Pn**	**06 48 04.0**	**+0.7**
WTVZ	**West Tongariro**	**1.83**	**1**	P			**Pn**	**06 48 04.1**	**+0.7**
TMVZ	**Te Maari**	**1.83**	**4**	P			**Pn**	**06 48 04.0**	**+0.5**
NTVZ	**North Tongarir**	**1.85**	**3**	P			**Pn**	**06 48 04.4**	**+0.7**
KRVZ	**Karewarewa**	**1.85**	**2**	P			**Pn**	**06 48 04.6**	**+0.9**
VRZ	**Vera Road**	**1.92**	**341**	P			**Pn**	**06 48 05.8**	**+1.2**
BKZ	**Black Stump Fm**	**1.92**	**23**	P			**Pn**	**06 48 04.4**	**-0.3**
BKZ	**Black Stump Fm**	**1.92**	**23**	P			**Pn**	**06 48 04.0**	**-0.7**
PREZ	**Palmer Road**	**1.92**	**326**	P			**Pn**	**06 48 06.4**	**+1.7**
TKNZ	**Takaka Hill**	**1.96**	**267**	P			**Pn**	**06 48 05.4**	**+0.3**
KATZ	**Kakaramea**	**1.97**	**3**	P			**Pn**	**06 48 06.2**	**+0.8**
RITZ	**Rihia Road**	**1.98**	**7**	P			**Pn**	**06 48 05.8**	**+0.3**
NMEZ	**Namu Road**	**1.99**	**320**	P			**Pn**	**06 48 07.8**	**+2.2**
NEZ	**North Egmont**	**2.01**	**326**	P			**Pn**	**06 48 07.6**	**+1.7**
ARHZ	**Aropaoanui**	**2.02**	**34**	P			**Pn**	**06 48 06.3**	**+0.4**
KHEZ	**Kahui Hut**	**2.02**	**324**	P			**Pn**	**06 48 08.0**	**+1.9**
DREZ	**Durham Road**	**2.04**	**329**	P			**Pn**	**06 48 08.2**	**+2.0**
RATZ	**Rangitukua**	**2.08**	**5**	P			**Pn**	**06 48 09.3**	**+2.4**
NMHZ	**Naumai**	**2.09**	**28**	P			**Pb**	**06 48 10.6**	**-0.2**
KHZ	**Kahutara**	**2.10**	**225**	P			**Pn**	**06 48 05.8**	**-1.2**
KHZ	**Kahutara**	**2.10**	**225**	P			**Pn**	**06 48 05.6**	**-1.4**
NBEZ	**Newall Road No**	**2.11**	**322**	P			**Pn**	**06 48 09.5**	**+2.3**
PKE	**Pukeiti**	**2.12**	**325**	P			**Pn**	**06 48 09.5**	**+2.2**
THZ	**Tophouse**	**2.15**	**247**	P			**Pn**	**06 48 06.9**	**-0.9**
MRNZ	**Matariki Terra**	**2.15**	**257**	P			**Pn**	**06 48 07.7**	**0.0**
MRHZ	**Matea Rd**	**2.21**	**18**	P			**Pn**	**06 48 07.8**	**-0.9**
WATZ	**Wairara**	**2.24**	**4**	P			**Pn**	**06 48 08.9**	**-0.2**
QRZ	**Quartz Range**	**2.29**	**272**	P			**Pn**	**06 48 10.4**	**+0.7**
QRZ	**Quartz Range**	**2.29**	**272**	P			**Pn**	**06 48 11.1**	**+1.4**
MTHZ	**Maungataniwha**	**2.32**	**26**	P			**Pn**	**06 48 10.1**	**0.0**
RAHZ	**Arahi**	**2.35**	**31**	P			**Pn**	**06 48 11.1**	**+0.6**
ALRZ	**Allen Road**	**2.46**	**15**	P			**Pb**	**06 48 17.0**	**-0.1**
WPRZ	**Whakapapatarin**	**2.47**	**11**	P			**Pb**	**06 48 15.8**	**-1.5**
KNZ	**Kokohu**	**2.52**	**41**	P			**Pn**	**06 48 11.4**	**-1.5**
MHGZ	**Mahia Peninsul**	**2.55**	**46**	P			**Pn**	**06 48 16.1**	**+2.8**
SNGZ	**Shannon Statio**	**2.57**	**33**	P			**Pn**	**06 48 13.3**	**-0.2**
TLZ	**Tolley Road**	**2.61**	**360**	P			**Pn**	**06 48 14.7**	**+0.5**
PRGZ	**Paritu Road**	**2.71**	**42**	P			**Pb**	**06 48 20.7**	**-0.7**
DSZ	**Denniston Nort**	**2.93**	**253**	P			**Pn**	**06 48 17.6**	**-0.8**
URZ	**Urewera**	**2.94**	**25**	P			**Pn**	**06 48 16.4**	**-2.2**
URZ	**Urewera**	**2.94**	**25**	P			**Pn**	**06 48 16.7**	**-2.0**
MWZ	**Matawai**	**3.03**	**31**	P			**Pn**	**06 48 18.0**	**-1.8**
LTZ	**Lake Taylor**	**3.06**	**232**	P			**Pn**	**06 48 18.6**	**-1.6**
TOZ	**Tahuroa Road**	**3.21**	**359**	P			**Pn**	**06 48 21.2**	**-1.1**
OKCZ	**Okains Bay**	**3.33**	**213**	P			**Pn**	**06 48 22.1**	**-1.9**
RUGZ	**Raukumara Rang**	**3.41**	**30**	P			**Pn**	**06 48 24.4**	**-0.8**
AKCZ	**Akaroa Harbour**	**3.51**	**213**	P			**Pn**	**06 48 25.6**	**-0.9**
WMGZ	**Waiomatatini S**	**3.83**	**36**	P			**Pn**	**06 48 29.4**	**-1.5**
MKAZ	**Moumakai**	**3.85**	**355**	P			**Pn**	**06 48 31.5**	**+0.4**
AWAZ	**Awhitu Peninsu**	**3.94**	**349**	P			**Pn**	**06 48 34.8**	**+2.4**
ARCZ	**Arundel**	**4.41**	**226**	P			**Pn**	**06 48 37.4**	**-1.4**
ODZ	**Otahua Downs**	**5.45**	**220**	P			**Pn**	**06 48 50.8**	**-2.3**
ODZ	**Otahua Downs**	**5.45**	**220**	P			**Pn**	**06 48 50.6**	**-2.4**

IDC ***12*** *07:05:18.4±2.6, 53°.60N×87°.02E, h0km, mb1 2.7/2, mb1mx2.7/55, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=24.1km s-min=13.8km az=69.0*
NNC ***12*** *07:05:18.1±1.6, 53°.62N×86°.92E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=14.8km s-min=6.6km az=46.0, Suspected Mining explosion.*
ISC 12 07:05:20.3±4.8, 53°.6N±0°.2×86°.7E±0°.3, h0km, n8, σ0s86/10, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.14**	**288**	*i*				07 14 10.0	
	baz=104,slow=327,SNR=3.9								
ZAA0	**Zalesovo Array**	**1.14**	**288**	⇓P			**Pg**	**07 05 42.0**	**-0.2**
	0.2nm,0.2s								
ZAA0				⇑S			**Sn**	**07 06 00.2**	**+0.3**
	4.1nm,0.9s								
ZALV	**Zalesovo Beam**	**1.14**	**288**	Pg			**Pb**	**07 05 42.3**	**-0.7**
	1.1nm,0.3s,baz=103,slow=16,SNR=42								
ZALV				Lg			Lg	07 06 02.1	
	1.2nm,0.3s,baz=112,slow=30,SNR=20								
KURK	**Kurchatov**	**5.73**	**243**	⇑Pn			**Pn**	**07 06 47.1**	**+0.6**
	1.8nm,0.7s								
KURK				⇑Lg			Lg	07 08 20.9	
	3.8nm,1.1s								
KURBB	**Kurchatov Arra**	**5.83**	**242**	Pn			**Pn**	**07 06 49.3**	**+1.4**
	0.0nm,0.3s,baz=58,slow=13,SNR=5.4								
KURBB				Lg			Lg	07 08 28.2	
	0.0nm,0.3s,baz=59,slow=33,SNR=5.9								
KURBB	**Kurchatov Arra**	**5

	comp=N,32nm,0.4s								
MAKZ	**Makanchi**	**13.61**	**35**	Pn		**Pn**	**07 13 15.8**	**-2.2**
MK31	**Makanchi Array**	**13.75**	**36**	Pn		**Pn**	**07 13 17.5**	**-2.3**
MKAR	**Makanchi Array**	**13.75**	**36**			**Pn**	**07 13 17.7**	**-2.0**
KOLN	**Koldanda**	**13.79**	**124**	*eP*		**Pn**	**07 13 17.7**	**-2.8**
	comp=N,16nm,0.4s								
GKN	**Gorkha**	**14.35**	**120**	*eP*		**Pn**	**07 13 25.4**	**-2.4**
	comp=N,21nm,0.3s								
KKN	**Kakani**	**14.93**	**120**	*eP*		**Pn**	**07 13 32.7**	**-2.5**
	comp=N,20nm,0.5s								
PKIN	**Phulchoki**	**15.14**	**120**	*eP*		**Pn**	**07 13 35.2**	**-2.8**
	comp=N,24nm,0.4s								
PKI	**Pulchoki**	**15.16**	**120**	*eP*		**Pn**	**07 13 35.7**	**-2.5**
	comp=N,18nm,0.4s								
AB31	**Akbulak array**	**15.27**	**332**	P		**Pn**	**07 13 39.0**	**-0.1**
	comp=N,3.6nm,0.3s,baz=158,slow=12,SNR=236								
ABKAR	**Akbulak array**	**15.27**	**332**			**Pn**	**07 13 38.8**	**-0.4**
ABKAR	**Akbulak array**	**15.27**	**332**			**Pn**	**07 13 38.8**	**-0.4**
ABKAR				IAmb		IAmb	07 13 40.2	
	comp=Z,26nm,1.3s								
GUN	**Gumba**	**15.29**	**118**	*eP*		**Pn**	**07 13 36.9**	**-2.9**
KURBB	**Kurchatov Arra**	**15.56**	**19**	P		**P**	**07 13 44.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=207,slow=10,SNR=10								
KURK	**Kurchatov**	**15.67**	**19**			**Pn**	**07 13 43.1**	**-1.0**
RAMN	**Ramite**	**16.37**	**120**	*eP*		**Pn**	**07 13 51.2**	**-2.1**
	comp=Z,19nm,0.3s								
TAPN	**Taplejung**	**16.93**	**116**	*eP*		**Pn**	**07 13 59.2**	**-1.0**
	comp=Z,16nm,0.3s								
AKTO	**Aktyubinsk**	**16.96**	**331**	P		**P**	**07 14 02.5**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=147,slow=15,SNR=25								
AKTO				S		**Sn**	**07 17 01.9**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=54,slow=22,SNR=5.8								
AKTO	**Aktyubinsk**	**16.96**	**331**	⇑P		**P**	**07 14 01.7**	**+1.3**
	comp=Z,12nm,0.9s								
ZAA0	**Zalesovo Array**	**20.36**	**25**	P		**P**	**07 14 37.8**	**+0.4**
ZAA0				IAmb		IAmb	07 14 42.4	
	comp=Z,11nm,0.8s								
ZALV	**Zalesovo Beam**	**20.36**	**25**	P		**P**	**07 14 37.9**	**+0.5**
	comp=Z,6.0nm,0.4s,baz=225,slow=9.6,SNR=24								
ZALV	**Zalesovo Beam**	**20.36**	**25**	P		**P**	**07 14 37.7**	**+0.2**
SOCY	**Socotra**	**28.19**	**216**	P		**P**	**07 15 50.6**	**-1.9**
FINES	**FINESS Array B**	**37.63**	**326**	P		**P**	**07 17 14.3**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=46,slow=6.0,SNR=1.5								
FINES	**FINESS Array B**	**37.63**	**326**	P		**P**	**07 17 13.7**	**-0.2**
ARCES	**ARCESS Array B**	**41.38**	**338**	P		**P**	**07 17 47.4**	**+2.5**
	comp=Z,2.9nm,0.9s,baz=107,slow=6.5,SNR=5.8								
ARCES	**ARCESS Array B**	**41.38**	**338**	P		**P**	**07 17 44.9**	**0.0**
TOA0	**Torodi Ar. Sit**	**65.43**	**269**	P		**P**	**07 20 41.6**	**0.0**
TOA0				IAmb		IAmb	07 20 45.1	
	comp=Z,2.5nm,1.2s								
TORD	**Torodi Ar. Bea**	**65.43**	**269**	P		**P**	**07 20 41.8**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=55,slow=6.3,SNR=7.4								
TORD	**Torodi Ar. Bea**	**65.43**	**269**	P		**P**	**07 20 41.4**	**-0.2**
TORD				IAmb		IAmb	07 20 45.2	
	comp=Z,2.1nm,1.3s								
IMAR	**Indian Mountai**	**72.60**	**17**	P		**P**	**07 21 25.6**	**+0.4**
BMAR	**Burnt Mountain**	**73.36**	**13**	P		**P**	**07 21 29.4**	**-0.2**
C36M	**Paulatuk**	**74.27**	**5**	P		**P**	**07 21 35.8**	**+1.0**
C36M				IAmb		IAmb	07 21 39.3	
	comp=Z,2.7nm,0.8s								
INK	**Inuvik**	**74.31**	**9**	P		**P**	**07 21 36.8**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=333,slow=7.6,SNR=8.1								
INK	**Inuvik**	**74.31**	**9**	P		**P**	**07 21 36.6**	**+1.5**
ILAR	**Eielson Array**	**75.20**	**16**	P		**P**	**07 21 42.1**	**+1.7**
	comp=Z,0.5nm,0.9s,baz=342,slow=5.3,SNR=4.9								
ILAR	**Eielson Array**	**75.20**	**16**	P		**P**	**07 21 41.1**	**+0.7**
BCAR	**Beaver Creek A**	**77.78**	**14**	P		**P**	**07 21 56.2**	**+1.2**
YKA	**Yellowknife Ar**	**81.62**	**2**	P		**P**	**07 22 17.4**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=350,slow=5.2,SNR=11								
YKA	**Yellowknife Ar**	**81.62**	**2**	P		**P**	**07 22 16.9**	**+1.2**
WRA	**Warramunga Arr**	**82.04**	**122**	P		**P**	**07 22 22.1**	**+3.6**
	comp=Z,0.2nm,0.5s,baz=325,slow=5.0,SNR=5.1								
WRA	**Warramunga Arr**	**82.04**	**122**	P		**P**	**07 22 21.7**	**+3.2**
WB2	**Warramunga Arr**	**82.05**	**122**	P		**P**	**07 22 20.5**	**+2.0**
WB2				IAmb		IAmb	07 22 27.4	
	comp=Z,6.4nm,1.4s								
ASAR	**Alice Springs**	**84.28**	**125**	P		**P**	**07 22 33.4**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=292,slow=4.7,SNR=4.6								
COEN	**Coen**	**84.53**	**112**	P		**P**	**07 22 31.4**	**+0.1**

*IDC **12** 07:11:12.1±3.1, 49.99N×78.33E, h0km, mb1 3.0/2, mb1mx2.9/51, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=50.0km s-min=6.8km az=81.0*
*NNC **12** 07:11:12.8±1.1, 50.04N×78.89E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=34.9km s-min=5.2km az=66.0, Suspected Mining explosion.*

ISC 12 07:11:10.5±3.4, 49.99N±0.05×78.2E±0.3, h0km, n8, σ0.84/13, 4C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.68**	**21**	Pg		**Pb**		**07 11 24.8**	**-0.5**
	1.8nm,0.3s,baz=167,slow=18,SNR=97								
KURBB				Lg		Lg		07 11 33.9	
	3.1nm,0.3s,baz=160,slow=34,SNR=21								
KURBB	**Kurchatov Arra**	**0.68**	**21**	⇓P		**Pb**		**07 11 24.7**	**-0.5**
	15nm,0.4s								
KURBB				⇓S		**Sb**		**07 11 34.2**	**-1.0**
	95nm,0.5s								
KURK	**Kurchatov**	**0.79**	**22**	⇑P		**Pg**		**07 11 25.7**	**+0.1**
	6.8nm,0.5s								
KURK				⇑S		**Sg**		**07 11 36.3**	**+0.5**
	12nm,0.8s								
MAKZ	**Makanchi**	**4.08**	**140**	⇑Pn		**Pn**		**07 12 14.7**	**+0.6**
	0.6nm,0.7s								
MAKZ				⇓Pg		**Pb**		**07 12 22.2**	**-1.0**
	1.5nm,0.9s								
MAKZ				⇓Lg		Lg		07 13 12.8	
	8.3nm,0.9s								
MK31	**Makanchi Array**	**4.22**	**138**	⇑Pn		**Pn**		**07 12 16.7**	**+0.5**
	0.1nm,0.1s,baz=323,slow=10.0,SNR=22								
MK31				Pg		**Pb**		**07 12 26.1**	**+0.5**
	0.2nm,0.2s,baz=297,slow=12,SNR=9.8								
MK31				Lg		Lg		07 13 18.8	
	3.2nm,0.5s,baz=334,slow=26,SNR=13								
MKAR	**Makanchi Array**	**4.22**	**138**	Pn		**Pn**		**07 12 17.0**	**+0.8**
	0.3nm,0.3s,baz=323,slow=9.8,SNR=30								
MKAR				Pg		**Pb**		**07 12 24.2**	**-1.4**
	0.4nm,0.3s,baz=319,slow=13,SNR=9.3								
MKAR				Sn		**Sn**		**07 13 06.3**	**+0.1**
	0.4nm,0.3s,baz=327,slow=21,SNR=4.2								
ZALV	**Zalesovo Beam**	**5.72**	**44**	Pn		**Pn**		**07 12 37.4**	**+0.8**
	0.7nm,0.3s,baz=232,slow=14,SNR=9.0								
I46RU	**ZALESOVO INFRA**	**5.72**	**44**	*i*				07 43 10.0	
	baz=224,slow=320,SNR=2.7								

*IDC **12** 07:22:32.8±3.5, 36.21N×70.40E, h185km±27km, mb3.2/8, mb1 3.2/13, mb1mx3.1/49, mbtmp3.7/13, Error ellipse: s-maj=37.7km s-min=21.4km az=152.0*

ISC 12 07:22:35.8±0.6, 36.52N±0.06×70.39E±0.07, h204km, n29, σ1.9/60/34, mb3.5/7, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.96**	**155**	P		**Pn**		**07 23 25.6**	**+0.2**
CEP				S		**S**		**07 24 03.0**	**-0.6**
CHCP	**Chirah Chowk**	**3.70**	**140**	P		**Pn**		**07 23 34.6**	**+0.5**
THW	**Thamme Wali**	**3.88**	**163**	P		**Pn**		**07 23 36.1**	**-0.2**
KK31	**Karatay Array**	**6.58**	**1**	⇓P		**Pn**		**07 24 10.8**	**+0.4**
	1.3nm,0.4s,baz=182,slow=13,SNR=18								
KK31				⇑S		**S**		**07 25 19.2**	**-6.3**
	3.3nm,0.4s,baz=185,slow=26,SNR=8.4								
AAK	**Ala-Archa**	**6.88**	**26**	P		**Pn**		**07 24 15.5**	**+0.9**
	0.9nm,0.3s,baz=212,slow=13,SNR=5.5								
AAK				S		**S**		**07 25 31.9**	**-0.9**
	1.0nm,0.3s,baz=9.5,slow=21,SNR=8.2								
TKM2	**Tokmak 2**	**7.54**	**31**	⇑P		**Pn**		**07 24 23.3**	**0.0**
	2.7nm,0.5s								
TKM2				⇑S		**S**		**07 25 45.6**	**-3.1**
	2.1nm,0.6s								
GEYT	**Alibeck**	**9.89**	**282**	P		**Pn**		**07 24 51.7**	**-1.9**
	0.7nm,0.3s,baz=125,slow=13,SNR=2.4								
PYUN	**Piuthan**	**13.55**	**125**	*eP*		**Pn**		**07 25 39.9**	**-0.4**
	18nm,0.4s								
MKAR	**Makanchi Array**	**13.56**	**37**	P		**Pn**		**07 25 40.7**	**+0.6**
	0.2nm,0.3s,baz=206,slow=10,SNR=9.0								
DANN	**Dangsing**	**13.91**	**122**	*eP*		**Pn**		**07 25 44.0**	**-0.8**
KOLN	**Koldanda**	**14.18**	**124**	*eP*		**Pn**		**07 25 47.6**	**-0.4**
	12nm,0.3s								
GKN	**Gorkha**	**14.73**	**121**	*eP*		**Pn**		**07 25 55.2**	**+0.4**
	24nm,0.3s								
KURBB	**Kurchatov Arra**	**15.27**	**20**	P		**Pn**		**07 26 00.9**	**+0.1**
	0.1nm,0.3s,baz=213,slow=9.9,SNR=6.0								
DMN	**Daman**	**15.30**	**121**	*eP*		**Pn**		**07 26 01.7**	**-0.1**
KKN	**Kakani**	**15.31**	**120**	*eP*		**Pn**		**07 26 01.5**	**-0.3**
PKIN	**Phulchoki**	**15.52**	**121**	*eP*		**P**		**07 26 04.2**	**-0.3**
	27nm,0.5s								
PKI	**Pulchoki**	**15.53**	**121**	*eP*		**P**		**07 26 04.3**	**-0.4**
GUN	**Gumba**	**15.65**	**119**	*eP*		**P**		**07 26 05.9**	**-0.2**
AKTO	**Aktyubinsk**	**16.52**	**331**	P		**Pn**		**07 26 16.5**	**+0.5**
	0.7nm,0.3s,baz=139,slow=11,SNR=22								
AKTO				S		**S**		**07 29 20.8**	**+3.5**
	0.1nm,0.3s,baz=44,slow=19,SNR=1.6								
RAMN	**Ramite**	**16.75**	**120**	*eP*		**P**		**07 26 18.2**	**+0.2**
	33nm,0.5s								
ZALV	**Zalesovo Beam**	**20.10**	**25**	P		**P**		**07 26 54.9**	**+1.1**
	1.1nm,0.3s,baz=223,slow=10,SNR=3.8								
ARU	**Arti**	**21.46**	**342**	P		**P**		**07 27 09.6**	**+1.6**
	1.4nm,0.2s,baz=128,slow=4.0,SNR=5.2								
AKASG	**Malin Array Be**	**32.55**	**309**	P		**P**		**07 28 47.9**	**+0.4**
	0.4nm,0.3s,baz=82,slow=6.6,SNR=1.8								
FINES	**FINESS Array B**	**37.19**	**326**	P		**P**		**07 29 28.1**	**+1.1**
	1.3nm,0.6s,baz=124,slow=12,SNR=5.5								
ARCES	**ARCESS Array B**	**40.94**	**338**	P		**P**		**07 29 59.2**	**+1.3**
	1.3nm,0.5s,baz=108,slow=7.8,SNR=12								
NB2	**NORSAR Subarra**	**44.07**	**323**	P		**P**		**07 30 23.6**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=97,slow=8.6								
NOA	**NORSAR Array B**	**44.07**	**323**	P		**P**		**07 30 23.9**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=98,slow=7.9,SNR=4.2								
TORD	**Torodi Ar. Bea**	**65.23**	**268**	P		**P**		**07 32 54.3**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=59,slow=6.5,SNR=4.5								
YKA	**Yellowknife Ar**	**81.25**	**2**	P		**P**		**07 34 29.4**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=349,slow=5.2,SNR=5.4								

*ANF **12** 07:35:22.7±0.1, 36.07N×117.66W, h9km±1km, ML3.1/29, ML3.1/29, Error ellipse: s-maj=1.0km s-min=0.8km az=22.0*
*PAS **12** 07:35:23.4±1.7, 36.07N±0.02×117.66W±0.02, h3km±7km, MLS.1/117, ML2.8/124(NEIC), Error ellipse: s-maj=2.5km s-min=2.4km az=157.0*
*NEIC **12** 07:35:23.1±1.6, 36.07N±0.02×117.68W±0.02, h2km±7km, Error ellipse: s-maj=2.7km s-min=1.4km az=150.0*
*NCEDC **12** 07:35:23.2, 36.08N×117.66W, h5km*

ISC 12 07:35:23.3±1.0, 36.07N±0.02×117.67W±0.02, h7km±10km, n96, σ0.97/125, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.15**	**93**	P		**Pg**		**07 35 26.4**	**0.0**
	baz=280,SNR=1000								
MPMC				S		**Sg**		**07 35 28.5**	**0.0**
	baz=280								
CWC	**Cottonwood Cre**	**0.50**	**318**	P		**Pg**		**07 35 32.9**	**-0.1**
	baz=136								
CWC				S		**Sg**		**07 35 39.7**	**+0.2**
	baz=136								
LRMC	**Laurel Mtn Rad**	**0.58**	**181**	P		**Pg**		**07 35 34.6**	**+0.1**
	baz=1.6,SNR=355								
LRMC				S		**Sg**		**07 35 42.9**	**+0.7**
	baz=1.6								
QSM	**Queen of Sheba**	**0.66**	**99**			**Pg**		**07 35 35.7**	**-0.2**
QSM				Sg		**Sg**		**07 35 45.8**	**+1.4**
FURC	**Furnace Creek,**	**0.76**	**58**	P		**Pg**		**07 35 38.0**	**+0.1**
	baz=239,SNR=438								
FURC				S		**Sg**		**07 35 48.2**	**+0.3**
	baz=239								
ISA	**Isabella, Lake**	**0.77**	**239**	Pg		**Pg**		**07 35 38.1**	**+0.1**
ISA				Sg		**Sg**		**07 35 48.5**	**+0.5**
ISA				IAML				07 35 48.8	
	comp=N,630nm,0.2s								
ISA				IAML				07 35 49.4	
	comp=E,624nm,0.2s								
ISA	**Isabella, Lake**	**0.77**	**239**	P		**Pg**		**07 35 38.1**	**+0.1**
	baz=57,SNR=129								
ISA				S		**Sg**		**07 35 48.4**	**+0.3**
	baz=57								
GWY	**Greenwater Val**	**0.82**	**81**			**Pg**		**07 35 38.8**	**-0.2**
GWY				Sg		**Sb**		**07 35 51.0**	**-0.2**
GWY				IAML				07 35 53.2	
	comp=E,575nm,0.5s								
CCAC	**Calif City Air**	**0.95**	**197**			**Pg**		**07 35 41.3**	**-0.2**
CCAC				Sg		**Sb**		**07 35 54.6**	**-0.5**
CCAC				IAML				07 35 57.6	
	comp=E,325nm,0.8s								
CCAC				IAML				07 35 57.8	
	comp=N,379nm,0.5s								
GRAC	**Grapevine Rang**	**0.96**	**15**			**Pg**		**07 35 41.1**	**-0.5**
GRAC				Sg		**Sg**		**07 35 54.1**	**0.0**
GRAC	**Grapevine Rang**	**0.96**	**15**	P		**Pg**		**07 35 41.2**	**-0.5**
	baz=195,SNR=94								
GRAC				S		**Sg**		**07 35 54.4**	**+0.2**
	baz=195								
GSC	**Goldstone, Bar**	**1.04**	**137**	Pg		**Pg**		**07 35 42.6**	**-0.5**
GSC				Sg		**Sg**		**07 35 56.4**	**-0.2**
GSC	**Goldstone, Bar**	**1.04**	**137**	P		**Pg**		**07 35 42.7**	**-0.5**
	baz=319,SNR=99								
GSC				S		**Sg**		**07 35 56.4**	**-0.2**
	baz=319								
TIN	**Tinemaha, Big**	**1.08**	**336**	P		**Pg**		**07 35 43.4**	**-0.7**
	baz=155,SNR=39								
TIN				S		**Sg**		**07 35 57.9**	**-0.3**
	baz=155								
SHOC	**Shoshone, Teco**	**1.14**	**98**	P		**Pg**		**07 35 44.4**	**-0.8**
	baz=280,SNR=292								
SHOC				S		**Sg**		**07 36 00.3**	**+0.3**
	baz=280								
LCH	**Last Change Ra**	**1.17**	**1**			**Pg**		**07 35 44.5**	**-1.2**
LCH				Sg		**Sg**		**07 36 00.5**	**-0.3**
LCH				IAML				07 36 02.6	
	comp=E,159nm,0.3s								
VES	**Vestal, Richgr**	**1.17**	**259**	P		**Pg**		**07 35 45.5**	**-0.3**
	baz=78,SNR=55								
VES				S		**Sb**		**07 36 01.1**	**-0.1**
	baz=78								
EDW2	**Edwards Air Fo**	**1.21**	**193**	P		**Pg**		**07 35 45.6**	**-0.9**
	baz=13,SNR=147								
EDW2				S		**Sb**		**07 36 03.3**	**+0.8**
	baz=13								
HELL	**Mitchell Peak,**	**1.25**	**300**			**Pg**		**07 35 46.6**	**-0.7**
HELL						**Sg**		**07 36 02.8**	**-0.8**
RRX	**Edison Barstow**	**1.31**	**155**	P		**Pg**		**07 35 47.2**	**-1.2**
	baz=336,SNR=16								
RRX				S		**Sb**		**07 36 05.6**	**+0.4**
	baz=336								
ARVC	**Arvin**	**1.33**	**226**	Pb		**Pg**		**07 35 48.3**	**-0.5**
	baz=44,SNR=34								
ARVC				S		**Sb**		**07 36 06.1**	**+0.2**
	baz=44								
VOG	**Valley Oaks Go**	**1.41**	**281**	Pb		**Pn**		**07 35 49.6**	**+0.2**
	baz=99								
VOG				S		**Sg**		**07 36 07.9**	**-0.7**
	baz=99								
TPNV	**Topopah Spring**	**1.44**	**52**			**Pn**		**07 35 49.6**	**-0.4**
TPNV				IAML				07 36 10.4	
	comp=E,142nm,0.4s								
TPNV				IAML				07 36 12.0	
	comp=E,126nm,0.8s								
TPNV	**Topopah Spring**	**1.44**	**52**	P		**Pn**		**07 35 49.5**	**-0.4**
	baz=233,SNR=127								
TPNV				S		**Sg**		**07 36 08.7**	**-1.0**
	baz=233								
TUQ	**Turquoise Moun**	**1.55**	**113**	P		**Pn**		**07 35 50.4**	**-1.0**
	baz=295,SNR=133								
TUQ				Sb		**Sg**		**07 36 13.4**	**+0.2**
	baz=295								
HEC	**Hector,Ludlow**	**1.65**	**138**	P		**Pn**		**07 35 51.7**	**-1.0**
	baz=320								
HEC				Sb		**Sb**		**07 36 15.9**	**+0.9**
	baz=320								
BCW	**Bitter Crk WRg**	**1.81**	**232**			**Pb**		**07 35 56.4**	**-0.4**
BCW				IAML				07 36 29.0	
	comp=N,98nm,0.7s								
BCW				IAML				07 36 37.7	
	comp=E,105nm,0.9s								
MLAC	**Mammoth, Mammo**	**1.82**	**329**	Pg		**Pb**		**07 35 57.5**	**+0.4**
	baz=148								
BFSC	**Mount Baldy Ra**	**1.82**	**180**	Pg		**Pg**		**07 35 57.7**	**-0.5**
	baz=360								
BFSC				Sb		**Sg**		**07 36 21.3**	**-0.5**
	baz=360								
OMMB	**Old Mammoth Mi**	**1.88**	**326**			**Pb**		**07 35 57.8**	**-0.3**
OMMB				IAML				07 36 27.1	
	comp=E,62nm,0.9s								
DECC	**Green Verdugo**	**1.89**	**197**	Pg		**Pg**		**07 35 58.9**	**-0.6**
	baz=16								
DECC				Sb		**Sg**		**07 36 23.2**	**-0.8**
	baz=16								
BBRC	**Big Bear Solar**	**1.90**	**161**	Pg		**Pb**		**07 35 59.0**	**+0.6**
	baz=342								
PASC	**Pasadena Art C**	**1.94**	**193**			**Pn**		**07 35 57.0**	**+0.4**
PASC	**Pasadena Art C**	**1.94**	**193**			**Pn**		**07 35 57.8**	**+1.2**
PASC				IAML				07 36 28.9	
	comp=N,21nm,0.3s								
PASC				IAML				07 36 34.1	
	comp=E,33nm,0.9s								
TPH	**Tonopah**	**2.04**	**10**			**Pb**		**07 36 00.2**	**-0.5**
SMMC	**Simmler**	**2.04**	**249**	Pb		**Pb**		**07 36 00.0**	**-0.6**
	baz=67								
SHPR	**Sheep Range**	**2.07**	**77**			**Pn**		**07 35 58.8**	**+0.2**
GMRC	**Granite Mounta**	**2.08**	**127**	P		**Pn**		**07 35 57.2**	**-1.5**
	baz=309								
GMRC				Sb		**Sb**		**07 36 28.8**	**+1.3**
	baz=309								
THIS	**South End of C**	**2.11**	**261**			**Pb**		**07 36 01.6**	**-0.2**
PKM	**Mcpherson Peak**	**2.11**	**237**	Pb		**Pb**		**07 36 01.6**	**-0.3**
	baz=55								
PAGB	**Antelope Grade**	**2.12**	**262**			**Pn**		**07 36 00.2**	**+1.0**
PAGB				IAML				07 36 39.5	
	comp=N,82nm,0.8s								
PAGB				IAML				07 36 39.8	
	comp=E,107nm,0.7s								
TRAM	**Private Proper**	**2.15**	**260**			**Pb**		**07 36 02.3**	**-0.2**
S11A	**Rachel**	**2.20**	**44**			**Pb**		**07 36 03.1**	**-0.5**
TSCN	**Private Proper**	**2.24**	**257**			**Pb**		**07 36 04.2**	**+0.2**
LHV	**Little Huntoon**	**2.28**	**343**			**Pn**		**07 36 02.9**	**+1.6**
LHV				IAML				07 36 42.1	
	comp=E,35nm,1.1s								
LHV				IAML				07 36 46.8	
	comp=N,47nm,1.2s								
NV11	**Mina Array Sit**	**2.39**	**351**			**Pn**		**07 36 04.2**	**+1.2**
NVAR	**Mina Array Bea**	**2.41**	**348**			**Pn**		**07 36 03.9**	**+0.5**
ELS	**Elsinore Mount**	**2.42**	**175**			**Pn**		**07 36 03.4**	**0.0**
BELC	**Belle Mtn. Jos**	**2.48**	**146**	P		**Pn**		**07 36 03.4**	**-0.7**
	baz=327,SNR=9.4								
BELC				Sb		**Sb**		**07 36 40.9**	**+2.0**
	baz=327								
MURC	**Murrieta**	**2.49**	**171**	P		**Pn**		**07 36 04.2**	**-0.1**
	baz=351,SNR=18								
PRN	**Pahroc Range**	**2.49**	**57**			**Pn**		**07 36 04.6**	**+0.2**
PRN				IAML				07 36 46.2	
	comp=N,76nm,0.3s								
PMPB	**Monarch Peak**	**2.54**	**274**			**Pn**		**07 36 06.8**	**+1.8**
PMPB				IAML				07 36 55.4	
	comp=N,45nm,0.8s								
PMPB				IAML				07 37 00.1	
	comp=E,46nm,0.9s								
PFO	**Pinyon Flats O**	**2.64**	**158**			**Pn**		**07 36 06.1**	**-0.3**
PFO	**Pinyon Flats O**	**2.64**	**158**	P		**Pn**		**07 36 05.9**	**-0.5**
	baz=339								
RYN	**Ryan**	**2.65**	**345**			**Pn**		**07 36 08.8**	**+2.2**
CIS	**Catalina Islan**	**2.73**	**193**	Pg		**Pg**		**07 36 14.9**	**-0.6**
	baz=13								
BBGB	**Big Mountain B**	**2.77**	**282**			**Pn**		**07 36 10.2**	**+2.0**
Q09A	**Carvers**	**2.79**	**8**			**Pn**		**07 36 07.7**	**-0.8**
IRM	**Iron Mountain**	**2.81**	**132**	P		**Pn**		**07 36 07.5**	**-1.2**
	baz=314								
R11A	**Troy Canyon, C**	**2.82**	**36**			**Pn**		**07 36 09.4**	**+0.4**
R11A				IAML				07 36 53.3	
	comp=N,35nm,0.6s								
R11A				IAML				07 36 53.8	
	comp=E,46nm,0.5s								
CMB	**Columbia Colle**	**2.93**	**313**			**Pn**		**07 36 10.4**	**+0.1**
CMB				IAML				07 36 55.3	
	comp=N,44nm,0.3s								
CMB				IAML				07 36 57.4	
	comp=E,43nm,0.6s								
KVN	**Kaiserville**	**3.00**	**354**			**Pn**		**07 36 12.1**	**+0.7**
SAO	**San Andreas Ge**	**3.13**	**284**			**Pn**		**07 36 14.2**	**+1.2**
YERR	**Yerington**	**3.17**	**337**			**Pn**		**07 36 13.9**	**+0.1**
YERR				IAML				07 37 30.8	
	comp=E,21nm,0.4s								
W13A	**Hualapai Mount**	**3.23**	**106**			**Pn**		**07 36 14.5**	**-0.2**
W13A				IAML				07 37 08.3	
	comp=N,17nm,0.4s								
PNTR	**Pine Nut**	**3.38**	**334**			**Pn**		**07 36 15.8**	**-1.0**
PNTR				IAML				07 37 29.3	
	comp=E,17nm,1.0s								
PNTR				IAML				07 37 33.8	
	comp=N,14nm,0.7s								
BLYC	**Blythe**	**3.47**	**131**			**Pn**		**07 36

*UCR **12** 08:01:34.5±2.1, 10.84N×86.71W, h5km, MW3.8*
ISC 12 08:01:28.1±1.7, 11°07'N±0'06×87°20'W±0'1, h10km, n36, σ1944/40, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.15**	**38**	*eP*	**Pb**	**08 01 49.0**	**-1.2**
COPN	**Copaltepe**	**1.18**	**21**	*eP*	**Pb**	**08 01 51.2**	**+0.5**
TISN	**Laguna Tiscapa**	**1.30**	**35**	*eP*	**Pn**	**08 01 52.4**	**+0.1**
MGAN	**Managua**	**1.31**	**35**	*eP*	**Pn**	**08 01 52.7**	**+0.1**
MGAN				*eP*	**Pn**	**08 01 52.7**	**+0.1**
MOMN	**Momotombo**	**1.41**	**20**	*eP*	**Pn**	**08 01 54.1**	**+0.2**
HZTE	**Horizontes, Gu**	**1.45**	**104**	*eP*	**Pn**	**08 01 54.5**	**+0.2**
CNGN	**Cerro Negro**	**1.46**	**13**	*eP*	**Pn**	**08 01 53.8**	**-0.8**
CNGN				*eS*	**Sn**	**08 02 13.8**	**+0.1**
CONN	**Concepcion**	**1.46**	**70**	*eP*	**Pn**	**08 01 54.4**	**-0.1**
HUEN		**1.51**	**33**	*eP*	**Pn**	**08 01 55.3**	**+0.1**
BUEV	**Buena Vista**	**1.61**	**99**	*eP*	**Pn**	**08 01 56.9**	**+0.2**
GB1A	**Borinquen Arri**	**1.62**	**99**	*eP*	**Pn**	**08 01 57.4**	**+0.6**
CRIN	**San Cristobal**	**1.62**	**359**	*eP*	**Pn**	**08 01 57.5**	**+0.7**
SAJU	**San Juanillo,**	**1.63**	**127**	*eP*	**Pn**	**08 01 56.5**	**-0.4**
SAJU				*eS*	**Sn**	**08 02 14.4**	**-3.5**
VRLE	**La Escondida,**	**1.66**	**100**	*eP*	**Pn**	**08 01 57.7**	**+0.4**
ORTG	**Ortega, Santa**	**1.69**	**114**	*eP*	**Pn**	**08 01 57.8**	**0.0**
GRZA	**Playa Garza**	**1.79**	**130**	*eP*	**Pn**	**08 01 58.8**	**-0.2**
DUNO	**Dulce Nombre,**	**1.80**	**123**	*eP*	**Pn**	**08 01 58.8**	**-0.4**
DUNO	**Dulce Nombre,**	**1.80**	**123**	*eP*	**Pn**	**08 01 58.8**	**-0.4**
CUI	**Cuipilapa**	**1.87**	**102**	*eP*	**Pn**	**08 02 00.9**	**+0.6**
VMAR	**Armenia, Volca**	**1.89**	**98**	*eP*	**Pn**	**08 02 01.2**	**+0.7**
BOAB	**BOACO BROADBAN**	**1.91**	**44**	*eP*	**Pn**	**08 02 00.4**	**-0.3**
CSGN	**Cosiguina Volc**	**1.96**	**345**	*eP*	**Pn**	**08 02 02.3**	**+0.7**
MATN	**Matagalpa**	**2.14**	**30**	*eP*	**Pn**	**08 02 03.9**	**0.0**
MATN				*eS*	**Sn**	**08 02 30.8**	**+0.2**
JTS	**Las Juntas de**	**2.18**	**111**	*eP*	**Pn**	**08 02 05.1**	**+0.7**
LAFE	**Finca La Fe, P**	**2.43**	**121**	*eP*	**Pn**	**08 02 07.4**	**-0.5**
LAFE	**Finca La Fe, P**	**2.43**	**121**	*eP*	**Pn**	**08 02 07.4**	**-0.5**
COVE	**Coope Vega, Sa**	**2.60**	**97**	*eP*	**Pn**	**08 02 13.2**	**+3.0**
OCM	**Ochomogo**	**3.23**	**111**	*eP*	**Pn**	**08 02 22.0**	**+2.9**
RIMA	**Rio Macho**	**3.37**	**112**	*eP*	**Pn**	**08 02 23.6**	**+2.6**
RIMA	**Rio Macho**	**3.37**	**112**	*eP*	**Pn**	**08 02 23.2**	**+2.2**
VTUN	**Crater Central**	**3.37**	**108**	*eP*	**Pn**	**08 02 23.2**	**+2.0**
VTUC	**Crater, Volcan**	**3.37**	**108**	*eP*	**Pn**	**08 02 23.8**	**+2.6**
CDM	**Cerro de Muert**	**3.55**	**115**	*eP*	**Pn**	**08 02 25.8**	**+2.1**
SRBA	**San Rafael, Bu**	**4.04**	**117**	*eP*	**Pn**	**08 02 32.3**	**+2.1**
PLAN	**Los Planes de**	**4.07**	**126**	*eP*	**Pn**	**08 02 32.6**	**+2.2**
RIOS	**Rincon, Osa**	**4.18**	**124**	*eP*	**Pn**	**08 02 34.2**	**+2.2**

*NEIC **12** 08:05:35.0±1.8, 56°.05S±0°.1×28°.0W±0°.2, h114km±6km, mb4.7/14, Error ellipse: s-maj=16.7km s-min=14.6km az=221.0*
*IDC **12** 08:05:37.9±1.7, 55°.97S×27°.81W, h137km± 12km, mb4.1/8, mb1 4.2/9, mb1mx3.8/20, mbtmp4.5/9, MS3.4/5, Ms1 3.4/5, ms1mx3.0/43, Error ellipse: s-maj=22.4km s-min=12.2km az=79.0*
ISC 12 08:05:35.2±0.5, 55°.90S±0°.07×27°.93W±0°.09, h121km, n49, σ0°94/54, mb4.6/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.18**	**285**	Pn	**Pn**	**08 06 49.9**	**-0.5**
ORCD	**Orcadas**	**10.07**	**234**	Pn	**Pn**	**08 07 57.5**	**+1.2**
VNA1	**Neumayer--Stat**	**17.09**	**158**	P	**P**	**08 09 26.0**	**-0.1**
VNA3	**Neumayer Olymp**	**17.27**	**160**	P	**P**	**08 09 28.1**	**-0.1**
VNA2	**Neumayer--Watz**	**17.49**	**157**	P	**P**	**08 09 30.6**	**+0.1**
	baz=314,slow=13						
SNAA	**Sanae**	**19.05**	**156**	P	**P**	**08 09 47.6**	**-0.1**
SNAA	**Sanae**	**19.05**	**156**	P	**P**	**08 09 47.6**	**-0.1**
	8.7nm,0.3s,baz=314,slow=9.7,SNR=381						
SNAA				S	**S**	**08 13 15.4**	**-1.7**
	0.0nm,0.3s,baz=192,slow=19,SNR=1.7						
SNAA				ScP	**ScP**	**08 17 29.5**	**-1.5**
	0.1nm,0.3s,baz=207,slow=3.7,SNR=5.6						
SNAA	**Sanae**	**19.05**	**156**	P	**P**	**08 09 47.5**	**-0.1**
SNAA				IAmb	IAmb	08 09 51.0	
	comp=Z,65nm,1.2s						
TROLL	**Troll, Antarti**	**20.57**	**153**	P	**P**	**08 10 03.8**	**-0.2**
BELA	**Belgrano 2**	**22.20**	**184**	P	**P**	**08 10 20.5**	**-0.6**
BELA				IAmb	IAmb	08 10 22.6	
	comp=Z,37nm,1.0s						
DSPA	**Despedida**	**23.03**	**258**	P	**P**	**08 10 29.6**	**+0.1**
PLCA	**Paso Flores**	**31.56**	**281**	ScP	**ScP**	**08 18 06.0**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=140,slow=3.0,SNR=3.6						
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**08 12 10.7**	**+0.6**
	comp=Z,26nm,1.1s,baz=203,slow=3.8,SNR=40						
QSPA				LR	LR	08 26 09.4	
	comp=Z,31nm,18.1s,baz=208,slow=36						
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**08 12 10.8**	**+0.8**
CPUP	**Villa Florida**	**36.40**	**312**	ScP	**ScP**	**08 18 23.3**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=152,slow=3.1,SNR=5.4						
MAW	**Mawson**	**40.52**	**144**	P	**P**	**08 13 02.1**	**+0.4**
	comp=Z,4.8nm,0.8s,baz=217,slow=5.1,SNR=2.5						
MAW	**Mawson**	**40.52**	**144**	P	**P**	**08 13 02.4**	**+0.7**
SUR	**Sutherland**	**41.00**	**76**	LR	LR	08 27 38.7	
	comp=Z,70nm,18.5s,baz=181,slow=32						
SBA	**Scott Base**	**46.20**	**184**	P	**P**	**08 13 47.8**	**+0.6**
SBA				IAmb	IAmb	08 13 49.5	
	comp=Z,15nm,1.1s						
BOSA	**Boshof**	**46.34**	**77**	LR	LR	08 31 18.0	
	comp=Z,38nm,18.4s,baz=188,slow=33						
VNDA	**Vanda**	**46.70**	**183**	P	**P**	**08 13 52.1**	**+1.1**
	comp=Z,11nm,0.9s,baz=189,slow=6.2,SNR=37						
VNDA				ScP	**ScP**	**08 19 03.0**	**-1.6**
	comp=Z,1.0nm,0.9s,baz=217,slow=3.7,SNR=3.1						
VNDA				LR	LR	08 31 56.5	
	comp=Z,53nm,18.4s,baz=215,slow=34						
VNDA	**Vanda**	**46.70**	**183**	P	**P**	**08 13 52.2**	**+1.1**
VNDA				IAmb	IAmb	08 13 53.0	
	comp=Z,12nm,0.8s						
LBTB	**Lobatse**	**49.37**	**74**	P	**P**	**08 14 12.9**	**+0.6**
	comp=Z,4.3nm,0.8s,baz=215,slow=8.1,SNR=6.5						
LBTB	**Lobatse**	**49.37**	**74**	P	**P**	**08 14 12.3**	**0.0**
LPAZ	**La Paz**	**49.95**	**306**	P	**P**	**08 14 18.7**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=73,slow=6.0,SNR=8.5						
LPAZ	**La Paz**	**49.95**	**306**	P	**P**	**08 14 17.7**	**+0.3**
CASY	**Casey**	**54.19**	**161**	P	**P**	**08 14 47.3**	**-0.1**
CASY				IAmb	IAmb	08 14 49.1	
	comp=Z,16nm,1.1s						
LSZ	**Lusaka**	**58.71**	**70**	P	**P**	**08 15 20.7**	**+0.5**
LSZ				IAmb	IAmb	08 15 21.9	
	comp=Z,8.5nm,1.1s						
LIC	**Lamto**	**64.73**	**25**	*e*PKP2	**P**	**08 16 00.9**	**+0.5**
	comp=Z,24nm,1.6s						
KIC	**Kosan Boka**	**64.94**	**26**	*e*PKP2	**P**	**08 16 02.1**	**+0.4**
	comp=Z,12nm,1.0s						
TIC	**Toumodi**	**65.14**	**25**	*e*PKP2	**P**	**08 16 02.1**	**-1.0**
DBIC	**Dimbokro**	**65.21**	**25**	P	**P**	**08 16 04.3**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=201,slow=7.2,SNR=4.1						
MCQ	**Macquarie Isla**	**69.82**	**184**	P	**P**	**08 16 31.1**	**-0.8**
TOA0	**Torodi Ar. Sit**	**73.13**	**30**	P	**P**	**08 16 53.8**	**+1.5**
TOA0				IAmb	IAmb	08 16 54.6	
	comp=Z,7.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.13**	**30**	P	**P**	**08 16 53.6**	**+1.3**
	comp=Z,4.7nm,0.6s,baz=200,slow=6.5,SNR=48						
TORD	**Torodi Ar. Bea**	**73.13**	**30**	P	**P**	**08 16 53.8**	**+1.5**
TORD				IAmb	IAmb	08 16 54.6	
	comp=Z,7.5nm,0.9s						
SDV	**Santo Domingo**	**73.61**	**316**	LR	LR	08 52 33.7	
	comp=Z,30nm,18.1s,baz=46,slow=38						
ASAR	**Alice Springs**	**99.26**	**163**	P	**Pdif**	**08 19 03.0**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=191,slow=5.1,SNR=5.7						
ASAR	**Alice Springs**	**99.26**	**163**	P	**Pdif**	**08 19 01.5**	**-1.7**
FINES	**FINESS Array B**	**124.44**	**28**	PKP	**PKPdf**	**08 24 18.9**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=260,slow=5.4,SNR=1.5						
ARCES	**ARCESS Array B**	**130.96**	**22**	PKP	**PKPdf**	**08 24 31.1**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=240,slow=2.1,SNR=8.2						
ARCES				SKPbc	**SKPbc**	**08 27 41.6**	**-2.1**
	comp=Z,3.7nm,0.9s,baz=354,slow=3.7,SNR=5.1						
ARCES	**ARCESS Array B**	**130.96**	**22**		**PKPdf**	**08 24 30.4**	**-0.3**
YKA	**Yellowknife Ar**	**135.78**	**318**	PKP	**PKPdf**	**08 24 40.1**	**+0.2**
YKA				SKPbc	**SKPbc**	**08 27 58.0**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=129,slow=2.3,SNR=13						
YKA	**Yellowknife Ar**	**135.78**	**318**		**PKPdf**	**08 24 39.7**	**-0.2**
MKAR	**Makanchi Array**	**137.23**	**72**	PKP	**PKPdf**	**08 24 42.4**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=298,slow=3.1,SNR=1.3						
MKAR				SKPbc	**SKPbc**	**08 28 03.5**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=238,slow=3.0,SNR=9.6						
MKAR	**Makanchi Array**	**137.23**	**72**	PKPdf	**PKPdf**	**08 24 42.2**	**-1.0**
ILAR	**Eielson Array**	**149.71**	**312**	PKPbc	**PKPbc**	**08 25 09.3**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=128,slow=1.6,SNR=18						
SONM	**Songino Array**	**151.13**	**87**	PKPbc	**PKPbc**	**08 25 13.7**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=227,slow=3.0,SNR=7.6						
SONM	**Songino Array**	**151.13**	**87**	PKPdf	**PKPdf**	**08 25 06.3**	**-0.9**
SONM				PKPbc	**PKPbc**	**08 25 14.1**	**+0.9**
SONM				PKPab	**PKPab**	**08 25 21.6**	**0.0**

*NOU **12** 08:29:58.6, 37°.77S×176°.36E, h246km, MLv4.1/7, North Island, New Zealand*
*WEL **12** 08:30:07.7±1.1, 38°.5S±°.×17°.6E±°, h166km±10km, M2.6/24, ML2.1/7, MLv2.6/24, Error ellipse: s-maj=0.0km s-min=0.0km az=129.7*
ISC 12 08:30:01.2±2.0, 37°.98S±0°.07×176°.22E±0°.06, h216km±11km, n115, σ1989/125, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARZ	**Kaharoa**	**0.05**	**156**	P	**Pn**	**08 30 30.7**	**+1.3**
OMRZ	**Omania**	**0.18**	**137**	P	**Pn**	**08 30 30.9**	**+1.4**
TGRZ	**Tauranga**	**0.25**	**7**	P	**Pn**	**08 30 31.3**	**+1.6**
KMRZ	**Kaimai**	**0.26**	**301**	P	**Pn**	**08 30 31.1**	**+1.4**
OPRZ	**Ohinepanea**	**0.30**	**63**	P	**Pn**	**08 30 30.9**	**+1.2**
GRRZ	**Galatos Road**	**0.38**	**193**	P	**Pn**	**08 30 31.6**	**+1.6**
RRRZ	**Republican Roa**	**0.43**	**147**	P	**Pn**	**08 30 31.2**	**+1.2**
PRRZ	**Plateau Road**	**0.54**	**165**	P	**Pn**	**08 30 31.8**	**+1.4**
WPRZ	**Whakapapatarin**	**0.54**	**185**	P	**Pn**	**08 30 32.2**	**+1.7**
ALRZ	**Allen Road**	**0.59**	**171**	P	**Pn**	**08 30 32.2**	**+1.6**
TOZ	**Tahuroa Road**	**0.62**	**293**	P	**Pn**	**08 30 32.2**	**+1.6**
MUGZ	**Murupara**	**0.66**	**139**	P	**Pn**	**08 30 32.1**	**+1.2**
URZ	**Urewera**	**0.76**	**112**	P	**Pn**	**08 30 32.4**	**+1.1**
URZ				S	**S**	**08 30 52.0**	**-2.7**
URZ	**Urewera**	**0.76**	**112**	P	**Pn**	**08 30 32.4**	**+1.1**
WATZ	**Wairara**	**0.82**	**208**	P	**Pn**	**08 30 33.6**	**+1.9**
MRHZ	**Matea Rd**	**0.87**	**170**	P	**Pn**	**08 30 33.5**	**+1.6**
RUZ	**Ruatahuna**	**0.87**	**137**	P	**Pn**	**08 30 33.6**	**+1.6**
RTZ				S	**S**	**08 30 54.3**	**-1.8**
RATZ	**Rangitukua**	**0.95**	**201**	P	**Pn**	**08 30 34.2**	**+1.8**
MTHZ	**Maungataniwha**	**1.00**	**151**	P	**Pn**	**08 30 34.5**	**+1.7**
MTHZ				S	**S**	**08 30 55.2**	**-2.1**
RITZ	**Rihia Road**	**1.04**	**196**	P	**Pn**	**08 30 35.2**	**+2.2**
RAGZ	**Rawiri**	**1.07**	**119**	P	**Pn**	**08 30 35.2**	**+2.0**
RAGZ				S	**S**	**08 30 56.8**	**-1.3**
MWZ	**Matawai**	**1.09**	**109**	P	**Pn**	**08 30 35.0**	**+1.7**
MWZ				S	**S**	**08 30 56.4**	**-1.8**
RUGZ	**Raukumara Rang**	**1.15**	**90**	P	**Pn**	**08 30 34.5**	**+0.7**
RUGZ				S	**S**	**08 30 55.8**	**-3.4**
RAHZ	**Arahi**	**1.16**	**144**	P	**Pn**	**08 30 36.1**	**+2.4**
RAHZ				S	**S**	**08 30 58.4**	**-0.7**
SNGZ	**Shannon Statio**	**1.19**	**133**	P	**Pn**	**08 30 36.3**	**+2.3**
SNGZ				S	**S**	**08 30 58.2**	**-1.3**
NTVZ	**North Tongarir**	**1.20**	**201**	P	**Pn**	**08 30 36.2**	**+2.0**
HIZ	**Hauiti**	**1.20**	**243**	P	**Pn**	**08 30 36.1**	**+2.1**
HIZ	**Hauiti**	**1.20**	**243**	P	**Pn**	**08 30 36.2**	**+2.1**
KRVZ	**Karewarewa**	**1.20**	**202**	P	**Pn**	**08 30 36.2**	**+2.0**
BKZ	**Black Stump Fm**	**1.21**	**170**	P	**Pn**	**08 30 35.9**	**+1.8**
BKZ				S	**S**	**08 30 58.2**	**-1.6**
BKZ	**Black Stump Fm**	**1.21**	**170**	P	**Pn**	**08 30 35.9**	**+1.8**
TMVZ	**Te Maari**	**1.21**	**199**	P	**Pn**	**08 30 36.1**	**+1.9**
NMHZ	**Naumai**	**1.21**	**158**	P	**Pn**	**08 30 36.8**	**+2.7**
MKAZ	**Moumakai**	**1.21**	**316**	P	**Pn**	**08 30 36.1**	**+1.9**
ETVZ	**East Tongariro**	**1.22**	**199**	P	**Pn**	**08 30 36.3**	**+1.9**
WTVZ	**West Tongariro**	**1.24**	**203**	P	**Pn**	**08 30 36.4**	**+1.9**
NNVZ	**North Ngauruho**	**1.25**	**202**	P	**Pn**	**08 30 36.7**	**+2.2**
HAZ	**Te Kaha**	**1.26**	**80**	P	**Pn**	**08 30 36.0**	**+1.6**
HAZ				S	**S**	**08 30 57.6**	**-2.5**
SNVZ	**South Ngauruho**	**1.29**	**200**	P	**Pn**	**08 30 36.9**	**+2.0**
NGZ	**Ngauruhoe**	**1.29**	**202**	P	**Pn**	**08 30 37.2**	**+2.3**
KUZ	**Kuaotunu**	**1.29**	**342**	P	**Pn**	**08 30 36.3**	**+1.6**
WHHZ	**Waihua**	**1.36**	**144**	P	**Pn**	**08 30 35.3**	**+0.1**
TKGZ	**Te Karaka**	**1.36**	**110**	P	**Pn**	**08 30 37.6**	**+2.4**
TUVZ	**Tukino**	**1.36**	**199**	P	**Pn**	**08 30 37.6**	**+2.2**
FWVZ	**Far West T-bar**	**1.38**	**202**	P	**Pn**	**08 30 37.7**	**+2.1**
WHVZ	**Whangaehu Hut**	**1.39**	**201**	P	**Pn**	**08 30 37.8**	**+2.1**
TWGZ	**Tauwhareparae**	**1.40**	**99**	P	**Pn**	**08 30 38.1**	**+2.5**
RIGZ	**Rimuhau**	**1.41**	**121**	P	**Pn**	**08 30 38.2**	**+2.5**
ARHZ	**Aropaoanui**	**1.42**	**155**	P	**Pn**	**08 30 38.3**	**+2.6**
TRVZ	**Turoa**	**1.42**	**202**	P	**Pn**	**08 30 38.0**	**+2.0**
WNVZ	**Wahianoa**	**1.43**	**200**	P	**Pn**	**08 30 38.0**	**+2.0**
KWHZ	**Kaweka Forest**	**1.45**	**174**	P	**Pn**	**08 30 38.2**	**+2.2**
MOVZ	**Moawhango**	**1.47**	**194**	P	**Pn**	**08 30 37.9**	**+1.7**
PKVZ	**Pokaka**	**1.48**	**207**	P	**Pn**	**08 30 38.3**	**+2.0**
MCHZ	**McNeill Hill**	**1.51**	**166**	P	**Pn**	**08 30 39.2**	**+2.7**
BHHZ	**Black Hill Sta**	**1.52**	**185**	P	**Pn**	**08 30 38.3**	**+1.8**
MTVZ	**Mangateitei**	**1.52**	**202**	P	**Pn**	**08 30 38.8**	**+2.1**
KNZ	**Kokohu**	**1.54**	**133**	P	**Pn**	**08 30 39.1**	**+2.4**
PRGZ	**Paritu Road**	**1.61**	**126**	P	**Pn**	**08 30 39.9**	**+2.5**
VRZ	**Vera Road**	**1.62**	**225**	P	**Pn**	**08 30 40.0**	**+2.7**
CNGZ	**Carnagh Statio**	**1.64**	**109**	P	**Pn**	**08 30 40.8**	**+3.1**
KRHZ	**Kereru**	**1.67**	**176**	P	**Pn**	**08 30 40.0**	**+2.1**
MXZ	**Matakaoa Point**	**1.70**	**77**	P	**Pn**	**08 30 40.4**	**+2.2**
WMGZ	**Waiomatatini S**	**1.74**	**85**	P	**Pn**	**08 30 40.8**	**+2.2**
MHGZ	**Mahia Peninsul**	**1.77**	**132**	P	**Pn**	**08 30 41.6**	**+2.9**
CKHZ	**Cape Kidnapper**	**1.81**	**159**	P	**Pn**	**08 30 41.9**	**+2.8**
KAHZ	**Kahuranaki**	**1.89**	**164**	P	**Pn**	**08 30 42.6**	**+2.7**
PNHZ	**Pukenui**	**1.93**	**180**	P	**Pn**	**08 30 42.3**	**+2.0**
WAZ	**Wanganui**	**2.02**	**208**	P	**Pn**	**08 30 43.3**	**+2.2**
TSZ	**Takapari Road**	**2.09**	**185**	P	**Pn**	**08 30 43.8**	**+2.0**
WPHZ	**Waipukurau**	**2.09**	**175**	P	**Pn**	**08 30 44.0**	**+2.2**
NEZ	**North Egmont**	**2.11**	**232**	P	**Pn**	**08 30 45.6**	**+3.5**
PXZ	**Pawanui**	**2.11**	**166**	P	**Pn**	**08 30 44.4**	**+2.4**
PKE	**Pukeiti**	**2.13**	**235**	P	**Pn**	**08 30 45.8**	**+3.5**
PRHZ	**Porangahau**	**2.31**	**172**	P	**Pn**	**08 30 46.3**	**+2.2**
DVHZ	**Dannevirke**	**2.32**	**181**	P	**Pn**	**08 30 46.0**	**+1.8**
POWZ	**Post Office Ro**	**2.44**	**188**	P	**Pn**	**08 30 47.2**	**+1.8**
ANWZ	**Angora Road**	**2.48**	**176**	P	**Pn**	**08 30 48.2**	**+2.3**
PRWZ	**Pori Road**	**2.58**	**184**	P	**Pn**	**08 30 48.0**	**+2.0**
BFZ	**Birch Farm**	**2.70**	**180**	P	**Pn**	**08 30 50.0**	**+1.7**
MRZ	**Mangatainoka R**	**2.73**	**190**	P	**Pn**	**08 30 50.1**	**+1.5**
TIWZ	**Tintock**	**2.81**	**185**	P	**Pn**	**08 30 51.2**	**+1.7**
CPWZ	**Castlepoint**	**2.93**	**180**	P	**Pn**	**08 30 53.1**	**+2.3**
OGWZ	**Otaki Gorge**	**2.95**	**196**	P	**Pn**	**08 30 51.2**	**+0.1**
KIW	**Kapiti Island**	**3.05**	**199**	P	**Pn**	**08 30 53.5**	**+1.2**
TMWZ	**Te Maipa**	**3.14**	**185**	P	**Pn**	**08 30 53.2**	**0.0**
CAW	**Cannon Point**	**3.25**	**196**	P	**Pn**	**08 30 55.8**	**+1.2**
DUWZ	**D'Urville Isla**	**3.34**	**212**	P	**Pn**	**08 30 56.6**	**+1.0**
TRWZ	**Traveller**	**3.44**	**187**	P	**Pn**	**08 30 58.0**	**+1.2**
PAWZ	**Paruwai Farm**	**3.46**	**190**	P	**Pn**	**08 30 58.0**	**+1.0**
MSWZ	**Moikau Station**	**3.52**	**192**	P	**Pn**	**08 30 58.5**	**+0.8**
TCW	**Tory Channel**	**3.56**	**204**	P	**Pn**	**08 30 59.4**	**+1.2**
BHW	**Baring Head**	**3.58**	**196**	P	**Pn**	**08 30 59.2**	**+0.8**
PLWZ	**Palliser**	**3.66**	**191**	P	**Pn**	**08 31 00.3**	**+0.8**
TUWZ	**Tuamarina**	**3.87**	**206**	P	**Pn**	**08 31 03.6**	**+1.7**
NNZ	**Nelson**	**3.91**	**213**	P	**Pn**	**08 31 03.1**	**+0.7**
QRZ	**Quartz Range**	**4.03**	**224**	P	**Pn**	**08 31 04.8**	**+0.8**
QRZ	**Quartz Range**	**4.03**	**224**	P	**Pn**	**08 31 04.8**	**+0.8**
MRNZ	**Matariki Terra**	**4.34**	**217**	P	**Pn**	**08 31 10.2**	**+2.5**
THZ	**Tophouse**	**4.56**	**213**	P	**Pn**	**08 31 11.9**	**+1.4**
KHZ	**Kahutara**	**4.89**	**204**	P	**Pn**	**08 31 15.6**	**+1.2**
KHZ	**Kahutara**	**4.89**	**204**	P	**Pn**	**08 31 15.7**	**+1.2**
DSZ	**Denniston Nort**	**5.07**	**221**	P	**Pn**	**08 31 18.5**	**+1.7**
GVZ	**Greta Valley S**	**5.54**	**205**	P	**Pn**	**08 31 23.6**	**+0.8**
LTZ	**Lake Taylor**	**5.67**	**211**	P	**Pn**	**08 31 25.3**	**+0.9**
INZ	**Inchbonnie**	**5.98**	**216**	P	**Pn**	**08 31 29.6**	**+1.2**
OXZ	**Oxford**	**6.22**	**209**	P	**Pn**	**08 31 31.2**	**-0.2**
OKCZ	**Okains Bay**	**6.22**	**202**	P	**Pn**	**08 31 32.2**	**+0.7**
MQZ	**McQueen's Vall**	**6.33**	**204**	P	**Pn**	**08 31 32.3**	**-0.5**
RPZ	**Rata Peaks**	**6.94**	**213**	P	**Pn**	**08 31 41.2**	**+0.5**
RPZ	**Rata Peaks**	**6.94**	**213**	P	**Pn**	**08 31 41.9**	**+1.2**
ARCZ	**Arundel**	**7.08**	**211**	P	**Pn**	**08 31 43.1**	**+0.6**
TMZ	**Timaru**	**7.51**	**210**	P	**Pn**	**08 31 48.5**	**+0.5**
ODZ	**Otahua Downs**	**8.20**	**209**	P	**Pn**	**08 31 57.9**	**+1.0**
ODZ	**Otahua Downs**	**8.20**	**209**	P	**Pn**	**08 31 57.1**	**+0.1**

*NIED **12** 08:54:23.8, 39°.26N×144°.24E, h51km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.76; $M_{\theta\theta}$=0.21; $M_{\phi\phi}$=1.55; $M_{r\theta}$=0.14; $M_{r\phi}$=0.19; $M_{\theta\phi}$=1.04; Fault plane solution: M_0=1.97000×10^{14} NP1:ϕ_s=8.00000°, δ=29.00000°, λ=-90.00000°. NP2:ϕ_s=188.00000°, δ=61.00000°, λ=-90.00000°.*
JMA 12 08:54:23.8±0.2, 39°.26N×144°.24E, h51km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.90**	**280**	P	Pn	08 54 54.8	+1.0
MIYJ				*eS*	Sn	08 55 17.0	+0.4
JTH	**Tanohata**	**1.96**	**291**	P	Pn	08 54 55.3	+0.8
OFUJ	**Ofunato**	**2.01**	**266**	P	Pn	08 54 56.0	+0.8
JOM	**Ohasama**	**2.29**	**276**	P	Pn	08 55 00.6	+1.4
JOM				S	Sn	08 55 27.6	+1.4
JMK	**Ichinoseki**	**2.37**	**263**	P	Pn	08 55 01.3	+1.1
JANG	**Nango**	**2.38**	**299**	P	Pn	08 55 00.8	+0.5
JYK	**Kaneyama**	**3.04**	**265**	P	Pn	08 55 11.0	+1.6
JNBK	**Urakawa-nobuka**	**3.22**	**340**	P	Pn	08 55 13.5	+1.6
JCH	**Churui**	**3.42**	**349**	P	Pn	08 55 14.5	0.0
JCH				*eS*	Sn	08 55 54.1	+0.4
JFT	**Otama**	**3.53**	**242**	P	Pn	08 55 17.1	+1.0
JFT				*eS*	Sn	08 55 57.2	+0.7
NEM2	**Nemuro 2**	**4.25**	**15**	P	Pn	08 55 24.4	-1.6
NEM2				S	Sn	08 56 10.1	-4.2
JTKR	**Abashiri--Toko**	**4.71**	**357**	P	Pn	08 55 32.5	+0.2
JTKR				*eS*	Sn	08 56 23.9	-1.7

*IDC **12** 09:08:23.0±1.7, 32°.22S×178°.27W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/39, mbtmp3.9/6, ML2.8/1, Error ellipse: s-maj=40.6km s-min=26.9km az=53.0*
*NEIC **12** 09:08:29.4±0.9, 32°.39S±0°.09×178°.3W±0°.2, h35km±2km, mb4.4/9, Error ellipse: s-maj=28.8km s-min=13.7km az=101.0*
ISC 12 09:08:28.7±0.9, 32°.31S±0°.09×178°.4W±0°.2, h33km, n17, σ0°86/16, mb4.2/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.08**	**7**	Pn	**Pn**	**09 09 15.1**	**+0.2**
URZ	**Urewera**	**7.00**	**211**	Pn	**Pn**	**09 10 06.8**	**-2.0**
	0.2nm,0.3s,baz=14,slow=18,SNR=1.6						
URZ				Sn	**Sn**	**09 11 29.0**	**+1.9**
	4.2nm,0.3s,baz=54,slow=19,SNR=16						
CTA	**Charters Tower**	**33.86**	**282**	P	**P**	**09 15 08.9**	**+0.6**
	3.5nm,0.

1.9nm,0.8s,baz=32,slow=31,SNR=4.0
MKAR Makanchi Array 7.78 209 Pn Pn 09 23 54.8 +0.1
0.2nm,0.3s,baz=30,slow=13,SNR=6.2
MKAR Sn Sn 09 25 23.8 +0.3
0.0nm,0.3s,baz=32,slow=26,SNR=1.9
MKAR Lg Lg 09 25 59.1
0.0nm,0.3s,baz=40,slow=19,SNR=1.6
MAKZ Makanchi 7.86 211 Pn Pn 09 23 55.8 +0.1
0.4nm,0.6s
MAKZ Lg Lg 09 26 09.0
3.1nm,1.1s

IDC ***12*** *09:27:04.9±1.0,59°.86N×152°.95W,h93km±13km,mb3.7/11, mb1 3.8/16,mb1mx3.5/61,mbtmp4.1/16,Error ellipse: s-maj=15.0km s-min=9.3km az=113.0*
ANF ***12*** *09:27:05.8±0.2,59°.79N×152°.96W,h111km±2km,ML4.1/49, Error ellipse: s-maj=1.9km s-min=1.6km az=128.0*
NEIC ***12*** *09:27:06.1±1.2,59°.83N±0°.03×152°.92W±0°.06, h112km±3km,Error ellipse: s-maj=5.0km s-min=4.1km az=143.0*
AEIC ***12*** *09:27:07±1.1,59°.82N±0°.03×152°.90W±0°.06,h106km±3km, ML3.8,mb4.0/8(NEIC),ML3.9/124(NEIC),Error ellipse: s-maj=4.5km s-min=4.0km az=200.0*

ISC 12 09:27:06.3±0.6,59°.81N±0°.03×152°.88W±0°.03, h112km±4km,n294,σ0:80/307,mb3.9/15,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVE	**Iliamna Volcan**	**0.22**	**341**		**Pn**	**09 27 21.6**	**-0.5**
IVE					**Sn**	**09 27 33.3**	**-0.7**
OPT	**Oil Point**	**0.24**	**229**		**Pn**	**09 27 21.9**	**-0.2**
P19K	**Oil Pt**	**0.24**	**229**		**Pn**	**09 27 21.8**	**-0.3**
P19K	**Oil Pt**	**0.24**	**229**		**Sn**	**09 27 33.3**	**-0.6**
P19K	**Oil Pt**	**0.24**	**229**	P	**Pn**	**09 27 21.8**	**-0.3**
	baz=45,SNR=31						
P19K				S	**Sn**	**09 27 33.4**	**-0.6**
	baz=45						
O20K	**Slope Mountain**	**0.30**	**25**		**Pn**	**09 27 22.2**	**-0.1**
O20K					**Sn**	**09 27 34.2**	**-0.2**
O20K	**Slope Mountain**	**0.30**	**25**	P	**Pn**	**09 27 22.2**	**-0.1**
	baz=209,SNR=63						
O20K				S	**Sn**	**09 27 34.2**	**-0.2**
	baz=209						
AU22	**Augustine Moun**	**0.51**	**209**		**Pn**	**09 27 23.1**	**-0.3**
AU22					**Sn**	**09 27 35.6**	**-0.6**
AUL	**Augustine Lava**	**0.52**	**214**		**Pn**	**09 27 23.3**	**-0.2**
AUL					**Sn**	**09 27 36.0**	**-0.3**
AUQ	**Augustine Qik'**	**0.53**	**211**		**Pn**	**09 27 23.4**	**-0.2**
AUQ					**Sn**	**09 27 36.1**	**-0.5**
RED	**Redoubt Volcan**	**0.61**	**5**		**Pn**	**09 27 23.9**	**-0.3**
RED					**Sn**	**09 27 36.7**	**-1.0**
HOM	**Homer**	**0.64**	**103**		**Pn**	**09 27 24.6**	**+0.3**
HOM				IAML		09 27 40.3	
	comp=E,7μm,0.5s						
HOM				IAML		09 27 40.6	
	comp=N,5μm,0.7s						
HOM	**Homer**	**0.64**	**103**		**Sn**	**09 27 38.3**	**+0.4**
HOM	**Homer**	**0.64**	**103**	P	**Pn**	**09 27 24.6**	**+0.3**
	baz=284,SNR=38						
HOM				S	**Sn**	**09 27 38.3**	**+0.4**
	baz=284						
RSO	**Redoubt South**	**0.66**	**5**		**Pn**	**09 27 24.5**	**-0.2**
RDWB	**Redoubt West**	**0.68**	**1**		**Pn**	**09 27 24.5**	**-0.4**
RDWB					**Sn**	**09 27 37.9**	**-0.9**
NCT	**North Crescent**	**0.75**	**358**		**Pn**	**09 27 25.2**	**-0.2**
NCT					**Sn**	**09 27 38.8**	**-1.0**
RDJH	**Redoubt Jeurge**	**0.78**	**3**		**Pn**	**09 27 25.5**	**-0.2**
RDJH					**Sn**	**09 27 39.3**	**-1.0**
DFR	**Drift River**	**0.79**	**7**		**Pn**	**09 27 25.6**	**-0.1**
O19K	**Port Alsworth**	**0.82**	**299**	Pn	**Pn**	**09 27 25.6**	**-0.3**
O19K	**Port Alsworth**	**0.82**	**299**		**Sn**	**09 27 39.6**	**-0.9**
O19K	**Port Alsworth**	**0.82**	**299**	IAML		09 27 40.5	
	comp=N,3μm,0.4s						
O19K				IAML		09 27 41.3	
	comp=E,3μm,0.4s						
O19K	**Port Alsworth**	**0.82**	**299**	P	**Pn**	**09 27 25.5**	**-0.3**
	baz=118,SNR=35						
O19K				S	**Sn**	**09 27 39.7**	**-0.9**
	baz=118						
CNPM	**China Poot**	**0.88**	**108**		**Pn**	**09 27 26.4**	**-0.1**
CNPM				IAML		09 27 41.9	
	comp=N,4μm,0.5s						
CNPM				IAML		09 27 43.9	
	comp=E,3μm,0.4s						
Q19K	**Cape Douglas,**	**0.97**	**204**		**Pn**	**09 27 26.8**	**-0.5**
Q19K				IAML		09 27 44.2	
	comp=E,1μm,0.6s						
Q19K	**Cape Douglas,**	**0.97**	**204**		**Sn**	**09 27 42.6**	**-0.6**
Q19K	**Cape Douglas,**	**0.97**	**204**	P	**Pn**	**09 27 26.8**	**-0.5**
	baz=22						
Q19K				S	**Sn**	**09 27 42.5**	**-0.8**
	baz=22						
BRLK	**Bradley Lake**	**1.01**	**92**	Pn	**Pn**	**09 27 27.7**	**0.0**
BRLK				IAML		09 27 43.9	
	comp=N,3μm,0.4s						
BRLK				IAML		09 27 44.3	
	comp=E,3μm,0.4s						
BRSE	**Bradley Lake S**	**1.08**	**93**		**Pn**	**09 27 28.3**	**-0.1**
BRSE	**Bradley Lake S**	**1.08**	**93**	P	**Pn**	**09 27 28.4**	**0.0**
	baz=275,SNR=80						
BRSE				S	**Sn**	**09 27 44.8**	**-0.4**
	baz=275						
O18K	**Koktuh Hills**	**1.18**	**273**		**Pn**	**09 27 29.2**	**-0.3**
O18K	**Koktuh Hills**	**1.18**	**273**		**Sn**	**09 27 46.0**	**-1.1**
O18K	**Koktuh Hills**	**1.18**	**273**	IAML		09 27 46.6	
	comp=N,371nm,0.6s						
O18K				IAML		09 27 46.9	
	comp=E,749nm,0.7s						
O18K	**Koktuh Hills**	**1.18**	**273**	P	**Pn**	**09 27 29.2**	**-0.3**
	baz=91						
O18K				S	**Sn**	**09 27 45.8**	**-1.3**
	baz=91						
P18K	**Big Mountain,**	**1.27**	**252**	Pn	**Pn**	**09 27 29.8**	**-0.7**
P18K	**Big Mountain,**	**1.27**	**252**	P	**Pn**	**09 27 29.8**	**-0.7**
	baz=69						
P18K				S	**Sn**	**09 27 47.1**	**-1.8**
	baz=69						
N19K	**Bonanza Creek**	**1.28**	**322**	Pn	**Pn**	**09 27 30.6**	**-0.2**
N19K	**Bonanza Creek**	**1.28**	**322**	P	**Pn**	**09 27 30.5**	**-0.2**
	baz=141,SNR=221						
N19K				S	**Sn**	**09 27 48.1**	**-1.2**
	baz=141						
CAPN	**Captain Cook N**	**1.29**	**41**	Pn	**Pn**	**09 27 32.6**	**+1.9**
CAPN	**Captain Cook N**	**1.29**	**41**	P	**Pn**	**09 27 32.5**	**+1.9**
	baz=223						
SPU	**Mount Spurr**	**1.43**	**16**	Pn	**Pn**	**09 27 32.4**	**0.0**
CKN	**Chakachatna No**	**1.46**	**13**		**Pn**	**09 27 33.0**	**+0.2**
SLKM	**Skilak Lake**	**1.50**	**61**		**Pn**	**09 27 32.9**	**-0.3**
SLKM					**Sn**	**09 27 52.4**	**-1.3**
SPCG	**Spurr Capps Gl**	**1.54**	**16**		**Pn**	**09 27 34.0**	**+0.2**
O22K	**Cooper Landing**	**1.71**	**66**		**Pn**	**09 27 36.0**	**+0.3**
O22K	**Cooper Landing**	**1.71**	**66**		**Sn**	**09 27 56.7**	**-1.4**
O22K	**Cooper Landing**	**1.71**	**66**	IAML		09 28 01.1	
	comp=E,3μm,0.4s						
O22K				IAML		09 28 12.8	
	comp=N,3μm,0.7s						
O22K	**Cooper Landing**	**1.71**	**66**	P	**Pn**	**09 27 36.0**	**+0.3**
	baz=249,SNR=27						
N18K	**Kilae Creek**	**1.74**	**301**		**Pn**	**09 27 35.7**	**-0.4**
N18K	**Kilae Creek**	**1.74**	**301**	P	**Pn**	**09 27 35.7**	**-0.4**
	baz=119,SNR=16						
N18K				S	**Sn**	**09 27 57.2**	**-1.6**
	baz=119						
SEW	**Seward**	**1.75**	**79**	Pn	**Pn**	**09 27 35.9**	**-0.2**
SEW	**Seward**	**1.75**	**79**	P	**Pn**	**09 27 35.8**	**-0.3**
	baz=262,SNR=27						
STLK	**Strandline Lak**	**1.77**	**16**		**Pn**	**09 27 36.7**	**+0.2**
SVW2	**Sparrevohn**	**1.86**	**315**		**Pn**	**09 27 37.1**	**-0.5**
SVW2	**Sparrevohn**	**1.86**	**315**		**Sn**	**09 28 00.4**	**-1.1**
FIS	**Fire Island**	**1.88**	**43**	Pn	**Pn**	**09 27 39.1**	**+1.4**
FIS				IAML		09 28 09.0	
	comp=E,1μm,0.6s						
FIS				IAML		09 28 10.0	
	comp=N,1μm,0.8s						
KCG	**Knife Ck. Glac**	**1.90**	**218**		**Pn**	**09 27 39.1**	**+1.0**
RC01	**Rabbit Creek A**	**2.02**	**49**		**Pn**	**09 27 39.7**	**+0.2**
RC01				IAML		09 28 05.4	
	comp=E,2μm,0.3s						
RC01				IAML		09 28 06.8	
	comp=N,1μm,0.4s						
RC01	**Rabbit Creek A**	**2.02**	**49**	P	**Pn**	**09 27 39.5**	**0.0**
	baz=232,SNR=14						
RC01				S	**Sn**	**09 28 04.0**	**-0.9**
	baz=232						
KDAK	**Kodiak Island**	**2.04**	**176**	P	**Pn**	**09 27 38.8**	**-1.0**
	comp=N,95nm,0.3s,baz=62,slow=11,SNR=448						
KDAK				S	**Sn**	**09 28 04.1**	**-1.3**
	comp=N,154nm,0.3s,baz=324,slow=22,SNR=34						
KDAK	**Kodiak Island**	**2.04**	**176**	Pn	**Pn**	**09 27 39.1**	**-0.7**
KDAK				IAML		09 28 05.4	
	comp=N,1μm,0.4s						
KDAK	**Kodiak Island**	**2.04**	**176**		**Sn**	**09 28 04.3**	**-1.1**
KDAK	**Kodiak Island**	**2.04**	**176**	P	**Pn**	**09 27 38.8**	**-1.0**
	baz=355						
M19K	**Big River Lodg**	**2.23**	**341**		**Pn**	**09 27 42.2**	**0.0**
M19K	**Big River Lodg**	**2.23**	**341**	P	**Pn**	**09 27 42.2**	**0.0**
	baz=160						
M22K	**Willow**	**2.37**	**34**		**Pn**	**09 27 44.3**	**+0.3**
M22K	**Willow**	**2.37**	**34**	P	**Pn**	**09 27 44.2**	**+0.3**
	baz=216,SNR=40						
PWL	**Port Wells**	**2.49**	**63**		**Pn**	**09 27 45.3**	**-0.3**
PWL				IAML		09 28 14.9	
	comp=E,870nm,0.4s						
PWL	**Port Wells**	**2.49**	**63**	P	**Pn**	**09 27 45.7**	**+0.1**
	baz=247,SNR=48						
PMR	**Palmer**	**2.57**	**44**		**Pn**	**09 27 45.9**	**-0.6**
PMR				IAML		09 28 18.2	
	comp=E,372nm,0.3s						
PMR				IAML		09 28 21.3	
	comp=N,335nm,0.4s						
PMR	**Palmer**	**2.57**	**44**	P	**Pn**	**09 27 45.7**	**-0.8**
	baz=228,SNR=31						
L19K	**White Mountain**	**2.57**	**339**	Pn	**Pn**	**09 27 46.6**	**0.0**
L19K	**White Mountain**	**2.57**	**339**	P	**Pn**	**09 27 46.4**	**-0.2**
	baz=158,SNR=125						
OHAK	**Old Harbor**	**2.60**	**185**	Pn	**Pn**	**09 27 46.1**	**-1.0**
OHAK				IAML		09 28 17.1	
	comp=N,444nm,0.5s						
OHAK				IAML		09 28 18.2	
	comp=E,384nm,0.3s						
OHAK	**Old Harbor**	**2.60**	**185**	P	**Pn**	**09 27 45.9**	**-1.1**
	baz=4.2,SNR=16						
OHAK				S	**Sn**	**09 28 15.7**	**-2.7**
	baz=4.2						
KNK	**Knik Glacier**	**2.71**	**52**	Pn	**Pn**	**09 27 48.0**	**-0.5**
KNK	**Knik Glacier**	**2.71**	**52**	P	**Pn**	**09 27 47.8**	**-0.7**
	baz=236,SNR=14						
L20K	**Farewell, AK**	**2.72**	**350**		**Pn**	**09 27 48.9**	**+0.3**
L20K	**Farewell, AK**	**2.72**	**350**	P	**Pn**	**09 27 48.9**	**+0.3**
	baz=170,SNR=102						
GHO	**Glory Hole Cre**	**2.76**	**43**		**Pn**	**09 27 48.5**	**-0.7**
GHO	**Glory Hole Cre**	**2.76**	**43**	IAML		09 28 21.5	
	comp=N,659nm,0.3s						
GHO				IAML		09 28 23.5	
	comp=E,654nm,0.6s						
CUT	**Chulitna**	**2.89**	**25**		**Pn**	**09 27 50.8**	**0.0**
CUT				IAML		09 28 26.3	
	comp=E,659nm,0.4s						
CUT				IAML		09 28 34.3	
	comp=N,433nm,0.5s						
CUT	**Chulitna**	**2.89**	**25**	P	**Pn**	**09 27 50.5**	**-0.3**
	baz=208,SNR=52						
SML	**Sawmill**	**2.99**	**46**	Pn	**Pn**	**09 27 51.8**	**-0.5**
SML				IAML		09 28 27.1	
	comp=E,359nm,0.7s						
SML				IAML		09 28 34.8	
	comp=N,380nm,0.7s						
SML	**Sawmill**	**2.99**	**46**	P	**Pn**	**09 27 51.5**	**-0.7**
	baz=230,SNR=23						
GLI	**Glacier Island**	**3.07**	**67**	Pn	**Pn**	**09 27 52.6**	**-0.5**
GLI				IAML		09 28 28.1	
	comp=N,463nm,0.6s						
GLI	**Glacier Island**	**3.07**	**67**	P	**Pn**	**09 27 52.4**	**-0.7**
	baz=252,SNR=12						
PPLA	**Purkeypile**	**3.11**	**6**		**Pn**	**09 27 54.5**	**+0.7**
PPLA	**Purkeypile**	**3.11**	**6**	P	**Pn**	**09 27 54.6**	**+0.7**
	baz=187,SNR=44						
FID	**Port Fidalgo**	**3.32**	**71**		**Pn**	**09 27 54.8**	**-1.7**
SII	**Sitkinak Islan**	**3.33**	**193**	Pn	**Pn**	**09 27 56.0**	**-0.8**
SII				IAML		09 28 35.8	
	comp=N,384nm,0.4s						
SII				IAML		09 28 36.1	
	comp=E,445nm,0.6s						
SII	**Sitkinak Islan**	**3.33**	**193**	P	**Pn**	**09 27 55.3**	**-1.5**
	baz=11						
Q23K	**Middleton Isla**	**3.34**	**94**		**Pn**	**09 27 56.4**	**-0.3**
Q23K					**Sn**	**09 28 34.0**	**-1.6**
Q23K	**Middleton Isla**	**3.34**	**94**	IAML		09 28 36.6	
	comp=E,346nm,1.1s						
Q23K				IAML		09 28 37.1	
	comp=N,502nm,0.6s						
Q23K	**Middleton Isla**	**3.34**	**94**	P	**Pn**	**09 27 56.4**	**-0.3**
	baz=279						
MID	**Middleton Isla**	**3.34**	**94**		**Pn**	**09 27 57.0**	**+0.2**
MID				IAML		09 28 37.2	
	comp=E,296nm,0.4s						
JPK	**Jack Peak**	**3.35**	**65**		**Pn**	**09 27 56.6**	**-0.4**
SCM	**Sheep Creek Mo**	**3.39**	**51**		**Pn**	**09 27 57.2**	**-0.3**
SCM				IAML		09 28 39.1	
	comp=N,421nm,0.8s						
SCM				IAML		09 28 39.7	
	comp=E,356nm,0.5s						
SCM	**Sheep Creek Mo**	**3.39**	**51**	P	**Pn**	**09 27 57.0**	**-0.5**
	baz=286,SNR=11						
TT01	**Tatalina**	**3.46**	**335**		**Pn**	**09 27 57.9**	**-0.4**
VMT	**TAPS TI Valdez**	**3.47**	**66**		**Pn**	**09 27 58.7**	**+0.3**
TTA	**Tatalina**	**3.48**	**336**	Pn	**Pn**	**09 27 58.2**	**-0.5**
TTA	**Tatalina**	**3.48**	**336**	P	**Pn**	**09 27 58.1**	**-0.6**
	baz=153,SNR=53						
K20K	**Telida**	**3.60**	**351**		**Pn**	**09 28 00.6**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.63**	**75**		**Pn**	**09 28 00.0**	**-0.6**
EYAK	**Cordova Ski Ar**	**3.63**	**75**	P	**Pn**	**09 27 59.8**	**-0.8**
	baz=262,SNR=6.2						
CAST	**Castle Rocks**	**3.64**	**6**	Pn	**Pn**	**09 28 00.9**	**+0.1**
CAST	**Castle Rocks**	**3.64**	**6**	P	**Pn**	**09 28 00.7**	**-0.1**
	baz=187,SNR=52						
WAT6	**Susitna Watana**	**3.73**	**40**		**Pn**	**09 28 01.5**	**-0.6**
WAT6	**Susitna Watana**	**3.73**	**40**	P	**Pn**	**09 28 01.5**	**-0.6**
	baz=224,SNR=54						
DIV	**Divide**	**3.76**	**66**		**Pn**	**09 28 02.3**	**0.0**
KLU	**Klutina**	**3.82**	**61**		**Pn**	**09 28 02.5**	**-0.6**
KLU	**Klutina**	**3.82**	**61**	IAML		09 28 45.1	
	comp=E,351nm,0.2s						
KLU	**Klutina**	**3.82**	**61**	P	**Pn**	**09 28 02.6**	**-0.6**
	baz=247,SNR=33						
TRF	**Thorofare Moun**	**3.85**	**18**		**Pn**	**09 28 03.4**	**-0.4**
TRF				IAML		09 29 09.2	
	comp=N,120nm,0.6s						
TRF				IAML		09 29 09.9	
	comp=E,94nm,0.8s						
TRF	**Thorofare Moun**	**3.85**	**18**	P	**Pn**	**09 28 03.0**	**-0.8**
	baz=200,SNR=48						
KTH	**Kantishna Hill**	**3.87**	**13**		**Pn**	**09 28 03.5**	**-0.4**
KTH	**Kantishna Hill**	**3.87**	**13**	IAML		09 29 22.0	
	comp=N,85nm,1.0s						
KTH				IAML		09 29 24.6	
	comp=E,84nm,0.9s						
M24K	**Tolsona, Glenn**	**4.00**	**52**		**Pn**	**09 28 05.7**	**+0.1**
M24K	**Tolsona, Glenn**	**4.00**	**52**	P	**Pn**	**09 28 05.3**	**-0.2**
	baz=238,SNR=22						
RND	**Reindeer**	**4.09**	**26**	Pn	**Pn**	**09 28 06.5**	**-0.2**
RND				IAML		09 28 54.1	
	comp=N,77nm,0.6s						
RND				IAML		09 28 56.7	
	comp=E,81nm,0.3s						
CHUM	**Lake Minchumin**	**4.09**	**3**		**Pn**	**09 28 06.7**	**-0.1**
CHUM	**Lake Minchumin**	**4.09**	**3**	P	**Pn**	**09 28 06.7**	**-0.1**
	baz=184,SNR=36						
DHY	**Denali Highway**	**4.21**	**37**		**Pn**	**09 28 08.0**	**-0.4**
DHY	**Denali Highway**	**4.21**	**37**	IAML		09 28 58.1	
	comp=E,217nm,0.5s						
DHY				IAML		09 28 59.4	
	comp=N,182nm,0.7s						
DHY	**Denali Highway**	**4.21**	**37**	P	**Pn**	**09 28 08.1**	**-0.4**
	baz=222,SNR=45						
CHIR	**Chirikof Islan**	**4.26**	**201**	Pn	**Pn**	**09 28 07.9**	**-1.2**
CHIR	**Chirikof Islan**	**4.26**	**201**	P	**Pn**	**09 28 07.4**	**-1.7**
	baz=19						
BMRM	**Bremner River**	**4.26**	**71**		**Pn**	**09 28 08.6**	**-0.5**
BMRM	**Bremner River**	**4.26**	**71**	IAML		09 28 57.1	
	comp=E,161nm,0.4s						
BMRM				IAML		09 29 00.4	
	comp=N,173nm,0.4s						
BMRM	**Bremner River**	**4.26**	**71**	P	**Pn**	**09 28 08.8**	**-0.4**
	baz=258,SNR=9.2						
PS11	**TAPS Pump St11**	**4.27**	**55**		**Pn**	**09 28 09.1**	**-0.1**
HMT	**Hamilton**	**4.35**	**79**		**Pn**	**09 28 10.6**	**+0.3**
MCK	**McKinley**	**4.36**	**24**	Pn	**Pn**	**09 28 10.7**	**+0.3**
MCK				IAML		09 29 01.9	
	comp=N,86nm,0.4s						
MCK				IAML		09 29 02.2	
	comp=E,82nm,0.6s						
MCK	**McKinley**	**4.36**	**24**	P	**Pn**	**09 28 10.4**	**0.0**
	baz=207,SNR=89						
BPAW	**Bear Paw Mtn.**	**4.40**	**11**		**Pn**	**09 28 10.1**	**-0.9**
BPAW	**Bear Paw Mtn.**	**4.40**	**11**	P	**Pn**	**09 28 10.0**	**-0.9**
	baz=193,SNR=24						
J20K	**Nowinta River**	**4.42**	**353**	Pn	**Pn**	**09 28 11.3**	**+0.1**
J20K	**Nowinta River**	**4.42**	**353**	P	**Pn**	**09 28 11.4**	**+0.2**
	baz=172,SNR=214						
N25K	**Chitina, Valde**	**4.45**	**63**		**Pn**	**09 28 11.4**	**-0.2**
N25K				IAML		09 29 03.6	
	comp=N,161nm,0.5s						
N25K				IAML		09 29 04.6	
	comp=E,153nm,0.5s						
N25K	**Chitina, Valde**	**4.45**	**63**	P	**Pn**	**09 28 11.3**	**-0.4**
	baz=250,SNR=19						
NICHA	**Nichawak Mount**	**4.49**	**81**		**Pn**	**09 28 12.0**	**-0.1**
HARP	**HAARP**	**4.56**	**52**		**Pn**	**09 28 12.8**	**-0.3**
HARP	**HAARP**	**4.56**	**52**	P	**Pn**	**09 28 12.7**	**-0.3**
	baz=239,SNR=8.2						
SUCK	**Suckling Hills**	**4.58**	**83**	Pn	**Pn**	**09 28 14.1**	**+0.6**
SUCK				IAML		09 29 03.1	
	comp=E,112nm,2.8s						
SUCK				IAML		09 30 18.0	
	comp=N,155nm,2.5s						
BERG	**Berg Lake**	**4.63**	**79**	Pn	**Pn**	**09 28 14.4**	**+0.3**
BWN	**Browne**	**4.66**	**19**		**Pn**	**09 28 14.8**	**+0.3**
BWN	**Browne**	**4.66**	**19**	IAML		09 30 00.1	
	comp=N,71nm,1.0s						
BWN				IAML		09 30 05.2	
	comp=E,71nm,1.0s						
GLB	**Gilahina Butte**	**4.75**	**66**	Pn	**Pn**	**09 28 16.0**	**+0.2**
GLB				IAML		09 29 10.8	
	comp=N,129nm,0.8s						
GLB				IAML		09 29 11.0	
	comp=E,86nm,0.3s						
PAX	**Paxson**	**4.76**	**45**		**Pn**	**09 28 15.7**	**-0.3**
PAX	**Paxson**	**4.76**	**45**	P	**Pn**	**09 28 15.6**	**-0.3**
	baz=232,SNR=36						
GRIN	**Grindle Hills**	**4.81**	**80**		**Pn**	**09 28 17.0**	**+0.5**
KHIT	**Khitrov Hills**	**4.86**	**78**		**Pn**	**09 28 16.9**	**-0.2**
VRDI	**Verde Repeater**	**4.87**	**69**		**Pn**	**09 28 17.5**	**+0.1**
VRDI	**Verde Repeater**	**4.87**	**69**	IAML		09 29 11.8	
	comp=N,120nm,0.5s						
VRDI				IAML		09 29 11.9	
	comp=E,75nm,0.5s						
VNHG	**Veniaminof 1**	**4.91**	**226**		**Pn**	**09 28 18.0**	**+0.1**
PS10	**TAPS Pump St10**	**4.96**	**40**		**Pn**	**09 28 19.0**	**+0.5**
SNH	**Sunshine Point**	**5.05**	**81**	Pn	**Pn**	**09 28 20.8**	**+1.0**
SNH				IAML		09 29 18.4	
	comp=N,126nm,0.5s						
WAX	**Waxell Ridge**	**5.05**	**78**		**Pn**	**09 28 20.2**	**+0.4**
TGL	**Tana Glacier**	**5.09**	**75**		**Pn**	**09 28 20.5**	**+0.2**
TGL	**Tana Glacier**	**5.09**	**75**	IAML		09 29 19.9	
	comp=N,116nm,0.4s						
MCARA	**McCarthy VSAT**	**5.11**	**68**		**Pn**	**09 28 20.9**	**+0.5**
MCARA	**McCarthy VSAT**	**5.11**	**68**	IAML		09 29 27.3	
	comp=E,132nm,0.6s						
MCARA	**McCarthy VSAT**	**5.11**	**68**	P	**Pn**	**09 28 20.6**	**+0.1**
	baz=256						
NEA2	**Nenana**	**5.12**	**19**		**Pn**	**09 28 20.0**	**-0.7**
NEA2	**Nenana**	**5.12**	**19**	P	**Pn**	**09 28 19.9**	**-0.7**
	baz=202,SNR=89						
WRH	**Wood River Hil**	**5.19**	**24**		**Pn**	**09 28 20.6**	**-0.9**
WRH	**Wood River Hil**	**5.19**	**24**	IAML		09 29 19.0	
	comp=E,45nm,0.4s						
WRH				IAML		09 29 19.4	
	comp=N,35nm,0.6s						
GCSA	**Galena City Sc**	**5.29**	**341**		**Pn**	**09 28 22.7**	**-0.2**
GCSA	**Galena City Sc**	**5.29**	**341**	P	**Pn**	**09 28 22.7**	**-0.2**
	baz=158,SNR=22						
ISLE	**Juniper Island**	**5.32**	**77**		**Pn**	**09 28 23.4**	**0.0**
PTPK	**Patty Peak**	**5.33**	**71**		**Pn**	**09 28 24.2**	**+0.6**
KIAG	**Kiagna River**	**5.34**	**73**		**Pn**	**09 28 24.2**	**+0.5**
BALM	**Baldy**	**5.36**	**72**		**Pn**	**09 28 24.2**	**+0.2**
HDA	**Harding Lake**	**5.39**	**29**		**Pn**	**09 28 23.4**	**-0.8**
HDA	**Harding Lake**	**5.39**	**29**	P	**Pn**	**09 28 23.6**	**-0.6**
	baz=214,SNR=37						
CCB	**Clear Creek Bu**	**5.40**	**24**		**Pn**	**09 28 23.5**	**-0.9**
MENT	**Mentasta**	**5.40**	**51**		**Pn**	**09 28 24.0**	**-0.5**
I21K	**Tanana**	**5.41**	**4**		**Pn**	**09 28 24.1**	**-0.3**
I21K	**Tanana**	**5.41**	**4**	P	**Pn**	**09 28 24.0**	**-0.5**
	baz=185,SNR=38						
BAGL	**Bagley Icefiel**	**5.43**	**78**		**Pn**	**09 28 25.7**	**+0.9**
M26K	**Nabesna, AK**	**5.45**	**57**	Pn	**Pn**	**09 28 25.0**	**-0.1**
RIDG	**Independent Ri**	**5.48**	**41**		**Pn**	**09 28 25.4**	**-0.1**
RIDG	**Independent Ri**	**5.48**	**41**	P	**Pn**	**09 28 25.4**	**-0.1**
	baz=228,SNR=20						
PS08	**TAPS Pump Stn8**	**5.53**	**28**		**Pn**	**09 28 25.3**	**-0.8**
TCOL	**CIGO, UAF Yank**	**5.59**	**23**		**Pn**	**09 28 26.8**	**-0.1**
TCOL	**CIGO, UAF Yank**	**5.59**	**23**	P	**Pn**	**09 28 26.5**	**-0.5**
	baz=207,SNR=37						
COLA	**College**	**5.59**	**23**		**Pn**	**09 28 26.6**	**-0.4**
COLA	**College**	**5.59**	**23**	P	**Pn**	**09 28 26.5**	**-0.5**
	baz=207						
L26K	**Log Cabin Wild**	**5.59**	**51**		**Pn**	**09 28 26.8**	**-0.3**
L26K	**Log Cabin Wild**	**5.59**	**51**	P	**Pn**	**09 28 27.0**	**-0.1**
	baz=239						
I23K	**Minto, Yukon-K**	**5.60**	**15**		**Pn**	**09 28 26.9**	**-0.1**
I23K	**Minto, Yukon-K**	**5.60**	**15**	P	**Pn**	**09 28 26.7**	**-0.3**
	baz=199,SNR=98						
MDM	**Murphy Dome**	**5.60**	**21**		**Pn**	**09 28 26.6**	**-0.5**
GRNC	**Granite Creek**	**5.61**	**76**		**Pn**	**09 28 27.7

EGAK	Eagle	7.38	43	P		Pn	09 28 50.1	-1.1
	baz=233							
ANM	Nome	7.54	315	P		Pn	09 28 52.8	-0.5
	baz=124							
COLD	Coldfoot	7.54	8	Pn		Pn	09 28 52.8	-0.6
COLD	Coldfoot	7.54	8	P		Pn	09 28 52.7	-0.6
	baz=190,SNR=31							
FALS	False Pass	7.56	234	P		Pn	09 28 52.4	-1.2
	baz=44							
DAWY	Dawson	7.65	50	Pn		Pn	09 28 55.3	+0.4
DAWY	Dawson	7.65	50	P		Pn	09 28 54.6	-0.3
	baz=242,SNR=9.9							
HYT	Haines Junctio	7.70	76	Pn		Pn	09 28 57.5	+1.8
HYT	Haines Junctio	7.70	76	P		Pn	09 28 56.2	+0.6
	baz=269							
M30M	Minto, Yukon	8.24	63			Pn	09 29 03.8	+0.9
M30M	Minto, Yukon	8.24	63	P		Pn	09 29 03.4	+0.5
	baz=258							
BMAR	Burnt Mountain	8.48	22	Pn		Pn	09 29 04.5	-1.6
N31M	Braeburn, Yuko	8.56	71	Pn		Pn	09 29 07.9	+0.7
SKAG	Skagway	8.89	85	Pn		Pn	09 29 12.8	+1.1
SKAG	Skagway	8.89	85	P		Pn	09 29 12.8	+1.1
	baz=280							
TOLK	Toolik Lake Re	8.98	8	Pn		Pn	09 29 13.6	+0.8
TOLK	Toolik Lake Re	8.98	8	P		Pn	09 29 11.8	-1.0
	baz=191							
WHY	Whitehorse	8.99	77			Pn	09 29 15.2	+2.1
WHY	Whitehorse	8.99	77	P		Pn	09 29 13.8	+0.7
	baz=272							
M31M	Drury Creek, Y	9.29	67	P		Pn	09 29 18.1	+1.1
	baz=263							
BESE	Bessie Mountai	9.33	90	Pn		Pn	09 29 18.5	+0.9
UNV	Unalaska Valle	9.56	237	P		Pn	09 29 19.7	-0.9
	baz=46							
SIT	Sitka	9.60	99	P		Pn	09 29 20.3	-1.0
	baz=294							
JIS	Juneau Island	9.65	91	Pn		Pn	09 29 23.8	+1.9
EPYK	Eagle Plains	9.82	41			Pn	09 29 25.0	+0.9
WRAK	Wrangell Islan	11.36	98	P		Pn	09 29 45.7	+0.7
	baz=296							
CRAG	Craig	11.43	104	P		Pn	09 29 46.5	+0.6
	baz=300							
DLBC	Dease Lake	11.80	87	P		Pn	09 29 51.8	+0.9
	comp=N,3.1nm,0.3s,baz=301,slow=4.3,SNR=69							
DLBC				S		Sn	09 31 58.9	-1.7
	comp=N,0.3nm,0.3s,baz=108,slow=24,SNR=2.4							
DLBC	Dease Lake	11.80	87			Pn	09 29 52.8	+1.9
INK	Inuvik	11.95	37	P		Pn	09 29 51.5	-1.2
	comp=N,0.2nm,0.3s,baz=232,slow=15,SNR=18							
INK	Inuvik	11.95	37	Pn		Pn	09 29 52.4	-0.2
INK	Inuvik	11.95	37	P		Pn	09 29 51.6	-1.2
	baz=234							
C36M	Paulatuk	15.45	40	Pn		Pn	09 30 35.3	-2.4
C36M	Paulatuk	15.45	40	P		Pn	09 30 35.0	-2.6
	baz=246,SNR=7.9							
A36M	Sachs Harbour	16.39	31	Pn		Pn	09 30 47.9	-1.3
A36M	Sachs Harbour	16.39	31	P		Pn	09 30 47.3	-2.0
	baz=236							
YKA	Yellowknife Ar	18.47	65	P		Pn	09 31 14.2	-0.3
	comp=N,0.9nm,0.3s,baz=277,slow=9.9,SNR=173							
YKA				PcP		PcP	09 35 38.4	+0.5
	comp=N,0.0nm,0.3s,baz=277,slow=1.2,SNR=6.3							
YKA				ScP		ScP	09 39 03.4	+0.7
	comp=N,0.0nm,0.3s,baz=280,slow=2.4,SNR=6.9							
YKA	Yellowknife Ar	18.47	65	P		Pn	09 31 13.7	-0.8
RES	Resolute Bay	25.43	32	P		P	09 32 23.9	+0.9
	comp=N,0.5nm,0.4s,baz=346,slow=7.0,SNR=5.0							
RES	Resolute Bay	25.43	32	P		P	09 32 23.3	+0.3
SEY	Seymchan	25.74	301	P		P	09 32 27.4	+1.5
	comp=N,0.3nm,0.3s,baz=14,slow=23,SNR=1.7							
PETK	Petropavlovsk-	27.55	278	P		P	09 32 42.0	-0.2
	comp=N,1.5nm,0.6s,baz=75,slow=12,SNR=7.8							
PETK	Petropavlovsk-	27.55	278	P		P	09 32 43.0	+0.8
FCC	Fort Churchill	29.20	66	P		P	09 32 58.4	+1.7
FCC				IAmb		IAmb	09 33 18.2	
	comp=Z,3.6nm,1.4s							
TIXI	Tiksi	31.68	324	P		P	09 33 17.5	-0.9
	comp=Z,1.3nm,0.3s,baz=74,slow=19,SNR=7.0							
KLR	Kul'dur	42.67	291	P		P	09 34 50.2	-1.2
	comp=Z,0.6nm,0.5s,baz=40,slow=11,SNR=4.2							
SCHQ	Schefferville	43.62	57	P		P	09 34 59.7	+0.7
	comp=Z,1.3nm,0.5s,baz=312,slow=7.5,SNR=6.2							
KSRS	Korea Array	53.28	283	P		P	09 36 13.9	+0.7
	comp=Z,1.1nm,0.4s,baz=50,slow=8.3,SNR=4.2							
SONM	Songino Array	54.95	306	P		P	09 36 26.5	+1.1
	comp=Z,1.4nm,0.7s,baz=45,slow=7.1,SNR=9.6							
ZALV	Zalesovo Beam	57.56	324	P		P	09 36 44.0	+0.3
	comp=Z,2.7nm,0.6s,baz=32,slow=7.1,SNR=11							
KURK	Kurchatov	62.22	326	P		P	09 37 15.8	+0.3
KURK	Kurchatov	62.22	326	IAmb		IAmb	09 37 24.1	
KURBB	comp=Z,2.6nm,1.0s							
	Kurchatov Arra	62.33	326	P		P	09 37 15.8	-0.5
	comp=Z,0.3nm,0.3s,baz=30,slow=6.4,SNR=4.2							
MKAR	Makanchi Array	64.62	321	P		P	09 37 31.1	-0.4
	comp=Z,0.8nm,0.6s,baz=40,slow=7.2,SNR=9.1							
MKAR	Makanchi Array	64.62	321	P		P	09 37 31.4	0.0
MAKZ	Makanchi	64.70	322	P		P	09 37 31.8	-0.2
MAKZ				IAmb		IAmb	09 37 32.5	
	comp=Z,2.2nm,1.2s							
ABKAR	Akbulak array	68.06	337	P		P	09 37 53.8	+0.5
ABKAR				IAmb		IAmb	09 38 19.8	
	comp=Z,3.5nm,1.5s							

IDC 12 09:35:36.8±398.0, 48°89N×49°98E, h0km, Error ellipse: s-maj=115.3km s-min=88.0km az=158.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	5.45	71	*i*		10 06 06.0	
	baz=259,slow=319,SNR=2.2						
I43RU	DUBNA INFRASONI	10.99	320	*i*		10 42 20.0	
	baz=131,slow=328,SNR=1.0						
I37NO	I37NO	25.37	334	*i*		12 14 30.0	
	baz=127,slow=334,SNR=0.7						

*TUL **12** 09:45:45.6±1.4, 36°213N±0°005×97°30W±0°01, h6km±7km, ML2.8,mb_Lg2.4/41(NEIC), Error ellipse: s-maj=1.5km s-min=0.7km az=83.0*

NEIC 12 09:45:45.6±1.2, 36°211N±0°005×97°30W±0°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.8km az=132.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	Sooner Cattle	0.95	42	Pg	Pg	09 46 03.5	-0.3
FNO	Franklin	0.96	185	Pg	Pg	09 46 03.4	-0.6
W35A	Tecumseh	1.11	162		Pg	09 46 06.0	-0.9
TUL1	Leonard	1.26	103	Pn	Pg	09 46 08.6	-1.2
U32A	Winter Ranch,	1.38	277	Pn	Pn	09 46 11.1	-0.5
X34A	Smith Ranch, M	1.66	195	Pn	Pn	09 46 15.3	-0.2
WMOK	Wichita Mounta	1.90	220		Pn	09 46 19.0	+0.3
X37A	Clayton	2.26	135		Pn	09 46 24.6	+1.0
X37A				IAmb_Lg		09 47 01.0	
	comp=Z,18nm,0.8s						
R32A	Long Quarter,	2.48	333		Pn	09 46 26.9	+0.2
R32A				IAmb_Lg		09 47 02.7	
	comp=Z,11nm,0.7s						
KSU1	Kansas State U	2.94	11	Pn	Pn	09 46 31.2	-1.8
KSU1	Kansas State U	2.94	11	IAmb_Lg		09 47 21.5	
	comp=Z,10nm,0.8s						
W39A	Magazine	3.04	108	IAmb_Lg		09 47 25.1	
	comp=Z,20nm,0.8s						
CBKS	Cedar Bluff	3.24	324	Pn	Pn	09 46 35.4	-1.7
MIAR	Mount Ida	3.47	118	Pn	Pn	09 46 41.1	+0.9
MIAR				IAmb_Lg		09 47 36.9	
	comp=Z,11nm,0.8s						
Z38A	Mt. Pleasant	3.51	146	Pn	Pn	09 46 41.0	+0.2
Z38A				IAmb_Lg		09 47 45.3	
	comp=Z,9.1nm,0.8s						
U40A	Yellville	3.60	86	Pn	Pn	09 46 41.0	-1.1
X40A	Basin Creek Fa	4.04	114	Pn	Pn	09 46 48.1	+0.1
ABTX	Abilene, Hawle	4.07	209	Pn	Pn	09 46 47.8	-0.7
MGMO	Mountain Grove	4.16	75	Pn	Pn	09 46 49.7	0.0
MGMO				IAmb_Lg		09 47 55.7	
	comp=Z,11nm,0.8s						
WHAR	Wooly Hollow	4.18	101	Pn	Pn	09 46 48.5	-1.5
WHAR				IAmb_Lg		09 48 03.1	
	comp=Z,11nm,0.8s						
FCAR	Ozark Folk Cen	4.21	93	IAmb_Lg		09 48 01.0	
	comp=Z,12nm,1.0s						
W41B	Gary Mavity, V	4.24	103	Pn	Pn	09 46 51.0	+0.1
R40A	Maddies Statio	4.52	61		Pn	09 46 55.5	+0.7
R40A				IAmb_Lg		09 48 11.1	
	comp=Z,6.1nm,0.8s						
P38A	Dawn	4.53	40	IAmb_Lg		09 48 13.3	
	comp=Z,12nm,0.8s						
LCAR	Lake Charles	4.98	90	IAmb_Lg		09 48 22.9	
	comp=Z,9.9nm,1.1s						
MSTX	Muleshoe	5.01	245	Pn	Pn	09 47 01.7	+0.1
KSCO	Kaye Shedlock'	5.07	305	IAmb_Lg		09 48 36.4	
	comp=Z,7.7nm,0.7s						
CCM	Cathedral Cave	5.18	67	Pn	Pn	09 47 02.8	-0.9
CCM				IAmb_Lg		09 48 37.4	
	comp=Z,7.3nm,0.8s						
T25A	Trinidad	5.79	281	IAmb_Lg		09 48 59.0	
	comp=Z,9.8nm,1.1s						
SDCO	Great Sand Dun	6.74	286	IAmb_Lg		09 49 21.1	
	comp=Z,5.3nm,1.1s						
Q24A	Divide	6.81	296	IAmb_Lg		09 49 29.0	
	comp=Z,5.5nm,0.9s						
N23A	Red Feather La	8.22	307	IAmb_Lg		09 50 07.6	
	comp=Z,4.9nm,0.9s						

IDC 12 09:49:07.0±1.7, 14°58S×166°58E, h0km, mb3.5/3, mb1 4.0/5, mb1mx3.5/46, mbtmp3.9/5, ML4.5/2, Error ellipse: s-maj=40.5km s-min=31.7km az=114.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.45	181	Pn	Pn	09 50 56.7	-0.3
	0.7nm,0.3s,baz=321,slow=6.0,SNR=18						
DZM				Sn	Sn	09 52 18.0	-4.4
	0.2nm,0.3s,baz=74,slow=16,SNR=1.2						
HNR	Honiara	8.26	308	Pn	Pn	09 51 08.3	+0.1
	52nm,0.3s,baz=196,slow=15,SNR=5.8						
WRA	Warramunga Arr	31.21	256	P	P	09 55 27.9	-0.4
	0.2nm,0.8s,baz=85,slow=9.3,SNR=1.5						
ASAR	Alice Springs	32.10	249	P	P	09 55 36.6	+0.4
	0.3nm,0.6s,baz=73,slow=8.8,SNR=1.1						
ILAR	Eielson Array	86.59	18	P	P	10 01 51.8	0.0
	0.6nm,0.6s,baz=236,slow=5.5,SNR=11						

*IDC **12** 09:52:38.7±0.4, 14°.39S×166°.53E, h0km, mb4.6/25, mb1 4.7/30, mb1mx4.5/48, mbtmp4.6/30, ML4.8/4, MS4.3/57, Ms1 4.4/57, ms1mx4.3/67, Error ellipse: s-maj=14.8km s-min=12.5km az=75.0*

*BJI **12** 09:52:39.0±0.0, 14°.11S×167°.01E, h14km, mb5.0/52, mB5.1/36, Ms4.7/15, Ms7 4.5/15*

*MOS **12** 09:52:41.3±0.9, 14°.38S×166°.47E, h24km, mb5.2/37, Error ellipse: s-maj=9.9km s-min=7.5km az=126.6*

*GCMT **12** 09:52:43.2±0.2, 14°.43S±0°.01×166°.46E±0°.01, h12km, MW5.1/109, Moment Tensor Solution. s59,c81; s109,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.89±.09; $M_{\theta\theta}$-0.85±.10; $M_{\phi\phi}$-3.05±.09; $M_{r\theta}$2.61±.28; $M_{\theta\phi}$2.60±.07; $M_{r\phi}$1.17±.26; Best double couple: $M_0$5.20000×10^{16} NP1:ϕ_s353.00000°, δ49.00000°, λ132.00000°. NP2:ϕ_s119.00000°, δ56.00000°, λ52.00000°. Principal axes: T 5.5970, Plg59.0000°, Azm331.0000°; N -0.8020, Plg31.0000°, Azm142.0000°; P -4.8020, Plg4.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **12** 09:52:44.2±1.0, 14°.44S±0°.07×166°.68E±0°.08, h35km±1km, mb5.2/110 Error ellipse: s-maj=14.7km s-min=10.3km az=50.0*

*NOU **12** 09:52:47.3, 14°.69S×166°.89E, h1km, MLv5.3/4, Vanuatu Islands*

ISC 12 09:52:42.4±0.4, 14°44S±0°05×166°54E±0°05, h21km±6km, h21km;pP-P,n414,σ1§34/399, mb5.1/119, MS4.4/64, 18C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.19	148		Pn	09 53 02.1	-1.7
SANVU	Saraoutou	1.19	148	P	Pn	09 53 03.0	-0.8
LIFNC	LIFOU	6.34	174	Pn	Pn	09 54 13.7	-0.9
KOUNC	Koumac, New Ca	6.45	199	Pn	Pn	09 54 15.8	-0.3
MARNC	Mare, Loyalty	7.14	169	Pn	Pn	09 54 25.6	-0.1
DZM	Mont Dzumac	7.59	181	Pn	Pn	09 54 32.0	+0.1
	9.3nm,0.3s,baz=325,slow=7.8,SNR=58						
DZM				Sn	Sn	09 55 57.2	-0.2
	3.4nm,0.3s,baz=333,slow=22,SNR=1.6						
DZM				LR	LR	09 57 10.8	
	comp=Z,5μm,19.0s,baz=18,slow=36						
DZM	Mont Dzumac	7.59	181	*e*Pn	Pn	09 54 32.0	+0.1
	98nm,0.4s						
DZM				*e*Sn	Sn	09 55 56.6	-0.8
	69nm,0.6s						
DZM				*e*LR	LR	09 56 18.6	
	comp=Z,5μm,24.6s						
DZM	Mont Dzumac	7.59	181	Pn	Pn	09 54 32.0	+0.1
ONTNC	Ouen Toro	7.83	181	Pn	Pn	09 54 35.7	+0.6
OUENC	Ouen Island, N	7.94	178	Pn	Pn	09 54 37.7	+1.1
HNR	Honiara	8.15	307	Pn	Pn	09 54 38.7	-0.8
	8.3nm,0.3s,baz=265,slow=6.0,SNR=11						
HNR				Sn	Sn	09 56 08.5	-2.6
	baz=71,slow=20,SNR=0.9						
HNR				LR	LR	09 58 01.4	
	comp=Z,972nm,19.1s,baz=131,slow=40						
HNR	Honiara	8.15	307	P	Pn	09 54 39.0	-0.5
HNR	Honiara	8.15	307	Pn	Pn	09 54 39.0	-0.5
PINNC	Pines Island,	8.17	174		Pn	09 54 39.6	-0.2
MSVF	Nonsavu	11.54	108	Pn	Pn	09 55 26.9	+0.9
	0.4nm,0.3s,baz=182,slow=23,SNR=1.9						
MSVF				LR	LR	09 58 52.0	
	comp=Z,2μm,21.1s,baz=287,slow=32						
MSVF	Nonsavu	11.54	108	Pn	Pn	09 55 24.0	-2.0
KRVT	Keravat (AS076	17.49	304	P	Pn	09 56 45.3	+0.1
	2.1nm,0.3s,baz=136,slow=24,SNR=1.5						
KRVT				LR	LR	10 04 23.3	
	comp=Z,672nm,18.0s,baz=277,slow=40						
EIDS	Eidsvold	18.13	231	P	P	09 56 54.0	+0.7
	baz=18,SNR=5.2						
EIDS	Eidsvold	18.13	231		P	09 56 54.2	+0.9
PMG	Port Moresby	19.61	283	P	P	09 57 09.0	-0.5
	0.9nm,0.3s,baz=54,slow=11,SNR=3.6						
PMG				LR	LR	10 03 48.9	
	comp=Z,4μm,18.8s,baz=39,slow=34						
PMG	Port Moresby	19.61	283	*e*/*i*P	P	09 57 09.8	+0.3
PMG				pmax	pmax		
	comp=Z,63nm,1.5s						
PMG	Port Moresby	19.61	283	P	P	09 57 09.6	+0.1
PMG				IAmb	IAmb	09 57 34.1	
	comp=Z,115nm,1.4s						
CTA	Charters Tower	20.16	251	P	P	09 57 16.5	+0.9
	comp=Z,20nm,0.9s,baz=84,slow=11,SNR=9.8						
CTA				LR	LR	10 04 16.2	
	comp=Z,2μm,18.3s,baz=76,slow=35						
RMQ	Roma	20.49	231	P	Pn	09 57 20.3	-1.1
	baz=21,SNR=21						
RAO	Raoul Island	20.59	138	LR	LR	10 02 49.9	
	comp=Z,293nm,18.9s,baz=324,slow=30						
ARMA	Armidale	21.01	218	P		09 57 26.1	
	baz=21,SNR=3.8						
ARMA	Armidale	21.01	218	P	P	09 57 25.0	+0.3
AFI	Afiamalu	21.03	91	P	P	09 57 26.0	+0.9
	comp=Z,42nm,0.9s,baz=279,slow=13,SNR=2.6						
AFI				LR	LR	10 03 45.4	
	comp=Z,671nm,18.9s,baz=268,slow=32						
AFI	Afiamalu	21.03	91	P	P	09 57 26.0	+0.9
AFI	Afiamalu	21.03	91	P	P	09 57 23.2	-1.8
AFI				IAmb	IAmb	09 57 40.0	
	comp=Z,93nm,1.0s						
MTSU	Mount Surprise	21.64	257	P	P	09 57 31.3	-0.3
	baz=22,SNR=6.7						
OUZ	Ornahuta	21.64	164	P	P	09 57 33.8	+2.4
COEN	Coen	22.66	268	P	P	09 57 41.2	-1.2
QLP	Quilpie	24.09	236	P	P	09 57 58.8	+2.2
	baz=24,SNR=13						
HIZ	Hauiti	25.08	164	P	P	09 58 14.4	+8.9
OMRZ	Omania	25.13	162	P	P	09 58 11.4	+5.4
HAZ	Te Kaha	25.28	159	P	P	09 58 12.9	+5.6
URZ	Urewera	25.50	160	P	P	09 58 08.6	-0.7
	comp=Z,4.6nm,0.7s,baz=47,slow=19,SNR=2.2						
URZ				LR	LR	10 06 27.9	
	comp=Z,873nm,20.6s,baz=28,slow=32						
URZ	Urewera	25.50	160	P	P	09 58 14.7	+5.3
WMGZ	Waiomatatini S	25.56	158	P	P	09 58 12.8	+3.0
CMSA	Cobar Meteorol	25.57	225	P	P	09 58 11.8	+1.8
	baz=26,SNR=29						
MWZ	Matawai	25.71	160	P	P	09 58 11.4	+0.1
PUZ	Puketiti	25.73	158	P	P	09 58 11.5	+0.1
MRHZ	Matea Rd	25.82	162	P	P	09 58 14.4	+2.2
CNGZ	Carnagh Statio	26.08	159	P	P	09 58 15.2	+0.7
BHHZ	Black Hill Sta	26.32	163	P	P	09 58 16.9	+0.1
KWHZ	Kaweka Forest	26.36	163	P	P	09 58 18.2	+1.0
QIS	Mount Isa	26.38	253	P	P	09 58 17.5	0.0
	baz=26,SNR=5.2						
KNZ	Kokohu	26.38	160	P	P	09 58 18.7	+1.5
MCHZ	McNeill Hill	26.46	162	P	P	09 58 20.6	+2.6
TSZ	Takapari Road	26.82	164	P	P	09 58 24.6	+3.3
KAHZ	Kahuranaki	26.84	162	P	P	09 58 24.0	+2.6
PXZ	Pawanui	27.05	162	P	P	09 58 25.8	+2.5
ANWZ	Angora Road	27.34	163	P	P	09 58 30.9	+5.1
BFZ	Birch Farm	27.48	164	P	P	09 58 31.4	+4.2
STKA	Stephens Creek	28.65	228	P	P	09 58 38.0	+0.2
	comp=Z,5.9nm,0.7s,baz=36,slow=8.9,SNR=12						
STKA				PcP	PcP	10 01 48.5	+0.1
	comp=Z,1.7nm,0.7s,baz=0.0,slow=7.1,SNR=2.2						
STKA				LR	LR	10 10 05.5	
	comp=Z,3μm,18.4s,baz=50,slow=36						
STKA	Stephens Creek	28.65	228	P	P	09 58 38.3	+0.6
	baz=29,SNR=12						
STKA	Stephens Creek	28.65	228	*i* P	P	09 58 37.8	+0.1
STKA	Stephens Creek	28.65	228	P	P	09 58 38.6	+0.9
RPZ	Rata Peaks	29.43	173	P	P	09 58 45.3	+0.8
	comp=Z,11nm,0.8s,baz=17,slow=18,SNR=2.6						
RPZ				LR	LR	10 09 49.5	
	comp=Z,1μm,18.4s,baz=349,slow=35						
WR0	Warramunga Arr	31.03	255	P	P	09 58 59.3	+0.4
WB0	Warramunga Arr	31.15	256	P	P	09 58 58.9	-1.1
WB2	Warramunga Arr	31.20	255	P	P	09 58 59.4	-1.1
WRAB	Tennant Creek	31.20	255	*i* P	P	09 59 00.5	0.0
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRA	Warramunga Arr	31.21	255	P	P	09 58 58.3	-2.3
	comp=Z,2.3nm,0.9s,baz=86,slow=9.2,SNR=8.9						
WRA				PcP	PcP	10 01 54.8	-0.5
	comp=Z,0.8nm,0.8s,baz=82,slow=3.3,SNR=1.6						
WRA				LR	LR	10 10 18.9	
	comp=Z,2μm,21.8s,baz=76,slow=34						
WRA	Warramunga Arr	31.21	255	*i* P	P	09 58 58.5	-2.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HTT	Hallett	31.38	228	P	P	09 59 01.9	-0.1
	baz=32,SNR=6.7						
AS31	Alice Springs	32.12	248	P	P	09 59 08.3	-0.2
ASAR	Alice Springs	32.12	248	P	P	09 59 06.9	-1.7
	comp=Z,2.9nm,0.7s,baz=72,slow=9.4,SNR=34						
ASAR				PcP	PcP	10 01 56.9	-0.8
	comp=Z,0.9nm,0.8s,baz=71,slow=2.3,SNR=1.4						
ASAR				LR	LR	10 11 33.2	
	comp=Z,1μm,19.2s,baz=93,slow=35						
ASAR	Alice Springs	32.12	248	P	P	09 59 08.8	+0.2
ASAR	Alice Springs	32.12	248	P	P	09 59 08.8	+0.2
RAR	Rarotonga	32.72	107	LR	LR	10 10 05.5	
	comp=Z,257nm,21.5s,baz=277,slow=32						
H11S2	WAKE ISLAND Hy	32.72	0	T	T	10 34 17.5	
	baz=175						
H11S3	WAKE ISLAND Hy	32.73	0	T	T	10 34 11.6	
	baz=175						
H11S1	WAKE ISLAND Hy	32.74	0	T	T	10 34 12.8	
	baz=175						
BBOO	Buckleboo	33.20	231	P	P	09 59 18.5	+0.7
	baz=33,SNR=12						
BBOO	Buckleboo	33.20	231	P	P	09 59 18.6	+0.7
BBOO				IAmb	IAmb	09 59 24.5	
	comp=Z,32nm,0.9s						
GUMO	Guam	35.16	321	LR	LR	10 12 30.1	
	comp=Z,493nm,21.2s,baz=112,slow=34						
KNRA	Kununurra	36.47	263	P	P	09 59 45.2	-1.1
	baz=37,SNR=3.2						
KNRA	Kununurra	36.47	263	P	P	09 59 45.6	-0.6
KNRA				IAmb	IAmb	09 59 52.1	
	comp=Z,31nm,1.1s						
SIJI	Sorong	37.39	288	LR	LR	10 17 13.7	
	comp=Z,814nm,18.2s,baz=152,slow=40						
WRKA	Warakurna	37.39	248	P	P	09 59 53.6	-0.5
	baz=38,SNR=16						
FORT	Forrest	38.84	239	P	P	10 00 06.3	+0.1
FORT				IAmb	IAmb	10 00 16.6	
	comp=Z,51nm,1.0s						
FITZ	Fitzroy Crossi	39.38	259	LR	LR	10 16 15.9	
	comp=Z,1μm,18.2s,baz=82,slow=36						
LBMI	Labuha	40.96	286	P	P	10 00 26.1	+2.1
	comp=Z,699nmcomp=Z,57nm,1.2s						
SANI	Sanana	41.89	283	P	P	10 00 31.8	+0.2
	comp=Z,688nmcomp=Z,42nm,1.1s						
BATI	Baumata	42.06	271	LR	LR	10 18 31.3	
	comp=Z,1μm,19.2s,baz=136,slow=37						
PPT2	Papeete2	42.23	100	*e*S	S	10 06 59.7	+5.6
	comp=Z,136nm,24.5s						
PPT2				*e*LQ	LQ	10 10 30.1	
	comp=Z,1μm,28.5s						
PPT2				*e*LR	LR	10 12 14.9	
	comp=Z,625nm,26.8s						
PPT	Papeete	42.23	100	LR	LR	10 14 15.4	
	comp=Z,405nm,20.9s,baz=269,slow=31						
PSA00	Pilbara Seismi	44.84	254	P	P	10 00 55.0	-0.4
DAV	Davao City (W)	45.91	295	LR	LR	10 21 05.5	
	comp=Z,77nm,18.2s,baz=126,slow=37						
MEEK	Meekatharra	46.25	247	P	P	10 01 06.3	-0.2
	baz=46,SNR=23						
BNSI	Bone	46.79	278	P	P	10 01 12.9	+2.0
	comp=Z,27nm,1.6s						
KAPI	Kappang	46.97	277	LR	LR	10 19 51.2	
	comp=Z,250nm,21.4s,baz=98,slow=35						
KAPI	Kappang	46.97	277	*i* P	P	10 01 12.0	-0.3
KAPI				pmax	pmax		
	comp=Z,24nm,1.1s						
KAPI	Kappang	46.97	277	P	P	10 01 12.5	+0.1
SPS

JNU Nakatsue 58.28 325 P **P** **10 02 35.7 -0.1**
JNU IAmb IAmb 10 02 36.7
comp=Z,25nm,0.9s
NACB Ninganchiao 58.31 311 P **P** **10 02 35.7 -0.3**
NACB IAmb IAmb 10 02 50.2
comp=Z,27nm,1.0s
JHS Saijyo 58.51 328 P **P** **10 02 37.6 +0.3**
JHS IAmb IAmb 10 02 37.9
comp=Z,24nm,1.1s
JSD Sado 58.56 334 P **P** **10 02 37.3 -0.2**
JSD IAmb IAmb 10 02 55.3
comp=Z,24nm,1.0s
YHNB Yeheng 58.76 311 P **P** **10 02 38.8 -0.5**
MDSI Maura Dua 62.14 273 P **P** **10 03 04.6 +2.0**
ASAJ Asahikawa 62.24 341 LR LR 10 27 21.9
comp=Z,191nm,20.1s,baz=178,slow=34
KSRS Korea Array 63.11 326 P **P** **10 03 07.4 -1.0**
comp=Z,3.3nm,0.8s,baz=141,slow=7.0,SNR=9.0
KSAR Wonju Array Be 63.12 326 P **P** **10 03 07.5 -1.1**
KSAR Wonju Array Be 63.12 326 P **P** **10 03 07.5 -1.1**
VNDA Vanda 63.13 181 P **P** **10 03 08.8 +0.7**
comp=Z,2.0nm,0.6s,baz=1.9,slow=6.7,SNR=21
VNDA LR LR 10 27 02.1
comp=Z,269nm,19.9s,baz=10.0,slow=33
VNDA Vanda 63.13 181 P **P** **10 03 08.5 +0.4**
VNDA IAmb IAmb 10 03 21.4
comp=Z,20nm,1.4s
SBA Scott Base 63.42 180 P **P** **10 03 10.6 +0.6**
SBA pmax pmax
comp=Z,25nm,0.8s
SBA Scott Base 63.42 180 P **P** **10 03 10.6 +0.6**
SBA Scott Base 63.42 180 ⇓P **P** **10 03 12.1 +2.0**
SBA ⇑pP **pP** **10 03 17.1 +0.7**
CASY Casey 63.53 202 P **P** **10 03 11.5 +0.6**
CASY IAmb IAmb 10 03 18.3
comp=Z,17nm,0.7s
CASY Casey 63.53 202 ⇓P **P** **10 03 11.5 +0.6**
CASY ⇑pP **pP** **10 03 17.5 +0.2**
YSS Yuzh-Sakhalins 64.74 342 *e*P **P** **10 03 19.7 +0.7**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,100nm,5.8s
YSS Yuzh-Sakhalins 64.74 342 P **P** **10 03 18.4 -0.6**
YSS Yuzh-Sakhalins 64.74 342 P **P** **10 03 20.7 +1.7**
YSS pP **pP** **10 03 26.5 +1.6**
NJ2 Nanjing 64.98 316 *e*P **P** **10 03 21.9 +1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CCD Concordia, Ant 65.04 191 P **P** **10 03 22.0 +0.8**
CCD pP **pP** **10 03 28.9 +1.2**
VLA Vladivostok 65.50 333 *i* P **P** **10 03 23.6 -0.4**
VLA pmax pmax
comp=Z,41nm,0.9s
USRK Ussuriysk Ar. 66.31 334 P **P** **10 03 30.2 +0.9**
comp=Z,16nm,0.9s,baz=146,slow=6.2,SNR=13
USRK LR LR 10 30 16.6
comp=Z,71nm,20.4s,baz=128,slow=34
USRK Ussuriysk Ar. 66.31 334 P **P** **10 03 29.3 +0.1**
USA0B Ussuriysk Arra 66.31 334 P **P** **10 03 29.4 +0.1**
USA0B pmax pmax
comp=Z,24nm,1.0s
USA0B Ussuriysk Arra 66.31 334 P **P** **10 03 29.4 +0.1**
USA0B IAmb IAmb 10 03 31.1
comp=Z,24nm,0.9s
SHEM Shemya Is, Ala 67.21 5 LR LR 10 28 19.6
comp=Z,279nm,19.6s,baz=186,slow=32
PET Petropavlovsk 67.53 355 *e*P **P** **10 03 38.9 +2.1**
PET *e*S **S** **10 12 32.5 +0.5**
PET *e* 10 13 26.8
PET *e*SS **SS** **10 16 56.2 +3.0**
PET pmax pmax
comp=Z,8.0nm,1.2s
IPM Ipoh 67.60 281 P **P** **10 03 37.8 -0.4**
MDJ Mudanjiang 67.70 332 P **P** **10 03 39.0 +0.9**
MDJ pP **pP** **10 03 45.4 +1.4**
PEA0B Petropavlovsk- 67.70 354 *ce*P **P** **10 03 38.5 +0.6**
PEA0B Petropavlovsk- 67.70 354 P **P** **10 03 38.1 +0.2**
PEA0B IAmb IAmb 10 03 39.3
comp=Z,27nm,1.2s
PETK Petropavlovsk- 67.70 354 P **P** **10 03 37.8 -0.1**
comp=Z,9.2nm,1.1s,baz=146,slow=8.0,SNR=6.0
PETK LR LR 10 27 44.1
comp=Z,135nm,20.6s,baz=151,slow=31
TYV Tymovskoe 68.30 344 *e*P **P** **10 03 42.2 +0.5**
TYV *e*S **S** **10 12 45.7 +4.3**
TYV pmax pmax
comp=Z,8.0nm,1.2s
TYV pmax pmax
comp=Z,200nm,6.5s
TYV smax smax
comp=N,400nm,10.5s
TYV smax smax
comp=E,300nm,10.5s
CN2 Changchun 69.04 329 *e*P **P** **10 03 46.9 +0.4**
CN2 pmax pmax
comp=E,20nm,0.9s
PSI Prapat 69.12 279 LR LR 10 35 31.8
comp=E,148nm,18.7s,baz=122,slow=37
BNX BinXian 69.55 332 ⇓P **P** **10 03 49.6 0.0**
BNX pmax pmax
comp=E,42nm,1.0s
BNX pmax pmax
comp=E,240nm,3.8s
GRNR Gornyy 70.08 340 ⇑*i*P **P** **10 03 53.8 +1.0**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
KLR Kul'dur 70.46 337 P **P** **10 03 55.9 +0.7**
comp=Z,5.6nm,0.9s,baz=114,slow=3.6,SNR=11
KLR LR LR 10 31 29.1
comp=Z,90nm,21.8s,baz=150,slow=33
KLR Kul'dur 70.46 337 *ce*P **P** **10 03 55.4 +0.2**
KLR pmax pmax
comp=Z,23nm,1.7s
LYN LuoYang 70.77 315 *e*P **P** **10 03 57.9 +0.5**
LYN pmax pmax
comp=Z,190nm,7.2s
HNS HongShan 70.92 319 ⇑P **P** **10 03 58.8 +0.6**
HNS *e*S **S** **10 13 19.2 +6.5**
HNS pmax pmax
comp=Z,6.0nm,1.2s
HNS LR LR
comp=Z,130nm,16.1s
HNS LR LR
comp=Z,100nm,18.2s
GYA Guiyang 70.97 305 ⇓P **P** **10 04 01.2 +2.3**
GYA pmax pmax
comp=Z,13nm,0.6s
BJI Beijing 71.60 321 P **P** **10 04 02.8 +0.6**
BJI pmax pmax
comp=Z,13nm,1.0s
XAN Xi'an 72.98 313 P **P** **10 04 11.2 +0.5**
XAN pP pP 10 04 15.2 -1.2
XAN S **S** **10 13 39.9 +3.2**
XAN pmax pmax
comp=Z,11nm,1.0s
XAN LR LR
comp=Z,210nm,17.2s
XAN LR LR
comp=Z,130nm,22.0s
XAN LR LR
comp=Z,270nm,21.3s
KMI Kunming 73.56 302 ⇑P **P** **10 04 15.5 +1.0**
KMI sP sP 10 04 26.1 +3.6
KMI pmax pmax
comp=Z,13nm,1.0s
KMI LR LR
comp=Z,130nm,24.6s
XLT XiLinHaoTe 74.06 325 ⇑*i*P **P** **10 04 17.4 +0.5**
XLT sP sP 10 04 28.1 +3.7
XLT pmax pmax
comp=Z,22nm,1.0s
XLT pmax pmax
comp=Z,120nm,4.1s
CM31 Chiang Mai Arr 74.19 294 P **P** **10 04 19.4 +1.3**
CM31 IAmb IAmb 10 04 20.3
comp=Z,21nm,1.1s
CMAR Chiang Mai Arr 74.19 294 P **P** **10 04 19.2 +1.1**
comp=Z,8.4nm,1.0s,baz=123,slow=4.1,SNR=34
CMAR LR LR 10 37 42.6
comp=Z,32nm,19.5s,baz=115,slow=36
CMAR Chiang Mai Arr 74.19 294 *i* P **P** **10 04 19.5 +1.4**
CMAR pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 74.19 294 P **P** **10 04 19.0 +0.9**

CHTO Chiang Mai 74.32 295 P **P** **10 04 18.9 +0.1**
CHTO pmax pmax
comp=Z,12nm,1.1s
CHTO Chiang Mai 74.32 295 P **P** **10 04 18.9 +0.1**
MA2 Magadan 74.86 352 LR LR 10 36 12.0
comp=Z,54nm,18.4s,baz=166,slow=35
MA2 Magadan 74.86 352 *ce*P **P** **10 04 20.7 -0.4**
MA2 pmax pmax
comp=Z,5.0nm,0.7s
MA2 Magadan 74.86 352 P **P** **10 04 19.8 -1.3**
HHC Hu-ho-hao-te 74.91 320 *e*P **P** **10 04 24.0 +2.0**
HHC S **S** **10 14 04.2 +5.8**
HHC sS sS 10 14 14.0 +7.3
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,160nm,5.3s
HHC LR LR
comp=Z,200nm,15.5s
HHC LR LR
comp=Z,190nm,16.6s
HHC LR LR
comp=Z,220nm,17.3s
PZH PanZhiHua 74.95 303 P **P** **10 04 23.1 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,4.6s
CD2 Chengdu 75.28 308 P **P** **10 04 24.8 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.6s
QSPA South Pole Qui 75.58 180 LR LR 10 35 06.3
comp=Z,183nm,19.0s,baz=25,slow=34
QSPA South Pole Qui 75.58 180 P **P** **10 04 25.8 +0.2**
QSPA IAmb IAmb 10 04 42.0
comp=Z,33nm,1.1s
BTO Baotou 75.75 319 *e*P **P** **10 04 29.1 +2.3**
BTO LR LR
comp=Z,540nm,13.9s
BTO LR LR
comp=Z,590nm,14.5s
ZEA Zeya 75.75 337 *e*P **P** **10 04 27.5 +1.1**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 77.61 313 *e*P **P** **10 04 39.2 +1.7**
LZH pP pP 10 04 42.6 -0.9
LZH sP PcP 10 04 45.6 -2.0
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,130nm,5.5s
LZH LR LR
comp=Z,150nm,14.1s
LZH LR LR
comp=Z,200nm,14.1s
LZH LR LR
comp=Z,230nm,15.5s
SEY Seymchan 77.92 353 LR LR 10 34 40.0
comp=Z,151nm,20.4s,baz=209,slow=32
SEY Seymchan 77.92 353 *ce*P **P** **10 04 38.3 0.0**
SEY pmax pmax
comp=Z,16nm,1.3s
RPN Rapa Nui 78.42 115 LR LR 10 34 42.2
comp=Z,74nm,18.9s,baz=296,slow=32
KDAK Kodiak Island 79.44 21 LR LR 10 34 25.1
comp=Z,562nm,20.0s,baz=223,slow=32
GAMB Gambell 79.76 10 P **P** **10 04 48.7 +0.2**
baz=201
N18K Kilae Creek 80.66 18 P **P** **10 04 53.3 -0.1**
baz=217
ULN Ulaanbaatar 81.49 324 *ce*P **P** **10 04 58.5 +0.2**
ULN pmax pmax
comp=Z,14nm,0.8s
ULN Ulaanbaatar 81.49 324 P **P** **10 04 58.6 +0.3**
YAK Yakutsk 81.55 343 P **P** **10 04 58.1 0.0**
comp=Z,9.3nm,0.5s,baz=8.9,slow=0.3,SNR=6.3
YAK Yakutsk 81.55 343 *e*P **P** **10 04 57.9 -0.2**
YAK pmax pmax
comp=Z,31nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK Yakutsk 81.55 343 IAmb IAmb 10 04 59.2
comp=Z,34nm,0.8s
BRSE Bradley Lake S 81.56 20 P **P** **10 04 58.4 +0.2**
baz=222
ANM Nome 81.63 12 P **P** **10 04 58.3 -0.2**
ANM pmax pmax
comp=Z,20nm,1.2s
ANM Nome 81.63 12 P **P** **10 04 58.3 -0.2**
ANM IAmb IAmb 10 05 12.2
comp=Z,20nm,1.2s
ANM Nome 81.63 12 P **P** **10 04 58.8 +0.4**
baz=207
SONM Songino Array 81.85 324 P **P** **10 05 00.2 0.0**
comp=Z,4.4nm,0.9s,baz=145,slow=6.1,SNR=22
SONM Songino Array 81.85 324 P **P** **10 05 00.2 0.0**
SONM IAmb IAmb 10 05 12.6
comp=Z,44nm,2.0s
MAW Mawson 81.89 202 LR LR 10 36 17.0
comp=Z,363nm,21.6s,baz=96,slow=32
GTA Gaotai 81.96 314 ⇑P **P** **10 05 02.0 +1.0**
GTA pP pP 10 05 08.8 +1.8
GTA sP pwP 10 05 12.9 +2.2
GTA pmax pmax
comp=Z,16nm,1.1s
GTA pmax pmax
comp=Z,100nm,6.4s
GTA LR LR
comp=Z,100nm,15.5s
GTA LR LR
comp=Z,100nm,17.1s
GTA LR LR
comp=Z,140nm,17.9s
M19K Big River Lodg 82.08 18 P **P** **10 05 00.9 0.0**
baz=218
L19K White Mountain 82.17 17 P **P** **10 05 01.5 +0.1**
L19K White Mountain 82.17 17 P **P** **10 05 00.9 -0.5**
baz=217
BILL Bilibino 82.25 360 *d*P **P** **10 05 01.2 -0.5**
BILL *e* 10 08 17.7
BILL *e*PPP PPP 10 09 59.1
BILL *i*S S 10 15 58.4 +43
BILL *e*SSS SSS 10 24 04.5
BILL pmax pmax
comp=Z,19nm,1.3s
BILL MLR MLR
comp=Z,64nm,17.0s
BILL Bilibino 82.25 360 P **P** **10 05 01.5 -0.2**
TTA Tatalina 82.44 16 P **P** **10 05 02.6 -0.3**
TTA pmax pmax
comp=Z,7.0nm,0.9s
TTA Tatalina 82.44 16 P **P** **10 05 02.6 -0.3**
TTA Tatalina 82.44 16 P **P** **10 05 02.7 -0.2**
baz=216
L20K Farewell, AK 82.68 17 P **P** **10 05 03.9 -0.2**
baz=218
SHL Shillong 82.81 299 P **P** **10 05 05.9 +0.1**
SHL pmax pmax
comp=Z,27nm,1.3s
SHL Shillong 82.81 299 P **P** **10 05 05.9 +0.1**
SHL IAmb IAmb 10 05 06.5
comp=Z,27nm,1.3s
PWL Port Wells 83.20 20 P **P** **10 05 06.3 -0.5**
PWL Port Wells 83.20 20 P **P** **10 05 05.8 -0.9**
baz=224,SNR=11
M22K Willow 83.27 19 P **P** **10 05 06.3 -0.8**
M22K Willow 83.27 19 P **P** **10 05 05.9 -1.2**
baz=222
PMR Palmer 83.47 20 P **P** **10 05 07.6 -0.5**
PMR pmax pmax
comp=Z,44nm,1.5s
PMR Palmer 83.47 20 P **P** **10 05 07.6 -0.5**
PMR Palmer 83.47 20 P **P** **10 05 07.2 -0.9**
baz=223,SNR=6.4
PPLA Purkeypile 83.50 18 P **P** **10 05 07.2 -1.2**
baz=220
KNK Knik Glacier 83.56 20 P **P** **10 05 08.1 -0.6**
KNK IAmb IAmb 10 05 21.7
comp=Z,19nm,0.9s
KNK Knik Glacier 83.56 20 P **P** **10 05 08.0 -0.6**
baz=223,SNR=5.5
GLI Glacier Island 83.63 21 P **P** **10 05 08.8 -0.2**

GLI Glacier Island 83.63 21 P **P** **10 05 08.1 -0.9**
baz=225,SNR=5.7
GCSA Galena City Sc 83.69 15 P **P** **10 05 08.7 -0.5**
baz=215
SML Sawmill 83.88 20 P **P** **10 05 09.4 -0.9**
SML Sawmill 83.88 20 P **P** **10 05 09.5 -0.9**
baz=224
BOD Bodaibo 83.91 335 *e*P **P** **10 05 09.8 -0.7**
BOD pmax pmax
comp=Z,13nm,1.9s
CAST Castle Rocks 83.93 17 P **P** **10 05 09.3 -1.2**
CAST IAmb IAmb 10 05 10.6
comp=Z,24nm,1.0s
CAST Castle Rocks 83.93 17 P **P** **10 05 09.3 -1.2**
baz=220,SNR=22
J20K Nowinta River 83.94 16 P **P** **10 05 10.0 -0.5**
J20K IAmb IAmb 10 05 24.1
comp=Z,19nm,1.2s
J20K Nowinta River 83.94 16 P **P** **10 05 09.5 -1.0**
baz=218,SNR=8.9
CHUM Lake Minchumin 84.22 17 P **P** **10 05 11.1 -0.8**
baz=220,SNR=7.0
SCM Sheep Creek Mo 84.23 20 P **P** **10 05 11.4 -0.7**
SCM pmax pmax
comp=Z,145nm,1.9s
SCM Sheep Creek Mo 84.23 20 P **P** **10 05 11.4 -0.7**
SCM Sheep Creek Mo 84.23 20 P **P** **10 05 11.6 -0.5**
baz=224
GOMU GeErMu 84.26 309 P **P** **10 05 15.1 +1.8**
GOMU pP PcP 10 05 18.4 +1.4
GOMU sP pP 10 05 22.2 +2.9
GOMU S **S** **10 15 40.2 +2.1**
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU pmax pmax
comp=Z,71nm,4.9s
GOMU LR LR
comp=Z,64nm,13.2s
GOMU LR LR
comp=Z,69nm,12.5s
GOMU LR LR
comp=Z,91nm,13.5s
KTH Kantishna Hill 84.37 18 P **P** **10 05 11.9 -0.9**
KTH IAmb IAmb 10 05 12.7
comp=Z,21nm,0.9s
KLU Klutina 84.47 21 P **P** **10 05 12.7 -0.6**
KLU IAmb IAmb 10 05 40.5
comp=Z,21nm,1.2s
KLU Klutina 84.47 21 P **P** **10 05 13.1 -0.3**
baz=226
TRF Thorofare Moun 84.48 18 P **P** **10 05 12.8 -0.7**
TRF Thorofare Moun 84.48 18 P **P** **10 05 12.3 -1.2**
baz=222,SNR=8.5
WAT6 Susitna Watana 84.64 19 P **P** **10 05 13.6 -0.7**
baz=224,SNR=6.5
BPAW Bear Paw Mtn. 84.77 17 P **P** **10 05 13.4 -1.4**
BPAW IAmb IAmb 10 05 26.0
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 84.77 17 P **P** **10 05 13.7 -1.0**
baz=221
RND Reindeer 84.89 18 P **P** **10 05 14.5 -0.9**
RND pmax pmax
comp=Z,30nm,0.9s
RND Reindeer 84.89 18 P **P** **10 05 14.5 -0.9**
ZAK Zakamensk 84.91 325 *e*P **P** **10 05 15.1 -0.8**
ZAK pmax pmax
comp=Z,19nm,1.2s
N25K Chitina, Valde 85.01 21 P **P** **10 05 15.2 -0.8**
N25K IAmb IAmb 10 05 29.6
comp=Z,12nm,0.9s
N25K Chitina, Valde 85.01 21 P **P** **10 05 16.0 -0.1**
baz=227
MCK McKinley 85.10 18 P **P** **10 05 15.9 -0.5**
MCK pmax pmax
comp=Z,26nm,1.0s
MCK McKinley 85.10 18 P **P** **10 05 15.9 -0.5**
MCK McKinley 85.10 18 P **P** **10 05 14.9 -1.5**
baz=223,SNR=14
DHY Denali Highway 85.11 19 P **P** **10 05 16.4 -0.2**
DHY IAmb IAmb 10 05 29.4
comp=Z,32nm,1.4s
DHY Denali Highway 85.11 19 P **P** **10 05 15.6 -1.0**
baz=224
RDOG Red Dog Mine 85.18 11 P **P** **10 05 16.2 -0.5**
baz=210
PKM Mcpherson Peak 85.23 52 P **P** **10 05 15.4 -2.5**
baz=249
BWN Browne 85.27 18 P **P** **10 05 17.0 -0.2**
I21K Tanana 85.31 16 P **P** **10 05 17.5 +0.1**
I21K Tanana 85.31 16 P **P** **10 05 16.6 -0.8**
baz=220,SNR=28
HARP HAARP 85.36 20 P **P** **10 05 16.8 -0.9**
baz=226
MCARA McCarthy VSAT 85.42 22 P **P** **10 05 17.8 -0.2**
baz=228
H21K Melozitna Rive 85.46 16 P **P** **10 05 17.6 -0.5**
H21K IAmb IAmb 10 05 19.3
comp=Z,19nm,1.0s
H21K Melozitna Rive 85.46 16 P **P** **10 05 17.6 -0.5**
baz=219
IMAR Indian Mountai 85.47 15 P **P** **10 05 17.5 -0.7**
NEA2 Nenana 85.69 18 P **P** **10 05 18.7 -0.6**
NEA2 Nenana 85.69 18 P **P** **10 05 17.8 -1.5**
baz=223
BARN Barnard Glacie 85.70 23 P **P** **10 05 19.0 -0.7**
BARN IAmb IAmb 10 05 45.4
comp=Z,15nm,1.1s
YBH Yreka Blue Hor 85.71 45 LR LR 10 36 24.1
comp=Z,178nm,20.5s,baz=258,slow=31
CTG Chitna Glacier 85.76 23 P **P** **10 05 18.6 -1.3**
baz=230
CTGM Chitina Glacie 85.77 23 P **P** **10 05 19.3 -0.7**
CTGM IAmb IAmb 10 05 21.8
comp=Z,28nm,1.4s
WRH Wood River Hil 85.89 18 P **P** **10 05 19.9 -0.4**
WRH IAmb IAmb 10 05 20.5
comp=Z,17nm,0.9s
I23K Minto, Yukon-K 86.02 17 P **P** **10 05 20.4 -0.5**
I23K IAmb IAmb 10 05 47.9
comp=Z,15nm,1.2s
I23K Minto, Yukon-K 86.02 17 P **P** **10 05 19.5 -1.4**
baz=222
CCB Clear Creek Bu 86.11 18 P **P** **10 05 20.6 -0.7**
CCB IAmb IAmb 10 05 21.4
comp=Z,9.8nm,0.8s
HDA Harding Lake 86.19 18 P **P** **10 05 20.8 -1.0**
HDA Harding Lake 86.19 18 P **P** **10 05 20.5 -1.3**
baz=225,SNR=22
MDM Murphy Dome 86.21 18 P **P** **10 05 21.2 -0.7**
MDM IAmb IAmb 10 05 22.1
comp=Z,20nm,1.0s
MENT Mentasta 86.22 20 P **P** **10 05 21.3 -0.7**
MENT IAmb IAmb 10 05 51.6
comp=Z,17nm,1.4s
TCOL CIGO, UAF Yank 86.25 18 P **P** **10 05 21.7 -0.3**
TCOL CIGO, UAF Yank 86.25 18 P **P** **10 05 20.6 -1.4**
baz=224,SNR=8.6
COLA College 86.26 18 *i* P **P** **10 05 21.5 -0.6**
COLA pmax pmax
comp=Z,22nm,0.9s
COLA College 86.26 18 P **P** **10 05 21.5 -0.6**
COLA College 86.26 18 P **P** **10 05 20.5 -1.6**
baz=224
RIDG Independent Ri 86.39 20 P **P** **10 05 22.3 -0.6**
RIDG IAmb IAmb 10 05 23.8
comp=Z,10nm,0.8s
RIDG Independent Ri 86.39 20 P **P** **10 05 22.1 -0.7**
baz=227,SNR=7.3
L26K Log Cabin Wild 86.40 21 P **P** **10 05 22.0 -0.9**
L26K Log Cabin Wild 86.40 21 P **P** **10 05 22.1 -0.9**
baz=228
H23K Yukon River 86.47 17 P **P** **10 05 23.2 0.0**
H23K Yukon River 86.47 17 P **P** **10 05 22.1 -1.0**
baz=222,SNR=9.5
M27K Edge Creek, AK 86.47 21 P **P** **10 05 23.0 -0.4**
M27K Edge Creek, AK 86.47 21 P **P** **10 05 22.6 -0.8**
baz=229
IL31 86.47 18 P **P** **10 05 22.0 -1.1**
IL31 IAmb IAmb 10 05 23.4
comp=Z,13nm,0.8s
ILAR Eielson Array 86.47 18 P **P** **10 05 21.6 -1.5**
comp=Z,12nm,0.8s,baz=234,slow=5.5,SNR=91
ILAR LR LR 10 38 44.1
comp=Z,536nm,19.9s,baz=242,slow=32
ILAR Eielson Array 86.47 18 P **P** **10 05 22.0 -1.2**
ILAR Eielson Array 86.47 18 P **P** **10 05 22.0 -1.2**

POKR	**Poker Plat Res**	**86.56**	**18**	P		**P**	**10 05 22.6**	**-1.0**
	baz=224							
DOT	**Dot Lake**	**86.58**	**20**	P		**P**	**10 05 23.2**	**-0.6**
DOT				IAmb		IAmb	10 05 24.7	
	comp=Z,8.7nm,0.8s							
YUK3	**Moose Creek**	**86.61**	**22**	P		**P**	**10 05 23.3**	**-0.9**
	baz=231							
J25K	**Salcha River,**	**86.83**	**19**	P		**P**	**10 05 24.4**	**-0.6**
J25K				IAmb		IAmb	10 05 25.4	
	comp=Z,15nm,0.8s							
J25K	**Salcha River,**	**86.83**	**19**	P		**P**	**10 05 24.2**	**-0.8**
	baz=226,SNR=24							
SCRK	**Sand Creek**	**86.83**	**20**	P		**P**	**10 05 24.7**	**-0.4**
SCRK				IAmb		IAmb	10 05 26.2	
	comp=Z,9.4nm,0.8s							
SCRK	**Sand Creek**	**86.83**	**20**	P		**P**	**10 05 24.9**	**-0.2**
	baz=227							
BVCY	**Beaver Creek**	**86.87**	**22**	P		**P**	**10 05 25.1**	**-0.1**
	baz=230							
YUK6	**Outpost Mounta**	**86.89**	**24**	P		**P**	**10 05 24.9**	**-0.6**
	baz=233							
WRAK	**Wrangell Islan**	**86.90**	**29**	P		**P**	**10 05 25.4**	**+0.1**
	baz=238							
BBB	**Bella Bella**	**86.93**	**34**	LR		LR	10 37 09.6	
	comp=Z,312nm,20.4s,baz=250,slow=31							
H24K	**Noodor Dome**	**86.95**	**17**	P		**P**	**10 05 25.7**	**+0.2**
H24K				IAmb		IAmb	10 06 04.3	
	comp=Z,34nm,2.0s							
H24K	**Noodor Dome**	**86.95**	**17**	P		**P**	**10 05 24.9**	**-0.6**
	baz=224							
L27K	**Beaver Creek,**	**86.95**	**21**	P		**P**	**10 05 25.3**	**-0.3**
L27K				IAmb		IAmb	10 07 13.8	
	comp=Z,23nm,1.9s							
L27K	**Beaver Creek,**	**86.95**	**21**	P		**P**	**10 05 25.3**	**-0.3**
	baz=229							
BELA	**Belgrano 2**	**87.06**	**176**	P		**P**	**10 05 25.9**	**-0.1**
BELA				IAmb		IAmb	10 05 27.9	
	comp=Z,16nm,1.2s							
HYT	**Haines Junctio**	**87.15**	**24**	P		**P**	**10 05 26.1**	**-0.6**
	baz=233							
SKAG	**Skagway**	**87.24**	**26**	P		**P**	**10 05 26.3**	**-0.7**
	baz=235							
J26L	**Joseph Creek**	**87.32**	**19**	P		**P**	**10 05 27.0**	**-0.4**
	baz=228							
COLD	**Coldfoot**	**87.34**	**15**	P		**P**	**10 05 27.5**	**+0.2**
COLD				IAmb		IAmb	10 05 30.2	
	comp=Z,11nm,1.0s							
COLD	**Coldfoot**	**87.34**	**15**	P		**P**	**10 05 27.0**	**-0.3**
	baz=222,SNR=18							
PFO	**Pinyon Flats O**	**87.40**	**54**	LR		LR	10 36 45.5	
	comp=Z,494nm,20.2s,baz=268,slow=30							
NVAR	**Mina Array Bea**	**87.62**	**49**	P		**P**	**10 05 28.3**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=232,slow=8.1,SNR=6.8							
NVAR				LR		LR	10 36 57.8	
	comp=Z,587nm,20.4s,baz=244,slow=30							
PALK	**Pallekele**	**87.79**	**278**	LR		LR	10 45 11.6	
	comp=Z,79nm,19.1s,baz=235,slow=36							
EGAK	**Eagle**	**88.28**	**20**	P		**P**	**10 05 31.2**	**-0.7**
	baz=230							
DAWY	**Dawson**	**88.43**	**21**	P		**P**	**10 05 31.7**	**-1.0**
DAWY	**Dawson**	**88.43**	**21**	P		**P**	**10 05 31.9**	**-0.7**
	baz=232							
TOLK	**Toolik Lake Re**	**88.56**	**15**	P		**P**	**10 05 32.7**	**-0.5**
TOLK				IAmb		IAmb	10 05 35.1	
	comp=Z,9.6nm,0.9s							
TOLK	**Toolik Lake Re**	**88.56**	**15**	P		**P**	**10 05 32.5**	**-0.6**
	baz=222,SNR=12							
SYO	**Syowa Base**	**88.78**	**197**‖	*e*X		**P**	**10 05 30.0**	**-4.3**
BMAR	**Burnt Mountain**	**89.00**	**17**	P		**P**	**10 05 34.8**	**-0.5**
DLBC	**Dease Lake**	**89.02**	**28**	LR		LR	10 43 58.8	
	comp=Z,178nm,18.1s,baz=254,slow=35							
J08A	**Circle Bar Ran**	**89.22**	**45**	P		**P**	**10 05 35.9**	**-1.1**
TIXI	**Tiksi**	**89.55**	**349**	P		**P**	**10 05 36.1**	**-1.6**
	comp=Z,2.8nm,0.7s,baz=268,slow=21,SNR=11							
TIXI	**Tiksi**	**89.55**	**349**	*ce*P		**P**	**10 05 37.1**	**-0.6**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.3s							
TIXI	**Tiksi**	**89.55**	**349**	P		**P**	**10 05 36.9**	**-0.8**
I29M	**Ogilvie Camp,**	**89.59**	**20**	P		**P**	**10 05 36.8**	**-1.3**
I29M				IAmb		IAmb	10 05 51.4	
	comp=Z,17nm,1.6s							
I29M	**Ogilvie Camp,**	**89.59**	**20**	P		**P**	**10 05 37.1**	**-1.0**
	baz=232							
LPIG	**La Paz**	**89.72**	**65**	LR		LR	10 38 36.9	
	comp=Z,103nm,18.7s,baz=224,slow=31							
214A	**Organ Pipe Nat**	**89.81**	**57**	P		**P**	**10 05 37.1**	**-2.8**
	baz=253							
BMO	**Blue Mountains**	**90.53**	**44**	P		**P**	**10 05 41.8**	**-1.2**
BMO				pmax		pmax		
	comp=Z,4.0nm,1.3s							
BMO	**Blue Mountains**	**90.53**	**44**	P		**P**	**10 05 41.8**	**-1.2**
ELK	**Elko**	**90.62**	**48**	LR		LR	10 38 07.7	
	comp=Z,342nm,21.8s,baz=246,slow=30							
EPYK	**Eagle Plains**	**90.72**	**20**	P		**P**	**10 05 41.9**	**-1.4**
	baz=234							
LCMT	**Little Creek M**	**90.96**	**52**	P		**P**	**10 05 44.3**	**-1.0**
LCMT				IAmb		IAmb	10 06 03.5	
	comp=Z,13nm,1.8s							
U15A	**North Rim**	**91.52**	**53**	P		**P**	**10 05 46.9**	**-1.2**
X16A	**Lo Mia Camp, P**	**91.62**	**55**	P		**P**	**10 05 47.3**	**-1.2**
NEW	**Newport**	**91.80**	**41**	LR		LR	10 41 40.9	
	comp=Z,152nm,19.3s,baz=248,slow=32							
WMQ	**Urumqi**	**92.03**	**315**	*e*P		**P**	**10 05 51.8**	**+1.8**
PMSA	**Palmer Station**	**92.27**	**161**	LR		LR	10 42 19.4	
	comp=Z,137nm,18.1s,baz=232,slow=32							
HYBB	**Hyderabad (bro**	**92.37**	**287**	*e*P		**P**	**10 05 51.4**	**-0.6**
HYBB				*ep*P		**sP**	**10 06 02.2**	**+2.3**
HYBB				*e*PP		**PP**	**10 09 32.8**	**-0.4**
INK	**Inuvik**	**92.84**	**19**	P		**P**	**10 05 54.2**	**+1.2**
	comp=Z,1.4nm,1.0s,baz=189,slow=9.0,SNR=4.0							
INK				LR		LR	10 43 22.4	
	comp=Z,432nm,19.6s,baz=216,slow=33							
TROLL	**Troll, Antarti**	**93.09**	**185**	P		**P**	**10 05 54.8**	**+0.2**
SNAA	**Sanae**	**93.80**	**183**	P		**P**	**10 05 57.7**	**-0.1**
SNAA	**Sanae**	**93.80**	**183**	LR		LR	10 46 49.7	
	comp=Z,164nm,18.1s,baz=164,slow=35							
SNAA	**Sanae**	**93.80**	**183**	*ce*P		**P**	**10 05 57.4**	**-0.3**
SNAA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
SNAA	**Sanae**	**93.80**	**183**	P		**P**	**10 05 57.6**	**-0.1**
VNA3	**Neumayer Olymp**	**94.49**	**181**	P		**P**	**10 06 00.5**	**-0.3**
VNA2	**Neumayer--Kata**	**94.74**	**182**	P		**P**	**10 06 01.8**	**-0.2**
	baz=189,slow=4.0							
PDAR	**Pinedale Array**	**95.27**	**47**	P		**P**	**10 06 05.1**	**0.0**
	comp=Z,0.1nm,0.5s,baz=311,slow=12,SNR=1.5							
PDAR				LR		LR	10 41 40.3	
	comp=Z,167nm,20.5s,baz=271,slow=31							
ANMO	**Albuquerque**	**95.72**	**56**	LR		LR	10 41 26.1	
	comp=Z,271nm,20.4s,baz=274,slow=31							
C36M	**Paulatuk**	**96.36**	**20**	P		**P**	**10 06 07.5**	**-1.5**
C36M	**Paulatuk**	**96.36**	**20**	P		**P**	**10 06 07.6**	**-1.5**
	baz=246							
MK31	**Makanchi Array**	**96.51**	**317**	*i* P		**P**	**10 06 09.8**	**-0.6**
MK31	**Makanchi Array**	**96.51**	**317**	P		**P**	**10 06 10.1**	**-0.4**
MKAR	**Makanchi Array**	**96.51**	**317**	P		**P**	**10 06 10.3**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=103,slow=6.1,SNR=34							
MKAR				PP		**PP**	**10 10 00.5**	**-4.3**
	comp=Z,1.0nm,1.0s,baz=98,slow=8.7,SNR=4.3							
MAKZ	**Makanchi**	**96.72**	**316**	P		**P**	**10 06 10.9**	**-0.5**
MAKZ				pmax		pmax		
	comp=Z,16nm,1.7s							
MAKZ	**Makanchi**	**96.72**	**316**	P		**P**	**10 06 10.8**	**-0.5**
MAKZ				IAmb		IAmb	10 06 23.0	
	comp=Z,16nm,1.7s							
ZAA0	**Zalesovo Array**	**96.74**	**324**	P		**P**	**10 06 09.7**	**-1.5**
ZAA0				IAmb		IAmb	10 06 10.8	
	comp=Z,5.1nm,0.9s							
ZALV	**Zalesovo Beam**	**96.74**	**324**	P		**P**	**10 06 09.8**	**-1.4**
	comp=Z,3.3nm,0.8s,baz=115,slow=4.7,SNR=16							
ZALV				LR		LR	10 49 23.4	
	comp=Z,54nm,21.0s,baz=127,slow=35							
ZALV	**Zalesovo Beam**	**96.74**	**324**	*i* P		**P**	**10 06 10.1**	**-1.1**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ZALV	**Zalesovo Beam**	**96.74**	**324**	P		**P**	**10 06 09.5**	**-1.7**
TXAR	**Lajitas Array**	**96.76**	**62**	LR		LR	10 40 57.1	
	comp=Z,202nm,21.9s,baz=270,slow=30							
A36M	**Sachs Harbour**	**97.10**	**17**	P		**P**	**10 06 11.3**	**-1.1**
A36M				IAmb		IAmb	10 06 12.7	
	comp=Z,6.7nm,0.8s							
A36M	**Sachs Harbour**	**97.10**	**17**	P		**P**	**10 06 11.9**	**-0.5**
	baz=245							
YKA	**Yellowknife Ar**	**97.61**	**27**	P		**P**	**10 06 13.7**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=253,slow=4.6,SNR=22							
YKA				PKiKP		**PKiKP**	**10 10 48.5**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=250,slow=1.4,SNR=1.2							
YKA				LR		LR	10 42 36.7	
	comp=Z,98nm,21.7s,baz=280,slow=31							
NRIK	**Noril'sk**	**99.56**	**339**	P		**Pdif**	**10 06 22.2**	**-1.3**
	comp=Z,5.2nm,1.1s,baz=98,slow=5.2,SNR=4.3							
NRIK				LR		LR	10 50 55.3	
	comp=Z,84nm,19.9s,baz=59,slow=35							
NRIK	**Noril'sk**	**99.56**	**339**	*ce*P		**Pdif**	**10 06 22.5**	**-1.0**
NRIK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KURBB	**Kurchatov Arra**	**99.77**	**320**	LR		LR	10 54 23.8	
	comp=Z,72nm,18.1s,baz=96,slow=37							
LPAZ	**La Paz**	**117.97**	**117**	PKP		**PKPdf**	**10 11 28.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=292,slow=5.4,SNR=1.9							
BELG	**Belogornoye**	**118.88**	**322**	PKP		**PKPdf**	**10 11 27.9**	**-1.2**
	comp=Z,9.1nm,0.8s,baz=128,slow=4.8,SNR=4.2							
ARCES	**ARCESS Array B**	**119.80**	**345**	PKP		**PKPdf**	**10 11 30.1**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=8.9,slow=6.4,SNR=6.6							
KLMR	**Klimovskoe**	**120.11**	**333**	*e*PKiKP		**PKPdf**	**10 11 29.9**	**-1.4**
KLMR				pmax		pmax		
	comp=Z,13nm,1.2s							
KLMR	**Klimovskoe**	**120.11**	**333**	*e*PKPdf		**PKPdf**	**10 11 29.9**	**-1.4**
KLMR				AMP			10 11 36.0	
	comp=Z,13nm,1.2s							
CPUP	**Villa Florida**	**121.16**	**133**	PKP		**PKiKP**	**10 11 34.8**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=317,slow=3.1,SNR=4.3							
SCHQ	**Schefferville**	**122.45**	**33**	PKP		**PKPdf**	**10 11 35.2**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=299,slow=10,SNR=1.6							
MOS	**Moscow**	**123.27**	**328**	*e*PKiKP		**PKPdf**	**10 11 37.2**	**-0.3**
ZEI	**Tsey**	**123.53**	**312**	*i* PKiKP		**PKiKP**	**10 11 38.8**	**-0.2**
ZEI				pmax		pmax		
	comp=Z,3.0nm,0.9s							
SIV	**San Ignacio**	**124.08**	**121**	PKP		**PKPdf**	**10 11 39.3**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=216,slow=1.8,SNR=7.0							
OBN	**Obninsk**	**124.08**	**328**‖	*e*PKiKP		**PKiKP**	**10 11 39.3**	**0.0**
OBN				*e*			10 13 22.3	
OBN				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KIV	**Kislovodsk**	**124.14**	**314**	*i* PKiKP		**PKPdf**	**10 11 37.0**	**-2.7**
KIV				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,55nm,22.0s							
FINES	**FINESS Array B**	**125.19**	**338**	PKP		**PKPdf**	**10 11 39.4**	**-1.6**
	comp=Z,2.9nm,0.9s,baz=48,slow=2.1,SNR=5.4							
FINES	**FINESS Array B**	**125.19**	**338**	PKiKP		**PKPdf**	**10 11 39.8**	**-1.2**
FINES	**FINESS Array B**	**125.19**	**338**			**PKPdf**	**10 11 39.8**	**-1.2**
AKASG	**Malin Array Be**	**130.10**	**326**	PKP		**PKiKP**	**10 11 51.1**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=51,slow=2.3,SNR=4.6							
AKASG	**Malin Array Be**	**130.10**	**326**			**PKPdf**	**10 11 50.5**	**-0.2**
NB2	**NORSAR Subarra**	**130.10**	**345**	PKPdf		**PKiKP**	**10 11 50.9**	**-0.5**
	comp=Z,3.5nm,1.2s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**130.16**	**345**	PKP		**PKPdf**	**10 11 49.9**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=32,slow=2.0,SNR=5.0							
BRTR	**Keskin Array B**	**131.79**	**311**	PKP		**PKiKP**	**10 11 55.0**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=163,slow=1.4,SNR=1.6							
BRTR	**Keskin Array B**	**131.79**	**311**	PKIKP		**PKiKP**	**10 11 55.0**	**-0.5**
BDFB	**Brasilia**	**134.61**	**130**	PKP		**PKPdf**	**10 11 60.0**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=256,slow=5.2,SNR=3.7							
BDFB	**Brasilia**	**134.61**	**130**	PKIKP		**PKPdf**	**10 12 00.0**	**-0.4**
GERES	**GERESS Array B**	**139.07**	**333**	PKP		**PKPdf**	**10 12 08.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=76,slow=4.1,SNR=5.5							
DAVOX	**Davos/Dischmat**	**142.31**	**334**	PKP		**PKPdf**	**10 12 13.4**	**-0.4**
	comp=Z,3.9nm,0.6s,baz=32,slow=8.1,SNR=6.4							
TIP	**Timpagrande**	**143.77**	**319**	PKPdf		PKPbc	10 12 15.0	+1.0
BNI	**Bardonecchia**	**145.04**	**335**	PKIKP		**PKPbc**	**10 12 16.6**	**-1.2**
BNI	**Bardonecchia**	**145.04**	**335**			**PKPbc**	**10 12 16.6**	**-1.2**
KEST	**Kesra**	**150.54**	**320**	PKPbc		**PKPbc**	**10 12 32.7**	**-0.5**
	comp=Z,12nm,0.9s,baz=0.0,slow=5.1,SNR=10							
KEST	**Kesra**	**150.54**	**320**			**PKPbc**	**10 12 33.3**	**+0.1**
ESDC	**Sonseca Array**	**153.51**	**343**	PKPbc		**PKPbc**	**10 12 38.6**	**-1.1**
	comp=Z,2.0nm,1.0s,baz=340,slow=3.6,SNR=5.7							
ESDC	**Sonseca Array**	**153.51**	**343**			**PKPbc**	**10 12 39.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**165.22**	**267**	PKP		**PKPdf**	**10 12 45.5**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=113,slow=7.0,SNR=2.3							
TORD				PKPab		**PKPab**	**10 13 43.0**	**-0.6**
	comp=Z,2.7nm,1.0s,baz=81,slow=4.7,SNR=6.7							
TORD	**Torodi Ar. Bea**	**165.22**	**267**	PKPdf		**PKPdf**	**10 12 43.5**	**-2.7**
TORD						**PKPab**	**10 13 43.2**	**-0.4**

IDC 12** 09:56:00.4±3.1, **53.72N×88.14E, h0km, mb1 3.3**/2, **mb1mx3.1**/45, **mbtmp3.3**/2, **ML3.0**/2, **Error ellipse: s-maj=25.9km s-min=16.5km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**278**	*i*			10 09 20.7	
	baz=94,slow=334,SNR=4.7							
ZALV	**Zalesovo Beam**	**1.98**	**278**	Pg		Pn	09 56 35.5	+0.4
	5.3nm,0.3s,baz=100,slow=14,SNR=71							
ZALV				Lg		Lg	09 57 03.5	
	7.0nm,0.3s,baz=99,slow=18,SNR=22							
KURBB	**Kurchatov Arra**	**6.67**	**246**	Pn		Pn	09 57 40.3	+0.8
	0.2nm,0.3s,baz=60,slow=14,SNR=5.3							
KURBB				Sn		Sn	09 58 55.9	-0.3
	0.1nm,0.3s,baz=55,slow=15,SNR=1.1							
KURBB				Lg		Lg	09 59 31.6	
	0.0nm,0.3s,baz=52,slow=29,SNR=1.8							
MKAR	**Makanchi Array**	**7.87**	**211**	Pn		Pn	09 57 57.2	+1.1
	0.2nm,0.3s,baz=27,slow=13,SNR=11							
MKAR				Sn		Sn	09 59 25.1	-0.7
	0.2nm,0.3s,baz=20,slow=17,SNR=2.4							

*IDC **12** 09:55:14.4±34.0, 1.46S×103.14E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.2/55, mbtmp3.6/3, Error ellipse: s-maj=616.7km s-min=219.6km az=139.0*
*DJA **12** 09:56:19.3±0.4, 7.5S×107.6E±, h180km±6km, M4.0/10, mb4.3/2, mB5.1/1, MLv3.8/10, Mw(mB)4.4/1*
ISC 12 09:56:19.9±1.1, 6.2S±0.1×106.70E±0.09, h150km, n14, σ1.9s85/15, mb3.2/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKJI	**Sukabumi**	**0.79**	**190**	P		**Pn**	**09 56 43.9**	**+0.9**
SKJI				S		**Sn**	**09 57 03.3**	**+2.6**
CGJI	**Cibinong**	**1.07**	**249**	P		**Pn**	**09 56 46.9**	**+1.6**
CNJI	**Cibinong**	**1.16**	**158**	P		**Pn**	**09 56 46.2**	**+0.1**
KASI	**Kota Agung**	**2.30**	**288**	P		**Pn**	**09 57 00.3**	**+1.7**
CMJI	**Cimerak**	**2.33**	**132**	P		**Pn**	**09 56 59.3**	**+0.4**
KPJI	**Karang Pucung**	**2.48**	**117**	P		**Pn**	**09 57 03.1**	**+2.4**
MDSI	**Maura Dua**	**3.05**	**304**	P		**Pn**	**09 57 10.3**	**+2.4**
UGM	**Wanagama**	**4.15**	**114**	P		**Pn**	**09 57 23.4**	**+1.2**
MNAI	**Manna**	**4.16**	**296**	P		**Pn**	**09 57 24.0**	**+1.7**
PCJI	**Pacitan**	**4.86**	**114**	P		**Pn**	**09 57 31.8**	**+0.4**
SISI	**Saibi**	**9.02**	**302**	P		**Pn**	**09 58 24.4**	**-2.5**
WRA	**Warramunga Arr**	**30.11**	**120**	P		**P**	**10 02 13.9**	**-1.7**
	0.3nm,0.6s,baz=299,slow=8.5,SNR=5.0							
ASAR	**Alice Springs**	**31.38**	**126**	P		**P**	**10 02 25.5**	**-1.3**
	0.2nm,0.4s,baz=298,slow=8.0,SNR=1.5							
STKA	**Stephens Creek**	**41.38**	**13**	P		**P**	**10 03 50.4**	**-1.1**
	1.5nm,0.5s,baz=310,slow=9.1,SNR=4.8							

*GUC **12** 10:00:15.9±0.7, 20.78S×69.13W, h111km±3km, ML3.9*
*NEIC **12** 10:00:15.3±1.9, 20.76S±0.02×69.25W±0.07, h116km±5km, Error ellipse: s-maj=9.4km s-min=2.1km az=96.0*
*IDC **12** 10:00:16.8±1.5, 20.84S×68.80W, h119km±12km, mb3.1/2, mb1 3.3/5, mb1mx3.2/32, mbtmp3.6/5, Error ellipse: s-maj=42.4km s-min=14.1km az=104.0*
ISC 12 10:00:14.9±0.7, 20.78S±0.03×69.19W±0.06, h116km±6km, n56, σ1.9s06/86, mb3.9/5, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB01	**IPOC Station P**	**0.38**	**226**			**Pn**	**10 00 31.1**	**-0.7**
PB01					Sn	**Sn**	**10 00 44.1**	**-0.4**
PB01	**IPOC Station P**	**0.38**	**226**	*e*P		**Pn**	**10 00 32.0**	**+0.2**
PB01				*e*S		**Sn**	**10 00 44.1**	**-0.4**
PB08	**IPOC Station P**	**0.63**	**3**			**Pn**	**10 00 33.3**	**-0.5**
PB08					Sn	**Sn**	**10 00 47.6**	**-0.3**
PB08	**IPOC Station P**	**0.63**	**3**	*e*P		**Pn**	**10 00 33.9**	**+0.1**
PB08				*e*S		**Sn**	**10 00 47.7**	**-0.2**
PB08				IAML			10 00 48.6	
	comp=E,4μm,0.2s							
HMBC	**Humberstone**	**0.82**	**307**	*e*P		**Pn**	**10 00 35.2**	**+0.2**
HMBC				*e*S		**Sn**	**10 00 50.1**	**0.0**
HMBC				IAML			10 00 51.5	
	comp=E,3μm,0.9s							
PB02	**IPOC Station P**	**0.85**	**230**			**Pn**	**10 00 35.3**	**0.0**
PB02					Sn	**Sn**	**10 00 51.2**	**+0.6**
PB02	**IPOC Station P**	**0.85**	**230**	*e*P		**Pn**	**10 00 36.0**	**+0.7**
PB02				*e*S		**Sn**	**10 00 51.0**	**+0.4**
PB02				IAML			10 00 52.9	
	comp=E,8μm,0.1s							
PATCX	**Punta Patache**	**0.90**	**267**			**Pn**	**10 00 36.0**	**+0.4**
PATCX					Sn	**Sn**	**10 00 51.7**	**+0.4**
PATCX	**Punta Patache**	**0.90**	**267**	*e*P		**Pn**	**10 00 36.2**	**+0.6**
PATCX				*e*S		**Sn**	**10 00 51.8**	**+0.4**
PATCX				IAML			10 00 53.0	
	comp=N,6μm,0.2s							
TA01	**Diego Aracena**	**0.95**	**283**	Pn		**Pn**	**10 00 36.0**	**0.0**
TA01				Sn		**Sn**	**10 00 51.8**	**-0.2**
TA01	**Diego Aracena**	**0.95**	**283**	*e*P		**Pn**	**10 00 36.4**	**+0.4**
TA01				*e*S		**Sn**	**10 00 52.0**	**0.0**
TA01				IAML			10 00 52.8	
	comp=E,4μm,0.2s							
TA02	**Huaiquique**	**1.01**	**300**			**Pn**	**10 00 36.9**	**+0.3**
TA02					Sn	**Sn**	**10 00 53.9**	**+0.8**
TA02	**Huaiquique**	**1.01**	**300**	*e*P		**Pn**	**10 00 37.0**	**+0.3**
TA02				*e*S		**Sn**	**10 00 53.3**	**+0.2**
TA02				IAML			10 00 54.0	
	comp=N,8μm,0.3s							
PB09	**IPOC Station P**	**1.01**	**183**			**Pn**	**10 00 37.3**	**+0.4**
PB09					Sn	**Sn**	**10 00 54.8**	**+1.2**
PB09	**IPOC Station P**	**1.01**	**183**	*e*P		**Pn**	**10 00 37.7**	**+0.8**
PB09				*e*S		**Sn**	**10 00 54.3**	**+0.8**
PB09				IAML			10 00 56.8	
	comp=N,2μm,0.3s							
PB11	**IPOC Station P**	**1.10**	**337**	Pn		**Pn**	**10 00 37.4**	**-0.4**
PB11				Sn		**Sn**	**10 00 55.0**	**0.0**
PB11	**IPOC Station P**	**1.10**	**337**	*e*P		**Pn**	**10 00 38.1**	**+0.3**
PB11				*e*S		**Sn**	**10 00 55.0**	**0.0**
PB11				IAML			10 00 56.0	
	comp=E,5μm,0.3s							
GO01	**Chusmiza**	**1.10**	**360**			**Pn**	**10 00 38.5**	**+0.3**
GO01					Sn	**Sn**	**10 00 56.1**	**+0.4**
GO01	**Chusmiza**	**1.10**	**360**	*e*P		**Pn**	**10 00 38.4**	**+0.3**
GO01				*e*S		**Sn**	**10 00 55.7**	**0.0**
GO01				IAML			10 00 57.8	
	comp=E,10μm,0.1s							
PB07	**IPOC Station P**	**1.15**	**214**			**Pn**	**10 00 38.1**	**-0.1**
PB07					Sn	**Sn**	**10 00 56.5**	**+0.6**
PB07	**IPOC Station P**	**1.15**	**214**	*e*P		**Pn**	**10 00 38.9**	**+0.6**
PB07				*e*S		**Sn**	**10 00 56.5**	**+0.6**
PB07				IAML			10 00 57.2	
	comp=E,2μm,0.3s							
PB04	**IPOC Station P**	**1.79**	**210**			**Pn**	**10 00 46.1**	**+0.4**
PB04					Sn	**Sn**	**10 01 09.6**	**+0.5**
PB04	**IPOC Station P**	**1.79**	**210**	*e*P		**Pn**	**10 00 46.1**	**+0.4**
PB04				*e*S		**Sn**	**10 01 09.4**	**+0.3**
PB04				IAML			10 01 12.8	
	comp=N,572nm,0.1s							
LVC	**Limon Verde**	**1.84**	**172**	P		**Pn**	**10 00 47.8**	**+1.3**
	comp=N,18nm,0.3s,baz=1.0,slow=6.4,SNR=386							
LVC				S		**Sn**	**10 01 11.3**	**+0.7**
	comp=N,120nm,0.3s,baz=319,slow=20,SNR=63							
LVC	**Limon Verde**	**1.84**	**172**	*e*P		**Pn**	**10 00 47.7**	**+1.1**
LVC				*e*S		**Sn**	**10 01 11.7**	**+1.0**
PB06	**IPOC Station P**	**1.95**	**190**			**Pn**	**10 00 48.3**	**+0.6**
PB06	**IPOC Station P**	**1.95**	**190**	*e*P		**Pn**	**10 00 48.4**	**+0.6**
PB06				*e*S		**Sn**	**10 01 13.0**	**+0.2**
PB06				IAML			10 01 14.8	
	comp=E,628nm,0.3s							
PB12	**IPOC Station P**	**2.40**	**333**	Pn		**Pn**	**10 00 52.6**	**-0.8**
PB12	**IPOC Station P**	**2.

PAJU	**Pajala**	**3.74**	**310**	SG	**Sg**	**10 09 06.0**	**+0.4**
ERTU	**Ertsjaerv**	**3.83**	**302**	PB	**Pn**	**10 08 09.4**	**+3.6**
FIA0	**FINESS Array S**	**3.87**	**212**	PB	**Pn**	**10 08 08.7**	**+2.4**
FINES	**FINESS Array B**	**3.87**	**212**	Pn	**Pn**	**10 08 05.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=29,slow=13,SNR=1.5						
FINES				Pg	**Pb**	**10 08 14.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=25,slow=15,SNR=5.7						
FINES				Lg	Lg	10 09 04.9	
	comp=Z,1.2nm,0.3s,baz=42,slow=25,SNR=9.7						
HEF	**Hetta**	**4.53**	**327**	SG	**Sg**	**10 09 28.8**	**-2.1**
ARCES	**ARCESS Array B**	**5.14**	**341**	Pn	**Pn**	**10 08 23.5**	**-0.3**
	baz=154,slow=14,SNR=13						
ARCES				Sn	**Sn**	**10 09 25.1**	**+1.3**
	baz=155,slow=24,SNR=2.2						
ARCES				Lg	Lg	10 09 46.4	
	baz=158,slow=30,SNR=7.4						
I37NO	**I37NO**	**6.32**	**318**	*i*		10 46 20.0	
	baz=129,slow=332,SNR=4.8						

IDC 12 10:09:27.3±2.9, 53°.54N×87°.69E, *h0*km, mb1 3.0/1, mb1mx2.8/52, mbtmp3.0/1, ML3.0/1, Error ellipse: s-maj=26.7km s-min=15.3km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**285**	*i*		10 21 10.3	
	baz=101,slow=332,SNR=4.1						
ZALV	**Zalesovo Beam**	**1.75**	**285**	Pg	Pn	10 09 58.4	-0.6
	0.8nm,0.3s,baz=98,slow=15,SNR=10						
ZALV				Lg	Lg	10 10 23.2	
	1.9nm,0.3s,baz=103,slow=26,SNR=13						
KURBB	**Kurchatov Arra**	**6.36**	**246**	Pn	Pn	10 11 03.2	+1.1
	baz=60,slow=13						
KURBB				Lg	Lg	10 12 47.6	
	baz=60,slow=32,SNR=1.2						
MKAR	**Makanchi Array**	**7.59**	**209**	Pn	Pn	10 11 20.2	+1.0
	0.2nm,0.3s,baz=29,slow=13,SNR=12						
MKAR				Lg	Lg	10 13 26.5	
	0.0nm,0.3s,baz=23,slow=38,SNR=1.2						

*IDC **12** 10:35:36.3±1.7, 62°.98N×28°.45E, h0km, mb1 3.0/3, mb1mx2.8/35, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=23.0km s-min=7.4km az=110.0*
*HEL **12** 10:35:39.0±0.3, 63°.11N×27°.77E, h0km, ML1.9, Explosion KOLA **12** 10:35:39.9, 62°.95N×27°.47E, h0km, ML2.1*
ISC 12 10:35:38.1±0.8, 63°.11N±0°.03×27°.65E±0°.04, h0km, n17, σ1s55/31, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.79**	**241**	*e*P	**Pg**	**10 35 53.1**	**-0.1**
SUF				*e*S	**Sb**	**10 36 05.1**	**-0.8**
KAF	**Kangasniemi**	**1.18**	**212**	*e*P	**Pg**	**10 35 59.5**	**-1.1**
KAF				*e*S	**Sn**	**10 36 17.5**	**-1.0**
RMF	**Romuvaara**	**1.51**	**41**	*e*P	**Pn**	**10 36 04.3**	**-2.0**
RMF				*e*S	**Sg**	**10 36 25.4**	**-1.2**
RMF				*e*SN	**Sn**	**10 36 28.3**	**+1.5**
KEF	**Keuruu**	**1.59**	**235**	*e*P	**Pn**	**10 36 07.4**	**-0.1**
KEF				*e*SN	**Sg**	**10 36 34.4**	**+5.2**
KEF				MSG		10 36 37.3	
	comp=Z,8.6nm,0.1s						
RUFX	**Ruokolahti**	**1.79**	**159**	*e*P	**Pn**	**10 36 09.8**	**-0.4**
RUFX				*e*S	**Sn**	**10 36 34.1**	**+0.5**
OUF	**Merijarvi**	**1.81**	**316**	*e*P	**Pn**	**10 36 10.6**	**+0.1**
OUF				*e*S	**Sg**	**10 36 37.0**	**+0.9**
FIA1	**FINESS Array S**	**1.82**	**204**	*e*S	**Sg**	**10 36 36.2**	**-0.4**
FIA0	**FINESS Array S**	**1.82**	**204**	*e*P	**Pb**	**10 36 11.8**	**-0.5**
FIA0				*e*S	**Sg**	**10 36 36.8**	**+0.2**
FIA0				MSG		10 36 41.1	
	comp=Z,6.0nm,0.1s						
FINES	**FINESS Array B**	**1.82**	**204**	Pn	**Pn**	**10 36 10.9**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=35,slow=16,SNR=14						
FINES				Lg	Lg	10 36 36.9	
	comp=Z,1.5nm,0.3s,baz=32,slow=29,SNR=12						
VAF	**Ylistaro**	**2.27**	**271**	*e*P	**Pb**	**10 36 18.6**	**-1.2**
VAF				*e*SG	**Sg**	**10 36 50.9**	**+0.1**
VJF	**Virojoki**	**2.58**	**181**	*e*PG	**Pb**	**10 36 24.9**	**-0.2**
VJF				*e*SG	**Sb**	**10 36 57.9**	**+0.6**
VJF				MSG		10 37 03.0	
	comp=Z,5.7nm,0.1s						
APA0	**Apatity Array**	**5.04**	**24**	S	**Sn**	**10 37 56.5**	**+2.8**
ARCES	**ARCESS Array B**	**6.51**	**353**	Pn	**Pn**	**10 37 15.2**	**+0.2**
	baz=167,slow=14,SNR=8.4						
ARCES				Sn	**Sn**	**10 38 27.9**	**-2.0**
	baz=163,slow=25,SNR=1.8						
ARCES	**ARCESS Array B**	**6.51**	**353**	P	**Pn**	**10 37 17.1**	**+2.1**
ARCES				S	**Sn**	**10 38 30.4**	**+0.4**
PRVG	**Vayda Guba**	**6.91**	**13**	P	**Pn**	**10 37 22.6**	**+2.2**
PRVG				S	**Sn**	**10 38 40.0**	**+0.4**
HFS	**Hagfors**	**7.28**	**252**	Pn	**Pn**	**10 37 27.1**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=55,slow=18,SNR=1.6						
HFS				Sn	**Sn**	**10 38 47.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=84,slow=28,SNR=1.5						
NOA	**NORSAR Array B**	**7.98**	**262**	Pn	**Pn**	**10 37 34.8**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=83,slow=7.4,SNR=1.5						

ISC 12 10:37:07.0±1.2, 48°.78N±0°.04×18°.09E±0°.03, h6km±11km, n9, σ0s80/16, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLL	**Kolacno**	**0.28**	**133**	*e*PG	**Pb**	**10 37 14.6**	**+0.1**
KOLL				*e*SG	**Sb**	**10 37 17.9**	**-1.6**
JAVC	**Velka Javorina**	**0.29**	**287**	*e*PG	**Pg**	**10 37 12.2**	**-0.5**
JAVC				*e*SG	**Sg**	**10 37 17.7**	**+1.1**
SMOL	**Smolenice**	**0.51**	**240**	*e*SG	**Sb**	**10 37 26.3**	**+0.3**
VYHS	**Vyhne**	**0.57**	**119**	*e*PG	**Pg**	**10 37 17.5**	**-0.4**
VYHS				*e*SG	**Sg**	**10 37 25.7**	**+0.4**
MODS	**Modra-Piesok**	**0.67**	**234**	*e*PG	**Pg**	**10 37 19.9**	**0.0**
MODS				*e*SG	**Sb**	**10 37 30.8**	**+0.1**
ZST	**Bratislava**	**0.88**	**229**	*e*SG	**Sn**	**10 37 39.1**	**+0.3**
LANS	**Liptovska Anna**	**0.98**	**67**	*e*PG	**Pg**	**10 37 25.8**	**0.0**
LANS				*e*SG	**Sn**	**10 37 42.6**	**+1.1**
LANS				*e*LG	Lg	10 37 46.0	
MORC	**Moravsky Berou**	**1.07**	**340**	*e*PG	**Pg**	**10 37 26.7**	**-0.8**
MORC				*e*SG	**Sb**	**10 37 42.5**	**+0.5**
VRAC	**Vranov**	**1.12**	**299**	*e*PG	**Pg**	**10 37 27.6**	**-0.9**
VRAC				*e*SG	**Sn**	**10 37 44.2**	**-0.7**

IDC 12 10:46:07.4±640.0, 47°.81N×37°.12E, h0km, Error ellipse: s-maj=241.2km s-min=65.4km az=167.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**8.93**	**0**	*i*		11 35 30.0	
	baz=176,slow=329,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**13.94**	**71**	*i*		12 16 40.0	
	baz=268,slow=321,SNR=6.1						
I37NO	**I37NO**	**23.22**	**343**	*i*		13 10 10.0	
	baz=147,slow=336,SNR=0.5						

*IDC **12** 10:47:19.5±1.1, 1°.83N×66°.78E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.6/67, mbtmp3.8/7, MS3.4/3, Ms1 3.4/3, ms1mx2.9/86, Error ellipse: s-maj=34.7km s-min=26.2km az=42.0*
ISC 12 10:47:21.0±1.2, 1°.8N±0°.2×66°.8E±0°.2, h10km, n14, σ0s80/9, mb3.9/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.90**	**68**	LR	LR	10 55 26.8	
	comp=Z,180nm,18.9s,baz=346,slow=33						
PSI	**Prapat**	**32.15**	**88**	LR	LR	11 04 28.7	
	comp=Z,92nm,18.7s,baz=202,slow=32						
CMAR	**Chiang Mai Arr**	**35.61**	**60**	P	**P**	**10 54 19.3**	**+0.1**
	1.2nm,0.8s,baz=246,slow=10,SNR=5.6						
CMAR				LR	LR	11 07 04.7	
	comp=Z,24nm,21.4s,baz=270,slow=33						
MKAR	**Makanchi Array**	**46.79**	**15**	P	**P**	**10 55 50.9**	**+0.1**
	0.1nm,0.4s,baz=190,slow=7.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**54.03**	**13**	P	**P**	**10 56 44.2**	**-1.2**
	0.8nm,0.7s,baz=205,slow=6.4,SNR=4.4						
SONM	**Songino Array**	**57.17**	**31**	P	**P**	**10 57 08.8**	**+0.6**
	0.5nm,0.3s,baz=213,slow=6.9,SNR=2.2						
H01W3	**Cape Leeuwin H**	**57.43**	**134**	T	T	11 59 13.7	
	baz=301,slow=75,SNR=24						
H01W2	**Cape Leeuwin H**	**57.43**	**134**	T	T	11 59 14.3	
	baz=301,slow=75,SNR=26						
H01W1	**Cape Leeuwin H**	**57.44**	**134**	T	T	11 59 16.7	
	baz=301,slow=75,SNR=25						
TORD	**Torodi Ar. Bea**	**65.32**	**284**	P	**P**	**10 58 04.1**	**+0.2**
	0.1nm,0.5s,baz=101,slow=7.8,SNR=2.5						
WRA	**Warramunga Arr**	**69.64**	**112**	P	**P**	**10 58 31.5**	**+0.2**
	2.1nm,0.8s,baz=285,slow=5.9,SNR=11						
ASAR	**Alice Springs**	**69.92**	**116**	P		**10 58 32.6**	**-0.3**
	1.6nm,0.7s,baz=286,slow=6.1,SNR=19						
YKA	**Yellowknife Ar**	**115.84**	**1**	PKP	**PKiKP**	**11 06 02.6**	**-1.0**
	0.3nm,1.1s,baz=351,slow=2.9,SNR=3.8						
TXAR	**Lajitas Array**	**147.68**	**344**	PKPbc	**PKPbc**	**11 07 07.7**	**+0.9**
	1.8nm,0.9s,baz=64,slow=2.9,SNR=6.8						

WEL 12 11:09:54.9±0.7, 33°.5S±14°×17°.9E±3°.4, h223km±25km, M4.1/11, mB4.5/6, ML4.9/7, MLv4.4/11, Mw(mB)3.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.42**	**38**	S	S	11 11 45.8	-10
MXZ	**Matakaoa Point**	**4.77**	**186**	P	Pn	11 11 09.5	+2.6
MXZ				S	S	11 12 06.6	+2.7
HAZ	**Te Kaha**	**5.03**	**191**	P	Pn	11 11 14.1	+3.9
HAZ				S	S	11 12 14.3	+4.6
PKGZ	**Pakihiroa**	**5.12**	**188**	P	Pn	11 11 16.1	+4.7
PKGZ				S	S	11 12 10.6	-1.3
PUZ	**Puketiti**	**5.28**	**186**	P	Pn	11 11 18.6	+5.3
PUZ				S	S	11 12 17.7	+2.2
TWGZ	**Tauwhareparae**	**5.42**	**188**	P	Pn	11 11 20.1	+5.0
TWGZ				S	S	11 12 22.6	+4.0
MWZ	**Matawai**	**5.64**	**192**	P	Pn	11 11 20.6	+2.8
MWZ				S	S	11 12 26.0	+2.3
URZ	**Urewera**	**5.65**	**195**	P	Pn	11 11 21.8	+3.9
URZ				S	S	11 12 27.5	+3.6
KWHZ	**Kaweka Forest**	**6.92**	**197**	P	Pn	11 11 36.1	+1.9
KWHZ				S	S	11 12 54.0	+0.6
BHHZ	**Black Hill Sta**	**7.07**	**199**	P	Pn	11 11 39.2	+3.0
BHHZ				S	S	11 12 58.0	+1.0
PNHZ	**Pukenui**	**7.43**	**197**	P	Pn	11 11 41.5	+0.7
PNHZ				S	S	11 13 04.6	-0.9
WPHZ	**Waipukurau**	**7.52**	**195**	P	Pn	11 11 43.5	+1.6
WPHZ				S	S	11 13 07.2	-0.3
PRHZ	**Porangahau**	**7.68**	**194**	P	Pn	11 11 44.3	+0.5
PRHZ				S	S	11 13 08.0	-3.1
DVHZ	**Dannevirke**	**7.81**	**196**	P	Pn	11 11 45.8	+0.2
DVHZ				S	S	11 13 12.0	-2.2
ANWZ	**Angora Road**	**7.89**	**194**	P	Pn	11 11 48.9	+2.3
ANWZ				S	S	11 13 15.2	-1.0
POWZ	**Post Office Ro**	**7.99**	**198**	P	Pn	11 11 49.2	+1.2
POWZ				S	S	11 13 18.6	-2.0
BFZ	**Birch Farm**	**8.16**	**195**	P	Pn	11 11 50.8	+0.8
BFZ				S	S	11 13 18.0	-4.4
MRZ	**Mangatainoka R**	**8.30**	**198**	P	Pn	11 11 52.0	+0.2
MRZ				S	S	11 13 21.4	-4.2
TIWZ	**Tintock**	**8.33**	**196**	P	Pn	11 11 52.5	+0.2
TIWZ				S	S	11 13 22.8	-3.7
HOWZ	**Holdsworth Sta**	**8.54**	**198**	P	Pn	11 11 54.3	-0.6
HOWZ				S	S	11 13 27.4	-3.9
OGWZ	**Otaki Gorge**	**8.55**	**200**	P	Pn	11 11 54.3	-0.8
OGWZ				S	S	11 13 29.4	-2.3
TMWZ	**Te Maipa**	**8.64**	**196**	P	Pn	11 11 57.1	+0.8
TMWZ				S	S	11 13 29.6	-4.2
KIW	**Kapiti Island**	**8.67**	**201**	P	Pn	11 11 57.7	+1.0
KIW				S	S	11 13 31.9	-2.5
MTW	**Mount Morrison**	**8.78**	**197**	P	Pn	11 11 58.9	+0.8
MTW				S	S	11 13 33.2	-3.9
CAW	**Cannon Point**	**8.85**	**200**	P	Pn	11 11 59.6	+0.7
CAW				S	S	11 13 36.2	-2.5
TRWZ	**Traveller**	**8.96**	**196**	P	Pn	11 12 01.4	+1.0
TRWZ				S	S	11 13 38.3	-3.1

EST 12 11:20:16.0±0.1, 59°.22N×27°.80E, h0km, ML1.0 (HEL), Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE05	**Udria, Vaivara**	**0.18**	**20**	*e*P	Pg	11 20 18.9	-0.6
EE05				*e*S	Sg	11 20 21.6	-0.3
EE03	**Tooma soojaam,**	**0.86**	**247**	*e*P	Pg	11 20 31.1	-1.3
EE03				*e*S	Sg	11 20 42.7	-0.9
VSU	**Vasula**	**0.94**	**216**	*e*P	Pg	11 20 33.1	-0.9
ARBE	**Arbavere**	**0.95**	**284**	*e*S	Sg	11 20 45.0	-1.6
VJF	**Virojoki**	**1.33**	**355**	*e*P	Pg	11 20 39.5	-1.9
EE02	**Kiisa, Saku**	**1.59**	**270**	*e*PG	Pn	11 20 44.6	-0.8
PVF	**Pernaja**	**1.65**	**325**	*e*PG	Pn	11 20 45.7	-0.5
PVF				*e*SG	Sn	11 21 06.9	-1.1
PVF				MSG		11 21 07.3	
	comp=Z,0.6nm,0.1s						
MEF	**Metsahovi**	**1.99**	**302**	*e*PG	Pb	11 20 52.0	-1.1
MEF				*e*SG	Sn	11 21 17.1	+0.6
MEF				MSG		11 21 17.7	
	comp=Z,0.8nm,0.1s						
NUR	**Nurmijrvi**	**2.05**	**311**	*e*PB	Pn	11 20 51.8	+0.1
MTSE	**Matsula**	**2.12**	**258**	*e*P	Pn	11 20 52.7	+0.1
MTSE				*e*SG	Sb	11 21 21.0	-1.1
EE01	**Perakula, Nova**	**2.15**	**271**	*e*PB	Pn	11 20 53.4	+0.4
EE01				*e*SG	Sn	11 21 21.4	+1.2
FIA0	**FINESS Array S**	**2.39**	**340**	*e*PB	Pn	11 20 57.7	+1.4
FIA0				*e*SG	Sb	11 21 29.7	-0.1
FIA0				MSG		11 21 30.4	
	comp=Z,0.4nm,0.1s						
FIA1	**FINESS Array S**	**2.39**	**340**	*e*PB	Pn	11 20 57.7	+1.4
FIA1				*e*SG	Sb	11 21 29.4	-0.4
FIA1				MSG		11 21 31.2	
	comp=Z,0.7nm,0.1s						
EE06	**Soera, Palade,**	**2.57**	**267**	*e*SG	Sb	11 21 34.3	-0.5

HEL 12 11:20:54.2±0.6, 61°.01N×29°.19E, h0km, ML1.4, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUFX	**Ruokolahti**	**0.43**	**345**	*e*P	Pg	11 21 01.4	-1.1
RUFX				*e*S	Sg	11 21 07.2	-0.9
FIA0	**FINESS Array S**	**1.56**	**287**	*e*P	Pn	11 21 21.6	-1.7
FIA0				*e*S	Sn	11 21 41.9	-2.2
FIA1	**FINESS Array S**	**1.56**	**287**	*e*P	Pn	11 21 21.6	-1.6
FIA1				*e*S	Sn	11 21 41.9	-2.2
KAF	**Kangasniemi**	**1.77**	**310**	*e*P	Pn	11 21 26.0	+0.1
KAF				*e*S	Sn	11 21 48.7	-0.4
KAF				MSG		11 21 54.3	
	comp=Z,2.3nm,0.1s						
SUF	**Sumiainen**	**2.23**	**321**	*e*P	Pn	11 21 33.0	+0.5
SUF				*e*S	Sn	11 22 00.8	+0.1
SUF				MSG		11 22 04.7	
	comp=Z,1.1nm,0.1s						
KEF	**Keuruu**	**2.37**	**301**	*e*P	Pn	11 21 34.8	+0.6
KEF				*e*S	Sn	11 22 04.2	+0.3

*CNRM **12** 11:21:11.1, 35°.52N×3°.72W, h12km, ml3.0*
*SFS **12** 11:21:11.0, 35°.51N×3°.80W, ML2.6, ALBORAN SUR*
*MDD **12** 11:21:11.9±0.4, 35°.52N×3°.81W, h0km, mb_Lg2.6/11, Error ellipse: s-maj=3.8km s-min=2.5km az=167.0*
*INMG **12** 11:21:11.8±1.5, 35°.52N×3°.85W, h0km, ML2.0, Error ellipse: s-maj=5.1km s-min=3.7km az=9.0*
ISC 12 11:21:11.0±1.0, 35°.52N±0°.02×3°.80W±0°.02, h10km±9km, n31, σ1s36/53, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**201**	P	**Pg**	**11 21 18.1**	**+0.6**
PALE				S	**Sg**	**11 21 22.3**	**+0.5**
PVLZ	**Peæn de**	**0.54**	**230**	P	**Pg**	**11 21 22.1**	**+0.7**
PVLZ				S	**Sg**	**11 21 29.9**	**+1.3**
GOG	**Mont Gurugu**	**0.72**	**114**	P	**Pg**	**11 21 24.6**	**-0.3**
GOG				S	**Sg**	**11 21 32.6**	**-1.7**
EMEL	**Melilla**	**0.72**	**108**	Pg	**Pg**	**11 21 25.1**	**+0.2**
EMEL				Sg	**Sg**	**11 21 33.8**	**-0.5**
EALB	**Alboran**	**0.75**	**56**	Pg	**Pb**	**11 21 26.6**	**+0.6**
EALB				Sg	**Sb**	**11 21 37.1**	**+0.7**
EALB				*i* Vmb_Lg		11 21 37.7	
EMIJ	**Mijas**	**1.31**	**323**	Pn	**Pg**	**11 21 35.7**	**-0.4**
EMIJ				Sn	**Sb**	**11 21 52.9**	**+0.4**
EMIJ				*i* Vmb_Lg		11 21 59.0	
TAF	**Taforalt**	**1.33**	**122**	P	**Pn**	**11 21 35.7**	**-0.1**
TAF				S	**Sg**	**11 21 53.1**	**-0.9**
EMAL	**Malaga-Limoner**	**1.34**	**338**	P	**Pg**	**11 21 37.6**	**+0.9**
EMAL				S	**Sg**	**11 21 52.1**	**-2.0**
ECEU	**Ceuta**	**1.34**	**287**	Sn	**Sg**	**11 21 48.7**	**-5.4**
ELGU	**Los Guajares,**	**1.35**	**6**	Pg	**Pn**	**11 21 35.7**	**-0.3**
ELGU				Sg	**Sg**	**11 21 53.6**	**-0.9**
ELGU				*i* Vmb_Lg		11 21 56.9	
JBK	**JBK**	**1.56**	**139**	P	**Pn**	**11 21 37.4**	**-1.6**
JBK				S	**Sn**	**11 21 57.0**	**-2.3**
EBER	**Berja**	**1.56**	**28**	Pg	**Pn**	**11 21 39.3**	**+0.4**
EBER				Sg	**Sn**	**11 21 58.9**	**-0.4**
EBER				*i* Vmb_Lg		11 22 03.3	
EGOR	**Sierra Gorda,**	**1.60**	**351**	Pn	**Pb**	**11 21 41.2**	**+0.3**
EGOR				Sn	**Sg**	**11 22 04.0**	**+1.3**
EGOR				*i* Vmb_Lg		11 22 31.9	
EGUE	**Quentar**	**1.70**	**10**	Sn	**Sg**	**11 22 05.0**	**-0.9**
ENIJ	**Nijar**	**1.94**	**41**	Sn	**Sn**	**11 22 06.9**	**-1.4**
LCRM	**LCR**	**2.03**	**206**	P	**Pb**	**11 21 48.7**	**+0.6**
LCRM				S	**Sg**	**11 22 15.9**	**-0.3**
EADA	**Adamuz**	**2.71**	**347**	Pn	**Pb**	**11 21 57.7**	**-2.0**
EADA				*i* Vmb_Lg		11 22 05.9	
EADA				Sn	**Sn**	**11 22 29.6**	**+2.0**
MD31	**MD31**	**2.77**	**197**	P	**Pn**	**11 21 56.3**	**+0.8**
MDT	**Midelt**	**2.78**	**194**	P	**Pn**	**11 21 57.2**	**+1.5**
ECAB	**El Cabril**	**2.86**	**333**	Pn	**Pn**	**11 21 58.0**	**+1.3**
ECAB				*i* Vmb_Lg		11 22 09.3	
ECAB				Sn	**Sn**	**11 22 31.2**	**-0.1**
EZAR	**Zarzadilla de**	**2.89**	**35**	Sn	**Sn**	**11 22 32.8**	**+0.7**
EMUR	**La Murta**	**3.10**	**41**	Sn	**Sn**	**11 22 36.2**	**-0.8**
EMIN	**Mina Concepcio**	**3.22**	**315**	Pn	**Pn**	**11 22 01.5**	**-0.2**
EMIN				*i* Vmb_Lg		11 22 07.9	
EMIN				Sn	**Sn**	**11 22 39.4**	**-0.7**
EGRO	**El Granado**	**3.58**	**305**	Pn	**Pn**	**11 22 07.3**	**+0.7**
EGRO				Sn	**Sn**	**11 22 48.0**	**-1.0**
EGRO				*i* Vmb_Lg		11 23 15.8	
ETOB	**Tobarra**	**3.60**	**29**	Pn	**Pn**	**11 22 09.4**	**+2.5**
ETOB				Sn	**Sn**	**11 22 50.1**	**+0.7**
ETOB				*i* Vmb_Lg		11 24 06.9	
PVAQ	**Vaqueiros**	**3.68**	**302**	*e*Pn	**Pn**	**11 22 08.4**	**+0.5**
PVAQ				A	A	11 22 49.5	
	4.1nm,0.7s						
PVAQ				*e*Sn	**Sn**	**11 22 50.4**	**-0.9**
PVAQ	**Vaqueiros**	**3.68**	**302**	P	**Pn**	**11 22 09.6**	**+1.7**
PVAQ				S	**Sn**	**11 22 51.4**	**+0.1**
PBAR	**Barrancos**	**3.71**	**316**	*e*Pn	**Pn**	**11 22 08.7**	**+0.3**
PBAR				*e*Sn	**Sn**	**11 22 51.1**	**-1.1**
PBAR				A	A	11 23 08.2	
	2.2nm,0.8s						
PCVE	**Castro Verde**	**4.01**	**303**	*e*Pn	**Pn**	**11 22 12.4**	**-0.1**
PCVE				*e*Sn	**Sn**	**11 22 58.1**	**-1.5**
PCVE				A	A	11 23 04.6	
	3.2nm,0.6s						
PAB	**San Pablo**	**4.04**	**354**	Pn	**Pn**	**11 22 15.3**	**+2.3**
PAB				*i* Vmb_Lg		11 24 58.2	
EBAD	**Badajoz**	**4.13**	**322**	Sn	**Sn**	**11 23 03.0**	**+0.6**

*IDC **12** 11:24:48.6±0.3, 11°.34N×140°.83E, h0km, mb4.9/46, mb1 4.9/47, mb1mx4.8/52, mbtmp4.9/47, ML4.5/1, MS4.7/69, Ms1 4.7/69, ms1mx4.6/83, Error ellipse: s-maj=13.3km s-min=8.2km az=84.0*
*NEIC **12** 11:24:50.8±1.8, 11°.32N±0°.07×140°.83E±0°.08, h10km±1km, mb5.3/338, Ms_20 5.0/172, Error ellipse: s-maj=13.8km s-min=12.2km az=301.0*
*MOS **12** 11:24:52.7±1.0, 11°.36N×140°.75E, h29km, mb5.5/68, MS4.9/14, Error ellipse: s-maj=6.9km s-min=4.2km az=109.8*
*GCMT **12** 11:24:53.8±0.1, 11°.19N±0°.01×140°.66E±0°.01, h17km, MW5.3/130, Moment Tensor Solution. s119,c202; s130,c234; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr1.07±.02; Mθθ-1.02±.01; Mφφ-0.05±.01; Mrθ0.08±.03; Mθφ-0.20±.01; Mφr-0.24±.04; Best double couple: Mo1.09200×10^17 NP1:ϕs247.00000°, δ46.00000°, λ73.00000°. NP2:ϕs91.00000°, δ47.00000°, λ107.00000°. Principal axes: T 1.1250, Plg78.0000°, Azm75.0000°; N -0.0660, Plg12.0000°, Azm259.0000°; P -1.0600, Plg1.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **12** 11:24:54.3±0.0, 11°.34N×141°.12E, h67km, mb5.1/76, mB5.4/59, Ms5.0/84, Ms7 4.9/76*
*DJA **12** 11:24:56.4±0.7, 12°.N±5°.×14°.1E±°, h82km±7km, M5.1/30, mb5.2/30, mB5.5/24, MLv5.7/1, Mw(mB)5.0/24, MwMwp5.1/11, Mwp5.3/11*
ISC 12 11:24:56.1±0.4, 11°.36N±0°.03×140°.88E±0°.04, h55km±3km, h55km:pP-P, n936, σ1s62/898, mb5.2/289, MS4.9/181, 25C-16D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.48**	**60**	Pn	**Pn**	**11 26 04.1**	**+2.5**
	34nm,0.3s,baz=200,slow=7.1,SNR=15						
GUMO				Sn	Sn	11 27 02.3	+10
	46nm,0.3s,baz=345,slow=22,SNR=1.9						
GUMO				LR	LR	11 27 38.4	
	comp=Z,7μm,18.2s,baz=214,slow=38						
GUMO	**Guam**	**4.48**	**60**	P	**Pn**	**11 26 01.7**	**+0.1**
GUMO	**Guam**	**4.48**	**60**	Pn	**Pn**	**11 26 01.6**	**+0.1**
GUMO	**Guam**	**4.48**	**60**	P	**Pn**	**11 26 04.0**	**+2.5**
SMPI	**Sarmi**	**13.34**	**189**	P	**Pn**	**11 28 07.2**	**+3.0**
GLSP	**General Luna,**	**14.59**	**265**	*e*P	**Pn**	**11 28 15.5**	**-4.1**
BIPH	**Bislig**	**14.65**	**259**	*e*P	**Pn**

SANI	Sanana	19.92	229	P	P	11 29 23.3	-0.2	
	comp=Z,2µmcomp=Z,2µmcomp=Z,96nm,1.1s							
SANI	Sanana	19.92	229	P	Pn	11 29 25.3	-0.2	
JMJ	Miyako jima 2	19.93	314	P	Pn	11 29 29.8	+4.2	
APYP	Conner	20.06	291	⇓eP	Pn	11 29 26.6	-0.6	
APYP	Conner	20.06	291	eP	Pn	11 29 27.5	+0.4	
SMPP	San Manuel, Pa	20.18	286	eP	Pn	11 29 29.4	+0.7	
GTOI	Gorontalo	20.70	240	P	Pn	11 29 33.2	-1.6	
	comp=Z,1µmcomp=Z,49nm,1.0s							
YOJ	Yonaguni jima	21.38	310	P	P	11 29 37.4	-1.8	
YOJ				pmax	pmax			
	comp=Z,210nm,1.1s							
YOJ	Yonaguni jima	21.38	310	P	P	11 29 37.4	-1.8	
YOJ				IAmb	IAmb	11 29 44.0		
	comp=Z,210nm,1.1s							
PMG	Port Moresby	21.56	163	P	P	11 29 40.5	-0.6	
	comp=Z,57nm,0.9s,baz=326,slow=9.9,SNR=9.4							
PMG				LR	LR	11 36 49.8		
	comp=Z,1µm,21.8s,baz=324,slow=34							
PMG	Port Moresby	21.56	163	deP	P	11 29 39.7	-1.4	
PMG				pmax	pmax			
	comp=Z,133nm,1.3s							
PMG	Port Moresby	21.56	163	P	P	11 29 40.4	-0.8	
PMG				IAmb	IAmb	11 30 16.4		
	comp=Z,117nm,1.0s							
PMG	Port Moresby	21.56	163	P	P	11 29 41.7	+0.6	
PMG	Port Moresby	21.56	163	P	P	11 29 41.3	+0.2	
JHJ2	Mitsune	21.67	358	P	P	11 29 43.0	+0.9	
JHJ	Hachijo jima 2	21.68	358	LR	LR	11 36 40.3		
	comp=Z,4µm,18.2s,baz=250,slow=33							
MRSI	Marisa	21.69	241	P	P	11 29 44.1	+1.5	
	comp=Z,3µmcomp=Z,5µmcomp=Z,466nm,1.2s							
LUWI	Luwuk	21.81	237	P	P	11 29 42.0	-1.8	
LUWI	Luwuk	21.81	237	P	P	11 29 43.6	-0.3	
	comp=Z,6µmcomp=Z,819nm,1.1s							
LUWI	Luwuk	21.81	237	P	P	11 29 46.5	+2.6	
PPR	Puerto Princes	21.83	268	⇓iP	P	11 29 45.3	+1.2	
TWG	Pinlang	22.06	304	P	P	11 29 45.1	-1.4	
TWG				IAmb	IAmb	11 30 14.1		
	comp=Z,160nm,1.5s							
YULB	Yu-li	22.15	305	P	P	11 29 46.3	-1.2	
YULB				IAmb	IAmb	11 29 57.1		
	comp=Z,104nm,1.2s							
JSU	Suzuyama	22.24	336	P	P	11 29 49.1	+0.8	
JSU				IAmb	IAmb	11 29 50.7		
	comp=Z,129nm,1.0s							
NACB	Ninganchiao	22.31	307	P	P	11 29 49.5	+0.3	
NACB				IAmb	IAmb	11 30 15.3		
	comp=Z,165nm,1.6s							
TOLI2	Tolitoli	22.40	244	P	P	11 29 49.0	-1.2	
TOLI2				IAmb	IAmb	11 29 56.8		
	comp=Z,171nm,1.2s							
TOLI2	Tolitoli	22.40	244	P	P	11 29 49.6	-0.6	
SSLB	Suanglung	22.62	306	P	P	11 29 52.2	-0.3	
SSLB				IAmb	IAmb	11 29 58.1		
	comp=Z,89nm,1.0s							
SSLB	Suanglung	22.62	306	P	P	11 29 54.2	+1.6	
TPUB	Ta-pu	22.65	304	P	P	11 29 52.9	+0.1	
TPUB				IAmb	IAmb	11 30 19.6		
	comp=Z,212nm,1.3s							
TPUB	Ta-pu	22.65	304	P	P	11 29 54.4	+1.6	
APSI	Ampana	22.67	239	P	P	11 29 50.7	-2.4	
	comp=Z,2µmcomp=Z,142nm,1.1s							
YHNB	Yeheng	22.74	308	P	P	11 29 53.7	-0.2	
YHNB				IAmb	IAmb	11 30 04.3		
	comp=Z,97nm,0.9s							
YHNB	Yeheng	22.74	308	P	P	11 29 56.5	+2.6	
TATO	Taipei	22.82	309	IAMs_20	IAMs_20	11 38 36.4		
	comp=Z,4µm,18.0s							
MYLDM	Lahad Datu	22.97	256	P	P	11 29 56.1	-0.1	
JMN	Monobe	23.16	345	P	P	11 29 58.9	+0.9	
JMN				IAmb	IAmb	11 30 08.3		
	comp=Z,88nm,1.0s							
JNU	Nakatsue	23.52	339	P	P	11 30 01.1	-0.3	
	comp=Z,34nm,0.8s,baz=151,slow=2.8,SNR=22							
JNU	Nakatsue	23.52	339	P	P	11 29 60.0	-1.4	
JNU	Nakatsue	23.52	339	P	P	11 30 06.5	+5.1	
MPSI	Mapaga	23.54	244	P	P	11 29 59.5	-2.2	
	comp=Z,1µmcomp=Z,1µmcomp=Z,79nm,1.5s							
INU	Inuyama	24.13	352	P	P	11 30 05.1	-1.9	
INU				IAmb	IAmb	11 30 14.8		
	comp=Z,70nm,1.2s							
INU	Inuyama	24.13	352	P	P	11 30 12.8	+5.9	
JHS	Saijyo	24.57	345	P	P	11 30 10.1	-0.9	
BBSI	Bau Bau	24.74	228	P	P	11 30 14.2	+1.5	
	comp=Z,202nmcomp=Z,21nm,1.1s							
JYT	Yasato	24.76	359	P	P	11 30 11.7	-1.0	
JYT				IAmb	IAmb	11 30 13.0		
	comp=Z,121nm,1.0s							
KKM	Kota Kinabalu	24.93	260	P	P	11 30 12.5	-2.1	
KKM				IAmb	IAmb	11 30 24.5		
	comp=Z,70nm,1.4s							
KKM	Kota Kinabalu	24.93	260	P	P	11 30 15.8	+1.2	
KNMB	Chin-men Tao	25.00	304	P	P	11 30 14.7	-0.3	
KNMB				IAmb	IAmb	11 30 23.4		
	comp=Z,136nm,1.5s							
SPMM	Sapulut	25.05	257	P	P	11 30 15.0	-0.5	
QZH	Quanzhou	25.06	306	⇑iP	P	11 30 15.0	-0.5	
QZH				S	S	11 34 40.4	+4.2	
QZH				pmax	pmax			
	comp=Z,510nm,4.4s							
QZH				LR	LR			
	comp=Z,1µm,15.1s							
QZH				LR	LR			
	comp=Z,730nm,13.3s							
QZH				LR	LR			
	comp=Z,1µm,17.7s							
MJAR	Matsushiro Arr	25.18	355	P	P	11 30 15.0	-1.5	
	comp=Z,13nm,0.7s,baz=98,slow=6.6,SNR=18							
MJAR				LR	LR	11 38 40.9		
	comp=Z,1µm,19.3s,baz=174,slow=33							
MJAR	Matsushiro Arr	25.18	355	P	P	11 30 15.4	-1.1	
MJAR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
MJAR	Matsushiro Arr	25.18	355	P	P	11 30 15.4	-1.1	
MAJO	Matsushiro	25.18	355	iP	P	11 30 16.6	+0.1	
MAJO				pmax	pmax			
	comp=Z,19nm,0.7s							
MAJO	Matsushiro	25.18	355	P	P	11 30 15.7	-0.9	
MAJO	Matsushiro	25.18	355	P	P	11 30 20.5	+4.0	
MJB9	Matsu-Tunnel	25.19	355	P	P	11 30 15.8	-0.8	
COEN	Coen	25.26	175	P	P	11 30 16.1	-1.2	
COEN	Coen	25.26	175	P	P	11 30 17.6	+0.2	
KDU	Kakadu	25.31	199	P	P	11 30 17.9	+0.1	
TTSI	Tana Toraja	25.37	237	P	P	11 30 16.7	-1.7	
	comp=Z,2µmcomp=Z,72nm,1.3s							
H11S3	WAKE ISLAND Hy	25.91	71	T	T	11 59 07.5		
	baz=252,slow=75,SNR=36							
MTN	Manton Dam	25.92	202	P	P	11 30 20.6	-2.7	
MTN				IAmb	IAmb	11 30 46.1		
	comp=Z,79nm,1.3s							
MTN	Manton Dam	25.92	202	P	P	11 30 22.3	-1.1	
H11S1	WAKE ISLAND Hy	25.92	71	T	T	11 59 28.2		
	baz=252,slow=75,SNR=24							
H11S2	WAKE ISLAND Hy	25.92	71	T	T	11 59 27.6		
	baz=252,slow=75,SNR=36							
BNSI	Bone	25.93	234	P	P	11 30 19.3	-4.2	
	comp=Z,3µmcomp=Z,1µmcomp=Z,78nm,1.1s							
JMM	Marumori	26.39	360	P	P	11 30 26.5	-0.9	
JMM				IAmb	IAmb	11 30 34.4		
	comp=Z,55nm,0.8s							
KAPI	Kappang	26.58	233	P	P	11 30 27.8	-1.5	
	comp=Z,45nm,1.1s,baz=30,slow=2.3,SNR=8.4							
KAPI	Kappang	26.58	233	iP	P	11 30 28.2	-1.2	
KAPI				pmax	pmax			
	comp=Z,44nm,1.1s							
KAPI	Kappang	26.58	233	P	P	11 30 28.2	-1.2	
KAPI	Kappang	26.58	233	P	P	11 30 32.0	+2.6	
JSD	Sado	26.66	355	P	P	11 30 29.2	-0.7	
JSD				IAmb	IAmb	11 30 30.3		
	comp=Z,45nm,0.9s							
SSE	Sheshan	26.79	320	P	P	11 30 31.8	+0.7	
SSE				S	S	11 35 10.3	+6.9	
SSE				pmax	pmax			
	comp=Z,36nm,0.9s							
SSE				pmax	pmax			
	comp=Z,200nm,4.1s							
SSE				LR	LR			
	comp=Z,590nm,16.3s							
SSE				LR	LR			
	comp=Z,670nm,16.8s							
MMRI	Maumere	27.17	224	P	P	11 30 33.0	-1.7	
MMRI	Maumere	27.17	224	P	P	11 30 37.8	+3.1	
BATI	Baumata	27.42	219	P	P	11 30 34.5	-2.5	
	comp=Z,51nm,0.9s,baz=45,slow=4.3,SNR=4.2							
BATI				LR	LR	11 40 39.6		
	comp=Z,1µm,20.1s,baz=56,slow=35							
TJN	Taejon	27.73	336	ceP	P	11 30 39.5	0.0	
TJN	Taejon	27.73	336	P	P	11 30 39.6	+0.1	
TJN	Taejon	27.73	336	P	P	11 30 46.9	+7.4	
HNR	Honiara	28.04	137	P	P	11 30 41.2	-1.2	
	comp=Z,20nm,0.3s,baz=194,slow=8.3,SNR=1.0							
HNR				LR	LR	11 41 41.7		
	comp=Z,713nm,18.2s,baz=358,slow=36							
HNR	Honiara	28.04	137	P	P	11 30 41.3	-1.2	
HNR				pmax	pmax			
	comp=Z,299nm,1.6s							
HNR	Honiara	28.04	137	P	P	11 30 41.3	-1.2	
KSRS	Korea Array	28.47	338	P	P	11 30 45.8	-0.2	
	comp=Z,3.5nm,0.7s,baz=166,slow=8.9,SNR=9.3							
KSRS				LR	LR	11 40 54.3		
	comp=Z,2µm,19.4s,baz=155,slow=34							
KSAR	Wonju Array Be	28.47	338	P	P	11 30 44.8	-1.2	
KSAR	Wonju Array Be	28.47	338	P	P	11 30 44.8	-1.2	
NJ2	Nanjing	28.91	319	eP	P	11 30 50.7	+0.7	
NJ2				pP	sP	11 31 05.7	-3.0	
NJ2				PP	PnPn	11 31 41.7	-2.2	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,290nm,6.4s							
NJ2				LR	LR			
	comp=Z,2µm,13.3s							
NJ2				LR	LR			
	comp=Z,1µm,16.1s							
NJ2				LR	LR			
	comp=Z,3µm,15.6s							
INCN	Inchon	28.98	336	IAMs_20	IAMs_20	11 41 39.4		
	comp=Z,3µm,19.0s							
KNRA	Kununurra	29.42	204	P	P	11 30 52.6	-2.1	
KNRA				IAmb	IAmb	11 31 03.7		
	comp=Z,44nm,1.1s							
KNRA	Kununurra	29.42	204	P	P	11 30 54.3	-0.3	
SBUM	Sibu	29.77	255	P	P	11 30 57.3	-0.5	
SBUM	Sibu	29.77	255	P	P	11 30 58.0	+0.2	
QIZ	Qiongzhong	30.86	288	P	P	11 31 07.4	-0.1	
QIZ				S	S	11 36 08.8	+1.0	
QIZ				sS	sS	11 36 31.5	+2.1	
QIZ				pmax	pmax			
	comp=Z,180nm,2.6s							
QIZ				LR	LR			
	comp=Z,530nm,11.4s							
QIZ				LR	LR			
	comp=Z,920nm,17.0s							
QIZ				LR	LR			
	comp=Z,1µm,20.6s							
WHN	Wuhan	31.13	312	⇓P	P	11 31 11.2	+1.5	
WHN				S	S	11 36 17.5	+5.8	
WHN				LR	LR			
	comp=Z,3µm,14.9s							
WHN				LR	LR			
	comp=Z,3µm,16.3s							
WHN				LR	LR			
	comp=Z,4µm,17.6s							
JEW	Eniwo	31.36	1	P	P	11 31 12.3	+0.7	
WB0	Warramunga Arr	31.59	192	P	P	11 31 13.2	-0.5	
WB0				IAmb	IAmb	11 31 13.8		
	comp=Z,32nm,1.1s							
CTA	Charters Tower	31.70	170	P	P	11 31 14.2	-0.5	
	comp=Z,18nm,1.0s,baz=340,slow=5.8,SNR=9.5							
CTA	Charters Tower	31.70	170	P	P	11 31 15.3	+0.6	
CTAO	Charters Tower	31.70	170	P	P	11 31 14.8	+0.1	
CTAO				pmax	pmax			
	comp=Z,27nm,1.1s							
CTAO				MLR	MLR			
	comp=Z,1µm,18.0s							
CTAO	Charters Tower	31.70	170	P	P	11 31 14.8	+0.1	
WR0	Warramunga Arr	31.75	191	P	P	11 31 13.9	-1.3	
WR0				IAmb	IAmb	11 31 24.4		
	comp=Z,46nm,1.2s							
QIS	Mount Isa	31.75	182	P	P	11 31 16.0	+0.8	
WRAB	Tennant Creek	31.76	192	ceP	P	11 31 13.9	-1.4	
WRAB				pmax	pmax			
	comp=Z,47nm,1.3s							
WRAB	Tennant Creek	31.76	192	P	P	11 31 14.4	-0.8	
WRAB				IAmb	IAmb	11 31 24.5		
	comp=Z,44nm,1.1s							
WRAB	Tennant Creek	31.76	192	P	P	11 31 14.9	-0.4	
WB2	Warramunga Arr	31.77	192	P	P	11 31 14.1	-1.2	
WB2				IAmb	IAmb	11 31 24.6		
	comp=Z,52nm,1.1s							
WRA	Warramunga Arr	31.77	192	P	P	11 31 14.0	-1.3	
	comp=Z,23nm,0.9s,baz=11,slow=9.5,SNR=68							
WRA				PcP	PcP	11 34 07.1	+1.2	
	comp=Z,3.9nm,1.2s,baz=353,slow=2.8,SNR=2.6							
WRA				LR	LR	11 44 00.5		
	comp=Z,2µm,18.3s,baz=22,slow=36							
WRA	Warramunga Arr	31.77	192	P	P	11 31 13.2	-2.2	
KSM	Kuching	31.89	254	P	P	11 31 15.1	-1.5	
KSM					PcP	11 34 06.6	+0.3	
KSM	Kuching	31.89	254	P	P	11 31 16.0	-0.5	
MSHR	Mys Shultsa	32.23	346	iP	P	11 31 18.7	-0.5	
DL2	Dalian	32.35	331	P	P	11 31 21.6	+1.3	
DL2				S	S	11 36 34.4	+4.0	
DL2				pmax	pmax			
	comp=Z,60nm,1.5s							
DL2				pmax	pmax			
	comp=Z,240nm,7.6s							
DL2				LR	LR			
	comp=Z,2µm,18.9s							
DL2				LR	LR			
	comp=Z,2µm,17.7s							
DL2				LR	LR			
	comp=Z,3µm,17.9s							
JKA	Kamikawa-asahi	32.67	2	P	P	11 31 23.1	+0.1	
JKA				IAmb	IAmb	11 32 34.7		
	comp=Z,89nm,1.7s							
ASAJ	Asahikawa	32.67	2	P	P	11 31 23.4	+0.3	
	comp=Z,7.1nm,0.8s,baz=219,slow=6.5,SNR=9.3							
ASAJ				LR	LR	11 43 44.1		
	comp=Z,738nm,20.8s,baz=185,slow=35							
TIA	Tai'an	32.75	323	P	P	11 31 23.0	-0.8	
TIA				pmax	pmax			
	comp=Z,27nm,1.1s							
TIA				pmax	pmax			
	comp=Z,270nm,8.4s							
TIA				LR	LR			
	comp=Z,1µm,18.6s							
TIA				LR	LR			
	comp=Z,1µm,16.7s							
TIA				LR	LR			
	comp=Z,1µm,18.6s							
FITZ	Fitzroy Crossi	32.91	207	P	P	11 31 23.4	-2.0	
	comp=Z,14nm,1.0s,baz=35,slow=8.7,SNR=16							
FITZ	Fitzroy Crossi	32.91	207	P	P	11 31 23.8	-1.6	
JAGI	Jajag, Banyuwa	33.09	235	P	P	11 31 28.4	+1.4	
USA0B	Ussuriysk Arra	33.60	348	P	P	11 31 31.9	+0.7	
USA0B				pmax	pmax			
	comp=Z,27nm,1.2s							
USA0B	Ussuriysk Arra	33.60	348	P	P	11 31 31.9	+0.7	
USRK	Ussuriysk Ar.	33.60	348	P	P	11 31 31.6	+0.4	
	comp=Z,6.1nm,0.7s,baz=167,slow=10,SNR=7.9							
USRK				LR	LR	11 43 45.8		
	comp=Z,2µm,18.6s,baz=178,slow=34							
USRK	Ussuriysk Ar.	33.60	348	P	P	11 31 31.8	+0.6	
USRK	Ussuriysk Ar.	33.60	348	P	P	11 31 31.8	+0.6	
SNY	Shenyang	33.92	337	⇓P	P	11 31 34.6	+0.7	
SNY				PP	PnPn	11 32 48.4	+0.1	
SNY				S	S	11 36 57.2	+2.5	
SNY				pmax	pmax			
	comp=Z,15nm,0.6s							
SNY				LR	LR			
	comp=Z,2µm,17.0s							
SNY				LR	LR			
	comp=Z,2µm,19.2s							
SNY				LR	LR			
	comp=Z,4µm,17.3s							
KUR	Kuril'sk	34.28	9	eP	P	11 31 32.3	-4.7	
KUR				S	S	11 36 53.1	-7.1	
KUR				MLR	MLR			
	comp=N,761nm,18.0s							
KUR				MLR	MLR			
	comp=E,573nm,18.0s							
KUR				MLR	MLR			
	comp=Z,548nm,18.0s							
UBPT	Khong Chiam	34.65	280	P	P	11 31 41.6	+1.0	
LYN	LuoYang	34.67	316	⇑P	P	11 31 41.3	+0.8	
LYN				S	S	11 37 10.0	+3.5	
LYN				ScS	ScS	11 41 48.3	-10	
LYN				pmax	pmax			
	comp=Z,40nm,0.8s							
LYN				pmax	pmax			
	comp=Z,270nm,8.3s							
LYN				LR	LR			
	comp=Z,2µm,16.7s							
LYN				LR	LR			
	comp=Z,970nm,18.6s							
LYN				LR	LR			
	comp=Z,2µm,18.8s							
ENH	Enshi	34.67	308	P	P	11 31 41.8	+1.1	
CN2	Changchun	34.97	340	eP	P	11 31 42.1	-0.9	
CN2				eS	S	11 37 11.7	+0.8	
CN2				pmax	pmax			
	comp=Z,10.0nm,1.3s							
CN2				pmax	pmax			
	comp=Z,300nm,8.0s							
CN2				LR	LR			
	comp=Z,1µm,16.0s							
CN2				LR	LR			
	comp=Z,1µm,16.0s							
CN2				LR	LR			
	comp=Z,2µm,18.0s							
HNS	HongShan	34.98	322	⇑P	P	11 31 43.9	+0.7	
HNS				S	S	11 37 14.4	+3.1	
HNS				pmax	pmax			
	comp=Z,39nm,1.1s							
HNS				LR	LR			
	comp=Z,470nm,16.6s							
HNS				LR	LR			
	comp=Z,600nm,17.2s							
HNS				LR	LR			
	comp=Z,730nm,17.5s							
AS31	Alice Springs	35.48	191	P	P	11 31 47.5	-0.1	
ASAR	Alice Springs	35.48	191	P	P	11 31 47.2	-0.4	
	comp=Z,9.3nm,0.6s,baz=17,slow=12,SNR=162							
ASAR				PcP	PcP	11 34 17.3	+1.0	
	comp=Z,3.9nm,1.0s,baz=28,slow=3.8,SNR=1.9							
ASAR				LR	LR	11 47 06.5		
	comp=Z,1µm,18.3s,baz=30,slow=38							
ASAR	Alice Springs	35.48	191	P	P	11 31 46.8	-0.8	
YSS	Yuzh-Sakhalins	35.51	2	eP	P	11 31 47.5	-0.1	
YSS				e		11 33 07.1		
YSS				eS	S	11 37 17.4	-1.7	
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
YSS				pmax	pmax			
	comp=Z,200nm,3.2s							
YSS				MLR	MLR			
	comp=E,600nm,15.0s							
YSS	Yuzh-Sakhalins	35.51	2	P	P	11 31 47.2	-0.3	
YSS	Yuzh-Sakhalins	35.51	2	P	P	11 31 54.2	+6.6	
GYA	Guiyang	35.54	300	⇓P	P	11 31 50.7	+2.4	
GYA				pP	pwP	11 32 04.0	-2.0	
GYA				S	S	11 37 22.8	+2.4	
GYA				pmax	pmax			
	comp=E,22nm,1.1s							
GYA				pmax	pmax			
	comp=E,350nm,3.5s							
GYA				LR	LR			
	comp=E,460nm,17.1s							
GYA				LR	LR			
	comp=E,530nm,19.1s							
GYA				LR	LR			
	comp=E,470nm,14.0s							
UGM	Wanagama	35.76	239	P	P	11 31 48.9	-1.2	
UGM	Wanagama	35.76	239	P	P	11 31 53.8	+3.6	
BJT	Baijiatuau	35.95	327	P	P	11 31 51.9	+0.4	
BJT				pmax	pmax			
	comp=Z,112nm,1.4s							
BJT				MLR	MLR			
	comp=Z,2µm,18.0s							
BJT	Baijiatuau	35.95	327	P	P	11 31 51.9	+0.4	
BJT	Baijiatuau	35.95	327	IAMs_20	IAMs_20	11 47 23.6		
	comp=Z,2µm,18.0s							
BJI	Beijing	35.96	327	P	P	11 31 51.7	+0.2	
BJI				S	S	11 37 27.3	+1.1	
BJI				pmax	pmax			
	comp=Z,48nm,1.3s							
BJI				pmax	pmax			
	comp=Z,420nm,3.8s							
BJI				LR	LR			
	comp=Z,1µm,16.9s							
BJI				LR	LR			
	comp=Z,1µm,17.3s							
BJI				LR	LR			
	comp=Z,2µm,17.8s							
BNX	BinXian	36.14	344	⇓P	P	11 31 53.5	+0.5	
BNX				pP	pwP	11 32 07.6	-3.2	
BNX				sP	sP	11 32 16.3	+4.5	
BNX				S	S	11 37 29.0	+0.2	
BNX				sS	ScP	11 37 55.5	-4.2	
BNX				pmax	pmax			
	comp=Z,130nm,0.9s							
BNX				pmax	pmax			
	comp=Z,840nm,3.8s							
BNX				LR	LR			
	comp=Z,2µm,15.2s							
BNX				LR	LR			
	comp=Z,770nm,10.6s							
BNX				LR	LR			
	comp=Z,2µm,16.4s							
TIY	Taiyuan	36.57	321	eP	P	11 31 57.8	+0.9	
TIY				PP	PP	11 33 20.3	-0.7	
TIY				S	S	11 37 42.4	+6.6	
TIY				pmax	pmax			
	comp=Z,51nm,0.7s							
TIY				pmax	pmax			
	comp=Z,370nm,4.0s							
TIY				LR	LR			
	comp=Z,610nm,16.5s							
TIY				LR	LR			
	comp=Z,1µm,17.6s							
TIY				LR	LR			
	comp=Z,1µm,17.2s							
XAN	Xi'an	36.87	313	P	P	11 31 58.7	-0.8	
XAN				pP	pP	11 32 12.8	+0.4	
XAN				PP	PnPn	11 33 28.7	+3.8	
XAN				S	S	11 37 37.4	-3.0	
XAN				ScP	ScP	11 37 55.9	-6.9	
XAN				PcS	PcS	11 38 08.0	-0.6	
XAN				SS	SnSn	11 40 07.8	-9.0	
XAN				pmax	pmax			
	comp=Z,20nm,1.2s							
XAN				pmax	pmax			
	comp=Z,420nm,8.9s							
XAN				LR	LR			
	comp=Z,660nm,14.1s							
XAN				LR	LR			
	comp=Z,1µm,16.5s							
XAN				LR	LR			
	comp=Z,2µm,17.7s							
LEM	Lembang	37.70	243	P	P	11 32 05.9	-1.0	
	comp=Z,11nm,0.4s,baz=32,slow=10.0,SNR=7.9							
LEM				LR	LR	11 47 31.6		
	comp=Z,645nm,21.0s,baz=36,slow=96							
QLP	Quilpie	37.86	175	P	P	11 32 07.8	0.0	
WRKA	Warakurna	38.20	199	P	P	11 32 10.8	0.0	
RMQ	Roma	38.39	169	P	P	11 32 14.0	+1.7	
KLR	Kul'dur	38.51	350	P	P	11 32 13.8	+0.8	
	comp=Z,22nm,0.7s,baz=157,slow=7.8,SNR=76							
KLR				LR	LR	11 45 56.7		
	comp=Z,1µm,19.8s,baz=159,slow=33							
KLR	Kul'dur	38.51	350	ceP	P	11 32 13.0	0.0	
KLR				pmax	pmax			
	comp=Z,61nm,1.3s							
KMI	Kunming	38.57	296	⇑P	P	11 32 15.7	+1.5	
KMI				pP	pwP	11 32 28.3	-3.9	
KMI				PP	PP	11 33 44.0	+0.7	
KMI				S	S	11 38 00.1	-6.6	
KMI				SS	SnSn	11 40 53.4	-5.0	
KMI				pmax	pmax			
	comp=Z,28nm,1.3s							
KMI				pmax	pmax			
	comp=Z,310nm,8.3s							
KMI				LR	LR			
	comp=Z,390nm,18.5s							
KMI				LR	LR			
	comp=Z,940nm,17.4s							
KMI				LR	LR			
	comp=Z,970nm,16.7s							
PSA00	Pilbara Seismi	38.70	212	P	P	11 32 12.9	-2.0	
PSA

XLT sS sS 11 38 38.4 +6.2
XLT pmax pmax
comp=Z,71nm,1.1s
XLT pmax pmax
comp=Z,610nm,3.6s
XLT LR LR
comp=Z,110nm,15.5s
XLT LR LR
comp=Z,920nm,17.3s
XLT LR LR
comp=Z,1μm,18.1s
INKA Innaminka 38.87 180 P **P** **11 32 17.7 +1.4**
HHC Hu-ho-hao-te 39.08 324 *e*P **P** **11 32 19.1 +1.0**
HHC pP sP 11 32 32.0 -5.0
HHC S **S** **11 38 14.2 +0.3**
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,310nm,5.7s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,590nm,14.7s
HHC LR LR
comp=Z,1μm,14.7s
OOD Oodnadatta 39.25 187 P **P** **11 32 20.8 +1.4**
TYV Tymovskoe 39.41 2 *e*P **P** **11 32 21.2 +0.7**
TYV *e*S **S** **11 38 21.9 +3.7**
TYV pmax pmax
comp=Z,200nm,4.7s
TYV pmax pmax
comp=Z,81nm,0.8s
TYV smax smax
comp=N,600nm,8.8s
TYV smax smax
comp=E,200nm,8.8s
CD2 Chengdu 39.45 305 P **P** **11 32 22.1 +0.8**
CD2 sP pwP 11 32 42.3 +3.2
CD2 PP **PP** **11 33 53.3 +0.6**
CD2 S **S** **11 38 22.4 +2.8**
CD2 sS sS 11 38 45.6 +4.0
CD2 pmax pmax
comp=E,70nm,1.0s
CD2 pmax pmax
comp=E,330nm,8.8s
CD2 LR LR
comp=E,90nm,18.9s
CD2 LR LR
comp=E,750nm,16.1s
CD2 LR LR
comp=E,880nm,16.1s
GRNR Gornyy 39.46 356⇑ *i*P **P** **11 32 21.2 +0.2**
GRNR pmax pmax
comp=Z,9.0nm,1.2s
PZH PanZhiHua 39.78 298 P **P** **11 32 25.5 +1.4**
PZH PP **PnPn** **11 34 05.2 +5.2**
PZH S **S** **11 38 25.4 +0.7**
PZH SS **SS** **11 41 17.1 -5.3**
PZH pmax pmax
comp=Z,20nm,1.3s
PZH pmax pmax
comp=Z,270nm,6.5s
PZH LR LR
comp=Z,1μm,18.4s
PZH LR LR
comp=Z,2μm,17.5s
PZH LR LR
comp=Z,1μm,17.1s
BTO Baotou 39.84 322 *e*P **P** **11 32 26.6 +2.2**
BTO S **S** **11 38 26.3 +1.1**
BTO LR LR
comp=Z,4μm,17.9s
BTO LR LR
comp=Z,3μm,18.7s
IPM Ipoh 40.02 263 P **P** **11 32 25.1 -1.1**
IPM Ipoh 40.02 263 P **P** **11 32 26.0 -0.2**
IPM Ipoh 40.02 263 P **P** **11 32 29.7 +3.5**
KULM Kulim 40.23 265 P **P** **11 32 27.4 -0.4**
KULM Kulim 40.23 265 P **P** **11 32 28.0 +0.2**
SRIT Nakonsritamara 40.72 270 P **P** **11 32 33.1 +1.2**
SRIT IAmb IAmb 11 32 33.8
comp=Z,111nm,1.5s
BKNI Bangkinang 41.05 257 P **P** **11 32 33.7 -1.0**
BKNI IAmb IAmb 11 32 48.5
comp=Z,85nm,1.3s
CM31 Chiang Mai Arr 41.05 285 P **P** **11 32 36.3 +1.7**
CM31 IAmb IAmb 11 32 43.3
comp=Z,114nm,1.4s
CMAR Chiang Mai Arr 41.05 285 P **P** **11 32 35.4 +0.7**
comp=Z,12nm,1.0s,baz=89,slow=6.0,SNR=34
CMAR LR LR 11 48 00.9
comp=Z,703nm,20.4s,baz=95,slow=34
CMAR Chiang Mai Arr 41.05 285 P **P** **11 32 34.9 +0.3**
CHTO Chiang Mai 41.08 286 P **P** **11 32 35.3 +0.5**
CHTO pmax pmax
comp=Z,25nm,1.3s
CHTO Chiang Mai 41.08 286 P **P** **11 32 35.3 +0.5**
CHTO Chiang Mai 41.08 286 P **P** **11 32 36.2 +1.4**
LIFNC LIFOU 41.13 141 P **P** **11 32 35.4 +0.2**
LZH Lanzhou 41.50 313 *e*P **P** **11 32 39.7 +1.4**
LZH pP pP 11 32 50.2 -1.2
LZH PP **PnPn** **11 34 18.8 -1.3**
LZH *e*S **S** **11 38 52.5 +2.3**
LZH sS sS 11 39 18.6 +6.2
LZH SS **SS** **11 41 49.6 -6.9**
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,380nm,5.4s
LZH LR LR
comp=Z,440nm,14.4s
LZH LR LR
comp=Z,1μm,15.7s
LZH LR LR
comp=Z,2μm,17.3s
NOUC Port Laguerre 41.57 143 P **P** **11 32 41.2 +2.5**
DZM Mont Dzumac 41.63 143 LR LR 11 48 13.6
comp=Z,685nm,18.2s,baz=355,slow=34
DZM Mont Dzumac 41.63 143 *e*P **P** **11 32 40.2 +0.9**
comp=Z,148nm,1.2s
DZM *e*S **S** **11 38 51.5 -0.7**
comp=Z,936nm,27.4s
DZM *e*LR LR 11 44 14.8
comp=Z,821nm,21.6s
DZM Mont Dzumac 41.63 143 P **P** **11 32 40.6 +1.3**
DZM IAmb IAmb 11 32 41.6
comp=Z,96nm,1.3s
DZM Mont Dzumac 41.63 143 P **P** **11 32 42.1 +2.8**
LCRK Leigh Creek 41.65 183 P **P** **11 32 40.2 +1.0**
HIA Hailar 41.66 339 P **P** **11 32 40.0 +0.8**
HIA pmax pmax
comp=Z,16nm,0.8s
HIA MLR MLR
comp=Z,2μm,18.0s
HIA Hailar 41.66 339 P **P** **11 32 40.0 +0.8**
HIA Hailar 41.66 339 IAMs_20 IAMs_20 11 49 38.0
comp=Z,2μm,18.0s
NKL Nikolayevsk 41.68 360 *e*P **P** **11 32 39.0 -0.2**
NKL *e* 11 34 22.4
NKL pmax pmax
comp=E,4.0nm,1.1s
NKL pmax pmax
comp=Z,38nm,1.2s
NKL pmax pmax
comp=Z,106nm,1.7s
YATNC Mamie plateau, 41.89 142 P **P** **11 32 44.0 +2.7**
MULG Mulgathing 41.92 189 P **P** **11 32 41.4 -0.1**
OUENC Ouen Island, N 42.13 143 P **P** **11 32 45.6 +2.3**
PSI Prapat 42.44 262 P **P** **11 32 45.4 -0.8**
comp=Z,18nm,0.9s,baz=55,slow=5.1,SNR=13
PSI LR LR 11 53 31.2
comp=Z,326nm,18.6s,baz=94,slow=41
ARMA Armidale 42.81 166 P **P** **11 32 47.5 -1.3**
ARMA Armidale 42.81 166 P **P** **11 32 48.7 -0.1**
CMSA Cobar Meteorol 42.91 174 P **P** **11 32 49.6 +0.2**
STKA Stephens Creek 43.00 179 P **P** **11 32 49.4 -0.8**
comp=Z,15nm,0.8s,baz=350,slow=9.0,SNR=28
STKA LR LR 11 51 37.5
comp=Z,2μm,18.1s,baz=3.7,slow=37
STKA Stephens Creek 43.00 179 P **P** **11 32 49.1 -1.0**
STKA Stephens Creek 43.00 179 P **P** **11 32 49.5 -0.7**
MEEK Meekatharra 43.53 209 P **P** **11 32 54.7 +0.1**
ZEA Zeya 43.64 348 *e*P **P** **11 32 55.9 +0.8**
ZEA pmax pmax
comp=Z,200nm,4.5s

ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA MLR MLR
comp=E,300nm,16.0s
ZEA MLR MLR
comp=N,600nm,15.0s
ZEA MLR MLR
comp=Z,700nm,16.0s
FORT Forrest 43.67 196 P **P** **11 32 54.1 -1.5**
FORT IAmb IAmb 11 32 56.8
comp=Z,74nm,0.9s
FORT Forrest 43.67 196 P **P** **11 32 56.3 +0.7**
PETK Petropavlovsk- 43.77 15 P **P** **11 32 55.8 -0.4**
comp=Z,2.1nm,0.6s,baz=203,slow=9.6,SNR=4.5
PETK LR LR 11 52 12.4
comp=Z,488nm,18.3s,baz=179,slow=38
PET Petropavlovsk 43.94 15 *e*P **P** **11 32 57.7 +0.2**
PET *e* 11 34 48.1
PET *e*S **S** **11 39 26.1 +1.0**
PET *e* 11 42 48.0
PET pmax pmax
comp=Z,400nm,13.7s
PET pmax pmax
comp=Z,18nm,1.4s
PET pmax pmax
comp=Z,600nm,11.7s
PET MLR MLR
comp=Z,900nm,17.0s
PET MLR MLR
comp=Z,900nm,14.0s
GSI Gunungsitoli 44.12 260 P **P** **11 32 57.9 -1.7**
GSI IAmb IAmb 11 32 58.9
comp=Z,123nm,1.6s
BBOO Buckleboo 44.16 186 P **P** **11 32 59.4 -0.1**
BBOO IAmb IAmb 11 33 00.3
comp=Z,37nm,1.0s
BBOO Buckleboo 44.16 186 P **P** **11 33 00.2 +0.6**
HTT Hallett 44.58 182 P **P** **11 33 03.2 +0.2**
GTA Gaotai 45.84 315⇑ P **P** **11 33 13.8 +0.7**
GTA pP pwP 11 33 29.8 -1.8
GTA sP sP 11 33 35.6 +3.5
GTA PP **PP** **11 35 05.3 +4.0**
GTA S **S** **11 39 48.7 -4.8**
GTA pmax pmax
comp=Z,38nm,1.3s
GTA pmax pmax
comp=Z,320nm,9.2s
GTA LR LR
comp=Z,590nm,18.7s
GTA LR LR
comp=Z,720nm,17.1s
GTA LR LR
comp=Z,950nm,18.7s
ULN Ulaanbaatar 46.11 329 *ce*P **P** **11 33 15.7 +0.6**
ULN pmax pmax
comp=Z,54nm,1.7s
ULN Ulaanbaatar 46.11 329 P **P** **11 33 16.0 +0.9**
ULN IAmb IAmb 11 33 23.1
comp=Z,61nm,1.2s
ULN Ulaanbaatar 46.11 329 IAMs_20 IAMs_20 11 53 36.4
comp=Z,2μm,18.0s
SONM Songino Array 46.43 328 P **P** **11 33 18.7 +1.2**
comp=Z,11nm,0.8s,baz=139,slow=8.1,SNR=55
SONM LR LR 11 53 41.2
comp=Z,3μm,18.3s,baz=146,slow=37
SONM Songino Array 46.43 328 P **P** **11 33 18.3 +0.8**
SONM IAmb IAmb 11 33 25.7
comp=Z,40nm,1.2s
MSVF Nonsavu 46.73 128 LR LR 11 50 46.3
comp=Z,2μm,19.3s,baz=336,slow=33
MSVF Nonsavu 46.73 128 *i*P **P** **11 33 21.1 +0.9**
MSVF Nonsavu 46.73 128 P **P** **11 33 21.6 +1.4**
MORW Morawa 46.81 210 P **P** **11 33 19.9 -0.7**
MORW Morawa 46.81 210 P **P** **11 33 20.5 0.0**
CAN Canberra 47.06 171 P **P** **11 33 22.9 +0.4**
CAN pmax pmax
comp=Z,43nm,1.3s
CAN MLR MLR
comp=Z,2μm,18.0s
CAN Canberra 47.06 171 P **P** **11 33 22.9 +0.4**
CAN IAmb IAmb 11 33 24.1
comp=Z,43nm,1.3s
CAN IAMs_20 IAMs_20 11 55 49.3
comp=Z,2μm,18.0s
CAN Canberra 47.06 171 P **P** **11 33 24.4 +1.9**
BLDU Ballidu 47.77 208 P **P** **11 33 28.2 +0.2**
ARPS Mount Arapiles 47.88 179 P **P** **11 33 30.3 +1.5**
KLBR Kellerberrin 48.12 207 P **P** **11 33 31.0 +0.3**
GOMU GeErMu 48.28 309 P **P** **11 33 33.4 +1.0**
GOMU S **S** **11 40 26.0 -2.7**
GOMU pmax pmax
comp=Z,14nm,1.0s
GOMU pmax pmax
comp=Z,230nm,5.9s
GOMU LR LR
comp=Z,600nm,19.9s
GOMU LR LR
comp=Z,310nm,19.8s
GOMU LR LR
comp=Z,310nm,19.9s
SHL Shillong 48.30 294 P **P** **11 33 32.9 +0.4**
SHL pmax pmax
comp=Z,48nm,1.3s
SHL Shillong 48.30 294 P **P** **11 33 32.9 +0.4**
SHL IAmb IAmb 11 33 39.7
comp=Z,48nm,1.3s
MA2 Magadan 48.69 7 P **P** **11 33 34.2 -0.4**
comp=Z,7.3nm,0.6s,baz=182,slow=8.2,SNR=7.2
MA2 LR LR 11 53 14.4
comp=Z,335nm,20.0s,baz=212,slow=35
MA2 Magadan 48.69 7 *ce*P **P** **11 33 33.8 -0.9**
MA2 pmax pmax
comp=Z,23nm,1.3s
MA2 Magadan 48.69 7 P **P** **11 33 34.8 +0.1**
MA2 IAmb IAmb 11 33 43.5
comp=Z,24nm,1.0s
MA2 Magadan 48.69 7 P P 11 33 41.5 +6.8
TOO Toolangi 48.87 175 P **P** **11 33 37.0 +0.6**
TOO pmax pmax
comp=Z,92nm,1.4s
TOO Toolangi 48.87 175 P **P** **11 33 37.0 +0.6**
TOO Toolangi 48.87 175 P **P** **11 33 37.6 +1.2**
SHEM Shemya Is, Ala 49.13 26 LR LR 11 52 49.3
comp=Z,1μm,20.0s,baz=222,slow=34
MUN Mundaring 49.14 208 P **P** **11 33 38.3 -0.3**
LSA Lhasa 49.60 299 P **P** **11 33 43.8 +1.0**
ZAK Zakamensk 49.62 329 *e*P **P** **11 33 42.8 +0.7**
ZAK pmax pmax
comp=Z,112nm,1.3s
IRK Irkutsk 50.32 332 *e*P **P** **11 33 46.1 -1.2**
IRK *e* 11 46 02.5
IRK pmax pmax
comp=Z,69nm,3.3s
YAK Yakutsk 51.23 353 P **P** **11 33 53.8 -0.1**
comp=Z,17nm,0.3s,baz=208,slow=3.1,SNR=13
YAK LR LR 11 53 41.1
comp=Z,698nm,20.9s,baz=158,slow=34
YAK Yakutsk 51.23 353 *e*P **P** **11 33 53.5 -0.4**
YAK *e**PP **pP** **11 34 05.1 -2.3**
YAK *e* 11 35 03.3
YAK *e* 11 35 50.1
YAK *e*PPP PPP 11 36 51.3
YAK *e*S **S** **11 41 09.6 +1.3**
YAK *e**SS **sS** **11 41 29.7 -1.5**
YAK *e*SS **SS** **11 44 48.3 +4.0**
YAK *e*SSS SSS 11 46 22.3
YAK pmax pmax
comp=Z,92nm,1.0s
YAK pmax pmax
comp=N,35nm,1.2s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,27nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,11nm,1.1s
YAK smax smax
comp=N,55nm,2.8s
YAK smax smax
comp=E,146nm,2.4s
YAK Yakutsk 51.23 353 P **P** **11 33 54.2 +0.3**

MOY Mondy 51.55 329 *e*P **P** **11 33 57.2 +0.5**
MOY pmax pmax
comp=Z,72nm,1.5s
SEY Seymchan 52.14 7 P **P** **11 34 01.4 +0.7**
comp=Z,6.3nm,0.3s,baz=183,slow=5.7,SNR=46
SEY LR LR 11 55 23.9
comp=Z,398nm,19.3s,baz=176,slow=35
SEY Seymchan 52.14 7 *ce*P **P** **11 34 01.4 +0.7**
SEY pmax pmax
comp=Z,17nm,0.8s
TAPN Taplejung 52.24 296 *e*P **P** **11 34 03.4 +1.0**
ODAN Odare 52.47 295 *e*P **P** **11 34 04.9 +0.9**
AFI Afiamalu 53.24 117 LR LR 11 55 13.5
comp=Z,710nm,18.8s,baz=322,slow=34
GUN Gumba 53.91 296 *e*P **P** **11 34 15.4 +0.6**
comp=Z,323nm,1.4s
PKI Pulchoki 54.29 296 *e*P **P** **11 34 17.5 -0.1**
comp=Z,163nm,1.4s
PKIN Phulchoki 54.31 296 *e*P **P** **11 34 17.8 +0.2**
comp=Z,128nm,1.4s
KKN Kakani 54.43 296 *e*P **P** **11 34 18.5 +0.1**
DMN Daman 54.57 296 *e*P **P** **11 34 19.7 +0.2**
comp=Z,111nm,1.2s
GKN Gorkha 55.02 296 *e*P **P** **11 34 22.9 +0.3**
comp=Z,234nm,1.4s
DANN Dangsing 55.82 297 *e*P **P** **11 34 28.8 +0.3**
comp=Z,76nm,1.1s
KOLN Koldanda 55.91 296 *e*P **P** **11 34 29.5 +0.4**
comp=Z,151nm,1.4s
WMQ Urumqi 55.91 316 *e*P **P** **11 34 30.0 +1.3**
WMQ pP pwP 11 34 46.5 -0.9
WMQ sP sP 11 34 59.3 +11
WMQ S **S** **11 42 13.1 +0.6**
WMQ pmax pmax
comp=Z,92nm,1.5s
WMQ pmax pmax
comp=Z,260nm,4.7s
WMQ LR LR
comp=Z,1μm,15.9s
WMQ LR LR
comp=Z,790nm,20.3s
WMQ LR LR
comp=Z,570nm,18.9s
PYUN Piuthan 56.48 296 *e*P **P** **11 34 33.5 +0.4**
comp=Z,270nm,1.3s
RAO Raoul Island 56.66 136 LR LR 11 57 32.0
comp=Z,673nm,18.2s,baz=313,slow=35
ZSN Zaisan 58.95 319 *e*P **P** **11 34 48.8 -1.1**
ZSN Zaisan 58.95 319 *e*P **P** **11 34 48.8 -1.1**
baz=319
SPIA Saint Paul Isl 58.97 29 P **P** **11 34 50.0 +0.2**
baz=240
BILL Bilibino 59.03 11 *d i*P **P** **11 34 49.4 -0.6**
BILL *e* 11 35 40.1
BILL *e* 11 36 59.0
BILL *i*S **S** **11 42 59.0 +6.5**
BILL pmax pmax
comp=Z,31nm,1.2s
BILL MLR MLR
comp=Z,247nm,18.0s
BILL Bilibino 59.03 11 P **P** **11 34 49.4 -0.6**
BILL IAmb IAmb 11 34 56.6
comp=Z,27nm,0.9s
UNV Unalaska Valle 59.30 33 P **P** **11 34 51.5 -0.6**
baz=245
PALK Pallekele 59.44 272 P **P** **11 34 53.6 -0.3**
comp=Z,7.2nm,1.0s,baz=168,slow=8.6,SNR=3.9
PALK LR LR 11 59 42.1
comp=Z,321nm,21.1s,baz=186,slow=35
MK31 Makanchi Array 60.43 318 *c i*P **P** **11 35 00.5 +0.4**
MK31 Makanchi Array 60.43 318 P **P** **11 35 01.0 +0.8**
MK31 IAmb IAmb 11 35 08.0
comp=Z,40nm,1.2s
MKAR Makanchi Array 60.43 318 P **P** **11 35 00.7 +0.6**
comp=Z,4.4nm,0.6s,baz=92,slow=8.4,SNR=47
MKAR LR LR 12 01 50.1
comp=Z,440nm,19.2s,baz=97,slow=37
MKAR Makanchi Array 60.43 318 P **P** **11 35 00.5 +0.4**
HYBB Hyderabad (bro 60.45 284 *e*P **P** **11 35 01.0 +0.2**
HYBB *es*P pP 11 35 05.3 -9.3
HYBB *e*PcP **PcP** **11 35 44.7 -0.5**
HYBB *e*S **S** **11 43 16.1 +3.6**
HYBB *e*ScS **ScS** **11 44 50.6 +3.1**
MAKZ Makanchi 60.65 318 P **P** **11 35 02.2 +0.6**
MAKZ pmax pmax
comp=Z,80nm,1.4s
MAKZ MLR MLR
comp=Z,900nm,18.0s
MAKZ Makanchi 60.65 318 P **P** **11 35 02.2 +0.6**
MAKZ IAMs_20 IAMs_20 12 05 37.1
comp=Z,890nm,18.0s
TIXI Tiksi 60.69 356 P **P** **11 35 00.5 -0.9**
comp=Z,6.6nm,0.6s,baz=92,slow=22,SNR=11
TIXI LR LR 12 01 10.0
comp=Z,358nm,18.0s,baz=181,slow=36
TIXI Tiksi 60.69 356 *ce*P **P** **11 35 00.9 -0.5**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
TIXI Tiksi 60.69 356 P **P** **11 35 00.9 -0.5**
ZAA0 Zalesovo Array 61.21 326 P **P** **11 35 05.1 -0.1**
ZAA0 IAmb IAmb 11 35 12.9
comp=Z,23nm,1.1s
ZALV Zalesovo Beam 61.21 326 P **P** **11 35 05.0 -0.2**
comp=Z,8.3nm,0.5s,baz=110,slow=7.2,SNR=42
ZALV LR LR 12 02 41.9
comp=Z,1μm,18.5s,baz=110,slow=37
RPZ Rata Peaks 61.32 155 P **P** **11 35 04.6 -1.5**
SHLS Shalkode 61.52 313 *e*P **P** **11 35 04.5 -3.2**
SHLS pmax pmax
comp=Z,19nm,1.8s
SHLS Shalkode 61.52 313 *e*P **P** **11 35 04.6 -3.2**
comp=Z,19nm,1.8s,baz=313
UZB Uzynbulak 61.84 313 *e*P **P** **11 35 08.6 -1.3**
UZB pmax pmax
comp=Z,21nm,1.5s
UZB Uzynbulak 61.84 313 *e*P **P** **11 35 08.7 -1.3**
comp=Z,20nm,1.5s,baz=313
KPKS Kokpek 62.14 313 *e*P **P** **11 35 10.5 -1.3**
KPKS Kokpek 62.14 313 *e*P **P** **11 35 10.6 -1.3**
baz=313
SATY Saty 62.26 313 *e*P **P** **11 35 11.3 -1.4**
SATY pmax pmax
comp=Z,21nm,1.5s
SATY Saty 62.26 313 *e*P **P** **11 35 11.4 -1.3**
comp=Z,21nm,1.5s,baz=313
BHK Bhakra 62.42 300 *e*P **P** **11 35 09.2 -4.6**
TARG Taragay, Kyrgy 62.47 311 P **P** **11 35 13.9 -0.6**
TARG IAmb IAmb 11 35 47.7
comp=Z,22nm,1.1s
TDK Taldyqorghan 62.64 315 *e*P **P** **11 35 14.3 -0.8**
TDK Taldyqorghan 62.64 315 *e*P **P** **11 35 14.3 -0.8**
baz=315
SEM Semipalatinsk 62.73 321 *e*P **P** **11 35 13.9 -1.9**
SEM Semipalatinsk 62.73 321 *e*P **P** **11 35 13.9 -1.9**
baz=321
ARXS Arharly 62.89 314 *e*P **P** **11 35 17.3 +0.5**
KDJ Kajisay 62.99 312 P **P** **11 35 18.1 +0.4**
KDJ pmax pmax
comp=Z,74nm,1.4s
KDJ Kajisay 62.99 312 P **P** **11 35 18.1 +0.4**
SDPT Sand Point 63.12 33 P **P** **11 35 17.9 0.0**
SDPT Sand Point 63.12 33 P **P** **11 35 17.3 -0.7**
baz=250
PCHI Peechi 63.24 276 *e*P **P** **11 35 17.3 -2.2**
PCHI *e*S S 11 43 58.3 +11
MDOK Medeo 63.26 313 *e*P **P** **11 35 18.0 -1.4**
MDOK pmax pmax
comp=Z,23nm,1.6s
MDOK Medeo 63.26 313 *e*P **P** **11 35 18.1 -1.4**
comp=Z,24nm,1.6s,baz=313
TNSS Tian-Shan 63.31 313 *e*P **P** **11 35 19.4 -0.6**
TNSS Tian-Shan 63.31 313 *e*P **P** **11 35 19.4 -0.6**
baz=312
AAA Alma-Ata 63.37 313 *e*P **P** **11 35 19.1 -0.8**
AAA Alma-Ata 63.37 313 *e*P **P** **11 35 19.2 -0.8**
baz=313
CHKK Chushkaly 63.42 313 *e*P **P** **11 35 19.0 -1.3**
CHKK Chushkaly 63.42 313 *e*P **P** **11 35 19.0 -1.3**
baz=313
KSH Kashi 63.52 309 P **P** **11 35 23.8 +2.6**
KSH pP pwP 11 35 39.5 -0.5
KSH sP sP 11 35 45.6 +4.9
KSH PcP **PcP** **11 35 57.0 -0.4**
KSH S **S** **11 43 55.8 +5.0**
KSH sS sS 11 44 22.2 +8.0

KSH SS **SS** **11 48 02.5 +3.8**
KSH pmax pmax
comp=Z,41nm,1.5s
KSH LR LR
comp=Z,530nm,17.6s
KSH LR LR
comp=Z,560nm,20.5s
KSH LR LR
comp=Z,1µm,18.4s
KURK Kurchatov 63.81 321 *ce*P **P** **11 35 22.0 -0.6**
KURK pmax pmax
comp=Z,33nm,0.8s
KURK Kurchatov 63.81 321 P **P** **11 35 22.2 -0.5**
KURK Kurchatov 63.81 321 IAMs_20 IAMs_20 12 04 35.8
comp=Z,1µm,18.0s
KURBB Kurchatov Arra 63.84 321 P **P** **11 35 23.2 +0.3**
comp=Z,17nm,0.7s,baz=103,slow=6.6,SNR=52
KURBB LR LR 12 05 00.3
comp=Z,1µm,18.4s,baz=82,slow=38
KURBB Kurchatov Arra 63.84 321 P **P** **11 35 22.7 -0.1**
BOOM Boomskoye usch 63.96 312 P **P** **11 35 24.1 +0.1**
BOOM pmax pmax
comp=Z,41nm,1.3s
BOOM Boomskoye usch 63.96 312 P **P** **11 35 24.1 +0.1**
BOOM IAmb IAmb 11 35 31.8
comp=Z,41nm,1.2s
TKM2 Tokmak 2 64.27 312 P **P** **11 35 25.9 -0.2**
ANM Nome 64.72 23 P **P** **11 35 28.3 -0.1**
ANM pmax pmax
comp=Z,7.0nm,0.9s
ANM Nome 64.72 23 P **P** **11 35 28.2 -0.1**
ANM Nome 64.72 23 P **P** **11 35 28.4 -0.1**
baz=241
POO Poona 64.85 285 *e*P **P** **11 35 26.0 -4.1**
AAK Ala-Archa 65.04 312 P **P** **11 35 31.6 +0.5**
comp=Z,3.8nm,0.8s,baz=105,slow=7.2,SNR=9.7
AAK LR LR 12 07 01.3
comp=Z,384nm,18.0s,baz=102,slow=39
AAK Ala-Archa 65.04 312 *ce*P **P** **11 35 31.2 +0.2**
AAK pmax pmax
comp=Z,11nm,1.3s
AAK Ala-Archa 65.04 312 P **P** **11 35 30.2 -0.8**
AAK IAmb IAmb 11 35 39.4
comp=Z,22nm,1.2s
AAK Ala-Archa 65.04 312 P **P** **11 35 31.7 +0.7**
SGDS Sogindy 65.05 313 *e*P **P** **11 35 29.3 -1.7**
SGDS Sogindy 65.05 313 *e*P **P** **11 35 29.4 -1.7**
baz=313
NIL Nilore 65.20 302 P **P** **11 35 31.6 -0.6**
NIL pmax pmax
comp=Z,196nm,1.4s
NIL MLR MLR
comp=Z,500nm,19.0s
NIL Nilore 65.20 302 P **P** **11 35 31.6 -0.6**
AML Almayashu 65.56 311 *i* P **P** **11 35 35.9 +1.2**
SNR=17
BTLS Baital 65.69 314 *e*P **P** **11 35 33.3 -1.7**
BTLS pmax pmax
comp=Z,22nm,2.0s
BTLS Baital 65.69 314 *e*P **P** **11 35 33.3 -1.7**
comp=Z,22nm,2.0s,baz=314
RAR Rarotonga 66.67 119 LR LR 11 59 49.5
comp=Z,340nm,20.7s,baz=312,slow=32
NRIK Noril'sk 66.99 342 P **P** **11 35 42.7 -0.1**
comp=Z,28nm,1.1s,baz=118,slow=7.1,SNR=21
NRIK LR LR 12 05 35.6
comp=Z,972nm,18.8s,baz=116,slow=36
NRIK Noril'sk 66.99 342 *ce*P **P** **11 35 42.7 -0.1**
NRIK pmax pmax
comp=Z,43nm,1.5s
NRIK Noril'sk 66.99 342 P **P** **11 35 42.7 -0.1**
NRIK IAmb IAmb 11 35 52.6
comp=Z,38nm,1.2s
N18K Kilae Creek 67.18 28 P **P** **11 35 44.6 +0.4**
N18K IAmb IAmb 11 37 19.5
comp=Z,30nm,1.4s
N18K IAMs_20 IAMs_20 12 03 29.7
comp=Z,1µm,21.0s
N18K Kilae Creek 67.18 28 P **P** **11 35 44.4 +0.1**
baz=252
O18K Koktuh Hills 67.25 29 P **P** **11 35 45.1 +0.3**
O18K IAmb IAmb 11 35 45.9
comp=Z,20nm,0.8s
O18K Koktuh Hills 67.25 29 P **P** **11 35 44.4 -0.3**
baz=253
RDOG Red Dog Mine 67.27 20 P **P** **11 35 44.7 0.0**
RDOG Red Dog Mine 67.27 20 P **P** **11 35 44.7 0.0**
baz=242
BRZS Berezniki 67.38 320 *e*P **P** **11 35 44.3 -1.4**
BRZS Berezniki 67.38 320 *e*P **P** **11 35 44.3 -1.4**
baz=320
DZA Taraz 67.38 312 *e*P **P** **11 35 44.8 -1.1**
DZA Taraz 67.38 312 *e*P **P** **11 35 44.8 -1.1**
baz=312
SVW2 Sparrevohn 67.46 28 P **P** **11 35 46.5 +0.5**
BTK Batken 67.53 309 P **P** **11 35 47.8 +0.8**
BTK pmax pmax
comp=Z,49nm,1.2s
BTK Batken 67.53 309 P **P** **11 35 47.8 +0.8**
O19K Port Alsworth 67.78 29 P **P** **11 35 47.3 -0.7**
baz=253
GAR Garm 67.85 308 P **P** **11 35 48.9 -0.2**
TTA Tatalina 67.85 26 P **P** **11 35 48.3 -0.2**
baz=251
N19K Bonanza Creek 67.88 29 P **P** **11 35 49.7 +0.9**
N19K IAmb IAmb 11 35 50.9
comp=Z,35nm,1.4s
N19K IAMs_20 IAMs_20 12 03 42.2
comp=Z,941nm,20.0s
N19K Bonanza Creek 67.88 29 P **P** **11 35 48.9 +0.1**
baz=253
KK31 Karatay Array 68.00 312 P **P** **11 35 49.7 -0.1**
KK31 pmax pmax
comp=Z,67nm,1.4s
KK31 Karatay Array 68.00 312 P **P** **11 35 49.7 -0.1**
KKAR Karatay Array 68.00 312 P **P** **11 35 50.0 +0.2**
KKAR pmax pmax
comp=Z,67nm,1.4s
KKAR Karatay Array 68.00 312 P **P** **11 35 49.7 0.0**
KKAR Karatay Array 68.00 312 P **P** **11 35 50.0 +0.2**
KKAR IAmb IAmb 11 35 57.2
comp=Z,67nm,1.4s
KDAK Kodiak Island 68.01 32 LR LR 12 04 11.7
comp=Z,605nm,20.2s,baz=264,slow=35
GCSA Galena City Sc 68.11 24 P **P** **11 35 49.7 -0.3**
baz=249
L19K White Mountain 68.12 27 P **P** **11 35 50.3 +0.2**
L19K IAMs_20 IAMs_20 12 03 38.5
comp=Z,867nm,20.0s
L19K White Mountain 68.12 27 P **P** **11 35 50.2 0.0**
baz=252,SNR=5.1
M19K Big River Lodg 68.25 27 P **P** **11 35 51.0 +0.1**
M19K IAmb IAmb 11 36 53.8
comp=Z,34nm,1.8s
M19K IAMs_20 IAMs_20 12 03 21.8
comp=Z,984nm,20.0s
M19K Big River Lodg 68.25 27 P **P** **11 35 51.2 +0.3**
baz=253
IUG luznay 68.27 311 *e*P **P** **11 35 50.7 -0.9**
IUG luznay 68.27 311 *e*P **P** **11 35 50.8 -0.9**
baz=311
L20K Farewell, AK 68.65 27 P **P** **11 35 53.7 +0.2**
baz=253
KBL Kabul 68.72 303 P **P** **11 35 53.9 -0.8**
KBL pmax pmax
comp=Z,44nm,1.3s
KBL Kabul 68.72 303 P **P** **11 35 53.9 -0.8**
KBL IAmb IAmb 11 36 03.3
comp=Z,44nm,1.3s
CHGR Chuyangaron 68.74 307 P **P** **11 35 54.5 0.0**
K20K Telida 68.83 26 P **P** **11 35 54.9 +0.4**
K20K IAmb IAmb 11 36 35.3
comp=Z,34nm,1.6s
K20K IAMs_20 IAMs_20 12 03 48.0
comp=Z,866nm,19.0s
J20K Nowinta River 69.04 25 P **P** **11 35 56.4 +0.6**
J20K IAmb IAmb 11 36 22.0
comp=Z,65nm,1.8s
J20K IAMs_20 IAMs_20 12 03 41.7
comp=Z,1µm,20.0s
J20K Nowinta River 69.04 25 P **P** **11 35 56.3 +0.4**
baz=252,SNR=14
CNPM China Poot 69.11 30 P **P** **11 35 56.2 -0.2**
BVAR Borovoye Array 69.28 323 P **P** **11 35 58.2 +0.7**
comp=Z,15nm,0.8s
BRVK Borovoye 69.34 323 *ce*P **P** **11 35 57.8 -0.1**
BRVK pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 69.34 323 P **P** **11 35 58.0 +0.1**
BRVK Borovoye 69.34 323 IAMs_20 IAMs_20 12 08 46.1
comp=Z,910nm,18.0s
BRSE Bradley Lake S 69.41 30 P **P** **11 35 58.5 +0.3**
baz=257
PPLA Purkeypile 69.51 27 P **P** **11 35 59.2 +0.2**
PPLA Purkeypile 69.51 27 P **P** **11 35 59.0 +0.1**
baz=254
CAST Castle Rocks 69.70 26 P **P** **11 36 00.0 +0.1**
CAST IAmb IAmb 11 36 01.0
comp=Z,14nm,0.7s
CAST IAMs_20 IAMs_20 12 04 06.1
comp=Z,941nm,20.0s
CAST Castle Rocks 69.70 26 P **P** **11 35 59.5 -0.4**
baz=254,SNR=13
CHUM Lake Minchumin 69.73 26 P **P** **11 35 59.9 -0.1**
baz=254,SNR=6.1
IMAR Indian Mountai 69.77 23 P **P** **11 36 00.5 +0.2**
H21K Melozitna Rive 70.04 24 P **P** **11 36 02.6 +0.7**
H21K IAmb IAmb 11 36 10.5
comp=Z,23nm,1.3s
H21K IAMs_20 IAMs_20 12 03 49.9
comp=Z,819nm,20.0s
H21K Melozitna Rive 70.04 24 P **P** **11 36 02.1 +0.2**
baz=253,SNR=12
O22K Cooper Landing 70.07 30 P **P** **11 36 02.0 -0.1**
O22K Cooper Landing 70.07 30 P **P** **11 36 01.5 -0.7**
baz=258
SEW Seward 70.12 30 P **P** **11 36 03.1 +0.6**
baz=258
M22K Willow 70.16 28 IAMs_20 IAMs_20 12 04 34.4
comp=Z,705nm,20.0s
M22K Willow 70.16 28 P **P** **11 36 01.6 -1.1**
baz=257
RC01 Rabbit Creek A 70.19 29 IAMs_20 IAMs_20 12 03 34.2
comp=Z,930nm,22.0s
RC01 Rabbit Creek A 70.19 29 P **P** **11 36 01.9 -1.0**
baz=257
I21K Tanana 70.23 24 P **P** **11 36 04.1 +1.0**
I21K IAMs_20 IAMs_20 12 04 29.0
comp=Z,870nm,20.0s
I21K Tanana 70.23 24 P **P** **11 36 02.6 -0.5**
baz=254,SNR=12
KTH Kantishna Hill 70.24 26 P **P** **11 36 02.7 -0.6**
KTH IAmb IAmb 11 36 04.0
comp=Z,19nm,0.9s
KTH IAMs_20 IAMs_20 12 04 23.3
comp=Z,987nm,20.0s
CUT Chulitna 70.25 27 P **P** **11 36 02.6 -0.6**
CUT IAmb IAmb 11 37 36.5
comp=Z,25nm,0.7s
CUT IAMs_20 IAMs_20 12 05 15.7
comp=Z,896nm,20.0s
CUT Chulitna 70.25 27 P **P** **11 36 02.9 -0.4**
baz=256
BPAW Bear Paw Mtn. 70.35 26 P **P** **11 36 04.0 +0.1**
BPAW IAmb IAmb 11 36 05.0
comp=Z,15nm,0.9s
BPAW IAMs_20 IAMs_20 12 04 24.3
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 70.35 26 P **P** **11 36 03.5 -0.5**
baz=255,SNR=9.7
TRF Thorofare Moun 70.49 26 P **P** **11 36 04.2 -0.7**
TRF IAMs_20 IAMs_20 12 05 02.0
comp=Z,818nm,20.0s
TRF Thorofare Moun 70.49 26 P **P** **11 36 03.7 -1.2**
baz=256,SNR=7.5
PMR Palmer 70.59 28 P **P** **11 36 04.8 -0.5**
PMR pmax pmax
comp=Z,63nm,2.0s
PMR Palmer 70.59 28 P **P** **11 36 04.8 -0.5**
PMR IAmb IAmb 11 37 10.1
comp=Z,62nm,2.0s
PMR Palmer 70.59 28 P **P** **11 36 04.4 -0.9**
baz=258
GHO Glory Hole Cre 70.72 28 P **P** **11 36 05.5 -0.8**
GHO IAMs_20 IAMs_20 12 05 56.2
comp=Z,779nm,20.0s
PWL Port Wells 70.81 29 P **P** **11 36 06.5 -0.3**
PWL IAMs_20 IAMs_20 12 06 27.7
comp=Z,874nm,20.0s
PWL Port Wells 70.81 29 P **P** **11 36 05.7 -1.1**
baz=259,SNR=9.2
KNK Knik Glacier 70.86 29 P **P** **11 36 07.3 +0.2**
KNK IAmb IAmb 11 36 23.0
comp=Z,20nm,1.0s
KNK IAMs_20 IAMs_20 12 05 08.0
comp=Z,963nm,19.0s
KNK Knik Glacier 70.86 29 P **P** **11 36 06.7 -0.4**
baz=258
SML Sawmill 71.00 28 P **P** **11 36 08.2 +0.2**
SML IAmb IAmb 11 36 08.6
comp=Z,18nm,0.9s
SML IAMs_20 IAMs_20 12 05 41.7
comp=Z,855nm,20.0s
SML Sawmill 71.00 28 P **P** **11 36 07.2 -0.8**
baz=258
BWN Browne 71.02 26 P **P** **11 36 08.5 +0.6**
BWN IAmb IAmb 11 36 19.6
comp=Z,41nm,1.0s
BWN IAMs_20 IAMs_20 12 05 05.8
comp=Z,1µm,21.0s
RND Reindeer 71.11 27 P **P** **11 36 07.9 -0.7**
RND pmax pmax
comp=Z,12nm,0.6s
RND Reindeer 71.11 27 P **P** **11 36 07.9 -0.7**
RND IAmb IAmb 11 37 36.3
comp=Z,12nm,0.6s
RND IAMs_20 IAMs_20 12 04 51.2
comp=Z,1µm,20.0s
MCK McKinley 71.14 26 P **P** **11 36 08.2 -0.6**
MCK pmax pmax
comp=Z,21nm,1.1s
MCK McKinley 71.14 26 P **P** **11 36 08.2 -0.6**
MCK IAmb IAmb 11 36 09.2
comp=Z,21nm,1.1s
MCK IAMs_20 IAMs_20 12 05 21.2
comp=Z,880nm,20.0s
MCK McKinley 71.14 26 P **P** **11 36 07.5 -1.3**
baz=257,SNR=7.5
NEA2 Nenana 71.28 25 P **P** **11 36 09.7 +0.1**
NEA2 IAMs_20 IAMs_20 12 04 49.9
comp=Z,861nm,20.0s
NEA2 Nenana 71.28 25 P **P** **11 36 09.3 -0.2**
baz=257
I23K Minto, Yukon-K 71.29 25 P **P** **11 36 09.9 +0.3**
I23K IAMs_20 IAMs_20 12 05 12.1
comp=Z,928nm,20.0s
I23K Minto, Yukon-K 71.29 25 P **P** **11 36 09.4 -0.2**
baz=256,SNR=8.3
H23K Yukon River 71.38 24 P **P** **11 36 10.6 +0.5**
H23K IAMs_20 IAMs_20 12 04 31.4
comp=Z,660nm,21.0s
H23K Yukon River 71.38 24 P **P** **11 36 10.0 -0.1**
baz=256,SNR=13
GLI Glacier Island 71.41 29 P **P** **11 36 10.1 -0.4**
GLI Glacier Island 71.41 29 P **P** **11 36 10.0 -0.4**
baz=260
WAT6 Susitna Watana 71.43 28 P **P** **11 36 09.9 -0.8**
baz=259,SNR=11
SCM Sheep Creek Mo 71.48 28 P **P** **11 36 11.3 +0.4**
SCM pmax pmax
comp=Z,35nm,1.0s
SCM Sheep Creek Mo 71.48 28 P **P** **11 36 11.3 +0.4**
SCM IAmb IAmb 11 36 11.9
comp=Z,35nm,1.0s
SCM Sheep Creek Mo 71.48 28 P **P** **11 36 10.7 -0.2**
baz=259
COLD Coldfoot 71.48 23 P **P** **11 36 11.5 +0.8**
COLD IAmb IAmb 11 36 58.1
comp=Z,23nm,1.0s
COLD Coldfoot 71.48 23 P **P** **11 36 11.2 +0.5**
baz=255,SNR=20
WRH Wood River Hil 71.67 26 P **P** **11 36 10.9 -0.9**
WRH IAMs_20 IAMs_20 12 05 13.1
comp=Z,977nm,20.0s
FID Port Fidalgo 71.69 30 P **P** **11 36 12.2 +0.1**
DHY Denali Highway 71.69 27 P **P** **11 36 12.4 +0.2**
DHY IAMs_20 IAMs_20 12 05 31.8
comp=Z,857nm,20.0s
DHY Denali Highway 71.69 27 P **P** **11 36 11.8 -0.5**
baz=259
MDM Murphy Dome 71.71 25 P **P** **11 36 12.6 +0.4**
MDM IAMs_20 IAMs_20 12 05 05.3
comp=Z,753nm,20.0s
CCB Clear Creek Bu 71.83 25 P **P** **11 36 11.3 -1.4**
CCB IAMs_20 IAMs_20 12 05 19.2
comp=Z,964nm,21.0s
TCOL CIGO, UAF Yank 71.85 25 P **P** **11 36 12.3 -0.6**
TCOL IAMs_20 IAMs_20 12 05 28.9
comp=Z,887nm,21.0s
TCOL CIGO, UAF Yank 71.85 25 P **P** **11 36 12.1 -0.8**
baz=258
COLA College 71.85 25 P **P** **11 36 12.3 -0.6**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 71.85 25 P **P** **11 36 12.3 -0.6**
COLA College 71.85 25 IAMs_20 IAMs_20 12 05 28.9
comp=Z,870nm,21.0s
COLA College 71.85 25 P **P** **11 36 11.8 -1.1**
baz=258
EYAK Cordova Ski Ar 72.01 30 P **P** **11 36 14.2 +0.3**
baz=261
H24K Noodor Dome 72.05 24 P **P** **11 36 15.0 +0.8**
H24K IAmb IAmb 11 36 22.6
comp=Z,26nm,1.3s
H24K IAMs_20 IAMs_20 12 05 03.1
comp=Z,837nm,20.0s
H24K Noodor Dome 72.05 24 P **P** **11 36 14.5 +0.3**
baz=257,SNR=13
M24K Tolsona, Glenn 72.06 28 P **P** **11 36 14.4 +0.1**
baz=260
KLU Klutina 72.08 29 P **P** **11 36 14.9 +0.4**
KLU IAmb IAmb 11 36 15.2
comp=Z,52nm,1.6s
KLU IAMs_20 IAMs_20 12 06 28.1
comp=Z,1µm,19.0s
KLU Klutina 72.08 29 P **P** **11 36 14.4 -0.1**
baz=261,SNR=5.0
POKR Poker Plat Res 72.08 25 IAMs_20 IAMs_20 12 05 11.9
comp=Z,793nm,20.0s
POKR Poker Plat Res 72.08 25 P **P** **11 36 13.7 -0.6**
baz=258
TOLK Toolik Lake Re 72.08 21 P **P** **11 36 15.3 +0.9**
TOLK IAmb IAmb 11 36 15.7
comp=Z,19nm,0.9s
TOLK Toolik Lake Re 72.08 21 P **P** **11 36 15.2 +0.9**
baz=255
DIV Divide 72.09 29 P **P** **11 36 14.8 +0.3**
DIV IAmb IAmb 11 36 22.6
comp=Z,23nm,1.1s
HDA Harding Lake 72.14 26 P **P** **11 36 13.8 -0.9**
HDA IAMs_20 IAMs_20 12 05 37.6
comp=Z,855nm,20.0s
HDA Harding Lake 72.14 26 P **P** **11 36 13.6 -1.0**
baz=259,SNR=6.6
IL31 72.24 25 P **P** **11 36 14.1 -1.1**
ILAR Eielson Array 72.24 25 P **P** **11 36 13.9 -1.4**
comp=Z,6.9nm,0.7s,baz=246,slow=6.1,SNR=129
ILAR LR LR 12 05 52.4
comp=Z,676nm,20.6s,baz=189,slow=34
ILAR Eielson Array 72.24 25 P **P** **11 36 14.2 -1.1**
ILAR Eielson Array 72.24 25 P **P** **11 36 14.2 -1.1**
PAX Paxson 72.53 27 P **P** **11 36 17.1 -0.1**
baz=261,SNR=9.9
HARP HAARP 72.58 28 P **P** **11 36 17.5 +0.1**
baz=261,SNR=7.7
BMRM Bremner River 72.63 30 IAmb IAmb 11 36 19.0
comp=Z,32nm,1.2s
BMRM IAMs_20 IAMs_20 12 03 52.7
comp=Z,864nm,22.0s
BMRM Bremner River 72.63 30 P **P** **11 36 17.6 -0.2**
baz=262
N25K Chitina, Valde 72.72 29 IAMs_20 IAMs_20 12 07 17.1
comp=Z,779nm,20.0s
N25K Chitina, Valde 72.72 29 P **P** **11 36 18.2 -0.1**
baz=262
J25K Salcha River, 72.85 26 P **P** **11 36 17.9 -1.1**
J25K IAMs_20 IAMs_20 12 05 49.3
comp=Z,658nm,21.0s
J25K Salcha River, 72.85 26 P **P** **11 36 18.1 -0.9**
baz=260
RIDG Independent Ri 72.93 27 P **P** **11 36 19.5 0.0**
RIDG IAmb IAmb 11 36 20.4
comp=Z,22nm,1.0s
RIDG Independent Ri 72.93 27 P **P** **11 36 18.9 -0.6**
baz=261,SNR=11
VRDI Verde Repeater 73.22 29 IAMs_20 IAMs_20 12 07 36.2
comp=Z,647nm,19.0s
DOT Dot Lake 73.26 27 P **P** **11 36 21.6 +0.1**
DOT IAmb IAmb 11 36 22.2
comp=Z,18nm,0.9s
SCRK Sand Creek 73.34 26 P **P** **11 36 22.0 0.0**
SCRK IAMs_20 IAMs_20 12 06 10.4
comp=Z,750nm,20.0s
SCRK Sand Creek 73.34 26 P **P** **11 36 21.4 -0.6**
baz=262,SNR=5.9
MCARA McCarthy VSAT 73.44 29 IAMs_20 IAMs_20 12 06 42.1
comp=Z,585nm,20.0s
MCARA McCarthy VSAT 73.44 29 P **P** **11 36 22.1 -0.4**
baz=263,SNR=5.3
L26K Log Cabin Wild 73.50 27 P **P** **11 36 23.4 +0.6**
L26K IAMs_20 IAMs_20 12 06 01.5
comp=Z,900nm,20.0s
L26K Log Cabin Wild 73.50 27 P **P** **11 36 22.7 -0.1**
baz=262,SNR=12
M26K Nabesna, AK 73.58 28 IAMs_20 IAMs_20 12 04 40.7
comp=Z,705nm,20.0s
J26L Joseph Creek 73.60 26 P **P** **11 36 23.3 -0.2**
baz=262,SNR=11
BMAR Burnt Mountain 73.65 23 P **P** **11 36 24.5 +0.9**
ISLE Juniper Island 73.69 30 IAMs_20 IAMs_20 12 05 09.7
comp=Z,700nm,20.0s
GRNC Granite Creek 73.99 30 P **P** **11 36 26.3 +0.4**
BARN Barnard Glacie 74.06 30 IAMs_20 IAMs_20 12 06 53.6
comp=Z,602nm,20.0s
M27K Edge Creek, AK 74.09 28 P **P** **11 36 27.1 +0.7**
M27K IAMs_20 IAMs_20 12 05 17.2
comp=Z,832nm,22.0s
M27K Edge Creek, AK 74.09 28 P **P** **11 36 26.8 +0.4**
baz=264,SNR=7.1
L27K Beaver Creek, 74.19 28 P **P** **11 36 27.1 +0.2**
L27K IAMs_20 IAMs_20 12 06 49.8
comp=Z,1µm,20.0s
L27K Beaver Creek, 74.19 28 P **P** **11 36 27.3 +0.4**
baz=264,SNR=7.4
BCAR Beaver Creek A 74.21 28 P **P** **11 36 27.6 +0.6**
CTG Chitna Glacier 74.21 30 P **P** **11 36 27.1 -0.1**
baz=265,SNR=7.3
CTGM Chitina Glacie 74.21 30 IAmb IAmb 11 36 28.9
comp=Z,18nm,0.8s
HRA Herat 74.34 303 P **P** **11 36 28.6 +0.1**
HRA IAmb IAmb 11 36 36.2
comp=Z,63nm,1.3s
LOGN Logan Glacier 74.36 30 IAmb IAmb 11 36 29.6
comp=Z,15nm,0.7s
LOGN IAMs_20 IAMs_20 12 07 34.5
comp=Z,720nm,20.0s
PPT Papeete 74.45 112 P **P** **11 36 28.2 -0.9**
comp=Z,33nm,1.0s,baz=333,slow=4.5,SNR=2.7
PPT LR LR 12 06 11.6
comp=Z,545nm,18.4s,baz=234,slow=33
PPT2 Papeete2 74.45 112 *e*P **P** **11 36 30.9 +1.7**
comp=Z,53nm,1.2s
PPT2 *e*S **S** **11 45 59.9 -0.6**
comp=Z,332nm,27.2s
PPT2 *e*LQ LQ 11 55 49.7
comp=Z,661nm,28.0s
PPT2 *e*LR LR 11 59 31.0
comp=Z,549nm,21.0s,baz=287
PAE Paea 74.47 112 *e*P **P** **11 36 30.8 +1.6**
comp=Z,16nm,1.4s
BVCY Beaver Creek 74.57 28 P **P** **11 36 29.1 0.0**
baz=265
EGAK Eagle 74.66 26 P **P** **11 36 29.2 -0.3**
EGAK IAMs_20 IAMs_20 12 06 56.3
comp=Z,726nm,19.0s
EGAK Eagle 74.66 26 P **P** **11 36 29.3 -0.2**
baz=264,SNR=6.2
YUK3 Moose Creek 74.70 29 P **P** **11 36 30.2 +0.1**
baz=266,SNR=10
PNL Peninsula 75.08 31 P **P** **11 36 31.8 -0.2**
baz=267
SVE Sverdlovsk 75.23 326 *e*P **P** **11 36 33.3 +0.4**
SVE pmax pmax
comp=Z,53nm,1.5s
SVE MLR MLR
comp=Z,1µm,18.0s
PMOR Pomariorio Ree 75.25 109 *e*P **P** **11 36 35.0 +1.2**
comp=Z,54nm,1.1s
DAWY Dawson 75.36 27 P **P** **11 36 34.2 +0.6**
DAWY Dawson 75.36 27 P **P** **11 36 34.0 +0.4**

baz=266,SNR=18
YUK4 **Talbot Arm** 75.54 29 P P 11 36 35.8 +0.9
baz=267,SNR=15
VAH **Vaihoa** 75.56 109 eP P 11 36 37.0 +1.4
comp=Z,50nm,1.1s
AB31 **Akbulak array** 75.57 318 i P P 11 36 34.7 -0.4
ABKAR **Akbulak array** 75.57 318 P P 11 36 34.7 -0.3
YUK6 **Outpost Mounta** 75.66 30 P P 11 36 36.3 +0.7
baz=268
I29M **Ogilvie Camp,** 75.92 25 IAMs_20 IAMs_20 12 07 44.4
comp=Z,972nm,21.0s
I29M **Ogilvie Camp,** 75.92 25 P P 11 36 37.3 +0.5
baz=266,SNR=13
HYT **Haines Junctio** 76.07 30 IAmb IAmb 11 36 40.0
comp=Z,20nm,1.0s
HYT **Haines Junctio** 76.07 30 P P 11 36 38.4 +0.5
baz=268,SNR=10.0
ARU **Arti** 76.37 325 P P 11 36 39.0 -0.4
comp=Z,2.1nm,0.4s,baz=122,slow=1.4,SNR=10
ARU LR LR 12 12 36.8
comp=Z,2µm,18.6s,baz=84,slow=38
ARU **Arti** 76.37 325 c iP P 11 36 38.9 -0.5
ARU 11 39 27.1
ARU PPP PPP 11 41 20.8
ARU S S 11 46 20.1 -0.2
ARU SS SS 11 51 15.2 0.0
ARU SSS SSS 11 54 37.3
ARU pmax pmax
comp=Z,32nm,2.0s
ARU MLR MLR
comp=Z,2µm,18.0s
M30M **Minto, Yukon** 76.46 28 P P 11 36 40.6 +0.7
M30M IAmb IAmb 11 36 42.0
comp=Z,27nm,1.4s
M30M IAMs_20 IAMs_20 12 07 23.9
comp=Z,852nm,20.0s
M30M **Minto, Yukon** 76.46 28 P P 11 36 40.1 +0.2
baz=268,SNR=12
AKTO **Aktyubinsk** 76.79 319 P P 11 36 41.2 -0.8
comp=Z,2.4nm,0.7s,baz=85,slow=6.5,SNR=10.0
AKTO LR LR 12 10 03.6
comp=Z,202nm,21.2s,baz=89,slow=35
N31M **Braeburn, Yuko** 76.92 29 IAmb IAmb 11 36 53.1
comp=Z,28nm,1.0s
N31M **Braeburn, Yuko** 76.92 29 P P 11 36 43.1 +0.5
baz=270,SNR=6.0
SKAG **Skagway** 77.15 31 P P 11 36 44.9 +1.2
SKAG IAmb IAmb 11 36 46.1
comp=Z,35nm,1.4s
SKAG **Skagway** 77.15 31 P P 11 36 44.7 +0.9
baz=270
WHY **Whitehorse** 77.36 30 P P 11 36 46.1 +1.0
WHY **Whitehorse** 77.36 30 P P 11 36 45.3 +0.2
baz=271,SNR=14
GEYT **Alibeck** 77.43 307 P P 11 36 44.8 -1.1
comp=Z,4.2nm,0.8s,baz=246,slow=13,SNR=4.9
GEYT LR LR 12 14 51.0
comp=Z,343nm,19.7s,baz=103,slow=39
GEYT **Alibeck** 77.43 307 IAmb IAmb 11 36 54.0
comp=Z,45nm,1.3s
M31M **Drury Creek, Y** 77.58 29 P P 11 36 47.1 +0.9
M31M IAmb IAmb 11 36 47.9
comp=Z,22nm,1.1s
M31M IAMs_20 IAMs_20 12 08 41.5
comp=Z,920nm,20.0s
M31M **Drury Creek, Y** 77.58 29 P P 11 36 46.3 +0.1
baz=271,SNR=12
JIS **Juneau Island** 77.66 33 IAmb IAmb 11 36 48.7
comp=Z,17nm,0.8s
INK **Inuvik** 77.89 22 LR LR 12 12 38.1
comp=Z,159nm,18.7s,baz=236,slow=37
INK **Inuvik** 77.89 22 P P 11 36 48.1 +0.4
INK pmax pmax
comp=Z,18nm,1.1s
INK **Inuvik** 77.89 22 P P 11 36 48.1 +0.4
INK **Inuvik** 77.89 22 P P 11 36 47.3 -0.4
baz=270
WSAR **Wadi Sarin** 78.55 292 LR LR 12 11 16.7
comp=Z,117nm,22.0s,baz=92,slow=36
WRAK **Wrangell Islan** 78.85 34 P P 11 36 53.4 +0.1
baz=274
BANOM **Banah** 80.29 295 i P P 11 37 03.1 +1.3
SNR=10
SOHO **SOHO** 80.33 293 i P P 11 37 02.0 0.0
SNR=12
A36M **Sachs Harbour** 80.48 18 P P 11 37 01.9 +0.2
A36M IAmb IAmb 11 37 02.9
comp=Z,19nm,0.8s
A36M **Sachs Harbour** 80.48 18 P P 11 37 02.2 +0.4
baz=277
MSFE **Esma-Masafi** 80.50 294 i P P 11 37 03.8 +0.9
SNR=6.6
TGTN **Hyland Airport** 80.51 29 P P 11 37 03.2 +1.0
baz=276
UOSS **Minazif** 80.52 294 P P 11 37 02.5 -0.5
UOSS **Minazif** 80.52 294 P P 11 37 02.8 -0.1
HATD **Hatta, Dubai** 80.60 293 P P 11 37 03.1 -0.3
ASHO **Ashiyiah** 80.68 293 P P 11 37 04.6 +0.7
ALNE **Al Ain** 81.05 293 i P P 11 37 06.9 +1.0
SNR=7.7
TAOE **Nuku Hiva Isla** 81.06 101 e S S 11 47 09.6 -2.5
comp=Z,104nm,25.7s
TAOE **Nuku Hiva Isla** 81.06 101 e LR LR 12 02 36.3
comp=Z,316nm,21.3s,baz=277
KIRV **Kirov** 81.16 328 P P 11 37 05.0 -0.7
comp=Z,7.6nm,0.4s,baz=72,slow=7.4,SNR=5.0
KIRV LR LR 12 16 10.0
comp=Z,2µm,18.1s,baz=83,slow=38
KIRV **Kirov** 81.16 328 P P 11 37 05.0 -0.7
C36M **Paulatuk** 81.23 21 P P 11 37 05.5 -0.3
C36M IAmb IAmb 11 37 13.5
comp=Z,66nm,1.6s
C36M **Paulatuk** 81.23 21 P P 11 37 05.8 -0.1
baz=279
BBB **Bella Bella** 81.74 38 LR LR 12 06 54.4
comp=Z,685nm,21.6s,baz=275,slow=31
PRGR **Permogore** 82.58 331 eP P 11 37 11.5 -1.6
BELG **Belogornoye** 83.07 322 LR LR 12 16 21.0
comp=Z,660nm,18.5s,baz=108,slow=37
MZR **Muzera** 83.28 292 i P P 11 37 17.5 0.0
SNR=7.5
SOCY **Socotra** 84.66 281 IAmb IAmb 11 37 25.5
comp=Z,25nm,1.1s
MAK **Makhachkala** 84.80 313 eP P 11 37 24.8 0.0
MAK e*PP pwP 11 37 44.4 -0.1
MAK e 11 40 41.4
MAK ePPP PPP 11 42 34.0
MAK e 11 47 42.5
MAK eSS SS 11 53 29.2 +7.6
MAK pmax pmax
comp=Z,161nm,1.0s
NLWA **Neilton Lookou** 85.26 43 P P 11 37 28.1 +0.9
NLWA IAmb IAmb 11 37 36.0
comp=Z,33nm,1.1s
EUNU **Eureka** 85.58 7 P P 11 37 28.3 +0.2
EUNU IAmb IAmb 11 37 42.2
comp=Z,21nm,1.2s
SPITS **Spitsbergen Ar** 85.58 350 P P 11 37 28.7 +0.6
comp=Z,25nm,1.1s,baz=98,slow=7.4,SNR=8.3
SPITS LR LR 12 16 41.4
comp=Z,420nm,18.9s,baz=252,slow=36
KLMR **Klimovskoe** 85.63 331 eP P 11 37 26.8 -1.8
KLMR pmax pmax
comp=Z,10.0nm,0.9s
KLMR **Klimovskoe** 85.63 331 eP P 11 37 26.8 -1.8
KLMR AMP 11 37 41.2
comp=Z,10.0nm,0.9s
KLMR LQ LQ 12 10 41.7
KLMR LQ LQ 12 10 41.7
KLMR LR LR 12 15 06.5
D03D **Eldon** 85.75 43 P P 11 37 30.7 +1.2
baz=282,SNR=11
KBS **Kingsbay** 85.82 351 IAMs_20 IAMs_20 12 17 01.2
comp=Z,438nm,18.0s
LLLB **Lillooet** 85.86 39 P P 11 37 30.8 +0.7
LLLB IAmb IAmb 11 37 38.3
comp=Z,26nm,1.2s
I02E **Swisshome, OR** 85.94 46 P P 11 37 29.9 -0.6
baz=282
D04E **Lakebay** 86.04 43 P P 11 37 31.1 +0.2
baz=282
APA **Apatity** 86.11 338 ↓ i P P 11 37 18.2 -13
APA pmax pmax
comp=Z,8.0nm,0.6s
B05A **Bryant** 86.25 42 P P 11 37 32.7 +0.8
baz=283,SNR=10

E04D **Cinebar** 86.31 43 P P 11 37 33.0 +0.8
baz=283
K02D **Willamette Mer** 86.36 47 P P 11 37 33.3 +0.6
baz=282
I03D **Drain, OR** 86.38 46 P P 11 37 33.5 +0.8
baz=282
L02E **Cave Junction** 86.52 48 IAmb IAmb 11 37 53.3
comp=Z,56nm,1.6s
L02E **Cave Junction** 86.52 48 P P 11 37 34.2 +0.7
baz=282
DBO **Dodson Butte** 86.57 47 P P 11 37 34.1 +0.4
DBO IAmb IAmb 11 37 42.9
comp=Z,27nm,1.2s
B06A **Marblemount** 86.59 41 P P 11 37 34.1 +0.5
B06A IAmb IAmb 11 37 45.1
comp=Z,30nm,1.1s
YKA **Yellowknife Ar** 86.60 27 P P 11 37 33.3 -0.1
comp=Z,9.2nm,0.7s,baz=289,slow=4.8,SNR=139
YKA **Yellowknife Ar** 86.60 27 P P 11 37 32.8 -0.6
H04D **Lebanon** 86.63 45 P P 11 37 34.7 +0.8
baz=283
KMRM **Mail Ridge** 86.84 50 P P 11 37 34.4 -0.8
HUMO **Hull Mountain** 86.89 47 IAmb IAmb 11 37 43.0
comp=Z,35nm,1.4s
H04A **Detroit Lake** 86.98 45 P P 11 37 35.6 0.0
H04A IAmb IAmb 11 37 43.2
comp=Z,26nm,0.9s
I04A **Tendick Farm,** 87.02 46 P P 11 37 36.6 +0.7
baz=283
F05D **White Salmon** 87.21 44 P P 11 37 37.6 +0.9
baz=283
M02C **Callahan** 87.23 48 P P 11 37 38.0 +1.0
M02C IAmb IAmb 11 37 44.2
comp=Z,28nm,1.2s
M02C **Callahan** 87.23 48 P P 11 37 38.2 +1.2
baz=283,SNR=10
YBH **Yreka Blue Hor** 87.26 48 LR LR 12 10 12.1
comp=Z,348nm,21.4s,baz=290,slow=31
YBH **Yreka Blue Hor** 87.26 48 IAmb IAmb 11 37 44.1
comp=Z,32nm,1.2s
J04D **Umpqua Nationa** 87.36 47 P P 11 37 38.4 +0.6
baz=283
GNI **Garni** 87.40 310 LR LR 12 20 49.9
comp=Z,188nm,18.1s,baz=86,slow=38
LTY **Liberty** 87.41 42 P P 11 37 38.3 +0.5
LTY IAmb IAmb 11 37 46.3
comp=Z,22nm,0.9s
N02D **Trinity Center** 87.43 49 P P 11 37 38.6 +0.6
N02D IAmb IAmb 11 37 45.3
comp=Z,20nm,1.0s
N02D **Trinity Center** 87.43 49 P P 11 37 39.0 +1.0
baz=283
ZEI **Tsey** 87.43 313 eP P 11 37 38.2 +0.1
ZEI pmax pmax
comp=Z,16nm,1.4s
L04D **Klamath Falls** 87.45 48 P P 11 37 38.7 +0.6
baz=283,SNR=7.1
G05D **Wamic, OR** 87.45 44 P P 11 37 39.0 +1.1
baz=284
NCK **Nalchik** 87.49 314 i P P 11 37 38.8 +0.7
NCK pmax pmax
comp=Z,13nm,0.8s
O02D **Mt. Diablo Mer** 87.54 50 P P 11 37 40.0 +1.4
baz=283,SNR=9.6
RES **Resolute Bay** 87.58 13 LR LR 12 20 03.1
comp=Z,268nm,19.1s,baz=317,slow=38
RES **Resolute Bay** 87.58 13 P P 11 37 38.0 +0.1
RES pmax pmax
comp=Z,7.0nm,1.0s
RES **Resolute Bay** 87.58 13 P P 11 37 38.0 +0.1
I05D **Terrebonne, OR** 87.65 45 P P 11 37 39.7 +0.8
baz=284,SNR=7.8
K04D **Chiloquin, OR** 87.75 47 P P 11 37 40.1 +0.6
baz=283,SNR=9.7
M04C **Macdoel** 87.88 48 P P 11 37 40.3 +0.1
M04C **Macdoel** 87.88 48 P P 11 37 41.2 +1.0
baz=283,SNR=18
KBZ **Khabaz** 87.93 314 P P 11 37 40.1 0.0
comp=Z,3.1nm,0.8s,baz=89,slow=1.6,SNR=6.2
KBZ LR LR 12 20 59.6
comp=Z,404nm,20.0s,baz=70,slow=38
KBZ **Khabaz** 87.93 314 i P P 11 37 39.7 -0.4
KBZ pmax pmax
comp=Z,3.0nm,0.9s
ARCES **ARCESS Array B** 87.97 341 P P 11 37 39.4 -0.5
comp=Z,6.0nm,0.6s,baz=66,slow=6.1,SNR=34
ARCES LR LR 12 21 26.2
comp=Z,437nm,18.5s,baz=64,slow=39
ARCES **ARCESS Array B** 87.97 341 P P 11 37 38.9 -1.0
ARCES pmax pmax
comp=Z,80nm,1.8s
ARCES **ARCESS Array B** 87.97 341 P P 11 37 38.9 -1.0
J05D **Fort Rock, OR** 87.97 46 P P 11 37 41.6 +1.0
baz=284,SNR=18
B08A **Colville Reser** 88.02 41 IAmb IAmb 11 37 49.1
comp=Z,25nm,1.0s
KVAR **Kislovodsk Arr** 88.02 314 LR LR 12 21 54.1
comp=Z,225nm,18.1s,baz=286,slow=39
KIV **Kislovodsk** 88.02 314 eP P 11 37 40.4 -0.4
KIV pmax pmax
comp=Z,10.0nm,1.0s
MOS **Moscow** 88.03 327 eP P 11 37 44.6 +4.2
MOS e 11 41 10.7
MOS MLR MLR
comp=Z,1µm,18.0s
SHA1 **Shidzhatmaz** 88.09 314 i P P 11 37 41.6 +0.3
NEY **Neytrino** 88.17 314 i P P 11 37 42.5 +0.9
NEY pmax pmax
comp=Z,1.0nm,0.9s
O03E **Paynes Creek** 88.25 49 P P 11 37 43.0 +1.0
O03E **Paynes Creek** 88.25 49 P P 11 37 42.3 +0.4
baz=283,SNR=14
VORR **Voronezh** 88.30 322 eP P 11 37 46.6 +4.8
VORR pmax pmax
comp=Z,50nm,0.4s
HAWA **Hanford** 88.38 43 IAmb IAmb 11 37 58.6
comp=Z,42nm,1.6s
D08A **Wollman Farm,** 88.62 42 P P 11 37 43.5 +0.1
D08A IAmb IAmb 11 37 50.0
comp=Z,23nm,1.2s
ORV **Oroville** 88.65 50 IAmb IAmb 11 37 50.8
comp=Z,41nm,1.4s
OBN **Obninsk** 88.80 326 LR LR 12 19 34.2
comp=Z,292nm,19.9s,baz=32,slow=37
OBN **Obninsk** 88.80 326 ‖ eP P 11 37 42.7 -1.3
OBN e 11 41 11.9
OBN eSSS SSS 11 57 58.6
OBN pmax pmax
comp=Z,7.0nm,1.1s
OBN MLR MLR
comp=Z,1µm,19.0s
C09A **Chrisman Ranch** 88.85 41 IAmb IAmb 11 37 46.5
comp=Z,51nm,1.9s
MOD **Modoc Plateau** 88.97 48 P P 11 37 46.3 +0.9
I07A **Izee** 88.99 45 IAmb IAmb 11 37 53.8
comp=Z,22nm,1.2s
G08A **Pilot Rock** 89.06 44 P P 11 37 45.4 -0.2
G08A IAmb IAmb 11 37 52.2
comp=Z,16nm,1.2s
BEKR **Beckworth** 89.43 50 P P 11 37 48.1 +0.5
BEKR IAmb IAmb 11 37 55.9
comp=Z,26nm,1.0s
NEW **Newport** 89.46 41 LR LR 12 14 36.2
comp=Z,313nm,18.6s,baz=303,slow=33
NEW **Newport** 89.46 41 P P 11 37 47.9 +0.5
NEW pmax pmax
comp=Z,30nm,1.4s
NEW **Newport** 89.46 41 P P 11 37 47.9 +0.5
NEW IAmb IAmb 11 37 56.2
comp=Z,30nm,1.4s
NEW **Newport** 89.46 41 P P 11 37 48.0 +0.5
baz=286,SNR=11
VNDA **Vanda** 89.53 176 P P 11 37 47.3 +0.3
comp=Z,5.5nm,1.2s,baz=313,slow=6.8,SNR=9.2
VNDA **Vanda** 89.53 176 P P 11 37 47.2 +0.3
VNDA IAmb IAmb 11 37 58.1
comp=Z,25nm,1.6s
MPK **Martis Peak** 89.82 50 P P 11 37 50.2 +0.7
EMB **Emerald Bay** 89.84 50 IAmb IAmb 11 38 06.9
comp=Z,25nm,1.3s
CMB **Columbia Colle** 89.86 51 P P 11 37 49.9 +0.4
CMB pmax pmax
comp=Z,15nm,1.1s
CMB **Columbia Colle** 89.86 51 P P 11 37 49.9 +0.4
J08A **Circle Bar Ran** 89.90 46 IAmb IAmb 11 37 58.2
comp=Z,19nm,1.0s

WVOR **Wild Horse Val** 90.03 47 P P 11 37 51.4 +1.1
WVOR pmax pmax
comp=Z,22nm,1.1s
WVOR **Wild Horse Val** 90.03 47 P P 11 37 51.4 +1.1
WVOR IAmb IAmb 11 37 58.8
comp=Z,22nm,1.1s
VCNR **Virginia City** 90.10 50 P P 11 37 51.7 +0.9
VCNR IAmb IAmb 11 37 57.8
comp=Z,15nm,1.1s
PAHR **Pah Rah Range** 90.20 49 P P 11 37 51.2 0.0
PAHR IAmb IAmb 11 37 58.6
comp=Z,38nm,1.4s
EDM **Edmonton** 90.22 35 P P 11 37 51.9 +1.1
EDM pmax pmax
comp=Z,27nm,1.3s
EDM **Edmonton** 90.22 35 P P 11 37 51.9 +1.1
EDM IAmb IAmb 11 37 57.1
comp=Z,27nm,1.3s
SBA **Scott Base** 90.25 175 P P 11 37 52.0 +1.7
SBA pmax pmax
comp=Z,70nm,2.0s
SBA **Scott Base** 90.25 175 P P 11 37 52.0 +1.7
BMO **Blue Mountains** 90.30 44 P P 11 37 51.9 +0.5
BMO pmax pmax
comp=Z,16nm,1.1s
BMO **Blue Mountains** 90.30 44 P P 11 37 51.9 +0.5
BMO IAmb IAmb 11 37 58.7
comp=Z,16nm,1.1s
RAYN **Ar Rayn** 90.38 294 P P 11 37 51.0 -1.2
RAYN pmax pmax
comp=Z,42nm,1.9s
RAYN **Ar Rayn** 90.38 294 P P 11 37 51.0 -1.2
RAYN IAmb IAmb 11 38 00.6
comp=Z,42nm,1.9s
YERR **Yerington** 90.49 50 P P 11 37 52.6 0.0
PAGB **Antelope Grade** 90.53 54 P P 11 37 52.9 +0.3
OMMB **Old Mammoth Mi** 91.03 51 P P 11 37 54.1 -1.1
OMMB IAmb IAmb 11 38 02.1
comp=Z,15nm,1.1s
PKM **Mcpherson Peak** 91.09 54 P P 11 37 56.7 +1.2
baz=285,SNR=11
RYN **Ryan** 91.12 50 P P 11 37 55.5 0.0
RYN IAmb IAmb 11 38 02.5
comp=Z,20nm,1.1s
DAG **Danmarks Havn** 91.21 355 i P P 11 37 53.0 -1.9
WALA **Waterton Lakes** 91.25 39 IAmb IAmb 11 38 05.7
comp=Z,25nm,1.6s
KVN **Kaiserville** 91.33 50 P P 11 37 57.5 +1.0
KVN pmax pmax
comp=Z,45nm,1.5s
KVN **Kaiserville** 91.33 50 P P 11 37 57.5 +1.0
NVAR **Mina Array Bea** 91.34 51 P P 11 37 58.1 +1.5
comp=Z,6.7nm,0.8s,baz=262,slow=6.0,SNR=71
NVAR **Mina Array Bea** 91.34 51 P P 11 37 57.6 +1.0
BCW **Bitter Crk WRg** 91.39 54 P P 11 37 58.6 +1.9
VES **Vestal, Richgr** 91.42 53 P P 11 37 57.2 +0.5
baz=285
ANN **Anapa** 91.42 316 eP P 11 37 53.8 -2.7
ANN e*PP pP 11 38 11.4 +0.5
ANN pmax pmax
comp=Z,38nm,0.8s
NV11 **Mina Array Sit** 91.45 50 P P 11 37 56.6 -0.4
NV11 IAmb IAmb 11 38 03.6
comp=Z,24nm,1.1s
FIA1 **FINESS Array S** 91.49 334 P P 11 37 55.2 -1.2
FIA1 IAmb IAmb 11 38 00.9
comp=Z,13nm,0.8s
FINES **FINESS Array B** 91.49 334 P P 11 37 55.2 -1.3
comp=Z,9.0nm,0.5s,baz=58,slow=4.7,SNR=41
FINES LR LR 12 21 06.4
comp=Z,727nm,19.4s,baz=66,slow=37
FINES **FINESS Array B** 91.49 334 P P 11 37 54.9 -1.5
BMN **Battle Mountai** 91.60 48 P P 11 37 58.1 +0.4
BMN pmax pmax
comp=Z,28nm,1.4s
BMN **Battle Mountai** 91.60 48 P P 11 37 58.1 +0.4
BMN IAmb IAmb 11 38 04.6
comp=Z,28nm,1.4s
MFID **Camas Ranch** 91.73 45 P P 11 37 59.3 +1.1
MFID IAmb IAmb 11 38 04.9
comp=Z,24nm,1.1s
TIN **Tinemaha, Big** 91.77 52 P P 11 37 59.2 +0.8
baz=286
ARVC **Arvin** 91.81 54 P P 11 37 59.2 +0.7
baz=285
ISA **Isabella, Lake** 91.95 53 P P 11 38 00.1 +0.8
ISA pmax pmax
comp=Z,15nm,1.3s
ISA **Isabella, Lake** 91.95 53 P P 11 38 00.1 +0.8
ISA IAmb IAmb 11 38 05.5
comp=Z,15nm,1.3s
ISA **Isabella, Lake** 91.95 53 P P 11 37 59.5 +0.2
baz=285
CWC **Cottonwood Cre** 92.05 52 P P 11 38 00.6 +0.8
baz=286
LCH **Last Change Ra** 92.17 52 IAmb IAmb 11 38 08.0
comp=Z,26nm,1.5s
GRAC **Grapevine Rang** 92.45 52 P P 11 38 01.1 -0.4
GRAC IAmb IAmb 11 38 08.6
comp=Z,18nm,1.1s
GRAC **Grapevine Rang** 92.45 52 P P 11 38 02.3 +0.8
baz=286
EDW2 **Edwards Air Fo** 92.53 54 P P 11 38 03.0 +1.0
baz=286,SNR=8.2
CIS **Catalina Islan** 92.59 55 P P 11 38 02.7 +0.5
baz=285
FMP **Fort Macarthur** 92.61 55 P P 11 38 03.1 +0.9
baz=285
MPMC **Manual Prospec** 92.61 53 P P 11 38 03.3 +0.8
baz=286,SNR=20
LRMC **Laurel Mtn Rad** 92.62 53 P P 11 38 03.3 +0.8
baz=286
HLID **Hailey** 92.67 45 P P 11 38 03.6 +1.0
HLID IAmb IAmb 11 38 11.6
comp=Z,11nm,1.1s
HLID **Hailey** 92.67 45 P P 11 38 02.7 +0.2
baz=288,SNR=14
ELK **Elko** 92.95 48 LR LR 12 13 37.1
comp=Z,324nm,20.9s,baz=299,slow=32
ELK **Elko** 92.95 48 IAmb IAmb 11 38 10.8
comp=Z,11nm,1.1s
BFSC **Mount Baldy Ra** 92.97 54 P P 11 38 04.6 +0.4
baz=286
FURC **Furnace Creek,** 92.98 52 P P 11 38 04.6 +0.7
baz=286,SNR=21
QSM **Queen of Sheba** 93.12 53 IAmb IAmb 11 38 12.2
comp=Z,26nm,1.3s
GWY **Greenwater Val** 93.21 52 P P 11 38 05.7 +0.5
GWY IAmb IAmb 11 38 12.7
comp=Z,22nm,1.2s
DLMT **Dillon** 93.32 43 P P 11 38 05.6 +0.1
ELS **Elsinore Mount** 93.32 55 P P 11 38 04.8 -0.8
ELS IAmb IAmb 11 38 15.9
comp=Z,25nm,1.4s
TPNV **Topopah Spring** 93.32 51 P P 11 38 05.5 -0.1
baz=287,SNR=10
MCMT **McKenzie Canyo** 93.33 43 P P 11 38 05.8 +0.1
GSC **Goldstone, Bar** 93.35 53 P P 11 38 06.8 +1.0
GSC pmax pmax
comp=Z,53nm,1.6s
GSC **Goldstone, Bar** 93.35 53 P P 11 38 06.8 +1.0
GSC **Goldstone, Bar** 93.35 53 P P 11 38 06.6 +0.8
baz=286,SNR=16
R11A **Troy Canyon, C** 93.41 50 P P 11 38 06.6 +0.5
baz=287,SNR=9.8
S11A **Rachel** 93.50 51 P P 11 38 07.8 +1.3
S11A IAmb IAmb 11 38 17.2
comp=Z,26nm,1.4s
MURC **Murrieta** 93.52 55 P P 11 38 07.3 +0.8
baz=286
BBRC **Big Bear Solar** 93.55 54 P P 11 38 07.3 +0.4
baz=286
SHOC **Shoshone, Teco** 93.60 52 P P 11 38 07.6 +0.8
baz=287,SNR=14
MNK **Minsk** 93.69 327 i P P 11 37 57.5 -9.3
MNK i*PP pP 11 38 14.5 -6.7
MNK pmax pmax
comp=Z,14nm,0.6s
MNK pmax pmax
comp=N,43nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=E,192nm,19.0s
MNK MLR MLR
comp=Z,2µm,17.0s

MNK MLR MLR
comp=N,682nm,16.0s
MNK Minsk 93.69 327 *i* P P 11 37 57.5 -9.2
comp=E,3.0nm,0.8s
MNK *i* P P 11 37 57.5 -9.2
comp=N,43nm,0.8s
MNK *i* P P 11 37 57.5 -9.2
comp=Z,14nm,0.6s,baz=66
MNK *i* pP pP 11 38 14.6 -6.7
MNK *i* PP PP 11 41 42.7 -9.2
MNK *i* PPP PPP 11 43 43.6
MNK *i* S SKSac 11 48 26.4 -10
MNK *i* sS **SKKSac 11 48 56.8 0.0**
MNK *i* SS **SS 11 55 22.1 -7.7**
MNK *i* SSS SSS 11 59 03.2
MNK *i* LQ LQ 12 12 55.7
MNK *i* LR LR 12 17 54.7
MNK *i* LRM MLR 12 23 45.1
comp=E,192nm,18.5s
MNK *i* LRM MLR 12 23 49.2
comp=Z,2μm,16.6s
MNK *i* LRM MLR 12 23 55.3
comp=N,682nm,16.0s
109C Camp Elliot, M 93.78 56 P P **11 38 08.6 +0.9**
baz=286
HEC Hector,Ludlow 93.86 54 P P **11 38 08.7 +0.6**
baz=287
BOZ Bozeman (W) 93.88 42 P P **11 38 08.7 +0.7**
BOZ pmax pmax
comp=Z,14nm,1.3s
BOZ Bozeman (W) 93.88 42 P P **11 38 08.7 +0.7**
BOZ IAmb IAmb 11 38 14.5
comp=Z,14nm,1.3s
BOZ IAMs_20 IAMs_20 12 16 56.4
comp=Z,394nm,18.0s
BOZ Bozeman (W) 93.88 42 P P **11 38 08.9 +0.9**
baz=290,SNR=11
TUQ Turquoise Moun 94.01 53 P P **11 38 09.7 +0.9**
baz=287,SNR=13
NACGM Naroch 94.09 328 *i* PP PP **11 42 00.0 +5.0**
baz=63
PFO Pinyon Flats O 94.10 55 LR LR 12 14 29.7
comp=Z,256nm,20.5s,baz=286,slow=32
PFO Pinyon Flats O 94.10 55 P P **11 38 09.5 +0.2**
PFO pmax pmax
comp=Z,25nm,1.3s
PFO Pinyon Flats O 94.10 55 P P **11 38 09.5 +0.2**
PFO IAmb IAmb 11 38 16.5
comp=Z,25nm,1.3s
PFO Pinyon Flats O 94.10 55 P P **11 38 10.1 +0.8**
baz=286,SNR=7.6
TPFO Pinon Flats 94.11 55 P P **11 38 10.0 +0.6**
baz=286,SNR=9.5
BAR Barrett 94.19 56 IAmb IAmb 11 38 16.7
comp=Z,22nm,1.4s
EGMT Eagleton 94.20 39 P P **11 38 09.5 +0.1**
EGMT IAmb IAmb 11 38 17.3
comp=Z,11nm,1.1s
EGMT Eagleton 94.20 39 P P **11 38 10.2 +0.8**
baz=292
TKX Tecate 94.28 56 P P **11 38 11.0 +1.0**
TKX IAmb IAmb 11 38 16.3
comp=Z,25nm,1.2s
MONP2 Monument Peak 94.34 55 P P **11 38 10.8 +0.3**
baz=286,SNR=8.4
BELC Belle Mtn. Jos 94.36 54 P P **11 38 11.1 +0.6**
baz=287,SNR=9.0
HVU Hansel Valley 94.39 46 P P **11 38 11.6 +1.1**
HVU pmax pmax
comp=Z,15nm,1.2s
HVU Hansel Valley 94.39 46 P P **11 38 11.6 +1.1**
HVU IAmb IAmb 11 38 19.0
comp=Z,15nm,1.2s
GMRC Granite Mounta 94.40 53 P P **11 38 11.8 +1.1**
baz=287,SNR=12
AKASG Malin Array Be 94.53 324 P P **11 38 08.7 -2.1**
comp=Z,0.2nm,0.3s,baz=56,slow=4.1,SNR=4.3
AKASG LR LR 12 24 20.4
comp=Z,384nm,18.2s,baz=60,slow=38
YMR Madison River 94.64 43 IAmb IAmb 11 38 19.1
comp=Z,17nm,0.9s
PSUT Pine Spring 94.65 49 P P **11 38 12.7 +0.8**
IKP In-Ko-Pah, Jac 94.66 56 P P **11 38 12.4 +0.6**
baz=287
YHH Holmes Hill 94.67 43 P P **11 38 12.7 +0.7**
YHH IAmb IAmb 11 38 19.8
comp=Z,20nm,1.3s
YUH Yuha Desert 94.81 56 P P **11 38 12.1 -0.3**
YUH IAmb IAmb 11 38 19.0
comp=Z,22nm,1.2s
SWSC Sam W. Stewart 94.82 55 P P **11 38 12.9 +0.5**
baz=287
DUG Dugway, Tooele 94.88 48 P P **11 38 13.1 +0.3**
DUG pmax pmax
comp=Z,24nm,1.5s
DUG Dugway, Tooele 94.88 48 P P **11 38 13.1 +0.3**
DUG IAmb IAmb 11 38 20.0
comp=Z,24nm,1.5s
DUG IAMs_20 IAMs_20 12 15 05.6
comp=Z,483nm,19.0s
DUG Dugway, Tooele 94.88 48 P P **11 38 13.5 +0.8**
baz=289,SNR=10
BC3 Big Chuckawall 94.89 54 P P **11 38 13.9 +1.0**
baz=287,SNR=12
IRM Iron Mountain 94.99 54 P P **11 38 14.1 +0.8**
baz=287,SNR=14
H17A Grant Village 95.00 43 IAmb IAmb 11 38 24.1
comp=Z,23nm,1.1s
H17A Grant Village 95.00 43 P P **11 38 15.0 +1.7**
baz=291,SNR=12
FLWY Flagg Ranch 95.03 43 P P **11 38 15.1 +1.6**
FLWY IAmb IAmb 11 38 21.3
comp=Z,19nm,1.1s
LKWY Lake 95.06 43 P P **11 38 15.6 +2.0**
LKWY pmax pmax
comp=Z,19nm,1.2s
LKWY Lake 95.06 43 P P **11 38 15.6 +2.0**
LKWY IAmb IAmb 11 38 31.7
comp=Z,19nm,1.1s
TPAW Teton Pass 95.07 44 P P **11 38 14.0 +0.3**
TPAW IAmb IAmb 11 38 23.0
comp=Z,34nm,1.8s
MOOW Moose Ponds 95.12 44 P P **11 38 15.1 +1.2**
YMP Mirror Lake Pl 95.15 43 P P **11 38 16.3 +2.2**
REDW Red Top Meadow 95.18 44 IAmb IAmb 11 38 30.7
comp=Z,11nm,1.2s
SNOW Snow King Moun 95.21 44 P P **11 38 15.7 +1.3**
SNOW IAmb IAmb 11 38 23.7
comp=Z,32nm,1.9s
AHID Auburn Hatcher 95.22 45 P P **11 38 15.3 +0.9**
AHID IAmb IAmb 11 38 21.5
comp=Z,24nm,1.4s
JMIC Jan Mayen 95.26 350 LR LR 12 23 19.8
comp=Z,68nm,18.0s,baz=62,slow=37
LOHW Long Hollow 95.26 44 P P **11 38 15.3 +0.8**
LOHW IAMs_20 IAMs_20 12 15 07.2
comp=Z,560nm,22.0s
HWUT Hardware Ranch 95.30 46 P P **11 38 15.3 +0.5**
HWUT IAmb IAmb 11 38 22.8
comp=Z,15nm,1.1s
HWUT IAMs_20 IAMs_20 12 17 58.4
comp=Z,401nm,21.0s
NLU North Lily Min 95.50 48 P P **11 38 16.4 +0.7**
GLA Glamis 95.57 55 P P **11 38 16.5 +0.6**
baz=287
LCMT Little Creek M 95.59 51 IAmb IAmb 11 38 24.8
comp=Z,12nm,1.3s
RLMT Red Lodge 95.60 42 P P **11 38 17.1 +1.0**
baz=292
BLYC Blythe 95.61 54 P P **11 38 17.5 +1.5**
BLYC IAmb IAmb 11 38 22.8
comp=Z,15nm,1.1s
W13A Hualapai Mount 95.70 53 P P **11 38 17.9 +1.2**
BRTR Keskin Array B 95.71 312 LR LR 12 25 52.8
comp=Z,168nm,20.2s,baz=92,slow=38
JLU Jordanelle 95.73 47 P P **11 38 17.5 +0.7**
JLU IAmb IAmb 11 38 23.1
comp=Z,18nm,1.5s
PDMCI Parker Dam,Lak 95.74 53 P P **11 38 17.6 +1.0**
baz=288
FFC Flin Flon 95.74 31 P P **11 38 16.2 0.0**
FFC pmax pmax
comp=Z,13nm,1.2s
FFC Flin Flon 95.74 31 P P **11 38 16.2 0.0**
FFC IAmb IAmb 11 38 24.2
comp=Z,13nm,1.1s
MAW Mawson 95.90 202 P P **11 38 17.3 +0.9**
comp=Z,10nm,1.0s,baz=2.6,slow=6.6,SNR=4.6
MAW Mawson 95.90 202 P P **11 38 17.3 +0.9**
PKCU Pink Cliffs 96.16 50 P P **11 38 20.8 +1.9**
BW06 Boulder Array 96.28 44 P P **11 38 19.3 0.0**
baz=292
PDAR Pinedale Array 96.28 44 P P **11 38 19.6 +0.4**
comp=Z,0.3nm,0.4s,baz=273,slow=2.0,SNR=5.2
PDAR PP PP **11 42 11.7 -1.1**
comp=Z,1.5nm,1.1s,baz=298,slow=3.2,SNR=5.6
PDAR LR LR 12 14 42.9
comp=Z,196nm,22.0s,baz=324,slow=31
PDAR Pinedale Array 96.28 44 P P **11 38 19.3 +0.1**
U15A North Rim 96.50 51 IAmb IAmb 11 38 28.6
comp=Z,6.9nm,1.0s
Q16A Castle Valley 96.51 48 IAmb IAmb 11 38 27.6
comp=Z,9.9nm,1.3s
113A Mohawk Valley, 96.51 55 P P **11 38 21.0 +0.9**
113A IAmb IAmb 11 38 27.6
comp=Z,27nm,1.8s
MMAI Mount Meron Ar 96.53 305 LR LR 12 25 50.6
comp=Z,149nm,20.6s,baz=214,slow=38
P17A Butcher Ranch, 96.63 48 IAmb IAmb 11 38 40.1
comp=Z,15nm,1.7s
Y14A Wickenburg 96.75 54 P P **11 38 22.1 +0.8**
Y14A IAmb IAmb 11 38 28.1
comp=Z,11nm,1.0s
P18A Preston Nutter 96.93 47 P P **11 38 22.8 +0.5**
LAO LASA Array 96.93 40 P P **11 38 22.5 +0.6**
baz=295
RDMU Red Mountain 97.08 46 IAmb IAmb 11 38 31.6
comp=Z,21nm,1.6s
HFS Hagfors 97.30 336 LR LR 12 27 10.1
comp=Z,739nm,18.2s,baz=59,slow=38
WUAZ Wupatki 97.51 52 P Pdif 11 38 25.5 +0.6
WUAZ IAmb IAmb 11 38 32.3
comp=Z,17nm,1.4s
WUAZ Wupatki 97.51 52 P Pdif 11 38 26.0 +1.1
baz=290
214A Organ Pipe Nat 97.53 55 P Pdif 11 38 25.0 +0.1
214A IAmb IAmb 11 38 31.7
comp=Z,7.7nm,1.1s
214A Organ Pipe Nat 97.53 55 P Pdif 11 38 25.8 +0.9
baz=288
NB2 NORSAR Subarra 97.68 338 P P **11 38 22.6 -2.3**
comp=Z,2.2nm,1.0s,baz=50,slow=4.6
NB2 NORSAR Subarra 97.68 338 P P **11 38 22.6 -2.3**
baz=50,slow=4.6
NOA NORSAR Array B 97.68 338 P P **11 38 22.8 -2.0**
comp=Z,0.6nm,0.7s,baz=55,slow=4.5,SNR=2.9
NOA LR LR 12 25 17.4
comp=Z,379nm,19.9s,baz=40,slow=37
X16A Lo Mia Camp, P 97.82 53 P Pdif 11 38 26.9 +0.5
O20A White River Ci 98.18 46 P Pdif 11 38 27.9 0.0
baz=292
PV23 Carpenter Ridg 98.25 48 IAmb IAmb 11 38 34.3
comp=Z,13nm,1.0s
K22A Casper 98.39 44 P Pdif 11 38 28.9 +0.2
baz=294
PV11 David Mesa, Pa 98.41 48 P P **11 38 28.8 -0.1**
MLR Muntele Rosu 98.72 320 LR LR 12 27 35.8
comp=Z,627nm,18.1s,baz=56,slow=38
TUC Tucson 99.04 54 P **Pdif 11 38 31.6 -0.1**
TUC pmax pmax
comp=Z,6.0nm,1.2s
TUC Tucson 99.04 54 P **Pdif 11 38 31.6 -0.1**
TUC Tucson 99.04 54 P **Pdif 11 38 31.8 +0.1**
baz=290
MVCO Mesa Verde 99.09 49 P **Pdif 11 38 31.4 -0.6**
baz=292
RSSD Black Hills 99.42 41 P **Pdif 11 38 33.4 +0.1**
baz=296
UZH Uzhgorod 99.48 324 *d iP* **Pdif 11 38 39.0 +5.9**
N23A Red Feather La 99.50 45 P **Pdif 11 38 34.1 +0.4**
baz=294
S22A 4UR Ranch, Cre 100.11 48 P **Pdif 11 38 36.9 +0.3**
baz=293
PSZ Piszkesteto 101.23 324 IAMs_20 IAMs_20 12 32 26.3
comp=Z,492nm,18.0s
ANMO Albuquerque 101.47 51 *i* P **Pdif 11 38 42.6 0.0**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
EPT El Paso 102.63 54 IAMs_20 IAMs_20 12 27 00.2
comp=Z,422nm,18.0s
CLL Collm 103.03 329 *e*P **Pdif 11 38 49.0 +0.1**
CLL *e* 11 43 03.0
CLL Collm 103.03 329 *e*Pdif **Pdif 11 38 49.0 +0.1**
CLL *e*PP **PP 11 43 03.0 -0.3**
CLL *e*(SP) 11 52 00.0
CLL *e*PPS PPS 11 53 05.0
CLL eSS SS 11 57 42.0 +1.4
CLL eSSS SSS 12 01 54.0
CLL *ex* x 12 07 18.0
DIVS Divibare 103.11 321 IAMs_20 IAMs_20 12 30 24.5
comp=Z,308nm,18.0s
PDG Podgorica 104.42 319 IAMs_20 IAMs_20 12 31 44.1
comp=Z,442nm,18.0s
SYO Syowa Base 104.58 201⇑ *e*PDiff **Pdif 11 39 00.2 +5.0**
CBKS Cedar Bluff 104.70 45 IAMs_20 IAMs_20 12 17 35.1
comp=Z,417nm,21.0s
TIP Timpagrande 107.72 318 IAMs_20 IAMs_20 12 34 28.6
comp=Z,367nm,19.0s
AQU L'Aquila 108.11 322 IAMs_20 IAMs_20 12 32 57.5
comp=Z,425nm,18.0s
JFWS Jewell Farm 108.62 37 IAMs_20 IAMs_20 12 23 29.2
comp=Z,587nm,21.0s
TUL1 Leonard 108.85 46 IAMs_20 IAMs_20 12 31 36.2
comp=Z,433nm,20.0s
W39A Magazine 110.62 46 P **PKiKP 11 43 23.4 +0.2**
baz=301
U40A Yellville 110.66 44 P **PKiKP 11 43 23.5 +0.3**
baz=302
X40A Basin Creek Fa 111.66 46 IAMs_20 IAMs_20 12 21 49.5
comp=Z,453nm,21.0s
LRAL Lakeview Retre 116.51 44 P **PKiKP 11 43 34.9 +0.4**
baz=306
ESDC Sonseca Array 119.62 329 PP PP 11 45 03.2 +0.7
comp=Z,1.9nm,1.1s,baz=30,slow=10,SNR=4.1
CRIN San Cristobal 126.76 65 IAMs_20 IAMs_20 12 37 20.6
comp=Z,306nm,21.0s
TORD Torodi Ar. Bea 132.74 300 PKP **PKiKP 11 44 06.8 -0.3**
comp=Z,1.4nm,0.6s,baz=62,slow=2.6,SNR=8.4
TORD PP PP **11 46 32.1 +1.4**
comp=Z,1.8nm,1.1s,baz=63,slow=6.6,SNR=4.0
PLCA Paso Flores 139.74 142 PKP **PKPdf 11 44 19.6 +1.2**
comp=Z,2.9nm,1.0s,baz=207,slow=1.4,SNR=7.4
ZARC Zaragoza, Cauc 139.81 64 PKPdf **PKPdf 11 44 18.4 -0.8**
ZARC Zaragoza, Cauc 139.81 64 *eP* **PKPdf 11 44 17.7 -1.5**
POPC Popayan, Colom 140.18 72 *eP* **PKiKP 11 44 21.5 -1.1**
GUY2C Guyana, Caldas 140.35 67 *eP* **PKPdf 11 44 14.8 -5.9**
SOTA Rioblanco 140.39 73 *eP* **PKPdf 11 44 20.5 -0.3**
NORC Norcasia 140.66 67 *eP* **PKPdf 11 44 17.7 -3.1**
MARP Puerto Belalcaza 140.74 71 *eP* **PKPdf 11 44 19.6 -1.6**
OCAC Ocana 140.80 62 *eP* **PKPdf 11 44 16.7 -4.4**
ORTC Ortega, Tolima 140.99 69 *eP* **PKiKP 11 44 28.9 +4.9**
SPBC San Pablo de B 141.33 66 *eP* **PKPdf 11 44 16.7 -5.3**
ROSC El Rosal 141.46 67 PKP **PKPdf 11 44 23.8 +1.2**
comp=Z,11nm,0.4s,baz=166,slow=5.8,SNR=4.7
ROSC El Rosal 141.46 67 **PKPdf 11 44 20.9 -1.7**
DBIC Dimbokro 141.48 296 PKP **PKPdf 11 44 20.6 -1.6**
comp=Z,3.3nm,0.6s,baz=39,slow=4.7,SNR=4.0
PAMC Pamplona, Colo 141.78 62 *eP* **PKPdf 11 44 19.1 -4.2**
CHIC Chingaza 142.08 67 *eP* **PKPdf 11 44 20.8 -3.0**
RUSC La Rusia 142.11 65 *eP* **PKPdf 11 44 19.6 -4.3**
HATO Hato, Curacao 142.25 53 IAMs_20 IAMs_20 12 50 51.8
comp=Z,264nm,21.0s
PTLC Puerto Leguiza 142.75 74 *eP* **PKPdf 11 44 19.6 -4.9**
SDV Santo Domingo 142.76 59 PKhKP PKPpre 11 44 21.7
comp=Z,11nm,0.9s,baz=299,slow=2.4,SNR=7.2
SDV Santo Domingo 142.76 59 PKPdf **PKPdf 11 44 22.3 -2.4**
SDV Santo Domingo 142.76 59 *eP* **PKPdf 11 44 20.5 -4.2**
SOCV Socops 142.89 60 *eP* **PKPdf 11 44 21.5 -3.2**
MACC Macarena, Meta 142.96 71 *eP* **PKPdf 11 44 20.5 -4.3**
BO02 Sierra Bellavi 142.96 134 **PKPdf 11 44 23.5 -0.8**
NNA Nana 143.07 95 PKP **PKPdf 11 44 25.2 +0.2**
comp=Z,13nm,0.8s,baz=246,slow=4.5,SNR=2.1
VA01 Torpederas 143.21 131 PKPdf PKPbc 11 44 22.7 +0.9
MT02 Curacav 143.47 132 PKPbc 11 44 23.7 +1.2
MT05 Renca 143.70 132 PKPbc 11 44 24.3 +1.1
PTGC Puerto Gaitan, 143.70 67 *eP* PKPab 11 44 21.5 -1.4
MT03 Universidad Ad 143.81 133 **PKPdf 11 44 25.3 -0.6**
LMEL Las Melosas 143.85 133 **PKPdf 11 44 25.5 -0.5**
VA03 San Esteban 144.14 131 **PKPdf 11 44 25.9 -0.6**
CO02 Combarbal 144.54 129 **PKPdf 11 44 27.4 +0.2**
BAUV El Baul 144.87 56 PKPdf **PKPab 11 44 26.7 -0.6**
GDSD La Dsirade Is 144.97 39 **PKPab 11 44 26.5 -1.0**
CZSB Cruzeiro do Su 146.70 87 *eP* **PKPbc 11 44 32.9 -0.1**
AC02 Maricunga 147.85 123 PKPab **PKiKP 11 44 38.1 -0.2**
TBTG Tabatinga, AM 148.70 79 *eP* **PKPdf 11 44 34.8 +0.3**
PATCX Punta Patache 148.79 111 **PKiKP 11 44 40.0 +0.1**
PB15 IPOC Station P 148.79 116 PKPbc **PKPdf 11 44 36.3 +1.6**
PB15 **PKPab 11 44 42.5 0.0**
TA01 Diego Aracena 148.82 111 PKPab **PKiKP 11 44 40.2 +0.4**
PB07 IPOC Station P 148.82 113 **PKiKP 11 44 39.7 -0.3**
PB06 IPOC Station P 148.85 115 **PKiKP 11 44 39.9 -0.2**
PB02 IPOC Station P 148.91 113 **PKiKP 11 44 40.6 +0.4**
TA02 Huaiquique 148.93 110 **PKiKP 11 44 40.5 +0.5**
PB01 IPOC Station P 149.35 112 **PKiKP 11 44 41.5 +0.5**
LVC Limon Verde 149.46 115 PKPbc **PKiKP 11 44 41.9 +0.3**
comp=Z,10nm,0.8s,baz=208,slow=2.5,SNR=11
LVC Limon Verde 149.46 115 PKPab **PKiKP 11 44 41.8 +0.1**
GO01 Chusmiza 149.91 110 **PKPbc 11 44 39.6 -2.2**
GO01 PKPab **PKPab 11 44 47.7 +0.1**
LPAZ La Paz 151.43 103 PKPbc **PKiKP 11 44 46.3 +0.2**
comp=Z,9.2nm,0.6s,baz=274,slow=2.4,SNR=20
ETMB Extrema 153.33 89 *eP* **PKPdf 11 44 42.2 +0.6**
BOAV Boa Vista 154.71 59 *eP* **PKPdf 11 44 42.5 +1.5**
CPUP Villa Florida 157.28 133 PKPab **PKPab 11 45 17.9 +0.1**
comp=Z,4.8nm,0.9s,baz=337,slow=2.3,SNR=5.6
CPUP Villa Florida 157.28 133 PKIKP **PKPdf 11 44 45.1 -1.6**
CPUP Villa Florida 157.28 133 PKPdf **PKPdf 11 44 45.1 -1.6**
CPUP PKPab **PKPab 11 45 19.2 +1.4**
SIV San Ignacio 158.19 105 PKP **PKPdf 11 44 49.6 +1.5**
comp=Z,2.2nm,1.0s,baz=144,slow=2.7,SNR=7.0
SIV PKPab **PKPab 11 45 24.4 +2.2**
comp=Z,11nm,1.1s,baz=288,slow=4.4,SNR=9.9
VILB Vilhena 159.34 97 *eP* **PKPdf 11 44 50.8 +1.3**
AQDB Aquidauana 161.68 122 *eP* **PKPdf 11 44 53.2 +1.4**
ITTB Itaituba 162.15 68 *eP* **PKPdf 11 44 53.7 +1.1**
SALV Santo Antonio 163.28 107 *eP* **PKPdf 11 44 54.6 +1.0**
PP1B Ponte de Pedra 163.54 114 *eP* **PKPdf 11 44 55.8 +2.0**
PCMB Pacaembu 164.54 133 *eP* **PKPdf 11 44 55.6 +1.0**

IDC ***12*** *11:38:38.2±0.8, 11°.42N×140°.88E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/38, mbtmp4.0/10, ML3.6/1, Error ellipse: s-maj=29.8km s-min=19.7km az=108.0*
NEIC ***12*** *11:38:40.4±1.2, 11°.4N±0°.1×140°.9E±0°.1, h10km±1km, mb4.4/33, Error ellipse: s-maj=25.5km s-min=18.2km az=119.0*

ISC 12 11:38:44.3±0.7, 11°.4N±0°.1×140°.88E±0°.10, h45km, n49, σ0s99/46, mb4.2/25, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.49**	**60**	Pn	**Pn**	**11 39 47.1**	**-2.7**
	3.3nm,0.3s,baz=48,slow=21,SNR=1.0						
GUMO				Sn	**Sn**	**11 40 42.6**	**+1.9**
	5.1nm,0.3s,baz=185,slow=19,SNR=1.5						
GUMO	**Guam**	**4.49**	**60**	Pn	**Pn**	**11 39 48.3**	**-1.5**
YULB	**Yu-li**	**22.15**	**305**	P	**P**	**11 43 35.7**	**-0.8**
YULB				IAmb	IAmb	11 43 57.9	
	comp=Z,28nm,1.4s						
JMN	**Monobe**	**23.17**	**345**	P	**P**	**11 43 47.6**	**+0.6**
JMN				IAmb	IAmb	11 43 55.4	
	comp=Z,18nm,1.1s						
JNU	**Nakatsue**	**23.52**	**339**	P	**P**	**11 43 49.7**	**-0.8**
JNU				IAmb	IAmb	11 44 05.8	
	comp=Z,30nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**25.91**	**71**	T	T	12 13 30.9	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**25.92**	**71**	T	T	12 11 52.5	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**25.93**	**71**	T	T	12 13 31.9	
	baz=253						
JSD	**Sado**	**26.67**	**355**	P	**P**	**11 44 19.5**	**+0.5**
JSD				IAmb	IAmb	11 44 29.5	
	comp=Z,11nm,1.2s						
KSAR	**Wonju Array Be**	**28.47**	**338**	P	**P**	**11 44 34.6**	**-0.6**
JTM	**Tenmabayashi**	**29.31**	**0**	P	**P**	**11 44 42.3**	**-0.3**
KNRA	**Kununurra**	**29.42**	**204**	P	**P**	**11 44 43.5**	**-0.2**
WR0	**Warramunga Arr**	**31.74**	**191**	P	**P**	**11 45 03.8**	**-0.5**
WR0				IAmb	IAmb	11 45 29.2	
	comp=Z,4.6nm,1.2s						
WRAB	**Tennant Creek**	**31.75**	**192**	P	**P**	**11 45 04.4**	**+0.1**
WRAB				IAmb	IAmb	11 45 10.8	
	comp=Z,7.6nm,1.4s						
WB2	**Warramunga Arr**	**31.76**	**192**	P	**P**	**11 45 04.3**	**-0.2**
WB2				IAmb	IAmb	11 45 31.4	
	comp=Z,5.5nm,1.3s						
WRA	**Warramunga Arr**	**31.76**	**192**	P	**P**	**11 45 04.1**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=10,slow=9.6,SNR=5.9						
WRA	**Warramunga Arr**	**31.76**	**192**	IAmb	IAmb	11 45 10.6	
	comp=Z,0.3nm,1.3s						
FITZ	**Fitzroy Crossi**	**32.91**	**207**	P	**P**	**11 45 14.8**	**+0.4**
FITZ				IAmb	IAmb	11 45 26.8	
	comp=Z,5.2nm,1.2s						
AS31	**Alice Springs**	**35.47**	**191**	P	**P**	**11 45 36.5**	**-0.1**
ASAR	**Alice Springs**	**35.47**	**191**	P	**P**	**11 45 37.7**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=19,slow=12,SNR=14						
PSA00	**Pilbara Seismi**	**38.70**	**212**	P	**P**	**11 46 04.0**	**-0.1**
MK31	**Makanchi Array**	**60.44**	**318**	P	**P**	**11 48 50.0**	**+0.6**
MKAR	**Makanchi Array**	**60.44**	**318**	P	**P**	**11 48 50.6**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=89,slow=9.7,SNR=7.2						
ZALV	**Zalesovo Beam**	**61.22**	**326**	P	**P**	**11 48 55.0**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=96,slow=8.7,SNR=4.1						
KURK	**Kurchatov**	**63.81**	**321**	P	**P**	**11 49 13.0**	**+1.1**
O18K	**Koktuh Hills**	**67.26**	**29**	P	**P**	**11 49 35.0**	**+1.0**
J20K	**Nowinta River**	**69.05**	**25**	P	**P**	**11 49 46.8**	**+1.6**
J20K				IAmb	IAmb	11 49 46.8	
	comp=Z,2.5nm,1.1s						
BRLK	**Bradley Lake**	**69.34**	**30**	P	**P**	**11 49 47.5**	**+0.4**
BRVK	**Borovoye**	**69.35**	**323**	P	**P**	**11 49 47.6**	**+0.5**
BRVK				IAmb	IAmb	11 49 48.8	
	comp=Z,2.3nm,0.6s						
PPLA	**Purkeypile**	**69.52**	**27**	P	**P**	**11 49 47.4**	**-0.9**
IMAR	**Indian Mountai**	**69.77**	**23**	P	**P**	**11 49 50.7**	**+1.1**
H21K	**Melozitna Rive**	**70.04**	**24**	P	**P**	**11 49 52.8**	**+1.5**
H21K				IAmb	IAmb	11 50 00.9	
	comp=Z,3.7nm,1.4s						
I21K	**Tanana**	**70.23**	**24**	P	**P**	**11 49 52.9**	**+0.5**
BPAW	**Bear Paw Mtn.**	**70.36**	**26**	P	**P**	**11 49 52.7**	**-0.5**
BPAW				IAmb	IAmb	11 49 59.5	
	comp=Z,2.3nm,0.7s						
H23K	**Yukon River**	**71.38**	**24**	P	**P**	**11 49 59.6**	**+0.1**
DHY	**Denali Highway**	**71.70**	**27**	P	**P**	**11 50 02.1**	**+0.6**
TOLK	**Toolik Lake Re**	**72.09**	**21**	P	**P**	**11 50 05.4**	**+1.7**
HDA	**Harding Lake**	**72.14**	**26**	P	**P**	**11 50 04.2**	**+0.2**
HDA				IAmb	IAmb	11 50 12.8	
	comp=Z,4.6nm,1.0s						
IL31		**72.24**	**25**	P	**P**	**11 50 04.1**	**-0.4**
IL31				IAmb	IAmb	11 50 19.1	
	comp=Z,4.3nm,1.4s						
ILAR	**Eielson Array**	**72.24**	**25**	P	**P**	**11 50 03.9**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=246,slow=6.1,SNR=9.9						
PAX	**Paxson**	**72.53**	**27**	P	**P**	**11 50 06.8**	**+0.3**
PAX				IAmb	IAmb	11 50 22.9	
	comp=Z,5.3nm,1.4s						
J25K	**Salcha River,**	**72.85**	**26**	P	**P**	**11 50 08.7**	**+0.4**
RIDG	**Independent Ri**	**72.94**	**27**	P	**P**	**11 50 09.3**	**+0.5**
RIDG				IAmb	IAmb	11 50 13.9	
	comp=Z,4.5nm,1.1s						
BMAR	**Burnt Mountain**	**73.66**	**23**	P	**P**	**11 50 14.7**	**+1.8**
YKA	**Yellowknife Ar**	**86.61**	**27**	P	**P**	**11 51 23.3**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=290,slow=5.0,SNR=15						
ARCES	**ARCESS Array B**	**87.97**	**341**	P	**P**	**11 51 28.9**	**-0.3**
	comp=Z,6.0nm,1.0s,baz=61,slow=7.3,SNR=4.5						
NVAR	**Mina Array Bea**	**91.34**	**51**	P	**P**	**11 51 47.7**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=257,slow=5.6,SNR=3.6						
NVAR	**Mina Array Bea**	**91.34**	**51**	P	**P**	**11 51 45.2**	**-0.8**
FINES	**FINESS Array B**	**91.49**	**334**	P	**P**	**11 51 44.5**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=64,slow=5.2,SNR=7.5						

KRNET ***12*** *12:05:11.1±0.1, 43°.10N×79°.37E, mb2.7*

SOME 12 12:05:12.1, 40°.60N×78°.00E, h10km, 6C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.65**	**338⇑**	*iP*	Pb	12 05 43.0	+0.3
	baz=40						
KDJ				⇑*eS*	Sg	12 06 05.8	+0.7
	baz=40						
ULHL	**Ulahol**	**2.11**	**322⇑**	*iP*	Pb	12 05 51.0	+0.4
	baz=51						
ULHL				⇑*iS*	Sg	12 06 20.0	+0.1
	baz=51						
ANVS	**Anan'yevo**	**2.19**	**354⇓**	*iP*	Pn	12 05 34.4	-14

	baz=57								
ANVS				⇓*i*	S		Sn	12 05 51.6	-25
	baz=57								
BOOM	**Boomskoye usch**	**2.44**	**321**	⇑*i*	P		Pn	12 05 52.9	+0.7
	baz=58								
BOOM				⇑*i*	S		Sn	12 06 22.9	+0.7
	baz=58								
SATY	**Saty**	**2.48**	**7**	*e*	P		Pg	12 05 58.2	-1.3
	2.5nm,0.1s								
SATY				*e*	S		Sg	12 06 31.6	0.0
	3.8nm,0.3s								
TNSS	**Tian-Shan**	**2.56**	**342**	*e*	P		Pb	12 05 59.7	+1.4
	2.2nm,0.0s								
TNSS				*e*	S		Sg	12 06 34.3	-0.1
	1.2nm,0.5s								
UZB	**Uzynbulak**	**2.66**	**16**	*e*	P		Pb	12 06 01.4	+1.5
	3.5nm,0.3s								
UZB				*e*	S		Sg	12 06 37.1	-0.4
	3.6nm,0.1s								
MDOK	**Medeo**	**2.66**	**345**	*e*	P		Pb	12 06 01.0	+1.1
	1.9nm,0.0s								
MDOK				*e*	S		Sg	12 06 36.4	-1.1
	2.1nm,0.2s								
KST	**Kastek**	**2.88**	**329**	*e*	P		Pg	12 06 05.7	-1.6
	1.5nm,0.2s								
KST				*e*	S		Sg	12 06 44.2	-0.3
	3.8nm,0.2s								
KPKS	**Kokpek**	**2.91**	**10**	*e*	P		Pg	12 06 06.2	-1.6
	3.0nm,0.1s								
KPKS				*e*	S		Sg	12 06 45.0	-0.6
	5.2nm,0.3s								
BLB	**Baldybastay**	**3.51**	**6**	*e*	P		Pb	12 06 16.7	+2.2
	3.1nm,0.0s								
BLB				*e*	S		Sg	12 07 02.9	-2.0
	2.4nm,0.1s								
KRBS	**Karabastau**	**3.54**	**332**	*e*	P		Pb	12 06 16.2	+1.3
	1.4nm,0.2s								
KRBS				*e*	S		Sg	12 07 02.3	-3.6
	0.6nm,0.1s								
ARXS	**Arharly**	**3.61**	**358**	*e*	P		Pg	12 06 18.9	-2.4
	0.8nm,0.3s								
ARXS				*e*	S		Sg	12 07 06.9	-1.3
	6.2nm,0.2s								

IDC ***12*** *12:07:54.9±0.5, 55˙09S×146˙41E, h0km, mb4.7/14, mb1 4.8/15, mb1mx4.6/28, mbtmp4.7/15, ML3.8/1, MS4.8/47, Ms1 4.8/47, ms1mx4.8/50, Error ellipse: s-maj=20.3km s-min=14.7km az=91.0*

MOS ***12*** *12:07:55.8±2.7, 54˙90S×146˙82E, h10km, mb5.3/16, MS4.8/7, Error ellipse: s-maj=28.9km s-min=8.5km az=95.6*

NEIC ***12*** *12:07:55.6±2.2, 55˙25S±0˙08×146˙2E±0˙2, h9km±1km, mb5.2/59, Ms_20 5.1/108, Mwb5.5/10, Error ellipse: s-maj=15.9km s-min=14.2km az=75.0*

NEIC ***12*** *12:07:56.1, 55˙25S×145˙97E, h9km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=0.44; Mθθ 1.11; Mϕϕ-0.67; Mrθ-0.26; Mrϕ-1.77; Mθϕ 0.04; Fault plane solution: M0 2.04000×1017 NP1:ϕs346.77000°, δ83.07000°, λ0.50000°. NP2:ϕs256.71000°, δ89.50000°, λ173.07000°. Principal axes: T 2.2265, Plg5.0000°, Azm212.0000°; N -0.4566, Plg83.0000°, Azm73.0000°; P -1.7699, Plg5.0000°, Azm302.0000°;*

GCMT ***12*** *12:07:58.6±0.1, 55˙27S×146˙26E, h12km, MW5.4/150, Moment Tensor Solution. s113,c188; s150,c279; Duration: 1s3 Moment tensor: Scale 1017Nm; Mrr-0.15±.02; Mθθ 0.79±.02; Mϕϕ-0.64±.02; Mrθ-0.10±.04; Mrϕ-1.62±.01; Mθϕ-0.01±.04; Best double couple: M0 1.77400×1017 NP1:ϕs348.00000°, δ87.00000°, λ0.00000°. NP2:ϕs78.00000°, δ90.00000°, λ-177.00000°. Principal axes: T 1.8490, Plg2.0000°, Azm213.0000°; N -0.1510, Plg87.0000°, Azm81.0000°; P -1.6980, Plg2.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 12:07:55.9±0.3, 55˙30S±0˙05×146˙45E±0˙06, h10km, n441, σ1s64/370, mb5.1/50, MS5.0/105, 10C-1D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**7.26**	**89**	P		**Pn**	**12 09 46.2**	**+4.3**
	baz=7.5,SNR=3.5							
MCQ	**Macquarie Isla**	**7.26**	**89**	P		**Pn**	**12 09 43.0**	**+1.1**
MCQ	**Macquarie Isla**	**7.26**	**89**	Pn		**Pn**	**12 09 43.0**	**+1.1**
MOO	**Moorlands**	**12.88**	**2**	P		Pn	12 11 07.4	+8.4
GLAD	**Gladstone**	**14.37**	**5**	P		**P**	**12 11 27.8**	**+1.5**
MLZ	**Mavora Lakes**	**16.97**	**63**			**P**	**12 11 55.0**	**-0.2**
TOO	**Toolangi**	**17.75**	**358**	P		**Pn**	**12 12 02.8**	**-0.2**
	baz=18,SNR=6.5							
TOO	**Toolangi**	**17.75**	**358**	P		**Pn**	**12 12 00.6**	**-2.4**
TOO				pmax		pmax		
	comp=Z,177nm,1.8s							
TOO	**Toolangi**	**17.75**	**358**	Pn		**Pn**	**12 12 00.6**	**-2.4**
TOO	**Toolangi**	**17.75**	**358**	P		**P**	**12 12 08.0**	**+4.2**
WKZ	**Wanaka**	**17.80**	**63**			**P**	**12 12 05.3**	**+0.9**
WKZ				IAmb		IAmb	12 12 07.8	
	comp=Z,345nm,1.5s							
BRAT	**Ballarat**	**17.84**	**353**	P		**P**	**12 12 07.2**	**+2.4**
ARPS	**Mount Arapiles**	**18.80**	**348**	P		**Pn**	**12 12 16.5**	**+0.7**
	baz=19,SNR=16							
ARPS	**Mount Arapiles**	**18.80**	**348**	P		**Pn**	**12 12 18.9**	**+3.0**
RPZ	**Rata Peaks**	**19.62**	**64**	P		**Pn**	**12 12 25.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=234,slow=14,SNR=3.0							
RPZ				LR		LR	12 18 29.9	
	comp=Z,10μm,19.4s,baz=218,slow=32							
CAN	**Canberra**	**20.06**	**6**	P		**P**	**12 12 27.6**	**-1.6**
CAN				pmax		pmax		
	comp=Z,203nm,1.7s							
CAN				MLR		MLR		
	comp=Z,4μm,20.0s							
CAN	**Canberra**	**20.06**	**6**	P		**P**	**12 12 27.6**	**-1.6**
CAN				IAmb		IAmb	12 12 36.9	
	comp=Z,202nm,1.7s							
CAN	**Canberra**	**20.06**	**6**	P		Pn	12 12 33.7	+2.7
CNB	**Canberra Magne**	**20.09**	**7**	P		Pn	12 12 33.1	+1.8
	baz=20,SNR=7.7							
CNB	**Canberra Magne**	**20.09**	**7**	P		Pn	12 12 34.3	+2.9
CASY	**Casey**	**20.35**	**223**	IAMs_20		IAMs_20	12 18 25.3	
	comp=Z,5μm,22.0s							
TWOA	**Tennyson Woods**	**20.99**	**342**	P		Pn	12 12 41.5	-0.3
RIV	**Riverview**	**21.72**	**11**	P		**P**	**12 12 50.2**	**+3.1**
RIV				pmax		pmax		
	comp=Z,43nm,1.7s							
SYDH	**Sydney Hard Ro**	**21.75**	**10**	P		**P**	**12 12 50.1**	**+2.8**
KHZ	**Kahutara**	**21.83**	**65**	IAMs_20		IAMs_20	12 19 56.0	
	comp=Z,6μm,20.0s							
THZ	**Tophouse**	**21.97**	**63**	IAMs_20		IAMs_20	12 19 52.8	
	comp=Z,6μm,18.0s							
MGCD	**Mangrove Creek**	**22.33**	**10**	P		**P**	**12 12 54.7**	**+1.1**
	baz=22,SNR=5.3							
MGCD	**Mangrove Creek**	**22.33**	**10**	P		**P**	**12 12 58.4**	**+4.8**
HTT	**Hallett**	**22.49**	**343**	P		**P**	**12 12 54.2**	**-1.3**
	baz=22,SNR=21							
HTT	**Hallett**	**22.49**	**343**	P		**P**	**12 12 58.2**	**+2.8**
NAPP	**Napperby**	**22.87**	**342**	P		**P**	**12 13 01.0**	**+1.7**
VNDA	**Vanda**	**22.98**	**171**	P		**P**	**12 13 02.6**	**+2.5**
	comp=Z,17nm,1.1s,baz=332,slow=12,SNR=26							
VNDA	**Vanda**	**22.98**	**171**	P		**P**	**12 13 02.0**	**+1.9**
VNDA				pmax		pmax		
	comp=Z,145nm,1.5s							
VNDA	**Vanda**	**22.98**	**171**	P		**P**	**12 12 59.5**	**-0.6**
VNDA				IAmb		IAmb	12 13 11.9	
	comp=Z,145nm,1.6s							
WHYH	**Whyalla**	**23.12**	**341**	P		**P**	**12 13 04.2**	**+2.3**
SNZO	**South Karori**	**23.23**	**65**	IAMs_20		IAMs_20	12 20 45.1	
	comp=Z,7μm,21.0s							
BBOO	**Buckleboo**	**23.64**	**338**	P		**P**	**12 13 06.3**	**-0.9**
	baz=23,SNR=7.1							
BBOO	**Buckleboo**	**23.64**	**338**	P		**P**	**12 13 06.2**	**-0.9**
BBOO				IAmb		IAmb	12 13 22.3	
	comp=Z,57nm,1.1s							
BBOO	**Buckleboo**	**23.64**	**338**	P		**P**	**12 13 09.0**	**+1.8**
STKA	**Stephens Creek**	**23.67**	**350**	P		**P**	**12 13 05.0**	**-2.4**
	comp=Z,9.6nm,0.7s,baz=163,slow=11,SNR=19							
STKA				LR		LR	12 20 05.7	
	comp=Z,3μm,20.8s,baz=170,slow=31							
STKA	**Stephens Creek**	**23.67**	**350**	P		**P**	**12 13 06.2**	**-1.2**
	baz=24,SNR=18							
STKA	**Stephens Creek**	**23.67**	**350**	*i* P		**P**	**12 13 05.9**	**-1.5**
STKA	**Stephens Creek**	**23.67**	**350**	P		**P**	**12 13 06.3**	**-1.1**
STKA	**Stephens Creek**	**23.67**	**350**	P		**P**	**12 13 10.0**	**+2.6**
SBA	**Scott Base**	**23.74**	**169**	P		**P**	**12 13 08.4**	**+0.6**
SBA				pmax		pmax		
	comp=Z,170nm,1.9s							
SBA	**Scott Base**	**23.74**	**169**	P		**P**	**12 13 08.4**	**+0.6**
SBA				IAmb		IAmb	12 13 39.8	
	comp=Z,170nm,1.9s							
CMSA	**Cobar Meteorol**	**23.76**	**358**	P		**P**	**12 13 06.9**	**-1.4**
	baz=24,SNR=24							
ARMA	**Armidale**	**25.15**	**11**	P		**P**	**12 13 20.2**	**-1.0**
	baz=25,SNR=5.8							
ARMA	**Armidale**	**25.15**	**11**	P		**P**	**12 13 20.2**	**-1.0**
ARMA				IAmb		IAmb	12 13 27.2	
	comp=Z,58nm,1.1s							
ARMA	**Armidale**	**25.15**	**11**	P		**P**	**12 13 22.8**	**+1.6**
LCRK	**Leigh Creek**	**25.53**	**343**	P		**P**	**12 13 25.2**	**+0.7**
BKZ	**Black Stump Fm**	**25.73**	**64**	IAMs_20		IAMs_20	12 22 26.3	
	comp=Z,6μm,20.0s							
BKZ	**Black Stump Fm**	**25.73**	**64**	P		P	12 13 33.6	+7.2
MULG	**Mulgathing**	**26.53**	**335**	P		**P**	**12 13 34.7**	**+1.1**
URZ	**Urewera**	**26.73**	**63**	P		**P**	**12 13 34.0**	**-1.3**
	comp=Z,16nm,0.9s,baz=250,slow=5.5,SNR=4.9							
URZ				LR		LR	12 23 20.0	
	comp=Z,5μm,19.5s,baz=217,slow=35							
URZ	**Urewera**	**26.73**	**63**	P		**P**	**12 13 34.4**	**-1.0**
URZ				IAmb		IAmb	12 13 41.7	
	comp=Z,72nm,1.5s							
URZ				IAMs_20		IAMs_20	12 22 58.8	
	comp=Z,5μm,20.0s							
OUZ	**Omahuta**	**27.43**	**54**	IAMs_20		IAMs_20	12 22 04.5	
	comp=Z,4μm,18.0s							
FORT	**Forrest**	**27.78**	**324**	P		**P**	**12 13 42.7**	**-2.1**
	baz=28,SNR=11							
FORT	**Forrest**	**27.78**	**324**	P		**P**	**12 13 42.6**	**-2.2**
INKA	**Innaminka**	**27.85**	**349**	P		**P**	**12 13 46.7**	**+1.3**
	comp=Z,90nm,1.2s							
MXZ	**Matakaoa Point**	**27.88**	**64**	IAMs_20		IAMs_20	12 23 49.0	
	comp=Z,5μm,21.0s							
OOD	**Oodnadatta**	**28.57**	**340**	P		**P**	**12 13 54.3**	**+2.4**
	comp=Z,13nm,1.4s							
QLP	**Quilpie**	**28.74**	**356**	P		**P**	**12 13 54.5**	**+1.1**
	baz=29,SNR=12							
QLP	**Quilpie**	**28.74**	**356**	P		**P**	**12 13 54.9**	**+1.5**
RMQ	**Roma**	**28.84**	**4**	P		**P**	**12 13 53.4**	**-0.9**
	baz=29,SNR=14							
RMQ	**Roma**	**28.84**	**4**	P		**P**	**12 13 55.8**	**+1.5**
EIDS	**Eidsvold**	**30.10**	**8**	P		**P**	**12 14 05.7**	**+0.3**
	baz=30,SNR=3.5							
EIDS	**Eidsvold**	**30.10**	**8**	P		**P**	**12 14 02.7**	**-2.7**
EIDS				IAmb		IAmb	12 14 09.9	
	comp=Z,52nm,1.4s							
EIDS	**Eidsvold**	**30.10**	**8**	P		**P**	**12 14 06.6**	**+1.2**
H01W1	**Cape Leeuwin H**	**30.17**	**299**	T		T	12 45 42.3	
	baz=142,slow=76,SNR=1267							
H01W2	**Cape Leeuwin H**	**30.18**	**299**	T		T	12 45 42.7	
	baz=142,slow=76,SNR=1469							
H01W3	**Cape Leeuwin H**	**30.19**	**299**	T		T	12 45 43.6	
	baz=142,slow=76,SNR=1322							
NWAO	**Narrogin (SRO)**	**30.28**	**306**	IAMs_20		IAMs_20	12 23 03.8	
	comp=Z,6μm,22.0s							
KLBR	**Kellerberrin**	**31.16**	**308**	P		**P**	**12 14 13.5**	**-1.3**
	baz=31,SNR=8.5							
KLBR	**Kellerberrin**	**31.16**	**308**	P		**P**	**12 14 17.8**	**+3.0**
MUN	**Mundaring**	**31.55**	**305**	P		**P**	**12 14 18.6**	**+0.4**
	baz=31,SNR=5.7							
MUN	**Mundaring**	**31.55**	**305**	P		**P**	**12 14 22.0**	**+3.8**
BLDU	**Ballidu**	**32.46**	**307**	P		**P**	**12 14 26.0**	**-0.2**
	baz=32,SNR=6.8							
BLDU	**Ballidu**	**32.46**	**307**	P		**P**	**12 14 30.2**	**+4.0**
ASAR	**Alice Springs**	**32.94**	**339**	P		**P**	**12 14 27.2**	**-3.3**
	comp=Z,4.7nm,0.7s,baz=165,slow=9.0,SNR=22							
ASAR				PcP		**PcP**	**12 17 14.1**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=156,slow=2.9,SNR=8.8							
ASAR				LR		LR	12 25 47.0	
	comp=Z,1μm,20.3s,baz=173,slow=33							
ASAR	**Alice Springs**	**32.94**	**339**	P		**P**	**12 14 28.2**	**-2.3**
ASAR	**Alice Springs**	**32.94**	**339**	P		**P**	**12 14 28.2**	**-2.3**
AS31	**Alice Springs**	**32.94**	**339**	P		**P**	**12 14 28.1**	**-2.5**
WRKA	**Warakurna**	**33.05**	**329**	P		**P**	**12 14 28.3**	**-3.2**
	baz=33,SNR=36							
WRKA	**Warakurna**	**33.05**	**329**	P		**P**	**12 14 32.2**	**+0.7**
MORW	**Morawa**	**34.08**	**308**	P		**P**	**12 14 39.1**	**-1.3**
	baz=34,SNR=8.6							
MORW	**Morawa**	**34.08**	**308**	P		**P**	**12 14 38.0**	**-2.4**
MORW				IAmb		IAmb	12 14 45.9	
	comp=Z,24nm,1.1s							
QSPA	**South Pole Qui**	**34.80**	**180**	P		**P**	**12 14 44.3**	**-2.2**
	comp=Z,11nm,0.8s,baz=14,slow=4.8,SNR=33							
QSPA				LR		LR	12 27 29.8	
	comp=Z,1μm,18.8s,baz=14,slow=34							
QSPA	**South Pole Qui**	**34.80**	**180**	P		**P**	**12 14 45.5**	**-1.0**
QSPA				IAmb		IAmb	12 14 55.3	
	comp=Z,54nm,1.4s							
QSPA	**South Pole Qui**	**34.80**	**180**	IAMs_20		IAMs_20	12 27 46.4	
	comp=Z,1μm,18.0s							
MEEK	**Meekatharra**	**35.07**	**313**	P		**P**	**12 14 46.6**	**-2.5**
	baz=35,SNR=9.2							
QIS	**Mount Isa**	**35.07**	**349**	P		**P**	**12 14 46.6**	**-2.4**
	baz=35,SNR=9.8							
CTA	**Charters Tower**	**35.16**	**360**	LR		LR	12 28 10.8	
	comp=Z,4μm,19.3s,baz=178,slow=35							
CTA	**Charters Tower**	**35.16**	**360**	P		**P**	**12 14 51.0**	**+1.2**
CTA				pmax		pmax		
	comp=Z,49nm,1.4s							
CTA	**Charters Tower**	**35.16**	**360**	P		**P**	**12 14 51.7**	**+1.9**
CTAO	**Charters Tower**	**35.16**	**360**	P		**P**	**12 14 48.8**	**-1.0**
CTAO				pmax		pmax		
	comp=Z,67nm,1.3s							
CTAO				MLR		MLR		
	comp=Z,4μm,20.0s							
CTAO	**Charters Tower**	**35.16**	**360**	P		**P**	**12 14 48.8**	**-1.0**
CTAO	**Charters Tower**	**35.16**	**360**	IAMs_20		IAMs_20	12 27 58.7	
	comp=Z,4μm,20.0s							
RAO	**Raoul Island**	**36.39**	**59**	LR		LR	12 27 55.5	
	comp=Z,1μm,21.4s,baz=204,slow=33							
DZM	**Mont Dzumac**	**36.40**	**32**	P		**P**	**12 14 59.2**	**-1.2**
	comp=Z,10nm,1.0s,baz=192,slow=9.3,SNR=3.5							
DZM				LR		LR	12 26 16.4	
	comp=Z,3μm,21.4s,baz=194,slow=30							
DZM	**Mont Dzumac**	**36.40**	**32**	*e*P		**P**	**12 14 59.0**	**-1.5**
	comp=Z,55nm,1.4s							
DZM				*e*S		**S**	**12 20 38.8**	**-3.0**
	comp=Z,775nm,25.1s							
DZM				*e*LR		LR	12 24 45.9	
	comp=Z,8μm,26.1s,baz=214							
DZM	**Mont Dzumac**	**36.40**	**32**	P		**P**	**12 14 59.3**	**-1.2**
WR0	**Warramunga Arr**	**36.42**	**341**	P		**P**	**12 14 57.8**	**-2.7**
WB2	**Warramunga Arr**	**36.47**	**341**	P		**P**	**12 14 58.7**	**-2.3**
WB2				IAmb		IAmb	12 15 04.0	
	comp=Z,55nm,1.1s							
WRA	**Warramunga Arr**	**36.47**	**341**	P		**P**	**12 14 58.1**	**-2.9**
	comp=Z,9.6nm,0.6s,baz=166,slow=7.5,SNR=42							
WRA				PcP		**PcP**	**12 17 23.9**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=158,slow=2.8,SNR=4.7							
WRA				LR		LR	12 28 10.2	
	comp=Z,1μm,21.3s,baz=196,slow=34							
WRA	**Warramunga Arr**	**36.47**	**341**	P		**P**	**12 14 58.3**	**-2.7**
WRA				pmax		pmax		
	comp=Z,4.0nm,1.2s							
WRA	**Warramunga Arr**	**36.47**	**341**	P		**P**	**12 14 58.3**	**-2.7**
WRAB	**Tennant Creek**	**36.48**	**341**	*i* P		**P**	**12 14 58.4**	**-2.7**
WRAB				pmax		pmax		
	comp=Z,39nm,0.9s							
WRAB	**Tennant Creek**	**36.48**	**341**	P		**P**	**12 14 58.3**	**-2.7**
WRAB				IAmb		IAmb	12 15 04.0	
	comp=Z,46nm,1.1s							
WB0	**Warramunga Arr**	**36.63**	**341**	P		**P**	**12 14 59.4**	**-3.0**
WB0				IAmb		IAmb	12 15 05.2	
	comp=Z,32nm,0.9s							
MTSU	**Mount Surprise**	**37.14**	**357**	P		**P**	**12 15 05.6**	**-1.1**
	baz=37,SNR=24							
KOUNC	**Koumac, New Ca**	**37.21**	**28**	IAMs_20		IAMs_20	12 28 42.7	
	comp=Z,2μm,18.0s							
KOUNC	**Koumac, New Ca**	**37.21**	**28**	P		**P**	**12 15 11.2**	**+3.9**
LIFNC	**LIFOU**	**37.86**	**33**	IAMs_20		IAMs_20	12 28 00.1	
	comp=Z,2μm,19.0s							
MAW	**Mawson**	**38.53**	**218**	P		**P**	**12 15 17.9**	**0.0**
	comp=Z,10nm,1.0s,baz=123,slow=8.3,SNR=5.8							
MAW				LR		LR	12 30 49.7	
	comp=Z,4μm,18.3s,baz=88,slow=36							
MAW	**Mawson**	**38.53**	**218**	P		**P**	**12 15 18.7**	**+0.7**
MAW				pmax		pmax		
	comp=Z,5.0nm,1.2s							
MAW	**Mawson**	**38.53**	**218**	P		**P**	**12 15 17.0**	**-0.9**
PSA00	**Pilbara Seismi**	**39.12**	**319**	P		**P**	**12 15 21.7**	**-1.7**
PSA00				IAmb		IAmb	12 15 31.8	
	comp=Z,63nm,1.2s							
PSA00	**Pilbara Seismi**	**39.12**	**319**	P		**P**	**12 15 20.9**	**-2.5**
PSA00				IAmb		IAmb	12 15 31.8	
	comp=Z,34nm,1.2s							
MBWA	**Marble Bar**	**39.54**	**319**	P		**P**	**12 15 24.4**	**-2.5**
MBWA				IAmb		IAmb	12 15 34.6	
	comp=Z,80nm,1.3s							
FITZ	**Fitzroy Crossi**	**40.38**	**329**	LR		LR	12 31 01.3	
	comp=Z,1μm,19.7s,baz=168,slow=34							
FITZ	**Fitzroy Crossi**	**40.38**	**329**	P		**P**	**12 15 31.8**	**-2.1**
	baz=40,SNR=8.3							
FITZ	**Fitzroy Crossi**	**40.38**	**329**	P		**P**	**12 15 31.3**	**-2.6**
COEN	**Coen**	**41.33**	**355**	P		**P**	**12 15 40.5**	**-1.3**
COEN	**Coen**	**41.33**	**355**	P		**P**	**12 15 44.6**	**+2.8**
KNRA	**Kununurra**	**41.83**	**334**	P		**P**	**12 15 44.4**	**-1.4**
	baz=42,SNR=4.4							
KNRA	**Kununurra**	**41.83**	**334**	P		**P**	**12 15 44.0**	**-1.8**
KNRA				IAmb		IAmb	12 15 49.9	
	comp=Z,35nm,0.9s							
KNRA	**Kununurra**	**41.83**	**334**	P		**P**	**12 15 48.8**	**+3.0**
SANVU	**Saraoutou**	**42.88**	**30**	P		**P**	**12 15 54.1**	**-0.3**
SANVU				IAMs_20		IAMs_20	12 30 29.0	
	comp=Z,2μm,20.0s							
KDU	**Kakadu**	**43.90**	**340**	P		**P**	**12 16 00.5**	**-2.1**
	baz=44,SNR=7.8							
KDU	**Kakadu**	**43.90**	**340**	P		**P**	**12 16 05.4**	**+2.8**
MTN	**Manton Dam**	**44.02**	**338**	P		**P**	**12 16 04.1**	**+0.5**
	baz=44,SNR=4.6							
MTN	**Manton Dam**	**44.02**	**338**	P		**P**	**12 16 01.5**	**-2.1**
MTN				IAmb		IAmb	12 16 07.0	
	comp=Z,39nm,0.9s							
MTN	**Manton Dam**	**44.02**	**338**	P		**P**	**12 16 06.3**	**+2.7**
MSVF	**Nonsavu**	**44.56**	**45**	LR		LR	12 30 36.0	
	comp=Z,1μm,20.9s,baz=208,slow=31							
MSVF	**Nonsavu**	**44.56**	**45**	IAMs_20		IAMs_20	12 30 36.5	
	comp=Z,2μm,20.0s							
SYO	**Syowa Base**	**45.13**	**209**	⇑*e*P		pP	12 16 13.3	-0.9
PMG	**Port Moresby**	**45.78**	**1**	LR		LR	12 34 12.0	
	comp=Z,3μm,18.7s,baz=183,slow=35							
PMG	**Port Moresby**	**45.78**	**1**	*i* P		**P**	**12 16 16.4**	**-1.2**
PMG				pmax		pmax		
	comp=Z,43nm,1.3s							
PMG	**Port Moresby**	**45.78**	**1**	P		**P**	**12 16 16.6**	**-1.0**
PMG				IAmb		IAmb	12 16 27.0	
	comp=Z,47nm,1.3s							
HNR	**Honiara**	**46.99**	**18**	LR		LR	12 32 45.4	
	comp=Z,552nm,20.4s,baz=198,slow=32							
BELA	**Belgrano 2**	**47.08**	**180**	P		**P**	**12 16 26.4**	**-0.8**
BATI	**Baumata**	**48.44**	**329**	LR		LR	12 36 30.1	
	comp=Z,2μm,19.6s,baz=190,slow=36							
SAUI	**Saumlaki**	**48.71**	**340**	IAMs_20		IAMs_20	12 34 56.0	
	comp=Z,2μm,20.0s							
MMRI	**Maumere**	**50.35**	**328**	P		**P**	**12 16 51.5**	**-1.4**
MMRI	**Maumere**	**50.35**	**328**	P		**P**	**12 16 55.5**	**+2.5**
TROLL	**Troll, Antarti**	**50.49**	**194**	P		**P**	**12 16 50.3**	**-3.3**
KRVT	**Keravat (AS076**	**51.04**	**7**	LR		LR	12 37 07.6	
	comp=Z,697nm,20.0s,baz=321,slow=34							
SNAA	**Sanae**	**51.49**	**192**	P		**P**	**12 16 59.9**	**-1.1**
SNAA	**Sanae**	**51.49**	**192**	P		**P**	**12 16 59.5**	**-1.5**
	comp=Z,9.5nm,1.0s,baz=167,slow=9.7,SNR=6.0							
SNAA				LR		LR	12 38 18.8	
	comp=Z,2μm,18.8s,baz=146,slow=35							
SNAA	**Sanae**	**51.49**	**192**	*i* P		**P**	**12 17 00.2**	**-0.8**
SNAA				pmax		pmax		
	comp=Z,15nm,1.3s							
SNAA	**Sanae**	**51.49**	**192**	P		**P**	**12 17 00.5**	**-0.5**
SNAA				IAmb		IAmb	12 17 08.3	
	comp=Z,52nm,1.6s							
SNAA				IAMs_20		IAMs_20	12 38 08.5	
	comp=Z,2μm,18.0s							
RAR	**Rarotonga**	**52.38**	**72**	LR		LR	12 37 33.2	
	comp=Z,387nm,18.6s,baz=214,slow=34							
AFI	**Afiamalu**	**52.41**	**55**	LR		LR	12 35 55.2	
	comp=Z,477nm,21.9s,baz=200,slow=32							
VNA3	**Nemayer Olymp**	**52.62**	**189**	P		**P**	**12 17 08.4**	**-0.9**
VNA2	**Neumayer--Watz**	**52.70**	**190**	P		**P**	**12 17 08.1**	**-1.8**
	baz=153,slow=7.0							
VNA1	**Neumayer--Stat**	**53.05**	**190**	P		**P**	**12 17 12.5**	**0.0**
KAPI	**Kappang**	**54.54**	**327**	LR		LR	12 40 28.2	
	comp=Z,575nm,19.2s,baz=158,slow=36							
KAPI	**Kappang**	**54.54**	**327**	*i* P		**P**	**12 17 24.1**	**+0.1**
KAPI				pmax		pmax		
	comp=Z,33nm,1.2s							
KAPI	**Kappang**	**54.54**	**327**	P		**P**	**12 17 26.7**	**+2.7**
UGM	**Wanagama**	**55.19**	**315**	IAMs_20		IAMs_20	12 37 04.9	
	comp=Z,1μm,22.0s							
SANI	**Sanana**	**55.63**	**335**	P		**P**	**12 17 33.7**	**+1.8**
	comp=Z,19nm,1.1s							
SIJI	**Sorong**	**55.66**

QIZ LR LR
comp=Z,400nm,22.6s
LC01 Cunco 80.62 151 P P 12 20 09.8 +1.3
SUR Sutherland 81.06 224 P P 12 20 13.5 +2.2
comp=Z,19nm,1.1s,baz=114,slow=6.7,SNR=4.9
SUR LR LR 12 49 25.6
comp=Z,950nm,21.6s,baz=152,slow=31
SUR Sutherland 81.06 224 P P 12 20 09.7 -1.5
JCJ Chichijima 82.14 356 LR LR 12 56 39.9
comp=Z,274nm,18.5s,baz=114,slow=36
BOSA Boshof 82.50 229 P P 12 20 18.2 -0.6
comp=Z,5.7nm,0.8s,baz=151,slow=5.5,SNR=6.7
BOSA LR LR 12 50 17.2
comp=Z,497nm,21.6s,baz=157,slow=31
BOSA Boshof 82.50 229 P P 12 20 17.2 -1.6
BOSA pmax pmax
comp=Z,39nm,1.6s
BOSA Boshof 82.50 229 P P 12 20 17.2 -1.6
BOSA IAmb IAmb 12 20 32.9
comp=Z,39nm,1.6s
PALK Pallekele 82.54 294 LR LR 12 49 22.3
comp=Z,1μm,21.4s,baz=252,slow=30
PALK Pallekele 82.54 294 IAMs_20 IAMs_20 12 49 00.1
comp=Z,1μm,22.0s
H03S2 Juan Fernandez 83.09 143 T T 13 52 46.5
baz=204,SNR=120
H03S1 Juan Fernandez 83.09 143 T T 13 52 47.7
baz=204,SNR=111
H03S3 Juan Fernandez 83.10 143 T T 13 52 47.4
baz=204,SNR=144
JOW Kunigami 83.27 344 LR LR 12 55 02.1
comp=Z,491nm,21.7s,baz=183,slow=34
H03N3 Juan Fernandez 83.44 143 T T 13 53 11.4
baz=218,slow=74
H03N2 Juan Fernandez 83.45 143 T T 13 53 11.0
baz=218,slow=74
H03N1 Juan Fernandez 83.45 143 T T 13 53 15.5
baz=218,slow=74
CMAR Chiang Mai Arr 83.77 315 P P 12 20 25.8 +0.7
comp=Z,4.4nm,1.1s,baz=183,slow=3.6,SNR=23
CMAR LR LR 12 54 39.2
comp=Z,629nm,21.6s,baz=155,slow=34
CMAR Chiang Mai Arr 83.77 315 P P 12 20 24.3 -0.8
CMAR Chiang Mai Arr 83.77 315 P P 12 20 23.1 -2.0
CHTO Chiang Mai 84.09 315 P P 12 20 26.8 +0.1
CHTO pmax pmax
comp=Z,14nm,1.2s
CHTO Chiang Mai 84.09 315 P P 12 20 25.6 -1.1
CHTO IAmb IAmb 12 20 32.0
comp=Z,14nm,1.2s
CHTO Chiang Mai 84.09 315 IAMs_20 IAMs_20 12 54 37.0
comp=Z,758nm,20.0s
CHTO Chiang Mai 84.09 315 P P 12 20 30.6 +3.9
BO02 Sierra Bellavi 84.76 150 P P 12 20 31.0 +0.8
LBTB Lobatse 85.47 231 LR LR 12 54 39.7
comp=Z,509nm,18.1s,baz=149,slow=33
BO04 La Punta 85.56 150 P P 12 20 34.4 +0.1
MT09 Talagante 85.65 149 P P 12 20 33.9 -1.0
MT09 IAmb IAmb 12 20 40.8
comp=Z,33nm,1.5s
LMEL Las Melosas 85.81 150 P P 12 20 35.8 +0.2
VA06 Catapilco 86.70 149 P P 12 20 40.3 +0.5
VA03 San Esteban 86.73 149 P P 12 20 41.3 +1.3
CO02 Combarbal 88.06 149 P P 12 20 46.7 +0.1
MATP Matopo 88.09 236 LR LR 12 54 30.5
comp=Z,729nm,18.8s,baz=236,slow=32
JHJ Hachijo jima 2 88.25 354 LR LR 12 58 12.5
comp=Z,335nm,20.2s,baz=86,slow=34
GYA Guiyang 88.26 325 ⇓P P **12 20 50.5 +3.3**
GYA pmax pmax
comp=Z,12nm,1.5s
KMI Kunming 88.38 321 ⇑P P **12 20 49.8 +1.8**
KMI sP pwP 12 20 54.4 +1.3
KMI S S **12 31 34.6 +1.4**
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI LR LR
comp=Z,320nm,19.4s
KMI LR LR
comp=Z,400nm,20.9s
KMI LR LR
comp=Z,400nm,23.3s
CO03 El Pedregal 88.49 149 P P 12 20 48.6 0.0
CO03 IAmb IAmb 12 20 51.7
comp=Z,16nm,1.0s
CO01 Juntas del Tor 89.47 149 P P 12 20 53.5 +0.1
CO01 IAmb IAmb 12 20 57.3
comp=Z,17nm,1.1s
PZH PanZhiHua 90.00 321 P P 12 20 55.3 -0.1
PZH S S **12 31 47.9 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,4.1s
PZH LR LR
comp=Z,1μm,23.9s
PZH LR LR
comp=Z,990nm,21.8s
PZH LR LR
comp=Z,1μm,19.6s
NJ2 Nanjing 90.17 337 *e*P **P 12 20 56.7 +0.8**
NJ2 pmax pmax
comp=Z,18nm,0.5s
MJAR Matsushiro Arr 91.75 353 P P 12 21 04.4 +1.2
comp=Z,12nm,1.3s,baz=37,slow=30,SNR=2.6
MJAR LR LR 13 02 08.9
comp=Z,170nm,19.8s,baz=158,slow=36
MJAR Matsushiro Arr 91.75 353 P P 12 21 02.3 -0.9
MJAR pmax pmax
comp=Z,22nm,1.6s
MJAR Matsushiro Arr 91.75 353 P P 12 21 02.3 -0.9
MJAR IAmb IAmb 12 21 09.0
comp=Z,22nm,1.6s
MAJO Matsushiro 91.75 353 *i* P **P 12 21 03.4 +0.2**
MAJO pmax pmax
comp=Z,21nm,1.5s
LSZ Lusaka 92.67 238 LR LR 12 57 30.7
comp=Z,898nm,18.6s,baz=152,slow=32
LSZ Lusaka 92.67 238 IAMs_20 IAMs_20 12 56 49.9
comp=Z,943nm,20.0s
KSRS Korea Array 93.74 345 P P 12 21 14.6 +2.3
comp=Z,1.5nm,1.0s,baz=180,slow=6.1,SNR=2.2
KSRS LR LR 13 00 52.2
comp=Z,260nm,21.9s,baz=170,slow=34
TSUM Tsumeb 94.06 228 LR LR 12 58 42.9
comp=Z,519nm,19.0s,baz=152,slow=32
TSUM Tsumeb 94.06 228 IAMs_20 IAMs_20 12 58 50.2
comp=Z,619nm,20.0s
XAN Xi'an 94.62 330 P P 12 21 14.2 -2.3
XAN SKS **SKSac 12 31 46.2 -5.2**
XAN S S **12 32 24.7 -4.3**
XAN SS **SS 12 38 52.3 -0.9**
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN LR LR
comp=Z,340nm,21.3s
XAN LR LR
comp=Z,410nm,18.6s
XAN LR LR
comp=Z,530nm,20.8s
CPUP Villa Florida 96.18 159 LR LR 13 02 07.4
comp=Z,281nm,18.1s,baz=192,slow=34
LVC Limon Verde 96.74 147 P P 12 21 27.9 +0.8
comp=Z,3.7nm,0.8s,baz=174,slow=5.6,SNR=2.9
LVC LR LR 12 54 34.6
comp=Z,241nm,21.7s,baz=188,slow=29
KIBK Kibwezi 98.46 253 IAMs_20 IAMs_20 12 58 39.0
comp=Z,436nm,19.0s
ASAJ Asahikawa 99.10 357 LR LR 13 05 10.2
comp=Z,192nm,20.3s,baz=176,slow=35
USRK Ussuriysk Ar. 99.89 349 LR LR 13 03 20.7
comp=Z,232nm,21.6s,baz=165,slow=33
KMBO Kilima Mbogo 99.90 253 LR LR 13 00 42.4
comp=Z,350nm,18.1s,baz=102,slow=32
KMBO Kilima Mbogo 99.90 253 IAMs_20 IAMs_20 13 00 21.6
comp=Z,426nm,19.0s
HHC Hu-ho-hao-te 100.29 334 *e*P **Pdif 12 21 42.8 +0.8**
HHC pP pwP 12 21 48.8 +1.6
HHC S **Sdif 12 33 19.8 +2.5**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.2s
HHC LR LR
comp=Z,240nm,17.3s
HHC LR LR
comp=Z,220nm,15.3s
HHC LR LR
comp=Z,300nm,15.1s
MBAR Mbarara 103.86 248 IAMs_20 IAMs_20 13 02 23.5
comp=Z,522nm,20.0s
LODK Lodwar 104.72 254 IAMs_20 IAMs_20 13 01 21.2
comp=Z,450nm,21.0s
WMQ Urumqi 110.57 319 *e*PKP **PKiKP 12 26 23.8 -4.0**
WMQ LR LR
comp=Z,210nm,18.9s
WMQ LR LR
comp=Z,120nm,17.5s
WMQ LR LR
comp=Z,260nm,22.1s
AAK Ala-Archa 115.02 309 *i* PKIKP **PKiKP 12 26 37.2 +0.7**
AAK pmax pmax
comp=Z,1.0nm,1.0s
MK31 Makanchi Array 115.14 317 *i* PKIKP **PKPdf 12 26 35.6 -0.8**
RAYN Ar Rayn 115.17 275 IAMs_20 IAMs_20 13 07 48.3
comp=Z,344nm,19.0s
SEY Seymchan 117.99 3 *i* PKIKP **PKiKP 12 26 44.1 +2.8**
SEY pmax pmax
comp=Z,1.0nm,1.3s
KURBB Kurchatov Arra 119.70 317 PKP **PKiKP 12 26 45.9 +0.9**
comp=Z,0.3nm,0.2s,baz=143,slow=1.5,SNR=4.5
KURK Kurchatov 119.74 317 PKIKP **PKPdf 12 26 43.6 -1.4**
KURK MLR MLR
comp=Z,200nm,20.0s
KURK Kurchatov 119.74 317 PKPdf 12 26 43.6 -1.4
NVAR Mina Array Bea 123.29 69 PKP **PKPdf 12 26 52.3 -0.3**
comp=Z,0.2nm,0.2s,baz=186,slow=3.3,SNR=6.1
NVAR Mina Array Bea 123.29 69 PKPdf 12 26 51.6 -1.0
KVN Kaiserville 123.85 69 PKIKP **PKiKP 12 26 54.9 +1.0**
KVN Kaiserville 123.85 69 PKPdf **PKiKP 12 26 54.9 +1.0**
BILL Bilibino 123.90 9⇑ *e*PKIKP **PKiKP 12 26 54.2 +1.4**
BILL *e* 12 28 38.9
BILL pmax pmax
comp=Z,10.0nm,1.7s
BILL MLR MLR
comp=Z,140nm,21.0s
TXAR Lajitas Array 124.73 88 PKP **PKiKP 12 26 57.0 +1.1**
comp=Z,1.5nm,1.1s,baz=186,slow=7.3,SNR=3.6
TXAR Lajitas Array 124.73 88 PKIKP **PKPdf 12 26 54.8 -0.7**
TXAR Lajitas Array 124.73 88 PKPdf 12 26 54.8 -0.7
BVAR Borovoye Array 124.79 314 PKP **PKiKP 12 26 56.0 +1.0**
comp=Z,0.3nm,0.3s
LENM Lemitar 126.43 81 PKiKP 12 26 59.2 +0.1
TIXI Tiksi 127.26 353 *i* PKIKP **PKiKP 12 27 00.5 +1.1**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
TIXI Tiksi 127.26 353 PKPdf **PKiKP 12 26 59.5 +0.1**
ANMO Albuquerque 127.29 81 *i* PKIKP **PKPdf 12 27 00.4 +0.1**
SML Sawmill 127.45 33 IAMs_20 IAMs_20 13 14 23.9
comp=Z,537nm,20.0s
DUG Dugway, Tooele 127.52 72 PKIKP **PKPdf 12 26 59.9 -0.6**
DUG Dugway, Tooele 127.52 72 PKPdf 12 26 59.9 -0.6
CAST Castle Rocks 127.58 30 IAMs_20 IAMs_20 13 13 07.7
comp=Z,401nm,20.0s
MVCO Mesa Verde 127.78 77 PKPdf **PKPdf 12 27 00.7 -0.5**
KTH Kantishna Hill 128.01 30 IAMs_20 IAMs_20 13 12 22.3
comp=Z,394nm,20.0s
PV13 Radium Mtn., P 128.27 76 PKPdf 12 27 01.9 -0.2
PV11 David Mesa, Pa 128.34 76 PKiKP 12 27 02.6 -0.3
AKTO Aktyubinsk 128.37 305 PKP **PKiKP 12 27 02.9 +0.7**
comp=Z,1.6nm,0.8s,baz=169,slow=5.2,SNR=3.6
MSTX Muleshoe 128.67 84 PKPdf **PKiKP 12 27 04.5 +0.9**
DHY Denali Highway 128.70 32 IAMs_20 IAMs_20 13 13 59.8
comp=Z,469nm,20.0s
I21K Tanana 128.96 29 IAMs_20 IAMs_20 13 12 20.2
comp=Z,577nm,22.0s
HLID Hailey 129.00 67 PKPdf 12 27 03.4 +0.1
BARN Barnard Glacie 129.08 37 IAMs_20 IAMs_20 13 14 30.1
comp=Z,547nm,21.0s
H21K Melozitna Rive 129.11 28 IAMs_20 IAMs_20 13 15 41.0
comp=Z,474nm,20.0s
IMAR Indian Mountai 129.11 27 PKiKP 12 27 03.7 +0.5
NEA2 Nenana 129.33 30 IAMs_20 IAMs_20 13 20 07.3
comp=Z,410nm,20.0s
CCB Clear Creek Bu 129.74 31 IAMs_20 IAMs_20 13 13 06.0
comp=Z,561nm,21.0s
TORD Torodi Ar. Bea 129.82 227 PKP **PKiKP 12 27 06.8 +0.6**
comp=Z,2.6nm,1.1s,baz=292,slow=1.4,SNR=8.5
HDA Harding Lake 129.82 31 IAMs_20 IAMs_20 13 17 02.2
comp=Z,465nm,22.0s
MDM Murphy Dome 129.85 30 IAMs_20 IAMs_20 13 12 57.9
comp=Z,490nm,22.0s
ILAR Eielson Array 130.10 31 PKP **PKiKP 12 27 06.3 +1.1**
comp=Z,0.8nm,0.7s,baz=304,slow=6.2,SNR=7.9
ILAR Eielson Array 130.10 31 PKIKP **PKiKP 12 27 06.1 +0.8**
ILAR Eielson Array 130.10 31 PKPdf **PKiKP 12 27 06.1 +0.8**
H23K Yukon River 130.12 29 IAMs_20 IAMs_20 13 14 44.9
comp=Z,525nm,20.0s
POKR Poker Plat Res 130.19 30 IAMs_20 IAMs_20 13 14 16.0
comp=Z,552nm,22.0s
SCRK Sand Creek 130.41 33 IAMs_20 IAMs_20 13 15 12.8
comp=Z,466nm,18.0s
BCAR Beaver Creek A 130.46 35 PKPdf 12 27 05.6 +0.3
H24K Noodor Dome 130.59 30 IAMs_20 IAMs_20 13 19 16.5
comp=Z,401nm,20.0s
MSO Missoula 131.45 65 PKPdf 12 27 06.0 -1.7
NRIK Noril'sk 131.46 336 *i* PKIKP **PKiKP 12 27 08.4 +0.5**
NRIK pmax pmax
comp=Z,7.0nm,1.6s
WMOK Wichita Mounta 131.50 87 IAMs_20 IAMs_20 13 15 13.1
comp=Z,466nm,20.0s
EGAK Eagle 131.85 33 IAMs_20 IAMs_20 13 14 50.0
comp=Z,364nm,20.0s
ARU Arti 132.10 312 *i* PKIKP **PKiKP 12 27 09.7 +0.2**
CBKS Cedar Bluff 133.83 82 IAMs_20 IAMs_20 13 20 11.5
comp=Z,468nm,20.0s
U40A Yellville 136.04 90 PKPdf **PKiKP 12 27 17.6 -0.7**
SEUS St. Eustatius 136.09 137 IAMs_20 IAMs_20 13 21 31.8
comp=Z,388nm,19.0s
INK Inuvik 136.45 32 PKP **PKPdf 12 27 16.4 +0.1**
comp=Z,1.7nm,0.7s,baz=228,slow=4.3,SNR=9.3
S39A Bolivar 136.71 88 PKiKP 12 27 19.6 +0.1
C36M Paulatuk 139.92 33 IAMs_20 IAMs_20 13 23 45.5
comp=Z,406nm,22.0s
YKA Yellowknife Ar 140.16 46 PKhKP PKPpre 12 27 17.1
comp=Z,1.0nm,0.9s,baz=240,slow=3.1,SNR=11
A36M Sachs Harbour 140.75 29 PKPdf **PKPdf 12 27 23.4 -0.6**
A36M IAMs_20 IAMs_20 13 22 00.9
comp=Z,343nm,20.0s
OBN Obninsk 141.55 300⇑ *e*PKIKP **PKiKP 12 27 28.2 -0.6**
OBN *e* 12 30 33.5
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,257nm,20.0s
F36A Milaca 141.89 79 PKPdf **PKPdf 12 27 27.0 0.0**
MLR Muntele Rosu 141.93 281 PKhKP PKPpre 12 27 23.8
baz=129,slow=6.5
KLMR Klimovskoe 142.83 309 *e*PKHKP PKPpre 12 27 25.6
KLMR pmax pmax
comp=Z,12nm,1.1s
KLMR Klimovskoe 142.83 309 *e*PKPdf **PKPdf 12 27 25.7 -2.4**
KLMR AMP 12 27 28.1
comp=Z,12nm,1.1s
KLMR *e*SKP 12 31 01.9
CEL Celeste 142.99 264 IAMs_20 IAMs_20 13 30 24.3
comp=Z,309nm,20.0s
AKASG Malin Array Be 143.08 290 PKP PKPbc 12 27 26.6 +0.8
comp=Z,0.5nm,0.4s,baz=93,slow=2.2,SNR=6.1
ULM Lac du Bonnet 143.08 71 PKP PKPbc 12 27 26.8 +0.9
comp=Z,6.2nm,1.0s,baz=204,slow=3.7,SNR=3.8
G40A Rib Lake 143.40 82 PKPdf 12 27 28.6 -1.1
BLA Blacksburg 143.72 100 PKIKP **PKPdf 12 27 29.6 -1.0**
BLA Blacksburg 143.72 100 PKPdf **PKPdf 12 27 29.6 -1.0**
BLA Blacksburg 143.72 100 P **PKPdf 12 27 30.4 -0.1**
baz=225
Q52A Bidwell 143.89 96 PKPdf 12 27 29.9 -0.8
Q52A Bidwell 143.89 96 P **PKPdf 12 27 30.4 -0.3**
baz=227
Q52A P **PKPdf 12 27 30.4 -0.3**
baz=227
N49A Columbus Grove 144.11 92 P **PKPdf 12 27 30.8 -0.2**
baz=229
N49A P **PKPdf 12 27 30.8 -0.2**
baz=229
T57A Hurt 144.22 101 PKPdf **PKPdf 12 27 31.0 -0.4**
T57A Hurt 144.22 101 P **PKPdf 12 27 31.4 +0.1**
baz=224,SNR=6.1
T57A P **PKPdf 12 27 31.4 +0.1**
baz=224,SNR=6.1
ACSO Alum Creek Sta 144.34 94 P **PKPdf 12 27 31.2 -0.2**
baz=228
P52A Corning 144.43 96 PKPdf 12 27 31.7 +0.1
DIVS Divibare 144.46 274 PKPdf **PKPdf 12 27 31.4 -0.3**
U59A Littleton 144.57 104 PKPdf 12 27 31.7 -0.2
R55A Marlinton 144.64 99 P **PKPab 12 27 30.3 -0.5**
baz=226
R55A P **PKPab 12 27 30.3 -0.5**
baz=226
Q54A Coxs Mills 144.72 98 PKPab 12 27 30.2 -0.8
Q54A Coxs Mills 144.72 98 P **PKPab 12 27 30.2 -0.8**
baz=226,SNR=8.7
Q54A P **PKPab 12 27 30.2 -0.8**
baz=226,SNR=8.7
P53A Whipple 144.75 96 P **PKPab 12 27 30.1 -1.0**
baz=227,SNR=10
P53A P **PKPab 12 27 30.1 -1.0**
baz=227,SNR=10
KEST Kesra 144.87 254 PKP **PKPdf 12 27 33.4 +0.7**
comp=Z,53nm,1.0s,baz=147,slow=1.7,SNR=25
O52A Adamsville 144.92 95 P **PKPab 12 27 30.8 -0.9**
baz=228,SNR=9.4
O52A P **PKPab 12 27 30.8 -0.9**
baz=228,SNR=9.4
S57A Dark Hollow, R 144.93 101 P **PKPab 12 27 30.4 -1.4**
baz=225,SNR=8.4
S57A P **PKPab 12 27 30.4 -1.4**
baz=225,SNR=8.4
N51A Ashland 145.14 94 PKPbc 12 27 32.0 -0.4
N51A Ashland 145.14 94 P **PKPbc 12 27 31.4 -1.0**
baz=229,SNR=7.0
N51A P **PKPbc 12 27 31.4 -1.0**
baz=229,SNR=7.0
T59A Double "B" Far 145.15 103 PKPdf 12 27 33.6 +0.7
T59A Double "B" Far 145.15 103 P **PKPdf 12 27 33.0 +0.1**
baz=224,SNR=5.7
T59A P **PKPdf 12 27 33.0 +0.1**
baz=224,SNR=5.7
J47A Sunmer 145.23 88 PKPdf 12 27 33.2 +0.4
J47A Sunmer 145.23 88 P **PKPdf 12 27 33.3 +0.4**
baz=231
J47A P **PKPdf 12 27 33.3 +0.4**
baz=231
TRPA Tarpa 145.36 282 PKP **PKiKP 12 27 35.7 -1.2**
LVV L'vov 145.44 285 *e*PKP2 **PKiKP 12 27 34.6 +1.3**
MNK Minsk 145.68 295 *i* PKP2 **PKiKP 12 27 36.2 -1.1**
MNK *i* 12 30 56.9
MNK *i* 12 34 45.4
MNK *i* SS SS 12 49 49.0 +0.5
MNK *i* SSS SSS 12 55 15.9
MNK pmax pmax
comp=Z,38nm,1.1s
MNK pmax pmax
comp=N,21nm,0.9s
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK MLR MLR
comp=N,205nm,24.0s
MNK MLR MLR
comp=Z,133nm,20.0s
MNK MLR MLR
comp=E,22nm,19.0s
MNK Minsk 145.68 295 *i* PKP **PKiKP 12 27 36.3 -1.1**
comp=E,5.0nm,1.0s
MNK *i* PKP **PKiKP 12 27 36.3 -1.1**
comp=N,21nm,0.9s
MNK *i* PKP **PKiKP 12 27 36.3 -1.1**
comp=Z,38nm,1.1s,baz=298
MNK *i* PP **PP 12 30 57.0 +1.6**
MNK *i* PPP PPP 12 34 09.1
MNK *i* SKS **SKSdf 12 34 45.5 +3.7**
MNK *i* SKKS SKKSdf 12 44 02.8 +14
MNK *i* SS **SS 12 49 49.0 +0.5**
MNK *i* SSS SSS 12 55 16.0
MNK *i* LR LR 13 30 06.8
MNK *i* LRM MLR 13 31 31.8
comp=N,205nm,23.6s
MNK *i* LRM MLR 13 31 58.0
comp=Z,133nm,19.8s
MNK *i* LRM MLR 13 32 02.5
comp=E,22nm,18.5s
R58B Mineral 145.68 102 P **PKPab 12 27 34.6 +0.1**
baz=225,SNR=6.3
R58B P **PKPab 12 27 34.6 +0.1**
baz=225,SNR=6.3
Q56A Snyder Ridge, 145.69 99 P **PKiKP 12 27 36.5 -1.4**
baz=226,SNR=5.3
Q56A P **PKiKP 12 27 36.5 -1.4**
baz=226,SNR=5.3
UZH Uzhgorod 145.78 283 *e*PKP2 **PKPab 12 27 36.0 +1.4**
O54A Avella 145.79 96 P **PKiKP 12 27 36.7 -1.3**
baz=228,SNR=5.3
O54A P **PKiKP 12 27 36.7 -1.3**
baz=228,SNR=5.3
N53A Lisbon 145.94 95 P **PKPab 12 27 35.2 -0.3**
baz=228,SNR=5.8
N53A P **PKPab 12 27 35.2 -0.3**
baz=228,SNR=5.8
KWP Kalwaria Pacla 146.08 284 *e*PKP **PKiKP 12 27 38.4 0.0**
KWP Kalwaria Pacla 146.08 284 PKIKP **PKPbc 12 27 35.5 +0.4**
KWP Kalwaria Pacla 146.08 284 PKPbc **PKPbc 12 27 35.5 +0.4**
CRVS Cervenica-Dubn 146.38 282 *e*PKP2 **PKiKP 12 27 38.6 -0.4**
CRVS Cervenica-Dubn 146.38 282 *e*PKP **PKiKP 12 27 38.6 -0.4**
NACGM Naroch 146.43 295 *e*PKP **PKPab 12 27 37.8 +0.9**
baz=117
MORH Mrgy, Hungar 146.49 276 PKP **PKiKP 12 27 39.1 -0.1**
KOVH Kovagotottos 146.72 276 PKP **PKiKP 12 27 41.3 +1.5**
NIE Niedzica 147.31 283 *e*PKP **PKiKP 12 27 42.7 +1.8**
CSKK Cskako 147.35 278 PKP **PKiKP 12 27 42.9 +1.9**
SSPA Standing Stone 147.51 98 PKPab 12 27 40.7 -0.8
VSL Villasalto 147.53 259 IAMs_20 IAMs_20 13 29 27.3
comp=Z,412nm,19.0s
LANS Liptovska Anna 147.63 282 *e*PKP2 **PKPab 12 27 43.4 +1.5**
LANS Liptovska Anna 147.63 282 *e*PKP **PKPab 12 27 43.4 +1.5**
VYHS Vyhne 147.64 280 *e*PKP2 **PKPab 12 27 43.2 +1.3**
VYHS Vyhne 147.64 280 *e*PKP **PKPab 12 27 43.1 +1.2**
MPLH Magyarpolny 147.65 277 PKP **PKPab 12 27 43.5 +1.6**
FCC Fort Churchill 147.86 59 PKP2 **PKPbc 12 27 40.5 +0.7**
FCC Fort Churchill 147.86 59 PKPbc 12 27 40.5 +0.7
VSU Vasula 147.88 301 *e*P **PKPab 12 27 42.4 -0.1**
SUW Suwalki 147.93 292 *e*PKP **PKPab 12 27 42.8 0.0**
SUW Suwalki 147.93 292 IAMs_20 IAMs_20 13 36 06.4
comp=Z,310nm,20.0s
SUW Suwalki 147.93 292 *e*P **PKiKP 12 27 42.1 +0.2**
OJC Ojcow 147.99 283 *e*PKP **PKPab 12 27 43.5 +0.3**
OJC Ojcow 147.99 283 PKIKP **PKPbc 12 27 40.6 +0.2**
OJC Ojcow 147.99 283 PKPbc 12 27 40.6 +0.2
PABE Paberze 148.14 295 *e*P **PKPab 12 27 43.7 +0.1**
MODS Modra-Piesok 148.46 279 *e*PKP2 **PKPab 12 27 44.4 -0.8**
MODS Modra-Piesok 148.46 279 *e*PKP **PKPab 12 27 44.4 -0.8**
JAVC Velka Javorina 148.49 280 *e*PKP **PKiKP 12 27 44.2 +0.8**
SOKA Soboth 148.80 275 *e*P **PKPbc 12 27 43.3 +0.5**
MORC Moravsky Berou 149.03 281 PKP2 **PKiKP 12 27 45.7 +1.2**
MORC Moravsky Berou 149.03 281 PKiKP 12 27 45.7 +1.2
MORC Moravsky Berou 149.03 281 *e*PKP **PKPab 12 27 46.4 -1.1**
FIA1 FINESS Array S 149.13 306 PKPbc 12 27 43.2 +0.2
FINES FINESS Array B 149.14 306 PKPbc **PKPbc 12 27 41.1 -1.9**
comp=Z,10nm,0.7s,baz=114,slow=3.4,SNR=16
KRUC Moravsky 149.31 279 *e*PKP **PKiKP 12 27 45.7 +0.7**
VRAC Vranov 149.33 280 PKPbc **PKiKP 12 27 45.4 +0.4**
comp=Z,4.5nm,1.0s,baz=136,slow=3.2,SNR=6.6
VRAC Vranov 149.33 280 *e*PKP **PKiKP 12 27 45.5 +0.4**
MTSE Matsula 149.40 300 *e*P **PKiKP 12 27 46.4 +1.6**
MEF Metsahovi 149.58 303 *e*P **PKiKP 12 27 47.3 +2.2**
KRLC Kraliky 149.61 281 *e*PKP2 **PKiKP 12 27 47.0 +1.3**
KRLC Kraliky 149.61 281⇑ *e*PKP **PKiKP 12 27 47.0 +1.3**
ZCCA Zocca 149.76 268 PKPbc **PKPbc 12 27 45.7 +0.5**
ZCCA PKPab **PKPab 12 27 50.1 -0.6**
DPC Dobruska-Polom 150.00 282 *e*PKIKP **PKiKP 12 27 46.2 -0.3**
DPC1 Dobruska-Polom 150.00 282⇑ *e*PKP **PKiKP 12 27 46.2 -0.3**
OSTC Ostas 150.16 282⇑ *e*PKP **PKiKP 12 27 48.8 +2.1**
UPC Upice 150.25 282 *e*PKIKP **PKiKP 12 27 49.0 +2.1**
UPC Upice 150.25 282⇑ *e*PKP **PKiKP 12 27 49.0 +2.1**
KSP Ksiaz 150.25 282 *e*PKP **PKPab 12 27 54.5 +2.1**
CHVC Chvalec 150.26 282⇑ *e*PKP **PKiKP 12 27 49.8 +2.8**
CTI Castel Tesino 150.38 271 PKIKP **PKiKP 12 27 47.4 -0.1**
CTI Castel Tesino 150.38 271 PKPbc **PKiKP 12 27 47.4 -0.1**
ARCES ARCESS Array B 150.62 322 PKPbc **PKiKP 12 27 47.4 +0.3**
comp=Z,12nm,0.8s,baz=115,slow=2.1,SNR=14
ARCES ARCESS Array B 150.62 322 PKIKP **PKiKP 12 27 48.6 +1.5**
ARCES ARCESS Array B 150.62 322 PKiKP 12 27 48.6 +1.5
GERES GERESS Array B 150.72 277 PKPbc **PKPbc 12 27 45.5 -1.9**
comp=Z,3.1nm,0.8s,baz=197,slow=4.2,SNR=17
GERES GERESS Array B 150.72 277 PKIKP **PKiKP 12 27 48.6 +0.5**
GERES GERESS Array B 150.72 277 PKiKP 12 27 48.5 +0.5
KHC Kasperske Hory 150.94 278 *e*PKIKP **PKiKP 12 27 50.0 +1.6**

KHC	Kasperske Hory	150.94 278	↑	ePKP	PKiKP	12 27 50.0	+1.6
RAF	Rauma	151.04 304		eP	PKiKP	12 27 48.5	+0.3
SQTA	Sankt Quirin	151.29 273		i P	PKPbc	12 27 48.6	-0.2
	comp=Z,18nm,0.9s						
MOTA	Moosalm	151.41 273		eP	PKiKP	12 27 50.2	+0.6
	comp=Z,16nm,0.9s						
FETA	Feichten	151.45 272		eP	PKPbc	12 27 49.1	-0.1
	comp=Z,22nm,1.0s						
SPITS	Spitsbergen Ar	151.48 341		PKPbc	PKPbc	12 27 48.2	-0.1
	comp=Z,11nm,0.7s,baz=101,slow=7.6,SNR=12						
BRG	Berggiesshubel	151.58 281		ePKP	PKiKP	12 27 52.8	+3.1
BRG				Amp		12 27 55.5	
	comp=Z,14nm,1.4s						
BRG				Amp		12 28 32.0	
	comp=E,0.7nm,14.8s						
BRG				Amp		12 28 45.0	
	comp=Z,1.0nm,17.5s						
BRG				Amp		12 28 48.0	
	comp=N,0.4nm,18.5s						
BRG	Berggiesshubel	151.58 281		ePKIKP	PKiKP	12 27 52.7	+3.1
BRG				pmax	pmax		
	comp=Z,14nm,1.4s						
AAL	Aland	151.69 302		eP	PKiKP	12 27 51.2	+1.7
DAVOX	Davos/Dischmat	151.80 271		PKPbc	PKPbc	12 27 49.6	-0.5
	comp=Z,5.7nm,0.6s,baz=251,slow=3.1,SNR=8.0						
VLDQ	Val d'Or	152.25 87			PKiKP	12 27 51.2	+0.2
CLL	Collm	152.31 281		ePKIKP	PKiKP	12 27 52.0	+0.9
CLL				e		12 28 02.0	
CLL				pmax	pmax		
	comp=Z,14nm,1.4s						
CLL				MLR	MLR		
	comp=Z,300nm,20.7s						
CLL	Collm	152.31 281		ePKPbc	PKiKP	12 27 52.0	+0.9
	comp=Z,14nm,1.4s						
CLL				ex	x	12 27 58.0	
	comp=Z,21nm,1.6s						
CLL				ePKPab	PKPab	12 28 02.0	+1.1
CLL				ex	x	12 28 08.0	
CLL				eSS	SS	12 51 18.0	+15
CLL				eSSS	SSS	12 56 48.0	
CLL				eSSSS		13 01 24.0	
CLL				LmV		13 48 00.0	
	comp=Z,300nm,20.7s						
TRQ	Mont Tremblant	152.88 92		PKPdf	PKPdf	12 27 46.3	+1.1
TRQ					PKPab	12 28 04.9	+1.3
HFS	Hagfors	154.76 300		PKPab	PKPab	12 28 13.0	+1.9
	comp=Z,2.6nm,0.8s,baz=24,slow=44,SNR=5.8						
ESDC	Sonseca Array	154.88 244		PKPbc	PKiKP	12 27 58.0	+1.1
	comp=Z,0.9nm,0.8s,baz=137,slow=1.0,SNR=3.2						
ESDC				PKPab	pPKPab	12 28 14.8	-0.4
	comp=Z,9.7nm,1.1s,baz=146,slow=3.4,SNR=14						
ESDC	Sonseca Array	154.88 244		PKPdf	PKPdf	12 27 49.2	+1.0
ESDC					PKPab	12 28 10.4	-1.9
NB2	NORSAR Subarra	156.10 302		PKP	PKPab	12 28 18.6	+1.7
	comp=Z,7.4nm,1.2s,baz=96,slow=4.4						
NOA	NORSAR Array B	156.10 302		PKPab	PKPab	12 28 19.0	+2.1
	comp=Z,3.4nm,1.1s,baz=95,slow=4.5,SNR=4.3						
DAG	Danmarks Havn	157.76 351		i P	PKPab	12 28 24.0	+0.5
DBG	Daneborg	160.19 349		eP	PKPab	12 28 34.6	+0.5

IDC **12** *12:16:13.0±7.1, 37.88N×72.74E, h21km±40km, mb3.4/3, mb1 3.6/8, mb1mx3.2/59, mbtmp3.5/8, ML3.2/4, Error ellipse: s-maj=41.0km s-min=32.1km az=31.0*

ISC 12 12:16:09.1±1.5, **37.6N**±0.1×**72.3E**±0.2, **h10**km, **n8, σ2s21/10, mb3.5/3, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AAK	**Ala-Archa**	**5.29**	**18**	Pn		**Pn**	**12 17 29.4**	**+1.1**
	0.7nm,0.3s,baz=17,slow=19,SNR=5.4							
AAK				Pg		**Pb**	**12 17 42.0**	**+0.2**
	1.6nm,0.3s,baz=207,slow=11,SNR=6.5							
AAK				Sn		**Sn**	**12 18 31.3**	**+1.8**
	0.8nm,0.3s,baz=358,slow=23,SNR=1.5							
MKAR	**Makanchi Array**	**11.79**	**36**	Pn		**Pn**	**12 18 56.2**	**-1.0**
	baz=224,slow=12,SNR=2.0							
KURBB	**Kurchatov Arra**	**13.75**	**17**	Pn		**Pn**	**12 19 19.6**	**-4.3**
	0.1nm,0.3s,baz=205,slow=11,SNR=2.1							
AKTO	**Aktyubinsk**	**16.38**	**326**	Pn		**Pn**	**12 19 59.8**	**+0.9**
	0.2nm,0.3s,baz=131,slow=11,SNR=5.1							
ZALV	**Zalesovo Beam**	**18.48**	**24**	P		**Pn**	**12 20 22.1**	**-3.0**
	0.3nm,0.3s,baz=217,slow=11,SNR=11							
SONM	**Songino Array**	**26.86**	**57**	P		**P**	**12 21 50.0**	**0.0**
	0.5nm,0.7s,baz=243,slow=9.5,SNR=4.2							
YKA	**Yellowknife Ar**	**80.08**	**3**	P		**P**	**12 28 18.4**	**-0.2**
	0.4nm,0.8s,baz=344,slow=5.0,SNR=4.8							
WRA	**Warramunga Arr**	**81.72**	**123**	P		**P**	**12 28 28.7**	**+0.7**
	0.5nm,0.8s,baz=324,slow=4.8,SNR=2.6							

IDC **12** *12:29:31.6±2.2, 39.14N×144.49E, h0km, mb3.8/10, mb1 3.9/13, mb1mx3.7/71, mbtmp3.8/13, ML3.4/3, Error ellipse: s-maj=48.7km s-min=22.9km az=158.0*
JMA **12** *12:29:36.0±0.2, 39.27N×144.25E, h52km, M3.8*
NIED **12** *12:29:36.0, 39.27N×144.25E, h52km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.42; $M_{\theta\theta}$=0.37; $M_{\phi\phi}$=4.05; $M_{r\theta}$=-0.23; $M_{\theta\phi}$=0.82; $M_{r\phi}$=0.93; Fault plane solution: M_0=4.43000×10^{14} NP1:ϕ_s=17.00000°, δ=40.00000°, λ=-82.00000°. NP2:ϕ_s=187.00000°, δ=51.00000°, λ=-96.00000°*

ISC 12 12:29:35.7±1.0, **39.28N**±0.07×**144.37E**±0.08, **h23**km, **n26, σ1s79/35, mb3.7/10, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MIYJ	**Miyakonagasawa**	**1.99**	**279**	P		**Pn**	**12 30 06.9**	**-1.0**
MIYJ				eS		**Sn**	**12 30 29.3**	**-2.9**
JTH	**Tanohata**	**2.04**	**290**	P		**Pn**	**12 30 07.5**	**-1.1**
JTH				eS		**Sn**	**12 30 31.0**	**-2.4**
OFUJ	**Ofunato**	**2.10**	**265**	P		**Pn**	**12 30 08.2**	**-1.3**
OFUJ				S		**Sn**	**12 30 32.5**	**-2.4**
JOM	**Ohasama**	**2.39**	**276**	P		**Pn**	**12 30 12.7**	**-0.7**
JOM				S		**Sn**	**12 30 39.9**	**-2.0**
JANG	**Nango**	**2.45**	**297**	P		**Pn**	**12 30 13.0**	**-1.2**
JMK	**Ichinoseki**	**2.47**	**263**	P		**Pn**	**12 30 13.5**	**-0.9**
JYK	**Kaneyama**	**3.14**	**265**	P		**Pn**	**12 30 23.4**	**-0.3**
JNBK	**Urakawa-nobuka**	**3.24**	**338**	P		**Pn**	**12 30 24.9**	**-0.1**
JNBK				S		**Sn**	**12 31 02.0**	**-0.9**
JOT	**Ohata**	**3.29**	**311**	P		**Pn**	**12 30 25.4**	**-0.4**
JCH	**Churui**	**3.42**	**347**	P		**Pn**	**12 30 26.5**	**-1.0**
JCH				S		**Sn**	**12 31 05.5**	**-1.8**
JFT	**Otama**	**3.62**	**242**	eS		**Sn**	**12 31 08.8**	**-3.5**
NEM2	**Nemuro 2**	**4.21**	**14**	P		**Pn**	**12 30 36.1**	**-2.3**
NEM2				S		**Sn**	**12 31 22.3**	**-4.6**
JTKR	**Abashiri--Toko**	**4.70**	**356**	P		**Pn**	**12 30 44.4**	**-0.7**
JTKR				eS		**Sn**	**12 31 35.7**	**-3.2**
ASAJ	**Asahikawa**	**5.01**	**345**	Pn		**Pn**	**12 30 49.1**	**-0.3**
	3.9nm,0.3s,baz=199,slow=7.6,SNR=25							
ASAJ				Sn		**Sn**	**12 31 46.8**	**+0.1**
	0.9nm,0.3s,baz=145,slow=33,SNR=3.8							
MJAR	**Matsushiro Arr**	**5.58**	**243**	Pn		**Pn**	**12 30 56.6**	**-0.6**
	0.5nm,0.3s,baz=40,slow=16,SNR=14							
USRK	**Ussuriysk Ar.**	**10.47**	**302**	Pn		**Pn**	**12 32 07.2**	**+2.9**
	baz=99,slow=14,SNR=7.1							
SEY	**Seymchan**	**24.18**	**9**	P		**P**	**12 34 51.5**	**+1.6**
	3.9nm,0.8s,baz=185,slow=7.3,SNR=22							
SONM	**Songino Array**	**28.57**	**300**	P		**P**	**12 35 32.1**	**+2.2**
	0.5nm,0.5s,baz=82,slow=10,SNR=2.4							
ZALV	**Zalesovo Beam**	**42.17**	**311**	P		**P**	**12 37 26.3**	**+0.1**
	1.0nm,0.5s,baz=91,slow=9.3,SNR=5.0							
MKAR	**Makanchi Array**	**44.94**	**301**	P		**P**	**12 37 48.6**	**0.0**
	0.6nm,0.7s,baz=81,slow=9.6,SNR=5.7							
ILAR	**Eielson Array**	**46.35**	**34**	P		**P**	**12 37 59.6**	**+0.1**
	0.5nm,0.7s,baz=272,slow=4.8,SNR=4.4							
KURBB	**Kurchatov Arra**	**46.49**	**307**	P		**P**	**12 38 01.2**	**+0.4**
	0.5nm,0.3s,baz=78,slow=8.5,SNR=4.6							
YKA	**Yellowknife Ar**	**60.69**	**32**	P		**P**	**12 39 44.8**	**+0.1**
	0.3nm,0.7s,baz=304,slow=6.7,SNR=4.9							
FINES	**FINESS Array B**	**67.90**	**333**	P		**P**	**12 40 32.4**	**+0.5**
	1.1nm,0.6s,baz=56,slow=7.4,SNR=3.6							
NOA	**NORSAR Array B**	**73.00**	**338**	P		**P**	**12 41 03.6**	**+0.5**
	0.5nm,0.7s,baz=37,slow=5.8,SNR=3.3							
AKASG	**Malin Array Be**	**73.92**	**323**	P		**P**	**12 41 08.7**	**+0.1**
	0.4nm,0.4s,baz=43,slow=7.0,SNR=1.8							

NEIC **12** *12:33:39.7±1.3, 19.61S±0.04×69.29W±0.05, h107km±4km, Error ellipse: s-maj=7.1km s-min=6.0km az=106.0*
IDC **12** *12:33:40.4±1.2, 19.62S×68.91W, h112km±10km, mb3.8/4, mb1 3.8/8, mb1mx3.5/43, mbtmp4.1/8, MS4.4/3, Ms1 4.4/3, ms1mx3.2/60, Error ellipse: s-maj=31.1km s-min=8.5km az=97.0*

GUC **12** *12:33:40.4±0.6, 19.60S×69.26W, h101km±2km, ML3.8*
VAO **12** *12:33:41.9±0.7, 19.54S×69.27W, h137km, mb4.2*

ISC 12 12:33:39.0±0.6, **19.60S**±0.03×**69.28W**±0.06, **h106**km±5km, **n81, σ1s17/99, mb4.1/5, 5C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO01	**Chusmiza**	**0.11**	**131**	Pn		**Pn**	**12 33 54.9**	**+0.5**
GO01				Sn		**Sn**	**12 34 06.3**	**+0.4**
GO01	**Chusmiza**	**0.11**	**131**	↓ i P		**Pn**	**12 33 54.9**	**+0.5**
GO01				i S		**Sn**	**12 34 06.2**	**+0.4**
PB11	**IPOC Station P**	**0.39**	**246**			**Pn**	**12 33 55.0**	**+0.1**
PB11				Sn		**Sn**	**12 34 07.4**	**+0.5**
PB11	**IPOC Station P**	**0.39**	**246**	↑ i P		**Pn**	**12 33 55.5**	**+0.5**
PB11				i S		**Sn**	**12 34 07.5**	**+0.5**
PB11				IAML			12 34 08.1	
	comp=E,9μm,0.3s							
PB08	**IPOC Station P**	**0.55**	**168**			**Pn**	**12 33 56.5**	**+0.1**
PB08				Sn		**Sn**	**12 34 10.0**	**+0.7**
PB08	**IPOC Station P**	**0.55**	**168**	↓ i P		**Pn**	**12 33 57.1**	**+0.8**
PB08				i S		**Sn**	**12 34 09.8**	**+0.6**
PB08				IAML			12 34 10.7	
	comp=E,9μm,0.4s							
HMBC	**Humberstone**	**0.89**	**220**	↑ i P		**Pn**	**12 33 59.4**	**+0.5**
HMBC				i S		**Sn**	**12 34 14.0**	**+0.2**
HMBC				IAML			12 34 15.1	
	comp=E,7μm,0.4s							
TA02	**Huaiquique**	**1.04**	**230**			**Pn**	**12 34 01.1**	**+0.7**
TA02				Sn		**Sn**	**12 34 17.3**	**+0.9**
TA02	**Huaiquique**	**1.04**	**230**	eP		**Pn**	**12 34 01.0**	**+0.7**
TA02				i S		**Sn**	**12 34 16.8**	**+0.3**
TA02				IAML			12 34 17.8	
	comp=N,6μm,0.3s							
PB16	**IPOC Station P**	**1.27**	**350**	Pn		**Pn**	**12 34 05.0**	**+1.5**
PB16				Sn		**Sn**	**12 34 23.8**	**+1.7**
PB16	**IPOC Station P**	**1.27**	**350**	↑ i P		**Pn**	**12 34 05.1**	**+1.5**
PB16				i S		**Sn**	**12 34 23.7**	**+1.7**
PB16				IAML			12 34 26.1	
	comp=E,2μm,0.4s							
TA01	**Diego Aracena**	**1.28**	**221**	Pn		**Pn**	**12 34 03.4**	**+0.3**
TA01	**Diego Aracena**	**1.28**	**221**	↑ i P		**Pn**	**12 34 03.3**	**+0.3**
TA01				i S		**Sn**	**12 34 21.2**	**0.0**
TA01				IAML			12 34 25.6	
	comp=N,1μm,0.4s							
PB12	**IPOC Station P**	**1.39**	**314**	Pn		**Pn**	**12 34 04.9**	**+0.5**
PB12	**IPOC Station P**	**1.39**	**314**	↑ i P		**Pn**	**12 34 04.9**	**+0.5**
PB12				i S		**Sn**	**12 34 24.3**	**+0.6**
PB12				IAML			12 34 25.4	
	comp=E,3μm,0.2s							
PB01	**IPOC Station P**	**1.45**	**188**			**Pn**	**12 34 06.0**	**+0.8**
PB01	**IPOC Station P**	**1.45**	**188**	eP		**Pn**	**12 34 05.9**	**+0.8**
PB01				i S		**Sn**	**12 34 25.6**	**+0.7**
PB01				IAML			12 34 28.6	
	comp=N,1μm,0.2s							
PB01				IAML			12 34 29.0	
	comp=E,1μm,0.2s							
PATCX	**Punta Patache**	**1.47**	**214**			**Pn**	**12 34 05.6**	**+0.4**
PATCX	**Punta Patache**	**1.47**	**214**	eP		**Pn**	**12 34 05.7**	**+0.4**
PATCX				i S		**Sn**	**12 34 24.4**	**-0.9**
PATCX				IAML			12 34 31.5	
	comp=E,1μm,0.2s							
AP01	**Chacalluta**	**1.58**	**320**	Pn		**Pn**	**12 34 07.7**	**+1.1**
PB02	**IPOC Station P**	**1.81**	**199**			**Pn**	**12 34 10.1**	**+0.6**
PB02	**IPOC Station P**	**1.81**	**199**	eP		**Pn**	**12 34 10.1**	**+0.6**
PB09	**IPOC Station P**	**2.19**	**179**	Pn		**Pn**	**12 34 15.9**	**+1.5**
PB07	**IPOC Station P**	**2.19**	**195**	Pn		**Pn**	**12 34 15.5**	**+1.0**
PB07	**IPOC Station P**	**2.19**	**195**	eP		**Pn**	**12 34 15.7**	**+1.2**
PB04	**IPOC Station P**	**2.84**	**196**	Pn		**Pn**	**12 34 23.2**	**+0.3**
LVC	**Limon Verde**	**3.02**	**174**	P		**Pn**	**12 34 27.7**	**+2.3**
	comp=E,8.6nm,0.3s,baz=353,slow=10,SNR=55							
LVC				S		**Sn**	**12 35 02.1**	**+0.9**
	comp=E,32nm,0.3s,baz=316,slow=9.5,SNR=22							
LVC	**Limon Verde**	**3.02**	**174**	Pn		**Pn**	**12 34 27.2**	**+1.7**
LVC	**Limon Verde**	**3.02**	**174**	eP		**Pn**	**12 34 29.4**	**+3.9**
PB06	**IPOC Station P**	**3.10**	**185**	Pn		**Pn**	**12 34 27.7**	**+1.3**
LPAZ	**La Paz**	**3.47**	**19**	P		**Pn**	**12 34 34.1**	**+2.4**
LPAZ				S		**Sn**	**12 35 11.9**	**-0.5**
	comp=E,2.1nm,0.3s,baz=186,slow=8.2,SNR=51							
	comp=E,1.9nm,0.3s,baz=12,slow=24,SNR=4.0							
LPAZ	**La Paz**	**3.47**	**19**			**Pn**	**12 34 34.3**	**+2.5**
LPAZ	**La Paz**	**3.47**	**19**	eP		**Pn**	**12 34 34.7**	**+3.0**
PB15	**IPOC Station P**	**3.60**	**183**			**Pn**	**12 34 33.5**	**+0.4**
PB10	**IPOC Station P**	**4.07**	**197**	Pn		**Pn**	**12 34 39.3**	**+0.1**
GO02	**Mina Guanaco**	**5.54**	**183**	Pn		**Pn**	**12 34 58.0**	**-1.4**
AC01	**Pan de Azucar**	**6.63**	**190**	Pn		**Pn**	**12 35 11.8**	**-2.1**
SIV	**San Ignacio**	**8.60**	**67**	P		**Pn**	**12 35 38.1**	**-2.6**
	comp=E,2.4nm,0.3s,baz=255,slow=10,SNR=76							
AC04	**Llanos de Chal**	**8.72**	**191**	Pn		**Pn**	**12 35 42.5**	**+0.3**
VILB	**Vilhena**	**10.94**	**54**	eP		**Pn**	**12 36 11.7**	**-0.8**
CPUP	**Villa Florida**	**12.88**	**124**	P		**Pn**	**12 36 35.9**	**-2.2**
	comp=E,0.3nm,0.3s,baz=310,slow=17,SNR=6.1							
CPUP	**Villa Florida**	**12.88**	**124**			**Pn**	**12 36 36.9**	**-1.2**
CLDB	**Colider**	**15.63**	**58**	eP		**Pn**	**12 37 14.1**	**+0.7**
PTGB	**Pitanga**	**16.73**	**111**	eP		**P**	**12 37 28.4**	**+0.8**
ITAB	**Concordia**	**17.46**	**119**			**Pn**	**12 37 36.5**	**+0.6**
ITAB				IAmb		IAmb	12 37 37.6	
	comp=Z,11nm,0.9s							
ITAB	**Concordia**	**17.46**	**119**	eP		**P**	**12 37 35.8**	**+0.2**
ITRB	**Iturama**	**17.82**	**94**	eP		**P**	**12 37 40.3**	**+0.7**
CPSB	**Cacapava Do Su**	**17.92**	**130**	eP		**P**	**12 37 41.3**	**+0.8**
NPGB	**Novo Progresso**	**18.40**	**49**	eP		**P**	**12 37 46.9**	**+1.0**
PLTB	**Pedras Altas**	**18.58**	**134**	eP		**P**	**12 37 48.6**	**+0.9**
FRTB	**Fartura**	**18.72**	**105**	eP		**P**	**12 37 49.6**	**+0.2**
SNDB	**Serra Nova Dou**	**18.88**	**69**	eP		**P**	**12 37 50.4**	**-0.8**
BB19B	**Bebedouro**	**19.52**	**98**	eP		**P**	**12 37 57.6**	**-0.5**
TIJ01	**Guaruva-PR**	**19.58**	**111**	eP		**P**	**12 37 59.9**	**+1.1**
IPMB	**Ipameri, GO**	**20.01**	**89**	eP		**P**	**12 38 02.8**	**-0.7**
ITTB	**Itaituba**	**20.09**	**43**	eP		**P**	**12 38 03.1**	**-1.1**
RCLB	**Rio Claro- Sao**	**20.49**	**102**	eP		**P**	**12 38 07.6**	**-1.0**
BDFB	**Brasilia**	**20.64**	**82**	P		**P**	**12 38 11.3**	**+1.0**
	comp=Z,6.0nm,0.5s,baz=248,slow=12,SNR=8.1							
VAO	**Valinhos**	**21.06**	**103**	eP		**P**	**12 38 13.6**	**-1.2**
PLCA	**Paso Flores**	**21.09**	**183**	P		**P**	**12 38 16.0**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=355,slow=12,SNR=2.4							
PLCA	**Paso Flores**	**21.09**	**183**	P		**P**	**12 38 16.1**	**+1.1**
PEXB	**Peixe**	**21.50**	**73**	eP		**P**	**12 38 17.9**	**-1.5**
MALB	**Monte Alegre**	**22.95**	**42**	eP		**P**	**12 38 32.1**	**-2.3**
BSCB	**Bom Sucesso**	**23.02**	**98**	eP		**P**	**12 38 34.2**	**-1.0**
BOAV	**Boa Vista**	**23.49**	**22**	eP		**P**	**12 38 38.6**	**-0.8**
SMTB	**Santa Maria do**	**23.55**	**66**	eP		**P**	**12 38 39.9**	**-0.1**
DIAM	**Diamantina, MG**	**24.25**	**91**	eP		**P**	**12 38 45.6**	**-0.8**
JANB	**Januaria**	**24.25**	**83**	eP		**P**	**12 38 45.1**	**-1.2**
SDBA	**SAO DESIDERIO**	**24.48**	**77**	eP		**P**	**12 38 47.8**	**-0.6**
DUB01	**Friburgo-RJ**	**25.25**	**100**	eP		**P**	**12 38 55.4**	**-0.1**
GUA01	**Guaratinga, BA**	**28.16**	**89**	eP		**P**	**12 39 21.2**	**-0.3**
NBPN	**Ponto Novo - B**	**29.34**	**77**	eP		**P**	**12 39 31.7**	**-0.3**
NBAN	**Anadia - AL**	**33.36**	**78**	eP		**P**	**12 40 07.2**	**-0.1**
TXAR	**Lajitas Array**	**58.88**	**325**	LR		LR	13 11 19.4	
	comp=Z,217nm,19.0s,baz=226,slow=38							
DBIC	**Dimbokro**	**68.54**	**74**	P		**P**	**12 44 29.4**	**-1.2**
	comp=Z,4.2nm,0.7s,baz=234,slow=6.1,SNR=5.7							
DBIC				LR		LR	13 13 56.6	
	comp=Z,273nm,20.9s,baz=170,slow=35							
DBIC	**Dimbokro**	**68.54**	**74**	P		**P**	**12 44 30.2**	**-0.5**
QSPA	**South Pole Qui**	**70.58**	**180**	P		**P**	**12 44 44.2**	**+1.7**
QSPA				IAmb		IAmb	12 44 45.7	
	comp=Z,4.6nm,1.4s							
TORD	**Torodi Ar. Bea**	**77.05**	**71**	P		**P**	**12 45 19.9**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=254,slow=5.4,SNR=18							
TORD				pP		**pP**	**12 45 49.0**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=252,slow=4.7,SNR=4.0							
TORD				LR		LR	13 20 19.5	
	comp=Z,293nm,19.0s,baz=184,slow=36							
TORD	**Torodi Ar. Bea**	**77.05**	**71**	P		**P**	**12 45 20.2**	**-0.7**
TORD				IAmb		IAmb	12 45 20.6	
	comp=Z,1.7nm,0.8s							
YKA	**Yellowknife Ar**	**89.29**	**341**	P		**P**	**12 46 23.9**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=134,slow=4.7,SNR=29							
YKA				pP		**pP**	**12 46 52.0**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=135,slow=4.8,SNR=14							
YKA	**Yellowknife Ar**	**89.29**	**341**	P		**P**	**12 46 24.2**	**+1.5**

IDC 12 12:34:12.2±312.0, **59.29N×28.45E, h0**km, **Error ellipse: s-maj=129.5km s-min=35.5km az=159.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I43RU	**DUBNA INFRASON**	**5.33**	**115**	*i*			13 07 20.0	
	baz=305,slow=319,SNR=6.4							
I37NO	**I37NO**	**10.70**	**341**	*i*			13 43 20.0	
	baz=152,slow=332,SNR=2.6							
I31KZ	**AKTYUBINSK INF**	**19.07**	**105**	*i*			14 32 30.0	
	baz=309,slow=323,SNR=1.1							
I46RU	**ZALESOVO INFRA**	**30.65**	**75**	*i*			15 43 30.0	
	baz=302,slow=326,SNR=1.4							

IDC **12** *12:36:31.2±1.1, 15.81N×61.42W, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/41, mbtmp3.7/7, ML4.0/1, MS4.2/5, Ms1 4.2/5, ms1mx3.2/82, Error ellipse: s-maj=23.6km s-min=21.1km az=68.0*
TRN **12** *12:36:31.0, 15.72N×61.45W, h19km, MD4.1*
TRN Felt Dominica, MMI III.
NEIC **12** *12:36:32.6±2.1, 15.69N±0.02×61.50W±0.07, h9km±5km, mb4.1/9, Md4.1(TRN), Error ellipse: s-maj=9.3km s-min=1.9km az=78.0*

ISC 12 12:36:33.0±0.8, **15.70N**±0.02×**61.48W**±0.03, **h15**km±5km, **n113, σ1s90/139, mb4.0/10, MS4.2/5, 1C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MDVC	**Dominica, Viel**	**0.11**	**137**	eP		**Pb**	**12 36 36.9**	**+0.1**
MDVC				eS		**Sb**	**12 36 39.8**	**+0.4**
TDBA	**Terre de Bas,**	**0.21**	**316**	Pg		**Pg**	**12 36 37.9**	**+0.1**
TDBA				Sg		**Sg**	**12 36 41.0**	**-0.1**
TDBA	**Terre de Bas,**	**0.21**	**316**	eP		**Pg**	**12 36 38.1**	**+0.3**
TDBA				eS		**Sg**	**12 36 41.2**	**+0.1**
TBG	**Guadaloupe-3**	**0.22**	**315**	eP		**Pg**	**12 36 38.0**	**+0.1**
DSLB	**Salisbury**	**0.26**	**167**	eP		**Pb**	**12 36 39.5**	**+0.1**
DSLB				eS		**Sb**	**12 36 43.8**	**0.0**
MAGL	**Barre de l'ile**	**0.32**	**37**			**Pg**	**12 36 40.0**	**+0.4**
MAGL				Sg		**Sg**	**12 36 44.8**	**+0.7**
MAGL	**Barre de l'ile**	**0.32**	**37**	↑ i P		**Pg**	**12 36 39.7**	**+0.1**
MAGL				eS		**Sg**	**12 36 44.9**	**+0.7**
MDN	**Morne-Daniel**	**0.38**	**167**	eP		**Pb**	**12 36 41.8**	**+0.3**
MDN				eS		**Sb**	**12 36 47.9**	**+0.6**
CBE	**Ff, Capester**	**0.39**	**342**	Pg		**Pg**	**12 36 41.2**	**+0.2**
CBE				Sg		**Sg**	**12 36 46.3**	**0.0**
CBE	**Ff, Capester**	**0.39**	**342**	eP		**Pg**	**12 36 41.3**	**+0.4**
CBE				eS		**Sg**	**12 36 46.9**	**+0.6**
DLPL	**La Plaine**	**0.43**	**148**	Pg		**Pb**	**12 36 42.2**	**0.0**
DLPL	**La Plaine**	**0.43**	**148**	eP		**Pb**	**12 36 42.6**	**+0.4**
DLPL				eS		**Sb**	**12 36 49.1**	**+0.7**
GDHS	**Morne Mazeau,**	**0.64**	**335**	Pg		**Pg**	**12 36 45.2**	**-0.3**
GDHS				Sg		**Sg**	**12 36 53.8**	**-0.1**
GDSD	**La Dsirade Is**	**0.73**	**33**			**Pg**	**12 36 46.2**	**-1.1**
GDSD				Sg		**Sg**	**12 36 55.7**	**-1.3**
H05N1	**Guadeloupe/Mar**	**0.74**	**33**	Pn		**Pg**	**12 36 46.3**	**-1.1**
H05N1				Sn		**Sg**	**12 36 55.8**	**-1.4**
ABD	**La Joyeuse, An**	**0.78**	**360**	Pg		**Pg**	**12 36 47.4**	**-0.7**
ABD				Sg		**Sg**	**12 36 57.7**	**-0.6**
ABD	**La Joyeuse, An**	**0.78**	**360**	eP		**Pg**	**12 36 47.8**	**-0.3**
ABD				eS		**Sg**	**12 36 58.2**	**-0.1**
SVN	**Savane Anatole**	**0.90**	**160**	Pg		**Pg**	**12 36 50.1**	**-0.3**
SVN				Sg		**Sg**	**12 37 02.0**	**-0.2**
SVN	**Savane Anatole**	**0.90**	**160**	eP		**Pb**	**12 36 50.4**	**0.0**
PCM	**Pelee Case Pet**	**0.91**	**163**	eP		**Pg**	**12 36 50.3**	**-0.4**
PCM	**Pelee Case Pet**	**0.91**	**163**	eP		**Pb**	**12 36 50.6**	**+0.1**
CXM	**Morne La Croix**	**0.93**	**161**	eP		**Pg**	**12 36 49.7**	**-1.3**
BAMF	**Morne Balai**	**0.93**	**160**	eP		**Pb**	**12 36 50.7**	**-0.2**
GBMF	**Grand Be**	**0.94**	**161**	eP		**Pb**	**12 36 50.7**	**-0.4**
PML	**Morne Lenard**	**0.95**	**162**	eP		**Pb**	**12 36 51.0**	**-0.2**
FDF	**

H10N2	**ASCENSION HYDR**	**52.08**	**113**	T	T	13 41 40.2		
	baz=297,slow=75,SNR=176							
H10N1	**ASCENSION HYDR**	**52.10**	**113**	T	T	13 41 41.4		
	baz=297,slow=75,SNR=178							
H10S3	**ASCENSION HYDR**	**52.44**	**115**	T	T	13 42 08.5		
	baz=293,slow=74,SNR=98							
H10S2	**ASCENSION HYDR**	**52.46**	**115**	T	T	13 42 09.8		
	baz=287,slow=74,SNR=23							
NVAR	**Mina Array Bea**	**54.52**	**306**	LR	LR	13 12 15.9		
	comp=Z,175nm,20.4s,baz=230,slow=39							
MOD	**Modoc Plateau**	**56.55**	**310**	P	**P**	**12 46 15.5**	**+0.3**	
MOD				IAmb	IAmb	12 46 15.6		
	comp=Z,6.4nm,1.5s							
YBH	**Yreka Blue Hor**	**58.31**	**310**	LR	LR	13 12 07.1		
	comp=Z,321nm,20.6s,baz=240,slow=37							
YKA	**Yellowknife Ar**	**59.57**	**334**	P	**P**	**12 46 35.1**	**-0.6**	
	comp=Z,1.1nm,0.6s,baz=105,slow=7.4,SNR=13							
TORD	**Torodi Ar. Bea**	**61.04**	**83**	P	**P**	**12 46 46.7**	**0.0**	
	comp=Z,0.6nm,0.8s,baz=289,slow=7.2,SNR=3.2							
TORD	**Torodi Ar. Bea**	**61.04**	**83**	P	**P**	**12 46 46.9**	**+0.2**	
NB2	**NORSAR Subarra**	**68.02**	**30**	P	**P**	**12 47 32.7**	**+1.1**	
	comp=Z,1.0nm,0.7s,baz=262,slow=6.5							
NOA	**NORSAR Array B**	**68.02**	**30**	P	**P**	**12 47 32.5**	**+0.9**	
	comp=Z,0.7nm,0.6s,baz=262,slow=6.3,SNR=5.4							
INK	**Inuvik**	**68.90**	**338**	LR	LR	13 18 17.7		
	comp=Z,303nm,21.9s,baz=210,slow=36							
INK	**Inuvik**	**68.90**	**338**	P	**P**	**12 47 39.3**	**+2.4**	
ILAR	**Eielson Array**	**73.98**	**334**	P	**P**	**12 48 09.8**	**+2.1**	
	comp=Z,0.5nm,0.8s,baz=81,slow=7.4,SNR=2.2							
FINES	**FINESS Array B**	**75.20**	**30**	P	**P**	**12 48 15.2**	**+0.5**	
	comp=Z,1.1nm,0.8s,baz=259,slow=3.9,SNR=3.7							
FINES	**FINESS Array B**	**75.20**	**30**	P	**P**	**12 48 15.6**	**+0.9**	
FIA1	**FINESS Array S**	**75.20**	**30**	P	**P**	**12 48 16.0**	**+1.2**	
TSUM	**Tsumeb**	**85.14**	**111**	LR	LR	13 18 03.6		
	comp=Z,87nm,21.1s,baz=332,slow=29							
SUR	**Sutherland**	**91.95**	**123**	LR	LR	13 27 53.1		
	comp=Z,75nm,18.7s,baz=330,slow=34							
PZH	**PanZhiHua**	**135.00**	**21**	PKP	**PKPdf**	**12 55 51.5**	**-1.1**	

IDC ***12*** *12:41:08.0±0.9, 0˚.17N×96˚.43E, h0km, mb4.5/15, mb1 4.6/17, mb1mx4.2/50, mbtmp4.5/17, ML4.6/2, MS4.2/17, Ms1 4.2/17, ms1mx3.7/87, Error ellipse: s-maj=28.0km s-min=14.1km az=55.0*

NEIC ***12*** *12:41:10.7±1.6, 0˚.30N±0˚.07×96˚.53E±0˚.05, h10km±1km, mb4.7/55, Error ellipse: s-maj=11.7km s-min=8.5km az=205.0*

DJA ***12*** *12:41:12.8±0.6, 0˚N±2˚×9˚7E±˚, h25km±4km, M5.0/21, mb5.0/21, mB5.4/13, MLv5.1/18, Mw(mB)4.9/13, MwMwp5.4/2, Mwp5.6/2*

KLM ***12*** *12:41:13, 0˚.46N×96˚.63E, h20km, mb5.0*

ISC 12 12:41:13.2±0.5, 0˚.22N±0˚.05×96˚.60E±0˚.07, h32km, n156, σ1§02/139, mb4.7/58, MS4.2/25, 3C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.45**	**42**	Pn	**Pn**	**12 41 36.0**	**-1.3**
GSI	**Gunungsitoli**	**1.45**	**42**	P	**Pn**	**12 41 36.0**	**-1.3**
GSI	**Gunungsitoli**	**1.45**	**42**	P	**Pn**	**12 41 36.2**	**-1.0**
SISI	**Saibi**	**2.92**	**122**	P	**Pn**	**12 41 56.9**	**-0.6**
SISI				S	**Sn**	**12 42 29.8**	**-1.8**
MNSI	**Mandailing Nat**	**3.03**	**79**	P	**Pn**	**12 41 58.1**	**-0.9**
RPSI	**Rantau Prapat**	**3.38**	**43**		**Pn**	**12 42 03.0**	**-0.8**
RPSI					**Sn**	**12 42 43.9**	**+1.0**
PSI	**Prapat**	**3.46**	**42**	Pn	**Pn**	**12 42 03.0**	**-2.0**
	33nm,0.3s,baz=230,slow=9.4,SNR=80						
PSI				Sn	**Sn**	**12 42 43.9**	**-1.1**
	24nm,0.3s,baz=136,slow=20,SNR=4.8						
KCSI	**Kotacane, Aceh**	**3.48**	**20**	P	**Pn**	**12 42 03.0**	**-2.2**
KCSI				S	**Sn**	**12 42 43.4**	**-2.0**
TSI	**Tuntungan**	**3.80**	**31**	P	**Pn**	**12 42 08.8**	**-0.8**
PPI	**Padang Panjang**	**3.85**	**100**	P	**Pn**	**12 42 10.1**	**-0.2**
PPI				S	**Sn**	**12 42 53.1**	**-1.4**
BKNI	**Bangkinang**	**4.44**	**89**	Pn	**Pn**	**12 42 18.5**	**+0.2**
BKNI	**Bangkinang**	**4.44**	**89**	P	**Pn**	**12 42 19.1**	**+0.7**
BKNI	**Bangkinang**	**4.44**	**89**	P	**Pn**	**12 42 19.2**	**+0.8**
PPSI	**Pulau Pagai**	**4.51**	**131**	P	**Pn**	**12 42 18.4**	**-1.0**
LHMI	**Lhok Sumawe**	**4.99**	**4**	Pn	**Pn**	**12 42 23.5**	**-2.5**
LHMI	**Lhok Sumawe**	**4.99**	**4**	P	**Pn**	**12 42 23.4**	**-2.5**
LHMI	**Lhok Sumawe**	**4.99**	**4**	P	**Pn**	**12 42 26.2**	**+0.3**
KRJI	**Kerinci**	**5.37**	**115**	P	**Pn**	**12 42 32.0**	**+0.7**
	4.6nm14µm983nm,0.5s						
IPM	**Ipoh**	**6.12**	**46**	Pn	**Pn**	**12 42 40.8**	**-0.7**
IPM	**Ipoh**	**6.12**	**46**	P	**Pn**	**12 42 41.0**	**-0.5**
IPM	**Ipoh**	**6.12**	**46**	P	**Pn**	**12 42 41.3**	**-0.2**
KULM	**Kulim**	**6.46**	**39**	Pn	**Pn**	**12 42 44.5**	**-1.6**
MASI	**Maura Aman, Be**	**6.55**	**121**	P	**Pn**	**12 42 46.8**	**-0.7**
JRMM	**Jerantut**	**6.91**	**58**	P	**Pn**	**12 42 52.0**	**-0.3**
MYKOM	**Kota Tinggi**	**7.41**	**78**		**Pn**	**12 42 58.4**	**-0.8**
MYKOM	**Kota Tinggi**	**7.41**	**78**	P	**Pn**	**12 42 59.0**	**-0.2**
MNAI	**Manna**	**7.81**	**126**	Pn	**Pn**	**12 43 04.3**	**-0.5**
MNAI	**Manna**	**7.81**	**126**	P	**Pn**	**12 43 03.5**	**-1.2**
	2.9nm312nm,0.7s						
MNAI	**Manna**	**7.81**	**126**	P	**Pn**	**12 43 04.8**	**+0.1**
TPRI	**Tanjung Pinang**	**7.95**	**85**	P	**Pn**	**12 43 05.9**	**-0.8**
	0.4nm4µm70nm,0.6s						
DSRI	**Dabo**	**8.01**	**95**	P	**Pn**	**12 43 07.0**	**-0.4**
	0.1nm11nm,0.4s						
LWLI	**Liwa**	**9.09**	**125**	P	**Pn**	**12 43 22.4**	**+0.1**
	192nm,0.6s						
KLI	**Kotabumi**	**9.67**	**122**	P	Pn	12 43 41.0	+11
KASI	**Kota Agung**	**9.73**	**126**	P	**Pn**	**12 43 30.0**	**-1.1**
	63nm,1.0s						
CGJI	**Cibinong**	**11.33**	**127**	P	**Pn**	**12 43 49.7**	**-3.3**
	22µm49nm,1.0s						
STKI	**Sintang**	**14.88**	**91**	P	**Pn**	**12 44 41.8**	**+0.4**
	7µm62nm,1.0s						
SBUM	**Sibu**	**15.77**	**82**	Pn	**Pn**	**12 44 52.7**	**-0.4**
SBUM				IAmb	IAmb	12 44 58.4	
	comp=Z,30nm,0.8s						
SBUM	**Sibu**	**15.77**	**82**	P	**Pn**	**12 44 53.0**	**-0.1**
UGM	**Wanagama**	**16.06**	**121**	Pn	**Pn**	**12 44 56.4**	**-0.5**
UGM				IAmb	IAmb	12 45 00.2	
	comp=Z,89nm,1.4s						
DLV	**T Lat**	**16.58**	**45**	Pn	**Pn**	**12 45 02.8**	**-0.8**
DLV				IAmb	IAmb	12 45 07.1	
	comp=Z,82nm,1.0s						
UBPT	**Khong Chiam**	**17.34**	**30**	Pn	**Pn**	**12 45 11.9**	**-1.1**
UBPT				IAmb	IAmb	12 45 15.3	
	comp=Z,39nm,0.9s						
CM31	**Chiang Mai Arr**	**18.27**	**7**		**P**	**12 45 23.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**18.27**	**7**	P	**P**	**12 45 23.9**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=197,slow=12,SNR=59						
CMAR	**Chiang Mai Arr**	**18.27**	**7**		**P**	**12 45 24.1**	**-0.3**
MTKI	**Muara Teweh, K**	**18.33**	**94**	P	**P**	**12 45 24.4**	**-0.7**
CHTO	**Chiang Mai**	**18.62**	**7**		**P**	**12 45 27.7**	**-0.5**
CHTO	**Chiang Mai**	**18.62**	**7**	P	**P**	**12 45 27.8**	**-0.5**
SPMM	**Sapulut**	**20.33**	**77**	P	**P**	**12 45 48.0**	**+0.9**
KKM	**Kota Kinabalu**	**20.41**	**73**	P	**P**	**12 45 48.0**	**0.0**
KKM				IAmb	IAmb	12 45 50.1	
	comp=Z,56nm,0.8s						
KKM	**Kota Kinabalu**	**20.41**	**73**	P	**P**	**12 45 48.1**	**+0.1**
PLAI	**Plampang**	**22.93**	**114**	P	**P**	**12 46 13.8**	**-1.1**
	comp=Z,49nm,1.5s						
MPSI	**Mapaga**	**23.30**	**90**	P	**P**	**12 46 19.3**	**+0.7**
	comp=Z,15nm,0.9s						
TOLI2	**Tolitoli**	**24.19**	**88**	P	**P**	**12 46 27.6**	**+0.4**
TOLI2				IAmb	IAmb	12 46 40.2	
	comp=Z,35nm,1.1s						
H08S2	**Diego Garcia H**	**25.28**	**251**	T	T	13 13 49.7	
	baz=71,slow=75,SNR=95						
H08S3	**Diego Garcia H**	**25.28**	**252**	T	T	13 13 59.7	
	baz=71,slow=75,SNR=106						
H08S1	**Diego Carcia H**	**25.30**	**251**	T	T	13 13 47.7	
	baz=71,slow=75,SNR=91						
KMI	**Kunming**	**25.46**	**13**	⇑P	**P**	**12 46 40.0**	**+1.3**
KMI				pP	pP	12 46 43.6	-2.8
KMI				pmax	pmax		
	comp=Z,35nm,1.1s						
KMI				LR	LR		
	comp=N,190nm,19.7s						
KMI				LR	LR		
	comp=E,350nm,19.7s						
KMI				LR	LR		
	comp=Z,420nm,20.6s						
SHL	**Shillong**	**25.61**	**350**	P	**P**	**12 46 39.5**	**-0.5**
SHL	**Shillong**	**25.61**	**350**	*eP*	**P**	**12 46 39.9**	**-0.1**
SHL				IAmb	IAmb	12 46 42.4	
	comp=Z,45nm,0.7s						
BOK	**Bokaro**	**25.64**	**337**	*eP*	**P**	**12 46 41.5**	**+1.4**
BOK				IAmb	IAmb	12 46 56.7	
	comp=Z,23nm,0.7s						
GUWA	**GUWAHATI**	**26.25**	**350**	*eP*	**P**	**12 46 45.7**	**+0.1**
GUWA				IAmb	IAmb	12 46 47.8	
	comp=Z,38nm,0.7s						
TEZP	**TEZPUR**	**26.50**	**352**	*eP*	**P**	**12 46 47.3**	**-0.5**
TEZP				IAmb	IAmb	12 46 52.1	
	comp=Z,7.7nm,0.7s						
PZH	**PanZhiHua**	**26.59**	**10**	P	**P**	**12 46 51.7**	**+2.8**
PZH				S	**S**	**12 51 23.9**	**+2.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,30nm,4.1s						
PZH				LR	LR		
	comp=N,920nm,20.0s						
PZH				LR	LR		
	comp=E,430nm,20.2s						
PZH				LR	LR		
	comp=Z,920nm,20.4s						
GYA	**Guiyang**	**27.83**	**20**	⇓P	**P**	**12 47 03.1**	**+3.1**
GYA				pmax	pmax		
	comp=Z,14nm,0.9s						
PKI	**Pulchoki**	**29.24**	**339**	*eP*	**P**	**12 47 13.2**	**+0.4**
	comp=Z,4.7nm,0.5s						
GUN	**Gumba**	**29.39**	**340**	*eP*	**P**	**12 47 15.0**	**+0.9**
	comp=Z,26nm,0.7s						
DAV	**Davao City (W)**	**29.69**	**76**	LR	LR	12 59 54.2	
	comp=Z,141nm,19.1s,baz=266,slow=38						
GKN	**Gorkha**	**29.91**	**338**	*eP*	**P**	**12 47 19.3**	**+0.8**
KOLN	**Koldanda**	**30.10**	**337**	*eP*	**P**	**12 47 21.1**	**+0.9**
	comp=Z,23nm,0.7s						
DANN	**Dangsing**	**30.55**	**337**	*eP*	**P**	**12 47 24.9**	**+0.5**
	comp=Z,22nm,0.8s						
PSA00	**Pilbara Seismi**	**31.37**	**135**	P	**P**	**12 47 31.1**	**-0.2**
PSA00				IAmb	IAmb	12 47 33.5	
	comp=Z,12nm,1.1s						
TPUB	**Ta-pu**	**32.73**	**44**	P	**P**	**12 47 43.7**	**+0.4**
SSLB	**Suanglung**	**33.27**	**44**	P	**P**	**12 47 48.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**33.86**	**124**	P	**P**	**12 47 53.1**	**0.0**
	comp=Z,3.9nm,0.5s,baz=324,slow=9.6,SNR=13						
FITZ	**Fitzroy Crossi**	**33.86**	**124**	IAmb	IAmb	12 47 54.4	
	comp=Z,13nm,1.4s						
YHNB	**Yeheng**	**34.14**	**43**	P	**P**	**12 47 54.5**	**-1.1**
XAN	**Xi'an**	**35.57**	**18**	P	**P**	**12 48 07.2**	**-0.6**
XAN				pmax	pmax		
	comp=Z,20nm,0.6s						
XAN				pmax	pmax		
	comp=Z,240nm,9.0s						
XAN				LR	LR		
	comp=N,340nm,21.3s						
XAN				LR	LR		
	comp=E,400nm,18.6s						
XAN				LR	LR		
	comp=Z,520nm,20.4s						
GOMU	**GeErMu**	**35.83**	**358**	P	**P**	**12 48 10.7**	**+0.3**
GOMU				pP	pP	12 48 14.5	-3.7
GOMU				sP	sP	12 48 18.3	-3.1
GOMU				S	S	12 53 35.0	-11
GOMU				SS	SS	12 56 42.3	+19
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,71nm,5.5s						
GOMU				LR	LR		
	comp=N,160nm,19.7s						
GOMU				LR	LR		
	comp=E,160nm,19.5s						
GOMU				LR	LR		
	comp=Z,160nm,19.4s						
LZH	**Lanzhou**	**36.31**	**10**	*eP*	P	12 48 24.8	+11
LZH				pP	pwP	12 48 31.4	+2.5
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LYN	**LuoYang**	**37.24**	**22**	⇑P	**P**	**12 48 22.7**	**+0.7**
LYN				pmax	pmax		
	comp=Z,20nm,0.9s						
H01W3	**Cape Leeuwin H**	**38.58**	**157**	T	T	13 30 20.7	
	baz=334,slow=76,SNR=4.8						
H01W2	**Cape Leeuwin H**	**38.59**	**157**	T	T	13 29 55.7	
	baz=334,slow=76,SNR=8.8						
H01W1	**Cape Leeuwin H**	**38.60**	**157**	T	T	13 29 54.0	
	baz=334,slow=76,SNR=15						
GTA	**Gaotai**	**39.11**	**4**	*eP*	**P**	**12 48 37.7**	**-0.1**
GTA				pP	pP	12 48 43.4	-2.3
GTA				sP	sP	12 48 47.8	-1.1
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HNS	**HongShan**	**40.60**	**22**	⇑P	**P**	**12 48 51.1**	**+1.1**
HNS				pmax	pmax		
	comp=Z,14nm,0.7s						
AIS	**Amsterdam Isla**	**41.71**	**203**	P	**P**	**12 48 59.9**	**+0.8**
WB0	**Warramunga Arr**	**42.02**	**120**	P	**P**	**12 49 02.6**	**+0.6**
WRA	**Warramunga Arr**	**42.04**	**121**	P	**P**	**12 49 02.1**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=302,slow=8.9,SNR=7.5						
WRA	**Warramunga Arr**	**42.04**	**121**	P	**P**	**12 49 02.9**	**+0.6**
WRAB	**Tennant Creek**	**42.05**	**121**	P	**P**	**12 49 01.0**	**-1.3**
WB2	**Warramunga Arr**	**42.05**	**121**	P	**P**	**12 49 03.3**	**+1.0**
WR0	**Warramunga Arr**	**42.22**	**121**	P	**P**	**12 49 04.1**	**+0.4**
HHC	**Hu-ho-hao-te**	**42.66**	**17**	*eP*	**P**	**12 49 07.3**	**+0.3**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,4.8s						
HHC				LR	LR		
	comp=N,240nm,14.7s						
HHC				LR	LR		
	comp=E,220nm,15.9s						
HHC				LR	LR		
	comp=Z,260nm,18.2s						
AS31	**Alice Springs**	**43.30**	**126**	P	**P**	**12 49 13.6**	**+1.1**
ASAR	**Alice Springs**	**43.30**	**126**	P	**P**	**12 49 13.2**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=294,slow=7.2,SNR=11						
KSH	**Kashi**	**43.42**	**337**	P	P	12 49 19.8	+6.6
KSH				sP	pwP	12 49 30.4	+2.5
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH				LR	LR		
	comp=N,180nm,18.5s						
KSH				LR	LR		
	comp=E,180nm,16.5s						
KSH				LR	LR		
	comp=Z,520nm,21.6s						
BJT	**Baijiatuan**	**43.44**	**22**	P	**P**	**12 49 13.9**	**+0.6**
BJT				IAmb	IAmb	12 49 15.4	
	comp=Z,14nm,0.6s						
BJI	**Beijing**	**43.46**	**22**	P	**P**	**12 49 14.7**	**+1.3**
BJI				pmax	pmax		
	comp=Z,18nm,0.6s						
BJI				LR	LR		
	comp=N,260nm,17.4s						
BJI				LR	LR		
	comp=E,150nm,16.8s						
BJI				LR	LR		
	comp=Z,250nm,21.1s						
WMQ	**Urumqi**	**44.13**	**351**	*eP*	**P**	**12 49 20.3**	**+1.5**
WMQ				sP	pP	12 49 28.1	+1.3
WMQ				pmax	pmax		
	comp=Z,18nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,100nm,3.7s						
WMQ				LR	LR		
	comp=N,280nm,18.9s						
WMQ				LR	LR		
	comp=E,200nm,20.1s						
WMQ				LR	LR		
	comp=Z,230nm,21.3s						
TARG	**Taragay, Kyrgy**	**44.67**	**340**	P	**P**	**12 49 21.6**	**-2.0**
TARG				IAmb	IAmb	12 49 44.1	
	comp=Z,6.9nm,0.8s						
DRK	**Karamyk**	**45.17**	**333**	P	**P**	**12 49 27.8**	**+0.3**
KDJ	**Kajisay**	**45.24**	**340**	P	**P**	**12 49 28.1**	**+0.2**
KDJ				IAmb	IAmb	12 49 31.6	
	comp=Z,12nm,0.8s						
GAR	**Garm**	**45.49**	**331**	P	**P**	**12 49 28.0**	**-1.8**
GAR				IAmb	IAmb	12 49 53.2	
	comp=Z,15nm,1.2s						
JNU	**Nakatsue**	**45.93**	**41**	P	**P**	**12 49 33.2**	**0.0**
	comp=Z,8.3nm,0.8s,baz=204,slow=2.9,SNR=3.2						
BTK	**Batken**	**46.09**	**332**	P	**P**	**12 49 33.7**	**-0.7**
BTK				IAmb	IAmb	12 49 38.1	
	comp=Z,18nm,1.4s						
AAK	**Ala-Archa**	**46.67**	**338**	LR	LR	13 12 07.5	
	comp=Z,247nm,20.5s,baz=163,slow=40						
AAK	**Ala-Archa**	**46.67**	**338**	P	**P**	**12 49 38.5**	**-0.6**
AAK				IAmb	IAmb	12 50 02.0	
	comp=Z,3.5nm,0.7s						
KSAR	**Wonju Array Be**	**46.96**	**34**	P	**P**	**12 49 39.9**	**-1.3**
KSRS	**Korea Array**	**46.99**	**34**	P	**P**	**12 49 41.5**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=222,slow=8.9,SNR=14						
KS19	**Wonju Array Si**	**46.99**	**34**	P	**P**	**12 49 41.4**	**-0.1**
MK31	**Makanchi Array**	**48.05**	**347**	P	**P**	**12 49 49.9**	**+0.4**
MK31				IAmb	IAmb	12 50 00.5	
	comp=Z,8.0nm,0.9s						
MKAR	**Makanchi Array**	**48.05**	**347**	P	**P**	**12 49 49.9**	**+0.4**
	comp=Z,6.5nm,0.6s,baz=159,slow=8.2,SNR=87						
MKAR				LR	LR	13 15 02.8	
	comp=Z,163nm,19.3s,baz=132,slow=42						
MKAR	**Makanchi Array**	**48.05**	**347**	P	**P**	**12 49 49.7**	**+0.2**
MAKZ	**Makanchi**	**48.13**	**347**	P	**P**	**12 49 49.8**	**-0.4**
MAKZ				IAmb	IAmb	12 50 01.0	
	comp=Z,7.5nm,1.0s						
SONM	**Songino Array**	**48.18**	**9**	P	**P**	**12 49 51.0**	**+0.3**
	comp=Z,4.5nm,0.8s,baz=190,slow=9.1,SNR=23						
SONM	**Songino Array**	**48.18**	**9**	P	**P**	**12 49 51.0**	**+0.3**
SONM				IAmb	IAmb	12 49 52.1	
	comp=Z,4.3nm,1.0s						
ULN	**Ulaanbaatar**	**48.32**	**9**	P	**P**	**12 49 51.7**	**-0.1**
ULN				IAmb	IAmb	12 49 53.0	
	comp=Z,5.1nm,1.2s						
KK31	**Karatay Array**	**48.67**	**335**	P	**P**	**12 49 53.4**	**-1.0**
KK31				IAmb	IAmb	12 49 57.8	
	comp=Z,7.4nm,1.3s						
KKAR	**Karatay Array**	**48.67**	**335**	P	**P**	**12 49 53.4**	**-1.0**
KKAR				IAmb	IAmb	12 49 57.8	
	comp=Z,7.4nm,1.3s						
KKAR	**Karatay Array**	**48.67**	**335**	P	**P**	**12 49 53.1**	**-1.3**
PMG	**Port Moresby**	**51.23**	**102**	P	**P**	**12 50 15.5**	**+1.2**
	comp=Z,13nm,0.6s,baz=289,slow=2.7,SNR=6.8						
GEYT	**Alibeck**	**51.59**	**321**	LR	LR	13 13 30.0	
	comp=Z,453nm,21.3s,baz=140,slow=38						
JHJ2	**Mitsune**	**52.14**	**47**	P	**P**	**12 50 20.7**	**-0.1**
KURBB	**Kurchatov Arra**	**52.52**	**346**	LR	LR	13 16 24.5	
	comp=Z,201nm,20.5s,baz=117,slow=40						
KURK	**Kurchatov**	**52.58**	**346**	P	**P**	**12 50 22.1**	**-1.7**
KURK				IAmb	IAmb	12 50 26.7	
	comp=Z,18nm,1.4s						
HIA	**Hailar**	**52.75**	**19**	P	**P**	**12 50 25.8**	**+0.7**
HIA				IAmb	IAmb	12 50 26.4	
	comp=Z,17nm,1.3s						
MJAR	**Matsushiro Arr**	**52.81**	**42**	P	**P**	**12 50 26.0**	**+0.2**
STKA	**Stephens Creek**	**53.16**	**131**	P	**P**	**12 50 29.2**	**+0.8**
	comp=Z,4.8nm,0.7s,baz=312,slow=9.1,SNR=6.4						
STKA	**Stephens Creek**	**53.16**	**131**	P	**P**	**12 50 28.8**	**+0.4**
JSD	**Sado**	**53.68**	**41**	P	**P**	**12 50 31.1**	**-1.0**
JSD				IAmb	IAmb	12 50 32.4	
	comp=Z,16nm,1.1s						
USA0B	**Ussuriysk Arra**	**53.91**	**31**	P	**P**	**12 50 33.7**	**0.0**
USRK	**Ussuriysk Ar.**	**53.91**	**31**	P	**P**	**12 50 34.4**	**+0.8**
	comp=Z,18nm,0.8s,baz=236,slow=5.4,SNR=27						
USRK	**Ussuriysk Ar.**	**53.91**	**31**	P	**P**	**12 50 33.8**	**+0.2**
ZAA0	**Zalesovo Array**	**54.43**	**351**	P	**P**	**12 50 37.4**	**+0.2**
ZALV	**Zalesovo Beam**	**54.43**	**351**	P	**P**	**12 50 37.3**	**0.0**
	comp=Z,13nm,0.4s,baz=180,slow=6.2,SNR=59						
ZALV				LR	LR	13 18 04.2	
	comp=Z,130nm,21.0s,baz=138,slow=41						
ZALV	**Zalesovo Beam**	**54.43**	**351**	P	**P**	**12 50 37.4**	**+0.2**
BRVK	**Borovoye**	**57.04**	**341**	P	**P**	**12 50 55.4**	**-0.6**
ABKAR	**Akbulak array**	**58.10**	**333**	P	**P**	**12 51 02.6**	**-0.9**
ABKAR				IAmb	IAmb	12 51 19.1	
	comp=Z,3.3nm,0.6s						
CAN	**Canberra**	**60.21**	**132**	P	**P**	**12 51 20.5**	**+2.0**
CAN				IAmb	IAmb	12 51 42.7	
	comp=Z,17nm,1.3s						
ARU	**Arti**	**63.85**	**338**	LR	LR	13 20 52.8	
	comp=Z,97nm,19.4s,baz=116,slow=37						
BELG	**Belogornoye**	**66.09**	**330**	LR	LR	13 24 05.8	
	comp=Z,330nm,21.8s,baz=142,slow=39						
LSZ	**Lusaka**	**69.27**	**254**	LR	LR	13 17 59.5	
	comp=Z,79nm,18.6s,baz=151,slow=32						
MA2	**Magadan**	**72.47**	**26**	P	**P**	**12 52 36.6**	**+0.1**
MA2				IAmb	IAmb	12 52 37.0	
	comp=Z,5.3nm,0.7s						
OBN	**Obninsk**	**73.14**	**329**	LR	LR	13 27 43.3	
	comp=Z,68nm,21.9s,baz=121,slow=38						
TIXI	**Tiksi**	**74.25**	**10**	P	**P**	**12 52 45.8**	**-0.9**
TIXI				IAmb	IAmb	12 53 00.2	
	comp=Z,4.5nm,0.9s						
AKASG	**Malin Array Be**	**75.67**	**323**	P	**P**	**12 52 54.1**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=89,slow=4.9,SNR=8.4						
AKASG				LR	LR	13 27 24.0	
	comp=Z,238nm,22.0s,baz=100,slow=37						
FINES	**FINESS Array B**	**80.59**	**333**	P	**P**	**12 53 21.7**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=96,slow=5.7,SNR=8.2						
FINES				LR	LR	13 32 02.3	
	comp=Z,206nm,21.7s,baz=84,slow=38						
ARCES	**ARCESS Array B**	**83.25**	**340**	P	**P**	**12 53 36.5**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=101,slow=4.8,SNR=23						
ARCES				LR	LR	13 35 55.2	
	comp=Z,127nm,18.8s,baz=95,slow=40						
ARCES	**ARCESS Array B**	**83.25**	**340**	IAmb	IAmb	12 53 39.5	
	comp=Z,19nm,1.4s						
VRAC	**Vranov**	**83.31**	**320**	LR	LR	13 34 24.6	
	comp=Z,111nm,21.1s,baz=72,slow=38						
NB2	**NORSAR Subarra**	**87.56**	**331**	P	**P**	**12 53 57.8**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=98,slow=4.8						
NOA	**NORSAR Array B**	**87.56**	**331**	P	**P**	**

0.3nm575nm45nm,0.6s
CTBH Cotabato--PC H 7.09 326 ⇑*e*P P **12 44 38.7 +0.8**
BIPH Bislig 7.09 345 ⇓*e*P P **12 44 37.3 -0.6**
BIPH Bislig 7.09 345 *e*S Sn 12 45 07.2 -50
TOLI2 Tolitoli 7.41 269 Pn **Pn 12 44 42.7 +0.5**
PAGZ Pagadian 8.09 324 ⇑*e*P **Pn 12 44 51.5 0.0**
BAKI Biak 8.29 107 P **Pn 12 44 58.3 +4.1**
3µm226nm,1.3s
MPSI Mapaga 8.34 264 P **Pn 12 44 56.8 +1.9**
9.6nm,0.9s
SRPI Serui, Papua 8.64 111 P **Pn 12 45 02.9 +4.0**
TTSI Tana Toraja 9.41 243 P **Pn 12 45 11.7 +2.3**
34nm,0.7s
BNSI Bone 9.85 235 P **Pn 12 45 17.1 +1.6**
22nm,1.1s
SPSI Sidrap Palu 9.90 238 P **Pn 12 45 17.0 +0.9**
25nm,0.8s
MYLDM Lahad Datu 10.42 292 **Pn 12 45 25.6 +2.4**
KAPI Kappang 10.50 233 P **Pn 12 45 24.0 -0.2**
baz=49,slow=8.2,SNR=4.2
KAPI S **Sn 12 47 18.2 -1.8**
2.1nm,0.3s,baz=354,slow=23,SNR=1.5
KAPI Kappang 10.50 233 Pn **Pn 12 45 24.1 -0.1**
MTN Manton Dam 14.34 168 Pn **Pn 12 46 14.3 -0.7**
LQP Lukban 14.35 333 ⇓*e*P **Pn 12 46 15.0 -0.4**
KNRA Kununurra 16.86 178 **Pn 12 46 47.4 +0.7**
JAGI Jajag, Banyuwa 17.02 235 **P 12 46 49.6 +0.7**
JAGI IAmb IAmb 12 46 53.8
comp=Z,26nm,0.9s
KSM Kuching 17.88 271 **P 12 46 58.9 +0.5**
KSM IAmb IAmb 12 47 01.8
comp=Z,29nm,0.6s
FITZ Fitzroy Crossi 19.42 187 P **P 12 47 16.7 +1.5**
comp=Z,0.1nm,0.3s,baz=17,slow=8.1,SNR=6.6
FITZ Fitzroy Crossi 19.42 187 P **P 12 47 13.1 -2.1**
UGM Wanagama 19.84 242 P **P 12 47 18.6 -1.4**
KPJI Karang Pucung 21.03 246 P **P 12 47 34.4 +1.7**
comp=Z,113nm,1.2s
COEN Coen 21.21 136 P **P 12 47 33.8 -0.7**
WB0 Warramunga Arr 21.79 164 P **P 12 47 41.5 +0.8**
WB0 IAmb IAmb 12 47 48.6
comp=Z,29nm,1.1s
WRAB Tennant Creek 21.93 164 P **P 12 47 40.5 -1.7**
WRAB IAmb IAmb 12 47 50.5
comp=Z,32nm,1.2s
WRA Warramunga Arr 21.94 164 P **P 12 47 43.3 +1.1**
comp=Z,7.2nm,1.0s,baz=341,slow=11,SNR=20
WRA Warramunga Arr 21.94 164 P **P 12 47 41.2 -1.1**
WB2 Warramunga Arr 21.94 164 P **P 12 47 42.6 +0.3**
WB2 IAmb IAmb 12 47 50.6
comp=Z,30nm,1.1s
WR0 Warramunga Arr 22.01 164 P **P 12 47 44.2 +1.2**
PPBI Pangkai Pinang 22.31 261 P **P 12 47 47.7 +1.4**
comp=Z,8µmcomp=Z,20nm,0.6s
CBJI Citeko 22.64 250 P P 12 48 05.4 +16
YULB Yu-li 22.97 344 P **P 12 47 51.1 -1.8**
YULB IAmb IAmb 12 47 52.1
comp=Z,13nm,0.5s
NACB Ninganchiao 23.64 345 P **P 12 47 57.8 -1.2**
NACB IAmb IAmb 12 47 58.5
comp=Z,21nm,1.1s
YHNB Yeheng 24.17 345 P **P 12 48 03.4 -0.4**
YHNB IAmb IAmb 12 48 05.1
comp=Z,33nm,1.0s
MYKOM Kota Tinggi 24.34 271 P **P 12 48 06.4 +1.0**
MYKOM IAmb IAmb 12 48 08.1
comp=Z,26nm,0.9s
JOW Kunigami 25.40 0 P **P 12 48 12.8 -2.2**
AS31 Alice Springs 25.41 168 P **P 12 48 12.4 -2.8**
ASAR Alice Springs 25.41 168 P **P 12 48 16.2 +1.1**
comp=Z,3.0nm,0.9s,baz=347,slow=11,SNR=13
ASAR Alice Springs 25.41 168 P **P 12 48 14.2 -0.9**
UBPT Khong Chiam 26.39 303 P **P 12 48 25.3 +1.3**
BKNI Bangkinang 27.16 268 P **P 12 48 31.5 +0.5**
RPSI Rantau Prapat 29.28 273 P **P 12 48 50.4 +0.5**
PSI Prapat 29.29 273 P **P 12 48 50.4 +0.3**
comp=Z,22nm,0.7s,baz=79,slow=6.4,SNR=15
GSI Gunungsitoli 30.61 270 P **P 12 49 01.3 -0.3**
JNU Nakatsue 31.77 4 P **P 12 49 11.9 +0.3**
JNU IAmb IAmb 12 49 15.3
comp=Z,26nm,1.3s
FORT Forrest 31.88 180 IAmb IAmb 12 49 12.0
comp=Z,20nm,0.8s
FORT Forrest 31.88 180 P **P 12 49 11.4 -1.2**
FORT IAmb IAmb 12 49 12.0
comp=Z,20nm,0.8s
FORT Forrest 31.88 180 P **P 12 49 11.1 -1.5**
CMAR Chiang Mai Arr 33.39 303 P **P 12 49 26.7 +0.8**
comp=Z,1.8nm,0.9s,baz=127,slow=7.2,SNR=8.6
CMAR Chiang Mai Arr 33.39 303 P **P 12 49 26.2 +0.4**
CHTO Chiang Mai 33.55 303 P **P 12 49 28.2 +0.9**
BBOO Buckleboo 34.71 168 P **P 12 49 38.5 +1.3**
BBOO IAmb IAmb 12 49 56.5
comp=Z,17nm,1.4s
STKA Stephens Creek 35.34 160 P **P 12 49 44.0 +1.4**
comp=Z,1.9nm,0.6s,baz=335,slow=6.5,SNR=4.8
STKA Stephens Creek 35.34 160 P **P 12 49 41.0 -1.5**
PZH PanZhiHua 35.71 317 P **P 12 49 47.0 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,50nm,5.6s
XAN Xi'an 37.24 333 P **P 12 49 59.3 +0.5**
XAN pP pP 12 50 25.3 +3.6
XAN pmax pmax
comp=Z,22nm,1.0s
JSD Sado 37.73 13 P **P 12 50 00.5 -2.2**
JSD IAmb IAmb 12 50 20.3
comp=Z,4.9nm,0.8s
HNS HongShan 38.03 342 ⇑P **P 12 50 05.3 0.0**
HNS pmax pmax
comp=Z,8.0nm,1.0s
BJT Baijiatuao 40.08 346 P **P 12 50 22.3 0.0**
BJI Beijing 40.10 346 P **P 12 50 22.4 -0.1**
BJI pmax pmax
comp=Z,30nm,0.8s
LZH Lanzhou 41.34 330 *e*P **P 12 50 34.0 +1.0**
LZH pP pP 12 50 55.6 -0.7
LZH sP sP 12 51 03.4 -4.3
LZH pmax pmax
comp=Z,22nm,1.1s
H11S3 WAKE ISLAND Hy 41.45 63 T T 13 34 25.6
baz=250,slow=75,SNR=6.1
H11S2 WAKE ISLAND Hy 41.46 63 T T 13 34 32.0
baz=250,slow=75,SNR=4.0
H11S1 WAKE ISLAND Hy 41.47 63 T T 13 34 29.1
baz=250,slow=75,SNR=3.3
H11N1 WAKE ISLAND Hy 42.05 62 T T 13 35 17.0
baz=248,slow=75
H11N2 WAKE ISLAND Hy 42.07 62 T T 13 35 15.1
baz=248
H11N3 WAKE ISLAND Hy 42.07 62 T T 13 35 15.7
baz=248,slow=75
HHC Hu-ho-hao-te 42.17 341 *e*P **P 12 50 38.5 -1.1**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.5s
HHC LR LR
comp=N,270nm,17.1s
HHC LR LR
comp=E,170nm,16.1s
HHC LR LR
comp=Z,440nm,18.8s
SHL Shillong 42.51 308 P **P 12 50 43.0 +0.3**
ERM Erimo 42.73 16 P **P 12 50 43.2 -0.8**
USA0B Ussuriysk Arra 42.87 4 P **P 12 50 44.8 -0.2**
USRK Ussuriysk Ar. 42.87 4 P **P 12 50 44.3 -0.7**
ONTNC Ouen Toro 44.07 124 P **P 12 50 54.0 -1.1**
GTA Gaotai 45.93 329 *e*P **P 12 51 10.4 +0.7**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GOMU GeErMu 46.50 322 P **P 12 51 15.6 +1.1**
GOMU S **S 12 57 58.9 +3.1**
GOMU pmax pmax
comp=Z,3.0nm,0.4s
GOMU pmax pmax
comp=Z,24nm,4.3s
GOMU LR LR
comp=N,160nm,18.5s
GOMU LR LR
comp=E,170nm,18.4s
GOMU LR LR
comp=Z,150nm,18.2s
TAPN Taplejung 46.64 307 *e*P **P 12 51 16.1 +0.4**
comp=Z,27nm,0.9s
GUN Gumba 48.35 307 *e*P **P 12 51 29.4 +0.4**
comp=Z,54nm,0.8s
KKN Kakani 48.77 307 *e*P **P 12 51 32.3 +0.2**
comp=Z,18nm,0.7s
DMN Daman 48.84 306 *e*P **P 12 51 33.1 +0.5**
ULN Ulaanbaatar 49.88 341 P **P 12 51 39.9 -0.2**
ULN IAmb IAmb 12 51 41.3
comp=Z,11nm,0.9s
SONM Songino Array 50.07 341 P **P 12 51 41.4 -0.1**
comp=Z,3.4nm,0.8s,baz=159,slow=8.1,SNR=7.8
SONM PcP **PcP 12 52 59.3 -0.5**
comp=Z,1.7nm,0.8s,baz=165,slow=4.0,SNR=3.9
SONM Songino Array 50.07 341 P **P 12 51 41.2 -0.3**
KOLN Koldanda 50.12 306 *e*P **P 12 51 42.9 +0.6**
comp=Z,80nm,0.8s
DANN Dangsing 50.23 307 *e*P **P 12 51 43.3 +0.1**
comp=Z,56nm,0.8s
PYUN Piuthan 50.75 306 *e*P **P 12 51 47.4 +0.4**
comp=Z,66nm,0.9s
MSVF Nonsavu 52.59 113 LR LR 13 13 04.5
comp=Z,73nm,18.7s,baz=175,slow=34
WMQ Urumqi 55.55 325 *e*P **P 12 52 22.7 +0.9**
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ LR LR
comp=N,220nm,20.3s
WMQ LR LR
comp=E,270nm,16.9s
WMQ LR LR
comp=Z,160nm,21.7s
PETK Petropavlovsk- 57.16 21 P **P 12 52 32.5 -0.5**
comp=Z,3.4nm,0.8s,baz=208,slow=11,SNR=4.7
MK31 Makanchi Array 60.38 325 P **P 12 52 55.3 -0.2**
MK31 IAmb IAmb 12 52 56.2
comp=Z,6.6nm,0.8s
MKAR Makanchi Array 60.38 325 P **P 12 52 55.2 -0.3**
comp=Z,7.6nm,0.7s,baz=114,slow=7.5,SNR=17
MKAR Makanchi Array 60.38 325 P **P 12 52 55.5 0.0**
MAKZ Makanchi 60.57 325 P **P 12 52 56.5 -0.3**
KSH Kashi 60.80 316 P **P 12 52 59.8 +1.2**
KSH pmax pmax
comp=Z,6.0nm,0.6s
KDJ Kajisay 61.13 319 P **P 12 53 01.2 +0.4**
KDJ IAmb IAmb 12 53 02.0
comp=Z,8.2nm,0.8s
TKM2 Tokmak 2 62.53 319 P **P 12 53 10.3 0.0**
SNR=6.0
UCH Uchtor 62.95 318 P **P 12 53 13.4 0.0**
SNR=7.7
AAK Ala-Archa 63.14 318 P **P 12 53 15.3 +1.1**
USP Ospenovka 63.41 319 P **P 12 53 15.7 -0.1**
SNR=6.9
ZAA0 Zalesovo Array 63.42 333 P **P 12 53 14.3 -1.3**
ZALV Zalesovo Beam 63.42 333 P **P 12 53 14.1 -1.5**
comp=Z,2.6nm,0.8s,baz=144,slow=7.8,SNR=4.3
ZALV Zalesovo Beam 63.42 333 P **P 12 53 14.3 -1.3**
AML Almayashu 63.47 317 P **P 12 53 17.1 +0.4**
SNR=8
EKS2 Erkin-Say 63.63 318 P **P 12 53 18.1 +0.6**
SNR=5.4
KURK Kurchatov 64.58 328 P **P 12 53 22.8 -0.4**
GAR Garm 64.65 313 P **P 12 53 23.7 -0.5**
BTK Batken 64.66 314 P **P 12 53 24.0 -0.2**
BTK IAmb IAmb 12 53 25.7
comp=Z,4.6nm,0.6s
KK31 Karatay Array 66.01 317 P **P 12 53 32.4 -0.3**
KK31 IAmb IAmb 12 53 33.1
comp=Z,6.6nm,1.0s
KKAR Karatay Array 66.01 317 P **P 12 53 32.4 -0.3**
KKAR IAmb IAmb 12 53 33.1
comp=Z,6.6nm,1.0s
KKAR Karatay Array 66.01 317 P **P 12 53 32.1 -0.6**
BRVK Borovoye 70.22 327 P **P 12 53 58.1 -0.7**
BRVK IAmb IAmb 12 53 59.0
comp=Z,8.0nm,0.9s
TIXI Tiksi 70.26 0 P **P 12 53 57.4 -1.3**
TIXI IAmb IAmb 12 53 59.2
comp=Z,15nm,1.4s
NRIK Noril'sk 73.14 346 P **P 12 54 15.3 -0.7**
comp=Z,1.4nm,0.3s,baz=122,slow=7.0,SNR=4.0
NRIK Noril'sk 73.14 346 P **P 12 54 15.9 -0.1**
NRIK IAmb IAmb 12 54 16.4
comp=Z,9.0nm,1.2s
SOCY Socotra 74.29 282 P **P 12 54 22.4 -1.5**
SOCY IAmb IAmb 12 54 29.4
comp=Z,9.5nm,1.0s
ABKAR Akbulak array 74.96 321 P **P 12 54 26.0 -0.9**
TTA Tatalina 82.42 27 P **P 12 55 08.3 +0.6**
TTA IAmb IAmb 12 55 09.3
comp=Z,5.2nm,0.9s
RAYN Ar Rayn 82.78 293 P **P 12 55 09.8 -0.6**
RAYN IAmb IAmb 12 55 10.3
comp=Z,5.0nm,0.9s
KDAK Kodiak Island 83.17 32 P **P 12 55 12.1 +0.6**
comp=Z,10.0nm,0.7s,baz=240,slow=8.1,SNR=4.7
J20K Nowinta River 83.48 26 P **P 12 55 13.8 +0.8**
J20K IAmb IAmb 12 55 15.1
comp=Z,8.1nm,0.9s
CAST Castle Rocks 84.26 26 P **P 12 55 17.6 +0.6**
CAST IAmb IAmb 12 55 19.5
comp=Z,4.9nm,0.7s
M22K Willow 84.94 28 P **P 12 55 20.4 -0.1**
COLD Coldfoot 85.57 23 P **P 12 55 23.7 +0.2**
TOLK Toolik Lake Re 85.98 21 P **P 12 55 25.6 0.0**
ILAR Eielson Array 86.67 25 P **P 12 55 27.0 -2.0**
comp=Z,0.5nm,0.8s,baz=260,slow=5.3,SNR=4.9
KLMR Klimovskoe 88.24 331 *e*P P 12 55 33.3 -3.2
KLMR AMP 12 55 40.2
comp=Z,10.0nm,1.1s
DAWY Dawson 89.92 26 P **P 12 55 44.0 -0.5**
DAWY IAmb IAmb 12 55 45.3
comp=Z,4.3nm,0.9s
YKA Yellowknife Ar 101.10 25 P **Pdif 12 56 34.7 -0.6**
comp=Z,0.3nm,0.8s,baz=291,slow=4.6,SNR=5.3
NOA NORSAR Array B 101.61 334 P **Pdif 12 56 35.1 -2.5**
comp=Z,0.6nm,0.7s,baz=67,slow=4.7,SNR=3.4
TORD Torodi Ar. Bea 125.04 287 PKP **PKPdf 13 01 45.5 -0.9**
comp=Z,1.8nm,0.9s,baz=54,slow=1.9,SNR=7.4

FUNV 12 12:54:03.3, 10.36N × 72.11W, h5km, MW3.8, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.52**	**233**	*e*P	Pg	12 54 13.3	0.0
MCQV				*e*S	Sb	12 54 22.5	-0.2
DABV	**Dabajuro**	**1.56**	**69**	*e*P	Pn	12 54 30.4	-1.2
DABV				*e*S	Sn	12 54 51.8	-0.4
CURV	**Curarigua**	**2.15**	**99**	*e*P	Pn	12 54 40.8	+0.9
CURV				*e*S	Sn	12 55 07.0	+0.1
SIQV	**Siquisique**	**2.29**	**83**	*e*P	Pn	12 54 40.5	-1.3
SIQV				*e*S	Sn	12 55 10.1	-0.2
SOCV	**Socops**	**2.41**	**149**	*e*P	Pn	12 54 42.0	-1.5
SOCV				*e*S	Sn	12 55 12.5	-0.9
CAPV	**Capacho**	**2.49**	**185**	*e*P	Pn	12 54 43.9	-0.9
CAPV				*e*S	Sn	12 55 14.2	-1.4
SANV	**Sanarito**	**2.68**	**108**	*e*P	Pn	12 54 46.5	-0.8
SANV				*e*S	Sn	12 55 19.1	-1.1
JACV	**Jacura**	**3.31**	**77**	*e*P	Pn	12 54 54.9	-0.8
JACV				*e*S	Sn	12 55 32.9	-2.6
TURV	**Turiamo**	**4.20**	**88**	*e*P	Pn	12 55 05.3	-2.8
TURV				*e*S	Sn	12 55 52.6	-5.1
ELOV	**Elorza**	**4.23**	**142**	*e*P	Pn	12 55 06.6	-2.0
ELOV				*e*S	Sn	12 55 54.5	-3.9
BAUV	**El Baul**	**4.25**	**109**	*e*P	Pn	12 55 06.9	-1.9
BAUV				*e*S	Sn	12 55 55.9	-3.1
BENV	**Beln**	**4.46**	**95**	*e*P	Pn	12 55 10.0	-1.7
BENV				*e*S	Sn	12 56 01.1	-3.0
BIRV	**Birongo**	**5.75**	**88**	*e*P	Pn	12 55 27.7	-1.6
BIRV				*e*S	Sn	12 56 29.8	-6.1

*NNC **12** 12:59:37.0±0.1, 42.76N × 70.77E, h0km, mpv1.2, Error ellipse: s-maj=10.2km s-min=0.5km az=60.0*
SOME 12 12:58:53.6, 42.15N × 73.80E, h0km, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.73**	**325**	*e*P	Pb	12 59 08.8	-0.5
	2.4nm,0.0s						
MRKS				*e*S	Sg	12 59 18.5	+1.4
	11nm,0.1s						
SGDS	**Sogindy**	**1.44**	**25**	*e*P	Pb	12 59 21.3	0.0
	0.8nm,0.0s						
SGDS				*e*S	Sg	12 59 39.9	+0.1
	1.4nm,0.0s						
KK06	**Karatay Array**	**2.59**	**292**	⇑P	Pg	12 59 44.6	+1.3
KK06				⇑S	Sn	12 59 50.0	-19
KK05	**Karatay Array**	**2.60**	**293**	⇑P	Pg	12 59 44.8	+1.3
KK05				⇓S	Sn	12 59 50.4	-19
KK02	**Karatay Array**	**2.61**	**293**	⇑P	Pg	12 59 44.7	+1.2
KK02				⇓S	Sn	12 59 50.3	-19
KK31	**Karatay Array**	**2.61**	**293**	⇑P	Pg	12 59 44.8	+1.2
	0.2nm,0.2s,baz=275,slow=17,SNR=25						
KK31				⇓S	Sn	12 59 50.3	-19
	0.7nm,0.1s,baz=164,slow=30,SNR=7.2						
KK07	**Karatay Array**	**2.61**	**292**	⇑P	Pg	12 59 44.5	+0.9
KK07				⇑S	Sn	12 59 50.1	-19
KK01	**Karatay Array**	**2.61**	**293**	⇑P	Pg	12 59 44.7	+1.0
KK01				⇓S	Sn	12 59 50.4	-19
KK04	**Karatay Array**	**2.61**	**293**	⇑P	Pg	12 59 44.8	+1.1
KK04				⇑S	Sn	12 59 50.4	-19
KK03	**Karatay Array**	**2.61**	**292**	⇑P	Pg	12 59 44.8	+1.1
KK03				⇓S	Sn	12 59 50.3	-19
KK09	**Karatay Array**	**2.62**	**293**	⇑P	Pg	12 59 45.1	+1.2
KK09				⇓S	Sn	12 59 50.9	-19
KK08	**Karatay Array**	**2.62**	**292**	⇑P	Pg	12 59 44.8	+0.9
KK08				⇑S	Sn	12 59 50.6	-19

*IDC **12** 13:06:21.7±1.0, 39.03N × 144.60E, h0km, mb3.6/9, mb1 3.8/13, mb1mx3.7/38, mbtmp3.7/13, ML3.5/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/88, Error ellipse: s-maj=27.4km s-min=18.2km az=110.0*
*JMA **12** 13:06:27.1±0.1, 39.28N × 144.28E, h52km, M3.6*
ISC 12 13:06:22.9±3.4, 39.18N±0.06 × 144.34E±0.08, h5km±21km, n26, σ2.9 23/35, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.99**	**282**	P	**Pb**	**13 06 58.5**	**-1.1**
MIYJ				S	**Sn**	**13 07 21.3**	**-1.2**
JTH	**Tanohata**	**2.06**	**292**	P	**Pn**	**13 06 59.0**	**+0.9**
JTH				*e*S	**Sn**	**13 07 22.8**	**-1.4**
OFUJ	**Ofunato**	**2.08**	**268**	P	**Pb**	**13 06 59.8**	**-1.2**
OFUJ				S	**Sn**	**13 07 24.3**	**-0.4**
JOM	**Ohasama**	**2.38**	**278**	P	**Pb**	**13 07 04.4**	**-1.8**
JOM				S	**Sn**	**13 07 31.8**	**-0.3**
JMK	**Ichinoseki**	**2.44**	**266**	P	**Pn**	**13 07 05.0**	**+1.7**
JMK				S	**Sn**	**13 07 33.2**	**-0.3**
JANG	**Nango**	**2.48**	**300**	P	**Pn**	**13 07 04.6**	**+0.6**
JYK	**Kaneyama**	**3.11**	**266**	P	**Pn**	**13 07 15.2**	**+2.6**
JNBK	**Urakawa-nobuka**	**3.33**	**339**	P	**Pn**	**13 07 16.5**	**+1.0**
JNBK				*e*S	**Sn**	**13 07 53.9**	**-1.5**
JCH	**Churui**	**3.51**	**348**	P	**Pn**	**13 07 18.2**	**+0.1**
JCH				*e*S	**Sn**	**13 07 56.7**	**-3.4**
JFT	**Otama**	**3.55**	**243**	S	**Sn**	**13 08 01.1**	**0.0**
NEM2	**Nemuro 2**	**4.32**	**14**	P	**Pn**	**13 07 28.0**	**-1.2**
NEM2				S	**Sn**	**13 08 14.6**	**-5.3**
ASAJ	**Asahikawa**	**5.11**	**346**	Pn	**Pn**	**13 07 40.8**	**+0.8**
	2.0nm,0.3s,baz=197,slow=15,SNR=17						
ASAJ				Sn	**Sn**	**13 08 36.3**	**-3.0**
	0.8nm,0.3s,baz=48,slow=19,SNR=3.9						
MJAR	**Matsushiro Arr**	**5.52**	**243**	Pn	**Pn**	**13 07 47.7**	**+2.0**
	0.3nm,0.3s,baz=39,slow=14,SNR=11						
MJAR				Sn	**Sn**	**13 08 50.7**	**+1.1**
	baz=69,slow=27,SNR=1.7						
JHJ	**Hachijo jima 2**	**7.08**	**213**	Pn	**Pn**	**13 08 05.5**	**-1.6**
	3.8nm,0.3s,baz=9.4,slow=9.2,SNR=1.5						
JHJ				Sn	**Sn**	**13 09 20.8**	**-7.2**
	4.9nm,0.3s,baz=84,slow=18,SNR=1.9						
USRK	**Ussuriysk Ar.**	**10.51**	**302**	Pn	**Pn**	**13 08 56.9**	**+2.8**
	baz=104,slow=12,SNR=2.2						
KSRS	**Korea Array**	**13.01**	**268**	LR	LR	13 15 02.5	
	comp=Z,38nm,18.2s,baz=245,slow=39						
SEY	**Seymchan**	**24.28**	**9**	P	**P**	**13 11 41.6**	**+0.8**
	1.2nm,0.4s,baz=193,slow=7.4,SNR=12						
GUMO	**Guam**	**25.49**	**179**	LR	LR	13 20 09.0	
	comp=Z,26nm,20.9s,baz=77,slow=33						
ZALV	**Zalesovo Beam**	**42.22**	**311**	P	**P**	**13 14 17.3**	**+0.7**
	0.3nm,0.3s,baz=101,slow=7.7,SNR=4.0						
MKAR	**Makanchi Array**	**44.97**	**301**	P	**P**	**13 14 41.0**	**+2.1**
	0.7nm,0.9s,baz=76,slow=10,SNR=3.8						
ILAR	**Eielson Array**	**46.45**	**33**	P	**P**	**13 14 49.7**	**-0.6**
	0.5nm,0.7s,baz=262,slow=6.3,SNR=5.5						
WRA	**Warramunga Arr**	**59.55**	**191**	P	**P**	**13 16 25.8**	**-1.5**
	0.3nm,0.5s,baz=6.6,slow=6.9,SNR=2.2						
YKA	**Yellowknife Ar**	**60.79**	**31**	P	**P**	**13 16 35.6**	**+0.2**
	0.1nm,0.7s,baz=301,slow=6.5,SNR=5.6						
ASAR	**Alice Springs**	**63.27**	**191**	P	**P**	**13 16 51.4**	**-1.2**
	0.3nm,0.8s,baz=15,slow=7.7,SNR=2.3						
NOA	**NORSAR Array B**	**73.08**	**338**	P	**P**	**13 17 55.0**	**+1.2**
	0.2nm,0.5s,baz=37,slow=6.0,SNR=3.5						
AKASG	**Malin Array Be**	**73.99**	**323**	P	**P**	**13 18 00.5**	**+1.2**
	0.2nm,0.3s,baz=48,slow=4.0,SNR=4.3						

*IDC **12** 13:11:15.8±6.9, 10.23N × 84.02W, h0km, mb3.2/3, mb1 3.7/3, mb1mx3.4/27, mbtmp3.2/3, Error ellipse: s-maj=140.0km s-min=15.1km az=169.0*
*UCR **12** 13:11:16.8±1.7, 9.39N × 84.63W, h16km±5km, MW4.1*
*INET **12** 13:11:17.1±1.1, 9.49N × 84.55W, h5km±5km, MW3.4*
ISC 12 13:11:16.4±0.9, 9.39N±0.05 × 84.60W±0.03, h22km±4km, n46, σ0.88/60, mb3.2/3, 2C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.28**	**348**	⇓*i*P	**Pb**	**13 11 22.5**	**-0.5**
JACO				*e*S	**Sb**	**13 11 27.1**	**-0.3**
LAFE	**Finca La Fe, P**	**0.52**	**324**	⇓*e*P	**Pb**	**13 11 26.8**	**-0.1**
LAFE				*e*S	**Sb**	**13 11 35.0**	**+1.0**
LAFE	**Finca La Fe, P**	**0.52**	**324**	*e*P	**Pb**	**13 11 26.8**	**-0.1**
LAFE				*e*S	**Sb**	**13 11 34.8**	**+0.8**
CAO2	**Cobano, Puntar**	**0.58**	**301**	*e*P	**Pb**	**13 11 27.6**	**-0.4**
EDDO	**Dominical**	**0.74**	**100**	*e*P	**Pn**	**13 11 30.7**	**-0.8**
EDDO				*e*S	**Sn**	**13 11 42.7**	**+0.7**
HDC	**Heredia**	**0.78**	**38**	⇓*i*P	**Pb**	**13 11 31.2**	**-0.1**
HDC3	**Heredia 3**	**0.78**	**38**	*e*P	**Pb**	**13 11 31.2**	**-0.1**
HDC3				*e*S	**Sb**	**13 11 39.9**	**-1.7**
RIMA	**Rio Macho**	**0.82**	**62**	⇓*i*P	**Pb**	**13 11 31.8**	**-0.3**
RIMA				*e*S	**Sn**	**13 11 44.8**	**+0.5**
RIMA	**Rio Macho**	**0.82**	**62**	*e*P	**Pb**	**13 11 31.7**	**-0.3**
CDM	**Cerro de Muert**	**0.84**	**78**	⇓*e*P	**Pn**	**13 11 32.5**	**-0.8**
CDM				*e*S	**Sn**	**13 11 46.2**	**+1.0**
CDM	**Cerro de Muert**	**0.84**	**78**	*e*P	**Pn**	**13 11 32.5**	**-0.8**
CDM				*e*S	**Sn**	**13 11 46.3**	**+1.0**
PEZE	**Perez Zeledon,**	**0.91**	**90**	*e*P	**Pn**	**13 11 33.7**	**-0.2**
PEZE				*e*S	**Sn**	**13 11 47.0**	**+0.6**
PEZE	**Perez Zeledon,**	**0.91**	**90**	*e*P	**Pn**	**13 11 33.8**	**-0.2**
PEZE				*e*S	**Sn**	**13 11 47.0**	**+0.6**
JTS	**Las Juntas de**	**0.96**	**339**	Pg	**Pn**	**13 11 33.4**	**-1.3**
	294nm,0.3s,baz=82,slow=7.1,SNR=797						
JTS				Lg	Lg	13 11 46.1	
	341nm,0.3s,baz=326,slow=23,SNR=15						
JTS	**Las Juntas de**	**0.96**	**339**	⇓*e*P	**Pn**	**13 11 33.3**	**-1.4**
JTS				*e*S	**Sb**	**13 11 46.3**	**-0.5**
JTS	**Las Juntas de**	**0.96**	**339**	*e*P	**Pn**	**13 11 33.4**	**-1.3**
INDI	**Punta indio, G**	**1.01**	**298**	*e*P	**Pb**	**13 11 35.1**	**-0.1**
FORC	**Fortuna**	**1.08**	**356**	*i*P	**Pn**	**13 11 36.4**	**+0.2**
CEDE	**Laguna Cedeo**	**1.10**	**355**	*i*P	**Pn**	**13 11 36.7**	**+0.2**
DUNO	**Dulce Nombre,**	**1.12**	**308**	*e*P	**Pn**	**13 11 35.6**	**-1.2**
DUNO				*e*S	**Sb**	**13 11 53.2**	**+2.1**
EDPN	**Palmar Norte**	**1.20**	**110**	*e*P	**Pb**	**13 11 38.4**	**-0.1**
GUAI	**GUAI**	**1.26**	**314**	*i*P	**Pn**	**13 11 37.9**	**-0.7**
RIOS	**Rincon, Osa**	**1.27**	**122**	*e*P	**Pb**	**13 11 40.2**	**+0.6**
ORTG	**Ortega, Santa**	**1.29**	**319**	*e*P	**Pn**	**13 11 38.5**	**-0.7**
ORTG				*e*S	**Sb**	**13 11 57.2**	**+1.1**
SAJU	**San Juanillo,**	**1.29**	**302**	*e*P	**Pn**	**13 11 37.7**	**-1.4**
ACAL	**Aguas Claras**	**1.31**	**341**	⇓*i*P	**Pn**	**13 11 39.7**	**+0.2**
EDBA	**Buenos Aires**	**1.33**	**99**	*e*P	**Pb**	**13 11 39.7**	**-0.9**
EDBA				*e*S	**Sb**	**13 11 59.5**	**+2.4**
COVE	**Coope Vega, Sa**	**1.34**	**8**	⇓*i*P	**Pn**	**13 11 40.0**	**+0.2**
PTEN	**Parque Tenorio**	**1.38**	**344**	⇓*i*P	**Pn**	**13 11 40.8**	**+0.5**
CUI	**Cuipilapa**	**1.38**	**336**	⇓*i*P	**Pn**	**13 11 40.7**	**+0.3**
COLC	**Colonia**	**1.40**	**335**	*i*P	**Pn**	**13 11 41.1**	**+0.4**
HORNC	**Hornillas**	**1.44**	**337**	⇑*i*P	**Pn**	**13 11 41.6**	**+0.4**
GUAB	**Guayabo de Bag**	**1.45**	**335**	*i*P	**Pn**	**13 11 41.7**	**+0.3**
LIM1	**Limonal**	**1.45**	**334**	*i*P	**Pn**	**13 11 41.7**	**+0.3**
VMAR	**Armenia, Volca**	**1.51**	**340**	⇓*e*P	**Pn**	**13 11 42.8**	**+0.6**
GPS2	**Hotel Rincn d**	**1.55**	**331**	*i*P	**Pn**	**13 11 43.6**	**

ESPN	Las Esperanzas	2.81	6	*e*P		Pn	13 12 01.0	+1.1	
TXAR	Lajitas Array	26.70	321	P		P	13 16 55.3	+1.0	
	0.4nm,0.6s,baz=140,slow=11,SNR=4.2								
NVAR	Mina Array Bea	41.84	319	P		P	13 19 05.4	+0.4	
	0.4nm,0.6s,baz=135,slow=8.2,SNR=4.5								
YKA	Yellowknife Ar	57.30	344	P		P	13 20 60.0	-2.3	
	0.1nm,0.4s,baz=138,slow=7.4,SNR=2.3								

NNC ***12*** *13:23:15.6±2.2, 40°.67N×73°.32E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=18.9km s-min=10.6km az=169.0*
KRNET ***12*** *13:23:17.3±0.1, 40°.80N×73°.30E, h15km, mb3.4*
SOME ***12*** *13:23:18.6, 40°.93N×73°.40E, h5km*
ISU ***12*** *13:23:19, 40°.76N×73°.13E, h1km, Hypocentre not reviewed by the ISC*

ISC 12 13:23:19.0±0.7, 40°.82N±0°.03×73°.16E±0°.02, h10km, n76, σ1s62/116, 27C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.41**	**225**	⇑*i*P	**Pg**	**13 23 26.5**	**-0.6**
	baz=35						
OHH				⇑*e*S	**Sg**	**13 23 33.2**	**+0.7**
	baz=35						
OHH	**Osh**	**0.41**	**225**	P		13 23 27.0	
OHH				S		13 23 33.5	
TSTA	**Tashata**	**0.57**	**246**	P		13 23 30.4	
TSTA				S		13 23 39.3	
FRG	**Fergana**	**1.14**	**248**	P		13 23 43.0	
FRG				S		13 24 00.1	
ARK	**Arkit**	**1.33**	**318**	⇑*i*P	**Pb**	**13 23 43.9**	**-0.3**
	baz=15						
ARK				⇑*i*S	**Sg**	**13 24 03.0**	**+1.0**
	baz=15						
CHMI	**Chimion**	**1.36**	**247**	P		13 23 46.4	
CHMI				S		13 24 06.9	
AML	**Almayashu**	**1.37**	**17**	P	**Pn**	**13 23 42.8**	**-1.8**
	SNR=118						
SHAK	**Shakhimardan**	**1.39**	**232**	P		13 23 46.9	
SHAK				S		13 24 07.1	
TRKS	**Terek-Say**	**1.69**	**296**	⇓*i*P	**Pn**	**13 23 49.2**	**+0.5**
	baz=93						
TRKS				⇓*i*S	**Sg**	**13 24 12.8**	**-0.5**
	baz=93						
DRK	**Karamyk**	**1.69**	**219**	⇑*i*P	**Pb**	**13 23 49.2**	**-1.3**
	baz=22						
DRK				⇑*i*S	**Sg**	**13 24 12.8**	**-0.7**
	baz=22						
MINT	**Mingtut**	**1.70**	**259**	P		13 23 50.8	
MINT				S		13 24 16.0	
UCH	**Uchtor**	**1.74**	**35**	P	**Pn**	**13 23 49.1**	**-0.5**
	SNR=68						
UCH	**Uchtor**	**1.74**	**35**	⇑*i*P	**Pn**	**13 23 48.6**	**-1.1**
	baz=32						
UCH				⇑*i*S	**Sn**	**13 24 11.5**	**-0.6**
	baz=32						
EKS2	**Erkin-Say**	**1.90**	**14**	P	**Pb**	**13 23 52.3**	**-1.6**
	SNR=47						
EKS2	**Erkin-Say**	**1.90**	**14**	⇑*i*P	**Pn**	**13 23 52.1**	**+0.5**
	baz=11						
EKS2				⇑*i*S	**Sb**	**13 24 17.2**	**-0.5**
	baz=11						
MRKS	**Merke**	**1.93**	**1**	⇓*e*P	**Pg**	**13 23 55.7**	**-0.3**
	32nm,0.1s						
MRKS				*e*S	**Sg**	**13 24 22.5**	**+1.5**
	129nm,0.1s						
MRKS	**Merke**	**1.93**	**1**	Pg	**Pg**	**13 23 55.7**	**-0.3**
	32nm,0.3s						
MRKS				Lg	Lg	13 24 22.5	
	129nm,0.5s						
BTK	**Batken**	**1.94**	**248**	⇑*i*P	**Pb**	**13 23 53.8**	**-0.8**
	baz=49						
BTK				⇑*i*S	**Sg**	**13 24 20.6**	**-0.9**
	baz=49						
AAK	**Ala-Archa**	**2.08**	**28**	P	**Pb**	**13 23 55.0**	**-1.9**
	SNR=43						
AAK	**Ala-Archa**	**2.08**	**28**	⇓*i*P	**Pn**	**13 23 54.0**	**-0.1**
	baz=26						
AAK				⇓*i*S	**Sb**	**13 24 21.1**	**-1.7**
	baz=26						
KBK	**Karagaybulak**	**2.27**	**35**	P	**Pb**	**13 23 58.5**	**-1.8**
	SNR=24						
KBK	**Karagaybulak**	**2.27**	**35**	⇑*i*P	**Pn**	**13 23 57.0**	**+0.2**
	baz=33						
KBK				⇑*i*S	**Sn**	**13 24 25.4**	**+0.4**
	baz=33						
FRU1	**Bishkek**	**2.27**	**28**	⇑*i*P	**Pn**	**13 23 57.3**	**+0.6**
	baz=25						
FRU1				⇑*i*S	**Sb**	**13 24 26.1**	**-2.3**
	baz=25						
CHMS	**Chumysh**	**2.48**	**28**	P	**Pb**	**13 24 01.3**	**-2.4**
	SNR=18						
CHMS	**Chumysh**	**2.48**	**28**	⇓*i*P	**Pn**	**13 23 59.6**	**0.0**
	baz=26						
CHMS				⇓*i*S	**Sn**	**13 24 30.7**	**+0.8**
	baz=26						
CHMS	**Chumysh**	**2.48**	**28**	⇓Pn	**Pn**	**13 23 55.7**	**-3.8**
	21nm,0.6s,baz=137,slow=30						
CHMS				⇓Sn	**Sb**	**13 24 34.0**	**-0.4**
	61nm,0.6s,baz=137,slow=30						
DZA	**Taraz**	**2.48**	**327**	*e*Pg	**Pb**	**13 24 03.6**	**-0.2**
	baz=327						
DZA				*e*Lg	Lg	13 24 37.8	
	baz=327						
CHMG	**Chimgan**	**2.49**	**288**	P		13 24 05.6	
CHMG				S		13 24 40.0	
USP	**Ospenovka**	**2.64**	**22**	P	**Pn**	**13 24 03.2**	**+1.4**
	SNR=11						
USP	**Ospenovka**	**2.64**	**22**	⇓*i*P	**Pn**	**13 24 02.2**	**+0.4**
	baz=20						
USP				⇓*i*S	**Sn**	**13 24 34.8**	**+0.9**
	baz=20						
BOOM	**Boomskoye usch**	**2.67**	**50**	⇑*e*P	**Pn**	**13 24 02.1**	**-0.2**
	baz=49						
BOOM				⇑*i*S	**Sn**	**13 24 34.6**	**-0.2**
	baz=49						
IUG	**Iuzhnay**	**2.70**	**301**	*e*P	**Pg**	**13 24 09.7**	**-1.1**
	473nm,0.5s						
IUG				*e*S	**Sg**	**13 24 46.5**	**+0.7**
	241nm,0.4s						
IUG	**Iuzhnay**	**2.70**	**301**	*e*Pg	**Pb**	**13 24 06.8**	**-0.7**
	baz=301						
IUG				*e*Lg	Lg	13 24 44.2	
	baz=301						
IUG	**Iuzhnay**	**2.70**	**301**	Pg	**Pg**	**13 24 09.7**	**-1.1**
	473nm,0.5s						
IUG				Lg	Lg	13 24 46.5	
	241nm,0.4s						
ULHL	**Ulahol**	**2.72**	**57**	⇓*i*P	**Pn**	**13 24 02.5**	**-0.4**
	baz=56						
ULHL				⇓*i*S	**Sn**	**13 24 35.6**	**-0.4**
	baz=56						
TKM2	**Tokmak 2**	**2.78**	**40**	P	**Pn**	**13 24 05.0**	**+1.2**
	SNR=23						
TKM2	**Tokmak 2**	**2.78**	**40**	⇓*i*P	**Pn**	**13 24 03.7**	**-0.1**
	baz=38						
TKM2				⇓*i*S	**Sn**	**13 24 37.4**	**-0.1**
	baz=38						
TKM2	**Tokmak 2**	**2.78**	**40**	⇑Pn	**Pn**	**13 24 05.1**	**+1.3**
	9.7nm,0.4s,baz=137,slow=30						
TKM2				⇑Sn	**Sb**	**13 24 41.6**	**-1.5**
	23nm,0.5s,baz=137,slow=30						
GAR	**Garm**	**2.84**	**231**	⇑*i*P	**Pn**	**13 24 06.4**	**+1.8**
	baz=33						
GAR				⇑*i*S	**Sb**	**13 24 42.0**	**-2.8**
	baz=33						
SGDS	**Sogindy**	**2.85**	**22**	*e*P	**Pb**	**13 24 09.4**	**-0.7**
	5.2nm,0.0s						
SGDS				*e*S	**Sb**	**13 24 45.8**	**+0.8**
	59nm,0.1s						
SGDS	**Sogindy**	**2.85**	**22**	*e*Pn	**Pn**	**13 24 04.2**	**-0.5**
	baz=22						
SGDS				*e*Pg	**Pb**	**13 24 10.6**	**+0.5**
	baz=22						
SGDS	**Sogindy**	**2.85**	**22**	Pg	**Pb**	**13 24 09.4**	**-0.7**
	8.7nm,0.3s						
SGDS				Lg	Lg	13 24 46.4	
	15nm,0.4s						
KK31	**Karatay Array**	**3.02**	**320**	⇑Pn	**Pn**	**13 24 03.3**	**-3.7**
	1.8nm,0.3s,baz=131,slow=13,SNR=30						
KK31				Lg	Lg	13 24 54.2	
	22nm,0.5s,baz=137,slow=30,SNR=15						
KST	**Kastek**	**3.05**	**42**	*e*P	**Pb**	**13 24 11.9**	**-1.6**
	1.7nm,0.4s						
KST				*e*S	**Sb**	**13 24 50.5**	**-0.3**
	32nm,0.0s						
KST	**Kastek**	**3.05**	**42**	Pg	**Pb**	**13 24 11.9**	**-1.6**
	1.7nm,0.4s						
KST				Lg	Lg	13 24 50.5	
	32nm,0.5s						
DGS	**Degeres**	**3.11**	**38**	*e*P	**Pb**	**13 24 14.1**	**-0.3**
	16nm,0.2s						
DGS				*e*S	**Sb**	**13 24 53.8**	**+1.3**
	37nm,0.2s						
DGS	**Degeres**	**3.11**	**38**	Pg	**Pb**	**13 24 14.1**	**-0.3**
	16nm,0.8s						
DGS				Lg	Lg	13 24 53.8	
	37nm,0.8s						
KDJ	**Kajisay**	**3.29**	**65**	⇑*e*P	**Pn**	**13 24 09.8**	**-1.0**
	baz=64						
KDJ				⇑*i*S	**Sn**	**13 24 49.3**	**-0.8**
	baz=64						
BRLS	**Borolday**	**3.33**	**313**	*e*P	**Pb**	**13 24 19.8**	**+1.7**
	2.6nm,0.0s						
BRLS				*e*S	**Sg**	**13 25 03.6**	**-2.2**
	28nm,0.1s						
MTBS	**Maitube**	**3.36**	**45**	*e*P	**Pb**	**13 24 18.2**	**-0.5**
	10nm,0.8s						
MTBS				*e*S	**Sb**	**13 25 01.2**	**+1.6**
	30nm,0.7s						
MTBS	**Maitube**	**3.36**	**45**	Pg	**Pb**	**13 24 18.2**	**-0.5**
	10nm,0.8s						
MTBS				Lg	Lg	13 25 01.2	
	30nm,0.7s						
KRBS	**Karabastau**	**3.43**	**32**	*e*P	**Pb**	**13 24 19.1**	**-0.8**
	4.4nm,0.2s						
KRBS				*e*S	**Sb**	**13 25 02.9**	**+1.3**
	20nm,0.1s						
KRBS	**Karabastau**	**3.43**	**32**	Pg	**Pb**	**13 24 19.1**	**-0.8**
	10nm,0.4s						
KRBS				Lg	Lg	13 25 02.9	
	20nm,0.7s						
TNSS	**Tian-Shan**	**3.59**	**51**	*e*P	**Pb**	**13 24 22.4**	**-0.5**
	6.9nm,0.5s						
TNSS				*e*S	**Sb**	**13 25 08.2**	**+1.5**
	11nm,0.6s						
TNSS	**Tian-Shan**	**3.59**	**51**	*e*Pg	**Pb**	**13 24 23.8**	**+0.9**
	baz=50						
TNSS	**Tian-Shan**	**3.59**	**51**	Pg	**Pb**	**13 24 22.4**	**-0.5**
	6.9nm,0.5s						
TNSS				Lg	Lg	13 25 08.2	
	11nm,0.6s						
MDOK	**Medeo**	**3.73**	**50**	*e*P	**Pb**	**13 24 24.8**	**-0.2**
	4.3nm,0.5s						
MDOK				*e*S	**Sb**	**13 25 12.3**	**+2.0**
	20nm,1.0s						
MDOK	**Medeo**	**3.73**	**50**	*e*Pg	**Pb**	**13 24 26.8**	**+1.7**
	baz=49						
MDOK	**Medeo**	**3.73**	**50**	Pg	**Pn**	**13 24 18.1**	**+1.3**
	6.6nm,0.7s,baz=137,slow=30						
MDOK				Lg	Lg	13 25 11.6	
	17nm,0.7s,baz=137,slow=30						
MDOK	**Medeo**	**3.73**	**50**	Pg	**Pb**	**13 24 24.8**	**-0.2**
	4.3nm,0.5s						
MDOK				Lg	Lg	13 25 12.3	
	20nm,1.0s						
CHGR	**Chuyangaron**	**3.77**	**236**	⇑*i*P	**Pn**	**13 24 19.1**	**+1.9**
	baz=38						
CHGR				⇑*i*S	**Sn**	**13 25 04.3**	**+2.6**
	baz=38						
KOTS	**Kotyrbulak**	**3.81**	**49**	*e*P	**Pb**	**13 24 26.5**	**+0.1**
	7.4nm,0.5s						
KOTS				*e*S	**Sb**	**13 25 15.3**	**+2.7**
	36nm,0.5s						
KOTS	**Kotyrbulak**	**3.81**	**49**	Pg	**Pb**	**13 24 26.5**	**+0.1**
	7.4nm,0.5s						
KOTS				Lg	Lg	13 25 15.3	
	36nm,0.5s						
KTBS	**Karatobe**	**3.90**	**41**	*e*P	**Pb**	**13 24 28.1**	**+0.2**
	5.4nm,0.0s						
KTBS				*e*S	**Sb**	**13 25 17.6**	**+2.5**
	31nm,0.6s						
KTBS	**Karatobe**	**3.90**	**41**	Pg	**Pb**	**13 24 28.1**	**+0.2**
	5.4nm,0.7s						
KTBS				Lg	Lg	13 25 17.6	
	31nm,0.6s						
CHKK	**Chushkaly**	**4.15**	**42**	*e*Pg	**Pb**	**13 24 33.6**	**+1.4**
	baz=42						
BTLS	**Baital**	**4.27**	**8**	*e*P	**Pb**	**13 24 35.5**	**+1.3**
	2.0nm,0.3s						
BTLS				*e*S	**Sb**	**13 25 30.7**	**+4.9**
	5.5nm,1.3s						
BTLS	**Baital**	**4.27**	**8**	*e*Pg	**Pb**	**13 24 35.4**	**+1.3**
	baz=8.2						
BTLS	**Baital**	**4.27**	**8**	Pg	**Pb**	**13 24 35.5**	**+1.3**
	2.0nm,0.3s						
BTLS				Lg	Lg	13 25 30.7	
	5.7nm,0.6s						
SATY	**Saty**	**4.51**	**58**	*e*P	**Pb**	**13 24 38.8**	**+0.5**
	2.8nm,0.5s						
SATY				*e*S	**Sb**	**13 25 36.1**	**+3.3**
	17nm,0.5s						
SATY	**Saty**	**4.51**	**58**	*e*Pg	**Pb**	**13 24 38.8**	**+0.5**
	baz=58						
SATY	**Saty**	**4.51**	**58**	Pg	**Pb**	**13 24 38.8**	**+0.5**
	2.8nm,0.5s						
SATY				Lg	Lg	13 25 36.1	
	17nm,0.5s						
ARXS	**Arharly**	**4.84**	**44**	*e*P	**Pb**	**13 24 43.7**	**-0.2**
	1.5nm,1.0s						
ARXS				*e*S	**Sb**	**13 25 44.7**	**+2.5**
	12nm,0.9s						
ARXS	**Arharly**	**4.84**	**44**	Pg	**Pb**	**13 24 43.7**	**-0.2**
	1.5nm,1.0s						
ARXS				Lg	Lg	13 25 44.7	
	12nm,0.9s						
KPKS	**Kokpek**	**4.88**	**55**	*e*Pg	**Pb**	**13 24 46.8**	**+2.1**
	baz=55						
UZB	**Uzynbulak**	**4.95**	**60**	*e*P	**Pb**	**13 24 45.7**	**-0.1**
	2.9nm,0.5s						
UZB				*e*S	**Sb**	**13 25 48.2**	**+2.8**
	8.7nm,0.9s						
UZB	**Uzynbulak**	**4.95**	**60**	Pg	**Pb**	**13 24 45.7**	**-0.1**
	2.9nm,0.5s						
UZB				Lg	Lg	13 25 48.2	
	8.7nm,0.9s						
BLB	**Baldybastay**	**5.12**	**48**	*e*P	**Pb**	**13 24 49.1**	**+0.4**
	3.0nm,0.7s						
BLB				*e*S	**Sb**	**13 25 54.0**	**+3.7**
	9.9nm,0.5s						
BLB	**Baldybastay**	**5.12**	**48**	Pg	**Pb**	**13 24 49.1**	**+0.4**
	3.0nm,0.7s						
BLB				Lg	Lg	13 25 54.0	
	9.9nm,0.5s						
SHLS	**Shalkode**	**5.25**	**61**	*e*P	**Pg**	**13 24 56.2**	**-3.3**
	2.0nm,0.3s						
SHLS				*e*S	**Sg**	**13 26 06.1**	**-1.3**
	5.9nm,0.6s						
SHLS	**Shalkode**	**5.25**	**61**	Pg	**Pg**	**13 24 56.2**	**-3.3**
	2.0nm,0.3s						
SHLS				Lg	Lg	13 26 06.1	
	5.9nm,0.6s						
PDGK	**Podgornoye**	**5.34**	**60**	Pg	**Pb**	**13 24 53.9**	**+1.5**
	0.6nm,0.7s						
PDGK				Lg	Lg	13 26 02.0	
	3.1nm,0.8s						
DJR	**Jarkent**	**6.02**	**52**	*e*P	**Pb**	**13 25 05.7**	**+1.6**
	0.5nm,0.1s						
DJR				*e*S	**Sb**	**13 26 22.7**	**+6.5**
	4.7nm,0.1s						

IDC 12 13:42:57.9±8.8, 19°.19N×106°.28W, h0km, mb3.0/4, mb1 3.5/5, mb1mx3.4/24, mbtmp3.1/5, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/18, Error ellipse: s-maj=152.0km s-min=82.7km az=141.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**10.38**	**13**	Pn	Pn	13 45 30.4	+2.2
	0.1nm,0.3s,baz=181,slow=14,SNR=4.5						
PFO	**Pinyon Flats O**	**17.00**	**330**	LR	LR	13 52 17.5	
	comp=Z,142nm,20.6s,baz=114,slow=33						
NVAR	**Mina Array Bea**	**21.84**	**334**	P	P	13 47 52.7	+0.5
	0.2nm,0.3s,baz=174,slow=9.8,SNR=3.3						
PDAR	**Pinedale Array**	**23.67**	**354**	P	P	13 48 09.8	-1.6
	0.4nm,0.8s,baz=178,slow=8.7,SNR=2.7						
YKA	**Yellowknife Ar**	**43.65**	**354**	P	P	13 51 04.4	+0.3
	0.1nm,0.4s,baz=158,slow=8.4,SNR=1.3						
ILAR	**Eielson Array**	**52.94**	**340**	P	P	13 52 15.7	0.0
	0.4nm,0.8s,baz=139,slow=7.2,SNR=3.4						

IDC ***12*** *14:10:10.3±1.3, 33°.06N×47°.28E, h0km, mb3.7/14, mb1 3.9/17, mb1mx3.7/49, mbtmp3.8/17, ML3.6/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/86, Error ellipse: s-maj=27.4km s-min=19.0km az=9.0*
TEH ***12*** *14:10:11.4, 33°.28N×47°.40E, h8km, ML3.9*
ISN ***12*** *14:10:12.1±0.5, 33°.22N×47°.43E, h6km±2km, ML3.7*
MOS ***12*** *14:10:12.3±1.6, 33°.10N×47°.20E, h22km, mb4.2/15, Error ellipse: s-maj=10.6km s-min=6.1km az=89.9*
NEIC ***12*** *14:10:12.8±1.7, 33°.10N±0°.05×47°.3E±0°.1, h10km±1km, mb4.2/25, ML3.9(CSEM), Error ellipse: s-maj=18.3km s-min=6.2km az=249.0*
OMAN ***12*** *14:10:18.7±0.1, 32°.40N×47°.30E, h10km, mb3.7/9, ms3.5/1, Error ellipse: s-maj=2.7km s-min=2.0km az=230.0*

ISC 12 14:10:13.0±0.4, 33°.15N±0°.03×47°.38E±0°.03, h15km, n161, σ2s27/175, mb4.1/37, MS3.4/3, 12C-1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.54**	**46**	*e*Pg	**Pg**	**14 10 21.1**	**-2.7**
IKFM				*e*		14 10 47.0	
	comp=Z,43μm,1.3s						
IDOB	**Doab**	**0.92**	**46**	*e*Pg	**Pb**	**14 10 28.4**	**-2.5**
KCHF	**Cheshme Sefid,**	**1.16**	**346**	*e*Pg	**Pb**	**14 10 32.9**	**-2.0**
KCHF				*e*		14 11 14.4	
	comp=Z,11μm,0.7s						
IBDR	**Badra**	**1.22**	**269**	*e*Pg	**Pb**	**14 10 36.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**14 10 54.0**	**+1.6**
IBDR				AML	AML	14 11 03.6	
	comp=N,1μm,0.8s						
IBDR				AML	AML	14 11 33.5	
	comp=E,1μm,0.8s						
KER	**Kermanshah**	**1.25**	**351**	P	**Pn**	**14 10 34.8**	**-1.4**
KER	**Kermanshah**	**1.25**	**351**	*e*Pg	**Pn**	**14 10 34.9**	**-1.2**
IGHG	**Ghaleghazi**	**1.36**	**330**	*e*Pg	**Pn**	**14 10 36.0**	**-1.7**
IGHG				*e*		14 11 09.7	
	comp=Z,23μm,0.8s						
IBZA	**Bozab**	**1.38**	**17**	*e*Pn	**Pn**	**14 10 35.9**	**-2.1**
HSAM	**Samen**	**1.47**	**44**	*e*Pg	**Pn**	**14 10 39.0**	**-0.3**
IDHR	**Dehrash**	**1.75**	**332**	*e*Pg	**Pn**	**14 10 44.0**	**+0.9**
IDHR				*e*		14 11 16.0	
	comp=Z,15μm,0.6s						
RAFI	**Al-Rafai**	**1.78**	**217**	*e*Pn	**Pb**	**14 10 46.3**	**+1.0**
RAFI				*e*Sn	**Sg**	**14 11 11.5**	**+1.2**
RAFI				AML	AML	14 11 22.2	
	comp=E,908nm,1.1s						
ILIN	**Lien**	**1.80**	**349**	*e*Pg	**Pn**	**14 10 44.0**	**+0.2**
ILIN				*e*		14 11 13.7	
	comp=Z,7μm,0.9s						
SNGE	**Sanandaj**	**1.94**	**359**	*e*Pg	**Pn**	**14 10 44.2**	**-1.5**
AMIS	**Naft Sefid**	**2.19**	**132**	*e*Pn	**Pb**	**14 10 51.7**	**-0.6**
HAGD	**Aghdareh**	**2.22**	**41**	*e*Pn	**Pn**	**14 10 51.1**	**+1.5**
HAGD				*e*		14 11 36.0	
	comp=Z,8μm,1.2s						
KHMZ	**Khomeyn**	**2.24**	**74**	*e*Pn	**Pn**	**14 10 51.4**	**+1.6**
BHD	**Baghdad**	**2.52**	**274**	*e*Pn	**Pb**	**14 10 56.0**	**-1.9**
BHD				*e*Sn	**Sb**	**14 11 27.5**	**-1.2**
BHD				AML	AML	14 11 51.3	
	comp=E,554nm,0.4s						
ASAO	**Ashtian**	**2.61**	**57**	*e*Pn	**Pn**	**14 10 56.4**	**+1.5**
IPIR	**Pirpir**	**2.99**	**98**	*e*Pn	**Pn**	**14 11 02.5**	**+2.3**
IPIR				*e*		14 11 55.5	
	comp=Z,4μm,0.7s						
SHK1	**Shahrekord**	**3.06**	**105**	*e*Pn	**Pn**	**14 11 03.3**	**+2.1**
SHK1				*e*		14 12 08.4	
	comp=Z,6μm,0.8s						
IRAZ	**Razeghan**	**3.09**	**42**	*e*Pn	**Pn**	**14 11 02.9**	**+1.5**
IRAZ				*e*		14 12 11.9	
	comp=Z,5μm,1.1s						
QABG	**Abgarm-Qazvin**	**3.14**	**35**	*e*Pn	**Pn**	**14 11 02.8**	**+0.6**
QABG				*e*		14 12 11.3	
	comp=Z,2μm,1.2s						
IKRK	**Kirkuk**	**3.37**	**313**	*e*Pn	**Pn**	**14 11 07.0**	**+1.8**
IKRK				*e*Sn	**Sn**	**14 11 47.0**	**+2.0**
IKRK				AML	AML	14 12 21.9	
	comp=N,413nm,0.9s						
IKRK				AML	AML	14 12 28.9	
	comp=E,256nm,0.6s						
QAMS	**Qamsar**	**3.41**	**79**	*e*Pn	**Pn**	**14 11 07.7**	**+1.8**
QAMS				*e*		14 12 21.6	
	comp=Z,1μm,0.5s						
IQOM	**Qom**	**3.50**	**60**	*e*Pn	**Pn**	**14 11 08.6**	**+1.4**
IQOM				*e*		14 12 28.9	
	comp=Z,3μm,1.0s						
IBRJ	**Brojen**	**3.50**	**110**	*e*Pn	**Pn**	**14 11 09.4**	**+2.2**
IBRJ				*e*		14 12 32.3	
	comp=Z,7μm,1.0s						
GHVR	**GHOM**	**3.52**	**67**	*e*Pn	**Pn**	**14 11 08.7**	**+1.4**
IKLH	**Kolahrood**	**3.52**	**86**	*e*Pn	**Pn**	**14 11 09.7**	**+2.2**
IMHD	**Mahdasht**	**3.71**	**46**	*e*Pn	**Pn**	**14 11 10.2**	**+0.2**
IMHD				*e*		14 12 22.7	
	comp=Z,3μm,1.1s						
MAHB	**Mahabad**	**3.86**	**340**	*e*Pn	**Pn**	**14 11 13.3**	**+1.2**
IGZV	**Ghazvin**	**3.99**	**35**	*e*Pn	**Pn**	**14 11 14.8**	**+1.0**
THKV	**Tehran--Karaj**	**4.00**	**45**	*e*Pn	**Pn**	**14 11 13.6**	**-0.3**
IGAR	**Gharneh**	**4.00**	**99**	*e*Pn	**Pn**	**14 11 15.7**	**+1.7**
IVRN	**Varamin**	**4.05**	**62**	*e*Pn	**Pn**	**14 11 16.2**	**+1.6**
IVRN				*e*		14 13 03.3	
	comp=Z,3μm,1.2s						
KRSH	**Karshahi**	**4.05**	**77**	*e*Pn	**Pn**	**14 11 15.6**	**+0.9**
CHTH	**Charan**	**4.14**	**47**	*e*Pn	**Pn**	**14 11 15.9**	**-0.1**
KLNJ	**Kolanjah**	**4.16**	**120**	*e*Pn	**Pn**	**14 11 18.2**	**+1.8**
IZEF	**Zefreh**	**4.17**	**92**	*e*Pn	**Pn**	**14 11 18.6**	**+2.3**
IZEF				*e*		14 12 44.7	
	comp=Z,3μm,1.1s						
ISFB	**Sefidab**	**4.22**	**72**	*e*Pn	**Pn**	**14 11 18.5**	**+1.5**
ISFB				*e*		14 12 41.4	
	comp=Z,1μm,1.0s						
QALM	**Alamut, Qazvin**	**4.24**	**38**	*e*Pn	**Pn**	**14 11 19.0**	**+1.7**
QALM				*e*		14 12 59.4	
	comp=Z,2μm,1.0s						
IRAM	**Ramesheh**	**4.43**	**106**	*e*Pn	**Pn**	**14 11 22.4**	**+2.4**
IRAM				*e*		14 12 51.7	
	comp=Z,2μm,1.1s						
DAMV	**Damavand**	**4.53**	**56**	*e*Pn	**Pn**	**14 11 22.2**	**+0.8**
IDMV	**Damavand**	**4.55**	**57**	*e*Pn	**Pn**	**14 11 22.3**	**+0.7**
NASN	**Na'in**	**4.58**	**93**	*e*Pn	**Pn**	**14 11 24.4**	**+2.4**
IFIR	**Firoozkooh**	**5.09**	**59**	*e*Pn	**Pn**	**14 11 30.4**	**+1.3**
ANAR	**Anarak**	**5.33**	**88**	*e*Pn	**Pn**	**14 11 33.8**	**+1.6**
AHBU	**AHRAM**	**5.43**	**141**	*e*Pn	**Pn**	**14 11 37.6**	**+4.1**
ISHM	**Shahmirzad**	**5.56**	**60**	*e*Pn	**Pn**	**14 11 37.2**	**+1.7**
GRMI	**Germi**	**5.66**	**4**	*e*Pn	**Pn**	**14 11 35.6**	**-1.2**
IANJ	**Anjilo**	**5.88**	**65**	*e*Pn	**Pn**	**14 11 41.3**	**+1.4**
YZKH	**Yazd**	**6.12**	**95**	*e*Pn	**

BSY S **Sn** **14 15 48.4 -5.7**
SMDO Samad 13.76 134 P **Pn** **14 13 26.8 -1.0**
WSAR Wadi Sarin 13.98 132 Pn **Pn** **14 13 29.3 -1.4**
comp=Z,0.5nm,0.3s,baz=59,slow=3.7,SNR=2.5
WSAR Sn Sn 14 15 55.5 -10
comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=4.4
MHTO MHTO 15.34 140 P **Pn** **14 13 48.1 -0.9**
MHTO P **Pn** **14 13 48.1 -0.9**
MHTO S **Sn** **14 16 31.7 -7.0**
MHTO S **Sn** **14 16 31.7 -7.0**
DOK Doka 15.68 156 P **Pn** **14 13 51.2 -2.3**
DOK S **Sn** **14 16 42.7 -4.5**
WHFO Wadi Hawf 16.22 158 P **Pn** **14 13 58.3 -2.2**
WHFO S **Sn** **14 16 53.7 -6.5**
ABTO Aybut 16.61 160 P **Pn** **14 14 04.0 -1.4**
ABTO S **Sn** **14 16 59.3 -10**
ABKAR Akbulak array 18.62 27 P **Pn** **14 14 30.4 +0.2**
AKTO Aktyubinsk 18.97 21 P **Pn** **14 14 34.4 -0.1**
comp=Z,0.0nm,0.3s,baz=202,slow=16,SNR=2.1
AKTO LR LR 14 22 49.1
comp=Z,30nm,19.1s,baz=256,slow=40
BELG Belogornoye 19.24 0 P **P** **14 14 36.9 +0.3**
comp=Z,0.5nm,0.3s,baz=79,slow=22,SNR=1.5
BELG LR LR 14 24 11.9
comp=Z,65nm,18.8s,baz=134,slow=44
VORR Voronezh 19.45 345 *e*P P 14 14 30.7 -8.2
VORR pmax pmax
comp=Z,100nm,0.5s
BTK Batken 20.01 63 P Pn 14 14 47.1 +0.1
BTK pmax pmax
comp=Z,12nm,1.3s
BTK Batken 20.01 63 P Pn 14 14 47.1 +0.1
BTK IAmb IAmb 14 15 01.4
comp=Z,12nm,1.3s
MLR Muntele Rosu 20.59 313 P **P** **14 14 51.3 -0.2**
comp=Z,1.0nm,0.4s,baz=135,slow=5.7,SNR=1.4
MLR Muntele Rosu 20.59 313 P **P** **14 14 51.4 -0.2**
MLR pmax pmax
comp=Z,8.0nm,1.2s
MLR Muntele Rosu 20.59 313 IAmb IAmb 14 15 18.7
comp=Z,8.1nm,1.2s
KK31 Karatay Array 20.68 55 P Pn 14 14 54.3 -0.4
KK31 pmax pmax
comp=Z,8.0nm,1.2s
KK31 Karatay Array 20.68 55 P Pn 14 14 54.3 -0.4
KK31 IAmb IAmb 14 15 13.3
comp=Z,7.9nm,1.2s
KKAR Karatay Array 20.68 55 P **P** **14 14 53.6 +1.2**
KKAR pmax pmax
comp=Z,8.0nm,1.2s
KKAR Karatay Array 20.68 55 P **P** **14 14 53.5 +1.1**
KKAR Karatay Array 20.68 55 P **P** **14 14 53.6 +1.2**
KKAR IAmb IAmb 14 15 13.3
comp=Z,7.9nm,1.2s
ITM Ithomi 21.17 288 P **P** **14 14 57.8 0.0**
ITM IAmb IAmb 14 15 20.9
comp=Z,37nm,1.3s
NIL Nilore 21.59 82 P **P** **14 15 03.7 +1.3**
NIL pmax pmax
comp=Z,25nm,1.1s
NIL Nilore 21.59 82 P **P** **14 15 03.7 +1.3**
NIL IAmb IAmb 14 15 07.4
comp=Z,25nm,1.1s
SOCY Socotra 21.72 162 P **P** **14 15 01.0 -2.9**
SOCY IAmb IAmb 14 15 28.1
comp=Z,16nm,1.2s
AKASG Malin Array Be 22.04 328 P **P** **14 15 07.8 +0.9**
comp=Z,2.0nm,0.7s,baz=132,slow=9.4,SNR=7.1
AKASG Malin Array Be 22.04 328 *ce*P **P** **14 15 09.3 +2.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 22.04 328 IAmb IAmb 14 15 13.0
comp=Z,1.8nm,1.1s
AKBB Malin Array Si 22.04 328 *ce*P **P** **14 15 09.5 +2.6**
BURAR Bucovina Array 22.12 317 P **P** **14 15 08.4 +0.4**
BURAR pmax pmax
comp=Z,3.0nm,0.8s
BURAR Bucovina Array 22.12 317 P **P** **14 15 08.4 +0.4**
BUR08 Bucovina Ar. S 22.14 317 P **P** **14 15 08.9 +0.7**
OBN Obninsk 23.24 344⇑ *e*P **P** **14 15 21.4 +1.9**
OBN *e* 14 15 52.7
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,40nm,15.0s
AAK Ala-Archa 23.32 58 *ce*P **P** **14 15 23.5 +2.8**
AAK pmax pmax
comp=Z,5.0nm,2.5s
MOS Moscow 23.59 346 *e*P **P** **14 15 16.5 -6.5**
KSH Kashi 23.84 66 P **P** **14 15 30.8 +5.1**
KSH sP sP 14 15 38.9 +6.3
ARU Arti 24.53 15 P **P** **14 15 33.3 +1.5**
comp=Z,0.6nm,0.4s,baz=242,slow=15,SNR=1.8
ARU Arti 24.53 15 *d*P **P** **14 15 33.6 +1.8**
ARU PPP PPP 14 16 13.4
ARU S **S** **14 19 55.1 +3.4**
ARU pmax pmax
comp=Z,6.0nm,1.0s
TIP Timpagrande 25.37 292 P **P** **14 15 39.9 +0.2**
TIP IAmb IAmb 14 15 43.6
comp=Z,6.4nm,1.2s
MNK Minsk 25.40 333 *i* P **P** **14 15 36.9 -2.8**
MNK *i* PPP PPP 14 16 18.8
MNK *i* 14 19 05.8
MNK *i* S **S** **14 20 02.5 -3.1**
MNK *i* SSS SSS 14 21 08.1
MNK pmax pmax
comp=Z,13nm,0.7s
MNK pmax pmax
comp=N,10.0nm,0.6s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK MLR MLR
comp=N,114nm,23.0s
MNK MLR MLR
comp=E,8.0nm,19.0s
MNK MLR MLR
comp=Z,148nm,20.0s
MNK Minsk 25.40 333 *i* P **P** **14 15 36.9 -2.8**
comp=E,2.0nm,0.7s
MNK *i* P **P** **14 15 36.9 -2.8**
comp=N,10.0nm,0.7s
MNK *i* P **P** **14 15 36.9 -2.8**
comp=Z,13nm,0.7s,baz=139
MNK *i* PP **PnPn** **14 16 10.8 -4.0**
MNK *i* PPP PPP 14 16 18.8
MNK *i* S **S** **14 20 02.5 -3.1**
MNK *i* SS **SnSn** **14 20 54.4 -3.5**
MNK *i* SSS SSS 14 21 08.1
MNK *i* LR LR 14 25 10.4
MNK *i* LRM MLR 14 26 27.8
comp=N,114nm,22.8s
MNK *i* LRM MLR 14 26 42.8
comp=E,8.0nm,18.9s
MNK *i* LRM MLR 14 27 06.4
comp=Z,148nm,20.2s
BRVK Borovoye 25.80 33 *ce*P **P** **14 15 45.5 +2.2**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 25.82 33 P **P** **14 15 44.8 +1.2**
comp=Z,3.7nm,0.8s
KURBB Kurchatov Arra 28.73 43 P **P** **14 16 10.7 +1.0**
comp=Z,0.3nm,0.4s,baz=253,slow=9.2,SNR=4.2
KURK Kurchatov 28.83 43 *ce*P **P** **14 16 11.6 +1.1**
KURK pmax pmax
comp=Z,3.0nm,1.3s
KURK Kurchatov 28.83 43 P **P** **14 16 10.7 +0.2**
KURK Kurchatov 28.83 43 IAmb IAmb 14 16 19.8
comp=Z,1.8nm,1.0s
GERES GERESS Array B 29.57 312 P **P** **14 16 17.3 +0.1**
comp=Z,0.5nm,0.7s,baz=88,slow=8.9,SNR=2.1
MK31 Makanchi Array 29.76 52 *i* P **P** **14 16 20.7 +1.8**
MK31 Makanchi Array 29.76 52 P **P** **14 16 19.0 0.0**
MKAR Makanchi Array 29.76 52 P **P** **14 16 18.6 -0.3**
comp=Z,0.4nm,0.6s,baz=250,slow=7.5,SNR=4.8
MKAR Makanchi Array 29.76 52 *ce*P **P** **14 16 21.7 +2.8**
MKAR Makanchi Array 29.76 52 P **P** **14 16 19.9 +1.0**
FIA1 FINESS Array S 31.48 340 P **P** **14 16 33.0 -0.9**
FIA1 IAmb IAmb 14 16 42.4
comp=Z,4.7nm,1.1s
FINES FINESS Array B 31.48 340 P **P** **14 16 33.2 -0.7**
comp=Z,1.9nm,0.7s,baz=148,slow=10,SNR=8.7
FINES FINESS Array B 31.48 340 *ce*P **P** **14 16 35.5 +1.7**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 31.48 340 P **P** **14 16 33.0 -0.8**
WMQ Urumqi 33.02 59 *e*P **P** **14 16 51.2 +3.5**
BNI Bardonecchia 33.41 303 P **P** **14 16 51.2 0.0**
BNI pmax pmax
comp=Z,13nm,1.1s
BNI Bardonecchia 33.41 303 P **P** **14 16 51.2 0.0**
ZALV Zalesovo Beam 33.62 40 P **P** **14 16 52.9 +0.2**
comp=Z,0.4nm,0.3s,baz=262,slow=9.9,SNR=2.0
NOA NORSAR Array B 36.38 331 P **P** **14 17 14.8 -1.7**
comp=Z,0.4nm,0.7s,baz=125,slow=8.7,SNR=4.2
ARCES ARCESS Array B 38.44 348 P **P** **14 17 33.5 -0.3**
comp=Z,4.0nm,1.1s,baz=168,slow=10,SNR=2.0
GOMU GeErMu 38.83 72 P **P** **14 17 36.1 -1.8**
GOMU pP pP 14 17 39.6 -3.2
GOMU sP sP 14 17 43.4 -1.4
GOMU pmax pmax
comp=Z,3.0nm,0.4s
GOMU pmax pmax
comp=Z,42nm,8.6s
GTA Gaotai 42.24 66 *e*P **P** **14 18 08.9 +3.1**
GTA pP sP 14 18 13.3 +0.4
GTA sP pP 14 18 16.6 +5.8
GTA pmax pmax
comp=Z,2.0nm,1.0s
TORD Torodi Ar. Bea 46.06 255 P **P** **14 18 35.3 -1.2**
comp=Z,0.5nm,0.6s,baz=46,slow=8.3,SNR=3.4
ULN Ulaanbaatar 46.56 53 *ce*P **P** **14 18 40.9 +0.6**
ULN pmax pmax
comp=Z,1.0nm,0.4s
SPB2 Spitsbergen Ar 47.09 352 P **P** **14 18 44.2 +0.4**
PZH PanZhiHua 47.19 83 P **P** **14 18 46.5 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.3s
CMAR Chiang Mai Arr 48.22 94 P **P** **14 18 53.8 +0.4**
comp=Z,0.4nm,0.4s,baz=285,slow=7.1,SNR=1.6
HHC Hu-ho-hao-te 50.82 62 *e*P **P** **14 19 14.0 +0.9**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,77nm,6.0s
TIXI Tiksi 56.25 22 *i* P **P** **14 19 54.5 +2.2**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
NRS Narsarsuaq 62.86 327 P **P** **14 20 37.2 -0.8**
NRS pmax pmax
comp=Z,19nm,1.2s
NRS Narsarsuaq 62.86 327 P **P** **14 20 37.2 -0.8**
SEY Seymchan 67.38 29 *ce*P **P** **14 21 10.3 +3.0**
SEY pmax pmax
comp=Z,3.0nm,1.1s
BILL Bilibino 69.40 21⇑ *e*P **P** **14 21 22.5 +2.6**
BILL *e*S **SKiKP** **14 31 09.5 +1.1**
BILL pmax pmax
comp=Z,3.0nm,1.7s
BILL MLR MLR
comp=Z,25nm,16.0s
BILL Bilibino 69.40 21 P **P** **14 21 21.5 +1.6**
RDOG Red Dog Mine 76.58 11 P **P** **14 22 02.3 -0.2**
TOLK Toolik Lake Re 77.74 6 P **P** **14 22 09.8 +0.8**
TOLK IAmb IAmb 14 22 38.9
comp=Z,2.2nm,0.9s
IMAR Indian Mountai 79.85 9 P **P** **14 22 19.6 -0.9**
H21K Melozitna Rive 80.28 8 P **P** **14 22 23.1 +0.2**
H21K IAmb IAmb 14 22 38.4
comp=Z,5.0nm,1.4s
J20K Nowinta River 81.52 9 P **P** **14 22 30.1 +0.6**
J20K IAmb IAmb 14 22 40.7
comp=Z,2.3nm,1.2s
YKA Yellowknife Ar 83.59 352 P **P** **14 22 40.9 +0.5**
comp=Z,0.1nm,0.5s,baz=16,slow=4.6,SNR=5.3
YKA Yellowknife Ar 83.59 352 *ce*P **P** **14 22 41.7 +1.4**
BCAR Beaver Creek A 83.84 4 P **P** **14 22 42.5 +0.8**

PRU 12 14:15:32.3±0.0, 50.23N×18.99E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANS	**Liptovska Anna**	**1.12**	**164**	*e*SG	Sg	14 16 08.1	-0.3
KRLC	**Kraliky**	**1.43**	**265**	*e*SG	Sg	14 16 17.5	-0.7
	comp=Z,1.5nm,0.5s						
DPC	**Dobruska-Polom**	**1.71**	**275**	*e*P	Pn	14 16 03.5	0.0
DPC	**Dobruska-Polom**	**1.71**	**275**	*e*PG	Pn	14 16 03.5	0.0
DPC				*e*SG	Sb	14 16 27.1	+0.3
	comp=Z,1.9nm,0.5s						
CHVC	**Chvalec**	**1.91**	**282**	*e*SG	Sb	14 16 32.3	-0.2

JMA 12 14:19:11.2, 34.36N×136.12E, h8km±1km, M3.7, 2C-5D
Broadband fault plane solution: P waves. NP1: ϕs351.00000°, δ76.00000°, λ139.00000°. **NP2:** ϕs93.00000°, δ51.00000°, λ18.00000°. **Principal axes:** T Plg38.0000°, Azm304.0000°; N Plg48.0000°, Azm155.0000°; P Plg16.0000°, Azm47.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**0.17**	**133**	⇑P	Pg	14 19 15.0	+0.2
JKN2				S	Sg	14 19 17.4	+0.1
JNTK	**Naratenkawa**	**0.21**	**245**	⇓P	Pg	14 19 15.7	+0.1
JNTK				S	Sg	14 19 18.7	+0.2
TSUJ	**Tsu 2**	**0.43**	**35**	⇓P	Pg	14 19 19.6	+0.1
TSUJ				S	Sg	14 19 25.3	+0.1
JWY	**Kouya**	**0.46**	**252**	⇓P	Pg	14 19 20.3	+0.2
JWY				S	Sg	14 19 26.2	0.0
JHE	**Heguri**	**0.46**	**309**	⇑P	Pg	14 19 20.3	+0.1
JHE				S	Sg	14 19 26.5	+0.2
JIE	**Ise**	**0.49**	**86**	⇓P	Pg	14 19 20.5	-0.1
JIE				S	Sg	14 19 26.8	-0.2
JTNC	**Tanabenakahech**	**0.69**	**218**	⇓P	Pg	14 19 24.6	+0.2
JTNC				S	Sg	14 19 33.5	+0.1
JWM	**Minabe**	**0.81**	**231**	P	Pg	14 19 26.7	-0.2
JWM				S	Sg	14 19 37.4	0.0

*IDC **12** 14:19:54.8±1.2, 25.46N×109.74W, h0km, mb3.2/2, mb1 3.6/6, mb1mx3.4/41, mbtmp3.2/6, ML3.6/4, MS3.2/6, Ms1 3.2/6, ms1mx2.9/26 Error ellipse: s-maj=25.3km s-min=11.4km az=114.0*
*MEX **12** 14:19:58.8±0.4, 25.60N×109.86W, h10km, MD4.0*
ISC 12 14:19:56.2±1.0, 25.61N±0.07×109.86W±0.06, h10km, n18, σ1s28/16, MS3.2/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.74**	**90**	*i* P	**Pb**	**14 20 11.3**	**+0.1**
TSIG				*e*S	**Sb**	**14 20 20.9**	**-0.5**
LPIG	**La Paz**	**1.55**	**195**	Pg	**Pn**	**14 20 23.0**	**-0.9**
	baz=191,slow=5.8,SNR=4.7						
LPIG				Lg	Lg	14 20 40.0	
	14nm,0.3s,baz=95,slow=4.7,SNR=7.7						
CSIG	**Choix**	**1.81**	**47**	*e*P	**Pn**	**14 20 26.4**	**-1.0**
CSIG				*i* S	**Sn**	**14 20 48.6**	**-1.8**
SSIG	**Sanalona**	**2.59**	**107**	*e*P	**Pn**	**14 20 38.5**	**+0.4**
SSIG				*i* S	**Sn**	**14 21 07.2**	**-2.4**
PDIG	**Papasquiaro**	**4.08**	**97**	*i* P	**Pn**	**14 21 00.2**	**+1.3**
PDIG				*i* S	**Sn**	**14 21 46.9**	**+0.1**
TXAR	**Lajitas Array**	**6.64**	**55**	Pn	**Pn**	**14 21 33.8**	**-0.1**
	0.5nm,0.3s,baz=228,slow=15,SNR=11						
TXAR				Sn	**Sn**	**14 22 48.6**	**-1.1**
	1.0nm,0.3s,baz=220,slow=20,SNR=1.6						
TXAR				Lg	Lg	14 23 23.8	
	3.4nm,0.3s,baz=320,slow=23,SNR=10.0						
ANMO	**Albuquerque**	**9.76**	**17**	Lg	Lg	14 25 03.0	
	0.3nm,0.3s,baz=121,slow=23,SNR=3.0						
ANMO				LR	LR	14 25 43.3	
	comp=Z,127nm,20.5s,baz=171,slow=35						
NVAR	**Mina Array Bea**	**14.64**	**333**	Pn	**P**	**14 23 28.6**	**-1.5**
	0.1nm,0.3s,baz=155,slow=14,SNR=1.7						
ELK	**Elko**	**15.75**	**345**	Pn	**P**	**14 23 42.0**	**-0.3**
	0.1nm,0.3s,baz=147,slow=11,SNR=1.5						
ELK				LR	LR	14 29 12.6	
	comp=Z,62nm,21.8s,baz=206,slow=35						
PDAR	**Pinedale Array**	**17.12**	**1**	P	**P**	**14 23 58.3**	**+0.7**
	0.1nm,0.3s,baz=168,slow=14,SNR=6.7						
PDAR				LR	LR	14 30 55.7	
	comp=Z,76nm,19.3s,baz=97,slow=38						
TKL	**Tuckaleechee C**	**24.52**	**60**	LR	LR	14 34 46.9	
	comp=Z,48nm,18.1s,baz=225,slow=36						
SADO	**Sadowa**	**31.29**	**44**	LR	LR	14 38 40.6	
	comp=Z,79nm,19.1s,baz=160,slow=36						
YKA Yellowknife Ar 37.01 356 P **P** **14 27 07.2 +1.5**
0.3nm,0.8s,baz=177,slow=8.4,SNR=6.6
SJG San Juan 41.10 91 LR LR 14 46 38.6
comp=Z,28nm,18.4s,baz=279,slow=39
ILAR Eielson Array 45.79 339 P **P** **14 28 19.1 +1.3**
0.3nm,0.7s,baz=147,slow=7.2,SNR=1.9
H03N2 Juan Fernandez 65.68 152 T T 15 42 08.9
baz=331,slow=77,SNR=26
H03N1 Juan Fernandez 65.69 152 T T 15 42 10.2
baz=331,slow=77,SNR=54
H03N3 Juan Fernandez 65.70 152 T T 15 42 09.2
baz=331,slow=77,SNR=63

*INMG **12** 14:20:37.6±1.4, 34.87N×5.48W, h7km±8km, ML2.2, Error ellipse: s-maj=6.9km s-min=3.0km az=71.0*
*CNRM **12** 14:20:37.9, 34.90N×5.53W, h18km, ml2.7*
*SFS **12** 14:20:39.0, 35.05N×5.44W, ML1.8, MOKRISSET (MARRUECOS)*
*MDD **12** 14:20:39.3±0.6, 35.05N×5.44W, h0km, mb_Lg1.8/3, Error ellipse: s-maj=5.5km s-min=4.4km az=25.0*
ISC 12 14:20:37.8±1.2, 34.89N±0.03×5.48W±0.04, h20km±5km, n28, σ0s76/45, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHEFC	**Chefchaouen**	**0.25**	**27**	P	**Pb**	**14 20 42.8**	**-0.7**
CHEFC				S	**Sg**	**14 20 47.6**	**-0.1**
SICH	**Sidi Chahed**	**0.79**	**170**	P	**Pn**	**14 20 54.0**	**+0.1**
SICH				S	**Sn**	**14 21 06.2**	**+1.1**
SMIR	**Smir Dam**	**0.80**	**6**	P	**Pg**	**14 20 53.5**	**+0.1**
SMIR				S	**Sb**	**14 21 03.8**	**+0.4**
PVLZ	**Peæn de**	**1.00**	**73**	P	**Pb**	**14 20 55.7**	**-0.9**
PVLZ				S	**Sb**	**14 21 09.2**	**-0.1**
LCRM	**LCR**	**1.30**	**157**	P	**Pn**	**14 21 01.0**	**0.0**
LCRM				S	**Sg**	**14 21 19.2**	**-0.9**
PALE	**Palemas**	**1.30**	**75**	P	**Pg**	**14 21 03.0**	**0.0**
ZHG	**ZHG**	**1.73**	**214**	P	**Pb**	**14 21 09.4**	**+0.4**
CZD	**Col de Zad**	**1.89**	**169**	P	**Pb**	**14 21 10.5**	**-1.2**
GOG	**Mont Gurugu**	**2.06**	**80**	P	**Pn**	**14 21 12.1**	**+0.7**
MD31	**MD31**	**2.10**	**163**	P	**Pn**	**14 21 13.1**	**+1.1**
MDT	**Midelt**	**2.19**	**160**	P	**Pn**	**14 21 12.9**	**-0.3**
AVE	**Averroes**	**2.26**	**226**	P	**Pn**	**14 21 14.5**	**+0.5**
JBK	**JBK**	**2.46**	**102**	P	**Pn**	**14 21 18.0**	**+1.0**
TAF	**Taforalt**	**2.52**	**91**	P	**Pn**	**14 21 19.6**	**+1.9**
EMIN	**Mina Concepcio**	**3.03**	**342**	P	**Pn**	**14 21 27.0**	**+2.3**
EMIN				S	**Sn**	**14 22 00.2**	**-0.3**
EMIN				*i* Vmb_Lg		14 22 06.5	
PBDV	**Barranco-do-Ve**	**3.08**	**320**	*e*Pn	**Pn**	**14 21 25.7**	**+0.4**
PBDV				*e*Sn	**Sn**	**14 22 02.2**	**+0.6**
PBDV				A	A	14 22 10.8	
	5.6nm,0.7s						
PVAQ	**Vaqueiros**	**3.10**	**325**	*e*Pn	**Pn**	**14 21 25.6**	**0.0**
PVAQ				*e*Sn	**Sn**	**14 22 02.3**	**+0.3**
PVAQ				A	A	14 22 03.0	
	6.3nm,0.4s						
PVAQ	**Vaqueiros**	**3.10**	**325**	P	**Pn**	**14 21 25.4**	**-0.2**
PVAQ				S	**Sn**	**14 22 02.1**	**+0.1**
EGRO	**El Granado**	**3.10**	**329**	P	**Pn**	**14 21 25.6**	**0.0**
EGRO				S	**Sn**	**14 22 01.8**	**-0.2**
EGRO				*i* Vmb_Lg		14 22 06.8	
ECAB	**El Cabril**	**3.18**	**1**	P	**Pn**	**14 21 27.6**	**+0.8**
ECAB				S	**Sn**	**14 22 04.3**	**+0.1**
ECAB				*i* Vmb_Lg		14 22 13.2	
TDRA	**Tendrara**	**3.41**	**122**	P	**Pn**	**14 21 30.6**	**+0.6**
PCVE	**Castro Verde**	**3.43**	**324**	*e*Pn	**Pn**	**14 21 30.4**	**+0.2**
PCVE				*e*Sn	**Sn**	**14 22 10.9**	**+0.6**
PCVE				A	A	14 22 14.1	
	4.0nm,0.5s						
PBAR	**Barrancos**	**3.51**	**339**	*e*Pn	**Pn**	**14 21 31.5**	**+0.2**
PBAR				*e*Sn	**Sn**	**14 22 11.9**	**-0.4**
PBAR				A	A	14 22 12.3	
	2.7nm,0.5s						
MORF	**Marmelete**	**3.53**	**314**	*e*Pn	**Pn**	**14 21 32.6**	**+1.1**
MORF				*e*Sn	**Sn**	**14 22 12.4**	**-0.3**
MORF				A	A	14 22 28.5	
	5.2nm,0.5s						
PTEO	**Sao Teotonio**	**3.73**	**316**	*e*Pn	**Pn**	**14 21 34.8**	**+0.5**
PTEO				*e*Sn	**Sn**	**14 22 18.2**	**+0.5**
PNCL	**Nicolau / Gran**	**4.05**	**324**	*e*Pn	**Pn**	**14 21 38.9**	**+0.3**
PNCL				*e*Sn	**Sn**	**14 22 24.9**	**-0.6**
PNCL				A	A	14 22 50.3	
	3.8nm,1.0s						
EVO	**Evora**	**4.17**	**331**	*e*Sn	**Sn**	**14 22 27.4**	**-1.1**
EVO				A	A	14 22 29.1	
	7.3nm,0.4s						
PMRV	**Marv??o**	**4.78**	**342**	*e*Pn	**Pn**	**14 21 48.4**	**-0.4**
PMRV				*e*Sn	**Sn**	**14 22 42.9**	**-0.7**
PMRV				A	A	14 22 47.5	
	1.9nm,0.4s						

IDC 12 14:32:19.8±1.8, 13.37N×86.72W, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/36, mbtmp3.2/3, ML2.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/28, Error ellipse: s-maj=131.9km s-min=30.6km az=57.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**3.52**	**150**	Pn	Pn	14 33 16.4	+0.6
	1.1nm,0.3s,baz=36,slow=24,SNR=1.8						
CMIG	**Matias Romero**	**8.70**	**296**	LR	LR	14 37 19.2	
	comp=Z,41nm,21.6s,baz=200,slow=34						
TXAR	**Lajitas Array**	**22.34**	**318**	P	P	14 37 19.1	-0.5
	1.1nm,0.6s,baz=135,slow=10,SNR=13						
YKA	**Yellowknife Ar**	**52.92**	**344**	P	P	14 41 38.8	+1.3
	0.1nm,0.6s,baz=135,slow=7.8,SNR=2.9						
CMAR	**Chiang Mai Arr**	**147.89**	**350**	PKPbc	PKPdf	14 52 05.9	+1.0
	0.4nm,0.6s,baz=356,slow=3.6,SNR=2.4						

*IDC **12** 14:38:37.9±1.7, 16.78S×167.43E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/37, mbtmp3.9/5, ML4.7/1, MS4.6/1, Ms1 4.6/1, ms1mx2.9/53, Error ellipse: s-maj=53.4km s-min=32.0km az=127.0*
*NEIC **12** 14:38:41.1±1.3, 16.90S±0.06×167.5E±0.1, h17km±5km, mb4.4/8, Error ellipse: s-maj=16.1km s-min=8.5km az=95.0*
*NOU **12** 14:38:42.4, 16.91S×167.38E, h22km, MLv4.8/18, Vanuatu Islands*
ISC 12 14:38:42.0±0.7, 16.91S±0.05×167.42E±0.09, h25km, n38, σ0s90/36, mb4.2/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.09**	**138**	P	**Pb**	**14 39 02.9**	**+0.7**
RTV	**Rentapao**	**1.30**	**133**	P	**Pb**	**14 39 05.5**	**-0.2**
SANVU	**Saraoutou**	**1.47**	**352**	Pn	**Pn**	**14 39 06.7**	**-0.2**
SANVU	**Saraoutou**	**1.47**	**352**	P	**Pn**	**14 39 07.2**	**+0.3**
LIFNC	**LIFOU**	**3.85**	**183**	Pn	**Pn**	**14 39 38.4**	**-1.2**
LIFNC	**LIFOU**	**3.85**	**183**	P	**Pn**	**14 39 39.3**	**-0.4**
MARNC	**Mare, Loyalty**	**4.58**	**173**	Pn	**Pn**	**14 39 47.8**	**-2.0**
MARNC	**Mare, Loyalty**	**4.58**	**173**	P	**Pn**	**14 39 50.5**	**+0.8**
KOUNC	**Koumac, New Ca**	**4.69**	**219**	Pn	**Pn**	**14 39 51.1**	**0.0**
KOUNC	**Koumac, New Ca**	**4.69**	**219**	P	**Pn**	**14 39 51.4**	**+0.3**
YATNC	**Mamie plateau,**	**5.15**	**186**	P	**Pn**	**14 39 57.3**	**-0.2**
DZM	**Mont Dzumac**	**5.22**	**190**	Pn	**Pn**	**14 39 58.7**	**+0.1**
	24nm,0.3s,baz=13,slow=11,SNR=146						
DZM				Sn	**Sn**	**14 40 55.8**	**-2.2**
	6.6nm,0.3s,baz=298,slow=19,SNR=4.3						
DZM				LR	LR	14 41 47.0	
	comp=Z,221nm,18.3s,baz=48,slow=35						
DZM	**Mont Dzumac**	**5.22**	**190**	*e*LR	LR	14 40 57.8	
	comp=Z,135nm,23.1s						
DZM	**Mont Dzumac**	**5.22**	**190**		**Pn**	**14 39 58.4**	**-0.2**
DZM	**Mont Dzumac**	**5.22**	**190**	P	**Pn**	**14 39 59.2**	**+0.7**
NOUC	**Port Laguerre**	**5.27**	**191**	P	**Pn**	**14 40 00.2**	**+1.0**
ONTNC	**Ouen Toro**	**5.45**	**190**		**Pn**	**14 40 02.0**	**+0.4**
ONTNC	**Ouen Toro**	**5.45**	**190**	P	**Pn**	**14 40 02.5**	**+0.9**
OUENC	**Ouen Island, N**	**5.51**	**186**		**Pn**	**14 40 03.5**	**+1.0**
OUENC	**Ouen Island, N**	**5.51**	**186**	P	**Pn**	**14 40 03.6**	**+1.2**
PINNC	**Pines Island,**	**5.67**	**180**	Pn	**Pn**	**14 40 05.6**	**+0.9**
PINNC	**Pines Island,**	**5.67**	**180**	P	**Pn**	**14 40 06.3**	**+1.6**
EIDS	**Eidsvold**	**17.40**	**238**	P	**P**	**14 42 45.1**	**+0.8**
WR0	**Warramunga Arr**	**31.32**	**259**	P	**P**	**14 45 00.0**	**-0.5**
WR0				IAmb	IAmb	14 45 08.4	
	comp=Z,4.5nm,1.2s						
WB0	**Warramunga Arr**	**31.45**	**260**	P	**P**	**14 45 01.2**	**-0.6**
WB0				IAmb	IAmb	14 45 10.1	
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**31.50**	**259**	P	**P**	**14 45 01.4**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=86,slow=8.2,SNR=1.3						

AS31	Alice Springs	32.09	252	P		P	14 45 07.2	-0.2
ASAR	Alice Springs	32.10	252	P		P	14 45 07.3	-0.1
	comp=Z,1.3nm,0.5s,baz=79,slow=8.8,SNR=26							
ASAR	Alice Springs	32.10	252	P		P	14 45 07.0	-0.4
KAPI	Kappang	48.14	279	LR		LR	15 07 32.9	
	comp=Z,597nm,19.0s,baz=62,slow=36							
USA0B	Ussuriysk Arra	68.89	333	P		P	14 49 44.5	0.0
USRK	Ussuriysk Ar.	68.89	333	P		P	14 49 44.6	0.0
QSPA	South Pole Qui	73.13	180	P		P	14 50 11.6	+1.3
QSPA				IAmb		IAmb	14 50 13.0	
	comp=Z,5.2nm,1.4s							
BELA	Belgrano 2	84.55	175	P		P	14 51 13.0	+0.5
BELA				IAmb		IAmb	14 51 28.9	
	comp=Z,3.1nm,1.0s							
BILL	Bilibino	84.71	360	P		P	14 51 13.9	+0.6
ILAR	Eielson Array	88.54	18	P		P	14 51 30.5	-1.6
	comp=Z,0.2nm,0.5s,baz=244,slow=5.9,SNR=1.8							
MKAR	Makanchi Array	98.87	316	P		Pdif	14 52 21.3	+1.3
	comp=Z,0.1nm,0.4s,baz=93,slow=5.8,SNR=2.1							
ARCES	ARCESS Array B	122.39	345	PKP		PKiKP	14 57 34.3	-0.2
	comp=Z,4.2nm,1.0s,baz=46,slow=3.0,SNR=3.7							

IDC ***12*** *14:41:49.8±1.0,27.˚51N×86.˚15E,h0km,mb3.9/12, mb1 4.0/15,mb1mx3.8/58,mbtmp3.9/15,ML3.5/3,MS4.1/1, Ms1 4.1/1,ms1mx2.7/88,Error ellipse: s-maj=31.5km s-min=16.3km az=59.0*

BJI ***12*** *14:41:51.9±0.0,27.˚48N×86.˚07E,h29km,mb4.3/21, mB4.7/12,Ms3.7/1,Ms7 3.5/1*

NDI ***12*** *14:41:52.6±3.8,27.˚54N×86.˚12E,h10km±14km,ML4.0, mb4.3(NEIC)*

NEIC ***12*** *14:41:52.2±1.9,27.˚6N±0.˚1×86.˚06E±0.˚02,h10km±1km, mb4.3/30,Error ellipse: s-maj=17.1km s-min=3.1km az=179.0*

ISC 12 14:41:52.9±0.4,27.˚59N±0.˚05×86.˚11E±0.˚04,h19km,n81, σ1§91/98,mb4.2/23,1D,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GTK	Tadong	2.23	96	eP			Pb	14 42 31.9	-0.9
GTK				eS			Sb	14 43 00.2	+0.2
GTK				IAML				14 43 03.9	
	comp=N,1μm,0.3s								
GTK				IAML				14 43 04.1	
	comp=E,1μm,0.2s								
BOK	Bokaro	3.78	183	eP			Pn	14 42 52.8	+2.6
BOK				eS			Sn	14 43 36.6	+2.3
BOK				IAML				14 43 55.0	
	comp=E,736nm,0.8s								
DHUB	DHUBRI	3.81	113	eP			Pn	14 42 51.4	+0.8
TURI	Tura	4.29	117	eP			Pn	14 42 56.9	-0.4
TURI				eS			Sn	14 43 44.5	-2.3
LSA	Lhasa	4.90	63	Pn			Pn	14 43 06.9	+0.8
LSA	Lhasa	4.90	63	Pg			Pb	14 43 18.6	+0.1
GUWA	GUWAHATI	5.17	104	eP			Pn	14 43 10.1	+0.8
GUWA				eS			Sn	14 44 07.4	-1.1
GUWA				eS			Sn	14 44 07.5	-1.0
GUWA				IAML				14 44 11.1	
	comp=E,2μm,0.3s								
PTH	Pithoragarh	5.54	292	eP			Pn	14 43 18.0	+3.4
PTH				eS			Sn	14 44 19.9	+2.0
SHL	Shillong	5.54	110				Pn	14 43 14.5	-0.2
SHL	Shillong	5.54	110	eP			Pn	14 43 17.9	+3.2
SHL				eS			Sn	14 44 13.9	-4.1
SHL				IAML				14 44 44.0	
	comp=E,62nm,0.4s								
TEZP	TEZPUR	6.04	98	eP			Pn	14 43 21.6	+0.4
TEZP				eS			Sn	14 44 28.8	-1.1
JBP	Jabalpur	7.08	233	ex			x	14 43 38.6	
JBP				eP			P	14 43 38.6	+3.0
JBP				eS			Sn	14 44 55.4	-0.1
JHNI	Jhansi	7.11	254	eP			Pn	14 43 34.9	-1.0
JHNI				eS			Sn	14 44 51.3	-4.9
KOHI	KOHIMA	7.39	103	eP			Pn	14 43 41.7	+1.7
KOHI				eS			Sn	14 45 03.8	+0.3
DDI	Dehra Dun	7.57	293	eP			Pn	14 43 46.1	+3.8
DDI				eS			Sn	14 45 07.9	+0.3
DDI				IAML				14 45 13.4	
	comp=N,219nm,0.2s								
MOKO	MOKOCHONG	7.60	98	eP			Pn	14 43 42.4	-0.6
MOKO				eS			Sn	14 45 06.2	-2.5
MOKO				IAML				14 45 14.4	
	comp=E,68nm,0.3s								
NDI	New Delhi	7.93	280	eP			Pn	14 43 49.0	+1.8
NDI				eS			Sn	14 45 12.7	-3.8
SMLA	Simla	8.57	296	eP			Pn	14 43 57.5	+1.5
SMLA				eS			Sn	14 45 27.8	-4.3
SMLA				IAML				14 45 35.6	
	comp=N,78nm,0.5s								
BHPL	Bhopal	8.97	243	eP			Pn	14 44 00.5	-1.1
BHPL				eS			Sn	14 45 38.1	-4.0
BHPL				IAML				14 45 43.1	
	comp=N,46nm,0.4s								
BHK	Bhakra	9.27	297	eS			Sn	14 45 46.0	-3.4
THN	Thein Dam	10.22	301	eP			Pn	14 44 18.9	+0.3
THN				eS			Sn	14 46 06.4	-6.3
AJM	Ajmer	10.29	266	eS			Sn	14 46 07.7	-6.7
HYBB	Hyderabad (bro	12.29	216	ePn			Pn	14 44 47.0	-0.1
HYBB				eSn			Sn	14 47 06.5	+2.9
HYBB				IVMs_BB		IVMs_BB		14 49 30.8	
	comp=Z,107nm,5.7s								
NIL	Nilore	12.61	302	Pn			Pn	14 44 51.3	-0.1
CEP	Cherat	13.70	300	P			Pn	14 45 05.7	-0.7
PZH	PanZhiHua	13.97	91	P			Pn	14 45 12.2	+2.1
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,120nm,5.8s								
KSH	Kashi	14.58	327	P			Pn	14 45 15.2	-3.2
KSH				PP			PnPn	14 45 29.0	+2.6
KSH				S			Sn	14 47 49.6	-10
KSH				pmax		pmax			
	comp=Z,13nm,1.0s								
CM31	Chiang Mai Arr	14.89	125				P	14 45 28.5	+0.3
CMAR	Chiang Mai Arr	14.89	125	Pn			Pn	14 45 20.4	-2.2
	comp=Z,0.1nm,0.3s,baz=302,slow=14,SNR=4.4								
CMAR				LR			LR	14 51 18.2	
	comp=Z,28nm,18.6s,baz=315,slow=38								
CMAR	Chiang Mai Arr	14.89	125				P	14 45 27.9	-0.3
WMQ	Urumqi	16.25	4	eP			P	14 45 43.2	0.0
WMQ				sP			pP	14 45 49.3	+0.3
WMQ				pmax		pmax			
	comp=Z,23nm,0.7s								
GTA	Gaotai	16.40	41	⇓P			P	14 45 45.1	+0.2
GTA				pP			pP	14 45 49.6	-1.2
GTA				sP			sP	14 45 52.9	-0.5
GTA				pmax		pmax			
	comp=Z,5.0nm,0.7s								
BOOM	Boomskoye usch	17.02	333	Pn			Pn	14 45 48.3	-1.8
AAK	Ala-Archa	17.74	331	P			Pn	14 45 59.4	+0.4
	comp=Z,0.1nm,0.3s,baz=151,slow=20,SNR=1.9								
AAK				LR			LR	14 53 01.2	
	comp=Z,34nm,19.3s,baz=134,slow=38								
AAK	Ala-Archa	17.74	331				Pn	14 45 59.4	+0.4
CHGR	Chuyangaron	17.96	312	Pn			Pn	14 45 59.1	-2.6
CHGR				IAmb		IAmb		14 46 05.0	
	comp=Z,18nm,0.7s								
MK31	Makanchi Array	19.41	352	P			P	14 46 18.3	+0.4
MKAR	Makanchi Array	19.41	352	P			Pn	14 46 19.3	+0.2
	comp=Z,0.4nm,0.3s,baz=172,slow=12,SNR=81								
MKAR	Makanchi Array	19.41	352	P			Pn	14 46 18.6	-0.5
MAKZ	Makanchi	19.46	351	P			Pn	14 46 19.3	-0.5
MAKZ				IAmb		IAmb		14 46 21.0	
	comp=Z,6.4nm,0.8s								
KK31	Karatay Array	19.99	325	P			P	14 46 25.0	+0.7
KKAR	Karatay Array	19.99	325	P			P	14 46 24.8	+0.5
UBPT	Khong Chiam	21.75	120	P			P	14 46 44.0	+0.6
UBPT				IAmb		IAmb		14 46 53.9	
	comp=Z,19nm,1.5s								
KURBB	Kurchatov Arra	23.72	348	P			P	14 47 04.2	+0.6
	comp=Z,5.3nm,0.8s,baz=167,slow=9.3,SNR=34								
KURK	Kurchatov	23.79	348	P			P	14 47 04.1	-0.3
KURK				IAmb		IAmb		14 47 06.7	
	comp=Z,10nm,0.8s								
HHC	Hu-ho-hao-te	24.75	51	eP			P	14 47 14.1	+0.6
HHC				pmax		pmax			
	comp=Z,15nm,0.9s								
HHC				pmax		pmax			
	comp=Z,99nm,6.2s								
SONM	Songino Array	25.67	33	P			P	14 47 22.7	+1.0
	comp=Z,1.3nm,0.5s,baz=220,slow=9.5,SNR=5.5								
SONM	Songino Array	25.67	33	P			P	14 47 20.3	-1.4

ZAA0	Zalesovo Array	26.35	358	P		P	14 47 27.2	-0.5
ZAA0				IAmb		IAmb	14 47 29.4	
	comp=Z,2.9nm,0.7s							
ZALV	Zalesovo Beam	26.35	358	P		P	14 47 28.7	+1.1
	comp=Z,2.0nm,0.7s,baz=182,slow=8.9,SNR=11							
ZALV	Zalesovo Beam	26.35	358	P		P	14 47 27.4	-0.3
ABKAR	Akbulak array	29.55	324	P		P	14 47 55.6	-0.7
KSRS	Korea Array	36.35	64	P		P	14 48 54.6	-1.1
	comp=Z,1.1nm,0.6s,baz=260,slow=7.6,SNR=6.6							
NRIK	Noril'sk	41.79	1	P		P	14 49 40.1	-0.7
	comp=Z,1.2nm,0.4s,baz=144,slow=8.7,SNR=1.6							
NRIK	Noril'sk	41.79	1	IAmb		IAmb	14 49 49.8	
	comp=Z,2.4nm,0.7s							
TIXI	Tiksi	49.96	16	P		P	14 50 45.1	-0.2
TIXI				IAmb		IAmb	14 50 46.3	
	comp=Z,2.0nm,0.6s							
FINES	FINESS Array B	51.90	328	P		P	14 50 59.9	-0.1
	comp=Z,0.7nm,0.6s,baz=123,slow=5.1,SNR=1.9							
FINES	FINESS Array B	51.90	328	P		P	14 51 00.7	+0.7
ARCES	ARCESS Array B	54.24	338	P		P	14 51 17.5	+0.4
	comp=Z,3.6nm,1.0s,baz=107,slow=7.6,SNR=1.8							
VAE	Valguarnera	59.95	299	LR		LR	15 22 01.3	
	comp=Z,134nm,18.1s,baz=302,slow=40							
WB0	Warramunga Arr	66.33	130	P		P	14 52 40.8	+0.2
WRA	Warramunga Arr	66.42	130	P		P	14 52 41.0	-0.2
	comp=Z,1.1nm,0.6s,baz=323,slow=6.4,SNR=19							
WRA	Warramunga Arr	66.42	130	P		P	14 52 41.3	+0.2
WB2	Warramunga Arr	66.42	130	P		P	14 52 41.4	+0.3
WR0	Warramunga Arr	66.57	130	P		P	14 52 42.2	+0.1
ASAR	Alice Springs	68.72	133	P		P	14 52 55.2	-0.5
	comp=Z,0.5nm,0.6s,baz=316,slow=6.4,SNR=8.6							
TULEG	Thule	74.96	354	P		P	14 53 33.0	+0.7
TOLK	Toolik Lake Re	75.80	18	P		P	14 53 38.2	+0.9
TOLK				IAmb		IAmb	14 53 55.7	
	comp=Z,5.6nm,1.4s							
H21K	Melozitna Rive	76.75	21	P		P	14 53 42.1	-0.6
K20K	Telida	77.75	24	P		P	14 53 50.3	+1.9
K20K				IAmb		IAmb	14 54 01.3	
	comp=Z,5.3nm,1.2s							
BMAR	Burnt Mountain	78.00	18	P		P	14 53 51.3	+1.6
CAST	Castle Rocks	78.41	23	P		P	14 53 53.0	+0.9
TORD	Torodi Ar. Bea	79.15	279	P		P	14 53 57.4	+0.4
	comp=Z,0.4nm,0.7s,baz=46,slow=4.2,SNR=2.6							
ILAR	Eielson Array	79.21	20	P		P	14 53 56.8	+0.3
	comp=Z,0.4nm,0.7s,baz=309,slow=4.7,SNR=4.4							
DHY	Denali Highway	80.23	22	P		P	14 54 02.3	+0.1
DHY				IAmb		IAmb	14 54 17.6	
	comp=Z,6.9nm,1.4s							
SCRK	Sand Creek	80.66	20	P		P	14 54 05.0	+0.6
SCRK				IAmb		IAmb	14 54 11.1	
	comp=Z,2.4nm,0.9s							
DOT	Dot Lake	80.88	20	P		P	14 54 06.1	+0.6
DOT				IAmb		IAmb	14 54 16.5	
	comp=Z,5.4nm,1.5s							
L27K	Beaver Creek,	81.99	20	P		P	14 54 13.4	+2.0
L27K				IAmb		IAmb	14 54 19.5	
	comp=Z,4.3nm,1.4s							
BCAR	Beaver Creek A	82.00	20	P		P	14 54 12.8	+1.3
HYT	Haines Junctio	85.03	20	P		P	14 54 26.5	-0.7
YKA	Yellowknife Ar	88.71	9	P		P	14 54 44.8	0.0
	comp=Z,0.2nm,0.6s,baz=331,slow=4.6,SNR=5.6							

JMA ***12*** *14:45:38.7±0.1,23.˚84N×121.˚95E,h41km±5km,M2.7*
TAP ***12*** *14:45:40.2,23.˚94N×121.˚99E,h38km,ML2.9,D*

ISC 12 14:45:38.7±1.1,23.˚87N±0.˚02×122.˚02E±0.˚02,h19km±2km, n106,σ0§62/192,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEYL	Yanliau Villag	0.39	270	P			Pn	14 45 49.2	0.0
	baz=261								
TEYL				S			Sn	14 45 56.5	+0.4
	baz=261								
HWA	Hwalien	0.40	286	i	P		Pn	14 45 49.0	-0.3
	baz=269								
HWA				e	S		Sn	14 45 55.4	-0.9
	baz=269								
TWD	Chiawan	0.44	299	i	P		Pn	14 45 49.0	-1.0
	baz=292								
TWD				i	S		Sb	14 45 55.6	+1.4
	baz=292								
ETL	Fush Village	0.47	309	P			Pb	14 45 49.4	+1.0
	baz=303								
ETL				S			Sb	14 45 56.2	+1.3
	baz=303								
TEGC	Jichi Village	0.47	251	P			Pn	14 45 50.9	+0.5
	baz=232								
TEGC				S			Sn	14 45 58.6	+0.6
	baz=232								
ETM	Tongmen	0.49	282	i	P		Pn	14 45 50.1	-0.7
	baz=268								
ETM				S			Sn	14 45 57.5	-1.2
	baz=268								
NACB	Ninganchiao	0.49	308	P			Pb	14 45 49.6	+0.8
	baz=299								
NACB				S			Sb	14 45 56.5	+0.9
	baz=299								
ESL	Shilin	0.54	265	i	P		Pn	14 45 50.7	-0.7
	baz=250								
ESL				i	S		Sn	14 45 59.6	-0.4
	baz=250								
EGFH	Guangfu	0.58	250	i	P		Pn	14 45 51.8	-0.1
	baz=242								
EGFH				i	S		Sn	14 46 00.9	0.0
	baz=242								
ETLH	Xiulin Townshi	0.60	305	P			Pg	14 45 51.3	+0.6
	baz=300								
ETLH				S			Sg	14 45 59.3	+0.6
	baz=300								
ENA	Nanau	0.61	336	i	P		Pg	14 45 51.4	+0.5
	baz=326								
ENA				i	S		Sg	14 45 59.8	+0.6
	baz=326								
EWUT	Wuta	0.62	339	P			Pg	14 45 51.6	+0.7
	baz=329								
EWUT				S			Sg	14 46 00.1	+0.8
	baz=329								
HGSD	Ruisui	0.66	236	P			Pn	14 45 53.7	+0.7
	baz=225								
EHY	Hungye	0.73	241	i	P		Pn	14 45 53.9	-0.2
	baz=246								
EHY				i	S		Sn	14 46 04.0	-0.7
	baz=246								
WHF	Hehuan Shan	0.74	292	i	P		Pg	14 45 53.6	+0.2
	baz=279								
WHF				i	S		Sg	14 46 03.7	+0.3
	baz=279								
ECBN	Changbin	0.76	224	S			Sn	14 46 05.2	-0.1
	baz=208								
TWC	Suao	0.76	348	i	P		Pg	14 45 54.0	+0.4
	baz=350								
TWC				i	S		Sg	14 46 03.5	-0.1
	baz=350								
OWD	Renai	0.78	277	i	P		Pn	14 45 54.5	-0.2
	baz=271								
OWD				i	S		Sg	14 46 04.5	+0.2
	baz=271								
CHGB	Renai	0.80	284	P			Pg	14 45 54.6	+0.2
	baz=279								
CHGB				S			Sn	14 46 05.9	-0.7
	baz=279								
FUSS	Fushou	0.80	298	i	P		Pg	14 45 54.8	+0.3
	baz=294								
FUSS				i	S		Sg	14 46 05.3	+0.1
	baz=294								
LATG	Datong	0.80	326	P			Pb	14 45 54.2	+0.1
	baz=325								
LATG				S			Sb	14 46 04.3	-0.3
	baz=325								
NNSB	Datong	0.81	314	P			Pb	14 45 54.3	+0.1
	baz=311								
NNSB				S			Sb	14 46 04.8	+0.1
	baz=311								
VWDT	VWDT	0.81	262	P			Pn	14 45 55.3	+0.2
	baz=248								
VWDT				S			Sn	14 46 06.6	0.0
	baz=248								
YULB	Yu-li	0.81	235	P			Pn	14 45 55.1	0.0
	baz=241								
YULB				S			Sg	14 46 05.6	+0.2
	baz=241								
NDS	Dongshan	0.81	340	P			Pg	14 45 54.5	-0.1
	baz=340								
NDS				S			Sb	14 46 04.8	0.0
	baz=340								
NNS	Nan Shan	0.82	314	i	P		Pg	14 45 54.8	-0.1
	baz=312								
NNS				i	S		Sb	14 46 05.2	+0.1
	baz=312								
EYUL	Yuli	0.82	231	i	P		Pn	14 45 55.8	+0.5
	baz=239								
EYUL				S			Sn	14 46 07.1	+0.2
	baz=239								
WUSB	Renai	0.83	279	P			Pn	14 45 55.3	-0.2
	baz=274								
WUSB				e	S		Sg	14 46 06.1	-0.1
	baz=274								
TWF1	Yuli	0.84	232	e	P		Pn	14 45 55.7	+0.2
	baz=240								
TWF1				e	S		Sn	14 46 07.0	-0.2
	baz=240								
NDT	Datong Townshi	0.87	328	i	P		Pg	14 45 55.6	-0.1
	baz=327								
NDT				i	S		Sb	14 46 06.4	0.0
	baz=327								
ENTT	Nioudou	0.88	332	i	P		Pg	14 45 55.6	-0.2
	baz=331								
ENTT				i	S		Sb	14 46 06.6	0.0
	baz=331								
TWE	Neicheng	0.91	339	i	P		Pb	14 45 56.0	+0.2
	baz=340								
TWE				i	S		Sb	14 46 07.6	0.0
	baz=340								
FULB	Fuli	0.94	225	i	P		Pn	14 45 56.8	-0.1
	baz=211								
FULB				i	S		Sn	14 46 09.9	+0.1
	baz=211								
CHKT	Chengkung	0.97	218	i	P		Pb	14 45 57.0	+0.1
	baz=204								
CHKT				i	S		Sb	14 46 08.8	-0.5
	baz=204								
FUSB	Fushanzhiwuyua	0.97	336	P			Pb	14 45 57.2	+0.2
	baz=336								
FUSB				S			Sb	14 46 09.4	-0.1
	baz=336								
SSLB	Suanglung	0.98	266	P			Pn	14 45 57.6	+0.2
	baz=261								
SSLB				S			Sb	14 46 10.0	+0.4
	baz=261								
WPL	Puli Township	0.98	279	i	P		Pg	14 45 58.0	+0.1
	baz=274								
YHNB	Yeheng	0.99	324	P			Pb	14 45 57.1	-0.3
	baz=311								
YHNB				S			Sb	14 46 09.2	-0.9
	baz=311								
NTC	Toucheng	1.00	350	i	P		Pn	14 45 57.6	-0.1
	baz=5.0								
NTC				S			Sb	14 46 10.4	+0.2
	baz=5.0								
NSK	Sanguang	1.01	323	i	P		Pb	14 45 57.5	0.0
	baz=312								
NSK				i	S		Sb	14 46 09.6	-0.9
	baz=312								
DPDB	Guoxing	1.01	280	P			Pg	14 45 58.4	0.0
	baz=281								
NWLT	Wulai	1.02	333	i	P		Pn	14 45 58.1	+0.1
	baz=332								
NWLT				i	S		Sb	14 46 10.4	-0.5
	baz=332								
SMLT	Sun Moon Lake	1.02	271	i	P		Pn	14 45 58.3	+0.2
	baz=267								
SMLT				S			Sg	14 46 12.3	+0.2
	baz=267								
JYNG	Yonagunijimaku	1.03	55	P			Pb	14 45 58.1	+0.2
JYNG				e	S		Sb	14 46 11.2	+0.2
WCS	Beigang Elemen	1.03	281	P			Pg	14 45 58.5	-0.2
	baz=274								
WCS				e	S		Sn	14 46 11.6	-0.5
	baz=274								
ECS	Chishang	1.06	224	e	P		Pn	14 45 59.0	+0.4
	baz=211								
ECS				S			Sg	14 46 14.0	+0.7
	baz=211								
WHP	Taichung City	1.06	293	i	P		Pg	14 45 59.2	-0.2
	baz=290								
WHP				i	S		Sn	14 46 12.9	-0.1
	baz=290								
TYC	Yuchr	1.06	272	i	P		Pn	14 45 58.9	+0.3
	baz=268								
EDH	Donghe	1.10	217	i	P		Pn	14 45 59.0	-0.2
	baz=205								
EDH				i	S		Sb	14 46 12.8	-0.4
	baz=205								
TIPB	Shuangxi	1.11	351	i	P		Pb	14 45 59.5	+0.1
	baz=3.0								
TIPB				i	S		Sb	14 46 13.3	-0.3
	baz=3.0								
NFF	Wufeng Townshi	1.12	313	P			Pb	14 45 59.7	+0.1
	baz=311								
NFF				S			Sb	14 46 13.6	-0.2
	baz=311								
TWB1	Santiao Chiao	1.14	359	i	P		Pn	14 45 59.0	-0.6
TWB1				S			Sb	14 46 13.0	-1.2
ELDTW	Lidau	1.14	234	i	P		Pn	14 45 59.8	0.0
	baz=220								
ALS	Alishan	1.17	253	i	P		Pg	14 46 01.2	-0.2
	baz=248								
ALS				i	S		Sn	14 46 15.6	-0.3
	baz=248								
TWA	Mucha	1.18	340	S			Sb	14 46 15.1	-0.3
	baz=341								
NHDH	Xindian Distri	1.18	338	S			Sb	14 46 15.3	-0.1
	baz=326								
LIOB	Emei	1.20	310	i	P		Pg	14 46 01.6	-0.3
	baz=309								
LIOB				i	S		Sb	14 46 15.7	-0.3
	baz=309								
NSTT	Nanjuang	1.20	310	i	P		Pb	14 46 01.2	+0.3
	baz=308								
NSTT				i	S		Sn	14 46 16.8	+0.5
	baz=308								
NWF	Wu-fen Shan	1.22	350	i	P		Pn	14 46 00.9	+0.1
	baz=350								
NWF				i	S		Sb	14 46 16.6	0.0
	baz=350								
WFSB	Wu-fen Shan	1.22	350	P			Pn	14 46 01.0	+0.2
	baz=351								
WFSB				S			Sb	14 46 16.4	-0.2
	baz=351								
WWF	Wufeng	1.22	279	P			Pg	14 46 02.6	+0.2
	baz=275								
WWF				S			Sg	14 46 20.6	+2.2
	baz=275								
WNT1	Nantou City	1.23	272	P			Pg	14 46 02.5	0.0
	baz=269								
WNT1				e	S		Sg	14 46 19.5	+1.0
	baz=269								
SXI1	Grass Mountain	1.23	354	P			Pn	14 46 01.1	+0.2
	baz=10.0								
TWQ1	Liyutan	1.24	293	i	P		Pb	14 46 01.9	+0.5
	baz=290								
TWQ1				S			Sg	14 46 19.2	+0.3
	baz=290								
LONT	Longtian	1.26	221	i	P		Pn	14 46 00.9	-0.4
	baz=217								
LONT				i	S		Sb	14 46 17.2	-0.4
	baz=217								
CHN5	Tsauling	1.26	258	i	P		Pg	14 46 02.8	-0.2
	baz=254								
CHN5				i	S		Sg	14 46 19.5	-0.1
	baz=254								
TCU	Ta

	baz=327							
YM01				S		Sn	14 46 19.1	-0.6
	baz=327							
TWS1	**Kuangyinshan**	**1.35**	**336**	P		**Pn**	14 46 02.4	-0.1
	baz=336							
TWS1				S		**Sn**	14 46 19.5	-0.3
	baz=336							
WDJ	**Dajia District**	**1.35**	**291**	*eP*		**Pb**	14 46 03.5	+0.2
	baz=288							
WCHH	**Zhanghua**	**1.35**	**279**	P		**Pb**	14 46 03.5	+0.1
	baz=276							
WCHH				S		**Sg**	14 46 21.6	-0.9
	baz=276							
TWGBT	**Beinan**	**1.35**	**220**	P		**Pn**	14 46 02.3	-0.3
	baz=216							
TWGBT				S		**Sn**	14 46 19.5	-0.5
	baz=216							
WDLH	**Douliu**	**1.37**	**263**	*i* P		**Pg**	14 46 04.5	-0.6
	baz=259							
WDLH				*i* S		**Sg**	14 46 22.7	-0.3
	baz=259							
YM08	**YM08**	**1.37**	**344**	*eP*		**Pn**	14 46 02.0	-0.9
	baz=344							
YM08				*eS*		**Sn**	14 46 19.0	-1.5
	baz=344							
TPUB	**Ta-pu**	**1.39**	**246**	P		**Pb**	14 46 04.6	+0.5
	baz=243							
TPUB				S		**Sg**	14 46 23.5	-0.3
	baz=243							
WTP	**Ta-pu**	**1.43**	**245**	*i* P		**Pg**	14 46 05.6	-0.7
	baz=241							
WTP				*i* S		**Sg**	14 46 24.5	-0.4
	baz=241							
TWY	**Chenhua**	**1.46**	**345**	S		**Sn**	14 46 22.5	-0.1
	baz=346							
WRL	**Guolierlin Hig**	**1.50**	**272**	P		**Pb**	14 46 06.2	+0.2
	baz=269							
WRL				S		**Sb**	14 46 25.4	+0.7
	baz=269							
WTK	**Tuku**	**1.50**	**264**	P		**Pb**	14 46 06.3	+0.3
	baz=260							
WTK				S		**Sg**	14 46 26.2	-1.1
	baz=260							
CHY	**Chiayi**	**1.51**	**256**	*eP*		**Pg**	14 46 07.2	-0.6
	baz=253							
CHY				S		**Sb**	14 46 25.9	+1.1
	baz=253							
TWK	**Hsinying**	**1.53**	**247**	*i* P		**Pb**	14 46 07.0	+0.6
	baz=243							
TWK				*i* S		**Sg**	14 46 26.8	-1.2
	baz=243							
CHN1	**Nanshi**	**1.53**	**244**	*i* P		**Pb**	14 46 07.2	+0.8
	baz=240							
CHN1				*i* S		**Sg**	14 46 27.0	-1.1
	baz=240							
SGST	**Jiashian**	**1.53**	**240**	*i* P		**Pb**	14 46 06.5	0.0
	baz=236							
SGST				*i* S		**Sb**	14 46 26.4	+0.9
	baz=236							
SNST	**Tainan City**	**1.54**	**246**	*i* P		**Pb**	14 46 07.3	+0.7
	baz=242							
SNST				*i* S		**Sg**	14 46 27.2	-1.2
	baz=242							
ECL	**Taimali**	**1.60**	**218**	S		**Sn**	14 46 24.6	-1.4
	baz=215							
IRIF	**Iriomote-Funau**	**1.63**	**73**	P		**Pn**	14 46 06.8	+0.4
IRIF				*eS*		**Sn**	14 46 26.6	-0.3
HATJ	**Hateruma jima**	**1.65**	**83**	P		**Pn**	14 46 07.2	+0.6
HATJ				*eS*		**Sn**	14 46 27.8	+0.6
WSF	**Szhu**	**1.66**	**263**	S		**Sb**	14 46 30.4	+1.1
	baz=259							
ICHU	**Yijhu**	**1.67**	**253**	P		**Pb**	14 46 08.7	-0.1
	baz=249							
WSL	**Shuilin Townsh**	**1.68**	**259**	P		**Pb**	14 46 08.8	-0.1
	baz=242							
WSL				S		**Sb**	14 46 29.5	-0.2
	baz=242							
SSD	**Sandimen**	**1.69**	**229**	*i* P		**Pb**	14 46 10.0	+0.8
	baz=220							
SSD				S		**Sb**	14 46 30.8	+0.6
	baz=220							
SCST	**Cishan**	**1.71**	**235**	*i* P		**Pb**	14 46 09.8	+0.3
	baz=245							
SCST				S		**Sg**	14 46 32.4	-1.5
	baz=245							
TSMG	**Majia**	**1.71**	**228**	*i* P		**Pb**	14 46 10.0	+0.5
	baz=220							
TSMG				*i* S		**Sb**	14 46 30.8	+0.1
	baz=220							
CHN8	**Yiju**	**1.74**	**253**	S		**Sb**	14 46 32.2	+0.8
	baz=250							
MASBT	**Mashibuluo**	**1.78**	**226**	P		**Pn**	14 46 09.3	+0.8
	baz=220							
MASBT				S		**Sb**	14 46 34.2	+1.4
	baz=220							
EAST	**Anshuo**	**1.83**	**216**	P		**Pn**	14 46 10.2	+1.1
	baz=205							
JKRS	**Kuro-shima**	**1.86**	**78**	P		**Pn**	14 46 10.6	+1.1
JKRS				S		**Sn**	14 46 33.5	+1.1
JIJ	**Ishigaki jima**	**2.00**	**75**	P		**Pn**	14 46 11.6	+0.1
JIJ				S		**Sn**	14 46 34.4	-1.7
JISG	**Ishigakijimahi**	**2.21**	**71**	P		**Pn**	14 46 14.5	+0.1
JISG				*eS*		**Sn**	14 46 39.4	-1.8
JTJ	**Tarama**	**2.57**	**72**	P		**Pn**	14 46 19.8	+0.5

JMA ***12*** *14:51:07.2±0.1, 39˚.27N×144˚.27E, h58km, M3.2*
IDC ***12*** *14:51:12.6±0.9.7, 39˚.70N×143˚.04E, h0km, mb3.7/4, mb1 3.6/6, mb1mx3.3/50, mbtmp3.6/6, ML3.1/2, Error ellipse: s-maj=178.6km s-min=31.5km az=110.0*

ISC 12 14:51:05.0±1.7, 39˚.30N±0˚.08×144˚.3E±0˚.1, h10km, n18, σ1§30/27, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.93**	**279**	P	**Pn**	**14 51 38.3**	**+0.4**
MIYJ				*eS*	**Sn**	**14 52 01.4**	**-0.8**
JTH	**Tanohata**	**1.98**	**290**	P	**Pn**	**14 51 39.0**	**+0.5**
JTH				*eS*	**Sn**	**14 52 02.5**	**-0.8**
OFUJ	**Ofunato**	**2.05**	**265**	P	**Pn**	**14 51 39.7**	**+0.2**
OFUJ				*eS*	**Sn**	**14 52 04.2**	**-0.8**
JOM	**Ohasama**	**2.33**	**275**	P	**Pn**	**14 51 44.2**	**+0.9**
JOM				*eS*	**Sn**	**14 52 11.7**	**-0.3**
JANG	**Nango**	**2.39**	**298**	P	**Pn**	**14 51 44.5**	**+0.4**
JMK	**Ichinoseki**	**2.41**	**263**	P	**Pn**	**14 51 45.0**	**+0.5**
JMK				S	**Sn**	**14 52 13.1**	**-0.9**
JNBK	**Urakawa-nobuka**	**3.19**	**339**	P	**Pn**	**14 51 57.0**	**+1.8**
JNBK				S	**Sn**	**14 52 34.1**	**+0.8**
JCH	**Churui**	**3.38**	**348**	P	**Pn**	**14 51 58.7**	**+0.9**
JCH				*eS*	**Sn**	**14 52 36.0**	**-2.0**
JFT	**Otama**	**3.58**	**241**	*eS*	**Sn**	**14 52 40.6**	**-2.3**
NEM2	**Nemuro 2**	**4.20**	**15**	P	**Pn**	**14 52 07.9**	**-1.2**
JTKR	**Abashiri--Toko**	**4.67**	**357**	P	**Pn**	**14 52 16.0**	**+0.5**
JTKR				S	**Sn**	**14 53 07.5**	**-2.3**
ASAJ	**Asahikawa**	**4.97**	**346**	Pn	**Pn**	**14 52 21.1**	**+1.4**
	1.4nm,0.3s,baz=195,slow=18,SNR=16						
ASAJ				Sn	**Sn**	**14 53 14.3**	**-3.0**
	baz=112,slow=9.7,SNR=1.8						
JRY	**Ryogami san**	**5.38**	**234**	P	**Pn**	**14 52 24.7**	**-0.7**
MJAR	**Matsushiro Arr**	**5.54**	**242**	Pn	**Pn**	**14 52 28.2**	**+0.7**
	0.3nm,0.3s,baz=53,slow=11,SNR=5.8						
SONM	**Songino Array**	**28.51**	**300**	P	**P**	**14 56 60.0**	**-0.6**
	0.9nm,0.5s,baz=104,slow=12,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.11**	**311**	P	**P**	**14 58 58.0**	**+1.0**
	0.3nm,0.4s,baz=91,slow=6.4,SNR=2.1						
MKAR	**Makanchi Array**	**44.87**	**301**	P	**P**	**14 59 20.5**	**+1.1**
	0.2nm,0.6s,baz=68,slow=8.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**46.43**	**307**	P	**P**	**14 59 32.8**	**+1.1**
	0.4nm,0.4s,baz=84,slow=8.5,SNR=1.7						

IDC ***12*** *14:51:06.5±0.9, 11˚.45N×141˚.03E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.7/50, mbtmp3.9/10, Error ellipse: s-maj=40.1km s-min=20.1km az=90.0*
NEIC ***12*** *14:51:08.6±1.9, 11˚.41N±0˚.05×141˚.2E±0˚.1, h10km±1km, mb4.6/16, Error ellipse: s-maj=23.8km s-min=3.9km az=109.0*

ISC 12 14:51:11.8±0.8, 11˚.4N±0˚.1×141˚.2E±0˚.1, h35km, n37, σ0§89/34, mb4.4/18, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.22**	**58**	Pn	**Pn**	**14 52 13.3**	**-0.3**
YOJ	**Yonaguni jima**	**21.61**	**309**	P	**P**	**14 55 57.9**	**-0.9**
TWG	**Pinlang**	**22.31**	**303**	P	**P**	**14 56 06.6**	**+0.2**
TWG				IAmb	IAmb	14 56 14.8	
	comp=Z,24nm,1.2s						
JMN	**Monobe**	**23.23**	**344**	P	**P**	**14 56 16.9**	**+0.9**
JMN				IAmb	IAmb	14 56 27.3	
	comp=Z,40nm,1.4s						
MYLDM	**Lahad Datu**	**23.26**	**257**	P	**P**	**14 56 17.2**	**+0.8**
MYLDM				IAmb	IAmb	14 56 17.4	
	comp=Z,16nm,1.4s						
WRAB	**Tennant Creek**	**31.83**	**192**	P	**P**	**14 57 33.2**	**-0.3**
WRAB				IAmb	IAmb	14 57 48.9	
	comp=Z,7.6nm,0.8s						
WB2	**Warramunga Arr**	**31.84**	**192**	P	**P**	**14 57 32.7**	**-0.8**
WB2				IAmb	IAmb	14 57 41.2	
	comp=Z,10.0nm,1.3s						
WRA	**Warramunga Arr**	**31.84**	**192**	P	**P**	**14 57 32.9**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=11,slow=9.9,SNR=6.0						
WRA	**Warramunga Arr**	**31.84**	**192**	P	**P**	**14 57 32.9**	**-0.8**
WRA	**Warramunga Arr**	**31.84**	**192**	IAmb	IAmb	14 57 41.3	
	comp=Z,0.5nm,1.3s						
ENH	**Enshi**	**34.90**	**307**	P	**P**	**14 58 01.2**	**+0.9**
ASAR	**Alice Springs**	**35.55**	**192**	P	**P**	**14 58 06.6**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=18,slow=12,SNR=13						
ASAR	**Alice Springs**	**35.55**	**192**	P	**P**	**14 58 06.6**	**+0.8**
MK31	**Makanchi Array**	**60.63**	**318**	P	**P**	**15 01 19.0**	**-0.3**
MKAR	**Makanchi Array**	**60.63**	**318**	P	**P**	**15 01 18.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=95,slow=8.5,SNR=7.6						
MKAR	**Makanchi Array**	**60.63**	**318**	P	**P**	**15 01 18.6**	**-0.6**
ZALV	**Zalesovo Beam**	**61.37**	**326**	P	**P**	**15 01 23.4**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=111,slow=7.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**61.37**	**326**	P	**P**	**15 01 22.5**	**-1.6**
KURK	**Kurchatov**	**63.99**	**321**	P	**P**	**15 01 41.0**	**-0.6**
KURK	**Kurchatov**	**63.99**	**321**	IAmb	IAmb	15 01 42.8	
	comp=Z,2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**64.02**	**321**	P	**P**	**15 01 41.0**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=104,slow=6.6,SNR=4.1						
BVAR	**Borovoye Array**	**69.45**	**322**	P	**P**	**15 02 15.8**	**-0.7**
	comp=Z,0.7nm,0.4s						
BVAR	**Borovoye Array**	**69.45**	**322**	P	**P**	**15 02 15.8**	**-0.7**
TOLK	**Toolik Lake Re**	**71.96**	**21**	P	**P**	**15 02 32.8**	**+1.3**
IL31		**72.10**	**25**	P	**P**	**15 02 32.1**	**-0.2**
ILAR	**Eielson Array**	**72.10**	**25**	P	**P**	**15 02 32.2**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=244,slow=6.1,SNR=12						
ILAR	**Eielson Array**	**72.10**	**25**	P	**P**	**15 02 32.2**	**-0.1**
PAX	**Paxson**	**72.38**	**27**	P	**P**	**15 02 35.3**	**+1.1**
PAX				IAmb	IAmb	15 02 40.2	
	comp=Z,7.3nm,1.5s						
BMRM	**Bremner River**	**72.47**	**29**	P	**P**	**15 02 34.4**	**-0.3**
BMAR	**Burnt Mountain**	**73.52**	**23**	P	**P**	15 02 42.4	+1.5
BESE	**Bessie Mountai**	**77.23**	**32**	P	**P**	**15 03 02.7**	**+0.4**
INK	**Inuvik**	**77.77**	**22**	P	**P**	**15 03 05.0**	**0.0**
INK				IAmb	IAmb	15 03 06.0	
	comp=Z,1.9nm,0.5s						
YKA	**Yellowknife Ar**	**86.46**	**27**	P	**P**	**15 03 51.7**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=290,slow=5.1,SNR=8.9						
YKA	**Yellowknife Ar**	**86.46**	**27**	P	**P**	**15 03 51.7**	**+1.1**
ARCES	**ARCESS Array B**	**88.05**	**342**	P	**P**	**15 03 58.1**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=68,slow=7.9,SNR=3.5						
FINES	**FINESS Array B**	**91.61**	**334**	P	**P**	**15 04 13.2**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=53,slow=5.3,SNR=5.8						
FINES	**FINESS Array B**	**91.61**	**334**	P	**P**	**15 04 13.2**	**-1.8**

IDC ***12*** *14:51:45.4±0.3, 11˚.39N×140˚.95E, h0km, mb5.0/42, mb1 5.1/46, mb1mx5.0/53, mbtmp5.0/46, ML4.3/3, MS5.0/10, Ms1 5.0/10, ms1mx4.6/21, Error ellipse: s-maj=13.7km s-min=8.0km az=84.0*
BJI ***12*** *14:51:45.9±0.0, 11˚.22N×141˚.11E, h24km, mb5.2/81, mB5.2/62, Ms4.9/87, Ms7 4.8/81*
NEIC ***12*** *14:51:47.6±1.5, 11˚.36N±0˚.07×140˚.90E±0˚.06, h10km±1km, mb5.4/318, Error ellipse: s-maj=12.6km s-min=8.6km az=162.0*
MOS ***12*** *14:51:47.4±1.0, 11˚.40N×140˚.83E, h24km, mb5.5/97, MS5.1/8, Error ellipse: s-maj=6.6km s-min=4.2km az=103.5*
GCMT ***12*** *14:51:51.6±0.1, 11˚.21N±0˚.01×140˚.71E±0˚.01, h21km, MW5.2/119, Moment Tensor Solution. s95,c152; s119,c215; Duration: 1§0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.76±.02; Mθθ-0.72±.01; Mφφ-0.03±.01; Mrθ0.36±.02; Mθφ-0.17±.01; Mφr-0.07±.03; Best double couple: M₀0.84400×10¹⁷ NP1:φ₁247.00000°, δ34.00000°, λ74.00000°. NP2:φ₂86.00000°, δ57.00000°, λ100.00000°. Principal axes: T 0.8550, Plg75.0000°, Azm26.0000°; N -0.0220, Plg9.0000°, Azm261.0000°; P -0.8330, Plg12.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***12*** *14:51:52.2±0.4, 11˚.N±3˚×14˚.1E±˚, h34km±3km, M5.0/62, mb5.1/62, mB5.5/38, MLv5.7/1, Mw(mB)4.9/38, MwMwp4.9/9, Mwp5.2/9*

ISC 12 14:51:49.3±0.4, 11˚.39N±0˚.03×140˚.91E±0˚.04, h22km±3km, h22km:pP-P, n1020, σ1§48/1082, mb5.3/299, MS4.8/51, 33C-17D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.44**	**60**	Pn	**Pn**	**14 52 57.8**	**+2.4**
	28nm,0.3s,baz=200,slow=6.7,SNR=18						
GUMO				Sn	**Sn**	**14 53 49.8**	**+3.4**
	36nm,0.3s,baz=218,slow=24,SNR=1.3						
GUMO	**Guam**	**4.44**	**60**	P	**Pn**	**14 52 55.4**	**+0.1**
GUMO	**Guam**	**4.44**	**60**	Pn	**Pn**	**14 52 55.4**	**+0.1**
GUMO	**Guam**	**4.44**	**60**	P	Pn	14 53 00.9	+5.6
BAKI	**Biak**	**13.38**	**201**	P	**Pn**	**14 54 58.5**	**+0.5**
	2µm152nm,1.4s						
SMPI	**Sasni**	**13.47**	**189**	P	**Pn**	**14 55 00.1**	**+0.9**
	3µm2µm84nm,1.3s						
SRPI	**Serui, Papua**	**13.97**	**200**	P	**Pn**	**14 55 08.7**	**+2.7**
GLSP	**General Luna,**	**14.62**	**265**	*eP*	**Pn**	**14 55 16.1**	**+1.2**
MANU	**Manus Island**	**14.81**	**154**		**Pn**	**14 55 16.1**	**-1.4**
SIJI	**Sorong**	**15.50**	**219**	Pn	**Pn**	**14 55 25.6**	**-1.1**
	0.3nm,0.3s,baz=40,slow=12,SNR=4.0						
SWI	**Sorong**	**15.50**	**219**	P	**Pn**	**14 55 27.7**	**+1.1**
SWI				pmax	pmax		
	comp=Z,64nm,1.9s						
SWI	**Sorong**	**15.50**	**219**	P	**Pn**	**14 55 27.2**	**+0.6**
	comp=Z,3µmcomp=Z,1µmcomp=Z,64nm,1.9s						
JCJ	**Chichijima**	**15.67**	**4**	Pn	**Pn**	**14 55 27.2**	**-1.6**
	comp=Z,2.5nm,0.3s,baz=275,slow=23,SNR=1.8						
JCJ	**Chichijima**	**15.67**	**4**	Pn	**Pn**	**14 55 29.1**	**+0.4**
JCJ	**Chichijima**	**15.67**	**4**	P	**P**	**14 55 33.7**	**+1.0**
DAV	**Davao City (W)**	**15.73**	**255**	Pn	**Pn**	**14 55 29.3**	**-0.3**
	comp=Z,39nm,0.3s,baz=117,slow=2.3,SNR=1.8						
DAV	**Davao City (W)**	**15.73**	**255**	P	**P**	**14 55 35.0**	**+1.6**
MSLP	**Maasin**	**15.82**	**267**	*ieP*	**P**	**14 55 33.8**	**-0.6**
DDMP	**Don Marcelino,**	**15.91**	**252**	*eP*	**P**	**14 55 39.4**	**+4.0**
KCP	**Kidapawan**	**16.21**	**256**	*ieP*	**P**	**14 55 38.5**	**-0.3**
PVCP	**Virac**	**16.50**	**279**	*eP*	**P**	**14 55 41.9**	**-0.1**
TBP	**Tagbilaran**	**16.84**	**266**	*i*P	**Pn**	**14 55 44.8**	**+0.9**
TBP				*i* S	**S**	**14 59 01.9**	**+1.2**
TNTI	**Ternate**	**17.09**	**233**		**Pn**	**14 55 47.5**	**+0.5**
TNTI	**Ternate**	**17.09**	**233**	P	**P**	**14 55 50.8**	**+2.2**
	comp=Z,1µmcomp=Z,44nm,1.5s						
TNTI	**Ternate**	**17.09**	**233**	P	**P**	**14 55 51.3**	**+2.7**
SNPH	**Sibulan**	**17.50**	**265**	*i* P	**Pn**	**14 55 50.7**	**-1.4**
PAGZ	**Pagadian**	**17.63**	**260**	*ieP*	**P**	**14 55 55.3**	**+0.7**
RCP	**Roxas**	**17.80**	**272**	*ieP*	**P**	**14 55 57.9**	**+1.5**
LBMI	**Labuha**	**17.90**	**229**	P	**P**	**14 56 01.6**	**+4.1**
	comp=Z,904nmcomp=Z,2µmcomp=Z,91nm,1.1s						
JCNP	**Jose Panganiba**	**17.99**	**281**	*ieP*	**P**	**14 56 01.1**	**+2.6**
CNOP	**Candoni, Negro**	**18.02**	**267**	*ieP*	**P**	**14 55 59.2**	**+0.3**
MSAI	**Masohi**	**18.88**	**220**	P	**Pn**	**14 56 11.6**	**+2.7**
	comp=Z,439nmcomp=Z,38nm,1.6s						
LQP	**Lukban**	**19.08**	**280**	*ieP*	P	14 56 03.3	-7.4
RABL	**Rabaul**	**19.11**	**144**		**Pn**	**14 56 11.9**	**+0.1**
RABL				IAmb	IAmb	14 56 14.4	
	comp=Z,276nm,1.2s						
RABL	**Rabaul**	**19.11**	**144**	P	**Pn**	**14 56 15.5**	**+3.8**
KRVT	**Keravat (AS076**	**19.12**	**144**	P	**P**	**14 56 09.1**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=0.0,slow=20,SNR=1.9						
BNDI	**Bandanaira**	**19.23**	**215**	P	**Pn**	**14 56 15.1**	**+1.9**
CAUP	**Cauayan**	**19.30**	**289**	*eP*	**Pn**	**14 56 16.2**	**+2.1**
JOW	**Kunigami**	**19.43**	**324**	P	**Pn**	**14 56 16.2**	**+0.7**
	comp=Z,3.9nm,0.3s,baz=139,slow=11,SNR=17						
JOW	**Kunigami**	**19.43**	**324**		**Pn**	**14 56 15.2**	**-0.3**
JOW				IAmb	IAmb	14 56 22.9	
	comp=Z,251nm,1.0s						
JOW	**Kunigami**	**19.43**	**324**	P	**Pn**	**14 56 18.6**	**+3.2**
PGP	**Puerto Galera**	**19.60**	**278**	*ieP*	**P**	**14 56 16.5**	**+0.3**
AAI	**Ambon**	**19.61**	**221**	P	**Pn**	**14 56 17.7**	**0.0**
AAI				pmax	pmax		
	comp=Z,328nm,1.1s						
AAI	**Ambon**	**19.61**	**221**	P	**Pn**	**14 56 17.5**	**-0.2**
	comp=Z,4µmcomp=Z,327nm,1.1s						
MMPI	**Merauke**	**19.74**	**182**	P	**Pn**	**14 56 18.6**	**-0.6**
	comp=Z,144nm,1.0s						
MACP	**Maragondon, Ca**	**19.89**	**280**	*eP*	**P**	**14 56 17.5**	**-1.9**
JMJ	**Miyako jima 2**	**19.93**	**314**	P	**Pn**	**14 56 22.7**	**+1.2**
KMSI	**Cibinong**	**19.95**	**239**	P	**P**	**14 56 20.6**	**+0.6**
	comp=Z,151nm,1.2s						
SANI	**Sanana**	**19.96**	**229**	P	**P**	**14 56 20.2**	**+0.1**
	comp=Z,2µmcomp=Z,822nmcomp=Z,46nm,1.4s						
SANI	**Sanana**	**19.96**	**229**	P	**P**	**14 56 20.8**	**+0.7**
APYP	**Conner**	**20.07**	**291**	*ieP*	Pn	14 56 23.8	+0.5
APYP	**Conner**	**20.07**	**291**	*ieP*	Pn	14 56 28.1	+4.9
SMPP	**San Manuel, Pa**	**20.20**	**286**	*eP*	Pn	14 56 24.5	-0.3
LUBP	**Lubang**	**20.30**	**279**	*eP*	**P**	**14 56 24.2**	**+0.4**
LUBP	**Lubang**	**20.30**	**279**	*ieP*	**P**	**14 56 24.5**	**+0.7**
GTOI	**Gorontalo**	**20.74**	**240**	P	**P**	**14 56 29.5**	**+0.9**
	comp=Z,717nmcomp=Z,45nm,1.2s						
YOJ	**Yonaguni jima**	**21.39**	**310**	P	**P**	**14 56 38.0**	**+2.5**
SAUI	**Saumlaki**	**21.49**	**207**	P	**P**	**14 56 33.7**	**-2.9**
PMG	**Port Moresby**	**21.58**	**163**	P	**P**	**14 56 36.2**	**-1.4**
	comp=Z,153nm,1.0s,baz=345,slow=8.9,SNR=27						
PMG	**Port Moresby**	**21.58**	**163**	*deP*	**P**	**14 56 36.6**	**-1.0**
PMG				pmax	pmax		
	comp=Z,297nm,1.3s						
PMG	**Port Moresby**	**21.58**	**163**	P	**P**	**14 56 35.5**	**-2.1**
PMG				IAmb	IAmb	14 56 39.0	
	comp=Z,226nm,1.1s						
PMG	**Port Moresby**	**21.58**	**163**	P	**P**	**14 56 38.3**	**+0.7**
JHJ	**Hachijo jima 2**	**21.65**	**357**	LR	LR	15 03 29.9	
	comp=Z,4µm,18.8s,baz=246,slow=32						
MRSI	**Marisa**	**21.73**	**241**	P	**P**	**14 56 40.6**	**+1.3**
	comp=Z,3µmcomp=Z,258nm,1.3s						
LUWI	**Luwuk**	**21.85**	**237**	P	**P**	**14 56 39.7**	**-0.9**
LUWI	**Luwuk**	**21.85**	**237**	P	**P**	**14 56 41.2**	**+0.6**
	comp=Z,3µmcomp=Z,348nm,0.9s						
LUWI	**Luwuk**	**21.85**	**237**	P	**P**	**14 56 42.7**	**+2.1**
TWG	**Pinlang**	**22.07**	**304**	P	**P**	**14 56 41.5**	**-1.4**
YULB	**Yu-li**	**22.16**	**305**	P	**P**	**14 56 44.1**	**+0.2**
JSU	**Suzuyama**	**22.23**	**336**	P	**P**	**14 56 45.2**	**+0.7**
NACB	**Ninganchiao**	**22.32**	**307**	P	**P**	**14 56 44.9**	**-0.7**
NACB				IAmb	IAmb	14 57 17.4	
	comp=Z,249nm,1.9s						
TOLI2	**Tolitoli**	**22.44**	**244**	P	**P**	**14 56 46.0**	**-0.9**
TOLI2	**Tolitoli**	**22.44**	**244**	P	**P**	**14 56 47.1**	**+0.2**
SSLB	**Suanglung**	**22.63**	**306**	P	**P**	**14 56 48.6**	**-0.3**
SSLB				IAmb	IAmb	14 56 51.4	
	comp=Z,98nm,0.9s						
SSLB	**Suanglung**	**22.63**	**306**	P	**P**	**14 56 50.6**	**+1.7**
TPUB	**Ta-pu**	**22.66**	**304**	P	**P**	**14 56 49.2**	**+0.1**
TPUB	**Ta-pu**	**22.66**	**304**	P	**P**	**14 56 50.9**	**+1.7**
APSI	**Ampana**	**22.71**	**239**	P	**P**	**14 56 48.0**	**-1.8**
	comp=Z,1µmcomp=Z,87nm,1.2s						
YHNB	**Yeheng**	**22.75**	**308**	P	**P**	**14 56 49.9**	**-0.3**
YHNB				IAmb	IAmb	14 56 55.9	
	comp=Z,176nm,1.0s						
YHNB	**Yeheng**	**22.75**	**308**	P	**P**	**14 56 52.4**	**+2.2**
BATP	**Bataraza**	**22.89**	**266**	*eP*	**P**	**14 56 52.3**	**+0.6**
MYLDM	**Lahad Datu**	**23.01**	**256**	P	**P**	**14 56 53.4**	**+0.5**
JMN	**Monobe**	**23.14**	**345**	P	**P**	**14 56 54.9**	**+0.8**
JNU	**Nakatsue**	**23.50**	**339**	P	**P**	**14 56 57.9**	**+0.2**
	comp=Z,81nm,0.9s,baz=140,slow=4.6,SNR=33						
JNU	**Nakatsue**	**23.50**	**339**	P	**P**	**14 56 58.1**	**+0.4**
JNU				IAmb	IAmb	14 56 60.0	
	comp=Z,102nm,0.9s						
JNU	**Nakatsue**	**23.50**	**339**	P	**P**	**14 56 58.2**	**+0.4**
MPSI	**Mapaga**	**23.58**	**244**	P	**P**	**14 56 57.9**	**-0.7**
	comp=Z,789nmcomp=Z,40nm,2.0s						
INU	**Inuyama**	**24.11**	**352**	P	**P**	**14 57 02.7**	**-0.7**
INU				IAmb	IAmb	14 57 05.2	
	comp=Z,94nm,1.1s						
INU	**Inuyama**	**24.11**	**352**	P	**P**	**14 57 04.4**	**+1.0**
JGF	**Kuroka**	**24.31**	**353**	P	**P**	**14 57 05.0**	**-0.4**
JHS	**Saijyo**	**24.55**	**344**	P	**P**	**14 57 06.7**	**-0.8**
JYT	**Yasato**	**24.73**	**359**	P	**P**	**14 57 07.9**	**-1.2**
BBSI	**Bau Bau**	**24.78**	**228**	P	**P**	**14 57 12.7**	**+2.9**
	comp=Z,147nmcomp=Z,14nm,1.1s						
KKM	**Kota Kinabalu**	**24.97**	**260**	P	**P**	**14 57 09.5**	**-2.1**
KKM	**Kota Kinabalu**	**24.97

comp=Z,1.9nm,0.9s,baz=167,slow=5.1,SNR=4.2
KSAR Wonju Array Be 28.45 338 P **P** **14 57 42.0 -0.6**
KSAR Wonju Array Be 28.45 338 P **P** **14 57 42.0 -0.6**
KSAR **PcP** **15 00 54.4 0.0**
KS19 Wonju Array Si 28.51 338 P **P** **14 57 42.3 -0.8**
NJ2 Nanjing 28.91 319 *e*P **P** **14 57 47.4 +0.7**
NJ2 pP **pP** **14 57 50.2 -2.1**
NJ2 S **S** **15 02 31.5 -4.6**
NJ2 sS **sS** **15 02 47.1 +1.8**
NJ2 pmax pmax
comp=Z,25nm,0.6s
NJ2 pmax pmax
comp=Z,290nm,4.7s
NJ2 LR LR
comp=Z,2μm,16.6s
NJ2 LR LR
comp=Z,1μm,15.2s
NJ2 LR LR
comp=Z,2μm,18.0s
JTM Tenmabayashi 29.28 0 P **P** **14 57 49.5 -0.4**
JTM lAmb lAmb 14 57 52.0
comp=Z,63nm,1.0s
KNRA Kununurra 29.46 204 P **P** **14 57 50.8 -0.9**
KNRA Kununurra 29.46 204 P **P** **14 57 52.5 +0.8**
SBUM Sibu 29.80 255 P **P** **14 57 52.8 -2.1**
QIZ Qiongzhong 30.89 288 P **P** **14 58 03.1 -1.3**
QIZ S **S** **15 03 08.7 +1.2**
QIZ LR LR
comp=Z,480nm,16.2s
QIZ LR LR
comp=Z,790nm,17.7s
QIZ LR LR
comp=Z,820nm,19.4s
WHN Wuhan 31.14 312 ⇓P **P** **14 58 08.3 +1.8**
WHN S **S** **15 03 19.7 +8.6**
WHN pmax pmax
comp=Z,78nm,1.1s
WHN LR LR
comp=Z,3μm,15.6s
WHN LR LR
comp=Z,2μm,16.5s
WHN LR LR
comp=Z,4μm,17.1s
JEW Eniwo 31.33 1 P **P** **14 58 08.5 +0.5**
WB0 Warramunga Arr 31.62 192 P **P** **14 58 09.9 -0.9**
CTA Charters Tower 31.72 170 P **P** **14 58 12.1 +0.4**
comp=Z,28nm,1.0s,baz=342,slow=9.9,SNR=13
CTA Charters Tower 31.72 170 P **P** **14 58 13.7 +2.0**
QIS Mount Isa 31.78 182 P **P** **14 58 13.1 +0.9**
WR0 Warramunga Arr 31.78 191 P **P** **14 58 10.8 -1.4**
WR0 lAmb lAmb 14 58 28.6
comp=Z,40nm,1.1s
WRAB Tennant Creek 31.79 192 *de*P **P** **14 58 11.7 -0.6**
WRAB pmax pmax
comp=Z,51nm,1.3s
WRAB Tennant Creek 31.79 192 P **P** **14 58 11.2 -1.1**
WRAB lAmb lAmb 14 58 13.5
comp=Z,33nm,0.9s
WRAB Tennant Creek 31.79 192 P **P** **14 58 12.4 +0.1**
WB2 Warramunga Arr 31.80 192 P **P** **14 58 11.6 -0.8**
WB2 lAmb lAmb 14 58 13.6
comp=Z,37nm,0.9s
WRA Warramunga Arr 31.80 192 P **P** **14 58 11.8 -0.6**
comp=Z,27nm,0.9s,baz=11,slow=9.4,SNR=76
WRA PcP **PcP** **15 01 01.9 -1.5**
comp=Z,2.5nm,1.1s,baz=14,slow=3.9,SNR=2.6
WRA ScP **ScP** **15 04 47.9 +2.2**
comp=Z,3.3nm,1.2s,baz=12,slow=4.3,SNR=7.2
WRA Warramunga Arr 31.80 192 P **P** **14 58 11.6 -0.8**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 31.80 192 P **P** **14 58 11.6 -0.8**
MSHR Mys Shultsa 32.21 346 *i* P **P** **14 58 17.8 +2.1**
MSHR pmax pmax
comp=Z,39nm,1.1s
DL2 Dalian 32.34 331 P **P** **14 58 18.2 +1.3**
DL2 pmax pmax
comp=Z,92nm,1.0s
DL2 LR LR
comp=Z,2μm,18.4s
DL2 LR LR
comp=Z,2μm,17.5s
DL2 LR LR
comp=Z,3μm,20.0s
VLA Vladivostok 32.57 348 *i* P **P** **14 58 20.8 +2.0**
VLA pmax pmax
comp=Z,26nm,1.0s
ASAJ Asahikawa 32.64 2 P **P** **14 58 17.6 -1.9**
comp=Z,18nm,1.0s,baz=185,slow=5.3,SNR=8.4
ASAJ Asahikawa 32.64 2 P **P** **14 58 18.7 -0.8**
ASAJ pmax pmax
comp=Z,32nm,1.1s
JKA Kamikawa-asahi 32.64 2 P **P** **14 58 18.7 -0.8**
TIA Tai'an 32.74 323 ⇑P **P** **14 58 21.1 +0.6**
TIA pmax pmax
comp=Z,56nm,0.8s
TIA pmax pmax
comp=Z,240nm,6.3s
TIA LR LR
comp=Z,690nm,18.6s
TIA LR LR
comp=Z,780nm,18.4s
TIA LR LR
comp=Z,900nm,17.7s
FITZ Fitzroy Crossi 32.95 207 P **P** **14 58 21.2 -1.3**
comp=Z,6.1nm,0.9s,baz=26,slow=7.0,SNR=9.8
FITZ PcP **PcP** **15 01 06.7 +0.1**
comp=Z,5.2nm,1.1s,baz=108,slow=3.2,SNR=2.3
FITZ ScP **ScP** **15 04 52.9 +3.3**
comp=Z,2.4nm,0.9s,baz=42,slow=5.2,SNR=4.1
FITZ Fitzroy Crossi 32.95 207 P **P** **14 58 21.4 -1.1**
FITZ Fitzroy Crossi 32.95 207 P **P** **14 58 22.4 -0.1**
USRK Ussuriysk Ar. 33.58 348 P **P** **14 58 27.3 -0.4**
comp=Z,23nm,0.9s,baz=172,slow=9.0,SNR=20
USRK Ussuriysk Ar. 33.58 348 P **P** **14 58 27.9 +0.2**
USRK Ussuriysk Ar. 33.58 348 P **P** **14 58 27.9 +0.2**
USA0B Ussuriysk Arra 33.58 348 P **P** **14 58 28.1 +0.4**
USA0B pmax pmax
comp=Z,35nm,1.0s
USA0B Ussuriysk Arra 33.58 348 P **P** **14 58 28.1 +0.4**
USA0B lAmb lAmb 14 58 29.9
comp=Z,35nm,1.0s
GMJI Gumukmas 33.59 236 P **P** **14 58 27.0 -1.1**
comp=Z,30nm,1.3s
TEY Ternei 33.73 354 ⇑*e*P **P** **14 58 29.6 +0.6**
TEY pmax pmax
comp=N,20nm,1.0s
TEY pmax pmax
comp=Z,30nm,1.0s
SNY Shenyang 33.90 336 ⇓P **P** **14 58 31.6 +1.1**
SNY PP **PP** **14 59 50.6 +3.1**
SNY pmax pmax
comp=Z,25nm,0.9s
SNY LR LR
comp=Z,1μm,18.7s
SNY LR LR
comp=Z,2μm,17.5s
SNY LR LR
comp=Z,3μm,18.2s
KUR Kuril'sk 34.24 9 *e*P P 14 58 26.3 -7.1
KUR *i* PPP PPP 14 59 48.6
KUR pmax pmax
comp=Z,189nm,1.2s
KUR MLR MLR
comp=Z,330nm,16.0s
LYN LuoYang 34.67 316 ⇑ *i*P **P** **14 58 38.4 +1.1**
LYN pP pwP 14 58 51.2 +3.3
LYN pmax pmax
comp=Z,90nm,1.3s
LYN pmax pmax
comp=Z,380nm,4.2s
LYN LR LR
comp=Z,2μm,17.1s
LYN LR LR
comp=Z,960nm,19.2s
LYN LR LR
comp=Z,2μm,19.3s
UBPT Khong Chiam 34.67 280 P **P** **14 58 37.2 -0.4**
ENH Enshi 34.68 308 P **P** **14 58 38.1 +0.6**
CN2 Changchun 34.95 340 *e*P **P** **14 58 40.2 +0.6**
CN2 *e*S **S** **15 04 13.4 +3.4**
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,2μm,19.0s
HNS HongShan 34.98 322 ⇑P **P** **14 58 41.0 +1.1**
HNS S S 15 04 21.3 +11
HNS pmax pmax
comp=Z,77nm,1.0s
HNS LR LR
comp=Z,540nm,18.0s
HNS LR LR
comp=Z,350nm,18.4s
HNS LR LR
comp=Z,530nm,18.3s
YSS Yuzh-Sakhalins 35.48 2 *e*P **P** **14 58 44.0 -0.1**
YSS *e**SP **pP** **14 58 50.7 +1.1**
YSS *e* 15 00 02.3
YSS *e*S **S** **15 04 22.0 +4.0**
YSS *e*SS **SS** **15 07 03.0 +10**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,300nm,5.8s
YSS MLR MLR
comp=N,500nm,15.0s
YSS Yuzh-Sakhalins 35.48 2 P **P** **14 58 43.9 -0.1**
YSS lAmb lAmb 14 58 47.7
comp=Z,45nm,1.0s
YSS Yuzh-Sakhalins 35.48 2 P **P** **14 58 45.4 +1.3**
AS31 Alice Springs 35.51 191 P **P** **14 58 44.1 -0.6**
ASAR Alice Springs 35.51 191 P **P** **14 58 44.9 +0.2**
comp=Z,7.0nm,0.7s,baz=17,slow=13,SNR=55
ASAR PP **PnPn** **15 00 04.3 +0.3**
comp=Z,8.2nm,1.1s,baz=17,slow=10.0,SNR=5.9
ASAR PcP **PcP** **15 01 12.5 -1.3**
comp=Z,2.9nm,1.1s,baz=4.9,slow=4.2,SNR=2.0
ASAR ScP **ScP** **15 05 05.6 +6.9**
comp=Z,0.8nm,0.9s,baz=15,slow=3.8,SNR=3.9
ASAR Alice Springs 35.51 191 P **P** **14 58 43.7 -1.0**
ASAR Alice Springs 35.51 191 P **P** **14 58 43.7 -1.0**
GYA Guiyang 35.55 300 ⇓P **P** **14 58 47.7 +2.5**
GYA PP **PP** **15 00 08.7 +2.6**
GYA PcP **PcP** **15 01 16.2 +2.0**
GYA S **S** **15 04 22.0 +2.0**
GYA pmax pmax
comp=Z,34nm,1.2s
GYA pmax pmax
comp=Z,150nm,3.5s
GYA LR LR
comp=Z,320nm,11.3s
GYA LR LR
comp=Z,520nm,15.1s
GYA LR LR
comp=Z,530nm,18.4s
BJT Baijiatuau 35.94 327 P **P** **14 58 47.7 -0.5**
BJT pmax pmax
comp=Z,111nm,1.1s
BJT Baijiatuau 35.94 327 P **P** **14 58 47.7 -0.5**
BJI Beijing 35.95 327 P **P** **14 58 49.0 +0.7**
BJI pP **pP** **14 58 52.2 -1.6**
BJI PP **PP** **15 00 11.0 +0.8**
BJI pmax pmax
comp=Z,89nm,1.1s
BJI pmax pmax
comp=Z,370nm,3.9s
BJI LR LR
comp=Z,850nm,17.5s
BJI LR LR
comp=Z,980nm,16.9s
BJI LR LR
comp=Z,2μm,17.9s
BNX BinXian 36.12 344 ⇓P **P** **14 58 50.6 +1.0**
BNX pP **pwP** **14 59 02.3 +2.0**
BNX S **S** **15 04 24.8 -3.1**
BNX pmax pmax
comp=Z,130nm,1.0s
BNX pmax pmax
comp=Z,840nm,7.2s
BNX LR LR
comp=Z,2μm,16.4s
BNX LR LR
comp=Z,2μm,20.5s
BNX LR LR
comp=Z,2μm,19.0s
TIY Taiyuan 36.57 321 ⇑P **P** **14 58 55.2 +1.5**
TIY pP **pwP** **14 59 03.4 -0.9**
TIY pmax pmax
comp=Z,71nm,0.5s
TIY pmax pmax
comp=Z,440nm,4.9s
TIY LR LR
comp=Z,460nm,18.2s
TIY LR LR
comp=Z,1μm,18.6s
TIY LR LR
comp=Z,1μm,16.5s
KPJI Karang Pucung 36.85 241 P **P** **14 58 55.3 -1.0**
comp=Z,30nm,1.7s
XAN Xi'an 36.87 313 P **P** **14 58 56.6 +0.3**
XAN pP pP 14 59 00.5 -1.3
XAN S **S** **15 04 42.9 +3.0**
XAN pmax pmax
comp=Z,46nm,1.2s
XAN pmax pmax
comp=Z,330nm,9.5s
XAN LR LR
comp=Z,690nm,16.1s
XAN LR LR
comp=Z,800nm,17.9s
XAN LR LR
comp=Z,1μm,17.9s
UGL Uglegorsk 37.58 1 *e*P **P** **14 59 02.1 +0.1**
UGL pmax pmax
comp=Z,130nm,1.2s
LEM Lembang 37.75 243 P **P** **14 59 03.5 -0.5**
comp=Z,16nm,0.4s,baz=167,slow=16,SNR=4.0
QLP Quilpie 37.89 175 P **P** **14 59 05.8 +1.0**
DSRI Dabo 37.97 254 P **P** **14 59 05.8 0.0**
WRKA Warakurna 38.24 199 P **P** **14 59 08.6 +0.7**
DBJI Dramaga 38.38 244 P **P** **14 59 10.7 +1.5**
comp=Z,22nm,1.1s
RMQ Roma 38.42 169 P **P** **14 59 10.7 +1.4**
KLR Kul'dur 38.48 350 P **P** **14 59 10.7 +1.0**
comp=Z,74nm,0.9s,baz=155,slow=7.8,SNR=128
KLR Kul'dur 38.48 350 *ce*P **P** **14 59 10.6 +1.0**
KLR pmax pmax
comp=Z,91nm,0.9s
KMI Kunming 38.58 296 ⇑P **P** **14 59 07.6 -3.5**
KMI S **S** **15 04 59.6 -6.9**
KMI SS **SS** **15 07 50.8 -5.9**
KMI pmax pmax
comp=Z,200nm,4.5s
KMI LR LR
comp=Z,430nm,16.9s
KMI LR LR
comp=Z,620nm,16.9s
KMI LR LR
comp=Z,650nm,16.6s
PSA00 Pilbara Seismi 38.74 212 P **P** **14 59 09.9 -2.2**
PSA00 Pilbara Seismi 38.74 212 P **P** **14 59 13.3 +1.2**
XLT XiLinHaoTe 38.84 331 ⇑ *i*P **P** **14 59 13.6 +0.8**
XLT PP **PnPn** **15 00 51.9 +7.6**
XLT S **S** **15 05 15.5 +6.0**
XLT sS sS 15 05 20.9 +2.1
XLT pmax pmax
comp=Z,160nm,1.1s
XLT pmax pmax
comp=Z,440nm,4.8s
XLT LR LR
comp=Z,820nm,17.2s
XLT LR LR
comp=Z,1μm,18.1s
INKA Innaminka 38.90 180 P **P** **14 59 14.3 +1.0**
HHC Hu-ho-hao-te 39.08 324 *e*P **P** **14 59 16.2 +1.3**
HHC sP pwP 14 59 24.7 -0.8
HHC S **S** **15 05 16.8 +3.5**
HHC sS sS 15 05 25.9 +3.4
HHC pmax pmax
comp=Z,56nm,1.1s
HHC pmax pmax
comp=Z,410nm,5.2s
HHC LR LR
comp=Z,800nm,15.7s
HHC LR LR
comp=Z,330nm,16.1s
HHC LR LR
comp=Z,770nm,15.9s
BLSI Bandar Lampung 39.20 247 P **P** **14 59 16.4 +0.3**
comp=Z,2μmcomp=Z,40nm,0.4s
KOUNC Koumac, New Ca 39.20 144 P **P** **14 59 17.0 +1.1**
OOD Oodnadatta 39.28 187 P **P** **14 59 16.2 -0.3**
CGJI Cibinong 39.34 245 P **P** **14 59 16.3 -1.0**
comp=Z,46nm,1.2s
TYV Tymovskoe 39.38 2 *e*P **P** **14 59 18.2 +1.1**
TYV *e*S **S** **15 05 22.5 +5.2**
TYV pmax pmax
comp=Z,300nm,1.0s
TYV pmax pmax
comp=Z,202nm,0.8s
TYV smax smax
comp=E,9.0nm,1.7s
TYV smax smax
comp=N,500nm,7.8s
GRNR Gornyy 39.43 356 ⇑ *i*P **P** **14 59 18.4 +0.8**
GRNR *e*S **S** **15 05 24.1 +6.0**
GRNR pmax pmax
comp=E,1.0nm,1.0s
GRNR pmax pmax
comp=Z,30nm,1.1s
CD2 Chengdu 39.46 305 P **P** **14 59 17.5 -0.7**
CD2 PP **PnPn** **15 00 54.4 +2.5**
CD2 S **S** **15 05 24.9 +5.7**
CD2 SS **SS** **15 08 13.1 -0.8**
CD2 pmax pmax
comp=Z,160nm,1.0s
CD2 pmax pmax
comp=Z,280nm,4.7s
CD2 LR LR
comp=Z,80nm,16.1s
CD2 LR LR
comp=Z,620nm,18.0s
CD2 LR LR
comp=Z,820nm,19.1s
DVP Devils Point 39.53 137 P **P** **14 59 20.3 +1.5**
PZH PanZhiHua 39.79 298 ⇑P **P** **14 59 22.6 +1.5**
PZH pP **pP** **14 59 26.1 -0.5**
PZH PcS **PcS** **15 05 12.4 -5.2**
PZH S **S** **15 05 16.5 -7.9**
PZH pmax pmax
comp=Z,30nm,1.3s
PZH pmax pmax
comp=Z,210nm,5.0s
PZH LR LR
comp=Z,920nm,18.4s
PZH LR LR
comp=Z,1μm,17.5s
PZH LR LR
comp=Z,1μm,19.6s
BTO Baotou 39.83 322 *e*P **P** **14 59 23.9 +2.7**
BTO LR LR
comp=Z,4μm,16.5s
BTO LR LR
comp=Z,2μm,17.7s
IPM Ipoh 40.06 263 P **P** **14 59 22.1 -1.2**
IPM Ipoh 40.06 263 P **P** **14 59 23.6 +0.3**
comp=Z,29nm,1.2s
KULM Kulim 40.26 265 P **P** **14 59 23.7 -1.2**
KULM Kulim 40.26 265 P **P** **14 59 25.0 +0.1**
CM31 Chiang Mai Arr 41.08 285 P **P** **14 59 31.6 0.0**
CM31 Chiang Mai Arr 41.08 285 P **P** **14 59 33.7 +2.0**
SNR=16
CM31 P **P** **14 59 33.7 +2.0**
SNR=16
CMAR Chiang Mai Arr 41.08 285 P **P** **14 59 32.9 +1.2**
comp=Z,13nm,0.9s,baz=86,slow=6.2,SNR=66
CMAR PcP **PcP** **15 01 30.9 -0.4**
comp=Z,4.4nm,0.8s,baz=101,slow=1.8,SNR=7.5
CMAR ScP **ScP** **15 05 21.6 +1.6**
comp=Z,0.6nm,0.9s,baz=101,slow=1.8,SNR=3.0
CMAR Chiang Mai Arr 41.08 285 P **P** **14 59 32.0 +0.3**
CMAR 15 01 30.9
CMAR Chiang Mai Arr 41.08 285 P **P** **14 59 31.9 +0.3**
CHTO Chiang Mai 41.10 286 P **P** **14 59 32.1 +0.2**
CHTO pmax pmax
comp=Z,23nm,1.4s
CHTO Chiang Mai 41.10 286 P **P** **14 59 32.0 +0.2**
CHTO Chiang Mai 41.10 286 P **P** **14 59 33.3 +1.4**
CHTO P **P** **14 59 33.3 +1.4**
CHTO Chiang Mai 41.10 286 P **P** **14 59 33.2 +1.4**
LZH Lanzhou 41.51 313 *e*P **P** **14 59 36.3 +1.1**
LZH sP pwP 14 59 45.2 -0.6
LZH *e*S **S** **15 05 50.6 +0.8**
LZH SS **SS** **15 08 48.9 -5.8**
LZH pmax pmax
comp=Z,57nm,1.1s
LZH pmax pmax
comp=Z,310nm,5.2s
LZH LR LR
comp=Z,760nm,14.1s
LZH LR LR
comp=Z,370nm,14.1s
LZH LR LR
comp=Z,1μm,17.1s
NOUC Port Laguerre 41.58 143 P **P** **14 59 37.2 +1.6**
DZM Mont Dzumac 41.64 143 P **P** **14 59 36.3 +0.1**
comp=Z,42nm,1.0s,baz=12,slow=8.8,SNR=10
DZM Mont Dzumac 41.64 143 *e*P **P** **14 59 37.7 +1.5**
comp=Z,153nm,1.3s
DZM *e*S **S** **15 05 56.2 +4.4**
comp=Z,632nm,27.6s
DZM *e*LR LR 15 11 01.4
comp=Z,1μm,22.8s,baz=299
DZM Mont Dzumac 41.64 143 P **P** **14 59 37.8 +1.6**
DZM lAmb lAmb 14 59 45.4
comp=Z,105nm,1.2s
DZM Mont Dzumac 41.64 143 P **P** **14 59 38.5 +2.3**
HIA Hailar 41.65 339 *c i*P **P** **14 59 36.6 +0.7**
HIA pmax pmax
comp=Z,48nm,1.0s
HIA Hailar 41.65 339 P **P** **14 59 36.4 +0.5**
NKL Nikolayevsk 41.65 360 *e*P **P** **14 59 35.7 -0.1**
NKL *e*S S 15 05 41.6 -9.4
NKL pmax pmax
comp=N,1.0nm,0.7s
NKL pmax pmax
comp=E,4.0nm,0.7s
NKL pmax pmax
comp=Z,109nm,1.0s
NKL pmax pmax
comp=Z,73nm,5.0s
NKL MLR MLR
comp=E,154nm,14.0s
NKL MLR MLR
comp=N,1.0nm,15.0s
NKL MLR MLR
comp=Z,270nm,17.0s
LCRK Leigh Creek 41.68 183 P **P** **14 59 36.8 +0.5**
YATNC Mamie plateau, 41.89 143 P **P** **14 59 40.7 +2.5**
MULG Mulgathing 41.95 189 P **P** **14 59 39.5 +0.9**
OUENC Ouen Island, N 42.14 143 P **P** **14 59 41.9 +1.7**
MNSI Mandailing Nat 42.36 259 P **P** **14 59 42.7 +0.5**
comp=Z,29nm,0.9s
PSI Prapat 42.48 262 P **P** **14 59 42.7 -0.6**
comp=Z,29nm,0.9s,baz=67,slow=1.5,SNR=18
PSI PcP **PcP** **15 01 35.9 -0.3**
comp=Z,6.5nm,0.5s,baz=217,slow=8.5,SNR=2.3
RPSI Rantau Prapat 42.50 261 P **P** **14 59 42.7 -0.7**
ARMA Armidale 42.83 166 P **P** **14 59 45.2 -0.6**
ARMA Armidale 42.83 166 P **P** **14 59 46.8 +0.9**
CMSA Cobar Meteorol 42.93 174 P **P** **14 59 47.8 +1.3**
STKA Stephens Creek 43.03 179 P **P** **14 59 46.9 -0.4**
comp=Z,19nm,0.9s,baz=351,slow=8.3,SNR=30
STKA PP **PP** **15 01 27.9 +0.4**
comp=Z,11nm,1.1s,baz=355,slow=11,SNR=4.0
STKA Stephens Creek 43.03 179 *i* P **P** **14 59 47.4 +0.1**
STKA Stephens Creek 43.03 179 P **P** **14 59 46.5 -0.8**
STKA Stephens Creek 43.03 179 P **P** **14 59 47.8 +0.5**
KCSI Kotacane, Aceh 43.43 263 P **P** **14 59 50.3 -0.6**
comp=Z,1μmcomp=Z,111nm,1.2s
ZEA Zeya 43.62 348 *e*P **P** **14 59 52.4 +0.6**
ZEA *e* 15 01 42.1
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,60nm,1.1s
FORT Forrest 43.71 196 P **P** **14 59 52.1 -0.7**
FORT lAmb lAmb 14 59 54.5
comp=Z,50nm,0.9s

FORT Forrest 43.71 196 P **P** 14 59 55.4 +2.6
PEA0B Petropavlovsk- 43.73 15 P **P** 14 59 52.4 -0.4
PEA0B pmax pmax
comp=Z,22nm,1.2s
PEA0B Petropavlovsk- 43.73 15 P **P** 14 59 52.4 -0.4
PETK Petropavlovsk- 43.73 15 P **P** 14 59 52.9 +0.1
comp=Z,6.5nm,0.9s,baz=192,slow=5.6,SNR=4.1
PETK Petropavlovsk- 43.73 15 P **P** 14 59 52.1 -0.7
PETK Petropavlovsk- 43.73 15 P **P** 14 59 52.1 -0.7
PET Petropavlovsk 43.90 15 *e*P **P** 14 59 54.2 +0.1
PET *e* 15 01 39.8
PET *e*S **S** **15 06 24.5 +0.4**
PET *e* 15 09 47.4
PET pmax pmax
comp=Z,34nm,1.1s
PET pmax pmax
comp=Z,200nm,11.9s
PET MLR MLR
comp=Z,700nm,18.0s
PET Petropavlovsk 43.90 15 P **P** 14 59 53.5 -0.6
PET Petropavlovsk 43.90 15 P **P** 14 59 54.8 +0.7
comp=Z,94nm,1.3s
GSI Gunungsitoli 44.15 260 P **P** 14 59 55.0 -1.7
GSI IAmb IAmb 14 59 56.3
comp=Z,57nm,1.2s
GSI Gunungsitoli 44.15 260 P **P** 14 59 56.6 -0.1
comp=Z,42nm,1.2s
GSI Gunungsitoli 44.15 260 P **P** 14 59 56.6 -0.1
comp=Z,43nm,1.2s
BBOO Buckleboo 44.20 186 P **P** 14 59 56.1 -0.7
BBOO Buckleboo 44.20 186 P **P** 14 59 58.0 +1.3
NAPP Napperby 44.40 183 P **P** 14 59 59.6 +1.3
comp=Z,26nm,1.0s
HTT Hallett 44.61 182 P **P** **15 00 01.0 +0.9**
GTA Gaotai 45.84 315 ⇑P **P** **15 00 10.8 +0.8**
GTA pP pP 15 00 15.7 0.0
GTA sP pwP 15 00 19.8 -0.9
GTA PcP **PcP** **15 01 48.7 +1.5**
GTA PP **PP** **15 02 00.1 +2.5**
GTA S **S** **15 06 55.4 +2.3**
GTA sS sS 15 07 03.8 +1.4
GTA pmax pmax
comp=Z,82nm,1.2s
GTA pmax pmax
comp=Z,68nm,6.0s
GTA LR LR
comp=Z,420nm,20.7s
GTA LR LR
comp=Z,570nm,16.7s
GTA LR LR
comp=Z,750nm,17.5s
ULN Ulaanbaatar 46.10 329 *ce*P **P** **15 00 13.0 +1.1**
ULN pmax pmax
comp=Z,76nm,1.1s
ULN Ulaanbaatar 46.10 329 P **P** **15 00 12.2 +0.3**
ULN Ulaanbaatar 46.10 329 P **P** **15 00 13.4 +1.4**
SONM Songino Array 46.42 328 P **P** **15 00 15.2 +0.9**
comp=Z,28nm,1.1s,baz=139,slow=8.2,SNR=61
SONM PcP **PcP** **15 01 48.4 -0.6**
comp=Z,3.6nm,0.9s,baz=128,slow=2.4,SNR=2.1
SONM Songino Array 46.42 328 P **P** **15 00 14.9 +0.5**
SONM pmax pmax
comp=Z,77nm,1.3s
SONM Songino Array 46.42 328 P **P** **15 00 14.9 +0.5**
MSVF Nonsavu 46.72 128 P **P** **15 00 16.5 -0.5**
comp=Z,13nm,0.7s,baz=244,slow=10,SNR=6.5
MSVF LR LR 15 18 00.7
comp=Z,1μm,18.9s,baz=328,slow=34
MSVF Nonsavu 46.72 128 *i* P **P** **15 00 17.4 +0.3**
MSVF pmax pmax
comp=Z,51nm,1.2s
MSVF Nonsavu 46.72 128 P **P** **15 00 16.8 -0.3**
MSVF Nonsavu 46.72 128 P **P** **15 00 19.6 +2.5**
MORW Morawa 46.85 210 P **P** **15 00 17.0 -0.8**
MORW IAmb IAmb 15 00 23.8
comp=Z,57nm,1.3s
MORW Morawa 46.85 210 P **P** **15 00 18.6 +0.8**
CAN Canberra 47.09 171 P **P** **15 00 19.2 -0.4**
CAN pmax pmax
comp=Z,55nm,1.3s
CAN Canberra 47.09 171 P **P** **15 00 19.2 -0.4**
CAN IAmb IAmb 15 00 29.5
comp=Z,55nm,1.3s
CAN Canberra 47.09 171 P **P** **15 00 21.1 +1.5**
BLDU Ballidu 47.81 208 P **P** **15 00 25.9 +0.6**
ARPS Mount Arapiles 47.91 179 P **P** **15 00 27.4 +1.5**
KLBR Kellerberrin 48.16 207 P **P** **15 00 30.6 +2.6**
GOMU GeErMu 48.28 309 P **P** **15 00 30.3 +0.9**
GOMU pP pP 15 00 34.7 -0.4
GOMU sP sP 15 00 38.1 +0.7
GOMU PP **PP** **15 02 23.2 +1.3**
GOMU S **S** **15 07 24.2 -4.3**
GOMU pmax pmax
comp=Z,28nm,1.0s
GOMU pmax pmax
comp=Z,190nm,4.8s
GOMU LR LR
comp=Z,520nm,18.3s
GOMU LR LR
comp=Z,280nm,18.3s
GOMU LR LR
comp=Z,260nm,18.1s
SHL Shillong 48.32 294 P **P** **15 00 28.2 -1.4**
SHL pmax pmax
comp=Z,32nm,1.3s
SHL Shillong 48.32 294 P **P** **15 00 28.2 -1.4**
SHL IAmb IAmb 15 00 31.3
comp=Z,32nm,1.3s
SHL Shillong 48.32 294 P **P** **15 00 30.1 +0.5**
SNR=7.6
MA2 Magadan 48.65 7 P **P** **15 00 31.0 -0.3**
comp=Z,18nm,0.9s,baz=188,slow=6.7,SNR=16
MA2 Magadan 48.65 7 *ce*P **P** **15 00 31.5 +0.1**
MA2 pmax pmax
comp=Z,50nm,1.3s
MA2 Magadan 48.65 7 P **P** **15 00 30.9 -0.5**
MA2 IAmb IAmb 15 00 32.6
comp=Z,39nm,1.1s
MA2 Magadan 48.65 7 P **P** **15 00 31.7 +0.3**
BRAT Ballarat 48.77 177 P **P** **15 00 34.9 +2.4**
comp=Z,15nm,1.1s
TOO Toolangi 48.89 175 P **P** **15 00 35.7 +2.2**
MUN Mundaring 49.18 208 P **P** **15 00 36.6 +0.8**
ZAK Zakamensk 49.61 329 *e*P **P** **15 00 39.3 +0.3**
ZAK pmax pmax
comp=Z,202nm,1.2s
LSA Lhasa 49.62 299 P **P** **15 00 41.4 +1.6**
LSA pmax pmax
comp=Z,25nm,1.3s
BOD Bodaibo 50.67 342 *e*P **P** **15 00 46.5 -0.3**
BOD pmax pmax
comp=Z,33nm,1.1s
YAK Yakutsk 51.21 353 P **P** **15 00 50.7 0.0**
comp=Z,86nm,0.8s,baz=153,slow=1.9,SNR=66
YAK Yakutsk 51.21 353 *c i*P **P** **15 00 50.5 -0.2**
YAK *e**PP **sP** **15 00 59.9 +1.3**
YAK *e* 15 02 12.2
YAK *e* 15 02 47.0
YAK *e*S **S** **15 08 04.9 -2.8**
YAK *e**SS sS 15 08 27.8 +11
YAK *e* 15 10 36.3
YAK *e*SS **SS** **15 11 41.6 -1.6**
YAK *e*SSS SSS 15 13 18.0
YAK pmax pmax
comp=Z,198nm,0.9s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=N,75nm,1.0s
YAK pmax pmax
comp=Z,67nm,2.8s
YAK pmax pmax
comp=N,80nm,2.6s
YAK pmax pmax
comp=E,32nm,2.7s
YAK smax smax
comp=N,104nm,3.5s
YAK smax smax
comp=E,119nm,3.5s
YAK Yakutsk 51.21 353 P **P** **15 00 50.0 -0.7**
MOY Mondy 51.54 329 *e*P **P** **15 00 54.4 +0.8**
MOY pmax pmax
comp=Z,100nm,1.1s
SEY Seymchan 52.11 7 P **P** **15 00 57.6 +0.1**
comp=Z,28nm,0.9s,baz=186,slow=7.3

SEY Seymchan 52.11 7 *ce*P **P** **15 00 58.0 +0.5**
SEY pmax pmax
comp=Z,50nm,1.0s
TAPN Taplejung 52.25 296 *e*P **P** **15 01 00.2 +0.7**
ODAN Odare 52.48 295 *e*P **P** **15 01 01.8 +0.6**
KIWB Kanaga Island 52.67 31 P **P** **15 01 01.2 -0.6**
ADK Adak 52.93 32 P **P** **15 01 03.2 -0.5**
ADK pmax pmax
comp=Z,76nm,1.3s
ADK Adak 52.93 32 P **P** **15 01 03.2 -0.5**
ADK IAmb IAmb 15 01 04.9
comp=Z,76nm,1.3s
GUN Gumba 53.93 296 *e*P **P** **15 01 12.6 +0.6**
comp=Z,112nm,1.1s
PKI Pulchoki 54.31 296 *e*P **P** **15 01 14.8 +0.1**
comp=Z,97nm,1.4s
KKN Kakani 54.45 296 *e*P **P** **15 01 15.7 +0.1**
comp=Z,89nm,1.4s
DMN Daman 54.58 296 *e*P **P** **15 01 16.9 +0.3**
comp=Z,108nm,1.4s
GKN Gorkha 55.03 296 *e*P **P** **15 01 20.0 +0.3**
DANN Dangsing 55.84 297 *e*P **P** **15 01 25.8 +0.1**
comp=Z,132nm,1.3s
WMQ Urumqi 55.91 316 *e*P **P** **15 01 27.1 +1.4**
WMQ pP pP 15 01 30.5 -1.0
WMQ sP sP 15 01 34.7 +1.0
WMQ pmax pmax
comp=Z,100nm,1.1s
WMQ pmax pmax
comp=Z,430nm,4.5s
WMQ LR LR
comp=Z,780nm,16.1s
WMQ LR LR
comp=Z,620nm,17.7s
WMQ LR LR
comp=Z,570nm,22.1s
KOLN Koldanda 55.92 296 *e*P **P** **15 01 26.6 +0.4**
comp=Z,61nm,1.1s
PYUN Piuthan 56.49 296 *e*P **P** **15 01 30.6 +0.3**
comp=Z,107nm,1.1s
NIKH Nikolski High 57.62 33 P **P** **15 01 36.5 -1.0**
baz=243
SPIA Saint Paul Isl 58.93 29 P **P** **15 01 45.9 -0.7**
baz=240
ZSN Zaisan 58.94 319 *e*P **P** **15 01 45.9 -1.1**
ZSN pmax pmax
comp=Z,12nm,1.1s
ZSN Zaisan 58.94 319 *e*P **P** **15 01 45.9 -1.1**
comp=Z,12nm,1.1s,baz=319
BILL Bilibino 58.99 11 *d i*P **P** **15 01 46.0 -0.9**
BILL *e* 15 02 42.0
BILL *e* 15 03 57.6
BILL *e*S S 15 10 09.7 +18
BILL pmax pmax
comp=Z,53nm,1.0s
BILL MLR MLR
comp=Z,173nm,17.0s
BILL Bilibino 58.99 11 P **P** **15 01 46.1 -0.8**
UNV Unalaska Valle 59.26 33 P **P** **15 01 48.0 -1.0**
UNV Unalaska Valle 59.26 33 P **P** **15 01 48.6 -0.4**
baz=245
PALK Pallekele 59.47 272 P **P** **15 01 50.3 -0.8**
PALK pmax pmax
comp=Z,36nm,1.3s
PALK Pallekele 59.47 272 P **P** **15 01 50.3 -0.8**
PALK IAmb IAmb 15 01 53.4
comp=Z,36nm,1.3s
BKZ Black Stump Fm 60.23 149 P **P** **15 01 54.2 -1.7**
MK31 Makanchi Array 60.43 318 *c i*P **P** **15 01 57.1 -0.1**
MK31 Makanchi Array 60.43 318 P **P** **15 01 57.2 0.0**
MK31 IAmb IAmb 15 01 59.3
comp=Z,34nm,1.2s
MKAR Makanchi Array 60.43 318 P **P** **15 01 57.8 +0.6**
comp=Z,12nm,0.8s,baz=99,slow=7.7,SNR=79
MKAR Makanchi Array 60.43 318 P **P** **15 01 57.1 -0.1**
MKAR Makanchi Array 60.43 318 P **P** **15 01 57.1 -0.1**
HYBB Hyderabad (bro 60.48 284 *e*P **P** **15 01 58.9 +0.9**
HYBB *e*PP **PP** **15 04 10.9 -0.6**
HYBB *e*PcS **PcS** **15 06 44.6 -1.0**
HYBB *e*S **S** **15 10 14.0 +1.3**
HYBB *e*ScS **ScS** **15 11 48.2 0.0**
THZ Tophouse 60.53 153 P **P** **15 01 57.7 -0.2**
MAKZ Makanchi 60.64 318 P **P** **15 01 58.8 +0.1**
MAKZ pmax pmax
comp=Z,48nm,1.2s
MAKZ Makanchi 60.64 318 P **P** **15 01 58.8 +0.1**
MAKZ IAmb IAmb 15 02 00.8
comp=Z,48nm,1.2s
TIXI Tiksi 60.66 356 P **P** **15 01 57.3 -1.0**
comp=Z,11nm,0.9s,baz=89,slow=24,SNR=42
TIXI Tiksi 60.66 356 *ce*P **P** **15 01 57.8 -0.5**
TIXI pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 60.66 356 P **P** **15 01 57.6 -0.7**
LTZ Lake Taylor 61.08 154 P **P** **15 02 01.2 -0.3**
LTZ IAmb IAmb 15 03 28.0
comp=Z,52nm,1.4s
ZAA0 Zalesovo Array 61.20 326 P **P** **15 02 01.8 -0.5**
ZAA0 IAmb IAmb 15 02 03.5
comp=Z,22nm,1.0s
ZALV Zalesovo Beam 61.20 326 P **P** **15 02 02.0 -0.2**
comp=Z,7.6nm,0.5s,baz=104,slow=6.3,SNR=49
ZALV LR LR 15 29 31.9
comp=Z,888nm,18.6s,baz=110,slow=37
ZALV Zalesovo Beam 61.20 326 P **P** **15 02 01.7 -0.6**
ZALV Zalesovo Beam 61.20 326 P **P** **15 02 01.7 -0.6**
BFZ Birch Farm 61.26 150 P **P** **15 02 01.7 -1.1**
FALS False Pass 61.33 33 P **P** **15 02 02.6 -0.5**
baz=247
RPZ Rata Peaks 61.34 155 P **P** **15 02 02.6 -0.6**
comp=Z,22nm,0.8s,baz=168,slow=2.1,SNR=7.3
RPZ Rata Peaks 61.34 155 P **P** **15 02 02.7 -0.6**
SHLS Shalkode 61.53 313 *e*P **P** **15 02 01.6 -3.2**
SHLS pmax pmax
comp=Z,21nm,1.4s
SHLS Shalkode 61.53 313 *e*P **P** **15 02 01.7 -3.2**
comp=Z,21nm,1.4s,baz=313
UZB Uzynbulak 61.84 313 *e*P **P** **15 02 06.2 -0.8**
UZB pmax pmax
comp=Z,35nm,1.5s
UZB Uzynbulak 61.84 313 *e*P **P** **15 02 06.2 -0.8**
comp=Z,35nm,1.5s,baz=313
GAMB Gambell 61.92 22 P **P** **15 02 07.0 +0.1**
baz=235
KPKS Kokpek 62.14 313 *e*P **P** **15 02 07.4 -1.5**
KPKS pmax pmax
comp=Z,32nm,1.5s
KPKS Kokpek 62.14 313 *e*P **P** **15 02 07.5 -1.5**
comp=Z,32nm,1.5s,baz=313
SATY Saty 62.27 313 *e*P **P** **15 02 08.3 -1.5**
SATY pmax pmax
comp=Z,31nm,1.6s
SATY Saty 62.27 313 *e*P **P** **15 02 08.3 -1.5**
comp=Z,31nm,1.6s,baz=313
TDK Taldyqorghan 62.64 315 *e*P **P** **15 02 11.7 -0.5**
TDK Taldyqorghan 62.64 315 *e*P **P** **15 02 11.8 -0.5**
baz=315
SEM Semipalatinsk 62.72 321 *e*P **P** **15 02 10.4 -2.4**
SEM pmax pmax
comp=Z,23nm,1.2s
SEM Semipalatinsk 62.72 321 *e*P **P** **15 02 10.5 -2.4**
comp=Z,23nm,1.2s,baz=321
ARXS Arharly 62.90 314 *e*P **P** **15 02 14.4 +0.4**
KDJ Kajisay 63.00 312 P **P** **15 02 15.4 +0.6**
KDJ pmax pmax
comp=Z,27nm,0.9s
KDJ Kajisay 63.00 312 P **P** **15 02 15.4 +0.6**
KDJ IAmb IAmb 15 02 17.7
comp=Z,27nm,0.9s
SDPT Sand Point 63.08 33 P **P** **15 02 14.5 -0.3**
SDPT Sand Point 63.08 33 P **P** **15 02 15.1 +0.2**
baz=250
MDOK Medeo 63.26 313 *e*P **P** **15 02 15.0 -1.5**
MDOK Medeo 63.26 313 *e*P **P** **15 02 15.1 -1.5**
baz=313
PCHI Peechi 63.27 276 ⇑*e*P **P** **15 02 17.6 +0.8**
TNSS Tian-Shan 63.32 312 *e*P **P** **15 02 16.9 -0.3**
TNSS Tian-Shan 63.32 312 *e*P **P** **15 02 16.1 -1.1**
baz=312
AAA Alma-Ata 63.37 313 *e*P **P** **15 02 16.5 -0.6**
AAA pmax pmax
comp=Z,30nm,1.0s
AAA Alma-Ata 63.37 313 *e*P **P** **15 02 16.5 -0.6**
comp=Z,30nm,1.0s,baz=313
CHKK Chushkaly 63.43 313 *e*P **P** **15 02 16.7 -0.7**

CHKK Chushkaly 63.43 313 *e*P **P** **15 02 16.8 -0.7**
baz=313
KSH Kashi 63.53 308 P **P** **15 02 21.2 +2.9**
KSH pP sP 15 02 26.0 -0.4
KSH sP pwP 15 02 32.2 +3.0
KSH S **S** **15 10 54.8 +3.9**
KSH SS **SS** **15 15 05.9 +7.7**
KSH pmax pmax
comp=Z,29nm,1.7s
KSH LR LR
comp=Z,400nm,16.5s
KSH LR LR
comp=Z,410nm,19.6s
KSH LR LR
comp=Z,750nm,20.0s
KURK Kurchatov 63.81 321 *ce*P **P** **15 02 19.8 +0.1**
KURK pmax pmax
comp=Z,137nm,1.3s
KURK Kurchatov 63.81 321 P **P** **15 02 19.9 +0.2**
KURK Kurchatov 63.81 321 P **P** **15 02 20.2 +0.5**
KURBB Kurchatov Arra 63.84 321 P **P** **15 02 20.0 0.0**
comp=Z,64nm,1.1s,baz=102,slow=6.8,SNR=98
KURBB PP **PP** **15 04 37.6 -2.8**
comp=Z,5.6nm,1.1s,baz=109,slow=9.0,SNR=4.2
KURBB LR LR 15 31 40.9
comp=Z,823nm,18.8s,baz=80,slow=38
BOOM Boomskoye usch 63.96 312 P **P** **15 02 21.8 +0.6**
BOOM pmax pmax
comp=Z,27nm,1.1s
BOOM Boomskoye usch 63.96 312 P **P** **15 02 21.8 +0.6**
BOOM IAmb IAmb 15 02 23.2
comp=Z,26nm,1.1s
TNA Tin City 64.26 21 P **P** **15 02 22.3 -0.1**
baz=238
TKM2 Tokmak 2 64.28 312 P **P** **15 02 23.8 +0.5**
SNR=16
ANM Nome 64.69 23 P **P** **15 02 25.5 +0.2**
ANM pmax pmax
comp=Z,17nm,0.9s
ANM Nome 64.69 23 P **P** **15 02 25.5 +0.2**
ANM Nome 64.69 23 P **P** **15 02 25.4 +0.1**
baz=241,SNR=7.8
KBK Karagaybulak 64.71 312 P **P** **15 02 26.8 +0.7**
SNR=14
POO Poona 64.87 285 *ex* **P** **15 02 23.0 -4.4**
CHMS Chumysh 64.90 312 P **P** **15 02 27.5 +0.4**
SNR=17
UCH Uchtor 64.97 311 P **P** **15 02 29.3 +1.2**
SNR=43
AAK Ala-Archa 65.04 312 P **P** **15 02 28.6 +0.4**
SNR=13
AAK Ala-Archa 65.04 312 P **P** **15 02 28.0 -0.2**
comp=Z,7.1nm,0.9s,baz=109,slow=7.7,SNR=20
AAK Ala-Archa 65.04 312 *ce*P **P** **15 02 28.8 +0.6**
AAK pmax pmax
comp=Z,18nm,1.3s
AAK Ala-Archa 65.04 312 P **P** **15 02 28.0 -0.2**
AAK Ala-Archa 65.04 312 P **P** **15 02 28.6 +0.4**
AAK Ala-Archa 65.04 312 *i* P **P** **15 02 28.0 -0.2**
SNR=18
SGDS Sogindy 65.05 313 *e*P **P** **15 02 26.8 -1.4**
SGDS pmax pmax
comp=Z,16nm,1.8s
SGDS Sogindy 65.05 313 *e*P **P** **15 02 26.9 -1.3**
comp=Z,16nm,1.8s,baz=313
USP Ospenovka 65.12 312 P **P** **15 02 28.9 +0.3**
SNR=14
NIL Nilore 65.22 302 P **P** **15 02 29.2 -0.2**
NIL pmax pmax
comp=Z,71nm,1.0s
NIL Nilore 65.22 302 P **P** **15 02 29.2 -0.2**
AML Almayashu 65.56 311 P **P** **15 02 32.9 +1.0**
SNR=30
AML Almayashu 65.56 311 *i* P **P** **15 02 32.4 +0.5**
SNR=30
EKS2 Erkin-Say 65.57 312 P **P** **15 02 32.0 +0.4**
SNR=16
BTLS Baital 65.69 314 *e*P **P** **15 02 30.7 -1.5**
BTLS pmax pmax
comp=Z,25nm,1.7s
BTLS Baital 65.69 314 *e*P **P** **15 02 30.7 -1.5**
comp=Z,25nm,1.7s,baz=314
CHIR Chirikof Islan 65.84 34 P **P** **15 02 33.2 +0.2**
baz=254
DRK Karamyk 66.74 308 P **P** **15 02 39.5 +0.1**
SII Sitkinak Islan 66.82 33 P **P** **15 02 39.0 -0.2**
baz=255
NRIK Noril'sk 66.97 342 P **P** **15 02 39.8 -0.1**
comp=Z,43nm,1.0s,baz=116,slow=7.1,SNR=45
NRIK LR LR 15 31 03.0
comp=Z,969nm,20.9s,baz=128,slow=35
NRIK Noril'sk 66.97 342 P **P** **15 02 39.2 -0.7**
N18K Kilae Creek 67.14 28 P **P** **15 02 41.3 +0.2**
N18K IAmb IAmb 15 02 42.7
comp=Z,18nm,0.9s
N18K Kilae Creek 67.14 28 P **P** **15 02 41.4 +0.2**
baz=252,SNR=5.7
O18K Koktuh Hills 67.21 29 P **P** **15 02 41.4 -0.3**
O18K IAmb IAmb 15 02 42.9
comp=Z,35nm,0.9s
O18K Koktuh Hills 67.21 29 P **P** **15 02 41.7 0.0**
baz=253
RDOG Red Dog Mine 67.23 20 P **P** **15 02 41.3 -0.3**
RDOG IAmb IAmb 15 02 42.8
comp=Z,21nm,1.0s
RDOG Red Dog Mine 67.23 20 P **P** **15 02 41.5 -0.1**
baz=242,SNR=15
BRZS Berezniki 67.38 319 *e*P **P** **15 02 41.1 -1.8**
BRZS pmax pmax
comp=Z,23nm,1.7s
BRZS Berezniki 67.38 319 *e*P **P** **15 02 41.1 -1.8**
comp=Z,23nm,1.7s,baz=320
DZA Taraz 67.38 312 *e*P **P** **15 02 42.2 -0.8**
DZA Taraz 67.38 312 *e*P **P** **15 02 42.3 -0.8**
baz=312
SVW2 Sparrevohn 67.42 28 P **P** **15 02 43.0 +0.1**
SVW2 IAmb IAmb 15 02 44.3
comp=Z,21nm,1.0s
OHAK Old Harbor 67.46 32 P **P** **15 02 43.4 +0.2**
baz=256
BTK Batken 67.54 309 P **P** **15 02 44.0 -0.2**
BTK pmax pmax
comp=Z,55nm,1.5s
BTK Batken 67.54 309 P **P** **15 02 44.0 -0.2**
BTK IAmb IAmb 15 02 46.1
comp=Z,55nm,1.4s
O19K Port Alsworth 67.74 29 P **P** **15 02 44.2 -0.7**
O19K IAmb IAmb 15 02 46.0
comp=Z,32nm,1.1s
O19K Port Alsworth 67.74 29 P **P** **15 02 44.7 -0.2**
baz=253
TTA Tatalina 67.81 26 P **P** **15 02 45.3 -0.1**
TTA pmax pmax
comp=Z,11nm,1.2s
TTA Tatalina 67.81 26 P **P** **15 02 45.3 -0.1**
TTA Tatalina 67.81 26 P **P** **15 02 45.4 -0.1**
baz=251
N19K Bonanza Creek 67.84 29 P **P** **15 02 45.8 +0.1**
N19K IAmb IAmb 15 02 47.2
comp=Z,22nm,0.8s
N19K Bonanza Creek 67.84 29 P **P** **15 02 45.2 -0.5**
baz=253,SNR=6.8
GAR Garm 67.86 307 P **P** **15 02 45.6 -0.7**
KDAK Kodiak Island 67.97 32 P **P** **15 02 46.6 +0.2**
KDAK pmax pmax
comp=Z,131nm,1.5s
KDAK Kodiak Island 67.97 32 P **P** **15 02 46.6 +0.2**
KDAK Kodiak Island 67.97 32 P **P** **15 02 46.6 +0.2**
baz=256
KK31 Karatay Array 68.00 312 P **P** **15 02 47.4 +0.4**
KK31 pmax pmax
comp=Z,54nm,1.6s
KK31 Karatay Array 68.00 312 P **P** **15 02 47.4 +0.4**
KK31 IAmb IAmb 15 02 48.7
comp=Z,54nm,1.6s
KKAR Karatay Array 68.00 312 P **P** **15 02 47.2 +0.2**
KKAR Karatay Array 68.00 312 P **P** **15 02 47.2 +0.2**
GCSA Galena City Sc 68.08 24 P **P** **15 02 46.7 -0.2**
baz=249
L19K White Mountain 68.08 27 P **P** **15 02 46.9 -0.2**
L19K IAmb IAmb 15 02 48.6
comp=Z,22nm,1.0s
L19K White Mountain 68.08 27 P **P** **15 02 47.1 0.0**
baz=252,SNR=8.5
M19K Big River Lodg 68.21 27 P **P** **15 02 48.0 +0.1**
IUG Iuzhnay 68.28 311 *e*P **P** **15 02 47.3 -1.5**

IUG	**Iuzhnay**	**68.28**	**311**	*e*P		**P**	**15 02 47.4**	**-1.5**
	baz=311									
RSO	**Redoubt South**	**68.56**	**29**	P		**P**	**15 02 49.3**	**-1.1**
L20K	**Farewell, AK**	**68.61**	**27**	P		**P**	**15 02 50.7**	**+0.3**
	baz=253									
KBL	**Kabul**	**68.73**	**303**	P		**P**	**15 02 50.8**	**-1.1**
KBL				pmax		pmax				
	comp=Z,17nm,1.0s									
KBL	**Kabul**	**68.73**	**303**	P		**P**	**15 02 50.8**	**-1.1**
KBL	**Kabul**	**68.73**	**303**	P		**P**	**15 02 52.0**	**+0.1**
	SNR=13									
CHGR	**Chuyangaron**	**68.75**	**307**	P		**P**	**15 02 50.0**	**-1.8**
CHGR				pmax		pmax				
	comp=Z,87nm,1.0s									
CHGR	**Chuyangaron**	**68.75**	**307**	P		**P**	**15 02 51.0**	**-0.8**
K20K	**Telida**	**68.78**	**26**	P		**P**	**15 02 51.8**	**+0.3**
K20K				IAmb		IAmb	15 02 53.3			
	comp=Z,21nm,1.0s									
K20K	**Telida**	**68.78**	**26**	P		**P**	**15 02 51.8**	**+0.3**
	baz=252									
HOM	**Homer**	**68.90**	**30**	P		**P**	**15 02 52.7**	**+0.5**
	baz=256									
J20K	**Nowinta River**	**69.00**	**25**	P		**P**	**15 02 52.9**	**+0.1**
J20K				IAmb		IAmb	15 02 54.6			
	comp=Z,31nm,0.9s									
J20K	**Nowinta River**	**69.00**	**25**	P		**P**	**15 02 53.2**	**+0.5**
	baz=252,SNR=18									
CNPM	**China Poot**	**69.07**	**30**	P		**P**	**15 02 52.6**	**-0.7**
BVAR	**Borovoye Array**	**69.27**	**322**	P		**P**	**15 02 54.8**	**+0.2**
	comp=Z,36nm,1.0s									
BVAR				PP		**PP**	**15 05 27.0**	**-0.7**
BRLK	**Bradley Lake**	**69.30**	**30**	P		**P**	**15 02 53.4**	**-1.3**
BRLK				IAmb		IAmb	15 02 54.8			
	comp=Z,36nm,0.9s									
BRVK	**Borovoye**	**69.34**	**323**	*ce*P		**P**	**15 02 55.1**	**0.0**
BRVK				pmax		pmax				
	comp=Z,71nm,1.3s									
BRVK	**Borovoye**	**69.34**	**323**	P		**P**	**15 02 54.4**	**-0.7**
BRSE	**Bradley Lake S**	**69.36**	**30**	P		**P**	**15 02 54.4**	**-0.7**
	baz=257									
PPLA	**Purkeypile**	**69.47**	**27**	P		**P**	**15 02 55.3**	**-0.6**
PPLA				IAmb		IAmb	15 03 24.2			
	comp=Z,30nm,1.2s									
PPLA	**Purkeypile**	**69.47**	**27**	P		**P**	**15 02 55.8**	**-0.1**
	baz=254									
CAST	**Castle Rocks**	**69.66**	**26**	P		**P**	**15 02 56.5**	**-0.4**
CAST				IAmb		IAmb	15 02 58.0			
	comp=Z,34nm,0.9s									
CAST	**Castle Rocks**	**69.66**	**26**	P		**P**	**15 02 56.9**	**0.0**
	baz=254,SNR=22									
CHUM	**Lake Minchumin**	**69.69**	**26**	P		**P**	**15 02 57.2**	**+0.2**
	baz=254,SNR=11									
IMAR	**Indian Mountai**	**69.73**	**23**	P		**P**	**15 02 57.1**	**-0.1**
H21K	**Melozitna Rive**	**70.00**	**24**	P		**P**	**15 02 59.0**	**+0.1**
H21K				IAmb		IAmb	15 03 00.6			
	comp=Z,28nm,0.9s									
H21K	**Melozitna Rive**	**70.00**	**24**	P		**P**	**15 02 59.5**	**+0.6**
	baz=253,SNR=27									
O22K	**Cooper Landing**	**70.03**	**30**	P		**P**	**15 02 58.4**	**-0.7**
O22K	**Cooper Landing**	**70.03**	**30**	P		**P**	**15 02 58.7**	**-0.4**
	baz=258									
SEW	**Seward**	**70.08**	**30**	P		**P**	**15 02 58.9**	**-0.6**
SEW	**Seward**	**70.08**	**30**	P		**P**	**15 02 59.0**	**-0.4**
	baz=258									
M22K	**Willow**	**70.12**	**28**	P		**P**	**15 02 58.4**	**-1.3**
M22K	**Willow**	**70.12**	**28**	P		**P**	**15 02 58.7**	**-0.9**
	baz=257									
RC01	**Rabbit Creek A**	**70.15**	**29**	P		**P**	**15 02 59.0**	**-0.9**
RC01				IAmb		IAmb	15 03 00.3			
	comp=Z,51nm,1.2s									
RC01	**Rabbit Creek A**	**70.15**	**29**	P		**P**	**15 02 58.9**	**-0.9**
	baz=257,SNR=6.3									
I21K	**Tanana**	**70.19**	**24**	P		**P**	**15 03 00.0**	**0.0**
I21K				IAmb		IAmb	15 03 01.8			
	comp=Z,33nm,0.9s									
I21K	**Tanana**	**70.19**	**24**	P		**P**	**15 03 00.7**	**+0.6**
	baz=254,SNR=24									
KTH	**Kantishna Hill**	**70.20**	**26**	P		**P**	**15 02 59.5**	**-0.7**
KTH				IAmb		IAmb	15 03 00.9			
	comp=Z,41nm,1.0s									
CUT	**Chulitna**	**70.21**	**27**	P		**P**	**15 02 59.1**	**-1.1**
	baz=256									
BPAW	**Bear Paw Mtn.**	**70.31**	**26**	P		**P**	**15 03 00.5**	**-0.4**
BPAW				IAmb		IAmb	15 03 02.0			
	comp=Z,34nm,0.9s									
BPAW	**Bear Paw Mtn.**	**70.31**	**26**	P		**P**	**15 03 00.7**	**-0.1**
	baz=255,SNR=17									
TRF	**Thorofare Moun**	**70.45**	**26**	P		**P**	**15 03 00.6**	**-1.4**
TRF				IAmb		IAmb	15 03 02.2			
	comp=Z,26nm,0.9s									
TRF	**Thorofare Moun**	**70.45**	**26**	P		**P**	**15 03 01.0**	**-0.9**
	baz=256,SNR=14									
PMR	**Palmer**	**70.55**	**28**	P		**P**	**15 03 01.0**	**-1.3**
PMR				pmax		pmax				
	comp=Z,26nm,1.0s									
PMR	**Palmer**	**70.55**	**28**	P		**P**	**15 03 00.9**	**-1.3**
PMR				IAmb		IAmb	15 03 02.4			
	comp=Z,26nm,1.0s									
PMR	**Palmer**	**70.55**	**28**	P		**P**	**15 03 01.4**	**-0.9**
	baz=258,SNR=8.0									
A21K	**Barrow**	**70.62**	**18**	P		**P**	**15 03 01.2**	**-1.3**
	baz=247									
PWL	**Port Wells**	**70.77**	**29**	P		**P**	**15 03 02.8**	**-0.9**
PWL	**Port Wells**	**70.77**	**29**	P		**P**	**15 03 03.1**	**-0.7**
	baz=259,SNR=22									
KNK	**Knik Glacier**	**70.82**	**29**	P		**P**	**15 03 03.0**	**-1.0**
KNK				IAmb		IAmb	15 03 04.8			
	comp=Z,38nm,1.0s									
KNK	**Knik Glacier**	**70.82**	**29**	P		**P**	**15 03 03.6**	**-0.5**
	baz=258,SNR=10									
SML	**Sawmill**	**70.96**	**28**	P		**P**	**15 03 04.3**	**-0.7**
SML				pmax		pmax				
	comp=Z,44nm,1.0s									
SML	**Sawmill**	**70.96**	**28**	P		**P**	**15 03 04.3**	**-0.7**
SML	**Sawmill**	**70.96**	**28**	P		**P**	**15 03 04.4**	**-0.5**
	baz=258,SNR=12									
BWN	**Browne**	**70.98**	**26**	P		**P**	**15 03 04.6**	**-0.3**
RND	**Reindeer**	**71.07**	**27**	P		**P**	**15 03 04.7**	**-0.9**
RND				pmax		pmax				
	comp=Z,22nm,0.9s									
RND	**Reindeer**	**71.07**	**27**	P		**P**	**15 03 04.7**	**-0.9**
RND				IAmb		IAmb	15 03 06.3			
	comp=Z,22nm,0.9s									
MCK	**McKinley**	**71.10**	**26**	P		**P**	**15 03 04.7**	**-1.0**
MCK				pmax		pmax				
	comp=Z,42nm,1.1s									
MCK	**McKinley**	**71.10**	**26**	P		**P**	**15 03 04.7**	**-1.0**
MCK				IAmb		IAmb	15 03 06.1			
	comp=Z,42nm,1.1s									
MCK	**McKinley**	**71.10**	**26**	P		**P**	**15 03 04.6**	**-1.1**
	baz=257,SNR=15									
NEA2	**Nenana**	**71.24**	**25**	P		**P**	**15 03 06.5**	**-0.1**
NEA2	**Nenana**	**71.24**	**25**	P		**P**	**15 03 06.2**	**-0.3**
	baz=257									
I23K	**Minto, Yukon-K**	**71.25**	**25**	P		**P**	**15 03 06.2**	**-0.3**
I23K				IAmb		IAmb	15 03 08.0			
	comp=Z,36nm,1.0s									
I23K	**Minto, Yukon-K**	**71.25**	**25**	P		**P**	**15 03 06.7**	**+0.2**
	baz=256,SNR=18									
H23K	**Yukon River**	**71.34**	**24**	P		**P**	**15 03 07.3**	**+0.2**
H23K				IAmb		IAmb	15 03 08.8			
	comp=Z,31nm,0.9s									
H23K	**Yukon River**	**71.34**	**24**	P		**P**	**15 03 07.5**	**+0.4**
	baz=256,SNR=29									
GLI	**Glacier Island**	**71.37**	**29**	P		**P**	**15 03 07.4**	**0.0**
	baz=260									
WAT6	**Susitna Watana**	**71.39**	**28**	P		**P**	**15 03 07.1**	**-0.5**
	baz=259,SNR=18									
SCM	**Sheep Creek Mo**	**71.44**	**28**	P		**P**	**15 03 07.3**	**-0.5**
SCM				pmax		pmax				
	comp=Z,79nm,1.0s									
SCM	**Sheep Creek Mo**	**71.44**	**28**	P		**P**	**15 03 07.3**	**-0.5**
SCM	**Sheep Creek Mo**	**71.44**	**28**	P		**P**	**15 03 07.6**	**-0.2**
	baz=259,SNR=13									
COLD	**Coldfoot**	**71.44**	**23**	P		**P**	**15 03 07.6**	**-0.1**
COLD				IAmb		IAmb	15 03 09.6			
	comp=Z,42nm,1.0s									
COLD	**Coldfoot**	**71.44**	**23**	P		**P**	**15 03 08.4**	**+0.7**
	baz=255,SNR=45									
Q23K	**Middleton Isla**	**71.50**	**31**	P		**P**	**15 03 08.0**	**-0.1**
	baz=261									
WRH	**Wood River Hil**	**71.63**	**26**	P		**P**	**15 03 07.5**	**-1.3**
WRH				IAmb		IAmb	15 03 09.1			
	comp=Z,31nm,1.0s									
FID	**Port Fidalgo**	**71.65**	**30**	P		**P**	**15 03 08.5**	**-0.6**
DHY	**Denali Highway**	**71.65**	**27**	P		**P**	**15 03 08.8**	**-0.4**
	baz=259,SNR=8.9									
MDM	**Murphy Dome**	**71.67**	**25**	P		**P**	**15 03 07.9**	**-1.3**
CCB	**Clear Creek Bu**	**71.78**	**25**	P		**P**	**15 03 08.4**	**-1.3**
CCB				IAmb		IAmb	15 03 09.9			
	comp=Z,28nm,1.1s									
COLA	**College**	**71.81**	**25**	*i* P		**P**	**15 03 09.2**	**-0.7**
COLA				pmax		pmax				
	comp=Z,9.0nm,0.9s									
EYAK	**Cordova Ski Ar**	**71.97**	**30**	P		**P**	**15 03 10.7**	**-0.2**
EYAK	**Cordova Ski Ar**	**71.97**	**30**	P		**P**	**15 03 11.3**	**+0.3**
	baz=261									
H24K	**Noodor Dome**	**72.01**	**24**	P		**P**	**15 03 11.0**	**-0.1**
H24K				IAmb		IAmb	15 03 12.8			
	comp=Z,34nm,1.1s									
H24K	**Noodor Dome**	**72.01**	**24**	P		**P**	**15 03 11.1**	**0.0**
	baz=257,SNR=24									
M24K	**Tolsona, Glenn**	**72.02**	**28**	P		**P**	**15 03 11.5**	**+0.2**
M24K				IAmb		IAmb	15 03 12.8			
	comp=Z,38nm,1.1s									
M24K	**Tolsona, Glenn**	**72.02**	**28**	P		**P**	**15 03 11.6**	**+0.2**
	baz=260,SNR=5.9									
KLU	**Klutina**	**72.04**	**29**	P		**P**	**15 03 11.3**	**-0.1**
KLU				IAmb		IAmb	15 03 12.7			
	comp=Z,33nm,1.0s									
KLU	**Klutina**	**72.04**	**29**	P		**P**	**15 03 11.1**	**-0.3**
	baz=261,SNR=12									
POKR	**Poker Plat Res**	**72.04**	**25**	P		**P**	**15 03 10.0**	**-1.3**
POKR	**Poker Plat Res**	**72.04**	**25**	P		**P**	**15 03 10.3**	**-1.0**
	baz=258,SNR=7.3									
TOLK	**Toolik Lake Re**	**72.04**	**21**	P		**P**	**15 03 11.7**	**+0.3**
TOLK				IAmb		IAmb	15 03 13.2			
	comp=Z,44nm,1.0s									
TOLK	**Toolik Lake Re**	**72.04**	**21**	P		**P**	**15 03 11.8**	**+0.5**
	baz=255,SNR=31									
DIV	**Divide**	**72.05**	**29**	P		**P**	**15 03 11.3**	**-0.2**
DIV				IAmb		IAmb	15 03 12.8			
	comp=Z,28nm,1.0s									
HDA	**Harding Lake**	**72.10**	**26**	P		**P**	**15 03 09.9**	**-1.7**
HDA	**Harding Lake**	**72.10**	**26**	P		**P**	**15 03 11.1**	**-0.6**
	baz=259									
IL31		**72.20**	**25**	P		**P**	**15 03 10.2**	**-1.9**
ILAR	**Eielson Array**	**72.20**	**25**	P		**P**	**15 03 10.7**	**-1.5**
	comp=Z,12nm,0.8s,baz=254,slow=5.2,SNR=105									
ILAR	**Eielson Array**	**72.20**	**25**	P		**P**	**15 03 10.3**	**-1.9**
ILAR	**Eielson Array**	**72.20**	**25**	P		**P**	**15 03 10.3**	**-1.9**
PAX	**Paxson**	**72.49**	**27**	P		**P**	**15 03 13.2**	**-1.0**
PAX				pmax		pmax				
	comp=Z,30nm,0.9s									
PAX	**Paxson**	**72.49**	**27**	P		**P**	**15 03 13.2**	**-1.0**
PAX				IAmb		IAmb	15 03 15.1			
	comp=Z,30nm,0.9s									
PAX	**Paxson**	**72.49**	**27**	P		**P**	**15 03 13.9**	**-0.3**
	baz=261,SNR=21									
HARP	**HAARP**	**72.54**	**28**	P		**P**	**15 03 14.4**	**+0.1**
	baz=261,SNR=14									
BMRM	**Bremner River**	**72.59**	**30**	P		**P**	**15 03 14.7**	**-0.1**
BMRM	**Bremner River**	**72.59**	**30**	P		**P**	**15 03 14.1**	**-0.6**
	baz=262,SNR=7.5									
N25K	**Chitina, Valde**	**72.68**	**29**	P		**P**	**15 03 15.4**	**+0.1**
N25K				IAmb		IAmb	15 03 16.8			
	comp=Z,38nm,1.4s									
N25K	**Chitina, Valde**	**72.68**	**29**	P		**P**	**15 03 15.3**	**0.0**
	baz=262									
J25K	**Salcha River,**	**72.81**	**26**	P		**P**	**15 03 14.5**	**-1.5**
J25K	**Salcha River,**	**72.81**	**26**	P		**P**	**15 03 14.5**	**-1.5**
	baz=260,SNR=6.2									
RIDG	**Independent Ri**	**72.89**	**27**	P		**P**	**15 03 15.6**	**-0.8**
RIDG				IAmb		IAmb	15 03 17.3			
	comp=Z,46nm,1.0s									
RIDG	**Independent Ri**	**72.89**	**27**	P		**P**	**15 03 15.6**	**-0.8**
	baz=261,SNR=24									
GLB	**Gilahina Butte**	**73.03**	**29**	P		**P**	**15 03 16.9**	**-0.4**
GLB				IAmb		IAmb	15 03 18.6			
	comp=Z,35nm,1.0s									
VRDI	**Verde Repeater**	**73.18**	**29**	P		**P**	**15 03 17.7**	**-0.7**
VRDI				IAmb		IAmb	15 03 19.4			
	comp=Z,25nm,1.0s									
DOT	**Dot Lake**	**73.22**	**27**	P		**P**	**15 03 17.4**	**-1.0**
DOT				IAmb		IAmb	15 03 19.6			
	comp=Z,40nm,0.9s									
MENT	**Mentasta**	**73.27**	**28**	P		**P**	**15 03 18.2**	**-0.5**
SCRK	**Sand Creek**	**73.30**	**26**	P		**P**	**15 03 18.3**	**-0.7**
SCRK	**Sand Creek**	**73.30**	**26**	P		**P**	**15 03 18.5**	**-0.5**
	baz=262,SNR=14									
WAX	**Waxell Ridge**	**73.38**	**30**	P		**P**	**15 03 19.4**	**0.0**
WAX				IAmb		IAmb	15 03 20.9			
	comp=Z,35nm,0.9s									
MCARA	**McCarthy VSAT**	**73.40**	**29**	P		**P**	**15 03 19.4**	**-0.1**
MCARA				IAmb		IAmb	15 03 21.2			
	comp=Z,36nm,0.9s									
MCARA	**McCarthy VSAT**	**73.40**	**29**	P		**P**	**15 03 19.3**	**-0.1**
	baz=263,SNR=10									
TGL	**Tana Glacier**	**73.42**	**30**	P		**P**	**15 03 19.3**	**-0.4**
TGL				IAmb		IAmb	15 03 21.0			
	comp=Z,36nm,1.0s									
L26K	**Log Cabin Wild**	**73.45**	**27**	P		**P**	**15 03 20.0**	**+0.2**
	baz=262,SNR=18									
J26L	**Joseph Creek**	**73.56**	**26**	P		**P**	**15 03 19.9**	**-0.6**
	baz=262,SNR=17									
BMAR	**Burnt Mountain**	**73.61**	**23**	P		**P**	**15 03 21.1**	**+0.5**
ISLE	**Juniper Island**	**73.65**	**30**	P		**P**	**15 03 20.8**	**-0.3**
GRNC	**Granite Creek**	**73.95**	**30**	P		**P**	**15 03 23.0**	**0.0**
GRNC				IAmb		IAmb	15 03 24.3			
	comp=Z,34nm,0.9s									
BARN	**Barnard Glacie**	**74.02**	**30**	P		**P**	**15 03 23.6**	**+0.2**
M27K	**Edge Creek, AK**	**74.05**	**28**	P		**P**	**15 03 23.2**	**-0.2**
M27K				IAmb		IAmb	15 03 24.9			
	comp=Z,31nm,1.1s									
M27K	**Edge Creek, AK**	**74.05**	**28**	P		**P**	**15 03 23.3**	**-0.2**
	baz=264,SNR=14									
L27K	**Beaver Creek,**	**74.15**	**28**	P		**P**	**15 03 23.7**	**-0.2**
L27K	**Beaver Creek,**	**74.15**	**28**	P		**P**	**15 03 24.0**	**+0.2**
	baz=264,SNR=17									
BCAR	**Beaver Creek A**	**74.17**	**28**	P		**P**	**15 03 23.7**	**-0.3**
CTG	**Chitna Glacier**	**74.17**	**30**	P		**P**	**15 03 24.6**	**+0.5**
	baz=265,SNR=16									
CTGM	**Chitina Glacie**	**74.17**	**30**	P		**P**	**15 03 23.8**	**-0.3**
CTGM				IAmb		IAmb	15 03 25.8			
	comp=Z,43nm,0.9s									
TABL	**Table Mountain**	**74.22**	**30**	P		**P**	**15 03 24.4**	**-0.1**
TABL				IAmb		IAmb	15 03 26.0			
	comp=Z,44nm,0.9s									
LOGN	**Logan Glacier**	**74.32**	**30**	P		**P**	**15 03 25.2**	**+0.1**
LOGN				IAmb		IAmb	15 03 26.6			
	comp=Z,37nm,0.9s									
HRA	**Herat**	**74.35**	**303**	P		**P**	**15 03 25.3**	**-0.5**
HRA				IAmb		IAmb	15 03 28.4			
	comp=Z,31nm,0.8s									
PPT2	**Papeete2**	**74.43**	**112**	*e*P		P	15 03 33.6	+7.3		
	comp=Z,92nm,1.7s									
PPT2				*e*S		**S**	**15 13 07.8**	**+7.4**		
	comp=Z,262nm,26.2s									
PPT2	**Papeete2**	**74.43**	**112**	*e*LR		LR	15 26 20.5			
	comp=Z,440nm,21.0s,baz=283									
PAE	**Paea**	**74.45**	**112**	*e*P		P	15 03 33.3	+7.0		
	comp=Z,18nm,1.3s									
BVCY	**Beaver Creek**	**74.53**	**28**	P		**P**	**15 03 26.3**	**+0.3**
	baz=265,SNR=10									
EGAK	**Eagle**	**74.62**	**26**	P		**P**	**15 03 26.0**	**-0.5**
EGAK	**Eagle**	**74.62**	**26**	P		**P**	**15 03 26.5**	**0.0**
	baz=264,SNR=12									
YUK3	**Moose Creek**	**74.66**	**29**	P		**P**	**15 03 27.4**	**+0.3**
	baz=265,SNR=23									
PNL	**Peninsula**	**75.04**	**31**	P		**P**	**15 03 29.6**	**+0.5**
	baz=267									
SVE	**Sverdlovsk**	**75.22**	**326**	*e*P		**P**	**15 03 30.2**	**+0.1**
SVE				pmax		pmax				
	comp=Z,45nm,1.4s									
SVE				MLR		MLR				
	comp=Z,1µm,19.0s									
DAWY	**Dawson**	**75.32**	**27**	P		**P**	**15 03 30.5**	**-0.1**
DAWY				IAmb		IAmb	15 03 32.5			
	comp=Z,38nm,0.9s									
DAWY	**Dawson**	**75.32**	**27**	P		**P**	**15 03 31.2**	**+0.5**
	baz=266,SNR=49									
YUK4	**Talbot Arm**	**75.50**	**29**	P		**P**	**15 03 32.9**	**+1.0**
	baz=267,SNR=30									
ABKAR	**Akbulak array**	**75.57**	**318**	P		**P**	**15 03 31.7**	**-0.6**
ABKAR	**Akbulak array**	**75.57**	**318**	P		**P**	**15 03 31.6**	**-0.7**
ABKAR				IAmb		IAmb	15 03 34.0			
	comp=Z,11nm,0.8s									
YUK6	**Outpost Mounta**	**75.62**	**30**	P		**P**	**15 03 33.5**	**+0.8**
	baz=268,SNR=5.8									
I29M	**Ogilvie Camp,**	**75.88**	**25**	P		**P**	**15 03 34.0**	**+0.2**
I29M				IAmb		IAmb	15 03 35.4			
	comp=Z,40nm,1.1s									
I29M	**Ogilvie Camp,**	**75.88**	**25**	P		**P**	**15 03 34.0**	**+0.2**
	baz=266,SNR=31									
HYT	**Haines Junctio**	**76.03**	**30**	P		**P**	**15 03 35.8**	**+0.9**
HYT				IAmb		IAmb	15 03 37.0			
	comp=Z,42nm,0.9s									
HYT	**Haines Junctio**	**76.03**	**30**	P		**P**	**15 03 35.7**	**+0.8**
	baz=268,SNR=26									
ARU	**Arti**	**76.36**	**325**	LR		LR	15 39 26.7			
	comp=Z,1µm,18.9s,baz=88,slow=38									
ARU	**Arti**	**76.36**	**325**	*c i*P		**P**	**15 03 36.0**	**-0.7**
ARU							15 03 48.0			
ARU							15 06 25.8			
ARU				PPP		PPP	15 08 17.0			
ARU				S		**S**	**15 13 23.8**	**+3.4**		
ARU				SS		**SS**	**15 18 09.0**	**-5.5**		
ARU				pmax		pmax				
	comp=Z,22nm,0.8s									
ARU				MLR		MLR				
	comp=Z,1µm,19.0s									
ARU	**Arti**	**76.36**	**325**	P		**P**	**15 03 35.9**	**-0.8**
ARU				IAmb		IAmb	15 03 38.2			
	comp=Z,20nm,0.8s									
M30M	**Minto, Yukon**	**76.42**	**28**	P		**P**	**15 03 37.4**	**+0.4**
M30M				IAmb		IAmb	15 03 38.9			
	comp=Z,29nm,1.0s									
M30M	**Minto, Yukon**	**76.42**	**28**	P		**P**	**15 03 37.6**	**+0.7**
	baz=268,SNR=26									
N31M	**Braeburn, Yuko**	**76.88**	**29**	P		**P**	**15 03 40.3**	**+0.8**
N31M	**Braeburn, Yuko**	**76.88**	**29**	P		**P**	**15 03 40.3**	**+0.8**
	baz=270,SNR=16									
SKAG	**Skagway**	**77.11**	**31**	P		**P**	**15 03 40.9**	**+0.1**
SKAG				IAmb		IAmb	15 03 43.0			
	comp=Z,29nm,1.1s									
SKAG	**Skagway**	**77.11**	**31**	P		**P**	**15 03 41.5**	**+0.7**
	baz=270,SNR=6.9									
SIT	**Sitka**	**77.14**	**34**	P		**P**	**15 03 41.3**	**+0.3**
	baz=271									
WHY	**Whitehorse**	**77.32**	**30**	P		**P**	**15 03 42.4**	**+0.3**
WHY				IAmb		IAmb	15 03 44.2			
	comp=Z,44nm,1.0s									
WHY	**Whitehorse**	**77.32**	**30**	P		**P**	**15 03 42.8**	**+0.6**
	baz=271,SNR=19									
BESE	**Bessie Mountai**	**77.36**	**32**	P		**P**	**15 03 42.4**	**+0.1**
GEYT	**Alibeck**	**77.44**	**307**	P		**P**	**15 03 43.8**	**+0.6**
	comp=Z,9.9nm,0.9s,baz=218,slow=11,SNR=11									
GEYT	**Alibeck**	**77.44**	**307**	P		**P**	**15 03 42.9**	**-0.3**
GEYT				IAmb		IAmb	15 03 50.7			
	comp=Z,27nm,1.1s									
GYA0B	**ALIBECK ARRAY**	**77.44**	**307**	P		**P**	**15 03 43.3**	**+0.1**
GYA0B				IAmb		IAmb	15 03 50.6			
	comp=Z,31nm,1.1s									
M31M	**Drury Creek, Y**	**77.54**	**29**	P		**P**	**15 03 43.4**	**+0.2**
M31M				IAmb		IAmb	15 03 44.8			
	comp=Z,35nm,1.0s									
M31M	**Drury Creek, Y**	**77.54**	**29**	P		**P**	**15 03 43.7**	**+0.5**
	baz=271,SNR=24									
JIS	**Juneau Island**	**77.62**	**33**	P		**P**	**15 03 42.5**	**-1.1**
JIS				IAmb		IAmb	15 03 45.7			
	comp=Z,46nm,1.0s									
INK	**Inuvik**	**77.86**	**22**	P		**P**	**15 03 44.2**	**-0.6**
INK				pmax		pmax				
	comp=Z,38nm,1.1s									
INK	**Inuvik**	**77.86**	**22**	P		**P**	**15 03 44.2**	**-0.6**
INK				IAmb		IAmb	15 03 45.7			
	comp=Z,38nm,1.1s									
INK	**Inuvik**	**77.86**	**22**	P		**P**	**15 03 44.5**	**-0.3**
	baz=270									
JLN	**Jalan Bani Buh**	**78.00**	**290**	P		**P**	**15 03 46.7**	**+0.2**
WBK	**Wadi Bani Khal**	**78.34**	**291**	P		**P**	**15 03 48.7**	**+0.2**
CRAG	**Craig**	**78.43**	**35**	P		**P**	**15 03 48.3**	**+0.1**
	baz=273									
WRAK	**Wrangell Islan**	**78.81**	**34**	P		**P**	**15 03 50.4**	**+0.1**
WRAK				IAmb		IAmb	15 03 52.3			
	comp=Z,48nm,1.0s									
WRAK	**Wrangell Islan**	**78.81**	**34**	P		**P**	**15 03 51.0**	**+0.7**
	baz=274,SNR=6.1									
DIB	**Dawson Inlet,**	**78.95**	**38**	P		**P**	**15 03 51.2**	**0.0**
BIDO	**Bidbid**	**78.99**	**292**	P		**P**	**15 03 51.9**	**-0.1**
MHTO	**MHTO**	**79.48**	**289**	P		**P**	**15 03 54.2**	**-0.5**
	SNR=7.6									
HOQ	**Hoqain**	**79.72**	**292**	P		**P**	**15 03 56.1**	**+0.1**
DLBC	**Dease Lake**	**79.90**	**32**	P		**P**	**15 03 57.1**	**+0.7**
DLBC				IAmb		IAmb	15 03 58.6			
	comp=Z,48nm,1.1s									
BSY	**Bisya**

KLMR pmax pmax
comp=Z,18nm,1.3s
KLMR MLR MLR
comp=Z,832nm,15.0s
KLMR Klimovskoe 85.62 331 *e*P **P 15 04 23.8 -2.1**
KLMR AMP 15 04 31.5
comp=Z,18nm,1.3s
KLMR *e*PP **PP 15 07 45.3 +0.8**
KLMR *e*S **SKSac 15 14 49.3 -0.6**
KLMR *e*S **SKSac 15 14 49.3 -0.6**
KLMR LQ LQ 15 37 27.5
KLMR LQ LQ 15 37 27.5
KLMR LR LR 15 42 03.7
KLMR AMP 15 45 34.4
comp=Z,832nm,14.9s
D03D Eldon 85.71 43 P **P 15 04 27.8 +1.2**
baz=282,SNR=11
A04D Lummi Island 85.71 41 P **P 15 04 27.2 +0.7**
baz=282
LLLB Lillooet 85.82 39 P **P 15 04 27.2 0.0**
LLLB IAmb IAmb 15 04 29.2
comp=Z,29nm,1.1s
I02E Swisshome, OR 85.90 46 P **P 15 04 27.8 +0.2**
I02E Swisshome, OR 85.90 46 P **P 15 04 29.0 +1.3**
baz=282
D04E Lakebay 85.99 43 P **P 15 04 29.1 +1.1**
baz=282
J01E Myrtle Point 86.03 47 P **P 15 04 28.8 +0.5**
J01E Myrtle Point 86.03 47 P **P 15 04 29.1 +0.8**
baz=282
APA Apatity 86.10 338 ⇓ *i*P **P 15 04 24.7 -3.4**
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,400nm,16.0s
B05A Bryant 86.20 42 P **P 15 04 29.9 +0.8**
baz=283,SNR=7.7
E04D Cinebar 86.26 43 P **P 15 04 30.4 +1.0**
baz=282,SNR=5.4
K02D Willamette Mer 86.32 47 P **P 15 04 30.6 +0.7**
baz=282
I03D Drain, OR 86.33 46 P **P 15 04 30.8 +1.0**
baz=282
L02E Cave Junction 86.47 48 P **P 15 04 31.4 +0.9**
L02E IAmb IAmb 15 04 39.4
comp=Z,28nm,1.2s
L02E Cave Junction 86.47 48 P **P 15 04 31.9 +1.3**
baz=282
D05A Enumclaw 86.51 43 P **P 15 04 31.6 +0.9**
B06A Marblemount 86.54 41 P **P 15 04 30.6 -0.1**
B06A IAmb IAmb 15 04 32.4
comp=Z,33nm,1.0s
YKA Yellowknife Ar 86.56 27 P **P 15 04 30.6 +0.1**
comp=Z,33nm,0.9s,baz=291,slow=5.3,SNR=150
YKA PP **PP 15 07 48.0 -4.1**
comp=Z,1.7nm,1.0s,baz=283,slow=7.4,SNR=5.2
YKA Yellowknife Ar 86.56 27 P **P 15 04 30.3 -0.2**
YKA Yellowknife Ar 86.56 27 P **P 15 04 30.3 -0.2**
H04D Lebanon 86.59 45 P **P 15 04 31.6 +0.6**
H04D Lebanon 86.59 45 P **P 15 04 32.0 +1.0**
baz=282,SNR=7.4
KHMM Horse Mountain 86.65 49 P **P 15 04 32.2 +0.6**
KHMM IAmb IAmb 15 04 34.3
comp=Z,17nm,0.8s
HUMO Hull Mountain 86.85 47 P **P 15 04 32.9 +0.5**
HUMO IAmb IAmb 15 04 34.9
comp=Z,23nm,1.0s
VRH Novokhopyorsk 86.90 322 *e*P **P 15 04 29.8 -2.6**
VRH pmax pmax
comp=Z,20nm,1.2s
H04A Detroit Lake 86.94 45 P **P 15 04 32.4 -0.4**
I04A Tendick Farm, 86.98 46 P **P 15 04 33.4 +0.4**
baz=283,SNR=8.5
C06D Leavenworth 87.07 42 P **P 15 04 33.9 +0.5**
baz=284
HOOD Mount Hood Mea 87.16 44 P **P 15 04 34.0 -0.1**
F05D White Salmon 87.16 44 P **P 15 04 33.9 +0.1**
F05D IAmb IAmb 15 04 43.3
comp=Z,31nm,1.1s
F05D White Salmon 87.16 44 P **P 15 04 34.7 +0.8**
baz=283
M02C Callahan 87.19 48 P **P 15 04 35.0 +0.9**
baz=283,SNR=12
YBH Yreka Blue Hor 87.22 48 P **P 15 04 34.1 -0.2**
YBH pmax pmax
comp=Z,22nm,1.0s
YBH Yreka Blue Hor 87.22 48 P **P 15 04 34.1 -0.2**
YBH IAmb IAmb 15 04 36.6
comp=Z,22nm,0.9s
J04D Umpqua Nationa 87.31 47 P **P 15 04 32.9 -2.0**
J04D Umpqua Nationa 87.31 47 P **P 15 04 35.8 +0.9**
baz=283,SNR=12
LTY Liberty 87.37 42 P **P 15 04 34.3 -0.6**
LTY IAmb IAmb 15 04 36.6
comp=Z,38nm,1.2s
N02D Trinity Center 87.39 49 P **P 15 04 35.6 +0.5**
N02D IAmb IAmb 15 04 37.7
comp=Z,27nm,1.2s
N02D Trinity Center 87.39 49 P **P 15 04 36.3 +1.1**
baz=283,SNR=7.3
L04D Klamath Falls 87.40 48 P **P 15 04 35.4 +0.2**
L04D Klamath Falls 87.40 48 P **P 15 04 35.9 +0.6**
baz=283,SNR=8.6
G05D Wamic, OR 87.41 44 P **P 15 04 35.9 +0.8**
baz=284
ZEI Tsey 87.43 313 *e*P **P 15 04 35.0 -0.5**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
O02D Mt. Diablo Mer 87.50 50 P **P 15 04 37.0 +1.3**
baz=283,SNR=10
RES Resolute Bay 87.55 13 P **P 15 04 34.6 -0.5**
RES pmax pmax
comp=Z,12nm,0.9s
RES Resolute Bay 87.55 13 P **P 15 04 34.6 -0.5**
I05D Terrebonne, OR 87.61 45 P **P 15 04 36.7 +0.6**
baz=284,SNR=6.2
K04D Chiloquin, OR 87.71 47 P **P 15 04 37.7 +1.0**
baz=283
M04C Macdoel 87.84 48 P **P 15 04 37.6 +0.2**
M04C Macdoel 87.84 48 P **P 15 04 38.3 +0.9**
baz=283,SNR=13
J05D Fort Rock, OR 87.93 46 P **P 15 04 38.9 +1.1**
baz=284,SNR=20
KBZ Khabaz 87.93 314 P **P 15 04 36.7 -0.8**
comp=Z,4.9nm,0.9s,baz=129,slow=2.0,SNR=8.0
KBZ Khabaz 87.93 314 *ce*P **P 15 04 37.8 +0.3**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 87.95 341 P **P 15 04 36.2 -0.9**
comp=Z,8.2nm,0.7s,baz=57,slow=4.5,SNR=17
ARCES ARCESS Array B 87.95 341 P **P 15 04 35.9 -1.3**
ARCES pmax pmax
comp=Z,81nm,1.8s
ARCES ARCESS Array B 87.95 341 P **P 15 04 35.9 -1.3**
B08A Colville Reser 87.97 41 P **P 15 04 38.1 +0.3**
PINE Pine Mountain 88.01 46 P **P 15 04 39.0 +0.8**
KIV Kislovodsk 88.02 314 *e*P **P 15 04 39.4 +1.3**
KIV *e* 15 08 06.0
KIV *e* 15 15 07.4
KIV pmax pmax
comp=Z,7.0nm,1.1s
MOS Moscow 88.03 327 *e*P **P 15 04 34.4 -3.3**
MOS *e* 15 08 04.3
MOS MLR MLR
comp=Z,1μm,19.0s
E07A Sunnyside 88.08 43 P **P 15 04 38.8 +0.6**
SHA1 Shidzhatmaz 88.10 314 *i*P **P 15 04 38.7 0.0**
NEY Neytrino 88.17 314 *i*P **P 15 04 39.1 +0.2**
NEY pmax pmax
comp=Z,1.0nm,0.9s
LPSR Galich'ya Gora 88.20 323 *e*P **P 15 04 35.9 -2.7**
LPSR pmax pmax
comp=Z,20nm,0.8s
O03E Paynes Creek 88.21 49 P **P 15 04 39.0 -0.1**
O03E Paynes Creek 88.21 49 P **P 15 04 39.5 +0.4**
baz=283
K05A Summer Lake 88.30 47 P **P 15 04 40.3 +0.7**
HAWA Hanford 88.34 43 P **P 15 04 39.7 +0.3**
HAWA IAmb IAmb 15 04 41.6
comp=Z,32nm,1.2s
VORD Divnogorie 88.44 322 *e*P **P 15 04 37.0 -2.8**
VORD pmax pmax
comp=Z,20nm,1.2s
VSR Storozhevoye 88.45 322 *e*P **P 15 04 37.1 -2.7**
VSR pmax pmax
comp=Z,10.0nm,1.2s
D08A Wollman Farm, 88.58 42 P **P 15 04 40.8 +0.2**
D08A IAmb IAmb 15 04 42.6
comp=Z,29nm,1.2s
ORV Oroville 88.61 50 P **P 15 04 40.9 0.0**
ORV pmax pmax
comp=Z,21nm,1.1s
ORV Oroville 88.61 50 P **P 15 04 40.9 0.0**
ORV IAmb IAmb 15 04 42.6
comp=Z,21nm,1.1s
E08A Dider Farm, El 88.63 43 P **P 15 04 41.3 +0.5**
E08A IAmb IAmb 15 04 43.0
comp=Z,29nm,1.2s
OBN Obninsk 88.79 326 *de*P **P 15 04 40.1 -1.2**
OBN *e* 15 04 46.4
OBN *e* 15 08 16.2
OBN pmax pmax
comp=Z,31nm,1.7s
OBN MLR MLR
comp=Z,1μm,20.0s
C09A Chrisman Ranch 88.80 41 P **P 15 04 41.6 0.0**
C09A IAmb IAmb 15 04 43.5
comp=Z,28nm,1.3s
MOD Modoc Plateau 88.93 48 P **P 15 04 42.5 -0.1**
MOD IAmb IAmb 15 04 44.6
comp=Z,35nm,1.2s
I07A Izee 88.95 45 P **P 15 04 42.7 +0.2**
I07A IAmb IAmb 15 04 44.7
comp=Z,20nm,1.2s
G08A Pilot Rock 89.01 44 P **P 15 04 42.4 -0.4**
BEKR Beckworth 89.39 50 P **P 15 04 45.0 +0.2**
NEW Newport 89.42 41 P **P 15 04 44.8 +0.2**
NEW pmax pmax
comp=Z,17nm,1.1s
NEW Newport 89.42 41 P **P 15 04 44.8 +0.2**
NEW Newport 89.42 41 P **P 15 04 45.0 +0.5**
baz=286,SNR=8.6
VNDA Vanda 89.56 176 PP PP 15 08 17.4 +1.2
comp=Z,2.2nm,1.1s,baz=347,slow=11,SNR=3.8
VNDA Vanda 89.56 176 P **P 15 04 44.7 +0.3**
VNDA pmax pmax
comp=Z,26nm,1.6s
VNDA Vanda 89.56 176 P **P 15 04 44.7 +0.3**
RUBR Rubicon Trail 89.74 50 P **P 15 04 46.1 -0.4**
RUBR IAmb IAmb 15 04 48.8
comp=Z,23nm,1.0s
MPK Martis Peak 89.77 50 P **P 15 04 46.1 -0.6**
EMB Emerald Bay 89.80 50 P **P 15 04 46.5 -0.3**
EMB IAmb IAmb 15 04 56.3
comp=Z,30nm,1.4s
CMB Columbia Colle 89.81 51 P **P 15 04 46.5 -0.1**
CMB pmax pmax
comp=Z,17nm,0.9s
CMB Columbia Colle 89.81 51 P **P 15 04 46.5 -0.1**
CMB IAmb IAmb 15 04 48.7
comp=Z,16nm,0.9s
J08A Circle Bar Ran 89.86 46 P **P 15 04 46.5 -0.3**
J08A IAmb IAmb 15 04 49.0
comp=Z,30nm,1.1s
WVOR Wild Horse Val 89.99 47 P **P 15 04 46.8 -0.7**
WVOR pmax pmax
comp=Z,24nm,1.0s
WVOR Wild Horse Val 89.99 47 P **P 15 04 46.8 -0.7**
WVOR IAmb IAmb 15 04 49.6
comp=Z,24nm,0.9s
F10A Beach Ranch, E 90.00 43 P **P 15 04 47.4 +0.1**
F10A IAmb IAmb 15 04 49.3
comp=Z,28nm,1.4s
PNTR Pine Nut 90.15 50 P **P 15 04 48.3 -0.1**
PNTR IAmb IAmb 15 04 50.9
comp=Z,25nm,0.9s
EDM Edmonton 90.18 35 P **P 15 04 48.1 +0.1**
EDM pmax pmax
comp=Z,41nm,1.3s
EDM Edmonton 90.18 35 P **P 15 04 48.1 +0.1**
EDM IAmb IAmb 15 04 49.7
comp=Z,41nm,1.3s
SOC Sochi 90.20 315 *e*P **P 15 04 45.6 -2.6**
SOC *e* 15 08 18.8
SOC *e*S **SKSac 15 15 16.2 -2.1**
SOC *e*SS **SS 15 21 40.4 +0.5**
SOC pmax pmax
comp=Z,15nm,0.7s
BMO Blue Mountains 90.26 44 P **P 15 04 48.5 -0.1**
BMO pmax pmax
comp=Z,32nm,1.4s
BMO Blue Mountains 90.26 44 P **P 15 04 48.5 -0.1**
BMO IAmb IAmb 15 04 50.6
comp=Z,32nm,1.4s
RAYN Ar Rayn 90.39 294 P **P 15 04 48.4 -1.2**
RAYN pmax pmax
comp=Z,11nm,1.2s
RAYN Ar Rayn 90.39 294 P **P 15 04 48.4 -1.2**
RAYN Ar Rayn 90.39 294 *i*P **P 15 04 48.6 -1.0**
SNR=9.2
SMMC Simmler 90.79 54 P **P 15 04 52.7 +1.4**
baz=284,SNR=6.8
PKM Mcpherson Peak 91.04 54 P **P 15 04 53.7 +1.1**
baz=285,SNR=12
PLID Pearl Lake 91.08 44 P **P 15 04 50.9 -1.7**
PLID IAmb IAmb 15 05 00.2
comp=Z,35nm,2.0s
RYN Ryan 91.08 50 P **P 15 04 50.9 -1.8**
RYN IAmb IAmb 15 04 55.1
comp=Z,22nm,1.1s
DAG Danmarks Havn 91.18 355 *i*P **P 15 04 49.0 -3.1**
LHV Little Huntoon 91.19 51 P **P 15 04 53.9 +0.9**
LHV IAmb IAmb 15 04 55.8
comp=Z,18nm,1.0s
WALA Waterton Lakes 91.21 39 P **P 15 04 53.4 +0.4**
WALA IAmb IAmb 15 05 01.8
comp=Z,28nm,1.6s
KVN Kaiserville 91.29 50 P **P 15 04 54.1 +0.4**
KVN pmax pmax
comp=Z,19nm,1.1s
KVN Kaiserville 91.29 50 P **P 15 04 54.1 +0.4**
KVN IAmb IAmb 15 04 55.9
comp=Z,19nm,1.1s
NVAR Mina Array Bea 91.30 51 P **P 15 04 54.9 +1.1**
comp=Z,15nm,0.9s,baz=262,slow=6.2,SNR=73
NVAR PP **PP 15 08 29.5 -1.4**
comp=Z,1.0nm,0.8s,baz=276,slow=8.1,SNR=3.3
NVAR Mina Array Bea 91.30 51 P **P 15 04 54.2 +0.4**
BCW Bitter Crk WRg 91.35 54 P **P 15 04 54.5 +0.5**
JTMT Jette 91.39 41 P **P 15 04 53.8 -0.1**
NV11 Mina Array Sit 91.41 50 P **P 15 04 53.5 -0.7**
NV11 IAmb IAmb 15 04 55.9
comp=Z,20nm,1.1s
FIA1 FINESS Array S 91.47 334 P **P 15 04 51.1 -2.7**
FINES FINESS Array B 91.47 334 P **P 15 04 52.1 -1.6**
comp=Z,21nm,0.8s,baz=72,slow=6.2,SNR=48
FINES PP **PP 15 08 31.1 -0.1**
comp=Z,2.9nm,0.9s,baz=67,slow=6.4,SNR=3.8
FINES LR LR 15 48 05.8
comp=Z,655nm,19.9s,baz=73,slow=37
FINES FINESS Array B 91.47 334 P **P 15 04 51.2 -2.5**
FINES FINESS Array B 91.47 334 P **P 15 04 51.2 -2.5**
BMN Battle Mountai 91.56 48 P **P 15 04 54.1 -0.7**
BMN pmax pmax
comp=Z,26nm,1.5s
BMN Battle Mountai 91.56 48 P **P 15 04 54.1 -0.7**
BMN IAmb IAmb 15 04 57.2
comp=Z,26nm,1.5s
MFID Camas Ranch 91.69 45 P **P 15 04 55.2 -0.2**
MFID IAmb IAmb 15 04 57.4
comp=Z,24nm,1.1s
TIN Tinemaha, Big 91.72 52 P **P 15 04 57.0 +1.4**
baz=286
ISA Isabella, Lake 91.90 53 P **P 15 04 56.8 +0.4**
baz=285,SNR=5.6
OSI Osito Audit: C 91.98 54 P **P 15 04 57.9 +1.1**
baz=285
LCH Last Change Ra 92.12 52 P **P 15 04 57.3 -0.2**
DECC Green Verdugo 92.39 55 P **P 15 04 59.3 +0.7**
baz=285
GRAC Grapevine Rang 92.40 52 P **P 15 04 59.4 +0.7**
GRAC IAmb IAmb 15 05 01.1
comp=Z,16nm,1.1s
GRAC Grapevine Rang 92.40 52 P **P 15 04 59.9 +1.2**
baz=286,SNR=8.0
EDW2 Edwards Air Fo 92.49 54 P **P 15 05 00.3 +1.1**
baz=286,SNR=8.8
CIS Catalina Islan 92.55 55 P **P 15 05 00.0 +0.7**
baz=285
FMP Fort Macarthur 92.56 55 P **P 15 05 00.0 +0.6**
baz=285
MPMC Manual Prospec 92.57 53 P **P 15 05 00.5 +0.8**
baz=286,SNR=25
LRMC Laurel Mtn Rad 92.57 53 P **P 15 05 00.7 +1.1**
baz=286,SNR=14
HLID Hailey 92.63 45 P **P 15 04 59.9 +0.1**
HLID IAmb IAmb 15 05 01.8
comp=Z,14nm,1.1s
HLID Hailey 92.63 45 P **P 15 05 00.5 +0.8**
baz=288,SNR=17
ELK Elko 92.91 48 P **P 15 05 00.7 -0.5**
ELK pmax pmax
comp=Z,10.0nm,1.0s
ELK Elko 92.91 48 P **P 15 05 00.7 -0.5**
BFSC Mount Baldy Ra 92.93 54 P **P 15 05 01.5 +0.2**
baz=286
FURC Furnace Creek, 92.94 52 P **P 15 05 02.2 +1.1**
baz=286,SNR=9.2
QSM Queen of Sheba 93.08 53 P **P 15 05 00.9 -0.9**
QSM IAmb IAmb 15 05 04.0
comp=Z,19nm,1.0s
BCYI Bear Canyon 93.08 44 P **P 15 05 01.0 -0.8**
GWY Greenwater Val 93.17 52 P **P 15 05 02.4 0.0**
GWY IAmb IAmb 15 05 04.5
comp=Z,22nm,1.2s
LRM Limekiln Ridge 93.21 42 P **P 15 05 02.2 -0.3**
TPNV Topopah Spring 93.28 51 P **P 15 05 02.6 -0.3**
TPNV pmax pmax
comp=Z,13nm,0.9s
TPNV Topopah Spring 93.28 51 P **P 15 05 02.6 -0.3**
TPNV IAmb IAmb 15 05 05.0
comp=Z,13nm,0.9s
TPNV Topopah Spring 93.28 51 P **P 15 05 03.9 +1.0**
baz=287,SNR=15
MCMT McKenzie Canyo 93.28 43 P **P 15 05 02.7 -0.2**
GSC Goldstone, Bar 93.31 53 P **P 15 05 03.3 +0.3**
GSC pmax pmax
comp=Z,25nm,1.1s
GSC Goldstone, Bar 93.31 53 P **P 15 05 03.3 +0.3**
GSC Goldstone, Bar 93.31 53 P **P 15 05 03.8 +0.8**
baz=286,SNR=12
HRY Holter Researc 93.31 41 P **P 15 05 03.0 +0.2**
R11A Troy Canyon, C 93.37 50 P **P 15 05 03.5 +0.1**
R11A Troy Canyon, C 93.37 50 P **P 15 05 03.9 +0.6**
baz=287,SNR=6.1
MURC Murrieta 93.47 55 P **P 15 05 04.2 +0.5**
baz=286
BBRC Big Bear Solar 93.51 54 P **P 15 05 04.7 +0.6**
baz=286
SHOC Shoshone, Teco 93.56 52 P **P 15 05 04.9 +0.9**
baz=287
MNK Minsk 93.68 327 *i*P P 15 04 52.6 -12
MNK *i*S S 15 16 02.3 -10
MNK *i*SSS SSS 15 26 02.3
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK pmax pmax
comp=N,15nm,0.8s
MNK MLR MLR
comp=N,622nm,21.0s
MNK MLR MLR
comp=E,125nm,20.0s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK Minsk 93.68 327 *i*P P 15 04 52.6 -12
comp=E,2.0nm,1.0s
MNK *i*P P 15 04 52.6 -12
comp=N,15nm,0.8s
MNK *i*P P 15 04 52.6 -12
comp=Z,10.0nm,0.7s,baz=244
MNK *i*PP PP 15 08 36.9 -12
MNK *i*PPP PPP 15 10 38.0
MNK *i*SKS SKSac 15 15 11.2 -26
MNK *i*S S 15 16 02.3 -10
MNK *i*SS **SS 15 22 21.5 -7.7**
MNK *i*SSS SSS 15 26 02.3
MNK *i*LQ LQ 15 41 13.6
MNK *i*LR LR 15 47 23.9
MNK *i*LRM MLR 15 49 30.5
comp=N,622nm,21.0s
MNK *i*LRM MLR 15 49 39.6
comp=E,125nm,19.7s
MNK *i*LRM MLR 15 49 54.1
comp=Z,1μm,19.0s
109C Camp Elliot, M 93.74 56 P **P 15 05 05.6 +0.7**
baz=286
HEC Hector,Ludlow 93.81 54 P **P 15 05 06.1 +0.9**
baz=287,SNR=22
BOZ Bozeman (W) 93.83 42 P **P 15 05 05.2 0.0**
BOZ pmax pmax
comp=Z,19nm,1.5s
BOZ Bozeman (W) 93.83 42 P **P 15 05 05.2 0.0**
BOZ IAmb IAmb 15 05 07.1
comp=Z,18nm,1.4s
BOZ Bozeman (W) 93.83 42 P **P 15 05 05.6 +0.4**
baz=290,SNR=10
TUQ Turquoise Moun 93.96 53 P **P 15 05 07.0 +1.0**
baz=287,SNR=12
PRN Pahroc Range 94.06 51 P **P 15 05 07.0 +0.6**
PFO Pinyon Flats O 94.06 55 P **P 15 05 06.8 +0.3**
PFO pmax pmax
comp=Z,19nm,1.1s
PFO Pinyon Flats O 94.06 55 P **P 15 05 06.8 +0.3**
PFO IAmb IAmb 15 05 08.4
comp=Z,19nm,1.1s
PFO Pinyon Flats O 94.06 55 P **P 15 05 07.0 +0.5**
baz=286,SNR=10
TPFO Pinon Flats 94.07 55 P **P 15 05 07.2 +0.7**
baz=286,SNR=8.8
NACGM Naroch 94.08 328 PP **PP 15 08 57.4 +5.5**
baz=63
BAR Barrett 94.15 56 P **P 15 05 06.8 0.0**
BAR IAmb IAmb 15 05 08.6
comp=Z,15nm,1.2s
EGMT Eagleton 94.16 39 P **P 15 05 06.6 0.0**
EGMT IAmb IAmb 15 05 08.1
comp=Z,20nm,1.2s
EGMT Eagleton 94.16 39 P **P 15 05 06.6 0.0**
baz=292
QLMT Earthquake Lak 94.23 43 P **P 15 05 08.1 +0.9**
SHPR Sheep Range 94.24 52 P **P 15 05 07.9 +0.5**
MONP2 Monument Peak 94.29 55 P **P 15 05 08.3 +0.6**
baz=286,SNR=11
BELC Belle Mtn. Jos 94.32 54 P **P 15 05 08.2 +0.5**
baz=287,SNR=13
HVU Hansel Valley 94.35 46 P **P 15 05 08.2 +0.5**
HVU pmax pmax
comp=Z,15nm,1.1s
HVU Hansel Valley 94.35 46 P **P 15 05 08.2 +0.5**
HVU IAmb IAmb 15 05 09.8
comp=Z,15nm,1.1s
GMRC Granite Mounta 94.36 53 P **P 15 05 08.8 +1.0**
baz=287,SNR=17
BGU Big Grassy Mou 94.44 47 P **P 15 05 08.3 +0.1**
AKASG Malin Array Be 94.53 324 P **P 15 05 05.4 -2.7**
comp=Z,1.7nm,0.8s,baz=58,slow=4.3,SNR=6.1
AKASG PP **PP 15 08 55.1 -0.4**
comp=Z,0.4nm,0.3s,baz=60,slow=8.4,SNR=0.8
YMR Madison River 94.60 43 P **P 15 05 09.6 +0.8**
PSUT Pine Spring 94.61 49 P **P 15 05 09.3 +0.3**
IKP In-Ko-Pah, Jac 94.61 56 P **P 15 05 09.8 +0.8**
baz=287
YHH Holmes Hill 94.63 43 P **P 15 05 09.7 +0.5**
YHH IAmb IAmb 15 05 11.7
comp=Z,16nm,1.1s
RMX La Rumorosa 94.65 56 P **P 15 05 10.2 +1.0**
RMX IAmb IAmb 15 05 12.0
comp=Z,17nm,1.0s
YUH Yuha Desert 94.77 56 P **P 15 05 10.1 +0.5**
YUH IAmb IAmb 15 05 12.0
comp=Z,15nm,0.9s
SWSC Sam W. Stewart 94.78 55 P **P 15 05 10.4 +0.8**
baz=287
DUG Dugway, Tooele 94.84 48 P **P 15 05 09.4 -0.6**
DUG pmax pmax
comp=Z,14nm,1.3s
DUG Dugway, Tooele 94.84 48 P **P 15 05 09.4 -0.6**
DUG IAmb IAmb 15 05 11.7
comp=Z,14nm,1.2s
DUG Dugway, Tooele 94.84 48 P **P 15 05 10.4 +0.5**
baz=289,SNR=5.3
BC3 Big Chuckawall 94.85 54 P **P 15 05 10.9 +0.8**
baz=287,SNR=14
IRM Iron Mountain 94.95 54 P **P 15 05 11.2 +0.8**

baz=287,SNR=24
H17A Grant Village 94.96 43 P **P** **15 05 11.6 +1.0**
H17A IAmb IAmb 15 05 14.3
comp=Z,20nm,1.1s
H17A Grant Village 94.96 43 P **P** **15 05 12.8 +2.3**
baz=291,SNR=16
FLWY Flagg Ranch 94.99 43 P **P** **15 05 10.2 -0.4**
FLWY IAmb IAmb 15 05 13.3
comp=Z,21nm,1.1s
TPAW Teton Pass 95.03 44 P **P** **15 05 11.0 +0.1**
TPAW IAmb IAmb 15 05 13.2
comp=Z,22nm,1.6s
GCMT Greycliff 95.05 41 P **P** **15 05 10.2 -0.5**
MOOW Moose Ponds 95.07 44 P **P** **15 05 11.2 +0.1**
REDW Red Top Meadow 95.14 44 P **P** **15 05 11.7 +0.3**
NEE2 Needles Airpor 95.18 53 P **P** **15 05 12.4 +0.9**
baz=288
HWUT Hardware Ranch 95.26 46 P **P** **15 05 11.7 -0.2**
HWUT IAmb IAmb 15 05 13.5
comp=Z,12nm,1.1s
CCUT Cedar City 95.29 50 P **P** **15 05 12.7 +0.6**
GLA Glamis 95.53 55 P **P** **15 05 14.3 +1.1**
baz=287
RLMT Red Lodge 95.56 42 P **P** **15 05 14.1 +0.9**
baz=292
BLYC Blythe 95.56 54 P **P** **15 05 13.4 +0.2**
BLYC IAmb IAmb 15 05 15.8
comp=Z,14nm,0.9s
JLU Jordanelle 95.68 47 P **P** **15 05 13.8 -0.2**
FFC Flin Flon 95.70 31 P **P** **15 05 12.6 -0.8**
FFC pmax pmax
comp=Z,11nm,1.1s
FFC Flin Flon 95.70 31 P **P** **15 05 12.6 -0.8**
FFC IAmb IAmb 15 05 14.4
comp=Z,11nm,1.1s
BRTR Keskin Array B 95.71 312 P **P** **15 05 13.4 -0.5**
comp=Z,0.8nm,0.8s,baz=29,slow=2.8,SNR=4.0
BRTR PP **PP** **15 09 05.4 +0.1**
comp=Z,1.1nm,0.8s,baz=92,slow=3.0,SNR=4.4
BRTR Keskin Array B 95.71 312 P **P** **15 05 12.6 -1.3**
BRTR Keskin Array B 95.71 312 P **P** **15 05 12.6 -1.3**
PDAR Pinedale Array 96.24 44 P **P** **15 05 15.8 -0.6**
comp=Z,0.5nm,0.7s,baz=222,slow=2.0,SNR=6.6
PDAR PP **PP** **15 09 08.5 -0.9**
comp=Z,2.2nm,1.1s,baz=289,slow=4.5,SNR=9.6
PDAR Pinedale Array 96.24 44 P **P** **15 05 15.6 -0.8**
U15A North Rim 96.46 51 P **P** **15 05 17.7 +0.1**
Q16A Castle Valley 96.46 48 P **P** **15 05 17.9 +0.4**
SRU San Rafael Swe 96.87 48 P **P** **15 05 18.8 -0.5**
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael Swe 96.87 48 P **P** **15 05 18.8 -0.5**
LAO LASA Array 96.89 40 P **P** **15 05 18.7 -0.3**
LAO LASA Array 96.89 40 P **P** **15 05 19.6 +0.6**
baz=294
RDMU Red Mountain 97.03 46 P **P** **15 05 19.5 -0.5**
RDMU IAmb IAmb 15 05 31.6
comp=Z,15nm,1.4s
HFS Hagfors 97.29 336 LR LR 15 54 09.1
comp=Z,667nm,18.1s,baz=64,slow=38
DGMT Dagmar 97.37 37 P **P** **15 05 20.9 -0.2**
baz=296
WUAZ Wupatki 97.47 52 P Pdif 15 05 22.3 +0.2
WUAZ IAmb IAmb 15 05 24.3
comp=Z,7.1nm,0.9s
WUAZ Wupatki 97.47 52 P Pdif 15 05 22.9 +0.8
baz=290,SNR=7.1
214A Organ Pipe Nat 97.49 55 P Pdif 15 05 22.6 +0.5
214A IAmb IAmb 15 05 24.3
comp=Z,11nm,0.9s
214A Organ Pipe Nat 97.49 55 P Pdif 15 05 23.1 +1.0
baz=288,SNR=8.2
NB2 NORSAR Subarra 97.66 338 P **P** **15 05 20.0 -2.2**
comp=Z,4.8nm,1.2s,baz=49,slow=4.6
NB2 NORSAR Subarra 97.66 338 P **P** **15 05 20.0 -2.2**
baz=49,slow=4.6
NOA NORSAR Array B 97.66 338 P **P** **15 05 20.0 -2.2**
comp=Z,1.0nm,0.7s,baz=49,slow=4.8,SNR=4.2
NOA PP **PP** **15 09 17.7 -1.7**
comp=Z,1.4nm,0.9s,baz=57,slow=7.9,SNR=3.5
NOA NORSAR Array B 97.66 338 P **P** **15 05 20.7 -1.5**
O20A White River Ci 98.14 46 P **P** **15 05 24.9 -0.1**
baz=292
PV23 Carpenter Ridg 98.21 48 P **P** **15 05 25.4 0.0**
K22A Casper 98.35 44 P **P** **15 05 25.6 -0.3**
baz=294
PV11 David Mesa, Pa 98.37 48 P **P** **15 05 25.8 -0.3**
PV13 Radium Mtn., P 98.46 48 P **P** **15 05 26.2 -0.3**
TUC Tucson 99.00 54 P Pdif 15 05 30.1 +1.3
baz=290
MVCO Mesa Verde 99.04 49 P **Pdif** **15 05 29.0 -0.2**
baz=292
RSSD Black Hills 99.38 41 P **Pdif** **15 05 29.9 -0.6**
baz=296
N23A Red Feather La 99.45 45 **Pdif** **15 05 29.9 -1.0**
N23A Red Feather La 99.45 45 P **Pdif** **15 05 31.4 +0.4**
baz=294
S22A 4UR Ranch, Cre 100.07 48 P **Pdif** **15 05 34.3 +0.5**
baz=293
ISCO Idaho Springs 100.13 46 P **Pdif** **15 05 34.5 +0.5**
baz=294
SDCO Great Sand Dun 101.04 48 P **Pdif** **15 05 38.5 +0.4**
baz=294
ANMO Albuquerque 101.43 51 P **Pdif** **15 05 40.4 +0.7**
baz=293
CLL Collm 103.02 329 *e*P **Pdif** **15 05 43.0 -3.2**
CLL Collm 103.02 329 *e*Pdif **Pdif** **15 05 48.0 +1.8**
CLL *e*PP **PKiKP** **15 10 06.0 -0.1**
CLL *e*PPP PPP 15 12 12.0
CLL *e*SKSac **SKSac** **15 16 24.0 -0.8**
CLL *e*PS PS 15 19 14.0 +5.0
CLL *e*PPS PPS 15 19 54.0
CLL *e*SS **SS** **15 24 42.0 +1.8**
CLL *ex* x 15 27 42.0
CLL *e*SSS SSS 15 29 00.0
CLL *e*SSSS 15 31 54.0
CLL *ex* x 15 34 36.0
MNTX Cornudas Mount 103.50 53 P **Pdif** **15 05 48.8 0.0**
baz=293
GERES GERESS Array B 104.14 327 Pdiff **Pdif** **15 05 50.9 -0.5**
comp=Z,0.3nm,0.3s,baz=39,slow=8.6,SNR=5.3
TXAR Lajitas Array 105.78 55 Pdiff **Pdif** **15 05 58.9 -0.2**
comp=Z,0.5nm,0.8s,baz=266,slow=2.0,SNR=4.2
TXAR PP **PP** **15 10 18.6 -3.2**
comp=Z,0.4nm,0.8s,baz=67,slow=3.3,SNR=3.7
U40A Yellville 110.61 44 P **PKiKP** **15 10 20.4 -0.3**
baz=302
WVT Waverly 114.10 42 P PKPdf 15 10 26.7 -0.6
baz=306
ACSO Alum Creek Sta 114.50 36 P **PKiKP** **15 10 27.5 -0.5**
baz=312
M53A WI Miller and 114.96 33 P **PKiKP** **15 10 28.4 -0.4**
baz=314
P52A Corning 115.39 36 P **PKiKP** **15 10 29.0 -0.7**
baz=312
M54A Oil Creek Stat 115.46 33 P **PKiKP** **15 10 29.1 -0.7**
baz=315
T50A Nancy 115.47 39 **PKiKP** **15 10 29.0 -0.9**
LONY Lake Ozonia 115.64 27 P **PKiKP** **15 10 29.2 -0.9**
baz=321
N54A Moraine State 115.67 33 P **PKiKP** **15 10 29.4 -0.8**
baz=315
LRAL Lakeview Retre 116.47 44 P **PKPdf** **15 10 31.9 0.0**
baz=306
TZTN Tazewell 116.57 39 P **PKPdf** **15 10 32.1 0.0**
baz=310
BINY Binghamton 116.83 30 P **PKPdf** **15 10 32.2 -0.3**
baz=319
O56A Blue Knob Stat 116.92 33 P **PKPdf** **15 10 32.4 -0.3**
baz=316
SSPA Standing Stone 117.02 32 P **PKPdf** **15 10 32.5 -0.3**
baz=316
N59A State Game Lan 117.90 31 P **PKPdf** **15 10 33.4 -1.1**
baz=319
L61B Northampton 118.20 28 P **PKPdf** **15 10 34.4 -0.6**
baz=322
GOGA Godfrey 118.60 42 P **PKPdf** **15 10 35.4 -0.6**
baz=309
KMSC Kings Mountain 118.85 39 P **PKPdf** **15 10 36.1 -0.4**
baz=311
ESDC Sonseca Array 119.61 329 PKP **PKPdf** **15 10 37.1 -0.8**
comp=Z,0.6nm,0.9s,baz=44,slow=3.8,SNR=1.9
ESDC PP **PP** **15 11 60.0 +0.5**
comp=Z,2.2nm,1.0s,baz=39,slow=7.3,SNR=6.3
TORD Torodi Ar. Bea 132.75 300 PKP **PKPdf** **15 11 03.2 -0.3**
comp=Z,1.7nm,0.8s,baz=6.4,slow=2.6,SNR=8.8
TORD PP **PP** **15 13 29.3 +1.4**
comp=Z,1.5nm,0.9s,baz=41,slow=4.7,SNR=4.3
TORD Torodi Ar. Bea 132.75 300 **PKPdf** **15 11 02.4 -1.1**
SJCC San Jacinto, C 138.35 61 *e*P **PKPdf** **15 11 14.6 +0.5**
OTAV Otavalo 139.23 76 PKIKP **PKPdf** **15 11 14.8 -1.4**
OTAV Otavalo 139.23 76 **PKPdf** **15 11 14.8 -1.4**
OTAV Otavalo 139.23 76 *e*P **PKPdf** **15 11 15.6 -0.6**
PLCA Paso Flores 139.75 142 PKP **PKPdf** **15 11 14.1 -1.8**
comp=Z,2.1nm,0.9s,baz=81,slow=2.5,SNR=3.8
PLCA Paso Flores 139.75 142 *e*P **PKiKP** **15 11 17.8 -0.5**
ZARC Zaragoza, Cauc 139.77 64 *e*P **PKPdf** **15 11 16.5 -0.1**
YOTC Yotoco, Valle 139.91 70 *e*P **PKPdf** **15 11 16.4 -0.7**
POPC Popayan, Colom 140.14 72 *e*P **PKPdf** **15 11 16.7 -0.9**
GUY2C Guyana, Caldas 140.31 67 *e*P **PKPdf** **15 11 14.6 -3.6**
SOTA Rioblanco 140.35 73 *e*P **PKiKP** **15 11 20.4 -0.5**
MARP Paez Belalcaza 140.71 71 *e*P **PKPdf** **15 11 15.6 -3.1**
ORTC Ortega, Tolima 140.95 69 *e*P **PKiKP** **15 11 21.4 -0.1**
SPBC San Pablo de B 141.29 66 *e*P **PKPdf** **15 11 18.5 -1.0**
ROSC El Rosal 141.42 67 PKP **PKPdf** **15 11 19.6 -0.6**
comp=Z,7.3nm,0.3s,baz=239,slow=20,SNR=4.0
ROSC El Rosal 141.42 67 PKIKP **PKPdf** **15 11 17.9 -2.2**
ROSC El Rosal 141.42 67 **PKPdf** **15 11 17.9 -2.2**
DBIC Dimbokro 141.50 296 PKhKP PKPpre 15 11 13.3
comp=Z,3.6nm,0.9s,baz=90,slow=4.0,SNR=3.4
DBIC Dimbokro 141.50 296 PKIKP **PKPdf** **15 11 19.2 -0.5**
DBIC Dimbokro 141.50 296 **PKPdf** **15 11 19.2 -0.5**
KIC Kosan Boka 141.54 296 *e*P **PKiKP** **15 11 22.5 -0.1**
comp=Z,18nm,1.0s
TIC Toumodi 141.65 296 *e*P **PKiKP** **15 11 23.0 +0.1**
PAMC Pamplona, Colo 141.73 62 *e*P **PKPdf** **15 11 15.3 -5.5**
LIC Lamto 141.85 296 *e*P **PKiKP** **15 11 24.0 +0.7**
comp=Z,24nm,1.1s
RUSC La Rusia 142.07 65 *e*P **PKPdf** **15 11 13.8 -7.6**
PTLC Puerto Leguiza 142.72 74 *e*P **PKPdf** **15 11 19.1 -2.9**
SDV Santo Domingo 142.72 59 PKPpre PKPpre 15 11 17.2
SDV Santo Domingo 142.72 59 *e*P **PKPdf** **15 11 18.6 -3.5**
SDV Santo Domingo 142.72 59 *e*P **PKPdf** **15 11 21.6 -0.5**
SOCV Socops 142.85 60 *e*P **PKPdf** **15 11 20.4 -1.8**
MACC Macarena, Meta 142.92 71 *e*P **PKPdf** **15 11 18.5 -3.9**
PTGC Puerto Gaitan, 143.66 67 *e*P PKPab 15 11 19.3 -0.9
ROC1 El Roble 143.69 131 **PKPdf** **15 11 22.4 -1.0**
PEL Peldehue 143.86 132 PKIKP **PKPdf** **15 11 22.3 -1.1**
PEL Peldehue 143.86 132 **PKPdf** **15 11 22.3 -1.1**
VA03 San Esteban 144.14 131 PKPbc 15 11 22.5 +0.4
CO06 Fray Jorge 144.27 127 PKPdf PKPbc 15 11 22.6 +0.2
GDHS Morne Mazeau, 144.52 40 **PKPab** **15 11 23.4 0.0**
CO02 Combarbal 144.53 129 PKPbc 15 11 23.7 +0.3
ELOV Elorza 144.67 60 *e*P **PKPab** **15 11 22.3 -1.7**
BAUV El Baul 144.83 56 PKPdf **PKPab** **15 11 23.4 -1.2**
GDSD La Dsirade Is 144.92 39 PKPdf **PKPab** **15 11 24.3 -0.5**
CO03 El Pedregal 144.93 128 **PKPab** **15 11 24.6 -0.1**
CZSB Cruzeiro do Su 146.67 87 *e*P **PKPdf** **15 11 28.9 +0.2**
GO02 Mina Guanaco 148.06 120 **PKPdf** **15 11 32.4 +1.2**
LVC Limon Verde 149.45 115 *e*P **PKPdf** **15 11 33.5 -0.1**
PB16 IPOC Station P 149.83 107 **PKPdf** **15 11 35.6 +1.1**
LPAZ La Paz 151.41 103 PKPbc **PKPbc** **15 11 42.5 -0.6**
comp=Z,25nm,1.1s,baz=299,slow=4.3,SNR=23
LPAZ La Paz 151.41 103 *e*P **PKPdf** **15 11 36.8 -0.3**
ETMB Extrema 153.30 89 *e*P **PKPdf** **15 11 40.1 +0.9**
BOAV Boa Vista 154.66 59 *e*P **PKPdf** **15 11 40.8 -0.4**
ITTB Itaituba 162.11 68 *e*P **PKPdf** **15 11 49.9 -0.2**
MCPB Macapa, AP 163.09 50 *e*P **PKPdf** **15 11 51.2 +0.1**
SALV Santo Antonio 163.26 107 *e*P **PKPdf** **15 11 50.8 -0.3**
NPGB Novo Progresso 163.38 76 *e*P **PKPdf** **15 11 51.6 +0.3**
CLDB Colider 163.60 90 *e*P **PKPdf** **15 11 52.6 +1.1**
PARB Paraibuna 166.59 153 *e*P **PKPdf** **15 11 54.4 +0.4**

JMA ***12*** *14:59:57.5±0.1, 24°.30N×121°.82E, h49km±2km, M2.4*
TAP ***12*** *14:59:58.8, 24°.44N×121°.88E, h17km, ML3.1, D*
ISC 12 14:59:58.7±0.8, 24°.43N±0°.02×121°.92E±0°.02, h18km±6km, n49, σ0°.59/92, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.13**	**277**	P		**Pg**	**15 00 02.8**	**+0.1**
EWUT	baz=274			S		**Sg**	**15 00 05.5**	**+0.1**
ENA	**Nanau**	**0.16**	**270**	*i* P		**Pb**	**15 00 03.2**	**0.0**
ENA	baz=264			S		**Sb**	**15 00 06.2**	**0.0**
TWC	**Suao**	**0.19**	**340**	*i* P		**Pb**	**15 00 03.8**	**+0.1**
TWC	baz=354			S		**Sb**	**15 00 06.9**	**0.0**
NDS	**Dongshan**	**0.28**	**318**	P		**Pg**	**15 00 05.0**	**+0.1**
NDS	baz=323			*i* S		**Sg**	**15 00 09.1**	**+0.1**
ILA	**Ilan**	**0.37**	**335**	*i* P		**Pg**	**15 00 06.9**	**+0.4**
ILA	baz=341			*i* S		**Sg**	**15 00 12.0**	**+0.3**
TWE	**Neicheng**	**0.37**	**322**	*i* P		**Pg**	**15 00 06.6**	**+0.1**
TWE	baz=327			S		**Sg**	**15 00 11.9**	**+0.2**
LATG	**Datong**	**0.37**	**286**	P		**Pg**	**15 00 06.6**	**0.0**
LATG	baz=286			S		**Sg**	**15 00 12.2**	**+0.2**
ETL	**Fush Village**	**0.38**	**225**	*i* P		**Pg**	**15 00 06.5**	**-0.2**
ETL	baz=219			S		**Sg**	**15 00 12.3**	**+0.3**
ENTT	**Nioudou**	**0.39**	**303**	*i* P		**Pg**	**15 00 06.9**	**+0.1**
ENTT	baz=305			*i* S		**Sg**	**15 00 12.4**	**+0.2**
NACB	**Ninganchiao**	**0.39**	**230**	*i* P		**Pg**	**15 00 06.4**	**-0.4**
NACB	baz=224			S		**Sg**	**15 00 12.4**	**+0.1**
NDT	**Datong Townshi**	**0.41**	**295**	*i* P		**Pg**	**15 00 07.3**	**+0.1**
NDT	baz=296			*e*S		**Sg**	**15 00 12.2**	**-0.7**
EGS		**0.41**	**1**	P		**Pg**	**15 00 07.8**	**+0.6**
EGS	baz=8.0			*e*S		**Sg**	**15 00 13.3**	**+0.3**
NTC	**Toucheng**	**0.43**	**349**	P		**Pg**	**15 00 07.8**	**+0.3**
NTC	baz=354			S		**Sg**	**15 00 13.7**	**+0.1**
FUSB	**Fushanzhiwuyua**	**0.45**	**317**	P		**Pg**	**15 00 07.9**	**+0.1**
FUSB	baz=320			S		**Sg**	**15 00 14.0**	**0.0**
ETLH	**Xiulin Townshi**	**0.46**	**241**	*i* P		**Pg**	**15 00 07.7**	**-0.3**
ETLH	baz=237			*e*S		**Sg**	**15 00 14.1**	**-0.3**
TWD	**Chiawan**	**0.46**	**221**	P		**Pg**	**15 00 07.9**	**0.0**
TWD	baz=214			*e*S		**Sb**	**15 00 15.4**	**+0.7**
NNSB	**Datong**	**0.49**	**270**	*i* P		**Pg**	**15 00 08.7**	**0.0**
NNSB	baz=268			*e*S		**Sg**	**15 00 15.0**	**-0.3**
NNS	**Nan Shan**	**0.50**	**271**	*i* P		**Pg**	**15 00 08.7**	**-0.2**
NNS	baz=269			S		**Sg**	**15 00 15.4**	**-0.2**
NWLT	**Wulai**	**0.52**	**312**	*i* P		**Pb**	**15 00 09.0**	**-0.3**
NWLT	baz=314			S		**Sg**	**15 00 15.9**	**-0.2**
HWA	**Hwalien**	**0.53**	**213**	*e*P		**Pg**	**15 00 10.6**	**+1.2**
TIPB	**Shuangxi**	**0.55**	**351**	*i* P		**Pb**	**15 00 09.9**	**0.0**
TIPB	baz=355			*e*S		**Sb**	**15 00 17.0**	**-0.4**
YHNB	**Yeheng**	**0.55**	**296**	P		**Pb**	**15 00 09.5**	**-0.5**
YHNB	baz=296			*e*S		**Sb**	**15 00 16.9**	**-0.7**
NSK	**Sanguang**	**0.57**	**296**	*i* P		**Pb**	**15 00 09.8**	**-0.5**
NSK	baz=296			S		**Sb**	**15 00 17.1**	**-0.9**

TWB1 Santiao Chiao 0.58 6 *i* P **Pb** **15 00 10.4 0.0**
baz=11
TWB1 *e*S **Sb** **15 00 17.9 -0.4**
baz=11
ETM Tongmen 0.60 220 P **Pb** **15 00 10.6 -0.2**
baz=216
ETM *e*S **Sg** **15 00 20.8 +1.9**
baz=216
TWA Mucha 0.63 331 *e*P **Pg** **15 00 12.2 +1.0**
baz=334
TWA S **Sb** **15 00 20.5 +0.8**
baz=334
TEYL Yanliau Villag 0.63 208 *e*P **Pb** **15 00 11.6 +0.3**
baz=205
NHDH Xindian Distri 0.64 326 *i* P **Pb** **15 00 11.3 -0.2**
baz=328
NHDH *e*S **Sb** **15 00 20.7 +0.6**
baz=328
FUSS Fushou 0.64 254 *e*P **Pb** **15 00 10.2 -1.4**
baz=251
NWF Wu-fen Shan 0.65 349 *i* P **Pb** **15 00 12.2 +0.6**
baz=352
NWF S **Sb** **15 00 21.1 +0.6**
baz=352
WFSB Wu-fen Shan 0.65 349 P **Pb** **15 00 11.9 +0.3**
baz=352
WFSB S **Sb** **15 00 20.7 +0.3**
baz=352
WHF Hehuan Shan 0.66 245 *i* P **Pb** **15 00 11.5 -0.5**
baz=241
SXI1 Grass Mountain 0.66 356 P **Pb** **15 00 12.0 +0.1**
baz=359
SXI1 S **Sb** **15 00 21.2 +0.4**
baz=359
ESL Shilin 0.76 216 *i* P **Pb** **15 00 13.4 0.0**
baz=212
ESL S **Sg** **15 00 24.4 +0.8**
baz=212
YM01 YM01 0.78 336 *i* P **Pg** **15 00 14.7 +0.7**
baz=338
YM01 S **Sb** **15 00 25.0 +0.8**
baz=338
TWS1 Kuangyinshan 0.81 326 P **Pb** **15 00 14.8 +0.5**
baz=328
TWS1 *e*S **Sg** **15 00 26.9 +1.6**
baz=328
OWD Renai 0.83 235 *i* P **Pb** **15 00 14.7 -0.1**
baz=233
OWD *e*S **Sg** **15 00 26.7 +0.8**
baz=233
LIOB Emei 0.85 285 *e*P **Pg** **15 00 16.0 +0.6**
baz=284
LIOB *e*S **Sb** **15 00 26.6 +0.5**
baz=284
WHP Taichung City 0.90 261 P **Pb** **15 00 16.4 +0.4**
baz=259
WHP *e*S **Sg** **15 00 28.8 +0.6**
baz=259
JYNG Yonagunijimaku 0.93 88 P **Pb** **15 00 16.3 -0.1**
JYNG *e*S **Sb** **15 00 28.9 +0.4**
YOJ Yonaguni jima 0.99 88 P **Pb** **15 00 16.7 -0.7**
YOJ *e*S **Sb** **15 00 30.4 +0.2**
EHY Hungye 1.07 211 *e*P **Pb** **15 00 18.2 -0.5**
baz=208
EHY *e*S **Sb** **15 00 33.1 +0.7**
baz=208
ALS Alishan 1.37 228 *e*P **Pg** **15 00 25.5 +0.3**
baz=226
ALS *e*S **Sb** **15 00 42.3 +1.0**
baz=226
CHN5 Tsauling 1.41 234 *e*P **Pb** **15 00 25.5 +0.9**
baz=232
IRIF Iriomote-Funau 1.65 93 P **Pn** **15 00 25.8 -1.1**
IRIF *e*S **Sn** **15 00 46.8 -0.9**
JKRS Kuro-shima 1.92 95 P **Pn** **15 00 30.7 +0.2**
JKRS S **Sn** **15 00 54.2 +0.1**
JIJ Ishigaki jima 2.03 91 P **Pn** **15 00 32.0 0.0**
JIJ S **Sn** **15 00 55.2 -1.7**
JISG Ishigakijimahi 2.18 85 P **Pn** **15 00 33.7 -0.5**
JISG *e*S **Sn** **15 01 00.1 -0.7**
JTJ Tarama 2.54 85 *e*S **Sn** **15 01 09.3 -0.3**

IDC ***12*** *15:12:00.8±0.7, 11°.45N×141°.00E, h0km, mb4.1/17, mb1 4.2/17, mb1mx4.0/51, mbtmp4.1/17, MS3.8/3, Ms1 3.8/3, ms1mx3.1/78, Error ellipse: s-maj=24.6km s-min=17.2km az=92.0*
NEIC ***12*** *15:12:03.1±1.0, 11°.5N±0°.1×140°.9E±0°.2, h10km±1km, mb4.5/44, Error ellipse: s-maj=29.8km s-min=20.6km az=88.0*
ISC 12 15:12:07.6±0.6, 11°.4N±0°.1×140°.8E±0°.1, h45km, n82, σ0°.90/76, mb4.4/43, MS3.7/3, 2C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.51**	**61**			**Pn**	**15 13 15.3**	**+1.9**
JNU	**Nakatsue**	**23.43**	**339**	P		**P**	**15 17 12.6**	**-0.3**
	10nm,0.9s,baz=115,slow=3.3,SNR=3.6							
JNU	**Nakatsue**	**23.43**	**339**	lAmb		lAmb	15 17 30.5	
	comp=Z,25nm,1.2s							
JYT	**Yasato**	**24.69**	**359**	P		**P**	**15 17 23.1**	**-1.3**
JSD	**Sado**	**26.59**	**356**	P		**P**	**15 17 40.7**	**-0.8**
JSD				lAmb		lAmb	15 17 42.6	
	comp=Z,13nm,1.0s							
KSRS	**Korea Array**	**28.37**	**338**	P		**P**	**15 17 56.7**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=156,slow=11,SNR=2.8							
KSRS				LR		LR	15 26 36.3	
	comp=Z,194nm,21.1s,baz=160,slow=31							
NJ2	**Nanjing**	**28.81**	**319**	*e*P		**P**	**15 18 01.4**	**-0.2**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
CTA	**Charters Tower**	**31.78**	**170**	LR		LR	15 30 31.8	
	comp=Z,107nm,19.2s,baz=330,slow=35							
WR0	**Warramunga Arr**	**31.80**	**191**	P		**P**	**15 18 27.7**	**-0.4**
WR0				lAmb		lAmb	15 18 30.9	
	comp=Z,13nm,1.5s							
WRA	**Warramunga Arr**	**31.82**	**192**	P		**P**	**15 18 27.1**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=12,slow=9.3,SNR=5.6							
WRA	**Warramunga Arr**	**31.82**	**192**	lAmb		lAmb	15 18 28.6	
	comp=Z,0.4nm,1.2s							
HNS	**HongShan**	**34.88**	**322**	⇑P		**P**	**15 18 56.8**	**+2.0**
HNS				pmax		pmax		
	comp=Z,9.0nm,0.9s							
ASAR	**Alice Springs**	**35.53**	**191**	P		**P**	**15 19 00.3**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=16,slow=12,SNR=8.1							
BNX	**BinXian**	**36.05**	**344**	⇑P		**P**	**15 19 06.4**	**+1.7**
BNX				pmax		pmax		
	comp=Z,27nm,1.0s							
BNX				pmax		pmax		
	comp=Z,350nm,3.5s							
XAN	**Xi'an**	**36.77**	**313**	P		**P**	**15 19 11.4**	**+0.3**
XAN				pP		pP	15 19 15.5	-6.5
XAN				pmax		pmax		
	comp=Z,7.0nm,0.7s							
KLR	**Kul'dur**	**38.42**	**350**	LR		LR	15 34 01.8	
	comp=Z,210nm,18.7s,baz=164,slow=34							
HHC	**Hu-ho-hao-te**	**38.98**	**324**	*e*P		**P**	**15 19 31.1**	**+1.4**
HHC				pmax		pmax		
	comp=Z,12nm,0.9s							
HHC				pmax		pmax		
	comp=Z,310nm,6.4s							
PZH	**PanZhiHua**	**39.68**	**298**	P		**P**	**15 19 35.8**	**0.0**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,90nm,5.3s							
CMAR	**Chiang Mai Arr**	**40.97**	**285**	P		**P**	**15 19 46.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=88,slow=7.1,SNR=5.8							
PETK	**Petropavlovsk-**	**43.72**	**15**	P		**P**	**15 20 06.9**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=213,slow=5.0,SNR=1.4							
GTA	**Gaotai**	**45.74**	**315**	*e*P		**P**	**15 20 26.2**	**+1.4**
GTA				pP		pP	15 20 31.7	-4.3
GTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
ULN	**Ulaanbaatar**	**46.01**	**329**	P		**P**	**15 20 25.1**	**-1.6**
SONM	**Songino Array**	**46.33**	**328**	P		**P**	**15 20 31.2**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=123,slow=5.3,SNR=3.9							
SONM	**Songino Array**	**46.33**	**328**	P		**P**	**15 20 27.7**	**-1.6**
GOMU	**GeErMu**	**48.18**	**309**	P		**P**	**15 20 46.9**	**+2.8**
GOMU				pP		pP	15 20 50.2	-5.3
GOMU				sP		sP	15 20 54.9	-5.4
GOMU				pmax		pmax		
	comp=Z,3.0nm,0.9s							
YAK	**Yakutsk**	**51.15**	**353**	P		**P**	**15 21 04.6**	**-1.2**

WMQ	**Urumqi**	**55.81**	**316**	*e*P	**P**	**15 21 39.9**	**-0.6**
WMQ				pmax	pmax			
	comp=Z,23nm,0.9s							
MK31	**Makanchi Array**	**60.33**	**318**	P	**P**	**15 22 12.7**	**+0.6**
MKAR	**Makanchi Array**	**60.33**	**318**	P	**P**	**15 22 12.8**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=97,slow=8.0,SNR=8.9							
MKAR	**Makanchi Array**	**60.33**	**318**	P	**P**	**15 22 12.6**	**+0.5**
MAKZ	**Makanchi**	**60.55**	**318**	P	**P**	**15 22 13.2**	**-0.3**
ZALV	**Zalesovo Beam**	**61.11**	**326**	P	**P**	**15 22 17.6**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=104,slow=7.5,SNR=4.6							
ZALV	**Zalesovo Beam**	**61.11**	**326**	P	**P**	**15 22 16.8**	**-0.3**
KURK	**Kurchatov**	**63.71**	**321**	P	**P**	**15 22 34.4**	**-0.2**
NRIK	**Noril'sk**	**66.90**	**342**	P	**P**	**15 22 54.8**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=141,slow=3.3,SNR=3.6							
NRIK	**Noril'sk**	**66.90**	**342**	P	**P**	**15 22 54.3**	**-0.5**
NRIK				IAmb	IAmb	15 22 55.8		
	comp=Z,4.8nm,1.1s							
GAR	**Garm**	**67.75**	**307**	P	**P**	**15 23 01.4**	**+0.4**
KKAR	**Karatay Array**	**67.90**	**312**	P	**P**	**15 23 01.7**	**0.0**
J20K	**Nowinta River**	**69.01**	**25**	P	**P**	**15 23 07.9**	**-0.3**
J20K				IAmb	IAmb	15 23 09.7		
	comp=Z,2.7nm,0.9s							
BRVK	**Borovoye**	**69.25**	**323**	P	**P**	**15 23 09.4**	**-0.5**
BRVK				IAmb	IAmb	15 23 22.8		
	comp=Z,4.1nm,1.2s							
CAST	**Castle Rocks**	**69.67**	**26**	P	**P**	**15 23 11.6**	**-0.7**
CAST				IAmb	IAmb	15 23 12.5		
	comp=Z,3.0nm,0.8s							
IMAR	**Indian Mountai**	**69.73**	**23**	P	**P**	**15 23 12.2**	**-0.4**
H21K	**Melozitna Rive**	**70.00**	**24**	P	**P**	**15 23 13.8**	**-0.5**
TRF	**Thorofare Moun**	**70.45**	**26**	P	**P**	**15 23 16.1**	**-1.3**
RND	**Reindeer**	**71.07**	**27**	P	**P**	**15 23 19.9**	**-1.1**
RND				IAmb	IAmb	15 23 46.0		
	comp=Z,6.9nm,1.3s							
H23K	**Yukon River**	**71.34**	**24**	P	**P**	**15 23 22.4**	**-0.1**
COLD	**Coldfoot**	**71.44**	**23**	P	**P**	**15 23 23.1**	**+0.1**
COLD				IAmb	IAmb	15 23 24.4		
	comp=Z,4.8nm,1.0s							
WRH	**Wood River Hil**	**71.63**	**26**	P	**P**	**15 23 23.6**	**-0.6**
DHY	**Denali Highway**	**71.66**	**27**	P	**P**	**15 23 24.4**	**-0.2**
MDM	**Murphy Dome**	**71.68**	**25**	P	**P**	**15 23 24.8**	**+0.2**
TOLK	**Toolik Lake Re**	**72.04**	**21**	P	**P**	**15 23 26.9**	**+0.3**
TOLK				IAmb	IAmb	15 23 28.0		
	comp=Z,3.2nm,0.8s							
IL31		**72.20**	**25**	P	**P**	**15 23 26.3**	**-1.3**
ILAR	**Eielson Array**	**72.20**	**25**	P	**P**	**15 23 25.9**	**-1.8**
	comp=Z,1.3nm,0.7s,baz=248,slow=5.9,SNR=17							
PAX	**Paxson**	**72.50**	**27**	P	**P**	**15 23 28.8**	**-0.7**
PAX				IAmb	IAmb	15 23 36.0		
	comp=Z,6.7nm,1.4s							
BMRM	**Bremner River**	**72.60**	**30**	P	**P**	**15 23 29.4**	**-0.8**
DOT	**Dot Lake**	**73.23**	**27**	P	**P**	**15 23 33.0**	**-0.8**
DOT				IAmb	IAmb	15 23 34.3		
	comp=Z,3.8nm,0.8s							
BMAR	**Burnt Mountain**	**73.61**	**23**	P	**P**	**15 23 36.7**	**+0.7**
GRNC	**Granite Creek**	**73.96**	**30**	P	**P**	**15 23 37.7**	**-0.7**
M27K	**Edge Creek, AK**	**74.06**	**28**	P	**P**	**15 23 38.2**	**-0.6**
M27K				IAmb	IAmb	15 23 43.9		
	comp=Z,6.5nm,1.2s							
L27K	**Beaver Creek,**	**74.15**	**28**	P	**P**	**15 23 39.0**	**-0.2**
BCAR	**Beaver Creek A**	**74.17**	**28**	P	**P**	**15 23 39.4**	**0.0**
CTGM	**Chitina Glacie**	**74.18**	**30**	P	**P**	**15 23 40.0**	**+0.4**
ABKAR	**Akbulak array**	**75.47**	**318**	P	**P**	**15 23 47.1**	**0.0**
HYT	**Haines Junctio**	**76.05**	**30**	P	**P**	**15 23 50.5**	**+0.2**
HYT				IAmb	IAmb	15 23 51.7		
	comp=Z,5.6nm,0.9s							
M30M	**Minto, Yukon**	**76.43**	**28**	P	**P**	**15 23 52.5**	**+0.2**
M30M				IAmb	IAmb	15 23 57.5		
	comp=Z,5.7nm,1.1s							
WHY	**Whitehorse**	**77.33**	**30**	P	**P**	**15 23 57.4**	**-0.1**
M31M	**Drury Creek, Y**	**77.55**	**29**	P	**P**	**15 23 58.3**	**-0.3**
M31M				IAmb	IAmb	15 23 59.4		
	comp=Z,5.2nm,1.1s							
INK	**Inuvik**	**77.85**	**22**	P	**P**	**15 23 59.1**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=289,slow=4.5,SNR=5.8							
A36M	**Sachs Harbour**	**80.43**	**18**	P	**P**	**15 24 13.8**	**-0.3**
A36M				IAmb	IAmb	15 24 19.4		
	comp=Z,4.6nm,0.9s							
YKA	**Yellowknife Ar**	**86.57**	**27**	P	**P**	**15 24 46.0**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=291,slow=5.3,SNR=24							
YKA	**Yellowknife Ar**	**86.57**	**27**	P	**P**	**15 24 45.5**	**-0.4**
YBH	**Yreka Blue Hor**	**87.26**	**48**	P	**P**	**15 24 49.8**	**0.0**
	comp=Z,1.0nm,0.4s,baz=347,slow=7.2,SNR=4.0							
YBH	**Yreka Blue Hor**	**87.26**	**48**	IAmb	IAmb	15 24 51.5		
	comp=Z,2.5nm,0.9s							
RES	**Resolute Bay**	**87.53**	**13**	P	**P**	**15 24 50.1**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=306,slow=3.8,SNR=6.7							
RES	**Resolute Bay**	**87.53**	**13**	P	**P**	**15 24 50.1**	**-0.1**
RES				IAmb	IAmb	15 25 18.2		
	comp=Z,5.2nm,1.5s							
PINE	**Pine Mountain**	**88.06**	**46**	P	**P**	**15 24 53.7**	**0.0**
BEKR	**Beckworth**	**89.43**	**50**	P	**P**	**15 25 00.4**	**+0.1**
BEKR				IAmb	IAmb	15 25 01.4		
	comp=Z,2.6nm,0.8s							
NVAR	**Mina Array Bea**	**91.35**	**50**	P	**P**	**15 25 08.6**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=260,slow=6.4,SNR=7.4							
FINES	**FINESS Array B**	**91.39**	**334**	P	**P**	**15 25 07.3**	**-1.3**
	comp=Z,2.2nm,0.6s,baz=96,slow=5.7,SNR=10.0							
MAW	**Mawson**	**95.94**	**202**	P	**P**	**15 25 29.8**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=262,slow=23,SNR=2.0							
MAW	**Mawson**	**95.94**	**202**	IAmb	IAmb	15 25 58.4		
	comp=Z,1.8nm,1.2s							
LPAZ	**La Paz**	**151.51**	**103**	PKPbc	**PKiKP**	**15 31 59.3**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=352,slow=3.6,SNR=2.5							

BJI **12** *15:16:43.7±0.0, 10.67S×41.00E, h15km, mb4.9/46, mB5.2/19, Ms4.7/15, Ms7 4.5/14*

IDC **12** *15:16:44.5±0.4, 10.77S×41.51E, h0km, mb4.8/41, mb1 4.9/43, mb1mx4.8/55, mbtmp4.8/43, ML5.1/3, MS4.4/34, Ms1 4.4/34, ms1mx4.2/75, Error ellipse: s-maj=13.4km s-min=10.8km az=104.0*

MOS **12** *15:16:44.9±0.8, 10.59S×41.59E, h10km, mb5.2/99, MS4.5/7, Error ellipse: s-maj=7.9km s-min=3.6km az=93.6*

NEIC **12** *15:16:46.6±2.0, 10.77S±0.07×41.44E±0.02, h10km±1km, mb5.2/131, Error ellipse: s-maj=12.0km s-min=4.5km az=182.0*

GCMT **12** *15:16:50.6±0.2, 10.64S±0.02×41.45E±0.01, h24km, MW5.1/92, Moment Tensor Solution. s45,c57; s92,c134; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.92±.22; Mθθ-1.18±.14; Mφφ5.10±.14; Mrθ-1.40±.23; Mrφ-0.23±.10; Mθφ-0.83±.17; Best double couple: M=4.88100×10^16 NP1:φs19.0000°, δ54.00000°, λ-62.00000°. Principal axes: T 5.1770, Plg5.0000°, Azm89.0000°; N -0.5930, Plg23.0000°, Azm181.0000°; P -4.5840, Plg67.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR **12** *15:17:11.1±0.0, 7.40S×41.53E, h52km±1km, mb4.9*

ISC 12 15:16:47.7±0.7, **10.88S**±0.04×**41.44E**±0.04, **h24**km±4km, **h25**km:**pP-P, n959,** σ1s**23**/957, **mb5.1**/246, **MS4.5**/56, **52C-56D, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBV	**Sambava**	**8.68**	**108**	P	**Pn**	**15 18 51.7**	**-0.1**
	SNR=14						
SBV	**Sambava**	**8.68**	**108**	P	**Pn**	**15 18 51.4**	**-0.5**
KIBK	**Kibwezi**	**9.13**	**338**	Pn	**Pn**	**15 18 54.3**	**-3.8**
KIBK	**Kibwezi**	**9.13**	**338**	P	**Pn**	**15 18 55.7**	**-2.4**
	SNR=9.3						
OPO	**Ambohidratompo**	**9.45**	**145**	Pn	**Pn**	**15 19 03.4**	**+0.9**
	42nm,0.3s,baz=311,slow=15,SNR=112						
OPO				Sn	**Sn**	**15 20 42.8**	**-5.3**
	46nm,0.3s,baz=241,slow=17,SNR=7.6						
OPO				LR	LR	15 22 29.2	
	comp=Z,1μm,21.3s,baz=190,slow=36						
ABPO	**Ambohimpanom**	**9.83**	**146**	P	**Pn**	**15 19 07.6**	**-0.2**
ABPO	**Ambohimpanom**	**9.83**	**146**	Pn	**Pn**	**15 19 07.6**	**-0.2**
KMBO	**Kilima Mbogo**	**10.55**	**337**	Pn	**Pn**	**15 19 14.6**	**-3.1**
	5.7nm,0.3s,baz=157,slow=14,SNR=68						
KMBO				Sn	Sn	15 21 03.1	-12
	7.9nm,0.3s,baz=210,slow=15,SNR=5.5						
KMBO				LR	LR	15 23 19.8	
	comp=Z,2μm,19.5s,baz=147,slow=38						
KMBO	**Kilima Mbogo**	**10.55**	**337**	*i* P	**Pn**	**15 19 15.1**	**-2.6**
KMBO	**Kilima Mbogo**	**10.55**	**337**	Pn	**Pn**	**15 19 14.0**	**-3.6**
KMBO	**Kilima Mbogo**	**10.55**	**337**	*e*P	Pn	15 19 11.4	-6.2
KMBO	**Kilima Mbogo**	**10.55**	**337**	*e*P	Pn	15 19 11.4	-6.2
KMBO	**Kilima Mbogo**	**10.55**	**337**	*i* P	**Pn**	**15 19 14.7**	**-2.9**
	SNR=42						
VOI	**Vohitsoka**	**12.10**	**156**	Pn	**Pn**	**15 19 38.4**	**-0.5**
LSZ	**Lusaka**	**13.62**	**250**	Pn	**Pn**	**15 19 57.4**	**-2.2**
	53nm,0.3s,baz=78,slow=12,SNR=644						
LSZ				Sn	Sn	15 22 19.1	-11
	15nm,0.3s,baz=353,slow=21,SNR=4.6						
LSZ				LR	LR	15 25 28.7	
	comp=Z,2μm,21.9s,baz=81,slow=38						
LSZ	**Lusaka**	**13.62**	**250**	⇓*i* P	**Pn**	**15 19 57.3**	**-2.3**
LSZ				IAmb	IAmb	15 19 58.1	
	comp=Z,4μm,0.6s						
LSZ	**Lusaka**	**13.62**	**250**	P	**Pn**	**15 19 56.4**	**-3.2**
LSZ	**Lusaka**	**13.62**	**250**	Pn	**Pn**	**15 19 56.4**	**-3.2**
LSZ	**Lusaka**	**13.62**	**250**	*i* P	**Pn**	**15 19 57.5**	**-2.2**
LSZ	**Lusaka**	**13.62**	**250**	*i* P	**Pn**	**15 19 57.5**	**-2.2**
TEBE	**Entebbe**	**14.05**	**320**	*e*P	**P**	**15 20 10.2**	**-2.9**
TEBE				*e*S	Sn	15 22 22.8	-18
MBAR	**Mbarara**	**14.74**	**313**	Pn	**Pn**	**15 20 10.6**	**-4.4**
	comp=Z,12nm,0.3s,baz=128,slow=14,SNR=31						
MBAR				Sn	Sn	15 22 43.5	-14
	comp=Z,24nm,0.3s,baz=220,slow=18,SNR=4.3						
MBAR				LR	LR	15 26 09.2	
	comp=Z,1μm,19.2s,baz=124,slow=38						
MBAR	**Mbarara**	**14.74**	**313**	*i* P	**Pn**	**15 20 11.1**	**-3.8**
MBAR	**Mbarara**	**14.74**	**313**		**Pn**	**15 20 10.4**	**-4.6**
MBAR	**Mbarara**	**14.74**	**313**	*i* P	**Pn**	**15 20 13.0**	**-2.0**
MBAR	**Mbarara**	**14.74**	**313**	P	**Pn**	**15 20 11.2**	**-3.8**
MBAR	**Mbarara**	**14.74**	**313**	*e*P	**Pn**	**15 20 10.9**	**-4.1**
MBAR				*e*S	Sn	15 22 43.6	-14
MBAR	**Mbarara**	**14.74**	**313**	*e*P	Pn	15 20 09.8	-5.2
MBAR	**Mbarara**	**14.74**	**313**	*e*P	Pn	15 20 09.7	-5.3
MBAR	**Mbarara**	**14.74**	**313**	*i* P	**Pn**	**15 20 13.0**	**-2.0**
MBAR	**Mbarara**	**14.74**	**313**	*e*P	Pn	15 20 09.8	-5.2
MBAR	**Mbarara**	**14.74**	**313**	*e*P	Pn	15 20 09.7	-5.3
MSEY	**Mahe Island**	**15.21**	**67**	P	**Pn**	**15 20 18.0**	**-3.2**
MSEY				pmax	pmax		
	comp=Z,125nm,0.7s						
MSEY	**Mahe Island**	**15.21**	**67**	Pn	**Pn**	**15 20 17.9**	**-3.2**
MSEY	**Mahe Island**	**15.21**	**67**	P	**Pn**	**15 20 19.1**	**-2.1**
MSEY				P	**Pn**	**15 20 19.1**	**-2.1**
MSEY	**Mahe Island**	**15.21**	**67**	*i* P	**Pn**	**15 20 19.4**	**-1.8**
	SNR=13						
BLWY	**Bulawayo**	**15.40**	**232**	*e*P	**Pn**	**15 20 23.3**	**-0.4**
BLWY				IAmb	IAmb	15 20 24.5	
	comp=Z,2μm,1.0s						
BLWY	**Bulawayo**	**15.40**	**232**	*i* P	**Pn**	**15 20 23.6**	**-0.1**
BLWY	**Bulawayo**	**15.40**	**232**	*i* P	**Pn**	**15 20 23.6**	**-0.1**
LODK	**Lodwar**	**15.44**	**337**		**Pn**	**15 20 22.2**	**-2.0**
LODK	**Lodwar**	**15.44**	**337**	P	**Pn**	**15 20 23.4**	**-0.8**
	SNR=14						
LODK	**Lodwar**	**15.44**	**337**	*e*P	**P**	**15 20 26.3**	**-2.2**
LODK	**Lodwar**	**15.44**	**337**	*e*P	**P**	**15 20 29.2**	**+0.7**
LODK	**Lodwar**	**15.44**	**337**	*e*P	**P**	**15 20 29.2**	**+0.7**
MATP	**Matopo**	**15.65**	**231**	Pn	**Pn**	**15 20 26.5**	**-0.4**
	comp=Z,9.9nm,0.3s,baz=51,slow=14,SNR=240						
MATP				Sn	**Sn**	**15 23 12.1**	**-7.6**
	comp=Z,5.6nm,0.3s,baz=48,slow=7.1,SNR=1.8						
MATP				LR	LR	15 26 31.9	
	comp=Z,3μm,19.5s,baz=56,slow=37						
MATP	**Matopo**	**15.65**	**231**	*i* P	**Pn**	**15 20 26.6**	**-0.3**
MATP	**Matopo**	**15.65**	**231**	*i* P	**Pn**	**15 20 26.6**	**-0.3**
MSNA	**Messina**	**15.78**	**222**	*e*P	**Pn**	**15 20 29.8**	**+1.3**
MSNA				IAmb	IAmb	15 20 37.2	
	comp=Z,91nm,0.7s						
MSNA	**Messina**	**15.78**	**222**	*i* P	**Pn**	**15 20 29.6**	**+1.0**
MSNA	**Messina**	**15.78**	**222**	*i* P	**Pn**	**15 20 29.6**	**+1.0**
MOPA	**Mopani**	**15.79**	**216**	*e*P	**Pn**	**15 20 27.2**	**-1.4**
MOPA				IAmb	IAmb	15 20 29.4	
	comp=Z,14nm,0.6s						
RER	**Riviere de l'E**	**17.12**	**128**	Pn	**Pn**	**15 20 46.2**	**+0.7**
RER				IAmb	IAmb	15 20 58.1	
	comp=Z,295nm,1.5s						
DILA	**Dilla**	**17.49**	**350**	*e*P	**Pn**	**15 20 50.5**	**+0.2**
CNG	**Changalane**	**17.64**	**208**	*e*P	**P**	**15 20 54.4**	**+1.7**
CNG				IAmb	IAmb	15 20 55.7	
	comp=Z,14nm,1.1s						
CNG	**Changalane**	**17.64**	**208**	*i* P	**P**	**15 20 53.2**	**+0.4**
CNG	**Changalane**	**17.64**	**208**	*i* P	**P**	**15 20 53.2**	**+0.4**
CRLN	**Carolina, Mapu**	**18.50**	**214**	*e*P	**P**	**15 21 01.2**	**-1.3**
CRLN				IAmb	IAmb	15 21 13.8	
	comp=Z,24nm,0.8s						
POGA	**Pongola**	**18.76**	**208**	*e*P	**Pn**	**15 21 07.8**	**+2.1**
POGA				IAmb	IAmb	15 21 23.8	
	comp=Z,38nm,1.1s						
SLR	**Silverton**	**19.32**	**218**	*e*P	**P**	**15 21 11.9**	**+0.6**
SLR				IAmb	IAmb	15 21 50.4	
	comp=Z,21nm,0.7s						
FURI	**Furi**	**19.84**	**352**	*e*P	**P**	**15 21 16.7**	**-0.6**
FURI	**Furi**	**19.84**	**352**	*e*P	**P**	**15 21 16.7**	**-0.6**
AAE	**Adis Abeba**	**19.96**	**352**	*e*P	**Pn**	**15 21 20.6**	**+0.2**
AAE	**Adis Abeba**	**19.96**	**352**	*e*P	**Pn**	**15 21 21.8**	**+1.5**
AAE	**Adis Abeba**	**19.96**	**352**	*e*P	**Pn**	**15 21 21.8**	**+1.5**
NWCL	**Newcastle**	**19.97**	**211**	*e*P	**P**	**15 21 18.9**	**+0.5**
NWCL				IAmb	IAmb	15 21 35.4	
	comp=Z,26nm,0.6s						
KSR	**Koster**	**20.27**	**221**	*e*P	Pn	15 21 23.7	-0.1
KSR				IAmb	IAmb	15 21 35.1	
	comp=Z,48nm,0.8s						
ANKE	**Ethiopia-Afar**	**20.41**	**355**	*e*P	**P**	**15 21 24.6**	**+1.0**
LBTB	**Lobatse**	**20.57**	**225**	P	Pn	15 21 26.6	-0.7
	comp=Z,38nm,0.7s,baz=40,slow=11,SNR=38						
LBTB				LR	LR	15 29 30.9	
	comp=Z,2μm,18.0s,baz=48,slow=37						
LBTB	**Lobatse**	**20.57**	**225**	⇓*i* P	Pn	15 21 26.3	-1.0
LBTB				IAmb	IAmb	15 21 46.4	
	comp=Z,52nm,0.7s						
LBTB	**Lobatse**	**20.57**	**225**		**P**	**15 21 26.1**	**+1.1**
LBTB	**Lobatse**	**20.57**	**225**	*i* P	Pn	15 21 26.7	-0.6
LBTB	**Lobatse**	**20.57**	**225**	*i* P	Pn	15 21 26.7	-0.6
PRYS	**Parys**	**20.75**	**218**	*e*P	Pn	15 21 28.3	-1.1
PRYS				IAmb	IAmb	15 21 43.9	
	comp=Z,46nm,0.8s						
SNKL	**Senekal, Frees**	**21.53**	**215**	*e*P	**P**	**15 21 37.0**	**+1.6**
SNKL				IAmb	IAmb	15 21 37.9	
	comp=Z,90nm,0.9s						
SWZ	**Schweizer**	**22.20**	**221**	*e*P	**P**	**15 21 43.2**	**+0.7**
SWZ				IAmb	IAmb	15 21 44.4	
	comp=Z,55nm,0.8s						
ATD	**Arta Tunnel**	**22.31**	**4**	P	**P**	**15 21 42.6**	**-1.1**
	comp=Z,59nm,1.0s,baz=219,slow=3.9,SNR=10						
ATD				LR	LR	15 30 19.2	
	comp=Z,382nm,21.6s,baz=170,slow=37						
ATD	**Arta Tunnel**	**22.31**	**4**	P	**P**	**15 21 41.2**	**-2.5**
ATD	**Arta Tunnel**	**22.31**	**4**	P	**P**	**15 21 42.6**	**-1.1**
BOSA	**Boshof**	**23.25**	**218**	P	**P**	**15 21 54.7**	**+1.1**
	comp=Z,35nm,1.0s,baz=47,slow=10,SNR=32						
BOSA				LR	LR	15 30 58.8	
	comp=Z,556nm,18.9s,baz=52,slow=36						
BOSA	**Boshof**	**23.25**	**218**	⇑*i* P	**P**	**15 21 54.7**	**+1.1**
BOSA				IAmb	IAmb	15 22 07.1	
	comp=Z,52nm,0.8s						
BOSA	**Boshof**	**23.25**	**218**	P	**P**	**15 21 53.5**	**-0.1**
BOSA				IAmb	IAmb	15 22 10.5	
	comp=Z,63nm,1.0s						
BOSA	**Boshof**	**23.25**	**218**	*i* P	**P**	**15 21 55.1**	**+1.5**
BOSA	**Boshof**	**23.25**	**218**	*i* P	**P**	**15 21 55.1**	**+1.5**
TSUM	**Tsumeb**	**24.45**	**247**	P	**P**	**15 22 06.4**	**+1.3**
	comp=Z,35nm,0.7s,baz=69,slow=8.7,SNR=18						
TSUM				LR	LR	15 31 54.8	
	comp=Z,1μm,21.6s,baz=83,slow=37						
TSUM	**Tsumeb**	**24.45**	**247**	*e*P	**P**	**15 22 05.2**	**+0.2**
TSUM				IAmb	IAmb	15 22 25.9	
	comp=Z,578nm,0.8s						
TSUM	**Tsumeb**	**24.45**	**247**	P	**P**	**15 22 04.9**	**-0.1**
TSUM				IAmb	IAmb	15 22 26.0	
	comp=Z,84nm,0.8s						
TSUM	**Tsumeb**	**24.45**	**247**	*i* P	**P**	**15 22 05.0**	**-0.1**
TSUM	**Tsumeb**	**24.45**	**247**	*i* P	**P**	**15 22 05.0**	**-0.1**
HVD	**Gariep Dam**	**24.58**	**215**	*e*P	**P**	**15 22 07.2**	**+1.0**
HVD				IAmb	IAmb	15 22 29.0	
	comp=Z,37nm,0.8s						
UPI	**Upington**	**25.69**	**225**	*e*P	**P**	**15 22 18.3**	**+2.1**
UPI				IAmb	IAmb	15 22 32.2	
	comp=Z,59nm,0.9s						
SOCY	**Socotra**	**26.09**	**29**	P	**P**	**15 22 20.9**	**+1.0**
SOCY				IAmb	IAmb	15 22 24.7	
	comp=Z,42nm,0.7s						
SOCY	**Socotra**	**26.09**	**29**	P	**P**	**15 22 21.6**	**+1.8**
AUGR	**Augrabies**	**26.47**	**225**	*e*P	**P**	**15 22 28.9**	**+5.7**
AUGR				IAmb	IAmb	15 22 43.2	
	comp=Z,76nm,0.7s						
GRAN	**Grantham**	**27.75**	**217**	*e*P	**P**	**15 22 37.2**	**+2.6**
GRAN				IAmb	IAmb	15 22 52.8	
	comp=Z,57nm,0.7s						
SUR	**Sutherland**	**28.62**	**218**	P	**P**	**15 22 44.6**	**+2.1**
	comp=Z,13nm,0.9s,baz=53,slow=11,SNR=22						
SUR				LR	LR	15 34 18.2	
	comp=Z,731nm,18.4s,baz=42,slow=37						
SUR	**Sutherland**	**28.62**	**218**	P	**P**	**15 22 44.2**	**+1.7**
SUR				IAmb	IAmb	15 22 59.9	
	comp=Z,31nm,0.8s						
CVNA	**Calvinia**	**28.68**	**221**	*e*P	**P**	**15 22 45.0**	**+2.1**
CVNA				IAmb	IAmb	15 23 02.6	
	comp=Z,26nm,0.8s						
MATJ	**Matjiesfontein**	**29.37**	**217**	*e*P	**P**	**15 22 51.4**	**+2.3**
MATJ				IAmb	IAmb	15 23 05.7	
	comp=Z,29nm,0.9s						
CER	**Ceres**	**30.22**	**219**	*e*P	**P**	**15 22 56.2**	**-0.4**
CER				IAmb	IAmb	15 23 11.0	
	comp=Z,6.7nm,0.9s						
DOK	**Doka**	**31.88**	**23**	P	**P**	**15 23 11.6**	**+0.5**
	SNR=5.1						
DOK				P	**P**	**15 23 11.6**	**+0.5**
	SNR=5.1						
RAYN	**Ar Rayn**	**34.42**	**7**	P	**P**	**15 23 32.1**	**-1.4**
RAYN				pmax	pmax		
	comp=Z,13nm,1.4s						
RAYN	**Ar Rayn**	**34.42**	**7**	P	**P**	**15 23 32.1**	**-1.4**
RAYN	**Ar Rayn**	**34.42**	**7**	P	**P**	**15 23 34.5**	**+1.0**
RAYN	**Ar Rayn**	**34.42**	**7**	*i* P	**P**	**15 23 34.4**	**+0.9**
	SNR=6.2						
MHTO	**MHTO**	**35.60**	**27**	P	**P**	**15 23 43.9**	**+0.4**
MHTO				P	**P**	**15 23 43.9**	**+0.4**
MZR	**Muzera**	**35.68**	**19**	P	**P**	**15 23 44.7**	**+0.4**
MZR	**Muzera**	**35.68**	**19**	P	**P**	**15 23 44.4**	**+0.1**
UMZA	**Um Al Zommool**	**36.00**	**22**	P	**P**	**15 23 47.0**	**+0.1**
UMZA				P	**P**	**15 23 47.0**	**+0.1**
BSY	**Bisya**	**36.82**	**25**	P	**P**	**15 23 55.1**	**+1.1**
	SNR=6.2						
BSY				P	**P**	**15 23 55.1**	**+1.1**
	SNR=6.2						
ALNE	**Al Ain**	**37.44**	**22**	P	**P**	**15 24 00.7**	**+1.5**
	SNR=7.0						
SMDO	**Samad**	**37.45**	**26**	P	**P**	**15 23 59.7**	**+0.3**
	SNR=5.4						
SMDO				P	**P**	**15 23 59.7**	**+0.3**
	SNR=5.4						
WBK	**Wadi Bani Khal**	**37.46**	**27**	P	**P**	**15 24 00.5**	**+1.0**
WBK				P	**P**	**15 24 00.5**	**+1.0**
ASUD	**Al Ashush, Dub**	**37.81**	**21**	P	**P**	**15 24 03.4**	**+1.1**
FAQ	**Al Faqa, Dubai**	**38.01**	**21**	P	**P**	**15 24 05.0**	**+1.0**
ASHO	**Ashiyiah**	**38.12**	**22**	P	**P**	**15 24 05.8**	**+0.8**
NAZ	**Nazwa, Dubai**	**38.26**	**21**	P	**P**	**15 24 07.4**	**+1.2**
	SNR=5.1						
NAZ				P	**P**	**15 24 07.4**	**+1.2**
	SNR=5.1						
NAZ	**Nazwa, Dubai**	**38.26**	**21**	P	**P**	**15 24 07.2**	**+1.1**
HATD	**Hatta, Dubai**	**38.28**	**22**	P	**P**	**15 24 07.1**	**+0.8**
UOSS	**Minazif**	**38.41**	**22**	P	**P**	**15 24 05.7**	**-1.8**
UOSS	**Minazif**	**38.41**	**22**	P	**P**	**15 24 08.3**	**+0.8**
UOSS				P	**P**	**15 24 08.3**	**+0.8**
UOSS	**Minazif**	**38.41**	**22**	*i* P	**P**	**15 24 07.8**	**+0.3**
	SNR=5.7						
MSFE	**Esma-Masafi**	**38.78**	**22**	*i* P	**P**	**15 24 11.6**	**+1.0**
	SNR=12						
MASF	**Masafi**	**38.79**	**22**	P	**P**	**15 24 11.4**	**+0.7**
	SNR=9.6						
BANOM	**Banah**	**39.34**	**21**	P	**P**	**15 24 15.9**	**+0.6**
BANOM				P	**P**	**15 24 15.9**	**+0.6**
BANOM	**Banah**	**39.34**	**21**	*i* P	**P**	**15 24 15.7**	**+0.5**
	SNR=10						
EIL	**Elat**	**40.80**	**351**	LR	LR	15 40 56.3	
	comp=Z,436nm,19.5s,baz=180,slow=36						
PALK	**Pallekele**	**43.04**	**67**	LR	LR	15 39 36.2	
	comp=Z,847nm,18.2s,baz=357,slow=32

ONI pmax pmax
comp=Z,6.0nm,0.8s
ONI Oni 53.24 2 P **P** **15 26 03.3 -1.0**
ALN Alexandroupoli 53.45 345 P **P** **15 26 05.8 0.0**
ALN pmax pmax
comp=Z,15nm,0.8s
ALN Alexandroupoli 53.45 345 P **P** **15 26 05.8 0.0**
ZEI Tsey 53.46 2 *e*P **P** **15 26 06.6 +0.6**
ZEI pmax pmax
comp=Z,43nm,0.9s
NIL Nilore 53.65 33 P **P** **15 26 07.3 -0.1**
NIL pmax pmax
comp=Z,16nm,0.9s
NIL Nilore 53.65 33 P **P** **15 26 07.3 -0.1**
NIL lAmb lAmb 15 26 22.9
comp=Z,16nm,0.8s
LIT Litokhoron 53.68 342 P **P** **15 26 06.1 -1.5**
LIT pmax pmax
comp=Z,7.0nm,1.1s
LIT Litokhoron 53.68 342 P **P** **15 26 06.1 -1.5**
MAK Makhachkala 53.87 6 *e*P P 15 26 02.3 -6.5
MAK *e*S **S** **15 33 35.4 -7.0**
MAK pmax pmax
comp=Z,192nm,0.9s
MAK MLR MLR
comp=Z,467nm,17.0s
NEY Neytrino 53.88 1 *i* P **P** **15 26 08.5 -0.6**
NEY pmax pmax
comp=Z,3.0nm,1.0s
NCK Nalchik 54.15 2 *i* P **P** **15 26 10.5 -0.4**
NCK pmax pmax
comp=Z,12nm,0.9s
SOC Sochi 54.23 358 *e*P **P** **15 26 07.7 -3.7**
SOC *e* 15 28 10.6
SOC *e*PPP PPP 15 29 17.2
SOC *e*S **S** **15 33 44.1 -3.2**
SOC *e*SS **SS** **15 37 25.1 -4.6**
SOC MLR MLR
comp=Z,324nm,17.0s
KBZ Khabaz 54.37 1 P **P** **15 26 13.0 +0.6**
comp=Z,9.7nm,0.9s,baz=170,slow=6.8,SNR=17
KBZ Khabaz 54.37 1 *ce*P **P** **15 26 12.9 +0.6**
KBZ pmax pmax
comp=Z,12nm,0.9s
SHA1 Shidzhatmaz 54.37 1 *i* P **P** **15 26 12.1 -0.6**
VAE Valguarnera 54.38 334 LR LR 15 48 54.4
comp=Z,210nm,20.8s,baz=145,slow=36
KIV Kislovodsk 54.59 1 ⇑P **P** **15 26 14.5 +0.4**
KIV Kislovodsk 54.59 1 *e*P **P** **15 26 14.9 +0.7**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,305nm,17.0s
KIV Kislovodsk 54.59 1 P **P** **15 26 14.1 0.0**
KIV lAmb lAmb 15 26 15.7
comp=Z,21nm,0.9s
KIV Kislovodsk 54.59 1 *i* P **P** **15 26 14.9 +0.7**
SNR=6.2
KVAR Kislovodsk Arr 54.59 1 P **P** **15 26 14.0 -0.2**
comp=Z,4.2nm,0.5s,baz=264,slow=23,SNR=2.3
TIP Timpagrande 54.85 337 P **P** **15 26 16.7 +0.5**
KEST Kesra 55.39 328 P **P** **15 26 20.8 +0.7**
comp=Z,7.0nm,0.9s,baz=308,slow=2.8,SNR=5.5
KEST LR LR 15 52 43.6
comp=Z,445nm,18.2s,baz=182,slow=39
TIR Tirane 55.65 340 ⇑P **P** **15 26 23.1 +1.4**
TIR Tirane 55.65 340 ⇑P **P** **15 26 23.1 +1.4**
CHGR Chuyangaron 55.66 26 P **P** **15 26 22.4 +0.3**
CHGR pmax pmax
comp=Z,55nm,0.9s
CHGR Chuyangaron 55.66 26 P **P** **15 26 22.4 +0.3**
GOF Gofitskoye 55.70 1 ⇑*e*P **P** **15 26 22.2 +0.2**
VTS Vitosha 55.79 344 P **P** **15 26 22.1 -0.8**
VTS pmax pmax
comp=Z,7.0nm,1.0s
VTS Vitosha 55.79 344 P **P** **15 26 22.1 -0.8**
PYUN Piuthan 55.84 45 *e*P **P** **15 26 22.9 -0.8**
comp=Z,82nm,0.7s
RAZG Razgrad 55.87 347 ⇓P **P** **15 26 24.0 +0.7**
KOLN Koldanda 56.07 46 *e*P **P** **15 26 24.5 -0.8**
comp=Z,57nm,1.2s
ICOR Ion Corvin 56.12 348 ⇑P **P** **15 26 26.3 +1.3**
MATE Matera 56.15 337 ⇑P **P** **15 26 26.3 +1.1**
TIRR Tirgusor 56.33 349 ⇓P **P** **15 26 26.7 +0.1**
TIRR Tirgusor 56.33 349 ⇓P **P** **15 26 26.7 +0.1**
TIRR Tirgusor 56.33 349 P **P** **15 26 26.0 -0.6**
TIRR lAmb lAmb 15 26 28.4
comp=Z,40nm,1.0s
GAR Garm 56.45 27 P **P** **15 26 27.9 +0.2**
TLBR Topalu 56.49 349 ⇓P **P** **15 26 28.8 +1.2**
DANN Dangsing 56.53 45 *e*P **P** **15 26 27.7 -1.0**
comp=Z,66nm,1.1s
SGRR Singureni 56.62 347 ⇑P **P** **15 26 29.9 +1.3**
HARR Harsova 56.65 348 ⇓P **P** **15 26 29.1 +0.3**
HARR Harsova 56.65 348 ⇓P **P** **15 26 29.1 +0.3**
TPGR Topolog 56.72 349 ⇓P **P** **15 26 29.4 +0.1**
PDG Podgorica 56.82 340 ⇑P **P** **15 26 31.6 +1.6**
PDG Podgorica 56.82 340 P **P** **15 26 30.1 +0.1**
PDG lAmb lAmb 15 26 32.8
comp=Z,13nm,0.8s
BLKB Belogradchik 56.88 344 ⇑P **P** **15 26 27.8 -2.7**
GKN Gorkha 56.94 46 *e*P **P** **15 26 30.7 -0.7**
comp=Z,52nm,0.8s
DMN Daman 57.04 47 *e*P **P** **15 26 31.7 -0.6**
comp=Z,20nm,0.7s
CFR Carcaliu 57.08 349 ⇓P **P** **15 26 32.0 +0.2**
CFR Carcaliu 57.08 349 ⇓P **P** **15 26 32.0 +0.2**
BOVS Bovan 57.16 343 ⇓P **P** **15 26 31.9 -0.5**
PKI Pulchoki 57.24 47 *e*P **P** **15 26 32.9 -0.9**
comp=Z,23nm,0.7s
KKN Kakani 57.27 47 *e*P **P** **15 26 33.3 -0.6**
comp=Z,30nm,0.9s
ISR Istrita 57.34 348 ⇑P **P** **15 26 35.6 +1.8**
ISR Istrita 57.34 348 ⇑P **P** **15 26 35.6 +1.8**
SECR 57.37 347 ⇓P **P** **15 26 35.7 +1.8**
SCHL Schela 57.45 349 ⇑P **P** **15 26 35.7 +1.2**
DRK Karamyk 57.51 28 P **P** **15 26 35.4 0.0**
LHMI Lhok Sumawe 57.52 77 P **P** **15 26 35.3 -0.3**
BTK Batken 57.54 27 P **P** **15 26 35.6 +0.2**
BTK pmax pmax
comp=Z,21nm,1.1s
BTK Batken 57.54 27 P **P** **15 26 35.6 +0.2**
BTK lAmb lAmb 15 26 37.4
comp=Z,21nm,1.1s
SLCR Slobozia Conac 57.55 349 ⇓P **P** **15 26 37.5 +2.4**
BISRR Bisoca 57.72 348 ⇓P **P** **15 26 38.1 +1.7**
VLDR Vladesti 57.73 349 ⇑P **P** **15 26 37.7 +1.2**
GUN Gumba 57.77 47 *e*P **P** **15 26 37.1 -0.5**
comp=Z,68nm,0.8s
MLR Muntele Rosu 57.83 347 ⇑P **P** **15 26 37.9 +0.6**
MLR Muntele Rosu 57.83 347 P **P** **15 26 38.1 +0.8**
comp=Z,17nm,0.8s,baz=166,slow=5.4,SNR=23
MLR Muntele Rosu 57.83 347 P **P** **15 26 37.3 0.0**
MLR lAmb lAmb 15 26 40.5
comp=Z,18nm,0.8s
VARL Varlezi 57.83 349 ⇓P P 15 26 32.2 -4.9
JIRN Jiri 57.85 48 *e*P **P** **15 26 37.3 -0.9**
comp=Z,28nm,0.8s
ODBI Odobesti 57.85 348 ⇑P **P** **15 26 38.4 +1.1**
DJES Djerdap 57.88 344 ⇓P **P** **15 26 37.8 +0.3**
PANC Panciu 57.94 348 ⇑P **P** **15 26 37.4 -0.5**
VOIR 57.98 346 ⇑P **P** **15 26 38.3 0.0**
VOIR 57.98 346 ⇑P **P** **15 26 38.3 0.0**
ARR Arges 58.01 346 ⇑P **P** **15 26 39.0 +0.5**
VRI Vrincioaia 58.02 348 ⇑P **P** **15 26 39.3 +0.8**
VRI Vrincioaia 58.02 348 ⇑P **P** **15 26 39.3 +0.8**
PLOR Plostina 58.02 348 ⇑P **P** **15 26 38.9 +0.3**
PLOR Plostina 58.02 348 ⇑P **P** **15 26 38.9 +0.3**
GHRR 58.07 349 ⇓P **P** **15 26 40.1 +1.3**
DIVS Divibare 58.09 342 P **P** **15 26 39.6 +0.5**
DIVS lAmb lAmb 15 26 42.1
comp=Z,20nm,1.0s
COVR Voineasa-Covas 58.11 348 ⇑P **P** **15 26 39.6 +0.5**
HERR Herculane 58.11 344 ⇓P **P** **15 26 39.7 +0.6**
MDVR Moldovita 58.21 344 ⇓P **P** **15 26 40.4 +0.5**
ODAN Odare 58.28 49 *e*P **P** **15 26 40.9 -0.1**
comp=Z,38nm,0.8s
LOT Lotru 58.29 345 ⇓P **P** **15 26 41.2 +0.6**
DOPR Dopca 58.40 347 ⇑P **P** **15 26 39.8 -1.4**
OZUR 58.44 347 ⇑P **P** **15 26 41.5 +0.1**
GZR Gura Zlata 58.49 345 ⇓P **P** **15 26 42.8 +0.9**
GZR Gura Zlata 58.49 345 ⇓P **P** **15 26 42.8 +0.9**
MILM Milestii Mici 58.64 350 *e*P **P** **15 26 42.0 -0.8**
MILM *e*LR LR 15 47 46.0
comp=Z,400nm,18.0s
MILM Milestii Mici 58.64 350 ⇓P **P** **15 26 42.6 -0.2**
MILM Milestii Mici 58.64 350 ⇓P **P** **15 26 42.6 -0.2**
TESR Tescani 58.65 348 ⇓P **P** **15 26 42.4 -0.5**
PSI Prapat 58.79 80 LR LR 15 47 27.3
comp=Z,387nm,20.4s,baz=251,slow=31
AQU L'Aquila 58.89 336 P **P** **15 26 44.9 +0.2**
AQU pmax pmax
comp=Z,57nm,1.2s
AQU L'Aquila 58.89 336 P **P** **15 26 44.9 +0.2**
IUG Iuzhnay 58.94 25 *e*P **P** **15 26 44.3 -0.8**
IUG Iuzhnay 58.94 25 *e*P **P** **15 26 44.3 -0.8**
baz=25
MNSI Mandailing Nat 58.95 82 P **P** **15 26 45.6 0.0**
BZS Buzias 59.01 344 ⇓P **P** **15 26 45.8 +0.4**
BZS Buzias 59.01 344 ⇓P **P** **15 26 45.8 +0.4**
FRGS Fruska Gora 59.10 342 ⇑P **P** **15 26 45.4 -0.7**
NRCA Norcia 59.40 336 P **P** **15 26 47.8 -0.5**
NRCA lAmb lAmb 15 27 06.7
comp=Z,28nm,1.1s
KSH Kashi 59.53 31 P **P** **15 26 45.5 -3.8**
KSH sP sP 15 26 57.6 -1.1
KSH PcP **PcP** **15 27 35.2 -1.4**
KSH pmax pmax
comp=Z,6.0nm,0.8s
PRAR RASCA 59.55 348 ⇓P P 15 26 55.8 +6.7
SIRR Siria 59.60 344 ⇑P **P** **15 26 51.0 +1.6**
ARCR ARCALIA 59.69 347 ⇓P **P** **15 26 51.5 +1.4**
DRGR 59.81 345 ⇑P **P** **15 26 52.4 +1.4**
DRGR 59.81 345 ⇑P **P** **15 26 52.4 +1.4**
SORM Soroca 59.89 350 ⇓P **P** **15 26 50.7 -0.7**
SORM Soroca 59.89 350 ⇓P **P** **15 26 50.7 -0.7**
KK31 Karatay Array 59.93 24 *i* P **P** **15 26 51.7 -0.2**
KK31 Karatay Array 59.93 24 P **P** **15 26 51.3 -0.6**
KKAR Karatay Array 59.93 24 P **P** **15 26 51.5 -0.4**
KKAR Karatay Array 59.93 24 P **P** **15 26 51.5 -0.4**
KKAR Karatay Array 59.93 24 P **P** **15 26 51.2 -0.6**
KKAR lAmb lAmb 15 26 53.2
comp=Z,46nm,0.9s
BURAR Bucovina Array 60.00 347 ⇑P **P** **15 26 53.2 +0.9**
BURAR Bucovina Array 60.00 347 ⇑P **P** **15 26 53.2 +0.9**
BURAR Bucovina Array 60.00 347 P **P** **15 26 52.6 +0.3**
BUR08 Bucovina Ar. S 60.03 347 P **P** **15 26 52.9 +0.3**
BUR08 lAmb lAmb 15 27 10.6
comp=Z,22nm,1.2s
DZA Taraz 60.09 25 *e*P **P** **15 26 51.8 -1.1**
DZA pmax pmax
comp=Z,11nm,0.9s
DZA Taraz 60.09 25 *e*P **P** **15 26 51.9 -1.1**
comp=Z,11nm,0.9s,baz=25
CASP Castiglione de 60.29 334 P **P** **15 26 55.0 +0.7**
MORH Mrgy, Hungar 60.41 342 ⇓P **P** **15 26 55.9 +0.9**
KOVH Kovagotottos 60.46 342 P **P** **15 26 53.3 -2.0**
AML Almayashu 60.49 27 P **P** **15 26 56.7 +0.5**
SNR=16
AML Almayashu 60.49 27 *i* P **P** **15 26 56.7 +0.5**
SNR=16
PGF Pioggiola 60.91 333 *e*P **P** **15 27 00.3 +1.7**
PGF pmax pmax
comp=Z,16nm,0.9s
UCH Uchor 60.94 28 P **P** **15 26 59.5 +0.2**
SNR=17
EKS2 Erkin-Say 60.95 27 P **P** **15 26 59.4 +0.4**
SNR=12
KULM Kulim 61.09 78 P **P** **15 26 59.0 -1.3**
TRPA Tarpa 61.10 346 ⇓P **P** **15 27 00.0 +0.4**
TRPA Tarpa 61.10 346 P **P** **15 26 59.3 -0.3**
GOLS Golise 61.20 340 *i* P **P** **15 27 01.5 +1.0**
IPM Ipoh 61.24 79 P **P** **15 27 00.7 -0.6**
AAK Ala-Archa 61.26 27 P **P** **15 27 01.8 +0.7**
SNR=16
AAK Ala-Archa 61.26 27 *ce*P **P** **15 27 01.9 +0.8**
AAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 61.26 27 P **P** **15 27 00.7 -0.4**
AAK lAmb lAmb 15 27 02.8
comp=Z,15nm,1.0s
AAK Ala-Archa 61.26 27 P **P** **15 27 01.5 +0.4**
AAK P **P** **15 27 01.5 +0.4**
AAK Ala-Archa 61.26 27 *i* P **P** **15 27 01.8 +0.8**
SNR=21
PDKS Podkum 61.46 339 *e*P **P** **15 27 03.2 +1.0**
KBK Karagaybulak 61.48 28 P **P** **15 27 03.6 +1.0**
SNR=53
PSZ Piszkesteto 61.59 344 ⇑P **P** **15 27 02.5 -0.6**
PSZ Piszkesteto 61.59 344 ⇑P **P** **15 27 02.5 -0.6**
PSZ Piszkesteto 61.59 344 P **P** **15 27 02.5 -0.6**
PSZ lAmb lAmb 15 27 04.2
comp=Z,11nm,0.9s
PSZ Piszkesteto 61.59 344 P **P** **15 27 02.9 -0.2**
MPLH Magyarpolny 61.60 342 P **P** **15 27 03.6 +0.5**
VORD Divnogorie 61.62 358 *e*P **P** **15 27 02.7 -0.4**
VORD pmax pmax
comp=Z,40nm,0.8s
UZH Uzhgorod 61.63 346 *e*P **P** **15 27 03.4 +0.2**
UZH *e* 15 27 12.0
GROS Grobnik 61.64 340 *e*P **P** **15 27 04.2 +0.7**
CHMS Chumysh 61.66 27 P **P** **15 27 03.8 +0.2**
SNR=11
USP Ospenovka 61.76 27 P **P** **15 27 04.2 -0.1**
SNR=13
MDT Midelt 61.77 317 P **P** **15 27 05.8 +1.1**
comp=Z,5.7nm,1.0s,baz=163,slow=6.2,SNR=6.1
BOOM Boomskoye usch 61.80 28 P **P** **15 27 05.0 +0.2**
BOOM pmax pmax
comp=Z,18nm,0.9s
BOOM Boomskoye usch 61.80 28 P **P** **15 27 05.0 +0.2**
BOOM lAmb lAmb 15 27 06.5
comp=Z,18nm,0.8s
VRH Novokhopyorsk 61.83 0 *e*P **P** **15 27 03.7 -0.8**
VRH pmax pmax
comp=Z,80nm,0.6s
VSR Storozhevoye 61.87 358 *e*P **P** **15 27 04.1 -0.7**
VSR pmax pmax
comp=Z,30nm,0.8s
KECS Kecovo 61.95 344 *e*P **P** **15 27 06.3 +0.9**
KECS pmax pmax
comp=Z,20nm,0.8s
KECS Kecovo 61.95 344 *e*P **P** **15 27 06.3 +0.9**
SGDS Sogindy 61.96 27 *e*P **P** **15 27 04.4 -1.3**
SGDS pmax pmax
comp=Z,7.0nm,0.9s
SGDS Sogindy 61.96 27 *e*P **P** **15 27 04.5 -1.3**
comp=Z,6.7nm,0.9s,baz=27
TKM2 Tokmak 2 61.98 28 P **P** **15 27 06.4 +0.4**
SNR=58
TKM2 Tokmak 2 61.98 28 *i* P **P** **15 27 05.7 -0.3**
TKM2 pmax pmax
comp=Z,37nm,0.7s
SOKA Soboth 61.98 340 *i* P **P** **15 27 06.7 +0.9**
comp=Z,25nm,1.0s,SNR=18
OBKA Obir 62.00 339 *i* P **P** **15 27 07.3 +1.3**
comp=Z,30nm,0.9s,SNR=11
AB31 Akbulak array 62.06 14 *i* P **P** **15 27 05.2 -0.9**
ABKAR Akbulak array 62.06 14 P **P** **15 27 05.4 -0.8**
ABKAR Akbulak array 62.06 14 P **P** **15 27 05.3 -0.8**
ABKAR lAmb lAmb 15 27 06.9
comp=Z,22nm,0.9s
CRVS Cervenica-Dubn 62.08 345 *e*P **P** **15 27 07.1 +0.8**
CRVS pmax pmax
comp=Z,24nm,1.0s
CRVS Cervenica-Dubn 62.08 345 *e*P **P** **15 27 07.1 +0.8**
AKASG Malin Array Be 62.24 351 P **P** **15 27 06.5 -0.4**
comp=Z,15nm,1.0s,baz=172,slow=6.0,SNR=34
AKASG Malin Array Be 62.24 351 P **P** **15 27 05.9 -1.4**
AKBB Malin Array Si 62.24 351 *i* P **P** **15 27 07.3 0.0**
AKBB Malin Array Si 62.24 351 P **P** **15 27 06.0 -1.3**
AKBB lAmb lAmb 15 27 08.0
comp=Z,9.9nm,0.8s
ARSA Arzberg 62.32 340 *i* P **P** **15 27 09.0 +1.1**
comp=Z,19nm,0.9s,SNR=11
VORR Voronezh 62.33 358 *e*P **P** **15 27 03.3 -4.6**
VORR pmax pmax
comp=Z,50nm,0.4s
LVV L'vov 62.34 347 *e*P **P** **15 27 07.5 -0.5**
SOP Sopron 62.37 341 P **P** **15 27 09.4 +1.2**
SOP Sopron 62.37 341 P **P** **15 27 08.8 +0.6**
VYHS Vyhne 62.41 343 *e*P **P** **15 27 09.0 +0.5**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 62.41 343 *e*P **P** **15 27 09.0 +0.5**
MYKA Terra Mystica 62.43 339 *e*P **P** **15 27 09.6 +0.9**
comp=Z,8.3nm,1.0s
KWP Kalwaria Pacla 62.46 346 P **P** **15 27 07.5 -1.4**
KWP pmax pmax
comp=Z,281nm,0.9s
KWP Kalwaria Pacla 62.46 346 P **P** **15 27 07.5 -1.4**
RONA Rosalia, Austr 62.46 341 *i* P **P** **15 27 09.6 +0.7**
comp=Z,43nm,1.1s,SNR=16
LSA Lhasa 62.60 48 P **P** **15 27 10.8 0.0**
LSA pmax pmax
comp=Z,36nm,0.7s
LSA Lhasa 62.60 48 P **P** **15 27 10.8 0.0**
LSA Lhasa 62.60 48 P **P** **15 27 11.4 +0.6**
LSA pmax pmax
comp=Z,61nm,1.0s
LSA Lhasa 62.60 48 P **P** **15 27 11.7 +0.9**
SBF Sospel 62.65 333 *e*P **P** **15 27 12.1 +1.8**
SBF pmax pmax
comp=Z,19nm,0.8s
ZST Bratislava 62.65 342 *e*P **P** **15 27 09.9 -0.2**
ZST Bratislava 62.65 342 *e*P **P** **15 27 09.9 -0.2**
LMR La Mourre 62.66 332 *e*P **P** **15 27 11.6 +1.4**
LMR pmax pmax
comp=Z,7.0nm,0.8s
CTI Castel Tesino 62.67 337 P **P** **15 27 10.7 +0.2**
CTI pmax pmax
comp=Z,8.0nm,0.9s
CTI Castel Tesino 62.67 337 P **P** **15 27 10.7 +0.2**
TNSS Tian-Shan 62.70 29 *e*P **P** **15 27 10.4 -0.6**
TNSS Tian-Shan 62.70 29 *e*P **P** **15 27 10.5 -0.6**
baz=29
AKTO Aktyubinsk 62.75 12 P **P** **15 27 09.7 -1.1**
MODS Modra-Piesok 62.76 342 *e*P **P** **15 27 11.2 +0.3**
MODS Modra-Piesok 62.76 342 *e*P **P** **15 27 11.2 +0.3**
FRF La Foret Royal 62.77 332 *e*P **P** **15 27 15.6 +4.6**
FRF pmax pmax
comp=Z,19nm,1.3s
CONA Conrad Observa 62.80 341 P **P** **15 27 11.5 +0.2**
comp=Z,21nm,0.9s,SNR=13
AAA Alma-Ata 62.81 28 *e*P **P** **15 27 10.9 -0.5**
AAA pmax pmax
comp=Z,9.0nm,0.8s
AAA Alma-Ata 62.81 28 *e*P **P** **15 27 10.9 -0.5**
comp=Z,9.1nm,0.8s,baz=29
LANS Liptovska Anna 62.83 344 *e*P **P** **15 27 12.4 +1.0**
LANS pmax pmax
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 62.83 344 *e*P **P** **15 27 12.4 +1.0**
MDOK Medeo 62.84 29 *e*P **P** **15 27 10.9 -0.8**
MDOK Medeo 62.84 29 *e*P **P** **15 27 10.9 -0.8**
baz=29
NIE Niedzica 62.85 345 P **P** **15 27 13.5 +2.0**
KBA Koelnbreinsper 62.92 339 *i* P **P** **15 27 12.4 +0.2**
comp=Z,18nm,1.0s,SNR=6.9
ABTA Abfaltersbach 62.94 338 *i* P **P** **15 27 13.0 +0.8**
comp=Z,5.7nm,0.9s
BTLS Baital 62.98 25 *e*P **P** **15 27 11.2 -1.2**
BTLS pmax pmax
comp=Z,10.0nm,1.0s
BTLS Baital 62.98 25 *e*P **P** **15 27 11.2 -1.2**
comp=Z,9.6nm,1.0s,baz=26
JAVC Velka Javorina 63.08 343 *e*P **P** **15 27 13.5 +0.5**
BELG Belogornoye 63.24 4 P **P** **15 27 13.4 -0.5**
comp=Z,93nm,0.9s,baz=49,slow=1.2,SNR=15
BELG Belogornoye 63.24 4 *di*P **P** **15 27 12.9 -1.0**
BELG pmax pmax
comp=Z,17nm,0.9s
MOA Molln 63.26 340 *i* P **P** **15 27 14.8 +0.5**
comp=Z,15nm,0.6s,SNR=11
LPSR Galich'ya Gora 63.26 358 *e*P **P** **15 27 13.2 -0.9**
LPSR pmax pmax
comp=Z,30nm,1.0s
BIOA Bad Ischl, Aus 63.34 339 *e*P **P** **15 27 14.9 +0.1**
comp=Z,9.6nm,1.0s
CHKK Chushkaly 63.34 28 *e*P **P** **15 27 14.1 -0.8**
CHKK Chushkaly 63.34 28 *e*P **P** **15 27 14.1 -0.8**
baz=28
SATY Saty 63.41 30 *e*P **P** **15 27 14.8 -0.7**
SATY pmax pmax
comp=Z,16nm,1.2s
SATY Saty 63.41 30 *e*P **P** **15 27 14.9 -0.6**
comp=Z,16nm,1.2s,baz=30
MBDF Montbardon 63.62 333 *e*P **P** **15 27 18.9 +2.1**
MBDF pmax pmax
comp=Z,26nm,0.8s
KRUC Moravsky 63.64 342 *e*P **P** **15 27 16.1 -0.6**
RJOB Jochberg 63.67 339 *e*P **P** **15 27 16.7 -0.3**
comp=Z,8.7nm,0.8s,baz=146,slow=6.6
WTTA Wattenberg 63.69 338 *e*P **P** **15 27 17.6 +0.3**
comp=Z,12nm,1.1s
OJC Ojcow 63.72 345 *e*P **P** **15 27 17.1 -0.1**
OJC *e*L L 15 53 20.3
comp=Z,1μm,20.0s
OJC Ojcow 63.72 345 P **P** **15 27 16.5 -0.7**
OJC pmax pmax
comp=Z,21nm,0.8s
OJC Ojcow 63.72 345 P **P** **15 27 16.5 -0.7**
OJC lAmb lAmb 15 27 18.5
comp=Z,22nm,0.8s
WATA Walderalm 63.78 338 *e*P **P** **15 27 17.8 0.0**
comp=Z,8.6nm,0.8s
UZB Uzynbulak 63.78 30 *e*P **P** **15 27 17.2 -0.7**
UZB pmax pmax
comp=Z,13nm,0.7s
UZB Uzynbulak 63.78 30 *e*P **P** **15 27 17.3 -0.7**
comp=Z,13nm,0.7s,baz=30
CM31 Chiang Mai Arr 63.78 63 P **P** **15 27 17.6 -0.6**
CM31 lAmb lAmb 15 27 19.9
comp=Z,24nm,0.9s
CMAR Chiang Mai Arr 63.78 63 P **P** **15 27 18.8 +0.5**
comp=Z,13nm,0.9s,baz=253,slow=7.9,SNR=88
CMAR LR LR 15 52 19.0
comp=Z,332nm,18.9s,baz=240,slow=34
CMAR Chiang Mai Arr 63.78 63 *i* P **P** **15 27 18.7 +0.5**
CMAR pmax pmax
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 63.78 63 P **P** **15 27 17.9 -0.3**
VRAC Vranov 63.80 342 P **P** **15 27 17.6 -0.1**
comp=Z,16nm,0.8s,baz=153,slow=5.5,SNR=15
VRAC Vranov 63.80 342 *e*P **P** **15 27 17.6 -0.1**
SQTA Sankt Quirin 63.82 338 *e*P **P** **15 27 18.0 -0.1**
comp=Z,7.6nm,0.8s
OKC Ostrava-Krasne 63.82 343 AMS AMS 15 54 40.0
comp=Z,1μm,18.1s
FETA Feichten 63.83 337 *e*P **P** **15 27 19.0 +0.8**
comp=Z,19nm,0.9s,SNR=9.7
KPKS Kokpek 63.85 29 *e*P **P** **15 27 17.0 -1.3**
KPKS pmax pmax
comp=Z,7.0nm,0.8s
KPKS Kokpek 63.85 29 *e*P **P** **15 27 17.0 -1.3**
comp=Z,7.4nm,0.8s,baz=30
BNI Bardonecchia 63.91 333 P **P** **15 27 18.9 +0.1**
BNI pmax pmax
comp=Z,36nm,1.1s
BNI Bardonecchia 63.91 333 P **P** **15 27 18.9 +0.1**
CHTO Chiang Mai 63.92 63 P **P** **15 27 17.8 -1.3**
CHTO pmax pmax
comp=Z,19nm,1.0s
CHTO Chiang Mai 63.92 63 P **P** **15 27 17.8 -1.3**
CHTO lAmb lAmb 15 27 20.6
comp=Z,19nm,0.9s
CHTO Chiang Mai 63.92 63 P **P** **15 27 19.4 +0.3**
TUE Stuetta 63.92 336 P **P** **15 27 18.1 -0.7**
TUE lAmb lAmb 15 27 40.1
comp=Z,17nm,0.9s
MORC Moravsky Berou 63.94 343 ⇓P **P** **15 27 18.6 -0.1**
MORC Moravsky Berou 63.94 343 ⇓P **P** **15 27 18.6 -0.1**
MORC Moravsky Berou 63.94 343 P **P** **15 27 17.9 -0.8**
MORC lAmb lAmb 15 27 20.4
comp=Z,25nm,0.9s
MORC Moravsky Berou 63.94 343 *e*P **P** **15 27 18.6 -0.1**
MOTA Moosalm 63.96 338 *e*P **P** **15 27 18.6 -0.4**
comp=Z,10nm,0.9s
DAVOX Davos/Dischmat 63.96 336 P **P** **15 27 19.6 +0.5**
comp=Z,4.3nm,0.6s,baz=169,slow=14,SNR=6.1
DAVOX LR LR 15 59 18.7
comp=Z,1μm,18.0s,baz=79,slow=40
SHLS Shalkode 64.00 30 *e*P **P** **15 27 20.0 +0.7**
SHLS pmax pmax
comp=Z,6.0nm,0.7s
SHLS Shalkode 64.00 30 *e*P **P** **15 27 20.1 +0.7**
comp=Z,6.4nm,0.7s,baz=30
ARXS Arharly 64.01 28 *e*P **P** **15 27 18.6 -0.7**
CKRC Cesky Krumlov 64.09 340 *e*P **P** **15 27 19.2 -0.5**
CKRC *ex* x 15 27 33.6
TREC Trest 64.12 341 AMS AMS 15 55 10.0
comp=Z,1μm,16.9s
ORIF Oris-en-Rattie 64.17 333 *e*P **P** **15 27 22.3 +1.9**

ORIF pmax pmax
comp=Z,9.0nm,1.0s
RETA Reutte 64.21 337 *e*P **P 15 27 20.4 -0.2**
comp=Z,8.5nm,0.8s
LPG La Plagne 64.23 334 *e*P **P 15 27 21.1 +0.1**
LPG pmax pmax
comp=Z,16nm,0.9s
LPL La Plagne 64.25 334 *e*P **P 15 27 21.2 +0.1**
LPL pmax pmax
comp=Z,13nm,0.9s
GEC2 GERESS Array S 64.31 340 P **P 15 27 20.1 -1.2**
GEC2 IAmb IAmb 15 27 22.4
comp=Z,16nm,0.8s
GEC2 GERESS Array S 64.31 340 *e*P **P 15 27 21.3 +0.1**
comp=Z,14nm,0.8s,baz=146,slow=6.6
GERES GERESS Array B 64.31 340 P **P 15 27 21.0 -0.2**
comp=Z,13nm,0.8s,baz=151,slow=6.1,SNR=84
GERES GERESS Array B 64.31 340 P **P 15 27 21.0 -0.2**
GERES GERESS Array B 64.31 340 P **P 15 27 20.2 -1.0**
DAVA Damuels 64.38 337 *e*P **P 15 27 21.4 -0.3**
KRLC Kraliky 64.42 343 *e*P **P 15 27 21.9 0.0**
KRLC MLR MLR
comp=Z,1µm,18.5s
KRLC Kraliky 64.42 343 *e*P **P 15 27 21.9 0.0**
KRLC *ex* x 15 27 35.6
KRLC AMS AMS 15 54 50.0
comp=Z,1µm,18.5s
TNG Tangerang 64.56 92 P **P 15 27 19.8 -3.7**
KHC Kasperske Hory 64.60 340 *i* P **P 15 27 23.0 0.0**
KHC pmax pmax
comp=Z,22nm,0.9s
KHC Kasperske Hory 64.60 340 P **P 15 27 21.9 -1.1**
KHC IAmb IAmb 15 27 23.9
comp=Z,12nm,1.0s
KHC Kasperske Hory 64.60 340 *e*P **P 15 27 22.2 -0.8**
KHC *ex* x 15 27 36.4
KHC AMS AMS 15 56 30.0
comp=Z,1µm,21.2s
UBR Ueberruh 64.62 337 *e*P **P 15 27 23.6 +0.4**
comp=Z,9.3nm,0.8s,baz=146,slow=6.6
VIVF Saint-Julien-l 64.67 332 *e*P **P 15 27 25.4 +1.8**
VIVF pmax pmax
comp=Z,22nm,0.9s
SENIN Lac Senin/Sane 64.68 335 P **P 15 27 23.1 -0.7**
MTLF Montolieu 64.73 329 *e*P **P 15 27 25.0 +1.0**
MTLF pmax pmax
comp=Z,41nm,1.7s
DPC Dobruska-Polom 64.80 343 *e*P **P 15 27 24.4 +0.1**
DPC *e* 15 27 32.6
DPC MLR MLR
comp=Z,1µm,20.9s
DPC Dobruska-Polom 64.80 343 *e*P **P 15 27 24.4 +0.1**
DPC *ex* x 15 27 32.6
DPC AMS AMS 15 54 20.0
comp=Z,1µm,20.9s
WET Wettzell 64.84 340 *e*P **P 15 27 23.4 -1.2**
comp=Z,4.6nm,0.8s,baz=146,slow=6.6
TDK Taldyqorghan 64.88 28 *e*P **P 15 27 23.7 -1.2**
TDK Taldyqorghan 64.88 28 *e*P **P 15 27 23.8 -1.2**
baz=28
OTUK Ortayu 64.92 22 P **P 15 27 24.6 -0.5**
OSTC Ostas 65.02 343 *e*P **P 15 27 25.4 -0.3**
OSTC AMS AMS 15 55 20.0
comp=Z,1µm,15.0s
PRU Pruhonice 65.03 341 AMS AMS 15 56 10.0
comp=Z,1µm,16.7s
UPC Upice 65.03 342 *e*P **P 15 27 25.8 0.0**
UPC MLR MLR
comp=Z,1µm,15.3s
UPC Upice 65.03 342 *e*P **P 15 27 25.8 0.0**
UPC AMS AMS 15 55 40.0
comp=Z,1µm,15.3s
CHVC Chvalec 65.09 342 *e*P **P 15 27 25.8 -0.4**
CHVC *ex* x 15 27 40.0
CHVC AMS AMS 15 55 30.0
comp=Z,1µm,18.4s
KSP Ksiaz 65.25 343 P **P 15 27 27.5 +0.3**
CABF La Chapelle 65.39 334 *e*P **P 15 27 29.2 +0.9**
CABF pmax pmax
comp=Z,27nm,0.9s
TROLL Troll, Antarti 65.43 192 pP pP 15 27 32.7 -2.6
EPF Esparros 65.47 328 *e*P **P 15 27 33.3 +4.5**
EPF pmax pmax
comp=Z,2.0nm,0.6s
PVCC Panska Ves 65.49 342 AMS AMS 15 56 10.0
comp=Z,1µm,18.7s
ESDC Sonseca Array 65.61 323 P **P 15 27 30.9 +1.1**
comp=Z,5.0nm,0.8s,baz=132,slow=6.2,SNR=27
ESDC Sonseca Array 65.61 323 P **P 15 27 30.5 +0.7**
ROTZ Rotzenmuhle 65.61 340 *e*P **P 15 27 29.4 -0.1**
comp=Z,1.5nm,0.9s,baz=146,slow=6.6
MANZ Manzenberg 65.83 340 *e*P **P 15 27 30.9 -0.1**
comp=Z,1.7nm,0.8s,baz=146,slow=6.6
MANZ *ep*P **pwP 15 27 45.6 +4.3**
BFO Black Forest 65.84 336 P **P 15 27 30.6 -0.5**
BFO pmax pmax
comp=Z,11nm,0.8s
BFO Black Forest 65.84 336 P **P 15 27 30.6 -0.5**
BFO IAmb IAmb 15 27 33.3
comp=Z,11nm,0.8s
BFO Black Forest 65.84 336 *e*P **P 15 27 31.5 +0.4**
comp=Z,9.7nm,0.8s,baz=146,slow=6.6
ETSF Etsaut 65.84 327 *e*P **P 15 27 32.6 +1.3**
ETSF pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 65.87 357 P **P 15 27 30.2 -0.9**
comp=Z,3.1nm,0.3s,baz=170,slow=17,SNR=8.8
OBN Obninsk 65.87 357 *de*P **P 15 27 30.5 -0.6**
OBN *e* 15 27 58.2
OBN *e* 15 30 01.6
OBN *e*S **S 15 36 16.0 -0.5**
OBN pmax pmax
comp=Z,46nm,1.3s
OBN MLR MLR
comp=Z,209nm,17.0s
OBN Obninsk 65.87 357 P **P 15 27 30.6 -0.4**
GRA1 Grafenberg Arr 65.88 339 P **P 15 27 30.4 -0.9**
GRA1 IAmb IAmb 15 27 32.7
comp=Z,21nm,0.8s
GRF Grafenberg Arr 65.88 339 P **P 15 27 30.4 -0.9**
GRF pmax pmax
comp=Z,21nm,0.8s
GRF Grafenberg Arr 65.88 339 *e*P **P 15 27 31.6 +0.3**
comp=Z,18nm,0.8s,baz=146,slow=6.6
GRFO Grafenberg 65.88 339 P **P 15 27 30.4 -0.9**
GRFO pmax pmax
comp=Z,20nm,0.8s
GRFO Grafenberg 65.88 339 P **P 15 27 30.4 -0.9**
GRFO IAmb IAmb 15 27 32.6
comp=Z,20nm,0.8s
NKC Novy Kostel 65.92 340 AMS AMS 15 54 30.0
comp=Z,900nm,22.8s
CAF Calviac 65.96 330 *e*P **P 15 27 33.4 +1.5**
CAF pmax pmax
comp=Z,11nm,0.9s
BRG Berggiesshubel 65.99 341 *e*P **P 15 27 32.0 +0.1**
BRG Amp 15 27 33.2
comp=Z,9.9nm,0.9s
BRG *ex* x 15 27 41.0
BRG Amp 15 27 47.1
comp=Z,12nm,1.1s
BRG Amp 15 55 35.0
comp=Z,0.8nm,16.9s
BRG Amp 15 55 48.0
comp=N,0.4nm,15.5s
BRG Amp 15 55 48.0
comp=E,0.6nm,18.6s
BRG Berggiesshubel 65.99 341 *e*P **P 15 27 32.0 +0.1**
BRG *e* 15 27 41.0
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG pmax pmax
comp=Z,12nm,1.1s
BRG MLR MLR
comp=N,400nm,15.5s
BRG MLR MLR
comp=E,590nm,18.6s
BRG Berggiesshubel 65.99 341 *e*P **P 15 27 32.0 +0.1**
comp=E,7.2nm,0.9s,baz=146,slow=6.6
BRG *ep*P **pwP 15 27 46.3 +4.1**
WERN Wernitzgruen 65.99 340 *e*P **P 15 27 32.2 +0.2**
comp=E,6.3nm,0.8s,baz=146,slow=6.6
HINF Hinteralfeld 66.02 335 *e*P **P 15 27 32.6 +0.3**
HINF pmax pmax
comp=Z,10.0nm,1.0s

GUNZ Gunzen 66.07 340 *e*P **P 15 27 32.8 +0.3**
comp=Z,5.8nm,0.8s,baz=146,slow=6.6
TANN Tannenbergstha 66.07 340 *e*P **P 15 27 32.9 +0.3**
comp=Z,11nm,0.9s,baz=146,slow=6.6
TANN *ep*P **pwP 15 27 47.2 +4.3**
MNK Minsk 66.14 351 *i* P **P 15 27 32.4 -0.4**
MNK *i* 15 28 02.6
MNK *i* 15 29 57.6
MNK *i* PPP PPP 15 31 31.6
MNK *i* S **S 15 36 22.5 +2.8**
MNK *i* 15 37 28.6
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,68nm,0.9s
MNK pmax pmax
comp=N,34nm,0.9s
MNK MLR MLR
comp=E,15nm,15.0s
MNK MLR MLR
comp=N,166nm,20.0s
MNK MLR MLR
comp=Z,192nm,20.0s
MNK Minsk 66.14 351 *i* P **P 15 27 32.4 -0.4**
comp=E,2.0nm,0.8s
MNK *i* P **P 15 27 32.4 -0.4**
comp=N,34nm,0.9s
MNK *i* P **P 15 27 32.4 -0.4**
comp=Z,68nm,0.9s,baz=346
MNK *i* PcP **PcP 15 28 02.7 -0.3**
MNK *i* PP **PP 15 29 57.6 -1.1**
MNK *i* PPP PPP 15 31 31.7
MNK *i* S **S 15 36 22.6 +2.8**
MNK *i* SS **SS 15 40 44.6 +8.5**
MNK *i* SSS SSS 15 43 56.0
MNK *i* LR LR 15 57 08.8
MNK *i* LRM MLR 15 59 04.8
comp=E,15nm,15.5s
MNK *i* LRM MLR 15 59 08.6
comp=N,166nm,20.0s
MNK *i* LRM MLR 15 59 15.1
comp=Z,192nm,20.0s
WERD Werda 66.15 340 *e*P **P 15 27 33.5 +0.4**
comp=Z,17nm,0.9s,baz=146,slow=6.6
ECH Echery 66.21 336 P **P 15 27 33.3 -0.2**
ECH pmax pmax
comp=Z,15nm,1.1s
ECH Echery 66.21 336 P **P 15 27 33.3 -0.2**
ECH IAmb IAmb 15 27 49.5
comp=Z,15nm,1.1s
FBE Freiberg 66.22 341 *e*P **P 15 27 33.4 0.0**
comp=Z,8.5nm,1.0s,baz=146,slow=6.6
CDF Champ du Feu 66.32 336 *e*P **P 15 27 34.3 +0.1**
CDF pmax pmax
comp=Z,12nm,0.9s
SJPF Ste Jean 66.35 327 *e*P **P 15 27 35.0 +0.6**
SJPF pmax pmax
comp=Z,17nm,1.3s
HAU Haudompre 66.38 335 *e*P **P 15 27 35.0 +0.5**
HAU pmax pmax
comp=Z,12nm,0.8s
SNAA Sanae 66.39 194 pP **P 15 27 37.8 +3.4**
SNAA Sanae 66.39 194 *ce*P **P 15 27 36.9 +2.5**
SNAA pmax pmax
comp=Z,13nm,2.5s
SMF Signal de Mont 66.41 333 *e*P **P 15 27 35.5 +0.7**
SMF pmax pmax
comp=Z,19nm,0.9s
MOS Moscow 66.45 358 *e*P **P 15 27 34.1 -0.6**
MOS *e* 15 30 08.0
MOS pmax pmax
comp=Z,68nm,0.9s
SUW Suwalki 66.48 348 P **P 15 27 34.4 -0.6**
SUW pmax pmax
comp=Z,55nm,1.2s
SUW Suwalki 66.48 348 P **P 15 27 34.4 -0.6**
SUW Suwalki 66.48 348 *e*P **P 15 27 34.5 -0.6**
BRZS Berezniki 66.49 21 *e*P **P 15 27 34.4 -0.8**
BRZS Berezniki 66.49 21 *e*P **P 15 27 34.5 -0.8**
baz=22
RJF Les Rejaudoux 66.50 330 *e*P **P 15 27 38.0 +2.6**
RJF pmax pmax
comp=Z,9.0nm,1.1s
MOX Moxa 66.55 340 *e*P **P 15 27 35.5 -0.1**
comp=Z,6.4nm,0.8s,baz=146,slow=6.6
CLL Collm 66.66 341 *i* P **P 15 27 36.1 -0.1**
CLL *e* 15 27 44.0
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 66.66 341 P **P 15 27 35.6 -0.6**
CLL IAmb IAmb 15 27 53.0
comp=Z,18nm,1.2s
CLL Collm 66.66 341 *i* P **P 15 27 36.1 -0.1**
comp=Z,8.0nm,1.0s
CLL *ex* x 15 27 44.0
CLL *ex* x 15 27 50.0
comp=Z,16nm,1.2s
CLL Collm 66.66 341 *ep*P pP 15 27 50.8 +7.7
NACGM Naroch 66.69 351 *e*P **P 15 27 36.3 0.0**
AVF Avril sur Loir 66.74 333 *e*P **P 15 27 37.7 +0.9**
AVF pmax pmax
comp=Z,22nm,1.0s
BGF Bois d'Agland 66.80 332 *e*P **P 15 27 38.4 +1.2**
BGF pmax pmax
comp=Z,14nm,0.8s
NEUB Neuenburg 66.98 340 *e*P **P 15 27 38.2 -0.1**
comp=Z,11nm,0.8s,baz=146,slow=6.6
VNA2 Neumayer--Watz 67.06 196 pP pP 15 27 42.5 -3.0
baz=50,slow=6.0
VNA1 Neumayer--Stat 67.13 196 pP pP 15 27 43.0 -2.9
GKP Gorka Klasztor 67.16 345 *e*P **P 15 27 40.0 +0.7**
GKP *e*L L 15 55 23.2
comp=Z,1µm,17.9s
GKP Gorka Klasztor 67.16 345 *e*P **P 15 27 38.9 -0.5**
TNS Taunus Mts 67.33 338 *e*P **P 15 27 41.2 +0.6**
comp=Z,14nm,0.9s,baz=146,slow=6.6
TNS *ep*P **pwP 15 27 55.9 +4.9**
KLNR Kaliningrad 67.66 347 *i* P **P 15 27 42.7 +0.3**
KLNR pmax pmax
comp=Z,116nm,1.0s
PABE Paberze 67.74 349 P **P 15 27 41.9 -1.0**
PABE Paberze 67.74 349 *e*P **P 15 27 43.0 0.0**
WLF Walferdange 67.76 336 P **P 15 27 41.8 -1.5**
WLF pmax pmax
comp=Z,21nm,0.9s
WLF Walferdange 67.76 336 P **P 15 27 41.8 -1.5**
WLF IAmb IAmb 15 27 45.6
comp=Z,21nm,0.9s
WLF Walferdange 67.76 336 *e*P **P 15 27 43.8 +0.5**
comp=Z,18nm,0.9s,baz=146,slow=6.6
WLF Walferdange 67.76 336 *d*P **P 15 27 43.3 0.0**
comp=Z,17nm,0.9s
WLF *dx* x 15 27 54.9
VNA3 Neumayer Olymp 67.85 196 pP pP 15 27 47.3 -3.2
GTTG Gottingen 67.88 339 *e*P **P 15 27 45.2 +1.3**
comp=Z,16nm,0.8s,baz=146,slow=6.6
MAKZ Makanchi 67.89 29 P **P 15 27 43.1 -1.1**
MAKZ pmax pmax
comp=Z,32nm,1.3s
MAKZ Makanchi 67.89 29 P **P 15 27 43.1 -1.1**
MAKZ IAmb IAmb 15 27 45.1
comp=Z,32nm,1.2s
MK31 Makanchi Array 68.03 29 *i* P **P 15 27 44.3 -0.8**
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 68.03 29 P **P 15 27 44.0 -1.0**
MK31 IAmb IAmb 15 27 45.8
comp=Z,22nm,1.4s
MKAR Makanchi Array 68.03 29 P **P 15 27 44.8 -0.3**
comp=Z,5.3nm,0.7s,baz=213,slow=6.5,SNR=54
MKAR LR LR 15 55 52.4
comp=Z,110nm,21.6s,baz=222,slow=35
MKAR Makanchi Array 68.03 29 P **P 15 27 44.1 -1.0**
AHRW Bad Neuenahr-A 68.10 337 *e*P **P 15 27 47.0 +1.7**
comp=Z,22nm,0.8s,baz=146,slow=6.6
KASTN Kahler Asten 68.14 338 *ep*P pP 15 28 00.6 +8.1
CLF Chambon-Foret 68.16 333 P **P 15 27 44.5 -1.2**
MACI Morro de la Ar 68.19 306 P **P 15 27 44.9 -1.7**
BRVK Borovoye 68.30 18 *ce*P **P 15 27 46.6 0.0**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 68.30 18 P **P 15 27 45.4 -1.2**
BRVK IAmb IAmb 15 27 47.6
comp=Z,8.8nm,0.8s
BRVK Borovoye 68.30 18 P **P 15 27 46.3 -0.3**

BHOU Houvegnez 68.37 336 *d*P **P 15 27 47.6 +0.5**
BTNL Ternell 68.50 337 *d*P **P 15 27 49.0 +1.1**
comp=Z,9.0nm,0.8s
BTNL *dx* x 15 28 01.6
RCHB Rochefort 68.52 336 *d*P **P 15 27 48.4 +0.4**
ARU Arti 68.56 10 P **P 15 27 47.9 -0.2**
comp=Z,3.1nm,0.8s,baz=116,slow=20,SNR=3.8
ARU LR LR 16 00 36.0
comp=Z,151nm,19.4s,baz=176,slow=38
ARU Arti 68.56 10 *c i*P **P 15 27 47.6 -0.5**
ARU 15 28 11.1
ARU 15 30 18.7
ARU PPP PPP 15 32 01.7
ARU S **S 15 36 52.7 +3.8**
ARU SS **SS 15 41 17.2 +3.6**
ARU pmax pmax
comp=Z,18nm,1.0s
ARU MLR MLR
comp=Z,181nm,18.0s
ARU Arti 68.56 10 P **P 15 27 47.4 -0.7**
ARU IAmb IAmb 15 27 48.8
comp=Z,14nm,0.9s
MEM Membach 68.57 337 *d*P **P 15 27 49.8 +1.4**
comp=Z,7.9nm,0.9s
NRDL Niedersach Rie 68.62 340 *e*P **P 15 27 49.7 +1.2**
comp=Z,7.0nm,0.9s,baz=146,slow=6.6
GIVF Givet 68.64 336 *e*P **P 15 27 49.3 +0.5**
GIVF pmax pmax
comp=Z,14nm,0.9s
GOMU GeErMu 68.68 44 P **P 15 27 51.3 +1.5**
GOMU sP sP 15 27 58.2 -1.1
GOMU pmax pmax
comp=Z,24nm,1.2s
GOMU pmax pmax
comp=Z,110nm,4.9s
GOMU LR LR
comp=Z,110nm,16.8s
GOMU LR LR
comp=Z,120nm,16.3s
GOMU LR LR
comp=Z,240nm,16.9s
BCLA Clavier 68.70 336 *d*P **P 15 27 50.1 +1.0**
comp=Z,15nm,0.9s
DOU Dourbes 68.73 336 *d*P **P 15 27 50.0 +0.7**
comp=Z,8.1nm,0.8s
DOU *dx* x 15 28 02.6
BUG Bochum--Univer 68.75 338 *e*P **P 15 27 50.4 +1.0**
comp=Z,8.3nm,0.8s,baz=146,slow=6.6
BGES Gesves 68.76 336 *d*P **P 15 27 50.3 +0.9**
BGES *dx* x 15 28 00.7
WMQ Urumqi 68.77 34 *e*P **P 15 27 50.7 +0.9**
WMQ sP sP 15 27 58.4 -0.9
WMQ PcP **PcP 15 28 16.1 +1.7**
WMQ S **S 15 36 54.3 +2.3**
WMQ pmax pmax
comp=Z,24nm,0.7s
BMRD Maredsous 68.82 336 *d*P **P 15 27 50.9 +1.0**
comp=Z,13nm,0.9s
SNF Seneffe 69.18 336 *d*P **P 15 27 53.3 +1.2**
SNF *dx* x 15 28 03.6
KURBB Kurchatov Arra 69.24 24 LR LR 15 58 11.4
comp=Z,152nm,21.2s,baz=163,slow=36
KURBB Kurchatov Arra 69.24 24 P **P 15 27 51.8 -0.7**
IBBN Ibbenburen 69.28 339 *e*P **P 15 27 53.9 +1.2**
comp=Z,13nm,0.9s,baz=146,slow=6.6
SVE Sverdlovsk 69.31 11 *e*P **P 15 27 52.3 -0.5**
SVE pmax pmax
comp=Z,18nm,1.1s
PZH PanZhiHua 69.34 56 P **P 15 27 53.6 -0.2**
PZH S **S 15 37 00.1 +0.5**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,50nm,6.6s
PZH LR LR
comp=Z,570nm,19.4s
PZH LR LR
comp=Z,530nm,19.2s
PZH LR LR
comp=Z,970nm,20.6s
KURK Kurchatov 69.35 24 *ce*P **P 15 27 53.1 -0.1**
KURK pmax pmax
comp=Z,31nm,1.3s
KURK Kurchatov 69.35 24 P **P 15 27 52.6 -0.6**
KURK IAmb IAmb 15 27 54.1
comp=Z,20nm,0.9s
KURK Kurchatov 69.35 24 P **P 15 27 53.0 -0.1**
BSD Bornholm Skovb 69.43 344 *e*P **P 15 27 52.4 -1.1**
KIRV Kirov 69.53 4 P **P 15 27 53.6 -0.5**
comp=Z,25nm,0.6s,baz=141,slow=1.9,SNR=13
KIRV Kirov 69.53 4 *ce*P **P 15 27 53.8 -0.3**
KSM Kuching 69.56 84 P **P 15 27 54.0 -1.2**
KSM IAmb IAmb 15 27 57.0
comp=Z,13nm,0.9s
KMI Kunming 69.61 58 ⇑P **P 15 27 56.5 +0.9**
KMI pmax pmax
comp=Z,18nm,0.7s
KMI LR LR
comp=Z,120nm,17.8s
KMI LR LR
comp=Z,200nm,14.3s
KMI LR LR
comp=Z,180nm,11.5s
ZSN Zaisan 69.73 30 *e*P **P 15 27 54.8 -0.8**
ZSN pmax pmax
comp=Z,9.0nm,1.1s
ZSN Zaisan 69.73 30 *e*P **P 15 27 54.9 -0.8**
comp=Z,8.5nm,1.1s,baz=30
BSEG Bad Segeberg 69.76 341 *e*P **P 15 27 55.8 +0.2**
comp=Z,7.5nm,0.8s,baz=146,slow=6.6
SEM Semipalatinsk 69.78 25 *e*P **P 15 27 55.1 -1.0**
SEM pmax pmax
comp=Z,17nm,0.9s
SEM Semipalatinsk 69.78 25 *e*P **P 15 27 55.2 -1.0**
comp=Z,17nm,0.9s,baz=25
GRR Gorron 69.85 331 *e*P **P 15 27 57.0 +0.7**
GRR pmax pmax
comp=Z,22nm,1.0s
SLIT Slitere, Latvi 70.06 349 *e*P **P 15 27 56.4 -0.9**
VSU Vasula 70.14 352 *i* P **P 15 27 58.1 +0.3**
VSU pmax pmax
comp=Z,53nm,1.1s
VSU Vasula 70.14 352 *e*P **P 15 27 57.1 -0.7**
STKI Sintang 70.42 86 P **P 15 28 02.2 +1.6**
comp=Z,2µmcomp=Z,8.2nm,0.5s
QUIF Quistinic 70.63 330 *e*P **P 15 28 02.1 +1.0**
QUIF pmax pmax
comp=Z,77nm,1.9s
MTSE Matsula 70.82 350 *e*P **P 15 28 02.4 +0.4**
DEL Delary 70.90 344 *e*P **P 15 28 03.0 +0.5**
MORW Morawa 71.40 117 P **P 15 28 06.5 +0.2**
MORW IAmb IAmb 15 28 09.3
comp=Z,41nm,1.4s
KLMR Klimovskoe 71.52 359 *e*P **P 15 28 03.9 -2.2**
KLMR pmax pmax
comp=Z,73nm,1.2s
KLMR Klimovskoe 71.52 359 *e*P **P 15 28 04.0 -2.2**
KLMR AMP 15 28 20.7
comp=Z,73nm,1.2s
VIKU Vikbolandet 72.02 347 *e*P **P 15 28 09.3 +0.1**
MEF Metsahovi 72.16 351 *e*P **P 15 28 08.3 -1.7**
PRGR Permogore 72.36 2 *e*P **P 15 28 08.1 -3.1**
AAL Aland 72.87 349 *e*P **P 15 28 13.3 -0.9**
UPP Uppsala 73.05 348 *e*P **P 15 28 14.9 -0.4**
FIA1 FINESS Array S 73.11 352 P **P 15 28 14.9 -0.7**
FIA1 IAmb IAmb 15 28 16.7
comp=Z,23nm,1.3s
FINES FINESS Array B 73.11 352 P **P 15 28 15.5 -0.1**
comp=Z,6.9nm,0.7s,baz=145,slow=7.7,SNR=28
FINES FINESS Array B 73.11 352 *i* P **P 15 28 15.6 0.0**
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 73.11 352 P **P 15 28 15.1 -0.5**
RAF Rauma 73.35 350 *e*P **P 15 28 16.8 -0.3**
GYA Guiyang 73.39 58 ⇓P **P 15 28 18.8 +0.5**
GYA pmax pmax
comp=Z,20nm,1.1s
GTA Gaotai 73.72 43 ⇓P **P 15 28 20.0 0.0**
GTA pP pP 15 28 26.8 -0.1
GTA sP pwP 15 28 30.6 +0.3
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,140nm,8.8s
GTA LR LR

comp=Z,170nm,16.3s
GTA LR LR
comp=Z,220nm,15.9s
GTA LR LR
comp=Z,250nm,19.5s
HFS Hagfors 74.17 346 P **P** **15 28 21.7 -0.3**
comp=Z,6.5nm,0.9s,baz=174,slow=5.7,SNR=12
ZAA0 Zalesovo Array 74.30 25 P **P** **15 28 21.5 -1.3**
ZAA0 IAmb IAmb 15 28 22.9
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 74.30 25 P **P** **15 28 21.9 -0.8**
comp=Z,12nm,0.8s,baz=230,slow=6.3,SNR=54
ZALV LR LR 16 02 23.8
comp=Z,124nm,19.1s,baz=216,slow=37
ZALV Zalesovo Beam 74.30 25 *i* P **P** **15 28 22.0 -0.8**
ZALV pmax pmax
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 74.30 25 P **P** **15 28 21.3 -1.5**
KONO Kongsberg 74.80 344 *ce*P **P** **15 28 26.2 +0.6**
KONO pmax pmax
comp=Z,14nm,1.3s
KONO Kongsberg 74.80 344 P **P** **15 28 24.6 -1.0**
KONO IAmb IAmb 15 28 26.5
comp=Z,20nm,1.1s
LZH Lanzhou 75.02 48 *e*P P 15 28 43.9 +16
LZH pP PcP 15 28 47.4 +6.1
LZH pmax pmax
comp=Z,16nm,1.1s
NC602 NORSAR Array S 75.22 345 P **P** **15 28 27.0 -1.0**
NC602 IAmb IAmb 15 28 42.4
comp=Z,19nm,1.1s
NORES NORESS Array B 75.22 345 P **P** **15 28 28.1 +0.1**
NORES pmax pmax
comp=Z,1.0nm,0.8s
NAO01 NORSAR Array S 75.48 345 P **P** **15 28 28.7 -0.9**
NB201 NORSAR Array S 75.56 345 P **P** **15 28 28.9 -1.1**
NB2 NORSAR Subarra 75.57 345 P **P** **15 28 29.7 -0.4**
comp=Z,19nm,1.2s,baz=149,slow=5.9
NOA NORSAR Array B 75.57 345 P **P** **15 28 29.7 -0.4**
comp=Z,5.9nm,0.9s,baz=151,slow=5.6,SNR=15
NBO00 NORSAR Array S 75.67 345 P **P** **15 28 29.9 -0.7**
NBO00 IAmb IAmb 15 28 45.0
comp=Z,23nm,1.1s
NC303 NORSAR Array S 75.69 346 P **P** **15 28 30.4 -0.3**
NC303 IAmb IAmb 15 28 47.9
comp=Z,31nm,1.5s
EKA Eskdalemuir Ar 75.78 336 P **P** **15 28 32.5 +1.2**
comp=Z,6.6nm,0.7s,baz=133,slow=6.3,SNR=15
NC204 NORSAR Array S 75.89 345 P **P** **15 28 30.9 -1.0**
BELA Belgrano 2 76.50 192 P **P** **15 28 37.0 +1.8**
KAPI Kappang 77.62 93 P **P** **15 28 42.8 +0.2**
comp=Z,6.8nm,0.8s,baz=243,slow=5.5,SNR=5.4
KAPI LR LR 15 57 52.7
comp=Z,108nm,20.5s,baz=254,slow=32
KAPI Kappang 77.62 93 *i* P **P** **15 28 42.2 -0.5**
KAPI pmax pmax
comp=Z,13nm,1.2s
KAPI Kappang 77.62 93 P **P** **15 28 42.5 -0.2**
KAPI IAmb IAmb 15 28 44.3
comp=Z,24nm,1.4s
XAN Xi'an 78.01 52 P **P** **15 28 44.9 +0.4**
XAN pP pP 15 28 49.6 -1.9
XAN pmax pmax
comp=Z,12nm,1.2s
XAN LR LR
comp=Z,140nm,18.5s
XAN LR LR
comp=Z,140nm,18.5s
XAN LR LR
comp=Z,140nm,17.2s
MPSI Mapaga 78.73 87 P **P** **15 28 49.9 +1.1**
comp=Z,15nm,1.4s
MMRI Maumere 79.44 97 P **P** **15 28 51.6 -1.1**
MMRI IAmb IAmb 15 28 54.4
comp=Z,41nm,1.1s
TOLI2 Tolitoli 79.75 87 P **P** **15 28 52.8 -1.6**
NBPN Ponto Novo - B 79.90 261 *e*P **P** **15 28 57.1 +1.9**
MOY Mondy 80.61 33 *e*P **P** **15 28 59.3 +1.0**
MOY pmax pmax
comp=Z,9.0nm,1.3s
ARCES ARCESS Array B 80.99 354 P **P** **15 28 59.8 -0.1**
comp=Z,8.7nm,0.7s,baz=168,slow=5.5,SNR=31
ARCES ARCESS Array B 80.99 354 P **P** **15 28 59.1 -0.8**
ARCES IAmb IAmb 15 29 14.3
comp=Z,17nm,0.9s
KEV Kevo 81.07 355 P **P** **15 29 00.8 +0.6**
KEV pmax pmax
comp=Z,24nm,1.2s
KEV Kevo 81.07 355 P **P** **15 29 00.8 +0.6**
KEV IAmb IAmb 15 29 07.6
comp=Z,24nm,1.2s
ZAK Zakamensk 81.22 35 *e*P **P** **15 29 02.1 +0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
FITZ Fitzroy Crossi 81.24 107 LR LR 16 00 48.0
comp=Z,307nm,19.3s,baz=259,slow=33
FITZ Fitzroy Crossi 81.24 107 P **P** **15 29 02.5 +0.2**
FITZ IAmb IAmb 15 29 04.7
comp=Z,17nm,0.8s
LUWI Luwuk 81.30 89 P **P** **15 29 02.0 -0.7**
LUWI IAmb IAmb 15 29 25.2
comp=Z,21nm,0.9s
FORT Forrest 81.64 120 P **P** **15 29 05.3 +1.0**
SONM Songino Array 81.86 38 P **P** **15 29 06.0 +0.9**
comp=Z,3.4nm,0.8s,baz=241,slow=6.5,SNR=7.4
SONM Songino Array 81.86 38 P **P** **15 29 05.2 +0.1**
ULN Ulaanbaatar 82.28 38 *ce*P **P** **15 29 08.3 +1.0**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 82.28 38 P **P** **15 29 07.2 -0.2**
HHC Hu-ho-hao-te 82.47 46 *e*P **P** **15 29 10.7 +2.3**
HHC S **S** **15 39 26.5 +2.7**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,320nm,8.0s
HHC LR LR
comp=Z,180nm,18.2s
HHC LR LR
comp=Z,140nm,16.7s
HHC LR LR
comp=Z,160nm,16.5s
HNS HongShan 83.58 50 ⇑P **P** **15 29 15.9 +1.8**
HNS pmax pmax
comp=Z,11nm,1.1s
KNRA Kununurra 84.58 105 P **P** **15 29 19.6 0.0**
NJ2 Nanjing 85.26 56 *e*P **P** **15 29 23.7 +1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
DAV Davao City (W) 85.61 82 LR LR 16 06 18.7
comp=Z,82nm,18.8s,baz=230,slow=35
VNDA Vanda 85.70 169 P **P** **15 29 26.1 +1.9**
comp=Z,0.8nm,0.7s,baz=270,slow=5.0,SNR=6.7
LBMI Labuha 86.02 90 P **P** **15 29 26.2 -0.7**
comp=Z,22nm,0.9s
NRIK Noril'sk 86.20 15 P **P** **15 29 27.2 +0.7**
comp=Z,11nm,0.9s,baz=112,slow=1.5,SNR=12
NRIK LR LR 16 14 37.3
comp=Z,81nm,19.4s,baz=226,slow=40
NRIK Noril'sk 86.20 15 *ce*P **P** **15 29 27.5 +0.9**
NRIK pmax pmax
comp=Z,18nm,1.1s
NRIK Noril'sk 86.20 15 P **P** **15 29 26.8 +0.2**
NRIK IAmb IAmb 15 29 28.5
comp=Z,18nm,1.1s
IPMB Ipameri, GO 86.37 252 *e*P **P** **15 29 30.8 +2.1**
BDFB Brasilia 86.60 255 P **P** **15 29 31.4 +1.5**
comp=Z,2.1nm,0.5s,baz=99,slow=8.8,SNR=5.6
BDFB Brasilia 86.60 255 P **P** **15 29 29.0 -0.9**
BDFB IAmb IAmb 15 29 47.5
comp=Z,11nm,0.8s
BDFB Brasilia 86.60 255 *e*P **P** **15 29 32.2 +2.3**
ASAR Alice Springs 87.93 114 P **P** **15 29 37.0 +0.9**
comp=Z,5.4nm,0.7s,baz=264,slow=4.5,SNR=102
ASAR PKKP **PKKPbc** **15 47 22.6 +0.5**
comp=Z,0.3nm,0.6s,baz=77,slow=2.1,SNR=4.4
ASAR LR LR 16 03 41.2
comp=Z,459nm,19.2s,baz=290,slow=32
ASAR Alice Springs 87.93 114 P **P** **15 29 36.3 +0.1**
AS31 Alice Springs 87.93 114 P **P** **15 29 36.0 -0.1**
WRA Warramunga Arr 89.04 110 P **P** **15 29 42.2 +0.8**
comp=Z,12nm,0.9s,baz=261,slow=2.6,SNR=82
WRA Warramunga Arr 89.04 110 P **P** **15 29 41.3 -0.1**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 89.04 110 P **P** **15 29 41.3 -0.1**

WB2 Warramunga Arr 89.05 110 P **P** **15 29 41.6 +0.2**
WB2 IAmb IAmb 15 29 43.2
comp=Z,16nm,0.8s
WRAB Tennant Creek 89.05 110 *ce*P **P** **15 29 42.5 +1.0**
WRAB pmax pmax
comp=Z,22nm,1.0s
WRAB Tennant Creek 89.05 110 P **P** **15 29 41.4 0.0**
WRAB IAmb IAmb 15 29 43.2
comp=Z,18nm,0.8s
WB0 Warramunga Arr 89.12 110 P **P** **15 29 41.5 -0.3**
WB0 IAmb IAmb 15 29 43.4
comp=Z,16nm,0.9s
WR0 Warramunga Arr 89.22 110 P **P** **15 29 42.1 -0.1**
WR0 IAmb IAmb 15 29 43.7
comp=Z,9.8nm,0.9s
SPITS Spitsbergen Ar 90.00 355 P **P** **15 29 44.0 -0.6**
SPITS pmax pmax
comp=Z,46nm,1.2s
BOD Bodaibo 90.06 31 *e*P **P** **15 29 45.1 -0.1**
BOD pmax pmax
comp=Z,6.0nm,1.1s
DVLD Doverlandia 90.33 253 *e*P **P** **15 29 49.4 +1.8**
STKA Stephens Creek 92.80 123 P **P** **15 29 58.6 -0.1**
comp=Z,4.6nm,0.8s,baz=297,slow=4.5,SNR=10
STKA Stephens Creek 92.80 123 P **P** **15 29 57.9 -0.7**
CPUP Villa Florida 92.96 243 P **P** **15 30 01.4 +1.9**
comp=Z,2.0nm,0.8s,baz=157,slow=6.1,SNR=4.1
KSRS Korea Array 93.77 53 P **P** **15 30 02.6 -0.2**
comp=Z,3.8nm,1.1s,baz=274,slow=4.5,SNR=5.4
KSRS LR LR 16 12 55.0
comp=Z,108nm,19.0s,baz=270,slow=36
SALV Santo Antonio 93.80 253 *e*P **P** **15 30 05.8 +2.3**
KLR Kul'dur 98.35 41 LR LR 16 14 19.5
comp=Z,106nm,19.8s,baz=264,slow=35
KLR Kul'dur 98.35 41 *ce*P **P** **15 30 22.9 -0.6**
KLR pmax pmax
comp=Z,4.0nm,1.3s
YAK Yakutsk 98.70 28 *e*P **P** **15 30 23.8 -0.9**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,1.0nm,0.7s
SIV San Ignacio 98.82 252 LR LR 16 13 42.3
comp=N,424nm,18.4s,baz=97,slow=35
TIXI Tiksi 99.44 19 LR LR 16 16 50.8
comp=N,91nm,21.9s,baz=312,slow=36
TIXI Tiksi 99.44 19 *ce*P **Pdif** **15 30 27.5 -0.3**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 99.44 19 P **Pdif** **15 30 26.7 -1.1**
CTA Charters Tower 99.91 113 LR LR 16 11 35.0
comp=Z,297nm,18.5s,baz=252,slow=33
PKME Peaks-Kenny Pk 112.23 314 P **PKiKP** **15 35 21.4 -0.1**
baz=83
HRV Adam Dziewonsk 114.21 312 P **PKiKP** **15 35 25.6 +0.3**
baz=82
LBNH Lisbon 114.23 314 P **PKiKP** **15 35 25.9 +0.5**
baz=81
L61B Northampton 115.04 312 P **PKPdf** **15 35 27.5 +0.5**
baz=82
LONY Lake Ozonia 116.04 314 P **PKiKP** **15 35 29.2 +0.4**
baz=79
DZM Mont Dzumac 116.91 122 *e*LR LR 16 10 58.0
comp=Z,174nm,20.4s
O56A Blue Knob Stat 119.78 310 P **PKPdf** **15 35 36.2 -0.1**
baz=78
M54A Oil Creek Stat 120.33 312 P **PKiKP** **15 35 37.9 +0.6**
baz=77
N54A Moraine State 120.69 311 P **PKiKP** **15 35 38.2 +0.2**
baz=77
M53A WI Miller and 121.08 312 P **PKiKP** **15 35 38.9 +0.2**
baz=76
TNA Tin City 121.79 14 P **PKiKP** **15 35 40.4 +1.0**
baz=326
TOLK Toolik Lake Re 121.85 5 **PKiKP** **15 35 39.7 +0.1**
TOLK Toolik Lake Re 121.85 5 P **PKiKP** **15 35 40.5 +1.0**
baz=347
INK Inuvik 122.54 358 PKP **PKPdf** **15 35 40.1 -0.5**
comp=Z,4.4nm,0.9s,baz=20,slow=3.5,SNR=7.9
INK Inuvik 122.54 358 PKIKP **PKPdf** **15 35 40.2 -0.4**
INK Inuvik 122.54 358 P **PKiKP** **15 35 41.6 +0.8**
baz=5.9
P52A Corning 122.59 310 P **PKiKP** **15 35 42.3 +0.5**
baz=76
KMSC Kings Mountain 122.90 305 P **PKPdf** **15 35 42.2 -0.2**
baz=80
COLD Coldfoot 123.18 5 **PKPdf** **15 35 42.0 +0.1**
COLD Coldfoot 123.18 5 P **PKiKP** **15 35 43.0 +0.8**
baz=346
ANM None 123.22 13 P **PKiKP** **15 35 42.9 +0.7**
baz=328
DWPF Disney Wildern 123.97 297 P **PKiKP** **15 35 44.9 +0.1**
baz=84
IMAR Indian Mountai 124.00 7 **PKiKP** **15 35 43.8 +0.1**
H21K Melozitna Rive 124.43 7 **PKiKP** **15 35 45.0 +0.4**
H21K Melozitna Rive 124.43 7 P **PKiKP** **15 35 45.4 +0.8**
baz=343
H23K Yukon River 124.61 5 P **PKiKP** **15 35 45.7 +0.6**
baz=347
GCSA Galena City Sc 124.71 9 P **PKiKP** **15 35 45.9 +0.7**
baz=338
H24K Noodor Dome 124.75 5 P **PKiKP** **15 35 46.1 +0.8**
baz=349
GOGA Godfrey 124.95 303 P **PKiKP** **15 35 47.0 +0.3**
baz=79
I21K Tanana 124.98 7 **PKiKP** **15 35 46.4 +0.6**
I21K Tanana 124.98 7 P **PKiKP** **15 35 46.7 +1.0**
baz=344
I23K Minto, Yukon-K 125.29 6 **PKiKP** **15 35 46.3 -0.1**
I23K Minto, Yukon-K 125.29 6 P **PKiKP** **15 35 47.0 +0.6**
baz=347
MDM Murphy Dome 125.58 5 **PKPdf** **15 35 46.4 -0.2**
I29M Ogilvie Camp, 125.60 360 **PKPdf** **15 35 46.7 0.0**
I29M Ogilvie Camp, 125.60 360 P **PKiKP** **15 35 47.8 +0.8**
baz=0.3,SNR=13
YKA Yellowknife Ar 125.66 347 PKP **PKPdf** **15 35 46.9 +0.2**
comp=Z,3.2nm,0.9s,baz=29,slow=1.8,SNR=29
YKA PP **PP** **15 37 37.4 -0.7**
comp=Z,1.4nm,0.9s,baz=21,slow=6.7,SNR=8.1
YKA Yellowknife Ar 125.66 347 PKPdf **PKPdf** **15 35 46.5 -0.2**
J20K Nowinta River 125.66 8 P **PKiKP** **15 35 47.9 +0.7**
J20K Nowinta River 125.66 8 P **PKiKP** **15 35 48.1 +1.0**
baz=341
TCOL CIGO, UAF Yank 125.70 5 P **PKiKP** **15 35 48.1 +0.9**
baz=349
COLA College 125.70 5 P **PKiKP** **15 35 48.0 +0.9**
baz=349
NEA2 Nenana 125.86 6 **PKPdf** **15 35 46.5 -0.6**
NEA2 Nenana 125.86 6 P **PKiKP** **15 35 48.3 +0.7**
baz=347
IL31 125.88 4 **PKPdf** **15 35 46.4 -0.7**
ILAR Eielson Array 125.88 4 PKP **PKPdf** **15 35 46.9 -0.3**
comp=Z,3.8nm,1.0s,baz=316,slow=3.1,SNR=22
ILAR PP **PP** **15 37 36.6 -2.9**
comp=Z,0.8nm,0.9s,baz=341,slow=5.9,SNR=3.6
ILAR Eielson Array 125.88 4 **PKPdf** **15 35 46.4 -0.7**
EYMN Ely 126.06 322 **PKPdf** **15 35 48.2 +0.2**
EYMN Ely 126.06 322 P **PKiKP** **15 35 48.6 +0.2**
baz=63
WRH Wood River Hil 126.07 5 **PKPdf** **15 35 47.4 -0.1**
J25K Salcha River, 126.14 4 **PKiKP** **15 35 48.0 -0.2**
J25K Salcha River, 126.14 4 P **PKiKP** **15 35 48.9 +0.8**
baz=352
U49A Red Boiling Sp 126.14 307 **PKPdf** **15 35 48.0 -0.5**
BPAW Bear Paw Mtn. 126.14 7 P **PKiKP** **15 35 48.8 +0.6**
baz=345
EGAK Eagle 126.15 1 **PKiKP** **15 35 48.2 +0.1**
EGAK Eagle 126.15 1 P **PKiKP** **15 35 48.7 +0.6**
baz=357,SNR=8.1
CHUM Lake Minchumin 126.19 7 P **PKiKP** **15 35 49.1 +0.9**
baz=343
HDA Harding Lake 126.23 5 P **PKiKP** **15 35 48.7 +0.4**
baz=350
J26L Joseph Creek 126.34 3 P **PKiKP** **15 35 48.9 +0.3**
baz=354
K20K Telida 126.45 9 PKPdf **PKiKP** **15 35 48.6 -0.1**
K20K Telida 126.45 9 P **PKiKP** **15 35 49.2 +0.5**
baz=341
TTA Tatalina 126.55 10 PKIKP **PKiKP** **15 35 49.7 +0.7**
TTA Tatalina 126.55 10 **PKiKP** **15 35 49.7 +0.7**
TTA Tatalina 126.55 10 P **PKiKP** **15 35 49.4 +0.4**
baz=339
CAST Castle Rocks 126.67 8 PKPdf **PKiKP** **15 35 49.3 +0.1**
CAST Castle Rocks 126.67 8 P **PKiKP** **15 35 49.4 +0.2**
baz=343
KTH Kantishna Hill 126.68 7 **PKPdf** **15 35 48.8 0.0**

MCK McKinley 126.72 6 P **PKiKP** **15 35 49.4 +0.1**
baz=347
SCRK Sand Creek 126.85 3 **PKiKP** **15 35 49.6 -0.1**
SCRK Sand Creek 126.85 3 P **PKiKP** **15 35 50.1 +0.5**
baz=353
TRF Thorofare Moun 126.85 7 P **PKiKP** **15 35 50.0 +0.3**
baz=346
DAWY Dawson 126.89 0 PKPdf **PKiKP** **15 35 49.6 0.0**
DAWY Dawson 126.89 0 P **PKiKP** **15 35 50.1 +0.4**
baz=359
RIDG Independent Ri 127.04 3 P **PKiKP** **15 35 50.5 +0.5**
baz=352
RND Reindeer 127.05 6 PKIKP **PKiKP** **15 35 50.1 +0.1**
RND Reindeer 127.05 6 **PKiKP** **15 35 50.1 +0.1**
PPLA Purkeypile 127.16 8 P **PKiKP** **15 35 50.8 +0.5**
baz=343
DOT Dot Lake 127.17 3 **PKiKP** **15 35 50.2 0.0**
L20K Farewell, AK 127.31 9 P **PKiKP** **15 35 51.0 +0.5**
baz=341
JFWS Jewell Farm 127.38 316 P **PKPdf** **15 35 50.5 -0.2**
baz=67
ULM Lac du Bonnet 127.40 327 PKP **PKPdf** **15 35 50.4 -0.1**
comp=Z,5.7nm,0.9s,baz=162,slow=1.6,SNR=4.6
L19K White Mountain 127.44 10 P **PKiKP** **15 35 51.4 +0.6**
baz=340
DHY Denali Highway 127.51 5 **PKiKP** **15 35 51.0 0.0**
DHY Denali Highway 127.51 5 P **PKiKP** **15 35 51.4 +0.4**
baz=349
PAX Paxson 127.76 4 P **PKiKP** **15 35 51.9 +0.4**
baz=351
M19K Big River Lodg 127.78 9 P **PKiKP** **15 35 51.8 +0.3**
baz=340
L26K Log Cabin Wild 127.83 3 **PKiKP** **15 35 51.6 +0.1**
L26K Log Cabin Wild 127.83 3 P **PKiKP** **15 35 52.1 +0.6**
baz=354
WVT Waverly 127.84 307 P **PKiKP** **15 35 52.1 -0.2**
baz=74
BCAR Beaver Creek A 127.85 2 **PKiKP** **15 35 51.4 -0.3**
L27K Beaver Creek, 127.85 2 **PKPdf** **15 35 50.8 -0.2**
L27K Beaver Creek, 127.85 2 P **PKiKP** **15 35 51.9 +0.4**
baz=356,SNR=12
CUT Chulitna 127.87 7 P **PKiKP** **15 35 51.7 +0.2**
baz=345
LRAL Lakeview Retre 127.93 303 P **PKiKP** **15 35 52.5 -0.1**
baz=77
HARP HAARP 128.35 4 P **PKiKP** **15 35 53.0 +0.4**
baz=352
M30M Minto, Yukon 128.38 359 P **PKiKP** **15 35 53.1 +0.4**
baz=2.2
AGMN Agassiz Nation 128.44 325 **PKPdf** **15 35 52.2 -0.3**
AGMN Agassiz Nation 128.44 325 P **PKiKP** **15 35 53.3 +0.2**
baz=58
M22K Willow 128.52 7 P **PKiKP** **15 35 53.0 +0.2**
baz=346
BVCY Beaver Creek 128.53 1 P **PKiKP** **15 35 53.4 +0.5**
baz=357
M27K Edge Creek, AK 128.56 2 P **PKiKP** **15 35 53.6 +0.4**
baz=356
M24K Tolsona, Glenn 128.57 5 P **PKiKP** **15 35 53.6 +0.6**
baz=350
SML Sawmill 128.67 6 P **PKiKP** **15 35 54.1 +0.8**
baz=348
M31M Drury Creek, Y 128.68 357 P **PKiKP** **15 35 53.8 +0.5**
baz=5.2
SCM Sheep Creek Mo 128.74 5 P **PKiKP** **15 35 53.8 +0.4**
baz=349
PMR Palmer 128.79 6 P **PKiKP** **15 35 54.2 +0.8**
baz=347
TGTN Hyland Airport 128.89 354 P **PKiKP** **15 35 54.0 +0.3**
baz=13
N25K Chitina, Valde 129.18 4 P **PKiKP** **15 35 54.7 +0.4**
baz=352
YUK3 Moose Creek 129.18 1 P **PKiKP** **15 35 54.8 +0.2**
baz=358
RC01 Rabbit Creek A 129.21 7 P **PKiKP** **15 35 54.9 +0.6**
baz=346
O19K Port Alsworth 129.40 10 P **PKiKP** **15 35 55.0 +0.4**
baz=340
N31M Braeburn, Yuko 129.45 358 P **PKiKP** **15 35 55.3 +0.4**
baz=3.5
MCARA McCarthy VSAT 129.48 3 **PKiKP** **15 35 55.0 +0.1**
MCARA McCarthy VSAT 129.48 3 P **PKiKP** **15 35 55.4 +0.5**
baz=354,SNR=8.4
O18K Koktuh Hills 129.56 11 P **PKiKP** **15 35 55.6 +0.5**
baz=339
PWL Port Wells 129.60 6 P **PKiKP** **15 35 55.6 +0.5**
baz=348
YUK4 Talbot Arm 129.63 0 P **PKiKP** **15 35 55.3 -0.1**
baz=0.0
GLI Glacier Island 129.70 5 P **PKiKP** **15 35 55.8 +0.5**
baz=349
BMRM Bremner River 129.81 4 P **PKiKP** **15 35 55.9 +0.3**
baz=352
CCM Cathedral Cave 129.85 311 PKIKP **PKPdf** **15 35 55.6 +0.1**
CCM Cathedral Cave 129.85 311 PKPdf **PKPdf** **15 35 55.6 +0.1**
CCM Cathedral Cave 129.85 311 P **PKiKP** **15 35 56.4 +0.1**
baz=70
P40A Paris 129.92 313 **PKiKP** **15 35 56.1 -0.2**
CTG Chitna Glacier 129.97 2 P **PKiKP** **15 35 56.2 +0.2**
baz=356
YUK6 Outpost Mounta 130.03 360 P **PKiKP** **15 35 56.5 +0.2**
baz=0.3
EYAK Cordova Ski Ar 130.14 5 P **PKiKP** **15 35 56.7 +0.5**
baz=351
HYT Haines Junctio 130.15 359 **PKiKP** **15 35 56.2 -0.2**
HYT Haines Junctio 130.15 359 P **PKiKP** **15 35 56.6 +0.2**
baz=1.4
MGMO Mountain Grove 130.92 310 **PKPdf** **15 35 57.8 +0.2**
ECSD EROS Data Cent 131.21 320 P **PKiKP** **15 35 58.5 -0.3**
baz=61
U40A Yellville 131.64 309 PKPdf **PKPdf** **15 35 59.0 0.0**
U40A Yellville 131.64 309 P **PKiKP** **15 35 60.0 0.0**
baz=70
RSSD Black Hills 135.47 324 P **PKPdf** **15 36 06.9 +0.6**
baz=52
CBKS Cedar Bluff 135.64 316 P **PKiKP** **15 36 07.3 -0.7**
baz=62
EGMT Eagleton 135.79 332 PKPdf **PKPdf** **15 36 06.8 +0.3**
EGMT Eagleton 135.79 332 P **PKiKP** **15 36 07.6 -0.6**
baz=43
OGNE Ogallala 136.08 319 P **PKiKP** **15 36 08.6 -0.4**
baz=57
WHTX Lake Whitney, 136.70 305 P **PKPdf** **15 36 09.2 +0.6**
baz=70
WMOK Wichita Mounta 136.72 310 P **PKiKP** **15 36 10.2 -0.1**
baz=66
RLMT Red Lodge 137.64 329 P **PKPdf** **15 36 10.9 +0.7**
baz=45
K22A Casper 137.81 324 P **PKPdf** **15 36 11.4 +0.8**
baz=51
JTMT Jette 137.96 336 **PKPdf** **15 36 11.3 +0.7**
ABTX Abilene, Hawle 138.21 307 P **PKPdf** **15 36 12.2 +0.8**
baz=68
BOZ Bozeman (W) 138.45 331 P **PKiKP** **15 36 13.0 -0.7**
baz=42
MSO Missoula 138.54 334 **PKPdf** **15 36 11.3 -0.4**
MSO Missoula 138.54 334 P **PKiKP** **15 36 13.6 -0.2**
baz=38
N23A Red Feather La 138.55 322 P **PKiKP** **15 36 13.3 -1.0**
baz=53
NEW Newport 138.63 338 PKP **PKPdf** **15 36 12.8 +1.1**
comp=Z,4.2nm,0.8s,baz=264,slow=5.9,SNR=4.0
NEW Newport 138.63 338 P **PKiKP** **15 36 13.7 -0.1**
baz=33
ISCO Idaho Springs 138.99 320 P **PKiKP** **15 36 14.2 -1.0**
baz=54
JCT Junction City 139.10 304 PKIKP **PKPdf** **15 36 13.4 +0.3**
JCT Junction City 139.10 304 **PKPdf** **15 36 13.4 +0.3**
JCT Junction City 139.10 304 P **PKiKP** **15 36 14.4 -1.0**
baz=70
PD31 Pinedale Array 139.42 327 **PKPdf** **15 36 13.1 -0.5**
PDAR Pinedale Array 139.42 327 PKP **PKPdf** **15 36 14.3 +0.7**
comp=Z,3.2nm,1.0s,baz=106,slow=3.7,SNR=13
PDAR Pinedale Array 139.42 327 PKPdf **PKPdf** **15 36 13.9 +0.4**
833A Chaparral WMA, 139.46 301 P **PKPdf** **15 36 14.8 +1.0**
baz=72
TPAW Teton Pass 139.65 329 **PKPdf** **15 36 14.6 +0.6**
T25A Trinidad 139.67 316 P **PKPdf** **15 36 14.2 0.0**
baz=58
A04D Lummi Island 140.02 344 P **PKiKP** **15 36 15.6 -0.9**
baz=25
SDCO Great Sand Dun 140.08 318 P **PKPdf** **15 36 15.4 +0.4**
baz=56
SMCO Snowmass 140.21 320 **PKPdf** **15 36 14.8 -0.5**
F10A Beach Ranch, E 140.58 336 **PKPdf** **15 36 15.6 +0.2**
PLID Pearl Lake 140.80 335 **PKPdf** **15 36 15.0 -1.0**
HLID Hailey 141.29 332 P **PKiKP** **15 36 19.2 -0.4**

	baz=40						
HWUT	Hardware Ranch	141.30	327		PKPdf	15 36 15.8	-1.1
D04E	Lakebay	141.44	343	P	PKiKP	15 36 19.4	-0.1
	baz=25						
G08A	Pilot Rock	141.82	337		PKPdf	15 36 16.7	-0.9
P18A	Preston Nutter	141.90	324		PKPpre	15 36 12.5	
PV23	Carpenter Ridg	141.91	321		PKPdf	15 36 17.2	-1.1
PV13	Radium Mtn., P	141.97	321		PKPdf	15 36 16.7	-1.6
ANMO	Albuquerque	142.23	315	PKP	PKPdf	15 36 18.8	0.0
	comp=Z,3.1nm,0.8s,baz=294,slow=1.2,SNR=5.9						
ANMO	Albuquerque	142.23	315		PKPdf	15 36 18.4	-0.5
SRU	San Rafael Swe	142.41	323	PKHKP	PKPpre	15 36 13.5	
SRU	San Rafael Swe	142.41	323	PKPpre	PKPpre	15 36 13.5	
TX32	Lajitas Array	142.65	305		PKPdf	15 36 18.2	-1.4
TXAR	Lajitas Array	142.65	305	PKP	PKPdf	15 36 17.5	-2.1
	comp=Z,3.7nm,0.9s,baz=93,slow=2.6,SNR=15						
TMUT	Trail Mountain	142.68	324		PKPdf	15 36 18.9	-0.7
BNM	Barren Site	142.76	314	PKPpre	PKPpre	15 36 15.6	
LENM	Lemitar	143.00	314		PKPdf	15 36 18.8	-1.4
MNTX	Cornudas Mount	143.02	309		PKPbc	15 36 17.6	+0.7
I07A	Izee	143.05	337		PKPdf	15 36 19.9	0.0
J08A	Circle Bar Ran	143.24	335		PKPdf	15 36 18.8	-1.4
MSU	Marysvale	143.77	324	PKIKP	PKPdf	15 36 21.0	-0.5
MSU	Marysvale	143.77	324	PKPdf	PKPdf	15 36 21.0	-0.5
ELK	Elko	143.83	329	PKP	PKPdf	15 36 20.8	-0.8
	comp=Z,4.5nm,0.8s,baz=354,slow=3.5,SNR=13						
ELK	Elko	143.83	329		PKPdf	15 36 20.6	-0.9
TCRU	Three Creeks R	143.86	324		PKPdf	15 36 21.6	-0.1
WVOR	Wild Horse Val	144.07	335	PKIKP	PKPdf	15 36 21.4	-0.4
WVOR	Wild Horse Val	144.07	335		PKPdf	15 36 21.4	-0.4
MTPU	Mount Pierson	144.09	323		PKPdf	15 36 21.5	-0.7
I04A	Tendick Farm,	144.35	340	P	PKPdf	15 36 22.5	+0.4
	baz=28						
W18A	Petrified Fore	144.38	317		PKPbc	15 36 21.7	+0.7
W18A	Petrified Fore	144.38	317	P	PKPdf	15 36 22.6	-0.1
	baz=54						
J05D	Fort Rock, OR	144.38	338	P	PKPdf	15 36 22.6	+0.3
	baz=30						
121A	Cookes Peak, D	144.42	312	PKPdf	PKPdf	15 36 22.3	-0.5
121A	Cookes Peak, D	144.42	312	P	PKPdf	15 36 22.2	-0.5
	baz=60						
PKCU	Pink Cliffs	144.56	323		PKPdf	15 36 22.7	-0.3
PSUT	Pine Spring	144.71	325		PKPdf	15 36 23.1	0.0
J04D	Umpqua Nationa	144.73	339	P	PKPdf	15 36 22.6	-0.4
	baz=29						
K05A	Summer Lake	144.73	337	PKPdf	PKPdf	15 36 23.5	+0.5
I03D	Drain, OR	144.75	341	P	PKPdf	15 36 22.6	-0.1
	baz=26						
SZCU	Shurtz Canyon	144.92	324		PKPdf	15 36 23.6	+0.1
BMN	Battle Mountai	145.04	331	PKIKP	PKPdf	15 36 23.9	+0.3
BMN	Battle Mountai	145.04	331		PKPdf	15 36 23.9	+0.3
WUAZ	Wupatki	145.21	319	P	PKPbc	15 36 23.5	-0.2
	baz=52,NNR=16						
J01E	Myrtle Point	145.41	341	P	PKPab	15 36 24.1	+0.2
	baz=26						
HUMO	Hull Mountain	145.58	339		PKPab	15 36 25.3	+0.6
L04D	Klamath Falls	145.69	338		PKPab	15 36 25.4	+0.2
L04D	Klamath Falls	145.69	338	P	PKPbc	15 36 24.8	-0.1
	baz=29						
K02D	Willamette Mer	145.75	340	P	PKPab	15 36 25.5	+0.1
	baz=26						
R11A	Troy Canyon, C	145.79	327	P	PKPab	15 36 25.7	-0.1
	baz=43						
M04C	Macdoel	145.90	337	P	PKPab	15 36 25.9	-0.1
	baz=30						
L02E	Cave Junction	146.20	340	P	PKPbc	15 36 26.0	-0.3
	baz=27						
KVN	Kaiserville	146.54	330	PKP2	PKPbc	15 36 27.6	0.0
KVN	Kaiserville	146.54	330	PKPbc	PKPbc	15 36 27.6	0.0
M02C	Callahan	146.62	338	P	PKPbc	15 36 27.3	-0.4
	baz=29						
TUC	Tucson	146.69	314	P	PKPbc	15 36 28.5	+0.3
	baz=56						
BEKR	Beckworth	146.92	334	PKPbc	PKPbc	15 36 28.2	-0.5
N02D	Trinity Center	146.93	338	PKPbc	PKPbc	15 36 28.9	+0.4
N02D	Trinity Center	146.93	338	P	PKPbc	15 36 28.7	+0.2
	baz=29						
NV11	Mina Array Sit	147.05	330	PKPbc	PKPbc	15 36 28.5	-0.5
NVAR	Mina Array Bea	147.12	330	PKPbc	PKPbc	15 36 30.1	+0.7
	comp=Z,20nm,0.9s,baz=123,slow=0.7,SNR=72						
NVAR	Mina Array Bea	147.12	330	PKPbc	PKPbc	15 36 29.3	-0.1
TPNV	Topopah Spring	147.16	326	P	PKPbc	15 36 29.6	+0.1
	baz=43						
EMB	Emerald Bay	147.54	333		PKPbc	15 36 29.8	-0.7
O02D	Mt. Diablo Mer	147.65	337	P	PKPbc	15 36 29.9	-0.7
	baz=30						
PDMCI	Parker Dam,Lak	147.74	320	P	PKPdf	15 36 29.4	+1.3
	baz=49						
SHOC	Shoshone, Teco	147.93	325	P	PKPbc	15 36 30.5	-0.9
	baz=44						
GWY	Greenwater Val	147.95	325	PKPbc	PKPbc	15 36 30.8	-0.8
TUQ	Turquoise Moun	148.06	324	P	PKPdf	15 36 30.3	+1.5
	baz=45,SNR=9.9						
QSM	Queen of Sheba	148.22	325		PKPbc	15 36 31.4	-0.7
214A	Organ Pipe Nat	148.30	315		PKPbc	15 36 31.1	-1.4
214A	Organ Pipe Nat	148.30	315	P	PKPbc	15 36 31.0	-1.5
	baz=54						
BLYC	Blythe	148.34	320		PKPbc	15 36 31.4	-1.1
BLYC				PKPab	PKiKP	15 36 34.5	+0.3
GMRC	Granite Mounta	148.35	322	P	PKPbc	15 36 31.4	-1.3
	baz=46,SNR=6.1						
IRM	Iron Mountain	148.46	321	P	PKPbc	15 36 31.9	-1.0
	baz=48,SNR=10						
113A	Mohawk Valley,	148.46	318		PKPdf	15 36 30.9	+1.6
MPMC	Manual Prospec	148.50	326	P	PKPbc	15 36 31.6	-1.5
	baz=42,SNR=12						
CWC	Cottonwood Cre	148.53	327	P	PKPbc	15 36 32.4	-0.8
	baz=41						
GSC	Goldstone, Bar	148.66	324	PKP2	PKPbc	15 36 32.5	-0.9
GSC	Goldstone, Bar	148.66	324		PKPbc	15 36 32.5	-0.9
GSC	Goldstone, Bar	148.66	324	P	PKPbc	15 36 31.7	-1.7
	baz=44,SNR=5.3						
HEC	Hector,Ludlow	148.72	323	P	PKPbc	15 36 32.3	-1.3
	baz=46,SNR=6.0						
GLA	Glamis	148.98	319	PKIKP	PKPbc	15 36 32.4	-1.9
GLA	Glamis	148.98	319	PKPbc	PKPbc	15 36 32.4	-1.9
GLA	Glamis	148.98	319	P	PKPbc	15 36 32.8	-1.4
	baz=50						
BC3	Big Chuckawall	148.98	321	P	PKPbc	15 36 32.9	-1.4
	baz=48						
LRMC	Laurel Mtn Rad	149.03	326	P	PKPbc	15 36 32.7	-1.7
	baz=43,SNR=11						
BELC	Belle Mtn. Jos	149.09	322	P	PKPbc	15 36 32.8	-1.9
	baz=47,SNR=6.4						
ISA	Isabella, Lake	149.32	327	PKIKP	PKPbc	15 36 33.2	-1.9
ISA	Isabella, Lake	149.32	327		PKPbc	15 36 33.2	-1.9
ISA	Isabella, Lake	149.32	327	P	PKPbc	15 36 33.5	-1.5
	baz=41,SNR=7.2						
PFO	Pinyon Flats O	149.63	322	PKPbc	PKPbc	15 36 34.9	-1.1
	comp=Z,8.1nm,1.0s,baz=313,slow=4.7,SNR=7.4						
PFO	Pinyon Flats O	149.63	322	P	PKPbc	15 36 34.0	-1.9
	baz=47						
TPFO	Pinon Flats	149.63	322	P	PKPbc	15 36 34.6	-1.3
	baz=47						
EDW2	Edwards Air Fo	149.64	325	P	PKPbc	15 36 34.5	-1.4
	baz=43						
SWSC	Sam W. Stewart	149.67	320	P	PKPbc	15 36 34.2	-1.6
	baz=49						
PPT2	Papeete2	149.69	159	*e*LR	LR	16 26 11.7	
	comp=Z,60nm,21.2s						
BFSC	Mount Baldy Ra	149.91	324	P	PKPbc	15 36 35.1	-1.6
	baz=44						
IKP	In-Ko-Pah, Jac	150.06	320	P	PKPbc	15 36 35.0	-2.0
	baz=48						
MURC	Murrieta	150.09	322	P	PKPbc	15 36 35.2	-1.7
	baz=46						
MONP2	Monument Peak	150.10	321	P	PKPbc	15 36 35.5	-1.8
	baz=48						
PKM	Mcpherson Peak	150.62	327	P	PKPbc	15 36 37.2	-1.2
	baz=40						
CIS	Catalina Islan	150.95	324	P	PKPbc	15 36 38.7	-0.3
	baz=44						
SNCC	San Nicolas Is	151.70	325	P	PKPbc	15 36 40.0	-0.7
	baz=42						
TAOE	Nuku Hiva Isla	160.33	175	*e*LR	LR	16 31 12.6	
	comp=Z,165nm,23.8s						

IDC 12 15:17:08.4±1.1, 11°44N×141°05E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/60, mbtmp3.5/7, Error ellipse: s-maj=53.8km s-min=24.0km az=94.0, Western Caroline Islands

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

WRA	Warramunga Arr	31.88	192	P	P	15 23 35.0	-0.6
	0.5nm,1.1s,baz=4.7,slow=9.3,SNR=1.6						
ASAR	Alice Springs	35.59	191	P	P	15 24 08.2	+0.4
	0.1nm,0.5s,baz=17,slow=12,SNR=4.6						
MKAR	Makanchi Array	60.49	318	P	P	15 27 20.9	+0.6
	0.1nm,0.4s,baz=93,slow=7.8,SNR=1.5						
ZALV	Zalesovo Beam	61.24	326	P	P	15 27 25.3	+0.1
	0.3nm,0.3s,baz=104,slow=6.5,SNR=2.2						
ILAR	Eielson Array	72.09	25	P	P	15 28 33.9	-0.5
	0.3nm,0.6s,baz=245,slow=6.1,SNR=4.3						
YKA	Yellowknife Ar	86.46	27	P	P	15 29 53.9	+1.1
	0.2nm,0.4s,baz=288,slow=4.9,SNR=4.2						
FINES	FINESS Array B	91.49	334	P	P	15 30 15.2	-1.5
	1.6nm,0.7s,baz=57,slow=5.1,SNR=2.6						

*TUL **12** 15:17:17.5±0.8, 36°28N±0°02×97°52W±0°02, h7km±6km, ML3.5,mb_Lg3.3/94(NEIC), Error ellipse: s-maj=3.0km s-min=2.1km az=223.0*
*NEIC **12** 15:17:17.2±0.7, 36°28N±0°02×97°54W±0°03, h5km±6km, Error ellipse: s-maj=3.4km s-min=2.3km az=56.0*
*ANF **12** 15:17:17.3±0.3, 36°32N×97°52W, h7km, ML3.6/10, Error ellipse: s-maj=2.6km s-min=2.2km az=13.0*
*IDC **12** 15:17:20.2±2.5, 36°21N×97°76W, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/61, mbtmp2.9/3, ML3.5/2, Error ellipse: s-maj=29.4km s-min=14.3km az=96.0*

ISC 12 15:17:18.1±0.7, 36°28N±0°03×97°52W±0°03, h10km, n81, σ1ᵍ43/56, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	1.03	174		Pg	15 17 36.6	-1.3
T35A	Sooner Cattle	1.03	52		Pg	15 17 36.7	-1.3
T35B	Sooner Cattle	1.03	52	P	Pg	15 17 36.8	-1.1
	baz=232						
T35B				S	Sg	15 17 50.2	-1.1
	baz=232						
U32A	Winter Ranch,	1.20	275	Pn	Pb	15 17 39.6	-1.4
U32A	Winter Ranch,	1.20	275	P	Pb	15 17 39.6	-1.4
	baz=94						
U32A				S	Sg	15 17 56.5	-0.3
	baz=94						
W35A	Tecumseh	1.25	155	Pn	Pn	15 17 40.2	-1.4
TUL1	Leonard	1.45	104		Pn	15 17 43.4	-1.0
TUL1				IAmb_Lg		15 18 04.8	
	comp=Z,121nm,0.9s						
TUL1	Leonard	1.45	104	P	Pn	15 17 43.5	-0.9
	baz=286						
TUL1				S	Sb	15 18 03.6	-0.1
	baz=286						
X34A	Smith Ranch, M	1.70	189		Pn	15 17 48.0	+0.1
WMOK	Wichita Mounta	1.85	214	Pn	Pn	15 17 49.6	-0.4
WMOK	Wichita Mounta	1.85	214	P	Pn	15 17 50.1	+0.2
	baz=33						
R32A	Long Quarter,	2.34	336	Pn	Pn	15 17 56.4	-0.2
R32A	Long Quarter,	2.34	336	S	Sn	15 18 26.2	+0.8
	baz=156						
X37A	Clayton	2.44	133		Pn	15 17 57.7	-0.3
X37A				IAmb_Lg		15 18 40.9	
	comp=Z,81nm,0.7s						
X37A	Clayton	2.44	133	P	Pn	15 17 59.2	+1.2
	baz=315						
X37A				Sb	Sg	15 18 34.3	-2.2
	baz=315						
HHAR	Hobbs	2.89	89		Pn	15 18 03.4	-0.9
KSU1	Kansas State U	2.90	14	Pn	Pn	15 18 03.5	-0.9
Z35A	Perchaven, San	2.95	176	Pn	Pn	15 18 04.3	-0.8
Z35A	Perchaven, San	2.95	176	S	Sn	15 18 42.7	+2.1
	baz=356						
CBKS	Cedar Bluff	3.08	326	Pn	Pn	15 18 06.3	-0.6
CBKS				IAmb_Lg		15 18 56.9	
	comp=Z,49nm,0.8s						
W39A	Magazine	3.23	109		Pn	15 18 08.5	-0.3
W39A				IAmb_Lg		15 19 05.2	
	comp=Z,117nm,1.1s						
W39A	Magazine	3.23	109	Pb	Pb	15 18 16.0	+0.5
	baz=291						
S39A	Bolivar	3.64	66	Pn	Pn	15 18 14.1	-0.5
S39A				IAmb_Lg		15 19 21.6	
	comp=Z,55nm,0.9s						
MIAR	Mount Ida	3.66	117		Pn	15 18 15.1	+0.3
MIAR	Mount Ida	3.66	117	P	Pn	15 18 15.4	+0.7
	baz=300						
Z38A	Mt. Pleasant	3.67	145	IAmb_Lg		15 19 20.7	
	comp=Z,134nm,0.9s						
U40A	Yellville	3.77	88		Pn	15 18 15.4	-0.9
U40A				IAmb_Lg		15 19 17.9	
	comp=Z,124nm,0.8s						
ABTX	Abilene, Hawle	4.05	206	Pn	Pn	15 18 18.9	-1.3
ABTX				IAmb_Lg		15 19 26.4	
	comp=Z,40nm,0.9s						
WHTX	Lake Whitney,	4.28	179	Pn	Pn	15 18 22.6	-0.7
WHTX	Lake Whitney,	4.28	179	Sb	Sb	15 19 29.6	+4.4
	baz=359						
MGMO	Mountain Grove	4.31	77		Pn	15 18 23.3	-0.5
WHAR	Wooly Hollow	4.37	102	Pn	Pn	15 18 24.2	-0.3
FCAR	Ozark Folk Cen	4.39	94	Pn	Pn	15 18 23.9	-0.9
FCAR				IAmb_Lg		15 19 34.4	
	comp=Z,35nm,0.8s						
W41B	Gary Mavity, V	4.43	103	Pn	Pn	15 18 24.5	-0.9
WLAR	White Oak Lake	4.45	124	IAmb_Lg		15 19 49.1	
	comp=Z,33nm,0.9s						
P38A	Dawn	4.59	42	Pn	Pn	15 18 27.4	-0.1
P38A				IAmb_Lg		15 19 44.9	
	comp=Z,54nm,0.8s						
R40A	Maddies Statio	4.64	63	Pn	Pn	15 18 28.2	-0.1
N35A	Tabor	4.80	17	Pn	Pn	15 18 29.6	-0.9
KSCO	Kaye Shedlock'	4.88	305	Pn	Pn	15 18 30.5	-1.3
KSCO				IAmb_Lg		15 19 57.4	
	comp=Z,40nm,0.8s						
Z41A	Richland Creek	4.92	126	IAmb_Lg		15 20 03.0	
	comp=Z,54nm,0.7s						
NATX	Nacogdoches	5.10	151	IAmb_Lg		15 20 12.3	
	comp=Z,28nm,0.7s						
BGNE	Belgrade	5.14	355	Pn	Pn	15 18 34.3	-0.9
BGNE				IAmb_Lg		15 20 09.2	
	comp=Z,65nm,0.7s						
LCAR	Lake Charles	5.16	90	IAmb_Lg		15 20 05.0	
	comp=Z,41nm,0.9s						
CCM	Cathedral Cave	5.32	69	Pn	Pn	15 18 36.9	-0.6
CCM				IAmb_Lg		15 20 03.7	
	comp=Z,65nm,0.8s						
435B	Jarrell	5.49	181	IAmb_Lg		15 20 20.2	
	comp=Z,26nm,0.7s						
T25A	Trinidad	5.60	281	Pn	Pn	15 18 41.0	-0.6
T25A				IAmb_Lg		15 20 18.1	
	comp=Z,38nm,1.0s						
N38A	Joes South For	5.62	35	Pn	Pn	15 18 40.8	-0.9
N38A				IAmb_Lg		15 20 24.1	
	comp=Z,76nm,0.8s						
PBMO	Poplar Bluff	5.73	83	IAmb_Lg		15 20 23.3	
	comp=Z,66nm,0.7s						
L34A	Svendsen Farm,	5.75	9	IAmb_Lg		15 20 23.3	
	comp=Z,41nm,0.7s						
OGNE	Ogallala	5.84	324	IAmb_Lg		15 20 32.7	
	comp=Z,51nm,0.7s						
FVM	French Village	5.92	71	IAmb_Lg		15 20 24.9	
	comp=Z,76nm,0.9s						
JCT	Junction City	6.09	199	IAmb_Lg		15 20 45.3	
	comp=Z,34nm,0.8s						
143A	Socs Landing,	6.19	123	IAmb_Lg		15 20 47.8	
	comp=Z,28nm,0.8s						
SCIA	State Center	6.54	29	Pn	Pn	15 18 53.9	-0.4
SCIA				IAmb_Lg		15 21 01.9	
	comp=Z,55nm,0.7s						
Q24A	Divide	6.62	296	Pn	Pn	15 18 54.9	-0.8
Q24A				IAmb_Lg		15 20 56.5	
	comp=Z,30nm,0.9s						
HALT	Halls	6.63	91	IAmb_Lg		15 20 49.8	
	comp=Z,52nm,0.8s						
S44A	Carbondale	6.76	76	IAmb_Lg		15 21 01.7	
	comp=Z,42nm,0.8s						
OXF	Oxford	6.86	103	IAmb_Lg		15 20 55.3	
	comp=Z,41nm,1.0s						
W45A	Hickory Valley	6.87	97	IAmb_Lg		15 20 54.0	
	comp=Z,31nm,0.7s						
ISCO	Idaho Springs	7.29	301	Pn	Pn	15 19 04.0	-0.9
ANMO	Albuquerque	7.40	262	Pg	Pb	15 19 32.1	+5.4
	comp=Z,0.2nm,0.3s,baz=81,slow=18,SNR=3.0						
ANMO				Lg	Lg	15 21 06.3	
	comp=Z,2.3nm,0.3s,baz=12,slow=8.4,SNR=9.7						
ECSD	EROS Data Cent	7.47	5		Pn	15 19 05.7	-1.5
ECSD				IAmb_Lg		15 21 25.2	
	comp=Z,18nm,1.3s						
L40A	Anamosa	7.56	38	Pn	Pn	15 19 07.0	-1.4
L40A				IAmb_Lg		15 21 20.4	
	comp=Z,52nm,1.2s						
WVT	Waverly	7.84	88	IAmb_Lg		15 21 36.4	
	comp=Z,23nm,1.3s						
PHWY	Pilot Hill	7.97	311	IAmb_Lg		15 21 42.4	
	comp=Z,17nm,0.8s						
N23A	Red Feather La	8.04	307	IAmb_Lg		15 21 39.8	
	comp=Z,30nm,0.8s						
O44A	Mansfield	8.11	59	IAmb_Lg		15 21 43.5	
	comp=Z,51nm,0.9s						
SUSD	Miller	8.22	353	IAmb_Lg		15 21 41.6	
	comp=Z,30nm,0.8s						
I37A	Lemond, Waseca	8.34	21	IAmb_Lg		15 21 49.1	
	comp=Z,27nm,0.9s						
L42A	Oliver, Polo	8.36	44	IAmb_Lg		15 21 41.5	
	comp=Z,33nm,0.8s						
TX31	Lajitas Ar. Si	8.64	218	Pn	Pn	15 19 22.9	-0.5
TX32	Lajitas Array	8.64	218	Pn	Pn	15 19 22.9	-0.5
TXAR	Lajitas Array	8.64	218	Pn	Pn	15 19 22.2	-1.2
	comp=Z,0.1nm,0.3s,baz=43,slow=11,SNR=4.5						
TXAR				Sn	Sn	15 20 56.5	-4.5
	comp=Z,0.4nm,0.3s,baz=26,slow=16,SNR=2.0						
TXAR				Lg	Lg	15 21 42.6	
	comp=Z,0.4nm,0.3s,baz=33,slow=21,SNR=4.1						
JFWS	Jewell Farm	8.68	38	IAmb_Lg		15 22 14.2	
	comp=Z,27nm,0.8s						
I40A	Norwalk	9.26	33	IAmb_Lg		15 22 16.1	
	comp=Z,16nm,0.9s						
RWWY	Rawlins	9.27	309	IAmb_Lg		15 22 22.3	
	comp=Z,20nm,1.1s						
RSSD	Black Hills	9.28	330	IAmb_Lg		15 22 18.3	
	comp=Z,14nm,0.8s						
K22A	Casper	9.42	315	IAmb_Lg		15 22 40.7	
	comp=Z,32nm,1.1s						
TKL	Tuckaleechee C	11.16	89	Lg	Lg	15 23 05.1	
	comp=Z,0.7nm,0.3s,baz=360,slow=21,SNR=6.9						
PDAR	Pinedale Array	11.32	309	Pn	Pn	15 20 04.0	+3.8
	comp=Z,0.1nm,0.3s,baz=121,slow=14,SNR=1.8						
PDAR				Pg		15 20 42.7	
	comp=Z,0.1nm,0.3s,baz=122,slow=15,SNR=2.9						
PDAR				Lg	Lg	15 23 10.1	
	comp=Z,0.2nm,0.3s,baz=111,slow=36,SNR=6.2						
ILAR	Eielson Array	40.72	330	P	P	15 25 01.8	+3.1
	comp=Z,0.4nm,0.8s,baz=97,slow=7.4,SNR=4.1						

*IDC **12** 15:50:33.7±0.9, 14°23S×166°49E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/31, mbtmp4.0/12, ML4.0/2, MS3.6/8, Ms1 3.6/8, ms1mx3.1/60, Error ellipse: s-maj=23.8km s-min=20.8km az=86.0*
*NOU **12** 15:50:37.5, 14°56S×166°60E, h0km, MLv4.8/12, Vanuatu Islands*
*NEIC **12** 15:50:39.3±1.9, 14°39S±0°09×166°6E±0°1, h35km±1km, mb4.6/15, Error ellipse: s-maj=20.6km s-min=11.1km az=55.0*

ISC 12 15:50:37.7±0.6, 14°36S±0°07×166°51E±0°09, h28km, n49, σ1ᵍ35/47, mb4.2/17, MS3.7/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.27	148		Pn	15 50 56.4	-3.2
SANVU	Saraoutou	1.27	148	P	Pn	15 50 56.8	-2.8
DVP	Devils Point	3.71	154	P	Pn	15 51 33.4	+0.2
LIFNC	LIFOU	6.42	174	Pn	Pn	15 52 10.1	-0.2
KOUNC	Koumac, New Ca	6.51	199		Pn	15 52 11.4	-0.2
KOUNC	Koumac, New Ca	6.51	199	P	Pn	15 52 12.2	+0.5
MARNC	Mare, Loyalty	7.23	169	Pn	Pn	15 52 22.0	+0.5
YATNC	Mamie plateau,	7.66	177	P	Pn	15 52 26.5	-1.0
DZM	Mont Dzumac	7.67	180	Pn	Pn	15 52 26.9	-0.8
	1.9nm,0.3s,baz=317,slow=15,SNR=44						
DZM				Sn	Sn	15 53 50.9	-2.8
	0.5nm,0.3s,baz=130,slow=23,SNR=1.2						
DZM				LR	LR	15 55 04.2	
	comp=Z,522nm,19.2s,baz=41,slow=35						
DZM	Mont Dzumac	7.67	180	*e*Pn	Pn	15 52 26.8	-0.8
	18nm,0.5s						
DZM				*e*Sn	Sn	15 53 49.8	-3.9
	31nm,0.7s						
DZM				*e*LR	LR	15 54 15.4	
	comp=Z,516nm,23.9s						
DZM	Mont Dzumac	7.67	180		Pn	15 52 27.1	-0.5
DZM	Mont Dzumac	7.67	180	P	Pn	15 52 27.2	-0.5
NOUC	Port Laguerre	7.70	181	P	Pn	15 52 28.8	+0.8
OUENC	Ouen Island, N	8.02	178	Pn	Pn	15 52 32.5	+0.1
OUENC	Ouen Island, N	8.02	178	P	Pn	15 52 32.7	+0.3
	29nm,0.8s						
HNR	Honiara	8.08	307	Pn	Pn	15 52 31.2	-2.0
	2.9nm,0.3s,baz=199,slow=23,SNR=1.3						
HNR				Sn	Sn	15 54 02.1	-1.6
	1.1nm,0.3s,baz=44,slow=9.7,SNR=1.2						
PINNC	Pines Island,	8.25	174	Pn	Pn	15 52 36.3	+0.7
PINNC	Pines Island,	8.25	174	P	Pn	15 52 35.5	-0.1
RABL	Rabaul	17.38	304	Pn	Pn	15 54 36.9	-1.5
PMG	Port Moresby	19.56	282	LR	LR	16 00 27.7	
	comp=Z,118nm,18.4s,baz=44,slow=30						
CTA	Charters Tower	20.16	251	P	P	15 55 10.5	+0.4
	4.3nm,0.9s,baz=79,slow=14,SNR=1.7						
RAO	Raoul Island	20.66	138	LR	LR	16 00 39.0	
	comp=Z,62nm,18.9s,baz=117,slow=29						
URZ	Urewera	25.59	160	P	P	15 56 06.6	+2.1
	7.7nm,1.0s,baz=84,slow=7.7,SNR=3.1						
BKZ	Black Stump Fm	26.23	162	P	P	15 56 10.9	+0.6
BKZ				IAmb	IAmb	15 56 35.6	
	comp=Z,27nm,1.3s						
STKA	Stephens Creek	28.68	228	P	P	15 56 33.

mb1 3.9/5, mb1mx3.6/23, mbtmp4.1/5, Error ellipse: s-maj=28.8km s-min=17.7km az=118.0

NEIC ***12*** *16:00:52.6±1.6, 29.9°S×0.2°-178.0°W×0.2, h119km±11km, mb4.2/15, Error ellipse: s-maj=29.5km s-min=12.4km az=216.0*

ISC 12 16:00:51.6±0.6, **30.08S**±0.06×**178.4W**±0.1, **h100**km, **n66,** σ**2.502/85, mb4.2/12, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.90**	**25**	P	**Pn**	**16 01 11.5**	**+0.5**
GLKZ				S	**Sn**	**16 01 26.0**	**+0.5**
RAO	**Raoul Island**	**0.91**	**25**	P	**Pn**	**16 01 11.7**	**+0.6**
	1μm,0.3s,baz=87,slow=9.1,SNR=88						
RAO				S	**Sn**	**16 01 24.3**	**-1.4**
	2μm,0.3s,baz=82,slow=22,SNR=22						
RAO	**Raoul Island**	**0.91**	**25**	Pn	**Pn**	**16 01 11.7**	**+0.6**
RAO				Sn	**Sn**	**16 01 26.0**	**+0.3**
RIZ	**Raoul Island**	**0.91**	**24**	P	**Pn**	**16 01 11.7**	**+0.6**
RIZ				S	**Sn**	**16 01 26.7**	**+1.0**
MXZ	**Matakaoa Point**	**7.96**	**200**	P	**Pn**	**16 02 44.5**	**0.0**
OPRZ	**Ohinepanea**	**8.82**	**207**	P	**Pn**	**16 02 57.1**	**+0.9**
CNGZ	**Carnagh Statio**	**8.85**	**198**	P	**Pn**	**16 02 56.8**	**+0.2**
CNGZ				S	**Sn**	**16 03 04.7**	**+2.2**
MWZ	**Matawai**	**8.91**	**201**	P	**Pn**	**16 02 56.8**	**-0.6**
MWZ				S	**Sn**	**16 04 39.3**	**+3.3**
TKGZ	**Te Karaka**	**8.91**	**200**	P	**Pn**	**16 02 56.5**	**-0.9**
TKGZ				S	**Sn**	**16 04 38.7**	**+2.8**
URZ	**Urewera**	**8.98**	**203**	P	**Pn**	**16 02 58.4**	**+0.1**
	1.4nm,0.3s,baz=267,slow=3.8,SNR=18						
URZ				S	**Sn**	**16 04 39.9**	**+2.3**
	3.6nm,0.3s,baz=338,slow=19,SNR=17						
URZ	**Urewera**	**8.98**	**203**	Pn	**Pn**	**16 02 57.4**	**-0.9**
URZ	**Urewera**	**8.98**	**203**	P	**Pn**	**16 02 59.1**	**+0.8**
RTZ	**Ruatahuna**	**9.34**	**203**	P	**Pn**	**16 03 01.9**	**-1.5**
RTZ				S	**Sn**	**16 04 49.0**	**+2.4**
SNGZ	**Shannon Statio**	**9.38**	**201**	P	**Pn**	**16 03 02.7**	**-1.1**
SNGZ				S	**Sn**	**16 04 49.2**	**+1.8**
KNZ	**Kokohu**	**9.50**	**199**	P	**Pn**	**16 03 03.8**	**-1.6**
KNZ				S	**Sn**	**16 04 49.8**	**-0.5**
NMHZ	**Naumai**	**9.84**	**203**	P	**Pn**	**16 03 08.6**	**-1.4**
NMHZ				S	**Sn**	**16 05 01.0**	**+2.3**
BKZ	**Black Stump Fm**	**10.00**	**204**	P	**Pn**	**16 03 10.3**	**-2.1**
BKZ				S	**Sn**	**16 05 04.9**	**+2.2**
BKZ	**Black Stump Fm**	**10.00**	**204**	P	**Pn**	**16 03 10.1**	**-2.3**
HIZ	**Hauiti**	**10.11**	**212**	P	Pn	16 03 18.6	+4.8
HIZ	**Hauiti**	**10.11**	**212**	P	Pn	16 03 19.8	+6.1
MCHZ	**McNeill Hill**	**10.19**	**202**	P	**Pn**	**16 03 13.4**	**-1.4**
MCHZ				S	**Sn**	**16 05 08.9**	**+1.9**
NTVZ	**North Tongarir**	**10.25**	**207**	P	**Pn**	**16 03 15.6**	**-0.1**
TMVZ	**Te Maari**	**10.25**	**207**	P	**Pn**	**16 03 14.2**	**-1.6**
OTVZ	**Oturere**	**10.31**	**207**	P	**Pn**	**16 03 14.9**	**-1.7**
OTVZ				S	**Sn**	**16 05 13.9**	**+3.7**
SNVZ	**South Ngauruho**	**10.34**	**207**	P	**Pn**	**16 03 15.3**	**-1.8**
BHHZ	**Black Hill Sta**	**10.44**	**205**	P	**Pn**	**16 03 16.5**	**-1.9**
BHHZ				S	**Sn**	**16 05 14.9**	**+1.5**
KAHZ	**Kahuranaki**	**10.45**	**201**	P	**Pn**	**16 03 16.7**	**-1.7**
KAHZ				S	**Sn**	**16 05 15.1**	**+1.7**
KRHZ	**Kereru**	**10.47**	**203**	P	**Pn**	**16 03 16.9**	**-1.8**
KRHZ				S	**Sn**	**16 05 13.8**	**-0.2**
WPHZ	**Waipukurau**	**10.83**	**202**	P	**Pn**	**16 03 24.3**	**+0.7**
WPHZ				S	**Sn**	**16 05 21.8**	**-0.9**
DVHZ	**Dannevirke**	**11.13**	**202**	P	**Pn**	**16 03 25.9**	**-1.8**
DVHZ				S	**Sn**	**16 05 27.4**	**-2.6**
BFZ	**Birch Farm**	**11.45**	**201**	P	Pn	16 03 26.8	-5.1
TMWZ	**Te Maipa**	**11.95**	**201**	P	**Pn**	**16 03 35.0**	**-3.6**
TMWZ				S	**Sn**	**16 05 45.9**	**-4.1**
NIUE	**Niue**	**13.37**	**37**	Pn	Pn	16 03 47.9	-9.5
THZ	**Tophouse**	**13.63**	**209**	Pn	**Pn**	**16 03 57.6**	**-3.1**
KHZ	**Kahutara**	**13.93**	**206**	P	**Pn**	**16 04 01.9**	**-2.6**
RPZ	**Rata Peaks**	**16.01**	**209**	P	**Pn**	**16 04 26.7**	**-4.2**
	0.5nm,0.3s,baz=24,slow=23,SNR=1.5						
RPZ				S	**Sn**	**16 07 19.5**	**-8.5**
	0.2nm,0.3s,baz=50,slow=11,SNR=1.8						
RPZ	**Rata Peaks**	**16.01**	**209**	Pn	**Pn**	**16 04 30.1**	**-0.8**
RPZ				IAmb	IAmb	16 04 37.9	
	comp=Z,48nm,1.5s						
CTA	**Charters Tower**	**33.44**	**279**	P	**P**	**16 07 23.1**	**+1.9**
	comp=Z,2.9nm,0.8s,baz=104,slow=12,SNR=6.4						
CTAO	**Charters Tower**	**33.44**	**279**	P	**P**	**16 07 22.8**	**+1.6**
STKA	**Stephens Creek**	**34.25**	**257**	P	**P**	**16 07 30.5**	**+2.4**
	comp=Z,3.0nm,0.6s,baz=94,slow=8.4,SNR=13						
STKA	**Stephens Creek**	**34.25**	**257**	IAmb	IAmb	16 07 33.2	
	comp=Z,0.7nm,0.8s						
AS31	**Alice Springs**	**42.82**	**267**	P	**P**	**16 08 40.3**	**+0.5**
ASAR	**Alice Springs**	**42.82**	**267**	P	**P**	**16 08 40.4**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=103,slow=7.4,SNR=15						
ASAR				pP	**sP**	**16 09 10.4**	**-3.2**
	comp=Z,0.5nm,0.6s,baz=102,slow=7.3,SNR=2.9						
ASAR				PcP	**PcP**	**16 10 29.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=120,slow=4.8,SNR=2.3						
WR0	**Warramunga Arr**	**43.59**	**272**	P	**P**	**16 08 46.1**	**-0.1**
WR0				IAmb	IAmb	16 09 11.0	
	comp=Z,5.8nm,1.2s						
WB2	**Warramunga Arr**	**43.77**	**272**	P	**P**	**16 08 47.4**	**-0.1**
WB2				IAmb	IAmb	16 08 49.4	
	comp=Z,2.5nm,0.8s						
WRA	**Warramunga Arr**	**43.78**	**272**	P	**P**	**16 08 47.7**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=109,slow=8.2,SNR=30						
WRA				pP	**sP**	**16 09 18.7**	**-2.7**
	comp=Z,1.7nm,0.8s,baz=110,slow=7.7,SNR=6.0						
WRA	**Warramunga Arr**	**43.78**	**272**	IAmb	IAmb	16 08 49.4	
	comp=Z,0.2nm,0.7s						
FORT	**Forrest**	**45.83**	**255**	P	**P**	**16 09 04.7**	**+0.9**
VNDA	**Vanda**	**48.38**	**186**	P	**P**	**16 09 22.3**	**-0.6**
VNDA				IAmb	IAmb	16 09 24.2	
	comp=Z,3.4nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.05**	**270**	P	**P**	**16 09 52.1**	**+0.7**
FITZ				IAmb	IAmb	16 10 17.5	
	comp=Z,3.0nm,1.1s						
CASY	**Casey**	**55.28**	**208**	P	**P**	**16 10 15.2**	**+0.9**
MORW	**Morawa**	**56.33**	**253**	P	**P**	**16 10 21.8**	**-0.6**
MORW				IAmb	IAmb	16 10 27.5	
	comp=Z,10nm,1.5s						
QSPA	**South Pole Qui**	**60.03**	**180**	P	**P**	**16 10 49.0**	**+1.3**
QSPA				IAmb	IAmb	16 10 56.1	
	comp=Z,5.1nm,1.2s						
BELA	**Belgrano 2**	**70.14**	**172**	P	**P**	**16 11 52.5**	**-0.3**
BELA				IAmb	IAmb	16 11 54.9	
	comp=Z,4.3nm,1.3s						
TROLL	**Troll, Antarti**	**78.19**	**180**	P	**P**	**16 12 40.8**	**+1.0**
SNAA	**Sanae**	**78.48**	**179**	P	**P**	**16 12 41.4**	**+0.1**
SNAA	**Sanae**	**78.48**	**179**	P	**P**	**16 12 41.5**	**+0.2**
SNAA				IAmb	IAmb	16 12 57.5	
	comp=Z,6.0nm,1.3s						
VNA3	**Neumayer Olymp**	**78.64**	**176**	P	**P**	**16 12 42.4**	**+0.3**
VNA2	**Neumayer--Watz**	**79.07**	**177**	P	**P**	**16 12 45.1**	**+0.7**
	baz=198,slow=4.0						
FINES	**FINESS Array B**	**144.74**	**340**	PKP	**PKPab**	**16 20 11.8**	**-3.3**
	comp=Z,1.6nm,0.4s,baz=56,slow=3.1,SNR=13						
NB2	**NORSAR Subarra**	**148.39**	**351**	PKP	**PKPdf**	**16 20 22.7**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=13,slow=2.7						
NOA	**NORSAR Array B**	**148.39**	**351**	PKPbc	**PKPdf**	**16 20 22.8**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=15,slow=4.3,SNR=6.8						
AKASG	**Malin Array Be**	**150.86**	**323**	PKPbc	**PKPdf**	**16 20 29.3**	**+2.9**
	comp=Z,1.0nm,0.4s,baz=49,slow=3.2,SNR=5.4						
BRTR	**Keskin Array B**	**152.18**	**299**	PKPbc	**PKPbc**	**16 20 32.5**	**-3.2**
	comp=Z,0.4nm,0.6s,baz=58,slow=2.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**163.15**	**180**	PKPab	**PKPab**	**16 21 32.2**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=172,slow=3.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**163.15**	**180**		**PKPab**	**16 21 31.7**	**-1.5**

NEIC ***12*** *16:08:11.1±1.1, 10.8S±0.1×165.7E±0.1, h38km±11km, mb4.4/8, Error ellipse: s-maj=19.6km s-min=14.8km az=45.0*

IDC ***12*** *16:08:31.2±11.0, 12.10S×166.10E, h259km±131km, mb3.1/3, mb1 3.4/4, mb1mx3.1/31, mbtmp3.8/4, Error ellipse: s-maj=96.3km s-min=33.5km az=157.0*

ISC 12 16:08:10.3±1.1, **10.8S**±0.1×**165.7E**±0.1, **h35**km, **n16,** σ**0.986/16, mb4.1/6, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.82**	**162**	Pn	**Pn**	**16 09 19.2**	**-1.2**
HNR	**Honiara**	**5.83**	**283**	Pn	**Pn**	**16 09 34.5**	**+0.1**
KOUNC	**Koumac, New Ca**	**9.76**	**188**	Pn	**Pn**	**16 10 28.8**	**+0.6**
DZM	**Mont Dzumac**	**11.20**	**176**	P	**Pn**	**16 10 49.5**	**+1.4**
	0.7nm,0.3s,baz=296,slow=21,SNR=10						
DZM				S	Sn	16 12 39.2	-13
	0.4nm,0.3s,baz=124,slow=22,SNR=2.1						
DZM	**Mont Dzumac**	**11.20**	**176**	Pn	**Pn**	**16 10 49.3**	**+1.2**
CTAO	**Charters Tower**	**20.86**	**241**	P	**P**	**16 12 49.5**	**+0.1**
CTAO				IAmb	IAmb	16 13 04.1	
	comp=Z,24nm,1.5s						
WB0	**Warramunga Arr**	**31.43**	**250**	P	**P**	**16 14 28.3**	**-0.3**
WB0				IAmb	IAmb	16 14 38.3	
	comp=Z,10nm,1.5s						
WB2	**Warramunga Arr**	**31.50**	**249**	P	**P**	**16 14 28.4**	**-0.9**
WRA	**Warramunga Arr**	**31.52**	**249**	P	**P**	**16 14 28.7**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=81,slow=9.1,SNR=7.3						
ASAR	**Alice Springs**	**32.85**	**243**	P	**P**	**16 14 39.8**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=67,slow=10,SNR=14						
TGL	**Tana Glacier**	**82.08**	**23**	P	**P**	**16 20 27.4**	**+0.4**
GLB	**Gilahina Butte**	**82.15**	**22**	P	**P**	**16 20 27.4**	**+0.1**
GLB				IAmb	IAmb	16 20 31.1	
	comp=Z,3.9nm,1.0s						
IMAR	**Indian Mountai**	**82.23**	**16**	P	**P**	**16 20 28.3**	**+0.7**
IL31		**83.32**	**19**	P	**P**	**16 20 33.6**	**+0.4**
ILAR	**Eielson Array**	**83.32**	**19**	P	**P**	**16 20 34.0**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=231,slow=5.7,SNR=2.4						
SCRK	**Sand Creek**	**83.73**	**20**	P	**P**	**16 20 35.4**	**-0.2**
SCRK				IAmb	IAmb	16 20 56.7	
	comp=Z,4.9nm,1.4s						

IDC ***12*** *16:19:23.2±1.5, 0.64N×122.31E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/31, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=139.3km s-min=22.8km az=64.0*

DJA ***12*** *16:19:45.5±0.5, 0.7N±4.4×122.2E±, h196km±4km, M3.5/12, mb3.6/4, MLv3.4/12*

ISC 12 16:19:45.1±0.8, **0.31N**±0.07×**122.01E**±0.05, **h204**km±6km, **n20,** σ**1.915/26, mb3.9/6, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.18**	**337**	P	**Pn**	**16 20 11.6**	**-0.2**
MRSI				S	**S**	**16 20 31.5**	**-1.3**
GTOI	**Gorontalo**	**1.05**	**72**	P	**Pn**	**16 20 16.2**	**+0.7**
GTOI				S	**S**	**16 20 39.7**	**+0.7**
APSI	**Ampana**	**1.27**	**197**	P	**Pn**	**16 20 17.9**	**+0.7**
APSI				S	**S**	**16 20 42.0**	**+0.1**
LUWI	**Luwuk**	**1.54**	**150**	P	**Pn**	**16 20 20.4**	**+0.9**
LUWI				S	**S**	**16 20 46.1**	**+0.2**
KMSI	**Cibinong**	**1.99**	**82**	P	**Pn**	**16 20 25.9**	**+2.2**
MPSI	**Mapaga**	**2.11**	**271**	P	**Pn**	**16 20 24.6**	**-0.4**
MPSI				S	**S**	**16 20 53.8**	**-1.7**
SANI	**Sanana**	**4.62**	**121**	P	**Pn**	**16 20 53.1**	**-1.6**
BNSI	**Bone**	**5.05**	**202**	P	**Pn**	**16 21 02.3**	**+2.1**
	0.1nm20nm,1.0s						
TNTI	**Ternate**	**5.38**	**85**	P	**Pn**	**16 21 05.4**	**+1.0**
	0.1nm7.7nm,0.7s						
LBMI	**Labuha**	**5.57**	**100**	P	**Pn**	**16 21 07.0**	**+0.1**
	0.1nm10nm,0.8s						
LBMI				S	**S**	**16 22 09.0**	**-2.2**
	0.1nm10nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.64**	**169**	P	**P**	**16 23 46.0**	**-1.6**
	0.1nm,0.3s,baz=5.4,slow=9.4,SNR=7.9						
WRA	**Warramunga Arr**	**23.48**	**150**	P	**P**	**16 24 36.5**	**-0.1**
	0.5nm,1.0s,baz=326,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**26.49**	**155**	P	**P**	**16 25 03.7**	**-0.1**
	0.4nm,0.6s,baz=343,slow=14,SNR=1.1						
JIRN	**Jiri**	**43.80**	**311**	*e*P	**P**	**16 27 32.0**	**+0.5**
GUN	**Gumba**	**44.17**	**312**	*e*P	**P**	**16 27 35.0**	**+0.6**
	6.8nm,0.4s						
GKN	**Gorkha**	**45.16**	**311**	*e*P	**P**	**16 27 42.2**	**+0.3**
KOLN	**Koldanda**	**45.83**	**310**	*e*P	**P**	**16 27 47.7**	**+0.4**
DANN	**Dangsing**	**46.00**	**311**	*e*P	**P**	**16 27 48.8**	**+0.1**
	16nm,0.7s						
PYUN	**Piuthan**	**46.46**	**310**	*e*P	**P**	**16 27 52.8**	**+0.6**
	13nm,0.6s						
MKAR	**Makanchi Array**	**57.83**	**329**	P	**P**	**16 29 15.8**	**+0.4**
	0.7nm,0.5s,baz=122,slow=7.0,SNR=9.5						

IDC ***12*** *16:45:17.5±1.4, 1.54S×135.29E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.7/29, mbtmp3.8/5, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/67, Error ellipse: s-maj=36.4km s-min=24.2km az=76.0*

NEIC ***12*** *16:45:21.9±1.5, 1.63S±0.10×135.3E±0.1, h26km±4km, mb4.2/17, Error ellipse: s-maj=17.6km s-min=13.9km az=104.0*

ISC 12 16:45:20.3±0.8, **1.6S**±0.1×**135.27E**±0.10, **h21**km, **n23,** σ**0.992/23, mb4.2/8, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.07**	**280**	Pn	**Pn**	**16 46 20.6**	**-0.8**
	1.1nm,0.3s,baz=162,slow=21,SNR=2.3						
SIJI				Sn	**Sn**	**16 47 08.4**	**0.0**
	1.3nm,0.3s,baz=126,slow=24,SNR=1.5						
MTN	**Manton Dam**	**11.89**	**200**	Pn	**Pn**	**16 48 08.9**	**+0.1**
KNRA	**Kununurra**	**15.38**	**204**	Pn	**Pn**	**16 48 54.8**	**-1.5**
KNRA				IAmb	IAmb	16 49 07.0	
	comp=Z,21nm,1.4s						
KAPI	**Kappang**	**15.86**	**257**	LR	LR	16 56 23.3	
	comp=Z,31nm,18.6s,baz=324,slow=42						
WB0	**Warramunga Arr**	**18.07**	**183**		**Pn**	**16 49 29.5**	**-0.7**
WB0				IAmb	IAmb	16 49 49.0	
	comp=Z,7.2nm,1.4s						
WB2	**Warramunga Arr**	**18.24**	**183**	P	**Pn**	**16 49 32.8**	**+0.5**
WRA	**Warramunga Arr**	**18.24**	**183**	P	**Pn**	**16 49 32.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=4.3,slow=12,SNR=44						
WRA	**Warramunga Arr**	**18.24**	**183**	P	**Pn**	**16 49 32.6**	**+0.2**
WR0	**Warramunga Arr**	**18.25**	**182**	P	**Pn**	**16 49 32.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.92**	**209**	P	**P**	**16 49 39.3**	**-0.6**
FITZ				IAmb	IAmb	16 49 47.9	
	comp=Z,4.7nm,1.1s						
AS31	**Alice Springs**	**21.96**	**183**	P	**P**	**16 50 14.1**	**+1.1**
ASAR	**Alice Springs**	**21.97**	**183**	P	**P**	**16 50 14.0**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=7.3,slow=11,SNR=26						
KNTN	**Kanton**	**52.98**	**92**	P	**P**	**16 54 33.8**	**-2.2**
MK31	**Makanchi Array**	**66.84**	**323**	P	**P**	**16 56 11.7**	**+1.0**
MK31				IAmb	IAmb	16 56 12.3	
	comp=Z,1.4nm,1.2s						
MKAR	**Makanchi Array**	**66.84**	**323**	P	**P**	**16 56 11.5**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=109,slow=8.3,SNR=14						
MAKZ	**Makanchi**	**67.04**	**323**	P	**P**	**16 56 12.6**	**+0.6**
MAKZ				IAmb	IAmb	16 56 13.5	
	comp=Z,1.6nm,0.8s						
RND	**Reindeer**	**85.13**	**26**	P	**P**	**16 57 55.0**	**+0.2**
WRH	**Wood River Hil**	**85.70**	**25**	P	**P**	**16 57 57.7**	**+0.3**
WRH				IAmb	IAmb	16 58 00.7	
	comp=Z,3.5nm,1.2s						
DHY	**Denali Highway**	**85.71**	**26**	P	**P**	**16 57 58.0**	**+0.2**
DHY				IAmb	IAmb	16 58 13.9	
	comp=Z,3.2nm,1.2s						
ILAR	**Eielson Array**	**86.27**	**25**	P	**P**	**16 58 00.2**	**0.0**
	comp=Z,0.7nm,0.9s,baz=248,slow=5.0,SNR=4.1						
N25K	**Chitina, Valde**	**86.71**	**28**		**P**	**16 58 04.2**	**+1.6**
RIDG	**Independent Ri**	**86.95**	**26**	P	**P**	**16 58 04.5**	**+0.8**
QSPA	**South Pole Qui**	**88.33**	**180**	P	**P**	**16 58 11.0**	**+0.7**
QSPA				IAmb	IAmb	16 58 24.4	
	comp=Z,3.4nm,1.4s						

ISK ***12*** *16:56:42.7, 37.81N×26.81E, h10km, ML2.5/8*

DDA ***12*** *16:56:43.0±0.0, 37.86N×26.86E, h15km±1km, ML2.3*

ISC 12 16:56:42.8±1.0, **37.84N**±0.02×**26.85E**±0.03, **h11**km±8km, **n27,** σ**0.957/46, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**zmir**	**0.21**	**7**	P	**Pg**	**16 56 47.5**	**+0.2**
DGB				S	**Sg**	**16 56 49.8**	**-0.6**
GCAM	**G?zelcaml?**	**0.34**	**114**	PG	**Pg**	**16 56 50.1**	**+0.6**
GCAM				SG	**Sb**	**16 56 55.9**	**-0.3**
ZEYE	**Izmir, Urla-Ze**	**0.48**	**326**	P	**Pg**	**16 56 52.6**	**+0.4**
ZEYE				S	**Sb**	**16 56 59.8**	**-0.7**
ZEYE				*i* AML	AML	16 57 04.0	
	comp=N,250nm,0.3s						
DDIM	**Aydin, Didim**	**0.49**	**141**	P	**Pb**	**16 56 53.0**	**-0.4**
DDIM				S	**Sb**	**16 57 00.9**	**+0.2**
DDIM				*i* AML	AML	16 57 01.0	
	comp=E,277nm,0.5s						
DDIM				*i* AML	AML	16 57 02.0	
	comp=N,226nm,0.3s						
URLA	**Izmir**	**0.56**	**339**	PG	**Pg**	**16 56 53.9**	**+0.3**
URLA				SG	**Sb**	**16 57 02.9**	**+0.3**
URLA	**Izmir**	**0.56**	**339**	P	**Pg**	**16 56 53.9**	**+0.3**
URLA				S	**Sb**	**16 57 02.9**	**+0.3**
AYDN	**Tasoluk**	**0.84**	**102**	P	**Pg**	**16 56 59.0**	**+0.1**
AYDN				S	**Sb**	**16 57 11.0**	**+0.3**
BODT	**Bodrum**	**0.86**	**154**	PG	**Pg**	**16 56 59.5**	**+0.1**
FOCM	**Foa**	**0.88**	**354**	PG	**Pn**	**16 57 00.9**	**-0.2**
BDRM	**Kayabasi**	**0.91**	**148**	P	**Pg**	**16 57 00.3**	**0.0**
BDRM				S	**Sb**	**16 57 13.3**	**+0.6**
BDRM				*i* AML	AML	16 57 16.0	
	comp=Z,96nm,0.8s						
BDRM				*i* AML	AML	16 57 17.0	
	comp=N,112nm,0.3s						
MLSB	**Milas**	**0.92**	**126**	PG	**Pb**	**16 57 00.9**	**+0.2**
ZEDA	**zmir-Bergama**	**1.14**	**9**	P	**Pb**	**16 57 03.9**	**-0.6**
ZEDA				S	**Sn**	**16 57 20.9**	**+0.5**
DKL	**Dikili**	**1.23**	**2**	PN	**Pg**	**16 57 06.9**	**+0.5**
AKHS	**Akhisar**	**1.29**	**36**	P	**Pb**	**16 57 07.4**	**+0.3**
AKHS				S	**Sb**	**16 57 21.7**	**-1.9**
APE	**Apeiranthos**	**1.30**	**234**	PN	**Pb**	**16 57 07.2**	**-0.1**
YER	**Yerkesik**	**1.34**	**121**	PN	**Pb**	**16 57 08.0**	**0.0**
MANT	**Manisa**	**1.50**	**64**	P	**Pb**	**16 57 11.1**	**+0.4**
MANT				S	**Sn**	**16 57 28.8**	**-0.7**
TURN	**Turunc**	**1.54**	**133**	PN	**Pb**	**16 57 10.9**	**-0.4**
TURN	**Turunc**	**1.54**	**133**	P	**Pn**	**16 57 10.5**	**+0.3**
TURN				S	**Sb**	**16 57 30.7**	**-0.1**
KULA	**Kula-Manisa**	**1.58**	**64**	PN	**Pb**	**16 57 11.9**	**-0.2**
BUHA	**Balikesir, Bur**	**1.67**	**6**	P	**Pb**	**16 57 14.0**	**+0.5**
BUHA				S	**Sg**	**16 57 36.9**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.68**	**24**	P	**Pg**	**16 57 14.9**	**-0.1**
STEP				S	**Sg**	**16 57 37.0**	**+0.2**
STEP				*i* AML	AML	16 57 42.0	
	comp=E,33nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.68**	**102**	P	**Pn**	**16 57 12.2**	**-0.1**
TAVA				S	**Sn**	**16 57 33.7**	**-0.2**
DEMI	**Demirci**	**1.90**	**50**	P	**Pg**	**16 57 19.3**	**+0.1**
DEMI				S	**Sb**	**16 57 42.3**	**+1.1**
BAYC	**CANAKKALE_Bayr**	**1.91**	**353**	P	**Pn**	**16 57 15.5**	**+0.2**
BAYC				S	**Sg**	**16 57 43.3**	**-1.0**
USAK	**Uak-Merkez**	**1.92**	**62**	P	**Pg**	**16 57 19.1**	**-0.5**
USAK				S	**Sb**	**16 57 43.1**	**+1.3**
USAK				*i* AML	AML	16 58 35.0	
	comp=N,26nm,3.1s						
USAK				*i* AML	AML	16 58 35.0	
	comp=E,45nm,2.6s						
BALY	**Balya**	**1.99**	**17**	P	**Pn**	**16 57 17.0**	**+0.6**
BALY				S	**Sg**	**16 57 45.8**	**-1.0**

NEIC ***12*** *17:02:51.2±1.1, 36.61N±0.01×97.69W±0.02, h14km±3km, Error ellipse: s-maj=2.5km s-min=1.8km az=113.0*

ANF ***12*** *17:02:51.6±0.4, 36.65N×97.70W, h7km, ML4.0/8, Error ellipse: s-maj=5.0km s-min=2.7km az=174.0*

TUL ***12*** *17:02:51.5±1.6, 36.62N±0.01×97.69W±0.02, h7km±5km, ML3.5, mb_Lg3.5/119(NEIC), Mwr3.3/13(SLM), Error ellipse: s-maj=1.8km s-min=1.6km az=92.0*

NEIC ***12*** *17:02:51.5, 36.59N×97.70W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr 0.06; Mθθ 0.74; Mϕϕ -0.80; Mrθ 0.35; Mϕϕ -0.61; Mϕr 0.09; Fault plane solution: Mo 1.05000×10^14 NP1:ϕs 155.00000°, δ 70.00000°, λ 5.00000°. NP2:ϕs 63.00000°, δ 85.00000°, λ 160.00000°. Principal axes: T 1.0471, Plg 17.0000°, Azm 17.0000°; N 0.0001, Plg 69.0000°, Azm 231.0000°; P -1.0472, Plg 11.0000°, Azm 111.0000°;*

ISC 12 17:02:50.7±1.4, **36.63N**±0.04×**97.71W**±0.03, **h10**km±13km, **n101,** σ**0.998/93, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**1.00**	**73**		**Pb**	**17 03 10.0**	**-0.2**
T35A				Sg	**Sg**	**17 03 23.2**	**+0.1**
T35B	**Sooner Cattle**	**1.00**	**73**	P	**Pg**	**17 03 10.1**	**+0.1**
	baz=253						
T35B				S	**Sg**	**17 03 23.4**	**+0.4**
	baz=253						
OK005	**Luther M Schoo**	**1.06**	**157**	Pg	**Pb**	**17 03 11.2**	**0.0**
OK005				Sg	**Sb**	**17 03 25.4**	**+0.3**
U32A	**Winter Ranch,**	**1.07**	**257**	Pg	**Pb**	**17 03 11.6**	**+0.2**
U32A				Sg	**Sb**	**17 03 25.8**	**+0.3**
U32A	**Winter Ranch,**	**1.07**	**257**	P	**Pb**	**17 03 11.7**	**+0.3**
	baz=77						
U32A				S	**Sn**	**17 03 27.0**	**+0.2**
	baz=77						
OK009

R40A	**Maddies Statio**	**4.63**	**67**			**Pn**	**17 04 01.3**	**+0.6**
R40A				IAmb_Lg			17 05 20.4	
	comp=Z,134nm,0.8s							
WHTX	**Lake Whitney,**	**4.63**	**177**			**Pn**	**17 04 01.0**	**+0.2**
WHTX				IAmb_Lg			17 05 24.4	
	comp=Z,52nm,1.2s							
W41B	**Gary Mavity, V**	**4.66**	**107**			**Pn**	**17 04 01.4**	**+0.2**
W41B				IAmb_Lg			17 05 17.8	
	comp=Z,130nm,0.7s							
UALR	**University of**	**4.74**	**111**			**Pn**	**17 04 04.3**	**+2.0**
UALR				IAmb_Lg			17 05 29.8	
	comp=Z,79nm,0.8s							
WLAR	**White Oak Lake**	**4.78**	**127**			**Pn**	**17 04 02.1**	**-0.6**
WLAR				IAmb_Lg			17 05 26.8	
	comp=Z,102nm,0.8s							
BGNE	**Belgrade**	**4.78**	**356**			**Pn**	**17 04 03.5**	**+0.7**
237A	**Washetta, Mont**	**4.88**	**161**	Pn		**Pn**	**17 04 03.9**	**-0.3**
237A				IAmb_Lg			17 05 37.6	
	comp=Z,61nm,0.9s							
MSTX	**Muleshoe**	**4.92**	**239**	Pn		**Pn**	**17 04 04.8**	**0.0**
Z41A	**Richland Creek**	**5.25**	**128**			**Pn**	**17 04 07.5**	**-1.7**
Z41A				IAmb_Lg			17 05 43.2	
	comp=Z,57nm,0.7s							
LCAR	**Lake Charles**	**5.32**	**94**			**Pn**	**17 04 09.3**	**-0.8**
LCAR				IAmb_Lg			17 05 41.7	
	comp=Z,87nm,0.7s							
P40A	**Paris**	**5.32**	**55**			**Pn**	**17 04 08.9**	**-1.2**
P40A				IAmb_Lg			17 05 47.3	
	comp=Z,166nm,0.8s							
CCM	**Cathedral Cave**	**5.34**	**73**			**Pn**	**17 04 09.1**	**-1.4**
T25A	**Trinidad**	**5.40**	**277**			**Pn**	**17 04 10.8**	**-0.7**
T25A				IAmb_Lg			17 05 46.7	
	comp=Z,82nm,0.9s							
L34A	**Svendsen Farm,**	**5.43**	**11**			**Pn**	**17 04 11.6**	**-0.1**
L34A				IAmb_Lg			17 05 49.7	
	comp=Z,96nm,0.8s							
N38A	**Joes South For**	**5.43**	**39**			**Pn**	**17 04 10.7**	**-1.0**
N38A				IAmb_Lg			17 05 46.6	
	comp=Z,167nm,0.8s							
OGNE	**Ogallala**	**5.47**	**323**			**Pn**	**17 04 11.0**	**-1.4**
OGNE				IAmb_Lg			17 05 54.4	
	comp=Z,96nm,0.8s							
NATX	**Nacogdoches**	**5.48**	**152**	IAmb_Lg			17 05 53.1	
	comp=Z,59nm,0.8s							
CCAR	**Cane Creek**	**5.56**	**117**	IAmb_Lg			17 05 59.4	
	comp=Z,63nm,0.8s							
435B	**Jarrell**	**5.84**	**179**	IAmb_Lg			17 06 10.2	
	comp=Z,73nm,1.0s							
PBMO	**Poplar Bluff**	**5.85**	**86**	IAmb_Lg			17 05 58.0	
	comp=Z,138nm,0.8s							
FVM	**French Village**	**5.96**	**75**	Pn		**Pn**	**17 04 17.5**	**-1.4**
SLM	**Saint Louis**	**6.26**	**69**	Pn		**Pn**	**17 04 21.4**	**-1.6**
SLM				IAmb_Lg			17 06 10.8	
	comp=Z,126nm,0.7s							
SCIA	**State Center**	**6.31**	**32**			**Pn**	**17 04 23.6**	**-0.3**
SCIA				IAmb_Lg			17 06 16.4	
	comp=Z,112nm,0.7s							
SDCO	**Great Sand Dun**	**6.32**	**282**			**Pn**	**17 04 22.0**	**-2.3**
SDCO				IAmb_Lg			17 06 26.9	
	comp=Z,31nm,1.1s							
Q24A	**Divide**	**6.34**	**294**			**Pn**	**17 04 22.4**	**-2.0**
Q24A				IAmb_Lg			17 06 30.4	
	comp=Z,36nm,0.8s							
JCT	**Junction City**	**6.38**	**196**			**Pn**	**17 04 22.5**	**-2.3**
JCT				IAmb_Lg			17 06 20.3	
	comp=Z,104nm,1.1s							
143A	**Socs Landing,**	**6.51**	**125**	IAmb_Lg			17 06 29.8	
	comp=Z,65nm,0.9s							
N41A	**Harden Midland**	**6.73**	**51**	Pn		**Pn**	**17 04 29.3**	**-0.3**
HALT	**Halls**	**6.80**	**94**	IAmb_Lg			17 06 36.1	
	comp=Z,105nm,0.8s							
S44A	**Carbondale**	**6.83**	**79**			**Pn**	**17 04 32.0**	**+1.0**
SIUC	**Southern Illin**	**6.86**	**78**			**Pn**	**17 04 31.7**	**+0.3**
ISCO	**Idaho Springs**	**6.98**	**299**			**Pn**	**17 04 33.5**	**+0.2**
W45A	**Hickory Valley**	**7.07**	**100**	IAmb_Lg			17 06 39.0	
	comp=Z,82nm,0.8s							
OXF	**Oxford**	**7.08**	**105**	Pn		**Pn**	**17 04 34.5**	**+0.1**
OXF				IAmb_Lg			17 06 45.5	
	comp=Z,90nm,1.1s							
P43A	**Skaggs, Pawnee**	**7.12**	**63**	Pn		**Pn**	**17 04 34.8**	**0.0**
ECSD	**EROS Data Cent**	**7.14**	**6**			**Pn**	**17 04 33.7**	**-1.5**
Y45A	**Yeager Farm, C**	**7.23**	**110**	IAmb_Lg			17 06 47.6	
	comp=Z,42nm,0.7s							
Q44A	**Meyer Farm, Va**	**7.25**	**69**			**Pn**	**17 04 36.6**	**0.0**
ANMO	**Albuquerque**	**7.31**	**259**	Pn		**Pn**	**17 04 38.1**	**+0.4**
S22A	**4UR Ranch, Cre**	**7.37**	**281**	Pn		**Pn**	**17 04 37.7**	**-0.9**
L40A	**Anamosa**	**7.39**	**41**	Pn		**Pn**	**17 04 37.2**	**-1.4**
L40A				IAmb_Lg			17 06 51.6	
	comp=Z,100nm,1.0s							
PHWY	**Pilot Hill**	**7.63**	**310**	Pn		**Pn**	**17 04 41.5**	**-0.7**
PHWY				IAmb_Lg			17 06 57.5	
	comp=Z,46nm,1.1s							
BNM	**Barren Site**	**7.70**	**254**	Pn		**Pn**	**17 04 44.2**	**+1.1**
N23A	**Red Feather La**	**7.71**	**306**	Pn		**Pn**	**17 04 42.2**	**-1.1**
N23A				IAmb_Lg			17 07 03.3	
	comp=Z,68nm,1.0s							
SUSD	**Miller**	**7.86**	**353**	IAmb_Lg			17 07 07.7	
	comp=Z,45nm,0.7s							
WVT	**Waverly**	**7.98**	**91**	IAmb_Lg			17 07 16.2	
	comp=Z,29nm,0.8s							
PLAL	**Pickwick Lake**	**8.00**	**99**	Pn		**Pn**	**17 04 46.3**	**-0.6**
MNTX	**Cornudas Mount**	**8.04**	**234**			**Pn**	**17 04 47.5**	**-0.1**
I37A	**Lemond, Waseca**	**8.07**	**23**	IAmb_Lg			17 07 19.4	
	comp=Z,61nm,0.9s							
146A	**Union**	**8.17**	**117**	IAmb_Lg			17 07 20.4	
	comp=Z,22nm,0.8s							
JFWS	**Jewell Farm**	**8.50**	**40**			**Pn**	**17 04 53.5**	**-0.4**
JFWS				IAmb_Lg			17 07 20.0	
	comp=Z,64nm,0.7s							
TXAR	**Lajitas Array**	**8.83**	**216**			**Pn**	**17 04 58.4**	**-0.1**
TX32	**Lajitas Array**	**8.83**	**216**			**Pn**	**17 04 58.1**	**-0.4**
PV07	**Paradox Valley**	**8.88**	**285**			**Pn**	**17 04 59.7**	**+0.5**
RSSD	**Black Hills**	**8.90**	**329**	IAmb_Lg			17 07 49.2	
	comp=Z,30nm,0.8s							
RWWY	**Rawlins**	**8.94**	**307**	IAmb_Lg			17 07 39.2	
	comp=Z,55nm,1.1s							
I40A	**Norwalk**	**9.05**	**35**	IAmb_Lg			17 07 37.3	
	comp=Z,28nm,0.7s							
K22A	**Casper**	**9.07**	**314**	IAmb_Lg			17 07 59.6	
	comp=Z,40nm,0.9s							
F33A	**5 Mile Ranch,**	**9.26**	**6**	IAmb_Lg			17 07 53.9	
	comp=Z,21nm,0.9s							
SPMN	**Marine on St.**	**9.35**	**22**	IAmb_Lg			17 07 52.5	
	comp=Z,21nm,0.7s							
I42A	**Draeger Farm,**	**9.88**	**40**	IAmb_Lg			17 08 19.0	
	comp=Z,38nm,0.8s							

*GUC **12** 17:06:19.8±0.7, 17°.37'S×69°.67W, h146$^{km}_{\pm 5}$, ML3.3*
*IDC **12** 17:06:20.7±2.0, 17°.40S×69°.35W, h166$^{km}_{\pm 14}$, mb3.1/2, mb1 3.3/4, mb1mx3.1/32, mbtmp3.6/4, Error ellipse: s-maj=41.1km s-min=22.0km az=106.0*

ISC 12 17:06:18.3±1.2, 17°.39S±0°.06×69.7W±0°.1, h153$^{km}_{\pm 8}$, n15, σ1°51/25, 1C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.96**	**168**	*iP*	**Pn**	**17 06 44.6**	**+0.9**
PB16				*i* S	**Sn**	**17 07 04.1**	**+0.9**
PB12	**IPOC Station P**	**1.34**	**205**	*eP*	**Pn**	**17 06 46.5**	**-0.2**
PB12				*i* S	**Sn**	**17 07 07.3**	**-1.1**
LPAZ	**La Paz**	**1.88**	**55**	P	**Pn**	**17 06 53.4**	**+0.5**
	6.9nm,0.3s,baz=232,slow=8.0,SNR=133						
LPAZ				S	**Sn**	**17 07 18.5**	**-0.9**
	1.8nm,0.3s,baz=354,slow=22,SNR=14						
LPAZ	**La Paz**	**1.88**	**55**	*iP*	**Pn**	**17 06 53.4**	**+0.5**
LPAZ				*eS*	**Sn**	**17 07 18.4**	**-0.9**
GO01	**Chusmiza**	**2.32**	**168**	*eP*	**Pn**	**17 06 59.8**	**+1.9**
GO01				*i* S	**Sn**	**17 07 29.4**	**+1.0**
GO01				IAML		17 07 39.1	
	comp=E,111nm,0.2s						
PB11	**IPOC Station P**	**2.36**	**178**	*eP*	**Pn**	**17 06 58.7**	**+0.7**
PB11				*i* S	**Sn**	**17 07 28.2**	**-0.4**
PB11				IAML		17 07 31.0	
	comp=N,111nm,0.4s						
PB08	**IPOC Station P**	**2.79**	**169**	*eP*	**Pn**	**17 07 04.9**	**+1.4**
PB08				*i* S	**Sn**	**17 07 38.7**	**+0.3**
PB08				IAML		17 07 41.4	
	comp=E,37nm,0.4s						
HMBC	**Humberstone**	**2.88**	**183**	*eP*	**Pn**	**17 07 04.3**	**0.0**
TA01	**Diego Aracena**	**3.19**	**188**	*eP*	**Pn**	**17 07 07.8**	**-0.3**
TA01				*i* S	**Sn**	**17 07 44.0**	**-2.8**
TA01				IAML		17 07 46.1	
	comp=N,56nm,0.3s						
PB01	**IPOC Station P**	**3.64**	**176**	*eP*	**Pn**	**17 07 14.4**	**+0.4**
PB01				*eS*	**Sn**	**17 07 55.5**	**-1.8**
PB01				IAML		17 07 58.8	
	comp=N,26nm,0.2s						
PB02	**IPOC Station P**	**3.91**	**182**	*eP*	**Pn**	**17 07 18.7**	**+1.2**
LVC	**Limon Verde**	**5.25**	**172**	P	**Pn**	**17 07 37.0**	**+1.7**
	comp=N,0.4nm,0.3s,baz=333,slow=7.7,SNR=6.6						
LVC				S	**Sn**	**17 08 32.0**	**-3.6**
	comp=N,0.4nm,0.3s,baz=91,slow=3.5,SNR=6.5						
SIV	**San Ignacio**	**8.41**	**82**	P	**Pn**	**17 08 16.5**	**-0.7**
	comp=N,3.7nm,0.3s,baz=266,slow=9.6,SNR=42						
TORD	**Torodi Ar. Bea**	**76.75**	**72**	P	**P**	**17 17 51.5**	**-1.8**
	comp=N,0.2nm,0.7s,baz=257,slow=4.2,SNR=1.9						
YKA	**Yellowknife Ar**	**87.08**	**341**	P	**P**	**17 18 48.1**	**+1.9**
	comp=N,0.3nm,0.6s,baz=134,slow=4.4,SNR=7.0						

*IDC **12** 17:20:10.4±1.0, 59°.93S×29°.94W, h0^{km}, mb3.8/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.7/3, MS3.3/8, Ms1 3.3/8, ms1mx3.1/40, Error ellipse: s-maj=78.3km s-min=34.3km az=96.0*
*NEIC **12** 17:20:11.3±1.7, 60°.09S±0°.10×30°.4W±0°.3, h12$^{km}_{\pm 5}$, mb4.2/9, Error ellipse: s-maj=22.1km s-min=9.4km az=58.0*

ISC 12 17:20:11.1±0.7, 60°.09S±0°.09×30°.3W±0°.1, h10^{km}, n36, σ1°45/21, mb4.1/5, MS3.3/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.74**	**327**	Pn	**Pn**	**17 21 49.2**	**-0.7**
ORCD	**Orcadas**	**7.20**	**259**	Pn	**Pn**	**17 21 54.2**	**-2.1**
VNA1	**Neumayer--Stat**	**13.89**	**149**	P	**Pn**	**17 23 26.0**	**-1.6**
VNA3	**Neumayer Olymp**	**13.93**	**152**	P	**Pn**	**17 23 25.7**	**-2.6**
VNA2	**Neumayer--Watz**	**14.28**	**149**	P	**Pn**	**17 23 31.5**	**-1.6**
	baz=305,slow=16						
SNAA	**Sanae**	**15.92**	**148**	P	**Pn**	**17 23 55.2**	**+0.3**
SNAA	**Sanae**	**15.92**	**148**	LR	LR	17 29 16.8	
	comp=Z,112nm,18.1s,baz=288,slow=34						
SNAA	**Sanae**	**15.92**	**148**		**Pn**	**17 23 54.3**	**-0.6**
SNAA				IAmb	IAmb	17 24 03.6	
	comp=Z,16nm,1.6s						
EFI	**East Falkland**	**17.61**	**286**		**Pn**	**17 24 15.5**	**-0.8**
SMAI	**San Martin Ant**	**17.72**	**228**		**P**	**17 24 20.2**	**+1.8**
BELA	**Belgrano 2**	**17.93**	**183**	P	**Pn**	**17 24 20.1**	**0.0**
MG03	**Isla Dawson**	**22.50**	**268**	P	**P**	**17 25 11.6**	**+1.2**
QSPA	**South Pole Qui**	**30.15**	**180**	P	**P**	**17 26 21.1**	**+0.1**
QSPA				IAmb	IAmb	17 26 27.5	
	comp=Z,4.1nm,1.2s						
PLCA	**Paso Flores**	**31.47**	**290**	LR	LR	17 37 46.3	
	comp=Z,61nm,19.6s,baz=144,slow=34						
MAW	**Mawson**	**37.92**	**141**	LR	LR	17 42 18.4	
	comp=Z,60nm,18.4s,baz=237,slow=35						
VNDA	**Vanda**	**42.43**	**184**	P	**P**	**17 28 08.3**	**+3.1**
	comp=Z,0.9nm,0.7s,baz=185,slow=4.5,SNR=4.2						
VNDA	**Vanda**	**42.43**	**184**	IAmb	IAmb	17 28 08.9	
	comp=Z,1.9nm,1.2s						
LVC	**Limon Verde**	**46.18**	**307**	LR	LR	17 45 52.3	
	comp=Z,26nm,21.6s,baz=208,slow=33						
BOSA	**Boshof**	**48.56**	**75**	LR	LR	17 44 37.5	
	comp=Z,46nm,19.0s,baz=14,slow=30						
SIV	**San Ignacio**	**49.40**	**320**	LR	LR	17 48 16.3	
	comp=Z,36nm,21.9s,baz=96,slow=34						
LPAZ	**La Paz**	**51.61**	**311**	LR	LR	17 54 46.8	
	comp=Z,16nm,18.9s,baz=109,slow=40						
H10S2	**ASCENSION HYDR**	**52.36**	**20**	T	T	18 26 24.0	
	baz=190,slow=74,SNR=15						
H10S3	**ASCENSION HYDR**	**52.36**	**20**	T	T	18 26 27.2	
	baz=30,slow=74,SNR=34						
TSUM	**Tsumeb**	**53.07**	**61**	LR	LR	17 48 39.0	
	comp=Z,46nm,18.0s,baz=154,slow=32						
H10N1	**ASCENSION HYDR**	**53.48**	**20**	T	T	18 28 05.7	
	baz=190,slow=75,SNR=11						
H10N3	**ASCENSION HYDR**	**53.48**	**20**	T	T	18 27 50.9	
	baz=190,slow=75,SNR=26						
H10N2	**ASCENSION HYDR**	**53.49**	**20**	T	T	18 27 53.2	
	baz=190,slow=75,SNR=10						
TOA0	**Torodi Ar. Sit**	**77.37**	**32**	P	**P**	**17 32 05.5**	**-0.4**
TOA0				IAmb	IAmb	17 32 09.8	
	comp=Z,6.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**77.37**	**32**	P	**P**	**17 32 06.0**	**0.0**
	comp=Z,0.8nm,0.6s,baz=190,slow=6.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**77.37**	**32**	IAmb	IAmb	17 32 15.2	
	comp=Z,2.8nm,1.2s						
ASAR	**Alice Springs**	**95.54**	**165**	P	**P**	**17 33 36.0**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=178,slow=4.4,SNR=1.8						
CMAR	**Chiang Mai Arr**	**124.95**	**116**	PKP	**PKPdf**	**17 39 12.0**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=219,slow=4.1,SNR=4.2						
YKA	**Yellowknife Ar**	**138.03**	**316**	PKP	**PKPdf**	**17 39 33.5**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=129,slow=1.9,SNR=3.8						
YKA	**Yellowknife Ar**	**138.03**	**316**		**PKPdf**	**17 39 32.7**	**-1.7**
INK	**Inuvik**	**147.79**	**317**	PKPbc	**PKPbc**	**17 39 55.5**	**+1.2**
	comp=Z,2.4nm,1.0s,baz=123,slow=2.3,SNR=4.9						
ILAR	**Eielson Array**	**151.42**	**307**	PKPbc	**PKPbc**	**17 40 03.5**	**0.0**
	comp=Z,1.1nm,1.0s,baz=122,slow=1.9,SNR=4.8						

IDC 12 17:20:31.0±3.2, 39°.63N×143°.47E, h0^{km}, mb3.5/3, mb1 3.7/4, mb1mx3.3/31, mbtmp3.5/4, ML2.8/1, MS3.0/2, Ms1 3.0/2, ms1mx2.2/73, Error ellipse: s-maj=73.9km s-min=35.5km az=68.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.17**	**235**	Pn	Pn	17 21 49.3	-0.4
	0.3nm,0.3s,baz=50,slow=12,SNR=9.0						
MJAR				LR	LR	17 23 47.3	
	comp=Z,49nm,19.1s,baz=178,slow=38						
SONM	**Songino Array**	**27.80**	**299**	P	P	17 26 22.7	+0.8
	0.4nm,0.3s,baz=80,slow=8.3,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**28.27**	**128**	T	T	17 57 08.8	
	baz=318,slow=75,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**28.28**	**128**	T	T	17 57 08.3	
	baz=318,slow=75,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**28.29**	**128**	T	T	17 57 08.8	
	baz=318,slow=75,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**29.09**	**130**	T	T	17 58 14.2	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.09**	**130**	T	T	17 58 10.8	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**29.10**	**130**	T	T	17 58 10.2	
	baz=318						
MKAR	**Makanchi Array**	**44.16**	**300**	P	P	17 28 40.5	-0.9
	0.2nm,0.6s,baz=79,slow=8.3,SNR=2.6						
WRA	**Warramunga Arr**	**59.87**	**190**	P	P	17 30 38.6	0.0
	0.5nm,0.8s,baz=8.0,slow=6.9,SNR=3.6						
HFS	**Hagfors**	**72.38**	**336**	LR	LR	18 07 36.4	
	comp=Z,26nm,20.0s,baz=294,slow=39						

IDC 12 17:31:12.7±3.1, 6°.25S×147°.11E, h0^{km}, mb3.1/2, mb1 3.3/4, mb1mx3.2/43, mbtmp3.1/4, ML2.7/1, MS3.8/1, Ms1 3.8/1, ms1mx2.5/23, Error ellipse: s-maj=62.9km s-min=35.0km az=84.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.14**	**179**	Pn	Pn	17 32 04.4	+1.0
	1.0nm,0.3s,baz=356,slow=14,SNR=1.5						
PMG				Sn	Sn	17 32 40.8	-0.8
	0.9nm,0.3s,baz=136,slow=8.1,SNR=1.5						
WRA	**Warramunga Arr**	**18.41**	**221**	P	Pn	17 35 28.6	-1.0
	0.0nm,0.3s,baz=49,slow=12,SNR=2.1						
ASAR	**Alice Springs**	**21.47**	**215**	P	P	17 36 04.7	+1.7
	0.1nm,0.3s,baz=45,slow=9.2,SNR=1.5						
FITZ	**Fitzroy Crossi**	**24.02**	**239**	P	P	17 36 29.7	+0.1
	1.5nm,0.9s,baz=57,slow=15,SNR=1.8						
JHJ	**Hachijo jima 2**	**39.77**	**350**	LR	LR	17 52 05.6	
	comp=Z,138nm,20.2s,baz=295,slow=32						
TORD	**Torodi Ar. Bea**	**145.25**	**284**	PKPbc	PKPbc	17 50 51.4	-1.8
	0.3nm,0.7s,baz=107,slow=3.9,SNR=4.1						

DJA 12 17:36:13.5±0.5, 11°.5E±4°×11°.8E±°, h10^{km}, M3.8/8, mb4.1/6, MLv3.6/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.88**	**32**	P	Pn	17 36 45.8	+0.1
WBSI				S	Sn	17 37 06.8	-2.7
PLAI	**Plampang**	**2.48**	**346**	P	Pn	17 36 54.1	+0.1
JAGI	**Jajag, Banyuwa**	**5.01**	**303**	P	Pn	17 37 28.0	-0.8
	0.1nm16nm,1.1s						
BATI	**Baumata**	**5.29**	**79**	P	Pn	17 37 33.1	+0.5
	0.1nm9.4nm,1.3s						
BSSI	**Bau Bau, Buton**	**5.48**	**22**	P	Pn	17 37 36.3	+1.0
	0.1nm19nm,1.4s						
GMJI	**Gumukmas**	**5.70**	**301**	P	Pn	17 37 37.8	-0.5
	0.1nm21nm,1.5s						
BKSI	**Bulukumba**	**6.13**	**16**	P	Pn	17 37 46.2	+1.9
	0.1nm15nm,0.6s						

*IDC **12** 17:40:37.9±1.7, 2°.00S×121°.25E, h0^{km}, mb3.1/3, mb1 3.3/3, mb1mx3.2/30, mbtmp3.1/3, MS2.7/2, Ms1 2.7/2, ms1mx2.4/21, Error ellipse: s-maj=406.6km s-min=28.9km az=59.0*
*DJA **12** 17:40:40.3±0.2, 2°.5±2°×12°.1E±°, h10^{km}, M3.8/12, mb4.1/3, MLv3.7/12*

ISC 12 17:40:39.8±0.9, 2°.19S±0°.05×120°.92E±0°.06, h10^{km}, n16, σ1°30/16, mb3.1/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.39**	**232**	P	**Pn**	**17 41 03.7**	**-1.6**
APSI	**Ampana**	**1.46**	**30**	P	**Pb**	**17 41 07.1**	**+0.1**
SPSI	**Sidrap Palu**	**2.11**	**213**	P	**Pn**	**17 41 16.6**	**+1.5**
LUWI	**Luwuk**	**2.17**	**58**	P	**Pn**	**17 41 16.2**	**+0.2**
BNSI	**Bone**	**2.35**	**200**	P	**Pn**	**17 41 18.4**	**0.0**
MPSI	**Mapaga**	**2.71**	**338**	P	**Pn**	**17 41 22.2**	**-1.2**
MPSI				S	**Sn**	**17 41 58.6**	**+2.4**
MRSI	**Marisa**	**2.83**	**21**	P	**Pn**	**17 41 23.6**	**-1.5**
KAPI	**Kappang**	**3.04**	**203**	Sn	**Sn**	**17 42 04.9**	**+0.4**
	1.1nm,0.3s,baz=104,slow=17,SNR=1.8						
KAPI				LR	LR	17 42 47.3	
	comp=Z,68nm,18.5s,baz=37,slow=39						
BKSI	**Bulukumba**	**3.22**	**194**	P	**Pn**	**17 41 30.8**	**+0.4**
GTOI	**Gorontalo**	**3.50**	**37**	P	**Pn**	**17 41 35.7**	**+1.5**
SANI	**Sanana**	**5.07**	**89**	P	**Pn**	**17 41 53.9**	**-1.9**
	0.1nm11nm,0.6s						
LBMI	**Labuha**	**6.75**	**77**	P	**Pn**	**17 42 19.6**	**+0.5**
	0.1nm13nm,0.9s						
BATI	**Baumata**	**8.42**	**161**	LR	LR	17 46 17.9	
	comp=Z,90nm,19.4s,baz=208,slow=40						
WRA	**Warramunga Arr**	**21.99**	**144**	P	**P**	**17 45 33.2**	**-1.0**
	0.6nm,1.0s,baz=322,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**24.78**	**151**	P	**P**	**17 46 01.9**	**-0.1**
	0.2nm,0.5s,baz=328,slow=9.5,SNR=1.8						
MKAR	**Makanchi Array**	**59.41**	**330**	P	**P**	**17 50 42.4**	**-0.2**
	0.2nm,0.6s,baz=117,slow=7.5,SNR=3.7						

*UUSS **12** 17:49:37.8±1.4, 37°.545N±0°.004×112°.31W±0°.02, h7$^{km}_{\pm 5}$, ML2.5/7, ML2.5/85(NEIC), Error ellipse: s-maj=2.2km s-min=0.5km az=83.0*

NEIC 12 17:49:37.5±1.8, 37°.54N±0°.01×112°.28W±0°.02, h10$^{km}_{\pm 5}$, Error ellipse: s-maj=2.3km s-min=1.6km az=143.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKCU	**Pink Cliffs**	**0.10**	**197**		Pg	17 49 40.5	+0.2
PKCU					Sg	17 49 42.8	+0.5
PKCU	**Pink Cliffs**	**0.10**	**197**	IAML		17 49 42.9	
	comp=N,3μm,0.4s						
PKCU				IAML		17 49 43.1	
	comp=E,5μm,0.3s						
BTU	**Barney Top**	**0.39**	**55**		Pb	17 49 46.1	-0.6
EKU	**East Kanab**	**0.49**	**201**		Pg	17 49 47.1	0.0
MTPU	**Mount Pierson**	**0.51**	**8**		Pg	17 49 47.7	+0.1
MTPU					Sg	17 49 55.1	+0.8
MTPU	**Mount Pierson**	**0.51**	**8**	IAML		17 49 55.8	
	comp=E,262nm,0.2s						
MTPU				IAML		17 49 55.9	
	comp=N,227nm,0.6s						
SZCU	**Shurtz Canyon**	**0.65**	**276**		Pg	17 49 49.8	-0.3
SZCU					Sg	17 49 58.1	-0.6
KNB	**Kanab**	**0.68**	**220**		Pg	17 49 50.2	-0.4
KNB					Sg	17 49 59.6	+0.1
KNB	**Kanab**	**0.68**	**220**	IAML		17 49 59.8	
	comp=N,71nm,0.6s						
KNB				IAML		17 50 01.6	
	comp=E,62nm,0.5s						
ZNPU	**Zion National**	**0.70**	**255**		Pg	17 49 50.7	-0.4
ZNPU					Sg	17 49 59.5	-0.8
DWU	**Dry Willow Pea**	**0.81**	**315**		Pg	17 49 53.0	-0.1
CCUT	**Cedar City**	**0.86**	**271**		Pg	17 49 53.7	-0.5
CCUT	**Cedar City**	**0.86**	**271**	IAML		17 50 05.3	
	comp=N,103nm,0.7s						
LCMT	**Little Creek M**	**0.93**	**236**		Pg	17 49 54.8	-0.7
LCMT	**Little Creek M**	**0.93**	**236**	IAML		17 50 07.8	
	comp=E,149nm,0.2s						
LCMT				IAML		17 50 08.6	
	comp=N,101nm,0.2s						
ARUT	**Antelope Range**	**0.96**	**286**		Pg	17 49 55.5	-0.5
**M

comp=E,6.1nm,4.6s
X18A Snowflake 3.54 147 Pn Pn 17 50 32.8 -0.1
X18A IAML 17 51 32.2
comp=N,17nm,0.6s
RDMU Red Mountain 3.69 34 Pn 17 50 32.8 -2.1
RDMU IAML 17 51 40.1
comp=E,5.7nm,0.5s
RDMU IAML 17 52 52.0
comp=N,5.1nm,4.0s
GWY Greenwater Val 3.77 250 Pn 17 50 33.5 -2.4
GWY IAML 17 51 35.2
comp=E,6.9nm,0.5s
GWY IAML 17 51 41.3
comp=N,6.6nm,0.7s
ELK Elko 3.95 325 Pn Pn 17 50 35.9 -2.5
QSM Queen of Sheba 4.01 248 Pn Pn 17 50 36.4 -2.6
QSM IAML 17 51 22.3
comp=N,3.7nm,1.4s
QSM IAML 17 51 44.9
comp=E,5.5nm,1.5s
S22A 4UR Ranch, Cre 4.33 86 Pn 17 50 41.8 -1.9
S22A IAML 17 51 27.5
comp=E,4.9nm,4.8s
S22A IAML 17 52 03.8
comp=N,5.0nm,1.1s
SMCO Snowmass 4.48 67 Pn Pn 17 50 44.5 -1.4

RSNC 12 17:53:47.0±1.1, 7°06N×73°54W, h99km±6km, ML2.7, 2C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BARC	**Barichara**	**0.59**	**142**	⇓*i*P		Pn	17 54 03.6	0.0
BARC				*e*S		Sn	17 54 16.8	+0.7
BARC				*i*			17 54 18.0	
	comp=Z,533nm,0.2s							
BARC	**Barichara**	**0.59**	**142**	⇓*e*P		Pn	17 54 03.6	0.0
BARC				*e*S		Sn	17 54 16.2	+0.2
BARC				*i*			17 54 18.1	
	comp=Z,533nm,0.2s							
PAMC	**Pamplona, Colo**	**0.88**	**72**	⇑*i*P		Pn	17 54 06.3	-0.4
PAMC				*e*S		Sn	17 54 21.3	0.0
PAMC				*i*			17 54 23.8	
	comp=Z,88nm,0.2s							
PAMC	**Pamplona, Colo**	**0.88**	**72**	⇑*i*P		Pn	17 54 06.3	-0.3
PAMC				*e*S		Sn	17 54 21.1	-0.2
PAMC				*i*			17 54 23.9	
	comp=Z,88nm,0.2s							
PTBC	**PUERTO BERRIO,**	**1.04**	**240**	*e*P		Pn	17 54 07.1	-0.8
PTBC				*e*S		Sn	17 54 23.5	-0.1
PTBC				*i*			17 54 33.0	
	comp=Z,70nm,0.2s							
PTBC	**PUERTO BERRIO,**	**1.04**	**240**	*e*P		Pn	17 54 07.1	-0.8
PTBC				*e*S		Sn	17 54 22.7	-0.9
PTBC				*i*			17 54 24.6	
	comp=Z,78nm,0.1s							
OCAC	**Ocana**	**1.19**	**11**	*e*P		Pn	17 54 09.1	-0.6
OCAC				*e*S		Sn	17 54 27.2	+0.4
OCAC				*i*			17 54 35.0	
	comp=Z,280nm,0.2s							
OCAC	**Ocana**	**1.19**	**11**	*e*P		Pn	17 54 09.1	-0.7
OCAC				*e*S		Sn	17 54 26.7	-0.1
OCAC				*i*			17 54 33.6	
	comp=Z,210nm,0.1s							
RUSC	**La Rusia**	**1.25**	**159**	⇓*i*P		Pn	17 54 09.8	-0.9
RUSC				*e*S		Sn	17 54 28.5	+0.1
RUSC				*i*			17 54 31.9	
	comp=Z,41nm,0.3s							
RUSC	**La Rusia**	**1.25**	**159**	⇓*e*P		Pn	17 54 09.8	-0.9
RUSC				*e*S		Sn	17 54 28.1	-0.4
RUSC				*i*			17 54 31.9	
	comp=Z,41nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.37**	**288**	*e*P		Pn	17 54 12.1	+0.4
ZARC				*e*S		Sn	17 54 34.1	+3.7
ZARC				*i*			17 54 35.1	
	comp=Z,134nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.37**	**288**	*e*P		Pn	17 54 12.0	+0.3
ZARC				*e*S		Sn	17 54 33.2	+2.8
ZARC				*i*			17 54 35.2	
	comp=Z,134nm,0.2s							
SPBC	**San Pablo de B**	**1.50**	**201**	⇓*i*P		Pn	17 54 12.5	-0.8
SPBC				*e*S		Sn	17 54 32.3	-0.9
SPBC				*i*			17 54 38.5	
	comp=Z,98nm,0.4s							
SPBC	**San Pablo de B**	**1.50**	**201**	⇓*e*P		Pn	17 54 12.5	-0.8
SPBC				*e*S		Sn	17 54 32.2	-0.9
SPBC				*i*			17 54 38.6	
	comp=Z,87nm,0.1s							
TAMC	**Tame, Arauca**	**1.85**	**110**	*e*P		Pn	17 54 21.4	+3.8
TAMC				*e*S		Sn	17 54 39.8	-1.2
TAMC				*i*			17 54 44.7	
	comp=Z,36nm,0.2s							
NORC	**Norcasia**	**1.99**	**222**	*e*P		Pn	17 54 18.7	-0.8
NORC				*e*S		Sn	17 54 46.0	+1.8
NORC				*i*			17 54 51.6	
	comp=Z,50nm,0.2s							
NORC	**Norcasia**	**1.99**	**222**	*e*P		Pn	17 54 18.6	-0.8
NORC				*e*S		Sn	17 54 44.2	0.0
NORC				*i*			17 54 51.7	
	comp=Z,50nm,0.2s							
UREC	**San Jos de Ur**	**2.09**	**289**	*e*P		Pn	17 54 19.9	-0.8
UREC				*i*			17 54 52.3	
	comp=Z,68nm,0.3s							
UREC	**San Jos de Ur**	**2.09**	**289**	*e*P		Pn	17 54 20.0	-0.8
UREC				*e*S		Sn	17 54 46.2	-0.3
UREC				*i*			17 54 52.3	
	comp=Z,68nm,0.3s							
ROSC	**El Rosal**	**2.34**	**199**	*e*P		Pn	17 54 29.3	+4.9
ROSC				*e*S		Sn	17 54 57.1	+4.3
ROSC				*i*			17 55 02.1	
	comp=Z,39nm,0.6s							
ROSC	**El Rosal**	**2.34**	**199**	*e*P		Pn	17 54 25.6	+1.2
ROSC				*e*S		Sn	17 54 55.6	+2.7
ROSC				*i*			17 55 02.1	
	comp=Z,39nm,0.6s							
CHIC	**Chingaza**	**2.42**	**184**	*e*P		Pn	17 54 26.0	+0.5
CHIC				*e*S		Sn	17 54 58.1	+3.3
CHIC				*i*			17 55 02.9	
	comp=Z,25nm,0.4s							
CHIC	**Chingaza**	**2.42**	**184**	*e*P		Pn	17 54 25.8	+0.3
CHIC				*e*S		Sn	17 54 57.6	+2.7
CHIC				*i*			17 55 03.0	
	comp=Z,25nm,0.4s							
GUY2C	**Guyana, Caldas**	**2.57**	**225**	*e*P		Pn	17 54 28.9	+1.4
GUY2C				*e*S		Sn	17 54 59.6	+1.1
GUY2C				*i*			17 55 11.6	
	comp=Z,29nm,0.6s							
GUY2C	**Guyana, Caldas**	**2.57**	**225**	*e*P		Pn	17 54 28.4	+0.9
GUY2C				*e*S		Sn	17 54 56.2	-2.3
GUY2C				*i*			17 55 11.7	
	comp=Z,29nm,0.6s							
LL6C	**La Loma 6 Bece**	**2.67**	**6**	*e*P		Pn	17 54 27.4	-1.0
LL6C				*e*S		Sn	17 54 59.9	-0.3
LL6C				*i*			17 55 09.1	
	comp=Z,26nm,0.3s							
CBOC	**Ciudad Bolivar**	**2.73**	**244**	*e*P		Pn	17 54 30.5	+1.2
CBOC				*e*S		Sn	17 54 55.5	-6.3
CBOC				*i*			17 55 02.9	
	comp=Z,18nm,0.3s							
CBOC	**Ciudad Bolivar**	**2.73**	**244**	*e*P		Pn	17 54 30.5	+1.2
CBOC				*e*S		Sn	17 55 04.0	+2.2
CBOC				*i*			17 55 05.4	
	comp=Z,23nm,0.1s							
SOCV	**Socops**	**2.93**	**65**	*e*P		Pn	17 54 30.9	-0.9
SOCV				*e*S		Sn	17 55 03.7	-2.6
SOCV	**Socops**	**2.93**	**65**	*e*P		Pn	17 54 30.9	-0.9
SOCV				*e*S		Sn	17 55 03.7	-2.6
VILC	**Villavicencio,**	**2.93**	**183**	*e*P		Pn	17 54 31.8	-0.2
VILC				*e*S		Sn	17 55 11.2	+4.6
VILC	**Villavicencio,**	**2.93**	**183**	*e*P		Pn	17 54 31.8	-0.2
VILC				*e*S		Sn	17 55 10.0	+3.4
ANIL	**Santa Ana**	**3.15**	**216**	*e*S		Sn	17 55 15.0	+2.9
PTGC	**Puerto Gaitan,**	**3.17**	**154**	*e*P		Pn	17 54 32.9	-2.1
PTGC				*e*S		Sn	17 55 09.5	-2.6
PTGC				*i*			17 55 17.0	
	comp=Z,25nm,0.4s							
SDV	**Santo Domingo**	**3.41**	**58**	*e*P		Pn	17 54 37.0	-1.3
SDV				*e*S		Sn	17 55 14.6	-3.4
SDV				*i*			17 55 20.6	
	comp=Z,7.5nm,0.3s							
SDV	**Santo Domingo**	**3.41**	**58**	*e*P		Pn	17 54 37.3	-1.1
SDV				*e*S		Sn	17 55 14.3	-3.7
SDV				*i*			17 55 20.7	
	comp=Z,7.5nm,0.3s							
PLMC	**San Jos del P**	**3.47**	**232**	*e*P		Pn	17 54 39.7	+0.7
PLMC				*e*S		Sn	17 55 18.5	-0.8
PLMC				*i*			17 55 34.8	
	comp=Z,8.8nm,0.4s							
PLMC	**San Jos del P**	**3.47**	**232**	*e*P		Pn	17 54 38.9	-0.2
PLMC				*e*S		Sn	17 55 18.1	-1.3
PLMC				*i*			17 55 24.8	
	comp=Z,8.6nm,0.2s							
ORTC	**Ortega, Tolima**	**3.56**	**209**	*e*P		Pn	17 54 40.9	+0.6
ORTC				*e*S		Sn	17 55 25.1	+3.5
ORTC				*i*			17 55 33.0	
	comp=Z,14nm,0.5s							
ORTC	**Ortega, Tolima**	**3.56**	**209**	*e*P		Pn	17 54 40.9	+0.5
ORTC				*e*S		Sn	17 55 20.4	-1.2
ORTC				*i*			17 55 33.0	
	comp=Z,9.4nm,0.2s							
CRJC	**Cerrejon, Guaj**	**3.99**	**9**	*e*P		Pn	17 54 45.0	-1.1
CRJC				*e*S		Sn	17 55 32.4	+0.5
CRJC				*i*			17 55 35.9	
	comp=Z,41nm,0.4s							
CRJC	**Cerrejon, Guaj**	**3.99**	**9**	*e*P		Pn	17 54 45.0	-1.2
CRJC				*e*S		Sn	17 55 31.7	-0.3
CRJC				*i*			17 55 36.0	
	comp=Z,41nm,0.4s							
MACC	**Macarena, Meta**	**4.89**	**184**	*e*P		Pn	17 54 56.8	-1.5
MACC				*e*S		Sn	17 55 50.7	-3.1
MACC				*i*			17 55 54.7	
	comp=Z,9.4nm,0.6s							
MACC	**Macarena, Meta**	**4.89**	**184**	*e*P		Pn	17 54 56.8	-1.5
MACC				*e*S		Sn	17 55 50.5	-3.2
MACC				*i*			17 55 54.8	
	comp=Z,7.3nm,0.2s							

*IDC **12** 18:21:37.3±1.2, 5°92N×125°46E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/46, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=55.1km s-min=15.9km az=84.0*
*MAN **12** 18:21:43.0, 6°40N×126°32E, h58km, mb4.5, ML3.4, MS3.2, Hypocentre not reviewed by the ISC*
ISC 12 18:21:43.6±1.0, 6°31N±0°07×126°24E±0°08, h73km±14km, n10, σ1°23/15, mb3.3/4, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.00**	**319**	Pn		**Pn**	**18 22 02.4**	**+0.2**
	45nm,0.3s,baz=88,slow=3.5,SNR=5.6							
DAV				Sn		**Sn**	**18 22 17.6**	**+1.5**
	110nm,0.3s,baz=273,slow=6.0,SNR=3.8							
GSPH	**General Santos**	**1.30**	**260**	⇓*i*P		**Pn**	**18 22 04.9**	**-1.3**
GSPH				*e*S		**Sn**	**18 22 21.1**	**-2.0**
KCP	**Kidapawan**	**1.33**	**301**	⇓*i*P		**Pn**	**18 22 06.2**	**-0.4**
KCP				*i* S		**Sn**	**18 22 24.0**	**+0.2**
BIPH	**Bislig**	**1.87**	**4**	⇑*e*P		**Pn**	**18 22 12.4**	**-1.1**
BIPH				*e*S		**Sn**	**18 22 34.4**	**-1.9**
CTBH	**Cotabato--PC H**	**2.17**	**295**	*e*P		**Pn**	**18 22 17.7**	**0.0**
CTBH				*i* S		**Sn**	**18 22 44.3**	**+0.6**
SIJI	**Sorong**	**8.72**	**145**	Pn		**Pn**	**18 23 48.5**	**+1.4**
	0.4nm,0.3s,baz=7.1,slow=16,SNR=2.1							
FITZ	**Fitzroy Crossi**	**24.26**	**181**	P		**P**	**18 26 54.0**	**-0.1**
	1.0nm,0.6s,baz=345,slow=12							
WRA	**Warramunga Arr**	**27.28**	**163**	P		**P**	**18 27 22.3**	**+0.9**
	0.2nm,0.5s,baz=348,slow=10,SNR=2.1							
ASAR	**Alice Springs**	**30.72**	**166**	P		**P**	**18 27 51.3**	**-0.6**
	0.2nm,0.3s,baz=353,slow=8.1,SNR=1.9							
MKAR	**Makanchi Array**	**55.18**	**324**	P		**P**	**18 31 09.2**	**+0.3**
	0.2nm,0.6s,baz=124,slow=6.1,SNR=1.8							

*BGR **12** 18:42:09.8±0.0, 47°61N×37°51W, h10km, mb4.6*
*MOS **12** 18:42:59.5±1.5, 50°13N×29°17W, h11km, mb5.2/70, MS4.3/16, Error ellipse: s-maj=6.6km s-min=4.2km az=147.7*
*BJI **12** 18:42:59.7±0.0, 50°18N×29°68W, h19km, mb4.8/45, mB5.1/25, Ms5.2/18, Ms7 4.9/17*
*IDC **12** 18:43:00.2±0.4, 50°17N×29°14W, h0km, mb4.4/41, mb1 4.5/43, mb1mx4.4/49, mbtmp4.4/43, ML4.0/2, MS4.2/78, Ms1 4.2/78, ms1mx4.1/98, Error ellipse: s-maj=11.4km s-min=9.4km az=7.0*
*NEIC **12** 18:43:01.7±1.9, 50°24N±0°10×29°0W±0°1, h15km±1km, mb5.2/490, Error ellipse: s-maj=14.0km s-min=11.6km az=192.0*
*GCMT **12** 18:43:01.7±0.2, 50°19N±0°02×28°95W±0°02, h12km, MW4.9/123, Moment Tensor Solution. s43,c50; s123,c177; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.05±.08; $M_{\theta\theta}$0.10±.09; $M_{\phi\phi}$2.96±.07; $M_{r\theta}$0.46±.33; $M_{\theta\phi}$-0.98±.07; $M_{r\phi}$0.07±.29; Best double couple: M_o3.19500×10^{16} NP1:ϕ172.00000°, δ45.00000°, λ-77.00000°. NP2:ϕ334.00000°, δ46.00000°, λ-103.00000°. Principal axes: T 3.2660, Plg1.0000°, Azm73.0000°; N -0.1360, Plg9.0000°, Azm343.0000°; P -3.1250, Plg81.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 18:43:01.9±0.6, 50°17N±0°05×29°09W±0°04, h14km±3km, h14km:pP-P, n1153, σ1945/1034, mb5.0/399, MS4.3/107, 36C-35D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NRS	**Narsarsuaq**	**14.31**	**327**	P		**P**	**18 46 28.6**	**-2.3**
NRS	**Narsarsuaq**	**14.31**	**327**	P		**P**	**18 46 28.6**	**-2.3**
BORG	**Borgarnes**	**15.19**	**13**	Pn		**Pn**	**18 46 36.3**	**+0.7**
	0.1nm,0.3s,baz=277,slow=23,SNR=3.6							
BORG				LR		LR	18 50 45.8	
	comp=Z,763nm,20.1s,baz=200,slow=31							
BORG	**Borgarnes**	**15.19**	**13**	P		**Pn**	**18 46 38.1**	**+2.5**
BORG				pmax		pmax		
	comp=Z,140nm,1.8s							
BORG	**Borgarnes**	**15.19**	**13**	P		**Pn**	**18 46 38.1**	**+2.5**
BORG				IAmb		IAmb	18 46 59.7	
	comp=Z,140nm,1.8s							
ANGG	**Ammassalik, Gr**	**16.12**	**347**	P		**Pn**	**18 46 47.8**	**+0.1**
ESK	**Eskdalemuir**	**16.45**	**62**	P		**P**	**18 46 53.5**	**-1.3**
ESK				pmax		pmax		
	comp=Z,181nm,1.9s							
ESK	**Eskdalemuir**	**16.45**	**62**	P		**P**	**18 46 53.5**	**-1.3**
EKA	**Eskdalemuir Ar**	**16.48**	**62**	Pn		**Pn**	**18 46 52.1**	**-0.3**
	baz=266,slow=12,SNR=8.6							
EKA				LR		LR	18 52 06.4	
	comp=Z,1μm,18.8s,baz=235,slow=33							
ROSF	**Rostrenen**	**16.93**	**86**	*e*P		**Pn**	**18 46 58.1**	**-0.1**
ROSF				pmax		pmax		
	comp=Z,115nm,2.1s							
QUIF	**Quistinic**	**17.12**	**88**	*e*P		**P**	**18 47 01.7**	**-0.5**
QUIF				pmax		pmax		
	comp=Z,51nm,1.5s							
POLO	**Lamas de Olo**	**17.22**	**113**	*e*P		**Pn**	**18 47 02.4**	**+0.5**
SGMF	**Saint Gilles**	**17.41**	**86**	*e*P		**Pn**	**18 47 04.8**	**+0.6**
SGMF				pmax		pmax		
	comp=Z,23nm,1.2s							
PVIS	**Viseu**	**17.57**	**114**	*e*P		**P**	**18 47 07.7**	**+0.4**
	comp=Z,89nm,1.9s							
PBRG	**Braganca**	**17.59**	**110**	*e*P		**P**	**18 47 08.6**	**+1.1**
	comp=Z,55nm,1.7s							
COI	**Coimbra**	**17.60**	**117**	P		**Pn**	**18 47 03.8**	**-2.8**
COI				pmax		pmax		
	comp=Z,305nm,2.0s							
COI	**Coimbra**	**17.60**	**117**	P		**Pn**	**18 47 03.8**	**-2.8**
COI				IAmb		IAmb	18 47 16.6	
	comp=Z,305nm,1.9s							
PCAS	**Casmilo, Conde**	**17.65**	**117**	*e*P		**P**	**18 47 12.1**	**+3.9**
	comp=Z,125nm,1.9s							
MVO	**Moncorvo**	**17.80**	**112**	*e*P		**Pn**	**18 47 09.1**	**0.0**
	comp=Z,78nm,1.8s							
MVO				*e*LR		LR	18 51 16.7	
	comp=Z,986nm,20.0s							
MTE	**Manteigas**	**17.98**	**115**	*e*P		**P**	**18 47 12.8**	**+1.0**
	comp=Z,128nm,1.8s							
MTE				*e*LR		LR	18 51 18.7	
	comp=Z,1μm,20.0s							
MTE	**Manteigas**	**17.98**	**115**	P		**Pn**	**18 47 07.3**	**-4.0**
DRLN	**Deer Lake**	**18.36**	**278**	P		**Pn**	**18 47 12.8**	**-3.1**
DY2G	**Dye2**	**18.55**	**338**	*e*P		**Pn**	**18 47 19.2**	**+0.9**
DY2G				IAmb		IAmb	18 47 34.5	
	comp=Z,96nm,1.6s							
PMRV	**Marv??o**	**18.70**	**117**	*e*P		**Pn**	**18 47 21.4**	**+1.3**
	comp=Z,67nm,1.8s							
PMRV				*e*LR		LR	18 51 47.7	
	comp=Z,1μm,18.0s							
EVO	**Evora**	**18.97**	**120**	*e*P		**Pn**	**18 47 23.9**	**+0.6**
	comp=Z,48nm,1.7s							
PESTR	**Estremoz**	**18.97**	**118**	*e*P		**Pn**	**18 47 24.3**	**+0.9**
	comp=Z,76nm,1.5s							
PESTR	**Estremoz**	**18.97**	**118**	P		**P**	**18 47 21.5**	**-1.2**
MFF	**Saint Martin d**	**19.50**	**89**	*e*P		**Pn**	**18 47 30.0**	**+0.4**
MFF				pmax		pmax		
	comp=Z,79nm,1.5s							
ICESG	**Greenland Ices**	**19.66**	**349**	*e*P		**P**	**18 47 30.3**	**-0.1**
ICESG				IAmb		IAmb	18 47 54.5	
	comp=Z,353nm,2.8s							
PVAQ	**Vaqueiros**	**19.93**	**122**	*e*LR		LR	18 52 23.4	
	comp=Z,617nm,20.0s							
PVAQ	**Vaqueiros**	**19.93**	**122**	P		**P**	**18 47 32.7**	**-0.5**
SFJD	**Kangerlussuaq**	**20.07**	**335**	P		**P**	**18 47 34.6**	**+0.2**
	comp=Z,15nm,1.0s,baz=135,slow=7.9,SNR=4.4							
SFJD				LR		LR	18 53 42.4	
	comp=Z,441nm,20.6s,baz=137,slow=32							
SFJD	**Kangerlussuaq**	**20.07**	**335**	P		**P**	**18 47 34.6**	**+0.2**
SFJD				pmax		pmax		
	comp=Z,49nm,1.3s							
SJPF	**Ste Jean**	**20.31**	**100**	*e*P		Pn	18 47 42.6	+3.3
SJPF				pmax		pmax		
	comp=Z,43nm,1.6s							
PAB	**San Pablo**	**20.41**	**112**	P		**P**	**18 47 36.8**	**-1.7**
PAB				pmax		pmax		
	comp=Z,89nm,1.3s							
PAB	**San Pablo**	**20.41**	**112**	P		**P**	**18 47 36.8**	**-1.7**
ESBB	**Sonseca Array**	**20.56**	**111**	P		**P**	**18 47 38.4**	**-1.7**
ESDC	**Sonseca Array**	**20.56**	**111**	P		**P**	**18 47 41.2**	**+1.2**
	comp=Z,4.6nm,0.9s,baz=304,slow=9.6,SNR=23							
ESDC				LR		LR	18 54 11.9	
	comp=Z,1μm,19.3s,baz=295,slow=33							
ESDC	**Sonseca Array**	**20.56**	**111**	P		**P**	**18 47 37.8**	**-2.3**
CLF	**Chambon-Foret**	**20.57**	**84**	P		**P**	**18 47 38.7**	**-1.3**
CLF				IAmb		IAmb	18 47 51.8	
	comp=Z,238nm,1.5s							
SCO	**Scoresbysund**	**20.66**	**7**	P		**P**	**18 47 40.5**	**-0.3**
SCO				pmax		pmax		
	comp=Z,54nm,1.1s							
SCO	**Scoresbysund**	**20.66**	**7**	P		**P**	**18 47 40.5**	**-0.3**
SCO	**Scoresbysund**	**20.66**	**7**	*i* P		Pn	18 47 43.9	+0.8
SCO				IAmb		IAmb	18 47 53.0	
	comp=Z,54nm,1.1s							
LFF	**La Frestale**	**20.72**	**93**	*e*P		**P**	**18 47 42.9**	**+1.2**
LFF				pmax		pmax		
	comp=Z,15nm,1.0s							
ETSF	**Etsaut**	**20.84**	**99**	*e*P		Pn	18 47 47.3	+1.7
ETSF				pmax		pmax		
	comp=Z,47nm,1.4s							
RJF	**Les Rejaudoux**	**21.07**	**92**	*e*P		**P**	**18 47 47.0**	**+1.5**
RJF				pmax		pmax		
	comp=Z,50nm,1.2s							
TCF	**Toulx Ste Croi**	**21.13**	**88**	*e*P		**P**	**18 47 46.8**	**+0.7**
TCF				pmax		pmax		
	comp=Z,77nm,1.2s							
UCC	**Uccle**	**21.20**	**75**	P		**P**	**18 47 44.4**	**-2.4**
UCC				pmax		pmax		
	comp=Z,53nm,1.8s							
UCC	**Uccle**	**21.20**	**75**	P		**P**	**18 47 44.4**	**-2.4**
SNF	**Seneffe**	**21.21**	**76**	*d*P		**P**	**18 47 47.9**	**+1.0**
SNF				*d*PP		**PnPn**	**18 48 05.9**	**-0.3**
DOU	**Dourbes**	**21.50**	**77**	*d*P		**P**	**18 47 50.6**	**+0.7**
	comp=Z,21nm,1.2s							
BMRD	**Maredsous**	**21.56**	**77**	*d*P		**P**	**18 47 51.1**	**+0.5**
	comp=Z,22nm,1.2s							
CAF	**Calviac**	**21.58**	**92**	*e*P		**P**	**18 47 54.4**	**+3.4**
CAF				pmax		pmax		
	comp=Z,133nm,1.8s							
AVF	**Avril sur Loir**	**21.68**	**86**	*e*P		**P**	**18 47 52.0**	**+0.1**
AVF				pmax		pmax		
	comp=Z,23nm,0.8s							
BGES	**Gesves**	**21.74**	**76**	*d*P		**P**	**18 47 54.5**	**+1.9**
	comp=Z,21nm,1.3s							
LOR	**Lormes**	**21.83**	**85**	P		**P**	**18 47 54.6**	**+0.9**
LOR				pmax		pmax		
	comp=Z,56nm,1.8s							
BER	**Bergen**	**21.86**	**49**	P		**P**	**18 47 57.1**	**+3.4**
BER				pmax		pmax		
	comp=Z,45nm,1.9s							
BCLA	**Clavier**	**21.86**	**76**	*d*P		**P**	**18 47 55.0**	**+1.0**
RCHB	**Rochefort**	**21.88**	**77**	*d*P		**P**	**18 47 54.4**	**+0.3**
	comp=Z,14nm,1.1s							
BSTI	**Sart Tilman**	**21.99**	**75**	*d*P		**P**	**18 47 56.5**	**+1.1**
SMF	**Signal de Mont**	**22.04**	**86**	*e*P		**P**	**18 47 56.8**	**+0.9**
SMF				pmax		pmax		
	comp=Z,60nm,1.2s							
GBN	**Guysborough**	**22.19**	**270**	P		**P**	**18 47 56.9**	**-0.6**
GBN				IAmb		IAmb	18 48 05.2	
	comp=Z,206nm,1.8s							
MEM	**Membach**	**22.26**	**75**	P		**P**	**18 47 59.0**	**+0.8**
MEM				pmax		pmax		
	comp=Z,52nm,1.7s							
MEM	**Membach**	**22.26**	**75**	*d*P		**P**	**18 47 58.8**	**+0.6**
	comp=Z,19nm,1.0s							
BHOU	**Houvegnez**	**22.32**	**76**	*d*P		**P**	**18 47 59.4**	**+0.5**
BTNL	**Ternell**	**22.34**	**75**	*d*P		**P**	**18 47 59.6**	**+0.5**
	comp=Z,17nm,1.1s							
MTLF	**Montolieu**	**22.39**	**96**	P		**P**	**18 48 01.0**	**+1.3**
MTLF				pmax		pmax		
	comp=Z,45nm,1.5s							
WLF	**Walferdange**	**22.58**	**78**	P		**P**	**18 48 00.6**	**-1.0**
WLF				pmax		pmax		
	comp=Z,45nm,1.3s							
WLF	**Walferdange**	**22.58**	**78**	P		**P**	**18 48 00.6**	**-1.0**
WLF	**Walferdange**	**22.58**	**78**	*e*P		**P**	**18 48 04.7**	**+3.1**
	comp=Z,9.9nm,0.9s,baz=285,slow=8.8							
WLF	**Walferdange**	**22.58**	**78**	*d*P		**P**	**18 48 03.8**	**+2.2**
BUG	**Bochum--Univer**	**22.87**	**73**	P		**P**	**18 48 07.9**	**+3.2**
BUG				pmax		pmax		
	comp=Z,32nm,1.2s							
BUG	**Bochum--Univer**	**22.87**	**73**	*e*P		**P**	**18 48 07.8**	**+3.2**
	comp=Z,22nm,0.9s,baz=285,slow=8.8							
AHRW	**Bad Neuenahr-A**	**22.94**	**75**	*e*P		**P**	**18 48 08.9**	**+3.5**
	comp=Z,11nm,0.9s,baz=285,slow=8.8							
JMIC	**Jan Mayen**	**22.96**	**17**	LR		LR	18 54 41.8	
	comp=Z,563nm,19.4s,baz=204,slow=31							
IBBN	**Ibbenburen**	**23.01**	**70**	*e*P		**P**	**18 48 08.4**	**+2.3**
	comp=Z,24nm,1.0s,baz=285,slow=8.8							
SSB	**Saint Sauveur**	**23.02**	**89**	P		**P**	**18 48 05.1**	**-1.3**
SSB				pmax		pmax		
	comp=Z,43nm,1.4s							
SSB	**Saint Sauveur**	**23.02**	**89**	P	

BSEG Bad Segeberg 24.30 66 *e*P **P 18 48 20.3 +1.7**
comp=Z,21nm,0.9s,baz=285,slow=8.8
BFO Black Forest 24.33 80 P **P 18 48 15.9 -3.1**
BFO pmax pmax
comp=Z,22nm,1.3s
BFO Black Forest 24.33 80 P **P 18 48 15.9 -3.1**
LPL La Plagne 24.33 87 *e*P **P 18 48 20.5 +1.2**
LPL pmax pmax
comp=Z,23nm,1.1s
LPG La Plagne 24.35 87 *e*P **P 18 48 20.9 +1.4**
LPG pmax pmax
comp=Z,14nm,1.0s
SENIN Lac Senin/Sane 24.36 85 P **P 18 48 18.0 -1.6**
SENIN IAmb IAmb 18 48 33.5
comp=Z,121nm,1.8s
BATG Bathurst New B 24.40 278 P **P 18 48 19.5 -0.1**
BATG IAmb IAmb 18 48 27.8
comp=Z,56nm,1.2s
NRDL Niedersach Rie 24.40 69 *e*P **P 18 48 22.3 +2.8**
comp=Z,8.6nm,0.9s,baz=285,slow=8.8
BNI Bardonecchia 24.49 88 P **P 18 48 18.5 -2.1**
BNI pmax pmax
comp=Z,25nm,1.3s
BNI Bardonecchia 24.49 88 P **P 18 48 18.5 -2.1**
DBG Daneborg 24.52 6 *i* P **P 18 48 22.8 +2.4**
DBG IAmb IAmb 18 48 24.0
comp=Z,49nm,1.6s
NBO00 NORSAR Array S 24.61 49 P **P 18 48 18.2 -3.2**
NBO00 IAmb IAmb 18 48 57.1
comp=Z,59nm,1.4s
SLE Schleitheim 24.62 81 P **P 18 48 22.8 +1.1**
SLE pmax pmax
comp=Z,26nm,1.0s
NAO01 NORSAR Array S 24.63 49 P **P 18 48 18.3 -3.3**
NAO01 IAmb IAmb 18 48 56.1
comp=Z,89nm,1.6s
NC204 NORSAR Array S 24.63 48 P **P 18 48 19.3 -2.4**
NC204 IAmb IAmb 18 48 33.4
comp=Z,66nm,1.5s
CLZ Clausthal 24.69 71 *e*P **P 18 48 25.4 +3.2**
comp=Z,11nm,1.0s,baz=285,slow=8.8
STU Stuttgart 24.74 78 P **P 18 48 20.1 -2.6**
STU pmax pmax
comp=Z,26nm,1.1s
STU Stuttgart 24.74 78 P **P 18 48 20.1 -2.6**
ASSE Asse, Remlinge 24.81 70 *e*P **P 18 48 26.5 +3.4**
comp=Z,15nm,1.2s,baz=285,slow=8.8
NB2 NORSAR Subarra 24.82 49 P **P 18 48 24.3 +1.0**
comp=Z,112nm,2.5s,baz=265,slow=11
NOA NORSAR Array B 24.82 49 P **P 18 48 23.9 +0.5**
comp=Z,2.4nm,1.0s,baz=264,slow=9.9,SNR=6.8
NOA LR LR 18 57 38.9
comp=Z,896nm,18.1s,baz=260,slow=35
NB201 NORSAR Array S 24.86 49 P **P 18 48 21.4 -2.2**
NC303 NORSAR Array S 24.92 48 P **P 18 48 22.0 -2.2**
NC602 NORSAR Array S 24.94 49 P **P 18 48 22.9 -1.4**
NC602 IAmb IAmb 18 48 40.1
comp=Z,125nm,1.8s
NORES NORESS Array B 24.94 49 P **P 18 48 26.0 +1.7**
FRB Frobisher Bay 24.95 318 P **P 18 48 24.7 +0.4**
comp=Z,42nm,1.0s,baz=100,slow=9.9,SNR=34
FRB LR LR 18 56 04.7
comp=Z,462nm,18.4s,baz=115,slow=32
MDT Midelt 25.06 125 P **P 18 48 26.6 +0.8**
comp=Z,8.5nm,1.0s,baz=346,slow=7.4,SNR=6.5
NC405 NORSAR Array S 25.07 49 P **P 18 48 23.1 -2.4**
ISO Isola 25.11 90 P **P 18 48 27.1 +1.0**
ISO pmax pmax
comp=Z,17nm,1.3s
FLTG Flechtingen 25.11 69 *e*P **P 18 48 26.5 +0.6**
comp=Z,5.8nm,0.8s,baz=285,slow=8.8
FRF La Foret Royal 25.13 91 *e*P **P 18 48 27.6 +1.3**
FRF pmax pmax
comp=Z,51nm,1.3s
LMR La Mourre 25.15 92 *e*P **P 18 48 28.8 +2.4**
LMR pmax pmax
comp=Z,45nm,1.4s
SAOF Saorge 25.52 90 P **P 18 48 30.0 +0.2**
SAOF pmax pmax
comp=Z,14nm,1.7s
TUE Stuetta 25.63 83 P **P 18 48 29.8 -1.2**
TUE IAmb IAmb 18 48 45.4
comp=Z,86nm,1.3s
DAVA Damuels 25.67 81 *e*P **P 18 48 32.4 +1.1**
comp=Z,32nm,1.8s
UBR Ueberruh 25.68 80 *e*P **P 18 48 33.7 +2.5**
comp=Z,6.0nm,1.0s,baz=285,slow=8.8
NEUB Neuenburg 25.68 72 *e*P **P 18 48 31.9 +0.7**
comp=Z,11nm,1.0s,baz=285,slow=8.8
MOX Moxa 25.72 73 P **P 18 48 34.2 +2.6**
MOX pmax pmax
comp=Z,14nm,1.7s
MOX Moxa 25.72 73 *e*P **P 18 48 32.4 +0.8**
comp=Z,7.8nm,1.0s,baz=285,slow=8.8
GRFO Grafenberg 25.74 75 P **P 18 48 29.4 -2.3**
GRFO pmax pmax
comp=Z,64nm,1.4s
GRFO Grafenberg 25.74 75 P **P 18 48 29.4 -2.3**
GRFO IAmb IAmb 18 49 03.4
comp=Z,64nm,1.4s
GRA1 Grafenberg Arr 25.74 75 P **P 18 48 29.9 -1.8**
GRA1 IAmb IAmb 18 49 03.5
comp=Z,72nm,1.5s
GRF Grafenberg Arr 25.74 75 P **P 18 48 29.9 -1.8**
GRF pmax pmax
comp=Z,72nm,1.5s
GRF Grafenberg Arr 25.74 75 *e*P **P 18 48 33.7 +1.9**
comp=Z,10nm,0.9s,baz=285,slow=8.8
DAVOX Davos/Dischmat 25.86 82 P **P 18 48 33.8 +0.7**
comp=Z,12nm,1.1s,baz=317,slow=7.6,SNR=15
DAVOX LR LR 18 58 30.1
comp=Z,1μm,18.0s,baz=292,slow=36
HFS Hagfors 25.95 51 P **P 18 48 34.5 +1.0**
comp=Z,1.2nm,0.6s,baz=271,slow=6.9,SNR=3.2
HFS LR LR 18 58 14.7
comp=Z,1μm,18.3s,baz=268,slow=35
RETA Reutte 26.16 80 *i* P **P 18 48 37.8 +2.2**
comp=Z,22nm,1.5s,SNR=7.6
G65A Princeton 26.16 274 P **P 18 48 35.6 0.0**
G65A IAmb IAmb 18 48 44.4
comp=Z,50nm,1.1s
WERD Werda 26.20 73 *e*P **P 18 48 36.7 +0.8**
comp=Z,5.9nm,0.9s,baz=285,slow=8.8
MANZ Manzenberg 26.21 74 *e*P **P 18 48 37.5 +1.5**
comp=Z,1.5nm,1.0s,baz=285,slow=8.8
GUNZ Gunzen 26.24 73 *e*P **P 18 48 39.3 +3.0**
comp=Z,3.2nm,0.9s,baz=285,slow=8.8
TANN Tannenbergstha 26.30 73 *e*P **P 18 48 38.9 +2.0**
comp=Z,3.0nm,0.8s,baz=285,slow=8.8
FETA Feichten 26.31 81 *e*P **P 18 48 38.7 +1.6**
comp=Z,28nm,1.6s
ROTZ Rotzenmuhle 26.33 75 *e*P **P 18 48 38.2 +1.1**
comp=Z,2.2nm,1.1s,baz=285,slow=8.8
NKC Novy Kostel 26.35 74 AMS AMS 18 58 20.0
comp=Z,1μm,17.0s
CLL Collm 26.41 71 P **P 18 48 37.0 -0.7**
CLL pmax pmax
comp=Z,18nm,1.2s
CLL Collm 26.41 71 P **P 18 48 37.0 -0.7**
CLL Collm 26.41 71 *i* P **P 18 48 38.4 +0.7**
comp=Z,19nm,1.4s
CLL *i* sP **sP 18 48 42.2 0.0**
CLL *i* x x 18 48 48.8
CLL e PPP PPP 18 49 26.0
CLL e PPPP 18 49 33.0
CLL *e*S **S 18 53 13.0 +2.5**
CLL *ex* x 18 53 58.0
CLL Lm MLR 18 58 00.0
comp=N,400nm,18.6s
CLL Lm MLR 18 58 00.0
comp=E,500nm,21.0s
CLL Lm MLR 18 58 00.0
comp=Z,600nm,21.0s
CLL Collm 26.41 71 *e*P **P 18 48 38.3 +0.6**
comp=Z,5.2nm,0.8s,baz=285,slow=8.8
MOTA Moosalm 26.43 80 *i* P **P 18 48 40.2 +2.0**
comp=Z,21nm,1.4s,SNR=8.0
SQTA Sankt Quirin 26.54 81 *i* P **P 18 48 41.6 +2.5**
comp=Z,57nm,1.7s,SNR=7.0
MSSA Maissana 26.64 88 P **P 18 48 36.6 -3.4**
MSSA IAmb IAmb 18 48 48.0
comp=Z,75nm,1.5s
SALO Salr 26.72 84 P **P 18 48 38.8 -1.9**
WATA Walderalm 26.73 80 *e*P **P 18 48 42.9 +2.1**
comp=Z,15nm,1.2s
WTTA Wattenberg 26.79 80 *i* P **P 18 48 43.9 +2.4**
comp=Z,27nm,1.5s,SNR=9.9
F63A Nahmakanta, Br 26.94 276 P **P 18 48 43.0 +0.4**
F63A IAmb IAmb 18 49 34.5
comp=Z,55nm,1.5s
DAG Danmarks Havn 27.02 5 P **P 18 48 44.2 +1.2**
DAG Danmarks Havn 27.02 5 *i* P **P 18 48 44.0 +1.0**
DAG IAmb IAmb 18 48 44.6
comp=Z,41nm,1.6s
BRG Berggiesshubel 27.09 72 *e*P **P 18 48 44.9 +0.9**
BRG Amp 18 48 51.9
comp=Z,11nm,1.3s
BRG Amp 18 58 49.0
comp=Z,0.7nm,19.1s
BRG Amp 18 58 53.0
comp=N,0.4nm,20.1s
BRG Amp 18 58 54.0
comp=E,0.5nm,18.8s
BRG Berggiesshubel 27.09 72 *e*P **P 18 48 44.8 +0.9**
BRG pmax pmax
comp=Z,11nm,1.3s
BRG MLR MLR
comp=Z,710nm,19.1s
BRG MLR MLR
comp=N,420nm,20.1s
BRG MLR MLR
comp=E,540nm,18.8s
BRG Berggiesshubel 27.09 72 *e*P **P 18 48 44.8 +0.9**
comp=E,4.9nm,1.0s,baz=285,slow=8.8
PGF Pioggiola 27.13 92 *e*P **P 18 48 45.5 +1.0**
PGF pmax pmax
comp=Z,24nm,1.4s
CTI Castel Tesino 27.27 83 P **P 18 48 43.8 -1.9**
CTI pmax pmax
comp=Z,14nm,1.1s
CTI Castel Tesino 27.27 83 P **P 18 48 43.8 -1.9**
KHC Kasperske Hory 27.38 76 *i* P **P 18 48 47.9 +1.4**
KHC pmax pmax
comp=Z,12nm,1.5s
KHC Kasperske Hory 27.38 76 P **P 18 48 45.6 -1.0**
KHC Kasperske Hory 27.38 76 *e*P **P 18 48 48.2 +1.7**
KHC *ep*P **pwP 18 48 53.5 -0.7**
KHC AMS AMS 18 59 20.0
comp=Z,1μm,17.5s
VIKU Vikbolandet 27.48 55 *e*P **P 18 48 47.7 +0.4**
ABTA Abfaltersbach 27.54 81 *e*P **P 18 48 50.2 +2.1**
comp=Z,19nm,1.9s
GEC2 GERESS Array S 27.55 76 P **P 18 48 46.4 -1.8**
GEC2 GERESS Array S 27.55 76 *e*P **P 18 48 49.0 +0.9**
comp=Z,3.1nm,0.9s,baz=285,slow=8.8
GERES GERESS Array B 27.55 76 P **P 18 48 48.8 +0.7**
comp=Z,0.6nm,0.6s,baz=304,slow=7.2,SNR=8.2
GERES LR LR 18 59 23.7
comp=Z,814nm,18.4s,baz=308,slow=36
GERES GERESS Array B 27.55 76 P **P 18 48 46.7 -1.4**
GERES GERESS Array B 27.55 76 P **P 18 48 46.6 -1.4**
ZCCA Zocca 27.56 87 P **P 18 48 47.2 -1.0**
ZCCA IAmb IAmb 18 49 51.6
comp=Z,71nm,1.7s
TEOL Teolo 27.56 84 P **P 18 48 47.5 -0.7**
TEOL IAmb IAmb 18 48 51.2
comp=Z,25nm,0.8s
PVCC Panska Ves 27.57 72 AMS AMS 18 58 30.0
comp=Z,800nm,22.1s
PRU Pruhonice 27.71 73 *e*P **P 18 48 56.5 +7.1**
PRU MLR MLR
comp=Z,1μm,17.7s
PRU Pruhonice 27.71 73 *ep*P **P 18 48 56.5 +7.1**
PRU AMS AMS 18 59 10.0
comp=Z,1μm,17.7s
BIOA Bad Ischl, Aus 27.90 78 *i* P **P 18 48 52.1 +0.9**
comp=Z,20nm,1.5s,SNR=7.1
UPP Uppsala 27.92 52 *e*P **P 18 48 51.1 0.0**
CKRC Cesky Krumlov 27.93 76 *e*P **P 18 48 55.9 +4.4**
KBA Koelnbreinsper 27.95 80 *e*P **P 18 48 53.9 +2.1**
comp=Z,8.2nm,1.7s
G62A West of Eustis 28.06 276 P **P 18 48 52.1 -0.5**
G62A IAmb IAmb 18 49 04.4
comp=Z,50nm,1.4s
MOA Molln 28.24 78 *e*P **P 18 48 55.9 +1.7**
comp=Z,11nm,1.5s
MYKA Terra Mystica 28.31 80 *i* P **P 18 48 55.8 +0.9**
comp=Z,18nm,1.2s,SNR=7.6
UPC Upice 28.46 72 *e*P **P 18 49 00.0 +3.9**
UPC MLR MLR
comp=Z,500nm,17.8s
UPC Upice 28.46 72 *e*P **P 18 49 00.0 +3.9**
UPC AMS AMS 18 59 00.0
comp=Z,500nm,17.8s
CHVC Chvalec 28.46 71 *e*P **P 18 48 56.8 +0.6**
CHVC AMS AMS 19 01 00.0
comp=Z,700nm,15.2s
TREC Trest 28.51 74 AMS AMS 18 59 20.0
comp=Z,1μm,20.3s
KSP Ksiaz 28.53 71 P **P 18 49 01.4 +4.6**
OSTC Ostas 28.57 71 AMS AMS 19 01 00.0
comp=Z,700nm,14.0s
DPC Dobruska-Polom 28.69 72 *e*P **P 18 49 01.2 +2.9**
DPC MLR MLR
comp=Z,500nm,16.5s
DPC Dobruska-Polom 28.69 72 *e*P **P 18 49 01.2 +2.9**
DPC AMS AMS 18 59 20.0
comp=Z,500nm,16.5s
H62A Milan 28.74 275 P **P 18 48 58.1 -0.6**
H62A IAmb IAmb 18 49 29.9
comp=Z,70nm,1.6s
TRI Trieste 28.76 82 P **P 18 48 59.6 +0.8**
TRI pmax pmax
comp=Z,33nm,1.3s
TRI Trieste 28.76 82 P **P 18 48 59.6 +0.8**
CRNS Crni Vrh 28.92 81 *e*P **P 18 49 01.3 +0.9**
OBKA Obir 28.93 80 *e*P **P 18 48 59.7 -0.8**
comp=Z,22nm,1.4s
MURB Monte Urbino 29.05 88 P **P 18 48 58.6 -3.0**
KRLC Kraliky 29.06 72 *e*P **P 18 49 02.7 +1.2**
KRLC MLR MLR
comp=Z,800nm,20.5s
KRLC Kraliky 29.06 72 *e*P **P 18 49 02.7 +1.2**
KRLC AMS AMS 19 00 10.0
comp=Z,800nm,20.5s
KRUC Moravsky 29.15 74 *e*P **P 18 49 02.7 +0.4**
SOKA Soboth 29.17 80 *i* P **P 18 49 03.8 +1.2**
comp=Z,13nm,1.1s,SNR=7.4
VRAC Vranov 29.19 74 LR LR 19 00 34.9
comp=Z,1μm,18.2s,baz=292,slow=36
VRAC Vranov 29.19 74 *e*P **P 18 49 04.2 +1.6**
VNDS Vrh nad Dolski 29.19 81 *e*P **P 18 49 03.7 +1.0**
CONA Conrad Observa 29.21 77 *e*P **P 18 49 04.5 +1.5**
comp=Z,13nm,1.7s
PERS Pernice 29.24 80 *e*P **P 18 49 03.5 +0.3**
ARSA Arzberg 29.25 78 *e*P **P 18 49 04.9 +1.6**
comp=Z,7.3nm,1.2s
RONA Rosalia, Austr 29.57 77 *e*P **P 18 49 08.2 +2.1**
comp=Z,10nm,1.8s
MORC Moravsky Berou 29.62 72 ⇑P P 18 48 56.9 -10
MORC Moravsky Berou 29.62 72 P **P 18 49 06.2 -0.3**
MORC pmax pmax
comp=Z,13nm,1.3s
MORC Moravsky Berou 29.62 72 P **P 18 49 06.2 -0.3**
MORC Moravsky Berou 29.62 72 *e*P **P 18 49 07.4 +0.9**
NRCA Norcia 29.64 88 P **P 18 49 04.8 -2.0**
MNTQ Montreal, Queb 29.91 278 P **P 18 49 10.3 +1.3**
KLNR Kaliningrad 29.91 62 *i* P **P 18 49 08.6 -0.3**
KLNR pmax pmax
comp=Z,25nm,0.9s
RAF Rauma 29.94 49 *e*P **P 18 49 09.1 0.0**
HRV Adam Dziewonsk 29.96 272 P **P 18 49 09.9 +0.4**
baz=60
OKC Ostrava-Krasne 29.97 72 AMS AMS 19 00 10.0
comp=Z,800nm,22.5s
AQU L'Aquila 30.06 88 P **P 18 49 09.2 -1.3**
AQU pmax pmax
comp=Z,21nm,1.1s
AQU L'Aquila 30.06 88 P **P 18 49 09.2 -1.3**
TRQ Mont Tremblant 30.20 280 P **P 18 49 11.4 -0.3**
TRQ IAmb IAmb 18 49 14.1
comp=Z,29nm,1.2s
SLIT Slitere, Latvi 30.52 56 *e*P **P 18 49 13.2 -1.1**
MPLH Magyarpolny 30.55 77 P **P 18 49 12.4 -2.3**
UCCT U. Connecticut 30.75 271 P **P 18 49 15.9 -0.6**
OJC Ojcow 30.85 71 P **P 18 49 15.4 -1.9**
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 30.85 71 P **P 18 49 15.4 -1.9**
VYHS Vyhne 30.86 74 *e*P **P 18 49 17.9 +0.5**
VYHS Vyhne 30.86 74 *e*P **P 18 49 17.9 +0.5**
LONY Lake Ozonia 30.91 277 P **P 18 49 17.3 -0.6**
LONY Lake Ozonia 30.91 277 P **P 18 49 19.2 +1.3**
baz=63
NCB Newcomb 30.97 276 P **P 18 49 18.7 +0.2**
NCB IAmb IAmb 18 49 26.9
comp=Z,42nm,1.4s
MTSE Matsula 31.17 54 *e*P **P 18 49 20.3 +0.3**
KEST Kesra 31.23 103 P **P 18 49 21.9 +1.0**
comp=Z,5.8nm,0.8s,baz=231,slow=4.2,SNR=5.9
KEST LR LR 19 00 55.9
comp=Z,547nm,20.1s,baz=220,slow=34
KEST Kesra 31.23 103 P **P 18 49 20.6 -0.3**
KEST IAmb IAmb 18 49 33.9
comp=Z,63nm,1.6s
KEST Kesra 31.23 103 P **P 18 49 22.9 +2.0**
KEST P **P 18 49 22.9 +2.0**
VLDQ Val d'Or 31.27 285 P **P 18 49 22.7 +1.7**
VLDQ IAmb IAmb 18 49 30.0
comp=Z,60nm,1.9s
MEF Metsahovi 31.29 51 *e*P **P 18 49 21.6 +0.6**
NIE Niedzica 31.43 72 P **P 18 49 26.9 +4.4**
PAOL Paolisi 31.49 90 P **P 18 49 21.6 -1.4**
PAOL IAmb IAmb 18 49 44.1
comp=Z,42nm,1.9s
MORH Mrgy, Hungar 31.64 78 ⇓P **P 18 49 24.3 +0.1**
MORH Mrgy, Hungar 31.64 78 P **P 18 49 23.9 -0.4**
PSZ Piszkesteto 31.73 75 ⇑P **P 18 49 26.9 +1.7**
PSZ Piszkesteto 31.73 75 P **P 18 49 24.5 -0.7**
PSZ pmax pmax
comp=Z,31nm,1.5s
PSZ Piszkesteto 31.73 75 P **P 18 49 24.5 -0.7**
PSZ IAmb IAmb 18 49 34.1
comp=Z,31nm,1.5s
PSZ Piszkesteto 31.73 75 P **P 18 49 26.2 +1.0**
SUW Suwalki 31.74 63 P **P 18 49 23.9 -1.2**
SUW pmax pmax
comp=Z,46nm,1.0s
SUW Suwalki 31.74 63 P **P 18 49 23.9 -1.2**
SUW IAmb IAmb 18 49 44.3
comp=Z,46nm,1.0s
SUW Suwalki 31.74 63 *e*P **P 18 49 25.1 0.0**
NOR Nord 31.81 3 *i* P **P 18 49 26.4 +0.9**
NOR IAmb IAmb 18 49 27.5
comp=Z,19nm,1.3s
PABE Paberze 31.83 60 P **P 18 49 25.5 -0.3**
PABE IAmb IAmb 18 49 33.7
comp=Z,55nm,1.2s
PABE Paberze 31.83 60 *e*P **P 18 49 26.7 +0.9**
SGRT San Giovanni R 31.87 88 P **P 18 49 25.8 -0.6**
SGRT IAmb IAmb 18 49 51.1
comp=Z,48nm,1.1s
J58A Remsen 31.94 276 P **P 18 49 26.6 -0.5**
J58A IAmb IAmb 18 49 42.4
comp=Z,51nm,1.6s
FINES FINESS Array B 32.00 48 P **P 18 49 27.9 +0.6**
comp=Z,5.5nm,0.8s,baz=261,slow=7.3,SNR=15
FINES LR LR 19 01 34.1
comp=Z,1μm,19.7s,baz=270,slow=35
FINES FINESS Array B 32.00 48 P **P 18 49 24.9 -2.3**
FINES FINESS Array B 32.00 48 P **P 18 49 24.9 -2.3**
FIA1 FINESS Array S 32.00 48 P **P 18 49 24.4 -2.9**
FIA1 IAmb IAmb 18 49 39.9
comp=Z,29nm,1.3s
ARCES ARCESS Array B 32.02 33 P **P 18 49 27.6 +0.2**
comp=Z,8.7nm,0.6s,baz=249,slow=8.2,SNR=66
ARCES LR LR 19 00 58.7
comp=Z,124nm,20.6s,baz=242,slow=34
ARCES ARCESS Array B 32.02 33 P **P 18 49 25.7 -1.7**
ARCES pmax pmax
comp=Z,103nm,1.9s
ARCES ARCESS Array B 32.02 33 P **P 18 49 25.7 -1.7**
PAL Palisades 32.24 271 P **P 18 49 30.1 +0.4**
baz=58
CRVS Cervenica-Dubn 32.33 72 *e*P **P 18 49 30.4 +0.1**
CRVS Cervenica-Dubn 32.33 72 *e*P **P 18 49 30.4 +0.1**
SPITS Spitsbergen Ar 32.61 16 P **P 18 49 33.4 +0.9**
comp=Z,8.0nm,0.9s,baz=240,slow=6.7,SNR=4.8
SPITS LR LR 18 59 21.5
comp=Z,370nm,21.2s,baz=54,slow=30
VSU Vasula 32.72 54 *i* P **P 18 49 34.1 +0.5**
VSU pmax pmax
comp=Z,30nm,0.9s
VSU Vasula 32.72 54 *e*P **P 18 49 33.8 +0.2**
PECO Prince Edward 32.76 278 P **P 18 49 34.8 +0.7**
PECO IAmb IAmb 18 49 37.7
comp=Z,23nm,0.9s
KWP Kalwaria Pacla 32.82 71 P **P 18 49 34.7 +0.1**
KWP pmax pmax
comp=Z,357nm,1.6s
KWP Kalwaria Pacla 32.82 71 P **P 18 49 34.7 +0.1**
FRGS Fruska Gora 32.83 80 ⇑P **P 18 49 34.6 -0.2**
DELO Deloro Mine 32.88 279 P **P 18 49 35.6 +0.4**
DELO IAmb IAmb 18 49 43.5
comp=Z,39nm,1.1s
UZH Uzhgorod 32.94 72 *e*P **P 18 49 33.0 -2.6**
UZH *e* 18 49 35.8
UZH *e* 18 49 40.2
BINY Binghamton 32.96 274 P **P 18 49 37.0 +1.1**
baz=60
J56A Wolcott 32.99 277 P **P 18 49 37.8 +1.7**
K57A Scipio Center 33.04 276 P **P 18 49 37.1 +0.5**
MATE Matera 33.06 89 ⇓P **P 18 49 36.7 -0.1**
TRPA Tarpa 33.28 73 ⇓P **P 18 49 40.0 +1.3**
TRPA Tarpa 33.28 73 P **P 18 49 38.9 +0.2**
VAE Valguarnera 33.38 95 LR LR 19 03 08.6
comp=Z,300nm,18.1s,baz=244,slow=36
DIVS Divibare 33.44 81 P **P 18 49 38.8 -1.4**
N59A State Game Lan 33.49 272 P **P 18 49 42.2 +1.7**
baz=58
NACGM Naroch 33.54 60 ⇓*e*P **P 18 49 41.8 +1.0**
LVV L'vov 33.55 70 *e*P **P 18 49 41.0 0.0**
SADO Sadowa 33.73 280 LR LR 19 02 21.1
comp=Z,645nm,18.2s,baz=165,slow=34
SADO Sadowa 33.73 280 P **P 18 49 42.6 0.0**
SADO IAmb IAmb 18 49 50.2
comp=Z,38nm,1.2s
BZS Buzias 33.77 78 ⇓P **P 18 49 45.1 +2.2**
BZS Buzias 33.77 78 ⇓P **P 18 49 45.1 +2.2**
PDG Podgorica 33.78 84 ⇑P **P 18 49 43.7 +0.7**
PDG Podgorica 33.78 84 P **P 18 49 41.8 -1.2**
PDG IAmb IAmb 18 49 51.1
comp=Z,26nm,1.2s
WUPA West Chester U 33.91 271 P **P 18 49 45.3 +1.1**
WUPA IAmb IAmb 18 49 55.3
comp=Z,31nm,1.6s
MMNY Mt. Morris Dam 33.92 277 P **P 18 49 43.9 -0.4**
MMNY IAmb IAmb 18 49 53.4
comp=Z,28nm,1.0s
L56A Greenwood 34.00 275 P **P 18 49 45.4 +0.4**
L56A IAmb IAmb 18 50 14.9
comp=Z,46nm,1.4s
BMR Baia Mare 34.06 73 ⇓P **P 18 49 48.0 +2.6**
BMR Baia Mare 34.06 73 ⇓P **P 18 49 48.0 +2.6**
J54A Appleton 34.12 278 P **P 18 49 45.6 -0.4**
J54A IAmb IAmb 18 50 18.5
comp=Z,22nm,0.8s
N58A Sunbury 34.13 273 P **P 18 49 47.3 +1.2**
N58A IAmb IAmb 18 49 49.5
comp=Z,65nm,1.6s
M57A Sunshine Farm, 34.14 274 P **P 18 49 46.9 +0.7**
MDVR Moldovita 34.21 79 ⇓P **P 18 49 47.5 +0.7**
MNK Minsk 34.26 60 *i* P **P 18 49 46.5 -0.5**
MNK *i* 18 51 00.2
MNK *i* 18 52 23.5
MNK *i* S **S 18 55 12.5 -0.9**
MNK *i* SS **SnSn 18 57 22.3 +0.2**
MNK *i* 19 00 10.7
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=N,15nm,0.9s
MNK MLR MLR
comp=Z,616nm,17.0s
MNK MLR MLR
comp=E,44nm,17.0s
MNK MLR MLR
comp=N,503nm,16.0s
MNK Minsk 34.26 60 *i* P **P 18 49 46.6 -0.5**
comp=E,2.0nm,0.8s
MNK *i* P **P 18 49 46.6 -0.5**
comp=N,15nm,0.9s
MNK *i* P **P 18 49 46.6 -0.5**

comp=Z,15nm,0.8s,baz=109
MNK *i* PP **PnPn** **18 51 00.2 -0.9**
MNK *i* PPP PPP 18 51 11.7
MNK *i* S **S** **18 55 12.6 -0.9**
MNK *i* SS **SnSn** **18 57 22.3 +0.2**
MNK *i* SSS SSS 18 57 38.1
MNK *i* LR LR 19 00 58.7
MNK *i* LRM MLR 19 04 26.4
comp=Z,616nm,17.2s
MNK *i* LRM MLR 19 04 33.8
comp=E,44nm,17.2s
MNK *i* LRM MLR 19 04 38.5
comp=N,503nm,15.9s
SCTE Santa Cesarea 34.51 88 P **P** **18 49 48.8 -0.6**
SCTE IAmb IAmb 18 49 57.1
comp=Z,34nm,1.1s
WVNY West Valley, N 34.53 276 P **P** **18 49 49.3 -0.3**
HERR Herculane 34.60 78 ⇑P **P** **18 49 50.3 +0.1**
R61A Willards 34.64 268 P **P** **18 49 50.9 +0.4**
TIR Tirane 34.72 86 ⇓P **P** **18 49 55.5 +4.2**
TIR Tirane 34.72 86 P **P** **18 49 51.0 -0.3**
TIR pmax pmax
comp=Z,53nm,1.4s
TIR Tirane 34.72 86 P **P** **18 49 51.0 -0.3**
TIR IAmb IAmb 18 50 04.7
comp=Z,53nm,1.4s
BOVS Bovan 34.74 81 ⇑P **P** **18 49 52.4 +1.0**
APA Apatity 34.80 37 ⇑*i*P **P** **18 49 50.3 -1.3**
APA pmax pmax
comp=Z,14nm,0.9s
APA MLR MLR
comp=Z,300nm,13.0s
ARCR ARCALIA 34.83 74 ⇑P **P** **18 49 53.7 +1.5**
SSPA Standing Stone 35.00 273 P **P** **18 49 55.2 +1.6**
baz=57
BUR08 Bucovina Ar. S 35.12 73 P **P** **18 49 53.8 -0.9**
M55A Ridgway 35.12 275 P **P** **18 49 55.6 +0.9**
M55A IAmb IAmb 18 50 03.7
comp=Z,31nm,1.1s
BURAR Bucovina Array 35.14 73 ⇓P **P** **18 49 57.4 +2.5**
BURAR Bucovina Array 35.14 73 ⇓P **P** **18 49 57.4 +2.5**
BURAR Bucovina Array 35.14 73 P **P** **18 49 54.9 0.0**
LVZ Lovozero 35.27 36 P **P** **18 49 56.1 +0.4**
LVZ pmax pmax
comp=Z,39nm,0.9s
LVZ Lovozero 35.27 36 P **P** **18 49 56.1 +0.4**
LVZ IAmb IAmb 18 50 04.0
comp=Z,39nm,0.9s
EUNU Eureka 35.46 345 P **P** **18 49 57.4 +0.1**
EUNU IAmb IAmb 18 49 59.6
comp=Z,64nm,1.7s
ERPA Erie 35.56 277 P **P** **18 50 00.0 +1.5**
baz=59
O56A Blue Knob Stat 35.63 273 P **P** **18 49 59.4 +0.2**
O56A IAmb IAmb 18 50 07.8
comp=Z,32nm,1.5s
O56A Blue Knob Stat 35.63 273 P **P** **18 50 00.3 +1.2**
baz=57
M54A Oil Creek Stat 35.67 276 P **P** **18 50 00.4 +0.9**
M54A Oil Creek Stat 35.67 276 P **P** **18 50 00.6 +1.2**
baz=58
KBN Korca 35.70 86 P **P** **18 50 00.1 +0.4**
KBN pmax pmax
comp=Z,48nm,1.2s
KBN Korca 35.70 86 P **P** **18 50 00.1 +0.4**
KBN IAmb IAmb 18 50 08.9
comp=Z,48nm,1.2s
P57A Homestead Farm 35.71 272 P **P** **18 49 58.6 -1.1**
P57A IAmb IAmb 18 50 08.2
comp=Z,45nm,1.5s
DOPR Dopca 35.97 75 ⇑P **P** **18 50 03.2 +1.3**
VOIR 36.00 76 ⇑P **P** **18 50 04.1 +1.8**
VOIR 36.00 76 ⇑P **P** **18 50 04.1 +1.8**
RES Resolute Bay 36.07 336 P **P** **18 50 03.1 +0.7**
comp=Z,7.4nm,1.1s,baz=106,slow=8.3,SNR=15
RES LR LR 19 03 41.0
comp=Z,161nm,18.3s,baz=85,slow=34
RES Resolute Bay 36.07 336 P **P** **18 50 02.6 +0.2**
RES pmax pmax
comp=Z,40nm,1.6s
RES Resolute Bay 36.07 336 P **P** **18 50 02.6 +0.2**
RES IAmb IAmb 18 50 04.8
comp=Z,40nm,1.6s
OZUR 36.16 75 ⇓P **P** **18 50 04.6 +1.0**
N54A Moraine State 36.17 275 P **P** **18 50 04.1 +0.4**
N54A IAmb IAmb 18 50 12.6
comp=Z,49nm,1.1s
N54A Moraine State 36.17 275 P **P** **18 50 04.6 +0.8**
baz=58
VTS Vitosha 36.22 81 ⇓P **P** **18 50 05.6 +1.3**
VTS Vitosha 36.22 81 P **P** **18 50 04.1 -0.2**
VTS pmax pmax
comp=Z,7.0nm,1.0s
VTS Vitosha 36.22 81 P **P** **18 50 04.0 -0.2**
AKASG Malin Array Be 36.31 66 P **P** **18 50 03.9 -0.9**
comp=Z,2.6nm,0.6s,baz=292,slow=8.2,SNR=16
AKASG LR LR 19 05 26.5
comp=Z,722nm,19.6s,baz=287,slow=37
AKASG Malin Array Be 36.31 66 P **P** **18 50 04.3 -0.5**
AKASG pmax pmax
comp=Z,10.0nm,1.9s
AKASG Malin Array Be 36.31 66 P **P** **18 50 04.3 -0.5**
AKBB Malin Array Si 36.31 66 P **P** **18 50 03.5 -1.3**
AKBB pmax pmax
comp=Z,32nm,1.5s
AKBB Malin Array Si 36.31 66 P **P** **18 50 03.5 -1.3**
M53A WI Miller and 36.36 276 P **P** **18 50 04.5 -0.7**
M53A IAmb IAmb 18 50 13.7
comp=Z,50nm,1.3s
M53A WI Miller and 36.36 276 P **P** **18 50 05.8 +0.5**
baz=58
MLR Muntele Rosu 36.53 76 ⇑P **P** **18 50 07.9 +1.0**
MLR Muntele Rosu 36.53 76 LR LR 19 04 23.1
comp=Z,404nm,20.8s,baz=310,slow=35
MLR Muntele Rosu 36.53 76 P **P** **18 50 05.8 -1.1**
MLR pmax pmax
comp=Z,8.0nm,1.1s
MLR Muntele Rosu 36.53 76 P **P** **18 50 05.8 -1.1**
JSRW J. Sargeant Re 36.64 269 P **P** **18 50 08.5 +0.8**
Q56A Snyder Ridge, 36.71 272 P **P** **18 50 09.8 +1.5**
baz=56
Q56A P **P** **18 50 09.8 +1.5**
baz=56
M52A Chesterland 36.74 277 P **P** **18 50 08.9 +0.4**
MCWV Mont Chateau 36.79 273 P **P** **18 50 10.4 +1.4**
MCWV Mont Chateau 36.79 273 P **P** **18 50 10.0 +1.0**
baz=56
N53A Lisbon 36.80 276 P **P** **18 50 09.2 +0.1**
N53A IAmb IAmb 18 50 17.9
comp=Z,43nm,1.1s
N53A Lisbon 36.80 276 P **P** **18 50 11.6 +2.5**
baz=57,SNR=5.7
N53A P **P** **18 50 11.6 +2.5**
baz=57,SNR=5.7
PLOR Plostina 36.80 75 ⇓P **P** **18 50 11.0 +1.9**
PLOR Plostina 36.80 75 ⇓P **P** **18 50 11.0 +1.9**
SORM Soroca 36.83 70 ⇓P **P** **18 50 07.8 -1.4**
SORM Soroca 36.83 70 ⇓P **P** **18 50 07.8 -1.4**
O54A Avella 36.84 274 P **P** **18 50 10.0 +0.5**
O54A IAmb IAmb 18 50 18.2
comp=Z,36nm,1.2s
O54A Avella 36.84 274 P **P** **18 50 11.5 +2.0**
baz=57
O54A P **P** **18 50 11.5 +2.0**
baz=57
VRI Vrincioaia 36.84 75 ⇑P **P** **18 50 10.3 +0.9**
VRI Vrincioaia 36.84 75 ⇑P **P** **18 50 10.3 +0.9**
T59A Double "B" Far 36.86 268 P **P** **18 50 10.5 +0.9**
K50A Casco 36.91 280 P **P** **18 50 09.6 -0.3**
K50A IAmb IAmb 18 50 18.5
comp=Z,27nm,0.8s
LIT Litokhoron 37.08 85 P **P** **18 50 08.9 -2.5**
LIT pmax pmax
comp=Z,14nm,1.1s
LIT Litokhoron 37.08 85 P **P** **18 50 08.9 -2.5**
ISR Istrita 37.08 76 ⇑P **P** **18 50 15.1 +3.6**
ISR Istrita 37.08 76 ⇑P **P** **18 50 15.1 +3.6**
S57A Dark Hollow, R 37.29 270 P **P** **18 50 13.9 +0.6**
FCC Fort Churchill 37.32 309 P **P** **18 50 13.6 +0.3**
FCC pmax pmax
comp=Z,17nm,1.1s
FCC Fort Churchill 37.32 309 P **P** **18 50 13.6 +0.3**
O53A New Philadelph 37.34 275 P **P** **18 50 14.2 +0.5**
O53A IAmb IAmb 18 50 22.7
comp=Z,69nm,1.2s
O53A New Philadelph 37.34 275 P **P** **18 50 14.1 +0.5**
baz=57,SNR=6.4
AGG Agios Georgios 37.57 87 P **P** **18 50 14.5 -1.2**
AGG pmax pmax
comp=Z,17nm,1.1s
AGG Agios Georgios 37.57 87 P **P** **18 50 14.5 -1.2**
MILM Milestii Mici 37.65 72 *e* **P** **18 50 13.0 -3.2**
MILM Milestii Mici 37.65 72 PM 18 50 27.0
comp=Z,200nm,4.8s
MILM *eL* L 19 00 59.0
MILM LRM MLR 19 05 01.0
comp=Z,500nm,19.0s
VLDR Vladesti 37.69 74 ⇑P **P** **18 50 14.7 -1.9**
N51A Ashland 37.72 277 P **P** **18 50 17.2 +0.4**
N51A IAmb IAmb 18 50 20.2
comp=Z,102nm,1.8s
R55A Marlinton 37.74 272 P **P** **18 50 17.8 +0.6**
R55A Marlinton 37.74 272 P **P** **18 50 18.2 +1.0**
baz=55
R55A P **P** **18 50 18.2 +1.0**
baz=55
Q54A Coxs Mills 37.80 273 P **P** **18 50 16.4 -1.1**
Q54A IAmb IAmb 18 50 21.1
comp=Z,57nm,1.5s
AAM Ann Arbor 37.80 280 P **P** **18 50 17.8 +0.2**
AAM pmax pmax
comp=Z,22nm,0.9s
AAM Ann Arbor 37.80 280 P **P** **18 50 17.8 +0.2**
O52A Adamsville 37.81 275 P **P** **18 50 17.6 0.0**
O52A IAmb IAmb 18 50 26.7
comp=Z,53nm,1.1s
O52A Adamsville 37.81 275 P **P** **18 50 19.7 +2.0**
baz=56,SNR=6.5
O52A P **P** **18 50 19.7 +2.0**
baz=56,SNR=6.5
P53A Whipple 37.87 274 P **P** **18 50 17.7 -0.4**
P53A Whipple 37.87 274 P **P** **18 50 19.4 +1.3**
baz=56,SNR=8.3
P53A P **P** **18 50 19.4 +1.3**
baz=56,SNR=8.3
M50A Fremont 37.88 278 P **P** **18 50 18.4 +0.1**
M50A IAmb IAmb 18 50 26.9
comp=Z,30nm,0.8s
T57A Hurt 37.94 269 P **P** **18 50 18.9 +0.2**
CFR Carcaliu 38.04 75 ⇓P **P** **18 50 18.9 -0.6**
CFR Carcaliu 38.04 75 ⇓P **P** **18 50 18.9 -0.6**
J47A Sunmer 38.06 282 P **P** **18 50 20.5 +0.7**
J47A IAmb IAmb 18 50 28.6
comp=Z,34nm,1.2s
HARR Harsova 38.15 76 ⇑P **P** **18 50 19.9 -0.5**
HARR Harsova 38.15 76 ⇑P **P** **18 50 19.9 -0.5**
P52A Corning 38.27 275 P **P** **18 50 22.6 +1.1**
P52A IAmb IAmb 18 50 30.3
comp=Z,47nm,1.1s
P52A Corning 38.27 275 P **P** **18 50 22.4 +0.9**
baz=56
ITM Ithomi 38.38 90 P **P** **18 50 20.2 -2.3**
ITM IAmb IAmb 18 50 38.7
comp=Z,73nm,1.6s
ACSO Alum Creek Sta 38.48 276 P **P** **18 50 23.5 +0.2**
ACSO Alum Creek Sta 38.48 276 P **P** **18 50 25.6 +2.3**
baz=56
ACSO Alum Creek Sta 38.48 276 P **P** **18 50 24.3 +1.0**
baz=56
KLMR Klimovskoe 38.50 47 *eP* **P** **18 50 22.7 -0.5**
KLMR *e* 18 52 34.4
KLMR pmax pmax
comp=Z,45nm,1.3s
KLMR Klimovskoe 38.50 47 *eP* **P** **18 50 22.7 -0.5**
KLMR AMP 18 50 26.6
comp=Z,45nm,1.3s
KLMR *ePcP* **PcP** **18 52 34.4 -1.3**
KLMR LQ LQ 19 03 12.8
KLMR LQ LQ 19 03 12.8
KLMR LR LR 19 03 41.6
BLA Blacksburg 38.56 270 P **P** **18 50 25.3 +1.2**
baz=54
Q52A Bidwell 38.73 274 P **P** **18 50 24.5 -0.9**
Q52A IAmb IAmb 18 50 34.1
comp=Z,73nm,1.4s
Q52A Bidwell 38.73 274 P **P** **18 50 27.0 +1.6**
baz=55,SNR=6.5
Q52A P **P** **18 50 27.0 +1.6**
baz=55,SNR=6.5
S54A Dingess, Beckl 38.79 272 P **P** **18 50 23.8 -2.2**
S54A IAmb IAmb 18 50 29.4
comp=Z,81nm,1.7s
OBN Obninsk 38.83 57 LR LR 19 05 31.6
comp=Z,135nm,21.3s,baz=335,slow=35
OBN Obninsk 38.83 57 *deP* **P** **18 50 26.3 +0.3**
OBN *eS* **S** **18 56 28.7 +5.8**
OBN pmax pmax
comp=Z,48nm,1.3s
OBN MLR MLR
comp=Z,550nm,21.0s
N49A Columbus Grove 38.87 278 P **P** **18 50 24.4 -2.2**
N49A IAmb IAmb 18 50 29.9
comp=Z,64nm,1.4s
N49A Columbus Grove 38.87 278 P **P** **18 50 28.3 +1.8**
baz=57,SNR=6.3
N49A P **P** **18 50 28.3 +1.8**
baz=57,SNR=6.3
R53A Hurricane 38.89 273 P **P** **18 50 25.5 -1.3**
R53A IAmb IAmb 18 50 31.1
comp=Z,86nm,1.7s
ALN Alexandroupoli 38.91 82 P **P** **18 50 24.0 -2.9**
ALN pmax pmax
comp=Z,28nm,1.5s
ALN Alexandroupoli 38.91 82 P **P** **18 50 24.0 -2.9**
P51A Williamsport 38.95 275 P **P** **18 50 26.6 -0.6**
P51A Williamsport 38.95 275 P **P** **18 50 29.1 +1.9**
baz=56
P51A P **P** **18 50 29.1 +1.9**
baz=56
U56A King 39.05 269 P **P** **18 50 27.2 -1.0**
MOS Moscow 39.17 55 *eP* P 18 50 21.1 -7.7
MOS pmax pmax
comp=Z,40nm,0.6s
COWI Conover 39.34 288 P **P** **18 50 29.6 -0.8**
O49A Covington 39.37 277 P **P** **18 50 30.2 -0.5**
O49A IAmb IAmb 18 50 39.3
comp=Z,60nm,1.2s
O49A Covington 39.37 277 P **P** **18 50 32.7 +2.0**
baz=56
O49A P **P** **18 50 32.7 +2.0**
baz=56
Q51A Peebles 39.39 275 P **P** **18 50 31.3 +0.4**
O48B Farmland 39.85 278 P **P** **18 50 35.9 +1.2**
baz=56
O48B Farmland 39.85 278 P **P** **18 50 35.6 +0.8**
baz=56
V55A Taylorsville 39.89 269 P **P** **18 50 34.3 -0.8**
V55A Taylorsville 39.89 269 P **P** **18 50 38.2 +3.1**
baz=52
V55A P **P** **18 50 38.2 +3.1**
baz=52
EYMN Ely 39.90 292 P **P** **18 50 34.3 -0.8**
EYMN Ely 39.90 292 P **P** **18 50 35.7 +0.6**
baz=62,SNR=7.2
EYMN Ely 39.90 292 P **P** **18 50 35.7 +0.6**
baz=62,SNR=7.2
P49A Miami Univ. Ec 39.98 277 P **P** **18 50 35.5 -0.3**
P49A Miami Univ. Ec 39.98 277 P **P** **18 50 36.1 +0.3**
baz=56
BIRD Birdtown, Kers 40.15 267 P **P** **18 50 36.9 -0.4**
S51A Beattyville 40.35 273 P **P** **18 50 38.3 -0.6**
S51A Beattyville 40.35 273 P **P** **18 50 39.8 +0.9**
baz=54
S51A P **P** **18 50 39.8 +0.9**
baz=54
G40A Rib Lake 40.39 287 P **P** **18 50 38.7 -0.5**
G40A Rib Lake 40.39 287 P **P** **18 50 40.4 +1.2**
baz=60
R50A Paris 40.44 275 P **P** **18 50 38.4 -1.3**
R50A IAmb IAmb 18 50 48.4
comp=Z,60nm,1.3s
R50A Paris 40.44 275 P **P** **18 50 40.9 +1.2**
baz=54,SNR=7.3
R50A P **P** **18 50 40.9 +1.2**
baz=54,SNR=7.3
P48A Milroy 40.47 277 P **P** **18 50 39.7 -0.2**
P48A Milroy 40.47 277 P **P** **18 50 41.0 +1.1**
baz=55
P48A P **P** **18 50 41.0 +1.1**
baz=55
L44A Lake County Fo 40.56 282 P **P** **18 50 41.3 +0.7**
baz=58
E38A The Farm, Brul 40.56 290 P **P** **18 50 40.0 -0.6**
E38A IAmb IAmb 18 50 48.4
comp=Z,76nm,1.8s
APE Apeiranthos 40.76 87 *i* P **P** **18 50 43.8 +1.4**
APE pmax pmax
comp=Z,24nm,1.1s
NHSC New Hope 40.94 265 P **P** **18 50 45.1 +1.3**
baz=50
TZTN Tazewell 40.97 272 P **P** **18 50 44.7 +0.6**
TZTN IAmb IAmb 18 50 52.9
comp=Z,48nm,1.2s
TZTN Tazewell 40.97 272 P **P** **18 50 46.3 +2.2**
baz=53,SNR=7.4
TZTN Tazewell 40.97 272 P **P** **18 50 46.1 +2.1**
baz=53,SNR=7.4
R49A Shelbyville 40.98 275 P **P** **18 50 44.5 +0.4**
R49A IAmb IAmb 18 50 52.7
comp=Z,45nm,1.3s
KOWA Kowa 41.00 141 P **P** **18 50 43.4 -1.1**
KOWA IAmb IAmb 18 50 47.1
comp=Z,91nm,2.0s
SFIN Lafayette 41.02 279 P **P** **18 50 45.0 +0.6**
SFIN IAmb IAmb 18 50 46.7
comp=Z,116nm,1.8s
SFIN Lafayette 41.02 279 P **P** **18 50 45.2 +0.8**
baz=56
B35A Bob, Littlefor 41.03 293 P **P** **18 50 45.3 +0.9**
baz=62
PRGR Permogore 41.08 45 *eP* **P** **18 50 45.0 +0.4**
LPSR Galich'ya Gora 41.09 59 *eP* **P** **18 50 44.0 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR MLR MLR
comp=Z,410nm,17.0s
ULM Lac du Bonnet 41.42 297 P **P** **18 50 48.0 +0.5**
comp=Z,2.8nm,0.7s,baz=50,slow=10,SNR=4.8
ULM LR LR 19 06 12.3
comp=Z,253nm,19.5s,baz=91,slow=34
V52A Sevierville 41.42 271 P **P** **18 50 47.2 -0.6**
V52A Sevierville 41.42 271 P **P** **18 50 49.2 +1.3**
baz=52,SNR=6.5
T50A Nancy 41.51 274 P **P** **18 50 48.1 -0.4**
T50A IAmb IAmb 18 50 52.2
comp=Z,92nm,1.8s
T50A Nancy 41.51 274 P **P** **18 50 50.4 +1.9**
baz=53
T50A P **P** **18 50 50.4 +1.9**
baz=53
BG3 Lake Jocassee 41.52 270 P **P** **18 50 47.9 -0.7**
JFWS Jewell Farm 41.63 284 P **P** **18 50 49.4 0.0**
baz=58
VORR Voronezh 41.65 61 *eP* **P** **18 50 50.8 +1.4**
VORR pmax pmax
comp=Z,40nm,0.4s
TKL Tuckaleechee C 41.65 271 LR LR 19 06 42.2
comp=Z,391nm,21.9s,baz=66,slow=34
VSR Storozhevoye 41.83 61 *eP* **P** **18 50 50.5 -0.4**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR MLR MLR
comp=Z,610nm,20.0s
V51A Loudon 41.93 272 P **P** **18 50 50.7 -1.2**
SPMN Marine on St. 42.01 289 P **P** **18 50 52.5 +0.1**
baz=59
VORD Divnogorie 42.01 61 *eP* **P** **18 50 48.6 -3.8**
VORD pmax pmax
comp=Z,5.0nm,0.6s
W52A Murphy 42.10 271 P **P** **18 50 53.4 0.0**
W52A IAmb IAmb 18 50 56.7
comp=Z,47nm,1.6s
F36A Milaca 42.12 290 P **P** **18 50 54.0 +0.6**
baz=60,SNR=6.4
HDIL Hopedale 42.31 281 P **P** **18 50 55.6 +0.6**
baz=56
AGMN Agassiz Nation 42.32 294 P **P** **18 50 55.2 +0.2**
baz=61
U49A Red Boiling Sp 42.42 274 P **P** **18 50 57.4 +1.5**
baz=53,SNR=9.9
L40A Anamosa 42.69 284 IAmb IAmb 18 51 06.5
comp=Z,35nm,1.1s
L40A Anamosa 42.69 284 P **P** **18 50 59.6 +1.5**
baz=57,SNR=7.2
FFC Flin Flon 42.81 305 P **P** **18 50 58.6 -0.3**
FFC pmax pmax
comp=Z,12nm,1.3s
FFC Flin Flon 42.81 305 P **P** **18 50 58.6 -0.3**
GOGA Godfrey 42.86 268 P **P** **18 51 00.5 +1.0**
baz=60
W50A Signal Mountai 42.92 272 IAmb IAmb 18 51 03.7
comp=Z,48nm,1.4s
W50A Signal Mountai 42.92 272 P **P** **18 51 01.9 +1.8**
baz=52,SNR=7.2
P43A Skaggs, Pawnee 42.97 280 P **P** **18 50 59.4 -1.0**
P43A IAmb IAmb 18 51 08.7
comp=Z,22nm,0.7s
T47A Sharon Grove 42.98 275 P **P** **18 51 02.1 +1.6**
baz=53
X51A Calhoun 43.02 271 P **P** **18 51 03.1 +2.3**
baz=51
X51A P **P** **18 51 03.1 +2.3**
baz=51
Q44A Meyer Farm, Va 43.08 279 P **P** **18 51 00.5 -0.7**
Q44A IAmb IAmb 18 51 09.6
comp=Z,62nm,1.1s
Q44A Meyer Farm, Va 43.08 279 P **P** **18 51 03.0 +1.7**
baz=54,SNR=8.1
N41A Harden Midland 43.21 282 IAmb IAmb 18 51 10.7
comp=Z,68nm,1.1s
VRH Novokhopyorsk 43.26 60 *eP* **P** **18 51 02.2 -0.3**
VRH pmax pmax
comp=Z,20nm,1.0s
VRH MLR MLR
comp=Z,570nm,20.0s
SWET Sewanee 43.31 272 IAmb IAmb 18 51 06.5
comp=Z,53nm,1.5s
SJG San Juan 43.55 236 LR LR 19 05 10.2
comp=Z,269nm,22.0s,baz=34,slow=31
V48A Smith Brothers 43.56 273 IAmb IAmb 18 51 08.6
comp=Z,64nm,1.4s
V48A Smith Brothers 43.56 273 P **P** **18 51 07.2 +2.1**
baz=52,SNR=7.8
ANN Anapa 43.93 70 *eP* **P** **18 51 05.3 -2.7**
ANN *e*PP* **pP** **18 51 08.9 -2.4**
ANN *eS* **S** **18 57 32.9 -6.0**
ANN pmax pmax
comp=Z,30nm,0.9s
ANN MLR MLR
comp=Z,735nm,18.0s
S44A Carbondale 43.94 277 P **P** **18 51 09.8 +1.6**
baz=53,SNR=7.7
WVT Waverly 43.97 275 P **P** **18 51 08.9 +0.5**
WVT pmax pmax
comp=Z,49nm,1.5s
WVT Waverly 43.97 275 P **P** **18 51 08.8 +0.5**
WVT IAmb IAmb 18 51 11.5
comp=Z,49nm,1.4s
WVT Waverly 43.97 275 P **P** **18 51 10.0 +1.6**
baz=52,SNR=9.4
WVT Waverly 43.97 275 P **P** **18 51 09.0 +0.5**
baz=52
KIRV Kirov 43.99 48 LR LR 19 09 13.4
comp=Z,637nm,18.4s,baz=303,slow=36
KIRV Kirov 43.99 48 *ceP* **P** **18 51 08.7 +0.4**
SCIA State Center 44.02 285 P **P** **18 51 08.6 -0.2**
baz=56
152A Waverly Hall 44.14 268 IAmb IAmb 18 51 13.3
comp=Z,35nm,1.5s
TIGA Tifton 44.22 266 P **P** **18 51 11.4 +0.9**
baz=48
BR131 Keskin Array S 44.38 79 P **P** **18 51 13.7 +1.8**
BR131 P **P** **18 51 13.7 +1.8**
BRTR Keskin Array B 44.38 79 P **P** **18 51 12.4 +0.5**
comp=Z,1.7nm,0.6s,baz=297,slow=5.4,SNR=13
BRTR PcP **PcP** **18 52 55.9 +0.3**
comp=Z,1.1nm,0.8s,baz=309,slow=2.8,SNR=2.7
BRTR LR LR 19 11 03.1
comp=Z,421nm,18.5s,baz=309,slow=38
BRTR Keskin Array B 44.38 79 P **P** **18 51 10.8 -1.1**
BRTR 18 52 55.9
BRTR Keskin Array B 44.38 79 P **P** **18 51 10.8 -1.1**
Y49A Blount Mountai 44.47 271 IAmb IAmb 18 51 15.8
comp=Z,36nm,1.4s
X48A Hartselle 44.50 272 IAmb IAmb 18 51 21.2
comp=Z,28nm,1.2s
X48A Hartselle 44.50 272 P **P** **18 51 14.8 +2.0**

baz=51
FVM French Village 44.51 279 lAmb lAmb 18 51 21.1
comp=Z,46nm,1.0s
FVM French Village 44.51 279 P **P** **18 51 14.2 +1.4**
baz=53,SNR=14
P40A Paris 44.63 281 lAmb lAmb 18 51 21.7
comp=Z,29nm,1.1s
P40A Paris 44.63 281 P **P** **18 51 15.0 +1.3**
baz=54,SNR=6.8
TOA0 Torodi Ar. Sit 44.66 135 P **P** **18 51 13.0 -1.2**
TOA0 lAmb lAmb 18 51 15.8
comp=Z,65nm,1.6s
TOA0 Torodi Ar. Sit 44.66 135 P **P** **18 51 14.9 +0.8**
SNR=7.6
TORD Torodi Ar. Bea 44.66 135 P **P** **18 51 14.7 +0.6**
comp=Z,7.0nm,0.6s,baz=336,slow=7.9,SNR=58
TORD LR LR 19 08 36.5
comp=Z,251nm,18.1s,baz=346,slow=34
TORD Torodi Ar. Bea 44.66 135 lAmb lAmb 18 51 22.1
comp=Z,29nm,1.2s
MDND Maddock 44.72 296 P **P** **18 51 14.5 +0.1**
baz=59
PLAL Pickwick Lake 44.83 273 lAmb lAmb 18 51 18.4
comp=Z,32nm,1.2s
CCM Cathedral Cave 44.99 279 P **P** **18 51 16.9 +0.3**
CCM pmax pmax
comp=Z,50nm,0.9s
CCM Cathedral Cave 44.99 279 P **P** **18 51 16.9 +0.3**
CCM Cathedral Cave 44.99 279 P **P** **18 51 17.8 +1.2**
baz=53,SNR=20
CCM Cathedral Cave 44.99 279 P **P** **18 51 17.1 +0.5**
baz=53
A36M Sachs Harbour 45.06 334 P **P** **18 51 15.8 -0.9**
A36M Sachs Harbour 45.06 334 P **P** **18 51 16.3 -0.4**
baz=64,SNR=9.5
DWPF Disney Wildern 45.09 261 P **P** **18 51 19.0 +1.5**
baz=46
ECSD EROS Data Cent 45.11 289 lAmb lAmb 18 51 26.1
comp=Z,65nm,1.7s
ECSD EROS Data Cent 45.11 289 P **P** **18 51 19.2 +1.7**
baz=57,SNR=8.9
ECSD EROS Data Cent 45.11 289 P **P** **18 51 18.1 +0.6**
baz=57,SNR=8.9
PBMO Poplar Bluff 45.24 277 lAmb lAmb 18 51 21.1
comp=Z,45nm,1.1s
LRAL Lakeview Retre 45.37 271 lAmb lAmb 18 51 28.4
comp=Z,28nm,1.2s
LRAL Lakeview Retre 45.37 271 P **P** **18 51 21.5 +1.8**
baz=50,SNR=7.2
LRAL Lakeview Retre 45.37 271 P **P** **18 51 20.2 +0.5**
baz=50,SNR=7.2
YKA Yellowknife Ar 45.45 319 P **P** **18 51 20.3 +0.5**
comp=Z,4.0nm,1.0s,baz=63,slow=7.9,SNR=32
YKA PcP **PcP** **18 52 58.2 -0.5**
comp=Z,1.1nm,0.7s,baz=62,slow=3.8,SNR=10
YKA LR LR 19 07 55.9
comp=Z,148nm,20.2s,baz=124,slow=33
YKA Yellowknife Ar 45.45 319 P **P** **18 51 18.6 -1.3**
YKA 18 52 57.5
YKA Yellowknife Ar 45.45 319 P **P** **18 51 18.6 -1.3**
YKA **PcP** **18 52 57.5 -1.1**
R40A Maddies Statio 45.50 280 lAmb lAmb 18 51 28.4
comp=Z,33nm,1.0s
R40A Maddies Statio 45.50 280 P **P** **18 51 21.6 +1.0**
baz=53,SNR=10
P38A Dawn 45.51 282 P **P** **18 51 21.9 +1.1**
baz=54,SNR=5.1
SDDR Presa de Saban 45.70 243 *e*P **P** **18 51 25.0 +2.6**
C36M Paulatuk 45.88 331 P **P** **18 51 22.6 -0.6**
baz=63
BELG Belogornoye 45.92 56 LR LR 19 09 53.8
comp=Z,523nm,20.6s,baz=315,slow=35
BELG Belogornoye 45.92 56 *i* P **P** **18 51 24.3 +0.6**
BELG pmax pmax
comp=Z,6.0nm,1.1s
Z47A Carrollton 45.95 272 P **P** **18 51 26.1 +1.8**
baz=50,SNR=6.4
SOC Sochi 45.97 70 *e*P **P** **18 51 25.8 +1.5**
SOC *e* 18 53 07.1
SOC *e*PPP PPP 18 53 53.3
SOC *e*S **S** **18 58 12.8 +4.3**
SOC *e*SSS SSS 19 02 25.7
SOC MLR MLR
comp=Z,381nm,21.0s
OXF Oxford 45.98 274 P **P** **18 51 23.9 -0.6**
OXF pmax pmax
comp=Z,60nm,1.1s
OXF Oxford 45.98 274 P **P** **18 51 23.9 -0.6**
OXF Oxford 45.98 274 P **P** **18 51 24.2 -0.2**
baz=51
LCAR Lake Charles 46.13 277 lAmb lAmb 18 51 33.1
comp=Z,27nm,1.0s
LCAR Lake Charles 46.13 277 P **P** **18 51 25.6 0.0**
baz=52,SNR=9.6
SUSD Miller 46.14 291 P **P** **18 51 25.9 +0.3**
baz=57
S39A Bolivar 46.52 280 lAmb lAmb 18 51 36.6
comp=Z,38nm,1.1s
S39A Bolivar 46.52 280 P **P** **18 51 29.9 +1.2**
baz=53,SNR=17
FCAR Ozark Folk Cen 46.86 277 lAmb lAmb 18 51 33.7
comp=Z,19nm,1.0s
DGMT Dagmar 47.03 298 P **P** **18 51 32.6 0.0**
baz=58
U40A Yellville 47.04 278 P **P** **18 51 32.2 -0.6**
U40A Yellville 47.04 278 P **P** **18 51 33.6 +0.9**
baz=52,SNR=29
U40A P **P** **18 51 33.6 +0.9**
baz=52,SNR=29
U40A Yellville 47.04 278 P **P** **18 51 33.2 +0.4**
baz=52,SNR=29
GOF Gofitskoye 47.15 67 *i*I *e*P **P** **18 51 35.2 +1.7**
BGNE Belgrade 47.35 287 P **P** **18 51 35.3 +0.1**
baz=55
W41B Gary Mavity, V 47.39 277 P **P** **18 51 36.4 +0.9**
baz=51,SNR=13
W41B Gary Mavity, V 47.39 277 P **P** **18 51 35.4 -0.1**
baz=51,SNR=13
KIV Kislovodsk 47.55 68 *e*P **P** **18 51 37.2 +0.4**
KIV *e*S **S** **18 58 32.3 +1.0**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,232nm,16.0s
KIV Kislovodsk 47.55 68 P **P** **18 51 38.4 +1.7**
KIV P **P** **18 51 38.4 +1.7**
KVAR Kislovodsk Arr 47.56 68 LR LR 19 12 01.7
comp=Z,294nm,20.3s,baz=262,slow=37
SHA1 Shidzhatmaz 47.66 69 *i* P **P** **18 51 38.6 +0.8**
UALR University of 47.70 276 lAmb lAmb 18 51 40.1
comp=Z,30nm,1.0s
KSU1 Kansas State U 47.75 284 P **P** **18 51 38.6 +0.4**
baz=53
HHAR Hobbs 47.78 279 P **P** **18 51 39.0 +0.4**
baz=52
KBZ Khabaz 47.81 69 P **P** **18 51 40.9 +2.3**
comp=Z,1.4nm,0.6s,baz=283,slow=9.7,SNR=8.0
KBZ LR LR 19 11 55.9
comp=Z,339nm,21.5s,baz=310,slow=36
KBZ Khabaz 47.81 69 *ce*P **P** **18 51 40.6 +2.0**
KBZ pmax pmax
comp=Z,11nm,1.5s
DBIC Dimbokro 47.87 147 P **P** **18 51 40.1 +0.8**
comp=Z,6.0nm,0.6s,baz=350,slow=7.8,SNR=11
DBIC LR LR 19 09 59.0
comp=Z,272nm,18.6s,baz=346,slow=34
DBIC Dimbokro 47.87 147 P **P** **18 51 39.3 0.0**
DBIC pmax pmax
comp=Z,31nm,1.5s
DBIC Dimbokro 47.87 147 P **P** **18 51 39.3 0.0**
DBIC lAmb lAmb 18 51 56.1
comp=Z,31nm,1.4s
NEY Neytrino 47.97 69 *i* P **P** **18 51 41.9 +1.7**
NEY pmax pmax
comp=Z,2.0nm,1.0s
VBMS Vicksburg 48.16 272 P **P** **18 51 41.6 +0.2**
baz=49
X40A Basin Creek Fa 48.19 276 P **P** **18 51 42.5 +0.8**
baz=50,SNR=13
X40A P **P** **18 51 42.5 +0.8**
baz=50,SNR=13
X40A Basin Creek Fa 48.19 276 P **P** **18 51 41.5 -0.2**
baz=50,SNR=13
W39A Magazine 48.35 278 P **P** **18 51 43.6 +0.7**
baz=51,SNR=15
W39A Magazine 48.35 278 P **P** **18 51 43.5 +0.5**
baz=51,SNR=15

NCK Nalchik 48.36 68 *i* P **P** **18 51 44.1 +1.2**
NCK pmax pmax
comp=Z,4.0nm,1.0s
MIAR Mount Ida 48.63 277 P **P** **18 51 46.0 +0.9**
baz=50,SNR=16
MIAR Mount Ida 48.63 277 P **P** **18 51 45.3 +0.2**
baz=50,SNR=16
ONI Oni 48.79 69 P **P** **18 51 45.4 -0.9**
ONI Oni 48.79 69 P **P** **18 51 45.4 -0.9**
ZEI Tsey 48.95 69 *e*P **P** **18 51 48.6 +0.9**
ZEI pmax pmax
comp=Z,22nm,1.8s
Z41A Richland Creek 48.95 275 P **P** **18 51 46.9 -0.7**
Z41A Richland Creek 48.95 275 P **P** **18 51 48.0 +0.4**
baz=50
T35B Sooner Cattle 49.01 281 P **P** **18 51 48.4 +0.4**
baz=52,SNR=13
MDP Montagnes des 49.09 212 LR LR 19 06 54.1
comp=Z,150nm,21.5s,baz=71,slow=29
LAO LASA Array 49.15 297 P **P** **18 51 50.5 +1.4**
baz=56
TUL1 Leonard 49.18 280 P **P** **18 51 48.8 -0.5**
TUL1 lAmb lAmb 18 51 51.1
comp=Z,33nm,1.1s
TUL1 Leonard 49.18 280 P **P** **18 51 49.7 +0.4**
baz=51,SNR=5.1
TUL1 Leonard 49.18 280 P **P** **18 51 49.1 -0.2**
baz=51,SNR=5.1
ARU Arti 49.36 47 LR LR 19 11 33.6
comp=Z,585nm,21.6s,baz=294,slow=35
ARU Arti 49.36 47 *c i* P **P** **18 51 51.0 +0.6**
ARU 18 53 10.9
ARU 18 53 44.1
ARU PPP PPP 18 54 35.6
ARU S **S** **18 58 58.9 +2.7**
ARU SS **SS** **19 02 30.9 +3.7**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU MLR MLR
comp=Z,504nm,17.0s
ARU Arti 49.36 47 P **P** **18 51 48.8 -1.5**
INK Inuvik 49.36 332 LR LR 19 11 10.4
comp=Z,319nm,20.2s,baz=42,slow=34
INK Inuvik 49.36 332 P **P** **18 51 49.6 -0.6**
INK pmax pmax
comp=Z,22nm,1.3s
INK Inuvik 49.36 332 P **P** **18 51 49.6 -0.6**
INK lAmb lAmb 18 51 52.1
comp=Z,22nm,1.3s
INK Inuvik 49.36 332 P **P** **18 51 49.8 -0.5**
baz=55,SNR=8.0
MMAI Mount Meron Ar 49.61 85 LR LR 19 14 39.6
comp=Z,304nm,18.9s,baz=74,slow=38
X37A Clayton 49.74 278 lAmb lAmb 18 52 01.2
comp=Z,24nm,1.3s
CBKS Cedar Bluff 49.87 285 P **P** **18 51 54.4 -0.2**
baz=52
OGNE Ogallala 50.00 289 P **P** **18 51 55.7 +0.1**
baz=53
SVE Sverdlovsk 50.11 46 *e*P **P** **18 51 57.2 +1.1**
EGMT Eagleton 50.38 301 P **P** **18 51 58.5 +0.1**
EGMT Eagleton 50.38 301 P **P** **18 51 58.5 +0.1**
baz=55,SNR=11
GHAJ Ghor Haditha 50.84 86 P **P** **18 52 00.8 -1.1**
MAK Makhachkala 50.99 67 *e*P **P** **18 51 59.4 -3.5**
MAK *e*PPP PPP 18 54 53.7
MAK *e*S **S** **18 59 14.9 -4.4**
MAK *e*SS **SS** **19 02 51.2 -2.6**
MAK *e*SSS SSS 19 04 20.8
MAK pmax pmax
comp=Z,162nm,1.2s
MAK MLR MLR
comp=Z,396nm,15.0s
GNI Garni 51.02 71 LR LR 19 16 17.7
comp=Z,230nm,18.3s,baz=320,slow=39
GNI Garni 51.02 71 *ce*P **P** **18 52 03.8 +0.4**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI Garni 51.02 71 P **P** **18 52 02.5 -0.9**
GNI Garni 51.02 71 P **P** **18 52 05.2 +1.8**
GNI P **P** **18 52 05.2 +1.8**
NATX Nacogdoches 51.12 275 P **P** **18 52 04.2 +0.2**
baz=49
X34A Smith Ranch, M 51.30 280 P **P** **18 52 05.6 +0.2**
X34A lAmb lAmb 18 52 08.1
comp=Z,29nm,1.0s
TGTN Hyland Airport 51.47 323 P **P** **18 52 06.5 +0.2**
baz=54
EIL Elat 51.53 88 LR LR 19 15 32.0
comp=Z,77nm,19.9s,baz=291,slow=38
KSCO Kaye Shedlock' 51.53 287 lAmb lAmb 18 52 15.0
comp=Z,47nm,1.3s
KSCO Kaye Shedlock' 51.53 287 P **P** **18 52 07.3 +0.1**
baz=52
K22A Casper 51.67 293 lAmb lAmb 18 52 16.1
comp=Z,34nm,1.1s
K22A Casper 51.67 293 P **P** **18 52 09.2 +0.9**
baz=53,SNR=7.6
K22A Casper 51.67 293 P **P** **18 52 07.9 -0.3**
baz=53,SNR=7.6
GANJ Ganja 51.68 70 P **P** **18 52 10.3 +2.1**
RLMT Red Lodge 51.79 297 lAmb lAmb 18 52 12.6
comp=Z,45nm,1.6s
RLMT Red Lodge 51.79 297 P **P** **18 52 10.1 +0.9**
baz=54,SNR=13
WMOK Wichita Mounta 51.81 281 P **P** **18 52 09.7 +0.4**
baz=50,SNR=13
WMOK Wichita Mounta 51.81 281 P **P** **18 52 09.7 +0.4**
baz=50,SNR=13
SEKA Sheki 51.86 69 P **P** **18 52 11.8 +2.2**
WALA Waterton Lakes 52.05 304 lAmb lAmb 18 52 13.6
comp=Z,40nm,1.4s
NRIK Noril'sk 52.15 24 P **P** **18 52 12.0 +0.7**
comp=Z,2.0nm,0.5s,baz=295,slow=5.1,SNR=8.7
NRIK Noril'sk 52.15 24 *ce*P **P** **18 52 12.3 +1.0**
NRIK pmax pmax
comp=Z,16nm,1.5s
NRIK Noril'sk 52.15 24 P **P** **18 52 11.6 +0.3**
NRIK lAmb lAmb 18 52 25.0
comp=Z,30nm,1.5s
N23A Red Feather La 52.39 291 P **P** **18 52 14.5 +0.7**
baz=52,SNR=31
AKTO Aktyubinsk 52.45 54 LR LR 19 13 39.2
comp=Z,312nm,21.5s,baz=307,slow=35
YMP Minto Lake Pl 52.53 297 lAmb lAmb 18 52 23.2
comp=Z,24nm,1.1s
I29M Ogilvie Camp, 52.66 330 P **P** **18 52 15.4 +0.3**
I29M lAmb lAmb 18 52 17.8
comp=Z,30nm,1.2s
I29M Ogilvie Camp, 52.66 330 P **P** **18 52 15.2 +0.1**
baz=50,SNR=8.4
WHTX Lake Whitney, 52.76 277 lAmb lAmb 18 52 18.6
comp=Z,32nm,0.8s
WHTX Lake Whitney, 52.76 277 P **P** **18 52 16.8 +0.5**
baz=48,SNR=5.5
WHTX Lake Whitney, 52.76 277 P **P** **18 52 16.6 +0.3**
baz=48,SNR=5.5
BOZ Bozeman (W) 52.85 299 P **P** **18 52 17.8 +0.8**
baz=53,SNR=12
ISCO Idaho Springs 52.86 290 P **P** **18 52 19.1 +1.8**
baz=52,SNR=8.5
ISCO Idaho Springs 52.86 290 P **P** **18 52 18.3 +0.9**
baz=52,SNR=8.5
H17A Grant Village 52.97 297 P **P** **18 52 16.9 -1.1**
H17A Grant Village 52.97 297 P **P** **18 52 19.1 +1.0**
baz=53
JTMT Jette 53.02 303 P **P** **18 52 18.2 -0.1**
JTMT lAmb lAmb 18 52 20.4
comp=Z,32nm,1.5s
YMR Madison River 53.03 298 lAmb lAmb 18 52 23.8
comp=Z,44nm,2.0s
CRJC Cerrejon, Guaj 53.04 238 *e*P **P** **18 52 19.0 +0.4**
YFT Old Faithful 53.09 298 lAmb lAmb 18 52 28.6
comp=Z,21nm,1.1s
Q24A Divide 53.10 289 lAmb lAmb 18 52 22.0
comp=Z,59nm,1.8s
Q24A Divide 53.10 289 P **P** **18 52 19.4 +0.3**
baz=51
FLWY Flagg Ranch 53.23 297 P **P** **18 52 20.2 +0.3**
M31M Drury Creek, Y 53.35 326 lAmb lAmb 18 52 24.3
comp=Z,30nm,1.6s
M31M Drury Creek, Y 53.35 326 P **P** **18 52 21.2 +0.9**
baz=50,SNR=7.4
BW06 Boulder Array 53.38 295 P **P** **18 52 20.9 -0.1**
baz=52
PD31 Pinedale Array 53.38 295 lAmb lAmb 18 52 22.9
comp=Z,36nm,1.7s
PDAR Pinedale Array 53.38 295 P **P** **18 52 21.1 +0.1**
comp=Z,3.2nm,0.6s,baz=64,slow=7.8,SNR=36
MSO Missoula 53.39 302 P **P** **18 52 21.0 +0.1**
MSO Missoula 53.39 302 P **P** **18 52 21.4 +0.6**
baz=53
DLMT Dillon 53.53 299 lAmb lAmb 18 52 25.2
comp=Z,29nm,1.4s
SDV Santo Domingo 53.62 234 LR LR 19 11 38.9
comp=Z,148nm,21.9s,baz=40,slow=32
SDV Santo Domingo 53.62 234 P **P** **18 52 23.3 +0.4**
SDV Santo Domingo 53.62 234 *e*P **P** **18 52 24.9 +1.9**
SDV Santo Domingo 53.62 234 *e*P **P** **18 52 25.1 +2.1**
TOLK Toolik Lake Re 53.63 337 lAmb lAmb 18 52 25.2
comp=Z,52nm,1.6s
TOLK Toolik Lake Re 53.63 337 P **P** **18 52 22.8 +0.6**
baz=43,SNR=9.6
ABTX Abilene, Hawle 53.73 279 lAmb lAmb 18 52 25.3
comp=Z,27nm,1.0s
ABTX Abilene, Hawle 53.73 279 P **P** **18 52 23.6 +0.1**
baz=49,SNR=6.2
ABTX Abilene, Hawle 53.73 279 P **P** **18 52 23.0 -0.5**
baz=49,SNR=6.2
T25A Trinidad 53.80 287 P **P** **18 52 24.9 +0.8**
baz=50,SNR=14
DAWY Dawson 53.87 329 P **P** **18 52 24.6 +0.6**
DAWY lAmb lAmb 18 52 27.3
comp=Z,38nm,1.4s
DAWY Dawson 53.87 329 P **P** **18 52 24.7 +0.6**
baz=48,SNR=17
EGAK Eagle 53.96 331 P **P** **18 52 24.6 0.0**
baz=47,SNR=7.5
M30M Minto, Yukon 53.97 327 lAmb lAmb 18 52 28.4
comp=Z,38nm,1.5s
M30M Minto, Yukon 53.97 327 P **P** **18 52 24.8 0.0**
baz=49,SNR=8.2
DLBC Dease Lake 54.05 320 LR LR 19 13 35.4
comp=Z,131nm,19.3s,baz=79,slow=34
SDCO Great Sand Dun 54.08 288 lAmb lAmb 18 52 29.6
comp=Z,37nm,1.9s
SDCO Great Sand Dun 54.08 288 P **P** **18 52 27.2 +0.9**
baz=50,SNR=7.3
SDCO Great Sand Dun 54.08 288 P **P** **18 52 26.6 +0.3**
baz=50,SNR=7.3
ABKAR Akbulak array 54.15 54 P **P** **18 52 25.7 -0.6**
ABKAR Akbulak array 54.15 54 lAmb lAmb 18 52 34.7
comp=Z,12nm,1.1s
NEW Newport 54.23 305 LR LR 19 13 35.2
comp=Z,246nm,18.8s,baz=44,slow=34
NEW Newport 54.23 305 lAmb lAmb 18 52 35.7
comp=Z,44nm,1.7s
NEW Newport 54.23 305 P **P** **18 52 27.3 +0.3**
baz=52,SNR=5.3
O20A White River Ci 54.23 292 P **P** **18 52 27.9 +0.7**
baz=51
SOCV Socops 54.24 234 *e*P **P** **18 52 29.3 +2.0**
LL6C La Loma 6 Bece 54.32 238 *e*P **P** **18 52 29.0 +1.1**
N31M Braeburn, Yuko 54.32 326 lAmb lAmb 18 52 31.3
comp=Z,30nm,1.4s
N31M Braeburn, Yuko 54.32 326 P **P** **18 52 27.6 +0.2**
baz=49
LKRN Lenkeran, Azer 54.36 70 P **P** **18 52 29.2 +1.3**
WHY Whitehorse 54.53 324 lAmb lAmb 18 52 32.8
comp=Z,60nm,1.8s
WHY Whitehorse 54.53 324 P **P** **18 52 30.2 +1.2**
baz=49,SNR=5.1
ELOV Elorza 54.62 232 *e*P **P** **18 52 32.7 +2.6**
RDMU Red Mountain 54.75 293 lAmb lAmb 18 52 39.6
comp=Z,23nm,1.1s
MSTX Muleshoe 54.82 283 P **P** **18 52 32.7 +1.2**
baz=49,SNR=8.5
MSTX Muleshoe 54.82 283 P **P** **18 52 32.3 +0.8**
baz=49,SNR=8.5
COLD Coldfoot 54.83 336 P **P** **18 52 31.9 +1.0**
COLD Coldfoot 54.83 336 P **P** **18 52 31.2 +0.3**
baz=42
S22A 4UR Ranch, Cre 54.89 289 P **P** **18 52 33.3 +1.1**
baz=50,SNR=5.8
J26L Joseph Creek 54.90 331 P **P** **18 52 32.0 +0.4**
baz=46,SNR=7.4
H24K Noodor Dome 55.22 334 P **P** **18 52 34.1 +0.2**
baz=43,SNR=7.9
SJCC San Jacinto, C 55.23 240 P **P** **18 52 33.5 -1.1**
SJCC lAmb lAmb 18 52 44.4
comp=Z,34nm,1.1s
SJCC San Jacinto, C 55.23 240 *e*P **P** **18 52 37.0 +2.5**
JCT Junction City 55.26 277 lAmb lAmb 18 52 41.8
comp=Z,18nm,0.9s
JCT Junction City 55.26 277 P **P** **18 52 35.1 +0.5**
baz=47,SNR=7.1
JCT Junction City 55.26 277 P **P** **18 52 34.6 0.0**
baz=47,SNR=7.1
B08A Colville Reser 55.34 306 lAmb lAmb 18 52 38.0
comp=Z,60nm,1.9s
BCAR Beaver Creek A 55.34 329 P **P** **18 52 34.0 -0.7**
L27K Beaver Creek, 55.35 329 P **P** **18 52 35.6 +0.7**
baz=46
J25K Salcha River, 55.37 332 lAmb lAmb 18 52 38.2
comp=Z,33nm,1.5s
J25K Salcha River, 55.37 332 P **P** **18 52 36.0 +1.0**
baz=44,SNR=10
HYT Haines Junctio 55.39 326 lAmb lAmb 18 52 38.9
comp=Z,33nm,1.5s
HYT Haines Junctio 55.39 326 P **P** **18 52 35.4 +0.2**
baz=48
SCRK Sand Creek 55.40 331 lAmb lAmb 18 52 38.8
comp=Z,31nm,1.3s
SCRK Sand Creek 55.40 331 P **P** **18 52 36.4 +1.1**
baz=45,SNR=18
YUK4 Talbot Arm 55.45 327 P **P** **18 52 36.2 +0.5**
baz=47,SNR=6.3
BVCY Beaver Creek 55.48 328 P **P** **18 52 35.1 -0.6**
baz=46,SNR=7.2
SKAG Skagway 55.49 323 lAmb lAmb 18 52 40.1
comp=Z,20nm,1.1s
SKAG Skagway 55.49 323 P **P** **18 52 36.1 +0.3**
baz=48
PV15 Paradox Valley 55.51 290 lAmb lAmb 18 52 45.4
comp=Z,42nm,1.7s
PLID Pearl Lake 55.59 301 P **P** **18 52 36.5 -0.6**
PLID lAmb lAmb 18 52 39.5
comp=Z,28nm,1.4s
YUK6 Outpost Mounta 55.62 326 P **P** **18 52 36.6 -0.4**
baz=47
POKR Poker Plat Res 55.62 333 P **P** **18 52 35.8 -0.9**
baz=43
DOT Dot Lake 55.66 331 P **P** **18 52 36.3 -0.7**
DOT lAmb lAmb 18 52 40.4
comp=Z,25nm,1.4s
HLID Hailey 55.67 299 lAmb lAmb 18 52 41.2
comp=Z,38nm,1.6s
HLID Hailey 55.67 299 P **P** **18 52 38.0 +0.4**
baz=51,SNR=14
H23K Yukon River 55.69 335 lAmb lAmb 18 52 40.1
comp=Z,53nm,1.7s
H23K Yukon River 55.69 335 P **P** **18 52 37.9 +0.7**
baz=42,SNR=13
IL31 55.71 333 lAmb lAmb 18 52 40.4
comp=Z,20nm,1.3s
ILAR Eielson Array 55.71 333 P **P** **18 52 38.0 +0.6**
comp=Z,3.2nm,0.9s,baz=36,slow=4.6,SNR=21
ILAR PcP **PcP** **18 53 35.3 -1.2**
comp=Z,1.0nm,0.7s,baz=51,slow=2.4,SNR=5.4
ILAR LR LR 19 15 01.7
comp=Z,157nm,20.0s,baz=79,slow=34
P18A Preston Nutter 55.75 293 P **P** **18 52 36.7 -1.6**
P18A lAmb lAmb 18 52 41.5
comp=Z,32nm,1.3s
P18A PcP **PcP** **18 53 34.4 -3.1**
YUK3 Moose Creek 55.78 328 P **P** **18 52 38.1 0.0**
baz=46
PV13 Radium Mtn., P 55.84 290 lAmb lAmb 18 52 42.3
comp=Z,50nm,1.5s
RIDG Independent Ri 55.84 331 P **P** **18 52 38.3 0.0**
baz=44,SNR=8.6
M27K Edge Creek, AK 55.86 329 lAmb lAmb 18 52 42.4
comp=Z,35nm,1.4s
M27K Edge Creek, AK 55.86 329 P **P** **18 52 39.5 +0.8**
baz=46,SNR=7.2
COLA College 55.92 333 *i* P **P** **18 52 40.0 +1.2**
COLA pmax pmax
comp=Z,16nm,1.2s
COLA College 55.92 333 P **P** **18 52 39.5 +0.7**
baz=43
TCOL CIGO, UAF Yank 55.92 333 P **P** **18 52 39.1 +0.3**
baz=43
MDM Murphy Dome 55.97 333 P **P** **18 52 37.5 -1.7**

MDM IAmb IAmb 18 52 42.3
comp=Z,31nm,1.3s
HDA Harding Lake 55.99 332 IAmb IAmb 18 52 42.4
comp=Z,18nm,1.2s
HDA Harding Lake 55.99 332 P **P 18 52 39.9 +0.5**
baz=43,SNR=5.7
CCB Clear Creek Bu 56.07 333 IAmb IAmb 18 52 48.4
comp=Z,50nm,2.0s
RCBR Riachuelo 56.08 188 LR LR 19 10 36.5
comp=Z,154nm,21.7s,baz=134,slow=30
I23K Minto, Yukon-K 56.15 334 IAmb IAmb 18 52 44.0
comp=Z,38nm,1.4s
I23K Minto, Yukon-K 56.15 334 P **P 18 52 40.8 +0.4**
baz=42,SNR=11
SRU San Rafael Swe 56.24 292 P **P 18 52 41.2 -0.5**
SRU pmax pmax
comp=Z,43nm,1.8s
SRU San Rafael Swe 56.24 292 P **P 18 52 41.2 -0.5**
SRU IAmb IAmb 18 52 43.7
comp=Z,43nm,1.8s
MVCO Mesa Verde 56.25 289 P **P 18 52 43.3 +1.4**
baz=49,SNR=6.9
WRH Wood River Hil 56.28 333 IAmb IAmb 18 52 44.4
comp=Z,35nm,1.4s
WRAK Wrangell Islan 56.31 319 P **P 18 52 42.2 +0.5**
baz=49
833A Chaparral WMA, 56.46 275 P **P 18 52 44.0 +0.9**
baz=46,SNR=7.8
833A Chaparral WMA, 56.46 275 P **P 18 52 43.5 +0.3**
baz=46,SNR=7.8
BMO Blue Mountains 56.46 301 IAmb IAmb 18 52 47.1
comp=Z,30nm,1.9s
ANMO Albuquerque 56.48 286 LR LR 19 15 52.2
comp=Z,479nm,18.2s,baz=64,slow=35
ANMO Albuquerque 56.48 286 *i* P **P 18 52 45.5 +2.0**
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO Albuquerque 56.48 286 P **P 18 52 42.4 -1.1**
ANMO IAmb IAmb 18 52 47.3
comp=Z,30nm,1.6s
ANMO Albuquerque 56.48 286 P **P 18 52 44.8 +1.2**
baz=49,SNR=9.1
ANMO Albuquerque 56.48 286 P **P 18 52 44.7 +1.2**
baz=49
NEA2 Nenana 56.48 333 IAmb IAmb 18 52 51.2
comp=Z,20nm,1.1s
NEA2 Nenana 56.48 333 P **P 18 52 43.3 +0.5**
baz=42,SNR=5.9
TMUT Trail Mountain 56.53 293 IAmb IAmb 18 52 47.1
comp=Z,20nm,1.3s
MFID Camas Ranch 56.56 299 IAmb IAmb 18 52 47.1
comp=Z,22nm,1.4s
PAX Paxson 56.59 331 IAmb IAmb 18 52 47.1
comp=Z,44nm,1.5s
PAX Paxson 56.59 331 P **P 18 52 43.4 -0.4**
baz=44,SNR=14
NLU North Lily Min 56.62 294 IAmb IAmb 18 52 46.8
comp=Z,32nm,1.7s
CTGM Chitina Glacie 56.65 327 IAmb IAmb 18 52 47.9
comp=Z,36nm,1.4s
CTG Chitna Glacier 56.65 327 P **P 18 52 44.5 +0.2**
baz=45
BARN Barnard Glacie 56.70 327 IAmb IAmb 18 52 48.1
comp=Z,48nm,1.5s
H21K Melozitna Rive 56.70 336 P **P 18 52 44.4 0.0**
H21K IAmb IAmb 18 52 58.8
comp=Z,23nm,1.5s
H21K Melozitna Rive 56.70 336 P **P 18 52 43.8 -0.7**
baz=40,SNR=7.5
Q16A Castle Valley 56.75 292 IAmb IAmb 18 52 48.6
comp=Z,50nm,1.6s
BRVK Borovoye 56.82 45 *ce*P **P 18 52 46.8 +1.4**
BRVK pmax pmax
comp=Z,24nm,1.7s
BRVK Borovoye 56.82 45 P **P 18 52 45.0 -0.4**
BRVK Borovoye 56.82 45 P **P 18 52 46.8 +1.4**
B05A Bryant 56.82 307 P **P 18 52 46.2 +0.7**
baz=50
A04D Lummi Island 56.84 308 P **P 18 52 46.0 +0.4**
baz=50
I21K Tanana 56.85 335 IAmb IAmb 18 52 47.8
comp=Z,60nm,1.8s
I21K Tanana 56.85 335 P **P 18 52 45.5 +0.1**
baz=40,SNR=8.5
PNL Peninsula 56.87 325 P **P 18 52 45.7 0.0**
baz=46
DUG Dugway, Tooele 56.90 295 P **P 18 52 47.5 +1.1**
baz=50,SNR=6.6
HARP HAARP 56.91 330 P **P 18 52 45.8 -0.1**
baz=44
MCARA McCarthy VSAT 56.93 328 P **P 18 52 46.0 -0.1**
baz=44
GRNC Granite Creek 56.96 327 IAmb IAmb 18 52 59.0
comp=Z,37nm,1.4s
ZARC Zaragoza, Cauc 57.04 238 P **P 18 52 48.4 +1.0**
ZARC IAmb IAmb 18 52 51.7
comp=Z,30nm,1.4s
ZARC Zaragoza, Cauc 57.04 238 *e*P **P 18 52 46.2 -1.2**
G08A Pilot Rock 57.08 303 IAmb IAmb 18 52 49.2
comp=Z,27nm,1.5s
MCK McKinley 57.09 333 P **P 18 52 45.6 -1.6**
MCK pmax pmax
comp=Z,34nm,1.3s
MCK McKinley 57.09 333 P **P 18 52 45.6 -1.6**
MCK IAmb IAmb 18 52 50.1
comp=Z,34nm,1.3s
MCK McKinley 57.09 333 P **P 18 52 47.3 +0.1**
baz=42,SNR=12
SIT Sitka 57.10 321 P **P 18 52 47.1 -0.2**
baz=47
DHY Denali Highway 57.10 331 IAmb IAmb 18 52 56.1
comp=Z,22nm,1.2s
DHY Denali Highway 57.10 331 P **P 18 52 47.6 +0.1**
baz=42,SNR=6.5
RDOG Red Dog Mine 57.16 341 P **P 18 52 47.0 -0.6**
baz=33
BBB Bella Bella 57.23 314 LR LR 19 15 59.8
comp=Z,183nm,18.1s,baz=315,slow=35
CRAG Craig 57.27 319 P **P 18 52 48.6 +0.1**
baz=48
N25K Chitina, Valde 57.30 329 IAmb IAmb 18 52 51.9
comp=Z,35nm,1.6s
N25K Chitina, Valde 57.30 329 P **P 18 52 48.5 -0.2**
baz=44
RND Reindeer 57.30 332 IAmb IAmb 18 52 51.4
comp=Z,22nm,1.3s
BPAW Bear Paw Mtn. 57.40 334 P **P 18 52 49.2 -0.2**
baz=40,SNR=5.9
M24K Tolsona, Glenn 57.44 330 P **P 18 52 49.0 -0.8**
baz=43
Y22A Socorro 57.46 285 P **P 18 52 52.6 +2.1**
baz=48,SNR=5.9
TIXI Tiksi 57.48 8 *ce*P **P 18 52 51.7 +1.9**
TIXI pmax pmax
comp=Z,21nm,1.7s
TIXI Tiksi 57.48 8 P **P 18 52 48.9 -0.9**
WAT6 Susitna Watana 57.59 331 P **P 18 52 51.1 +0.2**
baz=42,SNR=10
PTBC PUERTO BERRIO, 57.62 237 *e*P **P 18 52 53.0 +1.5**
TRF Thorofare Moun 57.70 333 IAmb IAmb 18 52 54.5
comp=Z,38nm,1.4s
TRF Thorofare Moun 57.70 333 P **P 18 52 51.3 -0.4**
baz=40
BMRM Bremner River 57.77 329 P **P 18 52 51.7 -0.3**
baz=43
KTH Kantishna Hill 57.80 333 P **P 18 52 51.2 -1.1**
D03D Eldon 57.80 307 P **P 18 52 52.6 +0.1**
baz=49
KLU Klutina 57.82 330 IAmb IAmb 18 53 01.9
comp=Z,33nm,1.4s
KLU Klutina 57.82 330 P **P 18 52 52.1 -0.4**
baz=43
D04E Lakebay 57.87 307 P **P 18 52 52.3 -0.6**
baz=49
CHUM Lake Minchumin 57.95 334 P **P 18 52 52.9 -0.3**
baz=39
ELK Elko 57.95 297 IAmb IAmb 18 53 02.7
comp=Z,28nm,1.4s
MNTX Cornudas Mount 57.97 282 P **P 18 52 54.3 +0.4**
baz=47,SNR=7.7
MNTX Cornudas Mount 57.97 282 P **P 18 52 53.5 -0.4**
baz=47,SNR=7.7
SCM Sheep Creek Mo 58.01 330 P **P 18 52 52.4 -1.4**
baz=42
F05D White Salmon 58.03 305 P **P 18 52 53.3 -0.8**
baz=49
SPBC San Pablo de B 58.15 236 *e*P **P 18 52 56.2 +0.8**

E04D Cinebar 58.17 306 P **P 18 52 54.8 -0.3**
baz=49
J20K Nowinta River 58.22 335 P **P 18 52 54.7 -0.4**
baz=38,SNR=7.4
CAST Castle Rocks 58.24 334 IAmb IAmb 18 52 57.5
comp=Z,36nm,1.4s
CAST Castle Rocks 58.24 334 P **P 18 52 54.5 -0.8**
baz=39,SNR=14
SML Sawmill 58.35 331 IAmb IAmb 18 52 59.4
comp=Z,41nm,1.3s
SML Sawmill 58.35 331 P **P 18 52 56.3 +0.2**
baz=41,SNR=6.6
PTGC Puerto Gaitan, 58.37 233 *e*P **P 18 52 55.2 -1.5**
W18A Petrified Fore 58.38 288 P **P 18 52 57.7 +0.8**
baz=48
BCIP Isla Barro Col 58.47 244 *e*P **P 18 52 54.2 -3.2**
TX31 Lajitas Ar. Si 58.49 279 P **P 18 52 58.2 +0.5**
baz=46,SNR=18
TX32 Lajitas Array 58.49 279 IAmb IAmb 18 53 00.5
comp=Z,17nm,1.1s
TXAR Lajitas Array 58.49 279 P **P 18 52 58.4 +0.7**
comp=Z,4.7nm,0.8s,baz=60,slow=6.5,SNR=30
TXAR LR LR 19 17 44.5
comp=Z,472nm,19.3s,baz=55,slow=36
FID Port Fidalgo 58.55 329 P **P 18 52 57.9 +0.4**
GLI Glacier Island 58.65 330 P **P 18 52 58.4 +0.2**
baz=42
NORC Norcasia 58.65 237 *e*P P 18 52 52.3 -6.5
PPLA Purkeypile 58.68 333 P **P 18 52 58.0 -0.5**
baz=39
KNK Knik Glacier 58.69 331 P **P 18 52 58.2 -0.2**
baz=41
PMR Palmer 58.76 331 IAmb IAmb 18 53 02.8
comp=Z,19nm,1.1s
PMR Palmer 58.76 331 P **P 18 52 58.4 -0.5**
baz=40
CHIC Chingaza 58.83 235 *e*P P 18 52 49.4 -11
K20K Telida 58.85 334 P **P 18 52 59.6 +0.2**
K20K IAmb IAmb 18 53 02.9
comp=Z,15nm,1.1s
K20K Telida 58.85 334 P **P 18 52 59.7 +0.2**
baz=38,SNR=7.5
121A Cookes Peak, D 58.91 285 P **P 18 53 02.2 +1.6**
baz=47,SNR=8.0
121A Cookes Peak, D 58.91 285 P **P 18 53 01.8 +1.2**
baz=47,SNR=8.0
M22K Willow 58.95 332 P **P 18 52 59.8 -0.3**
baz=40
CCUT Cedar City 58.95 293 IAmb IAmb 18 53 04.4
comp=Z,24nm,1.3s
ROSC El Rosal 58.97 236 P **P 18 53 02.3 +0.9**
comp=Z,7.0nm,0.4s,baz=40,slow=5.8,SNR=12
ROSC LR LR 19 14 58.4
comp=Z,375nm,21.7s,baz=41,slow=32
ROSC El Rosal 58.97 236 *e*P **P 18 53 03.1 +1.7**
KNB Kanab 58.98 292 IAmb IAmb 18 53 03.6
comp=Z,39nm,1.4s
I05D Terrebonne, OR 58.98 303 P **P 18 53 00.6 -0.2**
baz=48
CBOC Ciudad Bolivar 59.02 238 *e*P **P 18 53 03.9 +2.4**
PWL Port Wells 59.07 330 P **P 18 53 01.1 0.0**
PWL Port Wells 59.07 330 P **P 18 53 01.5 +0.4**
baz=41,SNR=6.8
WUAZ Wupatki 59.11 290 P **P 18 53 03.3 +1.4**
baz=48,SNR=8.5
PINE Pine Mountain 59.13 303 IAmb IAmb 18 53 10.9
comp=Z,31nm,1.4s
H10N2 ASCENSION HYDR 59.14 163 T T 19 56 41.7
baz=349
H10N3 ASCENSION HYDR 59.15 163 T T 19 56 38.7
baz=349
H10N1 ASCENSION HYDR 59.16 163 T T 19 56 42.1
baz=349
GUY2C Guyana, Caldas 59.20 237 *e*P **P 18 53 05.1 +2.0**
G03D McMinnville, O 59.43 305 P **P 18 53 04.1 +0.3**
baz=48
L20K Farewell, AK 59.49 334 P **P 18 53 03.3 -0.7**
baz=38,SNR=10
J05D Fort Rock, OR 59.63 302 P **P 18 53 06.2 +0.8**
baz=48,SNR=16
TTA Tatalina 59.72 335 IAmb IAmb 18 53 13.4
comp=Z,18nm,1.4s
TTA Tatalina 59.72 335 P **P 18 53 04.9 -0.8**
baz=36
R11A Troy Canyon, C 59.73 295 IAmb IAmb 18 53 08.3
comp=Z,27nm,1.7s
R11A Troy Canyon, C 59.73 295 P **P 18 53 06.6 +0.4**
baz=48,SNR=10
O22K Cooper Landing 59.80 330 P **P 18 53 05.6 -0.5**
baz=40
X16A Lo Mia Camp, P 59.89 289 P **P 18 53 06.6 -0.7**
X16A IAmb IAmb 18 53 11.6
comp=Z,35nm,1.7s
I04A Tendick Farm, 59.92 303 P **P 18 53 07.8 +0.5**
baz=48
PLMC San Jos del P 59.97 238 *e*P **P 18 53 10.3 +2.4**
L19K White Mountain 60.00 334 P **P 18 53 07.4 -0.1**
baz=37
SEW Seward 60.00 330 P **P 18 53 07.5 0.0**
baz=40
SPCR Spurr Chakacha 60.01 332 P **P 18 53 07.6 -0.1**
baz=38
MOD Modoc Plateau 60.04 301 IAmb IAmb 18 53 11.3
comp=Z,24nm,1.4s
M19K Big River Lodg 60.09 334 P **P 18 53 07.6 -0.6**
baz=37
MTO3 Montecristo 60.11 256 P **P 18 53 08.6 -0.5**
MTO3 IAmb IAmb 18 53 21.5
comp=Z,23nm,1.5s
J04D Umpqua Nationa 60.13 303 P **P 18 53 09.6 +0.6**
baz=48
ORTC Ortega, Tolima 60.24 236 *e*P **P 18 53 10.6 +0.9**
TNA Tin City 60.33 342 P **P 18 53 09.5 -0.1**
baz=29
K04D Chiloquin, OR 60.35 302 P **P 18 53 10.7 +0.3**
baz=48
GEYT Alibeck 60.43 65 P **P 18 53 12.1 +1.3**
comp=Z,2.6nm,0.7s,baz=300,slow=6.5,SNR=8.6
GEYT LR LR 19 21 12.5
comp=Z,159nm,20.5s,baz=344,slow=38
GEYT Alibeck 60.43 65 P **P 18 53 08.9 -1.9**
GYA0B ALIBECK ARRAY 60.43 65 P **P 18 53 10.5 -0.3**
GYA0B IAmb IAmb 18 53 14.8
comp=Z,17nm,1.2s
I02E Swisshome, OR 60.48 304 P **P 18 53 11.6 +0.6**
baz=47
I03D Drain, OR 60.49 304 P **P 18 53 11.9 +0.8**
baz=47
JTS Las Juntas de 60.59 249 LR LR 19 16 19.9
comp=Z,148nm,19.7s,baz=166,slow=33
319A Douglas 60.63 285 IAmb IAmb 18 53 21.3
comp=Z,28nm,1.2s
ANM Nome 60.66 340 P **P 18 53 12.3 +0.4**
baz=30
YOTC Yoroco, Valle 60.77 237 *e*P **P 18 53 14.8 +1.3**
W13A Hualapai Mount 60.91 291 IAmb IAmb 18 53 17.1
comp=Z,18nm,1.4s
TUC Tucson 60.92 287 P **P 18 53 13.4 -0.9**
TUC pmax pmax
comp=Z,18nm,1.4s
TUC Tucson 60.92 287 P **P 18 53 13.4 -0.9**
TUC IAmb IAmb 18 53 17.7
comp=Z,18nm,1.4s
TUC Tucson 60.92 287 P **P 18 53 15.1 +0.8**
baz=46
L04D Klamath Falls 60.93 302 P **P 18 53 14.7 +0.4**
baz=47
M04C Macdoel 60.97 301 P **P 18 53 15.0 +0.4**
baz=47,SNR=7.4
N19K Bonanza Creek 60.99 333 P **P 18 53 14.2 -0.2**
baz=37
MACC Macarena, Meta 61.00 234 *e*P **P 18 53 14.5 -0.4**
PAHR Pah Rah Range 61.00 298 IAmb IAmb 18 53 23.6
comp=Z,20nm,1.0s
TPNV Topopah Spring 61.06 294 IAmb IAmb 18 53 18.4
comp=Z,32nm,1.8s
TPNV Topopah Spring 61.06 294 P **P 18 53 15.4 +0.1**
baz=47
NV11 Mina Array Sit 61.16 296 IAmb IAmb 18 53 17.9
comp=Z,31nm,1.7s
J01E Myrtle Point 61.17 304 P **P 18 53 15.5 -0.2**
baz=47
Y14A Wickenburg 61.17 289 IAmb IAmb 18 53 19.5
comp=Z,34nm,1.7s
NVAR Mina Array Bea 61.25 296 P **P 18 53 16.6 -0.1**
comp=Z,1.2nm,0.7s,baz=54,slow=5.9,SNR=8.3
NVAR LR LR 19 19 04.5
comp=Z,197nm,18.6s,baz=49,slow=35
K02D Willamette Mer 61.34 303 P **P 18 53 17.5 +0.5**
baz=47
YERR Yerington 61.41 297 P **P 18 53 16.6 -1.1**
BEKR Beckworth 61.45 299 IAmb IAmb 18 53 26.2
comp=Z,19nm,1.2s
YBH Yreka Blue Hor 61.48 302 LR LR 19 18 11.4
comp=Z,212nm,20.3s,baz=46,slow=34
YBH Yreka Blue Hor 61.48 302 P **P 18 53 17.4 -0.6**
YBH pmax pmax
comp=Z,12nm,1.5s
YBH Yreka Blue Hor 61.48 302 P **P 18 53 17.4 -0.6**
LHV Little Huntoon 61.49 296 IAmb IAmb 18 53 21.0
comp=Z,15nm,1.1s
N18K Kilae Creek 61.51 333 P **P 18 53 17.9 +0.1**
baz=36
MARP Paez Belalcaza 61.52 236 *e*P **P 18 53 20.6 +1.9**
P19K Oil Pt 61.55 331 P **P 18 53 17.7 -0.3**
baz=37
BILL Bilibino 61.56 353 *de*P **P 18 53 19.1 +1.1**
BILL *e* 18 54 04.7
BILL *e* 18 55 34.0
BILL pmax pmax
comp=Z,11nm,1.7s
BILL MLR MLR
comp=Z,52nm,19.0s
BILL Bilibino 61.56 353 P **P 18 53 16.8 -1.2**
BILL IAmb IAmb 18 53 20.1
comp=Z,27nm,1.8s
CMIG Matias Romero 61.58 263 LR LR 19 19 12.2
comp=Z,213nm,20.0s,baz=18,slow=35
PDMCI Parker Dam,Lak 61.60 290 P **P 18 53 19.9 +1.1**
baz=47,SNR=9.7
L02E Cave Junction 61.67 303 P **P 18 53 20.1 +0.9**
baz=47
GRAC Grapevine Rang 61.68 295 IAmb IAmb 18 53 27.9
comp=Z,21nm,1.1s
GRAC Grapevine Rang 61.68 295 P **P 18 53 20.3 +0.9**
baz=47
LCH Last Change Ra 61.68 295 IAmb IAmb 18 53 21.7
comp=Z,38nm,1.7s
FURC Furnace Creek, 61.75 294 P **P 18 53 20.8 +1.1**
baz=47
M02C Callahan 61.79 302 P **P 18 53 20.3 +0.3**
baz=47
TUQ Turquoise Moun 61.90 292 P **P 18 53 22.1 +1.1**
baz=46
O03E Paynes Creek 61.96 300 IAmb IAmb 18 53 28.9
comp=Z,21nm,1.0s
O03E Paynes Creek 61.96 300 P **P 18 53 21.3 +0.1**
baz=46
N02D Trinity Center 62.00 301 IAmb IAmb 18 53 29.1
comp=Z,21nm,1.4s
N02D Trinity Center 62.00 301 P **P 18 53 20.9 -0.5**
baz=46
QSM Queen of Sheba 62.09 293 IAmb IAmb 18 53 24.9
comp=Z,38nm,1.7s
TIN Tinemaha, Big 62.15 295 P **P 18 53 23.3 +0.7**
baz=46
POPC Popayan, Colom 62.16 237 *e*P **P 18 53 24.2 +1.2**
KURK Kurchatov 62.18 43 *ce*P **P 18 53 22.8 +0.4**
KURK pmax pmax
comp=Z,18nm,1.7s
KURK Kurchatov 62.18 43 P **P 18 53 20.9 -1.5**
KURK IAmb IAmb 18 53 24.0
comp=Z,42nm,1.9s
KURK Kurchatov 62.18 43 P **P 18 53 23.2 +0.8**
PCON Cinco Pias 62.18 236 *e*P **P 18 53 25.6 +2.0**
GMRC Granite Vaunta 62.19 292 P **P 18 53 23.1 +0.2**
baz=46,SNR=16
ORV Oroville 62.30 299 IAmb IAmb 18 53 25.6
comp=Z,21nm,1.6s
IRM Iron Mountain 62.31 291 P **P 18 53 24.0 +0.4**
baz=46,SNR=7.8
ZAA0 Zalesovo Array 62.38 38 P **P 18 53 22.0 -1.7**
ZALV Zalesovo Beam 62.38 38 P **P 18 53 24.3 +0.6**
comp=Z,0.6nm,0.5s,baz=324,slow=7.3,SNR=6.9
ZALV PcP **PcP 18 54 01.9 -1.2**
comp=Z,1.4nm,0.7s,baz=318,slow=5.0,SNR=5.2
ZALV Zalesovo Beam 62.38 38 P **P 18 53 21.3 -2.4**
ZALV 18 54 01.9
ZALV Zalesovo Beam 62.38 38 P **P 18 53 21.3 -2.4**
MPMC Manual Prospec 62.40 294 P **P 18 53 24.8 +0.4**
baz=46,SNR=16
214A Organ Pipe Nat 62.41 288 IAmb IAmb 18 53 27.4
comp=Z,26nm,1.4s
214A Organ Pipe Nat 62.41 288 P **P 18 53 25.4 +1.1**
baz=46,SNR=6.4
113A Mohawk Valley, 62.43 289 IAmb IAmb 18 53 27.8
comp=Z,35nm,1.6s
SOTA Rioblanco 62.46 236 *e*P **P 18 53 26.9 +1.6**
CWC Cottonwood Cre 62.48 295 P **P 18 53 25.7 +0.8**
baz=46
GSC Goldstone, Bar 62.51 293 P **P 18 53 26.2 +1.2**
baz=46,SNR=14
HEC Hector,Ludlow 62.56 292 P **P 18 53 26.3 +1.0**
baz=46,SNR=9.9
KHMM Horse Mountain 62.63 302 P **P 18 53 24.4 -1.4**
GAMB Gambell 62.67 342 P **P 18 53 25.3 -0.1**
baz=26
KDAK Kodiak Island 62.84 330 LR LR 19 19 25.9
comp=Z,138nm,18.6s,baz=51,slow=35
BC3 Big Chuckawall 62.84 291 P **P 18 53 28.0 +0.8**
baz=46,SNR=8.6
GLA Glamis 62.88 290 P **P 18 53 28.0 +0.5**
baz=46
LRMC Laurel Mtn Rad 62.91 294 P **P 18 53 28.7 +1.0**
baz=46,SNR=6.6
BELC Belle Mtn. Jos 62.93 291 P **P 18 53 29.0 +1.2**
baz=46,SNR=16
PTLC Puerto Leguiza 63.17 233 *e*P **P 18 53 33.6 +4.2**
ISA Isabella, Lake 63.25 294 P **P 18 53 29.8 -0.1**
ISA pmax pmax
comp=Z,42nm,1.7s
ISA Isabella, Lake 63.25 294 P **P 18 53 29.8 -0.1**
ISA Isabella, Lake 63.25 294 P **P 18 53 31.2 +1.3**
baz=46,SNR=8.0
PFO Pinyon Flats O 63.48 291 LR LR 19 22 27.5
comp=Z,55nm,18.8s,baz=45,slow=37
PFO Pinyon Flats O 63.48 291 P **P 18 53 30.0 -1.5**
PFO pmax pmax
comp=Z,58nm,1.9s
PFO Pinyon Flats O 63.48 291 P **P 18 53 29.9 -1.5**
PFO Pinyon Flats O 63.48 291 P **P 18 53 32.2 +0.7**
baz=46,SNR=6.0
TPFO Pinon Flats 63.48 291 P **P 18 53 32.3 +0.8**
baz=46,SNR=6.2
EDW2 Edwards Air Fo 63.51 293 P **P 18 53 32.0 +0.4**
baz=46,SNR=6.8
OHAK Old Harbor 63.51 330 P **P 18 53 31.3 +0.1**
baz=36
SWSC Sam W. Stewart 63.54 290 P **P 18 53 32.7 +0.9**
baz=46
HOPS Hopland Field 63.57 300 P **P 18 53 30.7 -1.2**
KK31 Karatay Array 63.72 54 P **P 18 53 30.6 -2.2**
KK31 pmax pmax
comp=Z,34nm,1.9s
KK31 Karatay Array 63.72 54 P **P 18 53 30.6 -2.2**
KK31 IAmb IAmb 18 53 36.4
comp=Z,34nm,1.9s
KKAR Karatay Array 63.72 54 IAmb IAmb 18 53 36.4
comp=Z,34nm,1.9s
YUH Yuha Desert 63.82 290 IAmb IAmb 18 53 37.3
comp=Z,26nm,1.7s
MURC Murrieta 63.92 292 P **P 18 53 35.3 +1.0**
baz=46
IKP In-Ko-Pah, Jac 63.93 290 P **P 18 53 35.3 +0.8**
baz=46
RMX La Rumorosa 63.95 290 IAmb IAmb 18 53 43.5
comp=Z,22nm,1.2s
MONP2 Monument Peak 63.95 291 P **P 18 53 36.2 +1.5**
baz=46,SNR=5.0
SAKB Bahrain 64.03 80 P **P 18 53 36.3 +1.2**
SHMA Al-Shehemyia 64.39 80 P **P 18 53 38.5 +1.1**
GHRH Al-Ghuwayriyah 64.60 80 P **P 18 53 40.6 +1.8**
CIS Catalina Islan 64.79 292 P **P 18 53 40.6 +0.6**
baz=45
OTAV Otavalo 65.04 237 P **P 18 53 41.4 -0.9**
OTAV pmax pmax
comp=Z,40nm,1.7s
OTAV Otavalo 65.04 237 P **P 18 53 41.4 -0.9**
OTAV IAmb IAmb 18 53 45.4
comp=Z,40nm,1.6s
OTAV Otavalo 65.04 237 *e*P **P 18 53 44.1 +1.8**
SMRA Abu-Samra 65.09 81 P **P 18 53 44.1 +2.1**
AML Almayashu 66.05 53 P **P 18 53 50.2 +1.7**

AML	Almayashu	66.05	53	P	P	18 53 50.1	+1.6
BTK	Batken	66.05	56	lAmb	lAmb	18 53 57.0	
	comp=Z,28nm,1.4s						
AAK	Ala-Archa	66.09	52	LR	LR	19 22 55.0	
	comp=Z,505nm,18.2s,baz=350,slow=36						
AAK	Ala-Archa	66.09	52	*ce*P	P	18 53 50.7	+2.3
AAK				pmax	pmax		
	comp=Z,25nm,1.7s						
AAK	Ala-Archa	66.09	52	P	P	18 53 48.2	-0.2
AAK				lAmb	lAmb	18 53 52.5	
	comp=Z,29nm,1.5s						
AAK	Ala-Archa	66.09	52	P	P	18 53 51.2	+2.8
AAK	Ala-Archa	66.09	52	*i* P	P	18 53 51.1	+2.7
	SNR=11						
CHGR	Chuyangaron	66.16	58	P	P	18 53 46.4	-2.5
LPIG	La Paz	66.38	280	LR	LR	19 22 42.8	
	comp=Z,468nm,18.6s,baz=40,slow=36						
SLBS	Sierra La Lagu	66.44	279	P	P	18 53 51.1	+0.2
MAKZ	Makanchi	66.56	44	P	P	18 53 49.7	-1.5
MAKZ				pmax	pmax		
	comp=Z,16nm,1.4s						
MAKZ	Makanchi	66.56	44	P	P	18 53 49.7	-1.5
MAKZ				lAmb	lAmb	18 53 54.1	
	comp=Z,16nm,1.4s						
MK31	Makanchi Array	66.72	44	*i* P	P	18 53 52.7	+0.5
MKAR	Makanchi Array	66.72	44	P	P	18 53 52.8	+0.6
	comp=Z,2.4nm,0.6s,baz=329,slow=5.3,SNR=33						
MKAR				LR	LR	19 22 27.9	
	comp=Z,325nm,21.6s,baz=292,slow=36						
YAK	Yakutsk	66.88	11	*e*P	P	18 53 52.5	-0.4
YAK				*e*		18 54 20.5	
YAK				*e*		18 56 18.0	
YAK				*e*PPP	PPP	18 57 57.5	
YAK				*e*S	S	19 02 42.5	-2.2
YAK				*e**SS	sS	19 03 02.5	+12
YAK				*e*		19 03 47.0	
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,37nm,2.8s						
YAK				pmax	pmax		
	comp=N,33nm,2.8s						
YAK				pmax	pmax		
	comp=E,28nm,2.9s						
YAK				smax	smax		
	comp=N,20nm,3.8s						
YAK				smax	smax		
	comp=E,67nm,3.2s						
DRK	Karamyk	66.99	56	lAmb	lAmb	18 54 09.5	
	comp=Z,16nm,1.1s						
SEY	Seymchan	67.24	359	*ce*P	P	18 53 56.8	+1.6
SEY				pmax	pmax		
	comp=Z,18nm,1.7s						
SHME	Shamm	67.51	76	P	P	18 53 57.8	+0.3
	SNR=5.5						
SHME	Shamm	67.51	76	*i* P	P	18 53 57.9	+0.5
	SNR=6.5						
BDFB	Brasilia	67.61	200	P	P	18 53 58.3	+0.2
	comp=Z,1.7nm,0.4s,baz=352,slow=8.8,SNR=4.2						
BDFB				LR	LR	19 19 19.2	
	comp=Z,179nm,19.6s,baz=324,slow=32						
BDFB	Brasilia	67.61	200	P	P	18 53 57.5	-0.7
BDFB				pmax	pmax		
	comp=Z,19nm,1.3s						
BDFB	Brasilia	67.61	200	P	P	18 53 57.5	-0.7
BDFB				lAmb	lAmb	18 54 01.5	
	comp=Z,19nm,1.3s						
BDFB	Brasilia	67.61	200	*e*P	P	18 54 00.4	+2.3
BANOM	Banah	67.70	76	P	P	18 53 59.7	+1.0
	SNR=9.2						
BANOM	Banah	67.70	76	*i* P	P	18 53 59.5	+0.7
	SNR=7.5						
BOSC	San Juan Bosco	67.91	235	lAmb	lAmb	18 54 08.6	
	comp=Z,27nm,1.3s						
NAZ	Nazwa, Dubai	67.97	77	P	P	18 54 01.2	+0.8
MASF	Masafi	68.01	76	P	P	18 54 01.5	+0.8
	SNR=5.2						
MSFE	Esma-Masafi	68.02	76	*i* P	P	18 54 01.0	+0.2
	SNR=5.6						
ASUD	Al Ashush, Dub	68.02	78	P	P	18 54 01.9	+1.1
ASUD	Al Ashush, Dub	68.02	78	P	P	18 54 01.3	+0.6
MZR	Muzera	68.03	80	P	P	18 54 01.8	+1.0
FAQ	Al Faqa, Dubai	68.10	77	P	P	18 54 01.7	+0.5
BOD	Bodaibo	68.18	20	*e*P	P	18 54 00.4	-0.8
BOD				pmax	pmax		
	comp=Z,21nm,1.7s						
UOSS	Minazif	68.34	77	P	P	18 54 02.4	-0.3
UOSS	Minazif	68.34	77	P	P	18 54 03.5	+0.7
UOSS	Minazif	68.34	77	*i* P	P	18 54 03.1	+0.3
	SNR=12						
HATD	Hatta, Dubai	68.38	77	P	P	18 54 03.9	+0.9
	SNR=7.7						
HATD	Hatta, Dubai	68.38	77	*i* P	P	18 54 03.5	+0.5
	SNR=5.6						
ASHO	Ashiyiah	68.44	77	P	P	18 54 04.0	+0.5
ASHO	Ashiyiah	68.44	77	P	P	18 54 03.3	-0.1
ALNE	Al Ain	68.70	78	P	P	18 54 06.4	+1.4
KBL	Kabul	69.08	61	P	P	18 54 09.2	+1.8
	SNR=5.8						
KSH	Kashi	69.14	53	P	P	18 54 10.4	+2.7
KSH				pP	pwP	18 54 15.1	-0.5
KSH				sP	sP	18 54 17.2	+4.8
KSH				PP	PcP	18 54 35.4	+3.8
KSH				PP	PP	18 56 42.2	+2.2
KSH				pmax	pmax		
	comp=Z,23nm,1.5s						
KSH				LR	LR		
	comp=Z,250nm,16.1s						
KSH				LR	LR		
	comp=Z,180nm,14.3s						
KSH				LR	LR		
	comp=Z,400nm,19.6s						
UMZA	Um Al Zommool	69.30	79	P	P	18 54 09.8	+1.1
ATD	Arta Tunnel	69.67	96	LR	LR	19 26 10.4	
	comp=Z,95nm,18.1s,baz=14,slow=37						
ARQ	Araqi	69.71	78	P	P	18 54 11.9	+0.6
MOY	Mondy	70.05	30	*e*P	P	18 54 15.1	+2.0
MOY				pmax	pmax		
	comp=Z,26nm,1.8s						
BSY	Bisya	70.56	78	P	P	18 54 18.0	+1.5
BIDO	Bidbid	70.58	76	P	P	18 54 18.9	+2.4
IRK	Irkutsk	70.59	28	*e*P	P	18 54 13.7	-2.5
IRK				pmax	pmax		
	comp=Z,48nm,1.9s						
MA2	Magadan	70.62	0	P	P	18 54 16.8	+0.6
	comp=Z,4.2nm,0.7s,baz=315,slow=1.4,SNR=2.7						
MA2	Magadan	70.62	0	*ce*P	P	18 54 17.8	+1.5
MA2				pmax	pmax		
	comp=Z,22nm,1.3s						
MA2	Magadan	70.62	0	P	P	18 54 15.1	-1.2
MA2				lAmb	lAmb	18 54 24.6	
	comp=Z,25nm,1.3s						
SMDO	Samad	70.87	77	P	P	18 54 20.1	+1.6
WSAR	Wadi Sarin	71.10	76	LR	LR	19 27 50.6	
	comp=Z,71nm,19.5s,baz=14,slow=38						
LODK	Lodwar	71.20	108	P	P	18 54 18.1	-2.4
LODK				lAmb	lAmb	18 54 24.1	
	comp=Z,34nm,1.9s						
LODK	Lodwar	71.20	108	P	P	18 54 23.2	+2.7
	SNR=7.1						
JMDO	Jabal Madar	71.40	77	P	P	18 54 23.0	+1.3
	SNR=5.4						
WMQ	Urumqi	71.42	43	*e*P	P	18 54 24.4	+2.9
WMQ				sP	pwP	18 54 30.7	+1.3
WMQ				pmax	pmax		
	comp=Z,23nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.3s						
WMQ				LR	LR		
	comp=Z,170nm,14.7s						
WMQ				LR	LR		
	comp=Z,190nm,20.9s						
WMQ				LR	LR		
	comp=Z,260nm,21.7s						
MBAR	Mbarara	71.63	114	LR	LR	19 25 28.3	
	comp=Z,170nm,20.1s,baz=316,slow=36						
MBAR	Mbarara	71.63	114	P	P	18 54 25.9	+2.7
SIV	San Ignacio	71.64	212	LR	LR	19 22 21.0	
	comp=Z,124nm,18.8s,baz=26,slow=33						
DOK	Doka	71.64	83	P	P	18 54 23.4	+0.4
WBK	Wadi Bani Khal	71.77	76	P	P	18 54 24.4	+0.6
ZAK	Zakamensk	71.89	30	*e*P	P	18 54 24.3	0.0
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
WHFO	Wadi Hawf	71.93	84	P	P	18 54 25.1	+0.2
ABTO	Aybut	72.04	84	P	P	18 54 26.4	+0.9
NIL	Nílore	72.08	59	P	P	18 54 24.6	-1.0
NIL				pmax	pmax		
	comp=Z,22nm,1.2s						
NIL	Nilore	72.08	59	P	P	18 54 24.6	-1.0
NIL				lAmb	lAmb	18 54 33.8	
	comp=Z,22nm,1.1s						
NIL	Nilore	72.08	59	P	P	18 54 27.3	+1.7
MHTO	MHTO	72.33	78	P	P	18 54 27.8	+0.6
	SNR=6.1						
JLN	Jalan Bani Buh	72.38	76	P	P	18 54 28.8	+1.3
LPAZ	La Paz	74.56	219	P	P	18 54 41.5	+0.7
	comp=Z,11nm,1.3s,baz=18,slow=5.8,SNR=12						
LPAZ				LR	LR	19 23 45.0	
	comp=Z,183nm,21.2s,baz=12,slow=33						
LPAZ	La Paz	74.56	219	lAmb	lAmb	18 54 48.6	
	comp=Z,49nm,1.9s						
LPAZ	La Paz	74.56	219	*e*P	P	18 54 42.4	+1.5
ZEA	Zeya	74.57	14	*e*P	P	18 54 41.0	+1.1
NNA	Nana	74.63	229	LR	LR	19 26 12.4	
	comp=Z,110nm,21.7s,baz=4.5,slow=35						
SONM	Songino Array	75.11	29	P	P	18 54 44.4	+1.1
	comp=Z,2.3nm,0.9s,baz=324,slow=6.2,SNR=11						
SONM	Songino Array	75.11	29	lAmb	lAmb	18 54 45.7	
	comp=Z,30nm,1.8s						
ULN	Ulaanbaatar	75.29	29	*ce*P	P	18 54 46.0	+1.6
ULN				pmax	pmax		
	comp=Z,26nm,1.7s						
ULN	Ulaanbaatar	75.29	29	P	P	18 54 46.2	+1.8
SHEM	Shemya Is, Ala	75.62	346	LR	LR	19 29 40.0	
	comp=Z,88nm,19.7s,baz=316,slow=37						
KMBO	Kilima Mbogo	75.94	109	LR	LR	19 28 15.4	
	comp=Z,130nm,19.8s,baz=86,slow=36						
PETK	Petropavlovsk-	76.94	356	P	P	18 54 54.1	+0.7
	comp=Z,2.2nm,0.9s,baz=23,slow=7.8,SNR=2.9						
PETK				LR	LR	19 30 28.0	
	comp=Z,106nm,18.8s,baz=194,slow=37						
PET	Petropavlovsk	76.98	355	*ce*P	P	18 54 54.6	+1.0
PET				pmax	pmax		
	comp=Z,13nm,1.0s						
PET	Petropavlovsk	76.98	355	P	P	18 54 53.2	-0.4
PET				lAmb	lAmb	18 54 56.2	
	comp=Z,38nm,1.4s						
GO01	Chusmiza	78.03	218	lAmb	lAmb	18 55 08.8	
	comp=Z,30nm,1.2s						
PB11	IPOC Station P	78.30	219	lAmb	lAmb	18 55 03.3	
	comp=Z,21nm,0.9s						
PB08	IPOC Station P	78.44	218	lAmb	lAmb	18 55 11.1	
	comp=Z,23nm,1.1s						
TYV	Tymovskoe	79.10	5	*e*P	P	18 55 06.3	+0.8
TYV				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KLR	Kul'dur	79.63	13	P	P	18 55 08.9	+0.5
	baz=320,slow=4.8						
KLR	Kul'dur	79.63	13	*i* P	P	18 55 09.1	+0.7
KLR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
PB09	IPOC Station P	79.97	217	P	P	18 55 11.0	+0.3
PB09				lAmb	lAmb	18 55 20.7	
	comp=Z,25nm,1.3s						
GTA	Gaotai	80.14	38	⇑P	P	18 55 12.7	+1.2
GTA				pP	PcP	18 55 18.6	-0.2
GTA				sP	pwP	18 55 23.7	+4.2
GTA				pmax	pmax		
	comp=Z,56nm,6.0s						
GTA				LR	LR		
	comp=Z,450nm,15.1s						
GTA				LR	LR		
	comp=Z,830nm,15.9s						
GTA				LR	LR		
	comp=Z,1μm,16.3s						
PB07	IPOC Station P	80.16	218	lAmb	lAmb	18 55 14.1	
	comp=Z,66nm,1.8s						
CPUP	Villa Florida	80.17	206	P	P	18 55 10.6	-0.9
	comp=Z,3.4nm,0.8s,baz=23,slow=5.3,SNR=5.4						
CPUP				LR	LR	19 27 11.4	
	comp=Z,63nm,19.4s,baz=24,slow=33						
CPUP	Villa Florida	80.17	206	lAmb	lAmb	18 55 13.1	
	comp=Z,33nm,1.8s						
TSUM	Tsumeb	80.41	136	LR	LR	19 29 20.8	
	comp=Z,39nm,19.9s,baz=333,slow=35						
LVC	Limon Verde	80.58	217	LR	LR	19 27 31.5	
	comp=Z,134nm,21.7s,baz=6.5,slow=33						
LVC	Limon Verde	80.58	217	P	P	18 55 14.9	+0.8
LVC				pmax	pmax		
	comp=Z,45nm,1.7s						
LVC	Limon Verde	80.58	217	P	P	18 55 14.9	+0.8
LVC				lAmb	lAmb	18 55 17.2	
	comp=Z,45nm,1.6s						
LVC	Limon Verde	80.58	217	*e*P	P	18 55 16.0	+1.9
GOMU	GeErMu	80.79	43	P	P	18 55 16.3	+1.0
GOMU				pP	sP	18 55 20.4	+0.4
GOMU				sP	pwP	18 55 24.2	+0.9
GOMU				S	S	19 05 16.9	-6.2
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.6s						
GOMU				pmax	pmax		
	comp=Z,61nm,5.7s						
GOMU				LR	LR		
	comp=Z,240nm,20.2s						
GOMU				LR	LR		
	comp=Z,190nm,20.3s						
GOMU				LR	LR		
	comp=Z,190nm,19.9s						
PYUN	Piuthan	81.65	56	*e*P	P	18 55 21.0	+1.1
DANN	Dangsing	81.86	55	*e*P	P	18 55 22.4	+1.3
	comp=Z,134nm,1.4s						
KOLN	Koldanda	82.24	56	*e*P	P	18 55 23.9	+1.0
LSZ	Lusaka	82.24	125	LR	LR	19 31 22.2	
	comp=Z,140nm,20.5s,baz=332,slow=35						
GKN	Gorkha	82.60	55	*e*P	P	18 55 26.0	+1.2
BTO	Baotou	82.74	30	*e*P	P	18 55 25.1	-0.1
BTO				LR	LR		
	comp=Z,2μm,13.6s						
BTO				LR	LR		
	comp=Z,1μm,16.5s						
YSS	Yuzh-Sakhalins	83.00	6	*e*P	P	18 55 27.8	+1.5
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC	Hu-ho-hao-te	83.01	29	*e*P	P	18 55 24.8	-1.8
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,77nm,5.0s						
KKN	Kakani	83.11	54	*e*P	P	18 55 28.9	+1.4
	comp=Z,14nm,0.7s						
DMN	Daman	83.16	55	*e*P	P	18 55 29.4	+1.6
GUN	Gumba	83.32	54	*e*P	P	18 55 30.2	+1.4
	comp=Z,135nm,1.7s						
PKIN	Pulchoki	83.34	54	*e*P	P	18 55 29.9	+1.2
PKI	Pulchoki	83.35	54	*e*P	P	18 55 30.0	+1.1
	comp=Z,67nm,1.6s						
JIRN	Jiri	83.69	54	*e*P	P	18 55 32.6	+1.9
CN2	Changchun	83.81	18	*e*P	P	18 55 31.0	+0.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.5s						
USRK	Ussuriysk Ar.	84.58	14	P	P	18 55 35.3	+0.9
	comp=Z,3.8nm,0.6s,baz=343,slow=3.6,SNR=12						
USRK	Ussuriysk Ar.	84.58	14	P	P	18 55 32.8	-1.7
USRK	Ussuriysk Ar.	84.58	14	P	P	18 55 32.8	-1.7
LZH	Lanzhou	84.59	37	*e*P	P	18 55 37.2	+2.3
LZH				pP	pwP	18 55 43.8	+0.9
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				LR	LR		
	comp=Z,330nm,14.1s						
LZH				LR	LR		
	comp=Z,150nm,12.5s						
LZH				LR	LR		
	comp=Z,410nm,15.2s						
ODAN	Odare	84.95	53	*e*P	P	18 55 38.9	+2.0
BJI	Beijing	85.13	26	P	P	18 55 38.0	+0.8
BJI				pmax	pmax		
	comp=Z,15nm,1.5s						
BJI				LR	LR		
	comp=Z,2μm,14.0s						
BJI				LR	LR		
	comp=Z,1μm,13.0s						
BJI				LR	LR		
	comp=Z,2μm,14.1s						
ASAJ	Asahikawa	85.82	6	P	P	18 55 41.3	+0.6
	comp=Z,6.7nm,0.7s,baz=298,slow=7.1,SNR=6.1						
HNS	HongShan	87.14	28	⇓P	P	18 55 48.8	+1.6
HNS				pmax	pmax		
	comp=Z,13nm,1.5s						
HYBB	Hyderabad (bro	87.61	66	*e*P	P	18 55 48.5	-1.4
HYBB				*e*PcP	PcP	18 55 50.6	-1.2
HYBB				*e*pP	pP	18 55 53.6	+0.2
HYBB				*e*sP	sP	18 55 55.9	+1.3
HYBB				*e*PP	PP	18 59 12.5	-2.1
XAN	Xi'an	88.30	34	P	P	18 55 54.4	+1.5
XAN				pP	pwP	18 55 58.9	-2.1
XAN				pmax	pmax		
	comp=Z,17nm,1.4s						
XAN				pmax	pmax		
	comp=Z,140nm,3.7s						
TIA	Tai'an	88.96	27	*e*P	P	18 55 56.2	+0.2
TIA				pmax	pmax		
	comp=Z,12nm,1.8s						
LYN	LuoYang	89.05	31	*e*P	P	18 55 57.9	+1.5
LYN				LR	LR		
	comp=Z,430nm,13.1s						
LYN				LR	LR		
	comp=Z,510nm,16.7s						
LYN				LR	LR		
	comp=Z,920nm,15.3s						
CO02	Combarbal	89.12	215	P	P	18 55 56.3	-0.3
LBTB	Lobatse	89.13	132	LR	LR	19 36 13.3	
	comp=Z,92nm,19.0s,baz=338,slow=36						
KSRS	Korea Array	90.43	18	P	P	18 56 02.3	-0.5
	comp=Z,1.0nm,0.9s,baz=35,slow=4.5,SNR=3.2						
BOSA	Boshof	92.02	134	P	P	18 56 10.0	-0.2
	comp=Z,3.4nm,1.0s,baz=334,slow=7.1,SNR=4.5						
BOSA				LR	LR	19 36 16.0	
	comp=Z,76nm,20.0s,baz=9.0,slow=35						
PZH	PanZhiHua	92.12	43	P	P	18 56 11.5	+0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,80nm,6.8s						
MJAR	Matsushiro Arr	92.94	10	LR	LR	19 34 16.6	
	comp=Z,172nm,21.7s,baz=216,slow=33						
SUR	Sutherland	93.31	140	LR	LR	19 35 34.0	
	comp=Z,55nm,18.8s,baz=343,slow=34						
NJ2	Nanjing	93.35	27	*e*P	P	18 56 14.1	-2.3
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
PLCA	Paso Flores	97.56	210	LR	LR	19 37 22.9	
	comp=Z,60nm,21.2s,baz=18,slow=33						
CMAR	Chiang Mai Arr	97.77	49	P	P	18 56 36.4	-0.3
	comp=Z,0.5nm,0.8s,baz=334,slow=5.3,SNR=4.3						
BELA	Belgrano 2	127.82	181		PKPdf	19 02 04.3	-1.0
SYO	Syowa Base	129.06	154	⇓*e*Pdiff	Pdif	18 58 56.7	+2.3
MORW	Morawa	146.31	64		PKPdf	19 02 38.7	-2.0
WRA	Warramunga Arr	147.09	30	PKPbc	PKPbc	19 02 44.5	+0.1
	comp=Z,8.1nm,0.8s,baz=344,slow=4.2,SNR=50						
WB2	Warramunga Arr	147.09	30		PKPdf	19 02 40.6	-1.7
AS31	Alice Springs	150.41	33	PKPdf	PKPdf	19 02 46.2	-1.3
ASAR	Alice Springs	150.41	33	PKP	PKPdf	19 02 47.0	-0.6
	comp=Z,0.5nm,0.7s,baz=343,slow=1.9,SNR=5.7						
ASAR				PKPbc	PKPbc	19 02 52.8	0.0
	comp=Z,5.8nm,0.7s,baz=349,slow=1.9,SNR=72						
ASAR	Alice Springs	150.41	33	PKIKP	PKPbc	19 02 51.5	-1.4
ASAR	Alice Springs	150.41	33		PKPbc	19 02 51.5	-1.4
SBA	Scott Base	151.58	187	PKIKP	PKiKP	19 02 54.3	0.0
SBA	Scott Base	151.58	187		PKiKP	19 02 54.3	0.0
VNDA	Vanda	152.23	185	PKPbc	PKiKP	19 02 57.1	+1.5
	comp=Z,2.0nm,0.6s,baz=247,slow=0.8,SNR=24						
STKA	Stephens Creek	160.45	24	PKPab	PKPab	19 03 41.9	+0.1
	comp=Z,1.6nm,0.9s,baz=267,slow=1.3,SNR=4.4						

ASRS ***12*** *18:55:04.7±0.3,50°N±2°×9°2E±°, h10km, MLh3.1/8, Error ellipse: s-maj=4.6km s-min=2.3km az=167.9, confirmed*
NNC ***12*** *18:55:53.2±5.7,48°.73N×89°.41E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=49.8km s-min=31.5km az=59.0*

ISC 12 18:55:04.0±1.4,**49°.62N**±0°.05×**91°.82E**±0°.02,**h4**km±19km, **n22**,σ1°**61**/38,**4C-2D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERNS	Erzin	2.25	72	Pg	Pg	18 55 49.1	+2.0
ERNS				Sg	Sg	18 56 20.0	+3.9
CUR	Chagan-Uzun	2.30	283	Pn	Pb	18 55 45.0	-1.2
CUR				Pg	Pg	18 55 47.6	-0.4
CUR				Sg	Sg	18 56 18.2	+0.4
KZLR	Kyzyl	2.68	38	Pn	Pb	18 55 50.1	-2.4
KZLR				Pg	Pg	18 55 55.5	+0.3
KZLR				Sg	Sg	18 56 29.3	-0.6
ULGR	Ulagan, Altay	2.68	294	Pg	Pg	18 55 56.5	+1.1
ULGR				Sg	Sg	18 56 32.2	+2.1
AKAR	Aktash	2.80	286	Pg	Pg	18 55 56.5	-1.2
AKAR				Sg	Sg	18 56 33.5	-0.5
DGZ	Jazzator, Alta	2.85	273	Pn	Pb	18 55 51.8	+1.3
DGZ				Pg	Pb	18 55 56.0	+0.4
DGZ				Sg	Sg	18 56 35.5	-0.1
CHBI	Chibit, Altay	2.88	286	Pn	Pb	18 55 54.5	-1.4
CHBI				Pg	Pg	18 55 59.0	-0.1
CHBI				Sg	Sg	18 56 36.9	+0.6
ARDR	Aradan	3.14	18	Pg	Pg	18 56 03.6	-0.5
ARDR				Sg	Sg	18 56 45.0	+0.4
DJO	Djoy, Khakassi	3.19	353	Pg	Pg	18 56 03.9	-1.2
DJO				Sg	Sg	18 56 47.0	+0.5
DJOS	Djoyskaya Sosn	3.19	355	Pg	Pg	18 56 04.7	-0.5
DJOS				Sg	Sg	18 56 48.0	+1.5
CERR	Cheremushki	3.25	356	Pg	Pg	18 56 07.8	+1.6
CERR				Sg	Sg	18 56 51.0	+2.6
ARTR	Artybash	3.62	309	Pg	Pg	18 56 14.0	+0.7
ARTR				Sg	Sg	18 57 02.1	+1.9
KNGR	Kungurtug, Tuv	3.80	73	Pg	Pg	18 56 15.0	-1.6
KNGR				Sg	Sg	18 57 06.4	+0.6
TASR	Tashtagol	4.01	323	Sg	Sg	18 57 13.3	+0.7
UKR	Ust'-Kan	4.71	289	Pg	Pg	18 56 33.4	-0.8
UKR				Sg	Sg	18 57 34.0	-1.2
ELT	Eltsovka	5.05	318	Pg	Pg	18 56 38.8	-1.9
ELT				Sg	Sg	18 57 45.3	-0.8
MINR	Mina	5.49	14	Sg	Sg	18 58 03.1	+3.0
MOY	Mondy	6.18	67	Pg	Pg	18 56 59.0	-3.4
MOY				Sg	Sg	18 58 21.2	-1.3
MK31	Makanchi Array	6.97	250	⇑Pn	Pg	18 57 12.2	-5.2
	0.8nm,0.5s,baz=62,slow=16,SNR=4.7						
MK31				⇓Lg	Lg	18 58 38.0	
	4.9nm,0.9s,baz=67,slow=30,SNR=4.4						
MAKZ	Makanchi	7.15	251	⇑Pn	Pb	18 57 14.4	+5.7
	4.5nm,1.4s						
MAKZ				⇑Lg	Lg	18 58 45.6	
	4.0nm,0.9s						
KURK	Kurchatov	8.55	282	⇑Lg	Lg	18 59 41.4	
	2.4nm,0.6s						
KURBB	Kurchatov Arra	8.61	282	⇓Lg	Lg	18 59 42.4	
	8.6nm,0.8s						

IDC ***12*** *18:58:15.0±0.7,51°.08N×160°.48E, h0km, mb3.8/14, mb1 4.1/18, mb1mx3.9/46, mbtmp3.9/18, ML4.0/3, MS2.5/2, Ms1 2.5/2, ms1mx2.3/100, Error ellipse: s-maj=17.2km s-min=14.8km az=168.0*
KRSC ***12*** *18:58:16.7±1.5,51°.13N×160°.70E, h49km±29km, ML4.5*
MOS ***12*** *18:58:20.2±0.8,51°.20N×160°.49E, h55km, mb4.1/5, Error ellipse: s-maj=9.4km s-min=3.9km az=102.7*
NEIC ***12*** *18:58:21.4±1.6,51°.19N±0°.10×160°.5E±0°.1, h35km±5km, mb4.2/32, Error ellipse: s-maj=14.5km s-min=10.0km az=200.0*

ISC 12 18:58:20.5±0.5,**51°.12N**±0°.05×**160°.67E**±

MTVR					S	**Sn**	**18 59 16.2**	**-1.1**
ASAK	**Asacha**	**2.14**	**308**		PN	**Pn**	**18 58 52.7**	**-1.1**
ASAK					S	**Sn**	**18 59 18.2**	**-0.9**
ASAK	**Asacha**	**2.14**	**308**		P	**Pn**	**18 58 52.7**	**-1.1**
ASAK					S	**Sn**	**18 59 18.3**	**-0.9**
GRL	**Gorelyy**	**2.16**	**313**		PN	**Pn**	**18 58 53.3**	**-0.8**
GRL					S	**Sn**	**18 59 19.6**	**-0.1**
GRL	**Gorelyy**	**2.16**	**313**		P	**Pn**	**18 58 53.3**	**-0.8**
NLC	**Nalytchevo**	**2.21**	**339**		PN	**Pn**	**18 58 53.9**	**-0.8**
NLC					S	**Sn**	**18 59 21.8**	**+1.0**
DALK	**Dalny**	**2.25**	**329**		PN	**Pn**	**18 58 53.8**	**-1.5**
DALK					S	**Sn**	**18 59 20.9**	**-0.9**
DALK	**Dalny**	**2.25**	**329**		P	**Pn**	**18 58 53.9**	**-1.4**
PET	**Petropavlovsk**	**2.28**	**328**	⇑	PN	**Pn**	**18 58 54.2**	**-1.4**
PET					*e*S	**Sn**	**18 59 21.5**	**-0.9**
PET					pmax	pmax		
	comp=Z,55nm,0.5s							
PET					smax	smax		
	comp=N,328nm,0.5s							
PET					smax	smax		
	comp=E,196nm,0.6s							
PET					MLR	MLR		
	comp=Z,300nm,10.0s							
PET					MLR	MLR		
	comp=Z,500nm,13.0s							
PET	**Petropavlovsk**	**2.28**	**328**		Pn	**Pn**	**18 58 54.0**	**-1.6**
PET					Sn	**Sn**	**18 59 17.6**	**-4.9**
PET	**Petropavlovsk**	**2.28**	**328**		P	**Pn**	**18 58 54.5**	**-1.1**
PET					S	**Sn**	**18 59 21.6**	**-0.9**
KRMR	**Karymshinskiy**	**2.33**	**319**		PN	**Pn**	**18 58 55.0**	**-1.3**
KRMR					S	**Sn**	**18 59 22.6**	**-1.0**
KRMR	**Karymshinskiy**	**2.33**	**319**		P	**Pn**	**18 58 55.0**	**-1.3**
KRMR					S	**Sn**	**18 59 22.8**	**-0.8**
UGLR	**Uglovaya**	**2.38**	**332**		PN	**Pn**	**18 58 56.3**	**-0.9**
UGLR	**Uglovaya**	**2.38**	**332**		P	**Pn**	**18 58 56.7**	**-0.5**
SDLR	**Sedlovina**	**2.43**	**334**		PN	**Pn**	**18 58 56.7**	**-1.1**
SDLR	**Sedlovina**	**2.43**	**334**		P	**Pn**	**18 58 56.7**	**-1.1**
SMAR	**Somma**	**2.44**	**333**		PN	**Pn**	**18 58 58.1**	**+0.1**
PAU	**Pauzhetka**	**2.45**	**280**		PN	**Pn**	**18 58 56.3**	**-1.6**
PAU					S	**Sn**	**18 59 24.3**	**-2.3**
PAU	**Pauzhetka**	**2.45**	**280**		P	**Pn**	**18 58 56.4**	**-1.5**
AVH	**Avacha**	**2.46**	**332**		PN	**Pn**	**18 58 57.8**	**-0.4**
AVH	**Avacha**	**2.46**	**332**		P	**Pn**	**18 58 57.7**	**-0.4**
KRER	**Koryakskii**	**2.49**	**332**		PN	**Pn**	**18 58 58.3**	**-0.4**
KRER	**Koryakskii**	**2.49**	**332**		P	**Pn**	**18 58 58.3**	**-0.4**
KOK	**Koryaka**	**2.51**	**331**		PN	**Pn**	**18 58 58.4**	**-0.5**
KOK	**Koryaka**	**2.51**	**331**		P	**Pn**	**18 58 58.5**	**-0.5**
MIPR	**Malaya Ipel'ka**	**2.69**	**297**		PN	**Pn**	**18 59 00.5**	**-0.9**
MIPR					S	**Sn**	**18 59 32.5**	**-0.3**
MIPR	**Malaya Ipel'ka**	**2.69**	**297**		P	**Pn**	**18 59 00.5**	**-0.9**
MIPR					S	**Sn**	**18 59 32.4**	**-0.3**
PEA0B	**Petropavlovsk-**	**2.71**	**319**	*c i*	PN	**Pn**	**18 59 00.7**	**-0.8**
PEA0B	**Petropavlovsk-**	**2.71**	**319**		Pn	**Pn**	**18 59 00.8**	**-0.8**
PEA0B					Sn	**Sn**	**18 59 31.9**	**-1.2**
PETK	**Petropavlovsk-**	**2.71**	**319**		Pn	**Pn**	**18 59 00.4**	**-1.1**
	comp=Z,20nm,0.3s,baz=121,slow=18,SNR=259							
PETK					Sn	**Sn**	**18 59 32.2**	**-0.9**
	comp=Z,21nm,0.3s,baz=129,slow=21,SNR=10							
PETK					LR	LR	18 59 45.4	
	comp=Z,58nm,20.8s,baz=128,slow=34							
PETK	**Petropavlovsk-**	**2.71**	**319**		PN	**Pn**	**18 58 59.8**	**-1.7**
PETK	**Petropavlovsk-**	**2.71**	**319**			**Pn**	**18 58 59.8**	**-1.7**
APC	**Apacha**	**2.83**	**311**		PN	**Pn**	**18 59 03.0**	**-0.1**
APC					S	**Sn**	**18 59 37.2**	**+1.3**
APC	**Apacha**	**2.83**	**311**		P	**Pn**	**18 59 02.8**	**-0.3**
APC					S	**Sn**	**18 59 37.8**	**+1.9**
SKR	**Severo-Kuril's**	**2.91**	**263**	*e*	PN	**Pn**	**18 59 02.4**	**-1.9**
SKR				*e*	S	**Sn**	**18 59 34.0**	**-4.0**
SKR					pmax	pmax		
	comp=Z,15nm,0.6s							
SKR					smax	smax		
	comp=N,373nm,0.5s							
SKR					smax	smax		
	comp=E,174nm,0.8s							
KII	**Karymskiy**	**3.02**	**346**		PN	**Pn**	**18 59 05.5**	**-0.3**
KII					S	**Sn**	**18 59 39.8**	**-1.0**
KII	**Karymskiy**	**3.02**	**346**		P	**Pn**	**18 59 05.6**	**-0.3**
GNL	**Ganaly**	**3.08**	**328**		PN	**Pn**	**18 59 06.4**	**-0.3**
GNL					S	**Sn**	**18 59 40.9**	**-1.4**
GNL	**Ganaly**	**3.08**	**328**		P	**Pn**	**18 59 06.4**	**-0.3**
GNL					S	**Sn**	**18 59 42.4**	**+0.1**
MKZ	**Mys Kozlova**	**3.51**	**10**		PN	**Pn**	**18 59 11.3**	**-1.2**
MKZ					S	**Sn**	**18 59 50.0**	**-2.7**
MKZ	**Mys Kozlova**	**3.51**	**10**		P	**Pn**	**18 59 11.2**	**-1.2**
MKZ					S	**Sn**	**18 59 49.4**	**-3.3**
TUMD	**Tumrok D**	**4.10**	**358**		P	**Pn**	**18 59 20.4**	**-0.3**
TUMD					S	**Sn**	**19 00 05.9**	**-1.4**
TUMR	**Tumrok**	**4.19**	**356**		PN	**Pn**	**18 59 20.3**	**-1.7**
TUMR					S	**Sn**	**19 00 05.7**	**-4.0**
TUMR	**Tumrok**	**4.19**	**356**		P	**Pn**	**18 59 22.4**	**+0.4**
TUMR					S	**Sn**	**19 00 10.0**	**+0.3**
KMNR	**Kamenistaya**	**4.66**	**357**		PN	**Pn**	**18 59 30.1**	**+1.7**
ESO	**Esso**	**4.96**	**347**		PN	**Pn**	**18 59 32.7**	**+0.2**
KOZ	**Kozyrevsk**	**4.97**	**355**		PN	**Pn**	**18 59 33.6**	**+0.9**
BKI	**Bering**	**5.19**	**36**		PN	**Pn**	**18 59 34.0**	**-1.6**
KBTR	**Krutoberegovo**	**5.26**	**13**		PN	**Pn**	**18 59 36.3**	**-0.3**
KBTR	**Krutoberegovo**	**5.26**	**13**		P	**Pn**	**18 59 36.5**	**-0.1**
KBG	**Krutoberegovo**	**5.29**	**12**		PN	**Pn**	**18 59 36.2**	**-0.8**
KBG					S	**Sn**	**19 00 35.5**	**-1.1**
BDR	**Baidarnaya**	**5.47**	**3**		PN	**Pn**	**18 59 39.2**	**-0.4**
SMKR	**Semkarok**	**5.50**	**5**		PN	**Pn**	**18 59 41.1**	**+1.2**
SMKR	**Semkarok**	**5.50**	**5**		P	**Pn**	**18 59 41.4**	**+1.5**
SRKR	**Sorokina**	**5.56**	**3**		PN	**Pn**	**18 59 41.4**	**+0.7**
SHEM	**Shemya Is, Ala**	**8.46**	**74**		Pn	**Pn**	**19 00 18.6**	**-1.9**
	comp=E,6.4nm,0.3s,baz=140,slow=3.4,SNR=5.0							
SHEM					Sn	**Sn**	**19 01 46.8**	**-7.9**
	comp=E,9.7nm,0.3s,baz=326,slow=22,SNR=12							
SMY	**Shemya**	**8.46**	**74**		PN	**Pn**	**19 00 18.3**	**-2.2**
SMY	**Shemya**	**8.46**	**74**		Pn	**Pn**	**19 00 18.3**	**-2.2**
MA2	**Magadan**	**10.17**	**330**		LR	LR	19 04 45.7	
	comp=E,36nm,20.1s,baz=186,slow=38							
SHO	**Shikotan**	**11.82**	**238**		PN	**Pn**	**19 01 05.7**	**-0.8**
SEY	**Seymchan**	**12.66**	**343**		Pn	**Pn**	**19 01 17.4**	**-0.5**
	baz=148,slow=14,SNR=4.6							
SEY	**Seymchan**	**12.66**	**343**	*i*	PN	**Pn**	**19 01 18.7**	**+0.8**
SEY					pmax	pmax		
	comp=Z,1.0nm,1.2s							
BILL	**Bilibino**	**17.20**		7⇑	*e*P	**P**	**19 02 19.9**	**+0.9**
BILL					*e*S	**Sn**	**19 05 24.2**	**-3.4**
BILL					pmax	pmax		
	comp=Z,5.0nm,0.7s							
BILL					MLR	MLR		
	comp=Z,19nm,14.0s							
BILL	**Bilibino**	**17.20**	**7**		P	**P**	**19 02 19.6**	**+0.6**
KLR	**Kul'dur**	**18.57**	**275**	*i*	P	**P**	**19 02 33.6**	**-0.6**
YAK	**Yakutsk**	**20.05**	**315**		P	**P**	**19 02 47.5**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=75,slow=3.9,SNR=10.0							
YAK	**Yakutsk**	**20.05**	**315**	*e*	P	**P**	**19 02 50.2**	**0.0**
YAK					pmax	pmax		
	comp=Z,20nm,0.9s							
YAK					pmax	pmax		
	comp=N,4.0nm,1.1s							
YAK					pmax	pmax		
	comp=E,8.0nm,1.3s							
YAK	**Yakutsk**	**20.05**	**315**		P	**P**	**19 02 47.4**	**-2.9**
ZEA	**Zeya**	**20.44**	**290**	*i*	P	**P**	**19 02 53.2**	**-1.4**
TIXI	**Tiksi**	**25.04**	**337**	*i*	P	**P**	**19 03 40.8**	**-0.1**
TIXI					pmax	pmax		
	comp=Z,3.0nm,0.8s							
TIXI	**Tiksi**	**25.04**	**337**		P	**P**	**19 03 40.0**	**-0.8**
TIXI					IAmb	IAmb	19 03 45.7	
	comp=Z,5.6nm,0.6s							
JHS	**Saijyo**	**25.57**	**242**		P	**P**	**19 03 47.4**	**+1.3**
N18K	**Kilae Creek**	**25.70**	**51**		P	**P**	**19 03 49.3**	**+2.2**
N18K					IAmb	IAmb	19 03 51.2	
	comp=Z,9.0nm,1.0s							
TTA	**Tatalina**	**25.83**	**46**		P	**P**	**19 03 48.3**	**+0.1**
TTA					pmax	pmax		
	comp=Z,2.0nm,1.1s							
TTA	**Tatalina**	**25.83**	**46**		P	**P**	**19 03 48.3**	**+0.1**
SVW2	**Sparrevohn**	**25.87**	**50**		P	**P**	**19 03 50.5**	**+1.9**
SVW2					IAmb	IAmb	19 03 52.4	
	comp=Z,11nm,1.4s							
HIA	**Hailar**	**26.03**	**282**	*i*	P	**P**	**19 03 49.1**	**-1.1**
HIA					pmax	pmax		
	comp=Z,4.0nm,0.8s							
L19K	**White Mountain**	**26.29**	**48**		P	**P**	**19 03 54.1**	**+1.8**
L19K					IAmb	IAmb	19 04 22.4	
	comp=Z,5.6nm,1.3s							
N19K	**Bonanza Creek**	**26.40**	**51**		P	**P**	**19 03 55.2**	**+1.8**
N19K					IAmb	IAmb	19 03 56.8	
	comp=Z,9.5nm,1.1s							
K20K	**Telida**	**26.75**	**45**		P	**P**	**19 03 57.6**	**+1.0**
J20K	**Nowinta River**	**26.81**	**44**		P	**P**	**19 03 58.2**	**+1.1**
IMAR	**Indian Mountai**	**27.27**	**40**		P	**P**	**19 04 02.1**	**+1.0**
H21K	**Melozitna Rive**	**27.59**	**40**		P	**P**	**19 04 05.3**	**+1.3**
H21K					IAmb	IAmb	19 04 26.8	
	comp=Z,5.3nm,1.4s							
WRH	**Wood River Hil**	**29.47**	**43**		P	**P**	**19 04 20.6**	**-0.1**
ILAR	**Eielson Array**	**29.99**	**43**		P	**P**	**19 04 24.4**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=246,slow=7.7,SNR=9.8							
J25K	**Salcha River,**	**30.64**	**43**		P	**P**	**19 04 30.0**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**31.70**	**169**		T	T	19 39 05.4	
	baz=349							
H11N3	**WAKE ISLAND Hy**	**31.72**	**169**		T	T	19 39 06.6	
	baz=349							
H11N1	**WAKE ISLAND Hy**	**31.72**	**169**		T	T	19 39 07.6	
	baz=349							
L27K	**Beaver Creek,**	**32.29**	**46**		P	**P**	**19 04 47.0**	**+1.4**
L27K					IAmb	IAmb	19 04 47.8	
	comp=Z,2.4nm,0.8s							
BCAR	**Beaver Creek A**	**32.31**	**46**		P	**P**	**19 04 47.0**	**+1.2**
EGAK	**Eagle**	**32.45**	**43**		P	**P**	**19 04 47.1**	**+0.2**
CTGM	**Chitina Glacie**	**32.79**	**50**		P	**P**	**19 04 50.8**	**+0.6**
H11S1	**WAKE ISLAND Hy**	**32.88**	**169**		T	T	19 40 38.4	
	baz=352							
H11S3	**WAKE ISLAND Hy**	**32.90**	**169**		T	T	19 40 38.8	
	baz=352							
H11S2	**WAKE ISLAND Hy**	**32.90**	**169**		T	T	19 40 39.3	
	baz=352							
DAWY	**Dawson**	**33.27**	**44**		P	**P**	**19 04 54.8**	**+0.6**
DAWY					IAmb	IAmb	19 05 11.6	
	comp=Z,4.2nm,1.6s							
HYT	**Haines Junctio**	**34.66**	**49**		P	**P**	**19 05 07.6**	**+1.2**
HYT					IAmb	IAmb	19 05 15.0	
	comp=Z,5.4nm,1.2s							
HHC	**Hu-ho-hao-te**	**35.03**	**273**	*e*	P	**P**	**19 05 10.8**	**+1.1**
HHC					pmax	pmax		
	comp=Z,12nm,0.9s							
HHC					pmax	pmax		
	comp=Z,130nm,6.0s							
INK	**Inuvik**	**35.24**	**36**		P	**P**	**19 05 10.5**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=268,slow=5.2,SNR=5.8							
INK	**Inuvik**	**35.24**	**36**		P	**P**	**19 05 10.5**	**-0.6**
INK					pmax	pmax		
	comp=Z,1.0nm,0.7s							
INK	**Inuvik**	**35.24**	**36**		IAmb	IAmb	19 05 12.7	
	comp=Z,1.3nm,0.7s							
M31M	**Drury Creek, Y**	**35.82**	**47**		P	**P**	**19 05 18.0**	**+1.8**
M31M					IAmb	IAmb	19 05 30.8	
	comp=Z,5.2nm,1.1s							
WHY	**Whitehorse**	**35.95**	**49**		P	**P**	**19 05 19.7**	**+2.2**
NRIK	**Noril'sk**	**37.74**	**326**	*i*	P	**P**	**19 05 33.9**	**+1.5**
NRIK					pmax	pmax		
	comp=Z,1.0nm,0.8s							
C36M	**Paulatuk**	**38.49**	**33**		P	**P**	**19 05 38.7**	**0.0**
C36M					IAmb	IAmb	19 05 41.4	
	comp=Z,8.3nm,1.4s							
EUNU	**Eureka**	**43.79**	**13**		P	**P**	**19 06 23.9**	**+1.7**
EUNU					IAmb	IAmb	19 06 36.1	
	comp=Z,3.0nm,0.9s							
ZALV	**Zalesovo Beam**	**44.17**	**305**		P	**P**	**19 06 23.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=76,slow=6.1,SNR=1.5							
YKA	**Yellowknife Ar**	**44.40**	**41**		P	**P**	**19 06 28.3**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=297,slow=7.9,SNR=22							
YKA	**Yellowknife Ar**	**44.40**	**41**	*e*	P	**P**	**19 06 28.4**	**+1.2**
YKA					pmax	pmax		
	comp=Z,2.0nm,0.7s							
WMQ	**Urumqi**	**47.99**	**291**	*e*	P	**P**	**19 06 58.1**	**+2.3**
WMQ					LR	LR		
	comp=N,170nm,15.1s							
WMQ					LR	LR		
	comp=E,520nm,16.3s							
WMQ					LR	LR		
	comp=Z,320nm,20.5s							
KURK	**Kurchatov**	**49.10**	**304**		P	**P**	**19 07 03.3**	**-0.8**
KURK					pmax	pmax		
	comp=Z,7.0nm,1.3s							
KURK	**Kurchatov**	**49.10**	**304**		P	**P**	**19 07 03.3**	**-0.8**
MK31	**Makanchi Array**	**49.36**	**298**	*i*	P	**P**	**19 07 05.3**	**-0.9**
MK31	**Makanchi Array**	**49.36**	**298**		P	**P**	**19 07 05.5**	**-0.7**
MKAR	**Makanchi Array**	**49.36**	**298**		P	**P**	**19 07 05.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=58,slow=7.5,SNR=8.7							
MKAR	**Makanchi Array**	**49.36**	**298**		P	**P**	**19 07 05.2**	**-1.0**
PZH	**PanZhiHua**	**50.50**	**264**		P	**P**	**19 07 16.6**	**+1.4**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.7s							
PZH					pmax	pmax		
	comp=Z,50nm,4.5s							
BRVK	**Borovoye**	**51.94**	**310**		P	**P**	**19 07 24.4**	**-1.2**
BRVK					pmax	pmax		
	comp=Z,2.0nm,0.8s							
BRVK	**Borovoye**	**51.94**	**310**		P	**P**	**19 07 24.4**	**-1.2**
BRVK					IAmb	IAmb	19 07 36.8	
	comp=Z,1.7nm,0.8s							
ARU	**Arti**	**55.10**	**319**	*i*	P	**P**	**19 07 47.9**	**-0.7**
ARU					pmax	pmax		
	comp=Z,2.0nm,1.1s							
BMN	**Battle Mountai**	**55.42**	**67**		P	**P**	**19 07 52.8**	**+1.4**
BMN					pmax	pmax		
	comp=Z,4.0nm,0.9s							
BMN	**Battle Mountai**	**55.42**	**67**		P	**P**	**19 07 52.8**	**+1.4**
BMN					IAmb	IAmb	19 07 53.9	
	comp=Z,3.5nm,0.9s							
KVN	**Kaiserville**	**55.81**	**68**		P	**P**	**19 07 55.5**	**+1.3**
KVN					pmax	pmax		
	comp=Z,3.0nm,0.9s							
KVN	**Kaiserville**	**55.81**	**68**		P	**P**	**19 07 55.5**	**+1.3**
KVN					IAmb	IAmb	19 07 56.7	
	comp=Z,3.1nm,0.9s							
NVAR	**Mina Array Bea**	**56.10**	**69**		P	**P**	**19 07 57.4**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=298,slow=6.9,SNR=5.9							
NVAR	**Mina Array Bea**	**56.10**	**69**		P	**P**	**19 07 57.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**58.15**	**260**		P	**P**	**19 08 10.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=27,slow=6.1,SNR=2.6							
CMAR	**Chiang Mai Arr**	**58.15**	**260**		P	**P**	**19 08 10.0**	**-0.8**
PD31	**Pinedale Array**	**58.19**	**60**		P	**P**	**19 08 12.0**	**+0.8**
PD31					IAmb	IAmb	19 08 13.3	
	comp=Z,2.0nm,1.0s							
PDAR	**Pinedale Array**	**58.19**	**60**		P	**P**	**19 08 12.4**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=308,slow=3.6,SNR=13							
FINES	**FINESS Array B**	**62.08**	**337**		P	**P**	**19 08 37.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=35,slow=8.5,SNR=1.1							
NB2	**NORSAR Subarra**	**65.54**	**344**		P	P	19 09 05.4	+5.4
	comp=Z,0.3nm,0.6s,baz=24,slow=6.9							
NOA	**NORSAR Array B**	**65.54**	**344**		P	**P**	**19 09 00.3**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=20,slow=6.7,SNR=3.4							
SCHQ	**Schefferville**	**67.24**	**28**		P	**P**	**19 09 12.0**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=235,slow=13,SNR=3.5							
SCHQ	**Schefferville**	**67.24**	**28**		IAmb	IAmb	19 09 13.2	
	comp=Z,17nm,1.6s							
TXAR	**Lajitas Array**	**71.09**	**67**		P	**P**	**19 09 35.9**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=300,slow=4.6,SNR=15							
WRA	**Warramunga Arr**	**74.44**	**206**		P	**P**	**19 09 53.5**	**-1.4**
	comp=Z,1.6nm,0.9s,baz=19,slow=6.0,SNR=8.7							
WRA	**Warramunga Arr**	**74.44**	**206**	*e*	P	**P**	**19 09 53.9**	**-1.0**
WRA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**78.10**	**205**		P	**P**	**19 10 15.2**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=16,slow=5.2,SNR=14							

NEIC ***12*** *19:04:35.4±2.9,28.84N±0.06×130.67E±0.09,h7km±4km, mb4.9/102, Error ellipse: s-maj=12.6km s-min=7.9km az=122.0*

BJI ***12*** *19:04:37.6±0.0,28.65N×131.21E,h49km,mb4.4/53, mB4.6/36,Ms4.5/55,Ms7 4.5/51*

MOS ***12*** *19:04:39.4±1.6,29.14N×130.50E,h16km,mb4.7/31, MS4.7/4, Error ellipse: s-maj=7.7km s-min=4.6km az=103.8*

JMA ***12*** *19:04:44.6,29.25N×130.61E,h60km±3km,M4.5*

NIED ***12*** *19:04:44.6,29.25N×130.61E,h60km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.73; Mθθ-0.09; Mϕϕ-0.64; Mrθ 0.37; Mθϕ-0.91; Mϕr 0.47; Fault plane solution: M₀1.18000×10¹⁶ NP1: ϕs213.00000°,δ30.00000°,λ84.00000°. NP2:ϕs39.00000°, δ60.00000°,λ93.00000°.*

IDC ***12*** *19:04:46.0±1.9,29.33N×130.46E,h41km±16km,mb4.1/26, mb1 4.2/32,mb1mx4.1/50,mbtmp4.3/32,ML3.6/6,MS4.1/54, Ms1 4.1/54,ms1mx3.9/93 Error ellipse: s-maj=15.4km s-min=10.9km az=106.0*

ISC 12 19:04:43.8±0.6,29.08N±0.04×130.67E±0.04,h50km±4km, n374,σ2s37/359,mb4.8/122,MS4.2/68,27C-16D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.98**	**219**	P	**Pn**	**19 05 04.2**	**+2.9**
JNN	**Nakanoshima**	**1.02**	**318**	P	**Pn**	**19 05 01.1**	**-0.8**
JNN				*e*S	**Sn**	**19 05 13.8**	**-1.4**
JAM	**Amami Oshima**	**1.15**	**235**	P	**Pn**	**19 05 05.4**	**+1.9**
JYAK	**Yakushimahirau**	**1.16**	**353**	P	**Pn**	**19 05 02.6**	**-1.1**
JTAJ	**Takarajima**	**1.29**	**273**	P	**Pn**	**19 05 06.0**	**+0.6**
JMTN	**Minamitane**	**1.32**	**9**	P	**Pn**	**19 05 05.2**	**-0.7**
JMTN				*e*S	**Sn**	**19 05 19.5**	**-2.9**
JKC	**Kuchinoerabu**	**1.43**	**343**	P	**Pn**	**19 05 06.5**	**-0.9**
JAMN	**Amaminishikomi**	**1.56**	**238**	P	**Pn**	**19 05 11.1**	**+2.0**
JTN	**Tanegashima 3**	**1.59**	**10**	P	**Pn**	**19 05 08.8**	**-0.7**
JTSR	**Tashiro 2**	**2.09**	**6**	P	**Pn**	**19 05 16.1**	**-0.3**
JSU	**Suzuyama**	**2.42**	**356**	P	**Pn**	**19 05 20.0**	**-1.0**
JSU	**Suzuyama**	**2.42**	**356**	Pn	**Pn**	**19 05 19.9**	**-1.0**
JNAR	**Kushima--Naru**	**2.49**	**12**	P	**Pn**	**19 05 22.0**	**+0.2**
JOW	**Kunigami**	**3.09**	**224**	P	**Pn**	**19 05 32.9**	**+2.8**
	9.1nm,0.3s,baz=114,slow=24,SNR=13						
JOW				S	**Sn**	**19 06 06.3**	**+0.6**
	17nm,0.3s,baz=39,slow=23,SNR=7.5						
JOW				LR	LR	19 07 07.0	
	comp=Z,3μm,19.1s,baz=42,slow=45						
JOW	**Kunigami**	**3.09**	**224**	Pn	Pn	19 05 21.8	-8.3
JNU	**Nakatsue**	**4.03**	**2**	P	**Pn**	**19 05 42.9**	**-0.1**
	12nm,0.3s,baz=201,slow=4.2,SNR=128						
JNU				S	**Sn**	**19 06 25.8**	**-3.1**
	9.2nm,0.3s,baz=231,slow=21,SNR=6.1						
JNU	**Nakatsue**	**4.03**	**2**	Pn	**Pn**	**19 05 42.3**	**-0.7**
JMN	**Monobe**	**5.38**	**30**	Pn	**Pn**	**19 06 01.2**	**-0.3**
JTU	**Tsushima**	**5.53**	**349**	Pn	**Pn**	**19 06 01.5**	**-2.0**
JHS	**Saijyo**	**6.25**	**19**		**Pn**	**19 06 12.7**	**-0.8**
TJN	**Taejon**	**7.79**	**340**	*ce*	P	**19 06 30.9**	**-3.6**
TJN	**Taejon**	**7.79**	**340**	Pn	**Pn**	**19 06 32.1**	**-2.3**
INU	**Inuyama**	**8.24**	**39**	Pn	**Pn**	**19 06 40.5**	**-0.2**
YOJ	**Yonaguni jima**	**8.25**	**238**	P	**Pn**	**19 06 36.9**	**-3.9**
YOJ	**Yonaguni jima**	**8.25**	**238**	Pn	Pn	19 06 32.2	-8.7
JGF	**Kuroka**	**8.61**	**39**	Pn	**Pn**	**19 06 43.0**	**-2.9**
KSRS	**Korea Array**	**8.66**	**345**	P	**Pn**	**19 06 46.7**	**+0.3**
	0.4nm,0.3s,baz=161,slow=14,SNR=22						
KSRS				LR	LR	19 10 19.8	
	comp=Z,685nm,20.3s,baz=165,slow=40						
KSRS	**Korea Array**	**8.66**	**345**	P	**Pn**	**19 06 46.7**	**+0.3**
KSRS	**Korea Array**	**8.66**	**345**		**Pn**	**19 06 46.7**	**+0.3**
KS19	**Wonju Array Si**	**8.72**	**345**		**Pn**	**19 06 43.5**	**-3.7**
JHJ	**Hachijo jima 2**	**8.79**	**60**	P	**Pn**	**19 06 46.1**	**-2.0**
	6.1nm,0.3s,baz=241,slow=18,SNR=1.8						
JHJ				LR	LR	19 09 53.7	
	comp=Z,637nm,20.0s,baz=266,slow=35						
JHJ2	**Mitsune**	**8.81**	**61**	Pn	**Pn**	**19 06 44.6**	**-3.9**
YHNB	**Yeheng**	**9.39**	**244**	Pn	Pn	19 06 47.9	-8.6
MAJO	**Matsushiro**	**9.77**	**38**	*i* P	**Pn**	**19 07 03.4**	**+1.8**
MAJO	**Matsushiro**	**9.77**	**38**	Pn	**Pn**	**19 06 56.9**	**-4.8**
MJAR	**Matsushiro Arr**	**9.77**	**39**	P	**Pn**	**19 07 02.3**	**+0.6**
	0.3nm,0.3s,baz=222,slow=16,SNR=7.5						
MJAR	**Matsushiro Arr**	**9.77**	**39**	P	**Pn**	**19 07 02.3**	**+0.6**
MJAR	**Matsushiro Arr**	**9.77**	**39**		**Pn**	**19 06 58.1**	**-3.5**
MJB9	**Matsu-Tunnel**	**9.77**	**38**		**Pn**	**19 06 57.0**	**-4.7**
YULB	**Yu-li**	**10.14**	**238**	Pn	Pn	19 06 59.3	-7.5
SSLB	**Suanglung**	**10.18**	**241**	Pn	Pn	19 06 59.8	-7.5
JCJ	**Chichijima**	**10.36**	**98**	LR	LR	19 10 39.4	
	comp=Z,524nm,19.8s,baz=359,slow=33						
NJ2	**Nanjing**	**10.61**	**289**	*e*P	**Pn**	**19 07 15.7**	**+2.6**
NJ2

XLT XiLinHaoTe 18.83 326 ⇓*i*P **Pn 19 09 02.1 +1.7**
XLT PP **sP 19 09 17.6 +0.5**
XLT S **S 19 12 38.7 +7.7**
XLT pmax pmax
comp=Z,23nm,0.7s
XLT pmax pmax
comp=Z,190nm,5.9s
XLT LR LR
comp=Z,89nm,15.6s
XLT LR LR
comp=Z,860nm,14.3s
XLT LR LR
comp=Z,1µm,14.8s
XAN Xi'an 19.17 290 P **P 19 09 00.3 -2.9**
XAN pP Pn 19 09 04.5 0.0
XAN S **S 19 12 33.3 -4.6**
XAN SS **SnSn 19 12 57.3 +4.2**
XAN pmax pmax
comp=Z,28nm,1.0s
XAN pmax pmax
comp=Z,290nm,10.8s
XAN LR LR
comp=N,550nm,12.5s
XAN LR LR
comp=E,1µm,11.7s
XAN LR LR
comp=Z,1µm,12.0s
HHC Hu-ho-hao-te 19.52 312 *e*P **P 19 09 07.2 +0.1**
HHC S **S 19 12 40.3 -4.7**
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,190nm,4.7s
HHC LR LR
comp=Z,870nm,14.5s
HHC LR LR
comp=Z,1µm,14.5s
HHC LR LR
comp=Z,2µm,14.5s
KLR Kul'dur 20.14 2 P **P 19 09 13.6 +0.1**
comp=Z,1.1nm,0.3s,baz=183,slow=7.3,SNR=62
KLR LR LR 19 17 26.8
comp=Z,290nm,18.8s,baz=178,slow=38
KLR Kul'dur 20.14 2*ce*P **P 19 09 13.6 +0.1**
KLR pmax pmax
comp=Z,11nm,0.7s
YSS Yuzh-Sakhalins 20.18 25 *e*P Pn 19 09 16.2 0.0
YSS *e*S Sn 19 13 00.3 -2.2
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=E,400nm,15.0s
GUMO Guam 20.28 137 LR LR 19 15 58.1
comp=E,207nm,19.0s,baz=322,slow=33
BTO Baotou 20.43 310 *e*P **P 19 09 17.7 +0.8**
BTO S Sn 19 13 08.1 -0.7
BTO LR LR
comp=E,3µm,16.8s
BTO LR LR
comp=E,3µm,13.4s
GYA Guiyang 21.40 269 ⇓P P 19 09 20.5 -7.0
GYA S **S 19 13 17.2 -5.2**
GYA sS Sn 19 13 32.2 -0.1
GYA pmax pmax
comp=Z,5.0nm,0.7s
GYA pmax pmax
comp=Z,140nm,3.5s
GYA LR LR
comp=N,200nm,3.8s
GYA LR LR
comp=E,95nm,3.8s
GYA LR LR
comp=Z,690nm,11.8s
QIZ Qiongzhong 21.46 247 P **P 19 09 24.4 -3.7**
QIZ Qiongzhong 21.46 247 P **P 19 09 23.0 -5.1**
QIZ S **S 19 13 21.9 -1.6**
QIZ LR LR
comp=Z,610nm,13.9s
QIZ LR LR
comp=Z,520nm,20.4s
QIZ LR LR
comp=Z,550nm,13.8s
GRNR Gornyy 22.09 10⇑*i*P **P 19 09 38.0 +3.4**
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR MLR MLR
comp=N,280nm,15.0s
GRNR MLR MLR
comp=E,170nm,15.0s
GRNR MLR MLR
comp=Z,450nm,15.0s
DAV Davao City (W) 22.42 193 LR LR 19 18 30.7
comp=Z,122nm,21.0s,baz=26,slow=36
CD2 Chengdu 23.36 281 P **P 19 09 43.7 -4.3**
CD2 S **S 19 13 57.4 +0.1**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 LR LR
comp=Z,1µm,14.2s
CD2 LR LR
comp=Z,1µm,12.7s
TYV Tymovskoe 23.55 19 *e*P P 19 09 56.8 +7.3
TYV pmax pmax
comp=Z,10.0nm,1.2s
TYV pmax pmax
comp=Z,300nm,4.5s
LZH Lanzhou 23.61 294 *e*P **P 19 09 52.6 +2.2**
LZH pP pP 19 09 59.0 -3.3
LZH PP **PnPn 19 10 21.8 +2.5**
LZH *e*S **S 19 14 05.7 +4.3**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.9s
LZH LR LR
comp=Z,320nm,14.1s
LZH LR LR
comp=Z,1µm,14.4s
LZH LR LR
comp=Z,2µm,16.8s
ZEA Zeya 24.76 355 *e*P **P 19 10 00.6 +0.1**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=N,200nm,13.0s
ZEA MLR MLR
comp=E,200nm,13.0s
KMI Kunming 25.15 268 ⇑P **P 19 10 06.0 +1.4**
KMI pP pP 19 10 15.6 -1.1
KMI sP pwP 19 10 19.9 +0.2
KMI LR LR
comp=E,470nm,14.6s
KMI LR LR
comp=E,1µm,12.9s
KMI LR LR
comp=E,1µm,12.9s
PZH PanZhiHua 25.69 271 P **P 19 10 10.5 +1.1**
PZH S **S 19 14 34.3 -0.5**
PZH pmax pmax
comp=E,10.0nm,0.6s
PZH pmax pmax
comp=E,80nm,5.1s
PZH LR LR
comp=E,1µm,20.3s
PZH LR LR
comp=E,1µm,21.1s
PZH LR LR
comp=E,2µm,24.1s
ULN Ulaanbaatar 26.16 322*ce*P **P 19 10 14.8 +1.3**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 26.16 322 P **P 19 10 12.0 -1.5**
MYLDM Lahad Datu 26.42 208 P **P 19 10 15.0 -0.9**
MYLDM IAmb IAmb 19 10 34.0
comp=Z,31nm,1.2s
SONM Songino Array 26.50 322 P **P 19 10 16.6 +0.1**
comp=Z,1.4nm,0.4s,baz=137,slow=8.8,SNR=12
SONM LR LR 19 22 04.6
comp=Z,919nm,18.1s,baz=160,slow=40
SONM Songino Array 26.50 322 P **P 19 10 16.6 +0.1**
SONM Songino Array 26.50 322 P **P 19 10 13.3 -3.3**
KKM Kota Kinabalu 26.68 214 P **P 19 10 13.7 -4.6**
UBPT Khong Chiam 27.00 245 P **P 19 10 15.3 -5.9**
GTA Gaotai 27.39 300 *e*P **P 19 10 26.5 +1.9**
GTA pmax pmax
comp=Z,1.0nm,1.0s
GTA pmax pmax
comp=Z,68nm,6.0s
GTA LR LR
comp=Z,450nm,15.9s
GTA LR LR
comp=Z,830nm,15.5s
GTA LR LR
comp=Z,1µm,16.3s
ZAK Zakamensk 29.65 323 *e*P **P 19 10 45.3 +0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
SIJI Sorong 29.79 179 LR LR 19 21 01.0
comp=Z,191nm,21.3s,baz=24,slow=32
CHTO Chiang Mai 30.66 258 P **P 19 10 56.2 +2.5**
CHTO pmax pmax
comp=Z,5.0nm,1.3s
CMAR Chiang Mai Arr 30.81 257 P **P 19 10 56.9 +1.8**
comp=Z,0.8nm,0.8s,baz=55,slow=7.7,SNR=7.3
CMAR PcP **PcP 19 13 54.8 +3.4**
comp=Z,0.7nm,0.8s,baz=120,slow=1.0,SNR=4.7
CMAR LR LR 19 24 17.7
comp=Z,324nm,21.4s,baz=80,slow=38
CMAR Chiang Mai Arr 30.81 257*ce*P **P 19 10 58.2 +3.1**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
GOMU GeErMu 30.89 293 P **P 19 10 58.0 +2.0**
GOMU pmax pmax
comp=Z,5.0nm,0.8s
GOMU pmax pmax
comp=Z,54nm,4.7s
GOMU LR LR
comp=Z,160nm,16.6s
GOMU LR LR
comp=Z,350nm,16.1s
GOMU LR LR
comp=Z,380nm,16.6s
PEA0B Petropavlovsk- 31.14 32*ce*P **P 19 11 01.5 +3.9**
PEA0B Petropavlovsk- 31.14 32 P **P 19 10 57.5 -0.1**
PETK Petropavlovsk- 31.14 32 P **P 19 11 00.4 +2.8**
comp=Z,2.1nm,0.8s,baz=205,slow=6.4,SNR=2.6
PETK Petropavlovsk- 31.14 32 P **P 19 11 00.4 +2.8**
PETK Petropavlovsk- 31.14 32 P **P 19 10 54.4 -3.2**
PET Petropavlovsk 31.54 33 P **P 19 10 58.1 -2.9**
PET IAmb IAmb 19 11 16.0
comp=Z,12nm,0.9s
YAK Yakutsk 32.96 359 P **P 19 11 14.2 +0.9**
comp=Z,8.9nm,0.4s,baz=87,slow=1.4,SNR=4.4
YAK LR LR 19 26 10.3
comp=Z,281nm,18.0s,baz=150,slow=39
YAK Yakutsk 32.96 359 *e*P **P 19 11 13.0 -0.3**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK Yakutsk 32.96 359 P **P 19 11 14.2 +0.9**
MA2 Magadan 33.42 19 P **P 19 11 19.4 +2.0**
comp=N,8.3nm,0.8s,baz=237,slow=8.6,SNR=7.2
MA2 LR LR 19 26 12.2
comp=N,241nm,18.7s,baz=226,slow=39
MA2 Magadan 33.42 19 *i*P **P 19 11 19.3 +1.8**
MA2 pmax pmax
comp=Z,9.0nm,0.9s
MA2 Magadan 33.42 19 IAmb IAmb 19 11 20.7
comp=Z,7.5nm,0.7s
KAPI Kappang 35.49 199 LR LR 19 26 52.5
comp=Z,35nm,20.6s,baz=2.5,slow=37
SEY Seymchan 36.67 16 LR LR 19 26 43.6
comp=Z,239nm,21.1s,baz=210,slow=36
SEY Seymchan 36.67 16*ce*P **P 19 11 47.8 +2.4**
SEY pmax pmax
comp=Z,12nm,1.0s
WMQ Urumqi 37.13 305 *e*P **P 19 11 50.5 +0.8**
WMQ LR LR
comp=Z,460nm,16.7s
WMQ LR LR
comp=Z,580nm,15.7s
WMQ LR LR
comp=Z,370nm,21.7s
BATI Baumata 39.64 191 LR LR 19 30 20.5
comp=Z,44nm,19.4s,baz=98,slow=38
MK31 Makanchi Array 41.34 309 *i*P **P 19 12 25.9 +1.2**
MK31 Makanchi Array 41.34 309 P **P 19 12 21.4 -3.3**
MKAR Makanchi Array 41.34 309 P **P 19 12 25.2 +0.6**
comp=Z,1.2nm,0.4s,baz=90,slow=9.9,SNR=60
MKAR PcP **PcP 19 14 23.5 +1.2**
comp=Z,1.7nm,0.8s,baz=94,slow=4.9,SNR=4.9
MKAR Makanchi Array 41.34 309 *i*P **P 19 12 26.3 +1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 41.34 309 P **P 19 12 21.4 -3.3**
MKAR PcP **PcP 19 14 25.1 +2.8**
ZAA0 Zalesovo Array 41.37 320 **P 19 12 23.0 -1.8**
ZAA0 PcP **PcP 19 14 23.4 +1.2**
ZALV Zalesovo Beam 41.37 320 P **P 19 12 25.3 +0.5**
comp=Z,1.8nm,0.4s,baz=107,slow=8.1,SNR=17
ZALV PcP **PcP 19 14 23.1 +1.0**
comp=Z,2.0nm,0.8s,baz=101,slow=3.0,SNR=5.9
ZALV LR LR 19 31 33.1
comp=Z,593nm,18.5s,baz=122,slow=39
ZALV Zalesovo Beam 41.37 320 *i*P **P 19 12 25.6 +0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 41.37 320 **P 19 12 21.9 -2.9**
ZALV **PcP 19 14 24.1 +1.9**
MAKZ Makanchi 41.55 309 P **P 19 12 24.6 -1.9**
MAKZ pmax pmax
comp=Z,12nm,1.7s
MAKZ Makanchi 41.55 309 P **P 19 12 24.6 -1.9**
LEM Lembang 42.04 215 LR LR 19 32 30.1
comp=Z,54nm,18.8s,baz=344,slow=40
TIXI Tiksi 42.62 359 P **P 19 12 34.9 +0.1**
comp=Z,3.1nm,0.6s,baz=263,slow=15,SNR=20
TIXI LR LR 19 31 44.5
comp=Z,208nm,18.1s,baz=180,slow=38
TIXI Tiksi 42.62 359*ce*P **P 19 12 35.9 +1.2**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 42.62 359 **P 19 12 32.7 -2.0**
BILL Bilibino 44.29 18*ce*P **P 19 12 50.9 +2.7**
BILL *e* 19 14 35.8
BILL *e*S **S 19 19 13.6 -4.7**
BILL pmax pmax
comp=Z,10.0nm,0.8s
BILL MLR MLR
comp=Z,89nm,16.0s
BILL Bilibino 44.29 18 P **P 19 12 48.3 0.0**
BILL IAmb IAmb 19 12 52.3
comp=Z,8.7nm,0.8s
KURK Kurchatov 44.32 314*ce*P **P 19 12 49.9 +1.2**
KURK pmax pmax
comp=Z,18nm,0.7s
KURK Kurchatov 44.32 314 P **P 19 12 47.8 -0.8**
KURK IAmb IAmb 19 12 51.2
comp=Z,22nm,0.9s
KURBB Kurchatov Arra 44.36 314 LR LR 19 32 53.9
comp=Z,633nm,20.8s,baz=76,slow=38
KURBB Kurchatov Arra 44.36 314 P **P 19 12 49.1 +0.1**
KNRA Kununurra 44.54 183 P **P 19 12 46.1 -4.6**
KSH Kashi 45.75 298 P **P 19 13 05.1 +4.7**
KSH PP **PP 19 14 50.0 +1.8**
KSH LR LR
comp=Z,330nm,13.7s
KSH LR LR
comp=Z,440nm,14.4s
KSH LR LR
comp=Z,630nm,14.8s
AAK Ala-Archa 46.69 303*ce*P **P 19 13 07.4 -0.4**
AAK pmax pmax
comp=Z,4.0nm,1.3s
NRIK Noril'sk 47.24 341 P **P 19 13 11.8 +0.3**
comp=Z,12nm,0.7s,baz=116,slow=9.2,SNR=21
NRIK LR LR 19 34 36.8
comp=Z,250nm,18.4s,baz=151,slow=38
NRIK Noril'sk 47.24 341*ce*P **P 19 13 12.0 +0.5**
NRIK pmax pmax
comp=Z,16nm,0.8s
NRIK Noril'sk 47.24 341 P **P 19 13 11.0 -0.5**
OTUK Ortayu 48.18 310 P **P 19 13 20.3 +1.2**
WB0 Warramunga Arr 48.70 175 P **P** 19 13 17.9 -5.4
WB0 IAmb IAmb 19 13 40.8
comp=Z,12nm,1.2s
NIL Nilore 48.71 291 P **P 19 13 19.5 -3.9**
NIL pmax pmax
comp=Z,28nm,1.1s
NIL Nilore 48.71 291 P **P 19 13 19.5 -3.9**
WRA Warramunga Arr 48.87 175 P **P 19 13 29.0 +4.5**
comp=Z,1.2nm,0.6s,baz=354,slow=7.9,SNR=9.7
WRA Warramunga Arr 48.87 175 *i*P P 19 13 32.7 +8.1
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 48.87 175 P P 19 13 18.2 -6.4
WB2 Warramunga Arr 48.87 175 P P 19 13 19.3 -5.2
WB2 IAmb IAmb 19 13 42.1
comp=Z,9.0nm,1.1s
WR0 Warramunga Arr 48.90 175 P P 19 13 19.0 -5.8
WR0 IAmb IAmb 19 13 42.4
comp=Z,12nm,1.1s
KK31 Karatay Array 49.59 303 *i*P **P 19 13 31.8 +1.8**
KK31 Karatay Array 49.59 303 P **P 19 13 26.6 -3.4**
KK31 IAmb IAmb 19 13 33.8
comp=Z,7.5nm,0.8s
KKAR Karatay Array 49.59 303 P **P 19 13 27.3 -2.7**
KKAR Karatay Array 49.59 303 P **P 19 13 27.3 -2.7**
KKAR Karatay Array 49.59 303 P **P 19 13 26.8 -3.2**
KKAR IAmb IAmb 19 13 33.8
comp=Z,7.5nm,0.8s
BRVK Borovoye 49.71 317*ce*P **P 19 13 32.2 +1.5**
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 49.71 317 P **P 19 13 26.7 -4.0**
GAR Garm 50.17 298 P **P 19 13 32.9 -1.7**
CHGR Chuyangaron 51.12 298 P **P 19 13 39.6 -2.1**
CHGR pmax pmax
comp=Z,16nm,1.2s
CHGR Chuyangaron 51.12 298 P **P 19 13 39.6 -2.1**
CHGR IAmb IAmb 19 13 45.8
comp=Z,16nm,1.2s
CTA Charters Tower 51.15 161 LR LR 19 34 20.9
comp=Z,60nm,20.4s,baz=352,slow=34
KBL Kabul 51.95 293 P **P 19 13 46.3 -1.8**
KBL pmax pmax
comp=Z,10.0nm,1.1s
KBL Kabul 51.95 293 P **P 19 13 46.3 -1.8**
ASAR Alice Springs 52.54 176 P P 19 13 57.2 +5.0
comp=Z,1.3nm,0.9s,baz=357,slow=4.1,SNR=5.6
ASAR Alice Springs 52.54 176 P P 19 13 57.2 +5.0
ANM Nome 52.98 29 P **P 19 13 53.1 -1.9**
ANM pmax pmax
comp=Z,15nm,1.2s
ANM Nome 52.98 29 P **P 19 13 53.0 -1.9**
ANM IAmb IAmb 19 14 10.8
comp=Z,14nm,1.2s
SVE Sverdlovsk 55.37 321 *e*P **P 19 14 14.6 +2.1**
SVE pmax pmax
comp=Z,21nm,1.0s
SVE MLR MLR
comp=Z,1µm,16.0s
AB31 Akbulak array 56.31 312 *i*P **P 19 14 20.7 +1.3**
ABKAR Akbulak array 56.31 312 P **P 19 14 16.4 -3.0**
ABKAR Akbulak array 56.31 312 P **P 19 14 16.3 -3.1**
ABKAR IAmb IAmb 19 14 22.3
comp=Z,25nm,0.8s
ARU Arti 56.53 321 LR LR 19 41 05.5
comp=Z,521nm,18.2s,baz=79,slow=39
ARU Arti 56.53 321*c i*P **P 19 14 21.9 +1.1**
ARU 19 15 14.2
ARU 19 16 22.5
ARU S **S 19 22 12.7 +4.2**
ARU SS **SS 19 25 56.9 +0.9**
ARU pmax pmax
comp=Z,19nm,0.8s
ARU MLR MLR
comp=Z,612nm,15.0s
ARU Arti 56.53 321 P **P 19 14 19.1 -1.7**
AKTO Aktyubinsk 57.41 314 LR LR 19 41 08.4
comp=Z,685nm,18.2s,baz=83,slow=38
AKTO Aktyubinsk 57.41 314 P **P 19 14 28.0 +0.9**
J20K Nowinta River 57.80 30 P **P 19 14 29.1 -0.6**
J20K IAmb IAmb 19 14 45.8
comp=Z,14nm,1.0s
K20K Telida 57.85 31 P **P 19 14 29.0 -1.0**
K20K IAmb IAmb 19 14 46.8
comp=Z,12nm,0.9s
O19K Port Alsworth 57.86 35 P **P 19 14 28.7 -1.3**
O19K IAmb IAmb 19 14 45.5
comp=Z,13nm,1.1s
IMAR Indian Mountai 57.96 28 P **P 19 14 28.6 -2.2**
H21K Melozitna Rive 58.35 28 P **P 19 14 32.7 -0.8**
H21K IAmb IAmb 19 14 49.5
comp=Z,24nm,1.6s
HMDM Hanimaadhoo 58.41 259 P **P 19 14 31.3 -3.3**
I21K Tanana 58.71 29 P **P 19 14 35.2 -0.8**
CAST Castle Rocks 58.74 31 P **P 19 14 36.8 +0.5**
CAST IAmb IAmb 19 14 52.2
comp=Z,8.0nm,1.0s
KDAK Kodiak Island 58.95 37 P **P 19 14 39.7 +2.0**
comp=Z,18nm,0.9s,baz=277,slow=6.4,SNR=2.6
KDAK Kodiak Island 58.95 37 P **P 19 14 39.7 +2.0**
COLD Coldfoot 59.35 26 P **P 19 14 38.6 -1.8**
COLD IAmb IAmb 19 14 59.7
comp=Z,9.8nm,1.3s
TOLK Toolik Lake Re 59.53 25 P **P 19 14 40.8 -0.9**
TOLK IAmb IAmb 19 14 58.0
comp=Z,12nm,1.1s
TRF Thorofare Moun 59.55 31 **P 19 14 40.6 -1.4**
TRF IAmb IAmb 19 14 45.2
comp=Z,19nm,1.4s
H23K Yukon River 59.69 28 P **P 19 14 41.1 -1.7**
GEYT Alibeck 59.77 299 LR LR 19 44 59.6
comp=Z,159nm,18.0s,baz=98,slow=41
M22K Willow 59.78 33 P **P 19 14 43.8 +0.4**
BWN Browne 59.85 30 P **P 19 14 41.7 -2.2**
NEA2 Nenana 59.99 29 P **P 19 14 44.6 -0.3**
NEA2 IAmb IAmb 19 14 50.2
comp=Z,12nm,1.0s
MCK McKinley 60.13 30 P **P 19 14 42.8 -3.0**
MCK pmax pmax
comp=Z,18nm,1.3s
MCK McKinley 60.13 30 P **P 19 14 42.8 -3.0**
MCK IAmb IAmb 19 15 01.0
comp=Z,18nm,1.3s
RND Reindeer 60.20 31 P **P 19 14 43.7 -2.7**
RND pmax pmax
comp=Z,14nm,1.0s
RND Reindeer 60.20 31 P **P 19 14 43.6 -2.7**
PMR Palmer 60.27 33 P **P 19 14 44.3 -2.4**
PMR pmax pmax
comp=Z,10.0nm,0.9s
PMR Palmer 60.27 33 P **P 19 14 44.3 -2.4**
PMR IAmb IAmb 19 15 01.6
comp=Z,9.9nm,0.9s
SEW Seward 60.29 35 P **P 19 14 44.8 -2.1**
MDM Murphy Dome 60.31 29 P **P 19 14 45.5 -1.6**
H24K Noodor Dome 60.38 28 P **P 19 14 44.5 -3.0**
H24K IAmb IAmb 19 14 52.5
comp=Z,5.9nm,0.9s
WRH Wood River Hil 60.42 30 P **P 19 14 44.4 -3.4**
SML Sawmill 60.62 33 P **P 19 14 47.1 -2.1**
SML Sawmill 60.62 33 P **P 19 14 47.1 -2.1**
SML IAmb IAmb 19 15 06.8
comp=Z,12nm,1.1s
POKR Poker Plat Res 60.63 29 P **P 19 14 47.2 -2.0**
IL31 60.90 29 P **P 19 14 48.8 -2.2**
IL31 IAmb IAmb 19 15 07.9
comp=Z,11nm,1.4s
ILAR Eielson Array 60.90 29 P **P 19 14 52.6 +1.6**
comp=Z,1.9nm,0.8s,baz=294,slow=8.5,SNR=17
ILAR Eielson Array 60.90 29 P **P 19 14 52.7 +1.6**
ILAR Eielson Array 60.90 29 P **P 19 14 48.4 -2.7**
HDA Harding Lake 60.92 30 P **P 19 14 49.6 -1.6**
HDA IAmb IAmb 19 14 54.8
comp=Z,7.6nm,1.0s
SCM Sheep Creek Mo 61.09 32 P **P 19 14 51.5 -0.9**
SCM pmax pmax
comp=Z,30nm,1.1s
SCM Sheep Creek Mo 61.09 32 P **P 19 14 51.5 -0.9**
KIRV Kirov 61.21 324 LR LR 19 45 12.3
comp=Z,168nm,18.2s,baz=74,slow=40
KIRV Kirov 61.21 324*ce*P **P 19 14 54.8 +1.7**
BMAR Burnt Mountain 61.51 26 P **P 19 14 56.8 +1.7**
STKA Stephens Creek 61.51 169 P **P 19 15 00.0 +4.6**
comp=Z,1.7nm,0.7s,baz=330,slow=20,SNR=1.7
STKA LR LR 19 41 14.9
comp=Z,68nm,22.0s,baz=25,slow=35
STKA Stephens Creek 61.51 169 P **P 19 15 00.0 +4.6**
SCRK Sand Creek 62.27 30 P **P 19 14 59.6 -0.8**
SCRK IAmb IAmb 19 15 15.4
comp=Z,12nm,1.2s

DOT	**Dot Lake**	**62.29**	**30**	P	**P**	**19 14 58.4**	**-2.1**
DOT				IAmb	IAmb	19 15 15.9	
	comp=Z,7.6nm,1.0s						
BMRM	**Bremner River**	**62.52**	**33**	P	**P**	**19 15 00.2**	**-1.9**
PRGR	**Permogore**	**62.55**	**328**	*eP*	**P**	**19 15 01.6**	**-0.5**
L27K	**Beaver Creek,**	**63.39**	**31**	P	**P**	**19 15 05.1**	**-2.7**
L27K				IAmb	IAmb	19 15 23.9	
	comp=Z,7.7nm,1.1s						
BCAR	**Beaver Creek A**	**63.41**	**31**	P	**P**	**19 15 05.1**	**-2.8**
BELG	**Belogornoye**	**63.44**	**317**	LR	LR	19 44 37.1	
	comp=Z,232nm,18.8s,baz=63,slow=38						
BELG	**Belogornoye**	**63.44**	**317**	*c iP*	**P**	**19 15 09.7**	**+1.5**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
M27K	**Edge Creek, AK**	**63.52**	**31**	P	**P**	**19 15 08.9**	**+0.1**
M27K				IAmb	IAmb	19 15 25.8	
	comp=Z,10.0nm,1.1s						
INK	**Inuvik**	**65.42**	**24**	P	**P**	**19 15 22.6**	**+1.8**
	comp=Z,2.7nm,0.6s,baz=289,slow=9.5,SNR=8.6						
INK				LR	LR	19 46 38.0	
	comp=Z,68nm,19.4s,baz=216,slow=38						
INK	**Inuvik**	**65.42**	**24**	P	**P**	**19 15 21.1**	**+0.3**
INK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
INK	**Inuvik**	**65.42**	**24**	P	**P**	**19 15 21.1**	**+0.3**
INK				IAmb	IAmb	19 15 36.8	
	comp=Z,6.1nm,1.1s						
KLMR	**Klimovskoe**	**65.60**	**327**	*eP*	**P**	**19 15 22.0**	**-0.2**
KLMR				pmax	pmax		
	comp=Z,16nm,1.4s						
KLMR	**Klimovskoe**	**65.60**	**327**	*eP*	**P**	**19 15 22.0**	**-0.2**
KLMR				AMP		19 15 35.9	
	comp=Z,16nm,1.4s						
SPITS	**Spitsbergen Ar**	**66.49**	**348**	LR	LR	19 47 45.8	
	comp=Z,163nm,18.6s,baz=259,slow=39						
VRH	**Novokhopyorsk**	**67.29**	**317**	*eP*	**P**	**19 15 32.6**	**-0.5**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ARCES	**ARCESS Array B**	**68.15**	**339**	P	**P**	**19 15 39.1**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=50,slow=8.4,SNR=1.6						
ARCES				LR	LR	19 50 41.6	
	comp=Z,306nm,18.6s,baz=53,slow=41						
ARCES	**ARCESS Array B**	**68.15**	**339**	P	**P**	**19 15 39.1**	**+0.8**
C36M	**Paulatuk**	**68.26**	**22**	P	**P**	**19 15 40.0**	**+1.1**
C36M				IAmb	IAmb	19 15 42.5	
	comp=Z,7.1nm,0.7s						
LPSR	**Galich'ya Gora**	**68.47**	**319**	*eP*	**P**	**19 15 41.3**	**+0.8**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GOF	**Gofitskoye**	**68.48**	**310**	*eP*	**P**	**19 15 43.1**	**+2.3**
GOF				pmax	pmax		
	comp=Z,24nm,0.9s						
VORR	**Voronezh**	**68.62**	**318**	*eP*	**P**	**19 15 43.7**	**+2.2**
VORR				pmax	pmax		
	comp=Z,30nm,0.4s						
NCK	**Nalchik**	**68.64**	**309**	*i P*	**P**	**19 15 44.5**	**+2.7**
NCK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZEI	**Tsey**	**68.68**	**308**	*eP*	**P**	**19 15 42.8**	**+0.5**
ZEI				pmax	pmax		
	comp=Z,24nm,1.4s						
VSR	**Storozhevoye**	**68.81**	**318**	*eP*	**P**	**19 15 42.9**	**+0.3**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OBN	**Obninsk**	**68.91**	**322**	*eP*	**P**	**19 15 43.6**	**+0.4**
OBN				*e*		19 16 07.6	
OBN				*e*		19 18 16.9	
OBN				*eS*	SKiKP	19 25 19.2	-11
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,333nm,19.0s						
GNI	**Garni**	**69.01**	**305**	LR	LR	19 50 54.5	
	comp=Z,58nm,20.0s,baz=86,slow=40						
GNI	**Garni**	**69.01**	**305**	*ceP*	**P**	**19 15 46.7**	**+2.3**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GNI	**Garni**	**69.01**	**305**	P	**P**	**19 15 41.6**	**-2.7**
KBZ	**Khabaz**	**69.04**	**309**	P	**P**	**19 15 46.1**	**+1.9**
	comp=Z,15nm,0.9s,baz=95,slow=2.5,SNR=35						
KBZ				LR	LR	19 51 54.1	
	comp=Z,156nm,18.4s,baz=87,slow=41						
KBZ	**Khabaz**	**69.04**	**309**	*ceP*	**P**	**19 15 46.4**	**+2.2**
KBZ				pmax	pmax		
	comp=Z,25nm,1.0s						
ONI	**Oni**	**69.06**	**308**	P	**P**	**19 15 42.6**	**-1.9**
ONI	**Oni**	**69.06**	**308**	P	**P**	**19 15 42.6**	**-1.9**
KIV	**Kislovodsk**	**69.10**	**309**	*eP*	**P**	**19 15 46.7**	**+1.9**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV	**Kislovodsk**	**69.10**	**309**	P	**P**	**19 15 42.9**	**-1.8**
SHA1	**Shidzhatmaz**	**69.20**	**309**	*i* P	**P**	**19 15 47.3**	**+1.8**
EUNU	**Eureka**	**69.22**	**6**	P	**P**	**19 15 44.0**	**-0.8**
EUNU				IAmb	IAmb	19 15 48.4	
	comp=Z,6.6nm,0.8s						
NEY	**Neytrino**	**69.33**	**309**	*i* P	**P**	**19 15 48.7**	**+2.4**
NEY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DLBC	**Dease Lake**	**70.31**	**33**	LR	LR	19 50 20.7	
	comp=Z,57nm,18.0s,baz=315,slow=39						
FINES	**FINESS Array B**	**71.45**	**331**	P	**P**	**19 15 59.8**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=61,slow=5.5,SNR=26						
FINES				LR	LR	19 50 35.7	
	comp=Z,205nm,19.4s,baz=62,slow=39						
FINES	**FINESS Array B**	**71.45**	**331**	*i* P	**P**	**19 15 59.7**	**+1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GURO	**Guroymak-BITLI**	**71.55**	**304**	P	**P**	**19 15 59.8**	**-0.1**
ANN	**Anapa**	**72.28**	**312**	*eP*	**P**	**19 16 04.5**	**+0.6**
ANN				pmax	pmax		
	comp=Z,43nm,1.0s						
RES	**Resolute Bay**	**72.34**	**11**	LR	LR	19 51 12.3	
	comp=Z,70nm,18.2s,baz=305,slow=39						
RES	**Resolute Bay**	**72.34**	**11**	P	**P**	**19 16 03.0**	**-0.8**
RES				pmax	pmax		
	comp=Z,13nm,0.9s						
RES	**Resolute Bay**	**72.34**	**11**	P	**P**	**19 16 03.0**	**-0.8**
RES				IAmb	IAmb	19 16 08.0	
	comp=Z,13nm,0.9s						
VSU	**Vasula**	**72.51**	**328**	*i* P	**P**	**19 16 08.1**	**+3.1**
VSU				pmax	pmax		
	comp=Z,14nm,0.8s						
DAG	**Danmarks Havn**	**72.71**	**353**	P	**P**	**19 16 07.9**	**+2.0**
DAG				pmax	pmax		
	comp=Z,4.0nm,1.4s						
DAG	**Danmarks Havn**	**72.71**	**353**	*i* P	**P**	**19 16 07.0**	**+1.1**
MNK	**Minsk**	**73.75**	**324**	*i* P	P	19 16 05.5	-6.9
MNK				*i* S	**SKiKP**	**19 25 34.0**	**-3.4**
MNK				*i* SSS	SSS	19 33 38.1	
MNK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,8.0nm,1.2s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.2s						
MNK				MLR	MLR		
	comp=N,79nm,18.0s						
MNK				MLR	MLR		
	comp=Z,304nm,17.0s						
MNK				MLR	MLR		
	comp=E,26nm,15.0s						
MNK	**Minsk**	**73.75**	**324**	*i* P	P	19 16 05.5	-6.9
	comp=E,2.0nm,1.2s						
MNK				*i* P	P	19 16 05.5	-6.9
	comp=N,8.0nm,1.2s						
MNK				*i* P	P	19 16 05.5	-6.9
	comp=Z,4.0nm,0.8s,baz=243						
MNK				*i* PcP	pP	19 16 21.7	-4.3
MNK				*i* PP	PP	19 18 48.4	-8.5
MNK				*i* PPP	PPP	19 20 33.1	
MNK				*i* S	**SKiKP**	**19 25 34.1**	**-3.4**
MNK				*i* SS	**SS**	**19 30 17.3**	**-5.9**
MNK				*i* SSS	SSS	19 33 38.2	
MNK				*i* LQ	LQ	19 42 55.2	
MNK				*i* LR	LR	19 48 56.4	
MNK				*i* LRM	MLR	19 51 11.3	
	comp=N,79nm,17.9s						
MNK				*i* LRM	MLR	19 51 43.3	
	comp=Z,304nm,17.2s						
MNK				*i* LRM	MLR	19 51 47.7	
	comp=E,26nm,15.3s						
NACGM	**Naroch**	**74.13**	**324**	*eP*	**P**	**19 16 17.6**	**+3.0**
AKASG	**Malin Array Be**	**74.77**	**320**	P	**P**	**19 16 19.9**	**+1.5**
	comp=E,2.7nm,0.4s,baz=57,slow=6.2,SNR=10						
AKASG				LR	LR	19 50 37.5	
	comp=E,160nm,21.5s,baz=59,slow=37						
AKASG	**Malin Array Be**	**74.77**	**320**	P	**P**	**19 16 19.9**	**+1.5**
AKBB	**Malin Array Si**	**74.77**	**320**	*ceP*	**P**	**19 16 20.4**	**+2.0**
AKBB	**Malin Array Si**	**74.77**	**320**	P	**P**	**19 16 17.4**	**-1.0**
AKBB				IAmb	IAmb	19 16 20.6	
	comp=E,5.5nm,0.6s						
YKA	**Yellowknife Ar**	**75.03**	**26**	P	**P**	**19 16 22.8**	**+3.1**
	comp=E,2.1nm,0.8s,baz=303,slow=5.6,SNR=32						
YKA	**Yellowknife Ar**	**75.03**	**26**	*i* P	**P**	**19 16 22.7**	**+3.0**
YKA				pmax	pmax		
	comp=E,2.0nm,0.8s						
BNN	**Bunyan**	**75.84**	**307**	P	**P**	**19 16 24.2**	**-0.8**
BRTR	**Keskin Array B**	**76.98**	**308**	P	**P**	**19 16 34.2**	**+2.7**
	comp=Z,4.8nm,0.8s,baz=104,slow=5.2,SNR=18						
BRTR				LR	LR	19 54 34.2	
	comp=Z,101nm,19.7s,baz=68,slow=39						
BRTR	**Keskin Array B**	**76.98**	**308**	*i* P	**P**	**19 16 34.0**	**+2.5**
BRTR				pmax	pmax		
	comp=E,5.0nm,0.8s						
BRTR	**Keskin Array B**	**76.98**	**308**	P	**P**	**19 16 27.9**	**-3.6**
HFS	**Hagfors**	**77.29**	**333**	LR	LR	19 54 13.7	
	comp=Z,164nm,19.9s,baz=38,slow=38						
NB2	**NORSAR Subarra**	**77.70**	**334**	P	**P**	**19 16 36.7**	**+1.7**
	comp=Z,3.0nm,0.9s,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**77.70**	**334**	P	**P**	**19 16 35.7**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=50,slow=5.6,SNR=7.8						
NOA				LR	LR	19 56 32.1	
	comp=Z,124nm,18.8s,baz=45,slow=40						
NOA	**NORSAR Array B**	**77.70**	**334**	P	**P**	**19 16 35.7**	**+0.7**
TPGR	**Topolog**	**78.00**	**315**	⇑P	**P**	**19 16 39.6**	**+2.7**
CFR	**Carcaliu**	**78.02**	**315**	⇑P	**P**	**19 16 39.5**	**+2.5**
CFR	**Carcaliu**	**78.02**	**315**	⇑P	**P**	**19 16 39.5**	**+2.5**
TESR	**Tescani**	**78.27**	**317**	⇓P	**P**	**19 16 40.1**	**+1.7**
PANC	**Panciu**	**78.29**	**316**	⇓P	**P**	**19 16 41.6**	**+3.2**
VRI	**Vrincioaia**	**78.55**	**316**	⇓P	**P**	**19 16 43.5**	**+3.6**
VRI	**Vrincioaia**	**78.55**	**316**	⇓P	**P**	**19 16 43.5**	**+3.6**
BUR08	**Bucovina Ar. S**	**78.56**	**318**	P	**P**	**19 16 39.0**	**-1.0**
BURAR	**Bucovina Array**	**78.56**	**318**	⇓P	**P**	**19 16 42.7**	**+2.6**
BURAR	**Bucovina Array**	**78.56**	**318**	⇓P	**P**	**19 16 42.7**	**+2.6**
BURAR	**Bucovina Array**	**78.56**	**318**	P	**P**	**19 16 39.2**	**-0.9**
PLOR	**Plostina**	**78.60**	**316**	⇓P	**P**	**19 16 44.0**	**+3.7**
PLOR	**Plostina**	**78.60**	**316**	⇓P	**P**	**19 16 44.0**	**+3.7**
OZUR		**79.00**	**317**	⇓P	**P**	**19 16 45.8**	**+3.3**
MLR	**Muntele Rosu**	**79.21**	**316**	LR	LR	19 54 54.3	
	comp=Z,313nm,18.4s,baz=54,slow=38						
MLR	**Muntele Rosu**	**79.21**	**316**	P	**P**	**19 16 43.3**	**-0.4**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MLR	**Muntele Rosu**	**79.21**	**316**	P	**P**	**19 16 43.3**	**-0.4**
OJC	**Ojcow**	**80.19**	**322**	P	**P**	**19 16 49.5**	**+0.7**
OJC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
OJC	**Ojcow**	**80.19**	**322**	P	**P**	**19 16 49.5**	**+0.7**
OJC				IAmb	IAmb	19 16 53.0	
	comp=Z,6.7nm,0.6s						
EIL	**Elat**	**80.66**	**299**	LR	LR	19 59 12.3	
	comp=Z,77nm,18.5s,baz=28,slow=41						
KECS	**Kecovo**	**80.79**	**321**	*eP*	**P**	**19 16 49.8**	**-2.2**
KECS	**Kecovo**	**80.79**	**321**	*eP*	**P**	**19 16 49.8**	**-2.2**
VYHS	**Vyhne**	**81.69**	**321**	*eP*	**P**	**19 16 59.7**	**+2.9**
VYHS	**Vyhne**	**81.69**	**321**	*eP*	**P**	**19 16 59.7**	**+2.9**
KRLC	**Kraliky**	**81.87**	**323**	*e*PcP	**PcP**	**19 17 01.1**	**-2.2**
DPC	**Dobruska-Polom**	**81.94**	**324**	*e*PcP	**PcP**	**19 17 01.2**	**-2.4**
VTS	**Vitosha**	**82.38**	**315**	P	**P**	**19 16 58.4**	**-2.3**
VTS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VTS	**Vitosha**	**82.38**	**315**	P	**P**	**19 16 58.4**	**-2.3**
VRAC	**Vranov**	**82.42**	**323**	⇓P	**P**	**19 17 03.8**	**+3.2**
VRAC	**Vranov**	**82.42**	**323**	LR	LR	19 57 35.1	
	comp=Z,282nm,18.1s,baz=58,slow=39						
VRAC	**Vranov**	**82.42**	**323**	⇓P	**P**	**19 17 03.8**	**+3.2**
ZST	**Bratislava**	**82.80**	**322**	*eP*	**P**	**19 17 02.4**	**-0.2**
ZST	**Bratislava**	**82.80**	**322**	*eP*	**P**	**19 17 02.4**	**-0.2**
CLL	**Collm**	**83.03**	**326**	*i* P	**P**	**19 17 01.4**	**-2.3**
CLL				*e*		19 17 06.0	
CLL				MLR	MLR		
	comp=Z,500nm,18.0s						
CLL	**Collm**	**83.03**	**326**	*i* P	**P**	**19 17 01.4**	**-2.3**
CLL				*e*PcP	**PcP**	**19 17 06.0**	**-2.3**
CLL				*ex*	x	19 17 16.0	
CLL				*e*PP	**PP**	**19 20 15.0**	**+0.6**
CLL				*eS*	S	19 27 36.0	+17
CLL				Lm	MLR	19 57 00.0	
	comp=N,300nm,18.3s						
CLL				Lm	MLR	19 57 00.0	
	comp=E,200nm,18.1s						
CLL				Lm	MLR	19 57 00.0	
	comp=Z,500nm,18.0s						
MORH	**Mrgy, Hungar**	**83.10**	**320**	⇑P	**P**	**19 17 07.5**	**+3.3**
RONA	**Rosalia, Austr**	**83.53**	**322**	*eP*	**P**	**19 17 10.6**	**+4.2**
	comp=Z,4.8nm,1.6s						
CONA	**Conrad Observa**	**83.63**	**322**	*eP*	**P**	**19 17 11.3**	**+4.3**
	comp=Z,9.2nm,0.9s						
BORG	**Borgarnes**	**83.95**	**348**	LR	LR	19 58 32.8	
	comp=Z,29nm,18.2s,baz=25,slow=39						
J08A	**Circle Bar Ran**	**84.06**	**43**	P	**P**	**19 17 05.4**	**-3.9**
J08A				IAmb	IAmb	19 17 26.3	
	comp=Z,8.1nm,1.1s						
KHC	**Kasperske Hory**	**84.10**	**324**	P	**P**	**19 17 07.0**	**-2.3**
KHC				pmax	pmax		
	comp=Z,17nm,1.7s						
KHC	**Kasperske Hory**	**84.10**	**324**	P	**P**	**19 17 07.0**	**-2.3**
KHC				IAmb	IAmb	19 17 22.7	
	comp=Z,17nm,1.7s						
KHC	**Kasperske Hory**	**84.10**	**324**	*e*PCP	**PcP**	**19 17 11.8**	**-1.3**
GERES	**GERESS Array B**	**84.21**	**324**	P	**P**	**19 17 11.7**	**+1.7**
	comp=Z,1.2nm,0.9s,baz=150,slow=2.9,SNR=11						
GERES				LR	LR	19 58 40.6	
	comp=Z,281nm,19.1s,baz=48,slow=38						
GERES	**GERESS Array B**	**84.21**	**324**	P	**P**	**19 17 11.7**	**+1.7**
SFJD	**Kangerlussuaq**	**84.22**	**1**	LR	LR	19 54 43.7	
	comp=Z,65nm,22.0s,baz=344,slow=36						
ARSA	**Arzberg**	**84.22**	**322**	*eP*	**P**	**19 17 12.7**	**+2.7**
	comp=Z,7.7nm,1.2s						
MOA	**Molln**	**84.53**	**323**	*eP*	**P**	**19 17 14.4**	**+2.9**
	comp=Z,6.4nm,1.4s						
SOKA	**Soboth**	**84.84**	**321**	*i* P	**P**	**19 17 16.6**	**+3.4**
	comp=Z,8.5nm,1.0s						
BEKR	**Beckworth**	**84.85**	**47**	P	**P**	**19 17 12.6**	**-0.9**
FCC	**Fort Churchill**	**84.90**	**22**	P	**P**	**19 17 12.4**	**-0.7**
FCC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FCC	**Fort Churchill**	**84.90**	**22**	P	**P**	**19 17 12.4**	**-0.7**
FCC				IAmb	IAmb	19 17 17.1	
	comp=Z,6.5nm,0.8s						
BIOA	**Bad Ischl, Aus**	**84.96**	**323**	*eP*	**P**	**19 17 16.3**	**+2.6**
	comp=Z,4.4nm,0.9s						
FFC	**Flin Flon**	**85.07**	**28**	P	**P**	**19 17 14.2**	**+0.1**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FFC	**Flin Flon**	**85.07**	**28**	P	**P**	**19 17 14.2**	**+0.1**
FFC				IAmb	IAmb	19 17 32.5	
	comp=Z,4.4nm,0.9s						
OBKA	**Obir**	**85.21**	**322**	*eP*	**P**	**19 17 18.2**	**+3.2**
	comp=Z,3.3nm,1.2s						
KBA	**Koelnbreinsper**	**85.50**	**322**	P	**P**	**19 17 18.4**	**+1.8**
	comp=Z,2.0nm,0.8s						
PAHR	**Pah Rah Range**	**85.56**	**47**	P	**P**	**19 17 13.6**	**-3.4**
PAHR				IAmb	IAmb	19 17 34.8	
	comp=Z,11nm,1.4s						
MFID	**Camas Ranch**	**85.59**	**42**	P	**P**	**19 17 15.1**	**-2.0**
LRM	**Limekiln Ridge**	**86.04**	**39**	P	**P**	**19 17 16.6**	**-2.7**
FRB	**Frobisher Bay**	**86.24**	**8**	LR	LR	19 59 27.1	
	comp=Z,90nm,19.0s,baz=7.5,slow=38						
DLMT	**Dillon**	**86.25**	**39**	P	**P**	**19 17 18.9**	**-1.4**
DLMT				IAmb	IAmb	19 17 36.6	
	comp=Z,6.7nm,0.9s						
HLID	**Hailey**	**86.33**	**41**	P	**P**	**19 17 19.8**	**-0.9**
HLID				IAmb	IAmb	19 17 37.9	
	comp=Z,5.0nm,0.9s						
BMN	**Battle Mountai**	**86.50**	**45**	P	**P**	**19 17 21.8**	**+0.1**
BMN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BMN	**Battle Mountai**	**86.50**	**45**	P	**P**	**19 17 21.8**	**+0.1**
KVN	**Kaiserville**	**86.75**	**47**	P	**P**	**19 17 23.3**	**+0.4**
KVN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KVN	**Kaiserville**	**86.75**	**47**	P	**P**	**19 17 23.3**	**+0.4**
NVAR	**Mina Array Bea**	**86.98**	**47**	P	**P**	**19 17 28.0**	**+3.9**
	comp=Z,1.1nm,0.8s,baz=278,slow=5.4,SNR=5.9						
EKA	**Eskdalemuir Ar**	**87.10**	**336**	LR	LR	20 01 39.7	
	comp=Z,136nm,18.7s,baz=16,slow=39						
DAVOX	**Davos/Dischmat**	**87.51**	**324**	LR	LR	20 01 16.3	
	comp=Z,272nm,18.2s,baz=74,slow=39						
ELK	**Elko**	**87.54**	**44**	P	**P**	**19 17 30.6**	**+3.9**
	comp=Z,0.4nm,0.4s,baz=351,slow=6.9,SNR=3.6						
ELK	**Elko**	**87.54**	**44**	P	**P**	**19 17 30.6**	**+3.9**
H17A	**Grant Village**	**87.97**	**39**	P	**P**	**19 17 26.7**	**-2.1**
FLWY	**Flagg Ranch**	**88.11**	**39**	P	**P**	**19 17 26.7**	**-2.6**
FLWY				IAmb	IAmb	19 17 36.2	
	comp=Z,6.2nm,1.0s						
RLMT	**Red Lodge**	**88.22**	**38**	P	**P**	**19 17 28.8**	**-1.1**
RLMT				IAmb	IAmb	19 17 42.5	
	comp=Z,7.5nm,1.2s						
PDAR	**Pinedale Array**	**89.59**	**40**	P	**P**	**19 17 40.1**	**+3.7**
	comp=Z,0.9nm,0.9s,baz=307,slow=0.7,SNR=7.3						
PDAR	**Pinedale Array**	**89.59**	**40**	P	**P**	**19 17 34.8**	**-1.6**
VAE	**Valguarnera**	**90.86**	**314**	LR	LR	20 05 04.6	
	comp=Z,93nm,19.0s,baz=354,slow=40						
ULM	**Lac du Bonnet**	**90.90**	**28**	LR	LR	20 01 35.5	
	comp=Z,61nm,18.9s,baz=153,slow=38						
PFO	**Pinyon Flats O**	**91.00**	**50**	LR	LR	19 54 13.1	
	comp=Z,45nm,19.1s,baz=243,slow=33						
P17A	**Butcher Ranch,**	**91.03**	**43**	P	**P**	**19 17 41.9**	**-1.2**
P17A				IAmb	IAmb	19 18 00.0	
	comp=Z,8.1nm,1.0s						
P18A	**Preston Nutter**	**91.22**	**42**	P	**P**	**19 17 43.5**	**-0.6**
P18A				IAmb	IAmb	19 18 01.6	
	comp=Z,8.1nm,1.0s						
KNB	**Kanab**	**91.31**	**46**	P	**P**	**19 17 44.3**	**-0.1**
KNB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KNB	**Kanab**	**91.31**	**46**	P	**P**	**19 17 44.3**	**-0.1**
KNB				IAmb	IAmb	19 17 59.9	
	comp=Z,4.5nm,1.0s						
X16A	**Lo Mia Camp, P**	**93.81**	**47**	P	**P**	**19 17 55.4**	**-0.6**
SCHQ	**Schefferville**	**95.08**	**10**	LR	LR	20 04 47.3	
	comp=Z,107nm,19.5s,baz=40,slow=38						
ESDC	**Sonseca Array**	**99.62**	**326**	LR	LR	20 06 58.3	
	comp=Z,142nm,21.5s,baz=18,slow=38						
TXAR	**Lajitas Array**	**102.11**	**47**	P	**Pdif**	**19 18 36.4**	**+3.0**
	comp=Z,0.2nm,0.6s,baz=300,slow=7.2,SNR=1.5						
TXAR	**Lajitas Array**	**102.11**	**47**	P	**Pdif**	**19 18 36.4**	**+3.0**

IDC ***12*** *19:09:39.2±1.6, 0.09N×121.71E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/32, mbtmp3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/52, Error ellipse: s-maj=201.0km s-min=26.1km az=60.0*

DJA ***12*** *19:09:54.1±0.5, 0.7N±5.5×12.2E±, h118km±7km, M3.4/10, mb3.5/3, MLv3.4/10*

ISC 12 19:09:53.7±1.0, 0.20N±0.07×122.41E±0.05, h100km, n12, σ2s91/15, mb3.5/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.54**	**300**	P	**Pn**	**19 10 12.1**	**+2.3**
GTOI	**Gorontalo**	**0.74**	**55**	P	**Pn**	**19 10 14.5**	**+3.0**
GTOI				S	**Sn**	**19 10 29.7**	**+4.9**
LUWI	**Luwuk**	**1.29**	**164**	P	**Pn**	**19 10 21.3**	**+3.9**
APSI	**Ampana**	**1.34**	**214**	P	**Pn**	**19 10 21.7**	**+3.6**
MPSI	**Mapaga**	**2.51**	**273**	P	**Pn**	**19 10 34.8**	**+1.8**
MPSI				S	**Sn**	**19 11 04.1**	**+0.9**
SANI	**Sanana**	**4.22**	**122**	P	**Pn**	**19 10 56.6**	**+0.7**
SANI				S	**Sn**	**19 11 43.0**	**-1.2**
BNSI	**Bone**	**5.12**	**207**	P	**Pn**	**19 11 10.0**	**+1.9**
	0.0nm7.3nm,0.8s						
LBMI	**Labuha**	**5.16**	**99**	P	**Pn**	**19 11 10.4**	**+1.8**
	0.1nm11nm,1.4s						
LBMI				S	**Sn**	**19 12 07.5**	**+0.5**
	0.1nm11nm,1.4s						
WRA	**Warramunga Arr**	**23.18**	**150**	P	**P**	**19 14 50.4**	**-1.5**
	1.3nm,0.7s,baz=325,slow=11,SNR=13						
ASAR	**Alice Springs**	**26.22**	**156**	P	**P**	**19 15 17.8**	**-1.6**
	1.4nm,0.9s,baz=344,slow=14,SNR=5.1						
DZM	**Mont Dzumac**	**48.28**	**120**	LR	LR	19 38 42.9	
	comp=Z,54nm,20.6s,baz=338,slow=36						
MKAR	**Makanchi Array**	**58.13**	**329**	P	**P**	**19 19 32.9**	**-4.0**
	0.3nm,0.5s,baz=114,slow=5.6,SNR=4.7						

IDC ***12*** *19:18:52.9±1.0, 43.52N×105.15W, h0km, mb4.3/1, mb1 3.7/8, mb1mx3.5/52, mbtmp3.4/8, ML3.0/5, MS3.5/3, Ms1 3.5/3, ms1mx2.7/89, Error ellipse: s-maj=11.4km s-min=7.6km az=128.0*

NEIC ***12*** *19:18:55.3±2.4, 43.67N±0.05×105.20W±0.06, h0km±2km, ML3.7/68, Error ellipse: s-maj=9.4km s-min=6.5km az=325.0*

ISC 12 19:18:53.7±0.8, 43.62N±0.06×105.15W±0.07, h0km, n90, σ1s61/85, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**58**		**Pb**	**19 19 13.9**	**+0.7**
K22A	**Casper**	**1.39**	**227**		**Pg**	**19 19 20.3**	**-0.1**
K22A				IAML		19 19 44.0	
	comp=N,1µm,0.3s						
K22A				IAML		19 19 44.5	
	comp=E,929nm,0.5s						
PHWY	**Pilot Hill**	**2.33**	**186**		**Pn**	**19 19 35.4**	**+1.9**
PHWY				IAML		19 20 10.2	
	comp=E,354nm,0.7s						
RWWY	**Rawlins**	**2.45**	**219**		**Pn**	**19 19 37.8**	**+2.6**
N23A	**

YMR				IAML		19 21 31.8		
	comp=N,104nm,1.0s							
E28A	**Huff**	**4.33**	**45**		**Pn**	**19 20 03.0**	**+2.3**	
AHID	**Auburn Hatcher**	**4.43**	**261**		**Pn**	**19 20 04.0**	**+1.7**	
AHID				IAML		19 21 22.4		
	comp=N,83nm,1.5s							
AHID				IAML		19 21 34.6		
	comp=N,72nm,1.1s							
RDMU	**Red Mountain**	**4.48**	**229**		**Pn**	**19 20 03.8**	**+0.8**	
RDMU				IAML		19 21 26.6		
	comp=E,83nm,0.9s							
RDMU				IAML		19 21 43.8		
	comp=N,67nm,1.0s							
SUSD	**Miller**	**4.54**	**77**		**Pn**	**19 20 05.5**	**+1.8**	
ECR	**Eagle Creek**	**4.57**	**265**		**Pn**	**19 20 04.8**	**+0.5**	
SMCO	**Snowmass**	**4.64**	**198**		**Pn**	**19 20 08.2**	**+2.8**	
SMCO				IAML		19 21 29.9		
	comp=N,67nm,1.0s							
Q24A	**Divide**	**4.65**	**180**		**Pn**	**19 20 07.4**	**+2.0**	
Q24A				IAML		19 21 25.0		
	comp=E,81nm,1.2s							
Q24A				IAML		19 21 28.2		
	comp=N,53nm,0.5s							
K31A	**O'Neill**	**4.79**	**100**		Pb	19 20 14.9	-3.5	
KSCO	**Kaye Shedlock'**	**4.98**	**157**		**Pn**	**19 20 11.8**	**+1.9**	
BOZ	**Bozeman (W)**	**5.03**	**295**		**Pn**	**19 20 11.0**	**+0.5**	
BOZ				IAML		19 21 37.4		
	comp=N,32nm,0.8s							
HWUT	**Hardware Ranch**	**5.14**	**249**	Pn	**Pn**	**19 20 13.2**	**+1.1**	
HWUT				IAML		19 22 03.0		
	comp=N,51nm,1.0s							
HWUT				IAML		19 22 05.8		
	comp=N,54nm,1.1s							
EGMT	**Eagleton**	**5.45**	**325**	Pn	**Pn**	**19 20 17.7**	**+1.5**	
P18A	**Preston Nutter**	**5.52**	**225**		**Pn**	**19 20 19.2**	**+1.8**	
JLU	**Jordanelle**	**5.57**	**239**		**Pn**	**19 20 17.1**	**-0.9**	
DLMT	**Dillon**	**5.60**	**291**		**Pn**	**19 20 21.5**	**+3.1**	
HRY	**Holter Researc**	**5.64**	**306**		**Pn**	**19 20 19.5**	**+0.6**	
LRM	**Limekiln Ridge**	**5.65**	**295**		**Pn**	**19 20 20.1**	**+1.0**	
MCMT	**McKenzie Canyo**	**5.66**	**285**		**Pn**	**19 20 22.8**	**+3.6**	
MDND	**Maddock**	**5.74**	**41**		**Pn**	**19 20 17.7**	**-2.5**	
PV07	**Paradox Valley**	**5.81**	**208**	Pn	**Pn**	**19 20 21.3**	**0.0**	
PV15	**Paradox Valley**	**5.84**	**207**		**Pn**	**19 20 22.2**	**+0.5**	
SDCO	**Great Sand Dun**	**5.87**	**183**		**Pn**	**19 20 22.9**	**+0.6**	
P17A	**Butcher Ranch,**	**5.89**	**227**		**Pn**	**19 20 24.4**	**+2.0**	
HVU	**Hansel Valley**	**5.91**	**254**	Pn	**Pn**	**19 20 24.0**	**+1.4**	
PV23	**Carpenter Ridg**	**5.93**	**211**		**Pn**	**19 20 24.3**	**+1.3**	
BCYI	**Bear Canyon**	**6.00**	**279**		**Pn**	**19 20 24.6**	**+0.7**	
S22A	**4UR Ranch, Cre**	**6.00**	**193**		**Pn**	**19 20 24.3**	**+0.3**	
PV10	**Paradox Valley**	**6.00**	**211**		**Pn**	**19 20 26.1**	**+2.1**	
PV11	**David Mesa, Pa**	**6.01**	**209**		**Pn**	**19 20 24.4**	**+0.4**	
MPU	**Maple Canyon**	**6.03**	**236**		**Pn**	**19 20 24.7**	**+0.4**	
SRU	**San Rafael Swe**	**6.05**	**224**		**Pn**	**19 20 25.1**	**+0.5**	
PV13	**Radium Mtn., P**	**6.12**	**208**		**Pn**	**19 20 26.1**	**+0.6**	
ECSD	**EROS Data Cent**	**6.19**	**86**	Pn	**Pn**	**19 20 26.8**	**+0.4**	
TMUT	**Trail Mountain**	**6.27**	**229**		**Pn**	**19 20 29.5**	**+1.7**	
CBKS	**Cedar Bluff**	**6.30**	**138**		**Pn**	**19 20 28.9**	**+1.0**	
NLU	**North Lily Min**	**6.34**	**237**		**Pn**	**19 20 29.8**	**+1.3**	
BGU	**Big Grassy Mou**	**6.43**	**248**	Pn	**Pn**	**19 20 30.4**	**+0.7**	
T25A	**Trinidad**	**6.50**	**175**		**Pn**	**19 20 32.5**	**+1.7**	
Q16A	**Castle Valley**	**6.53**	**226**	Pn	**Pn**	**19 20 31.3**	**+0.2**	
DUG	**Dugway, Tooele**	**6.66**	**242**		**Pn**	**19 20 33.4**	**+0.5**	
F33A	**5 Mile Ranch,**	**6.69**	**68**		**Pn**	**19 20 32.2**	**-0.9**	
HLID	**Hailey**	**6.73**	**273**	Pn	**Pn**	**19 20 33.8**	**0.0**	
MVCO	**Mesa Verde**	**6.89**	**203**		**Pn**	**19 20 37.6**	**+1.4**	
MSO	**Missoula**	**6.99**	**300**	Pn	**Pn**	**19 20 36.8**	**-0.5**	
MSU	**Marysvale**	**7.36**	**229**		**Pn**	**19 20 44.0**	**+1.4**	
TCRU	**Three Creeks R**	**7.44**	**230**		**Pn**	**19 20 42.6**	**-1.1**	
JTMT	**Jette**	**7.61**	**306**	Pn	**Pn**	**19 20 46.5**	**+0.6**	
MTPU	**Mount Pierson**	**7.71**	**226**		**Pn**	**19 20 49.6**	**+2.1**	
AGMN	**Agassiz Nation**	**7.99**	**51**	Pn	**Pn**	**19 20 51.6**	**+0.7**	
ELK	**Elko**	**8.02**	**252**	Pn	**Pn**	**19 20 51.7**	**+0.1**	
	comp=N,0.1nm,0.3s,baz=231,slow=20,SNR=2.5							
PSUT	**Pine Spring**	**8.30**	**235**		**Pn**	**19 20 56.2**	**+0.6**	
I37A	**Lemond, Waseca**	**8.51**	**83**	Pn	**Pn**	**19 20 58.3**	**+0.2**	
I10CA	**LAC DU BONNET**	**9.07**	**40**	*i*		20 14 50.0		
	baz=222,slow=327,SNR=11							
ULM	**Lac du Bonnet**	**9.18**	**40**	Pn	**Pn**	**19 21 05.4**	**-1.8**	
	comp=N,1.5nm,0.3s,baz=236,slow=12,SNR=10							
ULM				Lg	Lg	19 23 40.0		
	comp=N,0.3nm,0.3s,baz=137,slow=19,SNR=2.6							
NEW	**Newport**	**9.54**	**303**	Pn	**Pn**	**19 21 12.1**	**-0.2**	
	comp=N,0.2nm,0.3s,baz=26,slow=12,SNR=2.1							
NVAR	**Mina Array Bea**	**11.20**	**247**	Pn	**Pn**	**19 21 37.0**	**+1.8**	
	comp=N,0.1nm,0.3s,baz=56,slow=13,SNR=3.1							
FFC	**Flin Flon**	**11.31**	**9**		**Pn**	**19 21 36.2**	**-0.2**	
TXAR	**Lajitas Array**	**14.31**	**175**	Pn	**Pn**	**19 22 17.0**	**-0.6**	
	baz=2.9,slow=9.0,SNR=1.7							
TXAR				Lg	Lg	19 26 11.3		
	comp=N,0.0nm,0.3s,baz=7.0,slow=25,SNR=1.9							
TKL	**Tuckaleechee C**	**18.25**	**109**	LR	LR	19 30 21.9		
	comp=N,114nm,20.9s,baz=217,slow=38							
YKA	**Yellowknife Ar**	**19.70**	**347**	P	**P**	**19 23 23.5**	**-0.8**	
	comp=N,0.1nm,0.3s,baz=154,slow=12,SNR=3.5							
YKA				Lg	Lg	19 29 12.3		
	baz=147,slow=26,SNR=1.6							
FRB	**Frobisher Bay**	**28.96**	**33**	LR	LR	19 37 39.2		
	comp=N,52nm,18.4s,baz=197,slow=39							
ARCES	**ARCESS Array B**	**61.51**	**18**	P	**P**	**19 29 11.0**	**-0.7**	
	comp=N,3.3nm,0.9s,baz=327,slow=7.7,SNR=3.9							
BDFB	**Brasilia**	**78.73**	**124**	LR	LR	20 08 15.9		
	comp=N,56nm,18.3s,baz=283,slow=38							

NEIC ***12*** *19:20:22.9±2.3, 58°22.2'N±0°04'×137°54.9'W±0°03', h10km±2km, ML3.6/68, ML2.9(OTT), ML3.4(AEIC), Error ellipse: s-maj=7.3km s-min=3.4km az=171.0*

PGC ***12*** *19:20:24.2±0.2, 58°36.0'N×137°53.9'W, h1km, ML3.6, ML2.9/7, 137km Ese of Yakutat, Ak Southeastern Alaska*

AEIC ***12*** *19:20:25±2.5, 58°23.0'N±0°05'×138°01.8'W±0°07', h11km±6km, Error ellipse: s-maj=8.9km s-min=3.1km az=209.0*

ISC 12 19:20:23.5±2.9, 58°23.0'N±0°05'×138°02.8'W±0°03', h13km±22km, n130, σ1§51/175, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKU2	**Yakutat**	**1.55**	**327**	Pn	**Pn**	**19 20 51.5**	**+0.7**
YKU2				Sn	**Sn**	**19 21 12.6**	**+2.0**
PNL	**Peninsula**	**1.61**	**334**		**Pn**	**19 20 50.9**	**-0.8**
PNL					**Sn**	**19 21 12.1**	**-0.2**
PNL	**Peninsula**	**1.61**	**334**	Pn	**Pn**	**19 20 50.6**	**-1.1**
PNL				Sn	**Sn**	**19 21 11.5**	**-0.8**
BESE	**Bessie Mountai**	**1.70**	**77**	Pn	**Pn**	**19 20 52.3**	**-0.7**
BESE	**Bessie Mountai**	**1.70**	**77**		**Sn**	**19 21 14.5**	**-0.1**
BESE	**Bessie Mountai**	**1.70**	**77**	Pn	**Pn**	**19 20 52.2**	**-0.7**
BESE				Sn	**Sn**	**19 21 14.1**	**-0.5**
SIT	**Sitka**	**1.86**	**128**	Pn	**Pn**	**19 20 54.8**	**-0.3**
SIT	**Sitka**	**1.86**	**128**	P	**Pn**	**19 20 54.8**	**-0.3**
	baz=311						
SKAG	**Skagway**	**1.86**	**47**	Sn	**Sn**	**19 21 16.8**	**-1.7**
SKAG	**Skagway**	**1.86**	**47**	P	**Pn**	**19 20 55.1**	**0.0**
	baz=229						
SKAG				S	**Sn**	**19 21 17.9**	**-0.6**
	baz=229						
BCPM	**Bancas Point**	**1.92**	**335**		**Pn**	**19 20 55.6**	**-0.3**
BCPM				IAML		19 21 32.3	
	comp=E,538nm,0.5s						
JIS	**Juneau Island**	**1.92**	**87**		**Pn**	**19 20 55.1**	**-0.7**
JIS				Sn	**Sn**	**19 21 17.1**	**-2.7**
JIS				IAML		19 21 23.7	
	comp=N,349nm,0.6s						
YUK7	**Dusty Glacier**	**2.31**	**358**		**Pn**	**19 21 02.0**	**+0.5**
YUK7					**Sn**	**19 21 30.1**	**+0.3**
YUK7	**Dusty Glacier**	**2.31**	**358**	Pn	**Pn**	**19 21 01.3**	**-0.2**
YUK7				Sn	**Sn**	**19 21 29.9**	**+0.1**
HYT	**Haines Junctio**	**2.62**	**5**	Pn	**Pn**	**19 21 05.4**	**-0.2**
HYT				IAML		19 21 41.6	
	comp=E,209nm,1.2s						
HYT	**Haines Junctio**	**2.62**	**5**	Pn	**Pn**	**19 21 05.5**	**-0.1**
HYT				Pg	**Pb**	**19 21 08.6**	**-1.8**
HYT				Sn	**Sn**	**19 21 35.8**	**-1.5**
HYT				Sg	**Sb**	**19 21 41.3**	**-1.1**
HYT	**Haines Junctio**	**2.62**	**5**	P	**Pn**	**19 21 06.2**	**+0.6**
	baz=185						
YUK6	**Outpost Mounta**	**2.73**	**356**		**Pn**	**19 21 07.6**	**+0.4**
YUK6					**Sn**	**19 21 41.7**	**+1.6**
YUK6	**Outpost Mounta**	**2.73**	**356**	Pn	**Pn**	**19 21 07.3**	**+0.1**
YUK6				Pg	**Pb**	**19 21 10.4**	**-1.9**
YUK6				Sg	**Sb**	**19 21 45.2**	**-0.6**
YUK6	**Outpost Mounta**	**2.73**	**356**	P	**Pn**	**19 21 07.6**	**+0.4**
	baz=176						
YUK6				S	**Sn**	**19 21 41.7**	**+1.6**
	baz=176						
TABL	**Table Mountain**	**2.74**	**325**		**Pn**	**19 21 08.5**	**+1.1**
TABL	**Table Mountain**	**2.74**	**325**		**Sn**	**19 21 42.8**	**+2.4**
TABL	**Table Mountain**	**2.74**	**325**	IAML		19 21 53.7	
	comp=E,266nm,0.6s						
TABL	**Table Mountain**	**2.74**	**325**	Pn	**Pn**	**19 21 08.4**	**+1.1**
TABL				Sg	**Sb**	**19 21 45.4**	**-0.5**
YUK5	**Granite Creek**	**2.91**	**1**		**Pn**	**19 21 10.3**	**+0.6**
YUK5	**Granite Creek**	**2.91**	**1**	Pn	**Pn**	**19 21 10.1**	**+0.4**
YUK5				Pg	**Pb**	**19 21 14.0**	**-1.4**
YUK5				Sn	**Sn**	**19 21 43.4**	**-1.2**
YUK5				Sg	**Sb**	**19 21 49.9**	**-1.1**
WHY	**Whitehorse**	**2.92**	**32**		**Pn**	**19 21 09.4**	**-0.3**
WHY	**Whitehorse**	**2.92**	**32**	Pn	**Pn**	**19 21 09.4**	**-0.3**
WHY				Pg	**Pb**	**19 21 14.1**	**-1.3**
WHY				Sn	**Sn**	**19 21 43.4**	**-1.2**
WHY				Sg	**Sb**	**19 21 51.0**	**-0.1**
WHY	**Whitehorse**	**2.92**	**32**	P	**Pn**	**19 21 09.4**	**-0.3**
	baz=214						
LOGN	**Logan Glacier**	**3.02**	**331**		**Pn**	**19 21 12.4**	**+1.3**
LOGN				IAML		19 22 01.8	
	comp=N,162nm,1.0s						
LOGN				IAML		19 22 01.8	
	comp=E,192nm,0.9s						
LOGN	**Logan Glacier**	**3.02**	**331**	Pn	**Pn**	**19 21 11.6**	**+0.5**
LOGN				Pg	**Pb**	**19 21 16.0**	**-1.2**
LOGN				Sn	**Sn**	**19 21 47.0**	**-0.1**
BAGL	**Bagley Icefiel**	**3.08**	**319**		**Pn**	**19 21 11.7**	**-0.1**
YUK4	**Talbot Arm**	**3.14**	**354**	Pn	**Pn**	**19 21 14.9**	**+2.0**
YUK4				Pg	**Pb**	**19 21 19.1**	**-0.2**
YUK4				Sn	**Sn**	**19 21 52.0**	**+1.7**
YUK4				Sg	**Sb**	**19 21 59.6**	**+2.1**
YUK4	**Talbot Arm**	**3.14**	**354**	P	**Pn**	**19 21 15.0**	**+2.1**
	baz=175						
GRNC	**Granite Creek**	**3.15**	**324**		**Pn**	**19 21 14.4**	**+1.4**
GRNC				IAML		19 22 10.8	
	comp=E,130nm,0.8s						
GRNC				IAML		19 22 16.4	
	comp=N,166nm,0.8s						
GRNC	**Granite Creek**	**3.15**	**324**	Pn	**Pn**	**19 21 13.2**	**+0.2**
GRNC				Sn	**Sn**	**19 21 49.4**	**-1.1**
SNH	**Sunshine Point**	**3.16**	**310**		**Pn**	**19 21 13.4**	**+0.4**
YUK8	**Steele Glacier**	**3.19**	**345**	Pg	**Pb**	**19 21 18.6**	**-1.6**
YUK8				Sn	**Sn**	**19 21 49.4**	**-2.2**
YUK8				Sg	**Sb**	**19 22 01.7**	**+2.7**
CTGM	**Chitina Glacie**	**3.22**	**330**		**Pn**	**19 21 15.2**	**+1.3**
CTGM				IAML		19 22 10.7	
	comp=E,114nm,0.8s						
CTGM				IAML		19 22 16.0	
	comp=N,198nm,0.7s						
CTGM	**Chitina Glacie**	**3.22**	**330**	Pn	**Pn**	**19 21 14.7**	**+0.8**
CTGM				Pg	**Pb**	**19 21 20.3**	**-0.3**
CTGM				Sn	**Sn**	**19 21 51.0**	**-1.2**
ISLE	**Juniper Island**	**3.25**	**319**		**Pn**	**19 21 13.9**	**-0.3**
ISLE				IAML		19 22 27.9	
	comp=E,180nm,0.9s						
WAX	**Waxell Ridge**	**3.33**	**314**		**Pn**	**19 21 15.4**	**+0.1**
BARN	**Barnard Glacie**	**3.39**	**328**		**Pn**	**19 21 16.3**	**0.0**
BARN				IAML		19 22 17.2	
	comp=E,135nm,0.8s						
BARN				IAML		19 22 18.8	
	comp=N,108nm,0.9s						
N31M	**Braeburn, Yuko**	**3.46**	**18**		**Pn**	**19 21 16.1**	**-1.0**
N31M				IAML		19 22 25.0	
	comp=E,132nm,1.1s						
N31M				IAML		19 22 32.8	
	comp=N,114nm,1.3s						
N31M	**Braeburn, Yuko**	**3.46**	**18**	Pn	**Pn**	**19 21 17.1**	**+0.1**
N31M				Pg	**Pb**	**19 21 23.5**	**-1.0**
N31M				Sn	**Sn**	**19 21 55.1**	**-2.7**
KHIT	**Khitrov Hills**	**3.48**	**312**		**Pn**	**19 21 18.6**	**+1.2**
KIAG	**Kiagna River**	**3.49**	**323**	Pn	**Pn**	**19 21 18.0**	**+0.3**
KIAG				Pg	**Pb**	**19 21 24.1**	**-1.1**
SUCK	**Suckling Hills**	**3.50**	**304**	Pn	**Pn**	**19 21 19.1**	**+1.5**
SUCK				IAML		19 21 57.1	
	comp=E,99nm,2.9s						
SUCK				IAML		19 22 41.1	
	comp=N,107nm,2.0s						
TGL	**Tana Glacier**	**3.53**	**318**		**Pn**	**19 21 17.9**	**-0.2**
TGL				IAML		19 22 26.8	
	comp=E,112nm,1.1s						
TGL				IAML		19 22 37.9	
	comp=N,128nm,1.1s						
BALM	**Baldy**	**3.57**	**324**	Pn	**Pn**	**19 21 19.1**	**+0.4**
BALM				Pg	**Pb**	**19 21 26.4**	**-0.2**
BALM				Sn	**Sn**	**19 21 59.1**	**-1.7**
BALM				Sg	**Sb**	**19 22 12.5**	**+2.6**
PTPK	**Patty Peak**	**3.73**	**325**		**Pn**	**19 21 22.7**	**+1.8**
PTPK	**Patty Peak**	**3.73**	**325**	Pn	**Pn**	**19 21 21.7**	**+0.9**
PTPK				Pg	**Pb**	**19 21 28.9**	**-0.4**
PTPK				Sn	**Sn**	**19 22 02.2**	**-2.4**
YUK3	**Moose Creek**	**3.76**	**342**	Pn	**Pn**	**19 21 21.9**	**+0.5**
YUK3				Pg	**Pb**	**19 21 29.9**	**0.0**
HMT	**Hamilton**	**3.84**	**306**		**Pn**	**19 21 21.3**	**-0.9**
YUK2	**White River**	**3.84**	**340**	Pn	**Pn**	**19 21 22.2**	**-0.2**
CRAG	**Craig**	**3.86**	**134**	Pn	**Pn**	**19 21 21.8**	**-0.6**
RAGM	**Ragged Mountai**	**4.04**	**305**	Pn	**Pn**	**19 21 24.4**	**-0.7**
MCARA	**McCarthy VSAT**	**4.05**	**323**		**Pn**	**19 21 23.4**	**-1.7**
VRDI	**Verde Repeater**	**4.08**	**320**		**Pn**	**19 21 25.2**	**-0.5**
DLBC	**Dease Lake**	**4.22**	**84**	Pn	**Pn**	**19 21 26.9**	**-0.6**
DLBC				IAML		19 22 36.0	
	comp=E,66nm,0.8s						
DLBC				IAML		19 22 41.1	
	comp=N,59nm,1.3s						
DLBC	**Dease Lake**	**4.22**	**84**	Pn	**Pn**	**19 21 27.4**	**-0.1**
DLBC				Pg	**Pb**	**19 21 38.9**	**+1.3**
DLBC				Sn	**Sn**	**19 22 15.9**	**-0.7**
DLBC				Sg	**Sb**	**19 22 33.1**	**+4.8**
BMRM	**Bremner River**	**4.33**	**312**	Pn	**Pn**	**19 21 27.3**	**-1.7**
BMRM				IAML		19 22 41.2	
	comp=E,74nm,0.7s						
BMRM				IAML		19 22 48.1	
	comp=N,80nm,0.7s						
GLB	**Gilahina Butte**	**4.35**	**320**		**Pn**	**19 21 28.2**	**-1.1**
GLB				IAML		19 22 53.3	
	comp=N,42nm,1.0s						
GLB				IAML		19 22 55.4	
	comp=E,50nm,0.8s						
M31M	**Drury Creek, Y**	**4.38**	**23**		**Pn**	**19 21 28.0**	**-1.7**
M31M	**Drury Creek, Y**	**4.38**	**23**	Pn	**Pn**	**19 21 29.7**	**0.0**
M30M	**Minto, Yukon**	**4.40**	**7**	Pn	**Pn**	**19 21 27.8**	**-2.3**
M30M				IAML		19 22 50.1	
	comp=E,44nm,0.8s						
M30M	**Minto, Yukon**	**4.40**	**7**	Pn	**Pn**	**19 21 30.2**	**+0.2**
M30M				Sn	**Sn**	**19 22 19.5**	**-1.7**
M30M				Sg	**Sb**	**19 22 38.7**	**+5.0**
MID	**Middleton Isla**	**4.49**	**289**	Pn	**Pn**	**19 21 34.2**	**+3.0**
M27K	**Edge Creek, AK**	**4.57**	**337**		**Pn**	**19 21 31.8**	**-0.5**
M27K				IAML		19 23 07.1	
	comp=E,43nm,1.8s						
FARO	**Faro, Yukon**	**4.64**	**28**	Sg	**Sb**	**19 22 45.1**	**+4.7**
N25K	**Chitina, Valde**	**4.74**	**318**		**Pn**	**19 21 35.7**	**+1.0**
N25K				IAML		19 22 58.3	
	comp=N,31nm,0.7s						
DIV	**Divide**	**4.89**	**310**		**Pn**	**19 21 35.9**	**-0.8**
FID	**Port Fidalgo**	**5.00**	**304**	Pn	**Pn**	**19 21 39.6**	**+1.4**
FID				IAML		19 23 23.9	
	comp=E,27nm,1.9s						
FID				IAML		19 23 24.0	
	comp=N,35nm,3.4s						
KLU	**Klutina**	**5.16**	**313**		**Pn**	**19 21 40.6**	**+0.2**
KLU				IAML		19 23 05.9	
	comp=E,38nm,0.6s						
KLU				IAML		19 23 17.9	
	comp=N,40nm,0.9s						
BCAR	**Beaver Creek A**	**5.20**	**341**		**Pn**	**19 21 40.4**	**-0.5**
L27K	**Beaver Creek,**	**5.20**	**340**		**Pn**	**19 21 41.2**	**+0.3**
GLI	**Glacier Island**	**5.33**	**304**	Pn	**Pn**	**19 21 41.5**	**-1.2**
GLI				IAML		19 23 21.0	
	comp=N,26nm,2.5s						
GLI				IAML		19 23 22.2	
	comp=E,29nm,2.2s						
MMPY	**Sheldon Lake,**	**5.53**	**34**	Pn	**Pn**	**19 21 45.9**	**+0.4**
M24K	**Tolsona, Glenn**	**5.63**	**317**		**Pn**	**19 21 45.1**	**-1.7**
PWL	**Port Wells**	**5.87**	**301**	Pn	**Pn**	**19 21 49.5**	**-0.7**
DAWY	**Dawson**	**5.89**	**354**	Pn	**Pn**	**19 21 50.0**	**-0.5**
DAWY	**Dawson**	**5.89**	**354**	Pn	**Pn**	**19 21 51.4**	**+0.9**
SCM	**Sheep Creek Mo**	**5.90**	**312**	Pn	**Pn**	**19 21 50.5**	**-0.1**
TGTN	**Hyland Airport**	**5.92**	**52**	Pn	**Pn**	**19 21 51.5**	**+0.7**
DIB	**Dawson Inlet,**	**5.93**	**146**	Pn	**Pn**	**19 21 49.8**	**-1.1**
PAX	**Paxson**	**6.01**	**325**	Pn	**Pn**	**19 21 50.7**	**-1.4**
KNK	**Knik Glacier**	**6.16**	**306**		**Pn**	**19 21 54.6**	**+0.5**
SEW	**Seward**	**6.17**	**293**	Pn	**Pn**	**19 21 54.9**	**+0.6**
DOT	**Dot Lake**	**6.18**	**334**	Pn	**Pn**	**19 21 53.2**	**-1.2**
DOT	**Dot Lake**	**6.18**	**334**	Pn	**Pn**	**19 21 56.3**	**+1.9**
J29M	**Klondike Camp**	**6.25**	**359**	Sg	**Sb**	**19 23 35.6**	**+9.0**
SML	**Sawmill**	**6.29**	**309**	Pn	**Pn**	**19 21 56.6**	**+0.6**
RIDG	**Independent Ri**	**6.45**	**332**	Pn	**Pn**	**19 21 57.0**	**-1.1**
SCRK	**Sand Creek**	**6.45**	**336**	Pn	**Pn**	**19 21 57.0**	**-1.2**
RC01	**Rabbit Creek A**	**6.59**	**301**	Pn	**Pn**	**19 21 59.6**	**-0.4**
DHY	**Denali Highway**	**6.69**	**321**	Pn	**Pn**	**19 22 00.8**	**-0.7**
EGAK	**Eagle**	**6.74**	**348**		**Pn**	**19 21 59.6**	**-2.5**
BRLK	**Bradley Lake**	**6.83**	**288**	Pn	**Pn**	**19 22 03.4**	**+0.1**
FIS	**Fire Island**	**6.83**	**300**	Pn	**Pn**	**19 22 02.6**	**-0.7**
HG4B	**Hotspring**	**7.11**	**144**	Pn	**Pn**	**19 22 06.3**	**-0.8**
J25K	**Salcha River,**	**7.31**	**334**	Pn	**Pn**	**19 22 08.4**	**-1.4**
RND	**Reindeer**	**7.41**	**319**		**Pn**	**19 22 13.2**	**+1.9**
HDA	**Harding Lake**	**7.54**	**329**	Pn	**Pn**	**19 22 14.0**	**+1.0**
SPU	**Mount Spurr**	**7.69**	**299**	Pn	**Pn**	**19 22 14.7**	**-0.4**
KDAK	**Kodiak Island**	**7.75**	**273**	Pn	**Pn**	**19 22 14.8**	**-1.1**
IL31		**7.81**	**331**	Pn	**Pn**	**19 22 16.7**	**+0.1**
ILAR	**Eielson Array**	**7.81**	**331**	Pn	**Pn**	**19 22 15.8**	**-0.8**
RSO	**Redoubt South**	**7.86**	**293**	Pn	**Pn**	**19 22 18.4**	**+0.8**
WRH	**Wood River Hil**	**7.91**	**327**	Pn	**Pn**	**19 22 17.1**	**-1.0**
TRF	**Thorofare Moun**	**7.95**	**316**		**Pn**	**19 22 20.8**	**+2.0**
CCB	**Clear Creek Bu**	**7.96**	**328**	Pn	**Pn**	**19 22 19.3**	**+0.6**
OHAK	**Old Harbor**	**8.24**	**269**	Pn	**Pn**	**19 22 23.4**	**+0.8**
KTH	**Kantishna Hill**	**8.24**	**316**			**19 22 24.6**	**+1.9**
MDM	**Murphy Dome**	**8.31**	**329**	Pn	**Pn**	**19 22 24.6**	**+1.0**
PPLA	**Purkeypile**	**8.40**	**310**	Pn	**Pn**	**19 22 25.7**	**+0.8**
BPAW	**Bear Paw Mtn.**	**8.59**	**319**	Pn	**Pn**	**19 22 27.9**	**+0.5**
CAST	**Castle Rocks**	**8.61**	**313**	Pn	**Pn**	**19 22 28.2**	**+0.5**
M19K	**Big River Lodg**	**8.97**	**301**	Pn	**Pn**	**19 22 30.8**	**-1.8**
L19K	**White Mountain**	**9.26**	**302**	Pn	**Pn**	**19 22 36.0**	**-0.6**
H23K	**Yukon River**	**9.33**	**330**	Pn	**Pn**	**19 22 35.2**	**-2.4**
SVW2	**Sparrevohn**	**9.34**	**295**	Pn	**Pn**	**19 22 38.5**	**+0.9**
K20K	**Telida**	**9.37**	**310**	Pn	**Pn**	**19 22 36.0**	**-2.0**
N18K	**Kilae Creek**	**9.42**	**293**	Pn	**Pn**	**19 22 40.7**	**+1.9**
I21K	**Tanana**	**9.60**	**322**	Pn	**Pn**	**19 22 41.9**	**+0.7**
BMAR	**Burnt Mountain**	**9.70**	**345**	Pn	**Pn**	**19 22 42.9**	**+0.2**
J20K	**Nowinta River**	**9.78**	**314**			**19 22 44.8**	**+1.1**
TTA	**Tatalina**	**10.01**	**306**	Pn	**Pn**	**19 22 46.5**	**-0.4**
H21K	**Melozitna Rive**	**10.17**	**323**	Pn	**Pn**	**19 22 47.9**	**-1.2**
IMAR	**Indian Mountai**	**10.68**	**323**	Pn	**Pn**	**19 22 55.4**	**-0.6**
TOLK	**Toolik Lake Re**	**11.63**	**339**	Pn	**Pn**	**19 23 06.5**	**-2.5**

IDC ***12*** *19:20:43.3±2.6, 29°94'N×131°17'E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/38, mbtmp3.6/4, Error ellipse: s-maj=129.7km s-min=32.7km az=66.0*

JMA ***12*** *19:20:47.4±0.1, 29°21'N×130°64'E, h46km, M2.9*

ISC 12 19:20:48.2±1.2, 29°22'N±0°07'×130°6'E±0°1, h40km, n23, σ0§51/22, mb4.2/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.90**	**314**	P	**Pn**	**19 21 04.2**	**-0.2**
JNN				*e*S	**Sn**	**19 21 16.4**	**+0.3**
JYAK	**Yakushimahirau**	**1.02**	**355**	P	**Pn**	**19 21 05.7**	**-0.3**
JMTN	**Minamitane**	**1.20**	**12**	P	**Pn**	**19 21 08.2**	**-0.3**
JAM	**Amami Oshima**	**1

CN2	**Changchun**	**15.13 346**	*e*P	**P**	**19 30 32.5 +0.3**				
CN2			*e*S	**Sn**	**19 33 18.8 +4.7**				
CN2			pmax	pmax					
	comp=Z,20nm,1.4s								
CN2			pmax	pmax					
	comp=Z,200nm,5.5s								
CN2			LR	LR					
	comp=N,700nm,12.0s								
CN2			LR	LR					
	comp=E,200nm,12.0s								
CN2			LR	LR					
	comp=Z,700nm,16.0s								
HNS	**HongShan**	**15.55 306**	⇓P	**P**	**19 30 37.6 +0.8**				
HNS			*e*S	**S**	**19 33 32.2 -6.0**				
HNS			pmax	pmax					
	comp=Z,9.0nm,0.7s								
HNS			LR	LR					
	comp=N,360nm,15.0s								
HNS			LR	LR					
	comp=E,380nm,14.3s								
HNS			LR	LR					
	comp=Z,410nm,13.5s								
BJT	**Baijiatuau**	**16.00 316**	P	**Pn**	**19 30 39.9 +1.0**				
BJT			pmax	pmax					
	comp=Z,18nm,1.1s								
BJT	**Baijiatuau**	**16.00 316**	P	**Pn**	**19 30 39.9 +1.0**				
BJI	**Beijing**	**16.01 316**	P	**P**	**19 30 41.1 -0.8**				
BJI			pmax	pmax					
	comp=Z,5.0nm,0.5s								
BJI			LR	LR					
	comp=Z,750nm,13.9s								
BJI			LR	LR					
	comp=Z,560nm,13.5s								
BJI			LR	LR					
	comp=Z,1μm,14.9s								
ENH	**Enshi**	**18.32 279**	P	**P**	**19 31 06.2 -1.5**				
ENH			IAmb	IAmb	19 31 23.1				
	comp=Z,25nm,0.9s								
XLT	**XiLinHaoTe**	**18.68 326**⇑	*i*P	**Pn**	**19 31 13.5 +1.4**				
XLT			pP	pP	19 31 21.4 -0.4				
XLT			PP	**sP**	**19 31 27.9 +0.5**				
XLT			S	**S**	**19 34 43.6 +1.8**				
XLT			SS	**SnSn**	**19 35 03.6 +9.2**				
XLT			pmax	pmax					
	comp=Z,24nm,0.7s								
XLT			pmax	pmax					
	comp=Z,190nm,4.8s								
XLT			LR	LR					
	comp=Z,380nm,13.8s								
XLT			LR	LR					
	comp=Z,800nm,13.8s								
XAN	**Xi'an**	**19.03 290**	P	**P**	**19 31 15.3 -0.1**				
XAN			pP	pP	19 31 24.5 -1.1				
XAN			S	**Sn**	**19 34 46.9 -1.8**				
XAN			pmax	pmax					
	comp=Z,18nm,0.6s								
XAN			LR	LR					
	comp=Z,340nm,12.6s								
XAN			LR	LR					
	comp=Z,580nm,12.0s								
XAN			LR	LR					
	comp=Z,550nm,12.1s								
HHC	**Hu-ho-hao-te**	**19.37 312**	*e*P	**P**	**19 31 19.1 +0.1**				
HHC			sP	sP	19 31 33.4 -1.7				
HHC			S	**S**	**19 34 52.9 -2.9**				
HHC			pmax	pmax					
	comp=Z,17nm,1.0s								
HHC			pmax	pmax					
	comp=Z,140nm,5.2s								
HHC			LR	LR					
	comp=Z,440nm,15.7s								
HHC			LR	LR					
	comp=Z,400nm,15.2s								
HHC			LR	LR					
	comp=Z,850nm,15.8s								
KLR	**Kul'dur**	**20.02 2**	P	**P**	**19 31 25.0 -1.0**				
	comp=Z,0.5nm,0.3s,baz=177,slow=7.1,SNR=25								
KLR			LR	LR	19 39 37.9				
	comp=Z,184nm,18.3s,baz=172,slow=38								
KLR	**Kul'dur**	**20.02 2**	*ce*P	**P**	**19 31 24.5 -1.5**				
KLR			pmax	pmax					
	comp=Z,7.0nm,0.7s								
YSS	**Yuzh-Sakhalins**	**20.12 25**	*i*P	**P**	**19 31 26.9 -0.1**				
YSS			pmax	pmax					
	comp=Z,25nm,1.3s								
BTO	**Baotou**	**20.27 310**	*e*P	Pn	19 31 35.3 +4.2				
BTO			LR	LR					
	comp=N,2μm,18.3s								
BTO			LR	LR					
	comp=E,1μm,14.1s								
GUMO	**Guam**	**20.44 136**	LR	LR	19 38 18.6				
	comp=E,102nm,18.4s,baz=335,slow=33								
GYA	**Guiyang**	**21.29 268**	⇓P	**P**	**19 31 42.1 +2.1**				
GYA			S	**S**	**19 35 33.5 -0.9**				
GYA			pmax	pmax					
	comp=E,15nm,0.7s								
GYA			pmax	pmax					
	comp=E,66nm,3.5s								
GYA			LR	LR					
	comp=E,190nm,3.8s								
GYA			LR	LR					
	comp=E,160nm,3.8s								
GYA			LR	LR					
	comp=E,430nm,12.0s								
DAV	**Davao City (W)**	**22.51 193**	LR	LR	19 42 02.1				
	comp=E,46nm,18.8s,baz=2.5,slow=40								
LZH	**Lanzhou**	**23.47 294**	*e*P	**P**	**19 32 05.0 +2.2**				
LZH			pP	pP	19 32 12.1 -1.6				
LZH			pmax	pmax					
	comp=E,21nm,1.0s								
LZH			LR	LR					
	comp=E,290nm,13.6s								
LZH			LR	LR					
	comp=E,690nm,12.2s								
LZH			LR	LR					
	comp=E,820nm,16.3s								
TYV	**Tymovskoe**	**23.48 19**	*e*P	**P**	**19 32 03.9 +1.4**				
TYV			pmax	pmax					
	comp=Z,200nm,4.4s								
TYV			pmax	pmax					
	comp=Z,7.0nm,1.4s								
ZEA	**Zeya**	**24.64 355**	*e*P	**P**	**19 32 11.9 -1.3**				
ZEA			*e*		19 35 46.0				
ZEA			pmax	pmax					
	comp=N,10.0nm,0.5s								
ZEA			pmax	pmax					
	comp=Z,10.0nm,0.8s								
ZEA			MLR	MLR					
	comp=N,200nm,14.0s								
ZEA			MLR	MLR					
	comp=Z,200nm,13.0s								
KMI	**Kunming**	**25.05 267**	⇓P	**P**	**19 32 17.7 +0.2**				
KMI			pP	pP	19 32 26.7 -2.0				
KMI			sP	pwP	19 32 30.9 +0.2				
KMI			S	**S**	**19 36 36.3 -2.7**				
KMI			pmax	pmax					
	comp=Z,37nm,0.7s								
KMI			pmax	pmax					
	comp=Z,41nm,3.5s								
KMI			LR	LR					
	comp=Z,240nm,14.3s								
KMI			LR	LR					
	comp=Z,560nm,14.6s								
KMI			LR	LR					
	comp=Z,570nm,13.3s								
PZH	**PanZhiHua**	**25.59 271**	P	**P**	**19 32 21.9 -0.3**				
PZH			sP	**sP**	**19 32 38.5 -0.1**				
PZH			S	**S**	**19 36 40.2 -7.1**				
PZH			pmax	pmax					
	comp=Z,10.0nm,0.9s								
PZH			pmax	pmax					
	comp=Z,70nm,5.3s								
PZH			LR	LR					
	comp=Z,570nm,17.8s								
PZH			LR	LR					
	comp=Z,750nm,20.2s								
PZH			LR	LR					
	comp=Z,1μm,22.6s								
ULN	**Ulaanbaatar**	**26.01 322**	*ce*P	**P**	**19 32 25.3 -0.6**				
ULN			pmax	pmax					
	comp=Z,5.0nm,0.8s								
SONM	**Songino Array**	**26.34 322**	P	**P**	**19 32 26.4 -2.5**				
	comp=Z,2.2nm,0.7s,baz=142,slow=10,SNR=7.9								
SONM			LR	LR	19 44 15.3				
	comp=Z,469nm,18.1s,baz=161,slow=40								
SONM	**Songino Array**	**26.34 322**	P	**P**	**19 32 26.4 -2.5**				
SONM			pmax	pmax					
	comp=Z,3.0nm,0.8s								
GTA	**Gaotai**	**27.24 300**	*e*P	**P**	**19 32 38.9 +1.8**				
GTA			pP	pP	19 32 43.2 -5.2				
GTA			sP	sP	19 32 46.9 -6.7				
GTA			pmax	pmax					
	comp=Z,3.0nm,0.7s								
GTA			pmax	pmax					
	comp=Z,130nm,6.0s								
GTA			LR	LR					
	comp=Z,210nm,15.1s								
GTA			LR	LR					
	comp=Z,460nm,15.5s								
GTA			LR	LR					
	comp=Z,500nm,14.7s								
ZAK	**Zakamensk**	**29.50 323**	*e*P	**P**	**19 32 55.9 -1.1**				
ZAK			pmax	pmax					
	comp=Z,3.0nm,1.2s								
SIJI	**Sorong**	**29.91 179**	LR	LR	19 43 12.5				
	comp=Z,106nm,21.3s,baz=346,slow=33								
CHTO	**Chiang Mai**	**30.58 257**	P	**P**	**19 33 04.6 -2.2**				
CHTO			pmax	pmax					
	comp=Z,4.0nm,0.8s								
CHTO	**Chiang Mai**	**30.58 257**	P	**P**	**19 33 04.6 -2.2**				
CMAR	**Chiang Mai Arr**	**30.74 257**	P	**P**	**19 33 06.7 -1.5**				
	comp=Z,0.9nm,0.8s,baz=62,slow=5.6,SNR=7.1								
CMAR			PcP	**PcP**	**19 36 05.6 +0.5**				
	comp=Z,1.0nm,0.7s,baz=19,slow=1.5,SNR=8.5								
GOMU	**GeErMu**	**30.75 292**	P	**P**	**19 33 08.9 +0.4**				
GOMU			S	**S**	**19 38 10.0 +1.1**				
GOMU			pmax	pmax					
	comp=Z,5.0nm,1.1s								
GOMU			pmax	pmax					
	comp=Z,51nm,5.0s								
GOMU			LR	LR					
	comp=Z,110nm,15.6s								
GOMU			LR	LR					
	comp=Z,190nm,15.4s								
GOMU			LR	LR					
	comp=Z,170nm,15.3s								
PET	**Petropavlovsk**	**31.50 33**	*i*P	**P**	**19 33 14.1 -0.3**				
PET			pmax	pmax					
	comp=Z,4.0nm,1.0s								
YAK	**Yakutsk**	**32.84 359**	*i*P	**P**	**19 33 27.0 +0.9**				
YAK			pmax	pmax					
	comp=Z,4.0nm,1.0s								
MA2	**Magadan**	**33.35 19**	P	**P**	**19 33 30.6 +0.1**				
	comp=Z,4.7nm,0.6s,baz=187,slow=7.4,SNR=5.6								
LSA	**Lhasa**	**34.20 281**	P	**P**	**19 33 35.2 -3.7**				
LSA			pmax	pmax					
	comp=Z,7.0nm,0.7s								
LSA	**Lhasa**	**34.20 281**	P	**P**	**19 33 35.2 -3.7**				
LSA			IAmb	IAmb	19 33 41.0				
	comp=Z,6.8nm,0.7s								
SHL	**Shillong**	**34.42 273**	P	**P**	**19 33 39.3 -1.2**				
SHL			pmax	pmax					
	comp=Z,25nm,0.8s								
SHL	**Shillong**	**34.42 273**	P	**P**	**19 33 39.3 -1.2**				
SEY	**Seymchan**	**36.59 17**	P	**P**	**19 33 58.8 +0.3**				
	comp=Z,3.9nm,0.7s,baz=222,slow=5.8,SNR=19								
SEY			LR	LR	19 48 43.5				
	comp=Z,90nm,20.4s,baz=232,slow=36								
SEY	**Seymchan**	**36.59 17**	*ce*P	**P**	**19 33 59.5 +1.0**				
SEY			pmax	pmax					
	comp=Z,5.0nm,1.0s								
WMQ	**Urumqi**	**36.98 305**	*e*P	**P**	**19 34 04.1 +1.9**				
WMQ			LR	LR					
	comp=Z,190nm,20.9s								
WMQ			LR	LR					
	comp=Z,180nm,20.5s								
TAPN	**Taplejung**	**37.62 278**	*e*P	**P**	**19 34 08.2 +0.1**				
	comp=Z,6.0nm,0.4s								
ODAN	**Odare**	**38.01 277**	*e*P	**P**	**19 34 11.2 -0.1**				
	comp=Z,54nm,0.7s								
RAMN	**Ramite**	**38.68 278**	*e*P	**P**	**19 34 17.1 +0.2**				
	comp=Z,12nm,0.5s								
JIRN	**Jiri**	**38.87 279**	*e*P	**P**	**19 34 18.7 +0.1**				
	comp=Z,17nm,0.7s								
GUN	**Gumba**	**39.08 279**	*e*P	**P**	**19 34 20.7 +0.3**				
	comp=Z,72nm,0.6s								
PKI	**Pulchoki**	**39.56 279**	*e*P	**P**	**19 34 24.2 -0.2**				
	comp=Z,34nm,0.5s								
PKIN	**Phulchoki**	**39.57 279**	*e*P	**P**	**19 34 24.3 -0.1**				
	comp=Z,33nm,0.5s								
KKN	**Kakani**	**39.62 279**	*e*P	**P**	**19 34 24.7 -0.1**				
	comp=Z,56nm,0.7s								
DMN	**Daman**	**39.82 279**	*e*P	**P**	**19 34 27.1 +0.7**				
	comp=Z,36nm,0.7s								
GKN	**Gorkha**	**40.13 280**	*e*P	**P**	**19 34 28.8 -0.1**				
	comp=Z,40nm,0.7s								
DANN	**Dangsing**	**40.81 281**	*e*P	**P**	**19 34 35.0 +0.3**				
	comp=Z,115nm,0.7s								
KOLN	**Koldanda**	**41.08 280**	*e*P	**P**	**19 34 36.8 0.0**				
MK31	**Makanchi Array**	**41.19 309**	*i*P	**P**	**19 34 37.1 -0.1**				
MK31	**Makanchi Array**	**41.19 309**	P	**P**	**19 34 36.5 -0.7**				
MKAR	**Makanchi Array**	**41.19 309**	P	**P**	**19 34 37.1 -0.1**				
	comp=Z,1.8nm,0.6s,baz=90,slow=10,SNR=47								
MKAR			PcP	**PcP**	**19 36 35.4 -0.3**				
	comp=Z,1.4nm,0.8s,baz=48,slow=1.8,SNR=5.6								
MKAR			LR	LR	19 53 33.5				
	comp=Z,107nm,18.1s,baz=104,slow=39								
MKAR	**Makanchi Array**	**41.19 309**	P	**P**	**19 34 36.2 -1.0**				
ZAA0	**Zalesovo Array**	**41.22 320**	P	**P**	**19 34 36.1 -1.2**				
ZALV	**Zalesovo Beam**	**41.22 320**	P	**P**	**19 34 35.9 -1.4**				
	comp=Z,3.3nm,0.6s,baz=102,slow=8.6,SNR=15								
ZALV			PcP	**PcP**	**19 36 35.0 -0.5**				
	comp=Z,2.1nm,0.8s,baz=104,slow=4.7,SNR=6.5								
ZALV			LR	LR	19 53 43.3				
	comp=Z,298nm,18.6s,baz=108,slow=39								
ZALV	**Zalesovo Beam**	**41.22 320**	*i*P	**P**	**19 34 36.9 -0.4**				
ZALV			pmax	pmax					
	comp=Z,3.0nm,0.6s								
ZALV	**Zalesovo Beam**	**41.22 320**	P	**P**	**19 34 35.3 -2.0**				
ZALV				**PcP**	**19 36 35.7 +0.1**				
MAKZ	**Makanchi**	**41.40 309**	P	**P**	**19 34 38.1 -0.9**				
MAKZ			pmax	pmax					
	comp=Z,2.0nm,1.0s								
MAKZ	**Makanchi**	**41.40 309**	P	**P**	**19 34 38.1 -0.9**				
PYUN	**Piuthan**	**41.53 280**	*e*P	**P**	**19 34 40.6 +0.1**				
	comp=Z,72nm,0.8s								
TIXI	**Tiksi**	**42.51 359**	P	**P**	**19 34 46.1 -1.5**				
	comp=Z,2.0nm,0.6s,baz=269,slow=22,SNR=12								
TIXI			PcP	**PcP**	**19 36 39.4 -0.1**				
	comp=Z,0.6nm,0.5s,baz=90,slow=20,SNR=1.9								
TIXI	**Tiksi**	**42.51 359**	*ce*P	**P**	**19 34 47.9 +0.3**				
TIXI			pmax	pmax					
	comp=Z,3.0nm,1.0s								
TIXI	**Tiksi**	**42.51 359**	P	**P**	**19 34 46.2 -1.3**				
KURK	**Kurchatov**	**44.16 314**	*ce*P	**P**	**19 35 01.3 +0.1**				
KURK			pmax	pmax					
	comp=Z,20nm,0.8s								
KURK	**Kurchatov**	**44.16 314**	P	**P**	**19 35 00.3 -0.9**				
KURBB	**Kurchatov Arra**	**44.20 314**	LR	LR	19 55 04.5				
	comp=Z,302nm,20.4s,baz=85,slow=38								
KURBB	**Kurchatov Arra**	**44.20 314**	P	**P**	**19 35 01.4 -0.2**				
BILL	**Bilibino**	**44.22 18**⇑	*e*P	**P**	**19 35 01.8 +0.4**				
BILL			*e*		19 36 46.5				
BILL			*e*SS	SS	19 45 04.0 +14				
BILL			pmax	pmax					
	comp=Z,4.0nm,0.7s								
BILL			MLR	MLR					
	comp=Z,84nm,15.0s								
BILL	**Bilibino**	**44.22 18**	P	**P**	**19 35 01.0 -0.4**				
KSH	**Kashi**	**45.60 298**	P	**P**	**19 35 15.3 +2.2**				
KSH			pmax	pmax					
	comp=Z,2.0nm,0.7s								
AAK	**Ala-Archa**	**46.54 303**	LR	LR	19 56 39.6				
	comp=Z,133nm,18.6s,baz=88,slow=39								
AAK	**Ala-Archa**	**46.54 303**	*ce*P	**P**	**19 35 20.6 +0.2**				
AAK			pmax	pmax					
	comp=Z,4.0nm,1.7s								
NRIK	**Noril'sk**	**47.10 341**	P	**P**	**19 35 22.4 -1.8**				
	comp=Z,9.6nm,0.6s,baz=116,slow=9.3,SNR=14								
NRIK	**Noril'sk**	**47.10 341**	*ce*P	**P**	**19 35 22.9 -1.3**				
NRIK			pmax	pmax					
	comp=Z,10.0nm,0.7s								
NRIK	**Noril'sk**	**47.10 341**	P	**P**	**19 35 22.6 -1.6**				
NRIK			IAmb	IAmb	19 35 24.1				
	comp=Z,11nm,0.7s								
OTUK	**Ortayu**	**48.02 310**	P	**P**	**19 35 31.0 -0.7**				
NIL	**Nilore**	**48.57 291**	P	**P**	**19 35 34.7 -1.5**				
NIL			pmax	pmax					
	comp=Z,26nm,0.7s								
NIL	**Nilore**	**48.57 291**	P	**P**	**19 35 34.7 -1.5**				
WRA	**Warramunga Arr**	**48.99 175**	P	**P**	**19 35 40.4 +1.0**				
	comp=Z,1.9nm,0.8s,baz=353,slow=8.2,SNR=11								
KK31	**Karatay Array**	**49.44 303**	*i*P	**P**	**19 35 42.7 +0.1**				
KK31	**Karatay Array**	**49.44 303**	P	**P**	**19 35 41.7 -0.9**				
KK31			IAmb	IAmb	19 35 44.6				
	comp=Z,8.0nm,0.8s								
KKAR	**Karatay Array**	**49.44 303**	P	**P**	**19 35 41.8 -0.8**				
KKAR			pmax	pmax					
	comp=Z,8.0nm,0.8s								
KKAR	**Karatay Array**	**49.44 303**	P	**P**	**19 35 41.7 -1.0**				
KKAR			PcP	**PcP**	**19 37 04.9 +0.5**				
KKAR	**Karatay Array**	**49.44 303**	P	**P**	**19 35 41.8 -0.8**				
KKAR			IAmb	IAmb	19 35 44.7				
	comp=Z,8.0nm,0.8s								
BRVK	**Borovoye**	**49.56 316**	*ce*P	**P**	**19 35 43.2 -0.1**				
BRVK			pmax	pmax					
	comp=Z,23nm,0.8s								
BRVK	**Borovoye**	**49.56 316**	P	**P**	**19 35 42.2 -1.1**				
BRVK			PcP	**PcP**	**19 37 05.3 +0.8**				
CHGR	**Chuyangaron**	**50.97 298**	P	**P**	**19 35 53.5 -0.9**				
CHGR			pmax	pmax					
	comp=Z,17nm,1.3s								
CHGR	**Chuyangaron**	**50.97 298**	P	**P**	**19 35 53.5 -0.9**				
CHGR			IAmb	IAmb	19 35 56.1				
	comp=Z,17nm,1.3s								
CHGR			PcP	**PcP**	**19 37 09.8 -0.4**				
PALK	**Pallekele**	**51.66 255**	LR	LR	20 00 35.8				
	comp=Z,79nm,18.2s,baz=160,slow=39								
KBL	**Kabul**	**51.81 293**	P	**P**	**19 36 01.5 +0.6**				
KBL			pmax	pmax					
	comp=Z,8.0nm,0.8s								
ASAR	**Alice Springs**	**52.66 176**	P	**P**	**19 36 08.7 +1.8**				
	comp=Z,1.1nm,0.7s,baz=8.6,slow=13,SNR=15								
SVE	**Sverdlovsk**	**55.21 321**	*e*P	**P**	**19 36 25.3 +0.1**				
SVE			pmax	pmax					
	comp=Z,14nm,0.8s								
SVE			MLR	MLR					
	comp=Z,559nm,16.0s								
AB31	**Akbulak array**	**56.16 312**	*i*P	**P**	**19 36 32.1 0.0**				
ABKAR	**Akbulak array**	**56.16 312**	P	**P**	**19 36 31.4 -0.8**				
ABKAR	**Akbulak array**	**56.16 312**	P	**P**	**19 36 31.8 -0.3**				
ABKAR			IAmb	IAmb	19 36 33.2				
	comp=Z,22nm,0.7s								
ARU	**Arti**	**56.38 321**	LR	LR	20 01 58.4				
	comp=Z,123nm,19.8s,baz=74,slow=38								
ARU	**Arti**	**56.38 321***c*	*i*P	**P**	**19 36 33.0 -0.5**				
ARU					19 37 28.2				
ARU					19 38 33.8				
ARU			S	**S**	**19 44 24.2 +3.5**				
ARU			SS	**SS**	**19 48 07.2 -0.5**				
ARU			pmax	pmax					
	comp=Z,13nm,0.7s								
ARU			MLR	MLR					
	comp=Z,313nm,16.0s								
ARU	**Arti**	**56.38 321**	P	**P**	**19 36 33.1 -0.5**				
AKTO	**Aktyubinsk**	**57.25 314**	LR	LR	20 03 09.7				
	comp=Z,296nm,19.3s,baz=78,slow=38								
AKTO	**Aktyubinsk**	**57.25 314**	P	**P**	**19 36 38.9 -1.0**				
HRA	**Herat**	**57.31 294**	P	**P**	**19 36 40.8 0.0**				
HRA			IAmb	IAmb	19 36 43.0				
	comp=Z,6.4nm,0.8s								
H21K	**Melozitna Rive**	**58.30 28**	P	**P**	**19 36 47.9 +0.8**				
H21K			IAmb	IAmb	19 36 50.2				
	comp=Z,9.5nm,1.4s								
I21K	**Tanana**	**58.66 29**	P	**P**	**19 36 50.5 +1.1**				
I21K			IAmb	IAmb	19 36 52.3				
	comp=Z,4.7nm,0.9s								
GEYT	**Alibeck**	**59.62 299**	P	**P**	**19 36 56.8 +0.2**				
	comp=Z,1.4nm,0.5s,baz=61,slow=4.9,SNR=3.6								
GEYT			LR	LR	20 07 18.1				
	comp=Z,81nm,18.1s,baz=112,slow=41								
H23K	**Yukon River**	**59.64 28**	P	**P**	**19 36 57.5 +1.2**				
H23K			IAmb	IAmb	19 36 59.4				
	comp=Z,5.9nm,1.0s								
NEA2	**Nenana**	**59.94 29**	P	**P**	**19 36 59.3 +1.0**				
NEA2			IAmb	IAmb	19 37 27.4				
	comp=Z,8.0nm,1.1s								
MDM	**Murphy Dome**	**60.26 29**	P	**P**	**19 37 00.9 +0.3**				
MDM			IAmb	IAmb	19 37 04.0				
	comp=Z,6.4nm,0.8s								
ILAR	**Eielson Array**	**60.85 29**	P	**P**	**19 37 04.9 +0.3**				
	comp=Z,0.9nm,0.8s,baz=301,slow=8.7,SNR=9.7								
KIRV	**Kirov**	**61.05 324**	*ce*P	**P**	**19 37 06.2 +0.3**				
SCRK	**Sand Creek**	**62.22 30**	P	**P**	**19 37 14.1 +0.2**				
SCRK			IAmb	IAmb	19 37 27.3				
	comp=Z,20nm,1.8s								
PRGR	**Permogore**	**62.39 328**	*e*P	**P**	**19 37 13.7 -1.2**				
BELG	**Belogornoye**	**63.29 317**	*i*P	**P**	**19 37 19.9 -1.1**				
BELG			pmax	pmax					
	comp=Z,1.0nm,0.9s								
BCPM	**Bancas Point**	**65.11 34**	P	**P**	**19 37 33.1 +0.2**				
INK	**Inuvik**	**65.35 24**	P	**P**	**19 37 34.9 +0.6**				
	comp=Z,2.1nm,0.5s,baz=319,slow=5.4,SNR=11								
INK			LR	LR	20 08 27.3				
	comp=Z,40nm,20.1s,baz=354,slow=38								
INK	**Inuvik**	**65.35 24**	P	**P**	**19 37 34.7 +0.4**				
INK			IAmb	IAmb	19 37 35.8				
	comp=Z,2.6nm,0.7s								
ARCES	**ARCESS Array B**	**68.00 339**	P	**P**	**19 37 49.9 -1.4**				
	comp=Z,5.5nm,1.0s,baz=64,slow=10,SNR=2.2								
ARCES			LR	LR	20 12 52.1				
	comp=Z,169nm,18.4s,baz=60,slow=41								
C36M	**Paulatuk**	**68.19 22**	P	**P**	**19 37 52.2 -0.1**				
VORR	**Voronezh**	**68.47 318**	*e*P	**P**	**19 37 53.8 -0.6**				
VORR			pmax	pmax					
	comp=Z,60nm,0.5s								
ZEI	**Tsey**	**68.52 308**	*e*P	**P**	**19 37 54.2 -1.0**				
ZEI			pmax	pmax					
	comp=Z,11nm,0.8s								
OBN	**Obninsk**	**68.75 322**⇑	*e*P	**P**	**19 37 56.3 +0.2**				
OBN			*e*		19 38 24.7				
OBN			*e*		19 40 28.9				
OBN			*e*S	**S**	**19 46 58.8 +2.7**				
OBN			*e*SS	**SS**	**19 51 21.6 +0.8**				
OBN			pmax	pmax					
	comp=Z,5.0nm,0.9s								
OBN			MLR	MLR					
	comp=Z,152nm,18.0s								
GNI	**Garni**	**68.86 305**	*ce*P	**P**	**19 37 58.0 +0.7**				
GNI			pmax	pmax					
	comp=Z,8.0nm,0.7s								
GNI	**Garni**	**68.86 305**	P	**P**	**19 37 56.8 -0.5**				
GNI			IAmb	IAmb	19 37 60.0				
	comp=Z,9.9nm,0.8s								
KBZ	**Khabaz**	**68.88 309**	P	**P**	**19 37 57.8 +0.7**				
	comp=Z,12nm,0.8s,baz=114,slow=2.3,SNR=37								
KBZ	**Khabaz**	**68.88 309**	*ce*P	**P**	**19 37 56.6 -0.5**				
KIV	**Kislovodsk**	**68.95 309**	*e*P	**P**	**19 37 57.3 -0.4**				
KIV			pmax	pmax					
	comp=Z,14nm,1.0s								
KIV	**Kislovodsk**	**68.95 309**	P	**P**	**19 37 57.9 +0.2**				
SHA1	**Shidzhatmaz**	**69.04 309**	*i*P	**P**	**19 37 59.4 +1.0**				
AKH	**Akhalkalaki**	**69.29 307**	⇑P	**P**	**19 38 01.8 +1.9**				

AKBB	**Malin Array Si**	**74.61 320**	*ce*P		**P**	**19 38 30.9**	**-0.5**
AKBB	**Malin Array Si**	**74.61 320**	P		**P**	**19 38 30.7**	**-0.7**
AKBB			IAmb		IAmb	19 38 32.3	
	comp=Z,7.5nm,0.5s						
YKA	**Yellowknife Ar**	**74.97 26**	P		**P**	**19 38 34.2**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=303,slow=5.6,SNR=17						
YKA	**Yellowknife Ar**	**74.97 26**	P		**P**	**19 38 33.2**	**0.0**
BR131	**Keskin Array S**	**76.83 308**	P		**P**	**19 38 43.0**	**-1.5**
BR131			pmax	pmax			
	comp=Z,10.0nm,0.8s						
BR131	**Keskin Array S**	**76.83 308**	P		**P**	**19 38 43.0**	**-1.5**
BR131			IAmb		IAmb	19 38 47.0	
	comp=Z,9.6nm,0.8s						
BRTR	**Keskin Array B**	**76.83 308**	P		**P**	**19 38 45.2**	**+0.7**
	comp=Z,6.0nm,0.7s,baz=104,slow=5.1,SNR=33						
BRTR	**Keskin Array B**	**76.83 308**	P		**P**	**19 38 43.7**	**-0.8**
ANTO	**Ankara**	**77.34 309**	⇑P		**P**	**19 38 48.6**	**+1.3**
ANTO	**Ankara**	**77.34 309**	⇑P		**P**	**19 38 48.6**	**+1.3**
TLCR		**77.44 315**	⇓P		**P**	**19 38 48.7**	**+1.1**
TLCR		**77.44 315**	⇓P		**P**	**19 38 48.7**	**+1.1**
NB2	**NORSAR Subarra**	**77.55 334**	P		**P**	**19 38 47.7**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**77.55 334**	P		**P**	**19 38 46.9**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=50,slow=5.6,SNR=7.4						
VLDR	**Vladesti**	**77.58 316**	⇓P		**P**	**19 38 49.8**	**+1.4**
TPGR	**Topolog**	**77.85 315**	⇑P		**P**	**19 38 50.9**	**+1.0**
CFR	**Carcaliu**	**77.87 315**	⇓P		**P**	**19 38 50.3**	**+0.3**
CFR	**Carcaliu**	**77.87 315**	⇓P		**P**	**19 38 50.3**	**+0.3**
TIRR	**Tirgusor**	**78.05 314**	⇑P		**P**	**19 38 52.4**	**+1.4**
TIRR	**Tirgusor**	**78.05 314**	⇑P		**P**	**19 38 52.4**	**+1.4**
TESR	**Tescani**	**78.11 317**	⇓P		**P**	**19 38 52.1**	**+0.7**
TLBR	**Topalu**	**78.23 315**	⇓P		**P**	**19 38 53.4**	**+1.4**
HARR	**Harsova**	**78.23 315**	⇑P		**P**	**19 38 53.0**	**+0.9**
HARR	**Harsova**	**78.23 315**	⇑P		**P**	**19 38 53.0**	**+0.9**
VRI	**Vrincioaia**	**78.39 316**	⇑P		**P**	**19 38 55.0**	**+2.1**
VRI	**Vrincioaia**	**78.39 316**	⇑P		**P**	**19 38 55.0**	**+2.1**
BUR08	**Bucovina Ar. S**	**78.40 318**	P		**P**	**19 38 51.9**	**-1.2**
BUR08			IAmb		IAmb	19 38 55.7	
	comp=Z,4.0nm,0.8s						
BURAR	**Bucovina Array**	**78.41 318**	⇓P		**P**	**19 38 54.0**	**+0.9**
BURAR	**Bucovina Array**	**78.41 318**	⇓P		**P**	**19 38 54.0**	**+0.9**
BURAR	**Bucovina Array**	**78.41 318**	P		**P**	**19 38 52.9**	**-0.2**
BURAR			IAmb		IAmb	19 38 55.6	
	comp=Z,6.1nm,0.7s						
PLOR	**Plostina**	**78.44 316**	⇓P		**P**	**19 38 56.1**	**+2.8**
PLOR	**Plostina**	**78.44 316**	⇓P		**P**	**19 38 56.1**	**+2.8**
BISRR	**Bisoca**	**78.56 316**	⇑P		**P**	**19 38 56.5**	**+2.5**
ICOR	**Ion Corvin**	**78.60 314**	⇓P		**P**	**19 38 55.3**	**+1.3**
OZUR		**78.84 317**	⇑P		**P**	**19 38 56.6**	**+1.2**
MLR	**Muntele Rosu**	**79.05 316**	⇑P		**P**	**19 39 00.2**	**+3.5**
MLR	**Muntele Rosu**	**79.05 316**	P		**P**	**19 38 56.9**	**+0.2**
MLR			pmax	pmax			
	comp=Z,3.0nm,0.8s						
MLR	**Muntele Rosu**	**79.05 316**	P		**P**	**19 38 56.9**	**+0.2**
MLR			IAmb		IAmb	19 39 17.0	
	comp=Z,2.7nm,0.8s						
DOPR	**Dopca**	**79.14 317**	⇑P		**P**	**19 38 58.9**	**+1.8**
CRVS	**Cervenica-Dubn**	**79.86 321**	*e*P		**P**	**19 39 00.1**	**-0.8**
CRVS	**Cervenica-Dubn**	**79.86 321**	*e*P		**P**	**19 39 00.1**	**-0.8**
OJC	**Ojcow**	**80.04 322**	*e*P		**P**	**19 39 03.5**	**+1.7**
OJC	**Ojcow**	**80.04 322**	P		**P**	**19 39 01.3**	**-0.5**
OJC			pmax	pmax			
	comp=Z,9.0nm,0.6s						
OJC	**Ojcow**	**80.04 322**	P		**P**	**19 39 01.3**	**-0.5**
OJC			IAmb		IAmb	19 39 04.6	
	comp=Z,9.1nm,0.6s						
HUMR	**Humele**	**80.13 316**	⇓P		**P**	**19 39 03.1**	**+0.7**
KECS	**Kecovo**	**80.63 321**	*e*P		**P**	**19 39 05.0**	**0.0**
KECS	**Kecovo**	**80.63 321**	*e*P		**P**	**19 39 05.0**	**0.0**
LANS	**Liptovska Anna**	**80.82 322**	*e*P		**P**	**19 39 07.0**	**+0.9**
LANS	**Liptovska Anna**	**80.82 322**	*e*P		**P**	**19 39 07.0**	**+0.9**
ELL	**Elmali**	**80.82 307**	P		**P**	**19 39 06.1**	**-0.4**
ELL			pmax	pmax			
	comp=Z,28nm,0.7s						
ELL	**Elmali**	**80.82 307**	P		**P**	**19 39 06.1**	**-0.4**
GZR	**Gura Zlata**	**81.00 317**	⇓P		**P**	**19 39 09.5**	**+2.3**
GZR	**Gura Zlata**	**81.00 317**	⇓P		**P**	**19 39 09.5**	**+2.3**
MORC	**Moravsky Berou**	**81.49 323**	⇓P		**P**	**19 39 11.3**	**+1.6**
MORC	**Moravsky Berou**	**81.49 323**	⇓P		**P**	**19 39 11.3**	**+1.6**
KRLC	**Kraliky**	**81.71 323**	*e*P		**P**	**19 39 11.9**	**+1.1**
KRLC	**Kraliky**	**81.71 323**	*e*P		**P**	**19 39 11.9**	**+1.1**
DPC	**Dobruska-Polom**	**81.79 324**	*e*P		**P**	**19 39 13.0**	**+1.8**
DPC	**Dobruska-Polom**	**81.79 324**	*e*P		**P**	**19 39 13.0**	**+1.8**
VRAC	**Vranov**	**82.26 323**	⇓P		**P**	**19 39 16.0**	**+2.3**
VRAC	**Vranov**	**82.26 323**	⇓P		**P**	**19 39 16.0**	**+2.3**
CLL	**Collm**	**82.88 326**	*e*P		**P**	**19 39 18.0**	**+1.2**
CLL	**Collm**	**82.88 326**	*e*P		**P**	**19 39 18.0**	**+1.2**
CLL			Lm		MLR	20 19 00.0	
	comp=N,100nm,20.2s						
CLL			Lm		MLR	20 19 00.0	
	comp=E,100nm,20.4s						
FRGS	**Fruska Gora**	**82.88 318**	⇑P		**P**	**19 39 17.4**	**+0.4**
RONA	**Rosalia, Austr**	**83.38 322**	*e*P		**P**	**19 39 19.9**	**+0.4**
	comp=E,4.8nm,1.6s						
CONA	**Conrad Observa**	**83.48 322**	*e*P		**P**	**19 39 22.3**	**+2.2**
	comp=E,5.9nm,0.9s						
CKRC	**Cesky Krumlov**	**83.76 323**	*e*P		**P**	**19 39 21.6**	**+0.2**
KHC	**Kasperske Hory**	**83.94 324**	*e*P		**P**	**19 39 23.9**	**+1.5**
KHC	**Kasperske Hory**	**83.94 324**	*e*P		**P**	**19 39 23.9**	**+1.5**
GERES	**GERESS Array B**	**84.06 324**	P		**P**	**19 39 22.8**	**-0.2**
	comp=E,0.7nm,0.8s,baz=66,slow=3.2,SNR=5.6						
MOA	**Molln**	**84.38 323**	P		**P**	**19 39 25.3**	**+0.7**
	comp=E,2.9nm,0.9s						
SOKA	**Soboth**	**84.68 321**	*e*P		**P**	**19 39 27.4**	**+1.2**
	comp=E,6.5nm,1.1s						
BIOA	**Bad Ischl, Aus**	**84.81 323**	*e*P		**P**	**19 39 27.6**	**+0.8**
	comp=E,3.5nm,1.2s						
FCC	**Fort Churchill**	**84.84 22**	P		**P**	**19 39 27.1**	**+0.5**
FCC			pmax	pmax			
	comp=Z,8.0nm,1.1s						
FCC	**Fort Churchill**	**84.84 22**	P		**P**	**19 39 27.1**	**+0.5**
FCC			IAmb		IAmb	19 39 38.6	
	comp=Z,7.9nm,1.1s						
OBKA	**Obir**	**85.05 321**	*e*P		**P**	**19 39 27.5**	**-0.6**
	comp=E,4.5nm,1.8s						
MYKA	**Terra Mystica**	**85.47 322**	*e*P		**P**	**19 39 32.8**	**+2.7**
	comp=E,2.0nm,0.5s						
ABTA	**Abfaltersbach**	**86.00 323**	*e*P		**P**	**19 39 33.5**	**+0.7**
	comp=E,1.6nm,0.5s						
FRB	**Frobisher Bay**	**86.14 8**	LR		LR	20 21 28.5	
	comp=Z,66nm,18.3s,baz=6.0,slow=38						
FRB	**Frobisher Bay**	**86.14 8**	P		**P**	**19 39 33.6**	**+0.6**
FRB			pmax	pmax			
	comp=Z,8.0nm,2.3s						
EKA	**Eskdalemuir Ar**	**86.95 336**	P		**P**	**19 39 37.0**	**-0.2**
NVAR	**Mina Array Bea**	**86.98 47**	P		**P**	**19 39 39.5**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=289,slow=5.6,SNR=3.7						
PDAR	**Pinedale Array**	**89.57 40**	P		**P**	**19 39 51.8**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=308,slow=3.6,SNR=4.1						
PPT2	**Papeete2**	**89.95 110**	*e*LR		LR	19 40 03.7	
	comp=Z,197nm,23.2s						

IDC ***12*** *19:43:58.3±1.2,28°.50N×61°.39E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/46, mbtmp3.5/5, MS3.3/1, Ms1 3.3/1, ms1mx2.4/70, Error ellipse: s-maj=44.8km s-min=36.9km az=177.0*

TEH ***12*** *19:44:00.2,28°.51N×62°.05E, h8km, ML3.4*

ISC 12 19:44:01.5±0.9, 28°.45N±0°.06×62°.01E±0°.08, h10km, n17, σ2§02/16, mb3.5/5, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SRVN	**Saravan**	**1.09**	**161**	*e*Pg		**Pn**	**19 44 23.5**	**+0.5**
SRVN				*e*			19 44 52.7	
	comp=Z,9μm,0.5s							
ZHDN	**Zahedan**	**1.42**	**312**	*e*Pg		**Pb**	**19 44 26.4**	**-1.7**
ZHDN				*e*Sg		**Sg**	**19 44 49.0**	**+1.9**
ZHDN				*e*			19 44 53.0	
	comp=Z,4μm,0.4s							
NGCH	**Negor - Chabah**	**3.17**	**194**	*e*Pn		**Pn**	**19 44 53.8**	**+2.3**
KBAM	**BAM**	**3.19**	**283**	*e*Pn		**Pb**	**19 44 54.3**	**-4.1**
KBAM				*e*			19 45 05.1	
	comp=Z,1μm,0.7s							
NHDN	**Nehbandan**	**3.39**	**330**	*e*Pn		**Pn**	**19 44 55.9**	**+1.3**
NHDN				*e*			19 46 05.1	
	comp=Z,2μm,0.8s							
KHNJ	**Kahnooj**	**3.83**	**264**	*e*Pn		**Pn**	**19 45 02.5**	**+2.0**
KHNJ				*e*			19 45 21.5	
	comp=Z,648nm,0.6s							
IDAH	**Dahanechah**	**4.66**	**337**	*e*Pn		**Pn**	**19 45 14.4**	**+2.2**
IKOO	**Kooshah**	**4.74**	**328**	*e*Pn		**Pn**	**19 45 14.1**	**+0.9**
IKOO				*e*			19 46 49.8	
	comp=Z,242nm,0.8s							
IMON	**Monand**	**5.14**	**338**	*e*Pn		**Pn**	**19 45 20.0**	**+1.2**
KHGB	**Koh Gabri**	**5.19**	**293**	*e*Pn		**Pn**	**19 45 21.9**	**+2.4**
KHGB				*e*			19 45 51.0	
	comp=Z,167nm,0.6s							
AFRZ	**Afriz**	**5.59**	**333**	*e*Pn		**Pn**	**19 45 25.3**	**+0.4**
MKAR	**Makanchi Array**	**24.24**	**35**	P		**P**	**19 49 19.2**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=218,slow=8.0,SNR=2.9							
KIRV	**Kirov**	**31.37**	**347**	LR		LR	20 04 20.0	
	comp=Z,58nm,21.5s,baz=64,slow=39							
TORD	**Torodi Ar. Bea**	**57.86**	**268**	P		P	19 53 48.0	-5.8
	comp=Z,0.2nm,0.5s,baz=47,slow=6.8,SNR=1.3							
WRA	**Warramunga Arr**	**84.79**	**116**	P		**P**	**19 56 36.8**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=324,slow=4.3,SNR=3.6							
ASAR	**Alice Springs**	**86.46**	**119**	P		**P**	**19 56 46.3**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=306,slow=5.3,SNR=6.4							
YKA	**Yellowknife Ar**	**89.34**	**358**	P		**P**	**19 56 56.3**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=353,slow=4.6,SNR=4.7							

IDC ***12*** *19:43:53.0±1.8,1°.75N×127°.15E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/41, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=110.5km s-min=21.9km az=69.0*

DJA ***12*** *19:44:06.3±0.6,2°.N±3°×12°.7E±°, h91km±7km, M3.8/7, mb3.8/2, mB5.5/1, MLv3.7/7, Mw(mB)5.0/1*

NEIC ***12*** *19:44:06.0±2.2,1°.75N±0°.07×127°.28E±0°.09, h112km±8km, mb4.0/20, Error ellipse: s-maj=13.2km s-min=10.3km az=76.0*

ISC 12 19:44:04.9±0.7, 1°.80N±0°.06×127°.17E±0°.07, h100km, n32, σ2§17/38, mb4.0/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**169**			**Pn**	**19 44 28.2**	**+2.5**
TNTI					Sn	**Sn**	**19 44 42.9**	**+1.6**
TNTI	**Ternate**	**1.03**	**169**	P		**Pn**	**19 44 28.0**	**+2.3**
TNTI				S		**Sn**	**19 44 44.9**	**+3.6**
LBMI	**Labuha**	**2.44**	**172**	P		**Pn**	**19 44 45.6**	**+2.4**
LBMI				S		**Sn**	**19 45 16.6**	**+4.0**
SANI	**Sanana**	**4.00**	**197**	P		**Pn**	**19 45 05.4**	**+1.3**
SANI				S		**Sn**	**19 45 48.6**	**-1.4**
LUWI	**Luwuk**	**5.23**	**237**	Pn		**Pn**	**19 45 22.7**	**+2.0**
LUWI				Sn		**Sn**	**19 46 23.6**	**+3.8**
TOLI2	**Tolitoli**	**6.43**	**264**	Pn		**Pn**	**19 45 41.5**	**+4.5**
TOLI2				Sn		**Sn**	**19 46 46.0**	**-3.0**
MYLDM	**Lahad Datu**	**9.29**	**291**	Pn		**Pn**	**19 46 15.2**	**-0.7**
SBUM	**Sibu**	**14.96**	**273**	Pn		**Pn**	**19 47 31.0**	**-0.2**
MTN	**Manton Dam**	**15.06**	**165**	Pn		**Pn**	**19 47 30.4**	**-2.1**
KNRA	**Kununurra**	**17.43**	**175**	P		**P**	**19 48 00.5**	**-1.1**
KNRA				IAmb		IAmb	19 48 06.7	
	comp=Z,21nm,1.4s							
FITZ	**Fitzroy Crossi**	**19.83**	**184**	P		**P**	**19 48 26.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=0.9,slow=11,SNR=12							
FITZ	**Fitzroy Crossi**	**19.83**	**184**	P		**P**	**19 48 26.5**	**-1.3**
FITZ				IAmb		IAmb	19 48 58.8	
	comp=Z,7.2nm,1.4s							
TPUB	**Ta-pu**	**22.30**	**344**	P		**P**	**19 48 55.3**	**+1.1**
WB0	**Warramunga Arr**	**22.57**	**162**	P		**P**	**19 48 54.8**	**-2.3**
WB0				IAmb		IAmb	19 48 57.4	
	comp=Z,14nm,1.6s							
WRA	**Warramunga Arr**	**22.72**	**162**	P		**P**	**19 48 56.3**	**-2.3**
	comp=Z,1.7nm,0.4s,baz=339,slow=11,SNR=13							
WRA	**Warramunga Arr**	**22.72**	**162**	P		**P**	**19 48 54.9**	**-3.7**
WB2	**Warramunga Arr**	**22.72**	**162**	P		**P**	**19 48 56.1**	**-2.5**
WB2				IAmb		IAmb	19 49 03.4	
	comp=Z,12nm,1.6s							
WR0	**Warramunga Arr**	**22.80**	**162**	P		**P**	**19 48 57.0**	**-2.3**
WR0				IAmb		IAmb	19 49 25.8	
	comp=Z,7.0nm,1.4s							
AS31	**Alice Springs**	**26.14**	**166**	P		**P**	**19 49 27.8**	**-2.1**
ASAR	**Alice Springs**	**26.14**	**166**	P		**P**	**19 49 27.9**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=345,slow=7.5,SNR=23							
GSI	**Gunungsitoli**	**29.59**	**269**	P		**P**	**19 50 01.0**	**+0.3**
GSI				IAmb		IAmb	19 50 23.1	
	comp=Z,13nm,1.0s							
MORW	**Morawa**	**32.49**	**198**	P		**P**	**19 50 25.7**	**-0.3**
JHJ2	**Mitsune**	**33.34**	**20**	P		**P**	**19 50 33.0**	**-0.4**
BBOO	**Buckleboo**	**35.43**	**167**	P		**P**	**19 50 49.7**	**-1.8**
MJAR	**Matsushiro Arr**	**36.05**	**15**	P		**P**	**19 50 56.2**	**-0.6**
MJAR				IAmb		IAmb	19 51 15.9	
	comp=Z,2.6nm,1.1s							
STKA	**Stephens Creek**	**36.18**	**159**	P		**P**	**19 50 56.3**	**-1.5**
DGAR	**Diego Garcia**	**55.35**	**260**	P		**P**	**19 53 30.1**	**+1.1**
MK31	**Makanchi Array**	**59.39**	**326**	P		**P**	**19 53 57.7**	**+0.8**
MK31				IAmb		IAmb	19 53 57.9	
	comp=Z,0.7nm,0.5s							
MKAR	**Makanchi Array**	**59.39**	**326**	P		**P**	**19 53 57.5**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=116,slow=7.8,SNR=22							
MAKZ	**Makanchi**	**59.58**	**326**	P		**P**	**19 53 58.8**	**+0.7**
MAKZ				IAmb		IAmb	19 53 59.4	
	comp=Z,1.6nm,0.9s							
KBL	**Kabul**	**63.05**	**308**	P		**P**	**19 54 23.1**	**+1.0**
KURK	**Kurchatov**	**63.60**	**328**	P		**P**	**19 54 25.1**	**+0.1**
KURK				IAmb		IAmb	19 54 26.3	
	comp=Z,1.8nm,0.8s							

IDC ***12*** *19:45:21.6±1.6,8°.43S×159°.98E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/36, mbtmp4.0/5, Error ellipse: s-maj=36.7km s-min=19.7km az=90.0*

NEIC ***12*** *19:45:22.9±2.7,8°.42S±0°.09×160°.1E±0°.1, h10km±6km, mb4.4/10, Error ellipse: s-maj=16.4km s-min=11.9km az=114.0*

ISC 12 19:45:26.1±1.2, 8°.47S±0°.10×160°.1E±0°.2, h35km, n24, σ1§20/18, mb4.2/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.96**	**186**			**Pn**	**19 45 42.9**	**-0.2**
	87nm,0.3s,baz=45,slow=2.9,SNR=38							
HNR					Sn	**Sn**	**19 45 58.4**	**+2.7**
	259nm,0.3s,baz=264,slow=6.1,SNR=11							
HNR	**Honiara**	**0.96**	**186**			**Pn**	**19 45 42.3**	**-0.9**
OUENC	**Ouen Island, N**	**15.33**	**156**	Pn		**Pn**	**19 48 59.5**	**-0.5**
OUENC				IAmb		IAmb	19 49 12.1	
	comp=Z,14nm,1.0s							
WR0	**Warramunga Arr**	**27.19**	**242**	P		**P**	**19 51 07.7**	**+0.9**
WR0				IAmb		IAmb	19 51 21.9	
	comp=Z,9.6nm,1.5s							
WB0	**Warramunga Arr**	**27.25**	**243**	P		**P**	**19 51 07.8**	**+0.4**
WB0				IAmb		IAmb	19 51 39.9	
	comp=Z,8.1nm,1.4s							
WB2	**Warramunga Arr**	**27.35**	**243**	P		**P**	**19 51 09.2**	**+0.9**
WRA	**Warramunga Arr**	**27.36**	**243**	P		**P**	**19 51 09.2**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=68,slow=9.2,SNR=12							
WRA	**Warramunga Arr**	**27.36**	**243**	P		**P**	**19 51 06.5**	**-1.8**
H11S2	**WAKE ISLAND Hy**	**27.58**	**14**	T		T	20 20 09.3	
	baz=188,slow=80,SNR=33							
H11S3	**WAKE ISLAND Hy**	**27.58**	**14**	T		T	20 20 09.8	
	baz=188,slow=80,SNR=18							
H11S1	**WAKE ISLAND Hy**	**27.60**	**14**	T		T	20 20 08.8	
	baz=188,slow=80,SNR=17							
H11N1	**WAKE ISLAND Hy**	**28.80**	**13**	T		T	20 21 35.4	
	baz=192,slow=76,SNR=49							
H11N3	**WAKE ISLAND Hy**	**28.81**	**14**	T		T	20 21 35.8	
	baz=192,slow=76,SNR=26							
H11N2	**WAKE ISLAND Hy**	**28.82**	**13**	T		T	20 21 35.5	
	baz=192,slow=76,SNR=42							
ASAR	**Alice Springs**	**29.24**	**236**	P		**P**	**19 51 24.1**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=61,slow=10,SNR=10							
KNRA	**Kununurra**	**31.39**	**254**	P		**P**	**19 51 45.3**	**+1.2**
BBOO	**Buckleboo**	**32.86**	**219**	P		**P**	**19 51 56.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**34.77**	**250**	P		**P**	**19 52 14.3**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=65,slow=8.9,SNR=16							
TAU	**Tasmania Unive**	**36.08**	**196**	P		**P**	**19 52 23.0**	**-1.5**
MORW	**Morawa**	**46.09**	**238**	P		**P**	**19 53 46.5**	**-0.5**
MORW				IAmb		IAmb	19 54 10.5	
	comp=Z,13nm,1.6s							
MKAR	**Makanchi Array**	**87.83**	**318**	P		**P**	**19 58 12.2**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=94,slow=3.3,SNR=4.9							
MKAR	**Makanchi Array**	**87.83**	**318**	P		**P**	**19 58 11.8**	**-0.2**
INK	**Inuvik**	**89.35**	**20**	P		**P**	**19 58 19.9**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=248,slow=13,SNR=4.7							
INK	**Inuvik**	**89.35**	**20**	IAmb		IAmb	19 58 32.0	
	comp=Z,5.6nm,1.6s							

IDC ***12*** *20:23:10.5±0.6,53°.60S×140°.98E, h0km, mb4.6/16, mb1 4.6/16, mb1mx4.4/40, mbtmp4.6/16, MS4.5/46, Ms1 4.5/46, ms1mx4.4/52, Error ellipse: s-maj=19.5km s-min=15.8km az=85.0*

NEIC ***12*** *20:23:10.6±1.9,53°.67S±0°.08×141°.0E±0°.1, h10km±1km, mb5.0/69, Error ellipse: s-maj=17.2km s-min=7.4km az=316.0*

GCMT ***12*** *20:23:12.6±0.1,53°.70S±0°.01×140°.80E±0°.02, h15km, MW5.2/127, Moment Tensor Solution. s60,c89; s127,c207; Duration: 1§0 Moment tensor: Scale 10¹⁶ Nm; Mrr-1.48±.15; Mθθ 1.86±.14; Mφφ-0.37±.15; Mrθ-0.14±.40; Mrφ-7.36±.13; Mθr-1.20±.41; Best double couple: M₀7.56100×10¹⁶ NP1:φs86.00000°,δ80.00000°, λ-175.00000°. NP2:φs355.00000°,δ85.00000°, λ-10.00000°. Principal axes: T 8.2330, Plg4.0000°, Azm41.0000°; N -1.3420, Plg79.0000°, Azm152.0000°; P -6.8890, Plg11.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 20:23:10.8±0.3, 53°.69S±0°.06×140°.95E±0°.07, h10km, n209, σ1§37/173, mb4.9/49, MS4.5/51, 1D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**11.59**	**24**	Pn		**Pn**	**20 25 52.3**	**-3.8**
TOO	**Toolangi**	**16.43**	**13**	P		**Pn**	**20 27 02.1**	**+0.8**
TOO	**Toolangi**	**16.43**	**13**	P		**P**	**20 27 05.5**	**+1.5**
DCZ	**Deep Cove**	**18.80**	**75**	P		**P**	**20 27 29.3**	**-0.7**
WHZ	**Wether Hill Ro**	**19.01**	**77**	P		**P**	**20 27 31.9**	**-0.5**
WHZ				IAmb		IAmb	20 28 03.9	
	comp=Z,99nm,1.5s							
CAN	**Canberra**	**19.22**	**20**	P		**P**	**20 27 34.6**	**-0.3**
CAN	**Canberra**	**19.22**	**20**	P		**Pn**	**20 27 38.8**	**+3.0**
MLZ	**Mavora Lakes**	**19.41**	**76**	P		**Pn**	**20 27 37.4**	**-0.6**
MLZ				IAmb		IAmb	20 28 04.0	
	comp=Z,117nm,1.5s							
CASY	**Casey**	**19.49**	**218**	P		**P**	**20 27 36.9**	**-0.6**
WKZ	**Wanaka**	**20.24**	**75**	P		**P**	**20 27 44.3**	**-1.6**
WKZ				IAmb		IAmb	20 28 09.3	
	comp=Z,136nm,1.3s							
HTT	**Hallett**	**20.31**	**355**	P		Pn	20 27 48.0	-0.7
NAPP	**Napperby**	**20.60**	**353**	P		Pn	20 27 50.9	-1.2
WHYH	**Whyalla**	**20.79**	**352**	P		Pn	20 27 53.2	-1.1
ODZ	**Otahua Downs**	**21.06**	**78**	P		**P**	**20 27 53.6**	**-1.1**
ODZ				IAmb		IAmb	20 28 10.7	
	comp=Z,120nm,1.7s							
BBOO	**Buckleboo**	**21.16**	**349**	P		**P**	**20 27 55.8**	**-0.2**
BBOO				IAmb		IAmb	20 28 10.7	
	comp=Z,52nm,1.3s							
BBOO	**Buckleboo**	**21.16**	**349**	P		**P**	**20 27 57.3**	**+1.3**
LBZ	**Lake Benmore**	**21.17**	**76**	P		**P**	**20 27 55.6**	**-0.4**
STKA	**Stephens Creek**	**21.81**	**1**	P		**P**	**20 28 03.3**	**+0.4**
	comp=Z,29nm,0.8s,baz=171,slow=12,SNR=54							
STKA					LR	LR	20 34 53.8	
	comp=Z,671nm,20.4s,baz=181,slow=32							
STKA	**Stephens Creek**	**21.81**	**1**			**P**	**20 28 02.2**	**-0.7**
STKA	**Stephens Creek**	**21.81**	**1**	P		**P**	**20 28 03.8**	**+0.9**
RPZ	**Rata Peaks**	**22.08**	**75**	P		**P**	**20 28 08.0**	**+2.3**
	comp=Z,22nm,0.8s,baz=256,slow=8.3,SNR=7.0							
RPZ					LR	LR	20 35 03.2	
	comp=Z,4μm,19.3s,baz=236,slow=32							
RPZ	**Rata Peaks**	**22.08**	**75**	P		**P**	**20 28 05.3**	**-0.5**
RPZ				IAmb		IAmb	20 28 19.5	
	comp=Z,105nm,1.5s							
CMSA	**Cobar Meteorol**	**22.41**	**11**	P		**P**	**20 28 11.4**	**+2.1**
LCRK	**Leigh Creek**	**23.31**	**354**	P		**P**	**20 28 19.0**	**+0.2**
LTZ	**Lake Taylor**	**23.35**	**75**	P		**P**	**20 28 18.1**	**-1.1**
LTZ				IAmb		IAmb	20 28 46.1	
	comp=Z,77nm,1.6s							
MULG	**Mulgathing**	**23.92**	**345**	P		**P**	**20 28 26.1**	**+1.4**
KHZ	**Kahutara**	**24.31**	**76**	P		**P**	**20

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2µm,18.0s,baz=212,slow=32						
DZM	Mont Dzumac	37.03	42	eS	S	20 36 10.4	+4.0
	comp=Z,259nm,26.9s						
DZM				eLR	LR	20 40 22.4	
	comp=Z,3µm,25.9s,baz=215						
DZM	Mont Dzumac	37.03	42	P	P	20 30 21.5	+0.8
DZM				IAmb	IAmb	20 30 34.9	
	comp=Z,23nm,1.3s						
FITZ	Fitzroy Crossi	37.46	336	P	P	20 30 24.5	+0.3
	comp=Z,9.1nm,1.0s,baz=180,slow=6.2,SNR=16						
FITZ				LR	LR	20 44 21.8	
	comp=Z,1µm,21.6s,baz=170,slow=34						
FITZ	Fitzroy Crossi	37.46	336	P	P	20 30 23.8	-0.4
KOUNC	Koumac, New Ca	37.60	37	P	P	20 30 25.3	-0.1
KOUNC				IAmb	IAmb	20 30 38.9	
	comp=Z,57nm,1.5s						
MAW	Mawson	37.85	218	P	P	20 30 30.6	+3.6
	comp=Z,3.7nm,1.0s,baz=82,slow=7.1,SNR=2.4						
MAW				LR	LR	20 44 41.1	
	comp=Z,2µm,19.4s,baz=88,slow=34						
MAW	Mawson	37.85	218	P	P	20 30 27.6	+0.6
RAO	Raoul Island	38.53	67	LR	LR	20 43 49.8	
	comp=Z,936nm,21.9s,baz=180,slow=32						
KNRA	Kununurra	39.12	341	P	P	20 30 37.2	-1.0
KNRA				IAmb	IAmb	20 30 48.9	
	comp=Z,19nm,0.9s						
COEN	Coen	39.68	3	P	P	20 30 41.7	-1.3
COEN				IAmb	IAmb	20 30 51.2	
	comp=Z,50nm,1.6s						
MTN	Manton Dam	41.49	345	P	P	20 30 56.5	-1.4
MTN				IAmb	IAmb	20 30 59.3	
	comp=Z,25nm,1.1s						
SANVU	Saraoutou	43.35	38	P	P	20 31 12.8	-0.2
PMG	Port Moresby	44.45	9	LR	LR	20 48 31.8	
	comp=Z,611nm,20.4s,baz=190,slow=34						
SYO	Syowa Base	44.95	210⇓	eP	P	20 31 26.0	+0.8
BATI	Baumata	45.53	336	P	P	20 31 31.9	+1.4
	comp=Z,23nm,0.8s,baz=144,slow=3.1,SNR=3.9						
BATI				LR	LR	20 51 09.3	
	comp=Z,1µm,18.1s,baz=188,slow=37						
MSVF	Nonsavu	45.94	53	LR	LR	20 46 51.3	
	comp=Z,1µm,20.5s,baz=192,slow=31						
HNR	Honiara	46.71	26	LR	LR	20 48 42.9	
	comp=Z,511nm,19.5s,baz=202,slow=33						
BELA	Belgrano 2	48.67	181	P	P	20 31 53.5	-0.7
BELA				IAmb	IAmb	20 32 15.5	
	comp=Z,19nm,1.1s						
KRVT	Keravat (AS076	50.06	14	LR	LR	20 51 30.0	
	comp=Z,540nm,20.8s,baz=320,slow=34						
TROLL	Troll, Antarti	51.25	195	P	P	20 32 13.2	-0.9
KAPI	Kappang	51.52	333	P	P	20 32 18.0	+1.4
	comp=Z,2.9nm,0.6s,baz=98,slow=18,SNR=1.8						
KAPI				LR	LR	20 53 37.0	
	comp=Z,584nm,19.5s,baz=150,slow=36						
KAPI	Kappang	51.52	333	P	P	20 32 14.5	-2.1
KAPI				IAmb	IAmb	20 32 28.5	
	comp=Z,18nm,1.1s						
SNAA	Sanae	52.35	194	P	P	20 32 22.3	+0.1
SNAA	Sanae	52.35	194	LR	LR	20 54 13.1	
	comp=Z,2µm,20.0s,baz=140,slow=36						
SNAA	Sanae	52.35	194	P	P	20 32 20.3	-1.9
SPSI	Sidrap Palu	52.52	333	P	P	20 32 25.9	+1.9
	comp=Z,14nm,0.9s						
SIJI	Sorong	53.25	348	P	P	20 32 30.3	+0.9
	comp=Z,5.8nm,0.8s,baz=143,slow=5.1,SNR=3.7						
SIJI				LR	LR	20 56 00.3	
	comp=Z,236nm,21.4s,baz=198,slow=37						
VNA3	Neumayer Olymp	53.62	191	P	P	20 32 29.1	-2.5
VNA2	Neumayer--Watz	53.64	192	P	P	20 32 31.4	-0.3
	baz=165,slow=8.0						
LEM	Lembang	53.96	318	P	P	20 32 37.1	+2.3
	comp=Z,17nm,0.7s,baz=113,slow=23,SNR=2.1						
LEM				LR	LR	20 52 45.1	
	comp=Z,368nm,21.3s,baz=156,slow=33						
VNA1	Neumayer--Stat	54.01	192	P	P	20 32 29.5	-4.8
AFI	Afiamalu	54.28	61	LR	LR	20 51 46.3	
	comp=Z,545nm,21.8s,baz=210,slow=32						
BBKI	Banjar Baru	54.46	327	P	P	20 32 36.8	-1.5
	comp=Z,16nm,1.4s						
RAR	Rarotonga	55.06	78	LR	LR	20 51 40.4	
	comp=Z,178nm,21.0s,baz=198,slow=31						
TNTI	Ternate	55.44	343	P	P	20 32 44.7	-0.7
TNTI				IAmb	IAmb	20 33 06.4	
	comp=Z,11nm,0.8s						
TOLI2	Tolitoli	57.13	336	P	P	20 32 55.4	-2.1
TOLI2				IAmb	IAmb	20 33 24.2	
	comp=Z,14nm,1.0s						
PMSA	Palmer Station	60.30	168	LR	LR	20 56 47.3	
	comp=Z,215nm,18.6s,baz=194,slow=33						
KSM	Kuching	60.59	324	P	P	20 33 20.4	-1.1
KSM				IAmb	IAmb	20 33 40.0	
	comp=Z,19nm,1.3s						
SBUM	Sibu	60.86	327	P	P	20 33 23.8	+0.5
MYLDM	Lahad Datu	61.62	334	P	P	20 33 28.3	-0.1
MYLDM				IAmb	IAmb	20 34 13.1	
	comp=Z,20nm,1.5s						
DAV	Davao City (W)	61.91	343	LR	LR	20 59 41.6	
	comp=Z,207nm,21.6s,baz=159,slow=35						
KKM	Kota Kinabalu	63.06	332	P	P	20 33 38.0	-0.2
KKM				IAmb	IAmb	20 34 25.7	
	comp=Z,7.5nm,1.2s						
MYKOM	Kota Tinggi	63.31	318	P	P	20 33 38.5	-1.3
PPT2	Papeete2	63.87	84	eS	S	20 42 22.3	+3.2
	comp=Z,127nm,27.8s						
PPT2				eLQ	LQ	20 49 57.7	
	comp=Z,2µm,28.8s						
PPT2				eLR	LR	20 52 47.5	
	comp=Z,427nm,23.0s						
PPT	Papeete	63.89	84	LR	LR	20 55 37.4	
	comp=Z,224nm,20.4s,baz=219,slow=30						
GSI	Gunungsitoli	65.54	311	P	P	20 33 54.4	0.0
ORCD	Orcadas	65.83	177	P	P	20 33 56.5	+0.8
PSI	Prapat	66.28	313	P	P	20 33 59.4	+0.1
	comp=Z,2.5nm,0.4s,baz=185,slow=14,SNR=2.5						
PSI				LR	LR	20 58 37.1	
	comp=Z,240nm,21.5s,baz=138,slow=32						
GUMO	Guam	67.09	4	LR	LR	21 00 34.3	
	comp=Z,194nm,21.9s,baz=179,slow=34						
KULM	Kulim	67.79	316	P	P	20 34 06.7	-2.0
KULM				IAmb	IAmb	20 34 25.6	
	comp=Z,9.7nm,0.9s						
H08S2	Diego Garcia H	71.17	283	T	T	21 52 07.6	
	baz=144,slow=76,SNR=27						
H08S1	Diego Carcia H	71.18	283	T	T	21 52 07.1	
	baz=144,slow=76,SNR=12						
H08S3	Diego Garcia H	71.19	283	T	T	21 52 09.2	
	baz=144,slow=76,SNR=34						
TAOE	Nuku Hiva Isla	76.35	86	eLR	LR	20 58 36.2	
	comp=Z,373nm,30.5s						
OPO	Ambohidratompo	77.44	256	LR	LR	21 01 55.0	
	comp=Z,280nm,19.3s,baz=6.5,slow=30						
PALK	Pallekele	78.95	299	LR	LR	21 04 44.5	
	comp=Z,386nm,18.9s,baz=253,slow=32						
RPN	Rapa Nui	79.29	121	LR	LR	21 02 13.7	
	comp=Z,265nm,21.9s,baz=261,slow=30						
SUR	Sutherland	79.87	228	LR	LR	21 03 59.7	
	comp=Z,584nm,20.5s,baz=146,slow=31						
CM31	Chiang Mai Arr	80.42	320	P	P	20 35 21.7	-0.7
CMAR	Chiang Mai Arr	80.42	320	P	P	20 35 24.8	+2.4
	comp=Z,1.3nm,0.9s,baz=176,slow=5.8,SNR=6.6						
CMAR				LR	LR	21 09 03.0	
	comp=Z,208nm,20.5s,baz=170,slow=34						
CMAR	Chiang Mai Arr	80.42	320	P	P	20 35 21.1	-1.2
CHTO	Chiang Mai	80.74	320	P	P	20 35 24.0	-0.1
BOSA	Boshof	81.00	233	LR	LR	21 03 56.0	
	comp=Z,541nm,21.5s,baz=168,slow=30						
PLCA	Paso Flores	82.11	156	P	P	20 35 31.1	-0.3
PLCA				IAmb	IAmb	20 35 48.6	
	comp=Z,30nm,1.8s						
LC01	Cunco	83.52	155	P	P	20 35 37.7	-1.0
MSEY	Mahe Island	83.58	271	P	P	20 35 37.3	-1.9
LBTB	Lobatse	83.85	236	LR	LR	21 06 52.4	
	comp=Z,484nm,19.8s,baz=148,slow=31						
MATP	Matopo	86.22	240	P	P	20 35 54.7	+2.1
	comp=Z,3.7nm,1.1s,baz=81,slow=6.7,SNR=2.9						
MATP				LR	LR	21 09 39.0	
	comp=Z,468nm,18.2s,baz=61,slow=32						
JHJ	Hachijo jima 2	86.46	359	LR	LR	21 12 16.2	
	comp=Z,144nm,20.8s,baz=66,slow=34						
PZH	PanZhiHua	86.78	325	P	P	20 35 56.4	+1.4
PZH				S	S	20 46 36.5	+4.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.9s						
PZH				LR	LR		
	comp=Z,500nm,19.6s						
PZH				LR	LR		
	comp=Z,320nm,20.8s						
PZH				LR	LR		
	comp=Z,960nm,28.6s						
NJ2	Nanjing	87.52	341	eP	P	20 36 00.1	+1.9
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BO02	Sierra Bellavi	87.69	154	P	P	20 35 58.5	-1.0
BO04	La Punta	88.49	154	P	P	20 36 01.9	-1.4
MT09	Talagante	88.60	154	P	P	20 36 02.1	-1.8
SHL	Shillong	89.61	317	P	P	20 36 07.8	-0.7
SHL				IAmb	IAmb	20 36 24.8	
	comp=Z,12nm,1.0s						
MJAR	Matsushiro Arr	89.90	358	LR	LR	21 18 14.4	
	comp=Z,98nm,18.1s,baz=168,slow=37						
LSZ	Lusaka	90.66	243	LR	LR	21 12 35.8	
	comp=Z,509nm,18.2s,baz=143,slow=33						
KSRS	Korea Array	91.47	350	LR	LR	21 17 01.3	
	comp=Z,99nm,21.0s,baz=145,slow=35						
TSUM	Tsumeb	92.65	232	LR	LR	21 13 40.5	
	comp=Z,320nm,18.4s,baz=149,slow=33						
LZH	Lanzhou	95.01	331	eP	P	20 36 29.8	-3.4
LZH				pP	PcP	20 36 33.9	+0.4
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
LZH				LR	LR		
	comp=N,100nm,13.0s						
LZH				LR	LR		
	comp=E,280nm,12.7s						
LZH				LR	LR		
	comp=Z,310nm,14.4s						
KMBO	Kilima Mbogo	97.18	258	LR	LR	21 12 00.5	
	comp=Z,300nm,21.1s,baz=95,slow=30						
ASAJ	Asahikawa	97.44	1	LR	LR	21 18 53.3	
	comp=Z,112nm,21.8s,baz=184,slow=34						
HHC	Hu-ho-hao-te	97.51	338	eP	Pdif	20 36 44.4	-0.1
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,55nm,5.0s						
HHC				LR	LR		
	comp=Z,150nm,13.7s						
HHC				LR	LR		
	comp=Z,150nm,16.5s						
HHC				LR	LR		
	comp=Z,230nm,16.0s						
USRK	Ussuriysk Ar.	97.82	354	LR	LR	21 19 21.1	
	comp=Z,62nm,21.6s,baz=165,slow=34						
CPUP	Villa Florida	98.75	163	LR	LR	21 19 25.1	
	comp=Z,57nm,18.6s,baz=183,slow=34						
LVC	Limon Verde	99.75	152	LR	LR	21 12 17.4	
	comp=Z,69nm,21.9s,baz=200,slow=30						
NVAR	Mina Array Bea	125.78	72	PKP	PKiKP	20 42 14.8	+2.2
	comp=Z,0.2nm,0.5s,baz=217,slow=5.3,SNR=2.1						
TORD	Torodi Ar. Bea	128.36	234	PKP	PKiKP	20 42 18.2	0.0
	comp=Z,1.2nm,1.2s,baz=124,slow=0.5,SNR=2.8						
ILAR	Eielson Array	130.41	32	PKP	PKiKP	20 42 21.3	+0.5
	comp=Z,0.4nm,0.8s,baz=210,slow=5.2,SNR=2.1						
YKA	Yellowknife Ar	141.35	46	PKhKP	PKPpre	20 42 35.1	
	comp=Z,0.6nm,0.6s,baz=241,slow=3.2,SNR=7.5						
YKA				PKP	PKPdf	20 42 41.0	+0.8
	comp=Z,0.6nm,0.6s,baz=251,slow=3.4,SNR=4.5						
VYHS	Vyhne	144.15	286	ePKP	PKPdf	20 42 47.3	+1.6
KOLL	Kolacno	144.44	286	ePKP	PKiKP	20 42 48.5	-1.4
MODS	Modra-Piesok	144.98	285	ePKP	PKiKP	20 42 49.4	-1.6
JAVC	Velka Javorina	145.00	286	ePKP	PKPdf	20 42 47.5	+0.2
RONA	Rosalia, Austr	145.21	283	eP	PKPbc	20 42 47.1	-0.3
	comp=Z,14nm,1.1s						
SOKA	Soboth	145.41	281	eP	PKPab	20 42 48.9	+0.6
	comp=Z,15nm,1.1s						
ARSA	Arzberg	145.42	282	eP	PKPab	20 42 49.0	+0.7
	comp=Z,25nm,1.0s						
MORC	Moravsky Berou	145.53	287	ePKP	PKPab	20 42 48.5	-0.1
CONA	Conrad Observa	145.57	283	eP	PKPdf	20 42 48.1	-0.2
	comp=Z,7.9nm,1.3s						
OBKA	Obir	145.60	280	eP	PKiKP	20 42 52.4	-0.1
	comp=Z,6.3nm,1.0s						
FINES	FINESS Array B	145.61	309	PKPbc	PKPab	20 42 48.3	-0.1
	comp=Z,2.7nm,1.0s,baz=116,slow=9.4,SNR=3.7						
FINES	FINESS Array B	145.61	309		PKPdf	20 42 46.7	-1.1
ULM	Lac du Bonnet	145.62	72	PKPbc	PKiKP	20 42 51.2	-1.0
	comp=Z,5.0nm,0.7s,baz=316,slow=4.5,SNR=5.0						
ULM	Lac du Bonnet	145.62	72		PKPdf	20 42 46.9	-1.3
KRUC	Moravsky	145.83	285	ePKP	PKPab	20 42 49.6	-0.1
VRAC	Vranov	145.84	286	ePKP	PKPab	20 42 50.7	+1.0
KRLC	Kraliky	146.10	287	ePKP	PKPab	20 42 50.9	+0.2
MYKA	Terra Mystica	146.20	280	eP	PKPab	20 42 51.2	0.0
	comp=Z,20nm,1.4s						
MOA	Molln	146.46	282	eP	PKPbc	20 42 51.3	+0.1
	comp=Z,6.4nm,1.3s						
DPC	Dobruska-Polom	146.49	287	ePKP	PKPab	20 42 51.9	-0.3
KBA	Koelnbreinsper	146.60	280	eP	PKiKP	20 42 55.4	+0.8
	comp=Z,11nm,1.1s						
OSTC	Ostas	146.65	288	ePKP	PKPab	20 42 52.4	-0.4
UPC	Upice	146.74	287	ePKP	PKiKP	20 42 55.9	+1.4
BIOA	Bad Ischl, Aus	146.75	281	eP	PKPbc	20 42 52.1	+0.1
	comp=Z,9.1nm,1.1s						
CHVC	Chvalec	146.75	288	ePKP	PKPab	20 42 53.5	+0.3
CKRC	Cesky Krumlov	146.92	284	ePKP	PKPbc	20 42 52.7	+0.3
ABTA	Abfaltersbach	146.92	279	eP	PKPbc	20 42 52.9	+0.3
	comp=Z,14nm,0.9s						
GERES	GERESS Array B	147.28	283	PKPbc	PKPbc	20 42 53.8	+0.2
	comp=Z,0.9nm,0.7s,baz=90,slow=2.7,SNR=7.7						
GERES	GERESS Array B	147.28	283		PKPdf	20 42 51.6	+0.4
GERES					sPKPbc	20 42 56.8	0.0
ARCES	ARCESS Array B	147.40	324	PKPbc	PKPbc	20 42 53.3	+0.1
	comp=Z,3.9nm,0.9s,baz=149,slow=2.8,SNR=8.7						
KHC	Kasperske Hory	147.49	284	ePKP	PKiKP	20 42 57.2	+1.0
PVCC	Panska Ves	147.57	287	ePKP	PKPab	20 43 02.2	+5.8
WTTA	Wattenberg	147.70	280	eP	PKPab	20 42 57.4	+0.2
	comp=Z,11nm,1.0s						
WATA	Walderalm	147.77	280	eP	PKPab	20 42 57.5	+0.1
	comp=Z,7.0nm,0.9s						
SQTA	Sankt Quirin	147.93	279	eP	PKiKP	20 42 56.2	-1.0
	comp=Z,8.0nm,0.8s						
MOTA	Moosalm	148.05	279	eP	PKPbc	20 42 56.1	+0.3
	comp=Z,11nm,0.9s						
BRG	Berggiesshubel	148.08	287	ePKP	PKPab	20 42 58.6	+0.2
BRG				Amp		20 43 03.2	
	comp=Z,11nm,1.3s						
FETA	Feichten	148.11	279	eP	PKPbc	20 42 56.4	+0.4
	comp=Z,15nm,0.9s						
RETA	Reutte	148.32	279	eP	PKPbc	20 42 56.5	+0.2
	comp=Z,7.9nm,0.9s						
NKC	Novy Kostel	148.65	285	ePKP	PKPab	20 43 04.5	+3.7
DAVA	Damuels	148.74	278	eP	PKiKP	20 42 58.7	-0.3
	comp=Z,0.2nm,0.3s						
CLL	Collm	148.80	287	ePKiKP	PKPab	20 43 02.0	+0.7
CLL				i PKPab	pPKPab	20 43 03.7	0.0
	comp=Z,9.0nm,1.2s						
CLL				eSSS	SSS	21 11 12.0	
CLL				LmV		21 53 00.0	
	comp=Z,100nm,18.6s						
CLL				LmH		22 00 00.0	
	comp=N,100nm,19.5s						
CLL				LmH		22 00 00.0	
	comp=E,100nm,20.3s						
ESDC	Sonseca Array	152.47	254	PKPbc	PKiKP	20 43 07.7	+0.9
	comp=E,1.2nm,0.9s,baz=90,slow=1.1,SNR=6.0						
ESDC				PKPab	PKPab	20 43 16.4	-0.6
	comp=E,3.1nm,0.9s,baz=80,slow=0.7,SNR=10						
ESDC	Sonseca Array	152.47	254		PKPbc	20 43 05.6	-1.0
NOA	NORSAR Array B	152.54	306	PKPbc	PKiKP	20 43 08.3	+2.1
	comp=E,0.4nm,0.8s,baz=251,slow=3.4,SNR=2.5						

*DJA **12** 20:27:58.9±0.6,3°N±5°×12°8E±°,h10km,M4.3/12,mb4.6/5, mB5.0/3,MLv4.2/12,Mw(mB)4.4/3*
*IDC **12** 20:28:01.3±4.5,3°.50N×128°.52E,h75km±45km,mb3.5/7, mb1 3.7/8,mb1mx3.3/55,mbtmp3.9/8,ML4.7/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/52,Error ellipse: s-maj=53.2km s-min=17.6km az=81.0*
*NEIC **12** 20:28:01.6±1.6,3°.41N±0°.07×128°.3E±0°.1,h79km±10km, mb4.1/17,Error ellipse: s-maj=14.9km s-min=9.3km az=82.0*
ISC 12 20:28:02.6±0.6**,3°.32N**±0°.06×**128°.30E**±0°.09**,h100km,n45, σ1s.56**/43**,mb4.0**/14**,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.70	200		Pn	20 28 42.8	-1.6
TNTI	Ternate	2.70	200	P	Pn	20 28 43.0	-1.4
SGSI	Sangihe	2.79	278	P	Pn	20 28 41.6	-4.0
LBMI	Labuha	4.01	192	P	Pn	20 29 00.2	-1.8
DAV	Davao City (W)	4.61	324	S	Sn	20 30 05.1	+2.7
	61nm,0.3s,baz=59,slow=22,SNR=2.1						
DAV				LR	LR	20 31 36.0	
	comp=Z,96nm,18.1s,baz=126,slow=47						
SWI	Sorong	5.10	145	P	Pn	20 29 15.8	-0.9
	0.4nm2µm85nm,0.5s						
KMSI	Cibinong	5.11	238	P	Pn	20 29 29.5	+13
SIJI	Sorong	5.11	145	P	Pn	20 29 16.4	-0.5
	27nm,0.3s,baz=338,slow=16,SNR=167						
SIJI				S	Sn	20 30 11.9	-2.8
	2.8nm,0.3s,baz=233,slow=20,SNR=3.5						
SANI	Sanana	5.82	203	P	Pn	20 29 25.2	-1.2
GTOI	Gorontalo	5.92	243	P	Pn	20 29 26.6	-1.3
	0.0nm10nm,0.6s						
MRSI	Marisa	6.96	246	P	Pn	20 29 41.3	-0.6
LUWI	Luwuk	7.03	232	Pn	Pn	20 29 41.7	-1.1
TOLI2	Tolitoli	7.83	254		Pn	20 29 50.8	-3.1
MYLDM	Lahad Datu	9.95	281	Pn	Pn	20 30 23.5	+0.9
KAPI	Kappang	11.90	226	Pn	Pn	20 30 48.8	-0.2
KKM	Kota Kinabalu	12.35	283	Pn	Pn	20 30 55.2	+0.2
SBUM	Sibu	16.09	267		P	20 31 43.5	-1.0
MTN	Manton Dam	16.30	170	Pn	Pn	20 31 45.0	-0.7
MTN				IAmb	IAmb	20 32 10.3	
	comp=Z,29nm,1.2s						
KNRA	Kununurra	18.88	179	P	Pn	20 32 17.2	+0.2
YULB	Yu-li	21.07	342	P	P	20 32 37.5	-1.4
YULB				IAmb	IAmb	20 32 49.3	
	comp=Z,11nm,1.0s						
FITZ	Fitzroy Crossi	21.45	187	P	P	20 32 44.5	+1.5
	comp=Z,1.1nm,0.6s,baz=4.2,slow=6.2,SNR=1.4						
FITZ	Fitzroy Crossi	21.45	187	P	P	20 32 43.8	+0.9
NACB	Ninganchiao	21.72	343	P	P	20 32 43.6	-2.1
WB0	Warramunga Arr	23.71	166	P	P	20 33 06.1	+0.5
WB0				IAmb	IAmb	20 33 09.8	
	comp=Z,8.6nm,1.2s						
WRA	Warramunga Arr	23.87	166	P	P	20 33 08.8	+1.8
	comp=Z,1.7nm,0.5s,baz=342,slow=10,SNR=18						
WRA	Warramunga Arr	23.87	166	P	P	20 33 08.0	+1.0
WB2	Warramunga Arr	23.87	166	P	P	20 33 08.7	+1.7
WB2				IAmb	IAmb	20 33 33.6	
	comp=Z,5.8nm,1.0s						
WR0	Warramunga Arr	23.93	165	P	P	20 33 09.0	+1.4
WR0				IAmb	IAmb	20 33 11.5	
	comp=Z,5.0nm,1.1s						
ASAR	Alice Springs	27.38	169	P	P	20 33 40.4	+1.8
	comp=Z,0.3nm,0.4s,baz=346,slow=7.6,SNR=4.0						
ASAR				pP	pP	20 34 01.6	+0.7
	comp=Z,0.6nm,0.4s,baz=338,slow=9.1,SNR=4.8						
KSRS	Korea Array	33.97	359	P	P	20 34 34.5	-2.0
	comp=Z,0.8nm,0.8s,baz=157,slow=11,SNR=2.1						
BBOO	Buckleboo	36.68	169	P	P	20 35 00.4	+0.6
STKA	Stephens Creek	37.22	161	P	P	20 35 06.8	+2.4
	comp=Z,1.0nm,0.4s,baz=337,slow=9.6,SNR=9.4						
STKA	Stephens Creek	37.22	161	P	P	20 35 05.0	+0.6
STKA				IAmb	IAmb	20 35 24.4	
	comp=Z,2.2nm,1.6s						
H11S3	WAKE ISLAND Hy	40.47	65	T	T	21 18 49.4	
	baz=253,slow=75,SNR=8.5						
H11S1	WAKE ISLAND Hy	40.48	65	T	T	21 18 42.1	
	baz=253,slow=75,SNR=8.0						
H11S2	WAKE ISLAND Hy	40.48	65	T	T	21 18 40.7	
	baz=253,slow=75,SNR=10						
PETK	Petropavlovsk-	55.23	21	P	P	20 37 24.8	-0.3
	comp=Z,3.0nm,0.8s,baz=213,slow=5.0,SNR=2.9						
MK31	Makanchi Array	58.79	325	P	P	20 37 50.8	+0.4
MK31				IAmb	IAmb	20 38 19.9	
	comp=Z,3.0nm,1.5s						
MKAR	Makanchi Array	58.79	325	P	P	20 37 52.2	+1.8
	comp=Z,0.8nm,0.4s,baz=115,slow=8.3,SNR=20						
MKAR	Makanchi Array	58.79	325	P	P	20 37 51.6	+1.2
KURK	Kurchatov	62.93	327	P	P	20 38 19.5	+1.2
KURK				IAmb	IAmb	20 38 20.6	
	comp=Z,1.9nm,0.9s						
BRVK	Borovoye	68.59	327	P	P	20 38 55.0	+0.4
ABKAR	Akbulak array	73.46	321	P	P	20 39 24.9	+0.7
ABKAR	Akbulak array	73.46	321	P	P	20 39 24.0	-0.1
ABKAR				IAmb	IAmb	20 39 26.4	
	comp=Z,4.3nm,1.6s						
GAMB	Gambell	74.13	24	P	P	20 39 28.6	+0.8

*MDD **12** 20:43:31.2±0.7,35°.49N×3°.82W,h0km,mb_Lg2.5/6,Error ellipse: s-maj=6.0km s-min=3.3km az=13.0*
*CNRM **12** 20:43:31.5,35°.52N×3°.76W,h26km,ml2.1*
*SFS **12** 20:43:31.0,35°.49N×3°.82W,ML2.5,ALBORAN SUR*
ISC 12 20:43:31.8±1.3**,35°.47N**±0°.02×**3°.75W**±0°.03**,h18km**±7km**, n23,σ1s.15**/41**,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.30	211	P	Pb	20 43 38.7	+0.1
PALE				S	Sb	20 43 43.5	+0.2
PVLZ	Peæn de	0.54	236	P	Pb	20 43 43.0	+0.2
PVLZ				S	Sb	20 43 50.3	+0.1
GOG	Mont Gurugu	0.67	112	P	Pb	20 43 45.4	+0.4
GOG				S	Sg	20 43 53.2	-0.7
EMEL	Melilla	0.67	105	Pg	Pb	20 43 44.8	-0.2
EMEL				Sg	Sb	20 43 54.3	+0.3
EALB	Alboran	0.75	51	Pg	Pb	20 43 46.3	0.0
EALB				Sg	Sb	20 43 56.3	+0.1
EALB				i Vmb_Lg		20 43 58.6	
AKLM	AKL	0.97	185	P	Pn	20 43 51.0	+0.4
AKLM				S	Sg	20 44 03.8	+0.5
TAF	Taforalt	1.28	121	P	Pn	20 43 54.6	-0.3
TAF				S	Sn	20 44 11.2	-0.5
SMIR	Smir Dam	1.34	279	P	Pb	20 43 56.0	-0.4
SMIR				S	Sn	20 44 09.3	-3.8
CHEFC	Chefchaouen	1.35	255	P	Pb	20 43 56.6	-0.1
EMIJ	Mijas	1.37	323	Pg	Pn	20 43 53.9	-2.2
EMIJ				Sg	Sn	20 44 13.2	-0.6
ECEU	Ceuta	1.39	288	Pg	Pn	20 43 55.2	-1.2
ECEU				Sg	Sn	20 44 13.0	-1.2
ECEU				i Vmb_Lg		20 44 27.3	
ELGU	Los Guajares,	1.40	4	Pg	Pn	20 43 56.1	-0.4
ELGU				Sg	Sn	20 44 14.7	+0.2
ELGU				i Vmb_Lg		20 44 18.2	
EMAL	Malaga-Limoner	1.40	337	P	Pg	20 43 58.8	0.0
EMAL				S	Sn	20 44 13.7	-0.7
JBK	JBK	1.50	139	P	Pn	20 43 57.6	-0.4
JBK				S	Sn	20 44 15.9	-1.3
EBER	Berja	1.58	26	Pn	Pn	20 43 58.0	-1.2
EBER				Sg	Sb	20 44 21.5	+1.0
EBER				i Vmb_Lg		20 44 48.0	
MD31	MD31	2.73	198	P	Pn	20 44 16.0	+1.2
MD31				S	Sn	20 44 47.3	-0.2
MDT	Midelt	2.75	195	P	Pn	20 44 15.2	+0.1
MDT				S	Sn	20 44 46.5	-1.4
EADA	Adamuz	2.77	346	Pn	Pn	20 44 14.8	-0.5
EADA				i Vmb_Lg		20 44 43.8	
EADA				Sn	Sn	20 44 48.8	+0.5
ECAB	El Cabril	2.92	333	Sn	Sn	20 44 51.8	-0.2
ETOB	Tobarra	3.62	28	Pn	Pn	20 44 28.6	+1.5
ETOB				i Vmb_Lg		20 44 47.0	
PVAQ	Vaqueiros	3.73	302	eS	Sn	20 45 11.9	-0.1
PBAR	Barrancos	3.77	317	eS	Sn	20 45 14.1	+1.1
PBDV	Barranco-do-Ve	3.81	299	eP	Pn	20 44 33.0	+3.4
PBDV				eS	Sn	20 45 14.8	+0.9

*AEIC **12** 20:50:00±3.0,67°.64N±0°.04×162°.8W±0°.1,h14km±4km, ML4.1,mb4.4/17(NEIC),ML4.3/18(NEIC),Mwr4.3/26(NEIC), Error ellipse: s-maj=7.8km s-min=5.3km az=87.0*
*NEIC **12** 20:50:00,67°.64N×162°.83W,h15km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.24; $M_{\theta\theta}$0.83; $M_{\phi\phi}$-2.06; $M_{r\theta}$1.25; $M_{\theta\phi}$-2.86; $M_{\phi r}$0.65; Fault plane solution: $M_0$3.66000×10^{15} NP1:ϕ_s167.36000°, δ62.22000°,λ9.74000°. NP2:ϕ_s72.78000°,δ81.39000°, λ151.88000°. Principal axes: T 2.9353, Plg26.0000°, Azm27.0000°; N 1.1649, Plg61.0000°, Azm237.0000°; P -4.1002, Plg13.0000°, Azm123.0000°;*
*NEIC **12** 20:50:00.1±2.8,67°.62N±0°.06×162°.6W±0°.1,h6km±4km Error ellipse: s-maj=8.5km s-min=7.4km az=160.0*
*IDC **12** 20:50:01.9±0.5,67°.87N×162°.44W,h0km,mb4.0/21, mb1 4.3/25,mb1mx4.1/58,mbtmp4.1/25,ML4.1/5,MS3.6/24, Ms1 3.6/24,ms1mx3.2/102,Error ellipse: s-maj=16.8km s-min=10.8km az=11.0*
*ANF **12** 20:50:02.8±0.4,67°.75N×162°.90W,h31km±5km,ML4.5/10, Error ellipse: s-maj=5.6km s-min=3.1km az=118.0*
ISC 12 20:50:01.8±0.4**,67°.68N**±0°.04×**162°.53W**±0°.04**,h10km, n231,σ1s.72**/228**,mb4.3**/28**,MS3.6**/23**,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.40**	**339**		**Pg**	**20 50 08.5**	**-1.1**
RDOG				IAML		20 50 15.5	
	comp=E,26μm,0.7s						
RDOG				IAML		20 50 15.8	
	comp=N,17μm,0.6s						
RDOG	**Red Dog Mine**	**0.40**	**339**		**Sg**	**20 50 14.9**	**-0.1**
RDOG	**Red Dog Mine**	**0.40**	**339**	P	**Pg**	**20 50 08.9**	**-0.8**
	baz=176,SNR=1000						
RDOG				S	**Sg**	**20 50 14.8**	**-0.2**
	baz=176						
TNA	**Tin City**	**3.03**	**228**	Pn	**Pn**	**20 50 46.9**	**-2.8**
TNA	**Tin City**	**3.03**	**228**		**Sn**	**20 51 21.8**	**-4.1**
TNA	**Tin City**	**3.03**	**228**	P	**Pn**	**20 50 46.7**	**-2.9**
	baz=42,SNR=41						
ANM	**Nome**	**3.34**	**202**	Pn	**Pn**	**20 50 51.6**	**-2.2**
ANM	**Nome**	**3.34**	**202**		**Sn**	**20 51 30.6**	**-2.9**
ANM	**Nome**	**3.34**	**202**	P	**Pn**	**20 50 51.9**	**-2.0**
	baz=17,SNR=14						
ANM				S	**Sn**	**20 51 30.7**	**-2.9**
	baz=17						
IM03		**3.86**	**112**		**Pn**	**20 51 01.8**	**+0.7**
IMAR	**Indian Mountai**	**3.86**	**112**	Pn	**Pn**	**20 51 00.7**	**-0.5**
A21K	**Barrow**	**4.21**	**27**	Pn	**Pn**	**20 51 05.6**	**-0.2**
A21K				IAML		20 52 30.9	
	comp=N,384nm,1.8s						
A21K				IAML		20 52 34.5	
	comp=E,370nm,2.3s						
A21K	**Barrow**	**4.21**	**27**	P	**Pn**	**20 51 05.8**	**0.0**
	baz=214						
A21K				S	**Sn**	**20 51 52.9**	**-2.0**
	baz=214						
H21K	**Melozitna Rive**	**4.37**	**113**	Pn	**Pn**	**20 51 08.1**	**0.0**
H21K				IAML		20 52 23.5	
	comp=N,223nm,1.1s						
H21K				IAML		20 52 35.9	
	comp=E,175nm,1.3s						
H21K	**Melozitna Rive**	**4.37**	**113**	P	**Pn**	**20 51 08.1**	**0.0**
	baz=301,SNR=47						
H21K				S	**Sn**	**20 52 01.0**	**+2.1**
	baz=301						
COLD	**Coldfoot**	**4.77**	**90**		**Pn**	**20 51 13.9**	**+0.4**
COLD	**Coldfoot**	**4.77**	**90**	P	**Pn**	**20 51 14.5**	**+0.9**
	baz=281,SNR=13						
J20K	**Nowinta River**	**4.91**	**132**	Pn	**Pn**	**20 51 14.8**	**-0.7**
J20K				IAML		20 52 42.7	
	comp=E,156nm,0.9s						
J20K				IAML		20 52 45.8	
	comp=N,196nm,0.7s						
J20K	**Nowinta River**	**4.91**	**132**	P	**Pn**	**20 51 15.9**	**+0.4**
	baz=318,SNR=10						
I21K	**Tanana**	**4.92**	**116**		**Pn**	**20 51 14.0**	**-1.6**
I21K				IAML		20 52 48.2	
	comp=E,314nm,1.1s						
I21K				IAML		20 52 52.9	
	comp=N,204nm,0.9s						
I21K	**Tanana**	**4.92**	**116**	P	**Pn**	**20 51 16.1**	**+0.5**
	baz=304,SNR=21						
TOLK	**Toolik Lake Re**	**4.93**	**73**	Pn	**Pn**	**20 51 17.0**	**+1.2**
TOLK	**Toolik Lake Re**	**4.93**	**73**	P	**Pn**	**20 51 16.3**	**+0.4**
	baz=265,SNR=28						
TOLK				S	**Sn**	**20 52 12.9**	**0.0**
	baz=265						
GAMB	**Gambell**	**5.45**	**228**		**Pn**	**20 51 18.3**	**-4.5**
GAMB	**Gambell**	**5.45**	**228**	P	**Pn**	**20 51 20.7**	**-2.1**
	baz=39						
H23K	**Yukon River**	**5.47**	**104**		**Pn**	**20 51 21.8**	**-1.4**
H23K	**Yukon River**	**5.47**	**104**	P	**Pn**	**20 51 23.4**	**+0.2**
	baz=295,SNR=30						
TTA	**Tatalina**	**5.49**	**147**	Pn	**Pn**	**20 51 20.8**	**-2.8**
TTA	**Tatalina**	**5.49**	**147**	P	**Pn**	**20 51 23.9**	**+0.3**
	baz=332,SNR=26						
TTA				S	**Sn**	**20 52 27.3**	**+0.6**
	baz=332						
TT01	**Tatalina**	**5.51**	**147**		**Pn**	**20 51 24.3**	**+0.5**
K20K	**Telida**	**5.58**	**137**		**Pn**	**20 51 23.1**	**-1.6**
K20K	**Telida**	**5.58**	**137**	P	**Pn**	**20 51 24.9**	**+0.1**
	baz=324						
CHUM	**Lake Minchumin**	**5.67**	**127**	P	**Pn**	**20 51 26.5**	**+0.6**
	baz=316,SNR=16						
CHUM				S	**Sn**	**20 52 32.1**	**+1.2**
	baz=316						
I23K	**Minto, Yukon-K**	**5.86**	**110**		**Pn**	**20 51 26.1**	**-2.4**
I23K	**Minto, Yukon-K**	**5.86**	**110**	P	**Pn**	**20 51 29.4**	**+0.9**
	baz=301						
BPAW	**Bear Paw Mtn.**	**5.93**	**122**	Pn	**Pn**	**20 51 27.7**	**-1.9**
BPAW	**Bear Paw Mtn.**	**5.93**	**122**	P	**Pn**	**20 51 30.3**	**+0.7**
	baz=312,SNR=55						
BPAW				S	**Sn**	**20 52 36.8**	**-0.7**
	baz=312						
H24K	**Noodor Dome**	**6.08**	**101**	Pn	**Pn**	**20 51 29.7**	**-2.0**
H24K	**Noodor Dome**	**6.08**	**101**	P	**Pn**	**20 51 32.0**	**+0.3**
	baz=294,SNR=20						
CAST	**Castle Rocks**	**6.08**	**130**	Pn	**Pn**	**20 51 29.8**	**-1.9**
CAST	**Castle Rocks**	**6.08**	**130**	P	**Pn**	**20 51 32.1**	**+0.5**
	baz=318,SNR=26						
NEA2	**Nenana**	**6.27**	**113**		**Pn**	**20 51 34.3**	**+0.1**
NEA2	**Nenana**	**6.27**	**113**	P	**Pn**	**20 51 34.5**	**+0.3**
	baz=305,SNR=65						
KTH	**Kantishna Hill**	**6.34**	**125**		**Pn**	**20 51 33.6**	**-1.6**
L20K	**Farewell, AK**	**6.37**	**141**		**Pn**	**20 51 36.2**	**+0.6**
L20K	**Farewell, AK**	**6.37**	**141**	P	**Pn**	**20 51 36.1**	**+0.6**
	baz=328,SNR=30						
MDM	**Murphy Dome**	**6.37**	**109**		**Pn**	**20 51 34.7**	**-0.9**
BWN	**Browne**	**6.39**	**117**		**Pn**	**20 51 37.1**	**+1.3**
L19K	**White Mountain**	**6.41**	**146**	Pn	**Pn**	**20 51 34.5**	**-1.5**
L19K	**White Mountain**	**6.41**	**146**	P	**Pn**	**20 51 36.3**	**+0.3**
	baz=332,SNR=11						
L19K				S	**Sn**	**20 52 47.1**	**-2.1**
	baz=332						
PPLA	**Purkeypile**	**6.46**	**133**	Pn	**Pn**	**20 51 35.0**	**-2.0**
PPLA	**Purkeypile**	**6.46**	**133**	P	**Pn**	**20 51 37.8**	**+0.8**
	baz=322,SNR=11						
TCOL	**CIGO, UAF Yank**	**6.55**	**109**		**Pn**	**20 51 38.0**	**+0.1**
TCOL	**CIGO, UAF Yank**	**6.55**	**109**	P	**Pn**	**20 51 39.1**	**+1.1**
	baz=301,SNR=39						
COLA	**College**	**6.55**	**109**		**Pn**	**20 51 38.0**	**0.0**
COLA	**College**	**6.55**	**109**	P	**Pn**	**20 51 39.4**	**+1.4**
	baz=301						
POKR	**Poker Plat Res**	**6.58**	**106**		**Pn**	**20 51 39.3**	**+0.9**
POKR	**Poker Plat Res**	**6.58**	**106**	P	**Pn**	**20 51 38.8**	**+0.4**
	baz=299,SNR=31						
TRF	**Thorofare Moun**	**6.61**	**124**		**Pn**	**20 51 39.6**	**+0.6**
TRF	**Thorofare Moun**	**6.61**	**124**	P	**Pn**	**20 51 39.6**	**+0.6**
	baz=314,SNR=15						
WRH	**Wood River Hil**	**6.69**	**112**		**Pn**	**20 51 37.9**	**-2.0**
CCB	**Clear Creek Bu**	**6.69**	**110**		**Pn**	**20 51 38.0**	**-1.9**
MCK	**McKinley**	**6.86**	**119**		**Pn**	**20 51 41.8**	**-0.5**
MCK	**McKinley**	**6.86**	**119**	P	**Pn**	**20 51 42.9**	**+0.6**
	baz=310,SNR=16						
BM03	**Burnt Mountain**	**6.86**	**84**		**Pn**	**20 51 43.6**	**+1.3**
BMAR	**Burnt Mountain**	**6.87**	**84**	Pn	**Pn**	**20 51 41.0**	**-1.5**
IL31		**6.96**	**107**		**Pn**	**20 51 41.7**	**-1.9**
ILAR	**Eielson Array**	**6.96**	**107**	Pn	**Pn**	**20 51 41.3**	**-2.3**
	comp=N,8.5nm,0.3s,baz=301,slow=14,SNR=255						
ILAR				Sn	**Sn**	**20 53 00.2**	**-2.4**
	comp=N,0.5nm,0.3s,baz=303,slow=23,SNR=2.4						
ILAR				LR	LR	20 54 54.3	
	comp=N,238nm,18.0s,baz=268,slow=42						
ILAR	**Eielson Array**	**6.96**	**107**	Pn	**Pn**	**20 51 41.6**	**-2.0**
RND	**Reindeer**	**7.10**	**121**	Pn	**Pn**	**20 51 43.1**	**-2.6**
HDA	**Harding Lake**	**7.13**	**110**		**Pn**	**20 51 44.7**	**-1.2**
HDA	**Harding Lake**	**7.13**	**110**	P	**Pn**	**20 51 46.5**	**+0.6**
	baz=304,SNR=28						
HDA				S	**Sn**	**20 53 05.7**	**-1.3**
	baz=304						
HDA				S	**Sn**	**20 53 05.7**	**-1.3**
	baz=304						
SVW2	**Sparrevohn**	**7.26**	**152**		**Pn**	**20 51 45.0**	**-2.7**
CUT	**Chulitna**	**7.40**	**130**		**Pn**	**20 51 48.1**	**-1.6**
CUT	**Chulitna**	**7.40**	**130**	P	**Pn**	**20 51 51.0**	**+1.4**
	baz=320						
J25K	**Salcha River,**	**7.59**	**106**		**Pn**	**20 51 50.3**	**-2.1**
J25K	**Salcha River,**	**7.59**	**106**	P	**Pn**	**20 51 53.1**	**+0.7**
	baz=301,SNR=76						
N18K	**Kilae Creek**	**7.60**	**155**	Pn	**Pn**	**20 51 49.5**	**-2.9**
N18K	**Kilae Creek**	**7.60**	**155**	P	**Pn**	**20 51 52.8**	**+0.5**
	baz=340,SNR=24						
N18K				S	**Sn**	**20 53 17.7**	**-0.7**
	baz=340						
N19K	**Bonanza Creek**	**7.72**	**149**	Pn	**Pn**	**20 51 51.5**	**-2.6**
N19K	**Bonanza Creek**	**7.72**	**149**	P	**Pn**	**20 51 55.0**	**+0.8**
	baz=336						
DHY	**Denali Highway**	**7.82**	**119**		**Pn**	**20 51 53.3**	**-2.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHY	**Denali Highway**	**7.82**	**119**	P	**Pn**	**20 51 56.7**	**+1.2**
	baz=312,SNR=17						
SPU	**Mount Spurr**	**7.93**	**140**	Pn	**Pn**	**20 51 54.0**	**-3.0**
M22K	**Willow**	**7.96**	**132**		**Pn**	**20 51 54.7**	**-2.6**
M22K	**Willow**	**7.96**	**132**	P	**Pn**	**20 51 58.1**	**+0.8**
	baz=323						
WAT6	**Susitna Watana**	**8.05**	**122**	P	**Pn**	**20 51 59.2**	**+0.5**
	baz=315,SNR=14						
RIDG	**Independent Ri**	**8.27**	**110**		**Pn**	**20 52 01.1**	**-0.5**
RIDG	**Independent Ri**	**8.27**	**110**	P	**Pn**	**20 52 02.3**	**+0.6**
	baz=306,SNR=11						
J26L	**Joseph Creek**	**8.32**	**104**	P	**Pn**	**20 52 03.0**	**+0.7**
	baz=300,SNR=34						
O19K	**Port Alsworth**	**8.33**	**151**		**Pn**	**20 51 59.7**	**-2.6**
PMR	**Palmer**	**8.37**	**130**		**Pn**	**20 52 01.4**	**-1.5**
RSO	**Redoubt South**	**8.40**	**145**		**Pn**	**20 52 01.7**	**-1.8**
SML	**Sawmill**	**8.44**	**128**	Pn	**Pn**	**20 52 01.9**	**-2.1**
SML	**Sawmill**	**8.44**	**128**	P	**Pn**	**20 52 05.1**	**+1.2**
	baz=320,SNR=5.9						
SCRK	**Sand Creek**	**8.45**	**107**	Pn	**Pn**	**20 52 02.6**	**-1.5**
SCRK	**Sand Creek**	**8.45**	**107**	P	**Pn**	**20 52 04.9**	**+0.7**
	baz=304,SNR=35						
CAPN	**Captain Cook N**	**8.51**	**139**	Pn	**Pn**	**20 52 03.4**	**-1.5**
PAX	**Paxson**	**8.54**	**115**	Pn	**Pn**	**20 52 04.1**	**-1.2**
PAX	**Paxson**	**8.54**	**115**	P	**Pn**	**20 52 06.1**	**+0.8**
	baz=310,SNR=8.1						
RC01	**Rabbit Creek A**	**8.61**	**134**	Pn	**Pn**	**20 52 04.6**	**-1.6**
RC01	**Rabbit Creek A**	**8.61**	**134**	P	**Pn**	**20 52 07.5**	**+1.3**
	baz=325						
DOT	**Dot Lake**	**8.61**	**109**		**Pn**	**20 52 05.9**	**-0.3**
KNK	**Knik Glacier**	**8.71**	**129**		**Pn**	**20 52 07.9**	**+0.2**
KNK	**Knik Glacier**	**8.71**	**129**	P	**Pn**	**20 52 09.3**	**+1.6**
	baz=322						
SCM	**Sheep Creek Mo**	**8.73**	**125**	Pn	**Pn**	**20 52 05.7**	**-2.3**
SCM	**Sheep Creek Mo**	**8.73**	**125**	P	**Pn**	**20 52 09.1**	**+1.1**
	baz=318						
M24K	**Tolsona, Glenn**	**8.90**	**121**		**Pn**	**20 52 08.9**	**-1.3**
M24K	**Tolsona, Glenn**	**8.90**	**121**	P	**Pn**	**20 52 11.6**	**+1.3**
	baz=315						
HARP	**HAARP**	**9.03**	**118**	P	**Pn**	**20 52 13.7**	**+1.7**
	baz=313						
P19K	**Oil Pt**	**9.04**	**149**	Pn	**Pn**	**20 52 10.5**	**-1.7**
EGAK	**Eagle**	**9.09**	**99**		**Pn**	**20 52 10.1**	**-2.7**
EGAK	**Eagle**	**9.09**	**99**	P	**Pn**	**20 52 13.0**	**+0.2**
	baz=298						
O22K	**Cooper Landing**	**9.12**	**136**	Pn	**Pn**	**20 52 13.3**	**0.0**
MENT	**Mentasta**	**9.17**	**112**		**Pn**	**20 52 12.8**	**-1.1**
PWL	**Port Wells**	**9.19**	**131**	Pn	**Pn**	**20 52 14.9**	**+0.7**
PWL	**Port Wells**	**9.19**	**131**	P	**Pn**	**20 52 15.2**	**+1.0**
	baz=324						
L26K	**Log Cabin Wild**	**9.25**	**111**		**Pn**	**20 52 14.0**	**-1.0**
L26K	**Log Cabin Wild**	**9.25**	**111**	P	**Pn**	**20 52 15.9**	**+1.0**
	baz=308,SNR=7.0						
KLU	**Klutina**	**9.43**	**123**		**Pn**	**20 52 17.1**	**-0.4**
KLU	**Klutina**	**9.43**	**123**	P	**Pn**	**20 52 18.5**	**+1.0**
	baz=318						
GLI	**Glacier Island**	**9.54**	**128**	Pn	**Pn**	**20 52 15.9**	**-3.0**
GLI	**Glacier Island**	**9.54**	**128**	P	**Pn**	**20 52 19.5**	**+0.5**
	baz=322						
DIV	**Divide**	**9.75**	**124**	Pn	**Pn**	**20 52 22.9**	**+0.9**
L27K	**Beaver Creek,**	**9.77**	**108**	Pn	**Pn**	**20 52 21.8**	**-0.4**
L27K	**Beaver Creek,**	**9.77**	**108**	P	**Pn**	**20 52 22.8**	**+0.6**
	baz=307,SNR=18						
N25K	**Chitina, Valde**	**9.78**	**120**	Pn	**Pn**	**20 52 23.5**	**+1.2**
N25K	**Chitina, Valde**	**9.78**	**120**	P	**Pn**	**20 52 23.0**	**+0.7**
	baz=316						
BCAR	**Beaver Creek A**	**9.78**	**108**	Pn	**Pn**	**20 52 22.4**	**0.0**
FID	**Port Fidalgo**	**9.83**	**127**	Pn	**Pn**	**20 52 22.2**	**-0.7**
DAWY	**Dawson**	**10.11**	**100**		**Pn**	**20 52 26.5**	**-0.2**
DAWY	**Dawson**	**10.11**	**100**	P	**Pn**	**20 52 26.7**	**-0.1**
	baz=301						
GLB	**Gilahina Butte**	**10.16**	**119**	Pn	**Pn**	**20 52 26.0**	**-1.4**
M27K	**Edge Creek, AK**	**10.20**	**112**		**Pn**	**20 52 24.9**	**-3.2**
M27K	**Edge Creek, AK**	**10.20**	**112**	P	**Pn**	**20 52 28.0**	**-0.1**
	baz=310						
BMRM	**Bremner River**	**10.25**	**122**	Pn	**Pn**	**20 52 26.1**	**-2.6**
BMRM	**Bremner River**	**10.25**	**122**	P	**Pn**	**20 52 30.0**	**+1.3**
	baz=318						
VRDI	**Verde Repeater**	**10.43**	**119**	Pn	**Pn**	**20 52 31.8**	**+0.4**
MCARA	**McCarthy VSAT**	**10.46**	**118**	Pn	**Pn**	**20 52 31.0**	**-0.6**
BVCY	**Beaver Creek**	**10.52**	**110**	P	**Pn**	**20 52 33.2**	**+0.8**
	baz=309,SNR=5.2						
RAGM	**Ragged Mountai**	**10.67**	**125**		**Pn**	**20 52 31.2**	**-3.2**
HMT	**Hamilton**	**10.84**	**124**	Pn	**Pn**	**20 52 35.1**	**-1.6**
INK	**Inuvik**	**10.85**	**73**	Pn	**Pn**	**20 52 35.6**	**-1.1**
	comp=N,1.2nm,0.3s,baz=296,slow=13,SNR=6.8						
INK				Sn	**Sn**	**20 54 31.5**	**-6.5**
	comp=N,0.9nm,0.3s,baz=321,slow=17,SNR=5.3						
INK				LR	LR	20 57 51.1	
	comp=N,171nm,18.2s,baz=283,slow=44						
INK	**Inuvik**	**10.85**	**73**	Pn	**Pn**	**20 52 35.1**	**-1.7**
INK	**Inuvik**	**10.85**	**73**	P	**Pn**	**20 52 36.2**	**-0.6**
	baz=280						
KDAK	**Kodiak Island**	**10.91**	**151**	Pn	**Pn**	**20 52 42.1**	**+4.4**
	comp=N,0.3nm,0.3s,baz=284,slow=16,SNR=1.9						
KDAK	**Kodiak Island**	**10.91**	**151**	Pn	**Pn**	**20 52 36.2**	**-1.5**
TGL	**Tana Glacier**	**10.99**	**120**	Pn	**Pn**	**20 52 36.2**	**-2.7**
YUK3	**Moose Creek**	**11.08**	**112**	P	**Pn**	**20 52 40.8**	**+0.6**
	baz=311						
BARN	**Barnard Glacie**	**11.16**	**116**	Pn	**Pn**	**20 52 41.2**	**-0.1**
WAX	**Waxell Ridge**	**11.21**	**121**	Pn	**Pn**	**20 52 42.2**	**+0.4**
ISLE	**Juniper Island**	**11.26**	**119**	Pn	**Pn**	**20 52 39.9**	**-2.8**
CTGM	**Chitina Glacie**	**11.34**	**116**	Pn	**Pn**	**20 52 44.1**	**+0.4**
GRNC	**Granite Creek**	**11.36**	**118**	Pn	**Pn**	**20 52 46.1**	**+2.0**
LOGN	**Logan Glacier**	**11.55**	**116**	Pn	**Pn**	**20 52 43.6**	**-3.0**
BILL	**Bilibino**	**11.71**	**286**	Pn	**Pn**	**20 52 46.2**	**-2.4**
M30M	**Minto, Yukon**	**11.91**	**103**	Pn	**Pn**	**20 52 51.2**	**-0.2**
M30M	**Minto, Yukon**	**11.91**	**103**	P	**Pn**	**20 52 51.6**	**+0.2**
	baz=306						
HYT	**Haines Junctio**	**12.78**	**110**	Pn	**Pn**	**20 53 04.0**	**+0.7**
N31M	**Braeburn, Yuko**	**12.97**	**106**	Pn	**Pn**	**20 53 05.5**	**-0.3**
N31M	**Braeburn, Yuko**	**12.97**	**106**	P	**Pn**	**20 53 06.3**	**+0.5**
	baz=310						
A36M	**Sachs Harbour**	**13.38**	**55**	Pn	**Pn**	**20 53 09.2**	**-2.1**
A36M	**Sachs Harbour**	**13.38**	**55**	P	**Pn**	**20 53 08.6**	**-2.7**
	baz=270,SNR=39						
WHY	**Whitehorse**	**13.84**	**107**	Pn	**Pn**	**20 53 16.6**	**-1.2**
C36M	**Paulatuk**	**14.03**	**66**	Pn	**Pn**	**20 53 16.4**	**-3.7**
C36M	**Paulatuk**	**14.03**	**66**	P	**Pn**	**20 53 18.3**	**-1.8**
	baz=282,SNR=11						
DLBC	**Dease Lake**	**17.17**	**107**	P	**P**	**20 54 03.9**	**+0.8**
	comp=N,0.1nm,0.3s,baz=339,slow=8.0,SNR=4.0						
DLBC				LR	LR	21 00 57.3	
	comp=N,220nm,18.0s,baz=314,slow=38						
SHEM	**Shemya Is, Ala**	**18.76**	**229**	P	**Pn**	**20 54 25.4**	**+4.4**
	comp=N,2.2nm,0.3s,baz=341,slow=14,SNR=2.1						
SEY	**Seymchan**	**19.06**	**277**	P	**Pn**	**20 54 25.9**	**+1.3**
	comp=N,0.4nm,0.3s,baz=64,slow=3.6,SNR=16						
SEY				LR	LR	21 01 15.0	
	comp=N,87nm,21.2s,baz=110,slow=35						
YKA	**Yellowknife Ar**	**20.39**	**82**	P	**P**	**20 54 38.9**	**+0.7**
	comp=N,4.9nm,0.8s,baz=305,slow=11,SNR=50						
YKA				LR	LR	21 03 17.4	
	comp=N,161nm,19.3s,baz=5.0,slow=39						
YKA	**Yellowknife Ar**	**20.39**	**82**	P	**P**	**20 54 35.8**	**-2.4**
RES	**Resolute Bay**	**21.63**	**42**	P	**P**	**20 54 52.5**	**+1.0**
	comp=N,1.5nm,0.7s,baz=267,slow=16,SNR=4.5						
RES				LR	LR	21 04 33.8	
	comp=N,76nm,20.9s,baz=290,slow=41						
RES	**Resolute Bay**	**21.63**	**42**	P	**P**	**20 54 51.5**	**0.0**
MA2	**Magadan**	**21.75**	**271**	P	**P**	**20 54 55.5**	**+2.4**
	comp=N,7.4nm,0.8s,baz=75,slow=12,SNR=5.1						
MA2				LR	LR	21 02 40.0	
	comp=N,73nm,19.4s,baz=50,slow=35						
MA2	**Magadan**	**21.75**	**271**	IAmb	IAmb	20 55 11.0	
	comp=Z,18nm,1.2s						
BBB	**Bella Bella**	**22.74**	**116**	LR	LR	21 04 15.6	
	comp=Z,153nm,19.9s,baz=320,slow=37						
TIXI	**Tiksi**	**22.97**	**311**	P	**P**	**20 55 06.3**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=270,slow=23,SNR=11						
TIXI				LR	LR	21 05 49.8	
	comp=Z,80nm,19.9s,baz=1.0,slow=41						
TIXI	**Tiksi**	**22.97**	**311**	P	**P**	**20 55 01.5**	**-4.3**
YAK	**Yakutsk**	**27.98**	**292**	LR	LR	21 08 43.7	
	comp=Z,64nm,18.2s,baz=69,slow=40						
NEW	**Newport**	**29.91**	**107**	LR	LR	21 09 17.1	
	comp=Z,90nm,18.1s,baz=358,slow=39						
BOZ	**Bozeman (W)**	**34.18**	**104**	P	**P**	**20 56 46.6**	**-0.4**
	baz=328,SNR=5.1						
NRIK	**Noril'sk**	**35.13**	**325**	P	**P**	**20 56 55.3**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=45,slow=5.7,SNR=4.0						
NRIK				LR	LR	21 14 36.3	
	comp=Z,90nm,18.2s,baz=76,slow=42						
NRIK	**Noril'sk**	**35.13**	**325**	P	**P**	**20 56 51.9**	**-2.8**
NRIK				IAmb	IAmb	20 56 59.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,4.3nm,1.0s						
YHH	**Holmes Hill**	**35.16**	**104**	P	**P**	**20 56 52.8**	**-2.9**
YHH				IAmb	IAmb	20 57 01.3	
	comp=Z,5.6nm,0.9s						
FRB	**Frobisher Bay**	**35.32**	**50**	LR	LR	21 14 20.6	
	comp=Z,127nm,18.8s,baz=6.0,slow=42						
ELK	**Elko**	**37.09**	**112**	LR	LR	21 13 39.4	
	comp=Z,96nm,18.8s,baz=320,slow=38						
BW06	**Boulder Array**	**37.38**	**104**	P	**P**	**20 57 13.3**	**-1.2**
	baz=330,SNR=5.1						
PD31	**Pinedale Array**	**37.38**	**104**	P	**P**	**20 57 09.9**	**-4.6**
PD31				IAmb	IAmb	20 57 20.5	
	comp=Z,4.4nm,0.9s						
PDAR	**Pinedale Array**	**37.38**	**104**	P	**P**	**20 57 16.2**	**+1.7**
	comp=Z,2.6nm,0.7s,baz=335,slow=6.7,SNR=17						
PDAR				LR	LR	21 13 46.1	
	comp=Z,104nm,18.9s,baz=338,slow=38						
PDAR	**Pinedale Array**	**37.38**	**104**	P	**P**	**20 57 11.8**	**-2.7**
SFJD	**Kangerlussuaq**	**37.46**	**37**	LR	LR	21 14 51.5	
	comp=Z,66nm,18.3s,baz=282,slow=40						
NVAR	**Mina Array Bea**	**38.09**	**117**	P	**P**	**20 57 22.7**	**+2.1**
	comp=Z,1.9nm,0.7s,baz=311,slow=6.6,SNR=9.6						
ARCES	**ARCESS Array B**	**42.94**	**356**	LR	LR	21 14 36.0	
	comp=Z,48nm,18.9s,baz=360,slow=34						
SCHQ	**Schefferville**	**42.96**	**58**	LR	LR	21 16 44.5	
	comp=Z,80nm,19.6s,baz=68,slow=37						
MJAR	**Matsushiro Arr**	**45.16**	**257**	P	**P**	**20 58 20.8**	**+2.5**
	comp=Z,5.0nm,0.8s,baz=39,slow=7.9,SNR=6.4						
MJAR	**Matsushiro Arr**	**45.16**	**257**	IAmb	IAmb	20 59 41.1	
	comp=Z,6.4nm,1.4s						
SADO	**Sadowa**	**47.16**	**75**	LR	LR	21 19 15.0	
	comp=Z,123nm,18.1s,baz=322,slow=37						
SONM	**Songino Array**	**47.31**	**294**	P	**P**	**20 58 37.3**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=29,slow=6.6,SNR=5.0						
S39A	**Bolivar**	**47.91**	**92**	P	**P**	**20 58 39.4**	**-0.4**
KSRS	**Korea Array**	**48.25**	**268**	P	**P**	**20 58 44.5**	**+2.2**
	comp=Z,3.1nm,0.9s,baz=22,slow=9.3,SNR=8.3						
MNTX	**Cornudas Mount**	**48.71**	**108**	P	**P**	**20 58 46.3**	**+0.3**
	baz=335,SNR=6.3						
O48B	**Farmland**	**48.79**	**83**	P	**P**	**20 58 45.2**	**-1.3**
	baz=330,SNR=5.3						
ZAA0	**Zalesovo Array**	**48.82**	**314**	P	**P**	**20 58 45.7**	**-0.8**
ZAA0				IAmb	IAmb	20 58 56.1	
	comp=Z,4.0nm,1.1s						
ZALV	**Zalesovo Beam**	**48.82**	**314**	P	**P**	**20 58 47.1**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=38,slow=7.5,SNR=10.0						
ZALV	**Zalesovo Beam**	**48.82**	**314**	P	**P**	**20 58 45.9**	**-0.6**
FCAR	**Ozark Folk Cen**	**49.95**	**92**	P	**P**	**20 58 55.7**	**+0.3**
FCAR				IAmb	IAmb	20 58 58.3	
	comp=Z,5.2nm,0.8s						
KLMR	**Klimovskoe**	**50.76**	**346**	*e*P	**P**	**20 59 01.0**	**-0.2**
KLMR				AMP		20 59 12.5	
	comp=Z,17nm,1.5s						
FINES	**FINESS Array B**	**51.02**	**355**	P	**P**	**20 59 03.0**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=14,slow=8.6,SNR=4.1						
TX31	**Lajitas Ar. Si**	**51.47**	**107**	P	**P**	**20 59 07.0**	**0.0**
TX32	**Lajitas Array**	**51.47**	**107**	P	**P**	**20 59 06.7**	**-0.3**
TXAR	**Lajitas Array**	**51.47**	**107**	P	**P**	**20 59 08.8**	**+1.7**
	comp=Z,5.8nm,0.7s,baz=338,slow=6.1,SNR=34						
TXAR	**Lajitas Array**	**51.47**	**107**	P	**P**	**20 59 06.6**	**-0.5**
HHC	**Hu-ho-hao-te

LWLI	**Liwa**	**2.53**	**331**	P	**Pn**	**20 54 30.4**	**+3.2**
CMJI	**Cimerak**	**3.16**	**100**	P	**Pn**	**20 54 38.0**	**+2.3**
XMI	**Christmas Isla**	**3.21**	**173**	P	**Pn**	**20 54 37.9**	**+1.4**
XMIS	**Christmas Isla**	**3.24**	**174**		**Pn**	**20 54 37.7**	**+0.9**
XMIS				Sn	**Sn**	**20 55 13.8**	**-0.3**
XMIS	**Christmas Isla**	**3.24**	**174**	P	**Pn**	**20 54 38.0**	**+1.2**
KPJI	**Karang Pucung**	**3.59**	**92**	P	Pn	20 54 46.1	+4.4
MNAI	**Manna**	**3.70**	**321**	Pn	**Pn**	**20 54 45.5**	**+2.4**
MNAI				Sn	**Sn**	**20 55 27.9**	**+2.4**
MNAI	**Manna**	**3.70**	**321**	P	**Pn**	**20 54 47.2**	**+4.1**
MNAI	**Manna**	**3.70**	**321**	P	Pn	20 54 46.9	+3.8
UGM	**Wanagama**	**5.21**	**98**	Pn	**Pn**	**20 55 07.2**	**+3.2**
UGM				Sn	**Sn**	**20 56 02.3**	**-0.6**
UGM	**Wanagama**	**5.21**	**98**	P	**Pn**	**20 55 07.5**	**+3.5**
	0.3nm62nm,1.3s						
UGM				S	**Sn**	**20 56 02.9**	**-0.1**
	0.3nm62nm,1.3s						
UGM	**Wanagama**	**5.21**	**98**	P	**Pn**	**20 55 07.6**	**+3.5**
PCJI	**Pacitan**	**5.89**	**100**	P	**Pn**	**20 55 16.7**	**+3.4**
	0.2nm38nm,1.9s						
JAGI	**Jajag, Banyuwa**	**8.85**	**99**	Pn	**Pn**	**20 55 53.0**	**-0.9**
JAGI				Sn	**Sn**	**20 57 28.7**	**-3.8**
JAGI	**Jajag, Banyuwa**	**8.85**	**99**	P	Pn	20 55 57.8	+3.9
JAGI	**Jajag, Banyuwa**	**8.85**	**99**	P	**Pn**	**20 55 56.5**	**+2.6**
GSI	**Gunungsitoli**	**11.47**	**317**	Pn	**Pn**	**20 56 28.9**	**-1.0**
GSI	**Gunungsitoli**	**11.47**	**317**	P	**Pn**	**20 56 30.8**	**+0.9**
PSI	**Prapat**	**11.84**	**327**	P	Pn	20 56 44.8	+10
	1.0nm,0.3s,baz=218,slow=18,SNR=1.8						
SBUM	**Sibu**	**11.84**	**36**	Pn	**Pn**	**20 56 35.0**	**0.0**
PLAI	**Plampang**	**12.45**	**98**	P	**Pn**	**20 56 44.0**	**+0.8**
TOLI2	**Tolitoli**	**17.53**	**62**		**Pn**	**20 57 49.7**	**-0.5**
GIRL	**Giralia**	**17.56**	**152**		**P**	**20 57 50.7**	**-0.7**
GIRL	**Giralia**	**17.56**	**152**	P	**P**	**20 57 51.5**	**+0.1**
BATI	**Baumata**	**18.38**	**101**	P	**P**	**20 57 57.7**	**-2.8**
	2.3nm,0.3s,baz=2.6,slow=21,SNR=2.2						
PSA00	**Pilbara Seismi**	**20.00**	**137**	P	**Pn**	**20 58 18.6**	**-1.5**
PSA00				IAmb	IAmb	20 59 02.5	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**22.55**	**120**	P	**P**	**20 58 48.2**	**+2.5**
	comp=Z,1.1nm,0.6s,baz=304,slow=7.3,SNR=2.0						
FITZ	**Fitzroy Crossi**	**22.55**	**120**	P	**P**	**20 58 46.6**	**+0.9**
KNRA	**Kununurra**	**24.45**	**112**	P	**P**	**20 59 03.7**	**-0.5**
KNRA	**Kununurra**	**24.45**	**112**	P	**P**	**20 59 05.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**26.30**	**346**	P	**P**	**20 59 19.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=181,slow=9.0,SNR=2.7						
WB0	**Warramunga Arr**	**30.83**	**117**	P	**P**	**21 00 02.0**	**+0.5**
WB0				IAmb	IAmb	21 00 08.8	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**30.85**	**117**	P	**P**	**21 00 03.2**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=290,slow=11,SNR=12						
WRA	**Warramunga Arr**	**30.85**	**117**	P	**P**	**21 00 01.7**	**+0.1**
WRAB	**Tennant Creek**	**30.85**	**117**	P	**P**	**21 00 03.6**	**+2.0**
WB2	**Warramunga Arr**	**30.86**	**117**	P	**P**	**21 00 02.8**	**+1.1**
WB2				IAmb	IAmb	21 00 04.3	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**31.03**	**117**	P	**P**	**21 00 05.1**	**+1.9**
WR0				IAmb	IAmb	21 00 06.7	
	comp=Z,5.7nm,1.2s						
ASAR	**Alice Springs**	**31.93**	**124**	P	**P**	**21 00 12.3**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=304,slow=7.8,SNR=8.9						
COEN	**Coen**	**37.78**	**103**	P	**P**	**21 01 00.3**	**-1.3**
BBOO	**Buckleboo**	**38.23**	**136**	P	**P**	**21 01 06.5**	**+1.3**
STKA	**Stephens Creek**	**41.74**	**131**	P	**P**	**21 01 37.4**	**+3.0**
	comp=Z,2.1nm,0.6s,baz=292,slow=7.9,SNR=9.6						
STKA	**Stephens Creek**	**41.74**	**131**	P	**P**	**21 01 37.1**	**+2.7**
JNU	**Nakatsue**	**46.93**	**30**	P	P	21 02 06.5	-9.3
	comp=Z,23nm,0.7s,baz=179,slow=13,SNR=1.9						
ARMA	**Armidale**	**49.08**	**124**	P	**P**	**21 02 32.7**	**0.0**
KSRS	**Korea Array**	**49.23**	**24**	P	P	21 02 26.6	-6.9
	comp=Z,0.2nm,0.3s,baz=153,slow=13,SNR=1.8						
MJAR	**Matsushiro Arr**	**53.37**	**33**	P	P	21 02 56.9	-7.7
	comp=Z,1.5nm,0.5s,baz=221,slow=9.3,SNR=1.8						
SONM	**Songino Array**	**54.84**	**1**	P	**P**	**21 03 12.0**	**-3.3**
	comp=Z,0.3nm,0.4s,baz=179,slow=9.8,SNR=2.5						
MK31	**Makanchi Array**	**57.56**	**341**	P	**P**	**21 03 33.7**	**-0.9**
MK31				IAmb	IAmb	21 04 04.4	
	comp=Z,2.5nm,1.5s						
MKAR	**Makanchi Array**	**57.56**	**341**	P	**P**	**21 03 34.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=159,slow=8.4,SNR=9.4						
ZALV	**Zalesovo Beam**	**63.36**	**347**	P	**P**	**21 04 11.3**	**-2.7**
	comp=Z,0.8nm,0.4s,baz=139,slow=2.8,SNR=4.4						
BRVK	**Borovoye**	**67.01**	**338**	P	**P**	**21 04 37.7**	**0.0**
BRVK				IAmb	IAmb	21 04 38.4	
	comp=Z,4.6nm,1.6s						
ABKAR	**Akbulak array**	**68.77**	**330**	P	**P**	**21 04 48.7**	**-0.1**
ABKAR				IAmb	IAmb	21 04 50.2	
	comp=Z,3.3nm,0.7s						
ABKAR	**Akbulak array**	**68.77**	**330**	P	**P**	**21 04 49.1**	**+0.3**
FINES	**FINESS Array B**	**91.19**	**332**	P	**P**	**21 06 52.0**	**+2.4**
	comp=Z,1.6nm,1.1s,baz=108,slow=6.2,SNR=5.2						
ARCES	**ARCESS Array B**	**93.18**	**340**	P	**P**	**21 06 58.3**	**-0.4**
	comp=Z,2.6nm,1.0s,baz=80,slow=7.4,SNR=1.6						
TXAR	**Lajitas Array**	**144.97**	**47**	PKP	**PKPdf**	**21 13 22.3**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=350,slow=2.7,SNR=4.0						

*IDC **12** 21:00:19.6±0.7,29°.26N×130°.61E,h0km,mb3.7/15, mb1 3.9/18,mb1mx3.7/48,mbtmp3.7/18,ML3.1/3,MS3.9/4, Ms1 3.9/4,ms1mx3.0/92,Error ellipse: s-maj=23.3km s-min=14.9km az=94.0*
*NEIC **12** 21:00:21.8±1.2,29°.25N±0°.07×130°.6E±0°.1,h10km±1km, mb4.3/14,Error ellipse: s-maj=18.5km s-min=9.0km az=117.0*
*JMA **12** 21:00:23.9±0.1,29°.26N×130°.61E,h66km±3km,M3.4*
ISC 12 21:00:24.8±0.6,**29°.25N**±0°.05×**130°.62E**±0°.06,**h34**km,**n69,** σ0**°70**/72,**mb4.0**/30,**MS4.0**/4,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.88**	**312**	P	**Pn**	**21 00 40.4**	**-0.3**
JNN				*eS*	**Sb**	**21 00 53.8**	**+0.7**
JYAK	**Yakushimahirau**	**0.99**	**355**	P	**Pn**	**21 00 42.0**	**-0.3**
JYAK				*eS*	**Sn**	**21 00 55.0**	**0.0**
JZK	**Kikaishima**	**1.09**	**211**	P	**Pn**	**21 00 43.8**	**+0.1**
JMTN	**Minamitane**	**1.17**	**12**	P	**Pn**	**21 00 44.3**	**-0.4**
JAM	**Amami Oshima**	**1.22**	**227**	P	**Pn**	**21 00 45.0**	**-0.4**
JTAJ	**Takarajima**	**1.24**	**266**	P	**Pn**	**21 00 45.5**	**-0.2**
JKC	**Kuchinoerabu**	**1.26**	**343**	P	**Pn**	**21 00 45.6**	**-0.4**
JTN	**Tanegashima 3**	**1.43**	**13**	P	**Pn**	**21 00 48.1**	**-0.3**
JAMN	**Amaminishikomi**	**1.62**	**232**	P	**Pn**	**21 00 50.6**	**-0.3**
JTSR	**Tashiro 2**	**1.93**	**8**	P	**Pn**	**21 00 55.2**	**0.0**
JTK	**Tokunoshima**	**2.07**	**226**	P	**Pn**	**21 00 57.0**	**-0.1**
JSU	**Suzuyama**	**2.25**	**356**	P	**Pn**	**21 00 59.2**	**-0.5**
JSU	**Suzuyama**	**2.25**	**356**	Pn	Pn	21 00 59.4	-0.3
JNAR	**Kushima--Naru**	**2.34**	**14**	P	**Pn**	**21 01 01.3**	**+0.5**
JOW	**Kunigami**	**3.18**	**221**	Pn	**Pn**	**21 01 11.9**	**-0.5**
	4.2nm,0.3s,baz=162,slow=15,SNR=2.3						
JOW				Sn	**Sn**	**21 01 49.2**	**+0.1**
	13nm,0.3s,baz=138,slow=26,SNR=6.4						
JOW	**Kunigami**	**3.18**	**221**		**Pn**	**21 01 11.6**	**-0.7**
JOW				Sn	**Sn**	**21 01 50.1**	**+1.0**
JNU	**Nakatsue**	**3.87**	**3**	Pn	**Pn**	**21 01 22.3**	**+0.4**
	1.2nm,0.3s,baz=187,slow=22,SNR=34						
JNU				Sn	**Sn**	**21 02 04.5**	**-1.6**
	2.2nm,0.3s,baz=30,slow=20,SNR=2.1						
JNU	**Nakatsue**	**3.87**	**3**		**Pn**	**21 01 22.1**	**+0.3**
JMN	**Monobe**	**5.26**	**31**	Pn	**Pn**	**21 01 40.4**	**-0.6**
JHS	**Saijyo**	**6.11**	**20**	Pn	**Pn**	**21 01 52.4**	**-0.3**
INU	**Inuyama**	**8.14**	**40**	Pn	**Pn**	**21 02 22.5**	**+2.0**
ENH	**Enshi**	**18.38**	**278**	P	**Pn**	**21 04 37.4**	**+0.4**
KLR	**Kul'dur**	**19.97**	**2**	P	**P**	**21 04 52.4**	**-1.7**
	0.1nm,0.3s,baz=210,slow=5.8,SNR=2.6						
SONM	**Songino Array**	**26.34**	**321**	P	**P**	**21 05 59.2**	**+1.6**
	1.2nm,0.8s,baz=130,slow=10.0,SNR=4.7						
SONM	**Songino Array**	**26.34**	**321**	P	**P**	**21 05 59.3**	**+1.6**
ODAN	**Odare**	**38.07**	**277**	*eP*	**P**	**21 07 39.8**	**-0.8**
	11nm,0.6s						
JIRN	**Jiri**	**38.92**	**279**	*eP*	**P**	**21 07 48.1**	**+0.2**
	5.2nm,0.9s						
GUN	**Gumba**	**39.13**	**279**	*eP*	**P**	**21 07 49.9**	**+0.3**
	12nm,0.6s						
PKI	**Pulchoki**	**39.62**	**279**	*eP*	**P**	**21 07 53.1**	**-0.6**
	9.8nm,0.8s						
PKIN	**Phulchoki**	**39.62**	**279**	*eP*	**P**	**21 07 52.6**	**-1.1**
	4.6nm,0.5s						
KKN	**Kakani**	**39.68**	**279**	*eP*	**P**	**21 07 53.9**	**-0.1**
DMN	**Daman**	**39.87**	**279**	*eP*	**P**	**21 07 55.4**	**-0.3**
GKN	**Gorkha**	**40.18**	**280**	*eP*	**P**	**21 07 57.6**	**-0.6**
	5.3nm,0.6s						
DANN	**Dangsing**	**40.86**	**281**	*eP*	**P**	**21 08 03.8**	**-0.1**
	16nm,0.8s						
KOLN	**Koldanda**	**41.13**	**280**	*eP*	**P**	**21 08 05.5**	**-0.5**
MKAR	**Makanchi Array**	**41.20**	**309**	P	**P**	**21 08 04.6**	**-1.6**
	0.2nm,0.4s,baz=92,slow=10,SNR=4.8						
MKAR				PcP	**PcP**	**21 10 06.0**	**+1.2**
	0.2nm,0.6s,baz=67,slow=3.7,SNR=2.0						
MKAR				LR	LR	21 26 32.4	
	comp=Z,84nm,18.2s,baz=116,slow=38						
MKAR	**Makanchi Array**	**41.20**	**309**	P	**P**	**21 08 05.8**	**-0.4**
ZALV	**Zalesovo Beam**	**41.22**	**320**	P	**P**	**21 08 05.0**	**-1.1**
	0.4nm,0.4s,baz=97,slow=4.8,SNR=2.1						
PYUN	**Piuthan**	**41.58**	**280**	*eP*	**P**	**21 08 09.6**	**-0.1**
	14nm,0.8s						
MTN	**Manton Dam**	**41.85**	**179**	P	**P**	**21 08 11.0**	**-0.7**
KURK	**Kurchatov**	**44.17**	**314**	P	**P**	**21 08 29.8**	**-0.3**
KURK				IAmb	IAmb	21 08 31.4	
	comp=Z,2.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**47.32**	**186**	P	**P**	**21 08 55.3**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=342,slow=3.2,SNR=1.6						
FITZ	**Fitzroy Crossi**	**47.32**	**186**	P	**P**	**21 08 55.7**	**+0.4**
FITZ				IAmb	IAmb	21 09 03.4	
	comp=Z,5.6nm,1.2s						
WB0	**Warramunga Arr**	**48.87**	**175**	P	**P**	**21 09 06.7**	**-0.5**
WRA	**Warramunga Arr**	**49.04**	**175**	P	**P**	**21 09 08.1**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=354,slow=8.0,SNR=6.4						
WRA	**Warramunga Arr**	**49.04**	**175**	P	**P**	**21 09 07.2**	**-1.3**
KKAR	**Karatay Array**	**49.46**	**303**	P	**P**	**21 09 12.1**	**+0.4**
BRVK	**Borovoye**	**49.56**	**316**		**P**	**21 09 11.4**	**-0.8**
BRVK				IAmb	IAmb	21 09 21.8	
	comp=Z,3.5nm,1.0s						
ASAR	**Alice Springs**	**52.71**	**176**	P	**P**	**21 09 36.2**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=2.3,slow=9.4,SNR=8.4						
ABKAR	**Akbulak array**	**56.17**	**312**		**P**	**21 10 01.0**	**-0.1**
ABKAR	**Akbulak array**	**56.17**	**312**	P	**P**	**21 10 00.7**	**-0.4**
ABKAR				IAmb	IAmb	21 10 02.1	
	comp=Z,3.0nm,0.8s						
AKTO	**Aktyubinsk**	**57.26**	**313**	LR	LR	21 36 41.1	
	comp=Z,99nm,20.9s,baz=101,slow=38						
J20K	**Nowinta River**	**57.69**	**30**	P	**P**	**21 10 11.8**	**+0.2**
J20K				IAmb	IAmb	21 10 24.0	
	comp=Z,5.7nm,1.2s						
K20K	**Telida**	**57.74**	**31**	P	**P**	**21 10 12.5**	**+0.5**
K20K				IAmb	IAmb	21 10 14.1	
	comp=Z,4.6nm,1.2s						
ILAR	**Eielson Array**	**60.78**	**29**	P	**P**	**21 10 32.7**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=286,slow=7.0,SNR=3.2						
INK	**Inuvik**	**65.28**	**24**	P	**P**	**21 11 02.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=270,slow=3.0,SNR=2.4						
A36M	**Sachs Harbour**	**66.70**	**19**	P	**P**	**21 11 12.3**	**+0.5**
C36M	**Paulatuk**	**68.12**	**22**	P	**P**	**21 11 21.2**	**+0.4**
C36M				IAmb	IAmb	21 11 21.9	
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**68.90**	**309**	P	**P**	**21 11 26.7**	**+0.5**
	comp=Z,2.0nm,0.9s,baz=141,slow=3.5,SNR=5.4						
FINES	**FINESS Array B**	**71.28**	**331**	P	**P**	**21 11 40.0**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=46,slow=11,SNR=4.2						
FINES	**FINESS Array B**	**71.28**	**331**	P	**P**	**21 11 40.3**	**-0.1**
RES	**Resolute Bay**	**72.19**	**11**	LR	LR	21 44 03.7	
	comp=Z,98nm,21.5s,baz=260,slow=36						
AKASG	**Malin Array Be**	**74.61**	**320**	P	**P**	**21 11 59.5**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=56,slow=5.9,SNR=4.5						
YKA	**Yellowknife Ar**	**74.90**	**26**	P	**P**	**21 12 01.9**	**0.0**
	comp=Z,0.7nm,1.0s,baz=302,slow=5.9,SNR=6.6						
BRTR	**Keskin Array B**	**76.85**	**308**	P	**P**	**21 12 14.1**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=205,slow=32,SNR=2.9						
BURAR	**Bucovina Array**	**78.41**	**318**	P	**P**	**21 12 22.4**	**+0.3**
BURAR				IAmb	IAmb	21 12 24.4	
	comp=Z,0.9nm,0.9s						
SFJD	**Kangerlussuaq**	**84.05**	**0**	LR	LR	21 51 43.5	
	comp=Z,141nm,20.6s,baz=298,slow=37						
NVAR	**Mina Array Bea**	**86.90**	**47**	P	**P**	**21 13 07.2**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=316,slow=6.2,SNR=3.8						
PDAR	**Pinedale Array**	**89.49**	**40**	P	**P**	**21 13 19.1**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=218,slow=7.0,SNR=4.2						

*ATH **12** 21:29:57.9,39°.30N×26°.32E,h21km±2km,ML2.6/6,Error ellipse: s-maj=3.8km s-min=1.5km az=256.0*
*IASPEI **12** 21:29:59.0±0.9,39°.26N±0°.02×26°.25E±0°.03,h18km±2km, Error ellipse: s-maj=3.9km s-min=2.5km az=74.5,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISK **12** 21:29:58.2,39°.25N×26°.27E,h10km,ML2.6/18*
*DDA **12** 21:29:58.6±0.0,39°.24N×26°.23E,h10km±2km,ML2.5*
*THE **12** 21:29:59.5,39°.27N×26°.16E,h11km±1km,ML2.5/5,Error ellipse: s-maj=1.5km s-min=0.7km az=87.0*
ISC 12 21:29:59.1±0.9,**39°.26N**±0°.02×**26°.25E**±0°.02,**h18**km±3km, **n63,** σ0**°81**/105,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.02**	**138**	P	**Pg**	**21 30 02.2**	**0.0**
PRK				S	**Sg**	**21 30 04.2**	**-0.2**
PRK				AML	AML	21 30 04.3	
	comp=N,24606μm,0.3s						
PRK				AML	AML	21 30 04.8	
	comp=E,7406μm,0.2s						
PRK	**Paraskevi**	**0.02**	**138**	P	**Pg**	**21 30 02.2**	**0.0**
PRK				S	**Sg**	**21 30 03.9**	**-0.4**
	comp=E,9μm,0.3s						
GPNR	**Gulpinar-Canak**	**0.21**	**335**	PG	**Pg**	**21 30 03.3**	**-0.9**
GPNR				SG	**Sg**	**21 30 07.5**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.25**	**340**	P	**Pb**	**21 30 04.6**	**-0.5**
KOCA				S	**Sb**	**21 30 08.8**	**-0.2**
KOCA				*i* AML	AML	21 30 09.0	
	comp=E,658nm,0.3s						
KOCA				*i* AML	AML	21 30 09.0	
	comp=E,710nm,0.2s						
AYVA	**Ayvalik**	**0.34**	**82**	P	**Pb**	**21 30 06.3**	**-0.4**
AYVA				S	**Sb**	**21 30 11.4**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.53**	**26**	P	**Pb**	**21 30 10.0**	**+0.2**
BAYC				S	**Sb**	**21 30 17.3**	**+0.2**
DKL	**Dikili**	**0.54**	**110**	PG	**Pg**	**21 30 09.2**	**-0.7**
EZN	**Ezine**	**0.56**	**6**	P	**Pb**	**21 30 10.1**	**-0.3**
EZN				S	**Sb**	**21 30 18.2**	**+0.2**
EZN	**Ezine**	**0.56**	**6**	PG	**Pg**	**21 30 09.9**	**-0.4**
EZN				SG	**Sb**	**21 30 18.2**	**+0.2**
BOZC	**Bozcaada**	**0.60**	**345**	PG	**Pg**	**21 30 10.4**	**-0.6**
BOZC				SG	**Sb**	**21 30 19.5**	**+0.5**
BOZC	**Bozcaada**	**0.60**	**345**	P	**Pg**	**21 30 10.3**	**-0.6**
BOZC				P	**Pg**	**21 30 10.4**	**-0.6**
BOZC				S	**Sb**	**21 30 19.1**	**+0.1**
BOZC				S	**Sb**	**21 30 19.1**	**+0.1**
FOCM	**Foa**	**0.67**	**146**	PG	**Pg**	**21 30 11.1**	**-1.1**
BUHA	**Balikesir, Bur**	**0.68**	**69**	P	**Pb**	**21 30 12.2**	**-0.2**
BUHA				S	**Sb**	**21 30 21.6**	**+0.1**
ZEDA	**zmir-Bergama**	**0.71**	**115**	P	**Pb**	**21 30 12.9**	**+0.1**
ZEDA				S	**Sb**	**21 30 22.9**	**+0.7**
ECEA	**Canakkale, Ece**	**0.78**	**356**	P	**Pb**	**21 30 14.1**	**0.0**
ECEA				S	**Sb**	**21 30 24.8**	**+0.4**
ECEA				*i* AML	AML	21 30 27.0	
	comp=E,194nm,0.4s						
CHOS	**Chios island**	**0.89**	**190**	P	**Pg**	**21 30 15.5**	**-0.9**
CHOS				S	**Sb**	**21 30 28.5**	**+0.9**
CHOS				AML	AML	21 30 31.4	
	comp=E,1492μm,0.2s						
CHOS				AML	AML	21 30 31.4	
	comp=N,1004μm,0.2s						
CHOS	**Chios island**	**0.89**	**190**	P	**Pg**	**21 30 15.4**	**-0.9**
CHOS				S	**Sb**	**21 30 28.4**	**+0.9**
	comp=N,625nm,0.2s						
PSRA	**Psara**	**0.90**	**217**	P	**Pb**	**21 30 16.7**	**+0.7**
PSRA				AML	AML	21 30 31.2	
	comp=E,2790μm,0.4s						
PSRA				AML	AML	21 30 31.4	
	comp=N,2301μm,0.2s						
URLA	**Izmir**	**0.94**	**163**	PG	**Pg**	**21 30 16.3**	**-1.1**
URLA				SG	**Sb**	**21 30 29.6**	**+0.6**
URLA	**Izmir**	**0.94**	**163**	P	**Pg**	**21 30 16.4**	**-0.9**
URLA				S	**Sg**	**21 30 28.8**	**-0.9**
GOKA	**anakkale-Gk**	**0.96**	**344**	P	**Pg**	**21 30 17.1**	**-0.7**
GOKA				S	**Sn**	**21 30 31.3**	**+0.4**
GOKA				*i* AML	AML	21 30 32.0	
	comp=N,171nm,0.3s						
GOKA				*i* AML	AML	21 30 32.0	
	comp=N,298nm,0.2s						
LIA	**Limnos Island**	**1.04**	**308**	P	**Pb**	**21 30 18.3**	**-0.1**
LIA				S	**Sb**	**21 30 32.6**	**+0.8**
LIA				AML	AML	21 30 33.6	
	comp=E,430μm,0.3s						
LIA				AML	AML	21 30 33.9	
	comp=N,689μm,0.3s						
LIA	**Limnos Island**	**1.04**	**308**	P	**Pb**	**21 30 18.4**	**-0.1**
LIA				S	**Sg**	**21 30 32.0**	**-0.9**
	comp=N,280nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**1.04**	**169**	P	**Pg**	**21 30 18.0**	**-1.3**
ZEYE				S	**Sg**	**21 30 31.0**	**-2.0**
ZEYE				*i* AML	AML	21 30 36.0	
	comp=N,131nm,0.3s						
ZEYE				*i* AML	AML	21 30 39.0	
	comp=N,118nm,0.3s						
STEP	**BALIKESIR_Sava**	**1.14**	**84**	P	**Pn**	**21 30 21.0**	**+0.8**
STEP				S	**Sn**	**21 30 36.6**	**+1.2**
STEP				*i* AML	AML	21 30 39.0	
	comp=N,105nm,0.5s						
STEP				*i* AML	AML	21 30 39.0	
	comp=N,94nm,0.5s						
GELI	**Tayfur-Gelibol**	**1.15**	**9**	PN	**Pb**	**21 30 20.0**	**-0.3**
BALY	**Balya**	**1.16**	**65**	P	**Pn**	**21 30 20.7**	**+0.3**
BALY				S	**Sn**	**21 30 36.9**	**+1.0**
LPK	**Lapseki**	**1.18**	**19**	PN	**Pb**	**21 30 20.8**	**0.0**
AKHS	**Akhisar**	**1.28**	**107**	P	**Pg**	**21 30 23.3**	**-0.4**
DGB	**zmir**	**1.31**	**158**	P	**Pn**	**21 30 22.6**	**+0.3**
DGB				S	**Sb**	**21 30 39.7**	**+0.2**
SMTH	**Samothraki Isl**	**1.33**	**336**	P	**Pn**	**21 30 22.4**	**-0.3**
SMTH				AML	AML	21 30 41.4	
	comp=N,79μm,0.2s						
SMTH				AML	AML	21 30 41.7	
	comp=E,62μm,0.2s						
SMTH	**Samothraki Isl**	**1.33**	**336**	P	**Pn**	**21 30 22.4**	**-0.3**
SMTH				S	**Sb**	**21 30 40.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.36**	**54**	PN	**Pb**	**21 30 23.6**	**-0.3**
KRBG	**Karabiga-Canak**	**1.39**	**35**	PN	**Pn**	**21 30 23.7**	**+0.2**
KNL	**Balıkesir**	**1.41**	**44**	P	**Pn**	**21 30 23.8**	**+0.1**
KNL				S	**Sg**	**21 30 43.8**	**-0.7**
ERIK	**Erikli-Kesan**	**1.42**	**8**	PN	**Pn**	**21 30 24.3**	**+0.4**
CAVK	**Edirne/Enez-Ca**	**1.43**	**357**	P	**Pn**	**21 30 24.6**	**+0.5**
CAVK				S	**Sb**	**21 30 43.5**	**+0.5**
ENEZ	**Enez**	**1.47**	**357**	P	**Pn**	**21 30 25.2**	**+0.5**
ENEZ				S	**Sn**	**21 30 44.4**	**+0.9**
	comp=E,110nm,0.6s						
ENEZ	**Enez**	**1.47**	**357**	PN	**Pn**	**21 30 25.4**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.59**	**26**	PN	**Pn**	**21 30 27.2**	**+0.8**
SART	**Tekirdag**	**1.59**	**26**	P	**Pb**	**21 30 27.6**	**-0.4**
SART				S	**Sg**	**21 30 49.2**	**-1.3**
SART				*i* AML	AML	21 30 50.0	
	comp=E,56nm,0.3s						
SART				*i* AML	AML	21 30 50.0	
	comp=E,71nm,0.3s						
SMG	**Samos**	**1.62**	**163**	P	**Pb**	**21 30 28.6**	**+0.2**
SMG				S	**Sg**	**21 30 50.2**	**-1.1**
	comp=E,108nm,0.4s						
MAR6	**Marsite Statio**	**1.64**	**28**	PN	**Pn**	**21 30 27.8**	**+0.9**
ALN	**Alexandroupoli**	**1.64**	**355**	P	**Pn**	**21 30 27.1**	**+0.2**
ALN				AML	AML	21 30 51.8	
	comp=E,78μm,0.3s						
ALN				AML	AML	21 30 55.1	
	comp=N,49μm,0.3s						
ALN	**Alexandroupoli**	**1.64**	**355**	P	**Pn**	**21 30 27.0**	**0.0**
ALN				S	**Sn**	**21 30 48.1**	**+0.5**
ALN	**Alexandroupoli**	**1.64**	**355**	PN	**Pn**	**21 30 28.0**	**+1.0**
EDC	**Edincik**	**1.65**	**48**	PN	**Pn**	**21 30 27.5**	**+0.4**
MAR3	**Marsite Statio**	**1.68**	**28**	PN	**Pn**	**21 30 28.5**	**+1.0**
MRMA	**Marmara Adasi**	**1.69**	**37**	PN	**Pn**	**21 30 28.6**	**+0.9**
GZKV	**Gazikoy-Tekird**	**1.70**	**29**	PN	**Pn**	**21 30 28.5**	**+0.8**
GCAM	**G?zelcaml?**	**1.74**	**153**	P	**Pb**

JOW Kunigami 19.46 324 P Pn 22 17 51.9 +1.0
2.5nm,0.3s,baz=140,slow=11,SNR=8.4
JOW LR LR 22 23 53.1
comp=Z,217nm,20.8s,baz=90,slow=32
JOW Kunigami 19.46 324 P Pn 22 17 50.3 -0.6
JOW IAmb IAmb 22 17 54.8
comp=Z,50nm,0.9s
PMG Port Moresby 21.55 163 P P 22 18 11.4 -0.7
comp=Z,14nm,0.8s,baz=17,slow=9.0,SNR=3.2
PMG LR LR 22 26 27.2
comp=Z,180nm,18.6s,baz=294,slow=36
PMG Port Moresby 21.55 163 P P 22 18 11.3 -0.7
PMG IAmb IAmb 22 18 27.3
comp=Z,36nm,1.1s
LUWI Luwuk 21.85 237 P P 22 18 14.1 -1.1
YULB Yu-li 22.19 305 P 22 18 19.1 +0.2
YULB IAmb IAmb 22 18 44.4
comp=Z,34nm,1.4s
JSU Suzuyama 22.26 336 P P 22 18 19.4 -0.1
JSU IAmb IAmb 22 18 23.8
comp=Z,37nm,0.9s
TOLI2 Tolitoli 22.44 244 P P 22 18 20.1 -1.5
SSLB Suanglung 22.65 306 P P 22 18 24.2 +0.3
SSLB IAmb IAmb 22 18 25.8
comp=Z,23nm,0.8s
TPUB Ta-pu 22.68 304 P P 22 18 23.0 -1.2
MYLDM Lahad Datu 23.01 256 P P 22 18 28.7 +1.1
MYLDM IAmb IAmb 22 18 36.4
comp=Z,53nm,1.5s
JMN Monobe 23.18 345 P P 22 18 29.3 +0.1
JMN IAmb IAmb 22 18 36.2
comp=Z,30nm,0.9s
JNU Nakatsue 23.54 339 P P 22 18 32.5 0.0
comp=Z,16nm,0.9s,baz=160,slow=4.7,SNR=7.6
JNU Nakatsue 23.54 339 P P 22 18 32.1 -0.5
JNU IAmb IAmb 22 18 33.8
comp=Z,18nm,0.8s
JHS Saijyo 24.58 344 P P 22 18 41.7 -0.4
JHS IAmb IAmb 22 18 44.1
comp=Z,14nm,0.8s
JYT Yasato 24.76 359 P P 22 18 42.0 -1.7
MJAR Matsushiro Arr 25.19 355 P P 22 18 46.1 -1.6
comp=Z,3.1nm,0.5s,baz=98,slow=7.7,SNR=6.7
MJAR LR LR 22 27 13.4
comp=Z,83nm,19.8s,baz=165,slow=33
MJAR Matsushiro Arr 25.19 355 P P 22 18 46.0 -1.6
MAJO Matsushiro 25.19 355 P P 22 18 46.1 -1.5
MAJO IAmb IAmb 22 18 49.7
comp=Z,11nm,1.0s
JMM Marumori 26.39 360 P P 22 18 57.6 -0.9
JMM IAmb IAmb 22 19 05.2
comp=Z,23nm,0.9s
JSD Sado 26.67 355 P P 22 18 59.7 -1.3
KSRS Korea Array 28.48 338 P P 22 19 17.1 -0.1
comp=Z,2.0nm,0.7s,baz=168,slow=9.3,SNR=7.9
KSRS LR LR 22 29 07.7
comp=Z,174nm,20.6s,baz=145,slow=33
KSAR Wonju Array Be 28.49 338 P P 22 19 16.9 -0.3
NJ2 Nanjing 28.94 319 eP P 22 19 23.2 +1.8
NJ2 pmax pmax
comp=Z,12nm,0.6s
WB0 Warramunga Arr 31.59 192 P P 22 19 44.6 -0.3
CTA Charters Tower 31.69 170 LR LR 22 32 23.3
comp=Z,71nm,19.4s,baz=9.0,slow=36
WR0 Warramunga Arr 31.75 191 P P 22 19 45.7 -0.6
WB2 Warramunga Arr 31.77 192 P P 22 19 46.2 -0.3
WRA Warramunga Arr 31.78 192 P P 22 19 46.2 -0.4
comp=Z,3.3nm,0.8s,baz=12,slow=9.7,SNR=14
WRA PcP **PcP 22 22 38.3 +1.2**
comp=Z,0.2nm,0.3s,baz=1.4,slow=2.8,SNR=4.8
WRA Warramunga Arr 31.78 192 P P 22 19 45.8 -0.7
ASAJ Asahikawa 32.67 2 LR LR 22 32 05.6
comp=Z,73nm,21.7s,baz=168,slow=34
FITZ Fitzroy Crossi 32.93 207 LR LR 22 34 49.2
comp=Z,33nm,18.1s,baz=352,slow=39
FITZ Fitzroy Crossi 32.93 207 P P 22 19 55.9 -0.8
USRK Ussuriysk Ar. 33.61 348 P P 22 20 02.9 +0.5
comp=Z,2.9nm,0.8s,baz=171,slow=6.9,SNR=6.2
USRK LR LR 22 32 09.5
comp=Z,146nm,20.1s,baz=177,slow=33
USRK Ussuriysk Ar. 33.61 348 P P 22 20 02.1 -0.2
ENH Enshi 34.71 308 P P 22 20 12.0 -0.1
CN2 Changchun 34.98 340 eP P 22 20 14.0 -0.2
CN2 eS **S 22 25 40.2 -2.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,100nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,200nm,18.0s
HNS HongShan 35.01 322 ⇑P P 22 20 15.1 +0.6
HNS pmax pmax
comp=Z,13nm,0.8s
AS31 Alice Springs 35.48 191 P P 22 20 19.1 +0.4
ASAR Alice Springs 35.48 191 P P 22 20 19.4 +0.6
comp=Z,1.4nm,0.5s,baz=20,slow=12,SNR=23
ASAR PcP **PcP 22 22 48.8 +1.3**
comp=Z,0.6nm,0.9s,baz=15,slow=3.8,SNR=1.9
ASAR Alice Springs 35.48 191 P P 22 20 19.0 +0.2
YSS Yuzh-Sakhalins 35.51 2 P P 22 20 18.3 -0.3
BJT Baijiatuau 35.97 327 P P 22 20 23.0 +0.2
BJT IAmb IAmb 22 20 24.9
comp=Z,12nm,0.8s
BJI Beijing 35.98 327 P P 22 20 23.4 +0.5
BJI pmax pmax
comp=Z,15nm,1.1s
BNX BinXian 36.15 344 ⇑P P 22 20 25.3 +1.1
BNX pmax pmax
comp=Z,38nm,0.9s
BNX pmax pmax
comp=Z,370nm,3.8s
XAN Xi'an 36.90 313 P P 22 20 31.1 +0.2
XAN pP pP 22 20 41.3 -1.2
XAN pmax pmax
comp=Z,7.0nm,1.0s
XAN LR LR
comp=N,120nm,20.6s
XAN LR LR
comp=E,140nm,17.2s
XAN LR LR
comp=Z,200nm,19.9s
KLR Kul'dur 38.51 350 LR LR 22 34 19.8
comp=Z,134nm,20.9s,baz=164,slow=32
XLT XiLinHaoTe 38.87 331 eP P 22 20 47.6 +0.2
XLT pmax pmax
comp=Z,23nm,0.9s
XLT pmax pmax
comp=Z,72nm,3.9s
HHC Hu-ho-hao-te 39.11 324 eP P 22 20 51.0 +1.6
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,62nm,4.5s
PZH PanZhiHua 39.81 298 P P 22 20 57.0 +1.4
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,6.4s
BTO Baotou 39.86 322 eP P 22 20 58.1 +2.4
CM31 Chiang Mai Arr 41.10 285 P P 22 21 05.7 -0.4
CMAR Chiang Mai Arr 41.10 285 P P 22 21 07.6 +1.5
comp=Z,3.1nm,0.9s,baz=87,slow=6.1,SNR=12
CMAR PcP **PcP 22 23 06.5 +1.4**
comp=Z,0.9nm,0.7s,baz=96,slow=1.3,SNR=5.3
CMAR LR LR 22 36 25.2
comp=Z,43nm,20.9s,baz=100,slow=34
CMAR Chiang Mai Arr 41.10 285 P P 22 21 06.4 +0.3
LZH Lanzhou 41.53 313 eP P 22 21 10.7 +1.0
LZH pP pP 22 21 15.6 -5.9
LZH sP sP 22 21 19.1 -7.6
LZH pmax pmax
comp=Z,16nm,1.0s
DZM Mont Dzumac 41.61 143 LR LR 22 37 15.6
comp=Z,90nm,18.1s,baz=266,slow=34
DZM Mont Dzumac 41.61 143 P P 22 21 11.4 +1.2
HIA Hailar 41.68 339 P P 22 21 10.1 -0.3
STKA Stephens Creek 43.00 179 P P 22 21 20.9 -0.4
comp=Z,2.3nm,0.7s,baz=2.2,slow=4.7,SNR=6.2
STKA Stephens Creek 43.00 179 P P 22 21 21.4 +0.1
PETK Petropavlovsk- 43.76 15 LR LR 22 37 21.6
comp=Z,114nm,20.8s,baz=9.1,slow=33
GSI Gunungsitoli 44.16 260 P P 22 21 30.4 -0.6
BBOO Buckleboo 44.17 186 P P 22 21 30.9 +0.1
BBOO lAmb lAmb 22 21 53.6
comp=Z,19nm,1.4s
GTA Gaotai 45.87 315 ⇓P P 22 21 45.3 +0.8
GTA pP pP 22 21 54.3 -2.1
GTA sP pwP 22 22 00.0 -1.4
GTA PcP **PcP 22 23 22.6 +1.5**
GTA pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 46.13 329 P P 22 21 46.5 +0.2
ULN lAmb lAmb 22 21 48.8
comp=Z,7.0nm,0.8s
SONM Songino Array 46.45 328 P P 22 21 49.6 +0.7
comp=Z,4.0nm,0.7s,baz=135,slow=6.3,SNR=16
SONM PcP **PcP 22 23 22.9 0.0**
comp=Z,0.8nm,0.6s,baz=147,slow=2.9,SNR=3.2
SONM LR LR 22 41 56.1
comp=Z,168nm,18.4s,baz=158,slow=37
SONM Songino Array 46.45 328 P P 22 21 49.4 +0.5
SONM lAmb lAmb 22 21 54.7
comp=Z,4.1nm,0.9s
GOMU GeErMu 48.31 309 P P 22 22 05.0 +1.2
GOMU pP pP 22 22 08.4 -7.5
GOMU sP sP 22 22 12.8 -8.3
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU pmax pmax
comp=Z,46nm,5.9s
YAK Yakutsk 51.24 353 P P 22 22 24.5 -0.6
GUN Gumba 53.95 296 eP P 22 22 46.7 +0.4
comp=Z,8.7nm,0.7s
DANN Dangsing 55.86 297 eP P 22 23 00.3 +0.3
comp=Z,12nm,0.7s
WMQ Urumqi 55.94 316 eP P 22 23 01.4 +1.4
WMQ pP sP 22 23 11.9 -5.5
WMQ S **S 22 30 46.8 +2.2**
WMQ pmax pmax
comp=Z,16nm,1.1s
KOLN Koldanda 55.95 296 eP P 22 23 00.8 +0.3
comp=Z,12nm,0.9s
PYUN Piuthan 56.51 296 eP P 22 23 04.6 0.0
comp=Z,16nm,0.8s
BILL Bilibino 59.02 11 P P 22 23 20.4 -0.7
BILL lAmb lAmb 22 23 21.6
comp=Z,4.6nm,0.9s
MK31 Makanchi Array 60.46 318 P P 22 23 31.5 0.0
MKAR Makanchi Array 60.46 318 P P 22 23 32.0 +0.5
comp=Z,0.8nm,0.4s,baz=100,slow=9.3,SNR=28
MKAR LR LR 22 50 24.4
comp=Z,42nm,19.6s,baz=69,slow=37
MKAR Makanchi Array 60.46 318 P P 22 23 31.5 -0.1
MAKZ Makanchi 60.67 318 P P 22 23 33.3 +0.4
TIXI Tiksi 60.70 356 P P 22 23 32.1 -0.5
ZAA0 Zalesovo Array 61.24 326 P P 22 23 36.2 -0.4
ZALV Zalesovo Beam 61.24 326 P P 22 23 36.5 -0.1
comp=Z,2.3nm,0.5s,baz=110,slow=7.6,SNR=16
ZALV LR LR 22 49 59.1
comp=Z,81nm,21.0s,baz=80,slow=36
ZALV Zalesovo Beam 61.24 326 P P 22 23 36.3 -0.3
KSH Kashi 63.56 308 P P 22 23 54.6 +2.0
KSH pP sP 22 24 06.2 -3.8
KSH pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 63.84 321 P P 22 23 53.9 -0.1
BOOM Boomskoye usch 63.99 312 P P 22 23 55.5 +0.1
AAK Ala-Archa 65.07 312 LR LR 22 55 16.3
comp=Z,34nm,18.1s,baz=98,slow=38
AAK Ala-Archa 65.07 312 P P 22 24 02.5 +0.1
AAK lAmb lAmb 22 24 09.5
comp=Z,5.1nm,1.2s
NIL Nilore 65.24 302 P P 22 24 03.9 +0.3
DRK Karamyk 66.77 308 P P 22 24 13.6 0.0
DRK lAmb lAmb 22 24 26.2
comp=Z,5.9nm,1.0s
NRIK Noril'sk 67.00 342 P P 22 24 13.6 -0.5
comp=Z,5.0nm,0.8s,baz=124,slow=6.5,SNR=6.0
NRIK LR LR 22 55 02.2
comp=Z,77nm,18.2s,baz=149,slow=37
NRIK Noril'sk 67.00 342 P P 22 24 13.9 -0.2
NRIK lAmb lAmb 22 24 14.8
comp=Z,6.5nm,1.0s
O18K Koktuh Hills 67.23 29 P P 22 24 15.5 -0.3
BTK Batken 67.56 309 P P 22 24 19.3 +1.0
BTK lAmb lAmb 22 24 42.1
comp=Z,5.1nm,1.1s
KDAK Kodiak Island 67.99 32 LR LR 22 53 03.7
comp=Z,62nm,19.6s,baz=258,slow=35
KK31 Karatay Array 68.03 312 P P 22 24 21.3 +0.1
KKAR Karatay Array 68.03 312 P P 22 24 21.1 0.0
KBL Kabul 68.76 303 P P 22 24 25.7 -0.5
KBL lAmb lAmb 22 24 38.6
comp=Z,4.8nm,1.1s
CHGR Chuyangaron 68.77 307 P P 22 24 25.7 -0.3
BRVK Borovoye 69.37 323 P P 22 24 29.2 0.0
BRVK lAmb lAmb 22 24 31.1
comp=Z,6.8nm,0.9s
CAST Castle Rocks 69.68 26 P P 22 24 30.8 -0.3
CAST lAmb lAmb 22 24 31.6
comp=Z,6.4nm,0.8s
IMAR Indian Mountai 69.75 23 P P 22 24 31.4 +0.1
I21K Tanana 70.21 24 P P 22 24 34.6 +0.4
I21K lAmb lAmb 22 24 35.5
comp=Z,5.0nm,0.8s
WRH Wood River Hil 71.65 26 P P 22 24 42.2 -0.8
WRH lAmb lAmb 22 24 42.7
comp=Z,6.0nm,1.0s
H24K Noodor Dome 72.03 24 P P 22 24 45.0 -0.3
TOLK Toolik Lake Re 72.07 21 P P 22 24 46.0 +0.5
TOLK lAmb lAmb 22 24 46.9
comp=Z,6.6nm,0.9s
IL31 72.22 25 P P 22 24 44.9 -1.4
IL31 lAmb lAmb 22 24 45.5
comp=Z,4.1nm,0.7s
ILAR Eielson Array 72.22 25 P P 22 24 44.9 -1.5
comp=Z,3.5nm,0.7s,baz=251,slow=5.8,SNR=31
ILAR LR LR 22 54 43.7
comp=Z,32nm,19.7s,baz=258,slow=34
ILAR Eielson Array 72.22 25 P P 22 24 44.7 -1.6
RIDG Independent Ri 72.91 27 P P 22 24 50.2 -0.4
RIDG lAmb lAmb 22 24 51.5
comp=Z,11nm,1.0s
DOT Dot Lake 73.24 27 P P 22 24 51.9 -0.6
DOT lAmb lAmb 22 24 53.3
comp=Z,7.4nm,0.8s
SCRK Sand Creek 73.33 26 P P 22 24 52.9 -0.2
BMAR Burnt Mountain 73.64 23 P P 22 24 55.6 +0.8
GRNC Granite Creek 73.97 30 P P 22 24 57.1 +0.1
GRNC lAmb lAmb 22 24 58.3
comp=Z,6.6nm,0.6s
M27K Edge Creek, AK 74.07 28 P P 22 24 57.4 -0.1
M27K lAmb lAmb 22 24 58.5
comp=Z,5.6nm,0.9s
BCAR Beaver Creek A 74.19 27 P P 22 24 58.0 0.0
HRA Herat 74.38 303 P P 22 24 59.6 -0.4
HRA lAmb lAmb 22 25 02.3
comp=Z,7.2nm,0.8s
ABKAR Akbulak array 75.60 318 P P 22 25 05.9 -0.5
ABKAR Akbulak array 75.60 318 P P 22 25 06.1 -0.3
ABKAR lAmb lAmb 22 25 07.4
comp=Z,3.5nm,0.8s
HYT Haines Junctio 76.05 30 P P 22 25 09.3 +0.4
HYT lAmb lAmb 22 25 10.7
comp=Z,6.8nm,0.8s
ARU Arti 76.39 325 LR LR 23 01 00.8
comp=Z,129nm,19.0s,baz=82,slow=37
M30M Minto, Yukon 76.44 28 P P 22 25 11.5 +0.5
M30M lAmb lAmb 22 25 16.0
comp=Z,5.8nm,1.2s
GEYT Alibeck 77.47 307 P P 22 25 17.4 +0.1
GEYT lAmb lAmb 22 25 24.5
comp=Z,4.8nm,1.0s
GYA0B ALIBECK ARRAY 77.47 307 P P 22 25 17.7 +0.4
GYA0B lAmb lAmb 22 25 24.4
comp=Z,4.4nm,0.8s
INK Inuvik 77.88 22 P P 22 25 18.2 -0.7
comp=Z,3.5nm,0.8s,baz=261,slow=6.6,SNR=12
INK Inuvik 77.88 22 P P 22 25 18.1 -0.7
INK lAmb lAmb 22 25 19.3
comp=Z,6.6nm,1.1s
DLBC Dease Lake 79.92 32 P P 22 25 30.0 -0.4
comp=Z,6.0nm,0.9s,baz=295,slow=8.6,SNR=7.3
DLBC Dease Lake 79.92 32 P P 22 25 30.3 -0.1
DLBC lAmb lAmb 22 25 32.2
comp=Z,5.7nm,0.8s
A36M Sachs Harbour 80.47 18 P P 22 25 32.6 -0.4
A36M lAmb lAmb 22 25 34.0
comp=Z,8.5nm,0.8s
C36M Paulatuk 81.22 21 P P 22 25 36.6 -0.4
C36M lAmb lAmb 22 25 37.4
comp=Z,5.4nm,0.9s
BBB Bella Bella 81.72 38 LR LR 22 58 53.3
comp=Z,66nm,19.3s,baz=270,slow=33
SPITS Spitsbergen Ar 85.59 350 LR LR 23 05 03.8
comp=Z,34nm,19.6s,baz=269,slow=36
YKA Yellowknife Ar 86.58 27 P P 22 26 04.7 +0.2
comp=Z,4.2nm,0.7s,baz=290,slow=5.3,SNR=51
YKA Yellowknife Ar 86.58 27 P P 22 26 03.7 -0.8
YBH Yreka Blue Hor 87.23 48 P P 22 26 09.3 +1.0
comp=Z,1.5nm,0.6s,baz=289,slow=5.0,SNR=7.3
RES Resolute Bay 87.58 13 P P 22 26 08.9 -0.2
comp=Z,2.3nm,0.7s,baz=311,slow=6.2,SNR=7.2
KBZ Khabaz 87.96 314 P P 22 26 11.7 +0.1
comp=Z,1.8nm,1.0s,baz=90,slow=9.1,SNR=3.8
ARCES ARCESS Array B 87.98 341 P P 22 26 10.1 -1.0
comp=Z,4.0nm,0.8s,baz=46,slow=6.9,SNR=8.8
ARCES LR LR 23 08 10.6
comp=Z,35nm,20.5s,baz=62,slow=37
ARCES ARCESS Array B 87.98 341 P P 22 26 09.8 -1.3
PINE Pine Mountain 88.03 46 P P 22 26 13.4 +1.2
BEKR Beckworth 89.40 50 P P 22 26 18.3 -0.4
NVAR Mina Array Bea 91.31 51 P P 22 26 28.0 +0.3
comp=Z,2.7nm,0.8s,baz=262,slow=6.6,SNR=17
FIA1 FINESS Array S 91.50 334 P P 22 26 25.8 -1.9
FINES FINESS Array B 91.51 334 P P 22 26 26.1 -1.6
comp=Z,6.3nm,0.6s,baz=54,slow=4.4,SNR=54
FINES FINESS Array B 91.51 334 P P 22 26 25.8 -1.9
ELK Elko 92.92 48 P P 22 26 35.9 +0.8
comp=Z,1.2nm,0.7s,baz=276,slow=10,SNR=5.2
ELK LR LR 23 01 10.6
comp=Z,26nm,20.4s,baz=292,slow=31
NOA NORSAR Array B 97.69 338 P P 22 26 55.2 -1.0
comp=Z,0.4nm,0.8s,baz=152,slow=7.6,SNR=1.5
TORD Torodi Ar. Bea 132.78 300 PKP PKPdf 22 32 35.9 -1.4
comp=Z,0.3nm,0.8s,baz=46,slow=2.9,SNR=2.5
LPAZ La Paz 151.39 103 PKPbc PKiKP 22 33 18.3 +1.0
comp=Z,2.9nm,0.5s,baz=280,slow=3.8,SNR=12

NEIC ***12*** *22:16:26.3±1.5, 29.°86S±0.°03×72.°12W±0.°06, h12km±2km, mb4.2/3, ML3.8(GUC), Error ellipse: s-maj=7.3km s-min=4.5km az=83.0*
GUC ***12*** *22:16:26.8±0.6, 29.°85S×72.°09W, h32km±8km, ML3.7*
ISC 12 22:16:25.6±1.6, 29.°86S±0.°04×72.°15W±0.°06, h10km±10km, n56, σ0°97/64, mb4.2/3, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
CO05	**La Serena**	**0.80**	**94**		**Pg**	**22 16 41.2**	**+0.2**
CO05				Sg	**Sg**	**22 16 51.2**	**-0.2**
CO06	**Fray Jorge**	**0.93**	**151**		**Pg**	**22 16 43.2**	**-0.2**
CO06				Sg	**Sg**	**22 16 55.8**	**+0.3**
CO06	**Fray Jorge**	**0.93**	**151**	*i* P	**Pg**	**22 16 43.2**	**-0.2**
CO06				*i* S	**Sg**	**22 16 55.5**	**0.0**
CO06				IAML		22 16 59.2	
	comp=E,5μm,0.1s						
GO04	**Tololo Observa**	**1.22**	**105**		**Pn**	**22 16 48.0**	**-0.9**
GO04				Sg	**Sb**	**22 17 03.5**	**-1.2**
GO04	**Tololo Observa**	**1.22**	**105**	*eP*	**Pn**	**22 16 47.9**	**-1.1**
GO04				*i* S	**Sb**	**22 17 02.8**	**-2.0**
LCO	**Las Campanas**	**1.52**	**57**		**Pn**	**22 16 53.7**	**+0.5**
CO03	**El Pedregal**	**1.60**	**128**		**Pn**	**22 16 53.9**	**-0.2**
CO02	**Combarbal**	**1.67**	**144**		**Pn**	**22 16 55.5**	**+0.4**
CO01	**Juntas del Tor**	**1.79**	**94**	Pn	**Pn**	**22 16 57.6**	**+0.8**
CO01				Sn	**Sn**	**22 17 20.0**	**+0.2**
CO01	**Juntas del Tor**	**1.79**	**94**	*eP*	**Pn**	**22 16 57.7**	**+0.8**
CO01				*i* S	**Sn**	**22 17 19.5**	**-0.3**
CO01				IAML		22 17 23.1	
	comp=N,1μm,0.3s						
AC04	**Llanos de Chal**	**1.90**	**30**	Pn	**Pn**	**22 16 58.3**	**+0.1**
AC04	**Llanos de Chal**	**1.90**	**30**	⇑*iP*	**Pn**	**22 16 58.2**	**+0.1**
VA06	**Catapilco**	**2.79**	**165**	Pn	**Pn**	**22 17 10.3**	**-0.1**
VA06	**Catapilco**	**2.79**	**165**	*eP*	**Pn**	**22 17 09.4**	**-0.9**
VA06				*eS*	**Sn**	**22 17 42.3**	**-1.8**
GO03	**Copiap**	**2.82**	**37**		**Pn**	**22 17 11.1**	**+0.2**
GO03	**Copiap**	**2.82**	**37**	*eP*	**Pn**	**22 17 11.0**	**+0.2**
GO03				IAML		22 18 02.8	
	comp=E,392nm,0.4s						
AC06	**Mina Casimiro**	**2.96**	**33**	Pn	**Pn**	**22 17 13.5**	**+0.9**
VA01	**Torpederas**	**3.18**	**172**		**Pn**	**22 17 16.0**	**+0.3**
VA03	**San Esteban**	**3.20**	**155**		**Pn**	**22 17 16.5**	**+0.4**
VA03	**San Esteban**	**3.20**	**155**	*eP*	**Pn**	**22 17 17.3**	**+1.2**
ROC1	**El Roble**	**3.25**	**163**		**Pn**	**22 17 14.9**	**-2.0**
ZON	**Zonda**	**3.43**	**120**		**Pn**	**22 17 21.4**	**+2.1**
MT02	**Curacav**	**3.50**	**166**		**Pn**	**22 17 19.5**	**-0.6**
MT02	**Curacav**	**3.50**	**166**	*eP*	**Pn**	**22 17 19.8**	**-0.3**
PEL	**Peldehue**	**3.50**	**159**		**Pn**	**22 17 19.4**	**-0.9**
MT05	**Renca**	**3.72**	**161**		**Pn**	**22 17 23.6**	**+0.4**
MT05	**Renca**	**3.72**	**161**	*eP*	**Pn**	**22 17 24.1**	**+0.9**
VA05	**Santo Domingo**	**3.81**	**173**		**Pn**	**22 17 24.4**	**0.0**
MT03	**Universidad Ad**	**3.88**	**159**		**Pn**	**22 17 26.1**	**+0.7**
MT03	**Universidad Ad**	**3.88**	**159**	*eP*	**Pn**	**22 17 27.8**	**+2.3**
AC01	**Pan de Azucar**	**3.95**	**21**		**Pn**	**22 17 25.5**	**-0.8**
AC01	**Pan de Azucar**	**3.95**	**21**	*eP*	**Pn**	**22 17 25.6**	**-0.7**
AC02	**Maricunga**	**4.02**	**42**	Pn	**Pn**	**22 17 29.9**	**+1.1**
AC02	**Maricunga**	**4.02**	**42**	⇑*iP*	**Pn**	**22 17 29.4**	**+1.6**
MT09	**Talagante**	**4.03**	**166**		**Pn**	**22 17 27.9**	**+0.4**
MT09	**Talagante**	**4.03**	**166**	*eP*	**Pn**	**22 17 28.6**	**+1.1**
MT01	**Popeta**	**4.06**	**169**		**Pn**	**22 17 27.6**	**-0.3**
MT01	**Popeta**	**4.06**	**169**	*eP*	**Pn**	**22 17 27.9**	**0.0**
LMEL	**Las Melosas**	**4.31**	**158**		**Pn**	**22 17 32.5**	**+1.2**
LMEL	**Las Melosas**	**4.31**	**158**	*eP*	**Pn**	**22 17 32.9**	**+1.6**
BO04	**La Punta**	**4.32**	**163**	Pn	**Pn**	**22 17 31.8**	**+0.4**
BO04	**La Punta**	**4.32**	**163**	*eP*	**Pn**	**22 17 32.5**	**+1.1**
BO01	**Tunca**	**4.61**	**169**	Pn	**Pn**	**22 17 34.6**	**-0.8**
BO02	**Sierra Bellavi**	**5.05**	**167**		**Pn**	**22 17 41.5**	**0.0**
BO02	**Sierra Bellavi**	**5.05**	**167**	*eP*	**Pn**	**22 17 41.9**	**+0.3**
GO05	**Huala**	**5.14**	**178**		**Pn**	**22 17 42.0**	**-0.6**
GO02	**Mina Guanaco**	**5.21**	**27**	Pn	**Pn**	**22 17 43.4**	**-0.4**
BI05	**Punta Hualpn**	**6.92**	**187**	Pn	**Pn**	**22 18 07.2**	**+0.1**
PB15	**IPOC Station P**	**7.05**	**21**	Pn	**Pn**	**22 18 08.5**	**-0.6**
LVC	**Limon Verde**	**7.79**	**23**	Pn	**Pn**	**22 18 17.9**	**-1.5**
LCO1	**Cunco**	**9.02**	**179**	Pn	**Pn**	**22 18 35.6**	**-0.3**
PLCA	**Paso Flores**	**10.93**	**174**	Pn	**Pn**	**22 19 02.0**	**-0.1**
LPAZ	**La Paz**	**14.01**	**16**	Pn	**Pn**	**22 19 47.1**	**+2.3**
SNAA	**Sanae**	**55.46**	**159**	P	**P**	**22 26 01.4**	**+1.2**
SNAA				lAmb	lAmb	22 26 24.3	
	comp=Z,6.5nm,1.4s						
QSPA	**South Pole Qui**	**60.36**	**180**	P	**P**	**22 26 35.5**	**+0.8**
QSPA				lAmb	lAmb	22 26 57.8	
	comp=Z,1.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.91**	**71**	P	**P**	**22 28 50.4**	**-0.7**
TORD				lAmb	lAmb	22 28 53.1	
	comp=Z,1.8nm,1.1s						

IDC ***12*** *22:34:15.1±0.4, 50.°71S×29.°19E, h0km, mb4.9/22, mb1 4.9/23, mb1mx4.7/34, mbtmp4.9/23, ML5.4/1, MS4.4/33, Ms1 4.3/33, ms1mx4.2/58, Error ellipse: s-maj=15.9km s-min=10.1km az=67.0*
BJI ***12*** *22:34:16.1±0.0, 50.°35S×28.°59E, h10km, mb5.7/3, mB5.6/2*
NEIC ***12*** *22:34:17.3±1.4, 50.°72S±0.°09×29.°2E±0.°2, h10km±1km, mb5.1/77, Error ellipse: s-maj=17.4km s-min=15.9km az=278.0*
GCMT ***12*** *22:34:19.3±0.2, 50.°67S±0.°01×29.°15E±0.°02, h12km±1km, MW5.1/110, Moment Tensor Solution. s58,c73; s110,c169; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.14±.13; Mθθ4.24±.15; Mϕϕ-3.10±.13; Mrθ1.44±.32; Mθϕ3.33±.11; Mϕr0.03±.29; Best double couple: M₀5.12700×10¹⁶ NP1:φ₁23.00000°, δ76.00000°, λ178.00000°. NP2:φ₂114.00000°, δ89.00000°, λ14.00000°. Principal axes: T 5.7900, Plg11.0000°, Azm339.0000°; N -1.3270, Plg76.0000°, Azm120.0000°; P -4.4640, Plg9.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 22:34:17.0±0.3, 50.°69S±0.°05×29.°17E±0.°07, h10km, n243, σ1°67/228, mb5.0/73, MS4.4/33, 2D, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
CRZF	**Crozet Islands**	**15.60**	**83**	Pn	**Pn**	**22 37 55.9**	**-0.8**
CRZF				lAmb	lAmb	22 38 03.4	
	comp=Z,91nm,0.8s						
KROM	**Kromhout**	**16.87**	**347**	*eP*	**Pn**	**22 38 14.1**	**+1.0**

KROM IAmb IAmb 22 38 17.5
comp=Z,72nm,0.8s
ROSN Rosenhof 16.92 347 *e*P **Pn 22 38 09.8 -3.9**
ROSN IAmb IAmb 22 38 18.2
comp=Z,49nm,0.8s
ELIM Elim 17.49 333 *e*P **Pn 22 38 18.3 -2.7**
ELIM IAmb IAmb 22 38 36.8
comp=Z,78nm,0.9s
SOE Somerset East 18.16 350 *e*P **Pn 22 38 26.9 -2.4**
SOE IAmb IAmb 22 38 55.1
comp=Z,47nm,0.8s
MATJ Matjiesfontein 18.53 337 *e*P **P 22 38 31.4 -2.2**
MATJ IAmb IAmb 22 38 36.1
comp=Z,134nm,0.7s
CER Ceres 18.78 334 *e*P **P 22 38 35.8 -0.5**
CER IAmb IAmb 22 38 39.0
comp=Z,71nm,1.2s
SYO Syowa Base 19.05 168‖ *e*P **P 22 38 36.2 -2.8**
SYO Syowa Base 19.05 168‖ *e*P **Pn 22 38 43.8 +4.1**
GRAN Grantham 19.09 342 *e*P **P 22 38 37.6 -2.2**
GRAN IAmb IAmb 22 38 42.2
comp=Z,83nm,0.6s
SUR Sutherland 19.31 338 P **P 22 38 41.8 -0.6**
comp=Z,14nm,0.3s,baz=143,slow=13,SNR=97
SUR S Sn 22 42 02.9 -17
comp=Z,1.7nm,0.3s,baz=197,slow=13,SNR=1.9
SUR LR LR 22 44 36.7
comp=Z,2µm,21.3s,baz=152,slow=32
SUR Sutherland 19.31 338 P **P 22 38 40.9 -1.4**
SUR IAmb IAmb 22 38 47.4
comp=Z,61nm,0.5s
SUR Sutherland 19.31 338 P **P 22 38 41.7 -0.6**
SUR P P **22 38 41.7 -0.6**
HVD Gariep Dam 20.25 351 *e*P **P 22 38 51.1 -1.4**
HVD IAmb IAmb 22 38 56.3
comp=Z,924nm,2.7s
CVNA Calvinia 20.43 336 *e*P **P 22 38 53.3 -1.1**
CVNA IAmb IAmb 22 38 59.0
comp=Z,442nm,2.1s
BOSA Boshof 22.25 351 P **P 22 39 13.5 -0.6**
comp=Z,90nm,0.7s,baz=171,slow=11,SNR=139
BOSA LR LR 22 46 17.8
comp=Z,2µm,20.9s,baz=168,slow=32
BOSA Boshof 22.25 351 *e*P **P 22 39 12.6 -1.5**
BOSA IAmb IAmb 22 39 14.6
comp=Z,92nm,0.8s
BOSA Boshof 22.25 351 P **P 22 39 12.5 -1.5**
SNKL Senekal, Frees 22.41 357 *e*P **P 22 39 15.1 -0.8**
SNKL IAmb IAmb 22 39 16.8
comp=Z,70nm,0.7s
KOMG Komaggas 22.64 333 *e*P **P 22 39 18.9 +0.8**
KEIM Keimoes 22.82 341 *e*P **P 22 39 18.3 -1.7**
KEIM IAmb IAmb 22 39 32.1
comp=Z,52nm,0.9s
NWCL Newcastle 22.93 2 *e*P **P 22 39 20.1 -1.2**
NWCL IAmb IAmb 22 39 26.2
comp=Z,32nm,0.8s
AUGR Augrabies 23.06 340 *e*P **P 22 39 21.3 -1.2**
AUGR IAmb IAmb 22 39 27.4
comp=Z,24nm,0.8s
UPI Upington 23.10 342 *e*P **P 22 39 20.9 -2.0**
UPI IAmb IAmb 22 39 36.2
comp=Z,29nm,0.8s
POGA Pongola 23.39 6 *e*P **P 22 39 23.0 -2.9**
POGA IAmb IAmb 22 39 43.2
comp=Z,28nm,0.6s
SWZ Schweizer 23.66 351 *e*P **P 22 39 26.4 -2.2**
SWZ IAmb IAmb 22 39 29.1
comp=Z,70nm,1.0s
MAW Mawson 23.72 148 P **P 22 39 29.1 +0.4**
comp=Z,33nm,0.7s,baz=299,slow=11,SNR=83
MAW S S **22 43 43.7 +0.3**
comp=Z,8.1nm,0.8s,baz=308,slow=22,SNR=2.0
MAW LR LR 22 46 38.2
comp=Z,992nm,21.7s,baz=310,slow=31
MAW Mawson 23.72 148 P **P 22 39 28.3 -0.4**
PRYS Parys 23.77 356 *e*P **P 22 39 28.3 -1.5**
PRYS IAmb IAmb 22 39 41.5
comp=Z,38nm,1.0s
WDLM Western Deep L 24.27 356 *e*P **P 22 39 33.6 -0.8**
WDLM IAmb IAmb 22 39 49.8
comp=Z,221nm,2.2s
CNG Changalane 24.48 7 *e*P **P 22 39 35.0 -1.1**
CNG IAmb IAmb 22 39 38.0
comp=Z,30nm,1.8s
TROLL Troll, Antarti 24.48 200 P **P 22 39 36.4 +0.4**
CRLN Carolina, Mapu 24.67 2 *e*P **P 22 39 36.6 -1.5**
CRLN IAmb IAmb 22 39 38.6
comp=Z,30nm,1.1s
KSR Koster 24.86 355 *e*P **P 22 39 38.7 -1.2**
KSR IAmb IAmb 22 39 53.2
comp=Z,39nm,0.9s
SLR Silverton 24.93 358 *e*P **P 22 39 38.8 -1.6**
SLR IAmb IAmb 22 39 51.0
comp=Z,43nm,1.0s
SNAA Sanae 25.49 203 P **P 22 39 45.4 +0.3**
SNAA Sanae 25.49 203 P **P 22 39 45.5 +0.5**
comp=Z,80nm,0.8s,baz=73,slow=7.8,SNR=61
SNAA LR LR 22 47 53.1
comp=Z,1µm,19.7s,baz=48,slow=32
SNAA Sanae 25.49 203 *e*P **P 22 39 44.7 -0.3**
SNAA Sanae 25.49 203 P **P 22 39 44.6 -0.4**
LBTB Lobatse 25.79 353 P **P 22 39 46.8 -1.3**
comp=Z,16nm,0.7s,baz=176,slow=9.3,SNR=18
LBTB LR LR 22 48 44.3
comp=Z,822nm,19.4s,baz=179,slow=34
LBTB Lobatse 25.79 353 *e*P **P 22 39 46.2 -1.9**
LBTB IAmb IAmb 22 39 54.0
comp=Z,21nm,0.8s
LBTB Lobatse 25.79 353 P **P 22 39 46.4 -1.7**
VNA2 Neumayer--Watz 26.27 206 P **P 22 39 52.5 +0.4**
baz=53,slow=10.0
VNA1 Neumayer--Stat 26.38 207 P **P 22 39 54.2 +1.2**
VNA3 Neumayer Olymp 27.07 206 P **P 22 39 59.2 0.0**
MOPA Mopani 27.18 4 *e*P **P 22 39 59.2 -1.4**
MOPA IAmb IAmb 22 40 06.7
comp=Z,10nm,0.8s
MSNA Messina 28.30 2 *e*P **P 22 40 09.3 -1.4**
MSNA IAmb IAmb 22 40 10.7
comp=Z,21nm,0.6s
MATP Matopo 30.21 359 P **P 22 40 26.6 -1.1**
comp=Z,14nm,0.7s,baz=179,slow=9.2,SNR=35
MATP LR LR 22 50 53.0
comp=Z,684nm,19.4s,baz=236,slow=33
BLWY Bulawayo 30.49 359 *e*P **P 22 40 28.4 -1.8**
BLWY IAmb IAmb 22 40 40.4
comp=Z,54nm,0.8s
VOI Vohitsoka 31.88 32 P **P 22 40 42.0 -0.5**
VOI IAmb IAmb 22 41 02.8
comp=Z,56nm,1.5s
TSUM Tsumeb 32.74 339 P **P 22 40 49.4 -0.6**
comp=Z,18nm,0.7s,baz=163,slow=10,SNR=22
TSUM LR LR 22 52 58.5
comp=Z,2µm,19.5s,baz=178,slow=34
TSUM Tsumeb 32.74 339 *e*P **P 22 40 48.8 -1.3**
TSUM IAmb IAmb 22 40 50.5
comp=Z,170nm,0.8s
TSUM Tsumeb 32.74 339 P **P 22 40 49.6 -0.4**
TSUM IAmb IAmb 22 40 50.8
comp=Z,21nm,0.8s
ABPO Ambohimpanom 34.71 31 P **P 22 41 07.1 -0.1**
ABPO IAmb IAmb 22 42 10.5
comp=Z,35nm,1.4s
OPO Ambohidratompo 35.11 31 LR LR 22 53 04.8
comp=Z,194nm,20.5s,baz=354,slow=32
LSZ Lusaka 35.33 358 LR LR 22 54 46.6
comp=Z,680nm,18.6s,baz=180,slow=35
LSZ Lusaka 35.33 358 P **P 22 41 11.9 -0.7**
LSZ IAmb IAmb 22 41 24.8
comp=Z,48nm,1.5s
BELA Belgrano 2 35.55 199 P **P 22 41 13.2 -0.5**
BELA IAmb IAmb 22 41 16.0
comp=Z,29nm,0.8s
HOPE Hope Point 38.85 238 P **P 22 41 42.5 +0.6**
QSPA South Pole Qui 39.53 180 P **P 22 41 46.9 -0.7**
comp=Z,53nm,0.7s,baz=251,slow=2.8,SNR=225
QSPA LR LR 22 56 53.8
comp=Z,302nm,21.6s,baz=240,slow=34
QSPA South Pole Qui 39.53 180 P **P 22 41 47.0 -0.7**
CASY Casey 41.90 143 P **P 22 42 06.7 -0.3**
PMSA Palmer Station 47.01 216 LR LR 22 58 44.5
comp=Z,472nm,20.2s,baz=120,slow=31
VNDA Vanda 48.75 168 P **P 22 43 00.6 -0.6**
comp=Z,11nm,0.7s,baz=241,slow=7.4,SNR=100
VNDA Vanda 48.75 168 P **P 22 43 00.6 -0.6**

VNDA IAmb IAmb 22 43 13.0
comp=Z,12nm,0.8s
SBA Scott Base 49.10 169 P **P 22 43 04.4 +0.5**
KMBO Kilima Mbogo 49.86 11 P **P 22 43 10.8 +0.2**
comp=Z,1.5nm,0.8s,baz=187,slow=5.6,SNR=2.6
KMBO LR LR 23 02 30.5
comp=Z,483nm,19.4s,baz=217,slow=34
KMBO Kilima Mbogo 49.86 11 P **P 22 43 11.6 +1.0**
KMBO Kilima Mbogo 49.86 11 P P 22 43 15.5 +4.9
MBAR Mbarara 49.92 2 LR LR 23 03 26.1
comp=Z,911nm,19.0s,baz=157,slow=35
MBAR Mbarara 49.92 2 P **P 22 43 11.3 +0.3**
MBAR IAmb IAmb 22 43 26.2
comp=Z,21nm,1.2s
MBAR Mbarara 49.92 2 P **P 22 43 14.4 +3.4**
LODK Lodwar 54.16 8 P **P 22 43 43.3 +0.9**
LODK Lodwar 54.16 8 P **P 22 43 47.2 +4.7**
SNR=5.0
GO08 Villa O'Higgin 60.67 228 P **P 22 44 28.6 +0.6**
COYC Coyhaique 62.48 231 P **P 22 44 40.5 +0.2**
COYC IAmb IAmb 22 44 47.3
comp=Z,14nm,1.1s
ATD Arta Tunnel 63.10 15 LR LR 23 10 07.1
comp=Z,257nm,20.4s,baz=168,slow=34
AY01 Puyuhuapi 63.58 232 P **P 22 44 47.3 -0.2**
AY01 IAmb IAmb 22 44 48.1
comp=Z,14nm,0.9s
LIC Lamto 63.90 322 *e*P **P 22 44 52.5 +2.5**
comp=Z,22nm,1.3s
KIC Kosan Boka 63.91 322 *e*P **P 22 44 52.3 +2.3**
comp=Z,13nm,1.0s
LL02 Futaleuf 64.06 233 P **P 22 44 50.0 -0.8**
LL02 IAmb IAmb 22 44 54.5
comp=Z,13nm,1.1s
NWAO Narrogin (SRO) 64.18 111 P **P 22 44 50.7 -1.1**
DBIC Dimbokro 64.24 322 P **P 22 44 51.6 -0.5**
comp=Z,7.6nm,0.6s,baz=164,slow=6.5,SNR=12
DBIC LR LR 23 08 12.8
comp=Z,108nm,20.5s,baz=158,slow=32
DBIC Dimbokro 64.24 322 *e*P **P 22 44 50.4 -1.8**
DBIC IAmb IAmb 22 45 02.1
comp=Z,140nm,2.5s
DBIC Dimbokro 64.24 322 P **P 22 44 52.4 +0.2**
TIC Toumodi 64.28 322 *e*P **P 22 44 54.0 +1.5**
GO07 Milladeo Hill, 65.04 232 P **P 22 44 56.4 -0.7**
ITQB Itaqui 65.12 253 P **P 22 44 57.8 -0.1**
PLCA Paso Flores 65.17 236 P **P 22 44 57.6 -0.5**
comp=Z,8.8nm,0.8s,baz=135,slow=7.5,SNR=17
PLCA LR LR 23 09 40.5
comp=Z,115nm,20.9s,baz=128,slow=33
PLCA Paso Flores 65.17 236 P **P 22 44 57.8 -0.4**
PLCA IAmb IAmb 22 44 58.9
comp=Z,11nm,0.9s
LL03 Petrohue 65.84 234 P **P 22 45 01.9 -0.5**
MORW Morawa 66.21 107 P **P 22 45 04.3 -0.6**
MORW IAmb IAmb 22 45 53.7
comp=Z,26nm,1.4s
SOCY Socotra 66.26 27 P **P 22 45 07.4 +2.1**
SOCY IAmb IAmb 22 46 57.3
comp=Z,13nm,1.0s
SOCY Socotra 66.26 27 P **P 22 45 04.7 -0.6**
LC01 Cunco 67.20 236 P **P 22 45 10.5 -0.6**
LC01 IAmb IAmb 22 45 11.5
comp=Z,14nm,0.9s
CPUP Villa Florida 67.96 255 P **P 22 45 15.6 -0.4**
comp=Z,3.9nm,0.7s,baz=126,slow=6.7,SNR=7.1
CPUP LR LR 23 10 17.3
comp=Z,96nm,21.4s,baz=140,slow=32
CPUP Villa Florida 67.96 255 P **P 22 45 15.7 -0.4**
CPUP IAmb IAmb 22 45 29.2
comp=Z,11nm,0.9s
TOA0 Torodi Ar. Sit 67.96 331 P **P 22 45 16.6 +0.6**
TOA0 IAmb IAmb 22 45 44.2
comp=Z,18nm,1.1s
TOA0 Torodi Ar. Sit 67.96 331 P **P 22 45 17.1 +1.1**
TORD Torodi Ar. Bea 67.96 331 P **P 22 45 16.6 +0.6**
comp=Z,4.3nm,0.8s,baz=168,slow=4.9,SNR=35
TORD LR LR 23 09 31.3
comp=Z,171nm,21.5s,baz=199,slow=31
TORD Torodi Ar. Bea 67.96 331 P **P 22 45 16.2 +0.2**
TORD IAmb IAmb 22 45 44.2
comp=Z,13nm,1.1s
BO02 Sierra Bellavi 69.64 240 P **P 22 45 27.1 +0.5**
BO02 IAmb IAmb 22 45 38.4
comp=Z,13nm,1.1s
RCBR Riachuelo 69.85 286 LR LR 23 10 09.7
comp=Z,121nm,19.0s,baz=274,slow=31
BDFB Brasilia 69.96 270 P **P 22 45 28.5 -0.3**
comp=Z,4.5nm,0.7s,baz=131,slow=2.1,SNR=7.9
BDFB Brasilia 69.96 270 P **P 22 45 28.8 +0.1**
BDFB IAmb IAmb 22 45 50.4
comp=Z,17nm,1.2s
LMEL Las Melosas 70.03 241 P **P 22 45 28.8 -0.2**
GO05 Huala 70.11 239 P **P 22 45 29.1 -0.3**
GO05 IAmb IAmb 22 45 42.1
comp=Z,15nm,1.1s
MT01 Popeta 70.59 240 P **P 22 45 32.2 -0.1**
MT01 IAmb IAmb 22 45 37.4
comp=Z,12nm,0.9s
PEL Peldehue 70.82 241 P **P 22 45 33.4 -0.4**
PEL IAmb IAmb 22 45 48.7
comp=Z,21nm,0.9s
ZON Zonda 70.88 244 P **P 22 45 34.0 -0.1**
MT02 Curacav 70.98 241 P **P 22 45 34.0 -0.7**
MT02 IAmb IAmb 22 45 47.5
comp=Z,12nm,1.0s
ABTO Aybut 71.00 24 P **P 22 45 39.2 +4.4**
VA03 San Esteban 71.03 241 P **P 22 45 34.8 -0.3**
VA03 IAmb IAmb 22 45 48.3
comp=Z,13nm,0.8s
KOWA Kowa 71.12 326 P **P 22 45 36.0 +0.5**
KOWA IAmb IAmb 22 46 09.5
comp=Z,28nm,1.4s
AQDB Aquidauana 71.24 260 P **P 22 45 36.4 0.0**
AQDB IAmb IAmb 22 45 48.6
comp=Z,14nm,1.2s
RBK Rabkut 71.38 25 P **P 22 45 39.3 +2.2**
WHFO Wadi Hawf 71.66 25 P **P 22 45 42.7 +3.9**
DMTO DMTO 71.79 26 P **P 22 45 42.4 +2.9**
FORT Forrest 72.04 117 P **P 22 45 41.0 0.0**
FORT IAmb IAmb 22 47 12.7
comp=Z,21nm,0.9s
SHAO Shalim 72.27 26 P **P 22 45 45.2 +2.9**
DOK Doka 72.42 25 P **P 22 45 46.7 +3.4**
CO03 El Pedregal 72.55 243 P **P 22 45 44.2 -0.1**
CO03 IAmb IAmb 22 45 53.4
comp=Z,34nm,1.6s
PALK Pallekele 72.81 54 LR LR 23 09 53.3
comp=Z,257nm,21.6s,baz=284,slow=29
CO01 Juntas del Tor 72.86 244 P **P 22 45 46.6 +0.3**
CO01 IAmb IAmb 22 46 00.4
comp=Z,14nm,0.8s
PCHI Peechi 73.44 49 *e*P **P 22 45 47.1 -2.3**
PCHI *e*S SKiKP 22 55 41.7 +21
PSA00 Pilbara Seismi 74.03 105 P **P 22 45 53.8 +0.8**
AC02 Maricunga 74.67 246 P **P 22 45 57.1 -0.2**
BBOO Buckleboo 74.90 123 P **P 22 45 57.6 -0.3**
MHTO MHTO 75.75 28 P **P 22 46 04.2 +1.5**
SNR=6.2
KASI Kota Agung 76.46 82 P P 22 46 19.2 +12
JMDO Jabal Madar 77.10 27 P **P 22 46 11.0 +0.7**
BSY Bisya 77.19 26 P **P 22 46 11.8 +1.0**
SNR=5.1
MZWR Madinat Zayed 77.28 23 P **P 22 46 11.6 +0.4**
JLN Jalan Bani Buh 77.28 29 P **P 22 46 15.1 +3.8**
ARQ Araqi 77.57 26 P **P 22 46 16.4 +3.5**
WBK Wadi Bani Khal 77.58 28 P **P 22 46 14.6 +1.5**
TRNA Turayna 77.59 20 P **P 22 46 16.1 +3.1**
SMDO Samad 77.73 27 P **P 22 46 14.8 +0.8**
LVC Limon Verde 77.74 249 LR LR 23 15 31.3
comp=Z,195nm,21.3s,baz=150,slow=32
LVC Limon Verde 77.74 249 P **P 22 46 14.5 -0.1**
LVC IAmb IAmb 22 46 34.1
comp=Z,11nm,0.8s
SIV San Ignacio 77.95 260 LR LR 23 15 09.8
comp=Z,263nm,21.5s,baz=148,slow=32
HOQ Hoqain 78.02 26 P **P 22 46 16.2 +0.8**
SNR=8.6
ALNE Al Ain 78.04 25 P **P 22 46 16.8 +1.2**
WSAR Wadi Sarin 78.08 28 LR LR 23 16 24.5
comp=Z,98nm,18.5s,baz=206,slow=32
WSAR Wadi Sarin 78.08 28 P **P 22 46 17.1 +1.3**
BIDO Bidbid 78.19 27 P **P 22 46 20.0 +3.6**
MNSI Mandailing Nat 78.31 74 P P 22 46 30.2 +13
STKA Stephens Creek 78.51 127 P **P 22 46 17.8 -0.6**

comp=Z,8.4nm,0.8s,baz=238,slow=3.7,SNR=22
STKA Stephens Creek 78.51 127 P **P 22 46 17.6 -0.7**
SAKB Bahrain 78.64 20 P **P 22 46 20.5 +1.7**
FAQ Al Faqa, Dubai 78.66 24 P **P 22 46 20.4 +1.5**
ASHO Ashiyiah 78.72 25 P **P 22 46 20.9 +1.5**
SNR=9.2
HATD Hatta, Dubai 78.88 25 P **P 22 46 21.6 +1.4**
NAZ Nazwa, Dubai 78.91 24 P **P 22 46 22.1 +1.8**
PB07 IPOC Station P 78.99 249 P **P 22 46 20.7 -0.6**
PB07 IAmb IAmb 22 46 45.9
comp=Z,16nm,1.0s
UOSS Minazif 79.01 25 P **P 22 46 21.6 +0.7**
UOSS Minazif 79.01 25 P **P 22 46 23.6 +2.7**
BANOM Banah 79.97 25 P **P 22 46 27.9 +1.8**
SHME Shamm 80.05 24 P **P 22 46 29.0 +2.5**
GO01 Chusmiza 80.15 251 P **P 22 46 27.8 -0.3**
FITZ Fitzroy Crossi 80.21 106 P **P 22 46 27.6 -0.1**
comp=Z,3.9nm,0.7s,baz=230,slow=6.4,SNR=14
FITZ Fitzroy Crossi 80.21 106 P **P 22 46 27.4 -0.4**
PB11 IPOC Station P 80.36 251 P **P 22 46 28.7 -0.1**
PB11 IAmb IAmb 22 46 35.5
comp=Z,16nm,0.8s
MOZ McQueen's Vall 80.76 154 P **P 22 46 30.1 -0.2**
ASAR Alice Springs 80.81 116 P **P 22 46 30.6 -0.4**
comp=Z,8.4nm,0.7s,baz=209,slow=5.1,SNR=74
ASAR Alice Springs 80.81 116 P **P 22 46 30.2 -0.8**
AS31 Alice Springs 80.81 116 P **P 22 46 30.5 -0.5**
PB16 IPOC Station P 81.37 252 P **P 22 46 34.3 -0.4**
PB16 IAmb IAmb 22 46 40.0
comp=Z,43nm,1.8s
LTZ Lake Taylor 81.50 153 P **P 22 46 34.4 0.0**
LPAZ La Paz 82.10 254 P **P 22 46 38.5 -0.1**
comp=Z,2.1nm,0.7s,baz=73,slow=1.5,SNR=8.0
LPAZ LR LR 23 18 49.1
comp=Z,177nm,20.8s,baz=106,slow=33
LPAZ La Paz 82.10 254 P **P 22 46 37.8 -0.8**
MMAI Mount Meron Ar 83.53 5 LR LR 23 22 12.9
comp=Z,112nm,20.5s,baz=348,slow=34
WRA Warramunga Arr 83.97 114 P **P 22 46 46.8 -0.7**
comp=Z,3.9nm,0.7s,baz=212,slow=3.9,SNR=34
WRA Warramunga Arr 83.97 114 P **P 22 46 46.8 -0.7**
WB2 Warramunga Ar 83.97 114 P **P 22 46 46.7 -0.8**
WB2 IAmb IAmb 22 46 58.9
comp=Z,12nm,0.8s
BATI Baumata 85.02 100 P **P 22 46 53.0 +0.1**
comp=Z,8.5nm,0.3s,baz=119,slow=13,SNR=2.0
STKI Sintang 85.17 84 P P 22 47 07.1 +14
BKZ Black Stump Fm 86.03 155 P **P 22 46 57.8 +0.1**
URZ Urewera 87.05 155 P **P 22 47 01.0 -1.5**
comp=Z,19nm,1.1s,baz=147,slow=8.7,SNR=3.9
KEST Kesra 87.81 344 LR LR 23 27 03.4
comp=Z,597nm,20.1s,baz=132,slow=36
MDT Midelt 88.34 332 LR LR 23 27 03.8
comp=Z,149nm,18.2s,baz=158,slow=36
MDP Montagnes des 88.73 280 LR LR 23 21 51.0
comp=Z,177nm,18.8s,baz=166,slow=32
VAE Valguarnera 88.75 348 LR LR 23 27 17.5
comp=Z,164nm,19.1s,baz=158,slow=36
GURO Guroymak-BITLI 89.58 10 P **P 22 47 16.0 +1.6**
HRA Herat 89.60 27 P **P 22 47 14.5 -0.2**
NNA Nana 90.71 250 LR LR 23 24 58.0
comp=Z,157nm,20.0s,baz=164,slow=34
GNI Garni 91.49 12 LR LR 23 27 04.3
comp=Z,153nm,21.6s,baz=188,slow=35
CMAR Chiang Mai Arr 91.95 63 P **P 22 47 25.5 -0.3**
comp=Z,0.3nm,0.6s,baz=226,slow=5.7,SNR=2.1
CHTO Chiang Mai 92.24 63 P **P 22 47 26.7 -0.4**
CHTO IAmb IAmb 22 47 46.9
comp=Z,7.5nm,1.0s
CHTO Chiang Mai 92.24 63 P **P 22 47 28.7 +1.7**
NIL Nilore 92.55 36 P **P 22 47 28.6 +0.5**
NIL IAmb IAmb 22 47 39.8
comp=Z,8.5nm,0.8s
NIL Nilore 92.55 36 P **P 22 47 28.5 +0.3**
ESDC Sonseca Array 94.57 335 P **P 22 47 37.8 +0.4**
comp=Z,1.1nm,1.0s,baz=148,slow=7.6,SNR=3.2
ESDC LR LR 23 31 59.3
comp=Z,153nm,18.1s,baz=124,slow=37
MLR Muntele Rosu 95.84 358 LR LR 23 33 51.1
comp=Z,223nm,19.5s,baz=197,slow=37
GAR Garm 96.34 31 P **P 22 47 46.1 +0.6**
KSH Kashi 98.76 35 P **P 22 47 56.0 -0.4**
KSH pmax pmax
comp=Z,3.0nm,1.2s
PZH PanZhiHua 99.89 60 P **Pdif 22 48 03.8 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.3s
CLL Collm 102.55 350 *e*P **Pdif 22 48 15.0 +2.2**
CLL *e*PP **PP 22 52 25.0 -1.6**
CLL *e*SKSac **SKSac 22 59 01.0 +9.3**
CLL *e*Sdif **Sdif 23 00 07.0 +10**
CLL *e*PS **PS 23 01 33.0 +0.3**
CLL *e*PPS PPS 23 02 30.0
CLL *e*SS **SS 23 07 04.0 -1.2**
CLL Lm MLR 23 35 00.0
comp=N,200nm,21.7s
CLL Lm MLR 23 35 00.0
comp=E,200nm,20.4s
CLL Lm MLR 23 35 00.0
comp=Z,200nm,21.8s
MKAR Makanchi Array 107.36 35 Pdiff **Pdif 22 48 31.8 -2.6**
comp=Z,0.2nm,0.7s,baz=211,slow=4.8,SNR=2.7
NJ2 Nanjing 113.86 68 *e*PKP **PKiKP 22 52 55.5 -0.1**
HHC Hu-ho-hao-te 116.03 57 *e*PKP **PKPdf 22 52 56.1 -3.5**
SONM Songino Array 118.39 48 PKP **PKPdf 22 53 03.1 -0.8**
comp=Z,0.5nm,0.7s,baz=186,slow=2.9,SNR=2.6
ARCES ARCESS Array B 119.94 359 PKP **PKPdf 22 53 05.4 -0.7**
comp=Z,5.8nm,1.0s,baz=208,slow=2.3,SNR=5.3
NRIK Noril'sk 127.09 22 PKP **PKPdf 22 53 20.2 +0.4**
comp=Z,1.5nm,0.4s,baz=0.0,slow=1.0,SNR=2.1
SCHQ Schefferville 131.91 309 PKP **PKPdf 22 53 29.5 0.0**
comp=Z,1.1nm,0.5s,baz=178,slow=6.5,SNR=3.6
TXAR Lajitas Array 138.91 257 PKP **PKPdf 22 53 43.9 +0.4**
comp=Z,1.1nm,0.9s,baz=178,slow=3.5,SNR=6.2
TXAR Lajitas Array 138.91 257 PKPdf 22 53 43.4 -0.1
TX32 Lajitas Array 138.91 257 PKPdf **PKPdf 22 53 43.1 -0.4**
TIXI Tiksi 139.98 29 PKPdf **PKiKP 22 53 45.4 -1.0**
MNTX Cornudas Mount 141.61 258 PKPdf 22 53 48.1 -0.1
319A Douglas 143.80 254 PKPbc 22 53 51.0 +1.2
BNM Barren Site 144.03 260 PKPdf PKPbc 22 53 51.7 +1.1
LENM Lemitar 144.26 260 PKPbc 22 53 51.5 +0.2
ANMO Albuquerque 144.44 261 PKPab 22 53 51.1 -0.4
T25A Trinidad 144.52 266 PKPdf **PKPab 22 53 52.2 +0.4**
AGMN Agassiz Nation 144.91 288 PKPab 22 53 52.0 -0.6
SDCO Great Sand Dun 145.57 266 PKPdf 22 53 55.3 0.0
ULM Lac du Bonnet 145.70 291 PKPbc **PKPdf 22 53 54.1 -0.6**
comp=Z,2.9nm,0.5s,baz=114,slow=3.6,SNR=5.0
ULM Lac du Bonnet 145.70 291 PKPab 22 53 55.6 +0.2
Q24A Divide 146.07 268 PKPdf 22 53 55.6 -0.6
S22A 4UR Ranch, Cre 146.42 265 PKPdf 22 53 56.9 +0.2
MA2 Magadan 146.50 52 PKPbc **PKPbc 22 53 57.2 0.0**
comp=Z,11nm,0.6s,baz=157,slow=2.4,SNR=8.1
MA2 Magadan 146.50 52 PKPbc 22 53 56.3 +0.5
ISCO Idaho Springs 146.84 269 PKPdf 22 53 57.7 +0.3
RES Resolute Bay 146.99 336 PKPbc **PKPbc 22 53 58.4 +0.2**
comp=Z,2.3nm,0.6s,baz=71,slow=5.7,SNR=9.4
RES Resolute Bay 146.99 336 PKPdf 22 53 57.4 +1.2
FCC Fort Churchill 147.18 306 PKPdf **PKPdf 22 53 58.0 +1.2**
SMCO Snowmass 147.35 267 PKPdf 22 53 58.6 +0.2
SEY Seymchan 147.73 46 PKPbc **PKPbc 22 54 00.1 -0.5**
comp=Z,7.4nm,0.9s,baz=246,slow=4.3,SNR=20
PV07 Paradox Valley 147.98 264 PKPdf 22 54 00.5 +1.3
RSSD Black Hills 148.10 277 PKPdf 22 53 59.6 +0.4
O20A White River Ci 148.70 267 PKPdf **PKPdf 22 53 59.6 -0.7**
PETK Petropavlovsk- 148.71 65 PKPbc **PKPbc 22 54 02.2 -1.3**
comp=Z,1.5nm,0.7s,baz=111,slow=3.2,SNR=2.3
MSU Marysvale 150.25 261 PKPdf 22 54 02.6 -0.3
PDAR Pinedale Array 150.94 270 PKPbc **PKPbc 22 54 08.7 -0.8**
comp=Z,2.8nm,0.9s,baz=108,slow=2.9,SNR=9.2
JLU Jordanelle 151.00 265 PKPdf 22 54 04.2 +0.1
DUG Dugway, Tooele 151.63 263 PKPdf **PKPdf 22 54 05.1 +0.3**
RLMT Red Lodge 151.87 275 PKPdf **PKPdf 22 54 06.3 +1.2**
NVAR Mina Array Bea 154.00 254 PKP **PKPdf 22 54 08.6 +0.1**
comp=Z,0.8nm,0.7s,baz=108,slow=2.9,SNR=4.2
NVAR PKPbc **pPKPbc 22 54 18.1 +0.2**
comp=Z,0.8nm,0.5s,baz=140,slow=2.4,SNR=4.2
NVAR PKPab **PKPab 22 54 28.5 -1.6**
comp=Z,3.0nm,0.7s,baz=130,slow=3.8,SNR=10
NVAR Mina Array Bea 154.00 254 PKPdf 22 54 08.9 +0.5
YKA Yellowknife Ar 157.17 315 PKP **PKPdf 22 54 12.8 +1.1**
comp=Z,0.3nm,0.8s,baz=48,slow=1.2,SNR=6.5
YKA PKPab **PKPab 22 54 40.0 -2.5**
comp=Z,0.9nm,0.7s,baz=56,slow=1.9,SNR=4.9

YKA	**Yellowknife Ar**	**157.17 315**		**PKPdf**	**PKPab**	**22 54 13.2 +1.6**
INK	**Inuvik**	**160.41 341**	PKPab			**22 54 56.9 +0.5**
	comp=Z,2.5nm,0.9s,baz=32,slow=6.9,SNR=4.7					

JMA 12 22:43:17.1±0.2, 38°21N×144°53E, h41km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.40**	**292**	P	Pn	22 43 55.2	+1.3
OFUJ				*eS*	Sn	22 44 23.4	+1.3
JIKH	**Ishinomakikobu**	**2.41**	**273**	P	Pn	22 43 55.3	+1.2
JIKH				S	Sn	22 44 23.4	+1.0
JKMT	**Kesennumamotoy**	**2.47**	**285**	P	Pn	22 43 56.2	+1.4
JKMT				S	Sn	22 44 25.0	+1.2
JIO	**Ouri**	**2.51**	**277**	P	Pn	22 43 56.9	+1.5
JIO				S	Sn	22 44 26.0	+1.2
MIYJ	**Miyakonagasawa**	**2.52**	**304**	P	Pn	22 43 56.6	+1.1
JMK	**Ichinoseki**	**2.70**	**287**	P	Pn	22 43 59.7	+1.8
JMK				*eS*	Sn	22 44 31.1	+1.7
JOM	**Ohasama**	**2.83**	**298**	P	Pn	22 44 01.4	+1.7
JOM				S	Sn	22 44 34.7	+2.2
JANG	**Nango**	**3.18**	**314**	P	Pn	22 44 06.3	+1.6
JYK	**Kaneyama**	**3.34**	**283**	P	Pn	22 44 08.9	+2.0
JYK				*eS*	Sn	22 44 48.6	+3.3
JFT	**Otama**	**3.39**	**260**	P	Pn	22 44 09.8	+2.3
JFT				S	Sn	22 44 48.5	+2.0
JOT	**Ohata**	**4.15**	**321**	P	Pn	22 44 19.8	+1.9
JCH	**Churui**	**4.49**	**349**	P	Pn	22 44 22.6	+0.1
JCH				*eS*	Sn	22 45 10.8	-2.7
JRY	**Ryogami san**	**5.00**	**246**	P	Pn	22 44 30.9	+1.2
JRY				*eS*	Sn	22 45 24.8	-1.4
NEM2	**Nemuro 2**	**5.23**	**10**	P	Pn	22 44 30.2	-2.5
NEM2				*eS*	Sn	22 45 24.8	-6.9
JOSM	**Okushiri--Mats**	**5.47**	**317**	P	Pn	22 44 38.1	+2.0
JTKR	**Abashiri--Toko**	**5.77**	**356**	P	Pn	22 44 38.8	-1.4
JTKR				*eS*	Sn	22 45 39.7	-5.4

THE 12 22:47:03.9, 37°.47N×26°.69E, h6km±2km, ML2.8/3, Error ellipse: s-maj=2.9km s-min=0.5km az=60.0
DDA 12 22:47:03.4±0.0, 37°.46N×26°.69E, h10km±2km, ML2.7
ISK 12 22:47:03.1, 37°.49N×26°.68E, h8km, ML2.9/19
ATH 12 22:47:04.5, 37°.50N×26°.71E, h15km±4km, ML3.0/3, Error ellipse: s-maj=5.2km s-min=1.2km az=65.0

ISC 12 22:47:04.0±0.9, 37°48N±0°.02×26°68E±0°.02, h13km±7km, n52, σ0s66/86, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.26**	**29**	P	**Pg**	**22 47 09.3**	**-0.2**
SMG				S	**Sg**	**22 47 13.4**	**+0.1**
SMG				AML	AML	22 47 14.1	
	comp=E,9435μm,0.3s						
SMG				AML	AML	22 47 14.1	
	comp=N,9923μm,0.3s						
SMG	**Samos**	**0.26**	**29**	P	**Pg**	**22 47 09.3**	**-0.2**
SMG				S	**Sg**	**22 47 13.4**	**+0.1**
	comp=N,5μm,0.4s						
DDIM	**Aydin, Didim**	**0.45**	**93**	P	**Pg**	**22 47 12.5**	**-0.3**
DDIM				S	**Sg**	**22 47 18.3**	**-0.6**
GCAM	**G?zelcaml?**	**0.49**	**63**	PG	**Pg**	**22 47 13.3**	**-0.4**
GCAM				SG	**Sb**	**22 47 20.8**	**-0.8**
GCAM	**G?zelcaml?**	**0.49**	**63**	P	**Pg**	**22 47 13.5**	**-0.2**
GCAM				S	**Sg**	**22 47 20.5**	**+0.2**
GCAM				*i* AML	AML	22 47 21.0	
	comp=N,860nm,0.2s						
GCAM				*i* AML	AML	22 47 21.0	
	comp=N,882nm,0.2s						
DGB	**zmir**	**0.59**	**16**	P	**Pg**	**22 47 15.3**	**-0.3**
DGB				S	**Sb**	**22 47 24.5**	**0.0**
DGB				*i* AML	AML	22 47 27.0	
	comp=N,645nm,0.5s						
YKAV	**Yalikavak-Bodr**	**0.60**	**126**	PG	**Pg**	**22 47 15.7**	**0.0**
BODT	**Bodrum**	**0.65**	**129**	P	**Pg**	**22 47 16.1**	**-0.6**
BODT				S	**Sg**	**22 47 25.6**	**+0.2**
BODT	**Bodrum**	**0.65**	**129**	PG	**Pg**	**22 47 16.2**	**-0.5**
BODT				SG	**Sb**	**22 47 25.9**	**-0.4**
BDRM	**Kayabasi**	**0.74**	**124**	P	**Pg**	**22 47 17.5**	**-0.8**
BDRM				S	**Sg**	**22 47 27.9**	**-0.2**
BDRM				*i* AML	AML	22 47 32.0	
	comp=N,296nm,0.3s						
KOSK	**Kos Island**	**0.77**	**162**	P	**Pb**	**22 47 19.1**	**0.0**
KOSK				S	**Sb**	**22 47 30.1**	**+0.7**
KOSK				AML	AML	22 47 32.3	
	comp=E,7502μm,0.5s						
KOSK				AML	AML	22 47 33.3	
	comp=N,5633μm,0.3s						
KOSK	**Kos Island**	**0.77**	**162**	P	**Pg**	**22 47 18.6**	**-0.2**
KOSK				S	**Sb**	**22 47 29.9**	**+0.5**
	comp=N,1μm,0.4s						
KOSK	**Kos Island**	**0.77**	**162**	PG	**Pg**	**22 47 19.0**	**+0.2**
KOSK				SG	**Sb**	**22 47 29.6**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**0.77**	**350**	P	**Pg**	**22 47 18.2**	**-0.7**
ZEYE				S	**Sb**	**22 47 29.8**	**+0.2**
ZEYE				*i* AML	AML	22 47 32.0	
	comp=N,316nm,0.3s						
ZEYE				*i* AML	AML	22 47 32.0	
	comp=N,1μm,0.4s						
ZEYE				*i* AML	AML	22 47 32.0	
	comp=N,466nm,0.3s						
URLA	**Izmir**	**0.88**	**356**	PG	**Pg**	**22 47 20.2**	**-0.9**
URLA				SG	**Sb**	**22 47 33.7**	**+0.9**
URLA	**Izmir**	**0.88**	**356**	P	**Pg**	**22 47 20.3**	**-0.7**
URLA				S	**Sb**	**22 47 33.7**	**+0.9**
URLA				*i* AML	AML	22 47 36.0	
	comp=N,213nm,0.6s						
URLA				*i* AML	AML	22 47 37.0	
	comp=N,173nm,0.7s						
URLA				*i* AML	AML	22 47 38.0	
	comp=N,352nm,0.9s						
MLSB	**Milas**	**0.89**	**102**	PG	**Pg**	**22 47 20.6**	**-0.7**
MLSB				SG	**Sb**	**22 47 33.7**	**+0.5**
AYDN	**Tasoluk**	**0.97**	**79**	P	**Pg**	**22 47 22.4**	**-0.3**
AYDN				S	**Sg**	**22 47 34.7**	**-0.7**
AYDN				*i* AML	AML	22 47 39.0	
	comp=N,164nm,0.4s						
AYDN				*i* AML	AML	22 47 40.0	
	comp=N,182nm,0.3s						
APE	**Apeiranthos**	**1.00**	**246**	P	**Pb**	**22 47 23.7**	**+0.5**
APE	**Apeiranthos**	**1.00**	**246**	P	**Pg**	**22 47 23.0**	**-0.4**
APE				S	**Sg**	**22 47 36.7**	**+0.2**
APE	**Apeiranthos**	**1.00**	**246**	PG	**Pg**	**22 47 22.9**	**-0.4**
APE				SG	**Sb**	**22 47 36.9**	**+0.5**
CHOS	**Chios island**	**1.03**	**332**	P	**Pg**	**22 47 23.2**	**-0.7**
CHOS				S	**Sb**	**22 47 37.6**	**+0.4**
CHOS				AML	AML	22 47 42.5	
	comp=E,630μm,0.3s						
CHOS				AML	AML	22 47 42.5	
	comp=N,592μm,0.6s						
CHOS	**Chios island**	**1.03**	**332**	P	**Pg**	**22 47 23.1**	**-0.8**
CHOS				S	**Sb**	**22 47 38.0**	**+0.8**
	comp=N,302nm,0.5s						
DAT	**Datca**	**1.04**	**136**	P	**Pg**	**22 47 23.2**	**-0.8**
DAT				S	**Sb**	**22 47 37.8**	**+0.4**
DAT	**Datca**	**1.04**	**136**	PG	**Pg**	**22 47 23.2**	**-0.8**
FOCM	**Foa**	**1.23**	**2**	PN	**Pn**	**22 47 26.3**	**-0.6**
YER	**Yerkesik**	**1.32**	**105**	P	**Pn**	**22 47 28.2**	**0.0**
YER	**Yerkesik**	**1.32**	**105**	PN	**Pn**	**22 47 28.1**	**-0.1**
MULA	**Mugla, Merkez-**	**1.33**	**99**	P	**Pn**	**22 47 28.2**	**-0.1**
MULA				S	**Sn**	**22 47 46.1**	**+0.3**
TURN	**Turunc**	**1.44**	**119**	P	**Pn**	**22 47 28.9**	**-0.8**
TURN				S	**Sn**	**22 47 46.9**	**-1.5**
THR8	**Santorini-Mono**	**1.44**	**222**	P	**Pn**	**22 47 29.2**	**-0.5**
THR3	**Thira Island,**	**1.48**	**224**	P	**Pn**	**22 47 30.0**	**-0.3**
ZEDA	**zmir-Bergama**	**1.52**	**12**	P	**Pn**	**22 47 30.0**	**-0.8**
ZEDA				S	**Sg**	**22 47 53.3**	**+0.5**
DKL	**Dikili**	**1.60**	**6**	PN	**Pn**	**22 47 31.9**	**0.0**
AKHS	**Akhisar**	**1.66**	**32**	P	**Pn**	**22 47 33.5**	**+0.8**
AKHS				S	**Sg**	**22 47 56.2**	**-1.2**
DALY	**Dalyan (Mula)**	**1.71**	**112**	PN	**Pn**	**22 47 34.1**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.78**	**90**	P	**Pn**	**22 47 35.3**	**+0.9**
TAVA				S	**Sb**	**22 47 59.5**	**+0.8**
MANT	**Manisa**	**1.79**	**55**	P	**Pg**	**22 47 37.5**	**-1.0**
MANT				S	**Sb**	**22 47 59.7**	**+0.3**
AYVA	**Ayvalik**	**1.83**	**0**	P	**Pg**	**22 47 38.6**	**-0.4**
AYVA				S	**Sg**	**22 48 03.6**	**+0.9**
KULA	**Kula-Manisa**	**1.88**	**56**	PN	**Pn**	**22 47 36.9**	**+1.1**
BUHA	**Balikesir, Bur**	**2.04**	**9**	P	**Pb**	**22 47 41.6**	**+0.7**
BUHA				S	**Sg**	**22 48 08.9**	**-0.8**
BUHA				*i* AML	AML	22 48 18.0	
	comp=N,47nm,0.5s						
STEP	**BALIKESIR_Sava**	**2.06**	**23**	P	**Pg**	**22 47 43.5**	**-0.1**
STEP				S	**Sg**	**22 48 09.9**	**-0.5**
FETY	**Fethiye**	**2.10**	**113**	PN	**Pn**	**22 47 39.8**	**+1.0**
CAME	**Cameli-Denizli**	**2.16**	**104**	PN	**Pn**	**22 47 40.4**	**+0.6**
USAK	**Uak-Merkez**	**2.22**	**56**	P	**Pg**	**22 47 46.3**	**-0.2**
USAK				S	**Sb**	**22 48 12.2**	**+0.9**
DEMI	**Demirci**	**2.24**	**45**	P	**Pg**	**22 47 46.2**	**-0.7**
DEMI				S	**Sg**	**22 48 14.5**	**-1.4**
BAYC	**CANAKKALE_Bayr**	**2.26**	**357**	P	**Pn**	**22 47 40.2**	**-0.9**
BAYC				S	**Sg**	**22 48 16.1**	**-0.6**
EZN	**Ezine**	**2.36**	**353**	PN	**Pn**	**22 47 43.3**	**+0.9**
BOZC	**Bozcaada**	**2.41**	**348**	PN	**Pn**	**22 47 43.4**	**+0.3**
SIMA	**Simav-Kutahya**	**2.42**	**48**	PN	**Pn**	**22 47 44.0**	**+0.7**
AKAS	**Kas**	**2.66**	**117**	PN	**Pn**	**22 47 47.8**	**+1.2**
ELL	**Elmali**	**2.68**	**105**	PN	**Pn**	**22 47 48.1**	**+1.1**

NEIC 12 22:47:44.5±1.4, 67°.68N±0°.05×162°.7W±0°.2, h7km±5km, ML3.1/14, Error ellipse: s-maj=8.8km s-min=7.0km az=83.0
IDC 12 22:47:46.5±2.4, 68°.45N×161°.95W, h0km, mb2.9/2, mb1 3.3/4, mb1mx3.2/40, mbtmp3.1/4, ML2.9/2, Error ellipse: s-maj=72.0km s-min=24.0km az=24.0

ISC 12 22:47:44.3±1.0, 67°.73N±0°.07×162°.56W±0°.07, h10km, n41, σ1s09/42, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.35**	**338**	Pg	**Pb**	**22 47 51.6**	**-1.0**
RDOG				Sg	**Sb**	**22 47 57.7**	**-0.5**
RDOG				IAML		22 47 57.9	
	comp=E,2μm,0.5s						
TNA	**Tin City**	**3.06**	**227**		**Pn**	**22 48 33.3**	**+0.8**
ANM	**Nome**	**3.38**	**201**		**Pn**	**22 48 35.6**	**-1.4**
IMAR	**Indian Mountai**	**3.89**	**113**		**Pn**	**22 48 44.2**	**+0.2**
H21K	**Melozitna Rive**	**4.40**	**114**		**Pn**	**22 48 51.0**	**0.0**
COLD	**Coldfoot**	**4.78**	**90**		**Pn**	**22 48 57.5**	**+1.3**
TOLK	**Toolik Lake Re**	**4.93**	**73**	Pn	**Pn**	**22 49 00.3**	**+2.0**
TOLK				IAML		22 50 33.9	
	comp=N,13nm,1.8s						
TOLK				IAML		22 50 34.0	
	comp=E,13nm,2.0s						
I21K	**Tanana**	**4.95**	**116**	Pn	**Pn**	**22 48 59.6**	**+1.1**
I21K				IAML		22 50 38.2	
	comp=N,15nm,4.2s						
I21K				IAML		22 50 58.5	
	comp=E,12nm,3.6s						
J20K	**Nowinta River**	**4.96**	**132**	Pn	**Pn**	**22 48 59.4**	**+0.8**
J20K				IAML		22 50 12.6	
	comp=N,9.9nm,4.8s						
H23K	**Yukon River**	**5.49**	**104**	Pn	**Pn**	**22 49 05.5**	**-0.5**
TTA	**Tatalina**	**5.54**	**147**	Pn	**Pn**	**22 49 06.7**	**-0.1**
K20K	**Telida**	**5.63**	**137**	Pn	**Pn**	**22 49 07.9**	**0.0**
BPAW	**Bear Paw Mtn.**	**5.97**	**122**		**Pn**	**22 49 13.2**	**+0.5**
H24K	**Noodoo Dome**	**6.11**	**101**	Pn	**Pn**	**22 49 13.8**	**-0.6**
KTH	**Kantishna Hill**	**6.38**	**126**	Pn	**Pn**	**22 49 16.9**	**+0.7**
MDM	**Murphy Dome**	**6.40**	**109**		**Pn**	**22 49 18.9**	**+0.5**
L19K	**White Mountain**	**6.46**	**146**	Pn	**Pn**	**22 49 20.4**	**+1.2**
PPLA	**Purkeypile**	**6.51**	**133**	Pn	**Pn**	**22 49 20.5**	**+0.4**
TRF	**Thorofare Moun**	**6.65**	**124**	Pn	**Pn**	**22 49 23.0**	**+0.9**
CCB	**Clear Creek Bu**	**6.72**	**110**		**Pn**	**22 49 23.2**	**+0.4**
WRH	**Wood River Hil**	**6.72**	**112**	Pn	**Pn**	**22 49 23.4**	**+0.5**
M19K	**Big River Lodg**	**6.80**	**145**	Pn	**Pn**	**22 49 25.3**	**+1.3**
BMAR	**Burnt Mountain**	**6.88**	**84**	Pn	**Pn**	**22 49 26.1**	**+1.0**
IL31		**6.98**	**108**		**Pn**	**22 49 27.3**	**+0.9**
ILAR	**Eielson Array**	**6.98**	**108**	Pn	**Pn**	**22 49 27.4**	**+1.0**
	comp=N,0.5nm,0.3s,baz=304,slow=14,SNR=31						
ILAR				Sn	**Sn**	**22 50 43.4**	**-2.4**
	baz=304,slow=23,SNR=3.4						
ILAR	**Eielson Array**	**6.98**	**108**		**Pn**	**22 49 27.1**	**+0.6**
RND	**Reindeer**	**7.14**	**121**	Pn	**Pn**	**22 49 28.2**	**-0.5**
SVW2	**Sparrevohn**	**7.31**	**152**	Pn	**Pn**	**22 49 30.4**	**-0.6**
J25K	**Salcha River,**	**7.62**	**106**		**Pn**	**22 49 35.6**	**+0.4**
N18K	**Kilae Creek**	**7.65**	**155**	Pn	**Pn**	**22 49 36.3**	**+0.7**
N19K	**Bonanza Creek**	**7.78**	**149**	Pn	**Pn**	**22 49 38.5**	**+1.0**
DHY	**Denali Highway**	**7.86**	**119**	Pn	**Pn**	**22 49 39.4**	**+0.9**
SCRK	**Sand Creek**	**8.47**	**108**	Pn	**Pn**	**22 49 48.0**	**+1.0**
SML	**Sawmill**	**8.48**	**128**	Pn	**Pn**	**22 49 49.5**	**+2.5**
O18K	**Koktuh Hills**	**8.54**	**154**	Pn	**Pn**	**22 49 48.2**	**+0.4**
SCM	**Sheep Creek Mo**	**8.77**	**125**	Pn	**Pn**	**22 49 52.6**	**+1.6**
L27K	**Beaver Creek,**	**9.80**	**109**	Pn	**Pn**	**22 50 06.7**	**+1.6**
BCAR	**Beaver Creek A**	**9.81**	**109**	Pn	**Pn**	**22 50 06.6**	**+1.3**
INK	**Inuvik**	**10.84**	**74**	Pn	Pn	22 50 14.1	-5.1
	comp=N,0.0nm,0.3s,baz=311,slow=18,SNR=1.8						
YKA	**Yellowknife Ar**	**20.39**	**82**	P	**P**	**22 52 20.2**	**-0.5**
	comp=N,0.3nm,0.6s,baz=309,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**55.91**	**311**	P	**P**	**22 57 23.4**	**+1.6**
	comp=N,0.2nm,0.7s,baz=38,slow=7.3,SNR=2.2						

VIE 12 23:01:22.5, 51°.61N×16°.28E, h0km, mb3.1/8, ml3.5/7 77 km NW of Wroclaw Suspected Mining induced.
IPEC 12 23:01:22.9±0.3, 51°.52N×16°.29E, h1km, ML3.3/3, Error ellipse: s-maj=2.7km s-min=1.4km az=52.0
IDC 12 23:01:23.9±0.5, 51°.52N×16°.01E, h0km, mb3.6/7, mb1 3.6/15, mb1mx3.5/61, mbtmp3.5/15, ML3.2/8, Error ellipse: s-maj=9.8km s-min=5.8km az=114.0
LDG 12 23:01:23.5±0.2, 51°.48N×16°.17E, h1km, Md3.2/2, Ml3.3/12, Error ellipse: s-maj=4.3km s-min=2.5km az=12.0, Suspected Mining induced.
DNK 12 23:01:23.4±1.6, 51°.52N×16°.34E, h12km±55km
BGR 12 23:01:25.0±0.3, 51°.39N×16°.20E, h1km, ML3.4/14, Error ellipse: s-maj=4.4km s-min=2.2km az=21.0
PRU 12 23:01:25.2±0.0, 51°.42N×16°.15E, h0km
UPP 12 23:01:25.8±3.1, 51°.61N×15°.84E, h0km, ML2.2, Suspected explosion

ISC 12 23:01:21.8±0.5, 51°46N±0°.02×16°14E±0°.02, h0km, n134, σ2s59/249, mb3.5/6, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**171**	*i* Pg	**Pb**	**23 01 36.3**	**+0.7**
KSP				*e*Sg	**Sg**	**23 01 44.6**	**+2.8**
KSP	**Ksiaz**	**0.62**	**171**	*e*Pg	**Pb**	**23 01 36.3**	**+0.7**
KSP				*e*Sg	**Sg**	**23 01 43.1**	**+1.3**
CHVC	**Chvalec**	**0.87**	**184**	*e*PG	**Pb**	**23 01 41.1**	**+1.3**
CHVC				*e*SG	**Sg**	**23 01 51.6**	**+1.8**
	comp=Z,184nm,0.4s						
OSTC	**Ostas**	**0.91**	**177**	*e*PG	**Pb**	**23 01 41.6**	**+1.2**
OSTC				*e*SG	**Sg**	**23 01 52.6**	**+1.8**
	comp=Z,295nm,0.6s						
UPC	**Upice**	**0.96**	**185**	*e*PG	**Pb**	**23 01 42.6**	**+1.4**
UPC				*e*SG	**Sg**	**23 01 55.2**	**+2.7**
	comp=Z,578nm,0.4s						
DPC	**Dobruska-Polom**	**1.12**	**174**	*e*PG	**Pb**	**23 01 45.0**	**+1.0**
DPC				*e*SG	**Sg**	**23 01 59.3**	**+1.7**
	comp=Z,236nm,0.5s						
DPC	**Dobruska-Polom**	**1.12**	**174**	*e*Pg	**Pb**	**23 01 45.1**	**+1.1**
DPC				*e*Sg	**Sg**	**23 01 59.0**	**+1.4**
PVCC	**Panska Ves**	**1.36**	**227**	*e*PG	**Pb**	**23 01 50.0**	**+1.9**
PVCC				*e*SG	**Sn**	**23 02 08.7**	**+1.9**
	comp=Z,514nm,0.6s						
KRLC	**Kraliky**	**1.45**	**163**	*e*PG	**Pn**	**23 01 50.4**	**+1.2**
KRLC				*e*SG	**Sg**	**23 02 09.4**	**+1.3**
	comp=Z,150nm,0.7s						
BRG	**Berggiesshubel**	**1.50**	**248**	Pn	**Pn**	**23 01 51.3**	**+1.4**
BRG				Pg	**Pg**	**23 01 53.4**	**+2.8**
BRG				Sg	**Sn**	**23 02 13.5**	**+3.2**
BRG				Amp		23 02 16.8	
	comp=Z,148nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**248**	*e*Pn	**Pn**	**23 01 51.4**	**+1.4**
BRG				*e*Pg	**Pg**	**23 01 53.1**	**+2.5**
BRG				*e*Sg	**Sn**	**23 02 14.0**	**+3.7**
RUE	**Ruedersdorf**	**1.78**	**306**	*e*P	**Pn**	**23 01 54.8**	**+1.1**
RUE				*e*S	**Sg**	**23 02 23.0**	**+4.0**
PRU	**Pruhonice**	**1.79**	**215**	*e*PG	**Pb**	**23 01 56.2**	**+0.8**
PRU				*e*SG	**Sg**	**23 02 21.5**	**+2.3**
	comp=Z,166nm,0.6s						
FBE	**Freiberg**	**1.83**	**254**	*e*Pn	**Pb**	**23 01 56.5**	**+0.3**
FBE				*e*Pg	**Pg**	**23 01 59.2**	**+2.3**
FBE				*e*Sg	**Sg**	**23 02 24.0**	**+3.4**
RAC	**Raciborz**	**1.90**	**136**	*e*PG	**Pg**	**23 02 00.0**	**+1.9**
RAC				*e*SG	**Sg**	**23 02 25.8**	**+3.1**
MORC	**Moravsky Berou**	**1.91**	**152**	*e*Pn	**Pn**	**23 01 56.7**	**+1.2**
	baz=336						
MORC				*e*Sg	**Sb**	**23 02 22.9**	**+1.1**
	comp=Z,151nm,0.7s,baz=336						
MORC	**Moravsky Berou**	**1.91**	**152**	*e*Pn	**Pn**	**23 01 56.8**	**+1.2**
MORC				*e*Sg	**Sn**	**23 02 21.6**	**+1.3**
GKP	**Gorka Klasztor**	**1.93**	**20**	*e*P	**Pg**	**23 02 01.2**	**+2.4**
GKP				*e*S	**Sg**	**23 02 28.9**	**+5.0**
GKP				IAmb	IAmb	23 03 26.2	
	comp=Z,57500μm,1.1s						
CLL	**Collm**	**1.97**	**267**	*e*Pn	**Pn**	**23 01 58.0**	**+1.6**
CLL				*e*Pg	**Pg**	**23 02 02.0**	**+2.5**
CLL				*ex*	x	23 02 05.0	
CLL				*e*Sg	**Sg**	**23 02 28.0**	**+2.9**
	comp=Z,80nm,0.6s						
CLL	**Collm**	**1.97**	**267**	*e*Pn	**Pn**	**23 01 57.6**	**+1.2**
CLL				*e*Pg	**Pg**	**23 02 02.2**	**+2.6**
CLL				*e*Sg	**Sg**	**23 02 28.3**	**+3.2**
OKC	**Ostrava-Krasne**	**2.07**	**141**	*e*PG	**Pb**	**23 02 01.7**	**+1.6**
OKC				*e*SG	**Sb**	**23 02 28.3**	**+2.0**
	comp=Z,482nm,1.5s						
OKC	**Ostrava-Krasne**	**2.07**	**141**	*e*Pg	**Pg**	**23 02 02.3**	**+1.0**
OKC				*e*Sg	**Sb**	**23 02 28.0**	**+1.7**
VRAC	**Vranov**	**2.17**	**172**	Pn	**Pb**	**23 02 02.0**	**0.0**
	comp=Z,8.3nm,0.3s,baz=342,slow=13,SNR=29						
VRAC				Sn	**Sb**	**23 02 31.7**	**+2.2**
	comp=Z,15nm,0.3s,baz=254,slow=16,SNR=11						
VRAC	**Vranov**	**2.17**	**172**	*e*Pn	**Pn**	**23 02 00.9**	**+1.7**
	baz=355						
VRAC				*e*Sg	**Sg**	**23 02 32.6**	**+1.0**
	comp=Z,166nm,0.9s,baz=355						
TREC	**Trest**	**2.21**	**191**	*e*PG	**Pg**	**23 02 05.1**	**+1.0**
TREC				*e*SG	**Sg**	**23 02 33.8**	**+1.2**
	comp=Z,268nm,1.3s						
PBCC	**Pribram**	**2.24**	**218**	*e*PG	**Pg**	**23 02 05.7**	**+1.0**
PBCC				*e*SG	**Sg**	**23 02 35.3**	**+1.6**
KRUC	**Moravsky**	**2.41**	**176**	*e*Pn	**Pn**	**23 02 03.9**	**+1.5**
	baz=358						
KRUC				*e*Sg	**Sg**	**23 02 39.8**	**+0.8**
	comp=Z,139nm,1.1s,baz=358						
TANN	**Tannenbergstha**	**2.55**	**247**	*e*Pn	**Pn**	**23 02 06.8**	**+2.3**
TANN				*e*Pg	**Pg**	**23 02 13.3**	**+2.6**
TANN				*e*Sg	**Sg**	**23 02 44.6**	**+0.9**
WERD	**Werda**	**2.63**	**249**	*e*Pn	**Pn**	**23 02 07.8**	**+2.3**
WERD				*e*Pg	**Pg**	**23 02 14.0**	**+1.9**
WERD				*e*Sg	**Sg**	**23 02 48.7**	**+2.6**
OJC	**Ojcow**	**2.63**	**117**	Pn	**Pn**	**23 02 05.1**	**-0.4**
OJC				*e*Pg	**Pg**	**23 02 12.6**	**+0.4**
OJC				Sn	**Sn**	**23 02 37.6**	**-0.5**
OJC				*e*Sg	**Sg**	**23 02 48.2**	**+2.0**
OJC	**Ojcow**	**2.63**	**117**	*e*Pn	**Pn**	**23 02 05.1**	**-0.4**
OJC				*e*Pg	**Pg**	**23 02 12.4**	**+0.3**
OJC				*e*Sg	**Sg**	**23 02 46.7**	**+0.5**
NKC	**Novy Kostel**	**2.64**	**244**	*e*PN	**Pn**	**23 02 08.0**	**+2.3**
NKC				*e*SG	**Sg**	**23 02 49.9**	**+3.3**
	comp=Z,109nm,0.6s						
JAVC	**Velka Javorina**	**2.78**	**159**	*e*PN	**Pn**	**23 02 09.9**	**+2.3**
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	**Pn**	**23 02 10.9**	**+2.3**
KHC				*e*PG	**Pg**	**23 02 16.4**	**0.0**
KHC				*e*SN	**Sn**	**23 02 46.0**	**+2.4**
KHC				*e*SG	**Sg**	**23 02 55.7**	**+2.3**
	comp=Z,60nm,0.5s						
CKRC	**Cesky Krumlov**	**2.89**	**205**	*e*PN	**Pn**	**23 02 11.7**	**+2.6**
CKRC				*e*PG	**Pb**	**23 02 16.9**	**+2.7**
CKRC				*e*SG	**Sg**	**23 02 55.9**	**+1.2**
MOX	**Moxa**	**2.97**	**256**	*e*Pn	**Pn**	**23 02 12.3**	**+2.1**
MOX				*e*Pg	**Pg**	**23 02 21.0**	**+2.3**
MOX				*e*Sg	**Sg**	**23 02 59.7**	**+2.5**
GEC2	**GERESS Array S**	**3.05**	**212**	*e*Pn	**Pn**	**23 02 14.4**	**+3.0**
GEC2				*e*Pg	**Pg**	**23 02 20.4**	**+0.1**
GEC2				*e*Sg	**Sg**	**23 02 60.0**	**+0.2**
GERES	**GERESS Array B**	**3.05**	**212**	Pn	**Pn**	**23 02 13.7**	**+2.3**
	comp=Z,2.1nm,0.3s,baz=34,slow=13,SNR=64						
GERES				Pg	**Pg**	**23 02 20.2**	**0.0**
	comp=Z,9.9nm,0.3s,baz=34,slow=17,SNR=41						
GERES				Sn	**Sn**	**23 02 49.4**	**+0.7**
	comp=Z,4.6nm,0.3s,baz=37,slow=22,SNR=7.5						
GERES				Lg	Lg	23 02 58.9	
	comp=Z,14nm,0.3s,baz=36,slow=28,SNR=11						
SMOL	**Smolenice**	**3.06**	**164**	*e*PN	**Pn**	**23 02 14.8**	**+3.4**
SMOL				*e*PG	**Pg**	**23 02 22.4**	**+1.9**
SMOL				*e*SG	**Sg**	**23 03 02.7**	**+2.5**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**23 02 14.3**	**+2.0**
WET				*e*Sg	**Sg**	**23 03 02.8**	**+0.8**
LANS	**Liptovska Anna**	**3.15**	**136**	*e*PN	**Pn**	**23 02 14.5**	**+1.9**
LANS		

WATA				*e*Sg		**Sg**	**23 04 08.5 +3.3**
	comp=Z,20nm,0.8s						
MYKA	**Terra Mystica**	**5.11 200**		*e*Sg		**Sg**	**23 04 02.8 -2.9**
	comp=Z,13nm,0.6s						
WTTA	**Wattenberg**	**5.13 217**		*i* Pn		**Pn**	**23 02 43.3 +3.4**
	comp=Z,3.1nm,0.4s,SNR=8.5						
WTTA				*e*Sg		**Sg**	**23 04 06.8 +0.4**
	comp=Z,22nm,0.5s						
DEL	**Delary**	**5.20 346**		*e*P		**Pn**	**23 02 40.8 +0.1**
DEL				*e*S		**Sn**	**23 03 38.2 -3.0**
DEL				IAML			23 03 44.4
	comp=Z,1.9nm,0.4s						
DEL	**Delary**	**5.20 346**		*i* P		**Pn**	**23 02 40.0 -0.7**
DEL				P		**Pn**	**23 02 40.9 +0.3**
DEL				*e*S		**Sn**	**23 03 37.0 -4.3**
DEL				S		**Sn**	**23 03 38.2 -3.0**
DEL	**Delary**	**5.20 346**		P		**Pn**	**23 02 40.9 +0.3**
DEL				S		**Sn**	**23 03 38.2 -3.0**
MOTA	**Moosalm**	**5.27 221**		*i* Pn		**Pn**	**23 02 44.2 +2.4**
	comp=Z,3.7nm,0.5s						
MOTA				*e*Sg		**Sg**	**23 04 18.8 +7.8**
	comp=Z,21nm,0.6s						
ABTA	**Abfaltersbach**	**5.28 208**		*i* Pn		**Pn**	**23 02 45.4 +3.3**
	comp=Z,2.7nm,0.6s,SNR=8.2						
ABTA				*e*Sg		**Sg**	**23 04 14.4 +3.0**
	comp=Z,34nm,0.7s						
RETA	**Reutte**	**5.30 223**		*i* Pn		**Pn**	**23 02 44.4 +2.1**
	comp=Z,2.2nm,0.3s,SNR=7.3						
RETA				*e*Sg		**Sg**	**23 04 14.0 +2.1**
	comp=Z,14nm,0.5s						
TRPA	**Tarpa**	**5.32 126**		P		**Pn**	**23 02 44.3 +2.0**
SQTA	**Sankt Quirin**	**5.33 219**		*i* Pn		**Pn**	**23 02 46.2 +3.6**
	comp=Z,2.1nm,0.2s,SNR=12						
SQTA				*e*Sg		**Sg**	**23 04 19.0 +6.1**
	comp=Z,20nm,0.5s						
VNDS	**Vrh nad Dolski**	**5.45 191**		*i* Pn		**Pn**	**23 02 46.9 +2.7**
PDKS	**Podkum**	**5.46 188**		*i* Pn		**Pn**	**23 02 47.5 +3.2**
KOVH	**Kovagotottos**	**5.53 166**		P		**Pn**	**23 02 47.3 +2.0**
LTVH	**Ltavrtes, Hu**	**5.54 135**		P		**Pn**	**23 02 47.2 +1.7**
CRES	**Cresnjev**	**5.66 185**		*e*Pn		**Pn**	**23 02 49.7 +2.6**
FETA	**Feichten**	**5.68 221**		*i* Pn		**Pn**	**23 02 50.2 +2.6**
	comp=Z,1.2nm,0.5s						
FETA				*e*Sg		**Sb**	**23 04 11.8 +1.3**
	comp=Z,23nm,1.0s						
PBUR	**Paburge**	**5.72 35**		*e*P		**Pn**	**23 02 50.1 +2.3**
PBUR				IAML			23 03 19.1
	comp=Z,23nm,0.5s						
DAVA	**Damuels**	**5.84 227**		*e*Pn		**Pn**	**23 02 51.7 +1.9**
	comp=Z,1.8nm,0.3s						
DAVA				*e*Sg		**Sg**	**23 04 33.2 +3.8**
	comp=Z,15nm,0.8s						
GBRS	**Gornja Briga**	**6.00 189**		*e*Pn		**Pn**	**23 02 54.6 +2.8**
GNOU	**Gnosjoe**	**6.01 348**		P		**Pn**	**23 02 52.4 +0.6**
GNOU	**Gnosjoe**	**6.01 348**		P		**Pn**	**23 02 52.4 +0.6**
PABE	**Paberze**	**6.18 46**		*e*P		**Pn**	**23 02 56.0 +1.7**
PABE				IAML			23 05 01.0
	comp=Z,6.6nm,0.7s						
DAVOX	**Davos/Dischmat**	**6.23 224**		Pn		**Pn**	**23 02 56.7 +1.6**
	comp=Z,0.4nm,0.3s,baz=351,slow=17,SNR=5.1						
DAVOX				Lg		Lg	23 04 40.0
	comp=Z,0.7nm,0.3s,baz=336,slow=21,SNR=4.7						
ONAU	**Onsala**	**6.44 339**		P		**Pn**	**23 02 58.3 +0.6**
ONAU	**Onsala**	**6.44 339**		P		**Pn**	**23 02 58.3 +0.6**
CDF	**Champ du Feu**	**6.48 245**		*e*Pn		**Pn**	**23 02 59.0 +0.5**
CDF	**Champ du Feu**	**6.48 245**		*e*Pg		**Pg**	**23 03 24.4 -1.5**
CDF				*e*Sn		**Sn**	**23 04 09.6 -3.6**
CDF				*e*Sg		**Sg**	**23 04 47.5 -2.4**
	comp=Z,1.5nm,0.4s						
HINF	**Hinteralfeld**	**7.05 242**		*e*Pn		**Pn**	**23 03 07.6 +1.4**
HINF				*e*Sn		**Sn**	**23 04 21.7 -5.2**
HINF				*e*Sg		**Sg**	**23 05 04.9 -3.0**
	comp=Z,10nm,0.7s						
VIKU	**Vikbolandet**	**7.07 2**		*e*P		**Pn**	**23 03 06.0 -0.3**
VIKU				*e*S		**Sn**	**23 04 19.8 -7.4**
VIKU				IAML			23 04 35.1
	comp=Z,1.3nm,0.3s						
HAU	**Haudompre**	**7.23 245**		*e*Pn		**Pn**	**23 03 08.8 +0.2**
HAU				*e*Sg		**Sg**	**23 05 10.6 -3.1**
	comp=Z,4.6nm,0.5s						
NACGM	**Naroch**	**7.26 58**		*e*P		**Pn**	**23 03 12.5 +3.4**
GIVF	**Givet**	**7.30 264**		*e*Pn		**Pn**	**23 03 09.9 +0.3**
GIVF	**Givet**	**7.30 264**		*e*Pg		**Pg**	**23 03 39.8 -1.8**
GIVF				*e*Sn		**Sn**	**23 04 28.1 -5.1**
GIVF				*e*Sg		**Sg**	**23 05 13.4 -2.8**
	comp=Z,53nm,1.1s						
PAGF	**Fort de Pagny**	**7.31 251**		*e*P		Pn	23 03 15.0 +5.2
	baz=62						
PAGF				*e*Sg		**Sg**	**23 05 13.4 -3.1**
	comp=Z,1.4nm,0.3s						
BAIF	**Baives**	**7.70 264**		*e*Pn		**Pn**	**23 03 15.6 +0.6**
BAIF				*e*Sg		**Sg**	**23 05 25.2 -3.6**
	comp=Z,0.4nm,0.2s						
SFTF	**Sexfontaines**	**7.88 250**		*e*Sg		**Sg**	**23 05 30.5 -4.2**
	comp=Z,3.3nm,0.5s						
AKASG	**Malin Array Be**	**8.28 90**		Pn		**Pn**	**23 03 22.6 -0.4**
	comp=Z,1.9nm,0.3s,baz=281,slow=12,SNR=15						
AKASG				Sn		**Sn**	**23 04 52.4 -4.7**
	comp=Z,1.6nm,0.3s,baz=276,slow=21,SNR=4.9						
AKASG				Lg		Lg	23 05 48.4
	baz=274,slow=25,SNR=2.1						
LPL	**La Plagne**	**8.62 230**		*e*Pn		**Pn**	**23 03 28.1 +0.2**
LPG	**La Plagne**	**8.63 230**		*e*Pn		**Pn**	**23 03 28.1 0.0**
LPG				*e*Sg		**Sg**	**23 05 56.1 -2.5**
	comp=Z,17nm,0.9s						
AAL	**Aland**	**9.00 12**		*e*P		**Pn**	**23 03 31.4 -1.5**
LOR	**Lormes**	**9.04 247**		*e*Pn		**Pn**	**23 03 32.7 -0.8**
LOR	**Lormes**	**9.04 247**		*e*Pg		Pg	23 04 11.2
LOR				*e*Sg		Sg	23 06 07.6
	comp=Z,26nm,1.2s						
MBDF	**Montbardon**	**9.20 227**		*e*Pn		**Pn**	**23 03 35.6 -0.2**
SBF	**Sospel**	**9.60 221**		*e*Pn		**Pn**	**23 03 41.6 +0.4**
SBF				*e*Sn		**Sn**	**23 05 24.0 -5.7**
	comp=Z,3.2nm,0.6s						
MEF	**Metsahovi**	**9.92 25**		*e*P		**Pn**	**23 03 43.5 -1.9**
NOA	**NORSAR Array B**	**9.98 346**		Pn		**Pn**	**23 03 44.9 -1.5**
	comp=Z,0.0nm,0.3s,baz=129,slow=15,SNR=4.9						
NOA				Sn		**Sn**	**23 05 31.1 -7.9**
	comp=Z,0.0nm,0.3s,baz=299,slow=20,SNR=2.3						
FRF	**La Foret Royal**	**10.18 223**		*e*Pn		**Pn**	**23 03 49.7 +0.7**
FRF				*e*Sn		**Sn**	**23 05 37.7 -6.1**
	comp=Z,0.7nm,0.3s						
LMR	**La Mourre**	**10.42 222**		*e*Pn		**Pn**	**23 03 54.1 +1.8**
LMR				*e*Sn		**Sn**	**23 05 42.8 -6.9**
	comp=Z,0.5nm,0.4s						
LASF	**Ste Croix**	**11.07 233**		*e*Pn		**Pn**	**23 04 03.1 +1.7**
FINES	**FINESS Array B**	**11.40 25**		Pn		**Pn**	**23 04 04.2 -1.5**
	comp=Z,0.2nm,0.3s,baz=212,slow=11,SNR=9.8						
FINES				Sn		**Sn**	**23 06 04.8 -8.8**
	comp=Z,0.2nm,0.3s,baz=212,slow=18,SNR=2.5						
EKA	**Eskdalemuir Ar**	**12.14 296**		Pn		**Pn**	**23 04 15.2 -0.7**
	baz=107,slow=14,SNR=4.0						
ARCES	**ARCESS Array B**	**18.67 10**		Pn		**P**	**23 05 38.9 -2.1**
	baz=196,slow=11,SNR=10						
KIRV	**Kirov**	**20.20 56**		P		Pn	23 05 59.2 -0.3
	comp=Z,3.9nm,0.5s,baz=290,slow=12,SNR=2.5						
ARU	**Arti**	**25.14 62**		P		**P**	**23 06 49.1 +0.9**
	comp=Z,0.9nm,0.5s,baz=329,slow=7.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**39.96 202**		P		**P**	**23 08 59.8 +1.9**
	comp=Z,1.1nm,1.0s,baz=5.8,slow=9.2,SNR=4.6						
MKAR	**Makanchi Array**	**42.21 69**		P		**P**	**23 09 17.9 +1.6**
	comp=Z,0.2nm,0.4s,baz=295,slow=7.4,SNR=4.8						
SONM	**Songino Array**	**54.93 55**		P		**P**	**23 10 56.7 +2.5**
	comp=Z,0.4nm,0.7s,baz=258,slow=4.3,SNR=3.1						
YKA	**Yellowknife Ar**	**59.91 336**		P		**P**	**23 11 30.9 +1.9**
	comp=Z,0.4nm,0.6s,baz=28,slow=6.7,SNR=11						
PDAR	**Pinedale Array**	**74.99 322**		P		**P**	**23 13 06.4 +1.4**
	comp=Z,0.2nm,0.5s,baz=50,slow=6.0,SNR=2.8						

IDC ***12*** *23:09:53.0±2.5,21.°10S×179.°03W,h607km±29km, mb3.3/9, mb1 3.5/10,mb1mx3.2/43,mbtmp4.3/10,Error ellipse: s-maj=22.3km s-min=15.5km az=61.0*

NEIC ***12*** *23:09:53.2±1.6,21.°11S±0.°08×179.°0W±0.°1, h600km±9km, mb4.2/27, Error ellipse: s-maj=22.1km s-min=1.9km az=120.0*

ISC 12 23:09:52.6±0.5,21°23S±0.°06×179°10W±0.°09, h600km, n70,σ2s30/81, mb4.1/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**8.06 173**		P	**P**	**23 11 53.7**	**+1.4**
	83nm,0.3s,baz=87,slow=21,SNR=2.9						
GLKZ	**Green Lake**	**8.07 173**		P	**P**	**23 11 52.2**	**-0.3**
GLKZ				S	**S**	**23 13 30.2**	**-0.5**
NIUE	**Niue**	**8.88 78**		P	**P**	**23 12 00.5**	**0.0**

OUZ	**Omahuta**	**15.34 203**		P		**P**	**23 13 07.2 +3.5**
OUZ				IAmb		IAmb	23 13 07.7
	comp=Z,18nm,0.7s						
OUZ	**Omahuta**	**15.34 203**		P		**P**	**23 13 07.4 +3.7**
WCZ	**Waipu Caves**	**15.74 200**		P		**P**	**23 13 11.6 +4.2**
KUZ	**Kuaotunu**	**16.10 195**		P		**P**	**23 13 14.0 +3.3**
WIAZ	**Waiheke Island**	**16.30 197**		P		**P**	**23 13 16.1 +3.6**
MBAZ	**Motutapu North**	**16.34 197**		P		**P**	**23 13 16.9 +4.0**
MXZ	**Matakaoa Point**	**16.43 187**		P		**P**	**23 13 15.3 +1.6**
MKAZ	**Moumakai**	**16.59 196**		P		**P**	**23 13 18.6 +3.5**
AWAZ	**Awhitu Peninsu**	**16.69 198**		P		**P**	**23 13 19.5 +3.4**
HAZ	**Te Kaha**	**16.69 189**		P		**P**	**23 13 16.6 +0.6**
HAZ				S		**S**	**23 15 55.7 -5.9**
PKGZ	**Pakihiroa**	**16.78 188**		P		**P**	**23 13 21.0 +4.0**
RUGZ	**Raukumara Rang**	**16.91 189**		P		**P**	**23 13 20.0 +1.8**
RUGZ				S		**S**	**23 15 57.4 -8.1**
TWGZ	**Tauwhareparae**	**17.07 188**		P		**P**	**23 13 21.0 +1.4**
URZ	**Urewera**	**17.28 190**		P		**P**	**23 13 21.4 -0.1**
	comp=Z,2.5nm,0.3s,baz=243,slow=2.7,SNR=14						
URZ				S		**S**	**23 16 04.1 -7.2**
	comp=Z,1.2nm,0.3s,baz=194,slow=22,SNR=6.6						
URZ	**Urewera**	**17.28 190**		P		**P**	**23 13 21.6 +0.1**
URZ				IAmb		IAmb	23 13 25.2
	comp=Z,11nm,0.9s						
URZ	**Urewera**	**17.28 190**		P		**P**	**23 13 21.7 +0.2**
MWZ	**Matawai**	**17.29 189**		P		**P**	**23 13 22.7 +1.1**
RTZ	**Ruatahuna**	**17.65 190**		P		**P**	**23 13 26.2 +1.2**
BKZ	**Black Stump Fm**	**18.27 191**		P		**P**	**23 13 31.2 +0.6**
BKZ				S		**S**	**23 16 20.0 -7.5**
OTVZ	**Oturere**	**18.43 193**		P		**P**	**23 13 33.4 +1.2**
WNVZ	**Wahianoa**	**18.60 193**		P		**P**	**23 13 34.7 +1.0**
WNVZ				S		**S**	**23 16 32.7 -0.3**
KNTN	**Kanton**	**19.70 22**		P		**P**	**23 13 43.4 -0.5**
HNR	**Honiara**	**23.33 297**		P		**P**	**23 14 16.9 +0.6**
	comp=Z,58nm,0.3s,baz=135,slow=2.9,SNR=2.1						
FOZ	**Fox Glacier**	**24.08 200**		P		**P**	**23 14 23.8 +1.3**
WHZ	**Wether Hill Ro**	**26.79 200**		P		**P**	**23 14 47.9 +1.6**
ARMA	**Armidale**	**27.82 245**		P		**P**	**23 14 57.9 +2.1**
ARMA				IAmb		IAmb	23 15 10.9
	comp=Z,12nm,1.1s						
TOO	**Toolangi**	**34.64 234**		P		**P**	**23 15 54.8 +1.4**
TOO				IAmb		IAmb	23 15 55.1
	comp=Z,4.6nm,0.8s						
STKA	**Stephens Creek**	**36.55 245**		P		**P**	**23 16 10.3 +1.1**
	comp=Z,3.0nm,0.5s,baz=89,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**36.55 245**		P		**P**	**23 16 10.5 +1.3**
BBOO	**Buckleboo**	**41.30 244**		P		**P**	**23 16 47.9 +0.5**
BBOO				IAmb		IAmb	23 16 48.2
	comp=Z,29nm,1.5s						
WR0	**Warramunga Arr**	**43.30 263**		P		**P**	**23 17 03.1 -0.1**
WR0				IAmb		IAmb	23 17 28.7
	comp=Z,8.6nm,1.4s						
WR0				PcP		**PcP**	**23 18 38.0 -0.3**
AS31	**Alice Springs**	**43.35 258**		P		**P**	**23 17 03.9 +0.3**
ASAR	**Alice Springs**	**43.35 258**		P		**P**	**23 17 04.0 +0.4**
	comp=Z,5.3nm,0.6s,baz=98,slow=7.5,SNR=53						
ASAR				PcP		**PcP**	**23 18 38.5 +0.1**
	comp=Z,1.2nm,0.6s,baz=102,slow=3.7,SNR=7.4						
ASAR				S		**S**	**23 22 46.7 -2.6**
	comp=Z,1.1nm,0.7s,baz=94,slow=16,SNR=9.4						
WB0	**Warramunga Arr**	**43.47 263**		P		**P**	**23 17 04.4 -0.1**
WB0				IAmb		IAmb	23 17 05.3
	comp=Z,9.9nm,1.4s						
WB2	**Warramunga Arr**	**43.48 263**		P		**P**	**23 17 04.6 0.0**
WB2				IAmb		IAmb	23 17 32.5
	comp=Z,9.5nm,1.4s						
WRA	**Warramunga Arr**	**43.49 263**		P		**P**	**23 17 04.5 -0.2**
	comp=Z,1.2nm,0.3s,baz=98,slow=7.8,SNR=26						
WRA				S		**S**	**23 22 47.8 -3.4**
	comp=Z,0.5nm,0.8s,baz=97,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**43.49 263**		P		**P**	**23 17 04.1 -0.6**
FITZ	**Fitzroy Crossi**	**51.91 263**		P		**P**	**23 18 08.2 +0.8**
PSA00	**Pilbara Seismi**	**56.50 258**		P		**P**	**23 18 39.3 -0.2**
SBA	**Scott Base**	**57.08 184**		P		**P**	**23 18 45.4 +3.0**
SBA				IAmb		IAmb	23 18 46.8
	comp=Z,8.1nm,1.1s						
VNDA	**Vanda**	**57.10 185**		P		**P**	**23 18 44.5 +2.0**
	comp=Z,1.3nm,0.5s,baz=349,slow=7.4,SNR=13						
VNDA	**Vanda**	**57.10 185**		P		**P**	**23 18 43.8 +1.3**
MORW	**Morawa**	**58.60 248**		P		**P**	**23 18 53.8 +0.2**
MORW				IAmb		IAmb	23 18 54.4
	comp=Z,17nm,1.4s						
GIRL	**Giralia**	**61.37 255**		P		**P**	**23 19 12.9 +1.0**
CASY	**Casey**	**62.87 205**		P		**P**	**23 19 21.4 +0.6**
CASY				IAmb		IAmb	23 19 22.2
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**68.84 180**		P		**P**	**23 19 59.1 +1.1**
QSPA				IAmb		IAmb	23 20 00.2
	comp=Z,11nm,0.9s						
ADK	**Adak**	**72.83 2**		P		**P**	**23 20 20.8 -0.4**
NIKH	**Nikolski High**	**74.42 6**		P		**P**	**23 20 29.0 -1.2**
PEA0B	**Petropavlovsk-**	**76.72 346**		P		**P**	**23 20 43.7 +0.8**
PEA0B				IAmb		IAmb	23 20 45.4
	comp=Z,20nm,1.3s						
PETK	**Petropavlovsk-**	**76.72 346**		P		**P**	**23 20 42.7 -0.2**
	comp=Z,5.5nm,0.9s,baz=126,slow=7.5,SNR=5.2						
PETK	**Petropavlovsk-**	**76.72 346**		P		**P**	**23 20 43.1 +0.2**
BELA	**Belgrano 2**	**78.97 173**		P		**P**	**23 20 54.8 0.0**
BELA				IAmb		IAmb	23 20 55.7
	comp=Z,8.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**79.00 326**		P		**P**	**23 20 55.3 -0.1**
	comp=Z,0.6nm,0.3s,baz=145,slow=5.3,SNR=5.6						
SEY	**Seymchan**	**86.86 347**		P		**P**	**23 21 33.7 -0.3**
	comp=Z,0.6nm,0.3s,baz=104,slow=21,SNR=5.7						
TROLL	**Troll, Antarti**	**87.00 181**		P		**P**	**23 21 34.7 -0.3**
SNAA	**Sanae**	**87.31 179**		P		**P**	**23 21 35.6 -0.7**
VNA3	**Neumayer Olymp**	**87.48 177**		P		**P**	**23 21 36.6 -0.5**
VNA2	**Neumayer--Watz**	**87.91 177**		P		**P**	**23 21 38.9 -0.1**
	baz=177,slow=4.0						
VNA1	**Neumayer--Stat**	**88.14 177**		P		**P**	**23 21 39.4 -0.7**
ILAR	**Eielson Array**	**89.25 13**		P		**P**	**23 21 43.9 -1.3**
	comp=Z,0.4nm,0.6s,baz=213,slow=6.3,SNR=4.3						
PLCA	**Paso Flores**	**89.51 134**		P		**P**	**23 21 47.1 -0.1**
	comp=Z,2.4nm,0.8s,baz=302,slow=3.0,SNR=5.4						
PLCA	**Paso Flores**	**89.51 134**		P		**P**	**23 21 48.4 +1.1**
PLCA				IAmb		IAmb	23 22 10.1
	comp=Z,2.7nm,1.2s						
ARCES	**ARCESS Array B**	**129.45 349**		PKP		**PKPdf**	**23 27 53.0 -0.3**
	comp=Z,4.1nm,1.0s,baz=5.4,slow=2.6,SNR=3.9						
AKASG	**Malin Array Be**	**143.14 330**		PKP		PKPab	23 28 16.3 -0.8
	comp=Z,0.6nm,0.6s,baz=40,slow=4.0,SNR=5.8						
GERES	**GERESS Array B**	**150.61 343**		PKPbc		**PKPbc**	**23 28 35.9 -1.9**
	comp=Z,0.3nm,0.6s,baz=11,slow=2.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**171.93 186**		PKP		**PKPdf**	**23 28 52.8 -1.4**
	comp=Z,0.5nm,0.8s,baz=282,slow=1.3,SNR=3.1						
TORD				PKPab		**PKPab**	**23 30 20.6 -0.4**
	comp=Z,0.6nm,0.7s,baz=162,slow=4.0,SNR=5.7						
TORD	**Torodi Ar. Bea**	**171.93 186**		PKPdf		**PKPdf**	**23 28 52.9 -1.3**
TORD						**PKPab**	**23 30 20.8 -0.2**

IDC ***12*** *23:22:56.2±0.4,11.°37N×140.°90E,h0km,mb4.7/39, mb1 4.8/43,mb1mx4.7/61,mbtmp4.7/43,ML4.8/4,MS4.7/74, Ms1 4.7/74,ms1mx4.6/83,Error ellipse: s-maj=13.8km s-min=9.5km az=83.0*

BJI ***12*** *23:22:57.0±0.0,11.°13N×141.°31E,h36km,mb4.9/74, mB5.3/55,Ms5.0/74,Ms7 4.9/71*

NEIC ***12*** *23:22:58.4±2.4,11.°32N±0.°08×140.°85E±0.°10,h10km±1km, mb5.1/220,Error ellipse: s-maj=16.3km s-min=13.7km az=278.0*

MOS ***12*** *23:23:01.4±0.9,11.°37N×140.°88E,h20km,mb5.1/44, MS5.0/7,Error ellipse: s-maj=8.6km s-min=4.8km az=112.0*

DJA ***12*** *23:23:01.1±0.5,11.°N±3.°×14.°1E±.°,h17km±3km,M5.1/58, mb5.0/58,mB5.5/33,MLv5.4/1,Mw(mB)5.0/33, MwMwp5.1/10,Mwp5.4/10*

GCMT ***12*** *23:23:02.4±0.1,11.°17N±0.°01×140.°70E±0.°01,h19km, MW5.3/125,Moment Tensor Solution. s114,c194; s125,c240; Duration: 1ꢀ1 Moment tensor: Scale 10^17 Nm; Mr1.03±.02; Mθθ-0.97±.01; Mϕϕ-0.06±.01; Mrθ0.14±.03; Mθϕ-0.30±.01; Mϕr-0.09±.04; Best double couple: Ms1.06100×10^17 NP1:ϕs246.00000°,δ42.00000°, λ80.00000°. NP2:ϕs80.00000°,δ48.00000°,λ99.00000°. Principal axes: T 1.0510, Plg82.0000°, Azm50.0000°; N 0.0150, Plg7.0000°, Azm254.0000°; P -1.0710, Plg3.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 23:23:01.4±0.5,11°35N±0.°04×140°93E±0.°04, h33km±2km, h33km:pP-P,n677,σ1s40/623, mb5.1/221, MS4.8/100,

25C-10D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.45 59**		Pn	**Pn**	**23 24 07.3**	**+0.7**
	13nm,0.3s,baz=221,slow=11,SNR=3.2						
GUMO				Sn	**Sn**	**23 24 58.7**	**+1.4**
	baz=218,slow=22,SNR=1.2						
GUMO	**Guam**	**4.45 59**		P	**Pn**	**23 24 09.6**	**+3.0**
GUMO	**Guam**	**4.45 59**			**Pn**	**23 24 09.6**	**+3.0**
GUMO	**Guam**	**4.45 59**		P	Pn	23 24 12.0	+5.4
BAKI	**Biak**	**13.35 201**		P	**Pn**	**23 26 06.7**	**-2.0**
	2μm96nm,1.8s						
GENI	**Genyem**	**13.87 183**		P	**Pn**	**23 26 18.6**	**+2.8**
	7μm4μm169nm,0.7s						
GENI	**Genyem**	**13.87 183**		P	**Pn**	**23 26 18.9**	**+3.1**
BIPH	**Bislig**	**14.70 259**		*e*P	**Pn**	**23 26 27.1**	**0.0**
MANU	**Manus Island**	**14.76 154**			**Pn**	**23 26 28.1**	**+0.2**
SWI	**Sorong**	**15.47 219**		P	**P**	**23 26 40.1**	**-1.4**
SWI				pmax	pmax		
	comp=Z,27nm,0.7s						
SWI	**Sorong**	**15.47 219**		P	**Pn**	**23 26 38.3**	**+0.9**
	comp=Z,5μmcomp=Z,1μmcomp=Z,37nm,1.2s						
SIJI	**Sorong**	**15.47 219**		Pn	**Pn**	**23 26 37.3**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=32,slow=15,SNR=1.6						
SIJI				LR	LR	23 31 26.8	
	comp=Z,3μm,18.1s,baz=43,slow=33						
JCJ	**Chichijima**	**15.71 4**		Pn	**Pn**	**23 26 41.9**	**+1.5**
	comp=Z,3.3nm,0.3s,baz=175,slow=18,SNR=1.5						
JCJ				LR	LR	23 31 35.8	
	comp=Z,2μm,19.5s,baz=149,slow=33						
DAV	**Davao City (W)**	**15.73 256**		Pn	**Pn**	**23 26 41.1**	**+0.3**
	comp=Z,29nm,0.3s,baz=115,slow=11,SNR=1.2						
DAV				LR	LR	23 31 24.5	
	comp=Z,3μm,21.7s,baz=134,slow=32						
DAV	**Davao City (W)**	**15.73 256**		P	**P**	**23 26 43.1**	**-1.3**
MSLP	**Maasin**	**15.84 267**		*e*P	**P**	**23 26 46.1**	**+0.6**
DDMP	**Don Marcelino,**	**15.91 252**		*e*P	**P**	**23 26 53.1**	**+6.7**
TNTI	**Ternate**	**17.08 233**			**Pn**	**23 26 58.1**	**+0.2**
TNTI	**Ternate**	**17.08 233**		P	**Pn**	**23 26 57.3**	**-0.5**
	comp=Z,2μmcomp=Z,60nm,1.3s						
TNTI	**Ternate**	**17.08 233**		P	**P**	**23 27 00.7**	**+1.4**
RCP	**Roxas**	**17.82 272**		*e*P	**P**	**23 27 09.7**	**+2.1**
LBMI	**Labuha**	**17.88 229**		P	**P**	**23 27 10.2**	**+2.0**
	comp=Z,μmcomp=Z,3μmcomp=Z,93nm,1.1s						
JCNP	**Jose Panganiba**	**18.02 281**		*e*P	**Pn**	**23 27 06.4**	**-3.0**
JCNP	**Jose Panganiba**	**18.02 281**		*e*P	**P**	**23 27 10.5**	**+0.8**
CNOP	**Candoni, Negro**	**18.04 267**		*e*P	**P**	**23 27 12.3**	**+2.3**
MSAI	**Masohi**	**18.86 220**		P	**Pn**	**23 27 21.0**	**+1.4**
	comp=Z,34nm,1.1s						
RABL	**Rabaul**	**19.06 143**		P	**Pn**	**23 27 23.6**	**+1.5**
RABL	**Rabaul**	**19.06 143**		P	**Pn**	**23 27 24.7**	**+2.6**
KRVT	**Keravat (AS076**	**19.07 144**		P	**Pn**	**23 27 22.7**	**+0.5**
	comp=Z,4.2nm,0.3s,baz=277,slow=7.5,SNR=9.8						
KRVT				LR	LR	23 33 46.3	
	comp=Z,2μm,18.1s,baz=95,slow=34						
BNDI	**Bandanaira**	**19.20 215**		P	**Pn**	**23 27 24.2**	**+0.4**
JOW	**Kunigami**	**19.48 324**		P	**Pn**	**23 27 28.6**	**+1.6**
	comp=Z,5.3nm,0.3s,baz=165,slow=10.0,SNR=15						
JOW				LR	LR	23 33 48.3	
	comp=Z,3μm,19.3s,baz=144,slow=34						
JOW	**Kunigami**	**19.48 324**		P	**Pn**	**23 27 28.7**	**+1.6**
JOW				IAmb	IAmb	23 27 31.0	
	comp=Z,108nm,0.8s						
JOW	**Kunigami**	**19.48 324**		P	**Pn**	**23 27 28.8**	**+1.8**
AAI	**Ambon**	**19.58 221**		P	**Pn**	**23 27 28.3**	**-0.1**
AAI				pmax	pmax		
	comp=Z,308nm,1.7s					

MAJO pmax pmax
comp=Z,20nm,1.1s
MAJO Matsushiro 25.21 355 P **P** **23 28 22.5 -1.7**
MAJO Matsushiro 25.21 355 P **P** **23 28 25.3 +1.1**
MJB9 Matsu-Tunnel 25.21 355 P **P** **23 28 22.8 -1.5**
COEN Coen 25.24 175 P **P** **23 28 26.9 +2.3**
KDU Kakadu 25.31 200 P **P** **23 28 24.4 -0.8**
baz=25,SNR=6.9
KDU Kakadu 25.31 200 P **P** **23 28 25.4 +0.2**
TTSI Tana Toraja 25.40 237 P **P** **23 28 29.4 +3.3**
comp=Z,2µmcomp=Z,61nm,1.1s
MTN Manton Dam 25.92 202 P **P** **23 28 30.9 +0.1**
BNSI Bone 25.96 234 P **P** **23 28 33.0 +1.8**
comp=Z,1µmcomp=Z,46nm,1.0s
SPSI Sidrap Palu 25.97 235 P **P** **23 28 29.3 -2.0**
comp=Z,590nmcomp=Z,31nm,1.3s
KAPI Kappang 26.61 233 P **P** **23 28 35.5 -1.6**
comp=Z,18nm,1.0s,baz=58,slow=3.6,SNR=7.5
KAPI Kappang 26.61 233 *i* P **P** **23 28 37.5 +0.5**
KAPI pmax pmax
comp=Z,25nm,1.2s
KAPI Kappang 26.61 233 P **P** **23 28 35.2 -1.9**
KAPI Kappang 26.61 233 P **P** **23 28 36.3 -0.8**
KAPI P **P** **23 28 36.3 -0.8**
KAPI Kappang 26.61 233 P **P** **23 28 37.6 +0.5**
JSD Sado 26.69 355 P **P** **23 28 36.5 -1.0**
JSD IAmb IAmb 23 28 39.5
comp=Z,57nm,1.2s
MMRI Maumere 27.20 224 P **P** **23 28 40.3 -2.0**
MMRI IAmb IAmb 23 29 26.8
comp=Z,75nm,1.1s
MMRI Maumere 27.20 224 P **P** **23 28 39.9 -2.4**
comp=Z,61nm,1.9s
MMRI Maumere 27.20 224 P **P** **23 28 41.4 -0.9**
BATI Baumata 27.44 219 P **P** **23 28 42.5 -2.0**
comp=Z,18nm,0.5s,baz=73,slow=6.2,SNR=5.2
BATI LR LR 23 38 48.0
comp=Z,1µm,20.4s,baz=48,slow=35
BATI Baumata 27.44 219 P **P** **23 28 42.1 -2.5**
comp=Z,777nmcomp=Z,33nm,1.2s
TJN Taejon 27.77 336 *ce* P **P** **23 28 46.9 -0.4**
TJN Taejon 27.77 336 P **P** **23 28 47.6 +0.3**
HNR Honiara 28.00 137 LR LR 23 39 39.3
comp=Z,647nm,18.6s,baz=330,slow=36
KSRS Korea Array 28.50 338 P **P** **23 28 52.9 -0.9**
comp=Z,3.5nm,0.7s,baz=159,slow=9.0,SNR=9.2
KSRS LR LR 23 39 03.4
comp=Z,2µm,19.4s,baz=150,slow=34
KSAR Wonju Array Be 28.51 338 P **P** **23 28 53.7 -0.1**
KSAR Wonju Array Be 28.51 338 P **P** **23 28 53.7 -0.1**
NJ2 Nanjing 28.96 319 *eP* **P** **23 28 59.1 +1.2**
NJ2 sS **sS** **23 34 06.7 +6.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 LR LR
comp=Z,2µm,17.1s
NJ2 LR LR
comp=Z,2µm,18.5s
NJ2 LR LR
comp=Z,3µm,14.2s
KNRA Kununurra 29.43 204 P **P** **23 29 01.2 -0.9**
baz=29,SNR=5.0
KNRA Kununurra 29.43 204 P **P** **23 29 02.5 +0.3**
SBUM Sibu 29.81 255 P **P** **23 29 04.3 -1.4**
SBUM Sibu 29.81 255 P **P** **23 29 06.0 +0.3**
QIZ Qiongzhong 30.92 288 P **P** **23 29 14.9 -0.6**
QIZ S **S** **23 34 18.2 +0.4**
QIZ LR LR
comp=Z,720nm,19.6s
QIZ LR LR
comp=Z,1µm,15.7s
QIZ LR LR
comp=Z,1µm,19.6s
WHN Wuhan 31.18 312 ⇓P **P** **23 29 20.1 +2.5**
WHN pP **pP** **23 29 25.7 -0.1**
WHN sP **sP** **23 29 27.9 -1.6**
WHN PP **PnPn** **23 30 21.7 +1.7**
WHN S S 23 34 32.7 +11
WHN pmax pmax
comp=Z,32nm,0.9s
WHN LR LR
comp=Z,3µm,14.9s
WHN LR LR
comp=Z,3µm,15.8s
WHN LR LR
comp=Z,5µm,16.7s
WB0 Warramunga Arr 31.58 192 IAmb IAmb 23 29 38.8
comp=Z,32nm,1.2s
CTA Charters Tower 31.67 170 LR LR 23 42 00.5
comp=Z,1µm,18.5s,baz=5.0,slow=36
QIS Mount Isa 31.73 182 P **P** **23 29 22.5 0.0**
baz=32,SNR=4.2
QIS Mount Isa 31.73 182 P **P** **23 29 23.4 +0.9**
WR0 Warramunga Arr 31.74 191 P **P** **23 29 21.9 -0.7**
WR0 IAmb IAmb 23 29 39.7
comp=Z,32nm,1.1s
WRAB Tennant Creek 31.75 192 *ce* P **P** **23 29 21.7 -1.0**
WRAB pmax pmax
comp=Z,35nm,1.7s
WRAB Tennant Creek 31.75 192 P **P** **23 29 22.1 -0.6**
WB2 Warramunga Arr 31.76 192 IAmb IAmb 23 29 31.0
comp=Z,25nm,1.1s
WRA Warramunga Arr 31.76 192 P **P** **23 29 22.1 -0.6**
comp=Z,12nm,1.0s,baz=11,slow=9.2,SNR=26
WRA PcP **PcP** **23 32 12.9 -0.9**
comp=Z,0.7nm,0.7s,baz=353,slow=2.5,SNR=2.0
WRA LR LR 23 42 07.8
comp=Z,1µm,18.8s,baz=12,slow=36
WRA Warramunga Arr 31.76 192 P **P** **23 29 21.9 -0.9**
KSM Kuching 31.93 254 P **P** **23 29 23.5 -0.9**
KSM IAmb IAmb 23 29 25.6
comp=Z,51nm,1.8s
DL2 Dalian 32.39 331 P **P** **23 29 29.8 +1.7**
DL2 S **S** **23 34 41.7 +1.4**
DL2 pmax pmax
comp=Z,47nm,1.3s
DL2 pmax pmax
comp=Z,250nm,9.0s
DL2 LR LR
comp=Z,2µm,19.0s
DL2 LR LR
comp=Z,2µm,19.0s
DL2 LR LR
comp=Z,4µm,19.0s
ASAJ Asahikawa 32.69 2 LR LR 23 41 52.4
comp=Z,717nm,20.8s,baz=194,slow=35
TIA Tai'an 32.80 323 *eP* **P** **23 29 31.0 -0.7**
TIA S **S** **23 34 44.4 -2.4**
TIA pmax pmax
comp=Z,11nm,1.4s
TIA pmax pmax
comp=Z,320nm,11.8s
TIA LR LR
comp=Z,930nm,18.6s
TIA LR LR
comp=Z,1µm,14.7s
TIA LR LR
comp=Z,1µm,17.7s
FITZ Fitzroy Crossi 32.92 207 P **P** **23 29 30.1 -2.8**
baz=33,SNR=8.0
FITZ Fitzroy Crossi 32.92 207 P **P** **23 29 30.7 -2.2**
FITZ Fitzroy Crossi 32.92 207 P **P** **23 29 32.6 -0.3**
GMJI Gumukmas 33.58 236 P **P** **23 29 38.1 -0.7**
comp=Z,29nm,1.1s
USA0B Ussuriysk Arra 33.63 348 P **P** **23 29 39.4 +0.5**
USA0B pmax pmax
comp=Z,32nm,1.4s
USA0B Ussuriysk Arra 33.63 348 P **P** **23 29 39.4 +0.5**
USA0B IAmb IAmb 23 29 41.5
comp=Z,32nm,1.4s
USRK Ussuriysk Ar. 33.63 348 P **P** **23 29 38.6 -0.3**
comp=Z,7.2nm,0.9s,baz=142,slow=9.6,SNR=8.8
USRK LR LR 23 41 54.8
comp=Z,2µm,18.8s,baz=167,slow=34
LYN LuoYang 34.72 316 *eP* **P** **23 29 48.6 +0.1**
LYN S **S** **23 35 15.0 -1.5**
LYN pmax pmax
comp=Z,50nm,1.3s
LYN pmax pmax
comp=Z,410nm,9.5s
LYN LR LR
comp=Z,3µm,17.5s
LYN LR LR
comp=Z,1µm,19.4s
LYN LR LR
comp=Z,2µm,19.2s

ENH Enshi 34.73 308 P **P** **23 29 48.7 0.0**
CN2 Changchun 35.00 340 *eP* **P** **23 29 49.9 -0.9**
CN2 *eS* **S** **23 35 20.8 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,400nm,9.6s
CN2 LR LR
comp=Z,2µm,16.0s
CN2 LR LR
comp=Z,2µm,16.0s
CN2 LR LR
comp=Z,2µm,18.0s
HNS HongShan 35.03 322 ⇑P **P** **23 29 51.2 +0.1**
HNS pP **pP** **23 29 59.1 -0.4**
HNS S **S** **23 35 19.8 -1.4**
HNS ScS **ScS** **23 40 07.7 -2.1**
HNS pmax pmax
comp=Z,27nm,1.3s
HNS LR LR
comp=Z,370nm,17.6s
HNS LR LR
comp=Z,730nm,17.3s
HNS LR LR
comp=Z,710nm,17.6s
AS31 Alice Springs 35.47 191 P **P** **23 29 54.3 -0.8**
ASAR Alice Springs 35.47 191 P **P** **23 29 54.6 -0.4**
comp=Z,3.3nm,0.7s,baz=16,slow=12,SNR=50
ASAR PcP **PcP** **23 32 24.4 +0.1**
comp=Z,1.9nm,0.8s,baz=26,slow=3.9,SNR=2.3
ASAR LR LR 23 44 24.0
comp=Z,1µm,19.4s,baz=24,slow=36
ASAR Alice Springs 35.47 191 P **P** **23 29 53.4 -1.6**
YSS Yuzh-Sakhalins 35.52 2 *eP* **P** **23 29 56.2 +1.0**
YSS *e* 23 31 12.0
YSS *eS* **S** **23 35 27.8 -0.8**
YSS pmax pmax
comp=Z,300nm,3.9s
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,1µm,15.0s
GYA Guiyang 35.59 300 ⇓P **P** **23 29 58.0 +1.7**
GYA pmax pmax
comp=Z,11nm,1.2s
BJT Baijiatuan 35.99 327 P **P** **23 29 59.3 -0.1**
BJT pmax pmax
comp=Z,83nm,1.4s
BJT Baijiatuan 35.99 327 **P** **23 29 59.3 -0.1**
BJI Beijing 36.00 327 P **P** **23 29 59.8 +0.4**
BJI PP **PP** **23 31 26.3 +4.7**
BJI S **S** **23 35 40.9 +4.8**
BJI pmax pmax
comp=Z,43nm,1.4s
BJI pmax pmax
comp=Z,410nm,4.1s
BJI LR LR
comp=Z,1µm,17.0s
BJI LR LR
comp=Z,1µm,17.5s
BJI LR LR
comp=Z,3µm,17.9s
BNX BinXian 36.17 344 ⇑P **P** **23 30 01.6 +0.8**
BNX S **S** **23 35 36.5 -2.0**
BNX pmax pmax
comp=Z,110nm,1.0s
BNX pmax pmax
comp=Z,660nm,4.4s
BNX LR LR
comp=Z,2µm,14.2s
BNX LR LR
comp=Z,1µm,14.6s
BNX LR LR
comp=Z,3µm,17.4s
TIY Taiyuan 36.62 321 *eP* **P** **23 30 05.2 +0.3**
TIY pP **sP** **23 30 14.4 -2.5**
TIY PP **PP** **23 31 28.6 0.0**
TIY S **S** **23 35 50.7 +4.9**
TIY pmax pmax
comp=Z,50nm,0.5s
TIY pmax pmax
comp=Z,360nm,4.6s
TIY LR LR
comp=Z,860nm,19.2s
TIY LR LR
comp=Z,970nm,19.6s
TIY LR LR
comp=Z,1µm,17.2s
KPJI Karang Pucung 36.85 241 P **P** **23 30 08.3 +1.3**
comp=Z,26nm,1.7s
XAN Xi'an 36.92 313 P **P** **23 30 07.4 0.0**
XAN pP sP 23 30 17.3 -2.1
XAN sP pwP 23 30 21.1 0.0
XAN S **S** **23 35 49.7 -0.8**
XAN SS **SnSn** **23 38 28.3 +3.8**
XAN pmax pmax
comp=Z,20nm,1.3s
XAN pmax pmax
comp=Z,380nm,7.7s
XAN LR LR
comp=Z,950nm,17.4s
XAN LR LR
comp=Z,1µm,16.9s
XAN LR LR
comp=Z,2µm,17.2s
LEM Lembang 37.74 243 LR LR 23 45 40.7
comp=Z,618nm,21.6s,baz=54,slow=36
QLP Quilpie 37.84 175 P **P** **23 30 15.3 +0.2**
WRKA Warakurna 38.20 199 P **P** **23 30 17.4 -0.9**
baz=38,SNR=12
WRKA Warakurna 38.20 199 P **P** **23 30 18.3 0.0**
RMQ Roma 38.37 169 P **P** **23 30 20.0 +0.4**
baz=38,SNR=4.8
RMQ Roma 38.37 169 P **P** **23 30 20.7 +1.1**
KLR Kul'dur 38.53 350 LR LR 23 44 05.6
comp=Z,1µm,20.0s,baz=160,slow=33
KLR Kul'dur 38.53 350 *ce* P **P** **23 30 21.3 +0.5**
KLR pmax pmax
comp=Z,58nm,1.3s
KMI Kunming 38.62 296 ⇑P **P** **23 30 23.4 +1.2**
KMI pP sP 23 30 31.4 -2.7
KMI sP pwP 23 30 35.9 +0.8
KMI PP **PP** **23 31 51.3 +0.4**
KMI pmax pmax
comp=Z,20nm,1.3s
KMI LR LR
comp=Z,620nm,15.8s
KMI LR LR
comp=Z,1µm,17.1s
KMI LR LR
comp=Z,1µm,18.4s
XLT XiLinHaoTe 38.89 331 ⇑ *i* P **P** **23 30 24.1 +0.1**
XLT pP sP 23 30 33.5 -2.5
XLT sP pwP 23 30 35.3 -2.1
XLT S **S** **23 36 18.9 -1.2**
XLT sS sS 23 36 34.5 +0.6
XLT SS **SS** **23 39 10.3 -2.0**
XLT pmax pmax
comp=Z,51nm,1.3s
XLT pmax pmax
comp=Z,510nm,4.1s
XLT LR LR
comp=Z,100nm,16.4s
XLT LR LR
comp=Z,740nm,16.0s
XLT LR LR
comp=Z,1µm,17.3s
HHC Hu-ho-hao-te 39.13 324 *eP* **P** **23 30 27.5 +1.5**
HHC pP sP 23 30 35.4 -2.7
HHC S **S** **23 36 23.5 -0.3**
HHC sS sS 23 36 42.2 +4.5
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,360nm,5.6s
HHC LR LR
comp=Z,800nm,15.5s
HHC LR LR
comp=Z,1µm,15.5s
HHC LR LR
comp=Z,2µm,15.3s
KOUNC Koumac, New Ca 39.15 144 P **P** **23 30 29.2 +3.0**
OOD Oodnadatta 39.24 187 P **P** **23 30 27.2 +0.3**
GRNR Gornyy 39.48 356 *eP* **P** **23 30 26.8 -1.9**
CD2 Chengdu 39.51 305 P **P** **23 30 30.0 +0.7**

CD2 sP pwP 23 30 44.5 +1.5
CD2 S **S** **23 36 30.0 +0.4**
CD2 SS **SS** **23 39 24.4 -0.5**
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,430nm,9.8s
CD2 LR LR
comp=Z,990nm,14.2s
PZH PanZhiHua 39.83 298 P **P** **23 30 31.0 -1.1**
PZH sS **sS** **23 36 49.7 +1.1**
PZH SS **SS** **23 39 31.4 -0.3**
PZH pmax pmax
comp=Z,20nm,1.3s
PZH pmax pmax
comp=Z,230nm,8.3s
PZH LR LR
comp=Z,1µm,17.1s
PZH LR LR
comp=Z,2µm,17.1s
PZH LR LR
comp=Z,1µm,17.8s
BTO Baotou 39.88 322 *eP* **P** **23 30 34.0 +1.7**
BTO S **S** **23 36 34.5 -0.7**
BTO LR LR
comp=Z,5µm,15.9s
BTO LR LR
comp=Z,3µm,16.3s
KULM Kulim 40.27 265 P **P** **23 30 34.2 -1.6**
KULM Kulim 40.27 265 P **P** **23 30 36.0 +0.2**
SRIT Nakonsritamara 40.77 270 P **P** **23 30 40.4 +0.5**
SRIT IAmb IAmb 23 30 43.1
comp=Z,60nm,1.2s
CM31 Chiang Mai Arr 41.11 285 P **P** **23 30 43.8 +1.1**
CM31 IAmb IAmb 23 30 47.3
comp=Z,99nm,1.8s
CM31 Chiang Mai Arr 41.11 285 P **P** **23 30 43.2 +0.6**
CM31 P **P** **23 30 43.2 +0.6**
CMAR Chiang Mai Arr 41.11 285 P **P** **23 30 43.7 +1.0**
comp=Z,10nm,1.0s,baz=87,slow=6.1,SNR=28
CMAR PcP **PcP** **23 32 42.1 +0.2**
comp=Z,1.4nm,0.7s,baz=96,slow=1.6,SNR=1.5
CMAR LR LR 23 46 00.4
comp=Z,748nm,20.8s,baz=95,slow=34
CMAR Chiang Mai Arr 41.11 285 P **P** **23 30 43.4 +0.7**
CHTO Chiang Mai 41.13 286 P **P** **23 30 42.6 -0.3**
CHTO pmax pmax
comp=Z,36nm,1.9s
CHTO Chiang Mai 41.13 286 P **P** **23 30 42.6 -0.3**
CHTO Chiang Mai 41.13 286 P **P** **23 30 43.8 +0.9**
CHTO P **P** **23 30 43.8 +0.9**
CHTO Chiang Mai 41.13 286 P **P** **23 30 44.4 +1.5**
NOUC Port Laguerre 41.53 143 P **P** **23 30 48.4 +2.5**
LZH Lanzhou 41.55 313 *eP* **P** **23 30 47.6 +1.3**
LZH pP pP 23 30 55.3 +0.7
LZH sP pwP 23 30 59.3 -0.8
LZH PP **PP** **23 32 22.4 -0.2**
LZH PcP **PcP** **23 32 43.1 -0.2**
LZH *eS* **S** **23 36 53.8 -6.5**
LZH SS **SS** **23 39 59.2 -6.6**
LZH pmax pmax
comp=Z,19nm,1.2s
LZH pmax pmax
comp=Z,400nm,5.2s
LZH LR LR
comp=Z,490nm,14.9s
LZH LR LR
comp=Z,1µm,13.8s
LZH LR LR
comp=Z,2µm,16.0s
DZM Mont Dzumac 41.59 143 P **P** **23 30 47.6 +1.1**
comp=Z,41nm,1.3s,baz=348,slow=10,SNR=5.7
DZM LR LR 23 46 38.4
comp=Z,631nm,19.5s,baz=290,slow=34
DZM Mont Dzumac 41.59 143 *e* LR LR 23 42 25.7
comp=Z,931nm,22.1s
DZM Mont Dzumac 41.59 143 P **P** **23 30 46.9 +0.4**
DZM IAmb IAmb 23 30 56.5
comp=Z,80nm,1.4s
DZM Mont Dzumac 41.59 143 P **P** **23 30 48.1 +1.6**
LCRK Leigh Creek 41.63 184 P **P** **23 30 47.5 +0.8**
HIA Hailar 41.70 339 P **P** **23 30 46.9 -0.1**
HIA pmax pmax
comp=Z,13nm,0.9s
HIA Hailar 41.70 339 P **P** **23 30 46.9 -0.1**
YATNC Mamie plateau, 41.84 142 P **P** **23 30 50.4 +1.9**
MULG Mulgathing 41.91 189 P **P** **23 30 49.5 +0.6**
PPI Padang Panjang 41.94 256 P **P** **23 30 49.8 +0.3**
comp=Z,4.0nm,0.9s
MNSI Mandailing Nat 42.37 259 P **P** **23 30 55.6 +2.6**
comp=Z,33nm,0.4s
PSI Prapat 42.49 262 LR LR 23 51 39.7
comp=Z,325nm,18.6s,baz=92,slow=41
ARMA Armidale 42.78 166 P **P** **23 30 58.5 +2.3**
comp=Z,17nm,1.3s
CMSA Cobar Meteorol 42.88 174 P **P** **23 30 57.5 +0.7**
baz=43,SNR=7.8
CMSA Cobar Meteorol 42.88 174 P **P** **23 30 57.7 +0.9**
STKA Stephens Creek 42.98 179 P **P** **23 30 56.8 -0.8**
comp=Z,7.9nm,0.9s,baz=354,slow=9.1,SNR=13
STKA LR LR 23 49 44.5
comp=Z,1µm,18.8s,baz=359,slow=37
STKA Stephens Creek 42.98 179 P **P** **23 30 57.1 -0.5**
baz=43,SNR=6.9
STKA Stephens Creek 42.98 179 *i* P **P** **23 30 57.0 -0.6**
STKA Stephens Creek 42.98 179 P **P** **23 30 56.8 -0.8**
STKA Stephens Creek 42.98 179 P **P** **23 30 57.8 +0.2**
KCSI Kotacane, Aceh 43.45 263 P **P** **23 31 00.7 -1.1**
comp=Z,828nmcomp=Z,91nm,1.4s
FORT Forrest 43.67 196 P **P** **23 31 03.9 +0.7**
ZEA Zeya 43.67 348 *eP* **P** **23 31 03.3 +0.3**
ZEA pmax pmax
comp=N,20nm,1.7s
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA MLR MLR
comp=E,500nm,16.0s
ZEA MLR MLR
comp=Z,600nm,16.0s
PETK Petropavlovsk- 43.78 15 P **P** **23 31 03.6 -0.2**
comp=Z,2.0nm,0.9s,baz=258,slow=4.1,SNR=4.2
PETK LR LR 23 50 21.2
comp=Z,378nm,18.9s,baz=182,slow=38
PET Petropavlovsk 43.94 15 *eP* **P** **23 31 08.6 +3.5**
PET *e* 23 32 52.5
PET *eS* **S** **23 37 38.8 +4.3**
PET pmax pmax
comp=Z,600nm,15.1s
PET pmax pmax
comp=Z,200nm,13.1s
PET MLR MLR
comp=Z,900nm,19.0s
BBOO Buckleboo 44.15 186 P **P** **23 31 06.7 -0.3**
baz=44,SNR=8.6
BBOO Buckleboo 44.15 186 P **P** **23 31 06.5 -0.5**
BBOO IAmb IAmb 23 31 08.4
comp=Z,62nm,1.6s
BBOO Buckleboo 44.15 186 P **P** **23 31 07.7 +0.6**
GSI Gunungsitoli 44.16 260 P **P** **23 31 05.2 -2.3**
GSI IAmb IAmb 23 31 07.4
comp=Z,36nm,1.0s
GSI Gunungsitoli 44.16 260 P **P** **23 31 07.2 -0.3**
comp=Z,47nm,1.2s
GSI Gunungsitoli 44.16 260 P **P** **23 31 06.5 -1.0**
NAPP Napperby 44.36 183 P **P** **23 31 10.4 +1.7**
HTT Hallett 44.57 182 P **P** **23 31 10.3 -0.1**
baz=45,SNR=4.6
HTT Hallett 44.57 182 P **P** **23 31 10.0 -0.4**
GTA Gaotai 45.89 315 ⇓P **P** **23 31 21.7 +0.6**
GTA pP sP 23 31 32.9 -0.3
GTA sP pwP 23 31 36.2 +1.2
GTA PcP **PcP** **23 32 59.5 +1.6**
GTA PP **PP** **23 33 08.2 -0.8**
GTA S **S** **23 38 01.5 -2.1**
GTA SS **ScS** **23 41 21.1 +6.2**
GTA pmax pmax
comp=Z,14nm,1.0s
GTA pmax pmax
comp=Z,220nm,9.6s
GTA LR LR
comp=Z,640nm,19.1s
GTA LR LR
comp=Z,880nm,15.9s
GTA LR LR
comp=Z,970nm,17.9s

ULN Ulaanbaatar 46.15 329 *ce*P **P 23 31 23.8 +0.8**
ULN pmax pmax
comp=Z,35nm,1.7s
ULN Ulaanbaatar 46.15 329 P **P 23 31 23.8 +0.8**
ULN P **P 23 31 23.8 +0.8**
SONM Songino Array 46.47 328 P **P 23 31 26.0 +0.5**
comp=Z,11nm,1.1s,baz=144,slow=6.4,SNR=42
SONM PcP **PcP 23 32 58.7 -1.1**
comp=Z,1.2nm,0.6s,baz=147,slow=4.0,SNR=1.5
SONM LR LR 23 51 50.6
comp=Z,3µm,18.3s,baz=121,slow=37
SONM Songino Array 46.47 328 P **P 23 31 26.0 +0.5**
SONM pmax pmax
comp=Z,32nm,1.2s
SONM Songino Array 46.47 328 P **P 23 31 25.9 +0.5**
SONM IAmb IAmb 23 31 29.4
comp=Z,32nm,1.2s
MORW Morawa 46.82 210 P **P 23 31 27.5 -0.7**
baz=47,SNR=9.1
MORW Morawa 46.82 210 P **P 23 31 26.9 -1.3**
MORW Morawa 46.82 210 P **P 23 31 28.5 +0.3**
BLDU Ballidu 47.78 209 P **P 23 31 34.9 -0.8**
baz=48,SNR=20
BLDU Ballidu 47.78 209 P **P 23 31 35.6 -0.1**
ARPS Mount Arapiles 47.86 179 P **P 23 31 37.0 +0.7**
baz=48,SNR=5.8
ARPS Mount Arapiles 47.86 179 P **P 23 31 37.6 +1.4**
KLBR Kellerberrin 48.13 207 P **P 23 31 38.1 -0.3**
baz=48,SNR=4.8
KLBR Kellerberrin 48.13 207 P **P 23 31 38.3 -0.1**
GOMU GeErMu 48.33 309 P **P 23 31 42.1 +1.6**
GOMU pmax pmax
comp=Z,7.0nm,1.1s
GOMU pmax pmax
comp=Z,190nm,4.7s
GOMU LR LR
comp=Z,700nm,18.9s
GOMU LR LR
comp=Z,390nm,18.4s
GOMU LR LR
comp=Z,320nm,17.9s
SHL Shillong 48.36 294 P **P 23 31 40.6 0.0**
SHL pmax pmax
comp=Z,21nm,0.3s
SHL Shillong 48.36 294 P **P 23 31 40.6 0.0**
MA2 Magadan 48.70 7 LR LR 23 51 33.3
comp=Z,346nm,19.7s,baz=210,slow=35
MA2 Magadan 48.70 7 *ce*P **P 23 31 43.0 +0.6**
MA2 pmax pmax
comp=Z,27nm,1.3s
MA2 Magadan 48.70 7 P **P 23 31 42.0 -0.4**
MA2 IAmb IAmb 23 31 44.3
comp=Z,42nm,1.4s
MA2 Magadan 48.70 7 P **P 23 31 43.7 +1.3**
BRAT Ballarat 48.72 177 P **P 23 31 45.2 +2.4**
TOO Toolangi 48.84 175 P **P 23 31 44.6 +0.7**
baz=49,SNR=7.3
TOO Toolangi 48.84 175 P **P 23 31 44.2 +0.4**
TOO pmax pmax
comp=Z,67nm,1.6s
TOO Toolangi 48.84 175 P **P 23 31 44.2 +0.4**
TOO Toolangi 48.84 175 P **P 23 31 45.1 +1.3**
SHEM Shemya Is, Ala 49.13 26 LR LR 23 50 57.4
comp=Z,1µm,20.0s,baz=290,slow=34
MUN Mundaring 49.15 208 P **P 23 31 44.9 -1.4**
baz=49,SNR=3.3
MUN Mundaring 49.15 208 P **P 23 31 46.4 +0.1**
COCO West Island 49.63 243 P **P 23 31 50.5 +0.3**
LSA Lhasa 49.66 299 P **P 23 31 51.8 +1.0**
LSA pmax pmax
comp=Z,12nm,1.4s
LSA Lhasa 49.66 299 P **P 23 31 52.5 +1.6**
ZAK Zakamensk 49.66 329 *e*P **P 23 31 50.5 +0.4**
ZAK pmax pmax
comp=Z,76nm,1.4s
IRK Irkutsk 50.37 332 *e*P **P 23 31 55.4 +0.1**
IRK pmax pmax
comp=Z,53nm,1.8s
BOD Bodaibo 50.72 342 *e*P **P 23 31 57.5 -0.4**
BOD pmax pmax
comp=Z,16nm,2.0s
YAK Yakutsk 51.26 353 LR LR 23 51 50.2
comp=Z,800nm,20.8s,baz=118,slow=34
YAK Yakutsk 51.26 353 *e*P **P 23 32 00.5 -1.3**
YAK *e**PP **pwP 23 32 16.9 +1.3**
YAK *e* 23 33 16.9
YAK *e* 23 33 56.3
YAK *e*S **S 23 39 14.3 -3.8**
YAK *e* 23 41 44.8
YAK pmax pmax
comp=Z,45nm,0.8s
YAK pmax pmax
comp=N,49nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.7s
YAK pmax pmax
comp=Z,104nm,2.5s
YAK pmax pmax
comp=N,53nm,2.5s
YAK pmax pmax
comp=E,21nm,2.0s
YAK smax smax
comp=N,62nm,3.3s
YAK smax smax
comp=E,114nm,3.1s
YAK Yakutsk 51.26 353 P **P 23 32 00.5 -1.3**
MOY Mondy 51.59 329 *e*P **P 23 32 04.7 0.0**
MOY pmax pmax
comp=Z,58nm,1.4s
SEY Seymchan 52.16 7 LR LR 23 53 03.7
comp=Z,432nm,20.4s,baz=198,slow=35
SEY Seymchan 52.16 7 *ce*P **P 23 32 08.8 +0.3**
SEY pmax pmax
comp=Z,31nm,1.7s
TAPN Taplejung 52.29 296 *e*P **P 23 32 10.6 +0.1**
comp=Z,13nm,0.6s
AFI Afiamalu 53.19 117 LR LR 23 53 20.4
comp=Z,817nm,18.8s,baz=311,slow=34
RAMN Ramite 53.23 295 *e*P **P 23 32 17.6 +0.2**
comp=Z,7.6nm,0.6s
JIRN Jiri 53.67 296 *e*P **P 23 32 20.8 +0.1**
GUN Gumba 53.97 296 *e*P **P 23 32 23.1 +0.2**
comp=Z,31nm,0.8s
PKI Pulchoki 54.35 296 *e*P **P 23 32 26.2 +0.5**
comp=Z,100nm,1.7s
GKN Gorkha 55.07 296 *e*P **P 23 32 30.5 -0.2**
comp=Z,115nm,1.5s
DANN Dangsing 55.88 297 *e*P **P 23 32 36.5 -0.1**
comp=Z,56nm,1.0s
WMQ Urumqi 55.96 316 *e*P **P 23 32 37.2 +0.5**
WMQ pP pP 23 32 43.0 -2.4
WMQ PcP **PcP 23 33 32.6 -2.4**
WMQ pmax pmax
comp=Z,37nm,1.7s
WMQ pmax pmax
comp=Z,360nm,5.1s
WMQ LR LR
comp=Z,1µm,15.3s
WMQ LR LR
comp=Z,920nm,17.1s
WMQ LR LR
comp=Z,560nm,21.9s
KOLN Koldanda 55.97 296 *e*P **P 23 32 37.1 -0.1**
comp=Z,41nm,1.0s
PYUN Piuthan 56.53 296 *e*P **P 23 32 41.1 -0.1**
comp=Z,87nm,1.1s
NIKH Nikolski High 57.64 33 P **P 23 32 47.5 -0.9**
baz=243
ZSN Zaisan 58.99 319 *e*P **P 23 32 57.6 -0.3**
ZSN pmax pmax
comp=Z,31nm,2.9s
ZSN Zaisan 58.99 319 *e*P **P 23 32 57.6 -0.3**
comp=Z,31nm,2.9s,baz=319
BILL Bilibino 59.04 11 *e*P **P 23 32 58.2 +0.3**
BILL *e* 23 35 10.9
BILL *e*S **S 23 41 00.0 -2.2**
BILL pmax pmax
comp=Z,39nm,1.7s
BILL Bilibino 59.04 11 P **P 23 32 56.4 -1.4**
UNV Unalaska Valle 59.29 33 P **P 23 32 59.4 -0.4**
baz=245
PALK Pallekele 59.49 272 LR LR 23 57 51.2
comp=Z,335nm,20.9s,baz=188,slow=35
PALK Pallekele 59.49 272 *i* P **P 23 33 02.1 +0.1**
PALK pmax pmax
comp=Z,17nm,1.4s
PALK Pallekele 59.49 272 P **P 23 33 01.4 -0.5**
PALK Pallekele 59.49 272 P **P 23 33 02.6 +0.7**
PALK P **P 23 33 02.6 +0.7**
URZ Urewera 59.83 147 LR LR 23 57 57.2
comp=Z,472nm,18.1s,baz=28,slow=35
MK31 Makanchi Array 60.48 318 *c i*P **P 23 33 08.0 -0.2**
MK31 Makanchi Array 60.48 318 P **P 23 33 07.2 -1.0**
MK31 IAmb IAmb 23 33 17.5
comp=Z,20nm,1.3s
MKAR Makanchi Array 60.48 318 P **P 23 33 08.2 0.0**
comp=Z,3.6nm,0.5s,baz=99,slow=8.2,SNR=58
MKAR LR LR 23 59 59.6
comp=Z,464nm,19.1s,baz=99,slow=37
MKAR Makanchi Array 60.48 318 *ce*P **P 23 33 08.1 -0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 60.48 318 P **P 23 33 08.0 -0.2**
HYBB Hyderabad (bro 60.51 284 *e*P **P 23 33 09.1 +0.2**
HYBB *e*pP **pP 23 33 11.5 -6.3**
MAKZ Makanchi 60.69 318 P **P 23 33 09.1 -0.6**
MAKZ pmax pmax
comp=Z,70nm,1.9s
MAKZ Makanchi 60.69 318 P **P 23 33 09.1 -0.6**
TIXI Tiksi 60.71 356 LR LR 23 59 09.8
comp=Z,369nm,18.1s,baz=181,slow=36
TIXI Tiksi 60.71 356 *ce*P **P 23 33 08.8 -0.5**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
TIXI Tiksi 60.71 356 P **P 23 33 08.3 -1.0**
TIXI IAmb IAmb 23 33 10.2
comp=Z,19nm,1.5s
ZAA0 Zalesovo Array 61.26 326 P **P 23 33 12.0 -1.3**
ZAA0 IAmb IAmb 23 33 14.9
comp=Z,37nm,1.6s
ZALV Zalesovo Beam 61.26 326 P **P 23 33 12.7 -0.6**
comp=Z,5.1nm,0.5s,baz=110,slow=7.5,SNR=36
ZALV LR LR 00 00 51.3
comp=Z,1µm,18.6s,baz=104,slow=37
ZALV Zalesovo Beam 61.26 326 P **P 23 33 12.1 -1.2**
RPZ Rata Peaks 61.28 155 LR LR 23 58 59.8
comp=Z,466nm,18.3s,baz=325,slow=35
SHLS Shalkode 61.58 313 *e*P **P 23 33 13.0 -2.8**
SHLS pmax pmax
comp=Z,15nm,2.0s
SHLS Shalkode 61.58 313 *e*P **P 23 33 13.1 -2.8**
comp=Z,15nm,2.0s,baz=313
UZB Uzunbulak 61.89 313 *e*P **P 23 33 17.4 -0.6**
UZB pmax pmax
comp=Z,15nm,1.1s
UZB Uzunbulak 61.89 313 *e*P **P 23 33 17.5 -0.6**
comp=Z,15nm,1.1s,baz=313
GAMB Gambell 61.95 22 P **P 23 33 18.0 +0.2**
baz=235
KPKS Kokpek 62.19 313 *e*P **P 23 33 19.2 -0.7**
KPKS pmax pmax
comp=Z,24nm,1.4s
KPKS Kokpek 62.19 313 *e*P **P 23 33 19.3 -0.7**
comp=Z,24nm,1.4s,baz=313
SATY Saty 62.31 313 *e*P **P 23 33 20.5 -0.3**
SATY pmax pmax
comp=Z,27nm,1.8s
SATY Saty 62.31 313 *e*P **P 23 33 20.5 -0.3**
comp=Z,27nm,1.8s,baz=313
TDK Taldyqorghan 62.69 315 *e*P **P 23 33 23.0 -0.1**
TDK Taldyqorghan 62.69 315 *e*P **P 23 33 23.1 -0.1**
baz=315
SEM Semipalatinsk 62.77 321 *e*P **P 23 33 22.3 -1.5**
SEM pmax pmax
comp=Z,23nm,1.8s
SEM Semipalatinsk 62.77 321 *e*P **P 23 33 22.4 -1.5**
comp=Z,23nm,1.8s,baz=321
ARXS Arharly 62.94 314 *e*P **P 23 33 24.3 -0.6**
PCHI Peechi 63.29 276 *e*P **P 23 33 27.7 +0.1**
MDOK Medeo 63.31 313 *e*P **P 23 33 26.8 -0.7**
MDOK Medeo 63.31 313 *e*P **P 23 33 26.8 -0.7**
baz=313
TNSS Tian-Shan 63.36 313 *e*P **P 23 33 28.2 +0.1**
TNSS Tian-Shan 63.36 313 *e*P **P 23 33 28.3 +0.1**
baz=312
AAA Alma-Ata 63.41 313 *e*P **P 23 33 28.3 +0.3**
AAA Alma-Ata 63.41 313 *e*P **P 23 33 28.3 +0.3**
baz=313
CHKK Chushkaly 63.47 313 *e*P **P 23 33 27.6 -0.8**
CHKK Chushkaly 63.47 313 *e*P **P 23 33 27.6 -0.8**
baz=313
KSH Kashi 63.58 309 P **P 23 33 31.4 +2.1**
KSH sP pwP 23 33 48.9 +6.3
KSH PcP **PcP 23 34 07.6 +2.0**
KSH S **S 23 42 01.3 +0.2**
KSH SS **SS 23 46 11.6 +2.9**
KSH pmax pmax
comp=Z,13nm,1.7s
KSH LR LR
comp=Z,660nm,17.5s
KSH LR LR
comp=Z,480nm,16.9s
KSH LR LR
comp=Z,950nm,18.9s
KURK Kurchatov 63.86 321 *ce*P **P 23 33 30.5 -0.2**
KURK pmax pmax
comp=Z,61nm,1.7s
KURK Kurchatov 63.86 321 P **P 23 33 29.8 -0.9**
KURK Kurchatov 63.86 321 P **P 23 33 30.6 -0.1**
KURBB Kurchatov Arra 63.89 321 P **P 23 33 30.6 -0.4**
comp=Z,9.9nm,0.8s,baz=105,slow=7.0,SNR=66
KURBB LR LR 00 03 00.4
comp=Z,1µm,18.5s,baz=79,slow=38
ANM Nome 64.72 23 P **P 23 33 34.5 -1.6**
baz=241
AAK Ala-Archa 65.09 312 P **P 23 33 39.0 -0.2**
comp=Z,2.2nm,0.8s,baz=152,slow=7.0,SNR=7.5
AAK LR LR 00 05 10.8
comp=Z,482nm,18.0s,baz=98,slow=39
AAK Ala-Archa 65.09 312 *c i*P **P 23 33 39.9 +0.7**
AAK pmax pmax
comp=Z,6.0nm,1.4s
AAK Ala-Archa 65.09 312 P **P 23 33 39.8 +0.7**
AAK Ala-Archa 65.09 312 P **P 23 33 40.7 +1.5**
SGDS Sogindy 65.10 313 *e*P **P 23 33 38.3 -0.8**
SGDS Sogindy 65.10 313 *e*P **P 23 33 38.4 -0.8**
baz=313
NIL Nilore 65.26 302 P **P 23 33 40.0 -0.3**
NIL pmax pmax
comp=Z,85nm,1.3s
NIL Nilore 65.26 302 P **P 23 33 40.0 -0.3**
NIL Nilore 65.26 302 P **P 23 33 40.6 +0.3**
AML Almayashu 65.61 311 P **P 23 33 43.7 +0.9**
BTLS Baital 65.74 314 *e*P **P 23 33 42.1 -1.0**
BTLS pmax pmax
comp=Z,18nm,2.1s
BTLS Baital 65.74 314 *e*P **P 23 33 42.2 -1.0**
comp=Z,18nm,2.1s,baz=314
RAR Rarotonga 66.62 119 LR LR 23 57 25.7
comp=Z,362nm,21.1s,baz=288,slow=31
SII Sitkinak Islan 66.85 33 P **P 23 33 49.2 -0.8**
baz=255
NRIK Noril'sk 67.02 342 P **P 23 33 50.1 -0.7**
comp=Z,20nm,1.2s,baz=118,slow=6.7,SNR=22
NRIK LR LR 00 03 44.4
comp=Z,974nm,18.8s,baz=127,slow=36
NRIK Noril'sk 67.02 342 *e*P **P 23 33 50.4 -0.5**
NRIK pmax pmax
comp=Z,22nm,1.2s
NRIK Noril'sk 67.02 342 P **P 23 33 50.2 -0.7**
N18K Kilae Creek 67.18 28 P **P 23 33 51.1 -0.9**
baz=252
O18K Koktuh Hills 67.25 29 P **P 23 33 51.6 -0.9**
baz=253
BRZS Berezniki 67.43 320 *e*P **P 23 33 52.8 -1.0**
BRZS pmax pmax
comp=Z,12nm,1.6s
BRZS Berezniki 67.43 320 *e*P **P 23 33 52.8 -1.0**
comp=Z,12nm,1.6s,baz=320
DZA Taraz 67.43 312 *e*P **P 23 33 53.9 -0.1**
DZA Taraz 67.43 312 *e*P **P 23 33 53.9 -0.1**
baz=312
TTA Tatalina 67.85 26 P **P 23 33 55.2 -1.1**
baz=251
N19K Bonanza Creek 67.87 29 P **P 23 33 55.6 -0.9**
N19K IAmb IAmb 23 34 03.0
comp=Z,11nm,0.8s
N19K Bonanza Creek 67.87 29 P **P 23 33 55.6 -0.9**
baz=253
KDAK Kodiak Island 68.00 32 P **P 23 33 56.5 -0.7**
comp=Z,12nm,0.7s,baz=292,slow=7.7,SNR=6.8
KDAK LR LR 00 03 29.5
comp=Z,519nm,19.5s,baz=265,slow=36
KK31 Karatay Array 68.05 312 P **P 23 33 57.0 -0.9**
KK31 pmax pmax
comp=Z,49nm,1.8s
KK31 Karatay Array 68.05 312 P **P 23 33 57.0 -0.9**
KKAR Karatay Array 68.05 312 P **P 23 33 57.1 -0.8**
KKAR Karatay Array 68.05 312 P **P 23 33 57.1 -0.8**
L19K White Mountain 68.12 27 P **P 23 33 56.9 -1.0**
baz=252
M19K Big River Lodg 68.24 27 P **P 23 33 58.2 -0.5**
baz=253
IUG Iuzhnay 68.33 311 *e*P **P 23 33 59.2 -0.6**
IUG Iuzhnay 68.33 311 *e*P **P 23 33 59.2 -0.6**
baz=311
L20K Farewell, AK 68.64 27 P **P 23 34 00.9 -0.4**
baz=253
KBL Kabul 68.78 303 P **P 23 34 01.6 -1.3**
KBL pmax pmax
comp=Z,23nm,1.3s
KBL Kabul 68.78 303 P **P 23 34 01.6 -1.3**
KBL IAmb IAmb 23 34 15.9
comp=Z,23nm,1.3s
KBL Kabul 68.78 303 P **P 23 34 02.6 -0.2**
SNR=9.7
K20K Telida 68.82 26 IAmb IAmb 23 34 04.9
comp=Z,16nm,1.2s
K20K Telida 68.82 26 P **P 23 34 01.8 -0.5**
baz=252
J20K Nowinta River 69.04 25 P **P 23 34 03.6 0.0**
J20K IAmb IAmb 23 34 10.3
comp=Z,11nm,0.8s
J20K Nowinta River 69.04 25 P **P 23 34 03.6 0.0**
baz=252,SNR=9.0
BRVK Borovoye 69.39 323 *ce*P **P 23 34 05.8 -0.2**
BRVK pmax pmax
comp=Z,39nm,1.7s
BRVK Borovoye 69.39 323 P **P 23 34 05.3 -0.7**
BRVK IAmb IAmb 23 34 19.6
comp=Z,18nm,0.9s
BRVK Borovoye 69.39 323 P **P 23 34 06.0 -0.1**
PPLA Purkeypile 69.51 27 P **P 23 34 06.0 -0.7**
baz=254
CAST Castle Rocks 69.69 26 IAmb IAmb 23 34 13.7
comp=Z,10nm,0.8s
CAST Castle Rocks 69.69 26 P **P 23 34 07.2 -0.5**
baz=254,SNR=13
CHUM Lake Minchumin 69.72 26 P **P 23 34 07.7 -0.1**
baz=254
H21K Melozitna Rive 70.03 24 P **P 23 34 09.7 -0.1**
H21K Melozitna Rive 70.03 24 P **P 23 34 09.5 -0.3**
baz=253,SNR=8.5
RC01 Rabbit Creek A 70.18 29 P **P 23 34 09.2 -1.6**
baz=257
I21K Tanana 70.22 24 P **P 23 34 09.7 -1.2**
baz=254,SNR=6.7
KTH Kantishna Hill 70.23 26 IAmb IAmb 23 34 16.6
comp=Z,14nm,1.0s
BPAW Bear Paw Mtn. 70.35 26 IAmb IAmb 23 34 17.7
comp=Z,13nm,0.9s
BPAW Bear Paw Mtn. 70.35 26 P **P 23 34 10.9 -0.8**
baz=255,SNR=8.9
TRF Thorofare Moun 70.48 26 IAmb IAmb 23 34 17.9
comp=Z,10.0nm,0.8s
TRF Thorofare Moun 70.48 26 P **P 23 34 11.2 -1.5**
baz=256
DGAR Diego Garcia 70.62 258 P **P 23 34 14.8 +0.6**
PWL Port Wells 70.80 29 IAmb IAmb 23 34 23.7
comp=Z,19nm,0.8s
PWL Port Wells 70.80 29 P **P 23 34 13.4 -1.2**
baz=259
KNK Knik Glacier 70.86 29 P **P 23 34 13.9 -1.0**
baz=258
SML Sawmill 71.00 28 P **P 23 34 14.8 -1.0**
baz=258
RND Reindeer 71.10 27 IAmb IAmb 23 34 16.5
comp=Z,21nm,1.4s
MCK McKinley 71.14 26 IAmb IAmb 23 34 16.8
comp=Z,19nm,1.2s
MCK McKinley 71.14 26 P **P 23 34 15.7 -0.9**
baz=257,SNR=5.9
NEA2 Nenana 71.28 25 P **P 23 34 16.6 -0.8**
baz=257
I23K Minto, Yukon-K 71.29 25 P **P 23 34 17.1 -0.3**
I23K IAmb IAmb 23 34 19.6
comp=Z,16nm,1.1s
I23K Minto, Yukon-K 71.29 25 P **P 23 34 16.8 -0.5**
baz=256,SNR=6.7
H23K Yukon River 71.38 24 IAmb IAmb 23 34 24.5
comp=Z,12nm,0.9s
H23K Yukon River 71.38 24 P **P 23 34 17.6 -0.4**
baz=256,SNR=7.6
WAT6 Susitna Watana 71.42 28 P **P 23 34 17.3 -1.1**
baz=259,SNR=6.4
SCM Sheep Creek Mo 71.47 28 IAmb IAmb 23 34 24.6
comp=Z,26nm,1.0s
SCM Sheep Creek Mo 71.47 28 P **P 23 34 18.1 -0.6**
baz=259
COLD Coldfoot 71.48 23 IAmb IAmb 23 34 25.3
comp=Z,11nm,0.8s
COLD Coldfoot 71.48 23 P **P 23 34 18.3 -0.2**
baz=255
Q23K Middleton Isla 71.53 31 P **P 23 34 18.6 -0.2**
baz=261
WRH Wood River Hil 71.66 26 P **P 23 34 18.1 -1.6**
WRH IAmb IAmb 23 34 20.6
comp=Z,51nm,2.0s
DHY Denali Highway 71.69 27 IAmb IAmb 23 34 21.6
comp=Z,30nm,1.6s
DHY Denali Highway 71.69 27 P **P 23 34 19.5 -0.5**
baz=259
CCB Clear Creek Bu 71.82 25 IAmb IAmb 23 34 21.5
comp=Z,20nm,1.4s
EYAK Cordova Ski Ar 72.00 30 P **P 23 34 20.8 -1.0**
baz=261
H24K Noodor Dome 72.05 24 IAmb IAmb 23 34 24.4
comp=Z,25nm,1.4s
H24K Noodor Dome 72.05 24 P **P 23 34 22.6 +0.6**
baz=257,SNR=6.5
M24K Tolsona, Glenn 72.05 28 P **P 23 34 21.7 -0.4**
baz=260
KLU Klutina 72.07 29 P **P 23 34 22.1 -0.1**
baz=261
TOLK Toolik Lake Re 72.08 21 IAmb IAmb 23 34 24.8
comp=Z,17nm,0.9s
TOLK Toolik Lake Re 72.08 21 P **P 23 34 22.1 -0.1**
baz=255
HDA Harding Lake 72.13 26 P **P 23 34 22.3 -0.2**
baz=259
ILAR Eielson Array 72.23 25 P **P 23 34 21.2 -1.8**
comp=Z,4.0nm,0.6s,baz=246,slow=5.9,SNR=64
ILAR LR LR 00 04 10.5
comp=Z,683nm,20.3s,baz=226,slow=34
ILAR Eielson Array 72.23 25 P **P 23 34 20.8 -2.3**
PAX Paxson 72.52 27 P **P 23 34 24.2 -0.7**
baz=261,SNR=8.5
KAIM Kayak Island 72.57 31 P **P 23 34 24.9 -0.3**
baz=262
HARP HAARP 72.57 28 P **P 23 34 24.7 -0.5**
baz=261
BMRM Bremner River 72.62 30 P **P 23 34 25.1 -0.5**
BMRM IAmb IAmb 23 34 27.5
comp=Z,35nm,1.5s
BMRM Bremner River 72.62 30 P **P 23 34 24.8 -0.8**
baz=262
N25K Chitina, Valde 72.71 29 IAmb IAmb 23 35 39.7
comp=Z,37nm,1.8s
N25K Chitina, Valde 72.71 29 P **P 23 34 25.4 -0.7**
baz=262
J25K Salcha River, 72.84 26 P **P 23 34 26.0 -0.8**
baz=260
RIDG Independent Ri 72.92 27 IAmb IAmb 23 34 33.1
comp=Z,21nm,1.1s
RIDG Independent Ri 72.92 27 P **P 23 34 26.3 -1.0**
baz=261,SNR=8.6
GLB Gilahina Butte 73.06 29 IAmb IAmb 23 34 30.8
comp=Z,24nm,1.4s
DOT Dot Lake 73.25 27 IAmb IAmb 23 34 35.3
comp=Z,13nm,0.8s
MENT Mentasta 73.31 28 P **P 23 34 28.6 -1.0**
SCRK Sand Creek 73.34 26 P **P 23 34 29.1 -0.7**
baz=262,SNR=8.1
MCARA McCarthy VSAT 73.43 29 P **P 23 34 29.8 -0.4**
baz=263
L26K Log Cabin Wild 73.49 27 P **P 23 34 30.4 -0.2**
baz=262
M26K Nabesna, AK 73.57 28 P **P 23 34 30.2 -0.9**
baz=263

J26L	**Joseph Creek**	**73.60**	**26**	P		**P**	**23 34 30.3**	**-1.0**		
	baz=262,SNR=8.7									
GRNC	**Granite Creek**	**73.98**	**30**	P		**P**	**23 34 33.6**	**-0.1**		
M27K	**Edge Creek, AK**	**74.08**	**28**	IAmb		IAmb	23 34 36.5			
	comp=Z,20nm,1.2s									
M27K	**Edge Creek, AK**	**74.08**	**28**	P		**P**	**23 34 33.4**	**-0.8**		
	baz=264									
L27K	**Beaver Creek,**	**74.18**	**27**	P		**P**	**23 34 34.0**	**-0.6**		
	baz=264,SNR=6.4									
CTG	**Chitna Glacier**	**74.20**	**30**	P		**P**	**23 34 34.7**	**-0.3**		
	baz=265									
PPT	**Papeete**	**74.39**	**112**	LR		LR	00 01 43.6			
	comp=Z,726nm,19.0s,baz=286,slow=31									
HRA	**Herat**	**74.39**	**303**	IAmb		IAmb	23 34 45.7			
	comp=Z,21nm,1.0s									
PPT2	**Papeete2**	**74.40**	**112**	*e*S		S	23 44 21.8	+12		
	comp=Z,384nm,26.8s									
PPT2	**Papeete2**	**74.40**	**112**	*e*LR		LR	23 57 37.7			
	comp=Z,622nm,21.0s,baz=285									
EGAK	**Eagle**	**74.66**	**26**	IAmb		IAmb	23 34 48.1			
	comp=Z,25nm,1.6s									
EGAK	**Eagle**	**74.66**	**26**	P		**P**	**23 34 36.8**	**-0.5**		
	baz=264									
YUK3	**Moose Creek**	**74.69**	**29**	P		**P**	**23 34 37.6**	**-0.3**		
	baz=265,SNR=7.9									
SVE	**Sverdlovsk**	**75.28**	**326**	*e*P		**P**	**23 34 40.3**	**-0.7**		
SVE				pmax		pmax				
	comp=Z,30nm,1.7s									
SVE				MLR		MLR				
	comp=Z,1μm,19.0s									
DAWY	**Dawson**	**75.36**	**27**	P		**P**	**23 34 41.4**	**-0.1**		
	baz=266,SNR=12									
YUK4	**Talbot Arm**	**75.53**	**29**	P		**P**	**23 34 43.2**	**+0.5**		
	baz=267,SNR=7.0									
ABKAR	**Akbulak array**	**75.62**	**318**	P		**P**	**23 34 41.8**	**-1.4**		
ABKAR	**Akbulak array**	**75.62**	**318**	IAmb		IAmb	23 34 45.8			
	comp=Z,27nm,1.7s									
YUK6	**Outpost Mounta**	**75.65**	**30**	P		**P**	**23 34 43.2**	**-0.2**		
	baz=268									
I29M	**Ogilvie Camp,**	**75.91**	**25**	IAmb		IAmb	23 34 46.9			
	comp=Z,27nm,1.4s									
I29M	**Ogilvie Camp,**	**75.91**	**25**	P		**P**	**23 34 44.4**	**-0.2**		
	baz=266									
HYT	**Haines Junctio**	**76.06**	**30**	IAmb		IAmb	23 34 52.7			
	comp=Z,12nm,0.9s									
HYT	**Haines Junctio**	**76.06**	**30**	P		**P**	**23 34 46.0**	**+0.3**		
	baz=268,SNR=5.8									
ARU	**Arti**	**76.42**	**325**	P		**P**	**23 34 46.5**	**-1.1**		
	comp=Z,1.8nm,0.5s,baz=96,slow=3.1,SNR=8.0									
ARU				LR		LR	00 10 46.1			
	comp=Z,2μm,18.6s,baz=88,slow=38									
ARU	**Arti**	**76.42**	**325**	*c i* P		**P**	**23 34 47.4**	**-0.2**		
ARU							23 37 34.0			
ARU				PPP		PPP	23 39 22.6			
ARU				S		**S**	**23 44 34.2**	**+3.6**		
ARU				SS		**SS**	**23 49 28.0**	**+2.9**		
ARU				pmax		pmax				
	comp=Z,27nm,1.9s									
ARU				MLR		MLR				
	comp=Z,2μm,19.0s									
ARU	**Arti**	**76.42**	**325**	P		**P**	**23 34 46.4**	**-1.1**		
M30M	**Minto, Yukon**	**76.45**	**28**	P		**P**	**23 34 48.0**	**+0.2**		
	baz=268,SNR=7.9									
AKTO	**Aktyubinsk**	**76.84**	**319**	P		**P**	**23 34 49.2**	**-0.9**		
	comp=Z,2.6nm,0.6s,baz=75,slow=6.7,SNR=4.1									
AKTO				LR		LR	00 08 13.0			
	comp=Z,231nm,21.7s,baz=87,slow=35									
N31M	**Braeburn, Yuko**	**76.91**	**29**	P		**P**	**23 34 50.2**	**-0.1**		
	baz=270									
SKAG	**Skagway**	**77.14**	**31**	P		**P**	**23 34 51.4**	**-0.2**		
	baz=270									
WHY	**Whitehorse**	**77.35**	**30**	IAmb		IAmb	23 34 55.8			
	comp=Z,17nm,1.1s									
WHY	**Whitehorse**	**77.35**	**30**	P		**P**	**23 34 53.0**	**0.0**		
	baz=271,SNR=7.1									
GEYT	**Alibeck**	**77.49**	**307**	P		**P**	**23 34 54.3**	**+0.2**		
	comp=Z,0.6nm,0.3s,baz=230,slow=3.6,SNR=3.2									
GEYT				LR		LR	00 13 00.4			
	comp=Z,424nm,19.7s,baz=105,slow=39									
GEYT	**Alibeck**	**77.49**	**307**	IAmb		IAmb	23 35 03.6			
	comp=Z,30nm,1.4s									
GYA0B	**ALIBECK ARRAY**	**77.49**	**307**	IAmb		IAmb	23 35 03.6			
	comp=Z,31nm,1.4s									
M31M	**Drury Creek, Y**	**77.57**	**29**	P		**P**	**23 34 53.7**	**-0.3**		
M31M				IAmb		IAmb	23 35 04.1			
	comp=Z,18nm,1.3s									
M31M	**Drury Creek, Y**	**77.57**	**29**	P		**P**	**23 34 53.6**	**-0.3**		
	baz=271,SNR=6.3									
INK	**Inuvik**	**77.89**	**22**	P		**P**	**23 34 55.0**	**-0.6**		
	comp=Z,5.5nm,0.9s,baz=269,slow=6.1,SNR=16									
INK				LR		LR	00 08 19.1			
	comp=Z,222nm,20.8s,baz=302,slow=35									
INK	**Inuvik**	**77.89**	**22**	IAmb		IAmb	23 34 57.2			
	comp=Z,18nm,1.2s									
INK	**Inuvik**	**77.89**	**22**	P		**P**	**23 34 55.0**	**-0.6**		
	baz=270									
JLN	**Jalan Bani Buh**	**78.03**	**290**	P		**P**	**23 34 58.7**	**+1.3**		
WBK	**Wadi Bani Khal**	**78.38**	**291**	P		**P**	**23 34 59.6**	**+0.4**		
WSAR	**Wadi Sarin**	**78.60**	**292**	LR		LR	00 09 14.9			
	comp=Z,110nm,21.8s,baz=100,slow=35									
WSAR	**Wadi Sarin**	**78.60**	**292**	P		**P**	**23 35 01.2**	**+0.7**		
BIDO	**Bidbid**	**79.03**	**292**	P		**P**	**23 35 03.2**	**+0.4**		
	SNR=5.7									
SMDO	**Samad**	**79.16**	**291**	P		**P**	**23 35 05.1**	**+1.4**		
JMDO	**Jabal Madar**	**79.20**	**291**	P		**P**	**23 35 03.5**	**-0.3**		
MHTO	**MHTO**	**79.52**	**289**	P		**P**	**23 35 05.4**	**-0.1**		
	SNR=6.3									
HOQ	**Hoqain**	**79.76**	**292**	P		**P**	**23 35 07.0**	**+0.1**		
DLBC	**Dease Lake**	**79.93**	**32**	P		**P**	**23 35 07.0**	**-0.1**		
	comp=Z,9.9nm,1.0s,baz=294,slow=7.5,SNR=6.7									
DLBC	**Dease Lake**	**79.93**	**32**	IAmb		IAmb	23 35 10.1			
	comp=Z,28nm,1.2s									
BSY	**Bisya**	**79.98**	**291**	P		**P**	**23 35 07.9**	**-0.1**		
DQM	**DQM**	**80.07**	**288**	P		**P**	**23 35 10.0**	**+1.5**		
BANOM	**Banah**	**80.35**	**295**	P		**P**	**23 35 11.6**	**+1.6**		
SHME	**Shamm**	**80.47**	**295**	P		**P**	**23 35 11.2**	**+0.7**		
A36M	**Sachs Harbour**	**80.48**	**18**	IAmb		IAmb	23 35 11.5			
	comp=Z,14nm,0.8s									
A36M	**Sachs Harbour**	**80.48**	**18**	P		**P**	**23 35 09.0**	**-0.7**		
	baz=277									
TGTN	**Hyland Airport**	**80.50**	**29**	P		**P**	**23 35 09.2**	**-0.9**		
	baz=276									
ARQ	**Araqi**	**80.51**	**292**	P		**P**	**23 35 11.3**	**+0.4**		
	SNR=5.0									
ARQ				P		**P**	**23 35 11.3**	**+0.4**		
MASF	**Masafi**	**80.55**	**294**	P		**P**	**23 35 11.7**	**+0.6**		
	SNR=11									
UOSS	**Minazif**	**80.57**	**294**	P		**P**	**23 35 09.6**	**-1.5**		
UOSS				IAmb		IAmb	23 35 12.5			
	comp=Z,30nm,1.5s									
UOSS	**Minazif**	**80.57**	**294**	P		**P**	**23 35 12.2**	**+1.0**		
HATD	**Hatta, Dubai**	**80.65**	**293**	P		**P**	**23 35 13.1**	**+1.5**		
ASHO	**Ashiyiah**	**80.74**	**293**	P		**P**	**23 35 12.1**	**0.0**		
TAOE	**Nuku Hiva Isla**	**81.01**	**101**	*e*LR		LR	00 00 45.7			
	comp=Z,411nm,21.7s									
NAZ	**Nazwa, Dubai**	**81.05**	**294**	P		**P**	**23 35 14.7**	**+1.0**		
ALNE	**Al Ain**	**81.11**	**293**	P		**P**	**23 35 14.4**	**+0.4**		
	SNR=7.8									
FAQ	**Al Faqa, Dubai**	**81.15**	**293**	P		**P**	**23 35 15.0**	**+0.7**		
KIRV	**Kirov**	**81.20**	**328**	P		**P**	**23 35 13.5**	**-0.3**		
	comp=Z,5.0nm,0.5s,baz=79,slow=5.3,SNR=7.1									
KIRV				LR		LR	00 14 19.4			
	comp=Z,2μm,18.1s,baz=71,slow=38									
KIRV	**Kirov**	**81.20**	**328**	*ce* P		**P**	**23 35 14.6**	**+0.8**		
C36M	**Paulatuk**	**81.23**	**21**	P		**P**	**23 35 12.7**	**-1.1**		
	baz=279									
ASUD	**Al Ashush, Dub**	**81.40**	**293**	P		**P**	**23 35 17.6**	**+2.0**		
BBB	**Bella Bella**	**81.73**	**38**	LR		LR	00 05 02.6			
	comp=Z,647nm,21.5s,baz=276,slow=31									
UMZA	**Um Al Zommool**	**81.84**	**292**	P		**P**	**23 35 19.0**	**+1.1**		
PRGR	**Permogore**	**82.62**	**331**	*e*P		**P**	**23 35 19.7**	**-1.5**		
DMTO	**DMTO**	**82.84**	**287**	P		**P**	**23 35 24.7**	**+1.5**		
MZWR	**Madinat Zayed**	**82.84**	**293**	P		**P**	**23 35 25.1**	**+2.0**		
BELG	**Belogornoye**	**83.12**	**322**	P		**P**	**23 35 23.6**	**-0.3**		
	comp=Z,19nm,0.8s,baz=196,slow=1.1,SNR=7.5									
BELG				LR		LR	00 14 30.0			
	comp=Z,695nm,18.6s,baz=108,slow=37									
BELG	**Belogornoye**	**83.12**	**322**	*i* P		**P**	**23 35 24.8**	**+0.8**		
BELG				pmax		pmax				
	comp=Z,5.0nm,1.1s									
MZR	**Muzera**	**83.33**	**292**	P		**P**	**23 35 27.2**	**+1.5**		
DOK	**Doka**	**83.46**	**288**	P		**P**	**23 35 27.3**	**+0.9**		
RBK	**Rabkut**	**83.58**	**287**	P		**P**	**23 35 28.1**	**+1.0**		
WHFO	**Wadi Hawf**	**83.91**	**287**	P		**P**	**23 35 28.2**	**-0.6**		
ABTO	**Aybut**	**84.45**	**287**	P		**P**	**23 35 33.0**	**+1.4**		
SOCY	**Socotra**	**84.71**	**281**	P		**P**	**23 35 33.4**	**+0.5**		

MAK	**Makhachkala**	**84.85**	**313**	*e*P		**P**	**23 35 30.9**	**-2.1**		
MAK				*e*			23 45 51.1			
MAK				*e*SS		SS	23 51 23.2	-8.5		
MAK				*e*SSS		SSS	23 54 58.9			
MAK				pmax		pmax				
	comp=Z,132nm,1.2s									
SPITS	**Spitsbergen Ar**	**85.61**	**350**	LR		LR	00 13 05.7			
	comp=Z,442nm,21.4s,baz=260,slow=35									
KLMR	**Klimovskoe**	**85.67**	**331**	*e*P		**P**	**23 35 33.5**	**-3.2**		
KLMR				pmax		pmax				
	comp=Z,13nm,1.1s									
KLMR	**Klimovskoe**	**85.67**	**331**	*e*P		**P**	**23 35 33.5**	**-3.2**		
KLMR				AMP			23 35 37.2			
	comp=Z,13nm,1.1s									
KLMR				LQ		LQ	00 09 26.9			
KLMR				LQ		LQ	00 09 26.9			
KLMR				LR		LR	00 13 17.1			
I03D	**Drain, OR**	**86.35**	**46**	P		**P**	**23 35 39.3**	**-1.2**		
	baz=282									
L02E	**Cave Junction**	**86.49**	**48**	P		**P**	**23 35 39.8**	**-1.5**		
	baz=282									
YKA	**Yellowknife Ar**	**86.60**	**27**	P		**P**	**23 35 41.0**	**-0.2**		
	comp=Z,4.9nm,0.6s,baz=288,slow=4.9,SNR=96									
H04D	**Lebanon**	**86.61**	**45**	P		**P**	**23 35 41.1**	**-0.7**		
	baz=282									
HUMO	**Hull Mountain**	**86.86**	**47**	IAmb		IAmb	23 35 51.4			
	comp=Z,12nm,0.8s									
I04A	**Tendick Farm,**	**87.00**	**46**	P		**P**	**23 35 42.7**	**-1.0**		
	baz=283									
M02C	**Callahan**	**87.20**	**48**	IAmb		IAmb	23 35 48.3			
	comp=Z,12nm,1.0s									
M02C	**Callahan**	**87.20**	**48**	P		**P**	**23 35 45.0**	**+0.2**		
	baz=283									
YBH	**Yreka Blue Hor**	**87.23**	**48**	LR		LR	00 08 30.1			
	comp=Z,370nm,21.0s,baz=295,slow=31									
YBH	**Yreka Blue Hor**	**87.23**	**48**	P		**P**	**23 35 45.4**	**+0.4**		
YBH				pmax		pmax				
	comp=Z,50nm,1.9s									
YBH	**Yreka Blue Hor**	**87.23**	**48**	P		**P**	**23 35 45.4**	**+0.4**		
J04D	**Umpqua Nationa**	**87.33**	**47**	P		**P**	**23 35 45.7**	**+0.2**		
	baz=283									
LTY	**Liberty**	**87.39**	**42**	IAmb		IAmb	23 36 00.1			
	comp=Z,16nm,1.1s									
N02D	**Trinity Center**	**87.40**	**49**	P		**P**	**23 35 47.0**	**+1.3**		
N02D				IAmb		IAmb	23 35 54.4			
	comp=Z,12nm,1.0s									
L04D	**Klamath Falls**	**87.42**	**48**	P		**P**	**23 35 45.9**	**0.0**		
	baz=283									
GNI	**Garni**	**87.45**	**310**	P		**P**	**23 35 46.9**	**+0.8**		
	comp=Z,1.2nm,0.6s,baz=93,slow=6.2,SNR=4.5									
GNI				LR		LR	00 19 17.0			
	comp=Z,255nm,18.1s,baz=88,slow=39									
GNI	**Garni**	**87.45**	**310**	*i* P		**P**	**23 35 46.5**	**+0.4**		
GNI				pmax		pmax				
	comp=Z,3.0nm,1.1s									
GNI	**Garni**	**87.45**	**310**	P		**P**	**23 35 46.3**	**+0.2**		
ZEI	**Tsey**	**87.48**	**313**	*e*P		**P**	**23 35 45.5**	**-0.8**		
ZEI				pmax		pmax				
	comp=Z,9.0nm,1.4s									
O02D	**Mt. Diablo Mer**	**87.52**	**50**	IAmb		IAmb	23 35 55.1			
	comp=Z,13nm,0.9s									
O02D	**Mt. Diablo Mer**	**87.52**	**50**	P		**P**	**23 35 46.2**	**-0.1**		
	baz=283									
RES	**Resolute Bay**	**87.59**	**13**	LR		LR	00 18 11.8			
	comp=Z,278nm,19.1s,baz=288,slow=38									
ONI	**Oni**	**87.85**	**313**	IAmb		IAmb	23 35 57.7			
	comp=Z,17nm,1.3s									
M04C	**Macdoel**	**87.86**	**48**	P		**P**	**23 35 48.1**	**+0.1**		
M04C	**Macdoel**	**87.86**	**48**	P		**P**	**23 35 47.8**	**-0.2**		
	baz=283									
J05D	**Fort Rock, OR**	**87.94**	**46**	P		**P**	**23 35 48.3**	**-0.1**		
	baz=284									
KBZ	**Khabaz**	**87.98**	**314**	P		**P**	**23 35 48.9**	**+0.6**		
	comp=Z,1.9nm,0.8s,baz=90,slow=4.0,SNR=2.1									
KBZ				LR		LR	00 19 18.8			
	comp=Z,492nm,19.7s,baz=66,slow=38									
KBZ	**Khabaz**	**87.98**	**314**	*i* P		**P**	**23 35 50.1**	**+1.8**		
KBZ				pmax		pmax				
	comp=Z,3.0nm,1.0s									
B08A	**Colville Reser**	**88.00**	**41**	IAmb		IAmb	23 35 50.9			
	comp=Z,13nm,0.9s									
ARCES	**ARCESS Array B**	**88.00**	**341**	P		**P**	**23 35 46.6**	**-1.4**		
	comp=Z,5.2nm,0.7s,baz=68,slow=7.0,SNR=15									
ARCES				LR		LR	00 19 35.5			
	comp=Z,427nm,18.6s,baz=55,slow=39									
KVAR	**Kislovodsk Arr**	**88.06**	**314**	LR		LR	00 20 12.5			
	comp=Z,303nm,18.1s,baz=279,slow=39									
KIV	**Kislovodsk**	**88.07**	**314**	*e*P		**P**	**23 35 49.3**	**+0.4**		
KIV				pmax		pmax				
	comp=Z,3.0nm,1.1s									
MOS	**Moscow**	**88.08**	**327**	*e*P		**P**	**23 35 45.9**	**-2.6**		
MOS				*e*			23 39 11.9			
MOS				MLR		MLR				
	comp=E,1μm,19.0s									
MOS				MLR		MLR				
	comp=Z,1μm,19.0s									
O03E	**Paynes Creek**	**88.22**	**49**	IAmb		IAmb	23 35 56.4			
	comp=Z,13nm,0.8s									
O03E	**Paynes Creek**	**88.22**	**49**	P		**P**	**23 35 49.8**	**+0.1**		
	baz=283									
LPSR	**Galich'ya Gora**	**88.25**	**323**	*e*P		**P**	**23 35 47.1**	**-2.3**		
LPSR				pmax		pmax				
	comp=Z,10.0nm,1.0s									
K05A	**Summer Lake**	**88.32**	**47**	P		**P**	**23 35 50.5**	**+0.2**		
VORR	**Voronezh**	**88.35**	**322**	*e*P		**P**	**23 35 49.1**	**-0.8**		
VORR				pmax		pmax				
	comp=Z,10.0nm,0.4s									
VORD	**Divnogorie**	**88.49**	**322**	*e*P		**P**	**23 35 49.6**	**-1.0**		
VORD				pmax		pmax				
	comp=Z,6.0nm,0.5s									
VSR	**Storozhevoye**	**88.50**	**322**	*e*P		**P**	**23 35 49.2**	**-1.4**		
VSR				pmax		pmax				
	comp=Z,5.0nm,1.2s									
ORV	**Oroville**	**88.62**	**50**	IAmb		IAmb	23 35 54.2			
	comp=Z,10.0nm,1.1s									
OBN	**Obninsk**	**88.84**	**326**	LR		LR	00 17 43.7			
	comp=Z,342nm,19.9s,baz=33,slow=37									
OBN	**Obninsk**	**88.84**	**326**	*e*P		**P**	**23 35 52.0**	**-0.1**		
OBN				*e*			23 39 25.8			
OBN				pmax		pmax				
	comp=Z,23nm,1.7s									
OBN				MLR		MLR				
	comp=Z,1μm,19.0s									
MOD	**Modoc Plateau**	**88.94**	**48**	IAmb		IAmb	23 35 56.1			
	comp=Z,22nm,1.3s									
I07A	**Izee**	**88.97**	**45**	IAmb		IAmb	23 35 56.2			
	comp=Z,17nm,1.3s									
G08A	**Pilot Rock**	**89.03**	**44**	IAmb		IAmb	23 35 56.2			
	comp=Z,14nm,1.4s									
BEKR	**Beckworth**	**89.40**	**50**	P		**P**	**23 35 55.0**	**-0.4**		
BEKR				IAmb		IAmb	23 35 58.2			
	comp=Z,17nm,1.0s									
NEW	**Newport**	**89.44**	**41**	LR		LR	00 13 02.9			
	comp=Z,355nm,18.8s,baz=312,slow=34									
NEW	**Newport**	**89.44**	**41**	IAmb		IAmb	23 35 57.9			
	comp=Z,23nm,1.6s									
NEW	**Newport**	**89.44**	**41**	P		**P**	**23 35 55.1**	**-0.1**		
	baz=286									
VNDA	**Vanda**	**89.51**	**176**	P		**P**	**23 35 54.4**	**-0.3**		
	comp=Z,1.5nm,0.9s,baz=296,slow=3.6,SNR=5.3									
VNDA				LR		LR	00 16 08.2			
	comp=Z,287nm,18.0s,baz=349,slow=36									
VNDA	**Vanda**	**89.51**	**176**	P		**P**	**23 35 55.3**	**+0.5**		
VNDA				pmax		pmax				
	comp=Z,11nm,1.6s									
VNDA	**Vanda**	**89.51**	**176**	P		**P**	**23 35 55.3**	**+0.5**		
CMB	**Columbia Colle**	**89.83**	**51**	P		**P**	**23 35 56.9**	**-0.4**		
CMB				pmax		pmax				
	comp=Z,9.0nm,1.2s									
CMB	**Columbia Colle**	**89.83**	**51**	P		**P**	**23 35 56.9**	**-0.4**		
PAHR	**Pah Rah Range**	**90.17**	**50**	IAmb		IAmb	23 36 07.1			
	comp=Z,12nm,1.2s									
RYN	**Ryan**	**91.09**	**50**	IAmb		IAmb	23 36 06.6			
	comp=Z,13nm,1.1s									
LHV	**Little Huntoon**	**91.21**	**51**	P		**P**	**23 36 04.0**	**+0.4**		
LHV				IAmb		IAmb	23 36 19.5			
	comp=Z,12nm,1.1s									
KVN	**Kaiserville**	**91.30**	**50**	IAmb		IAmb	23 36 07.4			
	comp=Z,13nm,1.1s									
NVAR	**Mina Array Bea**	**91.31**	**51**	P		**P**	**23 36 05.5**	**+1.1**		
	comp=Z,3.9nm,0.7s,baz=263,slow=6.4,SNR=23									
FIA1	**FINESS Array S**	**91.53**	**334**	IAmb		IAmb	23 36 03.0			
	comp=Z,9.0nm,0.7s									
FINES	**FINESS Array B**	**91.53**	**334**	P		**P**	**23 36 02.5**	**-2.1**		
	comp=Z,5.8nm,0.5s,baz=66,slow=5.0,SNR=84									
FINES				LR		LR	00 19 15.8			
	comp=Z,816nm,19.7s,baz=61,slow=37									

MFID	**Camas Ranch**	**91.71**	**45**	IAmb		IAmb	23 36 09.0			
	comp=Z,12nm,1.1s									
CWC	**Cottonwood Cre**	**92.02**	**52**	P		**P**	**23 36 06.7**	**-0.9**		
	baz=286									
LCH	**Last Change Ra**	**92.14**	**52**	P		**P**	**23 36 08.5**	**+0.4**		
MPMC	**Manual Prospec**	**92.58**	**53**	P		**P**	**23 36 10.3**	**0.0**		
	baz=286									
LRMC	**Laurel Mtn Rad**	**92.59**	**53**	P		**P**	**23 36 09.5**	**-0.8**		
	baz=286									
HLID	**Hailey**	**92.65**	**45**	P		**P**	**23 36 10.3**	**-0.1**		
	baz=288									
ELK	**Elko**	**92.93**	**48**	LR		LR	00 12 05.4			
	comp=Z,342nm,20.3s,baz=286,slow=32									
FURC	**Furnace Creek,**	**92.95**	**52**	P		**P**	**23 36 12.2**	**+0.5**		
	baz=286									
QSM	**Queen of Sheba**	**93.09**	**53**	IAmb		IAmb	23 36 19.7			
	comp=Z,6.5nm,0.9s									
LRM	**Limekiln Ridge**	**93.24**	**42**	P		**P**	**23 36 12.6**	**-0.6**		
TPNV	**Topopah Spring**	**93.29**	**51**	P		**P**	**23 36 13.7**	**+0.2**		
	baz=287									
GSC	**Goldstone, Bar**	**93.32**	**53**	IAmb		IAmb	23 36 20.9			
	comp=Z,8.2nm,1.0s									
GSC	**Goldstone, Bar**	**93.32**	**53**	P		**P**	**23 36 13.8**	**+0.2**		
	baz=286									
R11A	**Troy Canyon, C**	**93.39**	**50**	IAmb		IAmb	23 36 17.0			
	comp=Z,16nm,1.8s									
SHOC	**Shoshone, Teco**	**93.57**	**52**	P		**P**	**23 36 14.8**	**+0.2**		
	baz=287									
HEC	**Hector,Ludlow**	**93.83**	**54**	P		**P**	**23 36 16.0**	**+0.1**		
	baz=287									
BOZ	**Bozeman (W)**	**93.85**	**42**	IAmb		IAmb	23 36 23.0			
	comp=Z,18nm,1.7s									
BOZ	**Bozeman (W)**	**93.85**	**42**	P		**P**	**23 36 16.2**	**+0.3**		
	baz=290									
TUQ	**Turquoise Moun**	**93.98**	**53**	P		**P**	**23 36 16.9**	**+0.2**		
	baz=287									
PFO	**Pinyon Flats O**	**94.07**	**55**	P		**P**	**23 36 17.7**	**+0.6**		
	comp=Z,4.5nm,0.9s,baz=291,slow=8.6,SNR=4.8									
PFO	**Pinyon Flats O**	**94.07**	**55**	P		**P**	**23 36 18.1**	**+0.9**		
PFO				pmax		pmax				
	comp=Z,15nm,1.4s									
PFO	**Pinyon Flats O**	**94.07**	**55**	P		**P**	**23 36 18.1**	**+0.9**		
PFO				IAmb		IAmb	23 36 19.0			
	comp=Z,16nm,1.4s									
PFO	**Pinyon Flats O**	**94.07**	**55**	P		**P**	**23 36 16.8**	**-0.3**		
	baz=286									
TPFO	**Pinon Flats**	**94.08**	**55**	P		**P**	**23 36 16.7**	**-0.4**		
	baz=286									
EGMT	**Eagleton**	**94.18**	**39**	IAmb		IAmb	23 36 19.5			
	comp=Z,20nm,1.4s									
EGMT	**Eagleton**	**94.18**	**39**	P		**P**	**23 36 17.7**	**+0.5**		
	baz=292									
MONP2	**Monument Peak**	**94.30**	**55**	P		**P**	**23 36 18.0**	**-0.3**		
	baz=286									
BELC	**Belle Mtn. Jos**	**94.33**	**54**	P		**P**	**23 36 18.2**	**-0.2**		
	baz=287									
GMRC	**Granite Mounta**	**94.37**	**53**	P		**P**	**23 36 18.2**	**-0.3**		
	baz=287									
AKASG	**Malin Array Be**	**94.58**	**324**	P		**P**	**23 36 19.2**	**+0.4**		
	comp=Z,0.3nm,0.3s,baz=50,slow=5.5,SNR=4.1									
AKASG				LR		LR	00 22 20.8			
	comp=Z,472nm,18.2s,baz=58,slow=38									
AKASG	**Malin Array Be**	**94.58**	**324**	P		**P**	**23 36 17.1**	**-1.8**		
YMR	**Madison River**	**94.62**	**43**	IAmb		IAmb	23 36 28.2			
	comp=Z,7.6nm,0.8s									
IKP	**In-

BAUV	**El Baul**	**144.84**	**56**	PKPdf	**PKPab**	**23 42 33.4**	**-1.8**
GO02	**Mina Guanaco**	**148.02**	**120**		**PKPbc**	**23 42 44.8**	**0.0**
LVC	**Limon Verde**	**149.41**	**115**	PKP2	**PKPdf**	**23 42 46.2**	**+2.2**
LVC	**Limon Verde**	**149.41**	**115**	PKPbc	**PKPdf**	**23 42 46.2**	**+2.2**
LPAZ	**La Paz**	**151.37**	**103**	PKPbc	**PKiKP**	**23 42 54.5**	**+0.4**
	comp=Z,7.9nm,0.6s,baz=254,slow=2.5,SNR=20						
LPAZ	**La Paz**	**151.37**	**103**	PKIKP	**PKPdf**	**23 42 48.6**	**+1.1**
LPAZ	**La Paz**	**151.37**	**103**	PKPbc	**PKPdf**	**23 42 48.6**	**+1.1**
CPUP	**Villa Florida**	**157.23**	**133**	PKPab	**PKPab**	**23 43 25.9**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=247,slow=5.9,SNR=3.8						
BDFB	**Brasilia**	**170.31**	**117**	PKPab	**PKPab**	**23 44 23.8**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=225,slow=1.4,SNR=3.0						

NEIC ***12*** *23:27:49.3±1.7, 11°.37N±0°.10×140°.9E±0°.1, h10km±1km, mb4.9/71, Error ellipse: s-maj=18.0km s-min=15.9km az=131.0*

DJA ***12*** *23:27:53.2±0.6, 11°N±5°×14°1E±°, h26km±4km, M5.1/15, mB6.2/1, mb4.8/15, MLv5.2/1, Mw(mB)5.8/1*

IDC ***12*** *23:27:57.0±2.1, 11°.38N×140°.98E, h77km±19km, mb4.0/29, mb1 4.2/33, mb1mx4.0/64, mbtmp4.4/33, Error ellipse: s-maj=13.5km s-min=10.4km az=94.0*

ISC 12 23:27:49.0±3.2**, 11°.40N**±0°.06×**140°.93E**±0°.06**, h9**km±20**km, n147,** σ1**§31**/152**, mb4.8**/83**, 2C-1D, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**4.42**	**60**	P		Pb	23 29 02.3	-4.6
	31nm,0.3s,baz=165,slow=6.1,SNR=7.0							
GUMO				S		**Sn**	**23 29 52.4**	**+4.5**
	baz=352,slow=22,SNR=1.0							
GUMO	**Guam**	**4.42**	**60**			**Pn**	**23 28 58.6**	**+2.3**
GUMO	**Guam**	**4.42**	**60**	P		**Pb**	**23 29 03.3**	**-3.6**
GENI	**Genyem**	**13.92**	**183**	P		**Pn**	**23 31 09.8**	**+3.2**
	124nm,0.4s							
SIJI	**Sorong**	**15.52**	**219**	P		**P**	**23 31 31.1**	**-1.6**
	0.4nm,0.3s,baz=259,slow=23,SNR=1.3							
DAV	**Davao City (W)**	**15.75**	**255**	P		**P**	**23 31 35.7**	**+0.5**
	14nm,0.3s,baz=21,slow=3.9,SNR=4.2							
DAV	**Davao City (W)**	**15.75**	**255**	P		**P**	**23 31 36.2**	**+1.0**
RABL	**Rabaul**	**19.09**	**144**	P		**Pn**	**23 32 13.6**	**+0.5**
RABL				IAmb		IAmb	23 32 15.2	
	comp=Z,191nm,1.4s							
JOW	**Kunigami**	**19.44**	**324**	P		**Pn**	**23 32 19.7**	**+2.6**
	comp=Z,1.2nm,0.3s,baz=135,slow=12,SNR=7.5							
JOW	**Kunigami**	**19.44**	**324**	P		**Pn**	**23 32 18.9**	**+1.7**
JOW				IAmb		IAmb	23 32 20.9	
	comp=Z,63nm,1.0s							
JOW	**Kunigami**	**19.44**	**324**	P		**Pn**	**23 32 20.4**	**+3.3**
GTOI	**Gorontalo**	**20.76**	**240**	P		**P**	**23 32 31.4**	**+1.0**
	comp=Z,13nm,1.0s							
PMG	**Port Moresby**	**21.57**	**163**	P		**P**	**23 32 38.5**	**-0.6**
	comp=Z,16nm,0.6s,baz=7.8,slow=6.6,SNR=4.6							
PMG	**Port Moresby**	**21.57**	**163**	P		**P**	**23 32 37.6**	**-1.5**
PMG				IAmb		IAmb	23 32 44.7	
	comp=Z,45nm,1.0s							
PMG	**Port Moresby**	**21.57**	**163**	P		**P**	**23 32 39.4**	**+0.3**
MRSI	**Marisa**	**21.76**	**241**	P		**P**	**23 32 41.5**	**+0.3**
	comp=Z,64nm,1.2s							
LUWI	**Luwuk**	**21.88**	**237**	P		**P**	**23 32 41.1**	**-1.3**
LUWI	**Luwuk**	**21.88**	**237**	P		**P**	**23 32 42.6**	**+0.2**
	comp=Z,9μmcomp=Z,176nm,1.0s							
LUWI	**Luwuk**	**21.88**	**237**			**P**	**23 32 42.0**	**-0.4**
TOLI2	**Tolitoli**	**22.46**	**244**	P		**P**	**23 32 48.0**	**-0.8**
TOLI2	**Tolitoli**	**22.46**	**244**	P		**P**	**23 32 48.6**	**-0.2**
SSLB	**Suanglung**	**22.65**	**306**	P		**P**	**23 32 51.8**	**+1.1**
SSLB				IAmb		IAmb	23 33 05.9	
	comp=Z,80nm,1.4s							
SSLB	**Suanglung**	**22.65**	**306**	P		**P**	**23 32 53.0**	**+2.3**
YHNB	**Yeheng**	**22.77**	**308**	P		**P**	**23 32 53.1**	**+1.2**
YHNB				IAmb		IAmb	23 32 55.0	
	comp=Z,51nm,1.1s							
MYLDM	**Lahad Datu**	**23.03**	**256**	P		**P**	**23 32 55.5**	**+0.8**
JNU	**Nakatsue**	**23.51**	**338**	P		**P**	**23 32 59.2**	**-0.2**
	comp=Z,18nm,1.0s,baz=222,slow=3.7,SNR=4.1							
MPSI	**Mapaga**	**23.61**	**244**	P		**P**	**23 32 59.7**	**-0.8**
	comp=Z,17nm,1.6s							
JYT	**Yasato**	**24.73**	**359**	P		**P**	**23 33 10.1**	**-0.7**
KKM	**Kota Kinabalu**	**25.00**	**260**	P		**P**	**23 33 13.6**	**0.0**
KKM				IAmb		IAmb	23 33 24.9	
	comp=Z,27nm,1.5s							
MJAR	**Matsushiro Arr**	**25.16**	**355**	P		**P**	**23 33 13.7**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=181,slow=6.1,SNR=2.0							
MJAR	**Matsushiro Arr**	**25.16**	**355**	P		**P**	**23 33 12.9**	**-1.8**
MAJO	**Matsushiro**	**25.16**	**355**	P		**P**	**23 33 20.8**	**+6.1**
	comp=Z,14nm,1.3s							
JSD	**Sado**	**26.64**	**355**	P		**P**	**23 33 27.1**	**-1.0**
JSD				IAmb		IAmb	23 33 28.9	
	comp=Z,26nm,1.1s							
KSRS	**Korea Array**	**28.46**	**338**	P		**P**	**23 33 43.9**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=166,slow=8.6,SNR=3.2							
NJ2	**Nanjing**	**28.93**	**319**	*eP*		**P**	**23 33 49.5**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
WRA	**Warramunga Arr**	**31.81**	**192**	P		**P**	**23 34 12.8**	**-1.5**
	comp=Z,4.7nm,1.0s,baz=11,slow=9.5,SNR=7.3							
WRA	**Warramunga Arr**	**31.81**	**192**	P		**P**	**23 34 13.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**33.59**	**348**	P		**P**	**23 34 29.5**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=145,slow=8.5,SNR=2.7							
LYN	**LuoYang**	**34.68**	**316**	*eP*		**P**	**23 34 40.5**	**+1.3**
LYN				S		S	23 39 56.5	-13
LYN				pmax		pmax		
	comp=Z,20nm,1.1s							
LYN				LR		LR		
	comp=N,3μm,17.8s							
LYN				LR		LR		
	comp=E,1μm,18.2s							
LYN				LR		LR		
	comp=Z,2μm,18.8s							
ENH	**Enshi**	**34.70**	**308**	P		**P**	**23 34 39.4**	**-0.1**
CN2	**Changchun**	**34.95**	**340**	*eP*		**P**	**23 34 42.3**	**+0.9**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.3s							
HNS	**HongShan**	**34.99**	**322**	⇑P		**P**	**23 34 42.6**	**+0.8**
HNS				pmax		pmax		
	comp=Z,13nm,1.2s							
AS31	**Alice Springs**	**35.52**	**191**	P		**P**	**23 34 47.0**	**+0.5**
ASAR	**Alice Springs**	**35.52**	**191**	P		**P**	**23 34 46.7**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=18,slow=12,SNR=12							
ASAR				PcP		**PcP**	**23 37 15.9**	**0.0**
	comp=Z,1.0nm,0.8s,baz=30,slow=4.3,SNR=3.0							
ASAR	**Alice Springs**	**35.52**	**191**	P		**P**	**23 34 45.1**	**-1.4**
ASAR						**PcP**	**23 37 14.8**	**-1.1**
BJT	**Baijiatuan**	**35.95**	**327**	P		**P**	**23 34 50.1**	**0.0**
BJT				IAmb		IAmb	23 34 52.8	
	comp=Z,40nm,1.4s							
BJI	**Beijing**	**35.97**	**327**	P		**P**	**23 34 51.2**	**+1.1**
BJI				pmax		pmax		
	comp=Z,20nm,1.3s							
BNX	**BinXian**	**36.12**	**344**	⇑P		**P**	**23 34 52.9**	**+1.5**
BNX				pmax		pmax		
	comp=Z,74nm,1.1s							
BNX				pmax		pmax		
	comp=Z,380nm,4.1s							
XAN	**Xi'an**	**36.89**	**313**	P		**P**	**23 34 58.9**	**+0.7**
XAN				pP		pwP	23 35 07.7	+2.6
XAN				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KLR	**Kul'dur**	**38.48**	**350**	P		**P**	**23 35 12.3**	**+0.9**
	comp=Z,10nm,0.9s,baz=150,slow=8.1,SNR=16							
KMI	**Kunming**	**38.61**	**296**	⇓P		**P**	**23 35 15.4**	**+2.3**
KMI				pmax		pmax		
	comp=Z,10.0nm,1.6s							
PZH	**PanZhiHua**	**39.81**	**298**	P		**P**	**23 35 24.3**	**+1.2**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,110nm,4.7s							
SRIT	**Nakonsritamara**	**40.78**	**270**	P		**P**	**23 35 31.4**	**+0.3**
SRIT				IAmb		IAmb	23 35 32.6	
	comp=Z,17nm,1.0s							
CM31	**Chiang Mai Arr**	**41.10**	**285**	P		**P**	**23 35 34.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**41.10**	**285**	P		**P**	**23 35 35.1**	**+1.5**
	comp=Z,5.5nm,0.9s,baz=89,slow=6.5,SNR=12							
CMAR				PcP		**PcP**	**23 37 34.0**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=101,slow=1.8,SNR=4.8							
CMAR	**Chiang Mai Arr**	**41.10**	**285**	P		**P**	**23 35 34.2**	**+0.5**
CMAR						**PcP**	**23 37 33.5**	**+0.1**
LZH	**Lanzhou**	**41.52**	**313**	*eP*		**P**	**23 35 34.9**	**-2.2**
LZH				pP		sP	23 35 40.1	+0.4
LZH				pmax		pmax		
	comp=Z,15nm,1.2s							
DZM	**Mont Dzumac**	**41.62**	**143**	P		**P**	**23 35 38.4**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=302,slow=15,SNR=1.5							
HIA	**Hailar**	**41.65**	**339**	P		**P**	**23 35 38.2**	**+0.4**
STKA	**Stephens Creek**	**43.03**	**179**	P		**P**	**23 35 49.6**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=340,slow=12,SNR=3.0							
KCSI	**Kotacane, Aceh**	**43.46**	**263**	P		**P**	**23 35 51.6**	**-1.4**
	comp=Z,38nm,1.0s							
PETK	**Petropavlovsk-**	**43.73**	**15**	P		**P**	**23 35 52.9**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=222,slow=11,SNR=1.6							
GTA	**Gaotai**	**45.86**	**315**	*eP*		**P**	**23 36 13.0**	**+1.0**
GTA				pP		pwP	23 36 19.3	+0.5
GTA				sP		sP	23 36 23.3	+8.8
GTA				pmax		pmax		
	comp=Z,13nm,1.0s							
ULN	**Ulaanbaatar**	**46.11**	**329**	P		**P**	**23 36 13.7**	**-0.1**
ULN				IAmb		IAmb	23 36 16.0	
	comp=Z,13nm,1.2s							
SONM	**Songino Array**	**46.43**	**328**	P		**P**	**23 36 17.0**	**+0.8**
	comp=Z,6.8nm,1.2s,baz=145,slow=7.4,SNR=13							
SONM				PcP		**PcP**	**23 37 50.1**	**-1.0**
	comp=Z,1.4nm,1.0s,baz=156,slow=3.9,SNR=2.3							
SONM	**Songino Array**	**46.43**	**328**	P		**P**	**23 36 16.4**	**+0.1**
SONM				IAmb		IAmb	23 36 18.6	
	comp=Z,11nm,1.3s							
SHL	**Shillong**	**48.34**	**294**	P		**P**	**23 36 31.2**	**-0.4**
SHEM	**Shemya Is, Ala**	**49.08**	**26**	P		**P**	**23 36 36.8**	**+0.3**
	comp=Z,68nm,0.8s,baz=317,slow=12,SNR=2.6							
COCO	**West Island**	**49.66**	**243**	P		**P**	**23 36 40.7**	**-0.8**
YAK	**Yakutsk**	**51.21**	**353**	P		**P**	**23 36 52.4**	**-0.1**
SEY	**Seymchan**	**52.11**	**7**	P		**P**	**23 36 59.2**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=173,slow=5.6,SNR=6.2							
JIRN	**Jiri**	**53.65**	**296**	*eP*		**P**	**23 37 12.0**	**+0.2**
	comp=Z,13nm,1.1s							
GUN	**Gumba**	**53.95**	**296**	*eP*		**P**	**23 37 14.4**	**+0.4**
	comp=Z,24nm,0.8s							
PKI	**Pulchoki**	**54.33**	**296**	*eP*		**P**	**23 37 16.4**	**-0.3**
GKN	**Gorkha**	**55.05**	**296**	*eP*		**P**	**23 37 21.7**	**-0.1**
DANN	**Dangsing**	**55.86**	**297**	*eP*		**P**	**23 37 27.6**	**-0.1**
WMQ	**Urumqi**	**55.93**	**316**	*eP*		**P**	**23 37 28.7**	**+1.0**
WMQ				pmax		pmax		
	comp=Z,23nm,0.9s							
KOLN	**Koldanda**	**55.95**	**296**	*eP*		**P**	**23 37 28.3**	**+0.1**
	comp=Z,14nm,0.9s							
PYUN	**Piuthan**	**56.51**	**296**	*eP*		**P**	**23 37 32.3**	**0.0**
	comp=Z,21nm,0.8s							
BILL	**Bilibino**	**58.99**	**11**	P		**P**	**23 37 47.9**	**-0.8**
BILL				IAmb		IAmb	23 37 49.5	
	comp=Z,14nm,1.3s							
MK31	**Makanchi Array**	**60.45**	**318**	P		**P**	**23 37 59.1**	**-0.1**
MK31				IAmb		IAmb	23 38 01.7	
	comp=Z,10.0nm,1.4s							
MKAR	**Makanchi Array**	**60.45**	**318**	P		**P**	**23 37 59.4**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=100,slow=8.9,SNR=12							
MKAR	**Makanchi Array**	**60.45**	**318**	P		**P**	**23 37 58.8**	**-0.4**
MAKZ	**Makanchi**	**60.66**	**318**	P		**P**	**23 38 00.5**	**-0.1**
MAKZ				IAmb		IAmb	23 38 03.1	
	comp=Z,15nm,1.4s							
ZAA0	**Zalesovo Array**	**61.22**	**326**	P		**P**	**23 38 04.0**	**-0.3**
ZAA0				IAmb		IAmb	23 38 05.7	
	comp=Z,9.7nm,1.4s							
ZALV	**Zalesovo Beam**	**61.22**	**326**	P		**P**	**23 38 03.7**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=111,slow=7.1,SNR=7.1							
KSH	**Kashi**	**63.55**	**308**	P		**P**	**23 38 23.0**	**+2.7**
KSH				sP		pwP	23 38 38.7	+12
KURK	**Kurchatov**	**63.82**	**321**	P		**P**	**23 38 21.4**	**-0.4**
KURBB	**Kurchatov Arra**	**63.85**	**321**	P		**P**	**23 38 21.7**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=104,slow=6.9,SNR=16							
AAK	**Ala-Archa**	**65.06**	**312**	P		**P**	**23 38 29.4**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=76,slow=8.3,SNR=2.1							
NIL	**Nilore**	**65.24**	**302**	P		**P**	**23 38 31.1**	**-0.3**
NRIK	**Noril'sk**	**66.98**	**342**	P		**P**	**23 38 40.4**	**-1.5**
	comp=Z,2.8nm,0.6s,baz=109,slow=8.3,SNR=5.3							
NRIK	**Noril'sk**	**66.98**	**342**	P		**P**	**23 38 41.0**	**-0.8**
NRIK				IAmb		IAmb	23 38 44.0	
	comp=Z,14nm,1.4s							
BTK	**Batken**	**67.55**	**309**	P		**P**	**23 38 44.4**	**-1.8**
BTK				IAmb		IAmb	23 38 58.3	
	comp=Z,8.5nm,1.3s							
GAR	**Garm**	**67.88**	**307**	P		**P**	**23 38 47.9**	**-0.3**
KK31	**Karatay Array**	**68.02**	**312**	P		**P**	**23 38 48.2**	**-0.7**
KK31				IAmb		IAmb	23 38 51.1	
	comp=Z,9.7nm,1.4s							
KKAR	**Karatay Array**	**68.02**	**312**	P		**P**	**23 38 48.5**	**-0.5**
KBL	**Kabul**	**68.75**	**303**	P		**P**	**23 38 53.2**	**-0.8**
CHGR	**Chuyangaron**	**68.76**	**307**	P		**P**	**23 38 53.2**	**-0.6**
BRVK	**Borovoye**	**69.35**	**323**	P		**P**	**23 38 56.6**	**-0.4**
BRVK				IAmb		IAmb	23 38 59.0	
	comp=Z,12nm,1.2s							
CAST	**Castle Rocks**	**69.65**	**26**	P		**P**	**23 38 58.1**	**-0.6**
CAST				IAmb		IAmb	23 38 59.4	
	comp=Z,13nm,1.2s							
H21K	**Melozitna Rive**	**69.98**	**24**	P		**P**	**23 39 00.4**	**-0.4**
I23K	**Minto, Yukon-K**	**71.24**	**25**	P		**P**	**23 39 07.6**	**-0.7**
I23K				IAmb		IAmb	23 39 09.6	
	comp=Z,13nm,1.2s							
COLD	**Coldfoot**	**71.43**	**23**	P		**P**	**23 39 08.6**	**-0.9**
COLD				IAmb		IAmb	23 39 11.1	
	comp=Z,6.9nm,0.9s							
H24K	**Noodor Dome**	**72.00**	**24**	P		**P**	**23 39 12.3**	**-0.7**
H24K				IAmb		IAmb	23 39 14.3	
	comp=Z,8.8nm,1.2s							
TOLK	**Toolik Lake Re**	**72.03**	**21**	P		**P**	**23 39 13.0**	**-0.2**
TOLK				IAmb		IAmb	23 39 14.7	
	comp=Z,9.2nm,1.1s							
IL31		**72.18**	**25**	P		**P**	**23 39 11.9**	**-2.1**
ILAR	**Eielson Array**	**72.18**	**25**	P		**P**	**23 39 12.6**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=247,slow=5.8,SNR=15							
ILAR	**Eielson Array**	**72.18**	**25**	P		**P**	**23 39 11.2**	**-2.9**
RIDG	**Independent Ri**	**72.88**	**27**	P		**P**	**23 39 16.3**	**-2.0**
RIDG				IAmb		IAmb	23 39 18.8	
	comp=Z,14nm,1.1s							
DOT	**Dot Lake**	**73.21**	**27**	P		**P**	**23 39 19.2**	**-1.0**
DOT				IAmb		IAmb	23 39 20.6	
	comp=Z,9.0nm,1.0s							
BMAR	**Burnt Mountain**	**73.60**	**23**	P		**P**	**23 39 22.8**	**+0.3**
ISLE	**Juniper Island**	**73.63**	**30**	P		**P**	**23 39 22.7**	**-0.2**
ISLE				IAmb		IAmb	23 39 35.7	
	comp=Z,10nm,1.0s							
GRNC	**Granite Creek**	**73.93**	**30**	P		**P**	**23 39 24.8**	**0.0**
GRNC				IAmb		IAmb	23 39 40.1	
	comp=Z,16nm,1.4s							
L27K	**Beaver Creek,**	**74.13**	**28**	P		**P**	**23 39 25.8**	**+0.2**
CTGM	**Chitina Glacie**	**74.16**	**30**	P		**P**	**23 39 26.8**	**+0.8**
CTGM				IAmb		IAmb	23 39 27.2	
	comp=Z,7.6nm,0.9s							
LOGN	**Logan Glacier**	**74.31**	**30**	P		**P**	**23 39 26.9**	**+0.1**
HRA	**Herat**	**74.37**	**303**	P		**P**	**23 39 27.3**	**-0.6**
DAWY	**Dawson**	**75.31**	**27**	P		**P**	**23 39 32.7**	**+0.2**
DAWY				IAmb		IAmb	23 39 33.9	
	comp=Z,9.1nm,1.1s							
ABKAR	**Akbulak array**	**75.59**	**318**	P		**P**	**23 39 33.4**	**-0.9**
ARU	**Arti**	**76.38**	**325**	P		**P**	**23 39 37.3**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=352,slow=5.6,SNR=4.1							
ARU	**Arti**	**76.38**	**325**	P		**P**	**23 39 36.8**	**-1.8**
N31M	**Braeburn, Yuko**	**76.87**	**29**	P		**P**	**23 39 40.0**	**-1.3**
N31M				IAmb		IAmb	23 39 43.2	
	comp=Z,21nm,1.2s							
WHY	**Whitehorse**	**77.30**	**30**	P		**P**	**23 39 43.7**	**-0.2**
WHY				IAmb		IAmb	23 39 45.6	
	comp=Z,11nm,1.1s							
GEYT	**Alibeck**	**77.46**	**307**	P		**P**	**23 39 45.1**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=34,slow=48,SNR=2.2							
INK	**Inuvik**	**77.84**	**22**	P		**P**	**23 39 46.0**	**-0.6**
	comp=Z,6.3nm,1.1s,baz=256,slow=7.9,SNR=6.9							
INK	**Inuvik**	**77.84**	**22**	P		**P**	**23 39 44.9**	**-1.7**
DLBC	**Dease Lake**	**79.89**	**32**	P		**P**	**23 39 58.0**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=273,slow=14,SNR=3.9							
DLBC	**Dease Lake**	**79.89**	**32**	P		**P**	**23 39 57.3**	**-0.9**
C36M	**Paulatuk**	**81.19**	**21**	P		**P**	**23 40 03.4**	**-1.4**
BELG	**Belogornoye**	**83.08**	**322**	P		**P**	**23 40 14.4**	**-0.7**
	comp=Z,17nm,0.9s,baz=284,slow=1.2,SNR=4.5							
D05A	**Enumclaw**	**86.49**	**43**	P		**P**	**23 40 33.7**	**+1.2**
YKA	**Yellowknife Ar**	**86.55**	**27**	P		**P**	**23 40 32.2**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=291,slow=5.1,SNR=24							
YKA	**Yellowknife Ar**	**86.55**	**27**	P		**P**	**23 40 32.5**	**+0.1**
YBH	**Yreka Blue Hor**	**87.19**	**48**	P		**P**	**23 40 33.9**	**-2.2**
YBH				IAmb		IAmb	23 40 37.4	
	comp=Z,16nm,1.4s							
ARCES	**ARCESS Array B**	**87.95**	**341**	P		**P**	**23 40 37.1**	**-2.0**
	comp=Z,2.9nm,0.8s,baz=69,slow=6.9,SNR=5.0							
PINE	**Pine Mountain**	**87.99**	**46**	P		**P**	**23 40 39.6**	**-0.5**
ORV	**Oroville**	**88.58**	**50**	P		**P**	**23 40 42.2**	**-0.5**
ORV				IAmb		IAmb	23 40 44.1	
	comp=Z,7.8nm,1.2s							
BEKR	**Beckworth**	**89.36**	**50**	P		**P**	**23 40 46.8**	**+0.2**
BEKR				IAmb		IAmb	23 40 48.0	
	comp=Z,9.3nm,1.0s							
PAHR	**Pah Rah Range**	**90.13**	**50**	P		**P**	**23 40 50.4**	**+0.3**
PAHR				IAmb		IAmb	23 40 51.9	
	comp=Z,8.6nm,1.2s							
NVAR	**Mina Array Bea**	**91.28**	**51**	P		**P**	**23 40 55.3**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=265,slow=6.6,SNR=10							
NVAR	**Mina Array Bea**	**91.28**	**51**	P		**P**	**23 40 54.5**	**-1.1**
FINES	**FINESS Array B**	**91.48**	**334**	P		**P**	**23 40 53.6**	**-2.1**
	comp=Z,1.8nm,0.5s,baz=66,slow=5.9,SNR=16							
MFID	**Camas Ranch**	**91.67**	**45**	P		**P**	**23 40 57.2**	**0.0**
MFID				IAmb		IAmb	23 40 58.8	
	comp=Z,12nm,1.4s							
TORD	**Torodi Ar. Bea**	**132.77**	**300**	PKP		**PKPdf**	**23 47 05.0**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=15,slow=1.5,SNR=5.2							
LPAZ	**La Paz**	**151.38**	**103**	PKPbc		**PKPdf**	**23 47 41.9**	**+2.9**
	comp=Z,4.0nm,0.6s,baz=136,slow=2.3,SNR=4.0							
LPAZ	**La Paz**	**151.38**	**103**			**PKPdf**	**23 47 40.8**	**+1.8**

UCR ***12*** *23:28:32.1±1.4, 10°.34N×86°.40W, h25km±6km, MW4.0*

INET ***12*** *23:28:33.5±0.3, 10°.33N×86°.31W, h19km±7km, MW3.3*

ISC 12 23:28:32.0±3.5**, 10°.40N**±0°.07×**86°.32W**±0°.09**, h9**km±28**km, n26,** σ0§**53**/31**, 2C, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAJU	**San Juanillo,**	**0.68**	**118**	*eP*		**Pb**	**23 28 46.1**	**+0.1**
SAJU				*eS*		**Sb**	**23 28 55.6**	**+0.1**
HZTE	**Horizontes, Gu**	**0.78**	**66**	*eP*		**Pb**	**23 28 48.4**	**+0.7**
HZTE				*eS*		**Sn**	**23 29 01.0**	**0.0**
GUAI	**GUAI**	**0.81**	**99**	⇑*iP*		**Pb**	**23 28 48.2**	**0.0**
GUAI				*iS*		**Sn**	**23 29 01.5**	**0.0**
ORTG	**Ortega, Santa**	**0.85**	**92**	*eP*		**Pb**	**23 28 48.8**	**-0.1**
ORTG				*eS*		**Sb**	**23 29 00.8**	**+0.4**
BUEV	**Buena Vista**	**0.98**	**66**	*iP*		**Pb**	**23 28 51.0**	**-0.2**
BUEV				*iS*		**Sn**	**23 29 06.2**	**+0.1**
GB1A	**Borinquen Arri**	**1.00**	**65**	*iP*		**Pb**	**23 28 51.4**	**-0.1**
GPS2	**Hotel Rincn d**	**1.02**	**69**	*iP*		**Pb**	**23 28 51.7**	**-0.1**
BUAI	**Buenos Aires**	**1.08**	**64**	*iP*		**Pn**	**23 28 53.0**	**-0.4**
LIM1	**Limonal**	**1.09**	**74**	⇑*iP*		**Pn**	**23 28 52.7**	**-0.8**
GUAB	**Guayabo de Bag**	**1.12**	**74**	*iP*		**Pn**	**23 28 53.1**	**-0.8**
CUI	**Cuipilapa**	**1.17**	**77**	*iP*		**Pn**	**23 28 54.0**	**-0.6**
HORNC	**Hornillas**	**1.17**	**74**	*iP*		**Pn**	**23 28 53.8**	**-0.8**
ACAL	**Aguas Claras**	**1.28**	**79**	*iP*		**Pn**	**23 28 56.0**	**-0.2**
CONN	**Concepcion**	**1.35**	**30**	*eP*		**Pn**	**23 28 56.6**	**-0.3**
PTEN	**Parque Tenorio**	**1.35**	**76**	*iP*		**Pn**	**23 28 57.0**	**0.0**
JTS	**Las Juntas de**	**1.35**	**94**	*eP*		**Pn**	**23 28 56.1**	**-0.9**
LAFE	**Finca La Fe, P**	**1.51**	**113**	*eP*		**Pn**	**23 28 57.8**	**-1.4**
ARE1	**Arenal 1**	**1.58**	**87**	*eP*		**Pn**	**23 29 00.5**	**+0.3**
COPN	**Copalltepe**	**1.79**	**351**	*eP*		**Pn**	**23 29 03.0**	**-0.2**
ACON	**Acoyapa**	**1.93**	**36**	*eP*		**Pn**	**23 29 04.6**	**-0.3**
MOMN	**Momotombo**	**2.01**	**354**	*eP*		**Pn**	**23 29 06.0**	**-0.2**
BOAB	**BOACO BROADBAN**	**2.14**	**17**	*eP*		**Pn**	**23 29 07.6**	**-0.2**
RIMA

IDC 12 23:35:00.7±30.0, 54°03S×144°07E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/39, mbtmp3.6/3, Error ellipse: s-maj=597.9km s-min=181.9km az=129.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**22.21**	**354**	P	P	23 39 58.6	0.0
	1.3nm,0.7s,baz=174,slow=10,SNR=1.9						
H01W1	**Cape Leeuwin H**	**28.34**	**300**	T	T	00 08 28.2	
	baz=142,slow=75,SNR=6.1						
H01W2	**Cape Leeuwin H**	**28.35**	**300**	T	T	00 08 28.2	
	baz=142,slow=75,SNR=5.0						
H01W3	**Cape Leeuwin H**	**28.36**	**300**	T	T	00 08 28.2	
	baz=142,slow=75,SNR=4.8						
ASAR	**Alice Springs**	**31.27**	**342**	P	P	23 41 22.1	-0.1
	0.4nm,0.5s,baz=167,slow=11,SNR=7.0						
WRA	**Warramunga Arr**	**34.84**	**344**	P	P	23 41 53.3	0.0
	0.8nm,0.8s,baz=169,slow=7.8,SNR=7.0						

*NEIC **12** 23:40:48.5±1.6, 11°38N±0°09×141°0E±0°1, h10km±1km, mb4.7/67, Error ellipse: s-maj=18.4km s-min=15.8km az=279.0*

*IDC **12** 23:40:53.5±2.4, 11°32N×140°99E, h52km±22km, mb4.1/22, mb1 4.2/25, mb1mx4.1/40, mbtmp4.4/25, ML4.5/3, MS3.4/1, Ms1 3.4/1, ms1mx3.0/80, Error ellipse: s-maj=15.7km s-min=10.9km az=93.0*

ISC 12 23:40:52.7±0.4, 11°32N±0°06×140°99E±0°07, h45km, n119, σ1°15/124, mb4.6/65, 2C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.41**	**59**	P	**Pn**	**23 41 60.0**	**+2.9**
	28nm,0.3s,baz=199,slow=6.4,SNR=6.3						
GUMO				S	**Sn**	**23 42 48.3**	**+1.1**
	13nm,0.3s,baz=351,slow=22,SNR=1.2						
GUMO	**Guam**	**4.41**	**59**	Pn	**Pn**	**23 41 54.8**	**-2.3**
SIJI	**Sorong**	**15.50**	**219**	P	**Pn**	**23 44 28.3**	**-0.1**
	1.1nm,0.3s,baz=6.9,slow=17,SNR=1.7						
SIJI				LR	LR	23 49 43.4	
	comp=Z,144nm,19.4s,baz=102,slow=34						
JOW	**Kunigami**	**19.53**	**324**	P	**Pn**	**23 45 18.4**	**+0.3**
	3.0nm,0.3s,baz=164,slow=11,SNR=7.8						
JOW	**Kunigami**	**19.53**	**324**		**Pn**	**23 45 17.2**	**-0.9**
JOW				IAmb	IAmb	23 45 20.0	
	comp=Z,33nm,0.7s						
PMG	**Port Moresby**	**21.49**	**163**	P	**P**	**23 45 37.6**	**-0.1**
	comp=Z,7.4nm,0.2s,baz=351,slow=12,SNR=3.7						
PMG	**Port Moresby**	**21.49**	**163**	P	**P**	**23 45 37.7**	**-0.1**
PMG				IAmb	IAmb	23 45 38.3	
	comp=Z,28nm,1.1s						
SSLB	**Suanglung**	**22.74**	**306**	P	**P**	**23 45 51.9**	**+0.7**
SSLB				IAmb	IAmb	23 46 13.8	
	comp=Z,43nm,1.3s						
MYLDM	**Lahad Datu**	**23.07**	**256**	P	**P**	**23 45 53.8**	**-0.8**
MYLDM				IAmb	IAmb	23 46 16.5	
	comp=Z,29nm,1.0s						
JMN	**Monobe**	**23.23**	**345**	P	**P**	**23 45 54.8**	**-1.3**
JNU	**Nakatsue**	**23.60**	**338**	P	**P**	**23 45 59.0**	**-0.6**
	comp=Z,7.4nm,0.6s,baz=191,slow=3.7,SNR=5.4						
JNU	**Nakatsue**	**23.60**	**338**	P	**P**	**23 45 59.9**	**+0.3**
JNU				IAmb	IAmb	23 46 03.2	
	comp=Z,49nm,1.5s						
JYT	**Yasato**	**24.81**	**358**	P	**P**	**23 46 09.4**	**-1.2**
MJAR	**Matsushiro Arr**	**25.23**	**355**	P	**P**	**23 46 13.2**	**-1.3**
	comp=Z,1.7nm,0.4s,baz=153,slow=12,SNR=2.2						
MJAR	**Matsushiro Arr**	**25.23**	**355**	P	**P**	**23 46 12.0**	**-2.5**
JSD	**Sado**	**26.71**	**355**	P	**P**	**23 46 25.4**	**-2.4**
JSD				IAmb	IAmb	23 46 27.9	
	comp=Z,16nm,0.9s						
KSRS	**Korea Array**	**28.55**	**338**	P	**P**	**23 46 43.3**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=157,slow=9.0,SNR=2.3						
NJ2	**Nanjing**	**29.02**	**319**	*eP*	**P**	**23 46 50.5**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
WB0	**Warramunga Arr**	**31.57**	**192**	P	**P**	**23 47 10.9**	**-0.3**
WR0	**Warramunga Arr**	**31.73**	**192**	P	**P**	**23 47 12.1**	**-0.4**
WB2	**Warramunga Arr**	**31.75**	**192**	P	**P**	**23 47 12.0**	**-0.8**
WB2				IAmb	IAmb	23 47 20.4	
	comp=Z,5.1nm,0.8s						
WRA	**Warramunga Arr**	**31.75**	**192**	P	**P**	**23 47 11.6**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=10,slow=9.8,SNR=20						
WRA				PcP	**PcP**	**23 50 03.1**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=15,slow=3.2,SNR=1.6						
WRA	**Warramunga Arr**	**31.75**	**192**	P	**P**	**23 47 12.3**	**-0.4**
USRK	**Ussuriysk Ar.**	**33.67**	**348**	P	**P**	**23 47 29.5**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=165,slow=12,SNR=3.8						
ENH	**Enshi**	**34.79**	**308**	P	**P**	**23 47 39.4**	**+0.1**
HNS	**HongShan**	**35.09**	**322**	⇑P	**P**	**23 47 42.0**	**+0.4**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AS31	**Alice Springs**	**35.46**	**191**	P	**P**	**23 47 45.5**	**+0.5**
ASAR	**Alice Springs**	**35.46**	**191**	P	**P**	**23 47 45.5**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=18,slow=12,SNR=47						
ASAR				PcP	**PcP**	**23 50 13.3**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=33,slow=3.5,SNR=1.6						
ASAR	**Alice Springs**	**35.46**	**191**	P	**P**	**23 47 44.0**	**-1.0**
BJT	**Baijiatuau**	**36.05**	**327**	P	**P**	**23 47 49.2**	**-0.7**
BJT				IAmb	IAmb	23 47 55.2	
	comp=Z,7.3nm,0.7s						
BJI	**Beijing**	**36.06**	**327**	P	**P**	**23 47 50.3**	**+0.4**
BJI				pmax	pmax		
	comp=Z,13nm,1.1s						
BNX	**BinXian**	**36.21**	**344**	⇑P	**P**	**23 47 52.0**	**+0.9**
BNX				pmax	pmax		
	comp=Z,57nm,1.3s						
BNX				pmax	pmax		
	comp=Z,340nm,5.8s						
XAN	**Xi'an**	**36.98**	**313**	P	**P**	**23 47 56.0**	**-2.0**
XAN				pP	pP	23 48 05.4	-3.5
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KLR	**Kul'dur**	**38.56**	**350**	P	**P**	**23 48 11.9**	**+0.8**
	comp=Z,7.5nm,0.7s,baz=149,slow=7.3,SNR=26						
PZH	**PanZhiHua**	**39.90**	**298**	P	P	23 48 28.2	+5.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.18**	**285**	P	**P**	**23 48 34.4**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=89,slow=6.6,SNR=12						
CMAR	**Chiang Mai Arr**	**41.18**	**285**	P	**P**	**23 48 33.7**	**+0.5**
DZM	**Mont Dzumac**	**41.53**	**143**	P	**P**	**23 48 37.9**	**+1.8**
DZM				IAmb	IAmb	23 48 39.0	
	comp=Z,25nm,1.5s						
ARMA	**Armidale**	**42.74**	**166**	P	**P**	**23 48 45.5**	**-0.4**
ARMA				IAmb	IAmb	23 49 10.4	
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**42.96**	**179**	P	**P**	**23 48 47.0**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=1.0,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**42.96**	**179**	P	**P**	**23 48 47.0**	**-0.5**
PETK	**Petropavlovsk-**	**43.78**	**15**	P	**P**	**23 48 54.4**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=183,slow=8.7,SNR=2.2						
PETK	**Petropavlovsk-**	**43.78**	**15**	P	**P**	**23 48 53.2**	**-0.7**
BBOO	**Buckleboo**	**44.14**	**186**	P	**P**	**23 48 57.0**	**+0.1**
GTA	**Gaotai**	**45.95**	**315**	*eP*	**P**	**23 49 12.6**	**+1.0**
GTA				pP	pP	23 49 16.7	-6.1
GTA				sP	sP	23 49 20.4	-7.2
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ULN	**Ulaanbaatar**	**46.20**	**329**	P	**P**	**23 49 13.4**	**0.0**
SONM	**Songino Array**	**46.52**	**328**	P	**P**	**23 49 16.5**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=140,slow=6.7,SNR=12						
SONM				PcP	**PcP**	**23 50 49.4**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=159,slow=4.2,SNR=2.5						
SONM	**Songino Array**	**46.52**	**328**	P	**P**	**23 49 14.8**	**-1.0**
YAK	**Yakutsk**	**51.29**	**353**	P	**P**	**23 49 51.7**	**-0.3**
SEY	**Seymchan**	**52.17**	**7**	P	**P**	**23 49 58.0**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=178,slow=7.9,SNR=7.6						
RAMN	**Ramite**	**53.30**	**295**	*eP*	**P**	**23 50 08.8**	**+1.0**
GUN	**Gumba**	**54.04**	**296**	*eP*	**P**	**23 50 13.4**	**+0.1**
	comp=Z,17nm,0.8s						
DANN	**Dangsing**	**55.94**	**297**	*eP*	**P**	**23 50 26.8**	**-0.3**
	comp=Z,12nm,0.9s						
WMQ	**Urumqi**	**56.02**	**316**	*eP*	**P**	**23 50 28.9**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,11nm,1.5s						
WMQ				LR	LR		
	comp=E,300nm,16.3s						
WMQ				LR	LR		
	comp=Z,240nm,17.5s						
PYUN	**Piuthan**	**56.60**	**296**	*eP*	**P**	**23 50 31.4**	**-0.2**
	comp=Z,11nm,0.7s						
BILL	**Bilibino**	**59.05**	**11**	P	**P**	**23 50 46.7**	**-1.1**
BILL				IAmb	IAmb	23 50 53.7	
	comp=Z,3.2nm,0.7s						
MK31	**Makanchi Array**	**60.54**	**318**	P	**P**	**23 50 57.8**	**-0.7**
MKAR	**Makanchi Array**	**60.54**	**318**	P	**P**	**23 50 58.6**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=100,slow=8.8,SNR=27						
MKAR	**Makanchi Array**	**60.54**	**318**	P	**P**	**23 50 58.1**	**-0.4**
MAKZ	**Makanchi**	**60.75**	**318**	P	**P**	**23 50 59.8**	**-0.2**
ZAA0	**Zalesovo Array**	**61.31**	**326**	P	**P**	**23 51 02.1**	**-1.4**
ZAA0				IAmb	IAmb	23 51 09.6	
	comp=Z,4.1nm,1.1s						
ZALV	**Zalesovo Beam**	**61.31**	**326**	P	**P**	**23 51 03.1**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=111,slow=7.7,SNR=18						
ZALV	**Zalesovo Beam**	**61.31**	**326**	P	**P**	**23 51 02.1**	**-1.4**
KSH	**Kashi**	**63.64**	**309**	P	**P**	**23 51 22.7**	**+3.1**
KSH				pP	sP	23 51 33.6	-2.4
KSH				PcP	**PcP**	**23 51 59.6**	**+4.0**
KSH				PP	**PP**	**23 53 44.5**	**+4.6**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KURK	**Kurchatov**	**63.91**	**321**	P	**P**	**23 51 20.7**	**-0.3**
NIL	**Nilore**	**65.32**	**302**	P	**P**	**23 51 30.6**	**0.0**
NRIK	**Noril'sk**	**67.06**	**342**	P	**P**	**23 51 40.3**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=115,slow=14,SNR=5.1						
NRIK	**Noril'sk**	**67.06**	**342**	P	**P**	**23 51 40.4**	**-0.7**
NRIK				IAmb	IAmb	23 51 45.7	
	comp=Z,3.4nm,0.8s						
N18K	**Kilae Creek**	**67.17**	**28**	P	**P**	**23 51 42.5**	**+0.6**
N18K				IAmb	IAmb	23 51 58.2	
	comp=Z,9.1nm,1.3s						
SVW2	**Sparrevohn**	**67.44**	**28**	P	**P**	**23 51 44.1**	**+0.6**
SVW2				IAmb	IAmb	23 51 58.7	
	comp=Z,5.9nm,1.0s						
TTA	**Tatalina**	**67.84**	**26**	P	**P**	**23 51 46.1**	**0.0**
TTA				IAmb	IAmb	23 51 58.5	
	comp=Z,6.3nm,1.5s						
N19K	**Bonanza Creek**	**67.86**	**29**	P	**P**	**23 51 47.1**	**+0.8**
N19K				IAmb	IAmb	23 51 52.8	
	comp=Z,8.8nm,1.2s						
GAR	**Garm**	**67.97**	**308**	P	**P**	**23 51 47.5**	**0.0**
L19K	**White Mountain**	**68.11**	**27**	P	**P**	**23 51 48.1**	**+0.3**
L19K				IAmb	IAmb	23 51 48.5	
	comp=Z,6.8nm,1.1s						
KKAR	**Karatay Array**	**68.11**	**312**	P	**P**	**23 51 48.3**	**+0.2**
M19K	**Big River Lodg**	**68.23**	**27**	P	**P**	**23 51 49.2**	**+0.7**
M19K				IAmb	IAmb	23 52 02.2	
	comp=Z,9.9nm,1.4s						
K20K	**Telida**	**68.81**	**26**	P	**P**	**23 51 53.0**	**+0.8**
K20K				IAmb	IAmb	23 51 54.7	
	comp=Z,6.4nm,1.4s						
CHGR	**Chuyangaron**	**68.85**	**307**	P	**P**	**23 51 52.3**	**-0.7**
J20K	**Nowinta River**	**69.03**	**25**	P	**P**	**23 51 54.3**	**+0.9**
J20K				IAmb	IAmb	23 51 57.7	
	comp=Z,3.2nm,1.0s						
BRVK	**Borovoye**	**69.45**	**323**	P	**P**	**23 51 56.3**	**+0.1**
BRVK				IAmb	IAmb	23 51 57.5	
	comp=Z,4.5nm,0.6s						
PPLA	**Purkeypile**	**69.50**	**27**	P	**P**	**23 51 56.8**	**+0.2**
CAST	**Castle Rocks**	**69.69**	**26**	P	**P**	**23 51 57.7**	**+0.1**
CAST				IAmb	IAmb	23 51 58.4	
	comp=Z,4.4nm,0.6s						
IMAR	**Indian Mountai**	**69.76**	**23**	P	**P**	**23 51 58.0**	**0.0**
H21K	**Melozitna Rive**	**70.03**	**24**	P	**P**	**23 52 00.2**	**+0.6**
H21K				IAmb	IAmb	23 52 05.8	
	comp=Z,3.6nm,0.9s						
I21K	**Tanana**	**70.22**	**24**	P	**P**	**23 52 01.5**	**+0.8**
I21K				IAmb	IAmb	23 52 03.2	
	comp=Z,3.6nm,0.7s						
TRF	**Thorofare Moun**	**70.47**	**26**	P	**P**	**23 52 01.7**	**-0.9**
TRF				IAmb	IAmb	23 52 13.2	
	comp=Z,9.4nm,1.1s						
PWL	**Port Wells**	**70.79**	**29**	P	**P**	**23 52 02.4**	**-2.0**
RND	**Reindeer**	**71.09**	**27**	P	**P**	**23 52 05.3**	**-0.9**
RND				IAmb	IAmb	23 52 07.5	
	comp=Z,3.3nm,0.6s						
SCM	**Sheep Creek Mo**	**71.46**	**28**	P	**P**	**23 52 08.2**	**-0.3**
DHY	**Denali Highway**	**71.68**	**27**	P	**P**	**23 52 09.1**	**-0.7**
MDM	**Murphy Dome**	**71.70**	**25**	P	**P**	**23 52 09.6**	**-0.2**
KLU	**Klutina**	**72.06**	**29**	P	**P**	**23 52 12.3**	**+0.3**
KLU				IAmb	IAmb	23 52 14.1	
	comp=Z,5.8nm,1.0s						
TOLK	**Toolik Lake Re**	**72.08**	**21**	P	**P**	**23 52 12.7**	**+0.6**
TOLK				IAmb	IAmb	23 52 13.7	
	comp=Z,6.8nm,1.1s						
IL31		**72.22**	**25**	P	**P**	**23 52 11.6**	**-1.3**
IL31				IAmb	IAmb	23 52 12.2	
	comp=Z,3.2nm,0.6s						
ILAR	**Eielson Array**	**72.22**	**25**	P	**P**	**23 52 11.7**	**-1.3**
	comp=Z,2.4nm,0.5s,baz=245,slow=5.9,SNR=36						
PAX	**Paxson**	**72.51**	**27**	P	**P**	**23 52 14.8**	**+0.1**
PAX				IAmb	IAmb	23 52 15.1	
	comp=Z,4.2nm,0.5s						
HMT	**Hamilton**	**72.69**	**30**	P	**P**	**23 52 16.0**	**+0.2**
RIDG	**Independent Ri**	**72.92**	**27**	P	**P**	**23 52 16.8**	**-0.3**
RIDG				IAmb	IAmb	23 52 23.4	
	comp=Z,6.7nm,1.0s						
DOT	**Dot Lake**	**73.25**	**27**	P	**P**	**23 52 19.0**	**0.0**
DOT				IAmb	IAmb	23 52 20.1	
	comp=Z,7.2nm,1.2s						
BMAR	**Burnt Mountain**	**73.64**	**23**	P	**P**	**23 52 22.1**	**+0.8**
BARN	**Barnard Glacie**	**74.04**	**30**	P	**P**	**23 52 24.2**	**+0.3**
BARN				IAmb	IAmb	23 52 34.3	
	comp=Z,6.4nm,1.1s						
TABL	**Table Mountain**	**74.24**	**30**	P	**P**	**23 52 25.5**	**+0.4**
ABKAR	**Akbulak array**	**75.68**	**318**	P	**P**	**23 52 32.5**	**-0.9**
M30M	**Minto, Yukon**	**76.44**	**28**	P	**P**	**23 52 38.3**	**+0.8**
M31M	**Drury Creek, Y**	**77.56**	**29**	P	**P**	**23 52 44.6**	**+0.8**
INK	**Inuvik**	**77.89**	**22**	P	**P**	**23 52 44.0**	**-1.4**
A36M	**Sachs Harbour**	**80.48**	**18**	P	**P**	**23 52 59.2**	**-0.3**
A36M				IAmb	IAmb	23 53 06.0	
	comp=Z,6.4nm,0.8s						
YKA	**Yellowknife Ar**	**86.59**	**27**	P	**P**	**23 53 31.4**	**+0.4**
	comp=Z,2.0nm,0.4s,baz=288,slow=4.9,SNR=37						
YKA	**Yellowknife Ar**	**86.59**	**27**	P	**P**	**23 53 30.2**	**-0.8**
KBZ	**Khabaz**	**88.04**	**314**	P	**P**	**23 53 38.7**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=27,slow=2.3,SNR=2.5						
ARCES	**ARCESS Array B**	**88.04**	**341**	P	**P**	**23 53 37.2**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=67,slow=6.7,SNR=7.6						
ARCES	**ARCESS Array B**	**88.04**	**341**	P	**P**	**23 53 36.0**	**-1.9**
NVAR	**Mina Array Bea**	**91.28**	**51**	P	**P**	**23 53 55.9**	**+1.8**
	comp=Z,1.6nm,0.6s,baz=274,slow=5.6,SNR=13						
NVAR	**Mina Array Bea**	**91.28**	**51**	P	**P**	**23 53 52.0**	**-2.1**
FINES	**FINESS Array B**	**91.57**	**334**	P	**P**	**23 53 52.8**	**-1.8**
	comp=Z,2.6nm,0.5s,baz=60,slow=4.9,SNR=33						
FINES	**FINESS Array B**	**91.57**	**334**	P	**P**	**23 53 52.4**	**-2.1**
TORD	**Torodi Ar. Bea**	**132.86**	**300**	PKP	**PKiKP**	**00 00 04.6**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=94,slow=1.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**132.86**	**300**		**PKPdf**	**00 00 03.1**	**-0.9**
LPAZ	**La Paz**	**151.31**	**103**	PKPbc	**PKiKP**	**00 00 44.3**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=287,slow=2.0,SNR=17						

DJA 12 23:43:35.4±0.4, 1°N×3°×12°2E±°, h85km±5km, M3.7/9, mb3.9/3, MLv3.5/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.42**	**264**	P	Pn	23 43 49.7	+0.7
MRSI				S	Sn	23 44 00.4	+1.3
GTOI	**Gorontalo**	**0.66**	**80**	P	Pn	23 43 52.3	+1.2
GTOI				S	Sn	23 44 05.3	+2.6
APSI	**Ampana**	**1.59**	**207**	P	Pn	23 44 02.5	+0.4
LUWI	**Luwuk**	**1.60**	**165**	P	Pn	23 44 03.2	+0.9
LUWI				S	Sn	23 44 26.8	+4.1
MPSI	**Mapaga**	**2.47**	**266**	P	Pn	23 44 13.7	0.0
SANI	**Sanana**	**4.43**	**125**	P	Pn	23 44 39.3	-1.0
SANI				S	Sn	23 45 27.2	-3.6
SPSI	**Sidrap Palu**	**5.15**	**210**	P	Pn	23 44 50.4	+0.3
	0.1nm7.5nm,0.8s						
BNSI	**Bone**	**5.38**	**205**	P	Pn	23 44 53.2	0.0
	0.1nm8.5nm,0.6s						

WEL 12 23:55:29.9±0.3, 41°S±2°×17°5E±°, h17km±3km, M2.2/14, ML2.5/19, MLv2.2/14, Error ellipse: s-maj=0.0km s-min=0.0km az=135.9, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	**Mangatainoka R**	**0.25**	**25**	P	Pb	23 55 36.8	+0.9
MRZ				S	Sb	23 55 41.9	+1.9
TIWZ	**Tintock**	**0.36**	**72**	P	Pb	23 55 38.4	+0.6
TIWZ				S	Sb	23 55 44.4	+1.3
CAW	**Cannon Point**	**0.36**	**232**	P	Pb	23 55 38.9	+1.1
CAW				S	Sb	23 55 44.6	+1.4
KIW	**Kapiti Island**	**0.40**	**273**	P	Pn	23 55 39.9	-1.1
KIW				S	Sn	23 55 46.3	-1.7
TMWZ	**Te Maipa**	**0.41**	**123**	P	Pb	23 55 39.5	+0.8
TMWZ				S	Sn	23 55 46.7	-1.6
PAWZ	**Paruwai Farm**	**0.50**	**181**	P	Pb	23 55 41.0	+0.8
PAWZ				S	Sn	23 55 48.9	-1.6
PRWZ	**Pori Road**	**0.52**	**51**	P	Pb	23 55 41.3	+0.7
PRWZ				S	Sn	23 55 49.8	-1.3
TRWZ	**Traveller**	**0.55**	**160**	P	Pb	23 55 41.8	+0.8
TRWZ				S	Sn	23 55 50.7	-1.0
MSWZ	**Moikau Station**	**0.55**	**195**	P	Pb	23 55 41.8	+0.7
MSWZ				S	Sb	23 55 49.8	+1.1
POWZ	**Post Office Ro**	**0.55**	**27**	P	Pb	23 55 41.6	+0.5
CPWZ	**Castlepoint**	**0.58**	**93**	P	Pn	23 55 42.4	-0.9
BFZ	**Birch Farm**	**0.65**	**72**	P	Pb	23 55 42.7	0.0
BHW	**Baring Head**	**0.68**	**219**	P	Pb	23 55 43.8	+0.6
BHW				S	Sb	23 55 53.0	+0.7
PLWZ	**Palliser**	**0.70**	**191**	P	Pb	23 55 43.7	+0.1
DVHZ	**Dannevirke**	**0.81**	**44**	P	Pb	23 55 45.4	-0.1
ANWZ	**Angora Road**	**0.90**	**62**	P	Pb	23 55 46.2	-0.8
TSZ	**Takapari Road**	**0.92**	**26**	P	Pb	23 55 47.4	+0.1
TSZ				S	Sg	23 55 59.5	-0.3
TCW	**Tory Channel**	**0.94**	**249**	P	Pg	23 55 48.1	0.0
PRHZ	**Porangahau**	**1.10**	**56**	P	Pb	23 55 49.2	-1.3
PNHZ	**Pukenui**	**1.13**	**31**	P	Pn	23 55 50.2	-0.8
DUWZ	**D'Urville Isla**	**1.15**	**274**	P	Pg	23 55 51.8	-0.4
DUWZ				S	Sg	23 56 07.9	+0.6
WAZ	**Wanganui**	**1.18**	**343**	P	Pg	23 55 53.4	+0.7
KRHZ	**Kereru**	**1.43**	**30**	P	Pn	23 55 54.1	-0.9
OTVZ	**Oturere**	**1.73**	**6**	P	Pn	23 55 59.8	+0.5
NNVZ	**North Ngauruho**	**1.76**	**4**	P	Pn	23 56 00.1	+0.4
KRVZ	**Karewarewa**	**1.79**	**5**	P	Pn	23 56 00.9	+0.8

*IDC **12** 23:58:38.2±0.6, 52°14N×30°18W, h0km, mb3.9/27, mb1 4.0/30, mb1mx3.9/67, mbtmp3.9/30, ML4.2/3, MS3.9/17, Ms1 4.0/17, ms1mx3.5/101, Error ellipse: s-maj=18.2km s-min=10.5km az=180.0*

*NEIC **12** 23:58:39.7±1.7, 52°0N±0°1×30°1W±0°1, h10km±1km, mb4.5/74, Error ellipse: s-maj=19.7km s-min=15.2km az=187.0*

ISC 12 23:58:40.4±0.5, 52°08N±0°09×30°13W±0°05, h14km, n162, σ1°24/143, mb4.3/72, MS4.3/27, 6C-12D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.49**	**16**	Pn	**Pn**	**00 01 51.8**	**+0.7**
	0.6nm,0.3s,baz=292,slow=3.0,SNR=3.2						
BORG				LR	LR	00 05 35.5	
	comp=Z,170nm,21.8s,baz=207,slow=31						
BORG	**Borgarnes**	**13.49**	**16**	Pn	**Pn**	**00 01 53.1**	**+2.0**
ANGG	**Ammassalik, Gr**	**14.10**	**347**	Pn	**Pn**	**00 02 00.5**	**+1.1**
ESK	**Eskdalemuir**	**16.23**	**68**	Pn	**Pn**	**00 02 28.5**	**+0.8**
ESK				IAmb	IAmb	00 02 42.0	
	comp=Z,49nm,1.5s						
EKA	**Eskdalemuir Ar**	**16.25**	**68**	Pn	**Pn**	**00 02 26.5**	**-1.5**
	baz=269,slow=14,SNR=14						
EKA				LR	LR	00 07 38.7	
	comp=Z,199nm,19.6s,baz=212,slow=33						
DRLN	**Deer Lake**	**17.54**	**272**		**Pn**	**00 02 43.7**	**-0.5**
DRLN				IAmb	IAmb	00 02 50.8	
	comp=Z,47nm,1.4s						
SFJD	**Kangerlussuaq**	**18.06**	**334**	P	**Pn**	**00 02 48.3**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=151,slow=10,SNR=3.6						
SFJD				LR	LR	00 08 20.3	
	comp=Z,304nm,19.1s,baz=174,slow=32						
SFJD	**Kangerlussuaq**	**18.06**	**334**		**Pn**	**00 02 50.5**	**0.0**
DOU	**Dourbes**	**21.78**	**81**	*dP*	**P**	**00 03 31.0**	**-0.5**
BMRD	**Maredsous**	**21.82**	**81**	*dx*	x	00 03 38.5	
SCHQ	**Schefferville**	**21.87**	**292**	P	**P**	**00 03 31.5**	**-0.9**
	comp=Z,11nm,0.5s,baz=88,slow=7.3,SNR=58						
SCHQ	**Schefferville**	**21.87**	**292**	P	**P**	**00 03 31.8**	**-0.6**
SCHQ				IAmb	IAmb	00 03 32.4	
	comp=Z,14nm,0.6s						
ESDC	**Sonseca Array**	**21.90**	**114**	P	**P**	**00 03 34.0**	**+1.0**
	comp=Z,1.8nm,1.0s,baz=308,slow=13,SNR=5.2						
ESDC	**Sonseca Array**	**21.90**	**114**	P	**P**	**00 03 32.3**	**-0.6**
BGES	**Gesves**	**21.99**	**80**	*dP*	**P**	**00 03 35.8**	**+2.0**
BCLA	**Clavier**	**22.11**	**80**	*dP*	**P**	**00 03 35.2**	**+0.2**
BCLA				*d*PP	**PnPn**	**00 03 58.8**	**+1.8**
RCHB	**Rochefort**	**22.15**	**81**	*dP*	**P**	**00 03 32.0**	**-3.4**
MEM	**Membach**	**22.48**	**79**	*dP*	**P**

FIA1 **FINESS Array S** 31.24 50 P P 00 04 58.2 -0.9
FIA1 IAmb IAmb 00 05 11.2
comp=Z,7.0nm,1.2s
PABE **Paberze** 31.46 62 P P 00 05 00.3 -0.7
TRPA **Tarpa** 33.39 75 ⇓P P 00 05 18.6 +0.5
BUR08 **Bucovina Ar. S** 35.21 75 P P 00 05 34.6 +0.7
BUR08 IAmb IAmb 00 05 42.5
comp=Z,4.6nm,1.0s
BURAR **Bucovina Array** 35.23 75 ⇑P P 00 05 34.7 +0.6
BURAR **Bucovina Array** 35.23 75 P P 00 05 35.2 +1.1
BURAR IAmb IAmb 00 05 42.9
comp=Z,4.5nm,0.8s
FCC **Fort Churchill** 35.63 307 P P 00 05 38.1 +0.8
FCC IAmb IAmb 00 05 40.2
comp=Z,4.6nm,0.8s
DOPR **Dopca** 36.14 77 ⇓P P 00 05 49.1 +7.2
AKASG **Malin Array Be** 36.16 68 P P 00 05 40.4 -1.5
comp=Z,0.7nm,0.4s,baz=300,slow=8.5,SNR=1.6
TESR **Tescani** 36.62 76 ⇑P P 00 05 52.4 +6.4
MLR **Muntele Rosu** 36.72 77 ⇑P P 00 05 49.9 +2.9
SORM **Soroca** 36.84 72 ⇑P P 00 05 46.2 -1.5
PLOR **Plostina** 36.96 77 ⇓P P 00 05 50.2 +1.3
VRI **Vrincioaia** 37.00 76 ⇑P P 00 05 49.6 +0.4
CFR **Carcaliu** 38.20 77 ⇑P P 00 05 58.3 -1.0
OBN **Obninsk** 38.34 58 P P 00 05 59.0 -1.4
comp=Z,1.7nm,0.5s,baz=108,slow=23,SNR=3.7
OBN **Obninsk** 38.34 58 P P 00 05 59.3 -1.1
OBN IAmb IAmb 00 06 08.6
comp=Z,14nm,1.0s
EYMN **Ely** 38.62 289 P P 00 06 03.3 +0.4
EYMN IAmb IAmb 00 06 21.9
comp=Z,5.9nm,0.9s
B35A **Bob, Littlefor** 39.71 291 P P 00 06 12.0 +0.1
ULM **Lac du Bonnet** 40.00 294 P P 00 06 12.5 -1.8
comp=Z,1.1nm,0.5s,baz=73,slow=11,SNR=4.0
ULM **Lac du Bonnet** 40.00 294 P P 00 06 14.2 -0.2
T50A **Nancy** 40.79 271 P P 00 06 20.8 -0.2
SPMN **Marine on St.** 40.81 286 P P 00 06 21.6 +0.5
SPMN IAmb IAmb 00 06 23.7
comp=Z,5.4nm,0.5s
SIUC **Southern Illin** 43.05 275 P P 00 06 39.4 -0.1
SIUC IAmb IAmb 00 06 40.7
comp=Z,11nm,0.8s
A36M **Sachs Harbour** 43.06 333 P P 00 06 40.1 +1.1
S44A **Carbondale** 43.09 275 P P 00 06 40.1 +0.4
S44A IAmb IAmb 00 06 40.8
comp=Z,10nm,0.7s
YKA **Yellowknife Ar** 43.57 318 P P 00 06 43.7 +0.3
comp=Z,2.2nm,0.8s,baz=61,slow=8.7,SNR=29
YKA PcP PcP 00 08 30.4 -0.3
comp=Z,0.5nm,0.6s,baz=60,slow=3.6,SNR=9.0
YKA **Yellowknife Ar** 43.57 318 P P 00 06 44.8 +1.4
CCM **Cathedral Cave** 44.08 277 P P 00 06 47.2 -0.6
CCM IAmb IAmb 00 06 48.7
comp=Z,9.6nm,0.8s
R40A **Maddies Statio** 44.56 277 P P 00 06 51.1 -0.5
R40A IAmb IAmb 00 07 08.0
comp=Z,14nm,1.5s
BRTR **Keskin Array B** 44.66 80 P P 00 06 54.2 +1.6
comp=Z,1.3nm,0.9s,baz=317,slow=6.9,SNR=3.9
W45A **Hickory Valley** 44.68 272 P P 00 06 52.1 -0.5
LRAL **Lakeview Retre** 44.74 268 P P 00 06 53.0 -0.1
LRAL IAmb IAmb 00 06 54.5
comp=Z,4.9nm,0.9s
MGMO **Mountain Grove** 45.28 276 P P 00 06 57.2 -0.2
MGMO IAmb IAmb 00 06 58.4
comp=Z,4.6nm,0.9s
Z47A **Carrollton** 45.29 269 P P 00 06 57.5 +0.1
LCAR **Lake Charles** 45.30 274 P P 00 06 56.5 -1.0
LCAR IAmb IAmb 00 06 58.3
comp=Z,6.7nm,0.9s
BELG **Belogornoye** 45.41 57 P P 00 06 58.1 0.0
comp=Z,5.1nm,0.6s,baz=221,slow=2.1,SNR=3.9
S39A **Bolivar** 45.59 278 P P 00 06 59.1 -0.7
S39A IAmb IAmb 00 07 00.7
comp=Z,6.6nm,0.9s
U40A **Yellville** 46.15 276 P P 00 07 03.7 -0.6
U40A IAmb IAmb 00 07 05.2
comp=Z,9.9nm,0.9s
TOA0 **Torodi Ar. Sit** 46.48 135 P P 00 07 06.5 -0.4
TORD **Torodi Ar. Bea** 46.48 135 P P 00 07 06.7 -0.3
comp=Z,0.6nm,0.4s,baz=336,slow=7.9,SNR=13
TORD **Torodi Ar. Bea** 46.48 135 P P 00 07 06.5 -0.5
TORD IAmb IAmb 00 07 14.9
comp=Z,3.9nm,1.1s
WHAR **Wooly Hollow** 46.50 274 P P 00 07 06.2 -0.8
W41B **Gary Mavity, V** 46.55 274 P P 00 07 06.9 -0.5
W41B IAmb IAmb 00 07 07.5
comp=Z,5.5nm,0.8s
KSU1 **Kansas State U** 46.70 281 P P 00 07 07.8 -0.7
INK **Inuvik** 47.37 331 LR LR 00 24 28.7
comp=Z,221nm,20.1s,baz=348,slow=33
X40A **Basin Creek Fa** 47.37 274 P P 00 07 12.9 -0.9
W39A **Magazine** 47.48 275 P P 00 07 13.3 -1.4
143A **Socs Landing,** 47.69 271 P P 00 07 15.2 -1.0
KBZ **Khabaz** 47.73 70 P P 00 07 16.9 +0.5
comp=Z,0.6nm,0.6s,baz=308,slow=13,SNR=1.8
ARU **Arti** 48.54 48 P P 00 07 22.5 -0.1
comp=Z,2.0nm,0.7s,baz=281,slow=9.9,SNR=7.3
ARU LR LR 00 28 26.5
comp=Z,201nm,19.4s,baz=32,slow=37
ARU **Arti** 48.54 48 P P 00 07 21.9 -0.7
ARU IAmb IAmb 00 07 23.7
comp=Z,6.4nm,0.8s
EGMT **Eagleton** 48.87 299 P P 00 07 26.1 +0.8
EGMT IAmb IAmb 00 07 28.4
comp=Z,4.8nm,0.8s
W35A **Tecumseh** 49.41 278 P P 00 07 28.1 -1.5
N23A **Red Feather La** 51.11 289 P P 00 07 42.0 -0.7
BOZ **Bozeman (W)** 51.37 297 P P 00 07 45.0 +0.6
JTMT **Jette** 51.46 301 P P 00 07 45.2 +0.2
AKTO **Aktyubinsk** 51.85 54 P P 00 07 48.2 +0.5
comp=Z,2.9nm,0.8s,baz=318,slow=6.3,SNR=6.0
AKTO LR LR 00 29 22.8
comp=Z,195nm,18.2s,baz=32,slow=36
WHTX **Lake Whitney,** 51.90 275 P P 00 07 48.4 0.0
WHTX IAmb IAmb 00 07 48.8
comp=Z,8.0nm,0.7s
PD31 **Pinedale Array** 51.99 293 P P 00 07 48.5 -0.7
PDAR **Pinedale Array** 51.99 293 P P 00 07 48.6 -0.7
comp=Z,1.3nm,0.5s,baz=64,slow=6.5,SNR=18
PDAR **Pinedale Array** 51.99 293 P P 00 07 48.7 -0.5
BW06 **Boulder Array** 52.00 293 P P 00 07 48.5 -0.8
DLBC **Dease Lake** 52.16 319 LR LR 00 29 40.0
comp=Z,181nm,18.2s,baz=226,slow=36
TPAW **Teton Pass** 52.32 295 P P 00 07 52.3 +0.6
SCRK **Sand Creek** 53.41 330 P P 00 08 01.1 +1.9
SCRK IAmb IAmb 00 08 10.5
comp=Z,5.2nm,1.1s
ABKAR **Akbulak array** 53.56 55 P P 00 08 00.6 +0.2
ABKAR IAmb IAmb 00 08 09.8
comp=Z,3.5nm,0.9s
ILAR **Eielson Array** 53.71 332 P P 00 08 00.8 -0.4
comp=Z,0.8nm,0.8s,baz=42,slow=5.9,SNR=9.1
ILAR LR LR 00 30 29.3
comp=Z,102nm,18.2s,baz=0.5,slow=36
MSTX **Muleshoe** 53.80 281 P P 00 08 02.5 0.0
MSTX IAmb IAmb 00 08 03.5
comp=Z,6.0nm,0.8s
HWUT **Hardware Ranch** 53.88 293 P P 00 08 02.9 -0.2
HWUT IAmb IAmb 00 08 03.9
comp=Z,4.5nm,0.7s
PV11 **David Mesa, Pa** 54.52 289 P P 00 08 07.6 -0.2
PV13 **Radium Mtn., P** 54.58 288 P P 00 08 09.1 +0.8
PV13 IAmb IAmb 00 08 23.7
comp=Z,7.0nm,1.2s
H21K **Melozitna Rive** 54.69 335 P P 00 08 09.2 +0.8
H21K IAmb IAmb 00 08 22.6
comp=Z,5.9nm,1.4s
DUG **Dugway, Tooele** 55.53 293 P P 00 08 16.3 +1.3
DUG IAmb IAmb 00 08 30.8
comp=Z,4.8nm,1.2s
BRVK **Borovoye** 55.94 46 P P 00 08 18.1 +0.5
J20K **Nowinta River** 56.21 334 P P 00 08 20.0 +0.6
TX31 **Lajitas Ar. Si** 57.57 277 P P 00 08 29.5 -0.1
TX31 IAmb IAmb 00 08 31.6
comp=Z,6.3nm,0.7s
TX32 **Lajitas Array** 57.57 277 P P 00 08 27.6 -2.0
TX32 IAmb IAmb 00 08 31.6
comp=Z,2.2nm,0.7s
TXAR **Lajitas Array** 57.57 277 P P 00 08 29.5 -0.2
comp=Z,1.3nm,0.6s,baz=68,slow=6.7,SNR=13
TXAR **Lajitas Array** 57.57 277 P P 00 08 29.6 0.0
CCUT **Cedar City** 57.63 291 P P 00 08 31.1 +1.0
TTA **Tatalina** 57.71 334 P P 00 08 31.1 +1.0
TTA IAmb IAmb 00 08 45.1
comp=Z,7.1nm,1.4s
X16A **Lo Mia Camp, P** 58.68 287 P P 00 08 37.9 +0.4
X16A IAmb IAmb 00 08 39.9
comp=Z,2.1nm,0.8s
ROSC **El Rosal** 59.54 234 P P 00 08 42.4 -1.4
comp=Z,8.3nm,0.5s,baz=106,slow=9.1,SNR=4.7
ROSC LR LR 00 32 35.0
comp=Z,122nm,21.7s,baz=6.5,slow=34
NVAR **Mina Array Bea** 59.84 295 P P 00 08 44.7 -0.8
comp=Z,0.6nm,0.8s,baz=57,slow=5.7,SNR=4.0
BLYC **Blythe** 60.96 288 P P 00 08 53.2 +0.2
BLYC IAmb IAmb 00 08 55.1
comp=Z,5.3nm,0.9s
KURBB **Kurchatov Arra** 61.26 43 P P 00 08 54.8 +0.1
comp=Z,0.9nm,0.8s,baz=318,slow=7.5,SNR=6.9
ZAA0 **Zalesovo Array** 61.26 38 P P 00 08 54.7 +0.1
ZALV **Zalesovo Beam** 61.26 38 P P 00 08 54.9 +0.3
comp=Z,0.4nm,0.4s,baz=317,slow=10,SNR=2.1
ZALV **Zalesovo Beam** 61.26 38 P P 00 08 54.4 -0.2
AAK **Ala-Archa** 65.41 52 LR LR 00 36 17.7
comp=Z,154nm,21.5s,baz=349,slow=34
MK31 **Makanchi Array** 65.79 44 P P 00 09 24.2 -0.5
MKAR **Makanchi Array** 65.79 44 P P 00 09 24.5 -0.3
comp=Z,0.7nm,0.6s,baz=333,slow=6.0,SNR=10
MKAR LR LR 00 37 18.6
comp=Z,105nm,19.5s,baz=8.0,slow=35
MKAR **Makanchi Array** 65.79 44 P P 00 09 24.7 0.0
GAR **Garm** 66.05 57 P P 00 09 27.1 +0.4
KSH **Kashi** 68.51 53 P P 00 09 44.8 +2.6
KSH pP pwP 00 09 50.8 +0.6
KSH PcP PcP 00 10 07.5 +0.1
KSH pmax pmax
comp=Z,3.0nm,1.4s
SONM **Songino Array** 73.75 29 P P 00 10 13.7 -0.1
comp=Z,0.2nm,0.3s,baz=324,slow=9.1,SNR=4.0
SONM **Songino Array** 73.75 29 P P 00 10 14.1 +0.3
NNA **Nana** 75.42 227 LR LR 00 43 01.0
comp=Z,103nm,19.2s,baz=284,slow=35
LPAZ **La Paz** 75.66 218 P P 00 10 27.4 +1.8
comp=Z,0.4nm,0.6s,baz=45,slow=5.7,SNR=1.5
KLR **Kul dur** 77.89 12 LR LR 00 45 01.8
comp=Z,201nm,18.3s,baz=167,slow=36
ASAJ **Asahikawa** 83.98 5 LR LR 00 46 32.4
comp=Z,123nm,20.6s,baz=170,slow=34
PZH **PanZhiHua** 91.14 42 P P 00 11 44.8 -0.1
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,8.4s
NJ2 **Nanjing** 91.92 26 eP P 00 11 46.8 -1.4
NJ2 pmax pmax
comp=Z,12nm,0.5s
CMAR **Chiang Mai Arr** 96.98 48 LR LR 00 57 57.5
comp=Z,35nm,18.6s,baz=90,slow=37
WRA **Warramunga Arr** 145.71 27 PKPbc PKPab 00 18 19.6 +0.6
comp=Z,1.1nm,0.6s,baz=347,slow=3.4,SNR=7.0
WRA **Warramunga Arr** 145.71 27 PKPbc PKPbc 00 18 18.6 -0.1
ASAR **Alice Springs** 149.10 29 PKPbc PKPbc 00 18 27.6 -0.4
comp=Z,1.0nm,0.5s,baz=347,slow=2.1,SNR=10
ASAR **Alice Springs** 149.10 29 PKPbc PKPbc 00 18 27.8 -0.2

IDC ***13*** *00:23:48.0±0.4, 11°.37N×140°.95E, h0km, mb4.5/26, mb1 4.7/29, mb1mx4.5/48, mbtmp4.6/29, ML3.9/1, MS3.9/50, Ms1 3.9/50, ms1mx3.8/80, Error ellipse: s-maj=18.3km s-min=9.7km az=79.0*

NEIC ***13*** *00:23:50.3±1.6, 11°.41N±0°.09×140°.89E±0°.10, h10km±1km, mb4.8/78, Error ellipse: s-maj=16.6km s-min=13.9km az=117.0*

DJA ***13*** *00:23:51.5±0.6, 11°.4±4°×14°.1E±°, h14km±4km, M5.0/32, mb4.9/32, mB5.3/13, MLv5.4/1, Mw(mB)4.8/13, MwMwp5.3/2, Mwp5.5/2*

ISC 13 00:23:49.7±0.3, 11°.35N±0°.05×140°.97E±0°.05, h10km, n183, σ1§47/163, mb4.8/82, MS4.0/56, 1C-3D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.41**	**59**	Pn	**Pn**	**00 24 58.2**	**+1.3**
	6.1nm,0.3s,baz=164,slow=17,SNR=2.4						
GUMO				Sn	**Sb**	**00 25 59.3**	**-1.4**
	22nm,0.3s,baz=208,slow=24,SNR=1.5						
GUMO				LR	LR	00 26 41.1	
	comp=Z,1μm,21.4s,baz=282,slow=39						
GUMO	**Guam**	**4.41**	**59**	Pn	**Pn**	**00 24 58.6**	**+1.8**
BAKI	**Biak**	**13.36**	**202**	P	P	00 27 14.3	+5.1
GENI	**Genyem**	**13.87**	**183**	P	**P**	**00 27 11.0**	**-3.9**
	142nm,0.6s						
SWI	**Sorong**	**15.50**	**219**	P	**Pn**	**00 27 30.1**	**+1.5**
	22nm,0.8s						
SIJI	**Sorong**	**15.50**	**219**	Pn	**Pn**	**00 27 29.9**	**+1.3**
	baz=265,slow=23,SNR=1.6						
SIJI				LR	LR	00 32 02.7	
	comp=Z,543nm,20.9s,baz=19,slow=32						
TNTI	**Ternate**	**17.11**	**233**		**P**	**00 27 52.6**	**+1.7**
LBMI	**Labuha**	**17.91**	**229**	P	**P**	**00 28 03.1**	**+3.3**
	2μm57nm,1.0s						
MSAI	**Masohi**	**18.88**	**220**	P	**Pn**	**00 28 14.5**	**+3.5**
	23nm,0.8s						
RABL	**Rabaul**	**19.04**	**144**		**Pn**	**00 28 15.5**	**+2.6**
KRVT	**Keravat (AS076**	**19.05**	**144**	P	**Pn**	**00 28 14.0**	**+1.0**
	baz=170,slow=23,SNR=0.9						
JOW	**Kunigami**	**19.50**	**324**	P	**Pn**	**00 28 20.6**	**+2.2**
	3.1nm,0.3s,baz=133,slow=9.9,SNR=7.9						
JOW				LR	LR	00 35 31.9	
	comp=Z,305nm,18.3s,baz=120,slow=36						
JOW	**Kunigami**	**19.50**	**324**	P	**Pn**	**00 28 19.1**	**+0.8**
JOW				IAmb	IAmb	00 28 25.2	
	comp=Z,53nm,1.0s						
AAI	**Ambon**	**19.61**	**221**	P	**Pn**	**00 28 20.2**	**+0.4**
	comp=Z,2μmcomp=Z,213nm,1.1s						
SANI	**Sanana**	**19.98**	**229**	P	**P**	**00 28 19.8**	**-2.6**
	comp=Z,722nmcomp=Z,27nm,1.2s						
GTOI	**Gorontalo**	**20.77**	**240**	P	**P**	**00 28 31.6**	**+0.6**
	comp=Z,294nmcomp=Z,22nm,0.9s						
PMG	**Port Moresby**	**21.52**	**163**	P	**P**	**00 28 39.3**	**+0.3**
	comp=Z,33nm,0.9s,baz=358,slow=9.0,SNR=6.5						
PMG				LR	LR	00 36 40.8	
	comp=Z,436nm,19.3s,baz=322,slow=36						
PMG	**Port Moresby**	**21.52**	**163**	P	**P**	**00 28 38.5**	**-0.6**
PMG				IAmb	IAmb	00 28 45.7	
	comp=Z,62nm,1.1s						
MRSI	**Marisa**	**21.77**	**242**	P	**P**	**00 28 42.5**	**+0.7**
	comp=Z,2μmcomp=Z,124nm,1.2s						
LUWI	**Luwuk**	**21.88**	**237**	P	**P**	**00 28 41.0**	**-2.0**
LUWI	**Luwuk**	**21.88**	**237**	P	**P**	**00 28 43.5**	**+0.5**
	comp=Z,12μmcomp=Z,289nm,0.9s						
TOLI2	**Tolitoli**	**22.47**	**244**	P	**P**	**00 28 48.7**	**-0.7**
TOLI2				IAmb	IAmb	00 29 03.3	
	comp=Z,36nm,1.2s						
MYLDM	**Lahad Datu**	**23.05**	**256**	P	**P**	**00 28 56.9**	**+1.4**
JNU	**Nakatsue**	**23.57**	**338**	P	**P**	**00 29 00.4**	**-0.2**
	comp=Z,14nm,0.9s,baz=79,slow=4.3,SNR=6.0						
JNU	**Nakatsue**	**23.57**	**338**	P	**P**	**00 28 59.8**	**-0.8**
JNU				IAmb	IAmb	00 29 06.7	
	comp=Z,21nm,0.9s						
MPSI	**Mapaga**	**23.61**	**244**	P	**P**	**00 28 59.2**	**-1.9**
	comp=Z,1μmcomp=Z,14nm,1.2s						
JYT	**Yasato**	**24.78**	**359**	P	**P**	**00 29 10.1**	**-1.7**
KKM	**Kota Kinabalu**	**25.02**	**260**	P	**P**	**00 29 14.4**	**+0.1**
MJAR	**Matsushiro Arr**	**25.21**	**355**	P	**P**	**00 29 15.3**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=53,slow=25,SNR=1.7						
MJAR				LR	LR	00 37 56.4	
	comp=Z,157nm,18.6s,baz=153,slow=34						
TTSI	**Tana Toraja**	**25.44**	**237**	P	**P**	**00 29 19.9**	**+2.0**
	comp=Z,6μmcomp=Z,28nm,1.0s						
BNSI	**Bone**	**25.99**	**234**	P	**P**	**00 29 25.4**	**+2.4**
	comp=Z,20nm,1.6s						
JSD	**Sado**	**26.69**	**355**	P	**P**	**00 29 28.1**	**-1.0**
JSD				IAmb	IAmb	00 29 38.1	
	comp=Z,54nm,1.5s						
BATI	**Baumata**	**27.47**	**219**	P	**P**	**00 29 37.0**	**+0.7**
	comp=Z,20nm,0.5s,baz=11,slow=19,SNR=3.9						
BATI				LR	LR	00 39 41.9	
	comp=Z,195nm,21.4s,baz=82,slow=35						
KSRS	**Korea Array**	**28.52**	**338**	P	**P**	**00 29 45.6**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=166,slow=9.1,SNR=5.8						
KSRS				LR	LR	00 39 51.8	
	comp=Z,245nm,20.0s,baz=150,slow=34						
NJ2	**Nanjing**	**28.98**	**319**	eP	**P**	**00 29 51.9**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
WB0	**Warramunga Arr**	**31.59**	**192**	P	**P**	**00 30 11.6**	**-1.2**
WB0				IAmb	IAmb	00 30 13.3	
	comp=Z,21nm,1.0s						
CTA	**Charters Tower**	**31.67**	**171**	P	**P**	**00 30 13.4**	**-0.1**
	comp=Z,12nm,0.9s,baz=342,slow=6.0,SNR=5.9						
CTA				LR	LR	00 42 36.9	
	comp=Z,246nm,18.2s,baz=33,slow=36						
WR0	**Warramunga Arr**	**31.75**	**192**	P	**P**	**00 30 12.3**	**-1.8**
WR0				IAmb	IAmb	00 30 14.7	
	comp=Z,20nm,0.9s						
WRAB	**Tennant Creek**	**31.76**	**192**	P	**P**	**00 30 13.0**	**-1.3**
WRAB				IAmb	IAmb	00 30 14.8	
	comp=Z,24nm,0.9s						
WB2	**Warramunga Arr**	**31.77**	**192**	P	**P**	**00 30 13.2**	**-1.2**
WRA	**Warramunga Arr**	**31.77**	**192**	P	**P**	**00 30 13.8**	**-0.5**
	comp=Z,18nm,0.9s,baz=11,slow=9.4,SNR=55						
WRA				LR	LR	00 43 02.5	
	comp=Z,448nm,19.6s,baz=13,slow=36						
WRA	**Warramunga Arr**	**31.77**	**192**	P	**P**	**00 30 13.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**32.94**	**208**	P	**P**	**00 30 23.3**	**-1.3**
	comp=Z,8.1nm,0.9s,baz=57,slow=6.9,SNR=10						
FITZ				LR	LR	00 43 58.3	
	comp=Z,107nm,18.7s,baz=10,slow=37						
FITZ	**Fitzroy Crossi**	**32.94**	**208**	P	**P**	**00 30 23.4**	**-1.2**
FITZ				IAmb	IAmb	00 30 24.2	
	comp=Z,11nm,1.0s						
USRK	**Ussuriysk Ar.**	**33.64**	**348**	P	**P**	**00 30 31.0**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=168,slow=9.8,SNR=5.6						
USRK				LR	LR	00 42 42.5	
	comp=Z,222nm,18.5s,baz=150,slow=34						
LYN	**LuoYang**	**34.74**	**316**	⇓P	**P**	**00 30 41.2**	**+1.0**
LYN				S	**S**	**00 36 08.6**	**-1.9**
LYN				pmax	pmax		
	comp=Z,20nm,1.0s						
LYN				pmax	pmax		
	comp=Z,130nm,4.6s						
LYN				LR	LR		
	comp=N,470nm,14.7s						
LYN				LR	LR		
	comp=E,240nm,15.9s						
LYN				LR	LR		
	comp=Z,330nm,15.5s						
ENH	**Enshi**	**34.76**	**308**	P	**P**	**00 30 41.2**	**+0.7**
HNS	**HongShan**	**35.05**	**322**	⇓P	**P**	**00 30 43.6**	**+0.8**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AS31	**Alice Springs**	**35.48**	**191**	P	**P**	**00 30 46.0**	**-0.7**
ASAR	**Alice Springs**	**35.48**	**191**	P	**P**	**00 30 46.3**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=17,slow=12,SNR=43						
ASAR				PcP	**PcP**	**00 33 17.1**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=0.7,slow=3.5,SNR=4.4						
ASAR				LR	LR	00 45 18.9	
	comp=Z,323nm,19.6s,baz=355,slow=36						
ASAR	**Alice Springs**	**35.48**	**191**	P	**P**	**00 30 45.9**	**-0.8**
BJT	**Baijiatuau**	**36.01**	**327**	P	**P**	**00 30 50.2**	**-0.9**
BJT				IAmb	IAmb	00 30 56.4	
	comp=Z,11nm,0.7s						
BJI	**Beijing**	**36.02**	**327**	P	**P**	**00 30 51.9**	**+0.7**
BJI				PcP	**PcP**	**00 33 17.0**	**-0.6**
BJI				pmax	pmax		
	comp=Z,13nm,1.0s						
BJI				LR	LR		
	comp=N,250nm,15.2s						
BJI				LR	LR		
	comp=E,210nm,15.9s						
BJI				LR	LR		
	comp=Z,330nm,17.8s						
BNX	**BinXian**	**36.18**	**344**	⇑P	**P**	**00 30 53.5**	**+1.1**
BNX				pmax	pmax		
	comp=Z,33nm,0.8s						
BNX				pmax	pmax		
	comp=Z,470nm,5.4s						
XAN	**Xi'an**	**36.95**	**313**	P	**P**	**00 30 58.8**	**-0.4**
XAN				pP	pwP	00 31 13.5	+7.4
XAN				S	**S**	**00 36 36.8**	**-7.7**
XAN				SS	**SnSn**	**00 39 12.3**	**-4.9**
XAN	**Xi'an**	**36.95**	**313**	ScS	ScS	00 41 11.8	-3.3
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,200nm,5.4s						
XAN				LR	LR		
	comp=N,200nm,18.5s						
XAN				LR	LR		
	comp=E,250nm,20.6s						
XAN				LR	LR		
	comp=Z,290nm,18.6s						
PPBI	**Pangkal Pinang**	**37.15**	**251**	P	**P**	**00 31 01.0**	**-0.1**
LEM	**Lembang**	**37.78**	**243**	LR	LR	00 46 14.0	
	comp=Z,132nm,20.4s,baz=28,slow=36						
XLT	**XiLinHaoTe**	**38.91**	**331**	eP	**P**	**00 31 16.1**	**+0.4**
XLT				pP	pwP	00 31 29.1	+6.6
XLT				sP	sP	00 31 36.6	+18
XLT				S	S	00 37 27.2	+13
XLT				sS	sS	00 37 49.1	+32
XLT				pmax	pmax		
	comp=Z,13nm,1.1s						
XLT				pmax	pmax		
	comp=Z,200nm,4.6s						
XLT				LR	LR		
	comp=N,15nm,14.0s						
XLT				LR	LR		
	comp=E,140nm,13.5s						
XLT				LR	LR		
	comp=Z,230nm,17.7s						
PZH	**PanZhiHua**	**39.87**	**298**	P	**P**	**00 31 25.1**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,5.5s						
BTO	**Baotou**	**39.90**	**322**	eP	**P**	**00 31 26.4**	**+2.3**
BTO				S	**S**	**00 37 37.6**	**+8.4**
BTO				LR	LR		
	comp=N,1μm,17.3s						
BTO				LR	LR		
	comp=E,490nm,15.4s						
CM31	**Chiang Mai Arr**	**41.15**	**285**	P	**P**	**00 31 35.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**41.15**	**285**	P	**P**	**00 31 35.3**	**+0.8**
	comp=E,2.6nm,0.9s,baz=90,slow=6.4,SNR=14						
CMAR				LR	LR	00 46 41.2	
	comp=E,101nm,20.8s,baz=320,slow=33						
CMAR	**Chiang Mai Arr**	**41.15**	**285**	P	**P**	**00 31 34.9**	**+0.4**
DZM	**Mont Dzumac**	**41.56**	**143**	P	**P**	**00 31 39.0**	**+1.1**
	comp=E,19nm,0.9s,baz=29,slow=9.4,SNR=7.7						
DZM				LR	LR	00 46 31.6	
	comp=E,232nm,20.0s,baz=252,slow=33						
DZM	**Mont Dzumac**	**41.56**	**143**	P	**P**	**00 31 38.5**	**+0.6**
DZM				IAmb	IAmb	00 31 40.7	
	comp=Z,27nm,1.0s						
LZH	**Lanzhou**	**41.58**	**313**	eP	**P**	**00 31 39.8**	**+1.7**
LZH				pP	pwP	00 31 52.4	+7.4
LZH				sP	sP	00 31 59.8	+19
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				LR	LR		
	comp=N,350nm,13.5s						
LZH				LR	LR		
	comp=E,270nm,13.3s						
LZH				LR	LR		
	comp=Z,340nm,15.7s						
HIA	**Hailar**	**41.71**	**339**	P	**P**	**00 31 39.1**	**+0.3**
PSI	**Prapat**	**42.53**	**262**	LR	LR	00 52 38.3	
	comp=Z,50nm,20.0s,baz=72,slow=41						
STKA	**Stephens Creek**	**42.98**	**179**	P	**P**	**00 31 49.2**	**0.0**
	comp=Z,11nm,0.8s,baz=346,slow=8.6,SNR=26						
STKA				LR	LR	00 50 47.0	
	comp=Z,327nm,18.0s,baz=20,slow=38						
STKA	**Stephens Creek**	**42.98**	**179**	P	**P**	**00 31 48.4**	**-0.8**
KCSI	**Kotacane, Aceh**	**43.48**	**263**	P	**P**	**00 31 53.1**	**-0.6**
	comp=Z,507nmcomp=Z,36nm,1.3s						
FORT	**Forrest**	**43.68**	**196**	P	**P**	**00 31 55.0**	**+0.1**
PETK	**Petropavlovsk-**	**43.77**	**15**	LR	LR	00 48 26.3	
	comp=Z,94nm,19.7s,baz=191,slow=34						
BBOO	**Buckleboo**	**44.16**	**186**	P	**P**	**00 31 58.8**	**+0.1**
GTA	**Gaotai**	**45.92**	**315**	⇓P	**P**	**00 32 13.5**	**+0.6**
GTA				pP	pwP	00 32 19.7	-0.2
GTA				pmax	pmax		
	comp=Z,11nm,1.0s						
GTA				pmax	pmax		
	comp=Z,57nm,8.0s						
GTA				LR	LR		
	comp=N,120nm,16.7s						
GTA				LR	LR		
	comp=E,140nm,17.1s						
GTA				LR	LR		
	comp=Z,210nm,17.1s						
ULN	**Ulaanbaatar**	**46.17**	**329**	P	**P**	**00 32 14.9**	**+0.2**
SONM	**Songino Array**	**46.49**	**328**	P	**P**	**00 32 18.2**	**+0.9**

comp=Z,2.7nm,0.7s,baz=140,slow=8.7,SNR=19
SONM LR LR 00 52 48.1
comp=Z,370nm,18.2s,baz=136,slow=38
SONM Songino Array 46.49 328 P P 00 32 17.4 +0.2
MORW Morawa 46.84 210 P P 00 32 19.3 -0.8
GOMU GeErMu 48.36 309 P P 00 32 31.5 -0.8
GOMU pP sP 00 32 34.9 -0.1
GOMU sP pwP 00 32 39.3 0.0
GOMU S S **00 39 35.8 +2.7**
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,58nm,7.5s
GOMU LR LR
comp=N,120nm,17.0s
GOMU LR LR
comp=E,53nm,17.1s
GOMU LR LR
comp=Z,110nm,16.8s
TOO Toolangi 48.84 175 P P 00 32 36.5 +1.0
YAK Yakutsk 51.26 353 LR LR 00 52 47.1
comp=Z,110nm,21.2s,baz=261,slow=34
YAK Yakutsk 51.26 353 P P 00 32 53.3 -0.2
AFI Afiamalu 53.15 117 LR LR 00 54 04.6
comp=Z,110nm,18.0s,baz=6.0,slow=34
JIRN Jiri 53.70 296 *eP* **P 00 33 12.8 +0.1**
comp=Z,7.6nm,0.9s
GUN Gumba 54.00 296 *eP* **P 00 33 14.9 +0.1**
comp=Z,41nm,1.0s
PKIN Phulchoki 54.39 296 *eP* **P 00 33 17.0 -0.6**
DANN Dangsing 55.91 297 *eP* **P 00 33 28.5 -0.1**
comp=Z,26nm,0.8s
WMQ Urumqi 55.99 316 *eP* **P 00 33 29.1 +0.5**
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ LR LR
comp=Z,110nm,19.7s
KOLN Koldanda 56.00 296 *eP* **P 00 33 29.0 -0.1**
comp=Z,19nm,0.8s
PYUN Piuhan 56.56 296 *eP* **P 00 33 32.9 -0.3**
comp=Z,37nm,0.8s
PALK Pallekele 59.53 272 LR LR 01 00 20.4
comp=Z,63nm,19.2s,baz=167,slow=37
URZ Urewera 59.81 148 P P 00 33 55.3 0.0
comp=Z,3.5nm,0.5s,baz=331,slow=19,SNR=2.4
URZ LR LR 00 58 51.4
comp=Z,130nm,18.1s,baz=31,slow=35
URZ Urewera 59.81 148 P P 00 33 55.6 +0.3
URZ IAmb IAmb 00 34 11.4
comp=Z,11nm,0.9s
MK31 Makanchi Array 60.51 318 P P 00 33 59.8 -0.3
MKAR Makanchi Array 60.51 318 P P 00 34 00.3 +0.2
comp=Z,1.2nm,0.5s,baz=98,slow=8.6,SNR=21
MKAR LR LR 01 00 00.3
comp=Z,64nm,20.8s,baz=93,slow=36
MKAR Makanchi Array 60.51 318 P P 00 33 59.5 -0.6
MAKZ Makanchi 60.72 318 P P 00 34 01.4 -0.2
LTZ Lake Taylor 61.01 154 P P 00 34 04.2 +0.7
RPZ Rata Peaks 61.27 156 P P 00 34 04.2 -1.0
comp=Z,12nm,0.8s,baz=14,slow=22,SNR=3.1
ZAA0 Zalesovo Array 61.28 326 P P 00 34 04.6 -0.5
ZALV Zalesovo Beam 61.28 326 P P 00 34 04.4 -0.8
comp=Z,2.6nm,0.7s,baz=106,slow=7.2,SNR=13
ZALV LR LR 01 01 57.8
comp=Z,138nm,18.3s,baz=114,slow=37
ZALV Zalesovo Beam 61.28 326 P P 00 34 04.6 -0.6
KSH Kashi 63.60 308 P P 00 34 23.4 +2.2
KSH pP pwP 00 34 40.5 +12
KSH pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 63.88 321 P P 00 34 21.6 -1.0
AAK Ala-Archa 65.11 312 LR LR 01 05 53.3
comp=Z,60nm,18.0s,baz=133,slow=39
NIL Nilore 65.29 302 P P 00 34 31.6 -0.6
NRIK Noril'sk 67.03 342 P P 00 34 42.0 -0.6
comp=Z,1.9nm,0.3s,baz=117,slow=7.6,SNR=6.2
NRIK LR LR 01 03 20.3
comp=Z,135nm,20.3s,baz=146,slow=35
NRIK Noril'sk 67.03 342 P P 00 34 42.0 -0.6
NRIK IAmb IAmb 00 34 47.7
comp=Z,8.2nm,0.9s
GAR Garm 67.93 308 P P 00 34 48.6 -0.5
KDAK Kodiak Island 67.98 32 LR LR 01 04 06.4
comp=Z,114nm,19.3s,baz=256,slow=36
KKAR Karatay Array 68.08 312 P P 00 34 48.6 -1.3
K20K Telida 68.80 26 P P 00 34 54.4 +0.4
K20K IAmb IAmb 00 34 55.3
comp=Z,5.8nm,1.1s
J20K Nowinta River 69.02 25 P P 00 34 55.8 +0.5
J20K IAmb IAmb 00 34 56.7
comp=Z,6.0nm,1.0s
BRVK Borovoye 69.41 323 P P 00 34 57.8 -0.1
BRVK IAmb IAmb 00 35 04.6
comp=Z,8.3nm,1.0s
PPLA Purkeypile 69.49 27 P P 00 34 58.4 0.0
PPLA IAmb IAmb 00 35 27.7
comp=Z,5.7nm,0.9s
CAST Castle Rocks 69.67 26 P P 00 34 59.3 -0.1
CAST IAmb IAmb 00 35 12.1
comp=Z,14nm,1.4s
IMAR Indian Mountai 69.75 23 P P 00 34 59.4 -0.3
H21K Melozitna Rive 70.02 24 P P 00 35 01.8 +0.4
H21K IAmb IAmb 00 35 19.3
comp=Z,7.1nm,1.1s
KTH Kantishna Hill 70.21 26 P P 00 35 02.6 -0.2
KTH IAmb IAmb 00 35 14.6
comp=Z,9.3nm,1.0s
BPAW Bear Paw Mtn. 70.33 26 P P 00 35 03.3 -0.1
BPAW IAmb IAmb 00 35 15.2
comp=Z,9.4nm,1.2s
TRF Thorofare Moun 70.46 26 P P 00 35 03.3 -1.1
TRF IAmb IAmb 00 35 15.0
comp=Z,14nm,1.3s
PWL Port Wells 70.78 29 P P 00 35 05.0 -1.2
RND Reindeer 71.08 27 P P 00 35 06.9 -1.1
H23K Yukon River 71.36 24 P P 00 35 09.3 -0.3
H23K IAmb IAmb 00 35 10.8
comp=Z,7.3nm,1.1s
WRH Wood River Hil 71.64 26 P P 00 35 10.1 -1.3
WRH IAmb IAmb 00 35 24.6
comp=Z,7.0nm,1.1s
MDM Murphy Dome 71.69 25 P P 00 35 12.1 +0.5
H24K Noodor Dome 72.03 24 P P 00 35 12.6 -1.1
TOLK Toolik Lake Re 72.06 21 P P 00 35 14.1 +0.2
TOLK IAmb IAmb 00 35 15.3
comp=Z,7.7nm,1.1s
ILAR Eielson Array 72.21 25 P P 00 35 13.2 -1.5
comp=Z,2.6nm,0.8s,baz=256,slow=5.3,SNR=22
ILAR LR LR 01 04 59.1
comp=Z,134nm,20.5s,baz=184,slow=34
ILAR Eielson Array 72.21 25 P P 00 35 13.5 -1.3
PAX Paxson 72.50 27 P P 00 35 16.1 -0.5
HMT Hamilton 72.68 30 P P 00 35 17.1 -0.6
HMT IAmb IAmb 00 35 18.0
comp=Z,18nm,1.0s
DOT Dot Lake 73.24 27 P P 00 35 20.3 -0.6
DOT IAmb IAmb 00 35 21.6
comp=Z,6.8nm,0.8s
BMAR Burnt Mountain 73.63 23 P P 00 35 23.6 +0.4
CTGM Chitina Glacie 74.18 30 P P 00 35 26.8 +0.2
CTGM IAmb IAmb 00 35 32.2
comp=Z,12nm,1.1s
DAWY Dawson 75.34 27 P P 00 35 33.1 -0.1
ABKAR Akbulak array 75.64 318 P P 00 35 34.3 -0.9
I29M Ogilvie Camp, 75.89 25 P P 00 35 36.2 -0.1
HYT Haines Junctio 76.04 30 P P 00 35 37.7 +0.3
HYT IAmb IAmb 00 35 48.1
comp=Z,24nm,1.5s
M30M Minto, Yukon 76.43 28 P P 00 35 39.9 +0.4
ARU Arti 76.44 325 LR LR 01 11 52.9
comp=Z,230nm,18.1s,baz=82,slow=38
N31M Braeburn, Yuko 76.89 29 P P 00 35 41.6 -0.4
N31M IAmb IAmb 00 35 50.3
comp=Z,14nm,1.2s
GEYT Alibeck 77.52 307 LR LR 01 13 39.4
comp=Z,62nm,20.6s,baz=142,slow=39
M31M Drury Creek, Y 77.55 29 P P 00 35 45.5 -0.2
M31M IAmb IAmb 00 36 09.7
comp=Z,12nm,1.4s
INK Inuvik 77.88 22 LR LR 01 09 36.5
comp=Z,36nm,20.3s,baz=11,slow=35
DLBC Dease Lake 79.91 32 P P 00 35 59.5 +0.7
DLBC IAmb IAmb 00 36 09.0
comp=Z,11nm,1.1s
A36M Sachs Harbour 80.47 18 P P 00 36 01.1 -0.3
A36M IAmb IAmb 00 36 06.8
comp=Z,10nm,0.8s
UOSS Minazif 80.60 294 P P 00 36 03.4 +0.2
UOSS IAmb IAmb 00 36 23.2
comp=Z,17nm,1.5s
C36M Paulatuk 81.22 21 P P 00 36 04.4 -1.1
C36M IAmb IAmb 00 36 05.8
comp=Z,8.0nm,1.1s
BBB Bella Bella 81.70 38 LR LR 01 07 09.2
comp=Z,153nm,19.0s,baz=276,slow=32
SPITS Spitsbergen Ar 85.61 350 LR LR 01 14 13.8
comp=Z,64nm,21.1s,baz=267,slow=35
YKA Yellowknife Ar 86.58 27 P P 00 36 32.9 -0.1
comp=Z,4.9nm,0.8s,baz=291,slow=5.3,SNR=51
YBH Yreka Blue Hor 87.20 48 LR LR 01 07 11.0
comp=Z,80nm,21.9s,baz=305,slow=30
GNI Garni 87.48 310 LR LR 01 20 23.8
comp=Z,45nm,18.1s,baz=58,slow=39
B08A Colville Reser 87.97 41 P P 00 36 39.5 -0.6
B08A IAmb IAmb 00 36 57.3
comp=Z,7.2nm,0.9s
KBZ Khabaz 88.00 314 P P 00 36 39.8 -0.5
comp=Z,1.1nm,0.9s,baz=224,slow=1.6,SNR=3.8
KBZ LR LR 01 19 48.3
comp=Z,70nm,19.9s,baz=56,slow=38
PINE Pine Mountain 88.00 46 P P 00 36 41.1 +0.4
ARCES ARCESS Array B 88.01 341 P P 00 36 38.1 -1.7
comp=Z,3.2nm,0.8s,baz=43,slow=5.4,SNR=6.6
ARCES LR LR 01 20 14.8
comp=Z,73nm,19.1s,baz=50,slow=38
KVAR Kislovodsk Arr 88.09 314 LR LR 01 18 18.4
comp=Z,39nm,21.4s,baz=290,slow=37
OBN Obninsk 88.86 326 LR LR 01 18 51.1
comp=Z,43nm,19.4s,baz=162,slow=37
MOD Modoc Plateau 88.91 48 P P 00 36 44.8 -0.1
MOD IAmb IAmb 00 36 55.4
comp=Z,3.5nm,0.8s
NEW Newport 89.42 41 LR LR 01 11 02.2
comp=Z,62nm,19.5s,baz=344,slow=32
VNDA Vanda 89.51 176 P P 00 36 46.3 -0.3
comp=Z,2.0nm,0.9s,baz=335,slow=4.4,SNR=7.9
J08A Circle Bar Ran 89.85 46 P P 00 36 50.0 +0.8
J08A IAmb IAmb 00 36 51.0
comp=Z,8.4nm,1.0s
NVAR Mina Array Bea 91.28 51 P P 00 36 57.0 +0.8
comp=Z,3.8nm,0.8s,baz=262,slow=6.5,SNR=19
NVAR Mina Array Bea 91.28 51 P P 00 36 55.6 -0.6
FINES FINESS Array B 91.54 334 P P 00 36 54.4 -2.1
comp=Z,2.5nm,0.4s,baz=58,slow=5.0,SNR=38
FINES LR LR 01 20 04.0
comp=Z,98nm,19.4s,baz=68,slow=37
ELK Elko 92.90 48 LR LR 01 12 33.9
comp=Z,64nm,19.6s,baz=284,slow=32
PFO Pinyon Flats O 94.04 55 LR LR 01 10 33.4
comp=Z,50nm,21.2s,baz=258,slow=30
AKASG Malin Array Be 94.60 324 LR LR 01 23 17.7
comp=Z,61nm,18.1s,baz=46,slow=38
YNR Norris Junctio 94.77 43 P P 00 37 12.4 +0.3
BRTR Keskin Array B 95.79 312 LR LR 01 27 01.6
comp=Z,49nm,18.5s,baz=72,slow=40
PDAR Pinedale Array 96.23 44 LR LR 01 14 39.8
comp=Z,53nm,20.7s,baz=317,slow=32
Y14A Wickenburg 96.69 54 P P 00 37 20.9 +0.1
Y14A IAmb IAmb 00 37 22.5
comp=Z,2.7nm,0.9s
HFS Hagfors 97.36 336 LR LR 01 26 00.3
comp=Z,112nm,18.1s,baz=77,slow=38
NOA NORSAR Array B 97.73 338 LR LR 01 24 24.2
comp=Z,54nm,19.7s,baz=70,slow=37
MLR Muntele Rosu 98.79 320 LR LR 01 24 48.0
comp=Z,43nm,18.2s,baz=166,slow=37
TORD Torodi Ar. Bea 132.83 300 PKP PKPdf 00 43 06.6 +0.4
comp=Z,0.4nm,0.5s,baz=29,slow=3.0,SNR=3.0
LPAZ La Paz 151.34 103 PKPbc PKiKP 00 43 46.1 +0.1
comp=Z,5.0nm,0.6s,baz=291,slow=1.8,SNR=21
LPAZ La Paz 151.34 103 PKiKP 00 43 46.4 +0.4
CPUP Villa Florida 157.20 133 PKPab PKPab 00 44 17.3 -0.1
comp=Z,2.2nm,0.9s,baz=226,slow=7.9,SNR=3.2

NNC 13 00:37:53.2±3.8, 42°33N×89°06E, h0km, mb3.8, mpv3.5, 4C-3D, Error ellipse: s-maj=29.6km s-min=28.7km az=15.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**6.58**	**315**	Pn		00 39 31.9	+0.7
	0.4nm,0.2s,baz=132,slow=14,SNR=66						
MK31				⇓Sn	Sn	00 40 46.9	+0.1
	2.5nm,0.6s						
MK31				⇓Lg	Lg	00 41 22.7	
	6.7nm,0.7s,baz=136,slow=29,SNR=5.7						
MAKZ	**Makanchi**	**6.75**	**314**	⇑Pn	Pn	00 39 34.5	+1.0
	1.5nm,0.5s						
MAKZ				⇓Lg	Lg	00 41 28.1	
	15nm,1.2s						
PDGK	**Podgornoye**	**7.11**	**281**	⇑Pn	Pn	00 39 36.7	-1.8
	3.0nm,0.4s						
PDGK				⇑Sn	Sn	00 41 02.4	+2.4
	8.9nm,0.7s						
PDGK				⇑Lg	Lg	00 41 39.8	
	17nm,0.6s						

IDC 13 00:50:24.2±2.3, 11°46N×120°12E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/46, mbtmp3.5/4, Error ellipse: s-maj=219.6km s-min=28.0km az=63.0, Palawan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**29.87**	**169**	P	P	00 56 33.5	-0.1
	0.8nm,0.8s,baz=358,slow=9.0,SNR=1.3						
WRA	**Warramunga Arr**	**34.20**	**156**	P	P	00 57 11.4	-0.3
	0.7nm,0.3s,baz=336,slow=9.6,SNR=8.6						
ASAR	**Alice Springs**	**37.42**	**159**	P	P	00 57 39.5	+0.2
	0.5nm,0.5s,baz=333,slow=7.1,SNR=6.1						
MKAR	**Makanchi Array**	**47.52**	**325**	P	P	00 59 01.1	-0.1
	0.1nm,0.3s,baz=119,slow=7.1,SNR=2.2						

*ISN **13** 00:57:20.6±1.2, 35°09N×46°46E, h5km±15km, ML3.4*
*TEH **13** 00:57:21.6, 35°07N×46°38E, h9km, ML3.4*
*AZER **13** 00:57:24.0±1.8, 34°51N×47°74E, h10km, Error ellipse: s-maj=17.4km s-min=8.7km az=129.0*

ISC 13 00:57:21.5±1.3, 35°08N±0°02×46°40E±0°03, h1km±12km, n44, σ2s 01/57, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.38**	**181**	*e*Pg	**Pg**	**00 57 29.0**	**+0.1**
IDHR				*e*Sg	**Sb**	**00 57 36.3**	**-1.5**
ILIN	**Lien**	**0.49**	**109**	*e*Pg	**Pg**	**00 57 30.8**	**-0.2**
ILIN				*e*Sg	**Sb**	**00 57 40.3**	**-0.7**
IGHG	**Ghaleghazi**	**0.77**	**169**	*e*Pg	**Pg**	**00 57 36.1**	**-0.1**
IGHG				*e*		00 57 53.2	
	comp=Z,39μm,0.6s						
KER	**Kermanshah**	**0.92**	**139**	*e*Pg	**Pg**	**00 57 38.9**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.97**	**147**	*e*Pg	**Pg**	**00 57 39.7**	**-0.4**
KCHF				*e*Sg	**Sb**	**00 57 53.4**	**-1.1**
KCHF				*e*		00 58 00.2	
	comp=Z,21μm,0.4s						
IBZA	**Bozab**	**1.35**	**117**	*e*		00 58 17.2	
	comp=Z,6μm,0.4s						
IKRK	**Kirkuk**	**1.71**	**281**	*e*Pn	**Pb**	**00 57 53.5**	**-0.3**
IKRK				*e*Sn	**Sg**	**00 58 17.8**	**+1.2**
IKRK				AML	AML	00 58 20.5	
	comp=N,477nm,0.8s						
IKRK				AML	AML	00 58 20.6	
	comp=E,529nm,0.7s						
MAHB	**Mahabad**	**1.77**	**342**	*e*Pg	**Pg**	**00 57 56.3**	**+0.8**
IDOB	**Doab**	**1.96**	**131**	*e*Pn	**Pg**	**00 57 58.5**	**-0.6**
IDOB				*e*		00 58 40.0	
	comp=Z,4μm,0.7s						
IKFM	**Kafar-mosalman**	**1.96**	**142**	*e*Pn	**Pb**	**00 57 57.8**	**-0.3**
IBDR	**Badra**	**2.01**	**191**	*e*Pn	**Pb**	**00 57 57.0**	**-1.8**
IBDR				*e*Sn	**Sb**	**00 58 23.0**	**-1.3**
IBDR				AML	AML	00 58 33.3	
	comp=E,364nm,0.7s						
IBDR				AML	AML	00 58 36.1	
	comp=N,314nm,0.5s						
HSAM	**Samen**	**2.02**	**115**	*e*Pn	**Pb**	**00 57 59.0**	**-0.2**
ZNJK	**Zanjan**	**2.44**	**49**	*e*Pn	**Pb**	**00 58 05.1**	**-1.3**
BHD	**Baghdad**	**2.46**	**223**	*e*Pn	**Pb**	**00 58 04.0**	**-2.6**
BHD				*e*Sn	**Sb**	**00 58 35.5**	**-2.0**
BHD				AML	AML	00 58 42.2	
	comp=E,235nm,0.6s						

IAZR Azarshahr 2.61 353 *e*Pn **Pn 00 58 06.2 +1.1**
QABG Abgarm-Qazvin 2.68 76 *e*Pn **Pn 00 58 06.4 +0.4**
IRAZ Razeghan 2.91 83 *e*Pn **Pb 00 58 12.8 -1.6**
IRAZ *e* 00 59 09.5
comp=Z,1μm,0.8s
ISRB Sarab 2.92 20 *e*Pn **Pn 00 58 10.3 +0.9**
ISRB *e* 00 59 11.0
comp=Z,678nm,0.7s
ASAO Ashtian 3.03 99 *e*Pn **Pb 00 58 13.9 -2.6**
JIR1 Jirandeh 3.20 59 *e*Pn **Pn 00 58 15.4 +2.2**
KHMZ Khomeyn 3.24 113 *e*Pn **Pb 00 58 17.0 -2.9**
RAFI Al-Rafai 3.36 184 *e*Pn **Pn 00 58 16.0 +0.8**
RAFI *e*Sn **Sn 00 58 57.0 +1.3**
TVRZ Varzaqan 3.42 4 *e*Pn **Pn 00 58 17.5 +1.3**
LHJ2 Lahijan - Gila 3.62 54 *e*Pn **Pn 00 58 20.8 +2.0**
ORD Ordubad 3.85 355 P **Pb 00 58 30.9 +0.6**
SNR=9.4
ORD S **Sg 00 59 28.1 +2.9**
LRK Lerik 3.88 23 P **Pn 00 58 25.0 +2.5**
SNR=6.2
LRK S **Sb 00 59 18.5 +0.1**
GRMI Germi 3.91 17 *e*Pn **Pn 00 58 23.6 +0.8**
ASTR Astara 3.96 28 P **Pn 00 58 26.3 +2.8**
SNR=3.9
ASTR S **Sb 00 59 16.5 -4.2**
GHVR GHOM 4.08 97 *e*Pn **Pn 00 58 27.0 +1.9**
LKRN Lenkeran, Azer 4.09 27 P **Pn 00 58 28.4 +3.2**
SNR=4.6
LKRN S **Sb 00 59 21.5 -2.9**
YRD Yardimli 4.10 21 P **Pb 00 58 30.3 -4.3**
SNR=4.5
YRD S **Sb 00 59 25.9 +1.2**
NAX Nakhchivan 4.15 350 P **Pg 00 58 38.4 -2.6**
SNR=3.8
NAX S **Sg 00 59 36.3 +1.6**
QAMS Qamsar 4.35 107 *e*Pn **Pn 00 58 30.6 +1.6**
SBZ Shahbuz 4.36 351 P **Pg 00 58 42.4 -2.7**
SNR=4.5
SBZ S **Sg 00 59 42.4 +0.9**
IVRN Varamin 4.37 90 *e*Pn **Pn 00 58 31.1 +1.9**
IPIR Pirpir 4.44 121 *e*Pn **Pn 00 58 31.5 +1.2**
IKLH Kolahrood 4.64 111 *e*Pn **Pn 00 58 35.8 +2.7**
SHK1 Shahrekord 4.64 125 *e*Pn **Pn 00 58 34.6 +1.6**
HYR Heyderabad 4.79 346 S **Sg 00 59 58.7 +3.4**
KRSH Karshahi 4.87 102 *e*Pn **Pn 00 58 36.9 +0.8**
ISFB Sefidab 4.87 97 *e*Pn **Pn 00 58 38.6 +2.6**
NASN Na'in 5.79 111 *e*Pn **Pn 00 58 52.0 +3.0**
KLNJ Kolanjah 5.96 132 *e*Pn **Pn 00 58 52.0 +0.7**
IRAM Ramesheh 5.97 121 *e*Pn **Pn 00 58 54.5 +3.2**

*ISK **13** 00:59:05.9, 41°13N×24°18E, h10km, ML2.6/14*
*THE **13** 00:59:06.8, 41°12N×24°17E, h9km±1km, ML2.4/10, Error ellipse: s-maj=1.2km s-min=0.5km az=307.0*
*BEO **13** 00:59:06.8±1.2, 41°15N×24°20E, h7km±5km, ML2.5/4*
*SOF **13** 00:59:06.1, 41°12N×24°16E, h15km, MD2.9*
*ATH **13** 00:59:06.6, 41°12N×24°16E, h14km±5km, ML2.5/7, Error ellipse: s-maj=5.8km s-min=0.9km az=13.0*

ISC 13 00:59:06.8±0.8, 41°13N±0°02×24°16E±0°02, h15km±7km, n68, σ0s 83/99, 3C-2D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAVA	**Kavala**	**0.30**	**116**	P	**Pg**	**00 59 13.1**	**+0.1**
KAVA				S	**Sg**	**00 59 17.2**	**-0.1**
KAVA				AML	AML	00 59 17.4	
	comp=N,4805μm,0.3s						
KAVA				AML	AML	00 59 17.4	
	comp=E,2717μm,0.1s						
KAVA	**Kavala**	**0.30**	**116**	P	**Pg**	**00 59 13.1**	**+0.1**
KAVA				S	**Sg**	**00 59 16.1**	**-1.2**
	comp=E,1μm,0.1s						
NVR	**Nevrokopi**	**0.31**	**315**	P	**Pg**	**00 59 13.3**	**0.0**
NVR				S	**Sg**	**00 59 17.6**	**-0.2**
NVR				AML	AML	00 59 17.9	
	comp=N,1980μm,0.2s						
NVR				AML	AML	00 59 18.0	
	comp=E,3557μm,0.1s						
NVR	**Nevrokopi**	**0.31**	**315**	P	**Pg**	**00 59 13.3**	**0.0**
NVR				S	**Sg**	**00 59 17.6**	**-0.2**
	comp=E,1μm,0.1s						
KOKK	**Kokkinochori,**	**0.33**	**201**	P	**Pg**	**00 59 13.7**	**+0.1**
KOKK				S	**Sg**	**00 59 17.8**	**-0.5**
KOKK	**Kokkinochori,**	**0.33**	**201**	P	**Pg**	**00 59 13.7**	**+0.1**
KOKK				S	**Sg**	**00 59 18.3**	**0.0**
	comp=E,680nm,0.2s						
SRS	**Serrai**	**0.43**	**269**	P	**Pg**	**00 59 15.2**	**-0.1**
SRS				S	**Sg**	**00 59 21.1**	**-0.1**
SRS				AML	AML	00 59 23.3	
	comp=N,872μm,0.1s						
SRS				AML	AML	00 59 23.9	
	comp=E,852μm,0.1s						
SRS	**Serrai**	**0.43**	**269**	P	**Pg**	**00 59 15.3**	**-0.1**
SRS				S	**Sg**	**00 59 21.3**	**+0.2**
	comp=E,435nm,0.1s						
MMB	**Musomiste**	**0.56**	**325**	P	**Pg**	**00 59 17.1**	**-0.8**
THAS	**Thassos island**	**0.67**	**141**	P	**Pg**	**00 59 19.8**	**-0.1**
THAS				S	**Sg**	**00 59 28.2**	**-0.6**
THAS				AML	AML	00 59 31.4	
	comp=N,1467μm,0.3s						
THAS				AML	AML	00 59 31.4	
	comp=E,1552μm,0.3s						
THAS	**Thassos island**	**0.67**	**141**	P	**Pg**	**00 59 19.8**	**-0.1**
THAS				S	**Sg**	**00 59 28.4**	**-0.4**
	comp=E,760nm,0.3s						
SOH	**Sokhos**	**0.68**	**244**	P	**Pg**	**00 59 19.8**	**-0.2**
SOH				S	**Sg**	**00 59 28.8**	**-0.3**
SOH				AML	AML	00 59 29.6	
	comp=E,740μm,0.4s						
SOH				AML	AML	00 59 31.6	
	comp=N,535μm,0.4s						
SOH	**Sokhos**	**0.68**	**244**	P	**Pg**	**00 59 19.9**	**-0.2**
SOH				S	**Sg**	**00 59 29.3**	**+0.2**
	comp=N,255nm,0.4s						
RZN	**Rozhen**	**0.70**	**37**	P	**Pb**	**00 59 20.9**	**+0.1**
OUR	**Ouranopolis**	**0.80**	**190**	P	**Pb**	**00 59 22.5**	**0.0**
OUR	**Ouranopolis**	**0.80**	**190**	P	**Pb**	**00 59 22.5**	**0.0**
OUR				S	**Sb**	**00 59 33.5**	**+0.4**
OUR	**Ouranopolis**	**0.80**	**190**	PG	**Pb**	**00 59 22.4**	**0.0**
OUR				SG	**Sb**	**00 59 33.7**	**+0.6**
PLG	**Polygyros**	**0.93**	**216**	P	**Pg**	**00 59 24.5**	**-0.2**
PLG	**Polygyros**	**0.93**	**216**	P	**Pg**	**00 59 24.5**	**-0.2**
PLG				S	**Sb**	**00 59 37.3**	**+0.5**
	comp=N,232nm,0.2s						
HORT	**Hortiatis**	**0.96**	**237**	P	**Pg**	**00 59 25.1**	**-0.2**
HORT	**Hortiatis**	**0.96**	**237**	P	**Pg**	**00 59 25.2**	**-0.2**
HORT				S	**Sg**	**00 59 38.0**	**0.0**
	comp=N,115nm,0.3s						
HORT	**Hortiatis**	**0.96**	**237**	PG	**Pg**	**00 59 25.1**	**-0.2**
HORT				SG	**Sg**	**00 59 37.7**	**-0.3**
THE	**Thessaloniki**	**1.03**	**242**	P	**Pg**	**00 59 26.2**	**-0.5**
THE				S	**Sg**	**00 59 39.5**	**-0.6**
THE				AML	AML	00 59 41.7	
	comp=E,223μm,0.2s						
THE				AML	AML	00 59 42.7	
	comp=N,157μm,0.2s						
RDO	**Rodhopi**	**1.04**	**89**	P	**Pg**	**00 59 26.0**	**-0.9**
RDO				S	**Sb**	**00 59 40.4**	**+0.4**
RDO				AML	AML	00 59 43.2	
	comp=E,878μm,0.2s						
RDO				AML	AML	00 59 43.2	
	comp=N,639μm,0.2s						
RDO	**Rodhopi**	**1.04**	**89**	P	**Pg**	**00 59 26.0**	**-0.9**
RDO				S	**Sb**	**00 59 40.5**	**+0.4**
	comp=N,385nm,0.2s						
RDO	**Rodhopi**	**1.04**	**89**	PG	**Pg**	**00 59 26.0**	**-0.9**
RDO				SG	**Sb**	**00 59 40.6**	**+0.6**
PLD	**Plovdiv**	**1.06**	**23**	PG	**Pg**	**00 59 26.8**	**-0.4**
PLD	**Plovdiv**	**1.06**	**23**	P	**Pn**	**00 59 27.8**	**+0.7**
KDZ	**Kurdzhali**	**1.08**	**61**	P	**Pg**	**00 59 25.7**	**-1.9**
KKB	**Krupnik**	**1.09**	**313**	P	**Pg**	**00 59 26.7**	**-1.2**
VAY	**Valandovo**	**1.21**	**280**	*e*Pg	**Pn**	**00 59 29.4**	**+0.2**
VAY				*e*Sg	**Sn**	**00 59 46.2**	**+0.8**
VAY	**Valandovo**	**1.21**	**280**	*i* Pn	**Pn**	**00 59 29.8**	**+0.5**
VAY				*e*Sn	**Sn**	**00 59 47.0**	**+1.5**
SMTH	**Samothraki Isl**	**1.23**	**122**	P	**Pn**	**00 59 28.9**	**-0.6**
SMTH	**Samothraki Isl**	**1.23**	**122**	P	**Pn**	**00 59 28.9**	**-0.6**
SMTH				S	**Sn**	**00 59 46.5**	**+0.6**
	comp=N,40nm,0.2s						
PAIG	**Paliouri**	**1.25**	**197**	P	**Pn**	**00 59 29.2**	**-0.6**
PAIG	**Paliouri**	**1.25**	**197**	P	**Pn**	**00 59 29.2**	**-0.6**
PAIG				S	**Sb**	**00 59 46.5**	**+0.4**
GRG	**Griva**	**1.34**	**263**	P	**Pn**	**00 59 31.3**	**+0.3**

GRG	Griva	1.34	263	PN	Pn	00 59 31.2	+0.2
DIM	Dimitrovgrad	1.38	48	P	Pg	00 59 33.6	+0.2
PGB	Panagyurishte	1.42	0	P	Pn	00 59 32.8	+0.6
ALN	Alexandroupoli	1.45	99	P	Pn	00 59 32.4	0.0
ALN				S	Sg	00 59 52.6	-0.8
ALN	Alexandroupoli	1.45	99	PN	Pn	00 59 32.5	0.0
LIA	Limnos Island	1.46	147	P	Pn	00 59 32.1	-0.5
LIA				S	Sb	00 59 52.4	+0.5
ENEZ	Enez	1.56	104	PN	Pn	00 59 34.2	+0.2
STIP	Stip	1.59	292	*i* Pn	Pn	00 59 33.0	-1.4
STIP				*e*Sn	Sn	00 59 50.8	-3.9
VTS	Vitosha	1.64	335	⇑P	Pn	00 59 36.2	+0.9
VTS	Vitosha	1.64	335	*e*Pg	Pn	00 59 36.3	+1.0
VTS				*e*Sg	Sb	00 59 58.1	+0.7
VTS	Vitosha	1.64	335	P	Pn	00 59 36.2	+0.9
ERIK	Erikli-Kesan	1.84	104	PN	Pn	00 59 38.3	+0.4
BOSS	Bosilegrad	1.85	318	*e*Pn	Pb	00 59 39.8	-0.6
BOSS				*e*Sn	Sb	01 00 03.6	+0.1
UKOP	Uzunkopru-Edir	1.87	89	PN	Pn	00 59 38.9	+0.7
GELI	Tayfur-Gelibol	1.91	112	PN	Pn	00 59 39.4	+0.7
BOZC	Bozcaada	1.93	131	PN	Pn	00 59 39.1	-0.1
EDRB	Edirne	2.07	69	PN	Pn	00 59 41.8	+0.8
EZN	Ezine	2.10	127	PN	Pn	00 59 42.3	+0.8
LPK	Lapseki	2.12	110	PN	Pn	00 59 42.3	+0.6
RKY	Sarkoy-Tekirda	2.33	100	PN	Pn	00 59 45.5	+0.8
BARS	Barje	2.43	315	*e*Pn	Pn	00 59 47.0	+1.0
BARS				*e*Sg	Sg	01 00 23.7	-1.1
KRBG	Karabiga-Canak	2.50	106	PN	Pn	00 59 47.8	+0.9
AGG	Agios Georgios	2.53	214	PN	Pn	00 59 48.6	+1.2
MRMT	Marmara Adasi	2.66	100	PN	Pn	00 59 49.5	+0.3
BLKB	Belogradchik	2.72	337	⇑P	Pn	00 59 51.3	+1.2
SELS	Selova	3.08	314	*e*Pn	Pn	00 59 55.0	+0.1
BOVS	Bovan	3.09	325	*e*Pn	Pn	00 59 55.6	+0.5
HERR	Herculane	3.96	342	⇑P	Pn	01 00 06.4	-0.6
DIVS	Divibare	4.27	315	*e*Pn	Pn	01 00 11.8	+0.4
MLR	Muntele Rosu	4.55	16	⇓P	Pn	01 00 17.4	+2.1
VRI	Vrincioaia	5.09	21	⇓P	Pn	01 00 25.5	+3.0

DJA ***13*** *01:01:07.1±0.3,8˚S±3˚×10˚6E±˚, h50km±4km, M4.8/24, mb4.9/18, mB5.5/13, MLv4.7/24, Mw(mB)4.9/13, MwMwp5.1/1, Mwp5.3/1*

NEIC ***13*** *01:01:07.2±2.6, 7˚.59S±0˚.06×106˚.35E±0˚.06, h58km±6km, mb4.4/29, Error ellipse: s-maj=9.7km s-min=8.5km az=220.0*

IDC ***13*** *01:01:10.9±1.9, 7˚.13S×106˚.57E, h91km±16km, mb4.0/18, mb1 4.1/20, mb1mx3.8/41, mbtmp4.3/20, MS3.0/4, Ms1 3.1/4, ms1mx2.7/70, Error ellipse: s-maj=25.8km s-min=10.9km az=53.0*

ISC 13 01:01:06.5±1.0, 7˚.57S±0˚.06×106˚.28E±0˚.05, h60km±8km, n128, σ1§56/130, mb4.3/31, 4C-2D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.62**	**26**	P	**Pn**	**01 01 19.5**	**-0.4**
SKJI				S	**Sn**	**01 01 28.2**	**-1.5**
CNJI	**Cibinong**	**0.88**	**73**	P	**Pn**	**01 01 21.5**	**-1.6**
DBJI	**Dramaga**	**1.11**	**25**	P	**Pn**	**01 01 27.0**	**+0.9**
DBJI				S	**Sn**	**01 01 48.2**	**0.0**
CGJI	**Cibinong**	**1.11**	**328**	P	**Pn**	**01 01 27.8**	**+1.7**
CGJI				S	**Sn**	**01 01 42.2**	**+1.6**
TNG	**Tangerang**	**1.44**	**15**	P	**Pn**	**01 01 34.3**	**+3.9**
TNG				P	**Pn**	**01 01 31.9**	**+1.5**
TNG				S	**Sn**	**01 01 50.1**	**+1.8**
LEM	**Lembang**	**1.52**	**61**	P	**Pn**	**01 01 32.3**	**+0.6**
	1µm,0.3s,baz=336,slow=1.7,SNR=308						
LEM				S	**Sn**	**01 01 53.1**	**+2.6**
	580nm,0.3s,baz=174,slow=23,SNR=9.5						
LEM				LR	LR	01 02 16.8	
	comp=Z,430nm,19.1s,baz=204,slow=61						
LEM	**Lembang**	**1.52**	**61**	P	**Pn**	**01 01 32.0**	**+0.3**
CMJI	**Cimerak**	**2.16**	**96**	P	**Pn**	**01 01 39.0**	**-1.2**
JCJI	**Jatiwangi**	**2.25**	**62**	P	**Pn**	**01 01 40.5**	**-0.9**
BLSI	**Bandar Lampung**	**2.42**	**335**	P	**Pn**	**01 01 46.3**	**+2.6**
KPJI	**Karang Pucung**	**2.64**	**85**	P	**Pn**	**01 01 47.0**	**+0.3**
KASI	**Kota Agung**	**2.69**	**319**	P	**Pn**	**01 01 50.2**	**+2.7**
XMIS	**Christmas Isla**	**2.96**	**192**	Pn	**Pn**	**01 01 50.3**	**-0.8**
KLI	**Kotabumi**	**3.04**	**332**	P	**Pn**	**01 01 55.3**	**+3.1**
LWLI	**Liwa**	**3.36**	**319**	P	**Pn**	**01 02 00.0**	**+3.3**
YOGI	**Yogyakarta**	**3.99**	**94**	P	**Pn**	**01 02 04.7**	**-0.5**
SMRI	**Semarang**	**4.16**	**83**	Pn	**Pn**	**01 02 07.4**	**-0.2**
SMRI	**Semarang**	**4.16**	**83**	P	**Pn**	**01 02 08.9**	**+1.4**
SMRI	**Semarang**	**4.16**	**83**	P	**Pn**	**01 02 09.0**	**+1.4**
UGM	**Wanagama**	**4.22**	**95**	Pn	**Pn**	**01 02 07.4**	**-1.0**
UGM	**Wanagama**	**4.22**	**95**	P	**Pn**	**01 02 07.8**	**-0.6**
MNAI	**Manna**	**4.59**	**314**	Pn	**Pn**	**01 02 15.6**	**+2.2**
MNAI	**Manna**	**4.59**	**314**	P	**Pn**	**01 02 15.9**	**+2.4**
MNAI	**Manna**	**4.59**	**314**	P	**Pn**	**01 02 16.1**	**+2.6**
PMBI	**Palembang**	**4.85**	**342**	Pn	**Pn**	**01 02 18.8**	**+1.8**
PCJI	**Pacitan**	**4.89**	**98**	P	**Pn**	**01 02 17.1**	**-0.5**
PWJI	**Pagerwojo**	**5.49**	**95**	P	**Pn**	**01 02 25.4**	**-0.4**
	1.0nm4µm179nm,0.5s						
MASI	**Maura Aman, Be**	**5.96**	**317**	P	**Pn**	**01 02 35.0**	**+2.8**
	0.7nm8µm129nm,0.8s						
GMJI	**Gumukmas**	**7.13**	**96**	P	**Pn**	**01 02 48.7**	**+0.4**
	0.3nm2µm49nm,0.8s						
JAGI	**Jajag, Banyuwa**	**7.85**	**97**	Pn	**Pn**	**01 02 58.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**7.85**	**97**	P	**Pn**	**01 02 57.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**7.85**	**97**	P	**Pn**	**01 02 59.2**	**+1.1**
PPSI	**Pulau Pagai**	**7.86**	**307**	P	**Pn**	**01 02 59.1**	**+0.9**
ABJI	**Asem Bagus**	**7.89**	**92**	P	**Pn**	**01 02 58.8**	**+0.2**
	0.8nm3µm141nm,0.5s						
IGBI	**Denpasar**	**8.87**	**99**	P	**Pn**	**01 03 12.6**	**+0.6**
	2µm41nm,0.5s						
SRBI	**Singaraja**	**8.87**	**94**	P	**Pn**	**01 03 13.7**	**+1.7**
	2µm116nm,0.5s						
PPI	**Padang Panjang**	**9.18**	**320**	P	Pn	01 03 25.9	+10
SISI	**Saibi**	**9.47**	**311**	P	**Pn**	**01 03 19.6**	**-0.8**
	2µm73nm,0.7s						
MYKOM	**Kota Tinggi**	**9.61**	**345**	Pn	**Pn**	**01 03 23.4**	**+1.3**
PLAI	**Plampang**	**11.45**	**97**	P	**Pn**	**01 03 45.8**	**-1.6**
	623nm25nm,1.1s						
PLAI	**Plampang**	**11.45**	**97**	P	**Pn**	**01 03 46.2**	**-1.2**
GSI	**Gunungsitoli**	**12.37**	**315**	Pn	**Pn**	**01 03 56.7**	**-3.3**
GSI	**Gunungsitoli**	**12.37**	**315**	P	**Pn**	**01 03 58.9**	**-1.1**
	2µm61nm,0.5s						
GSI	**Gunungsitoli**	**12.37**	**315**	P	**Pn**	**01 03 58.7**	**-1.3**
	60nm,0.6s						
KAPI	**Kappang**	**13.63**	**80**	P	**Pn**	**01 04 17.2**	**+0.1**
	3.0nm,0.3s,baz=168,slow=8.5,SNR=7.4						
KAPI				LR	LR	01 09 03.3	
	comp=Z,79nm,20.3s,baz=276,slow=36						
KAPI	**Kappang**	**13.63**	**80**	P	**Pn**	**01 04 14.5**	**-2.6**
	6.7nm,0.4s						
BASI	**Baing, Sumba**	**14.37**	**102**	P	**Pn**	**01 04 26.2**	**-0.7**
	64nm,1.1s						
MPSI	**Mapaga**	**15.69**	**61**	P	**P**	**01 04 45.8**	**-1.1**
	423nm5.8nm,1.0s						
APSI	**Ampana**	**16.69**	**67**	P	**P**	**01 05 00.1**	**+2.1**
	3µm32nm,0.6s						
TOLI2	**Tolitoli**	**16.84**	**60**	Pn	**Pn**	**01 04 57.8**	**-0.7**
BATI	**Baumata**	**17.38**	**100**	P	**P**	**01 05 05.5**	**-0.1**
	3.8nm,0.3s,baz=121,slow=8.2,SNR=1.4						
LUWI	**Luwuk**	**17.67**	**69**		**Pn**	**01 05 07.6**	**-1.1**
LUWI				IAmb	IAmb	01 05 18.1	
	comp=Z,22nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.56**	**121**	P	**P**	**01 05 52.6**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=310,slow=7.2,SNR=8.9						
FITZ				LR	LR	01 14 52.2	
	comp=Z,18nm,19.0s,baz=302,slow=38						
FITZ	**Fitzroy Crossi**	**21.56**	**121**	P	**P**	**01 05 51.8**	**+0.7**
TNTI	**Ternate**	**22.61**	**69**	P	**P**	**01 06 01.3**	**-1.1**
MTN	**Manton Dam**	**25.01**	**104**	P	**P**	**01 06 24.9**	**-0.1**
MTN				IAmb	IAmb	01 06 48.4	
	comp=Z,26nm,1.2s						
SWI	**Sorong**	**25.77**	**76**	P	**P**	**01 06 30.6**	**-1.4**
SIJI	**Sorong**	**25.78**	**76**	P	**P**	**01 06 30.1**	**-1.9**
	comp=Z,31nm,0.6s,baz=283,slow=6.2,SNR=18						
FAKI	**Fak Fak**	**26.26**	**81**	P	**P**	**01 06 35.4**	**-1.1**
FAKI				IAmb	IAmb	01 06 37.3	
	comp=Z,10nm,1.1s						
CMAR	**Chiang Mai Arr**	**26.85**	**344**	P	**P**	**01 06 39.6**	**-2.1**
	comp=Z,1.1nm,0.5s,baz=184,slow=8.7,SNR=11						
CMAR				LR	LR	01 19 31.5	
	comp=Z,36nm,18.0s,baz=205,slow=42						
H01W3	**Cape Leeuwin H**	**28.13**	**166**	T	T	01 37 40.2	
	baz=345,slow=76,SNR=4.2						
H01W1	**Cape Leeuwin H**	**28.14**	**166**	T	T	01 37 38.9	
	baz=345,slow=76,SNR=5.0						
H01W2	**Cape Leeuwin H**	**28.14**	**166**	T	T	01 37 44.6	
	baz=345,slow=76,SNR=4.4						
PALK	**Pallekele**	**29.46**	**299**	LR	LR	01 18 26.1	
	comp=Z,39nm,18.1s,baz=230,slow=35						
WB0	**Warramunga Arr**	**29.83**	**117**	P	**P**	**01 07 08.2**	**-0.1**
WB0				IAmb	IAmb	01 07 22.8	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**29.84**	**117**	P	**P**	**01 07 08.6**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=288,slow=12,SNR=14						
WRA				PcP	**PcP**	**01 10 11.1**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=311,slow=1.6,SNR=14						
WRA	**Warramunga Arr**	**29.84**	**117**	P	**P**	**01 07 08.1**	**-0.2**
WB2	**Warramunga Arr**	**29.85**	**117**	P	**P**	**01 07 08.2**	**-0.2**
WB2				IAmb	IAmb	01 07 31.9	
	comp=Z,4.4nm,0.9s						
WR0	**Warramunga Arr**	**30.03**	**117**	P	**P**	**01 07 10.2**	**+0.2**
WR0				IAmb	IAmb	01 07 35.2	
	comp=Z,14nm,1.5s						
ASAR	**Alice Springs**	**30.95**	**124**	P	**P**	**01 07 18.8**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=303,slow=7.3,SNR=9.2						
ASAR				PcP	**PcP**	**01 10 14.7**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=311,slow=2.4,SNR=6.3						
ASAR	**Alice Springs**	**30.95**	**124**	P	**P**	**01 07 19.5**	**+1.3**
AS31	**Alice Springs**	**30.95**	**124**	P	**P**	**01 07 19.6**	**+1.4**
H08S2	**Diego Garcia H**	**33.48**	**268**	T	T	01 43 14.1	
	baz=91,slow=76,SNR=54						
H08S3	**Diego Garcia H**	**33.49**	**268**	T	T	01 43 17.9	
	baz=91,slow=76,SNR=75						
H08S1	**Diego Garcia H**	**33.50**	**268**	T	T	01 43 11.5	
	baz=91,slow=76,SNR=68						
PZH	**PanZhiHua**	**34.15**	**353**	P	**P**	**01 07 48.6**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.2s						
COEN	**Coen**	**36.77**	**103**	P	**P**	**01 08 07.9**	**-0.8**
ENH	**Enshi**	**37.75**	**5**	P	**P**	**01 08 16.0**	**-0.7**
STKA	**Stephens Creek**	**40.80**	**131**	P	**P**	**01 08 43.7**	**+1.5**
	comp=Z,19nm,0.4s,baz=310,slow=7.7,SNR=67						
STKA				PcP	**PcP**	**01 10 43.7**	**+1.2**
	comp=Z,2.7nm,0.8s,baz=299,slow=1.4,SNR=3.1						
STKA	**Stephens Creek**	**40.80**	**131**	P	**P**	**01 08 43.8**	**+1.5**
STKA				IAmb	IAmb	01 08 44.4	
	comp=Z,4.0nm,0.5s						
XAN	**Xi'an**	**41.45**	**3**	P	**P**	**01 08 51.0**	**+3.5**
XAN				pP	pP	01 09 03.4	+0.8
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**48.42**	**5**	*e*P	**P**	**01 09 45.4**	**+2.5**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,90nm,6.7s						
WMQ	**Urumqi**	**53.85**	**343**	*e*P	**P**	**01 10 25.9**	**+2.4**
SONM	**Songino Array**	**55.16**	**0**	P	**P**	**01 10 31.6**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=182,slow=9.9,SNR=6.0						
SONM				PcP	**PcP**	**01 11 33.4**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=173,slow=4.0,SNR=13						
SONM	**Songino Array**	**55.16**	**0**	P	**P**	**01 10 32.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**56.53**	**22**	P	**P**	**01 10 40.2**	**-2.4**
	comp=Z,1.1nm,0.5s,baz=200,slow=7.5,SNR=4.0						
USRK	**Ussuriysk Ar.**	**56.53**	**22**	P	**P**	**01 10 43.0**	**+0.3**
CHGR	**Chuyangaron**	**57.48**	**326**	P	**P**	**01 10 49.4**	**-0.3**
MK31	**Makanchi Array**	**58.18**	**341**	P	**P**	**01 10 52.5**	**-1.8**
MKAR	**Makanchi Array**	**58.18**	**341**	P	**P**	**01 10 52.3**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=150,slow=8.0,SNR=13						
KK31	**Karatay Array**	**59.99**	**330**	P	**P**	**01 11 06.2**	**-0.8**
KK31				IAmb	IAmb	01 11 18.8	
	comp=Z,2.5nm,1.4s						
KKAR	**Karatay Array**	**59.99**	**330**	P	**P**	**01 11 05.7**	**-1.3**
KURK	**Kurchatov**	**62.79**	**341**	P	**P**	**01 11 25.5**	**-0.1**
KURK				IAmb	IAmb	01 11 28.0	
	comp=Z,3.6nm,1.1s						
GEYT	**Alibeck**	**63.71**	**319**	P	**P**	**01 11 31.8**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=96,slow=11,SNR=5.5						
GEYT	**Alibeck**	**63.71**	**319**	P	**P**	**01 11 31.9**	**-0.1**
GEYT				IAmb	IAmb	01 11 34.2	
	comp=Z,5.4nm,1.2s						
ZAA0	**Zalesovo Array**	**63.91**	**346**	P	**P**	**01 11 30.9**	**-2.0**
ZALV	**Zalesovo Beam**	**63.91**	**346**	P	**P**	**01 11 30.4**	**-2.5**
	comp=Z,1.2nm,0.4s,baz=160,slow=5.6,SNR=9.5						
BRVK	**Borovoye**	**67.68**	**337**	P	**P**	**01 11 56.3**	**-0.9**
BRVK				IAmb	IAmb	01 11 57.5	
	comp=Z,2.9nm,0.5s						
ABKAR	**Akbulak array**	**69.53**	**330**	P	**P**	**01 12 08.4**	**-0.4**
BKZ	**Black Stump Fm**	**69.93**	**129**	P	**P**	**01 12 12.5**	**+0.8**
ARU	**Arti**	**74.83**	**335**	P	**P**	**01 12 40.7**	**+0.4**
ARU				IAmb	IAmb	01 12 41.2	
	comp=Z,11nm,1.2s						
VNDA	**Vanda**	**75.54**	**169**	P	**P**	**01 12 46.6**	**+2.4**
	comp=Z,1.0nm,0.4s,baz=343,slow=7.3,SNR=12						
VNDA	**Vanda**	**75.54**	**169**	P	**P**	**01 12 46.1**	**+1.9**
VNDA				IAmb	IAmb	01 12 47.3	
	comp=Z,3.1nm,1.1s						
KBZ	**Khabaz**	**76.59**	**318**	P	**P**	**01 12 52.0**	**+1.4**
	comp=Z,3.1nm,0.8s,baz=155,slow=5.0,SNR=11						
KIV	**Kislovodsk**	**76.82**	**318**	⇓P	**P**	**01 12 53.6**	**+1.5**
NRIK	**Noril'sk**	**77.82**	**353**	P	**P**	**01 12 55.3**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=115,slow=2.7,SNR=7.8						
NRIK	**Noril'sk**	**77.82**	**353**	P	**P**	**01 12 55.6**	**-1.5**
NRIK				IAmb	IAmb	01 12 57.5	
	comp=Z,2.7nm,0.8s						
BRTR	**Keskin Array B**	**81.67**	**312**	P	**P**	**01 13 19.3**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=158,slow=4.7,SNR=7.8						
QSPA	**South Pole Qui**	**82.42**	**180**	P	**P**	**01 13 24.5**	**+2.4**
QSPA				IAmb	IAmb	01 13 26.0	
	comp=Z,3.9nm,1.0s						
KLMR	**Klimovskoe**	**85.56**	**333**	*e*P	**P**	**01 13 34.1**	**-3.8**
KLMR				AMP		01 13 38.6	
	comp=Z,12nm,1.4s						
CFR	**Carcaliu**	**87.04**	**316**	⇓P	**P**	**01 13 46.1**	**+0.6**
AKASG	**Malin Array Be**	**87.69**	**322**	P	**P**	**01 13 46.7**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=86,slow=4.7,SNR=2.7						
ARCES	**ARCESS Array B**	**93.82**	**340**	P	**P**	**01 14 15.9**	**-0.9**
	comp=Z,5.6nm,1.0s,baz=104,slow=6.6,SNR=7.0						
ARCES	**ARCESS Array B**	**93.82**	**340**	P	**P**	**01 14 16.9**	**+0.2**
YKA	**Yellowknife Ar**	**117.64**	**20**	PKP	**PKPdf**	**01 19 45.1**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=313,slow=3.0,SNR=7.2						
YKA	**Yellowknife Ar**	**117.64**	**20**		**PKPdf**	**01 19 44.1**	**-1.3**
SCHQ	**Schefferville**	**132.54**	**355**	PKP	**PKPdf**	**01 20 14.4**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=360,slow=2.9,SNR=6.2						
SCHQ	**Schefferville**	**132.54**	**355**	PKPdf	**PKPdf**	**01 20 14.8**	**+0.5**
PDAR	**Pinedale Array**	**132.87**	**36**	PKP	**PKiKP**	**01 20 16.3**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=158,slow=0.5,SNR=2.6						
PDAR	**Pinedale Array**	**132.87**	**36**	PKPdf	**PKPdf**	**01 20 14.3**	**-1.3**
TXAR	**Lajitas Array**	**144.48**	**49**	PKP	**PKPdf**	**01 20 36.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=202,slow=3.1,SNR=6.2						
BDFB	**Brasilia**	**145.64**	**228**	PKPbc	**PKiKP**	**01 20 42.6**	**-0.8**
	comp=Z,2.5nm,0.3s,baz=142,slow=5.9,SNR=6.1						
BDFB	**Brasilia**	**145.64**	**228**	PKPdf	**PKPdf**	**01 20 39.2**	**-0.1**

IDC ***13*** *01:06:07.2±2.1, 24˚.53S×116˚.28W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.7/25, mbtmp3.4/4, MS3.8/7, Ms1 3.8/7, ms1mx3.3/34, Error ellipse: s-maj=76.3km s-min=40.8km az=30.0*

ISC 13 01:06:08.4±2.2, 24˚.6S±0˚.5×116˚.3W±0˚.4, h10km, n23, σ0§90/7, mb3.5/4, MS3.8/6, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.74**	**113**	LR	LR	01 09 46.0	
	comp=Z,871nm,18.7s,baz=324,slow=32						
H03N2	**Juan Fernandez**	**33.67**	**114**	T	T	01 48 10.7	
	baz=280,slow=75,SNR=4.6						
H03N3	**Juan Fernandez**	**33.68**	**114**	T	T	01 48 11.1	
	baz=280,slow=75,SNR=6.4						
H03N1	**Juan Fernandez**	**33.69**	**114**	T	T	01 48 11.5	
	baz=280,slow=75,SNR=123						
NNA	**Nana**	**39.35**	**79**	LR	LR	01 27 01.0	
	comp=Z,120nm,18.2s,baz=258,slow=32						
RAR	**Rarotonga**	**40.08**	**266**	LR	LR	01 26 48.2	
	comp=Z,51nm,19.3s,baz=216,slow=31						
PLCA	**Paso Flores**	**41.23**	**124**	LR	LR	01 26 37.4	
	comp=Z,145nm,19.2s,baz=5.5,slow=30						
LVC	**Limon Verde**	**43.28**	**97**	LR	LR	01 27 29.4	
	comp=Z,61nm,18.5s,baz=311,slow=30						
LPAZ	**La Paz**	**45.68**	**89**	P	**P**	**01 14 30.6**	**+0.2**
	1.8nm,0.9s,baz=270,slow=3.5,SNR=6.1						
USHA	**Ushuaia**	**46.27**	**144**	LR	LR	01 29 13.4	
	comp=Z,178nm,19.7s,baz=40,slow=30						
AFI	**Afiamalu**	**53.16**	**271**	LR	LR	01 33 20.9	
	comp=Z,100nm,18.4s,baz=108,slow=31						
NVAR	**Mina Array Bea**	**62.74**	**358**	P	**P**	**01 16 34.6**	**+0.6**
	0.2nm,0.6s,baz=196,slow=6.2,SNR=1.9						
PDAR	**Pinedale Array**	**67.33**	**5**	P	**P**	**01 17 02.6**	**-1.2**
	0.2nm,0.6s,baz=198,slow=7.6,SNR=2.4						
H11S2	**WAKE ISLAND Hy**	**86.36**	**292**	T	T	02 54 21.2	
	baz=118,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**86.37**	**292**	T	T	02 54 30.0	
	baz=118,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy**	**86.38**	**292**	T	T	02 54 23.1	
	baz=118,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**86.75**	**293**	T	T	02 54 54.9	
	baz=117,slow=72						
H11N1	**WAKE ISLAND Hy**	**86.76**	**293**	T	T	02 54 50.5	
	baz=117,slow=72						
H11N2	**WAKE ISLAND Hy**	**86.77**	**293**	T	T	02 54 56.7	
	baz=117,slow=72						
YKA	**Yellowknife Ar**	**86.82**	**1**	P	**P**	**01 18 52.9**	**+0.4**
	0.2nm,0.7s,baz=172,slow=5.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**146.73**	**337**	PKPbc	**PKPdf**	**01 25 47.7**	**-0.8**
	0.5nm,0.5s,baz=50,slow=4.5,SNR=1.8						
KURBB	**Kurchatov Arra**	**151.62**	**340**	PKPbc	**PKiKP**	**01 26 03.9**	**+0.7**
	0.6nm,0.7s,baz=34,slow=1.9,SNR=6.6						
MKAR	**Makanchi Array**	**153.35**	**331**	PKPbc	**PKiKP**	**01 26 06.9**	**0.0**
	0.2nm,0.5s,baz=62,slow=2.8,SNR=4.1						

IDC ***13*** *01:19:27.8±2.5, 46˚.19N×153˚.09E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.6/49, mbtmp3.7/12, ML2.4/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/86, Error ellipse: s-maj=64.9km s-min=25.1km az=179.0*

ISC 13 01:19:34.0±1.8, 46˚.4N±0˚.3×153˚.1E±0˚.2, h35km, n20, σ0§44/13, mb3.8/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.38**	**22**	Pn	**Pn**	**01 21 18.9**	**-0.2**
	0.3nm,0.3s,baz=191,slow=14,SNR=3.9						
ASAJ	**Asahikawa**	**7.75**	**257**	LR	LR	01 24 29.8	
	comp=Z,60nm,19.1s,baz=184,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.88**	**152**	T	T	01 57 08.8	
	baz=340,slow=75,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**28.89**	**152**	T	T	01 57 08.6	
	baz=340,slow=75,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**28.89**	**152**	T	T	01 57 11.8	
	baz=340,slow=75,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**29.96**	**153**	T	T	01 58 36.7	
	baz=341,slow=76,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**29.97**	**153**	T	T	01 58 40.3	
	baz=341,slow=76,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**29.98**	**153**	T	T	01 58 32.9	
	baz=341,slow=76,SNR=4.9						
ZALV	**Zalesovo Beam**	**42.83**	**306**	P	**P**	**01 27 27.3**	**-0.9**
	0.3nm,0.4s,baz=54,slow=7.4,SNR=1.8						
ZALV				LR	LR	01 46 27.5	
	comp=Z,28nm,18.9s,baz=254,slow=38						
MKAR	**Makanchi Array**	**47.11**	**298**	P	**P**	**01 28 02.3**	**-0.1**
	0.6nm,0.6s,baz=74,slow=5.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**47.66**	**304**	P	**P**	**01 28 06.2**	**-0.3**
	0.8nm,0.6s,baz=69,slow=8.5,SNR=4.0						
YKA	**Yellowknife Ar**	**51.24**	**37**	P	**P**	**01 28 33.9**	**+0.2**
	0.4nm,0.9s,baz=296,slow=7.1,SNR=3.8						
ARCES	**ARCESS Array B**	**58.22**	**341**	P	**P**	**01 29 24.3**	**+0.2**
	2.1nm,0.8s,baz=24,slow=7.9,SNR=1.3						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**01 30 05.8**	**-0.1**
	0.8nm,0.4s,baz=34,slow=7.5,SNR=13						
PDAR	**Pinedale Array**	**64.98**	**54**	P	**P**	**01 30 10.0**	**-0.4**
	0.2nm,0.7s,baz=264,slow=8.1,SNR=1.8						
NB2	**NORSAR Subarra**	**68.59**	**341**	P	**P**	**01 30 33.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.59**	**341**	P	**P**	**01 30 33.6**	**+0.7**
	comp=Z,0.5nm,

SMLA IAML 01 26 33.6
comp=N,91nm,0.4s
USP Ospenovka 7.45 21 P **Pn** **01 25 10.7 -1.7**
SNR=19
TKM2 Tokmak 2 7.50 27 P **Pn** **01 25 14.4 +1.1**
SNR=27
TKM2 Tokmak 2 7.50 27 *i* PN **Pn** **01 25 12.2 -1.1**
TKM2 pmax pmax
comp=Z,19nm,0.5s
TKM2 Tokmak 2 7.50 27 ⇓P **Pn** **01 25 12.6 -0.7**
TKM2 ⇑S **Sn** **01 26 35.6 -1.6**
comp=Z,11nm,0.6s
KDJ Kajisay 7.55 38 PN **Pn** **01 25 13.3 -0.7**
KDJ Kajisay 7.55 38 Pn **Pn** **01 25 13.3 -0.7**
TARG Taragay, Kyrgy 7.59 43 Pn **Pn** **01 25 13.4 -1.4**
SGDS Sogindy 7.65 21 *e*PN **Pn** **01 25 13.3 -2.0**
SGDS *e*S **Sn** **01 26 39.3 -1.4**
SGDS pmax pmax
comp=Z,3.0nm,0.5s
SGDS Sogindy 7.65 21 *e*P **Pn** **01 25 13.3 -2.0**
comp=Z,3.2nm,0.5s,baz=20
SGDS *e*S **Sn** **01 26 39.3 -1.4**
baz=20
TNSS Tian-Shan 8.14 33 *e*PN **Pn** **01 25 20.2 -1.9**
TNSS Tian-Shan 8.14 33 *e*P **Pn** **01 25 20.2 -1.9**
baz=33
AAA Alma-Ata 8.27 32 *e*PN **Pn** **01 25 21.8 -1.6**
AAA Alma-Ata 8.27 32 *e*P **Pn** **01 25 21.9 -1.6**
baz=32
MDOK Medeo 8.29 33 PN **Pn** **01 25 24.2 +0.4**
MDOK Medeo 8.29 33 *e*P **Pn** **01 25 22.6 -1.3**
baz=32
CHKK Chushkaly 8.83 30 *e*PN **Pn** **01 25 29.7 -1.1**
CHKK Chushkaly 8.83 30 *e*P **Pn** **01 25 29.8 -1.1**
baz=30
SATY Saty 8.85 38 *e*PN **Pn** **01 25 29.5 -1.7**
SATY pmax pmax
comp=Z,3.0nm,1.2s
SATY Saty 8.85 38 *e*P **Pn** **01 25 29.5 -1.7**
comp=Z,2.7nm,1.2s,baz=38
BTLS Baital 9.01 14 *e*PN **Pn** **01 25 30.5 -2.7**
BTLS Baital 9.01 14 *e*P **Pn** **01 25 30.6 -2.7**
baz=14
UZB Uzynbulak 9.23 40 *e*P **Pn** **01 25 34.2 -2.1**
UZB Uzynbulak 9.23 40 *e*P **Pn** **01 25 34.2 -2.1**
baz=40
KPKS Kokpek 9.28 38 *e*P **Pn** **01 25 34.5 -2.5**
KPKS *e*S **Sn** **01 27 18.1 -1.8**
KPKS pmax pmax
comp=Z,5.0nm,0.6s
KPKS Kokpek 9.28 38 *e*P **Pn** **01 25 34.6 -2.5**
comp=Z,4.6nm,0.6s,baz=37
KPKS *e*S **Sn** **01 27 18.2 -1.8**
baz=37
KUDL Kundal 9.44 148 *e*P **Pn** **01 25 36.2 -2.8**
PDGK Podgornoye 9.60 41 P **Pn** **01 25 42.4 +1.2**
PDGK S **Sn** **01 27 31.4 +3.8**
PDGK Podgornoye 9.60 41 ⇓P **Pn** **01 25 42.4 +1.2**
comp=Z,6.0nm,0.8s
PDGK ⇓S **Sn** **01 27 31.0 +3.5**
comp=Z,4.9nm,0.8s
GEYT Alibeck 10.34 283 P **Pn** **01 25 49.7 -1.3**
comp=Z,2.1nm,0.3s,baz=107,slow=9.5,SNR=10
GEYT S **Sn** **01 27 42.4 -3.0**
comp=Z,3.7nm,0.3s,baz=148,slow=30,SNR=9.7
GEYT Alibeck 10.34 283 Pn **Pn** **01 25 50.0 -1.0**
GYA0 ALIBECK ARRAY 10.34 283 P **Pn** **01 25 49.6 -1.4**
GYA0 S **Sn** **01 27 42.3 -3.1**
GYA0B ALIBECK ARRAY 10.34 283 Pn **Pn** **01 25 49.2 -1.8**
GYA0B ALIBECK ARRAY 10.34 283 ⇓P **Pn** **01 25 49.6 -1.4**
GYA0B ⇓S **Sn** **01 27 42.3 -3.1**
LGTI Lohaghat 10.42 129 *e*P **Pn** **01 25 47.6 -4.6**
LGTI ⇑*e*S Sn 01 27 36.1 -11
PYUN Piuthan 13.11 125 *e*P **Pn** **01 26 24.0 -3.3**
MAKZ Makanchi 13.32 35 P **Pn** **01 26 28.9 -0.8**
MAKZ Makanchi 13.32 35 Pn **Pn** **01 26 28.9 -0.8**
MK31 Makanchi Array 13.46 36 *i* P **Pn** **01 26 31.9 +0.4**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 13.46 36 Pn **Pn** **01 26 31.4 -0.1**
MKAR Makanchi Array 13.46 36 P **Pn** **01 26 32.4 +1.0**
comp=Z,0.4nm,0.3s,baz=217,slow=12,SNR=26
MKAR Makanchi Array 13.46 36 *i* P **Pn** **01 26 32.4 +1.0**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 13.46 36 Pn **Pn** **01 26 31.5 0.0**
DANN Dangsing 13.46 123 *e*P **Pn** **01 26 28.7 -3.2**
BRZS Berezniki 13.69 5 *e*P **Pn** **01 26 32.3 -2.1**
BRZS Berezniki 13.69 5 *e*P **Pn** **01 26 32.4 -2.1**
baz=4.6
KOLN Koldanda 13.73 125 *e*P **Pn** **01 26 32.4 -2.8**
BHPL Bhopal 14.22 155 *e*P **Pn** **01 26 41.2 0.0**
BHPL *e*S Sn 01 29 05.8 -13
BHPL *e*S Sn 01 29 07.2 -12
GKN Gorkha 14.28 122 *e*P **Pn** **01 26 39.7 -2.4**
comp=Z,51nm,0.5s
WMQ Urumqi 14.85 55 *e*P **Pn** **01 26 49.6 +0.6**
WMQ pmax pmax
comp=Z,22nm,0.9s
DMN Daman 14.85 122 *e*P **Pn** **01 26 47.5 -1.8**
comp=Z,28nm,0.6s
KKN Kakani 14.85 121 *e*P **Pn** **01 26 46.6 -2.8**
comp=Z,15nm,0.4s
PKIN Phulchoki 15.07 121 *e*P **Pn** **01 26 50.3 -1.8**
PKI Pulchoki 15.08 121 *e*P **Pn** **01 26 50.0 -2.3**
comp=Z,24nm,0.5s
AB31 Akbulak array 15.19 332 P **Pn** **01 26 52.0 -1.0**
AB31 Akbulak array 15.19 332 P **Pn** **01 26 52.1 -1.0**
comp=Z,1.8nm,0.3s,baz=138,slow=12,SNR=163
AB31 ⇑S **Sn** **01 29 35.6 -6.2**
comp=Z,1.9nm,0.5s,baz=150,slow=23,SNR=12
ABKAR Akbulak array 15.19 332 Pn **Pn** **01 26 52.0 -1.1**
ABKAR Akbulak array 15.19 332 Pn **Pn** **01 26 51.7 -1.4**
ABKAR IAmb IAmb 01 26 54.3
comp=Z,7.3nm,0.8s
GUN Gumba 15.20 119 *e*P **Pn** **01 26 51.5 -2.3**
comp=Z,13nm,0.3s
KURBB Kurchatov Arra 15.29 19 P **Pn** **01 26 51.1 -3.3**
comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=12
KURK Kurchatov 15.40 19 *ce*P **P** **01 26 57.0 0.0**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 15.40 19 Pn **Pn** **01 26 54.6 -1.1**
JIRN Jiri 15.57 119 *e*P **Pn** **01 26 56.4 -2.0**
comp=Z,11nm,0.5s
SEM Semipalatinsk 15.59 23 *e*P **Pn** **01 26 57.8 -0.5**
SEM Semipalatinsk 15.59 23 *e*P **Pn** **01 26 57.8 -0.5**
baz=22
RAMN Ramite 16.29 121 *e*P **Pn** **01 27 05.5 -1.6**
comp=Z,21nm,0.4s
BVAR Borovoye Array 16.69 359 P **Pn** **01 27 12.0 +0.6**
BRVK Borovoye 16.72 359 ⇑*e*P **P** **01 27 10.8 -0.7**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 16.72 359 **P** **01 27 10.8 -0.7**
TAPN Taplejung 16.83 117 *e*P **P** **01 27 12.9 -0.4**
comp=Z,26nm,0.4s
AKTO Aktyubinsk 16.88 331 P **Pn** **01 27 15.2 +1.4**
comp=Z,1.6nm,0.3s,baz=130,slow=13,SNR=20
AKTO S **S** **01 30 11.7 -10**
comp=Z,0.3nm,0.3s,baz=1.2,slow=22,SNR=2.2
AKTO Aktyubinsk 16.88 331 *i* P **Pn** **01 27 14.6 +0.8**
AKTO pmax pmax
comp=Z,13nm,0.8s
AKTO Aktyubinsk 16.88 331 ⇑P **Pn** **01 27 14.9 +1.2**
comp=Z,13nm,0.8s
AKTO ⇑S **S** **01 30 15.8 -5.5**
comp=Z,3.5nm,0.7s
ODAN Odare 16.90 119 *e*P **P** **01 27 13.2 -0.8**
comp=Z,23nm,0.5s
ZAA0 Zalesovo Array 20.09 24 P **P** **01 27 47.7 -0.4**
ZAA0 IAmb IAmb 01 27 53.5
comp=Z,9.8nm,0.7s
ZALV Zalesovo Beam 20.09 24 P **P** **01 27 48.3 +0.2**
comp=Z,9.7nm,0.4s,baz=222,slow=11,SNR=31
ZALV Zalesovo Beam 20.09 24 *i* P **P** **01 27 48.2 +0.1**
ZALV pmax pmax
comp=Z,10.0nm,0.4s
GNI Garni 20.88 288 P **P** **01 27 57.1 +0.2**
comp=Z,0.9nm,0.3s,baz=241,slow=19,SNR=1.6
SVE Sverdlovsk 21.63 345 *e*P **P** **01 28 06.0 +1.4**
SVE pmax pmax
comp=Z,9.0nm,0.9s
ZEI Tsey 21.74 296 *e*P P 01 28 15.5 +9.3
ZEI pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 21.76 341 P **P** **01 28 07.2 +1.3**
comp=Z,0.9nm,0.3s,baz=206,slow=3.6,SNR=6.1
ARU Arti 21.76 341 *c i* P **P** **01 28 06.4 +0.5**
ARU 01 28 38.2
ARU S **S** **01 31 59.8 +3.3**
ARU pmax pmax
comp=Z,11nm,1.4s
ARU Arti 21.76 341 P **P** **01 28 06.5 +0.5**
ARU IAmb IAmb 01 28 12.2
comp=Z,10nm,1.2s
KBZ Khabaz 22.61 298 P **P** **01 28 16.1 +1.7**
comp=Z,1.6nm,1.1s,baz=349,slow=16,SNR=2.1
KBZ Khabaz 22.61 298 *i* P **P** **01 28 17.3 +2.8**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KVAR Kislovodsk Arr 22.80 298 P **P** **01 28 18.4 +2.0**
comp=Z,0.7nm,0.7s,baz=315,slow=19,SNR=1.1
KIV Kislovodsk 22.80 298 *e*P **P** **01 28 17.7 +1.3**
KIV *e*S **S** **01 32 17.6 +3.6**
KIV pmax pmax
comp=Z,3.0nm,1.0s
BELG Belogornoye 22.97 322 P **P** **01 28 18.9 +1.2**
comp=Z,8.7nm,0.9s,baz=43,slow=5.1,SNR=3.3
SONM Songino Array 28.48 55 P **P** **01 29 09.1 +1.5**
comp=Z,0.4nm,0.5s,baz=252,slow=9.8,SNR=2.5
CMAR Chiang Mai Arr 30.44 118 *ce*P **P** **01 29 23.7 -1.3**
CMAR pmax pmax
comp=Z,6.0nm,0.3s
HHC Hu-ho-hao-te 31.88 69 *e*P **P** **01 29 39.7 +2.1**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.3s
AKASG Malin Array Be 32.99 309 P **P** **01 29 48.2 +1.2**
comp=Z,0.2nm,0.3s,baz=89,slow=6.7,SNR=4.4
AKASG Malin Array Be 32.99 309 *ce*P **P** **01 29 48.2 +1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
NRIK Noril'sk 34.29 10 P **P** **01 29 58.9 +0.8**
comp=Z,1.4nm,0.5s,baz=212,slow=4.1,SNR=4.2
NRIK Noril'sk 34.29 10 *ce*P **P** **01 29 58.1 +0.1**
NRIK pmax pmax
comp=Z,2.0nm,0.8s
FIA1 FINESS Array S 37.58 326 P **P** **01 30 28.1 +2.1**
FINES FINESS Array B 37.58 326 P **P** **01 30 28.1 +2.1**
comp=Z,1.3nm,0.4s,baz=120,slow=8.2,SNR=11
FINES FINESS Array B 37.58 326 P **P** **01 30 28.2 +2.2**
ARCES ARCESS Array B 41.26 338 P **P** **01 30 58.7 +2.2**
comp=Z,1.7nm,0.6s,baz=113,slow=8.6,SNR=14
ARCES ARCESS Array B 41.26 338 P **P** **01 30 58.6 +2.2**
YAK Yakutsk 44.13 35 *i* P **P** **01 31 21.8 +2.1**
YAK pmax pmax
comp=Z,16nm,0.5s
NC405 NORSAR Array S 44.23 323 P **P** **01 31 22.5 +2.0**
NC405 IAmb IAmb 01 31 31.9
comp=Z,6.7nm,1.2s
NORES NORESS Array B 44.28 323 P **P** **01 31 22.3 +1.5**
NB2 NORSAR Subarra 44.47 323 P **P** **01 31 23.9 +1.6**
comp=Z,1.4nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 44.47 323 P **P** **01 31 23.9 +1.6**
comp=Z,2.4nm,0.7s,baz=97,slow=7.8,SNR=16
NOA NORSAR Array B 44.47 323 P **P** **01 31 24.0 +1.6**
NC204 NORSAR Array S 44.71 323 P **P** **01 31 26.2 +1.9**
KONO Kongsberg 45.16 321 P **P** **01 31 29.7 +1.8**
KONO pmax pmax
comp=Z,3.0nm,0.9s
KONO Kongsberg 45.16 321 P **P** **01 31 29.7 +1.8**
KONO IAmb IAmb 01 31 30.1
comp=Z,3.4nm,0.8s
PETK Petropavlovsk- 60.13 44 LR LR 02 02 21.5
comp=Z,41nm,19.4s,baz=106,slow=39
TOA0 Torodi Ar. Sit 65.64 269 P **P** **01 33 55.0 +0.1**
TOA0 IAmb IAmb 01 34 04.5
comp=Z,3.4nm,1.3s
TORD Torodi Ar. Bea 65.64 269 P **P** **01 33 54.4 -0.5**
comp=Z,0.5nm,0.5s,baz=46,slow=5.8,SNR=18
TORD Torodi Ar. Bea 65.64 269 P **P** **01 33 55.0 +0.1**
TOLK Toolik Lake Re 71.09 15 P **P** **01 34 29.7 +1.7**
TOLK IAmb IAmb 01 34 49.8
comp=Z,7.2nm,1.5s
C36M Paulatuk 74.04 5 P **P** **01 34 46.4 +1.1**
C36M IAmb IAmb 01 34 47.5
comp=Z,3.1nm,0.5s
INK Inuvik 74.07 9 P **P** **01 34 45.7 +0.2**
comp=Z,0.9nm,0.4s,baz=4.0,slow=2.5,SNR=6.7
INK Inuvik 74.07 9 P **P** **01 34 47.3 +1.8**
INK pmax pmax
comp=Z,3.0nm,1.3s
INK Inuvik 74.07 9 P **P** **01 34 47.3 +1.8**
INK IAmb IAmb 01 34 48.1
comp=Z,3.1nm,1.2s
BOSA Boshof 77.58 220 P **P** **01 35 07.9 +1.8**
comp=Z,1.7nm,0.7s,baz=32,slow=3.6,SNR=3.7
BOSA Boshof 77.58 220 P **P** **01 35 07.4 +1.3**
YKA Yellowknife Ar 81.41 3 P **P** **01 35 27.6 +1.4**
comp=Z,0.6nm,0.3s,baz=350,slow=5.3,SNR=31
WRA Warramunga Arr 81.97 122 P **P** **01 35 29.8 0.0**
comp=Z,0.6nm,0.4s,baz=325,slow=4.9,SNR=17
WRA Warramunga Arr 81.97 122 P **P** **01 35 29.8 0.0**
WB2 Warramunga Ari 81.97 122 P **P** **01 35 29.9 +0.1**
WB2 IAmb IAmb 01 35 34.0
comp=Z,11nm,1.5s
WR0 Warramunga Arr 82.12 122 P **P** **01 35 30.5 0.0**
WR0 IAmb IAmb 01 35 53.8
comp=Z,7.8nm,1.4s
ASAR Alice Springs 84.22 125 P **P** **01 35 41.5 +0.1**
comp=Z,0.9nm,0.5s,baz=310,slow=5.0,SNR=12
ASAR Alice Springs 84.22 125 P **P** **01 35 41.6 +0.3**
ASAR Alice Springs 84.22 125 P **P** **01 35 41.6 +0.3**
SNAA Sanae 119.22 200 *c i* PKIKP **PKiKP** **01 41 59.7 +3.0**
SNAA pmax pmax
comp=Z,13nm,2.5s

IDC ***13*** *01:32:47.5±0.9, 56.°62N×158.°17W, h0km, mb3.7/16, mb1 4.0/18, mb1mx3.8/41, mbtmp3.7/18, ML3.6/2, Error ellipse: s-maj=23.5km s-min=14.3km az=179.0*
NEIC ***13*** *01:32:50.4±2.0, 57.°03N±0.°03×157.°85W±0.°07, h5km±4km, Error ellipse: s-maj=6.9km s-min=2.0km az=122.0*
AEIC ***13*** *01:32:50±1.9, 57.°01N±0.°04×157.°82W±0.°08, h5km±2km, ML3.8, mb4.2/17(NEIC), ML3.8/34(NEIC), Error ellipse: s-maj=7.4km s-min=4.3km az=137.0*

ISC 13 01:32:50.3±1.2, 57.°03N±0.°04×157.°85W±0.°03, h8km±8km, n160, σ1s01/169, mb4.0/24, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANNW	**Aniakchak Nort**	**0.21**	**254**		**Pg**	**01 32 55.4**	**+0.8**
CHGN	**Chignik**	**0.79**	**204**		**Pg**	**01 33 04.8**	**-0.7**
CHGN					**Sg**	**01 33 15.5**	**-0.2**
CHGN				IAML		01 33 17.6	
	comp=N,3μm,0.7s						
CHGN				IAML		01 33 20.8	
	comp=E,3μm,0.5s						
CHGN	**Chignik**	**0.79**	**204**	S	**Sb**	**01 33 17.2**	**+0.2**
	baz=20						
PLBL	**Peulik Blue Cr**	**0.88**	**39**		**Pg**	**01 33 07.1**	**0.0**
PLK1	**Peulik 1**	**1.03**	**40**		**Pg**	**01 33 09.8**	**-0.1**
PLK3	**Peulik 3**	**1.08**	**52**		**Pg**	**01 33 10.9**	**-0.1**
PLK3					**Sn**	**01 33 27.7**	**+0.8**
VNHG	**Veniaminof 1**	**1.09**	**223**		**Pb**	**01 33 11.0**	**-0.3**
PLK5	**Peulik 5**	**1.11**	**28**		**Pg**	**01 33 11.3**	**-0.2**
VNFG	**Fog Glacier, M**	**1.20**	**232**		**Pn**	**01 33 13.3**	**-0.1**
VNFG	**Fog Glacier, M**	**1.20**	**232**	P	**Pn**	**01 33 13.3**	**-0.1**
	baz=48						
KJL	**Kejulik**	**1.60**	**49**		**Pn**	**01 33 19.8**	**+0.9**
CAHL	**Cahill**	**1.72**	**52**		**Pn**	**01 33 20.3**	**-0.1**
ANCK	**Angle Creek**	**1.73**	**46**		**Pn**	**01 33 20.8**	**+0.1**
CHIR	**Chirikof Islan**	**1.73**	**133**		**Pn**	**01 33 20.7**	**+0.2**
CHIR				IAML		01 33 48.8	
	comp=E,878nm,0.9s						
CHIR				IAML		01 33 53.4	
	comp=N,1μm,0.8s						
CHIR	**Chirikof Islan**	**1.73**	**133**	P	**Pb**	**01 33 21.7**	**-0.4**
	baz=316						
CHIR				S	**Sg**	**01 33 46.6**	**+0.8**
	baz=316						
KELA	**Mount Kelaz**	**1.81**	**38**		**Pn**	**01 33 22.9**	**+1.1**
SII	**Sitkinak Islan**	**2.07**	**102**	Pn	**Pb**	**01 33 26.7**	**-1.3**
SII	**Sitkinak Islan**	**2.07**	**102**	P	**Pb**	**01 33 26.9**	**-1.1**
	baz=286						
SII				S	**Sg**	**01 33 56.2**	**-0.5**
	baz=286						
SDPT	**Sand Point**	**2.23**	**222**	Pn	**Pn**	**01 33 28.6**	**+1.2**
SDPT				IAML		01 34 02.5	
	comp=E,836nm,1.3s						
SDPT				IAML		01 34 04.5	
	comp=N,550nm,1.0s						
SDPT	**Sand Point**	**2.23**	**222**	P	**Pn**	**01 33 28.9**	**+1.4**
	baz=38						
OHAK	**Old Harbor**	**2.49**	**84**	Pn	**Pn**	**01 33 32.4**	**+1.3**
OHAK				IAML		01 34 12.1	
	comp=N,363nm,0.9s						
OHAK	**Old Harbor**	**2.49**	**84**	P	**Pn**	**01 33 32.5**	**+1.5**
	baz=269						
OHAK				S	**Sb**	**01 34 05.2**	**-0.8**
	baz=269						
BLHA	**Black Hill**	**2.70**	**242**		**Pn**	**01 33 34.6**	**+0.7**
BLHA	**Black Hill**	**2.70**	**242**	P	**Pn**	**01 33 34.6**	**+0.7**
	baz=57						
Q19K	**Cape Douglas,**	**2.94**	**48**	Pn	**Pn**	**01 33 38.0**	**+0.8**
Q19K	**Cape Douglas,**	**2.94**	**48**	P	**Pn**	**01 33 39.0**	**+1.7**
	baz=232						
KDAK	**Kodiak Island**	**2.95**	**73**	Pn	**Pn**	**01 33 39.1**	**+1.8**
	comp=N,14nm,0.3s,baz=257,slow=7.5,SNR=150						
KDAK				Sn	**Sb**	**01 34 18.9**	**-0.1**
	comp=N,7.3nm,0.3s,baz=325,slow=13,SNR=6.2						
KDAK	**Kodiak Island**	**2.95**	**73**	Pn	**Pn**	**01 33 39.0**	**+1.8**
O18K	**Koktuh Hills**	**3.16**	**25**		**Pn**	**01 33 40.3**	**+0.1**
O18K				IAML		01 34 36.6	
	comp=N,361nm,0.6s						
O18K				IAML		01 34 43.1	
	comp=E,205nm,0.8s						
O18K	**Koktuh Hills**	**3.16**	**25**	P	**Pn**	**01 33 40.9**	**+0.7**
	baz=208						
P19K	**Oil Pt**	**3.58**	**41**	Pn	**Pn**	**01 33 45.9**	**-0.2**
P19K				IAML		01 34 50.3	
	comp=N,283nm,0.6s						
P19K	**Oil Pt**	**3.58**	**41**	P	**Pn**	**01 33 47.0**	**+0.9**
	baz=226						
O19K	**Port Alsworth**	**3.67**	**29**	Pn	**Pn**	**01 33 47.1**	**-0.1**
O19K	**Port Alsworth**	**3.67**	**29**	P	**Pn**	**01 33 47.9**	**+0.6**
	baz=212						
N18K	**Kilae Creek**	**3.80**	**15**	Pn	**Pn**	**01 33 49.1**	**0.0**
N18K				IAML		01 35 00.8	
	comp=E,167nm,0.7s						
N18K				IAML		01 35 09.6	
	comp=N,131nm,0.7s						
N18K	**Kilae Creek**	**3.80**	**15**	P	**Pn**	**01 33 49.1**	**0.0**
	baz=197						
FALS	**False Pass**	**3.81**	**238**	Pn	**Pn**	**01 33 49.8**	**+0.6**
IVE	**Iliamna Volcan**	**3.93**	**38**		**Pn**	**01 33 51.5**	**+0.6**
O20K	**Slope Mountain**	**4.11**	**40**		**Pn**	**01 33 54.1**	**+0.8**
O20K	**Slope Mountain**	**4.11**	**40**	P	**Pn**	**01 33 54.1**	**+0.8**
	baz=225						
N19K	**Bonanza Creek**	**4.18**	**23**	Pn	**Pn**	**01 33 55.0**	**+0.7**
N19K				IAML		01 35 08.8	
	comp=E,137nm,0.9s						
N19K	**Bonanza Creek**	**4.18**	**23**	P	**Pn**	**01 33 54.8**	**+0.5**
	baz=207						
SVW2	**Sparrevohn**	**4.25**	**15**	Pn	**Pn**	**01 33 55.1**	**0.0**
SVW2				IAML		01 35 15.7	
	comp=N,107nm,0.9s						
SVW2				IAML		01 35 17.4	
	comp=E,132nm,0.9s						
CNPM	**China Poot**	**4.30**	**52**	Pn	**Pn**	**01 33 57.6**	**+1.7**
RED	**Redoubt Volcan**	**4.31**	**36**		**Pn**	**01 33 57.0**	**+0.9**
RDWB	**Redoubt West**	**4.34**	**35**		**Pn**	**01 33 57.4**	**+0.8**
RSO	**Redoubt South**	**4.35**	**35**	Pn	**Pn**	**01 33 57.5**	**+0.7**
NCT	**North Crescent**	**4.37**	**34**		**Pn**	**01 33 57.8**	**+0.9**
RDJH	**Redoubt Jeurge**	**4.43**	**34**		**Pn**	**01 33 58.8**	**+0.9**
DFR	**Drift River**	**4.47**	**35**		**Pn**	**01 33 59.2**	**+0.9**
BRLK	**Bradley Lake**	**4.58**	**50**	Pn	**Pn**	**01 34 02.0**	**+2.3**
BRSE	**Bradley Lake S**	**4.63**	**51**		**Pn**	**01 34 01.2**	**+0.9**
BRSE	**Bradley Lake S**	**4.63**	**51**	P	**Pn**	**01 34 01.2**	**+0.9**
	baz=238						
SPBG	**Spurr Blockage**	**5.10**	**31**		**Pn**	**01 34 08.1**	**+1.3**
M19K	**Big River Lodg**	**5.20**	**18**		**Pn**	**01 34 08.8**	**+0.6**
M19K				IAML		01 35 51.2	
	comp=N,76nm,0.7s						
M19K	**Big River Lodg**	**5.20**	**18**	P	**Pn**	**01 34 08.7**	**+0.4**
	baz=202						
L19K	**White Mountain**	**5.39**	**15**	Pn	**Pn**	**01 34 10.8**	**-0.1**
L19K	**White Mountain**	**5.39**	**15**	P	**Pn**	**01 34 10.7**	**-0.1**
	baz=198						
STLK	**Strandline Lak**	**5.44**	**32**		**Pn**	**01 34 13.2**	**+1.6**
L20K	**Farewell, AK**	**5.83**	**18**		**Pn**	**01 34 17.4**	**+0.6**
L20K	**Farewell, AK**	**5.83**	**18**	P	**Pn**	**01 34 17.4**	**+0.6**
	baz=202						
RC01	**Rabbit Creek A**	**5.84**	**42**	Pn	**Pn**	**01 34 17.3**	**+0.3**
UNV	**Unalaska Valle**	**5.87**	**241**	Pn	**Pn**	**01 34 19.1**	**+1.7**
TT01	**Tatalina**	**5.97**	**8**		**Pn**	**01 34 18.1**	**-0.6**
TTA	**Tatalina**	**6.00**	**8**	Pn	**Pn**	**01 34 18.6**	**-0.6**
PWL	**Port Wells**	**6.24**	**48**	Pn	**Pn**	**01 34 20.8**	**-1.7**
PPLA	**Purkeypile**	**6.54**	**23**	Pn	**Pn**	**01 34 28.1**	**+1.4**
PPLA	**Purkeypile**	**6.54**	**23**	P	**Pn**	**01 34 27.9**	**+1.2**
	baz=209						
GHO	**Glory Hole Cre**	**6.58**	**40**	Pn	**Pn**	**01 34 28.6**	**+1.3**
K20K	**Telida**	**6.62**	**15**		**Pn**	**01 34 27.3**	**-0.5**
K20K	**Telida**	**6.62**	**15**	P	**Pn**	**01 34 27.2**	**-0.5**
	baz=199						
SPIA	**Saint Paul Isl**	**6.76**	**276**	Pn	**Pn**	**01 34 30.5**	**+0.9**
SPIA	**Saint Paul Isl**	**6.76**	**276**	P	**Pn**	**01 34 30.0**	**+0.4**
	baz=86						
SML	**Sawmill**	**6.82**	**41**	Pn	**Pn**	**01 34 31.6**	**+1.1**
CAST	**Castle Rocks**	**7.02**	**22**	Pn	**Pn**	**01 34 33.6**	**+0.4**
SCM	**Sheep Creek Mo**	**7.21**	**44**	Pn	**Pn**	**01 34 37.2**	**+1.4**
KTH	**Kantishna Hill**	**7.39**	**25**	Pn	**Pn**	**01 34 39.2**	**+0.8**
CHUM	**Lake Minchumin**	**7.40**	**19**		**Pn**	**01 34 39.0**	**+0.6**
CHUM	**Lake Minchumin**	**7.40**	**19**	P	**Pn**	**01 34 39.0**	**+0.6**
	baz=204						
J20K	**Nowinta River**	**7.40**	**13**	Pn	**Pn**	**01 34 38.4**	**0.0**
J20K	**Nowinta River**	**7.40**	**13**	P	**Pn**	**01 34 38.5**	**+0.1**
	baz=196						
TRF	**Thorofare Moun**	**7.46**	**27**	Pn	**Pn**	**01 34 41.5**	**+2.2**
TRF	**Thorofare Moun**	**7.46**	**27**	P	**Pn**	**01 34 40.1**	**+0.8**
	baz=214						
KLU	**Klutina**	**7.57**	**49**	Pn	**Pn**	**01 34 42.2**	**+1.4**
RAGM	**Ragged Mountai**	**7.64**	**58**	Pn	**Pn**	**01 34 42.4**	**+0.7**
RND	**Reindeer**	**7.80**	**31**	Pn	**Pn**	**01 34 44.6**	**+0.6**
M24K	**Tolsona, Glenn**	**7.81**	**44**	Pn	**Pn**	**01 34 45.5**	**+1.4**
HMT	**Hamilton**	**7.82**	**59**	Pn	**Pn**	**01 34 44.8**	**+0.7**
BPAW	**Bear Paw Mtn.**	**7.86**	**23**	Pn	**Pn**	**01 34 44.2**	**-0.5**
DHY	**Denali Highway**	**8.01**	**36**	Pn	**Pn**	**01 34 48.5**	**+1.6**
BERG	**Berg Lake**	**8.10**	**59**	Pn	**Pn**	**01 34 48.3**	**+0.3**
ANM	**Nome**	**8.40**	**337**	Pn	**Pn**	**01 34 52.6**	**+0.5**
ANM	**Nome**	**8.40**	**337**	P	**Pn**	**01 34 52.0**	**-0.1**
	baz=151						
GLB	**Gilahina Butte**	**8.44**	**53**	Pn	**Pn**	**01 34 54.6**	**+1.9**
VRDI	**Verde Repeater**	**8.51**	**54**	Pn	**Pn**	**01 34 54.5**	**+0.7**
PAX	**Paxson**	**8.59**	**41**	Pn	**Pn**	**01 34 55.9**	**+1.1**
TGL	**Tana Glacier**	**8.62**	**58**	Pn	**Pn**	**01 34 55.0**	**-0.2**
I21K	**Tanana**	**8.66**	**17**		**Pn**	**01 34 56.3**	**+0.7**
I21K	**Tanana**	**8.66**	**17**	P	**Pn**	**01 34 55.2**	**-0.4**
	baz=202						
ISLE	**Juniper Island**	**8.80**	**60**	Pn	**Pn**	**01 34 57.3**	**-0.5**
WRH	**Wood River Hil**	**8.86**	**28**	Pn	**Pn**	**01 34 59.8**	**+1.5**
CCB	**Clear Creek Bu**	**9.07**	**28**	Pn	**Pn**	**01 35 03.0**	**+1.8**
HDA	**Harding Lake**	**9.12**	**31**	Pn	**Pn**	**01 35 00.2**	**-1.7**
I23K	**Minto, Yukon-K**	**9.12**	**23**		**Pn**	**01 35 00.1**	**-1.7**
GRNC	**Granite Creek**	**9.12**	**59**	Pn	**Pn**	**01 35 04.2**	**+2.0**
IM03		**9.20**	**11**		**Pn**	**01 35 02.4**	**-0.6**
IMAR	**Indian Mountai**	**9.20**	**11**	Pn	**Pn**	**01 35 02.1**	**-0.9**
MDM	**Murphy Dome**	**9.22**	**26**	Pn	**Pn**	**01 35 02.5**	**-0.8**
M26K	**Nabesna, AK**	**9.22**	**48**	Pn	**Pn**	**01 35 04.6**	**+1.1**
RIDG	**Independent Ri**	**9.30**	**38**	Pn	**Pn**	**01 35 06.2**	**+1.8**
TABL	**Table Mountain**	**9.33**	**62**	Pn	**Pn**	**01 35 06.5**	**+1.4**
**CTG

YKA				PcP	**PcP**	**01 41 42.7**	**+0.3**
	comp=N,0.7nm,0.6s,baz=281,slow=1.9,SNR=17						
YKA	**Yellowknife Ar**	**22.11**	**58**	P	**P**	**01 37 45.1**	**-0.5**
YKA					**PcP**	**01 41 42.5**	**+0.1**
EDM	**Edmonton**	**25.38**	**80**	P	**P**	**01 38 18.9**	**+1.4**
PETK	**Petropavlovsk-**	**25.40**	**280**	P	**P**	**01 38 16.0**	**-1.8**
	comp=N,2.1nm,0.9s,baz=240,slow=2.9,SNR=2.2						
EGMT	**Eagleton**	**30.03**	**87**	P	**P**	**01 39 00.7**	**+1.3**
EGMT				IAmb	IAmb	01 39 03.0	
	comp=Z,8.4nm,1.5s						
NVAR	**Mina Array Bea**	**31.85**	**109**	P	**P**	**01 39 14.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=74,slow=21,SNR=1.8						
FCC	**Fort Churchill**	**32.80**	**60**	P	**P**	**01 39 25.9**	**+2.4**
FCC				IAmb	IAmb	01 39 26.8	
	comp=Z,1.8nm,0.8s						
R11A	**Troy Canyon, C**	**33.33**	**106**	P	**P**	**01 39 27.6**	**-1.0**
R11A				IAmb	IAmb	01 39 42.3	
	comp=Z,2.6nm,1.4s						
PDAR	**Pinedale Array**	**33.45**	**94**	P	**P**	**01 39 30.0**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=359,slow=4.5,SNR=4.1						
PDAR	**Pinedale Array**	**33.45**	**94**	P	**P**	**01 39 29.4**	**-0.3**
RSSD	**Black Hills**	**35.57**	**88**	P	**P**	**01 39 47.1**	**-0.9**
RSSD				IAmb	IAmb	01 39 51.9	
	comp=Z,2.7nm,0.7s						
ULM	**Lac du Bonnet**	**36.21**	**74**	P	**P**	**01 39 54.7**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=43,slow=6.2,SNR=1.8						
ULM	**Lac du Bonnet**	**36.21**	**74**	P	**P**	**01 39 53.3**	**+0.2**
ULM				IAmb	IAmb	01 40 01.5	
	comp=Z,6.2nm,1.4s						
EYMN	**Ely**	**39.89**	**74**	P	**P**	**01 40 23.2**	**-1.0**
EYMN				IAmb	IAmb	01 40 26.1	
	comp=Z,4.5nm,0.8s						
F36A	**Milaca**	**40.14**	**78**	P	**P**	**01 40 26.6**	**+0.3**
F36A				IAmb	IAmb	01 40 34.8	
	comp=Z,4.5nm,1.4s						
WMOK	**Wichita Mounta**	**45.06**	**94**	P	**P**	**01 41 06.6**	**+0.3**
WMOK				IAmb	IAmb	01 41 25.4	
	comp=Z,3.1nm,1.3s						
NRIK	**Noril'sk**	**45.42**	**333**	P	**P**	**01 41 09.6**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=51,slow=5.5,SNR=2.1						
TXAR	**Lajitas Array**	**46.57**	**103**	P	**P**	**01 41 17.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=294,slow=6.8,SNR=2.0						
TXAR	**Lajitas Array**	**46.57**	**103**	P	**P**	**01 41 18.7**	**+0.3**
SCHQ	**Schefferville**	**47.37**	**52**	P	**P**	**01 41 24.3**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=330,slow=5.9,SNR=4.6						
SCHQ	**Schefferville**	**47.37**	**52**	P	**P**	**01 41 24.4**	**+0.1**
PLAL	**Pickwick Lake**	**50.72**	**84**	P	**P**	**01 41 49.9**	**-0.3**
PLAL				IAmb	IAmb	01 42 07.6	
	comp=Z,4.9nm,1.2s						
L56A	**Greenwood**	**51.08**	**70**	P	**P**	**01 41 53.7**	**+0.9**
J58A	**Remsen**	**51.36**	**68**	P	**P**	**01 41 54.5**	**-0.4**
SONM	**Songino Array**	**54.43**	**304**	P	**P**	**01 42 17.4**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=48,slow=7.1,SNR=8.5						
SONM				PcP	**PcP**	**01 43 20.7**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=43,slow=1.3,SNR=5.5						
SONM	**Songino Array**	**54.43**	**304**	P	**P**	**01 42 18.4**	**+0.8**
ZALV	**Zalesovo Beam**	**58.20**	**322**	P	**P**	**01 42 44.4**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=48,slow=12,SNR=2.1						
ZALV	**Zalesovo Beam**	**58.20**	**322**	P	**P**	**01 42 44.6**	**+0.3**
FINES	**FINESS Array B**	**61.83**	**358**	P	**P**	**01 43 09.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=229,slow=38,SNR=1.6						
FINES	**FINESS Array B**	**61.83**	**358**	P	**P**	**01 43 10.1**	**+1.0**
NB2	**NORSAR Subarra**	**61.96**	**6**	P	**P**	**01 43 09.3**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=354,slow=6.9						
NOA	**NORSAR Array B**	**61.96**	**6**	P	**P**	**01 43 09.5**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=354,slow=6.8,SNR=6.2						
MKAR	**Makanchi Array**	**65.09**	**319**	P	**P**	**01 43 30.8**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=50,slow=9.6,SNR=2.1						
GERES	**GERESS Array B**	**74.26**	**6**	P	**P**	**01 44 26.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=35,slow=3.6,SNR=2.7						
ESDC	**Sonseca Array**	**81.17**	**20**	P	**P**	**01 45 06.3**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=339,slow=5.0,SNR=2.3						
CMAR	**Chiang Mai Arr**	**81.67**	**291**	P	**P**	**01 45 08.3**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=305,slow=33,SNR=1.8						

*IDC **13** 01:35:03.5±1.0, 14°.43N×166°.46E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/30, mbtmp3.9/12, ML3.7/1, MS3.4/9, Ms1 3.4/9, ms1mx3.0/57, Error ellipse: s-maj=32.2km s-min=21.7km az=117.0*

*NEIC **13** 01:35:09.3±2.2, 14°.45S±0°.10×166°.54E±0°.09, h35km±2km, mb4.5/14, Error ellipse: s-maj=16.9km s-min=13.7km az=25.0*

*NOU **13** 01:35:16.5, 15°.26S×166°.60E, h0km, MLv4.4/9, Vanuatu Islands*

ISC 13 01:35:07.8±0.6, 14°.47S±0°.07×166°.55E±0°.10, h28km, n49, σ1s17/44, mb4.2/16, MS3.3/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.16**	**147**	Pn	**Pn**	**01 35 26.4**	**-1.8**
SANVU	**Saraoutou**	**1.16**	**147**	P	**Pn**	**01 35 26.9**	**-1.3**
DVP	**Devils Point**	**3.60**	**154**	P	**Pn**	**01 36 03.7**	**+1.9**
LIFNC	**LIFOU**	**6.31**	**174**	Pn	**Pn**	**01 36 39.8**	**+0.8**
KOUNC	**Koumac, New Ca**	**6.43**	**199**	Pn	**Pn**	**01 36 41.7**	**+1.1**
KOUNC	**Koumac, New Ca**	**6.43**	**199**	P	**Pn**	**01 36 41.9**	**+1.3**
MARNC	**Mare, Loyalty**	**7.12**	**169**	Pn	**Pn**	**01 36 51.0**	**+0.9**
DZM	**Mont Dzumac**	**7.57**	**181**	Pn	**Pn**	**01 36 55.1**	**-1.2**
	1.1nm,0.3s,baz=317,slow=22,SNR=8.5						
DZM				Sn	**Sn**	**01 38 19.5**	**-1.8**
	baz=310,slow=24,SNR=1.2						
DZM	**Mont Dzumac**	**7.57**	**181**	Pn	**Pn**	**01 36 55.3**	**-1.0**
NOUC	**Port Laguerre**	**7.60**	**182**	P	**Pn**	**01 36 57.9**	**+1.2**
ONTNC	**Ouen Toro**	**7.80**	**181**	Pn	**Pn**	**01 36 57.9**	**-1.6**
OUENC	**Ouen Island, N**	**7.92**	**178**	Pn	**Pn**	**01 37 01.2**	**+0.2**
OUENC	**Ouen Island, N**	**7.92**	**178**	P	**Pn**	**01 37 01.1**	**0.0**
PINNC	**Pines Island,**	**8.15**	**174**	Pn	**Pn**	**01 37 05.6**	**+1.3**
PMG	**Port Moresby**	**19.62**	**283**	LR	LR	01 46 04.6	
	comp=Z,88nm,18.0s,baz=84,slow=34						
CTA	**Charters Tower**	**20.16**	**251**	P	**P**	**01 39 39.0**	**-1.2**
	7.8nm,1.0s,baz=56,slow=16,SNR=1.9						
CTA				LR	LR	01 45 46.5	
	comp=Z,71nm,20.6s,baz=80,slow=32						
ARMA	**Armidale**	**20.99**	**218**	P	**P**	**01 39 48.4**	**-0.7**
ARMA				IAmb	IAmb	01 40 00.8	
	comp=Z,15nm,1.3s						
URZ	**Urewera**	**25.48**	**160**	LR	LR	01 48 30.8	
	comp=Z,99nm,19.1s,baz=34,slow=32						
BKZ	**Black Stump Fm**	**26.12**	**162**	P	**P**	**01 40 40.4**	**+0.9**
BKZ				IAmb	IAmb	01 40 48.4	
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**28.64**	**228**	P	**P**	**01 41 01.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=16,slow=16,SNR=3.2						
STKA				LR	LR	01 51 15.3	
	comp=Z,76nm,20.0s,baz=28,slow=34						
STKA	**Stephens Creek**	**28.64**	**228**	P	**P**	**01 41 03.2**	**+1.1**
RPZ	**Rata Peaks**	**29.41**	**173**	LR	LR	01 50 32.8	
	comp=Z,48nm,20.0s,baz=18,slow=32						
WR0	**Warramunga Arr**	**31.03**	**255**	P	**P**	**01 41 22.3**	**-1.1**
WR0				IAmb	IAmb	01 41 49.8	
	comp=Z,6.3nm,1.3s						
WB0	**Warramunga Arr**	**31.15**	**256**	P	**P**	**01 41 23.0**	**-1.5**
WB0				IAmb	IAmb	01 41 36.6	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**31.22**	**255**	P	**P**	**01 41 22.3**	**-2.8**
	comp=Z,0.6nm,0.8s,baz=82,slow=9.1,SNR=2.9						
ASAR	**Alice Springs**	**32.12**	**248**	P	**P**	**01 41 31.7**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=73,slow=9.5,SNR=9.6						
BBOO	**Buckleboo**	**33.20**	**231**	P	**P**	**01 41 42.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.38**	**259**	LR	LR	01 57 20.5	
	comp=Z,36nm,20.0s,baz=108,slow=34						
FITZ	**Fitzroy Crossi**	**39.38**	**259**	P	**P**	**01 42 35.3**	**0.0**
MORW	**Morawa**	**48.76**	**244**	P	**P**	**01 43 50.3**	**-0.2**
MORW				IAmb	IAmb	01 43 57.3	
	comp=Z,13nm,1.4s						
VNDA	**Vanda**	**63.11**	**181**	P	**P**	**01 45 33.3**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=0.6,slow=6.3,SNR=5.9						
VNDA	**Vanda**	**63.11**	**181**	P	**P**	**01 45 33.7**	**+1.4**
VNDA				IAmb	IAmb	01 45 42.0	
	comp=Z,4.5nm,1.5s						
KSRS	**Korea Array**	**63.13**	**326**	LR	LR	02 09 28.4	
	comp=Z,22nm,20.7s,baz=105,slow=33						
CASY	**Casey**	**63.51**	**202**	P	**P**	**01 45 36.0**	**+0.9**
USA0B	**Ussuriysk Arra**	**66.34**	**334**	P	**P**	**01 45 53.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**66.34**	**334**	P	**P**	**01 45 52.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**74.21**	**294**	P	**P**	**01 46 43.5**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=159,slow=5.4,SNR=2.4						
QSPA	**South Pole Qui**	**75.56**	**180**	P	**P**	**01 46 50.5**	**+0.8**
QSPA				IAmb	IAmb	01 46 56.2	
	comp=Z,9.8nm,1.4s						
SONM	**Songino Array**	**81.87**	**324**	P	**P**	**01 47 25.7**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=123,slow=5.3,SNR=2.7						
L19K	**White Mountain**	**82.19**	**17**	P	**P**	**01 47 27.4**	**+1.5**
I21K	**Tanana**	**85.33**	**16**	P	**P**	**01 47 42.3**	**+0.4**
I21K				IAmb	IAmb	01 47 43.9	
	comp=Z,5.7nm,0.9s						
ILAR	**Eielson Array**	**86.49**	**18**	P	**P**	**01 47 46.8**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=242,slow=5.4,SNR=13						
ILAR	**Eielson Array**	**86.49**	**18**	P	**P**	**01 47 47.2**	**-0.5**
NVAR	**Mina Array Bea**	**87.63**	**49**	LR	LR	02 26 17.6	
	comp=Z,25nm,18.5s,baz=16,slow=35						
MKAR	**Makanchi Array**	**96.53**	**317**	P	**P**	**01 48 35.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=87,slow=4.6,SNR=3.0						
MKAR				LR	LR	02 32 56.1	
	comp=Z,18nm,19.2s,baz=56,slow=36						
MKAR	**Makanchi Array**	**96.53**	**317**	P	**P**	**01 48 34.4**	**-0.5**
ZALV	**Zalesovo Beam**	**96.77**	**324**	P	**P**	**01 48 35.1**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=127,slow=3.8,SNR=2.1						
YKA	**Yellowknife Ar**	**97.63**	**27**	P	**P**	**01 48 38.2**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=254,slow=4.0,SNR=3.8						
ARCES	**ARCESS Array B**	**119.82**	**345**	PKP	**PKiKP**	**01 53 55.8**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=40,slow=7.1,SNR=3.6						

*ISK **13** 01:35:42.5, 37°.60N×23°.59E, h2km, ML3.0/13*

*THE **13** 01:35:44.7, 37°.55N×23°.57E, h7km, ML2.9/8, Error ellipse: s-maj=1.0km s-min=0.4km az=82.0*

*ATH **13** 01:35:45.1, 37°.56N×23°.57E, h12km±1km, ML2.9/10, Error ellipse: s-maj=2.0km s-min=0.7km az=106.0*

ISC 13 01:35:45.0±0.9, 37°.57N±0°.02×23°.56E±0°.02, h11km±7km, n59, σ0s56/95, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YDRA	**Hydra**	**0.23**	**199**	P	**Pg**	**01 35 49.2**	**-0.5**
YDRA				S	**Sg**	**01 35 53.5**	**+0.5**
VLY	**Voula,Athens**	**0.34**	**33**	P	**Pg**	**01 35 51.6**	**-0.2**
VLY				S	**Sg**	**01 35 57.5**	**+1.1**
VLY				AML	AML	01 35 57.6	
	comp=E,4488μm,0.4s						
VLY				AML	AML	01 35 59.6	
	comp=N,4091μm,0.3s						
VLY	**Voula,Athens**	**0.34**	**33**	P	**Pg**	**01 35 51.6**	**-0.2**
VLY				S	**Sg**	**01 35 57.4**	**+1.0**
	comp=N,2μm,0.3s						
EPID	**Epidavros**	**0.35**	**278**	P	**Pg**	**01 35 51.7**	**-0.4**
EPID				S	**Sg**	**01 35 57.8**	**+1.1**
EPID	**Epidavros**	**0.35**	**278**	P	**Pg**	**01 35 51.8**	**-0.2**
EPID				S	**Sg**	**01 35 56.8**	**0.0**
	comp=N,3μm,0.2s						
KRND	**KRANIDI**	**0.37**	**241**	P	**Pg**	**01 35 51.6**	**-0.8**
KRND				S	**Sg**	**01 35 57.9**	**+0.5**
KRND				AML	AML	01 35 58.2	
	comp=E,8998μm,0.3s						
KRND				AML	AML	01 35 59.0	
	comp=N,8551μm,0.3s						
KRND	**KRANIDI**	**0.37**	**241**	P	**Pg**	**01 35 51.6**	**-0.8**
KRND				S	**Sg**	**01 35 56.6**	**-0.8**
	comp=N,4μm,0.3s						
ATH	**Athens Observa**	**0.42**	**17**	P	**Pg**	**01 35 53.3**	**0.0**
ATH				S	**Sb**	**01 36 00.3**	**-0.6**
ATH				AML	AML	01 36 00.8	
	comp=E,5614μm,0.4s						
ATH				AML	AML	01 36 01.0	
	comp=N,7846μm,0.5s						
ATH	**Athens Observa**	**0.42**	**17**	P	**Pg**	**01 35 53.4**	**+0.1**
ATH				S	**Sb**	**01 36 00.1**	**-0.8**
	comp=N,3μm,0.4s						
ATHU	**Athens Univers**	**0.44**	**24**	P	**Pg**	**01 35 53.1**	**-0.4**
ATHU				S	**Sg**	**01 35 59.7**	**+0.3**
ATHU				AML	AML	01 36 01.2	
	comp=E,806μm,0.3s						
ATHU				AML	AML	01 36 02.0	
	comp=N,1285μm,0.3s						
ATHU	**Athens Univers**	**0.44**	**24**	P	**Pg**	**01 35 53.3**	**-0.3**
ATHU				S	**Sg**	**01 35 59.8**	**+0.4**
	comp=N,525nm,0.2s						
PTL	**Penteli**	**0.54**	**27**	P	**Pg**	**01 35 55.2**	**-0.4**
PTL				S	**Sg**	**01 36 03.3**	**+0.7**
PTL				AML	AML	01 36 04.0	
	comp=N,1591μm,0.4s						
PTL				AML	AML	01 36 07.8	
	comp=E,1367μm,0.5s						
PTL	**Penteli**	**0.54**	**27**	P	**Pg**	**01 35 55.1**	**-0.4**
PTL				S	**Sg**	**01 36 02.5**	**-0.1**
	comp=E,742nm,0.4s						
DION	**Dionisos Attik**	**0.59**	**30**	P	**Pg**	**01 35 56.1**	**-0.3**
DION				S	**Sg**	**01 36 04.5**	**+0.2**
DION				AML	AML	01 36 09.9	
	comp=E,2111μm,0.4s						
DION				AML	AML	01 36 10.5	
	comp=N,1987μm,0.3s						
DION	**Dionisos Attik**	**0.59**	**30**	P	**Pg**	**01 35 56.1**	**-0.3**
DION				S	**Sg**	**01 36 04.5**	**+0.2**
	comp=N,2μm,0.5s						
VILL	**Villia**	**0.63**	**342**	P	**Pg**	**01 35 57.0**	**-0.2**
VILL				S	**Sb**	**01 36 07.2**	**+0.4**
	comp=N,2μm,0.4s						
VIL2	**Platees**	**0.68**	**340**	P	**Pg**	**01 35 57.0**	**-1.2**
VIL2				S	**Sg**	**01 36 07.2**	**0.0**
VIL2				AML	AML	01 36 10.2	
	comp=E,4462μm,0.4s						
VIL2				AML	AML	01 36 12.9	
	comp=N,2719μm,0.4s						
KARY	**Karystos**	**0.84**	**56**	P	**Pg**	**01 36 00.9**	**-0.2**
KARY				S	**Sb**	**01 36 12.6**	**-0.2**
KARY	**Karystos**	**0.84**	**56**	P	**Pg**	**01 36 00.7**	**-0.4**
KARY				S	**Sb**	**01 36 12.6**	**-0.2**
THAL	**Thalero**	**0.85**	**304**	P	**Pn**	**01 36 02.5**	**-0.4**
THAL	**Thalero**	**0.85**	**304**	P	**Pb**	**01 36 01.8**	**0.0**
THAL				S	**Sb**	**01 36 13.5**	**+0.3**
MNVA	**Monemvasia**	**0.97**	**206**	P	**Pb**	**01 36 04.0**	**+0.2**
MNVA				S	**Sb**	**01 36 17.4**	**+0.8**
VLI	**Veliai**	**0.98**	**211**	P	**Pg**	**01 36 03.1**	**-0.8**
VLI				S	**Sb**	**01 36 17.7**	**+0.7**
VLI				AML	AML	01 36 19.5	
	comp=E,1197μm,0.4s						
VLI				AML	AML	01 36 21.8	
	comp=N,1412μm,0.5s						
VLI	**Veliai**	**0.98**	**211**	P	**Pg**	**01 36 02.5**	**-1.4**
VLI				S	**Sb**	**01 36 17.4**	**+0.5**
KYMI	**Kymi, Euboea I**	**1.15**	**22**	P	**Pb**	**01 36 06.6**	**-0.2**
KYMI				S	**Sn**	**01 36 22.5**	**-0.2**
KYMI				AML	AML	01 36 25.4	
	comp=N,2186μm,0.6s						
KYMI				AML	AML	01 36 26.1	
	comp=E,1285μm,0.3s						
KYMI	**Kymi, Euboea I**	**1.15**	**22**	P	**Pb**	**01 36 06.5**	**-0.3**
KYMI				S	**Sn**	**01 36 23.0**	**+0.3**
LKR	**Lokris**	**1.17**	**338**	P	**Pb**	**01 36 07.0**	**-0.2**
LKR				S	**Sn**	**01 36 23.4**	**+0.2**
LKR				AML	AML	01 36 25.7	
	comp=E,1706μm,0.3s						
LKR				AML	AML	01 36 27.4	
	comp=N,1674μm,0.3s						
LKR	**Lokris**	**1.17**	**338**	P	**Pb**	**01 36 06.3**	**-0.9**
LKR				S	**Sn**	**01 36 23.8**	**+0.6**
ATAL	**Atalanti**	**1.20**	**339**	P	**Pn**	**01 36 07.5**	**-0.2**
ATAL	**Atalanti**	**1.20**	**339**	P	**Pn**	**01 36 07.7**	**0.0**
ATAL				S	**Sn**	**01 36 25.1**	**+1.1**
KLV	**Kalavryta, Ach**	**1.21**	**294**	P	**Pn**	**01 36 07.5**	**-0.4**
KLV	**Kalavryta, Ach**	**1.21**	**294**	P	**Pn**	**01 36 07.6**	**-0.4**
KLV				S	**Sn**	**01 36 24.7**	**+0.3**
ITM	**Ithomi**	**1.36**	**254**	P	**Pn**	**01 36 09.7**	**-0.2**
ITM	**Ithomi**	**1.36**	**254**	P	**Pn**	**01 36 09.6**	**-0.3**
ITM				S	**Sg**	**01 36 29.0**	**+0.4**
ITM	**Ithomi**	**1.36**	**254**	PN	**Pn**	**01 36 09.7**	**-0.2**
ITM				SN	**Sg**	**01 36 29.7**	**+1.1**
KTHA	**Kythira Island**	**1.37**	**197**	P	**Pn**	**01 36 09.0**	**-1.0**
KTHA	**Kythira Island**	**1.37**	**197**	P	**Pn**	**01 36 09.0**	**-1.0**
KTHA				S	**Sb**	**01 36 27.6**	**-0.4**
KTHR	**Kythira**	**1.38**	**199**	P	**Pn**	**01 36 09.7**	**-0.4**
KTHR				S	**Sb**	**01 36 27.9**	**-0.4**
LAKA	**Lakka**	**1.42**	**299**	P	**Pn**	**01 36 11.0**	**+0.2**
DRO	**Drossia**	**1.52**	**285**	P	**Pn**	**01 36 12.3**	**+0.2**
DRO				S	**Sn**	**01 36 32.1**	**+0.3**
EFP	**Efpalio**	**1.56**	**304**	P	**Pn**	**01 36 13.3**	**+0.6**
PYL	**PYLOS**	**1.60**	**246**	P	**Pb**	**01 36 14.7**	**+0.2**
APE	**Apeiranthos**	**1.65**	**107**	PN	**Pn**	**01 36 13.1**	**-0.8**
AGG	**Agios Georgios**	**1.75**	**327**	P	**Pn**	**01 36 15.7**	**+0.4**
AGG	**Agios Georgios**	**1.75**	**327**	PN	**Pn**	**01 36 14.7**	**-0.5**
AGG				SN	**Sn**	**01 36 37.9**	**+0.4**
NEO	**Neokhori**	**1.76**	**351**	P	**Pn**	**01 36 15.2**	**-0.2**
NEO				S	**Sn**	**01 36 37.8**	**0.0**
MAKR	**Makrakomi, Fth**	**1.83**	**323**	P	**Pn**	**01 36 17.3**	**+0.9**
RODP	**Rodopos**	**2.01**	**175**	PN	**Pn**	**01 36 18.8**	**0.0**
IMMV	**Iera Moni Meta**	**2.13**	**171**	PN	**Pn**	**01 36 20.9**	**+0.4**
KNDR	**Palaiochora Ch**	**2.33**	**177**	PN	**Pn**	**01 36 23.5**	**+0.3**
IDI	**Anoyia**	**2.51**	**154**	PN	**Pn**	**01 36 25.9**	**+0.1**
HRKL	**Herakleio**	**2.57**	**151**	PN	**Pn**	**01 36 26.9**	**+0.4**
GVD	**Gavdhos**	**2.75**	**171**	PN	**Pn**	**01 36 30.2**	**+1.1**
OUR	**Ouranopolis**	**2.78**	**7**	PN	**Pn**	**01 36 28.8**	**-0.6**
BOZC	**Bozcaada**	**2.99**	**40**	PN	**Pn**	**01 36 31.8**	**-0.6**
HORT	**Hortiatis**	**3.05**	**353**	PN	**Pn**	**01 36 32.7**	**-0.5**
ZKR	**Zakros**	**3.25**	**138**	PN	**Pn**	**01 36 36.9**	**+1.0**
GRG	**Griva**	**3.50**	**345**	PN	**Pn**	**01 36 39.4**	**0.0**
ALN	**Alexandroupoli**	**3.84**	**29**	PN	**Pn**	**01 36 44.2**	**+0.1**

*IDC **13** 01:53:55.1±1.0, 11°.28N×140°.19E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/32, mbtmp3.7/8, Error ellipse: s-maj=32.6km s-min=21.6km az=92.0*

ISC 13 01:54:00.4±1.1, 11°.3N±0°.2×140°.2E±0°.2, h35km, n8, σ0s78/8, mb3.8/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.52**	**191**	P	**P**	**02 00 18.6**	**-0.7**
	0.3nm,0.7s,baz=8.2,slow=9.5,SNR=1.9						
ASAR	**Alice Springs**	**35.23**	**190**	P	**P**	**02 00 52.3**	**+0.5**
	0.3nm,0.5s,baz=18,slow=12,SNR=8.3						
CMAR	**Chiang Mai Arr**	**40.40**	**285**	P	**P**	**02 01 35.8**	**+0.2**
	1.3nm,0.7s,baz=91,slow=6.8,SNR=11						
SONM	**Songino Array**	**46.16**	**329**	P	**P**	**02 02 21.9**	**+0.2**
	0.6nm,0.7s,baz=133,slow=6.7,SNR=4.4						
MKAR	**Makanchi Array**	**60.04**	**318**	P	**P**	**02 04 04.0**	**+0.1**
	0.7nm,0.9s,baz=113,slow=7.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**60.91**	**326**	P	**P**	**02 04 08.7**	**-1.0**
	0.5nm,0.5s,baz=92,slow=3.6,SNR=4.4						
ILAR	**Eielson Array**	**72.65**	**25**	P	**P**	**02 05 23.6**	**-0.6**
	1.1nm,0.7s,baz=248,slow=6.1,SNR=14						
YKA	**Yellowknife Ar**	**87.03**	**27**	P	**P**	**02 06 43.0**	**+0.9**
	1.0nm,0.7s,baz=290,slow=5.2,SNR=15						

*CNRM **13** 02:22:27.2, 35°.50N×3°.78W, h30km, ml2.9*

*MDD **13** 02:22:27.4±0.4, 35°.44N×3°.75W, h3km±3km, mb_Lg2.7/22, Error ellipse: s-maj=4.2km s-min=2.1km az=162.0*

*SFS **13** 02:22:28.0, 35°.46N×3°.78W, h10km, ML3.2, ALBORAN*

*INMG **13** 02:22:30.9±0.9, 35°.63N×3°.98W, h0km, ML2.2, Error ellipse: s-maj=8.0km s-min=3.3km az=168.0*

ISC 13 02:22:27.0±1.1, 35°.48N±0°.02×3°.74W±0°.02, h17km±9km, n53, σ1s51/94, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.30**	**212**	P	**Pb**	**02 22 34.3**	**+0.3**
PALE				S	**Sb**	**02 22 38.7**	**+0.1**
PVLZ	**Peæn de**	**0.55**	**237**	P	**Pg**	**02 22 38.0**	**+0.1**
PVLZ				S	**Sg**	**02 22 44.5**	**-0.7**
GOG	**Mont Gurugu**	**0.66**	**112**	P	**Pn**	**02 22 41.0**	**-0.6**
GOG				S	**Sb**	**02 22 50.2**	**+1.2**
EMEL	**Melilla**	**0.66**	**105**	Pg	**Pn**	**02 22 40.8**	**-0.8**
EMEL				Sg	**Sb**	**02 22 50.1**	**+1.1**
EALB	**Alboran**	**0.74**	**51**	Pg	**Pn**	**02 22 42.0**	**-0.6**
EALB				Sg	**Sn**	**02 22 52.4**	**-1.1**
EALB				*i* Vmb_Lg		02 22 53.1	
AKLM	**AKL**	**0.97**	**186**	P	**Pn**	**02 22 46.6**	**+0.7**
AKLM				S	**Sg**	**02 22 57.3**	**-1.2**
TAF	**Taforalt**	**1.27**	**121**	P	**Pn**	**02 22 50.5**	**+0.5**
SMIR	**Smir Dam**	**1.35**	**279**	P	**Pn**	**02 22 49.9**	**-1.1**
SMIR				S	**Sb**	**02 23 06.3**	**-2.6**
CHEFC	**Chefchaouen**	**1.36**	**255**	P	**Pg**	**02 22 52.8**	**-0.4**
EMIJ	**Mijas**	**1.37**	**323**	Pn	**Pn**	**02 22 50.3**	**-1.1**
EMIJ				*i* Vmb_Lg		02 22 12.3	
EMIJ				Sn	**Sg**	**02 23 12.7**	**+1.4**
ELGU	**Los Guajares,**	**1.39**	**4**	Pn	**Pn**	**02 22 50.9**	**-0.8**
ELGU				Sn	**Sn**	**02 23 10.9**	**+1.1**
EL

PNCL	**Nicolau / Gran**	**4.66**	**306**	*e*Pn	**Pn**	**02 23 38.2**	**+1.7**
PNCL				*e*Sn	**Sn**	**02 24 28.7**	**-1.4**
PNCL				A	A	02 24 38.2	
	2.7nm,0.5s						
PMRV	**Marv??o**	**4.90**	**325**	*e*Pn	**Pn**	**02 23 41.5**	**+1.7**
PMRV				*e*Sn	**Sn**	**02 24 35.9**	**-0.2**
PMTG	**Montargil**	**5.07**	**316**	*e*Pn	**Pn**	**02 23 44.7**	**+2.6**
OUZM	**OUZ**	**5.21**	**210**	P	**Pn**	**02 23 46.4**	**+2.1**
OUZM				S	**Sn**	**02 24 43.1**	**-0.9**
EIBI	**Ibiza**	**5.39**	**47**	Pn	**Pn**	**02 23 47.5**	**+1.0**
EIBI				Sn	**Sn**	**02 24 47.0**	**-1.1**
EIBI				*i* Vmb_Lg		02 25 36.0	
PSBE	**So Bento**	**5.69**	**317**	*e*Pn	**Pn**	**02 23 54.4**	**+3.7**
MVO	**Moncorvo**	**6.24**	**337**	*e*Pn	**Pn**	**02 23 59.8**	**+1.5**
TTIG	**Tnine Tigouga,**	**6.30**	**220**	P	**Pn**	**02 23 55.5**	**-3.7**

*IDC **13** 02:31:33.8±1.2,59˚.24N×30˚.87W,h0km,mb3.5/6, mb1 3.8/6,mb1mx3.4/44,mbtmp3.5/6,MS3.2/16, Ms1 3.2/16,ms1mx2.8/83,Error ellipse: s-maj=40.0km s-min=23.0km az=26.0*

ISC 13 02:31:35.8±1.0,59˚.2N±0˚.2×30˚.9W±0˚.2,h14km,n21, σ2°01/6,mb3.5/6,MS3.1/13,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**11.80**	**320**	LR	LR	02 38 17.8	
	comp=Z,116nm,18.2s,baz=125,slow=34						
EKA	**Eskdalemuir Ar**	**15.44**	**93**	LR	LR	02 39 48.9	
	comp=Z,37nm,18.0s,baz=351,slow=32						
FRB	**Frobisher Bay**	**18.34**	**300**	LR	LR	02 41 43.9	
	comp=Z,84nm,20.4s,baz=258,slow=33						
NOA	**NORSAR Array B**	**20.79**	**67**	LR	LR	02 43 13.6	
	comp=Z,29nm,19.8s,baz=260,slow=34						
HFS	**Hagfors**	**22.22**	**68**	LR	LR	02 43 36.1	
	comp=Z,40nm,20.2s,baz=284,slow=32						
ESDC	**Sonseca Array**	**25.95**	**127**	P	**P**	**02 37 09.6**	**+2.0**
	0.7nm,0.8s,baz=321,slow=9.3,SNR=2.8						
DAVOX	**Davos/Dischmat**	**27.05**	**99**	LR	LR	02 47 23.5	
	comp=Z,34nm,18.0s,baz=264,slow=35						
FINES	**FINESS Array B**	**27.53**	**61**	P	**P**	**02 37 19.6**	**-1.9**
	1.0nm,0.9s,baz=285,slow=5.3,SNR=1.9						
GERES	**GERESS Array B**	**27.66**	**92**	LR	LR	02 48 31.8	
	comp=Z,33nm,18.9s,baz=293,slow=37						
VRAC	**Vranov**	**28.86**	**89**	LR	LR	02 47 57.5	
	comp=Z,28nm,20.0s,baz=306,slow=34						
SADO	**Sadowa**	**32.23**	**265**	LR	LR	02 50 26.5	
	comp=Z,40nm,18.1s,baz=2.5,slow=35						
YKA	**Yellowknife Ar**	**38.21**	**312**	P	**P**	**02 38 55.7**	**+1.1**
	0.5nm,0.9s,baz=57,slow=9.1,SNR=7.0						
TKL	**Tuckaleechee C**	**41.37**	**259**	LR	LR	02 55 34.3	
	comp=Z,37nm,18.1s,baz=353,slow=35						
ARU	**Arti**	**44.29**	**53**	LR	LR	02 56 39.9	
	comp=Z,32nm,19.0s,baz=268,slow=34						
NEW	**Newport**	**48.65**	**297**	LR	LR	02 59 04.7	
	comp=Z,26nm,19.8s,baz=354,slow=34						
PDAR	**Pinedale Array**	**49.10**	**287**	P	**P**	**02 40 21.7**	**-1.1**
	0.4nm,0.5s,baz=46,slow=5.2,SNR=4.0						
PDAR				LR	LR	02 59 52.8	
	comp=Z,43nm,18.2s,baz=22,slow=35						
TORD	**Torodi Ar. Bea**	**51.98**	**138**	P	**P**	**02 40 43.4**	**-1.0**
	0.4nm,0.8s,baz=330,slow=6.3,SNR=2.6						
ELK	**Elko**	**53.41**	**290**	LR	LR	03 02 01.0	
	comp=Z,17nm,19.2s,baz=359,slow=34						
ANMO	**Albuquerque**	**53.53**	**270**	LR	LR	03 01 50.6	
	comp=Z,34nm,19.9s,baz=358,slow=34						
YBH	**Yreka Blue Hor**	**56.18**	**296**	LR	LR	03 04 01.7	
	comp=Z,30nm,18.1s,baz=10,slow=35						
MKAR	**Makanchi Array**	**61.05**	**46**	P	**P**	**02 41 49.6**	**+0.9**
	0.4nm,0.6s,baz=325,slow=5.9,SNR=4.4						

*JMA **13** 02:36:23.2,36˚.02N×140˚.08E,h61km±1km,M3.2 Broadband fault plane solution: P waves. NP1: φs353.00000°,δ71.00000°,λ78.00000°. NP2: φs206.00000°,δ22.00000°,λ121.00000°. Principal axes: T Plg62.0000°, Azm245.0000°; N Plg11.0000°, Azm357.0000°; P Plg25.0000°, Azm92.0000°;*
JMA Felt I J1.
*NEIC **13** 02:36:23.1±1.8,36˚.09N±0˚.07×140˚.15E±0˚.09,h66km±4km, mb4.3/6 Error ellipse: s-maj=11.1km s-min=9.5km az=117.0*
*IDC **13** 02:36:24.1±2.2,35˚.93N×140˚.01E,h86km±18km,mb3.3/6, mb1 3.5/7,mb1mx3.2/43,mbtmp3.7/7,MS3.0/2,Ms1 3.0/2, ms1mx2.4/40,Error ellipse: s-maj=33.3km s-min=8.5km az=63.0*

ISC 13 02:36:22.5±0.8,36˚.03N±0˚.05×140˚.15E±0˚.05,h68km±6km, n38,σ0°89/42,mb3.8/10,1C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.20**	**10**	⇑P	**Pn**	**02 36 33.1**	**+0.2**
JYT				S	**Sn**	**02 36 40.4**	**0.0**
JYT	**Yasato**	**0.20**	**10**		**Pn**	**02 36 33.0**	**+0.2**
JYT				Sn	**Sn**	**02 36 40.0**	**-0.4**
JIHU	**Itakohorinouch**	**0.31**	**101**	P	**Pn**	**02 36 34.4**	**+0.9**
JAG	**Ashikaga**	**0.69**	**305**	⇓P	**Pn**	**02 36 37.3**	**+0.2**
JRY	**Ryogami san**	**1.01**	**270**	⇓P	**Pn**	**02 36 41.1**	**0.0**
JRY				*e*S	**Sn**	**02 36 54.6**	**-0.3**
JKT	**Katashina**	**1.04**	**316**	P	**Pn**	**02 36 41.6**	**+0.2**
JKT				S	**Sn**	**02 36 56.1**	**+0.6**
JOD2	**Odawara 2**	**1.15**	**229**	⇓P	**Pn**	**02 36 42.6**	**-0.3**
JYN	**Shimod**	**1.41**	**248**	⇓P	**Pn**	**02 36 46.6**	**+0.3**
MJAR	**Matsushiro Arr**	**1.65**	**289**	P	**Pn**	**02 36 49.7**	**+0.2**
	9.5nm,0.3s,baz=63,slow=18,SNR=128						
MJAR				S	**Sn**	**02 37 10.0**	**+0.2**
	3.1nm,0.3s,baz=347,slow=23,SNR=7.1						
MJAR	**Matsushiro Arr**	**1.65**	**289**	Pn	**Pn**	**02 36 49.4**	**0.0**
MAJO	**Matsushiro**	**1.65**	**289**		**Pn**	**02 36 50.2**	**+0.8**
MJB9	**Matsu-Tunnel**	**1.66**	**289**		**Pn**	**02 36 50.2**	**+0.7**
JMM	**Marumori**	**1.91**	**15**	Pn	**Pn**	**02 36 53.7**	**+0.9**
JGF	**Kuroka**	**2.31**	**260**	Pn	**Pn**	**02 36 59.9**	**+1.5**
JSD	**Sado**	**2.51**	**324**	Pn	**Pn**	**02 37 01.6**	**+0.6**
INU	**Inuyama**	**2.64**	**256**	Pn	**Pn**	**02 37 03.3**	**+0.6**
JHJ	**Hachijo jima 2**	**2.92**	**186**	P	**Pn**	**02 37 06.7**	**+0.2**
	24nm,0.3s,baz=111,slow=20,SNR=6.3						
JHJ				S	**Sn**	**02 37 40.6**	**+0.1**
	23nm,0.3s,baz=264,slow=22,SNR=5.7						
JHJ2	**Mitsune**	**2.92**	**186**	Pn	**Pn**	**02 37 08.6**	**+2.0**
JHS	**Saijyo**	**5.83**	**262**	Pn	**Pn**	**02 37 47.9**	**+1.6**
ERM	**Erimo**	**6.42**	**20**	Pn	**Pn**	**02 37 53.8**	**-0.5**
MA2	**Magadan**	**24.55**	**13**	LR	LR	02 53 02.1	
	comp=Z,33nm,18.2s,baz=146,slow=40						
YAK	**Yakutsk**	**26.84**	**349**	LR	LR	02 52 52.3	
	comp=Z,29nm,20.4s,baz=173,slow=37						
SONM	**Songino Array**	**27.53**	**306**	P	**P**	**02 42 01.9**	**-0.9**
	0.6nm,0.7s,baz=109,slow=8.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**41.85**	**313**	P	**P**	**02 44 05.3**	**-0.2**
	1.2nm,0.7s,baz=81,slow=8.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**41.85**	**313**	P	**P**	**02 44 05.6**	**0.0**
MK31	**Makanchi Array**	**43.80**	**303**	P	**P**	**02 44 21.8**	**+0.3**
MK31				IAmb	IAmb	02 44 22.8	
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**43.80**	**303**	P	**P**	**02 44 21.5**	**0.0**
	comp=Z,1.0nm,0.7s,baz=89,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**43.80**	**303**	P	**P**	**02 44 21.3**	**-0.2**
KURK	**Kurchatov**	**45.76**	**309**	P	**P**	**02 44 36.7**	**-0.2**
KURK				IAmb	IAmb	02 44 38.4	
	comp=Z,5.1nm,0.9s						
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**02 45 17.4**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=276,slow=5.8,SNR=4.1						
KKAR	**Karatay Array**	**52.75**	**300**	P	**P**	**02 45 32.8**	**+2.4**
WB0	**Warramunga Arr**	**55.76**	**187**	P	**P**	**02 45 51.5**	**-0.8**
WB2	**Warramunga Arr**	**55.94**	**187**	P	**P**	**02 45 53.2**	**-0.4**
WB2				IAmb	IAmb	02 46 10.9	
	comp=Z,4.7nm,1.2s						
WR0	**Warramunga Arr**	**55.94**	**186**	P	**P**	**02 45 52.7**	**-1.0**
WR0				IAmb	IAmb	02 46 12.1	
	comp=Z,5.3nm,1.2s						
WRA	**Warramunga Arr**	**55.94**	**187**	P	**P**	**02 45 52.7**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=0.4,slow=7.5,SNR=8.5						
WRA	**Warramunga Arr**	**55.94**	**187**	P	**P**	**02 45 53.2**	**-0.4**
ABKAR	**Akbulak array**	**57.81**	**310**	P	**P**	**02 46 06.1**	**-0.6**
AKASG	**Malin Array Be**	**74.47**	**322**	P	**P**	**02 47 51.0**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=37,slow=4.8,SNR=1.5						

*VAO **13** 02:48:42.5±0.6,15˚.83S×71˚.94W,h113km,mb4.1*
*NEIC **13** 02:48:43.2±2.5,15˚.75S±0˚.05×71˚.9W±0˚.1,h114km±6km, mb4.1/20,Error ellipse: s-maj=16.2km s-min=7.2km az=87.0*

*IDC **13** 02:48:46.0±1.6,15˚.91S×71˚.65W,h146km±14km,mb3.4/6, mb1 3.6/10,mb1mx3.4/30,mbtmp3.9/10,MS3.4/1, Ms1 3.3/1,ms1mx2.3/31,Error ellipse: s-maj=22.3km s-min=16.2km az=20.0*

ISC 13 02:48:42.9±0.5,15˚.81S±0˚.05×71˚.80W±0˚.06,h114km,n85, σ1°54/92,mb3.8/9,2D,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**2.90**	**151**		**Pn**	**02 49 30.4**	**+2.7**
AP01	**Chacalluta**	**2.90**	**151**	⇓*i*P	**Pn**	**02 49 30.2**	**+2.5**
AP01				*i* S	**Sn**	**02 50 03.0**	**+0.8**
PB12	**IPOC Station P**	**3.12**	**153**	Pn	**Pn**	**02 49 32.7**	**+2.0**
PB12	**IPOC Station P**	**3.12**	**153**	⇓*i*P	**Pn**	**02 49 32.4**	**+1.7**
PB12				*i* S	**Sn**	**02 50 06.6**	**-0.9**
PB12				IAML		02 50 10.2	
	comp=N,983nm,0.6s						
PB16	**IPOC Station P**	**3.33**	**139**	Pn	**Pn**	**02 49 36.5**	**+2.5**
LPAZ	**La Paz**	**3.56**	**98**	P	**Pn**	**02 49 40.2**	**+3.2**
	comp=N,2.9nm,0.3s,baz=310,slow=8.9,SNR=102						
LPAZ				S	**Sn**	**02 50 21.2**	**+2.4**
	comp=N,0.7nm,0.3s,baz=186,slow=18,SNR=4.8						
LPAZ	**La Paz**	**3.56**	**98**	Pn	**Pn**	**02 49 40.4**	**+3.4**
PB11	**IPOC Station P**	**4.42**	**153**	Pn	**Pn**	**02 49 48.6**	**+0.4**
PB11	**IPOC Station P**	**4.42**	**153**	*e*P	**Pn**	**02 49 48.4**	**+0.2**
PB11				*i* S	**Sn**	**02 50 36.3**	**-2.6**
GO01	**Chusmiza**	**4.57**	**147**		**Pn**	**02 49 52.4**	**+2.0**
GO01	**Chusmiza**	**4.57**	**147**	*e*P	**Pn**	**02 49 52.8**	**+2.3**
GO01				*i* S	**Sn**	**02 50 42.6**	**-0.1**
TA02	**Huaiquique**	**4.71**	**161**	Pn	**Pn**	**02 49 53.0**	**+1.2**
TA01	**Diego Aracena**	**4.97**	**162**		**Pn**	**02 49 56.1**	**+0.8**
PB08	**IPOC Station P**	**4.99**	**150**		**Pn**	**02 49 57.5**	**+1.5**
PATCX	**Punta Patache**	**5.22**	**163**		**Pn**	**02 49 59.4**	**+0.6**
PB01	**IPOC Station P**	**5.64**	**157**	Pn	**Pn**	**02 50 04.7**	**+0.1**
PB02	**IPOC Station P**	**5.76**	**162**		**Pn**	**02 50 06.9**	**+0.6**
PB07	**IPOC Station P**	**6.15**	**163**		**Pn**	**02 50 12.3**	**+0.8**
NNA	**Nana**	**6.20**	**307**	P	**Pn**	**02 50 16.0**	**+3.9**
	comp=N,3.3nm,0.3s,baz=112,slow=8.3,SNR=6.0						
NNA				S	**Sn**	**02 51 23.1**	**+1.3**
	comp=N,4.3nm,0.3s,baz=14,slow=16,SNR=8.7						
PB09	**IPOC Station P**	**6.42**	**158**	Pn	**Pn**	**02 50 16.4**	**+1.2**
PB04	**IPOC Station P**	**6.67**	**167**	Pn	**Pn**	**02 50 19.2**	**+0.6**
PB06	**IPOC Station P**	**7.17**	**163**		**Pn**	**02 50 25.0**	**-0.3**
LVC	**Limon Verde**	**7.29**	**158**	P	**Pn**	**02 50 28.2**	**+1.1**
	comp=N,4.9nm,0.3s,baz=2.1,slow=8.3,SNR=52						
LVC				S	**Sn**	**02 51 44.4**	**-4.1**
	comp=N,8.5nm,0.3s,baz=277,slow=20,SNR=15						
LVC	**Limon Verde**	**7.29**	**158**	Pn	**Pn**	**02 50 28.1**	**+1.0**
LVC	**Limon Verde**	**7.29**	**158**	*e*P	**Pn**	**02 50 27.2**	**0.0**
PB15	**IPOC Station P**	**7.68**	**164**	Pn	**Pn**	**02 50 32.5**	**+0.3**
PB10	**IPOC Station P**	**7.75**	**171**	Pn	**Pn**	**02 50 32.3**	**-0.7**
ETMB	**Extrema**	**8.07**	**43**	*e*P	**Pn**	**02 50 37.3**	**-0.1**
CZSB	**Cruzeiro do Su**	**8.08**	**354**	*e*P	**Pn**	**02 50 37.6**	**0.0**
PB14	**IPOC Station P**	**8.86**	**172**	Pn	**Pn**	**02 50 47.8**	**-0.6**
GO02	**Mina Guanaco**	**9.53**	**168**	Pn	**Pn**	**02 50 58.2**	**+0.8**
SIV	**San Ignacio**	**10.32**	**92**	P	**Pn**	**02 51 06.5**	**-1.4**
	comp=N,0.4nm,0.3s,baz=261,slow=9.6,SNR=2.2						
PTLB	**Pontes e Lacer**	**12.20**	**90**	*e*P	**Pn**	**02 51 33.9**	**+0.9**
MCRA	**Macar, Loja**	**13.91**	**324**	P	**P**	**02 51 59.0**	**-0.8**
CO01	**Juntas del Tor**	**14.18**	**174**	P	**P**	**02 52 05.9**	**+3.0**
GO04	**Tololo Observa**	**14.32**	**177**	P	**Pn**	**02 52 02.8**	**+2.1**
CO06	**Fray Jorge**	**14.79**	**179**	P	**P**	**02 52 08.3**	**-1.1**
CO03	**El Pedregal**	**14.99**	**176**	Pn	**Pn**	**02 52 10.4**	**+1.4**
CO03				IAmb	IAmb	02 52 14.8	
	comp=Z,13nm,0.8s						
PDRB	**Porto dos Gac**	**15.22**	**76**	*e*P	**Pn**	**02 52 12.3**	**+0.4**
CO02	**Combarbal**	**15.34**	**177**	P	**P**	**02 52 14.8**	**-0.7**
CO02				IAmb	IAmb	02 52 16.5	
	comp=Z,21nm,1.3s						
SALV	**Santo Antonio**	**15.50**	**93**	*e*P	**Pn**	**02 52 15.9**	**+0.6**
AQDB	**Aquidauana**	**15.98**	**109**	*e*P	**P**	**02 52 22.7**	**+0.1**
CLDB	**Colider**	**16.32**	**74**	*e*P	**Pn**	**02 52 25.9**	**+0.3**
MACA	**Manacapuru-AM**	**16.67**	**42**	*e*P	**P**	**02 52 30.4**	**+0.2**
MT09	**Talagante**	**17.90**	**178**	P	**Pn**	**02 52 44.7**	**-0.1**
MT01	**Popeta**	**17.98**	**179**	P	**Pn**	**02 52 46.9**	**+1.3**
BO02	**Sierra Bellavi**	**18.92**	**177**	P	**Pn**	**02 52 57.2**	**+0.4**
BO02				IAmb	IAmb	02 52 58.8	
	comp=Z,8.2nm,1.1s						
ITTB	**Itaituba**	**19.46**	**56**	*e*P	**P**	**02 53 00.1**	**-0.8**
BOAV	**Boa Vista**	**21.25**	**33**	*e*P	**P**	**02 53 19.7**	**-0.4**
MALB	**Monte Alegre**	**22.16**	**53**	*e*P	**P**	**02 53 30.1**	**+0.4**
BDFB	**Brasilia**	**22.89**	**93**	P	**P**	**02 53 34.7**	**-2.6**
	comp=Z,1.9nm,0.5s,baz=271,slow=13,SNR=6.6						
BDFB				LR	LR	03 04 07.8	
	comp=Z,87nm,19.6s,baz=326,slow=40						
BDFB	**Brasilia**	**22.89**	**93**	P	**P**	**02 53 35.5**	**-1.8**
BDFB				IAmb	IAmb	02 53 36.5	
	comp=Z,2.7nm,0.5s						
LC01	**Cunco**	**23.00**	**180**	P	**P**	**02 53 39.9**	**+2.0**
PEXB	**Peixe**	**23.09**	**84**	*e*P	**P**	**02 53 37.5**	**-1.5**
TIJ01	**Guaruva-PR**	**23.31**	**118**	*e*P	**P**	**02 53 40.8**	**-0.3**
PRPB	**Parauapebas**	**23.59**	**68**	*e*P	**P**	**02 53 42.5**	**-1.1**
SMTB	**Santa Maria do**	**24.62**	**77**	*e*P	**P**	**02 53 53.4**	**+0.4**
MCPB	**Macapa, AP**	**24.81**	**54**	*e*P	**P**	**02 53 55.4**	**+0.8**
PLCA	**Paso Flores**	**24.85**	**178**	P	**P**	**02 53 54.0**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=357,slow=9.9,SNR=5.3						
PLCA	**Paso Flores**	**24.85**	**178**	P	**P**	**02 53 58.2**	**+3.4**
BAUV	**El Baul**	**24.88**	**9**	P	**P**	**02 53 55.0**	**-0.2**
BAUV				IAmb	IAmb	02 53 57.4	
	comp=Z,15nm,0.9s						
BIRV	**Birongo**	**26.69**	**12**	P	**P**	**02 54 11.3**	**-0.2**
BIRV				IAmb	IAmb	02 54 31.6	
	comp=Z,13nm,1.1s						
DIAM	**Diamantina, MG**	**26.99**	**99**	*e*P	**P**	**02 54 13.8**	**-0.6**
RIB01	**Linhares ES**	**30.12**	**101**	*e*P	**P**	**02 54 41.9**	**-0.2**
NAN01	**Guarapari, ES**	**30.36**	**98**	*e*P	**P**	**02 54 44.2**	**0.0**
GUA01	**Guaratinga, BA**	**30.72**	**96**	*e*P	**P**	**02 54 46.7**	**-0.6**
GDU01	**Guandu, BA**	**31.21**	**90**	*e*P	**P**	**02 54 51.1**	**-0.7**
CELP	**Cerrillos**	**34.07**	**9**	P	**P**	**02 55 15.2**	**-1.3**
CBYP	**Canovanas**	**34.37**	**10**	P	**P**	**02 55 17.3**	**-2.0**
NBAN	**Anadia - AL**	**35.15**	**84**	*e*P	**P**	**02 55 24.9**	**-1.1**
S44A	**Carbondale**	**55.70**	**343**	P	**P**	**02 58 07.6**	**+0.2**
SIUC	**Southern Illin**	**55.71**	**343**	P	**P**	**02 58 07.8**	**+0.3**
D62A	**Allapoint, All**	**62.65**	**2**	P	**P**	**02 58 55.4**	**+0.2**
PDAR	**Pinedale Array**	**67.84**	**331**	P	**P**	**02 59 29.8**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=126,slow=4.6,SNR=2.0						
QSPA	**South Pole Qui**	**74.34**	**180**	P	**P**	**03 00 09.3**	**+1.4**
TOA0	**Torodi Ar. Sit**	**78.16**	**73**	P	**P**	**03 00 28.3**	**-1.9**
TOA0				IAmb	IAmb	03 00 28.9	
	comp=Z,2.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.16**	**73**	P	**P**	**03 00 28.3**	**-1.9**
	comp=Z,1.4nm,0.5s,baz=263,slow=4.4,SNR=26						
TORD	**Torodi Ar. Bea**	**78.16**	**73**	P	**P**	**03 00 28.3**	**-1.9**
TORD				IAmb	IAmb	03 00 29.3	
	comp=Z,2.2nm,0.8s						
ESDC	**Sonseca Array**	**83.80**	**46**	P	**P**	**03 00 58.9**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=258,slow=5.9,SNR=2.6						
YKA	**Yellowknife Ar**	**84.95**	**342**	P	**P**	**03 01 05.2**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=135,slow=5.1,SNR=14						
YKA	**Yellowknife Ar**	**84.95**	**342**	P	**P**	**03 01 05.0**	**+0.1**
ZALV	**Zalesovo Beam**	**137.79**	**20**	PKP	**PKPdf**	**03 07 54.2**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=321,slow=2.0,SNR=2.5						
MKAR	**Makanchi Array**	**142.34**	**29**	PKP	**PKPdf**	**03 07 58.3**	**-3.9**
	comp=Z,0.2nm,0.5s,baz=300,slow=3.2,SNR=2.5						
SONM	**Songino Array**	**148.04**	**2**	PKPbc	**PKPbc**	**03 08 16.0**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=331,slow=1.3,SNR=9.9						
SONM	**Songino Array**	**148.04**	**2**		**PKPbc**	**03 08 15.8**	**+0.4**

IDC 13 03:05:17.4±12.0,51˚.99S×138˚.95E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.5/23,mbtmp3.8/4,Error ellipse: s-maj=299.2km s-min=70.8km az=124.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**20.20**	**7**	P	Pn	03 09 55.4	0.0
	2.4nm,0.7s,baz=155,slow=16,SNR=5.7						
H01W1	**Cape Leeuwin H**	**24.64**	**304**	T	T	03 33 53.6	
	baz=145,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**24.64**	**304**	T	T	03 33 54.5	
	baz=145,slow=76,SNR=20						
H01W3	**Cape Leeuwin H**	**24.66**	**304**	T	T	03 33 55.2	
	baz=145,slow=76,SNR=15						
ASAR	**Alice Springs**	**28.55**	**350**	P	P	03 11 14.7	-0.1
	0.9nm,0.6s,baz=166,slow=10.0,SNR=17						
WRA	**Warramunga Arr**	**32.19**	**352**	P	P	03 11 45.6	-1.3
	0.8nm,0.6s,baz=174,slow=7.5,SNR=13						
CMAR	**Chiang Mai Arr**	**78.33**	**321**	P	P	03 17 19.9	+0.6
	0.2nm,0.3s,baz=164,slow=3.7,SNR=1.6						

*CNRM **13** 03:23:05.2,35˚.38N×4˚.08W,h13km,ml1.8*

*MDD **13** 03:23:07.9±0.6,35˚.25N×4˚.08W,h0km,mb_Lg2.5/7,Error ellipse: s-maj=4.6km s-min=3.4km az=168.0*
*SFS **13** 03:23:07.0,35˚.25N×4˚.08W,ML2.5,ALHUCEMAS (MARRUECOS)*

ISC 13 03:23:06.5±0.8,35˚.21N±0˚.03×4˚.06W±0˚.03,h15km±6km, n23,σ1°40/37,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.10**	**88**	P	**Pg**	**03 23 09.6**	**-0.2**
PALE				S	**Sg**	**03 23 11.6**	**-0.5**
PVLZ	**Peæn de**	**0.20**	**258**	P	**Pg**	**03 23 11.2**	**+0.1**
PVLZ				S	**Sg**	**03 23 15.0**	**+0.7**
AKLM	**AKL**	**0.72**	**167**	P	**Pb**	**03 23 21.1**	**+0.3**
AKLM				S	**Sn**	**03 23 31.5**	**-1.4**
GOG	**Mont Gurugu**	**0.87**	**89**	P	**Pb**	**03 23 23.0**	**-0.3**
GOG				S	**Sn**	**03 23 35.4**	**-1.3**
EMEL	**Melilla**	**0.91**	**84**	Pg	**Pb**	**03 23 23.8**	**-0.1**
EMEL				Sg	**Sn**	**03 23 37.3**	**-0.2**
CHEFC	**Chefchaouen**	**1.05**	**265**	P	**Pb**	**03 23 25.5**	**-0.9**
EALB	**Alboran**	**1.11**	**49**	Sg	**Sg**	**03 23 41.9**	**-0.4**
SMIR	**Smir Dam**	**1.17**	**294**	P	**Pn**	**03 23 26.9**	**-1.4**
SMIR				S	**Sb**	**03 23 42.0**	**-1.4**
TAF	**Taforalt**	**1.41**	**106**	P	**Pn**	**03 23 30.6**	**-1.1**
EMIJ	**Mijas**	**1.47**	**337**	Pn	**Pn**	**03 23 31.3**	**-1.1**
EMIJ				Sg	**Sb**	**03 23 53.1**	**+1.2**
JBK	**JBK**	**1.51**	**125**	P	**Pn**	**03 23 32.8**	**-0.3**
EMAL	**Malaga-Limoner**	**1.57**	**349**	P	**Pn**	**03 23 33.8**	**0.0**
EMAL				S	**Sn**	**03 23 49.3**	**-4.6**
LCRM	**LCR**	**1.66**	**204**	P	**Pg**	**03 23 39.0**	**+0.6**
ELGU	**Los Guajares,**	**1.69**	**12**	Pn	**Pn**	**03 23 33.8**	**-1.6**
ELGU				Sg	**Sb**	**03 23 59.4**	**+1.1**
EGOR	**Sierra Gorda,**	**1.89**	**359**	Pn	**Pb**	**03 23 40.3**	**-0.5**
EGOR				*i* Vmb_Lg		03 24 02.2	
EGOR				Sn	**Sn**	**03 24 03.1**	**+1.1**
EBER	**Berja**	**1.93**	**29**	Pn	**Pb**	**03 23 41.9**	**+0.4**
EBER				Sn	**Sb**	**03 24 04.9**	**-0.5**
EBER				*i* Vmb_Lg		03 24 46.4	
MD31	**MD31**	**2.41**	**194**	P	**Pn**	**03 23 46.2**	**+0.8**
MDT	**Midelt**	**2.44**	**191**	P	**Pn**	**03 23 47.6**	**+1.8**
EADA	**Adamuz**	**2.98**	**352**	Pn	**Pn**	**03 23 55.1**	**+1.9**
EADA				Sn	**Sn**	**03 24 29.5**	**+0.9**
EADA				*i* Vmb_Lg		03 24 48.2	
ECAB	**El Cabril**	**3.06**	**339**	Pn	**Pn**	**03 23 56.0**	**+1.8**
ECAB				Sn	**Sn**	**03 24 30.4**	**-0.1**
ECAB				*i* Vmb_Lg		03 26 13.0	
EMIN	**Mina Concepcio**	**3.30**	**321**	Pn	**Pn**	**03 23 58.7**	**+1.1**
EMIN				*i* Vmb_Lg		03 24 34.8	
ETOB	**Tobarra**	**3.97**	**30**	Pn	**Pn**	**03 24 09.8**	**+2.9**
ETOB				*i* Vmb_Lg		03 25 59.1	
EBAD	**Badajoz**	**4.25**	**327**	Pn	**Pn**	**03 24 11.9**	**+1.3**
EBAD				Sn	**Sn**	**03 24 59.2**	**-0.7**
EBAD				*i* Vmb_Lg		03 24 59.8	

*JMA **13** 03:35:42.6±0.

	baz=309							
NWLT				S		Sb	03 36 24.8	-0.8
	baz=309							
WUSB	**Renai**	**1.37**	**275**	P		**Pn**	**03 36 08.5**	**+0.3**
	baz=272							
WUSB					*e*S	**Sb**	**03 36 25.2**	**-1.0**
	baz=272							
YHNB	**Yeheng**	**1.38**	**305**	P		**Pn**	**03 36 08.1**	**-0.1**
	baz=303							
YHNB					*e*S	**Sb**	**03 36 25.6**	**-0.8**
	baz=303							
FULB	**Fuli**	**1.38**	**241**	*i* P		**Pn**	**03 36 08.0**	**-0.2**
	baz=229							
FULB				*i* S		**Sn**	**03 36 24.3**	**-2.2**
	baz=229							
SXI1	**Grass Mountain**	**1.39**	**331**	P		**Pn**	**03 36 07.7**	**-0.7**
	baz=340							
SXI1				S		**Sb**	**03 36 26.2**	**-0.5**
	baz=340							
NSK	**Sanguang**	**1.39**	**305**	*i* P		**Pn**	**03 36 07.9**	**-0.5**
	baz=291							
NWF	**Wu-fen Shan**	**1.41**	**328**	P		**Pn**	**03 36 08.3**	**-0.4**
	baz=326							
NWF				S		**Sb**	**03 36 25.3**	**-2.1**
	baz=326							
WFSB	**Wu-fen Shan**	**1.41**	**328**	P		**Pn**	**03 36 08.8**	**+0.2**
	baz=325							
JIJ	**Ishigaki jima**	**1.48**	**71**	P		**Pn**	**03 36 09.6**	**0.0**
JIJ				S		**Sg**	**03 36 30.2**	**-0.7**
EDH	**Donghe**	**1.50**	**233**	*i* P		**Pn**	**03 36 08.8**	**-1.0**
	baz=224							
EDH				*i* S		**Sn**	**03 36 27.3**	**-2.0**
	baz=224							
SSLB	**Suanglung**	**1.52**	**267**	P		**Pn**	**03 36 10.7**	**+0.6**
	baz=264							
SSLB					*e*S	**Sn**	**03 36 29.0**	**-0.9**
	baz=264							
NFF	**Wufeng Townshi**	**1.56**	**299**	P		**Pn**	**03 36 12.1**	**+1.4**
	baz=297							
NFF				S		**Sn**	**03 36 32.0**	**+1.2**
	baz=297							
WCS	**Beigang Elemen**	**1.56**	**277**	P		**Pn**	**03 36 11.2**	**+0.5**
	baz=268							
WCS				S		**Sn**	**03 36 31.3**	**+0.4**
	baz=268							
WHP	**Taichung City**	**1.57**	**285**	*i* P		**Pn**	**03 36 12.9**	**+2.0**
	baz=283							
WHP				S		**Sn**	**03 36 31.9**	**+0.6**
	baz=283							
YM01	**YM01**	**1.58**	**323**	*e*P		**Pn**	**03 36 10.8**	**-0.2**
	baz=321							
LDUT	**Ludao**	**1.59**	**221**	*i* P		**Pn**	**03 36 10.9**	**-0.1**
	baz=220							
LDUT				S		**Sn**	**03 36 29.9**	**-1.7**
	baz=220							
ELDTW	**Lidau**	**1.61**	**245**	*e*P		**Pn**	**03 36 11.2**	**-0.3**
	baz=242							
ELDTW					*e*S	**Sn**	**03 36 30.8**	**-1.5**
	baz=242							
LIOB	**Emei**	**1.64**	**298**	*i* P		**Pn**	**03 36 12.8**	**+0.9**
	baz=296							
LIOB				*i* S		**Sn**	**03 36 34.1**	**+1.1**
	baz=296							
LONT	**Longtian**	**1.66**	**235**	S		**Sn**	**03 36 33.9**	**+0.4**
	baz=226							
ALS	**Alishan**	**1.69**	**258**	*i* P		**Pn**	**03 36 13.3**	**+0.6**
	baz=255							
ALS				S		**Sn**	**03 36 34.5**	**-0.1**
	baz=255							
JISG	**Ishigakijimahi**	**1.71**	**65**	P		**Pn**	**03 36 10.9**	**-1.8**
JISG				S		**Sn**	**03 36 35.0**	**+0.4**
TWGBT	**Beinan**	**1.75**	**233**	S		**Sn**	**03 36 34.8**	**-0.9**
	baz=224							
TWG	**Pinlang**	**1.76**	**234**	S		**Sn**	**03 36 34.9**	**-0.9**
	baz=224							
TPUB	**Ta-pu**	**1.90**	**253**	P		**Pn**	**03 36 16.5**	**+1.0**
	baz=241							
TPUB				S		**Sn**	**03 36 41.7**	**+2.3**
	baz=241							
WDLH	**Douliu**	**1.90**	**265**	S		**Sn**	**03 36 42.1**	**+2.7**
	baz=262							
WTP	**Ta-pu**	**1.93**	**252**	P		**Pn**	**03 36 18.8**	**+3.0**
	baz=241							
WTP				S		**Sn**	**03 36 43.0**	**+2.9**
	baz=241							
ECL	**Taimali**	**1.98**	**230**	S		**Sn**	**03 36 40.0**	**-1.3**
	baz=238							
CHN1	**Nanshi**	**2.03**	**251**	P		**Pn**	**03 36 18.8**	**+1.7**
	baz=247							
CHN1				*i* S		**Sn**	**03 36 46.3**	**+3.9**
	baz=247							
TWK	**Hsinying**	**2.04**	**253**	S		**Sn**	**03 36 45.6**	**+2.8**
	baz=249							
EAST	**Anshuo**	**2.20**	**228**	*e*P		**Pn**	**03 36 18.9**	**-0.6**
	baz=235							
TAWH	**Dawu Township**	**2.20**	**226**	*e*P		**Pn**	**03 36 18.0**	**-1.5**
	baz=232							
TAWH					*e*S	**Sn**	**03 36 45.5**	**-1.1**
	baz=232							

SKHL ***13*** *03:45:38.1±0.9, 44°.60N×147°.30E, h131km±3km, mb4.5/4, msha5.1/3*
IDC ***13*** *03:45:38.7±4.3, 44°.50N×147°.22E, h170km±38km, mb3.1/6, mb1 3.4/7, mb1mx3.0/52, mbtmp3.6/7, Error ellipse: s-maj=161.2km s-min=23.9km az=166.0*
JMA ***13*** *03:45:38.8±0.3, 44°.51N×147°.20E, h153km±4km, M3.1*
ISC 13 03:45:37.1±0.9**, 44°.50N**±0°.07×**147°.37E**±0°.07**, h154**km±7km**, n34**, σ0**s98**/42**, mb3.3**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHO	**Shikotan**	**0.74**	**212**	*e*P		**Pn**	**03 46 01.0**	**+0.8**
SHO				AMB		AMB	03 46 01.6	
	250nm,0.2s							
SHO				*e*S		**Sn**	**03 46 17.3**	**-0.5**
SHO				A		A	03 46 18.1	
	760nm,0.3s							
SHO				A		A	03 46 18.1	
	350nm,0.3s							
KUR	**Kuril'sk**	**0.82**	**25**	*e*P		**Pn**	**03 46 00.7**	**0.0**
KUR				AMB		AMB	03 46 01.2	
	70nm,0.3s							
KUR				*e*S		**Sn**	**03 46 18.0**	**-0.9**
KUR				A		A	03 46 18.5	
	170nm,0.5s							
KUR				A		A	03 46 18.5	
	180nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.18**	**248**	*e*P		**Pn**	**03 46 04.5**	**+0.8**
YUK				AMB		AMB	03 46 06.0	
	70nm,0.2s							
YUK				*e*S		**Sn**	**03 46 23.6**	**-0.5**
YUK				A		A	03 46 27.4	
	1µm,0.6s							
YUK				A		A	03 46 27.4	
	850nm,0.6s							
NEM2	**Nemuro 2**	**1.63**	**227**	P		**Pn**	**03 46 09.0**	**+0.7**
NEM2				*e*S		**Sn**	**03 46 31.2**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.64**	**227**	*e*P		**Pn**	**03 46 08.9**	**+0.6**
NMR				*e*S		**Sn**	**03 46 31.3**	**-1.0**
JRA	**Rausu**	**1.71**	**252**	P		**Pn**	**03 46 09.6**	**+0.5**
JNSB	**Nemuroshibetsu**	**1.85**	**248**	P		**Pn**	**03 46 11.8**	**+1.1**
JNSB				*e*S		**Sn**	**03 46 37.0**	**+0.5**
JNK	**Nakash**	**2.12**	**245**	P		**Pn**	**03 46 14.8**	**+1.0**
JNK				*e*S		**Sn**	**03 46 42.4**	**+0.4**
JKHN	**Kushirohamanak**	**2.13**	**229**	P		**Pn**	**03 46 14.9**	**+0.9**
JKHN				*e*S		**Sn**	**03 46 42.1**	**-0.2**
JAK	**Akkeshi**	**2.45**	**233**	P		**Pn**	**03 46 18.6**	**+0.9**
JAK				*e*S		**Sn**	**03 46 48.8**	**-0.2**
JTKR	**Abashiri--Toko**	**2.54**	**259**	P		**Pn**	**03 46 18.9**	**+0.1**
JTKR				*e*S		**Sn**	**03 46 50.8**	**-0.3**
JAR	**Ashorobuto**	**2.87**	**247**	P		**Pn**	**03 46 24.4**	**+1.5**
JMP	**Maruseppu**	**2.92**	**262**	P		**Pn**	**03 46 23.6**	**0.0**
JOB	**Onbets**	**3.02**	**239**	P		**Pn**	**03 46 26.2**	**+1.4**
JOB				*e*S		**Sn**	**03 47 01.9**	**+0.2**
JKK2	**Kamakawa 2**	**3.38**	**261**	P		**Pn**	**03 46 30.3**	**+0.9**
JKK2				*e*S		**Sn**	**03 47 10.2**	**+0.2**
JSE	**Soyaes**	**3.44**	**279**	P		**Pn**	**03 46 29.7**	**-0.4**
ASAJ	**Asahikawa**	**3.45**	**265**	P		**Pn**	**03 46 31.1**	**+0.9**
	2.6nm,0.3s,baz=95,slow=11,SNR=13							
ASAJ	**Asahikawa**	**3.45**	**265**	P		**Pn**	**03 46 31.1**	**+0.9**
JCH	**Churui**	**3.47**	**239**	P		**Pn**	**03 46 31.3**	**+0.8**
JCH				*e*S		**Sn**	**03 47 10.8**	**-1.1**
JWK2	**Keihoku**	**3.97**	**284**	P		**Pn**	**03 46 37.9**	**+0.9**
JNBK	**Urakawa-nobuka**	**4.03**	**238**	P		**Pn**	**03 46 37.4**	**-0.3**

JNBK					*e*S	**Sn**	**03 47 21.4**	**-3.5**
TYV	**Tymovskoe**	**7.12**	**335**		*e*P	**Pn**	**03 47 19.6**	**+1.0**
TYV					AMB	AMB	03 47 23.3	
	30nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**29.57**	**140**	T		T	04 22 55.3	
	baz=330,slow=75,SNR=5.6							
H11N1	**WAKE ISLAND Hy**	**29.58**	**140**	T		T	04 22 50.2	
	baz=330,slow=75,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**29.58**	**140**	T		T	04 22 51.9	
	baz=330,slow=75,SNR=4.2							
H11S1	**WAKE ISLAND Hy**	**30.55**	**142**	T		T	04 23 58.8	
	baz=339,slow=74,SNR=13							
H11S3	**WAKE ISLAND Hy**	**30.55**	**142**	T		T	04 24 00.5	
	baz=339,slow=74,SNR=8.4							
H11S2	**WAKE ISLAND Hy**	**30.57**	**142**	T		T	04 23 58.4	
	baz=339,slow=74,SNR=3.4							
ILAR	**Eielson Array**	**40.79**	**37**	P		**P**	**03 53 03.3**	**+0.5**
	0.3nm,0.5s,baz=263,slow=5.7,SNR=4.3							
MKAR	**Makanchi Array**	**44.38**	**297**	P		**P**	**03 53 31.6**	**-0.4**
	0.2nm,0.4s,baz=68,slow=8.0,SNR=3.0							
INK	**Inuvik**	**45.68**	**31**	P		**P**	**03 53 42.1**	**+0.3**
	0.9nm,0.4s,baz=292,slow=8.2,SNR=16							
YKA	**Yellowknife Ar**	**55.09**	**34**	P		**P**	**03 54 53.5**	**+0.9**
	0.4nm,0.8s,baz=304,slow=7.6,SNR=5.0							
NOA	**NORSAR Array B**	**68.97**	**339**	P		**P**	**03 56 23.9**	**-1.3**
	0.4nm,0.7s,baz=30,slow=6.6,SNR=2.1							
KBZ	**Khabaz**	**69.42**	**311**	P		**P**	**03 56 28.1**	**0.0**
	0.3nm,0.4s,baz=29,slow=7.5,SNR=3.8							

CNRM ***13*** *03:48:58.4, 35°.53N×3°.78W, h16km, ml2.1*
IGIL ***13*** *03:48:59.0, 35°.55N×3°.72W, h0km*
SFS ***13*** *03:48:59.0, 35°.55N×3°.71W, ML2.6, ALBORAN SUR*
INMG ***13*** *03:48:59.2±1.3, 35°.57N×3°.71W, h0km, ML2.0, Error ellipse: s-maj=3.3km s-min=2.5km az=41.0*
MDD ***13*** *03:48:59.5±0.6, 35°.55N×3°.72W, h0km, mb_Lg2.6/9, Error ellipse: s-maj=5.2km s-min=3.0km az=8.0*
ISC 13 03:48:59.2±1.1**, 35°.46N**±0°.03×**3°.76W**±0°.03**, h20**km±4km**, n37, σ0s98/61, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALE	**Palemas**	**0.29**	**212**	P		**Pg**	**03 49 05.5**	**-0.2**
PALE				S		**Sg**	**03 49 09.5**	**-0.6**
PVLZ	**Peæn de**	**0.53**	**237**	P		**Pg**	**03 49 09.8**	**-0.1**
PVLZ				S		**Sg**	**03 49 16.3**	**-0.8**
GOG	**Mont Gurugu**	**0.67**	**111**	P		**Pg**	**03 49 12.4**	**0.0**
GOG				S		**Sg**	**03 49 20.2**	**-0.8**
EMEL	**Melilla**	**0.67**	**104**	Pg		**Pg**	**03 49 12.4**	**-0.1**
EMEL				Sg		**Sb**	**03 49 20.7**	**-0.4**
EALB	**Alboran**	**0.76**	**51**	Pg		**Pb**	**03 49 13.6**	**0.0**
EALB				Sg		**Sb**	**03 49 22.6**	**-1.0**
EALB				*i* Vmb_Lg			03 49 25.8	
AKLM	**AKL**	**0.95**	**185**	P		**Pg**	**03 49 17.7**	**-0.1**
AKLM				S		**Sb**	**03 49 29.1**	**-0.2**
TAF	**Taforalt**	**1.27**	**120**	P		**Pb**	**03 49 22.9**	**+0.3**
CHEFC	**Chefchaouen**	**1.34**	**255**	P		**Pb**	**03 49 23.5**	**-0.3**
SMIR	**Smir Dam**	**1.34**	**280**	P		**Pn**	**03 49 22.0**	**-0.9**
SMIR				S		**Sn**	**03 49 38.4**	**-1.7**
EMIJ	**Mijas**	**1.38**	**323**	Pg		**Pn**	**03 49 21.6**	**-1.7**
EMIJ				Sg		**Sn**	**03 49 40.4**	**-0.6**
ELGU	**Los Guajares,**	**1.41**	**4**	Pg		**Pn**	**03 49 22.6**	**-1.2**
ELGU				Sg		**Sn**	**03 49 40.4**	**-1.4**
ELGU				*i* Vmb_Lg			03 49 45.9	
EMAL	**Malaga-Limoner**	**1.41**	**337**	P		**Pg**	**03 49 28.2**	**+1.8**
EMAL				S		**Sn**	**03 49 40.3**	**-1.4**
JBK	**JBK**	**1.49**	**139**	P		**Pn**	**03 49 25.5**	**+0.5**
EBER	**Berja**	**1.59**	**26**	Pg		**Pn**	**03 49 25.6**	**-0.8**
EBER				*i* Vmb_Lg			03 49 40.9	
EBER				Sg		**Sn**	**03 49 46.6**	**-0.1**
ENIJ	**Nijar**	**1.96**	**39**	Pn		**Pn**	**03 49 30.3**	**-1.1**
ENIJ				Sn		**Sn**	**03 49 54.2**	**-1.1**
ENIJ				*i* Vmb_Lg			03 49 57.4	
LCRM	**LCR**	**1.99**	**207**	P		**Pb**	**03 49 34.4**	**-0.4**
CZD	**Col de Zad**	**2.65**	**204**	P		**Pb**	**03 49 46.0**	**-0.2**
CZD				S		**Sn**	**03 50 13.2**	**+0.5**
MD31	**MD31**	**2.72**	**198**	P		**Pn**	**03 49 43.0**	**+1.1**
MDT	**Midelt**	**2.73**	**195**	P		**Pn**	**03 49 44.4**	**+2.3**
EADA	**Adamuz**	**2.78**	**347**	Pn		**Pn**	**03 49 43.5**	**+0.8**
EADA				*i* Vmb_Lg			03 49 58.7	
EADA				Sn		**Sn**	**03 50 16.7**	**+1.1**
EMIN	**Mina Concepcio**	**3.29**	**315**	Pn		**Pn**	**03 49 49.6**	**+0.1**
EMIN				Sn		**Sn**	**03 50 27.8**	**-0.3**
EMIN				*i* Vmb_Lg			03 51 49.8	
ETOB	**Tobarra**	**3.63**	**28**	*i* Vmb_Lg			03 49 52.7	
ETOB				Pn		**Pn**	**03 49 56.1**	**+1.7**
ETOB				Sn		**Sn**	**03 50 37.0**	**+0.2**
EGRO	**El Granado**	**3.65**	**306**	Pn		**Pn**	**03 49 54.9**	**+0.4**
EGRO				Sn		**Sn**	**03 50 37.9**	**+1.0**
EGRO				*i* Vmb_Lg			03 50 44.2	
PVAQ	**Vaqueiros**	**3.74**	**302**	*e*Pn		**Pn**	**03 49 56.1**	**+0.3**
PVAQ				*e*Sn		**Sn**	**03 50 38.8**	**-0.4**
PVAQ				A		A	03 50 46.2	
	2.7nm,0.9s							
PBAR	**Barrancos**	**3.78**	**317**	*e*Pn		**Pn**	**03 49 57.1**	**+0.8**
PBAR				*e*Sn		**Sn**	**03 50 40.6**	**+0.4**
PBAR				A		A	03 50 43.1	
	1.0nm,0.2s							
PBDV	**Barranco-do-Ve**	**3.81**	**299**	*e*Pn		**Pn**	**03 49 57.5**	**+0.7**
PBDV				*e*Sn		**Sn**	**03 50 39.6**	**-1.5**
PCVE	**Castro Verde**	**4.07**	**303**	*e*Pn		**Pn**	**03 50 01.4**	**+1.0**
PCVE				*e*Sn		**Sn**	**03 50 47.6**	**+0.1**
PCVE				A		A	03 50 51.0	
	2.2nm,0.5s							
EBAD	**Badajoz**	**4.19**	**323**	Pn		**Pn**	**03 50 01.9**	**-0.1**
EBAD				*i* Vmb_Lg			03 50 45.7	
EBAD				Sn		**Sn**	**03 50 50.2**	**-0.2**
MORF	**Marmelete**	**4.36**	**296**	*e*P		**Pn**	**03 50 04.3**	**0.0**
MORF	**Marmelete**	**4.36**	**296**	*e*Pn		**Pn**	**03 50 05.7**	**+1.4**
MORF				*e*Sn		**Sn**	**03 50 53.6**	**-1.0**
PESTR	**Estremoz**	**4.58**	**319**	*e*Pn		**Pn**	**03 50 09.2**	**+1.9**
PESTR				*e*Sn		**Sn**	**03 50 58.2**	**-0.1**
EVO	**Evora**	**4.58**	**313**	*e*Pn		**Pn**	**03 50 08.4**	**+1.0**
PNCL	**Nicolau / Gran**	**4.66**	**306**	*e*Pn		**Pn**	**03 50 08.5**	**+0.1**
PMRV	**Marv??o**	**4.90**	**325**	*e*Pn		**Pn**	**03 50 13.2**	**+1.4**
PMTG	**Montargil**	**5.07**	**317**	*e*Pn		**Pn**	**03 50 15.5**	**+1.5**
OUZM	**OUZ**	**5.19**	**210**	P		**Pn**	**03 50 16.1**	**+0.2**
MVO	**Moncorvo**	**6.25**	**337**	*e*Pn		**Pn**	**03 50 32.2**	**+1.9**

IPEC ***13*** *03:53:05.7±0.2, 51°.50N×16°.19E, h1km, ML2.3/3, Error ellipse: s-maj=1.7km s-min=1.0km az=33.0*
IDC ***13*** *03:53:06.9±0.8, 51°.39N×16°.14E, h0km, mb3.0/1, mb1 3.5/5, mb1mx3.2/57, mbtmp3.2/5, ML2.9/4, Error ellipse: s-maj=15.0km s-min=7.4km az=113.0*
PRU ***13*** *03:53:07.2±0.0, 51°.45N×16°.08E, h0km*
DNK ***13*** *03:53:10.8±0.5, 51°.91N×15°.72E, h0km, ML2.2(UPP), Suspected explosion*
VIE ***13*** *03:53:11.2, 51°.10N×15°.98E, h0km, ML2.5/2 71 km ENE of Liberec Suspected Mining induced.*
UPP ***13*** *03:53:20.6±3.1, 52°.57N×15°.52E, h0km, ML2.2, Suspected explosion*
ISC 13 03:53:04.8±0.7**, 51°.54N**±0°.03×**16°.13E**±0°.03**, h0**km**, n57, σ1s21/95, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.71**	**172**	*e*Pg		**Pg**	**03 53 18.6**	**+0.3**
KSP				*e*Sg		**Sg**	**03 53 27.0**	**-0.5**
CHVC	**Chvalec**	**0.96**	**183**	*e*PG		**Pg**	**03 53 23.4**	**+0.3**
CHVC				*e*SG		**Sg**	**03 53 35.3**	**-0.2**
OSTC	**Ostas**	**0.99**	**177**	*e*PG		**Pg**	**03 53 24.0**	**+0.3**
OSTC				*e*SG		**Sg**	**03 53 35.9**	**-0.6**
	comp=Z,60nm,0.4s							
UPC	**Upice**	**1.04**	**184**	*e*PG		**Pg**	**03 53 24.7**	**0.0**
UPC				*e*SG		**Sg**	**03 53 37.7**	**-0.4**
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG		**Pg**	**03 53 27.2**	**-0.6**
DPC				*e*SG		**Sg**	**03 53 42.1**	**-1.2**
	comp=Z,34nm,0.5s							
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG		**Pn**	**03 53 31.5**	**-0.3**
PVCC				*e*SG		**Sn**	**03 53 50.9**	**-0.2**
	comp=Z,86nm,0.3s							
KRLC	**Kraliky**	**1.52**	**164**	*e*PG		**Pn**	**03 53 33.5**	**+0.1**
KRLC				*e*SG		**Sg**	**03 53 51.8**	**-2.0**
	comp=Z,41nm,0.5s							
BRG	**Berggiesshubel**	**1.53**	**245**	Amp			03 53 55.8	
	comp=Z,41nm,0.4s							
BRG	**Berggiesshubel**	**1.53**	**245**	Pg		**Pg**	**03 53 34.4**	**+0.3**
BRG	**Berggiesshubel**	**1.53**	**245**	Sg		**Sn**	**03 53 54.5**	**+0.5**
PRU	**Pruhonice**	**1.85**	**214**	*e*PN		**Pn**	**03 53 37.5**	**-0.3**

PRU					*e*PG	**Pb**	**03 53 39.3**	**-0.3**
PRU					*e*SG	**Sb**	**03 54 03.3**	**0.0**
	comp=Z,24nm,0.4s							
CLL	**Collm**	**1.97**	**264**		*e*Pn	**Pn**	**03 53 39.0**	**-0.5**
CLL					*e*Pg	**Pb**	**03 53 42.0**	**+0.4**
CLL					*ex*	x	03 53 45.0	
CLL					*e*Sg	**Sg**	**03 54 08.0**	**-0.2**
	comp=Z,15nm,0.4s							
MORC	**Moravsky Berou**	**1.98**	**153**		*e*Pn	**Pn**	**03 53 39.5**	**-0.1**
	baz=334							
MORC					*e*Sg	**Sb**	**03 54 06.4**	**-0.6**
	comp=Z,27nm,0.4s,baz=334							
OKC	**Ostrava-Krasne**	**2.13**	**142**		*e*SG	**Sb**	**03 54 11.9**	**+0.6**
	comp=Z,11nm,0.4s							
VRAC	**Vranov**	**2.25**	**172**	Pg		**Pn**	**03 53 44.8**	**+1.5**
	comp=Z,2.9nm,0.3s,baz=347,slow=17,SNR=7.9							
VRAC				Lg		Lg	03 54 15.4	
	comp=Z,3.6nm,0.3s,baz=244,slow=22,SNR=9.1							
VRAC	**Vranov**	**2.25**	**172**		*e*Pn	**Pn**	**03 53 43.4**	**+0.1**
	baz=353							
VRAC					*e*Sg	**Sb**	**03 54 14.9**	**+0.1**
	comp=Z,17nm,0.4s,baz=353							
VRAC	**Vranov**	**2.25**	**172**		*e*PN	**Pn**	**03 53 43.5**	**+0.1**
VRAC					*e*SG	**Sb**	**03 54 15.0**	**+0.1**
TREC	**Trest**	**2.29**	**191**		*e*PN	**Pn**	**03 53 45.1**	**+1.3**
TREC					*e*PG	**Pb**	**03 53 47.7**	**+0.8**
TREC					*e*SG	**Sb**	**03 54 16.1**	**+0.3**
PBCC	**Pribram**	**2.30**	**217**		*e*SG	**Sb**	**03 54 16.9**	**+0.7**
KRUC	**Moravsky**	**2.49**	**176**		*e*Pn	**Pn**	**03 53 46.7**	**+0.1**
	baz=357							
KRUC					*e*Sg	**Sb**	**03 54 22.3**	**+0.8**
	comp=Z,14nm,0.5s,baz=357							
OJC	**Ojcow**	**2.67**	**118**		*e*Pg	**Pg**	**03 53 57.6**	**+1.6**
OJC					*e*Sg	**Sg**	**03 54 33.2**	**+2.6**
NKC	**Novy Kostel**	**2.68**	**242**		*e*PN	**Pn**	**03 53 49.7**	**+0.5**
NKC					*e*PG	**Pg**	**03 53 55.8**	**-0.3**
NKC					*e*SG	**Sg**	**03 54 30.8**	**+0.1**
	comp=Z,34nm,0.3s							
JAVC	**Velka Javorina**	**2.86**	**159**		*e*PN	**Pn**	**03 53 52.1**	**+0.4**
KHC	**Kasperske Hory**	**2.92**	**215**		*e*PN	**Pn**	**03 53 52.8**	**+0.3**
KHC					*e*PG	**Pb**	**03 53 58.5**	**+0.8**
KHC					*e*SN	**Sn**	**03 54 27.1**	**-1.1**
KHC					*e*SG	**Sg**	**03 54 37.3**	**-1.1**
	comp=Z,9.9nm,0.6s							
CKRC	**Cesky Krumlov**	**2.97**	**204**		*e*PN	**Pn**	**03 53 53.8**	**+0.7**
CKRC					*e*PG	**Pb**	**03 53 59.4**	**+0.9**
CKRC					*e*SG	**Sb**	**03 54 37.2**	**+1.9**
	comp=Z,12nm,0.4s							
GERES	**GERESS Array B**	**3.12**	**211**	Pn		**Pn**	**03 53 56.1**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=28,slow=12,SNR=25							
GERES				Pg		**Pb**	**03 54 02.4**	**+1.2**
	comp=Z,3.6nm,0.3s,baz=30,slow=16,SNR=32							
GERES				Sn		**Sn**	**03 54 30.6**	**-2.6**
	comp=Z,1.6nm,0.3s,baz=31,slow=25,SNR=4.1							
GERES				Lg		Lg	03 54 43.5	
	comp=Z,4.0nm,0.3s,baz=35,slow=26,SNR=2.4							
SMOL	**Smolenice**	**3.14**	**164**		*e*PG	**Pg**	**03 54 05.8**	**+0.8**
SMOL					*e*SG	**Sg**	**03 54 44.2**	**-1.6**
LANS	**Liptovska Anna**	**3.21**	**137**		*e*PG	**Pg**	**03 54 05.2**	**-1.1**
LANS					*e*SG	**Sg**	**03 54 48.5**	**+0.7**
MODS	**Modra-Piesok**	**3.26**	**166**		*e*PG	**Pg**	**03 54 06.5**	**-0.7**
MODS					*e*SG	**Sg**	**03 54 47.1**	**-2.3**
KOLL	**Kolacno**	**3.31**	**153**		*e*PN	**Pn**	**03 53 58.6**	**+0.8**
KOLL					*e*PG	**Pg**	**03 54 08.0**	**-0.2**
KOLL					*e*SG	**Sg**	**03 54 49.3**	**-1.7**
VYHS	**Vyhne**	**3.51**	**149**		*e*PG	**Pg**	**03 54 12.2**	**+0.1**
VYHS					*e*SG	**Sg**	**03 54 58.2**	**+0.6**
CONA	**Conrad Observa**	**3.62**	**183**		*i* Pn	**Pn**	**03 54 02.9**	**+0.7**
	comp=Z,2.9nm,0.4s,SNR=6.7							
CONA					*i* Sg	**Sg**	**03 54 59.4**	**-1.7**
	comp=Z,8.9nm,0.4s							
MOA	**Molln**	**3.89**	**199**		*i* Pn	**Pn**	**03 54 06.7**	**+0.8**
	comp=Z,0.9nm,0.2s							
MOA					*e*Sg	**Sg**	**03 55 09.3**	**-0.4**
	comp=Z,7.4nm,0.4s							
ARSA	**Arzberg**	**4.31**	**186**		*i* Pn	**Pn**	**03 54 14.4**	**+2.8**
	comp=Z,1.3nm,0.3s							
ARSA					Sg	**Sg**	**03 55 23.8**	**+0.5**
	comp=Z,4.2nm,0.4s							
LUNU	**Lund**	**4.40**	**340**	P		**Pn**	**03 54 13.2**	**+0.5**
LUNU				S		Sn	03 54 53.1	-12
LUNU	**Lund**	**4.40**	**340**	P		**Pn**	**03 54 13.2**	**+0.5**
LUNU				S		Sn	03 54 53.1	-12
BLEU	**Blekinge**	**4.78**	**358**	P		**Pn**	**03 54 19.1**	**+1.2**
BLEU	**Blekinge**	**4.78**	**358**	P		**Pn**	**03 54 19.1**	**+1.2**
KBA	**Koelnbre

comp=E,7μm,0.3s
GUWA GUWAHATI 2.54 302 *e*P Pn **03 57 32.5 -0.6**
GUWA *e*S Sn **03 58 01.7 -1.2**
GUWA IAML 03 58 02.8
comp=E,2μm,0.2s
GUWA IAML 03 58 02.8
comp=N,3μm,0.2s
DIBR DIBRUGARH 2.69 16 *e*P Pn **03 57 34.2 -0.9**
DIBR IAML 03 58 16.4
comp=N,5μm,0.3s
DIBR IAML 03 58 16.9
comp=E,4μm,0.3s
AGT Agartala 2.78 250 *e*P Pn **03 57 38.2 +1.9**
AGT *e*S Sn **03 58 11.1 +2.4**
AGT IAML 03 58 13.6
comp=N,3μm,0.2s
AGT IAML 03 58 13.6
comp=E,4μm,0.3s
LKP Lekhapani 2.91 32 *e*P Pn **03 57 37.5 -0.6**
BELO BELONIA 2.91 237 *e*S Sn **03 58 13.7 +1.7**
TURI Tura 3.48 282 *e*P Pn **03 57 47.5 +1.6**
TURI *e*S Sn **03 58 27.2 +1.3**
TURI IAML 03 58 31.6
comp=N,3μm,0.2s
TURI IAML 03 58 31.6
comp=Z,2μm,0.2s
GTK Tadong 5.51 297 *e*P Pn **03 58 15.2 +1.4**
GTK *e*S Sn **03 59 17.2 +1.2**
GTK IAML 03 59 20.1
comp=N,267nm,0.4s
GTK IAML 03 59 20.5
comp=E,248nm,0.3s
TAPN Taplejung 6.25 295 *e*Pn Pn **03 58 25.2 +1.0**
comp=E,409nm,0.3s
TAPN *e*Sn Sn **03 59 35.8 +1.4**
ODAN Odare 6.36 290 *e*Pn Pn **03 58 26.3 +0.7**
comp=E,503nm,0.3s
ODAN *e*Sn Sn **03 59 36.7 -0.3**
RAMN Ramite 7.06 289 *e*Pn Pn **03 58 35.8 +0.6**
comp=E,342nm,0.3s
RAMN *e*Sn Sn **03 59 52.8 -1.5**
JIRN Jiri 7.62 293 *e*Pn Pn **03 58 43.8 +0.8**
comp=E,54nm,0.3s
JIRN *e*Sn Sn **04 00 07.7 -0.5**
CMAR Chiang Mai Arr 7.81 144 P Pn **03 58 44.2 -1.0**
comp=E,1.2nm,0.3s,baz=320,slow=14,SNR=23
CMAR S Sn **04 00 12.2 -0.1**
baz=323,slow=18,SNR=2.6
CMAR LR LR 04 02 12.1
comp=E,38nm,20.2s,baz=200,slow=41
GUN Gumba 7.97 294 *e*Pn Pn **03 58 48.0 +0.3**
comp=E,288nm,0.3s
GUN *e*Sn Sn **04 00 16.2 -0.4**
PKI Pulchoki 8.25 291 *e*Pn Pn **03 58 51.7 +0.1**
comp=E,131nm,0.3s
PKI *e*Sn Sn **04 00 21.8 -1.8**
PKIN Phulchoki 8.27 291 *e*Pn Pn **03 58 51.7 0.0**
comp=E,239nm,0.3s
PKIN *e*Sn Sn **04 00 21.1 -2.7**
KKN Kakani 8.43 292 *e*Pn Pn **03 58 53.7 -0.2**
comp=E,271nm,0.3s
KKN *e*Sn Sn **04 00 26.5 -1.2**
comp=E,129nm,0.3s
DMN Daman 8.52 291 *e*Pn Pn **03 58 54.9 -0.3**
comp=E,92nm,0.2s
DMN *e*Sn Sn **04 00 27.8 -2.3**
comp=E,88nm,0.3s
GKN Gorkha 9.04 292 *e*Pn Pn **03 59 01.5 -0.7**
comp=E,407nm,0.3s
GKN *e*Sn Sn **04 00 40.7 -1.8**
comp=E,346nm,0.3s
KOLN Koldanda 9.85 289 *e*Pn Pn **03 59 12.0 -1.4**
comp=E,153nm,0.3s
KOLN *e*Sn Sn **04 00 58.3 -4.3**
comp=E,124nm,0.3s
DANN Dangsing 9.88 293 *e*Pn Pn **03 59 11.7 -2.1**
comp=E,117nm,0.3s
DANN *e*Sn Sn **04 01 01.1 -2.3**
comp=E,92nm,0.4s
PYUN Piuthan 10.46 290 *e*Pn Pn **03 59 19.1 -2.6**
comp=E,70nm,0.3s
PYUN *e*Sn Sn **04 01 13.0 -4.4**
comp=E,118nm,0.5s
JBP Jabalpur 13.01 265 *e*P Pn **03 59 57.5 +1.2**
JBP *ex* x 03 59 57.5
JBP *e*S Sn **04 02 12.9 -6.6**
THW Thamme Wali 21.09 297 P P **04 01 35.0 +1.2**
CEP Cherat 21.27 300 P P **04 01 35.8 -0.1**
MKAR Makanchi Array 23.82 340 P P **04 02 02.6 +0.8**
comp=E,2.5nm,0.6s,baz=145,slow=12,SNR=35
AAK Ala-Archa 23.98 322 P P **04 02 04.4 +1.0**
comp=E,0.6nm,0.3s,baz=135,slow=2.9,SNR=1.5
SONM Songino Array 24.90 20 P P **04 02 11.7 0.0**
comp=E,1.6nm,0.5s,baz=196,slow=10,SNR=11
KURBB **Kurchatov Arra 28.38 339** P P **04 02 43.2 +0.4**
comp=E,0.7nm,0.6s,baz=157,slow=8.3,SNR=6.0
ZALV Zalesovo Beam 29.86 349 P P **04 02 56.6 +0.8**
comp=E,0.4nm,0.4s,baz=160,slow=4.7,SNR=3.5
ZALV LR LR 04 14 23.5
comp=E,22nm,18.2s,baz=50,slow=35
AKTO Aktyubinsk 37.72 322 P P **04 04 05.1 +1.0**
comp=E,0.7nm,0.3s,baz=107,slow=5.9,SNR=3.6
ARU Arti 40.68 330 P P **04 04 29.8 +1.2**
comp=E,0.6nm,0.3s,baz=131,slow=20,SNR=1.4
KBZ Khabaz 45.52 308 LR LR 04 30 15.8
comp=E,23nm,18.5s,baz=148,slow=44
AKASG **Malin Array Be 55.39 316** P P **04 06 22.1 -0.2**
comp=E,0.2nm,0.3s,baz=84,slow=6.0,SNR=4.8
MLR Muntele Rosu 57.65 309 P P **04 06 39.6 +0.9**
comp=E,2.7nm,0.8s,baz=232,slow=10,SNR=4.7
FINES FINESS Array B 57.98 328 P P **04 06 40.8 +0.3**
comp=E,0.8nm,0.8s,baz=74,slow=10,SNR=1.3
WRA Warramunga Arr 59.30 135 P P **04 06 48.3 -1.9**
comp=E,0.7nm,0.4s,baz=324,slow=7.4,SNR=21
ASAR Alice Springs 61.78 138 P P **04 07 05.0 -2.0**
comp=E,0.6nm,0.3s,baz=318,slow=6.7,SNR=8.3
NOA NORSAR Array B 65.16 328 P P **04 07 29.1 +0.2**
comp=E,0.5nm,0.7s,baz=106,slow=4.1,SNR=3.7
GERES **GERESS Array B 65.54 314** P P **04 07 33.2 +1.6**
comp=E,0.3nm,0.4s,baz=66,slow=6.4,SNR=5.1
ILAR Eielson Array 79.10 22 P P **04 08 51.1 -1.0**
comp=E,0.2nm,0.5s,baz=289,slow=5.6,SNR=2.7
TORD Torodi Ar. Bea 86.71 283 P P **04 09 34.3 +1.9**
comp=E,0.2nm,0.8s,baz=20,slow=4.6,SNR=1.8
YKA Yellowknife Ar 89.97 13 P P **04 09 46.2 -0.7**
comp=E,0.1nm,0.7s,baz=335,slow=4.3,SNR=2.6

IDC ***13*** *04:09:34.1*±18.0,**36°.42**N×**70°.19**E,**h301**km±190km,
mb2.9/2,**mb1 2.8**/5,**mb1mx2.6**/44,**mbtmp3.6**/5,**MS2.5**/1,
Ms1 2.5/1,**ms1mx2.0**/25,**Error ellipse: s-maj=126.4km**
s-min=50.7km az=168.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**9.76**	**282**	LR	LR	04 16 12.1	
	comp=Z,30nm,22.0s,baz=64,slow=41						
MKAR	**Makanchi Array**	**13.74**	**37**	P	P	04 12 36.9	-0.3
	0.1nm,0.3s,baz=219,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**15.42**	**20**	P	P	04 12 55.5	0.0
	0.2nm,0.3s,baz=211,slow=12,SNR=13						
AKTO	**Aktyubinsk**	**16.54**	**332**	P	P	04 13 07.7	0.0
	0.2nm,0.3s,baz=115,slow=9.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**20.26**	**26**	P	P	04 13 47.5	+0.1
	0.5nm,0.3s,baz=225,slow=9.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**65.07**	**268**	P	P	04 19 43.2	0.0
	0.7nm,0.6s,baz=47,slow=5.8,SNR=15						

NEIC ***13*** *04:23:02.5*±1.1,*20°.44S*±0°.04×*69°.02W*±0°.08,*h109*km±4km,
mb4.0/3,ML3.9(GUC),Error ellipse: s-maj=10.5km
s-min=5.4km az=101.0
GUC ***13*** *04:23:03.4*±0.8,*20°.41S*×*69°.01W*,*h106*km±2km,*ML3.9*
IDC ***13*** *04:23:04.2*±1.4,*20°.46S*×*68°.74W*,*h115*km±15km,*mb3.4/5,*
mb1 3.6/9,mb1mx3.4/33,mbtmp3.8/9,MS2.3/1,Ms1 2.4/1,
ms1mx2.0/24,Error ellipse: s-maj=25.5km s-min=14.2km
az=108.0
VAO ***13*** *04:23:04.0*±0.5,*20°.46S*×*69°.15W*,*h133*km,*mb4.0*
ISC 13 04:23:02.4±0.6,**20°.43S**±0°.03×**69°.04W**±0°.05,**h107**km±5km,
n89,σ0**99**/106,**mb4.0**/3,**11C-6D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.30**	**340**		**Pn**	**04 23 17.7**	**-0.6**
PB08				Sn	Sn	**04 23 30.4**	**+0.3**
PB08	**IPOC Station P**	**0.30**	**340**	↓*i*P	**Pn**	**04 23 18.8**	**+0.4**
PB08				*i* S	Sn	**04 23 30.5**	**+0.3**
PB08				IAML		04 23 32.5	
	comp=E,5μm,0.4s						
PB01	**IPOC Station P**	**0.74**	**214**	Pn	**Pn**	**04 23 20.6**	**-0.4**
PB01				Sn	Sn	**04 23 35.6**	**+0.8**
PB01	**IPOC Station P**	**0.74**	**214**	↑*i*P	**Pn**	**04 23 21.6**	**+0.6**
PB01				*i* S	Sn	**04 23 35.7**	**+0.8**
PB01				IAML		04 23 38.5	
	comp=N,4μm,0.3s						
GO01	**Chusmiza**	**0.77**	**349**		**Pn**	**04 23 21.8**	**+0.1**
GO01				Sn	Sn	**04 23 37.1**	**+1.1**
GO01	**Chusmiza**	**0.77**	**349**	↓*i*P	**Pn**	**04 23 22.2**	**+0.5**
GO01				*i* S	Sn	**04 23 37.1**	**+1.1**
GO01				IAML		04 23 40.0	
	comp=N,6μm,0.1s						
HMBC	**Humberstone**	**0.81**	**280**	↓*i*P	**Pn**	**04 23 22.0**	**+0.4**
HMBC				*i* S	Sn	**04 23 36.4**	**+0.4**
HMBC				IAML		04 23 37.7	
	comp=N,7μm,0.3s						
PB11	**IPOC Station P**	**0.88**	**319**	Pn	**Pn**	**04 23 22.0**	**-0.3**
PB11				Sn	Sn	**04 23 37.9**	**+0.6**
PB11	**IPOC Station P**	**0.88**	**319**	↓*i*P	**Pn**	**04 23 22.9**	**+0.6**
PB11				*i* S	Sn	**04 23 38.0**	**+0.8**
PB11				IAML		04 23 38.5	
	comp=E,6μm,0.2s						
TA02	**Huaiquique**	**1.03**	**278**		**Pn**	**04 23 24.4**	**+0.7**
TA02	**Huaiquique**	**1.03**	**278**	↑*i*P	**Pn**	**04 23 24.5**	**+0.7**
TA02				*i* S	Sn	**04 23 40.1**	**+0.3**
TA02				IAML		04 23 44.5	
	comp=E,7μm,0.4s						
TA01	**Diego Aracena**	**1.08**	**262**		**Pn**	**04 23 24.7**	**+0.5**
TA01	**Diego Aracena**	**1.08**	**262**	↑*i*P	**Pn**	**04 23 24.6**	**+0.5**
TA01				*i* S	Sn	**04 23 41.0**	**+0.4**
TA01				IAML		04 23 42.0	
	comp=E,2μm,0.3s						
PATCX	**Punta Patache**	**1.11**	**249**		**Pn**	**04 23 25.0**	**+0.3**
PATCX	**Punta Patache**	**1.11**	**249**	↑*i*P	**Pn**	**04 23 25.4**	**+0.7**
PATCX				*i* S	Sn	**04 23 42.3**	**+0.8**
PATCX				IAML		04 23 43.4	
	comp=E,2μm,0.6s						
PB02	**IPOC Station P**	**1.20**	**222**		**Pn**	**04 23 25.9**	**+0.3**
PB02	**IPOC Station P**	**1.20**	**222**	↑*i*P	**Pn**	**04 23 26.5**	**+0.9**
PB02				*i* S	Sn	**04 23 44.6**	**+1.5**
PB02				IAML		04 23 45.7	
	comp=N,3μm,0.5s						
PB09	**IPOC Station P**	**1.38**	**188**		**Pn**	**04 23 28.6**	**+0.8**
PB09	**IPOC Station P**	**1.38**	**188**	↑*i*P	**Pn**	**04 23 28.9**	**+1.1**
PB09				*i* S	Sn	**04 23 48.4**	**+1.5**
PB07	**IPOC Station P**	**1.52**	**211**		**Pn**	**04 23 29.7**	**+0.3**
PB07	**IPOC Station P**	**1.52**	**211**	↑*i*P	**Pn**	**04 23 30.1**	**+0.6**
PB07				*i* S	Sn	**04 23 50.9**	**+0.9**
PB07				IAML		04 23 55.9	
	comp=N,954nm,0.6s						
PB16	**IPOC Station P**	**2.13**	**348**		**Pn**	**04 23 38.7**	**+1.3**
PB16	**IPOC Station P**	**2.13**	**348**	↓*i*P	**Pn**	**04 23 38.6**	**+1.2**
PB16				*i* S	Sn	**04 24 06.2**	**+2.1**
PB04	**IPOC Station P**	**2.16**	**208**		**Pn**	**04 23 37.8**	**+0.3**
PB04	**IPOC Station P**	**2.16**	**208**	*e*P	**Pn**	**04 23 38.2**	**+0.7**
PB04				*i* S	Sn	**04 24 05.2**	**+0.8**
PB04				IAML		04 24 11.7	
	comp=E,401nm,0.5s						
PB12	**IPOC Station P**	**2.17**	**326**	Pn	**Pn**	**04 23 37.9**	**+0.2**
PB12	**IPOC Station P**	**2.17**	**326**	↑*i*P	**Pn**	**04 23 37.8**	**+0.2**
PB12				*i* S	Sn	**04 24 04.6**	**+0.1**
PB12				IAML		04 24 07.7	
	comp=E,627nm,0.3s						
LVC	**Limon Verde**	**2.18**	**177**	P	**Pn**	**04 23 39.4**	**+1.5**
	comp=E,31nm,0.3s,baz=28,slow=15,SNR=123						
LVC				S	Sn	**04 24 07.2**	**+2.2**
	comp=E,87nm,0.3s,baz=128,slow=24,SNR=21						
LVC	**Limon Verde**	**2.18**	**177**		**Pn**	**04 23 38.9**	**+1.0**
LVC	**Limon Verde**	**2.18**	**177**	↑*i*P	**Pn**	**04 23 39.3**	**+1.5**
LVC				*i* S	Sn	**04 24 06.8**	**+1.8**
LVC	**Limon Verde**	**2.18**	**177**	*e*P	**Pn**	**04 23 39.5**	**+1.6**
PB06	**IPOC Station P**	**2.32**	**192**		**Pn**	**04 23 39.9**	**+0.3**
PB06	**IPOC Station P**	**2.32**	**192**	↑*i*P	**Pn**	**04 23 39.9**	**+0.3**
PB06				*i* S	Sn	**04 24 07.2**	**-0.8**
PB06				IAML		04 24 08.8	
	comp=E,418nm,0.4s						
AP01	**Chacalluta**	**2.38**	**329**	Pn	**Pn**	**04 23 40.8**	**+0.5**
AP01	**Chacalluta**	**2.38**	**329**	↑*i*P	**Pn**	**04 23 40.5**	**+0.3**
AP01				*e*S	Sn	**04 24 09.2**	**-0.1**
AP01				IAML		04 24 16.7	
	comp=N,2μm,0.3s						
PB15	**IPOC Station P**	**2.80**	**188**		**Pn**	**04 23 46.3**	**+0.4**
PB15	**IPOC Station P**	**2.80**	**188**	*e*P	**Pn**	**04 23 47.1**	**+1.2**
PB15				*i* S	Sn	**04 24 19.5**	**+0.2**
PB10	**IPOC Station P**	**3.38**	**204**		**Pn**	**04 23 52.8**	**-0.6**
PB10	**IPOC Station P**	**3.38**	**204**	↓*i*P	**Pn**	**04 23 52.5**	**-0.8**
PB10				*e*S	Sn	**04 24 33.2**	**+0.4**
PB10				IAML		04 24 47.3	
	comp=N,98nm,0.6s						
LPAZ	**La Paz**	**4.21**	**12**	P	**Pn**	**04 24 07.7**	**+2.6**
	comp=N,4.3nm,0.3s,baz=198,slow=5.1,SNR=167						
LPAZ				LR	LR	04 26 19.0	
	comp=N,37nm,20.5s,baz=238,slow=46						
LPAZ	**La Paz**	**4.21**	**12**		**Pn**	**04 24 05.6**	**+0.5**
LPAZ	**La Paz**	**4.21**	**12**	*e*P	**Pn**	**04 24 06.7**	**+1.6**
GO02	**Mina Guanaco**	**4.74**	**186**	Pn	**Pn**	**04 24 11.5**	**-0.5**
GO02	**Mina Guanaco**	**4.74**	**186**	*e*P	**Pn**	**04 24 11.7**	**-0.3**
GO02				*i* S	Sn	**04 25 06.3**	**+0.2**
AC02	**Pan de Azucar**	**5.87**	**194**	Pn	**Pn**	**04 24 24.6**	**-2.4**
AC02	**Maricunga**	**6.38**	**181**		**Pn**	**04 24 33.7**	**-0.7**
SIV	**San Ignacio**	**8.76**	**61**	P	**Pn**	**04 25 04.0**	**-2.4**
	comp=N,3.4nm,0.3s,baz=249,slow=9.3,SNR=34						
ETMB	**Extrema**	**10.89**	**15**	*e*P	**Pn**	**04 25 36.0**	**+0.7**
CPUP	**Villa Florida**	**12.25**	**121**	P	**Pn**	**04 25 51.4**	**-2.0**
	comp=N,0.0nm,0.3s,baz=316,slow=13,SNR=3.1						
CPUP	**Villa Florida**	**12.25**	**121**	*e*P	**Pn**	**04 25 53.3**	**0.0**
AQDB	**Aquidauana**	**12.51**	**93**	*e*P	**Pn**	**04 25 57.7**	**+1.0**
SALV	**Santo Antonio**	**13.46**	**73**	*e*P	**Pn**	**04 26 10.6**	**+1.4**
ITQB	**Itaqui**	**14.53**	**132**	*e*P	**Pn**	**04 26 22.9**	**+0.1**
H03N1	**Juan Fernandez**	**15.66**	**212**	T	T	04 42 08.4	
	baz=33,SNR=2.5						
H03N2	**Juan Fernandez**	**15.66**	**212**	T	T	04 43 00.1	
	baz=33						
H03N3	**Juan Fernandez**	**15.67**	**212**	T	T	04 43 09.2	
	baz=33						
CLDB	**Colider**	**15.89**	**55**	*e*P	**P**	**04 26 41.1**	**-0.6**
ITAB	**Concordia**	**16.88**	**117**		**P**	**04 26 51.5**	**-1.1**
ITAB				IAmb	IAmb	04 27 02.8	
	comp=Z,28nm,1.4s						
SNDB	**Serra Nova Dou**	**18.99**	**66**	*e*P	**P**	**04 27 15.1**	**-0.6**
MACA	**Manacapuru-AM**	**19.00**	**26**	*e*P	**P**	**04 27 15.5**	**-0.4**
TIJ01	**Guaruva-PR**	**19.09**	**109**	*e*P	**P**	**04 27 16.6**	**-0.3**
BB19B	**Bebedouro**	**19.20**	**96**	*e*P	**P**	**04 27 17.7**	**-0.4**
IPMB	**Ipameri, GO**	**19.82**	**86**	*e*P	**P**	**04 27 24.1**	**-0.8**
PLCA	**Paso Flores**	**20.28**	**183**	P	Pn	04 27 30.8	-1.8
	comp=Z,2.7nm,0.9s,baz=6.4,slow=11,SNR=4.9						
BDFB	**Brasilia**	**20.55**	**80**	P	**P**	**04 27 30.6**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=256,slow=12,SNR=2.0						
BDFB	**Brasilia**	**20.55**	**80**	P	**P**	**04 27 31.4**	**-1.3**
BDFB				IAmb	IAmb	04 27 43.2	
	comp=Z,8.7nm,1.3s						
ITTB	**Itaituba**	**20.55**	**41**	*e*P	**P**	**04 27 31.1**	**-1.6**
PEXB	**Peixe**	**21.54**	**71**	*e*P	**P**	**04 27 42.2**	**-1.1**
OTAV	**Otavalo**	**22.51**	**335**	*e*P	**P**	**04 27 52.5**	**-1.4**
BSCB	**Bom Sucesso**	**22.70**	**96**	*e*P	**P**	**04 27 55.2**	**-0.2**
PRPB	**Parauapebas**	**23.43**	**55**	*e*P	**P**	**04 28 01.9**	**-0.4**
MALB	**Monte Alegre**	**23.43**	**40**	*e*P	**P**	**04 28 00.7**	**-1.5**
SMTB	**Santa Maria do**	**23.69**	**64**	*e*P	**P**	**04 28 04.0**	**-0.6**
DIAM	**Diamantina, MG**	**24.02**	**89**	*e*P	**P**	**04 28 08.1**	**+0.3**
JANB	**Januaria**	**24.14**	**81**	*e*P	**P**	**04 28 08.2**	**-0.5**
BOAV	**Boa Vista**	**24.17**	**21**	*e*P	**P**	**04 28 08.8**	**-0.1**
SDBA	**SAO DESIDERIO**	**24.46**	**75**	*e*P	**P**	**04 28 11.6**	**-0.1**
MCPB	**Macapa, AP**	**25.96**	**42**	*e*P	**P**	**04 28 24.4**	**-0.8**
NAN01	**Guarapari, ES**	**27.42**	**90**	*e*P	**P**	**04 28 38.1**	**-0.2**
NVAR	**Mina Array Bea**	**74.58**	**322**	P	**P**	**04 34 31.7**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=143,slow=5.1,SNR=1.8						
TORD	**Torodi Ar. Bea**	**77.11**	**71**	P	**P**	**04 34 44.5**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=254,slow=5.4,SNR=47						
TORD				pP	**pP**	**04 35 12.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=255,slow=5.4,SNR=4.6						
YKA	**Yellowknife Ar**	**90.14**	**341**	P	**P**	**04 35 51.1**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=134,slow=4.7,SNR=10						
YKA				pP	**pP**	**04 36 19.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=135,slow=4.6,SNR=13						
H11S2	**WAKE ISLAND Hyl**	**27.61**	**278**	T	T	07 01 50.5	
	baz=101,slow=74,SNR=19						
H11S1	**WAKE ISLAND Hyl**	**27.62**	**278**	T	T	07 01 49.3	
	baz=101,slow=74,SNR=14						
H11S3	**WAKE ISLAND Hyl**	**27.63**	**278**	T	T	07 01 53.5	
	baz=101,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hyl**	**27.67**	**280**	T	T	07 01 53.8	
	baz=102,slow=74,SNR=6.9						
H11N2	**WAKE ISLAND Hyl**	**27.68**	**280**	T	T	07 01 56.1	
	baz=102,slow=74,SNR=4.2						
H11N1	**WAKE ISLAND Hyl**	**27.68**	**280**	T	T	07 01 58.2	
	baz=102,slow=74,SNR=3.7						
MKAR	**Makanchi Array**	**144.83**	**35**	PKP	**PKPdf**	**04 42 26.9**	**0.0**
	comp=Z,0.3nm,0.7s,baz=305,slow=5.1,SNR=3.1						

IDC ***13*** *04:27:11.0*±4.7,*18°.56S*×*177°.95W*,*h459*km±51km,*mb3.3/8,*
mb1 3.6/9,mb1mx3.4/24,mbtmp4.1/9,Error ellipse:
s-maj=31.3km s-min=19.8km az=143.0
ISC 13 04:27:09.9±0.7,**18°.75S**±0°.2×**177°.7W**±0°.1,**h450**km,**n16,**
σ1°**29/18,mb3.5/9,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.13**	**282**	P	**P**	**04 28 29.2**	**+2.8**
	2.4nm,0.3s,baz=138,slow=21,SNR=6.2						
AFI	**Afiamalu**	**7.41**	**51**	P	**P**	**04 28 58.0**	**-1.2**
	5.2nm,0.3s,baz=239,slow=2.2,SNR=4.4						
DZM	**Mont Dzumac**	**15.23**	**255**	P	**P**	**04 30 22.8**	**-0.9**
	0.3nm,0.3s,baz=179,slow=20,SNR=2.3						
STKA	**Stephens Creek**	**38.85**	**242**	P	**P**	**04 33 54.9**	**-0.1**
	5.1nm,0.3s,baz=88,slow=9.6,SNR=30						
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**04 34 43.3**	**-2.0**
	3.7nm,0.5s,baz=97,slow=6.8,SNR=90						
WRA				PcP	**PcP**	**04 36 15.1**	**-1.5**
	0.3nm,0.5s,baz=93,slow=2.8,SNR=1.8						
ASAR	**Alice Springs**	**45.23**	**255**	P	**P**	**04 34 44.8**	**-1.0**
	27nm,0.5s,baz=90,slow=8.5,SNR=372						
ASAR				PcP	**pwP**	**04 36 15.6**	**+0.3**
	0.3nm,0.5s,baz=82,slow=6.7,SNR=2.6						
VNDA	**Vanda**	**59.74**	**185**	P	**P**	**04 36 30.2**	**+0.7**
	0.6nm,0.6s,baz=351,slow=8.3,SNR=3.5						
NVAR	**Mina Array Bea**	**79.52**	**43**	P	**P**	**04 38 29.1**	**0.0**
	0.9nm,0.7s,baz=229,slow=8.3,SNR=9.8						
TXAR	**Lajitas Array**	**85.85**	**57**	P	**P**	**04 39 03.6**	**+2.3**
	0.8nm,0.7s,baz=213,slow=9.0,SNR=6.1						
ILAR	**Eielson Array**	**86.48**	**13**	P	**P**	**04 39 02.7**	**-0.7**
	0.4nm,0.6s,baz=218,slow=6.7,SNR=4.3						
PDAR	**Pinedale Array**	**87.45**	**43**	P	**P**	**04 39 09.2**	**+0.5**
	0.6nm,0.9s,baz=192,slow=5.8,SNR=4.8						
YKA	**Yellowknife Ar**	**94.75**	**25**	P	**P**	**04 39 41.5**	**-0.1**
	0.2nm,0.6s,baz=237,slow=4.4,SNR=8.3						
MKAR	**Makanchi Array**	**110.14**	**314**	PKiKP	**PKiKP**	**04 44 48.7**	**-0.8**
	0.2nm,0.5s,baz=109,slow=2.1,SNR=3.2						
BRTR	**Keskin Array B**	**145.79**	**314**	PKPbc	**PKPbc**	**04 45 58.4**	**+0.2**
	0.8nm,0.7s,baz=156,slow=3.9,SNR=2.6						
GERES	**GERESS Array B**	**148.52**	**346**	PKPbc	**PKPbc**	**04 46 04.8**	**-0.3**
	0.6nm,0.5s,baz=25,slow=3.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**174.48**	**174**	PKPab	**PKPab**	**04 48 03.6**	**0.0**
	0.2nm,0.6s,baz=186,slow=2.1,SNR=1.4						

TRN 13 04:38:17.1,13°.76N×58°.58W,h74km,**MD3.6,North**
Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBGH	**Gun Hill**	**1.13**	**238**	*e*P	Pn	04 38 38.4	+1.0
MCLT	**Moule a Chique**	**2.30**	**269**	*e*S	Sn	04 39 19.9	-0.3
MPOM	**Morne Pois Mar**	**2.32**	**287**	*e*P	Pn	04 38 54.0	+0.9
MPOM				*e*S	Sn	04 39 22.4	+1.8
SLBI	**Saint Lucia, B**	**2.34**	**277**	*e*P	Pn	04 38 55.0	+1.6
SLBI				*e*S	Sn	04 39 23.6	+2.4
MVM	**Montagne Vaucl**	**2.38**	**290**	*e*P	Pn	04 38 54.9	+0.9
LPMF	**Morne Lapointe**	**2.46**	**290**	*e*P	Pn	04 38 55.9	+1.0
BIM	**Bigot**	**2.53**	**288**	*e*P	Pn	04 38 57.4	+1.4
BIM				*e*S	Sn	04 39 27.1	+1.1
FDF	**Fort de France**	**2.68**	**292**	*e*P	Pn	04 38 59.5	+1.5
BAMF	**Morne Balai**	**2.71**	**293**	*e*P	Pn	04 39 00.3	+1.9
PCM	**Pelee Case Pet**	**2.76**	**293**	*e*P	Pn	04 39 01.1	+2.0
DSLB	**Salisbury**	**3.22**	**302**	*e*P	Pn	04 39 06.9	+1.5
DSLB				*e*S	Sn	04 39 42.8	+0.2
MAGL	**Barre de l'ile**	**3.41**	**310**	*e*P	Pn	04 39 09.4	+1.6
MAGL				*e*S	Sn	04 39 47.0	-0.2

THE ***13*** *04:40:25.8,36°.60N×21°.25E,h0*km±1km,*ML2.8/4,Error*
ellipse: s-maj=2.5km s-min=1.2km az=191.0
ATH ***13*** *04:40:26.0,36°.59N×21°.23E,h10*km±31km,*ML2.9/2,Error*
ellipse: s-maj=31.6km s-min=4.2km az=0.0
ISC 13 04:40:25.4±2.5,**36°.60N**±0°.09×**21°.22E**±0°.07,**h2**km±13km,
n17,σ0**°68/25,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.51**	**54**	P	**Pg**	**04 40 34.9**	**-0.4**
PYL				S	**Sg**	**04 40 43.4**	**+1.5**
PYL				AML	AML	04 40 48.1	
	comp=N,1983μm,0.5s						
PYL				AML	AML	04 40 48.3	
	comp=E,3973μm,0.5s						
PYL	**PYLOS**	**0.51**	**54**	P	**Pg**	**04 40 34.8**	**-0.4**
PYL				S	**Sg**	**04 40 42.2**	**+0.3**
	comp=E,1μm,0.5s						
ITM	**Ithomi**	**0.81**	**44**	P	**Pg**	**04 40 40.4**	**-0.6**
ITM				S	**Sb**	**04 40 52.7**	**-1.0**
ITM				AML	AML	04 40 55.2	
	comp=E,1972μm,0.6s						
ITM				AML	AML	04 40 59.2	
	comp=N,1750μm,0.5s						
ITM	**Ithomi**	**0.81**	**44**	P	**

MOS ***13*** *04:46:37.4±1.0, 37°.19N×141°.97E, h24km, mb4.7/40, Error ellipse: s-maj=7.3km s-min=5.3km az=104.9*
NIED ***13*** *04:46:37.1, 37°.09N×142°.06E, h41km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.96; Mθθ0.84; Mφφ0.12; Mrθ=2.29; Mθφ0.27; Mφr6.34; Fault plane solution: M₀6.79000×10¹⁵ NP1:φs73.00000°, δ5.00000°, λ-38.00000°. NP2:φs200.00000°, δ87.00000°, λ-94.00000°.*
JMA ***13*** *04:46:37.1±0.3, 37°.09N×142°.06E, h41km, M4.7*
JMA Felt I J1.
NEIC ***13*** *04:46:39.4±1.4, 37°.11N±0°.05×141°.97E±0°.08, h23km±4km, mb4.6/116, Error ellipse: s-maj=9.2km s-min=6.6km az=101.0*
IDC ***13*** *04:46:40.5±3.4, 37°.10N×141°.98E, h33km±26km, mb4.1/20, mb1 4.4/27, mb1mx4.3/39, mbtmp4.4/27, ML3.9/6, MS3.8/63, Ms1 3.8/63, ms1mx3.6/94, Error ellipse: s-maj=15.1km s-min=11.5km az=107.0*
ISC 13 04:46:38.6±0.7, 37°.14N±0°.04×141°.98E±0°.04, h23km±4km, n461, σ1°28/433, mb4.6/114, MS3.9/72, 20C-8D, Fault plane solution: NP1:φs109.02625°, δ26.01550°, λ0.51667°. NP2:φs18.56193°, δ89.77338°, λ116.01458°. Principal axes: T Plg39.6619°, Azm312.3195°; N Plg26.0144°, Azm198.4513°; P Plg39.2468°, Azm84.9542°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.91**	**285**	⇓P		**Pb**	**04 46 54.6**	**-1.2**
JFK				*e*S		**Sb**	**04 47 06.4**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.94**	**268**	⇓P		**Pb**	**04 46 54.9**	**-1.5**
JMST	**Minamisoumatoc**	**1.05**	**304**	P		**Pn**	**04 46 56.7**	**-1.2**
JFFD	**Fukushimafurud**	**1.14**	**268**	P		**Pn**	**04 46 57.9**	**-1.2**
JMM	**Marumori**	**1.19**	**308**	P		**Pn**	**04 46 58.9**	**-1.0**
JMM	**Marumori**	**1.19**	**308**	Pn		**Pn**	**04 46 58.8**	**-1.1**
JMM				Sn		**Sb**	**04 47 16.7**	**+1.1**
JFT	**Otama**	**1.36**	**287**	⇓P		**Pn**	**04 47 02.3**	**0.0**
JIO	**Ouri**	**1.41**	**339**	P		**Pn**	**04 47 01.6**	**-1.3**
JOU	**Okura**	**1.61**	**320**	P		**Pn**	**04 47 05.6**	**-0.1**
JOU				S		**Sn**	**04 47 25.7**	**-0.1**
JYT	**Yasato**	**1.70**	**238**	Pn		**Pn**	**04 47 05.5**	**-1.3**
JYT				Sn		**Sn**	**04 47 28.2**	**+0.4**
JFY	**Yanaizu**	**1.83**	**279**	P		**Pn**	**04 47 09.0**	**+0.2**
JFY				S		**Sn**	**04 47 31.9**	**+0.6**
JYS	**Shirataka**	**1.87**	**306**	P		**Pn**	**04 47 09.9**	**+0.7**
JMK	**Ichinoseki**	**1.91**	**342**	P		**Pn**	**04 47 09.2**	**-0.6**
JMK				*e*S		**Sn**	**04 47 32.2**	**-0.9**
JAG	**Ashikaga**	**2.15**	**251**	P		**Pn**	**04 47 12.3**	**-0.7**
JAG				S		**Sn**	**04 47 37.9**	**-1.1**
JYK	**Kaneyama**	**2.19**	**325**	P		**Pn**	**04 47 13.8**	**+0.2**
JKT	**Katashina**	**2.22**	**261**	P		**Pn**	**04 47 14.9**	**+0.8**
JKT				*e*S		**Sn**	**04 47 41.6**	**+0.8**
MJAR	**Matsushiro Arr**	**3.08**	**260**	Pn		**Pn**	**04 47 27.6**	**+1.7**
	6.4nm,0.3s,baz=70,slow=12,SNR=132							
MJAR				Sn		**Sn**	**04 47 58.6**	**-3.5**
	8.0nm,0.3s,baz=323,slow=7.2,SNR=7.7							
MJAR				LR		LR	04 48 57.5	
	comp=Z,3µm,18.6s,baz=94,slow=44							
MJAR	**Matsushiro Arr**	**3.08**	**260**	Pn		**Pn**	**04 47 27.7**	**+1.8**
MAJO	**Matsushiro**	**3.08**	**260**	*c* P		**Pn**	**04 47 28.2**	**+2.3**
MAJO	**Matsushiro**	**3.08**	**260**	Pn		**Pn**	**04 47 27.2**	**+1.3**
MJB9	**Matsu-Tunnel**	**3.09**	**260**			**Pn**	**04 47 27.6**	**+1.6**
JSD	**Sado**	**3.09**	**288**	Pn		**Pn**	**04 47 26.5**	**+0.5**
JTM	**Tenmabayashi**	**3.71**	**349**			**Pn**	**04 47 37.2**	**+2.7**
JGF	**Kuroka**	**4.03**	**249**	Pn		**Pn**	**04 47 41.0**	**+2.0**
JHJ2	**Mitsune**	**4.39**	**204**			**Pn**	**04 47 44.4**	**+0.6**
INU	**Inuyama**	**4.39**	**248**	Pn		**Pn**	**04 47 45.4**	**+1.5**
JHJ	**Hachijo jima 2**	**4.39**	**205**	Pn		**Pn**	**04 47 44.4**	**+0.5**
	56nm,0.3s,baz=55,slow=22,SNR=15							
JHJ				Sn		**Sn**	**04 48 31.9**	**-2.5**
	194nm,0.3s,baz=291,slow=21,SNR=17							
JHJ				LR		LR	04 49 42.4	
	comp=Z,515nm,21.9s,baz=64,slow=42							
ERM	**Erimo**	**4.96**	**10**	*i* P		**Pn**	**04 47 51.3**	**-0.3**
ERM	**Erimo**	**4.96**	**10**	Pn		**Pn**	**04 47 51.4**	**-0.3**
ASAJ	**Asahikawa**	**6.99**	**4**	Pn		**Pn**	**04 48 20.1**	**+0.6**
	2.9nm,0.3s,baz=184,slow=12,SNR=6.1							
ASAJ				Sn		**Sn**	**04 49 37.3**	**-0.9**
	1.0nm,0.3s,baz=358,slow=23,SNR=1.8							
JKA	**Kamikawa-asahi**	**6.99**	**4**			**Pn**	**04 48 20.2**	**+0.7**
JMN	**Monobe**	**7.43**	**245**	Pn		**Pn**	**04 48 27.7**	**+2.0**
JHS	**Saijyo**	**7.49**	**256**	Pn		**Pn**	**04 48 28.4**	**+1.9**
YUK	**Yuzh-Kuril'sk**	**7.50**	**22**	*i* P		**Pn**	**04 48 26.1**	**-0.4**
SHO	**Shikotan**	**7.67**	**27**	*e*P		**Pn**	**04 48 26.1**	**-2.8**
SHO				*e*S		**Sn**	**04 49 48.0**	**-7.1**
TEY	**Ternei**	**8.87**	**334**	⇑*e*P		Pn	04 48 52.2	+6.9
TEY					pmax	pmax		
	comp=Z,30nm,1.0s							
TEY					pmax	pmax		
	comp=N,30nm,1.0s							
TEY					pmax	pmax		
	comp=E,20nm,1.0s							
KUR	**Kuril'sk**	**9.22**	**27**	P		Pn	04 48 42.6	-7.6
YSS	**Yuzh-Sakhalins**	**9.83**	**3**	*e*P		**Pn**	**04 48 58.3**	**-0.1**
YSS					pmax	pmax		
	comp=Z,20nm,1.4s							
YSS					MLR	MLR		
	comp=Z,300nm,12.0s							
JNU	**Nakatsue**	**9.93**	**250**	Pn		**Pn**	**04 49 01.9**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=60,slow=13,SNR=16							
JNU	**Nakatsue**	**9.93**	**250**	Pn		**Pn**	**04 49 00.6**	**+0.6**
MSHR	**Mys Shultsa**	**9.94**	**307**	*i* P		**Pn**	**04 49 00.1**	**+0.2**
MSHR					pmax	pmax		
	comp=Z,25nm,0.9s							
JCJ	**Chichijima**	**10.01**	**179**	Pn		**Pn**	**04 48 59.6**	**-1.4**
	comp=Z,7.1nm,0.3s,baz=254,slow=22,SNR=1.3							
JCJ				Sn		Sn	04 50 42.5	-10
	comp=Z,34nm,0.3s,baz=304,slow=23,SNR=6.1							
USA0B	**Ussuriysk Arra**	**10.36**	**316**	P		**Pn**	**04 49 08.1**	**+2.4**
USA0B	**Ussuriysk Arra**	**10.36**	**316**	Pn		**Pn**	**04 49 08.1**	**+2.4**
USRK	**Ussuriysk Ar.**	**10.36**	**316**	Pn		**Pn**	**04 49 08.2**	**+2.5**
	baz=121,slow=13,SNR=20							
USRK				LR		LR	04 52 52.9	
	comp=Z,624nm,19.8s,baz=120,slow=36							
USRK	**Ussuriysk Ar.**	**10.36**	**316**	Pn		**Pn**	**04 49 04.9**	**-0.8**
KSRS	**Korea Array**	**11.20**	**276**	Pn		Pn	04 49 22.1	+4.8
	comp=Z,0.4nm,0.3s,baz=90,slow=14,SNR=56							
KSRS				LR		LR	04 53 31.4	
	comp=Z,612nm,19.1s,baz=80,slow=37							
KSAR	**Wonju Array Be**	**11.24**	**276**	P		**Pn**	**04 49 20.9**	**+3.1**
KSAR	**Wonju Array Be**	**11.24**	**276**	Pn		**Pn**	**04 49 20.9**	**+3.1**
KS19	**Wonju Array Si**	**11.25**	**276**			**Pn**	**04 49 18.0**	**+0.1**
TJN	**Taejon**	**11.75**	**271**	*i* P		**Pn**	**04 49 24.5**	**-0.3**
MDJ	**Mudanjiang**	**11.98**	**312**	Pn		**Pn**	**04 49 27.5**	**-0.4**
MDJ	**Mudanjiang**	**11.98**	**312**	P		Pn	04 49 33.8	+5.9
MDJ					pmax	pmax		
	comp=Z,26nm,1.3s							
MDJ					pmax	pmax		
	comp=Z,150nm,3.7s							
MDJ				LR		LR		
	comp=N,420nm,15.8s							
MDJ				LR		LR		
	comp=E,400nm,19.1s							
MDJ				LR		LR		
	comp=Z,710nm,17.6s							
BNX	**BinXian**	**13.89**	**313**	⇑P		**P**	**04 50 04.6**	**+2.6**
BNX					pmax	pmax		
	comp=Z,16nm,0.9s							
BNX					pmax	pmax		
	comp=Z,200nm,4.3s							
KLR	**Kul'dur**	**14.19**	**332**	Pn		**P**	**04 50 03.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=127,slow=12,SNR=13							
KLR				LR		LR	04 55 26.2	
	comp=Z,484nm,18.3s,baz=146,slow=37							
KLR	**Kul'dur**	**14.19**	**332**	*i* P		**Pn**	**04 49 59.5**	**+1.5**
KLR					pmax	pmax		
	comp=Z,7.0nm,0.9s							
CN2	**Changchun**	**14.23**	**303**	*e*P		**Pn**	**04 49 56.3**	**-2.3**
CN2				*e*PP		**PnPn**	**04 50 07.9**	**+1.5**
CN2				*e*S		Sn	04 52 23.5	-12
CN2				*es*S		S	04 52 45.1	-11
CN2					pmax	pmax		
	comp=Z,10.0nm,1.5s							
CN2					LR	LR		
	comp=N,130nm,15.0s							
CN2					LR	LR		
	comp=E,460nm,15.0s							
CN2					LR	LR		
	comp=Z,440nm,16.0s							
PEA0B	**Petropavlovsk-**	**19.37**	**29**	*ce*P		**Pn**	**04 51 03.5**	**-0.3**
PETK	**Petropavlovsk-**	**19.37**	**29**	P		**Pn**	**04 51 03.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=206,slow=13,SNR=8.0							
PETK					LR	LR	04 58 13.5	
	comp=Z,102nm,21.9s,baz=217,slow=36							
NJ2	**Nanjing**	**19.69**	**262**	*e*P		**Pn**	**04 51 07.5**	**-0.2**
NJ2					pmax	pmax		
	comp=Z,19nm,0.6s							
BJI	**Beijing**	**20.36**	**286**	P		Pn	04 51 14.8	-0.7
BJI					pmax	pmax		
	comp=Z,17nm,1.0s							
BJT	**Baijiatuau**	**20.36**	**286**	P		**P**	**04 51 11.0**	**-2.5**
BJT					pmax	pmax		
	comp=Z,27nm,1.2s							
BJT	**Baijiatuau**	**20.36**	**286**			**P**	**04 51 11.0**	**-2.5**
BJT					IAmb	IAmb	04 51 17.1	
	comp=Z,27nm,1.2s							
XLT	**XiLinHaoTe**	**20.77**	**297**	*e*P		**P**	**04 51 15.9**	**-2.0**
XLT					pP	pP	04 51 23.5	-0.7
XLT					sP	sP	04 51 29.1	+2.1
XLT					S	S	04 54 57.0	-12
XLT					pmax	pmax		
	comp=Z,16nm,0.9s							
XLT					pmax	pmax		
	comp=Z,150nm,3.5s							
XLT					LR	LR		
	comp=N,32nm,14.4s							
XLT					LR	LR		
	comp=E,560nm,14.2s							
XLT					LR	LR		
	comp=Z,470nm,16.0s							
HNS	**HongShan**	**21.68**	**279**	⇑P		**P**	**04 51 26.3**	**-1.4**
HNS				*e*S		**S**	**04 55 22.3**	**-4.3**
HNS					pmax	pmax		
	comp=Z,34nm,1.1s							
HNS					LR	LR		
	comp=E,220nm,15.3s							
HNS					LR	LR		
	comp=Z,190nm,13.5s							
TPUB	**Ta-pu**	**22.96**	**239**	P		**P**	**04 51 39.4**	**-2.1**
MA2	**Magadan**	**23.16**	**11**	P		**P**	**04 51 43.0**	**-0.2**
	comp=Z,3.9nm,0.5s,baz=175,slow=7.6,SNR=4.5							
MA2					LR	LR	05 00 45.4	
	comp=Z,70nm,19.0s,baz=136,slow=36							
MA2	**Magadan**	**23.16**	**11**	*ce*P		**P**	**04 51 41.3**	**-1.9**
MA2					pmax	pmax		
	comp=Z,12nm,1.1s							
MA2	**Magadan**	**23.16**	**11**	P		**P**	**04 51 42.4**	**-0.8**
WHN	**Wuhan**	**23.82**	**262**	⇑P		**P**	**04 51 49.1**	**-0.8**
HHC	**Hu-ho-hao-te**	**23.87**	**288**	*e*P		**P**	**04 51 50.1**	**-0.3**
HHC					S	**S**	**04 55 57.0**	**-8.3**
HHC					pmax	pmax		
	comp=Z,13nm,0.8s							
HHC					pmax	pmax		
	comp=Z,84nm,4.8s							
HHC					LR	LR		
	comp=N,190nm,11.1s							
HHC					LR	LR		
	comp=E,210nm,11.1s							
HHC					LR	LR		
	comp=Z,220nm,10.6s							
LYN	**LuoYang**	**24.02**	**273**	⇑P		**P**	**04 51 51.3**	**-0.5**
LYN					S	**S**	**04 56 05.6**	**-1.9**
LYN					pmax	pmax		
	comp=Z,20nm,0.8s							
LYN					LR	LR		
	comp=N,240nm,11.9s							
LYN					LR	LR		
	comp=E,260nm,14.8s							
LYN					LR	LR		
	comp=Z,350nm,14.8s							
BTO	**Baotou**	**25.05**	**288**	*e*P		**P**	**04 52 02.5**	**+1.3**
BTO					S	**S**	**04 56 24.3**	**+0.1**
BTO					LR	LR		
	comp=N,840nm,13.0s							
BTO					LR	LR		
	comp=E,410nm,11.9s							
YAK	**Yakutsk**	**26.07**	**347**	LR		LR	05 04 02.7	
	comp=E,80nm,20.6s,baz=90,slow=40							
YAK	**Yakutsk**	**26.07**	**347**	*e*P		**P**	**04 52 09.5**	**-0.6**
YAK				*e**PP		**sP**	**04 52 19.8**	**+0.4**
YAK				*e*S		**S**	**04 56 38.2**	**-1.5**
YAK				*e*SS		**SnSn**	**04 57 42.7**	**+4.5**
YAK					pmax	pmax		
	comp=Z,11nm,0.9s							
YAK					pmax	pmax		
	comp=N,4.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,4.0nm,0.7s							
YAK					smax	smax		
	comp=E,52nm,2.2s							
YAK					smax	smax		
	comp=N,67nm,2.0s							
YAK					MLR	MLR		
	comp=Z,256nm,15.0s							
YAK					MLR	MLR		
	comp=N,194nm,15.0s							
SEY	**Seymchan**	**26.61**	**11**	P		**P**	**04 52 16.1**	**+1.2**
	comp=N,2.7nm,0.6s,baz=205,slow=6.9,SNR=12							
SEY					LR	LR	05 04 21.2	
	comp=N,84nm,19.7s,baz=312,slow=40							
SEY	**Seymchan**	**26.61**	**11**	*ce*P		**P**	**04 52 14.0**	**-0.9**
SEY					pmax	pmax		
	comp=Z,7.0nm,1.0s							
XAN	**Xi'an**	**26.99**	**273**	P		**P**	**04 52 18.3**	**-0.4**
XAN					pP	pP	04 52 24.3	-1.0
XAN					S	**S**	**04 56 55.0**	**+0.1**
XAN					pmax	pmax		
	comp=Z,14nm,0.8s							
XAN					LR	LR		
	comp=N,120nm,16.5s							
XAN					LR	LR		
	comp=E,280nm,16.5s							
XAN					LR	LR		
	comp=Z,350nm,16.5s							
ULN	**Ulaanbaatar**	**27.67**	**304**	*ce*P		**P**	**04 52 24.6**	**-0.3**
ULN					pmax	pmax		
	comp=Z,12nm,1.7s							
ULN	**Ulaanbaatar**	**27.67**	**304**	P		**P**	**04 52 23.9**	**-1.0**
BOD	**Bodaibo**	**27.69**	**327**	*e*P		**P**	**04 52 24.6**	**-0.1**
BOD					pmax	pmax		
	comp=Z,11nm,0.8s							
ENH	**Enshi**	**27.79**	**265**	P		**P**	**04 52 25.9**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**27.81**	**122**	T		T	05 21 29.6	
	baz=314,slow=75,SNR=128							
H11N1	**WAKE ISLAND Hy**	**27.82**	**122**	T		T	05 21 29.8	
	baz=314,slow=75,SNR=78							
H11N3	**WAKE ISLAND Hy**	**27.83**	**122**	T		T	05 21 30.4	
	baz=314,slow=75,SNR=72							
SONM	**Songino Array**	**28.11**	**304**	P		**P**	**04 52 29.4**	**+0.7**
	comp=Z,7.8nm,0.8s,baz=100,slow=8.1,SNR=32							
SONM					LR	LR	05 04 04.1	
	comp=Z,166nm,18.7s,baz=341,slow=37							
SONM	**Songino Array**	**28.11**	**304**	P		**P**	**04 52 27.6**	**-1.1**
SONM					IAmb	IAmb	04 52 35.3	
	comp=Z,9.8nm,0.9s							
H11S1	**WAKE ISLAND Hy**	**28.54**	**124**	T		T	05 22 29.3	
	baz=316,slow=76,SNR=57							
H11S3	**WAKE ISLAND Hy**	**28.54**	**124**	T		T	05 22 28.0	
	baz=316,slow=76,SNR=53							
H11S2	**WAKE ISLAND Hy**	**28.55**	**124**	T		T	05 22 30.9	
	baz=316,slow=76,SNR=44							
LZH	**Lanzhou**	**30.50**	**280**	*e*P		**P**	**04 52 50.8**	**+0.7**
LZH					pP	pP	04 52 57.5	+0.8
LZH					sP	sP	04 53 02.6	+3.1
LZH					pmax	pmax		
	comp=Z,23nm,1.3s							
LZH					LR	LR		
	comp=N,380nm,13.5s							
LZH					LR	LR		
	comp=E,410nm,13.6s							
LZH					LR	LR		
	comp=Z,480nm,16.3s							
ZAK	**Zakamensk**	**30.56**	**308**	*e*P		**P**	**04 52 50.1**	**-0.3**
ZAK					pmax	pmax		
	comp=Z,14nm,1.3s							
MOY	**Mondy**	**32.22**	**310**	*e*P		**P**	**04 53 05.3**	**+0.3**
MOY					pmax	pmax		
	comp=Z,14nm,1.9s							
GTA	**Gaotai**	**32.97**	**287**	*e*P		**P**	**04 53 11.8**	**+0.1**
GTA					pP	pP	04 53 15.8	-2.6
GTA					sP	sP	04 53 18.5	-2.7
GTA					pmax	pmax		
	comp=Z,3.0nm,1.1s							
DAV	**Davao City (W)**	**33.45**	**211**	LR		LR	05 06 56.0	
	comp=Z,90nm,19.4s,baz=150,slow=36							
BILL	**Bilibino**	**33.80**	**16**	*i* P		**P**	**04 53 17.6**	**-0.9**
BILL				*i*			04 53 29.4	
BILL					pmax	pmax		
	comp=Z,4.0nm,1.3s							
BILL					MLR	MLR		
	comp=Z,55nm,17.0s							
TIXI	**Tiksi**	**35.24**	**353**	LR		LR	05 08 49.2	
	comp=Z,70nm,19.0s,baz=183,slow=38							
TIXI	**Tiksi**	**35.24**	**353**	*i* P		**P**	**04 53 32.3**	**+1.4**
TIXI					pmax	pmax		
	comp=Z,5.0nm,1.8s							
KMI	**Kunming**	**35.42**	**262**	⇓P		**P**	**04 53 34.8**	**+1.5**
KMI					pP	sP	04 53 43.5	+0.8
KMI					pmax	pmax		
	comp=Z,44nm,0.8s							
KMI					LR	LR		
	comp=N,220nm,16.2s							
KMI					LR	LR		
	comp=E,290nm,16.5s							
KMI					LR	LR		
	comp=Z,250nm,20.4s							
PZH	**PanZhiHua**	**35.56**	**264**	P		**P**	**04 53 33.9**	**-0.4**
PZH					S	**S**	**04 59 09.6**	**+0.6**
PZH					pmax	pmax		
	comp=Z,20nm,1.0s							
PZH					pmax	pmax		
	comp=Z,100nm,5.5s							
PZH					LR	LR		
	comp=N,310nm,20.8s							
PZH					LR	LR		
	comp=E,660nm,22.0s							
PZH					LR	LR		
	comp=Z,880nm,20.6s							
GOMU	**GeErMu**	**37.54**	**283**	P		**P**	**04 53 52.6**	**+1.2**
GOMU					pP	pP	04 53 56.8	-1.3
GOMU					sP	sP	04 53 59.9	-1.0
GOMU					S	S	04 59 29.8	-10
GOMU					pmax	pmax		
	comp=Z,10.0nm,0.9s							
GOMU					pmax	pmax		
	comp=Z,46nm,4.3s							
GOMU					LR	LR		
	comp=N,100nm,12.6s							
GOMU					LR	LR		
	comp=E,92nm,12.4s							
GOMU					LR	LR		
	comp=Z,83nm,12.8s							
WMQ	**Urumqi**	**41.20**	**297**	*e*P		**P**	**04 54 22.8**	**+1.3**
WMQ					pP	pP	04 54 28.6	+0.3
WMQ					pmax	pmax		
	comp=Z,31nm,0.9s							
WMQ					LR	LR		
	comp=N,250nm,16.1s							
WMQ					LR	LR		
	comp=E,140nm,19.9s							
WMQ					LR	LR		
	comp=Z,130nm,19.5s							
CHTO	**Chiang Mai**	**41.76**	**256**	P		**P**	**04 54 26.9**	**+0.7**
CHTO					pmax	pmax		
	comp=Z,5.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**41.96**	**256**	P		**P**	**04 54 28.6**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=48,slow=6.0,SNR=14							
CMAR					LR	LR	05 14 02.9	
	comp=Z,156nm,18.1s,baz=160,slow=39							
CMAR	**Chiang Mai Arr**	**41.96**	**256**	P		**P**	**04 54 26.8**	**-1.2**
ZAA0	**Zalesovo Array**	**42.18**	**312**	P		**P**	**04 54 29.1**	**-0.2**
ZALV	**Zalesovo Beam**	**42.18**	**312**	P		**P**	**04 54 29.6**	**+0.3**
	comp=Z,4.8nm,0.8s,baz=87,slow=7.6,SNR=22							
ZALV				PcP		**PcP**	**04 56 25.7**	**+2.5**
	comp=Z,0.7nm,0.6s,baz=100,slow=5.0,SNR=1.6							
ZALV					LR	LR	05 12 43.5	
	comp=Z,193nm,19.2s,baz=88,slow=37							
ZALV	**Zalesovo Beam**	**42.18**	**312**	*i* P		**P**	**04 54 29.6**	**+0.3**
ZALV					pmax	pmax		
	comp=Z,6.0nm,0.9s							
ZALV	**Zalesovo Beam**	**42.18**	**312**	P		**P**	**04 54 29.5**	**+0.2**
ZALV				PcP		**PcP**	**04 56 24.2**	**+1.0**
NRIK	**Noril'sk**	**43.37**	**335**	LR		LR	05 13 42.2	
	comp=Z,221nm,18.1s,baz=122,slow=37							
NRIK	**Noril'sk**	**43.37**	**335**	*ce*P		**P**	**04 54 36.0**	**-2.7**
NRIK					pmax	pmax		
	comp=Z,5.0nm,1.4s							
SHL	**Shillong**	**43.86**	**270**	P		**P**	**04 54 43.0**	**-0.5**
SHL					pmax	pmax		
	comp=Z,22nm,1.3s							
SHL	**Shillong**	**43.86**	**270**	P		**P**	**04 54 43.0**	**-0.5**
MK31	**Makanchi Array**	**44.45**	**302**	*c* P		**P**	**04 54 47.6**	**-0.2**
MK31	**Makanchi Array**	**44.45**	**302**	P		**P**	**04 54 47.0**	**-0.8**
MK31					IAmb	IAmb	04 54 49.2	
	comp=Z,8.1nm,0.9s							
MKAR	**Makanchi Array**	**44.45**	**302**	P		**P**	**04 54 48.0**	**+0.3**
	comp=Z,7.5nm,0.8s,baz=89,slow=9.0,SNR=56							
MKAR					LR	LR	05 14 35.3	
	comp=Z,83nm,18.4s,baz=70,slow=38							
MKAR	**Makanchi Array**	**44.45**	**302**	P		**P**	**04 54 47.9**	**+0.1**
MAKZ	**Makanchi**	**44.66**	**302**	P		**P**	**04 54 48.9**	**-0.5**
MAKZ					pmax	pmax		
	comp=Z,7.0nm,0.9s							
MAKZ	**Makanchi**	**44.66**	**302**	P		**P**	**04 54 48.9**	**-0.5**
MAKZ					IAmb	IAmb	04 54 53.5	
	comp=Z,7.1nm,0.9s							
N18K	**Kilae Creek**	**45.00**	**38**	P		**P**	**04 54 53.9**	**+2.0**
N18K					IAmb	IAmb	04 54 54.5	
	comp=Z,8.5nm,0.8s							
N18K	**Kilae Creek**	**45.00**	**38**	P		**P**	**04 54 53.8**	**+1.9**
	baz=268,SNR=5.0							
TTA	**Tatalina**	**45.08**	**35**	P		**P**	**04 54 54.0**	**+1.4**
	baz=265							
SVW2	**Sparrevohn**	**45.17**	**37**	P		**P**	**04 54 54.1**	**+0.9**
O18K	**Koktuh Hills**	**45.31**	**39**	P		**P**	**04 54 55.8**	**+1.3**
O18K					IAmb	IAmb	04 54 58.6	
	comp=Z,7.1nm,0.9s							
O18K	**Koktuh Hills**	**45.31**	**39**	P		**P**	**04 54 55.9**	**+1.5**
	baz=269							
L19K	**White Mountain**	**45.56**	**36**	P		**P**	**04 54 58.0**	**+1.6**
	baz=267							
N19K	**Bonanza Creek**	**45.69**	**38**	P		**P**	**04 54 59.1**	**+1.5**
	baz=269							
O19K	**Port Alsworth**	**45.76**	**39**	P		**P**	**04 54 59.5**	**+1.6**
	baz=270							
M19K	**Big River Lodg**	**45.77**	**36**	P		**P**	**04 54 59.5**	**+1.5**
	baz=268							
K20K	**Telida**	**45.99**	**34**	P		**P**	**04 55 01.5**	**+1.7**
K20K					IAmb	IAmb	04 55 02.4	
	comp=Z,8.9nm,0.8s							
K20K	**Telida**	**45.99**	**34**	P		**P**	**04 55 01.4**	**+1.7**
	baz=267,SNR=8.8							
J20K	**Nowinta River**	**46.01**	**33**	P		**P**	**04 55 00.5**	**+0.7**
J20K					IAmb	IAmb	04 55 02.5	
	comp=Z,7.7nm,0.9s							
J20K	**Nowinta River**	**46.01**	**33**	P		**P**	**04 55 01.4**	**+1.6**
	baz=266,SNR=5.0							
L20K	**Farewell, AK**	**46.03**	**36**	P		**P**	**04 55 01.4**	**+1.3**
	baz

PDGK **Podgornoye** 47.13 298 P P 04 55 08.4 -0.7
BPAW **Bear Paw Mtn.** 47.39 33 P P 04 55 12.1 +1.4
baz=269
KTH **Kantishna Hill** 47.41 34 P P 04 55 12.6 +1.7
RAMN **Ramite** 47.45 274 eP P 04 55 12.4 +0.5
comp=Z,26nm,0.6s
JIRN **Jiri** 47.46 275 eP P 04 55 12.9 +0.8
comp=Z,23nm,1.0s
BRSE **Bradley Lake S** 47.57 39 P P 04 55 13.3 +1.2
baz=273
GUN **Gumba** 47.60 276 eP P 04 55 14.0 +0.8
TRF **Thorofare Moun** 47.69 34 P P 04 55 14.3 +1.1
TRF IAmb IAmb 04 55 16.4
comp=Z,8.3nm,0.9s
TRF **Thorofare Moun** 47.69 34 P P 04 55 14.1 +0.9
baz=270
COLD **Coldfoot** 47.84 29 P P 04 55 14.9 +0.8
baz=267
RC01 **Rabbit Creek A** 48.01 37 P P 04 55 16.1 +0.6
baz=273
H23K **Yukon River** 48.05 31 P P 04 55 18.0 +2.2
H23K IAmb IAmb 04 55 18.7
comp=Z,6.2nm,0.8s
H23K **Yukon River** 48.05 31 P P 04 55 17.8 +2.0
baz=268,SNR=8.4
BWN **Browne** 48.06 33 P P 04 55 16.7 +0.9
I23K **Minto, Yukon-K** 48.11 32 P P 04 55 18.1 +1.9
I23K IAmb IAmb 04 55 19.0
comp=Z,9.5nm,1.4s
I23K **Minto, Yukon-K** 48.11 32 P P 04 55 17.7 +1.5
baz=269
KKN **Kakani** 48.12 276 eP P 04 55 17.8 +0.7
TOLK **Toolik Lake Re** 48.17 27 P P 04 55 18.2 +1.5
TOLK IAmb IAmb 04 55 19.2
comp=Z,7.1nm,0.9s
TOLK **Toolik Lake Re** 48.17 27 P P 04 55 18.0 +1.3
baz=266,SNR=6.5
NEA2 **Nenana** 48.23 33 P P 04 55 18.6 +1.4
NEA2 IAmb IAmb 04 55 19.6
comp=Z,7.7nm,0.8s
NEA2 **Nenana** 48.23 33 P P 04 55 18.8 +1.6
baz=270
PMR **Palmer** 48.27 37 P P 04 55 18.7 +1.2
PMR pmax pmax
comp=Z,8.0nm,1.0s
PMR **Palmer** 48.27 37 P P 04 55 18.7 +1.2
PMR IAmb IAmb 04 55 19.4
comp=Z,8.2nm,1.0s
PMR **Palmer** 48.27 37 P P 04 55 18.1 +0.6
baz=273
MCK **McKinley** 48.30 34 P P 04 55 18.4 +0.7
baz=271
RND **Reindeer** 48.34 34 P P 04 55 18.4 +0.3
RND pmax pmax
comp=Z,9.0nm,0.8s
RND **Reindeer** 48.34 34 P P 04 55 18.4 +0.3
DMN **Daman** 48.34 276 eP P 04 55 19.1 +0.2
comp=Z,26nm,0.9s
GHO **Glory Hole Cre** 48.36 36 P P 04 55 19.0 +0.7
GKN **Gorkha** 48.54 277 eP P 04 55 20.9 +0.6
MDM **Murphy Dome** 48.59 32 P P 04 55 21.1 +1.2
KNK **Knik Glacier** 48.60 37 P P 04 55 21.0 +0.9
baz=273
SML **Sawmill** 48.64 36 P P 04 55 21.1 +0.7
baz=273
WRH **Wood River Hil** 48.66 33 P P 04 55 21.1 +0.7
WRH IAmb IAmb 04 55 21.7
comp=Z,5.4nm,1.0s
PWL **Port Wells** 48.70 38 P P 04 55 21.0 +0.1
baz=274
H24K **Noodor Dome** 48.73 31 P P 04 55 23.1 +2.0
H24K IAmb IAmb 04 55 23.4
comp=Z,5.3nm,0.9s
H24K **Noodor Dome** 48.73 31 P P 04 55 22.3 +1.3
baz=270
TCOL **CIGO, UAF Yank** 48.75 32 P P 04 55 22.1 +1.0
baz=271
TARG **Taragay, Kyrgy** 48.76 296 P P 04 55 22.5 +0.4
TARG IAmb IAmb 04 55 29.6
comp=Z,7.7nm,0.9s
WAT6 **Susitna Watana** 48.88 35 P P 04 55 22.8 +0.4
baz=273
MDOK **Medeo** 48.89 298 P P 04 55 20.3 -2.5
POKR **Poker Plat Res** 48.92 32 P P 04 55 24.3 +1.8
POKR **Poker Plat Res** 48.92 32 P P 04 55 24.1 +1.6
baz=271,SNR=6.2
DHY **Denali Highway** 49.02 35 P P 04 55 24.2 +0.8
baz=273
DANN **Dangsing** 49.09 277 eP P 04 55 25.0 +0.4
comp=Z,74nm,0.8s
SCM **Sheep Creek Mo** 49.12 36 P P 04 55 24.8 +0.7
baz=274
HDA **Harding Lake** 49.15 33 P P 04 55 25.1 +0.9
HDA IAmb IAmb 04 55 25.5
comp=Z,6.9nm,0.8s
HDA **Harding Lake** 49.15 33 P P 04 55 25.0 +0.7
baz=272
IL31 49.17 32 P P 04 55 25.2 +0.9
ILAR **Eielson Array** 49.17 32 P P 04 55 25.1 +0.7
comp=Z,5.8nm,0.7s,baz=268,slow=6.4,SNR=54
ILAR **Eielson Array** 49.17 32 P P 04 55 24.9 +0.5
KOLN **Koldanda** 49.47 277 eP P 04 55 27.7 +0.3
M24K **Tolsona, Glenn** 49.64 36 P P 04 55 29.0 +0.9
baz=275
PYUN **Piuthan** 49.81 278 eP P 04 55 30.6 +0.6
comp=Z,77nm,1.1s
KLU **Klutina** 49.81 37 P P 04 55 30.3 +0.9
KLU IAmb IAmb 04 55 41.1
comp=Z,4.9nm,0.7s
KLU **Klutina** 49.81 37 P P 04 55 30.1 +0.7
baz=276
J25K **Salcha River,** 49.82 33 P P 04 55 30.0 +0.5
baz=273
PAX **Paxson** 49.89 35 P P 04 55 31.0 +0.9
baz=275
DIV **Divide** 49.92 37 P P 04 55 31.8 +1.5
TKM2 **Tokmak 2** 49.98 298 iP P 04 55 31.3 +0.1
TKM2 pmax pmax
comp=Z,11nm,0.8s
EYAK **Cordova Ski Ar** 49.99 38 P P 04 55 31.8 +1.1
baz=276
BMAR **Burnt Mountain** 50.02 29 P P 04 55 32.1 +1.2
HARP **HAARP** 50.09 35 P P 04 55 32.6 +1.2
baz=275
RIDG **Independent Ri** 50.11 34 P P 04 55 32.3 +0.6
baz=274
N25K **Chitina, Valde** 50.43 36 P P 04 55 34.5 +0.3
baz=276
DOT **Dot Lake** 50.47 34 P P 04 55 34.7 +0.4
SCRK **Sand Creek** 50.47 33 P P 04 55 35.5 +1.0
SCRK IAmb IAmb 04 55 36.1
comp=Z,7.1nm,0.9s
SCRK **Sand Creek** 50.47 33 P P 04 55 35.0 +0.6
baz=275,SNR=10
BMRM **Bremner River** 50.50 37 P P 04 55 36.4 +1.7
BMRM **Bremner River** 50.50 37 P P 04 55 35.8 +1.1
baz=277
J26L **Joseph Creek** 50.61 33 P P 04 55 36.2 +0.8
baz=275
FRU1 **Bishkek** 50.69 299 P P 04 55 35.9 -0.5
FRU1 pmax pmax
comp=Z,38nm,0.5s
FRU1 **Bishkek** 50.69 299 P P 04 55 35.9 -0.5
KAIM **Kayak Island** 50.73 39 P P 04 55 37.3 +1.0
baz=278
OTUK **Ortayu** 50.73 306 P P 04 55 36.8 +0.3
KSH **Kashi** 50.78 294 P P 04 55 41.5 +4.4
KSH pmax pmax
comp=Z,5.0nm,0.8s
KSH LR LR
comp=N,2μm,18.2s
KSH LR LR
comp=E,820nm,18.2s
KSH LR LR
comp=Z,450nm,17.1s
AAK **Ala-Archa** 50.84 298 LR LR 05 18 35.4
comp=Z,279nm,19.0s,baz=90,slow=38
AAK **Ala-Archa** 50.84 298 ceP P 04 55 36.8 -0.8
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK **Ala-Archa** 50.84 298 P P 04 55 38.1 +0.5
AAK IAmb IAmb 04 55 47.3
comp=Z,6.4nm,1.1s
L26K **Log Cabin Wild** 50.85 35 P P 04 55 37.9 +0.6
L26K IAmb IAmb 04 55 39.9
comp=Z,7.2nm,0.8s

L26K **Log Cabin Wild** 50.85 35 P P 04 55 38.8 +1.6
baz=276,SNR=6.7
BRVK **Borovoye** 50.89 312 ceP P 04 55 37.5 -0.1
BRVK pmax pmax
comp=Z,9.0nm,2.5s
BRVK **Borovoye** 50.89 312 P P 04 55 37.9 +0.2
M26K **Nabesna, AK** 51.09 35 P P 04 55 39.9 +0.8
M26K IAmb IAmb 04 55 45.2
comp=Z,13nm,1.5s
M26K **Nabesna, AK** 51.09 35 P P 04 55 40.0 +1.0
baz=277
MCARA **McCarthy VSAT** 51.21 37 P P 04 55 41.2 +1.3
baz=278
L27K **Beaver Creek,** 51.54 34 P P 04 55 42.2 -0.1
L27K IAmb IAmb 04 55 45.1
comp=Z,10nm,1.2s
L27K **Beaver Creek,** 51.54 34 P P 04 55 43.8 +1.5
baz=278,SNR=5.7
BCAR **Beaver Creek A** 51.55 34 P P 04 55 44.1 +1.6
M27K **Edge Creek, AK** 51.61 35 P P 04 55 44.4 +1.3
baz=278
EGAK **Eagle** 51.61 32 P P 04 55 43.4 +0.6
baz=277
BVCY **Beaver Creek** 52.07 35 P P 04 55 47.6 +1.2
baz=279
CTG **Chitna Glacier** 52.08 37 P P 04 55 47.7 +1.1
baz=280
YUK3 **Moose Creek** 52.36 36 P P 04 55 49.6 +0.9
baz=280
DAWY **Dawson** 52.47 33 P P 04 55 50.2 +0.9
baz=279
I29M **Ogilvie Camp,** 52.73 31 P P 04 55 52.4 +1.2
I29M **Ogilvie Camp,** 52.73 31 P P 04 55 52.5 +1.2
baz=279,SNR=9.1
PNL **Peninsula** 53.28 38 P P 04 55 56.7 +1.4
baz=282
YUK4 **Talbot Arm** 53.29 36 P P 04 55 57.1 +1.5
baz=282
KK31 **Karatay Array** 53.47 300 iP P 04 55 56.8 -0.1
KK31 **Karatay Array** 53.47 300 P P 04 55 56.4 -0.6
KK31 IAmb IAmb 04 56 03.3
comp=Z,7.5nm,0.9s
KKAR **Karatay Array** 53.47 300 P P 04 55 56.8 -0.1
KKAR **Karatay Array** 53.47 300 P P 04 55 56.8 -0.1
KKAR **Karatay Array** 53.47 300 P P 04 55 56.8 -0.1
KKAR IAmb IAmb 04 56 03.3
comp=Z,7.5nm,0.9s
M30M **Minto, Yukon** 53.90 34 P P 04 56 01.4 +1.6
baz=282
HYT **Haines Junctio** 53.95 37 P P 04 56 02.4 +2.1
baz=283
INK **Inuvik** 54.09 27 P P 04 56 01.4 +0.4
INK pmax pmax
comp=Z,7.0nm,0.9s
INK **Inuvik** 54.09 27 P P 04 56 01.4 +0.4
INK IAmb IAmb 04 56 03.1
comp=Z,6.9nm,0.8s
INK **Inuvik** 54.09 27 P P 04 56 02.2 +1.2
baz=281,SNR=10
LEM **Lemhang** 54.26 224 LR LR 05 19 38.7
comp=Z,36nm,19.7s,baz=184,slow=36
N31M **Braeburn, Yuko** 54.61 36 P P 04 56 06.6 +1.6
baz=284
GAR **Garm** 55.06 296 P P 04 56 08.8 +0.1
M31M **Drury Creek, Y** 55.07 35 P P 04 56 09.9 +1.6
M31M IAmb IAmb 04 56 10.5
comp=Z,5.1nm,0.9s
M31M **Drury Creek, Y** 55.07 35 P P 04 56 09.3 +1.0
baz=284
A36M **Sachs Harbour** 55.99 22 P P 04 56 16.7 +2.0
A36M IAmb IAmb 04 56 17.9
comp=Z,8.3nm,0.9s
A36M **Sachs Harbour** 55.99 22 P P 04 56 16.2 +1.4
baz=286,SNR=11
CHGR **Chuyangaron** 56.03 296 P P 04 56 16.6 +0.9
ARU **Arti** 56.58 319 LR LR 05 22 50.5
comp=Z,177nm,18.5s,baz=60,slow=38
ARU **Arti** 56.58 319 iP P 04 56 19.5 +0.3
ARU S S 05 04 11.7 +2.2
ARU SS SS 05 07 56.6 +0.1
ARU MLR MLR
comp=Z,172nm,16.0s
WB0 **Warramunga Arr** 57.05 189 P P 04 56 22.4 -0.4
CTA **Charters Tower** 57.06 175 LR LR 05 27 52.8
comp=Z,21nm,18.0s,baz=118,slow=43
C36M **Paulatuk** 57.15 25 P P 04 56 24.1 +1.2
C36M IAmb IAmb 04 56 24.4
comp=Z,6.8nm,0.8s
C36M **Paulatuk** 57.15 25 P P 04 56 23.8 +0.8
baz=288,SNR=9.5
WRAB **Tennant Creek** 57.22 189 ceP P 04 56 22.7 -1.3
WRAB pmax pmax
comp=Z,18nm,2.5s
WRAB **Tennant Creek** 57.22 189 P P 04 56 23.9 -0.1
WRAB IAmb IAmb 04 56 24.5
comp=Z,8.3nm,0.9s
WR0 **Warramunga Arr** 57.22 188 P P 04 56 24.0 0.0
WR0 IAmb IAmb 04 56 35.5
comp=Z,6.6nm,0.7s
WB2 **Warramunga Arr** 57.23 189 P P 04 56 23.8 -0.3
WRA **Warramunga Arr** 57.23 189 P P 04 56 23.6 -0.5
comp=Z,5.3nm,0.7s,baz=4.5,slow=7.1,SNR=61
WRA LR LR 05 19 56.2
comp=Z,36nm,21.8s,baz=306,slow=35
WRA **Warramunga Arr** 57.23 189 P P 04 56 23.4 -0.7
AB31 **Akbulak array** 58.22 310 iP P 04 56 30.5 -0.4
ABKAR **Akbulak array** 58.22 310 P P 04 56 31.5 +0.6
ABKAR IAmb IAmb 04 56 32.6
comp=Z,4.2nm,0.8s
ABKAR **Akbulak array** 58.22 310 P P 04 56 31.2 +0.3
AKTO **Aktyubinsk** 58.94 312 LR LR 05 23 10.0
comp=Z,126nm,18.7s,baz=67,slow=37
KIRV **Kirov** 60.44 323 LR LR 05 25 25.1
comp=Z,94nm,18.5s,baz=60,slow=38
KIRV **Kirov** 60.44 323 ceP P 04 56 46.4 +0.4
SPITS **Spitsbergen Ar** 60.51 349 LR LR 05 24 42.9
comp=Z,62nm,18.9s,baz=270,slow=38
AS31 **Alice Springs** 60.95 188 P P 04 56 50.6 +0.7
ASAR **Alice Springs** 60.95 188 P P 04 56 49.9 -0.1
comp=Z,2.6nm,0.7s,baz=12,slow=7.4,SNR=28
ASAR LR LR 05 23 58.6
comp=Z,31nm,18.1s,baz=334,slow=37
ASAR **Alice Springs** 60.95 188 P P 04 56 48.7 -1.2
BBB **Bella Bella** 61.67 44 LR LR 05 22 28.6
comp=Z,34nm,19.6s,baz=306,slow=35
RES **Resolute Bay** 62.39 15 P P 04 56 59.1 +0.2
RES pmax pmax
comp=Z,5.0nm,1.1s
RES **Resolute Bay** 62.39 15 P P 04 56 59.1 +0.2
RES IAmb IAmb 04 57 00.3
comp=Z,4.8nm,1.1s
PALK **Pallekele** 62.83 258 LR LR 05 26 56.3
comp=Z,73nm,19.3s,baz=170,slow=38
DZM **Mont Dzumac** 63.25 155 LR LR 05 22 41.9
comp=Z,115nm,20.0s,baz=7.0,slow=34
DZM **Mont Dzumac** 63.25 155 eLR LR 05 16 06.0
comp=Z,150nm,22.2s
YKA **Yellowknife Ar** 63.49 30 P P 04 57 07.1 +0.6
comp=Z,2.2nm,0.7s,baz=302,slow=6.6,SNR=48
YKA LR LR 05 26 23.8
comp=Z,37nm,20.1s,baz=319,slow=38
YKA **Yellowknife Ar** 63.49 30 P P 04 57 07.7 +1.2
BELG **Belogornoye** 64.03 317 LR LR 05 29 21.2
comp=Z,69nm,18.4s,baz=346,slow=40
ARCES **ARCESS Array B** 64.06 340 LR LR 05 27 31.0
comp=Z,60nm,21.7s,baz=57,slow=38
GEYT **Alibeck** 64.18 299 P P 04 57 12.0 +0.5
comp=Z,1.7nm,0.5s,baz=286,slow=6.6,SNR=2.2
GEYT LR LR 05 27 58.6
comp=Z,47nm,19.6s,baz=70,slow=39
AFI **Afiamalu** 66.85 130 LR LR 05 20 03.4
comp=Z,44nm,21.6s,baz=296,slow=30
OBN **Obninsk** 68.28 323 eP P 04 57 37.4 0.0
OBN pmax pmax
comp=Z,5.0nm,1.0s
J01E **Myrtle Point** 68.41 52 P P 04 57 40.0 +1.6
baz=301
H04D **Lebanon** 68.44 50 P P 04 57 40.3 +1.7
baz=301
I03D **Drain, OR** 68.49 51 P P 04 57 40.8 +1.9
baz=301
STKA **Stephens Creek** 68.66 180 P P 04 57 40.3 +0.4
comp=Z,2.5nm,0.7s,baz=347,slow=7.9,SNR=8.6
STKA LR LR 05 29 09.3
comp=Z,35nm,18.5s,baz=205,slow=37
STKA **Stephens Creek** 68.66 180 P P 04 57 39.6 -0.3

FINES **FINESS Array B** 68.93 332 P P 04 57 41.8 +0.4
comp=Z,3.9nm,0.8s,baz=54,slow=7.5,SNR=10
FINES LR LR 05 30 11.9
comp=Z,107nm,18.2s,baz=34,slow=38
FINES **FINESS Array B** 68.93 332 ceP P 04 57 42.5 +1.1
FINES pmax pmax
comp=Z,4.0nm,0.8s
EDM **Edmonton** 68.98 39 P P 04 57 42.4 +0.5
EDM pmax pmax
comp=Z,11nm,1.3s
EDM **Edmonton** 68.98 39 P P 04 57 42.4 +0.5
I05D **Terrebonne, OR** 69.39 50 P P 04 57 45.8 +1.2
baz=302
NEW **Newport** 69.74 44 LR LR 05 27 51.5
comp=Z,22nm,18.9s,baz=308,slow=35
NEW **Newport** 69.74 44 P P 04 57 47.4 +0.7
baz=303
J05D **Fort Rock, OR** 70.02 50 P P 04 57 50.0 +1.3
baz=302
N02D **Trinity Center** 70.33 53 P P 04 57 51.7 +1.2
baz=302
M04C **Macdoel** 70.45 52 P P 04 57 52.4 +1.1
baz=303
K05A **Summer Lake** 70.53 51 P P 04 57 52.8 +0.9
ZEI **Tsey** 71.08 310 eP P 04 57 54.1 -1.1
ZEI pmax pmax
comp=Z,4.0nm,1.4s
KBZ **Khabaz** 71.18 311 P P 04 57 56.3 +0.8
comp=Z,3.3nm,0.9s,baz=45,slow=5.6,SNR=9.3
KBZ LR LR 05 33 59.3
comp=Z,66nm,18.5s,baz=46,slow=40
KIV **Kislovodsk** 71.18 311 eP P 04 57 56.4 +0.8
KIV pmax pmax
comp=Z,10.0nm,1.0s
O03E **Paynes Creek** 71.28 53 P P 04 57 57.2 +0.9
baz=303
WSAR **Wadi Sarin** 71.28 285 LR LR 05 34 48.9
comp=Z,76nm,18.0s,baz=93,slow=40
MOD **Modoc Plateau** 71.34 51 P P 04 57 56.9 +0.2
BMO **Blue Mountains** 71.53 47 P P 04 57 58.3 +0.6
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO **Blue Mountains** 71.53 47 P P 04 57 58.3 +0.6
BMO IAmb IAmb 04 57 59.7
comp=Z,4.2nm,0.9s
J08A **Circle Bar Ran** 71.67 49 P P 04 57 59.1 +0.5
J08A IAmb IAmb 04 58 00.5
comp=Z,3.8nm,0.8s
GNI **Garni** 72.01 307 LR LR 05 32 26.8
comp=Z,63nm,18.3s,baz=104,slow=38
PLID **Pearl Lake** 72.16 47 P P 04 58 02.1 +0.4
MSO **Missoula** 72.33 44 P P 04 58 03.1 +0.6
baz=306
BEKR **Beckworth** 72.43 53 P P 04 58 03.7 +0.4
BEKR IAmb IAmb 04 58 05.2
comp=Z,4.5nm,0.9s
MFID **Camas Ranch** 73.22 48 P P 04 58 09.1 +1.2
MFID IAmb IAmb 04 58 10.0
comp=Z,4.8nm,1.1s
FFC **Flin Flon** 73.37 33 P P 04 58 08.7 +0.3
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC **Flin Flon** 73.37 33 P P 04 58 08.7 +0.3
FFC IAmb IAmb 04 58 09.9
comp=Z,7.0nm,0.9s
FCC **Fort Churchill** 73.71 27 P P 04 58 10.6 +0.3
FCC pmax pmax
comp=Z,12nm,1.4s
FCC **Fort Churchill** 73.71 27 P P 04 58 10.6 +0.3
FCC IAmb IAmb 04 58 11.4
comp=Z,12nm,1.4s
LRM **Limekiln Ridge** 73.76 45 P P 04 58 11.5 +0.4
EGMT **Eagleton** 73.89 42 P P 04 58 12.5 +0.7
baz=308
DLMT **Dillon** 73.95 45 P P 04 58 12.4 +0.2
DLMT IAmb IAmb 04 58 14.1
comp=Z,4.5nm,0.7s
HLID **Hailey** 73.97 47 P P 04 58 12.8 +0.4
HLID **Hailey** 73.97 47 P P 04 58 13.5 +1.1
baz=306
HFS **Hagfors** 74.18 336 LR LR 05 33 32.0
comp=Z,190nm,19.2s,baz=32,slow=38
NB2 **NORSAR Subarra** 74.27 337 P P 04 58 14.2 +0.6
comp=Z,0.8nm,0.6s,baz=40,slow=6.2
NOA **NORSAR Array B** 74.27 337 P P 04 58 14.2 +0.6
comp=Z,2.1nm,0.8s,baz=39,slow=5.9,SNR=11
NOA LR LR 05 33 23.6
comp=Z,115nm,21.4s,baz=30,slow=38
KVN **Kaiserville** 74.34 53 P P 04 58 15.5 +0.9
KVN pmax pmax
comp=Z,7.0nm,1.1s
KVN **Kaiserville** 74.34 53 P P 04 58 15.5 +0.9
KVN IAmb IAmb 04 58 16.8
comp=Z,6.9nm,1.1s
BOZ **Bozeman (W)** 74.35 44 P P 04 58 14.5 0.0
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ **Bozeman (W)** 74.35 44 P P 04 58 14.5 0.0
BOZ IAmb IAmb 04 58 16.4
comp=Z,4.0nm,0.8s
BOZ **Bozeman (W)** 74.35 44 P P 04 58 15.4 +0.9
baz=307
AKASG **Malin Array Be** 74.49 323 P P 04 58 14.2 -0.8
comp=Z,1.1nm,0.4s,baz=47,slow=6.1,SNR=6.9
AKASG LR LR 05 34 31.3
comp=Z,87nm,19.2s,baz=54,slow=38
AKASG **Malin Array Be** 74.49 323 P P 04 58 15.3 +0.3
AKBB **Malin Array Si** 74.49 323 ceP P 04 58 16.3 +1.3
LHV **Little Huntoon** 74.54 54 P P 04 58 16.1 +0.6
LHV IAmb IAmb 04 58 18.4
comp=Z,7.2nm,1.0s
NVAR **Mina Array Bea** 74.56 53 P P 04 58 17.4 +1.5
comp=Z,2.4nm,0.7s,baz=293,slow=5.9,SNR=22
NVAR **Mina Array Bea** 74.56 53 P P 04 58 16.4 +0.4
ELK **Elko** 75.14 50 LR LR 05 28 29.1
comp=Z,19nm,20.1s,baz=308,slow=33
SMMC **Simmler** 75.24 57 P P 04 58 20.9 +1.2
baz=305
TPH **Tonopah** 75.46 53 P P 04 58 22.2 +1.1
TPH pmax pmax
comp=Z,31nm,1.1s
TPH **Tonopah** 75.46 53 P P 04 58 22.2 +1.1
VES **Vestal, Richgr** 75.55 56 P P 04 58 21.8 +0.4
baz=306
H17A **Grant Village** 75.68 45 P P 04 58 24.0 +1.7
H17A IAmb IAmb 04 58 26.1
comp=Z,6.1nm,0.8s
H17A **Grant Village** 75.68 45 P P 04 58 25.3 +2.9
baz=308
SFJD **Kangerlussuaq** 75.75 5 LR LR 05 35 04.7
comp=Z,28nm,18.5s,baz=270,slow=38
RLMT **Red Lodge** 75.96 44 P P 04 58 24.6 +0.8
baz=309
MOOW **Moose Ponds** 75.98 46 P P 04 58 25.1 +1.0
GRAC **Grapevine Rang** 76.00 54 P P 04 58 25.4 +1.3
baz=306
R11A **Troy Canyon, C** 76.34 52 P P 04 58 25.2 -0.9
R11A **Troy Canyon, C** 76.34 52 P P 04 58 27.3 +1.2
baz=307
MPMC **Manual Prospec** 76.47 55 P P 04 58 27.4 +0.5
baz=306
DGMT **Dagmar** 76.48 39 P P 04 58 26.9 +0.3
baz=311
LAO **LASA Array** 76.60 41 P P 04 58 28.4 +1.1
baz=310
TPNV **Topopah Spring** 76.75 54 P P 04 58 28.9 +0.4
TPNV pmax pmax
comp=Z,4.0nm,1.2s
TPNV **Topopah Spring** 76.75 54 P P 04 58 28.9 +0.4
TPNV **Topopah Spring** 76.75 54 P P 04 58 29.1 +0.7
baz=307
GWY **Greenwater Val** 76.93 55 P P 04 58 28.6 -0.9
GWY IAmb IAmb 04 58 30.8
comp=Z,3.9nm,0.7s
QSM **Queen of Sheba** 76.93 55 P P 04 58 29.1 -0.2
QSM IAmb IAmb 04 58 31.3
comp=Z,11nm,1.2s
DUG **Dugway, Tooele** 76.95 49 P P 04 58 29.3 -0.2
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG **Dugway, Tooele** 76.95 49 P P 04 58 29.3 -0.2
DUG **Dugway, Tooele** 76.95 49 P P 04 58 30.7 +1.2
baz=308
PRN **Pahroo Range** 77.24 53 P P 04 58 31.1 -0.1
BW06 **Boulder Array** 77.27 46 P P 04 58 32.0 +0.6
baz=309

PD31	**Pinedale Array**	**77.27**	**46**	P	**P**	**04 58 31.3**	**-0.1**
PDAR	**Pinedale Array**	**77.27**	**46**	P	**P**	**04 58 32.0**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=298,slow=1.9,SNR=16						
PSUT	**Pine Spring**	**77.32**	**51**	P	**P**	**04 58 31.2**	**-0.4**
GSC	**Goldstone, Bar**	**77.37**	**55**	P	**P**	**04 58 32.6**	**+0.7**
	baz=307						
BFSC	**Mount Baldy Ra**	**77.43**	**57**	P	**P**	**04 58 32.9**	**+0.6**
	baz=306						
NLU	**North Lily Min**	**77.54**	**49**	P	**P**	**04 58 32.9**	**0.0**
SHPR	**Sheep Range**	**77.72**	**54**	P	**P**	**04 58 33.9**	**0.0**
TUQ	**Turquoise Moun**	**77.86**	**55**	P	**P**	**04 58 35.6**	**+0.9**
	baz=307						
CCUT	**Cedar City**	**78.22**	**52**	P	**P**	**04 58 37.1**	**+0.3**
CCUT				IAmb	IAmb	04 58 43.4	
	comp=Z,6.4nm,1.3s						
KWP	**Kalwaria Pacla**	**78.31**	**325**	P	**P**	**04 58 37.2**	**+0.5**
KWP				pmax	pmax		
	comp=Z,103nm,1.1s						
KWP	**Kalwaria Pacla**	**78.31**	**325**	P	**P**	**04 58 37.2**	**+0.5**
GMRC	**Granite Mounta**	**78.43**	**55**	P	**P**	**04 58 38.7**	**+0.8**
	baz=307						
BUR08	**Bucovina Ar. S**	**78.50**	**322**	P	**P**	**04 58 38.8**	**+0.8**
BUR08				IAmb	IAmb	04 58 49.0	
	comp=Z,8.5nm,1.3s						
PFO	**Pinyon Flats O**	**78.61**	**57**	LR	LR	05 26 06.9	
	comp=Z,76nm,21.8s,baz=250,slow=30						
PFO	**Pinyon Flats O**	**78.61**	**57**	P	**P**	**04 58 39.5**	**+0.7**
	baz=307						
LCMT	**Little Creek M**	**78.63**	**52**	P	**P**	**04 58 39.5**	**+0.6**
RDMU	**Red Mountain**	**78.65**	**47**	P	**P**	**04 58 39.5**	**+0.4**
RDMU				IAmb	IAmb	04 58 41.3	
	comp=Z,7.8nm,1.0s						
MTPU	**Mount Pierson**	**78.66**	**51**	P	**P**	**04 58 39.6**	**+0.3**
Q16A	**Castle Valley**	**78.73**	**50**	P	**P**	**04 58 39.1**	**-0.4**
P18A	**Preston Nutter**	**78.84**	**49**	P	**P**	**04 58 40.5**	**+0.3**
P18A				IAmb	IAmb	04 58 55.4	
	comp=Z,5.4nm,1.2s						
KNB	**Kanab**	**78.89**	**52**	P	**P**	**04 58 41.2**	**+0.8**
KNB				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KNB	**Kanab**	**78.89**	**52**	P	**P**	**04 58 41.2**	**+0.8**
KNB				IAmb	IAmb	04 58 43.1	
	comp=Z,8.3nm,1.2s						
SRU	**San Rafael Swe**	**79.00**	**49**	P	**P**	**04 58 40.3**	**-0.7**
SRU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SRU	**San Rafael Swe**	**79.00**	**49**	P	**P**	**04 58 40.3**	**-0.7**
SRU				IAmb	IAmb	04 58 42.9	
	comp=Z,6.2nm,0.9s						
BC3	**Big Chuckawall**	**79.25**	**56**	P	**P**	**04 58 43.2**	**+0.9**
	baz=308						
CRVS	**Cervenica-Dubn**	**79.40**	**325**	*e*	P	04 58 52.8	+10
IKP	**In-Ko-Pah, Jac**	**79.42**	**57**	P	**P**	**04 58 44.3**	**+1.1**
	baz=307						
U15A	**North Rim**	**79.59**	**52**	P	**P**	**04 58 44.2**	**-0.1**
MLR	**Muntele Rosu**	**79.60**	**320**	LR	LR	05 37 11.8	
	comp=Z,116nm,18.8s,baz=56,slow=38						
O20A	**White River Ci**	**79.71**	**47**	P	**P**	**04 58 45.5**	**+0.7**
	baz=310						
PDMCI	**Parker Dam,Lak**	**79.72**	**55**	P	**P**	**04 58 45.8**	**+1.1**
	baz=308						
PV11	**David Mesa, Pa**	**80.52**	**49**	P	**P**	**04 58 50.0**	**+0.8**
N23A	**Red Feather La**	**80.54**	**45**	P	**P**	**04 58 50.5**	**+1.1**
	baz=311						
AGMN	**Agassiz Nation**	**80.59**	**35**	P	**P**	**04 58 49.4**	**+0.2**
	baz=317						
PV13	**Radium Mtn., P**	**80.64**	**49**	P	**P**	**04 58 49.7**	**-0.2**
PV13				IAmb	IAmb	04 58 52.1	
	comp=Z,7.2nm,0.9s						
Y14A	**Wickenburg**	**80.68**	**54**	P	**P**	**04 58 50.8**	**+0.8**
WUAZ	**Wupatki**	**80.74**	**52**	P	**P**	**04 58 51.4**	**+1.0**
	baz=309						
113A	**Mohawk Valley,**	**80.91**	**56**	P	**P**	**04 58 51.4**	**+0.3**
CLL	**Collm**	**81.23**	**330**	*e*P	**P**	**04 58 53.0**	**+0.5**
CLL				*e*'PP	**sP**	**04 59 03.0**	**+0.8**
CLL	**Collm**	**81.23**	**330**	*e*P	**P**	**04 58 53.0**	**+0.5**
CLL				*e*(pP)	**sP**	**04 59 03.0**	**+0.8**
VRAC	**Vranov**	**81.28**	**327**	LR	LR	05 38 50.0	
	comp=Z,66nm,19.1s,baz=46,slow=38						
X16A	**Lo Mia Camp, P**	**81.39**	**53**	P	**P**	**04 58 53.9**	**-0.1**
MVCO	**Mesa Verde**	**81.44**	**50**	P	**P**	**04 58 55.1**	**+0.9**
	baz=310						
ISCO	**Idaho Springs**	**81.46**	**46**	P	**P**	**04 58 55.3**	**+1.0**
	baz=312						
MMAI	**Mount Meron Ar**	**82.28**	**306**	LR	LR	05 39 48.0	
	comp=Z,44nm,18.3s,baz=226,slow=39						
KHC	**Kasperske Hory**	**82.69**	**329**	*e*P	**P**	**04 59 02.0**	**+1.7**
KHC	**Kasperske Hory**	**82.69**	**329**	*e*P	**P**	**04 59 02.0**	**+1.7**
EYMN	**Ely**	**82.81**	**33**	P	**P**	**04 59 00.8**	**-0.1**
	baz=320						
GERES	**GERESS Array B**	**82.86**	**328**	P	**P**	**04 59 02.3**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=24,slow=7.3,SNR=3.6						
GERES				LR	LR	05 41 03.2	
	comp=Z,49nm,18.2s,baz=13,slow=39						
SDCO	**Great Sand Dun**	**82.89**	**48**	P	**P**	**04 59 02.7**	**+0.8**
	baz=312						
TUC	**Tucson**	**83.15**	**55**	P	**P**	**04 59 04.0**	**+1.0**
	baz=310						
EKA	**Eskdalemuir Ar**	**83.19**	**341**	LR	LR	05 40 10.2	
	comp=Z,54nm,18.4s,baz=2.5,slow=39						
ECSD	**EROS Data Cent**	**83.56**	**39**	P	**P**	**04 59 05.0**	**+0.2**
ECSD				IAmb	IAmb	04 59 05.4	
	comp=Z,2.6nm,0.8s						
ECSD	**EROS Data Cent**	**83.56**	**39**	P	**P**	**04 59 05.4**	**+0.6**
	baz=317						
PMOR	**Pomariorio Ree**	**83.81**	**114**	*e*T	T	06 31 17.8	
	comp=Z,4.6nm,0.2s						
T25A	**Trinidad**	**83.94**	**47**	P	**P**	**04 59 08.3**	**+1.1**
	baz=313						
ANMO	**Albuquerque**	**84.17**	**50**	LR	LR	05 30 21.6	
	comp=Z,26nm,21.8s,baz=310,slow=31						
ANMO	**Albuquerque**	**84.17**	**50**	P	**P**	**04 59 10.1**	**+1.7**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ANMO	**Albuquerque**	**84.17**	**50**	P	**P**	**04 59 09.8**	**+1.4**
	baz=312						
PPT	**Papeete**	**84.28**	**117**	LR	LR	05 32 26.2	
	comp=Z,58nm,19.5s,baz=308,slow=33						
PPT2	**Papeete2**	**84.29**	**117**	*e*LR	LR	05 25 52.1	
	comp=Z,84nm,22.5s						
RPZ	**Rata Peaks**	**84.69**	**159**	LR	LR	05 33 29.7	
	comp=Z,62nm,19.5s,baz=343,slow=33						
121A	**Cookes Peak, D**	**84.94**	**53**	P	**P**	**04 59 13.4**	**+1.2**
	baz=311						
SCHQ	**Schefferville**	**85.11**	**16**	LR	LR	05 40 26.6	
	comp=Z,34nm,19.8s,baz=80,slow=38						
TAOE	**Nuku Hiva Isla**	**85.76**	**104**	*e*LR	LR	05 26 21.5	
	comp=Z,135nm,25.5s						
DAVOX	**Davos/Dischmat**	**86.07**	**329**	LR	LR	05 41 15.3	
	comp=Z,103nm,19.0s,baz=62,slow=38						
TX31	**Lajitas Ar. Si**	**89.70**	**53**	P	**P**	**04 59 33.9**	**-1.3**
TX31				IAmb	IAmb	04 59 53.3	
	comp=Z,3.5nm,0.9s						
TX32	**Lajitas Array**	**89.70**	**53**	P	**P**	**04 59 34.2**	**-1.0**
TXAR	**Lajitas Array**	**89.70**	**53**	P	**P**	**04 59 35.7**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=314,slow=2.9,SNR=6.9						
TXAR				LR	LR	05 33 04.7	
	comp=Z,32nm,21.2s,baz=318,slow=31						
SADO	**Sadowa**	**90.40**	**28**	LR	LR	05 45 09.3	
	comp=Z,18nm,18.3s,baz=200,slow=39						
U40A	**Yellville**	**90.96**	**41**	P	**P**	**04 59 40.5**	**-0.4**
U40A	**Yellville**	**90.96**	**41**	P	**P**	**04 59 41.1**	**+0.2**
	baz=319						
MIAR	**Mount Ida**	**91.94**	**43**	P	**P**	**04 59 46.0**	**+0.6**
	baz=319						
PKME	**Peaks-Kenny Pk**	**93.26**	**22**	P	**P**	**04 59 51.6**	**+0.3**
	baz=336						
KEST	**Kesra**	**95.22**	**323**	LR	LR	05 47 42.9	
	comp=Z,72nm,18.4s,baz=277,slow=38						
ESDC	**Sonseca Array**	**97.40**	**334**	LR	LR	05 48 32.3	
	comp=Z,116nm,18.7s,baz=344,slow=38						
TORD	**Torodi Ar. Bea**	**117.58**	**315**	PKP	**PKPdf**	**05 05 21.4**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=44,slow=0.6,SNR=2.3						
LPAZ	**La Paz**	**146.25**	**60**	PKPbc	**PKPbc**	**05 06 18.7**	**+0.3**
	comp=Z,11nm,0.9s,baz=331,slow=3.0,SNR=32						

*ATH **13** 04:55:44.8,34°.90N×23°.16E,h13km±7km,ML2.8/3 Error ellipse: s-maj=8.6km s-min=1.6km az=90.0*
*THE **13** 04:55:44.9,34°.84N×23°.18E,h15km±1km,ML2.6/4,Error ellipse: s-maj=1.9km s-min=1.0km az=230.0*
ISC 13 04:55:44.7±2.3,34°.89N±0'.08×23°.21E±0'.09,h13km±10km, n12,σ0°60/22,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.52**	**48**	P	**Pg**	**04 55 55.0**	**+0.1**
KNDR				S	**Sg**	**04 56 01.2**	**-0.6**
KNDR				AML	AML	04 56 06.7	
	comp=N,3319μm,0.6s						
KNDR				AML	AML	04 56 07.4	
	comp=E,2430μm,0.7s						
KNDR	**Palaiochora Ch**	**0.52**	**48**	P	**Pg**	**04 55 55.2**	**+0.3**
KNDR				S	**Sb**	**04 56 03.7**	**+0.7**
	comp=E,488nm,0.6s						
GVD	**Gavdhos**	**0.72**	**94**	P	**Pb**	**04 55 59.3**	**+0.2**
GVD				S	**Sb**	**04 56 10.0**	**+1.1**
GVD				AML	AML	04 56 13.5	
	comp=N,2013μm,0.4s						
GVD				AML	AML	04 56 14.5	
	comp=E,1689μm,0.4s						
GVD	**Gavdhos**	**0.72**	**94**	P	**Pb**	**04 55 59.3**	**+0.2**
GVD				S	**Sn**	**04 56 10.3**	**-1.1**
	comp=E,928nm,0.4s						
GVDS	**Gavdos**	**0.72**	**93**	P	**Pg**	**04 55 58.9**	**+0.2**
GVDS				S	**Sb**	**04 56 09.4**	**+0.5**
	comp=E,552nm,0.4s						
RODP	**Rodopos**	**0.81**	**33**	P	**Pb**	**04 56 00.8**	**+0.3**
RODP				S	**Sn**	**04 56 13.6**	**+0.1**
IMMV	**Iera Moni Meta**	**0.85**	**48**	P	**Pg**	**04 56 01.0**	**-0.2**
IMMV				S	**Sn**	**04 56 14.0**	**-0.6**
IMMV	**Iera Moni Meta**	**0.85**	**48**	P	**Pg**	**04 56 01.0**	**-0.2**
IMMV				S	**Sn**	**04 56 14.0**	**-0.6**
ANKY	**Antikythira Is**	**0.98**	**4**	P	**Pb**	**04 56 03.4**	**0.0**
ANKY				S	**Sg**	**04 56 16.4**	**0.0**
ANKY				AML	AML	04 56 25.9	
	comp=N,439μm,0.5s						
ANKY				AML	AML	04 56 26.9	
	comp=E,623μm,0.6s						
ANKY	**Antikythira Is**	**0.98**	**4**	P	**Pb**	**04 56 03.5**	**0.0**
ANKY				S	**Sn**	**04 56 18.9**	**+1.1**
	comp=E,288nm,0.6s						
KTHA	**Kythira Island**	**1.37**	**355**	P	**Pn**	**04 56 09.4**	**-0.1**
KTHR	**Kythira**	**1.38**	**353**	P	**Pn**	**04 56 08.8**	**-0.8**

*RSNC **13** 04:56:02.7±1.1,6°.83N×73°.15W,h145km±5km,ML2.9, Mw3.4*
*IDC **13** 04:56:03.0±4.0,5°.41N×73°.05W,h258km±84km,mb2.6/2, mb1 3.1/2,mb1mx2.7/26,mbtmp3.3/2,Error ellipse: s-maj=259.1km s-min=81.6km az=13.0*
ISC 13 04:56:01.0±0.9,6°.86N±0'.03×73°.12W±0'.04,h153km±7km, n31,σ1°68/61,5C-5D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**192**	*i*P	**Pn**	**04 56 22.4**	**+0.2**
BARC				*e*S	**Sn**	**04 56 37.0**	**-1.3**
BARC				*i*		04 56 38.7	
	comp=Z,243nm,0.2s						
PAMC	**Pamplona, Colo**	**0.64**	**42**	*e*P	**Pn**	**04 56 25.2**	**+1.2**
PAMC				*e*S	**Sn**	**04 56 42.4**	**+0.8**
PAMC				*i*		04 56 44.8	
	comp=Z,84nm,0.3s						
RUSC	**La Rusia**	**0.96**	**178**	*i*P	**Pn**	**04 56 26.4**	**0.0**
RUSC				*e*S	**Sn**	**04 56 45.1**	**-0.6**
RUSC				*i*		04 56 47.1	
	comp=Z,86nm,0.7s						
PTBC	**PUERTO BERRIO,**	**1.36**	**256**	*e*P	**Pn**	**04 56 28.8**	**-0.7**
PTBC				*e*S	**Sn**	**04 56 49.8**	**-1.4**
PTBC				*i*		04 56 55.1	
	comp=Z,108nm,0.5s						
OCAC	**Ocana**	**1.38**	**352**	*e*P	**Pn**	**04 56 30.4**	**+0.6**
OCAC				*e*S	**Sn**	**04 56 53.5**	**+1.6**
OCAC				*i*		04 57 00.4	
	comp=Z,197nm,0.3s						
TAMC	**Tame, Arauca**	**1.39**	**108**	*i*P	**Pn**	**04 56 30.9**	**+1.2**
TAMC				*e*S	**Sn**	**04 56 52.4**	**+0.7**
TAMC				*i*		04 56 53.1	
	comp=Z,54nm,0.2s						
SPBC	**San Pablo de B**	**1.53**	**218**	*i*P	**Pn**	**04 56 31.1**	**-0.1**
SPBC				*e*S	**Sn**	**04 56 53.7**	**-0.7**
SPBC				*i*		04 56 58.0	
	comp=Z,184nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.83**	**290**	*e*P	**Pn**	**04 56 34.9**	**+0.5**
ZARC				*e*S	**Sn**	**04 56 59.9**	**-0.2**
ZARC				*i*		04 57 06.5	
	comp=Z,88nm,0.3s						
NORC	**Norcasia**	**2.16**	**233**	*e*P	**Pn**	**04 56 38.4**	**+0.1**
NORC				*e*S	**Sn**	**04 57 06.0**	**-1.0**
NORC				*i*		04 57 11.1	
	comp=Z,59nm,0.2s						
CHIC	**Chingaza**	**2.30**	**195**	*e*P	**Pn**	**04 56 40.5**	**+0.1**
CHIC				*e*S	**Sn**	**04 57 10.2**	**-0.4**
CHIC				*i*		04 57 15.0	
	comp=Z,59nm,0.3s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**04 56 42.6**	**+1.9**
	comp=Z,9.4nm,0.3s,baz=86,slow=13,SNR=52						
ROSC				S	**Sn**	**04 57 12.3**	**+1.1**
	comp=Z,45nm,0.3s,baz=225,slow=4.0,SNR=18						
ROSC	**El Rosal**	**2.33**	**211**	*e*P	**Pn**	**04 56 42.0**	**+1.3**
ROSC				*i*P	**Pn**	**04 56 42.4**	**+1.7**
ROSC				*e*S	**Sn**	**04 57 12.8**	**+1.6**
ROSC				*i*		04 57 17.0	
	comp=Z,148nm,0.4s						
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**04 56 42.4**	**-0.1**
HELC				*e*S	**Sn**	**04 57 14.4**	**+0.2**
HELC				*i*		04 57 20.7	
	comp=Z,51nm,0.3s						
UREC	**San Jos de Ur**	**2.55**	**290**	*e*P	**Pn**	**04 56 42.8**	**-0.1**
UREC				*e*S	**Sn**	**04 57 13.2**	**-2.0**
UREC				*i*		04 57 24.4	
	comp=Z,80nm,0.2s						
SOCV	**Socops**	**2.66**	**58**	*e*P	**Pn**	**04 56 45.3**	**+1.0**
SOCV				*e*S	**Sn**	**04 57 17.5**	**-0.2**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	*e*P	**Pn**	**04 56 46.5**	**+0.5**
GUY2C				*e*S	**Sn**	**04 57 24.5**	**+3.9**
GUY2C				*i*		04 57 28.6	
	comp=Z,48nm,0.6s						
PTGC	**Puerto Gaitan,**	**2.82**	**160**	*i*P	**Pn**	**04 56 45.7**	**-0.7**
PTGC				*e*S	**Sn**	**04 57 19.0**	**-2.4**
PTGC				*i*		04 57 23.5	
	comp=Z,28nm,0.2s						
LL6C	**La Loma 6 Bece**	**2.86**	**357**	*e*P	**Pn**	**04 56 47.1**	**+0.3**
LL6C				*e*S	**Sn**	**04 57 22.8**	**+0.6**
LL6C				*i*		04 57 25.9	
	comp=Z,14nm,0.6s						
CBOC	**Ciudad Bolivar**	**3.04**	**251**	*e*P	**Pn**	**04 56 49.9**	**+0.7**
CBOC				*e*S	**Sn**	**04 57 27.1**	**+0.7**
CBOC				*i*		04 57 35.8	
	comp=Z,14nm,0.5s						
SDV	**Santo Domingo**	**3.18**	**51**	*e*P	**Pn**	**04 56 52.1**	**+1.0**
SDV				*e*S	**Sn**	**04 57 28.6**	**-1.1**
SDV				*i*		04 57 32.5	
	comp=Z,14nm,0.3s						
ANIL	**Santa Ana**	**3.27**	**224**	*e*P	**Pn**	**04 56 53.2**	**+0.9**
ANIL				*e*S	**Sn**	**04 57 34.1**	**+2.2**
ORTC	**Ortega, Tolima**	**3.62**	**216**	*e*P	**Pn**	**04 56 56.5**	**+0.1**
ORTC				*e*S	**Sn**	**04 57 40.1**	**+0.6**
ORTC				*i*		04 57 46.2	
	comp=Z,26nm,0.5s						
SJCC	**San Jacinto, C**	**3.64**	**326**	*e*P	**Pn**	**04 56 56.6**	**-0.2**
SJCC				*e*S	**Sn**	**04 57 36.7**	**-3.3**
SJCC				*i*		04 57 52.0	
	comp=Z,16nm,0.7s						
PLMC	**San Jos del P**	**3.69**	**238**	*e*P	**Pn**	**04 56 57.9**	**+0.4**
PLMC				*e*S	**Sn**	**04 57 41.4**	**+0.1**
PLMC				*i*		04 57 46.4	
	comp=Z,10nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	*e*P	**Pn**	**04 57 02.9**	**-0.4**
CRJC				*e*S	**Sn**	**04 57 49.5**	**-2.3**
CRJC				*i*		04 57 53.4	
	comp=Z,14nm,0.4s						
GUVC	**San Jose del G**	**4.32**	**173**	*e*P	**Pn**	**04 57 03.8**	**-1.8**
GUVC				*e*S	**Sn**	**04 57 54.1**	**-1.7**
GUVC				*i*		04 57 58.5	
	comp=Z,19nm,0.2s						
MACC	**Macarena, Meta**	**4.74**	**189**	*e*P	**Pn**	**04 57 09.1**	**-2.0**
MACC				*e*S	**Sn**	**04 58 00.5**	**-5.4**
URIC	**Uribia, Colomb**	**4.94**	**13**	*e*P	**Pn**	**04 57 13.2**	**-0.5**
URIC				*e*S	**Sn**	**04 58 06.4**	**-4.1**
URIC				*i*		04 58 13.7	
	comp=Z,4.0nm,0.8s						
GARC	**Garzon, Huila**	**5.21**	**207**	*e*P	**Pn**	**04 57 15.9**	**-1.7**
GARC				*e*S	**Sn**	**04 58 12.7**	**-4.6**
TXAR	**Lajitas Array**	**36.43**	**312**	P	**P**	**05 02 52.6**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=127,slow=10,SNR=2.1						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**05 06 12.5**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=132,slow=6.5,SNR=8.2						

IDC 13 05:03:50.9±2.7,53°.76N×86°.99E,h0km,mb1 2.8/2, mb1mx2.7/46,mbtmp2.8/2,ML2.4/2,Error ellipse: s-maj=24.6km s-min=15.7km az=67.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**279**	*i*		05 12 10.7	
	baz=100,slow=329,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.30**	**279**	Pg	Pg	05 04 14.5	-1.3
	1.0nm,0.3s,baz=101,slow=18,SNR=17						
ZALV				Lg	Lg	05 04 32.1	
	0.7nm,0.3s,baz=98,slow=30,SNR=8.0						
ZALV				Rg	Rg	05 04 42.4	
	1.7nm,0.5s,baz=98,slow=30,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.07**	**242**	Pn	Pn	05 05 22.6	+0.7
	0.1nm,0.3s,baz=59,slow=13,SNR=4.4						
KURBB				Lg	Lg	05 07 07.6	
	0.0nm,0.3s,baz=60,slow=29,SNR=4.1						
MKAR	**Makanchi Array**	**7.59**	**205**	Pn	Pn	05 05 44.1	+1.4
	0.1nm,0.3s,baz=25,slow=13,SNR=6.1						

IDC 13 05:09:14.1±2.0,30°.35S×177°.25W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.7/25,mbtmp3.7/3,Error ellipse: s-maj=51.9km s-min=22.1km az=73.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.23**	**332**	Pn	Pb	05 09 38.5	+0.1
	121nm,0.3s,baz=92,slow=13,SNR=9.2						
RAO				Sn	Sn	05 09 58.7	+2.7
	245nm,0.3s,baz=9.2,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**43.76**	**267**	P	P	05 17 21.4	-0.2
	0.9nm,0.9s,baz=102,slow=7.8,SNR=5.0						
WRA	**Warramunga Arr**	**44.74**	**272**	P	P	05 17 29.2	-0.4
	1.0nm,0.6s,baz=112,slow=7.5,SNR=11						
QSPA	**South Pole Qui**	**59.76**	**180**	P	P	05 19 21.2	+0.5
	1.0nm,0.9s,baz=44,slow=4.2,SNR=1.5						
FINES	**FINESS Array B**	**145.31**	**340**	PKPbc	PKPbc	05 28 51.8	-1.2
	1.5nm,0.6s,baz=46,slow=5.5,SNR=5.2						

*SNET **13** 05:58:38.7±1.1,13°.30N×90°.00W,h44km±12km,ML3.3*
*INET **13** 05:58:38.4±1.1,13°.46N×89°.83W,h107km±17km,MW2.5*
*GCG **13** 05:58:40.3±0.4,13°.36N×90°.17W,h72km±61km,MD3.6*
ISC 13 05:58:38.8±2.5,13°.26N±0'.08×90°.01W±0'.05,h34km±3km, n25,σ0°48/41,1D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.67**	**19**	*i*P	**Pn**	**05 58 51.6**	**-0.5**
NUBE				*e*S	**Sn**	**05 59 01.3**	**-0.3**
CEVE	**Cerro Verde**	**0.68**	**33**	*e*P	**Pn**	**05 58 52.1**	**-0.1**
CEVE				*e*S	**Sb**	**05 59 02.7**	**+0.9**
CEVE				IAML		05 59 04.1	
	comp=Z,3μm,0.3s						
SBLS	**San Blas**	**0.69**	**33**	*e*P	**Pn**	**05 58 52.1**	**-0.2**
LALI	**Alcalda de L**	**0.70**	**71**	*e*P	**Pn**	**05 58 52.4**	**0.0**
LALI				*e*S	**Sn**	**05 59 01.8**	**-0.3**
SNJE	**San Jose**	**0.72**	**33**	*e*P	**Pn**	**05 58 52.6**	**-0.2**
RTR	**El Retiro**	**0.72**	**29**	*e*P	**Pn**	**05 58 52.6**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.79**	**16**	*i*P	**Pn**	**05 58 53.2**	**-0.4**
SLOZ				*e*S	**Sn**	**05 59 04.8**	**+0.5**
BOQS	**Boqueron**	**0.85**	**56**	*e*P	**Pn**	**05 58 53.8**	**-0.8**
SNET	**Serv Nac Est T**	**0.86**	**61**	*e*P	**Pn**	**05 58 54.9**	**+0.2**
SNET				*e*S	**Sn**	**05 59 06.9**	**+0.7**
SNET				IAML		05 59 09.8	
	comp=Z,341nm,0.2s						
UEES	**Universidad Ev**	**0.87**	**59**	*e*P	**Pn**	**05 58 54.8**	**0.0**
UEES				*e*S	**Sn**	**05 59 06.7**	**+0.4**
LFRS	**El Faro**	**0.99**	**68**	*e*P	**Pn**	**05 58 56.4**	**0.0**
PAVA	**Las Pavas**	**1.13**	**66**	*e*P	**Pn**	**05 58 58.9**	**+0.4**
PAVA				*e*S	**Sb**	**05 59 15.0**	**+0.5**
COEG	**Centro de Oper**	**1.15**	**72**	*e*P	**Pn**	**05 58 58.5**	**-0.1**
COEG				*e*S	**Sn**	**05 59 14.0**	**+0.7**
COEG	**Centro de Oper**	**1.15**	**72**	*e*P	**Pn**	**05 58 58.5**	**-0.1**
MTO3	**Montecristo**	**1.29**	**29**	*i*P	**Pn**	**05 59 00.1**	**-0.6**
MTO3				*e*S	**Sn**	**05 59 17.3**	**+0.3**
MTO3	**Montecristo**	**1.29**	**29**	*e*P	**Pn**	**05 59 00.1**	**-0.6**
MTO3				*e*S	**Sn**	**05 59 16.6**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.32**	**70**	*e*P	**Pn**	**05 59 01.0**	**+0.1**
SCLA				*e*S	**Sb**	**05 59 19.2**	**-0.6**
NBG	**Las Nubes**	**1.36**	**346**	*e*P	**Pn**	**05 59 02.7**	**+1.0**
NBG				*e*S	**Sb**	**05 59 20.6**	**-0.5**
FUG	**Fuego 3**	**1.43**	**326**	*e*P	**Pn**	**05 59 02.9**	**+0.3**
ESQI	**Esquipulas**	**1.44**	**26**	*e*P	**Pn**	**05 59 02.5**	**-0.2**
ESQI				*e*S	**Sn**	**05 59 20.4**	**-0.1**
PQSS	**Presa 15 de Se**	**1.45**	**75**	*e*P	**Pn**	**05 59 03.0**	**+0.3**
COEB	**Comit de Eme**	**1.46**	**81**	*e*P	**Pn**	**05 59 02.7**	**-0.2**
COEB				*e*S	**Sn**	**05 59 21.1**	**+0.2**
COEB	**Comit de Eme**	**1.46**	**81**	*e*P	**Pn**	**05 59 02.6**	**-0.3**
COEB				*e*S	**Sn**	**05 59 21.1**	**+0.2**
LCND	**La Caada**	**2.06**	**88**	*e*P	**Pn**	**05 59 10.3**	**-0.8**
STG3

KURBB Lg Lg 06 18 12.4
0.0nm,0.3s,baz=60,slow=32,SNR=4.3
MKAR Makanchi Array 7.81 202 Pn Pn 06 16 56.6 +1.0
0.3nm,0.3s,baz=28,slow=14,SNR=16
MKAR Lg Lg 06 19 08.3
0.0nm,0.3s,baz=30,slow=24,SNR=2.6

NEIC ***13*** *06:19:30.2±1.8, 11°.3N±0°.1×141°.2E±0°.2, h10km±1km, mb4.5/12, Error ellipse: s-maj=30.5km s-min=20.7km az=114.0*
IDC ***13*** *06:19:36.5±3.7, 11°.34N×140°.93E, h58km±34km, mb3.7/14, mb1 4.0/15, mb1mx3.7/58, mbtmp4.0/15, ML3.8/1, MS3.3/7, Ms1 3.3/7, ms1mx2.8/80, Error ellipse: s-maj=21.8km s-min=14.5km az=93.0*
ISC 13 06:19:29.6±0.6, 11°.36N±0°.10×141°.2E±0°.1, h10km, n34, σ1$10/28, mb4.1/19, MS3.3/5, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.25**	**58**	P			**Pb**	**06 20 43.2**	**-1.3**
	4.4nm,0.3s,baz=344,slow=19,SNR=1.4								
GUMO				LR			LR	06 22 23.5	
	comp=Z,171nm,18.5s,baz=262,slow=38								
JCJ	**Chichijima**	**15.69**	**3**	LR			LR	06 27 26.1	
	comp=Z,322nm,19.9s,baz=116,slow=30								
FAKI	**Fak Fak**	**16.72**	**213**				**P**	**06 23 26.5**	**+0.1**
LUWI	**Luwuk**	**22.04**	**237**	P			**P**	**06 24 23.3**	**-1.2**
MYLDM	**Lahad Datu**	**23.23**	**257**	P			**P**	**06 24 37.3**	**+0.1**
WB0	**Warramunga Arr**	**31.64**	**192**	P			**P**	**06 25 50.4**	**-2.7**
WB0				IAmb			IAmb	06 26 09.1	
	comp=Z,9.1nm,1.4s								
CTA	**Charters Tower**	**31.65**	**171**	LR			LR	06 38 15.3	
	comp=Z,37nm,19.6s,baz=78,slow=35								
WR0	**Warramunga Arr**	**31.79**	**192**	P			**P**	**06 25 54.3**	**-0.2**
WR0				IAmb			IAmb	06 25 54.7	
	comp=Z,8.0nm,1.1s								
WB2	**Warramunga Arr**	**31.81**	**192**	P			**P**	**06 25 54.3**	**-0.4**
WB2				IAmb			IAmb	06 26 02.6	
	comp=Z,6.5nm,1.1s								
WRA	**Warramunga Arr**	**31.82**	**192**	P			**P**	**06 25 54.3**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=11,slow=9.3,SNR=14								
WRA				LR			LR	06 38 42.2	
	comp=Z,67nm,19.0s,baz=354,slow=36								
WRA	**Warramunga Arr**	**31.82**	**192**	P			**P**	**06 25 53.1**	**-1.6**
ASAR	**Alice Springs**	**35.52**	**191**	P			**P**	**06 26 27.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=16,slow=12,SNR=11								
ASAR				PcP			**PcP**		**06 28 57.5 +1.2**
	comp=Z,0.2nm,0.4s,baz=6.1,slow=0.8,SNR=5.4								
ASAR	**Alice Springs**	**35.52**	**191**	P			**P**	**06 26 25.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**41.32**	**285**	P			**P**	**06 27 16.6**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=91,slow=7.1,SNR=5.6								
STKA	**Stephens Creek**	**42.99**	**179**	P			**P**	**06 27 28.9**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=346,slow=7.2,SNR=6.2								
STKA	**Stephens Creek**	**42.99**	**179**	IAmb			IAmb	06 27 29.9	
	comp=Z,1.6nm,1.2s								
FORT	**Forrest**	**43.74**	**196**	P			**P**	**06 27 35.3**	**0.0**
BBOO	**Buckleboo**	**44.19**	**186**	P			**P**	**06 27 39.3**	**+0.5**
BBOO				IAmb			IAmb	06 27 53.0	
	comp=Z,12nm,1.4s								
SONM	**Songino Array**	**46.58**	**328**	P			**P**	**06 27 57.0**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=91,slow=8.6,SNR=3.5								
MA2	**Magadan**	**48.66**	**6**	LR			LR	06 49 05.2	
	comp=Z,9.5nm,19.3s,baz=266,slow=36								
SHEM	**Shemya Is, Ala**	**49.02**	**26**	LR			LR	06 47 07.3	
	comp=Z,64nm,20.1s,baz=67,slow=34								
SEY	**Seymchan**	**52.12**	**6**	P			**P**	**06 28 39.8**	**0.0**
	comp=Z,0.5nm,0.3s,baz=234,slow=9.6,SNR=2.0								
MKAR	**Makanchi Array**	**60.62**	**318**	P			**P**	**06 29 41.4**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=95,slow=8.6,SNR=6.4								
ZALV	**Zalesovo Beam**	**61.37**	**326**	P			**P**	**06 29 45.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=117,slow=7.8,SNR=6.2								
KURBB	**Kurchatov Arra**	**64.02**	**321**	P			**P**	**06 30 03.4**	**0.0**
	comp=Z,1.5nm,0.6s,baz=106,slow=6.8,SNR=5.2								
IL31		**72.13**	**25**	P			**P**	**06 30 54.0**	**-0.1**
IL31				IAmb			IAmb	06 31 01.9	
	comp=Z,4.2nm,1.4s								
ILAR	**Eielson Array**	**72.13**	**25**	P			**P**	**06 30 54.1**	**0.0**
	comp=Z,1.0nm,0.7s,baz=248,slow=5.8,SNR=15								
INK	**Inuvik**	**77.80**	**22**	P			**P**	**06 31 27.6**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=204,slow=7.0,SNR=4.4								
INK	**Inuvik**	**77.80**	**22**	IAmb			IAmb	06 31 37.2	
	comp=Z,4.5nm,1.5s								
YKA	**Yellowknife Ar**	**86.49**	**27**	P			**P**	**06 32 13.5**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=288,slow=4.9,SNR=12								
YBH	**Yreka Blue Hor**	**87.06**	**48**	LR			LR	07 07 17.5	
	comp=Z,26nm,18.4s,baz=358,slow=33								
NVAR	**Mina Array Bea**	**91.14**	**51**	P			**P**	**06 32 37.5**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=263,slow=6.2,SNR=9.4								
FINES	**FINESS Array B**	**91.61**	**334**	P			**P**	**06 32 34.7**	**-2.0**
	comp=Z,1.2nm,0.6s,baz=49,slow=5.8,SNR=4.5								
LPAZ	**La Paz**	**151.16**	**103**	PKPbc			**PKiKP**	**06 39 26.6**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=285,slow=2.1,SNR=15								

IDC ***13*** *06:20:54.0±1.1, 36°.37N×3°.52E, h0km, mb3.5/4, mb1 3.8/9, mb1mx3.5/60, mbtmp3.6/9, ML3.7/5, MS2.7/3, Ms1 2.7/3, ms1mx2.3/70, Error ellipse: s-maj=22.9km s-min=16.6km az=158.0*
CRAAG ***13*** *06:20:53.6, 36°.34N×3°.45E, Ml3.4*
CNRM ***13*** *06:20:57.9, 36°.32N×3°.03E, h0km, ml3.7*
MDD ***13*** *06:20:57.6±0.5, 36°.38N×3°.44E, h0km, Mb4.3/24, M_mb3.6/24, Error ellipse: s-maj=4.5km s-min=2.9km az=138.0*
LDG ***13*** *06:20:58.1±0.9, 36°.41N×3°.16E, h10km, Ml3.6/11, Error ellipse: s-maj=20.5km s-min=10.0km az=152.0*
ISC 13 06:20:56.1±0.7, 36°.37N±0°.04×3°.57E±0°.03, h18km, n82, σ2$16/105, mb3.6/4, 20C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ADJB	**Djebel Djouab**	**0.24**	**206**	P			**Pb**	**06 20 59.0**	**-2.8**
ABMS	**Boumerdes**	**0.38**	**349**	P			**Pg**	**06 21 03.6**	**-0.4**
AKET	**Djebel Ketaf**	**0.41**	**142**	P			**Pg**	**06 21 04.1**	**-0.5**
ABA	**Alger-Bouzarea**	**0.61**	**315**	P			**Pg**	**06 21 06.1**	**-2.0**
ATAF	**Djebel Tarf**	**0.76**	**131**	P			**Pb**	**06 21 10.9**	**+0.1**
SET	**Setif**	**1.49**	**96**	P			**Pn**	**06 21 24.0**	**+2.0**
DFRA	**Djebel Bou Aff**	**1.87**	**84**	P			**Pn**	**06 21 28.0**	**+0.8**
EANR	**'Ain N'Sour**	**2.04**	**259**	P			**Pn**	**06 21 30.0**	**+0.4**
CASM	**Ain Smara**	**2.36**	**92**	P			**Pn**	**06 21 33.0**	**-1.0**
OJGS	**Djebel Guires**	**2.45**	**250**	P			**Pb**	**06 21 38.0**	**-1.6**
CKFL	**Kef-Lekhel**	**2.54**	**88**	P			**Pn**	**06 21 39.0**	**+2.5**
OJBR	**Djebel Berber**	**2.73**	**254**	P			**Pg**	**06 21 47.0**	**-1.5**
CMAH	**Djebel Manchou**	**3.11**	**84**	P			**Pn**	**06 21 45.0**	**+0.7**
ABSA	**Djebel Ababsia**	**3.16**	**91**	P			**Pn**	**06 21 47.0**	**+2.0**
EIBI	**Ibiza**	**3.18**	**327**	P			**Pn**	**06 21 45.6**	**+0.3**
EIBI				⇑*iVmb_V*				06 21 51.2	
	952nm,SNR=4.3								
EIBI				S			**Sn**	**06 22 20.2**	**-2.5**
ODJA	**Bouhanifia**	**3.20**	**252**	P			**Pb**	**06 21 54.0**	**+1.7**
ETOS	**Mallorca**	**3.44**	**350**	P			**Pn**	**06 21 49.3**	**+0.5**
ETOS				⇑*iVmb_V*				06 21 58.2	
	400nm,SNR=2.9								
ETOS				S			**Sn**	**06 22 27.3**	**-1.8**
MAHO	**Mahon**	**3.56**	**9**	P			**Pn**	**06 21 49.8**	**-0.6**
MAHO				S			**Sn**	**06 22 27.7**	**-4.2**
OTSS	**Djebel Tessala**	**3.71**	**254**	P			Pn	06 21 41.0	-12
CART	**Cartagena**	**3.85**	**290**	P			**Pn**	**06 21 53.7**	**-0.7**
CART				S			**Sn**	**06 22 36.1**	**-3.2**
CART	**Cartagena**	**3.85**	**290**	P			**Pn**	**06 21 53.0**	**-1.4**
CART				S			**Sn**	**06 22 35.6**	**-3.7**
AFON	**Font Roja**	**3.99**	**306**	⇑*iVmb_V*				06 22 05.9	
	198nm,SNR=1.2								
AFON				S			**Sb**	**06 22 57.6**	**+3.7**
EMUR	**La Murta**	**4.12**	**292**	P			**Pn**	**06 21 57.4**	**-0.7**
EMUR				⇑*iVmb_V*				06 22 01.9	
	261nm,SNR=2.5								
EMUR				S			**Sn**	**06 22 45.8**	**0.0**
ECOL	**Islas Columbre**	**4.19**	**328**	P			**Pn**	**06 21 59.6**	**+0.6**
ECOL				S			**Sn**	**06 22 46.5**	**-1.0**
EZAR	**Zarzadilla de**	**4.47**	**291**	P			**Pn**	**06 22 03.0**	**+0.1**
EZAR				S			**Sn**	**06 22 54.9**	**+0.4**
ETOB	**Tobarra**	**4.66**	**301**	P			**Pn**	**06 22 05.6**	**+0.1**
ETOB				⇑*iVmb_V*				06 22 13.4	
	332nm,SNR=3.7								
ETOB				S			**Sn**	**06 22 59.5**	**+0.3**
ENIJ	**Nijar**	**4.68**	**279**	P			**Pn**	**06 22 05.8**	**0.0**
ENIJ				⇑*iVmb_V*				06 22 12.0	
	194nm,SNR=1.3								
ENIJ				S			**Sn**	**06 22 56.0**	**-3.8**
EVIV	**Cofrentes, Val**	**4.70**	**309**	P			**Pn**	**06 22 06.5**	**+0.4**
EVIV				S			**Sn**	**06 23 01.6**	**+1.4**
KEST	**Kesra**	**4.72**	**96**	Pn			**Pn**	**06 22 08.2**	**+1.8**
	1.7nm,0.3s,baz=258,slow=2.5,SNR=18								
KEST				S			**Sn**	**06 23 04.1**	**+3.3**
	1.6nm,0.3s,baz=173,slow=23,SNR=1.9								
ECHE	**Chera**	**4.81**	**313**	P			**Pn**	**06 22 08.2**	**+0.5**
ECHE				⇑*iVmb_V*				06 22 10.4	
	282nm,SNR=2.3								
EMOS	**Mosqueruela**	**5.09**	**323**	P			**Pn**	**06 22 12.2**	**+0.6**
EMOS				⇑*iVmb_V*				06 22 15.8	
	318nm,SNR=3.4								
EMOS				S			**Sn**	**06 23 07.7**	**-2.4**
TAF	**Taforalt**	**5.12**	**254**	P			**Pn**	**06 22 10.5**	**-1.4**
EBER	**Berja**	**5.22**	**278**	P			**Pn**	**06 22 13.9**	**+0.5**
EBER				⇑*iVmb_V*				06 22 22.6	
	214nm,SNR=1.8								
EBER				S			**Sn**	**06 23 11.0**	**-2.3**
EPOB	**Poblet**	**5.34**	**339**	P			**Pn**	**06 22 15.3**	**+0.4**
EPOB				⇑*iVmb_V*				06 22 22.8	
	83nm,SNR=1.2								
EPOB				S			**Sn**	**06 23 12.8**	**-3.2**
JBK	**JBK**	**5.41**	**250**	P			**Pn**	**06 22 15.8**	**-0.2**
TDRA	**Tendrara**	**5.69**	**236**	P			**Pn**	**06 22 19.0**	**-0.8**
EMIR	**Miracle**	**5.76**	**345**	P			**Pn**	**06 22 22.8**	**+2.2**
EMIR				⇑*iVmb_V*				06 22 28.3	
	755nm,SNR=3.4								
EMIR				S			**Sn**	**06 23 25.2**	**-1.0**
ELGU	**Los Guajares,**	**5.81**	**277**	P			**Pn**	**06 22 23.3**	**+1.9**
ELGU				⇑*iVmb_V*				06 22 25.6	
	112nm,SNR=1.2								
FIGM	**Figuig**	**5.82**	**225**	P			**Pn**	**06 22 20.8**	**-0.8**
EJON	**La Jonquera**	**6.09**	**355**	P			**Pn**	**06 22 26.9**	**+1.7**
EJON				⇑*iVmb_V*				06 22 28.3	
	311nm,SNR=2.0								
EJON				S			**Sn**	**06 23 34.1**	**-0.3**
ESAC	**San Caprasio**	**6.20**	**331**	P			**Pn**	**06 22 30.1**	**+3.4**
ESAC				⇑*iVmb_V*				06 22 33.1	
	242nm,SNR=1.3								
ESAC				S			**Sn**	**06 23 37.2**	**+0.1**
EGOR	**Sierra Gorda,**	**6.21**	**279**	⇑*iVmb_V*				06 22 37.6	
	70nm,SNR=1.3								
EGOR				S			**Sn**	**06 23 39.8**	**+2.2**
ETOR	**Torete**	**6.25**	**317**	P			**Pn**	**06 22 29.7**	**+2.2**
ETOR				⇑*iVmb_V*				06 22 37.5	
	119nm,SNR=1.3								
ETOR				S			**Sn**	**06 23 39.5**	**+1.0**
ESDC	**Sonseca Array**	**6.80**	**301**	Pn			**Pn**	**06 22 34.4**	**-0.6**
	0.4nm,0.3s,baz=112,slow=13,SNR=11								
ESDC				Sn			**Sn**	**06 23 55.5**	**+3.7**
	baz=110,slow=25,SNR=1.7								
ESDC				LR			LR	06 25 03.6	
	comp=Z,60nm,21.0s,baz=143,slow=37								
PAB	**San Pablo**	**7.01**	**299**	P			**Pn**	**06 22 37.3**	**-0.6**
PAB				⇑*iVmb_V*				06 22 43.6	
	59nm,SNR=0.7								
MTLF	**Montolieu**	**7.04**	**352**	*e*Pn			**Pn**	**06 22 40.4**	**+2.2**
MTL	**Montolieu**	**7.04**	**352**	*e*P			Pn	06 22 45.5	+7.3
EPF	**Esparros**	**7.10**	**340**	*e*Pn			**Pn**	**06 22 42.9**	**+3.8**
EPF	**Esparros**	**7.10**	**340**	*e*P			Pn	06 22 47.6	+8.5
EPF				*e*Sn			**Sn**	**06 23 56.4**	**-2.9**
	2.7nm,0.4s								
ETSF	**Etsaut**	**7.25**	**335**	*e*Pn			**Pn**	**06 22 45.1**	**+3.9**
LMR	**La Mourre**	**7.31**	**17**	*e*Pn			**Pn**	**06 22 42.3**	**+0.4**
LMR				*e*Sn			**Sn**	**06 24 00.0**	**-4.4**
	4.5nm,0.3s								
ECAB	**El Cabril**	**7.37**	**286**	P			**Pn**	**06 22 42.0**	**-0.8**
ECAB				⇑*iVmb_V*				06 22 49.2	
	44nm,SNR=0.5								
ECAB				S			**Sn**	**06 24 06.8**	**+0.8**
GUD	**Guadarrama**	**7.40**	**307**	P			**Pn**	**06 22 43.8**	**+0.4**
GUD				⇑*iVmb_V*				06 22 47.6	
	38nm,SNR=0.7								
PGF	**Pioggiola**	**7.46**	**33**	*e*Pn			**Pn**	**06 22 44.6**	**+0.5**
PGF				*e*Sn			**Sn**	**06 24 02.6**	**-5.6**
	7.7nm,0.4s								
FRF	**La Foret Royal**	**7.56**	**17**	*e*Pn			**Pn**	**06 22 46.3**	**+1.0**
ESPR	**Espera**	**7.60**	**277**	S			**Sn**	**06 24 12.2**	**+0.7**
MDT	**Midelt**	**7.62**	**245**	Pn			**Pn**	**06 22 46.7**	**+0.5**
	0.3nm,0.3s,baz=81,slow=16,SNR=10								
MDT				Lg			Lg	06 24 54.6	
	0.4nm,0.3s,baz=48,slow=2.9,SNR=2.4								
MDT	**Midelt**	**7.62**	**245**	P			**Pn**	**06 22 45.8**	**-0.5**
SJPF	**Ste Jean**	**7.68**	**333**	*e*Pn			Pn	06 22 51.8	+4.8
SJPF	**Ste Jean**	**7.68**	**333**	*e*P			Pn	06 22 56.0	+9.0
SJPF				*e*Sn			**Sn**	**06 24 10.6**	**-2.8**
	6.8nm,0.5s								
LASF	**Ste Croix**	**7.70**	**2**	*e*Pn			**Pn**	**06 22 48.7**	**+1.5**
LASF				*e*Sn			**Sn**	**06 24 09.7**	**-4.2**
	32nm,0.7s								
MD31	**MD31**	**7.70**	**245**	P			Pn	**06 22 45.8**	**-1.7**
SMRF	**Simiane la Rot**	**7.75**	**11**	*e*Pn			**Pn**	**06 22 49.8**	**+1.9**
SMRF				*e*Sn			**Sn**	**06 24 11.7**	**-3.5**
	2.7nm,0.5s								
SBF	**Sospel**	**8.04**	**20**	*e*Pn			**Pn**	**06 22 53.0**	**+1.0**
SBF				*e*Sn			**Sn**	**06 24 18.0**	**-4.6**
	9.9nm,0.5s								
SBF				*e*Sg			Sb	06 25 04.7	+14
	3.8nm,0.2s								
VIVF	**Saint-Julien-l**	**8.52**	**5**	*e*Pn			**Pn**	**06 23 00.2**	**+1.7**
VIVF				*e*Sn			**Sn**	**06 24 28.4**	**-5.7**
	4.8nm,0.5s								
CAF	**Calviac**	**8.62**	**353**	*e*Pn			**Pn**	**06 23 02.8**	**+2.9**
LFF	**La Frestale**	**8.82**	**347**	*e*Pn			**Pn**	**06 23 05.2**	**+2.6**
LPL	**La Plagne**	**9.43**	**14**	*e*Pn			**Pn**	**06 23 13.1**	**+1.9**
LPL	**La Plagne**	**9.44**	**14**	*e*Pn			**Pn**	**06 23 12.6**	**+1.3**
LPL	**La Plagne**	**9.44**	**14**	*e*P			Pn	06 23 17.8	+6.5
EARI	**Arriondas**	**9.66**	**318**	P			**Pn**	**06 23 16.1**	**+1.9**
EARI				⇑*iVmb_V*				06 23 20.9	
	184nm,SNR=1.4								
BGF	**Bois d'Agland**	**10.19**	**357**	*e*Pn			**Pn**	**06 23 23.4**	**+2.0**
BGF				*e*Sn			**Sn**	**06 25 11.9**	**-3.2**
	8.0nm,0.2s								
AVF	**Avril sur Loir**	**10.41**	**359**	*e*Pn			**Pn**	**06 23 26.6**	**+2.2**
AVF				*e*Sn			**Sn**	**06 25 17.1**	**-3.4**
HAU	**Haudompre**	**11.80**	**9**	*e*Pn			**Pn**	**06 23 44.9**	**+1.4**
GERES	**GERESS Array B**	**14.51**	**28**	Pn			**Pn**	**06 24 22.0**	**+1.6**
	0.2nm,0.3s,baz=202,slow=13,SNR=6.8								
MLR	**Muntele Rosu**	**19.15**	**55**	P			**Pn**	**06 25 20.8**	**+1.4**
	0.1nm,0.3s,baz=305,slow=12,SNR=2.6								
EKA	**Eskdalemuir Ar**	**19.52**	**348**	LR			LR	06 32 27.0	
	comp=Z,48nm,18.3s,baz=198,slow=36								
TORD	**Torodi Ar. Bea**	**23.19**	**185**	P			**P**	**06 26 02.1**	**+0.2**
	1.5nm,0.8s,baz=0.0,slow=8.9,SNR=11								
AKASG	**Malin Array Be**	**23.32**	**44**	P			**P**	**06 26 02.1**	**-0.8**
	0.6nm,0.5s,baz=241,slow=10,SNR=5.6								
NOA	**NORSAR Array B**	**25.16**	**9**	LR			LR	06 36 09.3	
	comp=Z,7.7nm,21.4s,baz=230,slow=36								
MKAR	**Makanchi Array**	**57.49**	**53**	P			**P**	**06 30 44.8**	**+0.8**
	0.3nm,0.5s,baz=276,slow=5.2,SNR=5.0								
YKA	**Yellowknife Ar**	**69.75**	**334**	P			**P**	**06 32 05.3**	**+0.6**
	0.5nm,0.6s,baz=51,slow=6.1,SNR=15								

IDC ***13*** *06:29:24.6±3.6, 5°.12S×97°.62E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/56, mbtmp3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.4/71, Error ellipse: s-maj=133.7km s-min=23.1km az=56.0*
DJA ***13*** *06:29:30.3±0.8, 4°.5S×9°.9E±°, h10km, M4.8/10, mb4.8/5, mB5.2/4, MLv4.8/10, Mw(mB)4.6/4*
ISC 13 06:29:31.3±1.4, 4°.27S±0°.10×98°.8E±0°.1, h10km, n23, σ1$69/17, mb3.5/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.92**	**39**	P			**Pn**	**06 30 04.3**	**+0.2**
PPSI				S			**Sn**	**06 30 27.5**	**-0.9**
SISI	**Saibi**	**2.94**	**6**	P			**Pn**	**06 30 15.9**	**-2.2**
KRJI	**Kerinci**	**3.43**	**51**	P			**Pn**	**06 30 24.9**	**0.0**
MASI	**Maura Aman, Be**	**3.61**	**72**	P			**Pn**	**06 30 27.6**	**+0.2**
PPI	**Padang Panjang**	**4.11**	**23**	P			**Pn**	**06 30 33.9**	**-0.3**
LWLI	**Liwa**	**5.30**	**98**	P			**Pn**	**06 30 49.8**	**-0.9**
	1.4nm170nm,0.4s								
MDSI	**Maura Dua**	**5.37**	**93**	P			**Pn**	**06 30 52.1**	**+0.5**
	0.3nm662nm16nm,0.6s								
GSI	**Gunungsitoli**	**5.67**	**348**	P			**Pn**	**06 30 54.0**	**-1.6**
	0.3nm17nm,0.5s								
KASI	**Kota Agung**	**5.81**	**103**	P			**Pn**	**06 30 57.6**	**-0.1**
CGJI	**Cibinong**	**7.25**	**109**	P			**Pn**	**06 31 16.9**	**-0.5**
	0.4nm2μm72nm,0.5s								
CNJI	**Cibinong**	**8.82**	**110**	P			**Pn**	**06 31 37.7**	**-1.3**
CMAR	**Chiang Mai Arr**	**22.58**	**0**	P			**P**	**06 34 37.1**	**+5.0**
	0.6nm,0.7s,baz=194,slow=10,SNR=4.7								
H08S2	**Diego Garcia H**	**26.37**	**261**	T			T	07 02 22.4	
	baz=82,slow=74,SNR=13								
H08S3	**Diego Garcia H**	**26.38**	**261**	T			T	07 02 22.6	
	baz=82								
H08S1	**Diego Garcia H**	**26.39**	**261**	T			T	07 02 20.1	
	baz=82,slow=74,SNR=11								
H01W3	**Cape Leeuwin H**	**33.62**	**157**	T			T	07 11 49.6	
	baz=325								
H01W2	**Cape Leeuwin H**	**33.63**	**157**	T			T	07 11 51.2	
	baz=325								
H01W1	**Cape Leeuwin H**	**33.63**	**157**	T			T	07 11 51.2	
	baz=325,SNR=5.6								
WRA	**Warramunga Arr**	**37.96**	**117**	P			**P**	**06 36 49.6**	**0.0**
	1.2nm,0.8s,baz=294,slow=8.7,SNR=7.9								
ASAR	**Alice Springs**	**38.97**	**123**	P			**P**	**06 36 57.6**	**-0.4**
	0.2nm,0.3s,baz=288,slow=8.7,SNR=4.2								
PMG	**Port Moresby**	**48.26**	**99**	LR			LR	07 03 25.4	
	comp=Z,42nm,19.0s,baz=256,slow=41								
MKAR	**Makanchi Array**	**52.90**	**346**	P			**P**	**06 38 46.1**	**-1.4**
	0.5nm,0.7s,baz=154,slow=9.4,SNR=5.4								
ZALV	**Zalesovo Beam**	**59.17**	**350**	P			**P**	**06 39 31.1**	**-1.2**
	0.5nm,0.4s,baz=194,slow=5.5,SNR=2.4								

IDC ***13*** *06:34:53.3±6.7, 17°.71S×174°.40W, h99km±44km, mb3.4/5, mb1 3.7/6, mb1mx3.4/44, mbtmp3.7/6, Error ellipse: s-maj=155.6km s-min=20.0km az=148.0*
ISC 13 06:34:55.1±2.5, 17°.1S±0°.7×174°.8W±0°.6, h100km, n6, σ1$17/7, mb3.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.30**	**42**	P			**Pn**	**06 35 59.8**	**+1.3**
	2.1nm,0.3s,baz=177,slow=22,SNR=1.7								
AFI				S			**Sn**	**06 36 46.2**	**-1.5**
	24nm,0.3s,baz=242,slow=16,SNR=12								
WRA	**Warramunga Arr**	**48.19**	**258**	P			**P**	**06 43 25.6**	**-0.2**
	0.3nm,0.4s,baz=97,slow=6.0,SNR=15								
ASAR	**Alice Springs**	**48.35**	**253**	P			**P**	**06 43 26.7**	**-0.4**
	3.0nm,0.6s,baz=87,slow=8.6,SNR=37								
NVAR	**Mina Array Bea**	**76.48**	**42**	P			**P**	**06 46 34.4**	**-0.1**
	0.5nm,0.7s,baz=225,slow=7.5,SNR=4.9								
ILAR	**Eielson Array**	**84.39**	**12**	P			**P**	**06 47 16.5**	**+0.7**
	0.2nm,0.5s,baz=233,slow=4.4,SNR=4.3								
PDAR	**Pinedale Array**	**84.42**	**42**	P			**P**	**06 47 15.8**	**-1.0**
	0.4nm,0.7s,baz=234,slow=7.1,SNR=4.0								

TUL ***13*** *06:35:27.9±1.3, 36°.26N±0°.01×96°.70W±0°.01, h3km±7km, ML2.7, mb_Lg2.3/34(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=183.0*
NEIC 13 06:35:28.1±0.9, 36°.28N±0°.01×96°.69W±0°.02, h2km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=94.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.66**	**13**	Pg			Pg	06 35 40.8	+0.1
T35A				Sg			Sg	06 35 49.4	+0.3
TUL1	**Leonard**	**0.82**	**116**				Pg	06 35 43.7	0.0
W35A	**Tecumseh**	**1.13**	**188**				Pg	06 35 48.8	-1.0
FNO	**Franklin**	**1.17**	**210**				Pg	06 35 49.3	-1.1
U32A	**Winter Ranch,**	**1.87**	**274**				Pn	06 36 01.2	+0.1
X34A	**Smith Ranch, M**	**1.91**	**209**				Pn	06 36 02.6	+0.8
X34A				IAmb_Lg				06

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.06**	**264**	*i*		06 54 30.0	
	baz=85,slow=324,SNR=5.0						
ZAA0	**Zalesovo Array**	**1.06**	**264**	⇓P	**Pb**	**06 47 55.6**	**-1.2**
	0.5nm,0.6s						
ZAA0				⇓S	**Sb**	**06 48 11.6**	**+0.3**
	11nm,1.1s						
ZALV	**Zalesovo Beam**	**1.06**	**264**	Pg	**Pg**	**06 47 55.5**	**-0.5**
	1.3nm,0.3s,baz=84,slow=17,SNR=19						
ZALV				Lg	Lg	06 48 10.4	
	2.3nm,0.3s,baz=82,slow=30,SNR=13						
ZALV				Rg	Rg	06 48 16.4	
	81nm,1.1s,baz=86,slow=25,SNR=15						
KURK	**Kurchatov**	**5.93**	**239**	⇓Pn	**Pn**	**06 49 03.6**	**-1.0**
	6.0nm,0.6s						
KURK				⇓Sn	**Sn**	**06 50 12.1**	**-1.1**
	2.9nm,0.8s						
KURBB	**Kurchatov Arra**	**6.03**	**238**	Pn	**Pn**	**06 49 08.7**	**+2.6**
	0.1nm,0.3s,baz=56,slow=14,SNR=13						
KURBB				Sn	**Sn**	**06 50 16.1**	**+0.3**
	0.1nm,0.3s,baz=71,slow=34,SNR=1.8						
KURBB				Lg	Lg	06 50 46.0	
	baz=59,slow=32,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.03**	**238**	⇑Pn	**Pn**	**06 49 08.5**	**+2.4**
	5.8nm,0.8s						
KURBB				⇑Sn	**Sn**	**06 50 17.1**	**+1.4**
	6.7nm,0.7s						
MK31	**Makanchi Array**	**7.79**	**202**	⇑Pn	**Pn**	**06 49 29.4**	**-0.8**
	0.2nm,0.3s,baz=25,slow=13,SNR=9.6						
MK31				⇑Sn	**Sn**	**06 50 58.1**	**-0.9**
	0.9nm,0.8s,baz=225,slow=34,SNR=3.5						
MK31				⇓Lg	Lg	06 51 40.1	
	1.5nm,0.6s,baz=22,slow=28						
MKAR	**Makanchi Array**	**7.79**	**202**	Pn	**Pn**	**06 49 32.6**	**+2.4**
	0.1nm,0.3s,baz=26,slow=14,SNR=8.7						
MKAR				Sn	**Sn**	**06 50 58.5**	**-0.5**
	0.1nm,0.3s,baz=21,slow=25,SNR=3.4						

*SNET **13** 07:13:00.6±1.0, 13°.30N×89°.97W, h32km±3km, ML3.8*
*UCR **13** 07:13:00.7±1.0, 13°.31N×89°.96W, h32km±2km, ML3.7*
*INET **13** 07:13:00.6±0.3, 13°.32N×89°.99W, h23km±4km, MW2.7*
*GCG **13** 07:13:03.3±0.3, 13°.72N×90°.12W, h108km±6km, MD3.7*

ISC 13 07:12:59.9±1.8, 13°.28N±0°.07×90°.00W±0°.05, h30km±12km, n42, σ0°37/59, 2C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.65**	**33**	*e*P	**Pn**	**07 13 13.9**	**+0.5**
CEVE				IAML		07 13 25.4	
	comp=Z,24μm,0.3s						
CEVE	**Cerro Verde**	**0.65**	**33**	*e*P	**Pn**	**07 13 13.9**	**+0.5**
CEVE				IAML		07 13 25.4	
	comp=Z,24μm,0.3s						
NUBE	**Las Nubes**	**0.65**	**19**	*i* P	**Pb**	**07 13 13.1**	**+0.1**
NUBE				*e*S	**Sn**	**07 13 22.8**	**+0.1**
NUBE	**Las Nubes**	**0.65**	**19**	*i* P	**Pb**	**07 13 13.1**	**+0.1**
NUBE				*e*S	**Sn**	**07 13 22.8**	**+0.1**
SBLS	**San Blas**	**0.66**	**33**	⇓*i* P	**Pn**	**07 13 13.6**	**+0.1**
SBLS	**San Blas**	**0.66**	**33**	⇓*i* P	**Pn**	**07 13 13.6**	**+0.1**
LALI	**Alcalda de L**	**0.69**	**72**	*e*P	**Pn**	**07 13 13.5**	**-0.1**
LALI				*e*S	**Sn**	**07 13 22.8**	**-0.5**
LALI	**Alcalda de L**	**0.69**	**72**	*e*P	**Pn**	**07 13 13.5**	**-0.1**
LALI				*e*S	**Sn**	**07 13 22.8**	**-0.5**
SNJE	**San Jose**	**0.70**	**33**	*e*P	**Pb**	**07 13 13.9**	**+0.1**
SNJE	**San Jose**	**0.70**	**33**	*e*P	**Pb**	**07 13 13.9**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.77**	**15**	*e*P	**Pn**	**07 13 14.8**	**0.0**
SLOZ				*e*S	**Sn**	**07 13 26.2**	**+0.8**
BOQS	**Boqueron**	**0.83**	**57**	*e*P	**Pb**	**07 13 16.1**	**+0.1**
BOQS	**Boqueron**	**0.83**	**57**	*e*P	**Pb**	**07 13 16.1**	**+0.1**
SNET	**Serv Nac Est T**	**0.85**	**61**	*e*P	**Pn**	**07 13 15.8**	**-0.1**
SNET	**Serv Nac Est T**	**0.85**	**61**	*e*P	**Pn**	**07 13 15.8**	**-0.1**
SNET	**Serv Nac Est T**	**0.85**	**61**	*e*P	**Pn**	**07 13 15.8**	**-0.1**
UEES	**Universidad Ev**	**0.85**	**59**	*e*P	**Pn**	**07 13 16.1**	**+0.1**
UEES	**Universidad Ev**	**0.85**	**59**	*e*P	**Pn**	**07 13 16.1**	**+0.1**
LFRS	**El Faro**	**0.97**	**69**	*e*P	**Pn**	**07 13 17.4**	**-0.2**
LFRS	**El Faro**	**0.97**	**69**	*e*P	**Pn**	**07 13 17.4**	**-0.2**
PAVA	**Las Pavas**	**1.12**	**67**	*e*P	**Pb**	**07 13 20.5**	**-0.3**
PAVA				*e*S	**Sb**	**07 13 35.3**	**+0.4**
PAVA	**Las Pavas**	**1.12**	**67**	*e*P	**Pb**	**07 13 20.5**	**-0.3**
PAVA				*e*S	**Sb**	**07 13 35.3**	**+0.4**
PAVA	**Las Pavas**	**1.12**	**67**	*e*P	**Pn**	**07 13 19.9**	**+0.3**
COEG	**Centro de Oper**	**1.14**	**73**	*e*P	**Pn**	**07 13 20.0**	**+0.1**
COEG	**Centro de Oper**	**1.14**	**73**	*e*P	**Pn**	**07 13 20.0**	**+0.1**
COEG	**Centro de Oper**	**1.14**	**73**	*e*P	**Pn**	**07 13 20.0**	**+0.1**
MTO3	**Montecristo**	**1.27**	**29**	⇑*i*P	**Pn**	**07 13 22.0**	**+0.1**
MTO3				*e*S	**Sb**	**07 13 38.8**	**-0.7**
MTO3	**Montecristo**	**1.27**	**29**	⇑*i*P	**Pn**	**07 13 22.0**	**+0.1**
MTO3				*e*S	**Sb**	**07 13 38.8**	**-0.7**
MTO3	**Montecristo**	**1.27**	**29**	*e*P	**Pn**	**07 13 22.0**	**+0.1**
MTO3				*e*S	**Sb**	**07 13 38.7**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.30**	**71**	*e*P	**Pn**	**07 13 22.8**	**+0.6**
SCLA				*e*S	**Sb**	**07 13 40.3**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.30**	**71**	*e*P	**Pn**	**07 13 22.8**	**+0.6**
SCLA				*e*S	**Sb**	**07 13 40.3**	**+0.1**
NBG	**Las Nubes**	**1.34**	**345**	*e*P	**Pb**	**07 13 24.3**	**-0.4**
NBG				*e*S	**Sb**	**07 13 42.2**	**+0.6**
ESQI	**Esquipulas**	**1.42**	**26**	*i* P	**Pn**	**07 13 24.1**	**+0.3**
FUG	**Fuego 3**	**1.42**	**325**	*e*P	**Pn**	**07 13 23.9**	**0.0**
FUG				*e*S	**Sn**	**07 13 42.2**	**+0.4**
PQSS	**Presa 15 de Se**	**1.44**	**76**	*e*P	**Pn**	**07 13 24.4**	**+0.4**
PQSS	**Presa 15 de Se**	**1.44**	**76**	*e*P	**Pn**	**07 13 24.4**	**+0.4**
COEB	**Comit de Eme**	**1.44**	**81**	*e*P	**Pn**	**07 13 24.1**	**0.0**
COEB				*e*S	**Sn**	**07 13 42.0**	**-0.1**
COEB				IAML		07 13 44.8	
	comp=Z,428nm,0.3s						
COEB	**Comit de Eme**	**1.44**	**81**	*e*P	**Pn**	**07 13 24.1**	**0.0**
COEB				*e*S	**Sn**	**07 13 42.0**	**-0.1**
COEB				IAML		07 13 44.8	
	comp=Z,428nm,0.3s						
COEB	**Comit de Eme**	**1.44**	**81**	*e*P	**Pn**	**07 13 24.1**	**0.0**
LCND	**La Caada**	**2.05**	**89**	*e*P	**Pn**	**07 13 32.8**	**+0.4**
LCND				IAML		07 14 01.7	
	comp=Z,330nm,0.3s						
LCND	**La Caada**	**2.05**	**89**	*e*P	**Pn**	**07 13 32.8**	**+0.4**
LCND				IAML		07 14 01.7	
	comp=Z,330nm,0.3s						
STG3	**Santiaguito 3,**	**2.09**	**313**	*e*P	**Pn**	**07 13 33.5**	**+0.4**
STG3				*e*S	**Sn**	**07 13 57.2**	**-1.0**

IDC 13 07:14:44.3±3.8, 54°.30N×87°.39E, h0km, mb1 2.7/2, mb1mx2.7/59, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=33.4km s-min=21.0km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.55**	**258**	*i*		07 23 44.5	
	baz=78,slow=330,SNR=5.4						
ZALV	**Zalesovo Beam**	**1.55**	**258**	Pg	Pn	07 15 11.6	-1.6
	0.9nm,0.3s,baz=73,slow=16,SNR=9.8						
ZALV				Lg	Lg	07 15 34.6	
	0.7nm,0.3s,baz=77,slow=31,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.55**	**239**	Pn	Pn	07 16 21.6	-0.2
	0.1nm,0.3s,baz=55,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**8.19**	**205**	Pn	Pn	07 16 46.4	+2.0
	0.1nm,0.3s,baz=24,slow=14,SNR=2.5						

*IDC **13** 07:17:38.5±2.6, 53°.59N×87°.85E, h0km, mb1 3.4/2, mb1mx3.1/61, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=22.5km s-min=15.2km az=61.0*
*NNC **13** 07:17:40.2±3.6, 53°.52N×87°.64E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=31.0km s-min=15.1km az=51.0, Suspected Mining explosion.*

ISC 13 07:17:39.1±3.3, 53°.6N±0°.1×87°.7E±0°.2, h0km, n8, σ0°.94/12, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**281**	*i*		07 29 50.0	
	baz=98,slow=340,SNR=4.0						
ZAA0	**Zalesovo Array**	**1.72**	**281**	⇓P	**Pn**	**07 18 10.5**	**+0.2**
	1.3nm,0.3s						
ZAA0				⇓S	**Sg**	**07 18 35.1**	**+0.8**
	3.3nm,0.4s						
ZALV	**Zalesovo Beam**	**1.72**	**281**	Pn	**Pb**	**07 18 10.8**	**-0.7**
	11nm,0.3s,baz=98,slow=15,SNR=10						
ZALV				Lg	Lg	07 18 36.6	
	9.1nm,0.3s,baz=105,slow=28,SNR=12						
KURK	**Kurchatov**	**6.29**	**246**	⇓Pn	**Pn**	**07 19 13.8**	**+0.8**
	4.3nm,0.8s						
KURK				⇑Lg	Lg	07 21 00.5	
	8.3nm,1.2s						
KURBB	**Kurchatov Arra**	**6.39**	**245**	Pn	**Pn**	**07 19 15.4**	**+1.1**
	0.3nm,0.3s,baz=62,slow=14,SNR=29						
KURBB				Sn	**Sn**	**07 20 28.4**	**+0.4**
	0.1nm,0.3s,baz=65,slow=27,SNR=2.3						
KURBB				Lg	Lg	07 21 03.6	
	0.1nm,0.3s,baz=64,slow=33,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.39**	**245**	⇑Pn	**Pn**	**07 19 15.2**	**+0.9**
	3.1nm,0.3s						
KURBB				⇑Sn	**Sn**	**07 20 26.4**	**-1.6**
	5.3nm,0.6s						
KURBB				⇓Lg	Lg	07 21 02.7	
	4.8nm,0.6s						
MK31	**Makanchi Array**	**7.67**	**209**	⇑Pn	**Pn**	**07 19 32.5**	**+0.5**
	1.0nm,0.7s,baz=28,slow=14,SNR=15						
MK31				⇓Sn	**Sn**	**07 20 59.0**	**-0.7**
	2.2nm,0.8s						
MK31				⇑Lg	Lg	07 21 39.7	
	3.8nm,0.8s,baz=20,slow=32						
MKAR	**Makanchi Array**	**7.67**	**209**	Pn	**Pn**	**07 19 32.6**	**+0.6**
	0.4nm,0.3s,baz=29,slow=13,SNR=16						
MKAR				Sn	**Sn**	**07 20 59.0**	**-0.6**
	0.2nm,0.3s,baz=30,slow=23,SNR=3.8						
MKAR				Lg	Lg	07 21 42.1	
	0.2nm,0.3s,baz=22,slow=32,SNR=5.4						

*IDC **13** 07:21:55.3±1.1, 49°.97N×78°.50E, h0km, mb1 2.9/2, mb1mx2.8/51, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=11.9km s-min=6.8km az=69.0*
*NNC **13** 07:21:55.8±0.4, 50°.01N×78°.75E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=7.9km s-min=2.1km az=77.0, Suspected Mining explosion.*

ISC 13 07:21:55.9±1.0, 49°.96N±0°.05×78°.75E±0°.10, h0km, n17, σ1°06/27, 16C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.64**	**347**	⇓P	**Pg**	**07 22 07.3**	**-0.9**
KUR07				⇓S	**Sg**	**07 22 16.5**	**0.0**
KUR06	**Kurchatov Arra**	**0.66**	**348**	⇑P	**Pg**	**07 22 07.8**	**-0.8**
KUR06				⇑S	**Sg**	**07 22 16.9**	**-0.2**
KUR14	**Kurchatov Arra**	**0.66**	**352**	⇑P	**Pg**	**07 22 07.7**	**-0.9**
KUR14				⇑S	**Sg**	**07 22 17.1**	**-0.1**
KUR15	**Kurchatov Arra**	**0.67**	**350**	⇓P	**Pg**	**07 22 07.8**	**-1.0**
KUR15				⇑S	**Sg**	**07 22 17.2**	**-0.3**
KURBB	**Kurchatov Arra**	**0.68**	**348**	Pg	**Pg**	**07 22 07.9**	**-1.0**
	2.3nm,0.3s,baz=182,slow=29,SNR=60						
KURBB				Lg	Lg	07 22 17.1	
	2.0nm,0.3s,baz=179,slow=28,SNR=7.2						
KURBB	**Kurchatov Arra**	**0.68**	**348**	⇑P	**Pg**	**07 22 08.0**	**-1.0**
	11nm,0.2s						
KURBB				⇓S	**Sg**	**07 22 17.1**	**-0.6**
	28nm,0.3s						
KUR16	**Kurchatov Arra**	**0.69**	**347**	⇓P	**Pg**	**07 22 08.5**	**-0.6**
KUR16				⇓S	**Sg**	**07 22 18.0**	**0.0**
KUR05	**Kurchatov Arra**	**0.70**	**349**	⇑P	**Pg**	**07 22 08.3**	**-0.9**
KUR05				⇑S	**Sg**	**07 22 17.4**	**-0.9**
KUR17	**Kurchatov Arra**	**0.70**	**345**	⇓P	**Pg**	**07 22 08.4**	**-0.8**
KUR17				⇑S	**Sg**	**07 22 18.1**	**-0.2**
KUR04	**Kurchatov Arra**	**0.72**	**350**	⇑P	**Pg**	**07 22 08.6**	**-1.0**
KUR04				⇑S	**Sg**	**07 22 17.9**	**-1.0**
KURK	**Kurchatov**	**0.76**	**354**	⇓P	**Pg**	**07 22 09.5**	**-1.0**
	4.7nm,0.3s						
KURK				⇓S	**Sg**	**07 22 19.8**	**-0.6**
	21nm,0.9s						
MAKZ	**Makanchi**	**3.82**	**144**	⇑Lg	Lg	07 23 56.8	
	3.2nm,0.7s						
MK31	**Makanchi Array**	**3.95**	**142**	⇑Pn	**Pn**	**07 23 00.1**	**+2.3**
	0.1nm,0.2s,baz=323,slow=10,SNR=23						
MK31				⇑Pg	**Pg**	**07 23 09.7**	**-1.9**
	0.2nm,0.2s,baz=330,slow=15,SNR=11						
MK31				Lg	Lg	07 24 03.6	
	2.4nm,0.5s,baz=327,slow=27,SNR=13						
MKAR	**Makanchi Array**	**3.95**	**142**	Pn	**Pn**	**07 22 59.4**	**+1.6**
	0.3nm,0.3s,baz=321,slow=10,SNR=21						
MKAR				Pg	**Pb**	**07 23 06.2**	**-0.2**
	0.6nm,0.3s,baz=317,slow=14,SNR=9.0						
MKAR				Lg	Lg	07 24 01.1	
	1.0nm,0.3s,baz=325,slow=30,SNR=10						
OTUK	**Ortayu**	**4.55**	**250**	⇑Pn	**Pn**	**07 23 06.8**	**+0.9**
	1.0nm,0.3s						
OTUK				⇑Lg	Lg	07 24 20.3	
	2.3nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.48**	**41**	*i*		07 57 20.0	
	baz=223,slow=324,SNR=2.6						
ZALV	**Zalesovo Beam**	**5.48**	**41**	Pn	**Pn**	**07 23 20.3**	**+1.6**
	0.5nm,0.3s,baz=229,slow=14,SNR=7.7						
ZALV				Lg	Lg	07 24 54.5	
	0.1nm,0.3s,baz=222,slow=23,SNR=2.4						

*VAO **13** 07:32:07.9±1.4, 22°.43S×71°.08W, h156km, mb4.2*
*IDC **13** 07:32:27.6±0.8, 22°.23S×68°.26W, h98km±12km, mb3.5/4, mb1 3.4/7, mb1mx3.3/26, mbtmp3.7/7, Error ellipse: s-maj=35.1km s-min=19.1km az=118.0*
*NEIC **13** 07:32:27.7±1.6, 22°.20S±0°.05×68°.7W±0°.1, h125km±9km, Error ellipse: s-maj=15.7km s-min=6.7km az=80.0*
*GUC **13** 07:32:28.4±0.7, 22°.17S×68°.66W, h119km±4km, ML4.0*

ISC 13 07:32:27.8±0.7, 22°.17S±0°.03×68°.62W±0°.06, h118km±6km, n66, σ1°18/82, mb4.1/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.52**	**211**	P	**Pn**	**07 32 46.1**	**0.0**
	415nm,0.3s,baz=43,slow=7.9,SNR=7239						
LVC				S	**Sn**	**07 32 59.6**	**-0.2**
	297nm,0.3s,baz=302,slow=7.4,SNR=6.6						
LVC				LR	LR	07 33 16.6	
	comp=Z,95nm,21.0s,baz=250,slow=69						
LVC	**Limon Verde**	**0.52**	**211**	*e*P	**Pn**	**07 32 45.2**	**-0.9**
LVC				*e*S	**Sn**	**07 32 59.2**	**-0.4**
PB09	**IPOC Station P**	**0.68**	**302**		**Pn**	**07 32 47.5**	**+0.5**
PB09	**IPOC Station P**	**0.68**	**302**	*e*P	**Pn**	**07 32 47.1**	**+0.1**
PB09				*e*S	**Sn**	**07 33 01.7**	**+0.2**
PB09				IAML		07 33 02.3	
	comp=N,4μm,0.3s						
PB06	**IPOC Station P**	**1.03**	**238**		**Pn**	**07 32 50.0**	**-0.2**
PB06	**IPOC Station P**	**1.03**	**238**	*e*P	**Pn**	**07 32 50.3**	**+0.2**
PB06				*e*S	**Sn**	**07 33 06.9**	**-0.1**
PB06				IAML		07 33 08.1	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.25**	**290**		**Pn**	**07 32 52.6**	**+0.2**
PB07	**IPOC Station P**	**1.25**	**290**	*e*P	**Pn**	**07 32 52.6**	**+0.2**
PB07				*e*S	**Sn**	**07 33 10.7**	**-0.5**
PB07				IAML		07 33 12.0	
	comp=E,4μm,0.3s						
PB15	**IPOC Station P**	**1.30**	**217**		**Pn**	**07 32 53.4**	**+0.3**
PB15	**IPOC Station P**	**1.30**	**217**	*e*P	**Pn**	**07 32 53.4**	**+0.3**
PB15				*e*S	**Sn**	**07 33 12.8**	**+0.6**
PB01	**IPOC Station P**	**1.38**	**324**		**Pn**	**07 32 53.8**	**0.0**
PB01	**IPOC Station P**	**1.38**	**324**	*e*P	**Pn**	**07 32 53.7**	**-0.1**
PB01				*i* S	**Sn**	**07 33 13.0**	**-0.5**
PB01				IAML		07 33 14.1	
	comp=N,3μm,0.2s						
PB04	**IPOC Station P**	**1.43**	**263**		**Pn**	**07 32 54.3**	**-0.2**
PB04	**IPOC Station P**	**1.43**	**263**	*e*P	**Pn**	**07 32 54.2**	**-0.2**
PB04				*e*S	**Sn**	**07 33 14.5**	**-0.1**
PB04				IAML		07 33 16.3	
	comp=E,3μm,0.3s						
PB02	**IPOC Station P**	**1.45**	**305**		**Pn**	**07 32 54.7**	**0.0**
PB02	**IPOC Station P**	**1.45**	**305**	*e*P	**Pn**	**07 32 54.3**	**-0.3**
PB02				*e*S	**Sn**	**07 33 14.3**	**-0.8**
PB02				IAML		07 33 15.6	
	comp=E,3μm,0.3s						
PATCX	**Punta Patache**	**1.96**	**313**		**Pn**	**07 33 00.4**	**-0.3**
PATCX	**Punta Patache**	**1.96**	**313**	*e*P	**Pn**	**07 33 00.2**	**-0.5**
PATCX				*e*S	**Sn**	**07 33 24.8**	**-1.1**
PATCX				IAML		07 33 28.5	
	comp=N,1μm,0.1s						
PB08	**IPOC Station P**	**2.08**	**346**		**Pn**	**07 33 03.2**	**+0.7**
PB08	**IPOC Station P**	**2.08**	**346**	*e*P	**Pn**	**07 33 02.9**	**+0.3**
PB08				*e*S	**Sn**	**07 33 29.3**	**+0.4**
TA01	**Diego Aracena**	**2.16**	**317**		**Pn**	**07 33 03.1**	**0.0**
TA01	**Diego Aracena**	**2.16**	**317**	*e*P	**Pn**	**07 33 02.3**	**-0.8**
TA01				*e*S	**Sn**	**07 33 29.0**	**-1.2**
TA01				IAML		07 33 31.4	
	comp=N,2μm,0.6s						
HMBC	**Humberstone**	**2.22**	**328**	*e*P	**Pn**	**07 33 03.3**	**-0.8**
HMBC				*e*S	**Sn**	**07 33 30.6**	**-1.2**
HMBC				IAML		07 33 33.6	
	comp=E,1μm,0.5s						
PB10	**IPOC Station P**	**2.23**	**233**	Pn	**Pn**	**07 33 04.0**	**0.0**
PB10	**IPOC Station P**	**2.23**	**233**	*e*P	**Pn**	**07 33 03.3**	**-0.8**
PB10				*e*S	**Sn**	**07 33 30.6**	**-1.3**
PB10				IAML		07 33 32.5	
	comp=E,272nm,0.5s						
TA02	**Huaiquique**	**2.35**	**323**		**Pn**	**07 33 04.7**	**-0.9**
GO01	**Chusmiza**	**2.54**	**348**		**Pn**	**07 33 09.0**	**+0.5**
GO01	**Chusmiza**	**2.54**	**348**	*e*P	**Pn**	**07 33 08.7**	**+0.2**
GO01				*i* S	**Sn**	**07 33 39.7**	**0.0**
GO01				IAML		07 33 42.0	
	comp=N,535nm,0.2s						
PB11	**IPOC Station P**	**2.58**	**338**	Pn	**Pn**	**07 33 08.0**	**-0.7**
PB11	**IPOC Station P**	**2.58**	**338**	*e*P	**Pn**	**07 33 07.8**	**-0.9**
PB11				*e*S	**Sn**	**07 33 39.0**	**-1.2**
PB11				IAML		07 33 40.8	
	comp=N,468nm,0.2s						
GO02	**Mina Guanaco**	**3.11**	**196**	Pn	**Pn**	**07 33 15.8**	**0.0**
PB12	**IPOC Station P**	**3.88**	**335**	Pn	**Pn**	**07 33 23.9**	**-1.9**
PB16	**IPOC Station P**	**3.90**	**348**		**Pn**	**07 33 27.1**	**+0.6**
AC01	**Pan de Azucar**	**4.36**	**204**		**Pn**	**07 33 30.6**	**-1.5**
AC02	**Maricunga**	**4.67**	**186**		**Pn**	**07 33 37.0**	**+0.2**
AC06	**Mina Casimiro**	**5.40**	**197**	Pn	**Pn**	**07 33 43.8**	**-2.4**
LPAZ	**La Paz**	**5.87**	**5**	P	**Pn**	**07 33 55.1**	**+2.1**
	comp=N,0.3nm,0.3s,baz=195,slow=9.1,SNR=14						
LPAZ				S	Sn	07 34 45.5	-14
	comp=N,0.3nm,0.3s,baz=215,slow=15,SNR=2.7						
AC04	**Llanos de Chal**	**6.41**	**200**	Pn	**Pn**	**07 33 55.7**	**-4.1**
SIV	**San Ignacio**	**9.41**	**51**	P	**Pn**	**07 34 36.6**	**-3.9**
	comp=N,1.4nm,0.3s,baz=250,slow=10,SNR=13						
SIV				S	Sn	07 36 14.6	-10
	comp=N,0.7nm,0.3s,baz=75,slow=16,SNR=2.7						
VILB	**Vilhena**	**12.18**	**43**	*e*P	**Pn**	**07 35 18.1**	**+0.6**
SALV	**Santo Antonio**	**13.71**	**65**	*e*P	**P**	**07 35 42.1**	**0.0**
PTGB	**Pitanga**	**15.41**	**103**	*e*P	**P**	**07 36 02.0**	**+1.1**
PDRB	**Porto dos Gac**	**15.47**	**49**	*e*P	**Pn**	**07 36 00.5**	**+0.8**
ITAB	**Concordia**	**15.81**	**112**		**Pn**	**07 36 04.1**	**+0.3**
ITAB				IAmb	IAmb	07 36 51.1	
	comp=Z,134nm,2.0s						
ITAB	**Concordia**	**15.81**	**112**	*e*P	**P**	**07 36 04.9**	**-0.4**
CPSB	**Cacapava Do Su**	**15.88**	**124**	*e*P	**Pn**	**07 36 03.9**	**-0.8**
PCMB	**Pacaembu**	**16.12**	**91**	*e*P	**P**	**07 36 10.5**	**+1.7**
CLDB	**Colider**	**16.64**	**50**	*e*P	**P**	**07 36 14.8**	**+0.3**
ITRB	**Iturama**	**17.23**	**85**	*e*P	**Pn**	**07 36 21.5**	**+0.1**
FRTB	**Fartura**	**17.62**	**97**	*e*P	**P**	**07 36 25.4**	**+0.1**
TIJ01	**Guaruva-PR**	**18.23**	**104**	*e*P	**Pn**	**07 36 33.0**	**-0.4**
PLCA	**Paso Flores**	**18.58**	**185**	P	**Pn**	**07 36 38.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=316,slow=8.2,SNR=3.3						
BB19B	**Bebedouro**	**18.71**	**90**	*e*P	**P**	**07 36 37.3**	**-0.1**
SNDB	**Serra Nova Dou**	**19.40**	**61**	*e*P	**P**	**07 36 43.4**	**-1.3**
IPMB	**Ipameri, GO**	**19.61**	**81**	*e*P	**P**	**07 36 46.5**	**-0.6**
PET01	**Itanhaem-SP**	**19.73**	**100**	*e*P	**P**	**07 36 48.4**	**+0.1**
VAO	**Valinhos**	**20.01**	**97**	*e*P	**P**	**07 36 50.5**	**-0.9**
BDFB	**Brasilia**	**20.54**	**75**	P	**P**	**07 36 55.9**	**-1.2**
	comp=Z,1.9nm,0.4s,baz=241,slow=14,SNR=4.6						
BDFB	**Brasilia**	**20.54**	**75**	*e*P	**P**	**07 36 56.5**	**-0.7**
PEXB	**Peixe**	**21.82**	**66**	*e*P	**P**	**07 37 09.1**	**-1.7**
JANB	**Januaria**	**24.08**	**77**	*e*P	**P**	**07 37 30.4**	**-2.1**
SMTB	**Santa Maria do**	**24.16**	**60**	*e*P	**P**	**07 37 29.1**	**-4.2**
SNAA	**Sanae**	**61.57**	**161**	P	**P**	**07 42 33.3**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=292,slow=5.4,SNR=2.2						
TORD	**Torodi Ar. Bea**	**77.33**	**70**	P	**P**	**07 44 10.0**	**0.0**
	comp=Z,1.6nm,0.4s,baz=256,slow=5.8,SNR=15						
YKA	**Yellowknife Ar**	**91.90**	**340**	P	**P**	**07 45 24.9**	**+2.6**
	comp=Z,0.1nm,0.7s,baz=132,slow=4.6,SNR=2.6						
MKAR	**Makanchi Array**	**146.01**	**37**	PKPbc	**PKPab**	**07 51 54.6**	**0.0**
	comp=Z,0.7nm,0.8s,baz=316,slow=3.3,SNR=5.0						

IDC 13 07:33:52.5±2.5, 4°.44S×153°.17E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/33, mbtmp3.8/3, Error ellipse: s-maj=51.3km s-min=17.3km az=19.0, New Ireland region

| Code | Station Name | Δ° | AZ° | Phase ID Op | IS

0.1nm,0.3s,baz=60,slow=9.7,SNR=2.5
CMAR Chiang Mai Arr 59.57 295 P **P** **08 42 28.1 +0.4**
0.3nm,0.4s,baz=87,slow=5.9,SNR=4.4
VNDA Vanda 72.26 178 P **P** **08 43 48.1 +0.2**
0.3nm,0.5s,baz=330,slow=7.6,SNR=1.8
MKAR Makanchi Array 81.79 319 P **P** **08 44 41.9 0.0**
0.4nm,0.6s,baz=121,slow=5.9,SNR=4.0
ILAR Eielson Array 82.03 22 P **P** **08 44 43.2 +0.5**
0.4nm,0.5s,baz=246,slow=5.9,SNR=7.3
TORD Torodi Ar. Bea 152.01 288 PKPbc **PKPbc** **08 52 16.9 -1.5**
0.2nm,0.4s,baz=39,slow=1.2,SNR=2.0

ISU ***13*** *08:40:38,41.52N×64.63E,h1km,Hypocentre not reviewed by the ISC*

IDC 13 08:40:52.2±2.9, 40.54N×65.56E, h0km, mb1 3.2/2, mb1mx3.0/35, mbtmp3.2/2, ML3.1/2, 2C, Error ellipse: s-maj=98.2km s-min=28.9km az=152.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUT	**Nurota**	**0.09**	**83**	P		08 41 02.4	
NUT				S		08 41 20.9	
TMD	**Tamdy-Bulak**	**1.39**	**330**	P		08 40 43.1	
TMD				S		08 40 47.2	
DZN	**Dzhankel'dy**	**1.71**	**281**	P		08 41 01.1	
DZN				S		08 41 18.3	
KK31	**Karatay Array**	**4.50**	**54**	⇑Pn	Pb	08 42 07.8	-4.3
	1.1nm,0.5s,baz=254,slow=15,SNR=4.1						
KK31				⇑Lg	Lg	08 43 11.3	
	4.3nm,0.6s,baz=251,slow=27,SNR=3.7						
GEYT	**Ailbeck**	**6.34**	**248**	Pn	Pn	08 42 27.1	+0.2
	0.9nm,0.3s,baz=64,slow=16,SNR=2.2						
I31KZ	**AKTYUBINSK INF**	**11.18**	**334**	*i*		09 44 50.0	
	baz=149,slow=312,SNR=14						
MKAR	**Makanchi Array**	**13.62**	**57**	Pn	Pn	08 44 02.5	-4.1
	0.1nm,0.3s,baz=248,slow=15,SNR=2.1						
I46RU	**ZALESOVO INFRA**	**18.65**	**38**	*i*		10 37 10.0	
	baz=231,slow=329,SNR=2.8						
I34MN	**SONGINO INFRAS**	**29.91**	**62**	*i*		11 46 40.0	
	baz=271,slow=295,SNR=1.1						

NEIC ***13*** *08:42:44.2±2.5, 18.96S±0.09×172.94W±0.07, h10km±1km, mb4.6/25, Error ellipse: s-maj=14.9km s-min=10.9km az=182.0*

IDC ***13*** *08:42:47.1±0.8, 18.65S×173.70W, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.2/35, mbtmp4.3/11, ML4.3/1, MS3.6/21, Ms1 3.7/21, ms1mx3.4/67, Error ellipse: s-maj=40.6km s-min=16.8km az=137.0*

ISC 13 08:42:43.7±0.5, 18.94S±0.07×172.89W±0.06, h10km, n76, σ1s74/52, mb4.5/22, MS3.8/22, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**2.81**	**93**	Pn	**Pn**	**08 43 28.7**	**0.0**
AFI	**Afiamalu**	**5.12**	**12**	Pn	**Pn**	**08 44 02.7**	**+2.2**
	12nm,0.3s,baz=145,slow=1.4,SNR=15						
AFI				Sn	**Sn**	**08 44 55.4**	**-4.4**
	38nm,0.3s,baz=194,slow=18,SNR=8.1						
AFI	**Afiamalu**	**5.12**	**12**		**Pn**	**08 44 02.2**	**+1.6**
MSVF	**Nonsavu**	**8.69**	**277**	Pn	**Pn**	**08 44 52.7**	**+3.1**
	1.0nm,0.3s,baz=102,slow=14,SNR=5.8						
MSVF	**Nonsavu**	**8.69**	**277**		**Pn**	**08 44 48.2**	**-1.4**
RAR	**Rarotonga**	**12.53**	**103**	LR	LR	08 50 14.6	
	comp=Z,208nm,19.6s,baz=243,slow=34						
RAR	**Rarotonga**	**12.53**	**103**	Pn	**Pn**	**08 45 41.4**	**-0.8**
MARNC	**Mare, Loyalty**	**18.08**	**259**	Pn	**Pn**	**08 46 52.9**	**-2.3**
PINNC	**Pines Island,**	**18.74**	**255**		**P**	**08 47 01.3**	**-1.6**
DZM	**Mont Dzumac**	**19.60**	**257**	P	**Pn**	**08 47 12.5**	**-1.2**
	0.7nm,0.3s,baz=85,slow=18,SNR=9.7						
DZM				LR	LR	08 53 35.6	
	comp=Z,209nm,18.3s,baz=121,slow=34						
DZM	**Mont Dzumac**	**19.60**	**257**	*e*P	**Pn**	**08 47 12.7**	**-1.0**
	44nm,1.2s						
DZM				*e*LR	LR	08 51 44.6	
	comp=Z,212nm,22.9s						
DZM	**Mont Dzumac**	**19.60**	**257**	P	**P**	**08 47 11.1**	**-1.3**
URZ	**Urewera**	**21.13**	**202**	P	**P**	**08 47 29.8**	**+1.2**
	9.9nm,0.6s,baz=281,slow=3.2,SNR=17						
BKZ	**Black Stump Fm**	**22.15**	**202**	P	**P**	**08 47 40.7**	**+0.9**
BKZ				IAmb	IAmb	08 47 45.2	
	comp=Z,35nm,1.3s						
PAE	**Paea**	**22.17**	**90**	*e*T	T	09 10 26.0	
	comp=Z,1.9nm,0.3s						
PPT2	**Papeete2**	**22.18**	**90**	*e*LR	LR	08 52 40.0	
	comp=Z,299nm,29.0s						
PPT2	**Papeete2**	**22.18**	**90**	*e*T	T	09 10 28.4	
	comp=Z,2.3nm,0.4s						
PPT	**Papeete**	**22.18**	**90**	LR	LR	08 54 52.2	
	comp=Z,169nm,18.6s,baz=242,slow=32						
QRZ	**Quartz Range**	**25.14**	**207**	P	**P**	**08 48 13.0**	**+4.0**
LTZ	**Lake Taylor**	**26.88**	**205**	P	**P**	**08 48 25.4**	**+0.7**
LTZ				IAmb	IAmb	08 48 48.3	
	comp=Z,19nm,0.9s						
OXZ	**Oxford**	**27.43**	**204**	P	**P**	**08 48 30.4**	**+0.7**
RPZ	**Rata Peaks**	**28.14**	**205**	P	P	08 48 41.4	+5.4
	comp=Z,18nm,0.6s,baz=38,slow=15,SNR=16						
TAOE	**Nuku Hiva Isla**	**33.27**	**77**	*e*LR	LR	08 57 59.8	
	comp=Z,120nm,26.2s						
EIDS	**Eidsvold**	**33.90**	**253**	P	**P**	**08 49 26.0**	**-1.1**
ARMIA	**Armidale**	**34.07**	**244**	P	**P**	**08 49 27.7**	**-0.8**
CTA	**Charters Tower**	**38.46**	**261**	LR	LR	09 05 08.7	
	comp=Z,91nm,19.9s,baz=94,slow=36						
PMG	**Port Moresby**	**39.79**	**278**	LR	LR	09 04 37.4	
	comp=Z,119nm,18.1s,baz=104,slow=34						
PTCN	**Pitcairn Islan**	**40.02**	**107**	P	**P**	**08 50 19.8**	**+0.7**
TOO	**Toolangi**	**40.70**	**234**	P	**P**	**08 50 23.9**	**-0.8**
TOO				IAmb	IAmb	08 50 48.1	
	comp=Z,13nm,1.4s						
COEN	**Coen**	**42.34**	**270**	P	**P**	**08 50 38.5**	**+0.2**
STKA	**Stephens Creek**	**42.79**	**243**	P	**P**	**08 50 40.8**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=95,slow=13,SNR=5.4						
STKA				LR	LR	09 06 47.3	
	comp=Z,118nm,18.9s,baz=41,slow=34						
BBOO	**Buckleboo**	**47.54**	**243**	P	**P**	**08 51 17.6**	**-1.9**
BBOO				IAmb	IAmb	08 51 42.5	
	comp=Z,7.4nm,1.1s						
WR0	**Warramunga Arr**	**49.41**	**260**	P	**P**	**08 51 33.3**	**-0.8**
WR0				IAmb	IAmb	08 51 34.6	
	comp=Z,3.3nm,0.6s						
AS31	**Alice Springs**	**49.56**	**255**	P	**P**	**08 51 34.8**	**-0.5**
ASAR	**Alice Springs**	**49.56**	**255**	P	**P**	**08 51 34.5**	**-0.9**
	comp=Z,7.5nm,0.7s,baz=93,slow=8.2,SNR=68						
ASAR				LR	LR	09 11 41.9	
	comp=Z,94nm,19.0s,baz=152,slow=36						
WB0	**Warramunga Arr**	**49.57**	**260**	P	**P**	**08 51 34.0**	**-1.4**
WB0				IAmb	IAmb	08 51 35.1	
	comp=Z,5.5nm,0.7s						
WB2	**Warramunga Arr**	**49.59**	**260**	P	**P**	**08 51 34.5**	**-1.0**
WB2				IAmb	IAmb	08 51 35.3	
	comp=Z,6.1nm,0.7s						
WRAB	**Tennant Creek**	**49.59**	**260**	P	**P**	**08 51 34.2**	**-1.3**
WRAB				IAmb	IAmb	08 51 35.2	
	comp=Z,7.9nm,0.8s						
WRA	**Warramunga Arr**	**49.60**	**260**	P	**P**	**08 51 34.4**	**-1.3**
	comp=Z,2.8nm,0.5s,baz=98,slow=5.7,SNR=68						
WRA				LR	LR	09 11 35.8	
	comp=Z,112nm,19.1s,baz=48,slow=35						
WRA	**Warramunga Arr**	**49.60**	**260**	P	**P**	**08 51 34.3**	**-1.3**
GUMO	**Guam**	**52.70**	**305**	LR	LR	09 12 54.9	
	comp=Z,15nm,18.7s,baz=88,slow=35						
FORT	**Forrest**	**54.32**	**245**	P	**P**	**08 52 10.2**	**-0.4**
KNRA	**Kununurra**	**55.59**	**264**	P	**P**	**08 52 20.0**	**0.0**
FITZ	**Fitzroy Crossi**	**58.02**	**260**	LR	LR	09 15 46.7	
	comp=Z,49nm,20.1s,baz=113,slow=34						
FITZ	**Fitzroy Crossi**	**58.02**	**260**	P	**P**	**08 52 37.6**	**+0.3**
RPN	**Rapa Nui**	**58.53**	**111**	LR	LR	09 13 34.0	
	comp=Z,52nm,20.6s,baz=238,slow=31						
GIRL	**Giralia**	**67.60**	**253**	P	**P**	**08 53 40.3**	**-0.8**
QSPA	**South Pole Qui**	**71.12**	**180**	P	**P**	**08 54 04.2**	**+1.9**
QSPA				IAmb	IAmb	08 54 12.2	
	comp=Z,7.1nm,1.4s						
MJAR	**Matsushiro Arr**	**71.95**	**320**	LR	LR	09 21 00.6	
	comp=Z,26nm,21.7s,baz=136,slow=32						
LPIG	**La Paz**	**74.50**	**57**	LR	LR	09 21 00.4	
	comp=Z,76nm,18.8s,baz=250,slow=31						
JNU	**Nakatsue**	**74.57**	**314**	LR	LR	09 21 38.4	
	comp=Z,825nm,19.1s,baz=8.0,slow=32						
NVAR	**Mina Array Bea**	**76.64**	**41**	P	P	08 54 41.6	+6.5
	comp=Z,1.0nm,0.6s,baz=228,slow=8.8,SNR=11						
NVAR	**Mina Array Bea**	**76.64**	**41**	P	**P**	**08 54 33.4**	**-1.7**
KSRS	**Korea Array**	**79.02**	**316**	P	P	08 54 52.4	+4.3
	comp=Z,3.1nm,1.0s,baz=139,slow=5.2,SNR=5.5						
ELK	**Elko**	**79.92**	**41**	LR	LR	09 25 09.6	
	comp=Z,52nm,19.1s,baz=280,slow=32						
TXAR	**Lajitas Array**	**82.19**	**55**	P	P	08 55 12.3	+6.9
	comp=Z,1.0nm,1.0s,baz=224,slow=8.7,SNR=7.4						
TXAR				LR	LR	09 27 14.4	
	comp=Z,40nm,18.2s,baz=284,slow=32						
TXAR	**Lajitas Array**	**82.19**	**55**	P	**P**	**08 55 04.6**	**-0.8**
ANMO	**Albuquerque**	**82.71**	**49**	LR	LR	09 26 58.4	
	comp=Z,37nm,19.6s,baz=252,slow=32						
PDAR	**Pinedale Array**	**84.58**	**41**	P	P	08 55 23.6	+6.0
	comp=Z,0.5nm,0.6s,baz=212,slow=4.5,SNR=6.8						
PDAR				LR	LR	09 28 06.8	
	comp=Z,28nm,18.8s,baz=306,slow=32						
PDAR	**Pinedale Array**	**84.58**	**41**	P	**P**	**08 55 15.9**	**-1.7**
CMIG	**Matias Romero**	**84.62**	**70**	LR	LR	09 25 29.5	
	comp=Z,41nm,19.6s,baz=203,slow=30						
WRH	**Wood River Hil**	**85.33**	**11**	P	**P**	**08 55 21.8**	**+1.3**
CCB	**Clear Creek Bu**	**85.53**	**11**	P	**P**	**08 55 21.2**	**-0.4**
CCB				IAmb	IAmb	08 55 38.4	
	comp=Z,4.2nm,1.0s						
ILAR	**Eielson Array**	**85.81**	**11**	P	**P**	**08 55 27.3**	**+4.3**
	comp=Z,1.2nm,0.8s,baz=229,slow=5.8,SNR=9.7						
ILAR	**Eielson Array**	**85.81**	**11**	P	**P**	**08 55 23.1**	**+0.2**
SEY	**Seymchan**	**86.05**	**345**	P	**P**	**08 55 27.9**	**+3.8**
	comp=Z,0.8nm,0.3s,baz=125,slow=5.9,SNR=7.9						
JTS	**Las Juntas de**	**91.36**	**80**	LR	LR	09 28 19.2	
	comp=Z,31nm,19.4s,baz=202,slow=30						
NNA	**Nana**	**91.78**	**103**	LR	LR	09 28 59.7	
	comp=Z,23nm,20.2s,baz=57,slow=30						
CMAR	**Chiang Mai Arr**	**94.17**	**288**	P	**P**	**08 56 05.9**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=113,slow=3.1,SNR=6.4						
LPAZ	**La Paz**	**98.14**	**110**	LR	LR	09 31 48.3	
	comp=Z,28nm,20.4s,baz=50,slow=30						
AKASG	**Malin Array Be**	**143.77**	**336**	PKP	**PKiKP**	**09 02 22.4**	**0.0**
	comp=Z,0.4nm,0.4s,baz=50,slow=3.0,SNR=4.7						
CLL	**Collm**	**147.37**	**353**	*e*(PKPab)	**PKiKP**	**09 02 32.0**	**+2.1**
	comp=Z,8.0nm,1.2s						
CLL				*ex*	x	09 03 00.0	
BRTR	**Keskin Array B**	**149.15**	**318**	PKPbc	**PKPab**	**09 02 36.6**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=132,slow=3.5,SNR=6.7						
BRTR	**Keskin Array B**	**149.15**	**318**		**PKPbc**	**09 02 31.1**	**-1.7**
MLR	**Muntele Rosu**	**149.26**	**334**	PKPbc	**PKPab**	**09 02 37.0**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=127,slow=5.1,SNR=3.2						
GERES	**GERESS Array B**	**149.70**	**351**	PKPbc	**PKPab**	**09 02 37.8**	**-1.2**
	comp=Z,0.3nm,0.2s,baz=3.8,slow=4.0,SNR=4.2						

IDC 13 09:07:13.5±522.0, 51.64N×37.75E, h0km, Error ellipse: s-maj=220.5km s-min=107.3km az=5.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**5.11**	**357**	*i*		09 38 50.0	
	baz=176,slow=321,SNR=3.4						
I31KZ	**AKTYUBINSK INF**	**12.83**	**88**	*i*		10 25 20.0	
	baz=284,slow=323,SNR=3.7						
I46RU	**ZALESOVO INFRA**	**28.15**	**67**	*i*		12 00 40.0	
	baz=284,slow=321,SNR=1.1						

IDC 13 09:07:34.7±3.7, 54.38N×86.70E, h0km, mb1 2.6/2, mb1mx2.6/55, mbtmp2.6/2, ML1.7/2, Error ellipse: s-maj=30.3km s-min=17.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.19**	**249**	*i*		09 15 31.4	
	baz=71,slow=334,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.19**	**249**	Pg	Pg	09 07 55.7	-1.7
	1.0nm,0.3s,baz=70,slow=16,SNR=10.0						
ZALV				Lg	Lg	09 08 14.3	
	0.8nm,0.3s,baz=66,slow=28,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.25**	**236**	Pn	Pn	09 09 08.6	+0.5
	0.0nm,0.3s,baz=52,slow=13,SNR=1.7						
MKAR	**Makanchi Array**	**8.10**	**202**	Pn	Pn	09 09 35.3	+1.8
	0.1nm,0.3s,baz=22,slow=14,SNR=1.9						

IDC ***13*** *09:30:17.0±6.7, 35.64N×70.54E, h100km±47km, mb3.4/5, mb1 3.4/9, mb1mx3.1/74, mbtmp3.8/9, Error ellipse: s-maj=68.9km s-min=32.8km az=153.0*

NNC ***13*** *09:30:20.8±5.6, 36.56N×70.29E, h0km, mb4.1, mpv3.6, Error ellipse: s-maj=44.4km s-min=32.6km az=175.0*

ISC 13 09:30:21.6±1.4, 36.2N±0.1×70.3E±0.1, h110km, n13, σ1s93/19, mb3.7/4, 5C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.87**	**1**	⇑P	**Pn**	**09 31 59.8**	**+0.2**
	1.2nm,0.3s,baz=189,slow=14,SNR=37						
KK31				⇑S	**Sn**	**09 33 16.2**	**0.0**
	6.6nm,0.4s,baz=190,slow=22,SNR=23						
AAK	**Ala-Archa**	**7.18**	**26**	P	**Pn**	**09 32 05.2**	**+1.1**
	1.4nm,0.3s,baz=210,slow=9.2,SNR=8.1						
AAK				S	**Sn**	**09 33 22.9**	**-1.3**
	0.5nm,0.3s,baz=343,slow=18,SNR=7.3						
TKM2	**Tokmak 2**	**7.84**	**30**	⇑P	**Pn**	**09 32 13.2**	**+0.1**
	4.2nm,1.1s						
TKM2				⇓S	**Sn**	**09 33 37.5**	**-2.8**
	2.7nm,0.7s						
MKAR	**Makanchi Array**	**13.86**	**37**	P	**Pn**	**09 33 34.3**	**+1.1**
	0.1nm,0.3s,baz=216,slow=12,SNR=2.4						
AB31	**Akbulak array**	**15.04**	**333**	P	**Pn**	**09 33 48.3**	**0.0**
	3.8nm,0.6s,baz=155,slow=11,SNR=70						
AB31				⇑S	**Sn**	**09 36 34.2**	**-0.2**
	0.8nm,0.5s,baz=154,slow=24,SNR=5.9						
KURBB	**Kurchatov Arra**	**15.57**	**20**	P	**P**	**09 33 57.4**	**+0.6**
	0.1nm,0.3s,baz=206,slow=10,SNR=11						
AKTO	**Aktyubinsk**	**16.73**	**332**	P	**P**	**09 34 12.5**	**+2.9**
	0.5nm,0.3s,baz=143,slow=14,SNR=7.2						
AKTO				S	**Sn**	**09 37 10.3**	**-4.6**
	0.2nm,0.3s,baz=332,slow=17,SNR=2.7						
AKTO	**Aktyubinsk**	**16.73**	**332**	⇓P	**P**	**09 34 11.1**	**+1.5**
	3.2nm,0.7s						
AKTO				⇑S	**Sn**	**09 37 16.2**	**+1.3**
	4.3nm,1.1s						
ZALV	**Zalesovo Beam**	**20.41**	**25**	P	**P**	**09 34 50.2**	**+0.6**
	4.2nm,0.4s,baz=217,slow=10,SNR=21						
ARU	**Arti**	**21.70**	**342**	P	**P**	**09 35 06.3**	**+2.8**
	1.5nm,0.2s,baz=182,slow=4.5,SNR=3.6						
TIXI	**Tiksi**	**46.24**	**22**	P	**P**	**09 38 35.4**	**+0.1**
	0.6nm,0.3s,baz=291,slow=11,SNR=5.7						
TORD	**Torodi Ar. Bea**	**65.12**	**268**	P	**P**	**09 40 48.9**	**-2.1**
	0.4nm,0.6s,baz=53,slow=5.4,SNR=3.2						
YKA	**Yellowknife Ar**	**81.54**	**2**	P	**P**	**09 42 26.0**	**-0.6**
	0.1nm,0.5s,baz=351,slow=5.3,SNR=4.9						

IDC 13 09:36:23.0±55.0, 19.46S×177.72W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/48, mbtmp3.7/3, Error ellipse: s-maj=1005.0km s-min=168.2km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.48**	**243**	P	P	09 43 46.8	-0.2
	0.7nm,0.5s,baz=85,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**45.01**	**261**	P	P	09 44 40.7	0.0
	0.3nm,0.2s,baz=96,slow=7.4,SNR=19						
ASAR	**Alice Springs**	**45.02**	**256**	P	P	09 44 40.5	-0.3
	0.5nm,0.5s,baz=97,slow=7.9,SNR=10.0						

IDC 13 09:42:29.3±2.7, 54.05N×86.51E, h0km, mb1 3.1/2, mb1mx2.9/59, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=22.1km s-min=13.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**265**	*i*		09 49 19.3	
	baz=85,slow=332,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.00**	**265**	Pg	Pg	09 42 47.1	-1.3
	0.9nm,0.3s,baz=83,slow=17,SNR=13						
ZALV				Lg	Lg	09 43 02.8	
	1.3nm,0.3s,baz=84,slow=32,SNR=10						
KURBB	**Kurchatov Arra**	**5.97**	**238**	Pn	Pn	09 44 00.0	+1.2
	0.1nm,0.3s,baz=56,slow=14,SNR=6.1						
MKAR	**Makanchi Array**	**7.74**	**202**	Pn	Pn	09 44 24.1	+1.0
	0.1nm,0.3s,baz=26,slow=13,SNR=6.6						

IDC ***13*** *09:50:40.9±2.9, 37.22N×71.86E, h114km±25km, mb3.5/9, mb1 3.7/15, mb1mx3.4/52, mbtmp4.0/15, Error ellipse: s-maj=22.5km s-min=15.2km az=8.0*

BJI ***13*** *09:50:41.3±0.0, 37.51N×71.84E, h133km, mb4.5/17, mmB4.4/11*

MOS ***13*** *09:50:41.9±1.0, 37.45N×71.96E, h128km, mb4.2/15, Error ellipse: s-maj=8.9km s-min=4.0km az=81.5*

NEIC ***13*** *09:50:43.0±1.3, 37.39N±0.04×71.83E±0.06, h138km±6km, mb4.1/9, Error ellipse: s-maj=8.9km s-min=3.5km az=126.0*

NNC ***13*** *09:50:42.3±2.3, 37.81N×71.64E, h0km, mb4.7, mpv4.6, Error ellipse: s-maj=21.7km s-min=11.3km az=154.0*

SOME ***13*** *09:50:45.8, 38.67N×72.12E, h0km, MS3.4*

ISC 13 09:50:42.0±0.4, 37.31N±0.04×71.93E±0.04, h130km, n167, σ2s31/192, mb3.8/22, 25C-15D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.11**	**324**		**Pn**	**09 51 17.3**	**-0.1**
GAR				Sn	**Sn**	**09 51 42.8**	**-1.8**
DRK	**Karamyk**	**2.17**	**357**		**Pn**	**09 51 19.3**	**+1.1**
CHGR	**Chuyangaron**	**2.57**	**302**	PN	**Pn**	**09 51 22.7**	**-0.4**
CHGR	**Chuyangaron**	**2.57**	**302**		**Pn**	**09 51 22.6**	**-0.4**
BTK	**Batken**	**2.88**	**343**	PN	**Pn**	**09 51 28.3**	**+1.3**
BTK	**Batken**	**2.88**	**343**	Pn	**Pn**	**09 51 28.1**	**+1.3**
CEP	**Cherat**	**3.48**	**180**	P	**Pn**	**09 51 37.2**	**+2.2**
CEP				S	**Sn**	**09 52 21.0**	**+5.0**
KBL	**Kabul**	**3.62**	**221**	PN	**Pn**	**09 51 39.0**	**+2.1**
KBL	**Kabul**	**3.62**	**221**		**Pn**	**09 51 39.0**	**+2.1**
CHCP	**Chirah Chowk**	**3.80**	**163**	P	**Pn**	**09 51 42.0**	**+2.8**
NIL	**Nilore**	**3.81**	**163**	PN	**Pn**	**09 51 41.6**	**+2.4**
NIL	**Nilore**	**3.81**	**163**	Pn	**Pn**	**09 51 41.6**	**+2.4**
NIL				Sn	**Sn**	**09 52 24.8**	**+1.2**
KSH	**Kashi**	**3.87**	**54**	P	**Pn**	**09 51 36.0**	**-4.0**
KSH				S	Sn	09 52 15.4	-10
THW	**Thamme Wali**	**4.51**	**182**	P	**Pn**	**09 51 49.8**	**+1.3**
AML	**Almayashu**	**5.00**	**15**	P	**Pn**	**09 51 55.3**	**-0.1**
	SNR=320						
IUG	**Iuzhnay**	**5.05**	**344**	*e*PN	**Pn**	**09 51 54.9**	**-0.8**
IUG				*e*S	**Sn**	**09 52 50.7**	**-2.4**
IUG	**Iuzhnay**	**5.05**	**344**	*e*P	**Pn**	**09 51 58.2**	**+2.5**
	368nm,0.2s						
IUG				*e*S	**Sn**	**09 52 49.5**	**-3.7**
	307nm,0.4s						
IUG	**Iuzhnay**	**5.05**	**344**	*e*P	**Pn**	**09 51 54.9**	**-0.8**
	baz=343						
IUG				*e*S	**Sn**	**09 52 50.7**	**-2.4**
	baz=343						
JMU	**Jammu**	**5.19**	**151**	⇑*e*S	**Sn**	**09 52 54.1**	**-2.4**
UCH	**Uchtor**	**5.30**	**21**	P	**Pn**	**09 51 59.7**	**+0.3**
	SNR=83						
CHM	**Chimkent**	**5.31**	**341**	PN	Pn	09 52 09.2	+10
CHM	**Chimkent**	**5.31**	**341**	*e*P	**Pn**	**09 52 01.7**	**+2.5**
	138nm,0.1s						
CHM				*e*S	**Sn**	**09 52 55.8**	**-3.6**
	653nm,0.3s						
MRKS	**Merke**	**5.52**	**10**	*e*P	Pn	09 52 06.8	+4.8
	51nm,0.3s						
MRKS				*e*S	**Sn**	**09 53 04.6**	**+0.1**
	164nm,0.7s						
EKS2	**Erkin-Say**	**5.53**	**14**	P	**Pn**	**09 52 02.7**	**+0.5**
	SNR=83						
DZA	**Taraz**	**5.59**	**355**	*e*PN	**Pn**	**09 52 01.7**	**-1.2**
DZA	**Taraz**	**5.59**	**355**	*e*P	**Pn**	**09 52 06.2**	**+3.2**
	144nm,0.3s						
DZA				*e*S	**Sn**	**09 53 03.2**	**-3.0**
	558nm,0.4s						
DZA	**Taraz**	**5.59**	**355**	*e*P	**Pn**	**09 52 01.7**	**-1.2**
	baz=355						
DZA				*e*S	**Sn**	**09 53 02.7**	**-3.5**
	baz=355						
AAK	**Ala-Archa**	**5.67**	**20**	P	**Pn**	**09 52 04.5**	**+0.3**
	SNR=130						
AAK	**Ala-Archa**	**5.67**	**20**	P	**Pn**	**09 52 04.8**	**+0.7**
	42nm,0.3s,baz=178,slow=5.9,SNR=317						
AAK				S	**Sn**	**09 53 06.5**	**-1.8**
	10nm,0.3s,baz=312,slow=23,SNR=13						
AAK	**Ala-Archa**	**5.67**	**20**	Pn	**Pn**	**09 52 04.7**	**+0.5**
THN	**Thein Dam**	**5.78**	**146**	⇑*e*P	**Pn**	**09 52 06.2**	**+0.8**
THN				⇑*e*S	**Sn**	**09 53 07.5**	**-3.1**
KBK	**Karagaybulak**	**5.82**	**23**	P	**Pn**	**09 52 06.8**	**+0.7**
	SNR=28						
FRU1	**Bishkek**	**5.87**	**20**	PN	**Pn**	**09 52 07.7**	**+1.0**
FRU1	**Bishkek**	**5.87**	**20**		**Pn**	**09 52 07.7**	**+1.0**
KK31	**Karatay Array**	**5.89**	**350**	PN	**Pn**	**09 52 06.9**	**0.0**
KK31	**Karatay Array**	**5.89**	**350**	Pn	**Pn**	**09 52 06.9**	**0.0**
KK31	**Karatay Array**	**5.89**	**350**	⇓P	**Pn**	**09 52 04.5**	**-2.4**
	49nm,0.3s,baz=176,slow=13,SNR=557						
KK31				⇓S	**Sn**	**09 53 08.7**	**-4.5**
	61nm,0.4s,baz=183,slow=25,SNR=20						
KKAR	**Karatay Array**	**5.89**	**350**	PN	**Pn**	**09 52 06.8**	**-0.1**
KKAR	**Karatay Array**	**5.89**	**350**		**Pn**	**09 52 06.8**	**-0.1**
KKAR	**Karatay Array**	**5.89**	**350**	Pn	**Pn**	**09 52 06.8**	**-0.1**
**BR

KPKS	**Kokpek**	**8.02**	**38**	*e*PN		**Pn**	**09 52 35.1**	**-0.6**
KPKS				pmax	pmax				
	comp=Z,5.0nm,0.8s								
KPKS	**Kokpek**	**8.02**	**38**	*e*P		**Pn**	**09 52 35.1**	**-0.6**
	comp=Z,5.1nm,0.8s,baz=39								
SHLS	**Shalkode**	**8.20**	**42**	*e*PN		**Pn**	**09 52 40.7**	**+2.6**
SHLS				pmax	pmax				
	comp=Z,2.0nm,0.9s								
SHLS	**Shalkode**	**8.20**	**42**	*e*P		**Pn**	**09 52 40.8**	**+2.6**
	comp=Z,2.1nm,0.9s,baz=45								
TDK	**Taldyqorghan**	**9.10**	**30**	*e*PN		**Pn**	**09 52 48.7**	**-1.4**
TDK	**Taldyqorghan**	**9.10**	**30**	*e*P		**Pn**	**09 52 48.7**	**-1.4**
	baz=31								
NDI	**New Delhi**	**9.68**	**151**⇑	*e*S		**Sn**	**09 54 38.3**	**-6.7**
KUDL	**Kundal**	**9.91**	**156**⇑	*e*P		**Pn**	**09 52 59.9**	**-1.2**
KUDL				⇑*e*P		**Sn**	**09 54 42.8**	**-7.9**
SONA	**Sohna**	**10.02**	**153**⇑	*e*S		**Sn**	**09 54 46.8**	**-6.4**
LGTI	**Lohaghat**	**10.47**	**136**⇑	*e*P		**Pn**	**09 53 07.0**	**-1.6**
LGTI				⇑*e*S		Sn	09 54 53.9	-10
GEYT	**Alibeck**	**10.97**	**277**	P		**Pn**	**09 53 13.4**	**-1.9**
	comp=Z,4.0nm,0.3s,baz=110,slow=13,SNR=14								
GEYT				S		**Sn**	**09 55 09.1**	**-7.1**
	comp=Z,2.4nm,0.3s,baz=126,slow=22,SNR=6.5								
GEYT	**Alibeck**	**10.97**	**277**			**Pn**	**09 53 13.8**	**-1.5**
GYA0	**ALIBECK ARRAY**	**10.97**	**277**	P		**Pn**	**09 53 16.3**	**+1.0**
GYA0				S		**Sn**	**09 55 18.2**	**+2.0**
GYA0B	**ALIBECK ARRAY**	**10.97**	**277**			**Pn**	**09 53 13.7**	**-1.6**
GYA0B	**ALIBECK ARRAY**	**10.97**	**277**	⇓P		**Pn**	**09 53 16.3**	**+1.0**
GYA0B				⇑S		**Sn**	**09 55 18.2**	**+1.9**
AJM	**Ajmer**	**11.04**	**167**⇑	*e*P		**Pn**	**09 53 15.3**	**-1.0**
AJM				⇓*e*S		**Sn**	**09 55 10.0**	**-8.0**
MAKZ	**Makanchi**	**12.06**	**35**	P		**Pn**	**09 53 28.6**	**-1.0**
MAKZ	**Makanchi**	**12.06**	**35**	Pn		**Pn**	**09 53 28.6**	**-1.0**
MK31	**Makanchi Array**	**12.20**	**36**⇓	*e*P		**Pn**	**09 53 30.3**	**-1.0**
MK31	**Makanchi Array**	**12.20**	**36**	Pn		**Pn**	**09 53 31.4**	**+0.1**
MKAR	**Makanchi Array**	**12.20**	**36**	P		**Pn**	**09 53 31.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=220,slow=13,SNR=14								
MKAR	**Makanchi Array**	**12.20**	**36**	*i* P		**Pn**	**09 53 31.8**	**+0.5**
MKAR				pmax	pmax				
	comp=Z,5.0nm,1.0s								
MKAR	**Makanchi Array**	**12.20**	**36**	Pn		**Pn**	**09 53 32.3**	**+0.9**
BRZS	**Berezniki**	**12.68**	**2**	*e*P		**Pn**	**09 53 34.9**	**-2.6**
BRZS	**Berezniki**	**12.68**	**2**	*e*P		**Pn**	**09 53 35.0**	**-2.6**
	baz=2.2								
PYUN	**Piuthan**	**13.07**	**131**	*e*P		**Pn**	**09 53 40.1**	**-2.9**
	comp=Z,42nm,0.3s								
JHNI	**Jhansi**	**13.08**	**153**	*e*S		Sn	09 55 54.0	-13
DANN	**Dangsing**	**13.36**	**129**	*e*P		**Pn**	**09 53 44.1**	**-2.7**
	comp=Z,19nm,0.3s								
WMQ	**Urumqi**	**13.63**	**57**	*e*P		**Pn**	**09 53 51.1**	**+1.2**
KOLN	**Koldanda**	**13.68**	**131**	*e*P		**Pn**	**09 53 48.2**	**-2.6**
KURBB	**Kurchatov Arra**	**14.12**	**17**	P		**Pn**	**09 53 53.4**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=4.3								
GKN	**Gorkha**	**14.15**	**127**	*e*P		**Pn**	**09 53 54.2**	**-2.6**
	comp=Z,59nm,0.5s								
KURK	**Kurchatov**	**14.23**	**18**⇑	*e*P		**Pn**	**09 53 54.3**	**-3.1**
KURK				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KURK	**Kurchatov**	**14.23**	**18**	Pn		**Pn**	**09 53 56.5**	**-0.9**
KKN	**Kakani**	**14.71**	**126**	*e*P		**Pn**	**09 54 00.8**	**-3.1**
	comp=Z,11nm,0.2s								
DMN	**Daman**	**14.73**	**127**	*e*P		**Pn**	**09 54 02.0**	**-2.1**
	comp=Z,26nm,0.4s								
AB31	**Akbulak array**	**14.77**	**328**	P		**Pn**	**09 54 02.4**	**-1.7**
AB31				S		**Sn**	**09 56 42.7**	**-4.8**
AB31	**Akbulak array**	**14.77**	**328**	P		**Pn**	**09 54 02.5**	**-1.7**
	comp=Z,1.2nm,0.4s,baz=132,slow=13,SNR=46								
AB31				⇑S		**Sn**	**09 56 42.7**	**-4.8**
	comp=Z,12nm,0.7s,baz=148,slow=25,SNR=17								
ABKAR	**Akbulak array**	**14.77**	**328**			**Pn**	**09 54 02.9**	**-1.2**
ABKAR	**Akbulak array**	**14.77**	**328**	Pn		**Pn**	**09 54 02.8**	**-1.4**
BHPL	**Bhopal**	**14.80**	**160**	*e*P		**Pn**	**09 54 00.6**	**-4.2**
BHPL				*e*S		Sn	09 56 35.8	-13
PKIN	**Phulchoki**	**14.93**	**127**	*e*P		**Pn**	**09 54 04.7**	**-2.0**
	comp=Z,9.9nm,0.2s								
PKI	**Pulchoki**	**14.95**	**127**	*e*P		**Pn**	**09 54 04.8**	**-2.2**
	comp=Z,24nm,0.4s								
GUN	**Gumba**	**15.02**	**125**	*e*P		**Pn**	**09 54 04.8**	**-3.1**
	comp=Z,16nm,0.4s								
JIRN	**Jiri**	**15.39**	**125**	*e*P		**Pn**	**09 54 09.9**	**-2.7**
	comp=Z,11nm,0.4s								
BVAR	**Borovoye Array**	**15.75**	**357**	P		**P**	**09 54 16.9**	**-0.7**
BRVK	**Borovoye**	**15.79**	**356**⇑	*e*P		**Pn**	**09 54 16.2**	**-0.7**
BRVK				pmax	pmax				
	comp=Z,9.0nm,1.7s								
BRVK	**Borovoye**	**15.79**	**356**	Pn		**Pn**	**09 54 15.6**	**-1.3**
RAMN	**Ramite**	**16.14**	**126**	*e*P		**Pn**	**09 54 19.6**	**-2.1**
AKTO	**Aktyubinsk**	**16.48**	**327**	P		**P**	**09 54 26.6**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=152,slow=3.7,SNR=11								
AKTO				S		Sn	09 57 15.0	-14
	comp=Z,0.2nm,0.3s,baz=164,slow=16,SNR=3.6								
AKTO	**Aktyubinsk**	**16.48**	**327**	⇓P		**P**	**09 54 26.4**	**+0.7**
	comp=Z,2.1nm,0.5s								
AKTO				⇑S		**Sn**	**09 57 25.3**	**-3.2**
	comp=Z,9.8nm,0.8s								
TAPN	**Taplejung**	**16.61**	**122**	*e*P		**Pn**	**09 54 25.3**	**-2.2**
ODAN	**Odare**	**16.72**	**124**	*e*P		**Pn**	**09 54 27.5**	**-1.2**
GOMU	**GeErMu**	**18.37**	**87**	P		**P**	**09 54 47.0**	**0.0**
GOMU				pmax	pmax				
	comp=Z,5.0nm,0.4s								
GOMU				pmax	pmax				
	comp=Z,100nm,5.3s								
ZAA0	**Zalesovo Array**	**18.87**	**24**	P		**P**	**09 54 51.9**	**0.0**
ZAA0				IAmb	IAmb		09 54 59.8		
	comp=Z,4.1nm,0.5s								
ZALV	**Zalesovo Beam**	**18.87**	**24**	P		**P**	**09 54 52.3**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=217,slow=9.5,SNR=15								
ZALV	**Zalesovo Beam**	**18.87**	**24**	*i* P		**P**	**09 54 52.2**	**+0.4**
ZALV				pmax	pmax				
	comp=Z,4.0nm,0.5s								
ZALV	**Zalesovo Beam**	**18.87**	**24**	P		**P**	**09 54 51.7**	**-0.2**
SHL	**Shillong**	**20.62**	**119**	P		**P**	**09 55 12.4**	**+1.2**
SHL				pmax	pmax				
	comp=Z,13nm,0.6s								
SHL	**Shillong**	**20.62**	**119**	P		**P**	**09 55 12.4**	**+1.2**
ARU	**Arti**	**21.12**	**339***c*	*i*P		**P**	**09 55 17.0**	**+0.9**
ARU							09 55 49.7		
ARU				S		**S**	**09 59 01.8**	**-1.8**
ARU				pmax	pmax				
	comp=Z,8.0nm,1.6s								
GTA	**Gaotai**	**21.94**	**76**	⇓P		**P**	**09 55 27.8**	**+2.7**
GTA				pmax	pmax				
	comp=Z,12nm,0.6s								
ZEI	**Tsey**	**22.09**	**293**	*e*P		**P**	**09 55 32.4**	**+5.7**
ZEI				pmax	pmax				
	comp=Z,2.0nm,1.0s								
KBZ	**Khabaz**	**22.91**	**295**⇓	*e*P		**P**	**09 55 37.8**	**+3.3**
KBZ				pmax	pmax				
	comp=Z,2.0nm,1.2s								
KIV	**Kislovodsk**	**23.09**	**296**	*e*P		**P**	**09 55 38.2**	**+1.9**
KIV				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ZAK	**Zakamensk**	**25.90**	**50**	*e*P		**P**	**09 56 02.8**	**+1.1**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.1s								
SONM	**Songino Array**	**27.27**	**56**	P		**P**	**09 56 15.7**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=256,slow=9.9,SNR=8.3								
SONM	**Songino Array**	**27.27**	**56**	P		**P**	**09 56 13.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**30.21**	**121**	P		**P**	**09 56 41.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=300,slow=10,SNR=4.7								
CMAR	**Chiang Mai Arr**	**30.21**	**121**	*ce*P		P	09 56 45.5	+5.2	
CMAR	**Chiang Mai Arr**	**30.21**	**121**	P		**P**	**09 56 41.8**	**+1.5**
HHC	**Hu-ho-hao-te**	**30.79**	**71**	*e*P		**P**	**09 56 46.8**	**+1.5**
HHC				pmax	pmax				
	comp=Z,31nm,0.9s								
HHC				pmax	pmax				
	comp=Z,66nm,4.4s								
HHC				LR	LR				
	comp=Z,180nm,14.0s								
HHC				LR	LR				
	comp=Z,210nm,14.6s								
CSS	**Mathiatis**	**31.12**	**277**	P		**P**	**09 56 46.3**	**-1.8**
CSS				IAmb	IAmb		09 57 04.0		
	comp=Z,8.3nm,0.9s								
AKASG	**Malin Array Be**	**33.03**	**308**	P		**P**	**09 57 05.8**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=82,slow=7.9,SNR=4.4								
AKBB	**Malin Array Si**	**33.03**	**308**⇑	*e*P		**P**	**09 57 03.9**	**-0.7**
NRIK	**Noril'sk**	**33.20**	**10**⇓	*e*P		**P**	**09 57 07.3**	**+1.4**
NRIK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
WHN	**Wuhan**	**35.61**	**88**	⇑P		P	09 57 39.0	+12	
FINES	**FINESS Array B**	**37.23**	**325**	P		**P**	**09 57 41.9**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=108,slow=6.2,SNR=3.4								
FINES	**FINESS Array B**	**37.23**	**325**	P		**P**	**09 57 39.6**	**-0.9**
ARCES	**ARCESS Array B**	**40.69**	**337**	P		**P**	**09 58 10.5**	**+1.4**
	comp=Z,3.1nm,0.8s,baz=113,slow=8.0,SNR=5.6								
ARCES	**ARCESS Array B**	**40.69**	**337**	P		**P**	**09 58 08.2**	**-0.9**
ZEA	**Zeya**	**40.97**	**48**⇑	*i*P		**P**	**09 58 14.1**	**+2.4**
YAK	**Yakutsk**	**42.88**	**36**⇓	*e*P		**P**	**09 58 28.2**	**+1.2**
YAK				*i* *PP		**pP**	**09 59 00.1**	**+2.4**
YAK				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KLR	**Kul'dur**	**44.07**	**55**	P		**P**	**09 58 38.1**	**+1.4**
	comp=Z,2.0nm,0.4s,baz=291,slow=9.0,SNR=10								
KLR	**Kul'dur**	**44.07**	**55**	*de*P		**P**	**09 58 38.0**	**+1.3**
KLR				pmax	pmax				
	comp=Z,6.0nm,1.5s								
TIXI	**Tiksi**	**44.74**	**22**⇑	*e*P		**P**	**09 58 42.4**	**+0.6**
TIXI				pmax	pmax				
	comp=Z,11nm,3.3s								
KMBO	**Kilima Mbogo**	**49.92**	**228**⇑	*e*P		**P**	**09 59 24.5**	**+1.6**
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.3s								
TORD	**Torodi Ar. Bea**	**66.48**	**269**	P		**P**	**10 01 17.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=53,slow=5.3,SNR=7.3								
INK	**Inuvik**	**72.98**	**10**	P		**P**	**10 01 58.2**	**+1.4**
INK				pmax	pmax				
	comp=Z,2.0nm,1.3s								
INK	**Inuvik**	**72.98**	**10**	P		**P**	**10 01 58.2**	**+1.4**
INK				IAmb	IAmb		10 02 06.3		
	comp=Z,2.1nm,1.3s								
C36M	**Paulatuk**	**73.00**	**6**	P		**P**	**10 01 57.5**	**+0.7**
C36M				IAmb	IAmb		10 01 58.4		
	comp=Z,3.2nm,1.1s								
YKA	**Yellowknife Ar**	**80.40**	**3**	P		**P**	**10 02 39.5**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=351,slow=5.6,SNR=53								
YKA	**Yellowknife Ar**	**80.40**	**3**	P		**P**	**10 02 38.4**	**-0.1**
WRA	**Warramunga Arr**	**81.79**	**123**	P		**P**	**10 02 47.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=323,slow=5.1,SNR=8.1								
WRA	**Warramunga Arr**	**81.79**	**123**	*i* P		**P**	**10 02 47.4**	**+0.9**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
WB2	**Warramunga Arr**	**81.80**	**123**	P		**P**	**10 02 46.5**	**-0.1**
WB2				IAmb	IAmb		10 03 02.9		
	comp=Z,9.6nm,1.4s								

UPP ***13*** *09:59:08.8±2.5, 55.°84N×20.°46E, h0km, ML2.6, Suspected explosion*
DNK ***13*** *09:59:09.0±0.8, 55.°84N×20.°41E, h0km, ML2.6(UPP), Suspected explosion*
LVSN ***13*** *09:59:10.0±4.2, 55.°89N×20.°37E, h0km±53km, ML2.5*

ISC 13 09:59:08.1±1.0, 55.°82N±0.°06×20.°54E±0.°04, h0km, n27, σ0s55/31, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBUR	**Paburge**	**0.81**	**75**	*e*P	**Pg**	**09 59 23.8**	**+0.2**
PBUR				IAML		09 59 47.1	
	comp=Z,30nm,0.3s						
PBUR	**Paburge**	**0.81**	**75**	*e*S	**Sb**	**09 59 36.2**	**-0.2**
PBUR				AML	AML	10 00 06.0	
	comp=Z,43nm,0.4s						
PBUR				AML	AML	10 00 18.5	
	comp=N,50nm,0.6s						
PBUR				AML	AML	10 00 24.4	
	comp=E,69nm,0.8s						
PABE	**Paberze**	**1.97**	**98**	*e*P	**Pg**	**09 59 45.5**	**-0.2**
PABE				*e*S	**Sg**	**10 00 12.4**	**+1.2**
PABE				IAML		10 00 18.3	
	comp=Z,13nm,0.3s						
PABE	**Paberze**	**1.97**	**98**	*e*P	**Pg**	**09 59 45.6**	**-0.2**
PABE				AML	AML	09 59 46.2	
	comp=Z,20nm,0.3s						
PABE				*e*S	**Sg**	**10 00 11.6**	**+0.3**
PABE				AML	AML	10 00 13.8	
	comp=E,34nm,0.6s						
PABE				AML	AML	10 00 13.8	
	comp=N,31nm,0.6s						
SLIT	**Slitere, Latvi**	**2.05**	**27**	*e*P	**Pn**	**09 59 43.3**	**-0.4**
SLIT				IAML		10 00 30.8	
	comp=Z,108nm,0.1s						
SLIT	**Slitere, Latvi**	**2.05**	**27**	*e*P	**Pn**	**09 59 43.5**	**-0.3**
SLIT				AML	AML	09 59 44.8	
	comp=Z,64nm,0.1s						
SLIT				*e*S	**Sb**	**10 00 11.3**	**-0.9**
SLIT				AML	AML	10 00 14.1	
	comp=E,87nm,0.6s						
SLIT				AML	AML	10 00 17.8	
	comp=N,106nm,0.4s						
GOTU	**Gotland**	**2.16**	**331**	P	**Pn**	**09 59 45.2**	**0.0**
GOTU				S	**Sn**	**10 00 12.4**	**-0.3**
GOTU	**Gotland**	**2.16**	**331**	P	**Pn**	**09 59 45.2**	**0.0**
GOTU				S	**Sn**	**10 00 12.4**	**-0.3**
SUW	**Suwalki**	**2.37**	**139**	*e*P	**Pg**	**09 59 53.0**	**-0.5**
SUW	**Suwalki**	**2.37**	**139**	AML	AML	10 00 27.9	
	comp=N,440nm,0.3s						
SUW				AML	AML	10 00 29.5	
	comp=E,365nm,0.3s						
SUW				AML	AML	10 00 31.6	
	comp=Z,300nm,0.1s						
BYXU	**Byxelkrok**	**2.45**	**308**	P	**Pn**	**09 59 50.0**	**+0.9**
BYXU	**Byxelkrok**	**2.45**	**308**	P	**Pn**	**09 59 50.0**	**+0.9**
BLEU	**Blekinge**	**2.69**	**282**	P	**Pn**	**09 59 52.8**	**+0.2**
BLEU	**Blekinge**	**2.69**	**282**	P	**Pn**	**09 59 52.8**	**+0.2**
VSTU	**Vaestervik**	**2.87**	**312**	P	**Pn**	**09 59 55.6**	**+0.5**
VSTU	**Vaestervik**	**2.87**	**312**	P	**Pn**	**09 59 55.6**	**+0.5**
ISAL	**Salakas**	**3.17**	**92**	*e*P	**Pb**	**10 00 05.3**	**+0.1**
VXJU	**Vaexsjoe**	**3.30**	**292**	P	**Pn**	**10 00 00.6**	**-0.3**
VXJU	**Vaexsjoe**	**3.30**	**292**	P	**Pn**	**10 00 00.6**	**-0.3**
VIKU	**Vikbolandet**	**3.40**	**324**	*e*P	**Pn**	**10 00 02.3**	**0.0**
VIKU				IAML		10 00 59.3	
	comp=Z,3.7nm,0.3s						
VIKU	**Vikbolandet**	**3.40**	**324**	P	**Pn**	**10 00 02.7**	**+0.4**
VIKU	**Vikbolandet**	**3.40**	**324**	P	**Pn**	**10 00 02.7**	**+0.4**
NYNU	**Nynaeshamn**	**3.47**	**338**	P	**Pn**	**10 00 04.1**	**+0.8**
NYNU	**Nynaeshamn**	**3.47**	**338**	P	**Pn**	**10 00 04.1**	**+0.8**
AAL	**Aland**	**4.38**	**356**	*e*P	**Pn**	**10 00 15.6**	**-0.1**
AAL				IAML		10 01 27.2	
	comp=Z,1.0nm,0.6s						
MEF	**Metsahovi**	**4.86**	**23**	*e*P	**Pn**	**10 00 23.4**	**+1.0**
RAF	**Rauma**	**5.26**	**7**	*e*P	**Pn**	**10 00 27.2**	**-0.6**

JMA ***13*** *10:05:13.2±0.1, 28.°11N×128.°03E, h12km±2km, M3.2*
IDC ***13*** *10:05:15.9±1.9, 27.°86N×128.°13E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.1/58, mbtmp3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/47, Error ellipse: s-maj=43.0km s-min=21.5km az=65.0*

ISC 13 10:05:13.7±2.5, 28.°09N±0.°07×128.°08E±0.°08, h6km±13km, n15, σ1s05/21, mb3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.83**	**111**	P	**Pg**	**10 05 29.5**	**-0.1**
JTK				*e*S	**Sg**	**10 05 41.2**	**+0.8**
JOKE	**Okinoerabujima**	**0.84**	**149**	P	**Pg**	**10 05 30.1**	**+0.2**
JOKE				*e*S	**Sg**	**10 05 41.9**	**+1.1**
JAMN	**Amaminishikomi**	**0.98**	**81**	P	**Pb**	**10 05 32.3**	**-0.8**
JAMN				*e*S	**Sb**	**10 05 45.9**	**-0.4**
JIH	**Iheya**	**1.05**	**185**	P	**Pb**	**10 05 33.1**	**-1.1**
JIH				S	**Sb**	**10 05 47.4**	**-0.8**
JYRO	**Yoronjima**	**1.11**	**162**	P	**Pb**	**10 05 34.5**	**-0.7**
JYRO				*e*S	**Sb**	**10 05 49.7**	**-0.1**
JOW	**Kunigami**	**1.26**	**172**	Pn	**Pn**	**10 05 36.7**	**-1.1**
	68nm,0.3s,baz=353,slow=15,SNR=14						
JOW				LR	LR	10 05 38.8	
	comp=Z,137nm,21.5s,baz=236,slow=22						
JOW				Sn	**Sb**	**10 05 53.7**	**-0.5**
	61nm,0.3s,baz=214,slow=26,SNR=12						
JOW	**Kunigami**	**1.26**	**172**	P	**Pn**	**10 05 36.7**	**-1.1**
JOW				*e*S	**Sb**	**10 05 53.8**	**-0.5**
JAM	**Amami Oshima**	**1.39**	**76**	P	**Pn**	**10 05 39.1**	**-0.4**
JAM				*e*S	**Sn**	**10 05 57.2**	**-0.9**
JTAJ	**Takarajima**	**1.45**	**43**	P	**Pn**	**10 05 39.5**	**-0.9**
JNTH	**Nagotoyohara**	**1.56**	**182**	P	**Pn**	**10 05 41.0**	**-0.9**
JAGN	**Aguni-jima**	**1.67**	**207**	P	**Pn**	**10 05 42.8**	**-0.5**
KSRS	**Korea Array**	**9.34**	**359**	LR	LR	10 11 18.9	
	comp=Z,48nm,19.2s,baz=180,slow=38						
MKAR	**Makanchi Array**	**40.22**	**310**	P	P	10 12 55.2	+4.3
	0.4nm,0.8s,baz=89,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**48.13**	**172**	P	**P**	**10 13 56.0**	**+1.5**
	0.5nm,0.8s,baz=355,slow=8.4,SNR=4.6						
ASAR	**Alice Springs**	**51.76**	**173**	P	**P**	**10 14 24.5**	**+2.4**
	0.5nm,1.0s,baz=4.2,slow=14,SNR=4.3						

IDC 13 10:18:47.6±850.0, 55.°51N×35.°16E, h0km, Error ellipse: s-maj=306.6km s-min=37.4km az=43.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON 1.68**	**43**	*i*			10 28 50.0	
	baz=224,slow=326,SNR=0.1						
I31KZ	**AKTYUBINSK INF 14.67**	**101**	*i*			11 46 30.0	
	baz=299,slow=329,SNR=1.8						
I46RU	**ZALESOVO INFRA 28.23**	**72**	*i*			13 13 30.0	
	baz=295,slow=324,SNR=1.0						

IDC ***13*** *10:30:09.5±0.5, 13.°35N×145.°69E, h0km, mb4.4/27, mb1 4.5/27, mb1mx4.3/63, mbtmp4.4/27, MS3.6/34, Ms1 3.6/34, ms1mx3.4/77, Error ellipse: s-maj=14.3km s-min=11.9km az=96.0*
NEIC ***13*** *10:30:10.9±1.2, 13.°29N±0.°07×145.°75E±0.°06, h10km±1km, mb4.8/115, Error ellipse: s-maj=13.4km s-min=9.3km az=213.0*
DJA ***13*** *10:30:21.4±1.4, 14.°N±9.°×14.°5E±1.°9, h51km±6km, M3.8/6, mB5.5/1, mb4.9/6, MLv3.2/1, Mw(mB)5.0/1*

ISC 13 10:30:10.6±0.4, 13.°26N±0.°06×145.°76E±0.°06, h10km, n190, σ1s08/126, mb4.8/91, MS3.8/40, 2C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.93**	**291**	Pn	**Pn**	**10 30 29.6**	**-0.2**
	1μm,0.3s,baz=117,slow=6.3,SNR=331						
GUMO				Sn	**Sn**	**10 30 43.6**	**+0.4**
	2μm,0.3s,baz=53,slow=20,SNR=12						
GUMO	**Guam**	**0.93**	**291**		**Pg**	**10 30 28.5**	**0.0**
GUMO	**Guam**	**0.93**	**291**	P	**Pb**	**10 30 28.9**	**+0.1**
PATS	**Pohnpei**	**13.90**	**116**	Pn	**Pn**	**10 33 26.0**	**-1.9**
SIJI	**Sorong**	**20.09**	**227**	LR	LR	10 42 04.9	
	comp=Z,111nm,18.0s,baz=184,slow=36						
H11S3	**WAKE ISLAND Hy**	**20.78**	**73**	T	T	10 56 33.5	
	baz=280,slow=79,SNR=9.6						
DAV	**Davao City (W)**	**20.79**	**255**	LR	LR	10 41 34.7	
	comp=Z,165nm,21.3s,baz=138,slow=33						
H11S1	**WAKE ISLAND Hy**	**20.80**	**73**	T	T	10 57 04.0	
	baz=280,slow=79,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**20.80**	**73**	T	T	10 56 38.4	
	baz=280,slow=79,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**21.24**	**70**	T	T	10 57 18.7	
	baz=255,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**21.25**	**70**	T	T	10 57 08.7	
	baz=255,SNR=11						
H11N3	**WAKE ISLAND Hy**	**21.26**	**70**	T	T	10 57 16.4	
	baz=255,slow=75,SNR=14						
TNTI	**Ternate**	**22.04**	**237**	P	**P**	**10 35 04.2**	**-1.5**
JMN	**Monobe**	**23.07**	**334**	P	**P**	**10 35 15.6**	**-0.9**
INU	**Inuyama**	**23.37**	**342**	P	**P**	**10 35 18.7**	**-0.7**
INU				IAmb	IAmb	10 35 20.1	
	comp=Z,27nm,1.1s						
JYT	**Yasato**	**23.42**	**349**	P	**P**	**10 35 18.2**	**-1.6**
JGF	**Kuroka**	**23.50**	**343**	P	**P**	**10 35 20.4**	**-0.4**
JGF				IAmb	IAmb	10 35 21.4	
	comp=Z,23nm,0.9s						
JNU	**Nakatsue**	**23.99**	**328**	P	**P**	**10 35 24.5**	**-1.0**
	comp=Z,7.7nm,0.7s,baz=207,slow=4.4,SNR=6.3						
JNU	**Nakatsue**	**23.99**	**328**	P	**P**	**10 35 24.4**	**-1.1**
MJAR	**Matsushiro Arr**	**24.16**	**345**	P	**P**	**10 35 26.1**	**-1.0**
	comp=Z,11nm,0.8s,baz=189,slow=25,SNR=12						
MJAR				LR	LR	10 42 46.4	
	comp=Z,65nm,21.7s,baz=156,slow=32						
MJAR	**Matsushiro Arr**	**24.16**	**345**	P	**P**	**10 35 24.8**	**-2.2**
MAJO	**Matsushiro**	**24.16**	**345**	P	**P**	**10 35 25.6**	**-1.5**
MAJO				IAmb	IAmb	10 35 28.1	
	comp=Z,21nm,0.9s						
MJB9	**Matsu-Tunnel**	**24.16**	**345**	P	**P**	**10 35 25.4**	**-1.7**
MJB9				IAmb	IAmb	10 35 28.0	
	comp=Z,20nm,0.9s						
JHS	**Saijyo**	**24.48**	**334**	P	**P**	**10 35 29.3**	**-0.7**
JHS				IAmb	IAmb	10 35 34.0	
	comp=Z,16nm

comp=Z,98nm,21.6s,baz=8.0,slow=33
DZM Mont Dzumac 40.55 150 *e*LR LR 10 49 33.9
comp=Z,96nm,26.2s
HHC Hu-ho-hao-te 40.59 319 *e*P **P 10 37 50.1 -0.6**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.7s
HHC LR LR
comp=N,110nm,14.0s
HHC LR LR
comp=E,170nm,14.0s
HHC LR LR
comp=Z,200nm,14.7s
UGM Wanagama 40.83 241 P **P 10 37 52.4 -0.5**
PEA0B Petropavlovsk- 40.88 11 P **P 10 37 52.5 -0.2**
PEA0B IAmb IAmb 10 38 23.3
comp=Z,24nm,1.3s
PETK Petropavlovsk- 40.88 11 P **P 10 37 53.3 +0.6**
comp=Z,5.7nm,1.0s,baz=329,slow=11,SNR=4.4
PETK Petropavlovsk- 40.88 11 P **P 10 37 51.6 -1.1**
HIA Hailar 41.81 334 P **P 10 37 58.4 -2.1**
MBWA Marble Bar 42.70 217 P **P 10 38 07.9 -0.1**
LEM Lembang 42.82 244 LR LR 10 57 56.4
comp=Z,60nm,18.6s,baz=20,slow=39
MYKOM Kota Tinggi 43.00 258 P **P 10 38 09.4 -1.2**
MYKOM IAmb IAmb 10 38 10.9
comp=Z,16nm,0.9s
PZH PanZhiHua 43.23 295 P **P 10 38 13.9 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.7s
CM31 Chiang Mai Arr 45.24 283 P **P 10 38 28.3 -0.3**
CMAR Chiang Mai Arr 45.24 283 P **P 10 38 27.8 -0.7**
comp=Z,2.4nm,0.6s,baz=84,slow=6.5,SNR=18
CMAR PcP **PcP 10 40 09.3 +0.7**
comp=Z,1.4nm,0.7s,baz=99,slow=1.6,SNR=5.5
CMAR LR LR 10 54 55.2
comp=Z,46nm,21.2s,baz=95,slow=33
CMAR Chiang Mai Arr 45.24 283 P **P 10 38 27.3 -1.2**
MNAI Manna 45.96 250 P **P 10 38 32.9 -1.5**
MA2 Magadan 46.39 4 P **P 10 38 36.4 -0.5**
comp=Z,9.4nm,0.8s,baz=176,slow=5.8,SNR=16
MA2 Magadan 46.39 4 P **P 10 38 36.5 -0.5**
MA2 IAmb IAmb 10 38 37.6
comp=Z,12nm,0.9s
BBOO Buckleboo 46.73 191 P **P 10 38 40.5 +0.5**
FORT Forrest 46.98 201 P **P 10 38 41.6 -0.3**
FORT IAmb IAmb 10 40 27.9
comp=Z,14nm,1.1s
ULN Ulaanbaatar 47.15 325 P **P 10 38 42.4 -1.0**
SONM Songino Array 47.50 325 P **P 10 38 46.1 0.0**
comp=Z,1.7nm,0.7s,baz=139,slow=9.1,SNR=12
SONM PcP **PcP 10 40 16.4 +0.2**
comp=Z,0.7nm,0.5s,baz=132,slow=2.2,SNR=3.8
SONM Songino Array 47.50 325 P **P 10 38 45.1 -1.0**
SEY Seymchan 49.83 4 P **P 10 39 03.3 -0.2**
comp=Z,4.5nm,0.9s,baz=182,slow=7.1,SNR=21
AFI Afiamalu 49.98 121 LR LR 10 58 12.8
comp=Z,75nm,18.6s,baz=262,slow=34
TOO Toolangi 50.56 180 P **P 10 39 09.8 +0.4**
TOO IAmb IAmb 10 39 50.3
comp=Z,31nm,1.8s
MORW Morawa 50.94 214 P **P 10 39 12.5 0.0**
RAO Raoul Island 54.91 141 LR LR 11 01 41.6
comp=Z,88nm,19.7s,baz=82,slow=34
BILL Bilibino 56.35 9 P **P 10 39 51.4 -0.1**
BILL IAmb IAmb 10 39 52.0
comp=Z,6.6nm,0.8s
WMQ Urumqi 57.99 314 *e*P **P 10 40 06.3 +2.6**
WMQ LR LR
comp=N,250nm,21.7s
WMQ LR LR
comp=E,160nm,20.5s
WMQ LR LR
comp=Z,110nm,18.9s
URZ Urewera 59.06 151 LR LR 11 04 40.2
comp=Z,134nm,18.1s,baz=33,slow=35
TIXI Tiksi 59.26 354 P **P 10 40 12.0 +0.1**
comp=Z,1.0nm,0.4s,baz=267,slow=19,SNR=4.4
TIXI Tiksi 59.26 354 P **P 10 40 11.7 -0.1**
BKZ Black Stump Fm 59.51 153 P **P 10 40 14.4 +0.2**
TNA Tin City 60.86 20 P **P 10 40 22.8 -0.2**
ANM Nome 61.18 22 P **P 10 40 26.6 +1.4**
RPZ Rata Peaks 61.22 159 LR LR 11 04 28.2
comp=Z,95nm,21.3s,baz=326,slow=34
MK31 Makanchi Array 62.33 316 P **P 10 40 33.2 -0.1**
MKAR Makanchi Array 62.33 316 P **P 10 40 33.2 -0.2**
comp=Z,4.5nm,0.6s,baz=90,slow=8.8,SNR=42
ZAA0 Zalesovo Array 62.40 324 P **P 10 40 32.8 -0.8**
ZALV Zalesovo Beam 62.40 324 P **P 10 40 32.3 -1.3**
comp=Z,1.1nm,0.5s,baz=103,slow=7.2,SNR=6.9
ZALV Zalesovo Beam 62.40 324 P **P 10 40 32.5 -1.1**
RAR Rarotonga 63.51 122 LR LR 11 01 36.4
comp=Z,77nm,21.9s,baz=199,slow=30
SVW2 Sparrevohn 63.56 28 IAmb IAmb 10 41 28.4
comp=Z,14nm,1.4s
KDAK Kodiak Island 63.89 32 LR LR 11 03 35.3
comp=Z,46nm,20.8s,baz=250,slow=31
N19K Bonanza Creek 63.96 28 P **P 10 40 45.9 +2.0**
TTA Tatalina 64.08 26 P **P 10 40 46.0 +1.3**
PALK Pallekele 64.15 272 LR LR 11 09 22.2
comp=Z,48nm,18.4s,baz=209,slow=37
L19K White Mountain 64.29 27 P **P 10 40 46.2 +0.2**
L19K IAmb IAmb 10 40 54.0
comp=Z,6.2nm,1.1s
K20K Telida 65.06 26 IAmb IAmb 10 40 54.9
comp=Z,8.0nm,0.8s
CNPM China Poot 65.08 30 P **P 10 40 52.2 +0.9**
J20K Nowinta River 65.33 25 IAmb IAmb 10 40 56.4
comp=Z,6.4nm,0.7s
KURK Kurchatov 65.40 320 P **P 10 40 53.0 -0.4**
BOOM Boomskoye usch 66.31 311 P **P 10 41 00.0 +0.3**
H21K Melozitna Rive 66.40 23 IAmb IAmb 10 41 03.2
comp=Z,5.1nm,0.8s
KTH Kantishna Hill 66.45 26 IAmb IAmb 10 41 10.4
comp=Z,14nm,1.2s
I21K Tanana 66.55 24 IAmb IAmb 10 41 08.5
comp=Z,6.8nm,0.9s
BPAW Bear Paw Mtn. 66.60 25 IAmb IAmb 10 41 04.4
comp=Z,5.4nm,0.7s
PMR Palmer 66.67 28 IAmb IAmb 10 41 08.6
comp=Z,7.1nm,0.7s
TRF Thorofare Moun 66.69 26 IAmb IAmb 10 41 08.9
comp=Z,8.0nm,1.0s
NRIK Noril'sk 66.73 341 P **P 10 41 01.1 -0.6**
comp=Z,8.6nm,0.6s,baz=110,slow=8.1,SNR=19
NRIK Noril'sk 66.73 341 P **P 10 41 01.4 -0.3**
GHO Glory Hole Cre 66.81 28 IAmb IAmb 10 41 05.0
comp=Z,8.8nm,0.8s
RND Reindeer 67.30 26 IAmb IAmb 10 41 11.6
comp=Z,4.9nm,0.7s
AAK Ala-Archa 67.39 311 LR LR 11 11 34.1
comp=Z,59nm,19.7s,baz=78,slow=37
I23K Minto, Yukon-K 67.59 24 IAmb IAmb 10 41 14.8
comp=Z,10.0nm,1.1s
H23K Yukon River 67.73 24 IAmb IAmb 10 41 15.8
comp=Z,5.7nm,1.0s
WRH Wood River Hil 67.92 25 P **P 10 41 09.8 +0.5**
WRH IAmb IAmb 10 41 16.1
comp=Z,8.8nm,0.9s
COLD Coldfoot 67.92 22 IAmb IAmb 10 41 16.4
comp=Z,11nm,1.2s
MDM Murphy Dome 68.00 25 IAmb IAmb 10 41 12.3
comp=Z,6.3nm,1.1s
H24K Noodor Dome 68.39 24 IAmb IAmb 10 41 20.4
comp=Z,6.7nm,1.1s
IL31 68.50 25 IAmb IAmb 10 41 19.4
comp=Z,18nm,1.6s
ILAR Eielson Array 68.50 25 P **P 10 41 12.6 -0.3**
comp=Z,3.3nm,0.6s,baz=251,slow=5.8,SNR=47
ILAR Eielson Array 68.50 25 P **P 10 41 12.9 -0.1**
TOLK Toolik Lake Re 68.61 21 IAmb IAmb 10 41 16.7
comp=Z,9.9nm,1.0s
PAX Paxson 68.67 27 IAmb IAmb 10 41 16.5
comp=Z,5.3nm,0.7s
DOT Dot Lake 69.44 27 IAmb IAmb 10 41 29.7
comp=Z,6.9nm,0.8s
L26K Log Cabin Wild 69.63 27 IAmb IAmb 10 41 22.7
comp=Z,4.3nm,0.7s
GRNC Granite Creek 69.97 30 IAmb IAmb 10 41 25.9
comp=Z,9.9nm,0.8s
CTGM Chitina Glacie 70.21 30 IAmb IAmb 10 41 27.9
comp=Z,12nm,0.9s
L27K Beaver Creek, 70.31 27 IAmb IAmb 10 42 11.3
comp=Z,21nm,1.9s
BVAR Borovoye Array 70.72 322 P **P 10 41 26.6 -0.3**
comp=Z,4.5nm,0.3s
PPT2 Papeete2 70.79 114 *e*LR LR 11 03 23.3
comp=Z,146nm,25.2s
BRVK Borovoye 70.79 322 P **P 10 41 26.5 -0.8**
BRVK IAmb IAmb 10 41 27.8
comp=Z,7.2nm,0.8s
EGAK Eagle 70.90 26 IAmb IAmb 10 41 35.3
comp=Z,13nm,1.4s
DAWY Dawson 71.55 27 P **P 10 41 33.4 +1.7**
DAWY IAmb IAmb 10 41 46.3
comp=Z,14nm,1.6s
HYT Haines Junctio 72.06 30 IAmb IAmb 10 41 39.5
comp=Z,6.2nm,0.8s
I29M Ogilvie Camp, 72.18 25 IAmb IAmb 10 41 42.7
comp=Z,23nm,1.8s
EPYK Eagle Plains 72.94 24 IAmb IAmb 10 41 54.4
comp=Z,7.5nm,0.9s
INK Inuvik 74.34 22 P **P 10 41 48.4 +0.3**
comp=Z,4.4nm,0.7s,baz=292,slow=6.4,SNR=22
INK Inuvik 74.34 22 P **P 10 41 48.6 +0.5**
INK IAmb IAmb 10 41 55.0
comp=Z,8.3nm,1.0s
DLBC Dease Lake 75.79 33 P **P 10 41 58.8 +2.0**
DLBC IAmb IAmb 10 42 11.6
comp=Z,20nm,1.4s
TAOE Nuku Hiva Isla 76.77 102 *e*LR LR 11 06 00.2
comp=Z,81nm,23.5s
A36M Sachs Harbour 77.18 19 P **P 10 42 04.7 +0.4**
A36M IAmb IAmb 10 42 06.3
comp=Z,20nm,1.6s
ABKAR Akbulak array 77.37 318 P **P 10 42 04.9 -0.9**
ABKAR Akbulak array 77.37 318 P **P 10 42 04.8 -1.0**
ABKAR IAmb IAmb 10 42 05.8
comp=Z,4.8nm,0.6s
ARU Arti 77.53 325 LR LR 11 18 09.7
comp=Z,46nm,18.4s,baz=70,slow=37
C36M Paulatuk 77.76 21 IAmb IAmb 10 42 08.8
comp=Z,16nm,1.6s
AKTO Aktyubinsk 78.48 319 LR LR 11 17 27.1
comp=Z,84nm,20.7s,baz=85,slow=36
YBH Yreka Blue Hor 82.43 49 LR LR 11 12 19.8
comp=Z,51nm,20.1s,baz=318,slow=31
YKA Yellowknife Ar 82.75 27 P **P 10 42 35.0 +0.4**
comp=Z,1.7nm,0.5s,baz=286,slow=5.2,SNR=43
EUNU Eureka 83.08 8 IAmb IAmb 10 44 07.5
comp=Z,20nm,1.9s
PINE Pine Mountain 83.31 47 P **P 10 42 37.7 -0.5**
B08A Colville Reser 83.44 42 P **P 10 42 37.4 -1.2**
B08A IAmb IAmb 10 42 43.8
comp=Z,4.4nm,0.8s
SPITS Spitsbergen Ar 84.52 351 LR LR 11 21 53.8
comp=Z,7.9nm,21.8s,baz=240,slow=37
BEKR Beckworth 84.56 50 P **P 10 42 46.7 +2.1**
EDM Edmonton 85.90 36 IAmb IAmb 10 42 53.0
comp=Z,5.5nm,0.8s
RYN Ryan 86.23 51 P **P 10 42 52.5 -0.5**
RYN IAmb IAmb 10 42 59.5
comp=Z,11nm,1.7s
NVAR Mina Array Bea 86.45 52 P **P 10 42 55.7 +1.6**
comp=Z,0.9nm,0.6s,baz=266,slow=5.5,SNR=11
MFID Camas Ranch 87.00 46 IAmb IAmb 10 43 12.8
comp=Z,6.6nm,0.9s
KEV Kevo 87.10 342 P **P 10 42 55.7 -0.6**
ARCES ARCESS Array B 87.67 342 P **P 10 42 58.5 -0.6**
comp=Z,2.9nm,0.6s,baz=64,slow=6.8,SNR=12
ARCES LR LR 11 25 14.6
comp=Z,47nm,19.9s,baz=132,slow=38
ARCES ARCESS Array B 87.67 342 P **P 10 42 58.5 -0.6**
ELK Elko 88.14 49 LR LR 11 16 04.9
comp=Z,56nm,19.1s,baz=300,slow=31
PFO Pinyon Flats O 89.11 56 LR LR 11 21 25.8
comp=Z,45nm,19.3s,baz=277,slow=34
GNI Garni 89.79 311 LR LR 11 26 51.4
comp=Z,28nm,19.1s,baz=8.0,slow=38
PDAR Pinedale Array 91.58 45 P **P 10 43 19.4 +1.1**
comp=Z,0.2nm,0.6s,baz=344,slow=2.0,SNR=2.3
PDAR LR LR 11 17 38.8
comp=Z,37nm,19.6s,baz=303,slow=31
FINES FINESS Array B 91.83 335 P **P 10 43 17.1 -1.6**
comp=Z,1.5nm,0.4s,baz=78,slow=4.0,SNR=6.2
FINES FINESS Array B 91.83 335 P **P 10 43 17.4 -1.3**
AKASG Malin Array Be 95.78 325 LR LR 11 28 50.3
comp=Z,69nm,18.9s,baz=54,slow=37
ANMO Albuquerque 96.57 52 LR LR 11 25 15.6
comp=Z,25nm,19.2s,baz=326,slow=34
LPIG La Paz 96.99 63 LR LR 11 21 24.3
comp=Z,38nm,18.7s,baz=263,slow=32
ULM Lac du Bonnet 97.02 35 LR LR 11 22 49.1
comp=Z,34nm,20.5s,baz=304,slow=33
HFS Hagfors 97.43 338 LR LR 11 29 48.4
comp=Z,35nm,19.9s,baz=51,slow=37
NOA NORSAR Array B 97.67 340 LR LR 11 30 45.4
comp=Z,29nm,20.7s,baz=65,slow=37
BRTR Keskin Array B 97.92 314 P **P 10 43 46.1 -1.1**
comp=Z,1.2nm,0.7s,baz=124,slow=0.4,SNR=4.6
TORD Torodi Ar. Bea 135.77 305 PKP **PKPdf 10 49 32.1 -0.5**
comp=Z,1.3nm,0.9s,baz=28,slow=2.5,SNR=9.4
TORD Torodi Ar. Bea 135.77 305 **PKPdf 10 49 31.2 -1.4**
DBIC Dimbokro 144.74 302 PKP **PKPab 10 49 47.8 +0.2**
comp=Z,25nm,0.5s,baz=62,slow=3.7,SNR=38
DBIC Dimbokro 144.74 302 PKPbc 10 49 48.1 +0.4
LPAZ La Paz 147.11 100 PKPbc **PKPbc 10 49 56.7 +1.0**
comp=Z,1.1nm,0.6s,baz=0.0,slow=2.0,SNR=3.4

*IDC **13** 10:36:24.1±0.9, 27°.27N×140°.15E, h373km±8km, mb3.1/12, mb1 3.4/12, mb1mx3.1/58, mbtmp3.8/12, Error ellipse: s-maj=25.1km s-min=12.2km az=96.0*
*JMA **13** 10:36:26.1±0.1, 27°.57N×140°.34E, h371km, M3.8*
ISC 13 10:36:22.7±0.8, 27°.40N±0°.07×139°.8E±0°.1, h350km, n22, σ1s67°/30, mb3.4/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.16**	**98**	P	**Pn**	**10 37 17.7**	**+2.5**
CBIJ				*e*S	**S**	**10 37 58.1**	**+0.8**
JCJ	**Chichijima**	**2.16**	**98**	P	**Pn**	**10 37 17.6**	**+2.4**
	45nm,0.3s,baz=348,slow=18,SNR=18			S	**S**	**10 37 58.5**	**+1.3**
JCJ	213nm,0.3s,baz=275,slow=23,SNR=9.9						
JHH2	**Haha-jima-NKT2**	**2.27**	**109**	P	**Pn**	**10 37 18.7**	**+2.7**
JHH2				*e*S	**S**	**10 38 00.0**	**+1.2**
BSO1	**Boso 1**	**7.30**	**8**	*e*S	**S**	**10 39 33.2**	**-0.5**
BSO3	**Boso 3**	**7.40**	**5**	P	**Pn**	**10 38 12.4**	**+3.0**
BSO3				*e*S	**S**	**10 39 35.9**	**-0.5**
BSO4	**Boso 4**	**7.58**	**3**	P	**Pn**	**10 38 14.2**	**+2.5**
BSO4				*e*S	**S**	**10 39 39.5**	**-0.9**
JHU	**Hanno**	**8.43**	**357**	P	**P**	**10 38 24.7**	**0.0**
JHU				*e*S	**S**	**10 39 58.3**	**-0.9**
JRY	**Ryogami san**	**8.62**	**355**	P	**P**	**10 38 27.7**	**+0.9**
JAG	**Ashikaga**	**9.00**	**358**	P	**P**	**10 38 30.8**	**-0.1**
JAG				*e*S	**S**	**10 40 10.4**	**-1.2**
JHO	**Hitachi**	**9.21**	**4**	P	**P**	**10 38 33.3**	**+0.1**
JHO				S	**S**	**10 40 13.3**	**-2.8**
KLR	**Kul'dur**	**22.66**	**346**	P	**P**	**10 40 56.7**	**+2.0**
	2.4nm,0.5s,baz=155,slow=6.9,SNR=8.7						
SONM	**Songino Array**	**33.02**	**317**	P	**P**	**10 42 28.5**	**+2.1**
	0.3nm,0.5s,baz=123,slow=10,SNR=2.0						
SEY	**Seymchan**	**36.48**	**10**	P	**P**	**10 42 56.2**	**+0.8**
	0.5nm,0.4s,baz=176,slow=13,SNR=2.6						
WRA	**Warramunga Arr**	**47.36**	**187**	P	**P**	**10 44 21.6**	**-1.4**
	1.2nm,0.6s,baz=3.8,slow=7.7,SNR=26						
ASAR	**Alice Springs**	**51.09**	**187**	P	**P**	**10 44 49.2**	**-1.6**
	0.2nm,0.5s,baz=1.1,slow=4.8,SNR=9.8						
ILAR	**Eielson Array**	**58.47**	**29**	P	**P**	**10 45 41.4**	**-1.4**
	0.5nm,0.6s,baz=257,slow=6.1,SNR=4.5						
INK	**Inuvik**	**63.63**	**24**	P	**P**	**10 46 15.6**	**-1.4**
	0.5nm,0.5s,baz=296,slow=6.5,SNR=4.7						
SPITS	**Spitsbergen Ar**	**69.69**	**349**	P	**P**	**10 46 55.4**	**+0.6**
	3.0nm,0.8s,baz=58,slow=5.4,SNR=5.2						
YKA	**Yellowknife Ar**	**72.88**	**28**	P	**P**	**10 47 12.3**	**-1.6**
	1.4nm,0.4s,baz=297,slow=6.2,SNR=41						
FINES	**FINESS Array B**	**76.72**	**333**	P	**P**	**10 47 35.0**	**-0.8**
	0.6nm,0.3s,baz=66,slow=4.6,SNR=4.5						
NVAR	**Mina Array Bea**	**82.00**	**51**	P	**P**	**10 48 03.5**	**-1.3**
	0.5nm,0.6s,baz=291,slow=5.1,SNR=5.1						
TXAR	**Lajitas Array**	**97.11**	**52**	P	**P**	**10 49 15.0**	**-1.2**
	0.1nm,0.5s,baz=320,slow=3.6,SNR=2.1						

*UPA **13** 10:42:17.1±1.6, 7°.43N×82°.15W, h30km±21km, MW4.0*
*UCR **13** 10:42:18.2±1.6, 7°.50N×82°.25W, h22km±7km, MW3.7*
ISC 13 10:42:14.7±1.4, 7°.58N±0°.05×82°.06W±0°.03, h3km±10km,

n37, σ1s24°/63, 5C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REME3	**Remedios, Chir**	**0.68**	**19**	⇑*iP*	**Pn**	**10 42 32.0**	**+0.6**
GMAL	**Guarumal, Vera**	**0.84**	**77**	⇓*iP*	**Pb**	**10 42 32.6**	**+0.6**
GMAL				*e*S	**Sb**	**10 42 44.4**	**+0.7**
CHIR3	**Chiriqui UPA,**	**0.85**	**342**	⇑*iP*	**Pn**	**10 42 34.0**	**+0.3**
CHIR3				*e*S	**Sn**	**10 42 47.3**	**+0.5**
PEDE3	**Pedregal, Chir**	**0.88**	**336**	⇑*eP*	**Pn**	**10 42 34.4**	**+0.4**
PEDE3				*e*S	**Sn**	**10 42 47.6**	**+0.2**
DVD	**David**	**0.94**	**336**	*eP*	**Pn**	**10 42 35.2**	**+0.3**
DVD				*e*S	**Sn**	**10 42 49.2**	**+0.4**
BAGA3	**Bagala, Chiriq**	**1.00**	**332**	*eP*	**Pn**	**10 42 36.0**	**+0.3**
PTPM	**Petroterminale**	**1.02**	**307**	*eP*	**Pg**	**10 42 35.5**	**+1.2**
PTPM				*e*S	**Sg**	**10 42 48.0**	**+0.3**
MARI3	**Mariato, Verag**	**1.06**	**86**	*eP*	**Pb**	**10 42 36.6**	**+0.8**
MARI3				*e*S	**Sn**	**10 42 53.7**	**+1.8**
PSOM3	**Paja de Sombre**	**1.13**	**347**	*eP*	**Pb**	**10 42 37.2**	**+0.2**
PSOM3				*e*S	**Sb**	**10 42 51.3**	**-0.9**
CACAO	**El Cacao, Vera**	**1.21**	**101**	*eP*	**Pg**	**10 42 38.1**	**+0.1**
CACAO				*e*S	**Sg**	**10 42 54.2**	**+0.5**
BCO2	**Palmira**	**1.23**	**338**	⇑*iP*	**Pn**	**10 42 39.6**	**+0.6**
BCO2				*e*S	**Sn**	**10 42 56.6**	**+0.3**
LNBQ3	**Los Naranjos,**	**1.26**	**343**	⇑*iP*	**Pn**	**10 42 39.8**	**+0.3**
CDITO	**Canoas**	**1.28**	**321**	*eP*	**Pg**	**10 42 39.3**	**+0.1**
CDITO				*e*S	**Sg**	**10 42 55.5**	**-0.3**
CHGR2	**Aguacate**	**1.35**	**356**	*e*S	**Sn**	**10 42 58.7**	**-0.5**
BRU2	**Volcan**	**1.36**	**333**	*eP*	**Pn**	**10 42 41.6**	**+0.7**
BRU2				*e*S	**Sn**	**10 42 60.0**	**+0.4**
CALO3	**Calobre, Verag**	**1.41**	**58**	*eP*	**Pb**	**10 42 42.4**	**+0.5**
CALO3				*e*S	**Sn**	**10 43 00.8**	**+0.2**
MLIR3	**Monte Lirio, C**	**1.43**	**328**	*eP*	**Pb**	**10 42 44.4**	**+2.3**
MLIR3				*e*S	**Sn**	**10 43 04.2**	**+3.1**
PESE3	**Pese, Herrera**	**1.47**	**77**	*eP*	**Pg**	**10 42 42.9**	**+0.7**
PESE3				*e*S	**Sn**	**10 43 02.5**	**+0.5**
PIRO	**Carate, Puerto**	**1.51**	**303**	*eP*	**Pn**	**10 42 41.7**	**-1.0**
PIRO				*e*S	**Sn**	**10 43 00.3**	**-2.7**
PIRO	**Carate, Puerto**	**1.51**	**303**	*eP*	**Pn**	**10 42 41.4**	**-1.4**
PIRO				*e*S	**Sn**	**10 43 00.4**	**-2.5**
CHIT3	**Chitre**	**1.67**	**77**	*eP*	**Pn**	**10 42 45.6**	**+0.7**
CHIT3				*e*S	**Sn**	**10 43 07.0**	**0.0**
AZU	**Azuero**	**1.78**	**83**	⇓*iP*	**Pn**	**10 42 48.0**	**+1.4**
AZU				*e*S	**Sb**	**10 43 10.5**	**-0.4**
ACHO3	**Achotines, Los**	**1.88**	**95**	*eP*	**Pn**	**10 42 47.7**	**-0.1**
ACHO3				*e*S	**Sn**	**10 43 10.7**	**-1.3**
CNI2	**El Empalme, Bo**	**1.88**	**347**	*eP*	**Pg**	**10 42 50.4**	**-0.4**
CNI2				*e*S	**Sg**	**10 43 15.6**	**+0.5**
EDPN	**Palmar Norte**	**1.95**	**315**	*eP*	**Pn**	**10 42 49.2**	**+0.4**
DRK0	**Durika**	**2.04**	**325**	*eP*	**Pn**	**10 42 50.7**	**+0.4**
DRK0				*e*S	**Sn**	**10 43 14.0**	**-2.5**
SRBA	**San Rafael, Bu**	**2.09**	**322**	*eP*	**Pn**	**10 42 51.6**	**+0.8**
VTON	**El Valle, Cocl**	**2.18**	**62**	*eP*	**Pb**	**10 42 53.9**	**-1.1**
VTON				*e*S	**Sg**	**10 43 24.0**	**-1.0**
PEZE	**Perez Zeledon,**	**2.40**	**318**	*eP*	**Pn**	**10 42 56.3**	**+1.2**
PEZE				*e*S	**Sn**	**10 43 25.1**	**-0.1**
ZANG	**Zanguenga, Cho**	**2.56**	**58**	*eP*	**Pn**	**10 42 59.2**	**+1.9**
ZANG				*e*S	**Sg**	**10 43 33.8**	**-3.5**
CDM	**Cerro de Muert**	**2.59**	**319**	*eP*	**Pn**	**10 42 58.8**	**+0.8**
BCIP	**Isla Barro Col**	**2.71**	**54**	*eP*	**Pn**	**10 43 01.2**	**+2.0**
BCIP				*e*S	**Sg**	**10 43 39.8**	**-1.9**
RIMA	**Rio Macho**	**2.81**	**321**	*eP*	**Pn**	**10 43 02.2**	**+1.3**
UPA	**Univ. de Panam**	**2.86**	**61**	*eP*	**Pb**	**10 43 06.6**	**+0.1**
UPA				*e*S	**Sb**	**10 43 39.6**	**-2.4**
LCR2	**La Lucha 2**	**2.88**	**318**	*eP*	**Pn**	**10 43 02.9**	**+1.0**
JACO	**JACO, Garabito**	**3.30**	**309**	*eP*	**Pn**	**10 43 06.8**	**-0.6**
LAFE	**Finca La Fe, P**	**3.58**	**308**	*eP*	**Pn**	**10 43 10.9**	**-0.5**

*NNC **13** 10:46:13.8±1.7, 43°.46N×69°.46E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=8.9km s-min=6.2km az=106.0, Suspected Mining explosion.*
*SOME **13** 10:46:15.0, 43°.63N×69°.60E*
*KRNET **13** 10:46:16.7±0.1, 43°.61N×69°.07E, mb3.2*
ISC 13 10:46:15.7±1.9, 43°.63N±0°.07×69°.64E±0°.09, h0km, n14, σ1s23°/21, 12C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.82**	**129**	⇑P	**Pg**	**10 46 30.5**	**-1.0**
	2.7nm,0.3s,baz=289,slow=16,SNR=127						
KK31				⇑S	**Sg**	**10 46 42.1**	**-0.1**
	32nm,0.5s,baz=296,slow=30,SNR=86						
TAS	**Tashkent**	**2.31**	**186**	⇑*iP*	**Pn**	**10 46 55.9**	**+0.8**
	baz=76						
TAS				⇑*iS*	**Sn**	**10 47 23.5**	**-0.7**
	baz=76						
TRKS	**Terek-Say**	**2.37**	**152**	⇓*iP*	**Pg**	**10 47 00.3**	**-0.9**
	baz=43						
TRKS				⇓*iS*	**Sg**	**10 47 32.7**	**+0.8**
	baz=43						
ARK	**Arkit**	**2.51**	**136**	⇓*iP*	**Pb**	**10 47 02.2**	**+0.5**
	baz=29						
ARK				⇓*iS*	**Sg**	**10 47 36.4**	**+0.2**
	baz=29						
EKS2	**Erkin-Say**	**3.18**	**106**	⇓*eP*	**Pb**	**10 47 12.7**	**-0.5**
	baz=4.0						
EKS2				⇓*iS*	**Sb**	**10 47 55.0**	**+2.5**
	baz=4.0						
BTLS	**Baital**	**3.47**	**64**	Pg	**Pg**	**10 47 20.6**	**-1.6**
	14nm,0.5s						
BTLS				Lg	Lg	10 48 07.4	
	5.6nm,1.1s						
USP	**Ospenovka**	**3.56**	**94**	⇑*iP*	**Pb**	**10 47 18.4**	**-1.2**
	baz=93						
USP				⇑*iS*	**Sb**	**10 48 04.6**	**+1.2**
	baz=93						
SGDS	**Sogindy**	**3.64**	**91**	Pg	**Pb**	**10 47 22.3**	**+1.4**
	4.7nm,0.4s						
SGDS				Lg	Lg	10 48 10.9	
	12nm,0.5s						
CHMS	**Chumysh**	**3.79**	**98**	⇑Pg	**Pb**	**10 47 23.4**	**0.0**
	3.5nm,0.5s						
CHMS				⇑Lg	Lg	10 48 16.7	
	7.4nm,0.6s						
UCH	**Uchtor**	**3.84**	**110**	⇑*iP*	**Pb**	**10 47 22.3**	**-2.4**
	baz=7.0						
UCH				⇑*iS*	**Sb**	**10 48 10.8**	**-1.2**
	baz=7.0						
KRBS	**Karabastau**	**4.38**	**87**	Pg	**Pb**	**10 47 34.5**	**+0.9**
	4.9nm,0.5s						
KRBS				Lg	Lg	10 48 31.3	
	7.1nm,0.6s						
TKM2	**Tokmak 2**	**4.41**	**97**	⇑Pg	**Pb**	**10 47 34.5**	**+0.3**
	6.3nm,0.9s						
TKM2				⇑Lg	Lg	10 48 36.5	
	8.7nm,0.7s						
DGS	**Degeres**	**4.49**	**93**	Pg	**Pb**	**10 47 35.6**	**+0.2**
	6.8nm,0.5s						
DGS				Lg	Lg	10 48 33.2	
	6.7nm,0.4s						
KTBS	**Karatobe**	**5.11**	**87**	Pg	**Pb**	**10 47 47.3**	**+1.3**
	1.3nm,0.4s						
KTBS				Lg	Lg	10 48 53.5	
	11nm,1.1s						

*IDC **13** 11:09:11.0±1.6, 17°.72S×178°.27W, h592km±15km, mb3.3/7, mb1 3.5/9, mb1mx3.0/45, mbtmp4.3/9, Error ellipse: s-maj=57.2km s-min=16.5km az=145.0*
*NEIC **13** 11:09:11.1±1.3, 17°.8S±0°.1×178°.2W±0°.2, h590km±11km, mb4.3/22, Error ellipse: s-maj=21.7km s-min=14.9km az=90.0*
ISC 13 11:09:10.6±0.6, 17°.8S±0°.1×178°.2W±0°.1, h590km, n41, σ0s88°/43, mb4.3/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.60**	**271**	P	**P**	**11 10 33.8**	**+1.1**
	2.3nm,0.3s,baz=115,slow=9.3,SNR=24						
MSVF				S	S	11 11 23.6	-16
	3.9nm,0.3s,baz=229,slow=22,SNR=12						
MSVF	**Nonsavu**	**3.60**	**271**	P	**P**	**11 10 33.5**	**+0.8**
AFI	**Afiamalu**	**7.27**	**59**	P	**P**	**11 11 02.7**	**-0.2**
	6.3nm,0.3s

CAN					IAmb	IAmb	11 15 10.7		
	comp=Z,14nm,1.4s								
COEN	**Coen**	**37.33**	**270**		P	**P**	**11 15 34.7**	**+0.3**	
TOO	**Toolangi**	**37.41**	**231**		P	**P**	**11 15 35.5**	**+0.7**	
TOO					IAmb	IAmb	11 15 36.2		
	comp=Z,10nm,1.0s								
STKA	**Stephens Creek**	**38.87**	**241**		P	**P**	**11 15 47.0**	**+0.2**	
	comp=Z,7.5nm,0.8s,baz=60,slow=8.8,SNR=14								
STKA	**Stephens Creek**	**38.87**	**241**		P	**P**	**11 15 47.4**	**+0.7**	
BBOO	**Buckleboo**	**43.65**	**241**		P	**P**	**11 16 24.3**	**-0.1**	
BBOO					IAmb	IAmb	11 16 25.0		
	comp=Z,7.8nm,0.8s								
WR0	**Warramunga Arr**	**44.68**	**259**		P	**P**	**11 16 31.8**	**-0.7**	
WB0	**Warramunga Arr**	**44.84**	**260**		P	**P**	**11 16 32.8**	**-1.0**	
WB0					IAmb	IAmb	11 16 33.2		
	comp=Z,4.2nm,0.7s								
WB2	**Warramunga Arr**	**44.86**	**259**		P	**P**	**11 16 32.9**	**-1.0**	
WB2					IAmb	IAmb	11 16 33.6		
	comp=Z,6.8nm,0.7s								
WRAB	**Tennant Creek**	**44.86**	**259**		P	**P**	**11 16 33.0**	**-0.9**	
WRA	**Warramunga Arr**	**44.87**	**259**		P	**P**	**11 16 32.3**	**-1.6**	
	comp=Z,4.1nm,0.7s,baz=92,slow=7.2,SNR=72								
WRA					PcP	**PcP**	**11 18 02.1**	**-0.7**	
	comp=Z,0.8nm,0.8s,baz=89,slow=3.7,SNR=4.5								
WRA	**Warramunga Arr**	**44.87**	**259**		P	**P**	**11 16 33.2**	**-0.7**	
AS31	**Alice Springs**	**45.03**	**254**		P	**P**	**11 16 34.8**	**-0.4**	
AS31					IAmb	IAmb	11 16 35.7		
	comp=Z,6.5nm,0.7s								
ASAR	**Alice Springs**	**45.03**	**254**		P	**P**	**11 16 34.6**	**-0.6**	
	comp=Z,24nm,0.7s,baz=87,slow=8.4,SNR=350								
ASAR					PcP	**PcP**	**11 18 03.2**	**-0.1**	
	comp=Z,1.1nm,0.7s,baz=102,slow=4.0,SNR=5.7								
ASAR	**Alice Springs**	**45.03**	**254**		P	**P**	**11 16 35.0**	**-0.2**	
FORT	**Forrest**	**50.25**	**245**		P	**P**	**11 17 13.0**	**-1.0**	
FORT					IAmb	IAmb	11 17 20.8		
	comp=Z,19nm,1.1s								
KNRA	**Kununurra**	**50.72**	**264**		P	**P**	**11 17 16.7**	**-0.8**	
KNRA					IAmb	IAmb	11 17 27.4		
	comp=Z,17nm,1.2s								
FITZ	**Fitzroy Crossi**	**53.26**	**260**		P	**P**	**11 17 35.0**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=196,slow=17,SNR=1.1								
FITZ	**Fitzroy Crossi**	**53.26**	**260**		P	**P**	**11 17 35.0**	**-0.7**	
PSA00	**Pilbara Seismi**	**58.15**	**255**		P	**P**	**11 18 08.6**	**-0.8**	
PSA00					IAmb	IAmb	11 18 09.8		
	comp=Z,22nm,1.4s								
MBWA	**Marble Bar**	**58.31**	**256**		P	**P**	**11 18 09.7**	**-0.9**	
MBWA					IAmb	IAmb	11 18 24.3		
	comp=Z,17nm,1.5s								
UNV	**Unalaska Valle**	**72.06**		**7**	P	**P**	**11 19 36.8**	**+1.1**	
UNV					IAmb	IAmb	11 19 53.4		
	comp=Z,19nm,1.2s								
QSPA	**South Pole Qui**	**72.25**	**180**		P	**P**	**11 19 38.5**	**+1.6**	
PET	**Petropavlovsk**	**73.33**	**346**		P	**P**	**11 19 43.4**	**+0.4**	
SEY	**Seymchan**	**83.73**	**347**		P	**P**	**11 20 37.2**	**-0.8**	
	comp=Z,1.0nm,0.5s,baz=139,slow=7.1,SNR=5.8								
ILAR	**Eielson Array**	**85.74**		**13**	P	**P**	**11 20 47.0**	**-0.7**	
	comp=Z,0.3nm,0.5s,baz=220,slow=5.4,SNR=6.6								
CMAR	**Chiang Mai Arr**	**89.06**	**290**		P	**P**	**11 21 05.2**	**+0.9**	
	comp=Z,0.6nm,0.7s,baz=125,slow=4.0,SNR=4.2								
BRTR	**Keskin Array B**	**144.87**	**315**		PKP	**PKPdf**	**11 27 42.1**	**+0.4**	
	comp=Z,1.6nm,0.6s,baz=164,slow=4.9,SNR=6.4								
CLL	**Collm**	**145.41**	**348**		*e*PKPbc	**PKPbc**	**11 27 44.0**	**+0.6**	
GERES	**GERESS Array B**	**147.57**	**345**		PKPbc	**PKPbc**	**11 27 49.5**	**0.0**	
	comp=Z,1.0nm,0.5s,baz=47,slow=5.9,SNR=7.4								
GERES	**GERESS Array B**	**147.57**	**345**			**PKPbc**	**11 27 50.2**	**+0.7**	
TORD	**Torodi Ar. Bea**	**175.37**	**178**		PKP	**PKPdf**	**11 28 12.9**	**-1.6**	
	comp=Z,0.6nm,1.0s,baz=117,slow=1.9,SNR=3.0								
TORD	**Torodi Ar. Bea**	**175.37**	**178**		PKPab	**PKPab**	**11 29 52.7**	**-2.6**	

*IDC **13** 11:16:47.4±0.8, 38.59N×133.66E, h452km±11km, mb3.0/10, mb1 3.1/15, mb1mx3.0/49, mbtmp3.9/15, Error ellipse: s-maj=17.1km s-min=11.6km az=64.0*

ISC 13 11:16:47.3±0.7, 38.6N±0.1×133.67E±0.1, h448km, n15, σ0 9 2/16, mb3.5/10, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
MJAR	**Matsushiro Arr**	**4.15**	**118**	P		**P**	**11 18 04.0**		**+0.3**
	0.9nm,0.3s,baz=287,slow=23,SNR=23								
MJAR				S		**S**	**11 19 06.7**		**+0.8**
	baz=54,slow=36,SNR=1.3								
KSRS	**Korea Array**	**4.68**	**258**	P		**P**	**11 18 10.2**		**+1.7**
	1.0nm,0.3s,baz=71,slow=9.3,SNR=20								
USRK	**Ussuriysk Ar.**	**5.73**	**348**	P		**P**	**11 18 19.9**		**+1.4**
	baz=167,slow=9.7,SNR=54								
JNU	**Nakatsue**	**5.92**	**203**	P		**P**	**11 18 21.0**		**+0.2**
	1.3nm,0.3s,baz=46,slow=4.6,SNR=20								
ASAJ	**Asahikawa**	**8.68**	**48**	P		**P**	**11 18 49.3**		**-0.5**
	2.2nm,0.3s,baz=243,slow=9.3,SNR=21								
SONM	**Songino Array**	**21.82**	**304**	P		**P**	**11 21 05.1**		**-0.1**
	1.2nm,0.5s,baz=112,slow=9.1,SNR=7.1								
ZALV	**Zalesovo Beam**	**36.30**	**311**	P		**P**	**11 23 10.1**		**-1.0**
	0.9nm,0.3s,baz=98,slow=7.3,SNR=4.9								
MKAR	**Makanchi Array**	**38.05**	**299**	P		**P**	**11 23 25.3**		**-0.4**
	0.5nm,0.5s,baz=82,slow=11,SNR=7.5								
ILAR	**Eielson Array**	**51.47**	**33**	P		**P**	**11 25 10.4**		**+1.1**
	0.3nm,0.9s,baz=293,slow=8.7,SNR=4.4								
FITZ	**Fitzroy Crossi**	**56.91**	**189**	P		**P**	**11 25 48.5**		**+0.1**
	0.6nm,0.4s,baz=353,slow=1.5,SNR=1.9								
WRA	**Warramunga Arr**	**58.24**	**179**	P		**P**	**11 25 57.5**		**0.0**
	1.6nm,0.5s,baz=354,slow=7.6,SNR=12								
ASAR	**Alice Springs**	**61.95**	**180**	P		**P**	**11 26 21.2**		**-1.0**
	0.8nm,0.8s,baz=360,slow=7.0,SNR=4.8								
FINES	**FINESS Array B**	**64.46**	**329**	P		**P**	**11 26 38.1**		**+0.1**
	1.6nm,0.6s,baz=86,slow=8.0,SNR=0.6								
AKASG	**Malin Array Be**	**69.19**	**319**	P		**P**	**11 27 06.3**		**-1.2**
	0.5nm,0.3s,baz=53,slow=6.7,SNR=5.8								
NOA	**NORSAR Array B**	**70.23**	**334**	P		**P**	**11 27 13.4**		**-0.3**
	0.6nm,0.5s,baz=101,slow=13,SNR=2.0								

*DJA **13** 11:16:51.0±11.0, 5.5S±49.1×14.7E±1.9, h24km±56km, M4.6/6, mB4.5/1, mb4.7/6, MLv4.6/1, Mw(mB)3.7/1*
*IDC **13** 11:16:59.7±4.3, 5.85S×147.39E, h64km±39km, mb4.0/5, mb1 4.3/7, mb1mx3.7/29, mbtmp4.4/7, ML4.7/1, MS3.1/5, Ms1 3.0/5, ms1mx2.6/64, Error ellipse: s-maj=38.9km s-min=26.2km az=114.0*
*NEIC **13** 11:17:01.7±1.4, 5.83S±0.10×147.3E±0.1, h76km±8km, mb4.3/23, Error ellipse: s-maj=19.5km s-min=14.2km az=83.0*

ISC 13 11:17:02.2±0.8, 5.87S±0.07×147.2E±0.1, h76km, n64, σ0 9 7/64, mb4.3/15, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
PMG	**Port Moresby**	**3.52**	**180**	P		**Pn**	**11 17 54.1**		**-0.5**
	32nm,0.3s,baz=332,slow=6.4,SNR=70								
PMG				S		**Sn**	**11 18 32.9**		**-2.2**
	15nm,0.3s,baz=352,slow=7.6,SNR=6.7								
PMG	**Port Moresby**	**3.52**	**180**			**Pn**	**11 17 54.5**		**0.0**
PMG				Sn		**Sn**	**11 18 34.0**		**-1.0**
PMG	**Port Moresby**	**3.52**	**180**	P		**Pn**	**11 17 54.7**		**+0.2**
COEN	**Coen**	**8.96**	**206**			**Pn**	**11 19 08.9**		**0.0**
COEN	**Coen**	**8.96**	**206**	P		**Pn**	**11 19 09.4**		**+0.5**
MTSU	**Mount Surprise**	**12.51**	**193**	P		**Pn**	**11 19 58.2**		**+0.9**
CTA	**Charters Tower**	**14.17**	**184**	P		**Pn**	**11 20 21.4**		**+2.1**
	0.8nm,0.3s,baz=336,slow=13,SNR=2.3								
KDU	**Kakadu**	**16.02**	**244**	P		**Pn**	**11 20 42.9**		**-0.1**
QIS	**Mount Isa**	**16.36**	**206**	P		**Pn**	**11 20 47.6**		**+0.4**
MTN	**Manton Dam**	**17.28**	**245**	P		**Pn**	**11 20 59.1**		**+0.4**
MTN					IAmb	IAmb	11 21 06.0		
	comp=Z,36nm,1.5s								
WB0	**Warramunga Arr**	**18.59**	**221**	P		**P**	**11 21 13.1**		**-0.4**
WB0					IAmb	IAmb	11 21 16.0		
	comp=Z,19nm,0.7s								
WR0	**Warramunga Arr**	**18.64**	**220**	P		**P**	**11 21 13.4**		**-0.6**
WR0					IAmb	IAmb	11 21 17.0		
	comp=Z,9.6nm,0.7s								
WRAB	**Tennant Creek**	**18.74**	**221**	P		**P**	**11 21 14.6**		**-0.5**
WRAB	**Tennant Creek**	**18.74**	**221**	P		**P**	**11 21 14.9**		**-0.2**
WB2	**Warramunga Arr**	**18.75**	**221**	P		**P**	**11 21 14.9**		**-0.3**
WRA	**Warramunga Arr**	**18.76**	**221**	P		**P**	**11 21 14.7**		**-0.6**
	comp=Z,2.5nm,0.3s,baz=41,slow=12,SNR=100								
WRA				PcP		**PcP**	**11 25 39.6**		**-0.6**
	comp=Z,0.1nm,0.3s,baz=30,slow=1.9,SNR=7.4								
WRA				LR		LR	11 28 26.7		
	comp=Z,38nm,18.2s,baz=74,slow=36								
WRA	**Warramunga Arr**	**18.76**	**221**	P		**P**	**11 21 13.6**		**-1.7**
GUMO	**Guam**	**19.46**	**353**	LR		LR	11 28 18.4		
	comp=Z,24nm,19.9s,baz=106,slow=35								
EIDS	**Eidsvold**	**19.75**	**170**	P		**P**	**11 21 26.6**		**+0.5**
EIDS					IAmb	IAmb	11 21 27.8		
	comp=Z,7.2nm,0.7s								

KNRA	**Kununurra**	**20.54**	**240**		P	**P**	**11 21 33.7**		**-1.0**
KNRA					IAmb	IAmb	11 21 59.4		
	comp=Z,17nm,1.1s								
KNRA	**Kununurra**	**20.54**	**240**		P	**P**	**11 21 34.6**		**0.0**
RMQ	**Roma**	**20.56**	**176**		P	**P**	**11 21 36.1**		**+1.3**
QLP	**Quilpie**	**20.79**	**187**		P	**P**	**11 21 38.0**		**+0.7**
AS31	**Alice Springs**	**21.83**	**214**			**P**	**11 21 48.5**		**0.0**
AS31					IAmb	IAmb	11 21 50.2		
	comp=Z,6.2nm,0.4s								
ASAR	**Alice Springs**	**21.83**	**214**		P	**P**	**11 21 48.4**		**-0.2**
	comp=Z,8.4nm,0.5s,baz=50,slow=9.1,SNR=198								
ASAR					PcP	**PcP**	**11 25 45.6**		**-0.3**
	comp=Z,0.4nm,0.4s,baz=354,slow=1.2,SNR=4.7								
ASAR	**Alice Springs**	**21.83**	**214**			**P**	**11 21 48.6**		**+0.1**
INKA	**Innaminka**	**22.60**	**195**		P	**P**	**11 21 56.5**		**-0.1**
FITZ	**Fitzroy Crossi**	**24.29**	**238**		P	**P**	**11 22 13.1**		**+0.4**
	comp=Z,14nm,0.5s,baz=55,slow=8.2,SNR=126								
FITZ	**Fitzroy Crossi**	**24.29**	**238**		P	**P**	**11 22 13.0**		**+0.4**
OOD	**Oodnadatta**	**24.39**	**205**		P	**P**	**11 22 13.7**		**+0.2**
ARMA	**Armidale**	**24.78**	**171**		P	**P**	**11 22 15.3**		**-1.8**
ARMA					IAmb	IAmb	11 22 39.6		
	comp=Z,17nm,1.3s								
ARMA	**Armidale**	**24.78**	**171**		P	**P**	**11 22 17.9**		**+0.8**
CMSA	**Cobar Meteorol**	**25.58**	**183**		P	**P**	**11 22 24.1**		**-0.1**
LCRK	**Leigh Creek**	**25.87**	**198**		P	**P**	**11 22 27.0**		**+0.1**
WRKA	**Warakurna**	**26.29**	**222**		P	**P**	**11 22 30.6**		**-0.2**
STKA	**Stephens Creek**	**26.40**	**191**		P	**P**	**11 22 31.3**		**-0.4**
	comp=Z,3.0nm,0.5s,baz=3.9,slow=9.7,SNR=6.8								
STKA					LR	LR	11 34 25.7		
	comp=Z,42nm,19.5s,baz=201,slow=40								
STKA	**Stephens Creek**	**26.40**	**191**		P	**P**	**11 22 31.2**		**-0.4**
STKA	**Stephens Creek**	**26.40**	**191**		P	**P**	**11 22 31.9**		**+0.2**
MULG	**Mulgathing**	**27.25**	**205**		P	**P**	**11 22 39.2**		**-0.1**
LHI	**Lord Howe Isla**	**27.84**	**158**		P	**P**	**11 22 46.8**		**+2.2**
NAPP	**Napperby**	**28.45**	**196**		P	**P**	**11 22 50.1**		**+0.1**
HTT	**Hallett**	**28.48**	**195**		P	**P**	**11 22 50.5**		**+0.2**
BBOO	**Buckleboo**	**28.75**	**200**		P	**P**	**11 22 52.5**		**-0.1**
BBOO	**Buckleboo**	**28.75**	**200**		P	**P**	**11 22 52.1**		**-0.5**
CAN	**Canberra**	**29.36**	**177**		P	**P**	**11 22 58.9**		**+0.8**
FORT	**Forrest**	**30.61**	**214**		P	**P**	**11 23 09.4**		**+0.2**
FORT					IAmb	IAmb	11 23 10.3		
	comp=Z,5.6nm,0.7s								
FORT	**Forrest**	**30.61**	**214**		P	**P**	**11 23 09.2**		**0.0**
MBWA	**Marble Bar**	**30.64**	**238**		P	**P**	**11 23 09.8**		**+0.4**
PSA00	**Pilbara Seismi**	**30.72**	**237**		P	**P**	**11 23 10.5**		**+0.2**
PSA00	**Pilbara Seismi**	**30.72**	**237**		P	**P**	**11 23 09.5**		**-0.7**
PSA00					IAmb	IAmb	11 23 18.7		
	comp=Z,5.9nm,0.8s								
TOO	**Toolangi**	**31.60**	**183**		P	**P**	**11 23 17.2**		**-0.6**
TOO					IAmb	IAmb	11 23 28.1		
	comp=Z,8.5nm,1.2s								
MEEK	**Meekatharra**	**34.18**	**230**		P	**P**	**11 23 41.1**		**+0.6**
RPZ	**Rata Peaks**	**43.15**	**155**		LR	LR	11 40 45.7		
	comp=Z,56nm,19.1s,baz=268,slow=33								
ASAJ	**Asahikawa**	**49.92**	**356**		LR	LR	11 48 41.8		
	comp=Z,12nm,18.1s,baz=179,slow=38								
CMAR	**Chiang Mai Arr**	**53.35**	**298**		pP	pP	11 26 38.4		+5.3
	comp=Z,0.3nm,0.3s,baz=129,slow=7.1,SNR=2.4								
SONM	**Songino Array**	**64.38**	**331**		P	**P**	**11 27 30.1**		**-0.2**
	comp=Z,0.4nm,0.5s,baz=149,slow=7.3,SNR=3.0								
VNDA	**Vanda**	**72.03**	**177**		P	**P**	**11 28 17.5**		**0.0**
MKAR	**Makanchi Array**	**77.51**	**320**		P	**P**	**11 28 52.8**		**+3.1**
	comp=Z,0.3nm,0.5s,baz=239,slow=25,SNR=2.1								
QSPA	**South Pole Qui**	**84.10**	**180**		P	**P**	**11 29 24.1**		**-0.5**
QSPA					IAmb	IAmb	11 29 25.6		
	comp=Z,5.5nm,1.4s								
IL31		**85.28**	**23**		P	**P**	**11 29 28.6**		**-1.7**
IL31					IAmb	IAmb	11 29 38.9		
	comp=Z,3.9nm,1.4s								
ILAR	**Eielson Array**	**85.28**	**23**		P	**P**	**11 29 28.2**		**-2.2**
	comp=Z,0.6nm,0.5s,baz=257,slow=4.8,SNR=15								
J25K	**Salcha River,**	**85.82**	**24**		P	**P**	**11 29 32.0**		**-1.1**
J25K					IAmb	IAmb	11 29 33.6		
	comp=Z,2.5nm,1.1s								
TORD	**Torodi Ar. Bea**	**145.24**	**285**		PKPbc	**PKPbc**	**11 36 29.8**		**-2.2**
	comp=Z,0.7nm,0.6s,baz=58,slow=3.5,SNR=7.0								
TORD					pPKPbc	sPKPab	11 36 59.7		-1.0
	comp=Z,0.8nm,0.6s,baz=90,slow=3.2,SNR=3.1								
TORD	**Torodi Ar. Bea**	**145.24**	**285**			**PKPbc**	**11 36 30.6**		**-1.4**

IDC 13 11:46:08.4±1.4, 12.93S×163.47E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/25, mbtmp3.5/5, MS3.2/3, Ms1 3.1/3, ms1mx2.6/31, Error ellipse: s-maj=42.6km s-min=32.1km az=107.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
CTA	**Charters Tower**	**17.96**	**244**	LR		LR	11 56 36.2		
	comp=Z,41nm,18.3s,baz=80,slow=35								
STKA	**Stephens Creek**	**27.55**	**223**	LR		LR	12 03 32.1		
	comp=Z,46nm,19.6s,baz=191,slow=38								
WRA	**Warramunga Arr**	**28.76**	**252**	P		P	11 52 08.8		+0.7
	0.3nm,0.9s,baz=85,slow=10,SNR=1.6								
ASAR	**Alice Springs**	**29.97**	**245**	P		P	11 52 17.8		-1.1
	0.1nm,0.5s,baz=74,slow=9.6,SNR=1.4								
FITZ	**Fitzroy Crossi**	**36.76**	**257**	LR		LR	12 08 52.0		
	comp=Z,44nm,19.2s,baz=124,slow=37								
VNDA	**Vanda**	**64.59**	**180**	P		P	11 56 47.4		+0.2
	1.2nm,0.7s,baz=360,slow=2.1,SNR=11								
SONM	**Songino Array**	**78.89**	**325**	P		P	11 58 14.2		+0.4
	0.4nm,0.8s,baz=132,slow=2.1,SNR=2.1								
ILAR	**Eielson Array**	**86.01**	**19**	P		P	11 58 50.0		-0.4
	0.3nm,0.7s,baz=236,slow=4.7,SNR=4.4								

*KRNET **13** 11:53:27.6±0.1, 41.37N×74.62E, h18km, mb3.7*
*KNET **13** 11:53:28.6±0.6, 41.42N×74.60E, h14km±3km, ml3.1, Error ellipse: s-maj=4.6km s-min=2.3km az=21.0*
*NNC **13** 11:53:29.5±0.9, 41.41N×74.63E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=6.4km s-min=4.6km az=175.0*
*SOME **13** 11:53:30.2, 41.40N×74.68E, h15km*
*MOS **13** 11:53:31.9±1.5, 41.47N×74.56E, h22km, mb4.2/5, Error ellipse: s-maj=9.4km s-min=5.2km az=75.4*

ISC 13 11:53:29.8±1.2, 41.45N±0.02×74.73E±0.02, h1km±9km, n136, σ1 9 7 1/203, mb4.1/7, 47C-27D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
UCH	**Uchtor**	**0.80**	**348**	⇓P		**Pg**	**11 53 44.8**		**-0.3**
	44nm,0.2s,SNR=69								
UCH				⇓S		**Sb**	**11 53 57.2**		**-1.0**
	243nm,0.4s								
UCH	**Uchtor**	**0.80**	**348**	*i* PG		**Pg**	**11 53 44.2**		**-0.9**
UCH				*i* S		**Sg**	**11 53 56.3**		**+0.9**
UCH	**Uchtor**	**0.80**	**348**	⇑*i*P		**Pg**	**11 53 44.2**		**-0.9**
	baz=55								
UCH				⇑*i*S		**Sg**	**11 53 56.3**		**+0.9**
	baz=55								
AML	**Almayashu**	**1.03**	**312**	P		**Pg**	**11 53 47.6**		**-2.0**
	121nm,0.3s,SNR=159								
AML				⇑S		**Sg**	**11 54 01.7**		**-1.3**
	764nm,0.4s								
AML	**Almayashu**	**1.03**	**312**	*i* PG		**Pg**	**11 53 47.3**		**-2.3**
AML				*i* S		**Sg**	**11 54 01.7**		**-1.3**
AAK	**Ala-Archa**	**1.20**	**352**	⇓P		**Pb**	**11 53 52.1**		**-1.3**
	31nm,0.3s,SNR=25								
AAK				⇑S		**Sg**	**11 54 09.6**		**+1.2**
	63nm,0.3s								
AAK	**Ala-Archa**	**1.20**	**352**	*d* iPG		**Pb**	**11 53 52.0**		**-1.5**
AAK	**Ala-Archa**	**1.20**	**352**	⇑*i*P		**Pb**	**11 53 51.8**		**-1.7**
	baz=56								
AAK				⇑*i*S		**Sb**	**11 54 09.0**		**-0.6**
	baz=56								
KBK	**Karagaybulak**	**1.22**	**8**	⇓P		**Pb**	**11 53 53.0**		**-0.8**
	52nm,0.1s,SNR=61								
KBK				⇑S		**Sn**	**11 54 10.9**		**-0.5**
	183nm,0.2s								
KBK	**Karagaybulak**	**1.22**	**8**	⇓*i*PG		**Pb**	**11 53 52.4**		**-1.4**
KBK				*i* S		**Sn**	**11 54 10.3**		**-1.1**
KBK	**Karagaybulak**	**1.22**	**8**	⇓*i*P		**Pb**	**11 53 52.4**		**-1.4**
	baz=11								
KBK				⇓*i*S		**Sn**	**11 54 10.3**		**-1.1**
	baz=11								
FRU1	**Bishkek**	**1.36**	**357**	*i* PG		**Pn**	**11 53 55.1**		**-1.0**
FRU1				*i* S		**Sg**	**11 54 14.9**		**+1.3**
FRU1	**Bishkek**	**1.36**	**357**	⇑*i*P		**Pn**	**11 53 55.1**		**-1.0**
	baz=60								
FRU1				⇑*i*S		**Sg**	**11 54 14.9**		**+1.3**
	baz=60								
BOOM	**Boomskoye usch**	**1.38**	**41**	*i* PG		**Pn**	**11 53 55.4**		**-1.0**
BOOM				*i* S		**Sg**	**11 54 15.6**		**+1.5**
BOOM	**Boomskoye usch**	**1.38**	**41**	⇑*i*P		**Pn**	**11 53 55.4**		**-1.0**
	baz=41								
BOOM				⇑*i*S		**Sg**	**11 54 15.6**		**+1.5**
	baz=41								
ULHL	**Ulahol**	**1.38**	**54**	P		**Pn**	**11 53 55.7**		**-0.8**
	21nm,0.1s,SNR=72								
ULHL				⇓S		**Sg**	**11 54 17.5**		**+3.3**
	242nm,0.4s								
ULHL	**Ulahol**	**1.38**	**54**	*i* PG		**Pn**	**11 53 55.5**		**-1.0**
ULHL	**Ulahol**	**1.38**	**54**	⇑*i*P		**Pn**	**11 53 55.5**		**-1.0**
	baz=54								
ULHL				⇑*i*S		**Sg**	**11 54 15.8**		**+1.6**
	baz=54								
EKS2	**Erkin-Say**	**1.41**	**330**	⇓P		**Pn**	**11 53 55.1**		**-1.6**
	25nm,0.3s,SNR=14								
EKS2	**Erkin-Say**	**1.41**	**330**	⇓*i*PG		**Pn**	**11 53 54.7**		**-2.0**
EKS2				*i* S		**Sn**	**11 54 14.1**		**-1.8**
EKS2	**Erkin-Say**	**1.41**	**330**	⇓*i*P		**Pn**	**11 53 54.7**		**-2.0**
	baz=34								
EKS2				⇓*i*S		**Sn**	**11 54 14.1**		**-1.8**
	baz=34								
CHMS	**Chumysh**	**1.55**	**1**	⇓P		**Pb**	**11 53 58.7**		**-0.7**
	19nm,0.2s,SNR=9.7								
CHMS				⇑S		**Sg**	**11 54 20.6**		**+1.0**
	110nm,0.5s								
CHMS	**Chumysh**	**1.55**	**1**	*i* P*		**Pb**	**11 53 58.6**		**-0.7**
CHMS				*i* S		**Sg**	**11 54 20.4**		**+0.8**
CHMS				pmax		pmax			
	comp=Z,12nm,0.4s								
CHMS	**Chumysh**	**1.55**	**1**	⇓*i*P		**Pn**	**11 53 57.8**		**-0.8**
	baz=3.0								
CHMS				⇓*i*S		**Sg**	**11 54 20.0**		**+0.4**
	baz=3.0								
CHMS	**Chumysh**	**1.55**	**1**	⇓P		**Pb**	**11 53 58.6**		**-0.7**
	comp=Z,12nm,0.3s								
CHMS				⇑S		**Sg**	**11 54 20.4**		**+0.8**
	comp=Z,82nm,0.6s								
TKM2	**Tokmak 2**	**1.61**	**23**	⇑P		**Pb**	**11 54 00.4**		**0.0**
	comp=Z,33nm,0.2s,SNR=22								
TKM2	**Tokmak 2**	**1.61**	**23**	*i* PN		**Pb**	**11 54 00.0**		**-0.4**
TKM2				pmax		pmax			
	comp=Z,28nm,0.4s								
TKM2	**Tokmak 2**	**1.61**	**23**	⇓*i*P		**Pb**	**11 53 59.6**		**-0.8**
	baz=25								
TKM2				⇓*i*S		**Sg**	**11 54 22.6**		**+1.2**
	baz=25								
TKM2	**Tokmak 2**	**1.61**	**23**	⇑Pn		**Pb**	**11 53 60.0**		**-0.4**
	comp=Z,28nm,0.4s								
TKM2				⇓Lg		Lg	11 54 26.9		
	comp=Z,163nm,0.6s								
MRKS	**Merke**	**1.71**	**320**	*e*P		**Pb**	**11 54 02.7**		**+0.5**
	comp=Z,61nm,0.5s								
MRKS				*e*S		**Sg**	**11 54 25.6**		**+0.8**
	comp=Z,164nm,0.3s								
OHH	**Osh**	**1.74**	**239**	*e*PN		**Pn**	**11 53 58.0**		**-3.2**
OHH				*i* S		**Sn**	**11 54 19.9**		**-4.2**
OHH	**Osh**	**1.74**	**239**	⇑*e*P		**Pn**	**

	comp=E,33nm,0.4s								
MDOK					⇑Lg		Lg	11 54 50.0	
	comp=E,120nm,0.9s								
MDOK	**Medeo**	**2.43**	**44**		Pg		**Pb**	**11 54 14.9**	**+0.5**
	comp=E,71nm,0.5s								
MDOK					Lg		Lg	11 54 46.6	
	comp=E,88nm,0.8s								
KOTS	**Kotyrbulak**	**2.51**	**44**		*e*P		**Pg**	**11 54 17.8**	**-0.1**
	comp=E,147nm,0.7s								
KOTS					*e*S		**Sg**	**11 54 51.8**	**+1.3**
	comp=E,250nm,0.7s								
KOTS	**Kotyrbulak**	**2.51**	**44**		Pg		**Pg**	**11 54 17.8**	**-0.1**
	comp=E,147nm,0.7s								
KOTS					Lg		Lg	11 54 51.8	
	comp=E,250nm,0.7s								
ANVS	**Anan'yevo**	**2.56**	**58**		⇓*i*P		**Pb**	**11 54 14.0**	**-2.6**
	baz=57								
ANVS					⇓*i*S		**Sb**	**11 54 47.7**	**-1.0**
	baz=57								
KTBS	**Karatobe**	**2.68**	**32**		*e*P		**Pb**	**11 54 19.6**	**+1.0**
	comp=E,73nm,0.5s								
KTBS					*e*S		**Sg**	**11 54 55.3**	**-0.7**
	comp=E,380nm,0.7s								
KTBS	**Karatobe**	**2.68**	**32**		Pg		**Pb**	**11 54 19.6**	**+1.0**
	comp=E,73nm,0.5s								
KTBS					Lg		Lg	11 54 55.3	
	comp=E,380nm,0.7s								
TRKS	**Terek-Say**	**2.70**	**273**		⇑*i*P		**Pn**	**11 54 13.2**	**-1.3**
	baz=73								
TRKS					⇑*i*S		**Sn**	**11 54 46.2**	**-1.7**
	baz=73								
KUU	**Kurty**	**2.72**	**25**		*i* PN		**Pb**	**11 54 20.4**	**+1.2**
KUU					*e*			11 54 57.4	
KUU	**Kurty**	**2.72**	**25**		*e*P		**Pb**	**11 54 20.5**	**+1.2**
	comp=E,40nm,0.5s								
KUU					*e*S		**Sg**	**11 54 56.3**	**-0.7**
	comp=E,182nm,0.7s								
KUU	**Kurty**	**2.72**	**25**		*i* Pg		**Pb**	**11 54 20.4**	**+1.2**
	baz=28								
KUU					*e*Lg		Lg	11 54 57.5	
	baz=28								
KUU	**Kurty**	**2.72**	**25**		Pg		**Pb**	**11 54 20.5**	**+1.2**
	comp=E,40nm,0.5s								
KUU					Lg		Lg	11 54 56.3	
	comp=E,182nm,0.7s								
DZA	**Taraz**	**2.91**	**301**		*e*PN		**Pb**	**11 54 22.3**	**-0.2**
DZA	**Taraz**	**2.91**	**301**		*e*P		**Pb**	**11 54 23.3**	**+0.8**
	comp=E,274nm,0.1s								
DZA					*e*S		**Sb**	**11 55 00.8**	**+2.3**
	comp=E,391nm,0.6s								
DZA	**Taraz**	**2.91**	**301**		*e*Pg		**Pb**	**11 54 22.3**	**-0.2**
	baz=301								
CHKK	**Chushkaly**	**2.92**	**34**		*e*PN		**Pb**	**11 54 24.0**	**+1.3**
CHKK					*e*			11 55 03.0	
CHKK					*e*			11 55 03.0	
CHKK	**Chushkaly**	**2.92**	**34**		*e*P		**Pb**	**11 54 24.1**	**+1.3**
	comp=E,37nm,0.5s								
CHKK					*e*S		**Sg**	**11 55 02.5**	**-1.2**
	comp=E,122nm,0.4s								
CHKK	**Chushkaly**	**2.92**	**34**		*e*Pb		**Pb**	**11 54 24.0**	**+1.3**
	baz=36								
CHKK					*e*Sb		**Sg**	**11 55 03.0**	**-0.7**
	baz=36								
CHKK					*e*Sb		**Sg**	**11 55 03.1**	**-0.7**
	baz=36								
CHKK	**Chushkaly**	**2.92**	**34**		Pg		**Pb**	**11 54 24.1**	**+1.3**
	comp=E,37nm,0.5s								
CHKK					Lg		Lg	11 55 02.5	
	comp=E,122nm,0.4s								
DRK	**Karamyk**	**2.98**	**230**		⇑*i*P		**Pn**	**11 54 16.2**	**-2.2**
	baz=30								
DRK					⇑*i*S		**Sn**	**11 54 51.9**	**-3.0**
	baz=30								
SATY	**Saty**	**3.17**	**58**		*e*P		**Pg**	**11 54 29.0**	**-1.5**
	comp=E,27nm,0.4s								
SATY					*e*S		**Sg**	**11 55 10.8**	**-0.7**
	comp=E,79nm,0.9s								
SATY	**Saty**	**3.17**	**58**		*e*Sb		**Sg**	**11 55 11.1**	**-0.4**
	baz=60								
SATY	**Saty**	**3.17**	**58**		Pg		**Pg**	**11 54 29.0**	**-1.5**
	comp=E,27nm,0.4s								
SATY					Lg		Lg	11 55 10.8	
	comp=E,79nm,0.9s								
KURS	**Kuram**	**3.26**	**50**		*e*P		**Pg**	**11 54 30.8**	**-1.5**
	comp=E,9.1nm,0.7s								
KURS					*e*S		**Sg**	**11 55 14.2**	**-0.4**
	comp=E,45nm,1.2s								
KURS	**Kuram**	**3.26**	**50**		Pg		**Pg**	**11 54 30.8**	**-1.5**
	comp=E,9.1nm,0.7s								
KURS					Lg		Lg	11 55 14.1	
	comp=E,45nm,1.2s								
BTK	**Batken**	**3.28**	**246**		⇑*i*P		**Pn**	**11 54 21.1**	**-1.3**
	baz=47								
BTK					⇑*i*S		**Sn**	**11 54 59.4**	**-2.7**
	baz=47								
KK31	**Karatay Array**	**3.54**	**299**		PN		**Pb**	**11 54 32.2**	**-1.0**
KK31	**Karatay Array**	**3.54**	**299**		⇑Pg		**Pb**	**11 54 32.2**	**-1.0**
	comp=E,7.4nm,0.3s,baz=122,slow=14,SNR=41								
KK31					⇑Lg		Lg	11 55 18.4	
	comp=E,30nm,0.5s,baz=122,slow=29,SNR=10								
KPKS	**Kokpek**	**3.55**	**54**		*e*PN		**Pg**	**11 54 36.6**	**-1.3**
KPKS					*e*			11 55 25.4	
KPKS	**Kokpek**	**3.55**	**54**		*e*P		**Pb**	**11 54 33.9**	**+0.4**
	comp=E,20nm,0.4s								
KPKS					*e*S		**Sb**	**11 55 19.5**	**+2.3**
	comp=E,95nm,0.6s								
KPKS	**Kokpek**	**3.55**	**54**		*e*Pg		**Pg**	**11 54 36.6**	**-1.3**
	baz=55								
KPKS					*e*Lg		Lg	11 55 25.5	
	baz=55								
ARXS	**Arharly**	**3.58**	**38**		*e*PN		**Pb**	**11 54 30.6**	**-3.4**
ARXS	**Arharly**	**3.58**	**38**		*e*P		**Pb**	**11 54 36.0**	**+2.0**
	comp=E,31nm,0.6s								
ARXS					*e*S		**Sg**	**11 55 22.8**	**-2.0**
	comp=E,122nm,0.5s								
ARXS	**Arharly**	**3.58**	**38**		Pg		**Pb**	**11 54 36.0**	**+2.0**
	comp=E,31nm,0.6s								
ARXS					Lg		Lg	11 55 22.8	
	comp=E,122nm,0.5s								
IUG	**luzhnay**	**3.58**	**283**		*e*PN		**Pn**	**11 54 25.7**	**-0.9**
IUG					*i*			11 54 34.3	
IUG					*e*			11 55 07.7	
IUG	**luzhnay**	**3.58**	**283**		*e*P		**Pb**	**11 54 34.1**	**+0.2**
	comp=E,828nm,0.5s								
IUG					*e*S		**Sb**	**11 55 19.5**	**+1.5**
	comp=E,237nm,0.6s								
IUG	**luzhnay**	**3.58**	**283**		*e*Pn		**Pn**	**11 54 25.7**	**-0.9**
	baz=283								
IUG					*i* Pg		**Pb**	**11 54 34.4**	**+0.4**
	baz=283								
IUG					*e*Sn		**Sn**	**11 55 07.8**	**-1.8**
	baz=283								
IUG	**luzhnay**	**3.58**	**283**		Pg		**Pb**	**11 54 34.1**	**+0.2**
	comp=E,828nm,0.5s								
IUG					Lg		Lg	11 55 19.5	
	comp=E,237nm,0.6s								
UZB	**Uzynbulak**	**3.61**	**61**		*e*PN		**Pb**	**11 54 36.3**	**+1.8**
UZB					*e*			11 54 38.6	
UZB					*e*S		**Sg**	**11 55 24.2**	**-1.5**
UZB	**Uzynbulak**	**3.61**	**61**		*e*P		**Pb**	**11 54 36.3**	**+1.8**
	comp=E,9.7nm,0.4s								
UZB					*e*S		**Sg**	**11 55 23.4**	**-2.3**
	comp=E,48nm,0.8s								
UZB	**Uzynbulak**	**3.61**	**61**		*e*Pb		**Pb**	**11 54 36.3**	**+1.8**
	baz=62								
UZB					*e*Pg		**Pg**	**11 54 38.7**	**-0.2**
	baz=62								
UZB					*e*Sb		**Sg**	**11 55 24.2**	**-1.5**
	baz=62								
UZB	**Uzynbulak**	**3.61**	**61**		Pg		**Pb**	**11 54 36.3**	**+1.8**
	comp=E,9.7nm,0.4s								
UZB					Lg		Lg	11 55 23.4	
	comp=E,48nm,0.8s								
BTLS	**Baital**	**3.63**	**352**		*e*PN		**Pn**	**11 54 26.8**	**-0.3**
BTLS					*e*			11 54 36.4	
BTLS	**Baital**	**3.63**	**352**		*e*P		**Pb**	**11 54 36.1**	**+1.4**
	comp=E,7.9nm,0.6s								
BTLS					*e*S		**Sg**	**11 55 23.6**	**-2.7**
	comp=E,44nm,0.7s								
BTLS	**Baital**	**3.63**	**352**		*e*Pn		**Pn**	**11 54 26.8**	**-0.3**
	baz=354								
BTLS					*e*Pb		**Pb**	**11 54 34.8**	**+0.1**
	baz=354								
BTLS					*e*Pg		**Pg**	**11 54 36.5**	**-2.8**
	baz=354								
BTLS	**Baital**	**3.63**	**352**		Pg		**Pb**	**11 54 35.2**	**+0.5**
	comp=E,7.9nm,0.6s								
BTLS					Lg		Lg	11 55 21.9	
	comp=E,44nm,0.7s								
SHLS	**Shalkode**	**3.90**	**62**		*e*PN		**Pb**	**11 54 36.6**	**-2.9**
SHLS					*e*			11 54 49.1	
SHLS	**Shalkode**	**3.90**	**62**		*e*P		**Pg**	**11 54 47.4**	**+2.8**
	comp=E,21nm,0.5s								
SHLS					*e*S		**Sg**	**11 55 42.2**	**+7.0**
	comp=E,54nm,0.9s								
SHLS	**Shalkode**	**3.90**	**62**		*e*Pn		**Pb**	**11 54 36.6**	**-2.9**
	baz=65								
SHLS					*e*Pg		**Pg**	**11 54 49.1**	**+4.5**
	baz=65								
SHLS	**Shalkode**	**3.90**	**62**		Pg		**Pg**	**11 54 47.4**	**+2.8**
	comp=E,21nm,0.5s								
SHLS					Lg		Lg	11 55 42.2	
	comp=E,54nm,0.9s								
BRLS	**Borolday**	**3.96**	**295**		*e*P		**Pb**	**11 54 41.8**	**+1.4**
	comp=E,7.0nm,0.4s								
BRLS					*e*S		**Sb**	**11 55 32.8**	**+3.9**
	comp=E,62nm,0.7s								
BRLS	**Borolday**	**3.96**	**295**		Pg		**Pb**	**11 54 41.8**	**+1.4**
	comp=E,7.0nm,0.4s								
BRLS					Lg		Lg	11 55 32.8	
	comp=E,62nm,0.7s								
PDGK	**Podgornoye**	**4.00**	**60**		PN		**Pb**	**11 54 40.6**	**-0.5**
PDGK	**Podgornoye**	**4.00**	**60**		Pg		**Pg**	**11 54 43.9**	**-2.5**
	comp=E,3.6nm,0.6s								
PDGK					Lg		Lg	11 55 36.4	
	comp=E,22nm,0.9s								
PDGK	**Podgornoye**	**4.00**	**60**		⇑Pg		**Pg**	**11 54 44.5**	**-1.9**
	comp=E,16nm,0.8s								
PDGK					⇓Lg		Lg	11 55 42.6	
	comp=E,45nm,0.7s								
TDK	**Taldyqorghan**	**4.45**	**36**		*e*PN		**Pg**	**11 54 53.4**	**-1.7**
TDK	**Taldyqorghan**	**4.45**	**36**		*e*Pg		**Pg**	**11 54 53.4**	**-1.7**
	baz=37								
DJR	**Jarkent**	**4.70**	**51**		*e*P		**Pg**	**11 54 56.8**	**-3.1**
	comp=E,5.6nm,0.4s								
DJR					*e*S		**Sg**	**11 55 58.8**	**-2.1**
	comp=E,39nm,0.9s								
DJR	**Jarkent**	**4.70**	**51**		Pg		**Pg**	**11 54 56.8**	**-3.1**
	comp=E,5.6nm,0.4s								
DJR					Lg		Lg	11 55 58.8	
	comp=E,39nm,0.9s								
KAPS	**Kapalarasan**	**5.11**	**40**		*e*P		**Pg**	**11 55 04.2**	**-3.5**
	comp=E,13nm,0.5s								
KAPS					*e*S		**Sg**	**11 56 11.7**	**-2.1**
	comp=E,32nm,1.1s								
KAPS	**Kapalarasan**	**5.11**	**40**		Pg		**Pg**	**11 55 04.2**	**-3.5**
	comp=E,13nm,0.5s								
KAPS					Lg		Lg	11 56 11.7	
	comp=E,32nm,1.1s								
OTUK	**Ortayu**	**7.00**	**347**		⇓Lg		Lg	11 57 11.9	
	comp=E,28nm,0.8s								
MAKZ	**Makanchi**	**7.47**	**42**		⇑Lg		Lg	11 57 31.9	
	comp=E,12nm,1.1s								
MK31	**Makanchi Array**	**7.62**	**43**		⇑*e*P		**Pn**	**11 55 23.9**	**+1.9**
MK31	**Makanchi Array**	**7.62**	**43**		⇑Lg		Lg	11 57 37.6	
	comp=E,7.1nm,0.9s,baz=225,slow=28,SNR=4.5								
KURBB	**Kurchatov Arra**	**9.55**	**15**		⇑Lg		Lg	11 58 35.1	
	comp=E,14nm,0.8s								
KURK	**Kurchatov**	**9.65**	**15**		⇓*e*P		**Pn**	**11 55 53.3**	**+3.5**
KURK					pmax		pmax		
	comp=Z,3.0nm,1.0s								
KURK	**Kurchatov**	**9.65**	**15**		⇑Lg		Lg	11 58 38.0	
	comp=Z,18nm,1.0s								
BELG	**Belogornoye**	**21.38**	**310**		⇑*e*P		**P**	**11 58 20.7**	**+2.2**
BELG					pmax		pmax		
	comp=Z,2.0nm,1.0s								
KBZ	**Khabaz**	**23.47**	**286**		*i* P		**P**	**11 58 40.9**	**+0.2**
KBZ					pmax		pmax		
	comp=Z,3.0nm,1.2s								
KIV	**Kislovodsk**	**23.61**	**287**		*e*P		**P**	**11 58 43.1**	**+0.9**
KIV					pmax		pmax		
	comp=Z,5.0nm,1.0s								
NEY	**Neytrino**	**23.65**	**285**		⇑*e*P		**P**	**11 58 41.8**	**-1.0**
NEY					pmax		pmax		
	comp=Z,3.0nm,1.5s								
PZH	**PanZhiHua**	**26.77**	**115**		P		**P**	**11 59 14.3**	**+3.0**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.6s								
PZH					pmax		pmax		
	comp=Z,80nm,5.9s								
ANN	**Anapa**	**27.27**	**290**		⇑*e*P		**P**	**11 59 15.2**	**-0.3**
ANN					pmax		pmax		
	comp=Z,15nm,0.8s								
OBN	**Obninsk**	**28.44**	**312**		⇑*e*P		**P**	**11 59 27.2**	**+1.4**
OBN					*e*			12 00 14.6	
OBN					pmax		pmax		
	comp=Z,7.0nm,0.8s								

KRSC 13 11:54:40.4±2.3, 49°.94N×157°.90E, h49km±42km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.36**	**304**	*e*P	Pn	11 55 02.2	-0.8
SKR				*e*S	Sn	11 55 19.0	-0.9
PAU	**Pauzhetka**	**1.68**	**336**	*e*P	Pn	11 55 08.8	+1.5
PAU				*e*S	Sn	11 55 30.1	+2.5
KDTR	**Khodutka, Kamc**	**1.87**	**3**	*e*S	Sn	11 55 35.3	+2.9
ASAK	**Asacha**	**2.44**	**360**	*e*P	Pn	11 55 21.8	+3.9
MIPR	**Malaya Ipel'ka**	**2.45**	**343**	*e*P	Pn	11 55 21.5	+3.7
RUS	**Russkaya**	**2.52**	**9**	*e*P	Pn	11 55 21.4	+2.5
RUS				*e*S	Sn	11 55 51.1	+2.7
MTVR	**Mutnovka**	**2.55**	**4**	*e*P	Pn	11 55 22.4	+3.0
MTVR				*e*S	Sn	11 55 52.2	+2.9
GRL	**Gorelyy**	**2.62**	**2**	*e*P	Pn	11 55 23.3	+3.0
GRL				*e*S	Sn	11 55 54.5	+3.7
KRMR	**Karymshinskiy**	**2.90**	**3**	*e*P	Pn	11 55 27.9	+3.9
KRMR				*e*S	Sn	11 56 03.7	+6.2
DALK	**Dalny**	**3.14**	**9**	*e*P	Pn	11 55 31.2	+3.9
DALK				*e*S	Sn	11 56 07.9	+4.4
UGLR	**Uglovaya**	**3.32**	**10**	*e*P	Pn	11 55 33.9	+4.0
AVH	**Avacha**	**3.37**	**9**	*e*P	Pn	11 55 34.9	+4.4
SMAR	**Somma**	**3.37**	**9**	*e*P	Pn	11 55 34.8	+4.1
KOK	**Koryaka**	**3.39**	**8**	*e*P	Pn	11 55 34.9	+4.1
SDLR	**Sedlovina**	**3.40**	**10**	*e*P	Pn	11 55 34.4	+3.4
KRER	**Koryakskii**	**3.41**	**9**	*e*P	Pn	11 55 35.9	+4.7
GNL	**Ganaly**	**3.76**	**0**	*e*P	Pn	11 55 40.8	+4.9
MKZ	**Mys Kozlova**	**5.18**	**26**	*e*P	Pn	11 55 58.0	+2.7
MKZ				*e*S	Sn	11 56 55.7	+1.9

*SOME **13** 12:06:43.5, 42°.70N×83°.65E, h10km*
*NNC **13** 12:06:46.6±2.6, 42°.74N×83°.56E, h0km, mb3.3, mpv3.2,*
Error ellipse: s-maj=24.1km s-min=10.1km az=153.0
ISC 13 12:06:40.0±2.6, 42°.8N±0°.1×83°.82E±0°.09, h10km, n18,
σ1§12/25, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 7.5nm,0.2s	**2.61**	**285**	*e*P	**Pg**	**12 07 30.9**	**+0.9**
KTMS				*e*S	**Sg**	**12 08 06.1**	**+2.3**
	55nm,0.6s						
KTMS	**Ketmen** 7.5nm,0.2s	**2.61**	**285**	Pg	**Pg**	**12 07 30.9**	**+0.9**
KTMS				Lg	Lg	12 08 05.7	
	55nm,0.6s						
PDGK	**Podgornoye** 2.2nm,0.3s	**3.21**	**280**	Pg	**Pg**	**12 07 40.9**	**-0.6**
PDGK				Lg	Lg	12 08 22.6	
	15nm,0.5s						
PDGK	**Podgornoye** 2.0nm,0.3s	**3.21**	**280**	⇓Pg	**Pg**	**12 07 41.7**	**+0.3**
PDGK				⇑Lg	Lg	12 08 23.2	
	24nm,0.8s						
SHLS	**Shalkode** 7.5nm,0.2s	**3.21**	**277**	*e*P	**Pb**	**12 07 36.8**	**-0.4**
SHLS				*e*S	**Sb**	**12 08 16.1**	**-0.4**
	42nm,0.5s						
SHLS	**Shalkode** 7.5nm,0.2s	**3.21**	**277**	Pg	**Pb**	**12 07 36.9**	**-0.4**
SHLS				Lg	Lg	12 08 16.1	
	42nm,0.5s						
DJR	**Jarkent** 3.5nm,0.3s	**3.29**	**298**	*e*P	**Pg**	**12 07 42.6**	**-0.4**
DJR				*e*S	**Sg**	**12 08 25.8**	**+0.2**
	19nm,0.3s						
UZB	**Uzynbulak** 3.0nm,0.3s	**3.53**	**277**	*e*P	**Pg**	**12 07 45.9**	**-1.8**
UZB				*e*S	**Sg**	**12 08 31.9**	**-1.5**
	16nm,0.6s						
UZB	**Uzynbulak**	**3.53**	**277**	Pg	**Pg**	**12 07 46.1**	**-1.5**
	3.0nm,0.3s						
UZB				Lg	Lg	12 08 31.9	
	16nm,0.6s						
KPKS	**Kokpek** 2.5nm,0.1s	**3.81**	**281**	*e*P	**Pg**	**12 07 53.2**	**+0.3**
KPKS				*e*S	**Sg**	**12 08 44.0**	**+1.7**
	25nm,0.5s						
SATY	**Saty** 2.9nm,0.2s	**3.98**	**275**	*e*P	**Pg**	**12 07 56.3**	**+0.1**
SATY				*e*S	**Sg**	**12 08 49.6**	**+1.9**
	26nm,0.3s						
SATY	**Saty** 3.1nm,0.1s	**3.98**	**275**	Pg	**Pg**	**12 07 56.4**	**+0.2**
SATY				Lg	Lg	12 08 49.5	
	26nm,0.3s						
KAPS	**Kapalarasan** 1.1nm,0.1s	**4.04**	**309**	*e*P	**Pg**	**12 07 56.2**	**-1.2**
KAPS				*e*S	**Sg**	**12 08 49.0**	**-0.7**
	8.8nm,0.5s						
MK31	**Makanchi Array** 0.4nm,0.3s,baz=226,slow=12,SNR=3.3	**4.10**	**345**	⇓Pn	**Pb**	**12 07 52.0**	**-0.4**
MK31				⇑Pg	Pg	12 08 03.8	+5.2
	0.8nm,0.4s,baz=159,slow=14,SNR=3.5						
MK31				⇑Lg	Lg	12 08 54.0	
	3.1nm,0.4s,baz=162,slow=31,SNR=4.0						
ARXS	**Arharly** 2.4nm,0.5s	**4.57**	**290**	*e*P	**Pg**	**12 08 07.1**	**-0.4**
ARXS				*e*S	**Sg**	**12 09 07.5**	**+0.9**
	25nm,0.6s						
ZSN	**Zaisan** 3.7nm,0.2s	**4.67**	**9**	*e*P	**Pg**	**12 08 09.3**	**-0.2**
ZSN				*e*S	**Sg**	**12 09 11.6**	**+1.6**
	7.4nm,0.6s						
MDOK	**Medeo** 6.5nm,0.6s	**4.97**	**276**	Lg	Lg	12 09 19.0	
TKM2	**Tokmak 2** 4.9nm,0.9s	**6.04**	**274**	⇑Lg	Lg	12 09 53.3	

*IDC **13** 12:17:59.1±0.9, 17°.91N×121°.64E, h0km, mb3.5/10,*
mb1 3.7/10, mb1mx3.6/51, mbtmp3.6/10, MS3.4/2,
Ms1 3.4/2, ms1mx2.5/63, Error ellipse: s-maj=34.2km
s-min=18.9km az=69.0
*MAN **13** 12:18:02.4, 18°.20N×121°.57E, h24km, mb4.9, ML3.8,*
MS3.8, Hypocentre not reviewed by the ISC
MAN INTENSITY II - CAMALANIUGAN & LAL-LO CAGAYAN;
INTENSITY I - CLAVERIA CAGAYAN.
ISC 13 12:18:00.1±0.6, 17.84N±0°.04×121°.71E±0°.08, h10km, n23,
σ1§02/19, mb3.4/9, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Gonzaga**	**0.51**	**39**	⇓*e*P	**Pn**	**12 18 13.5**	**0.0**
SGCP				*e*S	**Sn**	**12 18 21.6**	**-0.7**
SIPP	**Brgy, Tapao**	**1.19**	**274**	⇓*i*P	**Pb**	**12 18 22.3**	**-0.6**
SIPP				*i* S	Sn	12 18 50.1	+11
PCPH	**Palayan**	**2.34**	**195**	⇑*e*P	**Pg**	**12 18 44.7**	**-0.4**
PCPH				*e*S	**Sg**	**12 19 17.2**	**+1.7**
LQP	**Lukban**	**3.71**	**183**	⇑*i*P	**Pb**	**12 19 04.3**	**-1.7**
LQP				*i* S	**Sb**	**12 19 51.7**	**+0.5**
TGY	**Tagaytay City**	**3.79**	**191**	Pn	**Pb**	**12 19 06.6**	**-0.6**
	23nm,0.3s,baz=175,slow=8.5,SNR=1.5						
TGY				Sn	**Sb**	**12 19 52.0**	**-1.3**
	25nm,0.3s,baz=16,slow=0.5,SNR=1.4						
KSRS	**Korea Array**	**20.29**	**14**	P	**P**	**12 22 36.9**	**+0.9**
	0.6nm,0.7s,baz=8.4,slow=17,SNR=2.0						
CMAR	**Chiang Mai Arr**	**21.64**	**275**	P	**P**	**12 22 50.9**	**+0.1**
	0.4nm,0.6s,baz=95,slow=11,SNR=2.9						
SONM	**Songino Array**	**32.43**	**341**	P	**P**	**12 24 30.2**	**-0.3**
	0.2nm,0.4s,baz=153,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**39.55**	**161**	P	**P**	**12 25 32.1**	**+0.6**
	0.3nm,0.6s,baz=342,slow=8.9,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**42.66**	**82**	T	T	13 11 17.2	
	baz=276,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**42.67**	**82**	T	T	13 11 19.0	
	baz=276,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**42.68**	**82**	T	T	13 11 17.4	
	baz=276,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**42.73**	**80**	T	T	13 11 13.4	
	baz=275,slow=75,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**42.73**	**80**	T	T	13 11 19.2	
	baz=275,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**42.74**	**80**	T	T	13 11 17.0	
	baz=275,slow=75,SNR=5.7						
ASAR	**Alice Springs**	**42.94**	**163**	P	**P**	**12 26 01.1**	**+1.6**
	0.3nm,0.6s,baz=348,slow=7.3,SNR=8.7						
MKAR	**Makanchi Array**	**43.38**	**321**	P	**P**	**12 26 02.8**	**0.0**
	0.8nm,0.6s,baz=110,slow=10.0,SNR=8.6						
MA2	**Magadan**	**46.70**	**20**	LR	LR	12 46 00.4	
	comp=Z,27nm,18.2s,baz=148,slow=36						
KURBB	**Kurchatov Arra**	**47.37**	**324**	P	**P**	**12 26 34.0**	**-0.3**
	1.0nm,0.3s,baz=120,slow=8.0,SNR=5.5						
WSAR	**Wadi Sarin**	**58.92**	**287**	LR	LR	12 58 30.7	
	comp=Z,38nm,18.2s,baz=140,slow=41						
ILAR	**Eielson Array**	**74.62**	**26**	P	**P**	**12 29 40.8**	**+1.4**
	0.3nm,0.9s,baz=292,slow=2.8,SNR=2.4						
FINES	**FINESS Array B**	**77.16**	**331**	P	**P**	**12 29 53.0**	**-0.9**
	0.9nm,0.6s,baz=350,slow=34,SNR=3.1						
YKA	**Yellowknife Ar**	**88.60**	**23**	P	**P**	**12 30 52.5**	**-0.6**
	0.3nm,0.6s,baz=306,slow=4.6,SNR=9.0						

*NNC **13** 13:01:23.7±4.7, 37°.55N×54°.10E, h0km, mb3.8, Error*
ellipse: s-maj=44.4km s-min=19.9km az=33.0
*TEH **13** 13:01:28.8, 37°.25N×54°.75E, h17km, ML3.8*
*AZER **13** 13:01:33.8±2.3, 37°.33N×54°.22E, h10km, Error ellipse:*
s-maj=25.9km s-min=15.2km az=46.0
ISC 13 13:01:27.5±0.7, 37°.39N±0°.04×54°.73E±0°.03, h10km, n83,
σ1§99/100, 4C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.56**	**103**	*e*Pg	**Pg**	**13

GHVR	**GHOM**	**4.02**	**225**	*e*Pn		**Pn**	**13 02 31.2**	**+2.0**
TABS	**Tabas**	**4.21**	**152**	*e*Pn		**Pn**	**13 02 32.6**	**+0.8**
TKDS	**Koohdasht(Taba**	**4.24**	**152**	*e*Pn		**Pn**	**13 02 32.7**	**+0.4**
TKDS				*e*			13 03 50.9	
	comp=Z,722nm,0.8s							
ANAR	**Anarak**	**4.27**	**191**	*e*Pn		**Pn**	**13 02 32.9**	**+0.2**
IRAZ	**Razeghan**	**4.35**	**244**	*e*Pn		**Pn**	**13 02 36.2**	**+2.4**
IMYA	**Miami**	**4.43**	**102**	*e*Pn		**Pn**	**13 02 37.2**	**+2.2**
QABG	**Abgarm-Qazvin**	**4.47**	**250**	*e*Pn		**Pn**	**13 02 37.1**	**+1.6**
QAMS	**Qamsar**	**4.54**	**218**	*e*Pn		**Pn**	**13 02 37.9**	**+1.3**
TPRV	**Parvadeh(Tabas**	**4.64**	**159**	*e*Pn		**Pn**	**13 02 38.1**	**+0.4**
TPRV				*e*			13 04 04.8	
	comp=Z,801nm,0.7s							
ASAO	**Ashtian**	**4.75**	**235**	*e*Pn		**Pn**	**13 02 41.4**	**+2.0**
IKLH	**Kolahrood**	**4.81**	**213**	*e*Pn		**Pn**	**13 02 41.6**	**+1.4**
ASTR	**Astara**	**4.83**	**286**	P		**Pn**	**13 02 41.2**	**+0.9**
	SNR=6.7							
ASTR				S		**Sn**	**13 03 32.7**	**-3.6**
NASN	**Na'in**	**4.84**	**200**	*e*Pn		**Pn**	**13 02 41.5**	**+0.8**
ZNJK	**Zanjan**	**4.89**	**263**	*e*Pn		**Pn**	**13 02 44.2**	**+2.9**
IZEF	**Zefreh**	**4.89**	**204**	*e*Pn		**Pn**	**13 02 42.2**	**+0.8**
GOBA	**Gobu**	**4.92**	**309**	P		**Pn**	**13 02 43.5**	**+2.0**
GOBA				S		**Sn**	**13 03 35.2**	**-3.3**
YZKH	**Yazd**	**4.99**	**181**	*e*Pn		**Pn**	**13 02 43.0**	**+0.5**
TBJM	**Torbat-e-JAM**	**4.99**	**113**	*e*Pn		**Pn**	**13 02 44.3**	**+1.6**
ICHK	**Chekchek**	**5.14**	**183**	*e*Pn		**Pn**	**13 02 45.4**	**+0.7**
ICHK				*e*			13 02 48.7	
	comp=N,543nm,0.2s							
LRK	**Lerik**	**5.20**	**286**	P		**Pn**	**13 02 47.2**	**+1.8**
	SNR=17							
LRK				S		**Sn**	**13 03 41.8**	**-3.7**
AFRZ	**Afriz**	**5.28**	**137**	*e*Pn		**Pn**	**13 02 47.9**	**+1.3**
GLBA	**Clilabad**	**5.31**	**292**	P		**Pn**	**13 02 49.2**	**+2.3**
	SNR=6.4							
GLBA				S		**Sn**	**13 03 46.4**	**-1.7**
KHMZ	**Khomeyn**	**5.33**	**228**	*e*Pn		**Pn**	**13 02 49.1**	**+1.8**
YRD	**Yardimli**	**5.33**	**289**	P		**Pn**	**13 02 49.3**	**+2.0**
	SNR=5.2							
YRD				S		**Sn**	**13 03 46.5**	**-2.4**
IGAR	**Gharneh**	**5.44**	**205**	*e*Pn		**Pn**	**13 02 50.6**	**+1.7**
ISAD	**Sadrabad**	**5.53**	**189**	*e*Pn		**Pn**	**13 02 50.5**	**+0.4**
ITEG	**Tejag**	**5.56**	**142**	*e*Pn		**Pn**	**13 02 51.1**	**+0.6**
ITEG				*e*			13 03 01.1	
	comp=Z,627nm,0.3s							
GRMI	**Germi**	**5.57**	**287**	*e*Pn		**Pn**	**13 02 53.2**	**+2.6**
ISRB	**Sarab**	**5.62**	**277**	*e*Pn		**Pn**	**13 02 54.2**	**+2.9**
ATGJ	**Altiaghaj**	**5.68**	**309**	S		**Sn**	**13 03 56.1**	**-1.3**
IMON	**Monand**	**5.82**	**135**	*e*Pn		**Pn**	**13 02 55.3**	**+1.3**
SIZA	**Siyzn**	**5.83**	**311**	P		**Pn**	**13 02 56.0**	**+1.9**
SIZA				S		**Sn**	**13 04 03.5**	**+2.4**
PQL	**Pirkuli**	**5.86**	**307**	P		**Pn**	**13 02 55.1**	**+0.6**
	SNR=3.4							
SHRT	**Shahrakht**	**5.88**	**128**	*e*Pn		**Pn**	**13 02 55.2**	**+0.5**
IRAM	**Ramesheh**	**5.89**	**200**	*e*Pn		**Pn**	**13 02 56.6**	**+1.5**
IRAM				*e*			13 02 57.9	
	comp=Z,409nm,0.4s							
HSAM	**Samen**	**5.90**	**239**	*e*Pn		**Pn**	**13 02 57.3**	**+2.1**
BLQ	**Beylaqan**	**6.08**	**295**	S		**Sn**	**13 04 06.7**	**-0.4**
IML	**Ismayilli**	**6.12**	**306**	S		**Sn**	**13 04 10.2**	**+2.1**
IHRS	**Heris**	**6.15**	**281**	*e*			13 03 03.8	
	comp=Z,601nm,0.2s							
IHRS				*e*Pn		**Pn**	**13 03 01.3**	**+2.7**
QRD	**Qoradiz**	**6.17**	**292**	P		**Pn**	**13 02 59.7**	**+1.0**
QRD				S		**Sn**	**13 04 07.3**	**-2.1**
ZRD	**Zardab**	**6.21**	**300**	S		**Sn**	**13 04 11.6**	**+1.4**
XNQ	**Khinaliq**	**6.35**	**309**	P		**Pn**	**13 03 04.6**	**+3.2**
	SNR=11							
XNQ				S		**Sn**	**13 04 12.2**	**-1.8**
SNGE	**Sanandaj**	**6.39**	**251**	*e*Pn		**Pn**	**13 03 04.7**	**+2.8**
QSAR	**Qusar**	**6.48**	**311**	S		**Sn**	**13 04 20.7**	**+3.8**
BSRN	**Basiran**	**6.51**	**145**	*e*Pn		**Pn**	**13 03 03.6**	**+0.1**
AGDM	**Agdam**	**6.54**	**297**	P		**Pn**	**13 03 06.1**	**+2.3**
AGDM				S		**Sn**	**13 04 19.1**	**+0.6**
BRDA	**Brd**	**6.55**	**298**	P		**Pn**	**13 03 06.2**	**+2.3**
KLNJ	**Kolanjah**	**6.87**	**203**	*e*Pn		**Pn**	**13 03 11.1**	**+2.4**
SEKA	**Sheki**	**6.97**	**305**	S		**Sn**	**13 04 28.8**	**-0.3**
ORD	**Ordubad**	**7.05**	**285**	P		**Pn**	**13 03 12.6**	**+1.8**
ORD				S		**Sn**	**13 04 30.8**	**-0.3**
GANJ	**Ganja**	**7.31**	**299**	P		**Pn**	**13 03 16.9**	**+2.6**
GANJ				S		**Sn**	**13 04 34.5**	**-2.8**
ZKTA	**Zakatala**	**7.57**	**307**	S		**Sn**	**13 04 43.4**	**-0.2**
GDB	**GEDABAY**	**7.73**	**298**	P		**Pn**	**13 03 22.1**	**+1.9**
	SNR=3.9							
GDB				S		**Sn**	**13 04 45.0**	**-3.0**
AB31	**Akbulak array**	**12.45**	**16**	⇑P		**Pn**	**13 04 23.4**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=205,slow=14,SNR=11							
AB31				⇑S		**Sn**	**13 06 41.7**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=205,slow=26,SNR=8.8							
AKTO	**Aktyubinsk**	**13.25**	**9**	⇓P		**Pn**	**13 04 33.0**	**-2.6**
	comp=Z,1.5nm,0.7s							
AKTO				⇑S		**Sn**	**13 06 59.9**	**-3.1**
	comp=Z,1.8nm,0.7s							

*IDC **13** 13:03:06.4±2.9, 0.°51S×99.°30E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.4/39, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=104.2km s-min=22.1km az=59.0*
*NEIC **13** 13:03:13.3±2.6, 0.°49S±0.°07×99.°04E±0.°07, h35km±1km, mb4.2/14, Error ellipse: s-maj=12.4km s-min=11.6km az=47.0*
*DJA **13** 13:03:14.7±0.3, 1°S±2°×9°9E±°, h51km±10km, M4.0/13, mb4.1/4, mB5.5/1, MLv4.0/13, Mw(mB)5.0/1*
ISC 13 13:03:14.3±1.0, 0.°48S±0.°04×99.°14E±0.°05, h54km±10km, n41, σ1°28/43, mb4.0/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.85**	**183**	P	**Pn**	**13 03 30.0**	**-0.1**
SISI				S	**Sn**	**13 03 43.3**	**+1.6**
PPI	**Padang Panjang**	**1.26**	**89**	P	**Pn**	**13 03 35.0**	**-0.5**
PPI				S	**Sn**	**13 03 50.1**	**-1.3**
MNSI	**Mandailing Nat**	**1.34**	**19**	P	**Pn**	**13 03 37.4**	**+0.7**
MNSI				S	**Sn**	**13 03 54.8**	**+1.4**
SBSI	**Sibolga**	**2.03**	**353**	P	**Pn**	**13 03 44.7**	**-1.4**
SBSI				S	**Sn**	**13 04 07.9**	**-2.4**
BKNI	**Bangkinang**	**2.06**	**67**		**Pn**	**13 03 47.8**	**+1.3**
BKNI	**Bangkinang**	**2.06**	**67**	P	**Pn**	**13 03 46.6**	**+0.1**
GSI	**Gunungsitoli**	**2.36**	**318**		**Pn**	**13 03 50.2**	**-0.4**
GSI	**Gunungsitoli**	**2.36**	**318**	P	**Pn**	**13 03 51.6**	**+1.0**
GSI				S	**Sn**	**13 04 17.5**	**-0.9**
PPSI	**Pulau Pagai**	**2.43**	**159**	P	**Pn**	**13 03 51.9**	**+0.3**
KRJI	**Kerinci**	**2.82**	**125**	P	**Pn**	**13 03 56.2**	**-0.8**
MASI	**Maura Aman, Be**	**4.08**	**131**	P	**Pn**	**13 04 13.8**	**-0.4**
KCSI	**Kotacane, Aceh**	**4.20**	**341**	P	**Pn**	**13 04 17.1**	**+1.2**
MYKOM	**Kota Tinggi**	**5.22**	**64**	Pn	**Pn**	**13 04 30.1**	**+0.3**
IPM	**Ipoh**	**5.27**	**21**		**Pn**	**13 04 31.4**	**+0.8**
MNAI	**Manna**	**5.42**	**135**	Pn	**Pn**	**13 04 33.4**	**+0.8**
MNAI	**Manna**	**5.42**	**135**	P	**Pn**	**13 04 31.8**	**-0.8**
	1.0nm5µm206nm,1.0s						
KULM	**Kulim**	**5.92**	**15**		**Pn**	**13 04 40.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**18.82**	**359**	P	**Pn**	**13 07 29.9**	**-0.8**
	0.1nm,0.3s,baz=186,slow=9.5,SNR=3.0						
CHTO	**Chiang Mai**	**19.17**	**359**	P	**P**	**13 07 33.4**	**-0.2**
PALK	**Pallekele**	**19.94**	**293**	P	**P**	**13 07 41.4**	**-0.6**
PALK				IAmb	IAmb	13 07 46.4	
	comp=Z,10nm,1.1s						
H08S2	**Diego Garcia H**	**27.50**	**254**	T	T	13 36 53.0	
	baz=77,slow=76,SNR=27						
H08S3	**Diego Garcia H**	**27.50**	**254**	T	T	13 36 51.8	
	baz=77,slow=76,SNR=36						
H08S1	**Diego Garcia H**	**27.52**	**254**	T	T	13 36 51.1	
	baz=77,slow=76,SNR=31						
FITZ	**Fitzroy Crossi**	**31.38**	**125**	P	**P**	**13 09 31.8**	**+1.5**
FITZ				IAmb	IAmb	13 09 56.2	
	comp=Z,4.4nm,1.4s						
TWG	**Pinlang**	**31.50**	**41**	P	**P**	**13 09 33.9**	**+2.6**
WB0	**Warramunga Arr**	**39.48**	**121**	P	**P**	**13 10 37.8**	**-2.1**
WB0				IAmb	IAmb	13 11 03.1	
	comp=Z,4.8nm,1.4s						
WRA	**Warramunga Arr**	**39.51**	**122**	P	**P**	**13 10 37.8**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=312,slow=9.3,SNR=5.6						
WRA	**Warramunga Arr**	**39.51**	**122**	P	**P**	**13 10 38.1**	**-2.1**
WR0	**Warramunga Arr**	**39.69**	**121**	P	**P**	**13 10 39.5**	**-2.1**
ASAR	**Alice Springs**	**40.84**	**127**	P	**P**	**13 10 49.3**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=294,slow=8.2,SNR=2.6						
SONM	**Songino Array**	**48.53**	**7**	P	**P**	**13 11 51.4**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=184,slow=9.0,SNR=5.2						
JWT	**Wachi**	**49.09**	**40**	P	**P**	**13 11 57.5**	**+1.0**
JWT				IAmb	IAmb	13 12 24.1	
	comp=Z,1.9nm,0.6s						
MK31	**Makanchi Array**	**49.34**	**345**	P	**P**	**13 11 58.1**	**-0.1**
MK31				IAmb	IAmb	13 12 14.6	
	comp=Z,4.4nm,1.5s						
MKAR	**Makanchi Array**	**49.34**	**345**	P	**P**	**13 11 58.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=156,slow=8.7,SNR=7.1						
INU	**Inuyama**	**50.17**	**41**	P	**P**	**13 12 05.0**	**+0.3**
ZAA0	**Zalesovo Array**	**55.52**	**350**	P	**P**	**13 12 44.0**	**+0.2**
ZAA0				IAmb	IAmb	13 12 57.7	
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**55.52**	**350**	P	**P**	**13 12 43.1**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=179,slow=7.4,SNR=5.7						
KLR	**Kul'dur**	**56.91**	**25**	P	**P**	**13 12 52.2**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=252,slow=7.7,SNR=4.0						
LIFNC	**LIFOU**	**69.39**	**112**	P	**P**	**13 14 17.3**	**+0.2**
TIXI	**Tiksi**	**74.50**	**9**	P	**P**	**13 14 48.6**	**+1.9**
TIXI				IAmb	IAmb	13 15 14.7	
	comp=Z,2.0nm,0.4s						
QSPA	**South Pole Qui**	**89.48**	**180**	P	**P**	**13 16 06.2**	**+0.7**
QSPA				IAmb	IAmb	13 16 32.1	
	comp=Z,1.9nm,1.2s						

*LDG **13** 13:11:30.2±0.2, 49.°46N×2.°51W, h3km, Md2.2/1, Ml2.5/9, Error ellipse: s-maj=4.2km s-min=1.9km az=159.0*
*BGS **13** 13:11:31.0±0.1, 49.°42N×2.°50W, h9km±5km, ML1.6*
ISC 13 13:11:30.4±1.3, 49.°41N±0.°04×2.°49W±0.°03, h15km±9km, n22, σ0°80/34, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JVM	**Valle D.L. Mar**	**0.27**	**137**	*e*P	**Pb**	**13 11 36.5**	**-0.3**
JLP	**Les Platons**	**0.30**	**124**	*e*P	**Pb**	**13 11 37.1**	**-0.4**
JRS	**Jersey**	**0.34**	**130**	*e*P	**Pb**	**13 11 37.8**	**-0.3**
JRS				*e*S	**Sg**	**13 11 42.8**	**+0.6**
JRS				IAML		13 11 43.2	
	comp=E,68nm,0.1s						
JRS				IAML		13 11 43.3	
	comp=N,47nm,0.1s						
JDG	**Jersey Dam (Ga**	**0.36**	**127**	*e*P	**Pb**	**13 11 38.2**	**-0.3**
JDG				IAML		13 11 43.8	
	comp=N,32nm,0.2s						
JDG				IAML		13 11 44.0	
	comp=E,38nm,0.2s						
JQE	**Queens East**	**0.36**	**126**	*e*P	**Pb**	**13 11 38.2**	**-0.3**
JDC	**Jersey Dam (Cr**	**0.37**	**128**	*e*P	**Pg**	**13 11 38.1**	**+0.3**
JDC				IAML		13 11 43.9	
	comp=E,126nm,0.2s						
JDC				IAML		13 11 44.5	
	comp=N,143nm,0.2s						
SGMF	**Saint Gilles**	**1.16**	**182**	*e*Pn	**Pg**	**13 11 52.2**	**-0.6**
SGMF	**Saint Gilles**	**1.16**	**182**	*e*Pg	**Pn**	**13 11 53.0**	**+1.0**
SGMF				*e*Sg	**Sb**	**13 12 07.9**	**+1.0**
	comp=N,9.8nm,0.2s						
ROSF	**Rostrenen**	**1.20**	**206**	*e*Pn	**Pb**	**13 11 52.6**	**-0.1**
ROSF	**Rostrenen**	**1.20**	**206**	*e*Pg	**Pn**	**13 11 53.5**	**+1.0**
ROSF				*e*Sg	**Sn**	**13 12 09.3**	**+0.9**
	comp=N,11nm,0.2s						
DYA	**Yadsworthy**	**1.38**	**318**	*e*P	**Pn**	**13 11 55.4**	**+0.3**
DYA				*e*S	**Sb**	**13 12 12.7**	**-0.7**
DYA				IAML		13 12 14.1	
	comp=N,12nm,0.2s						
DYA				IAML		13 12 14.1	
	comp=E,12nm,0.3s						
FLN	**La Foliniere**	**1.47**	**116**	*e*Pg	**Pg**	**13 11 58.4**	**-0.2**
FLN				*e*Sg	**Sg**	**13 12 17.6**	**-0.2**
	comp=E,2.2nm,0.2s						
GRR	**Gorron**	**1.49**	**133**	*e*Pn	**Pn**	**13 11 56.4**	**-0.1**
GRR	**Gorron**	**1.49**	**133**	*e*Pg	**Pg**	**13 11 58.7**	**-0.2**
GRR				*e*Sn	**Sn**	**13 12 16.9**	**+1.3**
GRR				*e*Sg	**Sg**	**13 12 19.0**	**+0.7**
	comp=E,9.9nm,0.2s						
QUIF	**Quistinic**	**1.56**	**197**	*e*Pn	**Pn**	**13 11 57.5**	**0.0**
QUIF	**Quistinic**	**1.56**	**197**	*e*Pg	**Pg**	**13 11 59.9**	**-0.5**
QUIF				*e*Sn	**Sn**	**13 12 17.8**	**+0.3**
QUIF				*e*Sg	**Sg**	**13 12 20.8**	**+0.1**
	comp=E,7.5nm,0.2s						
LDF	**La Druitiere**	**1.76**	**117**	*e*Pn	**Pn**	**13 12 00.8**	**+0.5**
LDF	**La Druitiere**	**1.76**	**117**	*e*Pg	**Pb**	**13 12 03.4**	**+1.1**
LDF				*e*Sg	**Sg**	**13 12 26.3**	**-0.7**
	comp=E,4.2nm,0.3s						
MFF	**Saint Martin d**	**3.22**	**150**	*e*Pn	**Pn**	**13 12 18.8**	**-1.6**
MFF				*e*Sn	**Sn**	**13 12 56.9**	**-1.5**
	comp=E,1.5nm,0.3s						
MFF				*e*Sg	**Sg**	**13 13 12.0**	**-1.8**
	comp=E,5.1nm,0.5s						
TCF	**Toulx Ste Croi**	**4.45**	**133**	*e*Pn	**Pn**	**13 12 38.0**	**+0.8**
BGF	**Bois d'Agland**	**4.58**	**127**	*e*Pn	**Pn**	**13 12 39.0**	**0.0**
SSF	**Saint Saulge**	**4.64**	**118**	*e*Pn	**Pn**	**13 12 39.6**	**-0.3**

*ATH **13** 13:12:34.7, 40.°20N×19.°37E, h26km±2km, ML2.8/16, Error ellipse: s-maj=3.1km s-min=1.0km az=207.0*
*THE **13** 13:12:34.2, 40.°30N×19.°40E, h0km±2km, ML2.7/11, Error ellipse: s-maj=2.8km s-min=0.8km az=259.0*
*TIR **13** 13:12:34.3, 40.°33N×19.°32E, h10km±2km, Md2.9, Ml3.0*
ISC 13 13:12:32.9±1.1, 40.°30N±0.°02×19.°26E±0.°02, h9km±8km, n75, σ1°33/110, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.24**	**47**	P	**Pg**	**13 12 37.1**	**-0.6**
VLO				S	**Sg**	**13 12 40.8**	**-0.2**
	44µm,0.2s						
VLO	**Vlora**	**0.24**	**47**	P	**Pg**	**13 12 37.2**	**-0.6**
	baz=44						
VLO				S	**Sg**	**13 12 41.8**	**+0.7**
	baz=44						
VLO				AMP			
	comp=E,128nm,0.3s,baz=44						
SCTE	**Santa Cesarea**	**0.65**	**250**	P	**Pb**	**13 12 48.3**	**+1.8**
SCTE				S	**Sb**	**13 12 59.3**	**+3.7**
SCTE	**Santa Cesarea**	**0.65**	**250**	P	**Pb**	**13 12 48.3**	**+1.8**
	baz=249						
SCTE				S	**Sn**	**13 12 59.5**	**+0.8**
	baz=249						
SCTE				AMP			
	comp=N,2.5nm,0.4s,baz=249						
SRN	**Sarande**	**0.71**	**127**	P	**Pg**	**13 12 45.4**	**-1.1**
SRN				S	**Sg**	**13 12 54.3**	**-1.4**
	comp=N,390nm,0.5s						
SRN	**Sarande**	**0.71**	**127**	P	**Pb**	**13 12 47.5**	**+0.1**
	baz=130						
SRN				S	**Sn**	**13 12 59.1**	**-1.0**
	baz=130						
SRN				AMP			
	comp=N,1.6nm,0.4s,baz=130						
KEK	**Kerkira**	**0.72**	**145**	P	**Pg**	**13 12 45.5**	**-1.2**
KEK				AML	AML	13 13 07.3	
	comp=N,1008µm,0.4s						
KEK				AML	AML	13 13 09.6	
	comp=E,879µm,0.6s						
KEK	**Kerkira**	**0.72**	**145**	P	**Pg**	**13 12 46.2**	**-0.5**
KEK				S	**Sb**	**13 12 57.6**	**0.0**
	comp=E,480nm,0.4s						
KASA	**Kassiopi**	**0.76**	**137**	P	**Pg**	**13 12 48.1**	**+0.6**
LSK	**Leskovik**	**1.03**	**98**	P	**Pg**	**13 12 50.7**	**-2.1**
LSK				S	**Sg**	**13 13 05.1**	**-1.1**
	comp=E,905nm,0.7s						
LSK	**Leskovik**	**1.03**	**98**	P	**Pg**	**13 12 52.2**	**-0.6**
	baz=100						
LSK				S	**Sn**	**13 13 09.6**	**+1.3**
	baz=100						
LSK				AMP			
	comp=E,2.5nm,0.5s,baz=100						
IGT	**Igoumenitsa**	**1.13**	**133**	P	**Pg**	**13 12 53.5**	**-1.0**
IGT				AML	AML	13 13 13.8	
	comp=N,1008µm,0.7s						
IGT				AML	AML	13 13 14.7	
	comp=E,739µm,1.0s						
IGT	**Igoumenitsa**	**1.13**	**133**	P	**Pg**	**13 12 54.2**	**-0.3**
IGT				S	**Sb**	**13 13 09.4**	**+0.1**
	comp=E,438nm,0.8s						
IGT	**Igoumenitsa**	**1.13**	**133**	P	**Pb**	**13 12 54.9**	**+0.4**
	baz=135						
IGT				S	**Sn**	**13 13 12.2**	**+1.7**
	baz=135						
TIR	**Tirane**	**1.14**	**23**	P	**Pn**	**13 12 56.3**	**+1.3**
TIR				S	**Sb**	**13 13 10.6**	**+0.9**
	comp=E,198nm,0.6s						
TIR	**Tirane**	**1.14**	**23**	P	**Pn**	**13 12 57.7**	**+2.6**
	baz=21						
TIR				S	**Sn**	**13 13 11.9**	**+1.2**
	baz=21						
TIR				AMP			
	comp=E,0.7nm,0.3s,baz=21						
KBN	**Korca**	**1.21**	**74**	P	**Pb**	**13 12 54.8**	**-1.1**
KBN				S	**Sg**	**13 13 11.6**	**-0.1**
	comp=E,398nm,0.9s						
KBN	**Korca**	**1.21**	**74**	P	**Pn**	**13 12 56.4**	**+0.4**
	baz=75						
KBN				S	**Sn**	**13 13 14.7**	**+2.1**
	baz=75						
KBN				AMP			
	comp=E,1.3nm,0.7s,baz=75						
NEST	**Nestorio**	**1.37**	**85**	P	**Pg**	**13 12 59.7**	**+0.6**
NEST				AML	AML	13 13 22.7	
	comp=E,412µm,0.4s						
NEST				AML	AML	13 13 23.3	
	comp=N,405µm,0.5s						
NEST	**Nestorio**	**1.37**	**85**	P	**Pb**	**13 12 59.0**	**+0.3**
NEST				S	**Sg**	**13 13 16.6**	**-0.3**
	comp=N,182nm,0.5s						
JAN	**Janina**	**1.38**	**117**	P	**Pn**	**13 12 58.3**	**-0.1**
JAN				S	**Sg**	**13 13 16.6**	**-0.7**
JAN				AML	AML	13 13 21.6	
	comp=E,1301µm,0.5s						
JAN				AML	AML	13 13 21.8	
	comp=N,1206µm,0.5s						
JAN	**Janina**	**1.38**	**117**	P	**Pn**	**13 12 58.3**	**-0.1**
JAN				S	**Sb**	**13 13 16.2**	**-0.4**
	comp=N,628nm,0.5s						
OHR	**Ohrid**	**1.42**	**55**	*i* Pn	**Pb**	**13 12 59.9**	**+0.3**
OHR				*i* Sn	**Sg**	**13 13 21.0**	**+2.5**
PENT	**Pentalofos**	**1.44**	**94**	P	**Pb**	**13 13 00.2**	**+0.3**
PENT	**Pentalofos**	**1.44**	**94**	P	**Pn**	**13 12 58.9**	**-0.4**
PHP	**Peshkopia**	**1.64**	**32**	P	**Pn**	**13 13 02.5**	**+0.5**
PHP				S	**Sb**	**13 13 24.9**	**+0.7**
PHP	**Peshkopia**	**1.64**	**32**	P	**Pg**	**13 13 05.1**	**+0.7**
	baz=31						
PHP				S	**Sg**	**13 13 27.0**	**+1.3**
	baz=31						
PHP				AMP			
	comp=N,0.7nm,0.6s,baz=31						
KPRO	**Kipourio**	**1.65**	**102**	P	**Pn**	**13 13 02.4**	**+0.3**
KPRO				AML	AML	13 13 32.5	
	comp=E,569µm,0.7s						
KPRO				AML	AML	13 13 33.4	
	comp=N,634µm,0.4s						
KPRO	**Kipourio**	**1.65**	**102**	P	**Pn**	**13 13 02.6**	**+0.5**
KPRO				S	**Sb**	**13 13 24.2**	**-0.2**
	comp=N,298nm,0.5s						
FNA	**Florina**	**1.68**	**73**	P	**Pn**	**13 13 02.6**	**+0.1**
FNA				AML	AML	13 13 29.8	
	comp=N,1001µm,0.4s						
FNA				AML	AML	13 13 29.9	
	comp=E,979µm,0.4s						
FNA	**Florina**	**1.68**	**73**	P	**Pn**	**13 13 02.7**	**+0.1**
FNA				S	**Sg**	**13 13 25.8**	**-1.1**
	comp=E,495nm,0.4s						
TSLK	**Tsoukalades, L**	**1.83**	**143**	P	**Pn**	**13 13 04.5**	**0.0**
TSLK				AML	AML	13 13 37.9	
	comp=E,414µm,0.5s						
TSLK				AML	AML	13 13 39.7	
	comp=N,729µm,0.9s						
TSLK	**Tsoukalades, L**	**1.83**	**143**	P	**Pn**	**13 13 05.1**	**+0.6**
LKD2	**Lefkada island**	**1.86**	**144**	P	**Pn**	**13 13 05.2**	**+0.2**
LKD2				AML	AML	13 13 47.2	
	comp=E,394µm,0.8s						
LKD2				AML	AML	13 13 48.3	
	comp=N,354µm,0.6s						
LKD2	**Lefkada island**	**1.86**	**144**	P	**Pn**	**13 13 05.4**	**+0.5**
KZN	**Kozani**	**1.92**	**89**	P	**Pb**	**13 13 07.5**	**-0.6**
KZN				AML	AML	13 13 38.0	
	comp=N,246µm,0.8s						
KZN				AML	AML	13 13 39.5	
	comp=E,384µm,0.5s						
KZN	**Kozani**	**1.92**	**89**	P	**Pb**	**13 13 07.2**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.94**	**145**	P	**Pn**	**13 13 06.1**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.94**	**145**	P	**Pn**	**13 13 06.1**	**+0.1**
EVGI	**Lefkada island**	**2.00**	**147**	P	**Pn**	**13 13 06.9**	**+0.1**
EVGI	**Lefkada island**	**2.00**	**147**	P	**Pn**	**13 13 06.7**	**-0.1**
FSK	**Fiskardo**	**2.10**	**151**	P	**Pn**	**13 13 08.7**	**+0.5**
FSK				AML	AML	13 13 52.6	
	comp=E,230µm,0.6s						
FSK				AML	AML	13 13 56.5	
	comp=N,214µm,1.5s						
FSK	**Fiskardo**	**2.10**	**151**	P	**Pn**	**13 13 08.7**	**+0.5**
BCI	**Bajram Curri**	**2.15**	**16**	P	**Pb**	**13 13 13.4**	**+1.5**
	baz=15						
BCI				S	**Sb**	**13 13 40.0**	**+1.2**
	baz=15						
THL	**Klokotos Trika**	**2.24**	**108**	P	**Pn**	**13 13 10.8**	**+0.7**
THL				AML	AML	13 13 50.8	
	comp=N,172µm,1.0s						
THL				AML	AML	13 13 52.1	
	comp=E,136µm,0.7s						
KEF3	**Kipouria, Keph**	**2.26**	**158**	P	**Pn**	**13 13 10.2**	**-0.3**
VLS	**Valsamata**	**2.36**	**154**	P	**Pn**	**13 13 11.8**	**0.0**
VLS				AML	A

0.3nm,0.7s,baz=220,slow=3.8,SNR=4.2

IDC ***13*** *13:27:36.4±3.3,34°.69S×179°.05W,h0km,mb3.9/3, mb1 4.2/4,mb1mx3.6/37,mbtmp4.0/4,ML4.2/1,MS3.2/2, Ms1 3.2/2,ms1mx2.6/63,Error ellipse: s-maj=76.4km s-min=37.1km az=121.0*

WEL ***13*** *13:27:36.1±0.8,35°.S×9°.×17°.9W±1°.7,h33km,M4.5/14, mB4.7/3,ML4.6/16,MLv4.5/14,Mw(mB)4.0/3,Error ellipse: s-maj=0.0km s-min=0.0km az=115.5*

ISC 13 13:27:33.9±1.7,34°.8S±0°.1×178°.1W±0°.2,h35km,n49, σ1§52/72,mb4.0/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.99**	**225**	P	**Pn**	**13 28 32.5**	**0.0**
MXZ				S	**Sn**	**13 29 15.1**	**-2.9**
WMGZ	**Waiomatatini S**	**4.10**	**222**	P	**Pn**	**13 28 33.8**	**-0.4**
WMGZ				S	**Sn**	**13 29 19.8**	**-1.1**
PKGZ	**Pakihiroa**	**4.34**	**224**	P	**Pn**	**13 28 38.0**	**+0.6**
PKGZ				S	**Sn**	**13 29 25.8**	**-1.1**
PUZ	**Puketiti**	**4.37**	**221**	P	**Pn**	**13 28 38.0**	**+0.2**
PUZ				S	**Sn**	**13 29 25.8**	**-1.8**
HAZ	**Te Kaha**	**4.43**	**227**	P	**Pn**	**13 28 39.7**	**+1.2**
HAZ				S	**Sn**	**13 29 29.2**	**+0.4**
TWGZ	**Tauwhareparae**	**4.60**	**222**	P	**Pn**	**13 28 42.1**	**+1.1**
TWGZ				S	**Sn**	**13 29 33.4**	**+0.2**
RUGZ	**Raukumara Rang**	**4.63**	**226**	P	**Pn**	**13 28 42.4**	**+0.9**
RUGZ				S	**Sn**	**13 29 33.0**	**-0.9**
CNGZ	**Carnagh Statio**	**4.71**	**218**	P	**Pn**	**13 28 43.2**	**+0.8**
CNGZ				S	**Sn**	**13 29 36.5**	**+0.7**
TKGZ	**Te Karaka**	**4.86**	**221**	P	**Pn**	**13 28 45.2**	**+0.7**
TKGZ				S	**Sn**	**13 29 37.7**	**-1.9**
MWZ	**Matawai**	**4.96**	**224**	P	**Pn**	**13 28 46.3**	**+0.3**
MWZ				S	**Sn**	**13 29 39.6**	**-2.5**
RIGZ	**Rimuhau**	**5.10**	**219**	P	**Pn**	**13 28 48.3**	**+0.4**
RIGZ				S	**Sn**	**13 29 45.9**	**+0.3**
URZ	**Urewera**	**5.16**	**227**	Pn	**Pn**	**13 28 49.5**	**+1.0**
	10nm,0.3s,baz=266,slow=2.0,SNR=61						
URZ				Sn	**Sn**	**13 29 43.7**	**-3.1**
	15nm,0.3s,baz=168,slow=14,SNR=13						
URZ	**Urewera**	**5.16**	**227**	P	**Pn**	**13 28 49.1**	**+0.5**
URZ				S	**Sn**	**13 29 44.3**	**-2.5**
MHGZ	**Mahia Peninsul**	**5.38**	**215**	P	**Pn**	**13 28 51.4**	**-0.3**
MHGZ				S	**Sn**	**13 29 50.5**	**-1.8**
SNGZ	**Shannon Statio**	**5.38**	**221**	P	**Pn**	**13 28 52.0**	**+0.3**
SNGZ				S	**Sn**	**13 29 50.1**	**-2.4**
KNZ	**Kokohu**	**5.39**	**217**	P	**Pn**	**13 28 52.3**	**+0.5**
RTZ	**Ruatahuna**	**5.47**	**225**	P	**Pn**	**13 28 53.7**	**+0.8**
RTZ				S	**Sn**	**13 29 52.8**	**-1.8**
GLKZ	**Green Lake**	**5.53**	**2**	P	**Pn**	**13 28 52.1**	**-1.6**
GLKZ				S	**Sn**	**13 29 52.7**	**-3.4**
RAHZ	**Arahi**	**5.62**	**222**	P	**Pn**	**13 28 56.3**	**+1.3**
RAHZ				S	**Sn**	**13 29 56.2**	**-2.0**
MTHZ	**Maungataniwha**	**5.71**	**223**	P	**Pn**	**13 28 58.3**	**+2.1**
MTHZ				S	**Sn**	**13 29 59.3**	**-1.2**
NMHZ	**Naumai**	**5.90**	**222**	P	**Pn**	**13 29 00.4**	**+1.6**
NMHZ				S	**Sn**	**13 30 03.8**	**-1.5**
BKZ	**Black Stump Fm**	**6.12**	**223**	P	**Pn**	**13 29 02.3**	**+0.4**
BKZ				S	**Sn**	**13 30 08.3**	**-2.5**
HATZ	**Hinemaiaia**	**6.17**	**227**	P	**Pn**	**13 29 03.4**	**+0.8**
HATZ				S	**Sn**	**13 30 08.5**	**-3.5**
MCHZ	**McNeill Hill**	**6.21**	**220**	P	**Pn**	**13 29 04.1**	**+1.0**
MCHZ				S	**Sn**	**13 30 11.1**	**-1.7**
KWHZ	**Kaweka Forest**	**6.34**	**222**	P	**Pn**	**13 29 05.7**	**+0.6**
KWHZ				S	**Sn**	**13 30 12.7**	**-3.4**
KAHZ	**Kahuranaki**	**6.38**	**217**	P	**Pn**	**13 29 05.6**	**+0.2**
KAHZ				S	**Sn**	**13 30 14.1**	**-2.8**
KRHZ	**Kereru**	**6.53**	**221**	P	**Pn**	**13 29 07.7**	**+0.3**
TMVZ	**Te Maari**	**6.55**	**227**	P	**Pn**	**13 29 08.8**	**+1.0**
NTVZ	**North Tongariro**	**6.55**	**227**	P	**Pn**	**13 29 08.7**	**+0.8**
ETVZ	**East Tongariro**	**6.56**	**227**	P	**Pn**	**13 29 08.5**	**+0.6**
PXZ	**Pawanui**	**6.56**	**216**	P	**Pn**	**13 29 08.1**	**+0.2**
BHHZ	**Black Hill Sta**	**6.59**	**223**	P	**Pn**	**13 29 08.9**	**+0.6**
OTVZ	**Oturere**	**6.60**	**227**	P	**Pn**	**13 29 09.0**	**+0.4**
NNVZ	**North Ngauruho**	**6.61**	**227**	P	**Pn**	**13 29 10.0**	**+1.3**
WTVZ	**West Tongariro**	**6.62**	**228**	P	**Pn**	**13 29 10.1**	**+1.3**
SNVZ	**South Ngauruho**	**6.63**	**227**	P	**Pn**	**13 29 09.6**	**+0.5**
NGZ	**Ngauruhoe**	**6.65**	**227**	P	**Pn**	**13 29 11.2**	**+1.9**
MOVZ	**Moawhango**	**6.71**	**225**	P	**Pn**	**13 29 10.0**	**0.0**
WNVZ	**Wahianoa**	**6.75**	**226**	P	**Pn**	**13 29 11.0**	**+0.4**
DVHZ	**Dannevirke**	**7.11**	**218**	P	**Pn**	**13 29 16.0**	**+0.5**
VRZ	**Vera Road**	**7.14**	**231**	P	**Pn**	**13 29 17.5**	**+1.6**
PRWZ	**Pori Road**	**7.40**	**217**	P	**Pn**	**13 29 19.7**	**+0.3**
HOWZ	**Holdsworth Sta**	**7.89**	**218**	P	**Pn**	**13 29 25.2**	**-0.9**
AFI	**Afiamalu**	**21.58**	**17**	LR	LR	13 43 51.1	
	comp=Z,27nm,18.2s,baz=102,slow=45						
HNR	**Honiara**	**32.25**	**316**	LR	LR	13 43 30.4	
	comp=Z,80nm,18.7s,baz=50,slow=30						
ASAR	**Alice Springs**	**42.95**	**272**	P	**P**	**13 35 31.1**	**+1.4**
	0.7nm,0.5s,baz=116,slow=7.5,SNR=14						
WRA	**Warramunga Arr**	**44.33**	**277**	P	**P**	**13 35 42.0**	**+1.3**
	1.7nm,0.5s,baz=118,slow=7.7,SNR=5.5						
FITZ	**Fitzroy Crossi**	**52.38**	**273**	P	**P**	**13 36 44.7**	**+1.9**
	1.8nm,1.0s,baz=121,slow=5.9,SNR=1.3						
FINES	**FINESS Array B**	**149.20**	**337**	PKPbc	**PKPab**	**13 47 24.3**	**+1.9**
	1.8nm,0.9s,baz=359,slow=5.7,SNR=3.8						

WEL 13 13:37:25.5,43°.S±2°.×17°.3E±°.,h6km±2km,M3.4/12, ML3.6/12,MLv3.4/12,Error ellipse: s-maj=0.0km s-min=0.0km az=57.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.24**	**184**	P	Pg	13 37 32.4	+2.2
MQZ				S	Sg	13 37 36.4	+2.9
AMCZ	**Amberley**	**0.29**	**356**	P	Pb	13 37 33.1	+0.1
OKCZ	**Okains Bay**	**0.38**	**133**	P	Pb	13 37 34.7	0.0
AKCZ	**Akaroa Harbour**	**0.44**	**158**	P	Pb	13 37 36.0	+0.3
RACZ	**Rakaia**	**0.47**	**236**	P	Pn	13 37 37.6	-1.2
OXZ	**Oxford**	**0.49**	**286**	P	Pb	13 37 37.3	+0.9
OXZ				S	Sb	13 37 45.0	+1.1
GVZ	**Greta Valley S**	**0.56**	**28**	P	Pb	13 37 37.9	+0.2
LTZ	**Lake Taylor**	**0.74**	**336**	P	Pn	13 37 41.8	-0.8
LTZ				S	Sb	13 37 52.2	+0.9
WACZ	**Wakanui South**	**0.78**	**231**	P	Pn	13 37 43.4	+0.4
MHCZ	**Mount Hutt**	**0.81**	**265**	P	Pn	13 37 44.4	+0.9
INZ	**Inchbonnie**	**1.17**	**309**	P	Pn	13 37 48.6	+0.3
ARCZ	**Arundel**	**1.19**	**246**	P	Pn	13 37 49.1	+0.4
RPZ	**Rata Peaks**	**1.21**	**257**	P	Pn	13 37 49.5	+0.5
RPZ				S	Sn	13 38 06.2	+0.6
KHZ	**Kahutara**	**1.22**	**31**	P	Pg	13 37 48.0	-0.9
WVZ	**Waitaha Valley**	**1.47**	**285**	P	Pg	13 37 53.9	+0.2
THZ	**Tophouse**	**1.71**	**6**	P	Pn	13 37 55.8	-0.1
GCSZ	**Gaunt Creek Bo**	**1.72**	**274**	P	Pg	13 37 58.1	-0.4
DSZ	**Denniston Nort**	**1.83**	**339**	P	Pn	13 37 58.0	+0.4
BSWZ	**Blackbirch Sta**	**1.96**	**27**	P	Pn	13 37 59.0	-0.2
BSWZ				S	Sn	13 38 23.1	-1.0
LBZ	**Lake Benmore**	**2.02**	**242**	P	Pb	13 38 01.5	-1.2
CMWZ	**Cape Campbell**	**2.05**	**34**	P	Pn	13 38 01.0	+0.4
FOZ	**Fox Glacier**	**2.08**	**267**	P	Pb	13 38 03.3	-0.4
FOZ				S	Sb	13 38 29.6	-0.2
ODZ	**Otahua Downs**	**2.15**	**222**	P	Pn	13 38 02.4	+0.5
TUWZ	**Tuamarina**	**2.24**	**25**	P	Pn	13 38 02.5	-0.6
NNZ	**Nelson**	**2.30**	**13**	P	Pn	13 38 04.2	+0.3
TCW	**Tory Channel**	**2.54**	**28**	P	Pn	13 38 06.2	-1.0
BHW	**Baring Head**	**2.62**	**39**	P	Pn	13 38 07.0	-1.3
QRZ	**Quartz Range**	**2.64**	**358**	P	Pn	13 38 08.5	-0.1
MSWZ	**Moikau Station**	**2.79**	**44**	P	Pn	13 38 08.3	-2.4
MSWZ				S	Sn	13 38 40.8	-4.0
DUWZ	**D'Urville Isla**	**2.81**	**20**	P	Pn	13 38 10.8	-0.2
JCZ	**Jackson Bay**	**2.88**	**256**	P	Pn	13 38 13.1	+1.0
CAW	**Cannon Point**	**2.95**	**38**	P	Pn	13 38 11.4	-1.4
CAW				S	Sn	13 38 45.0	-3.5
WKZ	**Wanaka**	**2.97**	**241**	P	Pn	13 38 14.5	+1.4
EAZ	**Earnscleugh**	**3.00**	**233**	P	Pn	13 38 14.2	+0.7
TRWZ	**Traveller**	**3.04**	**48**	P	Pn	13 38 14.4	+0.4
TRWZ				S	Sn	13 38 46.8	-4.0
KIW	**Kapiti Island**	**3.08**	**33**	P	Pn	13 38 13.6	-1.1
MTW	**Mount Morrison**	**3.11**	**43**	P	Pn	13 38 13.3	-1.8
OGWZ	**Otaki Gorge**	**3.23**	**36**	P	Pn	13 38 15.2	-1.5
TUZ	**Tuapeka**	**3.31**	**220**	P	Pn	13 38 18.2	+0.5
MRZ	**Mangatainoka R**	**3.54**	**39**	P	Pn	13 38 19.7	-1.3
TIWZ	**Tintock**	**3.59**	**43**	P	Pn	13 38 20.0	-1.7
MLZ	**Mavora Lakes**	**3.78**	**238**	P	Pn	13 38 25.0	+0.7
BFZ	**Birch Farm**	**3.84**	**45**	P	Pn	13 38 23.1	-2.1
SYZ	**Scrubby Hill**	**3.97**	**218**	P	Pn	13 38 27.8	+1.0
DVHZ	**Dannevirke**	**4.10**	**41**	P	Pn	13 38 27.1	-1.6
PREZ	**Palmer Road**	**4.26**	**16**	P	Pn	13 38 32.4	+1.4
KHEZ	**Kahui Hut**	**4.28**	**14**	P	Pn	13 38 32.9	+1.6
NBEZ	**Newall Road No**	**4.29**	**12**	P	Pn	13 38 32.6	+1.3
PKE	**Pukeiti**	**4.38**	**13**	P	Pn	13 38 34.0	+1.4
DREZ	**Durham Road**	**4.42**	**16**	P	Pn	13 38 34.4	+1.3
VRZ	**Vera Road**	**4.61**	**21**	P	Pn	13 38 36.4	+0.8
PKVZ	**Pokaka**	**4.63**	**27**	P	Pn	13 38 37.0	+1.0
MOVZ	**Moawhango**	**4.67**	**31**	P	Pn	13 38 36.7	+0.2
WNVZ	**Wahianoa**	**4.68**	**29**	P	Pn	13 38 37.0	+0.2
TRVZ	**Turoa**	**4.69**	**28**	P	Pn	13 38 37.8	+0.8
BHHZ	**Black Hill Sta**	**4.71**	**34**	P	Pn	13 38 36.3	-0.9
WHVZ	**Whangaehu Hut**	**4.71**	**29**	P	Pn	13 38 38.0	+0.6
FWVZ	**Far West T-bar**	**4.73**	**28**	P	Pn	13 38 37.9	+0.4
TUVZ	**Tukino**	**4.75**	**29**	P	Pn	13 38 38.4	+0.6
NGZ	**Ngauruhoe**	**4.81**	**28**	P	Pn	13 38 37.7	-1.0
SNVZ	**South Ngauruho**	**4.82**	**29**	P	Pn	13 38 39.2	+0.4
OTVZ	**Oturere**	**4.85**	**29**	P	Pn	13 38 38.7	-0.5
NNVZ	**North Ngauruho**	**4.86**	**28**	P	Pn	13 38 39.4	+0.1
WTVZ	**West Tongariro**	**4.87**	**28**	P	Pn	13 38 38.9	-0.4
ETVZ	**East Tongariro**	**4.89**	**29**	P	Pn	13 38 39.9	+0.2
TMVZ	**Te Maari**	**4.91**	**29**	P	Pn	13 38 39.8	-0.1
NTVZ	**North Tongarir**	**4.91**	**28**	P	Pn	13 38 40.3	+0.4
KWHZ	**Kaweka Forest**	**4.92**	**36**	P	Pn	13 38 39.3	-0.7
BKZ	**Black Stump Fm**	**5.17**	**35**	P	Pn	13 38 41.5	-1.8
HIZ	**Hauiti**	**5.21**	**19**	P	Pn	13 38 44.1	+0.1
MWZ	**Matawai**	**6.30**	**37**	P	Pn	13 38 56.0	-3.0
HAZ	**Te Kaha**	**6.90**	**36**	P	Pn	13 39 04.1	-2.9

IDC ***13*** *13:41:17.3±1.3,12°.23N×119°.90E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.5/54,mbtmp3.6/8,ML4.9/1,Error ellipse: s-maj=34.2km s-min=28.9km az=69.0*

MAN ***13*** *13:41:28.4,14°.57N×119°.59E,h1km,mb5.1,ML4.1,MS4.2, Hypocentre not reviewed by the ISC*

ISC 13 13:41:28.9±0.9,14°.57N±0°.07×119°.57E±0°.07,h10km,n14, σ1§39/17,mb3.7/7,4C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**1.06**	**142**	*eP*	**Pn**	**13 41 49.5**	**-0.3**
LUBP				*eS*	**Sb**	**13 42 02.4**	**-0.9**
TGY	**Tagaytay City**	**1.40**	**109**	Pn	**Pg**	**13 41 55.1**	**-0.7**
	380nm,0.3s,baz=298,slow=3.3,SNR=22						
TGY				Sn	**Sg**	**13 42 18.0**	**+3.9**
	374nm,0.3s,baz=92,slow=15,SNR=5.8						
TGY	**Tagaytay City**	**1.40**	**109**	*eP*	**Pg**	**13 41 55.1**	**-0.7**
TGY				*i* S	**Sb**	**13 42 11.6**	**-1.6**
PGP	**Puerto Galera**	**1.71**	**128**	*eP*	**Pn**	**13 41 58.7**	**-0.1**
PGP				*i* S	**Sg**	**13 42 25.0**	**+1.1**
PCPH	**Palayan**	**1.77**	**56**	*eP*	**Pb**	**13 42 00.6**	**-0.9**
PCPH				*eS*	**Sb**	**13 42 23.5**	**-0.3**
LQP	**Lukban**	**1.96**	**103**	*eP*	**Pn**	**13 42 02.8**	**+0.4**
LQP				*i* S	**Sb**	**13 42 28.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**20.15**	**284**	P	**P**	**13 46 05.0**	**+1.5**
	0.3nm,0.3s,baz=272,slow=34,SNR=2.8						
SONM	**Songino Array**	**34.92**	**344**	P	P	13 48 32.1	+11
	0.2nm,0.4s,baz=116,slow=3.4,SNR=1.8						
MKAR	**Makanchi Array**	**44.69**	**324**	P	P	13 49 48.6	+6.6
	0.3nm,0.8s,baz=104,slow=18,SNR=2.5						
STKA	**Stephens Creek**	**50.78**	**156**	P	P	13 50 03.0	-26
	0.5nm,0.4s,baz=46,slow=15,SNR=3.0						
ILAR	**Eielson Array**	**78.45**	**26**	P	**P**	**13 53 29.7**	**-0.1**
	0.3nm,0.6s,baz=319,slow=32,SNR=2.3						
FINES	**FINESS Array B**	**79.00**	**331**	P	**P**	**13 53 34.0**	**+1.2**
	0.9nm,0.8s,baz=216,slow=35,SNR=1.9						
NOA	**NORSAR Array B**	**85.99**	**332**	P	**P**	**13 54 08.6**	**-0.8**
	0.4nm,0.7s,baz=67,slow=4.7,SNR=1.6						
YKA	**Yellowknife Ar**	**92.39**	**22**	P	**P**	**13 54 39.1**	**-0.5**
	0.3nm,0.6s,baz=308,slow=4.2,SNR=8.3						

IDC 13 13:43:33.5±1.9,0°.04N×122°.99E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/43,mbtmp3.5/3,Error ellipse: s-maj=247.9km s-min=27.3km az=62.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.76**	**151**	P	P	13 48 37.8	+0.2
	0.6nm,0.3s,baz=322,slow=12,SNR=38						
ASAR	**Alice Springs**	**25.84**	**157**	P	P	13 49 06.9	0.0
	0.4nm,0.3s,baz=334,slow=7.4,SNR=28						
MKAR	**Makanchi Array**	**58.57**	**328**	P	P	13 53 31.8	-0.3
	0.2nm,0.6s,baz=142,slow=7.3,SNR=1.6						

IDC ***13*** *13:51:22.7±1.2,21°.82N×121°.77E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.4/58,mbtmp3.7/7,Error ellipse: s-maj=56.8km s-min=17.8km az=59.0*

TAP ***13*** *13:51:24.1,21°.94N×121°.41E,h8km,ML3.5,D*

ISC 13 13:51:25.2±0.8,21°.97N±0°.04×121°.50E±0°.03,h17km±5km, n109,σ1§29/141,mb3.6/7,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.08**	**36**	*i* P	**Pg**	**13 51 28.4**	**-0.2**
	baz=54						
LAY				S	**Sg**	**13 51 31.5**	**+0.5**
	baz=54						
LYUB	**Lan-yu**	**0.09**	**69**	*i* P	**Pg**	**13 51 28.4**	**-0.3**
	baz=68						
LYUB				*i* S	**Sg**	**13 51 31.1**	**+0.2**
	baz=68						
TSEB	**Hengchuen, Pin**	**0.56**	**263**	*i* P	**Pg**	**13 51 36.6**	**+0.2**
	baz=264						
TSEB				*i* S	**Sg**	**13 51 45.7**	**+1.8**
	baz=264						
SMST	**Manzhou Townsh**	**0.61**	**275**	*i* P	**Pg**	**13 51 36.8**	**-0.6**
	baz=277						
SMST				S	**Sg**	**13 51 45.2**	**-0.4**
	baz=277						
TWKBT	**Hengchun**	**0.64**	**267**	*i* P	**Pg**	**13 51 36.7**	**-1.1**
	baz=268						
TWKBT				S	**Sg**	**13 51 45.7**	**-0.6**
	baz=268						
TAWH	**Dawu Township**	**0.67**	**303**	*i* P	**Pg**	**13 51 37.7**	**-0.8**
	baz=312						
TAWH				S	**Sg**	**13 51 47.0**	**-0.5**
	baz=312						
TAW	**Tawu**	**0.68**	**305**	*eP*	**Pg**	**13 51 37.6**	**-1.0**
	baz=314						
TAW				*eS*	**Sg**	**13 51 47.3**	**-0.3**
	baz=314						
SLIU	**Shizi**	**0.69**	**291**	P	**Pg**	**13 51 37.9**	**-1.0**
	baz=298						
SLIU				*eS*	**Sg**	**13 51 47.2**	**-0.9**
	baz=298						
LDUT	**Ludao**	**0.70**	**358**	*i* P	**Pg**	**13 51 37.5**	**-1.4**
	baz=21						
HEN	**Hengchun**	**0.71**	**273**	*i* P	**Pg**	**13 51 38.1**	**-1.0**
	baz=275						
HEN				S	**Sg**	**13 51 47.8**	**-0.7**
	baz=275						
EAST	**Anshuo**	**0.73**	**304**	*i* P	**Pg**	**13 51 38.5**	**-1.1**
	baz=313						
EAST				S	**Sg**	**13 51 48.3**	**-0.9**
	baz=313						
ECL	**Taimali**	**0.80**	**321**	P	**Pb**	**13 51 39.4**	**-1.3**
	baz=331						
ECL				*eS*	**Sb**	**13 51 49.5**	**-1.8**
	baz=331						
TTN	**Taitung**	**0.84**	**337**	*eP*	**Pb**	**13 51 40.8**	**-0.6**
	baz=2.0						
TWGBT	**Beinan**	**0.93**	**335**	*i* P	**Pb**	**13 51 41.8**	**-1.0**
	baz=327						
TWGBT				*eS*	**Sb**	**13 51 54.1**	**-0.7**
	baz=327						
TWG	**Pinlang**	**0.93**	**335**	*i* P	**Pb**	**13 51 41.8**	**-1.2**
	baz=327						
TWG				*eS*	**Sb**	**13 51 54.7**	**-0.4**
	baz=327						
LONT	**Longtian**	**0.99**	**340**	*eP*	**Pb**	**13 51 42.3**	**-1.6**
	baz=332						
LONT				*eS*	**Sb**	**13 51 58.0**	**+1.2**
	baz=332						
SSPT	**Xinbi**	**1.00**	**301**	*eP*	**Pb**	**13 51 44.4**	**+0.3**
	baz=326						
EDH	**Donghe**	**1.01**	**350**	P	**Pb**	**13 51 43.1**	**-1.2**
	baz=11						
EDH				*eS*	**Sb**	**13 51 56.5**	**-0.8**
	baz=11						
MASBT	**Mashibuluo**	**1.02**	**309**	P	**Pb**	**13 51 43.3**	**-1.2**
	baz=327						
MASBT				*eS*	**Sb**	**13 51 56.7**	**-0.9**
	baz=327						
TSMG	**Majia**	**1.08**	**313**	*eP*	**Pn**	**13 51 44.3**	**-1.2**
	baz=332						
TSMG				*eS*	**Sb**	**13 51 57.3**	**-1.9**
	baz=332						
WLCH	**Liuqiu**	**1.10**	**290**	*eP*	**Pn**	**13 51 46.9**	**+1.0**
	baz=298						
SSD	**Sandimen**	**1.11**	**314**	*eP*	**Pn**	**13 51 46.4**	**+0.4**
	baz=332						
SSD				*eS*	**Sb**	**13 52 00.8**	**+0.6**
	baz=332						
CHKT	**Chengkung**	**1.13**	**354**	P	**Pn**	**13 51 44.0**	**-2.2**
	baz=12						
CHKT				*eS*	**Sb**	**13 51 59.1**	**-1.6**
	baz=12						
SGLT	**Jiouru**	**1.20**	**309**	*eP*	**Pn**	**13 51 48.7**	**+1.5**
	baz=331						
FULB	**Fuli**	**1.24**	**351**	P	**Pn**	**13 51 46.2**	**-1.6**
	baz=11						
FULB				*eS*	**Sb**	**13 52 03.0**	**-0.9**
	baz=11						
ELDTW	**Lidau**	**1.29**	**340**	*eP*	**Pn**	**13 51 47.9**	**-0.7**
	baz=348						
SCST	**Cishan**	**1.30**	**315**	*eP*	**Pn**	**13 51 49.8**	**+1.2**
	baz=336						
STYH	**Taoyuan**	**1.37**	**331**	*eP*	**Pn**	**13 51 49.8**	**+0.3**
	baz=351						
EYUL	**Yuli**	**1.38**	**353**	*eP*	**Pn**	**13 51 49.1**	**-0.6**
	baz=345						
EYUL				*eS*	**Sn**	**13 52 07.5**	**0.0**
	baz=345						
SGST	**Jiashian**	**1.39**	**323**	*i* P	**Pn**	**13 51 50.6**	**+0.7**
	baz=338						
YULB	**Yu-li**	**1.43**	**353**	*i* P	**Pn**	**13 51 49.3**	**-1.1**
	baz=9.0						
SHHT	**Tainan City**	**1.49**	**315**	*eP*	**Pn**	**13 51 52.9**	**+1.6**
	baz=324						
CHN1	**Nanshi**	**1.50**	**324**	P	**Pn**	**13 51 52.8**	**+1.4**
	baz=333						
CHN1				*eS*	**Sb**	**13 52 13.8**	**+2.3**
	baz=333						
WTP	**Ta-pu**	**1.51**	**327**	*eP*	**Pn**	**13 51 52.8**	**+1.2**
	baz=351						
WTP				*eS*	**Sn**	**13 52 13.0**	**+2.1**
	baz=351						
HGSD	**Ruisui**	**1.52**	**357**	*eP*	**Pn**	**13 51 49.8**	**-1.7**
	baz=13						
CHN3	**Shinhua**	**1.52**	**317**	*eP*	**Pb**	**13 51 54.0**	**+1.1**
	baz=326						
EHY	**Hungye**	**1.54**	**354**	P	**Pn**	**13 51 50.7**	**-1.2**
	baz=348						
EHY				*eS*	**Sn**	**13 52 11.2**	**-0.2**
	baz=348						
TPUB	**Ta-pu**	**1.55**	**329**	P	**Pn**	**13 51 52.8**	**+0.7**
	baz=334						
SNST	**Tainan City**	**1.55**	**324**	*eP*	**Pb**	**13 51 54.4**	**+1.0**
	baz=334						
SNST				*eS*	**Sb**	**13 52 14.9**	**+2.1**
	baz=334						
TWK	**Hsinying**	**1.59**	**324**	P	**Pn**	**13 51 53.7**	**+1.1**
	baz=334						
CHN4	**Tsaushan**	**1.61**	**329**	P	**Pn**	**13 51 54.5**	**+1.7**
	baz=338						
ALS	**Alishan**	**1.66**	**337**	*eP*	**Pn**	**13 51 54.2**	**+0.4**
	baz=356						
EGFH	**Guangfu**	**1.69**	**358**	*eP*	**Pn**	**13 51 52.9**	**-1.1**
	baz=13						
ICHU	**Yijhu**	**1.78**	**321**	*eP*	**Pn**	**13 51 55.6**	**+0.4**
	baz=331						
CHN5	**Tsauling**	**1.79**	**335**	P	**Pn**	**13 51 56.8**	**+1.5**
	baz=344						
VWDT	**VWDT**	**1.80**	**350**	*eP*	**Pn**	**13 51 55.2**	**-0.3**
	baz=7.0						
CHN8	**Yiju**	**1.81**	**319**	*eP*	**Pn**	**13 51 56.9**	**+1.2**
	baz=329						
CHY	**Chiayi**	**1.81**	**327**	*eP*	**Pn**	**13 51 55.4**	**-0.2**
	baz=337						
ESL	**Shilin**	**1.83**	**358**	*eP*	**Pn**	**13 51 55.4**	**-0.6**
	baz=14						
ESL				*eS*	**Sn**	**13 52 20.5**	**+1.7**
	baz=14						
SSLB	**Suanglung**	**1.88**	**345**	*eP*	**Pn**	**13 51 57.2**	**+0.7**
	baz=353						
WDLH	**Douliu**	**1.93**	**333**	*eP*	**Pn**	**13 51 57.6**	**+0.4**
	baz=343						
WDLH				*eS*	**Sn**	**13 52 23.3**	**+2.3**
	baz=343						
WSL	**Shuilin Townsh**	**1.94**	**323**	P	**Pn**	**13 51 58.0**	**+0.7**
	baz=333						
WSL				*eS*	**Sn**	**13 52 21.6**	**+0.3**
	baz=333						
WJS	**Zhushan**	**1.97**	**339**	*eP*	**Pn**	**13 51 59.8**	**+1.9**
	baz=348						
SMLT	**Sun Moon Lake**	**1.98**	**344**	*eP*	**Pn**	**13 51 59.4**	**+

FUSB	**Fushanzhiwuyua**	**2.78**	**2**	*e*P	**Pn**	**13 52 10.1**	**+1.2**
	baz=9.0							
NWLT	**Wulai**	**2.79**	**0**	*e*P	**Pn**	**13 52 10.3**	**+1.2**
	baz=9.0							
NWLT				*e*S	**Sn**	**13 52 43.5**	**+1.0**
	baz=9.0							
TIPB	**Shuangxi**	**3.00**	**6**	*e*P	**Pn**	**13 52 13.1**	**+1.1**
	baz=23							
TIPB				*e*S	**Sn**	**13 52 50.7**	**+3.0**
	baz=23							
NWF	**Wu-fen Shan**	**3.10**	**5**	*e*P	**Pn**	**13 52 14.5**	**+1.1**
	baz=4.0							
NWF				*e*S	**Sn**	**13 52 51.4**	**+1.3**
	baz=4.0							
SXI1	**Grass Mountain**	**3.13**	**6**	*e*P	**Pn**	**13 52 14.9**	**+1.1**
	baz=4.0							
VWUC	**VWUC**	**3.55**	**328**	*e*P	**Pn**	**13 52 19.3**	**-0.1**
	baz=337							
KNM	**Kinmen**	**3.73**	**311**	*e*P	**Pn**	**13 52 22.2**	**+0.3**
	baz=320							
KNMB	**Chin-men Tao**	**3.79**	**312**	*e*P	**Pn**	**13 52 22.6**	**-0.2**
	baz=321							
ZPLA	**Ao Xicun**	**3.97**	**300**	*e*P	**Pn**	**13 52 24.5**	**-0.8**
	baz=309							
AXDP	**Jialang**	**4.36**	**313**	*e*P	**Pn**	**13 52 30.3**	**-0.4**
	baz=322							
MATB	**Ma-tsu**	**4.40**	**341**	*e*P	**Pn**	**13 52 31.7**	**+0.5**
	baz=350							
CMAR	**Chiang Mai Arr**	**21.45**	**265**	P	**P**	**13 56 15.3**	**+2.5**
	0.3nm,0.4s,baz=72,slow=8.1,SNR=5.0							
MKAR	**Makanchi Array**	**40.14**	**318**	P	**P**	**13 59 03.2**	**+3.0**
	0.9nm,0.7s,baz=106,slow=7.7,SNR=5.2							
ZALV	**Zalesovo Beam**	**42.26**	**328**	P	**P**	**13 59 19.9**	**+2.4**
	2.3nm,0.7s,baz=122,slow=7.3,SNR=8.7							
H11N1	**WAKE ISLAND Hy**	**42.37**	**84**	T	T	14 44 34.6		
	baz=282,slow=75,SNR=8.6							
H11N2	**WAKE ISLAND Hy**	**42.37**	**84**	T	T	14 44 25.3		
	baz=282,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	**42.38**	**84**	T	T	14 44 26.4		
	baz=282,slow=75,SNR=16							
H11S3	**WAKE ISLAND Hy**	**42.43**	**86**	T	T	14 44 28.8		
	baz=282,slow=75,SNR=32							
H11S1	**WAKE ISLAND Hy**	**42.44**	**86**	T	T	14 44 31.0		
	baz=282,slow=75,SNR=28							
H11S2	**WAKE ISLAND Hy**	**42.45**	**86**	T	T	14 44 29.2		
	baz=282,slow=75,SNR=30							
WRA	**Warramunga Arr**	**43.51**	**162**	P	**P**	**13 59 25.5**	**-2.4**
	0.7nm,0.7s,baz=343,slow=9.0,SNR=9.5							
KURBB	**Kurchatov Arra**	**43.99**	**321**	P	**P**	**13 59 32.8**	**+1.2**
	0.4nm,0.6s,baz=117,slow=7.8,SNR=4.2							
ASAR	**Alice Springs**	**46.94**	**164**	P	**P**	**13 59 53.8**	**-1.4**
	0.3nm,0.4s,baz=345,slow=7.7,SNR=15							
STKA	**Stephens Creek**	**56.90**	**160**	P	**P**	**14 01 08.4**	**-0.9**
	0.9nm,0.6s,baz=310,slow=6.4,SNR=3.7							

IDC 13 13:53:26.1±865.0, 53°26N×33°44E, h0km, Error ellipse: s-maj=349.5km s-min=89.4km az=34.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.09**	**31**	*i*		14 20 20.0	
	baz=214,slow=316,SNR=1.7						
I31KZ	**AKTYUBINSK INF**	**15.45**	**91**	*i*		15 23 50.0	
	baz=291,slow=324,SNR=2.7						
I46RU	**ZALESOVO INFRA**	**29.95**	**68**	*i*		16 57 20.0	
	baz=291,slow=327,SNR=1.5						

BGR ***13*** *13:55:13.9±0.0, 22°.39N×95°.27E, h146km±11km, mb7.4*

NEIC ***13*** *13:55:17.8±2.1, 23°.09N±0°.06×94°.87E±0°.07, h136km±1km, mb6.9/274, Mwb6.9/18, Mwc6.9/142, Mww6.9, Error ellipse: s-maj=11.9km s-min=9.7km az=224.0*

MOS ***13*** *13:55:17.6±1.0, 23°.03N×94°.96E, h159km, mb7.0/131, MS6.4/19, Error ellipse: s-maj=5.5km s-min=2.9km az=122.3 Broadband fault plane solution: P waves. NP1:φ=271.00000°, δ59.00000°, λ73.00000°. NP2: φ=121.00000°, δ35.00000°, λ115.00000°. Principal axes: T Plg71.0000°, Azm142.0000°; N Plg14.0000°, Azm279.0000°; P Plg12.0000°, Azm13.0000°;*

BJI ***13*** *13:55:17.0±0.0, 23°.14N×94°.86E, h130km, mb6.6/82, mB7.3/64*

NEIC ***13*** *13:55:17.7, 23°.13N×94°.89E, h139km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr2.28; Mθθ-2.31; Mφφ 0.03; Mrθ-1.60; Mrφ 0.96; Mθφ-0.64; Fault plane solution: M₀ 3.03000×10¹⁹ NP1:φ=267.85000°, δ62.80000°, λ66.69000°. NP2:φ=131.17000°, δ35.23000°, λ127.60000°. Principal axes: T 3.0612, Plg64.0000°, Azm138.0000°; N -0.0655, Plg21.0000°, Azm279.0000°; P -2.9956, Plg15.0000°, Azm15.0000°;*

NEIC ***13*** *13:55:19, 23°.13N×94°.57E, h140km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10¹⁹Nm; Mrr2.35; Mθθ-2.49; Mφφ 0.14; Mrθ-1.40; Mrφ 0.83; Mθφ-0.75; Fault plane solution: M₀ 3.01000×10¹⁹ NP1: φ=127.00000°, δ37.00000°, λ126.00000°. NP2: φ=265.00000°, δ61.00000°, λ66.00000°. Principal axes: T 3.0341, Plg65.0000°, Azm131.0000°; N -0.0462, Plg21.0000°, Azm277.0000°; P -2.9879, Plg13.0000°, Azm12.0000°;*

IDC ***13*** *13:55:19.7±0.3, 23°.11N×94°.89E, h156km±2km, mb6.3/51, mb1 6.3/51, mb1mx6.3/53, mbtmp6.8/51, MS6.3/54, Ms1 6.3/54, ms1mx6.2/96 Error ellipse: s-maj=5.4km s-min=4.3km az=46.0*

NDI ***13*** *13:55:19.5±3.5, 23°.10N×94°.66E, h130km, mb6.9, ML7.0, mb6.9(NEIC)*

GCMT ***13*** *13:55:19.8±0.0, 23°.02N×94°.78E, h150km, MW6.9/172, Moment Tensor Solution. s167,c445; s172,c862; Duration: 7s2 Moment tensor: Scale 10¹⁹Nm; Mrr2.48±.01; Mθθ-2.74±.01; Mφφ 0.25±.01; Mrθ-1.30±.01; Mθφ 1.10±.01; Mrφ-0.57±.01; Best double couple: M₀ 3.16700×10¹⁹ NP1:φ=129.00000°, δ39.00000°, λ124.00000°. NP2:φ=269.00000°, δ59.00000°, λ66.00000°. Principal axes: T 3.0330, Plg67.0000°, Azm132.0000°; N 0.2660, Plg20.0000°, Azm281.0000°; P -3.3020, Plg11.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *13:55:32.7, 23°.54N×94°.68E, h131km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr2.55; Mθθ-2.66; Mφφ 0.11; Mrθ-1.08; Mθφ 1.03; Mrφ-0.58; Fault plane solution: M₀ 3.06000×10¹⁹ NP1:φ=270.14000°, δ56.40000°, λ67.45000°. NP2:φ=127.02000°, δ39.72000°, λ119.99000°. Principal axes: T 2.9804, Plg69.0000°, Azm130.0000°; N 0.1507, Plg19.0000°, Azm283.0000°; P -3.1311, Plg9.0000°, Azm16.0000°;*

ISC 13 13:55:18.5±0.2, 23°.11N±0°.02×94°.85E±0°.02, h151km±1km, h152km; pP-P, n2926, σ1§64/3626, mb6.9/545, 1048C-220D, Fault plane solution: NP1:φ=281.20700°, δ43.87102°, λ62.84721°. NP2:φ=136.63713°, δ51.92740°, λ113.68829°.
Principal axes: T Plg71.0493°, Azm107.6559°; N Plg18.4380°, Azm301.4985°; P Plg4.2271°, Azm210.0865°; **Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**2.69**	**346**	*e*P	**Pn**	**13 56 03.3**	**+1.1**
KOHI				*e*S	**Sn**	**13 56 34.0**	**-2.0**
KOHI				IAML		13 56 47.8	
	comp=E,409μm,0.8s						
KOHI				IAML		13 56 48.0	
	comp=N,441μm,0.6s						
BRDH	**Bariadhala**	**2.99**	**262**	P	**Pn**	**13 56 04.2**	**-1.7**
	comp=N,68nm,0.3s,baz=180,slow=24,SNR=229						
BRDH				S	**Sn**	**13 56 34.9**	**-7.5**
	comp=N,14μm,0.3s,baz=90,slow=24,SNR=182						
BELO	**BELONIA**	**3.14**	**273**	*e*P	**Pn**	**13 56 06.8**	**-0.9**
BELO				*e*S	**Sn**	**13 56 42.5**	**-3.2**
MOKO	**MOKOCHONG**	**3.21**	**355**	*e*P	**Pn**	**13 56 10.7**	**+1.9**
MOKO				*e*S	**Sn**	**13 56 46.6**	**-1.2**
MOKO				IAML		13 56 48.9	
	comp=E,320μm,0.4s						
MOKO				IAML		13 56 52.0	
	comp=N,293μm,0.6s						
AGT	**Agartala**	**3.40**	**284**	*e*P	**Pn**	**13 56 10.1**	**-0.9**
AGT				*e*S	**Sn**	**13 56 48.5**	**-3.1**
SHL	**Shillong**	**3.65**	**313**	P	**Pn**	**13 56 13.1**	**-1.4**
SHL	**Shillong**	**3.65**	**313**	*e*P	**Pn**	**13 56 13.1**	**-1.4**
SHL	**Shillong**	**3.65**	**313**	*e*P	**Pn**	**13 56 13.3**	**-1.1**
SHL				*e*S	**Sn**	**13 56 52.0**	**-5.9**
SHL				IAML		13 56 55.5	
	comp=N,648μm,0.3s						
SHL				IAML		13 56 56.7	
	comp=E,600μm,0.7s						
JORH	**JORHAT**	**3.66**	**352**	*e*P	**Pn**	**13 56 15.3**	**+0.9**
JORH				*e*S	**Sn**	**13 56 54.8**	**-3.1**
JORH				IAML		13 57 01.1	
	comp=E,293μm,0.5s						
TEZP	**TEZPUR**	**3.96**	**332**	*e*P	**Pn**	**13 56 16.7**	**-1.6**
TEZP				*e*S	**Sn**	**13 56 59.7**	**-5.1**
TEZP				IAML		13 57 03.6	
	comp=N,4375μm,0.3s						
TEZP				IAML		13 57 04.1	
	comp=E,4150μm,0.3s						
ITAN	**ITANAGAR**	**4.15**	**346**	*e*P	**Pn**	**13 56 21.3**	**+0.5**
ITAN				*e*S	**Sn**	**13 57 03.6**	**-5.6**
GUWA	**GUWAHATI**	**4.21**	**318**	*e*P	**Pn**	**13 56 19.8**	**-1.7**
GUWA				*e*S	**Sn**	**13 57 04.5**	**-6.1**
GUWA				IAML		13 57 07.8	
	comp=N,5563μm,0.5s						
GUWA				IAML		13 57 09.8	
	comp=E,4798μm,0.3s						
LKP	**Lekhapani**	**4.30**	**12**	*e*P	**Pn**	**13 56 24.1**	**+1.4**
LKP				*e*S	**Sn**	**13 57 09.4**	**-3.4**
LKP				IAML		13 57 14.6	
	comp=N,248μm,0.3s						
DIBR	**DIBRUGARH**	**4.34**	**1**	*e*P	**Pn**	**13 56 23.8**	**+0.5**
DIBR				*e*S	**Sn**	**13 57 10.6**	**-3.2**
DIBR				IAML		13 57 13.0	
	comp=N,362μm,0.7s						
TURI	**Tura**	**4.79**	**301**	*e*P	**Pn**	**13 56 28.1**	**-1.1**
TURI				*e*S	**Sn**	**13 57 17.9**	**-6.3**
TURI				IAML		13 57 21.4	
	comp=E,4340μm,0.3s						
TURI				IAML		13 57 22.4	
	comp=N,5928μm,0.2s						
DHUB	**DHUBRI**	**5.29**	**304**	*e*P	**Pn**	**13 56 33.7**	**-2.1**
DHUB				*e*S	**Sn**	**13 57 28.8**	**-7.3**
DHUB				IAML		13 57 34.3	
	comp=N,235μm,0.3s						
DHUB				IAML		13 57 34.6	
	comp=E,174μm,0.2s						
CHTO	**Chiang Mai**	**5.73**	**137**	P	**Pn**	**13 56 39.8**	**-2.0**
CHTO	**Chiang Mai**	**5.73**	**137**	Pn	**Pn**	**13 56 39.8**	**-2.0**
CHTO	**Chiang Mai**	**5.73**	**137**	⇓P	**Pn**	**13 56 39.6**	**-2.1**
CM31	**Chiang Mai Arr**	**6.00**	**140**		**Pn**	**13 56 43.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**6.00**	**140**	P	**Pn**	**13 56 42.8**	**-2.6**
	comp=E,103nm,0.3s,baz=312,slow=14,SNR=1425						
CMAR				LR	LR	13 59 19.4	
	comp=E,311μm,21.1s,baz=315,slow=40						
CMAR				ScP	**ScP**	**14 06 51.0**	**+1.4**
	comp=E,1.8nm,0.3s,baz=282,slow=1.5,SNR=6.1						
CMAR				PKiKP	**PKiKP**	**14 11 34.7**	**+0.4**
	comp=E,1.3nm,0.3s,baz=255,slow=1.8,SNR=13						
CMAR				P3KPbc		14 34 17.9	
	comp=E,0.2nm,0.3s,baz=248,slow=3.6,SNR=6.7						
CMAR	**Chiang Mai Arr**	**6.00**	**140**	*i* P	**Pn**	**13 56 42.7**	**-2.6**
CMAR				pmax	pmax		
	comp=Z,489nm,0.6s						
CMAR	**Chiang Mai Arr**	**6.00**	**140**	Pn	**Pn**	**13 56 43.8**	**-1.6**
SLGI	**Shiliguri**	**6.85**	**303**	*e*P	**Pn**	**13 56 55.5**	**-1.1**
GTK	**Tadong**	**7.04**	**308**	*e*P	**Pn**	**13 56 58.2**	**-1.1**
GTK				*e*S	**Sn**	**13 58 10.0**	**-8.3**
GTK				IAML		13 58 22.2	
	comp=E,1989μm,0.3s						
GTK				IAML		13 58 23.5	
	comp=N,1516μm,0.3s						
PZH	**PanZhiHua**	**7.11**	**60**	⇓P	**Pn**	**13 57 03.3**	**+3.1**
PZH				sP		13 57 31.8	
PZH				S	**Sn**	**13 58 21.8**	**+1.8**
PZH				ScS	**ScS**	**14 10 22.3**	**-1.9**
PZH				pmax	pmax		
	comp=N,206μm,7.3s						
PZH				LR	LR		
	comp=N,483μm,13.6s						
PZH				LR	LR		
	comp=N,372μm,14.1s						
PZH				LR	LR		
	comp=N,356μm,14.3s						
LSA	**Lhasa**	**7.36**	**334**	P	**Pn**	**13 57 03.6**	**-0.2**
LSA	**Lhasa**	**7.36**	**334**		**Pn**	**13 57 03.6**	**-0.2**
LSA	**Lhasa**	**7.36**	**334**	P	**Pn**	**13 57 04.3**	**+0.5**
LSA				pmax	pmax		
	comp=N,18μm,0.9s						
LSA				LR	LR		
	comp=N,613μm,7.8s						
LSA				LR	LR		
	comp=N,810μm,8.2s						
LSA				LR	LR		
	comp=N,840μm,7.8s						
LSA	**Lhasa**	**7.36**	**334**	P	**Pn**	**13 57 04.1**	**+0.3**
KMI	**Kunming**	**7.48**	**73**	⇑P	**Pn**	**13 57 08.6**	**+3.4**
KMI				sP		13 57 35.1	
KMI				S	**Sn**	**13 58 29.3**	**+0.4**
KMI				ScS	**ScS**	**14 10 24.3**	**-0.6**
KMI				pmax	pmax		
	comp=N,6μm,1.2s						
KMI				pmax	pmax		
	comp=N,84μm,5.4s						
KMI				LR	LR		
	comp=N,491μm,9.4s						
KMI				LR	LR		
	comp=N,420μm,8.1s						
KMI				LR	LR		
	comp=N,398μm,9.3s						
TAPN	**Taplejung**	**7.72**	**305**	*e*Pn	**Pn**	**13 57 06.7**	**-1.8**
ODAN	**Odare**	**7.73**	**300**	*e*Pn	**Pn**	**13 57 06.9**	**-1.7**
ODAN	**Odare**	**7.73**	**300**	*e*Pn	**Pn**	**13 57 05.9**	**-2.7**
ODAN				*e*Sn	**Sn**	**13 58 26.4**	**-8.6**
	comp=N,59μm,0.5s						
RAMN	**Ramite**	**8.40**	**299**	*e*Pn	**Pn**	**13 57 16.1**	**-1.5**
RAMN	**Ramite**	**8.40**	**299**	*e*Pn	**Pn**	**13 57 15.3**	**-2.3**
PBKT	**Sadao Pong**	**8.68**	**137**		**Pn**	**13 57 20.7**	**-0.4**
BWNR	**Bhubaneshwar**	**8.87**	**253**	*e*P	**Pn**	**13 57 22.4**	**-1.1**
JIRN	**Jiri**	**9.05**	**302**	*e*Pn	**Pn**	**13 57 24.5**	**-1.8**
JIRN				*e*Sn	**Sn**	**13 58 59.2**	**-7.7**
	comp=N,19μm,0.6s						
JIRN	**Jiri**	**9.05**	**302**	*e*Pn	**Pn**	**13 57 24.4**	**-1.8**
JIRN				*e*Sn	**Sn**	**13 58 59.5**	**-7.4**
	comp=N,28μm,0.6s						
GUN	**Gumba**	**9.41**	**302**	*e*Pn	**Pn**	**13 57 29.1**	**-1.9**
GUN				*e*Sn	**Sn**	**13 59 07.2**	**-8.4**
	comp=N,39μm,0.6s						
PKI	**Pulchoki**	**9.63**	**299**	*e*Pn	**Pn**	**13 57 31.8**	**-2.1**
PKIN	**Phulchoki**	**9.64**	**299**	*e*Pn	**Pn**	**13 57 32.0**	**-2.0**
PKIN				*e*Sn	**Sn**	**13 59 13.2**	**-7.8**
	comp=N,14μm,0.4s						
KKN	**Kakani**	**9.83**	**300**	*e*Pn	**Pn**	**13 57 34.1**	**-2.3**
DMN	**Daman**	**9.89**	**299**	*e*Pn	**Pn**	**13 57 35.0**	**-2.3**
DMN				*e*Sn	**Sn**	**13 59 18.3**	**-8.7**
	comp=N,18μm,0.7s						
DMN	**Daman**	**9.89**	**299**	*e*Pn	**Pn**	**13 57 34.9**	**-2.3**
DGPR	**DIGLIPUR**	**10.04**	**191**	⇑*e*P	**Pn**	**13 57 37.0**	**-2.2**
DGPR				*e*S	Sn	13 59 21.3	-9.2
DGPR				IAML		13 59 29.1	
	comp=N,11μm,0.6s						
JHSG	**JHARSUGUGA**	**10.34**	**265**	*e*P	**Pn**	**13 57 42.6**	**-0.5**
GKN	**Gorkha**	**10.43**	**300**	*e*Pn	**Pn**	**13 57 42.3**	**-2.1**
GKN				*e*Sn	**Sn**	**13 59 31.3**	**-8.6**
	comp=N,18μm,0.4s						
GKN	**Gorkha**	**10.43**	**300**	*e*Pn	**Pn**	**13 57 42.3**	**-2.1**
GKN				*e*Sn	**Sn**	**13 59 31.4**	**-8.5**
	comp=N,10μm,0.5s						
VLK	**Valmikinagar**	**10.79**	**295**	*e*P	**Pn**	**13 57 47.8**	**-1.2**
VAR	**Varanasi**	**11.02**	**284**	*e*P	**Pn**	**13 57 50.4**	**-1.6**
CD2	**Chengdu**	**11.11**	**44**	P	**Pn**	**13 57 51.4**	**-1.7**
CD2				sP	sPn	13 58 27.3	-1.7
CD2				S	**Sn**	**13 59 56.8**	**+0.9**
CD2				pmax	pmax		
	comp=N,10μm,1.0s						
CD2				pmax	pmax		
	comp=N,156μm,12.0s						
CD2				LR	LR		
	comp=N,388μm,10.4s						
CD2				LR	LR		
	comp=N,266μm,10.4s						
KOLN	**Koldanda**	**11.18**	**297**	*e*Pn	**Pn**	**13 57 51.8**	**-2.4**
GYA	**Guiyang**	**11.24**	**70**	⇓*i*P	**Pn**	**13 57 55.9**	**+0.9**
GYA				S	**Sn**	**13 59 55.8**	**-3.5**
GYA				ScS	**ScS**	**14 10 30.0**	**-0.9**
GYA				pmax	pmax		
	comp=N,2μm,1.1s						
GYA				pmax	pmax		
	comp=N,38μm,5.6s						
GYA				LR	LR		
	comp=N,344μm,9.4s						
GYA				LR	LR		
	comp=N,393μm,9.6s						
GYA				LR	LR		
	comp=N,411μm,9.6s						
DANN	**Dangsing**	**11.28**	**300**	*e*Pn	**Pn**	**13 57 52.7**	**-3.0**
DANN				*e*Sn	**Sn**	**13 59 52.1**	**-8.4**
	comp=N,10μm,0.6s						
DANN	**Dangsing**	**11.28**	**300**	*e*Pn	**Pn**	**13 57 52.6**	**-3.0**
DANN	**Dangsing**	**11.28**	**300**	*e*Pn	**Pn**	**13 57 54.6**	**-1.1**
RAGD	**RAYAGADA**	**11.30**	**252**	*e*P	**Pn**	**13 57 55.5**	**-0.3**
PBA	**Port Blair**	**11.56**	**190**	Pn	**Pn**	**13 57 56.1**	**-3.1**
PBA	**Port Blair**	**11.56**	**190**	*e*P	**Pn**	**13 57 58.1**	**-1.1**
PBA				⇑*e*S	**Sn**	**14 00 00.0**	**-7.1**
PBA				IAML		14 00 14.3	
	comp=E,20μm,0.6s						
PBA	**Port Blair**	**11.56**	**190**	⇑P	**Pn**	**13 57 55.6**	**-3.5**
BLSP	**Bilaspur**	**11.79**	**268**	*e*P	**Pn**	**13 58 00.7**	**-1.5**
PYUN	**Piuthan**	**11.80**	**297**	*e*Pn	**Pn**	**13 57 59.6**	**-2.8**
PYUN	**Piuthan**	**11.80**	**297**	*e*Pn	**Pn**	**13 57 59.7**	**-2.7**
ALBI	**Allahabad**	**12.11**	**283**	*e*P	**Pn**	**13 58 04.4**	**-1.8**
UBPT	**Khong Chiam**	**12.69**	**126**	Pn	**Pn**	**13 58 12.2**	**-1.6**
UBPT	**Khong Chiam**	**12.69**	**126**	⇑P	**Pn**	**13 58 12.1**	**-1.7**
BRCI	**Bahraich**	**12.79**	**293**	*e*P	**Pn**	**13 58 14.4**	**-0.6**
GOMU	**GeErMu**	**13.05**	**360**	P	**Pn**	**13 58 17.4**	**-1.2**
GOMU				pP	P	13 58 21.4	-1.9
GOMU				S	**Sn**	**14 00 39.3**	**-3.8**
GOMU				pmax	pmax		
	comp=E,6μm,1.4s						
GOMU				pmax	pmax		
	comp=E,66μm,4.8s						
GOMU				LR	LR		
	comp=E,147μm,15.9s						
GOMU				LR	LR		
	comp=E,163μm,15.5s						
GOMU				LR	LR		
	comp=E,257μm,14.3s						
JBP	**Jabalpur**	**13.68**	**273**	*e*P	**Pn**	**13 58 25.0**	**-1.4**
JBP				*ex*	x	13 58 25.0	
GULI	**GuiLin**	**14.32**	**78**	⇑P	**Pn**	**13 58 34.8**	**+0.3**
GULI				S	**Sn**	**14 01 07.8**	**-5.6**
GULI				pmax	pmax		
	comp=E,6μm,0.9s						
GULI				LR	LR		
	comp=E,452μm,17.9s						
GULI				LR	LR		
	comp=E,178μm,17.9s						
GULI				LR	LR		
	comp=E,243μm,13.0s						
LGTI	**Lohaghat**	**14.54**	**299**	*e*P	**Pn**	**13 58 37.5**	**+0.4**
QIZ	**Qiongzhong**	**14.57**	**103**	P	**Pn**	**13 58 37.0**	**-0.6**
QIZ				S	**Sn**	**14 01 17.1**	**-2.3**
QIZ				pmax	pmax		
	comp=E,36μm,6.3s						
QIZ				LR	LR		
	comp=E,251μm,14.7s						
QIZ				LR	LR		
	comp=E,150μm,12.3s						
QIZ				LR	LR		
	comp=E,171μm,12.6s						
QIZ	**Qiongzhong**	**14.57**	**103**	P	**Pn**	**13 58 36.7**	**-0.9**
PTH	**Pithoragarh**	**14.60**	**299**	*e*P	**Pn**	**13 58 37.5**	**-0.6**
VJD	**Vijayawada**	**14.88**	**246**	*e*P	**Pn**	**13 58 42.4**	**+0.9**
JHNI	**Jhansi**	**15.06**	**282**	*e*P	**Pn**	**13 58 40.5**	**-3.2**
LZH	**Lanzhou**	**15.10**	**29**	⇓P	**Pn**	**13 58 43.8**	**-0.5**
LZH				sP	pP	13 59 17.1	+5.2
LZH				S	**Sn**	**14 01 34.4**	**+2.2**
LZH				ScP	**ScP**	**14 07 03.4**	**+2.1**
LZH				ScS	**ScS**	**14 10 40.6**	**+1.0**
LZH				pmax	pmax		
	comp=E,13μm,1.1s						
LZH				pmax	pmax		
	comp=E,235μm,4.2s						
LZH				LR	LR		
	comp=E,209μm,11.3s						
LZH				LR	LR		
	comp=E,191μm,11.0s						
LZH				LR	LR		
	comp=E,246μm,13.7s						
SRIT	**Nakonsritamara**	**15.13**	**162**	Pn	**Pn**	**13 58 44.1**	**-0.5**
SRIT				IAmb	IAmb	13 58 51.4	
	comp=Z,8μm,1.3s						
BHPL	**Bhopal**	**16.03**	**274**	⇑*e*P	**P**	**13 58 57.1**	**+1.0**
BHPL				IAmb	IAmb	13 59 01.9	
	comp=Z,8μm,1.0s						
HYB	**Hyderabad**	**16.30**	**253**	*e*P	**P**	**13 58 59.4**	**+0.2**
HYB				IAmb	IAmb	13 59 06.7	
	comp=Z,4μm,0.9s						
HYB				*e*S	S	14 01 43.6	-17
HYBB	**Hyderabad (bro**	**16.30**	**253**	*e*P	**P**	**13 58 59.4**	**+0.2**
HYBB				IVmB_BB		13 59 03.5	
	comp=Z,40μm,1.8s						
HYBB				*ep*P	**pP**	**13 59 23.9**	**-1.4**
HYBB				*e*S	**Sn**	**14 02 01.2**	**+0.1**
HYBB				IVMs_BB	IVMs_BB	14 02 10.0	
	comp=Z,79μm,14.0s						
XAN	**Xi'an**	**16.45**	**45**	P	**P**	**13 59 00.0**	**-0.7**
XAN				sP	sP	13 59 39.0	-7.0
XAN				S	**S**	**14 02 00.8**	**-2.7**
XAN				pmax	pmax		
	comp=Z,16μm,0.8s						
XAN				pmax	pmax		
	comp=Z,191μm,4.6s						
XAN				LR	LR		
	comp=Z,305μm,9.8s						
XAN				LR	LR		
	comp=Z,170μm,11.0s						
XAN				LR	LR		
	comp=Z,247μm,14.7s						
DDI	**Dehra Dun**	**16.63**	**299**	*e*P	**Pn**	**13 59 05.7**	**+2.8**
DDI				IAmb	IAmb	13 59 09.3	
	comp=Z,11μm,1.0s						
DDI				*e*S	S	14 01 51.7	-16
AKL	**Akola**	**16.73**	**265**	*e*P	**Pn**	**13 59 06.3**	**+2.2**
GTA	**Gaotai**	**16.79**	**13**	⇓P	**P**	**13 59 03.3**	**-1.2**
GTA				sP	pP	13 59 37.5	+7.0
GTA				S	**S**	**14 02 06.3**	**-5.2**
GTA				ScP	**ScP**	**14 07 06.6**	**+2.2**
GTA				PcS	**PcS**	**14 07 22.3**	**+2.5**
GTA				ScS	**ScS**	**14 10 44.3**	**+0.3**
GTA				pmax	pmax		
	comp=Z,3μm,1.9s						
GTA				pmax	pmax		
	comp=Z,168μm,9.6s						
GTA				LR	LR		
	comp=Z,103μm,16.3s						
GTA				LR	LR		
	comp=Z,96μm,14.7s						
GTA				LR	LR		
	comp=Z,190μm,21.1s						
NDI	**New Delhi**	**16.81**	**293**	*e*P	**P**	**13 59 04.8**	**+0.1**
NDI				*e*P	**Pn**	**13 59 06.0**	**+1.0**
SONA	**Sohna**	**16.81**	**291**	*e*P	**Pn**	**13 59 05.0**	**-0.1**
AYAN	**Aya Nagar**	**16.83**	**292**	*e*P	**P**	**13 59 04.8**	**-0.1**
GZH	**Guangzhou**	**17.02**	**86**	P	**Pn**	**13 59 12.0**	**+4.4**
GZH				sP	**sP**	**13 59 49.3**	**-2.9**
GZH				S	**Sn

KUDL	**Kundal**	**17.30**	**291**	*e*P		**Pn**	**13 59 14.7**	**+3.7**
MCO	**Taipa Grande**	**17.30**	**90**	P		**Pn**	**13 59 14.0**	**+3.0**
KKR	**Kurukshetra**	**17.51**	**297**	*e*P		**Pn**	**13 59 17.4**	**+4.0**
SMLA	**Simla**	**17.64**	**301**	*e*P		**Pn**	**13 59 18.7**	**+3.7**
HKPS	**Hong Kong Po S**	**17.82**	**89**			**P**	**13 59 16.4**	**+0.6**
HKPS				IAmb		IAmb	13 59 21.1	
	comp=Z,5μm,0.9s							
HKC	**Hong Kong Obse**	**17.85**	**89**	⇑P		**Pn**	**13 59 18.0**	**+0.5**
LHMI	**Lhok Sumawe**	**17.89**	**173**			**Pn**	**13 59 17.9**	**-0.1**
LHMI				IAmb		IAmb	13 59 27.4	
	comp=Z,8μm,0.8s							
LHMI	**Lhok Sumawe**	**17.89**	**173**	⇓P		**Pn**	**13 59 18.2**	**+0.1**
LHMI	**Lhok Sumawe**	**17.89**	**173**	P		**P**	**13 59 17.3**	**+0.7**
	comp=Z,859μmcomp=Z,179μmcomp=Z,12μm,0.8s							
KULM	**Kulim**	**18.58**	**162**	P		**P**	**13 59 24.9**	**+0.9**
KULM				IAmb		IAmb	13 59 33.1	
	comp=Z,7μm,1.1s							
KULM	**Kulim**	**18.58**	**162**	⇑P		**P**	**13 59 25.0**	**+0.9**
KULM	**Kulim**	**18.58**	**162**	P		**Pn**	**13 59 26.0**	**-0.1**
WHN	**Wuhan**	**18.90**	**63**	⇑P		**Pn**	**13 59 29.3**	**-0.5**
WHN				sP		**sP**	**14 00 09.9**	**-3.0**
WHN				S		**S**	**14 02 51.5**	**-2.7**
WHN				pmax		pmax		
	comp=Z,15μm,1.2s							
WHN				LR		LR		
	comp=Z,422μm,14.0s							
WHN				LR		LR		
	comp=Z,272μm,12.9s							
WHN				LR		LR		
	comp=Z,265μm,14.6s							
LYN	**LuoYang**	**19.16**	**50**	⇓*i*P		**P**	**13 59 31.3**	**+1.1**
LYN				pP		pP	13 59 56.4	-0.2
LYN				sP		sP	14 00 15.8	0.0
LYN				S		**S**	**14 02 56.5**	**-2.8**
LYN				ScS		**ScS**	**14 10 50.4**	**-0.8**
LYN				pmax		pmax		
	comp=Z,960nm,0.5s							
LYN				pmax		pmax		
	comp=Z,86μm,11.6s							
IPM	**Ipoh**	**19.46**	**161**	P		**P**	**13 59 33.0**	**-0.7**
IPM				IAmb		IAmb	13 59 36.7	
	comp=Z,8μm,0.9s							
IPM	**Ipoh**	**19.46**	**161**	⇑P		**P**	**13 59 32.5**	**-1.2**
KCSI	**Kotacane, Aceh**	**19.67**	**171**	P		**P**	**13 59 35.5**	**-0.5**
	comp=Z,735μmcomp=Z,122μmcomp=Z,9μm,0.8s							
TSI	**Tuntungan**	**19.82**	**169**	P		**Pn**	**13 59 39.4**	**-1.3**
	comp=Z,721μmcomp=Z,319μmcomp=Z,33μm,1.1s							
POO	**Poona**	**20.15**	**261**	*i* S		**S**	**14 03 13.0**	**-6.3**
POO				*e*S		**S**	**14 03 16.9**	**-2.3**
JRMM	**Jerantut**	**20.48**	**158**	P		**P**	**13 59 46.0**	**+1.3**
PSI	**Prapat**	**20.57**	**168**	P		**P**	**13 59 46.6**	**+0.9**
	comp=Z,7μm,0.9s,baz=343,slow=10,SNR=219							
PSI				S		**S**	**14 03 29.1**	**+1.4**
	comp=Z,1μm,1.1s,baz=98,slow=23,SNR=7.7							
PSI				ScP		**ScP**	**14 07 14.3**	**+1.2**
	comp=Z,162nm,0.7s,baz=341,slow=8.8,SNR=8.1							
PALK	**Pallekele**	**20.81**	**223**	P		**P**	**13 59 49.3**	**+1.1**
	comp=Z,3μm,0.8s,baz=143,slow=11,SNR=303							
PALK				S		**S**	**14 03 32.4**	**+0.2**
	comp=Z,2μm,0.8s,baz=42,slow=22,SNR=9.7							
PALK				ScP		**ScP**	**14 07 16.1**	**+2.5**
	comp=Z,408nm,1.0s,baz=162,slow=3.1,SNR=4.3							
PALK	**Pallekele**	**20.81**	**223**	*d*iP		**P**	**13 59 49.2**	**+0.9**
PALK	**Pallekele**	**20.81**	**223**	P		**P**	**13 59 49.1**	**+0.9**
PALK				IAmb		IAmb	13 59 53.1	
	comp=Z,9μm,1.3s							
PALK	**Pallekele**	**20.81**	**223**	⇓P		**P**	**13 59 48.9**	**+0.7**
PALK				⇓S		**S**	**14 03 33.6**	**+1.4**
TIY	**Taiyuan**	**20.97**	**42**	*e*P		**P**	**13 59 49.8**	**0.0**
TIY				pP		**pP**	**14 00 17.4**	**+0.8**
TIY				sP		**sP**	**14 00 34.3**	**-1.4**
TIY				S		**S**	**14 03 30.5**	**-4.4**
TIY				pmax		pmax		
	comp=Z,630nm,1.0s							
TIY				pmax		pmax		
	comp=Z,34μm,5.8s							
GOA	**Goa**	**21.23**	**253**	IAmb		IAmb	13 59 55.4	
	comp=Z,7μm,1.2s							
WMQ	**Urumqi**	**21.49**	**346**	⇓*i*P		**P**	**13 59 56.4**	**+1.1**
WMQ				sP		sP	14 00 36.5	-5.1
WMQ				S		**S**	**14 03 46.9**	**+2.8**
WMQ				ScS		**ScS**	**14 10 59.4**	**+0.3**
WMQ				pmax		pmax		
	comp=Z,12μm,1.1s							
WMQ				pmax		pmax		
	comp=Z,71μm,4.7s							
WMQ				LR		LR		
	comp=Z,91μm,14.5s							
WMQ				LR		LR		
	comp=Z,59μm,14.9s							
WMQ				LR		LR		
	comp=Z,109μm,18.9s							
SARP	**Sargodha**	**21.51**	**299**	P		**P**	**13 59 54.9**	**-0.7**
KNMB	**Chin-men Tao**	**21.58**	**82**	P		**P**	**13 59 56.6**	**+0.3**
KNMB				IAmb		IAmb	14 00 01.0	
	comp=Z,3μm,0.7s							
BTO	**Baotou**	**21.63**	**33**	*e*P		**P**	**13 59 56.8**	**-0.1**
BTO				S		**S**	**14 03 46.8**	**+0.1**
BTO				LR		LR		
	comp=Z,462μm,18.9s							
BTO				LR		LR		
	comp=Z,660μm,17.9s							
CHCP	**Chirah Chowk**	**21.67**	**304**	P		**P**	**13 59 57.9**	**+0.6**
NIL	**Nilore**	**21.67**	**304**	P		**P**	**13 59 57.2**	**-0.1**
NIL				pmax		pmax		
	comp=Z,15μm,0.9s							
NIL	**Nilore**	**21.67**	**304**	P		**P**	**13 59 57.2**	**-0.1**
NIL	**Nilore**	**21.67**	**304**	⇓P		**P**	**13 59 57.2**	**-0.1**
QZH	**Quanzhou**	**21.76**	**80**	⇑*i*P		**P**	**13 59 58.6**	**+0.4**
QZH				PP		**pP**	**14 00 30.4**	**+5.1**
QZH				sP		**sP**	**14 00 42.8**	**-1.5**
QZH				S		**S**	**14 03 49.3**	**+0.4**
QZH				pmax		pmax		
	comp=Z,2μm,1.0s							
QZH				pmax		pmax		
	comp=Z,41μm,6.3s							
QZH				LR		LR		
	comp=Z,332μm,9.3s							
QZH				LR		LR		
	comp=Z,190μm,12.4s							
GSI	**Gunungsitoli**	**21.83**	**173**	P		**P**	**13 59 58.1**	**-0.9**
GSI	**Gunungsitoli**	**21.83**	**173**	⇓P		**P**	**13 59 57.6**	**-1.5**
GSI	**Gunungsitoli**	**21.83**	**173**	P		**P**	**13 59 57.8**	**-1.3**
	comp=Z,671μmcomp=Z,244μmcomp=Z,18μm,1.2s							
HNS	**HongShan**	**22.23**	**46**	⇓P		**P**	**14 00 03.3**	**+0.5**
HNS				pP		**pP**	**14 00 31.8**	**+1.5**
HNS				sP		**sP**	**14 00 47.5**	**-1.8**
HNS				S		**S**	**14 03 59.3**	**+2.8**
HNS				ScP		**ScP**	**14 07 17.9**	**+1.2**
HNS				ScS		**ScS**	**14 11 00.8**	**-1.0**
HNS				pmax		pmax		
	comp=Z,610nm,0.9s							
HNS				pmax		pmax		
	comp=Z,22μm,7.0s							
HNS				LR		LR		
	comp=Z,61μm,17.1s							
HNS				LR		LR		
	comp=Z,52μm,15.7s							
HNS				LR		LR		
	comp=Z,56μm,17.5s							
THW	**Thamme Wali**	**22.54**	**300**	P		**P**	**14 00 06.5**	**+0.6**
THW				S		**S**	**14 04 01.0**	**-0.8**
HHC	**Hu-ho-hao-te**	**22.60**	**35**	*e*P		**P**	**14 00 07.1**	**+0.6**
HHC				sP		sP	14 00 50.4	-2.9
HHC				S		**S**	**14 04 01.1**	**-1.6**
HHC				SS		Sn	14 04 51.6	+21
HHC				pmax		pmax		
	comp=Z,3μm,1.3s							
MNSI	**Mandailing Nat**	**22.65**	**168**	P		**P**	**14 00 06.0**	**-1.0**
	comp=Z,553μmcomp=Z,125μmcomp=Z,6μm,0.8s							
CEP	**Cherat**	**22.77**	**303**	P		**P**	**14 00 09.0**	**+0.8**
CEP				S		**S**	**14 04 05.0**	**-0.8**
KSH	**Kashi**	**22.90**	**320**	P		**P**	**14 00 10.8**	**+1.5**
KSH				pP		pP	14 00 39.6	+1.7
KSH				PP		**PnPn**	**14 00 44.3**	**+0.2**
KSH				S		**S**	**14 04 08.5**	**+0.9**
KSH				SS		**SnSn**	**14 05 03.8**	**+5.5**
KSH				pmax		pmax		
	comp=Z,9μm,0.9s							
KSH				pmax		pmax		
	comp=Z,17μm,3.6s							
KSH				LR		LR		
	comp=Z,184μm,10.9s							
KSH				LR		LR		
	comp=Z,174μm,11.1s							
KSH				LR		LR		
	comp=Z,135μm,13.9s							
MYKOM	**Kota Tinggi**	**22.92**	**156**	P		**P**	**14 00 10.0**	**+0.4**
MYKOM	**Kota Tinggi**	**22.92**	**156**	⇑P		**P**	**14 00 09.5**	**0.0**
MYKOM	**Kota Tinggi**	**22.92**	**156**	P		**P**	**14 00 12.0**	**+2.5**
NJ2	**Nanjing**	**23.02**	**62**	⇑*i*P		**P**	**14 00 10.9**	**+0.5**
NJ2				pP		**pP**	**14 00 37.6**	**-1.3**
NJ2				PP		**PnPn**	**14 00 47.8**	**+2.1**
NJ2				sP		**sP**	**14 00 54.6**	**-3.2**
NJ2				S		**S**	**14 04 10.5**	**+1.0**
NJ2				ScP		**ScP**	**14 07 20.0**	**+1.1**
NJ2				ScS		**ScS**	**14 11 05.9**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,1μm,1.3s							
NJ2				pmax		pmax		
	comp=Z,27μm,3.5s							
NJ2				LR		LR		
	comp=Z,270μm,15.3s							
NJ2				LR		LR		
	comp=Z,107μm,12.8s							
NJ2				LR		LR		
	comp=Z,99μm,9.2s							
TIA	**Tai'an**	**23.28**	**51**	P		**P**	**14 00 13.3**	**+0.6**
TIA				S		**S**	**14 04 07.3**	**-6.3**
TIA				SS		Sn	14 05 06.9	+20
TIA				pmax		pmax		
	comp=Z,2μm,1.1s							
TIA				pmax		pmax		
	comp=Z,11μm,4.9s							
TIA				LR		LR		
	comp=Z,153μm,16.9s							
TIA				LR		LR		
	comp=Z,90μm,12.0s							
TIA				LR		LR		
	comp=Z,161μm,15.2s							
TARG	**Taragay, Kyrgy**	**23.41**	**326**	P		**P**	**14 00 16.3**	**+2.0**
TARG				IAmb		IAmb	14 00 40.3	
	comp=Z,3μm,0.8s							
BKNI	**Bangkinang**	**23.43**	**164**	P		**P**	**14 00 13.5**	**-0.7**
BKNI	**Bangkinang**	**23.43**	**164**	⇑P		**P**	**14 00 13.6**	**-0.6**
BKNI	**Bangkinang**	**23.43**	**164**	P		**P**	**14 00 13.6**	**-0.6**
	comp=Z,578μmcomp=Z,189μmcomp=Z,18μm,1.1s							
TPUB	**Ta-pu**	**23.68**	**84**	P		**P**	**14 00 17.8**	**+1.3**
TPUB				IAmb		IAmb	14 00 22.1	
	comp=Z,6μm,0.8s							
SHLS	**Shalkode**	**23.72**	**331**	*d*iP		**P**	**14 00 17.5**	**+0.8**
SHLS				*i* S		**S**	**14 04 20.4**	**-0.3**
SHLS				pmax		pmax		
	comp=Z,4μm,1.7s							
SHLS	**Shalkode**	**23.72**	**331**	⇓*i*P		**P**	**14 00 17.5**	**+0.8**
	comp=Z,4μm,1.7s,baz=332							
SHLS				*i* S		**S**	**14 04 20.4**	**-0.3**
	baz=332							
PDGK	**Podgornoye**	**23.84**	**331**	P		**P**	**14 00 20.1**	**+2.2**
UZB	**Uzynbulak**	**23.91**	**330**	*d*iP		**P**	**14 00 20.6**	**+2.1**
UZB				*i* S		**S**	**14 04 25.5**	**+1.7**
UZB				pmax		pmax		
	comp=Z,2μm,0.9s							
UZB	**Uzynbulak**	**23.91**	**330**	⇓*i*P		**P**	**14 00 20.6**	**+2.1**
	comp=Z,2μm,0.9s,baz=330							
UZB				*i* S		**S**	**14 04 25.5**	**+1.7**
	baz=330							
SSLB	**Suanglung**	**23.95**	**83**	P		**P**	**14 00 20.6**	**+1.6**
TPRI	**Tanjung Pinang**	**23.98**	**156**	P		**P**	**14 00 19.5**	**+0.3**
	comp=Z,441μmcomp=Z,120μmcomp=Z,5μm,1.3s							
KDJ	**Kajisay**	**24.02**	**326**	P		**P**	**14 00 21.7**	**+2.0**
KDJ				pmax		pmax		
	comp=Z,13μm,1.2s							
KDJ	**Kajisay**	**24.02**	**326**	P		**P**	**14 00 21.6**	**+2.0**
PPI	**Padang Panjang**	**24.04**	**166**	P		**P**	**14 00 18.5**	**-1.2**
SATY	**Saty**	**24.12**	**329**	*d*iP		**P**	**14 00 22.9**	**+2.5**
SATY				*i* S		**S**	**14 04 29.9**	**+2.7**
SATY				pmax		pmax		
	comp=Z,5μm,0.9s							
SATY	**Saty**	**24.12**	**329**	⇓*i*P		**P**	**14 00 23.0**	**+2.5**
	comp=Z,5μm,0.9s,baz=329							
SATY				*i* S		**S**	**14 04 29.9**	**+2.7**
	baz=329							
TWG	**Pinlang**	**24.14**	**86**	P		**P**	**14 00 23.0**	**+2.4**
YHNB	**Yeheng**	**24.29**	**81**	P		**P**	**14 00 23.9**	**+1.8**
YHNB				IAmb		IAmb	14 00 41.0	
	comp=Z,2μm,0.8s							
YULB	**Yu-li**	**24.29**	**84**	P		**P**	**14 00 24.2**	**+2.2**
YULB				IAmb		IAmb	14 00 28.2	
	comp=Z,6μm,0.9s							
KPKS	**Kokpek**	**24.31**	**330**	*d*iP		**P**	**14 00 24.1**	**+2.0**
KPKS				*i* S		**S**	**14 04 31.7**	**+1.6**
KPKS				pmax		pmax		
	comp=Z,3μm,0.7s							
KPKS	**Kokpek**	**24.31**	**330**	⇓*i*P		**P**	**14 00 24.1**	**+2.0**
	comp=Z,3μm,0.7s,baz=330							
KPKS				*i* S		**S**	**14 04 31.7**	**+1.6**
	baz=330							
TATO	**Taipei**	**24.38**	**80**	P		**P**	**14 00 24.9**	**+2.1**
TATO				IAmb		IAmb	14 00 29.3	
	comp=Z,2μm,0.7s							
RGRI	**Rengat**	**24.43**	**162**	P		**P**	**14 00 24.7**	**+1.4**
	comp=Z,8μmcomp=Z,60μmcomp=Z,7μm,1.1s							
NACB	**Ninganchiao**	**24.51**	**82**	P		**P**	**14 00 26.5**	**+2.5**
NACB				IAmb		IAmb	14 00 31.6	
	comp=Z,4μm,1.0s							
ULHL	**Ulahol**	**24.59**	**325**	P		**P**	**14 00 27.5**	**+2.6**
	SNR=235							
SISI	**Saibi**	**24.63**	**170**	P		**P**	**14 00 25.9**	**+0.8**
	comp=Z,328μmcomp=Z,179μmcomp=Z,15μm,1.4s							
BJT	**Baijiatuau**	**24.68**	**42**	P		**P**	**14 00 26.8**	**+1.4**
BJT				pmax		pmax		
	comp=Z,3μm,1.3s							
BJT	**Baijiatuau**	**24.68**	**42**	P		**P**	**14 00 26.8**	**+1.4**
BJT				IAmb		IAmb	14 01 00.5	
	comp=Z,3μm,1.3s							
BJI	**Beijing**	**24.70**	**42**	P		**P**	**14 00 26.5**	**+1.0**
BJI				PP		**PnPn**	**14 01 10.1**	**+2.3**
BJI				sP		**sP**	**14 01 11.6**	**-3.2**
BJI				S		**S**	**14 04 35.6**	**-0.5**
BJI				SS		**SnSn**	**14 05 41.8**	**+0.2**
BJI				pmax		pmax		
	comp=Z,1μm,1.1s							
BJI				pmax		pmax		
	comp=Z,19μm,5.1s							
SSE	**Sheshan**	**24.71**	**66**	P		**P**	**14 00 26.8**	**+1.0**
SSE				S		**S**	**14 04 38.3**	**+1.7**
SSE				pmax		pmax		
	comp=Z,2μm,1.0s							
SSE				LR		LR		
	comp=Z,8μm,17.0s							
SSE				LR		LR		
	comp=Z,4μm,17.2s							
TNSS	**Tian-Shan**	**24.81**	**328**	*i* P		**P**	**14 00 29.0**	**+2.1**
TNSS				*i* S		**S**	**14 04 41.2**	**+2.6**
TNSS	**Tian-Shan**	**24.81**	**328**	*i* P		**P**	**14 00 29.1**	**+2.1**
	baz=327							
TNSS				*i* S		**S**	**14 04 41.2**	**+2.6**
	baz=327							
MDOK	**Medeo**	**24.85**	**328**	*i* P		**P**	**14 00 29.7**	**+2.7**
MDOK				*i* S		**S**	**14 04 41.7**	**+2.9**
MDOK	**Medeo**	**24.85**	**328**	*i* P		**P**	**14 00 29.8**	**+2.7**
	baz=328							
MDOK				*i* S		**S**	**14 04 41.8**	**+2.9**
	baz=328							
BOOM	**Boomskoye usch**	**24.93**	**325**	P		**P**	**14 00 30.0**	**+2.2**
BOOM				pmax		pmax		
	comp=Z,6μm,1.4s							
BOOM	**Boomskoye usch**	**24.93**	**325**	P		**P**	**14 00 30.0**	**+2.2**
BOOM				IAmb		IAmb	14 01 03.7	
	comp=Z,6μm,1.4s							
KNDC	**Almaty**	**24.93**	**328**	P		**P**	**14 00 30.4**	**+2.7**
AAA	**Alma-Ata**	**24.95**	**328**	*d*iP		**P**	**14 00 30.7**	**+2.9**
AAA				*i* S		**S**	**14 04 44.0**	**+3.8**
AAA				pmax		pmax		
	comp=Z,5μm,1.0s							
AAA	**Alma-Ata**	**24.95**	**328**	⇓*i*P		**P**	**14 00 30.8**	**+2.9**
	comp=Z,5μm,1.0s,baz=328							
AAA				*i* S		**S**	**14 04 44.1**	**+3.8**
	baz=328							
KBL	**Kabul**	**25.25**	**303**	P		**P**	**14 00 32.8**	**+2.0**
KBL				pmax		pmax		
	comp=Z,7μm,1.0s							
KBL	**Kabul**	**25.25**	**303**	P		**P**	**14 00 32.8**	**+2.0**
KBL				IAmb		IAmb	14 00 35.6	
	comp=Z,7μm,0.9s							
ARXS	**Arharly**	**25.28**	**330**	*e*P		**P**	**14 00 32.6**	**+1.7**
DSRI	**Dabo**	**25.28**	**157**	P		**P**	**14 00 31.6**	**+0.6**
	comp=Z,237μmcomp=Z,39μmcomp=Z,2μm,1.1s							
CHKK	**Chushkaly**	**25.39**	**329**	⇑*i*P		**P**	**14 00 33.4**	**+1.6**
CHKK	**Chushkaly**	**25.39**	**329**	⇑*i*P		**P**	**14 00 33.4**	**+1.6**
	baz=329							
TKM2	**Tokmak 2**	**25.41**	**326**	P		**P**	**14 00 33.8**	**+1.6**
	SNR=3230							
TKM2	**Tokmak 2**	**25.41**	**326**	P		**P**	**14 00 34.4**	**+2.2**
DRK	**Karamyk**	**25.47**	**315**	P		**P**	**14 00 34.4**	**+1.5**
UCH	**Uchtor**	**25.51**	**323**	P		**P**	**14 00 36.2**	**+2.8**
	SNR=200							
KBK	**Karagaybulak**	**25.57**	**324**	P		**P**	**14 00 36.1**	**+2.5**
	SNR=1315							
ZSN	**Zaisan**	**25.58**	**344**	*d*iP		**P**	**14 00 35.6**	**+2.2**
ZSN				*e*S		**S**	**14 04 52.8**	**+2.9**
ZSN				pmax		pmax		
	comp=Z,3μm,1.1s							
ZSN	**Zaisan**	**25.58**	**344**	⇓*i*P		**P**	**14 00 35.7**	**+2.2**
	comp=Z,3μm,1.1s,baz=344							
ZSN				*e*S		**S**	**14 04 52.9**	**+2.9**
	baz=344							
TDK	**Taldyqorghan**	**25.64**	**332**	*d*iP		**P**	**14 00 35.5**	**+1.5**
TDK				*i* S		**S**	**14 04 53.3**	**+2.2**
TDK				pmax		pmax		
	comp=Z,2μm,1.1s							
TDK	**Taldyqorghan**	**25.64**	**332**	⇓*i*P		**P**	**14 00 35.6**	**+1.5**
	comp=Z,2μm,1.1s,baz=332							
TDK				*i* S		**S**	**14 04 53.4**	**+2.2**
	baz=332							
MK31	**Makanchi Array**	**25.71**	**340**	*c* iP		**P**	**14 00 36.3**	**+1.6**
MK31	**Makanchi Array**	**25.71**	**340**	P		**P**	**14 00 36.6**	**+1.9**
MK31				IAmb		IAmb	14 00 41.2	
	comp=Z,4μm,0.7s							
MKAR	**Makanchi Array**	**25.71**	**340**	P		**P**	**14 00 36.0**	**+1.4**
	comp=Z,6μm,0.7s,baz=141,slow=7.8,SNR=2626							
MKAR				pP		**pP**	**14 01 09.2**	**+2.9**
	comp=Z,2μm,0.8s,baz=153,slow=9.1,SNR=3.1							
MKAR				ScP		**ScP**	**14 07 28.1**	**+2.0**
	comp=Z,164nm,0.9s,baz=89,slow=9.8,SNR=4.1							
MKAR				P3KPbc			14 33 20.2	
	comp=Z,4.6nm,0.7s,baz=6.2,slow=2.9,SNR=12							
MKAR	**Makanchi Array**	**25.71**	**340**	*i* P		**P**	**14 00 36.0**	**+1.4**
MKAR				pmax		pmax		
	comp=Z,5μm,0.7s							
MKAR	**Makanchi Array**	**25.71**	**340**	P		**P**	**14 00 36.3**	**+1.6**
KUU	**Kurty**	**25.74**	**328**	*d*iP		**P**	**14 00 36.4**	**+1.5**
KUU				*i* S		**S**	**14 04 53.6**	**+1.0**
KUU				pmax		pmax		
	comp=Z,2μm,1.1s							
KUU	**Kurty**	**25.74**	**328**	⇓*i*P		**P**	**14 00 36.4**	**+1.5**
	comp=Z,2μm,1.1s,baz=328							
KUU				*i* S		**S**	**14 04 53.6**	**+1.0**
	baz=328							
YOJ	**Yonaguni jima**	**25.79**	**81**	P		**P**	**14 00 37.0**	**+1.5**
LUBP	**Lubang**	**25.80**	**107**	⇑*i*P		**P**	**14 00 39.2**	**+3.5**
AAK	**Ala-Archa**	**25.80**	**324**	P		**P**	**14 00 38.3**	**+2.7**
	SNR=2340							
AAK	**Ala-Archa**	**25.80**	**324**	P		**P**	**14 00 37.7**	**+2.0**
	comp=Z,2μm,0.8s,baz=140,slow=7.0,SNR=1193							
AAK	**Ala-Archa**	**25.80**	**324**	P		**P**	**14 00 38.2**	**+2.5**
AAK				pmax		pmax		
	comp=Z,6μm,1.3s							
AAK	**Ala-Archa**	**25.80**	**324**	P		**P**	**14 00 38.2**	**+2.5**
AAK				IAmb		IAmb	14 01 14.1	
	comp=Z,6μm,1.2s							
AAK	**Ala-Archa**	**25.80**	**324**	⇓P		**P**	**14 00 38.2**	**+2.5**
AAK	**Ala-Archa**	**25.80**	**324**	*i* P		**P**	**14 00 38.1**	**+2.5**
	SNR=2898							
MAKZ	**Makanchi**	**25.82**	**339**	P		**P**	**14 00 37.3**	**+1.6**
MAKZ				pmax		pmax		
	comp=Z,4μm,0.9s							
MAKZ	**Makanchi**	**25.82**	**339**	P		**P**	**14 00 37.3**	**+1.6**
MAKZ				IAmb		IAmb	14 00 42.8	
	comp=Z,4μm,0.8s							
MAKZ	**Makanchi**	**25.82**	**339**	⇓P		**P**	**14 00 37.3**	**+1.6**
FRU1	**Bishkek**	**25.84**	**324**	P		**P**	**14 00 38.0**	**+2.0**
FRU1				pmax		pmax		
	comp=Z,3μm,1.1s							
FRU1	**Bishkek**	**25.84**	**324**	P		**P**	**14 00 38.0**	**+2.0**
FRU1				IAmb		IAmb	14 01 16.1	
	comp=Z,3μm,1.1s							
PCPH	**Palayan**	**25.85**	**102**	⇑*e*P		**P**	**14 00 36.4**	**+0.2**
KRJI	**Kerinci**	**25.86**	**165**	P		**P**	**14 00 34.3**	**-2.1**
	comp=Z,460μmcomp=Z,95μmcomp=Z,5μm,0.9s							
AML	**Almayashu**	**25.91**	**322**	P		**P**	**14 00 39.9**	**+2.9**
	SNR=148							
AML	**Almayashu**	**25.91**	**322**	*i* P		**P**	**14 00 39.2**	**+2.3**
	SNR=2120							
CHMS	**Chumysh**	**25.91**	**325**	P		**P**	**14 00 38.2**	**+1.8**
	SNR=653							
CHMS	**Chumysh**	**25.91**	**325**	P		**P**	**14 00 38.1**	**+1.6**
JMBI	**JAMBI**	**26.04**	**160**	P		**P**	**14 00 39.3**	**+1.4**
	comp=Z,88μmcomp=Z,8μm,1.2s							
PPSI	**Pulau Pagai**	**26.20**	**168**	P		**P**	**14 00 40.3**	**+1.0**
	comp=Z,401μmcomp=Z,296μmcomp=Z,35μm,1.2s							
EKS2	**Erkin-Say**	**26.21**	**323**	P		**P**	**14 00 41.5**	**+2.2**
	SNR=1208							
KSM	**Kuching**	**26.22**	**143**	⇑P		**P**	**14 00 40.5**	**+1.0**
KSM	**Kuching**	**26.22**	**143**	P		**P**	**14 00 42.0**	**+2.5**
USP	**Ospenovka**	**26.23**	**325**	P		**P**	**14 00 41.2**	**+1.9**
	SNR=1287							
TGY	**Tagaytay City**	**26.26**	**105**	P		**P**	**14 00 42.3**	**+2.4**
	comp=Z,5μm,1.0s,baz=320,slow=4.8,SNR=63							
TGY				LR		LR	14 11 15.1	
	comp=Z,69μm,20.7s,baz=282,slow=36							
TGY	**Tagaytay City**	**26.26**	**105**	⇑*e*P		**P**	**14 00 40.4**	**+0.5**
SGDS	**Sogindy**	**26.28**	**325**	*d*iP		**P**	**14 00 41.7**	**+1.8**
SGDS				*i* S		**S**	**14 05 02.9**	**+1.6**
SGDS				pmax		pmax		
	comp=Z,2μm,1.5s							
SGDS	**Sogindy**	**26.28**	**325**	⇓*i*P		**P**	**14 00 41.7**	**+1.8**
	comp=Z,2μm,1.5s,baz=325							
SGDS				*i* S		**S**	**14 05 02.9**	**+1.6**
	baz=325							

XLT PP **PnPn** **14 01 38.0 -1.8**
XLT PcP **PcP** **14 04 06.8 +2.6**
XLT S **S** **14 05 16.6 +2.1**
XLT sS sS 14 06 02.3 -8.6
XLT ScP **ScP** **14 07 31.1 +0.6**
XLT pmax pmax
comp=Z,980nm,1.7s
XLT pmax pmax
comp=Z,9µm,4.7s
XLT LR LR
comp=Z,11µm,11.4s
XLT LR LR
comp=Z,88µm,15.0s
XLT LR LR
comp=Z,125µm,15.9s
PPBI Pangkal Pinang 27.42 155 P **P** **14 00 50.7 +0.5**
comp=Z,325µcomp=Z,51µcomp=Z,3µm,1.2s
PMBI Palembang 27.63 158 P **P** **14 00 51.9 -0.1**
comp=Z,340µcomp=Z,178µcomp=Z,19µm,1.1s
PMBI Palembang 27.63 158 P **P** **14 00 51.2 -0.8**
GQP Guinayangan 27.68 104⇑ *eP* **P** **14 00 53.7 +1.2**
DL2 Dalian 27.70 49⇑ *iP* **P** **14 00 53.5 +1.0**
DL2 pP **pP** **14 01 21.3 -3.0**
DL2 S **S** **14 05 24.8 +1.4**
DL2 ScP **ScP** **14 07 32.3 +0.1**
DL2 ScS **ScS** **14 11 22.4 -2.0**
DL2 pmax pmax
comp=Z,860nm,0.9s
DL2 pmax pmax
comp=Z,3µm,4.3s
BTLS Baital 27.70 327 *d iP* **P** **14 00 53.7 +1.3**
BTLS Baital 27.70 327⇓ *iP* **P** **14 00 53.8 +1.3**
baz=327
DZA Taraz 27.74 321 *deP* **P** **14 00 54.5 +1.6**
DZA pmax pmax
comp=Z,1µm,1.4s
DZA Taraz 27.74 321⇓ *eP* **P** **14 00 54.5 +1.6**
comp=Z,1µm,1.4s,baz=321
SPMM Sapulut 27.75 128 P **P** **14 00 56.0 +2.7**
JMJ Miyako jima 2 27.84 80 P **P** **14 00 55.2 +1.3**
ZAK Zakamensk 28.01 12 *eP* **P** **14 00 56.2 +0.9**
ZAK pmax pmax
comp=Z,1µm,1.4s
STKI Sintang 28.03 143 P **P** **14 00 56.1 +0.4**
comp=Z,150µcomp=Z,41µcomp=Z,3µm,1.1s
IUG Iuzhnay 28.07 318 *d iP* **P** **14 00 58.0 +2.1**
IUG *i* S **S** **14 05 31.5 +1.9**
IUG Iuzhnay 28.07 318⇓ *iP* **P** **14 00 58.1 +2.1**
baz=318
IUG *i* S **S** **14 05 31.5 +1.9**
baz=318
TAS Tashkent 28.08 316 P **P** **14 00 57.7 +1.8**
TAS pmax pmax
comp=Z,10µm,1.2s
TAS Tashkent 28.08 316 P **P** **14 00 57.7 +1.8**
KK31 Karatay Array 28.35 321 P **P** **14 00 59.3 +1.1**
KK31 pmax pmax
comp=Z,949nm,1.1s
KK31 Karatay Array 28.35 321 P **P** **14 00 59.3 +1.1**
KKAR Karatay Array 28.35 321 P **P** **14 00 59.3 +1.0**
KKAR Karatay Array 28.35 321 P **P** **14 00 59.3 +1.0**
KKAR Karatay Array 28.35 321⇑ P **P** **14 00 59.3 +1.0**
MNAI Manna 28.42 163 P **P** **14 00 57.2 -1.9**
MNAI IAmb IAmb 14 01 03.5
comp=Z,3µm,0.7s
MNAI Manna 28.42 163⇓ P **P** **14 00 57.5 -1.7**
MNAI Manna 28.42 163 P **P** **14 00 57.1 -2.0**
comp=Z,268µcomp=Z,47µcomp=Z,4µm,1.0s
CHM Chimkent 28.43 318 *eP* **P** **14 01 01.9 +2.9**
CHM *i* S **S** **14 05 37.4 +2.3**
CHM Chimkent 28.43 318 *eP* **P** **14 01 01.9 +2.9**
baz=318
CHM *i* S **S** **14 05 37.5 +2.3**
baz=318
BRLS Borolday 28.70 320 *eP* **P** **14 01 02.1 +0.7**
BRLS *i* S **S** **14 05 39.5 +0.2**
BRLS Borolday 28.70 320 *eP* **P** **14 01 02.2 +0.7**
baz=319
BRLS *i* S **S** **14 05 39.5 +0.2**
baz=319
MOY Mondy 28.90 8 *eP* **P** **14 01 04.8 +1.6**
MOY pmax pmax
comp=Z,1µm,2.9s
RCP Roxas 28.94 109⇑ *eP* **P** **14 01 04.2 +0.5**
MYLDM Lahad Datu 28.95 124 P **P** **14 01 06.3 +2.5**
MYLDM Lahad Datu 28.95 124⇑ P **P** **14 01 06.1 +2.2**
LWLI Liwa 29.36 161 P **P** **14 01 05.6 -2.0**
comp=Z,93µcomp=Z,9µm,0.8s
KLI Kotabumi 29.47 159 P **P** **14 01 07.4 -1.0**
comp=Z,231µcomp=Z,40µcomp=Z,3µm,1.0s
SEM Semipalatinsk 29.54 341 *d iP* **P** **14 01 09.8 +0.9**
SEM *i* S **S** **14 05 51.8 -0.8**
SEM pmax pmax
comp=Z,3µm,2.3s
SEM Semipalatinsk 29.54 341⇓ *iP* **P** **14 01 09.8 +0.9**
comp=Z,3µm,2.3s,baz=341
SEM *i* S **S** **14 05 51.9 -0.8**
baz=341
IRK Irkutsk 29.98 12 *eP* **P** **14 01 13.6 +1.1**
IRK *e* 14 01 45.5
IRK pmax pmax
comp=Z,4µm,2.2s
KASI Kota Agung 29.98 161 P **P** **14 01 09.5 -3.3**
comp=Z,204µcomp=Z,39µcomp=Z,4µm,0.9s
BLSI Bandar Lampung 30.07 159 P **P** **14 01 12.5 -1.2**
comp=Z,182µcomp=Z,33µcomp=Z,4µm,1.1s
SUJ Sinuiju 30.21 49 P **P** **14 01 14.9 +0.2**
SUJ S **S** **14 06 02.7 -0.3**
SUJ AmB
comp=Z,43µm,5.2s
SUJ AMS AMS
comp=N,58µm,7.4s
SUJ AMS AMS
comp=E,89µm,11.2s
SUJ AMS AMS
comp=Z,41µm,5.2s
KURBB Kurchatov Arra 30.27 339 P **P** **14 01 16.5 +1.4**
comp=Z,3µm,0.7s,baz=151,slow=8.4,SNR=2080
KURBB pP **pP** **14 01 50.8 +3.6**
comp=Z,936nm,0.8s,baz=150,slow=8.7,SNR=3.2
KURBB PcP **PcP** **14 04 13.2 +1.3**
comp=Z,142nm,0.6s,baz=174,slow=1.9,SNR=4.5
KURBB S **S** **14 06 04.7 +1.1**
comp=Z,312nm,1.1s,baz=152,slow=16,SNR=4.9
KURBB ScP **ScP** **14 07 41.3 +1.2**
comp=Z,265nm,0.8s,baz=148,slow=2.7,SNR=13
KURBB P3KPbc 14 33 06.2
comp=Z,93nm,0.8s,baz=327,slow=5.0,SNR=111
KURBB P3KP 14 34 13.7
comp=Z,13nm,1.0s,baz=261,slow=4.1,SNR=4.7
HJU Haeju 30.30 53 P **P** **14 01 15.8 +0.3**
HJU S **S** **14 06 02.8 -1.5**
HJU AmB
comp=Z,48µm,5.0s
HJU AMS AMS
comp=N,20µm,3.2s
HJU AMS AMS
comp=E,59µm,9.3s
HJU AMS AMS
comp=Z,26µm,4.0s
KURK Kurchatov 30.32 339 P **P** **14 01 17.0 +1.4**
KURK pmax pmax
comp=Z,5µm,0.8s
KURK Kurchatov 30.32 339 P **P** **14 01 16.9 +1.4**
KURK Kurchatov 30.32 339⇑ P **P** **14 01 16.6 +1.0**
SNY Shenyang 30.38 45⇑ P **P** **14 01 16.6 +0.4**
SNY pP **pP** **14 01 49.9 +1.6**
SNY PP **PnPn** **14 02 21.6 0.0**
SNY S **S** **14 06 00.4 -5.1**
SNY LR LR
comp=Z,71µm,15.3s
SNY LR LR
comp=Z,110µm,18.8s
SNY LR LR
comp=Z,91µm,20.2s
SNPH Sibulan 30.42 112⇑ *eP* **P** **14 01 18.0 +1.1**
PBKI Pangkalan Bun 30.45 145 P **P** **14 01 18.6 +1.6**
comp=Z,225µcomp=Z,62µcomp=Z,5µm,1.2s
JOW Kunigami 30.47 76 P **P** **14 01 18.4 +1.1**
comp=Z,1µm,0.5s,baz=267,slow=6.8,SNR=158
JOW ScP **ScP** **14 07 41.2 -0.1**
comp=Z,103nm,0.9s,baz=286,slow=1.7,SNR=4.8
JOW PKiKP **PKiKP** **14 11 43.8 -0.3**
comp=Z,74nm,0.9s,baz=57,slow=28,SNR=10
JOW P3KPbc 14 33 09.2
comp=Z,19nm,0.8s,baz=352,slow=5.2,SNR=4.3
JOW Kunigami 30.47 76 P **P** **14 01 17.6 +0.3**
JOW IAmb IAmb 14 01 21.4
comp=Z,4µm,1.3s
JOW Kunigami 30.47 76 P **P** **14 01 18.6 +1.4**
LLP Lapu-Lapu 30.57 110⇑ *eP* **P** **14 01 18.7 +0.5**
HRA Herat 30.59 299 P **P** **14 01 19.6 +1.1**
HRA IAmb IAmb 14 01 21.8
comp=Z,2µm,1.5s
PYAG Pyongyang 30.68 52 P **P** **14 01 18.8 -0.1**
PYAG S **S** **14 06 10.2 -0.2**
PYAG AmB
comp=Z,36µm,5.2s
PYAG AMS AMS
comp=N,42µm,10.6s
PYAG AMS AMS
comp=E,42µm,10.7s
PYAG AMS AMS
comp=Z,16µm,4.1s
TBP Tagbilaran 30.78 111⇑ *iP* **P** **14 01 21.5 +1.5**
INCN Inchon 30.79 55 P **P** **14 01 19.2 -0.7**
INCN pmax pmax
comp=Z,294nm,1.0s
INCN Inchon 30.79 55 P **P** **14 01 19.2 -0.7**
INCN Inchon 30.79 55⇑ P **P** **14 01 19.6 -0.3**
INCN ⇑S **ScP** **14 07 41.9 -0.2**
OTUK Ortayu 30.82 330 P **P** **14 01 22.1 +2.1**
MTKI Muara Teweh, K 30.86 138 P **P** **14 01 21.5 +0.9**
comp=Z,120µcomp=Z,32µcomp=Z,2µm,1.1s
KAAM Kaadhehdhoo 30.93 226⇑ P **P** **14 01 23.5 +2.3**
TJN Taejon 31.01 57 *c iP* **P** **14 01 21.3 -0.6**
TJN Taejon 31.01 57 P **P** **14 01 21.2 -0.6**
TJN IAmb IAmb 14 01 26.7
comp=Z,2µm,1.0s
TNG Tangerang 31.30 157 P **P** **14 01 24.2 -0.3**
comp=Z,202µcomp=Z,134µcomp=Z,15µm,1.3s
TNG P **P** **14 01 26.5 +2.0**
comp=Z,91µcomp=Z,10µm,1.3s
CGJI Cibinong 31.38 159 P **P** **14 01 21.5 -3.7**
comp=Z,169µcomp=Z,18µcomp=Z,2µm,1.0s
MSLP Maasin 31.43 109⇑ *eP* **P** **14 01 26.9 +1.2**
DBJI Dramaga 31.69 157 P **P** **14 01 26.2 -1.8**
comp=Z,50µcomp=Z,3µm,1.2s
ZALV Zalesovo Beam 31.71 349 P **P** **14 01 28.6 +0.9**
comp=Z,5µm,0.8s,baz=169,slow=8.2,SNR=1503
ZALV pP **pP** **14 02 03.4 +3.4**
comp=Z,193nm,0.5s,baz=177,slow=9.2,SNR=1.0
ZALV PcP **PcP** **14 04 16.3 +0.6**
comp=Z,101nm,0.3s,baz=179,slow=4.1,SNR=7.7
ZALV S **S** **14 06 28.5 +2.4**
comp=Z,391nm,0.8s,baz=163,slow=16,SNR=6.0
ZALV PKiKP **PKiKP** **14 11 42.5 -1.5**
comp=Z,41nm,0.8s,baz=180,slow=3.0,SNR=4.7
ZALV LR LR 14 15 24.6
comp=Z,70µm,20.1s,baz=140,slow=38
ZALV P3KPbc 14 32 58.0
comp=Z,22nm,0.7s,baz=337,slow=3.9,SNR=35
ZALV Zalesovo Beam 31.71 349 P **P** **14 01 29.1 +1.3**
ZALV Zalesovo Beam 31.71 349 P **P** **14 01 29.1 +1.3**
I46RU ZALESOVO INFRA 31.72 349 P **P** **14 01 29.2 +1.4**
baz=138,slow=8.5,SNR=4.7
KSAR Wonju Array Be 31.72 56 P **P** **14 01 27.6 -0.4**
KSAR Wonju Array Be 31.72 56 P **P** **14 01 27.6 -0.4**
KS19 Wonju Array Si 31.73 55 P **P** **14 01 27.7 -0.3**
KSRS Korea Array 31.75 56 P **P** **14 01 27.4 -0.8**
comp=Z,37nm,0.7s,baz=241,slow=8.3,SNR=104
KSRS PP **PnPn** **14 02 38.0 -0.9**
comp=Z,360nm,1.1s,baz=251,slow=7.8,SNR=3.9
KSRS PcP **PcP** **14 04 17.1 +1.0**
comp=Z,63nm,0.6s,baz=259,slow=2.4,SNR=11
KSRS S **S** **14 06 28.9 +1.9**
comp=Z,58nm,1.0s,baz=238,slow=15,SNR=4.6
KSRS ScP **ScP** **14 07 45.5 +0.1**
comp=Z,137nm,1.0s,baz=249,slow=3.6,SNR=12
KSRS PKiKP **PKiKP** **14 11 44.4 -0.2**
comp=Z,13nm,1.0s,baz=300,slow=1.6,SNR=4.7
KSRS P3KPbc 14 33 00.9
comp=Z,14nm,0.9s,baz=70,slow=4.5,SNR=24
KSRS P3KP 14 34 21.9
comp=Z,7.9nm,1.0s,baz=5.7,slow=4.1,SNR=5.9
SMKI Samarinda 31.95 134 P **P** **14 01 32.5 +2.2**
comp=Z,193µcomp=Z,67µcomp=Z,3µm,1.0s
BRZS Berezniki 31.96 333 *i* P **P** **14 01 31.8 +1.9**
BRZS *i* S **S** **14 06 31.8 +1.8**
BRZS pmax pmax
comp=Z,2µm,1.3s
BRZS Berezniki 31.96 333 *i* P **P** **14 01 31.9 +1.9**
comp=Z,2µm,1.3s,baz=332
BRZS *i* S **S** **14 06 31.8 +1.8**
baz=332
SKJI Sukabumi 32.04 158 P **P** **14 01 27.2 -3.8**
comp=Z,36µcomp=Z,4µm,1.0s
SCPH Surigao 32.14 109⇓ *eP* **P** **14 01 35.7 +3.7**
JTU Tsushima 32.19 62 P **P** **14 01 32.3 +0.2**
CIT Chita 32.25 22 *eP* **P** **14 01 32.8 +0.3**
CIT *e* 14 02 23.0
CIT *e* 14 02 43.2
CIT *e* 14 04 14.6
CIT *eS* **S** **14 06 32.3 -2.3**
CIT pmax pmax
comp=Z,2µm,1.7s
LEM Lembang 32.26 156 P **P** **14 01 31.8 -1.3**
comp=Z,630nm,1.0s,baz=74,slow=1.2,SNR=56
LEM P3KPbc 14 33 01.2
comp=Z,155nm,0.8s,baz=123,slow=3.5,SNR=16
LEM Lembang 32.26 156 P **P** **14 01 32.0 -1.1**
comp=Z,107µcomp=Z,21µcomp=Z,1µm,1.2s
HHU Hamhung 32.28 51 P **P** **14 01 33.1 +0.2**
HHU S **S** **14 06 33.4 -1.8**
HHU AmB
comp=Z,18µm,3.9s
HHU AMS AMS
comp=N,22µm,3.9s
HHU AMS AMS
comp=E,21µm,3.6s
HHU AMS AMS
comp=Z,22µm,3.9s
CNJI Cibinong 32.53 157 P **P** **14 01 31.1 -4.1**
comp=Z,179µcomp=Z,20µcomp=Z,2µm,1.0s
CN2 Changchun 32.54 43 *eP* **P** **14 01 34.9 -0.2**
CN2 *ep* pP pP 14 02 05.0 -2.5
CN2 *es* sP sP 14 02 21.5 -3.4
CN2 S **S** **14 06 37.8 -1.4**
CN2 *es* sS sS 14 07 30.8 -5.2
CN2 SS **SnSn** **14 08 43.8 -7.8**
CN2 pmax pmax
comp=Z,320nm,1.0s
CN2 pmax pmax
comp=Z,3µm,4.0s
CN2 LR LR
comp=Z,40µm,17.0s
CN2 LR LR
comp=Z,82µm,15.0s
CN2 LR LR
comp=Z,53µm,17.0s
HIA Hailar 32.65 31 P **P** **14 01 36.4 +0.3**
HIA pmax pmax
comp=Z,4µm,1.7s
HIA Hailar 32.65 31 P **P** **14 01 36.4 +0.3**
HIA IAmb IAmb 14 01 40.0
comp=Z,4µm,1.7s
BBKI Banjar Baru 32.83 141 P **P** **14 01 38.9 +1.0**
comp=Z,116µcomp=Z,73µcomp=Z,8µm,1.1s
JNU Nakatsue 33.16 64 P **P** **14 01 40.9 +0.1**
comp=Z,750nm,0.9s,baz=269,slow=4.3,SNR=198
JNU PcP **PcP** **14 04 20.7 +0.6**
comp=Z,419nm,0.9s,baz=143,slow=3.1,SNR=4.7
JNU LR LR 14 16 47.1
comp=Z,62µm,18.6s,baz=228,slow=39
JNU P3KPbc 14 32 55.0
comp=Z,56nm,1.2s,baz=34,slow=5.4,SNR=8.8
JNU Nakatsue 33.16 64 P **P** **14 01 41.1 +0.4**
JNU IAmb IAmb 14 01 46.6
comp=Z,943nm,0.9s
JNU Nakatsue 33.16 64 P **P** **14 01 41.5 +0.8**
MPSI Mapaga 33.24 129 P **P** **14 01 42.4 +0.9**
comp=Z,196µcomp=Z,37µcomp=Z,1µm,1.0s
KPJI Karang Pucung 33.24 154 P **P** **14 01 42.4 +1.0**
comp=Z,201µcomp=Z,113µcomp=Z,10µm,1.3s
WSAR Wadi Sarin 33.25 278 P **P** **14 01 43.2 +1.7**
comp=Z,1µm,0.9s,baz=114,slow=8.1,SNR=366
WSAR PcP **PcP** **14 04 22.4 +1.9**
comp=Z,977nm,0.7s,baz=163,slow=4.9,SNR=15
WSAR LR LR 14 17 40.6
comp=Z,78µm,19.2s,baz=96,slow=40
WSAR P3KPbc 14 32 56.2
comp=Z,35nm,0.7s,baz=266,slow=8.1,SNR=24
UWJI Ujung Watu 33.30 150 P **P** **14 01 42.8 +0.8**
comp=Z,669µcomp=Z,59µcomp=Z,7µm,1.1s
TOLI2 Tolitoli 33.34 127 P **P** **14 01 43.9 +1.5**
CMJI Cimerak 33.46 155 P **P** **14 01 38.9 -4.4**
comp=Z,104µcomp=Z,17µcomp=Z,1µm,1.1s
GSPH General Santos 33.56 116 *i* P **P** **14 01 48.9 +4.5**
DAV Davao City (W) 33.57 113 P **P** **14 01 46.1 +1.7**
comp=Z,2µm,0.9s,baz=57,slow=2.4,SNR=24
DAV Davao City (W) 33.57 113 P **P** **14 01 46.5 +2.1**
DAV IAmb IAmb 14 01 50.1
comp=Z,3µm,0.9s
DAV Davao City (W) 33.57 113 P **P** **14 01 45.6 +1.2**
SMRI Semarang 33.63 151⇑ P **P** **14 01 46.9 +2.0**
SMRI Semarang 33.63 151 P **P** **14 01 46.3 +1.5**
comp=Z,239µcomp=Z,195µcomp=Z,11µm,0.8s
BWJI Bawean 33.63 147 P **P** **14 01 46.5 +1.6**
comp=Z,123µcomp=Z,71µcomp=Z,7µm,1.6s
BIPH Bislig 33.67 111⇑ *eP* **P** **14 01 46.2 +1.0**
TBJI Tambak Boyo 34.07 149 P **P** **14 01 50.1 +1.5**
comp=Z,122µcomp=Z,63µcomp=Z,5µm,1.2s
YOGI Yogyakarta 34.25 152 P **P** **14 01 50.2 0.0**
comp=Z,39µcomp=Z,3µm,1.3s
UGM Wanagama 34.43 152 P **P** **14 01 51.6 -0.2**
UGM IAmb IAmb 14 02 11.1
comp=Z,8µm,1.6s
UGM Wanagama 34.43 152 P **P** **14 01 51.1 -0.7**
comp=Z,189µcomp=Z,52µcomp=Z,2µm,1.2s
GRJI Gresik 34.46 148 P **P** **14 01 53.1 +1.1**
comp=Z,3µcomp=Z,24µcomp=Z,3µm,0.8s
MRSI Marisa 34.62 127 P **P** **14 01 55.6 +2.2**
comp=Z,164µcomp=Z,72µcomp=Z,7µm,1.0s
GEYT Alibeck 34.68 304 P **P** **14 01 56.3 +2.5**
comp=Z,4µm,1.1s,baz=158,slow=9.6,SNR=912
GEYT PcP **PcP** **14 04 26.3 +1.9**
comp=Z,727nm,0.8s,baz=167,slow=4.0,SNR=10.0
GEYT ScP **ScP** **14 07 56.6 +1.0**
comp=Z,137nm,0.9s,baz=113,slow=3.9,SNR=4.5
GEYT LR LR 14 18 37.7
comp=Z,102µm,21.5s,baz=116,slow=40
GEYT P3KPbc 14 32 50.2
comp=Z,7.2nm,0.8s,baz=244,slow=16,SNR=8.3
GYA0B ALIBECK ARRAY 34.68 304 P **P** **14 01 56.1 +2.3**
BNX BinXian 34.71 41⇑ P **P** **14 01 54.3 +0.5**
BNX pP **pP** **14 02 23.3 -3.1**
BNX sP **sP** **14 02 39.5 -4.3**
BNX S **S** **14 07 10.1 -2.4**
BNX sS **ScP** **14 08 02.3 +6.8**
BNX pmax pmax
comp=Z,210nm,0.8s
BNX pmax pmax
comp=Z,9µm,4.3s
BNX LR LR
comp=Z,85µm,11.0s
BNX LR LR
comp=Z,96µm,11.1s
BNX LR LR
comp=Z,124µm,12.1s
PCJI Pacitan 34.97 151 P **P** **14 01 54.0 -2.4**
comp=Z,157µcomp=Z,26µcomp=Z,2µm,1.1s
XMI Christmas Isla 35.00 161⇑ P **P** **14 01 56.1 -0.5**
SOHO SOHO 35.05 279 *i* P **P** **14 01 58.8 +1.7**
SNR=423
PWJI Pagerwojo 35.10 150 P **P** **14 01 56.9 -0.6**
comp=Z,161µcomp=Z,51µcomp=Z,3µm,1.2s
BANOM Banah 35.11 283 *i* P **P** **14 01 59.0 +1.4**
SNR=577
COCO West Island 35.13 177 P **P** **14 01 58.7 +1.0**
COCO pmax pmax
comp=Z,3µm,1.1s
COCO West Island 35.13 177 P **P** **14 01 58.6 +1.0**
COCO IAmb IAmb 14 02 03.9
comp=Z,3µm,1.1s
BVAR Borovoye Array 35.19 334 P **P** **14 01 59.6 +1.7**
comp=Z,562nm,0.5s
BVAR PP **PnPn** **14 03 23.7 +2.5**
SHME Shamm 35.24 283 *i* P **P** **14 02 00.6 +1.9**
SNR=279
BRVK Borovoye 35.26 334 *d iP* **P** **14 01 59.7 +1.3**
BRVK pmax pmax
comp=Z,2µm,1.3s
BRVK Borovoye 35.26 334 P **P** **14 01 59.6 +1.1**
BRVK IAmb IAmb 14 02 06.2
comp=Z,966nm,0.8s
BRVK Borovoye 35.26 334⇓ P **P** **14 01 59.7 +1.3**
BRVK Borovoye 35.26 334 P **P** **14 01 59.8 +1.3**
BRVK pP **pP** **14 02 34.9 +3.8**
UOSS Minazif 35.27 281 P **P** **14 02 00.2 +1.2**
UOSS IAmb IAmb 14 02 03.2
comp=Z,1µm,0.9s
UOSS Minazif 35.27 281⇑ P **P** **14 01 59.3 +0.4**
UOSS ⇓P **PcP** **14 04 27.8 +1.5**
UOSS Minazif 35.27 281 *i* P **P** **14 01 59.8 +0.8**
SNR=51
MSFE Esma-Masafi 35.27 282 *i* P **P** **14 02 00.8 +1.7**
SNR=284
JHS Saijyo 35.28 62 P **P** **14 01 59.5 +0.6**
KMMI Kalianget 35.32 146 P **P** **14 02 00.1 +0.7**
comp=Z,196µcomp=Z,163µcomp=Z,15µm,1.1s
HATD Hatta, Dubai 35.35 281 *i* P **P** **14 02 01.2 +1.6**
SNR=584
APSI Ampana 35.35 129 P **P** **14 02 01.2 +1.5**
comp=Z,90µcomp=Z,46µcomp=Z,5µm,1.1s
SGSI Sangihe 35.39 118 P **P** **14 02 01.6 +1.5**
comp=Z,6µcomp=Z,4µm,0.9s
ASHO Ashiyiah 35.43 281 *i* P **P** **14 02 02.3 +2.0**
SNR=834
MDJ Mudanjiang 35.56 44 P **P** **14 02 00.7 -0.4**
MDJ Mudanjiang 35.56 44 P **P** **14 02 01.0 -0.2**
TTSI Tana Toraja 35.62 134 P **P** **14 02 03.5 +1.6**
comp=Z,145µcomp=Z,85µcomp=Z,8µm,1.1s
UMQ Umm Al-Quwin 35.71 282 *i* P **P** **14 02 05.0 +2.4**
SNR=36
BLJI Banyuglugur 35.73 147 P **P** **14 02 04.0 +1.2**
comp=Z,100µcomp=Z,39µcomp=Z,1µm,0.8s
JMN Monobe 35.73 64 P **P** **14 02 03.1 +0.3**
JMN IAmb IAmb 14 02 12.1
comp=Z,1µm,1.1s
NAZ Nazwa, Dubai 35.76 281 *i* P **P** **14 02 05.3 +2.2**
SNR=226
ALNE Al Ain 35.77 279 *i* P **P** **14 02 05.2 +1.9**
SNR=459
MSHR Mys Shultsa 35.80 48 *ceP* **P** **14 02 03.6 +0.4**
MSHR pmax pmax
comp=Z,447nm,0.8s
FAQ Al Faqa, Dubai 35.84 281 *i* P **P** **14 02 06.0 +2.2**
SNR=193
KMSI Cibinong 36.09 124 P **P** **14 02 08.2 +2.2**
comp=Z,6µcomp=Z,170µcomp=Z,25µm,0.9s
ASUD Al Ashush, Dub 36.09 281 *i* P **P** **14 02 09.0 +3.0**
SNR=255
ABJI Asem Bagus 36.09 146 P **P** **14 02 06.4 +0.4**
comp=Z,187µcomp=Z,81µcomp=Z,5µm,1.3s
GMJI Gumukmas 36.11 148 P **P** **14 02 06.1 0.0**
comp=Z,155µcomp=Z,48µcomp=Z,2µm,1.4s
LUWI Luwuk 36.26 128 P **P** **14 02 08.7 +1.3**
LUWI Luwuk 36.26 128⇑ P **P** **14 02 08.0 +0.6**
LUWI Luwuk 36.26 128 P **P** **14 02 08.3 +0.9**
comp=Z,150µcomp=Z,178µcomp=Z,20µm,1.2s
SPSI Sidrap Palu 36.27 135 P **P** **14 02 08.7 +1.2**
comp=Z,176µcomp=Z,138µcomp=Z,7µm,1.2s
AJN Ajban 36.41 280 *i* P **P** **14 02 10.1 +1.5**
SNR=122
VLA Vladivostok 36.49 48 *c iP* **P** **14 02 09.6 +0.5**
VLA pmax pmax
comp=Z,1µm,1.0s
JAGI Jajag, Banyuwa 36.63 147⇑ P **P** **14 02 10.3 -0.2**
JAGI Jajag, Banyuwa 36.63 147 P **P** **14 02 09.9 -0.6**
comp=Z,157µcomp=Z,67µcomp=Z,5µm,1.3s
BNSI Bone 36.82 135 P **P** **14 02 13.3 +1.2**
comp=Z,141µcomp=Z,70µcomp=Z,5µm,1.0s
SRBI Singaraja 36.85 145 P **P** **14 02 12.8 +0.4**
comp=Z,179µcomp=Z,124µcomp=Z,7µm,1.5s
USRK Ussuriysk Ar. 36.96 46 P **P** **14 02 13.3 +0.3**
comp=Z,489nm,1.0s,baz=247,slow=8.4,SNR=188
USRK pP **pP** **14 02 45.9 0.0**
comp=Z,422nm,1.0s,baz=256,slow=5.9,SNR=4.1
USRK ScP **ScP** **14 08 03.3 -0.5**
comp=Z,64nm,0.9s,baz=219,slow=1.7,SNR=5.7
USRK P3KPbc 14 32 39.5
comp=Z,2.6nm,0.5s,baz=89,slow=3.8,SNR=5.1
USRK P3KP 14 34 19.5
comp=Z,9.4nm,1.0s,baz=35,slow=2.1,SNR=4.1
USRK PKPPKP 14 35 02.7
comp=Z,7.5nm,0.9s,baz=180,slow=0.6,SNR=4.1
USRK PKP2ab 14 36 34.1
comp=Z,5.6nm,0.9s,baz=57,slow=7.0,SNR=4.9

SHAO Shalim 37.00 270 *i* P **P 14 02 16.0 +2.3**
SNR=66
KAPI Kappang 37.05 136 P **P 14 02 14.9 +0.8**
comp=Z,2μm,0.9s,baz=304,slow=5.8,SNR=176
KAPI PcP **PcP 14 04 33.0 +1.3**
comp=Z,647nm,0.9s,baz=206,slow=2.0,SNR=5.9
KAPI ScP **ScP 14 08 04.2 -0.4**
comp=Z,66nm,0.7s,baz=294,slow=5.7,SNR=4.2
KAPI Kappang 37.05 136*c i*P **P 14 02 14.4 +0.4**
KAPI Kappang 37.05 136 P **P 14 02 14.5 +0.4**
KAPI IAmb IAmb 14 02 19.3
comp=Z,9μm,1.8s
KAPI Kappang 37.05 136 ⇑P **P 14 02 14.7 +0.6**
KAPI Kappang 37.05 136 P **P 14 02 14.9 +0.8**
BOD Bodaibo 37.33 17 ⇑*i*P **P 14 02 16.4 +0.4**
BOD pmax pmax
comp=Z,1μm,1.7s
DNP Denpasar 37.35 145 P **P 14 02 17.4 +0.8**
comp=Z,160μmcomp=Z,96μmcomp=Z,8μm,1.1s
DGAR Diego Garcia 37.42 218*ce*P **P 14 02 18.8 +1.6**
DGAR pmax pmax
comp=Z,3μm,1.4s
DGAR Diego Garcia 37.42 218 P **P 14 02 17.7 +0.5**
DGAR IAmb IAmb 14 02 21.6
comp=Z,8μm,1.9s
DGAR Diego Garcia 37.42 218 ⇑P **P 14 02 18.0 +0.8**
DGAR Diego Garcia 37.42 218 P **P 14 02 18.5 +1.3**
DGAR pP **pP 14 02 48.1 -2.0**
IGBI Denpasar 37.43 146 P **P 14 02 17.3 0.0**
comp=Z,76μmcomp=Z,46μmcomp=Z,4μm,1.2s
BKSI Bulukumba 37.52 136 P **P 14 02 18.1 0.0**
comp=Z,135μmcomp=Z,55μmcomp=Z,4μm,1.1s
AB31 Akbulak array 37.86 322 P **P 14 02 22.3 +1.7**
ABKAR Akbulak array 37.86 322 P **P 14 02 22.4 +1.9**
ABKAR Akbulak array 37.86 322 P **P 14 02 22.1 +1.6**
ABKAR IAmb IAmb 14 02 25.1
comp=Z,8μm,1.6s
ABKAR Akbulak array 37.86 322 ⇑P **P 14 02 21.9 +1.3**
MZR Muzera 37.98 278 *i* P **P 14 02 23.2 +1.3**
SNR=221
BSSI Bau Bau, Buton 38.38 136 P **P 14 02 24.9 -0.4**
comp=Z,78μmcomp=Z,22μmcomp=Z,2μm,1.0s
INU Inuyama 38.50 62 P **P 14 02 26.5 +0.4**
INU IAmb IAmb 14 02 28.8
comp=Z,667nm,0.7s
INU Inuyama 38.50 62 ⇑P **P 14 02 26.6 +0.5**
INU ⇓S **S 14 08 10.1 -0.3**
TNTI Ternate 38.60 121 P **P 14 02 26.7 -0.5**
TNTI IAmb IAmb 14 02 30.5
comp=Z,5μm,1.1s
TNTI Ternate 38.60 121 ⇑P **P 14 02 27.0 -0.1**
TNTI Ternate 38.60 121 P **P 14 02 27.3 +0.2**
comp=Z,77μmcomp=Z,43μmcomp=Z,5μm,1.1s
PLAI Plampang 38.87 142 P **P 14 02 28.6 -0.7**
comp=Z,151μmcomp=Z,56μmcomp=Z,4μm,1.1s
KLR Kul'dur 38.98 39 P **P 14 02 30.1 +0.2**
comp=Z,304nm,1.0s,baz=253,slow=8.0,SNR=255
KLR PcP **PcP 14 04 37.3 +0.1**
comp=Z,178nm,0.9s,baz=232,slow=3.7,SNR=4.7
KLR ScP **ScP 14 08 11.3 0.0**
comp=Z,208nm,1.0s,baz=241,slow=5.3,SNR=15
KLR P3KPbc 14 32 31.9
comp=Z,3.3nm,1.0s,baz=8.0,slow=4.7,SNR=4.8
KLR P3KP 14 34 17.1
comp=Z,13nm,1.0s,baz=322,slow=4.0,SNR=6.0
KLR Kul'dur 38.98 39*c i*P **P 14 02 30.4 +0.5**
KLR pmax pmax
comp=Z,629nm,1.3s
ZEA Zeya 39.13 30 *e*P **P 14 02 31.8 +0.7**
ZEA *e* 14 03 26.0
ZEA *e* 14 04 08.1
ZEA *e*S **S 14 08 17.9 -1.4**
ZEA *e*SS **SS 14 11 19.8 +1.6**
ZEA pmax pmax
comp=N,2μm,6.4s
ZEA pmax pmax
comp=E,2μm,7.0s
ZEA pmax pmax
comp=Z,4μm,7.0s
ZEA pmax pmax
comp=N,290nm,1.2s
ZEA pmax pmax
comp=E,230nm,1.4s
ZEA pmax pmax
comp=Z,520nm,1.4s
ZEA pmax pmax
comp=E,7μm,4.0s
ZEA pmax pmax
comp=N,9μm,4.2s
ZEA pmax pmax
comp=Z,14μm,4.2s
ZEA smax smax
comp=N,7μm,12.0s
ZEA MLR MLR
comp=E,34μm,12.0s
ZEA MLR MLR
comp=N,22μm,13.0s
ZEA MLR MLR
comp=Z,43μm,14.0s
BBSI Bau Bau 39.26 133 P **P 14 02 33.6 +1.0**
comp=Z,1μmcomp=Z,6μmcomp=Z,662nm,1.0s
SANI Sanana 39.31 125 ⇑P **P 14 02 31.9 -1.2**
SANI ⇑P **P 14 02 32.3 -0.9**
SANI ⇑P **P 14 02 36.7 +3.7**
SANI Sanana 39.31 125 P **P 14 02 31.9 -1.2**
comp=Z,135μmcomp=Z,54μmcomp=Z,3μm,1.0s
AKTO Aktyubinsk 39.53 323 P **P 14 02 35.7 +1.2**
comp=Z,808nm,0.5s,baz=118,slow=8.7,SNR=901
AKTO PcP **PcP 14 04 39.5 +0.6**
comp=Z,699nm,0.8s,baz=152,slow=3.4,SNR=5.3
AKTO ScP **ScP 14 08 14.0 +0.5**
comp=Z,284nm,0.9s,baz=177,slow=3.5,SNR=6.2
AKTO LR LR 14 21 37.2
comp=Z,78μm,21.9s,baz=131,slow=40
AKTO P3KP 14 34 14.1
comp=Z,15nm,0.7s,baz=128,slow=0.4,SNR=8.7
AKTO Aktyubinsk 39.53 323 P **P 14 02 36.1 +1.6**
LBMI Labuha 39.57 122 P **P 14 02 35.3 +0.1**
comp=Z,86μmcomp=Z,50μmcomp=Z,5μm,1.1s
MJB9 Matsu-Tunnel 39.60 60 P **P 14 02 35.2 -0.1**
MJB9 IAmb IAmb 14 02 41.9
comp=Z,1μm,0.9s
MAJO Matsushiro 39.60 60*c i*P **P 14 02 35.3 0.0**
MAJO pmax pmax
comp=Z,970nm,1.0s
MAJO Matsushiro 39.60 60 P **P 14 02 35.0 -0.3**
MAJO IAmb IAmb 14 02 41.9
comp=Z,1μm,0.9s
MAJO Matsushiro 39.60 60 ⇑P **P 14 02 35.4 +0.1**
MAJO ⇓S **ScP 14 08 14.2 +0.1**
MAJO ⇓S **S 14 08 29.2 +2.3**
MAJO Matsushiro 39.60 60 P **P 14 02 35.7 +0.4**
MJAR Matsushiro Arr 39.60 60 P **P 14 02 35.4 +0.1**
comp=Z,391nm,0.7s,baz=342,slow=12,SNR=326
MJAR pP **pP 14 03 08.8 +0.3**
comp=Z,332nm,0.8s,baz=340,slow=12,SNR=3.1
MJAR PcP **PcP 14 04 40.4 +0.9**
comp=Z,117nm,0.7s,baz=3.6,slow=36,SNR=2.4
MJAR ScP **ScP 14 08 13.4 -0.7**
comp=Z,289nm,0.9s,baz=7.9,slow=9.9,SNR=16
MJAR P3KPbc 14 32 27.8
comp=Z,28nm,0.8s,baz=40,slow=11,SNR=34
MJAR P3KP 14 34 17.5
comp=Z,8.2nm,0.9s,baz=195,slow=11,SNR=5.2
MJAR Matsushiro Arr 39.60 60 P **P 14 02 35.1 -0.2**
JSD Sado 39.86 58 P **P 14 02 36.5 -0.9**
SOCY Socotra 40.30 262 P **P 14 02 41.2 -0.1**
SOCY Socotra 40.30 262 ⇑P **P 14 02 41.1 -0.3**
TEY Ternei 40.34 47⇑*eP* **P 14 02 40.2 -1.0**
TEY *e* 14 08 31.2
TEY pmax pmax
comp=E,5μm,7.3s
TEY pmax pmax
comp=N,5μm,7.1s
WBSI Waikabubak, Su 40.45 141 P **P 14 02 41.1 -1.4**
comp=N,16μm,1.1s
JHJ Hachijo jima 2 40.60 66 P **P 14 02 44.6 +1.1**
comp=N,783nm,0.9s,baz=232,slow=6.5,SNR=11
JHJ PcP **PcP 14 04 42.4 -0.3**
comp=N,471nm,0.9s,baz=82,slow=23,SNR=8.0
JHJ2 Mitsune 40.63 66 P **P 14 02 44.2 +0.5**
JHJ2 IAmb IAmb 14 02 50.9
comp=Z,1μm,1.0s
JHJ2 Mitsune 40.63 66 P **P 14 02 44.8 +1.0**
I39PW PALAU INFRASON41.13 106 P **P 14 02 48.4 +0.4**
baz=302,slow=7.8,SNR=5.0

JYT Yasato 41.16 61 P **P 14 02 47.1 -0.9**
MMRI Maumere 41.39 137 P **P 14 02 49.1 -1.1**
MMRI IAmb IAmb 14 02 57.5
comp=Z,6μm,0.9s
MMRI Maumere 41.39 137 ⇑P **P 14 02 49.3 -0.9**
MMRI Maumere 41.39 137 P **P 14 02 48.9 -1.2**
comp=Z,138μmcomp=Z,85μmcomp=Z,6μm,1.0s
BASI Baing, Sumba 41.61 140 P **P 14 02 50.0 -1.9**
comp=Z,76μmcomp=Z,58μmcomp=Z,6μm,1.2s
SVE Sverdlovsk 41.88 332*ce* P **P 14 02 55.3 +1.7**
SVE *e* 14 04 30.8
SVE *e* 14 05 10.6
SVE *e*S **S 14 09 01.5 +1.4**
SVE *e* 14 09 59.1
SVE *e* 14 12 09.4
SVE pmax pmax
comp=Z,6μm,1.3s
AAI Ambon 42.04 125 P **P 14 02 56.7 +1.3**
comp=Z,136μmcomp=Z,163μmcomp=Z,17μm,1.1s
GRNR Gornyy 42.37 39⇑*i*P **P 14 02 58.5 +0.8**
GRNR *e*S **S 14 09 12.2 +4.8**
GRNR pmax pmax
comp=E,190nm,1.0s
GRNR pmax pmax
comp=N,110nm,1.2s
GRNR pmax pmax
comp=Z,430nm,1.1s
GRNR smax smax
comp=N,180nm,1.1s
GRNR MLR MLR
comp=E,9μm,10.0s
GRNR MLR MLR
comp=Z,23μm,12.0s
MSAI Masohi 42.38 124 P **P 14 02 59.7 +1.5**
comp=Z,1μmcomp=Z,14μmcomp=Z,2μm,0.9s
JTM Tenmabayashi 42.47 54 P **P 14 02 58.5 0.0**
ARU Arti 42.55 331 P **P 14 03 00.1 +1.1**
comp=Z,370nm,0.3s,baz=124,slow=4.8,SNR=678
ARU PcP **PcP 14 04 47.8 -0.8**
comp=Z,205nm,0.6s,baz=79,slow=6.1,SNR=3.7
ARU LR LR 14 22 31.7
comp=Z,153μm,19.5s,baz=122,slow=38
ARU P3KP 14 34 10.8
comp=Z,2.0nm,0.5s,baz=156,slow=3.6,SNR=3.9
ARU Arti 42.55 331*d i*P **P 14 03 00.2 +1.2**
ARU *P*P **pP 14 03 32.7 +0.1**
ARU 14 04 40.3
ARU 14 04 50.8
ARU S **S 14 09 11.6 +1.8**
ARU SS **SS 14 12 23.2 -2.1**
ARU pmax pmax
comp=Z,3μm,1.0s
ARU pmax pmax
comp=Z,327nm,2.0s
ARU MLR MLR
comp=Z,115μm,16.0s
ARU Arti 42.55 331 P **P 14 03 00.1 +1.1**
ARU IAmb IAmb 14 03 03.1
comp=Z,9μm,1.7s
ARU Arti 42.55 331 ⇓P **P 14 03 00.1 +1.1**
ARU Arti 42.55 331 ⇓P **P 14 03 00.4 +1.4**
ARU pP **pP 14 03 32.0 -0.6**
SWI Sorong 42.69 119 P **P 14 03 00.7 0.0**
comp=Z,122μmcomp=Z,68μmcomp=Z,6μm,0.9s
SIJI Sorong 42.69 119 P **P 14 03 01.0 +0.3**
comp=Z,4μm,0.8s,baz=329,slow=11,SNR=399
JCJ Chichijima 42.85 75 P **P 14 03 00.7 -1.3**
comp=Z,1μm,0.9s,baz=270,slow=5.7,SNR=29
JCJ PcP **PcP 14 04 49.4 -0.8**
comp=Z,850nm,0.8s,baz=269,slow=6.8,SNR=4.4
JCJ Chichijima 42.85 75 P **P 14 03 00.3 -1.6**
JCJ Chichijima 42.85 75 P **P 14 03 01.1 -0.8**
JEW Eniwo 43.14 51 P **P 14 03 04.2 +0.2**
JEW IAmb IAmb 14 03 10.8
comp=Z,4μm,1.6s
BATI Baumata 43.49 136 P3KP 14 34 16.5
comp=Z,7.2nm,0.4s,baz=140,slow=15,SNR=2.4
BATI Baumata 43.49 136 P **P 14 03 05.7 -1.4**
comp=Z,76μmcomp=Z,87μmcomp=Z,11μm,0.9s
MAK Makhachkala 43.70 309 *e*P **P 14 03 08.1 -0.4**
MAK *e* 14 04 51.1
MAK *e*PPP PPP 14 05 31.7
MAK *e*S **S 14 09 28.3 +1.2**
MAK *e*SS **SS 14 12 47.6 -0.8**
MAK pmax pmax
comp=Z,8μm,1.1s
MAK pmax pmax
comp=Z,16μm,1.4s
MAK MLR MLR
comp=E,45μm,13.0s
MAK MLR MLR
comp=N,105μm,18.0s
MAK MLR MLR
comp=Z,29μm,14.0s
BNDI Bandanaira 43.88 124 P **P 14 03 10.4 +0.2**
ASAJ Asahikawa 44.22 50 P **P 14 03 13.1 +0.5**
comp=Z,214nm,0.7s,baz=243,slow=8.1,SNR=74
ASAJ pP **pP 14 03 49.1 +2.8**
comp=Z,254nm,0.8s,baz=282,slow=12,SNR=4.8
ASAJ S **S 14 09 36.8 +2.2**
comp=Z,40nm,1.0s,baz=61,slow=26,SNR=1.2
ASAJ P3KP 14 34 16.2
comp=Z,15nm,1.0s,baz=61,slow=8.2,SNR=3.5
ERM Erimo 44.22 53 P **P 14 03 13.3 +0.7**
ERM Erimo 44.22 53 ⇑P **P 14 03 13.3 +0.7**
JKA Kamikawa-asahi 44.22 50 **S 14 09 36.8 +2.1**
LGD Lagodekhi 44.42 307 P **P 14 03 16.4 +2.1**
DDFL Dedoflistskaro 44.45 306 P **P** 14 03 19.4 +4.8
GROC Groznyy 44.98 309 *e*P **P 14 03 18.5 -0.1**
GROC *e**P*P **pP 14 03 49.8 -2.9**
GROC *e* 14 05 04.7
GROC *e*S **S 14 09 45.8 +0.3**
YSS Yuzh-Sakhalins 45.00 46*de*P **P 14 03 19.7 +1.0**
YSS *e**P*P **pP 14 03 53.8 +1.2**
YSS *e* 14 04 56.7
YSS *e*PPP PPP 14 05 52.6
YSS *e*S **S 14 09 44.3 -1.4**
YSS *e* 14 12 57.5
YSS pmax pmax
comp=Z,5μm,4.0s
YSS pmax pmax
comp=Z,810nm,1.3s
YSS pmax pmax
comp=N,140nm,1.2s
YSS smax smax
comp=E,45μm,10.7s
YSS MLR MLR
comp=N,48μm,15.0s
YSS MLR MLR
comp=Z,53μm,15.0s
YSS Yuzh-Sakhalins 45.00 46 P **P 14 03 18.8 +0.1**
YSS IAmb IAmb 14 03 23.9
comp=Z,2μm,1.3s
YSS Yuzh-Sakhalins 45.00 46 ⇑P **P 14 03 19.2 +0.5**
YSS ⇓S **ScP 14 08 35.7 +0.2**
YSS ⇑S **ScP 14 08 36.0 +0.5**
YSS Yuzh-Sakhalins 45.00 46 P **P 14 03 19.0 +0.3**
UGL Uglegorsk 45.15 43⇑*i*P **P 14 03 20.7 +0.8**
UGL *e* 14 05 51.9
UGL *e*S **S 14 09 45.8 -2.0**
UGL *e*SS **ScS 14 13 00.8 +0.1**
UGL pmax pmax
comp=Z,4μm,1.4s
UGL pmax pmax
comp=Z,2μm,1.1s
UGL smax smax
comp=E,59μm,5.8s
UGL smax smax
comp=N,47μm,9.2s
UGL MLR MLR
comp=E,49μm,10.0s
UGL MLR MLR
comp=N,65μm,14.0s
GNI Garni 45.32 304 P **P 14 03 23.8 +2.3**
comp=N,2μm,0.9s,baz=156,slow=2.0,SNR=562
GNI P3KP 14 33 58.1
comp=N,3.8nm,0.4s,baz=199,slow=12,SNR=3.3
GNI Garni 45.32 304 P **P 14 03 24.7 +3.1**
GNI Garni 45.32 304 P **P 14 03 24.3 +2.8**
GNI pmax pmax
comp=Z,8μm,1.2s
GNI Garni 45.32 304 P **P 14 03 24.3 +2.8**
GNI IAmb IAmb 14 03 27.2
comp=Z,8μm,1.2s
GNI Garni 45.32 304 ⇑P **P 14 03 24.4 +2.8**

GNI Garni 45.32 304 ⇑P **P 14 03 24.5 +2.9**
SEAG Tbilisi Sea 45.47 306 P **P 14 03 25.1 +2.5**
YAK Yakutsk 45.54 22 P **P 14 03 22.6 -0.1**
comp=Z,150nm,0.5s,baz=223,slow=2.9,SNR=105
YAK P3KP 14 34 04.9
comp=Z,3.4nm,0.3s,baz=1.7,slow=1.9,SNR=4.1
YAK Yakutsk 45.54 22 *eP* **P 14 03 22.5 -0.2**
YAK *e**P*P **pP 14 03 57.1 +0.4**
YAK *e* 14 05 00.7
YAK *e* 14 05 10.1
YAK *e*PPP PPP 14 05 53.8
YAK *e*S **S 14 09 51.7 -1.3**
YAK *e* 14 12 55.9
YAK *e*SSS SSS 14 14 21.9
YAK pmax pmax
comp=Z,672nm,1.3s
YAK pmax pmax
comp=N,351nm,1.1s
YAK pmax pmax
comp=E,396nm,1.1s
YAK pmax pmax
comp=Z,4μm,2.3s
YAK pmax pmax
comp=N,2μm,2.3s
YAK pmax pmax
comp=E,2μm,2.3s
YAK smax smax
comp=N,7μm,3.0s
YAK smax smax
comp=E,17μm,3.3s
YAK Yakutsk 45.54 22 P **P 14 03 22.0 -0.7**
YAK IAmb IAmb 14 04 18.4
comp=Z,1μm,1.0s
YAK Yakutsk 45.54 22 ⇓P **P 14 03 22.3 -0.4**
YAK ⇓S **ScP 14 08 37.3 -0.1**
KZRT Kazreti 45.72 306 P **P 14 03 27.7 +3.1**
NKL Nikolayevsk 45.74 37 *eP* **P 14 03 23.9 -0.5**
NKL *e*S **S 14 09 55.2 -0.9**
NKL pmax pmax
comp=Z,887nm,0.9s
NKL smax smax
comp=N,1.0nm,1.0s
NKL smax smax
comp=E,3.0nm,1.0s
NKL MLR MLR
comp=Z,32μm,12.0s
GUDG Gudauri 45.81 307 P **P 14 03 28.6 +3.1**
CLDR Caldiran 45.85 303 P **P 14 03 28.6 +2.8**
TYV Tymovskoe 46.07 41 *eP* **P 14 03 28.1 +1.0**
TYV *e*S **S 14 10 04.0 +3.0**
TYV pmax pmax
comp=Z,543nm,1.3s
TYV pmax pmax
comp=Z,3μm,6.3s
TYV smax smax
comp=E,735nm,1.6s
TYV smax smax
comp=N,49μm,10.2s
TYV smax smax
comp=E,46μm,10.2s
VANB Van 46.22 302 P **P 14 03 30.5 +1.9**
BELG Belogornoye 46.25 321 P **P 14 03 29.1 +0.7**
comp=E,2μm,0.6s,baz=340,slow=1.2,SNR=384
BELG PcP **PcP 14 05 03.0 +1.6**
comp=E,4μm,0.8s,baz=270,slow=2.5,SNR=16
BELG ScP **ScP 14 08 41.1 +0.6**
comp=E,410nm,0.8s,baz=90,slow=4.3,SNR=3.6
BELG S **S 14 10 02.8 -0.7**
comp=E,348nm,0.9s,baz=194,slow=23,SNR=15
BELG LR LR 14 24 59.9
comp=E,45μm,21.0s,baz=108,slow=38
BELG P3KP 14 34 02.7
comp=E,21nm,0.6s,baz=312,slow=2.7,SNR=3.9
BELG P4KPbc 14 41 14.4
comp=E,13nm,0.7s,baz=228,slow=20,SNR=4.5
BELG Belogornoye 46.25 321*c i*P **P 14 03 29.1 +0.7**
BELG pmax pmax
comp=Z,842nm,1.3s
ZEI Tsey 46.28 308 *eP* **P 14 03 31.4 +2.2**
NRIK Noril'sk 46.45 356 P **P 14 03 29.6 -0.2**
comp=Z,625nm,0.7s,baz=160,slow=6.2,SNR=177
NRIK PcP **PcP 14 05 04.1 +2.3**
comp=Z,415nm,0.9s,baz=219,slow=7.1,SNR=3.5
NRIK ScP **ScP 14 08 41.8 +0.7**
comp=Z,248nm,0.8s,baz=160,slow=4.3,SNR=7.1
NRIK S **S 14 10 05.7 -0.2**
comp=Z,164nm,1.0s,baz=46,slow=22,SNR=14
NRIK Noril'sk 46.45 356 P **P 14 03 30.1 +0.3**
NRIK pmax pmax
comp=Z,1μm,1.0s
NRIK Noril'sk 46.45 356 P **P 14 03 30.1 +0.3**
NRIK IAmb IAmb 14 03 33.5
comp=Z,1μm,1.0s
YUK Yuzh-Kuril'sk 46.52 51*d i*P **P 14 03 30.3 -0.4**
YUK *e* 14 05 02.4
YUK *e* 14 05 21.5
YUK *i* PPP PPP 14 06 08.5
YUK *i* S **S 14 10 07.0 -0.5**
YUK *i* 14 13 09.6
YUK pmax pmax
comp=Z,3μm,1.6s
YUK pmax pmax
comp=Z,2μm,1.1s
YUK pmax pmax
comp=N,1μm,1.2s
YUK pmax pmax
comp=E,1μm,1.2s
ONI Oni 46.58 307 P **P 14 03 33.6 +2.3**
ONI pmax pmax
comp=Z,9μm,1.3s
ONI Oni 46.58 307 P **P 14 03 33.6 +2.3**
AGRB Hanur-Agry 46.60 303 P **P 14 03 34.6 +2.9**
NCK Nalchik 46.61 309*d i*P **P 14 03 33.5 +2.0**
NCK pmax pmax
comp=Z,4μm,0.9s
KARS Kars 46.63 305 P **P 14 03 35.0 +3.2**
KARS Kars 46.63 305 P **P 14 03 35.2 +3.4**
BAKI Biak 46.84 115 P **P 14 03 33.7 +0.1**
comp=Z,146μmcomp=Z,83μmcomp=Z,5μm,0.9s
MLAZ Malazgirt-MUS 46.91 303 P **P 14 03 36.8 +2.8**
KBZ Khabaz 47.15 309 P **P 14 03 37.1 +1.6**
comp=Z,1μm,1.0s,baz=91,slow=8.2,SNR=588
KBZ S **S 14 10 16.4 0.0**
comp=Z,265nm,0.8s,baz=80,slow=21,SNR=16
KBZ LR LR 14 26 43.3
comp=Z,47μm,20.7s,baz=88,slow=40
KBZ P3KP 14 34 08.9
comp=Z,8.1nm,1.0s,baz=137,slow=1.3,SNR=4.8
KBZ PKP2ab 14 35 43.0
comp=Z,9.8nm,0.9s,baz=248,slow=2.6,SNR=4.3
KBZ P4KPbc 14 41 18.7
comp=Z,3.0nm,0.7s,baz=128,slow=3.0,SNR=6.5
KBZ Khabaz 47.15 309*c i*P **P 14 03 36.9 +1.4**
KBZ pmax pmax
comp=Z,2μm,1.0s
SENK Senkaya-Erzuru 47.17 304 P **P 14 03 39.0 +2.9**
SAUI Saumlaki 47.18 127 ⇑P **P 14 03 36.2 0.0**
SAUI Saumlaki 47.18 127 P **P 14 03 37.0 +0.8**
NEY Neytrino 47.20 308*c i*P **P 14 03 38.9 +2.6**
NEY pmax pmax
comp=Z,618nm,0.8s
GOF Gofitskoye 47.25 311⇑*i*P **P 14 03 38.3 +1.9**
GOF *i* S **S 14 10 20.5 +2.5**
GOF pmax pmax
comp=Z,10μm,1.2s
GOF smax smax
comp=N,5μm,1.0s
GURO Guroymak-BITLI 47.28 302 P **P 14 03 39.6 +2.7**
GURO Guroymak-BITLI 47.28 302 P **P 14 03 39.4 +2.5**
MSEY Mahe Island 47.33 239 P **P 14 03 38.2 +0.8**
MSEY pmax pmax
comp=Z,5μm,1.1s
MSEY Mahe Island 47.33 239 P **P 14 03 38.1 +0.8**
MSEY IAmb IAmb 14 03 41.8
comp=Z,5μm,1.1s
MSEY Mahe Island 47.33 239 ⇑P **P 14 03 38.4 +1.0**
MSEY Mahe Island 47.33 239 *i* P **P 14 03 38.5 +1.1**
SNR=601
SRPI Serui, Papua 47.33 116 P **P 14 03 38.0 +0.6**
comp=Z,67μmcomp=Z,33μmcomp=Z,2μm,1.0s
KIV Kislovodsk 47.33 309 ⇑P **P 14 03 39.2 +2.0**
KIV Kislovodsk 47.33 309 P **P 14 03 39.1 +2.0**
KIV Kislovodsk 47.33 309 *eP* **P 14 03 38.8 +1.7**
KIV *e* 14 05 31.9
KIV *e*S **S 14 10 22.5 +3.2**

KIV pmax pmax
comp=Z,5μm,3.7s
KIV MLR MLR
comp=Z,27μm,17.0s
KIV Kislovodsk 47.33 309 P **P** **14 03 38.8 +1.7**
KIV Kislovodsk 47.33 309 ⇑P **P** **14 03 39.0 +1.8**
KIV Kislovodsk 47.33 309 *i* P **P** **14 03 38.9 +1.8**
SNR=2296
KOPR Koprukoy-ERZUR 47.51 304 P **P** **14 03 41.6 +2.9**
KIRV Kirov 47.87 330 ScP **ScP** **14 08 48.5 +1.3**
comp=Z,109nm,0.8s,baz=126,slow=3.8,SNR=4.8
KIRV S **S** **14 10 26.4 +0.2**
comp=Z,122nm,0.7s,baz=216,slow=22,SNR=9.1
KIRV LR LR 14 25 48.9
comp=Z,80μm,18.6s,baz=113,slow=38
KIRV P4KPbc 14 41 22.6
comp=Z,7.6nm,0.5s,baz=171,slow=2.2,SNR=3.6
KIRV Kirov 47.87 330*d* P **P** **14 03 42.1 +1.2**
SVAN Silvan-Diyarba 47.91 301 P **P** **14 03 43.9 +2.2**
KUR Kuril'sk 48.12 49 *e*P **P** **14 03 43.4 +0.3**
KUR *e*S **S** **14 10 31.9 +1.7**
KUR *e* 14 13 20.4
KUR pmax pmax
comp=Z,2μm,1.1s
KUR pmax pmax
comp=E,785nm,1.0s
KUR pmax pmax
comp=N,358nm,1.3s
KUR pmax pmax
comp=Z,14μm,13.3s
KUR MLR MLR
comp=Z,21μm,13.0s
GUMO Guam 48.21 92 P **P** **14 03 44.0 -0.2**
comp=Z,1μm,0.8s,baz=186,slow=6.5,SNR=69
GUMO LR LR 14 25 52.7
comp=Z,19μm,18.2s,baz=284,slow=38
GUMO Guam 48.21 92 P **P** **14 03 44.0 -0.2**
GUMO Guam 48.21 92 P **P** **14 03 43.7 -0.5**
GUMO IAmb IAmb 14 03 46.6
comp=Z,1μm,0.8s
GUMO Guam 48.21 92 ⇑P **P** **14 03 43.8 -0.3**
GUMO Guam 48.21 92 P **P** **14 03 44.0 -0.2**
GUMO Guam 48.21 92 ⇑P **P** **14 03 44.1 -0.1**
BNGB Bingl 48.35 302 P **P** **14 03 47.6 +2.5**
CHOM Cayeli-Rize 48.42 305 P **P** **14 03 47.9 +2.4**
MAZI Mazidag 48.49 300 P **P** **14 03 48.2 +2.0**
DYBB Diyarbakir 48.74 301 P **P** **14 03 50.3 +2.2**
BAYT Aydıntepe-Bayb 48.84 304 P **P** **14 03 51.4 +2.5**
ERZN Erzincan 49.12 303 P **P** **14 03 53.7 +2.7**
KTUT Trabzon 49.16 305 ⇑P **P** **14 03 53.3 +2.2**
KTUT Trabzon 49.16 305 P **P** **14 03 53.2 +2.1**
GIRL Giralia 49.23 156 P **P** **14 03 52.9 +1.2**
GIRL Giralia 49.23 156 ⇑P **P** **14 03 53.0 +1.2**
GIRL Giralia 49.23 156 P **P** **14 03 52.7 +1.0**
VRH Novokhopyorsk 49.39 318 *e*P **P** **14 03 53.4 +0.8**
VRH *e* 14 05 13.6
VRH *e*S **S** **14 10 44.6 -3.2**
VRH *e*SS **SS** **14 14 21.9 +0.6**
VRH pmax pmax
comp=Z,9μm,1.5s
VRH pmax pmax
comp=Z,14μm,1.6s
VRH smax smax
comp=E,34μm,7.6s
SVRC Sivrice-ELAZID 49.41 301 P **P** **14 03 55.0 +1.8**
SOC Sochi 49.42 308 *e*P **P** **14 03 50.9 -2.1**
SOC *e**PP **pP** **14 04 22.0 -5.5**
SOC *e* 14 05 47.4
SOC *e*PPP PPP 14 06 46.0
SOC *e*S **S** **14 10 47.9 -0.5**
SOC *e**SS **sS** **14 11 48.5 +0.2**
SOC *e*SS **SS** **14 14 22.7 +0.7**
SOC pmax pmax
comp=Z,5μm,0.8s
SMPI Sarmi 49.45 114 P **P** **14 03 54.4 +0.8**
comp=Z,92μmcomp=Z,42μmcomp=Z,2μm,1.0s
ILIC ilic-Erzincan 50.01 303 P **P** **14 04 00.3 +2.6**
ARPR Arapgir-MALATY 50.18 302 P **P** **14 04 01.7 +2.7**
MTN Manton Dam 50.38 131 P **P** **14 03 59.9 -0.6**
MTN IAmb IAmb 14 04 02.7
comp=Z,2μm,1.1s
MTN Manton Dam 50.38 131 ⇑P **P** **14 03 59.8 -0.7**
MTN Manton Dam 50.38 131 P **P** **14 04 00.0 -0.6**
PSA00 Pilbara Seismi 50.65 149 P **P** **14 04 02.4 0.0**
PSA00 IAmb IAmb 14 04 05.9
comp=Z,4μm,1.0s
PSA00 Pilbara Seismi 50.65 149 P **P** **14 04 02.3 -0.2**
PSA00 IAmb IAmb 14 04 05.9
comp=Z,4μm,1.1s
PSA00 Pilbara Seismi 50.65 149 P **P** **14 04 02.6 +0.2**
ATD Arta Tunnel 50.73 266 LR LR 14 26 13.4
comp=Z,35μm,19.1s,baz=82,slow=36
ATD Arta Tunnel 50.73 266 P **P** **14 04 05.1 +1.8**
ATD Arta Tunnel 50.73 266 ⇑P **P** **14 04 05.2 +1.8**
ATD Arta Tunnel 50.73 266⇓*e*P **P** **14 04 04.3 +0.9**
ATD *e*S **S** **14 11 11.2 +3.7**
ATD Arta Tunnel 50.73 266 *i* P **P** **14 04 04.8 +1.5**
ATD ⇓*i*S **S** **14 11 09.7 +2.3**
ATD Arta Tunnel 50.73 266 *e*P **P** **14 04 03.3 0.0**
ATD *e*S **S** **14 11 14.4 +7.0**
ATD IAMs_20 IAMs_20 14 12 23.0
comp=N,79μm,7.1s
ATD Arta Tunnel 50.73 266 ⇓P **P** **14 04 05.7 +2.3**
FITZ Fitzroy Crossi 50.81 141 LR LR 14 28 34.5
comp=N,14μm,19.9s,baz=316,slow=39
FITZ P3KP 14 33 59.9
comp=N,12nm,1.1s,baz=173,slow=1.8,SNR=6.3
FITZ P4KPbc 14 41 35.4
comp=N,22nm,0.8s,baz=348,slow=4.1,SNR=19
VORD Divnogorie 50.83 318 *e*P **P** **14 04 04.1 +0.6**
VORD *e**PP **pP** **14 04 39.2 +1.0**
VORD *e* 14 05 18.3
VORD *e*S **S** **14 11 01.2 -6.6**
VORD pmax pmax
comp=Z,3μm,1.3s
VORD pmax pmax
comp=Z,3μm,1.2s
VORD smax smax
comp=E,2μm,3.1s
DARE Darende-Malaty 50.84 302 P **P** **14 04 06.2 +2.3**
KNRA Kununurra 50.86 136 P **P** **14 04 04.5 +0.5**
KNRA Kununurra 50.86 136 P **P** **14 04 04.6 +0.5**
PRGR Permogore 50.95 332 *e*P **P** **14 04 05.0 +0.8**
PRGR *e**PP **pP** **14 04 38.0 -0.9**
PRGR *e* 14 05 58.4
PRGR *e*S **S** **14 11 08.6 -0.4**
VSR Storozhevoye 50.96 318 *e*P **P** **14 04 04.7 +0.2**
VSR *e* 14 05 18.6
VSR *e*S **S** **14 11 02.6 -7.0**
VSR *e*SS **SS** **14 14 44.8 -1.4**
VSR pmax pmax
comp=Z,5μm,1.9s
VSR pmax pmax
comp=Z,7μm,1.4s
VSR smax smax
comp=E,28μm,7.8s
RSDY Resadiye-TOKAT 50.99 304 P **P** **14 04 07.1 +2.2**
VORR Voronezh 51.03 319 *i* P **P** **14 04 05.6 +0.6**
VORR pmax pmax
comp=Z,6μm,1.2s
ANN Anapa 51.17 310 *i* P **P** **14 04 05.9 -0.2**
ANN *e**PP **pP** **14 04 38.6 -2.2**
ANN *e* 14 05 18.7
ANN *e* 14 06 05.0
ANN *i* S **S** **14 11 11.2 -1.4**
ANN *e*SS **SS** **14 14 48.4 -1.3**
ANN pmax pmax
comp=N,946nm,1.5s
ANN pmax pmax
comp=Z,4μm,1.6s
ANN pmax pmax
comp=E,889nm,1.6s
ANN MLR MLR
comp=Z,30μm,19.0s
ANN MLR MLR
comp=E,17μm,15.0s
ANN MLR MLR
comp=N,20μm,18.0s
KDU Kakadu 51.20 130 ⇓P **P** **14 04 05.8 -0.9**
KDU Kakadu 51.20 130 P **P** **14 04 06.3 -0.4**
SVSK Karacayir 51.23 303 P **P** **14 04 08.9 +2.2**
LPSR Galich'ya Gora 51.40 320 *e*P **P** **14 04 08.7 +1.0**
LPSR *e* 14 05 21.1
LPSR *e*S **S** **14 11 10.7 -4.8**
LPSR pmax pmax
comp=Z,7μm,1.4s
LPSR pmax pmax
comp=Z,9μm,1.3s
LPSR smax smax
comp=E,28μm,7.9s
TOKT Tokat 51.59 304 P **P** **14 04 11.3 +1.9**
ASF Jabal al Asfar 51.61 293 S **S** **14 11 22.1 +2.9**
comp=E,36nm,0.9s,baz=175,slow=24,SNR=9.8
SARI SarD1z-Kayseri 51.68 301 P **P** **14 04 12.3 +2.0**
TAHT Tahtakopru-Hat 51.92 299 P **P** **14 04 13.7 +1.9**
KVT Kavak 51.98 305 P **P** **14 04 14.2 +1.9**
KVT Kavak 51.98 305 P **P** **14 04 14.4 +2.1**
YAYL Yayladag 51.99 298 P **P** **14 04 14.5 +1.9**
BNN Bunyan 52.12 302 P **P** **14 04 15.2 +1.7**
BNN Bunyan 52.12 302 P **P** **14 04 14.9 +1.4**
BNN Bunyan 52.12 302 ⇑P **P** **14 04 16.3 +2.8**
KOZT Kozan 52.16 300 P **P** **14 04 15.2 +1.5**
HWQ Hawqa 52.23 296 *e*P **P** **14 04 16.6 +2.3**
CEYT Ceyhan 52.24 300 P **P** **14 04 16.4 +2.2**
TIXI Tiksi 52.27 13 P **P** **14 04 13.1 -0.8**
comp=E,313nm,0.3s,baz=267,slow=23,SNR=431
TIXI S **S** **14 11 26.2 -0.7**
comp=E,56nm,0.8s,baz=271,slow=24,SNR=22
TIXI LR LR 14 29 13.5
comp=E,32μm,18.3s,baz=200,slow=39
TIXI P4KPbc 14 41 37.7
comp=E,3.5nm,0.4s,baz=87,slow=22,SNR=11
TIXI Tiksi 52.27 13*c* *i*P **P** **14 04 13.3 -0.6**
TIXI pmax pmax
comp=Z,602nm,0.9s
TIXI Tiksi 52.27 13 P **P** **14 04 12.7 -1.2**
TIXI IAmb IAmb 14 04 22.6
comp=Z,672nm,0.6s
TIXI Tiksi 52.27 13 ⇑P **P** **14 04 13.0 -0.8**
RCY Rachaya 52.38 295 *e*P **P** **14 04 18.0 +2.5**
SHBL Chebaa 52.47 295 *e*P **P** **14 04 18.3 +2.2**
BHL Bhannes 52.50 296 *e*P **P** **14 04 18.6 +2.3**
QRWL Qaraoun 52.50 295 *e*P **P** **14 04 18.8 +2.5**
YOZ Yozgat 52.52 303 P **P** **14 04 18.0 +1.6**
KRTS Karatas 52.56 299 P **P** **14 04 18.9 +2.3**
DIKM Dikmen 52.59 306 ⇑P **P** **14 04 18.2 +1.5**
DIKM Dikmen 52.59 306 P **P** **14 04 18.1 +1.5**
DQRL Deir Qamar 52.59 296 *e*P **P** **14 04 19.3 +2.4**
BEYL Beirut 52.63 296 *e*P **P** **14 04 19.9 +2.7**
KARA Karaisali 52.79 300 P **P** **14 04 19.9 +1.6**
CMRD Camardi-Nigde 52.82 301 P **P** **14 04 20.7 +2.0**
GHAJ Ghor Haditha 52.82 293 P **P** **14 04 20.1 +1.5**
MMLI Mount Malkishu 52.82 294 P **P** **14 04 20.9 +2.3**
UJAP Al Uja 52.84 293 P **P** **14 04 20.6 +2.0**
MOS Moscow 52.87 323 *e*P **P** **14 04 16.5 -2.0**
MOS *e**PP **pP** **14 04 50.6 -2.8**
MOS *e* 14 05 27.3
MOS *e*S **S** **14 11 33.2 -2.2**
MOS *e**SS **sS** **14 12 39.4 +3.5**
MOS *e* 14 13 53.1
MOS *e*SS **SS** **14 15 13.2 -2.8**
MOS pmax pmax
comp=Z,6μm,1.2s
MOS pmax pmax
comp=N,554nm,1.0s
MOS pmax pmax
comp=E,3μm,1.4s
MOS pmax pmax
comp=Z,16μm,1.9s
MOS pmax pmax
comp=N,1μm,1.4s
MOS pmax pmax
comp=E,4μm,1.2s
MOS smax smax
comp=E,53μm,5.1s
MOS smax smax
comp=N,71μm,3.7s
MOS MLR MLR
comp=Z,28μm,16.0s
KOZK Kozakli-Nevseh 52.88 302 P **P** **14 04 20.6 +1.6**
CORM Corum 53.05 304 P **P** **14 04 22.0 +1.7**
MERS Mersin 53.23 300 P **P** **14 04 22.3 +0.7**
MA2 Magadan 53.24 32 LR LR 14 29 13.8
comp=Z,27μm,19.7s,baz=234,slow=38
MA2 P4KPbc 14 41 45.7
comp=Z,3.5nm,0.8s,baz=193,slow=8.2,SNR=5.2
MA2 Magadan 53.24 32*c* *i*P **P** **14 04 20.9 -0.3**
MA2 pmax pmax
comp=Z,823nm,1.0s
MA2 Magadan 53.24 32 P **P** **14 04 20.5 -0.6**
MA2 IAmb IAmb 14 04 23.0
comp=Z,689nm,1.0s
MA2 Magadan 53.24 32 ⇓P **P** **14 04 20.9 -0.3**
MA2 Magadan 53.24 32 P **P** **14 04 20.9 -0.3**
OBN Obninsk 53.31 322 ⇑P **P** **14 04 22.2 +0.4**
OBN Obninsk 53.31 322 S **S** **14 11 39.3 -2.1**
comp=Z,43nm,0.6s,baz=106,slow=23,SNR=10.0
OBN LR LR 14 29 51.6
comp=Z,14μm,21.5s,baz=102,slow=39
OBN P3KP 14 33 47.9
comp=Z,3.3nm,0.4s,baz=148,slow=7.8,SNR=3.0
OBN P4KPbc 14 41 46.3
comp=Z,5.6nm,0.3s,baz=33,slow=9.8,SNR=4.8
OBN Obninsk 53.31 322*c* *i*P **P** **14 04 22.1 +0.4**
OBN *i* 14 06 23.4
OBN *i* S **S** **14 11 39.8 -1.6**
OBN *e*SS **SKiKP** **14 15 15.9 -6.2**
OBN pmax pmax
comp=Z,4μm,1.3s
OBN MLR MLR
comp=Z,47μm,20.0s
OBN Obninsk 53.31 322 P **P** **14 04 22.1 +0.4**
OBN Obninsk 53.31 322 ⇑P **P** **14 04 22.2 +0.4**
KLMR Klimovskoe 53.37 330*d* *i*P **P** **14 04 22.7 +0.7**
KLMR S **S** **14 11 42.7 +0.7**
KLMR pmax pmax
comp=Z,9μm,1.5s
KLMR Klimovskoe 53.37 330 ⇓*i*P **P** **14 04 22.8 +0.7**
KLMR *i* P **P** **14 04 22.8 +0.7**
KLMR *i* P **P** **14 04 22.8 +0.7**
KLMR AMP 14 04 25.7
comp=Z,9μm,1.5s
KLMR *e*ScP **ScP** **14 09 11.2 +0.3**
KLMR S **S** **14 11 42.8 +0.7**
KLMR S **S** **14 11 42.8 +0.7**
KLMR *e*S **sS** **14 12 37.7 -4.9**
KLMR *e*S **sS** **14 12 37.7 -4.9**
GULA Gulagac 53.39 301 P **P** **14 04 24.3 +1.5**
BZK Bozkurt 53.53 306 ⇑P **P** **14 04 24.7 +1.1**
BZK Bozkurt 53.53 306 P **P** **14 04 24.7 +1.1**
BZK Bozkurt 53.53 306 P **P** **14 04 24.4 +0.9**
BZK Bozkurt 53.53 306 ⇑P **P** **14 04 24.7 +1.1**
SIM Simferopol' 53.53 310*c* *i*P **P** **14 04 23.4 -0.2**
SIM *e**PP **pP** **14 05 01.0 +2.4**
SIM *e* 14 06 25.0
SIM *e*S **S** **14 11 44.0 -0.8**
SIM *e**SS **sS** **14 12 53.0 +7.6**
SIM pmax pmax
comp=Z,3μm,0.6s
EIL Elat 53.56 291 LR LR 14 33 16.7
comp=Z,39μm,18.7s,baz=111,slow=42
EIL Elat 53.56 291 P **P** **14 04 25.5 +1.5**
EIL Elat 53.56 291 ⇑P **P** **14 04 25.1 +1.2**
EREN Erenkoy 53.60 298 P **P** **14 04 25.4 +1.2**
YAYX Yaylak 53.71 302 P **P** **14 04 26.4 +1.3**
SILI Silifke-Mersin 53.74 299 P **P** **14 04 26.1 +0.9**
KAMT Kaman 53.77 303 P **P** **14 04 26.5 +1.0**
YESY Yesilyurt 53.81 301 P **P** **14 04 27.3 +1.5**
BR131 Keskin Array S 53.82 303*c* *i*P **P** **14 04 26.7 +0.8**
BR131 Keskin Array S 53.82 303 P **P** **14 04 26.5 +0.6**
BRTR Keskin Array B 53.82 303 P **P** **14 04 26.7 +0.8**
comp=Z,662nm,0.6s,baz=116,slow=6.6,SNR=903
BRTR PcP **PcP** **14 05 30.8 +1.0**
comp=Z,166nm,0.8s,baz=156,slow=4.0,SNR=3.9
BRTR S **S** **14 11 51.5 +2.3**
comp=Z,351nm,1.2s,baz=101,slow=6.4,SNR=20
BRTR LR LR 14 33 38.2
comp=Z,20μm,20.4s,baz=152,slow=43
BRTR P3KP 14 33 46.1
comp=Z,4.2nm,0.7s,baz=202,slow=2.7,SNR=5.6
BRTR P4KPbc 14 41 47.9
comp=Z,4.3nm,0.9s,baz=125,slow=4.6,SNR=8.9
BRTR Keskin Array B 53.82 303 P **P** **14 04 26.7 +0.8**
CANT Cankiri 53.82 304 P **P** **14 04 27.5 +1.7**
SERE Sereflikochisa 53.90 302 P **P** **14 04 27.8 +1.3**
KEBE Keben-Mersin 53.90 299 P **P** **14 04 27.5 +1.0**
IKL Isikli 53.94 299 P **P** **14 04 27.1 +0.4**
AKKU Akkuyu-Mersin 54.05 299 P **P** **14 04 28.0 +0.5**
TEVE Tevekalti-Mers 54.12 299 P **P** **14 04 29.1 +1.0**
LFK Lefkose 54.13 298 P **P** **14 04 29.0 +0.8**
AFSR Afar-Bala (An 54.27 303 P **P** **14 04 30.3 +1.2**
ANKE Ethiopia-Afar 54.28 265 *e*P **P** **14 04 32.2 +2.3**
ANKE *e*S **S** **14 12 00.7 +4.3**
ANKE Ethiopia-Afar 54.28 265 *e*P **P** **14 04 29.1 -0.7**
ANKE *e*S **S** **14 11 59.7 +3.3**
ANKE IAMs_20 IAMs_20 14 13 06.3
comp=N,7μm,15.6s
BERE Bereket-Mersin 54.30 299 P **P** **14 04 30.6 +1.1**
CSS Mathiatis 54.33 297 P **P** **14 04 30.4 +0.9**
CSS Mathiatis 54.33 297 P **P** **14 04 30.0 +0.5**
CSS IAmb IAmb 14 04 34.3
comp=Z,4μm,1.2s
CSS Mathiatis 54.33 297 ⇑P **P** **14 04 30.2 +0.7**
KULU Kulu 54.33 302 P **P** **14 04 30.6 +1.0**
SKR Severo-Kuril's 54.36 43 *e*P **P** **14 04 28.5 -0.9**
SKR *e**PP **pP** **14 05 00.8 -3.7**
SKR *e* 14 05 31.3
SKR *e*S **S** **14 11 49.2 -6.5**
SKR *e* 14 13 54.2
SKR pmax pmax
comp=Z,2μm,3.4s
SKR pmax pmax
comp=Z,202nm,1.2s
SKR smax smax
comp=N,3μm,4.9s
SKR smax smax
comp=N,2μm,4.4s
SKR smax smax
comp=E,10μm,5.6s
SKR smax smax
comp=E,7μm,5.6s
SKR MLR MLR
comp=Z,24μm,18.0s
TEKE Tekeli-Mersin 54.41 299 P **P** **14 04 30.9 +0.9**
CHBY Cihanbeyli 54.44 302 P **P** **14 04 31.3 +0.9**
ANTO Ankara 54.47 303 P **P** **14 04 31.8 +1.3**
ANTO Ankara 54.47 303 P **P** **14 04 31.5 +1.0**
ANTO pmax pmax
comp=Z,4μm,0.9s
ANTO Ankara 54.47 303 P **P** **14 04 31.5 +1.0**
KURC Kurucasile-Bar 54.47 306 P **P** **14 04 28.4 -2.0**
BR231 Keskin MP Arra 54.48 303 P **P** **14 04 31.2 +0.6**
BR231 IAmb IAmb 14 04 34.5
comp=Z,4μm,0.8s
MMPI Merauke 54.48 120 P **P** **14 04 31.6 +0.8**
comp=Z,106μmcomp=Z,74μmcomp=Z,3μm,2.4s
LOD Lodumlu 54.49 303 P **P** **14 04 31.9 +1.2**
MEEK Meekatharra 54.53 154 P **P** **14 04 31.5 +0.5**
HDMB Hadim 54.85 300 P **P** **14 04 33.9 +0.4**
LADK Ladik-KONYA 54.87 301 P **P** **14 04 34.1 +0.6**
KONT Konya--Tatoy 54.89 301 P **P** **14 04 34.2 +0.6**
SEY Seymchan 55.03 28 LR LR 14 30 25.5
comp=Z,82μm,19.9s,baz=239,slow=38
SEY Seymchan 55.03 28*ce*P **P** **14 04 33.8 -0.3**
SEY *i* *PP **pP** **14 05 09.2 0.0**
SEY pmax pmax
comp=Z,369nm,1.3s
GAZI Gazipasa 55.04 299 P **P** **14 04 34.9 +0.2**
KIZT Kizilcal 55.22 302 P **P** **14 04 36.6 +0.6**
YUVA Yuva-Kibriscik 55.30 304 P **P** **14 04 37.7 +1.2**
SEYD Seydisehir-KON 55.34 300 P **P** **14 04 38.2 +1.3**
AAE Adis Abeba 55.37 265 *e*P **P** **14 04 38.5 +0.8**
AAE *e*S **S** **14 12 15.1 +4.2**
AAE Adis Abeba 55.37 265 *i* P **P** **14 04 39.5 +1.9**
AAE *e*S **S** **14 12 16.1 +5.2**
AAE Adis Abeba 55.37 265 *e*P **P** **14 04 36.8 -0.9**
AAE *e*S **S** **14 12 15.9 +5.1**
SVRH Sivrihisar-ESK 55.46 303 P **P** **14 04 38.5 +0.8**
FURI Furi 55.50 265 P **P** **14 04 41.3 +2.7**
FURI Furi 55.50 265 ⇓P **P** **14 04 41.3 +2.7**
FURI Furi 55.50 265⇓*e*P **P** **14 04 39.4 +0.8**
FURI *e*S **S** **14 12 14.2 +1.6**
FURI Furi 55.50 265 *i* P **P** **14 04 41.2 +2.7**
FURI *i* S **S** **14 12 18.9 +6.3**
FURI Furi 55.50 265 *e*P P 14 04 32.4 -6.2
FURI *e*S **S** **14 12 17.6 +5.0**
FURI IAMs_20 IAMs_20 14 13 23.2
comp=Z,53μm,21.1s
FURI Furi 55.50 265 ⇓P **P** **14 04 41.8 +3.2**
FURI pP **pP** **14 05 13.8 -0.1**
FURI sP **sP** **14 05 28.9 -1.8**
PEA0B Petropavlovsk- 55.62 41*c* *i*P **P** **14 04 38.0 -0.5**
PEA0B Petropavlovsk- 55.62 41 P **P** **14 04 37.9 -0.6**
PEA0B IAmb IAmb 14 05 41.7
comp=Z,812nm,1.1s
PETK Petropavlovsk- 55.62 41 P **P** **14 04 37.6 -0.9**
comp=Z,251nm,1.1s,baz=211,slow=2.6,SNR=113
PETK P3KP 14 33 49.3
comp=Z,3.3nm,0.8s,baz=199,slow=3.1,SNR=3.9
MDUB Mudurnu 55.67 304 P **P** **14 04 40.2 +1.0**
MDUB Mudurnu 55.67 304 P **P** **14 04 39.8 +0.7**
MDUB Mudurnu 55.67 304 ⇑P **P** **14 04 40.2 +1.0**
MORW Morawa 55.74 157 P **P** **14 04 40.0 +0.4**
MORW Morawa 55.74 157 ⇓P **P** **14 04 39.9 +0.4**
MORW Morawa 55.74 157 P **P** **14 04 40.2 +0.6**
CIFT Cifteler, Eski 55.82 303 P **P** **14 04 41.0 +0.7**
SUTC Sutluce-Ispart 56.00 301 P **P** **14 04 42.1 +0.5**
PET Petropavlovsk 56.18 41*ce*P **P** **14 04 41.4 -1.0**
PET *e**PP **pP** **14 05 15.5 -2.2**
PET *e**SP **sP** **14 05 30.8 -3.6**
PET *e* 14 05 41.3
PET *i* S **S** **14 12 17.8 -2.1**
PET *e*SP **SPn** **14 12 25.6 -3.1**
PET *e* 14 14 12.3
PET pmax pmax
comp=Z,490nm,0.9s
PET pmax pmax
comp=Z,6μm,10.3s
PET pmax pmax
comp=Z,5μm,14.6s
PET smax smax
comp=N,23μm,19.8s
PET smax smax
comp=E,54μm,20.8s
PET Petropavlovsk 56.18 41 P **P** **14 04 41.7 -0.8**
PET IAmb IAmb 14 05 46.3
comp=Z,823nm,1.2s
PET Petropavlovsk 56.18 41 ⇑P **P** **14 04 41.6 -0.8**
PET Petropavlovsk 56.18 41 P **P** **14 04 42.1 -0.3**
GULT Gulveren 56.19 304 P **P** **14 04 43.4 +0.6**
SHUT Suhut-Afyon 56.27 302 P **P** **14 04 44.3 +0.8**
SAUV Serdivan-Sakar 56.32 304 P **P** **14 04 44.3 +0.7**
ANTB Antalya 56.32 300 P **P** **14 04 43.5 -0.2**
BCK Bucak 56.33 301 P **P** **14 04 43.3 -0.6**
BCK Bucak 56.33 301 P **P** **14 04 44.2 +0.3**
ISP Isparta 56.35 301 P **P** **14 04 44.1 0.0**
ISP Isparta 56.35 301*c* *i*P **P** **14 04 44.3 +0.2**
ISP pmax pmax
comp=Z,4μm,1.0s
ISP Isparta 56.35 301 P **P** **14 04 44.0 0.0**
KORT Korkueli 56.55 300 P **P** **14 04 45.3 -0.3**
BASM Basmaki-Afyon 56.71 301 P **P** **14 04 46.5 -0.1**
ADVT Abdulvahap 56.78 304 P **P** **14 04 47.6 +0.7**
DILA Dilla 56.80 262⇓*e*P **P** **14 04 48.4 +0.8**
DILA *e*S **S** **14 12 27.7 -1.8**
DILA Dilla 56.80 262 *e*P P 14 04 42.4 -5.2
DILA *e*S **S** **14 12 31.5 +2.1**
DILA IAMs_20 IAMs_20 14 13 46.6
comp=N,81μm,41.5s
HRT Hereke 56.81 305 P **P** **14 04 47.6 +0.4**
SILT Sile 56.81 305 P **P** **14 04 47.6 +0.5**
MANU Manus Island 56.90 109 P **P** **14 04 49.7 +1.6**
MANU IAmb IAmb 14 04 53.1
comp=Z,2μm,0.8s
MANU Manus Island 56.90 109 ⇑P **P** **14 04 50.1 +2.0**
ELL Elmali 56.93 300 P **P** **14 04 49.1 +0.9**
ELL Elmali 56.93 300 P **P** **14 04 49.2 +1.0**
ELL Elmali 56.93 300 P **P** **14 04 49.2 +1.0**
ELL Elmali 56.93 300 ⇑P **P** **14 04 47.9 -0.3**
SBV Sambava 57.05 235 ⇑P **P** **14 04 49.0 0.0**
SBV Sambava 57.05 235 P **P** **14 04 49.8 +0.8**
YLV Yalova 57.05 304 P **P** **14 04 49.4 +0.5**
TVSB Tavsanli 57.06 303 P **P** **14 04 49.8 +0.8**
GEDZ Gediz 57.13 303 P **P** **14 04 50.3 +0.8**
AKASG Malin Array Be 57.13 316 P **P** **14 04 49.1 0.0**
comp=Z,1μm,0.6s,baz=79,slow=6.1,SNR=1057
AKASG pP **pP** **14 05 27.0 +2.5**
comp=Z,433nm,0.6s,baz=80,slow=6.0,SNR=3.0
AKASG PcP **PcP** **14 05 43.1 +1.0**

comp=Z,539nm,0.7s,baz=75,slow=4.5,SNR=8.3
AKASG P **PP** **14 06 59.7 +2.2**
comp=Z,177nm,0.8s,baz=72,slow=8.4,SNR=4.7
AKASG S **S** **14 12 29.4 -3.0**
comp=Z,116nm,1.0s,baz=86,slow=13,SNR=11
AKASG LR LR 14 32 58.5
comp=Z,43µm,21.3s,baz=76,slow=40
AKASG P3KP 14 33 43.0
comp=Z,6.9nm,1.0s,baz=258,slow=1.9,SNR=6.3
AKASG P4KPbc 14 42 01.4
comp=Z,4.9nm,0.7s,baz=77,slow=4.5,SNR=20
AKASG Malin Array Be 57.13 316 P **P** **14 04 48.6 -0.6**
AKASG IAmb IAmb 14 04 51.8
comp=Z,3µm,1.2s
AKBB Malin Array Si 57.13 316 P **P** **14 04 48.6 -0.6**
AKBB pmax pmax
comp=Z,4µm,1.2s
AKBB Malin Array Si 57.13 316 P **P** **14 04 48.6 -0.6**
AKBB IAmb IAmb 14 04 51.7
comp=Z,4µm,1.2s
AKAS Kas 57.23 299 P **P** **14 04 49.7 -0.6**
JURR Jurilovca 57.26 309 ⇑P **P** **14 04 51.4 +1.3**
KAVV Kandilli-Istan 57.26 305 P **P** **14 04 51.1 +0.8**
ISK Istanbul-Kandi 57.26 305 P **P** **14 04 50.9 +0.6**
ISK Istanbul-Kandi 57.26 305 P **P** **14 04 51.3 +1.0**
KLYT Kilyos 57.26 305 P **P** **14 04 51.3 +1.0**
KIS Kishinev 57.28 312 ⇑*i*P **P** **14 04 50.3 0.0**
comp=Z,4µm,1.3s
KIS *e*pP **pP** **14 05 24.0 -1.8**
KIS *i* S **S** **14 12 32.0 -2.6**
comp=Z,14µm,6.6s
KIS LRM MLR 14 34 07.0
comp=Z,8µm,18.0s
KIS Kishinev 57.28 312 ⇑P **P** **14 04 51.2 +0.9**
KIS Kishinev 57.28 312*c i*P **P** **14 04 50.3 0.0**
KIS *e**PP **pP** **14 05 24.0 -1.8**
KIS *i* S **S** **14 12 32.0 -2.6**
KIS pmax pmax
comp=Z,8µm,2.8s
KIS smax smax
comp=N,14µm,6.6s
KIS smax smax
comp=E,18µm,5.4s
MILM Milestii Mici 57.29 312 ⇑*i*P **P** **14 04 50.2 -0.1**
MILM *i* pP **pP** **14 05 25.0 -0.8**
MILM *i* S **S** **14 12 32.0 -2.6**
comp=E,35µm,10.0s
MILM *e*LR LR 14 28 36.0
MILM Milestii Mici 57.29 312 ⇑P **P** **14 04 50.6 +0.3**
MILM Milestii Mici 57.29 312*c i*P **P** **14 04 50.2 -0.1**
MILM *i* *PP **pP** **14 05 25.0 -0.8**
MILM *i* S **S** **14 12 32.0 -2.6**
MILM pmax pmax
comp=Z,19µm,2.5s
MILM smax smax
comp=E,35µm,10.0s
MILM smax smax
comp=N,32µm,8.6s
TLCR 57.29 310 ⇑P **P** **14 04 51.4 +1.0**
TLCR 57.29 310 *i* P **P** **14 04 50.8 +0.4**
TLCR pmax pmax
comp=Z,835nm,0.6s
BLDU Ballidu 57.39 158 P **P** **14 04 51.2 0.0**
CAME Cameli-Denizli 57.40 300 P **P** **14 04 51.2 -0.3**
TSCT Constanta Port 57.43 309 ⇓P **P** **14 04 53.2 +1.9**
MDNY Mudanya-Bursa 57.44 304 P **P** **14 04 52.1 +0.6**
EFOR EFORIE 57.45 309 ⇑P **P** **14 04 52.8 +1.3**
SIMA Simav-Kutahya 57.45 303 P **P** **14 04 52.2 +0.4**
BGKT Bogazkoy 57.47 305 P **P** **14 04 52.6 +0.9**
TSMN Mangalia Port- 57.48 308 ⇓P **P** **14 04 53.5 +1.8**
WB0 Warramunga Arr 57.48 135 P **P** **14 04 52.7 +0.6**
MANR Mangalia 57.49 308 ⇓P **P** **14 04 52.9 +1.1**
PUL Pulkovo 57.53 327*c i*P **P** **14 04 52.9 +1.1**
PUL *i* *PP **pP** **14 05 29.8 +2.6**
PUL pmax pmax
comp=Z,9µm,1.3s
VALR Valaam 57.55 329*c i*P **P** **14 04 52.8 +0.9**
VALR pmax pmax
comp=Z,4µm,1.3s
I07AU WARRAMUNGA IN 57.56 135 P **P** **14 04 53.6 +1.0**
baz=308,slow=8.7,SNR=15
WRA Warramunga Arr 57.58 135 P **P** **14 04 52.6 -0.1**
comp=Z,7µm,0.9s,baz=325,slow=7.3,SNR=987
WRA S **S** **14 12 38.2 -0.7**
comp=Z,67nm,1.2s,baz=313,slow=14,SNR=6.6
WRA SKKP 14 29 34.8
comp=Z,7.6nm,0.9s,baz=196,slow=3.1,SNR=7.8
WRA P3KP 14 33 48.5
comp=Z,13nm,0.8s,baz=188,slow=1.6,SNR=4.7
WRA PKPPKP **P'P'df** **14 34 31.5 -5.0**
comp=Z,65nm,1.0s,baz=171,slow=1.9,SNR=6.7
WRA P4KPbc 14 42 04.7
comp=Z,20nm,0.8s,baz=322,slow=4.5,SNR=77
WRA Warramunga Arr 57.58 135 P **P** **14 04 52.5 -0.2**
WRA IAmb IAmb 14 04 56.5
comp=Z,1µm,0.9s
WRAB Tennant Creek 57.58 135*c i*P **P** **14 04 53.4 +0.7**
WRAB *i* *PP **pP** **14 05 27.5 -0.6**
WRAB Tennant Creek 57.58 135 P **P** **14 04 53.3 +0.7**
WRAB Tennant Creek 57.58 135 ⇑P **P** **14 04 52.8 +0.1**
WRAB Tennant Creek 57.58 135 P **P** **14 04 53.3 +0.6**
TPGR Topolog 57.58 309 ⇓P **P** **14 04 53.1 +0.6**
TIRR Tirgusor 57.59 309 ⇓P **P** **14 04 53.7 +1.2**
TIRR Tirgusor 57.59 309 P **P** **14 04 53.7 +1.2**
TIRR Tirgusor 57.59 309 ⇑P **P** **14 04 52.8 +0.2**
MFTR Murfatlar 57.59 309 ⇑P **P** **14 04 53.8 +1.3**
FETY Fethiye 57.60 300 P **P** **14 04 52.5 -0.3**
SORM Soroca 57.61 313 ⇑P **P** **14 04 53.2 +0.6**
SORM Soroca 57.61 313 *i* P **P** **14 04 52.0 -0.6**
SORM pmax pmax
comp=Z,3µm,1.3s
KALB Balgarevo 57.63 308 ⇑P **P** **14 04 54.8 +2.0**
CTKS Kestanelik-??a 57.67 305 P **P** **14 04 53.5 +0.4**
LEOM Leova 57.68 311 ⇑P **P** **14 04 54.4 +1.3**
LEOM Leova 57.68 311 *i* P **P** **14 04 54.2 +1.1**
LEOM pmax pmax
comp=Z,4µm,0.9s
LVZ Lovozero 57.70 337*ce*P **P** **14 04 53.6 +0.7**
LVZ pmax pmax
comp=Z,2µm,0.8s
LVZ Lovozero 57.70 337 P **P** **14 04 53.3 +0.3**
LVZ IAmb IAmb 14 04 55.3
comp=Z,2µm,0.8s
LVZ Lovozero 57.70 337 ⇑P **P** **14 04 53.4 +0.5**
GIUM Giurgiulesti 57.72 310 ⇓P **P** **14 04 54.9 +1.5**
KULA Kula-Manisa 57.75 302 P **P** **14 04 54.2 +0.3**
CFR Carcaliu 57.77 310 ⇑P **P** **14 04 54.4 +0.7**
CFR Carcaliu 57.77 310 P **P** **14 04 54.4 +0.7**
VLDR Vladesti 57.80 311 ⇑P **P** **14 04 55.3 +1.4**
WRKA Warakurna 57.81 144 ⇑P **P** **14 04 54.7 +0.4**
WRKA Warakurna 57.81 144 P **P** **14 04 55.3 +1.0**
TATR Tatarca 57.83 310 ⇑P **P** **14 04 56.0 +1.9**
TLBR Topalu 57.85 309 ⇑P **P** **14 04 55.6 +1.3**
SCTR Scanteiesti 57.86 310 ⇑P **P** **14 04 55.6 +1.2**
CVDA Cernavoda 57.87 309 ⇑P **P** **14 04 55.7 +1.2**
SLVT Silivri 57.89 305 P **P** **14 04 55.6 +0.9**
DALY Dalyan (Mula) 57.93 300 P **P** **14 04 55.3 +0.3**
HARR Harsova 57.93 309 ⇑P **P** **14 04 55.8 +0.9**
HARR Harsova 57.93 309 P **P** **14 04 55.8 +0.9**
VARL Varlezi 57.96 311 ⇑P **P** **14 04 56.9 +1.8**
SCHL Schela 57.98 310 ⇑P **P** **14 04 57.1 +1.9**
VASR Vaslui 57.99 312 ⇑P **P** **14 04 56.1 +0.9**
SLCR Slobozia Conac 58.02 310 ⇑P **P** **14 04 57.4 +1.9**
IZVR Izvoarele 58.02 310 ⇑P **P** **14 04 57.5 +2.0**
ICOR Ion Corvin 58.04 309 ⇑P **P** **14 04 57.2 +1.5**
APA Apatity 58.05 337 ⇓*i*P **P** **14 04 54.5 -0.8**
APA *i* 14 05 48.0
APA *i* PPP PPP 14 08 28.0
APA *i* S **S** **14 12 36.0 -7.8**
APA *i* 14 14 24.0
APA *i* SS **SS** **14 16 36.0 -1.1**
APA pmax pmax
comp=Z,803nm,0.7s
BIR Birlad 58.11 311 ⇑P **P** **14 04 57.8 +1.7**
BIR Birlad 58.11 311 P **P** **14 04 57.8 +1.7**
IAS Iasi 58.14 312 *i* P **P** **14 04 56.8 +0.5**
IAS pmax pmax
comp=Z,884nm,1.0s
YER Yerkesik 58.19 300 P **P** **14 04 57.4 +0.5**
YER Yerkesik 58.19 300 P **P** **14 04 57.5 +0.5**
MNK Minsk 58.19 321 *i* P **P** **14 04 57.2 +0.7**
MNK *i* *PP **pP** **14 05 33.5 +1.4**
MNK *i* 14 05 48.2
MNK *i* 14 07 11.0
MNK *i* PPP PPP 14 08 31.5
MNK *i* S **S** **14 12 44.3 -1.8**
MNK *i* 14 14 29.4
MNK *i* SS **SS** **14 16 44.3 +4.5**
MNK pmax pmax
comp=N,250nm,0.9s
MNK pmax pmax
comp=E,328nm,0.9s
MNK pmax pmax
comp=Z,3µm,0.9s
MNK MLR MLR
comp=N,17µm,19.0s
MNK MLR MLR
comp=E,5µm,19.0s
MNK MLR MLR
comp=Z,45µm,19.0s
MNK Minsk 58.19 321 *i* P **P** **14 04 57.2 +0.7**
comp=E,328nm,0.9s
MNK *i* P **P** **14 04 57.2 +0.7**
comp=N,250nm,0.9s
MNK *i* P **P** **14 04 57.2 +0.7**
comp=Z,3µm,0.9s,baz=94
MNK *i* pP **pP** **14 05 33.5 +1.4**
MNK *i* sP **PcP** **14 05 44.3 -2.0**
MNK *i* PP **PP** **14 07 11.0 +4.2**
MNK *i* PPP PPP 14 08 31.5
MNK *i* S **S** **14 12 44.4 -1.8**
MNK *i* sS **sS** **14 13 49.5 +2.0**
MNK *i* SS **SS** **14 16 44.4 +4.5**
MNK *i* SSS SSS 14 19 24.1
MNK *i* LRM MLR 14 32 32.8
comp=N,17µm,19.0s
MNK *i* LRM MLR 14 32 46.6
comp=E,5µm,18.7s
MNK *i* LRM MLR 14 32 46.6
comp=Z,45µm,18.7s
RER Riviere de l'E 58.21 224 ⇑P **P** **14 04 57.6 +0.5**
EDC Edincik 58.22 304 P **P** **14 04 57.7 +0.7**
TURN Turunc 58.26 300 P **P** **14 04 58.1 +0.8**
MTKN Mount Kenneth 58.28 159 P **P** **14 04 58.5 +1.2**
AMRR Amara 58.36 309 ⇑P **P** **14 04 59.1 +1.3**
PRD Provadia 58.38 308 P **P** **14 04 58.6 +0.6**
PHSR Pinarhisar 58.38 306 P **P** **14 04 59.1 +1.0**
PANC Panciu 58.45 311 ⇓P **P** **14 04 59.3 +1.8**
MUN Mundaring 58.46 159 P **P** **14 04 58.7 +0.1**
RASA Rasa 58.51 309 ⇓P **P** **14 05 00.4 +1.5**
ODBI Odobesti 58.52 311 ⇑P **P** **14 05 01.0 +2.0**
MLSB Milas 58.57 301 P **P** **14 05 00.2 +0.7**
GRER 58.59 310 ⇓P **P** **14 05 02.3 +2.9**
GZKV Gazikoy-Tekird 58.59 305 P **P** **14 04 59.9 +0.4**
PGOR Pogoanele 58.60 310 ⇓P **P** **14 05 02.2 +2.7**
MAR6 Marsite Statio 58.64 305 P **P** **14 05 00.5 +0.6**
KRBG Karabiga-Canak 58.64 304 P **P** **14 05 00.5 +0.6**
KLBR Kellerberrin 58.64 157 P **P** **14 05 00.0 +0.1**
RKY Sarkoy-Tekirda 58.71 305 P **P** **14 05 00.8 +0.3**
LEHL Lehliu 58.73 309 ⇑P **P** **14 05 02.7 +2.3**
VRI Vrincioaia 58.74 311 ⇓P **P** **14 05 02.5 +2.0**
VRI Vrincioaia 58.74 311 P **P** **14 05 01.9 +1.3**
VRI Vrincioaia 58.74 311 *i* P **P** **14 05 01.5 +0.9**
BISRR Bisoca 58.77 310 ⇓P **P** **14 05 02.7 +1.9**
DRBR Darabani 58.78 313 ⇑P **P** **14 05 01.3 +0.6**
TESR Tescani 58.78 311 ⇓P **P** **14 05 02.1 +1.3**
DAT Datca 58.80 300 P **P** **14 05 01.2 0.0**
PLOR Plostina 58.80 311 ⇑P **P** **14 05 02.7 +1.8**
PLOR Plostina 58.80 311 *i* P **P** **14 05 02.1 +1.1**
PLOR pmax pmax
comp=Z,2µm,1.2s
NACGM Naroch 58.86 321 *e*P **P** **14 05 02.0 +0.9**
ISR Istrita 58.90 310 ⇓P **P** **14 05 04.4 +2.7**
ISR Istrita 58.90 310 P **P** **14 05 04.4 +2.7**
IDID Didziasalis 58.91 322 *e*P **P** **14 05 03.1 +1.6**
EDRB Edirne 58.95 306 P **P** **14 05 02.3 +0.3**
BODT Bodrum 58.97 300 P **P** **14 05 02.5 +0.2**
RAZG Razgrad 59.01 308 ⇑P **P** **14 05 03.6 +1.2**
JMB Yambol 59.02 307 P **P** **14 05 03.3 +0.8**
LPK Lapseki 59.05 304 P **P** **14 05 03.7 +0.9**
NEHR Nehoiu 59.06 310 ⇑P **P** **14 05 05.8 +3.0**
DKL Dikili 59.07 303 P **P** **14 05 03.3 +0.5**
DKL Dikili 59.07 303 ⇑P **P** **14 05 03.3 +0.5**
UKOP Uzunkopru-Edir 59.09 305 P **P** **14 05 04.3 +1.4**
COVR Voineasa-Covas 59.11 311 ⇑P **P** **14 05 04.1 +1.0**
SULR 59.13 309 ⇑P **P** **14 05 05.7 +2.5**
VSU Vasula 59.18 325*c i*P **P** **14 05 03.7 +0.5**
VSU pmax pmax
comp=Z,7µm,1.3s
VSU Vasula 59.18 325 *e*P **P** **14 05 03.1 -0.2**
VSU Vasula 59.18 325 ⇓P **P** **14 05 03.8 +0.5**
ERIK Erikli-Kesan 59.22 305 P **P** **14 05 04.6 +0.8**
SECR 59.24 310 ⇑P **P** **14 05 06.4 +2.4**
GELI Tayfur-Gelibol 59.27 304 P **P** **14 05 04.9 +0.7**
KOSK Kos Island 59.27 300 P **P** **14 05 04.5 +0.2**
ISAL Salakas 59.28 322 *e*P **P** **14 05 04.8 +0.8**
PLAR PLOIESTI 59.28 310 ⇑P **P** **14 05 06.4 +2.2**
KARP Karpathos 59.28 299 P **P** **14 05 05.2 +0.8**
KARP Karpathos 59.28 299 P **P** **14 05 05.1 +0.6**
KARP Karpathos 59.28 299 ⇑P **P** **14 05 05.0 +0.6**
BUC1 Bucharest 59.31 309 ⇓P **P** **14 05 07.0 +2.5**
BUC1 Bucharest 59.31 309 *i* P **P** **14 05 06.9 +2.5**
BUC1 pmax pmax
comp=Z,6µm,1.1s
MLR Muntele Rosu 59.31 310 ⇑P **P** **14 05 06.4 +1.8**
MLR Muntele Rosu 59.31 310 S **S** **14 13 01.8 +0.7**
comp=Z,304nm,1.5s,baz=4.0,slow=24,SNR=17
MLR P3KP 14 33 45.0
comp=Z,8.8nm,0.9s,baz=230,slow=18,SNR=4.9
MLR LR LR 14 35 43.3
comp=Z,45µm,21.7s,baz=80,slow=41
MLR P4KPbc 14 42 12.6
comp=Z,18nm,1.0s,baz=38,slow=1.7,SNR=14
MLR Muntele Rosu 59.31 310 P **P** **14 05 06.1 +1.5**
MLR pmax pmax
comp=Z,19µm,1.3s
MLR Muntele Rosu 59.31 310 P **P** **14 05 06.1 +1.5**
SGRR Singureni 59.35 309 ⇑P **P** **14 05 06.6 +1.9**
URLA Izmir 59.38 302 P **P** **14 05 05.9 +0.8**
OZUR 59.39 311 ⇑P **P** **14 05 06.3 +1.2**
EZN Ezine 59.44 304 P **P** **14 05 05.9 +0.5**
EZN Ezine 59.44 304 P **P** **14 05 06.3 +0.9**
SZH Strazhica 59.44 308 P **P** **14 05 05.8 +0.4**
ENEZ Enez 59.48 305 P **P** **14 05 06.4 +0.7**
ALN Alexandroupoli 59.55 305 P **P** **14 05 06.9 +0.8**
ALN Alexandroupoli 59.55 305 P **P** **14 05 06.8 +0.7**
ALN pmax pmax
comp=Z,11µm,1.4s
ALN Alexandroupoli 59.55 305 P **P** **14 05 06.8 +0.7**
ALN Alexandroupoli 59.55 305 ⇑P **P** **14 05 06.7 +0.6**
BOZC Bozcaada 59.65 304 P **P** **14 05 07.1 +0.3**
DOPR Dopca 59.67 311 ⇓P **P** **14 05 07.9 +1.0**
NWAO Narrogin (SRO) 59.67 158 P **P** **14 05 06.6 -0.4**
NWAO pmax pmax
comp=Z,4µm,1.1s
NWAO Narrogin (SRO) 59.67 158 P **P** **14 05 06.5 -0.4**
NWAO IAmb IAmb 14 05 09.3
comp=Z,4µm,1.1s
BURAR Bucovina Array 59.73 313 ⇑P **P** **14 05 08.1 +0.7**
BURAR Bucovina Array 59.73 313 P **P** **14 05 08.1 +0.7**
BURAR Bucovina Array 59.73 313 P **P** **14 05 08.0 +0.7**
BUR08 Bucovina Ar. S 59.74 313 P **P** **14 05 08.1 +0.6**
BUR08 IAmb IAmb 14 05 10.9
comp=Z,2µm,1.4s
FIA1 FINESS Array S 59.84 329 P **P** **14 05 08.4 +0.6**
FINES FINESS Array B 59.84 329 P **P** **14 05 08.5 +0.7**
comp=Z,602nm,0.6s,baz=101,slow=9.9,SNR=960
FINES pP **pP** **14 05 45.3 +1.9**
comp=Z,238nm,0.6s,baz=115,slow=8.6,SNR=2.4
FINES S **S** **14 13 07.5 +0.4**
comp=Z,70nm,0.9s,baz=71,slow=14,SNR=5.9
FINES LR LR 14 33 11.3
comp=Z,90µm,19.4s,baz=100,slow=38
FINES P4KPbc 14 42 15.0
comp=Z,4.4nm,0.7s,baz=101,slow=9.9,SNR=12
FINES FINESS Array B 59.84 329 P **P** **14 05 07.8 +0.1**
FINES FINESS Array B 59.84 329 P **P** **14 05 07.8 +0.1**
COPA Copaceanca 59.90 309 ⇑P **P** **14 05 09.5 +1.0**
RDO Rodhopi 59.91 305 P **P** **14 05 09.2 +0.6**
RDO Rodhopi 59.91 305 ⇑P **P** **14 05 09.1 +0.5**
VOIR 59.94 310 ⇑P **P** **14 05 09.3 +0.5**
MTUR Matau 59.94 310 ⇑P **P** **14 05 10.4 +1.5**
COEN Coen 59.94 123 ⇑P **P** **14 05 09.7 +0.5**
COEN Coen 59.94 123 P **P** **14 05 10.1 +1.0**
KDZ Kurdzhali 59.95 306 P **P** **14 05 10.1 +1.2**

AS31 Alice Springs 60.01 138 P **P** **14 05 09.8 +0.3**
AS31 IAmb IAmb 14 05 13.3
comp=Z,2µm,1.1s
ASAR Alice Springs 60.01 138 P **P** **14 05 09.8 +0.4**
comp=Z,7µm,0.9s,baz=319,slow=5.9,SNR=1638
ASAR PKPPKP **P'P'df** **14 34 28.4 -4.0**
comp=Z,27nm,0.8s,baz=137,slow=1.6,SNR=6.2
ASAR P4KPbc 14 42 15.8
comp=Z,9.7nm,0.9s,baz=328,slow=4.6,SNR=25
STFAR Stefanesti-Arg 60.04 310 ⇑P **P** **14 05 11.4 +2.0**
HUMR Humele 60.05 309 ⇑P **P** **14 05 10.3 +0.8**
ZKR Zakros 60.10 298 P **P** **14 05 10.8 +0.7**
ARR Arges 60.24 310 ⇑P **P** **14 05 11.4 +0.6**
TGMR Targu Mures 60.25 312 ⇑P **P** **14 05 13.5 +2.7**
ARCR ARCALIA 60.34 312 ⇑P **P** **14 05 13.1 +1.7**
MDB Medias 60.37 311 ⇓P **P** **14 05 14.0 +2.4**
APE Apeiranthos 60.38 301 P **P** **14 05 11.7 -0.2**
APE Apeiranthos 60.38 301*c i*P **P** **14 05 11.8 -0.2**
APE pmax pmax
comp=Z,1µm,0.9s
APE Apeiranthos 60.38 301 ⇑P **P** **14 05 11.6 -0.3**
PLD Plovdiv 60.44 306 P **P** **14 05 12.8 +0.6**
LVV L'vov 60.45 315 ⇓*i*P **P** **14 05 12.5 +0.4**
LVV *e* 14 05 51.7
LVV *e* 14 07 31.7
LVV *e* 14 09 00.7
LVV *e*S **S** **14 13 12.7 -2.6**
LVV *e* 14 13 58.3
LVV *e* 14 14 50.2
LVV *e* 14 17 14.4
LVV pmax pmax
comp=Z,5µm,1.4s
RZN Rozhen 60.47 306 P **P** **14 05 13.2 +0.5**
VLAD Vladila 60.50 309 ⇑P **P** **14 05 13.6 +1.1**
PABE Paberze 60.50 322 P **P** **14 05 13.0 +0.7**
PABE Paberze 60.50 322 *eP* P **P** **14 05 13.3 +1.0**
RMVG GOVORA 60.51 310 ⇓P **P** **14 05 14.8 +2.2**
H01W3 Cape Leeuwin H 60.51 162 P **P** **14 05 13.0 +0.7**
baz=325,slow=4.0,SNR=105
PMG Port Moresby 60.52 116 PKPPKP 14 34 30.2
comp=Z,78nm,0.9s,baz=184,slow=0.8,SNR=12
PMG Port Moresby 60.52 116 P **P** **14 05 14.2 +1.1**
PMG pmax pmax
comp=Z,5µm,0.8s
PMG Port Moresby 60.52 116 P **P** **14 05 14.2 +1.1**
PMG Port Moresby 60.52 116 ⇑P **P** **14 05 14.1 +1.0**
PMG Port Moresby 60.52 116 P **P** **14 05 14.6 +1.5**
H01W2 Cape Leeuwin H 60.52 162 P **P** **14 05 13.1 +0.7**
baz=325,slow=4.0,SNR=145
H01W1 Cape Leeuwin H 60.52 162 P **P** **14 05 13.1 +0.7**
baz=325,slow=4.0,SNR=147
MEF Metsahovi 60.54 327 *e*P **P** **14 05 13.0 +0.5**
LODK Lodwar 60.68 261 P **P** **14 05 15.4 +1.1**
LODK Lodwar 60.68 261 *e*P **P** **14 05 13.6 -0.7**
LODK *e*S **S** **14 13 18.1 -1.3**
LODK Lodwar 60.68 261 *i* P **P** **14 05 15.1 +0.8**
LODK *i* S **S** **14 13 20.5 +1.1**
LODK Lodwar 60.68 261 *e*P P 14 05 09.0 -5.3
LODK *e*S **S** **14 13 20.7 +1.3**
LODK IAMs_20 IAMs_20 14 14 27.5
comp=N,43µm,18.1s
MTSE Matsula 60.73 326 *e*P **P** **14 05 14.7 +0.9**
PTGB Panagyurishte 60.80 307 P **P** **14 05 14.0 +1.3**
KIBK Kibwezi 60.80 253 P **P** **14 05 15.2 0.0**
KIBK IAmb IAmb 14 05 18.6
comp=Z,2µm,1.1s
LOT Lotru 60.84 310 ⇑P **P** **14 05 15.7 +0.7**
LOT Lotru 60.84 310 P **P** **14 05 15.4 +0.4**
CJR Cluj-Napoca 60.87 312 ⇑P **P** **14 05 16.5 +1.4**
KEV Kevo 60.88 338 P **P** **14 05 15.6 +0.9**
KEV pmax pmax
comp=Z,1µm,0.7s
KEV Kevo 60.88 338 P **P** **14 05 15.6 +0.9**
KEV IAmb IAmb 14 05 17.5
comp=Z,1µm,0.7s
KEV Kevo 60.88 338 ⇑P **P** **14 05 15.6 +0.9**
BMR Baia Mare 60.89 313 ⇑P **P** **14 05 16.4 +1.2**
BMR Baia Mare 60.89 313 P **P** **14 05 16.3 +1.2**
CBBR Cluj-Babes-Bol 60.90 312 ⇑P **P** **14 05 17.2 +1.9**
SUW Suwalki 60.93 320 *i* P **P** **14 05 15.4 +0.1**
SUW *e*PcP **PcP** **14 05 55.0 -2.2**
SUW *e*S **S** **14 13 19.0 -2.3**
SUW *e*ScS **ScS** **14 14 53.4 +2.0**
SUW *e*L L 14 34 38.8
comp=Z,70µm,22.1s
SUW Suwalki 60.93 320 P **P** **14 05 15.2 0.0**
SUW pmax pmax
comp=Z,11µm,1.2s
SUW Suwalki 60.93 320 P **P** **14 05 15.2 0.0**
SUW Suwalki 60.93 320 *eP* P **P** **14 05 15.0 -0.2**
SUW Suwalki 60.93 320 ⇑P **P** **14 05 15.3 0.0**
KMBO Kilima Mbogo 60.95 255 P **P** **14 05 17.0 +0.7**
comp=Z,2µm,0.9s,baz=48,slow=9.5,SNR=586
KMBO LR LR 14 32 57.2
comp=Z,21µm,19.2s,baz=61,slow=37
KMBO PKPPKP **P'P'df** **14 34 31.9 -1.5**
comp=Z,3.2nm,0.9s,baz=250,slow=10,SNR=3.1
KMBO P4KPbc 14 42 22.5
comp=Z,6.9nm,0.8s,baz=34,slow=7.1,SNR=10
KMBO Kilima Mbogo 60.95 255 P **P** **14 05 16.8 +0.5**
KMBO IAmb IAmb 14 05 20.2
comp=Z,3µm,1.1s
KMBO Kilima Mbogo 60.95 255 ⇑P **P** **14 05 16.9 +0.6**
KMBO Kilima Mbogo 60.95 255 *eP* P **P** **14 05 16.3 0.0**
KMBO *e*S **S** **14 13 20.8 -2.3**
KMBO Kilima Mbogo 60.95 255 *i* P **P** **14 05 16.5 +0.2**
KMBO *i* S **S** **14 13 20.5 -2.6**
KMBO Kilima Mbogo 60.95 255 *eP* P 14 05 09.5 -6.8
KMBO *e*S **S** **14 13 17.4 -5.8**
KMBO IAMs_20 IAMs_20 14 14 26.7
comp=Z,35µm,18.7s
KMBO Kilima Mbogo 60.95 255 *i* P **P** **14 05 17.1 +0.7**
SNR=1738
HRKL Herakleio 60.98 299 P **P** **14 05 16.5 +0.6**
MPEP Malo Peshtene 61.03 308 P **P** **14 05 18.2 +2.0**
RKGY Rocky Gully 61.13 159 P **P** **14 05 16.3 -0.5**
IDI Anoyia 61.15 299 ⇓P **P** **14 05 18.0 +0.8**
IDI Anoyia 61.15 299 P **P** **14 05 17.2 0.0**
IDI Anoyia 61.15 299 P **P** **14 05 17.8 +0.6**
IDI Anoyia 61.15 299 ⇑P **P** **14 05 16.7 -0.5**
OUR Ouranopolis 61.17 304 P **P** **14 05 17.6 +0.5**
MMB Musomiste 61.22 306 P **P** **14 05 17.5 0.0**
BAIL Bailesti 61.26 309 ⇑P **P** **14 05 20.0 +2.4**
MESR Meseneni 61.29 312 ⇑P **P** **14 05 19.6 +1.7**
SRE Strehaia 61.30 309 ⇑P **P** **14 05 19.4 +1.4**
SRE Strehaia 61.30 309 P **P** **14 05 19.3 +1.4**
KWP Kalwaria Pacla 61.31 315 *i* P **P** **14 05 18.9 +0.9**
KWP *e*PcP **PcP** **14 05 57.9 -1.1**
KWP *e*S **S** **14 13 25.9 -0.4**
KWP *e*L L 14 35 19.4
comp=Z,63µm,22.3s
KWP Kalwaria Pacla 61.31 315 P **P** **14 05 18.8 +0.8**
KWP Kalwaria Pacla 61.31 315 P **P** **14 05 18.8 +0.8**
KWP Kalwaria Pacla 61.31 315 ⇑P **P** **14 05 18.6 +0.6**
ARA0 ARCESS Array S 61.35 338 ⇑*i*P **P** **14 05 19.1 +1.2**
ARA0 IVmB_BB 14 05 21.0
comp=Z,26µm,1.9s
ARA0 ⇓*e*S **S** **14 13 27.1 +1.0**
ARCES ARCESS Array B 61.35 338 P **P** **14 05 18.6 +0.7**
comp=Z,1µm,0.6s,baz=94,slow=5.5,SNR=776
ARCES pP **pP** **14 05 55.4 +1.7**
comp=Z,522nm,0.9s,baz=94,slow=6.2,SNR=3.2
ARCES S **S** **14 13 27.2 +1.1**
comp=Z,27nm,0.7s,baz=131,slow=5.0,SNR=7.3
ARCES LR LR 14 34 04.9
comp=Z,76µm,21.0s,baz=104,slow=38
ARCES PKPPKP **P'P'df** **14 34 28.3 -3.4**
comp=Z,17nm,1.0s,baz=305,slow=6.6,SNR=4.4
DEV Deva 61.41 311 ⇑P **P** **14 05 20.3 +1.6**
DEV Deva 61.41 311 P **P** **14 05 20.3 +1.6**
VTS Vitosha 61.47 307 ⇑P **P** **14 05 20.4 +1.0**
VTS Vitosha 61.47 307 P **P** **14 05 20.3 +0.9**
VTS pmax pmax
comp=Z,5µm,1.4s
VTS Vitosha 61.47 307 P **P** **14 05 20.3 +0.9**
VTS IAmb IAmb 14 05 23.1
comp=Z,5µm,1.4s
VTS Vitosha 61.47 307 ⇑P **P** **14 05 19.4 +0.1**
VTS Vitosha 61.47 307 *i* P **P** **14 05 20.0 +0.6**
DRGR 61.48 312 ⇑P **P** **14 05 20.0 +0.8**
SLIT Slitere, Latvi 61.49 324 *e*P **P** **14 05 19.1 +0.2**
SLIT Slitere, Latvi 61.49 324 ⇑P **P** **14 05 18.6 -0.3**
TRPA Tarpa 61.50 313 ⇑P **P** **14 05 20.3 +1.1**

TRPA Tarpa 61.50 313 P P 14 05 20.0 +0.8
PUNG Punghina 61.53 309 ⇑P P 14 05 20.6 +1.1
GZR Gura Zlata 61.54 310 ⇑P P 14 05 20.5 +0.9
QIS Mount Isa 61.54 131 P P 14 05 20.4 +0.5
CEI Carei 61.59 313 ⇑P P 14 05 21.4 +1.6
KOLS Kolonicke sedl 61.63 314 eP P 14 05 21.7 +1.6
KOLS pmax pmax
comp=Z,577nm,0.8s
KOLS Kolonicke sedl 61.63 314 eP P 14 05 21.7 +1.6
KOLS eS S 14 13 30.2 -0.2
UZH Uzhgorod 61.64 314 eP P 14 05 20.8 +0.7
UZH e 14 05 55.4
UZH e*PP pP 14 05 57.2 +1.1
UZH e 14 06 11.6
UZH ePPP PPP 14 09 11.8
UZH eS S 14 13 28.8 -1.6
UZH ePS PnS 14 13 49.2 -21
UZH eSS SS 14 17 30.6 -3.5
UZH MLR MLR
comp=N,6µm,16.0s
UZH MLR MLR
comp=E,5µm,16.0s
UZH MLR MLR
comp=Z,3µm,16.0s
PBUR Paburge 61.66 322 eP P 14 05 20.5 +0.4
RMGR Halanga-Turnu 61.66 309 ⇓P P 14 05 22.2 +1.8
KKB Krupnik 61.67 306 P P 14 05 20.6 +0.1
BLKB Belogradchik 61.78 308 ⇑P P 14 05 22.1 +0.8
DJES Djerdap 61.79 310 ⇓P P 14 05 22.6 +1.3
HORT Hortiatis 61.81 305 P P 14 05 21.3 -0.2
HERR Herculane 61.84 310 ⇓P P 14 05 23.3 +1.8
BILL Bilibino 61.84 24c iP P 14 05 20.9 -0.3
BILL i *PP pP 14 05 53.8 -3.3
BILL i 14 06 01.8
BILL i 14 07 38.5
BILL iS S 14 13 30.6 -1.8
BILL pmax pmax
comp=Z,335nm,1.0s
BILL pmax pmax
comp=Z,2µm,2.7s
BILL MLR MLR
comp=Z,27µm,19.0s
BILL Bilibino 61.84 24 P P 14 05 20.8 -0.3
BILL IAmb IAmb 14 06 24.6
comp=Z,1µm,1.1s
BILL Bilibino 61.84 24 P P 14 05 21.1 -0.1
BILL pP PcP 14 06 06.4 +5.7
IMMV Iera Moni Meta 61.86 299 P P 14 05 22.3 +0.4
GVD Gavdhos 61.87 298 P P 14 05 22.1 +0.1
RAF Rauma 61.88 328 eP P 14 05 22.2 +0.7
THE Thessaloniki 61.90 305 iP P 14 05 21.8 -0.3
LTVH Ltavrtes, Hu 61.98 313 ⇑P P 14 05 24.3 +1.8
LTVH Ltavrtes, Hu 61.98 313 P P 14 05 24.1 +1.7
RODP Rodopos 62.02 299 P P 14 05 23.8 +0.8
KTK1 Kautokeino 62.05 337⇑iP P 14 05 23.6 +1.0
KTK1 IVmBBB 14 05 24.9
comp=Z,17µm,0.5s
KTK1 eS S 14 13 35.8 +0.8
KRVT Keravat (AS076 62.05 108 LR LR 14 29 27.1
comp=Z,5µm,20.1s,baz=77,slow=33
KRVT PKPPKP 14 34 28.2
comp=Z,111nm,1.1s,baz=21,slow=5.3,SNR=8.4
BORR Bors 62.09 312 ⇑P P 14 05 25.7 +2.6
VAY Valandovo 62.11 306 iP P 14 05 23.3 -0.1
RABL Rabaul 62.12 108 P P 14 05 24.6 +0.7
RABL Rabaul 62.12 108 ⇑P P 14 05 24.3 +0.4
RABL Rabaul 62.12 108 P P 14 05 25.9 +2.0
KNDR Palaiochora Ch 62.13 299 P P 14 05 24.5 +0.8
HAMF Hammerfest 62.16 339⇑iP P 14 05 24.5 +1.3
HAMF eS S 14 13 37.6 +1.4
CRVS Cervenica-Dubn 62.17 314 eP P 14 05 24.5 +0.8
CRVS pmax pmax
comp=Z,8µm,1.5s
CRVS Cervenica-Dubn 62.17 314 eP P 14 05 24.5 +0.8
CRVS epP pP 14 06 00.6 +0.9
CRVS eS S 14 13 35.5 -1.6
CRVS e 14 34 35.5
CRVS e 14 42 27.3
SIRR Siria 62.24 311 ⇓P P 14 05 26.0 +1.8
STHS Stebnicka Huta 62.28 315 eP P 14 05 24.9 +0.5
STHS eS S 14 13 37.3 -1.2
STHS Stebnicka Huta 62.28 315 eP P 14 05 24.9 +0.5
STHS eS S 14 13 37.3 -1.2
GRG Griva 62.29 305 P P 14 05 24.2 -0.5
BZS Buzias 62.33 311 ⇑P P 14 05 25.4 +0.5
LIT Litokhoron 62.33 304 P P 14 05 24.9 -0.1
LIT pmax pmax
comp=Z,5µm,1.1s
LIT Litokhoron 62.33 304 P P 14 05 24.9 -0.1
LIT Litokhoron 62.33 304 ⇑P P 14 05 24.5 -0.5
FORT Forrest 62.33 148 P P 14 05 25.6 +0.7
FORT Forrest 62.33 148 ⇑P P 14 05 25.1 +0.2
FORT Forrest 62.33 148 P P 14 05 25.7 +0.7
MDVR Moldovita 62.35 310 ⇓P P 14 05 26.6 +1.5
STIP Stip 62.35 306 iP P 14 05 23.6 -1.5
BEL Belsk 62.43 318 iP P 14 05 26.3 +0.9
BEL ePcP PcP 14 06 05.7 +2.4
BEL eS S 14 13 39.1 -1.1
BEL eL L 14 33 16.8
comp=Z,46µm,26.7s
BEL Belsk 62.43 318 P P 14 05 25.0 -0.3
BEL Belsk 62.43 318 ⇑P P 14 05 26.0 +0.7
BOVS Bovan 62.48 308 ⇑P P 14 05 25.8 0.0
ABPO Ambohimpanom 62.57 232 P P 14 05 26.8 -0.1
ABPO pmax pmax
comp=Z,4µm,1.0s
ABPO Ambohimpanom 62.57 232 P P 14 05 26.8 -0.1
ABPO IAmb IAmb 14 05 30.3
comp=Z,4µm,0.9s
ABPO Ambohimpanom 62.57 232 ⇑P P 14 05 26.9 0.0
ABPO Ambohimpanom 62.57 232 P P 14 05 27.1 +0.2
ABPO ⇓pP PcP 14 06 06.9 +2.3
TIM Timisoara 62.60 311 ⇑P P 14 05 28.6 +2.0
TIM Timisoara 62.60 311 P P 14 05 28.5 +2.0
AGG Agios Georgios 62.61 303 P P 14 05 25.8 -1.1
AGG Agios Georgios 62.61 303 P P 14 05 25.7 -1.1
AGG pmax pmax
comp=Z,9µm,1.3s
AGG Agios Georgios 62.61 303 P P 14 05 25.6 -1.2
AGG Agios Georgios 62.61 303 ⇑P P 14 05 25.7 -1.2
KLNR Kaliningrad 62.66 321c iP P 14 05 27.1 +0.3
KLNR pmax pmax
comp=Z,5µm,1.1s
BANR Banloc 62.69 310 ⇑P P 14 05 28.9 +1.7
AIS Amsterdam Isla 62.72 195 P P 14 05 27.7 +0.4
AIS Amsterdam Isla 62.72 195 ⇑P P 14 05 27.5 +0.2
AIS Amsterdam Isla 62.72 195 ⇓P P 14 05 28.6 +1.3
AIS pP PcP 14 06 05.9 +1.4
AAL Aland 62.73 327 eP P 14 05 27.0 -0.2
KECS Kecovo 62.84 314 eP P 14 05 29.3 +1.1
KECS pmax pmax
comp=Z,1µm,1.2s
KECS Kecovo 62.84 314 eP P 14 05 29.3 +1.1
KECS eS S 14 13 44.9 -0.7
SKO Skopje 62.87 307 iP P 14 05 28.3 -0.2
AMBH Ambrzfalva 62.88 312 P P 14 05 29.9 +1.5
NIE Niedzica 62.89 315 iP P 14 05 30.7 +2.2
NIE ePcP PcP 14 06 10.3 +4.9
NIE eS S 14 13 47.7 +1.5
NIE eL L 14 36 35.6
comp=Z,32µm,21.1s
PATS Pohnpei 62.96 94 P P 14 05 30.4 +0.9
PATS Pohnpei 62.96 94 P P 14 05 31.2 +1.7
HOPEN Hopen 63.01 346⇑iP P 14 05 30.4 +1.6
HOPEN IVmB_BB 14 05 32.2
comp=Z,20µm,1.8s
HOPEN eS S 14 13 49.7 +3.0
FNA Florina 63.08 305 iP P 14 05 29.2 -0.8
BSZH Besenyszg 63.10 313 ⇑P P 14 05 32.4 +2.5
BSZH Besenyszg 63.10 313 P P 14 05 31.4 +1.6
JETT Jettan, Norway 63.12 338⇑iP P 14 05 31.0 +1.3
JETT IVmB_BB 14 05 33.2
comp=Z,33µm,0.6s
JETT eS S 14 13 50.0 +1.5
OJC Ojcow 63.15 316 iP P 14 05 30.9 +0.7
OJC ePcP PcP 14 06 10.2 +3.8
OJC eS S 14 13 47.0 -2.3
OJC eL L 14 36 15.6
comp=Z,54µm,21.8s
OJC Ojcow 63.15 316 P P 14 05 30.8 +0.6
OJC pmax pmax
comp=Z,926nm,1.0s
OJC Ojcow 63.15 316 P P 14 05 30.8 +0.6
OJC IAmb IAmb 14 05 34.7
comp=Z,926nm,1.0s
OJC Ojcow 63.15 316 ⇑P P 14 05 30.6 +0.4
ITM Ithomi 63.21 301 P P 14 05 29.9 -0.9
ITM Ithomi 63.21 301 P P 14 05 30.1 -0.7
PSZ Piszkesteto 63.29 313 ⇑P P 14 05 32.0 +0.8
PSZ Piszkesteto 63.29 313 P P 14 05 31.7 +0.4
PSZ pmax pmax
comp=Z,2µm,1.2s
PSZ Piszkesteto 63.29 313 P P 14 05 31.6 +0.4
PSZ IAmb IAmb 14 05 34.7
comp=Z,2µm,1.2s
PSZ Piszkesteto 63.29 313 ⇑P P 14 05 31.6 +0.3
PSZ Piszkesteto 63.29 313 P P 14 05 32.5 +1.3
MTSU Mount Surprise 63.36 126 P P 14 05 33.0 +1.0
LANS Liptovska Anna 63.46 315 eP P 14 05 33.6 +1.3
LANS pmax pmax
comp=Z,583nm,1.2s
LANS Liptovska Anna 63.46 315 eP P 14 05 33.6 +1.3
LANS eS S 14 13 53.2 0.0
OHR Ohrid 63.47 306 iP P 14 05 31.8 -0.7
TRO Tromso 63.65 338⇑iP P 14 05 33.8 +0.7
TRO IVmBBB 14 05 35.5
comp=Z,25µm,0.5s
TRO eS S 14 13 55.1 +0.3
FRGS Fruska Gora 63.65 310 ⇑P P 14 05 33.2 -0.4
FRGS Fruska Gora 63.65 310⇑iP P 14 05 33.0 -0.6
DIVS Divibare 63.65 309⇑iP P 14 05 34.1 +0.4
PHP Peshkopia 63.65 306 iP P 14 05 32.4 -1.3
LSK Leskovik 63.76 305 iP P 14 05 33.3 -1.1
BCI Bajram Curri 63.83 307 iP P 14 05 35.6 +0.8
IVA Berane 63.88 308 eP P 14 05 35.8 +0.5
BUD Budapest 63.92 313 P P 14 05 35.9 +0.6
BUD Budapest 63.92 313 P P 14 05 35.7 +0.5
UPP Uppsala 63.92 327 eP P 14 05 35.9 +0.9
TEKS Tekeris 63.92 310⇑iP P 14 05 35.1 -0.3
LKD2 Lefkada island 63.93 303 iP P 14 05 34.3 -1.3
VYHS Vyhne 63.94 314 eP P 14 05 36.0 +0.6
VYHS pmax pmax
comp=Z,942nm,1.4s
VYHS Vyhne 63.94 314 eP P 14 05 36.0 +0.6
VYHS eS S 14 13 56.1 -3.0
IGT Igoumenitsa 64.06 304 iP P 14 05 34.7 -1.6
BLJ Bijeljina 64.08 310⇑iP P 14 05 36.6 +0.3
BBLS Lazići 64.10 309⇑iP P 14 05 37.4 +0.8
TIR Tirane 64.13 306 ⇑P P 14 05 37.0 +0.3
TIR Tirane 64.13 306 P P 14 05 36.3 -0.5
TIR pmax pmax
comp=Z,4µm,1.3s
TIR Tirane 64.13 306 P P 14 05 36.3 -0.5
TIR IAmb IAmb 14 05 38.8
comp=Z,4µm,1.3s
TIR Tirane 64.13 306 ⇑P P 14 05 36.0 -0.7
TIR Tirane 64.13 306 iP P 14 05 36.6 -0.2
BJO1 Bjornoya 64.13 343⇑iP P 14 05 37.0 +0.9
BJO1 IVmB_BB 14 05 38.7
comp=Z,23µm,2.4s
BJO1 eS S 14 14 01.6 +1.0
OOD Oodnadatta 64.14 140 P P 14 05 37.6 +0.7
RUDO Rudo 64.16 309 eP P 14 05 37.0 +0.1
PLE Pljevlja 64.19 308 eP P 14 05 38.2 +0.9
RAC Raciborz 64.19 316 eP P 14 05 38.0 +1.0
RAC LMZ LR 14 36 44.9
comp=Z,66nm,19.6s
RAC Raciborz 64.19 316 eP P 14 05 38.0 +1.0
RAC MLR MLR
comp=Z,66µm,19.6s
KOLL Kolacno 64.21 314 eP P 14 05 38.5 +1.3
KOLL e 14 34 27.6
OKC Ostrava-Krasne 64.25 316⇑iP P 14 05 38.2 +0.8
OKC e 14 06 14.1
OKC eS S 14 14 02.6 -0.3
OKC Ostrava-Krasne 64.25 316⇑iP P 14 05 38.2 +0.8
OKC epP pP 14 06 14.1 +0.5
OKC eS S 14 14 02.6 -0.3
SRN Sarande 64.26 304 iP P 14 05 35.6 -1.9
SRO2 Moca 64.31 313 eP P 14 05 38.3 +0.5
SRO2 pmax pmax
comp=Z,3µm,1.2s
SRO2 Moca 64.31 313 eP P 14 05 38.3 +0.5
MORH Mrgy, Hungar 64.33 312 ⇑P P 14 05 38.4 +0.4
MORH Mrgy, Hungar 64.33 312⇑iP P 14 05 38.3 +0.4
MORH Mrgy, Hungar 64.33 312 P P 14 05 38.5 +0.6
SRO Srobarova 64.36 313 eP P 14 05 39.5 +1.4
SRO pmax pmax
comp=Z,3µm,1.3s
SRO Srobarova 64.36 313 eP P 14 05 39.5 +1.4
SRO eS S 14 14 03.0 -1.3
PDG Podgorica 64.41 307 ⇑P P 14 05 38.5 -0.1
PDG Podgorica 64.41 307 P P 14 05 38.4 -0.1
PDG Podgorica 64.41 307⇑iP P 14 05 38.5 -0.1
PDG Podgorica 64.41 307 ⇑P P 14 05 38.2 -0.3
TTG Podgorica 64.41 307 eP P 14 05 39.3 +0.7
KEK Kerkira 64.44 304 ⇑P P 14 05 37.4 -1.4
VIKU Vikbolandet 64.45 325 eP P 14 05 38.6 +0.1
CSKK Cskasko 64.45 313 P P 14 05 39.6 +0.9
ULC Ulcinj 64.49 307 eP P 14 05 39.8 +0.6
GKP Gorka Klasztor 64.50 319 iP P 14 05 39.4 +0.5
GKP ePcP pP 14 06 14.5 -0.6
GKP eS S 14 14 04.2 -1.6
GKP eScS SKSac 14 15 18.3 -0.2
GKP eL L 14 36 52.7
comp=Z,73µm,21.9s
GKP Gorka Klasztor 64.50 319 eP P 14 05 40.0 +1.1
DRME Dracevica, Mon 64.50 307⇑iP P 14 05 38.9 -0.3
DRME Dracevica, Mon 64.50 307 eP P 14 05 39.5 +0.3
VLO Vlora 64.54 305 iP P 14 05 39.4 -0.1
NKY Niksic 64.55 308 eP P 14 05 40.4 +0.8
UPM Unac-Piva 64.55 308 eP P 14 05 40.3 +0.6
UPM Unac-Piva 64.55 308 eP P 14 05 40.7 +1.0
NKME Niksic 64.58 308 eP P 14 05 40.7 +0.9
MORC Moravsky Berou 64.64 316⇑P P 14 05 41.2 +1.2
MORC Moravsky Berou 64.64 316 P P 14 05 40.7 +0.7
MORC pmax pmax
comp=Z,2µm,1.2s
MORC Moravsky Berou 64.64 316 P P 14 05 40.6 +0.7
MORC IAmb IAmb 14 05 43.7
comp=Z,2µm,1.2s
MORC Moravsky Berou 64.64 316⇑iP P 14 05 40.8 +0.7
MORC epP pP 14 06 15.8 -0.5
MORC eS S 14 14 06.7 -1.2
MORC ePKPPKP P'P'df 14 34 23.9 -3.3
MORC e 14 42 38.9
MORC Moravsky Berou 64.64 316⇑P P 14 05 40.6 +0.7
JAVC Velka Javorina 64.67 315⇑iP P 14 05 41.7 +1.5
JAVC epP pP 14 06 16.6 +0.2
JAVC eS S 14 14 07.7 -0.5
JAVC ePKPPKP P'P'df 14 34 24.8 -2.4
JAVC e 14 42 39.2
BUM Brajici-Budva 64.70 307 eP P 14 05 41.8 +1.3
KOVH Kovagotottos 64.72 311 P P 14 05 41.0 +0.5
VOI Vohitsoka 64.74 230 P P 14 05 40.4 -0.7
VOI Vohitsoka 64.74 230 ⇑P P 14 05 40.4 -0.7
VOI Vohitsoka 64.74 230 P P 14 05 40.7 -0.3
TIH Tihany 64.75 312 P P 14 05 35.8 -4.9
TIH S S 14 14 04.6 -4.6
N2ST Straumen 64.77 335⇑iP P 14 05 41.1 +0.7
BRY Bratogost 64.86 308⇑iP P 14 05 41.8 +0.1
BRY Bratogost 64.86 308 eP P 14 05 42.1 +0.4
SMOL Smolenice 64.86 314 eP P 14 05 42.3 +0.9
SMOL pmax pmax
comp=Z,616nm,1.3s
SMOL Smolenice 64.86 314 eP P 14 05 42.3 +0.9
SMOL epP PcP 14 06 14.7 +1.2
SMOL eS S 14 14 04.2 -6.3
SMOL e 14 34 28.0
FAUS Fauske 64.89 335⇑iP P 14 05 41.6 +0.4
FAUS IVmB_BB 14 05 43.6
comp=Z,25µm,1.8s
FAUS eS S 14 14 10.1 -0.1
DOB Doboj 64.91 310 eP P 14 05 43.3 +1.6
STEI Steigen 64.91 336⇑iP P 14 05 41.8 +0.5
STEI eS S 14 14 09.7 -0.6
MPLH Magyarpolny 64.96 313 P P 14 05 42.9 +0.9
HCY Herceg Novi 64.97 307⇑iP P 14 05 41.9 -0.3
HCY Herceg Novi 64.97 307 eP P 14 05 43.3 +1.1
MODS Modra-Piesok 64.98 314 eP P 14 05 42.8 +0.6
MODS pmax pmax
comp=Z,4µm,1.3s
MODS Modra-Piesok 64.98 314 eP P 14 05 42.8 +0.6
MODS epP PcP 14 06 14.7 +0.7
MODS eS S 14 14 04.6 -7.4
MODS e 14 34 24.1
MODS e 14 34 29.0
A252A Venje 64.98 311 P P 14 05 42.3 +0.1
TREB Trebinje 65.03 308⇑iP P 14 05 43.1 +0.5
EGYH Egyhazaskeszo 65.07 313 P P 14 05 43.7 +0.9
MULG Mulgathing 65.08 143 P P 14 05 43.3 +0.4
KRLC Kraliky 65.10 316⇑iP P 14 05 43.7 +0.7
KRLC eS S 14 14 14.0 +0.6
KRLC Kraliky 65.10 316⇑iP P 14 05 43.7 +0.7
KRLC eS S 14 14 14.0 +0.6
ZST Bratislava 65.12 314 eP P 14 05 43.6 +0.5
ZST pmax pmax
comp=Z,5µm,1.5s
ZST Bratislava 65.12 314 eP P 14 05 43.6 +0.5
ZST epP pP 14 06 20.9 +1.5
ZST eS S 14 14 09.3 -4.3
ZST e 14 34 30.8
SPA0 Spitsbergen Ar 65.18 347⇑iP P 14 05 43.8 +0.8
SPA0 IVmB_BB 14 05 46.0
comp=Z,20µm,1.9s
SPA0 eS S 14 14 14.3 +0.8
DBRK Dubrovnik 65.19 308 P P 14 05 42.9 -0.7
MOR8 Moi Rana 65.24 334⇑iP P 14 05 43.4 -0.1
MOR8 IVmB_BB 14 05 45.2
comp=Z,33µm,1.7s
MOR8 eS S 14 14 12.9 -1.6
HSPB Hornsund (broa 65.25 346 iP P 14 05 44.5 +1.1
HSPB ePcP pP 14 06 23.9 +4.3
HSPB eS S 14 14 15.9 +1.6
HSPB eScS SKSac 14 15 21.2 -2.2
HSPB eL L 14 33 18.7
comp=Z,62µm,24.7s
HSPB Hornsund (broa 65.25 346⇑iP P 14 05 44.5 +1.1
HSPB IVmBBB 14 05 46.7
comp=Z,18µm,1.2s
HSPB eS S 14 14 15.2 +0.9
VRAC Vranov 65.31 315 ⇑P P 14 05 45.6 +1.3
VRAC Vranov 65.31 315 LR LR 14 37 47.5
comp=Z,44µm,21.8s,baz=78,slow=39
VRAC Vranov 65.31 315⇑iP P 14 05 45.3 +1.0
VRAC epP pP 14 06 19.0 -1.6
VRAC eS S 14 14 15.2 -0.8
VRAC ePKPPKP P'P'df 14 34 21.7 -4.4
VRAC e 14 42 41.6
KSP Ksiaz 65.32 317 iP P 14 05 45.5 +1.2
KSP ePcP pP 14 06 24.9 +4.2
KSP eS S 14 14 15.8 -0.2
KSP eL L 14 37 29.4
comp=Z,51µm,22.1s
KSP Ksiaz 65.32 317 ⇑P P 14 05 45.0 +0.7
KSP Ksiaz 65.32 317 ⇑P P 14 05 45.0 +0.7
DPC Dobruska-Polom 65.36 316⇑iP P 14 05 45.7 +1.1
DPC eS S 14 14 16.6 0.0
DPC Dobruska-Polom 65.36 316⇑iP P 14 05 45.7 +1.1
DPC eS S 14 14 16.6 0.0
SCTE Santa Cesarea 65.39 305 P P 14 05 43.8 -1.1
SCTE Santa Cesarea 65.39 305 iP P 14 05 44.4 -0.5
OSTC Ostas 65.40 317⇑iP P 14 05 45.8 +0.9
OSTC ex x 14 06 19.6
OSTC eS S 14 14 17.3 +0.3
OSTC ePKPPKP P'P'df 14 34 25.9 0.0
KRUC Moravsky 65.47 315⇑iP P 14 05 46.0 +0.7
KRUC epP pP 14 06 20.2 -1.5
KRUC eS S 14 14 17.2 -0.7
KRUC ePKPPKP P'P'df 14 34 20.2 -5.6
KRUC e 14 42 42.2
STON Ston 65.48 308⇑iP P 14 05 45.0 -0.4
STON Ston 65.48 308 P P 14 05 44.3 -1.1
CHVC Chvalec 65.50 317⇑iP P 14 05 46.5 +1.0
CHVC eS S 14 14 17.9 -0.3
SHEM Shemya Is, Ala 65.53 41 PKPPKP 14 34 22.0
comp=Z,223nm,1.1s,baz=103,slow=5.4,SNR=7.5
SHEM LR LR 14 35 47.1
comp=Z,16µm,21.5s,baz=289,slow=37
SMY Shemya 65.53 41 P P 14 05 45.9 +0.3
SMY pmax pmax
comp=Z,1µm,1.1s
SMY Shemya 65.53 41 P P 14 05 45.9 +0.3
SMY IAmb IAmb 14 06 54.7
comp=Z,1µm,1.1s
SMY Shemya 65.53 41 ⇓P P 14 05 46.1 +0.5
UPC Upice 65.54 317⇑iP P 14 05 46.5 +0.8
UPC e 14 06 21.1
UPC eS S 14 14 17.9 -0.7
UPC Upice 65.54 317⇑iP P 14 05 46.5 +0.8
UPC epP pP 14 06 21.1 -1.0
UPC eS S 14 14 17.9 -0.7
LOF Lofoten 65.55 336⇑iP P 14 05 45.5 +0.1
LOF IVmB_BB 14 05 47.9
comp=Z,24µm,2.6s
LOF eS S 14 14 16.6 -1.5
BLY Banja Luka 65.55 310⇑iP P 14 05 46.5 +0.6
BLY Banja Luka 65.55 310 ⇑P P 14 05 44.6 -1.3
SOP Sopron 65.55 313 P P 14 05 46.2 +0.4
SOP Sopron 65.55 313 P P 14 05 46.3 +0.5
BEHE Becsehely 65.58 312⇑iP P 14 05 47.0 +1.0
BEHE Becsehely 65.58 312 P P 14 05 46.8 +0.7
SRKY Kupres RS 65.67 309⇑iP P 14 05 47.1 +0.3
MGRS Mrkonjic Grad 65.67 310⇑iP P 14 05 47.6 +0.9
BSD Bornholm Skovb 65.68 322⇑eP P 14 05 46.1 -0.4
BSD Bornholm Skovb 65.68 322 eP P 14 05 46.1 -0.4
BSD Bornholm Skovb 65.68 322 iP P 14 05 46.3 -0.2
BSD IVmBBB 14 05 48.1
comp=Z,15µm,1.8s
BSD IAmb IAmb 14 05 48.4
comp=Z,2µm,1.4s
BSD iS S 14 14 16.8 -3.4
BSD Bornholm Skovb 65.68 322 ⇑P P 14 05 46.1 -0.4
MOSL Moslavina 65.72 311 P P 14 05 46.7 -0.3
RONA Rosalia, Austr 65.72 313 iP P 14 05 47.9 +0.9
comp=Z,421nm,1.1s,SNR=435
RONA eS S 14 14 19.2 -1.9
comp=Z,1.0nm,0.2s
N2SV S rvVgen 65.75 336⇑iP P 14 05 46.5 -0.2
KONS Konsvik 65.76 334⇑iP P 14 05 47.2 +0.4
KONS eS S 14 14 22.2 +1.5
RICI Ricice 65.79 309 P P 14 05 46.8 -0.6
STOK Stokkvaagen 65.81 334 eP P 14 05 47.7 +0.6
STOK eS S 14 14 21.6 +0.3
PRIJ Prijedor 65.84 310⇑iP P 14 05 49.2 +1.4
KALN Kalnik 65.85 312 P P 14 05 47.8 0.0
HFS Hagfors 65.88 327 S S 14 14 21.9 -0.5
comp=Z,170nm,1.0s,baz=31,slow=46,SNR=12
MAKA Makarska 65.90 309 P P 14 05 47.1 -1.0
KOGS Kog 65.94 312 iP P 14 05 48.8 +0.5
KOGS iPcP PcP 14 06 20.2 +2.3
KOGS epP pP 14 06 27.6 +2.9
KOGS ePP PP 14 08 18.6 +3.5
KOGS epPP 14 08 55.0
KOGS iS S 14 14 22.7 -0.9
KOGS eScS SKSac 14 15 29.1 -0.6
KOGS e 14 21 58.4
CONA Conrad Observa 65.98 314 iP P 14 05 49.6 +0.9
comp=Z,905nm,1.3s,SNR=1552
CONA ePP PP 14 08 17.0 +1.4
comp=Z,3µm,2.1s
CTA Charters Tower 66.00 126 P P 14 05 50.2 +1.1
CTAO Charters Tower 66.00 126 ⇑P P 14 05 50.0 +0.9
TREC Trest 66.03 315⇑iP P 14 05 49.8 +0.9
TREC eS S 14 14 23.6 -1.1
TREC Trest 66.03 315⇑iP P 14 05 49.8 +0.9
TREC eS S 14 14 23.6 -1.1
LSTV Lastovo 66.08 308 P P 14 05 47.3 -2.0
LOBO Lobor 66.11 312 P P 14 05 49.5 0.0
N2RO R st 66.11 335⇑iP P 14 05 48.9 -0.2
KBS Kingsbay 66.12 348c iP P 14 05 49.3 +0.4
KBS pmax pmax
comp=Z,1µm,1.7s
KBS Kingsbay 66.12 348 P P 14 05 49.1 +0.1
KBS IAmb IAmb 14 05 52.6
comp=Z,2µm,1.8s
KBS Kingsbay 66.12 348 iP P 14 05 49.6 +0.6
KBS iS S 14 14 24.7 -0.1
KBS Kingsbay 66.12 348 ⇑P P 14 05 49.3 +0.4
KBS Kingsbay 66.12 348⇑iP P 14 05 49.4 +0.4
DEL Delary 66.13 323 eP P 14 05 49.9 +0.5
PTJ Puntijarka 66.22 312 P P 14 05 50.1 -0.1
ZAG Zagreb 66.22 311⇑iP P 14 05 51.7 +1.6
ZAG Zagreb 66.22 311 P P 14 05 52.2 +2.1

KIJV Kijevo 66.22 309 P P 14 05 49.8 -0.5
ARSA Arzberg 66.31 313 *i* P P 14 05 51.7 +0.9
comp=Z,247nm,0.7s,SNR=324
ARSA Arzberg 66.31 313 ⇑P P 14 05 50.8 +0.1
NOCI Noci 66.31 306 *i* P P 14 05 50.0 -0.9
HVAR Hvar 66.33 309 P P 14 05 50.5 -0.4
NSS Namsos 66.35 332 ⇑*i*P P 14 05 50.8 +0.2
NSS IVmB_BB 14 05 52.6
comp=Z,24µm,1.9s
NSS *e*S S 14 14 27.4 -0.5
WAKE Wake Island 66.44 78 P P 14 05 52.4 +0.5
WAKE IAmb IAmb 14 05 56.3
comp=Z,2µm,1.2s
WAKE Wake Island 66.44 78 ⇑P P 14 05 52.8 +0.8
WAKE Wake Island 66.44 78 P P 14 05 53.9 +1.9
PVCC Panska Ves 66.45 317 ⇑*i*P P 14 05 52.5 +1.0
PVCC *ex* x 14 06 30.9
PVCC *e*S S 14 14 29.8 +0.2
H11N1 WAKE ISLAND Hy 66.53 78 P P 14 05 54.5 +2.3
baz=272,slow=9.4,SNR=14
H11N2 WAKE ISLAND Hy 66.53 78 P P 14 05 54.0 +1.8
baz=272,slow=9.4,SNR=13
H11N3 WAKE ISLAND Hy 66.54 78 P P 14 05 54.7 +2.3
baz=272,slow=9.4,SNR=20
PRU Pruhonice 66.54 316 ⇑*i*P P 14 05 52.9 +0.8
PRU *ex* x 14 06 18.6
PRU *e*S S 14 14 29.7 -1.1
PRU *e*PKPPKP P'P'df 14 34 24.0 0.0
PRU AMS AMS 14 37 50.0
comp=Z,52µm,16.5s
MBAR Mbarara 66.56 259 LR LR 14 36 05.8
comp=Z,39µm,20.5s,baz=62,slow=37
MBAR Mbarara 66.56 259 *ce*P P 14 05 53.6 +0.6
MBAR pmax pmax
comp=Z,7µm,1.7s
MBAR Mbarara 66.56 259 P P 14 05 53.7 +0.8
MBAR Mbarara 66.56 259 ⇑P P 14 05 53.8 +0.8
MBAR Mbarara 66.56 259 *e*P P 14 05 51.4 -1.6
MBAR *e*S S 14 14 28.4 -4.0
MBAR Mbarara 66.56 259 *i* P P 14 05 53.5 +0.6
MBAR *e*S S 14 14 25.9 -6.5
MBAR Mbarara 66.56 259 *e*P P 14 05 48.8 -4.2
MBAR *e*S S 14 14 27.1 -5.2
MBAR IAMs_20 IAMs_20 14 15 38.1
comp=Z,25µm,18.1s
CRES Cresnjev 66.58 311 ⇑*i*P P 14 05 53.3 +0.8
UDBI Udbina 66.59 310 P P 14 05 52.2 -0.4
MATE Matera 66.60 306 ⇑P P 14 05 52.5 -0.2
MATE Matera 66.60 306 ⇑P P 14 05 52.2 -0.5
OZLJ Ozalj 66.61 311 P P 14 05 53.1 +0.5
PLIT Plitvice 66.63 310 P P 14 05 52.6 -0.2
RGN Rugen 66.66 321 P P 14 05 53.3 +0.6
RGN Rugen 66.66 321 *e*P P 14 05 53.8 +1.1
comp=Z,7µm,1.4s,baz=80,slow=6.2
RGN Rugen 66.66 321 ⇑P P 14 05 53.8 +1.1
RUE Ruedersdorf 66.67 319 *e*P P 14 05 54.0 +1.1
RUE Ruedersdorf 66.67 319 *e*P P 14 05 53.5 +0.7
comp=Z,6µm,1.2s,baz=80,slow=6.2
RUE Ruedersdorf 66.67 319 ⇑P P 14 05 53.6 +0.8
H11S3 WAKE ISLAND Hy 66.71 79 P P 14 05 55.9 +2.4
baz=249,slow=4.6,SNR=13
H11S1 WAKE ISLAND Hy 66.71 79 P P 14 05 55.3 +1.7
baz=249,slow=4.6,SNR=19
H11S2 WAKE ISLAND Hy 66.72 79 P P 14 05 55.4 +1.8
baz=249,slow=4.6,SNR=13
SOKA Soboth 66.73 312 *i* P P 14 05 53.9 +0.4
comp=Z,1µm,1.3s,SNR=739
MORI Morici 66.74 309 P P 14 05 52.8 -0.7
NC405 NORSAR Array S 66.76 328 P P 14 05 53.7 +0.3
BRG Berggiesshubel 66.79 317 ⇑*i*P P 14 05 54.6 +0.8
BRG Amp 14 05 57.4
comp=Z,3µm,1.3s
BRG pP PcP 14 06 22.8 +1.4
BRG Amp 14 06 29.0
comp=Z,458nm,1.0s
BRG PP PP 14 08 21.6 -0.9
BRG Amp 14 08 27.4
comp=Z,622nm,1.2s
BRG Berggiesshubel 66.79 317 sS SKiKP 14 15 41.0 +1.2
BRG Berggiesshubel 66.79 317 ⇑*i*P P 14 05 54.5 +0.8
BRG 14 06 22.8
BRG 14 08 21.6
BRG S S 14 14 29.0 -4.8
BRG pmax pmax
comp=Z,3µm,1.3s
BRG Berggiesshubel 66.79 317 *e*P P 14 05 54.5 +0.8
comp=Z,3µm,1.3s,baz=80,slow=6.2
ZIRJ Zirje 66.83 309 P P 14 05 53.7 -0.3
CKRC Cesky Krumlov 66.87 315 ⇑*i*P P 14 05 55.1 +0.8
CKRC *e*S S 14 14 34.9 +0.1
CKRC AMS AMS 14 38 00.0
comp=Z,42µm,16.5s
NC602 NORSAR Array S 66.89 328 P P 14 05 54.2 +0.1
NC602 NORSAR Array S 66.89 328 ⇑*i*P P 14 05 54.2 +0.1
NORES NORESS Array B 66.89 328 P P 14 05 58.3 +4.2
NORES pmax pmax
comp=Z,94nm,0.7s
MRVN Minervino Murg 66.90 306 ⇑P P 14 05 54.0 -0.7
PBCC Pribram 66.94 316 ⇑*i*P P 14 05 55.3 +0.6
PBCC *e*S S 14 14 34.6 -1.0
NB2 NORSAR Subarra 67.01 328 P P 14 05 55.2 +0.2
comp=Z,3µm,1.0s,baz=84,slow=6.5
NB2 NORSAR Subarra 67.01 328 P P 14 05 55.2 +0.2
baz=84,slow=6.5
NOA NORSAR Array B 67.01 328 P P 14 05 54.7 -0.2
comp=Z,964nm,0.8s,baz=85,slow=6.2,SNR=1903
NOA PcP PcP 14 06 22.0 -0.2
comp=Z,174nm,0.8s,baz=79,slow=4.5,SNR=9.3
NOA pP pP 14 06 32.1 +0.8
comp=Z,378nm,0.7s,baz=84,slow=6.3,SNR=4.0
NOA PKPPKP 14 34 20.5
comp=Z,11nm,1.1s,baz=64,slow=2.6,SNR=5.7
NOA LR LR 14 37 32.0
comp=Z,54µm,18.7s,baz=85,slow=38
NOA P4KPbc 14 42 47.0
comp=Z,1.9nm,0.9s,baz=74,slow=4.5,SNR=4.1
COP Copenhagen 67.02 322 *i* P P 14 05 56.2 +1.2
COP IVmB_BB 14 05 58.0
comp=Z,256µm,1.8s
COP IAmb IAmb 14 05 58.5
comp=Z,35µm,1.5s
COP *i* S S 14 14 36.8 +0.5
MOA Molln 67.06 314 *i* P P 14 05 55.7 +0.3
comp=Z,442nm,0.7s,SNR=726
A250A Rusevo Krmpots 67.09 311 P P 14 05 55.1 -0.6
OBKA Obir 67.09 312 *i* P P 14 05 56.2 +0.4
comp=Z,1µm,1.1s,SNR=337
SGRT San Giovanni R 67.10 307 P P 14 05 55.8 -0.1
SGRT IAmb IAmb 14 05 58.5
comp=Z,4µm,1.1s
VIRC Vir 67.13 310 P P 14 05 55.3 -0.6
FBE Freiberg 67.15 317 *e*P P 14 05 57.0 +1.1
comp=Z,7µm,1.4s,baz=80,slow=6.2
DUGI Dugi Otok 67.18 310 P P 14 05 55.9 -0.4
LJU Ljubljana 67.18 312 ⇑*i*P P 14 05 56.9 +0.7
LJU Ljubljana 67.18 312 *i* P P 14 05 57.0 +0.7
LJU *e*PcP PcP 14 06 24.9 +1.8
LJU *ep*P pP 14 06 35.7 +3.0
LJU *e*PP PP 14 08 25.5 -0.5
LJU *e* 14 09 58.4
LJU epPP 14 09 05.9
LJU *i*S S 14 14 36.1 -2.5
LJU *es*S SKKSac 14 15 39.5 +0.2
LJU *e* 14 19 00.4
NAO01 NORSAR Array S 67.19 328 P P 14 05 56.0 -0.1
NAO01 IAmb IAmb 14 05 58.9
comp=Z,4µm,1.1s
NC204 NORSAR Array S 67.20 329 P P 14 05 56.3 +0.1
NVLJ Novalja 67.21 310 P P 14 05 55.9 -0.5
INKA Innaminka 67.21 136 P P 14 05 57.7 +1.1
TBLU Trondheim 67.22 331 ⇑*i*P P 14 05 56.4 +0.2
TBLU IVmB_BB 14 05 58.2
comp=Z,38µm,1.7s
TBLU *es*S S 14 14 37.8 -0.6
RABC Rab 67.24 310 P P 14 05 56.0 -0.6
GEC2 GERESS Array S 67.26 315 *e*P P 14 05 57.5 +0.7
comp=Z,4µm,1.3s,baz=80,slow=6.2
GERES GERESS Array B 67.26 315 P P 14 05 57.5 +0.7
comp=Z,896nm,0.8s,baz=72,slow=8.8,SNR=1030
GERES pP pP 14 06 34.0 +0.6
comp=Z,228nm,0.8s,baz=80,slow=7.5,SNR=2.9
GERES LR LR 14 39 32.1
comp=Z,40µm,21.3s,baz=86,slow=39
GERES P4KPbc 14 42 48.8
comp=Z,3.5nm,1.0s,baz=113,slow=1.7,SNR=11
KHC Kasperske Hory 67.30 315 ⇑*i*P P 14 05 57.5 +0.5
KHC *e* 14 06 32.9
KHC *e*S S 14 14 40.1 +0.1
KHC MLR MLR
comp=Z,45µm,16.5s
KHC Kasperske Hory 67.30 315 ⇑*i*P P 14 05 57.5 +0.5
KHC *ep*P pP 14 06 32.9 -0.6
KHC *e*S S 14 14 40.1 +0.1
KHC *ex* x 14 34 11.0
KHC *e*PKPPKP P'P'df 14 34 20.0 -2.8
KHC AMS AMS 14 38 20.0
comp=Z,45µm,16.5s
KHC Kasperske Hory 67.30 315 ⇑*i*P P 14 05 57.5 +0.5
CEY Cerknica 67.31 312 ⇑*i*P P 14 05 57.5 +0.4
CLL Collm 67.31 318 *i* P P 14 05 57.5 +0.5
CLL *e**PP pP 14 06 35.0 +1.6
CLL *e*S S 14 14 38.0 -2.0
CLL *e**SS PnS 14 15 30.0 +4.8
CLL pmax pmax
comp=Z,2µm,1.3s
CLL Collm 67.31 318 *i* P P 14 05 57.5 +0.5
comp=Z,2µm,1.3s
CLL *e*PcP PcP 14 06 26.0 +2.4
CLL *ep*P pP 14 06 35.0 +1.6
CLL *es*P sP 14 06 50.0 +0.2
CLL *e*PP PP 14 08 29.0 +2.0
CLL *ep*PP 14 09 02.0
CLL *e*PPP PPP 14 10 18.0
CLL *e*S S 14 14 38.0 -2.0
comp=N,19µm,20.6s
CLL *e*S S 14 14 38.0 -2.0
CLL *e*S S 14 14 38.0 -2.0
comp=Z,16µm,22.8s
CLL *e*PS PnS 14 15 30.0 +4.8
CLL *es*S SS 14 19 06.0 +3.8
CLL *e*SSS SSS 14 22 19.0
CLL *e*SSSS 14 23 24.0
CLL *ex* x 14 34 15.0
CLL *i* PKPPKPdf P'P'df 14 34 24.0 +1.4
comp=Z,239nm,1.7s
CLL *e*SKPPKPdf 14 37 45.0
CLL LmV 14 39 00.0
comp=Z,37µm,21.3s
CLL *ex* x 14 42 50.0
CLL *ex* x 14 43 29.0
CLL *i* 3PKPdf 14 53 48.7
comp=Z,374nm,3.5s
CLL *i* p3PKPdf 14 54 30.8
CLL Collm 67.31 318 *e*P P 14 05 57.3 +0.4
comp=Z,2µm,1.3s,baz=80,slow=6.2
CLL *e*PP PP 14 08 29.7 +2.7
RIY Rijeka 67.34 311 ⇑*i*P P 14 05 57.2 -0.1
RIY Rijeka 67.34 311 P P 14 05 56.8 -0.4
OSL Oslo 67.38 327 ⇑*i*P P 14 05 58.1 +0.9
OSL IVmB_BB 14 05 59.9
comp=Z,60µm,1.2s
OSL *e*S S 14 14 39.4 -1.1
BIOA Bad Ischl, Aus 67.50 314 *i* P P 14 05 59.0 +0.7
comp=Z,279nm,0.6s,SNR=251
BIOA Bad Ischl, Aus 67.50 314 *i* P P'P'bc 14 34 22.9 -2.0
comp=Z,106nm,1.7s,SNR=10
LCRK Leigh Creek 67.59 140 P P 14 05 59.5 +0.6
SMRN Sveta Marina 67.62 311 P P 14 05 58.0 -1.0
SKDS Skadanscina 67.63 311 ⇑*i*P P 14 05 58.9 -0.2
MYKA Terra Mystica 67.68 313 *i* P P 14 05 59.5 0.0
comp=Z,739nm,1.5s,SNR=201
CADS Cadrg 67.69 312 *e*P P 14 05 59.2 -0.3
CADS *e*PcP PcP 14 06 26.5 +1.2
CADS *ep*P pP 14 06 38.3 +2.2
CEL Celeste 67.70 303 ⇑P P 14 05 60.0 +0.2
WET Wettzell 67.75 315 *e*P P 14 06 00.6 +0.8
comp=Z,3µm,1.3s,baz=80,slow=6.2
TRI Trieste 67.77 312 ⇑P P 14 06 00.2 +0.2
TANN Tannenbergstha 67.80 317 *e*P P 14 06 00.8 +0.7
comp=Z,3µm,1.4s,baz=80,slow=6.2
TANN *e*PP PP 14 08 34.0 +2.8
KBA Koelnbreinsper 67.80 313 *i* P P 14 06 00.4 0.0
comp=Z,1µm,0.9s,SNR=409
KBA Koelnbreinsper 67.80 313 *i* P P'P'bc 14 34 23.0 -1.3
comp=Z,69nm,1.9s,SNR=5.7
KBA Koelnbreinsper 67.80 313 P P 14 05 59.9 -0.5
KBA Koelnbreinsper 67.80 313 ⇑P P 14 05 59.9 -0.5
NKC Novy Kostel 67.83 317 ⇑*i*P P 14 06 01.0 +0.7
NKC *e* 14 06 35.8
NKC *e*S S 14 14 45.9 -0.4
NKC Novy Kostel 67.83 317 ⇑*i*P P 14 06 01.0 +0.7
NKC *ep*P pP 14 06 35.8 -1.0
NKC *e*S S 14 14 45.9 -0.4
NKC *e*PKPPKP P'P'df 14 34 17.4 -4.4
WERN Wernitzgruen 67.87 317 *e*P P 14 06 01.4 +0.8
comp=Z,2µm,1.3s,baz=80,slow=6.2
WERN *e*PP PP 14 08 35.4 +3.5
GUNZ Gunzen 67.89 317 *e*P P 14 06 01.4 +0.7
comp=Z,3µm,1.2s,baz=80,slow=6.2
GUNZ *e*PP PP 14 08 34.6 +2.6
WERD Werda 67.89 317 *e*P P 14 06 01.2 +0.6
comp=Z,2µm,1.2s,baz=80,slow=6.2
WERD *e*PcP PcP 14 06 28.3 +2.3
DOMB Dombas 67.91 330 ⇑*i*P P 14 06 01.3 +0.7
DOMB IVmB_BB 14 06 03.1
comp=Z,30µm,1.1s
DOMB *e*S S 14 14 45.4 -1.4
PTCC Patocco-Chiusa 67.92 312 ⇑P P 14 06 00.5 -0.5
BRJN Brijuni 67.93 311 P P 14 06 00.2 -0.8
PLN Plauen 67.98 317 *e*P P 14 06 01.8 +0.7
comp=Z,4µm,1.7s,baz=80,slow=6.2
KONO Kongsberg 67.98 327 ⇑*e*P P 14 06 01.4 +0.4
KONO Kongsberg 67.98 327 *c**i*P P 14 06 01.3 +0.4
KONO pmax pmax
comp=Z,4µm,1.7s
KONO Kongsberg 67.98 327 P P 14 06 01.2 +0.2
KONO IAmb IAmb 14 06 04.2
comp=Z,4µm,1.5s
KONO Kongsberg 67.98 327 ⇑P P 14 06 01.2 +0.2
KONO Kongsberg 67.98 327 ⇑*i*P P 14 06 01.4 +0.4
OVD Ostervraa, Den 68.01 324 *i* P P 14 06 02.3 +1.1
OVD IAmb IAmb 14 06 04.6
comp=Z,5µm,1.1s
OVD *i* S S 14 14 47.8 -0.3
RJOB Jochberg 68.05 314 *e*P P 14 06 02.1 +0.3
comp=Z,2µm,1.2s,baz=80,slow=6.2
ROTZ Rotzenmuhle 68.07 316 *e*P P 14 06 02.9 +1.1
comp=Z,1µm,1.3s,baz=80,slow=6.2
NEUB Neuenburg 68.09 318 *e*P P 14 06 02.3 +0.5
comp=Z,5µm,1.4s,baz=80,slow=6.2
NEUB *e*PP PP 14 08 35.2 +1.5
MANZ Manzenberg 68.09 316 *e*P P 14 06 03.0 +1.1
comp=Z,1µm,1.5s,baz=80,slow=6.2
BBOO Buckleboo 68.11 143 P P 14 06 02.3 +0.2
BBOO Buckleboo 68.11 143 P P 14 06 02.7 +0.6
FLTG Flechtingen 68.23 319 *e*P P 14 06 02.8 +0.2
comp=Z,4µm,1.4s,baz=80,slow=6.2
FLTG Flechtingen 68.23 319 P P 14 06 02.5 -0.1
MOX Moxa 68.29 317 *e*P P 14 06 03.8 +0.7
comp=Z,2µm,1.2s,baz=80,slow=6.2
MOX *e*PP PP 14 08 38.8 +3.3
ABTA Abfaltersbach 68.43 313 *i* P P 14 06 03.5 -0.6
comp=Z,1µm,1.1s,SNR=384
SKAR Skarslia 68.47 328 ⇑*i*P P 14 06 05.4 +1.3
SKAR IVmB_BB 14 06 07.3
comp=Z,30µm,1.6s
SKAR *e*S S 14 14 55.1 +1.6
BSEG Bad Segeberg 68.50 321 *e*P P 14 06 05.4 +1.1
comp=Z,6µm,1.3s,baz=80,slow=6.2
BSEG *ep*P pP 14 06 39.5 -1.4
MOL Molde 68.54 330 ⇑*i*P P 14 06 05.5 +1.1
MOL IVmB_BB 14 06 07.3
comp=Z,35µm,1.7s
MOL *e*S S 14 14 55.0 +0.9
GOET G??ttrup 68.58 324 *i* P P 14 06 06.3 +1.5
GOET IAmb IAmb 14 06 08.7
comp=Z,3µm,1.0s
GOET *i* S S 14 14 56.0 +1.1
ASSE Asse, Remlinge 68.60 319 *e*P P 14 06 05.6 +0.6
comp=Z,4µm,1.8s,baz=80,slow=6.2
AQU L'Aquila 68.69 308 P P 14 06 06.4 +0.6
AQU L'Aquila 68.69 308 ⇑*i*P P 14 06 06.4 +0.6
AQU L'Aquila 68.69 308 ⇑P P 14 06 05.7 -0.2
QLP Quilpie 68.71 133 ⇑P P 14 06 07.0 +1.0
QLP Quilpie 68.71 133 P P 14 06 07.3 +1.3
GRF Grafenberg Arr 68.71 316 *e*P P 14 06 07.0 +1.2
comp=Z,10µm,1.8s,baz=80,slow=6.2
GRF *ep*P pP 14 06 41.1 -1.2
GRF *e*PP PP 14 08 44.1 +4.9
MUD Monsted U'grnd 68.71 324 ⇑*e*P P 14 06 06.8 +1.3
MUD Monsted U'grnd 68.71 324 ⇑P P 14 06 06.8 +1.3
MUD Monsted U'grnd 68.71 324 *i* P P 14 06 06.9 +1.4
MUD IVmB_BB 14 06 08.8
comp=Z,45µm,1.7s
MUD IAmb IAmb 14 06 09.3
comp=Z,6µm,1.4s
MUD *i* S S 14 14 57.0 +0.7
MUD Monsted U'grnd 68.71 324 ⇑P P 14 06 06.8 +1.3
GRFO Grafenberg 68.71 316 P P 14 06 06.6 +0.8
GRFO pmax pmax
comp=Z,10µm,1.8s
GRFO Grafenberg 68.71 316 P P 14 06 06.6 +0.8
HOMB Homborsund 68.76 326 ⇑*i*P P 14 06 06.2 +0.4
HOMB IVmB_BB 14 06 08.2
comp=Z,24µm,1.9s
HOMB *e*S S 14 14 56.7 -0.1
CLZ Clausthal 68.84 319 *e*P P 14 06 07.4 +0.8
comp=Z,5µm,1.4s,baz=80,slow=6.2
CLZ *ep*P pP 14 06 41.6 -1.6
AKN Aaknes 68.85 330 ⇑*i*P P 14 06 07.5 +1.1
AKN IVmB_BB 14 06 09.4
comp=Z,23µm,1.4s
AKN *e*S S 14 14 59.3 +1.4
NRDL Niedersach Rie 68.88 319 *e*P P 14 06 08.0 +1.4
comp=Z,8µm,1.5s,baz=80,slow=6.2
WTTA Wattenberg 68.91 314 *i* P P 14 06 06.9 -0.4
comp=Z,2µm,0.8s,SNR=624
WTTA Wattenberg 68.91 314 *i* P P'P'bc 14 34 19.5 -1.3
comp=Z,150nm,1.3s,SNR=8.0
WATA Walderalm 68.94 314 *i* P P 14 06 06.6 -0.8
comp=Z,1µm,1.0s,SNR=371
WATA Walderalm 68.94 314 *i* P P'P'bc 14 34 18.4 -2.3
comp=Z,106nm,1.3s,SNR=8.7
FUR Furstenfeldbru 68.97 315 *e*P P 14 06 08.2 +0.7
comp=Z,6µm,1.5s,baz=80,slow=6.2
WHYH Whyalla 69.11 142 P P 14 06 09.1 +0.8
GTTG Gottingen 69.14 318 *e*P P 14 06 09.1 +0.7
comp=Z,5µm,1.4s,baz=80,slow=6.2
GTTG *e*PP PP 14 08 44.3 +1.5
SQTA Sankt Quirin 69.21 314 *i* P P 14 06 08.7 -0.3
comp=Z,1µm,0.7s,SNR=319
SQTA Sankt Quirin 69.21 314 *i* P P'P'bc 14 34 17.2 -2.7
comp=Z,98nm,1.2s,SNR=6.8
MOTA Moosalm 69.25 314 *i* P P 14 06 09.1 -0.2
comp=Z,3µm,1.1s,SNR=607
MOTA Moosalm 69.25 314 *e*P P'P'bc 14 34 17.8 -1.9
comp=Z,83nm,1.4s
UBBA Unterbreizbach 69.26 318 *e*P P 14 06 09.8 +0.8
comp=Z,4µm,1.5s,baz=80,slow=6.2
UBBA *e*pP pP 14 06 46.2 +0.5
RETH Rethem/Aller, 69.28 320 *e*P P 14 06 10.0 +0.9
comp=Z,4µm,1.6s,baz=80,slow=6.2
HYA Hoyanger 69.41 329 ⇑*i*P P 14 06 10.4 +0.6
HYA IVmB_BB 14 06 12.4
comp=Z,15µm,2.0s
HYA *e*S S 14 15 04.0 -0.4
SNART Snartemo 69.42 326 ⇑*e*P P 14 06 10.9 +1.0
SNART *e*S S 14 15 05.1 +0.4
ODD1 Odda 69.42 327 ⇑*i*P P 14 06 10.8 +0.8
ODD1 *e*S S 14 15 05.9 +1.1
RETA Reutte 69.45 314 *i* P P 14 06 10.3 -0.1
comp=Z,2µm,0.9s,SNR=677
PTPS Port Pirie 69.45 142 P P 14 06 11.2 +0.8
MGAB Montegabbione 69.50 309 ⇑P P 14 06 10.2 -0.6
NAPP Napperby 69.55 142 P P 14 06 11.9 +0.9
FETA Feichten 69.57 313 *i* P P 14 06 11.1 -0.2
comp=Z,2µm,1.2s,SNR=776
FETA Feichten 69.57 313 *i* P P'P'bc 14 34 16.6 -2.2
comp=Z,103nm,1.7s,SNR=8.1
BLS5 Blasjo 69.60 327 ⇑*i*P P 14 06 12.1 +1.0
BLS5 IVmB_BB 14 06 14.0
comp=Z,27µm,1.4s
BLS5 *e*S S 14 15 07.7 +0.8
UBR Ueberruh 69.84 314 *e*P P 14 06 12.8 -0.1
comp=Z,2µm,1.3s,baz=80,slow=6.2
HLG Helgoland 69.86 321 *e*P P 14 06 13.7 +1.1
comp=Z,4µm,1.3s,baz=80,slow=6.2
HLG Helgoland 69.86 321 ⇑P P 14 06 13.8 +1.1
FOO Floro 69.87 329 ⇑*e*P P 14 06 13.2 +0.6
FOO Floro 69.87 329 ⇑*i*P P 14 06 13.2 +0.6
FOO IVmB_BB 14 06 15.1
comp=Z,15µm,2.5s
FOO *e*S S 14 15 09.8 +0.1
CLTB Caltabellotta 69.92 303 ⇑P P 14 06 13.2 -0.3
BER Bergen 69.97 328 *e*P P 14 06 14.0 +0.8
BER Bergen 69.97 328 ⇑*i*P P 14 06 14.1 +0.8
BER IVmB_BB 14 06 15.9
comp=Z,24µm,1.5s
BER *e*S S 14 15 10.6 -0.3
SALO Salr 70.01 312 ⇑P P 14 06 14.4 +0.6
ASK Askoy 70.02 328 ⇑*i*P P 14 06 14.1 +0.6
ASK *e*S S 14 15 11.2 -0.3
DAVA Damuels 70.08 314 *i* P P 14 06 14.4 +0.1
comp=Z,3µm,1.3s,SNR=662
DAVA Damuels 70.08 314 *i* P P'P'bc 14 34 14.3 -2.8
comp=Z,143nm,2.8s,SNR=6.1
DAVA Damuels 70.08 314 ⇑P P 14 06 14.3 -0.1
SUE Sulen 70.11 329 ⇑*i*P P 14 06 14.9 +0.9
SUE IVmB_BB 14 06 16.8
comp=Z,29µm,1.5s
SUE *e*S S 14 15 14.0 +1.4
KASTN Kahler Asten 70.16 318 *e*P P 14 06 15.4 +0.7
comp=Z,3µm,1.7s,baz=80,slow=6.2
HTT Hallett 70.17 142 ⇓P P 14 06 15.2 +0.3
HTT Hallett 70.17 142 P P 14 06 15.7 +0.8
DAVOX Davos/Dischmat 70.19 313 S S 14 15 10.2 -4.3
comp=Z,36nm,0.9s,baz=334,slow=22,SNR=11
DAVOX PKPPKP 14 34 13.8
comp=Z,30nm,1.1s,baz=181,slow=1.1,SNR=18
DAVOX LR LR 14 41 13.0
comp=Z,33µm,19.9s,baz=52,slow=39
DAVOX P4KPbc 14 43 02.3
comp=Z,14nm,0.9s,baz=94,slow=3.5,SNR=14
STU Stuttgart 70.20 315 P P 14 06 15.7 +0.8
STU Stuttgart 70.20 315 *e*P P 14 06 15.6 +0.7
comp=Z,11µm,1.2s,baz=80,slow=6.2
STU Stuttgart 70.20 315 ⇑P P 14 06 15.7 +0.8
KMY Karmoy 70.25 327 ⇑*i*P P 14 06 15.6 +0.7
IBBN Ibbenburen 70.33 319 *e*P P 14 06 16.4 +0.8
comp=Z,7µm,1.6s,baz=80,slow=6.2
IBBN Ibbenburen 70.33 319 ⇑P P 14 06 15.0 -0.6
NOR Nord 70.35 352 ⇑P P 14 06 13.9 -1.3
NOR Nord 70.35 352 ⇑P P 14 06 13.9 -1.3
TNS Taunus Mts 70.36 317 *e*P P 14 06 16.5 +0.6
comp=Z,3µm,1.1s,baz=80,slow=6.2
TNS *e*pP pP 14 06 54.2 +1.6
TUE Stuetta 70.62 313 P P 14 06 17.6 -0.1
TUE IAmb IAmb 14 06 27.7
comp=Z,2µm,1.1s
TUE Stuetta 70.62 313 ⇑P P 14 06 17.6 -0.1
STKA Stephens Creek 70.63 139 P P 14 06 18.0 +0.3
comp=Z,4µm,1.1s,baz=318,slow=6.4,SNR=572
STKA PKPPKP P'P'df 14 34 14.2 -0.5
comp=Z,55nm,1.1s,baz=124,slow=4.0,SNR=30
STKA Stephens Creek 70.63 139 P P 14 06 17.9 +0.3
STKA IAmb IAmb 14 06 21.8
comp=Z,1µm,1.1s
STKA Stephens Creek 70.63 139 P P 14 06 18.2 +0.6
KWAJ Kwajalein Atol 70.79 88 P P 14 06 20.2 +1.2
KWAJ pmax pmax
comp=Z,2µm,0.9s
KWAJ Kwajalein Atol 70.79 88 P P 14 06 20.2 +1.2
KWAJ IAmb IAmb 14 06 23.2
comp=Z,2µm,0.8s
KWAJ Kwajalein Atol 70.79 88 ⇑P P 14 06 20.6 +1.6
KWAJ Kwajalein Atol 70.79 88 P P 14 06 21.0 +2.0
BFO Black Forest 70.86 315 P P 14 06 18.7 -0.2
BFO pmax pmax
comp=Z,3µm,1.6s
BFO Black Forest 70.86 315 P P 14 06 18.7 -0.2
BFO IAmb IAmb 14 06 22.1
comp=Z,3µm,1.6s
BFO Black Forest 70.86 315 *e*P P 14 06 19.2 +0.3
comp=Z,3µm,1.6s,baz=80,slow=6.2
BFO Black Forest 70.86 315 P P 14 06 19.0 0.0
BFO Black Forest 70.86 315 ⇓P P 14 06 19.5 +0.5
BFO X 14 06 41.3
BFO pP pP 14 06 58.4 +2.7
BOB Bobbio (Coli) 70.95 311 ⇑P P 14 06 20.5 +0.9
MSSA Maissana 71.01 311 P P 14 06 19.5 -0.5
MSSA IAmb IAmb 14 06 22.7
comp=Z,4µm,1.4s
GAMB Gambell 71.03 28 P P 14 06 19.4 -0.2

GAMB Gambell 71.03 28 P **P** **14 06 19.8 +0.2**
baz=284
GAMB S **S** **14 15 22.6 -0.6**
baz=284
GHSS Government Hou 71.08 143 P **P** **14 06 21.0 +0.7**
RK1H Rockhampton Ha 71.13 127 P **P** **14 06 22.1 +1.3**
AHRW Bad Neuenahr-A 71.14 318 *eP* **P** **14 06 21.6 +1.0**
comp=Z,3µm,1.4s,baz=80,slow=6.2
TWOA Tennyson Woods 71.15 143 P **P** **14 06 21.5 +0.8**
ADK Adak 71.24 41 ⇑P **P** **14 06 20.9 -0.2**
ADK Adak 71.24 41 P **P** **14 06 22.0 +0.9**
HNR Honiara 71.39 109 PKPPKP 14 34 12.1
comp=Z,40nm,0.7s,baz=214,slow=4.2,SNR=20
HNR LR LR 14 35 31.4
comp=Z,11µm,21.7s,baz=293,slow=34
HNR Honiara 71.39 109 P **P** **14 06 22.0 -0.6**
HNR pmax pmax
comp=Z,6µm,0.9s
HNR Honiara 71.39 109 P **P** **14 06 22.0 -0.6**
HNR Honiara 71.39 109 ⇑P **P** **14 06 22.4 -0.2**
HNR Honiara 71.39 109 P **P** **14 06 23.3 +0.7**
CDF Champ du Feu 71.52 315 *eP* **P** **14 06 22.4 -0.6**
CDF pmax pmax
comp=Z,3µm,1.3s
ECH Echery 71.65 315 P **P** **14 06 23.7 0.0**
ECH pmax pmax
comp=Z,544nm,0.9s
ECH Echery 71.65 315 P **P** **14 06 23.7 0.0**
ECH Echery 71.65 315 ⇑P **P** **14 06 23.5 -0.2**
ECH Echery 71.65 315 ⇑P **P** **14 06 23.9 +0.2**
ECH pP **pP** **14 07 03.6 +3.0**
BTNL Ternell 71.72 318 *bP* **P** **14 06 24.6 +0.6**
comp=Z,758nm,1.3s
BTNL *dx* x 14 07 04.3
RMQ Roma 71.76 130 P **P** **14 06 26.9 +2.3**
MEM Membach 71.79 318 *bP* **P** **14 06 24.9 +0.5**
comp=Z,602nm,1.2s
MEM *dx* x 14 07 04.9
HGN Heimansgroeve 71.79 318⇑ *eP* **P** **14 06 24.9 +0.5**
PGF Pioggiola 71.81 309 *eP* **P** **14 06 24.4 -0.5**
PGF pmax pmax
comp=Z,4µm,1.4s
BHOU Houvegnez 71.85 318 *dP* **P** **14 06 25.7 +0.9**
comp=Z,633nm,1.3s
BHOU *dx* x 14 07 02.9
MONC Moncucco Torin 71.92 312 ⇑P **P** **14 06 25.5 +0.1**
WLF Walferdange 71.93 317 P **P** **14 06 26.6 +1.3**
WLF pmax pmax
comp=Z,7µm,1.1s
WLF Walferdange 71.93 317 P **P** **14 06 26.6 +1.3**
WLF Walferdange 71.93 317 *eP* **P** **14 06 26.6 +1.3**
comp=Z,10µm,1.2s,baz=80,slow=6.2
WLF Walferdange 71.93 317 ⇑P **P** **14 06 26.5 +1.3**
WLF Walferdange 71.93 317 *bP* **P** **14 06 26.6 +1.3**
comp=Z,3µm,1.2s
WLF *dx* x 14 07 06.5
BEBN Eben Emael 71.94 318 *bP* **P** **14 06 25.8 +0.5**
comp=Z,542nm,0.0s
BEBN *d*PcP **PcP** **14 06 43.9 +0.8**
HINF Hinteralfeld 71.94 315 *eP* **P** **14 06 24.7 -0.8**
HINF pmax pmax
comp=Z,6µm,2.0s
SENIN Lac Senin/Sane 72.02 313 P **P** **14 06 26.9 +0.8**
SENIN IAmb IAmb 14 06 30.5
comp=Z,1µm,1.0s
BSTI Sart Tilman 72.06 318 *dP* **P** **14 06 26.9 +0.9**
comp=Z,182nm,1.2s
BSTI *d*PcP **PcP** **14 06 45.0 +1.3**
BSTI *dx* x 14 07 04.3
TNA Tin City 72.14 26 P **P** **14 06 25.9 -0.3**
TNA Tin City 72.14 26 ⇑P **P** **14 06 26.2 0.0**
TNA Tin City 72.14 26 P **P** **14 06 26.2 0.0**
baz=286,SNR=13
TNA S **S** **14 15 35.9 0.0**
baz=286
HAU Haudompre 72.22 315 *eP* **P** **14 06 26.5 -0.6**
HAU pmax pmax
comp=Z,3µm,1.3s
BCLA Clavier 72.27 318 *bP* **P** **14 06 27.9 +0.6**
comp=Z,632nm,1.5s
VSL Villasalto 72.34 306 P **P** **14 06 28.1 +0.1**
VSL IAmb IAmb 14 06 31.4
comp=Z,8µm,1.5s
VSL Villasalto 72.34 306 ⇑P **P** **14 06 28.2 +0.2**
RCHB Rochefort 72.38 318 *bP* **P** **14 06 28.2 +0.3**
comp=Z,560nm,1.0s
RCHB *d*PcP **PcP** **14 06 46.1 +1.1**
RCHB *dx* x 14 07 07.9
BGES Gesves 72.41 318 *bP* **P** **14 06 28.6 +0.4**
comp=Z,620nm,1.4s
BGES *dx* x 14 07 06.4
SBF Sospel 72.58 311 *eP* **P** **14 06 28.7 -0.6**
SBF pmax pmax
comp=Z,2µm,1.1s
JMIC Jan Mayen 72.61 340 pP **pP** **14 07 06.6 +0.7**
comp=Z,306nm,1.0s,baz=102,slow=7.2,SNR=2.7
JMIC LR LR 14 43 13.7
comp=Z,15µm,18.4s,baz=75,slow=40
JMIC Jan Mayen 72.61 340 *iP* **P** **14 06 31.5 +2.6**
JMIC IVmB_BB 14 06 32.3
comp=Z,26µm,2.4s
JMIC *e*S **SKiKP** **14 15 45.4 -2.3**
LPG La Plagne 72.61 313 *eP* **P** **14 06 29.6 -0.2**
LPG pmax pmax
comp=Z,3µm,1.0s
LPL La Plagne 72.62 313 *eP* **P** **14 06 29.5 -0.3**
LPL pmax pmax
comp=Z,2µm,0.9s
BMRD Maredsous 72.63 318 *bP* **P** **14 06 29.8 +0.4**
comp=Z,560nm,0.0s
BMRD *dx* x 14 07 09.1
GIVF Givet 72.65 318 *eP* **P** **14 06 29.4 -0.1**
GIVF pmax pmax
comp=Z,2µm,1.3s
ATKA Atka Island 72.65 40 ⇑P **P** **14 06 28.6 -0.9**
ATKA Atka Island 72.65 40 P **P** **14 06 30.9 +1.4**
EIDS Eidsvold 72.74 128 P **P** **14 06 30.8 +0.4**
EIDS IAmb IAmb 14 06 34.4
comp=Z,2µm,1.0s
EIDS Eidsvold 72.74 128 ⇑P **P** **14 06 31.2 +0.9**
EIDS Eidsvold 72.74 128 P **P** **14 06 31.8 +1.4**
UCC Uccle 72.75 318 *dP* **P** **14 06 30.7 +0.6**
UCC *d*PcP **PcP** **14 06 46.6 +0.1**
UCC *d*Lg Lg 14 07 10.0
CABF La Chapelle 72.76 314 *eP* **P** **14 06 30.0 -0.4**
CABF pmax pmax
comp=Z,3µm,1.3s
BNI Bardonecchia 72.78 312 P **P** **14 06 30.4 -0.2**
BNI pmax pmax
comp=Z,3µm,1.5s
BNI Bardonecchia 72.78 312 P **P** **14 06 30.4 -0.2**
BNI IAmb IAmb 14 06 33.6
comp=Z,3µm,1.5s
BNI Bardonecchia 72.78 312 ⇑P **P** **14 06 30.3 -0.2**
DOU Dourbes 72.79 318 *bP* **P** **14 06 30.9 +0.5**
comp=Z,586nm,1.4s
MBDF Montbardon 72.80 312 *eP* **P** **14 06 29.5 -1.3**
MBDF pmax pmax
comp=Z,735nm,0.7s
DAG Danmarks Havn 72.83 347 ⇑P **P** **14 06 29.8 -0.3**
DAG Danmarks Havn 72.83 347 *iP* **P** **14 06 29.0 -1.1**
DAG IAmb IAmb 14 06 33.0
comp=Z,3µm,1.5s
DAG *i*S **S** **14 15 41.0 -2.5**
DAG Danmarks Havn 72.83 347 ⇑P **P** **14 06 29.9 -0.3**
SNF Seneffe 72.87 318 *dP* **P** **14 06 31.4 +0.6**
comp=Z,789nm,1.3s
SNF *d*Lg Lg 14 07 10.9
CMSA Cobar Meteorol 72.94 136 P **P** **14 06 32.4 +0.9**
BAIF Baives 73.04 318 *eP* **P** **14 06 31.8 -0.1**
BAIF pmax pmax
comp=Z,4µm,1.4s
LRW Lerwick 73.18 329⇑ *eP* **P** **14 06 33.3 +0.8**
LRW IAmb IAmb 14 06 35.5
comp=Z,6µm,1.8s
LRW Lerwick 73.18 329 ⇑P **P** **14 06 33.2 +0.8**
FRF La Foret Royal 73.21 311 *eP* **P** **14 06 32.4 -0.6**
FRF pmax pmax
comp=Z,4µm,1.2s
TAMR Tamra 73.22 304 ⇑P **P** **14 06 33.7 +0.6**
RDOG Red Dog Mine 73.25 23 P **P** **14 06 32.3 -0.4**
baz=290,SNR=21
RDOG S **S** **14 15 47.5 -0.9**
baz=290

LMR La Mourre 73.37 310 *eP* **P** **14 06 33.4 -0.5**
LMR pmax pmax
comp=Z,5µm,1.3s
TATN Tataouine 73.38 299 ⇑P **P** **14 06 34.6 +0.3**
KEST Kesra 73.41 302 P **P** **14 06 35.1 +0.7**
comp=Z,4µm,1.1s,baz=340,slow=0.9,SNR=317
KEST pP **pP** **14 07 13.1 +1.6**
comp=Z,2µm,1.2s,baz=15,slow=2.6,SNR=2.8
KEST S **SKiKP** **14 15 50.6 +0.6**
comp=Z,116nm,1.4s,baz=297,slow=22,SNR=19
KEST PKPPKP **P'P'df** **14 34 07.8 -4.9**
comp=Z,11nm,1.0s,baz=203,slow=7.0,SNR=4.1
ANM Nome 73.47 26 P **P** **14 06 34.4 +0.3**
ANM pmax pmax
comp=Z,738nm,1.5s
ANM Nome 73.47 26 P **P** **14 06 34.4 +0.3**
ANM Nome 73.47 26 P **P** **14 06 34.6 +0.4**
baz=289,SNR=57
ANM S **S** **14 15 51.5 +0.5**
baz=289
SPIA Saint Paul Isl 73.47 34 P **P** **14 06 34.8 +0.6**
baz=287,SNR=25
SPIA S **S** **14 15 53.1 +1.9**
baz=287
SPIA Saint Paul Isl 73.47 34 P **P** **14 06 35.0 +0.8**
RUSF Rustrel 73.91 311 ⇑P **P** **14 06 40.1 +3.0**
A21K Barrow 74.03 19 P **P** **14 06 38.0 +0.8**
baz=295,SNR=9.6
A21K S **S** **14 15 58.3 +1.3**
baz=295
LOR Lormes 74.05 315 *eP* **P** **14 06 37.0 -0.8**
LOR pmax pmax
comp=Z,5µm,1.6s
SSB Saint Sauveur 74.17 313 ⇑P **P** **14 06 38.7 +0.1**
VIVF Saint-Julien-l 74.20 312 *eP* **P** **14 06 38.3 -0.5**
VIVF pmax pmax
comp=Z,4µm,1.4s
ARPS Mount Arapiles 74.23 142 P **P** **14 06 39.7 +0.8**
SSF Saint Saulge 74.34 315 *eP* **P** **14 06 39.0 -0.5**
SSF pmax pmax
comp=Z,3µm,1.1s
DBG Daneborg 74.38 345 IAmb IAmb 14 06 42.4
comp=Z,4µm,1.9s
DBG Daneborg 74.38 345 ⇑P **P** **14 06 39.4 +0.2**
DBG ⇑s 14 07 19.6
ELMS Elmsett, Ipswi 74.41 320⇑ *eP* **P** **14 06 40.3 +0.6**
ELMS IAmb IAmb 14 06 42.8
comp=Z,5µm,1.4s
WACR West Acre 74.43 321⇑ *eP* **P** **14 06 40.3 +0.4**
WACR IAmb IAmb 14 06 43.1
comp=Z,5µm,1.1s
AVF Avril sur Loir 74.52 315 *eP* **P** **14 06 39.6 -0.9**
AVF pmax pmax
comp=Z,4µm,1.3s
ELSH Elham, Standar 74.61 319⇑ *eP* **P** **14 06 41.5 +0.6**
ELSH IAmb IAmb 14 06 44.0
comp=Z,5µm,1.2s
CMAH Djebel Manchou 74.64 304 P **P** **14 06 42.0 +0.5**
ABSA Djebel Ababsia 74.70 303 P **P** **14 06 42.4 +0.5**
GDLE Glaisdale, N Y 74.72 323⇑ *eP* **P** **14 06 41.7 +0.2**
GDLE IAmb IAmb 14 06 44.6
comp=Z,4µm,1.5s
LMK Market Rasen 74.75 322⇑ *eP* **P** **14 06 42.8 +1.1**
LMK IAmb IAmb 14 06 45.3
comp=Z,6µm,1.1s
MLA1 Latheron 74.81 327⇑ *eP* **P** **14 06 42.8 +0.8**
DRUM Mains of Drumt 74.83 326⇑ *eP* **P** **14 06 42.9 +0.9**
DRUM IAmb IAmb 14 06 45.5
comp=Z,3µm,1.2s
CLF Chambon-Foret 74.85 316 ⇑P **P** **14 06 42.9 +0.5**
BGF Bois d'Agland 74.92 314 *eP* **P** **14 06 42.4 -0.5**
BGF pmax pmax
comp=Z,4µm,1.6s
MCD Coleburn Disti 75.00 326⇑ *eP* **P** **14 06 44.0 +0.9**
BIGH Upper Bighouse 75.02 328⇑ *eP* **P** **14 06 44.4 +1.2**
BIGH IAmb IAmb 14 06 46.8
comp=Z,10µm,1.8s
HMNX Herstmonceux 75.17 319⇑ *eP* **P** **14 06 45.0 +0.8**
HMNX IAmb IAmb 14 06 47.4
comp=Z,7µm,1.6s
SOFL Sornfelli, Far 75.20 332⇑ *eP* **P** **14 06 45.7 +1.5**
SOFL IAmb IAmb 14 06 48.2
comp=Z,8µm,1.8s
ESY Stoneypath 75.22 325⇑ *eP* **P** **14 06 44.9 +0.5**
EDU Dundee 75.22 325⇑ *eP* **P** **14 06 45.0 +0.7**
EDMD Edmundbyers 75.22 324⇑ *eP* **P** **14 06 45.0 +0.6**
EDMD IAmb IAmb 14 06 47.6
comp=Z,8µm,1.6s
CKFL Kef-Lekhel 75.24 304 P **P** **14 06 45.3 +0.2**
HPK Haverah Park 75.32 323⇑ *eP* **P** **14 06 45.9 +0.9**
HPK IAmb IAmb 14 06 48.3
comp=Z,7µm,1.5s
PAF Port-aux-Franc 75.40 196 P **P** **14 06 45.8 +0.6**
PAF pmax pmax
comp=Z,2µm,0.8s
PAF Port-aux-Franc 75.40 196 P **P** **14 06 45.8 +0.6**
PAF IAmb IAmb 14 06 48.4
comp=Z,2µm,0.8s
PAF Port-aux-Franc 75.40 196 ⇓P **P** **14 06 46.0 +0.7**
CASM Ain Smara 75.46 303 P **P** **14 06 47.1 +0.9**
EBL Broad Law 75.49 325⇑ *eP* **P** **14 06 46.7 +0.8**
EDI Edinburgh 75.52 325⇑ *eP* **P** **14 06 46.8 +0.7**
EDI IAmb IAmb 14 06 49.4
comp=Z,4µm,1.1s
LSZ Lusaka 75.53 246 LR LR 14 39 42.1
comp=Z,16µm,19.9s,baz=67,slow=35
LSZ Lusaka 75.53 246⇑ *iP* **P** **14 06 46.8 -0.1**
LSZ IAmb IAmb 14 06 50.3
comp=Z,53µm,0.8s
LSZ Lusaka 75.53 246 P **P** **14 06 47.1 +0.1**
LSZ pmax pmax
comp=Z,6µm,0.8s
LSZ Lusaka 75.53 246 P **P** **14 06 47.0 +0.1**
NIKH Nikolski High 75.54 38 P **P** **14 06 44.6 -1.6**
baz=289
NIKH S **S** **14 16 10.5 -3.8**
baz=289
CWF Charnwood Fore 75.54 321⇑ *eP* **P** **14 06 46.5 +0.2**
LBWR Ladybower, Pea 75.56 322⇑ *eP* **P** **14 06 46.9 +0.5**
LBWR IAmb IAmb 14 06 49.7
comp=Z,3µm,1.1s
CTEI Djebel Teioual 75.59 303 P **P** **14 06 47.7 +0.7**
MDO Dochfour 75.61 327⇑ *eP* **P** **14 06 47.1 +0.5**
EKA Eskdalemuir Ar 75.70 324 S **S** **14 16 16.4 +0.3**
comp=Z,48nm,1.2s,baz=77,slow=11,SNR=9.1
EKA LR LR 14 43 34.9
comp=Z,37µm,18.9s,baz=72,slow=38
EKA Eskdalemuir Ar 75.70 324 P **P** **14 06 47.0 -0.1**
ESK Eskdalemuir 75.73 324 P **P** **14 06 47.9 +0.6**
ESK pmax pmax
comp=Z,2µm,0.9s
ESK Eskdalemuir 75.73 324 P **P** **14 06 47.9 +0.6**
ESK IAmb IAmb 14 06 50.9
comp=Z,2µm,0.9s
ESK Eskdalemuir 75.73 324 ⇑P **P** **14 06 48.0 +0.6**
LINV Loch Inver, As 75.78 327⇑ *eP* **P** **14 06 48.4 +0.9**
LINV IAmb IAmb 14 06 51.2
comp=Z,2µm,1.1s
INVG Invergeldie, C 75.80 326⇑ *eP* **P** **14 06 48.2 +0.5**
INVG IAmb IAmb 14 06 50.8
comp=Z,4µm,1.8s
DFRA Djebel Bou Aff 75.84 304 P **P** **14 06 49.2 +0.7**
KESW Keswick, Cumbr 75.93 324⇑ *eP* **P** **14 06 49.3 +0.9**
KESW IAmb IAmb 14 06 51.8
comp=Z,7µm,1.6s
STNC Stoke 75.94 322⇑ *eP* **P** **14 06 49.6 +1.1**
STNC IAmb IAmb 14 06 52.2
comp=Z,7µm,1.5s
CAF Calviac 75.95 313 *eP* **P** **14 06 48.8 0.0**
CAF pmax pmax
comp=Z,3µm,1.2s
WOL Wolverton 75.96 320⇑ *eP* **P** **14 06 49.5 +0.8**
WOL IAmb IAmb 14 06 52.0
comp=Z,9µm,1.4s
BRAT Ballarat 75.97 142 P **P** **14 06 50.1 +1.4**
MAHO Mahon 75.99 308 P **P** **14 06 49.9 +0.7**
MAHO S **S** **14 16 18.7 -1.1**
MAHO Mahon 75.99 308 ⇑P **P** **14 06 49.8 +0.7**
KAC Achnashellach 76.06 327⇑ *eP* **P** **14 06 49.7 +0.6**
ARMA Armidale 76.16 132 ⇓P **P** **14 06 51.7 +1.5**
ARMA Armidale 76.16 132 P **P** **14 06 52.0 +1.8**
LDF La Druitiere 76.18 317 *eP* **P** **14 06 49.5 -0.5**
LDF pmax pmax
comp=Z,4µm,1.4s
RJF Les Rejaudoux 76.19 313 *eP* **P** **14 06 48.9 -1.2**
RJF pmax pmax
comp=Z,6µm,1.3s
SWN1 Swindon 76.23 320⇑ *eP* **P** **14 06 51.0 +0.8**
SWN1 IAmb IAmb 14 06 53.5
comp=Z,23µm,2.5s
PGBU Glenifferbraes 76.24 325⇑ *eP* **P** **14 06 51.2 +1.1**
PGBU IAmb IAmb 14 06 53.8
comp=Z,6µm,1.4s
CKHR Kef el Ahmar 76.29 303 P **P** **14 06 51.9 +0.9**
KPL Plockton 76.30 327⇑ *eP* **P** **14 06 51.2 +0.8**
KPL IAmb IAmb 14 06 53.8
comp=Z,2µm,1.3s
SET Setif 76.32 304 P **P** **14 06 53.0 +1.9**
FLN La Foliniere 76.35 317 *eP* **P** **14 06 50.4 -0.5**
FLN pmax pmax
comp=Z,5µm,1.6s
NEWG New Galloway 76.36 324⇑ *eP* **P** **14 06 51.7 +0.9**
NEWG IAmb IAmb 14 06 54.4
comp=Z,6µm,1.6s
STRD Stroud 76.36 321⇑ *eP* **P** **14 06 51.4 +0.5**
STRD IAmb IAmb 14 06 53.9
comp=Z,3µm,1.0s
HLM1 Long Mynd 76.52 321⇑ *eP* **P** **14 06 52.5 +0.6**
HLM1 IAmb IAmb 14 06 55.2
comp=Z,5µm,1.4s
LAWE Loch Awe, Argy 76.56 326⇑ *eP* **P** **14 06 53.0 +1.0**
LAWE IAmb IAmb 14 06 55.5
comp=Z,4µm,1.3s
UNV Unalaska Valle 76.56 37 P **P** **14 06 50.3 -1.7**
baz=291,SNR=11
UNV S **S** **14 16 20.6 -4.9**
baz=291
UNV Unalaska Valle 76.56 37 P **P** **14 06 51.1 -0.9**
FOEL Foel Wylfa 76.57 322⇑ *eP* **P** **14 06 53.2 +1.1**
FOEL IAmb IAmb 14 06 55.7
comp=Z,7µm,1.5s
SBD1 Bryn Du 76.60 322⇑ *eP* P 14 07 02.3 +10
SBD1 IAmb IAmb 14 07 04.8
comp=Z,6µm,1.6s
LEWI Lewis, Hebride 76.61 328⇑ *eP* **P** **14 06 53.2 +1.1**
LEWI IAmb IAmb 14 06 56.0
comp=Z,7µm,2.0s
GEXS Deakin Univers 76.62 142 P **P** **14 06 54.3 +1.9**
GAL1 Galloway 76.70 324⇑ *eP* **P** **14 06 53.9 +1.1**
GAL1 IAmb IAmb 14 06 56.3
comp=Z,3µm,1.3s
GRR Gorron 76.71 317 *eP* **P** **14 06 52.5 -0.5**
GRR pmax pmax
comp=Z,2µm,1.0s
MCH1 Michaelchurch 76.77 321⇑ *eP* **P** **14 06 53.8 +0.6**
MCH1 IAmb IAmb 14 06 56.3
comp=Z,4µm,1.4s
MCH1 Michaelchurch 76.77 321 ⇑P **P** **14 06 53.8 +0.6**
GCSA Galena City Sc 76.78 25 P **P** **14 06 53.6 +0.6**
baz=296,SNR=199
GCSA S **S** **14 16 26.9 -0.6**
baz=296
SCO Scoresbysund 76.82 342 P **P** **14 06 54.4 +1.3**
SCO pmax pmax
comp=Z,1µm,1.3s
SCO Scoresbysund 76.82 342 P **P** **14 06 54.4 +1.3**
SCO Scoresbysund 76.82 342 *iP* **P** **14 06 54.6 +1.5**
SCO IVmB_BB 14 06 56.8
comp=Z,14µm,2.1s
SCO IAmb IAmb 14 06 57.4
comp=Z,1µm,1.3s
SCO *i*S **S** **14 16 28.5 +0.7**
SCO Scoresbysund 76.82 342 ⇑P **P** **14 06 54.4 +1.3**
IOMK Kirk Michael 76.84 324⇑ *eP* **P** **14 06 54.8 +1.2**
IOMK IAmb IAmb 14 06 57.3
comp=Z,15µm,1.5s
LLW Llanuwychllyn 76.85 322⇑ *eP* **P** **14 06 54.5 +0.9**
MFF Saint Martin d 76.86 315 *eP* **P** **14 06 53.4 -0.4**
MFF pmax pmax
comp=Z,3µm,1.4s
TOO Toolangi 76.88 141 P **P** **14 06 54.8 +0.8**
TOO pmax pmax
comp=Z,2µm,0.9s
TOO Toolangi 76.88 141 P **P** **14 06 54.8 +0.8**
TOO IAmb IAmb 14 06 58.1
comp=Z,2µm,0.8s
TOO Toolangi 76.88 141 ⇑P **P** **14 06 54.9 +0.9**
TOO Toolangi 76.88 141 P **P** **14 06 54.9 +0.9**
WIM Isle of Man 76.94 323⇑ *eP* **P** **14 06 55.2 +1.0**
WME Myndd Eilian 77.01 323⇑ *eP* **P** **14 06 55.5 +1.0**
YLL Llanberis 77.03 322⇑ *eP* **P** **14 06 55.5 +0.8**
WLF1 Llynfaes 77.10 323⇑ *eP* **P** **14 06 56.0 +0.9**
WLF1 IAmb IAmb 14 06 58.6
comp=Z,12µm,1.4s
WPS Cemaes, Angles 77.12 323⇑ *eP* **P** **14 06 56.0 +0.8**
WPS IAmb IAmb 14 06 58.7
comp=Z,4µm,1.3s
MOPA Mopani 77.12 237⇑ *iP* **P** **14 06 55.9 +0.3**
MOPA IAmb IAmb 14 06 59.2
comp=Z,2µm,0.9s
MOPA Mopani 77.12 237 *iP* **P** **14 06 56.5 +0.9**
MOPA Mopani 77.12 237 *iP* **P** **14 06 56.5 +0.9**
JQE Queens East 77.17 318⇑ *eP* **P** **14 06 55.6 +0.1**
YRC Rhoscolyn 77.22 323⇑ *eP* **P** **14 06 56.7 +1.0**
JSA Saint Aubin 77.25 318 ⇑P **P** **14 06 56.2 +0.2**
JVM Valle D.L. Mar 77.27 318⇑ *eP* **P** **14 06 56.2 +0.2**
ATAF Djebel Tarf 77.28 304 P **P** **14 06 57.5 +1.0**
RENF Rennes 77.29 317⇑ *eP* **P** **14 06 57.2 +1.0**
CLGH Cloghs, Cushen 77.37 325⇑ *eP* **P** **14 06 57.7 +1.2**
CLGH IAmb IAmb 14 07 00.2
comp=Z,3µm,1.4s
IMAR Indian Mountai 77.38 23 P **P** **14 06 56.6 +0.3**
TOLK Toolik Lake Re 77.44 20 P **P** **14 06 57.1 +0.4**
TOLK Toolik Lake Re 77.44 20 P **P** **14 06 57.5 +0.7**
baz=302,SNR=251
TOLK S **S** **14 16 34.8 +0.2**
baz=302
CAN Canberra 77.50 137 P **P** **14 06 58.0 +0.4**
CAN pmax pmax
comp=Z,6µm,1.5s
CAN Canberra 77.50 137 P **P** **14 06 58.0 +0.4**
CAN IAmb IAmb 14 07 02.0
comp=Z,6µm,1.5s
CAN Canberra 77.50 137 ⇓P **P** **14 06 57.9 +0.4**
CAN Canberra 77.50 137 P **P** **14 06 58.4 +0.9**
MGCD Mangrove Creek 77.52 134 P **P** **14 06 59.6 +2.0**
AKET Djebel Ketaf 77.53 304 P **P** **14 06 59.2 +1.2**
MIDW Midway 77.58 65 ⇑P **P** **14 06 59.1 +0.9**
MIDW Midway 77.58 65 P **P** **14 06 59.1 +0.9**
MSNA Messina 77.58 239⇑ *iP* **P** **14 06 58.3 0.0**
MSNA IAmb IAmb 14 07 01.7
comp=Z,6µm,0.8s
MSNA Messina 77.58 239 *iP* **P** **14 06 59.6 +1.4**
MSNA Messina 77.58 239 *iP* **P** **14 06 59.6 +1.4**
BLWY Bulawayo 77.59 242⇑ *iP* **P** **14 06 58.8 +0.4**
BLWY IAmb IAmb 14 07 01.5
comp=Z,23µm,0.9s
ABMS Boumerdes 77.60 305 P **P** **14 06 58.5 +0.4**
GMM Mts of Mourne 77.61 324⇑ *eP* **P** **14 06 58.7 +0.9**
SYDH Sydney Hard Ro 77.63 135 P **P** **14 07 00.0 +1.8**
NTLH Newcastle Hard 77.72 134 P **P** **14 07 00.3 +1.6**
CNB Canberra Magne 77.73 137 P **P** **14 06 59.5 +0.7**
EPF Esparros 77.75 312 *eP* **P** **14 06 58.1 -0.8**
EPF pmax pmax
comp=Z,2µm,1.6s
NTLS Newcastle Soft 77.78 134 P **P** **14 07 00.6 +1.6**
RSBS Rosebush, Pemb 77.79 321⇑ *eP* **P** **14 06 59.8 +0.9**
RSBS IAmb IAmb 14 07 02.3
comp=Z,6µm,1.4s
MATP Matopo 77.82 242 LR LR 14 42 40.9
comp=Z,15µm,18.2s,baz=62,slow=36
MATP Matopo 77.82 242 *iP* **P** **14 07 00.7 +1.0**
MATP Matopo 77.82 242 *iP* **P** **14 07 00.7 +1.0**
ADJB Djebel Djouab 77.83 304 P **P** **14 07 00.8 +1.2**
FALS False Pass 77.87 35 P **P** **14 06 57.5 -1.7**
baz=293,SNR=35
FALS S **S** **14 16 36.9 -2.7**
baz=293
FALS False Pass 77.87 35 P **P** **14 06 58.1 -1.1**
DYA Yadsworthy 77.87 320⇑ *eP* **P** **14 06 59.9 +0.5**
DYA IAmb IAmb 14 07 03.1
comp=Z,2µm,1.1s
H21K Melozitna Rive 77.87 23 P **P** **14 06 59.8 +0.6**
baz=299,SNR=463
H21K S **S** **14 16 39.2 -0.2**
baz=299
ILTH Belurgan, Co L 77.90 324⇑ *eP* **P** **14 07 00.4 +1.0**
ABA Alger-Bouzarea 77.92 305 P **P** **14 07 00.5 +0.6**
RIV Riverview 77.94 135 ⇑P **P** **14 07 01.3 +1.4**

RIV **Riverview** 77.94 135 ⇑P P **14 07 01.3 +1.4**
TTA **Tatalina** 77.94 26 ⇑P P **14 06 59.8 +0.2**
TTA **Tatalina** 77.94 26 P P **14 06 59.9 +0.2**
baz=297,SNR=102
TTA S S **14 16 39.6 -0.7**
baz=297
COLD **Coldfoot** 77.98 21 P P **14 07 00.1 +0.4**
baz=301,SNR=91
COLD S S **14 16 40.2 -0.2**
baz=301
HTL **Hartland** 77.99 320⇑ *e*P P **14 07 01.1 +1.1**
HTL IAmb IAmb 14 07 03.5
comp=Z,9μm,1.8s
CNG **Changalane** 78.02 235⇑ *i*P P **14 07 00.6 +0.1**
CNG IAmb IAmb 14 07 03.8
comp=Z,3μm,1.8s
CNG **Changalane** 78.02 235 *i*P P **14 07 01.2 +0.7**
CNG **Changalane** 78.02 235 *i*P P **14 07 01.2 +0.7**
J20K **Nowinta River** 78.09 25 P P **14 07 00.6 +0.3**
J20K **Nowinta River** 78.09 25 P P **14 07 01.2 +0.9**
baz=299,SNR=127
J20K S S **14 16 43.2 +1.4**
baz=299
ROSF **Rostrenen** 78.24 318⇑ *e*P P **14 07 02.0 +0.6**
ROSF **Rostrenen** 78.24 318 *e*P P **14 07 01.4 -0.1**
ROSF pmax pmax
comp=Z,5μm,1.3s
QUIF **Quistinic** 78.33 317 *e*P P **14 07 01.4 -0.5**
QUIF pmax pmax
comp=Z,3μm,1.6s
I21K **Tanana** 78.41 23 P P **14 07 02.6 +0.6**
I21K **Tanana** 78.41 23 P P **14 07 02.9 +0.9**
baz=300,SNR=138
I21K S S **14 16 46.5 +1.4**
baz=300
ETSF **Etsaut** 78.41 312 *e*P P **14 07 02.8 +0.2**
ETSF pmax pmax
comp=Z,1μm,1.0s
K20K **Telida** 78.52 25 P P **14 07 03.5 +0.7**
K20K **Telida** 78.52 25 P P **14 07 03.4 +0.7**
baz=299,SNR=268
K20K S S **14 16 47.4 +1.1**
baz=299
CCA1 **Carnmenellis** 78.74 320⇑ *e*P P **14 07 04.8 +0.7**
CCA1 IAmb IAmb 14 07 07.4
comp=Z,5μm,1.6s
L19K **White Mountain** 78.77 27 P P **14 07 04.7 +0.5**
baz=298,SNR=145
L19K S S **14 16 49.2 +0.2**
baz=298
IWEX **Carrickbyrne,** 78.78 322⇑ *e*P P **14 07 05.8 +1.4**
IWEX IAmb IAmb 14 07 08.3
comp=Z,5μm,1.4s
SJPF **Ste Jean** 78.79 312 *e*P P **14 07 04.8 +0.2**
SJPF pmax pmax
comp=Z,4μm,1.6s
CHUM **Lake Minchumin** 78.94 25 P P **14 07 05.8 +0.9**
baz=300,SNR=185
CHUM S S **14 16 51.7 +1.0**
baz=300
H23K **Yukon River** 78.94 22 P P **14 07 06.0 +0.9**
baz=302,SNR=238
H23K S S **14 16 52.5 +1.7**
baz=302
POGA **Pongola** 78.95 234⇑ *i*P P **14 07 06.3 +0.7**
POGA IAmb IAmb 14 07 09.0
comp=Z,10μm,1.1s
L20K **Farewell, AK** 79.02 26 P P **14 07 05.9 +0.4**
baz=299,SNR=108
L20K S S **14 16 52.5 +0.8**
baz=299
N18K **Kilae Creek** 79.03 28 P P **14 07 05.8 +0.1**
N18K **Kilae Creek** 79.03 28 P P **14 07 06.1 +0.5**
baz=298,SNR=109
N18K S S **14 16 52.6 +0.7**
baz=298
M19K **Big River Lodg** 79.09 27 P P **14 07 06.6 +0.7**
M19K **Big River Lodg** 79.09 27 P P **14 07 06.9 +1.0**
baz=299
M19K S S **14 16 54.3 +1.9**
baz=299
SDPT **Sand Point** 79.21 34 P P **14 07 05.3 -1.3**
baz=295,SNR=31
SDPT S S **14 16 50.1 -3.8**
baz=295
CAST **Castle Rocks** 79.27 25 P P **14 07 07.0 +0.2**
CAST **Castle Rocks** 79.27 25 P P **14 07 07.0 +0.2**
baz=300,SNR=306
CAST S S **14 16 54.6 +0.4**
baz=300
BPAW **Bear Paw Mtn.** 79.33 24 P P **14 07 07.6 +0.5**
baz=301,SNR=140
BPAW S S **14 16 55.2 +0.2**
baz=301
I23K **Minto, Yukon-K** 79.37 23 P P **14 07 07.8 +0.5**
I23K **Minto, Yukon-K** 79.37 23 P P **14 07 07.8 +0.5**
baz=302,SNR=101
I23K S S **14 16 56.0 +0.8**
baz=302
PPLA **Purkeypile** 79.49 25 P P **14 07 08.5 +0.3**
baz=300,SNR=76
PPLA S S **14 16 55.8 -1.1**
baz=300
CRLN **Carolina, Mapu** 79.50 236⇑ *i*P P **14 07 09.7 +0.8**
CRLN IAmb IAmb 14 07 12.2
comp=Z,2μm,0.9s
H24K **Noodor Dome** 79.51 22 P P **14 07 08.4 +0.2**
H24K **Noodor Dome** 79.51 22 P P **14 07 08.8 +0.7**
baz=304,SNR=149
H24K S S **14 16 57.9 +1.1**
baz=304
N19K **Bonanza Creek** 79.58 28 P P **14 07 09.1 +0.5**
N19K **Bonanza Creek** 79.58 28 P P **14 07 09.4 +0.8**
baz=299,SNR=172
N19K S S **14 16 57.1 -0.7**
baz=299
EANR **'Ain N'Sour** 79.68 305 P P **14 07 10.0 +0.4**
BORG **Borgarnes** 79.73 337 P P **14 07 11.4 +2.2**
comp=Z,308nm,0.7s,baz=73,slow=3.8,SNR=102
BORG **Borgarnes** 79.73 337 ⇑P P **14 07 11.9 +2.7**
NEA2 **Nenana** 79.78 23 P P **14 07 09.6 0.0**
baz=303,SNR=58
NEA2 S S **14 16 59.0 -0.6**
baz=303
IGLA **Glengowla, Co** 79.80 324⇑ *e*P P **14 07 10.9 +1.1**
IGLA IAmb IAmb 14 07 13.2
comp=Z,2μm,1.2s
CHGN **Chignik** 79.85 33 P P **14 07 08.8 -1.3**
baz=296
CHGN S S **14 16 56.3 -4.2**
baz=296
TRF **Thorofare Moun** 79.94 24 P P **14 07 10.1 -0.5**
baz=302,SNR=84
TRF S S **14 16 59.4 -2.2**
baz=302
O19K **Port Alsworth** 79.95 28 P P **14 07 10.6 +0.1**
baz=299,SNR=173
O19K S S **14 17 01.8 +0.4**
baz=299
OKGL **Diebel Kef Gue** 79.99 305 P P **14 07 10.0 -1.3**
TCOL **CIGO, UAF Yank** 80.06 23 P P **14 07 11.2 +0.2**
baz=304,SNR=63
TCOL S S **14 17 02.2 -0.2**
baz=304
COLA **College** 80.06 23 ⇑P P **14 07 10.7 -0.3**
COLA **College** 80.06 23 P P **14 07 10.8 -0.2**
baz=304
COLA S S **14 17 02.5 +0.1**
baz=304
POKR **Poker Plat Res** 80.07 22 P P **14 07 11.4 +0.2**
baz=304,SNR=147
POKR S S **14 17 02.9 +0.3**
baz=304
TULEG **Thule** 80.08 356 P P **14 07 10.9 0.0**
TULEG **Thule** 80.08 356 *i*P P **14 07 10.9 0.0**
TULEG IAmb IAmb 14 07 14.1
comp=Z,1μm,1.1s
TULEG *i*S S **14 16 57.8 -4.5**
TULEG **Thule** 80.08 356 ⇑P P **14 07 10.7 -0.2**
OJGS **Djebel Guires** 80.10 304 P P **14 07 11.0 -1.0**
WRH **Wood River Hil** 80.20 23 P P **14 07 11.1 -0.7**
MCK **McKinley** 80.30 24 P P **14 07 12.4 0.0**
MCK pmax pmax
comp=Z,386nm,1.0s
MCK **McKinley** 80.30 24 P P **14 07 12.4 0.0**
MCK **McKinley** 80.30 24 P P **14 07 12.2 -0.1**
baz=303,SNR=172
MCK S S **14 17 03.1 -2.0**
baz=303
SPCR **Spurr Chakacha** 80.35 27 P P **14 07 12.6 -0.1**
baz=301,SNR=32
SPCR S S **14 17 03.1 -2.7**
baz=301
OJBR **Djebel Berber** 80.38 304 P P **14 07 11.5 -1.9**
KOUNC **Koumac, New Ca** 80.39 117 ⇑P P **14 07 15.1 +1.6**
KOUNC **Koumac, New Ca** 80.39 117 P P **14 07 15.3 +1.8**
CORO **Coronation Par** 80.45 143 P P **14 07 14.8 +1.5**
SANVU **Saraoutou** 80.45 111 P P **14 07 14.9 +1.0**
SANVU IAmb IAmb 14 07 17.8
comp=Z,2μm,0.9s
SANVU **Saraoutou** 80.45 111 ⇑P P **14 07 14.9 +1.0**
SANVU **Saraoutou** 80.45 111 P P **14 07 15.3 +1.4**
ILAR **Eielson Array** 80.46 23 P P **14 07 12.1 -1.1**
comp=Z,85nm,0.9s,baz=279,slow=3.9,SNR=232
ILAR PKKPbc **PKKPbc** **14 25 54.0 -1.0**
comp=Z,47nm,0.7s,baz=150,slow=1.8,SNR=39
ILAR PKP2ab 14 33 25.4
comp=Z,2.7nm,0.9s,baz=104,slow=0.6,SNR=4.1
ILAR PKPPKP **P'P'df** **14 33 51.5 -7.3**
comp=Z,24nm,1.0s,baz=135,slow=1.9,SNR=7.1
RSO **Redoubt South** 80.49 28 P P **14 07 12.9 -0.8**
CUT **Chulitna** 80.50 25 P P **14 07 12.7 -0.7**
CUT **Chulitna** 80.50 25 P P **14 07 13.0 -0.4**
baz=302,SNR=50
CUT S S **14 17 05.2 -2.0**
baz=302
NWCL **Newcastle** 80.52 235⇑ *i*P S **14 07 14.0 -0.2**
NWCL IAmb IAmb 14 07 17.4
comp=Z,4μm,1.0s
GLAD **Gladstone** 80.62 142 P P **14 07 15.2 +0.9**
HDA **Harding Lake** 80.64 23 P P **14 07 12.9 -1.2**
baz=305,SNR=93
HDA S S **14 17 05.5 -3.1**
baz=305
HDA S S **14 17 05.5 -3.1**
baz=305
CART **Cartagena** 80.65 307 P P **14 07 14.1 -0.6**
CART S S **14 17 06.2 -3.5**
CART **Cartagena** 80.65 307 P P **14 07 14.7 -0.1**
CART IAmb IAmb 14 07 17.9
comp=Z,9μm,1.6s
CART **Cartagena** 80.65 307 ⇑P P **14 07 15.0 +0.3**
P19K **Oil Pt** 80.69 29 P P **14 07 13.8 -0.8**
baz=300,SNR=37
P19K S S **14 17 05.8 -3.5**
baz=300
SLR **Silverton** 80.70 237⇑ *i*P P **14 07 15.6 +0.4**
SLR IAmb IAmb 14 07 18.7
comp=Z,7μm,1.0s
O20K **Slope Mountain** 80.74 28 P P **14 07 14.2 -0.7**
baz=300,SNR=11
O20K S S **14 17 06.5 -3.5**
baz=300
ODJA **Bouhanifia** 80.85 304 P P **14 07 14.0 -1.9**
SOEG **Soedalen** 80.86 342 *i*P P **14 07 16.2 +1.0**
SOEG IAmb IAmb 14 07 18.7
comp=Z,4μm,1.8s
SOEG *i*S S **14 17 12.1 +1.3**
SOEG **Soedalen** 80.86 342 ⇑P P **14 07 15.8 +0.5**
VAL **Valentia** 80.91 323⇑ *e*P P **14 07 17.0 +1.3**
VAL **Valentia** 80.91 323 ⇑P P **14 07 16.0 +0.2**
M22K **Willow** 80.91 26 P P **14 07 15.1 -0.5**
baz=302,SNR=126
M22K S S **14 17 09.3 -2.1**
baz=302
USTO **Oran** 81.00 305 P P **14 07 18.0 +1.4**
CAPN **Captain Cook N** 81.01 27 P P **14 07 16.6 +0.5**
baz=302,SNR=23
CAPN S S **14 17 12.2 -0.3**
baz=302
J25K **Salcha River,** 81.08 22 P P **14 07 15.6 -1.0**
baz=306,SNR=201
J25K S S **14 17 11.0 -2.3**
baz=306
MOO **Moorlands** 81.14 144 P P **14 07 17.8 +0.8**
FIS **Fire Island** 81.20 26 P P **14 07 17.4 +0.3**
UCM **Universidad Co** 81.24 310 P P **14 07 19.1 +1.2**
UCM S S **14 17 14.1 -1.7**
DHY **Denali Highway** 81.25 24 P P **14 07 16.5 -1.1**
DHY **Denali Highway** 81.25 24 P P **14 07 17.1 -0.5**
baz=304,SNR=85
DHY S S **14 17 12.6 -2.6**
baz=304
A36M **Sachs Harbour** 81.27 12 P P **14 07 17.7 +0.4**
baz=323,SNR=1000
A36M S S **14 17 15.1 +0.3**
baz=323
OTSS **Djebel Tessala** 81.36 305 P P 14 07 13.0 -5.7
HOM **Homer** 81.39 28 P P **14 07 18.5 +0.3**
HOM **Homer** 81.39 28 P P **14 07 18.2 +0.1**
baz=301,SNR=9.3
HOM S S **14 17 12.6 -3.8**
baz=301
WAT6 **Susitna Watana** 81.39 25 P P **14 07 17.7 -0.7**
baz=304,SNR=177
WAT6 S S **14 17 14.4 -2.4**
baz=304
PMR **Palmer** 81.40 26 P P **14 07 17.7 -0.4**
baz=303,SNR=105
PMR S S **14 17 14.2 -2.2**
baz=303
RC01 **Rabbit Creek A** 81.43 26 P P **14 07 17.6 -0.8**
RC01 **Rabbit Creek A** 81.43 26 P P **14 07 17.9 -0.5**
baz=303,SNR=119
RC01 S S **14 17 14.0 -2.8**
baz=303
CHIR **Chirikof Islan** 81.46 33 P P **14 07 18.8 +0.2**
baz=299,SNR=10
CHIR S S **14 17 16.5 -0.8**
baz=299
TAU **Tasmania Unive** 81.53 144 P P **14 07 19.3 +0.3**
TAU pmax pmax
comp=Z,2μm,1.0s
TAU **Tasmania Unive** 81.53 144 P P **14 07 19.3 +0.3**
TAU IAmb IAmb 14 07 22.9
comp=Z,2μm,1.0s
TAU **Tasmania Unive** 81.53 144 ⇑P P **14 07 19.8 +0.8**
TAU **Tasmania Unive** 81.53 144 P P **14 07 20.1 +1.1**
SML **Sawmill** 81.59 25 P P **14 07 19.4 +0.1**
baz=304,SNR=159
SML S S **14 17 17.2 -1.4**
baz=304
BRLK **Bradley Lake** 81.66 28 P P **14 07 18.6 -1.0**
WDLM **Western Deep L** 81.71 237⇓ *i*P P **14 07 21.2 +0.6**
WDLM IAmb IAmb 14 07 24.1
comp=Z,3μm,1.0s
BRSE **Bradley Lake S** 81.73 28 P P **14 07 19.3 -0.8**
baz=302,SNR=59
BRSE S S **14 17 17.2 -2.9**
baz=302
O22K **Cooper Landing** 81.76 27 P P **14 07 19.4 -0.7**
baz=303,SNR=56
O22K S S **14 17 17.3 -2.9**
baz=303
KNK **Knik Glacier** 81.77 26 P P **14 07 20.2 0.0**
baz=304,SNR=119
KNK S S **14 17 18.9 -1.5**
baz=304
J26L **Joseph Creek** 81.78 22 P P **14 07 20.5 +0.2**
baz=308,SNR=595
J26L S S **14 17 18.9 -1.6**
baz=308
RIDG **Independent Ri** 81.79 23 P P **14 07 19.8 -0.5**
baz=307,SNR=352
RIDG S S **14 17 17.0 -3.5**
baz=307
SII **Sitkinak Islan** 81.80 31 P P **14 07 20.1 -0.3**
baz=300,SNR=21
SII S S **14 17 19.9 -1.0**
baz=300
SII **Sitkinak Islan** 81.80 31 P P **14 07 20.3 -0.1**
KSR **Koster** 81.83 238⇓ *i*P P **14 07 21.7 +0.5**
KSR IAmb IAmb 14 07 24.8
comp=Z,4μm,1.0s
OHAK **Old Harbor** 81.90 31 P P **14 07 20.5 -0.4**
baz=300,SNR=50
OHAK S S **14 17 20.0 -1.7**
baz=300
KDAK **Kodiak Island** 81.94 30 LR LR 14 46 50.9
comp=Z,21μm,20.4s,baz=322,slow=38
KDAK **Kodiak Island** 81.94 30 P P **14 07 20.8 -0.3**
KDAK pmax pmax
comp=Z,339nm,0.9s
KDAK **Kodiak Island** 81.94 30 P P **14 07 20.8 -0.3**
KDAK **Kodiak Island** 81.94 30 ⇑P P **14 07 20.7 -0.4**
KDAK ⇑P P **14 07 20.8 -0.3**
KDAK **Kodiak Island** 81.94 30 P P **14 07 20.9 -0.2**
baz=301
KDAK S S **14 17 19.4 -2.7**
baz=301
SCRK **Sand Creek** 81.95 22 P P **14 07 21.0 -0.2**
SCRK **Sand Creek** 81.95 22 P P **14 07 21.3 +0.1**
baz=307,SNR=321
SCRK S S **14 17 19.8 -2.5**
baz=307
SCM **Sheep Creek Mo** 81.97 25 P P **14 07 21.5 +0.2**
baz=305,SNR=112
SCM S S **14 17 21.5 -1.1**
baz=305
ESDC **Sonseca Array** 82.00 310 P P **14 07 22.1 +0.3**
comp=Z,676nm,1.2s,baz=53,slow=4.4,SNR=463
ESDC pP **pP** **14 08 00.5 +0.9**
comp=Z,307nm,1.1s,baz=54,slow=4.6,SNR=4.8
ESDC PP **PP** **14 10 32.2 +0.9**
comp=Z,214nm,1.1s,baz=60,slow=8.5,SNR=6.5
ESDC S S **14 17 21.9 -1.7**
comp=Z,3.7nm,0.9s,baz=46,slow=8.5,SNR=4.3
ESDC PKKPbc **PKKPbc** **14 25 51.8 +1.1**
comp=Z,7.5nm,0.9s,baz=269,slow=2.4,SNR=8.2
ESDC PKPPKP 14 33 48.4
comp=Z,4.2nm,1.1s,baz=290,slow=1.9,SNR=5.5
ESDC **Sonseca Array** 82.00 310 P P **14 07 22.9 +1.0**
ESDC IAmb IAmb 14 07 25.4
comp=Z,4μm,1.6s
LHI **Lord Howe Isla** 82.00 129 ⇑P P **14 07 22.9 +1.1**
LHI **Lord Howe Isla** 82.00 129 P P **14 07 23.3 +1.5**
PRYS **Parys** 82.02 236⇑ *i*P P **14 07 21.9 -0.3**
PRYS IAmb IAmb 14 07 25.3
comp=Z,7μm,1.6s
PAX **Paxson** 82.02 24 P P **14 07 21.0 -0.6**
PAX pmax pmax
comp=Z,217nm,1.0s
PAX **Paxson** 82.02 24 P P **14 07 21.0 -0.6**
PAX **Paxson** 82.02 24 P P **14 07 21.4 -0.1**
baz=306,SNR=177
PAX S S **14 17 21.0 -2.1**
baz=306
SEW **Seward** 82.08 27 P P **14 07 21.3 -0.5**
baz=303,SNR=32
SEW S S **14 17 21.3 -2.2**
baz=303
DOT **Dot Lake** 82.12 23 P P **14 07 21.6 -0.4**
PWL **Port Wells** 82.12 26 P P **14 07 22.2 +0.2**
baz=304,SNR=181
PWL S S **14 17 21.9 -2.1**
baz=304
RES **Resolute Bay** 82.24 3 LR LR 14 47 04.2
comp=Z,14μm,19.3s,baz=353,slow=38
RES **Resolute Bay** 82.24 3 P P **14 07 22.4 +0.1**
RES pmax pmax
comp=Z,337nm,0.9s
RES **Resolute Bay** 82.24 3 P P **14 07 22.4 +0.1**
RES **Resolute Bay** 82.24 3 ⇑P P **14 07 22.4 +0.1**
INK **Inuvik** 82.25 16 P P **14 07 22.6 +0.1**
comp=Z,350nm,1.0s,baz=323,slow=6.2,SNR=486
INK S S **14 17 23.5 -1.4**
comp=Z,105nm,1.2s,baz=159,slow=29,SNR=40
INK **Inuvik** 82.25 16 P P **14 07 22.0 -0.5**
INK **Inuvik** 82.25 16 ⇑P P **14 07 22.3 -0.2**
INK **Inuvik** 82.25 16 P P **14 07 22.6 +0.1**
baz=316,SNR=409
INK S S **14 17 24.1 -0.8**
baz=316
M24K **Tolsona, Glenn** 82.26 25 P P **14 07 23.6 +0.8**
baz=306,SNR=122
M24K S S **14 17 25.8 +0.3**
baz=306
PAB **San Pablo** 82.32 310 ⇑P P **14 07 23.8 +0.2**
DVP **Devils Point** 82.32 113 P P **14 07 25.5 +1.8**
UPNV **Upernavik** 82.37 352 *i*P P **14 07 23.4 +0.3**
UPNV IAmb IAmb 14 07 26.2
comp=Z,969nm,0.8s
UPNV *i*S S **14 17 23.6 -2.4**
ICESG **Greenland Ices** 82.38 345 *i*P P **14 07 24.1 +0.4**
ICESG IAmb IAmb 14 07 26.9
comp=Z,5μm,1.3s
ICESG *i*S S **14 17 25.5 -1.6**
SNKL **Senekal, Frees** 82.39 235⇑ *i*P P **14 07 23.9 -0.3**
SNKL IAmb IAmb 14 07 27.3
comp=Z,8μm,1.0s
EGAK **Eagle** 82.41 21 P P **14 07 23.6 +0.1**
baz=310,SNR=120
EGAK S S **14 17 27.7 +1.0**
baz=310
LBTB **Lobatse** 82.43 239 LR LR 14 41 08.0
comp=Z,15μm,21.7s,baz=58,slow=33
LBTB **Lobatse** 82.43 239⇑ *i*P P **14 07 24.8 +0.5**
LBTB IAmb IAmb 14 07 27.9
comp=Z,8μm,1.0s
LBTB **Lobatse** 82.43 239 *i*P P **14 07 25.5 +1.2**
LBTB **Lobatse** 82.43 239 ⇓P P **14 07 24.6 +0.2**
LBTB **Lobatse** 82.43 239 *i*P P **14 07 25.5 +1.2**
HARP **HAARP** 82.47 24 P P **14 07 24.6 +0.7**
baz=306,SNR=98
HARP S S **14 17 27.3 -0.3**
baz=306
RTV **Rentapao** 82.56 113 P P **14 07 26.1 +1.2**
GLI **Glacier Island** 82.61 26 P P **14 07 24.4 -0.2**
baz=305,SNR=46
GLI S S **14 17 27.6 -1.4**
baz=305
MENT **Mentasta** 82.68 23 P P **14 07 24.9 0.0**
KLU **Klutina** 82.72 25 P P **14 07 25.2 0.0**
KLU **Klutina** 82.72 25 P P **14 07 25.7 +0.5**
baz=306,SNR=240
KLU S S **14 17 29.6 -0.6**
baz=306
EPYK **Eagle Plains** 82.73 19 P P **14 07 24.3 -0.8**
EPYK **Eagle Plains** 82.73 19 P P **14 07 24.7 -0.5**
baz=313,SNR=161
EPYK S S **14 17 30.6 +0.5**
baz=313
L26K **Log Cabin Wild** 82.76 23 P P **14 07 25.9 +0.5**
L26K **Log Cabin Wild** 82.76 23 P P **14 07 26.1 +0.7**
baz=308,SNR=118
L26K S S **14 17 29.9 -0.5**
baz=308
NOUC **Port Laguerre** 82.78 118 P P **14 07 27.6 +1.6**
DZM **Mont Dzumac** 82.88 118 PKKPbc PKKPbc 14 25 51.2 +2.2
comp=Z,22nm,0.9s,baz=188,slow=7.5,SNR=6.4
DZM PKPPKP **P'P'df** **14 33 48.8 -5.7**
comp=Z,10nm,0.7s,baz=156,slow=10,SNR=5.7
DZM LR LR 14 46 32.1
comp=Z,5μm,20.6s,baz=296,slow=37
DZM **Mont Dzumac** 82.88 118 *e*P P **14 07 28.7 +2.0**
comp=Z,2μm,1.2s
DZM *e*pP **pP** **14 08 03.0 -1.5**
comp=Z,1μm,1.2s
DZM **Mont Dzumac** 82.88 118 P P **14 07 27.6 +0.9**
DZM IAmb IAmb 14 07 32.0
comp=Z,2μm,1.3s
DZM **Mont Dzumac** 82.88 118 ⇑P P **14 07 28.1 +1.4**
DZM **Mont Dzumac** 82.88 118 P P **14 07 28.6 +1.9**
LIFNC **LIFOU** 82.93 116 P P **14 07 28.8 +2.0**
FID **Port Fidalgo** 82.94 26 P P **14 07 26.2 -0.1**
I29M **Ogilvie Camp,** 82.94 20 P P **14 07 25.6 -0.6**
baz=312,SNR=77
I29M S S **14 17 31.2 -1.0**
baz=312
ONTNC **Ouen Toro** 83.00 118 P P **14 07 28.2 +1.1**
ONTNC IAmb IAmb 14 07 31.3
comp=Z,1μm,0.9s
ONTNC **Ouen Toro** 83.00 118 ⇑P P **14 07 28.6 +1.5**
ONTNC **Ouen Toro** 83.00 118 P P **14 07 29.1 +1.9**
NUUG **Nuugaatsiaq** 83.05 350 *i*P P **14 07 26.8 +0.2**
NUUG IAmb IAmb 14 07 29.5
comp=Z,965nm,1.4s
NUUG *i*S S **14 17 30.9 -2.0**
PBRG **Braganca** 83.06 312 *e*P P **14 07 27.8 +0.5**
comp=Z,2μm,1.7s
PBRG *e*pP **pP** **14 08 01.7 -3.5**
PBRG **Braganca** 83.06 312 *e*PP PP 14 10 38.1 -1.8
N25K **Chitina, Valde** 83.16 24 P P **14 07 28.4 +0.9**
baz=307,SNR=277
N25K S S **14 17 34.7 0.0**
baz=307
YATNC **Mamie plateau,** 83.24 117 P P **14 07 30.4 +2.0**
M26K **Nabesna, AK** 83.27 23 P P **14 07 28.6 +0.6**

M26K Nabesna, AK 83.27 23 P P 14 07 28.9 +0.9
baz=308,SNR=236
M26K S S 14 17 34.9 -0.8
baz=308
L27K Beaver Creek, 83.28 23 P P 14 07 29.4 +1.4
L27K IAmb IAmb 14 08 39.7
comp=Z,948nm,1.1s
L27K Beaver Creek, 83.28 23 P P 14 07 29.3 +1.3
baz=309,SNR=346
L27K S S 14 17 34.7 -1.0
baz=309
EYAK Cordova Ski Ar 83.34 26 P P 14 07 28.6 +0.3
EYAK Cordova Ski Ar 83.34 26 P P 14 07 28.8 +0.5
baz=306,SNR=56
EYAK S S 14 17 36.0 -0.2
baz=306
OUENC Ouen Island, N 83.37 118 P P 14 07 30.5 +1.5
OUENC IAmb IAmb 14 07 33.6
comp=Z,724nm,0.8s
OUENC Ouen Island, N 83.37 118 P P 14 07 30.9 +1.8
DAWY Dawson 83.46 21 ⇑P P 14 07 28.8 -0.2
DAWY Dawson 83.46 21 P P 14 07 29.2 +0.3
baz=311,SNR=70
DAWY S S 14 17 36.3 -1.2
baz=311
EMAL Malaga-Limoner 83.50 307 P P 14 07 28.9 -0.7
EMAL S S 14 17 32.0 -6.7
MVO Moncorvo 83.53 312 eP P 14 07 30.1 +0.3
comp=Z,3μm,1.7s
MVO epP pP 14 08 01.4 -6.3
MVO Moncorvo 83.53 312 ePP PP 14 10 44.8 +1.0
MVO eS S 14 17 37.7 -1.4
MVO eSS SS 14 23 11.4 +3.6
BMRM Bremner River 83.55 25 P P 14 07 29.2 -0.2
BMRM IAmb IAmb 14 07 33.1
comp=Z,840nm,0.9s
BMRM Bremner River 83.55 25 P P 14 07 29.7 +0.3
baz=307,SNR=330
BMRM S S 14 17 37.5 -1.0
baz=307
J29M Klondike Camp 83.58 20 P P 14 07 30.1 +0.6
baz=312,SNR=12
J29M S S 14 17 37.2 -1.5
baz=312
C36M Paulatuk 83.64 13 P P 14 07 29.2 -0.5
baz=324,SNR=769
C36M S S 14 17 33.2 -5.7
baz=324
M27K Edge Creek, AK 83.71 23 P P 14 07 31.4 +1.0
baz=309,SNR=364
M27K S S 14 17 37.5 -2.8
baz=309
SWZ Schweizer 83.71 237 ⇓iP P 14 07 31.1 +0.2
SWZ IAmb IAmb 14 07 34.2
comp=Z,6μm,1.0s
Q23K Middleton Isla 83.76 27 P P 14 07 31.2 +0.8
baz=306
Q23K S S 14 17 37.4 -3.1
baz=306
VRDI Verde Repeater 83.83 24 P P 14 07 31.3 +0.3
MCARA McCarthy VSAT 83.90 24 P P 14 07 31.8 +0.7
MCARA IAmb IAmb 14 07 34.0
comp=Z,729nm,1.0s
MCARA McCarthy VSAT 83.90 24 P P 14 07 32.0 +0.8
baz=308,SNR=248
MCARA S S 14 17 39.2 -2.6
baz=308
MARNC Mare, Loyalty 83.91 116 P P 14 07 33.0 +1.2
MARNC Mare, Loyalty 83.91 116 ⇑P P 14 07 33.0 +1.2
MARNC Mare, Loyalty 83.91 116 P P 14 07 33.8 +2.0
PVRL Vila Real 83.95 312 eP P 14 07 32.3 +0.4
PVRL epP pP 14 08 09.5 -0.3
PVRL Vila Real 83.95 312 ePP PP 14 10 47.1 -0.1
PVRL iLQ LQ 14 11 28.6
PINNC Pines Island, 83.95 118 P P 14 07 34.0 +2.0
POLO Lamas de Olo 83.96 312 eP P 14 07 31.9 -0.1
comp=Z,749nm,1.5s
POLO epP pP 14 08 05.4 -4.5
POLO Lamas de Olo 83.96 312 ePP PP 14 10 49.6 +2.3
POLO iLQ LQ 14 11 28.8
PCAB Cabril 83.97 313 eP P 14 07 32.8 +0.8
comp=Z,3μm,1.7s
PCAB epP pP 14 08 09.8 -0.1
PCAB Cabril 83.97 313 ePP PP 14 10 48.5 +1.1
BVCY Beaver Creek 84.03 23 P P 14 07 32.8 +0.9
baz=310,SNR=150
BVCY S S 14 17 40.3 -3.0
baz=310
PVLZ Peæn de 84.04 306 P P 14 07 30.9 -1.5
PVLZ S SKSac 14 17 34.5 -7.1
HMT Hamilton 84.06 25 P P 14 07 32.5 +0.5
LIJA Lijar 84.15 308 P P 14 07 32.5 -0.5
MTE Manteigas 84.20 311 eP P 14 07 33.8 +0.6
comp=Z,3μm,1.7s
MTE epP pP 14 08 09.5 -1.7
MTE Manteigas 84.20 311 ePP PP 14 10 50.4 +1.1
MTE eS S 14 17 40.6 -5.3
MTE eSS SS 14 23 29.5 +12
MTE Manteigas 84.20 311 ⇑P P 14 07 33.9 +0.7
BERG Berg Lake 84.25 25 P P 14 07 33.9 +0.9
PVIS Viseu 84.31 312 eP P 14 07 34.6 +0.9
comp=Z,3μm,1.7s
PVIS epP pP 14 08 09.1 -2.6
PVIS Viseu 84.31 312 ePP PP 14 10 52.2 +2.0
PVIS iLQ LQ 14 11 32.8
PCBR Castelo Branco 84.40 311 eP P 14 07 34.5 +0.4
comp=Z,3μm,1.5s
PCBR epP pP 14 08 08.3 -3.8
PCBR Castelo Branco 84.40 311 ePP PP 14 10 51.4 +0.6
PCBR iLQ LQ 14 11 33.4
SUCK Suckling Hills 84.42 25 P P 14 07 34.7 +0.9
ANGG Ammassalik, Gr 84.44 342 iP P 14 07 33.5 -0.2
ANGG IVmB_BB 14 07 35.8
comp=Z,17μm,2.2s
ANGG IAmb IAmb 14 07 36.4
comp=Z,3μm,1.6s
ANGG iS S 14 17 41.5 -5.6
ANGG Ammassalik, Gr 84.44 342 ⇑P P 14 07 33.4 -0.4
BOSA Boshof 84.47 236 P P 14 07 34.5 -0.3
comp=Z,7μm,0.9s,baz=62,slow=5.2,SNR=825
BOSA PKKPbc PKKPbc 14 25 45.3 -0.4
comp=Z,21nm,0.7s,baz=262,slow=2.6,SNR=16
BOSA PKPPKP 14 33 51.2
comp=Z,30nm,1.3s,baz=227,slow=2.6,SNR=4.0
BOSA LR LR 14 44 20.7
comp=Z,18μm,20.2s,baz=62,slow=35
BOSA Boshof 84.47 236 ⇑iP P 14 07 34.9 +0.2
BOSA IAmb IAmb 14 07 37.9
comp=Z,11μm,1.1s
BOSA Boshof 84.47 236 P P 14 07 35.1 +0.4
BOSA pmax pmax
comp=Z,11μm,1.1s
BOSA Boshof 84.47 236 P P 14 07 35.1 +0.4
BOSA Boshof 84.47 236 iP P 14 07 35.7 +1.0
BOSA Boshof 84.47 236 ⇑P P 14 07 34.4 -0.3
BOSA Boshof 84.47 236 iP P 14 07 35.7 +1.0
PMRV Marv??o 84.51 311 eP P 14 07 34.9 +0.2
comp=Z,2μm,1.7s
PMRV epP pP 14 08 04.9 -7.8
PMRV Marv??o 84.51 311 ePP PP 14 10 53.7 +1.9
PMRV iLQ LQ 14 11 27.1
PMRV eS S 14 17 49.3 +0.4
PMRV eSS SS 14 23 25.3 +3.0
CEU Ceuta 84.54 307 P P 14 07 33.8 -1.0
CEU S S 14 17 40.9 -8.3
WAX Waxell Ridge 84.54 25 P P 14 07 35.2 +0.7
BGLC Bering Glacier 84.58 25 P P 14 07 36.0 +1.5
baz=308
BGLC S S 14 17 45.4 -3.2
baz=308
YUK3 Moose Creek 84.59 23 P P 14 07 35.7 +0.8
baz=310,SNR=71
YUK3 S S 14 17 51.0 +1.7
baz=310
PTO Porto 84.61 312 eP P 14 07 36.6 +1.5
comp=Z,2μm,1.6s
BARN Barnard Glacie 84.61 24 P P 14 07 35.3 +0.3
SNH Sunshine Point 84.72 25 P P 14 07 36.4 +1.0
CTG Chitna Glacier 84.79 24 P P 14 07 36.8 +1.0
baz=310,SNR=226
CTG S S 14 17 52.4 +1.3
baz=310
CTGM Chitina Glacie 84.80 24 P P 14 07 36.3 +0.5
PBAR Barrancos 84.80 309 eP P 14 07 36.5 +0.4
comp=Z,4μm,1.8s
PBAR epP pP 14 08 12.7 -1.5
PBAR Barrancos 84.80 309 ePP PP 14 10 54.9 +0.8
CNIL Conil 84.85 307 P P 14 07 37.0 +0.6
COI Coimbra 84.89 312 eP P 14 07 37.2 +0.7
comp=Z,3μm,1.6s
COI epP pP 14 08 11.4 -3.1
COI Coimbra 84.89 312 ePP PP 14 10 56.6 +1.9
COI Coimbra 84.89 312 ⇑P P 14 07 37.5 +0.9
PESTR Estremoz 84.89 310 eP P 14 07 37.0 +0.4
comp=Z,1μm,1.7s
PESTR epP pP 14 08 05.3 -9.4
PESTR Estremoz 84.89 310 ePP PP 14 10 55.1 +0.2
PESTR iLQ LQ 14 11 31.7
PESTR Estremoz 84.89 310 ⇑P P 14 07 37.0 +0.4
SFS San Fernando 84.92 307 P P 14 07 37.8 +1.0
SFS S S 14 17 45.7 -7.2
SFS San Fernando 84.92 307 ⇑P P 14 07 37.3 +0.5
SFS San Fernando 84.92 307 ⇑P P 14 07 37.3 +0.5
LOGN Logan Glacier 85.01 24 P P 14 07 37.6 +0.6
PCAS Casmilo, Conde 85.01 311 eP P 14 07 37.1 -0.1
comp=Z,2μm,1.6s
PCAS epP pP 14 08 12.5 -2.7
PCAS Casmilo, Conde 85.01 311 ePP PP 14 10 56.9 +1.1
ARNO Arenosillo 85.04 308 P P 14 07 37.8 +0.4
ARNO S S 14 17 46.0 -8.0
MDT Midelt 85.24 304 LR LR 14 51 29.3
comp=Z,20μm,20.5s,baz=70,slow=40
PMTG Montargil 85.25 310 eP P 14 07 38.8 +0.4
comp=Z,3μm,1.8s
PMTG epP pP 14 08 12.4 -4.0
PMTG Montargil 85.25 310 ePP PP 14 10 58.9 +1.1
HVD Gariep Dam 85.29 234 ⇑iP P 14 07 39.0 +0.3
HVD IAmb IAmb 14 07 42.3
comp=Z,10μm,1.1s
M30M Minto, Yukon 85.33 21 P P 14 07 38.6 +0.2
M30M Minto, Yukon 85.33 21 P P 14 07 38.8 +0.4
baz=314,SNR=88
M30M S S 14 17 56.6 +0.4
baz=314
EVO Evora 85.34 310 P P 14 07 39.8 +1.0
EVO S SKSac 14 17 46.8 -3.1
EVO Evora 85.34 310 eP P 14 07 39.5 +0.7
comp=Z,3μm,1.8s
EVO epP pP 14 08 14.6 -2.3
EVO Evora 85.34 310 ePP PP 14 10 59.8 +1.3
EVO iLQ LQ 14 11 40.0
PBEJ Beja 85.45 309 eP P 14 07 40.1 +0.7
comp=Z,2μm,1.7s
PSBE So Bento 85.46 311 eP P 14 07 40.3 +0.9
comp=Z,4μm,1.8s
PSBE epP pP 14 08 18.0 +0.5
PSBE So Bento 85.46 311 ePP PP 14 11 01.5 +2.1
PSBE iLQ LQ 14 11 40.2
YUK4 Talbot Arm 85.53 23 P P 14 07 39.9 +0.3
baz=312,SNR=83
YUK4 S S 14 17 59.0 +0.6
baz=312
PVAQ Vaqueiros 85.61 309 eP P 14 07 40.9 +0.7
comp=Z,3μm,1.5s
PVAQ epP pP 14 08 16.9 -1.4
PVAQ Vaqueiros 85.61 309 ePP PP 14 10 58.6 -2.1
PVAQ eS S 14 17 51.2 -8.5
PVAQ eSS SS 14 23 36.9 -1.7
PVAQ Vaqueiros 85.61 309 ⇑P P 14 07 40.9 +0.7
PVAQ ⇑P P 14 07 40.9 +0.7
PCVE Castro Verde 85.75 309 eP P 14 07 41.4 +0.5
comp=Z,2μm,1.8s
PCA Pinnacle 85.77 24 P P 14 07 41.6 +1.0
PACT Alcochete 85.81 310 eP P 14 07 41.9 +0.8
comp=Z,7μm,1.9s
PBDV Barranco-do-Ve 85.84 309 eP P 14 07 42.1 +0.7
comp=Z,4μm,1.7s
PNCL Nicolau / Gran 85.89 310 eP P 14 07 42.3 +0.8
comp=Z,3μm,1.7s
PNCL epP pP 14 08 17.5 -2.1
PNCL Nicolau / Gran 85.89 310 ePP PP 14 11 02.9 0.0
PNCL iLQ LQ 14 11 44.1
YUK6 Outpost Mounta 85.90 23 P P 14 07 42.2 +0.7
baz=312,SNR=70
YUK6 S S 14 18 03.7 +1.5
baz=312
DY2G Dye2 86.00 345 IAmb IAmb 14 07 45.7
comp=Z,11μm,1.9s
DY2G iS SKSac 14 17 51.0 -2.5
PMAFR Mafra 86.04 311 eP P 14 07 43.1 +0.8
comp=Z,6μm,1.7s
PMAFR epP pP 14 08 17.5 -2.9
PMAFR Mafra 86.04 311 ePP PP 14 11 04.0 -0.2
PMAFR iLQ LQ 14 11 44.9
LIS Lisbon 86.06 310 eP P 14 07 43.5 +1.1
LIS IAmb IAmb 14 07 46.8
comp=Z,5μm,1.5s
LIS ePP PP 14 11 05.0 +0.7
LIS eSKSac SKSac 14 17 55.3 +1.0
LIS Lisbon 86.06 310 eP P 14 07 43.4 +1.1
LIS e 14 11 04.9
LIS e 14 17 55.2
PMST Lisbon--Monsan 86.07 310 eP P 14 07 43.1 +0.7
comp=Z,4μm,1.6s
PTEO Sao Teotonio 86.27 309 eP P 14 07 44.4 +1.0
comp=Z,4μm,1.7s
PTEO epP pP 14 08 19.8 -1.8
PTEO Sao Teotonio 86.27 309 ePP PP 14 11 07.0 +1.0
HYT Haines Junctio 86.29 23 P P 14 07 43.9 +0.7
HYT Haines Junctio 86.29 23 P P 14 07 43.9 +0.7
baz=313,SNR=83
HYT S S 14 18 06.4 +0.7
baz=313
SOE Somerset East 86.30 232 ⇓iP P 14 07 43.8 +0.2
SOE IAmb IAmb 14 07 47.1
comp=Z,4μm,1.1s
TSUM Tsumeb 86.32 247 LR LR 14 45 18.6
comp=Z,17μm,21.9s,baz=72,slow=35
TSUM Tsumeb 86.32 247 ⇑iP P 14 07 43.2 -0.8
TSUM IAmb IAmb 14 07 47.4
comp=Z,64μm,2.1s
TSUM Tsumeb 86.32 247 ⇑P P 14 07 44.4 +0.3
MORF Marmelete 86.33 309 eP P 14 07 44.7 +0.9
MORF IAmb IAmb 14 07 47.4
comp=Z,4μm,1.5s
MORF epP pP 14 08 19.1 -2.9
MORF ePP PP 14 11 07.2 +0.7
MORF Marmelete 86.33 309 eP P 14 07 44.2 +0.4
comp=Z,3μm,1.6s
MORF epP pP 14 08 19.7 -2.2
MORF Marmelete 86.33 309 ePP PP 14 11 08.2 +1.6
MORF iLQ LQ 14 11 42.8
MORF Marmelete 86.33 309 eP P 14 07 44.7 +0.9
MORF e 14 11 07.2
MORF Marmelete 86.33 309 ⇑P P 14 07 44.5 +0.7
MORF ⇓P PcP 14 07 45.1 -1.0
PNL Peninsula 86.38 24 P P 14 07 44.4 +0.9
baz=312,SNR=25
PNL S S 14 18 08.4 +2.0
baz=312
M31M Drury Creek, Y 86.39 21 P P 14 07 42.8 -0.7
M31M Drury Creek, Y 86.39 21 P P 14 07 43.9 +0.3
baz=316,SNR=86
M31M S S 14 18 06.1 -0.3
baz=316
N31M Braeburn, Yuko 86.44 22 P P 14 07 44.3 +0.5
N31M IAmb IAmb 14 08 56.5
comp=Z,734nm,0.9s
N31M Braeburn, Yuko 86.44 22 P P 14 07 44.6 +0.8
baz=314,SNR=182
N31M S S 14 18 08.7 +1.8
baz=314
SFJD Kangerlussuaq 86.52 347 P P 14 07 43.8 -0.2
comp=Z,488nm,0.8s,baz=71,slow=3.1,SNR=160
SFJD pP pP 14 08 22.7 +0.5
comp=Z,578nm,1.0s,baz=38,slow=5.1,SNR=5.6
SFJD S SKSac 14 17 52.4 -3.7
comp=Z,33nm,1.3s,baz=238,slow=21,SNR=22
SFJD Kangerlussuaq 86.52 347 P P 14 07 43.8 -0.2
SFJD pmax pmax
comp=Z,2μm,1.4s
SFJD Kangerlussuaq 86.52 347 P P 14 07 43.8 -0.2
SFJD IAmb IAmb 14 07 47.0
comp=Z,2μm,1.4s
SFJD Kangerlussuaq 86.52 347 iP P 14 07 44.1 0.0
SFJD IAmb IAmb 14 07 46.7
comp=Z,2μm,1.4s
SFJD iS SKSac 14 17 52.8 -3.3
SFJD Kangerlussuaq 86.52 347 ⇑P P 14 07 43.3 -0.8
PFVI Vila Bisbo 86.53 309 eP P 14 07 45.2 +0.5
comp=Z,3μm,1.9s
PFVI epP pP 14 08 18.6 -4.2
PFVI Vila Bisbo 86.53 309 ePP PP 14 11 10.4 +2.3
AVE Averroes 87.17 305 P P 14 07 48.5 +0.6
AVE S SKSac 14 17 58.6 -2.7
AVE Averroes 87.17 305 ⇑P P 14 07 48.4 +0.5
WHY Whitehorse 87.33 22 P P 14 07 48.1 -0.2
WHY Whitehorse 87.33 22 ⇑P P 14 07 48.5 +0.2
WHY Whitehorse 87.33 22 P P 14 07 48.7 +0.4
baz=315
WHY S S 14 18 16.5 +0.8
baz=315
NFK Norfolk Island 87.36 123 ⇓P P 14 07 51.3 +2.6
NFK Norfolk Island 87.36 123 P P 14 07 50.3 +1.6
UPI Upington 87.44 238 ⇑iP P 14 07 49.3 +0.1
UPI IAmb IAmb 14 07 52.4
comp=Z,2μm,1.7s
KROM Kromhout 87.69 231 ⇓iP P 14 07 50.3 +0.2
KROM IAmb IAmb 14 07 53.4
comp=Z,3μm,1.3s
ROSN Rosenhof 87.73 231 ⇓iP P 14 07 50.6 +0.3
ROSN IAmb IAmb 14 07 53.6
comp=Z,2μm,1.4s
TOA0 Torodi Ar. Sit 87.78 283 P P 14 07 51.8 +0.7
TOA0 IAmb IAmb 14 07 55.0
comp=Z,3μm,1.2s
TORD Torodi Ar. Bea 87.78 283 P P 14 07 51.8 +0.7
comp=Z,761nm,0.8s,baz=69,slow=4.5,SNR=797
TORD pP pP 14 08 30.3 +0.9
comp=Z,529nm,0.9s,baz=71,slow=4.9,SNR=7.6
TORD PP PP 14 11 18.1 -0.7
comp=Z,953nm,1.1s,baz=56,slow=6.6,SNR=13
TORD S SKSac 14 18 03.5 -2.1
comp=Z,33nm,1.1s,baz=46,slow=6.4,SNR=4.8
TORD PKKPbc PKKPbc 14 25 36.7 +0.2
comp=Z,15nm,0.7s,baz=283,slow=1.5,SNR=18
TORD PKKPKP P'P'df 14 33 36.8 -10
comp=Z,6.1nm,1.1s,baz=247,slow=1.6,SNR=4.5
TORD LR LR 14 50 32.8
comp=Z,30μm,19.9s,baz=70,slow=38
TORD Torodi Ar. Bea 87.78 283 P P 14 07 51.5 +0.4
TORD IAmb IAmb 14 07 55.0
comp=Z,3μm,1.2s
KEIM Keimoes 87.82 238 ⇑iP P 14 07 50.6 -0.4
KEIM IAmb IAmb 14 07 54.3
comp=Z,6μm,2.0s
SKAG Skagway 88.03 23 P P 14 07 52.4 +1.0
SKAG Skagway 88.03 23 ⇑P P 14 07 52.6 +1.2
SKAG Skagway 88.03 23 P P 14 07 52.6 +1.2
baz=315,SNR=75
SKAG S S 14 18 23.3 +1.3
baz=315
FUNA Funafuti 88.15 100 ⇓P P 14 07 54.9 +2.1
FUNA Funafuti 88.15 100 P P 14 07 54.6 +1.8
AUGR Augrabies 88.26 238 ⇓iP P 14 07 52.1 -0.9
AUGR IAmb IAmb 14 07 56.0
comp=Z,7μm,2.3s
JOHN Johnston Islan 88.55 73 P P 14 07 55.0 +0.4
JOHN IAmb IAmb 14 07 58.2
comp=Z,4μm,1.7s
JOHN Johnston Islan 88.55 73 ⇓P P 14 07 55.5 +0.8
JOHN Johnston Islan 88.55 73 P P 14 07 55.4 +0.8
GRAN Grantham 88.59 234 ⇑iP P 14 07 55.2 +0.6
GRAN IAmb IAmb 14 07 57.9
comp=Z,642nm,1.2s
BESE Bessie Mountai 88.83 24 P P 14 07 56.3 +1.0
TGTN Hyland Airport 88.83 19 P P 14 07 56.1 +0.8
baz=321,SNR=100
TGTN S S 14 18 30.6 +0.9
baz=321
JIS Juneau Island 89.22 24 P P 14 07 57.8 +0.8
SUR Sutherland 89.64 234 LR LR 14 46 57.7
comp=Z,19μm,20.2s,baz=66,slow=34
SUR Sutherland 89.64 234 P P 14 07 59.8 +0.1
SUR IAmb IAmb 14 08 03.6
comp=Z,3μm,1.2s
SUR Sutherland 89.64 234 ⇑P P 14 08 00.2 +0.6
SUR ⇑P P 14 08 00.3 +0.6
SIT Sitka 89.73 25 P P 14 08 00.7 +1.2
baz=315
SIT S S 14 18 39.5 +1.5
baz=315
CASY Casey 89.90 174 ⇑iP P 14 07 59.2 -0.5
CVNA Calvinia 90.02 236 ⇑iP P 14 08 01.8 +0.5
CVNA IAmb IAmb 14 08 04.5
comp=Z,1μm,1.0s
NRS Narsarsuaq 90.12 342 P P 14 08 00.9 -0.2
NRS pmax pmax
comp=Z,1μm,0.8s
NRS Narsarsuaq 90.12 342 P P 14 08 00.9 -0.2
NRS IAmb IAmb 14 08 04.2
comp=Z,1μm,0.8s
NRS Narsarsuaq 90.12 342 iP P 14 08 00.8 -0.2
NRS IVmB_BB 14 08 03.5
comp=Z,21μm,1.9s
NRS IAmb IAmb 14 08 03.9
comp=Z,1μm,0.8s
NRS iS SKSac 14 18 14.6 -3.1
MATJ Matjiesfontein 90.22 234 ⇑iP P 14 08 02.2 0.0
MATJ IAmb IAmb 14 08 05.6
comp=Z,3μm,1.4s
DLBC Dease Lake 90.65 22 P P 14 08 04.9 +1.1
comp=Z,45nm,0.9s,baz=310,slow=6.0,SNR=47
DLBC LR LR 14 52 38.3
comp=Z,19μm,19.8s,baz=303,slow=38
MSVF Nonsavu 90.81 109 PKKPbc PKKPbc 14 25 31.0 +1.4
comp=Z,49nm,0.8s,baz=145,slow=12,SNR=8.0
MSVF Nonsavu 90.81 109 P P 14 08 05.7 +0.5
MSVF pmax pmax
comp=Z,1μm,1.5s
MSVF Nonsavu 90.81 109 P P 14 08 05.7 +0.5
MSVF IAmb IAmb 14 08 10.0
comp=Z,1μm,1.5s
MSVF Nonsavu 90.81 109 P P 14 08 06.9 +1.7
IVI Ivigtut 90.84 343 P P 14 08 04.3 -0.2
IVI IAmb IAmb 14 08 07.6
comp=Z,3μm,1.4s
IVI Ivigtut 90.84 343 iP P 14 08 04.5 +0.1
IVI IAmb IAmb 14 08 07.2
comp=Z,3μm,1.5s
IVI iS SKSac 14 18 20.1 -1.8
KOMG Komaggas 91.03 238 ⇑iP P 14 08 05.7 -0.2
KOMG IAmb IAmb 14 08 08.7
comp=Z,4μm,1.6s
CER Ceres 91.23 234 ⇑iP P 14 08 06.8 0.0
CER IAmb IAmb 14 08 10.3
comp=Z,594nm,1.2s
WRAK Wrangell Islan 91.33 24 P P 14 08 07.2 +0.4
baz=318
WRAK S S 14 18 53.6 +0.9
baz=318
ELIM Elim 91.45 233 ⇑iP P 14 08 08.0 +0.2
ELIM IAmb IAmb 14 08 11.0
comp=Z,2μm,1.6s
YKA Yellowknife Ar 91.52 13 P P 14 08 07.1 -0.6
comp=Z,53nm,0.9s,baz=327,slow=4.4,SNR=345
YKA pP pP 14 08 47.1 +1.0
comp=Z,72nm,0.8s,baz=336,slow=5.5,SNR=3.2
YKA PKKPbc PKKPdf 14 25 25.8 +1.8
comp=Z,95nm,0.9s,baz=156,slow=2.9,SNR=34
YKA P4KPbc 14 44 12.5
comp=Z,0.8nm,1.0s,baz=332,slow=3.2,SNR=4.2
YKA LR LR 14 51 12.1
comp=Z,9μm,21.9s,baz=334,slow=37
YKA Yellowknife Ar 91.52 13 P P 14 08 07.3 -0.4
YKA Yellowknife Ar 91.52 13 P P 14 08 07.3 -0.4
CRAG Craig 91.73 25 P P 14 08 09.5 +0.8
CRAG Craig 91.73 25 P P 14 08 08.5 -0.2
baz=317
CRAG S S 14 18 57.8 +1.5
baz=317
KOWA Kowa 92.32 287 P P 14 08 12.5 +0.2
KOWA Kowa 92.32 287 ⇑P P 14 08 12.9 +0.7
MAW Mawson 93.51 192 P P 14 08 16.7 +0.3
comp=Z,1μm,1.1s,baz=20,slow=5.9,SNR=163
MAW PP PP 14 12 01.7 -1.6
comp=Z,185nm,1.1s,baz=34,slow=11,SNR=5.5
MAW PKKPbc PKKPdf 14 25 22.5 -1.1
comp=Z,34nm,0.8s,baz=202,slow=2.9,SNR=15
MAW PKPPKP 14 33 32.9
comp=Z,8.3nm,0.8s,baz=295,slow=2.5,SNR=7.9
MAW LR LR 14 47 45.9
comp=Z,7μm,18.0s,baz=18,slow=34
MAW Mawson 93.51 192 P P 14 08 16.7 +0.3

MAW pmax pmax
comp=Z,389nm,1.2s
MAW Mawson 93.51 192 P **P 14 08 16.7 +0.3**
MAW IAmb IAmb 14 08 20.3
comp=Z,389nm,1.2s
PMPST Porto Santo, M 93.86 308 *e*PcP **PcP 14 08 19.6 +0.1**
PMPST *e*pP **pP 14 08 53.0 -4.5**
PMPST Porto Santo, M 93.86 308 *e*PP PP 14 12 01.6 -4.7
KNTN Kanton 94.23 91 P **P 14 08 20.9 -0.1**
KNTN IAmb IAmb 14 08 25.4
comp=Z,572nm,1.3s
PMAR Madeira 94.47 308 *e*PcP **PcP 14 08 23.0 +0.6**
PMAR *e*pP **pP 14 08 54.4 -6.1**
PMAR Madeira 94.47 308 *e*PP **PP 14 12 11.2 0.0**
DCZ Deep Cove 94.60 138 P **P 14 08 22.3 +0.3**
DCZ IAmb IAmb 14 08 24.2
comp=Z,289nm,0.8s
PMOZ Porto Moniz, M 94.62 308 *e*PcP **PcP 14 08 24.2 +1.2**
PMOZ *e*pP **pP 14 09 02.5 +1.4**
PMOZ Porto Moniz, M 94.62 308 *e*PP **PP 14 12 16.1 +3.8**
MCQ Macquarie Isla 94.73 148 P **P 14 08 23.9 +1.6**
WHZ Wether Hill Ro 95.30 138 P **P 14 08 25.0 -0.1**
WVZ Waitaha Valley 95.80 134 P **P 14 08 28.3 +0.9**
WVZ S **PP 14 12 22.1 +0.4**
WVZ S **PKiKP 14 13 05.9 -0.2**
DSZ Denniston Nort 95.93 133 P **P 14 08 29.1 +0.9**
DSZ S **PP 14 12 24.6 +1.7**
DSZ S **PKiKP 14 13 07.5 +1.1**
LBZ Lake Benmore 96.02 136 P **P 14 08 29.2 +0.7**
LBZ IAmb IAmb 14 08 30.8
comp=Z,273nm,0.9s
QRZ Quartz Range 96.03 132 P **P 14 08 28.8 +0.2**
QRZ IAmb IAmb 14 08 31.7
comp=Z,571nm,1.0s
QRZ Quartz Range 96.03 132 P **P 14 08 30.2 +1.6**
QRZ S **PP 14 12 22.4 -1.1**
QRZ Quartz Range 96.03 132 P **PKKPbc 14 25 16.6 -0.3**
INZ Inchbonnie 96.11 134 P **P 14 08 29.3 +0.4**
INZ S **PP 14 12 23.9 -0.2**
INZ S **PKiKP 14 13 05.9 -0.7**
BBB Bella Bella 96.16 25 P **P 14 08 29.4 +0.4**
comp=Z,22nm,0.9s,baz=15,slow=12,SNR=2.5
BBB LR LR 14 54 41.0
comp=Z,7µm,18.1s,baz=346,slow=37
DBIC Dimbokro 96.27 280 P **P 14 08 30.6 +0.2**
comp=Z,270nm,0.8s,baz=76,slow=5.0,SNR=142
DBIC pP **pP 14 09 09.1 +0.3**
comp=Z,167nm,0.9s,baz=89,slow=5.1,SNR=3.8
DBIC PP **PP 14 12 23.0 -2.7**
comp=Z,238nm,0.8s,baz=69,slow=6.6,SNR=8.8
DBIC PKKPbc **PKKPdf 14 25 15.9 0.0**
comp=Z,21nm,0.7s,baz=299,slow=1.1,SNR=13
DBIC LR LR 14 58 17.2
comp=Z,15µm,18.4s,baz=68,slow=39
DBIC Dimbokro 96.27 280 ⇑*i*P **P 14 08 30.6 +0.2**
DBIC IAmb IAmb 14 08 33.4
comp=Z,2µm,1.6s
DBIC Dimbokro 96.27 280 P **P 14 08 30.2 -0.2**
DBIC IAmb IAmb 14 08 33.7
comp=Z,2µm,1.5s
DBIC Dimbokro 96.27 280 ⇑P **P 14 08 30.6 +0.2**
DBIC ⇑P **P 14 08 30.7 +0.2**
RPZ Rata Peaks 96.29 135 LR LR 14 55 14.8
comp=Z,10µm,20.5s,baz=294,slow=37
RPZ Rata Peaks 96.29 135 P **P 14 08 29.8 +0.1**
RPZ IAmb IAmb 14 08 32.8
comp=Z,418nm,1.0s
KIC Kosan Boka 96.29 280 *e*P **P 14 08 30.6 +0.1**
comp=Z,2µm,1.4s
KIC Kosan Boka 96.29 280 *e*PKP1 **PKKPbc 14 25 16.9 +2.0**
comp=Z,33nm,0.5s
KIP Kipapa 96.37 64 P **P 14 08 32.2 +1.5**
KIP Kipapa 96.37 64 P **P 14 08 32.3 +1.5**
MRNZ Matariki Terra 96.43 132 P **P 14 08 31.2 +0.8**
MRNZ Matariki Terra 96.43 132 P **PKKPbc 14 25 14.4 -1.5**
TIC Toumodi 96.43 280 *e*P **P 14 08 31.3 +0.2**
TIC Toumodi 96.43 280 *e*PKP1 **PKKPbc 14 25 17.3 +2.8**
MACI Morro de la Ar 96.44 304 P **P 14 08 31.7 +0.5**
MACI IAmb IAmb 14 08 35.0
comp=Z,822nm,1.4s
NEZ North Egmont 96.47 130 P **PKKPbc 14 25 16.5 +0.7**
LIC Lamto 96.61 280 *e*P **P 14 08 32.6 +0.7**
comp=Z,1µm,1.6s
LIC Lamto 96.61 280 *e*PKP1 **PKKPbc 14 25 16.4 +2.4**
comp=Z,83nm,1.1s
THZ Tophouse 96.68 133 P **P 14 08 30.8 -0.9**
THZ IAmb IAmb 14 08 34.2
comp=Z,800nm,1.6s
THZ Tophouse 96.68 133 P **P 14 08 31.9 +0.3**
THZ S **PP 14 12 26.9 -1.8**
THZ Tophouse 96.68 133 P **PKKPbc 14 25 16.6 +1.3**
LTZ Lake Taylor 96.69 134 P **P 14 08 31.8 +0.2**
LTZ IAmb IAmb 14 08 34.3
comp=Z,324nm,1.4s
LTZ Lake Taylor 96.69 134 P **P 14 08 32.7 +1.1**
LTZ S **PP 14 12 24.2 -4.5**
LTZ S **PKiKP 14 13 07.0 -0.8**
OXZ Oxford 96.76 134 P **P 14 08 31.9 0.0**
OXZ S **PP 14 12 22.4 -6.8**
NNZ Nelson 96.78 132 P **PKKPbc 14 25 12.4 -2.5**
WACZ Wakanui South 96.90 135 P **P 14 08 34.6 +2.1**
DUWZ D'Urville Isla 96.98 131 P **PKKPbc 14 25 15.0 +0.6**
RACZ Rakaia 97.00 135 P **P 14 08 35.1 +2.2**
TUWZ Tuamarina 97.25 132 P **PKKPbc 14 25 15.5 +1.9**
WAZ Wanganui 97.29 130 P **PKKPbc 14 25 14.5 +1.0**
BART Pico Bartolome 97.30 316 *e*P Pdif 14 08 36.4 +1.6
comp=Z,1µm,1.7s
BART *e*pP pP 14 09 16.8 +3.6
BSWZ Blackbirch Sta 97.32 132 P **P 14 08 34.1 -0.4**
BSWZ S **PP 14 12 26.2 -7.3**
MQZ McQueen's Vall 97.33 134 P Pdif 14 08 34.8 +0.4
MQZ IAmb IAmb 14 08 37.7
comp=Z,736nm,1.5s
PKVZ Pokaka 97.36 129 P **PKKPbc 14 25 14.6 +1.3**
KHZ Kahutara 97.38 133 P **P 14 08 34.2 -0.4**
KHZ IAmb IAmb 14 08 37.4
comp=Z,620nm,1.3s
TCW Tory Channel 97.39 132 P **PKKPbc 14 25 16.8 +3.5**
NTVZ North Tongarir 97.52 129 P **PKKPbc 14 25 14.7 +1.7**
SNVZ South Ngauruho 97.53 129 P **PKKPbc 14 25 14.7 +1.8**
OTVZ Oturere 97.54 129 P **PKKPbc 14 25 14.7 +1.7**
TMVZ Te Maari 97.55 129 P **PKKPbc 14 25 13.9 +1.0**
ETVZ East Tongariro 97.56 129 P **PKKPbc 14 25 14.6 +1.7**
CMWZ Cape Campbell 97.57 132 P Pdif 14 08 36.6 +1.0
CMWZ S **PP 14 12 28.9 -6.5**
PDA Ponta Delgada 97.63 316 *e*P Pdif 14 08 38.9 +2.8
comp=Z,1µm,1.5s
PSMN Pico do Norte, 97.69 316 *e*P Pdif 14 08 38.0 +1.6
comp=Z,2µm,1.6s
MOVZ Moawhango 97.70 129 P **PKKPbc 14 25 14.1 +1.7**
SNZO South Karori 97.72 132 P **P 14 08 35.6 -0.6**
SNZO IAmb IAmb 14 12 35.7
comp=Z,468nm,1.2s
SNZO South Karori 97.72 132 ⇑P **P 14 08 36.1 -0.1**
SNZO ⇑P **P 14 08 36.2 -0.1**
SNZO South Karori 97.72 132 P Pdif 14 08 36.5 +0.2
PSMA Santa Maria 97.73 316 *e*P Pdif 14 08 38.3 +1.7
comp=Z,2µm,1.6s
BHW Baring Head 97.88 132 P Pdif 14 08 37.7 +0.8
BHW S **PP 14 12 30.9 -6.8**
BHW S **PKiKP 14 13 11.0 +1.2**
CAW Cannon Point 97.89 131 P **PKKPbc 14 25 10.8 -1.0**
BHHZ Black Hill Sta 97.95 129 P **PKKPbc 14 25 14.1 +2.4**
ADH Angra Heroismo 98.06 318 *e*P Pdif 14 08 41.1 +3.1
comp=Z,677nm,1.9s
MRZ Mangatainoka R 98.07 131 P **PKKPbc 14 25 12.8 +1.5**
FCC Fort Churchill 98.10 5 P **P 14 08 36.8 -0.9**
FCC pmax pmax
comp=Z,242nm,1.5s
FCC Fort Churchill 98.10 5 P **P 14 08 36.8 -0.9**
FCC IAmb IAmb 14 11 27.4
comp=Z,242nm,1.4s
HOWZ Holdsworth Sta 98.12 131 P **PKKPbc 14 25 12.9 +1.7**
BKZ Black Stump Fm 98.13 129 P **PKKPbc 14 25 13.6 +2.4**
BKZ Black Stump Fm 98.13 129 P Pdif 14 08 38.3 +0.1
KWHZ Kaweka Forest 98.18 129 P **PKKPbc 14 25 13.3 +2.2**
PLWZ Palliser 98.21 132 P **P 14 08 37.5 -1.0**
PNHZ Pukenui 98.21 130 P **PKKPbc 14 25 12.4 +1.5**
MTW Mount Morrison 98.21 131 P **PKKPbc 14 25 12.7 +1.8**
URZ Urewera 98.22 128 PKKPbc PKKPbc 14 25 11.4 +0.6
comp=Z,48nm,0.9s,baz=351,slow=4.0,SNR=9.0
URZ LR LR 14 59 11.2
comp=Z,5µm,18.3s,baz=300,slow=39
KRHZ Kereru 98.23 130 P **PKKPbc 14 25 13.3 +2.4**
PGRA Graciosa 98.28 319 *e*P Pdif 14 08 41.2 +2.2
comp=Z,524nm,1.9s
TIWZ Tintock 98.33 131 P **PKKPbc 14 25 12.3 +1.6**
DVHZ Dannevirke 98.34 130 P **PKKPbc 14 25 12.1 +1.5**
AFI Afiamalu 98.38 102 LR LR 14 49 30.5
comp=Z,4µm,21.9s,baz=287,slow=33
AFI Afiamalu 98.38 102 ⇑P Pdif 14 08 42.2 +2.3
AFI Afiamalu 98.38 102 P Pdif 14 08 41.4 +1.5
WPHZ Waipukurau 98.44 130 P **PKKPbc 14 25 12.7 +2.5**
TMWZ Te Maipa 98.46 131 P **PKKPbc 14 25 11.6 +1.4**
BFZ Birch Farm 98.55 131 P **P 14 08 39.3 -0.7**
BFZ IAmb IAmb 14 12 42.6
comp=Z,348nm,1.0s
BFZ Birch Farm 98.55 131 P **PKKPbc 14 25 11.8 +1.8**
BFZ Birch Farm 98.55 131 P Pdif 14 08 40.2 +0.2
PMAN Manadas 98.60 318 *e*P Pdif 14 08 43.3 +2.9
comp=Z,436nm,1.7s
ROSA Rosais 98.64 318 *e*P Pdif 14 08 43.4 +2.8
comp=Z,712nm,2.1s
RAO Raoul Island 98.67 118 ⇑P **P 14 08 40.7 -0.1**
PCAN Candelaria 98.95 318 *e*P Pdif 14 08 43.9 +1.9
comp=Z,455nm,1.6s
PCED Cedros 98.97 319 *e*P Pdif 14 08 45.0 +2.9
comp=Z,432nm,2.2s
CALA Caldeira 99.00 319 *e*P **Pdif 14 08 45.8 +3.5**
comp=Z,568nm,2.0s
H07S1 FLORES T-PHASE 99.99 320 *e*P **Pdif 14 08 44.7 -1.9**
SYO Syowa Base 100.08 198 ⇓*e*P **Pdif 14 08 45.0 -1.1**
SYO Syowa Base 100.08 198 ⇑*i*P **Pdif 14 08 47.6 +1.5**
SYO Syowa Base 100.08 198 ⇑*e*P **Pdif 14 08 50.1 +4.0**
SCHQ Schefferville 100.80 349 P **Pdif 14 08 50.0 +0.1**
comp=Z,29nm,0.8s,baz=20,slow=3.3,SNR=28
SCHQ pP pP 14 09 28.8 +0.3
comp=Z,93nm,0.9s,baz=20,slow=5.4,SNR=8.4
SCHQ S **SKSac 14 19 13.8 -0.7**
comp=Z,18nm,1.0s,baz=329,slow=19,SNR=21
SCHQ PKKPbc **PKKPbc 14 25 01.1 -2.7**
comp=Z,93nm,0.7s,baz=224,slow=2.4,SNR=37
A04D Lummi Island 101.01 24 Pdiff **Pdif 14 08 51.2 +0.3**
baz=325
B05A Bryant 101.61 24 Pdiff **Pdif 14 08 54.0 +0.4**
baz=326
D03D Eldon 101.83 25 Pdiff **Pdif 14 08 54.8 +0.2**
baz=325
E04D Cinebar 102.84 25 Pdiff **Pdif 14 08 58.0 -1.1**
baz=325
F04D Rainier, OR 103.05 26 Pdiff **Pdif 14 08 59.9 -0.1**
baz=325
NEW Newport 103.39 21 Pdiff **Pdif 14 09 01.5 -0.1**
comp=Z,5.0nm,0.8s,baz=313,slow=4.7,SNR=7.3
NEW Newport 103.39 21 Pdiff **Pdif 14 09 01.9 +0.3**
baz=330
G03D McMinnville, O 103.65 27 Pdiff **Pdif 14 09 03.5 +0.8**
baz=324
G05D Wamic, OR 104.42 26 Pdiff **Pdif 14 09 07.1 +0.9**
baz=326
H04D Lebanon 104.43 27 Pdiff **Pdif 14 09 06.1 -0.1**
baz=325
I03D Drain, OR 104.84 28 Pdiff **Pdif 14 09 08.1 0.0**
baz=324
I05D Terrebonne, OR 105.15 26 Pdiff **Pdif 14 09 09.6 0.0**
baz=326
I04A Tendick Farm, 105.16 27 Pdiff **Pdif 14 09 10.2 +0.6**
baz=325
MSO Missoula 105.68 20 PKiKP **PKiKP 14 13 23.6 -0.5**
baz=333
EGMT Eagleton 105.83 17 PKiKP **PKiKP 14 13 23.4 -1.0**
baz=337
J05D Fort Rock, OR 106.07 27 PKiKP **PKiKP 14 13 24.6 -0.4**
baz=326
ULM Lac du Bonnet 106.35 7 Pdiff **Pdif 14 09 14.8 +0.2**
comp=Z,2.0nm,0.5s,baz=334,slow=4.4,SNR=3.6
ULM S **SKSac 14 19 37.9 -2.4**
comp=Z,57nm,1.3s,baz=103,slow=22,SNR=14
ULM PKKPbc **PKKPbc 14 24 45.7 -1.6**
comp=Z,160nm,0.9s,baz=174,slow=2.3,SNR=34
ULM PKKPab **PKKPdf 14 24 59.1 +1.9**
comp=Z,141nm,0.9s,baz=196,slow=2.5,SNR=9.8
K04D Chiloquin, OR 106.39 27 PKiKP **PKiKP 14 13 24.9 -0.7**
baz=325
L04D Klamath Falls 106.49 28 PKiKP **PKiKP 14 13 25.4 -0.4**
baz=325
YBH Yreka Blue Hor 106.71 28 S **SKSac 14 19 42.5 0.0**
comp=Z,4.3nm,0.7s,baz=166,slow=22,SNR=8.4
YBH PKKPbc PKKPbc 14 24 44.6 -1.3
comp=Z,80nm,0.8s,baz=116,slow=3.5,SNR=40
DGMT Dagmar 106.73 13 PKiKP **PKiKP 14 13 25.7 -0.3**
baz=342
M02C Callahan 106.92 29 PKiKP **PKiKP 14 13 26.3 -0.3**
baz=324
M04C Macdoel 107.05 28 PKiKP **PKiKP 14 13 26.3 -0.6**
baz=325
N02D Trinity Center 107.32 29 PKiKP **PKiKP 14 13 27.1 -0.2**
baz=324
BOZ Bozeman (W) 107.50 19 PKiKP **PKiKP 14 13 27.1 -0.5**
baz=335
VNDA Vanda 107.61 168 Pdiff **Pdif 14 09 20.6 +1.1**
comp=Z,5.7nm,0.7s,baz=295,slow=5.8,SNR=32
VNDA PKKPbc **PKKPbc 14 24 42.8 -1.4**
comp=Z,14nm,0.9s,baz=151,slow=2.0,SNR=9.1
LAO LASA Array 107.96 15 P **PKiKP 14 13 28.6 +0.3**
baz=340
LAO LASA Array 107.96 15 PKiKP **PKiKP 14 13 27.6 -0.7**
baz=340
MDND Maddock 108.19 10 PKiKP **PKiKP 14 13 27.8 -0.8**
baz=346
O03E Paynes Creek 108.28 29 PKiKP **PKiKP 14 13 28.3 -0.8**
baz=325
AGMN Agassiz Nation 108.28 8 P **PKiKP 14 13 28.3 -0.4**
baz=350
AGMN Agassiz Nation 108.28 8 PKiKP **PKiKP 14 13 28.5 -0.3**
baz=350
HLID Hailey 108.41 22 PKiKP **PKiKP 14 13 28.2 -1.2**
baz=332
RLMT Red Lodge 108.62 18 PKiKP **PKiKP 14 13 29.7 -0.1**
baz=337
H17A Grant Village 108.91 19 PKiKP **PKiKP 14 13 30.1 -0.3**
baz=335
EYMN Ely 109.05 5 PKiKP **PKiKP 14 13 29.8 -0.5**
baz=354
D41A Chassel 110.09 2 P **PKiKP 14 13 32.7 +0.5**
baz=357
E38A The Farm, Brul 110.38 5 P **PKiKP 14 13 33.1 +0.4**
baz=354
PKME Peaks-Kenny Pk 110.44 348 PKiKP **PKiKP 14 13 33.2 +0.3**
baz=16
ELK Elko 110.58 24 Pdiff **Pdif 14 09 36.4 +2.4**
comp=Z,0.5nm,0.4s,baz=298,slow=12,SNR=2.0
ELK PKiKP **PKiKP 14 13 33.5 -0.1**
comp=Z,39nm,1.0s,baz=60,slow=3.1,SNR=19
BW06 Boulder Array 110.69 19 PKiKP **PKiKP 14 13 33.3 -0.5**
baz=336
PDAR Pinedale Array 110.69 19 Pdiff **Pdif 14 09 36.8 +2.3**
comp=Z,0.1nm,0.5s,baz=29,slow=46,SNR=3.9
PDAR PKiKP **PKiKP 14 13 33.6 -0.2**
comp=Z,46nm,0.7s,baz=145,slow=1.5,SNR=42
PDAR PKKPbc **PKKPbc 14 24 31.5 -2.2**
comp=Z,26nm,0.7s,baz=143,slow=3.4,SNR=10
PDAR PKKPab **PKKPab 14 24 43.5 -3.1**
comp=Z,34nm,0.7s,baz=152,slow=4.3,SNR=9.0
E46A Sault Ste Mari 110.85 359 P **PKiKP 14 13 33.9 +0.2**
baz=0.8
RSSD Black Hills 110.89 14 PKiKP **PKiKP 14 13 33.1 -1.0**
baz=341
F36A Milaca 110.94 6 P **PKiKP 14 13 33.9 +0.1**
baz=352
WVL Waterville 111.18 348 P **PKiKP 14 13 35.0 +0.7**
baz=15,SNR=5.5
NVAR Mina Array Bea 111.34 27 Pdiff **Pdif 14 09 38.4 +1.0**
comp=Z,0.9nm,1.0s,baz=299,slow=1.5,SNR=3.7
NVAR PKiKP **PKiKP 14 13 36.4 +1.3**
comp=Z,75nm,1.0s,baz=288,slow=1.7,SNR=31
NVAR PKKPbc **PKKPbc 14 24 28.9 -2.5**
comp=Z,70nm,0.8s,baz=124,slow=3.4,SNR=26
NVAR PKPPKP **P'P'df 14 32 55.5 -5.7**
comp=Z,9.6nm,1.0s,baz=183,slow=2.8,SNR=7.7
F42A Maple Grove Fa 111.41 2 P **PKiKP 14 13 34.7 -0.1**
baz=357
RAR Rarotonga 111.60 105 PKiKP **PKiKP 14 13 36.3 +0.6**
comp=Z,23nm,0.8s,baz=275,slow=4.4,SNR=3.5
RAR PKKPbc **PKKPbc 14 24 30.7 +1.1**
comp=Z,81nm,0.8s,baz=221,slow=5.4,SNR=11
SUSD Miller 111.60 11 P **PKiKP 14 13 35.4 +0.2**
baz=346
SUSD Miller 111.60 11 PKiKP **PKiKP 14 13 34.9 -0.2**
baz=346
SPMN Marine on St. 111.64 6 PKiKP **PKiKP 14 13 35.0 -0.1**
baz=352
K22A Casper 111.66 17 P **PKiKP 14 13 35.6 +0.1**
baz=339,SNR=8.7
K22A Casper 111.66 17 PKiKP **PKiKP 14 13 34.5 -1.0**
baz=339
BMNY Brushton-Moira 111.69 352 P **PKiKP 14 13 35.6 +0.3**
baz=10,SNR=15
MLAC Mammoth, Mamm 111.78 28 PKiKP **PKiKP 14 13 36.0 0.0**
baz=327
G40A Rib Lake 111.80 4 P **PKiKP 14 13 35.9 +0.4**
baz=355
LBNH Lisbon 111.90 350 PKiKP **PKiKP 14 13 35.3 -0.4**
baz=13
LONY Lake Ozonia 111.91 352 PKiKP **PKiKP 14 13 35.1 -0.7**
baz=10
DUG Dugway, Tooele 111.95 23 PKiKP **PKiKP 14 13 34.9 -1.2**
baz=333
I62A Tamworth 112.15 349 P **PKiKP 14 13 37.0 +0.8**
baz=14
I62A P **PKiKP 14 13 37.0 +0.8**
baz=14
SADO Sadowa 112.23 355 PKiKP **PKiKP 14 13 36.7 +0.4**
comp=Z,40nm,0.6s,baz=328,slow=0.9,SNR=28
SADO S **SKSac 14 20 02.5 -2.7**
comp=Z,18nm,1.1s,baz=120,slow=20,SNR=8.1
SADO PKKPbc **PKKPbc 14 24 25.6 -2.8**
comp=Z,58nm,0.9s,baz=255,slow=2.2,SNR=14
MCVT Middlebury Col 112.34 351 P **PKiKP 14 13 37.5 +0.9**
baz=12
GLMI Grayling 112.40 360 PKiKP **PKiKP 14 13 36.5 -0.1**
baz=0.5
TROLL Troll, Antarti 112.49 200 PKKPbc PKKPbc 14 24 26.5 -1.9
TROLL Troll, Antarti 112.49 200 PKiKP **PKiKP 14 13 37.4 +1.4**
TROLL Troll, Antarti 112.49 200 Pdiff **Pdif 14 09 44.9 +3.5**
TIN Tinemaha, Big 112.52 28 PKiKP **PKiKP 14 13 37.4 +0.2**
baz=327
R11A Troy Canyon, C 112.52 26 PKiKP **PKiKP 14 13 36.9 -0.4**
baz=330
VOG Valley Oaks Go 112.62 29 PKiKP **PKiKP 14 13 37.0 -0.3**
baz=326
ECSD EROS Data Cent 112.66 9 P **PKiKP 14 13 37.6 +0.4**
baz=349
ECSD EROS Data Cent 112.66 9 PKiKP **PKiKP 14 13 36.2 -1.0**
baz=349
WCNY West Carthage 112.68 353 P **PKiKP 14 13 37.4 +0.2**
baz=9.4,SNR=8.7
I37B Waseca 112.78 6 P **PKiKP 14 13 37.9 +0.5**
baz=352
QSPA South Pole Qui 112.92 180 PKiKP **PKiKP 14 13 37.6 +0.7**
comp=Z,281nm,1.0s,baz=267,slow=4.7,SNR=27
QSPA S **SKSac 14 20 02.7 -4.1**
comp=Z,11nm,0.7s,baz=50,slow=22,SNR=12
QSPA PKKPbc **PKKPbc 14 24 25.3 -2.1**
comp=Z,16nm,0.6s,baz=217,slow=1.1,SNR=16
GRAC Grapevine Rang 112.94 28 PKiKP **PKiKP 14 13 37.4 -0.6**
baz=328
CWC Cottonwood Cre 113.10 28 PKiKP **PKiKP 14 13 37.1 -1.3**
baz=327
I40A Norwalk 113.14 4 P **PKiKP 14 13 37.9 -0.2**
baz=354
VES Vestal, Richgr 113.15 30 PKiKP **PKiKP 14 13 37.4 -0.9**
baz=326
SMMC Simmler 113.17 31 PKiKP **PKiKP 14 13 39.0 +0.6**
baz=325
J58A Remsen 113.24 352 P **PKiKP 14 13 38.3 -0.1**
baz=9.8,SNR=6.4
J58A P **PKiKP 14 13 38.3 -0.1**
baz=9.8,SNR=6.4
I49A Point Hope 113.25 358 P **PKiKP 14 13 38.4 +0.2**
baz=2.3,SNR=9.6
I49A P **PKiKP 14 13 38.4 +0.2**
baz=2.3,SNR=9.6
J57A Williamstown 113.28 353 P **PKiKP 14 13 38.8 +0.4**
baz=9.1
J57A P **PKiKP 14 13 38.8 +0.4**
baz=9.1
K31A O'Neill 113.40 11 P **PKiKP 14 13 39.0 +0.3**
baz=346,SNR=28
TPNV Topopah Spring 113.45 27 PKiKP **PKiKP 14 13 38.9 -0.3**
baz=329
N23A Red Feather La 113.45 17 PKiKP **PKiKP 14 13 38.0 -1.2**
baz=339
K62A Royalston 113.48 350 P **PKiKP 14 13 39.9 +1.1**
baz=13,SNR=7.6
K62A P **PKiKP 14 13 39.9 +1.1**
baz=13,SNR=7.6
O20A White River Ci 113.50 19 PKiKP **PKiKP 14 13 39.2 +0.1**
baz=337
HRV Adam Dziewonsk 113.52 349 P **PKiKP 14 13 39.4 +0.6**
baz=14,SNR=6.5
HRV Adam Dziewonsk 113.52 349 PKiKP **PKiKP 14 13 39.5 +0.6**
baz=14
ISA Isabella, Lake 113.58 29 PKiKP **PKiKP 14 13 39.2 -0.1**
baz=327
PKM Mcpherson Peak 113.60 31 PKiKP **PKiKP 14 13 39.3 -0.2**
baz=325
FURC Furnace Creek, 113.61 28 PKiKP **PKiKP 14 13 39.1 0.0**
baz=328
J55A Hilton 113.61 354 P **PKiKP 14 13 39.4 +0.4**
baz=7.3,SNR=6.0
J55A P **PKiKP 14 13 39.4 +0.4**
baz=7.3,SNR=6.0
J54A Appleton 113.68 355 P **PKiKP 14 13 39.3 +0.2**
baz=6.5,SNR=5.7
J54A P **PKiKP 14 13 39.3 +0.2**
baz=6.5,SNR=5.7
MPMC Manual Prospec 113.68 28 PKiKP **PKiKP 14 13 39.3 -0.3**
baz=328
L61B Northampton 113.76 350 P **PKiKP 14 13 39.3 0.0**
baz=12
L61B Northampton 113.76 350 PKiKP **PKiKP 14 13 39.5 +0.2**
baz=12
HCNY Howe Caverns 113.78 351 P **PKiKP 14 13 39.5 +0.2**
baz=11,SNR=5.9
ARVC Arvin 113.86 30 PKiKP **PKiKP 14 13 40.0 +0.3**
baz=326
L64A Middleborough 113.94 348 P **PKiKP 14 13 39.5 -0.1**
baz=14
L64A P **PKiKP 14 13 39.5 -0.1**
baz=14
J47A Sunmer 113.98 360 P **PKiKP 14 13 39.1 -0.7**
baz=0.3,SNR=8.4
J47A P **PKiKP 14 13 39.1 -0.7**
baz=0.3,SNR=8.4
SBC Santa Barbara 114.01 31 PKiKP **PKiKP 14 13 40.6 +0.6**
baz=325
LRMC Laurel Mtn Rad 114.08 29 PKiKP PKPdf 14 13 40.4 +0.1
baz=327
JFWS Jewell Farm 114.14 4 P **PKiKP 14 13 39.4 -0.6**
baz=355,SNR=10
JFWS Jewell Farm 114.14 4 PKiKP **PKiKP 14 13 38.7 -1.4**
baz=355
SNAA Sanae 114.15 200 PKKPbc PKKPbc 14 24 20.6 -2.1
SNAA Sanae 114.15 200 PKiKP **PKiKP 14 13 39.9 +0.7**
SNAA Sanae 114.15 200 PP **PP 14 14 37.7 +1.1**
SNAA Sanae 114.15 200 Pdiff **Pdif 14 09 51.5 +2.8**
SNAA Sanae 114.15 200 S **SKSac 14 20 09.9 -1.5**
comp=Z,17nm,1.1s,baz=241,slow=22,SNR=11
SNAA PKKPbc PKKPbc 14 24 20.3 -2.4
comp=Z,13nm,0.9s,baz=254,slow=2.8,SNR=14
SNAA Sanae 114.15 200 *e*P **Pdif 14 09 54.0 +5.3**
SNAA IAmb IAmb 14 10 04.0
comp=Z,3µm,1.1s
SNAA Sanae 114.15 200 *c i*PKiKP **PKiKP 14 13 39.6 +0.5**
K38A Parkersburg 114.20 6 P **PKiKP 14 13 40.0 -0.1**
baz=352,SNR=7.8
M65A Busby, Falmout 114.27 348 PKiKP PKPdf 14 13 40.7 +0.5
baz=15
OSI Osito Audit: C 114.33 30 PKiKP **PKiKP 14 13 40.3 -0.4**
baz=326
SHOC Shoshone, Teco 114.34 27 PKiKP PKPdf 14 13 41.6 +0.9
baz=329
L59A Walton 114.36 352 P PKPdf 14 13 40.7 +0.2
baz=10
L59A P PKPdf 14 13 40.7 +0.2
baz=10
OGNE Ogallala 114.37 14 P **PKiKP 14 13 40.2 -0.5**
baz=343,SNR=9.7
OGNE Ogallala 114.37 14 PKiKP **PKiKP 14 13 40.6 -0.1**
baz=343
K50A Casco 114.41 358 P PKPdf 14 13 40.7 +0.2
baz=2.5
K50A P PKPdf 14 13 40.7 +0.2
baz=2.5
L34A Svendsen Farm, 114.43 9 P PKPdf 14 13 40.8 +0.2
baz=349,SNR=7.8
EDW2 Edwards Air Fo 114.44 29 PKiKP PKPdf 14 13 40.9 0.0
baz=327

K43A	**Burlington**	**114.45**	**3**	P		PKPdf	14 13 40.7	0.0
	baz=357,SNR=10							
BINY	**Binghamton**	**114.47**	**353**	P		PKPdf	14 13 41.2	+0.5
	baz=9.2,SNR=9.4							
BINY	**Binghamton**	**114.47**	**353**	PKiKP		PKPdf	14 13 40.9	+0.2
	baz=9.2							
WVNY	**West Valley, N**	**114.54**	**355**	P		PKPdf	14 13 41.2	+0.4
	baz=6.6							
ISCO	**Idaho Springs**	**114.57**	**17**	P		PKPdf	14 13 42.0	+0.6
	baz=339,SNR=8.6							
ISCO	**Idaho Springs**	**114.57**	**17**	PKiKP		**PKiKP**	**14 13 41.3**	**-0.1**
	baz=339							
GSC	**Goldstone, Bar**	**114.62**	**28**	PKiKP		PKPdf	14 13 42.3	+1.0
	baz=328							
NPNY	**Mohonk Preserv**	**114.67**	**351**	P		**PKiKP**	**14 13 41.0**	**-0.1**
	baz=11,SNR=5.8							
BGNE	**Belgrade**	**114.69**	**11**	P		PKPdf	14 13 41.4	+0.2
	baz=347,SNR=15							
BGNE	**Belgrade**	**114.69**	**11**	PKiKP		**PKiKP**	**14 13 41.2**	**0.0**
	baz=347							
L56A	**Greenwood**	**114.71**	**354**	P		PKPdf	14 13 41.4	+0.1
	baz=7.7,SNR=5.6							
L56A				P		PKPdf	14 13 41.4	+0.1
	baz=7.7,SNR=5.6							
DECC	**Green Verdugo**	**114.81**	**30**	PKiKP		**PKiKP**	**14 13 41.2**	**-0.4**
	baz=326							
TUQ	**Turquoise Moun**	**114.88**	**27**	PKiKP		PKPdf	14 13 42.1	+0.2
	baz=329							
SCIA	**State Center**	**114.89**	**7**	P		**PKiKP**	**14 13 41.1**	**-0.5**
	baz=352,SNR=7.5							
SCIA	**State Center**	**114.89**	**7**	PKiKP		**PKiKP**	**14 13 41.0**	**-0.5**
	baz=352							
RRX	**Edison Barstow**	**114.89**	**29**	PKiKP		PKPdf	14 13 42.0	+0.2
	baz=328							
AAM	**Ann Arbor**	**114.91**	**359**	PKiKP		**PKiKP**	**14 13 41.1**	**-0.4**
	baz=1.5							
L40A	**Anamosa**	**114.92**	**5**	P		**PKiKP**	**14 13 40.3**	**-1.2**
	baz=354,SNR=20							
ERPA	**Erie**	**114.93**	**356**	P		**PKiKP**	**14 13 41.0**	**-0.6**
	baz=5.2,SNR=8.4							
ERPA	**Erie**	**114.93**	**356**	PKiKP		PKPdf	14 13 41.7	+0.1
	baz=5.2							
BRNY	**Black Rk. Fore**	**114.98**	**351**	P		**PKiKP**	**14 13 41.4**	**-0.3**
	baz=11,SNR=10							
L44A	**Lake County Fo**	**114.99**	**2**	P		PKPdf	14 13 42.3	+0.6
	baz=357,SNR=5.8							
L44A	**Lake County Fo**	**114.99**	**2**	PKiKP		**PKiKP**	**14 13 39.9**	**-1.8**
	baz=357							
SNCC	**San Nicolas Is**	**115.08**	**31**	PKiKP		**PKiKP**	**14 13 42.0**	**-0.2**
	baz=325							
KSPA	**Keystone Colle**	**115.08**	**352**	P		**PKPdf**	**14 13 42.1**	**+0.3**
	baz=9.5,SNR=11							
L42A	**Oliver, Polo**	**115.08**	**4**	P		**PKiKP**	**14 13 41.7**	**-0.2**
	baz=355,SNR=22							
BFSC	**Mount Baldy Ra**	**115.13**	**29**	PKiKP		**PKiKP**	**14 13 41.4**	**-0.9**
	baz=327							
L46A	**Eue Claire**	**115.20**	**1**	P		**PKPdf**	**14 13 42.3**	**+0.2**
	baz=359							
L46A				P		**PKPdf**	**14 13 42.3**	**+0.2**
	baz=359							
HEC	**Hector,Ludlow**	**115.22**	**28**	PKiKP		**PKiKP**	**14 13 42.4**	**0.0**
	baz=328							
L48A	**N Adams**	**115.28**	**359**	P		**PKiKP**	**14 13 41.9**	**-0.4**
	baz=0.7,SNR=35							
L48A				P		**PKiKP**	**14 13 41.9**	**-0.4**
	baz=0.7,SNR=35							
FMP	**Fort Macarthur**	**115.28**	**30**	PKiKP		**PKPdf**	**14 13 42.8**	**+0.4**
	baz=326							
PAL	**Palisades**	**115.37**	**351**	P		**PKPdf**	**14 13 42.7**	**+0.3**
	baz=11,SNR=7.6							
PAL	**Palisades**	**115.37**	**351**	PKiKP		**PKiKP**	**14 13 42.0**	**-0.4**
	baz=11							
ODNJ	**Ogdensburg**	**115.39**	**351**	P		**PKPdf**	**14 13 42.7**	**+0.2**
	baz=11,SNR=12							
ALLY	**Alegheny Colle**	**115.41**	**356**	P		**PKiKP**	**14 13 42.3**	**-0.2**
	baz=5.1							
BBRC	**Big Bear Solar**	**115.44**	**29**	PKiKP		**PKPdf**	**14 13 43.4**	**+0.2**
	baz=328							
M57A	**Sunshine Farm,**	**115.45**	**353**	P		**PKPdf**	**14 13 42.8**	**+0.2**
	baz=8.1,SNR=6.8							
M57A				P		**PKPdf**	**14 13 42.8**	**+0.2**
	baz=8.1,SNR=6.8							
N33B	**J Bar K, Exete**	**115.46**	**10**	P		**PKiKP**	**14 13 41.9**	**-0.8**
	baz=348							
Q24A	**Divide**	**115.47**	**17**	PKiKP		**PKiKP**	**14 13 42.5**	**-0.6**
	baz=340							
CIS	**Catalina Islan**	**115.48**	**31**	PKiKP		**PKiKP**	**14 13 41.7**	**-1.2**
	baz=326							
M55A	**Ridgway**	**115.48**	**355**	P		**PKiKP**	**14 13 42.5**	**-0.2**
	baz=6.5,SNR=9.2							
M55A				P		**PKiKP**	**14 13 42.5**	**-0.2**
	baz=6.5,SNR=9.2							
FOR	**Fordham**	**115.50**	**351**	P		**PKPdf**	**14 13 42.8**	**+0.1**
	baz=11							
M54A	**Oil Creek Stat**	**115.51**	**355**	P		**PKiKP**	**14 13 42.7**	**-0.1**
	baz=5.6,SNR=12							
M54A	**Oil Creek Stat**	**115.51**	**355**	PKiKP		**PKiKP**	**14 13 42.3**	**-0.5**
	baz=5.6							
GMRC	**Granite Mounta**	**115.55**	**28**	PKiKP		**PKiKP**	**14 13 42.9**	**-0.3**
	baz=329							
M52A	**Chesterland**	**115.59**	**357**	P		**PKiKP**	**14 13 42.7**	**-0.2**
	baz=3.8,SNR=5.2							
M52A				P		**PKiKP**	**14 13 42.7**	**-0.2**
	baz=3.8,SNR=5.2							
N35A	**Tabor**	**115.62**	**9**	P		**PKPdf**	**14 13 43.5**	**+0.5**
	baz=349							
VNA2	**Neumayer--Watz**	**115.64**	**201**	PKKPbc		PKKPbc	14 24 16.0	-1.4
VNA2	**Neumayer--Watz**	**115.64**	**201**	PKiKP		**PKiKP**	**14 13 42.8**	**+0.9**
VNA2	**Neumayer--Watz**	**115.64**	**201**	PP		PP	14 14 46.9	-0.1
VNA2	**Neumayer--Watz**	**115.64**	**201**	Pdiff		**Pdif**	**14 09 58.1**	**+2.8**
	baz=74,slow=4.0							
M53A	**WI Miller and**	**115.65**	**356**	PKiKP		**PKiKP**	**14 13 42.7**	**-0.3**
	baz=4.5							
N59A	**State Game Lan**	**115.71**	**352**	P		**PKPdf**	**14 13 43.2**	**0.0**
	baz=9.5,SNR=8.4							
N59A	**State Game Lan**	**115.71**	**352**	PKiKP		**PKPdf**	**14 13 43.3**	**+0.2**
	baz=9.5							
SCI2	**San Clemente I**	**115.76**	**31**	PKiKP		**PKiKP**	**14 13 42.6**	**-0.8**
	baz=326							
M44A	**Midewin, Midew**	**115.78**	**2**	P		**PKiKP**	**14 13 42.4**	**-0.8**
	baz=357,SNR=13							
BRNJ	**Basking Ridge**	**115.78**	**351**	P		**PKPdf**	**14 13 43.9**	**+0.6**
	baz=11							
M50A	**Fremont**	**115.79**	**358**	P		**PKiKP**	**14 13 43.1**	**-0.2**
	baz=2.1,SNR=9.0							
M50A				P		**PKiKP**	**14 13 43.1**	**-0.2**
	baz=2.1,SNR=9.0							
MURC	**Murrieta**	**115.87**	**29**	PKiKP		**PKiKP**	**14 13 43.0**	**-0.7**
	baz=327							
N58A	**Sunbury**	**115.90**	**353**	P		**PKPdf**	**14 13 43.9**	**+0.5**
	baz=8.6,SNR=13							
N58A				P		**PKPdf**	**14 13 43.9**	**+0.5**
	baz=8.6,SNR=13							
VNA1	**Neumayer--Stat**	**115.95**	**201**	PKKPbc		PKKPbc	14 24 15.6	-0.7
VNA1	**Neumayer--Stat**	**115.95**	**201**	PKiKP		**PKiKP**	**14 13 43.5**	**+1.0**
VNA1	**Neumayer--Stat**	**115.95**	**201**	PP		PP	14 14 48.3	-0.8
VNA1	**Neumayer--Stat**	**115.95**	**201**	Pdiff		**Pdif**	**14 09 59.3**	**+2.6**
N38A	**Joes South For**	**115.98**	**7**	P		**PKiKP**	**14 13 43.5**	**-0.1**
	baz=352,SNR=21							
NEE2	**Needles Airpor**	**116.00**	**27**	PKiKP		**PKiKP**	**14 13 44.2**	**+0.3**
	baz=330							
BELC	**Belle Mtn. Jos**	**116.07**	**28**	PKiKP		**PKiKP**	**14 13 44.6**	**+0.4**
	baz=328							
KSCO	**Kaye Shedlock'**	**116.08**	**15**	P		**PKiKP**	**14 13 44.2**	**+0.2**
	baz=342,SNR=12							
KSCO	**Kaye Shedlock'**	**116.08**	**15**	PKiKP		**PKPdf**	**14 13 43.9**	**-0.2**
	baz=342							
N54A	**Moraine State**	**116.08**	**356**	PKiKP		**PKiKP**	**14 13 43.9**	**0.0**
	baz=5.3							
MVCO	**Mesa Verde**	**116.10**	**21**	PKiKP		**PKPdf**	**14 13 44.1**	**-0.2**
	baz=336							
PANJ	**Princeton**	**116.10**	**351**	P		**PKiKP**	**14 13 44.2**	**+0.4**
	baz=11,SNR=9.9							
S22A	**4UR Ranch, Cre**	**116.13**	**19**	PKiKP		**PKPdf**	**14 13 44.3**	**-0.1**
	baz=338							
PFO	**Pinyon Flats O**	**116.19**	**29**	S		**SKSac**	**14 20 18.1**	**-3.2**
	comp=Z,10nm,1.1s,baz=305,slow=4.2,SNR=1.8							
PFO				PKKPbc		PKKPbc	14 24 15.2	+0.4
	comp=Z,148nm,1.2s,baz=126,slow=3.8,SNR=20							
PFO	**Pinyon Flats O**	**116.19**	**29**	PKiKP		**PKiKP**	**14 13 44.4**	**0.0**
	baz=328							
TPFO	**Pinon Flats**	**116.20**	**29**	PKiKP		**PKiKP**	**14 13 44.6**	**+0.1**
	baz=328							
SSPA	**Standing Stone**	**116.23**	**354**	P		**PKiKP**	**14 13 44.2**	**+0.1**
	baz=7.4,SNR=13							
SSPA	**Standing Stone**	**116.23**	**354**	PKiKP		**PKPdf**	**14 13 43.3**	**-0.9**
	baz=7.4							
N51A	**Ashland**	**116.25**	**358**	P		**PKiKP**	**14 13 44.3**	**+0.2**
	baz=2.8,SNR=5.0							
N51A				P		**PKiKP**	**14 13 44.3**	**+0.2**
	baz=2.8,SNR=5.0							
N53A	**Lisbon**	**116.29**	**356**			**PKiKP**	**14 13 44.4**	**+0.1**
N53A	**Lisbon**	**116.29**	**356**	P		**PKiKP**	**14 13 44.5**	**+0.2**
	baz=4.4,SNR=21							
N53A				P		**PKiKP**	**14 13 44.5**	**+0.2**
	baz=4.4,SNR=21							
N41A	**Harden Midland**	**116.29**	**5**			**PKPdf**	**14 13 43.5**	**-0.7**
N41A	**Harden Midland**	**116.29**	**5**	P		**PKPdf**	**14 13 43.8**	**-0.5**
	baz=354,SNR=9.6							
N49A	**Columbus Grove**	**116.29**	**359**			**PKPdf**	**14 13 43.9**	**-0.3**
N49A	**Columbus Grove**	**116.29**	**359**	P		**PKPdf**	**14 13 44.1**	**-0.2**
	baz=1.0,SNR=13							
N49A				P		**PKPdf**	**14 13 44.1**	**-0.2**
	baz=1.0,SNR=13							
IRM	**Iron Mountain**	**116.30**	**28**	PKiKP		**PKiKP**	**14 13 45.0**	**+0.5**
	baz=329							
N47A	**Urbana**	**116.34**	**0**	P		**PKPdf**	**14 13 42.8**	**-1.5**
	baz=359,SNR=7.4							
N47A				P		**PKPdf**	**14 13 42.8**	**-1.5**
	baz=359,SNR=7.4							
VNA3	**Neumayer Olymp**	**116.36**	**200**	PKKPbc		PKKPbc	14 24 12.9	-2.0
VNA3	**Neumayer Olymp**	**116.36**	**200**	PKiKP		**PKiKP**	**14 13 43.8**	**+0.5**
VNA3	**Neumayer Olymp**	**116.36**	**200**	PP		PP	14 14 52.9	+0.9
VNA3	**Neumayer Olymp**	**116.36**	**200**	Pdiff		**Pdif**	**14 10 00.8**	**+2.3**
TUPA	**Temple Univers**	**116.37**	**351**	P		**PKiKP**	**14 13 44.8**	**+0.5**
	baz=10,SNR=5.1							
109C	**Camp Elliot, M**	**116.51**	**30**	PKiKP		**PKiKP**	**14 13 45.0**	**+0.1**
	baz=327							
SDCO	**Great Sand Dun**	**116.51**	**18**	P		**PKPdf**	**14 13 45.0**	**-0.1**
	baz=339,SNR=16							
SDCO	**Great Sand Dun**	**116.51**	**18**	PKiKP		**PKPdf**	**14 13 45.1**	**-0.1**
	baz=339							
HDIL	**Hopedale**	**116.55**	**4**	P		**PKPdf**	**14 13 44.3**	**-0.4**
	baz=356,SNR=13							
HDIL	**Hopedale**	**116.55**	**4**	PKiKP		**PKiKP**	**14 13 44.8**	**+0.1**
	baz=356							
PDMCI	**Parr Dam,Lak**	**116.60**	**27**	PKiKP		**PKiKP**	**14 13 45.2**	**+0.2**
	baz=330							
BC3	**Big Chuckawall**	**116.60**	**28**	PKiKP		**PKiKP**	**14 13 45.7**	**+0.5**
	baz=329							
WUAZ	**Wupatki**	**116.62**	**24**	PKiKP		**PKPdf**	**14 13 44.9**	**-0.4**
	baz=333							
O56A	**Blue Knob Stat**	**116.66**	**354**	P		**PKiKP**	**14 13 45.7**	**+0.6**
	baz=6.7,SNR=6.9							
O56A	**Blue Knob Stat**	**116.66**	**354**	PKiKP		**PKPdf**	**14 13 43.9**	**-1.1**
	baz=6.7							
GEDE	**Greenville**	**116.78**	**352**	P		**PKPdf**	**14 13 44.8**	**-0.4**
	baz=9.8,SNR=9.1							
SFIN	**Lafayette**	**116.82**	**2**	P		**PKiKP**	**14 13 45.3**	**+0.1**
	baz=358,SNR=16							
SFIN	**Lafayette**	**116.82**	**2**	PKiKP		**PKPdf**	**14 13 45.2**	**-0.1**
	baz=358							
MONP2	**Monument Peak**	**116.82**	**29**	PKiKP		**PKPdf**	**14 13 45.4**	**-0.3**
	baz=328							
O53A	**New Philadelph**	**116.86**	**357**	PKiKP		**PKPdf**	**14 13 45.3**	**-0.1**
	baz=4.0							
O54A	**Avella**	**116.88**	**356**	P		**PKiKP**	**14 13 45.5**	**+0.1**
	baz=4.9,SNR=18							
O54A				P		**PKiKP**	**14 13 45.5**	**+0.1**
	baz=4.9,SNR=18							
CBKS	**Cedar Bluff**	**116.91**	**13**	P		**PKPdf**	**14 13 45.5**	**-0.1**
	baz=345,SNR=7.9							
CBKS	**Cedar Bluff**	**116.91**	**13**	PKiKP		**PKPdf**	**14 13 44.7**	**-0.8**
	baz=345							
ACSO	**Alum Creek Sta**	**116.96**	**358**	P		**PKiKP**	**14 13 45.7**	**+0.1**
	baz=2.2,SNR=14							
ACSO	**Alum Creek Sta**	**116.96**	**358**	PKiKP		**PKPdf**	**14 13 45.0**	**-0.5**
	baz=2.2							
O48B	**Farmland**	**116.96**	**0**	P		**PKPdf**	**14 13 45.4**	**-0.1**
	baz=360,SNR=19							
O48B	**Farmland**	**116.96**	**0**	PKiKP		**PKPdf**	**14 13 45.0**	**-0.5**
	baz=360							
O44A	**Mansfield**	**116.99**	**3**	P		**PKiKP**	**14 13 45.8**	**+0.2**
	baz=357,SNR=6.4							
O49A	**Covington**	**117.03**	**359**	P		**PKPdf**	**14 13 45.6**	**-0.1**
	baz=0.8,SNR=16							
O49A				P		**PKPdf**	**14 13 45.6**	**-0.1**
	baz=0.8,SNR=16							
O52A	**Adamsville**	**117.03**	**357**	P		**PKPdf**	**14 13 45.3**	**-0.4**
	baz=3.4,SNR=12							
O52A				P		**PKPdf**	**14 13 45.3**	**-0.4**
	baz=3.4,SNR=12							
SWSC	**Sam W. Stewart**	**117.05**	**29**	PKiKP		**PKiKP**	**14 13 46.1**	**+0.1**
	baz=328							
P38A	**Dawn**	**117.11**	**7**	P		**PKPdf**	**14 13 45.4**	**-0.4**
	baz=351,SNR=45							
IKP	**In-Ko-Pah, Jac**	**117.16**	**29**	PKiKP		**PKiKP**	**14 13 46.9**	**+0.6**
	baz=328							
KSU1	**Kansas State U**	**117.19**	**10**	P		**PKPdf**	**14 13 45.7**	**-0.3**
	baz=348,SNR=36							
KSU1	**Kansas State U**	**117.19**	**10**	PKiKP		**PKPdf**	**14 13 45.4**	**-0.6**
	baz=348							
SDMD	**Soldier's Deli**	**117.33**	**353**	P		**PKiKP**	**14 13 46.3**	**0.0**
	baz=8.6,SNR=5.9							
P40A	**Paris**	**117.36**	**6**	P		**PKPdf**	**14 13 46.1**	**-0.3**
	baz=353,SNR=14							
MCWV	**Mont Chateau**	**117.37**	**355**	P		**PKiKP**	**14 13 46.7**	**+0.4**
	baz=5.5							
MCWV	**Mont Chateau**	**117.37**	**355**	PKiKP		**PKiKP**	**14 13 46.8**	**+0.4**
	baz=5.5							
P57A	**Homestead Farm**	**117.38**	**354**	P		**PKiKP**	**14 13 46.8**	**+0.5**
	baz=7.4,SNR=13							
P57A				P		**PKiKP**	**14 13 46.8**	**+0.5**
	baz=7.4,SNR=13							
T25A	**Trinidad**	**117.39**	**17**	PKiKP		**PKPdf**	**14 13 46.5**	**-0.3**
	baz=340							
GLA	**Glamis**	**117.39**	**28**	PKiKP		**PKiKP**	**14 13 47.0**	**+0.4**
	baz=329							
P43A	**Skaggs, Pawnee**	**117.44**	**4**	P		**PKiKP**	**14 13 46.8**	**+0.3**
	baz=356,SNR=17							
R32A	**Long Quarter,**	**117.48**	**12**	P		**PKiKP**	**14 13 47.1**	**+0.4**
	baz=346,SNR=43							
P52A	**Corning**	**117.52**	**357**	PKiKP		**PKPdf**	**14 13 46.5**	**-0.2**
	baz=3.1							
W18A	**Petrified Fore**	**117.57**	**23**	PKiKP		**PKPdf**	**14 13 47.0**	**-0.1**
	baz=334							
P46A	**Rosedale**	**117.57**	**2**	P		**PKPdf**	**14 13 46.7**	**-0.1**
	baz=358,SNR=36							
P53A	**Whipple**	**117.63**	**357**	P		**PKPdf**	**14 13 46.5**	**-0.3**
	baz=3.9,SNR=18							
P53A				P		**PKPdf**	**14 13 46.5**	**-0.3**
	baz=3.9,SNR=18							
P49A	**Miami Univ. Ec**	**117.69**	**360**	P		**PKPdf**	**14 13 45.5**	**-1.5**
	baz=0.4,SNR=11							
P49A	**Miami Univ. Ec**	**117.69**	**360**	PKiKP		**PKPdf**	**14 13 46.6**	**-0.4**
	baz=0.4							
P51A	**Williamsport**	**117.71**	**358**	P		**PKPdf**	**14 13 46.2**	**-0.8**
	baz=2.1,SNR=14							
P51A				P		**PKPdf**	**14 13 46.2**	**-0.8**
	baz=2.1,SNR=14							
P48A	**Milroy**	**117.76**	**0**	P		**PKPdf**	**14 13 46.4**	**-0.7**
	baz=360,SNR=28							
P48A				P		**PKPdf**	**14 13 46.4**	**-0.7**
	baz=360,SNR=28							
Q56A	**Snyder Ridge,**	**117.93**	**355**	P		**PKiKP**	**14 13 48.0**	**+0.5**
	baz=6.2							
Q56A				P		**PKiKP**	**14 13 48.0**	**+0.5**
	baz=6.2							
Q54A	**Coxs Mills**	**118.10**	**356**	P		**PKiKP**	**14 13 47.9**	**+0.1**
	baz=4.5,SNR=18							
Q54A				P		**PKiKP**	**14 13 47.9**	**+0.1**
	baz=4.5,SNR=18							
Q51A	**Peebles**	**118.17**	**358**	P		**PKPdf**	**14 13 47.3**	**-0.6**
	baz=1.9,SNR=12							
Q51A				P		**PKPdf**	**14 13 47.3**	**-0.6**
	baz=1.9,SNR=12							
Q52A	**Bidwell**	**118.20**	**357**	P		**PKPdf**	**14 13 47.2**	**-0.7**
	baz=3.0,SNR=18							
Q52A				P		**PKPdf**	**14 13 47.2**	**-0.7**
	baz=3.0,SNR=18							
Q44A	**Meyer Farm, Va**	**118.21**	**3**	P		**PKPdf**	**14 13 47.8**	**-0.2**
	baz=356,SNR=22							
SLM	**Saint Louis**	**118.40**	**5**	P		**PKPdf**	**14 13 48.2**	**-0.1**
	baz=355,SNR=7.4							
OLIL	**Olney**	**118.42**	**3**	P		**PKPdf**	**14 13 48.0**	**-0.4**
	baz=357,SNR=12							
R40A	**Maddies Statio**	**118.56**	**6**	P		**PKPdf**	**14 13 48.3**	**-0.3**
	baz=353,SNR=78							
CBN	**Corbin Frederi**	**118.58**	**353**	P		**PKiKP**	**14 13 49.4**	**+0.7**
	baz=8.1,SNR=7.3							
CBN	**Corbin Frederi**	**118.58**	**353**	PKiKP		**PKiKP**	**14 13 49.1**	**+0.4**
	baz=8.1							
R55A	**Marlinton**	**118.75**	**355**	P		**PKPdf**	**14 13 48.2**	**-1.0**
	baz=5.2,SNR=8.8							
R55A				P		**PKPdf**	**14 13 48.2**	**-1.0**
	baz=5.2,SNR=8.8							
R53A	**Hurricane**	**118.81**	**357**	P		**PKPdf**	**14 13 49.1**	**0.0**
	baz=3.3,SNR=14							
R53A				P		**PKPdf**	**14 13 49.1**	**0.0**
	baz=3.3,SNR=14							
ANMO	**Albuquerque**	**118.83**	**20**	PKiKP		**PKiKP**	**14 13 50.2**	**+0.6**
	comp=Z,150nm,0.9s,baz=165,slow=0.3,SNR=84							
ANMO				SKP		**SKPdf**	**14 17 11.4**	**+0.5**
	comp=Z,30nm,1.0s,baz=305,slow=1.5,SNR=5.1							
ANMO				S		**SKSac**	**14 20 30.8**	**-0.1**
	comp=Z,5.1nm,1.0s,baz=139,slow=23,SNR=18							
ANMO				PKKPbc		**PKKPbc**	**14 24 05.7**	**0.0**
	comp=Z,67nm,0.8s,baz=147,slow=5.3,SNR=37							
ANMO	**Albuquerque**	**118.83**	**20**	P		**PKPdf**	**14 13 49.2**	**-0.4**
	baz=338,SNR=41							
ANMO	**Albuquerque**	**118.83**	**20**	PKiKP		**PKPdf**	**14 13 49.5**	**-0.1**
	baz=338							
R58B	**Mineral**	**118.87**	**353**	P		**PKPdf**	**14 13 48.8**	**-0.4**
	baz=7.6,SNR=12							
R58B				P		**PKPdf**	**14 13 48.8**	**-0.4**
	baz=7.6,SNR=12							
CCM	**Cathedral Cave**	**118.89**	**5**	P		**PKPdf**	**14 13 48.8**	**-0.5**
	baz=354,SNR=25							
CCM	**Cathedral Cave**	**118.89**	**5**	PKiKP		**PKPdf**	**14 13 48.0**	**-1.4**
	baz=354							
R49A	**Shelbyville**	**118.93**	**0**	P		**PKPdf**	**14 13 48.8**	**-0.6**
	baz=360,SNR=22							
R49A				P		**PKPdf**	**14 13 48.8**	**-0.6**
	baz=360,SNR=22							
R50A	**Paris**	**118.93**	**359**	P		**PKPdf**	**14 13 48.7**	**-0.7**
	baz=0.8,SNR=13							
R50A				P		**PKPdf**	**14 13 48.7**	**-0.7**
	baz=0.8,SNR=13							
FVM	**French Village**	**119.03**	**5**	P		**PKPdf**	**14 13 49.2**	**-0.4**
	baz=354,SNR=23							
S39A	**Bolivar**	**119.04**	**7**	P		**PKPdf**	**14 13 49.2**	**-0.4**
	baz=351,SNR=41							
JSRW	**J. Sargeant Re**	**119.14**	**353**			**PKiKP**	**14 13 50.0**	**+0.1**
S57A	**Dark Hollow, R**	**119.18**	**354**	P		**PKiKP**	**14 13 50.2**	**+0.3**
	baz=6.5,SNR=37							
S57A				P		**PKiKP**	**14 13 50.2**	**+0.3**
	baz=6.5,SNR=37							
214A	**Organ Pipe Nat**	**119.19**	**27**	PKiKP		**PKiKP**	**14 13 50.4**	**+0.2**
	baz=331							
S54A	**Dingess, Beckl**	**119.31**	**357**	P		**PKPdf**	**14 13 50.0**	**-0.2**
	baz=4.0,SNR=19							
S54A				P		**PKPdf**	**14 13 50.0**	**-0.2**
	baz=4.0,SNR=19							
T35B	**Sooner Cattle**	**119.34**	**10**	P		**PKPdf**	**14 13 49.5**	**-0.7**
	baz=348,SNR=42							
S44A	**Carbondale**	**119.40**	**4**	P		**PKPdf**	**14 13 50.3**	**0.0**
	baz=356,SNR=28							
U32A	**Winter Ranch,**	**119.40**	**13**	P		**PKPdf**	**14 13 50.0**	**-0.4**
	baz=345,SNR=36							
Y22D	**IRIS PASSCAL I**	**119.48**	**21**	P		**PKiKP**	**14 13 52.0**	**+1.1**
	baz=337,SNR=11							
Y22D	**IRIS PASSCAL I**	**119.48**	**21**	PKiKP		**PKiKP**	**14 13 51.2**	**+0.4**
	baz=337							
S51A	**Beattyville**	**119.56**	**359**	P		**PKPdf**	**14 13 50.5**	**-0.1**
	baz=1.6,SNR=29							
S51A				P		**PKPdf**	**14 13 50.5**	**-0.1**
	baz=1.6,SNR=29							
Y22A	**Socorro**	**119.59**	**21**	P		**PKiKP**	**14 13 51.7**	**+0.6**
	baz=337,SNR=78							
TUC	**Tucson**	**119.69**	**25**	PKiKP		**PKiKP**	**14 13 51.4**	**+0.2**
	baz=333							
PPT	**Papeete**	**119.75**	**98**	PKP		**PKiKP**	**14 13 52.1**	**+0.6**
	comp=Z,217nm,0.9s,baz=37,slow=0.7,SNR=17							
PPT				PKKPbc		**PKKPab**	**14 24 04.4**	**+0.9**
	comp=Z,101nm,0.9s,baz=262,slow=4.8,SNR=9.6							
PPT2	**Papeete2**	**119.75**	**98**	*e*PKiKP		**PKiKP**	**14 13 52.7**	**+1.2**
	comp=Z,252nm,1.1s							
PPT2	**Papeete2**	**119.75**	**98**	*e*PKKPab		PKKPab	14 24 05.3	+1.8
	comp=Z,482nm,1.8s							
PPT2				*e*SKKPdf		SKKPdf	14 27 56.6	+2.3
	comp=Z,559nm,2.0s							
PAE	**Paea**	**119.77**	**98**	*e*PKiKP		**PKiKP**	**14 13 52.6**	**+1.1**
	comp=Z,32nm,1.1s	

baz=6.5,SNR=13
V58A P PKPdf 14 13 53.5 -0.2
baz=6.5,SNR=13
V55A **Taylorsville** 121.24 356 P PKPdf 14 13 53.3 -0.7
baz=4.2,SNR=34
V55A P PKPdf 14 13 53.3 -0.7
baz=4.2,SNR=34
V52A **Sevierville** 121.35 359 P PKPdf 14 13 54.0 -0.1
baz=1.6,SNR=53
V51A **Loudon** 121.41 359 P PKPdf 14 13 54.1 -0.1
baz=0.8,SNR=38
W39A **Magazine** 121.44 8 P PKPdf 14 13 54.2 -0.1
baz=351,SNR=43
W39A **Magazine** 121.44 8 PKiKP PKPdf 14 13 53.6 -0.7
baz=351
V48A **Smith Brothers** 121.45 2 P PKPdf 14 13 53.2 -1.1
baz=358,SNR=29
BBSR **BB Station** 121.47 340 P PKiKP 14 13 54.8 +0.2
baz=22
V53A **Saluda** 121.50 358 P PKPdf 14 13 54.4 -0.1
baz=2.5,SNR=38
V53A P PKPdf 14 13 54.4 -0.1
baz=2.5,SNR=38
TKL **Tuckaleechee C** 121.54 359 PKP PKiKP 14 13 54.6 -0.1
comp=Z,181nm,0.6s,baz=131,slow=3.7,SNR=120
TKL SKP SKPdf 14 17 15.1 -0.8
comp=Z,73nm,1.1s,baz=127,slow=2.2,SNR=4.4
TKL S SKSac 14 20 37.9 -2.0
comp=Z,27nm,1.2s,baz=25,slow=13,SNR=11
TKL PKKPbc PKKPbc 14 23 53.1 -2.5
comp=Z,20nm,0.9s,baz=172,slow=3.1,SNR=5.0
TKL **Tuckaleechee C** 121.54 359 P PKiKP 14 13 55.1 +0.5
baz=1.5,SNR=49
CNNC **Cliffs of the** 121.57 353 PKiKP PKPdf 14 13 54.4 -0.1
baz=7.8
W41B **Gary Mavity, V** 121.65 7 P PKPdf 14 13 54.2 -0.5
baz=352,SNR=35
W41B **Gary Mavity, V** 121.65 7 PKiKP PKPdf 14 13 53.7 -1.0
baz=352
KIDD **KIDD Seismic O** 121.73 21 P PKPdf 14 13 55.1 0.0
baz=337,SNR=9.9
X37A **Clayton** 121.81 10 P PKPdf 14 13 55.0 -0.1
baz=349,SNR=75
W57A **Gilead** 121.85 355 P PKiKP 14 13 55.3 +0.1
baz=5.5,SNR=17
W57A P PKiKP 14 13 55.3 +0.1
baz=5.5,SNR=17
W45A **Hickory Valley** 121.93 4 P PKiKP 14 13 55.3 -0.1
baz=356,SNR=30
KMSC **Kings Mountain** 121.96 356 P PKPdf 14 13 55.3 0.0
baz=4.1,SNR=30
KMSC **Kings Mountain** 121.96 356 PKiKP PKPdf 14 13 54.3 -1.0
baz=4.1
W50A **Signal Mountai** 122.01 0 P PKPdf 14 13 55.2 -0.2
baz=360,SNR=35
W52A **Murphy** 122.11 359 P PKPdf 14 13 55.3 -0.4
baz=1.3,SNR=57
MIAR **Mount Ida** 122.11 8 P PKPdf 14 13 55.5 -0.1
baz=351
MIAR **Mount Ida** 122.11 8 PKiKP PKPdf 14 13 55.2 -0.4
baz=351
MNTX **Cornudas Mount** 122.16 20 P PKiKP 14 13 56.3 +0.3
baz=338,SNR=111
MNTX **Cornudas Mount** 122.16 20 PKiKP PKPdf 14 13 55.8 0.0
baz=338
CASEE **Lake Jocassee** 122.18 358 P PKPdf 14 13 55.2 -0.6
baz=2.4,SNR=38
X40A **Basin Creek Fa** 122.26 8 P PKPdf 14 13 55.5 -0.4
baz=352,SNR=33
X40A P PKPdf 14 13 55.5 -0.4
baz=352,SNR=33
X40A **Basin Creek Fa** 122.26 8 PKiKP PKPdf 14 13 55.2 -0.7
baz=352
PAULI **Pauline** 122.30 357 P PKPdf 14 13 55.5 -0.5
baz=3.6,SNR=38
X58A **Rowland** 122.39 354 P PKiKP 14 13 56.5 +0.2
baz=6.3,SNR=11
X58A P PKiKP 14 13 56.5 +0.2
baz=6.3,SNR=11
BIRD **Birdtown, Kers** 122.39 355 P PKPdf 14 13 55.7 -0.4
baz=5.1,SNR=26
OXF **Oxford** 122.56 4 P PKPdf 14 13 56.2 -0.3
baz=355,SNR=28
OXF **Oxford** 122.56 4 PKiKP PKPdf 14 13 55.5 -1.0
baz=355
X51A **Calhoun** 122.64 360 P PKiKP 14 13 56.8 0.0
baz=0.3,SNR=57
X51A P PKiKP 14 13 56.8 0.0
baz=0.3,SNR=57
Z35A **Perchaven, San** 122.70 12 P PKPdf 14 13 56.6 -0.2
baz=347,SNR=49
X48A **Hartselle** 122.73 2 P PKPdf 14 13 56.0 -0.8
baz=358,SNR=95
JSC **Jenkinsville** 122.81 356 P PKPdf 14 13 56.5 -0.4
baz=4.2,SNR=10
Y60A **Bolivia** 122.82 353 P PKPdf 14 13 56.3 -0.7
baz=7.5,SNR=6.8
Y60A P PKPdf 14 13 56.3 -0.7
baz=7.5,SNR=6.8
ABTX **Abilene, Hawle** 122.88 15 P PKiKP 14 13 57.4 0.0
baz=344,SNR=81
ABTX **Abilene, Hawle** 122.88 15 PKiKP PKPdf 14 13 56.6 -0.6
baz=344
Y59A **Loris** 122.91 354 P PKiKP 14 13 58.0 +0.7
baz=6.8,SNR=11
Y59A P PKiKP 14 13 58.0 +0.7
baz=6.8,SNR=11
HODGE **Hodges** 122.91 357 P PKPdf 14 13 56.8 -0.4
baz=3.1,SNR=43
CCAR **Cane Creek** 122.94 7 P PKPdf 14 13 57.2 0.0
baz=353,SNR=14
Y57A **Sumter** 123.01 355 P PKPdf 14 13 57.2 -0.1
baz=5.2,SNR=19
Y57A P PKPdf 14 13 57.2 -0.1
baz=5.2,SNR=19
Y58A **Scranton** 123.06 355 P PKiKP 14 13 57.6 -0.1
baz=6.0,SNR=12
Y58A P PKiKP 14 13 57.6 -0.1
baz=6.0,SNR=12
Z38A **Mt. Pleasant** 123.17 10 P PKiKP 14 13 57.9 0.0
baz=349,SNR=20
Y45A **Yeager Farm, C** 123.19 4 P PKPdf 14 13 57.8 +0.1
baz=355,SNR=24
Y52A **Lilburn** 123.34 359 P PKPdf 14 13 57.7 -0.3
baz=1.2,SNR=54
Y52A P PKPdf 14 13 57.7 -0.3
baz=1.2,SNR=54
Y49A **Blount Mountai** 123.34 1 P PKPdf 14 13 57.4 -0.6
baz=359,SNR=48
Z41A **Richland Creek** 123.48 8 P PKPdf 14 13 58.3 0.0
baz=352,SNR=24
Z41A P PKPdf 14 13 58.3 0.0
baz=352,SNR=24
Z41A **Richland Creek** 123.48 8 PKiKP PKPdf 14 13 57.7 -0.5
baz=352
HAW **Hawthorne Fire** 123.75 356 P PKPdf 14 13 58.8 0.0
baz=3.9,SNR=21
GOGA **Godfrey** 123.77 358 P PKPdf 14 13 58.6 -0.2
baz=1.8,SNR=25
GOGA **Godfrey** 123.77 358 PKiKP PKPdf 14 13 58.3 -0.5
baz=1.8
Z51A **Franklin** 123.89 0 P PKiKP 14 13 59.2 -0.1
baz=360,SNR=33
NHSC **New Hope** 123.90 355 P PKPdf 14 13 58.3 -0.7
baz=5.5
NHSC **New Hope** 123.90 355 PKiKP PKPdf 14 13 58.9 -0.2
baz=5.5
Z47A **Carrollton** 123.94 3 P PKPdf 14 13 58.9 -0.2
baz=357,SNR=60
WHTX **Lake Whitney,** 123.96 13 P PKPdf 14 13 58.7 -0.5
baz=346,SNR=42
WHTX **Lake Whitney,** 123.96 13 PKiKP PKPdf 14 13 58.4 -0.8
baz=346
LRAL **Lakeview Retre** 124.14 2 P PKPdf 14 13 59.4 -0.1
baz=358,SNR=29
LRAL **Lakeview Retre** 124.14 2 PKiKP PKPdf 14 13 59.1 -0.4
baz=358
143A **Socs Landing,** 124.18 6 P PKPdf 14 13 59.6 -0.1
baz=353,SNR=46
237A **Washetta, Mont** 124.26 11 P PKiKP 14 14 00.2 +0.1
baz=348,SNR=12
146A **Union** 124.44 4 P PKPdf 14 14 00.2 0.0
baz=356,SNR=46
152A **Waverly Hall** 124.54 360 P PKiKP 14 14 00.5 -0.2
baz=0.5,SNR=38
154A **Montrose** 124.56 358 P PKPdf 14 14 00.5 +0.1
baz=2.3,SNR=22
NATX **Nacogdoches** 124.69 10 P PKiKP 14 14 00.8 -0.1
baz=349,SNR=20
NATX **Nacogdoches** 124.69 10 PKiKP PKPdf 14 14 00.3 -0.4
baz=349
VBMS **Vicksburg** 124.75 6 P PKiKP 14 14 01.0 0.0
baz=354,SNR=15
VBMS **Vicksburg** 124.75 6 PKiKP PKPdf 14 14 00.8 +0.1
baz=354
JCT **Junction City** 124.89 15 P PKPdf 14 14 01.1 0.0
baz=344,SNR=208
JCT **Junction City** 124.89 15 PKiKP PKPdf 14 14 00.8 -0.3
baz=344
TX31 **Lajitas Ar. Si** 124.90 20 P PKPdf 14 14 01.2 0.0
baz=339,SNR=80
TXAR **Lajitas Array** 124.90 20 PKP PKiKP 14 14 01.4 -0.2
comp=Z,145nm,0.8s,baz=221,slow=0.5,SNR=142
TXAR pPKP pPKPdf 14 14 44.6 +3.2
comp=Z,99nm,0.9s,baz=75,slow=0.2,SNR=3.4
TXAR PKKPbc PKKPbc 14 23 42.5 +0.1
comp=Z,72nm,1.1s,baz=161,slow=5.9,SNR=16
TXAR P4KPbc 14 45 45.9
comp=Z,1.4nm,1.0s,baz=112,slow=1.3,SNR=4.4
435B **Jarrell** 125.10 13 P PKPdf 14 14 01.1 -0.3
baz=346,SNR=47
435B **Jarrell** 125.10 13 PKiKP PKPdf 14 14 01.4 -0.1
baz=346
250A **Grady** 125.22 1 P PKPdf 14 14 01.5 -0.1
baz=359,SNR=14
255A **Hazlehurst** 125.22 357 P PKPdf 14 14 01.6 0.0
baz=3.0,SNR=19
342B **Flagon Creek P** 125.39 8 P PKiKP 14 14 02.3 0.0
baz=352,SNR=31
344A **Westbrook Farm** 125.49 6 P PKiKP 14 14 02.4 -0.1
baz=354,SNR=31
346A **Big Creek Wild** 125.66 5 P PKiKP 14 14 03.1 +0.2
baz=355
352A **Blakely** 125.72 360 P PKiKP 14 14 03.3 +0.3
baz=0.2,SNR=24
TIGA **Tifton** 125.74 358 P PKPdf 14 14 02.6 0.0
baz=1.7,SNR=16
TIGA **Tifton** 125.74 358 PKiKP PKPdf 14 14 02.7 0.0
baz=1.7
441A **DeRidder** 125.90 9 P PKiKP 14 14 03.2 -0.1
baz=351,SNR=14
BRAL **Brewton** 126.00 2 P PKiKP 14 14 03.6 +0.1
baz=358,SNR=24
BRAL **Brewton** 126.00 2 PKiKP PKPdf 14 14 03.3 +0.1
baz=358
456A **Hilliard** 126.39 357 P PKiKP 14 14 04.4 0.0
baz=3.5
451A **Vernon** 126.58 1 P PKiKP 14 14 04.7 0.0
baz=359,SNR=38
735A **Kenedy** 126.92 14 P PKiKP 14 14 05.4 0.0
baz=345,SNR=30
553A **Crawfordville** 127.00 359 P PKiKP 14 14 05.7 +0.1
baz=0.8
833A **Chaparral WMA,** 127.05 16 P PKPdf 14 14 05.5 +0.2
baz=344,SNR=75
833A **Chaparral WMA,** 127.05 16 PKiKP PKPdf 14 14 05.3 +0.1
baz=344
LPIG **La Paz** 127.09 29 S SKSac 14 20 58.0 +0.1
comp=Z,52nm,0.3s,baz=70,slow=0.9,SNR=5.6
KVTX **Kingsville** 128.16 14 P PKiKP 14 14 09.0 +1.1
baz=345,SNR=10
DWPF **Disney Wildern** 128.96 356 P PKiKP 14 14 09.4 -0.1
baz=4.4
DWPF **Disney Wildern** 128.96 356 PKiKP PKPdf 14 14 09.0 +0.1
baz=4.4
NBPV **Pedro Velho** 129.29 281 *eP* PKPdf 14 14 08.9 -0.9
RCBR **Riachuelo** 129.59 282 PP PP 14 16 20.8 -1.8
comp=Z,267nm,1.2s,baz=208,slow=7.7,SNR=7.7
RCBR SKPbc SKPbc 14 17 19.6 +1.0
comp=Z,405nm,0.8s,baz=210,slow=3.2,SNR=18
RCBR **Riachuelo** 129.59 282 *eP* PKPdf 14 14 10.1 -0.3
060A **Indiantown** 129.94 354 P PKiKP 14 14 12.3 +0.7
baz=5.7
NBAN **Anadia - AL** 131.47 278 *eP* PKPdf 14 14 12.8 -1.1
ANWB **Willy Bob** 133.48 329 *eP* PKPpre 14 14 12.1
SMRT **St. Maarten** 133.76 330 *eP* PKPpre 14 14 14.1
NBPS **Pedro II - PI** 133.90 287 *eP* PKPdf 14 14 18.1 -0.6
ANBD **Bethesda, Anti** 134.01 328 *eP* PKPpre 14 14 11.0
SEUS **St. Eustatius** 134.20 330 *eP* PKPdf 14 14 15.7 -3.3
SKI **Saint Kitts** 134.22 329 *eP* PKPdf 14 14 19.3 +0.2
ABD **La Joyeuse, An** 134.36 327 *eP* PKPpre 14 14 12.1
RKT **Rikitea** 134.36 100 *e*PKiKP PKiKP 14 14 21.3 +0.8
comp=Z,135nm,1.1s
MAGL **Barre de l'ile** 134.70 327 *eP* PKPdf 14 14 18.1 -1.9
CBE **Ff, Capester** 134.76 327 *eP* PKPpre 14 14 07.2
TDBA **Terre de Bas,** 134.97 327 *eP* PKPdf 14 14 18.3 -2.1
SJG **San Juan** 135.02 334 PKhKP PKPpre 14 14 09.7
comp=Z,8.9nm,0.2s,baz=137,slow=5.5,SNR=6.2
SJG PKP PKPdf 14 14 20.8 +0.3
comp=Z,82nm,0.8s,baz=308,slow=1.4,SNR=27
SJG pPKP pPKPdf 14 15 03.1 +2.3
comp=Z,58nm,0.8s,baz=40,slow=4.8,SNR=1.8
SJG PP PP 14 16 57.2 +1.7
comp=Z,16nm,0.5s,baz=18,slow=8.1,SNR=4.9
SJG SKPbc SKPbc 14 17 37.1 -0.1
comp=Z,75nm,0.7s,baz=1.3,slow=6.7,SNR=9.0
SJG **San Juan** 135.02 334 *eP* PKPdf 14 14 19.6 -0.9
DLPL **La Plaine** 135.21 326 *eP* PKPdf 14 14 19.9 -1.1
DSLB **Salisbury** 135.21 327 *eP* PKPpre 14 14 11.0
MDN **Morne-Daniel** 135.29 326 *eP* PKPdf 14 14 19.2 -1.8
ILAM **Ilet Lapin Mar** 135.48 325 *eP* PKPdf 14 14 20.3 -1.1
NBPN **Ponto Novo - B** 135.49 278 *eP* PKPdf 14 14 21.0 -0.5
FDF **Fort de France** 135.66 326 *eP* PKPdf 14 14 19.4 -2.4
MPOM **Morne Pois Mar** 135.75 325 *eP* PKPdf 14 14 17.1 -4.9
BIM **Bigot** 135.80 325 *eP* PKPdf 14 14 16.4 -5.6
SDDR **Presa de Saban** 136.03 341 *eP* PKPdf 14 14 20.8 -1.7
PMSA **Palmer Station** 136.11 193 PKhKP PKPpre 14 14 14.5
comp=Z,68nm,0.7s,baz=2.0,slow=0.6,SNR=7.0
PMSA PKP PKPdf 14 14 21.5 +0.4
comp=Z,335nm,1.0s,baz=139,slow=3.8,SNR=9.6
PMSA PP PP 14 17 03.3 +1.0
comp=Z,155nm,1.0s,baz=146,slow=23,SNR=6.6
PMSA SKPbc SKPbc 14 17 38.3 -0.6
comp=Z,54nm,0.6s,baz=201,slow=4.2,SNR=6.0
PMSA **Palmer Station** 136.11 193 *eP* PKPdf 14 14 20.4 -0.6
BBGH **Gun Hill** 136.12 323 *eP* PKPdf 14 14 21.4 -1.2
GTBY **Guantanamo Bay** 136.12 346 *eP* PKPpre 14 14 16.7
SLBI **Saint Lucia, B** 136.16 325 *eP* PKPdf 14 14 20.4 -2.3
SVV **Soufriere Volc** 136.88 325 *eP* PKPpre 14 14 12.8
SVB **Belmont** 136.94 325 *eP* PKPpre 14 14 13.8
MDP **Montagnes des** 137.64 307 PKhKP PKPpre 14 14 16.4
comp=Z,27nm,0.7s,baz=78,slow=2.6,SNR=18
MDP PKP PKiKP 14 14 26.7 -0.8
comp=Z,159nm,0.6s,baz=106,slow=1.0,SNR=32
MDP PP PP 14 17 11.6 -1.4
comp=Z,59nm,0.9s,baz=31,slow=5.3,SNR=4.8
MDP SKPbc SKPbc 14 17 44.5 -0.7
comp=Z,70nm,0.8s,baz=57,slow=3.0,SNR=5.2
GCMP **Grenada, Carri** 137.68 324 *eP* PKPpre 14 14 15.2
GRGR **Grenville** 138.10 324 *eP* PKPpre 14 14 17.4
TOSP **Speyside** 138.17 322 *eP* PKPpre 14 14 17.6
MTDJ **Mount Denham** 138.25 349 *eP* PKPdf 14 14 25.4 -1.2
GWJ **Greenwich** 138.25 348 *i* P PKPdf 14 14 24.4 -2.3
STH **Stony Hill** 138.26 348 *i* P PKPdf 14 14 23.3 -3.2
MCJ **Malvern** 138.57 349 *i* P PKiKP 14 14 29.2 -0.2
CMIG **Matias Romero** 138.93 14 PKhKP PKPpre 14 14 17.3
comp=Z,21nm,0.7s,baz=346,slow=4.2,SNR=16
CMIG PKP PKPdf 14 14 28.1 +0.3
comp=Z,122nm,0.7s,baz=14,slow=3.7,SNR=30
CMIG pPKP pPKPdf 14 15 10.4 +2.3
comp=Z,54nm,0.7s,baz=302,slow=3.9,SNR=3.2
CMIG SKPbc SKPbc 14 17 48.4 -0.4
comp=Z,150nm,1.0s,baz=358,slow=1.4,SNR=29
TRN **Trinidad (W)** 139.19 323 *eP* PKPpre 14 14 20.7
DUB01 **Friburgo-RJ** 140.60 263 *eP* PKPdf 14 14 29.0 -1.7
MCPB **Macapa, AP** 140.70 300 *eP* PKPdf 14 14 27.8 -3.3
DIAM **Diamantina, MG** 141.00 269 *eP* PKPdf 14 14 29.3 -2.4
SMTB **Santa Maria do** 141.35 285 *eP* PKPdf 14 14 31.1 -1.2
VAS01 **Vassouras-RJ** 141.61 263 *eP* PKPdf 14 14 31.1 -1.4
PRPB **Parauapebas** 142.05 291 *eP* PKPdf 14 14 31.1 -2.5
MAN01 **Angra dos Reis** 142.18 262 *eP* PKPdf 14 14 30.6 -2.9
TGUH **Tegucigalpa,Un** 143.01 3 ⇑*i*P PKPdf 14 14 31.9 -3.4
URIC **Uribia, Colomb** 143.09 338 ⇑*i*P PKPab 14 14 31.4 +0.5
DABV **Dabajuro** 143.32 336 ⇑*i*P PKPab 14 14 30.8 -1.1
MALB **Monte Alegre** 143.35 301 *eP* PKPbc 14 14 33.3 -0.1
PRVC **Isla de Provid** 143.55 354 *eP* PKPab 14 14 33.2 +0.4
PRVC **Isla de Provid** 143.55 354 *eP* PKPbc 14 14 33.5 -0.3
PARB **Paraibuna** 143.75 262 *eP* PKPdf 14 14 35.5 -0.8
CRJC **Cerrejon, Guaj** 144.02 339 ⇑*i*P PKPbc 14 14 35.1 -0.3
CSGN **Cosiguina Volc** 144.06 4 *eP* PKPbc 14 14 35.5 +0.1
BDFB **Brasilia** 144.27 275 PKP PKPbc 14 14 36.7 +0.6
comp=Z,7μm,0.8s,baz=70,slow=3.5,SNR=1000
SMRC **Santa Marta, M** 144.30 341 ⇑*i*P PKPab 14 14 35.8 +0.1
TEL3 **Telica 3** 144.50 3 *eP* PKPab 14 14 34.3 -2.2
CNGN **Cerro Negro** 144.58 3 *eP* PKPab 14 14 34.5 -2.3
CVALL **Valledupar, Ce** 144.62 340 *eP* PKPbc 14 14 37.4 +0.2
HUEN 144.76 2 *eP* PKPab 14 14 37.3 -0.1
VAO **Valinhos** 144.94 262 *eP* PKPbc 14 14 36.4 -1.6
MGAN **Managua** 144.95 2 *eP* PKPbc 14 14 36.0 -2.1
TISN **Laguna Tiscapa** 144.95 2 *eP* PKPbc 14 14 35.9 -2.2
BOAV **Boa Vista** 145.09 313 *eP* PKPab 14 14 38.7 0.0
IPMB **Ipameri, GO** 145.10 271 *eP* PKPbc 14 14 36.4 -2.2
SDV **Santo Domingo** 145.17 334 PKPbc PKPbc 14 14 38.6 -0.5
comp=Z,5μm,0.8s,baz=34,slow=2.0,SNR=1026
SDV pPKPbc pPKPab 14 15 18.0 -0.4
comp=Z,6μm,1.0s,baz=25,slow=1.5,SNR=6.5
SDV SKPbc SKPbc 14 18 05.0 +0.2
comp=Z,358nm,0.8s,baz=54,slow=2.4,SNR=3.8
SDV **Santo Domingo** 145.17 334 ⇑*i*P PKPbc 14 14 39.0 -0.1
SDV **Santo Domingo** 145.17 334 *eP* PKPbc 14 14 39.0 -0.1
LL6C **La Loma 6 Bece** 145.35 339 ⇑*i*P PKPdf 14 14 39.2 -0.1
RCLB **Rio Claro- Sao** 145.37 264 *eP* PKPdf 14 14 37.5 -1.6
PET01 **Itanhaem-SP** 145.37 260 *eP* PKPdf 14 14 38.4 -0.6
LL5C **La Loma 5 El P** 145.48 340 *eP* PKPab 14 14 40.0 -0.1
LL1C **La Loma 1 Cana** 145.62 339 ⇑*i*P PKPbc 14 14 40.4 +0.2
SJCC **San Jacinto, C** 145.78 342 ⇑*i*P PKPab 14 14 41.2 -0.1
SOCV **Socops** 145.81 334 ⇑*i*P PKPdf 14 14 40.1 -0.1
USHA **Ushuaia** 145.94 197 PKPbc PKPbc 14 14 39.8 -0.1
comp=Z,5μm,0.9s,baz=137,slow=3.1,SNR=242
ELOV **Elorza** 146.38 331 ⇑*i*P PKPdf 14 14 41.7 +0.6
OCAC **Ocana** 146.77 338 ⇑*i*P PKPdf 14 14 42.4 +0.5
JTS **Las Juntas de** 146.81 360 PKPbc PKPdf 14 14 40.7 -1.1
comp=Z,124nm,0.7s,baz=67,slow=2.1,SNR=65
JTS **Las Juntas de** 146.81 360 ⇑*i*P PKPdf 14 14 39.8 -1.9
JTS **Las Juntas de** 146.81 360 *eP* PKPdf 14 14 39.5 -2.3
BATAN **Batan** 146.95 357 ⇑*i*P PKPdf 14 14 42.8 +0.9
DUNO **Dulce Nombre,** 147.02 1 PKPdf 14 14 42.4 +0.3
MIRA3 **Miramar, Colon** 147.02 349 *eP* PKPbc 14 14 44.9 +0.6
TIJ01 **Guaruva-PR** 147.02 259 *eP* PKPdf 14 14 40.8 -1.1
HDC **Heredia** 147.08 358 *eP* PKPdf 14 14 40.4 -1.9
LCBC **Los crdobas,** 147.09 344 *eP* PKPab 14 14 45.6 -0.7
PAMC **Pamplona, Colo** 147.38 337 ⇑*i*P PKPdf 14 14 42.6 -0.7
CHPO **Chepo, Panama** 147.38 349 *eP* PKPbc 14 14 44.0 -1.3
FRIJ **El Hiral** 147.44 350 ⇓*i*P PKPbc 14 14 44.5 -1.0
MLIR **Monte Lirio** 147.44 350 *eP* PKPdf 14 14 43.5 +0.8
BCIP **Isla Barro Col** 147.51 350 ⇑*i*P PKPdf 14 14 43.3 +0.4
BCIP **Isla Barro Col** 147.51 350 ⇑*i*P PKPdf 14 14 43.6 +0.7
GAMB1 **Gamboa** 147.53 350 *i* P PKPbc 14 14 46.2 +0.5
CNI2 **El Empalme, Bo** 147.56 355 *eP* PKPbc 14 14 45.3 -0.5
UPA **Univ. de Panam** 147.64 350 ⇑*eP* PKPdf 14 14 42.4 -0.7
ARRA3 **Arraijan, Pana** 147.67 350 *eP* PKPbc 14 14 45.0 -1.1
ZANG **Zanguenga, Cho** 147.72 350 *i* P PKPdf 14 14 44.7 +1.4
DRK0 **Durika** 147.78 356 ⇑*i*P PKPdf 14 14 44.1 +0.5
UPD2 **Meteti** 147.78 347 *eP* PKPbc 14 14 47.3 +0.9
TABO3 **Taboga, Panama** 147.83 350 *eP* PKPbc 14 14 47.0 +0.5
TAMC **Tame, Arauca** 147.87 334 *eP* PKiKP 14 14 47.6 -0.9
TAMC **Tame, Arauca** 147.87 334 ⇑*i*P PKPdf 14 14 44.3 +0.7
UREC **San Jos de Ur** 147.92 342 ⇑*i*P PKPdf 14 14 44.3 +0.7
ZARC **Zaragoza, Cauc** 147.97 340 ⇑*i*P PKPdf 14 14 45.2 +1.5
CHGR2 **Aguacate** 148.02 354 *eP* PKPbc 14 14 46.0 -1.1
VTON **El Valle, Cocl** 148.09 351 *eP* PKPdf 14 14 45.0 +1.0
BRU2 **Volcan** 148.20 355 *i* P PKPdf 14 14 45.0 +0.7
BRU2 **Volcan** 148.20 355 ⇑*i*P PKPdf 14 14 45.0 +0.7
MLIR3 **Monte Lirio, C** 148.22 356 *eP* PKiKP 14 14 49.4 +0.1
BARC **Barichara** 148.25 337 *eP* PKPdf 14 14 44.0 -0.5
PNME **Penonome** 148.25 351 ⇑*i*P PKPdf 14 14 44.3 +0.1
BCO2 **Palmira** 148.27 355 ⇓*i*P PKiKP 14 14 48.8 -0.7
SAFE3 **Santa Fe, Vera** 148.32 352 *eP* PKPdf 14 14 45.6 +1.3
CDITO **Canoas** 148.44 356 ⇑*i*P PKPdf 14 14 45.8 +1.4
CALO3 **Calobre, Verag** 148.48 352 ⇓*i*P PKPbc 14 14 46.5 -1.7
CRIS3 **El Cristo, Coc** 148.52 351 ⇓*i*P PKPdf 14 14 45.7 +1.1
LESP3 **La Esperanza,** 148.60 356 *i* P PKPdf 14 14 37.0 -7.7
PCMB **Pacaembu** 148.66 266 *eP* PKPdf 14 14 45.0 +0.4
REME3 **Remedios, Chir** 148.69 354 *eP* PKPbc 14 14 47.6 -1.2
PTBC **PUERTO BERRIO** 148.74 339 ⇑*i*P PKPdf 14 14 44.9 -0.1
CHIT3 **Chitre** 148.78 351 *eP* PKPbc 14 14 47.3 -1.7
PTPM **Petroterminale** 148.80 356 *i* P PKPbc 14 14 47.2 -1.9
DBBC **Dabeiba** 148.81 343 ⇓*eP* PKPdf 14 14 45.8 +0.7
PESE3 **Pese, Herrera** 148.86 351 ⇑*i*P PKiKP 14 14 50.1 -0.4
RUSC **La Rusia** 148.86 336 ⇑*i*P PKPdf 14 14 46.0 +0.3
LIMO3 **Limones** 148.90 356 *eP* PKPbc 14 14 48.6 -0.7
AZU **Azuero** 148.92 351 ⇑*i*P PKPdf 14 14 45.2 0.0
PCRI3 **Pocri, Los San** 149.03 350 *eP* PKPbc 14 14 47.7 -1.9
PTAC **Punta Ardita,** 149.09 346 ⇑*i*P PKPdf 14 14 45.8 +0.3
PEDA3 **Pedasi** 149.14 350 *i* P PKPbc 14 14 47.8 -2.1
ACHO3 **Achotines, Los** 149.28 350 *i* P PKPbc 14 14 48.2 -2.1
HELC **Santa Helena** 149.40 341 ⇑*i*P PKPdf 14 14 46.8 +0.3
SPBC **San Pablo de B** 149.44 338 ⇑*i*P PKPdf 14 14 46.6 +0.4
CACAO **El Cacao, Vera** 149.45 352 ⇑*i*P PKPdf 14 14 46.9 +0.9
CLDB **Colider** 149.48 289 *eP* PKPdf 14 14 43.7 -2.4
PTGB **Pitanga** 149.75 260 *eP* PKPdf 14 14 44.0 -2.4
NORC **Norcasia** 149.79 339 ⇑*i*P PKPdf 14 14 48.2 +1.5
CBOC **Ciudad Bolivar** 149.85 342 ⇑*i*P PKPdf 14 14 47.1 +0.1
PTGC **Puerto Gaitan,** 150.03 333 ⇑*i*P PKPdf 14 14 46.5 -0.6
CHIC **Chingaza** 150.26 337 ⇑*i*P PKPdf 14 14 47.4 -0.5
GUY2C **Guyana, Caldas** 150.26 340 *i* P PKPdf 14 14 48.1 +0.1
ROSC **El Rosal** 150.28 338 PKP PKPdf 14 14 48.5 +0.6
comp=Z,719nm,1.0s,baz=103,slow=2.0,SNR=78
ROSC PKPbc PKiKP 14 14 54.7 +0.8
comp=Z,5μm,0.9s,baz=123,slow=4.4,SNR=112
ROSC **El Rosal** 150.28 338 ⇑*i*P PKPdf 14 14 49.2 +1.3
PDRB **Porto dos Gac** 150.63 288 *eP* PKPdf 14 14 46.2 -1.7
VILC **Villavicencio,** 150.73 336 *eP* PKPdf 14 14 49.4 +1.1
CPSB **Cacapava Do Su** 150.84 249 *eP* PKPdf 14 14 46.2 -1.6
PLMC **San Jos del P** 150.84 342 ⇑*i*P PKPdf 14 14 48.6 +0.2
ANIL **Santa Ana** 150.97 340 ⇑*i*P PKPdf 14 14 48.8 -0.1
PIZC **Pizarro, Choco** 151.08 344 ⇑*i*P PKPdf 14 14 50.5 +1.9
PP1B **Ponte de Pedra** 151.13 275 *eP* PKPdf 14 14 46.6 -2.0
SALV **Santo Antonio** 151.36 279 *eP* PKPdf 14 14 48.4 -0.6
ORTC **Ortega, Tolima** 151.46 339 ⇑*i*P PKPdf 14 14 48.7 -0.6
GUVC **San Jose del G** 151.73 333 *eP* PKPdf 14 14 50.3 +0.6
YOTC **Yotoco, Valle** 151.74 341 ⇑*i*P PKPdf 14 14 49.3 -0.5
AQDB **Aquidauana** 152.55 270 *eP* PKPdf 14 14 48.8 -1.8
MACC **Macarena, Meta** 152.59 335 ⇑*i*P PKPdf 14 14 50.5 -0.4
BETC **Betania** 152.68 338 *eP* PKPdf 14 14 52.6 +1.5
MARP **Paez Belalcaza** 152.69 340 ⇑*i*P PKPdf 14 14 52.2 +0.8
GARC **Garzon, Huila** 153.16 338 ⇑*i*P PKPdf 14 14 52.4 +0.4
GR1C **Gorgona, Isla** 153.17 344 *eP* PKPdf 14 14 52.0 +0.2
POPC **Popayan, Colom** 153.20 341 ⇑*i*P PKPdf 14 14 51.9 -0.2
PCON **Cinco Dias** 153.32 340 ⇑*i*P PKPdf 14 14 53.8 +1.1
LPA **La Plata** 153.54 238 *ce*PKIKP PKPdf 14 14 53.8 +2.2
LPA **La Plata** 153.54 238 PKP PKiKP 14 15 01.2 +1.7
LPA PP PP 14 18 49.4 +2.1
LPA SDIFF 14 27 35.2
SOTA **Rioblanco** 153.57 341 ⇑*i*P PKPdf 14 14 54.1 +1.1
ITQB **Itaqui** 153.67 250 *eP* PKPdf 14 14 50.3 -1.7
FIUBA **FACULTAD INGEN** 154.07 238 *i* P PKPdf 14 14 53.5 +1.2
VILB **Vilhena** 154.26 289 *eP* PKPdf 14 14 51.8 -1.5
CPUP **Villa Florida** 154.55 257 PKP PKPdf 14 14 53.3 0.0
comp=Z,601nm,1.0s,baz=73,slow=1.6,SNR=166
CPUP PKPbc PKiKP 14 15 02.2 +0.4
comp=Z,1μm,0.6s,baz=92,slow=2.5,SNR=62
CPUP PKPab PKPab 14 15 17.6 +0.6
comp=Z,1μm,1.0s,baz=70,slow=3.6,SNR=8.9
CPUP PKKP 14 23 23.1
comp=Z,57nm,1.0s,baz=2.1,slow=3.4,SNR=3.4
CPUP **Villa Florida** 154.55 257 *eP* PKPdf 14 14 51.6 -1.7
GCUF **Volcan Galeras** 154.65 342 ⇑*i*P PKPdf 14 14 56.0 +1.5
PTLC **Puerto Leguiza** 154.77 335 ⇑*i*P PKPdf 14 14 53.9 -0.1
CMBC **Cumbal** 155.06 342 *eP* PKPdf 14 14 56.3 +1.3
TULM **Tulcn-Chalpat** 155.26 342 ⇑*i*P PKPdf 14 14 56.2 +0.9
CUSE **Cuicocha Este** 155.82 343 ⇑*eP* PKPdf 14 14 56.2 +0.2
OTAV **Otavalo** 155.90 343 ⇑*i*P PKPdf 14 14 57.1 +0.9
PAC1 **Pacto, Paraso** 155.96 344 ⇑*eP* PKPdf 14 14 57.1 +1.3
SIV **San Ignacio** 156.25 283 PKP PKPdf 14 14 55.6

	comp=Z,816nm,0.9s,baz=125,slow=2.1,SNR=30						
PLCA			PP	PP		14 19 14.5	+0.3
	comp=Z,101nm,1.1s,baz=53,slow=6.5,SNR=6.2						
LL06	Loncomilla	158.66	204 ⇑	iP	PKPdf	14 14 59.4	+1.3
LL03	Petrohue	159.07	208	iP	PKPdf	14 14 58.7	+0.1
LL04	Puerto Octay	159.26	208 ⇑	iP	PKPdf	14 14 59.9	+1.0
LL05	Los Muermos	159.29	205 ⇑	iP	PKPdf	14 15 00.3	+1.5
LR03	Panguipulli	160.27	210 ⇑	iP	PKPdf	14 15 00.4	+0.4
MRA	San Martin	160.49	237	iP	PKPdf	14 15 01.5	+0.8
LR04	Corral	160.55	208 ⇑	iP	PKPdf	14 15 00.8	+0.5
CZSB	Cruzeiro do Su	160.59	320	eP	PKPdf	14 15 00.3	-0.9
LC01	Cunco	160.62	213 ⇑	iP	PKPdf	14 15 00.6	+0.1
EDS3	Malargue	161.40	224	eP	PKPdf	14 15 02.1	+0.5
ACHE	Chepes	161.71	240	eP	PKPdf	14 15 02.6	+0.6
HJA	Humahuaca	161.85	266	iP	PKPdf	14 15 04.3	+1.6
APLL	PUNTA DE LOS L	161.87	242	eP	PKPdf	14 15 02.6	+0.5
SLA	San Lorenzo	161.97	261	iP	PKPdf	14 15 04.0	+1.4
AVIZ	Vizcacheras	162.10	231	eP	PKPdf	14 15 03.3	+0.9
FSA	Cafayete	162.32	256	eP	PKPdf	14 15 03.9	+1.0
ACLC	CERRO LA CRUZ	162.52	245	eP	PKPdf	14 15 03.7	+0.7
AAGR	Agrelo	162.53	232	iP	PKPdf	14 15 04.0	+1.3
AVFE	Valle Fertil	162.53	241	eP	PKPdf	14 15 03.4	+0.6
LPAZ	La Paz	162.61	290	PKP	PKPdf	14 15 03.6	-0.3
	comp=Z,259nm,1.1s,baz=40,slow=3.8,SNR=129						
LPAZ				PKPab	PKPab	14 15 53.2	+0.2
	comp=Z,181nm,0.9s,baz=23,slow=5.9,SNR=9.4						
LPAZ			PP		PP	14 19 39.6	+1.7
	comp=Z,50nm,0.8s,baz=46,slow=4.9,SNR=2.8						
LPAZ	La Paz	162.61	290 ⇑	iP	PKPdf	14 15 04.0	+0.1
LPAZ	La Paz	162.61	290	eP	PKPdf	14 15 01.4	-2.6
ML02	Panimavida	162.65	220 ⇑	iP	PKPdf	14 15 03.0	+0.3
ARCO	CERRO ARCO	162.72	232	eP	PKPdf	14 15 03.7	+0.6
ASAL	Salagasta	162.78	233	eP	PKPdf	14 15 03.9	+0.9
RTCV	Cerro Valdivia	162.89	236	eP	PKPdf	14 15 04.5	+1.4
SJA	San Juan	163.06	237	iP	PKPdf	14 15 05.4	+2.1
RTLL	Cerro Villicun	163.07	237	iP	PKPdf	14 15 04.2	+0.9
LMEL	Las Melosas	163.08	227 ⇑	iP	PKPdf	14 15 03.8	+0.5
ZON	Zonda	163.14	237	iP	PKPdf	14 15 04.0	+0.6
AUSP	Uspallata	163.36	234	eP	PKPdf	14 15 04.8	+1.0
GO05	Huala	163.46	221 ⇑	iP	PKPdf	14 15 03.4	-0.1
GO05	Huala	163.46	221	iP	PKPdf	14 15 04.2	+0.7
MT03	Universidad Ad	163.49	228 ⇑	iP	PKPdf	14 15 04.0	+0.3
RTLS	Leoncito	163.50	235	iP	PKPdf	14 15 04.8	+0.8
MT09	Talagante	163.65	226 ⇑	iP	PKPdf	14 15 03.3	-0.6
MT05	Renca	163.70	228 ⇑	iP	PKPdf	14 15 04.2	+0.4
VCA	Vinchina	163.77	246	iP	PKPdf	14 15 05.9	+1.7
MT01	Popeta	163.77	226 ⇑	iP	PKPdf	14 15 03.7	-0.1
PEL	Peldehue	163.81	229 ⇑	iP	PKPdf	14 15 04.0	+0.1
PEL	Peldehue	163.81	229	iP	PKPdf	14 15 04.8	+0.9
BO03	Pichilemu	163.82	223 ⇑	iP	PKPdf	14 15 03.6	-0.1
ACCO	Cerro Coronel	163.84	239	eP	PKPdf	14 15 05.0	+0.6
VA03	San Esteban	163.93	230 ⇑	iP	PKPdf	14 15 04.5	+0.4
ACDV	Cuesta del Vie	164.04	240	eP	PKPdf	14 15 05.2	+0.8
MT02	Curacav	164.05	228 ⇑	iP	PKPdf	14 15 04.0	-0.1
ROCH	El Roble	164.13	229 ⇑	iP	PKPdf	14 15 04.4	-0.1
ROCH				⇑ iP	PKPdf	14 15 02.0	-2.5
ROC1	El Roble	164.13	229	iP	PKPdf	14 15 01.7	-2.7
VA05	Santo Domingo	164.19	226	eP	PKPdf	14 15 03.6	-0.5
AROD	Rodeo	164.33	240	eP	PKPdf	14 15 06.1	+1.3
VA01	Torpederas	164.54	227 ⇑	iP	PKPdf	14 15 04.6	+0.1
VA06	Catapilco	164.56	229	eP	PKPdf	14 15 04.2	-0.4
PB16	IPOC Station P	164.62	285 ⇑	iP	PKPdf	14 15 06.2	+0.5
PB16	IPOC Station P	164.62	285	iP	PKPdf	14 15 06.5	+0.8
GO01	Chusmiza	164.75	280 ⇑	iP	PKPdf	14 15 06.1	+0.4
PB08	IPOC Station P	164.84	278 ⇑	iP	PKPdf	14 15 06.1	+0.5
PB08	IPOC Station P	164.84	278	iP	PKPdf	14 15 07.0	+1.4
LVC	Limon Verde	165.02	269	PKP	PKPdf	14 15 06.5	+0.8
	comp=Z,85nm,0.8s,baz=120,slow=1.4,SNR=71						
LVC				PKPab	PKPab	14 16 04.7	+1.4
	comp=Z,489nm,0.9s,baz=67,slow=2.5,SNR=23						
LVC				pPKPab	pPKPab	14 16 44.8	+3.0
	comp=Z,110nm,0.9s,baz=174,slow=2.9,SNR=2.2						
LVC			PP		PP	14 19 49.9	-0.7
	comp=Z,110nm,0.9s,baz=82,slow=5.9,SNR=8.0						
LVC	Limon Verde	165.02	269 ⇑	iP	PKPdf	14 15 06.6	+0.9
LVC	Limon Verde	165.02	269	iP	PKPdf	14 15 07.3	+1.6
LVC	Limon Verde	165.02	269	eP	PKPdf	14 15 04.0	-1.7
PB11	IPOC Station P	165.20	280 ⇑	iP	PKPdf	14 15 05.3	-0.3
PB11	IPOC Station P	165.20	280	iP	PKPdf	14 15 06.2	+0.6
PB09	IPOC Station P	165.24	272 ⇑	iP	PKPdf	14 15 06.7	+1.0
PB09	IPOC Station P	165.24	272	iP	PKPdf	14 15 07.0	+1.4
PB01	IPOC Station P	165.34	275 ⇑	iP	PKPdf	14 15 05.8	+0.2
PB01	IPOC Station P	165.34	275	iP	PKPdf	14 15 05.4	-0.3
AP01	Chacalluta	165.37	286 ⇑	iP	PKPdf	14 15 05.6	+0.1
GO04	Tololo Observa	165.38	238 ⇑	iP	PKPdf	14 15 05.5	-0.1
GO04	Tololo Observa	165.38	238	iP	PKPdf	14 15 06.5	+0.8
PB12	IPOC Station P	165.45	285 ⇑	iP	PKPdf	14 15 06.0	+0.2
PB12	IPOC Station P	165.45	285	iP	PKPdf	14 15 06.5	+0.7
PB15	IPOC Station P	165.58	267	iP	PKPdf	14 15 06.5	+0.5
PB06	IPOC Station P	165.64	269 ⇑	iP	PKPdf	14 15 06.4	+0.5
PB06	IPOC Station P	165.64	269	iP	PKPdf	14 15 07.0	+1.1
PB02	IPOC Station P	165.76	274 ⇑	iP	PKPdf	14 15 06.3	+0.3
PB02	IPOC Station P	165.76	274	iP	PKPdf	14 15 07.0	+1.0
CO06	Fray Jorge	165.79	235 ⇑	iP	PKPdf	14 15 05.1	-0.6
GO03	Copiap	165.80	249 ⇑	iP	PKPdf	14 15 06.1	+0.3
GO03	Copiap	165.80	249	iP	PKPdf	14 15 06.4	+0.6
PB07	IPOC Station P	165.82	273 ⇑	iP	PKPdf	14 15 06.4	+0.3
PB07	IPOC Station P	165.82	273	iP	PKPdf	14 15 07.0	+0.9
TA01	Diego Aracena	165.87	277 ⇑	iP	PKPdf	14 15 06.0	+0.1
PATCX	Punta Patache	165.90	276 ⇑	iP	PKPdf	14 15 05.9	-0.2
PB04	IPOC Station P	166.14	270 ⇑	iP	PKPdf	14 15 06.7	+0.3
PB04	IPOC Station P	166.14	270	iP	PKPdf	14 15 07.0	+0.7
NNA	Nana	166.41	323	PKP	PKPdf	14 15 06.8	+0.2
	comp=Z,91nm,0.8s,baz=313,slow=2.1,SNR=34						
NNA				PKPab	PKPab	14 16 09.9	+1.1
	comp=Z,449nm,0.8s,baz=354,slow=4.0,SNR=32						
NNA				pPKPab	pPKPab	14 16 49.8	+2.4
	comp=Z,354nm,1.0s,baz=355,slow=4.4,SNR=4.0						
NNA			PP		PP	14 19 59.9	+4.1
	comp=Z,60nm,1.0s,baz=319,slow=6.1,SNR=3.5						
PB14	IPOC Station P	166.43	261 ⇑	iP	PKPdf	14 15 07.3	+0.5
PB14	IPOC Station P	166.43	261	iP	PKPdf	14 15 06.5	-0.2
PB10	IPOC Station P	166.58	265 ⇑	iP	PKPdf	14 15 07.0	+0.5
PB10	IPOC Station P	166.58	265	iP	PKPdf	14 15 07.0	+0.5

JMA 13 14:00:52.8,35°.18N×137°.22E,h43km±1km,M0.6,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAO	Obara	0.09	20	P	Pn	14 00 59.7	-0.2
JAO				S	Sn	14 01 04.8	0.0
JYTA	Yamagatataniai	0.57	316	P	Pn	14 01 04.5	-0.1
JYTA				S	Sn	14 01 12.7	-0.3

WEL 13 14:05:27.8,43°.5±2°.×17°.3E±°,h7km±1km,M3.4/11, ML3.6/12,MLv3.4/11,Error ellipse: s-maj=0.0km s-min=0.0km az=42.8,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	McQueen's Vall	0.25	186	P	Pg	14 05 34.8	+2.1
MQZ				S	Sg	14 05 38.7	+2.7
AMCZ	Amberley	0.28	355	P	Pb	14 05 35.5	+0.2
OKCZ	Okains Bay	0.38	134	P	Pb	14 05 37.1	+0.2
OKCZ				S	Sb	14 05 42.9	-0.1
AKCZ	Akaroa Harbour	0.44	159	P	Pb	14 05 38.5	+0.5
AKCZ				S	Sb	14 05 45.7	+0.9
RACZ	Rakaia	0.48	236	P	Pn	14 05 40.0	-1.1
OXZ	Oxford	0.49	286	P	Pb	14 05 39.7	+0.9
OXZ				S	Sb	14 05 47.1	+0.9
GVZ	Greta Valley S	0.55	27	P	Pb	14 05 40.3	+0.5
LTZ	Lake Taylor	0.74	336	P	Pn	14 05 44.2	-0.6
WACZ	Wakanui South	0.78	232	P	Pn	14 05 45.7	+0.5
MHCZ	Mount Hutt	0.82	265	P	Pn	14 05 47.1	+1.2
INZ	Inchbonnie	1.17	308	P	Pn	14 05 51.0	+0.4
ARCZ	Arundel	1.20	246	P	Pn	14 05 51.4	+0.4
RPZ	Rata Peaks	1.21	257	P	Pn	14 05 51.8	+0.6
KHZ	Kahutara	1.22	31	P	Pg	14 05 50.7	-0.5
WVZ	Waitaha Valley	1.48	284	P	Pg	14 05 56.3	+0.2
TMZ	Timaru	1.52	232	P	Pb	14 05 56.2	-0.3
THZ	Tophouse	1.70	6	P	Pn	14 05 58.1	+0.1
GCSZ	Gaunt Creek Bo	1.73	274	P	Pg	14 06 00.6	-0.3
DSZ	Denniston Nort	1.83	339	P	Pn	14 06 00.4	+0.6
BSWZ	Blackbirch Sta	1.95	27	P	Pn	14 06 01.5	+0.1
LBZ	Lake Benmore	2.03	242	P	Pb	14 06 03.9	-1.1
MRNZ	Matariki Terra	2.06	1	P	Pn	14 06 03.9	+1.0
FOZ	Fox Glacier	2.09	267	P	Pb	14 06 05.9	-0.2
ODZ	Otahua Downs	2.16	222	P	Pn	14 06 04.8	+0.6
NNZ	Nelson	2.30	13	P	Pn	14 06 06.8	+0.7
TKNZ	Takaka Hill	2.43	5	P	Pn	14 06 09.2	+1.2
BHW	Baring Head	2.61	39	P	Pn	14 06 09.6	-0.8
QRZ	Quartz Range	2.63	357	P	Pn	14 06 11.0	+0.3
JCZ	Jackson Bay	2.89	256	P	Pn	14 06 16.0	+1.6
CAW	Cannon Point	2.94	38	P	Pn	14 06 13.8	-1.2
WKZ	Wanaka	2.97	241	P	Pn	14 06 16.9	+1.4
EAZ	Earnscleugh	3.00	233	P	Pn	14 06 16.5	+0.7
KIW	Kapiti Island	3.08	33	P	Pn	14 06 16.3	-0.6
MTW	Mount Morrison	3.11	43	P	Pn	14 06 16.0	-1.3
OGWZ	Otaki Gorge	3.22	36	P	Pn	14 06 17.6	-1.2
TUZ	Tuapeka	3.31	220	P	Pn	14 06 20.6	+0.6
MRZ	Mangatainoka R	3.53	39	P	Pn	14 06 22.2	-0.8
TIWZ	Tintock	3.58	43	P	Pn	14 06 23.3	-0.5
MSZ	Milford Sound	3.64	249	P	Pn	14 06 27.4	+2.9
MLZ	Mavora Lakes	3.79	238	P	Pn	14 06 27.5	+0.8
BFZ	Birch Farm	3.84	45	P	Pn	14 06 25.5	-1.8
SYZ	Scrubby Hill	3.98	218	P	Pn	14 06 30.5	+1.4
WAZ	Wanganui	4.08	26	P	Pn	14 06 29.0	-1.7
ANWZ	Angora Road	4.12	45	P	Pn	14 06 30.4	-0.8
PREZ	Palmer Road	4.26	16	P	Pn	14 06 34.9	+1.8
KHEZ	Kahui Hut	4.28	14	P	Pn	14 06 35.7	+2.2
NBEZ	Newall Road No	4.28	12	P	Pn	14 06 35.0	+1.6
NEZ	North Egmont	4.32	15	P	Pn	14 06 36.3	+2.4
PKE	Pukeiti	4.37	13	P	Pn	14 06 36.2	+1.5
DREZ	Durham Road	4.42	15	P	Pn	14 06 36.7	+1.5
MTVZ	Mangateitei	4.58	28	P	Pn	14 06 38.7	+1.2
VRZ	Vera Road	4.60	21	P	Pn	14 06 38.7	+0.9
PKVZ	Pokaka	4.62	27	P	Pn	14 06 38.9	+0.7
MOVZ	Moawhango	4.66	31	P	Pn	14 06 38.4	-0.3
TRVZ	Turoa	4.68	28	P	Pn	14 06 39.3	+0.2
BHHZ	Black Hill Sta	4.71	34	P	Pn	14 06 39.0	-0.3
WHVZ	Whangaehu Hut	4.71	29	P	Pn	14 06 40.5	+1.0
FWVZ	Far West T-bar	4.72	28	P	Pn	14 06 40.3	+0.6
TUVZ	Tukino	4.75	29	P	Pn	14 06 38.9	-1.0
NGZ	Ngauruhoe	4.81	28	P	Pn	14 06 41.2	+0.4
SNVZ	South Ngauruho	4.81	29	P	Pn	14 06 41.5	+0.7
OTVZ	Oturere	4.84	29	P	Pn	14 06 41.8	+0.5
NNVZ	North Ngauruho	4.85	28	P	Pn	14 06 41.8	+0.4
WTVZ	West Tongariro	4.86	28	P	Pn	14 06 41.8	+0.3
ETVZ	East Tongariro	4.88	29	P	Pn	14 06 42.3	+0.5
TMVZ	Te Maari	4.90	29	P	Pn	14 06 42.2	+0.2
NTVZ	North Tongarir	4.90	28	P	Pn	14 06 43.0	+1.0
BKZ	Black Stump Fm	5.16	35	P	Pn	14 06 43.7	-1.8
HIZ	Hauiti	5.21	19	P	Pn	14 06 46.4	+0.3
NMHZ	Naumai	5.35	37	P	Pn	14 06 48.0	-0.2
TOZ	Tahuroa Road	6.11	21	P	Pn	14 06 58.2	-0.3
MKAZ	Moumakai	6.62	17	P	Pn	14 07 05.7	+0.1
HAZ	Te Kaha	6.89	36	P	Pn	14 07 07.0	-2.2
WIAZ	Waiheke Island	6.92	17	P	Pn	14 07 09.8	+0.2

*IDC **13** 14:14:01.5±0.8, 12°.62N×95°.26E, h0km, mb4.3/15, mb1 4.4/16,mb1mx4.1/63,mbtmp4.3/16,ML3.5/1, Error ellipse: s-maj=31.4km s-min=14.7km az=53.0*
*NEIC **13** 14:14:03.2±1.1, 12°.56N±0°.08×95°.18E±0°.07, h10km±1km, mb4.9/14, Error ellipse: s-maj=12.9km s-min=11.3km az=6.0*

ISC 13 14:14:04.1±0.5, 12°.57N±0°.07×95°.21E±0°.05, h19km, n44, σ0.991/41, mb4.5/23, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGPR	DIGLIPUR	2.31	286	eP	Pn	14 14 39.5	-1.7
DGPR				eS	Sb	14 15 15.3	+2.0
PBA	Port Blair	2.58	250		Pn	14 14 44.3	-0.6
PBA	Port Blair	2.58	250	eP	Pn	14 14 42.6	-2.3
PBA				eS	Sn	14 15 15.8	+0.1
SRIT	Nakonsritamara	5.85	132		Pn	14 15 29.0	-0.9
CM31	Chiang Mai Arr	6.87	31	Pn	Pn	14 15 44.1	+0.1
CMAR	Chiang Mai Arr	6.87	31	Pn	Pn	14 15 41.8	-2.2
	0.3nm,0.3s,baz=222,slow=14,SNR=5.4						
CMAR	Chiang Mai Arr	6.87	31	Pn	Pn	14 15 44.1	+0.1
CHTO	Chiang Mai	7.18	30	Pn	Pn	14 15 48.1	0.0
KULM	Kulim	9.01	143	Pn	Pn	14 16 12.6	-0.6
IPM	Ipoh	9.88	144	Pn	Pn	14 16 25.6	+0.3
UBPT	Khong Chiam	10.32	74	Pn	Pn	14 16 31.3	0.0
KSM	Kuching	18.58	125	P	Pn	14 18 20.6	0.0
KSM				IAmb	IAmb	14 18 31.1	
	comp=Z,20nm,1.0s						
SBUM	Sibu	19.61	119	P	P	14 18 31.1	-0.4
KKM	Kota Kinabalu	21.70	105	P	P	14 18 54.3	-0.1
KKM				IAmb	IAmb	14 19 04.3	
	comp=Z,27nm,1.1s						
MYLDM	Lahad Datu	24.14	106	P	P	14 19 19.9	+0.7
LZH	Lanzhou	24.68	17	eP	P	14 19 32.9	+8.8
LZH				pP	pwP	14 19 36.8	+4.0
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
TARG	Taragay, Kyrgy	32.79	336	P	P	14 20 36.4	-0.2
DRK	Karamyk	33.87	327	P	P	14 20 46.5	+0.5
MKAR	Makanchi Array	35.81	345	P	P	14 21 02.5	+0.1
	comp=Z,6.7nm,1.0s,baz=163,slow=8.5,SNR=4.8						
SONM	Songino Array	36.38	13	P	P	14 21 06.0	-1.4
	comp=Z,1.3nm,1.0s,baz=276,slow=3.9,SNR=1.5						
KSRS	Korea Array	38.31	44	P	P	14 21 30.1	+6.4
	comp=Z,1.9nm,0.8s,baz=225,slow=9.1,SNR=4.7						
JNU	Nakatsue	38.44	52	P	P	14 21 25.9	+0.9
	comp=Z,6.4nm,1.0s,baz=214,slow=18,SNR=1.7						
JNU	Nakatsue	38.44	52	IAmb	IAmb	14 21 30.8	
	comp=Z,5.3nm,0.9s						
KURBB	Kurchatov Arra	40.33	344	P	P	14 21 40.3	0.0
	comp=Z,6.1nm,0.9s,baz=151,slow=7.7,SNR=8.7						
KURK	Kurchatov	40.38	344	P	P	14 21 39.8	-1.0
KURK				IAmb	IAmb	14 21 52.7	
	comp=Z,27nm,1.1s						
GEYT	Alibeck	41.57	314	P	P	14 21 51.0	+0.2
	comp=Z,18nm,0.7s,baz=110,slow=16,SNR=5.6						
GEYT	Alibeck	41.57	314	IAmb	IAmb	14 21 58.8	
	comp=Z,23nm,0.9s						
GYA0B	ALIBECK ARRAY	41.57	314	P	P	14 21 50.3	-0.5
GYA0B				IAmb	IAmb	14 21 59.5	
	comp=Z,29nm,0.7s						
ZALV	Zalesovo Beam	42.10	351	P	P	14 21 55.2	+0.4
	comp=Z,3.3nm,0.7s,baz=177,slow=8.8,SNR=5.1						
FITZ	Fitzroy Crossi	42.78	135	P	P	14 22 01.8	+1.0
	comp=Z,3.3nm,0.9s,baz=293,slow=13,SNR=3.3						
MORW	Morawa	46.02	154	P	P	14 22 27.1	+0.5
MORW				IAmb	IAmb	14 22 35.4	
	comp=Z,17nm,0.8s						
ABKAR	Akbulak array	46.72	329	P	P	14 22 31.1	-0.8
WB0	Warramunga Arr	50.20	129	P	P	14 22 58.8	-0.4
WB0				IAmb	IAmb	14 23 07.0	
	comp=Z,15nm,0.8s						
WRA	Warramunga Arr	50.27	129	P	P	14 22 59.3	-0.3
	comp=Z,4.8nm,0.9s,baz=308,slow=8.4,SNR=11						
WR0	Warramunga Arr	50.43	129	P	P	14 23 00.3	-0.5
WR0				IAmb	IAmb	14 23 08.9	
	comp=Z,14nm,0.8s						
ASAR	Alice Springs	52.23	134	P	P	14 23 14.2	-0.1
	comp=Z,3.0nm,0.8s,baz=312,slow=6.4,SNR=5.7						
BRTR	Keskin Array B	60.26	309	P	P	14 24 13.1	+1.4
	comp=Z,3.1nm,0.6s,baz=121,slow=8.0,SNR=8.7						
STKA	Stephens Creek	62.65	136	P	P	14 24 28.2	+0.5
	comp=Z,5.1nm,0.8s,baz=16,slow=14,SNR=3.4						
STKA	Stephens Creek	62.65	136	IAmb	IAmb	14 24 30.0	
	comp=Z,2.1nm,1.1s						
FINES	FINESS Array B	69.10	331	P	P	14 25 08.8	0.0
	comp=Z,2.9nm,0.6s,baz=27,slow=1.6,SNR=3.5						
GERES	GERESS Array B	75.08	317	P	P	14 25 43.8	-1.2
	comp=Z,1.9nm,0.8s,baz=80,slow=7.3,SNR=2.1						
SPITS	Spitsbergen Ar	75.49	348	P	P	14 25 46.8	+0.1
	comp=Z,7.0nm,0.8s,baz=104,slow=6.1,SNR=1.5						
NOA	NORSAR Array B	76.20	330	P	P	14 25 52.0	+0.9
	comp=Z,1.2nm,0.8s,baz=90,slow=5.9,SNR=2.0						
PDAR	Pinedale Array	120.44	21	PKP	PKiKP	14 32 56.1	+0.9
	comp=Z,2.5nm,0.8s,baz=116,slow=3.4,SNR=4.3						

*IDC **13** 14:41:42.1±2.4, 6°.81N×126°.60E, h75km±21km, mb3.6/8, mb1 3.8/10,mb1mx3.5/48,mbtmp4.0/10, Error ellipse: s-maj=42.0km s-min=13.1km az=63.0*
*NEIC **13** 14:41:42.8±1.4, 6°.72N±0°.10×126°.5E±0°.1, h77km±9km, mb4.2/13, Error ellipse: s-maj=18.2km s-min=10.9km az=54.0*
*MAN **13** 14:41:43.8, 6°.62N×126°.32E, h23km, mb4.7, ML3.6, MS3.5, Hypocentre not reviewed by the ISC*

ISC 13 14:41:42.2±0.7, 6°.59N±0°.07×126°.35E±0°.08, h68km, n31, σ1.964/33, mb4.1/14, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	0.90	302	P	Pn	14 42 01.0	+1.7
	570nm,0.3s,baz=199,slow=1.7,SNR=32						
DAV				S	Sn	14 42 16.3	+4.1
	327nm,0.3s,baz=49,slow=19,SNR=27						
KCP	Kidapawan	1.32	288	⇓ iP	Pn	14 42 05.6	+0.9
KCP				i S	Sn	14 42 23.3	+1.6
GSPH	General Santos	1.48	250	⇑ eP	Pn	14 42 04.6	-2.4
GSPH				i S	Sn	14 42 23.4	-2.2
TNTI	Ternate	5.87	170	Pn	Pn	14 43 08.2	+1.6
TOLI2	Tolitoli	7.78	226		Pn	14 43 32.4	-0.4
SIJI	Sorong	8.89	146	P	Pn	14 43 49.1	+1.1
	1.1nm,0.3s,baz=330,slow=16,SNR=4.2						
SBUM	Sibu	14.67	254	Pn	Pn	14 45 07.2	+1.0
BATI	Baumata	16.90	189	P	P	14 45 38.4	+2.9
	2.0nm,0.3s,baz=8.9,slow=7.6,SNR=2.0						
JOW	Kunigami	20.21	5	P	P	14 46 09.3	-2.3
JOW				IAmb	IAmb	14 46 15.9	
	comp=Z,20nm,1.0s						
KNRA	Kununurra	22.25	174	P	P	14 46 34.2	+0.5
KNRA				IAmb	IAmb	14 47 02.1	
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	24.54	182	P	P	14 46 56.6	+0.9
	comp=Z,2.1nm,0.5s,baz=5.8,slow=9.1,SNR=11						
FITZ	Fitzroy Crossi	24.54	182	P	P	14 46 55.3	-0.3
WB0	Warramunga Arr	27.36	163	P	P	14 47 20.9	-0.3
WB0				IAmb	IAmb	14 47 31.8	
	comp=Z,6.2nm,1.1s						
WRA	Warramunga Arr	27.52	164	P	P	14 47 21.8	-0.7
	comp=Z,1.0nm,0.3s,baz=341,slow=10,SNR=1.7						
WRA	Warramunga Arr	27.52	164	IAmb	IAmb	14 47 28.9	
	comp=Z,0.2nm,1.1s						
PSA00	Pilbara Seismi	28.71	193	P	P	14 47 33.4	+0.2
PSA00				IAmb	IAmb	14 47 54.7	
	comp=Z,6.5nm,1.1s						
ASAR	Alice Springs	30.97	166	P	P	14 47 53.8	+0.6
	comp=Z,0.4nm,0.5s,baz=350,slow=7.8,SNR=2.0						
ASAR				PcP	PcP	14 50 48.5	+0.3
	comp=Z,0.2nm,0.6s,baz=346,slow=2.9,SNR=1.6						
MORW	Morawa	36.82	195	P	P	14 48 43.8	0.0
MORW				IAmb	IAmb	14 48 48.2	
	comp=Z,3.2nm,0.9s						
FORT	Forrest	37.20	178	P	P	14 48 47.5	+0.5
NWAO	Narrogin (SRO)	40.25	192	P	P	14 49 13.6	+1.1
BBOO	Buckleboo	40.26	167	P	P	14 49 13.2	+0.6
STKA	Stephens Creek	40.93	160	P	P	14 49 18.8	+0.7
	comp=Z,1.6nm,0.7s,baz=335,slow=8.7,SNR=4.4						
STKA	Stephens Creek	40.93	160	P	P	14 49 18.8	+0.7
MK31	Makanchi Array	55.02	324	P	P	14 51 04.5	-2.3
MK31				IAmb	IAmb	14 51 09.5	
	comp=Z,3.1nm,1.1s						
MKAR	Makanchi Array	55.02	324	P	P	14 51 06.6	-0.1
	comp=Z,0.9nm,0.5s,baz=117,slow=6.7,SNR=10.0						
ZALV	Zalesovo Beam	57.89	332	P	P	14 51 24.3	-2.6
	comp=

WNVZ **Wahianoa** **9.54 204** P **Pn** **15 01 17.5 -2.5**
WNVZ S **S** **15 03 04.6 -3.8**
MOVZ Moawhango **9.55 203** P **Pn** **15 01 19.3 -0.7**
MOVZ S S 15 03 01.4 -7.3
PKVZ Pokaka **9.59 205** P **Pn** **15 01 18.1 -2.4**
PKVZ S **S** **15 03 06.7 -2.8**
VRZ Vera Road **9.67 208** P **Pn** **15 01 20.6 -0.8**
PNHZ Pukenui **9.88 200** P Pn 15 01 20.7 -3.2
PNHZ S S 15 03 08.6 -7.1
WPHZ Waipukurau **9.95 198** P **Pn** **15 01 25.1 +0.4**
WPHZ S **S** **15 03 12.2 -5.0**
DREZ Durham Road **9.96 210** P **P** **15 01 27.2 +0.8**
PKE Pukeiti **10.05 210** P **P** **15 01 28.3 +0.8**
NEZ North Egmont **10.07 210** P **P** **15 01 29.6 +1.9**
TSZ Takapari Road **10.08 200** P Pn 15 01 22.4 -3.9
TSZ S S 15 03 12.4 -7.7
PRHZ Porangahau **10.09 197** P **Pn** **15 01 24.3 -2.1**
LREZ Lake Rotokare **10.10 208** P **Pn** **15 01 27.6 +1.1**
LREZ S **S** **15 03 24.9 +4.3**
PREZ Palmer Road **10.10 209** P **Pn** **15 01 28.8 +2.2**
KHEZ Kahui Hut **10.12 210** P **P** **15 01 30.1 +1.8**
WAZ Wanganui **10.13 205** P **Pn** **15 01 25.8 -1.1**
WAZ S **S** **15 03 18.0 -3.3**
NBEZ Newall Road No **10.17 211** P **P** **15 01 30.7 +2.0**
DVHZ Dannevirke **10.24 199** P **Pn** **15 01 26.4 -1.8**
DVHZ S S 15 03 16.4 -7.3
NMEZ Namu Road **10.28 210** P **P** **15 01 32.5 +2.6**
ANWZ Angora Road **10.31 198** P **Pn** **15 01 26.8 -2.2**
OHWZ Ohakea **10.42 203** P **Pn** **15 01 30.6 +0.3**
OHWZ S **S** **15 03 23.9 -3.6**
POWZ Post Office Ro **10.45 200** P **Pn** **15 01 29.1 -1.5**
POWZ S **S** **15 03 22.8 -5.3**
PRWZ Pori Road **10.54 199** P **Pn** **15 01 30.2 -1.5**
BFZ Birch Farm **10.58 198** P Pn 15 01 28.9 -3.3
BFZ Birch Farm **10.58 198** P Pn 15 01 29.2 -3.0
CPWZ Castlepoint **10.80 198** P **Pn** **15 01 35.0 +0.2**
HOWZ Holdsworth Sta **10.98 200** P Pn 15 01 32.3 -4.7
OGWZ Otaki Gorge **11.02 202** P Pn 15 01 33.3 -4.2
TMWZ Te Maipa **11.07 199** P Pn 15 01 34.9 -3.2
MTW Mount Morrison **11.23 200** P **Pn** **15 01 37.3 -2.6**
CAW Cannon Point **11.31 202** P Pn 15 01 36.7 -4.3
TRWZ Traveller **11.40 199** P **Pn** **15 01 41.0 -1.0**
DUWZ D'Urville Isla **11.44 206** P Pn 15 01 38.1 -4.4
PAWZ Paruwai Farm **11.46 200** P **Pn** **15 01 40.1 -2.6**
MSWZ Moikau Station **11.54 200** P **Pn** **15 01 40.9 -2.8**
WEL Wellington **11.57 202** P **Pn** **15 01 42.0 -2.0**
SNZO South Karori **11.61 202** P **Pn** **15 01 41.6 -2.9**
BHW Baring Head **11.65 202** P **Pn** **15 01 42.4 -2.5**
TCW Tory Channel **11.67 204** P Pn 15 01 41.3 -3.9
PLWZ Palliser **11.68 200** P Pn 15 01 41.6 -3.8
TUWZ Tuamarina **11.98 205** P P 15 01 44.1 -4.7
NNZ Nelson **12.01 207** P P 15 01 44.1 -5.0
TKNZ Takaka Hill **12.02 209** P **P** **15 01 47.4 -1.8**
QRZ Quartz Range **12.03 210** P P 15 01 45.7 -3.6
QRZ Quartz Range **12.03 210** P **P** **15 01 47.4 -1.9**
CMWZ Cape Campbell **12.17 203** P **P** **15 01 50.6 -0.3**
BSWZ Blackbirch Sta **12.26 204** P **P** **15 01 49.8 -2.0**
MRNZ Matariki Terra **12.41 208** P **P** **15 01 51.0 -2.6**
THZ Tophouse **12.66 207** P P 15 01 52.4 -4.0
KHZ Kahutara **12.99 204** P P 15 01 56.0 -3.9
KHZ Kahutara **12.99 204** P **P** **15 01 57.0 -2.9**
MSVF Nonsavu **13.07 350** P **Pn** **15 02 01.7 -0.5**
DSZ Denniston Nort **13.10 210** P **P** **15 01 59.0 -2.2**
PINNC Pines Island, **14.18 301** Pn **Pn** **15 02 14.6 -0.3**
PINNC Pines Island, **14.18 301** P **Pn** **15 02 17.3 +2.4**
MQZ McQueen's Vall **14.44 203** P P **15 02 14.8 -1.0**
MARNC Mare, Loyalty **14.47 306** P **Pn** **15 02 20.6 +2.2**
OUENC Ouen Island, N **14.74 301** P Pn 15 02 24.2 +2.8
YATNC Mamie plateau, **14.92 302** P Pn 15 02 26.0 +2.5
RPZ Rata Peaks **15.04 207** P **P** **15 02 20.9 -1.5**
3.9nm,0.3s,baz=3.3,slow=17,SNR=21
RPZ S **S** **15 04 57.9 -6.1**
4.1nm,0.3s,baz=336,slow=2.1,SNR=14
RPZ Rata Peaks **15.04 207** P **P** **15 02 21.5 -0.9**
RPZ IAmb IAmb 15 02 26.7
comp=Z,24nm,0.8s
RPZ Rata Peaks **15.04 207** P **P** **15 02 20.6 -1.8**
ONTNC Ouen Toro **15.09 300** P Pn 15 02 28.5 +3.0
DZM Mont Dzumac **15.24 301** P **Pn** **15 02 29.2 +1.8**
comp=Z,3.6nm,0.3s,baz=180,slow=9.1,SNR=32
DZM Mont Dzumac **15.24 301** P **Pn** **15 02 29.6 +2.2**
NOUC Port Laguerre **15.33 300** P **Pn** **15 02 31.0 +2.8**
LIFNC LIFOU **15.49 306** P **Pn** **15 02 32.5 +2.4**
MLZ Mavora Lakes **17.60 210** P **P** **15 02 48.8 -1.2**
MLZ IAmb IAmb 15 02 55.5
comp=Z,21nm,1.0s
KOUNC Koumac, New Ca **17.76 301** P P 15 02 57.3 +5.3
AFI Afiamalu **18.12 25** S **S** **15 06 01.1 -4.3**
comp=Z,1.6nm,0.3s,baz=232,slow=19,SNR=1.4
SANVU Saraoutou **19.46 318** P **P** **15 03 12.3 +2.2**
ARMA Armidale **24.86 263** P **P** **15 04 01.3 +1.5**
ARMA Armidale **24.86 263** P **P** **15 04 03.2 +3.2**
MGCD Mangrove Creek **25.06 256** P **P** **15 04 04.2 +2.9**
EIDS Eidsvold **26.48 274** P **P** **15 04 14.7 +0.5**
EIDS Eidsvold **26.48 274** P **P** **15 04 16.1 +2.0**
CNB Canberra Magne **26.49 252** P **P** **15 04 16.2 +2.1**
CAN Canberra **26.78 252** P **P** **15 04 18.3 +1.6**
CAN Canberra **26.78 252** P **P** **15 04 18.9 +2.2**
RK1H Rockhampton Ha **27.66 278** P **P** **15 04 26.7 +2.2**
RMQ Roma **28.16 271** P **P** **15 04 31.8 +2.9**
GLAD Gladstone **28.16 240** P **P** **15 04 30.6 +1.9**
HNR Honiara **28.54 313** P **P** **15 04 30.0 -2.3**
comp=Z,34nm,0.4s,baz=254,slow=15,SNR=5.0
HNR Honiara **28.54 313** IAmb IAmb 15 04 34.7
comp=Z,31nm,1.0s
MOO Moorlands **29.06 237** P **P** **15 04 36.9 +0.2**
TAU Tasmania Unive **29.08 236** P **P** **15 04 38.1 +1.4**
TAU IAmb IAmb 15 04 40.1
comp=Z,20nm,0.8s
TAU Tasmania Unive **29.08 236** P **P** **15 04 37.8 +1.0**
TOO Toolangi **29.69 247** P **P** **15 04 43.2 +0.9**
TOO Toolangi **29.69 247** P **P** **15 04 44.0 +1.7**
CMSA Cobar Meteorol **29.77 259** P **P** **15 04 45.7 +2.7**
PPT Papeete **30.14 71** P **P** **15 04 47.3 +1.0**
comp=Z,21nm,0.7s,baz=90,slow=12,SNR=2.9
BRAT Ballarat **30.93 247** P **P** **15 04 55.4 +2.4**
QLP Quilpie **32.03 268** P **P** **15 05 04.4 +1.7**
ARPS Mount Arapiles **32.59 249** P **P** **15 05 09.2 +1.7**
CTA Charters Tower **32.59 281** P **P** **15 05 07.8 +0.1**
comp=Z,9.1nm,0.4s,baz=106,slow=10.0,SNR=43
CTA PcP **PcP** **15 07 44.6 -0.1**
comp=Z,2.7nm,0.8s,baz=162,slow=6.4,SNR=1.3
CTA Charters Tower **32.59 281** P **P** **15 05 09.9 +2.2**
STKA Stephens Creek **33.18 258** P **P** **15 05 13.4 +0.8**
comp=Z,17nm,0.6s,baz=100,slow=12,SNR=51
STKA Stephens Creek **33.18 258** P **P** **15 05 14.0 +1.4**
STKA Stephens Creek **33.18 258** P **P** **15 05 14.8 +2.2**
INKA Innaminka **34.73 265** P **P** **15 05 27.3 +1.5**
MTSU Mount Surprise **35.10 282** P **P** **15 05 31.1 +1.9**
HTT Hallett **35.21 254** P **P** **15 05 31.1 +1.2**
TWOA Tennyson Woods **35.32 252** P **P** **15 05 32.0 +1.2**
NAPP Napperby **35.88 255** P **P** **15 05 36.9 +1.4**
LCRK Leigh Creek **36.28 259** P **P** **15 05 39.6 +0.7**
WHYH Whyalla **36.38 255** P **P** **15 05 40.9 +1.2**
RABL Rabaul **37.53 309** P **P** **15 05 48.7 -0.8**
RABL IAmb IAmb 15 05 55.8
comp=Z,36nm,1.1s
KRVT Keravat (AS076 **37.54 309** P **P** **15 05 48.5 -1.1**
comp=Z,45nm,0.5s,baz=217,slow=6.0,SNR=17
BBOO Buckleboo **37.67 255** P **P** **15 05 50.2 -0.3**
BBOO IAmb IAmb 15 05 52.1
comp=Z,14nm,0.8s
BBOO Buckleboo **37.67 255** P **P** **15 05 50.6 +0.1**
QIS Mount Isa **38.07 275** P **P** **15 05 54.8 +0.8**
COEN Coen **38.13 287** P **P** **15 05 54.5 0.0**
COEN IAmb IAmb 15 05 56.6
comp=Z,20nm,1.1s
COEN Coen **38.13 287** P **P** **15 05 54.9 +0.4**
OOD Oodnadatta **39.04 263** P **P** **15 06 02.4 +0.6**
MULG Mulgathing **39.83 258** P **P** **15 06 08.1 -0.1**
AS31 Alice Springs **41.83 268** P **P** **15 06 23.8 -0.8**
ASAR Alice Springs **41.83 268** P **P** **15 06 23.9 -0.7**
comp=Z,12nm,0.6s,baz=106,slow=7.2,SNR=225
ASAR PcP **PcP** **15 08 12.8 -0.3**
comp=Z,1.3nm,0.4s,baz=113,slow=3.9,SNR=3.7
ASAR ScP **ScP** **15 11 28.9 -0.6**
comp=Z,1.4nm,0.7s,baz=114,slow=4.4,SNR=7.1
ASAR S **S** **15 12 12.2 -3.4**
comp=Z,0.9nm,0.8s,baz=105,slow=15,SNR=6.8
WRAB Tennant Creek **42.84 273** P **P** **15 06 31.8 -0.8**
WRAB IAmb IAmb 15 06 33.4
comp=Z,40nm,0.7s
WRAB Tennant Creek **42.84 273** P **P** **15 06 32.2 -0.4**
WRA Warramunga Arr **42.84 273** P **P** **15 06 31.9 -0.7**
comp=Z,44nm,0.3s,baz=112,slow=7.5,SNR=825
WRA PcP **PcP** **15 08 16.0 -0.6**
comp=Z,0.9nm,0.4s,baz=113,slow=7.6,SNR=1.5
WRA ScP **ScP** **15 11 33.7 +0.2**
comp=Z,0.7nm,0.6s,baz=106,slow=3.8,SNR=6.4
WRA S **S** **15 12 25.9 -4.5**
comp=Z,1.6nm,1.0s,baz=107,slow=12,SNR=4.7
WRA PKiKP **PKiKP** **15 15 18.0 -1.4**
comp=Z,0.1nm,0.3s,baz=80,slow=0.3,SNR=1.7
WRA Warramunga Arr **42.84 273** P **P** **15 06 31.7 -1.0**
WB0 Warramunga Arr **42.87 274** P **P** **15 06 32.1 -0.7**
FORT Forrest **44.75 256** P **P** **15 06 46.6 -0.9**
FORT IAmb IAmb 15 06 47.5
comp=Z,40nm,0.7s
FORT Forrest **44.75 256** P **P** **15 06 47.1 -0.4**
WRKA Warakurna **46.19 264** P **P** **15 06 58.0 -0.8**
SBA Scott Base **47.68 184** P **P** **15 07 12.9 +3.6**
SBA IAmb IAmb 15 07 14.6
comp=Z,54nm,1.4s
VNDA Vanda **47.70 185** P **P** **15 07 12.2 +2.6**
comp=Z,2.1nm,0.5s,baz=7.8,slow=8.3,SNR=40
VNDA PcP **PcP** **15 08 34.1 +1.6**
comp=Z,2.3nm,0.9s,baz=331,slow=6.6,SNR=4.7
VNDA ScP **ScP** **15 11 54.0 +1.4**
comp=Z,1.5nm,0.8s,baz=355,slow=3.9,SNR=6.5
VNDA Vanda **47.70 185** P **P** **15 07 11.9 +2.4**
KDU Kakadu **47.72 281** P **P** **15 07 10.0 -0.5**
MTN Manton Dam **48.77 280** P **P** **15 07 17.6 -1.0**
MTN IAmb IAmb 15 07 18.8
comp=Z,16nm,0.7s
MTN Manton Dam **48.77 280** P **P** **15 07 18.3 -0.3**
KNRA Kununurra **49.46 275** P **P** **15 07 22.9 -0.8**
KNRA IAmb IAmb 15 07 24.7
comp=Z,19nm,0.6s
KNRA Kununurra **49.46 275** P **P** **15 07 23.5 -0.2**
FITZ Fitzroy Crossi **51.09 271** P **P** **15 07 35.6 -0.2**
comp=Z,23nm,0.7s,baz=128,slow=7.2,SNR=109
FITZ Fitzroy Crossi **51.09 271** P **P** **15 07 35.4 -0.3**
FITZ IAmb IAmb 15 07 36.8
comp=Z,19nm,0.7s
KLBR Kellerberrin **53.06 252** P **P** **15 07 49.3 -0.7**
NWAO Narrogin (SRO) **53.11 250** P **P** **15 07 49.2 -1.2**
NWAO IAmb IAmb 15 08 00.4
comp=Z,31nm,1.4s
MEEK Meekatharra **53.88 258** P **P** **15 07 55.5 -0.6**
BLDU Ballidu **54.20 253** P **P** **15 07 57.4 -0.8**
MUN Mundaring **54.21 251** P **P** **15 07 57.8 -0.5**
CASY Casey **54.31 208** P **P** **15 07 58.4 0.0**
CASY IAmb IAmb 15 07 58.9
comp=Z,24nm,0.6s
PSA00 Pilbara Seismi **54.67 264** P **P** **15 08 00.4 -1.3**
PSA00 Pilbara Seismi **54.67 264** P **P** **15 08 00.7 -1.0**
MBWA Marble Bar **54.93 265** P **P** **15 08 02.6 -0.9**
MORW Morawa **55.24 254** P **P** **15 08 04.8 -0.8**
MORW IAmb IAmb 15 08 05.5
comp=Z,12nm,0.5s
MORW Morawa **55.24 254** P **P** **15 08 04.9 -0.7**
SWI Sorong **55.27 293** P **P** **15 08 06.4 +0.4**
comp=Z,12nm,0.7s
MSAI Masohi **55.69 289** P **P** **15 08 07.5 -1.4**
MSAI pP sP 15 09 43.3 -16
BATI Baumata **56.43 278** P **P** **15 08 14.2 0.0**
comp=Z,23nm,0.6s
BATI pP sP 15 09 50.7 -14
comp=Z,23nm,0.6s
LBMI Labuha **58.41 290** P **P** **15 08 27.8 -0.1**
comp=Z,8.4nm,1.1s
MMRI Maumere **58.43 279** P **P** **15 08 27.4 -0.5**
MMRI IAmb IAmb 15 08 29.1
comp=Z,25nm,0.7s
MMRI Maumere **58.43 279** P **P** **15 08 27.5 -0.5**
comp=Z,35nm,1.3s
MMRI pP sP 15 10 07.3 -12
comp=Z,35nm,1.3s
SANI Sanana **58.83 288** P **P** **15 08 29.3 -1.4**
comp=Z,15nm,1.4s
SANI Sanana **58.83 288** P **P** **15 08 30.0 -0.7**
GIRL Giralia **59.05 261** P **P** **15 08 32.1 0.0**
GIRL Giralia **59.05 261** P **P** **15 08 32.8 +0.7**
QSPA South Pole Qui **59.44 180** P **P** **15 08 36.4 +2.2**
comp=Z,67nm,0.6s,baz=29,slow=2.9,SNR=525
QSPA South Pole Qui **59.44 180** P **P** **15 08 36.8 +2.6**
BKSI Bulukumba **61.94 281** P **P** **15 08 50.5 -1.0**
comp=Z,11nm,0.7s
PLAI Plampang **62.14 276** P **P** **15 08 52.0 -0.9**
comp=Z,53nm,0.9s
PLAI pP sP 15 10 32.6 -12
comp=Z,53nm,0.9s
PLAI Plampang **62.14 276** P **P** **15 08 52.8 -0.1**
BNSI Bone **62.44 282** P **P** **15 08 52.7 -2.1**
comp=Z,16nm,1.1s
BNSI pP sP 15 10 32.9 -14
comp=Z,16nm,1.1s
APSI Ampana **63.05 286** P **P** **15 08 58.6 -0.2**
comp=Z,8.0nm,0.9s
MRSI Maisa **63.59 288** P **P** **15 09 00.6 -1.7**
comp=Z,7.6nm,0.5s
IGBI Denpasar **64.40 275** P **P** **15 09 06.9 -0.7**
comp=Z,76nm,0.9s
SRBI Singaraja **64.71 276** P **P** **15 09 09.1 -0.5**
comp=Z,30nm,0.7s
TOLI2 Tolitoli **64.90 287** P **P** **15 09 09.6 -1.2**
TOLI2 Tolitoli **64.90 287** P **P** **15 09 10.1 -0.7**
MPSI Mapaga **65.19 286** P **P** **15 09 11.7 -0.9**
comp=Z,13nm,0.8s
JAGI Jajag, Banyuwa **65.43 275** P **P** **15 09 13.2 -0.9**
JAGI Jajag, Banyuwa **65.43 275** P **P** **15 09 12.9 -1.3**
comp=Z,38nm,0.9s
GMJI Gumukmas **66.13 275** P **P** **15 09 17.6 -1.0**
comp=Z,37nm,0.9s
BLJI Banyuglugur **66.27 275** P **P** **15 09 19.0 -0.5**
comp=Z,33nm,0.5s
SMKI Samarinda **67.00 284** P **P** **15 09 25.0 +1.0**
GRJI Gresik **67.64 275** P **P** **15 09 27.2 -0.8**
comp=Z,73nm,0.7s
PWJI Pagerwojo **67.67 274** P **P** **15 09 26.2 -2.0**
comp=Z,53nm,1.1s
PCJI Pacitan **68.12 273** P **P** **15 09 30.7 -0.3**
comp=Z,243nm,0.9s
JCJ Chichijima **68.13 323** P **P** **15 09 30.4 -0.3**
UGM Wanagama **68.82 273** P **P** **15 09 35.2 -0.2**
SMAI San Martin Ant **69.65 158** P **P** **15 09 41.8 +2.4**
BELA Belgrano 2 **69.69 173** P **P** **15 09 40.5 +1.0**
KPJI Karang Pucung **70.48 273** P **P** **15 09 44.6 -0.7**
comp=Z,31nm,1.8s
MAW Mawson **71.61 201** P **P** **15 09 51.7 +0.6**
comp=Z,47nm,0.7s,baz=140,slow=6.4,SNR=6.9
MAW Mawson **71.61 201** IAmb IAmb 15 09 52.4
comp=Z,1.5nm,0.9s
LEM Lembang **71.86 273** P **P** **15 09 53.3 -0.5**
comp=Z,38nm,0.9s
CNJI Cibinong **72.04 272** P **P** **15 09 53.1 -1.5**
comp=Z,58nm,1.1s
STKI Sintang **72.09 281** P **P** **15 09 54.8 -0.1**
CBJI Citeko **72.72 273** P **P** **15 09 56.6 -2.0**
comp=Z,57nm,0.6s
DBJI Dramaga **72.74 273** P **P** **15 09 57.9 -0.9**
comp=Z,9µmcomp=Z,42nm,0.7s
SBUM Sibu **72.74 284** P **P** **15 09 58.7 -0.1**
SBUM IAmb IAmb 15 09 59.7
comp=Z,7.1nm,0.8s
CGJI Cibinong **73.62 272** P **P** **15 10 01.9 -1.9**
comp=Z,56nm,0.9s
KSM Kuching **73.83 282** P **P** **15 10 04.6 -0.4**
KSM IAmb IAmb 15 10 05.5
comp=Z,14nm,0.8s
BLSI Bandar Lampung **74.63 273** P **P** **15 10 08.2 -1.4**
comp=Z,91nm,0.4s
KASI Kota Agung **75.19 272** P **P** **15 10 10.6 -2.2**
comp=Z,42nm,0.8s
PPBI Pangkal Pinang **75.48 276** P **P** **15 10 13.9 -0.6**
LWLI Liwa **75.82 273** P **P** **15 10 15.3 -1.2**
comp=Z,49nm,0.7s
ESPZ Base Esperanza **75.82 157** P **P** **15 10 13.7 -1.8**
PMBI Palembang **76.26 275** P **P** **15 10 16.3 -2.5**
comp=Z,6µmcomp=Z,148nm,0.4s
TROLL Troll, Antarti **77.59 181** P **P** **15 10 27.0 +1.6**
DSRI Dabo **77.68 277** P **P** **15 10 25.1 -1.6**
comp=Z,6.9nm,0.8s
SNAA Sanae **77.92 179** P **P** **15 10 28.3 +1.3**
SNAA Sanae **77.92 179** P **P** **15 10 28.1 +1.0**
SNAA IAmb IAmb 15 10 29.3
comp=Z,28nm,1.2s
VNA3 Neumayer Olymp **78.12 177** P **P** **15 10 29.3 +1.2**
MASI Maura Aman, Be **78.33 273** P **P** **15 10 29.2 -1.1**
comp=Z,155nm,0.8s
VNA2 Neumayer--Watz **78.54 177** P **P** **15 10 31.9 +1.6**
baz=180,slow=4.0
VNA1 Neumayer--Stat **78.77 177** P **P** **15 10 33.3 +1.7**
JSD Sado **78.93 327** P **P** **15 10 32.4 -0.4**
JSD IAmb IAmb 15 10 38.3
comp=Z,9.1nm,1.0s
KRJI Kerinci **79.53 274** P **P** **15 10 35.8 -1.0**
comp=Z,150nm,0.7s
RGRI Rengat **79.67 276** P **P** **15 10 36.8 -0.6**
comp=Z,99nm,0.4s
JTM Tenmabayashi **79.93 331** P **P** **15 10 38.7 +0.6**
BKNI Bangkinang **81.12 276** P **P** **15 10 43.8 -1.3**
comp=Z,42nm,0.4s
PPI Padang Panjang **81.28 275** P **P** **15 10 44.3 -1.6**
H03S2 Juan Fernandez **81.37 124** T T 16 41 10.2
baz=242
H03S1 Juan Fernandez **81.38 124** T T 16 41 18.0
baz=242
H03S3 Juan Fernandez **81.39 124** T T 16 41 13.3
baz=242
H03N3 Juan Fernandez **81.57 124** T T 16 41 06.6
baz=242,slow=74
H03N2 Juan Fernandez **81.57 124** T T 16 41 10.7
baz=242
H03N1 Juan Fernandez **81.58 124** T T 16 41 05.9
baz=242,slow=74
MNSI Mandalilng Nat **82.61 275** P **P** **15 10 51.0 -1.8**
comp=Z,24nm,0.7s
PLCA Paso Flores **83.25 134** P **P** **15 10 57.8 +2.1**
comp=Z,1.4nm,0.7s,baz=252,slow=5.1,SNR=5.1
EFI East Falkland **83.25 148** P **P** **15 10 55.9 +0.6**
IPM Ipoh **83.27 279** P **P** **15 10 55.2 -0.9**
IPM IAmb IAmb 15 10 56.3
comp=Z,15nm,0.9s
KSRS Korea Array **83.74 321** P **P** **15 10 57.8 0.0**
comp=Z,2.6nm,0.8s,baz=145,slow=5.6,SNR=9.5
KULM Kulim **84.01 280** P **P** **15 10 59.0 -0.8**
KULM IAmb IAmb 15 11 00.2
comp=Z,9.6nm,0.8s
YSS Yuzh-Sakhalins **84.44 335** P **P** **15 11 01.9 +0.7**
YSS IAmb IAmb 15 11 03.1
comp=Z,25nm,1.1s
GSI Gunungsitoli **84.59 275** P **P** **15 11 02.7 -0.1**
GSI Gunungsitoli **84.59 275** P **P** **15 11 02.9 +0.1**
comp=Z,84nm,0.9s
UBPT Khong Chiam **85.33 291** P **P** **15 11 06.1 -0.1**
UBPT IAmb IAmb 15 11 11.6
comp=Z,8.6nm,1.2s
PEA0B Petropavlovsk- **85.77 346** P **P** **15 11 07.3 -0.2**
PEA0B IAmb IAmb 15 11 28.9
comp=Z,12nm,1.1s
PETK Petropavlovsk- **85.77 346** P **P** **15 11 07.2 -0.3**
comp=Z,3.7nm,0.6s,baz=103,slow=6.3,SNR=16
PETK Petropavlovsk- **85.77 346** P **P** **15 11 08.0 +0.4**
USRK Ussuriysk Ar. **86.69 327** P **P** **15 11 12.4 +0.2**
comp=Z,2.0nm,0.5s,baz=143,slow=6.7,SNR=5.7
NVAR Mina Array Bea **89.30 43** P **P** **15 11 26.4 +1.5**
comp=Z,0.3nm,0.5s,baz=233,slow=7.5,SNR=2.6
CN2 Changchun **89.60 324** *eP* **P** **15 11 25.3 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
KLR Kul'dur **90.63 330** P **P** **15 11 31.4 +0.9**
comp=Z,3.5nm,0.7s,baz=124,slow=2.8,SNR=14
CMAR Chiang Mai Arr **92.29 290** P **P** **15 11 39.4 +0.4**
comp=Z,0.9nm,0.8s,baz=137,slow=4.4,SNR=6.0
PZH PanZhiHua **94.31 298** P **P** **15 11 48.3 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
LVC Limon Verde **94.91 120** P **P** **15 11 51.4 -0.1**
comp=Z,2.3nm,0.6s,baz=288,slow=15,SNR=1.9
ILAR Eielson Array **98.48 13** PKiKP **PKiKP** **15 16 35.0 -0.7**
comp=Z,0.2nm,0.6s,baz=283,slow=2.5,SNR=2.0
BOSA Boshof **116.50 204** PKP **PKPdf** **15 17 10.3 -0.4**
comp=Z,1.5nm,0.5s,baz=169,slow=1.9,SNR=8.6
MKAR Makanchi Array **116.97 310** PKP **PKPdf** **15 17 09.7 -1.1**
comp=Z,0.8nm,0.4s,baz=129,slow=0.7,SNR=23
ZALV Zalesovo Beam **117.39 319** PKP **PKPdf** **15 17 09.9 -1.3**
comp=Z,0.9nm,0.5s,baz=138,slow=2.6,SNR=4.9
NRIK Noril'sk **119.36 336** PKP **PKPdf** **15 17 13.7 -1.0**
comp=Z,2.1nm,0.4s,baz=59,slow=5.9,SNR=2.7
KURK Kurchatov **120.32 314** **PKPdf** **15 17 16.2 -0.8**
KURBB Kurchatov Arra **120.35 314** PKP **PKPdf** **15 17 16.2 -0.8**
comp=Z,4.0nm,0.7s,baz=116,slow=2.0,SNR=41
AAK Ala-Archa **121.21 304** PKP **PKPdf** **15 17 19.0 -0.2**
comp=Z,2.2nm,0.6s,baz=100,slow=5.7,SNR=7.2
KK31 Karatay Array **124.17 304** **PKPdf** **15 17 24.5 -0.2**
KKAR Karatay Array **124.17 304** **PKPdf** **15 17 24.4 -0.3**
BVAR Borovoye Array **125.71 316** PKP **PKPdf** **15 17 27.1 -0.2**
comp=Z,2.1nm,0.4s
SPA0 Spitsbergen Ar **131.88 356** *e*PKPdf **PKPdf** **15 17 38.8 +0.3**
ABKAR Akbulak array **132.12 310** **PKPdf** **15 17 39.3 -0.3**
ARU Arti **132.49 320** PKP **PKPdf** **15 17 39.7 -0.4**
comp=Z,1.6nm,0.4s,baz=98,slow=5.4,SNR=6.7
ARU SKPbc **SKPbc** **15 20 33.6 +0.1**
comp=Z,0.8nm,0.4s,baz=46,slow=2.5,SNR=4.5
GEYT Alibeck **132.52 295** PKP **PKPdf** **15 17 41.0 +0.2**
comp=Z,2.5nm,0.6s,baz=190,slow=7.5,SNR=5.0
AKTO Aktyubinsk **133.34 312** PKP **PKPdf** **15 17 41.4 -0.5**
comp=Z,2.5nm,0.6s,baz=101,slow=2.7,SNR=8.2
ARCES ARCESS Array B **138.57 347** PP PP 15 20 44.5 -1.6
comp=Z,6.2nm,1.1s,baz=339,slow=9.7,SNR=1.4
ARCES SKPbc **SKPbc** **15 20 49.5 -2.4**
comp=Z,3.5nm,0.8s,baz=1.4,slow=4.9,SNR=4.1
STEI Steigen **141.71 351** *e*PKPdf **PKPdf** **15 17 52.7 -4.0**
FAUS Fauske **142.22 351** *e*PKPdf **PKPdf** **15 17 54.0 -3.6**
KONS Konsvik **143.34 352** *e*PKPdf PKPbc 15 17 57.1 -0.8
MOR8 Moi Rana **143.47 351** *e*PKPdf PKPab 15 17 57.0 -0.3
ONI Oni **143.91 301** PKPbc 15 18 00.5 +0.1
KBZ Kabaz **144.20 303** PKP PKPbc 15 18 01.1 +0.1
comp=Z,5.4nm,0.7s,baz=166,slow=1.3,SNR=16
FINES FINESS Array B **144.95 339** PKP PKPbc 15 18 02.1 -0.6
comp=Z,43nm,0.6s,baz=53,slow=4.3,SNR=174
FINES FINESS Array B **144.95 339** PKPbc 15 18 01.8 -1.0
NSS Namsos **145.37 351** *e*PKPbc **PKPdf** **15 18 03.0 -0.2**
MEF Metsahovi **146.42 339** *eP* **PKPbc** **15 18 06.8 -0.3**
RAF Rauma **146.55 341** *eP* **PKPbc** **15 18 06.6 -0.9**
VSU Vasula **146.94 335** *eP* **PKPbc** **15 18 08.0 -0.6**
MTSE Matsula **147.78 337** *eP* **PKPbc** **15 18 10.6 -0.2**
DOMB Dombas **148.13 352** *e*PKPbc **PKPbc** **15 18 11.2 -0.5**
AKN Aaknes **148.20 354** *e*PKPbc **PKPbc** **15 18 11.6 -0.3**
UPP Uppsala **148.62 343** *eP* **PKPbc** **15 18 11.5 -1.4**
NB2 NORSAR Subarra **148.81 350** PKP **PKPbc** **15 18 12.6 -0.8**
comp=Z,6.6nm,0.5s,baz=6,slow=2.5
NOA NORSAR Array B **148.81 350** PKPbc **PKPbc** **15 18 12.9 -0.5**
comp=Z,6.8nm,0.6s,baz=16,slow=4.2,SNR=34
FOO Floro **148.92 356** *e*PKPbc **PKPbc** **15 18 12.9 -0.7**
NC602 NORSAR Array S **149.05 349** *e*PKPbc **PKPbc** **15 18 13.0 -1.0**
HYA Hoyanger **149.27 355** *e*PKPbc **PKPbc** **15 18 13.9 -0.5**
NACGM Naroch **149.39 330** *e*PKP **PKPbc** **15 18 14.2 -0.8**
SUE Sulen **149.48 356** *e*PKPbc **PKPbc** **15 18 15.0 0.0**
SKAR Skarslia **149.54 352** *e*PKPbc **PKiKP** **15 18 15.8 -0.4**
ASK Askoy **150.02 355** *e*PKPbc **PKPbc** **15 18 16.2 0.0**
PABE Paberze **150.13 333** **PKPbc** **15 18 16.5 -0.2**
PABE Paberze **150.13 333** *eP* **PKPbc** **15 18 16.5 -0.2**
EIL Elat **150.29 277** PKPbc **PKiKP** **15 18 18.4 -0.2**
comp=Z,16nm,0.6s,baz=163,slow=3.9,SNR=16
MMAI Mount Meron Ar **150.36 284** PKPbc **PKPbc** **15 18 18.1 0.0**
comp=Z,5.7nm,0.4s,baz=22,slow=43,SNR=7.5
KONO Kongsberg **150.38 351** *e*PKPbc **PKPbc** **15 18 17.0 -0.1**
ODD1 Odda **150.47 354** *e*PKPbc **PKPbc** **15 18 17.5 +0.1**
STRU Stroemstad **150.72 349** *eP* **PKPbc** **15 18 17.8 -0.2**
AKASG Malin Array Be **150.73 321** PKPbc **PKPbc** **15 18 17.9 -0.4**
comp=Z,4.4nm,0.4s,baz=52,slow=2.7,SNR=39
BLS5 Blasjo **150.97 354** *e*PKPbc **PKPbc** **15 18 18.4 -0.2**
KMY Karmoy **151.28 355** *e*PKPbc **PKiKP** **15 18 19.3 -0.3**
SUW Suwalki **151.52 332** *e*PKP **PKPbc** **15 18 19.7 -0.3**
SUW Suwalki **151.52 332** *eP* **PKPbc** **15 18 19.1 -0.9**
TJOU Tjoern **151.59 348** *eP* **PKPbc** **15 18 19.3 -0.7**
BRTR Keskin Array B **151.60 298** PKPbc **PKPbc** **15 18 20.4 -0.5**
comp=Z,6.1nm,0.5s,baz=137,slow=4.5,SNR=20
BRTR Keskin Array B **151.60 298** **PKPbc** **15 18 20.1 -0.8**
BORU Boraas **151.74 346** *eP* **PKPbc** **15 18 19.7 -0.7**
HOMB Homborsund **151.86 351** *i P* **PKiKP** **15 18 20.7 -0.1**
HOMB Homborsund **151.86 351** *e*PKPbc **PKPbc** **15 18 20.2 -0.3**
SNART Snartemo **151.96 352** *i P* **PKiKP** **15 18 21.0 -0.1**
**

comp=Z,2.7nm,0.6s,baz=90,slow=1.2,SNR=3.9
DBIC PKPab **PKPab** **15 18 49.5 +1.3**
comp=Z,4.7nm,0.6s,baz=179,slow=11,SNR=5.2
CRVS Cervenica-Dubn 155.84 325 *e*PKP **PKPab** **15 18 49.2 +0.6**
LANS Liptovska Anna 156.62 328 *e*PKP **PKPab** **15 18 53.0 +1.0**
DPC Dobruska-Polom 157.05 333 *e*PKPAB **PKPab** **15 18 54.3 +0.5**
VYHS Vyhne 157.38 327 *e*PKP **PKPab** **15 18 55.3 0.0**
CLL Colim 157.39 339 *i* PKPab **PKPab** **15 18 54.7 -0.4**
comp=Z,7.0nm,0.6s
BRG Berggiesshubel 157.47 337 *i* PKP **PKPab** **15 18 55.5 0.0**
BRG Amp 15 18 56.4
comp=Z,4.8nm,0.7s
KHC Kasperske Hory 159.07 335 *e*PKPAB **PKPab** **15 19 02.3 -0.3**
TORD Torodi Ar. Bea 162.53 184 PKP **PKPdf** **15 18 28.1 -0.3**
comp=Z,2.1nm,0.9s,baz=150,slow=0.1,SNR=9.0
TORD PKPbc PKPbc 15 18 57.2
comp=Z,0.7nm,0.4s,baz=158,slow=3.4,SNR=10
TORD PKPab **PKPab** **15 19 18.9 +0.6**
comp=Z,13nm,0.6s,baz=173,slow=4.2,SNR=56
ESDC Sonseca Array 170.29 21 PKP **PKPdf** **15 18 34.4 +0.6**
comp=Z,1.1nm,0.9s,baz=349,slow=3.9,SNR=5.2

KNET ***13*** *15:02:57.0±0.7, 42°.79N×76°.21E, h8km±3km, ml2.5, Error ellipse: s-maj=4.9km s-min=2.2km az=44.0*
SOME ***13*** *15:02:56.9, 42°.88N×76°.35E, h10km*
NNC ***13*** *15:02:56.2±0.3, 42°.84N×76°.34E, h0km, mb3.5, mpv3.9, Error ellipse: s-maj=3.7km s-min=0.9km az=167.0*
KRNET ***13*** *15:02:56.1±0.1, 42°.83N×76°.35E, h19km, mb3.6*
ISC 13 15:02:55.8±1.0, 42°.86N±0°.02×76°.36E±0°.01, h11km±9km, n73, σ0°66/135, 42C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTBS	**Maitube**	**0.27**	**11**	*e*P	**Pb**	**15 03 02.7**	**0.0**
	baz=10.0						
MTBS				*e*S	**Sb**	**15 03 07.0**	**-0.4**
	baz=10.0						
MTBS	**Maitube**	**0.27**	**11**	*e*P	**Pb**	**15 03 02.7**	**0.0**
	156nm,0.2s						
MTBS				*e*S	**Sb**	**15 03 07.0**	**-0.4**
	2μm,0.1s						
MTBS	**Maitube**	**0.27**	**11**	P	**Pb**	**15 03 02.7**	**0.0**
	156nm,0.2s						
MTBS				S	**Sb**	**15 03 07.0**	**-0.4**
	2μm,0.1s						
KST	**Kastek**	**0.34**	**302**	*e*P	**Pb**	**15 03 03.6**	**-0.4**
	baz=7.0						
KST				*e*S	**Sb**	**15 03 08.7**	**-0.7**
	baz=7.0						
KST	**Kastek**	**0.34**	**302**	*e*P	**Pb**	**15 03 03.6**	**-0.4**
	346nm,0.1s						
KST				*e*S	**Sb**	**15 03 08.7**	**-0.7**
	2μm,0.3s						
KST	**Kastek**	**0.34**	**302**	P	**Pb**	**15 03 03.6**	**-0.4**
	346nm,0.1s						
KST				S	**Sb**	**15 03 08.7**	**-0.7**
	2μm,0.3s						
TNSS	**Tian-Shan**	**0.46**	**68**	*e*P	**Pb**	**15 03 05.8**	**-0.4**
	baz=64						
TNSS				*e*S	**Sb**	**15 03 12.3**	**-0.9**
	baz=64						
TNSS	**Tian-Shan**	**0.46**	**68**	*e*P	**Pb**	**15 03 05.8**	**-0.4**
	58nm,0.1s						
TNSS				*e*S	**Sb**	**15 03 12.2**	**-0.9**
	251nm,0.2s						
TNSS	**Tian-Shan**	**0.46**	**68**	P	**Pb**	**15 03 05.8**	**-0.4**
	58nm,0.1s						
TNSS				S	**Sb**	**15 03 12.3**	**-0.9**
	251nm,0.2s						
BOOM	**Boomskoye usch**	**0.48**	**220**	⇑*i*P	**Pg**	**15 03 04.9**	**-0.4**
	baz=22						
BOOM				⇑*i*S	**Sg**	**15 03 11.4**	**-0.3**
	baz=22						
AAA	**Alma-Ata**	**0.53**	**49**	*e*P	**Pb**	**15 03 07.6**	**+0.4**
	254nm,0.1s						
AAA				*e*S	**Sb**	**15 03 15.6**	**+0.7**
	1μm,0.1s						
TKM2	**Tokmak 2**	**0.56**	**276**	⇓P	**Pg**	**15 03 07.2**	**+0.4**
	22nm,0.1s,SNR=76						
TKM2				⇑S	**Sg**	**15 03 15.1**	**+0.7**
	622nm,0.1s						
TKM2	**Tokmak 2**	**0.56**	**276**	⇑*i*P	**Pg**	**15 03 07.3**	**+0.4**
	baz=80						
TKM2				⇑*i*S	**Sg**	**15 03 15.2**	**+0.9**
	baz=80						
TKM2	**Tokmak 2**	**0.56**	**276**	⇓P	**Pg**	**15 03 07.2**	**+0.4**
	24nm,0.4s						
TKM2				⇑S	**Sg**	**15 03 15.2**	**+0.9**
	542nm,0.6s						
KNDC	**Almaty**	**0.57**	**51**	⇓P	**Pb**	**15 03 08.1**	**+0.3**
	60nm,0.3s						
KNDC				⇓S	**Sb**	**15 03 16.5**	**+0.6**
	603nm,0.6s						
DGS	**Degeres**	**0.57**	**312**	*e*P	**Pb**	**15 03 07.7**	**-0.2**
	baz=14						
DGS				*e*S	**Sb**	**15 03 15.8**	**-0.3**
	baz=14						
DGS	**Degeres**	**0.57**	**312**	*e*P	**Pb**	**15 03 07.7**	**-0.2**
	224nm,0.2s						
DGS				*e*S	**Sb**	**15 03 15.8**	**-0.3**
	155nm,0.1s						
DGS	**Degeres**	**0.57**	**312**	P	**Pb**	**15 03 07.7**	**-0.2**
	224nm,0.2s						
DGS				S	**Sb**	**15 03 15.8**	**-0.3**
	155nm,0.1s						
MDOK	**Medeo**	**0.59**	**59**	*e*P	**Pb**	**15 03 08.0**	**-0.1**
	baz=56						
MDOK				*e*S	**Sb**	**15 03 16.1**	**-0.4**
	baz=56						
MDOK	**Medeo**	**0.59**	**59**	*e*P	**Pb**	**15 03 08.0**	**-0.1**
	79nm,0.1s						
MDOK				*e*S	**Sb**	**15 03 16.0**	**-0.4**
	214nm,0.0s						
MDOK	**Medeo**	**0.59**	**59**	⇓P	**Pb**	**15 03 08.0**	**-0.1**
	25nm,0.3s						
MDOK				⇑S	**Sb**	**15 03 16.2**	**-0.2**
	120nm,0.5s						
MDOK	**Medeo**	**0.59**	**59**	Pg	**Pb**	**15 03 08.0**	**-0.1**
	79nm,0.1s						
MDOK				Lg	Lg	15 03 16.0	
	214nm,0.0s						
ULHL	**Ulahol**	**0.62**	**188**	⇓P	**Pg**	**15 03 07.6**	**-0.3**
	30nm,0.1s,SNR=300						
ULHL				⇓S	**Sg**	**15 03 15.4**	**-0.8**
	144nm,0.1s						
ULHL	**Ulahol**	**0.62**	**188**	⇑*i*P	**Pg**	**15 03 07.4**	**-0.5**
	baz=88						
ULHL				⇑*i*S	**Sg**	**15 03 15.5**	**-0.6**
	baz=88						
KOTS	**Kotyrbulak**	**0.66**	**56**	*e*P	**Pb**	**15 03 09.7**	**+0.3**
	baz=54						
KOTS				*e*S	**Sb**	**15 03 19.0**	**+0.3**
	baz=54						
KOTS	**Kotyrbulak**	**0.66**	**56**	*e*P	**Pb**	**15 03 09.7**	**+0.3**
	50nm,0.1s						
KOTS				*e*S	**Sb**	**15 03 19.0**	**+0.3**
	427nm,0.2s						
KOTS	**Kotyrbulak**	**0.66**	**56**	P	**Pb**	**15 03 09.7**	**+0.3**
	50nm,0.1s						
KOTS				S	**Sb**	**15 03 19.0**	**+0.3**
	427nm,0.2s						
KTBS	**Karatobe**	**0.88**	**15**	*e*P	**Pn**	**15 03 13.6**	**-0.5**
	baz=15						
KTBS				*e*S	**Sn**	**15 03 25.7**	**-1.2**
	baz=15						
KTBS	**Karatobe**	**0.88**	**15**	*e*P	**Pn**	**15 03 13.6**	**-0.5**
	12nm,0.1s						
KTBS				*e*S	**Sn**	**15 03 25.7**	**-1.2**
	291nm,0.2s						
KTBS	**Karatobe**	**0.88**	**15**	P	**Pn**	**15 03 13.6**	**-0.5**
	12nm,0.1s						
KTBS				S	**Sn**	**15 03 25.7**	**-1.2**
	291nm,0.2s						
KDJ	**Kajisay**	**0.95**	**140**	⇑*i*P	**Pg**	**15 03 13.6**	**-0.5**
	baz=38						
KDJ				⇑*i*S	**Sg**	**15 03 26.2**	**-0.3**
	baz=38						
ANVS	**Anan'yevo**	**0.96**	**94**	⇑*i*P	**Pb**	**15 03 14.0**	**-0.6**
	baz=92						
ANVS				⇑*i*S	**Sb**	**15 03 27.2**	**-0.2**
	baz=92						
KRBS	**Karabastau**	**0.97**	**329**	*e*P	**Pn**	**15 03 15.0**	**-0.4**
	baz=30						
KRBS				*e*S	**Sb**	**15 03 28.1**	**+0.6**
	90nm,0.0s						
KRBS				*e*S	**Sb**	**15 03 28.1**	**+0.6**
	110nm,0.1s						
KRBS	**Karabastau**	**0.97**	**329**	P	**Pn**	**15 03 15.0**	**-0.4**
	90nm,0.0s						
KRBS				S	**Sb**	**15 03 28.1**	**+0.6**
	110nm,0.1s						
KUU	**Kurty**	**1.03**	**359**	*e*P	**Pn**	**15 03 16.1**	**0.0**
	baz=59						
KUU				*e*S	**Sn**	**15 03 29.8**	**-0.8**
	baz=59						
KUU	**Kurty**	**1.03**	**359**	*e*P	**Pn**	**15 03 16.1**	**0.0**
	17nm,0.1s						
KUU				*e*S	**Sn**	**15 03 29.8**	**-0.8**
	202nm,0.0s						
KUU	**Kurty**	**1.03**	**359**	P	**Pn**	**15 03 16.1**	**0.0**
	17nm,0.1s						
KUU				S	**Sn**	**15 03 29.8**	**-0.8**
	202nm,0.0s						
KBK	**Karagaybulak**	**1.06**	**259**	⇑P	**Pg**	**15 03 16.1**	**-0.1**
	55nm,0.1s,SNR=263						
KBK				⇑S	**Sg**	**15 03 30.2**	**+0.2**
	348nm,0.3s						
KBK	**Karagaybulak**	**1.06**	**259**	⇑*i*P	**Pg**	**15 03 15.8**	**-0.4**
	baz=61						
KBK				⇑*i*S	**Sg**	**15 03 30.1**	**+0.1**
	baz=61						
CHKK	**Chushkaly**	**1.09**	**25**	*e*P	**Pn**	**15 03 17.2**	**+0.2**
	baz=24						
CHKK				*e*S	**Sn**	**15 03 31.8**	**-0.3**
	baz=24						
CHKK	**Chushkaly**	**1.09**	**25**	*e*P	**Pn**	**15 03 17.2**	**+0.2**
	16nm,0.2s						
CHKK				*e*S	**Sn**	**15 03 31.7**	**-0.3**
	185nm,0.2s						
CHKK	**Chushkaly**	**1.09**	**25**	P	**Pn**	**15 03 17.2**	**+0.2**
	16nm,0.2s						
CHKK				S	**Sn**	**15 03 31.7**	**-0.3**
	185nm,0.2s						
CHMS	**Chumysh**	**1.19**	**277**	⇓P	**Pb**	**15 03 18.0**	**-0.3**
	29nm,0.1s,SNR=39						
CHMS				⇓S	**Sg**	**15 03 34.0**	**-0.1**
	72nm,0.2s						
CHMS	**Chumysh**	**1.19**	**277**	⇑*i*P	**Pb**	**15 03 18.0**	**-0.3**
	baz=79						
CHMS				⇑*i*S	**Sg**	**15 03 34.0**	**-0.1**
	baz=79						
CHMS	**Chumysh**	**1.19**	**277**	⇑P	**Pb**	**15 03 17.9**	**-0.4**
	9.3nm,0.2s						
CHMS				⇑S	**Sg**	**15 03 33.9**	**-0.1**
	30nm,0.4s						
FRU1	**Bishkek**	**1.27**	**268**	⇑*i*P	**Pb**	**15 03 19.9**	**+0.1**
	baz=71						
FRU1				⇑*i*S	**Sg**	**15 03 36.9**	**+0.1**
	baz=71						
AAK	**Ala-Archa**	**1.39**	**261**	⇑P	**Pn**	**15 03 21.7**	**+0.5**
	42nm,0.2s,SNR=111						
AAK				⇓S	**Sb**	**15 03 40.3**	**+0.6**
	33nm,0.2s						
AAK	**Ala-Archa**	**1.39**	**261**	⇑*i*P	**Pn**	**15 03 21.7**	**+0.5**
	baz=63						
AAK				⇑*i*S	**Sb**	**15 03 40.1**	**+0.4**
	baz=63						
SGDS	**Sogindy**	**1.40**	**296**	*e*P	**Pb**	**15 03 22.0**	**+0.1**
	baz=97						
SGDS				*e*S	**Sn**	**15 03 40.3**	**+0.6**
	baz=97						
SGDS	**Sogindy**	**1.40**	**296**	*e*P	**Pb**	**15 03 22.0**	**+0.1**
	44nm,0.1s						
SGDS				*e*S	**Sn**	**15 03 40.3**	**+0.6**
	82nm,0.2s						
SGDS	**Sogindy**	**1.40**	**296**	P	**Pb**	**15 03 22.0**	**+0.1**
	44nm,0.1s						
SGDS				S	**Sn**	**15 03 40.3**	**+0.6**
	82nm,0.2s						
USP	**Ospenovka**	**1.42**	**287**	⇑P	**Pb**	**15 03 22.2**	**-0.1**
	50nm,0.2s,SNR=105						
USP				⇓S	**Sg**	**15 03 41.6**	**+0.1**
	71nm,0.2s						
USP	**Ospenovka**	**1.42**	**287**	⇑*i*P	**Pb**	**15 03 22.4**	**+0.1**
	baz=88						
USP				⇑*i*S	**Sg**	**15 03 41.4**	**-0.2**
	baz=88						
KURS	**Kuram**	**1.46**	**64**	*e*P	**Pg**	**15 03 23.9**	**0.0**
	baz=63						
KURS				*e*S	**Sg**	**15 03 43.2**	**+0.3**
	baz=63						
KURS	**Kuram**	**1.46**	**64**	*e*P	**Pg**	**15 03 23.9**	**0.0**
	27nm,0.0s						
KURS				*e*S	**Sg**	**15 03 43.2**	**+0.3**
	58nm,0.3s						
KURS	**Kuram**	**1.46**	**64**	P	**Pg**	**15 03 23.9**	**0.0**
	27nm,0.0s						
KURS				S	**Sg**	**15 03 43.2**	**+0.3**
	58nm,0.3s						
UCH	**Uchtor**	**1.51**	**246**	⇑P	**Pn**	**15 03 23.7**	**+0.7**
	5.1nm,0.1s,SNR=22						
UCH				⇓S	**Sn**	**15 03 43.7**	**+0.8**
	38nm,0.4s						
UCH	**Uchtor**	**1.51**	**246**	⇑*i*P	**Pn**	**15 03 23.5**	**+0.4**
	baz=47						
UCH				⇑*i*S	**Sn**	**15 03 43.4**	**+0.5**
	baz=47						
SATY	**Saty**	**1.51**	**82**	*e*P	**Pg**	**15 03 24.6**	**-0.2**
	baz=81						
SATY				*e*S	**Sg**	**15 03 44.6**	**+0.1**
	baz=81						
SATY	**Saty**	**1.51**	**82**	*e*P	**Pg**	**15 03 24.6**	**-0.2**
	8.2nm,0.2s						
SATY				*e*S	**Sg**	**15 03 44.6**	**+0.1**
	146nm,0.1s						
SATY	**Saty**	**1.51**	**82**	P	**Pg**	**15 03 24.6**	**-0.2**
	8.2nm,0.2s						
SATY				S	**Sg**	**15 03 44.6**	**+0.1**
	146nm,0.1s						
EKS2	**Erkin-Say**	**1.91**	**265**	⇓P	**Pb**	**15 03 31.3**	**+0.6**
	17nm,0.2s,SNR=40						
EKS2				⇓S	**Sg**	**15 03 56.8**	**-0.4**
	29nm,0.2s						
EKS2	**Erkin-Say**	**1.91**	**265**	⇑*i*P	**Pb**	**15 03 30.5**	**-0.2**
	baz=66						
EKS2				⇑*i*S	**Sb**	**15 03 55.3**	**+0.7**
	baz=66						
AML	**Almayashu**	**2.10**	**251**	⇑P	**Pb**	**15 03 34.6**	**+0.5**
	8.5nm,0.1s,SNR=32						
AML				⇓S	**Sg**	**15 04 02.7**	**-0.7**
	67nm,0.4s						
MRKS	**Merke**	**2.31**	**268**	*e*P	**Pg**	**15 03 39.5**	**-0.5**
	16nm,0.2s						
MRKS				*e*S	**Sg**	**15 04 10.6**	**+0.7**
	88nm,0.2s						
PDGK	**Podgornoye**	**2.34**	**77**	⇓Pn	**Pb**	**15 03 37.9**	**-0.1**
	7.3nm,0.3s						
PDGK				⇑Lg	Lg	15 04 09.2	
	123nm,0.8s						
KK31	**Karatay Array**	**4.30**	**275**	⇑Pg	**Pg**	**15 04 14.9**	**-3.2**
	1.0nm,0.3s,baz=89,slow=16,SNR=18						
KK31				Lg	Lg	15 05 13.0	
	8.8nm,0.5s,baz=85,slow=30,SNR=22						
MAKZ	**Makanchi**	**5.61**	**43**	⇑Pn	**Pn**	**15 04 22.2**	**+3.2**
	2.6nm,0.6s						
MAKZ				⇑Lg	Lg	15 05 56.1	
	2.1nm,0.6s						
MK31	**Makanchi Array**	**5.76**	**45**	⇑Pn	**Pn**	**15 04 23.7**	**+2.6**
	0.9nm,0.3s,baz=222,slow=13,SNR=12						
MK31				Lg	Lg	15 06 00.6	
	1.9nm,0.6s,baz=227,slow=29,SNR=4.6						
OTUK	**Ortayu**	**6.08**	**334**	⇑Lg	Lg	15 06 09.9	
	3.2nm,0.5s						
KURBB	**Kurchatov Arra**	**7.90**	**10**	⇓Lg	Lg	15 07 08.8	
	10nm,0.6s						
KURK	**Kurchatov**	**8.01**	**10**	⇑Lg	Lg	15 07 10.1	
	8.1nm,0.9s						

IDC ***13*** *15:29:57.4±2.9, 6°.67S×129°.74E, h139km±40km, mb3.3/1, mb1 3.0/5, mb1mx2.7/40, mbtmp3.4/5, Error ellipse: s-maj=76.2km s-min=21.3km az=89.0*
ISC 13 15:29:56.2±0.9, 6.74S±0°.06×130°.0E±0°.1, h150km, n6, σ3s55/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.96**	**12**	P	**Pn**	**15 31 23.6**	**+1.1**
	0.3nm,0.3s,baz=204,slow=23,SNR=6.9						
SIJI				S	**Sn**	**15 32 25.4**	**-4.5**
	0.5nm,0.3s,baz=130,slow=23,SNR=6.8						
BATI	**Baumata**	**7.16**	**241**	S	**Sn**	**15 32 56.6**	**-2.1**
	1.0nm,0.3s,baz=78,slow=14,SNR=2.2						
FITZ	**Fitzroy Crossi**	**12.07**	**200**	P	**Pn**	**15 32 45.2**	**+1.8**
	0.1nm,0.3s,baz=24,slow=13,SNR=6.2						
FITZ				S	**Sn**	**15 34 53.5**	**-3.4**
	0.1nm,0.3s,baz=11,slow=19,SNR=1.4						
WRA	**Warramunga Arr**	**13.78**	**163**	P	**Pn**	**15 33 08.0**	**+2.5**
	0.1nm,0.3s,baz=333,slow=13,SNR=2.0						
WRA				S	**Sn**	**15 35 32.7**	**-5.5**
	0.1nm,0.3s,baz=331,slow=23,SNR=2.1						
ASAR	**Alice Springs**	**17.25**	**168**	P	**Pn**	**15 33 51.0**	**+3.0**
	0.1nm,0.3s,baz=346,slow=10.0,SNR=13						
ASAR				S	**S**	**15 37 00.7**	**+1.2**
	0.0nm,0.3s,baz=328,slow=16,SNR=4.2						
MKAR	**Makanchi Array**	**68.01**	**327**	P	**P**	**15 40 40.5**	**+1.2**
	0.3nm,0.4s,baz=115,slow=9.2,SNR=4.8						

IDC 13 15:39:12.4±3.5, 23°.23N×95°.27E, h144km±32km, mb3.5/4, mb1 3.5/5, mb1mx3.0/45, mbtmp3.7/5, Error ellipse: s-maj=120.5km s-min=15.8km az=61.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.86**	**143**	P	Pn	15 40 37.2	0.0
	0.2nm,0.3s,baz=319,slow=12,SNR=6.7						
MKAR	**Makanchi Array**	**25.73**	**339**	P	P	15 44 29.3	-0.1
	0.8nm,0.5s,baz=148,slow=9.8,SNR=20						
ZALV	**Zalesovo Beam**	**31.67**	**348**	P	P	15 45 22.0	+0.1
	0.4nm,0.5s,baz=178,slow=8.7,SNR=2.6						
WRA	**Warramunga Arr**	**57.39**	**135**	P	P	15 48 46.0	0.0
	0.9nm,0.3s,baz=321,slow=7.5,SNR=50						
ASAR	**Alice Springs**	**59.85**	**139**	P	P	15 49 02.9	-0.1
	0.8nm,0.5s,baz=319,slow=6.8,SNR=44						

KRSC 13 15:40:24.9±2.0, 50°.28N×157°.23E, h50km±21km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.82**	**300**	P	Pn	15 40 39.3	-0.8
SKR				S	Sn	15 40 48.8	-2.5
PAU	**Pauzhetka**	**1.22**	**347**	P	Pn	15 40 47.1	+1.6
PAU				S	Sn	15 41 01.8	+1.0
KDTR	**Khodutka, Kamc**	**1.62**	**19**	P	Pn	15 40 53.4	+2.4
KDTR				S	Sn	15 41 12.8	+2.2
MIPR	**Malaya Ipel'ka**	**2.02**	**352**	P	Pn	15 40 58.7	+2.2
MIPR				S	Sn	15 41 22.9	+2.4
ASAK	**Asacha**	**2.14**	**11**	P	Pn	15 41 01.3	+3.0
ASAK				S	Sn	15 41 26.5	+2.8
MTVR	**Mutnovka**	**2.28**	**15**	P	Pn	15 41 03.5	+3.3
MTVR				S	Sn	15 41 30.4	+3.2
RUS	**Russkaya**	**2.30**	**20**	P	Pn	15 41 02.6	+2.3
RUS				S	Sn	15 41 29.2	+1.9
GRL	**Gorelyy**	**2.33**	**13**	P	Pn	15 41 04.3	+3.4
GRL				S	Sn	15 41 31.7	+3.3
KRMR	**Karymshinskiy**	**2.61**	**12**	P	Pn	15 41 08.8	+4.2
PET	**Petropavlovsk**	**2.88**	**17**	P	Pn	15 41 11.7	+3.4
PET				S	Sn	15 41 45.1	+3.4
DALK	**Dalny**	**2.91**	**18**	P	Pn	15 41 11.8	+3.2
DALK				S	Sn	15 41 46.2	+3.9
UGLR	**Uglovaya**	**3.09**	**18**	P	Pn	15 41 15.8	+4.5
AVH	**Avacha**	**3.13**	**17**	P	Pn	15 41 16.6	+4.9
KOK	**Koryaka**	**3.14**	**16**	P	Pn	15 41 16.9	+5.0
SMAR	**Somma**	**3.14**	**17**	P	Pn	15 41 16.6	+4.6
KRER	**Koryakskii**	**3.17**	**17**	P	Pn	15 41 16.8	+4.4
SDLR	**Sedlovina**	**3.17**	**18**	P	Pn	15 41 15.9	+3.6
MKZ	**Mys Kozlova**	**5.09**	**31**	P	Pn	15 41 41.9	+3.4
TUMD	**Tumrok D**	**5.29**	**20**	P	Pn	15 41 45.7	+4.4
KBTR	**Krutoberegovo**	**6.81**	**27**	P	Pn	15 42 06.0	+3.9
BKI	**Bering**	**7.24**	**44**	P	Pn	15 42 11.3	+3.4
BKI				S	Sn	15 43 29.1	+0.5

IDC ***13*** *15:48:09.2±1.6, 36°.16N×142°.22E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.4/45, mbtmp3.6/9, ML3.1/3, Error ellipse: s-maj=35.8km s-min=20.5km az=69.0*
JMA ***13*** *15:48:13.7±0.2, 36°.13N×141°.99E, h63km, M3.3*
ISC 13 15:48:12.0±1.0, 36°.11N±0°.05×142°.08E±0°.07, h23km, n22, σ1s91/21, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.07**	**248**	P	**Pn**	**15 48 32.3**	**+0.7**
CHOJ				*e*S	**Sn**	**15 48 45.8**	**0.0**
JHYU	**Hitachinakayam**	**1.23**	**281**	P	**Pb**	**15 48 34.1**	**-0.4**
JHYU				*e*S	**Sn**	**15 48 49.0**	**-0.7**
JIHU	**Itakohorinouch**	**1.27**	**264**	P	**Pb**	**15 48 35.1**	**-0.1**
JHO	**Hitachi**	**1.32**	**293**	P	**Pb**	**15 48 35.1**	**-1.0**
JFK	**Kawauchi**	**1.59**	**323**	P	**Pb**	**15 48 39.6**	**-1.0**
JFK				*e*S	**Sb**	**15 48 59.3**	**-1.0**
BSO1	**Boso 1**	**1.71**	**212**	P	**Pb**	**15 48 41.3**	**-1.1**
BSO3	**Boso 3**	**1.83**	**225**	P	**Pb**	**15 48 42.9**	**-1.7**
MJAR	**Matsushiro Arr**	**3.16**	**279**	Pn	**Pn**	**15 49 01.6**	**+1.3**
	0.9nm,0.3s,baz=121,slow=11,SNR=2.2						
MJAR				Sn	**Sb**	**15 49 39.9**	**-5.6**
	0.7nm,0.3s,baz=17,slow=20,SNR=5.6						
JHJ	**Hachijo jima 2**	**3.53**	**213**	Pn	**Pn**	**15 49 05.4**	**0.0**
	11nm,0.3s,baz=65,slow=14,SNR=2.0						
JHJ				Sn	**Sn**	**15 49 44.0**	**-2.5**
	34nm,0.3s,baz=85,slow=23,SNR=7.7						
ASAJ	**Asahikawa**	**8.01**	**3**	Pn	**Pn**	**15 50 05.0**	**-1.9**
	0.3nm,0.3s,baz=166,slow=17,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**27.21**	**120**	T	T	16 22 54.5	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**27.22**	**120**	T	T	16 22 38.2	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**27.23**	**120**	T	T	16 22 42.7	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.91**	**122**	T	T	16 23 23.8	
	baz=313						
H11S3	**WAKE ISLAND Hy**	**27.91**	**122**	T	T	16 23 24.1	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**27.92**	**122**	T	T	16 23 24.8	
	baz=313						
SONM	**Songino Array**	**28.75**	**305**	P	**P**	**15 54 10.0**	**+2.2**
	1.0nm,0.8s,baz=104,slow=8.5,SNR=6.6						
CMAR	**Chiang Mai Arr**	**41.80**	**257**	P	**P**	**15 56 01.7**	**+1.7**
	0.2nm,0.5s,baz=60,slow=5.3,SNR=1.9						
ZALV	**Zalesovo Beam**	**42.94**	**313**	P	**P**	**15 56 08.6**	**-0.2**
	0.9nm,0.3s,baz=101,slow=15,SNR=2.7						
MKAR	**Makanchi Array**	**45.07**	**303**	P	**P**	**15 56 27.8**	**+1.8**
	0.5nm,0.5s,baz=92,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**56.23**	**189**	P	**P**	**15 57 51.6**	**+1.3**
	0.4nm,0.7s,baz=3.9,slow=7.1,SNR=6.8						
ASAR	**Alice Springs**	**59.95**	**189**	P	**P**	**15 58 17.9**	**+1.5**
	0.1nm,0.4s,baz=14,slow=11,SNR=6.2						

TUL ***13*** *16:09:55.7±0.4, 36°.08N±0°.01×97°.68W±0°.01, h5km±3km, ML2.8, mb_Lg2.5/25(NEIC), Error ellipse: s-maj

comp=Z,12nm,1.0s
W41B **Gary Mavity, V** **4.52 100** lAmb_Lg 16 12 28.8
comp=Z,8.8nm,0.8s
P38A **Dawn** **4.82 42** lAmb_Lg 16 12 32.4
comp=Z,7.3nm,0.7s
R40A **Maddies Statio** **4.85 61** Pn Pn 16 11 09.1 -1.0
CCM **Cathedral Cave** **5.51 67** lAmb_Lg 16 12 58.3
comp=Z,6.3nm,0.7s
T25A **Trinidad** **5.52 283** lAmb_Lg 16 13 04.6
comp=Z,10nm,1.0s
P40A **Paris** **5.63 51** Pn Pn 16 11 19.2 -1.7
FVM **French Village** **6.10 70** lAmb_Lg 16 13 23.9
comp=Z,7.5nm,0.8s

IDC 13 16:17:34.1±10.0, **24°65S**×**176°48W**, **h448**km±38km, **mb3.2**/3, **mb1 3.4**/4, **mb1mx3.0**/34, **mbtmp4.2**/4, **Error ellipse: s-maj=185.7km s-min=63.0km az=56.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.76**	**195**	P	P	16 18 56.3	+0.3
	123nm,0.3s,baz=66,slow=18,SNR=5.1						
DZM	**Mont Dzumac**	**15.89**	**276**	P	P	16 20 54.8	-0.2
	1.2nm,0.3s,baz=103,slow=14,SNR=11						
STKA	**Stephens Creek**	**37.45**	**249**	P	P	16 24 06.8	-1.1
	1.3nm,0.5s,baz=98,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**45.08**	**260**	P	P	16 25 09.1	+0.1
	1.1nm,0.5s,baz=93,slow=7.1,SNR=31						
WRA	**Warramunga Arr**	**45.56**	**266**	P	P	16 25 13.1	+0.4
	1.5nm,0.6s,baz=102,slow=7.1,SNR=24						

*IDC **13** 16:24:16.3±1.5, 34°.58N×138°.68E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/44, mbtmp4.0/6, ML4.5/1, MS4.2/2, Ms1 4.2/2, ms1mx3.5/91, Error ellipse: s-maj=72.3km s-min=17.1km az=76.0*
*NEIC **13** 16:24:17.5±1.4, 35°.24N±0°.05×140°.3E±0°.1, h44km±10km, mb4.4/10, Error ellipse: s-maj=13.8km s-min=6.7km az=103.0*
*JMA **13** 16:24:17.6±0.2, 35°.30N×140°.22E, h61km±2km, M3.2 Broadband fault plane solution: P waves. NP1: ϕs=37.00000°, δ82.00000°, λ-152.00000°. NP2: ϕs=303.00000°, δ63.00000°, λ-9.00000°. Principal axes: T Plg13.0000°, Azm167.0000°; N Plg61.0000°, Azm52.0000°; P Plg25.0000°, Azm263.0000°;*
JMA Felt I J1.

ISC 13 16:24:18.5±0.8, **35°25N**±0°.04×**140°23E**±0°.05, **h57**km±6km, **n44**, **σ0°84**/48, **mb4.2**/10, **9D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKUC	**kamogawauchiur**	**0.10**	**197**	⇓P	**Pn**	**16 24 26.7**	**-0.4**
JKUC				S	**Sn**	**16 24 33.1**	**-0.2**
KTR	**Katsuura**	**0.12**	**147**	⇓P	**Pn**	**16 24 26.9**	**-0.3**
KTR				S	**Sn**	**16 24 33.2**	**-0.2**
JCN	**Nagara**	**0.17**	**351**	⇓P	**Pn**	**16 24 27.5**	**+0.1**
JCN				S	**Sn**	**16 24 33.8**	**0.0**
BSO4	**Boso 4**	**0.27**	**162**	⇓P	**Pn**	**16 24 28.3**	**+0.4**
BSO4				X		16 24 36.1	
TATJ	**Tateyama 2**	**0.36**	**232**	P	**Pn**	**16 24 29.2**	**+0.5**
JSMT	**Sammumatsuo**	**0.43**	**24**	⇓P	**Pn**	**16 24 29.0**	**-0.4**
JSMT				S	**Sn**	**16 24 37.0**	**-0.4**
BSO3	**Boso 3**	**0.50**	**153**	⇓P	**Pn**	**16 24 30.2**	**+0.3**
BSO3				X		16 24 39.4	
JIM2	**Oshima 3**	**0.85**	**231**	⇓P	**Pn**	**16 24 33.7**	**-0.7**
JIM2				S	**Sn**	**16 24 45.5**	**-0.6**
BSO1	**Boso 1**	**0.85**	**134**	P	**Pn**	**16 24 33.7**	**-0.3**
JOD2	**Odawara 2**	**0.94**	**271**	⇓P	**Pn**	**16 24 34.6**	**-1.0**
JYT	**Yasato**	**0.97**	**358**	Pn	**Pn**	**16 24 35.0**	**-1.1**
JIZS	**Izushimoda**	**1.23**	**245**	⇓P	**Pn**	**16 24 38.8**	**-0.7**
JIZS				S	**Sn**	**16 24 54.2**	**-1.0**
MJAR	**Matsushiro Arr**	**2.09**	**309**	Pn	**Pn**	**16 24 50.2**	**-0.9**
	2.8nm,0.3s,baz=210,slow=9.9,SNR=54						
MJAR				Sn	**Sn**	**16 25 15.7**	**-0.3**
	7.5nm,0.3s,baz=142,slow=15,SNR=4.9						
MJAR	**Matsushiro Arr**	**2.09**	**309**	Pn	**Pn**	**16 24 49.0**	**-2.2**
MAJO	**Matsushiro**	**2.09**	**309**	Pn	**Pn**	**16 24 51.1**	**-0.1**
MJB9	**Matsu-Tunnel**	**2.09**	**309**	Pn	**Pn**	**16 24 51.1**	**-0.1**
JHJ	**Hachijo jima 2**	**2.16**	**190**	Sn	**Sn**	**16 25 16.2**	**-1.4**
JHJ2	**Mitsune**	**2.16**	**189**	Pn	**Pn**	**16 24 52.0**	**-0.1**
JGF	**Kuroka**	**2.38**	**279**		**Pn**	**16 24 55.9**	**+0.9**
INU	**Inuyama**	**2.63**	**273**	Pn	**Pn**	**16 24 58.8**	**+0.2**
JMM	**Marumori**	**2.65**	**10**		**Pn**	**16 24 59.1**	**+0.4**
JSD	**Sado**	**3.20**	**331**	Pn	**Pn**	**16 25 05.6**	**-0.7**
JTM	**Tenmabayashi**	**5.57**	**7**	Pn	**Pn**	**16 25 38.8**	**+0.2**
JHS	**Saijyo**	**5.84**	**270**	Pn	**Pn**	**16 25 45.0**	**+2.6**
JCJ	**Chichijima**	**8.30**	**168**	Pn	**Pn**	**16 26 14.3**	**-1.8**
	6.0nm,0.3s,baz=309,slow=23,SNR=1.9						
GUMO	**Guam**	**21.97**	**168**	LR	LR	16 35 51.5	
	comp=Z,432nm,18.9s,baz=99,slow=32						
ZALV	**Zalesovo Beam**	**42.43**	**314**	P	**P**	**16 32 07.5**	**+0.1**
	0.4nm,0.6s,baz=105,slow=11,SNR=2.0						
MK31	**Makanchi Array**	**44.28**	**303**	P	**P**	**16 32 22.2**	**-0.2**
MKAR	**Makanchi Array**	**44.28**	**303**	P	**P**	**16 32 22.5**	**0.0**
	0.4nm,0.6s,baz=87,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**44.28**	**303**	P	**P**	**16 32 22.8**	**+0.4**
KURK	**Kurchatov**	**46.30**	**309**	P	**P**	**16 32 38.0**	**-0.3**
KURK				lAmb	lAmb	16 32 39.4	
	comp=Z,2.0nm,0.8s						
MTN	**Manton Dam**	**48.60**	**192**	P	**P**	**16 32 55.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**54.84**	**197**	P	**P**	**16 33 43.3**	**+0.4**
FITZ				lAmb	lAmb	16 34 08.9	
	comp=Z,4.7nm,1.2s						
WB0	**Warramunga Arr**	**54.99**	**187**	P	**P**	**16 33 43.4**	**-0.6**
WB0				lAmb	lAmb	16 33 46.6	
	comp=Z,7.4nm,1.4s						
WRAB	**Tennant Creek**	**55.16**	**187**	P	**P**	**16 33 44.8**	**-0.5**
WR0	**Warramunga Arr**	**55.17**	**187**	P	**P**	**16 33 44.9**	**-0.4**
WR0				lAmb	lAmb	16 34 04.8	
	comp=Z,4.6nm,1.2s						
WB2	**Warramunga Arr**	**55.17**	**187**	P	**P**	**16 33 44.6**	**-0.7**
WB2				lAmb	lAmb	16 34 07.0	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**55.17**	**187**	P	**P**	**16 33 44.7**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=1.7,slow=7.5,SNR=29						
WRA	**Warramunga Arr**	**55.17**	**187**	P	**P**	**16 33 45.1**	**-0.2**
ASAR	**Alice Springs**	**58.90**	**187**	P	**P**	**16 34 11.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=15,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**58.90**	**187**	P	**P**	**16 34 11.9**	**+0.2**
BBB	**Bella Bella**	**64.01**	**43**	LR	LR	17 01 06.4	
	comp=Z,221nm,20.9s,baz=256,slow=34						
ARCES	**ARCESS Array B**	**65.33**	**339**	P	**P**	**16 34 55.9**	**+1.8**
FINES	**FINESS Array B**	**69.94**	**332**	P	P	16 35 30.8	+7.5
	comp=Z,2.3nm,0.9s,baz=32,slow=11,SNR=4.1						

*IDC **13** 16:26:08.4±0.9, 12°.37N×143°.63E, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.6/44, mbtmp3.5/7, Error ellipse: s-maj=35.6km s-min=17.7km az=118.0*

ISC 13 16:26:12.4±0.9, **12°4N**±0°.2×**143°.6E**±0°.2, **h27**km, **n11**, **σ1°05**/9, **mb3.6**/7, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.73**	**44**	Pn	**Pn**	**16 26 40.6**	**-0.2**
	68nm,0.3s,baz=170,slow=9.3,SNR=27						
GUMO				Sn	**Sn**	**16 27 02.3**	**+0.4**
	103nm,0.3s,baz=221,slow=20,SNR=11						
H11N1	**WAKE ISLAND Hy**	**23.51**	**69**	T	T	16 55 33.1	
	baz=255,slow=75,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**23.52**	**69**	T	T	16 55 34.1	
	baz=255,slow=75,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**23.53**	**69**	T	T	16 55 29.7	
	baz=255,slow=75,SNR=4.1						
WRA	**Warramunga Arr**	**33.37**	**196**	P	**P**	**16 32 48.4**	**-0.2**
	0.5nm,0.7s,baz=19,slow=9.7,SNR=7.1						
ASAR	**Alice Springs**	**37.04**	**195**	P	**P**	**16 33 20.7**	**+0.5**
	0.3nm,0.7s,baz=17,slow=12,SNR=6.8						
SONM	**Songino Array**	**47.06**	**326**	P	**P**	**16 34 41.0**	**-1.0**
	0.3nm,0.7s,baz=106,slow=3.1,SNR=1.6						
MKAR	**Makanchi Array**	**61.55**	**317**	P	**P**	**16 36 28.2**	**+0.9**
	0.2nm,0.6s,baz=90,slow=8.6,SNR=2.5						
ILAR	**Eielson Array**	**70.20**	**25**	P	**P**	**16 37 22.3**	**-0.3**
	0.4nm,0.5s,baz=255,slow=6.0,SNR=7.3						
YKA	**Yellowknife Ar**	**84.51**	**27**	P	**P**	**16 38 44.3**	**+1.5**
	0.4nm,0.5s,baz=286,slow=5.1,SNR=8.4						
NVAR	**Mina Array Bea**	**88.64**	**51**	P	**P**	**16 39 02.4**	**-1.4**
	0.5nm,0.6s,baz=282,slow=4.1,SNR=3.0						

*IDC **13** 16:28:23.5±0.7, 10°.17S×161°.21E, h0km, mb4.0/17, mb1 4.2/20, mb1mx4.1/39, mbtmp4.0/20, ML3.8/2, MS4.3/3, Ms1 4.3/3, ms1mx3.7/63, Error ellipse: s-maj=17.8km s-min=15.7km az=101.0*
*NEIC **13** 16:28:31.1±1.5, 10°.18S±0°.07×161°.00E±0°.09, h35km±4km, mb4.4/24, Error ellipse: s-maj=13.9km s-min=8.4km az=58.0*

ISC 13 16:28:29.7±0.5, **10°19S**±0°.07×**161°05E**±0°.07, **h35**km, **n59**, **σ1°14**/58, **mb4.2**/30, **MS4.2**/3, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.32**	**304**	Pn	**Pn**	**16 28 50.4**	**-1.3**
	386nm,0.3s,baz=159,slow=3.5,SNR=518						
HNR				Sn	**Sn**	**16 29 09.6**	**+1.5**
	1µm,0.3s,baz=0.0,slow=20,SNR=26						
HNR	**Honiara**	**1.32**	**304**	Pn	**Pn**	**16 28 51.5**	**-0.3**
SANVU	**Saraoutou**	**7.96**	**132**	Pn	**Pn**	**16 30 23.4**	**+0.4**
DZM	**Mont Dzumac**	**12.90**	**157**	Pn	**Pn**	**16 31 27.7**	**-3.1**
	0.3nm,0.3s,baz=260,slow=20,SNR=1.9						
MARNC	**Mare, Loyalty**	**13.08**	**150**	Pn	**Pn**	**16 31 35.0**	**+1.8**
PMG	**Port Moresby**	**13.71**	**272**	Pn	**Pn**	**16 31 43.3**	**+1.4**
	0.4nm,0.3s,baz=144,slow=19,SNR=1.5						
PMG	**Port Moresby**	**13.71**	**272**	Pn	**Pn**	**16 31 42.0**	**+0.1**
CTA	**Charters Tower**	**17.33**	**234**	P	**P**	**16 32 30.5**	**+0.3**
	0.4nm,0.3s,baz=63,slow=9.0,SNR=6.7						
CTAO	**Charters Tower**	**17.33**	**234**		**P**	**16 32 30.0**	**-0.2**
CTAO				lAmb	lAmb	16 32 37.6	
	comp=Z,33nm,1.3s						
EIDS	**Eidsvold**	**17.82**	**211**		**Pn**	**16 32 35.6**	**+0.5**
COEN	**Coen**	**17.88**	**256**		**Pn**	**16 32 35.1**	**-0.8**
ARMA	**Armidale**	**21.96**	**202**	P	**P**	**16 33 21.8**	**+1.1**
ARMA				lAmb	lAmb	16 33 44.6	
	comp=Z,30nm,1.5s						
CAN	**Canberra**	**27.33**	**202**		**P**	**16 34 12.4**	**+1.0**
CAN				lAmb	lAmb	16 34 19.1	
	comp=Z,11nm,1.3s						
WR0	**Warramunga Arr**	**27.34**	**246**	P	**P**	**16 34 11.9**	**+0.2**
WB0	**Warramunga Arr**	**27.42**	**247**	P	**P**	**16 34 12.7**	**+0.3**
WB0				lAmb	lAmb	16 34 27.4	
	comp=Z,4.0nm,0.7s						
WRAB	**Tennant Creek**	**27.51**	**246**	P	**P**	**16 34 12.6**	**-0.6**
WRAB	**Tennant Creek**	**27.51**	**246**	lAmb	lAmb	16 34 12.9	
	comp=Z,7.6nm,1.4s						
WB2	**Warramunga Arr**	**27.51**	**246**	P	**P**	**16 34 14.2**	**+1.0**
WB2				lAmb	lAmb	16 34 38.9	
	comp=Z,8.6nm,1.4s						
WRA	**Warramunga Arr**	**27.52**	**246**	P	**P**	**16 34 13.7**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=76,slow=9.0,SNR=5.1						
STKA	**Stephens Creek**	**28.11**	**217**	P	**P**	**16 34 16.8**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=35,slow=3.0,SNR=3.2						
ASAR	**Alice Springs**	**29.15**	**239**	P	**P**	**16 34 27.1**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=70,slow=9.6,SNR=8.4						
ASAR	**Alice Springs**	**29.15**	**239**	P	**P**	**16 34 28.5**	**+0.6**
TOO	**Toolangi**	**30.66**	**205**	P	**P**	**16 34 42.3**	**+1.3**
TOO				lAmb	lAmb	16 34 46.7	
	comp=Z,13nm,1.5s						
KNRA	**Kununurra**	**31.91**	**257**	P	**P**	**16 34 52.9**	**+0.6**
BKZ	**Black Stump Fm**	**31.98**	**157**	P	**P**	**16 34 53.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**35.18**	**253**	P	**P**	**16 35 19.9**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=98,slow=6.3,SNR=5.8						
FITZ	**Fitzroy Crossi**	**35.18**	**253**	P	**P**	**16 35 20.6**	**-0.1**
BATI	**Baumata**	**36.78**	**267**	P	**P**	**16 35 35.4**	**+0.9**
	comp=Z,7.2nm,0.5s,baz=102,slow=17,SNR=2.2						
PSA00	**Pilbara Seismi**	**41.09**	**249**	P	**P**	**16 36 09.6**	**-0.9**
TGY	**Tagaytay City**	**46.53**	**301**	P	**P**	**16 36 53.1**	**-1.2**
	comp=Z,153nm,0.3s,baz=175,slow=7.0,SNR=2.1						
KKM	**Kota Kinabalu**	**47.48**	**288**	P	**P**	**16 37 00.8**	**-1.0**
JHJ	**Hachijo jima 2**	**47.60**	**336**	P	**P**	**16 37 02.5**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=240,slow=13,SNR=2.6						
MJAR	**Matsushiro Arr**	**51.21**	**336**	P	**P**	**16 37 29.4**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=100,slow=6.7,SNR=1.7						
MJAR				LR	LR	16 57 14.4	
	comp=Z,432nm,21.9s,baz=96,slow=34						
ASAJ	**Asahikawa**	**56.58**	**344**	P	**P**	**16 38 09.1**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=185,slow=12,SNR=1.4						
USRK	**Ussuriysk Ar.**	**60.21**	**336**	P	**P**	**16 38 34.2**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=159,slow=7.1,SNR=7.4						
USRK	**Ussuriysk Ar.**	**60.21**	**336**	P	**P**	**16 38 35.3**	**+1.0**
SHEM	**Shemya Is, Ala**	**63.66**	**9**	LR	LR	17 00 21.7	
	comp=Z,189nm,21.5s,baz=122,slow=30						
VNDA	**Vanda**	**67.32**	**180**	P	**P**	**16 39 21.6**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=329,slow=7.9,SNR=4.9						
VNDA	**Vanda**	**67.32**	**180**	P	**P**	**16 39 21.7**	**+1.1**
VNDA				lAmb	lAmb	16 39 42.4	
	comp=Z,5.3nm,1.4s						
CMAR	**Chiang Mai Arr**	**67.55**	**295**	P	**P**	**16 39 24.0**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=123,slow=5.4,SNR=2.7						
CMAR				LR	LR	17 08 52.0	
	comp=Z,167nm,21.5s,baz=270,slow=36						
SBA	**Scott Base**	**67.72**	**179**	P	**P**	**16 39 23.5**	**+0.3**
SBA				lAmb	lAmb	16 39 41.1	
	comp=Z,4.1nm,1.2s						
SONM	**Songino Array**	**75.29**	**325**	P	**P**	**16 40 09.5**	**0.0**
	comp=Z,1.1nm,0.7s,baz=134,slow=5.1,SNR=7.5						
SONM	**Songino Array**	**75.29**	**325**	P	**P**	**16 40 11.3**	**+1.8**
KDAK	**Kodiak Island**	**77.55**	**23**	P	**P**	**16 40 23.0**	**+1.2**
BILL	**Bilibino**	**78.11**	**2**	P	**P**	**16 40 25.8**	**+1.0**
BILL				lAmb	lAmb	16 40 26.2	
	comp=Z,5.6nm,1.0s						
SVW2	**Sparrevohn**	**78.81**	**20**	P	**P**	**16 40 30.1**	**+1.3**
M19K	**Big River Lodg**	**79.78**	**20**	P	**P**	**16 40 35.8**	**+1.8**
M19K				lAmb	lAmb	16 40 53.1	
	comp=Z,3.8nm,0.8s						
QSPA	**South Pole Qui**	**79.81**	**180**	P	**P**	**16 40 34.5**	**+0.1**
QSPA				lAmb	lAmb	16 40 46.7	
	comp=Z,6.6nm,1.0s						
IMAR	**Indian Mountai**	**82.90**	**17**	P	**P**	**16 40 51.0**	**+0.5**
MAW	**Mawson**	**83.77**	**202**	P	**P**	**16 40 53.9**	**-1.1**
	comp=Z,3.7nm,0.7s,baz=118,slow=7.7,SNR=7.8						
MAW	**Mawson**	**83.77**	**202**	P	**P**	**16 40 54.8**	**-0.2**
CTGM	**Chitina Glacie**	**84.04**	**24**	P	**P**	**16 40 58.1**	**+1.4**
ILAR	**Eielson Array**	**84.22**	**20**	P	**P**	**16 40 54.9**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=234,slow=5.6,SNR=5.9						
M27K	**Edge Creek, AK**	**84.60**	**23**	P	**P**	**16 41 00.2**	**+0.8**
M27K				lAmb	lAmb	16 41 20.8	
	comp=Z,4.7nm,1.1s						
BCAR	**Beaver Creek A**	**85.03**	**23**	P	**P**	**16 41 02.5**	**+1.1**
NVAR	**Mina Array Bea**	**89.03**	**51**	P	**P**	**16 41 19.9**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=252,slow=4.6,SNR=3.6						
MKAR	**Makanchi Array**	**89.76**	**318**	P	**P**	**16 41 24.4**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=103,slow=6.5,SNR=1.8						
YKA	**Yellowknife Ar**	**96.35**	**28**	P	**P**	**16 41 53.0**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=256,slow=4.7,SNR=8.0						
PDAR	**Pinedale Array**	**96.38**	**48**	P	**P**	**16 41 53.5**	**-2.0**
	comp=Z,0.2nm,0.5s,baz=219,slow=5.6,SNR=1.8						

*IDC **13** 16:34:30.9±2.2, 6°.14S×147°.80E, h48km±21km, mb3.5/5, mb1 3.8/8, mb1mx3.4/41, mbtmp3.8/8, ML3.9/2, MS3.6/1, Ms1 3.6/1, ms1mx3.3/64, Error ellipse: s-maj=29.5km s-min=12.4km az=121.0*

ISC 13 16:34:32.3±0.8, **6°15S**±0°.09×**147°9E**±0°.1, **h60**km, **n21**, **σ0°99**/23, **mb3.8**/6, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.32**	**192**	P	**Pn**	**16 35 20.6**	**-1.2**
	15nm,0.3s,baz=341,slow=4.8,SNR=36						
PMG				S	**Sn**	**16 35 58.5**	**-1.4**
	28nm,0.3s,baz=44,slow=19,SNR=6.8						
PMG				LR	LR	16 37 11.8	
	comp=Z,877nm,20.5s,baz=146,slow=48						
PMG	**Port Moresby**	**3.32**	**192**	P	**Pn**	**16 35 21.3**	**-0.4**
PMG	**Port Moresby**	**3.32**	**192**	P	**Pn**	**16 35 21.4**	**-0.3**
KRVT	**Keravat AS076**	**4.52**	**66**	P	**Pn**	**16 35 37.9**	**-0.4**
	10nm,0.3s,baz=215,slow=16,SNR=8.7						
MTSU	**Mount Surprise**	**12.41**	**196**	P	**Pn**	**16 37 26.3**	**+0.1**
QIS	**Mount Isa**	**16.42**	**208**	P	**Pn**	**16 38 19.2**	**+0.3**
KDU	**Kakadu**	**16.52**	**246**	P	**P**	**16 38 22.4**	**+0.6**
WRAB	**Tennant Creek**	**18.99**	**223**	P	**P**	**16 38 49.3**	**+0.2**
WRA	**Warramunga Arr**	**19.00**	**223**	P	**P**	**16 38 48.6**	**-0.7**
	0.3nm,0.3s,baz=52,slow=9.9,SNR=10						
RMQ	**Roma**	**20.25**	**178**	P	**P**	**16 39 03.0**	**+0.3**
KNRA	**Kununurra**	**21.00**	**242**	P	**P**	**16 39 12.5**	**+1.6**
ASAR	**Alice Springs**	**22.00**	**216**	P	**P**	**16 39 21.1**	**-0.5**
	1.8nm,0.5s,baz=54,slow=8.9,SNR=29						
ASAR				S	**S**	**16 43 21.3**	**+0.1**
	1.8nm,0.8s,baz=33,slow=22,SNR=13						
OOD	**Oodnadatta**	**24.44**	**207**	P	**P**	**16 39 46.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.73**	**239**	P	**P**	**16 39 48.8**	**+0.6**
	1.8nm,0.4s,baz=55,slow=9.7,SNR=20						
LCRK	**Leigh Creek**	**25.82**	**199**	P	**P**	**16 39 58.8**	**+0.8**

STKA	**Stephens Creek**	**26.26**	**192**	P	**P**	**16 40 00.8**	**-1.3**
	1.5nm,0.5s,baz=7.2,slow=11,SNR=5.6						
WRKA	**Warakurna**	**26.54**	**223**	P	**P**	**16 40 06.6**	**+1.9**
RAO	**Raoul Island**	**39.62**	**130**	P	**P**	**16 41 59.5**	**+1.3**
	338nm,0.4s,baz=5.1,slow=18,SNR=4.4						
SONM	**Songino Array**	**64.95**	**330**	P	**P**	**16 45 04.7**	**-1.1**
	0.3nm,0.6s,baz=129,slow=2.0,SNR=1.9						
ILAR	**Eielson Array**	**85.28**	**23**	P		**16 47 01.1**	**-1.2**
	0.4nm,1.0s,baz=202,slow=6.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**145.97**	**284**	PKPbc	**PKPdf**	**16 54 05.9**	**+0.4**
	0.3nm,0.5s,baz=59,slow=3.1,SNR=2.3						

*IDC **13** 16:45:51.7±3.0, 39°.10N×21°.23E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.1/49, mbtmp3.5/3, Error ellipse: s-maj=335.7km s-min=29.3km az=136.0*
*THE **13** 16:45:52.9, 39°.02N×21°.33E, h0km±1km, ML2.6/21, Error ellipse: s-maj=1.8km s-min=0.5km az=228.0*
*ATH **13** 16:45:52.1, 39°.01N×21°.33E, h23km±2km, ML2.6/18, Error ellipse: s-maj=2.0km s-min=0.7km az=213.0*

ISC 13 16:45:52.7±1.1, **39°01N**±0°.02×**21°33E**±0°.02, **h5**km±9km, **n71**, **σ0°94**/106, **mb3.3**/3, **2C-2D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.38**	**104**	P	**Pg**	**16 46 00.1**	**-0.1**
EVR				AML	AML	16 46 11.4	
	comp=N,1597µm,0.5s						
EVR				AML	AML	16 46 11.5	
	comp=E,2004µm,0.3s						
EVR	**Evrytania**	**0.38**	**104**	P	**Pg**	**16 46 00.0**	**-0.1**
EVR				S	**Sg**	**16 46 06.5**	**+1.4**
	comp=E,902nm,0.4s						
TSLK	**Tsoukalades, L**	**0.56**	**251**	P	**Pg**	**16 46 03.8**	**+0.3**
TSLK				AML	AML	16 46 19.7	
	comp=N,3010µm,0.5s						
TSLK				AML	AML	16 46 21.9	
	comp=E,2397µm,0.5s						
TSLK	**Tsoukalades, L**	**0.56**	**251**	P	**Pg**	**16 46 03.7**	**+0.3**
TSLK				S	**Sb**	**16 46 12.8**	**-0.5**
	comp=E,1µm,0.5s						
LKD2	**Lefkada island**	**0.57**	**248**	P	**Pg**	**16 46 03.9**	**+0.3**
LKD2				AML	AML	16 46 19.4	
	comp=N,3196µm,0.4s						
LKD2				AML	AML	16 46 22.0	
	comp=E,1793µm,0.6s						
LKD2	**Lefkada island**	**0.57**	**248**	P	**Pg**	**16 46 03.7**	**+0.1**
LKD2				S	**Sb**	**16 46 12.9**	**-0.7**
	comp=E,1µm,0.4s						
NYDR	**Nydri-Lefkada**	**0.57**	**240**	P	**Pg**	**16 46 03.6**	**-0.2**
NYDR				S	**Sb**	**16 46 12.7**	**-1.0**
NYDR	**Nydri-Lefkada**	**0.57**	**240**	P	**Pg**	**16 46 03.5**	**-0.2**
NYDR				S	**Sb**	**16 46 12.4**	**-1.3**
	comp=E,712nm,0.6s						
ANX	**Ano Chora**	**0.62**	**132**	P	**Pg**	**16 46 04.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.62**	**89**	P	**Pg**	**16 46 04.6**	**-0.1**
MAKR				S	**Sb**	**16 46 13.8**	**-1.4**
MAKR				AML	AML	16 46 17.0	
	comp=E,2175µm,0.5s						
MAKR				AML	AML	16 46 19.9	
	comp=N,1943µm,0.6s						
MAKR	**Makrakomi, Fth**	**0.62**	**89**	P	**Pg**	**16 46 04.6**	**-0.1**
MAKR				S	**Sb**	**16 46 14.4**	**-0.8**
	comp=N,1µm,0.6s						
EVGI	**Lefkada island**	**0.65**	**234**	P	**Pg**	**16 46 05.0**	**-0.3**
EVGI				S	**Sb**	**16 46 14.9**	**-1.2**
EVGI	**Lefkada island**	**0.65**	**234**	P	**Pg**	**16 46 05.1**	**-0.1**
EVGI				S	**Sb**	**16 46 15.7**	**-0.3**
	comp=N,1µm,0.3s						
DRAG	**Dragano-Lefkad**	**0.67**	**242**	P	**Pg**	**16 46 05.5**	**-0.1**
DRAG				S	**Sb**	**16 46 15.8**	**-0.8**
DRAG	**Dragano-Lefkad**	**0.67**	**242**	P	**Pg**	**16 46 05.7**	**+0.1**
DRAG				S	**Sb**	**16 46 16.2**	**-0.4**
	comp=N,2µm,0.2s						
EFP	**Efpalio**	**0.73**	**142**	P	**Pg**	**16 46 06.

DRO				AML	AML	16 46 46.3	
	comp=E,437μm,0.5s						
DRO	**Drossia**	**1.09**	**164**	P	**Pb**	**16 46 13.9**	**-0.2**
DRO				S	**Sn**	**16 46 31.0**	**+0.7**
	comp=E,375nm,0.6s						
KEF3	**Kipouria, Keph**	**1.11**	**224**	P	**Pg**	**16 46 12.3**	**-1.8**
KEF3	**Kipouria, Keph**	**1.11**	**224**	P	**Pg**	**16 46 12.4**	**-1.6**
KEF3				S	**Sn**	**16 46 31.1**	**+0.4**
KLV	**Kalavryta, Ach**	**1.16**	**146**	P	**Pb**	**16 46 15.2**	**0.0**
KLV				AML	AML	16 46 42.1	
	comp=N,254μm,0.6s						
KLV				AML	AML	16 46 47.2	
	comp=E,404μm,0.9s						
KLV	**Kalavryta, Ach**	**1.16**	**146**	P	**Pg**	**16 46 14.9**	**0.0**
KLV				S	**Sn**	**16 46 33.4**	**+1.5**
	comp=E,162nm,0.7s						
KZN	**Kozani**	**1.34**	**14**	P	**Pn**	**16 46 18.1**	**-0.1**
LKR	**Lokris**	**1.35**	**105**	P	**Pg**	**16 46 17.0**	**-1.6**
ATAL	**Atalanti**	**1.36**	**103**	P	**Pg**	**16 46 17.7**	**-1.0**
ATAL	**Atalanti**	**1.36**	**103**	P	**Pg**	**16 46 17.7**	**-1.0**
ATAL				S	**Sn**	**16 46 38.0**	**+1.3**
	comp=E,60nm,0.5s						
KEK	**Kerkira**	**1.38**	**301**	P	**Pb**	**16 46 18.7**	**-0.3**
KEK				AML	AML	16 46 42.3	
	comp=N,403μm,0.6s						
KEK				AML	AML	16 46 44.1	
	comp=E,495μm,1.0s						
KEK	**Kerkira**	**1.38**	**301**	P	**Pb**	**16 46 19.9**	**+0.9**
KEK				S	**Sn**	**16 46 39.1**	**+1.7**
	comp=E,230nm,0.8s						
LIT	**Litokhoron**	**1.41**	**39**	P	**Pn**	**16 46 18.3**	**-0.8**
LIT	**Litokhoron**	**1.41**	**39**	P	**Pn**	**16 46 18.3**	**-0.8**
LIT				S	**Sn**	**16 46 38.6**	**+0.5**
	comp=E,232nm,0.6s						
XOR	**Xorichti**	**1.49**	**76**	P	**Pn**	**16 46 19.6**	**-0.5**
XOR				AML	AML	16 46 48.7	
	comp=E,224μm,1.0s						
XOR				AML	AML	16 46 49.6	
	comp=N,365μm,0.5s						
XOR	**Xorichti**	**1.49**	**76**	P	**Pn**	**16 46 19.7**	**-0.5**
XOR				S	**Sn**	**16 46 41.6**	**+1.6**
VIL2	**Platees**	**1.71**	**117**	P	**Pn**	**16 46 23.5**	**+0.2**
VIL2				AML	AML	16 47 02.8	
	comp=E,317μm,0.5s						
VIL2				AML	AML	16 47 05.0	
	comp=N,194μm,0.9s						
VILL	**Villia**	**1.77**	**118**	P	**Pb**	**16 46 25.2**	**-0.4**
FNA	**Florina**	**1.77**	**1**	P	**Pn**	**16 46 22.9**	**-1.2**
PLG	**Polygyros**	**2.13**	**49**	P	**Pn**	**16 46 28.2**	**-0.8**
OHR	**Ohrid**	**2.14**	**349**	*i* Pn	**Pg**	**16 46 33.1**	**-0.6**
OHR				*i* Sn	**Sg**	**16 47 05.3**	**+3.9**
DION	**Dionisos Attik**	**2.24**	**114**	P	**Pn**	**16 46 30.4**	**-0.1**
VAY	**Valandovo**	**2.50**	**22**	*i* Pn	**Pb**	**16 46 37.9**	**-0.2**
STIP	**Stip**	**2.76**	**13**	*i* Pn	**Pn**	**16 46 39.3**	**+1.7**
STIP				*i* Sn	**Sg**	**16 47 19.2**	**-2.2**
TIP	**Timpagrande**	**3.56**	**274**	⇑P	**Pn**	**16 46 49.4**	**+0.7**
VTS	**Vitosha**	**3.88**	**21**	⇑P	**Pn**	**16 46 57.0**	**+3.8**
VOIR		**6.99**	**22**	⇓P	Pn	16 47 42.2	+6.3
MLR	**Muntele Rosu**	**7.33**	**26**	⇓P	Pn	16 47 45.6	+5.1
TORD	**Torodi Ar. Bea**	**31.07**	**219**	P	**P**	**16 52 11.8**	**-0.1**
	comp=N,0.2nm,0.5s,baz=28,slow=8.2,SNR=1.7						
MKAR	**Makanchi Array**	**44.33**	**59**	P	**P**	**16 54 03.4**	**-0.2**
	comp=N,0.2nm,0.4s,baz=280,slow=7.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**44.67**	**49**	P	**P**	**16 54 05.8**	**-0.4**
	comp=N,1.1nm,0.5s,baz=275,slow=7.3,SNR=6.4						

JMA ***13*** *16:47:17.8±1.0, 46°.85N×149°.85E, h368km, M3.9*
IDC ***13*** *16:47:19.6±1.6, 47°.84N×148°.74E, h353km±18km, mb3.0/11, mb1 3.1/18, mb1mx2.9/59, mbtmp3.8/18, Error ellipse: s-maj=20.7km s-min=11.5km az=130.0*

ISC 13 16:47:17.6±0.6, 47°.44N±0°.09×149°.0E±0°.1, h357km, n31, σ2s37/34, mb3.1/11, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**4.41**	**219**	P		P	**Pn**	**16 48 33.0**	**+1.8**
NEM2	**Nemuro 2**	**4.66**	**210**	P		P	**Pn**	**16 48 33.5**	**-0.3**
NEM2				*e*S		S		16 49 32.9	-2.6
JNK	**Nakash**	**4.87**	**219**	P		P	**Pn**	**16 48 37.6**	**+1.5**
JTKR	**Abashiri--Tokro**	**4.95**	**227**	P		P	**Pn**	**16 48 39.2**	**+2.2**
JAK	**Akkeshi**	**5.37**	**216**	P		P	**Pn**	**16 48 41.6**	**+0.1**
JAK				*e*S		S		16 49 47.3	-2.2
JAR	**Ashorobuto**	**5.52**	**223**	P		P	**Pn**	**16 48 45.1**	**+1.8**
ASAJ	**Asahikawa**	**5.55**	**236**	P		P	**Pn**	**16 48 47.0**	**+3.5**
	9.9nm,0.3s,baz=64,slow=15,SNR=139								
JKK2	**Kamakawa 2**	**5.62**	**233**	P		P	**Pn**	**16 48 48.1**	**+3.7**
JOB	**Onbets**	**5.80**	**220**	P		P	**Pn**	**16 48 47.1**	**+0.7**
JAB	**Ashibetsu**	**6.15**	**233**	P		P	**Pn**	**16 48 54.1**	**+3.7**
JCH	**Churui**	**6.24**	**221**	P		P	**Pn**	**16 48 51.5**	**+0.1**
JCH				*e*S		S		16 50 05.3	-2.2
JNBK	**Urakawa-nobuka**	**6.78**	**223**	P		P	**Pn**	**16 48 57.3**	**-0.3**
PETK	**Petropavlovsk-**	**7.97**	**41**	P		P	**Pn**	**16 49 09.6**	**-1.6**
	0.2nm,0.3s,baz=241,slow=18,SNR=7.7								
JANG	**Nango**	**8.87**	**220**	P		P	**Pn**	**16 49 21.7**	**-0.4**
JANG				*e*S		S		16 50 58.3	-5.7
JTH	**Tanohata**	**9.08**	**217**	P		P		**16 49 24.9**	**-1.6**
KLR	**Kul'dur**	**11.60**	**285**	P		P		**16 49 53.2**	**-1.0**
	0.1nm,0.3s,baz=75,slow=20,SNR=2.3								
MA2	**Magadan**	**12.21**		P		P	**Pn**	**16 49 58.2**	**-2.7**
	0.6nm,0.3s,baz=174,slow=11,SNR=20								
MJAR	**Matsushiro Arr**	**13.49**	**220**	P		P	**Pn**	**16 50 20.8**	**+4.0**
	0.3nm,0.3s,baz=36,slow=9.7,SNR=12								
SEY	**Seymchan**	**15.65**	**6**	P		P		**16 50 37.9**	**-0.6**
	0.3nm,0.3s,baz=169,slow=10,SNR=14								
KSRS	**Korea Array**	**18.40**	**245**	P		P		**16 51 11.9**	**+3.7**
	0.1nm,0.3s,baz=50,slow=11,SNR=4.3								
TIXI	**Tiksi**	**26.05**	**346**	P		P		**16 52 17.0**	**-2.1**
	0.4nm,0.4s,baz=286,slow=9.5,SNR=18								
SONM	**Songino Array**	**28.42**	**287**	P		P		**16 52 40.6**	**+0.1**
	0.3nm,0.4s,baz=82,slow=3.1,SNR=2.8								
KDAK	**Kodiak Island**	**35.88**	**51**	P		P		**16 53 45.2**	**+0.7**
	5.6nm,1.1s,baz=263,slow=7.0,SNR=1.5								
ILAR	**Eielson Array**	**37.79**	**39**	P		P		**16 54 00.8**	**+0.4**
	0.8nm,0.7s,baz=254,slow=5.5,SNR=7.3								
INK	**Inuvik**	**42.59**	**32**	P		P		**16 54 39.7**	**+0.5**
	1.1nm,0.3s,baz=302,slow=8.8,SNR=13								
RES	**Resolute Bay**	**51.07**	**18**	P		P		**16 55 44.0**	**-0.1**
	1.0nm,0.4s,baz=327,slow=10,SNR=11								
YKA	**Yellowknife Ar**	**52.05**	**36**	P		P		**16 55 51.9**	**+0.5**
	0.4nm,0.4s,baz=302,slow=7.2,SNR=7.1								
FINES	**FINESS Array B**	**62.17**	**333**	P		P		**16 57 00.5**	**-1.0**
	2.3nm,1.0s,baz=26,slow=9.8,SNR=3.7								
PDAR	**Pinedale Array**	**66.59**	**52**	P		P		**16 57 32.6**	**+2.0**
	0.2nm,0.4s,baz=0.6,slow=3.2,SNR=2.5								
WRA	**Warramunga Arr**	**68.35**	**195**	P		P		**16 57 45.3**	**+4.1**
	0.2nm,0.5s,baz=9.8,slow=5.5,SNR=1.8								
ASAR	**Alice Springs**	**72.06**	**194**	P		P		16 58 07.9	+4.3
	0.2nm,0.9s,baz=50,slow=1.4,SNR=2.0								

IDC ***13*** *16:59:27.9±0.9, 27°.54N×140°.10E, h465km±14km, mb2.7/5, mb1 2.9/6, mb1mx2.6/57, mbtmp3.5/6, Error ellipse: s-maj=38.5km s-min=23.2km az=71.0*

ISC 13 16:59:27.5±0.9, 27°.5N±0°.2×139°.9E±0°.2, h450km, n7, σ1s18/8, mb2.9/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.11**	**100**	P		P	**P**	**17 00 28.7**	**0.0**
	16nm,0.3s,baz=1.9,slow=14,SNR=50								
JCJ				S		S		17 01 19.5	+1.3
	14nm,0.3s,baz=282,slow=23,SNR=5.8								
MJAR	**Matsushiro Arr**	**9.14**	**352**	P		P	**P**	**17 01 36.2**	**+1.0**
	0.1nm,0.3s,baz=139,slow=6.3,SNR=1.8								
SONM	**Songino Array**	**33.01**	**317**	P		P	**P**	**17 05 24.3**	**+0.6**
	0.4nm,0.3s,baz=106,slow=4.7,SNR=2.4								
WRA	**Warramunga Arr**	**47.44**	**187**	P		P	**P**	**17 07 20.3**	**+0.1**
	0.6nm,1.1s,baz=4.9,slow=7.3,SNR=2.5								
MKAR	**Makanchi Array**	**48.63**	**309**	P		P	**P**	**17 07 29.1**	**+0.3**
	0.2nm,0.4s,baz=90,slow=9.2,SNR=8.1								
YKA	**Yellowknife Ar**	**72.79**	**28**	P		P	**P**	**17 10 07.4**	**-1.3**
	0.1nm,0.5s,baz=299,slow=4.2,SNR=1.8								
FINES	**FINESS Array B**	**76.68**	**333**	P		P	**P**	**17 10 29.2**	**-1.4**
	0.7nm,0.4s,baz=48,slow=5.7,SNR=4.6								

NEIC ***13*** *17:21:08.0±2.4, 1°.60S±0°.06×78°.1W±0°.1, h186km±8km, mb4.1/8, Error ellipse: s-maj=15.6km s-min=9.0km az=93.0*
IDC ***13*** *17:21:10.1±3.5, 1°.54S×77°.70W, h194km±34km, mb3.3/4, mb1 3.5/7, mb1mx3.2/44, mbtmp4.0/7, Error ellipse: s-maj=38.6km s-min=22.0km az=70.0*

ISC 13 17:21:08.3±0.7, 1°.63S±0°.07×78°.0W±0°.1, h200km, n34, σ2s28/34, mb3.8/6, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**1.58**	**197**			Pn	**Pn**	**17 21 41.1**	**-1.9**
BOSC						Sn	**Sn**	**17 22 06.3**	**-3.7**
OTAV	**Otavalo**	**1.90**	**347**			Pn	**Pn**	**17 21 44.5**	**-1.9**
CUSE	**Cuicocha Este**	**1.96**	**349**			*e*P	**Pn**	**17 21 43.5**	**-3.4**
ARNL	**Arenillas**	**2.79**	**227**			Pn	**Pn**	**17 21 53.0**	**-2.5**
GCUF	**Volcan Galeras**	**2.92**	**14**			*e*P	**Pn**	**17 21 54.1**	**-3.4**
MCRA	**Macar, Loja**	**3.33**	**215**			Pn	**Pn**	**17 21 59.8**	**-2.2**
PTLC	**Puerto Leguiza**	**3.69**	**61**			*e*P	Pn	17 21 59.9	-6.5
SOTA	**Rioblanco**	**4.00**	**21**			*e*P	**Pn**	**17 22 08.6**	**-2.0**
PCON	**Cinco Dias**	**4.25**	**23**			*e*P	**Pn**	**17 22 12.4**	**-1.4**
POPC	**Popayan, Colom**	**4.36**	**18**			*e*P	**Pn**	**17 22 12.4**	**-2.4**
GARC	**Garzon, Huila**	**4.56**	**34**			*e*P	**Pn**	**17 22 15.1**	**-2.3**
GR1C	**Gorgona, Isla**	**4.60**	**358**			*e*P	**Pn**	**17 22 16.8**	**-0.8**
MARP	**Paez Belalcaza**	**4.99**	**25**			*e*P	**Pn**	**17 22 19.2**	**-2.6**
MACC	**Macarena, Meta**	**5.62**	**48**			*e*P	**Pn**	**17 22 26.9**	**-3.8**
YOTC	**Yotoco, Valle**	**5.82**	**17**			*e*P	**Pn**	**17 22 28.8**	**-4.6**
CHIC	**Chingaza**	**7.55**	**35**			*e*P	**Pn**	**17 22 56.8**	**+0.6**
ZARC	**Zaragoza, Cauc**	**9.60**	**19**				**Pn**	**17 23 20.6**	**-1.8**
ZARC	**Zaragoza, Cauc**	**9.60**	**19**			*e*P	**Pn**	**17 23 20.9**	**-1.4**
UREC	**San Jos de Ur**	**9.64**	**15**			*e*P	**Pn**	**17 23 23.6**	**+0.5**
NNA	**Nana**	**10.36**	**174**	P		P	**Pn**	**17 23 34.3**	**+2.0**
	1.6nm,0.3s,baz=0.5,slow=14,SNR=2.0								
NNA						S	Sn	17 25 17.3	-11
	4.0nm,0.3s,baz=280,slow=11,SNR=4.3								
SDV	**Santo Domingo**	**12.78**	**35**	P		P	**Pn**	**17 24 02.0**	**-1.3**
	1.1nm,0.3s,baz=229,slow=9.3,SNR=5.1								
SDV	**Santo Domingo**	**12.78**	**35**				**Pn**	**17 24 00.3**	**-3.0**
BAUV	**El Baul**	**14.47**	**43**				**Pn**	**17 24 20.6**	**-3.5**
LPAZ	**La Paz**	**17.53**	**147**	P		P	**Pn**	**17 25 01.9**	**+0.3**
	0.4nm,0.3s,baz=328,slow=12,SNR=7.5								
LPAZ	**La Paz**	**17.53**	**147**				**Pn**	**17 25 02.1**	**+0.6**
PB16	**IPOC Station P**	**18.59**	**154**	P		P	**Pn**	**17 25 13.3**	**-0.6**
PB16						IAmb	IAmb	17 25 14.7	
	comp=Z,6.2nm,0.7s								
GO01	**Chusmiza**	**19.91**	**155**	P		P	**Pn**	**17 25 27.9**	**-1.6**
GO01						IAmb	IAmb	17 25 30.2	
	comp=Z,7.3nm,1.1s								
SIV	**San Ignacio**	**21.98**	**131**	P		P	**P**	**17 25 46.9**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=307,slow=9.6,SNR=3.9								
ROC1	**El Roble**	**31.87**	**169**	P		P	**P**	**17 27 16.4**	**+1.4**
P18A	**Preston Nutter**	**50.56**	**328**	P		P	**P**	**17 29 47.1**	**+0.1**
P18A						IAmb	IAmb	17 30 00.1	
	comp=Z,3.3nm,0.5s								
P17A	**Butcher Ranch,**	**50.72**	**327**	P		P	**P**	**17 29 48.2**	**+0.3**
P17A						IAmb	IAmb	17 29 55.0	
	comp=Z,4.2nm,0.7s								
YKA	**Yellowknife Ar**	**69.65**	**343**	P		P	**P**	**17 31 58.4**	**+2.6**
	comp=Z,0.3nm,0.5s,baz=142,slow=6.1,SNR=7.0								
DBIC	**Dimbokro**	**73.49**	**83**	P		P	**P**	**17 32 20.6**	**+0.9**
	comp=Z,3.8nm,0.9s,baz=254,slow=4.3,SNR=3.3								
TORD	**Torodi Ar. Bea**	**80.37**	**76**	P		P	**P**	**17 32 58.2**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=281,slow=5.4,SNR=11								

NOU ***13*** *17:28:15.8, 41°.15S×175°.76E, h40km, MLv3.5/7, North Island, New Zealand*
WEL ***13*** *17:28:16.3, 41°.3S±2°×17°.5E±°, h25km±3km, M3.0/20, ML3.2/21, MLv3.0/20, Error ellipse: s-maj=0.0km s-min=0.0km az=106.0*

ISC 13 17:28:16.1±1.0, 40°.96S±0°.03×175°.56E±0°.03, h28km±4km, n76, σ0s95/82, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOWZ	**Holdsworth Sta**	**0.07**	**332**			P	**Pn**	**17 28 21.0**	**0.0**
HOWZ						S	**Sn**	**17 28 24.4**	**+0.1**
MTW	**Mount Morrison**	**0.20**	**192**			P	**Pn**	**17 28 23.4**	**0.0**
MTW						S	**Sb**	**17 28 28.8**	**+2.4**
TMWZ	**Te Maipa**	**0.29**	**121**			P	**Pn**	**17 28 25.3**	**+0.7**
MRZ	**Mangatainoka R**	**0.30**	**3**			P	**Pb**	**17 28 22.8**	**-0.5**
MRZ						S	**Sb**	**17 28 27.6**	**-0.7**
TIWZ	**Tintock**	**0.31**	**54**			P	**Pn**	**17 28 24.3**	**-0.5**
TIWZ						S	**Sn**	**17 28 30.1**	**-0.3**
OGWZ	**Otaki Gorge**	**0.33**	**295**			P	**Pb**	**17 28 22.9**	**-0.8**
OGWZ						S	**Sb**	**17 28 27.7**	**-1.2**
CAW	**Cannon Point**	**0.40**	**248**			P	**Pb**	**17 28 24.9**	**0.0**
TRWZ	**Traveller**	**0.45**	**167**			P	**Pn**	**17 28 27.4**	**+0.6**
KIW	**Kapiti Island**	**0.50**	**281**			P	**Pb**	**17 28 25.8**	**-0.6**
KIW						S	**Sb**	**17 28 32.6**	**-0.9**
PRWZ	**Pori Road**	**0.51**	**38**			P	**Pn**	**17 28 27.2**	**+0.6**
BFZ	**Birch Farm**	**0.59**	**63**			P	**Pn**	**17 28 29.0**	**+0.3**
WEL	**Wellington**	**0.68**	**241**			P	**Pn**	**17 28 29.6**	**-0.3**
SNZO	**South Karori**	**0.73**	**241**			P	**Pb**	**17 28 30.6**	**+0.3**
OHWZ	**Ohakea**	**0.77**	**346**			P	**Pn**	**17 28 30.7**	**-0.5**
DVHZ	**Dannevirke**	**0.81**	**35**			P	**Pn**	**17 28 31.3**	**-0.3**
ANWZ	**Angora Road**	**0.86**	**55**			P	**Pb**	**17 28 32.2**	**-0.2**
TSZ	**Takapari Road**	**0.95**	**19**			P	**Pn**	**17 28 33.2**	**-0.4**
TCW	**Tory Channel**	**1.00**	**255**			P	**Pn**	**17 28 34.0**	**-0.3**
PRHZ	**Porangahau**	**1.07**	**50**			P	**Pn**	**17 28 35.0**	**-0.3**
WPHZ	**Waipukurau**	**1.12**	**37**			P	**Pn**	**17 28 35.9**	**0.0**
PNHZ	**Pukenui**	**1.15**	**25**			P	**Pn**	**17 28 36.2**	**-0.3**
DUWZ	**D'Urville Isla**	**1.25**	**277**			P	**Pn**	**17 28 37.6**	**-0.2**
WAZ	**Wanganui**	**1.28**	**340**			P	**Pn**	**17 28 38.8**	**+0.7**
CMWZ	**Cape Campbell**	**1.28**	**232**			P	**Pn**	**17 28 38.6**	**+0.4**
TUWZ	**Tuamarina**	**1.31**	**248**			P	**Pn**	**17 28 37.8**	**-0.7**
PXZ	**Pawanui**	**1.36**	**48**			P	**Pn**	**17 28 38.6**	**-0.6**
KRHZ	**Kereru**	**1.45**	**26**			P	**Pn**	**17 28 40.0**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.48**	**239**			P	**Pn**	**17 28 40.4**	**-0.4**
BHHZ	**Black Hill Sta**	**1.52**	**15**			P	**Pn**	**17 28 41.3**	**-0.1**
KAHZ	**Kahuranaki**	**1.54**	**41**			P	**Pn**	**17 28 41.1**	**-0.6**
MOVZ	**Moawhango**	**1.56**	**6**			P	**Pn**	**17 28 41.9**	**-0.1**
MTVZ	**Mangateitei**	**1.57**	**358**			P	**Pn**	**17 28 42.9**	**+0.6**
WNVZ	**Wahianoa**	**1.63**	**1**			P	**Pn**	**17 28 43.3**	**+0.2**
TRVZ	**Turoa**	**1.66**	**360**			P	**Pn**	**17 28 44.0**	**+0.5**
NNZ	**Nelson**	**1.67**	**260**			P	**Pn**	**17 28 43.4**	**0.0**
KWHZ	**Kaweka Forest**	**1.67**	**24**			P	**Pn**	**17 28 42.9**	**-0.6**
WHVZ	**Whangaehu Hut**	**1.67**	**1**			P	**Pn**	**17 28 44.2**	**+0.4**
TUVZ	**Tukino**	**1.69**	**3**			P	**Pn**	**17 28 44.5**	**+0.6**
FWVZ	**Far West T-bar**	**1.70**	**360**			P	**Pn**	**17 28 44.6**	**+0.5**
LREZ	**Lake Rotokare**	**1.74**	**329**			P	**Pn**	**17 28 45.8**	**+1.3**
MCHZ	**McNeill Hill**	**1.75**	**30**			P	**Pn**	**17 28 44.2**	**-0.4**
SNVZ	**South Ngauruho**	**1.77**	**2**			P	**Pn**	**17 28 45.6**	**+0.5**
NGZ	**Ngauruhoe**	**1.78**	**1**			P	**Pn**	**17 28 45.7**	**+0.6**
OTVZ	**Oturere**	**1.79**	**3**			P	**Pn**	**17 28 45.8**	**+0.4**
ETVZ	**East Tongariro**	**1.80**	**4**			P	**Pn**	**17 28 46.0**	**+0.3**
NNVZ	**N Ngauruho**	**1.82**	**1**			P	**Pn**	**17 28 46.3**	**+0.6**
WTVZ	**West Tongariro**	**1.84**	**1**			P	**Pn**	**17 28 46.5**	**+0.5**
TMVZ	**Te Maari**	**1.84**	**4**			P	**Pn**	**17 28 46.4**	**+0.4**
NTVZ	**North Tongarir**	**1.86**	**3**			P	**Pn**	**17 28 46.5**	**+0.3**
KRVZ	**Karewarewa**	**1.86**	**2**			P	**Pn**	**17 28 47.0**	**+0.7**
BKZ	**Black Stump Fm**	**1.93**	**22**			P	**Pn**	**17 28 46.2**	**-0.9**
BKZ	**Black Stump Fm**	**1.93**	**22**			P	**Pn**	**17 28 46.9**	**-0.2**
VRZ	**Vera Road**	**1.93**	**341**			P	**Pn**	**17 28 47.9**	**+0.8**
PREZ	**Palmer Road**	**1.94**	**326**			P	**Pn**	**17 28 48.9**	**+1.7**
TKNZ	**Takaka Hill**	**1.97**	**267**			P	**Pn**	**17 28 47.5**	**-0.1**
KATZ	**Kakaramea**	**1.98**	**3**			P	**Pn**	**17 28 48.9**	**+1.0**
RITZ	**Rihia Road**	**1.99**	**7**			P	**Pn**	**17 28 48.3**	**+0.3**
NEZ	**North Egmont**	**2.02**	**326**			P	**Pn**	**17 28 50.1**	**+1.6**
KHEZ	**Kahui Hut**	**2.04**	**324**			P	**Pn**	**17 28 50.4**	**+1.7**
NMHZ	**Naumai**	**2.09**	**28**			P	**Pn**	**17 28 51.6**	**+2.2**
RATZ	**Rangitukua**	**2.10**	**5**			P	**Pb**	**17 28 53.1**	**-0.3**
KHZ	**Kahutara**	**2.10**	**225**			P	**Pn**	**17 28 48.3**	**-1.1**
KHZ	**Kahutara**	**2.10**	**225**			P	**Pn**	**17 28 48.5**	**-0.9**
MHEZ	**Mangahewa**	**2.10**	**333**			P	**Pn**	**17 28 52.2**	**+2.7**
PKE	**Pukeiti**	**2.13**	**325**			P	**Pn**	**17 28 52.2**	**+2.3**
THZ	**Tophouse**	**2.15**	**247**			P	**Pn**	**17 28 49.3**	**-0.9**
MRNZ	**Matariki Terra**	**2.16**	**257**			P	**Pn**	**17 28 50.2**	**-0.1**
MRHZ	**Matea Rd**	**2.22**	**18**			P	**Pn**	**17 28 49.4**	**-1.8**
WATZ	**Wairara**	**2.25**	**4**			P	**Pn**	**17 28 51.1**	**-0.4**
QRZ	**Quartz Range**	**2.30**	**272**			P	**Pn**	**17 28 52.2**	**+0.1**
QRZ	**Quartz Range**	**2.30**	**272**			P	**Pn**	**17 28 53.6**	**+1.5**
MTHZ	**Maungataniwha**	**2.32**	**26**			P	**Pn**	**17 28 51.5**	**-1.1**
HIZ	**Hauiti**	**2.50**	**347**			P	**Pn**	**17 28 55.4**	**+0.5**
HIZ	**Hauiti**	**2.50**	**347**			P	**Pn**	**17 28 57.2**	**+2.3**
TLZ	**Tolley Road**	**2.62**	**360**			P	**Pn**	**17 28 59.0**	**+2.3**
URZ	**Urewera**	**2.95**	**25**			P	**Pn**	**17 29 02.1**	**+1.0**

MOS ***13*** *17:31:25.6±1.0, 1°.68N×126°.36E, h22km, mb5.4/46, Error ellipse: s-maj=7.3km s-min=3.9km az=118.2*
NEIC ***13*** *17:31:26.1±2.0, 1°.64N±0°.05×126°.45E±0°.05, h12km±2km, mb5.3/191, Error ellipse: s-maj=8.6km s-min=6.2km az=142.0*
IDC ***13*** *17:31:28.6±1.7, 1°.63N×126°.39E, h29km±11km, mb4.9/47, mb1 4.9/50, mb1mx4.8/57, mbtmp5.1/50, ML4.7/3, MS4.2/17, Ms1 4.2/17, ms1mx3.8/76, Error ellipse: s-maj=11.5km s-min=7.1km az=65.0*
BJI ***13*** *17:31:29.0±0.0, 1°.60N×126°.50E, h30km, mb4.9/72, mB5.1/36, Ms4.6/51, Ms7 4.4/50*
DJA ***13*** *17:31:31.4±0.2, 2°.N±2°×12°.7E±°, h61km±2km, M5.0/104, mB5.5/67, mb5.3/104, MLv5.3/19, Mw(mB)5.0/67*

ISC 13 17:31:30.6±0.5, 1°.64N±0°.03×126°.48E±0°.04, h47km±4km, n854, σ1s36/891, mb5.2/220, MS4.3/36, 85C-52D, Fault plane solution: NP1: φs312.50449°, δ55.52549°, λ41.89553°. **NP2:** φs195.58308°, δ56.59877°, λ137.31052°. **Principal axes:** T Plg52.1399°, Azm163.4554°; N Plg37.8300°, Azm344.7548°; P Plg0.6296°, Azm254.2654°; **Fault plane solution: NP1:** φs30.27749°, δ31.28707°, λ91.32441°. **NP2:** φs208.72781°, δ58.72223°, λ89.19528°. **Principal axes:** T Plg76.2634°, Azm116.3309°; N Plg0.6878°, Azm209.1456°; P Plg13.7187°, Azm299.3135°; **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**134**			Pn	**Pn**	**17 31 49.6**	**-1.8**
TNTI	**Ternate**	**1.23**	**134**			P	**Pn**	**17 31 49.8**	**-1.6**
TNTI	**Ternate**	**1.23**	**134**			P	**Pn**	**17 31 50.2**	**-1.2**
SGSI	**Sangihe**	**2.25**	**335**			P	**Pn**	**17 32 05.3**	**0.0**
LBMI	**Labuha**	**2.48**	**156**			P	**Pn**	**17 32 08.1**	**-0.4**
LBMI						S	**Sn**	**17 32 37.3**	**-0.2**
KMSI	**Cibinong**	**2.71**	**247**			P	**Pn**	**17 32 13.5**	**+1.8**
KMSI						S	**Sn**	**17 32 45.5**	**+2.2**
GTOI	**Gorontalo**	**3.61**	**254**			P	**Pn**	**17 32 25.9**	**+1.9**
SANI	**Sanana**	**3.69**	**188**			P	**Pn**	**17 32 24.4**	**-0.8**
SANI						S	**Sn**	**17 33 07.0**	**-0.5**
SANI	**Sanana**	**3.69**	**188**			P	**Pn**	**17 32 25.0**	**-0.2**
LUWI	**Luwuk**	**4.56**	**234**	Pn		Pn	**Pn**	**17 32 36.7**	**-0.4**
LUWI	**Luwuk**	**4.56**	**234**	P		P	**Pn**	**17 32 40.0**	**+2.9**
LUWI	**Luwuk**	**4.56**	**234**	P		P	**Pn**	**17 32 39.4**	**+2.3**
GSPH	**General Santos**	**4.68**	**341**	*i* P		P	**Pn**	**17 32 41.5**	**+2.7**
MRSI	**Marisa**	**4.68**	**256**	P		P	**Pn**	**

KNRA IAmb IAmb 17 35 30.5
comp=Z,253nm,0.9s
KNRA Kununurra 17.35 173 P **Pn** **17 35 28.7 -0.7**
PWJI Pagerwojo 17.50 237 P **Pn** **17 35 30.8 -0.5**
comp=Z,124nm,0.7s
PCJI Pacitan 18.11 237 P **Pn** **17 35 39.2 +0.3**
comp=Z,3μmcomp=Z,337nm,0.7s
SMRI Semarang 18.18 241 P **P** **17 35 38.1 -1.4**
SMRI Semarang 18.18 241 P **P** **17 35 39.2 -0.3**
comp=Z,102nm,1.0s
SMRI Semarang 18.18 241 P **Pn** **17 35 39.7 0.0**
UGM Wanagama 18.53 239 P **Pn** **17 35 47.2 +3.3**
comp=Z,158nm,2.1s
YOGI Yogyakarta 18.67 240 P **Pn** **17 35 45.6 -0.1**
comp=Z,244nm,0.9s
FITZ Fitzroy Crossi 19.63 182 P **P** **17 35 53.9 -1.4**
comp=Z,3.3nm,0.3s,baz=12,slow=8.2,SNR=88
FITZ S **S** **17 39 31.3 -3.1**
baz=179,slow=8.4,SNR=3.6
KPJI Karang Pucung 19.64 243 P **P** **17 35 54.3 -1.2**
comp=Z,1μmcomp=Z,176nm,0.8s
CMJI Cimerak 20.27 242 P **P** **17 35 59.5 -2.9**
comp=Z,64nm,1.0s
DLV T Lat 20.57 301 P **P** **17 36 04.3 -1.5**
DLV IAmb IAmb 17 36 25.9
comp=Z,147nm,1.4s
DLV T Lat 20.57 301 P Pn 17 36 08.0 -0.5
LEM Lembang 20.62 246 P **P** **17 36 04.2 -2.1**
comp=Z,38nm,0.8s,baz=32,slow=9.9,SNR=10
LEM LR LR 17 45 10.7
comp=Z,790nm,18.4s,baz=108,slow=40
LEM Lembang 20.62 246 P **P** **17 36 04.3 -2.0**
comp=Z,42nm,1.1s
PPBI Pangkal Pinang 20.68 260 P **P** **17 36 05.9 -1.0**
comp=Z,6μmcomp=Z,55nm,1.1s
MANU Manus Island 21.20 100 P **P** **17 36 11.7 -0.8**
CNJI Cibinong 21.25 245 P **P** **17 36 11.3 -1.7**
comp=Z,1μmcomp=Z,102nm,0.8s
DBJI Dramaga 21.31 247 P **P** **17 36 19.2 +5.6**
comp=Z,3μmcomp=Z,47nm,1.1s
SKJI Sukabumi 21.66 246 P **P** **17 36 18.0 +0.7**
comp=Z,68nm,0.5s
TWG Pinlang 21.70 346 P **P** **17 36 13.9 -3.8**
TWG IAmb IAmb 17 36 34.3
comp=Z,65nm,0.6s
GUMO Guam 21.73 56 P **P** **17 36 16.9 -1.1**
comp=Z,118nm,0.8s,baz=198,slow=17,SNR=5.0
GUMO LR LR 17 44 55.9
comp=Z,328nm,18.7s,baz=240,slow=37
TPRI Tanjung Pinang 21.96 268 P **P** **17 36 21.2 +0.6**
comp=Z,113nm,1.1s
DSRI Dabo 22.00 265 P **P** **17 36 20.6 -0.4**
comp=Z,1μmcomp=Z,46nm,1.1s
YULB Yu-li 22.20 347 P **P** **17 36 20.7 -2.4**
YULB IAmb IAmb 17 36 30.9
comp=Z,61nm,0.9s
TPUB Ta-pu 22.27 346 P **P** **17 36 21.6 -2.3**
TPUB Ta-pu 22.27 346 P **P** **17 36 23.5 -0.3**
CGJI Cibinong 22.31 248 P **P** **17 36 22.4 -1.9**
comp=Z,88nm,0.7s
BLSI Bandar Lampung 22.32 252 P **P** **17 36 25.7 +1.2**
comp=Z,92nm,0.4s
KLI Kotabumi 22.55 253 P **P** **17 36 27.2 +0.3**
comp=Z,160nm,0.8s
MYKOM **Kota Tinggi 22.62 271** P **P** **17 36 26.6 -1.0**
MYKOM IAmb IAmb 17 36 30.5
comp=Z,239nm,1.5s
WB0 Warramunga Arr 22.64 160 P **P** **17 36 26.1 -1.7**
SSLB Suanglung 22.66 347 P **P** **17 36 27.6 -0.4**
SSLB IAmb IAmb 17 36 33.7
comp=Z,70nm,0.8s
SSLB Suanglung 22.66 347 P **P** **17 36 27.9 -0.1**
COEN Coen 22.67 134 P **P** **17 36 25.2 -2.9**
COEN IAmb IAmb 17 36 29.2
comp=Z,69nm,0.9s
COEN Coen 22.67 134 P **P** **17 36 27.4 -0.7**
WRAB Tennant Creek 22.78 161*c i* P **P** **17 36 28.0 -1.3**
WRAB pmax pmax
comp=Z,220nm,0.9s
WRAB Tennant Creek 22.78 161 P **P** **17 36 27.7 -1.6**
WRAB Tennant Creek 22.78 161 P **P** **17 36 28.2 -1.1**
WRA Warramunga Arr 22.79 161 P **P** **17 36 27.8 -1.6**
comp=Z,217nm,0.9s,baz=337,slow=11,SNR=243
WRA S **S** **17 40 31.7 -3.5**
comp=Z,24nm,1.2s,baz=334,slow=19,SNR=10.0
WRA Warramunga Arr 22.79 161 P **P** **17 36 26.4 -3.0**
WB2 Warramunga Arr 22.79 161 P **P** **17 36 27.8 -1.6**
WR0 Warramunga Arr 22.87 160 P **P** **17 36 28.9 -1.3**
KASI Kota Agung 23.08 252 P **P** **17 36 30.2 -2.2**
comp=Z,1μmcomp=Z,94nm,0.7s
PMG Port Moresby 23.34 118 P **P** **17 36 34.5 -0.4**
comp=Z,36nm,1.1s,baz=348,slow=7.1,SNR=11
PMG LR LR 17 48 12.9
comp=Z,857nm,19.1s,baz=329,slow=43
PMG Port Moresby 23.34 118*ce* P **P** **17 36 34.5 -0.4**
PMG pmax pmax
comp=Z,76nm,1.7s
PMG Port Moresby 23.34 118 P **P** **17 36 32.8 -2.1**
PMG IAmb IAmb 17 36 36.0
comp=Z,100nm,1.4s
PMG Port Moresby 23.34 118 P **P** **17 36 35.3 +0.4**
comp=Z,52nm,1.1s
LWLI Liwa 23.35 253 P **P** **17 36 32.0 -3.2**
comp=Z,173nm,0.7s
YHNB Yeheng 23.43 348 P **P** **17 36 34.5 -1.3**
YHNB IAmb IAmb 17 36 47.6
comp=Z,89nm,1.0s
YHNB Yeheng 23.43 348 P **P** **17 36 36.2 +0.5**
QIZ Qiongzhong 23.76 318 P **P** **17 36 39.9 +1.1**
QIZ S **S** **17 40 55.3 +4.2**
QIZ pmax pmax
comp=Z,400nm,2.1s
QIZ LR LR
comp=Z,740nm,20.0s
QIZ LR LR
comp=Z,460nm,14.5s
QIZ LR LR
comp=Z,1μm,26.3s
PSA00 Pilbara Seismi 23.96 195 P **P** **17 36 39.2 -1.4**
PSA00 IAmb IAmb 17 36 41.2
comp=Z,49nm,1.0s
PSA00 Pilbara Seismi 23.96 195 P **P** **17 36 38.8 -1.8**
PSA00 IAmb IAmb 17 36 41.2
comp=Z,39nm,1.2s
PSA00 Pilbara Seismi 23.96 195 P **P** **17 36 39.9 -0.8**
XMIS Christmas Isla 23.97 239 P **P** **17 36 38.4 -2.4**
XMIS Christmas Isla 23.97 239 P **P** **17 36 40.3 -0.5**
MNAI Manna 24.25 256 P **P** **17 36 40.6 -2.8**
MASI Maura Aman, Be 24.69 259 P **P** **17 36 45.0 -2.5**
comp=Z,3μmcomp=Z,406nm,0.8s
UBPT Khong Chiam 24.77 304 P **P** **17 36 47.6 -0.5**
UBPT IAmb IAmb 17 36 54.2
comp=Z,56nm,1.4s
JOW Kunigami 25.11 4 P **P** **17 36 51.9 +0.7**
comp=Z,76nm,0.8s,baz=168,slow=11,SNR=12
JOW Kunigami 25.11 4 P **P** **17 36 51.3 +0.2**
JOW Kunigami 25.11 4 P **P** **17 36 53.1 +2.0**
BKNI Bangkinang 25.47 267 P **P** **17 36 54.5 0.0**
BKNI Bangkinang 25.47 267 P **P** **17 36 54.7 +0.2**
comp=Z,2μmcomp=Z,196nm,1.2s
BKNI Bangkinang 25.47 267 P **P** **17 36 56.7 +2.2**
comp=Z,194nm,1.2s
QIS Mount Isa 25.53 150 P **P** **17 36 55.0 0.0**
baz=26,SNR=90
QIS Mount Isa 25.53 150 P **P** **17 36 55.5 +0.5**
IPM Ipoh 25.57 277 P **P** **17 36 54.9 -0.5**
IPM IAmb IAmb 17 36 59.0
comp=Z,136nm,1.4s
IPM Ipoh 25.57 277 P **P** **17 36 55.0 -0.5**
KULM Kulim 26.03 279 P **P** **17 36 58.2 -1.4**
PPI Padang Panjang 26.16 266 P **P** **17 37 00.9 +0.1**
comp=Z,22nm,0.9s
AS31 Alice Springs 26.16 164 P **P** **17 36 59.5 -1.2**
AS31 IAmb IAmb 17 37 10.6
comp=Z,29nm,0.7s
ASAR Alice Springs 26.17 164 P **P** **17 37 00.0 -0.8**
comp=Z,73nm,0.9s,baz=346,slow=7.8,SNR=276
ASAR PcP **PcP** **17 40 27.8 +0.6**
comp=Z,4.6nm,0.6s,baz=354,slow=2.2,SNR=4.3
ASAR S **S** **17 41 32.5 +3.0**
comp=Z,1.5nm,0.6s,baz=353,slow=22,SNR=2.0
ASAR ScP **ScP** **17 44 04.4 +1.2**
comp=Z,2.8nm,1.0s,baz=343,slow=2.9,SNR=5.2
ASAR Alice Springs 26.17 164 P **P** **17 36 59.5 -1.2**
KRVT Keravat (AS076 26.20 103 P **P** **17 37 03.4 +2.2**
comp=Z,49nm,0.7s,baz=354,slow=14,SNR=3.6

KRVT LR LR 17 47 03.3
comp=Z,325nm,18.2s,baz=40,slow=36
RABL Rabaul 26.31 103 P **P** **17 37 00.8 -1.4**
RABL IAmb IAmb 17 37 28.2
comp=Z,54nm,0.7s
RABL Rabaul 26.31 103 P **P** **17 37 03.4 +1.2**
MTSU Mount Surprise 26.35 139 P **P** **17 37 02.2 -0.2**
baz=26,SNR=24
MTSU Mount Surprise 26.35 139 P **P** **17 37 02.3 -0.2**
WRKA Warakurna 26.57 176 P **P** **17 37 04.1 -0.3**
baz=27,SNR=213
WRKA Warakurna 26.57 176 P **P** **17 37 04.5 +0.1**
MNSI Mandailing Nat 26.91 269 P **P** **17 37 07.5 0.0**
comp=Z,34nm,0.5s
GIRL Giralia 26.92 206 P **P** **17 37 08.4 +0.8**
baz=27,SNR=14
GIRL Giralia 26.92 206 P **P** **17 37 08.4 +0.8**
GIRL Giralia 26.92 206 P **P** **17 37 08.5 +1.0**
SISI Saibi 27.54 264 P **P** **17 37 12.0 -1.2**
comp=Z,39nm,0.9s
RPSI Rantau Prapat 27.55 273 P **P** **17 37 13.1 -0.3**
PSI Prapat 27.56 273 P **P** **17 37 13.1 -0.5**
comp=Z,48nm,0.8s,baz=109,slow=3.1,SNR=34
PSI LR LR 17 49 23.6
comp=Z,826nm,21.2s,baz=104,slow=39
SRIT Nakonsritamara 27.63 285 P **P** **17 37 13.4 -0.6**
SRIT IAmb IAmb 17 37 14.8
comp=Z,31nm,0.8s
KCSI Kotacane, Aceh 28.74 274 P **P** **17 37 22.2 -1.7**
comp=Z,46nm,1.2s
GSI Gunungsitoli 28.90 270 P **P** **17 37 24.0 -1.3**
GSI IAmb IAmb 17 37 26.9
comp=Z,68nm,0.8s
GSI Gunungsitoli 28.90 270 P **P** **17 37 23.9 -1.4**
comp=Z,107nm,0.9s
GSI Gunungsitoli 28.90 270 P **P** **17 37 24.4 -0.9**
CTA Charters Tower 29.02 139 P **P** **17 37 26.5 +0.1**
comp=Z,42nm,1.0s,baz=321,slow=7.9,SNR=13
CTA Charters Tower 29.02 139 P **P** **17 37 26.7 +0.4**
MEEK Meekatharra 29.11 195 P **P** **17 37 26.3 -0.8**
baz=29,SNR=23
MEEK Meekatharra 29.11 195 P **P** **17 37 26.5 -0.6**
JCJ Chichijima 29.46 29 P **P** **17 37 29.9 -0.2**
comp=Z,154nm,0.8s,baz=115,slow=22,SNR=5.0
JCJ LR LR 17 48 47.9
comp=Z,306nm,20.1s,baz=100,slow=35
JCJ Chichijima 29.46 29 IAmb IAmb 17 37 35.5
comp=Z,206nm,0.9s
JSU Suzuyama 29.95 7 P **P** **17 37 34.2 -0.2**
JSU IAmb IAmb 17 37 51.1
comp=Z,48nm,1.3s
OOD Oodnadatta 30.57 164 P **P** **17 37 39.4 -0.5**
WHN Wuhan 30.97 339 ⇑P **P** **17 37 46.0 +2.6**
WHN LR LR
comp=Z,3μm,29.9s
NJ2 Nanjing 31.10 347 ⇓P **P** **17 37 45.3 +0.8**
NJ2 pP **pP** **17 37 56.8 +0.3**
NJ2 pmax pmax
comp=Z,23nm,0.7s
NJ2 LR LR
comp=Z,660nm,12.9s
NJ2 LR LR
comp=Z,460nm,12.9s
NJ2 LR LR
comp=Z,760nm,18.0s
GYA Guiyang 31.18 324 ⇓P **P** **17 37 45.6 +0.2**
GYA pmax pmax
comp=Z,17nm,0.9s
JNU Nakatsue 31.59 7 P **P** **17 37 48.9 -0.1**
comp=Z,25nm,0.9s,baz=210,slow=24,SNR=16
JNU Nakatsue 31.59 7 P **P** **17 37 49.1 +0.2**
JNU IAmb IAmb 17 37 58.8
comp=Z,65nm,1.2s
JNU Nakatsue 31.59 7 P **P** **17 37 49.4 +0.5**
CM31 Chiang Mai Arr 31.76 304 P **P** **17 37 49.6 -1.0**
CM31 Chiang Mai Arr 31.76 304 P **P** **17 37 50.3 -0.3**
SNR=6.6
CM31 P **P** **17 37 50.3 -0.3**
SNR=6.6
CMAR Chiang Mai Arr 31.76 304 P **P** **17 37 50.0 -0.6**
comp=Z,5.6nm,0.9s,baz=119,slow=7.0,SNR=22
CMAR PcP **PcP** **17 40 41.4 +0.1**
comp=Z,3.9nm,0.9s,baz=160,slow=1.1,SNR=7.7
CMAR ScP **ScP** **17 44 22.3 +1.4**
comp=Z,1.3nm,0.9s,baz=163,slow=2.7,SNR=5.1
CMAR LR LR 17 50 22.5
comp=Z,417nm,21.3s,baz=100,slow=36
CMAR Chiang Mai Arr 31.76 304 P **P** **17 37 48.6 -2.0**
CHTO Chiang Mai 31.93 304 P **P** **17 37 50.2 -1.9**
CHTO pmax pmax
comp=Z,17nm,0.8s
CHTO Chiang Mai 31.93 304 P **P** **17 37 50.2 -1.9**
CHTO Chiang Mai 31.93 304 P **P** **17 37 51.6 -0.5**
CHTO P **P** **17 37 51.6 -0.5**
CHTO S **S** **17 42 57.8 -2.5**
CHTO S **S** **17 42 57.8 -2.5**
CHTO Chiang Mai 31.93 304 P **P** **17 37 52.4 +0.3**
MORW Morawa 32.12 197 P **P** **17 37 53.2 -0.4**
baz=32,SNR=11
MORW Morawa 32.12 197 P **P** **17 37 52.9 -0.7**
MORW IAmb IAmb 17 37 54.5
comp=Z,74nm,1.4s
MORW Morawa 32.12 197 P **P** **17 37 53.2 -0.4**
FORT Forrest 32.27 177 P **P** **17 37 54.5 -0.3**
baz=32,SNR=123
FORT Forrest 32.27 177 P **P** **17 37 54.2 -0.6**
FORT Forrest 32.27 177 P **P** **17 37 54.7 -0.1**
INKA Innaminka 32.27 156 P **P** **17 37 55.0 +0.1**
MULG Mulgathing 32.55 168 P **P** **17 37 57.5 +0.2**
KMI Kunming 32.71 318 ⇓P **P** **17 37 59.9 +0.8**
KMI pP pP 17 38 07.1 -4.0
KMI sP sP 17 38 17.3 +0.8
KMI pmax pmax
comp=Z,18nm,1.0s
KMI LR LR
comp=Z,380nm,21.5s
KMI LR LR
comp=Z,410nm,21.5s
KMI LR LR
comp=Z,790nm,22.9s
ENH Enshi 32.73 332 P **P** **17 37 57.9 -1.0**
ENH IAmb IAmb 17 38 06.9
comp=Z,52nm,0.9s
QLP Quilpie 32.87 150 P **P** **17 37 59.8 -0.4**
baz=33,SNR=19
QLP Quilpie 32.87 150 P **P** **17 38 00.0 -0.2**
BLDU Ballidu 33.40 195 P **P** **17 38 04.2 -0.5**
baz=34,SNR=16
BLDU Ballidu 33.40 195 P **P** **17 38 04.4 -0.3**
JHS Saijyo 33.77 10 P **P** **17 38 08.8 +0.9**
JHS IAmb IAmb 17 38 36.1
comp=Z,59nm,1.3s
LCRK Leigh Creek 33.81 162 P **P** **17 38 08.8 +0.5**
KLBR Kellerberrin 34.07 193 P **P** **17 38 10.4 -0.1**
baz=34,SNR=19
KLBR Kellerberrin 34.07 193 P **P** **17 38 11.0 +0.5**
RK1H Rockhampton Ha 34.13 138 P **P** **17 38 11.6 +0.4**
PZH PanZhiHua 34.30 318 P **P** **17 38 12.4 -0.4**
PZH S **S** **17 43 38.4 +1.4**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH LR LR
comp=Z,2μm,23.0s
PZH LR LR
comp=Z,1μm,24.0s
PZH LR LR
comp=Z,2μm,22.0s
TJN Taejon 34.58 1⇑*eP* **P** **17 38 16.2 +1.4**
TJN Taejon 34.58 1 P **P** **17 38 16.3 +1.4**
MUN Mundaring 34.82 195 P **P** **17 38 16.7 -0.3**
baz=35,SNR=9.6
MUN Mundaring 34.82 195 P **P** **17 38 16.9 -0.1**
INU Inuyama 34.95 15 P **P** **17 38 18.3 +0.2**
INU IAmb IAmb 17 38 39.0
comp=Z,43nm,0.9s
INU Inuyama 34.95 15 P **P** **17 38 18.8 +0.7**
HNR Honiara 35.10 109 P **P** **17 38 18.5 -1.3**
comp=Z,23nm,0.7s,baz=229,slow=3.7,SNR=5.6
HNR LR LR 17 51 10.4
comp=Z,184nm,20.7s,baz=297,slow=34
HNR Honiara 35.10 109 P **P** **17 38 17.9 -1.9**
HNR Honiara 35.10 109 P **P** **17 38 20.2 +0.5**
LYN LuoYang 35.26 340 *eP* **P** **17 38 23.9 +3.1**
LYN pP pwP 17 38 36.1 +1.0
LYN S S 17 44 02.9 +12

LYN pmax pmax
comp=Z,20nm,0.8s
LYN LR LR
comp=Z,450nm,15.7s
LYN LR LR
comp=Z,540nm,17.1s
LYN LR LR
comp=Z,1μm,18.2s
RMQ Roma 35.27 144 P **P** **17 38 20.7 -0.3**
baz=35,SNR=11
RMQ Roma 35.27 144 P **P** **17 38 20.8 -0.3**
BBOO Buckleboo 35.44 166 P **P** **17 38 21.7 -0.6**
baz=36,SNR=104
BBOO Buckleboo 35.44 166 P **P** **17 38 21.4 -0.9**
BBOO Buckleboo 35.44 166 P **P** **17 38 22.5 +0.2**
TIA Tai'an 35.48 347 *eP* **P** **17 38 21.3 -1.4**
TIA pmax pmax
comp=Z,16nm,0.8s
TIA LR LR
comp=Z,290nm,21.1s
TIA LR LR
comp=Z,280nm,12.3s
TIA LR LR
comp=Z,540nm,21.6s
KSAR Wonju Array Be 35.66 2 P **P** **17 38 24.3 +0.2**
KSAR Wonju Array Be 35.66 2 P **P** **17 38 24.3 +0.2**
KSRS Korea Array 35.67 2 P **P** **17 38 25.6 +1.3**
comp=Z,8.2nm,0.7s,baz=178,slow=9.4,SNR=23
KSRS PcP **PcP** **17 40 51.5 -0.4**
comp=Z,3.2nm,0.7s,baz=182,slow=2.5,SNR=6.1
KSRS ScP **ScP** **17 44 35.3 +1.0**
comp=Z,1.1nm,0.8s,baz=185,slow=3.0,SNR=4.2
KS19 Wonju Array Si 35.72 2 P **P** **17 38 23.6 -1.1**
EIDS Eidsvold 35.89 140 P **P** **17 38 25.9 -0.5**
baz=36,SNR=6.5
EIDS Eidsvold 35.89 140 P **P** **17 38 25.5 -0.9**
EIDS Eidsvold 35.89 140 P **P** **17 38 26.7 +0.4**
WHYH Whyalla 36.04 164 P **P** **17 38 27.3 -0.2**
XAN Xi'an 36.18 335 P **P** **17 38 27.3 -1.5**
XAN pP pP 17 38 37.3 -3.5
XAN S **S** **17 44 05.4 -0.2**
XAN pmax pmax
comp=Z,33nm,1.5s
XAN LR LR
comp=Z,570nm,17.8s
XAN LR LR
comp=Z,350nm,17.9s
XAN LR LR
comp=Z,600nm,19.2s
CD2 Chengdu 36.20 326 P **P** **17 38 29.5 +0.5**
CD2 pmax pmax
comp=Z,60nm,1.3s
STKA Stephens Creek 36.28 158 P **P** **17 38 29.2 -0.4**
comp=Z,38nm,0.8s,baz=331,slow=8.9,SNR=66
STKA LR LR 17 55 48.2
comp=Z,269nm,21.0s,baz=309,slow=40
STKA Stephens Creek 36.28 158 P **P** **17 38 29.2 -0.4**
baz=36,SNR=64
STKA Stephens Creek 36.28 158*d i* P **P** **17 38 28.2 -1.4**
STKA Stephens Creek 36.28 158 P **P** **17 38 28.9 -0.7**
STKA Stephens Creek 36.28 158 P **P** **17 38 29.4 -0.2**
NAPP Napperby 36.34 163 P **P** **17 38 30.3 +0.2**
MAJO Matsushiro 36.39 16*de* P **P** **17 38 29.8 -0.7**
MAJO pmax pmax
comp=Z,20nm,0.9s
MAJO Matsushiro 36.39 16 P **P** **17 38 29.3 -1.2**
MAJO IAmb IAmb 17 38 39.5
comp=Z,26nm,0.7s
MAJO Matsushiro 36.39 16 P **P** **17 38 31.3 +0.8**
MJAR Matsushiro Arr 36.39 16 P **P** **17 38 30.2 -0.3**
comp=Z,8.8nm,0.6s,baz=176,slow=12,SNR=16
MJAR LR LR 17 54 54.2
comp=Z,306nm,18.9s,baz=214,slow=39
MJAR Matsushiro Arr 36.39 16 P **P** **17 38 29.6 -0.9**
MJB9 Matsu-Tunnel 36.39 16 P **P** **17 38 29.4 -1.1**
MJB9 IAmb IAmb 17 38 39.9
comp=Z,38nm,1.1s
JYT Yasato 36.69 19 P **P** **17 38 31.7 -1.3**
JYT IAmb IAmb 17 38 32.8
comp=Z,73nm,1.3s
HTT Hallett 36.80 162 P **P** **17 38 34.0 0.0**
baz=37,SNR=21
HTT Hallett 36.80 162 P **P** **17 38 34.5 +0.5**
RKGY Rocky Gully 37.14 193 P **P** **17 38 38.3 +1.4**
baz=37,SNR=15
RKGY Rocky Gully 37.14 193 P **P** **17 38 38.1 +1.2**
HNS HongShan 37.21 344 ⇑P **P** **17 38 37.8 +0.4**
HNS S **S** **17 44 24.8 +3.8**
HNS pmax pmax
comp=Z,11nm,1.2s
HNS LR LR
comp=Z,200nm,20.6s
HNS LR LR
comp=Z,220nm,20.8s
HNS LR LR
comp=Z,340nm,22.2s
DL2 Dalian 37.36 354 P **P** **17 38 39.8 +1.2**
DL2 pmax pmax
comp=Z,68nm,0.7s
DL2 LR LR
comp=Z,410nm,16.2s
DL2 LR LR
comp=Z,440nm,11.6s
DL2 LR LR
comp=Z,540nm,19.9s
CMSA Cobar Meteorol 37.70 153 P **P** **17 38 41.6 0.0**
baz=38,SNR=29
CMSA Cobar Meteorol 37.70 153 P **P** **17 38 41.9 +0.3**
JSD Sado 37.81 15 P **P** **17 38 40.0 -2.5**
JSD IAmb IAmb 17 38 47.3
comp=Z,42nm,0.7s
TWOA Tennyson Woods 38.20 164 P **P** **17 38 46.6 +0.8**
JMM Marumori 38.38 18 P **P** **17 38 47.7 +0.4**
BJT Baijiatuau 39.34 347 P **P** **17 38 54.6 -0.7**
BJT pmax pmax
comp=Z,42nm,0.8s
BJT Baijiatuau 39.34 347 P **P** **17 38 54.5 -0.7**
BJT IAmb IAmb 17 39 19.7
comp=Z,42nm,0.8s
BJI Beijing 39.36 347 P **P** **17 38 55.4 0.0**
BJI pmax pmax
comp=Z,33nm,0.9s
ARMA Armidale 39.88 145 P **P** **17 39 00.9 +0.8**
baz=40,SNR=32
ARMA Armidale 39.88 145 P **P** **17 39 01.0 +0.9**
ARMA IAmb IAmb 17 39 02.1
comp=Z,59nm,0.9s
ARMA Armidale 39.88 145 P **P** **17 39 01.0 +0.9**
LZH Lanzhou 40.19 331 *eP* **P** **17 39 02.8 +0.2**
LZH pP pP 17 39 11.0 -3.8
LZH sP pwP 17 39 16.3 -0.8
LZH pmax pmax
comp=Z,71nm,1.3s
LZH LR LR
comp=Z,510nm,15.7s
LZH LR LR
comp=Z,610nm,16.0s
LZH LR LR
comp=Z,1μm,18.0s
ARPS Mount Arapiles 40.79 161 P **P** **17 39 07.7 +0.3**
baz=41,SNR=35
ARPS Mount Arapiles 40.79 161 P **P** **17 39 07.9 +0.5**
SHL Shillong 40.94 309 P **P** **17 39 07.5 -1.5**
SHL pmax pmax
comp=Z,40nm,0.8s
SHL Shillong 40.94 309 P **P** **17 39 07.5 -1.5**
SHL IAmb IAmb 17 39 11.2
comp=Z,40nm,0.8s
SHL Shillong 40.94 309 P **P** **17 39 08.8 -0.2**
SNR=14
MSHR Mys Shultsa 40.98 5⇓*eP* **P** **17 39 10.3 +1.5**
MSHR pmax pmax
comp=Z,16nm,0.8s
JTM Tenmabayashi 41.15 17 P **P** **17 39 09.5 -0.8**
JTM IAmb IAmb 17 39 31.1
comp=Z,97nm,1.0s
HHC Hu-ho-hao-te 41.30 343 *eP* **P** **17 39 13.0 +1.3**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,160nm,6.0s
HHC LR LR
comp=Z,550nm,14.6s
HHC LR LR
comp=Z,260nm,14.6s
HHC LR LR

comp=Z,600nm,15.1s
BTO Baotou 41.56 341 *e*P **P** **17 39 18.4 +4.6**
BTO S **S** **17 45 29.3 +2.7**
BTO LR LR
comp=Z,1μm,19.0s
BTO LR LR
comp=Z,1μm,17.7s
VLA Vladivostok 41.59 6*de*P **P** **17 39 15.3 +1.5**
VLA pmax pmax
comp=Z,27nm,0.8s
MGCD Mangrove Creek 41.73 148 P **P** **17 39 15.1 0.0**
baz=42,SNR=5.0
SYDH Sydney Hard Ro 41.97 149 P **P** **17 39 18.7 +1.6**
CN2 Changchun 41.99 359 *e*P **P** **17 39 15.0 -2.1**
CN2 *es*P pwP 17 39 32.6 +1.0
CN2 S **S** **17 45 31.6 -1.1**
CN2 *es*S sS 17 45 52.4 -0.9
CN2 SS **SS** **17 48 35.0 -6.2**
CN2 LR LR
comp=Z,230nm,15.0s
CN2 LR LR
comp=Z,240nm,15.0s
CN2 LR LR
comp=Z,470nm,16.0s
BRAT Ballarat 42.21 159 P **P** **17 39 20.2 +1.3**
CAN Canberra 42.37 152 P **P** **17 39 19.4 -1.0**
CAN pmax pmax
comp=Z,28nm,0.7s
CAN Canberra 42.37 152 P **P** **17 39 19.4 -1.0**
CAN IAmb IAmb 17 39 23.1
comp=Z,28nm,0.7s
CAN Canberra 42.37 152 P **P** **17 39 21.7 +1.3**
CNB Canberra Magne 42.54 152 P **P** **17 39 21.8 0.0**
baz=43,SNR=12
CNB Canberra Magne 42.54 152 P **P** **17 39 23.0 +1.2**
USA0B Ussuriysk Arra 42.66 6 P **P** **17 39 23.4 +0.8**
USA0B pmax pmax
comp=Z,38nm,1.0s
USA0B Ussuriysk Arra 42.66 6 P **P** **17 39 23.4 +0.8**
USA0B IAmb IAmb 17 39 33.6
comp=Z,38nm,0.9s
USRK Ussuriysk Ar. 42.66 6 P **P** **17 39 23.8 +1.2**
comp=Z,19nm,0.7s,baz=190,slow=6.3,SNR=28
USRK Ussuriysk Ar. 42.66 6 P **P** **17 39 23.5 +1.0**
TOO Toolangi 42.80 158 P **P** **17 39 23.4 -0.5**
baz=43,SNR=11
TOO Toolangi 42.80 158 P **P** **17 39 23.3 -0.5**
TOO pmax pmax
comp=Z,12nm,0.8s
TOO Toolangi 42.80 158 P **P** **17 39 23.3 -0.5**
TOO Toolangi 42.80 158 P **P** **17 39 25.2 +1.4**
H11S3 WAKE ISLAND Hy 42.83 64 T T 18 26 57.1
baz=249,slow=74
H11S2 WAKE ISLAND Hy 42.84 64 T T 18 25 48.5
baz=249
H11S1 WAKE ISLAND Hy 42.84 64 T T 18 27 03.5
baz=249,slow=74
MDJ Mudanjiang 42.89 3 P **P** **17 39 24.0 -0.4**
MDJ Mudanjiang 42.89 3 P **P** **17 39 25.5 +1.1**
MDJ pmax pmax
comp=Z,15nm,0.9s
MDJ pmax pmax
comp=Z,150nm,4.0s
MDJ Mudanjiang 42.89 3 P **P** **17 39 25.9 +1.5**
comp=Z,32nm,0.9s
XLT XiLinHaoTe 43.09 349 *e*P **P** **17 39 25.9 -0.2**
XLT pP pP 17 39 35.4 -3.0
XLT sP pwP 17 39 40.3 -0.4
XLT sS sS 17 46 06.9 -2.7
XLT pmax pmax
comp=Z,11nm,0.9s
XLT pmax pmax
comp=Z,200nm,6.0s
XLT LR LR
comp=Z,30nm,19.2s
XLT LR LR
comp=Z,210nm,14.1s
XLT LR LR
comp=Z,350nm,20.4s
LSA Lhasa 43.65 313 P **P** **17 39 31.2 -0.2**
LSA pmax pmax
comp=Z,24nm,0.8s
LSA Lhasa 43.65 313 P **P** **17 39 31.2 -0.2**
LSA IAmb IAmb 17 39 37.7
comp=Z,24nm,0.8s
LSA Lhasa 43.65 313 P **P** **17 39 31.5 +0.1**
LSA pmax pmax
comp=Z,23nm,1.1s
SANVU Saraoutou 43.70 114 P **P** **17 39 31.0 -0.3**
SANVU IAmb IAmb 17 39 33.8
comp=Z,50nm,0.7s
SANVU Saraoutou 43.70 114 P **P** **17 39 32.3 +1.0**
BNX BinXian 43.93 1 ⇑P **P** **17 39 33.3 +0.5**
BNX pmax pmax
comp=Z,20nm,0.7s
BNX pmax pmax
comp=Z,340nm,5.2s
ASAJ Asahikawa 44.66 17 P **P** **17 39 39.6 +1.0**
comp=Z,25nm,0.7s,baz=229,slow=8.9,SNR=40
ASAJ Asahikawa 44.66 17 P **P** **17 39 39.6 +1.0**
ASAJ pmax pmax
comp=Z,31nm,0.8s
JKA Kamikawa-asahi 44.66 17 P **P** **17 39 39.6 +1.0**
JKA IAmb IAmb 17 39 52.1
comp=Z,32nm,0.8s
GTA Gaotai 44.77 330 ⇓P **P** **17 39 39.6 -0.2**
GTA pP pP 17 39 47.1 -5.0
GTA sP pwP 17 39 51.0 -3.5
GTA PcP **PcP** **17 41 23.1 +1.8**
GTA ScS ScS 17 49 33.1 -0.4
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA pmax pmax
comp=Z,160nm,8.4s
GTA LR LR
comp=Z,440nm,22.7s
GTA LR LR
comp=Z,410nm,22.3s
GTA LR LR
comp=Z,670nm,24.3s
TAPN Taplejung 45.08 308 *e*P **P** **17 39 41.5 -1.1**
ODAN Odare 45.10 307 *e*P **P** **17 39 41.7 -1.1**
comp=Z,60nm,0.8s
GOMU GeErMu 45.18 323 P **P** **17 39 42.8 -0.6**
GOMU S **S** **17 46 16.8 -3.5**
GOMU pmax pmax
comp=Z,7.0nm,1.5s
GOMU pmax pmax
comp=Z,92nm,4.2s
GOMU LR LR
comp=Z,280nm,17.7s
GOMU LR LR
comp=Z,93nm,18.2s
GOMU LR LR
comp=Z,300nm,17.7s
NOUC Port Laguerre 45.46 124 P **P** **17 39 46.7 +1.3**
comp=Z,34nm,1.1s
DZM Mont Dzumac 45.57 123 P **P** **17 39 46.5 +0.1**
comp=Z,19nm,0.9s,baz=16,slow=5.6,SNR=7.4
DZM Mont Dzumac 45.57 123 P **P** **17 39 46.4 0.0**
DZM IAmb IAmb 17 39 48.1
comp=Z,65nm,1.3s
DZM Mont Dzumac 45.57 123 P **P** **17 39 47.0 +0.7**
RAMN Ramite 45.77 307 *e*P **P** **17 39 47.5 -0.6**
comp=Z,31nm,0.5s
YATNC Mamie plateau, 45.94 123 P **P** **17 39 49.6 +0.5**
PALK Pallekele 45.96 278 LR LR 18 01 58.1
comp=Z,325nm,18.7s,baz=182,slow=40
PALK Pallekele 45.96 278*de*P **P** **17 39 47.8 -1.7**
PALK pmax pmax
comp=Z,20nm,1.1s
PALK Pallekele 45.96 278 P **P** **17 39 48.9 -0.6**
PALK IAmb IAmb 17 39 51.9
comp=Z,38nm,1.4s
PALK Pallekele 45.96 278 P **P** **17 39 49.4 0.0**
PALK S **S** **17 46 29.2 -2.2**
JIRN Jiri 46.42 308 *e*P **P** **17 39 52.1 -1.2**
comp=Z,35nm,0.9s
GUN Gumba 46.77 308 *e*P **P** **17 39 54.9 -1.2**
PKI Pulchoki 47.00 307 *e*P **P** **17 39 56.2 -1.6**
PKIN Phulchoki 47.01 307 *e*P **P** **17 39 56.3 -1.5**
KKN Kakani 47.20 307 *e*P **P** **17 39 57.8 -1.4**
DMN Daman 47.26 307 *e*P **P** **17 39 58.5 -1.2**
comp=Z,99nm,1.2s
YSS Yuzh-Sakhalins 47.31 15 *e*P **P** **17 40 00.1 +0.6**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS Yuzh-Sakhalins 47.31 15 P **P** **17 40 00.2 +0.7**
YSS IAmb IAmb 17 40 03.3
comp=Z,19nm,0.6s
YSS Yuzh-Sakhalins 47.31 15 P **P** **17 40 00.4 +0.9**
KLR Kul'dur 47.63 5*ce*P **P** **17 40 02.3 +0.4**
KLR pmax pmax
comp=Z,17nm,1.0s
GKN Gorkha 47.80 307 *e*P **P** **17 40 02.3 -1.5**
HIA Hailar 47.80 354 P **P** **17 40 02.5 -0.8**
HIA pmax pmax
comp=Z,18nm,0.8s
HIA Hailar 47.80 354 P **P** **17 40 02.5 -0.8**
HIA IAmb IAmb 17 40 13.7
comp=Z,18nm,0.8s
KOLN Koldanda 48.53 306 *e*P **P** **17 40 08.4 -1.1**
comp=Z,90nm,0.5s
DANN Dangsing 48.65 307 *e*P **P** **17 40 09.3 -1.2**
ULN Ulaanbaatar 49.03 343 P **P** **17 40 12.8 -0.1**
ULN pmax pmax
comp=Z,26nm,0.9s
ULN Ulaanbaatar 49.03 343 P **P** **17 40 12.8 -0.1**
ULN IAmb IAmb 17 40 37.1
comp=Z,26nm,0.9s
ULN Ulaanbaatar 49.03 343 P **P** **17 40 15.2 +2.3**
ULN S **S** **17 47 17.9 +3.7**
PYUN Piuthan 49.16 307 *e*P **P** **17 40 13.5 -0.8**
SONM Songino Array 49.20 342 P **P** **17 40 13.8 -0.3**
comp=Z,7.3nm,0.8s,baz=157,slow=8.8,SNR=24
SONM ScP **ScP** **17 45 28.7 +0.4**
comp=Z,1.1nm,1.0s,baz=159,slow=4.5,SNR=2.7
SONM LR LR 18 03 11.5
comp=Z,412nm,21.8s,baz=141,slow=39
SONM PKP2ab 18 12 05.3
comp=Z,0.3nm,0.8s,baz=45,slow=0.8,SNR=3.5
SONM Songino Array 49.20 342 P **P** **17 40 13.9 -0.3**
HYBB Hyderabad (bro 49.62 292 *e*P **P** **17 40 17.0 -0.8**
HYBB *e*PP **PP** **17 42 12.8 +0.2**
HYBB *e*S **S** **17 47 25.3 +2.2**
GRNR Gornyy 49.68 8//*i*P **P** **17 40 18.3 +0.7**
GRNR pmax pmax
comp=N,3.0nm,0.7s
GRNR pmax pmax
comp=Z,8.0nm,0.7s
GRNR MLR MLR
comp=N,60nm,15.0s
PCHI Peechi 50.56 282 *e*P **P** **17 40 23.8 -1.1**
PCHI *e*S S 17 47 18.4 -18
CIT Chita 51.37 350 *e*P **P** **17 40 30.2 -0.2**
CIT *e* 17 41 45.6
CIT *e* 17 43 22.5
CIT *e* 17 47 39.3
CIT *e* 17 50 22.1
CIT pmax pmax
comp=Z,98nm,1.7s
ZEA Zeya 51.93 1 *e*P **P** **17 40 34.6 +0.1**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 52.41 341 *e*P **P** **17 40 37.7 -0.6**
ZAK pmax pmax
comp=Z,13nm,1.3s
HMDM Hanimaadhoo 53.37 277 P **P** **17 40 45.8 -0.1**
FUNA Funafuti 53.51 102 P **P** **17 40 47.3 +0.4**
FUNA Funafuti 53.51 102 P **P** **17 40 47.9 +1.1**
comp=Z,255nm,1.6s
IRK Irkutsk 53.74 343 *e*P **P** **17 40 43.3 -4.7**
IRK pmax pmax
comp=Z,31nm,1.9s
MOY Mondy 54.26 341 *e*P **P** **17 40 52.4 +0.6**
MOY pmax pmax
comp=Z,47nm,1.6s
MSVF Nonsavu 54.30 113 P **P** **17 40 53.5 +0.9**
comp=Z,34nm,0.9s,baz=284,slow=8.4,SNR=9.7
MSVF LR LR 18 04 08.8
comp=Z,372nm,19.5s,baz=159,slow=36
MSVF Nonsavu 54.30 113*ce*P **P** **17 40 53.8 +1.1**
MSVF pmax pmax
comp=Z,53nm,1.0s
MSVF Nonsavu 54.30 113 P **P** **17 40 53.7 +1.0**
MSVF Nonsavu 54.30 113 P **P** **17 40 53.3 +0.6**
WMQ Urumqi 54.30 326 *e*P **P** **17 40 53.9 +1.7**
WMQ pP pP 17 41 01.8 -3.2
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,310nm,5.9s
WMQ LR LR
comp=Z,340nm,15.5s
WMQ LR LR
comp=Z,440nm,21.1s
WMQ LR LR
comp=Z,400nm,17.7s
BOD Bodaibo 56.89 352 *e*P **P** **17 41 10.3 -0.2**
BOD pmax pmax
comp=Z,38nm,1.0s
PEA0B Petropavlovsk- 57.45 22*de*P **P** **17 41 16.3 +1.7**
PEA0B Petropavlovsk- 57.45 22 P **P** **17 41 16.4 +1.9**
PEA0B IAmb IAmb 17 41 40.6
comp=Z,20nm,1.0s
PETK Petropavlovsk- 57.45 22 P **P** **17 41 16.1 +1.5**
comp=Z,7.3nm,0.6s,baz=188,slow=5.6,SNR=19
PETK Petropavlovsk- 57.45 22 P **P** **17 41 15.9 +1.3**
ZSN Zaisan 58.13 328 *e*P **P** **17 41 18.2 -1.2**
ZSN Zaisan 58.13 328 *e*P **P** **17 41 18.2 -1.2**
baz=328
SHLS Shalkode 58.80 321 *e*P **P** **17 41 20.9 -3.4**
SHLS pmax pmax
comp=Z,14nm,1.2s
SHLS Shalkode 58.80 321 *e*P **P** **17 41 20.9 -3.4**
comp=Z,14nm,1.2s,baz=322
PDGK Podgornoye 58.87 321 P **P** **17 41 24.0 -0.8**
NIL Nilore 59.02 309 P **P** **17 41 24.4 -1.5**
NIL pmax pmax
comp=Z,39nm,1.2s
NIL Nilore 59.02 309 P **P** **17 41 24.4 -1.5**
NIL IAmb IAmb 17 41 27.3
comp=Z,39nm,1.1s
NIL Nilore 59.02 309 P **P** **17 41 26.4 +0.5**
UZB Uzynbulak 59.07 321 *e*P **P** **17 41 24.9 -1.3**
UZB pmax pmax
comp=Z,10.0nm,1.0s
UZB Uzynbulak 59.07 321 *e*P **P** **17 41 25.0 -1.3**
comp=Z,10nm,1.0s,baz=321
MK31 Makanchi Array 59.13 326*ce*P **P** **17 41 25.6 -0.8**
MK31 Makanchi Array 59.13 326 P **P** **17 41 25.4 -1.1**
MK31 IAmb IAmb 17 41 35.2
comp=Z,19nm,0.8s
MKAR Makanchi Array 59.13 326 P **P** **17 41 25.9 -0.5**
comp=Z,16nm,0.5s,baz=120,slow=7.8,SNR=135
MKAR LR LR 18 07 35.6
comp=Z,333nm,21.6s,baz=132,slow=37
MKAR PKP2ab 18 11 19.1
comp=Z,1.0nm,0.9s,baz=304,slow=3.3,SNR=3.8
MAKZ Makanchi 59.32 326 P **P** **17 41 26.8 -0.9**
MAKZ pmax pmax
comp=Z,27nm,0.9s
MAKZ Makanchi 59.32 326 P **P** **17 41 26.8 -0.9**
MAKZ IAmb IAmb 17 41 37.4
comp=Z,26nm,0.8s
KSH Kashi 59.35 316 P **P** **17 41 28.6 +0.3**
KSH pP pP 17 41 38.1 -3.0
KSH PcP **PcP** **17 42 17.3 +1.4**
KSH pmax pmax
comp=Z,17nm,1.1s
KPKS Kokpek 59.45 321 *e*P **P** **17 41 27.6 -1.1**
KPKS pmax pmax
comp=Z,8.0nm,0.7s
KPKS Kokpek 59.45 321 *e*P **P** **17 41 27.6 -1.1**
comp=Z,8.0nm,0.7s,baz=321
KDJ Kajisay 59.75 319 P **P** **17 41 30.8 -0.2**
KDJ pmax pmax
comp=Z,19nm,0.7s
KDJ Kajisay 59.75 319 P **P** **17 41 30.8 -0.2**
KDJ IAmb IAmb 17 41 38.8
comp=Z,19nm,0.7s
LBZ Lake Benmore 60.11 145 P **P** **17 41 33.1 -0.1**
LBZ IAmb IAmb 17 41 47.7
comp=Z,27nm,0.9s
THZ Tophouse 60.22 141 P **P** **17 41 33.3 -0.7**
YAK Yakutsk 60.30 2 *e*P **P** **17 41 35.3 +1.2**
YAK *e* 17 43 53.9
YAK *e*S **S** **17 49 46.3 +1.6**
YAK *e**SS **sS** **17 50 05.7 -0.5**
YAK *e*SS **SS** **17 53 42.1 -0.8**
YAK pmax pmax
comp=Z,70nm,0.9s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,23nm,1.6s
YAK pmax pmax
comp=N,20nm,1.7s
YAK pmax pmax
comp=E,25nm,1.6s
YAK smax smax
comp=N,64nm,2.3s
YAK smax smax
comp=E,66nm,2.8s
YAK Yakutsk 60.30 2 P **P** **17 41 34.3 +0.3**
MDOK Medeo 60.33 320 *e*P **P** **17 41 33.8 -1.1**
MDOK Medeo 60.33 320 *e*P **P** **17 41 33.9 -1.1**
baz=320
TNSS Tian-Shan 60.33 320 *e*P **P** **17 41 33.7 -1.5**
TNSS Tian-Shan 60.33 320 *e*P **P** **17 41 33.8 -1.5**
baz=320
ARXS Arharly 60.36 322 *e*P **P** **17 41 33.6 -1.4**
TDK Taldyqorghan 60.41 323 *e*P **P** **17 41 34.1 -1.1**
TDK Taldyqorghan 60.41 323 *e*P **P** **17 41 34.1 -1.1**
baz=323
ULHL Ulahol 60.41 319 P **P** **17 41 36.2 +0.6**
SNR=15
AAA Alma-Ata 60.44 320 *e*P **P** **17 41 34.1 -1.4**
AAA pmax pmax
comp=Z,18nm,0.8s
AAA Alma-Ata 60.44 320 *e*P **P** **17 41 34.1 -1.4**
comp=Z,18nm,0.8s,baz=320
OXZ Oxford 60.57 143 P **P** **17 41 33.9 -2.4**
OXZ IAmb IAmb 17 41 39.3
comp=Z,18nm,0.8s
NNVZ North Ngauruho 60.60 138 P **P** **17 41 37.9 +1.1**
OTVZ Oturere 60.65 138 P **P** **17 41 38.1 +0.9**
TMVZ Te Maari 60.66 137 P **P** **17 41 40.0 +2.9**
ETVZ East Tongariro 60.67 137 P **P** **17 41 38.1 +0.8**
TUWZ Tuamarina 60.69 141 P **P** **17 41 35.8 -1.3**
CHKK Chushkaly 60.71 321 *e*P **P** **17 41 36.2 -1.1**
CHKK Chushkaly 60.71 321 *e*P **P** **17 41 36.2 -1.1**
baz=321
BOOM Boomskoye usch 60.73 319 P **P** **17 41 37.1 -0.6**
BOOM pmax pmax
comp=Z,19nm,1.2s
BOOM Boomskoye usch 60.73 319 P **P** **17 41 37.1 -0.6**
BOOM IAmb IAmb 17 41 40.1
comp=Z,19nm,1.1s
MA2 Magadan 60.78 14*ce*P **P** **17 41 38.5 +1.0**
MA2 pmax pmax
comp=Z,13nm,0.8s
MA2 Magadan 60.78 14 P **P** **17 41 38.4 +1.0**
MA2 IAmb IAmb 17 42 00.6
comp=Z,32nm,0.9s
MA2 Magadan 60.78 14 P **P** **17 41 39.2 +1.7**
KHZ Kahutara 60.97 142 P **P** **17 41 37.8 -1.3**
KHZ IAmb IAmb 17 41 43.3
comp=Z,22nm,0.9s
BHHZ Black Hill Sta 61.08 138 P **P** **17 41 39.4 -0.6**
KUU Kurty 61.13 321 *e*P **P** **17 41 39.1 -1.1**
KUU pmax pmax
comp=Z,29nm,1.0s
KUU Kurty 61.13 321 *e*P **P** **17 41 39.1 -1.1**
comp=Z,30nm,1.0s,baz=321
TKM2 Tokmak 2 61.15 319 P **P** **17 41 40.1 -0.5**
SNR=19
TKM2 Tokmak 2 61.15 319 P **P** **17 41 39.7 -0.9**
URZ Urewera 61.21 136 P **P** **17 41 40.6 -0.1**
BKZ Black Stump Fm 61.22 137 P **P** **17 41 40.1 -0.8**
BKZ IAmb IAmb 17 42 08.9
comp=Z,19nm,0.8s
BKZ Black Stump Fm 61.22 137 P **P** **17 41 40.1 -0.8**
BHW Baring Head 61.27 140 P **P** **17 41 39.4 -1.8**
RTZ Ruatahuna 61.28 136 P **P** **17 41 40.9 -0.5**
KBK Karagaybulak 61.45 319 P **P** **17 41 43.6 +1.1**
SNR=10
MCHZ McNeill Hill 61.49 137 P **P** **17 41 43.1 +0.5**
MSWZ Moikau Station 61.52 140 P **P** **17 41 40.8 -2.1**
MWZ Matawai 61.53 136 P **P** **17 41 42.4 -0.6**
UCH Uchtor 61.55 318 P **P** **17 41 44.1 +0.5**
SNR=32
PLWZ Palliser 61.60 140 P **P** **17 41 41.6 -1.8**
CHMS Chumysh 61.74 319 P **P** **17 41 43.3 -1.0**
SNR=6.9
AAK Ala-Archa 61.74 319 P **P** **17 41 41.1 -3.4**
SNR=11
AAK Ala-Archa 61.74 319 P **P** **17 41 44.2 -0.4**
comp=Z,4.3nm,0.6s,baz=133,slow=5.1,SNR=12
AAK Ala-Archa 61.74 319*de*P **P** **17 41 44.7 +0.2**
AAK pmax pmax
comp=Z,14nm,1.3s
AAK Ala-Archa 61.74 319 P **P** **17 41 44.3 -0.2**
AAK IAmb IAmb 17 42 08.8
comp=Z,13nm,1.0s
AAK Ala-Archa 61.74 319 P **P** **17 41 45.3 +0.7**
KAHZ Kahuranaki 61.78 138 P **P** **17 41 44.7 +0.1**
SGDS Sogindy 62.02 320 *e*P **P** **17 41 45.1 -1.1**
SGDS Sogindy 62.02 320 *e*P **P** **17 41 45.2 -1.1**
baz=320
USP Ospenovka 62.02 319 P **P** **17 41 45.9 -0.4**
SNR=22
AML Almayashu 62.05 318 P **P** **17 41 46.9 0.0**
SNR=34
AML Almayashu 62.05 318 P **P** **17 41 47.5 +0.6**
EKS2 Erkin-Say 62.23 318 P **P** **17 41 48.1 +0.4**
SNR=21
DRK Karamyk 62.27 314 P **P** **17 41 48.0 -0.3**
DRK IAmb IAmb 17 41 50.7
comp=Z,23nm,1.0s
ZAA0 Zalesovo Array 62.34 334 P **P** **17 41 46.4 -1.6**
ZAA0 IAmb IAmb 17 42 11.3
comp=Z,27nm,1.1s
ZALV Zalesovo Beam 62.34 334 P **P** **17 41 46.8 -1.3**
comp=Z,3.2nm,0.3s,baz=135,slow=6.0,SNR=19
ZALV LR LR 18 10 41.8
comp=Z,181nm,19.6s,baz=130,slow=38
ZALV PKPPKP **P'P'df** **18 10 54.5 +0.5**
comp=Z,0.6nm,0.7s,baz=343,slow=4.5,SNR=4.5
ZALV Zalesovo Beam 62.34 334 P **P** **17 41 46.6 -1.5**
SEM Semipalatinsk 62.34 329 *e*P **P** **17 41 47.5 -0.9**
SEM Semipalatinsk 62.34 329 *e*P **P** **17 41 47.6 -0.9**
baz=329
KBL Kabul 62.60 308 P **P** **17 41 48.8 -1.7**
KBL pmax pmax
comp=Z,28nm,1.0s
KBL Kabul 62.60 308 P **P** **17 41 48.8 -1.7**
KBL IAmb IAmb 17 42 00.1
comp=Z,28nm,1.0s
KBL Kabul 62.60 308 P **P** **17 41 50.0 -0.5**
SNR=18
BTLS Baital 63.12 321 *e*P **P** **17 41 51.8 -1.7**
BTLS Baital 63.12 321 *e*P **P** **17 41 51.8 -1.7**
baz=321
GAR Garm 63.16 314 P **P** **17 41 52.5 -1.5**
BTK Batken 63.20 315 P **P** **17 41 53.5 -0.7**
BTK pmax pmax
comp=Z,25nm,1.1s
BTK Batken 63.20 315 P **P** **17 41 53.5 -0.7**
BTK IAmb IAmb 17 42 22.3
comp=Z,25nm,1.1s
KURBB Kurchatov Arra 63.36 328 P **P** **17 41 54.3 -0.7**
comp=Z,15nm,0.5s,baz=129,slow=6.6,SNR=9.8
KURK Kurchatov 63.37 328*c i*P **P** **17 41 54.4 -0.6**
KURK pmax pmax
comp=Z,13nm,0.7s
KURK Kurchatov 63.37 328 P **P** **17 41 54.0 -1.0**
KURK Kurchatov 63.37 328 P **P** **17 41 55.2 +0.2**
CHGR Chuyangaron 63.88 313 P **P** **17 41 57.7 -1.0**
DZA Taraz 63.96 318 *e*P **P** **17 41 57.4 -1.7**
DZA Taraz 63.96 318 *e*P **P** **17 41 57.5 -1.7**
baz=318
SEY Seymchan 64.12 13//*e*P **P** **17 42 01.4 +1.7**
SEY pmax pmax
comp=Z,20nm,1.5s
SHEM Shemya Is, Ala 64.39 30 LR LR 18 04 26.5
comp=Z,168nm,20.6s,baz=289,slow=31
IUG luzhnay 64.55 317 *e*P **P** **17 42 02.1 -0.9**
IUG luzhnay 64.55 317 *e*P **P** **17 42 02.2 -0.9**
baz=317
KK31 Karatay Array 64.59 318 P **P** **17 42 02.0 -1.3**
KK31 pmax pmax
comp=Z,29nm,1.3s

KK31 **Karatay Array** 64.59 318 P P 17 42 01.9 -1.3
KK31 IAmb IAmb 17 42 27.1
comp=Z,29nm,1.3s
KKAR **Karatay Array** 64.59 318 P P 17 42 02.2 -1.0
KKAR **Karatay Array** 64.59 318 P P 17 42 02.2 -1.0
KKAR **Karatay Array** 64.59 318 P P 17 42 02.1 -1.1
KKAR IAmb IAmb 17 42 27.1
comp=Z,29nm,1.3s
OTUK **Ortayu** 65.64 324 P P 17 42 09.2 -0.7
BRZS **Berezniki** 66.25 325 eP P 17 42 12.8 -1.0
BRZS **Berezniki** 66.25 325 eP P 17 42 12.8 -1.0
baz=325
HRA **Herat** 67.96 307 P P 17 42 24.4 -0.9
JLN **Jalan Bani Buh** 68.18 293 P P 17 42 27.3 +0.7
WBK **Wadi Bani Khal** 68.64 294 P P 17 42 29.4 -0.1
CASY **Casey** 68.72 187 P P 17 42 29.2 +0.2
CASY IAmb IAmb 17 42 40.5
comp=Z,23nm,0.8s
BRVK **Borovoye** 69.01 328 c iP P 17 42 30.6 -0.5
BRVK pmax pmax
comp=Z,22nm,1.2s
BRVK **Borovoye** 69.01 328 P P 17 42 30.4 -0.7
BRVK **Borovoye** 69.01 328 P P 17 42 31.8 +0.7
WSAR **Wadi Sarin** 69.03 294 P P 17 42 31.3 -0.6
comp=Z,10.0nm,0.9s,baz=100,slow=3.3,SNR=5.9
WSAR **Wadi Sarin** 69.03 294 P P 17 42 32.0 +0.1
MHTO **MHTO** 69.37 292 P P 17 42 33.9 -0.1
JMDO **Jabal Madar** 69.41 293 P P 17 42 34.6 +0.4
BIDO **Bidbid** 69.53 294 P P 17 42 35.3 +0.4
DQM **DQM** 69.66 291 P P 17 42 36.3 +0.5
TIXI **Tiksi** 69.93 1⇑ eP P 17 42 34.9 -1.5
TIXI pmax pmax
comp=Z,20nm,1.3s
TIXI **Tiksi** 69.93 1 P P 17 42 35.5 -0.9
TIXI IAmb IAmb 17 42 43.8
comp=Z,12nm,0.8s
HOQ **Hoqain** 70.28 294 P P 17 42 39.9 +0.3
BSY **Bisya** 70.28 293 P P 17 42 40.0 +0.4
ARQ **Araqi** 70.97 294 P P 17 42 44.2 +0.4
MSEY **Mahe Island** 71.21 265 P P 17 42 48.0 +2.6
SHAO **Shalim** 71.30 288 P P 17 42 46.3 +0.5
UOSS **Minazif** 71.45 296 P P 17 42 46.3 -0.4
UOSS **Minazif** 71.45 296 P P 17 42 47.5 +0.9
BANOM **Banah** 71.48 297 P P 17 42 48.1 +1.3
HATD **Hatta, Dubai** 71.50 296 P P 17 42 47.6 +0.6
MASF **Masafi** 71.54 296 P P 17 42 48.8 +1.5
ASHO **Ashiyiah** 71.55 295 P P 17 42 48.5 +1.2
BILL **Bilibino** 71.63 15 i P P 17 42 46.5 -0.3
BILL i 17 43 04.4
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL **Bilibino** 71.63 15 P P 17 42 47.0 +0.1
BILL IAmb IAmb 17 43 08.3
comp=Z,27nm,1.5s
SHME **Shamm** 71.64 297 P P 17 42 49.2 +1.5
ALNE **Al Ain** 71.75 295 P P 17 42 48.9 +0.4
NAZ **Nazwa, Dubai** 71.94 296 P P 17 42 51.1 +1.5
FAQ **Al Faqa, Dubai** 71.98 295 P P 17 42 50.1 +0.3
UMQ **Umm Al-Quwin** 72.01 296 P P 17 42 51.3 +1.4
GEYT **Alibeck** 72.01 309 P P 17 42 49.4 -0.4
comp=Z,8.2nm,0.8s,baz=109,slow=3.6,SNR=9.7
GEYT **Alibeck** 72.01 309 P P 17 42 49.2 -0.6
GYA0B **ALIBECK ARRAY** 72.01 309 P P 17 42 49.1 -0.7
GYA0B IAmb IAmb 17 42 56.0
comp=Z,24nm,1.1s
UMZA **Um Al Zommool** 72.15 293 P P 17 42 50.8 0.0
ASUD **Al Ashush, Dub** 72.20 295 P P 17 42 51.8 +0.7
NRIK **Noril'sk** 72.39 346 P P 17 42 51.8 +0.4
comp=Z,13nm,0.6s,baz=135,slow=6.2,SNR=20
NRIK S S 17 52 13.3 +2.1
comp=Z,1.2nm,0.3s,baz=24,slow=22,SNR=11
NRIK **Noril'sk** 72.39 346 c iP P 17 42 51.4 0.0
NRIK pmax pmax
comp=Z,28nm,1.1s
NRIK **Noril'sk** 72.39 346 P P 17 42 51.1 -0.2
NRIK IAmb IAmb 17 43 14.2
comp=Z,25nm,0.8s
NRIK S 17 52 16.8 +5.6
AJN **Ajban** 72.50 295 P P 17 42 53.4 +0.5
SOCY **Socotra** 72.54 282 P P 17 42 51.2 -2.2
SOCY IAmb IAmb 17 42 54.8
comp=Z,30nm,0.8s
RBK **Rabkut** 72.61 288 P P 17 42 53.9 +0.2
DOK **Doka** 72.76 289 P P 17 42 54.6 +0.1
WHFO **Wadi Hawf** 73.05 288 P P 17 42 56.1 -0.2
MZWR **Madinat Zayed** 73.43 294 P P 17 42 58.7 +0.3
ABTO **Aybut** 73.46 288 P P 17 42 58.9 0.0
AB31 **Akbulak array** 73.61 321 P P 17 42 58.1 -0.9
ABKAR **Akbulak array** 73.61 321 P P 17 42 58.1 -0.9
ABKAR **Akbulak array** 73.61 321 P P 17 42 58.7 -0.3
ABKAR IAmb IAmb 17 43 22.7
comp=Z,20nm,1.0s
MZR **Muzera** 73.72 293 P P 17 43 01.0 +0.8
GHWR **Ruwais** 74.36 294 P P 17 43 04.7 +0.8
JRN **Qarnain Island** 74.48 295 P P 17 43 04.9 +0.4
AKTO **Aktyubinsk** 75.14 322 P P 17 43 07.4 -0.5
comp=Z,7.7nm,0.5s,baz=99,slow=6.8,SNR=23
SLWR **Sila** 75.45 294 P P 17 43 10.8 +0.6
SVE **Sverdlovsk** 75.61 329 deP P 17 43 10.3 -0.1
SVE pmax pmax
comp=Z,67nm,0.9s
TRNA **Turayna** 75.94 295 P P 17 43 13.5 +0.5
SHMA **Al-Shehemyia** 76.26 296 P P 17 43 15.7 +1.0
SMRA **Abu-Samra** 76.29 295 P P 17 43 15.4 +0.5
ARU **Arti** 76.56 328 P P 17 43 15.2 -0.6
comp=Z,14nm,0.8s,baz=124,slow=3.5,SNR=36
ARU **Arti** 76.56 328 c iP P 17 43 15.1 -0.7
ARU 17 43 24.2
ARU 17 46 02.1
ARU PPP PPP 17 47 49.3
ARU S S 17 53 01.3 +2.9
ARU SS SS 17 57 54.9 +0.7
ARU pmax pmax
comp=Z,33nm,0.7s
ARU **Arti** 76.56 328 P P 17 43 14.8 -1.0
FALS **False Pass** 77.30 34 P P 17 43 21.0 +1.0
baz=254
SDPT **Sand Point** 79.06 34 P P 17 43 29.9 +0.2
SDPT **Sand Point** 79.06 34 P P 17 43 31.1 +1.3
baz=257
LKRN **Lenkeran, Azer** 79.38 309 P P 17 43 32.0 +0.1
ABPO **Ambohimpanom** 80.38 251 P P 17 43 37.7 -0.2
ABPO pmax pmax
comp=Z,16nm,0.8s
ABPO **Ambohimpanom** 80.38 251 P P 17 43 37.7 -0.2
ABPO IAmb IAmb 17 43 41.7
comp=Z,16nm,0.8s
CHGN **Chignik** 80.40 33 P P 17 43 39.3 +2.3
baz=258
SEKA **Sheki** 80.86 311 P P 17 43 40.1 +0.2
MNGR **Mingechevir, A** 80.90 311 P P 17 43 40.6 +0.6
VOI **Vohitsoka** 81.04 248 P P 17 43 41.6 +0.3
VOI IAmb IAmb 17 43 51.0
comp=Z,24nm,0.8s
VOI **Vohitsoka** 81.04 248 P P 17 43 42.1 +0.8
VOI **Vohitsoka** 81.04 248 P P 17 43 43.5 +2.1
ZKTA **Zakatala** 81.33 312 P P 17 43 42.5 +0.2
VNDA **Vanda** 81.39 173 P P 17 43 42.2 +0.3
comp=Z,22nm,0.7s,baz=318,slow=6.2,SNR=152
VNDA **Vanda** 81.39 173 P P 17 43 41.9 +0.1
VNDA IAmb IAmb 17 43 46.4
comp=Z,24nm,0.8s
GANJ **Ganja** 81.47 311 P P 17 43 43.0 -0.1
MAW **Mawson** 81.72 200 P P 17 43 44.3 +0.6
comp=Z,8.7nm,0.6s,baz=78,slow=5.5,SNR=26
MAW **Mawson** 81.72 200 P P 17 43 44.4 +0.7
baz=82,SNR=19
MAW **Mawson** 81.72 200 P P 17 43 44.1 +0.4
KIRV **Kirov** 81.87 329 P P 17 43 44.8 +0.1
comp=Z,34nm,0.8s,baz=107,slow=1.1,SNR=21
KIRV **Kirov** 81.87 329 c iP P 17 43 44.5 -0.2
BELG **Belogornoye** 81.91 323 P P 17 43 44.6 -0.4
comp=Z,49nm,0.8s,baz=282,slow=1.2,SNR=27
BELG **Belogornoye** 81.91 323 c iP P 17 43 44.5 -0.5
BELG pmax pmax
comp=Z,17nm,1.3s
NAX **Nakhchivan** 81.98 309 P P 17 43 45.2 -0.7
GROC **Groznyy** 82.09 313 eP P 17 43 45.4 -0.8
GROC e 17 43 50.8
GROC pmax pmax
comp=Z,55nm,1.1s
SBA **Scott Base** 82.31 172 P P 17 43 47.6 +0.9
SBA pmax pmax
comp=Z,23nm,1.0s
SBA **Scott Base** 82.31 172 P P 17 43 47.6 +0.9
SBA IAmb IAmb 17 43 59.4
comp=Z,23nm,0.9s
N18K **Kilae Creek** 82.53 29 P P 17 43 50.4 +2.2
N18K IAmb IAmb 17 44 13.5
comp=Z,21nm,1.2s
N18K **Kilae Creek** 82.53 29 P P 17 43 50.4 +2.2
baz=260
GNI **Garni** 82.63 310 P P 17 43 50.6 +1.3
comp=Z,7.2nm,0.7s,baz=153,slow=4.5,SNR=6.2
GNI **Garni** 82.63 310 ceP P 17 43 49.7 +0.3
GNI pmax pmax
comp=Z,13nm,1.0s
GNI **Garni** 82.63 310 P P 17 43 51.1 +1.7
SVW2 **Sparrevohn** 82.75 29 P P 17 43 51.8 +2.5
SII **Sitkinak Islan** 82.76 33 P P 17 43 51.9 +2.5
baz=262
GCSA **Galena City Sc** 82.84 25 P P 17 43 51.6 +2.0
baz=259
TTA **Tatalina** 82.87 27 P P 17 43 51.2 +1.2
TTA pmax pmax
comp=Z,25nm,1.1s
TTA **Tatalina** 82.87 27 P P 17 43 51.2 +1.2
TTA IAmb IAmb 17 44 17.3
comp=Z,25nm,1.1s
TTA **Tatalina** 82.87 27 P P 17 43 51.2 +1.2
baz=260
O19K **Port Ailsworth** 83.22 30 P P 17 43 53.2 +1.5
baz=261
N19K **Bonanza Creek** 83.23 29 P P 17 43 52.9 +1.0
N19K **Bonanza Creek** 83.23 29 P P 17 43 53.3 +1.4
baz=261
L19K **White Mountain** 83.27 28 P P 17 43 53.1 +1.1
L19K IAmb IAmb 17 44 17.2
comp=Z,31nm,1.1s
L19K **White Mountain** 83.27 28 P P 17 43 53.3 +1.2
baz=261
OHAK **Old Harbor** 83.34 33 P P 17 43 54.3 +1.9
OHAK **Old Harbor** 83.34 33 P P 17 43 53.8 +1.4
baz=263
ZEI **Tsey** 83.44 313 eP P 17 43 52.6 -1.0
ZEI pmax pmax
comp=Z,47nm,1.0s
M19K **Big River Lodg** 83.44 28 P P 17 43 54.0 +1.1
M19K IAmb IAmb 17 44 18.2
comp=Z,34nm,1.1s
M19K **Big River Lodg** 83.44 28 P P 17 43 54.3 +1.4
baz=261
AKH **Akhalkalaki** 83.66 311 ⇓P P 17 43 56.4 +1.7
AKH **Akhalkalaki** 83.66 311 P P 17 43 56.3 +1.7
NCK **Nalchik** 83.71 313 ⇓eP P 17 43 54.9 +0.2
NCK pmax pmax
comp=Z,23nm,0.9s
ONI **Oni** 83.76 312 P P 17 43 56.1 +1.1
ONI pmax pmax
comp=Z,22nm,0.9s
ONI **Oni** 83.76 312 P P 17 43 56.1 +1.1
ONI IAmb IAmb 17 44 04.1
comp=Z,22nm,0.9s
L20K **Farewell, AK** 83.77 27 P P 17 43 55.5 +1.0
baz=262
KDAK **Kodiak Island** 83.78 32 ⇓eP P 17 43 54.3 -0.4
KDAK pmax pmax
comp=Z,11nm,0.8s
K20K **Telida** 83.81 26 P P 17 43 55.8 +1.0
K20K IAmb IAmb 17 44 20.0
comp=Z,33nm,1.2s
K20K **Telida** 83.81 26 P P 17 43 55.6 +0.9
baz=261
J20K **Nowinta River** 83.90 26 P P 17 43 56.2 +1.1
J20K IAmb IAmb 17 44 24.7
comp=Z,17nm,1.0s
J20K **Nowinta River** 83.90 26 P P 17 43 56.7 +1.5
baz=261
KARS **Kars** 83.92 311 P P 17 43 56.9 +0.9
KARS pmax pmax
comp=Z,123nm,0.9s
KARS **Kars** 83.92 311 P P 17 43 56.9 +0.9
RSO **Redoubt South** 84.03 29 P P 17 43 55.6 -0.5
GOF **Gofitskoye** 84.20 315 ⇑eP P 17 43 58.1 +1.0
PRGR **Permogore** 84.22 332 eP P 17 43 54.3 -2.5
PRGR pmax pmax
comp=Z,12nm,0.7s
KBZ **Khabaz** 84.23 314 P P 17 43 57.4 +0.1
comp=Z,15nm,0.9s,baz=99,slow=3.9,SNR=32
NEY **Neytrino** 84.33 313 ⇓eP P 17 43 59.0 +0.9
NEY pmax pmax
comp=Z,9.0nm,1.5s
IMAR **Indian Mountai** 84.35 24 P P 17 43 57.8 +0.4
SPCR **Spurr Chakacha** 84.38 29 P P 17 43 58.4 +0.6
baz=263
KVAR **Kislovodsk Arr** 84.39 314 P P 17 43 59.8 +1.6
comp=Z,5.9nm,0.9s,baz=102,slow=20,SNR=3.3
KIV **Kislovodsk** 84.39 314 ⇑P P 17 43 59.5 +1.2
KIV **Kislovodsk** 84.39 314 eP P 17 43 58.2 -0.1
KIV e 17 54 18.1
KIV pmax pmax
comp=Z,17nm,1.0s
KIV **Kislovodsk** 84.39 314 P P 17 43 57.8 -0.4
KIV IAmb IAmb 17 44 14.5
comp=Z,20nm,1.0s
KIV **Kislovodsk** 84.39 314 P P 17 43 59.4 +1.2
PPLA **Purkeypile** 84.59 27 P P 17 43 59.2 +0.3
PPLA IAmb IAmb 17 44 26.7
comp=Z,11nm,0.9s
PPLA **Purkeypile** 84.59 27 P P 17 44 00.3 +1.4
baz=263
GURO **Guroymak-BITLI** 84.64 308 P P 17 44 00.6 +0.9
CHUM **Lake Minchumin** 84.66 26 P P 17 44 00.3 +1.3
baz=263
CNPM **China Poot** 84.68 30 P P 17 44 00.6 +1.3
H21K **Melozitna Rive** 84.69 24 P P 17 43 59.5 +0.4
H21K IAmb IAmb 17 44 28.3
comp=Z,16nm,1.2s
H21K **Melozitna Rive** 84.69 24 P P 17 44 00.3 +1.2
baz=262
CAST **Castle Rocks** 84.71 27 P P 17 44 00.2 +0.9
CAST **Castle Rocks** 84.71 27 P P 17 44 01.1 +1.8
baz=263
CHVG **Ch'k'valeri** 84.77 313 ⇓P P 17 44 00.8 +0.7
BRLK **Bradley Lake** 84.88 30 P P 17 44 00.3 0.0
BRSE **Bradley Lake S** 84.95 30 P P 17 44 01.1 +0.5
baz=265
I21K **Tanana** 84.96 25 P P 17 43 59.7 -0.8
I21K **Tanana** 84.96 25 P P 17 44 01.6 +1.1
baz=263
BPAW **Bear Paw Mtn.** 85.27 26 P P 17 44 03.0 +0.9
BPAW **Bear Paw Mtn.** 85.27 26 P P 17 44 03.2 +1.0
baz=264
M22K **Willow** 85.44 28 P P 17 44 03.3 +0.4
M22K **Willow** 85.44 28 P P 17 44 03.5 +0.6
baz=265
VRH **Novokhopyorsk** 85.44 321 eP P 17 44 02.6 -0.6
VRH pmax pmax
comp=Z,80nm,0.7s
TRF **Thorofare Moun** 85.51 27 P P 17 44 04.0 +0.5
baz=265
RC01 **Rabbit Creek A** 85.56 29 P P 17 44 03.2 -0.4
RC01 IAmb IAmb 17 44 27.2
comp=Z,18nm,0.9s
RC01 **Rabbit Creek A** 85.56 29 P P 17 44 04.3 +0.7
baz=265
SEW **Seward** 85.62 30 P P 17 44 03.8 -0.1
SEW **Seward** 85.62 30 P P 17 44 04.8 +0.9
baz=266
PMR **Palmer** 85.89 28 P P 17 44 05.1 -0.1
PMR pmax pmax
comp=Z,37nm,1.4s
PMR **Palmer** 85.89 28 P P 17 44 05.1 -0.1
PMR IAmb IAmb 17 44 29.4
comp=Z,36nm,1.4s
PMR **Palmer** 85.89 28 P P 17 44 06.1 +0.9
baz=266
COLD **Coldfoot** 85.91 23 P P 17 44 06.5 +1.2
baz=264
H23K **Yukon River** 86.04 24 P P 17 44 06.4 +0.5
H23K **Yukon River** 86.04 24 P P 17 44 06.6 +0.7
baz=265
I23K **Minto, Yukon-K** 86.06 25 P P 17 44 06.4 +0.4
I23K **Minto, Yukon-K** 86.06 25 P P 17 44 07.2 +1.2
baz=265
MCK **McKinley** 86.14 26 P P 17 44 06.8 +0.3
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK **McKinley** 86.14 26 P P 17 44 06.8 +0.3
baz=266
NEA2 **Nenana** 86.14 25 P P 17 44 07.2 +0.7
baz=266
RND **Reindeer** 86.15 27 P P 17 44 06.3 -0.3
RND pmax pmax
comp=Z,8.0nm,0.7s
RND **Reindeer** 86.15 27 P P 17 44 06.3 -0.3
KNK **Knik Glacier** 86.20 29 P P 17 44 08.2 +1.4
KNK IAmb IAmb 17 44 34.3
comp=Z,26nm,1.1s
KNK **Knik Glacier** 86.20 29 P P 17 44 07.6 +0.8
baz=266
PWL **Port Wells** 86.23 29 P P 17 44 07.8 +0.8
PWL IAmb IAmb 17 44 31.0
comp=Z,27nm,1.0s
PWL **Port Wells** 86.23 29 P P 17 44 07.8 +0.8
baz=267
TOLK **Toolik Lake Re** 86.28 21 P P 17 44 07.9 +0.8
TOLK **Toolik Lake Re** 86.28 21 P P 17 44 08.1 +1.1
baz=265
SML **Sawmill** 86.29 28 P P 17 44 08.0 +0.8
SML IAmb IAmb 17 44 33.1
comp=Z,24nm,0.8s
SML **Sawmill** 86.29 28 P P 17 44 08.2 +0.9
baz=267
KTUT **Trabzon** 86.45 311 ⇑P P 17 44 09.1 +0.7
SOC **Sochi** 86.53 313 eP P 17 44 07.4 -1.4
SOC e 17 47 26.7
SOC ePPP PPP 17 49 33.2
SOC eS SKSac 17 54 30.7 -1.0
SOC eSS SS 18 00 23.9 +0.7
SOC eSSS SSS 18 03 56.1
SOC pmax pmax
comp=Z,41nm,1.0s
WRH **Wood River Hil** 86.56 26 P P 17 44 09.1 +0.7
M23K **Glacier View** 86.57 28 P P 17 44 10.1 +1.5
baz=267
WAT6 **Susitna Watana** 86.61 28 P P 17 44 09.7 +0.7
baz=267
CCB **Clear Creek Bu** 86.69 25 P P 17 44 08.5 -0.6
H24K **Noodor Dome** 86.73 24 P P 17 44 08.3 -1.0
H24K **Noodor Dome** 86.73 24 P P 17 44 10.3 +1.0
baz=267
SCM **Sheep Creek Mo** 86.77 28 P P 17 44 11.4 +1.8
baz=267
DHY **Denali Highway** 86.80 27 P P 17 44 09.4 -0.5
DHY **Denali Highway** 86.80 27 P P 17 44 10.9 +1.0
baz=267
VORD **Divnogorie** 86.96 321 eP P 17 44 10.2 -0.5
VORD pmax pmax
comp=Z,50nm,1.3s
VSR **Storozhevoye** 87.05 321 eP P 17 44 10.6 -0.5
VSR pmax pmax
comp=Z,30nm,0.9s
HDA **Harding Lake** 87.05 26 P P 17 44 09.6 -1.3
HDA **Harding Lake** 87.05 26 P P 17 44 10.9 +0.1
baz=268
ILAR **Eielson Array** 87.09 25 P P 17 44 09.9 -1.1
comp=Z,0.8nm,0.5s,baz=241,slow=5.2,SNR=9.4
ILAR **Eielson Array** 87.09 25 P P 17 44 10.0 -1.1
KLMR **Klimovskoe** 87.10 331 eP P 17 44 07.4 -3.7
KLMR pmax pmax
comp=Z,63nm,1.2s
KLMR **Klimovskoe** 87.10 331 eP P 17 44 07.4 -3.7
KLMR AMP 17 44 16.3
comp=Z,63nm,1.2s
KLMR ePP PP 17 47 28.8 -6.1
LPSR **Galich'ya Gora** 87.22 322 eP P 17 44 11.8 -0.1
LPSR pmax pmax
comp=Z,80nm,1.4s
M24K **Tolsona, Glenn** 87.32 28 P P 17 44 13.0 +0.7
baz=268
PAX **Paxson** 87.67 27 P P 17 44 14.8 +0.9
baz=269
J25K **Salcha River,** 87.74 26 P P 17 44 14.0 -0.3
J25K **Salcha River,** 87.74 26 P P 17 44 13.7 -0.6
baz=269
HARP **HAARP** 87.80 28 P P 17 44 14.7 +0.2
baz=269
RIDG **Independent Ri** 87.96 26 P P 17 44 15.7 +0.4
baz=270
MOS **Moscow** 88.01 326 eP P 17 44 14.2 -1.4
MOS pmax pmax
comp=Z,38nm,0.9s
BMRM **Bremner River** 88.05 29 P P 17 44 16.4 +0.6
baz=270
N25K **Chitina, Valde** 88.06 29 P P 17 44 16.2 +0.4
baz=270
BMAR **Burnt Mountain** 88.09 23 P P 17 44 16.5 +0.7
ANN **Anapa** 88.18 315 eP P 17 44 16.4 -0.3
ANN eS S 17 54 53.5 -4.1
ANN pmax pmax
comp=Z,82nm,0.9s
DOT **Dot Lake** 88.31 27 P P 17 44 17.9 +1.0
SCRK **Sand Creek** 88.34 26 P P 17 44 17.8 +0.6
SCRK **Sand Creek** 88.34 26 P P 17 44 18.1 +0.9
baz=270
MENT **Mentasta** 88.47 27 P P 17 44 18.1 +0.4
KIBK **Kibwezi** 88.50 268 P P 17 44 19.6 +0.6
KIBK IAmb IAmb 17 44 21.3
comp=Z,20nm,0.9s
KIBK **Kibwezi** 88.50 268 P P 17 44 20.2 +1.2
SNR=6.8
J26L **Joseph Creek** 88.52 26 P P 17 44 18.0 0.0
baz=271
OBN **Obninsk** 88.62 325 ⇑P P 17 44 18.1 -0.4
OBN **Obninsk** 88.62 325 P P 17 44 17.6 -0.9
comp=Z,3.6nm,0.4s,baz=104,slow=1.5,SNR=9.3
OBN **Obninsk** 88.62 325 c iP P 17 44 17.3 -1.2
OBN e 17 47 47.0
OBN eS SKSac 17 54 43.2 -0.6
OBN pmax pmax
comp=Z,31nm,1.0s
OBN MLR MLR
comp=Z,203nm,22.0s
L26K **Log Cabin Wild** 88.63 27 P P 17 44 18.7 +0.2
baz=271
ASF **Jabal al Asfar** 88.78 302 P P 17 44 20.8 +0.8
comp=Z,54nm,1.0s,baz=4.0,slow=4.8,SNR=6.0
KMBO **Kilima Mbogo** 89.26 269 P P 17 44 23.7 +0.9
comp=Z,12nm,0.9s,baz=30,slow=6.5,SNR=18
KMBO **Kilima Mbogo** 89.26 269 P P 17 44 23.4 +0.7
KMBO IAmb IAmb 17 44 28.1
comp=Z,19nm,1.1s
KMBO **Kilima Mbogo** 89.26 269 P P 17 44 24.0 +1.3
L27K **Beaver Creek,** 89.33 27 P P 17 44 22.6 +0.8
L27K **Beaver Creek,** 89.33 27 P P 17 44 22.4 +0.6
baz=272
BCAR **Beaver Creek A** 89.34 27 P P 17 44 20.2 -1.7
BNN **Bunyan** 89.48 309 P P 17 44 22.7 -0.5
EGAK **Eagle** 89.55 25 P P 17 44 22.9 +0.3
APA **Apatity** 89.68 337 ⇓i P P 17 44 18.5 -4.7
APA pmax pmax
comp=Z,11nm,1.0s
GHAJ **Ghor Haditha** 89.94 301 P P 17 44 25.8 +0.6
DAWY **Dawson** 90.36 26 P P 17 44 27.1 +0.6
DAWY **Dawson** 90.36 26 P P 17 44 27.2 +0.7
baz=274
EIL **Elat** 90.53 300 P P 17 44 28.0 -0.1
comp=Z,11nm,0.9s,baz=71,slow=6.9,SNR=6.2
SIM **Simferopol'** 90.53 315 P P 17 44 27.3 -0.4
SIM pmax pmax
comp=Z,18nm,0.8s
I29M **Ogilvie Camp,** 90.71 25 P P 17 44 27.8 -0.3
I29M **Ogilvie Camp,** 90.71 25 P P 17 44 28.7 +0.5
baz=275
LODK **Lodwar** 91.02 273 P P 17 44 32.2 +1.5
BR131 **Keskin Array S** 91.16 310 ⇑eP P 17 44 30.5 -0.4
BR131 **Keskin Array S** 91.16 310 P P 17 44 30.2 -0.7
BR131 IAmb IAmb 17 44 34.7
comp=Z,10nm,0.8s
BR131 **Keskin Array S** 91.16 310 P P 17 44 31.0 +0.1
BRTR **Keskin Array B** 91.16 310 P P 17 44 30.0 -0.9
comp=Z,5.6nm,0.9s,baz=116,slow=5.6,SNR=16
BRTR **Keskin Array B** 91.16 310 P P 17 44 30.0 -0.9
BRTR **Keskin Array B** 91.16 310 P P 17 44 29.5 -1.4
EPYK **Eagle Plains** 91.25 24 P P 17 44 31.0 +0.4
EPYK **Eagle Plains** 91.25 24 P P 17 44 30.8 +0.2
baz=277
VALR **Valaam** 91.27 331 ceP P 17 44 29.5 -1.2
VALR pmax pmax
comp=Z,11nm,0.8s
CSS **Mathiatis** 91.66 305 P P 17 44 32.8 -0.4
M30M **Minto, Yukon** 91.67 27 P P 17 44 33.2 +0.5

	baz=277							
INK	**Inuvik**	**92.19**	**21**	P	**P**	**17 44 34.8**	**0.0**	
INK				pmax	pmax			
	comp=Z,12nm,1.4s							
INK	**Inuvik**	**92.19**	**21**	P	**P**	**17 44 34.8**	**0.0**	
INK				IAmb	IAmb	17 44 36.0		
	comp=Z,12nm,1.4s							
INK	**Inuvik**	**92.19**	**21**	P	**P**	**17 44 35.5**	**+0.7**	
	baz=280							
ARCES	**ARCESS Array B**	**92.31**	**340**	P	**P**	**17 44 35.4**	**-0.1**	
	comp=Z,7.0nm,0.8s,baz=85,slow=5.8,SNR=9.7							
ARCES				PKKPbc	**PKKPbc**	**18 01 52.7**	**-0.2**	
	comp=Z,2.8nm,0.8s,baz=289,slow=3.6,SNR=3.7							
M31M	**Drury Creek, Y**	**92.83**	**28**	P	**P**	**17 44 38.5**	**+0.5**	
	baz=279							
AKASG	**Malin Array Be**	**93.35**	**321**	P	**P**	**17 44 39.1**	**-1.4**	
	comp=Z,1.9nm,0.6s,baz=72,slow=4.1,SNR=13							
AKASG	**Malin Array Be**	**93.35**	**321**	P	**P**	**17 44 39.5**	**-1.1**	
AKASG				pmax	pmax			
	comp=Z,8.0nm,1.3s							
AKASG	**Malin Array Be**	**93.35**	**321**	P	**P**	**17 44 39.5**	**-1.1**	
AKBB	**Malin Array Si**	**93.35**	**321**	⇓*e*P	**P**	**17 44 39.5**	**-1.1**	
AKBB	**Malin Array Si**	**93.35**	**321**	P	**P**	**17 44 39.2**	**-1.4**	
FINES	**FINESS Array B**	**93.55**	**332**	P	**P**	**17 44 40.1**	**-1.1**	
	comp=Z,3.0nm,0.7s,baz=50,slow=5.6,SNR=8.7							
VSU	**Vasula**	**93.72**	**329**	*e*P	P	17 44 46.9	+4.8	
A36M	**Sachs Harbour**	**94.05**	**17**	P	**P**	**17 44 42.0**	**-1.3**	
NACGM	**Naroch**	**94.25**	**325**	*e*P	**P**	**17 44 42.7**	**-1.9**	
ELL	**Elmali**	**94.30**	**307**	P	**P**	**17 44 44.5**	**-1.0**	
ELL				pmax	pmax			
	comp=Z,36nm,1.1s							
ELL	**Elmali**	**94.30**	**307**	P	**P**	**17 44 44.5**	**-1.0**	
TIRR	**Tirgusor**	**94.63**	**315**	P	**P**	**17 44 45.4**	**-1.2**	
TIRR				pmax	pmax			
	comp=Z,23nm,1.0s							
TIRR	**Tirgusor**	**94.63**	**315**	P	**P**	**17 44 45.4**	**-1.2**	
CFR	**Carcaliu**	**94.73**	**315**	⇓P	**P**	**17 44 46.2**	**-0.9**	
CFR	**Carcaliu**	**94.73**	**315**	P	**P**	**17 44 46.2**	**-0.9**	
C36M	**Paulatuk**	**95.25**	**20**	P	**P**	**17 44 48.5**	**-0.4**	
C36M				IAmb	IAmb	17 45 16.5		
	comp=Z,13nm,1.0s							
C36M	**Paulatuk**	**95.25**	**20**	P	**P**	**17 44 48.9**	**0.0**	
	baz=289							
TESR	**Tescani**	**95.59**	**317**	⇓P	**P**	**17 44 51.0**	**0.0**	
VRI	**Vrincioaia**	**95.62**	**316**	⇑P	**P**	**17 44 51.2**	**-0.1**	
VRI	**Vrincioaia**	**95.62**	**316**	P	**P**	**17 44 51.1**	**-0.1**	
PLOR	**Plostina**	**95.68**	**316**	⇑P	**P**	**17 44 50.9**	**-0.7**	
PLOR	**Plostina**	**95.68**	**316**	P	**P**	**17 44 50.8**	**-0.7**	
PABE	**Paberze**	**95.73**	**326**	P	**P**	**17 44 50.4**	**-1.0**	
PABE				IAmb	IAmb	17 45 16.2		
	comp=Z,12nm,0.7s							
PABE	**Paberze**	**95.73**	**326**	*e*P	**P**	**17 44 51.8**	**+0.4**	
NEHR	**Nehoiu**	**95.99**	**316**	⇓P	**P**	**17 44 53.4**	**+0.5**	
MLR	**Muntele Rosu**	**96.22**	**316**	⇓P	**P**	**17 44 54.1**	**0.0**	
MLR	**Muntele Rosu**	**96.22**	**316**	P	**P**	**17 44 53.8**	**-0.3**	
	comp=Z,5.6nm,0.7s,baz=45,slow=1.7,SNR=9.1							
MLR	**Muntele Rosu**	**96.22**	**316**	P	**P**	**17 44 53.5**	**-0.6**	
MLR				IAmb	IAmb	17 45 04.7		
	comp=Z,13nm,1.0s							
BURAR	**Bucovina Array**	**96.39**	**318**	⇓P	**P**	**17 44 55.1**	**+0.4**	
BURAR	**Bucovina Array**	**96.39**	**318**	P	**P**	**17 44 55.1**	**+0.4**	
BURAR	**Bucovina Array**	**96.39**	**318**	P	**P**	**17 44 54.5**	**-0.2**	
BUR08	**Bucovina Ar. S**	**96.39**	**318**	P	**P**	**17 44 54.5**	**-0.3**	
SUW	**Suwalki**	**96.48**	**325**	P	**P**	**17 44 54.2**	**-0.7**	
SUW				pmax	pmax			
	comp=Z,29nm,1.0s							
SUW	**Suwalki**	**96.48**	**325**	P	**P**	**17 44 54.2**	**-0.7**	
SUW	**Suwalki**	**96.48**	**325**	*e*P	**P**	**17 44 54.1**	**-0.7**	
KWP	**Kalwaria Pacla**	**97.65**	**320**	P	**P**	**17 44 59.7**	**-0.6**	
KWP				pmax	pmax			
	comp=Z,223nm,1.5s							
KWP	**Kalwaria Pacla**	**97.65**	**320**	P	**P**	**17 44 59.7**	**-0.6**	
TRPA	**Tarpa**	**98.06**	**319**	P	**P**	**17 45 01.1**	**-1.0**	
UZH	**Uzhgorod**	**98.12**	**319**	*e*P	P	17 44 55.0	-7.4	
UZH				*i*		17 45 02.0		
UZH				*e*		17 45 06.4		
CRVS	**Cervenica-Dubn**	**98.60**	**320**	*e*P	Pdif	17 45 05.4	+0.8	
CRVS	**Cervenica-Dubn**	**98.60**	**320**	*e*PDIFF	Pdif	17 45 05.4	+0.8	
VTS	**Vitosha**	**98.62**	**313**	⇑P	**P**	**17 45 04.4**	**-0.6**	
VTS	**Vitosha**	**98.62**	**313**	P	**P**	**17 45 03.2**	**-1.8**	
VTS				pmax	pmax			
	comp=Z,7.0nm,1.2s							
VTS	**Vitosha**	**98.62**	**313**	P	**P**	**17 45 03.2**	**-1.8**	
VTS				IAmb	IAmb	17 45 05.5		
	comp=Z,7.3nm,1.2s							
LIT	**Litokhoron**	**99.62**	**311**	P	**Pdif**	**17 45 07.0**	**-2.4**	
LIT				pmax	pmax			
	comp=Z,8.0nm,0.9s							
LIT	**Litokhoron**	**99.62**	**311**	P	**Pdif**	**17 45 07.0**	**-2.4**	
LIT				IAmb	IAmb	17 45 08.5		
	comp=Z,8.5nm,0.9s							
PSZ	**Piszkesteto**	**99.84**	**319**	P	**Pdif**	**17 45 15.0**	**+4.8**	
PSZ	**Piszkesteto**	**99.84**	**319**	P	**Pdif**	**17 45 09.5**	**-0.7**	
NB2	**NORSAR Subarra1**	**100.54**	**333**	P	**Pdif**	**17 45 11.2**	**-1.8**	
	comp=Z,16nm,2.0s,baz=63,slow=5.3							
NOA	**NORSAR Array B**	**100.54**	**333**	P	**Pdif**	**17 45 11.6**	**-1.4**	
	comp=Z,1.4nm,0.8s,baz=68,slow=4.6,SNR=5.5							
BOSA	**Boshof**	**100.64**	**241**	P	**Pdif**	**17 45 14.0**	**-0.3**	
	comp=Z,2.6nm,1.0s,baz=157,slow=7.7,SNR=2.7							
BOSA	**Boshof**	**100.64**	**241**	P	**Pdif**	**17 45 14.0**	**-0.3**	
YKA	**Yellowknife Ar**	**101.50**	**25**	P	**Pdif**	**17 45 17.6**	**+0.5**	
	comp=Z,0.5nm,0.6s,baz=298,slow=4.3,SNR=7.6							
YKA				PKIKP	**PKiKP**	**17 49 41.9**	**+1.0**	
	comp=Z,0.6nm,0.6s,baz=293,slow=1.7,SNR=9.8							
YKA				PKKPbc	**PKKPbc**	**18 01 24.5**	**-3.0**	
	comp=Z,0.8nm,0.8s,baz=116,slow=2.6,SNR=11							
GERES	**GERESS Array B**	**103.56**	**321**	Pdiff	**Pdif**	**17 45 27.5**	**+0.7**	
	comp=Z,0.3nm,0.4s,baz=82,slow=7.0,SNR=1.6							
NVAR	**Mina Array Bea**	**108.48**	**49**	Pdiff	**Pdif**	**17 45 49.6**	**+0.6**	
	comp=Z,0.2nm,0.3s,baz=258,slow=0.8,SNR=2.5							
NVAR				PKiKP	**PKiKP**	**17 49 55.6**	**+0.9**	
	comp=Z,0.5nm,0.8s,baz=243,slow=0.6,SNR=2.0							
NVAR				PKKP	**PKKPab**	**18 01 19.0**	**+0.3**	
	comp=Z,1.2nm,0.8s,baz=122,slow=6.5,SNR=4.9							
PDAR	**Pinedale Array**	**113.08**	**42**	PKiKP	**PKiKP**	**17 50 03.8**	**+0.4**	
	comp=Z,0.4nm,0.5s,baz=227,slow=2.0,SNR=4.1							
PDAR				PKKPbc	**PKKPbc**	**18 00 49.5**	**-1.6**	
	comp=Z,0.6nm,0.6s,baz=116,slow=6.1,SNR=3.9							
PDAR				PKKP	**PKKPdf**	**18 01 10.2**	**-1.5**	
	comp=Z,0.9nm,0.8s,baz=120,slow=5.3,SNR=3.6							
RSSD	**Black Hills**	**115.98**	**38**	PKiKP	**PKiKP**	**17 50 08.5**	**-0.4**	
RSSD	**Black Hills**	**115.98**	**38**		**PKiKP**	**17 50 08.5**	**-0.4**	
ULM	**Lac du Bonnet**	**116.90**	**29**	PKP	**PKPdf**	**17 50 10.1**	**-0.1**	
	comp=Z,2.0nm,0.5s,baz=33,slow=6.8,SNR=4.1							
ESDC	**Sonseca Array**	**118.84**	**318**	PP	PP	17 51 38.9	+6.0	
	comp=Z,1.5nm,1.0s,baz=57,slow=9.4,SNR=4.1							
ECSD	**EROS Data Cent**	**120.64**	**35**		**PKPdf**	**17 50 17.0**	**-0.6**	
F36A	**Milaca**	**120.98**	**32**		**PKPdf**	**17 50 17.9**	**-0.2**	
SCHQ	**Schefferville**	**122.66**	**9**	PKP	**PKiKP**	**17 50 21.5**	**+0.2**	
	comp=Z,4.6nm,0.4s,baz=285,slow=2.1,SNR=19							
COWI	**Conover**	**123.03**	**29**		**PKiKP**	**17 50 22.4**	**+0.1**	
TXAR	**Lajitas Array**	**123.06**	**53**	PKP	**PKiKP**	**17 50 23.3**	**+0.4**	
	comp=Z,1.2nm,0.6s,baz=252,slow=0.1,SNR=19							
TXAR				PKKPbc	**PKKPbc**	**18 00 15.0**	**+0.5**	
	comp=Z,0.7nm,0.9s,baz=120,slow=5.3,SNR=5.2							
G40A	**Rib Lake**	**123.10**	**30**		**PKPdf**	**17 50 22.3**	**0.0**	
TOA0	**Torodi Ar. Sit**	**123.31**	**287**		**PKPdf**	**17 50 22.8**	**-0.7**	
TORD	**Torodi Ar. Bea**	**123.31**	**287**	PKP	**PKPdf**	**17 50 23.2**	**-0.2**	
	comp=Z,4.3nm,0.9s,baz=45,slow=1.7,SNR=14							
TORD				PP	**PP**	**17 52 07.2**	**+2.8**	
	comp=Z,4.1nm,1.1s,baz=51,slow=5.5,SNR=5.8							
TORD				PKKPbc	**PKKPab**	**18 00 13.7**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=267,slow=3.7,SNR=5.5							
TORD	**Torodi Ar. Bea**	**123.31**	**287**		**PKPdf**	**17 50 22.4**	**-1.0**	
L40A	**Anamosa**	**124.75**	**34**		**PKPdf**	**17 50 24.8**	**-0.7**	
USHA	**Ushuaia**	**125.59**	**169**	PKP	**PKiKP**	**17 50 28.1**	**+1.0**	
	comp=Z,13nm,0.7s,baz=212,slow=1.1,SNR=2.1							
S39A	**Bolivar**	**126.30**	**39**		**PKPdf**	**17 50 28.0**	**-0.6**	
R40A	**Maddies Statio**	**126.58**	**38**		**PKiKP**	**17 50 29.4**	**-0.2**	
L48A	**N Adams**	**128.38**	**29**		**PKPdf**	**17 50 32.7**	**+0.2**	
DBIC	**Dimbokro**	**130.73**	**280**	PKP	**PKiKP**	**17 50 38.7**	**+0.1**	
	comp=Z,2.8nm,0.9s,baz=42,slow=1.3,SNR=1.5							
PLAL	**Pickwick Lake**	**131.29**	**38**		**PKPdf**	**17 50 38.2**	**0.0**	
PLCA	**Paso Flores**	**138.14**	**161**	PKP	**PKiKP**	**17 50 52.0**	**-0.9**	
	comp=Z,6.5nm,0.8s,baz=171,slow=2.3,SNR=11							
PLCA	**Paso Flores**	**138.14**	**161**	*e*P	**PKPdf**	**17 50 50.5**	**-0.4**	
BO02	**Sierra Bellavi**	**143.30**	**156**		PKPbc	17 50 57.9	+0.5	
BO01	**Tunca**	**143.52**	**155**		PKPbc	17 50 58.5	+0.5	
MT01	**Popeta**	**143.90**	**155**		PKPab	17 50 58.6	+0.1	
BO04	**La Punta**	**144.06**	**155**		PKPbc	17 50 59.6	-0.1	
LMEL	**Las Melosas**	**144.35**	**156**		PKPbc	17 51 00.9	+0.1	
VA01	**Torpederas**	**144.44**	**153**		PKPbc	17 51 01.2	+0.4	
MT02	**Curacav**	**144.46**	**154**		PKPbc	17 51 01.1	+0.2	
PEL	**Peldehue**	**144.76**	**155**	PKIKP	**PKPab**	**17 51 01.6**	**-0.2**	
PEL	**Peldehue**	**144.76**	**155**		**PKPab**	**17 51 01.6**	**-0.2**	
ROC1	**El Roble**	**144.76**	**154**		**PKPab**	**17 51 00.5**	**-1.6**	
VA06	**Catapilco**	**144.98**	**153**		**PKPab**	**17 51 02.2**	**-0.3**	
CO01	**Juntas del Tor**	**147.71**	**152**		**PKPbc**	**17 51 11.0**	**-0.1**	
LCO	**Las Campanas**	**148.23**	**151**	PKP2	**PKPbc**	**17 51 12.8**	**+0.3**	
LCO	**Las Campanas**	**148.23**	**151**		**PKPbc**	**17 51 12.8**	**+0.3**	
SRBA	**San Rafael, Bu**	**148.37**	**70**		**PKPbc**	**17 51 13.7**	**+0.6**	
DRK0	**Durika**	**148.47**	**69**		**PKPdf**	**17 51 11.1**	**+1.3**	
GO03	**Copiap**	**149.63**	**150**		**PKPbc**	**17 51 14.8**	**-1.0**	
AC06	**Mina Casimiro**	**149.76**	**149**		**PKPbc**	**17 51 16.3**	**+0.2**	
PLTB	**Pedras Altas**	**150.03**	**180**		**PKPbc**	**17 51 16.4**	**-0.2**	
GO02	**Mina Guanaco**	**151.94**	**148**		**PKPdf**	**17 51 15.1**	**-0.1**	
LVC	**Limon Verde**	**154.34**	**146**	PKPbc	**PKiKP**	**17 51 28.8**	**+1.6**	
	comp=Z,4.2nm,0.6s,baz=164,slow=3.5,SNR=3.8							
CPUP	**Villa Florida**	**155.18**	**172**	PKP	**PKPdf**	**17 51 21.5**	**+2.2**	
	comp=Z,1.5nm,0.6s,baz=167,slow=4.0,SNR=2.3							
CPUP				PKPab	**PKPab**	**17 51 45.4**	**+1.4**	
	comp=Z,14nm,1.0s,baz=196,slow=4.3,SNR=6.1							
CPUP	**Villa Florida**	**155.18**	**172**		PKPdf	17 51 27.8	+8.4	
LPAZ	**La Paz**	**159.53**	**136**	PKP	**PKPdf**	**17 51 26.8**	**+0.9**	
	comp=Z,2.1nm,0.8s,baz=258,slow=1.2,SNR=8.0							
LPAZ				PKPab	**PKPab**	**17 52 04.8**	**+0.9**	
	comp=Z,4.1nm,1.0s,baz=169,slow=6.0,SNR=3.3							
LPAZ	**La Paz**	**159.53**	**136**	PKPdf	**PKPdf**	**17 51 27.3**	**+1.4**	
LPAZ	**La Paz**	**159.53**	**136**	*e*P	**PKPdf**	**17 51 26.5**	**+0.6**	
SIV	**San Ignacio**	**163.91**	**153**	PKP	**PKPdf**	**17 51 30.3**	**+0.6**	
	comp=Z,3.2nm,0.9s,baz=143,slow=3.3,SNR=11							
SIV				PKPab	**PKPab**	**17 52 23.0**	**+0.8**	
	comp=Z,7.9nm,0.6s,baz=219,slow=4.1,SNR=21							
BDFB	**Brasilia**	**165.06**	**201**	PKP	**PKPdf**	**17 51 30.8**	**0.0**	
	comp=Z,1.1nm,0.3s,baz=76,slow=8.3,SNR=1.8							
BDFB				PKPab	**PKPab**	**17 52 28.1**	**+0.8**	
	comp=Z,2.1nm,0.4s,baz=194,slow=8.4,SNR=3.3							
VILB	**Vilhena**	**166.95**	**150**	*e*P	**PKPdf**	**17 51 33.7**	**+1.5**	

*ISU **13** 17:36:23, 39°.55N×73°.22E, h0km, Hypocentre not reviewed by the ISC*
*KRNET **13** 17:36:27.0±0.1, 39°.74N×73°.27E, h16km, mb3.2*
*SOME **13** 17:36:32.8, 39°.92N×73°.37E, h5km*
*NNC **13** 17:36:32.9±2.6, 39°.88N×73°.46E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=20.7km s-min=9.5km az=175.0*

ISC 13 17:36:25.6±1.5, 39°.69N±0°.05×73°.35E±0°.03, h1km±11km, n59, σ2s42/94, 31C-14D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.93**	**333**	⇑*i*P		**Pb**	**17 36 43.6**	**-1.1**
	baz=35							
OHH				⇑*i*S		**Sg**	**17 36 55.4**	**-0.2**
	baz=35							
TSTA	**Tashata**	**1.11**	**323**	P			17 36 47.2	
TSTA				S			17 37 06.0	
DRK	**Karamyk**	**1.21**	**260**	⇑*i*P		**Pn**	**17 36 48.9**	**-1.1**
	baz=58							
DRK				⇑*i*S		**Sg**	**17 37 05.3**	**+0.7**
	baz=58							
SHAK	**Shakhimardan**	**1.26**	**282**	P			17 36 48.2	
SHAK				S			17 37 07.1	
ANR	**Andizhan**	**1.30**	**325**	P			17 36 51.4	
ANR				S			17 37 12.9	
FRG	**Fergana**	**1.38**	**300**	P			17 36 51.1	
FRG				S			17 37 12.7	
CHMI	**Chimion**	**1.51**	**293**	P			17 36 53.3	
CHMI				S			17 37 16.5	
MINT	**Mingtut**	**1.98**	**294**	P			17 37 01.8	
MINT				S			17 37 31.0	
BTK	**Batken**	**1.98**	**281**	⇑*i*P		**Pb**	**17 37 02.3**	**-0.2**
	baz=80							
BTK				⇑*i*S		**Sg**	**17 37 28.1**	**-1.1**
	baz=80							
ARK	**Arkit**	**2.35**	**334**	⇑*i*P		**Pb**	**17 37 07.5**	**-1.3**
	baz=35							
ARK				⇑*i*S		**Sb**	**17 37 37.0**	**-1.4**
	baz=35							
AML	**Almayashu**	**2.45**	**6**	P		**Pb**	**17 37 09.3**	**-1.4**
	SNR=32							
TRKS	**Terek-Say**	**2.49**	**318**	⇓*i*P		**Pb**	**17 37 08.3**	**-2.9**
	baz=18							
TRKS				⇓*i*S		**Sb**	**17 37 38.8**	**-3.6**
	baz=18							
UCH	**Uchtor**	**2.68**	**19**	P		**Pb**	**17 37 13.7**	**-1.0**
	SNR=39							
UCH	**Uchtor**	**2.68**	**19**	⇑*i*P		**Pb**	**17 37 12.8**	**-1.9**
	baz=20							
UCH				⇑*i*S		**Sb**	**17 37 46.2**	**-2.1**
	baz=20							
EKS2	**Erkin-Say**	**2.98**	**6**	P		**Pb**	**17 37 17.0**	**-2.6**
	SNR=8.8							
EKS2	**Erkin-Say**	**2.98**	**6**	⇓*i*P		**Pb**	**17 37 16.6**	**-3.0**
	baz=7.0							
EKS2				⇓*i*S		**Sb**	**17 37 53.0**	**-3.6**
	baz=7.0							
MRKS	**Merke**	**3.05**	**358**	*e*P		**Pg**	**17 37 25.1**	**+1.1**
	13nm,0.0s							
MRKS				*e*S		**Sg**	**17 38 02.2**	**-1.4**
	27nm,0.3s							
AAK	**Ala-Archa**	**3.07**	**16**	P		**Pb**	**17 37 18.0**	**-3.0**
	SNR=20							
AAK	**Ala-Archa**	**3.07**	**16**	⇑*i*P		**Pb**	**17 37 18.1**	**-3.0**
	baz=17							
AAK				⇑*i*S		**Sb**	**17 37 55.3**	**-3.8**
	baz=17							
KBK	**Karagaybulak**	**3.20**	**22**	P		**Pb**	**17 37 21.5**	**-1.8**
	SNR=9.1							
KBK	**Karagaybulak**	**3.20**	**22**	⇑*i*P		**Pb**	**17 37 20.1**	**-3.2**
	baz=23							
KBK				⇑*i*S		**Sb**	**17 37 58.6**	**-4.2**
	baz=23							
FRU1	**Bishkek**	**3.26**	**17**	⇑*i*P		**Pb**	**17 37 21.0**	**-3.3**
	baz=18							
FRU1				⇑*i*S		**Sb**	**17 38 00.4**	**-4.2**
	baz=18							
BOOM	**Boomskoye usch**	**3.41**	**34**	⇑*i*P		**Pn**	**17 37 23.1**	**+3.0**
	baz=35							
BOOM				⇑*i*S		**Sb**	**17 38 04.4**	**-4.6**
	baz=35							
CHMS	**Chumysh**	**3.47**	**17**	P		**Pn**	**17 37 23.2**	**+2.5**
	SNR=6.2							
CHMS	**Chumysh**	**3.47**	**17**	⇑*i*P		**Pn**	**17 37 23.5**	**+2.7**
	baz=18							
CHMS				⇑*i*S		**Sb**	**17 38 05.0**	**-5.5**
	baz=18							
CHMS	**Chumysh**	**3.47**	**17**	⇓Pn		**Pn**	**17 37 22.8**	**+2.1**
	3.8nm,0.5s							
CHMS				⇑Lg		Lg	17 38 14.8	
	11nm,0.7s							
IUG	**luzhnay**	**3.51**	**315**	*e*P		**Pg**	**17 37 36.5**	**+3.7**
	318nm,0.4s							
IUG				*e*S		**Sg**	**17 38 21.9**	**+3.6**
	30nm,0.6s							
IUG	**luzhnay**	**3.51**	**315**	Pg		**Pg**	**17 37 36.5**	**+3.7**
	318nm,0.4s							
IUG				Lg		Lg	17 38 21.9	
	30nm,0.6s							
DZA	**Taraz**	**3.54**	**335**	*e*P		**Pg**	**17 37 36.7**	**+3.4**
	26nm,0.0s							
DZA				*e*S		**Sg**	**17 38 21.9**	**+2.7**
	56nm,0.1s							
DZA	**Taraz**	**3.54**	**335**	Pg		**Pg**	**17 37 36.7**	**+3.4**
	26nm,0.0s							
DZA				Lg		Lg	17 38 21.9	
	56nm,0.1s							
TKM2	**Tokmak 2**	**3.64**	**27**	⇓*i*P		**Pn**	**17 37 26.3**	**+3.0**
	baz=28							
TKM2				⇓*i*S		**Sn**	**17 38 09.5**	**+2.4**
	baz=28							
TKM2	**Tokmak 2**	**3.64**	**27**	⇑Pn		**Pn**	**17 37 26.5**	**+3.1**
	2.3nm,0.7s							
TKM2				⇑Pg		**Pg**	**17 37 33.7**	**-1.6**
	4.3nm,0.6s							
TKM2				⇑Lg		Lg	17 38 21.7	
	16nm,1.2s							
USP	**Ospenovka**	**3.67**	**13**	⇓*e*P		**Pn**	**17 37 26.4**	**+2.8**
	baz=14							
USP				⇓*i*S		**Sn**	**17 38 10.0**	**+2.4**
	baz=14							
KDJ	**Kajisay**	**3.79**	**49**	⇑*i*P		**Pn**	**17 37 28.7**	**+3.4**
	baz=50							
KDJ				⇑*i*S		**Sn**	**17 38 14.0**	**+3.3**
	baz=50							
SGDS	**Sogindy**	**3.88**	**14**	*e*P		**Pg**	**17 37 41.7**	**+1.8**
	3.7nm,0.4s							
SGDS				*e*S		**Sg**	**17 38 30.8**	**+0.7**
	6.2nm,0.2s							
SGDS	**Sogindy**	**3.88**	**14**	Pg		**Pg**	**17 37 41.7**	**+1.8**
	3.7nm,0.4s							
SGDS				Lg		Lg	17 38 30.8	
	6.2nm,0.2s							
KST	**Kastek**	**3.88**	**30**	*e*P		**Pg**	**17 37 42.6**	**+2.6**
	2.2nm,0.6s							
KST				*e*S		**Sg**	**17 38 32.3**	**+2.0**
	20nm,0.5s							
KST	**Kastek**	**3.88**	**30**	Pg		**Pg**	**17 37 42.6**	**+2.6**
	2.2nm,0.6s							
KST				Lg		Lg	17 38 32.3	
	20nm,0.5s							
DGS	**Degeres**	**3.99**	**26**	*e*P		**Pg**	**17 37 44.4**	**+2.4**
	17nm,0.6s							
DGS				*e*S		**Sg**	**17 38 35.5**	**+1.9**
	15nm,1.0s							
DGS	**Degeres**	**3.99**	**26**	Pg		**Pg**	**17 37 44.4**	**+2.4**
	17nm,0.6s							
DGS				Lg		Lg	17 38 35.5	
	15nm,1.0s							
KK31	**Karatay Array**	**4.02**	**329**	⇓Pn		Pb	17 37 31.8	-5.4
	1.1nm,0.6s,baz=138,slow=13,SNR=20							
KK31				⇑Pg		**Pg**	**17 37 41.3**	**-1.3**
	1.6nm,0.4s,baz=137,slow=14,SNR=17							
KK31				⇑Sn		**Sb**	**17 38 22.3**	**-4.0**
	3.8nm,0.5s,baz=37,slow=76,SNR=4.1							
KK31				⇑Lg		Lg	17 38 38.7	
	4.2nm,0.5s,baz=135,slow=30							
MTBS	**Maitube**	**4.14**	**33**	*e*P		**Pg**	**17 37 47.3**	**+2.4**
	2.5nm,0.3s							
MTBS				*e*S		**Sg**	**17 38 39.9**	**+1.3**
	9.8nm,0.4s							
MTBS	**Maitube**	**4.14**	**33**	Pg		**Pg**	**17 37 47.3**	**+2.4**
	2.5nm,0.3s							
MTBS				Lg		Lg	17 38 39.9	
	9.8nm,0.4s							
BRLS	**Borolday**	**4.25**	**323**	*e*P		**Pg**	**17 37 46.4**	**-0.7**
	3.4nm,0.2s							
BRLS				*e*S		**Sg**	**17 38 38.7**	**-3.5**
	5.8nm,0.6s							
BRLS	**Borolday**	**4.25**	**323**	Pg		**Pg**	**17 37 46.3**	**-0.7**
	3.4nm,0.2s							
BRLS				Lg		Lg	17 38 38.7	
	5.8nm,0.6s							
TNSS	**Tian-Shan**	**4.30**	**38**	*e*P		**Pg**	**17 37 50.1**	**+2.1**
	2.1nm,0.2s							
TNSS				*e*S		**Sg**	**17 38 45.0**	**+1.2**
	4.8nm,0.8s							
TNSS	**Tian-Shan**	**4.30**	**38**	Pg		**Pg**	**17 37 50.1**	**+2.1**
	2.1nm,0.2s							
TNSS				Lg		Lg	17 38 45.0	
	4.8nm,0.8s							
KRBS	**Karabastau**	**4.36**	**23**	*e*P		**Pg**	**17 37 51.3**	**+2.1**
	5.7nm,0.3s							
KRBS				*e*S		**Sg**	**17 38 47.0**	**+1.3**
	8.0nm,0.6s							
KRBS	**Karabastau**	**4.36**	**23**	Pg		**Pg**	**17 37 51.3**	**+2.1**
	5.7nm,0.3s							
KRBS				Lg		Lg	17 38 47.0	
	8.0nm,0.6s							
MDOK	**Medeo**	**4.45**	**38**	*e*P		**Pg**	**17 37 52.0**	**+1.2**
	1.7nm,0.5s							
MDOK				*e*S		**Sg**	**17 38 48.1**	**-0.3**
	8.5nm,1.0s							
MDOK	**Medeo**	**4.45**	**38**	⇑Pg		**Pg**	**17 37 48.5**	**-2.3**
	6.2nm,0.9s							
MDOK				⇓Lg		Lg	17 38 46.5	
	18nm,1.2s							
MDOK	**Medeo**	**4.45**	**38

JNU	**Nakatsue**	**8.16**	**30**	P		**Pn**	**17 46 40.7**	**+2.4**
	0.3nm,0.3s,baz=187,slow=2.5,SNR=4.5							
KSRS	**Korea Array**	**11.44**	**7**	P		**Pn**	**17 47 23.8**	**+0.9**
	0.0nm,0.3s,baz=188,slow=13,SNR=4.8							
MDJ	**Mudanjiang**	**18.71**	**8**	P		**P**	**17 48 55.4**	**+0.3**
MDJ				IAmb	IAmb		17 49 06.5	
	comp=Z,10nm,1.1s							
KLR	**Kul'dur**	**23.53**	**9**	P		**P**	**17 49 46.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=212,slow=10,SNR=4.3							
TOLI2	**Tolitoli**	**25.35**	**192**	P		**P**	**17 50 01.0**	**-1.8**
TOLI2				IAmb	IAmb		17 50 17.6	
	comp=Z,7.3nm,1.1s							
ULN	**Ulaanbaatar**	**26.39**	**330**			**P**	**17 50 12.0**	**-0.2**
ULN				IAmb	IAmb		17 50 20.6	
	comp=Z,15nm,1.5s							
SONM	**Songino Array**	**26.66**	**330**	P		**P**	**17 50 16.1**	**+1.5**
	comp=Z,3.2nm,1.1s,baz=150,slow=10,SNR=8.6							
SONM	**Songino Array**	**26.66**	**330**	P		**P**	**17 50 15.3**	**+0.7**
SBUM	**Sibu**	**27.01**	**212**	P		**P**	**17 50 16.6**	**-1.2**
SBUM				IAmb	IAmb		17 50 30.9	
	comp=Z,8.6nm,0.8s							
MK31	**Makanchi Array**	**40.19**	**313**	P		**P**	**17 52 11.9**	**+0.2**
MK31				IAmb	IAmb		17 52 13.1	
	comp=Z,3.5nm,1.1s							
MKAR	**Makanchi Array**	**40.19**	**313**	P		**P**	**17 52 12.9**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=98,slow=10,SNR=12							
ZAA0	**Zalesovo Array**	**41.20**	**324**	P		**P**	**17 52 18.7**	**-1.2**
ZAA0				IAmb	IAmb		17 52 27.9	
	comp=Z,1.9nm,0.7s							
ZALV	**Zalesovo Beam**	**41.20**	**324**	P		**P**	**17 52 20.5**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=111,slow=8.1,SNR=6.3							
KURK	**Kurchatov**	**43.60**	**317**	P		**P**	**17 52 38.5**	**-0.9**
KURK				IAmb	IAmb		17 52 41.1	
	comp=Z,6.8nm,1.4s							
KURBB	**Kurchatov Arra**	**43.63**	**317**	P		**P**	**17 52 40.5**	**+0.8**
	comp=Z,1.0nm,0.2s,baz=108,slow=8.6,SNR=5.9							
TIXI	**Tiksi**	**45.63**	**1**	LR		LR	18 13 50.4	
	comp=Z,298nm,21.6s,baz=181,slow=39							
WRA	**Warramunga Arr**	**46.45**	**169**	P			17 53 07.9	+5.6
	comp=Z,1.4nm,0.9s,baz=352,slow=8.5,SNR=6.0							
WRA	**Warramunga Arr**	**46.45**	**169**	P		**P**	**17 53 00.4**	**-1.9**
ASAR	**Alice Springs**	**50.04**	**171**	P		P	17 53 35.9	+6.0
	comp=Z,0.7nm,0.7s,baz=354,slow=7.3,SNR=7.2							
ABKAR	**Akbulak array**	**55.33**	**313**	P		**P**	**17 54 08.6**	**-0.2**
ABKAR	**Akbulak array**	**55.33**	**313**	P		**P**	**17 54 08.3**	**-0.4**
ABKAR				IAmb	IAmb		17 54 32.8	
	comp=Z,1.4nm,1.0s							
OUENC	**Ouen Island, N**	**62.33**	**137**	P		**P**	**17 54 56.6**	**-0.9**
SML	**Sawmill**	**65.31**	**31**	P		**P**	**17 55 13.8**	**-3.0**
SML				IAmb	IAmb		17 55 29.5	
	comp=Z,11nm,1.1s							
KNK	**Knik Glacier**	**65.32**	**32**	P		**P**	**17 55 13.9**	**-2.8**
KNK				IAmb	IAmb		17 55 22.2	
	comp=Z,8.3nm,0.7s							
SCM	**Sheep Creek Mo**	**65.78**	**31**	P		**P**	**17 55 18.4**	**-1.3**
FID	**Port Fidalgo**	**66.39**	**32**	P		**P**	**17 55 22.9**	**-0.6**
NOA	**NORSAR Array B**	**78.58**	**333**	LR		LR	18 35 32.6	
	comp=Z,140nm,19.2s,baz=60,slow=39							
YKA	**Yellowknife Ar**	**79.47**	**24**	P		**P**	**17 56 42.4**	**+1.6**
	comp=Z,1.1nm,1.0s,baz=306,slow=5.5,SNR=7.5							

JMA ***13*** *17:48:03.0±0.5, 22.93N×121.66E, h0km, M3.5*
TAP ***13*** *17:48:03.6, 22.73N×121.54E, h21km, ML3.5, C*
ISC 13 17:48:02.1±0.9, 22.74N±0.02×121.62E±0.02, h17km±7km, n111, σ0.99/173, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LDUT	**Ludao**	**0.15**	**246**	P		**Pb**	**17 48 07.8**	**+1.3**
	baz=228							
LDUT				S		**Sg**	**17 48 10.7**	**+1.5**
	baz=228							
EDH	**Donghe**	**0.38**	**309**	P		**Pb**	**17 48 10.5**	**+0.1**
	baz=319							
EDH				eS		**Sg**	**17 48 15.0**	**-0.2**
	baz=319							
CHKT	**Chengkung**	**0.43**	**327**	eP		**Pb**	**17 48 11.1**	**-0.2**
	baz=344							
CHKT				eS		**Sg**	**17 48 16.8**	**-0.1**
	baz=344							
TTN	**Taitung**	**0.44**	**272**	P		**Pg**	**17 48 11.3**	**+0.3**
	baz=274							
TTN				S		**Sg**	**17 48 17.1**	**0.0**
	baz=274							
LONT	**Longtian**	**0.49**	**291**	eP		**Pb**	**17 48 12.7**	**+0.4**
	baz=295							
LONT				eS		**Sb**	**17 48 19.4**	**+0.3**
	baz=295							
TWGBT	**Beinan**	**0.51**	**279**	eP		**Pb**	**17 48 12.7**	**+0.1**
	baz=288							
TWGBT				S		**Sg**	**17 48 18.9**	**-0.3**
	baz=288							
TWG	**Pinlang**	**0.52**	**280**	P		**Pg**	**17 48 12.6**	**+0.2**
	baz=288							
TWG				eS		**Sg**	**17 48 18.9**	**-0.5**
	baz=288							
ECS	**Chishang**	**0.52**	**314**	P		**Pb**	**17 48 13.2**	**+0.4**
	baz=321							
ECS				S		**Sb**	**17 48 20.7**	**+0.7**
	baz=321							
FULB	**Fuli**	**0.55**	**327**	P		**Pb**	**17 48 13.6**	**+0.2**
	baz=335							
FULB				eS		**Sg**	**17 48 20.3**	**-0.3**
	baz=335							
ECBN	**Changbin**	**0.60**	**345**	P		**Pb**	**17 48 14.4**	**+0.2**
	baz=360							
ECBN				S		**Sb**	**17 48 22.2**	**-0.1**
	baz=360							
ECL	**Taimali**	**0.63**	**258**	P		**Pg**	**17 48 14.0**	**-0.6**
	baz=256							
EYUL	**Yuli**	**0.67**	**335**	eP		**Pb**	**17 48 15.4**	**0.0**
	baz=342							
EYUL				S		**Sb**	**17 48 24.8**	**+0.4**
	baz=342							
TWF1	**Yuli**	**0.68**	**334**	P		**Pb**	**17 48 15.6**	**0.0**
	baz=341							
TWF1				eS		**Sg**	**17 48 24.5**	**-0.2**
	baz=341							
ELDTW	**Lidau**	**0.72**	**309**	eP		**Pg**	**17 48 15.2**	**-1.0**
	baz=323							
YULB	**Yu-li**	**0.72**	**335**	P		**Pb**	**17 48 16.2**	**0.0**
	baz=326							
LYUB	**Lan-yu**	**0.73**	**183**	P		**Pg**	**17 48 15.9**	**-0.6**
	baz=176							
LYUB				eS		**Sg**	**17 48 24.5**	**-1.7**
	baz=176							
TAW	**Tawu**	**0.77**	**241**	P		**Pg**	**17 48 16.4**	**-0.7**
	baz=251							
TAW				eS		**Sg**	**17 48 25.6**	**-1.8**
	baz=251							
HGSD	**Ruisui**	**0.78**	**346**	eP		**Pg**	**17 48 16.7**	**-0.6**
	baz=2.0							
HGSD				eS		**Sg**	**17 48 26.3**	**-1.3**
	baz=2.0							
TAWH	**Dawu Township**	**0.79**	**240**	P		**Pg**	**17 48 16.7**	**-0.8**
	baz=250							
TAWH				eS		**Sg**	**17 48 26.2**	**-1.7**
	baz=250							
EAST	**Anshuo**	**0.80**	**244**	P		**Pg**	**17 48 16.8**	**-0.9**
	baz=241							
EHY	**Hungye**	**0.81**	**340**	eP		**Pg**	**17 48 17.7**	**-0.3**
	baz=352							
EHY				eS		**Sg**	**17 48 28.6**	**-0.3**
	baz=352							
STYH	**Taoyuan**	**0.89**	**299**	P		**Pg**	**17 48 18.6**	**-1.0**
	baz=308							
TSMG	**Majia**	**0.90**	**268**	P		**Pg**	**17 48 18.2**	**-1.5**
	baz=269							
SSD	**Sandimen**	**0.92**	**271**	P		**Pg**	**17 48 18.3**	**-1.6**
	baz=264							
SLIU	**Shizi**	**0.92**	**236**	eP		**Pg**	**17 48 18.7**	**-1.4**
	baz=233							
MASBT	**Mashibuluo**	**0.92**	**263**	P		**Pg**	**17 48 18.8**	**-1.3**
	baz=257							
MASBT				eS		**Sg**	**17 48 28.8**	**-3.5**
	baz=257							
EGFH	**Guangfu**	**0.95**	**349**	P		**Pg**	**17 48 19.8**	**-0.7**
SSPT	**Xinbi**	**1.01**	**256**	eP		**Pb**	**17 48 20.8**	**-0.3**
	baz=255							
SGST	**Jiashian**	**1.02**	**290**	eP		**Pb**	**17 48 20.6**	**-0.8**
	baz=297							
SCST	**Cishan**	**1.05**	**278**	eP		**Pb**	**17 48 22.0**	**+0.1**
	baz=275							
WTP	**Ta-pu**	**1.06**	**299**	eP		**Pb**	**17 48 22.2**	**+0.1**
	baz=306							
WTP				eS		**Sb**	**17 48 35.8**	**+0.2**
	baz=306							
TPUB	**Ta-pu**	**1.07**	**302**	eP		**Pb**	**17 48 22.3**	**0.0**
	baz=305							
TPUB				eS		**Sb**	**17 48 36.2**	**+0.2**
	baz=305							
ALS	**Alishan**	**1.08**	**316**	eP		**Pb**	**17 48 22.3**	**-0.2**
	baz=320							
ESL	**Shilin**	**1.09**	**351**	eP		**Pb**	**17 48 21.7**	**-0.8**
	baz=341							
ESL				eS		**Sb**	**17 48 34.8**	**-1.6**
	baz=341							
TWKBT	**Hengchun**	**1.09**	**224**	eP		**Pb**	**17 48 22.4**	**-0.1**
	baz=220							
CHN1	**Nanshi**	**1.10**	**294**	eP		**Pb**	**17 48 23.2**	**+0.4**
	baz=299							
CHN1				eS		**Sb**	**17 48 37.5**	**+0.6**
	baz=299							
VWDT	**VWDT**	**1.11**	**336**	eP		**Pb**	**17 48 22.7**	**-0.1**
	baz=350							
VWDT				eS		**Sb**	**17 48 36.5**	**-0.5**
	baz=350							
CHN4	**Tsaushan**	**1.13**	**303**	P		**Pb**	**17 48 23.5**	**+0.3**
	baz=306							
CHN4				eS		**Sb**	**17 48 38.0**	**+0.4**
	baz=306							
SNST	**Tainan City**	**1.14**	**295**	eP		**Pb**	**17 48 23.8**	**+0.3**
	baz=298							
TWK	**Hsinying**	**1.17**	**297**	eP		**Pn**	**17 48 24.0**	**+0.2**
	baz=300							
CHN3	**Shinhua**	**1.21**	**287**	eP		**Pg**	**17 48 26.3**	**+0.8**
	baz=288							
CHN3				eS		**Sg**	**17 48 44.1**	**+2.8**
	baz=288							
SHHT	**Tainan City**	**1.21**	**284**	eP		**Pg**	**17 48 26.7**	**+1.1**
	baz=285							
SSLB	**Suanglung**	**1.21**	**330**	eP		**Pn**	**17 48 24.6**	**+0.2**
	baz=343							
CHN5	**Tsauling**	**1.22**	**315**	eP		**Pg**	**17 48 25.4**	**-0.4**
	baz=318							
CHN5				eS		**Sg**	**17 48 41.6**	**-0.2**
	baz=318							
OWD	**Renai**	**1.28**	**341**	eP		**Pn**	**17 48 25.1**	**-0.3**
	baz=345							
OWD				eS		**Sb**	**17 48 39.9**	**-2.3**
	baz=345							
CHN2	**Minshiung**	**1.32**	**307**	eP		**Pg**	**17 48 27.6**	**-0.1**
	baz=310							
CHN2				eS		**Sg**	**17 48 44.8**	**-0.1**
	baz=310							
SMLT	**Sun Moon Lake**	**1.32**	**330**	eP		**Pb**	**17 48 26.7**	**+0.1**
	baz=342							
WUSB	**Renai**	**1.33**	**340**	eP		**Pn**	**17 48 26.3**	**+0.2**
	baz=343							
WUSB				eS		**Sb**	**17 48 42.0**	**-1.6**
	baz=343							
TWD	**Chiawan**	**1.34**	**359**	eP		**Pn**	**17 48 25.5**	**-0.5**
	baz=14							
CHY	**Chiayi**	**1.34**	**305**	eP		**Pb**	**17 48 27.4**	**+0.6**
	baz=307							
CHY				eS		**Sn**	**17 48 44.9**	**+1.4**
	baz=307							
TYC	**Yuchr**	**1.36**	**329**	eP		**Pg**	**17 48 27.9**	**-0.5**
	baz=346							
TYC				eS		**Sb**	**17 48 45.3**	**+1.1**
	baz=346							
WJS	**Zhushan**	**1.36**	**323**	eP		**Pg**	**17 48 28.0**	**-0.4**
	baz=341							
WJS				eS		**Sb**	**17 48 45.1**	**+0.8**
	baz=341							
WDLH	**Douliu**	**1.38**	**314**	eP		**Pg**	**17 48 28.2**	**-0.5**
	baz=316							
WDLH				eS		**Sg**	**17 48 46.8**	**+0.1**
	baz=316							
CHGB	**Renai**	**1.38**	**343**	eP		**Pn**	**17 48 27.0**	**+0.1**
	baz=357							
ICHU	**Yijhu**	**1.39**	**297**	eP		**Pb**	**17 48 28.1**	**+0.6**
	baz=299							
ICHU				eS		**Sn**	**17 48 45.5**	**+0.9**
	baz=299							
SCLT	**Jiali**	**1.39**	**289**	eS		**Sg**	**17 48 47.0**	**0.0**
	baz=291							
NACB	**Ninganchiao**	**1.43**	**359**	eP		**Pn**	**17 48 26.7**	**-0.6**
	baz=13							
NACB				eS		**Sn**	**17 48 43.7**	**-2.0**
	baz=13							
CHN8	**Yiju**	**1.44**	**295**	eP		**Pb**	**17 48 28.6**	**+0.2**
	baz=298							
CHN8				eS		**Sb**	**17 48 47.2**	**+0.8**
	baz=298							
WHF	**Hehuan Shan**	**1.44**	**347**	eP		**Pn**	**17 48 27.7**	**-0.2**
	baz=351							
WHF				eS		**Sn**	**17 48 45.1**	**-1.4**
	baz=351							
WCS	**Beigang Elemen**	**1.47**	**334**	eP		**Pb**	**17 48 29.2**	**+0.2**
	baz=349							
WCS				eS		**Sn**	**17 48 47.1**	**+0.5**
	baz=349							
ETLH	**Xiulin Townshi**	**1.47**	**355**	eP		**Pn**	**17 48 27.4**	**-0.6**
	baz=358							
WTK	**Tuku**	**1.48**	**310**	eP		**Pb**	**17 48 29.2**	**0.0**
	baz=313							
WTK				eS		**Sb**	**17 48 48.5**	**+0.9**
	baz=313							
WSL	**Shuilin Townsh**	**1.50**	**302**	eP		**Pn**	**17 48 29.3**	**+1.0**
	baz=304							
WSL				eS		**Sn**	**17 48 48.6**	**+1.1**
	baz=304							
FUSS	**Fushou**	**1.54**	**347**	eP		**Pn**	**17 48 28.0**	**-1.1**
	baz=360							
TWT	**Tachien**	**1.56**	**345**	eP		**Pn**	**17 48 30.2**	**+0.9**
	baz=348							
TWT				eS		**Sn**	**17 48 49.6**	**+0.3**
	baz=348							
WSF	**Szhu**	**1.57**	**305**	eP		**Pn**	**17 48 30.0**	**+0.8**
	baz=308							
WSF				eS		**Sn**	**17 48 49.8**	**+0.6**
	baz=308							
WRL	**Guolierlin Hig**	**1.63**	**316**	eP		**Pn**	**17 48 31.1**	**+1.1**
	baz=318							
WRL				eS		**Sn**	**17 48 51.7**	**+1.1**
	baz=318							
TCU	**Taichung**	**1.65**	**328**	eP		**Pg**	**17 48 33.2**	**-0.8**
	baz=332							
TCU				eS		**Sb**	**17 48 54.0**	**+1.3**
	baz=332							
WHP	**Taichung City**	**1.66**	**338**	eP		**Pb**	**17 48 33.0**	**+0.8**
	baz=347							
WHP				eS		**Sg**	**17 48 55.0**	**-0.6**
	baz=347							
ENA	**Nanau**	**1.69**	**4**	eP		**Pn**	**17 48 30.8**	**0.0**
	baz=7.0							
NNSB	**Datong**	**1.70**	**353**	eP		**Pn**	**17 48 31.7**	**+0.6**
	baz=8.0							
EWUT	**Wuta**	**1.71**	**5**	eP		**Pn**	**17 48 30.7**	**-0.5**
	baz=8.0							
NNS	**Nan Shan**	**1.71**	**352**	eP		**Pb**	**17 48 32.5**	**-0.7**
	baz=8.0							
TWQ1	**Liyutan**	**1.78**	**334**	eP		**Pb**	**17 48 34.9**	**+0.5**
	baz=337							
TWQ1				eS		**Sb**	**17 48 57.5**	**+1.1**
	baz=337							
LATG	**Datong**	**1.79**	**357**	eP		**Pn**	**17 48 32.9**	**+0.5**
	baz=360							
WDJ	**Dajia District**	**1.84**	**331**	eP		**Pb**	**17 48 35.4**	**+0.1**
	baz=334							
WDJ				eS		**Sb**	**17 48 59.4**	**+1.3**
	baz=334							
NSY	**Sanyi**	**1.85**	**335**	eP		**Pb**	**17 48 36.1**	**+0.6**
	baz=338							
NSY				eS		**Sb**	**17 48 59.1**	**+0.7**
	baz=338							
NDT	**Datong Townshi**	**1.86**	**357**	eP		**Pn**	**17 48 34.0**	**+0.7**
	baz=10.0							
WDGT	**Dungji**	**1.88**	**286**	eP		**Pn**	**17 48 33.9**	**+0.4**
	baz=288							
ENTT	**Nioudou**	**1.90**	**358**	eP		**Pn**	**17 48 34.5**	**+0.8**
	baz=1.0							
YHNB	**Yeheng**	**1.94**	**353**	eP		**Pn**	**17 48 35.5**	**+1.2**
	baz=7.0							
YHNB				eS		**Sn**	**17 48 58.4**	**+0.1**
	baz=7.0							
NFF	**Wufeng Townshi**	**1.94**	**346**	eP		**Pb**	**17 48 37.2**	**+0.1**
	baz=358							
NSK	**Sanguang**	**1.95**	**353**	eP		**Pn**	**17 48 35.8**	**+1.3**
	baz=7.0							
NSK				eS		**Sn**	**17 48 58.8**	**+0.2**
	baz=7.0							
NMLH	**Miaoli**	**1.95**	**337**	eP		**Pb**	**17 48 36.5**	**-0.7**
	baz=340							
NMLH				eS		**Sn**	**17 49 00.0**	**+1.5**
	baz=340							
NSTT	**Nanjuang**	**1.97**	**343**	eP		**Pb**	**17 48 36.4**	**-1.1**
	baz=346							
NSTT				eS		**Sb**	**17 49 01.0**	**-0.9**
	baz=346							
TWE	**Neicheng**	**1.98**	**1**	eP		**Pb**	**17 48 36.4**	**-1.2**
	baz=4.0							
LIOB	**Emei**	**1.98**	**344**	eP		**Pb**	**17 48 36.8**	**-1.0**
	baz=346							
FUSB	**Fushanzhiwuyua**	**2.02**	**359**	eP		**Pn**	**17 48 36.5**	**+1.1**
	baz=1.0							
PHUB	**P'eng-hu**	**2.04**	**293**	eS		**Sn**	**17 48 58.8**	**-2.0**
	baz=294							
PNG	**Penghu**	**2.08**	**294**	eP		**Pn**	**17 48 36.4**	**+0.3**
	baz=296							
PNG				eS		**Sn**	**17 49 00.1**	**-1.5**
	baz=296							
YOJ	**Yonaguni jima**	**2.14**	**36**	P		**Pb**	**17 48 39.2**	**-1.2**
YOJ				eS		**Sn**	**17 49 04.4**	**+1.2**
TIPB	**Shuangxi**	**2.23**	**5**	eP		**Pn**	**17 48 40.1**	**+1.7**
	baz=355							
NWF	**Wu-fen Shan**	**2.33**	**4**	eP		**Pn**	**17 48 41.5**	**+1.8**
	baz=6.0							
SXI1	**Grass Mountain**	**2.36**	**6**	eP		**Pn**	**17 48 41.7**	**+1.5**
	baz=357							
SXI1				eS		**Sn**	**17 49 10.7**	**+1.9**
	baz=357							
HATJ	**Hateruma jima**	**2.40**	**56**	P		**Pn**	**17 48 41.8**	**+1.2**
HATJ				eS		**Sn**	**17 49 09.6**	**0.0**
YM01	**YM01**	**2.40**	**359**	eP		**Pb**	**17 48 43.1**	**-1.8**
	baz=1.0							
IRIF	**Iriomote-Funau**	**2.50**	**50**	P		**Pn**	**17 48 44.1**	**+2.0**
IRIF				eS		**Sn**	**17 49 13.8**	**+1.6**
JKRS	**Kuro-shima**	**2.65**	**55**	P		**Pn**	**17 48 45.9**	**+1.8**
JKRS				S		**Sn**	**17 49 16.2**	**+0.3**
JIJ	**Ishigaki jima**	**2.82**	**54**	P		**Pn**	**17 48 48.6**	**+2.1**
JIJ				S		**Sn**	**17 49 20.3**	**+0.2**
VWUC	**VWUC**	**3.00**	**319**	eP		**Pn**	**17 48 48.9**	**0.0**
	baz=320							
JISG	**Ishigakijimahi**	**3.08**	**53**	P		**Pn**	**17 48 51.3**	**+1.4**
JISG				S		**Sn**	**17 49 27.3**	**+0.9**
JTJ	**Tarama**	**3.40**	**55**	P		**Pn**	**17 48 56.6**	**+2.2**
JTJ				S		**Sn**	**17 49 34.6**	**+0.3**
KNMB	**Chin-men Tao**	**3.43**	**301**	eP		**Pn**	**17 48 54.3**	**-0.5**
	baz=302							
MATB	**Ma-tsu**	**3.73**	**336**	eP		**Pn**	**17 48 59.1**	**+0.2**
	baz=336							
ZPLA	**Ao Xicun**	**3.75**	**289**	eP		**Pn**	**17 48 59.4**	**+0.2**
	baz=289							
JIRB	**Irabujima**	**3.86**	**57**	P		**Pn**	**17 49 02.7**	**+2.0**
JMJ2	**Miyako jima3**	**3.94**	**59**	P		**Pn**	**17 49 03.3**	**+1.5**
AXDP	**Jialang**	**3.98**	**304**	eP		**Pn**	**17 49 02.3**	**0.0**
	baz=305							
MHZQ	**Yeshan**	**4.10**	**325**	eP		**Pn**	**17 49 04.5**	**+0.6**
	baz=325							
LYJJ	**Jianjiangzhen**	**4.16**	**336**	eP		**Pn**	**17 49 05.2**	**+0.4**
	baz=339							
LYJJ				eS		**Sn**	**17 49 51.8**	**-1.3**
	baz=339							
XPSS	**Dashiqiu**	**4.37**	**343**	eP		**Pn**	**17 49 07.4**	**-0.3**
	baz=343							

IDC ***13*** *17:48:11.6±1.2, 35.26S×108.12W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/29, mbtmp3.8/5, MS4.2/11, Ms1 4.2/11, ms1mx3.9/54, Error ellipse: s-maj=43.9km s-min=31.2km az=169.0*
ISC 13 17:48:12.6±1.2, 35.4S±0.3×108.1W±0.2, h10km, n21, σ0.69/9, mb3.9/5, MS4.2/10, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPN	**Rapa Nui**	**8.28**	**352**	LR		LR	17 52 33.0	
	comp=Z,jum,20.7s,baz=141,slow=32							
PLCA	**Paso Flores**	**29.90**	**112**	LR		LR	18 02 35.5	
	comp=Z,240nm,21.5s,baz=311,slow=29							
NNA	**Nana**	**36.64**	**58**	LR		LR	18 06 43.6	
	comp=Z,413nm,19.2s,baz=240,slow=30							
PMSA	**Palmer Station**	**39.44**	**152**	LR		LR	18 08 26.8	
	comp=Z,394nm,18.1s,baz=22,slow=31							
LPAZ	**La Paz**	**40.36**	**72**	P		**P**	**17 55 52.5**	**+1.0**
	1.9nm,0.7s,baz=233,slow=5.8,SNR=5.1							
LPAZ				LR		LR	18 08 31.2	
	comp=Z,178nm,20.3s,baz=214,slow=30							
SIV	**San Ignacio**	**46.10**	**78**	P		**P**	**17 56 36.5**	**-0.7**
	1.4nm,0.7s,baz=224,slow=7.8,SNR=4.0							
RAR	**Rarotonga**	**47.13**	**273**	LR		LR	18 11 46.8	
	comp=Z,133nm,20.4s,baz=244,slow=30							
JTS	**Las Juntas de**	**50.42**	**30**	LR		LR	18 13 02.0	
	comp=Z,410nm,21.8s,baz=217,slow=30							
ROSC	**El Rosal**	**51.06**	**45**	LR		LR	18 14 45.6	
	comp=Z,366nm,20.0s,baz=235,slow=31							
VNDA	**Vanda**	**55.78**	**195**	LR		LR	18 18 02.0	
	comp=Z,147nm,18.6s,baz=320,slow=32							
SDV	**Santo Domingo**	**56.47**	**46**	LR		LR	18 20 09.0	
	comp=Z,204nm,19.0s,baz=242,slow=34							
TXAR	**Lajitas Array**	**64.49**	**4**	P		**P**	**17 58 49.5**	**-0.1**
	0.2nm,0.8s,baz=185,slow=9.7,SNR=1.9							
MDP	**Montagnes des**	**65.77**	**64**	LR		LR	18 24 20.0	
	comp=Z,541nm,19.9s,baz=226,slow=33							
NVAR	**Mina Array Bea**	**74.03**	**352**	P		**P**	**17 59 49.3**	**+0.6**
	1.0nm,0.9s,baz=165,slow=7.3,SNR=4.8							
PDAR	**Pinedale Array**	**77.77**	**359**	P		**P**	**18 00 09.1**	**-0.9**
	1.4nm,0.9s,baz=171,slow=7.0,SNR=3.9							
H01W1	**Cape Leeuwin H**	**99.73**	**214**	T		T	19 54 22.6	
	baz=144,slow=76,SNR=9.7							
H01W2	**Cape Leeuwin H**	**99.73**	**214**	T		T	19 54 23.7	
	baz=144,slow=76,SNR=9.6							
H01W3	**Cape Leeuwin H**	**99.74**	**214**	T		T	19 54 23.9	
	baz=144,slow=76,SNR=9.7							
AKASC	**Malin Array Be**	**145.78**	**50**	PKPbc		**PKPbc**	**18 07 51.2**	**-0.2**
	0.4nm,0.4s,baz=278,slow=3.6,SNR=4.7							
CMAR	**Chiang Mai Arr**	**150.71**	**242**	PKPbc		**PKiKP**	**18 08 06.1**	**-0.1**
	0.2nm,0.4s,baz=188,slow=1.8,SNR=1.4							
CMAR				PKPab		**PKPab**	**18 08 12.9**	**+0.4**
	0.6nm,0.7s,baz=151,slow=2.1,SNR=5.1							
SONM	**Songino Array**	**151.59**	**307**	PKPbc		**PKiKP**	**18 08 07.2**	**-0.2**
	0.2nm,0.5s,baz=129,slow=2.0,SNR=1.8							

**IDC 13 18:08:22.1±2.5, 0.39S×127.41E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=230.0km s-min=27.2km az

mb5.8/307,Ms_20 5.6/306,Mwb5.9/53,Mww6.0,Error ellipse: s-maj=9.5km s-min=3.4km az=224.0

IDC ***13*** *18:21:54.5±2.0, 7.81N×122.11E±0.33km×14km, mb5.2/41, mb1 5.3/46,mb1mx5.2/49,mbtmp5.4/46,ML5.0/5,MS5.4/79, Ms1 5.4/79,ms1mx5.3/89,Error ellipse: s-maj=12.5km s-min=8.2km az=84.0*

GCMT ***13*** *18:21:55.7±0.1, 7.84N±0.01×121.94E±0.01, h24km, MW6.0/156,Moment Tensor Solution. s126,c219; s156,c368; Duration: 2s4 Moment tensor: Scale 10^18 Nm; Mrr0.74±.02; Mθθ0.16±.01; Mϕϕ-0.89±.01; Mrθ0.24±.02; Mθϕ-0.03±.01; Mϕr-0.74±.02; Best double couple: Mo1.13200×10^18 NP1:ϕs19.00000°,δ26.00000°, λ119.00000°. NP2:ϕs167.00000°,δ67.00000°,λ77.00000°. Principal axes: T 1.0810, Plg65.0000°, Azm54.0000°; N 0.1020, Plg12.0000°, Azm172.0000°; P -1.1830, Plg21.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

DJA ***13*** *18:21:55.0±0.4, 8.N±2.×12.2E±.°, h37km±3km, M5.7/126, mB6.0/124, mb5.6/126, MLv6.2/10, Mw(mB)5.6/124, MwMwp5.8/39, Mwp5.8/39*

KLM ***13*** *18:21:55, 8.00N×122.02E, h40km, mb5.9*

NEIC ***13*** *18:21:56, 7.85N×122.12E, h18km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^18Nm; Mrr0.62; Mθθ0.08; Mϕϕ-0.70; Mrθ0.53; Mθϕ-0.01; Mϕr-0.74; Fault plane solution: Mo1.13000×10^18 NP1:ϕs22.00000°, δ24.00000°,λ136.00000°. NP2:ϕs153.00000°,δ73.00000°, λ72.00000°. Principal axes: T 1.1775, Plg58.0000°, Azm39.0000°; N -0.1016, Plg17.0000°, Azm158.0000°; P -1.0759, Plg26.0000°, Azm257.0000°;*

BGR ***13*** *18:22:03.3±1.7, 8.80N×119.68E, h20km, mb5.1, Ms5.6 Error ellipse: s-maj=71.2km s-min=52.3km az=64.0*

ISC 13 18:21:52.7±0.3,**7.83N**±0.02×**122.05E**±0.03,**h22**km±1km, **h22**km:**pP-P, n2141,** σ1**.956**/2352,**mb5.7**/407,**MS5.6**/301, **285C-83D, Fault plane solution: NP1:**ϕs142.52539°, δ47.95097°,λ80.79944°. **NP2:**ϕs336.12064°,δ42.85996°, λ100.05248°. **Principal axes:** T Plg82.7109°, Azm349.5123°; N Plg6.8188°, Azm148.7169°; P Plg2.5635°, Azm239.0237°; **Fault plane solution: NP1:**ϕs180.35628°,δ54.30583°,λ59.29868°. **NP2:** ϕs45.85898°,δ45.70816°,λ125.40049°. **Principal axes:** T Plg65.0057°, Azm31.6591°; N Plg24.4973°, Azm199.4650°; P Plg4.6584°, Azm291.5928°; **Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**1.32**	**89**	⇑*e*P			**Pn**	**18 22 16.0**	**+0.1**
PAGZ				*i* S			**Sb**	**18 22 35.0**	**+1.5**
DCPH	**Dipolog City**	**1.50**	**60**	⇑*i*P			**Pb**	**18 22 19.4**	**-0.4**
DCPH				*i* S			**Sn**	**18 22 36.3**	**-0.7**
SNPH	**Sibulan**	**1.91**	**38**	⇑*i*P			**Pn**	**18 22 24.3**	**+0.3**
SNPH				*i* S			**Sb**	**18 22 58.3**	**+7.8**
CTBH	**Cotabato--PC H**	**2.26**	**105**	⇓*e*P			**Pn**	**18 22 29.2**	**+0.4**
CTBH				*i* S			**Sn**	**18 22 56.9**	**+0.9**
TBP	**Tagbilaran**	**2.58**	**44**	⇑*i*P			**Pn**	**18 22 33.9**	**+0.8**
TBP				*i* S			**Sb**	**18 23 11.2**	**+1.6**
LLP	**Lapu-Lapu**	**3.12**	**37**	⇑*i*P			**Pn**	**18 22 40.8**	**+0.3**
LLP				*i* S			**Sn**	**18 23 18.6**	**+1.4**
KCP	**Kidapawan**	**3.13**	**105**	⇑*e*P			**Pn**	**18 22 42.4**	**+1.6**
KCP				*i* S			**Sb**	**18 23 33.8**	**+8.3**
GSPH	**General Santos**	**3.36**	**121**	*i* P			**Pn**	**18 22 44.2**	**+0.2**
GSPH				*i* S			**Sn**	**18 23 25.6**	**+2.3**
DAV	**Davao City (W)**	**3.58**	**102**	Pn			**Pn**	**18 22 50.2**	**+3.3**
	264nm,0.3s,baz=296,slow=3.7,SNR=42								
DAV				Lg			Lg	18 23 44.2	
	baz=254,slow=20,SNR=2.1								
DAV	**Davao City (W)**	**3.58**	**102**	Pn			**Pn**	**18 22 48.9**	**+2.0**
DAV	**Davao City (W)**	**3.58**	**102**	P			**Pn**	**18 22 51.2**	**+4.2**
DAV				S			**Sb**	**18 23 41.0**	**+2.5**
DAV	**Davao City (W)**	**3.58**	**102**	⇑P			**Pn**	**18 22 50.3**	**+3.3**
DAV	**Davao City (W)**	**3.58**	**102**	P			**Pn**	**18 22 50.9**	**+3.9**
RCP	**Roxas**	**3.77**	**10**	⇑*e*P			**Pn**	**18 22 51.1**	**+1.5**
RCP				*e*S			**Sn**	**18 23 33.7**	**+0.4**
PPR	**Puerto Princes**	**3.81**	**301**	⇑*i*P			**Pn**	**18 22 47.2**	**-2.8**
KALP	**Kalibo**	**3.84**	**4**	⇓*e*P			**Pn**	**18 22 53.4**	**+3.0**
SCPH	**Surigao**	**3.92**	**60**	⇑*e*P			**Pn**	**18 22 51.6**	**+0.1**
BIPH	**Bislig**	**4.29**	**85**	⇑*i*P			**Pn**	**18 22 58.9**	**+2.2**
BIPH				*i* S			Sb	18 24 14.0	+15
MYLDM	**Lahad Datu**	**4.40**	**233**	Pn			**Pn**	**18 22 58.0**	**-0.2**
MYLDM	**Lahad Datu**	**4.40**	**233**	⇓P			**Pn**	**18 22 58.2**	**+0.1**
MMPH	**Masbate**	**4.76**	**19**	*e*P			**Pn**	**18 23 05.3**	**+2.2**
MMPH				*i* S			**Sn**	**18 23 58.0**	**+0.3**
SGSI	**Sangihe**	**5.38**	**140**	P			**Pn**	**18 23 12.5**	**+0.8**
	23nm29μm3μm,0.7s								
SGSI				S			**Sn**	**18 24 10.4**	**-2.6**
	23nm29μm3μm,0.7s								
PGP	**Puerto Galera**	**5.74**	**349**	⇓*e*P			**Pn**	**18 23 18.1**	**+1.5**
GQP	**Guinayangan**	**6.05**	**4**	⇑*e*P			**Pn**	**18 23 22.7**	**+1.8**
KKM	**Kota Kinabalu**	**6.05**	**253**	Pn			**Pn**	**18 23 20.4**	**-0.6**
KKM	**Kota Kinabalu**	**6.05**	**253**	⇓P			**Pn**	**18 23 20.4**	**-0.6**
KKM	**Kota Kinabalu**	**6.05**	**253**	P			**Pn**	**18 23 21.2**	**+0.2**
LUBP	**Lubang**	**6.13**	**343**	⇑*e*P			**Pn**	**18 23 23.0**	**+1.0**
TGY	**Tagaytay City**	**6.33**	**350**	Pn			**Pn**	**18 23 27.3**	**+2.5**
	161nm,0.3s,baz=222,slow=2.4,SNR=28								
TGY				Sn			**Sn**	**18 24 38.5**	**+2.1**
	122nm,0.3s,baz=210,slow=16,SNR=3.0								
TGY	**Tagaytay City**	**6.33**	**350**	⇓*e*P			**Pn**	**18 23 29.2**	**+4.4**
TGY				*e*S			**Sb**	**18 24 53.7**	**-3.9**
SPMM	**Sapulut**	**6.35**	**241**	P			**Pn**	**18 23 25.0**	**-0.1**
TOLI2	**Tolitoli**	**6.79**	**191**	Pn			**Pn**	**18 23 28.5**	**-2.6**
MRSI	**Marisa**	**7.30**	**181**	P			**Pn**	**18 23 38.4**	**+0.3**
	8.9nm26μm8μm837nm,0.9s								
KMSI	**Cibinong**	**7.46**	**165**	P			**Pn**	**18 23 41.3**	**+1.0**
	16nm597nm18μm2μm,0.7s								
MPSI	**Mapaga**	**7.74**	**196**	P			**Pn**	**18 23 41.8**	**-2.3**
	3.0nm31μm5μm318nm,0.7s								
PCPH	**Palayan**	**7.74**	**353**	⇑*e*P			**Pn**	**18 23 46.6**	**+2.4**
APSI	**Ampana**	**8.69**	**183**	P			**Pn**	**18 23 59.8**	**+2.6**
	15μm9μm920nm,0.9s								
TNTI	**Ternate**	**8.79**	**143**	Pn			**Pn**	**18 23 58.5**	**-0.1**
TNTI	**Ternate**	**8.79**	**143**	⇓P			**Pn**	**18 24 00.8**	**+2.2**
TNTI	**Ternate**	**8.79**	**143**	P			**Pn**	**18 24 00.6**	**+2.1**
	16μm5μm290nm,1.9s								
TNTI	**Ternate**	**8.79**	**143**	P			**Pn**	**18 24 00.7**	**+2.2**
LUWI	**Luwuk**	**8.84**	**175**	Pn			**Pn**	**18 24 01.3**	**+2.1**
LUWI	**Luwuk**	**8.84**	**175**	⇑P			**Pn**	**18 24 00.5**	**+1.2**
LUWI				⇑S			**Sn**	**18 25 45.5**	**+7.3**
LUWI	**Luwuk**	**8.84**	**175**	P			**Pn**	**18 24 02.4**	**+3.2**
	37μm4μm,1.0s								
LUWI	**Luwuk**	**8.84**	**175**	P			**Pn**	**18 24 03.1**	**+3.9**
	5μm,0.9s								
SMKI	**Samarinda**	**9.53**	**211**	P			**Pn**	**18 24 10.8**	**+2.1**
	44μm10μm601nm,1.0s								
APYP	**Conner**	**10.01**	**356**	⇓*e*P			**Pn**	**18 24 18.1**	**+3.0**
LBMI	**Labuha**	**10.02**	**147**	P			**Pn**	**18 24 16.1**	**+0.7**
	11μm7μm486nm,1.2s								
SANI	**Sanana**	**10.57**	**158**	⇓P			**Pn**	**18 24 22.4**	**-0.5**
SANI	**Sanana**	**10.57**	**158**	P			**Pn**	**18 24 23.1**	**+0.1**
	3μm235nm,0.9s								
SANI	**Sanana**	**10.57**	**158**	P			**Pn**	**18 24 24.3**	**+1.3**
TTSI	**Tana Toraja**	**11.03**	**192**	P			**Pn**	**18 24 30.7**	**+1.5**
	15μm3μm515nm,0.8s								
SBUM	**Sibu**	**11.15**	**242**	Pn			**Pn**	**18 24 30.1**	**-0.7**
SBUM	**Sibu**	**11.15**	**242**	⇓P			**Pn**	**18 24 30.1**	**-0.7**
SBUM	**Sibu**	**11.15**	**242**	P			**Pn**	**18 24 31.0**	**+0.2**
MTKI	**Muara Teweh, K**	**11.26**	**220**	P			**Pn**	**18 24 31.5**	**-0.9**
	14μm2μm86nm,1.3s								
SPSI	**Sidrap Palu**	**11.93**	**191**	P			**Pn**	**18 24 41.5**	**-0.1**
	3μm249nm,1.0s								
BNSI	**Bone**	**12.30**	**189**	P			**Pn**	**18 24 47.0**	**+0.4**
	14μm3μm212nm,0.9s								
I39PW	**PALAU INFRASON**	**12.39**	**91**	*i*				19 24 40.0	
	baz=270,slow=330,SNR=0.8								
SWI	**Sorong**	**12.61**	**133**	P			**Pn**	**18 24 51.7**	**+0.9**
SWI				pmax			pmax		
	comp=Z,117nm,1.8s								
SWI	**Sorong**	**12.61**	**133**	P			**Pn**	**18 24 50.2**	**-0.6**
	comp=Z,23μmcomp=Z,3μmcomp=Z,118nm,1.8s								
SIJI	**Sorong**	**12.62**	**133**	Pn			**Pn**	**18 24 50.8**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=342,slow=8.3,SNR=17								
SIJI				Sn			**Sn**	**18 27 10.5**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=198,slow=19,SNR=1.3								
SIJI				LR			LR	18 30 17.5	
	comp=Z,15μm,20.0s,baz=303,slow=40								
KAPI	**Kappang**	**12.96**	**190**	Pn			**Pn**	**18 24 56.0**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=30,slow=9.9,SNR=5.2								
KAPI				LR			LR	18 29 59.9	
	comp=Z,35μm,20.7s,baz=3.5,slow=38								
KAPI	**Kappang**	**12.96**	**190**	⇑*e*P			**Pn**	**18 24 55.7**	**0.0**
KAPI				pmax			pmax		
	comp=Z,23nm,1.6s								
KAPI	**Kappang**	**12.96**	**190**	Pn			**Pn**	**18 24 54.2**	**-1.5**
KAPI	**Kappang**	**12.96**	**190**	P			**P**	**18 25 04.2**	**-1.8**
KAPI				P			**P**	**18 25 04.2**	**-1.8**
KAPI				S			Sn	18 27 30.2	+11
KAPI				S			Sn	18 27 30.2	+11
KAPI	**Kappang**	**12.96**	**190**	⇑P			Pn	18 25 00.8	+5.2
KAPI	**Kappang**	**12.96**	**190**	P			**Pn**	**18 24 57.0**	**+1.3**
AAI	**Ambon**	**12.98**	**152**	P			**Pn**	**18 24 58.3**	**+2.4**
AAI				pmax			pmax		
	comp=Z,326nm,1.0s								
AAI	**Ambon**	**12.98**	**152**	P			**Pn**	**18 24 56.3**	**+0.4**
	comp=Z,5μmcomp=Z,243nm,0.9s								
MSAI	**Masohi**	**13.05**	**148**	P			**Pn**	**18 24 58.0**	**+1.1**
	comp=Z,755nmcomp=Z,74nm,0.8s								
STKI	**Sintang**	**13.06**	**234**	P			**Pn**	**18 24 57.8**	**+0.8**
	comp=Z,46μmcomp=Z,4μmcomp=Z,248nm,1.7s								
BKSI	**Bulukumba**	**13.20**	**188**	P			**Pn**	**18 25 00.2**	**+1.2**
	comp=Z,2μmcomp=Z,89nm,0.8s								
BBSI	**Bau Bau**	**13.24**	**178**	P			**Pn**	**18 25 00.2**	**+0.7**
	comp=Z,242nmcomp=Z,22nm,0.8s								
KSM	**Kuching**	**13.29**	**242**				**Pn**	**18 24 58.4**	**-1.8**
KSM	**Kuching**	**13.29**	**242**	⇓P			**Pn**	**18 24 58.2**	**-1.9**
KSM	**Kuching**	**13.29**	**242**	P			**Pn**	**18 24 59.0**	**-1.2**
BBKI	**Banjar Baru**	**13.32**	**213**	P			**Pn**	**18 24 59.6**	**-1.0**
	comp=Z,14μmcomp=Z,3μmcomp=Z,106nm,1.4s								
BSSI	**Bau Bau, Buton**	**13.96**	**186**	P			**Pn**	**18 25 12.8**	**+3.4**
	comp=Z,1μmcomp=Z,78nm,0.7s								
DLV	**T Lat**	**13.97**	**288**				**Pn**	**18 25 09.5**	**-0.1**
DLV	**T Lat**	**13.97**	**288**	P			**Pn**	**18 25 10.1**	**+0.5**
BNDI	**Bandanaira**	**14.56**	**147**	⇓P			**P**	**18 25 21.0**	**-2.9**
PBKI	**Pangkalan Bun**	**14.72**	**225**	P			**Pn**	**18 25 20.5**	**+0.8**
	comp=Z,7μmcomp=Z,414nm,1.2s								
TWG	**Pinlang**	**14.94**	**357**	P			**Pn**	**18 25 24.7**	**+2.1**
TPUB	**Ta-pu**	**15.45**	**355**	P			**Pn**	**18 25 30.7**	**+1.3**
TPUB	**Ta-pu**	**15.45**	**355**	P			**P**	**18 25 32.0**	**-1.7**
YULB	**Yu-li**	**15.49**	**357**				**Pn**	**18 25 30.7**	**+0.7**
SSLB	**Suanglung**	**15.90**	**356**	P			**Pn**	**18 25 36.2**	**+0.9**
SSLB				lAmb			lAmb	18 25 42.5	
	comp=Z,601nm,1.0s								
SSLB	**Suanglung**	**15.90**	**356**	P			**P**	**18 25 38.0**	**-0.8**
HKPS	**Hong Kong Po S**	**16.26**	**333**				**Pn**	**18 25 38.6**	**-1.2**
NACB	**Ninganchiao**	**16.26**	**359**				**Pn**	**18 25 36.9**	**-2.9**
QIZ	**Qiongzhong**	**16.26**	**314**				**Pn**	**18 25 36.5**	**-3.3**
QIZ	**Qiongzhong**	**16.26**	**314**	P			**Pn**	**18 25 39.8**	**-0.1**
QIZ				S			**Sn**	**18 28 40.3**	**+0.6**
QIZ				pmax			pmax		
	comp=Z,1μm,5.9s								
QIZ				LR			LR		
	comp=Z,17μm,11.4s								
QIZ				LR			LR		
	comp=Z,11μm,18.6s								
QIZ				LR			LR		
	comp=Z,18μm,20.8s								
QIZ	**Qiongzhong**	**16.26**	**314**	P			**P**	**18 25 42.3**	**-0.5**
HKC	**Hong Kong Obse**	**16.27**	**333**	⇓P			**P**	**18 25 42.0**	**-0.8**
MMRI	**Maumere**	**16.36**	**179**	P			**P**	**18 25 42.5**	**-1.3**
MMRI	**Maumere**	**16.36**	**179**	P			**Pn**	**18 25 41.2**	**+0.1**
	comp=Z,5μmcomp=Z,241nm,1.8s								
BWJI	**Bawean**	**16.50**	**215**	P			**P**	**18 25 45.5**	**+0.1**
	comp=Z,7μmcomp=Z,361nm,1.2s								
YOJ	**Yonaguni jima**	**16.57**	**3**	P			**P**	**18 25 46.5**	**+0.4**
YOJ				pmax			pmax		
	comp=Z,957nm,1.4s								
YOJ	**Yonaguni jima**	**16.57**	**3**	P			**P**	**18 25 46.5**	**+0.4**
YOJ				lAmb			lAmb	18 25 50.0	
	comp=Z,957nm,1.4s								
BAKI	**Biak**	**16.64**	**122**	P			**Pn**	**18 25 45.9**	**+1.2**
	comp=Z,27μmcomp=Z,9μmcomp=Z,462nm,0.9s								
YHNB	**Yeheng**	**16.76**	**358**				**Pn**	**18 25 45.4**	**-0.8**
YHNB				lAmb			lAmb	18 25 51.2	
	comp=Z,1μm,1.5s								
YHNB	**Yeheng**	**16.76**	**358**	P			**P**	**18 25 48.9**	**+0.6**
KMMI	**Kalianget**	**16.83**	**209**	P			**P**	**18 25 48.2**	**-0.9**
	comp=Z,29μmcomp=Z,12μmcomp=Z,352nm,1.4s								
KNMB	**Chin-men Tao**	**16.91**	**348**				**Pn**	**18 25 46.5**	**-1.5**
TATO	**Taipei**	**17.06**	**358**	P			**P**	**18 25 51.7**	**+0.1**
TATO	**Taipei**	**17.06**	**358**	P			**P**	**18 25 51.8**	**+0.2**
TATO				P			**P**	**18 25 51.8**	**+0.2**
TATO				P			**P**	**18 25 51.8**	**+0.2**
TATO				S			**Sn**	**18 28 52.1**	**-7.0**
TATO				S			**Sn**	**18 28 52.1**	**-7.0**
TATO				S			**Sn**	**18 28 52.1**	**-7.0**
PLAI	**Plampang**	**17.08**	**195**	P			**P**	**18 25 52.0**	**+0.1**
	comp=Z,7μmcomp=Z,523nm,1.4s								
PLAI	**Plampang**	**17.08**	**195**	P			**P**	**18 25 54.4**	**+2.5**
SRPI	**Serui, Papua**	**17.12**	**124**	P			**P**	**18 25 54.7**	**+2.3**
	comp=Z,16μmcomp=Z,4μmcomp=Z,159nm,1.7s								
JMJ	**Miyako jima 2**	**17.18**	**10**	P			**P**	**18 25 54.0**	**+1.2**
SRBI	**Singaraja**	**17.21**	**203**	P			**P**	**18 25 52.6**	**-0.7**
	comp=Z,6μmcomp=Z,238nm,1.6s								
GZH	**Guangzhou**	**17.32**	**332**	P			**P**	**18 26 00.8**	**+6.3**
GZH				S			**S**	**18 29 22.0**	**+8.1**
GZH				pmax			pmax		
	comp=Z,6μm,10.3s								
GZH				LR			LR		
	comp=Z,14μm,17.2s								
GZH				LR			LR		
	comp=Z,7μm,19.3s								
QZH	**Quanzhou**	**17.34**	**349**	⇑*i*P			**P**	**18 25 54.4**	**-0.2**
QZH				S			**Sn**	**18 29 05.4**	**-0.4**
QZH				pmax			pmax		
	comp=Z,130nm,2.1s								
QZH				pmax			pmax		
	comp=Z,5μm,11.0s								
QZH				LR			LR		
	comp=Z,12μm,17.2s								
QZH				LR			LR		
	comp=Z,7μm,21.6s								
QZH				LR			LR		
	comp=Z,16μm,17.5s								
ABJI	**Asem Bagus**	**17.36**	**207**	P			**P**	**18 25 56.5**	**+1.5**
	comp=Z,28μmcomp=Z,16μmcomp=Z,365nm,1.8s								
GRJI	**Gresik**	**17.48**	**213**	P			**P**	**18 25 58.5**	**+2.3**
	comp=Z,671nmcomp=Z,2μmcomp=Z,222nm,1.2s								
WBSI	**Waikabubak, Su**	**17.55**	**189**	P			**P**	**18 25 56.7**	**-0.4**
BLJI	**Banyuglugur**	**17.61**	**209**	P			**P**	**18 25 59.2**	**+1.4**
	comp=Z,6μmcomp=Z,134nm,1.3s								
TBJI	**Tambak Boyo**	**17.75**	**215**	P			**P**	**18 26 01.2**	**+1.9**
	comp=Z,11μmcomp=Z,240nm,1.6s								
DNP	**Denpasar**	**17.75**	**203**	P			**P**	**18 26 01.8**	**+2.5**
UBPT	**Khong Chiam**	**17.84**	**296**	P			**P**	**18 26 00.2**	**0.0**
UBPT	**Khong Chiam**	**17.84**	**296**	⇑P			**P**	**18 26 00.8**	**+0.5**
IGBI	**Denpasar**	**17.91**	**203**	P			**P**	**18 26 02.4**	**+1.4**
	comp=Z,11μmcomp=Z,6μmcomp=Z,118nm,1.3s								
UWJI	**Ujung Watu**	**17.97**	**218**	P			**P**	**18 26 02.2**	**+0.5**
	comp=Z,10μmcomp=Z,320nm,2.0s								
BASI	**Baing, Sumba**	**17.99**	**185**	P			**P**	**18 26 04.6**	**+2.7**
	comp=Z,6μmcomp=Z,293nm,1.5s								
BATI	**Baumata**	**17.99**	**175**	P			**P**	**18 26 03.5**	**+1.5**
	comp=Z,18nm,0.3s,baz=359,slow=0.8,SNR=51								
BATI				LR			LR	18 34 05.1	
	comp=Z,13μm,18.9s,baz=325,slow=41								
BATI	**Baumata**	**17.99**	**175**	P			**P**	**18 26 04.0**	**+2.1**
	comp=Z,4μmcomp=Z,224nm,0.8s								
JAGI	**Jajag, Banyuwa**	**18.00**	**206**	P			**P**	**18 26 02.9**	**+0.9**
JAGI				lAmb			lAmb	18 26 18.3	
	comp=Z,676nm,1.4s								
JAGI	**Jajag, Banyuwa**	**18.00**	**206**	⇓P			**P**	**18 26 04.0**	**+1.9**
JAGI	**Jajag, Banyuwa**	**18.00**	**206**	P			**P**	**18 26 02.8**	**+0.8**
	comp=Z,10μmcomp=Z,332nm,1.4s								
JAGI	**Jajag, Banyuwa**	**18.00**	**206**	P			**P**	**18 26 04.1**	**+2.1**
	comp=Z,331nm,1.4s								
GMJI	**Gumukmas**	**18.15**	**208**	P			**P**	**18 26 05.5**	**+1.9**
	comp=Z,10μmcomp=Z,281nm,1.2s								
PPBI	**Pangkal Pinang**	**18.72**	**239**	P			**Pn**	**18 26 10.9**	**+0.5**
	comp=Z,32μmcomp=Z,14μmcomp=Z,372nm,1.6s								
TPRI	**Tanjung Pinang**	**18.76**	**249**	P			**Pn**	**18 26 11.8**	**+0.9**
	comp=Z,11μmcomp=Z,443nm,1.3s								
PWJI	**Pagerwojo**	**18.77**	**213**	P			**Pn**	**18 26 12.2**	**+1.2**
	comp=Z,11μmcomp=Z,546nm,1.5s								
SMRI	**Semarang**	**18.77**	**218**	P			**P**	**18 26 09.5**	**-1.0**
SMRI	**Semarang**	**18.77**	**218**	P			**Pn**	**18 26 12.2**	**+1.1**
	comp=Z,35μmcomp=Z,14μmcomp=Z,291nm,2.5s								
MYKOM	**Kota Tinggi**	**19.09**	**253**	P			**Pn**	**18 26 14.8**	**-0.1**
MYKOM				lAmb			lAmb	18 26 19.6	
	comp=Z,457nm,1.2s								
MYKOM	**Kota Tinggi**	**19.09**	**253**	⇓P			**Pn**	**18 26 16.3**	**+1.3**
MYKOM	**Kota Tinggi**	**19.09**	**253**	P			**Pn**	**18 26 17.0**	**+2.1**
PCJI	**Pacitan**	**19.25**	**214**	P			**Pn**	**18 26 17.0**	**+0.1**
	comp=Z,8μmcomp=Z,426nm,1.1s								
SMPI	**Sarmi**	**19.27**	**120**	P			**P**	**18 26 16.6**	**+0.6**
	comp=Z,26μmcomp=Z,12μmcomp=Z,413nm,1.9s								
DSRI	**Dabo**	**19.27**	**245**	P			**P**	**18 26 16.0**	**-0.1**
	comp=Z,19μmcomp=Z,5μmcomp=Z,184nm,2.5s								
UGM	**Wanagama**	**19.40**	**217**	P			**Pn**	**18 26 18.9**	**+0.2**
UGM	**Wanagama**	**19.40**	**217**	P			**Pn**	**18 26 18.1**	**-0.6**
	comp=Z,16μmcomp=Z,1μm,1.6s								
UGM	**Wanagama**	**19.40**	**217**	P			**Pn**	**18 26 20.8**	**+2.1**
YOGI	**Yogyakarta**	**19.46**	**217**	P			**Pn**	**18 26 19.7**	**+0.3**
	comp=Z,12μmcomp=Z,7μmcomp=Z,412nm,1.6s								
JOW	**Kunigami**	**19.80**	**17**	P			**Pn**	**18 26 23.4**	**0.0**
	comp=Z,9.4nm,0.3s,baz=204,slow=8.8,SNR=59								
JOW				LR			LR	18 33 48.6	
	comp=Z,25μm,20.9s,baz=186,slow=36								
JOW	**Kunigami**	**19.80**	**17**	P			**Pn**	**18 26 23.2**	**-0.2**
JOW	**Kunigami**	**19.80**	**17**	⇑P			**Pn**	**18 26 23.6**	**+0.3**
JOW	**Kunigami**	**19.80**	**17**	P			**Pn**	**18 26 24.2**	**+0.8**
JRMM	**Jerantut**	**19.85**	**260**	P			**Pn**	**18 26 25.0**	**+0.9**
KPJI	**Karang Pucung**	**19.95**	**221**	P			**Pn**	**18 26 25.6**	**+0.5**
	comp=Z,8μmcomp=Z,222nm,0.8s								
PMBI	**Palembang**	**20.27**	**239**	P			Pn	18 26 29.1	+0.1
PMBI				lAMs_20			lAMs_20	18 35 16.1	
	comp=Z,30μm,18.0s								
PMBI	**Palembang**	**20.27**	**239**	P			Pn	18 26 29.2	+0.2
	comp=Z,32μmcomp=Z,14μmcomp=Z,1μm,1.3s								
PMBI	**Palembang**	**20.27**	**239**	P			Pn	18 26 30.4	+1.4
	comp=Z,1μm,1.3s								
LEM	**Lembang**	**20.47**	**225**	P			Pn	18 26 31.6	+0.1
	comp=Z,166nm,0.7s,baz=320,slow=21,SNR=54								
LEM				LR			LR	18 35 50.3	
	comp=Z,18μm,19.6s,baz=30,slow=41								
LEM	**Lembang**	**20.47**	**225**	P			Pn	18 26 31.3	-0.2
	comp=Z,16μmcomp=Z,4μmcomp=Z,167nm,0.8s								
CMJI	**Cimerak**	**20.60**	**221**	P			Pn	18 26 32.5	-0.3
	comp=Z,13μmcomp=Z,5μmcomp=Z,335nm,1.5s								
GULI	**GuiLin**	**20.64**	**329**	⇑P			Pn	18 26 33.8	+0.6
GULI				sP			pwP	18 26 40.3	-0.4
GULI				S			**S**	**18 30 22.8**	**+2.2**
GULI				pmax			pmax		
	comp=Z,210nm,1.4s								
GULI				LR			LR		
	comp=Z,12μm,20.7s								
GULI				LR			LR		
	comp=Z,17μm,17.3s								
GULI				LR			LR		
	comp=Z,21μm,16.3s								
TNG	**Tangerang**	**20.72**	**228**	P			pP	18 26 35.8	-1.6
	comp=Z,16μmcomp=Z,17μmcomp=Z,539nm,0.4s								
TNG				P			Pn	18 26 34.3	+0.1
CBJI	**Citeko**	**20.74**	**227**	P			Pn	18 26 35.1	+0.7
	comp=Z,26μmcomp=Z,12μmcomp=Z,535nm,1.1s								
DBJI	**Dramaga**	**20.90**	**227**	P			**P**	**18 26 34.9

NJ2 pP **pP** **18 27 13.6 -0.8**
NJ2 pmax pmax
comp=Z,270nm,2.1s
NJ2 pmax pmax
comp=Z,4μm,6.9s
NJ2 LR LR
comp=Z,8μm,15.7s
NJ2 LR LR
comp=Z,9μm,17.9s
NJ2 LR LR
comp=Z,9μm,19.2s
PPSI Pulau Pagai 24.37 245 P **P** **18 27 09.5 0.0**
comp=Z,7μmcomp=Z,349nm,1.2s
XMI Christmas Isla 24.39 222 ⇓P **P** **18 27 09.6 -0.1**
XMI Christmas Isla 24.39 222 P **P** **18 27 10.9 +1.3**
comp=Z,431nm,1.7s
MMPI Merauke 24.41 131 P **P** **18 27 10.1 +0.3**
comp=Z,7μmcomp=Z,347nm,0.6s
XMIS Christmas Isla 24.44 222 P **P** **18 27 10.1 +0.1**
XMIS IAmb IAmb 18 27 12.9
comp=Z,162nm,0.9s
XMIS Christmas Isla 24.44 222 P **P** **18 27 10.7 +0.6**
comp=Z,298nm,1.3s
KCSI Kotacane, Aceh 24.52 261 P **P** **18 27 10.3 -0.6**
comp=Z,4μmcomp=Z,279nm,0.9s
SISI Saibi 24.63 249 P **P** **18 27 11.1 -0.8**
comp=Z,3μmcomp=Z,301nm,1.0s
CM31 Chiang Mai Arr 24.82 297 P **P** **18 27 14.1 +0.6**
CM31 IAmb IAmb 18 27 28.9
comp=Z,354nm,1.4s
CM31 Chiang Mai Arr 24.82 297 P **P** **18 27 15.0 +1.4**
SNR=79
CM31 P **P** **18 27 15.0 +1.4**
SNR=79
CM31 P **P** **18 27 15.0 +1.4**
SNR=79
CM31 S **S** **18 31 37.3 +2.1**
CM31 S **S** **18 31 37.3 +2.1**
CM31 S **S** **18 31 37.3 +2.1**
CMAR Chiang Mai Arr 24.82 297 P **P** **18 27 14.6 +1.1**
comp=Z,21nm,1.0s,baz=122,slow=7.3,SNR=92
CMAR PcP **PcP** **18 30 51.1 +1.4**
comp=Z,15nm,1.0s,baz=128,slow=0.6,SNR=9.9
CMAR ScP **ScP** **18 34 27.0 -0.5**
comp=Z,1.3nm,0.9s,baz=116,slow=2.1,SNR=3.8
CMAR PKiKP **PKiKP** **18 38 30.3 -1.3**
comp=Z,0.6nm,0.6s,baz=330,slow=2.0,SNR=4.3
CMAR Chiang Mai Arr 24.82 297 *ceP* **P** **18 27 14.6 +1.1**
CMAR pmax pmax
comp=Z,18nm,0.9s
CMAR Chiang Mai Arr 24.82 297 P **P** **18 27 13.9 +0.4**
JSU Suzuyama 24.83 17 P **P** **18 27 12.6 -0.9**
JSU IAmb IAmb 18 27 14.3
comp=Z,144nm,0.9s
JSU Suzuyama 24.83 17 ⇑P **P** **18 27 12.6 -0.9**
CHTO Chiang Mai 24.96 298 P **P** **18 27 13.2 -1.6**
CHTO pmax pmax
comp=Z,435nm,1.5s
CHTO MLR MLR
comp=Z,10μm,20.0s
CHTO Chiang Mai 24.96 298 P **P** **18 27 13.2 -1.6**
CHTO IAmb IAmb 18 27 29.7
comp=Z,435nm,1.5s
CHTO Chiang Mai 24.96 298 P **P** **18 27 15.8 +1.0**
CHTO S **S** **18 31 39.8 +2.4**
CHTO Chiang Mai 24.96 298 P **P** **18 27 16.7 +1.9**
LHMI Lhok Sumawe 25.07 266 P **P** **18 27 16.5 +0.7**
LHMI Lhok Sumawe 25.07 266 ⇓P **P** **18 27 17.7 +1.9**
LHMI Lhok Sumawe 25.07 266 P **P** **18 27 17.0 +1.2**
comp=Z,11μmcomp=Z,1μm,0.9s
LHMI Lhok Sumawe 25.07 266 P **P** **18 27 19.1 +3.3**
KMI Kunming 25.21 315 ⇑P **P** **18 27 18.8 +1.6**
KMI pP pP 18 27 21.4 -1.6
KMI sP sP 18 27 23.9 -1.4
KMI S **S** **18 31 39.3 -2.4**
KMI SS SnSn 18 32 48.1 +15
KMI pmax pmax
comp=Z,670nm,3.9s
KMI LR LR
comp=Z,9μm,20.2s
KMI LR LR
comp=Z,11μm,20.7s
KMI LR LR
comp=Z,15μm,22.2s
GSI Gunungsitoli 25.23 256 P **P** **18 27 16.2 -1.0**
GSI Gunungsitoli 25.23 256 ⇓P **P** **18 27 17.0 -0.2**
GSI Gunungsitoli 25.23 256 P **P** **18 27 16.2 -1.0**
comp=Z,6μmcomp=Z,601nm,1.0s
GSI Gunungsitoli 25.23 256 P **P** **18 27 18.6 +1.4**
ENH Enshi 25.24 334 P **P** **18 27 17.4 +0.2**
ENH IAmb IAmb 18 27 20.1
comp=Z,219nm,1.1s
ENH IAMs_20 IAMs_20 18 37 00.4
comp=Z,15μm,19.0s
FITZ Fitzroy Crossi 26.00 172 P **P** **18 27 23.8 -0.4**
comp=Z,51nm,0.9s,baz=8.1,slow=6.2,SNR=61
FITZ Fitzroy Crossi 26.00 172 P **P** **18 27 23.2 -0.9**
JNU Nakatsue 26.47 17 P **P** **18 27 26.9 -1.4**
comp=Z,102nm,1.1s,baz=198,slow=5.3,SNR=20
JNU LR LR 18 37 59.8
comp=Z,12μm,21.5s,baz=206,slow=36
JNU Nakatsue 26.47 17 P **P** **18 27 26.7 -1.6**
JNU Nakatsue 26.47 17 ⇑P **P** **18 27 27.4 -0.9**
JNU Nakatsue 26.47 17 P **P** **18 27 28.3 0.0**
PZH PanZhiHua 26.78 316 P **P** **18 27 31.8 +0.5**
PZH pP **pP** **18 27 35.3 -1.8**
PZH sP **sP** **18 27 38.5 -0.9**
PZH PP **PnPn** **18 28 18.5 +5.4**
PZH S **S** **18 32 08.4 +2.0**
PZH PcS **PcS** **18 34 35.0 -0.8**
PZH ScS **ScS** **18 38 23.0 -1.2**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,1μm,12.0s
PZH LR LR
comp=Z,11μm,16.9s
PZH LR LR
comp=Z,8μm,18.4s
PZH LR LR
comp=Z,11μm,21.6s
JCJ Chichijima 27.05 42 P **P** **18 27 32.8 -0.9**
comp=Z,153nm,0.8s,baz=270,slow=1.0,SNR=4.8
JCJ LR LR 18 36 46.9
comp=Z,14μm,21.4s,baz=240,slow=33
JCJ Chichijima 27.05 42 P **P** **18 27 32.8 -0.9**
JCJ IAmb IAmb 18 27 45.2
comp=Z,225nm,0.8s
JTU Tsushima 27.42 13 P **P** **18 27 37.0 +0.2**
JTU IAmb IAmb 18 27 38.4
comp=Z,170nm,1.3s
JTU Tsushima 27.42 13 ⇑P **P** **18 27 37.0 +0.2**
JMN Monobe 28.00 21 P **P** **18 27 40.7 -1.3**
JMN IAmb IAmb 18 27 46.0
comp=Z,461nm,1.4s
JMN Monobe 28.00 21 ⇓P **P** **18 27 42.3 +0.2**
LYN LuoYang 28.02 343 ⇑P **P** **18 27 43.0 +0.8**
LYN pP sP 18 27 54.5 +3.3
LYN S **S** **18 32 26.3 +0.8**
LYN pmax pmax
comp=Z,50nm,0.9s
LYN pmax pmax
comp=Z,3μm,11.3s
LYN LR LR
comp=Z,9μm,17.5s
LYN LR LR
comp=Z,9μm,18.4s
LYN LR LR
comp=Z,11μm,16.5s
TIA Tai'an 28.61 352 ⇑P **P** **18 27 47.8 +0.4**
TIA S **S** **18 32 34.5 -0.2**
TIA pmax pmax
comp=Z,69nm,1.0s
TIA pmax pmax
comp=Z,2μm,14.2s
TIA LR LR
comp=Z,5μm,19.1s
TIA LR LR
comp=Z,6μm,17.2s
TIA LR LR
comp=Z,7μm,21.1s
CD2 Chengdu 28.63 326 P **P** **18 27 48.4 +0.6**
CD2 S **S** **18 32 32.5 -2.8**
CD2 pmax pmax
comp=Z,60nm,1.3s
CD2 pmax pmax
comp=Z,2μm,12.0s
CD2 LR LR
comp=Z,1μm,16.1s
CD2 LR LR
comp=Z,13μm,19.9s
CD2 LR LR
comp=Z,14μm,15.2s
XAN Xi'an 28.76 337 P **P** **18 27 49.1 +0.2**
XAN pP pP 18 27 53.4 -1.6
XAN S **S** **18 32 38.3 +1.1**
XAN SS **SnSn** **18 34 01.1 +1.9**
XAN PcS **PcS** **18 34 35.6 -5.8**
XAN pmax pmax
comp=Z,120nm,1.7s
XAN pmax pmax
comp=Z,2μm,11.7s
XAN LR LR
comp=Z,5μm,13.7s
XAN LR LR
comp=Z,12μm,14.1s
XAN LR LR
comp=Z,10μm,16.3s
TJN Taejon 28.83 9 ⇓*e*P **P** **18 27 48.9 -0.5**
TJN Taejon 28.83 9 P **P** **18 27 51.1 +1.7**
JHS Saijyo 28.89 19 P **P** **18 27 48.9 -1.1**
JHS IAmb IAmb 18 27 55.7
comp=Z,128nm,1.0s
JHS Saijyo 28.89 19 ⇑P **P** **18 27 49.5 -0.5**
PBA Port Blair 29.12 280 P **P** **18 27 52.8 +0.6**
PBA Port Blair 29.12 280 P **P** **18 27 52.9 +0.6**
PSA00 Pilbara Seismi 29.30 184 P **P** **18 27 52.0 -1.7**
PSA00 Pilbara Seismi 29.30 184 P **P** **18 27 52.3 -1.4**
PSA00 IAmb IAmb 18 28 20.0
comp=Z,47nm,1.1s
PSA00 Pilbara Seismi 29.30 184 P **P** **18 27 54.7 +1.0**
INCN Inchon 29.81 7 P **P** **18 27 56.6 -1.5**
INCN pmax pmax
comp=Z,45nm,1.3s
INCN MLR MLR
comp=Z,8μm,22.0s
INCN Inchon 29.81 7 P **P** **18 27 56.6 -1.5**
KSAR Wonju Array Be 29.95 9 P **P** **18 27 58.6 -0.7**
KSAR 18 31 01.5
KSAR Wonju Array Be 29.95 9 P **P** **18 27 58.6 -0.7**
KSAR PcP **PcP** **18 31 01.5 -0.1**
KSRS Korea Array 29.97 9 P **P** **18 27 59.5 0.0**
comp=Z,23nm,0.9s,baz=184,slow=10,SNR=59
KSRS PcP **PcP** **18 31 02.1 +0.5**
comp=Z,7.8nm,0.8s,baz=186,slow=2.8,SNR=11
KSRS LR LR 18 40 03.4
comp=Z,10μm,20.8s,baz=190,slow=36
WB0 Warramunga Arr 30.00 156 P **P** **18 27 58.1 -1.8**
KS19 Wonju Array Si 30.01 9 P **P** **18 27 59.3 -0.6**
JHJ Hachijo jima 2 30.06 31 LR LR 18 38 57.2
comp=Z,12μm,19.9s,baz=280,slow=34
WRAB Tennant Creek 30.13 156 *c iP* **P** **18 28 00.1 -1.0**
WRAB pmax pmax
comp=Z,67nm,1.3s
WRAB Tennant Creek 30.13 156 P **P** **18 27 59.6 -1.5**
WRAB Tennant Creek 30.13 156 ⇑P **P** **18 28 00.0 -1.0**
WRAB Tennant Creek 30.13 156 P **P** **18 28 00.6 -0.5**
WRA Warramunga Arr 30.13 156 P **P** **18 28 00.0 -1.1**
comp=Z,29nm,0.8s,baz=337,slow=9.6,SNR=126
WRA PcP **PcP** **18 31 01.5 -1.0**
comp=Z,19nm,0.9s,baz=346,slow=3.1,SNR=7.8
WRA Warramunga Arr 30.13 156 P **P** **18 27 58.7 -2.4**
COEN Coen 30.14 136 P **P** **18 27 59.6 -1.6**
COEN IAmb IAmb 18 28 20.4
comp=Z,102nm,0.9s
COEN Coen 30.14 136 ⇑P **P** **18 27 59.8 -1.4**
COEN Coen 30.14 136 P **P** **18 28 02.3 +1.1**
WB2 Warramunga Arr 30.14 156 P **P** **18 27 59.6 -1.6**
HNS HongShan 30.18 348 ⇑P **P** **18 28 02.1 +0.8**
HNS S **S** **18 33 00.1 +0.7**
HNS pmax pmax
comp=Z,31nm,1.4s
HNS pmax pmax
comp=Z,690nm,10.0s
HNS LR LR
comp=Z,5μm,15.3s
HNS LR LR
comp=Z,1μm,15.5s
HNS LR LR
comp=Z,5μm,16.0s
WR0 Warramunga Arr 30.23 156 P **P** **18 28 00.7 -1.3**
HJU Haeju 30.26 6 P **P** **18 28 02.9 +0.9**
HJU sP **sP** **18 28 10.4 -0.3**
HJU S **S** **18 33 07.4 +6.7**
HJU AmB
comp=Z,576nm,2.0s
HJU AMS AMS
comp=N,13μm,17.4s
HJU AMS AMS
comp=E,6μm,7.6s
HJU AMS AMS
comp=Z,14μm,17.8s
PMG Port Moresby 30.31 124 *c iP* **P** **18 28 01.3 -1.5**
PMG pmax pmax
comp=Z,100nm,1.7s
PMG Port Moresby 30.31 124 P **P** **18 28 01.2 -1.6**
PMG Port Moresby 30.31 124 ⇑P **P** **18 28 01.5 -1.3**
PMG Port Moresby 30.31 124 P **P** **18 28 02.5 -0.2**
PMG Port Moresby 30.31 124 P **P** **18 28 02.6 -0.2**
INU Inuyama 30.64 24 P **P** **18 28 04.2 -1.2**
INU IAmb IAmb 18 28 06.7
comp=Z,134nm,1.4s
INU Inuyama 30.64 24 ⇑P **P** **18 28 04.4 -1.0**
INU Inuyama 30.64 24 P **P** **18 28 04.8 -0.6**
DL2 Dalian 30.95 359 P **P** **18 28 08.5 +0.4**
DL2 S **S** **18 33 06.1 -5.2**
DL2 pmax pmax
comp=Z,77nm,1.0s
DL2 pmax pmax
comp=Z,1μm,11.1s
DL2 LR LR
comp=Z,3μm,15.2s
DL2 LR LR
comp=Z,5μm,15.7s
DL2 LR LR
comp=Z,5μm,16.3s
TIY Taiyuan 31.00 345 *eP* **P** **18 28 09.5 +0.8**
TIY PP **PnPn** **18 29 11.5 +1.5**
TIY S **S** **18 33 12.9 +0.5**
TIY pmax pmax
comp=Z,1μm,11.3s
TIY LR LR
comp=Z,6μm,18.6s
TIY LR LR
comp=Z,5μm,13.9s
TIY LR LR
comp=Z,8μm,18.8s
PYAG Pyongyang 31.27 6 P **P** **18 28 12.2 +1.3**
PYAG pP **pP** **18 28 14.6 -2.1**
PYAG S **S** **18 33 20.7 +4.4**
PYAG AmB
comp=Z,136nm,0.8s
PYAG AMS AMS
comp=N,372nm,2.5s
PYAG AMS AMS
comp=E,2μm,14.9s
PYAG AMS AMS
comp=Z,416nm,2.8s
MOKO MOKOCHONG 31.98 308 *eP* **P** **18 28 18.0 +0.4**
MAJO Matsushiro 32.16 25 ⇑*eP* **P** **18 28 16.5 -2.3**
MAJO pmax pmax
comp=Z,64nm,1.4s
MAJO Matsushiro 32.16 25 P **P** **18 28 16.6 -2.3**
MAJO Matsushiro 32.16 25 IAMs_20 IAMs_20 18 40 25.2
comp=Z,9μm,19.0s
MAJO Matsushiro 32.16 25 ⇑P **P** **18 28 16.6 -2.2**
MJAR Matsushiro Arr 32.16 25 P **P** **18 28 16.7 -2.1**
comp=Z,18nm,1.1s,baz=237,slow=8.3,SNR=12
MJAR PcP **PcP** **18 31 07.7 +0.1**
comp=Z,22nm,0.9s,baz=170,slow=3.0,SNR=9.9
MJAR LR LR 18 40 46.5
comp=Z,9μm,19.8s,baz=198,slow=35
MJAR Matsushiro Arr 32.16 25 P **P** **18 28 15.6 -3.3**
MJB9 Matsu-Tunnel 32.16 25 P **P** **18 28 16.0 -2.8**
SUJ Sinuiju 32.21 4 P **P** **18 28 19.5 +0.3**
SUJ sP **pP** **18 28 26.1 +1.1**
SUJ S **S** **18 33 39.0 +7.9**
SUJ AmB
comp=Z,263nm,1.2s
SUJ AMS AMS
comp=N,12μm,15.6s
SUJ AMS AMS
comp=E,13μm,16.8s
SUJ AMS AMS
comp=Z,12μm,14.4s
KRVT Keravat (AS076 32.25 111 LR LR 18 39 47.0
comp=Z,5μm,19.4s,baz=62,slow=33
RABL Rabaul 32.33 111 P **P** **18 28 19.6 -1.0**
RABL IAmb IAmb 18 28 24.6
comp=Z,101nm,0.7s
RABL Rabaul 32.33 111 ⇑P **P** **18 28 20.5 -0.2**
RABL Rabaul 32.33 111 P **P** **18 28 24.6 +3.9**
HHU Hamhung 32.34 8 P **P** **18 28 22.1 +1.8**
HHU sP **pP** **18 28 27.4 +1.3**
HHU S **S** **18 33 36.7 +3.7**
HHU AmB
comp=Z,257nm,1.2s
HHU AMS AMS
comp=N,91nm,14.2s
HHU AMS AMS
comp=E,130nm,20.5s
HHU AMS AMS
comp=Z,54nm,8.5s
BJT Baijiatuao 32.48 352 P **P** **18 28 22.0 +0.4**
BJT pmax pmax
comp=Z,140nm,1.3s
BJT MLR MLR
comp=Z,5μm,18.0s
BJT Baijiatuao 32.48 352 P **P** **18 28 22.0 +0.4**
BJT IAmb IAmb 18 28 24.6
comp=Z,140nm,1.3s
BJI Beijing 32.50 352 P **P** **18 28 22.4 +0.6**
BJI PP **PP** **18 29 36.3 +0.9**
BJI S **S** **18 33 36.4 +0.8**
BJI pmax pmax
comp=Z,110nm,1.4s
BJI pmax pmax
comp=Z,1μm,10.8s
BJI LR LR
comp=Z,4μm,16.3s
BJI LR LR
comp=Z,3μm,19.5s
BJI LR LR
comp=Z,7μm,17.0s
LZH Lanzhou 32.68 332 ⇑P **P** **18 28 25.3 +1.7**
LZH sP pwP 18 28 33.8 -0.3
LZH S **S** **18 33 38.8 0.0**
LZH SS **SnSn** **18 35 38.3 +3.7**
LZH pmax pmax
comp=Z,68nm,1.3s
LZH pmax pmax
comp=Z,1μm,5.2s
LZH LR LR
comp=Z,13μm,13.6s
LZH LR LR
comp=Z,14μm,13.0s
LZH LR LR
comp=Z,18μm,16.3s
JYT Yasato 32.77 28 P **P** **18 28 20.3 -3.8**
ITAN ITANAGAR 33.01 309 *eP* **P** **18 28 27.5 +1.1**
ITAN IAmb IAmb 18 28 31.4
comp=Z,102nm,0.9s
QIS Mount Isa 33.07 149 P **P** **18 28 26.6 -0.4**
baz=33,SNR=27
QIS Mount Isa 33.07 149 P **P** **18 28 26.8 -0.2**
BELO BELONIA 33.12 301 *eP* **P** **18 28 31.0 +3.6**
WRKA Warakurna 33.23 170 P **P** **18 28 27.9 -0.4**
baz=33,SNR=41
WRKA Warakurna 33.23 170 ⇑P **P** **18 28 27.9 -0.4**
WRKA Warakurna 33.23 170 P **P** **18 28 28.2 -0.1**
AS31 Alice Springs 33.38 160 P **P** **18 28 29.0 -0.7**
ASAR Alice Springs 33.38 160 P **P** **18 28 29.2 -0.4**
comp=Z,20nm,0.6s,baz=337,slow=6.7,SNR=195
ASAR PcP **PcP** **18 31 10.3 -0.9**
comp=Z,16nm,0.9s,baz=346,slow=3.1,SNR=7.5
ASAR ScP **ScP** **18 34 52.6 -1.9**
comp=Z,3.5nm,1.1s,baz=353,slow=3.7,SNR=4.2
ASAR LR LR 18 44 43.0
comp=Z,3μm,18.5s,baz=326,slow=41
ASAR Alice Springs 33.38 160 P **P** **18 28 28.8 -0.8**
JSD Sado 33.46 24 P **P** **18 28 27.9 -2.2**
JSD **PcP** **18 31 11.6 +0.4**
JSD Sado 33.46 24 ⇑P **P** **18 28 28.0 -2.2**
TEZP TEZPUR 33.47 308 *eP* **P** **18 28 31.0 +0.6**
AGT Agartala 33.53 302 *eP* **P** **18 28 33.8 +2.8**
AGT IAmb IAmb 18 28 34.6
comp=Z,76nm,0.7s
SHL Shillong 33.72 305 P **P** **18 28 32.4 -0.4**
SHL pmax pmax
comp=Z,172nm,1.0s
SHL Shillong 33.72 305 P **P** **18 28 32.4 -0.4**
SHL IAmb IAmb 18 28 46.9
comp=Z,172nm,1.0s
SHL Shillong 33.72 305 *eP* **P** **18 28 33.7 +0.9**
SHL IAmb IAmb 18 28 46.6
comp=Z,165nm,1.1s
SHL Shillong 33.72 305 P **P** **18 28 33.8 +1.0**
SNR=37
SNY Shenyang 33.89 2 ⇑P **P** **18 28 34.0 +0.2**
SNY pmax pmax
comp=Z,130nm,1.3s
SNY pmax pmax
comp=Z,2μm,12.0s
SNY LR LR
comp=Z,6μm,15.8s
SNY LR LR
comp=Z,7μm,15.6s
SNY LR LR
comp=Z,8μm,18.7s
MTSU Mount Surprise 33.90 140 P **P** **18 28 34.0 -0.2**
baz=34,SNR=17
MTSU Mount Surprise 33.90 140 P **P** **18 28 34.7 +0.5**
comp=Z,19nm,0.8s
HHC Hu-ho-hao-te 34.18 346 *eP* **P** **18 28 37.6 +1.0**
HHC S **S** **18 34 00.4 -1.6**
HHC SS **SnSn** **18 36 13.8 +2.8**
HHC pmax pmax
comp=Z,67nm,0.9s
HHC pmax pmax
comp=Z,2μm,7.8s
HHC LR LR
comp=Z,9μm,16.5s
HHC LR LR
comp=Z,7μm,15.9s
BTO Baotou 34.36 344 *eP* **P** **18 28 40.1 +2.0**
BTO S **S** **18 34 08.6 +4.0**
BTO LR LR
comp=Z,35μm,17.9s
BTO LR LR
comp=Z,18μm,16.6s
JMM Marumori 34.38 27 P **P** **18 28 36.6 -1.6**
JMM IAmb IAmb 18 28 40.6
comp=Z,119nm,1.1s
JMM Marumori 34.38 27 ⇑P **P** **18 28 37.0 -1.3**
MEEK Meekatharra 34.42 185 P **P** **18 28 38.2 -0.5**
baz=35,SNR=15
MEEK Meekatharra 34.42 185 P **P** **18 28 38.7 0.0**
TURI Tura 34.97 304 *eP* **P** **18 28 45.0 +1.5**
TURI IAmb IAmb 18 28 58.1
comp=Z,170nm,1.2s
DHUB DHUBRI 35.45 305 *eP* **P** **18 28 48.6 +1.0**
DHUB IAmb IAmb 18 29 01.8
comp=Z,138nm,1.0s
MSHR Mys Shultsa 35.53 12 *c iP* **P** **18 28 49.2 +1.2**
MSHR pmax pmax
comp=Z,136nm,1.3s
CN2 Changchun 35.96 4 *eP* **P** **18 28 50.8 -0.9**
CN2 *es*P pP 18 28 57.8 +0.3
CN2 S **S** **18 34 28.4 -0.5**
CN2 SS **SnSn** **18 36 50.6 -3.1**
CN2 pmax pmax
comp=Z,50nm,1.8s
CN2 pmax pmax
comp=Z,1μm,5.0s
CN2 LR LR
comp=Z,5μm,18.0s
CN2 LR LR
comp=Z,3μm,18.0s
CN2 LR LR
comp=Z,7μm,18.0s
VLA Vladivostok 36.20 12 *c iP* **P** **18 28 54.4 +0.7**
VLA pmax pmax
comp=Z,166nm,1.1s
LSA Lhasa 36.25 311 P **P** **18 28 56.7 +1.7**
LSA pmax pmax
comp=Z,73nm,1.0s

LSA MLR MLR
comp=Z,5µm,21.0s
LSA Lhasa 36.25 311 P **P** **18 28 56.7 +1.7**
LSA Lhasa 36.25 311 P **P** **18 28 57.3 +2.3**
LSA S **S** **18 34 32.1 -2.7**
LSA pmax pmax
comp=Z,37nm,0.7s
LSA LR LR
comp=Z,3µm,20.6s
LSA LR LR
comp=Z,3µm,20.6s
LSA LR LR
comp=Z,3µm,19.9s
LSA Lhasa 36.25 311 P **P** **18 28 57.0 +2.0**
XLT XiLinHaoTe 36.31 353⇑*i*P **P** **18 28 55.1 +0.3**
XLT pP pP 18 28 59.8 -1.0
XLT sP sP 18 29 03.3 -0.4
XLT PP **PP** **18 30 22.3 +4.7**
XLT PcP **PcP** **18 31 19.4 0.0**
XLT S **S** **18 34 35.0 +0.5**
XLT pmax pmax
comp=Z,110nm,1.5s
XLT pmax pmax
comp=Z,2µm,11.0s
XLT LR LR
comp=Z,5µm,15.4s
XLT LR LR
comp=Z,5µm,18.1s
CTA Charters Tower 36.57 140 LR LR 18 47 08.6
comp=Z,4µm,18.6s,baz=331,slow=42
CTA Charters Tower 36.57 140 P **P** **18 28 57.7 +0.5**
CTA pmax pmax
comp=Z,66nm,0.8s
CTA Charters Tower 36.57 140 P **P** **18 28 58.1 +0.9**
JTM Tenmabayashi 36.94 24 P **P** **18 28 59.0 -1.1**
JTM Tenmabayashi 36.94 24⇑P **P** **18 28 59.5 -0.6**
GTK Tadong 37.12 306 *e*P **P** **18 29 04.0 +2.0**
GTK IAmb IAmb 18 29 16.9
comp=Z,384nm,1.7s
MORW Morawa 37.13 189 P **P** **18 29 01.7 -0.2**
baz=37,SNR=16
MORW Morawa 37.13 189 P **P** **18 29 00.3 -1.6**
MORW Morawa 37.13 189⇑P **P** **18 29 01.4 -0.5**
MORW Morawa 37.13 189 P **P** **18 29 02.9 +1.0**
MDJ Mudanjiang 37.23 9 P **P** **18 29 02.5 -0.1**
MDJ IAmb IAmb 18 29 04.9
comp=Z,202nm,1.0s
MDJ IAMs_20 IAMs_20 18 43 01.9
comp=Z,10µm,22.0s
MDJ Mudanjiang 37.23 9 P **P** **18 29 03.5 +0.9**
MDJ pP pP 18 29 06.0 -2.4
MDJ sP sP 18 29 10.4 -0.8
MDJ PP **PnPn** **18 30 30.8 +2.6**
MDJ S **S** **18 34 56.8 +8.4**
MDJ LR LR
comp=Z,6µm,21.6s
MDJ LR LR
comp=Z,8µm,22.5s
MDJ LR LR
comp=Z,9µm,21.8s
MDJ Mudanjiang 37.23 9 P **P** **18 29 03.4 +0.9**
GTA Gaotai 37.24 331 P **P** **18 29 04.4 +1.5**
GTA pP pP 18 29 08.8 +0.1
GTA sP sP 18 29 11.8 -0.2
GTA S **S** **18 34 52.3 +3.3**
GTA ScS **ScS** **18 39 13.6 -2.7**
GTA pmax pmax
comp=Z,110nm,1.5s
GTA pmax pmax
comp=Z,1µm,8.8s
GTA LR LR
comp=Z,10µm,15.1s
GTA LR LR
comp=Z,11µm,15.5s
GTA LR LR
comp=Z,15µm,16.3s
USA0B Ussuriysk Arra 37.26 12 P **P** **18 29 03.5 +0.7**
USA0B pmax pmax
comp=Z,168nm,1.0s
USA0B Ussuriysk Arra 37.26 12 P **P** **18 29 03.5 +0.7**
USA0B IAmb IAmb 18 29 04.5
comp=Z,168nm,0.9s
USRK Ussuriysk Ar. 37.26 12 P **P** **18 29 03.7 +0.9**
comp=Z,105nm,0.8s,baz=198,slow=7.5,SNR=145
USRK LR LR 18 43 56.6
comp=Z,6µm,20.6s,baz=179,slow=36
GOMU GeErMu 37.61 323 P **P** **18 29 08.4 +2.0**
GOMU pP pP 18 29 12.4 +0.2
GOMU sP pwP 18 29 16.0 -0.4
GOMU S **S** **18 35 00.6 +5.4**
GOMU pmax pmax
comp=Z,36nm,1.6s
GOMU pmax pmax
comp=Z,990nm,11.5s
GOMU LR LR
comp=Z,8µm,15.4s
GOMU LR LR
comp=Z,6µm,16.0s
GOMU LR LR
comp=Z,8µm,15.9s
OOD Oodnadatta 37.79 160 P **P** **18 29 07.9 +0.4**
TAPN Taplejung 37.86 305 *e*P **P** **18 29 09.8 +1.3**
ODAN Odare 37.92 304 *e*P **P** **18 29 10.2 +1.3**
comp=Z,180nm,1.0s
BNX BinXian 38.05 6⇑P **P** **18 29 09.6 +0.1**
BNX pP **pwP** **18 29 21.3 +1.8**
BNX PP **PnPn** **18 30 42.0 +3.8**
BNX S **S** **18 34 58.4 -2.4**
BNX sS **ScP** **18 35 16.4 +5.3**
BNX pmax pmax
comp=Z,840nm,1.2s
BNX pmax pmax
comp=Z,3µm,9.2s
BNX LR LR
comp=Z,3µm,14.1s
BNX LR LR
comp=Z,18µm,20.9s
BNX LR LR
comp=Z,12µm,19.9s
BLDU Ballidu 38.56 187 P **P** **18 29 13.7 -0.2**
baz=39,SNR=8.8
BLDU Ballidu 38.56 187 P **P** **18 29 13.7 -0.2**
RAMN Ramite 38.60 304 *e*P **P** **18 29 16.1 +1.4**
comp=Z,60nm,0.7s
FORT Forrest 38.82 172 P **P** **18 29 15.8 -0.2**
baz=39,SNR=43
FORT Forrest 38.82 172 P **P** **18 29 15.8 -0.2**
FORT IAmb IAmb 18 29 32.2
comp=Z,113nm,0.8s
FORT Forrest 38.82 172⇑P **P** **18 29 15.7 -0.4**
FORT Forrest 38.82 172 P **P** **18 29 17.0 +1.0**
JEW Eniwo 38.83 23 P **P** **18 29 16.2 +0.2**
JEW Eniwo 38.83 23⇑P **P** **18 29 16.6 +0.5**
ERM Erimo 38.83 25*ce*P **P** **18 29 16.4 +0.4**
ERM pmax pmax
comp=Z,147nm,1.7s
TEY Ternei 39.16 16⇑*e*P **P** **18 29 19.4 +0.6**
TEY pmax pmax
comp=N,40nm,1.5s
TEY pmax pmax
comp=E,10.0nm,1.5s
TEY pmax pmax
comp=E,100nm,3.5s
TEY pmax pmax
comp=N,200nm,3.7s
TEY pmax pmax
comp=Z,300nm,3.9s
TEY pmax pmax
comp=Z,80nm,1.5s
JIRN Jiri 39.22 305 *e*P **P** **18 29 21.5 +1.5**
KLBR Kellerberrin 39.41 186 P **P** **18 29 20.3 -0.7**
baz=40,SNR=6.9
KLBR Kellerberrin 39.41 186 P **P** **18 29 21.0 0.0**
GUN Gumba 39.57 305 *e*P **P** **18 29 24.3 +1.4**
comp=Z,287nm,0.7s
MULG Mulgathing 39.61 164 P **P** **18 29 23.1 +0.4**
INKA Innaminka 39.72 154 P **P** **18 29 26.4 +2.8**
PKI Pulchoki 39.82 304 *e*P **P** **18 29 25.6 +0.6**
comp=Z,101nm,1.0s
PKIN Phulchoki 39.83 304 *e*P **P** **18 29 25.7 +0.7**
comp=Z,82nm,0.9s
MUN Mundaring 39.97 188 P **P** **18 29 25.5 -0.2**
baz=40,SNR=7.7
MUN Mundaring 39.97 188 P **P** **18 29 26.7 +1.0**
KKN Kakani 40.01 304 *e*P **P** **18 29 27.4 +1.0**
comp=Z,122nm,0.8s
DMN Daman 40.08 304 *e*P **P** **18 29 28.1 +1.0**
comp=Z,86nm,0.8s
ASAJ Asahikawa 40.35 23 LR LR 18 46 07.4
comp=Z,6µm,21.5s,baz=225,slow=36
ASAJ Asahikawa 40.35 23 P **P** **18 29 28.9 +0.2**
ASAJ pmax pmax
comp=Z,219nm,1.3s
JKA Kamikawa-asahi 40.35 23 P **P** **18 29 28.9 +0.2**
JKA IAmb IAmb 18 29 31.2
comp=Z,219nm,1.3s
QLP Quilpie 40.42 149 P **P** **18 29 28.8 -0.7**
baz=40,SNR=22
QLP Quilpie 40.42 149⇑P **P** **18 29 29.4 -0.1**
QLP Quilpie 40.42 149 P **P** **18 29 30.3 +0.8**
GKN Gorkha 40.62 304 *e*P **P** **18 29 32.1 +0.7**
comp=Z,95nm,0.8s
PALK Pallekele 40.98 272 LR LR 18 48 39.6
comp=Z,3µm,18.2s,baz=201,slow=39
PALK Pallekele 40.98 272*de*P **P** **18 29 35.1 +0.7**
PALK pmax pmax
comp=Z,19nm,1.0s
PALK Pallekele 40.98 272 P **P** **18 29 35.0 +0.6**
PALK Pallekele 40.98 272 P **P** **18 29 36.0 +1.6**
PALK P **P** **18 29 36.0 +1.6**
PALK Pallekele 40.98 272⇓P **P** **18 29 35.7 +1.3**
LCRK Leigh Creek 41.10 159 P **P** **18 29 36.1 +1.1**
HIA Hailar 41.35 358 P **P** **18 29 37.1 +0.2**
HIA pmax pmax
comp=Z,87nm,1.2s
HIA MLR MLR
comp=Z,4µm,22.0s
HIA Hailar 41.35 358 P **P** **18 29 37.1 +0.2**
KOLN Koldanda 41.38 304 *e*P **P** **18 29 39.0 +1.3**
comp=Z,184nm,0.7s
DANN Dangsing 41.46 304 *e*P **P** **18 29 39.4 +0.9**
comp=Z,251nm,0.8s
HNR Honiara 41.47 114 LR LR 18 46 11.7
comp=Z,2µm,21.0s,baz=290,slow=35
HNR Honiara 41.47 114 P **P** **18 29 36.6 -1.7**
HNR pmax pmax
comp=Z,152nm,1.3s
HNR MLR MLR
comp=Z,3µm,20.0s
HNR Honiara 41.47 114 P **P** **18 29 36.6 -1.7**
HNR Honiara 41.47 114⇑P **P** **18 29 36.8 -1.5**
HNR Honiara 41.47 114 P **P** **18 29 39.4 +1.1**
YUK Yuzh-Kuril'sk 41.63 26⇑*e*P **P** **18 29 39.7 +0.5**
RK1H Rockhampton Ha 41.67 139 P **P** **18 29 41.4 +1.6**
comp=Z,70nm,0.9s
ULN Ulaanbaatar 41.89 345*c i*P **P** **18 29 42.5 +1.0**
ULN pmax pmax
comp=Z,233nm,1.7s
ULN Ulaanbaatar 41.89 345 P **P** **18 29 42.0 +0.5**
ULN IAmb IAmb 18 29 44.2
comp=Z,212nm,1.4s
ULN Ulaanbaatar 41.89 345 IAMs_20 IAMs_20 18 48 28.6
comp=Z,6µm,20.0s
ULN Ulaanbaatar 41.89 345 P **P** **18 29 42.3 +0.8**
ULN P **P** **18 29 42.3 +0.8**
ULN S **S** **18 35 58.6 +0.1**
ULN S **S** **18 35 58.6 +0.1**
ULN Ulaanbaatar 41.89 345⇑P **P** **18 29 42.5 +1.0**
PYUN Piuthan 42.00 304 *e*P **P** **18 29 44.2 +1.4**
comp=Z,180nm,0.8s
SONM Songino Array 42.03 344 P **P** **18 29 43.3 +0.6**
comp=Z,48nm,0.9s,baz=162,slow=8.6,SNR=256
SONM PcP **PcP** **18 31 37.5 0.0**
comp=Z,6.1nm,1.0s,baz=151,slow=3.2,SNR=1.7
SONM LR LR 18 48 35.7
comp=Z,6µm,20.4s,baz=150,slow=38
SONM Songino Array 42.03 344 P **P** **18 29 42.8 +0.1**
SONM pmax pmax
comp=Z,134nm,1.2s
SONM Songino Array 42.03 344 P **P** **18 29 42.8 +0.1**
KLR Kul'dur 42.06 9 PcP **PcP** **18 31 37.2 -0.1**
comp=Z,18nm,1.0s,baz=213,slow=4.1,SNR=2.8
KLR LR LR 18 47 12.5
comp=Z,4µm,20.2s,baz=194,slow=36
KLR Kul'dur 42.06 9*c i*P **P** **18 29 43.1 +0.4**
KLR pmax pmax
comp=Z,339nm,1.5s
RKGY Rocky Gully 42.48 186 P **P** **18 29 44.8 -1.4**
baz=43,SNR=7.7
BBOO Buckleboo 42.56 162 P **P** **18 29 46.8 -0.2**
baz=43,SNR=9.8
BBOO Buckleboo 42.56 162 P **P** **18 29 46.5 -0.5**
BBOO Buckleboo 42.56 162 P **P** **18 29 47.5 +0.5**
YSS Yuzh-Sakhalins 42.82 21*ci*P **P** **18 29 49.2 +0.3**
YSS *e**SP **pwP** **18 29 59.8 +0.3**
YSS *e* 18 31 27.3
YSS *e* 18 31 40.2
YSS *e*S **S** **18 36 13.7 +1.7**
YSS pmax pmax
comp=Z,60nm,1.3s
YSS pmax pmax
comp=Z,2µm,8.8s
YSS pmax pmax
comp=E,600nm,6.0s
YSS smax smax
comp=N,700nm,11.2s
YSS Yuzh-Sakhalins 42.82 21 P **P** **18 29 48.2 -0.7**
YSS Yuzh-Sakhalins 42.82 21 P **P** **18 29 49.5 +0.6**
RMQ Roma 42.84 144 P **P** **18 29 49.7 +0.3**
baz=43,SNR=28
RMQ Roma 42.84 144 P **P** **18 29 50.1 +0.7**
JBP Jabalpur 43.12 296⇓*e*P **P** **18 29 53.4 +1.7**
JBP *ex* x 18 29 53.4
JBP *e*S **S** **18 36 21.3 +4.3**
WHYH Whyalla 43.24 161 P **P** **18 29 53.1 +0.7**
comp=N,59nm,0.8s
HYB Hyderabad 43.41 287 *e*P **P** **18 29 55.5 +1.3**
HYB IAmb IAmb 18 29 56.8
comp=Z,63nm,0.9s
HYBB Hyderabad (bro 43.41 287 *e*P **P** **18 29 54.7 +0.6**
HYBB *ep*P **pP** **18 29 59.5 -0.5**
HYBB *es*P **sP** **18 30 01.9 -0.5**
HYBB IVmB_BB 18 30 08.2
comp=Z,578nm,1.6s
HYBB *e*PP **PP** **18 31 35.3 0.0**
HYBB *e*PcP **PcP** **18 31 42.3 -0.3**
HYBB *e*ScP **ScP** **18 35 33.4 +0.6**
HYBB *e*S **S** **18 36 24.0 +2.5**
HYBB *es*cS **ScS** **18 39 54.0 +0.5**
HYBB IVMs_BB IVMs_BB 18 46 23.9
comp=Z,728nm,21.9s
EIDS Eidsvold 43.44 140 P **P** **18 29 53.8 -0.5**
baz=44,SNR=17
EIDS Eidsvold 43.44 140 P **P** **18 29 53.0 -1.3**
EIDS Eidsvold 43.44 140⇑P **P** **18 29 53.4 -0.9**
EIDS Eidsvold 43.44 140 P **P** **18 29 54.8 +0.6**
KUR Kuril'sk 43.45 27 *e*P P 18 29 47.7 -6.3
KUR *e* 18 31 39.4
KUR *e*PPP PPP 18 32 12.7
KUR *e*S **S** **18 36 23.2 +2.0**
KUR *es*SS SSS 18 40 17.2
KUR pmax pmax
comp=Z,377nm,1.3s
KUR pmax pmax
comp=Z,3µm,5.4s
KUR MLR MLR
comp=Z,2µm,16.0s
NAPP Napperby 43.56 160 P **P** **18 29 56.7 +1.6**
comp=Z,30nm,0.6s
STKA Stephens Creek 43.68 156 P **P** **18 29 56.5 +0.4**
comp=Z,66nm,0.7s,baz=327,slow=7.8,SNR=96
STKA Stephens Creek 43.68 156 P **P** **18 29 56.5 +0.4**
baz=44,SNR=83
STKA Stephens Creek 43.68 156*c i*P **P** **18 29 56.3 +0.3**
STKA Stephens Creek 43.68 156 P **P** **18 29 55.6 -0.4**
STKA Stephens Creek 43.68 156 P **P** **18 29 56.9 +0.9**
HTT Hallett 44.05 160 P **P** **18 29 59.5 +0.5**
baz=44,SNR=49
HTT Hallett 44.05 160⇑P **P** **18 29 59.4 +0.3**
HTT Hallett 44.05 160 P **P** **18 30 00.0 +0.9**
UGL Uglegorsk 44.43 19 *e*P **P** **18 30 02.6 +0.8**
UGL *es* **S** **18 36 29.6 -5.8**
UGL pmax pmax
comp=Z,200nm,1.7s
UGL pmax pmax
comp=Z,2µm,10.0s
UGL smax smax
comp=N,2µm,12.0s
UGL smax smax
comp=E,2µm,12.0s
UGL MLR MLR
comp=N,2µm,15.0s
GRNR Gornyy 44.44 13⇑*i*P **P** **18 30 03.0 +1.1**
GRNR *e* 18 31 46.0
GRNR pmax pmax
comp=N,20nm,0.8s
GRNR pmax pmax
comp=Z,30nm,0.7s
GRNR MLR MLR
comp=E,860nm,16.0s
CIT Chita 44.61 353 *e*P **P** **18 30 04.3 +1.0**
CIT *e* 18 31 44.6
CIT *e* 18 31 50.4
CIT *e* 18 32 25.0
CIT *e* 18 39 53.1
CIT pmax pmax
comp=Z,275nm,2.5s
PCHI Peechi 45.16 277⇓*e*P **P** **18 30 09.6 +1.4**
PCHI *e*S **S** **18 36 50.4 +3.4**
CMSA Cobar Meteorol 45.21 151 P **P** **18 30 09.0 +0.8**
baz=45,SNR=104
CMSA Cobar Meteorol 45.21 151 P **P** **18 30 09.3 +1.0**
ZAK Zakamensk 45.21 343 *e*P **P** **18 30 08.3 +0.1**
ZAK pmax pmax
comp=Z,104nm,1.6s
TWOA Tennyson Woods 45.40 161 P **P** **18 30 11.3 +1.6**
comp=Z,88nm,0.6s
BHPL Bhopal 45.43 295 *e*P **P** **18 30 11.5 +1.2**
BHPL IAmb IAmb 18 30 12.9
comp=Z,71nm,0.7s
ZEA Zeya 45.97 4 *e*P **P** **18 30 14.5 +0.5**
ZEA *e* 18 31 53.6
ZEA *e*S **S** **18 36 56.6 -1.0**
ZEA *e*SS **SS** **18 40 19.1 -3.5**
ZEA pmax pmax
comp=N,70nm,1.2s
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=Z,140nm,1.0s
ZEA pmax pmax
comp=N,300nm,6.6s
ZEA pmax pmax
comp=Z,800nm,10.0s
ZEA pmax pmax
comp=Z,800nm,9.4s
ZEA smax smax
comp=E,600nm,13.7s
ZEA smax smax
comp=N,900nm,16.4s
TYV Tymovskoe 46.18 18 *e*P **P** **18 30 16.9 +1.2**
TYV *e*S **S** **18 37 05.7 +5.0**
TYV pmax pmax
comp=Z,40nm,1.2s
TYV pmax pmax
comp=Z,2µm,6.5s
TYV smax smax
comp=N,2µm,9.6s
TYV smax smax
comp=E,1µm,9.6s
IRK Irkutsk 46.62 345 *e*P **P** **18 30 19.3 +0.1**
IRK pmax pmax
comp=Z,68nm,2.0s
WMQ Urumqi 46.73 326 *e*P **P** **18 30 21.9 +1.7**
WMQ sP pwP 18 30 36.0 +5.5
WMQ PcP **PcP** **18 31 51.3 -2.2**
WMQ S **S** **18 37 13.1 +4.2**
WMQ SS **SS** **18 40 29.9 -5.6**
WMQ pmax pmax
comp=Z,89nm,1.5s
WMQ pmax pmax
comp=Z,990nm,4.1s
WMQ LR LR
comp=Z,11µm,14.3s
WMQ LR LR
comp=Z,8µm,20.7s
WMQ LR LR
comp=Z,7µm,21.7s
MOY Mondy 47.02 342 *e*P **P** **18 30 23.9 +1.5**
MOY pmax pmax
comp=Z,361nm,1.6s
ARMA Armidale 47.46 145 P **P** **18 30 27.8 +1.7**
baz=48,SNR=20
ARMA Armidale 47.46 145 P **P** **18 30 26.6 +0.5**
ARMA IAmb IAmb 18 30 35.7
comp=Z,223nm,1.5s
ARMA Armidale 47.46 145⇑P **P** **18 30 27.4 +1.3**
ARMA Armidale 47.46 145 P **P** **18 30 27.8 +1.7**
NKL Nikolayevsk 47.66 15 *e*P **P** **18 30 25.1 -2.1**
NKL *e* 18 31 54.3
NKL *e*S **S** **18 37 15.0 -6.7**
NKL pmax pmax
comp=N,1.0nm,0.9s
NKL pmax pmax
comp=E,3.0nm,0.9s
NKL pmax pmax
comp=Z,161nm,1.4s
NKL pmax pmax
comp=Z,125nm,6.0s
NKL smax smax
comp=E,4.0nm,1.9s
NKL smax smax
comp=N,1.0nm,0.7s
NKL MLR MLR
comp=E,16nm,16.0s
NKL MLR MLR
comp=N,1.0nm,12.0s
NKL MLR MLR
comp=Z,4µm,18.0s
GOA Goa 47.75 284 *e*P **P** **18 30 30.0 +1.5**
GOA IAmb IAmb 18 30 33.2
comp=Z,60nm,0.9s
SMLA Simla 47.80 305 *e*P **P** **18 30 30.1 +1.4**
SMLA IAmb IAmb 18 30 33.2
comp=Z,110nm,0.7s
POO Poona 47.98 288 *e*P **P** **18 30 31.6 +1.2**
POO IAmb IAmb 18 30 44.9
comp=Z,62nm,0.7s
POO Poona 47.98 288 *e*P P 18 30 24.0 -6.3
ARPS Mount Arapiles 48.09 159 P **P** **18 30 31.2 +0.4**
baz=48,SNR=15
ARPS Mount Arapiles 48.09 159 P **P** **18 30 31.6 +0.8**
HMDM Hanimaadhoo 48.46 272 P **P** **18 30 36.4 +2.4**
MGCD Mangrove Creek 49.28 148 P **P** **18 30 41.2 +1.2**
baz=49,SNR=6.4
KAAM Kaadhehdhoo 49.42 264 IAMs_20 IAMs_20 18 51 21.6
comp=Z,5µm,22.0s
KAAM Kaadhehdhoo 49.42 264 P **P** **18 30 44.1 +2.7**
SYDH Sydney Hard Ro 49.52 148 P **P** **18 30 43.8 +2.0**
comp=Z,74nm,0.9s
BRAT Ballarat 49.56 157 P **P** **18 30 43.5 +1.5**
comp=Z,20nm,0.9s
RIV Riverview 49.79 148 P **P** **18 30 44.9 +1.1**
baz=50,SNR=4.0
CAN Canberra 49.88 151 P **P** **18 30 44.9 +0.3**
CAN pmax pmax
comp=Z,142nm,1.0s
CAN Canberra 49.88 151 P **P** **18 30 44.9 +0.3**
CAN IAmb IAmb 18 30 48.0
comp=Z,142nm,1.0s
CAN Canberra 49.88 151⇑P **P** **18 30 45.6 +1.0**
CAN Canberra 49.88 151 P **P** **18 30 46.1 +1.5**
CNB Canberra Magne 50.05 151 P **P** **18 30 46.8 +0.9**
baz=50,SNR=59
CNB Canberra Magne 50.05 151 P **P** **18 30 47.1 +1.1**
KOUNC Koumac, New Ca 50.19 125 P **P** **18 30 46.6 -0.5**
KOUNC Koumac, New Ca 50.19 125⇑P **P** **18 30 47.3 +0.1**
KOUNC Koumac, New Ca 50.19 125 P **P** **18 30 49.0 +1.8**
TOO Toolangi 50.20 156 P **P** **18 30 47.9 +1.0**
baz=50,SNR=27
TOO Toolangi 50.20 156 P **P** **18 30 47.5 +0.5**
TOO pmax pmax
comp=Z,129nm,1.3s
TOO Toolangi 50.20 156 P **P** **18 30 47.5 +0.5**
TOO IAmb IAmb 18 30 50.3
comp=Z,129nm,1.3s
TOO Toolangi 50.20 156⇑P **P** **18 30 47.7 +0.7**
TOO Toolangi 50.20 156 P **P** **18 30 48.3 +1.3**
BOD Bodaibo 50.26 354⇓*i*P **P** **18 30 47.8 +0.7**
BOD pmax pmax
comp=Z,171nm,1.5s
GEXS Deakin Univers 50.27 157 P **P** **18 30 50.8 +3.4**
comp=Z,45nm,0.9s
SANVU Saraoutou 50.36 117 P **P** **18 30 47.5 -0.9**
SANVU Saraoutou 50.36 117⇑P **P** **18 30 49.5 +1.0**

SANVU	Saraoutou	50.36	117	P		P	18 30 49.8	+1.3
ZSN	Zaisan	50.57	328	*e*P		P	18 30 49.1	-0.5
ZSN				*e*S		S	18 38 04.8	+2.0
ZSN	Zaisan	50.57	328	*e*P		P	18 30 49.2	-0.5
	baz=328							
ZSN				*e*S		S	18 38 04.8	+2.0
	baz=328							
SKR	Severo-Kuril's	51.21	27	*e*P		P	18 30 53.7	-0.6
SKR				*e*			18 32 49.4	
SKR				*e*PPP		PPP	18 33 48.1	
SKR				*e*S		S	18 38 12.2	+0.7
SKR				*e*SS		SS	18 41 37.3	-10
SKR				pmax		pmax		
	comp=Z,1µm,6.7s							
SKR				pmax		pmax		
	comp=Z,500nm,8.1s							
SKR				pmax		pmax		
	comp=Z,139nm,1.5s							
SKR				MLR		MLR		
	comp=Z,2µm,18.0s							
SHLS	Shalkode	51.24	321	*e*P		P	18 30 51.0	-3.9
SHLS				*e*S		S	18 38 09.3	-3.2
SHLS				pmax		pmax		
	comp=Z,98nm,2.0s							
SHLS	Shalkode	51.24	321	*e*P		P	18 30 51.1	-3.9
	comp=Z,98nm,2.0s,baz=321							
SHLS				*e*S		S	18 38 09.3	-3.2
	baz=321							
PDGK	Podgornoye	51.31	321	P		P	18 30 56.6	+1.1
UZB	Uzynbulak	51.51	320	*e*P		P	18 30 55.2	-1.8
UZB				*e*S		S	18 38 16.9	+0.6
UZB				pmax		pmax		
	comp=Z,80nm,1.6s							
UZB	Uzynbulak	51.51	320	*e*P		P	18 30 55.2	-1.8
	comp=Z,80nm,1.6s,baz=320							
UZB				*e*S		S	18 38 16.9	+0.6
	baz=320							
MK31	Makanchi Array	51.56	326	*i* P		P	18 30 58.3	+1.1
MK31				pmax		pmax		
	comp=Z,156nm,1.4s							
MK31	Makanchi Array	51.56	326	P		P	18 30 57.8	+0.6
MK31				IAmb		IAmb	18 31 00.1	
	comp=Z,129nm,1.4s							
MKAR	Makanchi Array	51.56	326	P		P	18 30 58.5	+1.4
	comp=Z,61nm,1.1s,baz=128,slow=7.8,SNR=165							
MKAR				ScP		ScP	18 36 06.2	-0.3
	comp=Z,3.4nm,0.9s,baz=102,slow=4.7,SNR=4.6							
MKAR				P4KPbc			19 08 25.1	
	comp=Z,0.5nm,0.8s,baz=116,slow=3.4,SNR=4.0							
TARG	Taragay, Kyrgy	51.61	318	P		P	18 30 58.8	+0.7
DGAR	Diego Garcia	51.71	254⇓	*e*P		P	18 30 57.0	-1.7
MAKZ	Makanchi	51.75	326	P		P	18 30 59.7	+1.2
MAKZ				pmax		pmax		
	comp=Z,214nm,1.4s							
MAKZ				MLR		MLR		
	comp=Z,12µm,18.0s							
MAKZ	Makanchi	51.75	326	P		P	18 30 59.7	+1.2
MAKZ				IAmb		IAmb	18 31 01.5	
	comp=Z,214nm,1.4s							
MAKZ	Makanchi	51.75	326	⇑P		P	18 30 59.9	+1.4
NIL	Nilore	51.75	307	P		P	18 30 59.1	+0.3
NIL				pmax		pmax		
	comp=Z,410nm,1.1s							
NIL	Nilore	51.75	307	P		P	18 30 59.1	+0.3
NIL	Nilore	51.75	307	P		P	18 30 59.9	+1.1
KSH	Kashi	51.87	315	P		P	18 31 02.5	+2.8
KSH				sP		pwP	18 31 12.8	+2.8
KSH				PP		PP	18 33 00.8	+3.1
KSH				PcS		PcS	18 36 12.1	+1.5
KSH				S		S	18 38 23.3	+2.0
KSH				ScS		ScS	18 40 50.3	+1.3
KSH				pmax		pmax		
	comp=Z,42nm,1.5s							
KSH				LR		LR		
	comp=Z,5µm,20.0s							
KSH				LR		LR		
	comp=Z,7µm,16.9s							
KSH				LR		LR		
	comp=Z,8µm,17.3s							
KPKS	Kokpek	51.89	321	*e*P		P	18 30 58.1	-1.6
KPKS				pmax		pmax		
	comp=Z,134nm,2.3s							
KPKS	Kokpek	51.89	321	*e*P		P	18 30 58.1	-1.6
	comp=Z,134nm,2.3s,baz=321							
DVP	Devils Point	52.17	120	P		P	18 31 03.5	+1.5
KDJ	Kajisay	52.21	318	P		P	18 31 03.2	+1.0
KDJ				pmax		pmax		
	comp=Z,46nm,1.0s							
KDJ	Kajisay	52.21	318	P		P	18 31 03.2	+1.0
NOUC	Port Laguerre	52.59	125	P		P	18 31 06.5	+1.4
DZM	Mont Dzumac	52.69	125	LR		LR	18 53 30.0	
	comp=Z,2µm,20.6s,baz=316,slow=36							
DZM	Mont Dzumac	52.69	125	*e*S		S	18 38 34.9	+2.0
	comp=Z,6µm,29.4s							
DZM				*e*LR		LR	18 46 20.4	
	comp=Z,6µm,24.4s							
DZM	Mont Dzumac	52.69	125	P		P	18 31 06.0	0.0
DZM				IAmb		IAmb	18 31 14.5	
	comp=Z,122nm,0.9s							
DZM	Mont Dzumac	52.69	125	⇑P		P	18 31 06.3	+0.3
DZM	Mont Dzumac	52.69	125	P		P	18 31 07.1	+1.1
LIFNC	LIFOU	52.72	123	P		P	18 31 06.1	0.0
LIFNC	LIFOU	52.72	123	P		P	18 31 07.2	+1.1
MDOK	Medeo	52.78	319	P		P	18 31 07.9	+1.5
MDOK	Medeo	52.78	319	*e*P		P	18 31 04.6	-1.9
	baz=320							
MDOK				*e*S		S	18 38 34.4	+0.7
	baz=320							
MDOK				LR		LR	18 53 48.9	
	baz=320							
TNSS	Tian-Shan	52.79	319	*e*P		P	18 31 05.8	-0.9
TNSS	Tian-Shan	52.79	319	*e*P		P	18 31 05.9	-0.9
	baz=319							
ARXS	Arharly	52.80	321	*e*P		P	18 31 07.2	+0.7
ONTNC	Ouen Toro	52.81	126	P		P	18 31 06.5	-0.3
ONTNC				IAmb		IAmb	18 31 09.3	
	comp=Z,106nm,1.1s							
ONTNC	Ouen Toro	52.81	126	P		P	18 31 07.8	+1.0
TDK	Taldyqorghan	52.84	322	*e*P		P	18 31 05.6	-1.1
TDK				*e*S		S	18 38 35.3	+1.1
TDK				pmax		pmax		
	comp=Z,371nm,2.0s							
TDK	Taldyqorghan	52.84	322	*e*P		P	18 31 05.6	-1.1
	comp=Z,371nm,2.0s,baz=322							
TDK				*e*S		S	18 38 35.3	+1.1
	baz=322							
TDK				LR		LR	18 53 51.2	
	baz=322							
ULHL	Ulahol	52.88	318	P		P	18 31 09.3	+2.0
	SNR=34							
AAA	Alma-Ata	52.89	319	*e*P		P	18 31 05.8	-1.3
AAA				*e*S		S	18 38 35.9	+0.9
AAA				pmax		pmax		
	comp=Z,210nm,1.7s							
AAA	Alma-Ata	52.89	319	*e*P		P	18 31 05.9	-1.3
	comp=Z,210nm,1.7s,baz=320							
AAA				*e*S		S	18 38 36.0	+0.9
	baz=320							
AAA				LR		LR	18 53 52.8	
	baz=320							
YATNC	Mamie plateau,	53.05	125	P		P	18 31 09.6	+1.1
	comp=Z,163nm,0.9s							
CHKK	Chushkaly	53.15	320	*e*P		P	18 31 08.0	-0.9
CHKK	Chushkaly	53.15	320	*e*P		P	18 31 08.1	-0.9
	baz=320							
OUENC	Ouen Island, N	53.18	125	P		P	18 31 10.0	+0.5
OUENC				IAmb		IAmb	18 31 18.2	
	comp=Z,90nm,1.0s							
OUENC	Ouen Island, N	53.18	125	P		P	18 31 10.8	+1.3
BOOM	Boomskoye usch	53.19	318	P		P	18 31 10.4	+0.9
BOOM				pmax		pmax		
	comp=Z,54nm,1.3s							
BOOM	Boomskoye usch	53.19	318	P		P	18 31 10.4	+0.9
KUU	Kurty	53.58	320	*e*P		P	18 31 10.8	-1.3
KUU				*e*S		S	18 38 45.6	+1.3
KUU				pmax		pmax		
	comp=Z,238nm,1.9s							
KUU	Kurty	53.58	320	*e*P		P	18 31 10.8	-1.3
	comp=Z,238nm,1.9s,baz=320							
KUU				*e*S		S	18 38 45.6	+1.3
	baz=320							
KUU				LR		LR	18 54 18.1	
	baz=320							
PEA0B	Petropavlovsk-	53.61	26	P		P	18 31 12.6	+0.4
PEA0B				pmax		pmax		
	comp=Z,162nm,1.3s							
PEA0B	Petropavlovsk-	53.61	26	P		P	18 31 12.6	+0.4
PEA0B				IAmb		IAmb	18 31 13.9	
	comp=Z,162nm,1.3s							
PETK	Petropavlovsk-	53.61	26	P		P	18 31 12.1	0.0
	comp=Z,25nm,0.9s,baz=210,slow=12,SNR=33							
PETK				PcP		PcP	18 32 19.0	+0.5
	comp=Z,32nm,1.0s,baz=169,slow=1.5,SNR=5.1							
PETK				LR		LR	18 57 23.5	
	comp=Z,3µm,18.0s,baz=219,slow=40							
PETK	Petropavlovsk-	53.61	26	P		P	18 31 12.0	-0.1
TKM2	Tokmak 2	53.61	319	P		P	18 31 14.4	+1.8
	SNR=35							
TKM2	Tokmak 2	53.61	319	*i* P		P	18 31 14.0	+1.4
TKM2				pmax		pmax		
	comp=Z,81nm,1.5s							
MARNC	Mare, Loyalty	53.70	124	P		P	18 31 13.0	-0.3
MARNC	Mare, Loyalty	53.70	124	⇓P		P	18 31 14.0	+0.7
MARNC	Mare, Loyalty	53.70	124	P		P	18 31 14.2	+0.9
	comp=Z,3.2nm,0.8s							
PINNC	Pines Island,	53.76	125	P		P	18 31 14.4	+0.7
PINNC				IAmb		IAmb	18 31 17.9	
	comp=Z,130nm,0.8s							
PINNC	Pines Island,	53.76	125	P		P	18 31 14.9	+1.2
KBK	Karagaybulak	53.92	318	P		P	18 31 17.0	+2.2
	SNR=42							
PET	Petropavlovsk	53.97	26	*e*P		P	18 31 13.9	-0.8
PET				*e*			18 32 17.5	
PET				*e*S		S	18 38 47.0	-2.1
PET				pmax		pmax		
	comp=Z,3µm,9.9s							
PET				pmax		pmax		
	comp=Z,343nm,1.5s							
PET				pmax		pmax		
	comp=Z,2µm,11.2s							
PET	Petropavlovsk	53.97	26	P		P	18 31 15.2	+0.4
PET				IAMs_20		IAMs_20	18 52 00.1	
	comp=Z,5µm,21.0s							
PET	Petropavlovsk	53.97	26	⇑P		P	18 31 15.4	+0.7
PET	Petropavlovsk	53.97	26	P		P	18 31 16.2	+1.5
	comp=Z,1µm,1.7s							
UCH	Uchtor	54.02	317	P		P	18 31 18.4	+2.4
	SNR=88							
GLAD	Gladstone	54.13	156	P		P	18 31 18.5	+2.5
	comp=Z,37nm,1.1s							
CORO	Coronation Par	54.18	157	P		P	18 31 19.3	+2.9
	comp=Z,17nm,1.3s							
CHMS	Chumysh	54.20	318	P		P	18 31 18.2	+1.5
	SNR=20							
CHMS	Chumysh	54.20	318	*i* P		P	18 31 17.7	+1.0
CHMS				pmax		pmax		
	comp=Z,65nm,1.3s							
AAK	Ala-Archa	54.21	318	P		P	18 31 18.9	+1.9
	SNR=37							
AAK	Ala-Archa	54.21	318	LR		LR	18 56 13.2	
	comp=Z,6µm,20.0s,baz=111,slow=38							
AAK	Ala-Archa	54.21	318	*c i* P		P	18 31 18.9	+1.9
AAK				pmax		pmax		
	comp=Z,98nm,1.7s							
AAK	Ala-Archa	54.21	318	P		P	18 31 17.2	+0.3
AAK				IAmb		IAmb	18 31 33.9	
	comp=Z,87nm,1.3s							
AAK	Ala-Archa	54.21	318	IAMs_20		IAMs_20	18 56 00.9	
	comp=Z,6µm,19.0s							
AAK	Ala-Archa	54.21	318	P		P	18 31 18.3	+1.3
AAK				P		P	18 31 18.3	+1.3
AAK				S		S	18 38 50.9	-2.3
AAK				S		S	18 38 50.9	-2.3
AAK	Ala-Archa	54.21	318	⇑P		P	18 31 18.9	+1.9
AAK				⇑P		pP	18 31 19.0	-4.0
AAK	Ala-Archa	54.21	318	*i* P		P	18 31 18.5	+1.6
	SNR=47							
YAK	Yakutsk	54.39	4	P		P	18 31 17.8	+0.2
	comp=Z,117nm,0.8s,baz=188,slow=2.5,SNR=128							
YAK				LR		LR	18 54 50.3	
	comp=Z,5µm,21.0s,baz=184,slow=36							
YAK	Yakutsk	54.39	4	*c i* P		P	18 31 18.1	+0.5
YAK				*e**PP		sP	18 31 29.5	+3.0
YAK				*e*			18 32 20.5	
YAK				*e*			18 33 16.9	
YAK				*e*S		S	18 38 57.6	+3.1
YAK				*e**SS		sS	18 39 17.3	+13
YAK				*e*			18 40 58.4	
YAK				*e*SS		SS	18 42 43.2	+6.3
YAK				*e*SSS		SSS	18 44 31.7	
YAK				pmax		pmax		
	comp=Z,442nm,1.1s							
YAK				pmax		pmax		
	comp=N,220nm,1.0s							
YAK				pmax		pmax		
	comp=E,78nm,1.1s							
YAK				pmax		pmax		
	comp=Z,289nm,2.6s							
YAK				pmax		pmax		
	comp=N,248nm,2.8s							
YAK				pmax		pmax		
	comp=E,173nm,2.3s							
YAK				smax		smax		
	comp=N,348nm,7.8s							
YAK				smax		smax		
	comp=E,886nm,10.8s							
YAK				MLR		MLR		
	comp=Z,6µm,22.0s							
YAK				MLR		MLR		
	comp=N,4µm,22.0s							
YAK	Yakutsk	54.39	4	P		P	18 31 17.2	-0.4
YAK				IAMs_20		IAMs_20	18 54 38.5	
	comp=Z,5µm,21.0s							
YAK	Yakutsk	54.39	4	⇑P		P	18 31 17.5	-0.1
SGDS	Sogindy	54.48	319	*e*P		P	18 31 17.3	-1.5
SGDS	Sogindy	54.48	319	*e*P		P	18 31 17.4	-1.5
	baz=319							
USP	Ospenovka	54.48	319	P		P	18 31 20.1	+1.4
	SNR=46							
AML	Almayashu	54.53	317	P		P	18 31 21.6	+2.0
	SNR=41							
AML	Almayashu	54.53	317	P		P	18 31 20.2	+0.6
AML	Almayashu	54.53	317	*i* P		P	18 31 21.1	+1.4
	SNR=41							
EKS2	Erkin-Say	54.70	318	P		P	18 31 22.6	+2.1
	SNR=52							
SEM	Semipalatinsk	54.79	329	*e*P		P	18 31 18.7	-2.4
SEM				*e*S		S	18 39 00.3	-0.5
SEM				pmax		pmax		
	comp=Z,140nm,2.2s							
SEM	Semipalatinsk	54.79	329	*e*P		P	18 31 18.7	-2.4
	comp=Z,140nm,2.2s,baz=328							
SEM				*e*S		S	18 39 00.4	-0.5
	baz=328							
DRK	Karamyk	54.83	313	P		P	18 31 22.5	+0.8
DRK				IAmb		IAmb	18 31 42.0	
	comp=Z,64nm,1.1s							
ZAA0	Zalesovo Array	54.87	334	P		P	18 31 20.7	-0.6
ZAA0				IAmb		IAmb	18 31 22.5	
	comp=Z,64nm,1.1s							
ZALV	Zalesovo Beam	54.87	334	P		P	18 31 21.6	+0.3
	comp=Z,22nm,0.7s,baz=122,slow=6.7,SNR=127							
ZALV				LR		LR	18 54 25.0	
	comp=Z,3µm,21.5s,baz=130,slow=36							
ZALV				PKP2bc			19 01 42.5	
	comp=Z,2.6nm,0.9s,baz=276,slow=4.3,SNR=8.7							
ZALV	Zalesovo Beam	54.87	334	*i* P		P	18 31 21.6	+0.3
ZALV				pmax		pmax		
	comp=Z,22nm,0.7s							
KBL	Kabul	55.35	307	P		P	18 31 25.4	0.0
KBL				pmax		pmax		
	comp=Z,89nm,1.2s							
KBL	Kabul	55.35	307	P		P	18 31 25.4	0.0
KBL				IAmb		IAmb	18 31 41.1	
	comp=Z,89nm,1.1s							
KBL	Kabul	55.35	307	P		P	18 31 26.4	+1.0
	SNR=45							
KBL				P		P	18 31 26.4	+1.0
	SNR=45							
KBL				S		S	18 39 10.7	+1.9
KBL				S		S	18 39 10.7	+1.9
TAU	Tasmania Unive	55.49	158	P		P	18 31 27.2	+1.3
TAU				pmax		pmax		
	comp=Z,31nm,0.9s							
TAU	Tasmania Unive	55.49	158	⇓P		P	18 31 27.0	+1.0
TAU	Tasmania Unive	55.49	158	P		P	18 31 26.9	+1.0
BTLS	Baital	55.57	320	*e*P		P	18 31 24.5	-2.0
BTLS				*e*S		S	18 39 11.3	+0.3
BTLS	Baital	55.57	320	*e*P		P	18 31 24.6	-2.0
	baz=320							
BTLS				*e*S		S	18 39 11.3	+0.3
	baz=320							
GAR	Garm	55.74	312	P		P	18 31 29.2	+1.1
BTK	Batken	55.74	314	P		P	18 31 28.8	+0.8
BTK				pmax		pmax		
	comp=Z,94nm,1.2s							
BTK	Batken	55.74	314	P		P	18 31 28.8	+0.8
BTK				IAmb		IAmb	18 31 48.9	
	comp=Z,94nm,1.2s							
KURBB	Kurchatov Arra	55.81	328	P		P	18 31 29.0	+0.9
KURK	Kurchatov	55.81	328	*c i* P		P	18 31 29.2	+1.0
KURK				pmax		pmax		
	comp=Z,259nm,1.1s							
KURK	Kurchatov	55.81	328	P		P	18 31 28.8	+0.6
KURK	Kurchatov	55.81	328	IAMs_20		IAMs_20	18 56 51.2	
	comp=Z,4µm,18.0s							
KURK	Kurchatov	55.81	328	P		P	18 31 29.3	+1.2
KURK				P		P	18 31 29.3	+1.2
KURK				P		P	18 31 29.3	+1.2
KURK				S		S	18 39 11.1	-2.9
KURK				S		S	18 39 11.1	-2.9
KURK				S		S	18 39 11.1	-2.9
KURK	Kurchatov	55.81	328	⇑P		P	18 31 29.4	+1.2
KURK				⇑P		pP	18 31 29.5	-5.5
MA2	Magadan	56.04	17	P		P	18 31 30.4	+0.8
	comp=Z,74nm,0.9s,baz=209,slow=7.3,SNR=147							
MA2				PcP		PcP	18 32 28.8	+1.1
	comp=Z,47nm,0.8s,baz=198,slow=4.4,SNR=5.9							
MA2				LR		LR	18 54 31.1	
	comp=Z,2µm,22.0s,baz=211,slow=35							
MA2	Magadan	56.04	17	*c i* P		P	18 31 30.5	+0.8
MA2				pmax		pmax		
	comp=Z,267nm,1.7s							
MA2	Magadan	56.04	17	⇑P		P	18 31 30.4	+0.8
MA2	Magadan	56.04	17	P		P	18 31 30.6	+1.0
DZA	Taraz	56.44	317	*e*P		P	18 31 31.2	-1.6
DZA				*e*S		S	18 39 24.1	+1.3
DZA				pmax		pmax		
	comp=Z,84nm,1.9s							
DZA	Taraz	56.44	317	*e*P		P	18 31 31.3	-1.6
	comp=Z,84nm,1.9s,baz=317							
DZA				*e*S		S	18 39 24.1	+1.3
	baz=317							
CHGR	Chuyangaron	56.48	312	P		P	18 31 34.0	+0.7
CHGR				pmax		pmax		
	comp=Z,210nm,1.2s							
CHGR	Chuyangaron	56.48	312	P		P	18 31 34.0	+0.7
CHGR				IAmb		IAmb	18 31 49.4	
	comp=Z,211nm,1.2s							
IUG	Iuzhnay	57.05	316	*e*P		P	18 31 36.0	-1.3
IUG				pmax		pmax		
	comp=Z,168nm,1.5s							
IUG	Iuzhnay	57.05	316	*e*P		P	18 31 36.0	-1.3
	comp=Z,168nm,1.5s,baz=316							
KK31	Karatay Array	57.08	317	*i* P		P	18 31 38.6	+1.2
KK31	Karatay Array	57.08	317	P		P	18 31 37.3	+0.6
KK31				IAmb		IAmb	18 31 53.3	
	comp=Z,97nm,1.2s							
KKAR	Karatay Array	57.08	317	P		P	18 31 37.4	0.0
KKAR				pmax		pmax		
	comp=Z,97nm,1.3s							
KKAR	Karatay Array	57.08	317	P		P	18 31 37.4	0.0
KKAR	Karatay Array	57.08	317	P		P	18 31 37.6	+0.3
KKAR				IAmb		IAmb	18 31 53.3	
	comp=Z,97nm,1.2s							
KKAR	Karatay Array	57.08	317	⇑P		P	18 31 38.1	+0.8
TAS	Tashkent	57.27	315	P		P	18 31 39.6	+0.8
TAS				pmax		pmax		
	comp=Z,73nm,0.8s							
TAS	Tashkent	57.27	315	P		P	18 31 39.5	+0.8
TAS				IAmb		IAmb	18 31 55.2	
	comp=Z,74nm,0.8s							
OTUK	Ortayu	58.07	323	P		P	18 31 45.3	+1.0
BRZS	Berezniki	58.68	325	*e*P		P	18 31 47.1	-1.4
BRZS				pmax		pmax		
	comp=Z,96nm,1.3s							
BRZS	Berezniki	58.68	325	*e*P		P	18 31 47.1	-1.4
	comp=Z,96nm,1.3s,baz=325							
FUNA	Funafuti	59.23	105	P		P	18 31 53.2	+0.3
FUNA	Funafuti	59.23	105	P		P	18 31 54.0	+1.2
SEY	Seymchan	59.24	16	P		P	18 31 53.8	+1.7
	comp=Z,73nm,0.9s,baz=227,slow=6.5,SNR=224							
SEY				LR		LR	18 57 16.1	
	comp=Z,4µm,20.9s,baz=218,slow=36							
SEY	Seymchan	59.24	16	*c i* P		P	18 31 53.7	+1.7
SEY				pmax		pmax		
	comp=Z,317nm,1.7s							
MIDW	Midway	60.46	62	IAMs_20		IAMs_20	18 53 09.9	
	comp=Z,5µm,21.0s							
HRA	Herat	60.78	305	P		P	18 32 03.9	+0.4
MSVF	Nonsavu	60.85	115	LR		LR	18 55 02.3	
	comp=Z,3µm,22.0s,baz=319,slow=33							
MSVF	Nonsavu	60.85	115	*c i* P		P	18 32 05.0	+1.0
MSVF				pmax		pmax		
	comp=Z,131nm,0.9s							
MSVF	Nonsavu	60.85	115	P		P	18 32 04.8	+0.8
MSVF	Nonsavu	60.85	115	P		P	18 32 05.1	+1.0
BRVK	Borovoye	61.45	327	*ce*P		P	18 32 08.0	+0.6
BRVK				pmax		pmax		
	comp=Z,143nm,1.1s							
BRVK	Borovoye	61.45	327	P		P	18 32 08.1	+0.7
BRVK	Borovoye	61.45	327	IAMs_20		IAMs_20	18 59 19.2	
	comp=Z,3µm,18.0s							
BRVK	Borovoye	61.45	327	P		P	18 32 08.2	+0.9
BRVK				S		S	18 40 29.3	+2.0
SHEM	Shemya Is, Ala	61.45	33	LR		LR	18 54 21.7	
	comp=Z,2µm,21.9s,baz=249,slow=32							
JLN	Jalan Bani Buh	61.77	291	P		P	18 32 10.4	+0.2
JLN				S		S	18 40 32.2	-0.3
WBK	Wadi Bani Khal	62.21	291	P		P	18 32 13.1	0.0
WBK				S		S	18 40 37.1	-0.9
WSAR	Wadi Sarin	62.55	292	LR		LR	19 04 13.2	
	comp=Z,1µm,18.3s,baz=107,slow=40							
WSAR	Wadi Sarin	62.55	292	P		P	18 32 15.4	0.0
WSAR				S		S	18 40 41.1	-1.2
JMDO	Jabal Madar	62.99	291	P		P	18 32 18.4	+0.1
JMDO				S		S	18 40 46.3	-1.5
BIDO	Bidbid	63.03	292	P		P	18 32 18.7	+0.2
	SNR=8.5							
BIDO				S		S	18 40 47.2	-1.1
MHTO	MHTO	63.07	289	P		P	18 32 18.6	-0.3
	SNR=11							
MHTO				S		S	18 40 46.5	-2.2
SMDO	Samad	63.08	292	P		P	18 32 19.1	+0.1
SMDO				S		S	18 40 47.4	-1.7
DQM	DQM	63.44	288	P		P	18 32 21.9	+0.6
DQM				S		S	18 40 53.0	-0.5
HOQ	Hoqain	63.78	292	P		P	18 32 23.6	+0.1
	SNR=7.9							
HOQ				S		S	18 40 57.0	-0.7
BSY	Bisya	63.84	291	P		P	18 32 24.1	+0.1
	SNR=9.8							
BSY				S		S	18 40 58.0	-0.5
TIXI	Tiksi	63.90	2	P		P	18 32 23.1	-0.3
	comp=Z,146nm,1.1s,baz=98,slow=19,SNR=230							
TIXI				LR		LR	19 01 46.4	
	comp=Z,7µm,20.3s,baz=181,slow=37							
TIXI	Tiksi	63.90	2	*c i* P		P	18 32 22.9	-0.5
TIXI				pmax		pmax		
	comp=Z,298nm,1.3s							
TIXI				MLR		MLR		
	comp=Z,7µm,20.0s							
TIXI	Tiksi	63.90	2	P		P	18 32 22.7	-0.7
TIXI	Tiksi	63.90	2	⇑P		P	18 32 23.1	-0.3
TIXI				⇑P		P	18 32 23.1	-0.3
ARQ	Araqi	64.49	292	P		P	18 32

SNR=5.2
SHME Shamm 64.98 295 P **P** **18 32 31.8 +0.4**
SNR=7.1
SHME S **S** **18 41 12.0 -0.3**
SHME Shamm 64.98 295 *i* P **P** **18 32 31.7 +0.4**
SNR=6.3
ASHO Ashiyiah 64.98 294 P **P** **18 32 31.5 +0.1**
SNR=9.4
ASHO S **S** **18 41 11.6 -0.9**
ASHO Ashiyiah 64.98 294 *i* P **P** **18 32 31.6 +0.2**
SNR=8.5
ALNE Al Ain 65.23 293 P **P** **18 32 33.7 +0.7**
SNR=9.4
ALNE Al Ain 65.23 293 *i* P **P** **18 32 33.1 +0.1**
SNR=8.7
NRIK Noril'sk 65.40 347 P **P** **18 32 33.2 0.0**
comp=Z,62nm,0.9s,baz=137,slow=6.4,SNR=87
NRIK LR LR 19 04 13.1
comp=Z,3µm,18.2s,baz=146,slow=39
NRIK Noril'sk 65.40 347*c i* P **P** **18 32 33.4 +0.2**
NRIK pmax pmax
comp=Z,99nm,0.9s
NRIK Noril'sk 65.40 347 P **P** **18 32 33.5 +0.2**
NRIK IAmb IAmb 18 32 34.3
comp=Z,82nm,0.9s
FAQ Al Faqa, Dubai 65.40 294 P **P** **18 32 34.0 -0.1**
FAQ S **S** **18 41 15.6 -2.0**
ASUD Al Ashush, Dub 65.64 293 P **P** **18 32 36.3 +0.6**
ASUD S **S** **18 41 18.1 -2.3**
ASUD Al Ashush, Dub 65.64 293 P **P** **18 32 35.7 +0.1**
UMZA Um Al Zommool 65.72 291 P **P** **18 32 36.0 -0.2**
UMZA S **S** **18 41 19.8 -1.8**
DMTO DMTO 65.89 286 P **P** **18 32 38.0 +0.6**
DMTO S **S** **18 41 25.8 +2.0**
AB31 Akbulak array 66.05 321 P **P** **18 32 38.0 +0.2**
ABKAR Akbulak array 66.05 321 P **P** **18 32 37.4 -0.4**
ABKAR IAmb IAmb 18 32 39.2
comp=Z,54nm,1.0s
ABKAR Akbulak array 66.05 321 ⇑P **P** **18 32 38.4 +0.6**
ABKAR ⇑P **P** **18 32 38.4 +0.6**
RBK Rabkut 66.61 286 P **P** **18 32 42.8 +0.8**
RBK P **P** **18 32 42.8 +0.8**
RBK S **S** **18 41 33.4 +0.9**
RBK S **S** **18 41 33.4 +0.9**
DOK Doka 66.66 287 S **P** **18 32 42.7 +0.4**
DOK S **S** **18 41 32.5 -0.5**
BILL Bilibino 66.89 17*d i* P **P** **18 32 43.2 +0.3**
BILL *i* 18 32 50.6
BILL *i* 18 33 09.0
BILL *i* 18 35 07.3
BILL *i* S **S** **18 41 33.3 -1.0**
BILL pmax pmax
comp=Z,185nm,1.3s
BILL MLR MLR
comp=Z,2µm,20.0s
BILL Bilibino 66.89 17 P **P** **18 32 43.0 +0.1**
MZWR Madinat Zayed 66.93 292 P **P** **18 32 43.9 0.0**
MZWR S **S** **18 41 33.9 -2.3**
WHFO Wadi Hawf 67.01 286 P **P** **18 32 44.7 +0.1**
WHFO P **P** **18 32 44.7 +0.1**
WHFO S **S** **18 41 36.1 -1.4**
WHFO S **S** **18 41 36.1 -1.4**
SOCY Socotra 67.02 280 P **P** **18 32 44.2 -0.6**
SOCY IAMs_20 IAMs_20 18 58 47.0
comp=Z,3µm,21.0s
SOCY Socotra 67.02 280 P **P** **18 32 45.5 +0.7**
SOCY Socotra 67.02 280 ⇑P **P** **18 32 44.6 -0.1**
SOCY ⇓P **pP** **18 32 45.0 -5.8**
MZR Muzera 67.28 292 P **P** **18 32 47.3 +1.1**
SNR=7.0
MZR S **S** **18 41 38.9 -1.6**
MZR Muzera 67.28 292 *i* P **P** **18 32 46.8 +0.6**
SNR=11
ABTO Aybut 67.47 286 P **P** **18 32 48.7 +1.1**
SNR=12
ABTO P **P** **18 32 48.7 +1.1**
SNR=12
ABTO S **S** **18 41 42.2 -0.8**
ABTO S **S** **18 41 42.2 -0.8**
MSEY Mahe Island 67.56 262 P **P** **18 32 46.8 -1.3**
MSEY pmax pmax
comp=Z,78nm,1.4s
MSEY MLR MLR
comp=Z,2µm,22.0s
MSEY Mahe Island 67.56 262 P **P** **18 32 46.8 -1.3**
MSEY IAmb IAmb 18 33 03.4
comp=Z,78nm,1.4s
MSEY Mahe Island 67.56 262 P **P** **18 32 50.9 +2.8**
MSEY S **S** **18 41 47.4 +3.3**
AKTO Aktyubinsk 67.57 322 LR LR 19 04 08.2
comp=Z,9µm,19.5s,baz=107,slow=38
AKTO Aktyubinsk 67.57 322 P **P** **18 32 47.6 +0.1**
LBZ Lake Benmore 67.68 145 P **P** **18 32 48.0 -0.2**
LBZ IAmb IAmb 18 32 51.5
comp=Z,99nm,1.1s
NNZ Nelson 67.78 140 IAMs_20 IAMs_20 19 03 11.1
comp=Z,3µm,20.0s
THZ Tophouse 67.78 141 P **P** **18 32 48.1 -0.9**
THZ IAmb IAmb 18 32 49.9
comp=Z,54nm,0.7s
THZ IAMs_20 IAMs_20 19 04 21.1
comp=Z,3µm,20.0s
RPZ Rata Peaks 67.78 144 LR LR 19 03 49.6
comp=Z,3µm,19.7s,baz=298,slow=37
RPZ Rata Peaks 67.78 144 P **P** **18 32 48.3 -0.7**
RPZ IAmb IAmb 18 32 53.3
comp=Z,68nm,1.0s
GHWR Ruwais 67.86 293 P **P** **18 32 50.1 +0.3**
GHWR S **S** **18 41 46.2 -1.1**
JRN Qarnain Island 67.90 294 P **P** **18 32 51.7 +1.7**
JRN S **S** **18 41 45.5 -2.3**
LTZ Lake Taylor 67.97 142 P **P** **18 32 49.4 -0.7**
LTZ IAmb IAmb 18 33 02.1
comp=Z,118nm,1.5s
SVE Sverdlovsk 68.06 329*de* P **P** **18 32 51.2 +0.8**
SVE *eS* **S** **18 41 49.5 +0.9**
SVE pmax pmax
comp=Z,226nm,1.4s
SVE MLR MLR
comp=Z,2µm,16.0s
OXZ Oxford 68.14 143 P **P** **18 32 49.7 -1.4**
OXZ IAmb IAmb 18 32 53.5
comp=Z,44nm,0.9s
OTVZ Oturere 68.17 138 P **P** **18 32 52.5 +0.9**
TUWZ Tuamarina 68.25 140 P **P** **18 32 50.1 -1.7**
ODZ Otahua Downs 68.34 145 P **P** **18 32 52.2 -0.2**
RAO Raoul Island 68.49 126 LR LR 19 02 30.9
comp=Z,807nm,20.4s,baz=294,slow=36
KHZ Kahutara 68.54 141 P **P** **18 32 52.5 -1.1**
KHZ IAmb IAmb 18 32 54.9
comp=Z,64nm,1.4s
KHZ IAMs_20 IAMs_20 18 58 51.1
comp=Z,4µm,20.0s
BHHZ Black Hill Sta 68.61 138 P **P** **18 32 53.9 -0.3**
URZ Urewera 68.70 136 LR LR 19 03 41.6
comp=Z,2µm,19.7s,baz=324,slow=36
URZ Urewera 68.70 136 P **P** **18 32 52.8 -1.9**
URZ IAMs_20 IAMs_20 19 03 20.7
comp=Z,3µm,19.0s
OGWZ Otaki Gorge 68.71 139 P **P** **18 32 53.9 -0.8**
MQZ McQueen's Vall 68.72 143 P **P** **18 32 55.0 +0.3**
MQZ IAmb IAmb 18 32 56.2
comp=Z,89nm,1.4s
BKZ Black Stump Fm 68.73 137 P **P** **18 32 53.9 -1.1**
BKZ Black Stump Fm 68.73 137 P **P** **18 32 54.8 -0.2**
BHW Baring Head 68.83 140 P **P** **18 32 53.9 -1.5**
BHW Baring Head 68.83 140 P **P** **18 32 54.6 -0.9**
SLWR Sila 68.94 293 P **P** **18 32 58.2 +1.6**
SLWR S **S** **18 41 59.6 -0.7**
ARU Arti 69.01 328 PKP2bc 19 01 07.7
comp=Z,0.3nm,0.3s,baz=230,slow=1.5,SNR=7.0
ARU LR LR 19 05 04.7
comp=Z,5µm,20.0s,baz=104,slow=38
ARU Arti 69.01 328*c i* P **P** **18 32 56.2 -0.2**
ARU 18 33 18.5
ARU 18 35 24.9
ARU PPP PPP 18 37 03.2
ARU S **S** **18 42 03.2 +3.3**
ARU 18 42 46.3
ARU pmax pmax
comp=Z,105nm,0.9s
ARU MLR MLR
comp=Z,4µm,19.0s
ARU Arti 69.01 328 IAMs_20 IAMs_20 19 04 52.2
comp=Z,4µm,20.0s
MSWZ Moikau Station 69.07 140 P **P** **18 32 55.8 -1.2**
AFI Afiamalu 69.13 108 LR LR 18 57 58.9
comp=Z,2µm,21.9s,baz=276,slow=31
KHOR Al-Khor Airpor 69.13 294 P **P** **18 32 58.7 +1.0**
KHOR S **S** **18 42 01.3 -1.1**
PLWZ Palliser 69.16 140 P **P** **18 32 56.1 -1.5**
PLWZ Palliser 69.16 140 P **P** **18 32 56.9 -0.7**
MXZ Matakaoa Point 69.20 135 P **P** **18 32 57.2 -0.6**
MXZ IAmb IAmb 18 32 59.1
comp=Z,65nm,0.8s
BFZ Birch Farm 69.33 139 P **P** **18 32 57.2 -1.4**
BFZ IAmb IAmb 18 33 02.3
comp=Z,65nm,0.8s
BFZ Birch Farm 69.33 139 P **P** **18 32 57.6 -1.1**
TRWZ Traveller 69.34 140 P **P** **18 32 58.0 -0.7**
TRNA Turayna 69.38 293 P **P** **18 33 00.8 +1.5**
TRNA S **S** **18 42 05.0 -0.5**
SHMA Al-Shehemyia 69.63 295 P **P** **18 33 02.3 +1.5**
SHMA S **S** **18 42 06.8 -1.5**
SMRA Abu-Samra 69.74 293 P **P** **18 33 02.7 +1.2**
SMRA S **S** **18 42 09.3 -0.3**
SAKB Bahrain 70.01 295 P **P** **18 33 04.6 +1.5**
SAKB S **S** **18 42 12.4 -0.4**
NIKH Nikolski High 71.25 37 P **P** **18 33 11.7 +1.5**
baz=258
SPIA Saint Paul Isl 71.45 32 P **P** **18 33 11.6 +0.3**
SPIA Saint Paul Isl 71.45 32 P **P** **18 33 12.0 +0.7**
baz=255
LKRN Lenkeran, Azer 72.09 308 P **P** **18 33 16.3 +0.8**
GAMB Gambell 72.63 25 P **P** **18 33 19.2 +0.9**
GAMB Gambell 72.63 25 P **P** **18 33 19.4 +1.2**
baz=252,SNR=48
UNV Unalaska Valle 72.80 36 P **P** **18 33 18.4 -1.0**
UNV IAmb IAmb 18 33 19.5
comp=Z,76nm,1.0s
UNV Unalaska Valle 72.80 36 P **P** **18 33 18.8 -0.6**
baz=260,SNR=6.7
MAK Makhachkala 73.40 312 *e*P **P** **18 33 20.7 -2.5**
MAK *e*S **S** **18 42 50.8 -0.4**
MAK *e*SSS SSS 18 50 52.7
MAK pmax pmax
comp=Z,123nm,1.6s
SEKA Sheki 73.49 311 P **P** **18 33 24.4 +0.5**
MNGR Mingechevir, A 73.54 310 P **P** **18 33 24.6 +0.5**
ZKTA Zakatala 73.95 311 P **P** **18 33 27.9 +1.4**
GANJ Ganja 74.11 310 P **P** **18 33 27.8 +0.3**
DDFL Dedoflistskaro 74.32 311 P **P** **18 33 32.2 +3.5**
KIRV Kirov 74.33 329 LR LR 19 08 30.9
comp=Z,4µm,19.2s,baz=102,slow=38
KIRV Kirov 74.33 329*c i* P **P** **18 33 28.1 -0.2**
BELG Belogornoye 74.34 322 LR LR 19 08 02.3
comp=Z,3µm,18.7s,baz=97,slow=37
BELG Belogornoye 74.34 322*c i* P **P** **18 33 28.5 0.0**
BELG pmax pmax
comp=Z,43nm,1.0s
CASY Casey 74.39 185 P **P** **18 33 28.0 -0.4**
GROC Groznyy 74.66 313 *e*P **P** **18 33 31.6 +1.0**
GROC *e* 18 33 45.9
GROC *e*S **S** **18 43 07.1 +1.6**
GROC pmax pmax
comp=Z,143nm,1.2s
NAX Nakhchivan 74.68 308 P **P** **18 33 32.2 +1.3**
TNA Tin City 74.70 24 P **P** **18 33 29.9 -0.5**
TNA IAmb IAmb 18 33 32.1
comp=Z,71nm,1.0s
TNA Tin City 74.70 24 P **P** **18 33 31.3 +0.9**
baz=255
FALS False Pass 74.74 35 P **P** **18 33 30.2 -0.6**
FALS IAmb IAmb 18 33 33.6
comp=Z,63nm,0.8s
FALS False Pass 74.74 35 P **P** **18 33 29.9 -0.9**
baz=262
GNI Garni 75.30 309 LR LR 19 10 39.5
comp=Z,2µm,21.8s,baz=88,slow=39
GNI Garni 75.30 309*c i* P **P** **18 33 36.2 +1.6**
GNI pmax pmax
comp=Z,246nm,1.7s
GNI Garni 75.30 309 P **P** **18 33 35.5 +0.9**
GNI IAmb IAmb 18 33 57.4
comp=Z,180nm,1.3s
GNI Garni 75.30 309 P **P** **18 33 37.4 +2.8**
GNI S **S** **18 43 12.8 -0.3**
GNI Garni 75.30 309 P **P** **18 33 36.6 +2.0**
ANM Nome 75.52 25 P **P** **18 33 35.7 +0.6**
ANM pmax pmax
comp=Z,169nm,1.2s
ANM Nome 75.52 25 P **P** **18 33 35.7 +0.6**
ANM IAmb IAmb 18 33 37.7
comp=Z,169nm,1.2s
ANM Nome 75.52 25 P **P** **18 33 36.2 +1.1**
baz=258,SNR=26
ZEI Tsey 76.03 312 *e*P **P** **18 33 36.9 -1.9**
ZEI pmax pmax
comp=Z,88nm,1.4s
NCK Nalchik 76.28 313⇑*e*P **P** **18 33 40.1 +0.2**
NCK pmax pmax
comp=Z,40nm,1.1s
AKH Akhalkalaki 76.29 311 ⇑P **P** **18 33 42.4 +2.1**
AKH Akhalkalaki 76.29 311 P **P** **18 33 42.3 +2.1**
ONI Oni 76.35 312 P **P** **18 33 42.0 +1.6**
ONI pmax pmax
comp=Z,136nm,1.5s
ONI Oni 76.35 312 P **P** **18 33 42.0 +1.6**
ONI IAmb IAmb 18 33 44.0
comp=Z,136nm,1.5s
SDPT Sand Point 76.48 35 P **P** **18 33 40.1 -0.6**
SDPT IAmb IAmb 18 33 53.1
comp=Z,68nm,0.8s
SDPT Sand Point 76.48 35 P **P** **18 33 40.1 -0.6**
baz=264
KARS Kars 76.58 310 P **P** **18 33 43.2 +1.3**
KARS pmax pmax
comp=Z,312nm,1.1s
KARS Kars 76.58 310 P **P** **18 33 43.2 +1.3**
PRGR Permogore 76.70 332 *e*P **P** **18 33 38.7 -3.2**
PRGR pmax pmax
comp=Z,55nm,0.9s
KBZ Khabaz 76.80 313 P **P** **18 33 43.4 +0.6**
comp=Z,32nm,1.1s,baz=88,slow=3.7,SNR=62
KBZ LR LR 19 12 40.1
comp=Z,1µm,18.6s,baz=70,slow=40
NEY Neytrino 76.91 313*de* P **P** **18 33 45.8 +2.1**
NEY pmax pmax
comp=Z,29nm,1.6s
KIV Kislovodsk 76.95 313 ⇑P **P** **18 33 44.5 +0.7**
KIV Kislovodsk 76.95 313 *e*P **P** **18 33 44.5 +0.7**
KIV *e* 18 36 36.1
KIV *e*S **S** **18 43 33.5 +2.5**
KIV *e*SS **SS** **18 48 31.9 +4.1**
KIV pmax pmax
comp=Z,73nm,1.0s
KIV pmax pmax
comp=Z,129nm,4.1s
KIV MLR MLR
comp=Z,1µm,18.0s
KIV Kislovodsk 76.95 313 P **P** **18 33 43.6 -0.3**
KIV IAmb IAmb 18 33 46.3
comp=Z,94nm,1.1s
KIV Kislovodsk 76.95 313 P **P** **18 33 45.8 +2.0**
KIV S **S** **18 43 34.2 +3.2**
KIV Kislovodsk 76.95 313 *i* P **P** **18 33 44.6 +0.7**
SNR=32
RDOG Red Dog Mine 77.20 22 P **P** **18 33 45.0 +0.4**
RDOG IAmb IAmb 18 33 46.3
comp=Z,153nm,1.1s
RDOG Red Dog Mine 77.20 22 P **P** **18 33 45.5 +0.8**
baz=259
CHVG Ch'k'valeri 77.36 312 ⇑P **P** **18 33 47.5 +1.4**
CHGN Chignik 77.73 34 P **P** **18 33 47.1 -0.7**
CHGN IAmb IAmb 18 33 48.3
comp=Z,87nm,1.2s
CHGN Chignik 77.73 34 P **P** **18 33 46.8 -0.9**
baz=266,SNR=6.4
VRH Novokhopyorsk 77.88 321 *e*P **P** **18 33 48.1 -0.6**
VRH pmax pmax
comp=Z,300nm,1.9s
VRH MLR MLR
comp=Z,2µm,17.0s
ATD Arta Tunnel 77.94 280 LR LR 19 07 25.3
comp=Z,599nm,21.9s,baz=74,slow=35
ATD Arta Tunnel 77.94 280 *e*P **P** **18 33 45.7 -4.2**
ATD *e*S **S** **18 43 46.2 +3.5**
ATD Arta Tunnel 77.94 280 *e*P **P** **18 33 45.7 -4.2**
ATD *e*S **S** **18 43 46.2 +3.5**
ATD IAMs_20 IAMs_20 18 43 49.4
comp=N,3µm,3.9s
ABPO Ambohimpanom 78.37 249 IAMs_20 IAMs_20 19 07 47.5
comp=Z,2µm,18.0s
KTUT Trabzon 79.09 310 ⇓P **P** **18 33 55.6 -0.1**
SOC Sochi 79.10 313 *e*P **P** **18 33 54.4 -1.2**
SOC *e* 18 36 52.7
SOC *e*PPP PPP 18 38 46.0
SOC *e*S **S** **18 43 55.7 +1.8**
SOC pmax pmax
comp=Z,64nm,0.9s
GCSA Galena City Sc 79.16 26 P **P** **18 33 56.5 +1.1**
baz=265,SNR=27
CHIR Chirikof Islan 79.26 35 P **P** **18 33 56.5 +0.2**
CHIR IAmb IAmb 18 33 57.7
comp=Z,101nm,0.9s
CHIR IAMs_20 IAMs_20 19 08 54.5
comp=Z,3µm,21.0s
CHIR Chirikof Islan 79.26 35 P **P** **18 33 57.1 +0.8**
baz=268
N18K Kilae Creek 79.33 30 P **P** **18 33 57.3 +0.7**
N18K IAmb IAmb 18 33 58.5
comp=Z,79nm,1.2s
N18K Kilae Creek 79.33 30 P **P** **18 33 57.5 +0.9**
baz=267,SNR=28
VOI Vohitsoka 79.39 246 P **P** **18 33 57.6 -0.1**
VOI IAMs_20 IAMs_20 19 06 27.5
comp=Z,2µm,19.0s
VOI Vohitsoka 79.39 246 P **P** **18 34 00.1 +2.3**
VOI Vohitsoka 79.39 246 P **P** **18 34 07.3 +10**
TTA Tatalina 79.41 27 P **P** **18 33 57.5 +0.5**
TTA pmax pmax
comp=Z,72nm,1.2s
TTA Tatalina 79.41 27 P **P** **18 33 57.5 +0.5**
TTA IAmb IAmb 18 33 58.7
comp=Z,72nm,1.2s
TTA Tatalina 79.41 27 P **P** **18 33 57.9 +0.9**
baz=266,SNR=49
VORD Divnogorie 79.41 320 *e*P **P** **18 33 56.7 -0.4**
VORD pmax pmax
comp=Z,60nm,0.8s
VORR Voronezh 79.47 321 *e*P **P** **18 33 57.4 0.0**
VORR pmax pmax
comp=Z,110nm,0.5s
VSR Storozhevoye 79.49 321 *e*P **P** **18 33 56.9 -0.7**
VSR pmax pmax
comp=Z,180nm,1.8s
VSR MLR MLR
comp=Z,3µm,18.0s
SVW2 Sparrevohn 79.51 29 P **P** **18 33 57.7 +0.2**
KLMR Klimovskoe 79.57 330 *e*P **P** **18 33 53.8 -4.0**
KLMR *e* 18 36 53.8
KLMR *e*S **S** **18 43 52.9 -5.3**
KLMR pmax pmax
comp=Z,114nm,1.0s
KLMR MLR MLR
comp=Z,3µm,17.0s
KLMR Klimovskoe 79.57 330 *e*P **P** **18 33 53.8 -4.0**
KLMR AMP 18 33 58.2
comp=Z,114nm,1.0s
KLMR *e*PP **PP** **18 36 53.9 -4.4**
KLMR *e*S **S** **18 43 52.9 -5.3**
KLMR *e*S **S** **18 43 52.9 -5.3**
KLMR *e*SS **SS** **18 48 58.8 -7.3**
KLMR *e*SS **SS** **18 48 58.8 -7.3**
KLMR LQ LQ 19 02 38.3
KLMR LQ LQ 19 02 38.3
KLMR LR LR 19 08 29.4
KLMR AMP 19 13 55.2
LPSR Galich'ya Gora 79.65 322 *e*P **P** **18 33 58.1 -0.3**
LPSR pmax pmax
comp=Z,110nm,1.0s
LPSR MLR MLR
comp=Z,2µm,18.0s
A21K Barrow 79.85 19 IAMs_20 IAMs_20 19 10 37.9
comp=Z,2µm,19.0s
A21K Barrow 79.85 19 P **P** **18 34 00.2 +1.1**
baz=264
L19K White Mountain 79.90 28 P **P** **18 34 00.2 +0.5**
L19K IAmb IAmb 18 34 02.2
comp=Z,121nm,1.1s
L19K White Mountain 79.90 28 P **P** **18 34 00.8 +1.1**
baz=268,SNR=74
N19K Bonanza Creek 80.03 30 P **P** **18 34 00.6 +0.2**
N19K IAmb IAmb 18 34 03.0
comp=Z,137nm,1.1s
N19K Bonanza Creek 80.03 30 P **P** **18 34 01.7 +1.2**
baz=268,SNR=58
SII Sitkinak Islan 80.08 34 P **P** **18 34 01.1 +0.4**
SII IAmb IAmb 18 34 04.3
comp=Z,99nm,0.8s
SII Sitkinak Islan 80.08 34 P **P** **18 34 01.2 +0.5**
baz=269,SNR=7.9
O19K Port Alsworth 80.09 30 P **P** **18 34 01.1 +0.5**
O19K IAmb IAmb 18 34 02.7
comp=Z,128nm,1.1s
O19K Port Alsworth 80.09 30 P **P** **18 34 01.2 +0.6**
baz=268,SNR=21
M19K Big River Lodg 80.11 29 P **P** **18 34 01.6 +0.8**
M19K IAmb IAmb 18 34 02.9
comp=Z,73nm,1.1s
J20K Nowinta River 80.30 26 P **P** **18 34 02.5 +0.8**
J20K Nowinta River 80.30 26 P **P** **18 34 03.0 +1.3**
baz=268,SNR=83
K20K Telida 80.31 27 P **P** **18 34 02.7 +0.9**
K20K IAmb IAmb 18 34 04.7
comp=Z,143nm,1.2s
K20K Telida 80.31 27 P **P** **18 34 03.1 +1.3**
baz=268,SNR=82
L20K Farewell, AK 80.37 28 P **P** **18 34 03.4 +1.2**
baz=268,SNR=41
AIN Ainahou 80.40 72 P **P** **18 34 04.0 +0.6**
Q19K Cape Douglas, 80.41 32 IAMs_20 IAMs_20 19 11 10.5
comp=Z,2µm,20.0s
MOS Moscow 80.44 325 *e*P **P** **18 34 01.6 -1.0**
MOS *e* 18 37 07.0
MOS pmax pmax
comp=Z,143nm,1.4s
MOS pmax pmax
comp=Z,300nm,1.7s
MOS MLR MLR
comp=Z,2µm,18.0s
IMAR Indian Mountai 80.54 24 P **P** **18 34 03.3 +0.4**
OHAK Old Harbor 80.58 33 P **P** **18 34 03.5 +0.2**
OHAK IAmb IAmb 18 34 06.9
comp=Z,60nm,0.8s
OHAK Old Harbor 80.58 33 P **P** **18 34 03.6 +0.3**
baz=270,SNR=9.6
P19K Oil Pt 80.63 31 P **P** **18 34 03.3 -0.3**
P19K Oil Pt 80.63 31 P **P** **18 34 03.3 -0.3**
baz=269,SNR=5.1
ANN Anapa 80.72 314 *e*P **P** **18 34 03.7 -0.6**
ANN *e**PP **pP** **18 34 07.3 -4.0**
ANN *e*S **S** **18 44 10.7 -0.2**
ANN *e* 18 44 23.7
ANN pmax pmax
comp=Z,184nm,1.2s
ANN pmax pmax
comp=N,41nm,1.0s
ANN pmax pmax
comp=E,14nm,1.3s
ANN MLR MLR
comp=Z,2µm,19.0s
ANN MLR MLR
comp=E,1µm,19.0s
RSO Redoubt South 80.88 30 P **P** **18 34 04.5 -0.6**
H21K Melozitna Rive 80.92 25 P **P** **18 34 05.8 +0.8**
H21K Melozitna Rive 80.92 25 P **P** **18 34 06.6 +1.5**
baz=269,SNR=107
O20K Slope Mountain 80.94 30 P **P** **18 34 05.0 -0.3**
baz=270,SNR=14
KDAK Kodiak Island 80.96 33 P **P** **18 34 05.4 +0.1**
comp=E,48nm,0.8s,baz=285,slow=4.4,SNR=40
KDAK LR LR 19 08 49.8
comp=E,3µm,20.2s,baz=277,slow=35
KDAK Kodiak Island 80.96 33 P **P** **18 34 05.7 +0.4**
KDAK pmax pmax
comp=Z,81nm,1.0s
KDAK MLR MLR
comp=Z,4µm,20.0s
KDAK Kodiak Island 80.96 33 P **P** **18 34 05.7 +0.4**
KDAK IAmb IAmb 18 34 06.5
comp=Z,81nm,0.9s
KDAK Kodiak Island 80.96 33 IAMs_20 IAMs_20 19 09 08.2

comp=Z,4µm,20.0s
KDAK Kodiak Island 80.96 33 P P 18 34 05.8 +0.4
baz=270
OBN Obninsk 81.05 325 ⇑P P 18 34 05.5 -0.4
OBN Obninsk 81.05 325 LR LR 19 11 37.4
comp=Z,670nm,18.9s,baz=84,slow=37
OBN Obninsk 81.05 325 *c iP* P 18 34 05.4 -0.4
OBN *e* 18 37 15.1
OBN *i* S **S** 18 44 14.9 +1.0
OBN *i* SS **SS** 18 49 36.3 +7.9
OBN pmax pmax
comp=Z,203nm,1.7s
OBN MLR MLR
comp=Z,3µm,17.0s
OBN Obninsk 81.05 325 P P 18 34 05.3 -0.5
OBN IAmb IAmb 18 34 07.6
comp=Z,84nm,1.1s
OBN IAMs_20 IAMs_20 19 11 24.8
comp=Z,3µm,18.0s
CHUM Lake Minchumin 81.10 27 P P 18 34 07.3 +1.3
baz=270,SNR=28
SPCR Spurr Chakacha 81.14 29 P P 18 34 06.6 +0.2
baz=270,SNR=27
PPLA Purkeypile 81.15 28 P P 18 34 07.1 +0.6
PPLA IAmb IAmb 18 34 08.0
comp=Z,87nm,1.0s
PPLA Purkeypile 81.15 28 P P 18 34 07.1 +0.6
baz=270,SNR=42
ANKE Ethiopia-Afar 81.19 279 *e*P P 18 34 06.5 -1.4
ANKE *e*S **S** 18 44 16.8 -1.0
ANKE Ethiopia-Afar 81.19 279 *e*P P 18 34 06.5 -1.4
ANKE *e*S **S** 18 44 16.8 -1.0
ANKE IAMs_20 IAMs_20 18 44 35.8
comp=E,582nm,5.8s
CAST Castle Rocks 81.20 27 P P 18 34 06.8 +0.2
CAST IAmb IAmb 18 34 08.8
comp=Z,168nm,1.0s
CAST Castle Rocks 81.20 27 P P 18 34 07.5 +0.9
baz=270,SNR=145
I21K Tanana 81.26 25 P P 18 34 08.1 +1.3
I21K IAmb IAmb 18 34 09.7
comp=Z,148nm,1.1s
I21K Tanana 81.26 25 P P 18 34 08.3 +1.5
baz=270,SNR=74
HOM Homer 81.44 31 P P 18 34 08.3 +0.5
HOM IAmb IAmb 18 34 15.0
comp=Z,123nm,0.9s
HOM Homer 81.44 31 P P 18 34 08.7 +0.8
baz=271
CNPM China Poot 81.64 31 P P 18 34 08.5 -0.5
CNPM IAmb IAmb 18 34 10.0
comp=Z,111nm,0.9s
CAPN Captain Cook N 81.66 30 P P 18 34 10.1 +1.1
baz=271
BPAW Bear Paw Mtn. 81.69 26 P P 18 34 09.4 +0.2
BPAW Bear Paw Mtn. 81.69 26 P P 18 34 10.0 +0.8
baz=271,SNR=144
KTH Kantishna Hill 81.72 27 P P 18 34 09.3 -0.1
KTH IAmb IAmb 18 34 12.5
comp=Z,65nm,1.1s
KTH IAMs_20 IAMs_20 19 11 08.0
comp=Z,2µm,21.0s
BRLK Bradley Lake 81.82 31 P P 18 34 09.4 -0.6
BRLK IAmb IAmb 18 34 12.8
comp=Z,125nm,0.8s
LVZ Lovozero 81.82 338⇑ *e*P P 18 34 09.4 -0.4
LVZ pmax pmax
comp=Z,60nm,1.7s
BRSE Bradley Lake S 81.89 31 P P 18 34 10.2 -0.1
baz=272,SNR=54
KVT Kavak 81.90 310 P P 18 34 12.4 +1.6
RAR Rarotonga 81.91 113 LR LR 19 08 50.9
comp=Z,594nm,18.9s,baz=280,slow=34
COLD Coldfoot 81.97 23 P P 18 34 11.9 +1.4
COLD IAmb IAmb 18 34 13.6
comp=Z,160nm,1.1s
COLD Coldfoot 81.97 23 P P 18 34 12.1 +1.6
baz=271,SNR=58
TRF Thorofare Moun 82.01 27 P P 18 34 10.9 -0.1
TRF IAmb IAmb 18 34 12.7
comp=Z,123nm,1.0s
TRF Thorofare Moun 82.01 27 P P 18 34 11.2 +0.1
baz=271,SNR=36
CUT Chulitna 82.05 28 P P 18 34 10.9 -0.1
CUT Chulitna 82.05 28 P P 18 34 11.0 0.0
baz=272
FIS Fire Island 82.11 29 P P 18 34 11.2 -0.1
FIS IAmb IAmb 18 34 13.3
comp=Z,168nm,1.0s
M22K Willow 82.14 29 P P 18 34 11.1 -0.3
baz=272,SNR=50
TOLK Toolik Lake Re 82.18 22 P P 18 34 12.5 +0.8
TOLK IAmb IAmb 18 34 14.0
comp=Z,172nm,1.1s
TOLK IAMs_20 IAMs_20 19 13 05.8
comp=Z,2µm,20.0s
TOLK Toolik Lake Re 82.18 22 P P 18 34 13.2 +1.6
baz=271,SNR=139
BNN Bunyan 82.19 308 P P 18 34 12.7 +0.1
AAE Adis Abeba 82.21 278⇓ *e*P P 18 34 07.7 -5.5
AAE ⇓*e*S **SKKSac** 18 44 37.5 +0.6
AAE Adis Abeba 82.21 278⇓ *e*P P 18 34 07.7 -5.5
AAE ⇓*e*S **SKKSac** 18 44 37.5 +0.6
AAE IAMs_20 IAMs_20 18 45 51.1
comp=E,2µm,19.2s
H23K Yukon River 82.26 25 P P 18 34 13.5 +1.3
H23K IAmb IAmb 18 34 14.6
comp=Z,107nm,1.1s
H23K Yukon River 82.26 25 P P 18 34 13.7 +1.5
baz=272,SNR=71
APA Apatity 82.30 337⇓ *i*P P 18 34 10.7 -1.6
APA *i* 18 34 17.0
APA *i* 18 37 21.0
APA *i* S **S** 18 44 23.0 -3.5
APA *i* PS **PnS** 18 45 20.0 +2.8
APA *i* SSS SSS 18 53 20.0
APA pmax pmax
comp=Z,19nm,1.0s
FURI Furi 82.31 278 IAMs_20 IAMs_20 19 13 00.5
comp=Z,3µm,18.0s
FURI Furi 82.31 278 *e*P P 18 34 15.1 +1.3
FURI *e*S **S** 18 44 30.2 +1.0
FURI Furi 82.31 278 *e*P P 18 34 15.1 +1.3
FURI *e*S **S** 18 44 30.2 +1.0
FURI IAMs_20 IAMs_20 18 44 56.2
comp=Z,3µm,22.4s
RC01 Rabbit Creek A 82.34 29 P P 18 34 12.3 -0.3
RC01 IAmb IAmb 18 34 13.8
comp=Z,102nm,1.0s
RC01 Rabbit Creek A 82.34 29 P P 18 34 12.4 -0.3
baz=272,SNR=28
BWN Browne 82.35 26 P P 18 34 13.3 +0.6
BWN IAmb IAmb 18 34 17.2
comp=Z,90nm,1.0s
I23K Minto, Yukon-K 82.36 25 P P 18 34 13.5 +0.9
I23K IAmb IAmb 18 34 17.3
comp=Z,54nm,0.8s
I23K Minto, Yukon-K 82.36 25 P P 18 34 13.7 +1.1
baz=272,SNR=52
O22K Cooper Landing 82.38 30 IAMs_20 IAMs_20 19 11 27.4
comp=Z,2µm,20.0s
O22K Cooper Landing 82.38 30 P P 18 34 12.6 -0.2
baz=272
NEA2 Nenana 82.51 26 P P 18 34 13.3 -0.2
NEA2 IAmb IAmb 18 34 15.6
comp=Z,75nm,0.8s
NEA2 Nenana 82.51 26 P P 18 34 13.6 +0.1
baz=272,SNR=86
SEW Seward 82.53 30 P P 18 34 13.3 -0.3
SEW IAmb IAmb 18 34 15.0
comp=Z,102nm,1.0s
SEW Seward 82.53 30 P P 18 34 13.7 +0.1
baz=273,SNR=29
MCK McKinley 82.61 27 P P 18 34 13.9 -0.1
MCK pmax pmax
comp=Z,205nm,1.0s
MCK MLR MLR
comp=Z,2µm,22.0s
MCK McKinley 82.61 27 P P 18 34 13.9 -0.1
MCK McKinley 82.61 27 P P 18 34 14.2 +0.2
baz=273,SNR=157
PMR Palmer 82.61 29 P P 18 34 13.9 -0.1
PMR pmax pmax
comp=Z,125nm,1.0s
PMR Palmer 82.61 29 P P 18 34 13.8 -0.1
PMR IAmb IAmb 18 34 15.2
comp=Z,125nm,1.0s
PMR Palmer 82.61 29 P P 18 34 13.9 -0.1
baz=273,SNR=28
RND Reindeer 82.66 27 P P 18 34 13.9 -0.4
RND pmax pmax
comp=Z,93nm,1.0s
RND MLR MLR
comp=Z,2µm,19.0s
RND Reindeer 82.66 27 P P 18 34 13.9 -0.4
RND IAmb IAmb 18 34 15.0
comp=Z,92nm,1.0s
RND IAMs_20 IAMs_20 19 11 27.6
comp=Z,2µm,19.0s
MDM Murphy Dome 82.85 25 P P 18 34 15.2 -0.1
MDM IAmb IAmb 18 34 17.9
comp=Z,113nm,1.2s
WRH Wood River Hil 82.94 26 P P 18 34 15.1 -0.6
WRH IAmb IAmb 18 34 20.5
comp=Z,134nm,1.5s
KNK Knik Glacier 82.95 29 P P 18 34 15.9 +0.1
KNK IAmb IAmb 18 34 17.1
comp=Z,128nm,1.0s
KNK IAMs_20 IAMs_20 19 11 17.4
comp=Z,2µm,19.0s
KNK Knik Glacier 82.95 29 P P 18 34 16.2 +0.4
baz=273,SNR=49
H24K Noodor Dome 82.95 25 P P 18 34 16.6 +0.8
H24K Noodor Dome 82.95 25 P P 18 34 17.1 +1.3
baz=273,SNR=85
SML Sawmill 82.98 29 P P 18 34 15.7 -0.3
SML Sawmill 82.98 29 P P 18 34 16.4 +0.4
baz=273,SNR=52
MMAI Mount Meron Ar 82.98 302 LR LR 19 16 48.7
comp=Z,1µm,19.5s,baz=243,slow=40
DILA Dilla 82.99 276 *e*P P 18 34 12.6 -4.5
DILA *e*S **S** 18 44 41.2 +5.4
DILA Dilla 82.99 276 *e*P P 18 34 12.6 -4.5
DILA *e*S **S** 18 44 41.2 +5.4
DILA IAMs_20 IAMs_20 18 44 50.5
comp=E,2µm,19.8s
GHAJ Ghor Haditha 82.99 301 P P 18 34 15.6 -1.0
GHAJ IAmb IAmb 18 34 20.2
comp=Z,72nm,0.8s
TCOL CIGO, UAF Yank 83.01 25 P P 18 34 15.9 -0.1
baz=273
COLA College 83.02 25 *c iP* P 18 34 15.9 -0.1
COLA pmax pmax
comp=Z,30nm,1.1s
COLA College 83.02 25 P P 18 34 15.8 -0.2
baz=273
PWL Port Wells 83.04 30 P P 18 34 16.3 0.0
PWL IAMs_20 IAMs_20 19 11 29.0
comp=Z,2µm,20.0s
PWL Port Wells 83.04 30 P P 18 34 16.7 +0.4
baz=274,SNR=73
CCB Clear Creek Bu 83.05 26 P P 18 34 15.5 -0.7
CCB IAmb IAmb 18 34 19.8
comp=Z,55nm,1.0s
SIM Simferopol' 83.07 314 *e*P P 18 34 17.0 +0.3
SIM pmax pmax
comp=Z,115nm,1.4s
POKR Poker Plat Res 83.18 25 P P 18 34 16.4 -0.5
POKR Poker Plat Res 83.18 25 P P 18 34 17.0 0.0
baz=274,SNR=12
WAT6 Susitna Watana 83.21 28 P P 18 34 17.6 +0.3
baz=274,SNR=90
DHY Denali Highway 83.34 27 P P 18 34 17.6 -0.4
DHY IAmb IAmb 18 34 22.8
comp=Z,38nm,0.9s
DHY Denali Highway 83.34 27 P P 18 34 18.1 +0.1
baz=274,SNR=42
BZK Bozkurt 83.38 311 P P 18 34 18.1 -0.2
IL31 83.44 26 P P 18 34 17.0 -1.2
ILAR Eielson Array 83.44 26 P P 18 34 17.2 -1.0
comp=Z,14nm,0.8s,baz=248,slow=4.2,SNR=91
ILAR PKKPbc **PKKPbc** 18 52 37.2 -2.5
comp=Z,0.3nm,0.7s,baz=122,slow=2.3,SNR=5.7
ILAR LR LR 19 12 08.6
comp=Z,993nm,19.9s,baz=272,slow=36
ILAR Eielson Array 83.44 26 P P 18 34 16.9 -1.3
HDA Harding Lake 83.44 26 P P 18 34 17.5 -0.8
HDA IAmb IAmb 18 34 20.6
comp=Z,45nm,0.8s
HDA Harding Lake 83.44 26 P P 18 34 17.7 -0.5
baz=274,SNR=49
SCM Sheep Creek Mo 83.46 29 P P 18 34 18.7 +0.2
SCM pmax pmax
comp=Z,174nm,1.2s
SCM MLR MLR
comp=Z,2µm,21.0s
SCM Sheep Creek Mo 83.46 29 P P 18 34 18.7 +0.2
SCM IAMs_20 IAMs_20 19 11 24.9
comp=Z,2µm,21.0s
SCM Sheep Creek Mo 83.46 29 P P 18 34 19.0 +0.5
baz=274,SNR=42
GLI Glacier Island 83.64 29 P P 18 34 19.4 0.0
GLI IAmb IAmb 18 34 20.6
comp=Z,90nm,1.1s
GLI IAMs_20 IAMs_20 19 09 50.9
comp=Z,2µm,21.0s
GLI Glacier Island 83.64 29 P P 18 34 19.8 +0.4
baz=275,SNR=12
EIL Elat 83.67 299 LR LR 19 16 16.0
comp=Z,708nm,18.9s,baz=78,slow=39
VALR Valaam 83.75 331 *c iP* P 18 34 19.5 -0.3
VALR pmax pmax
comp=Z,129nm,1.1s
BR131 Keskin Array S 83.84 309 *c iP* P 18 34 20.9 -0.1
BR131 Keskin Array S 83.84 309 P P 18 34 20.8 -0.2
BR131 IAmb IAmb 18 34 24.2
comp=Z,94nm,1.1s
BR131 Keskin Array S 83.84 309 P P 18 34 21.9 +0.9
SNR=58
BR131 S S 18 44 45.1 +1.6
BRTR Keskin Array B 83.84 309 P P 18 34 21.2 +0.2
comp=Z,32nm,1.0s,baz=116,slow=4.8,SNR=122
BRTR LR LR 19 17 45.8
comp=Z,1µm,21.5s,baz=88,slow=40
BRTR Keskin Array B 83.84 309 *i* P P 18 34 21.2 +0.2
BRTR pmax pmax
comp=Z,34nm,1.0s
BRTR Keskin Array B 83.84 309 P P 18 34 21.1 +0.1
FID Port Fidalgo 83.95 30 P P 18 34 20.9 0.0
FID IAMs_20 IAMs_20 19 09 29.6
comp=Z,3µm,22.0s
M24K Tolsona, Glenn 83.98 28 P P 18 34 22.0 +0.9
M24K Tolsona, Glenn 83.98 28 P P 18 34 22.3 +1.1
baz=275,SNR=41
HOPEN Hopen 84.09 346 *e*P P 18 34 19.4 -1.9
HOPEN *e*SKSac **S** 18 44 45.2 +0.9
J25K Salcha River, 84.10 26 P P 18 34 20.7 -1.0
J25K Salcha River, 84.10 26 P P 18 34 21.3 -0.4
baz=276,SNR=32
BMAR Burnt Mountain 84.13 23 P P 18 34 23.3 +1.5
Q23K Middleton Isla 84.14 31 P P 18 34 22.5 +0.6
baz=275
KLU Klutina 84.15 29 P P 18 34 22.4 +0.3
KLU IAmb IAmb 18 34 26.4
comp=Z,110nm,1.1s
KLU IAMs_20 IAMs_20 19 11 48.4
comp=Z,3µm,20.0s
KLU Klutina 84.15 29 P P 18 34 22.8 +0.7
baz=276,SNR=40
PUL Pulkovo 84.17 329⇓ *e*P P 18 34 22.6 +0.6
PUL pmax pmax
comp=Z,145nm,0.6s
PAX Paxson 84.22 27 P P 18 34 22.7 +0.3
PAX pmax pmax
comp=Z,149nm,1.1s
PAX Paxson 84.22 27 P P 18 34 22.7 +0.3
PAX Paxson 84.22 27 P P 18 34 23.3 +0.9
baz=276,SNR=92
DIV Divide 84.26 29 P P 18 34 23.4 +0.7
EYAK Cordova Ski Ar 84.33 30 P P 18 34 23.7 +0.9
EYAK Cordova Ski Ar 84.33 30 P P 18 34 23.9 +1.0
baz=276,SNR=14
KIBK Kibwezi 84.38 267 P P 18 34 23.8 -0.4
KIBK Kibwezi 84.38 267 P P 18 34 26.6 +2.4
SNR=6.3
RIDG Independent Ri 84.42 27 P P 18 34 23.4 +0.1
RIDG Independent Ri 84.42 27 P P 18 34 23.9 +0.6
baz=276,SNR=148
HARP HAARP 84.42 28 P P 18 34 24.5 +1.2
baz=276,SNR=31
KEV Kevo 84.46 340 IAMs_20 IAMs_20 19 16 04.6
comp=Z,3µm,19.0s
ANTO Ankara 84.47 309 P P 18 34 24.3 +0.2
ANTO pmax pmax
comp=Z,58nm,1.1s
ANTO Ankara 84.47 309 P P 18 34 24.3 +0.2
ANTO IAmb IAmb 18 34 25.4
comp=Z,58nm,1.1s
BR231 Keskin MP Arra 84.49 309 P P 18 34 24.2 0.0
BR231 IAmb IAmb 18 34 25.5
comp=Z,63nm,1.1s
CSS Mathiatis 84.52 304 P P 18 34 24.1 -0.3
SCRK Sand Creek 84.77 26 P P 18 34 25.5 +0.3
SCRK Sand Creek 84.77 26 P P 18 34 26.0 +0.8
baz=277,SNR=95
N25K Chitina, Valde 84.77 29 P P 18 34 25.8 +0.6
N25K IAMs_20 IAMs_20 19 12 16.7
comp=Z,2µm,21.0s
N25K Chitina, Valde 84.77 29 P P 18 34 26.4 +1.2
baz=277,SNR=70
DOT Dot Lake 84.78 27 P P 18 34 25.2 +0.1
BMRM Bremner River 84.84 29 P P 18 34 25.8 +0.2
BMRM IAMs_20 IAMs_20 19 13 29.6
comp=Z,2µm,20.0s
BMRM Bremner River 84.84 29 P P 18 34 26.5 +0.9
baz=277,SNR=36
RAGM Ragged Mountai 84.88 30 P P 18 34 26.7 +1.0
RAGM IAMs_20 IAMs_20 19 13 43.5
comp=Z,2µm,20.0s
J26L Joseph Creek 84.89 26 P P 18 34 26.4 +0.7
baz=277,SNR=78
SGF Sodankyl 84.95 337 P P 18 34 25.8 0.0
SGF pmax pmax
comp=Z,98nm,1.9s
KMBO Kilima Mbogo 84.99 268 P P 18 34 28.9 +1.4
comp=Z,12nm,0.8s,baz=58,slow=8.0,SNR=30
KMBO LR LR 19 09 39.8
comp=Z,3µm,21.8s,baz=92,slow=34
KMBO Kilima Mbogo 84.99 268 *c e*P P 18 34 28.5 +1.0
KMBO Kilima Mbogo 84.99 268 P P 18 34 27.6 +0.1
KMBO Kilima Mbogo 84.99 268 IAMs_20 IAMs_20 19 09 17.5
comp=Z,3µm,21.0s
KMBO Kilima Mbogo 84.99 268 P P 18 34 30.0 +2.5
KMBO Kilima Mbogo 84.99 268 *e*P P 18 34 27.3 -0.2
KMBO *e*S **S** 18 44 51.0 -5.2
KMBO Kilima Mbogo 84.99 268 *e*P P 18 34 27.3 -0.2
KMBO *e*S **S** 18 44 51.0 -5.2
KMBO IAMs_20 IAMs_20 18 45 05.2
comp=Z,3µm,21.0s
KMBO Kilima Mbogo 84.99 268 *i* P P 18 34 29.1 +1.6
SNR=7.3
ARA0 ARCESS Array S 85.01 339 IVmBBB 18 34 25.9
comp=Z,2µm,4.4s
ARA0 *e*P **P** 18 34 26.1 -0.1
ARA0 *e*SKSac **SKSac** 18 44 50.7 +1.5
ARA0 IVMs_BB IVMs_BB 19 18 04.7
comp=Z,1µm,4.2s
ARCES ARCESS Array B 85.01 339 P P 18 34 25.4 -0.8
comp=Z,12nm,0.8s,baz=71,slow=5.3,SNR=15
ARCES LR LR 19 18 06.8
comp=Z,1µm,18.3s,baz=88,slow=40
ARCES ARCESS Array B 85.01 339 P P 18 34 25.9 -0.2
ARCES pmax pmax
comp=Z,38nm,1.3s
ARCES ARCESS Array B 85.01 339 P P 18 34 25.9 -0.2
MENT Mentasta 85.02 27 P P 18 34 27.0 +0.7
MENT IAmb IAmb 18 34 28.3
comp=Z,89nm,0.9s
HMT Hamilton 85.09 30 P P 18 34 27.0 +0.2
HMT IAmb IAmb 18 34 28.4
comp=Z,114nm,1.0s
GLB Gilahina Butte 85.17 29 P P 18 34 27.6 +0.5
GLB IAMs_20 IAMs_20 19 10 03.1
comp=Z,3µm,22.0s
L26K Log Cabin Wild 85.17 27 IAMs_20 IAMs_20 19 10 33.3
comp=Z,2µm,22.0s
L26K Log Cabin Wild 85.17 27 P P 18 34 28.3 +1.2
baz=278,SNR=23
VRDI Verde Repeater 85.37 29 P P 18 34 28.4 0.0
M26K Nabesna, AK 85.42 28 P P 18 34 29.0 +0.6
M26K IAMs_20 IAMs_20 19 11 17.8
comp=Z,2µm,21.0s
M26K Nabesna, AK 85.42 28 P P 18 34 29.4 +1.0
baz=278,SNR=76
HAMF Hammerfest 85.44 341 *e*P P 18 34 27.2 -1.0
HAMF *e*SKSac **S** 18 44 57.4 -0.6
HAMF IVMs_BB IVMs_BB 19 17 55.8
comp=Z,2µm,3.8s
MCARA McCarthy VSAT 85.55 29 P P 18 34 30.1 +1.1
baz=278,SNR=29
SPB2 Spitsbergen Ar 85.57 349 P P 18 34 28.2 -0.6
SPA0 Spitsbergen Ar 85.57 349 *e*P P 18 34 26.7 -2.1
SPA0 *e*SKSac **SKSac** 18 44 55.2 +2.7
SPITS Spitsbergen Ar 85.57 349 P P 18 34 29.1 +0.3
comp=Z,99nm,1.2s,baz=25,slow=13,SNR=18
SPITS LR LR 19 19 01.2
comp=Z,3µm,18.5s,baz=230,slow=40
SPITS Spitsbergen Ar 85.57 349 P P 18 34 29.1 +0.3
SPITS pmax pmax
comp=Z,257nm,1.5s
BGLC Bering Glacier 85.60 30 P P 18 34 30.4 +1.2
baz=278
MDUB Mudurnu 85.62 310 P P 18 34 29.1 -0.8
TGL Tana Glacier 85.73 29 P P 18 34 30.3 +0.3
TGL IAMs_20 IAMs_20 19 13 56.2
comp=Z,2µm,20.0s
WAX Waxell Ridge 85.77 30 P P 18 34 30.9 +0.7
AKASG Malin Array Be 85.79 320 P P 18 34 29.5 -0.9
comp=Z,34nm,0.8s,baz=70,slow=4.6,SNR=178
AKASG PKKPbc **PKKPbc** 18 52 31.1 -2.5
comp=Z,0.1nm,0.3s,baz=252,slow=4.4,SNR=4.2
AKASG LR LR 19 14 56.0
comp=Z,3µm,19.1s,baz=78,slow=37
AKASG Malin Array Be 85.79 320 *i* P P 18 34 29.8 -0.6
AKASG pmax pmax
comp=Z,34nm,0.8s
AKASG Malin Array Be 85.79 320 P P 18 34 29.5 -0.9
AKASG IAmb IAmb 18 34 30.6
comp=Z,70nm,1.0s
AKBB Malin Array Si 85.79 320 *c e*P P 18 34 29.7 -0.7
AKBB Malin Array Si 85.79 320 P P 18 34 29.4 -0.9
SNH Sunshine Point 85.81 30 P P 18 34 31.4 +1.0
SNH IAMs_20 IAMs_20 19 07 46.3
comp=Z,3µm,22.0s
L27K Beaver Creek, 85.86 27 P P 18 34 31.1 +0.5
L27K IAMs_20 IAMs_20 19 10 52.2
comp=Z,2µm,22.0s
L27K Beaver Creek, 85.86 27 P P 18 34 32.2 +1.7
baz=279,SNR=165
EGAK Eagle 85.87 25 P P 18 34 30.9 +0.3
EGAK Eagle 85.87 25 P P 18 34 31.4 +0.9
baz=280,SNR=76
BCAR Beaver Creek A 85.87 27 P P 18 34 31.4 +0.8
KTK1 Kautokeino 85.90 339 *e*P P 18 34 29.4 -1.1
KTK1 IVmB_BB 18 34 31.0
comp=Z,591nm,1.8s
KTK1 *e*SKSac **S** 18 45 00.7 -1.9
KTK1 IVMs_BB IVMs_BB 19 17 26.9
comp=Z,1µm,4.1s
M27K Edge Creek, AK 85.94 28 P P 18 34 31.6 +0.5
M27K IAmb IAmb 18 34 33.8
comp=Z,121nm,1.1s
M27K IAMs_20 IAMs_20 19 11 08.6
comp=Z,3µm,22.0s
M27K Edge Creek, AK 85.94 28 P P 18 34 32.3 +1.2
baz=279,SNR=41
ISLE Juniper Island 86.00 29 P P 18 34 32.2 +0.8
MAW Mawson 86.01 199 P P 18 34 31.1 +0.1
comp=Z,7.8nm,1.1s,baz=1.5,slow=1.4,SNR=6.1
MAW LR LR 19 08 23.3
comp=Z,1µm,21.7s,baz=47,slow=32
MAW Mawson 86.01 199 P P 18 34 31.1 +0.1
baz=86,SNR=4.6
FIA1 FINESS Array S 86.03 331 P P 18 34 30.6 -0.8
FIA1 IAmb IAmb 18 34 32.4
comp=Z,113nm,1.5s
FINES FINESS Array B 86.03 331 P P 18 34 30.6 -0.8
comp=Z,18nm,1.0s,baz=90,slow=6.5,SNR=27
FINES PKiKP **PKiKP** 18 39 40.0 +0.1
comp=Z,0.9nm,0.7s,baz=66,slow=3.5,SNR=1.2
FINES LR LR 19 14 15.0
comp=Z,3µm,20.8s,baz=78,slow=36
FINES FINESS Array B 86.03 331 *i* P P 18 34 31.2 -0.2
FINES pmax pmax
comp=Z,18nm,1.0s
FINES FINESS Array B 86.03 331 P P 18 34 29.9 -1.5
HSPB Hornsund (broa 86.10 347 *e*P P 18 34 30.5 -0.9

HSPB eL L 19 15 39.3
comp=Z,3µm,23.5s
MNK Minsk 86.10 324 *i* P **P** **18 34 30.3 -1.5**
MNK *i* 18 34 33.9
MNK *i* 18 37 50.4
MNK *i* PPP PPP 18 39 49.9
MNK *i* 18 44 47.9
MNK *i* S S 18 44 55.6 -9.4
MNK *i* PS **PnS** **18 45 55.8 -8.2**
MNK *i* SS **SS** **18 50 45.0 +1.8**
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=Z,132nm,0.9s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=N,2µm,19.0s
MNK MLR MLR
comp=E,345nm,19.0s
MNK MLR MLR
comp=Z,3µm,19.0s
MNK Minsk 86.10 324 *i* P **P** **18 34 30.3 -1.5**
comp=E,11nm,0.9s
MNK *i* P **P** **18 34 30.3 -1.5**
comp=N,13nm,0.9s
MNK *i* P **P** **18 34 30.3 -1.5**
comp=Z,132nm,0.9s,baz=82
MNK *i* PP **PP** **18 37 50.5 -1.6**
MNK *i* PPP PPP 18 39 49.9
MNK *i* SKS **SKSac** **18 44 47.9 -8.6**
MNK *i* S **SKKSac** **18 44 55.6 -8.5**
MNK *i* PS **PnS** **18 45 55.9 -8.2**
MNK *i* SS **SS** **18 50 45.0 +1.8**
MNK *i* SSS SSS 18 54 04.2
MNK *i* LQ LQ 19 07 18.0
MNK *i* LR LR 19 10 14.2
MNK *i* LRM MLR 19 14 21.9
comp=E,345nm,19.4s
MNK *i* LRM MLR 19 14 21.9
comp=N,2µm,19.4s
MNK *i* LRM MLR 19 14 21.9
comp=Z,3µm,19.4s
KBS Kingsbay 86.16 350⇑ *e*P **P** **18 34 32.1 +0.4**
KBS pmax pmax
comp=Z,25nm,1.3s
KBS Kingsbay 86.16 350 *e*P **P** **18 34 30.5 -1.2**
KBS IAmb IAmb 18 34 32.5
comp=Z,159nm,1.4s
KBS Kingsbay 86.16 350 *e*P **P** **18 34 30.5 -1.2**
KBS IVmBBB 18 34 32.1
comp=Z,640nm,1.8s
KBS *e*SKSac **SKSac** **18 44 58.5 +2.3**
KBS IVMs_BB IVMs_BB 19 16 02.2
comp=Z,1µm,20.4s
VSU Vasula 86.16 328*c* e P **P** **18 34 31.3 -0.7**
VSU pmax pmax
comp=Z,169nm,1.2s
VSU Vasula 86.16 328 *e*P **P** **18 34 32.0 -0.1**
BARN Barnard Glacie 86.25 29 P **P** **18 34 33.6 +0.8**
GRNC Granite Creek 86.26 29 P **P** **18 34 33.4 +0.6**
GRNC IAMs_20 IAMs_20 19 14 22.0
comp=Z,2µm,20.0s
LODK Lodwar 86.26 273 P **P** **18 34 34.3 +0.7**
LODK Lodwar 86.26 273 P **P** **18 34 35.8 +2.2**
LODK Lodwar 86.26 273 *e*P **P** **18 34 32.2 -1.4**
LODK *e*S **S** **18 45 02.0 -6.3**
LODK Lodwar 86.26 273 *e*P **P** **18 34 32.2 -1.4**
LODK *e*S **S** **18 45 02.0 -6.3**
LODK IAMs_20 IAMs_20 18 45 19.8
comp=E,3µm,14.6s
BVCY Beaver Creek 86.40 28 P **P** **18 34 34.7 +1.5**
baz=280,SNR=47
CTG Chitna Glacier 86.42 29 P **P** **18 34 35.0 +1.5**
baz=280,SNR=52
CTGM Chitina Glacie 86.42 29 P **P** **18 34 34.4 +0.9**
CTGM IAMs_20 IAMs_20 19 14 29.3
comp=Z,2µm,20.0s
ISP Isparta 86.46 308⇓ *i*P **P** **18 34 33.8 -0.3**
KIS Kishinev 86.53 317⇑ *i*P **P** **18 34 33.0 -1.1**
comp=Z,200nm,6.4s
KIS Kishinev 86.53 317 *e*PP PP 18 38 03.0 +7.2
KIS Kishinev 86.53 317*c i*P **P** **18 34 33.0 -1.1**
KIS *e* 18 38 03.0
KIS *e* 18 44 56.0
KIS *i*S **S** **18 45 09.0 -0.5**
KIS *i*PS **PnS** **18 46 11.0 +1.4**
KIS pmax pmax
comp=Z,200nm,6.4s
MILM Milestii Mici 86.55 317⇑ *i*P **P** **18 34 33.0 -1.2**
comp=Z,620nm,7.4s
MILM Milestii Mici 86.55 317 *e*PP PP 18 37 56.0 +0.1
MILM Milestii Mici 86.55 317*c i*P **P** **18 34 33.0 -1.2**
MILM *e* 18 37 56.0
MILM *e* 18 44 56.0
MILM *i*S **S** **18 45 07.0 -2.7**
MILM *e*PS **PnS** **18 46 09.0 -0.7**
MILM smax smax
comp=N,900nm,8.7s
MILM smax smax
comp=E,1µm,10.1s
TABL Table Mountain 86.61 30 P **P** **18 34 34.9 +0.3**
TABL IAMs_20 IAMs_20 19 13 30.2
comp=Z,2µm,19.0s
LOGN Logan Glacier 86.61 29 P **P** **18 34 34.9 +0.4**
LOGN IAmb IAmb 18 34 37.2
comp=Z,123nm,1.2s
LOGN IAMs_20 IAMs_20 19 14 23.2
comp=Z,2µm,20.0s
IDID Didziasalis 86.64 325 *e*P **P** **18 34 35.3 +0.8**
NACGM Naroch 86.68 325⇓ *i*P **P** **18 34 34.5 -0.1**
YUK3 Moose Creek 86.70 28 P **P** **18 34 36.1 +1.1**
baz=280,SNR=22
DAWY Dawson 86.75 26 P **P** **18 34 34.2 -0.7**
DAWY IAmb IAmb 18 34 37.6
comp=Z,85nm,1.1s
DAWY Dawson 86.75 26 P **P** **18 34 35.9 +1.0**
baz=281,SNR=12
ISAL Salakas 86.94 326 *e*P **P** **18 34 36.3 +0.3**
I29M Ogilvie Camp, 86.95 24 P **P** **18 34 36.1 +0.2**
I29M IAmb IAmb 18 34 37.4
comp=Z,67nm,1.2s
I29M Ogilvie Camp, 86.95 24 P **P** **18 34 36.7 +0.8**
baz=282,SNR=47
MEF Metsahovi 87.06 330 *e*P **P** **18 34 35.8 -0.6**
ELL Elmali 87.08 307 P **P** **18 34 36.8 -0.5**
ELL pmax pmax
comp=Z,195nm,1.2s
ELL Elmali 87.08 307 P **P** **18 34 36.8 -0.5**
TPGR Topolog 87.10 315⇑ P **P** **18 34 37.0 0.0**
TIRR Tirgusor 87.16 314⇑ P **P** **18 34 37.0 -0.3**
TIRR Tirgusor 87.16 314 P **P** **18 34 36.6 -0.6**
TIRR pmax pmax
comp=Z,157nm,1.5s
TIRR MLR MLR
comp=Z,9µm,22.0s
TIRR Tirgusor 87.16 314 P **P** **18 34 36.6 -0.6**
TIRR IAmb IAmb 18 34 38.6
comp=Z,157nm,1.5s
J29M Klondike Camp 87.18 25 P **P** **18 34 38.2 +1.2**
baz=282
VLDR Vladesti 87.20 316⇑ P **P** **18 34 37.8 +0.4**
TRO Tromso 87.25 340 *e*P **P** **18 34 35.0 -2.2**
TRO IVmB_BB 18 34 36.8
comp=Z,631nm,2.8s
TRO *e*SKSac **SKSac** **18 45 07.3 +4.3**
TRO IVMs_BB IVMs_BB 19 17 36.7
comp=Z,1µm,3.7s
CFR Carcaliu 87.26 315⇑ P **P** **18 34 37.4 -0.3**
CFR Carcaliu 87.26 315 P **P** **18 34 37.4 -0.3**
VARL Varlezi 87.35 316⇓ P **P** **18 34 38.6 +0.5**
IAS Iasi 87.36 317 P **P** **18 34 38.3 +0.2**
IAS pmax pmax
comp=Z,89nm,0.4s
EPYK Eagle Plains 87.36 23 P **P** **18 34 37.5 -0.3**
EPYK IAmb IAmb 18 34 40.2
comp=Z,67nm,0.9s
EPYK Eagle Plains 87.36 23 P **P** **18 34 38.2 +0.4**
baz=283,SNR=42
BCPM Bancas Point 87.43 30 P **P** **18 34 38.9 +0.6**
BCPM IAmb IAmb 18 34 40.9
comp=Z,54nm,1.1s
PSN Preselentsi 87.44 314 *i* P **P** **18 34 38.5 -0.1**
HARR Harsova 87.47 315⇓ P **P** **18 34 38.9 +0.2**
HARR Harsova 87.47 315 P **P** **18 34 38.9 +0.2**
baz=281
MTSE Matsula 87.63 329 *e*P **P** **18 34 38.7 -0.5**
YUK4 Talbot Arm 87.63 28 P **P** **18 34 40.6 +1.1**
baz=282,SNR=13
PANC Panciu 87.84 316⇓ P **P** **18 34 41.9 +1.5**
YUK6 Outpost Mounta 87.85 29 P **P** **18 34 41.6 +1.1**
baz=282,SNR=10
ODBI Odobesti 87.92 316⇑ P **P** **18 34 42.4 +1.5**
INK Inuvik 88.06 21 P **P** **18 34 41.1 0.0**
comp=Z,86nm,1.1s,baz=282,slow=5.3,SNR=105
INK LR LR 19 13 59.5
comp=Z,829nm,21.9s,baz=268,slow=36
INK Inuvik 88.06 21 P **P** **18 34 40.9 -0.2**
INK pmax pmax
comp=Z,117nm,1.2s
INK Inuvik 88.06 21 P **P** **18 34 40.9 -0.2**
INK Inuvik 88.06 21 P **P** **18 34 41.5 +0.4**
baz=286,SNR=107
VNDA Vanda 88.08 172 P **P** **18 34 40.3 -0.6**
comp=Z,9.6nm,0.8s,baz=309,slow=5.7,SNR=40
VNDA PKKPbc **PKKPbc** **18 52 27.1 -2.3**
comp=Z,1.6nm,1.0s,baz=186,slow=0.9,SNR=4.9
VNDA LR LR 19 13 28.6
comp=Z,1µm,19.8s,baz=328,slow=35
VNDA Vanda 88.08 172 P **P** **18 34 39.9 -1.0**
TESR Tescani 88.08 317⇑ P **P** **18 34 41.7 0.0**
VRI Vrincioaia 88.13 316⇑ P **P** **18 34 42.3 +0.4**
VRI Vrincioaia 88.13 316 P **P** **18 34 42.3 +0.4**
VRI pmax pmax
comp=Z,78nm,1.4s
PABE Paberze 88.16 326 P **P** **18 34 41.1 -0.7**
PABE IAmb IAmb 18 34 44.9
comp=Z,77nm,1.1s
PABE IAMs_20 IAMs_20 19 19 23.9
comp=Z,3µm,18.0s
PABE Paberze 88.16 326 *e*P **P** **18 34 41.3 -0.5**
RAF Rauma 88.16 331 *e*P **P** **18 34 41.1 -0.5**
PLOR Plostina 88.19 316⇑ P **P** **18 34 42.4 +0.2**
PLOR Plostina 88.19 316 P **P** **18 34 42.4 +0.2**
BISRR Bisoca 88.19 316⇑ P **P** **18 34 43.2 +0.9**
M30M Minto, Yukon 88.22 27 P **P** **18 34 42.5 +0.4**
M30M IAmb IAmb 18 34 44.1
comp=Z,65nm,1.2s
M30M Minto, Yukon 88.22 27 P **P** **18 34 43.3 +1.3**
baz=284,SNR=25
HYT Haines Junctio 88.29 29 P **P** **18 34 43.1 +0.6**
HYT IAmb IAmb 18 34 48.1
comp=Z,36nm,0.8s
HYT Haines Junctio 88.29 29 P **P** **18 34 43.6 +1.1**
baz=283,SNR=21
COVR Voineasa-Covas 88.50 316⇑ P **P** **18 34 43.1 -0.5**
NEHR Nehoiu 88.50 316⇑ P **P** **18 34 44.1 +0.3**
NOR Nord 88.61 354 P **P** **18 34 43.0 -0.5**
NOR pmax pmax
comp=Z,19nm,2.1s
NOR Nord 88.61 354 *e*P **P** **18 34 42.5 -1.0**
NOR IAmb IAmb 18 34 44.1
comp=Z,242nm,2.7s
MLR Muntele Rosu 88.73 316⇓ P **P** **18 34 44.8 -0.2**
MLR Muntele Rosu 88.73 316 LR LR 19 18 33.2
comp=Z,3µm,20.8s,baz=62,slow=38
MLR Muntele Rosu 88.73 316 P **P** **18 34 44.1 -0.8**
MLR pmax pmax
comp=Z,69nm,1.3s
MLR MLR MLR
comp=Z,3µm,22.0s
MLR Muntele Rosu 88.73 316 P **P** **18 34 44.1 -0.8**
MLR IAmb IAmb 18 34 46.3
comp=Z,69nm,1.3s
MLR IAMs_20 IAMs_20 19 18 22.3
comp=Z,3µm,22.0s
OZUR 88.74 316⇓ P **P** **18 34 45.2 +0.4**
BURAR Bucovina Array 88.86 318⇑ P **P** **18 34 45.6 +0.1**
BURAR Bucovina Array 88.86 318 P **P** **18 34 45.5 +0.1**
BURAR Bucovina Array 88.86 318 P **P** **18 34 45.4 0.0**
BUR08 Bucovina Ar. S 88.86 318 P **P** **18 34 45.0 -0.4**
BUR08 IAmb IAmb 18 34 47.0
comp=Z,32nm,0.8s
SUW Suwalki 88.91 324 *e*P **P** **18 34 44.9 -0.4**
SUW *e*S **S** **18 45 29.6 -2.3**
SUW *e*L L 19 15 40.5
comp=Z,3µm,22.2s
SUW Suwalki 88.91 324 P **P** **18 34 44.4 -0.9**
SUW pmax pmax
comp=Z,139nm,1.0s
SUW MLR MLR
comp=Z,3µm,22.0s
SUW Suwalki 88.91 324 P **P** **18 34 44.4 -0.9**
SUW IAMs_20 IAMs_20 19 15 29.7
comp=Z,3µm,22.0s
SUW Suwalki 88.91 324 *e*P **P** **18 34 45.4 +0.1**
N31M Braeburn, Yuko 88.94 28 P **P** **18 34 46.2 +0.7**
N31M IAmb IAmb 18 34 48.0
comp=Z,56nm,1.1s
N31M Braeburn, Yuko 88.94 28 P **P** **18 34 46.8 +1.3**
baz=284,SNR=14
STEI Steigen 89.03 339 *e*P **P** **18 34 44.9 -0.7**
STEI *e*SKSac **SKSac** **18 45 16.2 +2.4**
SBA Scott Base 89.03 171 P **P** **18 34 45.5 +0.1**
SBA pmax pmax
comp=Z,19nm,1.2s
SBA Scott Base 89.03 171 P **P** **18 34 45.5 +0.1**
DOPR Dopca 89.03 316⇑ P **P** **18 34 46.3 +0.1**
SZH Strazhica 89.12 313 *i* P **P** **18 34 45.8 -0.8**
FAUS Fauske 89.18 338 *e*P **P** **18 34 44.7 -1.6**
FAUS IVmB_BB 18 34 45.7
comp=Z,594nm,3.2s
FAUS IVMs_BB IVMs_BB 19 18 20.0
comp=Z,2µm,16.5s
PBUR Paburge 89.18 326 *e*P **P** **18 34 47.0 +0.4**
AAL Aland 89.21 331 *e*P **P** **18 34 45.4 -1.2**
LVV L'vov 89.22 320 *e*P **P** **18 34 46.6 -0.3**
LVV *e* 18 38 21.1
LVV *e* 18 45 33.2
LVV *e* 18 47 10.7
LVV *e* 18 51 23.6
LVV *e* 18 55 06.6
LVV MLR MLR
comp=N,700nm,20.0s
LVV MLR MLR
comp=E,1µm,20.0s
LVV MLR MLR
comp=Z,2µm,19.0s
VOIR 89.36 316⇑ P **P** **18 34 48.0 +0.1**
VOIR 89.36 316 P **P** **18 34 47.3 -0.5**
VOIR pmax pmax
comp=Z,7.0nm,2.2s
M31M Drury Creek, Y 89.39 27 P **P** **18 34 47.9 +0.3**
M31M Drury Creek, Y 89.39 27 P **P** **18 34 48.4 +0.9**
baz=286,SNR=19
A36M Sachs Harbour 89.45 17 P **P** **18 34 47.8 +0.2**
A36M IAmb IAmb 18 34 50.8
comp=Z,54nm,1.1s
A36M Sachs Harbour 89.45 17 P **P** **18 34 48.1 +0.5**
baz=294,SNR=38
KARP Karpathos 89.45 306 P **P** **18 34 48.2 -0.2**
COPA Copaceanca 89.48 314⇓ P **P** **18 34 48.0 -0.3**
ARCR ARCALIA 89.53 317⇑ P **P** **18 34 48.9 +0.4**
LOF Lofoten 89.56 339 *e*P **P** **18 34 46.0 -2.1**
LOF *e*SKSac **SKSac** **18 45 21.7 +4.7**
HUMR Humele 89.58 315⇑ P **P** **18 34 48.1 -0.6**
WHY Whitehorse 89.58 29 P **P** **18 34 49.3 +0.7**
WHY IAmb IAmb 18 34 52.6
comp=Z,64nm,0.9s
WHY Whitehorse 89.58 29 P **P** **18 34 49.6 +1.1**
baz=285,SNR=27
ARR Arges 89.66 316⇑ P **P** **18 34 49.3 +0.1**
SKAG Skagway 89.67 30 P **P** **18 34 49.5 +0.6**
SKAG IAmb IAmb 18 34 51.2
comp=Z,39nm,1.0s
SKAG Skagway 89.67 30 P **P** **18 34 49.8 +1.0**
baz=285,SNR=12
ALE Alert 89.75 1 IAMs_20 IAMs_20 19 15 32.1
comp=Z,2µm,20.0s
MOR8 Moi Rana 89.89 337 *e*P **P** **18 34 46.0 -3.7**
MOR8 *e*SKSac **SKSac** **18 45 20.6 +1.5**
BMR Baia Mare 89.99 318 P **P** **18 34 51.7 +1.1**
BMR pmax pmax
comp=Z,57nm,1.4s
VLAD Vladila 90.08 314⇑ P **P** **18 34 51.0 -0.1**
KWP Kalwaria Pacla 90.10 320 *e*P **P** **18 34 51.1 +0.1**
KWP *e*S **S** **18 45 43.0 -0.3**
KWP *e*L L 19 19 21.6
comp=Z,2µm,21.3s
KWP Kalwaria Pacla 90.10 320 P **P** **18 34 50.4 -0.7**
KWP pmax pmax
comp=Z,784nm,1.4s
KWP MLR MLR
comp=Z,20µm,20.0s
KWP Kalwaria Pacla 90.10 320 P **P** **18 34 50.4 -0.7**
CJR Cluj-Napoca 90.11 317⇑ P **P** **18 34 51.7 +0.4**
CJR Cluj-Napoca 90.11 317 P **P** **18 34 51.7 +0.4**
BESE Bessie Mountai 90.14 31 P **P** **18 34 51.0 -0.2**
BESE IAmb IAmb 18 34 53.6
comp=Z,70nm,1.2s
PLD Plovdiv 90.22 312 P **P** **18 34 50.1 -1.7**
LOT Lotru 90.25 316⇑ P **P** **18 34 52.0 0.0**
SIT Sitka 90.29 32 P **P** **18 34 52.7 +1.0**
baz=285
UPP Uppsala 90.44 331 *e*P **P** **18 34 51.6 -0.8**
JIS Juneau Island 90.46 31 P **P** **18 34 52.9 +0.5**
JIS IAmb IAmb 18 34 57.0
comp=Z,69nm,1.2s
KOLS Kolonicke sedl 90.53 319 *e*P **P** **18 34 53.9 +0.8**
KOLS Kolonicke sedl 90.53 319 *e*P **P** **18 34 53.9 +0.8**
UZH Uzhgorod 90.58 319 *e*P **P** **18 34 52.8 -0.5**
UZH *e* 18 34 59.2
UZH *e*PPP PPP 18 40 31.4
UZH *e* 18 45 22.2
UZH *e*S **S** **18 45 43.8 -3.9**
UZH *e*PS **PS** **18 46 56.0 -1.4**
MPEP Malo Peshtene 90.68 314 P P 18 34 41.1 -13
DRGR 90.69 317⇑ P **P** **18 34 54.2 +0.2**
DRGR 90.69 317 P **P** **18 34 54.2 +0.2**
DRGR pmax pmax
comp=Z,33nm,1.4s
PPT Papeete 90.79 108 P **P** **18 34 56.1 +1.2**
comp=Z,19nm,0.6s,baz=270,slow=20,SNR=3.0
PPT LR LR 19 07 53.3
comp=Z,763nm,20.0s,baz=272,slow=30
PPT2 Papeete2 90.80 108 *e*P **P** **18 34 57.1 +2.1**
comp=Z,114nm,1.4s
PPT2 Papeete2 90.80 108 *e*S **S** **18 45 51.0 0.0**
comp=Z,2µm,26.2s
PPT2 *e*SS **SS** **18 51 55.6 +1.8**
comp=Z,2µm,27.0s
PPT2 *e*LQ LQ 19 00 13.1
comp=Z,6µm,40.5s
PPT2 *e*LR LR 19 04 02.6
comp=Z,4µm,26.0s,baz=291
BEL Belsk 90.80 323 *e*P **P** **18 34 54.5 +0.2**
BEL *e*S **S** **18 45 52.3 +2.7**
BEL *e*L L 19 17 46.7
comp=Z,3µm,18.8s
PAE Paea 90.80 108 *e*P **P** **18 34 56.9 +2.0**
comp=Z,24nm,1.5s
C36M Paulatuk 90.91 19 P **P** **18 34 53.9 -0.5**
C36M IAmb IAmb 18 34 58.3
comp=Z,27nm,0.8s
C36M Paulatuk 90.91 19 P **P** **18 34 54.4 +0.1**
baz=295,SNR=47
MMB Musomiste 91.03 312 *i* P **P** **18 34 54.4 -1.3**
EUNU Eureka 91.04 5 P **P** **18 34 54.7 -0.3**
EUNU IAmb IAmb 18 34 56.8
comp=Z,114nm,1.3s
CRVS Cervenica-Dubn 91.06 320 *e*P **P** **18 34 56.2 +0.6**
CRVS pmax pmax
comp=Z,149nm,1.4s
CRVS Cervenica-Dubn 91.06 320 *e*P **P** **18 34 56.2 +0.6**
LTVH Ltavrtes, Hu 91.11 318 P **P** **18 34 54.3 -1.5**
VTS Vitosha 91.19 313⇓ P **P** **18 34 56.2 -0.3**
VTS Vitosha 91.19 313 P **P** **18 34 55.5 -1.0**
VTS pmax pmax
comp=Z,15nm,1.1s
VTS Vitosha 91.19 313 P **P** **18 34 55.5 -1.0**
VTS Vitosha 91.19 313 *i* P **P** **18 34 54.9 -1.6**
SRS Serrai 91.23 312 P **P** **18 34 55.7 -0.8**
SRS pmax pmax
comp=Z,14nm,1.5s
VIKU Vikbolandet 91.29 330 *e*P **P** **18 34 55.4 -1.0**
HERR Herculane 91.30 315⇓ P **P** **18 34 56.0 -0.8**
IDI Anoyia 91.33 306 P **P** **18 34 56.1 -1.1**
IDI IAmb IAmb 18 34 58.4
comp=Z,42nm,1.2s
MBAR Mbarara 91.38 270 LR LR 19 14 01.9
comp=Z,2µm,21.3s,baz=60,slow=34
MBAR Mbarara 91.38 270*de* P **P** **18 34 58.3 +0.3**
MBAR Mbarara 91.38 270 P **P** **18 34 58.6 +0.6**
MBAR Mbarara 91.38 270 IAMs_20 IAMs_20 19 13 29.6
comp=Z,2µm,21.0s
MBAR Mbarara 91.38 270 P **P** **18 34 59.9 +2.0**
BLKB Belogradchik 91.38 314⇑ P **P** **18 34 57.0 -0.2**
PAIG Paliouri 91.40 310 P **P** **18 34 56.2 -1.1**
PAIG pmax pmax
comp=Z,38nm,1.2s
KKB Krupnik 91.45 312 *i* P **P** **18 34 55.7 -1.9**
SOH Sokhos 91.46 311 P **P** **18 34 56.4 -1.3**
SOH pmax pmax
comp=Z,10.0nm,1.6s
NIE Niedzica 91.68 320 *e*P **P** **18 34 60.0 +1.5**
NIE *e*PP **PP** **18 38 42.8 +5.9**
NIE *e*S **S** **18 46 00.9 +3.1**
NIE *e*L L 19 20 48.3
comp=Z,2µm,21.3s
NIE Niedzica 91.68 320 P **P** **18 34 59.8 +1.3**
NIE pmax pmax
comp=Z,10.0nm,1.4s
BZS Buzias 91.69 316 P **P** **18 34 58.1 -0.5**
BZS pmax pmax
comp=Z,15nm,2.2s
OJC Ojcow 91.80 321 *e*P **P** **18 34 58.8 -0.1**
OJC *e*S **S** **18 45 57.6 -1.2**
OJC *e*SS **SS** **18 52 12.4 +6.3**
OJC *e*L L 19 18 40.7
comp=Z,3µm,18.8s
OJC Ojcow 91.80 321 P **P** **18 34 57.5 -1.5**
OJC pmax pmax
comp=Z,24nm,1.1s
OJC Ojcow 91.80 321 P **P** **18 34 57.5 -1.5**
MDVR Moldovita 91.81 315⇓ P **P** **18 34 59.2 0.0**
CRAG Craig 91.90 33 P **P** **18 34 59.3 0.0**
baz=287
VAY Valandovo 91.94 312 *i* P **P** **18 34 58.5 -1.3**
WRAK Wrangell Islan 92.04 32 P **P** **18 34 59.9 0.0**
baz=287
PMOR Pomariorio Ree 92.05 105 *e*P **P** **18 35 02.7 +1.9**
comp=Z,94nm,1.1s
BOVS Bovan 92.07 314⇓ P **P** **18 34 59.4 -0.9**
AMBH Ambrzfalva 92.13 317 P **P** **18 34 59.0 -1.5**
GRG Griva 92.14 312 P **P** **18 34 59.4 -1.4**
GRG pmax pmax
comp=Z,24nm,1.5s
STIP Stip 92.14 312 *i* P **P** **18 34 58.5 -2.3**
BSZH Besenyszg 92.21 318 P **P** **18 34 59.0 -1.9**
HFS Hagfors 92.23 332 LR LR 19 21 12.5
comp=Z,4µm,18.8s,baz=64,slow=39
LIT Litokhoron 92.25 311 P **P** **18 34 59.2 -2.2**
LIT pmax pmax
comp=Z,66nm,1.3s
LIT Litokhoron 92.25 311 P **P** **18 34 59.2 -2.2**
LIT IAmb IAmb 18 35 01.1
comp=Z,66nm,1.3s
LANS Liptovska Anna 92.27 320 *e*P **P** **18 35 02.5 +1.3**
LANS pmax pmax
comp=Z,9.0nm,1.3s
LANS Liptovska Anna 92.27 320 *e*P **P** **18 35 02.5 +1.3**
PSZ Piszkesteto 92.30 319⇑ P **P** **18 35 01.0 -0.4**
PSZ Piszkesteto 92.30 319 P **P** **18 35 00.6 -0.8**
PSZ pmax pmax
comp=Z,27nm,1.3s
PSZ MLR MLR
comp=Z,2µm,21.0s
PSZ Piszkesteto 92.30 319 P **P** **18 35 00.6 -0.8**
PSZ IAMs_20 IAMs_20 19 18 48.6
comp=Z,2µm,21.0s
PSZ Piszkesteto 92.30 319 P **P** **18 35 01.1 -0.4**
VAH Vaihoa 92.34 105 *e*P **P** **18 35 03.7 +1.6**
comp=Z,87nm,1.1s
TGTN Hyland Airport 92.36 27 P **P** **18 35 02.6 +1.2**
baz=291
GKP Gorka Klasztor 92.52 324 *e*P **P** **18 35 02.0 -0.2**
GKP *e*L L 19 19 14.8
comp=Z,4µm,19.2s
DAG Danmarks Havn 92.57 352 P **P** **18 35 01.4 -0.6**
DAG pmax pmax
comp=Z,94nm,1.4s

DAG Danmarks Havn 92.57 352 *i* P **P** **18 35 01.0 -1.0**
DAG IAmb IAmb 18 35 02.4
comp=Z,170nm,1.4s

DLBC Dease Lake 92.60 30 P **P** **18 35 03.4 +0.9**
comp=Z,27nm,1.1s,baz=281,slow=5.1,SNR=20
DLBC LR LR 19 14 44.5

DLBC Dease Lake 92.60 30 P **P** **18 35 03.6 +1.0**
DLBC IAmb IAmb 18 35 05.3
comp=Z,716nm,20.4s,baz=298,slow=34
comp=Z,102nm,1.4s

AGG Agios Georgios 92.60 310 P **P** **18 35 00.3 -2.7**
AGG pmax pmax
comp=Z,40nm,1.3s

AGG Agios Georgios 92.60 310 P **P** **18 35 00.3 -2.7**
AGG IAmb IAmb 18 35 02.1
comp=Z,40nm,1.3s

SKO Skopje 92.63 313 *i* P **P** **18 35 02.6 -0.4**
NC405 NORSAR Array S 92.80 333 P **P** **18 35 01.9 -1.4**
VYHS Vyhne 92.84 320 *eP* **P** **18 35 03.7 -0.1**
VYHS pmax pmax
comp=Z,9.0nm,1.3s

VYHS Vyhne 92.84 320 *eP* **P** **18 35 03.7 -0.1**
NC303 NORSAR Array S 92.92 333 P **P** **18 35 02.3 -1.6**
NC303 IAmb IAmb 18 35 04.3
comp=Z,46nm,1.4s

DIB Dawson Inlet, 92.92 35 P **P** **18 35 03.9 -0.1**
OKC Ostrava-Krasne 92.92 321 *eS* **SKKSac** **18 45 58.4 +3.1**
OKC AMS AMS 19 19 20.0
comp=Z,2μm,16.4s

FNA Florina 92.94 312 P **P** **18 35 02.6 -1.9**
FNA pmax pmax
comp=Z,18nm,1.4s

BUD Budapest 92.98 319 P **P** **18 35 02.9 -1.5**
FRGS Fruska Gora 93.04 316 ⇑P **P** **18 35 03.5 -1.3**
NB2 NORSAR Subarra 93.06 333 P **P** **18 35 03.0 -1.6**
comp=Z,67nm,1.7s,baz=67,slow=4.4

NB2 NORSAR Subarra 93.06 333 P **P** **18 35 07.5 +2.9**
NB2 NORSAR Subarra 93.06 333 P **P** **18 35 03.0 -1.6**
baz=67,slow=4.4

NOA NORSAR Array B 93.06 333 P **P** **18 35 03.0 -1.6**
comp=Z,9.1nm,1.1s,baz=69,slow=4.6,SNR=8.3
NOA PP **PP** **18 38 47.6 +0.4**
comp=Z,3.1nm,0.9s,baz=69,slow=7.6,SNR=4.4
NOA PKKP **PKKPdf** **18 52 13.4 -0.2**
comp=Z,1.0nm,0.8s,baz=251,slow=2.0,SNR=4.7
NOA LR LR 19 19 47.5
comp=Z,4μm,19.4s,baz=95,slow=37

NOA NORSAR Array B 93.06 333 P **P** **18 35 03.0 -1.6**
KOLL Kolacno 93.10 320 *eP* **P** **18 35 05.5 +0.5**
DIVS Divibare 93.17 315 P **P** **18 35 04.6 -0.9**
DIVS IAmb IAmb 18 35 06.6
comp=Z,34nm,1.4s

NC204 NORSAR Array S 93.17 333 P **P** **18 35 03.8 -1.4**
NC204 IAmb IAmb 18 35 07.1
comp=Z,42nm,1.1s

OHR Ohrid 93.29 312 *i* P **P** **18 35 04.8 -1.3**
ITM Ithomi 93.30 308 P **P** **18 35 04.5 -1.7**
ITM IAmb IAmb 18 35 05.7
comp=Z,28nm,1.1s

MORC Moravsky Berou 93.32 321 ⇑P **P** **18 35 06.5 +0.5**
MORC Moravsky Berou 93.32 321 P **P** **18 35 05.7 -0.3**
MORC pmax pmax
comp=Z,13nm,1.0s

MORC Moravsky Berou 93.32 321 P **P** **18 35 05.7 -0.3**
MORC Moravsky Berou 93.32 321 *eP* **P** **18 35 05.9 -0.1**
SRO Srobarova 93.36 319 *eP* **P** **18 35 06.7 +0.5**
SRO Srobarova 93.36 319 *eP* **P** **18 35 06.7 +0.5**
KBN Korca 93.41 312 P **P** **18 35 03.2 -3.5**
KBN pmax pmax
comp=Z,31nm,1.4s

KBN Korca 93.41 312 P **P** **18 35 03.2 -3.5**
JAVC Velka Javorina 93.49 320 *eP* **P** **18 35 07.8 +0.9**
CSKK Cskako 93.51 319 P **P** **18 35 06.1 -0.8**
MORH Mrgy, Hungar 93.56 317 ⇑P **P** **18 35 06.8 -0.4**
MORH Mrgy, Hungar 93.56 317 P **P** **18 35 06.1 -1.0**
DOMB Dombas 93.61 334 IVmBBB 18 35 05.3
comp=Z,718nm,3.0s

DOMB *ePdif* **PP** **18 35 05.9 -1.2**
DOMB IVMs_BB IVMs_BB 19 20 02.5
comp=Z,2μm,18.4s

OSL Oslo 93.70 332 *e*SKSac **SKSac** **18 45 38.3 -2.4**
KRLC Kraliky 93.70 321 *eP* **P** **18 35 07.5 -0.3**
KRLC *e* 18 38 55.2
KRLC *e* 18 46 11.3
KRLC MLR MLR
comp=Z,2μm,16.9s

KRLC Kraliky 93.70 321 *eP* **P** **18 35 07.5 -0.3**
KRLC *ePP* **PP** **18 38 55.2 +2.5**
KRLC *eS* **S** **18 46 11.3 -4.6**
KRLC AMS AMS 19 19 50.0
comp=Z,2μm,16.9s

SMOL Smolenice 93.74 320 *eP* **P** **18 35 08.0 0.0**
SMOL pmax pmax
comp=Z,7.0nm,1.5s

SMOL Smolenice 93.74 320 *eP* **P** **18 35 08.0 0.0**
KSP Ksiaz 93.78 322 *eP* **P** **18 35 08.4 +0.3**
KSP *eS* **S** **18 46 21.3 +5.0**
KSP *eL* L 19 19 42.5
comp=Z,3μm,20.4s

KSP Ksiaz 93.78 322 P **P** **18 35 08.4 +0.3**
KSP pmax pmax
comp=Z,26nm,1.9s

RUBB Prince Rupert 93.83 34 P **P** **18 35 08.2 0.0**
RUBB IAmb IAmb 18 35 10.2
comp=Z,73nm,1.1s

MODS Modra-Piesok 93.87 320 *eP* **P** **18 35 09.1 +0.5**
MODS pmax pmax
comp=Z,26nm,1.3s

MODS Modra-Piesok 93.87 320 *eP* **P** **18 35 09.1 +0.5**
TIH Tihany 93.88 318 P P 18 35 02.9 -5.7
DPC Dobruska-Polom 93.91 322 *eP* **P** **18 35 08.9 +0.2**
DPC *e* 18 38 54.0
DPC *e* 18 46 11.7
DPC MLR MLR
comp=Z,2μm,16.8s

DPC Dobruska-Polom 93.91 322 *eP* **P** **18 35 08.9 +0.2**
DPC *ePP* **PP** **18 38 54.0 -0.3**
DPC *eS* **S** **18 46 11.7 -5.9**
DPC AMS AMS 19 19 30.0
comp=Z,2μm,16.8s

OSTC Ostas 93.91 322 *eP* **P** **18 35 07.5 -1.2**
OSTC *eS* **S** **18 46 08.8 -8.8**
OSTC AMS AMS 19 19 20.0
comp=Z,3μm,18.8s

TIR Tirane 93.92 312 IAMs_20 IAMs_20 19 22 30.1
comp=Z,2μm,22.0s

HG4B Hotspring 93.94 36 P **P** **18 35 08.8 +0.1**
KOVH Kovagotottos 93.96 317 P **P** **18 35 08.2 -0.8**
CHVC Chvalec 94.00 322 *eP* **P** **18 35 09.6 +0.5**
CHVC AMS AMS 19 19 20.0
comp=Z,4μm,18.4s

ZST Bratislava 94.04 320 *eP* **P** **18 35 09.7 +0.4**
ZST Bratislava 94.04 320 *eP* **P** **18 35 09.7 +0.4**
MPLH Magyarpolny 94.04 319 P **P** **18 35 09.3 -0.1**
VRAC Vranov 94.04 321 ⇑P **P** **18 35 09.9 +0.5**
VRAC Vranov 94.04 321 LR LR 19 20 11.3
comp=Z,2μm,18.7s,baz=63,slow=37

VRAC Vranov 94.04 321 P **P** **18 35 09.9 +0.5**
VRAC pmax pmax
comp=Z,21nm,1.9s

VRAC Vranov 94.04 321 *eP* **P** **18 35 09.3 0.0**
UPC Upice 94.05 322 *eP* **P** **18 35 09.4 +0.1**
UPC *e* 18 38 56.4
UPC *e* 18 46 10.1
UPC MLR MLR
comp=Z,4μm,16.1s

UPC Upice 94.05 322 *eP* **P** **18 35 09.4 +0.1**
UPC *ePP* **PP** **18 38 56.4 +1.1**
UPC *ex* x 18 46 10.1
UPC AMS AMS 19 19 20.0
comp=Z,4μm,16.1s

PDG Podgorica 94.10 314 IAMs_20 IAMs_20 19 20 44.3
comp=Z,2μm,22.0s

EGYH Egyhazaskeszo 94.11 319 P **P** **18 35 09.9 +0.3**
GRNB Grenville Isla 94.15 34 P **P** **18 35 10.2 +0.5**
GRNB IAmb IAmb 18 35 11.7
comp=Z,86nm,1.1s

KRUC Moravsky 94.24 321 P **P** **18 35 10.5 +0.2**
KRUC pmax pmax
comp=Z,20nm,1.5s

KRUC Moravsky 94.24 321 *eP* **P** **18 35 10.4 +0.2**
KONO Kongsberg 94.33 332 IAMs_20 IAMs_20 19 22 33.5
comp=Z,3μm,20.0s

AKN Aaknes 94.44 335 *ePdif* **P** **18 35 10.6 -0.2**

SKAR Skarslia 94.51 333 *ePdif* **P** **18 35 07.1 -4.2**
SKAR IVmB_BB 18 35 08.5
comp=Z,1μm,3.6s

SKAR IVMs_BB IVMs_BB 19 20 20.8
comp=Z,2μm,20.2s

SYO Syowa Base 94.55 201 ⇑*ePP* pP 18 35 16.6 -1.5
RES Resolute Bay 94.59 9 P **P** **18 35 11.3 0.0**
comp=Z,20nm,0.8s,baz=318,slow=5.5,SNR=60
RES LR LR 19 20 15.3
comp=Z,2μm,20.6s,baz=320,slow=37

RES Resolute Bay 94.59 9 P **P** **18 35 11.0 -0.3**
RES pmax pmax
comp=Z,38nm,1.0s

RES Resolute Bay 94.59 9 P **P** **18 35 10.9 -0.3**
RES IAmb IAmb 18 35 12.9
comp=Z,38nm,1.0s

RONA Rosalia, Austr 94.70 319 *i* P **P** **18 35 12.2 -0.2**
comp=Z,8.0nm,1.1s,SNR=5.1
TREC Trest 94.74 321 AMS AMS 19 22 30.0
comp=Z,2μm,17.1s

RUE Ruedersdorf 94.75 324 *eP* **P** **18 35 13.2 +0.7**
comp=Z,45nm,0.9s,baz=70,slow=4.5

DBG Daneborg 94.77 350 *eP* **P** **18 35 10.4 -1.7**
DBG *i* P **PcP** **18 35 11.5 -1.0**
DBG IAmb IAmb 18 35 13.1
comp=Z,111nm,1.3s

JMIC Jan Mayen 94.78 346 LR LR 19 23 56.7
comp=Z,893nm,18.4s,baz=64,slow=39

JMIC Jan Mayen 94.78 346 *ePdif* **P** **18 35 09.3 -2.9**
CONA Conrad Observa 94.91 320 *i* P **P** **18 35 13.7 +0.2**
comp=Z,16nm,1.5s,SNR=6.8

PVCC Panska Ves 94.92 322 P **P** **18 35 13.8 +0.5**
PVCC pmax pmax
comp=Z,32nm,1.4s

PVCC Panska Ves 94.92 322 *eP* **P** **18 35 14.0 +0.7**
PVCC AMS AMS 19 20 00.0
comp=Z,3μm,18.3s

KOGS Kog 95.09 318 *i* P **P** **18 35 13.6 -0.6**
PRU Pruhonice 95.11 322 P **P** **18 35 14.5 +0.3**
PRU pmax pmax
comp=Z,13nm,2.6s

PRU Pruhonice 95.11 322 *eP* **P** **18 35 14.5 +0.3**
PRU *ePP* **PP** **18 39 06.9 +3.3**
PRU *ex* x 18 46 20.0
PRU AMS AMS 19 20 20.0
comp=Z,3μm,16.3s

BRG Berggiesshubel 95.19 323 *i* P **P** **18 35 14.5 0.0**
BRG Amp 18 35 15.8
comp=Z,25nm,1.0s

BRG *ex* x 18 35 24.0
BRG Amp 18 35 25.0
comp=Z,11nm,1.1s

BRG *ex* x 18 39 18.7
BRG Amp 18 39 20.5
comp=Z,11nm,1.4s

BRG Berggiesshubel 95.19 323 *i* P **P** **18 35 14.5 0.0**
BRG *e* 18 35 24.0
BRG S **S** **18 46 29.0 +0.4**
BRG pmax pmax
comp=Z,25nm,1.0s

BRG pmax pmax
comp=Z,11nm,1.1s

BRG pmax pmax
comp=Z,11nm,1.5s

BRG MLR MLR
comp=Z,2μm,18.2s

BRG MLR MLR
comp=N,2μm,17.8s

BRG MLR MLR
comp=E,2μm,20.2s

BRG Berggiesshubel 95.19 323 *eP* **P** **18 35 15.0 +0.4**
comp=E,14nm,0.9s,baz=70,slow=4.5
ARSA Arzberg 95.33 319 *eP* **P** **18 35 14.6 -0.7**
comp=E,13nm,1.3s

HOMB Homborsund 95.41 331 *ePP* PP 18 39 15.1 +10
FBE Freiberg 95.52 323 *eP* **P** **18 35 16.7 +0.7**
comp=E,20nm,1.0s,baz=70,slow=4.5

CLL Collm 95.60 323 *i* P **P** **18 35 15.8 -0.6**
CLL *i* *SP **pP** **18 35 24.9 +1.6**
CLL *eS* **S** **18 46 25.0 -7.2**
CLL pmax pmax
comp=Z,31nm,1.5s

CLL MLR MLR
comp=Z,2μm,19.8s

CLL Collm 95.60 323 P **P** **18 35 15.2 -1.2**
CLL IAMs_20 IAMs_20 19 20 59.8
comp=Z,3μm,19.0s

CLL Collm 95.60 323 *i* P **P** **18 35 15.8 -0.6**
comp=Z,31nm,1.5s

CLL *i* sP **pP** **18 35 24.9 +1.6**
CLL *ex* x 18 37 29.0
CLL *ePP* **PP** **18 39 05.0 -2.3**
CLL *es*PP 18 39 20.0
CLL *ex* x 18 39 50.0
CLL *e*PPP PPP 18 41 12.0
CLL *eS* **S** **18 46 28.0 -4.2**
CLL *ePS* **PS** **18 47 54.0 +1.3**
CLL *e*PKKPbc **PKKPdf** **18 52 05.0 -3.9**
CLL *ep*PKKPbc 18 52 11.0
CLL *eSS* **SS** **18 53 01.0 +0.7**
CLL *eSSS* SSS 18 56 48.0
CLL *eSSSS* 19 00 00.0
CLL LmV 19 21 00.0
comp=Z,2μm,19.8s

CLL LmH 19 22 00.0
comp=N,2μm,20.8s

CLL LmH 19 22 00.0
comp=E,2μm,21.8s

CLL Collm 95.60 323 *eP* **P** **18 35 16.5 +0.1**
comp=E,7.2nm,0.9s,baz=70,slow=4.5
CKRC Cesky Krumlov 95.62 321 *eP* **P** **18 35 15.0 -1.6**
CKRC *e*PP **PP** **18 39 11.7 +4.1**
CKRC *eS* **S** **18 46 25.2 -7.4**
CKRC AMS AMS 19 22 30.0
comp=E,2μm,16.8s

GCIS Gornji Cirnik 95.67 318 *i* P **P** **18 35 16.8 -0.1**
LSZ Lusaka 95.72 255 LR LR 19 16 02.5
comp=E,2μm,20.7s,baz=92,slow=34

LSZ Lusaka 95.72 255 IAMs_20 IAMs_20 19 16 00.8
comp=Z,2μm,20.0s

BBB Bella Bella 95.77 36 P **P** **18 35 17.5 +0.4**
comp=Z,40nm,1.0s,baz=270,slow=4.0,SNR=3.7
BBB LR LR 19 13 36.7
comp=Z,958nm,21.8s,baz=279,slow=32

MUD Monsted U'grnd 95.81 329 P **P** **18 35 16.9 -0.3**
MUD pmax pmax
comp=Z,27nm,1.4s

SOKA Soboth 95.83 319 *eP* **P** **18 35 16.3 -1.4**
comp=Z,9.1nm,1.6s

BLS5 Blasjo 95.88 332 *ePdif* **P** **18 35 16.9 -0.6**
BLS5 IVMs_BB IVMs_BB 19 28 40.8
comp=Z,1μm,3.8s

MOA Molln 95.96 320 *i* P **P** **18 35 18.1 0.0**
comp=Z,16nm,1.1s,SNR=9.7
KHC Kasperske Hory 95.98 321 *c i* P **P** **18 35 17.5 -0.7**
KHC pmax pmax
comp=Z,13nm,1.0s

KHC Kasperske Hory 95.98 321 *eP* **P** **18 35 17.7 -0.5**
KHC *ePP* **PP** **18 39 13.8 +3.4**
KHC *eS* **S** **18 46 27.9 -7.8**
KHC AMS AMS 19 23 20.0
comp=Z,2μm,16.7s

MATP Matopo 95.99 250 LR LR 19 16 35.1
comp=Z,774nm,20.1s,baz=68,slow=34

GEC2 GERESS Array S 95.99 321 P **P** **18 35 18.3 -0.1**
GEC2 pmax pmax
comp=Z,16nm,1.4s

GEC2 GERESS Array S 95.99 321 P **P** **18 35 17.8 -0.5**
GEC2 GERESS Array S 95.99 321 *eP* **P** **18 35 18.7 +0.3**
comp=Z,6.3nm,0.9s,baz=70,slow=4.5
GERES GERESS Array B 95.99 321 P **P** **18 35 17.9 -0.5**
comp=Z,4.8nm,0.9s,baz=93,slow=2.9,SNR=32
GERES PP **PP** **18 39 15.1 +4.5**
comp=Z,0.3nm,0.3s,baz=76,slow=5.3,SNR=2.4
GERES PKKP **PKKPbc** **18 52 05.2 -2.8**
comp=Z,1.3nm,0.9s,baz=236,slow=2.4,SNR=8.1
GERES LR LR 19 23 56.5
comp=Z,2μm,18.1s,baz=72,slow=39

GERES GERESS Array B 95.99 321 P **P** **18 35 17.6 -0.8**
BSEG Bad Segeberg 96.19 326 P **P** **18 35 19.4 +0.4**
BSEG pmax pmax
comp=Z,27nm,1.5s

BSEG Bad Segeberg 96.19 326 *eP* **P** **18 35 19.6 +0.6**
comp=Z,19nm,1.1s,baz=70,slow=4.5
OBKA Obir 96.19 319 *eP* **P** **18 35 19.0 -0.3**
comp=Z,11nm,1.9s
TANN Tannenbergstha 96.23 323 *eP* **P** **18 35 19.6 +0.2**
comp=Z,5.8nm,0.9s,baz=70,slow=4.5
FLTG Flechtingen 96.27 325 *eP* **P** **18 35 19.4 0.0**
comp=Z,8.9nm,0.8s,baz=70,slow=4.5
NKC Novy Kostel 96.30 323 *eP* **P** **18 35 20.1 +0.4**
NKC *e* 18 39 15.6
NKC *e* 18 46 32.6
NKC MLR MLR
comp=Z,3μm,18.4s

NKC Novy Kostel 96.30 323 *eP* **P** **18 35 20.1 +0.4**
NKC *ePP* **PP** **18 39 15.6 +2.8**
NKC *eS* **S** **18 46 32.6 -5.8**
NKC AMS AMS 19 20 50.0
comp=Z,3μm,18.4s

WERD Werda 96.31 323 *eP* **P** **18 35 20.0 +0.3**
comp=Z,10nm,1.0s,baz=70,slow=4.5
WERN Wernitzgruen 96.32 323 *eP* **P** **18 35 20.3 +0.5**
comp=Z,5.6nm,0.8s,baz=70,slow=4.5
GUNZ Gunzen 96.32 323 *eP* **P** **18 35 20.2 +0.4**
comp=Z,9.3nm,0.9s,baz=70,slow=4.5
NEUB Neuenburg 96.36 324 *eP* **P** **18 35 20.2 +0.4**
comp=Z,17nm,0.8s,baz=70,slow=4.5
WET Wettzell 96.41 321 P **P** **18 35 20.3 +0.1**
WET pmax pmax
comp=Z,10.0nm,1.8s

WET Wettzell 96.41 321 *eP* **P** **18 35 20.6 +0.4**
comp=Z,4.9nm,1.0s,baz=70,slow=4.5
BIOA Bad Ischl, Aus 96.41 320 *eP* **P** **18 35 20.3 +0.1**
comp=Z,7.9nm,1.1s
CEY Cerknica 96.51 318 *i* P **P** **18 35 20.1 -0.6**
MANZ Manzenberg 96.59 322 *eP* **P** **18 35 21.6 +0.6**
comp=Z,1.2nm,1.0s,baz=70,slow=4.5
ROTZ Rotzenmuhle 96.61 322 *eP* **P** **18 35 21.7 +0.7**
comp=Z,1.5nm,0.9s,baz=70,slow=4.5
MOX Moxa 96.65 323 P **P** **18 35 21.4 +0.2**
MOX pmax pmax
comp=Z,19nm,1.6s

MOX Moxa 96.65 323 *eP* **P** **18 35 21.6 +0.4**
comp=Z,7.8nm,0.9s,baz=70,slow=4.5
MOX *eL* L 19 23 17.2
comp=Z,3μm,21.6s

ASSE Asse, Remlinge 96.66 325 *eP* **P** **18 35 21.8 +0.7**
comp=Z,5.9nm,0.9s,baz=70,slow=4,5
TIP Timpagrande 96.77 311 ⇑P **P** **18 35 21.6 -0.5**
TIP Timpagrande 96.77 311 P **P** **18 35 21.3 -0.8**
TIP IAmb IAmb 18 35 23.2
comp=Z,45nm,1.4s

TIP IAMs_20 IAMs_20 19 24 29.6
comp=Z,2μm,21.0s

KBA Koelnbreinsper 96.80 319 *eP* **P** **18 35 21.3 -0.8**
comp=Z,4.5nm,1.1s
KBA Koelnbreinsper 96.80 319 P **P** **18 35 21.5 -0.7**
KBA pmax pmax
comp=Z,8.0nm,1.8s

NRDL Niedersach Rie 96.85 325 *eP* **P** **18 35 23.0 +1.1**
comp=Z,24nm,1.0s,baz=70,slow=4.5
RJOB Jochberg 96.93 320 *eP* **P** **18 35 22.5 -0.1**
comp=Z,5.7nm,0.9s,baz=70,slow=4.5
CLZ Clausthal 96.94 324 *eP* **P** **18 35 23.4 +0.8**
comp=Z,19nm,0.9s,baz=70,slow=4.5
GRB1 Grafenberg Arr 97.07 322 P Pdif 18 35 23.9 +0.6
GRB1 pmax pmax
comp=Z,22nm,1.1s

GRF Grafenberg Arr 97.23 322 *eP* Pdif 18 35 24.3 +0.4
comp=Z,3.2nm,0.8s,baz=70,slow=4.5
GRF *eL* L 19 20 43.9
comp=Z,2μm,21.3s

GRFO Grafenberg 97.23 322 IAMs_20 IAMs_20 19 21 46.8
comp=Z,2μm,19.0s

GTTG Gottingen 97.29 324 *eP* Pdif 18 35 24.7 +0.6
comp=Z,19nm,1.0s,baz=70,slow=4.5
ABTA Abfaltersbach 97.44 319 *eP* **P** **18 35 23.7 -1.3**
comp=Z,1.7nm,0.6s
UBBA Unterbreizbach 97.55 324 *eP* Pdif 18 35 25.8 +0.6
comp=Z,3.2nm,1.0s,baz=70,slow=4.5
YKA Yellowknife Ar 97.65 23 P **P** **18 35 25.4 0.0**
comp=Z,12nm,0.8s,baz=302,slow=4.4,SNR=123
YKA PP **PP** **18 39 23.2 +0.5**
comp=Z,1.1nm,0.8s,baz=316,slow=8.0,SNR=5.3
YKA PKiKP **PKiKP** **18 39 59.3 -0.2**
comp=Z,1.2nm,0.5s,baz=314,slow=1.7,SNR=14
YKA PKKPbc **PKKPbc** **18 51 59.4 -4.4**
comp=Z,0.8nm,0.8s,baz=124,slow=2.4,SNR=8.1
YKA LR LR 19 22 18.2
comp=Z,1μm,19.9s,baz=304,slow=37

YKA Yellowknife Ar 97.65 23 *i* P Pdif 18 35 25.7 +0.2
YKA pmax pmax
comp=Z,12nm,0.8s

QSPA South Pole Qui 97.71 180 LR LR 19 20 56.7
comp=Z,2μm,18.7s,baz=354,slow=36
QSPA South Pole Qui 97.71 180 IAMs_20 IAMs_20 19 20 46.4
comp=Z,2μm,19.0s

WTTA Wattenberg 97.83 320 *i* P **P** **18 35 26.2 -0.7**
comp=Z,14nm,1.0s,SNR=7.5
WTTA Wattenberg 97.83 320 P **P** **18 35 26.0 -0.9**
WTTA pmax pmax
comp=Z,19nm,1.3s

WATA Walderalm 97.84 320 *eP* **P** **18 35 26.0 -0.9**
comp=Z,11nm,1.0s
SQTA Sankt Quirin 98.12 320 *i* P **P** **18 35 27.5 -0.6**
comp=Z,12nm,1.0s,SNR=5.2
MOTA Moosalm 98.14 320 *eP* **P** **18 35 24.6 -3.7**
comp=Z,12nm,1.1s
IBBN Ibbenburen 98.25 326 *eP* Pdif 18 35 29.0 +0.7
comp=Z,24nm,1.0s,baz=70,slow=4.5
RETA Reutte 98.31 320 *eP* **P** **18 35 28.1 -0.8**
comp=Z,6.7nm,1.4s
KASTN Kahler Asten 98.32 324 *eP* Pdif 18 35 29.4 +0.6
comp=Z,7.4nm,1.1s,baz=70,slow=4.5
FETA Feichten 98.50 320 *i* P **P** **18 35 29.6 -0.2**
comp=Z,7.8nm,0.9s,SNR=5.6
UBR Ueberruh 98.65 321 *eP* **P** **18 35 30.2 -0.2**
comp=Z,4.0nm,0.8s,baz=70,slow=4.5
TNS Taunus Mts 98.69 323 P Pdif 18 35 38.2 +7.7
TNS pmax pmax
comp=Z,6.0nm,1.1s

TNS Taunus Mts 98.69 323 *eP* Pdif 18 35 31.1 +0.6
comp=Z,2.9nm,0.7s,baz=70,slow=4.5
STU Stuttgart 98.81 322 IAMs_20 IAMs_20 19 22 45.5
comp=Z,2μm,19.0s

TAOE Nuku Hiva Isla 98.84 98 *e*LR LR 19 07 38.7
comp=Z,4μm,22.4s,baz=282
BUG Bochum--Univer 98.88 325 *eP* Pdif 18 35 32.8 +1.6
comp=Z,13nm,1.0s,baz=70,slow=4.5
DAVA Damuels 98.94 320 *eP* **P** **18 35 31.4 -0.4**
comp=Z,5.5nm,1.0s
VAE Valguarnera 99.02 310 LR LR 19 27 29.9
comp=Z,696nm,18.2s,baz=31,slow=40
LBTB Lobatse 99.08 246 LR LR 19 17 04.3
comp=Z,2μm,20.2s,baz=94,slow=33
DAVOX Davos/Dischmat 99.13 320 LR LR 19 24 36.4
comp=Z,2μm,19.3s,baz=50,slow=38
BFO Black Forest 99.51 322 *eP* **Pdif** **18 35 33.9 -0.3**
comp=Z,1.9nm,0.8s,baz=70,slow=4.5
BOSA Boshof 99.64 242 LR LR 19 17 52.4
comp=Z,1μm,20.0s,baz=94,slow=34
ECH Echery 100.27 322 IAMs_20 IAMs_20 19 24 19.2
comp=Z,2μm,19.0s

WLF Walferdange 100.27 324 IAMs_20 IAMs_20 19 24 19.4
comp=Z,2μm,20.0s
D03D Eldon 100.53 39 Pdiff **Pdif** **18 35 39.9 +1.2**
baz=294
SENIN Lac Senin/Sane 100.93 320 IAMs_20 IAMs_20 19 28 36.8
comp=Z,2μm,20.0s
E04D Cinebar 101.26 39 Pdiff **Pdif** **18 35 43.1 +1.2**
baz=294
G03D McMinnville, O 101.35 41 Pdiff **Pdif** **18 35 44.1 +1.7**
baz=293
I02E Swisshome, OR 101.40 42 Pdiff **Pdif** **18 35 43.8 +1.2**
baz=293
J01E Myrtle Point 101.71 43 Pdiff **Pdif** **18 35 44.7 +0.8**
baz=292
BNI Bardonecchia 101.86 319 P **Pdif** **18 35 45.5 +0.7**
BNI pmax pmax
comp=Z,5.0nm,1.2s

I03D Drain, OR 101.89 42 Pdiff **Pdif** **18 35 43.9 -0.9**
baz=293
H04D Lebanon 101.97 41 Pdiff **Pdif** **18 35 44.6 -0.5**
baz=294
EKA Eskdalemuir Ar 102.44 331 PKKPbc PKKPbc 18 51 48.0 -1.9
comp=Z,2.1nm,0.9s,baz=236,slow=3.3,SNR=4.6
B08A Colville Reser 102.46 37 Pdif **Pdif** **18 35 47.9 +0.6**
I04A Tendick Farm, 102.48 42 Pdiff **Pdif** **18 35 47.6 +0.1**
baz=294
J04D Umpqua Nationa 102.90 42 IAMs_20 IAMs_20 19 13 09.9
comp=Z,2μm,20.0s

J04D	Umpqua Nationa	102.90	42	Pdiff	Pdif	18 35 50.1	+0.6		baz=306
M02C	Callahan	103.13	44	IAMs_20	IAMs_20	19 17 04.1			comp=Z,2µm,22.0s
M02C	Callahan	103.13	44	Pdiff	Pdif	18 35 50.2	-0.2		baz=293
SSB	Saint Sauveur	103.14	320	IAMs_20	IAMs_20	19 27 33.1			comp=Z,2µm,18.0s
L04D	Klamath Falls	103.18	43	Pdiff	Pdif	18 35 50.7	0.0		baz=294
D08A	Wollman Farm,	103.30	38	Pdif	Pdif	18 35 50.4	-0.6		
J05D	Fort Rock, OR	103.47	42	Pdiff	Pdif	18 35 52.1	+0.1		baz=295
O02D	Mt. Diablo Mer	103.64	46	Pdiff	Pdif	18 35 53.1	+0.3		baz=293
M04C	Macdoel	103.67	44	IAMs_20	IAMs_20	19 18 56.4			comp=Z,2µm,21.0s
M04C	Macdoel	103.67	44	Pdiff	Pdif	18 35 53.2	+0.2		baz=294
NEW	Newport	103.81	36	Pdiff	Pdif	18 35 53.5	+0.2		comp=Z,7.5nm,1.0s,baz=253,slow=5.7,SNR=5.6
NEW	Newport	103.81	36	P	Pdif	18 35 53.8	+0.5		
NEW	Newport	103.81	36	Pdif	Pdif	18 35 53.8	+0.5		
NEW	Newport	103.81	36	Pdiff	Pdif	18 35 53.8	+0.5		baz=299
O03E	Paynes Creek	104.29	45	Pdiff	Pdif	18 35 55.8	+0.1		baz=294
MOD	Modoc Plateau	104.67	43	IAMs_20	IAMs_20	19 19 01.7			comp=Z,2µm,20.0s
ORV	Oroville	104.80	46	IAMs_20	IAMs_20	19 16 41.4			comp=Z,2µm,22.0s
SFJD	Kangerlussuaq	105.18	357	IAMs_20	IAMs_20	19 33 30.7			comp=Z,1µm,19.0s
JTMT	Jette	105.72	36	Pdif	Pdif	18 36 02.1	+0.2		
PLID	Pearl Lake	106.02	39	Pdif	Pdif	18 36 03.1	-0.4		
TSUM	Tsumeb	106.14	252	IAMs_20	IAMs_20	19 26 28.9			comp=Z,2µm,18.0s
CMB	Columbia Colle	106.20	47	IAMs_20	IAMs_20	19 16 29.8			comp=Z,2µm,22.0s
MSO	Missoula	106.39	36	PKiKP	PKiKP	18 40 16.2	+0.1		baz=301
NVAR	Mina Array Bea	107.53	46	Pdiff	Pdif	18 36 09.9	-0.5		comp=Z,2.6nm,0.8s,baz=264,slow=4.7,SNR=11
NVAR				PKiKP	PKiKP	18 40 19.5	+0.9		
NVAR				PKKPbc	PKKPbc	18 51 33.0	-1.3		comp=Z,0.3nm,0.6s,baz=145,slow=6.5,SNR=3.9
HLID	Hailey	107.76	40	PKiKP	PKiKP	18 40 18.9	+0.1		baz=300
SNAA	Sanae	107.92	196	IAMs_20	IAMs_20	19 23 17.0			comp=Z,2µm,22.0s
EGMT	Eagleton	108.12	34	PKiKP	PKiKP	18 40 19.5	+0.3		baz=305
BOZ	Bozeman (W)	108.41	37	PKiKP	PKiKP	18 40 20.7	+0.8		baz=303
ELK	Elko	108.60	42	IAMs_20	IAMs_20	19 13 59.6			comp=Z,1µm,18.0s
MPMC	Manual Prospec	109.13	48	PKiKP	PKiKP	18 40 22.1	+0.5		baz=295
EDW2	Edwards Air Fo	109.25	49	PKiKP	PKiKP	18 40 21.6	-0.1		baz=295
PASC	Pasadena Art C	109.40	50	IAMs_20	IAMs_20	19 20 02.8			comp=Z,1µm,22.0s
FURC	Furnace Creek,	109.41	47	PKiKP	PKiKP	18 40 22.9	+1.1		baz=296
R11A	Troy Canyon, C	109.48	45	PKiKP	PKiKP	18 40 23.1	+0.9		baz=298
TPNV	Topopah Spring	109.64	46	PKiKP	PKiKP	18 40 23.0	+0.5		baz=297
SHOC	Shoshone, Teco	110.09	47	PKiKP	PKiKP	18 40 24.0	+0.8		baz=296
DUG	Dugway, Tooele	110.48	42	IAMs_20	IAMs_20	19 18 51.3			comp=Z,2µm,22.0s
DUG	Dugway, Tooele	110.48	42	PKiKP	PKiKP	18 40 24.0	0.0		baz=300
HEC	Hector,Ludlow	110.51	48	PKiKP	PKiKP	18 40 24.3	+0.2		baz=296
NRS	Narsarsuaq	110.53	354	IAMs_20	IAMs_20	19 36 55.1			comp=Z,1µm,19.0s
HWUT	Hardware Ranch	110.57	40	IAMs_20	IAMs_20	19 20 45.4			comp=Z,2µm,20.0s
DGMT	Dagmar	110.80	31	IAMs_20	IAMs_20	19 22 22.1			comp=Z,2µm,21.0s
DGMT	Dagmar	110.80	31	PKiKP	PKiKP	18 40 24.2	+0.1		baz=310
LAO	LASA Array	110.85	33	PKiKP	PKiKP	18 40 24.9	+0.5		baz=308
PFO	Pinyon Flats O	110.94	50	PKiKP	PKiKP	18 40 25.4	+0.4		comp=Z,2.6nm,0.8s,baz=358,slow=2.7,SNR=4.5
PFO	Pinyon Flats O	110.94	50	*i* PKiKP	PKiKP	18 40 25.4	+0.4		
PFO				MLR	MLR				comp=Z,2µm,19.0s
PFO	Pinyon Flats O	110.94	50	PKiKP	PKiKP	18 40 25.4	+0.4		baz=295
TPFO	Pinon Flats	110.95	50	PKiKP	PKiKP	18 40 25.5	+0.5		baz=295
GMRC	Granite Mounta	111.03	48	PKiKP	PKiKP	18 40 26.1	+0.9		baz=296
BELC	Belle Mtn. Jos	111.12	49	PKiKP	PKiKP	18 40 25.7	+0.3		baz=296
BW06	Boulder Array	111.20	38	PKiKP	PKiKP	18 40 25.7	+0.4		baz=304
PDAR	Pinedale Array	111.20	38	Pdiff	Pdif	18 36 26.4	-0.1		comp=Z,1.2nm,1.0s,baz=333,slow=3.1,SNR=4.6
PDAR				PKiKP	PKiKP	18 40 25.2	-0.2		
PDAR				PP	PP	18 41 04.8	+0.5		comp=Z,0.8nm,0.6s,baz=316,slow=7.7,SNR=3.5
PDAR				PKKPbc	PKKPbc	18 51 20.8	-1.9		comp=Z,0.7nm,0.8s,baz=134,slow=2.6,SNR=6.2
PDAR				PKKPab	PKKPab	18 51 30.4	-2.2		comp=Z,0.3nm,0.5s,baz=172,slow=4.5,SNR=4.0
MONP2	Monument Peak	111.28	50	PKiKP	PKiKP	18 40 25.7	0.0		baz=295
ESDC	Sonseca Array	111.32	318	PP	PP	18 41 08.8	+3.8		comp=Z,2.5nm,1.2s,baz=48,slow=5.3,SNR=5.1
ESDC				PKKPbc	PKKPbc	18 51 20.9	-1.1		comp=Z,1.1nm,0.9s,baz=257,slow=4.6,SNR=5.0
IKP	In-Ko-Pah, Jac	111.61	50	PKiKP	PKiKP	18 40 26.8	+0.5		baz=295
PAB	San Pablo	111.64	318	IAMs_20	IAMs_20	19 31 54.4			comp=Z,1µm,19.0s
BC3	Big Chuckawall	111.68	49	PKiKP	PKiKP	18 40 26.5	+0.1		baz=296
IRM	Iron Mountain	111.69	49	PKiKP	PKiKP	18 40 26.8	+0.5		baz=296
SWSC	Sam W. Stewart	111.73	50	PKiKP	PKiKP	18 40 26.3	0.0		baz=296
GLA	Glamis	112.42	50	PKiKP	PKiKP	18 40 28.0	+0.3		baz=296
K22A	Casper	113.10	37	P	PKiKP	18 40 28.6	-0.3		baz=306
ULM	Lac du Bonnet	113.46	25	PKiKP	PKiKP	18 40 28.1	-1.0		comp=Z,9.3nm,1.0s,baz=346,slow=0.8,SNR=8.3
ULM				PP	PP	18 41 23.4	+3.8		comp=Z,2.8nm,0.7s,baz=320,slow=6.6,SNR=3.7
ULM	Lac du Bonnet	113.46	25	*c i* PKiKP	PKiKP	18 40 28.2	-0.9		
O20A	White River Ci	113.48	40	PKiKP	PKiKP	18 40 30.0	+0.2		baz=304
RSSD	Black Hills	113.65	34	P	PKiKP	18 40 29.4	-0.6		baz=309
RSSD	Black Hills	113.65	34	PKiKP	PKiKP	18 40 29.5	-0.4		baz=309
WUAZ	Wupatki	113.79	46	IAMs_20	IAMs_20	19 23 23.6			comp=Z,2µm,21.0s
WUAZ	Wupatki	113.79	46	PKiKP	PKiKP	18 40 31.2	+0.7		baz=300
COI	Coimbra	113.92	320	IAMs_20	IAMs_20	19 31 55.4			comp=Z,2µm,21.0s
214A	Organ Pipe Nat	114.43	50	PKiKP	PKiKP	18 40 31.6	0.0		baz=297
MVCO	Mesa Verde	114.91	43	IAMs_20	IAMs_20	19 21 33.4			comp=Z,2µm,21.0s
MVCO	Mesa Verde	114.91	43	PKiKP	PKPdf	18 40 32.9	+0.2		baz=303
AGMN	Agassiz Nation	114.92	27	IAMs_20	IAMs_20	19 27 35.7			comp=Z,2µm,20.0s
AGMN	Agassiz Nation	114.92	27	PKiKP	PKPdf	18 40 32.3	+0.3		baz=318
W18A	Petrified Fore	115.15	45	PKiKP	PKPdf	18 40 33.7	+0.7		baz=301
ISCO	Idaho Springs	115.33	39	PKiKP	PKiKP	18 40 33.2	-0.3		
ISCO				MLR	MLR				comp=Z,3µm,22.0s
ISCO	Idaho Springs	115.33	39		PKiKP	18 40 33.2	-0.3		
ISCO	Idaho Springs	115.33	39	P	PKPdf	18 40 33.8	+0.3		baz=306
ISCO	Idaho Springs	115.33	39	PKiKP	PKiKP	18 40 32.9	-0.5		
MORF	Marmelete	115.69	318	*e*PP	PP	18 41 36.6	+0.5		
MORF				*e*SS	SS	18 57 37.9	+2.9		
MORF				IAMs_20	IAMs_20	19 38 41.6			comp=Z,2µm,17.0s
S22A	4UR Ranch, Cre	115.73	42		PKPdf	18 40 34.4	+0.1		
S22A	4UR Ranch, Cre	115.73	42	PKiKP	PKiKP	18 40 33.7	-0.5		baz=304
TUC	Tucson	115.78	49	PKiKP	PKiKP	18 40 32.5	-1.7		
TUC				MLR	MLR				comp=Z,2µm,22.0s
TUC	Tucson	115.78	49		PKiKP	18 40 32.5	-1.7		
TUC	Tucson	115.78	49	IAMs_20	IAMs_20	19 29 39.5			comp=Z,1µm,22.0s
TUC	Tucson	115.78	49	PKiKP	PKPdf	18 40 34.3	+0.1		baz=299
B35A	Bob, Littlefor	115.81	26		PKiKP	18 40 33.0	-0.7		
B35A	Bob, Littlefor	115.81	26	P	PKiKP	18 40 33.2	-0.5		baz=320
Q24A	Divide	116.11	40	PKiKP	PKiKP	18 40 34.6	-0.4		baz=306
SUSD	Miller	116.18	32	P	PKPdf	18 40 34.7	+0.2		baz=314
SUSD	Miller	116.18	32	PKiKP	PKiKP	18 40 33.9	-0.6		baz=314
F33A	5 Mile Ranch,	116.52	29	PKPdf	PKPdf	18 40 34.3	-0.8		
F33A	5 Mile Ranch,	116.52	29	P	PKPdf	18 40 35.1	-0.1		baz=317
SDCO	Great Sand Dun	116.59	41		PKiKP	18 40 36.0	+0.1		
SDCO				IAMs_20	IAMs_20	19 24 31.1			comp=Z,2µm,22.0s
SDCO	Great Sand Dun	116.59	41	P	PKiKP	18 40 36.4	+0.4		baz=305
SDCO	Great Sand Dun	116.59	41	PKiKP	PKPdf	18 40 35.8	-0.1		baz=305
OGNE	Ogallala	116.80	36	IAMs_20	IAMs_20	19 24 00.4			comp=Z,1µm,21.0s
OGNE	Ogallala	116.80	36	PKiKP	PKPdf	18 40 35.2	-0.8		baz=310
EYMN	Ely	117.07	25	IAMs_20	IAMs_20	19 38 04.5			comp=Z,1µm,20.0s
EYMN	Ely	117.07	25	PKiKP	PKPdf	18 40 36.0	-0.2		baz=322
SCHQ	Schefferville	117.13	6	PKP	PKPdf	18 40 35.7	-0.3		comp=Z,11nm,1.0s,baz=29,slow=3.8,SNR=8.4
TOA0	Torodi Ar. Sit	117.20	289		PKPdf	18 40 36.3	-1.0		
TORD	Torodi Ar. Bea	117.20	289	PKP	PKPdf	18 40 36.4	-0.9		comp=Z,6.2nm,1.0s,baz=36,slow=1.6,SNR=22
TORD				PP	PP	18 41 45.8	-1.9		comp=Z,4.0nm,1.1s,baz=51,slow=7.3,SNR=4.0
TORD				PKKPbc	PKKPbc	18 51 00.9	-0.3		comp=Z,3.2nm,0.8s,baz=281,slow=2.3,SNR=12
ANMO	Albuquerque	117.53	44	*c i* PKiKP	PKiKP	18 40 38.1	+0.4		
ANMO				pmax	pmax				comp=Z,17nm,1.0s
ANMO	Albuquerque	117.53	44		PKiKP	18 40 37.8	+0.1		
ANMO	Albuquerque	117.53	44	IAMs_20	IAMs_20	19 27 10.1			comp=Z,2µm,21.0s
ANMO	Albuquerque	117.53	44	P	PKiKP	18 40 38.1	+0.4		baz=303
ANMO	Albuquerque	117.53	44	PKiKP	PKiKP	18 40 37.9	+0.2		baz=303
K31A	O'Neill	117.54	33		PKPdf	18 40 36.9	-0.3		
KSCO	Kaye Shedlock'	117.65	38	PKiKP	PKPdf	18 40 37.2	-0.5		baz=308
T25A	Trinidad	117.65	41		PKPdf	18 40 36.8	-1.1		
T25A	Trinidad	117.65	41	PKiKP	PKiKP	18 40 38.1	+0.2		baz=306
Y22A	Socorro	117.72	45	P	PKiKP	18 40 38.2	+0.2		baz=302
F36A	Milaca	117.80	27		PKPdf	18 40 36.9	-0.7		
F36A	Milaca	117.80	27	P	PKPdf	18 40 37.4	-0.3		baz=319
BNM	Barren Site	117.84	45		PKPdf	18 40 37.8	-0.5		
121A	Cookes Peak, D	117.87	47	PKPdf	PKiKP	18 40 38.9	+0.5		
121A	Cookes Peak, D	117.87	47	P	PKiKP	18 40 39.2	+0.9		baz=301,SNR=11
121A	Cookes Peak, D	117.87	47	PKiKP	PKiKP	18 40 39.0	+0.6		baz=301
ECSD	EROS Data Cent	117.88	31		PKPdf	18 40 36.9	-0.9		
ECSD	EROS Data Cent	117.88	31	IAMs_20	IAMs_20	19 31 55.5			comp=Z,1µm,20.0s
ECSD	EROS Data Cent	117.88	31	P	PKPdf	18 40 37.5	-0.4		baz=316
ECSD	EROS Data Cent	117.88	31	PKiKP	PKPdf	18 40 37.5	-0.4		baz=316
SPMN	Marine on St.	118.61	27		PKPdf	18 40 38.6	-0.6		
SPMN	Marine on St.	118.61	27	PKiKP	PKPdf	18 40 38.4	-0.8		baz=320
BGNE	Belgrade	118.69	34		PKPdf	18 40 38.2	-1.3		
BGNE	Belgrade	118.69	34	P	PKPdf	18 40 39.1	-0.4		baz=313
BGNE	Belgrade	118.69	34	PKiKP	PKPdf	18 40 38.4	-1.1		baz=313
D41A	Chassel	118.96	23		PKPdf	18 40 39.6	-0.1		
D41A	Chassel	118.96	23	P	PKiKP	18 40 40.1	+0.2		baz=325
EPT	El Paso	119.19	47	IAMs_20	IAMs_20	19 41 02.6			comp=Z,1µm,19.0s
I37A	Lemond, Waseca	119.25	29		PKPdf	18 40 40.0	-0.5		
I37B	Waseca	119.25	29	P	PKiKP	18 40 40.5	0.0		baz=319
COWI	Conover	119.51	24		PKPdf	18 40 40.0	-0.9		
COWI	Conover	119.51	24	P	PKPdf	18 40 40.9	0.0		baz=324
CBKS	Cedar Bluff	119.52	37	PKiKP	PKPdf	18 40 40.8	-0.4		baz=311
G40A	Rib Lake	119.73	26		PKPdf	18 40 40.7	-0.6		
G40A	Rib Lake	119.73	26	P	PKPdf	18 40 41.2	-0.2		baz=323
MNTX	Cornudas Mount	120.04	46		PKiKP	18 40 42.5	0.0		
MNTX				IAMs_20	IAMs_20	19 31 56.0			comp=Z,1µm,19.0s
MNTX	Cornudas Mount	120.04	46	P	PKiKP	18 40 43.2	+0.8		baz=303,SNR=15
MNTX	Cornudas Mount	120.04	46	PKiKP	PKPdf	18 40 42.3	-0.1		baz=303
E43A	Lone Tree Farm	120.14	23		PKPdf	18 40 41.9	-0.2		
E43A	Lone Tree Farm	120.14	23	P	PKPdf	18 40 42.1	0.0		baz=326
F42A	Maple Grove Fa	120.20	24		PKPdf	18 40 41.5	-0.8		
F42A	Maple Grove Fa	120.20	24	P	PKPdf	18 40 41.4	-0.8		baz=325
SLBS	Sierra La Lagu	120.35	57	IAMs_20	IAMs_20	19 28 05.6			comp=Z,1µm,19.0s
R32A	Long Quarter,	120.38	36		PKPdf	18 40 42.1	-0.7		
R32A	Long Quarter,	120.38	36	P	PKPdf	18 40 42.8	-0.1		baz=312
MSTX	Muleshoe	120.59	43		PKPdf	18 40 42.4	-1.1		
MSTX	Muleshoe	120.59	43	PKiKP	PKPdf	18 40 42.6	-0.9		baz=306
SCIA	State Center	120.92	30		PKPdf	18 40 43.3	-0.4		
SCIA				IAMs_20	IAMs_20	19 34 05.9			comp=Z,1µm,20.0s
SCIA	State Center	120.92	30	PKiKP	PKPdf	18 40 43.0	-0.7		baz=318
KSU1	Kansas State U	121.14	35		PKPdf	18 40 43.6	-0.6		
KSU1	Kansas State U	121.14	35	IAMs_20	IAMs_20	19 29 19.0			comp=Z,2µm,21.0s
KSU1	Kansas State U	121.14	35	P	PKPdf	18 40 43.8	-0.4		baz=314
KSU1	Kansas State U	121.14	35	PKiKP	PKPdf	18 40 43.4	-0.8		baz=314
E46A	Sault Ste Mari	121.14	21		PKPdf	18 40 43.4	-0.6		
E46A	Sault Ste Mari	121.14	21	P	PKiKP	18 40 44.2	+0.1		baz=329
I42A	Draeger Farm,	121.39	26		PKPdf	18 40 43.9	-0.6		
I42A	Draeger Farm,	121.39	26	P	PKPdf	18 40 44.0	-0.6		baz=323
H43A	Windswept, Lux	121.40	25	P	PKPdf	18 40 43.9	-0.6		baz=325
U32A	Winter Ranch,	121.54	38		PKPdf	18 40 44.6	-0.5		
U32A	Winter Ranch,	121.54	38	P	PKPdf	18 40 45.1	0.0		baz=310
JFWS	Jewell Farm	121.57	27	PKiKP	PKPdf	18 40 43.6	-1.4		
JFWS				MLR	MLR				comp=Z,1µm,22.0s
JFWS	Jewell Farm	121.57	27		PKPdf	18 40 43.6	-1.4		
JFWS	Jewell Farm	121.57	27	IAMs_20	IAMs_20	19 29 38.7			comp=Z,1µm,22.0s
JFWS	Jewell Farm	121.57	27	P	PKPdf	18 40 44.3	-0.6		baz=322
JFWS	Jewell Farm	121.57	27	PKiKP	PKPdf	18 40 43.8	-1.2		baz=322
VLDQ	Val d'Or	121.70	15		PKPdf	18 40 43.9	-1.1		
G45A	Suttons Bay	121.77	23		PKPdf	18 40 44.6	-0.6		baz=327
G45A				P	PKPdf	18 40 45.1	-0.1		baz=327
L40A	Anamosa	121.78	29		PKPdf	18 40 44.1	-1.2		
L40A	Anamosa	121.78	29	P	PKPdf	18 40 44.9	-0.4		baz=320
KOWA	Kowa	122.09	292		PKPdf	18 40 46.3	-0.3		
GLMI	Grayling	122.35	22	IAMs_20	IAMs_20	19 33 41.0			comp=Z,1µm,21.0s
P38A	Dawn	122.44	32		PKPdf	18 40 45.5	-1.2		
P38A	Dawn	122.44	32	P	PKPdf	18 40 45.7	-1.0		baz=317
L42A	Oliver, Polo	122.55	28		PKPdf	18 40 45.6	-1.3		
L42A	Oliver, Polo	122.55	28	P	PKPdf	18 40 46.2	-0.6		baz=322
TX31	Lajitas Ar. Si	122.56	48		PKPdf	18 40 47.2	-0.2		
TX31	Lajitas Ar. Si	122.56	48	P	PKPdf	18 40 47.4	0.0		baz=303
TX32	Lajitas Array	122.56	48		PKPdf	18 40 46.9	-0.5		
TXAR	Lajitas Array	122.56	48	PKP	PKiKP	18 40 47.5	-0.1		comp=Z,11nm,0.8s,baz=253,slow=1.1,SNR=77
TXAR	Lajitas Array	122.56	48	PKIKP	PKPdf	18 40 46.9	-0.5		
TXAR	Lajitas Array	122.56	48		PKPdf	18 40 46.9	-0.5		
T35A	Sooner Cattle	122.69	36		PKPdf	18 40 47.1	-0.2		
T35B	Sooner Cattle	122.69	36	P	PKiKP	18 40 47.5	0.0		baz=313
WMOK	Wichita Mounta	122.73	40	PKIKP	PKPdf	18 40 46.7	-0.8		
WMOK				MLR	MLR				comp=Z,1µm,22.0s
WMOK	Wichita Mounta	122.73	40		PKPdf	18 40 46.6	-0.8		
WMOK	Wichita Mounta	122.73	40	IAMs_20	IAMs_20	19 27 14.5			comp=Z,1µm,22.0s
WMOK	Wichita Mounta	122.73	40	P	PKPdf	18 40 47.2	-0.2		baz=310,SNR=19
WMOK	Wichita Mounta	122.73	40	PKiKP	PKPdf	18 40 47.2	-0.2		baz=310
N41A	Harden Midland	122.99	29		PKPdf	18 40 46.3	-1.4		
N41A	Harden Midland	122.99	29	P	PKPdf	18 40 47.4	-0.3		baz=320
L44A	Lake County Fo	123.20	26	IAMs_20	IAMs_20	19 32 14.8			comp=Z,2µm,21.0s
L44A	Lake County Fo	123.20	26	PKiKP	PKPdf	18 40 47.8	-0.2		baz=324
FNO	Franklin	123.26	38		PKPdf	18 40 47.8	-0.6		
P40A	Paris	123.28	31		PKPdf	18 40 47.7	-0.6		
X34A	Smith Ranch, M	123.42	39		PKPdf	18 40 48.6	-0.1		
LATQ	La Tuque	123.48	12		PKPdf	18 40 48.0	-0.4		
ABTX	Abilene, Hawle	123.49	42		PKPdf	18 40 49.1	+0.1		
ABTX	Abilene, Hawle	123.49	42	PKiKP	PKPdf	18 40 48.8	-0.1		baz=308
J47A	Sunmer	123.61	23		PKPdf	18 40 48.5	-0.4		
W35A	Tecumseh	123.65	38		PKPdf	18 40 48.3	-0.4		
I49A	Point Hope	123.77	21		PKPdf	18 40 48.3	-0.8		
M44A	Midewin, Midew	123.78	27		PKPdf	18 40 46.9	-2.4		
LMQ	La Malbaie	123.79	10		PKPdf	18 40 48.1	-1.0		
TUL1	Leonard	123.80	37		PKPdf	18 40 48.4	-1.0		
TUL1				IAMs_20	IAMs_20	19 30 38.7			comp=Z,2µm,21.0s
TUL1	Leonard	123.80	37	P	PKiKP	18 40 49.7	0.0		baz=313
TUL1	Leonard	123.80	37	PKiKP	PKPdf	18 40 49.2	-0.2		baz=313
HDIL	Hopedale	123.86	29		PKPdf	18 40 48.2	-1.2		
HDIL				IAMs_20	IAMs_20	19 37 48.5			comp=Z,1µm,20.0s
HDIL	Hopedale	123.86	29	P	PKPdf	18 40 49.2	-0.2		baz=322
HDIL	Hopedale	123.86	29	PKiKP	PKPdf	18 40 48.4	-1.0		baz=322
S39A	Bolivar	123.96	34		PKPdf	18 40 48.7	-1.0		
S39A	Bolivar	123.96	34	P	PKPdf	18 40 49.4	-0.3		baz=316
R40A	Maddies Statio	124.09	32	P	PKPdf	18 40 46.8	-3.1		baz=318
TRQ	Mont Tremblant	124.18	14		PKPdf	18 40 49.4	-0.6		
SADO	Sadowa	124.27	18		PKPdf	18 40 49.3	-0.8		
D62A	Allapoint, All	124.45	9		PKPdf	18 40 49.9	-0.4		
D62A	Allapoint, All	124.45	9	P	PKPdf	18 40 50.4	+0.1		baz=347,SNR=6.3
D62A				P	PKPdf	18 40 50.4	+0.1		baz=347,SNR=6.3
P43A	Skaggs, Pawnee	124.46	29		PKPdf	18 40 50.1	-0.5		
P43A	Skaggs, Pawnee	124.46	29	P	PKPdf	18 40 50.2	-0.3		baz=321
Z35A	Perchaven, San	124.61	40		PKPdf	18 40 50.5	-0.5		
Z35A	Perchaven, San	124.61	40	P	PKPdf	18 40 50.7	-0.3		baz=310,SNR=6.6
HHAR	Hobbs	124.62	35		PKPdf	18 40 50.0	-1.0		
HHAR	Hobbs	124.62	35	P	PKPdf	18 40 50.5	-0.5		baz=315
BATG	Bathurst New B	124.67	7		PKPdf	18 40 50.8	+0.1		
JCT	Junction City	124.67	44	PKIKP	PKPdf	18 40 50.7	-0.6		
JCT				MLR	MLR				comp=Z,2µm,19.0s
JCT	Junction City	124.67	44		PKPdf	18 40 50.7	-0.6		
JCT				IAMs_20	IAMs_20	19 31 47.4			comp=Z,2µm,19.0s
JCT	Junction City	124.67	44	P	PKPdf	18 40 51.1	-0.2		baz=307
JCT	Junction City	124.67	44	PKiKP	PKPdf	18 40 50.7	-0.6		baz=307
CCM	Cathedral Cave	124.80	32	PKIKP	PKPdf	18 40 49.2	-2.1		
CCM				MLR	MLR				comp=Z,900nm,19.0s
CCM	Cathedral Cave	124.80	32		PKPdf	18 40 49.2	-2.1		
CCM	Cathedral Cave	124.80	32	P	PKPdf	18 40 48.5	-2.8		baz=319
CCM	Cathedral Cave	124.80	32	PKiKP	PKPdf	18 40 50.7	-0.6		baz=319
L48A	N Adams	124.86	24		PKPdf	18 40 50.4	-0.9		
L48A	N Adams	124.86	24	P	PKPdf	18 40 51.1	-0.2		baz=328
L48A				P	PKPdf	18 40 51.1	-0.2		baz=328
AAM	Ann Arbor	124.86	23	IAMs_20	IAMs_20	19 29 55.6			comp=Z,1µm,22.0s
MGMO	Mountain Grove	124.92	33		PKPdf	18 40 50.8	-0.7		
X37A	Clayton	124.94	38		PKPdf	18 40 50.8	-0.9		
X37A	Clayton	124.94	38	P	PKPdf	18 40 51.7	0.0		baz=313,SNR=8.1
DELO	Deloro Mine	124.95	17		PKPdf	18 40 50.0	-1.3		
SFIN	Lafayette	125.01	27		PKPdf	18 40 51.1	-0.5		
SFIN	Lafayette	125.01	27	P	PKPdf	18 40 50.9	-0.7		baz=324
SFIN	Lafayette	125.01	27	PKiKP	PKPdf	18 40 51.0	-0.6		baz=324
KIC	Kosan Boka	125.09	283	*e*PKP1	PKPdf	18 40 51.6	-0.9		comp=Z,30nm,1.0s
DBIC	Dimbokro	125.12	284	PKP	PKPdf	18 40 51.9	-0.6		comp=Z,16nm,1.0s,baz=84,slow=2.5,SNR=9.9
U40A	Yellville	125.18	34		PKPdf	18 40 50.9	-1.2		
U40A				IAMs_20	IAMs_20	19 29 29.0			comp=Z,2µm,22.0s
U40A	Yellville	125.18	34	P	PKPdf	18 40 51.2	-0.9		baz=316,SNR=38
U40A				P	PKPdf	18 40 51.2	-0.9		baz=316,SNR=38
U40A	Yellville	125.18	34	PKiKP	PKPdf	18 40 51.3	-0

W39A	**Magazine**	**125.47**	**36**	P	**PKPdf**	**18 40 52.2**	**-0.4**	
	baz=315,SNR=10							
W39A	**Magazine**	**125.47**	**36**	PKiKP	**PKPdf**	**18 40 51.7**	**-0.9**	
	baz=315							
BMNY	**Brushton-Moira**	**125.49**	**14**	P	**PKPdf**	**18 40 52.2**	**-0.2**	
	baz=340,SNR=8.6							
PECO	**Prince Edward**	**125.67**	**17**	PKPdf	**PKPdf**	**18 40 52.3**	**-0.4**	
LONY	**Lake Ozonia**	**125.68**	**15**		**PKPdf**	**18 40 52.5**	**-0.3**	
LONY				IAMs_20	IAMs_20	19 40 37.2		
	comp=Z,1μm,19.0s							
LONY	**Lake Ozonia**	**125.68**	**15**	PKiKP	**PKPdf**	**18 40 52.2**	**-0.6**	
	baz=340							
FRNY	**Flat Rock**	**125.72**	**14**		**PKPdf**	**18 40 51.9**	**-1.0**	
FRNY	**Flat Rock**	**125.72**	**14**	P	**PKPdf**	**18 40 52.5**	**-0.3**	
	baz=341							
F64A	**Sherman**	**125.75**	**9**		**PKPdf**	**18 40 52.5**	**-0.3**	
F64A	**Sherman**	**125.75**	**9**	P	**PKPdf**	**18 40 52.7**	**-0.1**	
	baz=347							
F64A				P	**PKPdf**	**18 40 52.7**	**-0.1**	
	baz=347							
J54A	**Appleton**	**125.78**	**19**	P	**PKPdf**	**18 40 52.9**	**0.0**	
	baz=335							
J54A				P	**PKPdf**	**18 40 52.9**	**0.0**	
	baz=335							
F63A	**Nahmakanta, Br**	**125.78**	**10**		**PKPdf**	**18 40 52.6**	**-0.3**	
F63A	**Nahmakanta, Br**	**125.78**	**10**	P	**PKPdf**	**18 40 52.2**	**-0.8**	
	baz=346							
F63A				P	**PKPdf**	**18 40 52.2**	**-0.8**	
	baz=346							
N49A	**Columbus Grove**	**125.82**	**24**	PKPdf	**PKPdf**	**18 40 52.3**	**-0.8**	
N49A	**Columbus Grove**	**125.82**	**24**	P	**PKPdf**	**18 40 53.1**	**-0.1**	
	baz=327							
N49A				P	**PKPdf**	**18 40 53.1**	**-0.1**	
	baz=327							
OLIL	**Olney**	**125.86**	**29**		**PKPdf**	**18 40 52.9**	**-0.3**	
OLIL	**Olney**	**125.86**	**29**	P	**PKiKP**	**18 40 53.7**	**0.0**	
	baz=322							
M50A	**Fremont**	**125.87**	**23**		**PKPdf**	**18 40 52.5**	**-0.7**	
M50A	**Fremont**	**125.87**	**23**	P	**PKPdf**	**18 40 52.8**	**-0.4**	
	baz=329							
M50A				P	**PKPdf**	**18 40 52.8**	**-0.4**	
	baz=329							
FCAR	**Ozark Folk Cen**	**125.92**	**34**		**PKPdf**	**18 40 51.9**	**-1.6**	
MEDO	**Medina**	**125.93**	**18**		**PKPdf**	**18 40 51.6**	**-1.6**	
O48B	**Farmland**	**125.97**	**26**	P	**PKPdf**	**18 40 53.1**	**-0.4**	
	baz=326							
O48B	**Farmland**	**125.97**	**26**	PKiKP	**PKPdf**	**18 40 52.3**	**-1.2**	
	baz=326							
G62A	**West of Eustis**	**126.00**	**11**	P	**PKPdf**	**18 40 52.3**	**-1.1**	
	baz=345							
G62A				P	**PKPdf**	**18 40 52.3**	**-1.1**	
	baz=345							
WCNY	**West Carthage**	**126.00**	**16**	P	**PKPdf**	**18 40 53.3**	**-0.1**	
	baz=338,SNR=6.1							
435B	**Jarrell**	**126.00**	**43**	PKiKP	**PKPdf**	**18 40 53.8**	**0.0**	
	baz=309							
J55A	**Hilton**	**126.04**	**18**		**PKPdf**	**18 40 52.9**	**-0.5**	
J55A	**Hilton**	**126.04**	**18**	P	**PKPdf**	**18 40 53.2**	**-0.2**	
	baz=336,SNR=11							
J55A				P	**PKPdf**	**18 40 53.2**	**-0.2**	
	baz=336,SNR=11							
MIAR	**Mount Ida**	**126.05**	**36**	PKIKP	**PKPdf**	**18 40 53.6**	**-0.2**	
MIAR				MLR	MLR			
	comp=Z,2μm,21.0s							
MIAR	**Mount Ida**	**126.05**	**36**		**PKPdf**	**18 40 53.6**	**-0.2**	
MIAR	**Mount Ida**	**126.05**	**36**	P	**PKiKP**	**18 40 54.1**	**-0.1**	
	baz=315,SNR=23							
MIAR	**Mount Ida**	**126.05**	**36**	PKiKP	**PKPdf**	**18 40 53.4**	**-0.4**	
	baz=315							
S44A	**Carbondale**	**126.10**	**31**		**PKPdf**	**18 40 53.4**	**-0.3**	
S44A	**Carbondale**	**126.10**	**31**	P	**PKPdf**	**18 40 53.8**	**0.0**	
	baz=321							
SIUC	**Southern Illin**	**126.10**	**31**		**PKPdf**	**18 40 53.4**	**-0.3**	
PKME	**Peaks-Kenny Pk**	**126.18**	**10**	PKiKP	**PKPdf**	**18 40 53.1**	**-0.6**	
	baz=346							
PBMO	**Poplar Bluff**	**126.19**	**32**		**PKPdf**	**18 40 53.5**	**-0.4**	
LMN	**Caledonia Moun**	**126.21**	**6**		**PKPdf**	**18 40 53.7**	**0.0**	
833A	**Chaparral WMA,**	**126.23**	**46**	PKPdf	**PKPdf**	**18 40 54.4**	**+0.1**	
833A	**Chaparral WMA,**	**126.23**	**46**	P	**PKPdf**	**18 40 54.0**	**-0.2**	
	baz=306							
833A	**Chaparral WMA,**	**126.23**	**46**	PKiKP	**PKiKP**	**18 40 55.0**	**+0.3**	
	baz=316							
BLO	**Bloomington**	**126.25**	**27**	PKIKP	**PKPdf**	**18 40 53.8**	**-0.2**	
BLO	**Bloomington**	**126.25**	**27**		**PKPdf**	**18 40 53.8**	**-0.2**	
WHAR	**Wooly Hollow**	**126.26**	**35**		**PKPdf**	**18 40 54.2**	**0.0**	
J56A	**Wolcott**	**126.31**	**17**		**PKPdf**	**18 40 52.8**	**-1.2**	
J56A	**Wolcott**	**126.31**	**17**	P	**PKPdf**	**18 40 54.2**	**+0.2**	
	baz=337							
J56A				P	**PKPdf**	**18 40 54.2**	**+0.2**	
	baz=337							
LCAR	**Lake Charles**	**126.33**	**33**		**PKPdf**	**18 40 53.7**	**-0.5**	
LCAR	**Lake Charles**	**126.33**	**33**	P	**PKPdf**	**18 40 54.0**	**-0.3**	
	baz=318,SNR=13							
ERPA	**Erie**	**126.36**	**20**	IAMs_20	IAMs_20	19 39 09.1		
	comp=Z,2μm,20.0s							
ERPA	**Erie**	**126.36**	**20**	PKiKP	**PKPdf**	**18 40 53.5**	**-0.6**	
	baz=333							
W41B	**Gary Mavity, V**	**126.37**	**35**		**PKPdf**	**18 40 53.4**	**-0.9**	
W41B	**Gary Mavity, V**	**126.37**	**35**	P	**PKPdf**	**18 40 53.6**	**-0.7**	
	baz=316							
W41B	**Gary Mavity, V**	**126.37**	**35**	PKiKP	**PKPdf**	**18 40 53.8**	**-0.5**	
	baz=316							
O49A	**Covington**	**126.37**	**25**	PKPdf	**PKPdf**	**18 40 53.5**	**-0.7**	
O49A	**Covington**	**126.37**	**25**	P	**PKPdf**	**18 40 53.1**	**-1.1**	
	baz=327							
O49A				P	**PKPdf**	**18 40 53.1**	**-1.1**	
	baz=327							
NCB	**Newcomb**	**126.38**	**15**	PKPdf	**PKPdf**	**18 40 54.2**	**0.0**	
NCB	**Newcomb**	**126.38**	**15**	P	**PKPdf**	**18 40 53.8**	**-0.4**	
	baz=340,SNR=5.9							
M52A	**Chesterland**	**126.39**	**22**		**PKPdf**	**18 40 53.4**	**-0.8**	
M52A	**Chesterland**	**126.39**	**22**	P	**PKPdf**	**18 40 54.0**	**-0.2**	
	baz=331							
M52A				P	**PKPdf**	**18 40 54.0**	**-0.2**	
	baz=331							
237A	**Washetta, Mont**	**126.39**	**40**	P	**PKiKP**	**18 40 55.4**	**+0.5**	
	baz=311							
J57A	**Williamstown**	**126.43**	**16**		**PKPdf**	**18 40 54.0**	**-0.2**	
J57A	**Williamstown**	**126.43**	**16**	P	**PKPdf**	**18 40 54.3**	**+0.1**	
	baz=338,SNR=7.4							
J57A				P	**PKPdf**	**18 40 54.3**	**+0.1**	
	baz=338,SNR=7.4							
MMNY	**Mt. Morris Dam**	**126.49**	**18**		**PKPdf**	**18 40 54.1**	**-0.2**	
H62A	**Milan**	**126.50**	**12**	P	**PKPdf**	**18 40 54.6**	**+0.2**	
	baz=344							
H62A				P	**PKPdf**	**18 40 54.6**	**+0.2**	
	baz=344							
P48A	**Milroy**	**126.51**	**26**		**PKPdf**	**18 40 53.5**	**-1.0**	
P48A	**Milroy**	**126.51**	**26**	P	**PKPdf**	**18 40 54.1**	**-0.4**	
	baz=326							
P48A				P	**PKPdf**	**18 40 54.1**	**-0.4**	
	baz=326							
X40A	**Basin Creek Fa**	**126.52**	**36**	IAMs_20	IAMs_20	19 28 04.8		
	comp=Z,1μm,22.0s							
X40A	**Basin Creek Fa**	**126.52**	**36**	PKiKP	**PKPdf**	**18 40 54.1**	**-0.6**	
	baz=315							
N51A	**Ashland**	**126.54**	**23**		**PKPdf**	**18 40 53.4**	**-1.1**	
N51A	**Ashland**	**126.54**	**23**	P	**PKPdf**	**18 40 53.8**	**-0.7**	
	baz=330							
N51A				P	**PKPdf**	**18 40 53.8**	**-0.7**	
	baz=330							
WVNY	**West Valley, N**	**126.57**	**19**	PKPdf	**PKPdf**	**18 40 54.2**	**-0.4**	
WVNY	**West Valley, N**	**126.57**	**19**	P	**PKPdf**	**18 40 54.6**	**0.0**	
	baz=334,SNR=7.2							
UALR	**University of**	**126.60**	**35**		**PKPdf**	**18 40 53.7**	**-1.1**	
LBNH	**Lisbon**	**126.66**	**12**	IAMs_20	IAMs_20	19 38 26.9		
	comp=Z,1μm,20.0s							
LBNH	**Lisbon**	**126.66**	**12**	PKiKP	**PKPdf**	**18 40 54.2**	**-0.5**	
	baz=343							
J58A	**Remsen**	**126.67**	**16**	PKPdf	**PKPdf**	**18 40 54.6**	**-0.1**	
J58A	**Remsen**	**126.67**	**16**	P	**PKPdf**	**18 40 54.7**	**-0.1**	
	baz=338,SNR=9.4							
J58A				P	**PKPdf**	**18 40 54.7**	**-0.1**	
	baz=338,SNR=9.4							
USIN	**University of**	**126.67**	**29**		**PKPdf**	**18 40 54.4**	**-0.5**	
MCVT	**Middlebury Col**	**126.69**	**14**	P	**PKPdf**	**18 40 55.0**	**+0.2**	
	baz=341,SNR=5.3							
M53A	**WI Miller and**	**126.72**	**21**		**PKPdf**	**18 40 54.0**	**-0.8**	
M53A				IAMs_20	IAMs_20	19 39 18.7		
	comp=Z,2μm,20.0s							
M53A	**WI Miller and**	**126.72**	**21**	PKiKP	**PKPdf**	**18 40 54.4**	**-0.5**	
	baz=332							
P49A	**Miami Univ. Ec**	**126.75**	**26**	PKPdf	**PKPdf**	**18 40 54.0**	**-1.0**	
P49A	**Miami Univ. Ec**	**126.75**	**26**	P	**PKPdf**	**18 40 54.8**	**-0.2**	
	baz=326,SNR=7.5							
P49A	**Miami Univ. Ec**	**126.75**	**26**	PKiKP	**PKPdf**	**18 40 54.3**	**-0.7**	
	baz=326							
J59A	**Piesco**	**126.78**	**15**		**PKPdf**	**18 40 54.8**	**-0.2**	
J59A	**Piesco**	**126.78**	**15**	P	**PKPdf**	**18 40 54.8**	**-0.2**	
	baz=340,SNR=16							
J59A				P	**PKPdf**	**18 40 54.8**	**-0.2**	
	baz=340,SNR=16							
WVL	**Waterville**	**126.79**	**10**	P	**PKPdf**	**18 40 54.9**	**0.0**	
	baz=346							
ACSO	**Alum Creek Sta**	**126.89**	**24**		**PKPdf**	**18 40 54.6**	**-0.6**	
ACSO				IAMs_20	IAMs_20	19 37 52.3		
	comp=Z,2μm,22.0s							
ACSO	**Alum Creek Sta**	**126.89**	**24**	P	**PKPdf**	**18 40 55.2**	**0.0**	
	baz=328,SNR=8.7							
ACSO	**Alum Creek Sta**	**126.89**	**24**	PKiKP	**PKPdf**	**18 40 54.7**	**-0.6**	
	baz=328							
K57A	**Scipio Center**	**126.91**	**17**	PKPdf	**PKPdf**	**18 40 54.8**	**-0.4**	
K57A	**Scipio Center**	**126.91**	**17**	P	**PKPdf**	**18 40 55.3**	**+0.1**	
	baz=337,SNR=8.1							
M54A	**Oil Creek Stat**	**127.02**	**20**		**PKPdf**	**18 40 54.9**	**-0.6**	
M54A				IAMs_20	IAMs_20	19 40 47.4		
	comp=Z,2μm,19.0s							
M54A	**Oil Creek Stat**	**127.02**	**20**	P	**PKPdf**	**18 40 55.3**	**-0.1**	
	baz=333,SNR=17							
M54A	**Oil Creek Stat**	**127.02**	**20**	PKiKP	**PKPdf**	**18 40 55.3**	**-0.1**	
	baz=333							
L56A	**Greenwood**	**127.14**	**18**	PKPdf	**PKPdf**	**18 40 54.8**	**-0.9**	
L56A	**Greenwood**	**127.14**	**18**	P	**PKPdf**	**18 40 55.3**	**-0.5**	
	baz=335,SNR=8.3							
L56A				P	**PKPdf**	**18 40 55.3**	**-0.5**	
	baz=335,SNR=8.3							
N53A	**Lisbon**	**127.22**	**22**		**PKPdf**	**18 40 55.1**	**-0.7**	
N53A	**Lisbon**	**127.22**	**22**	P	**PKPdf**	**18 40 55.4**	**-0.4**	
	baz=331,SNR=8.9							
N53A				P	**PKPdf**	**18 40 55.4**	**-0.4**	
	baz=331,SNR=8.9							
NATX	**Nacogdoches**	**127.28**	**40**	IAMs_20	IAMs_20	19 32 36.9		
	comp=Z,2μm,20.0s							
NATX	**Nacogdoches**	**127.28**	**40**	PKiKP	**PKPdf**	**18 40 55.9**	**-0.3**	
	baz=312							
M55A	**Ridgway**	**127.36**	**20**		**PKPdf**	**18 40 55.7**	**-0.5**	
M55A	**Ridgway**	**127.36**	**20**	P	**PKPdf**	**18 40 55.9**	**-0.2**	
	baz=334,SNR=7.3							
M55A				P	**PKPdf**	**18 40 55.9**	**-0.2**	
	baz=334,SNR=7.3							
N54A	**Moraine State**	**127.39**	**21**		**PKPdf**	**18 40 55.6**	**-0.6**	
N54A				IAMs_20	IAMs_20	19 39 47.2		
	comp=Z,1μm,21.0s							
N54A	**Moraine State**	**127.39**	**21**	P	**PKPdf**	**18 40 56.2**	**0.0**	
	baz=332,SNR=9.4							
N54A	**Moraine State**	**127.39**	**21**	PKiKP	**PKPdf**	**18 40 55.8**	**-0.4**	
	baz=332							
Z41A	**Richland Creek**	**127.41**	**37**	PKiKP	**PKPdf**	**18 40 55.9**	**-0.4**	
	baz=315							
O52A	**Adamsville**	**127.44**	**23**		**PKPdf**	**18 40 55.4**	**-0.9**	
O52A	**Adamsville**	**127.44**	**23**	P	**PKPdf**	**18 40 56.1**	**-0.2**	
	baz=330,SNR=11							
O52A				P	**PKPdf**	**18 40 56.1**	**-0.2**	
	baz=330,SNR=11							
P51A	**Williamsport**	**127.49**	**24**		**PKPdf**	**18 40 55.7**	**-0.7**	
P51A	**Williamsport**	**127.49**	**24**	P	**PKPdf**	**18 40 56.2**	**-0.2**	
	baz=328							
P51A				P	**PKPdf**	**18 40 56.2**	**-0.2**	
	baz=328							
BINY	**Binghamton**	**127.56**	**17**		**PKPdf**	**18 40 55.7**	**-0.8**	
BINY				IAMs_20	IAMs_20	19 36 57.9		
	comp=Z,2μm,22.0s							
BINY	**Binghamton**	**127.56**	**17**	P	**PKPdf**	**18 40 56.6**	**+0.1**	
	baz=337,SNR=7.8							
BINY	**Binghamton**	**127.56**	**17**	PKiKP	**PKPdf**	**18 40 56.3**	**-0.2**	
	baz=337							
O53A	**New Philadelph**	**127.56**	**22**		**PKPdf**	**18 40 55.6**	**-0.9**	
O53A				IAMs_20	IAMs_20	19 39 22.0		
	comp=Z,1μm,22.0s							
O53A	**New Philadelph**	**127.56**	**22**	PKiKP	**PKPdf**	**18 40 56.0**	**-0.6**	
	baz=330							
R49A	**Shelbyville**	**127.58**	**27**		**PKPdf**	**18 40 55.6**	**-1.0**	
R49A	**Shelbyville**	**127.58**	**27**	P	**PKPdf**	**18 40 56.3**	**-0.2**	
	baz=325,SNR=5.4							
R49A				P	**PKPdf**	**18 40 56.3**	**-0.2**	
	baz=325,SNR=5.4							
HKT	**Hockley**	**127.70**	**42**	*d* iPKIKP	**PKiKP**	**18 40 57.8**	**+0.3**	
HKT	**Hockley**	**127.70**	**42**	IAMs_20	IAMs_20	19 32 11.0		
	comp=Z,1μm,22.0s							
T47A	**Sharon Grove**	**127.72**	**30**		**PKPdf**	**18 40 56.4**	**-0.5**	
T47A	**Sharon Grove**	**127.72**	**30**	P	**PKPdf**	**18 40 56.9**	**0.0**	
	baz=322,SNR=6.2							
P52A	**Corning**	**127.74**	**24**		**PKPdf**	**18 40 56.0**	**-0.9**	
P52A				IAMs_20	IAMs_20	19 31 30.8		
	comp=Z,1μm,21.0s							
P52A	**Corning**	**127.74**	**24**	PKiKP	**PKPdf**	**18 40 56.0**	**-0.9**	
	baz=329							
Q51A	**Peebles**	**127.76**	**25**		**PKPdf**	**18 40 56.0**	**-0.9**	
Q51A	**Peebles**	**127.76**	**25**	P	**PKPdf**	**18 40 56.8**	**-0.1**	
	baz=328,SNR=5.9							
Q51A				P	**PKPdf**	**18 40 56.8**	**-0.1**	
	baz=328,SNR=5.9							
O54A	**Avella**	**127.93**	**22**		**PKPdf**	**18 40 57.0**	**-0.3**	
O54A	**Avella**	**127.93**	**22**	P	**PKPdf**	**18 40 57.0**	**-0.3**	
	baz=332,SNR=11							
O54A				P	**PKPdf**	**18 40 57.0**	**-0.3**	
	baz=332,SNR=11							
R50A	**Paris**	**127.96**	**26**		**PKPdf**	**18 40 56.4**	**-0.9**	
R50A	**Paris**	**127.96**	**26**	P	**PKPdf**	**18 40 57.3**	**0.0**	
	baz=326,SNR=5.7							
R50A				P	**PKPdf**	**18 40 57.3**	**0.0**	
	baz=326,SNR=5.7							
UNH	**University of**	**127.98**	**12**	P	**PKiKP**	**18 40 57.7**	**0.0**	
	baz=344							
M57A	**Sunshine Farm,**	**128.00**	**18**	PKPdf	**PKPdf**	**18 40 57.2**	**-0.2**	
M57A	**Sunshine Farm,**	**128.00**	**18**	P	**PKPdf**	**18 40 56.9**	**-0.4**	
	baz=336,SNR=8.6							
M57A				P	**PKPdf**	**18 40 56.9**	**-0.4**	
	baz=336,SNR=8.6							
WVT	**Waverly**	**128.03**	**31**	PKIKP	**PKPdf**	**18 40 57.0**	**-0.5**	
WVT				MLR	MLR			
	comp=Z,1μm,20.0s							
WVT	**Waverly**	**128.03**	**31**	PKPdf	**PKPdf**	**18 40 57.0**	**-0.5**	
WVT	**Waverly**	**128.03**	**31**	IAMs_20	IAMs_20	19 33 10.2		
	comp=Z,1μm,20.0s							
WVT	**Waverly**	**128.03**	**31**	P	**PKPdf**	**18 40 57.3**	**-0.3**	
	baz=321,SNR=20							
WVT	**Waverly**	**128.03**	**31**	PKiKP	**PKPdf**	**18 40 57.2**	**-0.3**	
	baz=321							
W45A	**Hickory Valley**	**128.07**	**33**		**PKPdf**	**18 40 56.2**	**-1.4**	
W45A	**Hickory Valley**	**128.07**	**33**	P	**PKPdf**	**18 40 57.4**	**-0.3**	
	baz=319,SNR=5.3							
P53A	**Whipple**	**128.16**	**23**		**PKPdf**	**18 40 57.1**	**-0.6**	
P53A	**Whipple**	**128.16**	**23**	P	**PKiKP**	**18 40 58.1**	**-0.2**	
	baz=330,SNR=9.9							
P53A				P	**PKiKP**	**18 40 58.1**	**-0.2**	
	baz=330,SNR=9.9							
L61B	**Northampton**	**128.19**	**14**		**PKPdf**	**18 40 57.2**	**-0.4**	
L61B				IAMs_20	IAMs_20	19 40 30.5		
	comp=Z,1μm,20.0s							
L61B	**Northampton**	**128.19**	**14**	P	**PKPdf**	**18 40 57.6**	**-0.1**	
	baz=341							
L61B	**Northampton**	**128.19**	**14**	PKiKP	**PKPdf**	**18 40 57.5**	**-0.1**	
	baz=341							
KSPA	**Keystone Colle**	**128.21**	**17**	P	**PKiKP**	**18 40 58.2**	**-0.1**	
	baz=337							
Q52A	**Bidwell**	**128.26**	**24**		**PKPdf**	**18 40 57.3**	**-0.6**	
Q52A	**Bidwell**	**128.26**	**24**	P	**PKPdf**	**18 40 57.3**	**-0.6**	
	baz=329,SNR=7.8							
Q52A				P	**PKPdf**	**18 40 57.3**	**-0.6**	
	baz=329,SNR=7.8							
HRV	**Adam Dziewonsk**	**128.39**	**13**	IAMs_20	IAMs_20	19 39 38.8		
	comp=Z,2μm,20.0s							
HRV	**Adam Dziewonsk**	**128.39**	**13**	PKiKP	**PKPdf**	**18 40 57.7**	**-0.3**	
	baz=343							
SSPA	**Standing Stone**	**128.40**	**19**	PKPdf	**PKPdf**	**18 40 57.8**	**-0.3**	
SSPA	**Standing Stone**	**128.40**	**19**	IAMs_20	IAMs_20	19 40 42.8		
	comp=Z,1μm,20.0s							
SSPA	**Standing Stone**	**128.40**	**19**	P	**PKPdf**	**18 40 58.3**	**+0.2**	
	baz=335,SNR=6.3							
SSPA	**Standing Stone**	**128.40**	**19**	PKiKP	**PKPdf**	**18 40 57.6**	**-0.4**	
	baz=335							
OXF	**Oxford**	**128.44**	**33**	PKIKP	**PKPdf**	**18 40 57.4**	**-0.9**	
OXF				MLR	MLR			
	comp=Z,1μm,21.0s							
OXF	**Oxford**	**128.44**	**33**	PKPdf	**PKPdf**	**18 40 57.4**	**-0.9**	
OXF				IAMs_20	IAMs_20	19 34 13.2		
	comp=Z,1μm,21.0s							
OXF	**Oxford**	**128.44**	**33**	P	**PKPdf**	**18 40 58.5**	**+0.2**	
	baz=319,SNR=6.9							
OXF	**Oxford**	**128.44**	**33**	PKiKP	**PKPdf**	**18 40 57.5**	**-0.9**	
	baz=319							
O56A	**Blue Knob Stat**	**128.50**	**20**		**PKPdf**	**18 40 58.1**	**-0.2**	
O56A				IAMs_20	IAMs_20	19 40 29.6		
	comp=Z,2μm,20.0s							
O56A	**Blue Knob Stat**	**128.50**	**20**	P	**PKPdf**	**18 40 57.8**	**-0.6**	
	baz=334,SNR=8.1							
O56A	**Blue Knob Stat**	**128.50**	**20**	PKiKP	**PKPdf**	**18 40 58.0**	**-0.4**	
	baz=334							
N58A	**Sunbury**	**128.58**	**18**		**PKPdf**	**18 40 58.0**	**-0.4**	
N58A	**Sunbury**	**128.58**	**18**	P	**PKPdf**	**18 40 57.1**	**-1.4**	
	baz=336,SNR=5.9							
N58A				P	**PKPdf**	**18 40 57.1**	**-1.4**	
	baz=336,SNR=5.9							
MCWV	**Mont Chateau**	**128.59**	**22**	IAMs_20	IAMs_20	19 40 21.1		
	comp=Z,2μm,21.0s							
MCWV	**Mont Chateau**	**128.59**	**22**	PKiKP	**PKPdf**	**18 40 58.2**	**-0.3**	
	baz=332							
U49A	**Red Boiling Sp**	**128.74**	**29**	PKPdf	**PKPdf**	**18 40 57.9**	**-1.0**	
U49A	**Red Boiling Sp**	**128.74**	**29**	P	**PKPdf**	**18 40 57.6**	**-1.2**	
	baz=324,SNR=13							
T50A	**Nancy**	**128.77**	**28**		**PKPdf**	**18 40 58.1**	**-0.8**	
T50A	**Nancy**	**128.77**	**28**	P	**PKPdf**	**18 40 58.6**	**-0.3**	
	baz=325							
T50A				P	**PKPdf**	**18 40 58.6**	**-0.3**	
	baz=325							
PLAL	**Pickwick Lake**	**128.79**	**32**		**PKPdf**	**18 40 57.9**	**-1.1**	
PLAL				IAMs_20	IAMs_20	19 32 13.5		
	comp=Z,1μm,22.0s							
N59A	**State Game Lan**	**128.80**	**17**		**PKPdf**	**18 40 58.8**	**-0.1**	
N59A				IAMs_20	IAMs_20	19 36 37.3		
	comp=Z,2μm,21.0s							
N59A	**State Game Lan**	**128.80**	**17**	P	**PKPdf**	**18 40 59.1**	**+0.3**	
	baz=337							
N59A	**State Game Lan**	**128.80**	**17**	PKiKP	**PKPdf**	**18 40 58.4**	**-0.5**	
	baz=337							
Q54A	**Coxs Mills**	**128.81**	**23**		**PKPdf**	**18 40 58.4**	**-0.5**	
Q54A	**Coxs Mills**	**128.81**	**23**	P	**PKPdf**	**18 40 58.6**	**-0.3**	
	baz=330,SNR=5.3							
Q54A				P	**PKPdf**	**18 40 58.6**	**-0.3**	
	baz=330,SNR=5.3							
CLTN	**Cedars of Leba**	**128.81**	**30**		**PKPdf**	**18 40 57.9**	**-1.1**	
S51A	**Beattyville**	**128.82**	**26**		**PKPdf**	**18 40 58.7**	**-0.2**	
S51A	**Beattyville**	**128.82**	**26**	P	**PKPdf**	**18 40 58.9**	**-0.1**	
	baz=327,SNR=13							
S51A				P	**PKPdf**	**18 40 58.9**	**-0.1**	
	baz=327,SNR=13							
BRNY	**Black Rk. Fore**	**128.83**	**15**	P	**PKPdf**	**18 40 58.9**	**+0.1**	
	baz=340							
V48A	**Smith Brothers**	**128.84**	**30**		**PKPdf**	**18 40 58.1**	**-1.0**	
V48A	**Smith Brothers**	**128.84**	**30**	P	**PKPdf**	**18 40 58.6**	**-0.5**	
	baz=322,SNR=6.7							
R53A	**Hurricane**	**128.93**	**24**		**PKPdf**	**18 40 58.8**	**-0.4**	
ODNJ	**Ogdensburg**	**128.98**	**16**		**PKPdf**	**18 40 59.0**	**-0.1**	
ODNJ	**Ogdensburg**	**128.98**	**16**	P	**PKPdf**	**18 40 59.4**	**+0.2**	
	baz=339							
TRNY	**Table Rock, Ra**	**129.02**	**16**	PKPdf	**PKPdf**	**18 40 59.2**	**0.0**	
PAGS	**Pennsylvania G**	**129.14**	**19**		**PKPdf**	**18 40 59.5**	**0.0**	
PAL	**Palisades**	**129.24**	**16**	IAMs_20	IAMs_20	19 43 18.4		
	comp=Z,2μm,20.0s							
PAL	**Palisades**	**129.24**	**16**	P	**PKiKP**	**18 41 00.4**	**0.0**	
	baz=340							
PAL	**Palisades**	**129.24**	**16**	PKiKP	**PKPdf**	**18 40 59.1**	**-0.6**	
	baz=340							
P57A	**Homestead Farm**	**129.39**	**20**		**PKPdf**	**18 40 59.8**	**-0.2**	
MVL	**Millersville**	**129.46**	**18**	PKPdf	**PKPdf**	**18 41 00.2**	**+0.1**	
M65A	**Busby, Falmout**	**129.49**	**12**	IAMs_20	IAMs_20	19 40 29.9		
	comp=Z,1μm,22.0s							
VBMS	**Vicksburg**	**129.50**	**36**	PKiKP	**PKPdf**	**18 41 00.2**	**-0.2**	
	baz=316							
PANJ	**Princeton**	**129.61**	**17**	P	**PKiKP**	**18 41 00.8**	**-0.3**	
	baz=338							
R55A	**Marlinton**	**129.69**	**23**	PKPdf	**PKiKP**	**18 41 01.4**	**0.0**	
SWET	**Sewanee**	**129.70**	**30**		**PKPdf**	**18 40 59.8**	**-1.0**	
X48A	**Hartselle**	**129.74**

BO02	Sierra Bellavi	150.69	158		PKPdf	18 41 37.4	-0.9
BO01	Tunca	150.93	157	PKPdf	PKPdf	18 41 36.8	-1.8
MT01	Popeta	151.33	156		PKPdf	18 41 37.8	-1.4
VA05	Santo Domingo	151.36	156		PKPbc	18 41 44.0	-1.2
BO04	La Punta	151.47	158		PKPdf	18 41 37.9	-1.6
BO04				PKPbc	PKPbc	18 41 44.9	-0.7
VA01	Torpederas	151.90	155		PKPdf	18 41 38.7	-1.4
VA01					PKPbc	18 41 45.4	-1.1
MT02	Curacav	151.90	156		PKPdf	18 41 38.7	-1.4
MT02				PKPbc	PKPbc	18 41 45.5	-1.0
MT03	Universidad Ad	151.94	157	PKPdf	PKPdf	18 41 37.1	-3.2
MT03					PKPbc	18 41 45.4	-1.3
MT05	Renca	151.94	157	PKPdf	PKPdf	18 41 38.9	-1.4
MT05					PKPbc	18 41 45.6	-1.1
PEL	Peldehue	152.18	157	PKIKP	PKPdf	18 41 39.4	-1.2
PEL	Peldehue	152.18	157	PKPdf	PKPdf	18 41 39.4	-1.2
BCIP	Isla Barro Col	152.43	53	IAMs_20	IAMs_20	19 43 34.9	
	comp=Z,1μm,21.0s						
VA06	Catapilco	152.45	155	PKPdf	PKPdf	18 41 39.3	-1.5
AOPR	Arecibo Observ	152.58	18	PKPdf	PKPdf	18 41 39.9	-1.6
CRPR	Cabo Rojo, PR	152.78	19	PKPbc	PKPbc	18 41 47.5	-1.4
GCPR	Guaynabo City	152.82	17		PKPdf	18 41 39.4	-2.4
MLPR	Magueyes Islan	152.84	19	PKPdf	PKPdf	18 41 39.6	-2.2
CELP	Cerrillos	152.89	18	PKPdf	PKPdf	18 41 41.6	-0.4
CBYP	Canovanas	152.92	17		PKPdf	18 41 40.2	-1.8
SJG	San Juan	152.99	17	PKIKP	PKPdf	18 41 40.1	-2.0
SJG				MLR	MLR		
	comp=Z,800nm,20.0s						
SJG	San Juan	152.99	17		PKPdf	18 41 40.1	-2.0
SJG	San Juan	152.99	17	IAMs_20	IAMs_20	19 54 41.9	
	comp=Z,760nm,20.0s						
SJG	San Juan	152.99	17	eP	PKPbc	18 41 48.2	-1.1
CUPR	Culebra, Puert	153.04	16		PKPbc	18 41 48.8	-0.6
STVI	Saint Thomas	153.09	15		PKPdf	18 41 40.8	-1.4
PDPR	Patillas Dam,	153.11	17		PKPdf	18 41 40.9	-1.3
MTP	Monte Pirata	153.17	16		PKPdf	18 41 41.4	-0.9
CDVI	St. Croix	153.71	15		PKPdf	18 41 41.4	-1.7
CDVI				PKPbc	pPKPdf	18 41 49.8	-0.1
CO02	Combarbal	153.74	154		PKPdf	18 41 41.6	-1.4
ZON	Zonda	154.37	158	PKIKP	PKPdf	18 41 42.9	-0.9
ZON	Zonda	154.37	158		PKPdf	18 41 42.9	-0.9
SMRC	Santa Marta, M	155.14	41	eP	PKPdf	18 41 44.6	-0.6
PTAC	Punta Ardita,	155.24	54	eP	PKPdf	18 41 43.6	-1.8
SJCC	San Jacinto, C	155.42	45	eP	PKPdf	18 41 46.2	+0.5
ABD	La Joyeuse, An	155.60	8	IAMs_20	IAMs_20	19 52 02.5	
	comp=Z,1μm,20.0s						
LCO	Las Campanas	155.75	152	PKIKP	PKPdf	18 41 44.7	-1.3
LCO	Las Campanas	155.75	152	PKPdf	PKPdf	18 41 44.7	-1.3
GDHS	Morne Mazeau,	155.76	9	PKPdf	PKPdf	18 41 43.9	-2.1
GDHS				IAMs_20	IAMs_20	19 51 33.7	
	comp=Z,1μm,21.0s						
PLTB	Pedras Altas	155.84	189	eP	PKPdf	18 41 46.5	+0.8
URIC	Uribia, Colomb	156.10	36	eP	PKPdf	18 41 46.0	-0.5
CRJC	Cerrejon, Guaj	156.10	39	eP	PKPdf	18 41 46.6	0.0
DBBC	Dabeiba	156.57	51	eP	PKPdf	18 41 47.5	+0.2
UREC	San Jos de Ur	156.62	49	eP	PKPdf	18 41 46.9	-0.3
LL6C	La Loma 6 Bece	156.82	41	eP	PKPdf	18 41 46.6	-0.8
CPSB	Cacapava Do Su	157.14	190	eP	PKPdf	18 41 48.9	+1.4
SVN	Savane Amatole	157.25	8	IAMs_20	IAMs_20	19 52 42.3	
	comp=Z,1μm,21.0s						
ZARC	Zaragoza, Cauc	157.29	48	PKPdf	PKPdf	18 41 47.2	-0.9
ZARC	Zaragoza, Cauc	157.29	48	eP	PKPdf	18 41 47.4	-0.7
FDF	Fort de France	157.36	8	IAMs_20	IAMs_20	19 52 23.1	
	comp=Z,1μm,22.0s						
NBRF	Rio Formoso -	157.39	266	eP	PKPdf	18 41 49.5	+1.3
CBOC	Ciudad Bolivar	157.43	53	eP	PKPdf	18 41 48.3	-0.2
NBPV	Pedro Velho	157.47	272	eP	PKPdf	18 41 49.5	+1.2
DABV	Dabajuro	157.50	34	eP	PKPdf	18 41 47.9	-0.4
HELC	Santa Helena	157.61	52	eP	PKPdf	18 41 48.0	-0.9
PLMC	San Jos del P	157.77	56	eP	PKPdf	18 41 49.3	+0.5
TER01	Tubaro-SC	157.78	201	eP	PKPdf	18 41 50.7	+2.4
MCRA	Macar, Loja	157.86	82		PKPdf	18 41 47.4	-1.5
OCAC	Ocana	157.88	44	eP	PKPdf	18 41 49.6	+0.7
RCBR	Riachuelo	158.01	274	eP	PKPdf	18 41 50.1	+1.0
OTAV	Otavalo	158.05	70	IAMs_20	IAMs_20	20 08 57.2	
	comp=Z,1μm,22.0s						
OTAV	Otavalo	158.05	70	eP	PKPdf	18 41 50.1	+0.5
PTBC	PUERTO BERRIO	158.22	50	eP	PKPdf	18 41 47.3	-1.9
YOTC	Yotoco, Valle	158.22	58	eP	PKPdf	18 41 47.4	-2.0
GUY2C	Guyana, Caldas	158.33	54	eP	PKPdf	18 41 47.3	-2.6
NORC	Norcasia	158.51	52	eP	PKPdf	18 41 49.1	-0.6
POPC	Popayan, Colom	158.67	62	eP	PKPdf	18 41 49.5	-0.6
GCUF	Volcan Galeras	158.67	66	eP	PKPdf	18 41 50.7	+0.3
ANIL	Santa Ana	158.72	55	eP	PKPdf	18 41 49.5	-0.7
SOTA	Rioblanco	158.93	63	eP	PKPdf	18 41 49.8	-0.9
PAMC	Pamplona, Colo	158.95	45	eP	PKPdf	18 41 50.4	-0.3
CAM01	Campos-RJ	159.01	227	eP	PKPdf	18 41 50.4	+0.5
PCIN	Cinco Dias	159.02	62	eP	PKPdf	18 41 50.4	+0.5
ALF01	Guarapari-ES	159.04	231	eP	PKPdf	18 41 51.9	+1.9
SPBC	San Pablo de B	159.08	51	eP	PKPdf	18 41 48.6	-1.7
BARC	Barichara	159.12	47	eP	PKPdf	18 41 50.3	-0.3
SDV	Santo Domingo	159.14	38	PKPdf	PKPdf	18 41 49.3	-1.2
SDV	Santo Domingo	159.14	38	eP	PKPdf	18 41 49.8	-0.8
SDV	Santo Domingo	159.14	38	eP	PKPdf	18 41 50.7	+0.1
MARP	Paez Belalcaza	159.15	60	eP	PKPdf	18 41 50.0	-0.7
ORTC	Ortega, Tolima	159.18	57	eP	PKPdf	18 41 50.2	-0.2
DUB01	Friburgo-RJ	159.36	225	eP	PKPdf	18 41 51.3	+0.9
ROSC	El Rosal	159.39	53	PKP	PKPdf	18 41 50.1	-1.0
	comp=Z,8.3nm,0.4s,baz=34,slow=2.6,SNR=9.7						
ROSC	El Rosal	159.39	53	eP	PKPdf	18 41 51.0	-0.1
SOCV	Socops	159.47	39	eP	PKPdf	18 41 49.0	-1.7
RIB01	Linhares ES	159.49	234	eP	PKPdf	18 41 52.2	+1.6
GO02	Mina Guanaco	159.49	149	PKPdf	PKPdf	18 41 50.3	-0.5
RUSC	La Rusia	159.67	48	eP	PKPdf	18 41 50.6	-0.9
GARC	Garzon, Huila	159.87	61	eP	PKPdf	18 41 51.7	+0.2
MAN01	Angra dos Reis	159.89	220	eP	PKPdf	18 41 52.5	+1.5
VAS01	Vassouras-RJ	159.96	223	eP	PKPdf	18 41 53.4	+2.3
CHIC	Chingaza	159.98	52	eP	PKPdf	18 41 51.1	-0.7
BIRV	Birongo	160.02	25	PKPdf	PKPdf	18 41 47.2	-4.1
BIRV				PKPab	PKPab	18 42 30.6	-0.1
ESAR	Angra dos Reis	160.08	219	eP	PKPdf	18 41 52.5	+1.4
NBCL	Cascavel-CE	160.12	279	eP	PKPdf	18 41 52.8	+1.3
TAMC	Tame, Arauca	160.22	45	eP	PKPdf	18 41 50.6	-1.0
GUA01	Guaratinga, BA	160.26	242	eP	PKPdf	18 41 52.2	+0.7
SJMB	Sao Joao De Ma	160.44	235	eP	PKPdf	18 41 52.5	+0.9
CMC01	Camacan, BA	160.46	246	eP	PKPdf	18 41 51.3	-0.4
BAUV	El Baul	160.54	31	PKPdf	PKPdf	18 41 50.8	-1.1
BAUV				PKPab	PKPab	18 42 32.2	-0.8
PARB	Paraibuna	160.56	216	eP	PKPdf	18 41 52.5	+0.7
TIJ01	Guaruva-PR	160.62	205	eP	PKPdf	18 41 53.4	+1.6
NBMA	Muriti-CE	160.97	270	eP	PKPdf	18 41 52.6	-0.2
GDU01	Guandu, BA	161.03	250	eP	PKPdf	18 41 53.4	+1.0
MACC	Macarena, Meta	161.31	59	eP	PKPab	18 42 35.6	-1.0
MACC	Macarena, Meta	161.31	59	eP	PKPdf	18 41 51.4	-1.4
ELOV	Elorza	161.31	38	eP	PKPdf	18 41 52.6	-0.1
PTLC	Puerto Leguiza	161.42	65	eP	PKPdf	18 41 51.7	-1.2
PTGC	Puerto Gaitan,	161.48	50	eP	PKPdf	18 41 50.1	-2.8
VAO	Valinhos	161.58	214	eP	PKPdf	18 41 53.7	+0.8
CPUP	Villa Florida	161.59	182	PKP	PKPdf	18 41 52.1	-0.5
	comp=Z,6.8nm,1.0s,baz=154,slow=4.1,SNR=6.4						
CPUP				PKPab	PKPab	18 42 36.9	-0.2
	comp=Z,12nm,0.9s,baz=177,slow=3.3,SNR=11						
CPUP	Villa Florida	161.59	182	PKPdf	PKPdf	18 41 52.2	-0.4
CPUP				PKPab	PKPab	18 42 34.7	-2.5
CPUP	Villa Florida	161.59	182	eP	PKPdf	18 41 54.3	+1.6
NBPB	Pedra_Branca-C	161.61	276	eP	PKPdf	18 41 53.4	+0.3
NBMO	Morrinhos-CE	161.62	283	eP	PKPdf	18 41 54.0	+0.9
BSCB	Bom Sucesso	161.73	223	eP	PKPdf	18 41 53.1	0.0
LVC	Limon Verde	161.91	146	eP	PKPdf	18 41 54.0	+0.4
NBPN	Ponto Novo - B	162.22	259	eP	PKPdf	18 41 54.6	+0.9
PTGB	Pitanga	162.29	198	eP	PKPdf	18 41 54.3	+0.7
RCLB	Rio Claro- Sao	162.36	214	eP	PKPdf	18 41 53.4	-0.3
FRTB	Fartura	162.60	207	eP	PKPdf	18 41 54.6	+0.7
DIAM	Diamantina, MG	162.64	232	eP	PKPdf	18 41 54.3	+0.1
NBPS	Pedro II - PI	163.24	281	eP	PKPdf	18 41 53.7	-1.1
PB11	IPOC Station P	163.59	137		PKPdf	18 41 54.0	-1.0
BB19B	Bebedouro	164.00	214	eP	PKPdf	18 41 56.1	+0.9
JANB	Januaria	164.83	241	eP	PKPdf	18 41 55.8	-0.3
PCMB	Pacaembu	164.85	205	eP	PKPdf	18 41 56.7	+0.7
CZSB	Cruzeiro do Su	165.38	91	eP	PKPdf	18 41 57.3	+0.7
ROSB	Rosrio	165.39	289	eP	PKPdf	18 41 56.7	+0.1
ITRB	Iturama	166.09	211	eP	PKPdf	18 41 57.9	+0.9
IPMB	Ipameri, GO	166.15	222	eP	PKPdf	18 41 57.3	+0.1
SDBA	SAO DESIDERIO	166.37	249	eP	PKPdf	18 41 57.9	+0.5
LPAZ	La Paz	166.98	131	PKP	PKPdf	18 41 58.6	+0.1
	comp=Z,19nm,0.9s,baz=352,slow=1.7,SNR=50						
LPAZ				PKPab	PKPab	18 43 02.8	+0.7
	comp=Z,10.0nm,0.9s,baz=206,slow=2.4,SNR=5.3						
LPAZ	La Paz	166.98	131	PKIKP	PKPdf	18 41 58.2	-0.3
LPAZ	La Paz	166.98	131		PKPdf	18 41 58.2	-0.3
LPAZ	La Paz	166.98	131	eP	PKPdf	18 41 59.4	+0.9
AQDB	Aquidauana	167.24	190	PKPdf	PKPdf	18 41 55.6	-2.2
AQDB				PKPab	PKPab	18 43 01.6	-0.5
BDFB	Brasilia	167.55	231	PKP	PKPdf	18 41 57.2	-1.1
	comp=Z,9.0nm,0.9s,baz=91,slow=2.4,SNR=9.8						
BDFB	Brasilia	167.55	231	PKIKP	PKPdf	18 41 56.6	-1.7
BDFB	Brasilia	167.55	231		PKPdf	18 41 56.6	-1.7
BDFB	Brasilia	167.55	231	eP	PKPdf	18 41 58.5	+0.2
TMAB	Tom-Au,PA,Br	168.79	298	eP	PKPdf	18 41 59.7	+0.6
BOAV	Boa Vista	169.53	14	eP	PKPdf	18 42 00.3	+0.7
PEXB	Peixe	169.59	245	eP	PKPdf	18 41 60.0	+0.4
SMTB	Santa Maria do	169.69	264	eP	PKPdf	18 41 59.7	0.0
PP1B	Ponte de Pedra	169.83	197	eP	PKPdf	18 41 59.7	0.0
MCPB	Macapa, AP	170.53	321	eP	PKPdf	18 42 00.3	+0.1
SALV	Santo Antonio	171.68	195	eP	PKPdf	18 42 00.9	+0.3
PRPB	Parauapebas	171.75	281	eP	PKPdf	18 42 00.9	+0.1
SNDB	Serra Nova Dou	172.25	237	eP	PKPdf	18 42 01.2	+0.2
PTLB	Pontes e Lacer	172.34	171	eP	PKPdf	18 42 00.9	0.0
MALB	Monte Alegre	173.02	328	eP	PKPdf	18 42 01.5	+0.1
VILB	Vilhena	174.45	157	eP	PKPdf	18 42 02.4	+0.5
MACA	Manacapuru-AM	174.63	31	eP	PKPdf	18 42 01.8	-0.1
NPGB	Novo Progresso	177.31	287	eP	PKPdf	18 42 02.4	-0.2

MRB ***13*** *18:25:41.9±0.2,41°.85N×2°.79E,h10km±2km,ML2.2/17*
Error ellipse: s-maj=1.4km s-min=0.8km az=115.0
LDG ***13*** *18:25:41.8±0.1,41°.87N×2°.76E,h2km,Ml2.5/12,Error ellipse: s-maj=1.9km s-min=1.3km az=141.0*
MDD ***13*** *18:25:42.5±0.5,41°.87N×2°.71E,h2km±4km,mb_Lg2.7/8, Error ellipse: s-maj=3.5km s-min=2.1km az=128.0*
STR ***13*** *18:25:42.7±0.9,42°N±4°×°±°,h15km±5km,MLv2.2/7, preliminary*

ISC 13 18:25:40.8±0.9,41°.82N±0°.02×2°.84E±0°.02,h17km±5km, n63,σ1§60/123,4C-1D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCAS	Cassa de la Se	0.08	37	P		Pg	18 25 44.4	+0.2
CCAS				S		Sg	18 25 46.2	-0.1
	1μm,0.2s							
CFON	Fontmartina	0.31	260	P		Pg	18 25 47.3	-0.1
CFON				S		Sg	18 25 51.5	-0.5
	717nm,0.1s							
CBEU	Beuda	0.46	345	⇓P		Pg	18 25 49.9	-0.2
CBEU				S		Sg	18 25 55.9	-0.4
	194nm,0.2s							
CPAL	Palau Saverder	0.55	26	⇑P		Pg	18 25 51.9	+0.1
CPAL				S		Sg	18 25 59.4	+0.3
	72nm,0.2s							
CORI	Orista	0.61	285	⇑P		Pg	18 25 52.4	-0.5
CORI				S		Sg	18 26 00.2	-0.8
	107nm,0.1s							
EJON	La Jonquera	0.63	3	Pg		Pg	18 25 53.1	-0.2
EJON				Sg		Sg	18 26 01.3	-0.4
EJON	La Jonquera	0.63	3	Pg		Pg	18 25 53.1	-0.2
EJON				Sg		Sg	18 26 01.3	-0.4
EJON				*i*	Vmb_Lg		18 26 04.0	
SJAF	Saint Jean de	0.67	3	Pg		Pg	18 25 53.8	-0.2
SJAF				Sg		Sg	18 26 02.3	-0.5
SJAF	Saint Jean de	0.67	3	P		Pg	18 25 53.8	-0.2
SJAF				S		Sg	18 26 02.5	-0.4
FBR	Fabra	0.67	233	P		Pg	18 25 54.0	0.0
FBR				S		Sg	18 26 03.3	+0.5
CBRU	Bruguera	0.68	314	P		Pg	18 25 53.7	-0.5
CBRU				S		Sg	18 26 02.3	-0.9
FILF	Fillols	0.77	344	⇑P		Pg	18 25 56.0	+0.1
FILF				S		Sb	18 26 06.3	+0.2
CLLI	Llivia	0.92	316	P		Pg	18 25 57.9	-0.9
CLLI				S		Sg	18 26 09.7	-1.3
	34nm,0.3s							
EMIR	Miracle	0.99	276	Pg		Pg	18 25 59.4	-0.5
EMIR				Sg		Sg	18 26 12.1	-0.8
EMIR	Miracle	0.99	276	Pg		Pg	18 25 59.4	-0.5
EMIR				Sg		Sg	18 26 12.1	-0.8
EMIR				*i*	Vmb_Lg		18 26 13.7	
ARBS	La Rabassa	1.15	304	P		Pg	18 26 02.1	-1.0
ARBS				S		Sg	18 26 17.1	-1.0
	53nm,0.4s							
PAND	Andorre	1.19	307	Pg		Pb	18 26 02.9	-0.3
PAND				Sg		Sg	18 26 18.3	-1.2
CORG	Organya	1.21	290	P		Pb	18 26 02.8	-0.5
CORG				S		Sb	18 26 18.8	+0.2
FNEB	Nbias	1.21	334	Pn		Pb	18 26 03.5	+0.1
FNEB				Sg		Sg	18 26 19.6	-0.5
FNEB	Nbias	1.21	334	S		Sb	18 26 18.9	+0.1
	31nm,0.2s							
CGAR	Garraf	1.38	248	⇑P		Pn	18 25 57.7	-7.7
CGAR				S		Pg	18 26 09.1	+1.6
	53nm,0.2s							
CSOR	Sort	1.39	294	P		Pn	18 26 06.0	+0.5
CSOR				S		Sb	18 26 24.0	+0.2
	46nm,0.2s							
EPOB	Poblet	1.40	251	P		Pn	18 26 06.4	+0.7
EPOB				S		Sb	18 26 24.8	+0.5
	26nm,0.3s							
EPOB	Poblet	1.40	251	Pn		Pn	18 26 06.0	+0.3
EPOB				Pg		Pn	18 26 06.4	+0.7
EPOB				Sg		Sb	18 26 24.5	+0.3
EPOB				*i*	Vmb_Lg		18 26 25.5	
CEST	Esterri de Car	1.41	304	P		Pn	18 26 06.2	+0.2
CEST				S		Sb	18 26 24.5	-0.1
	23nm,0.3s							
CAVN	Les Avellanes	1.56	273	P		Pn	18 26 08.9	+1.0
CAVN				S		Sn	18 26 29.1	+1.3
	40nm,0.3s							
MTLF	Montolieu	1.59	343	*e*Pn		Pn	18 26 08.6	+0.3
MTLF	Montolieu	1.59	343	*e*Pg		Pb	18 26 10.1	+0.3
MTLF				*e*Sn		Sn	18 26 26.8	-1.6
MTLF				*e*Sg		Sb	18 26 29.1	-0.5
	8.0nm,0.3s							
MTLF	Montolieu	1.59	343	Pn		Pn	18 26 08.6	+0.3
MTLF				Pg		Pb	18 26 10.1	+0.3
CTRE	Tremp	1.62	289	P		Pn	18 26 09.7	+0.9
CTRE				S		Sn	18 26 30.5	+1.2
	14nm,0.3s							
MLS	Moulis	1.72	312	Pg		Pb	18 26 12.5	+0.5
MLS				Sg		Sb	18 26 34.2	+0.8
MLS	Moulis	1.72	312	S		Sn	18 26 32.7	+1.0
	19nm,0.4s							
CARA	Val d'Aran	1.74	301	P		Pn	18 26 11.5	+1.0
CARA				S		Sn	18 26 33.5	+1.0
	26nm,0.6s							
ETOS	Mallorca	2.05	181	Pn		Pn	18 26 13.0	-1.6
ETOS				Sn		Sn	18 26 36.0	-3.7
ERTA	Horta de San J	2.07	246	P		Pn	18 26 16.2	+1.3
ERTA				S		Sn	18 26 41.8	+1.5
ERTA	Horta de San J	2.07	246	Pn		Pn	18 26 15.5	+0.6
ERTA				Pg		Pb	18 26 18.0	-0.1
ERTA				Sn		Sn	18 26 41.4	+1.1
ERTA				Sg		Sb	18 26 45.4	+1.9
ERTA				*i*	Vmb_Lg		18 26 48.6	
ECHI	Chisagues Biel	2.14	294	Sg		Sb	18 26 46.3	+0.8
ECHI	Chisagues Biel	2.14	294	Pn		Pn	18 26 16.4	+0.5
ECHI				Pg		Pb	18 26 19.7	+0.4
ECHI	Chisagues Biel	2.14	294	P		Pn	18 26 16.8	+0.8
ECHI				S		Sn	18 26 43.0	+0.8
	8.3nm,0.2s							
ECHI	Chisagues Biel	2.14	294	Pn		Pn	18 26 16.4	+0.5
ECHI				Sg		Sb	18 26 46.0	+0.4
ECHI				*i*	Vmb_Lg		18 26 47.9	
CMAS	Mas de Barbera	2.19	241	P		Pn	18 26 18.2	+1.7
CMAS				S		Sn	18 26 44.9	+1.6
EPF	Esparros	2.21	304	*e*Pn		Pn	18 26 17.7	+0.8
EPF	Esparros	2.21	304	*e*Pg		Pb	18 26 19.7	-0.7
EPF				*e*Sn		Sn	18 26 41.6	-2.3
EPF				*e*Sg		Sb	18 26 49.2	+1.6
	9.3nm,0.3s							
LASF	Ste Croix	2.38	18	*e*Pn		Pn	18 26 19.1	0.0
LASF				*e*Sn		Sn	18 26 46.7	-1.2
LASF				*e*Sg		Sb	18 26 55.2	+2.9
	2.0nm,0.2s							
ESAC	San Caprasio	2.48	269	Pg		Pn	18 26 23.7	+3.2
ESAC				Sg		Sg	18 26 58.3	-2.2
ETSF	Etsaut	2.74	294	*e*Pn		Pn	18 26 24.5	+0.4
ETSF	Etsaut	2.74	294	*e*Pg		Pb	18 26 30.9	+1.5
ETSF				*e*Sn		Sn	18 26 54.4	-2.5
ETSF				*e*Sg		Sb	18 27 03.8	+1.0
	8.2nm,0.3s							
EMOS	Mosqueruela	2.89	241	P		Pn	18 26 27.6	+1.3
EMOS				S		Sn	18 27 02.4	+1.5
EMOS	Mosqueruela	2.89	241	Pn		Pn	18 26 27.5	+1.1
EMOS				Pg		Pb	18 26 35.1	+3.0
EMOS				Sn		Sn	18 27 01.4	+0.6
EMOS				Sg		Sg	18 27 12.8	-1.0
ATE	Arette	2.91	297	P		Pn	18 26 27.5	+1.1
ATE				S		Sn	18 27 01.7	+0.7
EIBI	Ibiza	3.01	203	Pn		Pn	18 26 26.5	-1.3
EIBI				Sn		Sn	18 26 60.0	-3.6
LMR	La Mourre	3.10	60	*e*Pn		Pn	18 26 29.7	+0.6
LMR				*e*Sn		Sn	18 27 05.1	-0.7
	2.4nm,0.2s							
CAF	Calvac	3.16	350	*e*Sg		Sg	18 27 18.8	-3.5
	3.7nm,0.3s							
EORO	Oroz-Betelu	3.26	291	Pg		Pb	18 26 41.1	+2.9
EORO				Sg		Sg	18 27 21.6	-3.9
SJPF	Ste Jean	3.27	295	*e*Pn		Pn	18 26 31.6	+0.2
SJPF	Ste Jean	3.27	295	*e*Pg		Pb	18 26 40.9	+2.4
SJPF				*e*Sg		Sg	18 27 23.2	-2.8
	4.3nm,0.3s							
FRF	La Foret Royal	3.30	57	*e*Pn		Pn	18 26 33.0	+1.2
FRF				*e*Sn		Sn	18 27 10.5	-0.2
	4.4nm,0.4s							
VIVF	Saint-Julien-l	3.32	23	*e*Sg		Sg	18 27 24.7	-2.7
	2.2nm,0.3s							
LFF	La Frestale	3.48	335	*e*Sg		Sg	18 27 28.4	-4.0
	12nm,0.4s							
EALK	Alkurruntz	3.50	295	Pn		Pn	18 26 35.5	+0.9
EALK				Sn		Sn	18 27 16.4	+0.6
EALK				Sg		Sg	18 27 29.8	-3.6
RJF	Les Rejaudoux	3.62	345	*e*Sg		Sb	18 27 32.5	+4.6
	2.0nm,0.2s							
ETOR	Torete	3.82	256	Pn		Pn	18 26 40.4	+1.5
ETOR				Sg		Sg	18 27 39.2	-4.2
TCF	Toulx Ste Croi	4.49	354	*e*Sg		Sb	18 27 59.2	+6.1

NEIC ***13*** *18:27:16.7±1.1,50°.1N±0°.2×178°.5E±0°.2,h10km±2km, mb4.0/18,ML3.4(AEIC),Error ellipse: s-maj=29.8km s-min=18.1km az=140.0*
IDC ***13*** *18:27:20.7±3.0,50°.32N×179°.47E,h0km,mb3.4/4, mb1 3.9/6,mb1mx3.5/61,mbtmp3.6/6,ML3.0/2, Error ellipse: s-maj=80.2km s-min=41.0km az=7.0*
AEIC ***13*** *18:27:22±1.2,50°.1N±0°.2×178°.6E±0°.1,h10km±8km, Error ellipse: s-maj=27.1km s-min=10.7km az=179.0*

ISC 13 18:27:17.6±1.6,50°.2N±0°.2×178°.61E±0°.09,h10km,n50, σ1§43/50,mb3.9/11,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAKI	Gareloi-Kavalg	2.10	50			Pn	18 27 53.6	+0.9
GASW	Gareloi Southw	2.22	45			Pn	18 27 55.6	+1.2
GALAA	Gareloi Lava P	2.25	46			Pn	18 27 56.1	+1.3
GAEA	Gareloi East	2.27	46			Pn	18 27 56.4	+1.2
TASE	Tanaga Southea	2.65	52			Pn	18 28 01.5	+1.1
TAFL	Tanaga Flats	2.68	54			Pn	18 28 01.6	+0.9
TAFP	Tanaga Falls P	2.71	51			Pn	18 28 02.3	+1.0
TAPA	Tanaga Point A	2.75	54			Pn	18 28 02.9	+1.1
KIMD	Kanaga Island	3.03	58			Pn	18 28 06.3	+0.7
KIWB	Kanaga Island	3.12	57			Pn	18 28 07.6	+0.8
KIKV	Kanaga Island

SEY	**Seymchan**	**34.66**	**18**	P	**P**	**18 42 48.7**	**+0.8**
	0.6nm,0.6s,baz=233,slow=20,SNR=2.5						
FITZ	**Fitzroy Crossi**	**49.32**	**186**	P	**P**	**18 44 47.8**	**+0.7**
	0.9nm,0.8s,baz=18,slow=9.6,SNR=1.6						
WRA	**Warramunga Arr**	**51.09**	**175**	P	**P**	**18 45 00.7**	**+0.3**
	0.4nm,0.7s,baz=354,slow=7.8,SNR=1.9						
ASAR	**Alice Springs**	**54.76**	**176**	P	**P**	**18 45 27.8**	**+0.6**
	0.3nm,0.6s,baz=360,slow=6.2,SNR=9.7						
FINES	**FINESS Array B**	**69.37**	**330**	P	**P**	**18 47 03.7**	**-0.4**
	1.6nm,0.9s,baz=76,slow=5.9,SNR=3.7						
YKA	**Yellowknife Ar**	**73.18**	**26**	P	**P**	**18 47 27.4**	**+0.4**
	0.2nm,0.5s,baz=304,slow=5.6,SNR=2.4						

*JMA **13** 18:48:17.9±0.2,24.2′12N×122.2′08E,h56km±3km,M2.2*
*TAP **13** 18:48:18.6,24.2′30N×122.2′11E,h26km,ML3.3,D*
ISC 13 18:48:17.9±1.0,24°24′N±0.02′×122°16′E±0.02′,h19km±2km, n123,σ0.79/240,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.41**	**300**	P		**Pg**	**18 48 26.2**	**-0.1**
	baz=300							
EWUT				S		**Sg**	**18 48 31.8**	**-0.3**
	baz=300							
ENA	**Nanau**	**0.43**	**296**	P		**Pg**	**18 48 26.6**	**-0.2**
	baz=294							
ENA				S		**Sg**	**18 48 31.8**	**-0.9**
	baz=294							
TWC	**Suao**	**0.47**	**322**	P		**Pg**	**18 48 27.1**	**-0.4**
	baz=323							
TWC				S		**Sg**	**18 48 32.3**	**-1.6**
	baz=323							
ETL	**Fush Village**	**0.50**	**261**	P		**Pb**	**18 48 29.0**	**+0.9**
	baz=256							
ETL				S		**Sn**	**18 48 37.2**	**-1.0**
	baz=256							
NACB	**Ninganchiao**	**0.52**	**263**	P		**Pg**	**18 48 29.0**	**+0.6**
	baz=258							
NACB				S		**Sn**	**18 48 37.4**	**-1.4**
	baz=258							
TWD	**Chiawan**	**0.54**	**253**	P		**Pg**	**18 48 29.6**	**+0.7**
	baz=230							
TWD				S		**Sn**	**18 48 38.3**	**-0.9**
	baz=230							
NDS	**Dongshan**	**0.56**	**314**	P		**Pb**	**18 48 28.8**	**-0.4**
	baz=316							
NDS				S		**Sb**	**18 48 35.9**	**-0.9**
	baz=316							
HWA	**Hwalien**	**0.57**	**243**	*eP*		**Pg**	**18 48 30.2**	**+0.8**
	baz=219							
HWA				*eS*		**Sn**	**18 48 40.7**	**+0.8**
	baz=219							
ETLH	**Xiulin Townshi**	**0.62**	**267**	P		**Pg**	**18 48 30.7**	**+0.3**
	baz=261							
ETLH				S		**Sg**	**18 48 39.5**	**+0.8**
	baz=261							
ILA	**Ilan**	**0.65**	**324**	P		**Pg**	**18 48 30.7**	**0.0**
	baz=325							
ILA				*eS*		**Sg**	**18 48 39.4**	**-0.1**
	baz=325							
LATG	**Datong**	**0.65**	**297**	P		**Pb**	**18 48 30.6**	**-0.1**
	baz=299							
LATG				S		**Sg**	**18 48 39.8**	**+0.1**
	baz=299							
ENTT	**Nioudou**	**0.67**	**306**	P		**Pb**	**18 48 30.9**	**-0.2**
	baz=304							
ENTT				*eS*		**Sb**	**18 48 39.9**	**-0.1**
	baz=304							
NTC	**Toucheng**	**0.68**	**334**	*eP*		**Pb**	**18 48 31.2**	**0.0**
	baz=346							
NTC				*eS*		**Sg**	**18 48 40.4**	**-0.2**
	baz=346							
NDT	**Datong Townshi**	**0.69**	**302**	P		**Pb**	**18 48 31.4**	**0.0**
	baz=304							
NDT				S		**Sb**	**18 48 40.5**	**-0.1**
	baz=304							
NNSB	**Datong**	**0.74**	**285**	P		**Pg**	**18 48 32.4**	**0.0**
	baz=288							
NNSB				S		**Sg**	**18 48 43.0**	**+0.7**
	baz=288							
FUSB	**Fushanzhiwuyua**	**0.74**	**315**	P		**Pb**	**18 48 32.0**	**-0.2**
	baz=314							
FUSB				*eS*		**Sb**	**18 48 40.8**	**-1.2**
	baz=314							
JYNG	**Yonagunijimaku**	**0.74**	**73**	P		**Pn**	**18 48 33.9**	**+0.5**
JYNG				*eS*		**Sn**	**18 48 45.1**	**+0.9**
NNS	**Nan Shan**	**0.75**	**286**	P		**Pb**	**18 48 32.5**	**0.0**
	baz=288							
NNS				S		**Sg**	**18 48 43.1**	**+0.5**
	baz=288							
TWB1	**Santiao Chiao**	**0.78**	**348**	P		**Pg**	**18 48 33.2**	**-0.1**
	baz=342							
TWB1				*eS*		**Sg**	**18 48 43.5**	**-0.2**
	baz=342							
ESL	**Shilin**	**0.79**	**238**	P		**Pb**	**18 48 32.6**	**-0.5**
	baz=231							
ESL				*eS*		**Sn**	**18 48 46.0**	**+0.6**
	baz=231							
TIPB	**Shuangxi**	**0.79**	**337**	P		**Pg**	**18 48 33.2**	**-0.3**
	baz=345							
TIPB				*eS*		**Sb**	**18 48 43.1**	**-0.4**
	baz=345							
NWLT	**Wulai**	**0.81**	**312**	*eP*		**Pb**	**18 48 33.3**	**-0.1**
	baz=311							
NWLT				*eS*		**Sb**	**18 48 43.2**	**-0.7**
	baz=311							
YOJ	**Yonaguni jima**	**0.81**	**74**	P		**Pn**	**18 48 35.0**	**+0.7**
YOJ				S		**Sn**	**18 48 47.0**	**+1.3**
WHF	**Hehuan Shan**	**0.82**	**264**	P		**Pg**	**18 48 34.1**	**-0.1**
	baz=259							
WHF				S		**Sg**	**18 48 45.4**	**+0.1**
	baz=259							
YHNB	**Yeheng**	**0.83**	**301**	P		**Pb**	**18 48 34.0**	**0.0**
	baz=301							
YHNB				S		**Sb**	**18 48 44.9**	**+0.1**
	baz=301							
FUSS	**Fushou**	**0.84**	**271**	*eP*		**Pg**	**18 48 34.6**	**+0.2**
	baz=266							
FUSS				*eS*		**Sg**	**18 48 45.5**	**-0.1**
	baz=266							
NSK	**Sanguang**	**0.85**	**301**	P		**Pb**	**18 48 34.3**	**+0.1**
	baz=301							
NSK				*eS*		**Sb**	**18 48 44.7**	**-0.6**
	baz=301							
EGFH	**Guangfu**	**0.88**	**230**	*eP*		**Pn**	**18 48 35.8**	**+0.5**
	baz=211							
EGFH				*eS*		**Sg**	**18 48 47.2**	**+0.5**
	baz=211							
SXI1	**Grass Mountain**	**0.89**	**343**	P		**Pg**	**18 48 35.1**	**-0.3**
	baz=359							
SXI1				*eS*		**Sb**	**18 48 45.7**	**-0.7**
	baz=359							
NWF	**Wu-fen Shan**	**0.90**	**337**	P		**Pn**	**18 48 35.5**	**-0.2**
	baz=352							
NWF				*eS*		**Sb**	**18 48 45.5**	**-1.1**
	baz=352							
TWA	**Mucha**	**0.91**	**325**	P		**Pg**	**18 48 35.5**	**-0.1**
	baz=330							
TWA				S		**Sb**	**18 48 47.0**	**+0.2**
	baz=330							
CHGB	**Renai**	**0.92**	**259**	*eP*		**Pb**	**18 48 35.6**	**+0.1**
	baz=240							
CHGB				*eS*		**Sg**	**18 48 48.4**	**+0.3**
	baz=240							
NHDH	**Xindian Distri**	**0.93**	**321**	*eP*		**Pn**	**18 48 35.7**	**-0.2**
	baz=314							
NHDH				*eS*		**Sb**	**18 48 47.4**	**+0.1**
	baz=314							
OWD	**Renai**	**0.94**	**253**	*eP*		**Pb**	**18 48 35.4**	**-0.4**
	baz=248							
OWD				*eS*		**Sb**	**18 48 48.0**	**0.0**
	baz=248							
WUSB	**Renai**	**0.99**	**256**	P		**Pb**	**18 48 36.6**	**+0.1**
	baz=238							
WUSB				*eS*		**Sb**	**18 48 48.5**	**-0.7**
	baz=238							
HGSD	**Ruisui**	**1.00**	**222**	*eP*		**Pb**	**18 48 36.7**	**0.0**
	baz=206							
HGSD				*eS*		**Sn**	**18 48 50.6**	**0.0**
	baz=206							
NFF	**Wufeng Townshi**	**1.03**	**293**	*eP*		**Pb**	**18 48 37.1**	**-0.1**
	baz=290							
NFF				*eS*		**Sn**	**18 48 51.3**	**-0.1**
	baz=290							
VWDT	**VWDT**	**1.05**	**243**	*eP*		**Pb**	**18 48 37.2**	**-0.4**
	baz=224							
VWDT				*eS*		**Sg**	**18 48 52.6**	**+0.4**
	baz=224							
YM01	**YM01**	**1.05**	**329**	*eP*		**Pn**	**18 48 37.5**	**-0.2**
	baz=342							
YM01				*eS*		**Sb**	**18 48 50.6**	**-0.4**
	baz=342							
EHY	**Hungye**	**1.06**	**227**	P		**Pb**	**18 48 36.4**	**-1.3**
	baz=222							
EHY				*eS*		**Sb**	**18 48 51.0**	**-0.2**
	baz=222							
TWS1	**Kuangyinshan**	**1.09**	**322**	*eP*		**Pn**	**18 48 37.8**	**-0.5**
	baz=333							
TWS1				*eS*		**Sb**	**18 48 52.2**	**+0.1**
	baz=333							
ANP	**Anpu**	**1.11**	**328**	*eP*		**Pb**	**18 48 38.8**	**+0.2**
	baz=341							
ANP				*eS*		**Sb**	**18 48 52.2**	**-0.5**
	baz=341							
WHP	**Taichung City**	**1.11**	**272**	*eP*		**Pb**	**18 48 38.7**	**+0.1**
	baz=269							
WHP				*eS*		**Sn**	**18 48 53.1**	**-0.4**
	baz=269							
LIOB	**Emei**	**1.12**	**291**	*eP*		**Pg**	**18 48 39.2**	**-0.5**
	baz=289							
LIOB				*eS*		**Sn**	**18 48 53.6**	**0.0**
	baz=289							
NTST	**Danshui**	**1.13**	**325**	*eP*		**Pb**	**18 48 38.9**	**+0.1**
	baz=336							
NTST				*eS*		**Sb**	**18 48 53.0**	**-0.1**
	baz=336							
NSTT	**Nanjuang**	**1.13**	**290**	*eP*		**Pg**	**18 48 39.5**	**-0.3**
	baz=288							
NSTT				*eS*		**Sg**	**18 48 54.3**	**-0.4**
	baz=288							
NCU	**National Centr**	**1.15**	**310**	*eP*		**Pn**	**18 48 38.8**	**-0.2**
	baz=308							
NCU				*eS*		**Sn**	**18 48 54.2**	**0.0**
	baz=308							
NCUH	**Zhongli**	**1.15**	**309**	*eP*		**Pn**	**18 48 38.9**	**-0.1**
	baz=308							
NCUH				*eS*		**Sb**	**18 48 53.7**	**0.0**
	baz=308							
TWY	**Chenhua**	**1.15**	**334**	*eP*		**Pb**	**18 48 39.1**	**-0.2**
	baz=335							
TWY				*eS*		**Sb**	**18 48 53.4**	**-0.5**
	baz=335							
WCS	**Beigang Elemen**	**1.16**	**261**	P		**Pb**	**18 48 39.4**	**+0.1**
	baz=247							
WCS				*eS*		**Sn**	**18 48 54.9**	**+0.5**
	baz=247							
YULB	**Yu-li**	**1.16**	**223**	*eP*		**Pn**	**18 48 37.5**	**-1.6**
	baz=219							
YULB				*eS*		**Sb**	**18 48 53.4**	**-0.6**
	baz=219							
EYUL	**Yuli**	**1.18**	**221**	*eP*		**Pn**	**18 48 38.4**	**-1.0**
	baz=233							
EYUL				*eS*		**Sn**	**18 48 55.5**	**+0.6**
	baz=233							
SSLB	**Suanglung**	**1.19**	**248**	*eP*		**Pn**	**18 48 38.9**	**-0.7**
	baz=244							
SSLB				*eS*		**Sn**	**18 48 56.1**	**+0.7**
	baz=244							
SBCB	**Hsinchu**	**1.21**	**297**	*eP*		**Pb**	**18 48 40.4**	**+0.2**
	baz=295							
SBCB				*eS*		**Sg**	**18 48 56.9**	**-0.2**
	baz=295							
SMLT	**Sun Moon Lake**	**1.21**	**253**	P		**Pn**	**18 48 39.9**	**0.0**
	baz=237							
SMLT				*eS*		**Sb**	**18 48 55.2**	**-0.3**
	baz=237							
HSN	**Hsinchu**	**1.22**	**298**	*eS*		**Sb**	**18 48 55.5**	**-0.3**
	baz=298							
TYC	**Yuchr**	**1.24**	**255**	*eP*		**Pn**	**18 48 40.3**	**0.0**
	baz=239							
TYC				*eS*		**Sn**	**18 48 57.1**	**+0.6**
	baz=239							
TWQ1	**Liyutan**	**1.27**	**275**	*eP*		**Pb**	**18 48 41.5**	**+0.2**
	baz=272							
TWQ1				*eS*		**Sb**	**18 48 57.4**	**+0.1**
	baz=272							
NMLH	**Miaoli**	**1.28**	**284**	*eP*		**Pb**	**18 48 41.8**	**+0.2**
	baz=281							
NMLH				*eS*		**Sg**	**18 48 58.7**	**-0.9**
	baz=281							
NSY	**Sanyi**	**1.29**	**278**	*eP*		**Pn**	**18 48 41.2**	**+0.2**
	baz=275							
NSY				*eS*		**Sb**	**18 48 58.7**	**+0.8**
	baz=275							
FULB	**Fuli**	**1.31**	**218**	*eP*		**Pn**	**18 48 40.9**	**-0.4**
	baz=201							
FULB				*eS*		**Sb**	**18 48 58.6**	**+0.3**
	baz=201							
CHKT	**Chengkung**	**1.35**	**213**	*eP*		**Pn**	**18 48 41.3**	**-0.5**
	baz=196							
CHKT				*eS*		**Sn**	**18 48 58.0**	**-1.2**
	baz=196							
TCU	**Taichung**	**1.36**	**266**	*eP*		**Pn**	**18 48 41.9**	**0.0**
	baz=263							
TCU				*eS*		**Sb**	**18 48 59.8**	**-0.1**
	baz=263							
WJS	**Zhushan**	**1.38**	**253**	*eP*		**Pb**	**18 48 43.4**	**+0.3**
	baz=237							
WJS				*eS*		**Sg**	**18 49 02.0**	**-0.5**
	baz=237							
PCYT	**Pengchaiyu**	**1.39**	**357**	*eP*		**Pn**	**18 48 42.1**	**-0.2**
	baz=346							
WDJ	**Dajia District**	**1.39**	**275**	*eP*		**Pb**	**18 48 43.1**	**-0.3**
	baz=271							
WDJ				*eS*		**Sb**	**18 49 01.6**	**+0.8**
	baz=271							
IRIF	**Iriomote-Funau**	**1.43**	**86**	P		**Pb**	**18 48 44.0**	**-0.1**
IRIF				S		**Sg**	**18 49 03.2**	**-1.2**
ALS	**Alishan**	**1.44**	**240**	*eP*		**Pn**	**18 48 43.5**	**+0.2**
	baz=224							
ALS				*eS*		**Sg**	**18 49 03.7**	**-0.9**
	baz=224							
WCHH	**Zhanghua**	**1.47**	**264**	*eP*		**Pn**	**18 48 44.0**	**+0.5**
	baz=260							
WCHH				*eS*		**Sn**	**18 49 02.5**	**+0.3**
	baz=260							
ELDTW	**Lidau**	**1.48**	**225**	*eP*		**Pn**	**18 48 43.2**	**-0.5**
	baz=211							
ELDTW				*eS*		**Sn**	**18 49 01.5**	**-1.1**
	baz=211							
EDH	**Donghe**	**1.49**	**212**	*eP*		**Pn**	**18 48 41.8**	**-1.9**
	baz=198							
EDH				*eS*		**Sn**	**18 49 00.4**	**-2.1**
	baz=198							
CHN5	**Tsauling**	**1.50**	**245**	*eP*		**Pb**	**18 48 44.8**	**-0.5**
	baz=227							
CHN5				*eS*		**Sb**	**18 49 04.6**	**+0.6**
	baz=227							
WDLH	**Douliu**	**1.58**	**250**	*eP*		**Pb**	**18 48 46.4**	**-0.2**
	baz=246							
WDLH				*eS*		**Sb**	**18 49 06.3**	**0.0**
	baz=246							
LONT	**Longtian**	**1.63**	**216**	*eP*		**Pn**	**18 48 45.2**	**-0.4**
	baz=213							
LONT				*eS*		**Sn**	**18 49 05.6**	**-0.5**
	baz=213							
STYH	**Taoyuan**	**1.66**	**230**	*eP*		**Pn**	**18 48 46.5**	**+0.5**
	baz=215							
STYH				*eS*		**Sn**	**18 49 07.5**	**+0.8**
	baz=215							
WRL	**Guolierlin Hig**	**1.67**	**259**	*eP*		**Pn**	**18 48 47.0**	**+0.9**
	baz=255							
WRL				*eS*		**Sn**	**18 49 07.2**	**+0.2**
	baz=255							
LDUT	**Ludao**	**1.68**	**202**	*eP*		**Pn**	**18 48 45.5**	**-0.8**
	baz=199							
LDUT				*eS*		**Sn**	**18 49 05.3**	**-2.1**
	baz=199							
JKRS	**Kuro-shima**	**1.69**	**90**	P		**Pb**	**18 48 48.4**	**0.0**
JKRS				S		**Sb**	**18 49 09.9**	**+0.7**
TPUB	**Ta-pu**	**1.69**	**237**	*eP*		**Pb**	**18 48 47.5**	**-0.8**
	baz=224							
TPUB				*eS*		**Sb**	**18 49 09.0**	**-0.2**
	baz=224							
CHN4	**Tsaushan**	**1.69**	**239**	*eP*		**Pb**	**18 48 48.1**	**-0.3**
	baz=224							
CHN4				*eS*		**Sb**	**18 49 10.2**	**+0.9**
	baz=224							
CHN2	**Minshiung**	**1.70**	**246**	*eS*		**Sb**	**18 49 08.9**	**-0.6**
	baz=242							
WTK	**Tuku**	**1.71**	**252**	*eP*		**Pb**	**18 48 48.4**	**-0.4**
	baz=248							
WTK				*eS*		**Sb**	**18 49 11.1**	**+1.1**
	baz=248							
TWGBT	**Beinan**	**1.73**	**215**	*eP*		**Pn**	**18 48 45.3**	**-1.7**
	baz=212							
TWGBT				*eS*		**Sn**	**18 49 08.1**	**-0.5**
	baz=212							
WTP	**Ta-pu**	**1.73**	**235**	*eP*		**Pb**	**18 48 48.5**	**-0.6**
	baz=218							
WTP				*eS*		**Sb**	**18 49 10.8**	**+0.3**
	baz=218							
TWG	**Pinlang**	**1.73**	**216**	*eP*		**Pn**	**18 48 45.9**	**-1.1**
	baz=212							
TWG				*eS*		**Sn**	**18 49 07.6**	**-1.0**
	baz=212							
CHY	**Chiayi**	**1.75**	**245**	*eP*		**Pn**	**18 48 48.3**	**+1.0**
	baz=242							
CHY				*eS*		**Sb**	**18 49 10.2**	**-1.0**
	baz=242							
WTCT	**Ta-ch'eng**	**1.76**	**258**	*eS*		**Sn**	**18 49 10.2**	**+0.9**
	baz=254							
JIJ	**Ishigaki jima**	**1.81**	**86**	P		**Pn**	**18 48 49.2**	**+1.1**
JIJ				S		**Sb**	**18 49 11.8**	**-1.0**
TWK	**Hsinying**	**1.81**	**238**	*eP*		**Pn**	**18 48 49.2**	**+1.0**
	baz=222							
TWK				*eS*		**Sn**	**18 49 11.5**	**+0.7**
	baz=222							
CHN1	**Nanshi**	**1.83**	**235**	*eP*		**Pn**	**18 48 49.4**	**+1.0**
	baz=232							
CHN1				*eS*		**Sn**	**18 49 12.1**	**+1.0**
	baz=232							
SNST	**Tainan City**	**1.83**	**237**	*eP*		**Pb**	**18 48 50.4**	**-0.5**
	baz=222							
SNST				*eS*		**Sb**	**18 49 13.8**	**+0.4**
	baz=222							
SGST	**Jiashian**	**1.85**	**232**	*eP*		**Pn**	**18 48 49.0**	**+0.3**
	baz=217							
SGST				*eS*		**Sn**	**18 49 12.8**	**+1.2**
	baz=217							
WSF	**Szhu**	**1.87**	**252**	*eP*		**Pb**	**18 48 50.3**	**-1.2**
	baz=247							
WSF				*eS*		**Sb**	**18 49 14.9**	**+0.3**
	baz=247							
WSL	**Shuilin Townsh**	**1.91**	**248**	*eP*		**Pb**	**18 48 51.5**	**-0.7**
	baz=244							
WSL				*eS*		**Sb**	**18 49 16.2**	**+0.5**
	baz=244							
ICHU	**Yijhu**	**1.93**	**243**	*eP*		**Pn**	**18 48 51.2**	**+1.3**
	baz=225							
ICHU				*eS*		**Sb**	**18 49 16.5**	**+0.1**
	baz=225							
ECL	**Taimali**	**1.98**	**214**	*eP*		**Pn**	**18 48 49.7**	**-0.7**
	baz=212							
ECL				*eS*		**Sn**	**18 49 13.3**	**-1.4**
	baz=212							
JISG	**Ishigakijimahi**	**1.99**	**80**	P		**Pn**	**18 48 51.5**	**+0.9**
JISG				*eS*		**Sn**	**18 49 15.7**	**+0.7**
CHN8	**Yiju**	**2.00**	**244**	*eP*		**Pn**	**18 48 52.0**	**+1.4**
	baz=226							
CHN8				*eS*		**Sb**	**18 49 17.9**	**-0.3**
	baz=226							
SCST	**Cishan**	**2.04**	**229**	*eP*		**Pb**	**18 48 53.7**	**-0.7**
	baz=226							
SCST				*eS*		**Sb**	**18 49 19.6**	**+0.2**
	baz=226							
SSD	**Sandimen**	**2.04**	**224**	*eP*		**Pn**	**18 48 52.0**	**+0.7**
	baz=221							
SSD				*eS*		**Sn**	**18 49 17.6**	**+1.2**
	baz=221							
SHHT	**Tainan City**	**2.06**	**234**	*eP*		**Pb**	**18 48 54.4**	**-0.4**
	baz=231							
SHHT				*eS*		**Sb**	**18 49 21.1**	**+1.1**
	baz=231							
TSMG	**Majia**	**2.07**	**223**	*eP*		**Pb**	**18 48 53.7**	**-1.2**
	baz=220							
TSMG				*eS*		**Sb**	**18 49 19.4**	**-0.8**
	baz=220							
MASBT	**Mashibuluo**	**2.14**	**221**	*eP*		**Pn**	**18 48 53.8**	**+1.1**
	baz=219							
MASBT				*eS*		**Sn**	**18 49 20.6**	**+1.8**
	baz=219							
TAW	**Tawu**	**2.21**	**212**	*eP*		**Pn**	**18 48 53.5**	**0.0**
	baz=199							
TAW				*eS*		**Sn**	**18 49 19.5**	**-0.8**
	baz=199							
EAST	**Anshuo**	**2.21**	**213**	*eP*		**Pn**	**18 48 53.6**	**0.0**
	baz=200							
EAST				*eS*		**Sn**	**18 49 19.2**	**-1.2**
	baz=200							
TAWH	**Dawu Township**	**2.22**	**212**	*eP*		**Pn**	**18 48 53.9**	**+0.1**
	baz=199							
TAWH				*eS*		**Sn**	**18 49 19.6**	**-1.2**
	baz=199							
SSPT	**Xinbi**	**2.28**	**220**	*eP*		**Pn**	**18 48 56.1**	**+1.5**
	baz=218							
SSPT				*eS*		**Sn**	**18 49 23.6**	**+1.4**
	baz=218							
JTJ	**Tarama**	**2.35**	**80**	*eS*		**Sn**	**18 49 25.3**	**+1.4**
SLIU	**Shizi**	**2.37**	**212**	*eP*		**Pb**	**18 48 58.2**	**-1.9**
	baz=201							
SLIU				*eS*		**Sn**	**18 49 26.5**	**+2.0**
	baz=201							
PNG	**Penghu**	**2.48**	**255**	*eP*		**Pn**	**18 48 57.2**	**-0.1**
	baz=250							
PNG				*eS*		**Sn**	**18 49 26.5**	**-0.6**
	baz=250							
PHUB	**P'eng-hu**	**2.48**	**254**	*eS*		**Sn**	**18 49 26.4**	**-0.7**
	baz=249							
WDGT	**Dungji**	**2.49**	**247**	*eP*		**Pn**	**18 48 57.9**	**+0.4**
	baz=244							
WDGT				*eS*		**Sn**	**18 49 28.4**	**+1.0**
	baz=244							
VWUC	**VWUC**	**2.58**	**287**	*eP*		**Pn**	**18 48 59.4**	**+0.7**
	baz=285							
VWUC				*eS*		**Sn**	**18 49 30.2**	**+0.6**
	baz=285							
HEN	**Hengchun**	**2.58**	**211**	*eP*		**Pn**	**18 49 00.3**	**+1.6**
	baz=200							
HEN				*eS*		**Sn**	**18 49 31.1**	**+1.5**
	baz=200							
MATB	**Ma-tsu**	**2.77**	**314**	*eP*		**Pn**	**18 49 01.7**	**+0.4**
	baz=313							
MATB				*eS*		**Sn**	**18 49 33.7**	**-0.5**
	baz=313							
PTMZ	**Houxiangcun**	**2.88**	**287**	*eP*		**Pn**	**18 49 03.8**	**+1.0**
	baz=284							
PTMZ				*eS*		**Sn**	**18 49 37.4**	**+0.5**
	baz=284							
LYJJ	**Jianjiangzhen**	**3.17**	**317**	*eP*		**Pn**	**18 49 07.4**	**+0.7**
	baz=317							
LYJJ				*eS*		**Sn**	**18 49 43.3**	**-0.7**
	baz=317							
XPSS	**Dashiqiu**	**3.22**	**327**	*eP*		**Pn**	**18 49 07.8**	**+0.3**
	baz=339							
XPSS				*eS*		**Sn**	**18 49 44.8**	**-0.5**
	baz=339							
MHZQ	**Yeshan**	**3.39**	**304**	*eP*		**Pn**	**18 49 10.5**	**+0.7**
	baz=303							
MHZQ				*eS*		**Sn**	**18 49 48.6**	**-0.9**
	baz=303							
KNM	**Kinmen**	**3.41**	**274**	*eP*		**Pn**	**18 49 12.9**	**+2.8**
	baz=268							
KNM				*eS*		**Sn**	**18 49 53.0**	**+3.0**
	baz=268							
KNMB	**Chin-men Tao**	**3.45**	**274**	*eP*		**Pn**	**18 49 11.3**	**+0.6**
	baz=269							
KNMB				*eS*		**Sn**	**18 49 51.1**	**0.0**
	baz=269							
AXDP	**Jialang**	**3.87**	**281**	*eP*		**Pn**	**18 49 17.9**	**+1.4**
	baz=276							
AXDP				*eS*		**Sn**	**18 50 02.1**	**+0.6**
	baz=276							
ZPLA	**Ao Xicun**	**4.04**	**267**	*eP*		**Pn**	**18 49 20.0**	**+1.2**
	baz=260							
ZPLA				*eS*		**Sn**	**18 50 05.5**	**-0.2**
	baz=260							

*IDC **13** 18:54:38.5±2.3,6.25S×130.46E,h137km±23km,mb3.4/4, mb1 3.5/8,mb1mx3.2/30,mbtmp3.9/8,Error ellipse: s-maj=36.9km s-min=20.9km az=89.0*
*NEIC **13** 18:54:40.0±2.2,6.30S±0.08×130.4E±0.1,h159km±12km, mb4.1/6,Error ellipse: s-maj=20.5km s-min=11.4km az=79.0*
ISC 13 18:54:39.2±0.7,6.43S±0.06×130.28E±0.07,h150km,n37, σ2.51/40,mb3.7/6,Banda Sea

| Code | Station Name | Δ

BNDI	**Bandanaira**	**1.93**	**349**	P		**Pn**	**18 55 14.6**	**+1.0**
SIJI	**Sorong**	**5.61**	**10**	P		**Pn**	**18 55 57.5**	**-3.3**
	5.7nm,0.3s,baz=232,slow=19,SNR=77							
SIJI				S		Sn	18 56 54.4	-10
	7.5nm,0.3s,baz=159,slow=23,SNR=17							
SANI	**Sanana**	**6.10**	**315**	P		**Pn**	**18 56 08.9**	**+1.6**
MTN	**Manton Dam**	**6.43**	**173**	Pn		**Pn**	**18 56 13.4**	**+1.8**
MTN	**Manton Dam**	**6.43**	**173**	P		**Pn**	**18 56 13.9**	**+2.3**
KDU	**Kakadu**	**6.58**	**161**	P		**Pn**	**18 56 15.0**	**+1.3**
BATI	**Baumata**	**7.54**	**240**	P		**Pn**	**18 56 29.2**	**+2.6**
	4.1nm,0.3s,baz=66,slow=3.9,SNR=7.4							
BATI				S		**Sn**	**18 57 50.0**	**-0.9**
	0.9nm,0.3s,baz=199,slow=22,SNR=1.7							
KNRA	**Kununurra**	**9.31**	**189**			**Pn**	**18 56 50.6**	**+0.5**
KNRA						**Sn**	**18 58 27.1**	**-6.3**
KNRA	**Kununurra**	**9.31**	**189**	P		**Pn**	**18 56 51.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**12.45**	**201**	P		**Pn**	**18 57 30.0**	**-1.4**
	0.4nm,0.3s,baz=28,slow=11,SNR=26							
FITZ				S		Sn	18 59 40.0	-9.1
	0.7nm,0.3s,baz=55,slow=23,SNR=7.2							
FITZ	**Fitzroy Crossi**	**12.45**	**201**			**Pn**	**18 57 30.3**	**-1.0**
WB0	**Warramunga Arr**	**13.85**	**164**	Pn		**Pn**	**18 57 49.3**	**0.0**
WRAB	**Tennant Creek**	**13.99**	**164**	Pn		**Pn**	**18 57 51.8**	**+0.7**
WRAB	**Tennant Creek**	**13.99**	**164**	P		**Pn**	**18 57 53.8**	**+2.7**
WRA	**Warramunga Arr**	**14.00**	**164**	P		**Pn**	**18 57 50.7**	**-0.4**
	0.3nm,0.3s,baz=336,slow=13,SNR=12							
WRA				S		Sn	19 00 18.6	-7.8
	1.2nm,0.3s,baz=341,slow=20,SNR=9.7							
WB2	**Warramunga Arr**	**14.00**	**164**	Pn		**Pn**	**18 57 50.3**	**-0.9**
WR0	**Warramunga Arr**	**14.07**	**163**	Pn		**Pn**	**18 57 52.4**	**+0.3**
COEN	**Coen**	**14.72**	**122**			**Pn**	**18 57 59.5**	**-0.9**
COEN	**Coen**	**14.72**	**122**	P		**P**	**18 58 05.2**	**+2.7**
QIS	**Mount Isa**	**16.70**	**148**	P		**Pn**	**18 58 28.0**	**+3.4**
AS31	**Alice Springs**	**17.49**	**169**			**Pn**	**18 58 35.0**	**+0.9**
ASAR	**Alice Springs**	**17.49**	**169**	P		**Pn**	**18 58 36.2**	**+2.2**
	0.6nm,0.3s,baz=344,slow=10,SNR=71							
ASAR				S		**S**	**19 01 38.2**	**-9.2**
	0.1nm,0.3s,baz=350,slow=26,SNR=2.0							
ASAR	**Alice Springs**	**17.49**	**169**			**Pn**	**18 58 35.0**	**+1.0**
PSA00	**Pilbara Seismi**	**18.12**	**213**	P		**P**	**18 58 41.2**	**+1.3**
PSA00				IAmb	IAmb		18 58 42.3	
	comp=Z,15nm,1.2s							
WRKA	**Warakurna**	**18.60**	**186**	P		**Pn**	**18 58 48.0**	**+0.9**
	comp=Z,7.7nm,1.3s							
KKM	**Kota Kinabalu**	**18.72**	**311**	P		**P**	**18 58 46.6**	**0.0**
KKM				IAmb	IAmb		18 59 14.8	
	comp=Z,25nm,1.5s							
OOD	**Oodnadatta**	**21.86**	**167**	P		**P**	**18 59 22.7**	**+2.7**
MULG	**Mulgathing**	**23.99**	**172**	P		**P**	**18 59 43.8**	**+3.8**
CMAR	**Chiang Mai Arr**	**39.58**	**309**	P		**P**	**19 01 56.8**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=137,slow=7.0,SNR=8.7							
CHTO	**Chiang Mai**	**39.79**	**310**	P		**P**	**19 01 56.9**	**-0.9**
CHTO				IAmb	IAmb		19 02 12.8	
	comp=Z,1.5nm,0.9s							
SONM	**Songino Array**	**57.99**	**341**	P		**P**	**19 04 15.9**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=147,slow=7.8,SNR=3.0							
MK31	**Makanchi Array**	**67.91**	**327**	P		**P**	**19 05 22.3**	**+0.6**
MK31				IAmb	IAmb		19 05 48.7	
	comp=Z,5.5nm,1.3s							
MKAR	**Makanchi Array**	**67.91**	**327**	P		**P**	**19 05 22.4**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=131,slow=7.9,SNR=39							
MAKZ	**Makanchi**	**68.09**	**326**	P		**P**	**19 05 23.5**	**+0.7**
ZALV	**Zalesovo Beam**	**71.20**	**334**	P		**P**	**19 05 41.2**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=142,slow=4.9,SNR=2.7							

*ANF **13** 19:31:27.3±0.3,32°.79N×117°.30W,h17km±1km, ML2.7/16, Error ellipse: s-maj=2.5km s-min=1.3km az=8.0*
*ECX **13** 19:31:29.5±0.6,32°.81N×117°.26W,h11km±7km, MD2.3, ML2.8, Fault plane solution: NP1:ϕ=80.00000°, δ=68.00000°, λ=32.00000°.*

ISC 13 19:31:28.0±1.0, 32°.79N±0°.02×117°.30W±0°.03, h14km±7km, n34, σ0°.60/60, 11C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
109C	**Camp Elliot, M**	**0.19**	**60**	P	**Pg**	**19 31 32.4**	**-0.1**
	baz=240,SNR=108						
109C				S	**Sg**	**19 31 35.3**	**-0.2**
	baz=240						
SDRC	**San Diego Road**	**0.31**	**101**	⇑*i*P	**Pg**	**19 31 34.3**	**-0.1**
SDRC				*e*S	**Sg**	**19 31 38.6**	**-0.1**
PLATJ	**Playas de Tiju**	**0.32**	**152**	*e*S	**Sb**	**19 31 40.2**	**-0.4**
TJX	**Tijuana**	**0.35**	**144**	*e*P	**Pg**	**19 31 35.9**	**+0.7**
TJX				*e*S	**Sb**	**19 31 41.2**	**-0.3**
TJX	**Tijuana**	**0.35**	**144**	⇑*e*P	**Pg**	**19 31 35.6**	**+0.5**
TJX				*e*S	**Sb**	**19 31 41.1**	**-0.3**
OLP	**Otay Lakes Par**	**0.36**	**120**	⇑*i*P	**Pg**	**19 31 35.4**	**0.0**
OLP				*e*S	**Sg**	**19 31 40.6**	**+0.3**
OLP				⇑*e*		19 31 40.9	
OLP				IAML		19 31 40.9	
	comp=N,766nm,0.2s						
EML	**El Monte Cty P**	**0.40**	**76**	⇓*e*P	**Pg**	**19 31 35.9**	**-0.1**
EML				*e*S	**Sg**	**19 31 41.2**	**-0.2**
EML				IAML		19 31 41.4	
	comp=N,1μm,0.2s						
AGUTJ	**Tijuana**	**0.40**	**142**	*e*P	**Pg**	**19 31 36.3**	**+0.2**
AGUTJ				*e*S	**Sg**	**19 31 42.4**	**+0.8**
BAR	**Barrett**	**0.54**	**102**	⇑*e*P	**Pg**	**19 31 38.4**	**-0.3**
BAR				*e*S	**Sg**	**19 31 45.6**	**-0.3**
BAR				IAML		19 31 45.9	
	comp=N,780nm,0.2s						
BAR				⇑*e*		19 31 45.9	
TKX	**Tecate**	**0.63**	**111**	*e*P	**Pg**	**19 31 39.9**	**-0.4**
TKX				*e*S	**Sg**	**19 31 48.3**	**-0.3**
TJIG	**Tijuana**	**0.64**	**124**	⇑*e*P	**Pg**	**19 31 40.1**	**-0.4**
TJIG				*e*S	**Sg**	**19 31 48.7**	**-0.3**
MATG	**Mataguay Scout**	**0.68**	**53**	⇓*e*P	**Pg**	**19 31 40.9**	**-0.5**
MATG				*e*S	**Sg**	**19 31 50.5**	**+0.1**
MONP2	**Monument Peak**	**0.75**	**82**	⇑*e*P	**Pg**	**19 31 42.1**	**-0.5**
MONP2				*e*S	**Sg**	**19 31 52.0**	**-0.5**
MONP2	**Monument Peak**	**0.75**	**82**	P	**Pg**	**19 31 42.1**	**-0.5**
	baz=263,SNR=8.4						
MONP2				S	**Sg**	**19 31 51.9**	**-0.5**
	baz=263						
MURC	**Murrieta**	**0.81**	**6**	P	**Pg**	**19 31 43.4**	**-0.4**
	baz=186						
MURC				S	**Sg**	**19 31 54.5**	**0.0**
	baz=186						
SLH	**Sleepy Hollow**	**0.97**	**65**	⇓*e*P	**Pb**	**19 31 46.5**	**0.0**
IKP	**In-Ko-Pah, Jac**	**1.01**	**98**	⇑*e*P	**Pb**	**19 31 46.8**	**-0.6**
IKP				*e*S	**Sb**	**19 32 00.1**	**-0.5**
IKP	**In-Ko-Pah, Jac**	**1.01**	**98**	P	**Pb**	**19 31 46.8**	**-0.6**
	baz=279,SNR=15						
IKP				S	**Sb**	**19 31 60.0**	**-0.7**
	baz=279						
RMX	**La Rumorosa**	**1.05**	**100**	⇑*e*P	**Pg**	**19 31 48.4**	**+0.1**
RMX				*e*S	**Sn**	**19 32 02.8**	**-0.1**
SCI2	**San Clemente I**	**1.06**	**280**	P	**Pb**	**19 31 47.3**	**-1.0**
	baz=100						
PFO	**Pinyon Flats O**	**1.08**	**41**	P	**Pb**	**19 31 48.2**	**-0.4**
	baz=221,SNR=9.6						
PFO				S	**Sb**	**19 32 02.3**	**-0.3**
	baz=221						
CIS	**Catalina Islan**	**1.12**	**303**	P	**Pb**	**19 31 48.1**	**-1.0**
	baz=122						
CIS				S	**Sb**	**19 32 02.9**	**-0.6**
	baz=122						
YUH2	**Yuha Desert**	**1.17**	**97**	⇑*e*P	**Pb**	**19 31 49.6**	**-0.5**
YUH2				*e*S	**Sb**	**19 32 04.7**	**-0.4**
FMP	**Fort Macarthur**	**1.24**	**318**	S	**Sb**	**19 32 07.3**	**+0.2**
	baz=137						
SWSC	**Sam W. Stewart**	**1.27**	**83**	P	**Pn**	**19 31 50.6**	**-0.7**
	baz=264,SNR=16						
SWSC				Sb	**Sg**	**19 32 08.8**	**-0.3**
	baz=264						
BFSC	**Mount Baldy Ra**	**1.47**	**348**	Sb	**Sb**	**19 32 14.4**	**+0.5**
	baz=168						
BBRC	**Big Bear Solar**	**1.50**	**12**	Pb	**Pn**	**19 31 55.3**	**+0.5**
	baz=192,SNR=7.7						
BBRC				Sb	**Sb**	**19 32 15.2**	**+0.4**
	baz=192						
BELC	**Belle Mtn. Jos**	**1.62**	**42**	Pb	**Pn**	**19 31 57.3**	**+0.9**
	baz=222						
BELC				Sb	**Sb**	**19 32 19.2**	**+0.9**
	baz=222						
SVX	**San Vicente**	**1.71**	**148**	⇓*e*P	**Pn**	**19 31 58.6**	**+1.2**
SVX				*e*S	**Sb**	**19 32 20.6**	**-0.1**
BC3	**Big Chuckawall**	**1.77**	**60**	Pb	**Pn**	**19 31 59.2**	**+0.8**
	baz=241						
BC3				S	**Sn**	**19 32 20.7**	**0.0**
	baz=241						
RRX	**Edison Barstow**	**2.09**	**7**	Sb	**Sb**	**19 32 33.3**	**+1.6**
	baz=187						
GLA	**Glamis**	**2.10**	**82**	⇓*e*P	**Pn**	**19 32 03.9**	**+1.1**
GLA	**Glamis**	**2.10**	**82**	Pb	**Pn**	**19 32 04.2**	**+1.4**
	baz=264						
GLA				Sb	**Sb**	**19 32 32.4**	**+0.7**
	baz=264						
EDW2	**Edwards Air Fo**	**2.16**	**345**	Sb	**Sb**	**19 32 34.4**	**+0.7**
	baz=164						

*NEIC **13** 19:34:18.4±1.4,20°.9S±0°.1×177°.6W±0°.1, h482km±8km, mb4.3/29, Error ellipse: s-maj=21.5km s-min=14.8km az=140.0*
*IDC **13** 19:34:19.5±2.1,20°.90S×177°.73W,h488km±21km, mb3.3/9, mb1 3.6/12,mb1mx3.4/29,mbtmp4.2/12, Error ellipse: s-maj=27.2km s-min=18.4km az=136.0*

ISC 13 19:34:19.8±0.6, 20°.9S±0°.1×177°.64W±0°.09, h500km, n62, σ1s00/59, mb4.3/21, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.14**	**307**	P	**P**	**19 35 46.1**	**-2.2**
	27nm,0.3s,baz=126,slow=7.9,SNR=53						
MSVF	**Nonsavu**	**5.14**	**307**	P	**P**	**19 35 45.5**	**-2.7**
NIUE	**Niue**	**7.47**	**77**	P	**P**	**19 36 08.6**	**-2.2**
MARNC	**Mare, Loyalty**	**13.38**	**265**	P	**P**	**19 37 11.8**	**-1.1**
PINNC	**Pines Island,**	**13.96**	**260**	P	**P**	**19 37 19.4**	**+0.3**
DZM	**Mont Dzumac**	**14.86**	**263**	P	**P**	**19 37 27.7**	**-1.0**
	1.1nm,0.3s,baz=139,slow=10,SNR=9.3						
MXZ	**Matakaoa Point**	**16.98**	**191**	P	**P**	**19 37 49.0**	**-1.3**
URZ	**Urewera**	**17.89**	**194**	P	**P**	**19 37 59.1**	**+0.1**
	2.0nm,0.3s,baz=335,slow=19,SNR=12						
URZ				S	**S**	**19 40 56.8**	**-1.1**
	0.4nm,0.3s,baz=77,slow=18,SNR=1.5						
URZ	**Urewera**	**17.89**	**194**	P	**P**	**19 37 59.0**	**0.0**
BKZ	**Black Stump Fm**	**18.90**	**194**	P	**P**	**19 38 05.8**	**-2.4**
BKZ				IAmb	IAmb	19 38 21.2	
	comp=Z,9.8nm,1.1s						
KNTN	**Kanton**	**18.91**	**19**	P	**P**	**19 38 06.5**	**-2.2**
QRZ	**Quartz Range**	**21.56**	**201**	P	**P**	**19 38 33.4**	**+1.1**
THZ	**Tophouse**	**22.29**	**199**	P	**P**	**19 38 39.7**	**+0.8**
CTAO	**Charters Tower**	**33.79**	**265**	P	**P**	**19 40 19.8**	**+0.1**
STKA	**Stephens Creek**	**37.92**	**245**	P	**P**	**19 40 54.2**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=48,slow=7.9,SNR=4.6						
STKA	**Stephens Creek**	**37.92**	**245**	IAmb	IAmb	19 40 57.3	
	comp=Z,1.3nm,1.5s						
COEN	**Coen**	**37.94**	**274**	P	**P**	**19 40 54.5**	**+0.2**
COEN				IAmb	IAmb	19 41 21.1	
	comp=Z,15nm,1.2s						
BBOO	**Buckleboo**	**42.67**	**244**	P	**P**	**19 41 31.7**	**-0.3**
BBOO				IAmb	IAmb	19 41 36.4	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**44.69**	**262**	P	**P**	**19 41 47.2**	**-0.7**
AS31	**Alice Springs**	**44.76**	**257**	P	**P**	**19 41 48.2**	**-0.2**
ASAR	**Alice Springs**	**44.76**	**257**	P	**P**	**19 41 48.2**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=88,slow=8.4,SNR=82						
ASAR				PcP	**PcP**	**19 43 20.7**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=101,slow=4.5,SNR=5.8						
WB0	**Warramunga Arr**	**44.86**	**263**	P	**P**	**19 41 48.8**	**-0.4**
WB0				IAmb	IAmb	19 41 49.3	
	comp=Z,5.9nm,0.4s						
WB2	**Warramunga Arr**	**44.87**	**262**	P	**P**	**19 41 48.7**	**-0.5**
WB2				IAmb	IAmb	19 41 49.4	
	comp=Z,4.7nm,0.4s						
WRAB	**Tennant Creek**	**44.87**	**262**	P	**P**	**19 41 48.8**	**-0.5**
WRA	**Warramunga Arr**	**44.88**	**262**	P	**P**	**19 41 48.8**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=96,slow=7.5,SNR=136						
WRA	**Warramunga Arr**	**44.88**	**262**	IAmb	IAmb	19 41 49.3	
	comp=Z,0.3nm,0.5s						
FORT	**Forrest**	**49.45**	**247**	P	**P**	**19 42 23.8**	**+0.2**
FORT				IAmb	IAmb	19 42 48.5	
	comp=Z,9.9nm,0.9s						
MTN	**Manton Dam**	**49.50**	**271**	P	**P**	**19 42 24.1**	**-0.2**
MTN				IAmb	IAmb	19 42 24.5	
	comp=Z,8.5nm,0.7s						
KNRA	**Kununurra**	**50.97**	**266**	P	**P**	**19 42 35.0**	**0.0**
KNRA				IAmb	IAmb	19 42 47.1	
	comp=Z,13nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.31**	**263**	P	**P**	**19 42 52.0**	**+0.2**
TOLI2	**Tolitoli**	**64.02**	**282**	P	**P**	**19 44 04.4**	**+0.2**
KSRS	**Korea Array**	**77.41**	**318**	P	**P**	**19 45 24.2**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=130,slow=5.2,SNR=4.1						
USRK	**Ussuriysk Ar.**	**79.48**	**326**	P	**P**	**19 45 35.6**	**+1.8**
	comp=Z,2.8nm,0.7s,baz=130,slow=3.1,SNR=4.7						
SII	**Sitkinak Islan**	**79.65**	**13**	P	**P**	**19 45 34.7**	**+0.2**
F10A	**Beach Ranch, E**	**86.11**	**37**	P	**P**	**19 46 07.7**	**+0.4**
F10A				IAmb	IAmb	19 46 10.1	
	comp=Z,5.2nm,0.9s						
TXAR	**Lajitas Array**	**86.98**	**57**	P	**P**	**19 46 14.3**	**+2.5**
	comp=Z,0.6nm,0.7s,baz=214,slow=6.0,SNR=6.0						
TXAR	**Lajitas Array**	**86.98**	**57**	P	**P**	**19 46 13.1**	**+1.3**
RND	**Reindeer**	**87.01**	**13**	P	**P**	**19 46 11.3**	**+0.2**
RND				IAmb	IAmb	19 46 12.4	
	comp=Z,4.2nm,0.7s						
WRH	**Wood River Hil**	**88.11**	**12**	P	**P**	**19 46 16.2**	**0.0**
WRH				IAmb	IAmb	19 46 16.8	
	comp=Z,4.3nm,0.8s						
HDA	**Harding Lake**	**88.29**	**13**	P	**P**	**19 46 17.0**	**0.0**
HDA				IAmb	IAmb	19 46 18.3	
	comp=Z,4.3nm,0.8s						
CCB	**Clear Creek Bu**	**88.33**	**12**	P	**P**	**19 46 16.6**	**-0.5**
CCB				IAmb	IAmb	19 46 17.5	
	comp=Z,3.2nm,0.6s						
ILAR	**Eielson Array**	**88.62**	**13**	P	**P**	**19 46 18.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=213,slow=5.4,SNR=8.7						
ILAR	**Eielson Array**	**88.62**	**13**	P	**P**	**19 46 17.7**	**-0.8**
PDAR	**Pinedale Array**	**89.02**	**43**	P	**P**	**19 46 22.7**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=228,slow=1.1,SNR=2.1						
CMAR	**Chiang Mai Arr**	**90.56**	**289**	P	**P**	**19 46 30.1**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=113,slow=2.3,SNR=2.7						
MKAR	**Makanchi Array**	**111.71**	**313**	PKiKP	**PKiKP**	**19 51 57.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=178,slow=0.8,SNR=3.0						
KURBB	**Kurchatov Arra**	**114.56**	**317**	PKP	PKPdf	19 52 02.2	-0.3
	comp=Z,0.2nm,0.6s,baz=101,slow=1.9,SNR=4.3						
ARCES	**ARCESS Array B**	**129.37**	**350**	PKP	**PKiKP**	**19 52 31.4**	**+0.3**
	comp=Z,4.6nm,1.0s,baz=46,slow=3.9,SNR=4.5						
FINES	**FINESS Array B**	**136.25**	**344**	PKP	**PKiKP**	**19 52 45.1**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=85,slow=4.0,SNR=4.9						
AKASG	**Malin Array Be**	**143.52**	**331**	PKP	PKPab	19 52 55.0	-0.3
	comp=Z,1.8nm,0.5s,baz=43,slow=4.3,SNR=12						
AKBB	**Malin Array Si**	**143.52**	**331**		PKPab	19 52 55.0	-0.3
BRTR	**Keskin Array B**	**147.35**	**312**	PKPbc	**PKPbc**	**19 53 07.6**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=137,slow=6.2,SNR=5.0						
BRTR	**Keskin Array B**	**147.35**	**312**		**PKPbc**	**19 53 07.3**	**0.0**
BUR08	**Bucovina Ar. S**	**147.56**	**331**		**PKiKP**	**19 53 09.1**	**+0.1**
OSTC	**Ostas**	**148.44**	**343**	*e*PKP	**PKiKP**	**19 53 11.0**	**+0.3**
CLL	**Collm**	**148.52**	**347**	⇓*i*PKPbc	**PKiKP**	**19 53 10.5**	**-0.3**
	comp=Z,6.0nm,0.9s						
DPC	**Dobruska-Polom**	**148.60**	**343**	*e*PKP	**PKiKP**	**19 53 11.2**	**+0.1**
KRLC	**Kraliky**	**148.72**	**342**	*e*PKP	**PKiKP**	**19 53 11.4**	**+0.1**
KHC	**Kasperske Hory**	**150.43**	**345**	*e*PKP	**PKiKP**	**19 53 15.3**	**+0.4**
CKRC	**Cesky Krumlov**	**150.54**	**344**	*e*PKP	**PKiKP**	**19 53 15.5**	**+0.4**
GERES	**GERESS Array B**	**150.67**	**345**	PKPbc	**PKPbc**	**19 53 15.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=48,slow=2.0,SNR=7.0						
GERES	**GERESS Array B**	**150.67**	**345**		**PKPbc**	**19 53 14.9**	**-0.1**

*IDC **13** 19:38:33.3±5.0,36°.24N×70°.29E,h174km±44km, mb3.0/6, mb1 3.2/10,mb1mx3.0/45,mbtmp3.7/10, Error ellipse: s-maj=35.9km s-min=26.3km az=12.0*
*NNC **13** 19:38:35.5±5.6,36°.91N×70°.12E,h0km, mb4.3,mpv4.1, Error ellipse: s-maj=46.3km s-min=36.8km az=170.0*

ISC 13 19:38:37.2±1.1, 36°.56N±0°.09×70°.38E±0°.10, h200km, n25, σ1s38/30, mb3.1/5, 6C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.12**	**24**	P	**Pn**	**19 40 06.9**	**+0.6**
	SNR=155						
UCH	**Uchur**	**6.50**	**28**	P	**Pn**	**19 40 11.8**	**+0.6**
	SNR=72						
KK31	**Karatay Array**	**6.54**	**1**	⇑P	**Pn**	**19 40 10.0**	**-1.2**
	3.3nm,0.3s,baz=192,slow=13,SNR=60						
KK31				⇑S	**Sn**	**19 41 23.1**	**-2.8**
	3.3nm,0.3s,baz=192,slow=26,SNR=7.8						
EKS2	**Erkin-Say**	**6.63**	**22**	P	**Pn**	**19 40 13.5**	**+0.9**
	SNR=27						
AAK	**Ala-Archa**	**6.85**	**26**	P	**Pn**	**19 40 16.3**	**+0.8**
	SNR=21						
AAK	**Ala-Archa**	**6.85**	**26**	P	**Pn**	**19 40 16.2**	**+0.7**
	4.8nm,0.3s,baz=161,slow=3.4,SNR=67						
AAK				S	**Sn**	**19 41 32.2**	**-1.3**
	2.4nm,0.3s,baz=330,slow=20,SNR=23						
KBK	**Karagaybulak**	**7.03**	**29**	P	**Pn**	**19 40 18.6**	**+0.7**
	SNR=7.0						
CHMS	**Chumysh**	**7.25**	**26**	P	**Pn**	**19 40 21.7**	**+1.1**
	SNR=6.2						
CHMS	**Chumysh**	**7.25**	**26**	⇑P	**Pn**	**19 40 20.8**	**+0.1**
	5.4nm,0.4s						
CHMS				⇑S	**Sn**	**19 41 40.6**	**-2.3**
	12nm,0.6s						
ULHL	**Ulahol**	**7.26**	**37**	P	**Pn**	**19 40 21.6**	**+0.7**
	SNR=5.4						
USP	**Ospenovka**	**7.41**	**24**	P	**Pn**	**19 40 22.9**	**+0.3**
	SNR=13						
TKM2	**Tokmak 2**	**7.51**	**31**	P	**Pn**	**19 40 25.2**	**+1.0**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.51**	**31**	⇓P	**Pn**	**19 40 24.6**	**+0.4**
	18nm,0.5s						
TKM2				⇑S	**Sn**	**19 41 46.9**	**-2.4**
	8.2nm,0.8s						
MDOK	**Medeo**	**8.35**	**36**	⇓P	**Pn**	**19 40 35.8**	**+0.8**
	6.9nm,1.0s						
MKAR	**Makanchi Array**	**13.54**	**37**	P	**Pn**	**19 41 41.9**	**+0.7**
	0.3nm,0.3s,baz=219,slow=13,SNR=11						
AB31	**Akbulak array**	**14.79**	**332**	⇑P	**P**	**19 41 58.8**	**+1.2**
	0.6nm,0.3s,baz=147,slow=12,SNR=29						
AB31				⇓S	**S**	**19 44 40.4**	**-0.4**
	1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**15.23**	**20**	P	**Pn**	**19 42 01.4**	**-0.5**
	0.1nm,0.3s,baz=207,slow=10,SNR=9.0						
AKTO	**Aktyubinsk**	**16.48**	**331**	P	**Pn**	**19 42 17.8**	**+0.7**
	0.4nm,0.3s,baz=144,slow=11,SNR=16						
AKTO	**Aktyubinsk**	**16.48**	**331**	⇓P	**Pn**	**19 42 19.7**	**+2.6**
	5.2nm,0.8s						
ZALV	**Zalesovo Beam**	**20.07**	**25**	P	**P**	**19 42 56.0**	**+0.9**
	1.6nm,0.3s,baz=212,slow=10,SNR=14						
SONM	**Songino Array**	**28.71**	**56**	P	**P**	**19 44 17.6**	**+1.9**
	0.3nm,0.7s,baz=251,slow=8.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**65.22**	**268**	P	**P**	**19 48 55.9**	**-1.6**
	0.2nm,0.6s,baz=44,slow=6.4,SNR=1.2						
YKA	**Yellowknife Ar**	**81.21**	**2**	P	**P**	**19 50 30.7**	**+0.5**
	0.1nm,0.6s,baz=347,slow=5.6,SNR=4.2						
WRA	**Warramunga Arr**	**82.44**	**122**	P	**P**	**19 50 35.4**	**-1.9**
	0.6nm,0.9s,baz=321,slow=5.3,SNR=4.8						
ASAR	**Alice Springs**	**84.70**	**124**	P	**P**	**19 50 47.2**	**-1.5**
	0.4nm,0.7s,baz=315,slow=4.9,SNR=5.7						

*IDC **13** 19:40:24.6±0.9,32°.86N×94°.89E, h0km, mb3.7/11, mb1 3.8/14,mb1mx3.7/44,mbtmp3.7/14,ML3.1/2, Error ellipse: s-maj=37.1km s-min=17.9km az=60.0*

ISC 13 19:40:29.7±0.8, 32°.9N±0°.1×94°.8E±0°.2, h35km, n15, σ0s80/15, mb3.8/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.84**	**165**	Pn	**Pn**	**19 43 56.7**	**-0.4**
	baz=347,slow=11,SNR=1.6						
MKAR	**Makanchi Array**	**16.87**	**329**	Pn	**Pn**	**19 44 20.8**	**-2.3**
	0.0nm,0.3s,baz=158,slow=12,SNR=1.5						
SONM	**Songino Array**	**17.30**	**27**	P	**Pn**	**19 44 28.5**	**-0.1**
	0.2nm,0.3s,baz=212,slow=14,SNR=20						
KURBB	**Kurchatov Arra**	**21.41**	**331**	P	**P**	**19 45 14.8**	**+0.5**
	2.7nm,0.7s,baz=138,slow=11,SNR=22						
ZALV	**Zalesovo Beam**	**22.23**	**344**	P	**P**	**19 45 23.0**	**-0.1**
	1.6nm,0.9s,baz=159,slow=8.9,SNR=6.0						
AKASG	**Malin Array Be**	**50.35**	**311**	P	**P**	**19 49 23.3**	**+0.2**
	0.8nm,0.6s,baz=69,slow=6.7,SNR=2.9						
FINES	**FINESS Array B**	**51.65**	**325**	P	**P**	**19 49 33.4**	**+0.7**
	2.0nm,1.0s,baz=50,slow=6.0,SNR=4.6						
ARCES	**ARCESS Array B**	**52.38**	**335**	P	**P**	**19 49 39.0**	**+1.0**
	3.5nm,1.0s,baz=94,slow=9.1,SNR=1.2				

OHWZ	**Ohakea**	**7.49**	**53**	P	**Pn**	**19 56 27.5**	**+0.2**
PREZ	**Palmer Road**	**7.51**	**43**	P	**Pn**	**19 56 28.2**	**+0.5**
NEZ	**North Egmont**	**7.54**	**42**	P	**Pn**	**19 56 30.3**	**+2.2**
PKE	**Pukeiti**	**7.54**	**42**	P	**Pn**	**19 56 29.7**	**+1.5**
BFZ	**Birch Farm**	**7.72**	**59**	Pn	**Pn**	**19 56 30.1**	**-0.5**
VRZ	**Vera Road**	**7.97**	**45**	P	**Pn**	**19 56 36.2**	**+2.2**
PKVZ	**Pokaka**	**8.15**	**48**	P	**Pn**	**19 56 39.7**	**+3.3**
NGZ	**Ngauruhoe**	**8.37**	**48**	P	**Pn**	**19 56 43.4**	**+3.8**
OTVZ	**Oturere**	**8.41**	**49**	P	**Pn**	**19 56 44.0**	**+3.9**
BKZ	**Black Stump Fm**	**8.86**	**52**	Pn	**Pn**	**19 56 46.3**	**+0.2**
PKGZ	**Pakihiroa**	**10.64**	**52**	P	Pn	19 57 16.2	+5.8
OUZ	**Omahuta**	**10.84**	**27**	Pn	**Pn**	**19 57 10.8**	**-2.2**
TAU	**Tasmania Unive**	**14.72**	**271**		**P**	**19 58 06.9**	**-1.4**
TOO	**Toolangi**	**18.14**	**287**	P	**P**	**19 58 46.3**	**+0.1**
TOO				IAmb	IAmb	19 58 50.0	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**37.14**	**301**	P	**P**	**20 01 43.7**	**+0.4**
WRA				IAmb	IAmb	20 01 44.0	
	comp=Z,0.2nm,0.6s						
WB0	**Warramunga Arr**	**37.24**	**302**	P	**P**	**20 01 45.7**	**+1.6**
WB0				IAmb	IAmb	20 01 52.4	
	comp=Z,7.6nm,1.4s						

UCR ***13*** *19:57:45.5±1.5, 10°.21N×86°.38W, h18km±8km, MW4.1*
IDC ***13*** *19:57:47.9±1.5, 11°.38N×85°.36W, h0km, mb3.2/3, mb1 3.7/3, mb1mx3.4/39, mbtmp3.2/3, Error ellipse: s-maj=142.0km s-min=11.6km az=67.0*
INET ***13*** *19:57:50.0±0.4, 10°.51N×86°.24W, h10km±9km, MW3.4*
ISC 13 19:57:45.6±1.7**, 10°.33N**±0°.06×**86°.33W**±0°.06**, h9**km±11**km, n26,** σ0**98**/31**, mb3.2**/3**, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAJU	**San Juanillo,**	**0.66**	**114**	*eP*	**Pg**	**19 57 59.0**	**+0.6**
SAJU				*eS*	**Sg**	**19 58 08.1**	**+1.1**
GUAI	**GUAI**	**0.81**	**94**	*i* P	**Pg**	**19 58 01.5**	**+0.4**
GUAI				*i* S	**Sb**	**19 58 13.1**	**+0.3**
HZTE	**Horizontes, Gu**	**0.81**	**62**	*eP*	**Pn**	**19 58 02.5**	**-0.7**
INDI	**Punta indio, G**	**0.94**	**120**	*eP*	**Pg**	**19 58 03.1**	**-0.5**
BUEV	**Buena Vista**	**1.01**	**63**	*i* P	**Pb**	**19 58 05.1**	**-0.3**
BUEV				*i* S	**Sn**	**19 58 22.0**	**+1.5**
GB1A	**Borinquen Arri**	**1.03**	**62**	*i* P	**Pb**	**19 58 05.5**	**-0.2**
GB1A				*i* S	**Sn**	**19 58 22.9**	**+1.9**
LIM1	**Limonal**	**1.12**	**71**	*i* P	**Pg**	**19 58 06.6**	**-0.4**
GUAB	**Guayabo de Bag**	**1.14**	**71**	*i* P	**Pg**	**19 58 07.2**	**-0.3**
COLC	**Colonia**	**1.15**	**73**	*i* P	**Pg**	**19 58 07.4**	**-0.4**
CUI	**Cuipilapa**	**1.19**	**74**	*i* P	**Pg**	**19 58 07.7**	**-0.7**
HORNC	**Hornillas**	**1.19**	**71**	*i* P	**Pg**	**19 58 07.7**	**-0.8**
VMAR	**Armenia, Volca**	**1.28**	**68**	*eP*	**Pb**	**19 58 09.4**	**-0.5**
JTS	**Las Juntas de**	**1.35**	**92**	Pg	**Pn**	**19 58 09.5**	**-1.1**
	14nm,0.3s,baz=2.6,slow=14,SNR=23						
JTS				Lg	Lg	19 58 26.1	
	38nm,0.3s,baz=28,slow=21,SNR=5.4						
JTS	**Las Juntas de**	**1.35**	**92**	*eP*	**Pn**	**19 58 09.6**	**-1.1**
CONN	**Concepcion**	**1.40**	**29**	*eP*	**Pg**	**19 58 11.4**	**-1.1**
LAFE	**Finca La Fe, P**	**1.49**	**110**	*eP*	**Pn**	**19 58 10.7**	**-1.9**
ARE1	**Arenal 1**	**1.59**	**85**	*eP*	**Pn**	**19 58 14.4**	**+0.4**
CEDE	**Laguna Cedeo**	**1.60**	**84**	*i* P	**Pn**	**19 58 14.8**	**+0.6**
COPN	**Copaltepe**	**1.85**	**352**	*eP*	**Pn**	**19 58 17.9**	**+0.4**
CNGN	**Cerro Negro**	**2.18**	**350**	*eP*	**Pn**	**19 58 22.6**	**+0.4**
CRIN	**San Cristobal**	**2.46**	**343**	*eP*	**Pn**	**19 58 27.1**	**+1.1**
CRIN				*eS*	**Sn**	**19 58 55.3**	**-0.8**
MATN	**Matagalpa**	**2.61**	**9**	*eP*	**Pn**	**19 58 27.7**	**-0.4**
ESPN	**Las Esperanzas**	**2.71**	**47**	*eP*	**Pn**	**19 58 29.4**	**0.0**
TXAR	**Lajitas Array**	**24.90**	**322**	P	**P**	**20 03 10.8**	**+1.7**
	0.5nm,0.7s,baz=126,slow=10,SNR=5.1						
PDAR	**Pinedale Array**	**38.15**	**332**	P	**P**	**20 05 05.8**	**+0.3**
	0.2nm,0.6s,baz=140,slow=8.8,SNR=1.9						
YKA	**Yellowknife Ar**	**55.93**	**345**	P	**P**	**20 07 22.1**	**-1.7**
	0.2nm,0.7s,baz=144,slow=6.8,SNR=4.3						

NEIC ***13*** *20:01:57.8±2.0, 20°.94S×0°.06×66°.48W×0°.08, h221km±4km, mb5.3/579, Mww5.3, Mwr5.2(GUC), Error ellipse: s-maj=10.5km s-min=9.2km az=67.0*
MOS ***13*** *20:01:57.0±1.1, 20°.72S×66°.48W, h221km, mb5.1/23, Error ellipse: s-maj=9.0km s-min=5.5km az=108.6*
IDC ***13*** *20:01:59.0±0.4, 20°.87S×66°.46W, h234km±3km, mb4.8/29, mb1 4.9/35, mb1mx4.9/39, mbtmp5.4/35, Error ellipse: s-maj=9.0km s-min=7.4km az=70.0*
GUC ***13*** *20:01:59.3±0.7, 21°.00S×66°.87W, h271km±9km, ML5.3, MW5.2*
VAO ***13*** *20:01:59.4±0.2, 20°.92S×66°.54W, h239km, mb5.5*
SCB ***13*** *20:02:01.6±1.6, 21°.03S×66°.79W, h200km±10km, ML5.2/11, MW4.9, Error ellipse: s-maj=4.5km s-min=4.3km az=0.0*
NEIC ***13*** *20:02:02, 21°.07S×66°.66W, h230km, Moment Tension Solution. Duration: 8s0 Moment tensor: Scale 10^17Nm; Mrr-0.34; Mθθ0.01; Mφφ0.33; Mrθ0.01; Mθφ-0.51; Mφr-1.03; Fault plane solution: Mo1.20000×10^17 NP1: φs107.00000°, δ26.00000°, λ-157.00000°. NP2: φs357.00000°, δ80.00000°, λ-65.00000°. Principal axes: T 1.2306, Plg31.0000°, Azm67.0000°; N -0.0607, Plg24.0000°, Azm173.0000°; P -1.1699, Plg49.0000°, Azm293.0000°;*
GCMT ***13*** *20:02:03.8±0.4, 21°.03S±0°.03×66°.54W±0°.03, h258km±3km, MW5.5/75, Moment Tensor Solution. s29,c30; s75,c88; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr-1.03±.13; Mθθ1.05±.13; Mφφ-0.02±.14; Mrθ-0.19±.09; Mθφ-0.40±.09; Mφr-2.32±.10; Best double couple: Mo2.41700×10^17 NP1:φs113.00000°, δ15.00000°, λ-151.00000°. NP2:φs354.00000°, δ83.00000°, λ-77.00000°. Principal axes: T 1.8920, Plg37.0000°, Azm73.0000°; N 1.0430, Plg13.0000°, Azm173.0000°; P -2.9410, Plg51.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
UCR ***13*** *20:02:13.1±2.3, 17°.96S×66°.25W, h150km, mb5.3(NEIC)*
ISC 13 20:01:59.0±0.3**, 20°.90S**±0°.03×**66°.56W**±0°.03**, h238**km±2km**, h238km:pP-P,n1464,**σ1s**48**/1564**, mb5.3**/355**, 110C-110D, Fault plane solution: NP1:**φs163.41432°, δ88.33489°, λ77.11562°. **NP2:**φs66.17476°, δ12.98972°, λ172.57240°. **Principal axes:** T Plg45.1990°, Azm60.4842°; N Plg12.8788°, Azm163.7952°; P Plg41.9487°, Azm265.6539°; **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**0.93**	**112**	P	**Pn**	**20 02 33.3**	**+0.4**
MOCB					**S**	**20 02 56.2**	**-3.2**
MOCB				S	**S**	**20 02 56.2**	**-3.2**
MOCB				IAML		20 03 00.5	
	68µm,0.7s						
YJA	**Yavi**	**1.60**	**143**	P	**Pn**	**20 02 37.7**	**+0.2**
PB08	**IPOC Station P**	**2.54**	**287**		**Pn**	**20 02 46.5**	**+0.2**
PB08				Sn	**S**	**20 03 22.3**	**-1.0**
PB08	**IPOC Station P**	**2.54**	**287**	*i*P	**Pn**	**20 02 46.6**	**+0.3**
PB08				*i* S	**S**	**20 03 22.5**	**-0.8**
PB08				IAML		20 03 25.3	
	comp=N,4µm,0.6s						
PB08	**IPOC Station P**	**2.54**	**287**	P	**Pn**	**20 02 46.7**	**+0.4**
PB08				S	**S**	**20 03 18.8**	**-4.5**
PB08				IAML		20 03 24.8	
	comp=N,6µm,0.7s						
PB09	**IPOC Station P**	**2.65**	**250**		**Pn**	**20 02 46.6**	**-0.6**
PB09	**IPOC Station P**	**2.65**	**250**	*i*P	**Pn**	**20 02 46.8**	**-0.4**
PB09				*i* S	**S**	**20 03 23.3**	**-1.7**
PB09				IAML		20 03 25.6	
	comp=N,5µm,0.8s						
PB09	**IPOC Station P**	**2.65**	**250**	P	**Pn**	**20 02 45.6**	**-1.6**
PB09				IAML		20 04 06.5	
	comp=N,1µm,0.6s						
PB01	**IPOC Station P**	**2.74**	**266**		**Pn**	**20 02 46.9**	**-1.1**
PB01	**IPOC Station P**	**2.74**	**266**	*i*P	**Pn**	**20 02 47.0**	**-1.1**
PB01				*i* S	**S**	**20 03 23.7**	**-2.8**
PB01	**IPOC Station P**	**2.74**	**266**	P	**Pn**	**20 02 46.1**	**-1.9**
PB01				S	**S**	**20 03 19.4**	**-7.1**
GO01	**Chusmiza**	**2.75**	**296**		**Pn**	**20 02 48.6**	**-0.1**
GO01				Sn	**S**	**20 03 26.5**	**-1.1**
GO01	**Chusmiza**	**2.75**	**296**	*i*P	**Pn**	**20 02 48.9**	**+0.3**
GO01				*i* S	**S**	**20 03 26.8**	**-0.7**
LVC	**Limon Verde**	**2.77**	**232**	P	**Pn**	**20 02 47.8**	**-0.8**
	comp=N,577nm,0.3s,baz=44,slow=8.3,SNR=1676						
LVC				S	**S**	**20 03 24.0**	**-3.6**
	comp=N,749nm,0.3s,baz=315,slow=22,SNR=26						
LVC	**Limon Verde**	**2.77**	**232**	P	**Pn**	**20 02 47.3**	**-1.3**
LVC	**Limon Verde**	**2.77**	**232**		**Pn**	**20 02 47.7**	**-0.9**
LVC				Sn	**S**	**20 03 24.3**	**-3.3**
LVC	**Limon Verde**	**2.77**	**232**	P	**Pn**	**20 02 47.5**	**-1.1**
LVC	**Limon Verde**	**2.77**	**232**	*eP*	**Pn**	**20 02 47.9**	**-0.7**
PB11	**IPOC Station P**	**3.11**	**291**		**Pn**	**20 02 51.6**	**-0.6**
PB11	**IPOC Station P**	**3.11**	**291**	*i*P	**Pn**	**20 02 51.8**	**-0.5**
PB11				*i* S	**S**	**20 03 31.5**	**-2.6**
PB11	**IPOC Station P**	**3.11**	**291**	P	**Pn**	**20 02 51.1**	**-1.1**
PB11				S	**S**	**20 03 29.3**	**-4.8**
PB11				IAML		20 04 19.6	
	comp=N,3µm,0.9s						
PB02	**IPOC Station P**	**3.14**	**262**		**Pn**	**20 02 51.0**	**-1.5**
PB02	**IPOC Station P**	**3.14**	**262**	*i*P	**Pn**	**20 02 51.2**	**-1.2**
PB02				*i* S	**S**	**20 03 30.9**	**-3.6**
PB02	**IPOC Station P**	**3.14**	**262**	P	**Pn**	**20 02 51.0**	**-1.5**
PB02				S	**S**	**20 03 27.8**	**-6.7**
PB02				IAML		20 03 33.2	
	comp=N,15µm,0.4s						
PB02				IAML		20 04 12.4	
	comp=N,2µm,0.4s						
HMBC	**Humberstone**	**3.17**	**281**	*i*P	**Pn**	**20 02 51.7**	**-1.1**
HMBC				*i* S	**S**	**20 03 31.6**	**-3.7**
PB07	**IPOC Station P**	**3.21**	**254**		**Pn**	**20 02 51.5**	**-1.8**
PB07	**IPOC Station P**	**3.21**	**254**	*i*P	**Pn**	**20 02 52.0**	**-1.2**
PB07				*i* S	**S**	**20 03 32.0**	**-4.0**
PB07	**IPOC Station P**	**3.21**	**254**	P	**Pn**	**20 02 52.3**	**-1.0**
PB07				S	**S**	**20 03 29.6**	**-6.4**
PB06	**IPOC Station P**	**3.33**	**237**		**Pn**	**20 02 53.0**	**-1.5**
PB06	**IPOC Station P**	**3.33**	**237**	*i*P	**Pn**	**20 02 53.1**	**-1.5**
PB06				*i* S	**S**	**20 03 34.5**	**-3.9**
PB06	**IPOC Station P**	**3.33**	**237**	P	**Pn**	**20 02 53.4**	**-1.2**
PB06				IAML		20 03 59.1	
	comp=N,2µm,0.9s						
PATCX	**Punta Patache**	**3.36**	**271**		**Pn**	**20 02 53.6**	**-1.3**
PATCX	**Punta Patache**	**3.36**	**271**	*i*P	**Pn**	**20 02 53.7**	**-1.1**
PATCX				*i* S	**S**	**20 03 34.8**	**-4.1**
TA02	**Huaiquique**	**3.40**	**280**		**Pn**	**20 02 53.9**	**-1.4**
TA02	**Huaiquique**	**3.40**	**280**	*i*P	**Pn**	**20 02 54.3**	**-1.0**
TA02				*i* S	**S**	**20 03 35.8**	**-3.9**
TA01	**Diego Aracena**	**3.40**	**275**		**Pn**	**20 02 53.9**	**-1.3**
TA01	**Diego Aracena**	**3.40**	**275**	*i*P	**Pn**	**20 02 54.0**	**-1.3**
TA01				*i* S	**S**	**20 03 35.2**	**-4.5**
PB15	**IPOC Station P**	**3.55**	**229**		**Pn**	**20 02 55.6**	**-1.5**
PB15	**IPOC Station P**	**3.55**	**229**	*i*P	**Pn**	**20 02 55.9**	**-1.3**
PB15				*i* S	**S**	**20 03 39.6**	**-3.4**
PB15	**IPOC Station P**	**3.55**	**229**	P	**Pn**	**20 02 55.9**	**-1.3**
PB15				S	**S**	**20 03 35.4**	**-7.6**
PB04	**IPOC Station P**	**3.63**	**246**		**Pn**	**20 02 56.2**	**-1.8**
PB04	**IPOC Station P**	**3.63**	**246**	*i*P	**Pn**	**20 02 56.5**	**-1.6**
PB04				*i* S	**S**	**20 03 39.0**	**-5.8**
PB04	**IPOC Station P**	**3.63**	**246**	P	**Pn**	**20 02 56.3**	**-1.8**
PB04				S	**S**	**20 03 37.2**	**-7.5**
PB04				IAML		20 04 07.4	
	comp=N,2µm,1.1s						
PB16	**IPOC Station P**	**3.77**	**312**		**Pn**	**20 03 01.1**	**+1.0**
PB16	**IPOC Station P**	**3.77**	**312**	*i*P	**Pn**	**20 03 01.3**	**+1.1**
PB16	**IPOC Station P**	**3.77**	**312**	P	**Pn**	**20 03 00.7**	**+0.5**
PB16				S	**S**	**20 03 44.9**	**-3.5**
PB16				IAML		20 04 35.0	
	comp=N,4µm,1.1s						
PB12	**IPOC Station P**	**4.21**	**302**		**Pn**	**20 03 03.3**	**-1.6**
PB12	**IPOC Station P**	**4.21**	**302**	*i*P	**Pn**	**20 03 03.5**	**-1.4**
BBOE	**La Paz, Chanca**	**4.28**	**341**	P	**Pn**	**20 03 08.9**	**+2.7**
AP01	**Chacalluta**	**4.36**	**305**		**Pn**	**20 03 05.5**	**-1.1**
AP01	**Chacalluta**	**4.36**	**305**	*i*P	**Pn**	**20 03 05.5**	**-1.1**
PB10	**IPOC Station P**	**4.52**	**234**		**Pn**	**20 03 06.4**	**-2.2**
PB10	**IPOC Station P**	**4.52**	**234**	*i* P	**Pn**	**20 03 06.4**	**-2.2**
PB10				*i* S	**S**	**20 03 56.9**	**-6.9**
PB10	**IPOC Station P**	**4.52**	**234**	P	**Pn**	**20 03 07.0**	**-1.6**
PB10				IAML		20 04 33.4	
	comp=N,2µm,1.3s						
BBOD	**La Paz, Gloria**	**4.65**	**335**	P	**Pn**	**20 03 13.1**	**+2.3**
LPAZ	**La Paz**	**4.82**	**342**	P	**Pn**	**20 03 13.8**	**+0.9**
	comp=N,40nm,0.3s,baz=152,slow=8.4,SNR=536						
LPAZ				S	**S**	**20 04 09.4**	**-2.0**
	comp=N,6.4nm,0.3s,baz=5.1,slow=8.2,SNR=2.9						
LPAZ	**La Paz**	**4.82**	**342**		**Pn**	**20 03 14.0**	**+1.1**
LPAZ	**La Paz**	**4.82**	**342**	P	**Pn**	**20 03 14.6**	**+1.7**
LPAZ				IAML		20 04 13.5	
	comp=N,20µm,1.4s						
LPAZ	**La Paz**	**4.82**	**342**	*eP*	**Pn**	**20 03 14.4**	**+1.5**
GO02	**Mina Guanaco**	**5.08**	**213**		**Pn**	**20 03 13.9**	**-1.7**
GO02	**Mina Guanaco**	**5.08**	**213**	*i*P	**Pn**	**20 03 14.0**	**-1.7**
PB14	**IPOC Station P**	**5.13**	**223**		**Pn**	**20 03 13.8**	**-2.6**
AC02	**Maricunga**	**6.36**	**201**		**Pn**	**20 03 29.6**	**-2.3**
AC01	**Pan de Azucar**	**6.41**	**215**		**Pn**	**20 03 28.4**	**-3.6**
SIV	**San Ignacio**	**7.14**	**48**	P	**Pn**	**20 03 40.4**	**-1.0**
	comp=N,120nm,0.3s,baz=231,slow=10,SNR=4314						
SIV				S	**S**	**20 04 54.8**	**-8.6**
	baz=221,slow=17,SNR=1.0						
AC06	**Mina Casimiro**	**7.30**	**208**	Pn	**Pn**	**20 03 39.2**	**-4.3**
GO03	**Copiap**	**7.46**	**206**		**Pn**	**20 03 41.4**	**-4.0**
AC04	**Llanos de Chal**	**8.35**	**209**	Pn	**Pn**	20 03 51.5	-5.3
PTLB	**Pontes e Lacer**	**8.90**	**54**	*eP*	**Pn**	**20 04 03.1**	**-0.6**
LCO	**Las Campanas**	**8.91**	**204**	P	**Pn**	**20 03 59.6**	**-4.5**
LCO	**Las Campanas**	**8.91**	**204**	Pn	**Pn**	**20 03 59.5**	**-4.5**
CO01	**Juntas del Tor**	**9.59**	**199**	Pn	**Pn**	**20 04 09.7**	**-3.0**
CO05	**La Serena**	**9.93**	**204**		**Pn**	**20 04 12.1**	**-4.6**
VILL	**Villhena**	**9.97**	**39**	*eP*	**Pn**	**20 04 17.6**	**+0.1**
GO04	**Tololo Observa**	**10.00**	**202**	Pn	**Pn**	**20 04 13.8**	**-4.1**
CPUP	**Villa Florida**	**10.04**	**124**	P	**Pn**	**20 04 16.7**	**-1.6**
	comp=N,1.0nm,0.3s,baz=302,slow=11,SNR=40						
CPUP	**Villa Florida**	**10.04**	**124**	P	**Pn**	**20 04 16.9**	**-1.4**
CPUP	**Villa Florida**	**10.04**	**124**	Pn	**Pn**	**20 04 16.9**	**-1.4**
CPUP	**Villa Florida**	**10.04**	**124**	*eP*	**Pn**	**20 04 17.1**	**-1.2**
AQDB	**Aquidauana**	**10.18**	**90**		**Pn**	**20 04 19.6**	**-0.5**
AQDB	**Aquidauana**	**10.18**	**90**	*eP*	**Pn**	**20 04 20.5**	**+0.4**
CO06	**Fray Jorge**	**10.75**	**204**	Pn	**Pn**	20 04 21.9	-5.3
ZON	**Zonda**	**10.78**	**190**	P	**Pn**	**20 04 25.3**	**-2.2**
ZON	**Zonda**	**10.78**	**190**		**Pn**	**20 04 25.3**	**-2.2**
CO02	**Combarbal**	**11.01**	**200**		**Pn**	**20 04 28.2**	**-2.4**
ETMB	**Extrema**	**11.02**	**2**	*eP*	**Pn**	**20 04 30.9**	**+0.2**
SALV	**Santo Antonio**	**11.45**	**66**	*eP*	**Pn**	**20 04 35.5**	**-0.6**
PP1B	**Ponte de Pedra**	**11.51**	**75**	*eP*	**Pn**	**20 04 36.4**	**-0.5**
VA03	**San Esteban**	**12.34**	**196**	P	**Pn**	**20 04 46.1**	**-1.2**
VA06	**Catapilco**	**12.36**	**199**		**Pn**	**20 04 43.9**	**-3.4**
ITQB	**Itaqui**	**12.53**	**136**		**Pn**	**20 04 48.8**	**-0.7**
ITQB	**Itaqui**	**12.53**	**136**	*eP*	**Pn**	**20 04 49.1**	**-0.3**
ROC1	**El Roble**	**12.67**	**197**	P	**Pn**	**20 04 46.6**	**-4.8**
PEL	**Peldehue**	**12.74**	**196**	P	**Pn**	**20 04 50.3**	**-1.8**
PEL	**Peldehue**	**12.74**	**196**	P	**Pn**	**20 04 50.3**	**-1.8**
VA01	**Torpederas**	**12.90**	**199**	P	**Pn**	**20 04 50.9**	**-3.1**
MT02	**Curacav**	**12.97**	**197**	P	**Pn**	**20 04 52.7**	**-2.2**
MT05	**Renca**	**12.99**	**196**		**Pn**	**20 04 52.5**	**-2.7**
MT03	**Universidad Ad**	**13.03**	**195**	P	**Pn**	**20 04 54.9**	**-0.8**
PDRB	**Porto dos Gac**	**13.20**	**47**	*eP*	**Pn**	**20 04 57.2**	**-0.6**
NNA	**Nana**	**13.25**	**310**	P	**Pn**	**20 04 58.5**	**0.0**
	comp=N,6.6nm,0.3s,baz=148,slow=13,SNR=21						
NNA				S	**S**	**20 07 16.7**	**-8.7**
	comp=N,4.9nm,0.3s,baz=138,slow=15,SNR=3.1						
NNA	**Nana**	**13.25**	**310**		**Pn**	**20 04 58.0**	**-0.6**
LMEL	**Las Melosas**	**13.30**	**193**	P	**Pn**	**20 04 57.5**	**-1.6**
MT09	**Talagante**	**13.42**	**196**	P	**Pn**	**20 04 57.0**	**-3.6**
VA05	**Santo Domingo**	**13.48**	**198**	P	**Pn**	**20 04 58.0**	**-3.1**
BO04	**La Punta**	**13.53**	**195**	P	**Pn**	**20 04 60.0**	**-1.8**
MT01	**Popeta**	**13.57**	**197**	P	**Pn**	**20 05 00.1**	**-2.2**
PTGB	**Pitanga**	**13.90**	**109**	*eP*	**Pn**	**20 05 06.4**	**0.0**
BO01	**Tunca**	**14.03**	**196**		**Pn**	**20 05 05.9**	**-1.9**
PCMB	**Pacaembu**	**14.29**	**96**	*eP*	**Pn**	**20 05 10.9**	**-0.2**
BO02	**Sierra Bellavi**	**14.34**	**194**	P	**Pn**	**20 05 10.6**	**-1.1**
CLDB	**Colider**	**14.36**	**48**	*eP*	**Pn**	**20 05 12.1**	**0.0**
ITAB	**Concordia**	**14.61**	**118**		**Pn**	**20 05 13.3**	**-1.7**
ITAB	**Concordia**	**14.61**	**118**	*eP*	**Pn**	**20 05 14.8**	**-0.2**
GO05	**Huala**	**14.83**	**197**	P	**Pn**	**20 05 14.9**	**-2.7**
CPSB	**Cacapava Do Su**	**15.14**	**131**	*eP*	**Pn**	**20 05 20.5**	**-0.6**
ITRB	**Itarama**	**15.25**	**88**	*eP*	**Pn**	**20 05 22.9**	**+0.1**
ML02	**Panimavida**	**15.41**	**195**	P	**Pn**	**20 05 23.2**	**-0.8**
PLTB	**Pedras Altas**	**15.86**	**136**		**P**	**20 05 27.6**	**-1.4**
PLTB	**Pedras Altas**	**15.86**	**136**	*eP*	**P**	**20 05 28.4**	**-0.7**
FRTB	**Fartura**	**15.94**	**102**	*eP*	**P**	**20 05 30.3**	**+0.3**
H03N1	**Juan Fernandez**	**16.62**	**219**	P	**Pn**	**20 05 43.8**	**+5.2**
	baz=111,slow=15,SNR=72						
H03N2	**Juan Fernandez**	**16.63**	**219**	P	**Pn**	**20 05 45.2**	**+6.5**
	baz=111,slow=15,SNR=48						
H03N3	**Juan Fernandez**	**16.64**	**219**	P	**Pn**	**20 05 44.2**	**+5.3**
	baz=111,slow=15,SNR=107						
TIJ01	**Guaruva-PR**	**16.74**	**109**	*eP*	**Pn**	**20 05 39.6**	**-0.9**
BB19B	**Bebedouro**	**16.85**	**94**	*eP*	**P**	**20 05 40.5**	**+0.5**
H03S3	**Juan Fernandez**	**16.90**	**218**	P	**Pn**	**20 05 46.5**	**+4.6**
	SNR=81						
H03S1	**Juan Fernandez**	**16.91**	**218**	P	**Pn**	**20 05 46.5**	**+4.5**
	SNR=53						
H03S2	**Juan Fernandez**	**16.91**	**218**	P	**Pn**	**20 05 46.7**	**+4.6**
	SNR=66						
TBTG	**Tabatinga, AM**	**16.92**	**348**	*eP*	**Pn**	**20 05 41.8**	**-0.9**
TBTG	**Tabatinga, AM**	**16.92**	**348**	*eP*	**Pn**	**20 05 42.2**	**-0.4**
SNDB	**Serra Nova Dou**	**17.11**	**61**	*eP*	**P**	**20 05 43.4**	**+0.6**
NPGB	**Novo Progresso**	**17.53**	**40**	*eP*	**P**	**20 05 47.1**	**-0.3**
IPMB	**Ipameri, GO**	**17.55**	**84**	*eP*	**P**	**20 05 47.7**	**+0.1**
TER01	**Tubaro-SC**	**17.56**	**119**	*eP*	**P**	**20 05 47.1**	**-0.5**
RCLB	**Rio Claro- Sao**	**17.76**	**98**	*eP*	**P**	**20 05 49.5**	**-0.4**
PET01	**Itanhaem-SP**	**18.13**	**104**	*eP*	**P**	**20 05 53.2**	**-0.6**
VAO	**Valinhos**	**18.30**	**100**	*eP*	**P**	**20 05 55.1**	**-0.7**
BDFB	**Brasilia**	**18.37**	**77**	P	**P**	**20 05 56.7**	**+0.1**
	comp=N,23nm,0.3s,baz=257,slow=12,SNR=152						
BDFB	**Brasilia**	**18.37**	**77**	P	**P**	**20 05 55.5**	**-1.2**
BDFB	**Brasilia**	**18.37**	**77**	*eP*	**P**	**20 05 56.9**	**+0.3**
LC01	**Cunco**	**18.52**	**193**	P	**P**	**20 05 55.8**	**-2.1**
LC01				IAmb	IAmb	20 06 01.9	
	comp=Z,135nm,1.4s						
MACA	**Manacapuru-AM**	**18.53**	**19**	*eP*	**P**	**20 05 57.9**	**-0.4**
LR03	**Panguipulli**	**19.32**	**194**	P	**P**	**20 06 03.9**	**-2.6**
LR03				IAmb	IAmb	20 06 12.2	
	comp=Z,80nm,0.7s						
ITTB	**Itaituba**	**19.51**	**34**	*eP*	**P**	**20 06 08.3**	**-0.5**
PARB	**Paraibuna**	**19.55**	**101**	*eP*	**P**	**20 06 08.3**	**-1.0**
PEXB	**Peixe**	**19.55**	**66**	*eP*	**P**	**20 06 08.8**	**-0.4**
PLCA	**Paso Flores**	**20.06**	**189**	P	**P**	**20 06 13.6**	**-1.0**
	comp=Z,66nm,0.9s,baz=15,slow=12,SNR=44						
PLCA				S	**S**	**20 09 44.3**	**-2.3**
	comp=Z,16nm,1.2s,baz=343,slow=15,SNR=3.3						
PLCA				ScP	**ScP**	**20 13 33.8**	**+0.8**
	comp=Z,7.5nm,0.9s,baz=6.0,slow=4.7,SNR=5.4						
PLCA	**Paso Flores**	**20.06**	**189**	P	**P**	**20 06 14.1**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,130nm,0.9s						
PLCA	**Paso Flores**	**20.06**	**189**	P	**P**	**20 06 12.7**	**-1.8**
PLCA				IAmb	IAmb	20 06 17.0	
	comp=Z,88nm,0.9s						
PLCA	**Paso Flores**	**20.06**	**189**	*eP*	**P**	**20 06 14.2**	**-0.3**
BSCB	**Bom Sucesso**	**20.35**	**94**	*eP*	**P**	**20 06 16.8**	**-1.0**
LL04	**Puerto Octay**	**20.56**	**193**	P	**P**	**20 06 18.0**	**-1.7**
LL04				IAmb	IAmb	20 06 20.9	
	comp=Z,74nm,1.1s						
ESAR	**Angra dos Reis**	**20.63**	**100**	*eP*	**P**	**20 06 19.9**	**-0.7**
MCRA	**Macar, Loja**	**20.96**	**320**	P	**P**	**20 06 23.9**	**-0.3**
MAN01	**Angra dos Reis**	**21.06**	**100**	*eP*	**P**	**20 06 24.1**	**-1.1**
BOSC	**San Juan Bosco**	**21.12**	**325**	P	**P**	**20 06 25.7**	**-0.3**
LL05	**

TOSP Speyside 32.54 11 P **P** **20 08 07.4 -0.5**
TOSP IAmb IAmb 20 08 14.3
comp=Z,82nm,1.1s
BCIP Isla Barro Col 32.60 335 P **P** **20 08 06.5 -2.0**
BCIP pmax pmax
comp=Z,39nm,0.8s
BCIP Isla Barro Col 32.60 335 P **P** **20 08 06.5 -2.0**
NBRF Rio Formoso - 32.66 73 *eP* **P** **20 08 08.1 -1.0**
URIC Uribia, Colomb 32.83 350 P **P** **20 08 07.7 -2.9**
URIC IAmb IAmb 20 08 09.3
comp=Z,139nm,1.1s
URIC Uribia, Colomb 32.83 350 *eP* **P** **20 08 06.7 -3.8**
URIC Uribia, Colomb 32.83 350 *eP* **P** **20 08 07.6 -2.9**
DSPA Despedida 33.03 182 P **P** **20 08 12.7 +0.9**
MG03 Isla Dawson 33.03 184 P **P** **20 08 12.2 +0.4**
GRGR Grenville 33.17 9 P **P** **20 08 13.2 -0.3**
RCBR Riachuelo 33.28 68 P **P** **20 08 14.4 -0.2**
comp=Z,280nm,0.9s,baz=23,slow=10,SNR=73
RCBR pP **pP** **20 09 03.9 +0.4**
comp=Z,50nm,0.9s,baz=30,slow=8.9,SNR=3.4
RCBR Riachuelo 33.28 68 P **P** **20 08 14.7 +0.1**
RCBR pmax pmax
comp=Z,315nm,1.0s
RCBR Riachuelo 33.28 68 P **P** **20 08 14.7 +0.1**
RCBR Riachuelo 33.28 68 *eP* **P** **20 08 14.9 +0.3**
RCBR Riachuelo 33.28 68 ⇑P **P** **20 08 14.4 -0.2**
RCBR pP **pP** **20 09 06.5 +2.9**
BRU2 Volcan 33.49 330 P **P** **20 08 19.2 +2.7**
BRU2 IAmb IAmb 20 08 24.7
comp=Z,96nm,1.2s
NBPV Pedro Velho 33.53 69 *eP* **P** **20 08 16.9 +0.2**
RIOS Rincon, Osa 33.80 329 P **P** **20 08 21.3 +2.3**
RIOS Rincon, Osa 33.80 329 *eP* **P** **20 08 21.0 +2.0**
MG01 Puerto William 33.99 181 P **P** **20 08 20.1 0.0**
MG01 IAmb IAmb 20 08 21.4
comp=Z,104nm,1.1s
DRK0 Durika 34.16 330 P **P** **20 08 24.6 +2.3**
DRK0 Durika 34.16 330 *eP* **P** **20 08 23.2 +1.0**
SRBA San Rafael, Bu 34.19 329 P **P** **20 08 24.9 +2.5**
SRBA IAmb IAmb 20 08 26.2
comp=Z,79nm,1.0s
SRBA San Rafael, Bu 34.19 329 *eP* **P** **20 08 24.5 +2.1**
SVB Belmont 34.35 9 P **P** **20 08 22.1 -1.5**
CDM Cerro de Muert 34.66 329 *eP* **P** **20 08 28.8 +2.0**
RIMA Rio Macho 34.90 329 P **P** **20 08 30.4 +1.8**
RIMA IAmb IAmb 20 08 32.4
comp=Z,151nm,1.5s
RIMA Rio Macho 34.90 329 *eP* **P** **20 08 30.7 +2.2**
LCR2 La Lucha 2 34.94 329 *eP* **P** **20 08 31.3 +2.4**
OCM Ochomogo 35.05 329 *eP* **P** **20 08 32.2 +2.4**
CVTR Volcan Turrial 35.07 330 P **P** **20 08 32.2 +2.0**
CVTR IAmb IAmb 20 08 34.5
comp=Z,110nm,1.2s
HDC Heredia 35.22 329 P **P** **20 08 33.7 +2.4**
CAO2 Cobano, Puntar 35.44 327 P **P** **20 08 34.6 +1.6**
CRPO Crater poas 35.44 329 *eP* **P** **20 08 36.0 +2.7**
H05S1 Guadeloupe/Mar 35.55 10 P **P** **20 08 31.1 -2.6**
SNR=11
MPOM Morne Pois Mar 35.56 10 P **P** **20 08 32.2 -1.7**
MPOM IAmb IAmb 20 08 39.6
comp=Z,58nm,0.9s
BIM Bigot 35.60 9 P **P** **20 08 32.8 -1.5**
FDF Fort de France 35.80 9 P **P** **20 08 35.5 -0.5**
FDF Fort de France 35.80 9 ⇓P **P** **20 08 35.6 -0.5**
JTS Las Juntas de 35.88 328 P **P** **20 08 38.0 +1.3**
comp=Z,36nm,0.8s,baz=201,slow=5.2,SNR=21
JTS Las Juntas de 35.88 328 P **P** **20 08 38.7 +2.0**
JTS pmax pmax
comp=Z,189nm,1.4s
JTS Las Juntas de 35.88 328 P **P** **20 08 38.7 +2.0**
JTS IAmb IAmb 20 08 40.9
comp=Z,189nm,1.4s
JTS Las Juntas de 35.88 328 *eP* **P** **20 08 39.0 +2.3**
ARE1 Arenal 1 35.91 328 *eP* **P** **20 08 40.1 +3.1**
DUNO Dulce Nombre, 35.97 327 P **P** **20 08 39.0 +1.6**
DUNO IAmb IAmb 20 08 41.4
comp=Z,110nm,1.1s
COVE Coope Vega, Sa 35.98 329 P **P** **20 08 39.4 +1.9**
ORTG Ortega, Santa 36.19 327 P **P** **20 08 41.5 +2.0**
ORTG IAmb IAmb 20 08 43.5
comp=Z,147nm,1.1s
ORTG Ortega, Santa 36.19 327 *eP* **P** **20 08 39.6 +0.2**
CUI Cuipilapa 36.30 328 *eP* **P** **20 08 42.8 +2.5**
VMAR Armenia, Volca 36.41 328 *eP* **P** **20 08 43.4 +2.2**
HZTE Horizontes, Gu 36.56 327 P **P** **20 08 45.7 +3.2**
HZTE Horizontes, Gu 36.56 327 *eP* **P** **20 08 45.4 +3.0**
ESPN Las Esperanzas 37.22 330 P **P** **20 08 49.0 +1.1**
ESPN IAmb IAmb 20 08 52.1
comp=Z,113nm,1.1s
ESPN Las Esperanzas 37.22 330 *eP* **P** **20 08 49.7 +1.8**
GDHS Morne Mazeau, 37.24 8 P **P** **20 08 47.5 -0.6**
GDSD La Dsirade Is 37.37 9 P **P** **20 08 47.3 -1.8**
H05N1 Guadeloupe/Mar 37.37 9 P **P** **20 08 46.4 -2.8**
SNR=38
BOAB BOACO BROADBAN 38.09 329 P **P** **20 08 56.3 +1.1**
CDVI St. Croix 38.45 3 P **P** **20 08 56.7 -1.4**
CDVI IAmb IAmb 20 09 00.5
comp=Z,100nm,0.8s
ANWB Willy Bob 38.61 7 P **P** **20 08 57.5 -2.0**
MATN Matagalpa 38.63 329 P **P** **20 09 01.1 +1.3**
MATN IAmb IAmb 20 09 03.1
comp=Z,103nm,1.0s
MLPR Magueyes Islan 38.63 359 P **P** **20 08 59.2 -0.4**
CRPR Cabo Rojo, PR 38.66 359 P **P** **20 08 59.2 -0.7**
CRPR IAmb IAmb 20 09 03.0
comp=Z,73nm,0.8s
PDPR Patillas Dam, 38.68 1 P **P** **20 08 58.9 -1.1**
CELP Cerrillos 38.73 360 P **P** **20 08 59.3 -1.2**
MTP Monte Pirata 38.76 2 P **P** **20 08 59.2 -1.6**
SJG San Juan 38.77 1 P **P** **20 08 59.9 -0.9**
comp=Z,93nm,0.6s,baz=206,slow=4.7,SNR=33
SJG S **S** **20 14 32.3 -7.9**
comp=Z,6.9nm,0.7s,baz=64,slow=22,SNR=1.6
SJG San Juan 38.77 1 P **P** **20 09 00.0 -0.8**
SJG pmax pmax
comp=Z,132nm,0.9s
SJG San Juan 38.77 1 P **P** **20 08 60.0 -0.8**
SMRT St. Maarten 38.86 5 P **P** **20 08 59.1 -2.4**
SMRT IAmb IAmb 20 09 02.2
comp=Z,116nm,0.9s
PRSN Puerto Rico Se 38.88 359 P **P** **20 09 00.7 -1.0**
CBYP Canovanas 38.93 1 P **P** **20 09 01.0 -1.3**
GCPR Guaynabo City 38.97 1 P **P** **20 09 01.2 -1.2**
GCPR IAmb IAmb 20 09 04.6
comp=Z,45nm,0.7s
CUPR Culebra, Puert 38.98 2 P **P** **20 09 00.9 -1.6**
AOPR Arecibo Observ 39.00 360 P **P** **20 09 00.9 -1.9**
AOPR IAmb IAmb 20 09 05.4
comp=Z,61nm,0.8s
STVI Saint Thomas 39.04 2 P **P** **20 09 01.9 -1.1**
PCDR Punta Cana, DR 39.21 357 P **P** **20 09 03.7 -0.7**
BANI BANI 39.22 354 P **P** **20 09 03.9 -0.8**
RPN Rapa Nui 39.42 252 P **P** **20 09 08.2 +2.0**
comp=Z,24nm,0.3s,baz=335,slow=1.7,SNR=3.7
RPN Rapa Nui 39.42 252 P **P** **20 09 08.2 +2.0**
RPN pmax pmax
comp=Z,314nm,1.4s
RPN Rapa Nui 39.42 252 IAmb IAmb 20 09 09.9
comp=Z,314nm,1.4s
DR12 Loma Pena Alta 39.53 356 P **P** **20 09 05.2 -2.0**
SDDR Presa de Saban 39.90 353 P **P** **20 09 09.4 -0.8**
TGUH Tegucigalpa,Un 40.26 328 P **P** **20 09 12.2 -1.0**
MTO3 Montecristo 41.61 326 P **P** **20 09 25.6 +1.1**
MTO3 IAmb IAmb 20 09 27.2
comp=Z,106nm,0.9s
ESQI Esquipulas 41.74 326 P **P** **20 09 25.9 +0.6**
ESQI IAmb IAmb 20 09 28.5
comp=Z,160nm,1.0s
GRTK Grand Turk 42.38 354 P **P** **20 09 29.7 -0.5**
GRTK IAmb IAmb 20 09 35.4
comp=Z,145nm,0.8s
PMSA Palmer Station 43.89 178 P **P** **20 09 41.2 -0.5**
comp=Z,12nm,0.7s,baz=111,slow=21,SNR=1.3
PETF Flores 43.98 327 P **P** **20 09 44.4 +1.3**
CCIG Comitan 44.66 324 P **P** **20 09 49.2 +0.5**
CCIG IAmb IAmb 20 09 50.9
comp=Z,107nm,1.1s
SOR Soroa 46.29 339 P **P** **20 10 01.0 -0.1**
SOR pmax pmax
comp=Z,94nm,1.2s
SOR Soroa 46.29 339 P **P** **20 10 01.0 -0.1**
CMIG Matias Romero 46.87 322 P **P** **20 10 06.1 +0.4**
comp=Z,38nm,0.8s,baz=128,slow=5.5,SNR=54
CMIG pP **pP** **20 11 00.8 +3.0**
comp=Z,13nm,0.9s,baz=102,slow=7.5,SNR=2.7
061Z Ochoppi 48.52 343 P **P** **20 10 18.3 +0.1**
061Z IAmb IAmb 20 10 20.5
comp=Z,184nm,1.1s
TLIG Tlapa 49.45 318 P **P** **20 10 26.0 +0.4**
TLIG IAmb IAmb 20 10 28.8
comp=Z,89nm,1.0s
DWPF Disney Wildern 50.79 343 P **P** **20 10 35.8 +0.5**
DWPF IAmb IAmb 20 10 36.7
comp=Z,69nm,0.8s
DWPF Disney Wildern 50.79 343 P **P** **20 10 35.5 +0.2**
baz=162
656A Willston 52.29 342 P **P** **20 10 46.3 0.0**
656A IAmb IAmb 20 10 47.8
comp=Z,97nm,0.9s
656A Willston 52.29 342 P **P** **20 10 47.1 +0.8**
baz=161,SNR=8.5
456A Hilliard 53.43 343 P **P** **20 10 54.5 -0.2**
553A Crawfordville 53.62 341 P **P** **20 10 55.5 -0.5**
553A Crawfordville 53.62 341 P **P** **20 10 57.0 +0.9**
baz=159,SNR=13
451A Vernon 54.43 340 P **P** **20 11 02.5 +0.6**
baz=158
TIGA Tifton 54.54 342 P **P** **20 11 02.3 -0.3**
TIGA Tifton 54.54 342 P **P** **20 11 03.5 +0.8**
baz=160
TIGA Tifton 54.54 342 P **P** **20 11 02.6 0.0**
baz=160
255A Hazlehurst 54.69 343 P **P** **20 11 03.7 0.0**
255A IAmb IAmb 20 11 05.2
comp=Z,134nm,1.3s
255A Hazlehurst 54.69 343 P **P** **20 11 04.4 +0.7**
baz=162
352A Blakely 54.98 341 P **P** **20 11 04.8 -0.9**
352A Blakely 54.98 341 P **P** **20 11 06.2 +0.5**
baz=159,SNR=8.6
NHSC New Hope 55.25 346 P **P** **20 11 07.3 -0.4**
NHSC New Hope 55.25 346 P **P** **20 11 09.1 +1.5**
baz=164,SNR=6.7
NHSC New Hope 55.25 346 P **P** **20 11 08.1 +0.5**
baz=164,SNR=6.7
BRAL Brewton 55.38 339 P **P** **20 11 08.5 0.0**
BRAL Brewton 55.38 339 P **P** **20 11 09.7 +1.1**
baz=157,SNR=5.1
BRAL Brewton 55.38 339 P **P** **20 11 08.6 0.0**
baz=157,SNR=5.1
154A Montrose 55.51 343 P **P** **20 11 09.1 -0.4**
154A IAmb IAmb 20 11 10.8
comp=Z,92nm,0.9s
Y60A Bolivia 55.71 348 P **P** **20 11 10.6 -0.4**
Y60A Bolivia 55.71 348 P **P** **20 11 11.8 +0.9**
baz=167,SNR=6.5
Y60A P **P** **20 11 11.8 +0.9**
baz=167,SNR=6.5
ZAIG Zacatecas 55.83 319 P **P** **20 11 13.1 +0.8**
ZAIG IAmb IAmb 20 11 15.5
comp=Z,72nm,0.9s
HAW Hawthorne Fire 55.83 345 P **P** **20 11 12.1 +0.3**
baz=163,SNR=15
250A Grady 55.86 340 P **P** **20 11 11.7 -0.4**
250A IAmb IAmb 20 11 13.0
comp=Z,100nm,1.1s
250A Grady 55.86 340 P **P** **20 11 12.1 +0.1**
baz=158,SNR=5.4
Y58A Scranton 55.91 347 P **P** **20 11 12.1 -0.2**
152A Waverly Hall 56.02 342 P **P** **20 11 12.5 -0.6**
152A Waverly Hall 56.02 342 P **P** **20 11 12.8 -0.3**
baz=160,SNR=8.1
Y57A Sumter 56.17 346 P **P** **20 11 14.3 +0.2**
Y57A IAmb IAmb 20 11 15.7
comp=Z,54nm,0.8s
Y57A Sumter 56.17 346 P **P** **20 11 15.4 +1.2**
baz=164
Y57A P **P** **20 11 15.4 +1.2**
baz=164
GOGA Godfrey 56.36 343 P **P** **20 11 15.4 -0.1**
GOGA pmax pmax
comp=Z,21nm,0.9s
GOGA Godfrey 56.36 343 P **P** **20 11 15.4 -0.1**
GOGA Godfrey 56.36 343 P **P** **20 11 15.9 +0.4**
baz=161,SNR=6.4
GOGA Godfrey 56.36 343 P **P** **20 11 15.0 -0.5**
baz=161,SNR=6.4
346A Big Creek Wild 56.44 336 P **P** **20 11 15.6 -0.5**
346A IAmb IAmb 20 11 17.5
comp=Z,78nm,0.8s
346A Big Creek Wild 56.44 336 P **P** **20 11 16.6 +0.5**
baz=154
X58A Rowland 56.47 347 P **P** **20 11 16.3 0.0**
X58A IAmb IAmb 20 11 17.6
comp=Z,65nm,0.6s
X58A Rowland 56.47 347 P **P** **20 11 16.9 +0.7**
baz=166
X58A P **P** **20 11 16.9 +0.7**
baz=166
JSC Jenkinsville 56.63 345 P **P** **20 11 17.8 +0.4**
JSC pmax pmax
comp=Z,45nm,0.8s
JSC Jenkinsville 56.63 345 P **P** **20 11 17.8 +0.4**
JSC IAmb IAmb 20 11 18.9
comp=Z,45nm,0.8s
JSC Jenkinsville 56.63 345 P **P** **20 11 17.9 +0.6**
baz=164,SNR=8.7
Z51A Franklin 56.76 341 P **P** **20 11 18.2 -0.2**
BIRD Birdtown, Kers 56.79 346 P **P** **20 11 19.0 +0.4**
BIRD IAmb IAmb 20 11 20.1
comp=Z,79nm,0.9s
BIRD Birdtown, Kers 56.79 346 P **P** **20 11 19.3 +0.8**
baz=164,SNR=16
HODGE Hodges 56.82 344 P **P** **20 11 19.0 +0.2**
HODGE Hodges 56.82 344 P **P** **20 11 18.9 +0.2**
baz=163,SNR=8.9
CNNC Cliffs of the 56.85 349 P **P** **20 11 19.1 +0.2**
CNNC Cliffs of the 56.85 349 P **P** **20 11 18.8 -0.1**
baz=167
KVTX Kingsville 56.90 327 P **P** **20 11 21.1 +1.7**
Y52A Lilburn 56.95 343 P **P** **20 11 19.3 -0.4**
Y52A Lilburn 56.95 343 P **P** **20 11 19.7 0.0**
baz=160,SNR=5.5
Y52A P **P** **20 11 19.7 0.0**
baz=160,SNR=5.5
344A Westbrook Farm 56.98 335 P **P** **20 11 19.9 0.0**
344A IAmb IAmb 20 11 21.6
comp=Z,100nm,0.9s
344A Westbrook Farm 56.98 335 P **P** **20 11 20.7 +0.8**
baz=153,SNR=13
LRAL Lakeview Retre 57.07 340 P **P** **20 11 19.8 -0.7**
LRAL Lakeview Retre 57.07 340 P **P** **20 11 20.2 -0.3**
baz=157,SNR=17
LRAL Lakeview Retre 57.07 340 P **P** **20 11 19.9 -0.6**
baz=157,SNR=17
W57A Gilead 57.18 347 P **P** **20 11 21.0 -0.2**
W57A IAmb IAmb 20 11 22.5
comp=Z,60nm,0.8s
W57A Gilead 57.18 347 P **P** **20 11 21.1 -0.1**
baz=165,SNR=12
W57A P **P** **20 11 21.1 -0.1**
baz=165,SNR=12
PAULI Pauline 57.27 345 P **P** **20 11 22.5 +0.6**
PAULI IAmb IAmb 20 11 23.6
comp=Z,42nm,0.9s
PAULI Pauline 57.27 345 P **P** **20 11 22.1 +0.2**
baz=163,SNR=7.3
441A DeRidder 57.37 333 P **P** **20 11 22.2 -0.5**
146A Union 57.41 337 P **P** **20 11 23.2 +0.3**
KMSC Kings Mountain 57.47 346 P **P** **20 11 23.1 -0.1**
KMSC IAmb IAmb 20 11 24.9
comp=Z,50nm,0.8s
KMSC Kings Mountain 57.47 346 P **P** **20 11 23.8 +0.5**
baz=164,SNR=12
KMSC Kings Mountain 57.47 346 P **P** **20 11 23.7 +0.4**
baz=164,SNR=12
342A Flagon Creek P 57.55 334 P **P** **20 11 24.6 +0.7**
342B Flagon Creek P 57.55 334 P **P** **20 11 25.3 +1.5**
baz=151,SNR=5.6
VBMS Vicksburg 57.58 336 P **P** **20 11 24.4 +0.3**
VBMS IAmb IAmb 20 11 26.3
comp=Z,127nm,1.3s
VBMS Vicksburg 57.58 336 P **P** **20 11 24.0 -0.1**
baz=153
Z47A Carrollton 57.58 339 P **P** **20 11 23.8 -0.2**
Z47A IAmb IAmb 20 11 24.9
comp=Z,47nm,0.8s
Z47A Carrollton 57.58 339 P **P** **20 11 24.1 +0.1**
baz=156,SNR=7.6
V58A Windy Hill, Pi 57.62 348 P **P** **20 11 23.9 -0.4**
V58A IAmb IAmb 20 11 25.4
comp=Z,41nm,0.8s
V58A Windy Hill, Pi 57.62 348 P **P** **20 11 24.6 +0.3**
baz=166,SNR=6.9
V58A P **P** **20 11 24.6 +0.3**
baz=166,SNR=6.9
Y49A Blount Mountai 57.64 340 P **P** **20 11 23.5 -1.0**
Y49A Blount Mountai 57.64 340 P **P** **20 11 23.9 -0.6**
baz=158,SNR=8.3
BG3 Lake Jocassee 57.71 344 P **P** **20 11 25.0 0.0**
BG3 IAmb IAmb 20 11 26.6
comp=Z,50nm,1.0s
CASEE Lake Jocassee 57.71 344 P **P** **20 11 25.6 +0.6**
baz=162,SNR=12
X51A Calhoun 57.83 342 P **P** **20 11 25.5 -0.3**
X51A IAmb IAmb 20 11 26.9
comp=Z,74nm,1.0s
X51A Calhoun 57.83 342 P **P** **20 11 25.9 +0.1**
baz=160,SNR=11
X51A P **P** **20 11 25.9 +0.1**
baz=160,SNR=11
HKT Hockley 57.87 330*d* iP **P** **20 11 27.0 +0.9**
HKT pmax pmax
comp=Z,83nm,1.1s
HKT Hockley 57.87 330 P **P** **20 11 27.1 +1.0**
HKT IAmb IAmb 20 11 28.8
comp=Z,134nm,1.2s
HKT Hockley 57.87 330 P **P** **20 11 27.6 +1.5**
baz=148
HKT Hockley 57.87 330 ⇓P **P** **20 11 27.1 +1.0**
U59A Littleton 57.92 349 P **P** **20 11 25.9 -0.5**
U59A IAmb IAmb 20 11 27.6
comp=Z,44nm,0.8s
U59A Littleton 57.92 349 P **P** **20 11 26.6 +0.3**
baz=168,SNR=10
U59A P **P** **20 11 26.6 +0.3**
baz=168,SNR=10
735A Kenedy 57.93 328 P **P** **20 11 27.6 +1.1**
735A Kenedy 57.93 328 P **P** **20 11 28.1 +1.5**
baz=145,SNR=5.9
FPAL Fort Paine 58.03 341 P **P** **20 11 26.2 -1.1**
W52A Murphy 58.07 343 P **P** **20 11 27.4 0.0**
W52A IAmb IAmb 20 11 28.8
comp=Z,54nm,1.1s
W52A Murphy 58.07 343 P **P** **20 11 27.5 0.0**
baz=161,SNR=10
V55A Taylorsville 58.12 346 P **P** **20 11 27.9 +0.1**
V55A Taylorsville 58.12 346 P **P** **20 11 28.7 +0.9**
baz=164,SNR=26
V55A P **P** **20 11 28.7 +0.9**
baz=164,SNR=26
833A Chaparral WMA, 58.31 326 P **P** **20 11 29.5 +0.2**
833A Chaparral WMA, 58.31 326 P **P** **20 11 30.4 +1.1**
baz=144,SNR=71
833A Chaparral WMA, 58.31 326 P **P** **20 11 30.2 +1.0**
baz=144,SNR=71
V53A Saluda 58.33 344 P **P** **20 11 29.5 +0.2**
V53A IAmb IAmb 20 11 30.7
comp=Z,43nm,0.9s
V53A Saluda 58.33 344 P **P** **20 11 29.7 +0.4**
baz=162,SNR=15
V53A P **P** **20 11 29.7 +0.4**
baz=162,SNR=15
143A Socs Landing, 58.35 335 P **P** **20 11 29.8 +0.4**
X48A Hartselle 58.39 340 P **P** **20 11 29.1 -0.6**
X48A IAmb IAmb 20 11 30.7
comp=Z,75nm,0.9s
X48A Hartselle 58.39 340 P **P** **20 11 29.8 +0.1**
baz=158,SNR=23
U56A King 58.41 347 P **P** **20 11 30.4 +0.6**
U56A IAmb IAmb 20 11 31.8
comp=Z,71nm,0.8s
U56A King 58.41 347 P **P** **20 11 30.8 +1.0**
baz=165,SNR=6.7
U56A P **P** **20 11 30.8 +1.0**
baz=165,SNR=6.7
T59A Double "B" Far 58.48 350 P **P** **20 11 30.2 0.0**
T59A IAmb IAmb 20 11 31.5
comp=Z,50nm,0.9s
T59A Double "B" Far 58.48 350 P **P** **20 11 30.5 +0.3**
baz=168,SNR=12
T59A P **P** **20 11 30.5 +0.3**
baz=168,SNR=12
W50A Signal Mountai 58.56 342 P **P** **20 11 30.2 -0.6**
W50A IAmb IAmb 20 11 32.0
comp=Z,92nm,1.1s
W50A Signal Mountai 58.56 342 P **P** **20 11 31.0 +0.2**
baz=159,SNR=22
TKL Tuckaleechee C 58.56 344 P **P** **20 11 30.6 -0.2**
comp=Z,55nm,0.9s,baz=156,slow=9.4,SNR=39
TKL pP **pP** **20 12 28.8 +3.5**
comp=Z,21nm,0.9s,baz=162,slow=9.6,SNR=4.4
TKL Tuckaleechee C 58.56 344 P **P** **20 11 30.1 -0.7**
TKL IAmb IAmb 20 11 31.8
comp=Z,78nm,1.0s
TKL Tuckaleechee C 58.56 344 P **P** **20 11 31.0 +0.1**
baz=161,SNR=24
CPCT Cooper Cave 58.57 343 P **P** **20 11 30.4 -0.4**
CPCT IAmb IAmb 20 11 32.0
comp=Z,60nm,1.0s
V52A Sevierville 58.69 344 P **P** **20 11 31.4 -0.3**
V52A IAmb IAmb 20 11 32.8
comp=Z,94nm,0.9s
V52A Sevierville 58.69 344 P **P** **20 11 31.7 0.0**
baz=161,SNR=26
Y45A Yeager Farm, C 58.70 338 P **P** **20 11 31.3 -0.5**
Y45A Yeager Farm, C 58.70 338 P **P** **20 11 31.7 0.0**
baz=155,SNR=8.3
SWET Sewanee 58.75 341 P **P** **20 11 31.6 -0.6**
SWET IAmb IAmb 20 11 33.1
comp=Z,85nm,1.0s
T57A Hurt 58.81 348 P **P** **20 11 32.7 +0.2**
T57A IAmb IAmb 20 11 34.0
comp=Z,40nm,0.8s
T57A Hurt 58.81 348 P **P** **20 11 33.0 +0.5**
baz=166,SNR=9.3
T57A P **P** **20 11 33.0 +0.5**
baz=166,SNR=9.3
V51A Loudon 58.85 343 P **P** **20 11 32.0 -0.8**
V51A Loudon 58.85 343 P **P** **20 11 32.4 -0.5**
baz=161,SNR=8.4
NATX Nacogdoches 58.88 332 P **P** **20 11 34.1 +1.0**
NATX Nacogdoches 58.88 332 P **P** **20 11 34.5 +1.4**
baz=149,SNR=16
NATX Nacogdoches 58.88 332 P **P** **20 11 34.6 +1.5**
baz=149,SNR=16
U54A Nelsons Funny 58.90 346 P **P** **20 11 33.6 +0.4**
U54A Nelsons Funny 58.90 346 P **P** **20 11 33.7 +0.4**
baz=163,SNR=23
U54A P **P** **20 11 33.7 +0.4**
baz=163,SNR=23
BELA Belgrano 2 59.05 173 P **P** **20 11 33.2 -0.5**
PLAL Pickwick Lake 59.21 339 P **P** **20 11 34.2 -1.0**
PLAL IAmb IAmb 20 11 35.8
comp=Z,64nm,0.9s
OXF Oxford 59.23 338 P **P** **20 11 34.1 -1.3**
OXF pmax pmax
comp=Z,208nm,1.2s
OXF Oxford 59.23 338 P **P** **20 11 34.1 -1.3**
OXF Oxford 59.23 338 P **P** **20 11 34.7 -0.7**
baz=155,SNR=11
OXF Oxford 59.23 338 P **P** **20 11 34.5 -1.0**
baz=155,SNR=11
BLA Blacksburg 59.25 347 P **P** **20 11 36.1 +0.5**
BLA pmax pmax
comp=Z,77nm,1.1s
BLA Blacksburg 59.25 347 P **P** **20 11 36.1 +0.5**
BLA IAmb IAmb 20 11 38.3
comp=Z,77nm,1.1s
BLA Blacksburg 59.25 347 P **P** **20 11 36.7 +1.1**
baz=165,SNR=7.1
BLA Blacksburg 59.25 347 P **P** **20 11 36.3 +0.7**
baz=165,SNR=7.1
TZTN Tazewell 59.34 344 P **P** **20 11 36.0 -0.2**
TZTN IAmb IAmb 20 11 37.2
comp=Z,63nm,1.1s
TZTN Tazewell 59.34 344 P **P** **20 11 36.2 0.0**
baz=162,SNR=11
TZTN Tazewell 59.34 344 P **P** **20 11 35.9 -0.3**
baz=162,SNR=11
Z41A Richland Creek 59.39 335 P **P** **20 11 36.5 0.0**
Z41A IAmb IAmb 20 11 38.5
comp=Z,122nm,1.3s
Z41A Richland Creek 59.39 335 P **P** **20 11 37.8 +1.3**
baz=151

Z41A				P	P	20 11 37.8	+1.3	
	baz=151							
Z41A	**Richland Creek**	**59.39**	**335**	P	P	20 11 37.1	+0.6	
	baz=151							
435B	**Jarrell**	**59.40**	**329**	P	P	20 11 36.6	-0.1	
435B	**Jarrell**	**59.40**	**329**	P	P	20 11 37.9	+1.2	
	baz=146,SNR=7.5							
435B	**Jarrell**	**59.40**	**329**	P	P	20 11 37.5	+0.8	
	baz=146							
S57A	**Dark Hollow, R**	**59.50**	**349**	P	P	20 11 37.7	+0.5	
S57A	**Dark Hollow, R**	**59.50**	**349**	P	P	20 11 37.8	+0.7	
	baz=167,SNR=8.2							
S57A				P	P	20 11 37.8	+0.7	
	baz=167,SNR=8.2							
R58B	**Mineral**	**59.51**	**350**	P	P	20 11 37.6	+0.4	
R58B	**Mineral**	**59.51**	**350**	P	P	20 11 37.8	+0.6	
	baz=168,SNR=8.1							
R58B				P	P	20 11 37.8	+0.6	
	baz=168,SNR=8.1							
V48A	**Smith Brothers**	**59.51**	**341**	P	P	20 11 36.7	-0.6	
V48A				IAmb	IAmb	20 11 38.3		
	comp=Z,84nm,0.9s							
V48A	**Smith Brothers**	**59.51**	**341**	P	P	20 11 37.0	-0.4	
	baz=158,SNR=24							
CCAR	**Cane Creek**	**59.56**	**336**	P	P	20 11 38.6	+0.9	
237A	**Washetta, Mont**	**59.59**	**331**	P	P	20 11 39.0	+1.0	
237A	**Washetta, Mont**	**59.59**	**331**	P	P	20 11 39.3	+1.4	
	baz=148,SNR=15							
CBN	**Corbin Frederi**	**59.66**	**350**	P	P	20 11 38.6	+0.3	
	baz=168							
CLTN	**Cedars of Leba**	**59.69**	**341**	P	P	20 11 38.2	-0.3	
CLTN				IAmb	IAmb	20 11 39.4		
	comp=Z,82nm,0.9s							
W45A	**Hickory Valley**	**59.74**	**339**	P	P	20 11 38.1	-0.8	
W45A	**Hickory Valley**	**59.74**	**339**	P	P	20 11 37.9	-1.0	
	baz=156,SNR=16							
X43A	**Marvell**	**59.76**	**337**	P	P	20 11 39.4	+0.4	
	baz=154							
WLAR	**White Oak Lake**	**59.89**	**334**	P	P	20 11 40.4	+0.4	
U49A	**Red Boiling Sp**	**59.92**	**342**	P	P	20 11 39.2	-0.8	
U49A				IAmb	IAmb	20 11 40.8		
	comp=Z,40nm,0.8s							
U49A	**Red Boiling Sp**	**59.92**	**342**	P	P	20 11 39.5	-0.6	
	baz=159,SNR=17							
VNA3	**Neumayer Olymp**	**59.95**	**162**	P	P	20 11 40.1	+0.1	
MET	**Memphis--Engin**	**59.97**	**338**	P	P	20 11 40.4	-0.1	
S54A	**Dingess, Beckl**	**60.01**	**347**	P	P	20 11 40.0	-0.7	
S54A				IAmb	IAmb	20 11 42.4		
	comp=Z,107nm,1.1s							
S54A	**Dingess, Beckl**	**60.01**	**347**	P	P	20 11 40.9	+0.2	
	baz=164,SNR=11							
S54A				P	P	20 11 40.9	+0.2	
	baz=164,SNR=11							
VNA1	**Neumayer--Stat**	**60.13**	**161**	P	P	20 11 42.3	+1.2	
T50A	**Nancy**	**60.13**	**343**	P	P	20 11 40.1	-1.4	
T50A				IAmb	IAmb	20 11 42.2		
	comp=Z,43nm,0.8s							
T50A	**Nancy**	**60.13**	**343**	P	P	20 11 41.2	-0.4	
	baz=160							
T50A				P	P	20 11 41.2	-0.4	
	baz=160							
WVT	**Waverly**	**60.18**	**340**	P	P	20 11 40.6	-1.3	
WVT				pmax	pmax			
	comp=Z,131nm,0.9s							
WVT	**Waverly**	**60.18**	**340**	P	P	20 11 40.6	-1.3	
WVT	**Waverly**	**60.18**	**340**	P	P	20 11 41.3	-0.6	
	baz=157,SNR=88							
WVT	**Waverly**	**60.18**	**340**	P	P	20 11 41.3	-0.6	
	baz=157							
WVT	**Waverly**	**60.18**	**340**	⇓P	P	20 11 41.3	-0.6	
WVT				⇑pP	pP	20 12 42.4	+5.8	
R55A	**Marlinton**	**60.23**	**348**	P	P	20 11 42.7	+0.5	
R55A				IAmb	IAmb	20 11 45.4		
	comp=Z,52nm,0.9s							
R55A	**Marlinton**	**60.23**	**348**	P	P	20 11 43.3	+1.1	
	baz=165,SNR=12							
R55A				P	P	20 11 43.3	+1.1	
	baz=165,SNR=12							
JCT	**Junction City**	**60.25**	**327**	P	P	20 11 42.5	-0.1	
JCT				pmax	pmax			
	comp=Z,107nm,1.0s							
JCT	**Junction City**	**60.25**	**327**	P	P	20 11 42.5	-0.1	
JCT				IAmb	IAmb	20 11 44.3		
	comp=Z,107nm,0.9s							
JCT	**Junction City**	**60.25**	**327**	P	P	20 11 43.2	+0.7	
	baz=144,SNR=32							
JCT	**Junction City**	**60.25**	**327**	P	P	20 11 43.1	+0.5	
	baz=144,SNR=32							
Z38A	**Mt. Pleasant**	**60.30**	**333**	P	P	20 11 43.1	+0.4	
Z38A	**Mt. Pleasant**	**60.30**	**333**	P	P	20 11 44.2	+1.5	
	baz=149,SNR=17							
WHTX	**Lake Whitney,**	**60.34**	**330**	P	P	20 11 43.1	0.0	
WHTX	**Lake Whitney,**	**60.34**	**330**	P	P	20 11 43.4	+0.4	
	baz=147,SNR=17							
WHTX	**Lake Whitney,**	**60.34**	**330**	P	P	20 11 43.8	+0.7	
	baz=147,SNR=17							
S51A	**Beattyville**	**60.39**	**344**	P	P	20 11 43.0	-0.3	
S51A	**Beattyville**	**60.39**	**344**	P	P	20 11 43.6	+0.3	
	baz=162,SNR=7.8							
S51A				P	P	20 11 43.6	+0.3	
	baz=162,SNR=7.8							
HALT	**Halls**	**60.47**	**339**	P	P	20 11 43.1	-0.7	
X40A	**Basin Creek Fa**	**60.48**	**335**	P	P	20 11 44.0	0.0	
X40A	**Basin Creek Fa**	**60.48**	**335**	P	P	20 11 43.6	-0.3	
	baz=152							
X40A				P	P	20 11 43.6	-0.3	
	baz=152							
X40A	**Basin Creek Fa**	**60.48**	**335**	P	P	20 11 43.5	-0.5	
	baz=152							
VNA2	**Neumayer--Watz**	**60.50**	**161**	P	P	20 11 44.3	+0.7	
	baz=301,slow=9.0							
UALR	**University of**	**60.54**	**336**	P	P	20 11 43.4	-0.9	
UALR				IAmb	IAmb	20 11 45.6		
	comp=Z,66nm,0.9s							
HBAR	**Harrisburg**	**60.61**	**338**	P	P	20 11 45.1	+0.3	
HBAR				IAmb	IAmb	20 11 52.9		
	comp=Z,84nm,0.8s							
R53A	**Hurricane**	**60.66**	**346**	P	P	20 11 45.2	+0.2	
R53A				IAmb	IAmb	20 11 46.5		
	comp=Z,102nm,1.0s							
R53A	**Hurricane**	**60.66**	**346**	P	P	20 11 44.9	-0.1	
	baz=164,SNR=16							
R53A				P	P	20 11 44.9	-0.1	
	baz=164,SNR=16							
LNXT	**Lenox**	**60.70**	**339**	P	P	20 11 45.2	-0.2	
T47A	**Sharon Grove**	**60.75**	**341**	P	P	20 11 45.0	-0.7	
T47A	**Sharon Grove**	**60.75**	**341**	P	P	20 11 45.5	-0.2	
	baz=158,SNR=28							
SDMD	**Soldier's Deli**	**60.76**	**351**	P	P	20 11 45.9	+0.2	
SDMD	**Soldier's Deli**	**60.76**	**351**	P	P	20 11 45.8	+0.2	
	baz=169							
GNAR	**Gosnell**	**60.76**	**338**	P	P	20 11 45.5	-0.2	
GLAT	**Glass**	**60.78**	**339**	P	P	20 11 45.3	-0.6	
Q56A	**Snyder Ridge,**	**60.78**	**349**	P	P	20 11 46.7	+0.8	
	baz=166							
Q56A				P	P	20 11 46.7	+0.8	
	baz=166							
HPIG		**60.79**	**320**	P	P	20 11 47.1	+0.6	
MIAR	**Mount Ida**	**60.83**	**335**	P	P	20 11 44.8	-1.5	
MIAR				pmax	pmax			
	comp=Z,62nm,0.8s							
MIAR	**Mount Ida**	**60.83**	**335**	P	P	20 11 44.8	-1.5	
MIAR				IAmb	IAmb	20 11 47.7		
	comp=Z,62nm,0.8s							
MIAR	**Mount Ida**	**60.83**	**335**	P	P	20 11 46.1	-0.2	
	baz=151							
PEBM	**Pemiscott Bayo**	**60.84**	**338**	P	P	20 11 46.2	0.0	
W41B	**Gary Mavity, V**	**60.86**	**336**	P	P	20 11 46.1	-0.4	
W41B				IAmb	IAmb	20 11 47.6		
	comp=Z,46nm,1.0s							
W41B	**Gary Mavity, V**	**60.86**	**336**	P	P	20 11 46.5	+0.1	
	baz=152,SNR=10							
W41B	**Gary Mavity, V**	**60.86**	**336**	P	P	20 11 46.3	-0.1	
	baz=152,SNR=10							
WHAR	**Wooly Hollow**	**60.98**	**336**	P	P	20 11 46.7	-0.5	
WHAR				IAmb	IAmb	20 11 48.4		
	comp=Z,45nm,0.9s							
GEDE	**Greenville**	**60.98**	**352**	P	P	20 11 47.8	+0.6	
	baz=170							
HICK	**Hickman**	**61.01**	**339**	P	P	20 11 46.6	-0.9	
P57A	**Homestead Farm**	**61.01**	**350**	P	P	20 11 48.2	+0.8	
P57A	**Homestead Farm**	**61.01**	**350**	P	P	20 11 48.6	+1.2	
	baz=168,SNR=8.9							
P57A				P	P	20 11 48.6	+1.2	
	baz=168,SNR=8.9							
Q54A	**Coxs Mills**	**61.05**	**347**	P	P	20 11 47.4	-0.2	
Q54A				IAmb	IAmb	20 11 49.1		
	comp=Z,30nm,0.7s							
Q54A	**Coxs Mills**	**61.05**	**347**	P	P	20 11 47.8	+0.2	
	baz=165,SNR=12							
Q54A				P	P	20 11 47.8	+0.2	
	baz=165,SNR=12							
PVMO	**Portageville**	**61.05**	**339**	P	P	20 11 48.0	+0.2	
WUPA	**West Chester U**	**61.10**	**352**	P	P	20 11 47.5	-0.4	
R50A	**Paris**	**61.18**	**344**	P	P	20 11 47.9	-0.7	
R50A				IAmb	IAmb	20 11 49.6		
	comp=Z,52nm,1.1s							
R50A	**Paris**	**61.18**	**344**	P	P	20 11 48.6	0.0	
	baz=161,SNR=12							
R50A				P	P	20 11 48.6	0.0	
	baz=161,SNR=12							
SLBS	**Sierra La Lagu**	**61.23**	**314**	P	P	20 11 49.8	+0.5	
SLBS				IAmb	IAmb	20 11 52.8		
	comp=Z,79nm,1.2s							
LCAR	**Lake Charles**	**61.25**	**337**	P	P	20 11 48.3	-0.7	
LCAR				IAmb	IAmb	20 11 50.0		
	comp=Z,52nm,0.9s							
LCAR	**Lake Charles**	**61.25**	**337**	P	P	20 11 48.9	-0.2	
	baz=154,SNR=20							
T45B	**Paducah**	**61.25**	**340**	P	P	20 11 49.6	+0.5	
	baz=156,SNR=5.3							
T45A	**Paducah**	**61.26**	**340**	P	P	20 11 48.4	-0.7	
MVL	**Millersville**	**61.26**	**351**	P	P	20 11 48.9	-0.1	
TUPA	**Temple Univers**	**61.27**	**352**	P	P	20 11 49.9	+0.7	
	baz=171,SNR=5.3							
PARMO	**Parma**	**61.30**	**339**	P	P	20 11 49.5	+0.1	
Q52A	**Bidwell**	**61.33**	**346**	P	P	20 11 48.7	-0.9	
Q52A				IAmb	IAmb	20 11 50.9		
	comp=Z,75nm,1.0s							
Q52A	**Bidwell**	**61.33**	**346**	P	P	20 11 49.4	-0.2	
	baz=163,SNR=11							
Q52A				P	P	20 11 49.4	-0.2	
	baz=163,SNR=11							
Z35A	**Perchaven, San**	**61.36**	**331**	P	P	20 11 49.8	-0.1	
Z35A	**Perchaven, San**	**61.36**	**331**	P	P	20 11 49.8	-0.1	
	baz=147,SNR=24							
R49A	**Shelbyville**	**61.41**	**343**	P	P	20 11 49.0	-1.1	
R49A	**Shelbyville**	**61.41**	**343**	P	P	20 11 49.5	-0.7	
	baz=160,SNR=5.1							
R49A				P	P	20 11 49.5	-0.7	
	baz=160,SNR=5.1							
TXAR	**Lajitas Array**	**61.42**	**323**	P	P	20 11 51.0	+0.5	
	comp=Z,8.5nm,0.4s,baz=150,slow=7.1,SNR=156							
TXAR				S	S	20 19 51.2	-1.3	
	comp=Z,0.1nm,0.5s,baz=151,slow=46,SNR=1.8							
TXAR	**Lajitas Array**	**61.42**	**323**	P	P	20 11 50.4	-0.1	
TX31	**Lajitas Ar. Si**	**61.42**	**323**	P	P	20 11 50.6	0.0	
TX31				IAmb	IAmb	20 11 52.4		
	comp=Z,72nm,0.9s							
TX31	**Lajitas Ar. Si**	**61.42**	**323**	P	P	20 11 51.1	+0.6	
	baz=140,SNR=58							
TX32	**Lajitas Array**	**61.42**	**323**	P	P	20 11 50.1	-0.4	
FCAR	**Ozark Folk Cen**	**61.45**	**336**	P	P	20 11 48.8	-1.6	
FCAR				IAmb	IAmb	20 11 51.1		
	comp=Z,47nm,0.8s							
W39A	**Magazine**	**61.48**	**335**	P	P	20 11 50.5	-0.1	
W39A				IAmb	IAmb	20 11 52.6		
	comp=Z,89nm,1.1s							
W39A	**Magazine**	**61.48**	**335**	P	P	20 11 51.3	+0.7	
	baz=151,SNR=11							
W39A	**Magazine**	**61.48**	**335**	P	P	20 11 51.2	+0.6	
	baz=151,SNR=11							
MCWV	**Mont Chateau**	**61.50**	**348**	P	P	20 11 51.2	+0.5	
MCWV				IAmb	IAmb	20 11 52.6		
	comp=Z,62nm,1.1s							
MCWV	**Mont Chateau**	**61.50**	**348**	P	P	20 11 51.1	+0.5	
	baz=166,SNR=8.2							
MCWV	**Mont Chateau**	**61.50**	**348**	P	P	20 11 51.4	+0.7	
	baz=166,SNR=8.2							
PAGS	**Pennsylvania G**	**61.54**	**351**	P	P	20 11 50.6	-0.3	
X37A	**Clayton**	**61.60**	**333**	P	P	20 11 51.7	+0.2	
X37A	**Clayton**	**61.60**	**333**	P	P	20 11 53.0	+1.5	
	baz=149,SNR=21							
PBMO	**Poplar Bluff**	**61.63**	**338**	P	P	20 11 50.9	-0.7	
PBMO	**Poplar Bluff**	**61.63**	**338**	P	P	20 11 52.5	+0.9	
	baz=155,SNR=15							
Q51A	**Peebles**	**61.65**	**345**	P	P	20 11 51.0	-0.7	
Q51A				IAmb	IAmb	20 11 53.2		
	comp=Z,44nm,1.1s							
Q51A	**Peebles**	**61.65**	**345**	P	P	20 11 51.9	+0.2	
	baz=162,SNR=8.8							
Q51A				P	P	20 11 51.9	+0.2	
	baz=162,SNR=8.8							
P53A	**Whipple**	**61.65**	**347**	P	P	20 11 52.3	+0.6	
P53A	**Whipple**	**61.65**	**347**	P	P	20 11 52.5	+0.8	
	baz=164,SNR=22							
P53A				P	P	20 11 52.5	+0.8	
	baz=164,SNR=22							
BRNJ	**Basking Ridge**	**61.71**	**353**	P	P	20 11 53.5	+1.4	
	baz=172							
FOR	**Fordham**	**61.82**	**354**	P	P	20 11 53.7	+1.0	
	baz=172							
USIN	**University of**	**61.82**	**341**	P	P	20 11 51.9	-1.0	
USIN				IAmb	IAmb	20 11 53.0		
	comp=Z,63nm,1.1s							
N62A	**Caumsett State**	**61.84**	**354**	P	P	20 11 52.6	-0.2	
N62A				IAmb	IAmb	20 11 54.8		
	comp=Z,36nm,0.7s							
N62A	**Caumsett State**	**61.84**	**354**	P	P	20 11 53.9	+1.0	
	baz=173							
N62A				P	P	20 11 53.9	+1.0	
	baz=173							
O56A	**Blue Knob Stat**	**61.87**	**350**	P	P	20 11 52.6	-0.5	
O56A	**Blue Knob Stat**	**61.87**	**350**	P	P	20 11 54.1	+0.9	
	baz=167,SNR=9.3							
O56A	**Blue Knob Stat**	**61.87**	**350**	P	P	20 11 53.7	+0.5	
	baz=167,SNR=9.3							
ABTX	**Abilene, Hawle**	**61.91**	**329**	P	P	20 11 53.6	0.0	
ABTX	**Abilene, Hawle**	**61.91**	**329**	P	P	20 11 53.9	+0.3	
	baz=145,SNR=24							
ABTX	**Abilene, Hawle**	**61.91**	**329**	P	P	20 11 53.9	+0.3	
	baz=145,SNR=24							
P52A	**Corning**	**61.95**	**346**	P	P	20 11 53.0	-0.6	
P52A				IAmb	IAmb	20 11 54.7		
	comp=Z,104nm,1.1s							
P52A	**Corning**	**61.95**	**346**	P	P	20 11 53.6	-0.1	
	baz=164,SNR=6.1							
PAL	**Palisades**	**61.96**	**354**	P	P	20 11 53.8	+0.1	
PAL				pmax	pmax			
	comp=Z,29nm,1.1s							
PAL	**Palisades**	**61.96**	**354**	P	P	20 11 53.8	+0.1	
PAL	**Palisades**	**61.96**	**354**	P	P	20 11 53.7	0.0	
	baz=172							
P51A	**Williamsport**	**62.01**	**346**	P	P	20 11 53.6	-0.5	
P51A				IAmb	IAmb	20 11 54.9		
	comp=Z,47nm,0.9s							
P51A	**Williamsport**	**62.01**	**346**	P	P	20 11 54.2	+0.2	
	baz=163,SNR=8.5							
P51A				P	P	20 11 54.2	+0.2	
	baz=163,SNR=8.5							
S44A	**Carbondale**	**62.07**	**340**	P	P	20 11 53.4	-1.1	
S44A				IAmb	IAmb	20 11 56.6		
	comp=Z,68nm,1.1s							
S44A	**Carbondale**	**62.07**	**340**	P	P	20 11 54.9	+0.4	
	baz=156,SNR=8.4							
SIUC	**Southern Illin**	**62.08**	**340**	P	P	20 11 53.5	-1.0	
SIUC				IAmb	IAmb	20 11 56.7		
	comp=Z,80nm,1.2s							
N59A	**State Game Lan**	**62.09**	**352**	P	P	20 11 55.2	+0.6	
	baz=170							
ODNJ	**Ogdensburg**	**62.11**	**353**	P	P	20 11 55.0	+0.3	
ODNJ	**Ogdensburg**	**62.11**	**353**	P	P	20 11 55.8	+1.1	
	baz=172							
O54A	**Avella**	**62.11**	**348**	P	P	20 11 55.1	+0.3	
O54A	**Avella**	**62.11**	**348**	P	P	20 11 55.3	+0.6	
	baz=165							
O54A				P	P	20 11 55.3	+0.6	
	baz=165							
SSPA	**Standing Stone**	**62.12**	**350**	P	P	20 11 55.4	+0.7	
SSPA	**Standing Stone**	**62.12**	**350**	P	P	20 11 55.7	+1.0	
	baz=168,SNR=5.3							
SSPA	**Standing Stone**	**62.12**	**350**	P	P	20 11 55.0	+0.3	
	baz=168							
U40A	**Yellville**	**62.13**	**336**	P	P	20 11 54.2	-0.8	
U40A				IAmb	IAmb	20 11 56.1		
	comp=Z,45nm,0.8s							
U40A	**Yellville**	**62.13**	**336**	P	P	20 11 54.7	-0.3	
	baz=152,SNR=19							
U40A				P	P	20 11 54.7	-0.3	
	baz=152,SNR=19							
U40A	**Yellville**	**62.13**	**336**	P	P	20 11 54.8	-0.2	
	baz=152,SNR=19							
N58A	**Sunbury**	**62.14**	**351**	P	P	20 11 54.6	-0.3	
N58A	**Sunbury**	**62.14**	**351**	P	P	20 11 55.9	+1.0	
	baz=169,SNR=9.1							
N58A				P	P	20 11 55.9	+1.0	
	baz=169,SNR=9.1							
SNAA	**Sanae**	**62.14**	**161**	P	P	20 11 54.5	-0.2	
SNAA	**Sanae**	**62.14**	**161**	⇓eP	P	20 11 54.9	+0.2	
SNAA				pmax	pmax			
	comp=Z,25nm,1.7s							
SNAA	**Sanae**	**62.14**	**161**	P	P	20 11 55.1	+0.4	
O53A	**New Philadelph**	**62.34**	**347**	P	P	20 11 55.5	-0.8	
O53A				IAmb	IAmb	20 11 57.7		
	comp=Z,65nm,1.1s							
O53A	**New Philadelph**	**62.34**	**347**	P	P	20 11 56.4	+0.1	
	baz=165,SNR=10							
O52A	**Adamsville**	**62.34**	**347**	P	P	20 11 55.7	-0.6	
O52A				IAmb	IAmb	20 11 57.5		
	comp=Z,59nm,1.1s							
O52A	**Adamsville**	**62.34**	**347**	P	P	20 11 56.6	+0.3	
	baz=164,SNR=9.2							
O52A				P	P	20 11 56.6	+0.3	
	baz=164,SNR=9.2							
P49A	**Miami Univ. Ec**	**62.46**	**344**	P	P	20 11 56.0	-1.0	
P49A				IAmb	IAmb	20 11 57.5		
	comp=Z,40nm,0.8s							
P49A	**Miami Univ. Ec**	**62.46**	**344**	P	P	20 11 56.5	-0.5	
	baz=161,SNR=9.4							
P49A	**Miami Univ. Ec**	**62.46**	**344**	P	P	20 11 56.1	-0.9	
	baz=161,SNR=9.4							
HHAR	**Hobbs**	**62.48**	**335**	P	P	20 11 56.8	-0.5	
HHAR				IAmb	IAmb	20 11 58.5		
	comp=Z,69nm,0.9s							
HHAR	**Hobbs**	**62.48**	**335**	P	P	20 11 57.4	+0.1	
	baz=151							
P48A	**Milroy**	**62.58**	**344**	P	P	20 11 56.2	-1.6	
P48A	**Milroy**	**62.58**	**344**	P	P	20 11 57.2	-0.6	
	baz=160,SNR=6.9							
P48A				P	P	20 11 57.2	-0.6	
	baz=160,SNR=6.9							
BLO	**Bloomington**	**62.61**	**343**	P	P	20 11 57.0	-1.0	
BLO				pmax	pmax			
	comp=Z,54nm,0.7s							
BLO	**Bloomington**	**62.61**	**343**	P	P	20 11 57.0	-1.0	
BLO				IAmb	IAmb	20 11 58.6		
	comp=Z,54nm,0.7s							
MGMO	**Mountain Grove**	**62.62**	**337**	P	P	20 11 57.6	-0.6	
MGMO				IAmb	IAmb	20 11 59.5		
	comp=Z,86nm,1.0s							
OLIL	**Olney**	**62.66**	**341**	P	P	20 11 57.4	-0.9	
OLIL	**Olney**	**62.66**	**341**	P	P	20 11 58.1	-0.2	
	baz=157							
M57A	**Sunshine Farm,**	**62.69**	**351**	P	P	20 11 59.0	+0.5	
M57A				IAmb	IAmb	20 12 00.6		
	comp=Z,43nm,1.1s							
M57A	**Sunshine Farm,**	**62.69**	**351**	P	P	20 11 59.8	+1.3	
	baz=169,SNR=7.2							
M57A				P	P	20 11 59.8	+1.3	
	baz=169,SNR=7.2							
X34A	**Smith Ranch, M**	**62.69**	**331**		P	20 11 59.0	+0.3	
ACSO	**Alum Creek Sta**	**62.71**	**346**	P	P	20 11 58.0	-0.7	
ACSO				IAmb	IAmb	20 11 59.7		
	comp=Z,68nm,0.9s							
ACSO	**Alum Creek Sta**	**62.71**	**346**	P	P	20 11 58.6	-0.1	
	baz=163,SNR=15							
ACSO	**Alum Creek Sta**	**62.71**	**346**	P	P	20 11 58.4	-0.3	
	baz=163,SNR=15							
FVM	**French Village**	**62.72**	**339**	P	P	20 11 58.3	-0.5	
FVM				pmax	pmax			
	comp=Z,133nm,1.1s							
FVM	**French Village**	**62.72**	**339**	P	P	20 11 58.3	-0.5	
FVM	**French Village**	**62.72**	**339**	P	P	20 11 58.7	-0.1	
	baz=155,SNR=23							
KSPA	**Keystone Colle**	**62.72**	**352**	P	P	20 11 59.5	+0.8	
	baz=170							
NPNY	**Mohonk Preserv**	**62.73**	**354**	P	P	20 11 59.3	+0.5	
	baz=172							
W35A	**Tecumseh**	**62.73**	**332**		P	20 11 58.8	-0.2	
W35A				IAmb	IAmb	20 12 00.9		
	comp=Z,89nm,1.2s							
N54A	**Moraine State**	**62.79**	**349**	P	P	20 11 59.5	+0.3	
N54A				IAmb	IAmb	20 12 01.1		
	comp=Z,90nm,1.4s							
N54A	**Moraine State**	**62.79**	**349**	P	P	20 11 59.9	+0.7	
	baz=166,SNR=9.3							
N54A	**Moraine State**	**62.79**	**349**	P	P	20 11 59.6	+0.4	
	baz=166,SNR=9.3							
N53A	**Lisbon**	**62.80**	**348**	P	P	20 11 59.3	0.0	
N53A				IAmb	IAmb	20 12 00.9		
	comp=Z,44nm,1.1s							
N53A	**Lisbon**	**62.80**	**348**	P	P	20 12 00.2	+0.9	
	baz=165,SNR=5.9							
N53A				P	P	20 12 00.2	+0.9	
	baz=165,SNR=5.9							
TUL1	**Leonard**	**62.91**	**334**		P	20 11 59.8	-0.4	
TUL1	**Leonard**	**62.91**	**334**	P	P	20 12 01.0	+0.9	
	baz=149,SNR=10.0							
TUL1	**Leonard**	**62.91**	**334**	P	P	20 12 00.4	+0.3	
	baz=149,SNR=10.0							
O49A	**Covington**	**62.99**	**345**	P	P	20 12 00.1	-0.5	
O49A				IAmb	IAmb	20 12 01.2		
	comp=Z,45nm,0.9s							
O49A	**Covington**	**62.99**	**345**	P	P	20 12 00.2	-0.3	
	baz=161,SNR=12							
O49A				P	P	20 12 00.2	-0.3	
	baz=161,SNR=12							
FNO	**Franklin**	**63.05**	**332**		P	20 12 00.8	-0.2	
CCM	**Cathedral Cave**	**63.06**	**338**	P	P	20 12 00.5	-0.5	
CCM				pmax	pmax			
	comp=Z,111nm,0.9s							
CCM	**Cathedral Cave**	**63.06**	**338**	P	P	20 12 00.5	-0.5	
CCM	**Cathedral Cave**	**63.06**	**338**	P	P	20 12 00.9	-0.1	
	baz=154,SNR=44							
CCM	**Cathedral Cave**	**63.06**	**338**	P	P	20 12 00.9	-0.1	
	baz=154							
CCM	**Cathedral Cave**	**63.06**	**338**	⇓P	P	20 12 00.8	-0.2	
CCM				⇓pP	pP	20 13 01.2	+4.9	
M55A	**Ridgway**	**63.07**	**350**	P	P	20 12 01.3	+0.2	
M55A				IAmb	IAmb	20 12 02.6		
	comp=Z,63nm,1.2s						

baz=161,SNR=19
M54A Oil Creek Stat 63.26 349 P **P** **20 12 01.7 -0.7**
M54A IAmb IAmb 20 12 03.8
comp=Z,60nm,1.1s
M54A Oil Creek Stat 63.26 349 P **P** **20 12 02.8 +0.5**
baz=166,SNR=8.9
M54A Oil Creek Stat 63.26 349 P **P** **20 12 02.4 0.0**
baz=166,SNR=8.9
L61B Northampton 63.28 355 P **P** **20 12 02.1 -0.3**
baz=174
BINY Binghamton 63.38 352 P **P** **20 12 03.3 +0.3**
BINY IAmb IAmb 20 12 05.1
comp=Z,55nm,1.1s
BINY Binghamton 63.38 352 P **P** **20 12 03.9 +0.9**
baz=170,SNR=9.5
BINY Binghamton 63.38 352 P **P** **20 12 03.6 +0.6**
baz=170,SNR=9.5
M53A WI Miller and 63.38 348 P **P** **20 12 03.4 +0.3**
M53A IAmb IAmb 20 12 04.5
comp=Z,56nm,1.1s
M53A WI Miller and 63.38 348 P **P** **20 12 03.1 +0.1**
baz=165,SNR=5.2
S39A Bolivar 63.48 336 P **P** **20 12 03.0 -0.9**
S39A Bolivar 63.48 336 P **P** **20 12 04.0 +0.2**
baz=152,SNR=75
ALLY Alegheny Colle 63.49 349 P **P** **20 12 04.2 +0.4**
ALLY IAmb IAmb 20 12 05.2
comp=Z,84nm,1.2s
ALLY Alegheny Colle 63.49 349 P **P** **20 12 04.7 +0.9**
baz=166
L56A Greenwood 63.53 351 P **P** **20 12 04.6 +0.5**
L56A IAmb IAmb 20 12 05.7
comp=Z,49nm,1.2s
L56A Greenwood 63.53 351 P **P** **20 12 05.0 +0.9**
baz=168,SNR=5.6
L56A P **P** **20 12 05.0 +0.9**
baz=168,SNR=5.6
R40A Maddies Static 63.63 338 P **P** **20 12 04.2 -0.5**
R40A IAmb IAmb 20 12 05.7
comp=Z,57nm,0.8s
R40A Maddies Static 63.63 338 P **P** **20 12 04.6 -0.2**
baz=153,SNR=30
N49A Columbus Grove 63.65 345 P **P** **20 12 03.8 -1.0**
N49A IAmb IAmb 20 12 05.6
comp=Z,80nm,0.9s
N49A Columbus Grove 63.65 345 P **P** **20 12 04.6 -0.2**
baz=162,SNR=20
N49A P **P** **20 12 04.6 -0.2**
baz=162,SNR=20
TROLL Troll, Antarti 63.85 161 P **P** **20 12 05.4 -0.5**
SFIN Lafayette 63.89 343 P **P** **20 12 05.1 -1.3**
SFIN IAmb IAmb 20 12 06.4
comp=Z,43nm,0.7s
SFIN Lafayette 63.89 343 P **P** **20 12 05.7 -0.7**
baz=159,SNR=9.5
SFIN Lafayette 63.89 343 P **P** **20 12 05.1 -1.3**
baz=159,SNR=9.5
ERPA Erie 63.91 349 P **P** **20 12 06.0 -0.5**
ERPA IAmb IAmb 20 12 07.9
comp=Z,78nm,1.1s
ERPA Erie 63.91 349 P **P** **20 12 06.4 -0.2**
baz=166
ERPA Erie 63.91 349 P **P** **20 12 06.5 0.0**
baz=166
P43A Skaggs, Pawnee 63.93 340 P **P** **20 12 05.5 -1.2**
P43A IAmb IAmb 20 12 07.0
comp=Z,52nm,0.8s
P43A Skaggs, Pawnee 63.93 340 P **P** **20 12 05.9 -0.8**
baz=156,SNR=7.0
WVNY West Valley, N 63.96 350 P **P** **20 12 07.0 +0.1**
WVNY IAmb IAmb 20 12 08.6
comp=Z,54nm,1.2s
WVNY West Valley, N 63.96 350 P **P** **20 12 07.4 +0.6**
baz=168,SNR=6.7
N47A Urbana 63.98 344 P **P** **20 12 06.3 -0.7**
N47A IAmb IAmb 20 12 07.4
comp=Z,64nm,0.9s
N47A Urbana 63.98 344 P **P** **20 12 06.1 -0.9**
baz=160,SNR=9.0
N47A P **P** **20 12 06.1 -0.9**
baz=160,SNR=9.0
T35A Sooner Cattle 64.07 334 **P** **20 12 07.8 +0.1**
T35B Sooner Cattle 64.07 334 P **P** **20 12 08.3 +0.7**
baz=149,SNR=28
O44A Mansfield 64.08 341 P **P** **20 12 06.5 -1.1**
O44A IAmb IAmb 20 12 07.5
comp=Z,30nm,0.7s
MMNY Mt. Morris Dam 64.17 351 P **P** **20 12 08.2 0.0**
MMNY IAmb IAmb 20 12 09.7
comp=Z,69nm,1.3s
MNTX Cornudas Mount 64.18 324 P **P** **20 12 08.0 -0.5**
MNTX IAmb IAmb 20 12 10.3
comp=Z,70nm,1.1s
MNTX Cornudas Mount 64.18 324 P **P** **20 12 08.7 +0.2**
baz=140,SNR=61
MNTX Cornudas Mount 64.18 324 P **P** **20 12 08.4 -0.1**
baz=140,SNR=61
J58A Remsen 64.44 353 P **P** **20 12 10.8 +0.9**
J58A Remsen 64.44 353 P **P** **20 12 11.0 +1.1**
baz=171
J58A P **P** **20 12 11.0 +1.1**
baz=171
J59A Piesco 64.45 354 P **P** **20 12 10.9 +0.8**
J59A IAmb IAmb 20 12 12.0
comp=Z,41nm,1.0s
J59A Piesco 64.45 354 P **P** **20 12 11.1 +1.1**
baz=172,SNR=12
J59A P **P** **20 12 11.1 +1.1**
baz=172,SNR=12
MSTX Muleshoe 64.55 327 P **P** **20 12 10.9 0.0**
MSTX Muleshoe 64.55 327 P **P** **20 12 11.4 +0.5**
baz=142,SNR=63
MSTX Muleshoe 64.55 327 P **P** **20 12 11.3 +0.3**
baz=142,SNR=63
J56A Wolcott 64.55 352 P **P** **20 12 10.3 -0.3**
J57A Williamstown 64.57 352 P **P** **20 12 10.8 +0.1**
P40A Paris 64.66 338 P **P** **20 12 10.9 -0.5**
P40A IAmb IAmb 20 12 12.3
comp=Z,58nm,1.1s
P40A Paris 64.66 338 P **P** **20 12 10.5 -0.9**
baz=154,SNR=14
L48A N Adams 64.67 345 P **P** **20 12 10.7 -0.7**
L48A IAmb IAmb 20 12 11.9
comp=Z,38nm,0.7s
L48A N Adams 64.67 345 P **P** **20 12 11.2 -0.3**
baz=162,SNR=7.0
L48A P **P** **20 12 11.2 -0.3**
baz=162,SNR=7.0
HDIL Hopedale 64.69 341 P **P** **20 12 11.2 -0.4**
HDIL IAmb IAmb 20 12 11.8
comp=Z,43nm,0.8s
HDIL Hopedale 64.69 341 P **P** **20 12 11.2 -0.4**
baz=156
HDIL Hopedale 64.69 341 P **P** **20 12 10.2 -1.4**
baz=156
U32A Winter Ranch, 64.69 331 P **P** **20 12 12.3 +0.6**
AAM Ann Arbor 64.83 346 P **P** **20 12 11.9 -0.6**
baz=162
NCB Newcomb 64.93 354 P **P** **20 12 13.7 +0.6**
LBNH Lisbon 65.00 356 P **P** **20 12 14.4 +0.8**
baz=174
K50A Casco 65.06 347 P **P** **20 12 13.7 -0.3**
K50A IAmb IAmb 20 12 14.4
comp=Z,42nm,0.8s
K50A Casco 65.06 347 P **P** **20 12 14.3 +0.4**
baz=164
K50A P **P** **20 12 14.3 +0.4**
baz=164
WCNY West Carthage 65.09 353 P **P** **20 12 14.5 +0.4**
baz=171,SNR=6.5
L46A Eue Claire 65.20 344 P **P** **20 12 13.4 -1.4**
L46A IAmb IAmb 20 12 15.0
comp=Z,59nm,0.8s
PECO Prince Edward 65.22 352 P **P** **20 12 14.9 0.0**
P38A Dawn 65.27 337 P **P** **20 12 14.9 -0.4**
P38A IAmb IAmb 20 12 16.4
comp=Z,89nm,0.9s
P38A Dawn 65.27 337 P **P** **20 12 15.6 +0.3**
baz=152,SNR=28
N41A Harden Midland 65.32 340 P **P** **20 12 14.8 -0.8**
N41A IAmb IAmb 20 12 16.0
comp=Z,53nm,0.8s
N41A Harden Midland 65.32 340 P **P** **20 12 15.2 -0.4**
baz=155,SNR=8.2
HSIG 65.54 318 P **P** **20 12 17.2 -0.1**
HSIG IAmb IAmb 20 12 20.0
comp=Z,60nm,1.0s

LONY Lake Ozonia 65.61 354 P **P** **20 12 18.3 +0.9**
LONY Lake Ozonia 65.61 354 P **P** **20 12 18.0 +0.6**
baz=172,SNR=7.9
GGN Saint George 65.69 360 P **P** **20 12 18.6 +0.7**
GGN IAmb IAmb 20 12 22.9
comp=Z,63nm,1.2s
FRNY Flat Rock 65.72 355 P **P** **20 12 19.2 +1.0**
baz=173
G65A Princeton 65.78 359 P **P** **20 12 18.9 +0.5**
BMNY Brushton-Moira 65.82 354 P **P** **20 12 19.6 +0.9**
baz=172,SNR=9.6
DELO Deloro Mine 65.87 351 P **P** **20 12 19.4 +0.3**
PKME Peaks-Kenny Pk 65.89 358 P **P** **20 12 19.9 +0.7**
PKME Peaks-Kenny Pk 65.89 358 P **P** **20 12 20.7 +1.6**
baz=177
G62A West of Eustis 65.89 357 P **P** **20 12 20.2 +1.0**
G62A West of Eustis 65.89 357 P **P** **20 12 20.5 +1.3**
baz=176,SNR=6.8
G62A P **P** **20 12 20.5 +1.3**
baz=176,SNR=6.8
KSU1 Kansas State U 65.98 335 P **P** **20 12 19.9 +0.1**
KSU1 Kansas State U 65.98 335 P **P** **20 12 20.5 +0.6**
baz=149,SNR=14
KSU1 Kansas State U 65.98 335 P **P** **20 12 20.0 +0.1**
baz=149,SNR=14
J47A Sunmer 65.99 345 P **P** **20 12 19.0 -0.9**
J47A IAmb IAmb 20 12 20.4
comp=Z,46nm,0.7s
LIC Lamto 66.12 73 *e*P **P** **20 12 20.7 -0.6**
comp=Z,32nm,0.3s
L42A Oliver, Polo 66.13 341 P **P** **20 12 20.1 -0.6**
L42A Oliver, Polo 66.13 341 P **P** **20 12 21.0 +0.2**
baz=156
121A Cookes Peak, D 66.15 323 P **P** **20 12 22.1 +0.7**
121A Cookes Peak, D 66.15 323 P **P** **20 12 23.1 +1.8**
baz=138,SNR=64
121A Cookes Peak, D 66.15 323 P **P** **20 12 23.1 +1.8**
baz=138,SNR=64
319A Douglas 66.18 321 P **P** **20 12 22.8 +1.3**
I49A Point Hope 66.22 347 P **P** **20 12 21.5 +0.2**
baz=163
I49A P **P** **20 12 21.5 +0.2**
baz=163
R32A Long Quarter, 66.27 333 P **P** **20 12 22.1 +0.3**
R32A Long Quarter, 66.27 333 P **P** **20 12 22.7 +0.9**
baz=147,SNR=18
TIC Toumodi 66.31 73 *e*P **P** **20 12 21.4 -1.1**
F63A Nahmakanta, Br 66.32 358 P **P** **20 12 23.1 +1.3**
SADO Sadowa 66.35 350 P **P** **20 12 22.2 +0.1**
MNTQ Montreal, Queb 66.39 355 P **P** **20 12 23.0 +0.7**
K43A Burlington 66.39 343 P **P** **20 12 21.9 -0.5**
K43A Burlington 66.39 343 P **P** **20 12 22.1 -0.3**
baz=158,SNR=8.4
KIC Kosan Boka 66.43 73 *e*P **P** **20 12 22.2 -1.1**
comp=Z,180nm,0.5s
LMN Caledonia Moun 66.45 1 P **P** **20 12 22.7 0.0**
F64A Sherman 66.46 359 P **P** **20 12 22.8 +0.1**
F64A Sherman 66.46 359 P **P** **20 12 23.8 +1.0**
baz=178,SNR=8.3
F64A P **P** **20 12 23.8 +1.0**
baz=178,SNR=8.3
DBIC Dimbokro 66.47 73 P **P** **20 12 22.7 -0.8**
comp=Z,104nm,0.7s,baz=248,slow=6.2,SNR=95
DBIC pP **pP** **20 13 16.8 -2.4**
comp=Z,34nm,0.9s,baz=255,slow=7.0,SNR=3.6
DBIC Dimbokro 66.47 73 P **P** **20 12 22.3 -1.2**
L40A Anamosa 66.67 340 P **P** **20 12 23.2 -0.9**
L40A IAmb IAmb 20 12 24.9
comp=Z,122nm,1.4s
L40A Anamosa 66.67 340 P **P** **20 12 23.8 -0.4**
baz=155,SNR=12
BNM Barren Site 66.71 324 P **P** **20 12 26.0 +1.1**
Y22A Socorro 66.74 324 P **P** **20 12 26.6 +1.6**
baz=139,SNR=8.0
LENM Lemitar 66.91 324 P **P** **20 12 27.6 +1.4**
CBKS Cedar Bluff 67.04 332 P **P** **20 12 27.5 +0.8**
CBKS pmax pmax
comp=Z,187nm,0.8s
CBKS Cedar Bluff 67.04 332 P **P** **20 12 27.5 +0.8**
CBKS Cedar Bluff 67.04 332 P **P** **20 12 27.9 +1.3**
baz=146,SNR=16
CBKS Cedar Bluff 67.04 332 P **P** **20 12 27.6 +1.0**
baz=146,SNR=16
N35A Tabor 67.13 336 P **P** **20 12 27.1 0.0**
N35A Tabor 67.13 336 P **P** **20 12 27.4 +0.3**
baz=150
JFWS Jewell Farm 67.14 341 P **P** **20 12 26.6 -0.5**
JFWS pmax pmax
comp=Z,75nm,1.1s
JFWS Jewell Farm 67.14 341 P **P** **20 12 26.6 -0.5**
JFWS IAmb IAmb 20 12 28.0
comp=Z,75nm,1.1s
JFWS Jewell Farm 67.14 341 P **P** **20 12 27.1 0.0**
baz=156,SNR=10.0
JFWS Jewell Farm 67.14 341 P **P** **20 12 26.9 -0.2**
baz=156,SNR=10.0
SCIA State Center 67.18 339 P **P** **20 12 27.0 -0.4**
SCIA IAmb IAmb 20 12 28.8
comp=Z,68nm,0.7s
SCIA State Center 67.18 339 P **P** **20 12 27.0 -0.4**
baz=153
TRQ Mont Tremblant 67.19 354 P **P** **20 12 27.5 +0.1**
ANMO Albuquerque 67.22 325 *d* P **P** **20 12 29.3 +1.2**
ANMO pmax pmax
comp=Z,61nm,1.1s
ANMO Albuquerque 67.22 325 P **P** **20 12 28.8 +0.7**
ANMO IAmb IAmb 20 12 30.8
comp=Z,72nm,1.1s
ANMO Albuquerque 67.22 325 P **P** **20 12 29.5 +1.4**
baz=140,SNR=55
ANMO Albuquerque 67.22 325 P **P** **20 12 29.4 +1.4**
baz=140
ANMO Albuquerque 67.22 325 ⇓P **P** **20 12 29.6 +1.4**
ANMO pP pP 20 13 32.8 +8.8
ANMO sP **sP** **20 13 49.7 -0.3**
I42A Draeger Farm, 67.65 343 P **P** **20 12 29.6 -0.7**
I42A IAmb IAmb 20 12 31.2
comp=Z,38nm,0.8s
I42A Draeger Farm, 67.65 343 P **P** **20 12 30.1 -0.2**
baz=157,SNR=10
K38A Parkersburg 67.69 339 P **P** **20 12 29.8 -0.8**
K38A IAmb IAmb 20 12 31.3
comp=Z,89nm,1.1s
D62A Allapoint, All 67.69 358 P **P** **20 12 31.2 +0.8**
D62A Allapoint, All 67.69 358 P **P** **20 12 31.6 +1.1**
baz=178,SNR=8.3
D62A P **P** **20 12 31.6 +1.1**
baz=178,SNR=8.3
N33B J Bar K, Exete 67.71 335 P **P** **20 12 31.9 +1.1**
baz=149
N33A J Bar K, Exete 67.72 335 P **P** **20 12 31.0 +0.2**
TUC Tucson 67.74 320 P **P** **20 12 32.3 +1.1**
TUC pmax pmax
comp=Z,83nm,1.1s
TUC Tucson 67.74 320 P **P** **20 12 32.3 +1.1**
TUC IAmb IAmb 20 12 34.2
comp=Z,83nm,1.1s
TUC Tucson 67.74 320 P **P** **20 12 32.9 +1.7**
baz=135
BATG Bathurst New B 67.85 0 P **P** **20 12 33.1 +1.6**
BATG IAmb IAmb 20 12 37.5
comp=Z,59nm,1.3s
T25A Trinidad 67.86 328 P **P** **20 12 33.1 +1.1**
T25A IAmb IAmb 20 12 34.8
comp=Z,76nm,1.1s
T25A Trinidad 67.86 328 P **P** **20 12 33.5 +1.4**
baz=142,SNR=26
H43A Windswept, Lux 67.88 344 P **P** **20 12 31.2 -0.5**
H43A IAmb IAmb 20 12 32.3
comp=Z,39nm,0.8s
H43A Windswept, Lux 67.88 344 P **P** **20 12 31.4 -0.3**
baz=159,SNR=9.0
G45A Suttons Bay 67.89 346 P **P** **20 12 31.5 -0.3**
G45A IAmb IAmb 20 12 40.2
comp=Z,29nm,0.7s
I40A Norwalk 68.14 341 P **P** **20 12 33.6 +0.3**
baz=156
LATQ La Tuque 68.19 355 P **P** **20 12 33.6 +0.1**
LMQ La Malbaie 68.21 357 P **P** **20 12 34.2 +0.5**
L34A Svendsen Farm, 68.36 336 P **P** **20 12 34.3 -0.4**
L34A Svendsen Farm, 68.36 336 P **P** **20 12 35.5 +0.7**
baz=150,SNR=5.8
KSCO Kaye Shedlock' 68.50 330 P **P** **20 12 36.5 +0.7**
KSCO IAmb IAmb 20 12 38.4
comp=Z,78nm,0.9s
KSCO Kaye Shedlock' 68.50 330 P **P** **20 12 38.1 +2.3**
baz=144
KSCO Kaye Shedlock' 68.50 330 P **P** **20 12 37.0 +1.2**
baz=144
BGNE Belgrade 68.56 335 P **P** **20 12 36.5 +0.5**
BGNE Belgrade 68.56 335 P **P** **20 12 36.8 +0.8**
baz=148,SNR=25
BGNE Belgrade 68.56 335 P **P** **20 12 36.5 +0.5**
baz=148,SNR=25
214A Organ Pipe Nat 68.72 319 P **P** **20 12 38.5 +1.2**
214A IAmb IAmb 20 12 40.6
comp=Z,90nm,1.1s
214A Organ Pipe Nat 68.72 319 P **P** **20 12 39.0 +1.7**
baz=134,SNR=53
X18A Snowflake 68.84 323 P **P** **20 12 38.2 0.0**
E46A Sault Ste Mari 68.85 347 P **P** **20 12 36.6 -1.1**
E46A IAmb IAmb 20 12 38.4
comp=Z,40nm,0.7s
E46A Sault Ste Mari 68.85 347 P **P** **20 12 37.3 -0.3**
baz=162,SNR=12
SDCO Great Sand Dun 68.88 328 P **P** **20 12 39.4 +1.0**
SDCO Great Sand Dun 68.88 328 P **P** **20 12 39.9 +1.4**
baz=141,SNR=167
I37A Lemond, Waseca 69.12 340 P **P** **20 12 39.3 -0.1**
I37A IAmb IAmb 20 12 40.5
comp=Z,88nm,1.1s
I37B Waseca 69.12 340 P **P** **20 12 39.8 +0.4**
baz=153,SNR=13
W18A Petrified Fore 69.15 323 P **P** **20 12 41.3 +1.3**
W18A Petrified Fore 69.15 323 P **P** **20 12 41.6 +1.6**
baz=137,SNR=11
G40A Rib Lake 69.28 342 P **P** **20 12 40.1 -0.2**
G40A Rib Lake 69.28 342 P **P** **20 12 40.4 0.0**
baz=156,SNR=7.1
QSPA South Pole Qui 69.29 180 ⇓P **P** **20 12 41.5 +1.1**
QSPA pP **pP** **20 13 40.6 +3.8**
VLDQ Val d'Or 69.38 352 P **P** **20 12 41.0 +0.1**
E43A Lone Tree Farm 69.46 345 P **P** **20 12 40.9 -0.5**
E43A Lone Tree Farm 69.46 345 P **P** **20 12 41.4 -0.1**
baz=160,SNR=6.0
S22A 4UR Ranch, Cre 69.55 327 P **P** **20 12 43.1 +0.5**
S22A 4UR Ranch, Cre 69.55 327 P **P** **20 12 43.9 +1.4**
baz=140,SNR=21
X16A Lo Mia Camp, P 69.62 322 P **P** **20 12 44.6 +1.7**
X16A IAmb IAmb 20 12 46.2
comp=Z,69nm,1.0s
Q24A Divide 69.65 329 P **P** **20 12 44.3 +1.1**
Q24A IAmb IAmb 20 12 45.9
comp=Z,98nm,1.1s
Q24A Divide 69.65 329 P **P** **20 12 44.6 +1.4**
baz=142,SNR=30
COWI Conover 69.75 343 P **P** **20 12 43.2 -0.1**
COWI Conover 69.75 343 P **P** **20 12 43.5 +0.3**
baz=158
OGNE Ogallala 69.80 332 P **P** **20 12 45.0 +1.3**
OGNE Ogallala 69.80 332 P **P** **20 12 45.2 +1.5**
baz=145,SNR=7.9
OGNE Ogallala 69.80 332 P **P** **20 12 44.8 +1.1**
baz=145,SNR=7.9
K31A O'Neill 69.83 335 P **P** **20 12 44.2 +0.4**
K31A IAmb IAmb 20 12 45.5
comp=Z,73nm,0.8s
113A Mohawk Valley, 69.87 319 P **P** **20 12 45.4 +1.2**
ECSD EROS Data Cent 69.98 337 P **P** **20 12 44.5 -0.1**
ECSD IAmb IAmb 20 12 45.8
comp=Z,53nm,1.0s
ECSD EROS Data Cent 69.98 337 P **P** **20 12 44.8 +0.1**
baz=150,SNR=35
ECSD EROS Data Cent 69.98 337 P **P** **20 12 44.5 -0.1**
baz=150,SNR=35
SPMN Marine on St. 70.01 341 P **P** **20 12 44.5 -0.3**
SPMN IAmb IAmb 20 12 45.6
comp=Z,45nm,0.8s
SPMN Marine on St. 70.01 341 P **P** **20 12 44.9 +0.1**
baz=154,SNR=9.8
SPMN Marine on St. 70.01 341 P **P** **20 12 44.5 -0.3**
baz=154,SNR=9.8
MVCO Mesa Verde 70.01 325 P **P** **20 12 46.5 +1.1**
MVCO Mesa Verde 70.01 325 P **P** **20 12 46.9 +1.5**
baz=138,SNR=42
Y14A Wickenburg 70.21 320 P **P** **20 12 47.5 +1.1**
Y14A IAmb IAmb 20 12 49.4
comp=Z,49nm,0.9s
WUAZ Wupatki 70.36 322 P **P** **20 12 49.0 +1.6**
WUAZ Wupatki 70.36 322 P **P** **20 12 49.4 +2.1**
baz=136,SNR=42
D41A Chassel 70.49 344 P **P** **20 12 47.8 +0.1**
D41A IAmb IAmb 20 12 49.2
comp=Z,57nm,0.9s
D41A Chassel 70.49 344 P **P** **20 12 48.3 +0.6**
baz=158,SNR=9.2
ISCO Idaho Springs 70.53 329 P **P** **20 12 49.6 +1.1**
ISCO pmax pmax
comp=Z,74nm,1.3s
ISCO Idaho Springs 70.53 329 P **P** **20 12 49.6 +1.1**
ISCO IAmb IAmb 20 12 51.2
comp=Z,74nm,1.3s
ISCO Idaho Springs 70.53 329 P **P** **20 12 50.0 +1.5**
baz=141,SNR=32
ISCO Idaho Springs 70.53 329 P **P** **20 12 49.9 +1.5**
baz=141,SNR=32
GLA Glamis 70.71 318 P **P** **20 12 51.0 +1.6**
GLA pmax pmax
comp=Z,52nm,1.0s
GLA Glamis 70.71 318 P **P** **20 12 51.0 +1.6**
GLA IAmb IAmb 20 12 52.4
comp=Z,52nm,1.0s
GLA Glamis 70.71 318 P **P** **20 12 51.3 +1.9**
baz=132,SNR=9.6
SMCO Snowmass 70.71 328 P **P** **20 12 50.8 +1.1**
SMCO IAmb IAmb 20 12 52.8
comp=Z,54nm,1.1s
KOWA Kowa 70.77 66 P **P** **20 12 49.0 -1.1**
KOWA IAmb IAmb 20 12 50.4
comp=Z,49nm,0.8s
KOWA Kowa 70.77 66 P **P** **20 12 49.9 -0.1**
KOWA Kowa 70.77 66 ⇑P **P** **20 12 49.0 -1.1**
KOWA pP **pP** **20 13 46.8 +0.5**
F36A Milaca 70.81 340 P **P** **20 12 49.0 -0.6**
F36A IAmb IAmb 20 12 50.5
comp=Z,47nm,0.8s
F36A Milaca 70.81 340 P **P** **20 12 49.4 -0.2**
baz=153,SNR=29
PV15 Paradox Valley 70.85 326 P **P** **20 12 52.0 +1.7**
E38A The Farm, Brul 70.89 342 P **P** **20 12 50.0 0.0**
E38A IAmb IAmb 20 12 51.1
comp=Z,49nm,1.0s
E38A The Farm, Brul 70.89 342 P **P** **20 12 50.0 0.0**
baz=155,SNR=5.5
PV13 Radium Mtn., P 70.89 326 P **P** **20 12 51.8 +1.2**
PV13 IAmb IAmb 20 12 53.5
comp=Z,72nm,1.1s
BLYC Blythe 71.00 319 P **P** **20 12 52.6 +1.6**
BLYC IAmb IAmb 20 12 54.3
comp=Z,81nm,1.1s
PV07 Paradox Valley 71.01 326 P **P** **20 12 52.5 +1.2**
PV07 IAmb IAmb 20 12 54.3
comp=Z,74nm,1.2s
PV11 David Mesa, Pa 71.02 326 P **P** **20 12 52.7 +1.4**
YUH Yuha Desert 71.13 317 P **P** **20 12 53.5 +1.7**
PDMCI Parker Dam,Lak 71.14 320 P **P** **20 12 53.6 +1.7**
baz=133,SNR=9.1
PV10 Paradox Valley 71.17 326 P **P** **20 12 53.4 +1.2**
PV10 IAmb IAmb 20 12 54.6
comp=Z,65nm,1.1s
PV23 Carpenter Ridg 71.21 326 P **P** **20 12 54.1 +1.5**
SWSC Sam W. Stewart 71.25 318 P **P** **20 12 54.4 +1.9**
baz=132,SNR=9.5
IKP In-Ko-Pah, Jac 71.25 317 P **P** **20 12 54.6 +1.9**
baz=131,SNR=12
SUSD Miller 71.45 336 P **P** **20 12 53.5 0.0**
SUSD IAmb IAmb 20 12 55.2
comp=Z,87nm,0.9s
SUSD Miller 71.45 336 P **P** **20 12 54.5 +1.0**
baz=148,SNR=9.2
SUSD Miller 71.45 336 P **P** **20 12 53.6 0.0**
baz=148,SNR=9.2
BC3 Big Chuckawall 71.51 318 P **P** **20 12 56.0 +1.8**
baz=132,SNR=32
U15A North Rim 71.53 322 P **P** **20 12 55.7 +1.2**
U15A IAmb IAmb 20 12 58.2
comp=Z,81nm,0.9s
W13A Hualapai Mount 71.53 321 P **P** **20 12 56.2 +1.8**
N23A Red Feather La 71.54 330 P **P** **20 12 55.5 +1.1**
N23A Red Feather La 71.54 330 P **P** **20 12 55.9 +1.5**
baz=141,SNR=18
MONP2 Monument Peak 71.61 317 P **P** **20 12 56.8 +1.8**

baz=131,SNR=14
BAR Barrett 71.63 317 P **P** **20 12 56.2 +1.4**
BAR IAmb IAmb 20 12 57.9
comp=Z,44nm,0.9s
PHWY Pilot Hill 71.63 330 P **P** **20 12 55.8 +0.8**
PHWY IAmb IAmb 20 12 57.7
comp=Z,98nm,1.5s
IRM Iron Mountain 71.65 319 P **P** **20 12 56.8 +1.8**
baz=132,SNR=35
F33A 5 Mile Ranch, 71.69 339 P **P** **20 12 54.2 -0.7**
F33A 5 Mile Ranch, 71.69 339 P **P** **20 12 54.8 -0.2**
baz=151,SNR=7.7
NEE2 Needles Airpor 71.75 320 P **P** **20 12 57.2 +1.7**
baz=133
109C Camp Elliot, M 72.04 317 P **P** **20 12 57.0 -0.3**
109C Camp Elliot, M 72.04 317 P **P** **20 12 58.5 +1.3**
baz=131
BELC Belle Mtn. Jos 72.07 318 P **P** **20 12 59.5 +1.8**
baz=132,SNR=27
O20A White River Ci 72.08 328 P **P** **20 12 58.7 +1.2**
O20A IAmb IAmb 20 13 00.5
comp=Z,88nm,1.0s
O20A White River Ci 72.08 328 P **P** **20 12 59.2 +1.6**
baz=139,SNR=20
EYMN Ely 72.09 343 P **P** **20 12 56.5 -0.7**
EYMN Ely 72.09 343 P **P** **20 12 56.8 -0.4**
baz=156,SNR=7.7
EYMN Ely 72.09 343 P **P** **20 12 56.8 -0.4**
baz=156,SNR=7.7
TPFO Pinon Flats 72.10 318 P **P** **20 12 59.6 +1.8**
baz=131,SNR=16
PFO Pinyon Flats O 72.11 318*d i* P **P** **20 12 59.3 +1.5**
PFO pmax pmax
comp=Z,75nm,1.1s
PFO Pinyon Flats O 72.11 318 P **P** **20 12 59.0 +1.2**
PFO Pinyon Flats O 72.11 318 P **P** **20 12 59.5 +1.7**
baz=131,SNR=16
KNB Kanab 72.25 323 P **P** **20 13 00.3 +1.7**
KNB pmax pmax
comp=Z,209nm,1.0s
KNB Kanab 72.25 323 P **P** **20 13 00.3 +1.7**
PKCU Pink Cliffs 72.26 323 P **P** **20 13 00.8 +1.9**
GMRC Granite Mounta 72.39 319 P **P** **20 13 01.5 +2.1**
baz=132,SNR=86
LCMT Little Creek M 72.49 322 P **P** **20 13 01.5 +1.6**
LCMT IAmb IAmb 20 13 03.3
comp=Z,46nm,0.9s
SRU San Rafael Swe 72.49 326 P **P** **20 13 00.8 +0.8**
SRU pmax pmax
comp=Z,83nm,0.8s
SRU San Rafael Swe 72.49 326 P **P** **20 13 00.8 +0.8**
SRU IAmb IAmb 20 13 02.8
comp=Z,83nm,0.8s
MURC Murrieta 72.56 317 P **P** **20 13 02.3 +2.0**
baz=131
MTPU Mount Pierson 72.62 324 P **P** **20 13 02.2 +1.2**
MTPU IAmb IAmb 20 13 04.1
comp=Z,44nm,0.9s
Q16A Castle Valley 72.69 325 P **P** **20 13 02.4 +1.1**
Q16A IAmb IAmb 20 13 05.2
comp=Z,72nm,1.1s
P18A Preston Nutter 72.72 326 P **P** **20 13 03.1 +1.5**
P18A IAmb IAmb 20 13 04.7
comp=Z,85nm,0.9s
ELS Elsinore Mount 72.74 317 P **P** **20 13 02.5 +1.0**
ELS IAmb IAmb 20 13 04.6
comp=Z,44nm,0.9s
RWWY Rawlins 72.76 329 P **P** **20 13 03.3 +1.7**
RWWY IAmb IAmb 20 13 04.5
comp=Z,63nm,1.1s
SZCU Shurtz Canyon 72.81 323 P **P** **20 13 04.1 +2.2**
BBRC Big Bear Solar 72.82 318 P **P** **20 13 04.2 +2.1**
baz=131
HEC Hector,Ludlow 72.83 319 P **P** **20 13 04.1 +2.1**
baz=132,SNR=47
P17A Butcher Ranch, 72.87 326 P **P** **20 13 03.5 +1.3**
CCUT Cedar City 72.93 323 P **P** **20 13 04.8 +2.1**
CCUT IAmb IAmb 20 13 06.6
comp=Z,96nm,1.0s
MSU Marysvale 72.95 324 P **P** **20 13 04.7 +1.9**
MSU Marysvale 72.95 324 P **P** **20 13 04.7 +1.9**
TUQ Turquoise Moun 72.98 320 P **P** **20 13 04.7 +1.8**
baz=132
TMUT Trail Mountain 72.99 325 P **P** **20 13 04.4 +1.3**
SCI2 San Clemente I 73.03 316 P **P** **20 13 04.9 +1.8**
baz=130
D32A Dogwood Acres, 73.07 339 P **P** **20 13 03.1 +0.1**
RDMU Red Mountain 73.07 327 P **P** **20 13 04.3 +0.9**
RDMU IAmb IAmb 20 13 06.1
comp=Z,50nm,0.8s
B35A Bob, Littlefor 73.11 341 P **P** **20 13 02.7 -0.4**
B35A IAmb IAmb 20 13 04.3
comp=Z,50nm,0.9s
B35A Bob, Littlefor 73.11 341 P **P** **20 13 03.3 +0.1**
baz=154,SNR=26
TCRU Three Creeks R 73.17 324 P **P** **20 13 06.1 +2.0**
TCRU IAmb IAmb 20 13 07.5
comp=Z,51nm,1.0s
K22A Casper 73.18 330 P **P** **20 13 04.9 +1.0**
K22A IAmb IAmb 20 13 06.7
comp=Z,48nm,1.1s
K22A Casper 73.18 330 P **P** **20 13 05.8 +1.9**
baz=141,SNR=7.3
K22A Casper 73.18 330 P **P** **20 13 05.2 +1.3**
baz=141,SNR=7.3
CIS Catalina Islan 73.21 317 P **P** **20 13 05.8 +1.6**
baz=130
RSSD Black Hills 73.23 333 P **P** **20 13 05.0 +0.7**
RSSD pmax pmax
comp=Z,38nm,1.1s
RSSD Black Hills 73.23 333 P **P** **20 13 05.0 +0.7**
RSSD Black Hills 73.23 333 P **P** **20 13 05.4 +1.1**
baz=144,SNR=19
RSSD Black Hills 73.23 333 P **P** **20 13 05.6 +1.2**
baz=144
SHPR Sheep Range 73.25 321 P **P** **20 13 06.1 +1.6**
BFSC Mount Baldy Ra 73.27 318 P **P** **20 13 06.4 +1.8**
baz=131,SNR=17
RRX Edison Barstow 73.27 319 P **P** **20 13 06.6 +2.1**
baz=131
FMP Fort Macarthur 73.33 317 P **P** **20 13 06.7 +1.9**
baz=130
GSC Goldstone, Bar 73.43 319 P **P** **20 13 07.0 +1.5**
GSC pmax pmax
comp=Z,77nm,1.3s
GSC Goldstone, Bar 73.43 319 P **P** **20 13 07.0 +1.5**
GSC IAmb IAmb 20 13 08.9
comp=Z,76nm,1.2s
GSC Goldstone, Bar 73.43 319 P **P** **20 13 07.5 +2.0**
baz=132,SNR=30
SHOC Shoshone, Teco 73.51 320 P **P** **20 13 07.3 +1.5**
baz=132
PASC Pasadena Art C 73.56 317 P **P** **20 13 07.5 +1.4**
PASC IAmb IAmb 20 13 09.2
comp=Z,60nm,1.0s
DECC Green Verdugo 73.70 317 P **P** **20 13 08.5 +1.4**
baz=130
AGMN Agassiz Nation 73.71 340 P **P** **20 13 06.5 -0.1**
AGMN IAmb IAmb 20 13 08.0
comp=Z,43nm,0.9s
AGMN Agassiz Nation 73.71 340 P **P** **20 13 07.0 +0.3**
baz=152,SNR=6.6
AGMN Agassiz Nation 73.71 340 P **P** **20 13 06.7 0.0**
baz=152,SNR=6.6
MPU Maple Canyon 73.74 326 P **P** **20 13 08.3 +1.0**
MPU IAmb IAmb 20 13 10.4
comp=Z,79nm,1.1s
PRN Pahroc Range 73.80 322 P **P** **20 13 09.6 +2.0**
PRN IAmb IAmb 20 13 11.3
comp=Z,63nm,1.1s
SNCC San Nicolas Is 73.83 316 P **P** **20 13 09.0 +1.3**
baz=129
EDW2 Edwards Air Fo 73.89 318 P **P** **20 13 09.6 +1.4**
baz=131,SNR=17
PSUT Pine Spring 73.89 323 P **P** **20 13 09.8 +1.5**
PSUT IAmb IAmb 20 13 11.6
comp=Z,44nm,0.9s
E28A Huff 73.91 336 P **P** **20 13 08.6 +0.7**
QSM Queen of Sheba 73.91 319 P **P** **20 13 09.7 +1.6**
QSM IAmb IAmb 20 13 11.1
comp=Z,45nm,1.0s
NLU North Lily Min 73.93 325 P **P** **20 13 09.3 +0.8**
NLU IAmb IAmb 20 13 11.7
comp=Z,58nm,1.1s
GWY Greenwater Val 73.94 320 P **P** **20 13 09.7 +1.2**
GWY IAmb IAmb 20 13 11.4
comp=Z,63nm,0.9s
JLU Jordanelle 74.06 326 P **P** **20 13 10.6 +1.4**
JLU IAmb IAmb 20 13 12.3
comp=Z,67nm,0.9s
CCAC Calif City Air 74.08 318 P **P** **20 13 10.7 +1.5**
CCAC IAmb IAmb 20 13 12.3
comp=Z,70nm,0.8s
LRMC Laurel Mtn Rad 74.09 319 P **P** **20 13 11.2 +1.8**
baz=131
OSI Osito Audit: C 74.18 317 P **P** **20 13 11.1 +1.2**
baz=130
TPNV Topopah Spring 74.19 321 P **P** **20 13 11.9 +1.9**
TPNV pmax pmax
comp=Z,87nm,1.1s
TPNV Topopah Spring 74.19 321 P **P** **20 13 11.9 +1.9**
TPNV IAmb IAmb 20 13 13.6
comp=Z,86nm,1.1s
TPNV Topopah Spring 74.19 321 P **P** **20 13 12.2 +2.2**
baz=132,SNR=29
FURC Furnace Creek, 74.24 320 P **P** **20 13 12.2 +2.2**
baz=132,SNR=16
CTU Camp Tracy 74.29 326 P **P** **20 13 11.9 +1.5**
MPMC Manual Prospec 74.35 319 P **P** **20 13 12.4 +1.5**
baz=131,SNR=33
S11A Rachel 74.37 321 P **P** **20 13 13.0 +2.1**
S11A IAmb IAmb 20 13 14.8
comp=Z,60nm,1.1s
DUG Dugway, Tooele 74.50 325 P **P** **20 13 12.8 +1.2**
DUG pmax pmax
comp=Z,66nm,1.1s
DUG Dugway, Tooele 74.50 325 P **P** **20 13 12.8 +1.2**
DUG IAmb IAmb 20 13 14.9
comp=Z,66nm,1.1s
DUG Dugway, Tooele 74.50 325 P **P** **20 13 13.4 +1.8**
baz=136,SNR=37
ARVC Arvin 74.58 318 P **P** **20 13 13.7 +1.7**
baz=130
MDND Maddock 74.58 338 P **P** **20 13 12.5 +0.8**
MDND Maddock 74.58 338 P **P** **20 13 12.9 +1.2**
baz=148,SNR=7.8
MDND Maddock 74.58 338 P **P** **20 13 12.7 +0.9**
baz=148,SNR=7.8
ISA Isabella, Lake 74.70 318 P **P** **20 13 14.5 +1.7**
ISA pmax pmax
comp=Z,58nm,0.8s
ISA Isabella, Lake 74.70 318 P **P** **20 13 14.5 +1.7**
ISA IAmb IAmb 20 13 16.1
comp=Z,58nm,0.8s
ISA Isabella, Lake 74.70 318 P **P** **20 13 14.8 +2.0**
baz=130,SNR=20
BW06 Boulder Array 74.71 329 P **P** **20 13 13.2 +0.3**
BW06 Boulder Array 74.71 329 P **P** **20 13 13.8 +0.9**
baz=139,SNR=25
PD31 Pinedale Array 74.71 329 P **P** **20 13 13.1 +0.2**
PDAR Pinedale Array 74.71 329 P **P** **20 13 13.7 +0.8**
comp=Z,3.1nm,0.4s,baz=131,slow=8.1,SNR=64
PDAR Pinedale Array 74.71 329 P **P** **20 13 13.0 +0.1**
R11A Troy Canyon, C 74.75 322 P **P** **20 13 14.6 +1.4**
R11A IAmb IAmb 20 13 16.8
comp=Z,67nm,1.2s
R11A Troy Canyon, C 74.75 322 P **P** **20 13 15.3 +2.1**
baz=133,SNR=62
BCW Bitter Crk WRg 74.83 317 P **P** **20 13 15.5 +2.0**
BCW IAmb IAmb 20 13 16.9
comp=Z,74nm,1.0s
HWUT Hardware Ranch 74.86 327 P **P** **20 13 14.3 +0.6**
GRAC Grapevine Rang 74.89 320 P **P** **20 13 14.9 +1.1**
GRAC Grapevine Rang 74.89 320 P **P** **20 13 15.9 +2.1**
baz=132
CWC Cottonwood Cre 74.96 319 P **P** **20 13 16.3 +1.9**
baz=131
PKM Mcpherson Peak 75.05 317 P **P** **20 13 16.9 +2.0**
baz=129,SNR=30
TOA0 Torodi Ar. Sit 75.09 69 P **P** **20 13 14.2 -1.2**
TORD Torodi Ar. Bea 75.09 69 P **P** **20 13 14.5 -0.9**
comp=Z,90nm,0.5s,baz=258,slow=6.0,SNR=1013
TORD pP **pP** **20 14 10.9 -1.3**
comp=Z,59nm,0.7s,baz=250,slow=5.9,SNR=10
TORD S **S** **20 22 27.0 -7.1**
comp=Z,5.2nm,1.1s,baz=252,slow=9.0,SNR=12
TORD Torodi Ar. Bea 75.09 69 P **P** **20 13 14.2 -1.2**
BGU Big Grassy Mou 75.13 325 P **P** **20 13 15.9 +0.6**
BGU IAmb IAmb 20 13 18.1
comp=Z,76nm,1.1s
VES Vestal, Richgr 75.19 318 P **P** **20 13 17.1 +1.6**
baz=130,SNR=9.5
LCH Last Change Ra 75.22 320 P **P** **20 13 16.4 +0.6**
SCHQ Schefferville 75.42 360 P **P** **20 13 16.5 +0.1**
comp=Z,18nm,0.9s,baz=186,slow=3.7,SNR=21
SCHQ pP **pP** **20 14 12.6 -1.4**
comp=Z,8.1nm,0.9s,baz=127,slow=4.9,SNR=2.9
SCHQ Schefferville 75.42 360 P **P** **20 13 16.2 -0.2**
SCHQ pP **pP** **20 14 12.6 -1.4**
ULM Lac du Bonnet 75.43 341 P **P** **20 13 16.4 -0.1**
comp=Z,33nm,0.7s,baz=151,slow=5.8,SNR=43
ULM pP **pP** **20 14 14.4 +0.6**
comp=Z,16nm,0.8s,baz=148,slow=6.6,SNR=2.7
ULM S **S** **20 22 31.8 -4.6**
comp=Z,1.9nm,0.6s,baz=48,slow=21,SNR=2.0
ULM Lac du Bonnet 75.43 341 P **P** **20 13 16.3 -0.2**
ULM IAmb IAmb 20 13 17.7
comp=Z,53nm,0.9s
ULM pP **pP** **20 14 14.4 +0.6**
SMMC Simmler 75.43 317 P **P** **20 13 19.2 +2.3**
baz=129
TIN Tinemaha, Big 75.45 320 P **P** **20 13 19.3 +2.2**
baz=131
AHID Auburn Hatcher 75.47 328 P **P** **20 13 18.2 +1.1**
AHID IAmb IAmb 20 13 19.8
comp=Z,65nm,0.8s
TPH Tonopah 75.52 321 P **P** **20 13 18.9 +1.3**
TPH pmax pmax
comp=Z,287nm,1.2s
TPH Tonopah 75.52 321 P **P** **20 13 18.9 +1.3**
HVU Hansel Valley 75.61 326 P **P** **20 13 18.9 +1.0**
HVU pmax pmax
comp=Z,88nm,1.3s
HVU Hansel Valley 75.61 326 P **P** **20 13 18.9 +1.0**
HVU IAmb IAmb 20 13 20.6
comp=Z,88nm,1.3s
VOG Valley Oaks Go 75.69 318 P **P** **20 13 19.2 +1.0**
baz=130
TTIG Tnine Tigouga, 75.72 49 P **P** **20 13 21.0 +2.2**
REDW Red Top Meadow 75.78 328 P **P** **20 13 19.9 +0.9**
REDW IAmb IAmb 20 13 21.8
comp=Z,48nm,0.9s
SNOW Snow King Moun 75.81 328 P **P** **20 13 19.9 +0.7**
SNOW IAmb IAmb 20 13 22.1
comp=Z,43nm,1.0s
ECR Eagle Creek 75.81 328 P **P** **20 13 20.4 +1.2**
LOHW Long Hollow 75.85 329 P **P** **20 13 19.9 +0.5**
LOHW IAmb IAmb 20 13 21.6
comp=Z,50nm,1.1s
PAGB Antelope Grade 75.86 317 P **P** **20 13 21.0 +1.7**
PAGB IAmb IAmb 20 13 22.5
comp=Z,85nm,0.9s
TPAW Teton Pass 75.93 328 P **P** **20 13 20.9 +1.0**
TPAW IAmb IAmb 20 13 22.8
comp=Z,55nm,1.1s
Q09A Carvers 76.00 322 P **P** **20 13 21.5 +1.3**
Q09A IAmb IAmb 20 13 23.6
comp=Z,93nm,0.9s
MOOW Moose Ponds 76.02 329 P **P** **20 13 21.2 +0.9**
MLAC Mammoth, Mammo 76.19 320 P **P** **20 13 23.4 +2.0**
baz=130
LAO LASA Array 76.21 333 P **P** **20 13 22.0 +0.9**
LAO IAmb IAmb 20 13 23.4
comp=Z,73nm,1.1s
LAO LASA Array 76.21 333 P **P** **20 13 22.5 +1.4**
baz=142,SNR=9.4
LAO LASA Array 76.21 333 P **P** **20 13 21.8 +0.7**
baz=142,SNR=9.4
FLWY Flagg Ranch 76.24 329 P **P** **20 13 22.8 +1.2**
FLWY IAmb IAmb 20 13 24.9
comp=Z,105nm,1.1s
SYO Syowa Base 76.29 159‖ *eP* **P** **20 13 22.3 +1.1**
NV11 Mina Array Sit 76.31 321 P **P** **20 13 21.7 -0.2**
RLMT Red Lodge 76.35 330 P **P** **20 13 23.4 +1.2**
RLMT IAmb IAmb 20 13 24.9
comp=Z,62nm,1.1s
RLMT Red Lodge 76.35 330 P **P** **20 13 23.5 +1.4**
baz=139,SNR=23
NVAR Mina Array Bea 76.39 321 P **P** **20 13 24.2 +1.7**
comp=Z,27nm,0.9s,baz=145,slow=5.6,SNR=101
NVAR Mina Array Bea 76.39 321 P **P** **20 13 23.6 +1.1**
LHV Little Huntoon 76.40 320 P **P** **20 13 24.4 +2.2**
H17A Grant Village 76.42 329 P **P** **20 13 23.6 +1.0**
H17A Grant Village 76.42 329 P **P** **20 13 24.7 +2.1**
baz=138,SNR=16
LKWY Lake 76.46 329 P **P** **20 13 24.5 +1.7**
LKWY pmax pmax
comp=Z,49nm,1.0s
LKWY Lake 76.46 329 P **P** **20 13 24.5 +1.7**
LKWY IAmb IAmb 20 13 26.8
comp=Z,49nm,1.0s
YMP Mirror Lake Pl 76.47 330 P **P** **20 13 24.9 +2.0**
YMP IAmb IAmb 20 13 41.3
comp=Z,64nm,1.3s
OUK Oukaimeden 76.50 49 P **P** **20 13 25.0 +1.5**
PMPB Monarch Peak 76.51 318 P **P** **20 13 25.3 +2.3**
PMPB IAmb IAmb 20 13 26.9
comp=Z,57nm,0.9s
VAH Vaihoa 76.54 259 *eP* **P** **20 13 26.1 +2.5**
comp=Z,92nm,1.0s
YFT Old Faithful 76.58 329 P **P** **20 13 25.5 +2.0**
RYN Ryan 76.65 321 P **P** **20 13 25.3 +1.4**
KVN Kaiserville 76.68 321 P **P** **20 13 25.3 +1.2**
KVN pmax pmax
comp=Z,58nm,0.9s
KVN Kaiserville 76.68 321 P **P** **20 13 25.3 +1.2**
KVN IAmb IAmb 20 13 26.8
comp=Z,58nm,0.9s
YNR Norris Junctio 76.70 329 P **P** **20 13 26.2 +2.0**
YMR Madison River 76.81 329 P **P** **20 13 26.9 +2.2**
YMR IAmb IAmb 20 13 28.3
comp=Z,93nm,1.1s
DGMT Dagmar 76.81 335 P **P** **20 13 25.4 +1.0**
DGMT Dagmar 76.81 335 P **P** **20 13 26.1 +1.7**
baz=144,SNR=14
DGMT Dagmar 76.81 335 P **P** **20 13 25.8 +1.4**
baz=144,SNR=14
YHH Holmes Hill 76.84 329 P **P** **20 13 26.4 +1.4**
YHH IAmb IAmb 20 13 28.4
comp=Z,74nm,1.0s
PMOR Pomariorio Ree 76.86 259 *eP* **P** **20 13 27.9 +2.6**
comp=Z,108nm,1.0s
BBGB Big Mountain B 76.88 318 P **P** **20 13 26.3 +1.2**
BBGB IAmb IAmb 20 13 36.8
comp=Z,78nm,0.9s
SUR Sutherland 76.98 120 P **P** **20 13 26.1 0.0**
BMN Battle Mountai 77.09 323 P **P** **20 13 25.8 -0.5**
BMN pmax pmax
comp=Z,14nm,1.2s
BMN Battle Mountai 77.09 323 P **P** **20 13 25.8 -0.5**
OUZM OUZ 77.12 50 P **P** **20 13 28.0 +1.4**
QLMT Earthquake Lak 77.15 329 P **P** **20 13 26.6 0.0**
SAO San Andreas Ge 77.25 318 P **P** **20 13 28.5 +1.4**
SAO pmax pmax
comp=Z,15nm,0.8s
SAO San Andreas Ge 77.25 318 P **P** **20 13 28.5 +1.4**
YERR Yerington 77.31 321 P **P** **20 13 29.2 +1.7**
YERR IAmb IAmb 20 13 30.9
comp=Z,89nm,1.3s
CMB Columbia Colle 77.39 319 P **P** **20 13 28.2 +0.3**
CMB pmax pmax
comp=Z,17nm,1.1s
CMB Columbia Colle 77.39 319 P **P** **20 13 28.2 +0.3**
ZGR Zagora 77.50 51 P **P** **20 13 30.0 +1.2**
PAE Paea 77.57 256 *eP* **P** **20 13 31.8 +2.5**
comp=Z,25nm,1.1s
PPT2 Papeete2 77.58 256 *eP* **P** **20 13 32.0 +2.5**
comp=Z,90nm,1.3s
PNTR Pine Nut 77.59 320 P **P** **20 13 30.4 +1.2**
PNTR IAmb IAmb 20 13 32.6
comp=Z,87nm,1.0s
PPT Papeete 77.59 256 P **P** **20 13 31.6 +2.1**
comp=Z,34nm,0.8s,baz=58,slow=15,SNR=4.3
HLID Hailey 77.72 327 P **P** **20 13 31.0 +1.3**
HLID IAmb IAmb 20 13 33.2
comp=Z,62nm,0.9s
HLID Hailey 77.72 327 P **P** **20 13 31.8 +2.1**
baz=135,SNR=80
VCNR Virginia City 77.75 321 P **P** **20 13 31.7 +1.6**
VCNR IAmb IAmb 20 13 33.4
comp=Z,58nm,1.1s
BOZ Bozeman (W) 77.81 329 P **P** **20 13 30.4 +0.2**
BOZ pmax pmax
comp=Z,31nm,1.3s
BOZ Bozeman (W) 77.81 329 P **P** **20 13 30.4 +0.2**
BOZ Bozeman (W) 77.81 329 P **P** **20 13 31.4 +1.2**
baz=138,SNR=18
VNDA Vanda 77.81 190 P **P** **20 13 31.0 +1.4**
comp=Z,2.3nm,0.8s,baz=131,slow=4.7,SNR=14
VNDA pP **pP** **20 14 26.6 -0.8**
comp=Z,2.9nm,1.1s,baz=137,slow=7.0,SNR=3.1
VNDA Vanda 77.81 190 P **P** **20 13 30.7 +1.2**
EMB Emerald Bay 77.82 320 P **P** **20 13 31.9 +1.5**
MCMT McKenzie Canyo 77.84 328 P **P** **20 13 31.6 +1.2**
PAHR Pah Rah Range 77.86 321 P **P** **20 13 32.3 +1.7**
TZRR Tazzarine 77.90 50 P **P** **20 13 32.0 +1.1**
MPK Martis Peak 77.98 320 P **P** **20 13 33.6 +2.3**
AVE Averroes 78.00 47 P **P** **20 13 32.8 +1.4**
DLMT Dillon 78.10 329 P **P** **20 13 33.1 +1.3**
DLMT IAmb IAmb 20 13 34.7
comp=Z,69nm,1.4s
TSUM Tsumeb 78.11 106 P **P** **20 13 32.1 -0.3**
TSUM IAmb IAmb 20 13 33.9
comp=Z,73nm,1.1s
MFID Camas Ranch 78.36 326 P **P** **20 13 34.3 +1.2**
LRM Limekiln Ridge 78.37 329 P **P** **20 13 32.2 -1.1**
BEKR Beckworth 78.54 321 P **P** **20 13 35.5 +1.1**
BEKR IAmb IAmb 20 13 37.4
comp=Z,64nm,1.2s
HRY Holter Researc 78.72 330 P **P** **20 13 35.9 +0.9**
EGMT Eagleton 78.77 332 P **P** **20 13 35.6 +0.4**
EGMT IAmb IAmb 20 13 37.3
comp=Z,66nm,1.1s
EGMT Eagleton 78.77 332 P **P** **20 13 35.9 +0.7**
baz=139,SNR=8.6
GOLM Goulmima 78.84 50 P **P** **20 13 38.0 +1.9**
ORV Oroville 79.03 320 P **P** **20 13 37.8 +1.1**
ORV pmax pmax
comp=Z,130nm,1.3s
ORV Oroville 79.03 320 P **P** **20 13 37.8 +1.1**
WVOR Wild Horse Val 79.22 324 P **P** **20 13 39.3 +1.4**
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR Wild Horse Val 79.22 324 P **P** **20 13 39.3 +1.4**
PFVI Vila Bisbo 79.29 43 *eP* **P** **20 13 39.9 +1.7**
GDXM Geysers 79.35 319 P **P** **20 13 40.4 +1.8**
CZD Col de Zad 79.50 49 P **P** **20 13 41.0 +1.2**
MORF Marmelete 79.51 43 *eP* **P** **20 13 40.2 +0.7**
MORF IAmb IAmb 20 13 41.4
comp=Z,50nm,0.9s
MORF Marmelete 79.51 43 *eP* **P** **20 13 40.7 +1.2**
comp=Z,89nm,1.7s
MORF Marmelete 79.51 43 *eP* **P** **20 13 40.1 +0.7**
PLID Pearl Lake 79.60 327 P **P** **20 13 41.1 +1.1**
PLID IAmb IAmb 20 13 42.7
comp=Z,50nm,0.9s
O03E Paynes Creek 79.67 320 P **P** **20 13 40.2 -0.1**
O03E IAmb IAmb 20 13 42.0
comp=Z,53nm,1.1s
O03E Paynes Creek 79.67 320 P **P** **20 13 40.6 +0.3**
baz=129,SNR=12
MDT Midelt 79.69 49 P **P** **20 13 41.8 +1.2**
J08A Circle Bar Ran 79.74 324 P **P** **20 13 41.8 +1.2**
J08A IAmb IAmb 20 13 43.8
comp=Z,118nm,1.5s
MSO Missoula 79.81 329 P **P** **20 13 42.5 +1.5**
MSO Missoula 79.81 329 P **P** **20 13 42.4 +1.5**
baz=136,SNR=9.7
MOD Modoc Plateau 79.81 322 P **P** **20 13 42.3 +1.2**
MOD IAmb IAmb 20 13 44.0
comp=Z,60nm,1.3s
PBDV Barranco-do-Ve 79.94 44 *eP* **P** **20 13 42.2 +0.5**
comp=Z,80nm,1.6s
LCRM LCR 79.99 48 P **P** **20 13 44.0 +1.7**
PNCL Nicolau / Gran 80.06 43 *eP* **P** **20 13 41.5 -0.8**
PCVE Castro Verde 80.09 43 *eP* **P** **20 13 43.9 +1.4**
BMO Blue Mountains 80.12 326 P **P** **20 13 43.8 +1.2**
BMO pmax pmax
comp=Z,82nm,1.2s
BMO Blue Mountains 80.12 326 P **P** **20 13 43.8 +1.2**
BMO IAmb IAmb 20 13 45.5
comp=Z,82nm,1.1s
PVAQ Vaqueiros 80.17 44 *eP* **P** **20 13 44.1 +1.2**
O02D Mt. Diablo Mer 80.19 320 P **P** **20 13 43.9 +0.9**
O02D Mt. Diablo Mer 80.19 320 P **P** **20 13 44.0 +1.0**
baz=128,SNR=7.1

CHEFC **Chefchaouen** 80.44 47 P **P** 20 13 46.2 +1.7
M04C **Macdoel** 80.62 321 P **P** 20 13 46.2 +0.8
M04C IAmb IAmb 20 13 48.0
comp=Z,50nm,0.8s
M04C **Macdoel** 80.62 321 P **P** 20 13 46.5 +1.1
baz=129,SNR=13
JTMT **Jette** 80.63 330 P **P** 20 13 46.3 +1.0
N02D **Trinity Center** 80.63 320 P **P** 20 13 45.5 +0.1
N02D **Trinity Center** 80.63 320 P **P** 20 13 45.7 +0.3
baz=128,SNR=7.7
EVO **Evora** 80.64 43 *e*P **P** 20 13 45.8 +0.4
comp=Z,46nm,1.6s
K05A **Summer Lake** 80.67 323 P **P** 20 13 47.1 +1.3
K05A IAmb IAmb 20 13 49.0
comp=Z,90nm,0.9s
KMRM **Mail Ridge** 80.77 319 P **P** 20 13 47.7 +1.5
KMRM IAmb IAmb 20 13 49.4
comp=Z,70nm,1.1s
I07A **Izee** 80.78 324 P **P** 20 13 47.5 +1.3
PMTG **Montargil** 80.82 42 *e*P **P** 20 13 44.5 -1.8
comp=Z,114nm,1.7s
F10A **Beach Ranch, E** 80.84 327 P **P** 20 13 47.4 +1.0
M02C **Callahan** 80.97 321 P **P** 20 13 48.2 +1.0
M02C **Callahan** 80.97 321 P **P** 20 13 47.8 +0.6
baz=128,SNR=6.2
PBAR **Barrancos** 81.05 43 *e*P **P** 20 13 47.4 -0.2
comp=Z,53nm,1.4s
YBH **Yreka Blue Hor** 81.10 321 P **P** 20 13 47.7 -0.2
comp=Z,11nm,0.8s,baz=96,slow=4.0,SNR=18
YBH **Yreka Blue Hor** 81.10 321 P **P** 20 13 47.9 0.0
YBH pmax pmax
comp=Z,12nm,0.8s
YBH **Yreka Blue Hor** 81.10 321 P **P** 20 13 47.9 0.0
K04D **Chiloquin, OR** 81.10 322 P **P** 20 13 49.3 +1.4
baz=129
PESTR **Estremoz** 81.10 43 *e*P **P** 20 13 49.1 +1.2
comp=Z,76nm,1.5s
PESTR **Estremoz** 81.10 43 P **P** 20 13 48.6 +0.8
L04D **Klamath Falls** 81.16 322 P **P** 20 13 48.8 +0.6
L04D **Klamath Falls** 81.16 322 P **P** 20 13 49.0 +0.7
baz=129,SNR=5.7
FFC **Flin Flon** 81.19 340 P **P** 20 13 47.6 -0.3
FFC pmax pmax
comp=Z,27nm,1.1s
FFC **Flin Flon** 81.19 340 P **P** 20 13 47.6 -0.3
J05D **Fort Rock, OR** 81.22 323 P **P** 20 13 50.0 +1.4
baz=130,SNR=15
G08A **Pilot Rock** 81.28 326 P **P** 20 13 49.2 +0.4
PINE **Pine Mountain** 81.38 323 P **P** 20 13 50.5 +1.1
PINE IAmb IAmb 20 13 52.7
comp=Z,61nm,0.8s
WALA **Waterton Lakes** 81.39 331 P **P** 20 13 49.6 +0.3
PALE **Palemas** 81.46 47 P **P** 20 13 52.1 +2.3
PMRV **Marv??o** 81.56 42 *e*P **P** 20 13 50.2 0.0
comp=Z,27nm,1.4s
TDRA **Tendrara** 81.65 50 P **P** 20 13 52.3 +1.2
E09A **Wood Farm, Sta** 81.67 327 P **P** 20 13 51.6 +1.0
J04D **Umpqua Nationa** 81.69 322 P **P** 20 13 52.1 +1.1
J04D IAmb IAmb 20 13 53.6
comp=Z,62nm,0.8s
J04D **Umpqua Nationa** 81.69 322 P **P** 20 13 52.3 +1.3
baz=129,SNR=7.0
FIGM **Figuig** 81.73 51 P **P** 20 13 53.0 +1.5
HUMO **Hull Mountain** 81.78 322 P **P** 20 13 52.0 +0.6
BOSA **Boshof** 81.79 117 P **P** 20 13 51.5 -0.4
comp=Z,37nm,0.7s,baz=261,slow=3.4,SNR=86
BOSA **Boshof** 81.79 117 P **P** 20 13 51.6 -0.4
BOSA pmax pmax
comp=Z,50nm,0.8s
BOSA **Boshof** 81.79 117 P **P** 20 13 51.5 -0.4
BOSA IAmb IAmb 20 13 52.9
comp=Z,50nm,0.8s
BOSA **Boshof** 81.79 117 *i* P **P** 20 13 51.9 -0.1
BOSA **Boshof** 81.79 117 *i* P **P** 20 13 51.9 -0.1
L02E **Cave Junction** 81.89 321 P **P** 20 13 53.4 +1.6
baz=128
JBK **JBK** 81.94 49 P **P** 20 13 53.0 +0.4
I05D **Terrebonne, OR** 81.95 324 P **P** 20 13 54.1 +1.9
baz=130,SNR=13
MTE **Manteigas** 82.03 41 *e*P **P** 20 13 53.3 +0.6
comp=Z,65nm,2.5s
GOG **Mont Gurugu** 82.11 48 P **P** 20 13 54.3 +1.0
F07A **Phinny Hill Vi** 82.19 326 P **P** 20 13 53.9 +0.6
F07A IAmb IAmb 20 13 56.7
comp=Z,78nm,1.4s
I04A **Tendick Farm,** 82.21 323 P **P** 20 13 54.1 +0.6
baz=129,SNR=5.2
K02D **Willamette Mer** 82.25 321 P **P** 20 13 55.4 +1.6
baz=128,SNR=6.2
DBO **Dodson Butte** 82.27 322 P **P** 20 13 54.7 +0.8
HAWA **Hanford** 82.31 326 P **P** 20 13 55.4 +1.4
HAWA IAmb IAmb 20 13 56.7
comp=Z,58nm,0.9s
NEW **Newport** 82.35 329 P **P** 20 13 54.2 0.0
comp=Z,11nm,1.1s,baz=154,slow=4.9,SNR=4.7
NEW **Newport** 82.35 329 P **P** 20 13 54.3 +0.1
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW **Newport** 82.35 329 P **P** 20 13 54.3 +0.1
D08A **Wollman Farm,** 82.43 327 P **P** 20 13 55.3 +0.7
D08A IAmb IAmb 20 13 57.2
comp=Z,42nm,0.9s
G05D **Wamic, OR** 82.51 324 P **P** 20 13 57.0 +1.9
baz=130,SNR=7.7
FCC **Fort Churchill** 82.56 346 P **P** 20 13 55.0 +0.1
FCC pmax pmax
comp=Z,38nm,1.0s
FCC **Fort Churchill** 82.56 346 P **P** 20 13 55.0 +0.1
E07A **Sunnyside** 82.59 326 P **P** 20 13 56.1 +0.7
C09A **Chrisman Ranch** 82.60 328 P **P** 20 13 55.9 +0.5
C09A IAmb IAmb 20 13 57.9
comp=Z,49nm,0.8s
H04A **Detroit Lake** 82.64 324 P **P** 20 13 56.6 +0.9
I03D **Drain, OR** 82.68 322 P **P** 20 13 57.3 +1.4
baz=128
J01E **Myrtle Point** 82.69 322 P **P** 20 13 57.6 +1.7
J01E IAmb IAmb 20 13 58.4
comp=Z,87nm,1.2s
J01E **Myrtle Point** 82.69 322 P **P** 20 13 57.8 +1.8
baz=128
HOOD **Mount Hood Mea** 82.75 324 P **P** 20 13 57.2 +0.8
HOOD IAmb IAmb 20 14 02.2
comp=Z,41nm,0.8s
MVO **Moncorvo** 82.79 41 *e*P **P** 20 13 56.7 0.0
comp=Z,70nm,1.1s
F05D **White Salmon** 83.00 325 P **P** 20 13 59.1 +1.5
F05D **White Salmon** 83.00 325 P **P** 20 13 58.9 +1.4
baz=130,SNR=5.4
I02E **Swisshome, OR** 83.22 322 P **P** 20 14 00.3 +1.6
baz=128
LBTB **Lobatse** 83.27 114 P **P** 20 13 59.1 -0.6
LBTB pmax pmax
comp=Z,77nm,1.0s
LBTB **Lobatse** 83.27 114 P **P** 20 13 59.1 -0.6
LBTB IAmb IAmb 20 14 01.0
comp=Z,76nm,1.0s
LBTB **Lobatse** 83.27 114 *i* P **P** 20 14 00.1 +0.5
LBTB **Lobatse** 83.27 114 *i* P **P** 20 14 00.1 +0.5
PBRG **Braganca** 83.34 41 *e*P **P** 20 13 59.8 +0.4
comp=Z,60nm,1.7s
LTY **Liberty** 83.47 326 P **P** 20 14 00.8 +0.9
LTY IAmb IAmb 20 14 02.2
comp=Z,41nm,0.8s
B08A **Colville Reser** 83.50 328 P **P** 20 13 59.7 -0.4
F04A **Amboy** 83.55 324 P **P** 20 14 01.3 +1.0
F04A IAmb IAmb 20 14 02.5
comp=Z,71nm,1.0s
PAB **San Pablo** 83.56 44 P **P** 20 14 00.8 +0.2
PAB pmax pmax
comp=Z,72nm,1.4s
PAB **San Pablo** 83.56 44 P **P** 20 14 00.8 +0.2
PAB IAmb IAmb 20 14 02.5
comp=Z,72nm,1.4s
PAB **San Pablo** 83.56 44 P **P** 20 14 01.8 +1.2
ESDC **Sonseca Array** 83.88 44 P **P** 20 14 02.9 +0.7
comp=Z,32nm,1.0s,baz=245,slow=5.0,SNR=83
ESDC pP **pP** 20 14 59.3 -1.3
comp=Z,9.1nm,1.0s,baz=242,slow=5.7,SNR=5.4
ESDC **Sonseca Array** 83.88 44 P **P** 20 14 02.4 +0.2
ESDC IAmb IAmb 20 14 04.3
comp=Z,62nm,1.2s
ESBB **Sonseca Array** 83.88 44 P **P** 20 14 02.6 +0.4
ESBB IAmb IAmb 20 14 04.3
comp=Z,64nm,1.2s
E04D **Cinebar** 84.02 325 P **P** 20 14 03.6 +1.0
baz=129
D05A **Enumclaw** 84.11 326 P **P** 20 14 04.3 +1.2
EDM **Edmonton** 84.17 334 P **P** 20 14 03.0 -0.3
EDM pmax pmax
comp=Z,113nm,1.5s
EDM **Edmonton** 84.17 334 P **P** 20 14 03.0 -0.3
EDM IAmb IAmb 20 14 04.2
comp=Z,112nm,1.5s
MAW **Mawson** 84.27 163 P **P** 20 14 04.9 +1.2
comp=Z,13nm,0.9s,baz=204,slow=4.7,SNR=17
MAW pP **pP** 20 15 02.7 +0.5
comp=Z,15nm,0.8s,baz=214,slow=7.5,SNR=9.1
MAW **Mawson** 84.27 163 P **P** 20 14 04.5 +0.9
B06A **Marblemount** 84.70 327 P **P** 20 14 06.4 +0.4
B06A IAmb IAmb 20 14 07.5
comp=Z,68nm,1.0s
B05A **Bryant** 84.85 326 P **P** 20 14 07.2 +0.5
baz=129,SNR=8.3
D03D **Eldon** 84.91 325 P **P** 20 14 08.4 +1.3
baz=129,SNR=6.7
A04D **Lummi Island** 85.45 327 P **P** 20 14 10.8 +1.1
baz=129
PGC **Sidney** 85.79 326 P **P** 20 14 12.4 +1.0
PGC IAmb IAmb 20 14 13.8
comp=Z,68nm,0.9s
LLLB **Lillooet** 86.23 328 P **P** 20 14 13.5 0.0
LLLB IAmb IAmb 20 14 15.2
comp=Z,70nm,1.2s
MATP **Matopo** 87.39 111 *i* P **P** 20 14 21.6 +1.6
MATP **Matopo** 87.39 111 *i* P **P** 20 14 21.6 +1.6
SJPF **Ste Jean** 87.46 42 *e*P **P** 20 14 21.6 +1.9
SJPF pmax pmax
comp=Z,14nm,1.2s
BLWY **Bulawayo** 87.58 111 *i* P **P** 20 14 21.7 +0.7
BLWY **Bulawayo** 87.58 111 *i* P **P** 20 14 21.7 +0.7
ETSF **Etsaut** 87.77 42 *e*P **P** 20 14 21.0 -0.2
ETSF pmax pmax
comp=Z,8.0nm,0.9s
MSNA **Messina** 88.01 113 *i* P **P** 20 14 23.2 +0.4
MSNA **Messina** 88.01 113 *i* P **P** 20 14 23.2 +0.4
CNG **Changalane** 88.37 117 *i* P **P** 20 14 23.1 -1.3
CNG **Changalane** 88.37 117 *i* P **P** 20 14 23.1 -1.3
EPF **Esparros** 88.40 42 *e*P **P** 20 14 26.2 +2.1
EPF pmax pmax
comp=Z,6.0nm,0.9s
MOPA **Mopani** 88.75 115 *i* P **P** 20 14 27.1 +0.8
MOPA **Mopani** 88.75 115 *i* P **P** 20 14 27.1 +0.8
ROSF **Rostrenen** 89.06 37 *e*P **P** 20 14 26.9 -0.1
ROSF pmax pmax
comp=Z,58nm,1.4s
LFF **La Frestale** 89.62 41 *e*P **P** 20 14 29.7 0.0
LFF pmax pmax
comp=Z,11nm,0.7s
MTLF **Montolieu** 89.75 43 *e*P **P** 20 14 30.4 +0.1
MTLF pmax pmax
comp=Z,16nm,1.1s
RJF **Les Rejaudoux** 90.28 41 *e*P **P** 20 14 32.7 -0.1
RJF pmax pmax
comp=Z,11nm,1.1s
CAF **Calviac** 90.43 41 *e*P **P** 20 14 33.5 0.0
CAF pmax pmax
comp=Z,10.0nm,1.0s
GRR **Gorron** 90.45 37 *e*P **P** 20 14 33.0 -0.5
GRR pmax pmax
comp=Z,18nm,1.0s
FLN **La Foliniere** 90.86 37 *e*P **P** 20 14 35.2 -0.1
FLN pmax pmax
comp=Z,19nm,1.1s
LDF **La Druitiere** 90.98 37 *e*P **P** 20 14 35.6 -0.3
LDF pmax pmax
comp=Z,17nm,1.0s
TCF **Toulx Ste Croi** 91.19 40 *e*P **P** 20 14 36.7 -0.3
TCF pmax pmax
comp=Z,7.0nm,0.8s
KEST **Kesra** 91.20 52 P **P** 20 14 37.8 +0.4
comp=Z,6.6nm,1.0s,baz=310,slow=3.6,SNR=3.4
YKA **Yellowknife Ar** 91.36 340 P **P** 20 14 38.0 +0.7
comp=Z,30nm,0.6s,baz=128,slow=4.5,SNR=463
YKA pP **pP** 20 15 33.8 -2.7
comp=Z,1.9nm,0.7s,baz=130,slow=4.7,SNR=1.3
YKA **Yellowknife Ar** 91.36 340 P **P** 20 14 37.4 0.0
BGF **Bois d'Agland** 91.70 40 *e*P **P** 20 14 39.3 0.0
BGF pmax pmax
comp=Z,12nm,0.9s
VIVF **Saint-Julien-l** 92.02 42 *e*P **P** 20 14 41.4 +0.5
VIVF pmax pmax
comp=Z,8.0nm,0.9s
AVF **Avril sur Loir** 92.12 40 *e*P **P** 20 14 41.0 -0.2
AVF pmax pmax
comp=Z,13nm,1.2s
SSB **Saint Sauveur** 92.14 42 P **P** 20 14 41.5 0.0
SSB pmax pmax
comp=Z,8.0nm,1.0s
SSB **Saint Sauveur** 92.14 42 P **P** 20 14 41.5 0.0
LOR **Lormes** 92.65 40 *e*P **P** 20 14 43.3 -0.4
LOR pmax pmax
comp=Z,8.0nm,1.0s
DOU **Dourbes** 94.40 38 *d*P **P** 20 14 51.8 +0.1
GIVF **Givet** 94.54 38 *e*P **P** 20 14 52.2 -0.1
GIVF pmax pmax
comp=Z,14nm,1.1s
BMRD **Maredsous** 94.60 38 *d*P **P** 20 14 52.9 +0.4
comp=Z,6.6nm,1.0s
BMRD *d*pP **pP** 20 15 50.2 -1.6
DLBC **Dease Lake** 94.69 332 P **P** 20 14 53.8 +0.9
comp=Z,12nm,1.0s,baz=145,slow=3.2,SNR=11
DLBC **Dease Lake** 94.69 332 P **P** 20 14 53.5 +0.6
DLBC IAmb IAmb 20 14 55.8
comp=Z,18nm,1.1s
RCHB **Rochefort** 94.79 38 *d*P **P** 20 14 52.0 -1.4
BGES **Gesves** 94.82 38 *d*P **P** 20 14 53.6 0.0
comp=Z,4.0nm,1.0s
WLF **Walferdange** 95.11 39 P **P** 20 14 54.6 -0.3
WLF pmax pmax
comp=Z,19nm,1.2s
WLF **Walferdange** 95.11 39 P **P** 20 14 54.5 -0.3
WLF IAmb IAmb 20 14 57.0
comp=Z,19nm,1.2s
WLF **Walferdange** 95.11 39 *d*P **P** 20 14 53.6 -1.3
comp=Z,7.4nm,1.3s
TGTN **Hynd Airport** 95.67 335 P **P** 20 14 58.6 +1.3
baz=124
TUE **Stuetta** 95.68 42 P **P** 20 14 57.5 -0.3
ZCCA **Zocca** 95.87 45 P **P** 20 14 58.0 -0.6
ZCCA IAmb IAmb 20 15 01.6
comp=Z,18nm,0.9s
DAVA **Damuels** 96.34 42 *e*P **P** 20 15 01.4 +0.6
comp=Z,8.3nm,1.0s
MBAR **Mbarara** 96.61 93↓ *e*P **P** 20 15 03.4 +0.6
TEOL **Teolo** 96.72 44 P **P** 20 15 02.1 -0.2
TEOL IAmb IAmb 20 15 05.5
comp=Z,20nm,0.8s
FETA **Feichten** 96.77 42 *i* P **P** 20 15 03.4 +0.7
comp=Z,8.3nm,1.0s,SNR=5.4
CTI **Castel Tesino** 96.97 43 P **P** 20 15 03.7 +0.1
CTI pmax pmax
comp=Z,8.0nm,0.9s
CTI **Castel Tesino** 96.97 43 P **P** 20 15 03.7 +0.1
RETA **Reutte** 96.97 42 *e*P **P** 20 15 04.0 +0.5
comp=Z,8.5nm,1.0s
RES **Resolute Bay** 97.07 353 P Pdif 20 15 03.6 +0.4
comp=Z,2.6nm,0.9s,baz=165,slow=9.3,SNR=7.4
RES **Resolute Bay** 97.07 353 P Pdif 20 15 03.7 +0.4
MOTA **Moosalm** 97.13 42 *e*P Pdif 20 15 04.7 +0.4
comp=Z,13nm,1.0s
SQTA **Sankt Quirin** 97.15 42 *i* P **P** 20 15 02.9 -1.5
comp=Z,15nm,0.8s,SNR=11
WATA **Walderalm** 97.42 42 *i* P Pdif 20 15 06.1 +0.5
comp=Z,11nm,0.9s,SNR=6.7
WTTA **Wattenberg** 97.43 42 *i* P Pdif 20 15 06.4 +0.7
comp=Z,22nm,0.9s,SNR=8.5
SKAG **Skagway** 97.58 331 Pfiff 20 15 07.1
baz=118
ABTA **Abfaltersbach** 97.79 43 *e*P Pdif 20 15 07.9 +0.6
comp=Z,9.9nm,1.0s
WHY **Whitehorse** 97.96 332 Pfiff 20 15 08.4
baz=119
KBA **Koelnbreinsper** 98.44 43 *e*P **P** 20 15 10.5 +0.3
comp=Z,4.8nm,0.8s
MYKA **Terra Mystica** 98.47 43 *e*P **P** 20 15 10.9 +0.7
comp=Z,8.6nm,0.8s
N31M **Braeburn, Yuko** 98.74 333 Pfiff 20 15 11.7
baz=118
BIOA **Bad Ischl, Aus** 98.85 42 *e*P **P** 20 15 12.2 +0.3
comp=Z,3.8nm,0.6s
OBKA **Obir** 99.01 44 *e*P **Pdif** 20 15 13.5 +0.8
comp=Z,6.5nm,0.8s
MOA **Molln** 99.31 42 *e*P **Pdif** 20 15 14.1 +0.2
comp=Z,8.1nm,1.2s
GERES **GERESS Array B** 99.31 41 P **Pdif** 20 15 14.0 0.0
comp=Z,1.0nm,0.8s,baz=263,slow=7.5,SNR=5.8
GERES pP **pP** 20 16 11.8 -1.7
comp=Z,0.3nm,0.6s,baz=239,slow=9.2,SNR=2.4
GERES **GERESS Array B** 99.31 41 P **Pdif** 20 15 14.0 0.0
KHC **Kasperske Hory** 99.33 41 *e*P **Pdif** 20 15 18.1 +4.1
KHC **Kasperske Hory** 99.33 41 *e*PDIFF **Pdif** 20 15 18.1 +4.1
M30M **Minto, Yukon** 99.66 334 Pfiff 20 15 16.0
baz=117
YUK4 **Talbot Arm** 99.91 332 Pfiff 20 15 17.8
baz=116
CONA **Conrad Observa** 100.34 43 *e*P **Pdif** 20 15 20.6 +2.1
comp=Z,4.9nm,1.5s
A36M **Sachs Harbour** 100.71 344 Pfiff 20 15 20.7
baz=126
YUK3 **Moose Creek** 100.87 332 Pfiff 20 15 21.8
baz=114
INK **Inuvik** 101.14 340 P **Pdif** 20 15 21.6 +0.1
comp=Z,3.0nm,0.8s,baz=111,slow=4.6,SNR=9.3
INK **Inuvik** 101.14 340 Pfiff 20 15 22.7
baz=119
UPC **Upice** 101.29 40 *e*P **Pdif** 20 15 25.8 +3.2
UPC **Upice** 101.29 40 *e*PDIFF **Pdif** 20 15 25.8 +3.2
EPYK **Eagle Plains** 101.33 337 Pfiff 20 15 23.5
baz=116
DAWY **Dawson** 101.36 335 Pfiff 20 15 23.6
baz=114
DPC **Dobruska-Polom** 101.42 40 *e*P **Pdif** 20 15 24.3 +1.0
DPC **Dobruska-Polom** 101.42 40 *e*PDIFF **Pdif** 20 15 24.3 +1.0
OSTC **Ostas** 101.43 40 *e*PDIFF **Pdif** 20 15 24.9 +1.7
I29M **Ogilvie Camp,** 101.48 336 Pfiff 20 15 24.2
baz=115
KRLC **Kraliky** 101.62 41 *e*P **Pdif** 20 15 25.0 +0.9
KRLC **Kraliky** 101.62 41 *e*PDIFF **Pdif** 20 15 25.0 +0.9
M27K **Edge Creek, AK** 101.72 333 Pfiff 20 15 25.0
baz=112
L27K **Beaver Creek,** 101.97 333 Pdif **Pdif** 20 15 26.5 +1.2
L27K **Beaver Creek,** 101.97 333 Pfiff 20 15 26.6
baz=112
KLU **Klutina** 103.20 331 Pfiff 20 15 31.7
baz=109
SCRK **Sand Creek** 103.20 334 Pfiff 20 15 31.8
baz=110
J26L **Joseph Creek** 103.21 334 Pfiff 20 15 32.0
baz=111
RIDG **Independent Ri** 103.48 333 Pfiff 20 15 33.2
baz=110
PAX **Paxson** 103.49 333 Pfiff 20 15 32.7
baz=109
J25K **Salcha River,** 103.99 334 Pfiff 20 15 35.4
baz=109
KNK **Knik Glacier** 104.33 331 Pfiff 20 15 37.7
baz=107
DHY **Denali Highway** 104.34 332 Pfiff 20 15 36.9
baz=108
WAT6 **Susitna Watana** 104.35 332 Pfiff 20 15 36.6
baz=108
SML **Sawmill** 104.39 331 Pfiff 20 15 36.6
baz=107
SEW **Seward** 104.41 329 Pfiff 20 15 36.9
baz=107
HDA **Harding Lake** 104.57 334 Pfiff 20 15 37.7
baz=108
ILAR **Eielson Array** 104.66 334 Pdiff **Pdif** 20 15 37.5 +0.3
comp=Z,0.7nm,0.8s,baz=140,slow=2.6,SNR=5.6
ILAR PP **PKiKP** 20 19 54.2 +2.7
comp=Z,1.8nm,0.9s,baz=104,slow=7.8,SNR=7.2
SPITS **Spitsbergen Ar** 108.86 12 PKKPbc PKKPbc 20 31 08.0 -2.8
comp=Z,2.1nm,0.7s,baz=127,slow=6.4,SNR=6.8
SPITS PKKPab **PKKPab** 20 31 20.0 +0.3
comp=Z,3.6nm,0.8s,baz=284,slow=18,SNR=1.3
ARCES **ARCESS Array B** 110.11 22 PKKPbc PKKPbc 20 31 04.3 -2.3
comp=Z,2.6nm,0.8s,baz=90,slow=3.6,SNR=7.7
ARCES PKKPab **PKKPab** 20 31 14.8 +0.5
comp=Z,3.9nm,0.8s,baz=66,slow=2.9,SNR=4.0
BRTR **Keskin Array B** 110.70 54 PP PP 20 20 36.2 -8.6
comp=Z,0.4nm,0.4s,baz=274,slow=2.2,SNR=1.5
OBN **Obninsk** 114.35 38 ↓*i* PKIKP PKPdf 20 20 09.5 -0.5
OBN *e* 20 21 06.2
OBN pmax pmax
comp=Z,4.0nm,0.8s
KLMR **Klimovskoe** 115.85 32 *e*PKIKP **PKPdf** 20 20 12.4 -0.3
KLMR *e* 20 21 24.6
KLMR pmax pmax
comp=Z,10.0nm,1.4s
KLMR **Klimovskoe** 115.85 32 *e*PKPdf **PKPdf** 20 20 12.4 -0.3
KLMR AMP 20 20 14.7
comp=Z,10.0nm,1.4s
KLMR *e*PP **PP** 20 21 24.6 +4.4
KIV **Kislovodsk** 117.90 50 *e*PKIKP **PKiKP** 20 20 18.0 +0.6
KIV pmax pmax
comp=Z,4.0nm,1.0s
KBZ **Khabaz** 118.04 51 PKP **PKPdf** 20 20 17.3 -0.1
comp=Z,2.1nm,0.9s,baz=228,slow=2.5,SNR=6.2
KBZ pPKP **pPKPdf** 20 21 16.8 -2.9
comp=Z,1.0nm,0.6s,baz=357,slow=4.6,SNR=2.0
KBZ **Khabaz** 118.04 51 ↓*i* PKIKP **PKiKP** 20 20 17.8 +0.3
BELG **Belogornoye** 121.00 41 ↓*i* PKIKP **PKiKP** 20 20 23.5 +0.5
STKA **Stephens Creek** 121.00 208 PKP **PKPdf** 20 20 22.8 -0.9
comp=Z,3.9nm,0.9s,baz=100,slow=2.7,SNR=6.2
STKA **Stephens Creek** 121.00 208 *d* PKIKP **PKPdf** 20 20 23.5 -0.2
STKA **Stephens Creek** 121.00 208 **PKiKP** 20 20 23.9 0.0
BILL **Bilibino** 122.75 339 *i* PKIKP **PKiKP** 20 20 27.0 +0.9
BILL *i* 20 22 11.2
BILL pmax pmax
comp=Z,7.0nm,2.5s
ARU **Arti** 126.42 34 *i* PKIKP **PKiKP** 20 20 34.9 +1.3
ARU 20 22 35.5
ARU 20 27 22.6
ARU SS SS 20 39 33.0 +16
AKTO **Aktyubinsk** 127.73 42 PKP **PKiKP** 20 20 36.7 +0.2
comp=Z,1.5nm,0.6s,baz=292,slow=4.2,SNR=6.5
AKTO pPKP **pPKPdf** 20 21 36.1 -2.0
comp=Z,2.3nm,1.0s,baz=188,slow=1.1,SNR=2.9
TIXI **Tiksi** 128.45 354 ↑*i* PKIKP **PKPdf** 20 20 36.8 +0.2
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI **Tiksi'** 128.45 354 PKPdf **PKPdf** 20 20 35.8 -0.8
NRIK **Noril'sk** 129.05 12 PKP **PKiKP** 20 20 38.9 +0.3
comp=Z,2.7nm,0.9s,baz=126,slow=4.1,SNR=3.8
NRIK **Noril'sk** 129.05 12 ↑*i* PKIKP **PKiKP** 20 20 39.0 +0.4
ABKAR **Akbulak array** 129.22 43 PKP **PKiKP** 20 20 39.3 -0.2
WSAR **Wadi Sarin** 129.41 77 pPKP pPKPdf 20 21 40.4 -1.7
comp=Z,12nm,1.0s,baz=260,slow=5.0,SNR=5.6
SEY **Seymchan** 130.39 338 ↑*i* PKIKP **PKiKP** 20 20 42.2 +0.8
SEY pmax pmax
comp=Z,24nm,1.3s
AS31 **Alice Springs** 131.43 205 PKPdf **PKPdf** 20 20 44.0 +0.2
ASAR **Alice Springs** 131.43 205 PKhKP PKPpre 20 20 25.5
comp=Z,0.3nm,0.5s,baz=139,slow=1.9,SNR=4.5
ASAR PKP **PKPdf** 20 20 43.8 -0.1
comp=Z,11nm,1.0s,baz=145,slow=2.2,SNR=42
ASAR pPKP pPKPdf 20 21 44.9 -1.2
comp=Z,2.4nm,0.8s,baz=156,slow=2.6,SNR=4.7
ASAR SKPbc **SKPbc** 20 23 46.5 0.0
comp=Z,13nm,1.0s,baz=150,slow=4.5,SNR=27
ASAR **Alice Springs** 131.43 205 PKPdf **PKPdf** 20 20 43.1 -0.8
MA2 **Magadan** 133.13 335 ↑*i* PKIKP **PKiKP** 20 20 46.7 -0.4
MA2 pmax pmax
comp=Z,7.0nm,1.7s
PEA0B **Petropavlovsk-** 133.36 325 ↑*i* PKIKP **PKiKP** 20 20 47.8 +0.1
PETK **Petropavlovsk-** 133.36 325 PKhKP PKPpre 20 20 37.0
comp=Z,3.9nm,0.9s,baz=71,slow=11,SNR=4.6
PETK PKP **PKPdf** 20 20 46.9 +0.4
comp=Z,14nm,1.2s,baz=68,slow=10,SNR=6.4
PETK PP **PP** 20 23 14.3 -2.6
comp=Z,2.7nm,1.0s,baz=225,slow=6.1,SNR=1.9
PETK SKPbc **SKPbc** 20 23 53.6 +1.4
comp=Z,16nm,1.1s,baz=87,slow=10,SNR=9.9
PETK **Petropavlovsk-** 133.36 325 PKPdf **PKiKP** 20 20 47.3 -0.4
PETK SKPbc **SKPab** 20 23 53.8 -0.8
BRVK **Borovoye** 133.98 35 ↓*i* PKIKP **PKiKP** 20 20 48.6 -0.4
BRVK pmax pmax
comp=Z,2.0nm,1.3s
WB2 **Warramunga Arr** 134.54 208 PKPdf **PKPdf** 20 20 49.6 -0.1
WRA **Warramunga Arr** 134.55 208 PKhKP PKPpre 20 20 32.5
comp=Z,0.3nm,0.3s,baz=172,slow=1.9,SNR=12
WRA PKP **PKPdf** 20 20 50.2 +0.4
comp=Z,5.2nm,0.8s,baz=154,slow=1.6,SNR=26
WRA pPKP pPKPdf 20 21 51.0 -1.0
comp=Z,2.9nm,0.8s,baz=154,slow=1.7,SNR=4.4
WRA SKPbc **SKPbc** 20 23 57.0 -0.3
comp=Z,20nm,0.9s,baz=150,slow=2.7,SNR=36

WRAB Tennant Creek 134.55 208 *c i*PKIKP **PKPdf** **20 20 50.3 +0.5**
WRAB pmax pmax
comp=Z,7.0nm,1.0s

WB0 Warramunga Arr 134.68 208 PKPdf **PKPdf** **20 20 50.3 +0.3**
YAK Yakutsk 137.38 349 *e*PKIKP **PKPdf** **20 20 54.3 +0.6**
YAK pmax pmax
comp=Z,13nm,0.9s

YAK Yakutsk 137.38 349 PKPpre 20 20 43.7
KURK Kurchatov 139.62 34 *d i*PKIKP **PKPdf** **20 20 59.1 +1.0**
KURK pmax pmax
comp=Z,4.0nm,1.0s

ZAA0 Zalesovo Array 140.46 26 PKPdf **PKPdf** **20 20 58.0 -1.6**
ZALV Zalesovo Beam 140.46 26 PKhKP PKPpre 20 20 52.2
comp=Z,0.3nm,0.3s,baz=343,slow=4.5,SNR=3.3

ZALV PKP **PKPdf** **20 20 58.1 -1.4**
comp=Z,3.4nm,0.7s,baz=272,slow=5.2,SNR=12

ZALV pPKP pPKPdf 20 22 01.7 -0.1
comp=Z,6.0nm,0.7s,baz=286,slow=2.8,SNR=5.6

ZALV SKPbc **SKPbc** **20 24 14.3 +1.1**
comp=Z,12nm,0.7s,baz=300,slow=3.3,SNR=12

AAK Ala-Archa 140.89 47 ⇑ *e*PKIKP **PKPdf** **20 20 59.0 -1.9**
AAK Ala-Archa 140.89 47 PKPdf **PKPdf** **20 20 58.4 -2.5**
KSH Kashi 143.02 51 PKP PKPbc 20 21 02.8 +0.5
KSH pPKP pPKPdf 20 22 03.3 -3.8
KSH sPKP 20 22 23.4
KSH PP **PP** **20 24 14.3 -2.9**

BOD Bodaibo 143.12 359 *e*PKIKP PKPbc 20 21 01.2 -0.6
BOD pmax pmax
comp=Z,17nm,0.9s

MK31 Makanchi Array 143.85 37 PKIKP PKPbc 20 21 04.9 +0.6
MK31 Makanchi Array 143.85 37 PKPdf PKPbc 20 21 04.9 +0.7
MKAR Makanchi Array 143.85 37 PKP **PKPdf** **20 21 05.2 -0.7**
comp=Z,3.7nm,0.5s,baz=351,slow=2.9,SNR=43

MKAR pPKP **pPKPdf** **20 22 05.6 -2.6**
comp=Z,2.1nm,0.9s,baz=293,slow=1.9,SNR=1.2

MKAR SKP 20 24 18.2
comp=Z,1.1nm,0.9s,baz=322,slow=4.4,SNR=1.8

MKAR Makanchi Array 143.85 37 PKIKP PKPbc 20 21 04.6 +0.3
MKAR Makanchi Array 143.85 37 PKPdf PKPbc 20 21 04.6 +0.4
YSS Yuzh-Sakhalins 144.76 324 *i* PKIKP **PKPdf** **20 21 07.7 +0.3**
YSS *e* 20 24 33.7
YSS pmax pmax
comp=Z,100nm,0.9s

GRNR Gornyy 145.14 334 ⇑ *i*PKIKP **PKPab** **20 21 10.1 +1.8**
GRNR pmax pmax
comp=E,9.0nm,1.0s

GRNR pmax pmax
comp=N,8.0nm,1.1s

GRNR pmax pmax
comp=Z,70nm,1.0s

ZEA Zeya 145.55 345 *e*PKP2 **PKPab** **20 21 10.2 +0.5**
ZEA pmax pmax
comp=Z,50nm,1.2s

PALK Pallekele 145.58 108 PKPbc **PKPab** **20 21 10.9 -0.2**
comp=Z,11nm,1.0s,baz=342,slow=3.2,SNR=4.1

PALK pPKPbc **pPKPdf** **20 22 11.5 -0.7**
comp=Z,20nm,1.2s,baz=338,slow=3.4,SNR=3.4

JKA Kamikawa-asahi 146.52 320 PKPdf **PKPdf** **20 21 08.4 -2.0**
ASAJ Asahikawa 146.52 320 PKPbc **PKPbc** **20 21 11.9 -0.5**
comp=Z,49nm,0.9s,baz=312,slow=4.6,SNR=20

HYBB Hyderabad (bro 146.91 90 *e*PKiKP **PKPab** **20 21 15.3 -0.9**
HYBB *es*PKiKP **sPKiKP** **20 22 48.4 +5.1**
ERM Erimo 147.31 317 PKP2 **PKPab** **20 21 16.9 -0.1**
ERM Erimo 147.31 317 PKPab **PKPab** **20 21 16.9 -0.1**
MOY Mondy 147.79 15 *e*PKIKP **PKPbc** **20 21 14.6 -1.1**
MOY pmax pmax
comp=Z,57nm,1.4s

IRK Irkutsk 147.91 11 *e*PKIKP **PKPdf** **20 21 13.3 +0.7**
IRK pmax pmax
comp=Z,68nm,2.0s

WMQ Urumqi 148.68 37 *e*PKPbc **PKPdf** **20 21 14.3 +0.1**
CIT Chita 148.93 360 *e*PKHKP PKPpre 20 21 16.6
CIT pmax pmax
comp=Z,103nm,1.8s

ZAK Zakamensk 149.50 13 *e*PKHKP PKPpre 20 21 16.6
ZAK pmax pmax
comp=Z,24nm,1.4s

PYUN Piuthan 151.43 69 *e*P **PKiKP** **20 21 26.1 +0.2**
LEM Lembang 151.86 168 PKPbc **PKiKP** **20 21 27.6 +0.5**
comp=Z,80nm,0.9s,baz=116,slow=10,SNR=20

LEM pPKPbc **pPKPbc** **20 22 30.4 +1.6**
comp=Z,58nm,0.8s,baz=150,slow=2.6,SNR=5.2

KOLN Koldanda 152.01 70 *e*P **PKPbc** **20 21 26.5 -0.3**
DANN Dangsing 152.07 69 *e*P **PKiKP** **20 21 27.9 +0.6**
USRK Ussuriysk Ar. 152.12 331 PKP **PKPdf** **20 21 20.4 +1.1**
comp=Z,4.2nm,0.9s,baz=197,slow=2.0,SNR=5.1

USRK pPKPbc **PKiKP** **20 21 27.1 +0.6**
comp=Z,24nm,1.1s,baz=8.6,slow=2.3,SNR=17

USRK pPKPbc **pPKPbc** **20 22 28.7 +0.6**
comp=Z,1.7nm,0.7s,baz=142,slow=44,SNR=1.1

SIJI Sorong 152.21 221 PKPbc **PKPbc** **20 21 27.3 0.0**
comp=Z,23nm,0.8s,baz=6.9,slow=4.7,SNR=16

SIJI pPKPbc **pPKPbc** **20 22 30.5 +1.2**
comp=Z,16nm,0.8s,baz=356,slow=5.0,SNR=4.2

SONM Songino Array 152.53 10 PKP **PKPdf** **20 21 21.0 +0.9**
comp=Z,4.9nm,0.9s,baz=308,slow=0.7,SNR=28

SONM PKPbc **PKiKP** **20 21 27.6 +0.2**
comp=Z,11nm,1.0s,baz=309,slow=0.7,SNR=26

SONM pPKPbc **pPKPbc** **20 22 25.9 -3.3**
comp=Z,3.6nm,0.9s,baz=7.0,slow=1.2,SNR=2.2

JSD Sado 152.58 314 **PKPdf** **20 21 19.4 -0.9**
BNX BinXian 152.69 338 PKPbc **PKPdf** **20 21 20.1 -0.1**
MDJ Mudanjiang 152.82 334 **PKPdf** **20 21 18.3 -2.1**
GKN Gorkha 152.89 69 *e*P **PKiKP** **20 21 28.9 +0.1**
DMN Daman 153.36 70 *e*P **PKiKP** **20 21 30.1 +0.2**
MJAR Matsushiro Arr 153.37 311 PKPbc **PKPbc** **20 21 28.9 -0.4**
comp=Z,6.9nm,0.8s,baz=19,slow=8.5,SNR=8.2

MJAR PKPab **PKPab** **20 21 42.3 0.0**
comp=Z,13nm,0.9s,baz=33,slow=14,SNR=10

MJAR Matsushiro Arr 153.37 311 **PKiKP** **20 21 29.5 +0.1**
KKN Kakani 153.48 69 *e*P **PKiKP** **20 21 30.7 +0.6**
CN2 Changchun 155.06 339 *e*P **PKPdf** **20 21 29.8 +6.2**
RPSI Rantau Prapat 157.04 140 **PKPab** **20 21 58.6 +0.1**
PSI Prapat 157.12 140 PKPab **PKPab** **20 21 58.6 -0.4**
comp=Z,4.7nm,0.6s,baz=145,slow=4.1,SNR=4.4

GOMU GeErMu 157.70 43 PKP **PKPab** **20 22 04.0 +2.6**
GOMU AMB AMB
comp=Z,63nm,4.6s

LSA Lhasa 158.06 62 P **PKPab** **20 22 04.0 +0.7**
LSA pmax pmax
comp=Z,15nm,1.2s

GTA Gaotai 158.16 29 PKP **PKPdf** **20 21 28.0 +0.1**
GTA PKPab **PKPab** **20 22 03.5 +0.6**
GTA sPKP 20 22 47.1
KSRS Korea Array 159.25 326 PKP **PKPdf** **20 21 30.4 +1.4**
comp=Z,7.7nm,1.0s,baz=74,slow=0.9,SNR=27

KSRS PKPab **PKPab** **20 22 08.1 +0.6**
comp=Z,4.4nm,1.0s,baz=46,slow=3.7,SNR=7.5

HHC Hu-ho-hao-te 160.04 4 *e*PKP **PKPdf** **20 21 32.1 +2.1**
HHC LR LR
comp=Z,130nm,17.1s

HHC LR LR
comp=Z,160nm,18.4s

BTO Baotou 160.14 8 *e*PKP **PKPdf** **20 21 29.9 -0.2**
JNU Nakatsue 160.29 312 PKPab **PKPab** **20 22 11.7 -0.7**
comp=Z,9.1nm,0.8s,baz=117,slow=0.8,SNR=4.0

BJI Beijing 160.77 354 PKP **PKPdf** **20 21 32.0 +1.4**
BJI sPKP 20 22 49.8
LZH Lanzhou 162.69 27 *e*PKP **PKPdf** **20 21 35.0 +2.0**
LZH pPKP pPKPdf 20 22 33.8 -1.8
LZH sPKP 20 22 53.3
TIA Tai'an 164.40 349 PKP **PKPdf** **20 21 34.9 +0.5**
CMAR Chiang Mai Arr 166.13 98 PKP **PKPdf** **20 21 36.4 +0.1**
comp=Z,2.3nm,1.2s,baz=268,slow=2.3,SNR=8.0

CMAR PKPab **pPKPdf** **20 22 38.3 -0.6**
comp=Z,4.6nm,0.6s,baz=257,slow=6.3,SNR=45

CMAR PP **PP** **20 26 23.9 -2.9**
comp=Z,3.2nm,1.0s,baz=260,slow=6.3,SNR=10.0

CMAR Chiang Mai Arr 166.13 98 PKIKP **PKPdf** **20 21 36.8 +0.5**
CMAR 20 22 37.5
CMAR Chiang Mai Arr 166.13 98 **PKPdf** **20 21 36.8 +0.5**
CMAR PKPab **pPKPdf** **20 22 37.5 -1.5**
CHTO Chiang Mai 166.21 96 PKIKP **PKPdf** **20 21 37.8 +1.5**
XAN Xi'an 166.31 16 PKP **PKPdf** **20 21 37.6 +1.5**
XAN PKPab **PKPab** **20 22 41.8 +3.2**
LYN LuoYang 166.37 3 *e*PKP **PKPdf** **20 21 36.8 +0.8**
CD2 Chengdu 166.77 39 PKP **PKPdf** **20 21 35.8 -0.7**
NJ2 Nanjing 167.88 338 *e*PKP **PKPdf** **20 21 35.5 -1.7**
PZH PanZhiHua 167.92 60 PKP **PKPdf** **20 21 35.9 -1.7**
PZH PKPab **pPKPdf** **20 22 41.3 +1.0**
PZH SKKS 20 32 56.6
GYA Guiyang 171.68 47 PKP **PKPdf** **20 21 40.3 +0.6**

IDC ***13*** *20:07:07.0±1.7, 14.°16N×145.°79E, h92km±13km, mb3.5/13, mb1 3.6/13, mb1mx3.4/52, mbtmp3.8/13, MS3.3/1, Ms1 3.3/1, ms1mx2.7/48 Error ellipse: s-maj=30.3km s-min=18.8km az=106.0*
NEIC ***13*** *20:07:08.6±1.1, 14.°13N±0.°08×145.°7E±0.°2, h104km±8km, mb3.9/4, ML3.6/6, Error ellipse: s-maj=26.5km s-min=5.4km az=114.0*
ISC 13 20:07:07.6±1.1, 14.°2N±0.°1×145.°8E±0.°2, h100km, n24, σ0s82/20, mb3.7/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.04**	**238**	P		**20 07 28.8**	**+0.3**
	314nm,0.3s,baz=111,slow=4.4,SNR=150						
GUMO				S		**20 07 43.0**	**-1.1**
	449nm,0.3s,baz=23,slow=22,SNR=86						
GUMO	**Guam**	**1.04**	**238**			**20 07 28.7**	**+0.3**
GUMO				Sn		**20 07 43.5**	**-0.7**
GUMO				IAML		20 07 44.7	
	3μm,0.6s						
KRVT	**Keravat (AS076**	**19.36**	**161**	LR	LR	20 19 20.5	
	comp=Z,78nm,19.2s,baz=337,slow=38						
H11S3	**WAKE ISLAND Hy**	**20.53**	**75**	T	T	20 33 17.8	
	baz=263						
H11S1	**WAKE ISLAND Hy**	**20.54**	**75**	T	T	20 33 18.8	
	baz=263,slow=74						
H11S2	**WAKE ISLAND Hy**	**20.55**	**75**	T	T	20 33 19.5	
	baz=263,slow=74						
KSRS	**Korea Array**	**28.13**	**329**	P	**P**	**20 12 51.0**	**+0.8**
	0.9nm,0.7s,baz=148,slow=9.2,SNR=3.1						
WRA	**Warramunga Arr**	**35.69**	**199**	P	**P**	**20 13 57.1**	**+0.5**
	0.4nm,0.6s,baz=22,slow=9.3,SNR=4.7						
FITZ	**Fitzroy Crossi**	**37.69**	**212**	P	**P**	**20 14 13.4**	**-0.1**
	2.1nm,1.1s,baz=305,slow=16,SNR=1.8						
CMAR	**Chiang Mai Arr**	**45.06**	**282**	P	**P**	**20 15 15.0**	**+1.1**
	0.1nm,0.4s,baz=77,slow=7.2,SNR=1.8						
MA2	**Magadan**	**45.50**	**4**	P	**P**	**20 15 16.5**	**-0.3**
	1.5nm,0.3s,baz=177,slow=10,SNR=3.9						
MA2	**Magadan**	**45.50**	**4**	IAmb	IAmb	20 15 17.6	
	comp=Z,2.4nm,0.5s						
SONM	**Songino Array**	**46.79**	**324**	P	**P**	**20 15 27.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=136,slow=8.1,SNR=6.4						
SONM	**Songino Array**	**46.79**	**324**	P	**P**	**20 15 27.3**	**+0.1**
SEY	**Seymchan**	**48.95**	**4**	P	**P**	**20 15 43.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=94,slow=15,SNR=5.2						
TIXI	**Tiksi**	**58.38**	**354**	P	**P**	**20 16 50.5**	**-1.6**
	comp=Z,0.5nm,0.2s,baz=270,slow=23,SNR=1.7						
TIXI	**Tiksi**	**58.38**	**354**	IAmb	IAmb	20 17 03.4	
	comp=Z,1.8nm,1.1s						
ZALV	**Zalesovo Beam**	**61.69**	**324**	P	**P**	**20 17 15.1**	**0.0**
	comp=Z,0.4nm,0.4s,baz=114,slow=9.9,SNR=2.1						
MKAR	**Makanchi Array**	**61.70**	**316**	P	**P**	**20 17 15.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=93,slow=8.9,SNR=8.7						
MKAR	**Makanchi Array**	**61.70**	**316**	P	**P**	**20 17 14.9**	**-0.4**
ILAR	**Eielson Array**	**67.69**	**25**	P	**P**	**20 17 54.0**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=248,slow=5.9,SNR=6.7						
ILAR	**Eielson Array**	**67.69**	**25**	P	**P**	**20 17 54.0**	**+0.1**
YKA	**Yellowknife Ar**	**81.96**	**28**	P	**P**	**20 19 16.9**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=287,slow=5.3,SNR=5.8						
FINES	**FINESS Array B**	**91.03**	**335**	P	**P**	**20 19 58.8**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=59,slow=5.4,SNR=7.6						

IDC ***13*** *20:16:44.5±1.0, 5.°54S×82.°14W, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.8/35, mbtmp3.8/9, ML3.6/2, MS4.1/1, Ms1 4.1/1, ms1mx3.1/66, Error ellipse: s-maj=37.8km s-min=20.7km az=56.0*
NEIC ***13*** *20:16:47.4±1.7, 5.°41S±0.°05×81.°76W±0.°08, h10km±1km, mb4.3/16, Error ellipse: s-maj=13.5km s-min=7.1km az=254.0*
ISC 13 20:16:50.4±0.7, 5.°40S±0.°10×81.°80W±0.°10, h35km, n36, σ1s21/30, mb3.8/10, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCRA	**Macar, Loja**	**2.10**	**61**		**Pn**	**20 17 21.8**	**-1.4**
ARNL	**Arenillas**	**2.52**	**43**	Pn	**Pn**	**20 17 27.6**	**-1.3**
BOSC	**San Juan Bosco**	**3.98**	**56**		**Pn**	**20 17 49.2**	**+0.1**
OTAV	**Otavalo**	**6.52**	**31**		**Pn**	**20 18 24.7**	**+0.3**
TULM	**Tulcn-Chalpat**	**7.28**	**34**	Pn	**Pn**	**20 18 32.8**	**-2.0**
PAYG	**Puerto Ayora**	**9.69**	**299**	Pn	**Pn**	**20 19 07.9**	**+0.5**
LPAZ	**La Paz**	**17.23**	**130**	P	**Pn**	**20 20 48.8**	**-0.3**
	0.2nm,0.3s,baz=318,slow=8.1,SNR=3.8						
SDV	**Santo Domingo**	**18.04**	**38**	P	**P**	**20 21 00.2**	**+1.3**
	0.8nm,0.3s,baz=221,slow=14,SNR=7.5						
SDV	**Santo Domingo**	**18.04**	**38**	P	**Pn**	**20 20 56.8**	**-1.8**
SDV				IAmb	IAmb	20 21 02.7	
	comp=Z,23nm,1.3s						
BAUV	**El Baul**	**19.78**	**44**	P	**P**	**20 21 17.9**	**+0.1**
BAUV				IAmb	IAmb	20 21 21.3	
	comp=Z,13nm,0.9s						
SIV	**San Ignacio**	**22.90**	**119**	P	**P**	**20 21 52.1**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=258,slow=19,SNR=3.7						
H03N2	**Juan Fernandez**	**28.03**	**175**	T	T	20 52 10.1	
	baz=354						
H03N1	**Juan Fernandez**	**28.03**	**175**	T	T	20 52 10.9	
	baz=354						
H03N3	**Juan Fernandez**	**28.04**	**175**	T	T	20 52 10.9	
	baz=354						
RPN	**Rapa Nui**	**33.98**	**227**	LR	LR	20 33 13.8	
	comp=Z,269nm,19.1s,baz=15,slow=29						
PLCA	**Paso Flores**	**36.60**	**166**	P	**P**	**20 23 52.4**	**-1.0**
	comp=Z,8.8nm,0.9s,baz=278,slow=4.7,SNR=3.6						
PLCA	**Paso Flores**	**36.60**	**166**	IAmb	IAmb	20 24 20.3	
	comp=Z,7.8nm,1.2s						
LCAR	**Lake Charles**	**42.17**	**349**	P	**P**	**20 24 40.2**	**+0.4**
LCAR				IAmb	IAmb	20 24 41.5	
	comp=Z,4.8nm,0.8s						
HWUT	**Hardware Ranch**	**54.11**	**333**	P	**P**	**20 26 12.6**	**+0.5**
BW06	**Boulder Array**	**54.16**	**335**	P	**P**	**20 26 12.8**	**+0.3**
PD31	**Pinedale Array**	**54.16**	**335**	P	**P**	**20 26 11.8**	**-0.7**
PDAR	**Pinedale Array**	**54.16**	**335**	P	**P**	**20 26 12.0**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=134,slow=8.5,SNR=6.1						
PDAR	**Pinedale Array**	**54.16**	**335**	P	**P**	**20 26 12.3**	**-0.3**
AGMN	**Agassiz Nation**	**54.88**	**349**	P	**P**	**20 26 17.5**	**+0.1**
NVAR	**Mina Array Bea**	**55.20**	**325**	P	**P**	**20 26 19.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=124,slow=4.3,SNR=3.9						
H17A	**Grant Village**	**55.92**	**335**	P	**P**	**20 26 24.0**	**-1.3**
HLID	**Hailey**	**56.95**	**332**	P	**P**	**20 26 33.3**	**+0.8**
HLID				IAmb	IAmb	20 27 00.3	
	comp=Z,4.4nm,1.5s						
FCC	**Fort Churchill**	**64.71**	**353**	P	**P**	**20 27 25.4**	**+0.6**
FCC				IAmb	IAmb	20 27 26.1	
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**72.20**	**345**	P	**P**	**20 28 10.4**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=138,slow=5.8,SNR=7.4						
ESDC	**Sonseca Array**	**84.12**	**49**	P	**P**	**20 29 19.5**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=298,slow=11,SNR=1.1						
TORD	**Torodi Ar. Bea**	**84.91**	**76**	P	**P**	**20 29 25.8**	**+3.3**
	comp=Z,0.2nm,0.4s,baz=278,slow=1.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**84.91**	**76**	IAmb	IAmb	20 29 27.1	
	comp=Z,1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**130.39**	**10**	PKP	**PKPdf**	**20 35 56.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=335,slow=6.4,SNR=2.3						
ASAR	**Alice Springs**	**134.75**	**229**	PKP	**PKPdf**	**20 36 04.8**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=120,slow=2.7,SNR=4.3						
WRA	**Warramunga Arr**	**136.45**	**234**	PKP	**PKPdf**	**20 36 07.7**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=111,slow=1.8,SNR=6.7						
MKAR	**Makanchi Array**	**136.53**	**16**	PKP	**PKPdf**	**20 36 08.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=316,slow=3.3,SNR=2.8						

IDC 13 20:38:36.7±315.0, 66.°96N×40.°04E, h0km, Error ellipse: s-maj=133.1km s-min=19.9km az=114.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I37NO	**I37NO**	**8.30**	**295**	*i*		21 25 40.0	
	baz=95,slow=333,SNR=5.4						
I31KZ	**AKTYUBINSK INF**	**18.91**	**142**	*i*		22 41 50.0	
	baz=338,slow=337,SNR=1.2						
I46RU	**ZALESOVO INFRA**	**24.95**	**99**	*i*		23 09 50.0	
	baz=318,slow=332,SNR=1.4						
I18DK	**QAANAAQ INFRAS**	**29.70**	**335**	*i*		23 43 40.0	
	baz=50,slow=336,SNR=1.2						

VAO ***13*** *21:07:25.7±0.7, 25.°03S×69.°79W, h10km, mb4.2*
NEIC ***13*** *21:08:05.8±1.7, 24.°02S±0.°05×67.°1W±0.°1, h183km±7km, mb4.2/9, Md3.8(SJA), Error ellipse: s-maj=13.8km s-min=7.1km az=85.0*
IDC ***13*** *21:08:06.0±1.3, 23.°88S×66.°94W, h181km±13km, mb3.5/2, mb1 3.6/8, mb1mx3.4/31, mbtmp4.0/8, Error ellipse: s-maj=21.3km s-min=16.7km az=176.0*
GUC ***13*** *21:08:06.7±0.6, 23.°96S×67.°40W, h226km±8km, ML4.2*
ISC 13 21:08:05.5±0.7, 23.°99S±0.°04×67.°10W±0.°06, h188km±7km, n96, σ1s33/123, mb3.9/5, 11C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.62**	**117**	⇓ *i*P	**Pn**	**21 08 41.0**	**+1.4**
LVC	**Limon Verde**	**2.16**	**309**	P	**Pn**	**21 08 46.7**	**+1.3**
	11nm,0.3s,baz=126,slow=8.4,SNR=150						
LVC				S	**Sn**	**21 09 16.7**	**+0.5**
	39nm,0.3s,baz=341,slow=20,SNR=79						
LVC	**Limon Verde**	**2.16**	**309**		**Pn**	**21 08 46.6**	**+1.3**
LVC				Sn	**Sn**	**21 09 17.1**	**+1.0**
LVC	**Limon Verde**	**2.16**	**309**	⇑ *i*P	**Pn**	**21 08 46.7**	**+1.3**
LVC				*i* S	**Sn**	**21 09 16.8**	**+0.7**
PB15	**IPOC Station P**	**2.31**	**289**		**Pn**	**21 08 48.1**	**+1.3**
PB15				Sn	**Sn**	**21 09 18.9**	**0.0**
PB15	**IPOC Station P**	**2.31**	**289**	⇑ *i*P	**Pn**	**21 08 48.2**	**+1.3**
PB15				*i* S	**Sn**	**21 09 19.1**	**+0.2**
GO02	**Mina Guanaco**	**2.55**	**242**		**Pn**	**21 08 50.8**	**+1.2**
GO02				Sn	**Sn**	**21 09 24.6**	**+0.7**
GO02	**Mina Guanaco**	**2.55**	**242**	⇑ *i*P	**Pn**	**21 08 50.9**	**+1.2**
GO02				*i* S	**Sn**	**21 09 24.6**	**+0.7**
PB06	**IPOC Station P**	**2.61**	**299**		**Pn**	**21 08 50.9**	**+0.7**
PB06				Sn	**Sn**	**21 09 24.2**	**-0.7**
PB06	**IPOC Station P**	**2.61**	**299**	⇑ *i*P	**Pn**	**21 08 51.4**	**+1.2**
PB06				*i* S	**Sn**	**21 09 24.6**	**-0.3**
PB06				IAML		21 09 26.5	
	comp=N,676nm,0.2s						
PB09	**IPOC Station P**	**2.95**	**317**		**Pn**	**21 08 55.7**	**+1.5**
PB09				Sn	**Sn**	**21 09 32.0**	**-0.1**
PB09	**IPOC Station P**	**2.95**	**317**	⇑ *i*P	**Pn**	**21 08 55.7**	**+1.5**
PB09				*i* S	**Sn**	**21 09 32.4**	**+0.3**
PB09				IAML		21 09 33.5	
	comp=N,225nm,0.5s						
PB14	**IPOC Station P**	**3.08**	**257**		**Pn**	**21 08 56.4**	**+0.5**
PB14				Sn	**Sn**	**21 09 33.6**	**-1.5**
PB14	**IPOC Station P**	**3.08**	**257**	*e*P	**Pn**	**21 08 56.6**	**+0.8**
PB10	**IPOC Station P**	**3.20**	**278**		**Pn**	**21 08 58.1**	**+1.0**
PB10				Sn	**Sn**	**21 09 36.6**	**-0.6**
PB10	**IPOC Station P**	**3.20**	**278**	⇑ *i*P	**Pn**	**21 08 58.0**	**+1.0**
PB10				*i* S	**Sn**	**21 09 35.5**	**-1.8**
PB10				IAML		21 09 38.6	
	comp=E,288nm,0.4s						
PB04	**IPOC Station P**	**3.26**	**300**		**Pn**	**21 08 58.6**	**+0.7**
PB04				Sn	**Sn**	**21 09 36.9**	**-1.9**
PB04	**IPOC Station P**	**3.26**	**300**	*e*P	**Pn**	**21 08 57.8**	**-0.1**
PB04				*i* S	**Sn**	**21 09 36.8**	**-1.9**
AC02	**Maricunga**	**3.38**	**213**		**Pn**	**21 09 00.5**	**+0.9**
AC02	**Maricunga**	**3.38**	**213**	*e*P	**Pn**	**21 09 00.8**	**+1.1**
PB07	**IPOC Station P**	**3.42**	**311**		**Pn**	**21 09 00.5**	**+0.6**
PB07	**IPOC Station P**	**3.42**	**311**	⇑ *i*P	**Pn**	**21 09 00.5**	**+0.6**
PB07				*i* S	**Sn**	**21 09 40.2**	**-2.2**
PB01	**IPOC Station P**	**3.67**	**323**		**Pn**	**21 09 03.3**	**+0.3**
PB01	**IPOC Station P**	**3.67**	**323**	*e*P	**Pn**	**21 09 03.1**	**+0.2**
PB01				*i* S	**Sn**	**21 09 45.8**	**-2.1**
PB02	**IPOC Station P**	**3.71**	**315**		**Pn**	**21 09 03.2**	**-0.2**
PB02	**IPOC Station P**	**3.71**	**315**	⇑ *i*P	**Pn**	**21 09 03.5**	**+0.1**
PB02				*i* S	**Sn**	**21 09 46.2**	**-2.5**
AC01	**Pan de Azucar**	**3.83**	**235**		**Pn**	**21 09 04.5**	**-0.3**
AC01	**Pan de Azucar**	**3.83**	**235**	⇑ *i*P	**Pn**	**21 09 04.5**	**-0.3**
AC01				*i* S	**Sn**	**21 09 49.3**	**-2.0**
PATCX	**Punta Patache**	**4.24**	**318**	Pn	**Pn**	**21 09 10.4**	**+0.4**
PB08	**IPOC Station P**	**4.28**	**333**		**Pn**	**21 09 11.7**	**+0.8**
PB08	**IPOC Station P**	**4.28**	**333**	*e*P	**Pn**	**21 09 12.3**	**+1.4**
PB08				*e*S	**Sn**	**21 10 01.6**	**-0.4**
PB08				IAML		21 10 07.1	
	comp=E,88nm,0.4s						
TA01	**Diego Aracena**	**4.45**	**319**	Pn	**Pn**	**21 09 12.2**	**-0.5**
TA01	**Diego Aracena**	**4.45**	**319**	*e*P	**Pn**	**21 09 12.5**	**-0.1**
TA01				*e*S	**Sn**	**21 10 02.9**	**-2.4**
AC06	**Mina Casimiro**	**4.46**	**221**	Pn	**Pn**	**21 09 12.0**	**-0.7**
AC06	**Mina Casimiro**	**4.46**	**221**	⇑ *i*P	**Pn**	**21 09 12.1**	**-0.7**
AC06				*i* S	**Sn**	**21 10 03.1**	**-2.5**
HMBC	**Humberstone**	**4.51**	**324**	*e*P	**Pn**	**21 09 12.9**	**-0.7**
HMBC				*i* S	**Sn**	**21 10 03.5**	**-3.5**
GO03	**Copiap**	**4.57**	**218**		**Pn**	**21 09 13.6**	**-0.6**
GO03	**Copiap**	**4.57**	**218**	⇑ *i*P	**Pn**	**21 09 13.6**	**-0.6**
GO03				*i* S	**Sn**	**21 10 06.2**	**-1.9**
GO01	**Chusmiza**	**4.72**	**335**		**Pn**	**21 09 17.7**	**+1.1**
PB11	**IPOC Station P**	**4.83**	**330**	Pn	**Pn**	**21 09 18.3**	**+0.6**
PB11	**IPOC Station P**	**4.83**	**330**	*e*P	**Pn**	**21 09 17.5**	**-0.2**
PB11				*e*S	**Sn**	**21 10 11.7**	**-2.8**
AC04	**Llanos de Chal**	**5.51**	**220**	Pn	**Pn**	**21 09 24.8**	**-1.4**
AC04	**Llanos de Chal**	**5.51**	**220**	⇓ *i*P	**Pn**	**21 09 24.9**	**-1.4**
AC04				*e*S	**Sn**	**21 10 26.4**	**-3.6**
LCO	**Las Campanas**	**5.95**	**212**	Pn	**Pn**	**21 09 30.6**	**-1.6**
PB16	**IPOC Station P**	**6.06**	**338**		**Pn**	**21 09 34.9**	**+0.8**
PB12	**IPOC Station P**	**6.14**	**330**	Pn	**Pn**	**21 09 34.3**	**-0.4**
CO01	**Juntas del Tor**	**6.54**	**203**		**Pn**	**21 09 39.7**	**-0.2**
GO04	**Tololo Observa**	**6.99**	**207**		**Pn**	**21 09 43.6**	**-2.1**
CO03	**El Pedregal**	**7.53**	**204**		**Pn**	**21 09 51.4**	**-1.4**
LPAZ	**La Paz**	**7.72**	**353**	P	**Pn**	**21 09

comp=Z,0.5nm,0.5s,baz=308,slow=3.0,SNR=7.1
MKAR Makanchi Array 146.57 39 PKPdf 21 27 24.2 +1.3

*NEIC **13** 21:22:25.6±2.5, 43.4°N±0.2°×150.6°E±0.2°, h10km±2km, mb4.2/8, Error ellipse: s-maj=29.9km s-min=18.8km az=181.0*
*JMA **13** 21:22:28.2±0.8, 44.02°N×150.37°E, h30km, M4.2*
*MOS **13** 21:22:28.6±1.1, 43.63°N×150.33°E, h35km, mb4.3/5, Error ellipse: s-maj=16.5km s-min=10.0km az=24.3*
*IDC **13** 21:22:29.8±3.0, 44.47°N×150.28°E, h0km, mb3.8/9, mb1 3.8/12, mb1mx3.6/41, mbtmp3.7/12, ML3.3/3, MS3.5/1, Ms1 3.5/1, ms1mx2.4/95, Error ellipse: s-maj=74.7km s-min=20.4km az=163.0*
*SKHL **13** 21:22:29.3±0.6, 43.60N×150.40E, h37km±1km, mb4.5/3*
ISC 13 21:22:29.5±0.9, 43°51N±0.08×150°40E±0.07, h35km, n68, σ1§85/77, mb3.9/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.51**	**314**	*e*PN		**Pn**	**Pn**	**21 23 06.2**	**-1.5**
KUR				*i* S		**Sn**	**Sn**	**21 23 34.3**	**-2.8**
KUR				pmax	pmax				
	comp=Z,86nm,0.3s								
KUR				smax	smax				
	comp=N,419nm,0.2s								
KUR				smax	smax				
	comp=E,117nm,0.2s								
KUR	**Kuril'sk**	**2.51**	**314**	*e*P		**Pn**	**Pn**	**21 23 06.2**	**-1.5**
KUR				AMB	AMB	21 23 08.6			
	comp=E,100nm,0.5s								
KUR				*i* S		**Sn**	**Sn**	**21 23 34.0**	**-3.1**
KUR				A	A	21 23 36.2			
	comp=E,340nm,0.3s								
KUR				A	A	21 23 36.2			
	comp=E,280nm,0.3s								
SHO	**Shikotan**	**2.62**	**279**	*e*PN		**Pn**	**Pn**	**21 23 06.2**	**-3.1**
SHO				*e*S		**Sn**	**Sn**	**21 23 37.3**	**-2.5**
SHO				pmax	pmax				
	comp=N,11nm,0.2s								
SHO				pmax	pmax				
	comp=Z,21nm,0.2s								
SHO				pmax	pmax				
	comp=E,6.0nm,0.1s								
SHO				smax	smax				
	comp=N,221nm,0.4s								
SHO				smax	smax				
	comp=E,62nm,0.2s								
SHO	**Shikotan**	**2.62**	**279**	*e*P		**Pn**	**Pn**	**21 23 08.5**	**-0.8**
SHO				AMB	AMB	21 23 08.7			
	comp=E,20nm,0.2s								
SHO				*e*S		**Sn**	**Sn**	**21 23 37.5**	**-2.3**
SHO				A	A	21 23 39.6			
	comp=E,220nm,0.3s								
SHO				A	A	21 23 39.6			
	comp=E,60nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**3.33**	**281**	*e*PN		**Pn**	**Pn**	**21 23 15.7**	**-3.4**
YUK				pmax	pmax				
	comp=N,59nm,0.4s								
YUK				pmax	pmax				
	comp=Z,189nm,0.4s								
YUK				pmax	pmax				
	comp=E,100nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**3.33**	**281**	*e*P		**Pn**	**Pn**	**21 23 19.2**	**+0.1**
YUK				AMB	AMB	21 23 21.2			
	comp=E,110nm,0.3s								
YUK				*e*S		**Sn**	**Sn**	**21 23 55.2**	**-2.2**
YUK				A	A	21 23 57.0			
	comp=E,100nm,0.3s								
YUK				A	A	21 23 57.0			
	comp=E,250nm,0.3s								
NEM2	**Nemuro 2**	**3.40**	**269**	P		**Pn**	**Pn**	**21 23 19.0**	**-1.0**
NEM2				*e*S		**Sn**	**Sn**	**21 23 56.7**	**-2.3**
NMR	**Nemuro--Hokkai**	**3.41**	**269**	*e*PN		**Pn**	**Pn**	**21 23 19.1**	**-1.0**
NMR	**Nemuro--Hokkai**	**3.41**	**269**	*e*P		**Pn**	**Pn**	**21 23 19.1**	**-1.0**
NMR				*e*S		**Sn**	**Sn**	**21 23 56.7**	**-2.6**
RUSJ	**Misakicho**	**3.78**	**281**	*e*PN		**Pn**	**Pn**	**21 23 25.0**	**-0.2**
RUSJ				*e*S		**Sn**	**Sn**	**21 24 07.6**	**-0.9**
JRA	**Rausu**	**3.85**	**278**	P		**Pn**	**Pn**	**21 23 25.9**	**-0.3**
JRA				*e*S		**Sn**	**Sn**	**21 24 09.1**	**-1.1**
JNK	**Nakash**	**4.13**	**273**	P		**Pn**	**Pn**	**21 23 29.2**	**-0.9**
JNK				*e*S		**Sn**	**Sn**	**21 24 14.7**	**-2.5**
JAK	**Akkeshi**	**4.20**	**265**	P		**Pn**	**Pn**	**21 23 30.8**	**-0.2**
JAK				*e*S		**Sn**	**Sn**	**21 24 16.4**	**-2.4**
JTKR	**Abashiri--Toko**	**4.73**	**278**	P		**Pn**	**Pn**	**21 23 38.6**	**+0.3**
JTKR				*e*S		**Sn**	**Sn**	**21 24 33.3**	**+1.4**
JAR	**Ashorobuto**	**4.84**	**270**	P		**Pn**	**Pn**	**21 23 40.1**	**+0.3**
JAR				*e*S		**Sn**	**Sn**	**21 24 33.5**	**-1.1**
JOB	**Onbets**	**4.84**	**265**	P		**Pn**	**Pn**	**21 23 39.6**	**-0.2**
JCH	**Churui**	**5.24**	**263**	P		**Pn**	**Pn**	**21 23 45.3**	**+0.1**
JCH				*e*S		**Sn**	**Sn**	**21 24 41.8**	**-2.6**
ERM	**Erimo**	**5.54**	**257**	PN		**Pn**	**Pn**	**21 23 50.7**	**+1.3**
ERM	**Erimo**	**5.54**	**257**	Pn		**Pn**	**Pn**	**21 23 50.7**	**+1.3**
ERM				Sn		**Sn**	**Sn**	**21 24 51.6**	**-0.2**
JKA	**Kamikawa-asahi**	**5.68**	**279**			**Pn**	**Pn**	**21 23 53.2**	**+1.9**
JKA	**Kamikawa-asahi**	**5.68**	**279**	*e*P		**Pn**	**Pn**	**21 23 53.2**	**+1.9**
ASAJ	**Asahikawa**	**5.68**	**279**	Pn		**Pn**	**Pn**	**21 23 52.8**	**+1.4**
	comp=E,1.7nm,0.3s,baz=96,slow=10,SNR=20								
ASAJ				Sn		**Sn**	**Sn**	**21 25 01.6**	**+6.2**
	baz=276,slow=33,SNR=1.1								
ASAJ	**Asahikawa**	**5.68**	**279**	PN		**Pn**	**Pn**	**21 23 53.2**	**+1.8**
JNBK	**Urakawa-nobuka**	**5.75**	**260**	P		**Pn**	**Pn**	**21 23 52.3**	**0.0**
JEW	**Eniwo**	**6.58**	**267**	Pn		**Pn**	**Pn**	**21 24 05.0**	**+1.3**
JTH	**Tanohata**	**7.32**	**244**	P		**Pn**	**Pn**	**21 24 12.4**	**-1.4**
JANG	**Nango**	**7.33**	**248**	P		**Pn**	**Pn**	**21 24 12.6**	**-1.4**
JANG				*e*S		**Sn**	**Sn**	**21 25 30.7**	**-5.2**
JTM	**Tenmabayashi**	**7.45**	**252**	Pn		**Pn**	**Pn**	**21 24 15.9**	**+0.3**
JSD	**Sado**	**10.71**	**243**	Pn		**Pn**	**Pn**	**21 24 59.6**	**-0.7**
PETK	**Petropavlovsk-**	**10.76**	**24**	Pn		Pn	Pn	21 24 51.7	-9.2
	comp=E,0.3nm,0.3s,baz=186,slow=10,SNR=1.8								
SEY	**Seymchan**	**19.50**	**3**	P		**P**	**P**	**21 26 48.3**	**-4.9**
	comp=E,0.1nm,0.3s,baz=76,slow=19,SNR=5.1								
H11N2	**WAKE ISLAND Hy**	**27.45**	**145**	T		T	T	21 59 47.2	
	baz=334,slow=76,SNR=5.8								
H11N1	**WAKE ISLAND Hy**	**27.46**	**145**	T		T	T	21 59 39.3	
	baz=334,slow=76,SNR=5.6								
H11N3	**WAKE ISLAND Hy**	**27.47**	**145**	T		T	T	21 59 48.5	
	baz=334,slow=76,SNR=6.8								
H11S1	**WAKE ISLAND Hy**	**28.46**	**146**	T		T	T	22 00 54.6	
	baz=335,slow=76,SNR=7.9								
H11S3	**WAKE ISLAND Hy**	**28.47**	**146**	T		T	T	22 01 06.1	
	baz=335,slow=76,SNR=6.0								
H11S2	**WAKE ISLAND Hy**	**28.48**	**146**	T		T	T	22 01 02.9	
	baz=335,slow=76,SNR=4.9								
ULN	**Ulaanbaatar**	**30.30**	**294**	P		**P**	**P**	**21 28 39.3**	**+1.9**
ULN				pmax	pmax				
	comp=Z,3.0nm,1.5s								
ULN	**Ulaanbaatar**	**30.30**	**294**	P		**P**	**P**	**21 28 39.3**	**+1.9**
ULN				IAmb	IAmb	21 28 42.5			
	comp=Z,3.4nm,1.5s								
ULN	**Ulaanbaatar**	**30.30**	**294**	*e*P		**P**	**P**	**21 28 39.3**	**+1.9**
SONM	**Songino Array**	**30.74**	**294**	P		**P**	**P**	**21 28 42.2**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=75,slow=7.7,SNR=6.0								
SONM	**Songino Array**	**30.74**	**294**	P		**P**	**P**	**21 28 41.9**	**+0.6**
KDAK	**Kodiak Island**	**37.67**	**47**	P		**P**	**P**	**21 29 41.4**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=262,slow=7.1,SNR=6.0								
INK	**Inuvik**	**45.42**	**30**	P		**P**	**P**	**21 30 43.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=229,slow=20,SNR=1.9								
MK31	**Makanchi Array**	**46.78**	**299**	P		**P**	**P**	**21 30 56.8**	**+1.4**
MK31				pmax	pmax				
	comp=Z,2.0nm,1.0s								
MK31	**Makanchi Array**	**46.78**	**299**	P		**P**	**P**	**21 30 56.8**	**+1.4**
MK31				IAmb	IAmb	21 30 57.6			
	comp=Z,2.4nm,1.0s								
MKAR	**Makanchi Array**	**46.78**	**299**	P		**P**	**P**	**21 30 56.6**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=72,slow=7.8,SNR=9.9								
MKAR	**Makanchi Array**	**46.78**	**299**	P		**P**	**P**	**21 30 56.8**	**+1.4**
MKAR	**Makanchi Array**	**46.78**	**299**	P		**P**	**P**	**21 30 56.8**	**+1.4**
MKAR	**Makanchi Array**	**46.78**	**299**	*e*P		**P**	**P**	**21 30 56.8**	**+1.4**
MAKZ	**Makanchi**	**46.97**	**299**	P		**P**	**P**	**21 30 58.5**	**+1.6**
MAKZ				pmax	pmax				
	comp=Z,6.0nm,1.3s								
MAKZ	**Makanchi**	**46.97**	**299**	P		**P**	**P**	**21 30 58.5**	**+1.6**
KURK	**Kurchatov**	**47.61**	**305**	P		**P**	**P**	**21 31 02.5**	**+0.8**
KURK				pmax	pmax				
	comp=Z,3.0nm,1.2s								
KURK	**Kurchatov**	**47.61**	**305**	P		**P**	**P**	**21 31 02.5**	**+0.8**
KURK				IAmb	IAmb	21 31 05.8			
	comp=Z,3.1nm,1.1s								
KURK	**Kurchatov**	**47.61**	**305**	*e*P		**P**	**P**	**21 31 02.5**	**+0.8**
BRVK	**Borovoye**	**51.52**	**311**	P		**P**	**P**	**21 31 32.6**	**+1.2**
BRVK				pmax	pmax				
	comp=Z,1.0nm,1.0s								
BRVK	**Borovoye**	**51.52**	**311**	*e*P		**P**	**P**	**21 31 32.6**	**+1.2**
PMG	**Port Moresby**	**52.74**	**184**	LR		LR	LR	21 51 41.2	
	comp=Z,49nm,20.7s,baz=87,slow=33								
YKA	**Yellowknife Ar**	**54.68**	**35**	P		**P**	**P**	**21 31 54.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=293,slow=6.8,SNR=6.6								
ABKAR	**Akbulak array**	**59.04**	**310**	P		**P**	**P**	**21 32 26.3**	**+0.6**
ABKAR	**Akbulak array**	**59.04**	**310**	P		**P**	**P**	**21 32 26.3**	**+0.6**
ABKAR				IAmb	IAmb	21 32 27.5			
	comp=Z,1.7nm,0.5s								
FIA1	**FINESS Array S**	**66.14**	**334**	P		**P**	**P**	**21 33 12.2**	**-0.6**
FINES	**FINESS Array B**	**66.14**	**334**	P		**P**	**P**	**21 33 12.7**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=45,slow=8.4,SNR=4.2								
FINES	**FINESS Array B**	**66.14**	**334**	P		**P**	**P**	**21 33 12.1**	**-0.7**
NOA	**NORSAR Array B**	**70.66**	**340**	P		**P**	**P**	**21 33 41.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=28,slow=6.2,SNR=1.7								
KBZ	**Khabaz**	**71.71**	**313**	P		**P**	**P**	**21 33 49.7**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=57,slow=2.8,SNR=4.6								
AKASG	**Malin Array Be**	**73.15**	**325**	P		**P**	**P**	**21 33 56.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=34,slow=5.5,SNR=2.0								

*TUL **13** 21:33:16.6±1.2, 36.92N±0.01°×97.36W±0.02, h7km±6km, ML3.5, mb_Lg3.1/75(NEIC), Error ellipse: s-maj=2.1km s-min=1.7km az=214.0*
*ANF **13** 21:33:17.0±0.3, 36.91N×97.36W, h8km, ML3.8/9, Error ellipse: s-maj=4.0km s-min=2.5km az=20.0*
*NEIC **13** 21:33:16.9±1.0, 36.90N±0.01°×97.37W±0.02, h7km±5km, Error ellipse: s-maj=2.3km s-min=1.7km az=45.0*
ISC 13 21:33:16.5±1.5, 36.90N±0.04×97.38W±0.03, h2km±15km, n74, σ0§76/59, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.69**	**89**				**Pg**	**21 33 29.4**	**-0.4**
T35A				Sg		**Sg**	**Sg**	**21 33 39.0**	**+0.3**
T35B	**Sooner Cattle**	**0.69**	**89**	P		**Pg**	**Pg**	**21 33 29.6**	**-0.2**
	baz=271								
T35B				S		**Sg**	**Sg**	**21 33 39.0**	**+0.2**
	baz=271								
OK005	**Luther M Schoo**	**1.25**	**173**	Pn		**Pn**	**Pn**	**21 33 40.3**	**-0.8**
OK009	**Oakdale Elemen**	**1.32**	**182**	Pn		**Pn**	**Pn**	**21 33 41.4**	**-0.6**
OK001	**Jones High Sch**	**1.34**	**177**	Pn		**Pn**	**Pn**	**21 33 41.9**	**-0.4**
U32A	**Winter Ranch,**	**1.41**	**249**			**Pn**	**Pn**	**21 33 42.7**	**-0.4**
U32A	**Winter Ranch,**	**1.41**	**249**	P		**Pn**	**Pn**	**21 33 42.8**	**-0.4**
	baz=67,SNR=73								
U32A				S		**Sg**	**Sg**	**21 34 02.5**	**+0.8**
	baz=67								
TUL1	**Leonard**	**1.62**	**127**	Pn		**Pn**	**Pn**	**21 33 45.9**	**-0.2**
TUL1	**Leonard**	**1.62**	**127**	P		**Pn**	**Pn**	**21 33 46.0**	**-0.1**
	baz=309,SNR=57								
TUL1				S		**Sb**	**Sb**	**21 34 07.6**	**-0.4**
	baz=309								
FNO	**Franklin**	**1.64**	**181**			**Pn**	**Pn**	**21 33 46.6**	**+0.1**
W35A	**Tecumseh**	**1.79**	**167**			**Pn**	**Pn**	**21 33 48.6**	**0.0**
R32A	**Long Quarter,**	**1.85**	**325**			**Pn**	**Pn**	**21 33 49.7**	**+0.4**
R32A	**Long Quarter,**	**1.85**	**325**	P		**Pn**	**Pn**	**21 33 49.9**	**+0.6**
	baz=144								
R32A				Sb		**Sb**	**Sb**	**21 34 15.2**	**+0.5**
	baz=144								
KSU1	**Kansas State U**	**2.28**	**15**	Pn		**Pn**	**Pn**	**21 33 55.4**	**+0.3**
X34A	**Smith Ranch, M**	**2.33**	**189**			**Pn**	**Pn**	**21 33 56.3**	**+0.5**
X34A				IAmb_Lg				21 34 34.3	
	comp=Z,98nm,0.9s								
WMOK	**Wichita Mounta**	**2.44**	**208**			**Pn**	**Pn**	**21 33 57.8**	**+0.3**
WMOK	**Wichita Mounta**	**2.44**	**208**	P		**Pn**	**Pn**	**21 33 58.2**	**+0.7**
	baz=28,SNR=64								
X37A	**Clayton**	**2.83**	**144**			**Pn**	**Pn**	**21 34 02.8**	**0.0**
X37A				IAmb_Lg				21 34 53.3	
	comp=Z,50nm,0.7s								
X37A	**Clayton**	**2.83**	**144**	P		**Pn**	**Pn**	**21 34 03.2**	**+0.5**
	baz=326,SNR=17								
X37A				Sb		**Sb**	**Sb**	**21 34 44.0**	**+1.2**
	baz=326								
HHAR	**Hobbs**	**2.83**	**102**			**Pn**	**Pn**	**21 34 03.5**	**+0.7**
HHAR	**Hobbs**	**2.83**	**102**	P		**Pn**	**Pn**	**21 34 03.6**	**+0.7**
	baz=284								
S39A	**Bolivar**	**3.33**	**75**			**Pn**	**Pn**	**21 34 09.2**	**-0.4**
W39A	**Magazine**	**3.37**	**119**	Pn		**Pn**	**Pn**	**21 34 09.2**	**-1.0**
W39A	**Magazine**	**3.37**	**119**	Sb		**Sb**	**Sb**	**21 34 59.9**	**+1.4**
	baz=302								
Z35A	**Perchaven, San**	**3.57**	**178**			**Pn**	**Pn**	**21 34 12.7**	**-0.2**
U40A	**Yellville**	**3.68**	**97**			**Pn**	**Pn**	**21 34 14.3**	**-0.2**
U40A				IAmb_Lg				21 35 14.5	
	comp=Z,57nm,0.8s								
U40A	**Yellville**	**3.68**	**97**	P		**Pn**	**Pn**	**21 34 14.9**	**+0.5**
	baz=280,SNR=25								
U40A				P		**Pn**	**Pn**	**21 34 14.9**	**+0.5**
	baz=280,SNR=25								
N33A	**J Bar K, Exete**	**3.83**	**359**	Pn		**Pn**	**Pn**	**21 34 16.2**	**-0.4**
MIAR	**Mount Ida**	**3.88**	**126**			**Pn**	**Pn**	**21 34 17.3**	**0.0**
MIAR				IAmb_Lg				21 35 29.3	
	comp=Z,49nm,0.8s								
P38A	**Dawn**	**4.07**	**47**			**Pn**	**Pn**	**21 34 19.6**	**-0.1**
P38A	**Dawn**	**4.07**	**47**	P		**Pn**	**Pn**	**21 34 19.7**	**-0.1**
	baz=229								
MGMO	**Mountain Grove**	**4.09**	**85**			**Pn**	**Pn**	**21 34 20.4**	**+0.3**
MGMO				IAmb_Lg				21 35 27.6	
	comp=Z,35nm,0.8s								
Z38A	**Mt. Pleasant**	**4.13**	**151**			**Pn**	**Pn**	**21 34 20.6**	**0.0**
R40A	**Maddies Statio**	**4.29**	**70**			**Pn**	**Pn**	**21 34 22.5**	**-0.3**
FCAR	**Ozark Folk Cen**	**4.36**	**102**			**Pn**	**Pn**	**21 34 23.3**	**-0.4**
FCAR				IAmb_Lg				21 35 34.0	
	comp=Z,46nm,0.9s								
X40A	**Basin Creek Fa**	**4.41**	**122**			**Pn**	**Pn**	**21 34 24.1**	**-0.5**
X40A				IAmb_Lg				21 35 46.2	
	comp=Z,34nm,0.8s								
WHAR	**Wooly Hollow**	**4.42**	**110**	Pn		**Pn**	**Pn**	**21 34 24.1**	**-0.6**
W41B	**Gary Mavity, V**	**4.50**	**111**			**Pn**	**Pn**	**21 34 25.0**	**-0.7**
BGNE	**Belgrade**	**4.54**	**353**	Pn		**Pn**	**Pn**	**21 34 25.4**	**-0.9**
BGNE				IAmb_Lg				21 35 50.1	
	comp=Z,61nm,0.8s								
UALR	**University of**	**4.61**	**116**	IAmb_Lg				21 35 49.8	
	comp=Z,34nm,0.8s								
KSCO	**Kaye Shedlock'**	**4.65**	**298**	Pn		**Pn**	**Pn**	**21 34 25.6**	**-2.3**
ABTX	**Abilene, Hawle**	**4.66**	**204**			**Pn**	**Pn**	**21 34 27.9**	**-0.1**
ABTX				IAmb_Lg				21 35 56.2	
	comp=Z,21nm,1.0s								
WLAR	**White Oak Lake**	**4.74**	**131**	IAmb_Lg				21 35 50.3	
	comp=Z,37nm,0.9s								
WHTX	**Lake Whitney,**	**4.90**	**181**	Pn		**Pn**	**Pn**	**21 34 31.0**	**-0.2**
P40A	**Paris**	**4.95**	**56**	Pn		**Pn**	**Pn**	**21 34 31.8**	**-0.1**
P40A				IAmb_Lg				21 35 59.9	
	comp=Z,41nm,0.8s								
CCM	**Cathedral Cave**	**5.01**	**75**			**Pn**	**Pn**	**21 34 32.9**	**+0.2**
CCM				IAmb_Lg				21 36 00.7	
	comp=Z,40nm,1.0s								
237A	**Washetta, Mont**	**5.06**	**165**	Pn		**Pn**	**Pn**	**21 34 32.7**	**-0.7**
LCAR	**Lake Charles**	**5.08**	**98**	Pn		**Pn**	**Pn**	**21 34 33.2**	**-0.5**
LCAR				IAmb_Lg				21 36 02.1	
	comp=Z,24nm,0.9s								
Z41A	**Richland Creek**	**5.22**	**133**	IAmb_Lg				21 36 11.3	
	comp=Z,38nm,0.7s								
OGNE	**Ogallala**	**5.43**	**319**	IAmb_Lg				21 36 18.8	
	comp=Z,47nm,0.7s								
PBMO	**Poplar Bluff**	**5.57**	**89**	IAmb_Lg				21 36 21.4	
	comp=Z,34nm,0.8s								
NATX	**Nacogdoches**	**5.60**	**156**	IAmb_Lg				21 36 23.2	
	comp=Z,30nm,1.0s								
T25A	**Trinidad**	**5.63**	**274**			**Pn**	**Pn**	**21 34 39.6**	**-1.9**
T25A				IAmb_Lg				21 36 28.5	
	comp=Z,27nm,0.9s								
FVM	**French Village**	**5.63**	**77**	Pn		**Pn**	**Pn**	**21 34 39.9**	**-1.4**
FVM				IAmb_Lg				21 36 14.5	
	comp=Z,27nm,0.7s								
SLM	**Saint Louis**	**5.92**	**71**	IAmb_Lg				21 36 23.3	
	comp=Z,19nm,0.7s								
435B	**Jarrell**	**6.11**	**182**	IAmb_Lg				21 36 36.8	
	comp=Z,26nm,0.8s								
N41A	**Harden Midland**	**6.35**	**51**	Pn		**Pn**	**Pn**	**21 34 51.0**	**-0.1**
143A	**Socs Landing,**	**6.46**	**129**	IAmb_Lg				21 36 54.8	
	comp=Z,23nm,0.9s								
Q24A	**Divide**	**6.48**	**291**	IAmb_Lg				21 36 49.1	
	comp=Z,20nm,0.8s								
S44A	**Carbondale**	**6.52**	**81**	IAmb_Lg				21 36 46.1	
	comp=Z,33nm,0.7s								
JCT	**Junction City**	**6.72**	**198**	IAmb_Lg				21 37 03.1	
	comp=Z,26nm,0.7s								
P43A	**Skaggs, Pawnee**	**6.76**	**64**	IAmb_Lg				21 36 52.1	
	comp=Z,38nm,0.8s								
ECSD	**EROS Data Cent**	**6.85**	**5**	Pn		**Pn**	**Pn**	**21 34 55.9**	**-2.1**
Q44A	**Meyer Farm, Va**	**6.91**	**71**	Pn		**Pn**	**Pn**	**21 34 58.8**	**0.0**
Q44A				IAmb_Lg				21 37 02.4	
	comp=Z,30nm,0.8s								
OXF	**Oxford**	**6.91**	**108**	Pn		**Pn**	**Pn**	**21 34 57.3**	**-1.5**
OXF				IAmb_Lg				21 37 04.5	
	comp=Z,31nm,0.8s								
L40A	**Anamosa**	**7.01**	**41**	IAmb_Lg				21 37 05.9	
	comp=Z,25nm,0.8s								
Y45A	**Yeager Farm, C**	**7.08**	**113**	IAmb_Lg				21 37 08.2	
	comp=Z,26nm,0.8s								
ISCO	**Idaho Springs**	**7.09**	**297**	IAmb_Lg				21 37 02.3	
	comp=Z,20nm,0.9s								
HDIL	**Hopedale**	**7.29**	**58**	IAmb_Lg				21 37 24.1	
	comp=Z,34nm,0.8s								
I37A	**Lemond, Waseca**	**7.72**	**22**	IAmb_Lg				21 37 29.2	
	comp=Z,26nm,0.8s								
N23A	**Red Feather La**	**7.78**	**303**	IAmb_Lg				21 37 26.2	
	comp=Z,26nm,0.9s								
PLAL	**Pickwick Lake**	**7.78**	**102**	IAmb_Lg				21 37 33.1	
	comp=Z,13nm,0.9s								
JFWS	**Jewell Farm**	**8.12**	**40**	IAmb_Lg				21 37 35.2	
	comp=Z,29nm,0.9s								
I40A	**Norwalk**	**8.68**	**34**	IAmb_Lg				21 37 50.7	
	comp=Z,19nm,0.8s								

*IDC **13** 21:40:42.0±0.6, 10.28S×161.12E, h66km±4km, mb4.1/22, mb1 4.2/25, mb1mx4.2/39, mbtmp4.5/25, MS3.6/20, Ms1 3.6/20, ms1mx3.3/64, Error ellipse: s-maj=12.4km s-min=7.9km az=56.0*
*NEIC **13** 21:40:42.8±1.1, 10.23S±0.08×161.12E±0.08, h67km±7km, mb4.7/60, Error ellipse: s-maj=14.3km s-min=9.2km az=224.0*
ISC 13 21:40:41.7±0.4, 10.29S±0.05×161.19E±0.06, h62km, n130, σ1§36/136, mb4.7/60, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.49**	**305**	P		**Pn**	**Pn**	**21 41 06.0**	**-0.3**
	646nm,0.3s,baz=174,slow=3.0,SNR=141								
HNR				S		**Sn**	**Sn**	**21 41 23.7**	**-1.1**
	1µm,0.3s,baz=14,slow=23,SNR=9.4								
HNR				LR	LR	21 41 43.1			
	comp=Z,937nm,19.6s,baz=164,slow=43								
HNR	**Honiara**	**1.49**	**305**	P		**Pn**	**Pn**	**21 41 06.3**	**0.0**
SANVU	**Saraoutou**	**7.79**	**132**			**Pn**	**Pn**	**21 42 33.2**	**+0.8**
SANVU	**Saraoutou**	**7.79**	**132**	P		**Pn**	**Pn**	**21 42 34.0**	**+1.6**
	270nm,0.7s								
KOUNC	**Koumac, New Ca**	**10.63**	**164**	Pn		**Pn**	**Pn**	**21 43 12.2**	**+1.0**
KOUNC	**Koumac, New Ca**	**10.63**	**164**	P		**Pn**	**Pn**	**21 43 13.3**	**+2.1**
	77nm,0.9s								
KRVT	**Keravat (AS076**	**10.86**	**303**	P		**Pn**	**Pn**	**21 43 13.9**	**-0.5**
	6.2nm,0.3s,baz=187,slow=22,SNR=1.5								
LIFNC	**LIFOU**	**11.94**	**152**	Pn		**Pn**	**Pn**	**21 43 30.0**	**+0.8**
LIFNC	**LIFOU**	**11.94**	**152**	P		**Pn**	**Pn**	**21 43 30.6**	**+1.4**
	113nm,0.7s								
NOUC	**Port Laguerre**	**12.73**	**158**	P		**Pn**	**Pn**	**21 43 42.7**	**+2.8**
	22nm,0.5s								
DZM	**Mont Dzumac**	**12.75**	**157**	P		**Pn**	**Pn**	**21 43 42.1**	**+1.8**
	3.1nm,0.3s,baz=16,slow=12,SNR=32								
DZM				S		**Sn**	**Sn**	**21 45 55.9**	**-4.8**
	0.4nm,0.3s,baz=161,slow=14,SNR=1.5								
DZM				LR	LR	21 47 52.0			
	comp=Z,259nm,18.5s,baz=16,slow=34								
DZM	**Mont Dzumac**	**12.75**	**157**	*e*Pn		**Pn**	**Pn**	**21 43 42.7**	**+2.4**
	22nm,0.5s								
DZM				*e*Sn		**Sn**	**Sn**	**21 45 57.7**

comp=Z,26nm,1.4s
MORW Morawa 46.10 239 P **P** 21 48 59.8 -0.2
MORW IAmb IAmb 21 49 11.9
comp=Z,8.2nm,1.1s
NWAO Narrogin (SRO) 46.22 234 P **P** 21 49 00.2 -0.6
JAGI Jajag, Banyuwa 46.41 268 P **P** 21 49 01.0 -1.6
JMN Monobe 50.90 330 P **P** 21 49 36.1 -0.6
MJAR Matsushiro Arr 51.36 336 P **P** 21 49 38.5 -1.5
comp=Z,1.3nm,0.3s,baz=189,slow=22,SNR=5.2
MJAR Matsushiro Arr 51.36 336 P **P** 21 49 38.6 -1.5
MAJO Matsushiro 51.36 336 P **P** 21 49 38.6 -1.4
MAJO IAmb IAmb 21 49 39.7
comp=Z,12nm,0.9s
JNU Nakatsue 51.94 327 P **P** 21 49 43.5 -1.0
comp=Z,5.9nm,0.7s,baz=186,slow=1.2,SNR=5.4
JNU Nakatsue 51.94 327 P **P** 21 49 44.3 -0.2
JNU IAmb IAmb 21 49 45.1
comp=Z,9.2nm,0.8s
JHS Saijyo 52.30 331 P **P** 21 49 46.7 -0.4
JHS IAmb IAmb 21 50 13.9
comp=Z,16nm,1.3s
JSD Sado 52.64 337 P **P** 21 49 48.7 -0.8
JSD IAmb IAmb 21 49 49.7
comp=Z,6.5nm,0.7s
JTM Tenmabayashi 54.12 341 P **P** 21 49 59.9 -0.4
JKA Kamikawa-asahi 56.72 344 P **P** 21 50 19.5 +0.5
ASAJ Asahikawa 56.72 344 P **P** 21 50 19.4 +0.4
comp=Z,3.9nm,0.4s,baz=210,slow=9.9,SNR=4.9
ASAJ LR LR 22 12 18.7
comp=Z,99nm,21.9s,baz=180,slow=34
KSRS Korea Array 56.81 329 P **P** 21 50 19.7 0.0
comp=Z,2.2nm,0.7s,baz=137,slow=7.8,SNR=10
KSRS LR LR 22 12 34.5
comp=Z,38nm,21.2s,baz=115,slow=34
NJ2 Nanjing 58.40 318 *eP* **P** 21 50 32.4 +1.4
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
USRK Ussuriysk Ar. 60.36 336 P **P** 21 50 44.4 +0.1
comp=Z,6.8nm,0.7s,baz=128,slow=6.5,SNR=10
USRK Ussuriysk Ar. 60.36 336 P **P** 21 50 44.9 +0.6
PETK Petropavlovsk- 63.22 358 P **P** 21 51 02.6 -0.7
comp=Z,2.2nm,0.7s,baz=186,slow=14,SNR=3.7
PETK pP **pP** 21 51 22.5 +3.1
comp=Z,2.6nm,0.8s,baz=189,slow=17,SNR=2.8
PETK LR LR 22 13 37.2
comp=Z,61nm,21.2s,baz=151,slow=31
KLR Kul'dur 64.67 339 P **P** 21 51 12.8 -0.1
comp=Z,2.6nm,0.5s,baz=164,slow=5.6,SNR=14
XAN Xi'an 66.34 314 P **P** 21 51 20.8 -3.4
XAN pP pP 21 51 40.6 +0.4
XAN pmax pmax
comp=Z,6.0nm,0.5s
VNDA Vanda 67.21 180 P **P** 21 51 28.9 0.0
comp=Z,2.2nm,0.7s,baz=347,slow=6.3,SNR=17
VNDA Vanda 67.21 180 P **P** 21 51 29.6 +0.7
CMAR Chiang Mai Arr 67.72 295 P **P** 21 51 33.6 +0.5
comp=Z,0.5nm,0.8s,baz=134,slow=5.2,SNR=6.2
CMAR pP **pP** 21 51 48.5 -0.8
comp=Z,1.6nm,0.9s,baz=114,slow=4.5,SNR=8.4
CMAR Chiang Mai Arr 67.72 295 P **P** 21 51 32.9 -0.2
CHTO Chiang Mai 67.84 295 P **P** 21 51 33.6 -0.2
PZH PanZhiHua 68.31 304 P **P** 21 51 38.5 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,6.5s
HHC Hu-ho-hao-te 68.41 322 *eP* **P** 21 51 38.3 +1.2
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,100nm,4.8s
HIA Hailar 69.57 332 P **P** 21 51 43.9 -0.1
HIA IAmb IAmb 21 51 44.9
comp=Z,7.8nm,0.6s
MA2 Magadan 70.14 354 LR LR 22 19 06.9
comp=Z,30nm,21.0s,baz=130,slow=33
MA2 Magadan 70.14 354 P **P** 21 51 46.5 -0.8
MA2 IAmb IAmb 21 51 47.5
comp=Z,5.8nm,0.9s
LZH Lanzhou 70.97 314 *eP* **P** 21 51 55.1 +2.0
LZH pP sP 21 52 15.0 -0.9
LZH sP PcP 21 52 21.8 +8.6
LZH pmax pmax
comp=Z,18nm,1.3s
SEY Seymchan 73.32 356 LR LR 22 21 51.4
comp=Z,25nm,21.3s,baz=240,slow=34
ULN Ulaanbaatar 75.11 326 P **P** 21 52 17.4 +0.2
ULN IAmb IAmb 21 52 18.6
comp=Z,4.1nm,0.7s
SONM Songino Array 75.46 325 P **P** 21 52 19.1 -0.1
comp=Z,2.1nm,0.5s,baz=140,slow=5.8,SNR=19
SONM pP **pP** 21 52 35.6 +0.1
comp=Z,2.4nm,0.7s,baz=138,slow=5.4,SNR=7.0
SONM LR LR 22 26 23.7
comp=Z,16nm,19.7s,baz=120,slow=36
SONM Songino Array 75.46 325 P **P** 21 52 18.6 -0.6
YAK Yakutsk 76.17 345 P **P** 21 52 22.5 -0.3
comp=Z,8.1nm,0.4s,baz=58,slow=1.3,SNR=6.9
YAK Yakutsk 76.17 345 P **P** 21 52 22.3 -0.5
OHAK Old Harbor 76.93 23 P **P** 21 52 27.4 +0.3
KDAK Kodiak Island 77.60 23 P **P** 21 52 30.9 0.0
comp=Z,5.9nm,0.7s,baz=271,slow=4.0,SNR=8.0
KDAK LR LR 22 19 39.1
comp=Z,44nm,21.1s,baz=231,slow=30
KDAK Kodiak Island 77.60 23 P **P** 21 52 31.2 +0.3
BILL Bilibino 78.22 2 P **P** 21 52 34.1 0.0
BILL IAmb IAmb 21 52 35.9
comp=Z,7.8nm,0.8s
N18K Kilae Creek 78.45 20 P **P** 21 52 36.5 +0.8
N18K IAmb IAmb 21 52 38.5
comp=Z,6.5nm,1.2s
P19K Oil Pt 78.65 22 P **P** 21 52 36.9 +0.1
SVW2 Sparrevohn 78.86 20 P **P** 21 52 39.0 +1.1
SVW2 IAmb IAmb 21 52 40.4
comp=Z,9.8nm,0.8s
QSPA South Pole Qui 79.71 180 P **P** 21 52 42.5 -0.2
QSPA IAmb IAmb 21 52 43.9
comp=Z,13nm,0.8s
L19K White Mountain 79.89 19 P **P** 21 52 44.4 +1.0
L19K IAmb IAmb 21 52 45.5
comp=Z,5.7nm,0.8s
K20K Telida 80.99 19 P **P** 21 52 49.7 +0.4
K20K IAmb IAmb 21 53 11.2
comp=Z,6.7nm,1.2s
CAST Castle Rocks 81.67 19 P **P** 21 52 52.8 -0.1
CAST IAmb IAmb 21 52 53.9
comp=Z,6.3nm,0.7s
KTH Kantishna Hill 82.14 20 P **P** 21 52 54.7 -0.7
KTH IAmb IAmb 21 52 56.1
comp=Z,8.4nm,1.0s
MCK McKinley 82.92 20 P **P** 21 52 59.6 +0.1
MCK IAmb IAmb 21 53 00.7
comp=Z,12nm,0.9s
IMAR Indian Mountai 82.96 17 P **P** 21 53 00.5 +0.9
MAW Mawson 83.72 202 P **P** 21 53 03.7 +0.2
comp=Z,9.0nm,0.7s,baz=107,slow=8.1,SNR=17
MAW LR LR 22 24 34.8
comp=Z,48nm,21.9s,baz=62,slow=32
MAW Mawson 83.72 202 P **P** 21 53 04.1 +0.5
HDA Harding Lake 84.03 20 P **P** 21 53 05.3 +0.2
HDA IAmb IAmb 21 53 05.9
comp=Z,5.7nm,1.0s
CTGM Chitina Glacie 84.08 24 P **P** 21 53 06.3 +0.7
CTGM IAmb IAmb 21 53 31.2
comp=Z,9.0nm,1.2s
H23K Yukon River 84.11 18 P **P** 21 53 06.1 +0.6
IL31 84.28 20 P **P** 21 53 06.3 0.0
IL31 IAmb IAmb 21 53 31.0
comp=Z,7.3nm,1.5s
ILAR Eielson Array 84.28 20 P **P** 21 53 06.2 -0.2
comp=Z,1.0nm,0.7s,baz=234,slow=5.2,SNR=7.4
ILAR pP **pwP** 21 53 25.0 +1.5
comp=Z,1.7nm,1.0s,baz=253,slow=5.4,SNR=3.3
ILAR LR LR 22 24 36.5
comp=Z,44nm,21.0s,baz=252,slow=31
TIXI Tiksi 84.55 350 P **P** 21 53 06.6 -1.0
comp=Z,0.9nm,0.6s,baz=269,slow=22,SNR=5.8
J25K Salcha River, 84.69 20 P **P** 21 53 08.5 -0.1
BCAR Beaver Creek A 85.08 23 P **P** 21 53 11.4 +0.9
WMQ Urumqi 85.42 316 *eP* **P** 21 53 13.0 +0.4
EGAK Eagle 86.26 21 P **P** 21 53 17.1 +0.9
EGAK IAmb IAmb 21 53 40.9
comp=Z,4.6nm,1.0s
BBB Bella Bella 86.54 36 LR LR 22 33 25.8
comp=Z,88nm,18.1s,baz=264,slow=36
MK31 Makanchi Array 89.93 318 P **P** 21 53 33.6 -0.5
MK31 IAmb IAmb 21 53 55.6
comp=Z,2.8nm,1.1s
MKAR Makanchi Array 89.93 318 P **P** 21 53 34.0 -0.1
comp=Z,0.3nm,0.5s,baz=112,slow=5.4,SNR=7.5
MKAR pP **pwP** 21 53 52.7 -1.1
comp=Z,0.9nm,0.8s,baz=86,slow=6.3,SNR=4.8
MKAR Makanchi Array 89.93 318 P **P** 21 53 33.6 -0.6
BELA Belgrano 2 91.53 177 P **P** 21 53 40.4 -0.7
YKA Yellowknife Ar 96.38 28 P **P** 21 54 03.0 -0.4
comp=Z,0.8nm,0.7s,baz=256,slow=4.6,SNR=13
YKA Yellowknife Ar 96.38 28 P **P** 21 54 02.6 -0.9
VNA3 Neumayer Olymp 98.42 183 Pdiff **P** 21 54 11.8 -0.9
TXAR Lajitas Array 99.42 62 LR LR 22 32 49.3
comp=Z,17nm,19.0s,baz=302,slow=31

IDC ***13*** *21:59:50.5±6.9, 14.°66N×92.°33W, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.5/31, mbtmp3.4/4, ML3.8/2, Error ellipse: s-maj=155.9km s-min=69.1km az=22.0*
MEX ***13*** *22:00:06.9±0.9, 15.°20N×93.°19W, h82km±8km, MD4.0*
SNET ***13*** *22:00:06.7±1.0, 15.°19N×93.°19W, h29km±98km, ML4.1*
UCR ***13*** *22:00:06.7±1.1, 15.°19N×93.°20W, h31km±104km, ML3.8*
GCG ***13*** *22:00:08.5±0.9, 15.°25N×93.°14W, h35km±198km, MD4.2*
ISC 13 22:00:04.2±1.5**, 15.°16N**±0.°05×**93.°27W**±0.°03**, h15**km±11km**,**
n38,σ1§**19**/59**, Near coast of Chiapas**
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PCIG 0.54 6 *i* P **Pn** **22 00 19.6 +2.1**
PCIG *eS* **Sn** **22 00 29.4 +3.2**
PATR El Naranjo 1.00 92 *eP* **Pn** **22 00 23.9 -0.1**
PATR *eS* **Sb** **22 00 37.0 +0.4**
THIG 1.01 104 *eP* **Pn** **22 00 23.9 +0.1**
THIG *eS* **Sb** **22 00 37.1 +0.7**
PAVE Pavencul 1.06 88 *eP* **Pn** **22 00 24.9 +0.1**
PAVE *eS* **Sn** **22 00 39.3 0.0**
CHUJ Union Juarez 1.13 93 *eP* **Pb** **22 00 25.6 0.0**
CHUJ *eS* **Sg** **22 00 40.1 -0.7**
CARR Arriaga 1.24 330 *eP* **Pg** **22 00 28.9 +0.7**
CARR *eS* **Sn** **22 00 46.1 +2.6**
CCIG Comitan 1.56 44 *eP* **Pb** **22 00 32.1 -0.8**
CCIG *eS* **Sn** **22 00 48.6 -3.2**
TGIG 1.62 5 *eP* **Pn** **22 00 32.4 +0.1**
TGIG *eS* **Sn** **22 00 50.8 -2.1**
RTAL Retalhuleu 1.65 112 *eP* **Pn** **22 00 32.7 0.0**
RTAL *eS* **Sn** **22 00 53.3 -0.4**
STG3 Santiaguito 3, 1.71 105 *eP* **Pn** **22 00 34.2 +0.6**
HUEH Huehuetenango 1.72 85 *eP* **Pn** **22 00 34.6 +0.8**
HUEH *eS* **Sn** **22 00 55.8 +0.2**
HUEH IAML 22 01 04.2
comp=Z,3μm,0.4s
HUEH Huehuetenango 1.72 85 *eP* **Pn** **22 00 34.6 +0.8**
HUEH *eS* **Sn** **22 00 55.8 +0.2**
HUEH IAML 22 01 04.2
comp=Z,3μm,0.4s
UXUV UXUV 2.30 339 *eP* **Pn** **22 00 41.7 0.0**
UXUV *eS* **Sn** **22 01 10.1 +0.3**
FUG Fuego 3 2.46 106 *eP* **Pn** **22 00 45.3 +2.0**
CMIG Matias Romero 2.47 321 Pn **Pn** **22 00 44.8 +0.9**
comp=Z,7.3nm,0.3s,baz=137,slow=11,SNR=31
CMIG Sn **Sb** **22 01 16.4 -2.1**
comp=Z,62nm,0.3s,baz=30,slow=21,SNR=8.7
CMIG Matias Romero 2.47 321 *eP* **Pn** **22 00 44.8 +0.9**
CMIG *eS* **Sn** **22 01 12.4 -1.4**
PCG Pacaya 2.69 106 *eP* **Pn** **22 00 48.8 +1.6**
PCG *eS* **Sn** **22 01 20.9 +1.3**
HUIG Huatulco 2.80 283 *eP* **Pn** **22 00 48.2 -0.2**
HUIG *eS* **Sn** **22 01 21.2 -0.8**
NBG Las Nubes 2.89 101 *eP* **Pb** **22 00 54.2 -1.4**
MRL Marmol 3.47 91 *eP* **Pn** **22 00 59.3 +1.4**
NEUV Arroyo Zacate 3.51 317 *eP* **Pn** **22 00 59.9 +1.6**
NEUV *eS* **Sn** **22 01 40.0 +0.4**
NUBE Las Nubes 3.61 110 *eP* **Pn** **22 01 00.4 +0.6**
NUBE *eS* **Sn** **22 01 41.6 -0.6**
NUBE IAML 22 01 55.8
comp=Z,157nm,0.3s
NUBE Las Nubes 3.61 110 *eP* **Pn** **22 01 00.4 +0.6**
NUBE *eS* **Sn** **22 01 41.6 -0.6**
NUBE IAML 22 01 55.8
comp=Z,157nm,0.3s
PETF Flores 3.71 61 *eP* **Pn** **22 01 01.1 +0.1**
PETF Flores 3.71 61 *eP* **Pn** **22 01 01.1 +0.1**
SBLS San Blas 3.77 110 *eP* **Pn** **22 01 03.5 +1.4**
SBLS San Blas 3.77 110 *eP* **Pn** **22 01 03.5 +1.4**
CEVE Cerro Verde 3.77 110 *eP* **Pn** **22 01 03.5 +1.4**
CEVE *eS* **Sn** **22 01 46.6 +0.1**
CEVE IAML 22 02 01.8
comp=Z,895nm,0.5s
CEVE Cerro Verde 3.77 110 *eP* **Pn** **22 01 03.5 +1.4**
CEVE *eS* **Sn** **22 01 46.6 +0.1**
CEVE IAML 22 02 01.8
comp=Z,895nm,0.5s
SNJE San Jose 3.78 109 *eP* **Pn** **22 01 03.3 +1.2**
SNJE San Jose 3.78 109 *eP* **Pn** **22 01 03.3 +1.2**
PEIG Puerto Escondi 3.83 283 *eP* **Pn** **22 01 02.8 +0.2**
PEIG *eS* **Sn** **22 01 47.4 0.0**
MTO3 Montecristo 3.86 101 *eP* **Pn** **22 01 03.5 +0.2**
MTO3 Montecristo 3.86 101 *eP* **Pn** **22 01 03.5 +0.2**
JAUV Jalcomulco 5.37 322 *eP* **Pn** **22 01 25.1 +1.2**
JAUV *eS* **Sn** **22 02 24.6 -1.0**
TXAR Lajitas Array 17.06 328 P **Pn** **22 04 02.5 +0.1**
comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=5.3
YKA Yellowknife Ar 49.62 347 P P 22 08 48.0 -6.8
comp=Z,0.3nm,0.6s,baz=153,slow=7.5,SNR=5.7
ILAR Eielson Array 61.29 337 P P 22 10 13.5 -5.3
comp=Z,0.2nm,0.5s,baz=122,slow=4.7,SNR=4.3

NEIC ***13*** *22:16:01.1±1.3, 13.°5S±0.°1×167.°0E±0.°2, h184km±8km, mb4.3/12, Error ellipse: s-maj=27.0km s-min=15.5km az=80.0*
IDC ***13*** *22:16:06.0±5.5, 13.°76S×167.°12E, h241km±57km, mb3.3/7, mb1 3.5/8, mb1mx3.3/34, mbtmp3.9/8, MS3.3/1, Ms1 3.3/1, ms1mx2.5/23, Error ellipse: s-maj=46.8km s-min=28.6km az=155.0*
ISC 13 22:16:01.4±0.8**, 13.°53S**±0.°08×**167.°2E**±0.°2**, h200**km**, n32,**
σ1§**04**/34**, mb4.0**/13**, Vanuatu Islands**
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
SANVU Saraoutou 1.91 179 Pn **Pn** **22 16 37.8 -1.1**
SANVU Sn **Sn** **22 17 05.9 -2.5**
KOUNC Koumac, New Ca 7.50 201 Pn **Pn** **22 17 48.9 +0.8**
DZM Mont Dzumac 8.52 184 P **Pn** **22 18 03.5 +2.0**
0.5nm,0.3s,baz=24,slow=20,SNR=7.4
DZM S **Sn** **22 19 38.0 +0.5**
0.3nm,0.3s,baz=292,slow=23,SNR=1.5
DZM Mont Dzumac 8.52 184 **Pn** **22 18 01.1 -0.5**
OUENC Ouen Island, N 8.85 182 Pn **Pn** **22 18 06.0 +0.4**
EIDS Eidsvold 19.17 230 P **P** **22 20 10.4 +0.4**
BSWZ Blackbirch Sta 28.68 169 P **P** **22 21 41.7 +2.1**
STKA Stephens Creek 29.70 228 P **P** **22 21 48.8 0.0**
1.3nm,0.4s,baz=41,slow=11,SNR=5.2
STKA Stephens Creek 29.70 228 P **P** **22 21 48.7 0.0**
WB0 Warramunga Arr 31.96 254 P **P** **22 22 07.7 -1.1**
WB0 IAmb IAmb 22 22 22.4
comp=Z,16nm,1.5s
WRA Warramunga Arr 32.03 254 P **P** **22 22 08.4 -1.0**
comp=Z,0.4nm,0.6s,baz=85,slow=9.5,SNR=5.1
AS31 Alice Springs 33.01 247 P **P** **22 22 17.0 -1.0**
ASAR Alice Springs 33.01 247 P **P** **22 22 16.9 -1.1**
comp=Z,1.1nm,0.4s,baz=75,slow=9.3,SNR=25
ASAR Alice Springs 33.01 247 P **P** **22 22 17.1 -0.9**
BBOO Buckleboo 34.24 231 P **P** **22 22 27.5 -0.9**
BBOO IAmb IAmb 22 22 32.3
comp=Z,16nm,1.4s
FITZ Fitzroy Crossi 40.14 258 LR LR 22 37 35.0
comp=Z,38nm,20.8s,baz=232,slow=32
JHS Saijyo 58.07 327 P **P** **22 25 33.6 -0.1**
UBPT Khong Chiam 67.40 293 P **P** **22 26 35.9 +0.2**
UBPT IAmb IAmb 22 26 41.8
comp=Z,4.7nm,1.1s
CMAR Chiang Mai Arr 74.37 294 P **P** **22 27 18.9 +1.2**
comp=Z,1.1nm,0.7s,baz=121,slow=5.3,SNR=11
CMAR Chiang Mai Arr 74.37 294 P **P** **22 27 17.6 -0.1**
QSPA South Pole Qui 76.49 180 P **P** **22 27 28.3 -0.8**
QSPA IAmb IAmb 22 27 42.1
comp=Z,5.5nm,1.3s
ULN Ulaanbaatar 81.11 324 P **P** **22 27 54.9 +0.4**
ULN IAmb IAmb 22 27 56.4
comp=Z,6.0nm,1.5s
SONM Songino Array 81.47 324 P **P** **22 27 57.4 +1.1**
comp=Z,0.1nm,0.5s,baz=144,slow=6.1,SNR=4.7
SONM Songino Array 81.47 324 P **P** **22 27 57.5 +1.1**
ILAR Eielson Array 85.43 18 P **P** **22 28 16.3 +0.3**
comp=Z,0.2nm,0.6s,baz=240,slow=6.8,SNR=2.1
MK31 Makanchi Array 96.26 316 P **P** **22 29 07.2 +0.2**
MK31 IAmb IAmb 22 29 07.3
comp=Z,2.9nm,1.2s
MKAR Makanchi Array 96.26 316 P **P** **22 29 07.5 +0.5**
comp=Z,0.5nm,0.6s,baz=88,slow=6.2,SNR=5.3
MKAR Makanchi Array 96.26 316 P **P** **22 29 07.7 +0.6**
ARCES ARCESS Array B 119.07 346 PKP **PKPdf** **22 34 24.5 -1.3**
comp=Z,3.9nm,1.1s,baz=20,slow=3.9,SNR=4.4
BNI Bardonecchia 144.47 336 PKPdf **PKPdf** **22 35 14.0 -0.1**
TORD Torodi Ar. Bea 165.85 270 PKP **PKPdf** **22 35 42.1 -1.2**
comp=Z,0.9nm,1.1s,baz=96,slow=0.7,SNR=3.0
TORD PKPab **PKPab** **22 36 45.0 +0.9**
comp=Z,0.1nm,0.4s,baz=116,slow=3.4,SNR=1.0
TORD Torodi Ar. Bea 165.85 270 **PKPdf** **22 35 42.3 -0.9**

ARE ***13*** *22:19:11±1.2, 12.°61S±0.°07×77.°0W±0.°2, h49km±9km, ML3.8, Error ellipse: s-maj=21.1km s-min=9.1km az=84.0*
NEIC 13 22:19:12.8±0.6**, 12.°4S**±0.°1×**76.°8W**±0.°2**, h64**km±11km**,**
Error ellipse: s-maj=22.2km s-min=16.4km az=65.0,
Near coast of Peru
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
NNA Nana 0.44 355 P **Pn** **22 19 24.6 -0.1**
NNA Sn **Sn** **22 19 33.0 -0.3**
MCRA Macar, Loja 8.59 338 **Pn** **22 21 14.1 -0.5**
PB12 IPOC Station P 8.76 135 **Pn** **22 21 17.1 +0.2**
PB16 IPOC Station P 9.16 131 **Pn** **22 21 22.1 -0.7**
LPAZ La Paz 9.24 116 Pn **Pn** **22 21 23.7 -0.2**
BOSC San Juan Bosco 9.37 350 Pn **Pn** **22 21 25.4 +0.1**
PB10 IPOC Station P 12.52 153 Pn **Pn** **22 22 07.6 -0.6**

NEIC ***13*** *22:41:09.7±1.7, 23.°29S±0.°07×66.°31W±0.°08, h222km±4km, mb4.3/16, Md3.9(SJA), Error ellipse: s-maj=12.1km s-min=9.2km az=223.0*
IDC ***13*** *22:41:10.5±1.1, 23.°09S×66.°35W, h222km±9km, mb3.6/5, mb1 3.7/11, mb1mx3.5/28, mbtmp4.1/11, Error ellipse: s-maj=20.8km s-min=13.7km az=3.0*
GUC ***13*** *22:41:11.9±0.4, 23.°18S×66.°56W, h240km±6km, ML4.4*
VAO ***13*** *22:41:12.9±0.8, 23.°01S×66.°32W, h239km, mb4.0*
ISC 13 22:41:09.6±0.5**, 23.°21S**±0.°04×**66.°40W**±0.°05**, h222**km**,**
n107,σ1§**21**/131**, mb4.2**/12**, 13C-1D, Jujuy Province**
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
LVC Limon Verde 2.39 284 P **Pn** **22 41 56.0 +1.8**
36nm,0.3s,baz=97,slow=6.6,SNR=127
LVC S **S** **22 42 30.0 +1.3**
36nm,0.3s,baz=260,slow=20,SNR=15
LVC Limon Verde 2.39 284 Pn **Pn** **22 41 56.0 +1.8**
LVC Sn **S** **22 42 29.9 +1.2**
LVC Limon Verde 2.39 284⇑ *i*P **Pn** **22 41 55.9 +1.8**
LVC *i* S **S** **22 42 30.0 +1.3**
PB15 IPOC Station P 2.82 269 **Pn** **22 42 00.1 +1.4**
PB15 Sn **S** **22 42 37.5 +0.6**
PB15 IPOC Station P 2.82 269⇑ *i*P **Pn** **22 42 00.2 +1.5**
PB06 IPOC Station P 2.96 279 **Pn** **22 42 01.4 +1.2**
PB06 Sn **S** **22 42 39.2 -0.4**
PB06 IPOC Station P 2.96 279⇑ *i*P **Pn** **22 42 01.6 +1.3**
PB06 *i* S **S** **22 42 39.6 0.0**
PB06 IAML 22 42 43.4
comp=N,632nm,0.1s
PB09 IPOC Station P 2.98 298 **Pn** **22 42 02.6 +2.1**
PB09 Sn **S** **22 42 41.0 +1.0**
PB09 IPOC Station P 2.98 298⇑ *i*P **Pn** **22 42 02.4 +2.0**
PB09 *i* S **S** **22 42 41.6 +1.6**
PB09 IAML 22 42 46.2
comp=E,416nm,0.6s
GO02 Mina Guanaco 3.50 236 Pn **Pn** **22 42 07.9 +1.4**
GO02 Mina Guanaco 3.50 236⇑ *i*P **Pn** **22 42 07.8 +1.2**
GO02 *i* S **S** **22 42 51.8 +0.7**
PB07 IPOC Station P 3.54 294 **Pn** **22 42 08.2 +1.2**
PB07 IPOC Station P 3.54 294⇑ *i*P **Pn** **22 42 08.0 +1.0**
PB07 *i* S **S** **22 42 50.2 -1.6**
PB04 IPOC Station P 3.57 283 **Pn** **22 42 08.2 +0.9**
PB04 IPOC Station P 3.57 283⇑ *i*P **Pn** **22 42 08.2 +0.9**
PB04 *i* S **S** **22 42 50.8 -1.5**
PB01 IPOC Station P 3.58 306 **Pn** **22 42 08.5 +1.2**
PB01 IPOC Station P 3.58 306⇑ *i*P **Pn** **22 42 08.3 +1.0**
PB01 *i* S **S** **22 42 51.7 -0.9**
PB02 IPOC Station P 3.74 300 **Pn** **22 42 10.0 +0.7**
PB02 IPOC Station P 3.74 300⇑ *i*P **Pn** **22 42 10.0 +0.7**
PB02 *i* S **S** **22 42 54.5 -1.6**
PB10 IPOC Station P 3.83 265 Pn **Pn** **22 42 11.2 +1.0**
PB10 IPOC Station P 3.83 265⇑ *i*P **Pn** **22 42 11.2 +1.0**
PB10 *i* S **S** **22 42 56.4 -1.3**
PB14 IPOC Station P 3.92 248 Pn **Pn** **22 42 12.4 +0.7**
PB14 IPOC Station P 3.92 248⇑ *i*P **Pn** **22 42 12.3 +0.7**
PB14 *i* S **S** **22 42 58.5 -1.7**
PB08 IPOC Station P 3.98 320 **Pn** **22 42 14.4 +1.9**
PB08 IPOC Station P 3.98 320⇓ *i*P **Pn** **22 42 14.7 +2.2**
PB08 *i* S **S** **22 43 02.5 +0.7**
PATCX Punta Patache 4.21 304 Pn **Pn** **22 42 15.4 +0.4**
PATCX Punta Patache 4.21 304 *eP* **Pn** **22 42 15.2 +0.2**
PATCX *i* S **S** **22 43 03.9 -2.5**
HMBC Humberstone 4.36 311 *eP* **Pn** **22 42 16.9 +0.1**
HMBC *i* S **S** **22 43 06.8 -2.8**
AC02 Maricunga 4.38 214 Pn **Pn** **22 42 18.4 +1.1**
AC02 Maricunga 4.38 214⇑ *i*P **Pn** **22 42 18.6 +1.3**
AC02 *i* S **S** **22 43 11.7 +1.1**
GO01 Chusmiza 4.38 323 **Pn** **22 42 18.6 +1.1**
GO01 Chusmiza 4.38 323 *eP* **Pn** **22 42 18.5 +1.1**
GO01 *i* S **S** **22 43 11.4 +0.7**
TA01 Diego Aracena 4.39 306 **Pn** **22 42 16.9 -0.1**
TA01 Diego Aracena 4.39 306 *eP* **Pn** **22 42 17.1 +0.1**
TA01 *i* S **S** **22 43 06.9 -3.1**
TA02 Huaiquique 4.54 309 **Pn** **22 42 19.9 +1.0**
TA02 Huaiquique 4.54 309 *eP* **Pn** **22 42 19.8 +1.0**
PB11 IPOC Station P 4.58 318 Pn **Pn** **22 42 19.8 +0.2**
PB11 IPOC Station P 4.58 318 *eP* **Pn** **22 42 19.9 +0.3**
PB11 *i* S **S** **22 43 12.1 -2.5**
AC01 Pan de Azucar 4.81 232 Pn **Pn** **22 42 21.8 -0.4**
AC01 Pan de Azucar 4.81 232⇑ *i*P **Pn** **22 42 21.7 -0.4**
AC01 *i* S **S** **22 43 16.9 -2.6**
AC06 Mina Casimiro 5.46 220 Pn **Pn** **22 42 29.7 -0.7**
GO03 Copiap 5.57 218 **Pn** **22 42 31.4 -0.5**
PB16 IPOC Station P 5.65 329 **Pn** **22 42 34.9 +1.4**
PB12 IPOC Station P 5.86 321 **Pn** **22 42 34.8 -0.9**
AP01 Chacalluta 6.06 322 Pn **Pn** **22 42 36.8 -1.3**
AC04 Llanos de Chal 6.52 219 Pn **Pn** **22 42 41.3 -2.5**
LCO Las Campanas 6.95 213 **Pn** **22 42 48.5 -1.1**
LPAZ La Paz 7.08 346 P **Pn** **22 42 53.0 +1.3**
comp=E,2.9nm,0.3s,baz=150,slow=8.4,SNR=52
LPAZ S **S** **22 44 11.2 -1.7**
baz=265,slow=20,SNR=2.4
LPAZ La Paz 7.08 346 **Pn** **22 42 52.7 +1.0**
LPAZ La Paz 7.08 346 *eP* **Pn** **22 42 52.8 +1.1**
CO01 Juntas del Tor 7.50 205 Pn **Pn** **22 42 57.2 +0.4**
GO04 Tololo Observa 7.97 209 Pn **Pn** **22 43 01.0 -1.7**
CO03 El Pedregal 8.50 206 Pn **Pn** **22 43 08.4 -1.0**
SIV San Ignacio 8.76 36 P **Pn** **22 43 12.1 -0.7**
comp=E,1.1nm,0.3s,baz=217,slow=11,SNR=31
CO06 Fray Jorge 8.78 211 Pn **Pn** **22 43 12.2 -0.6**
CPUP Villa Florida 8.81 112 P **Pn** **22 43 15.8 +2.5**
comp=E,0.0nm,0.3s,baz=72,slow=16,SNR=1.9
CPUP Villa Florida 8.81 112 **Pn** **22 43 13.2 -0.2**
PTLB Pontes e Lacer 10.32 43 *eP* **Pn** **22 43 32.4 -0.4**
MT02 Curacav 10.85 202 Pn **Pn** **22 43 38.4 -0.9**
BO02 Sierra Bellavi 12.16 197 **Pn** **22 43 56.4 +0.5**
SALV Santo Antonio 12.44 56 *eP* **Pn** **22 43 59.5 0.0**
ITAB Concordia 13.52 110 **P** **22 44 14.5 -0.4**
CPSB Cacapava Do Su 13.61 125 *eP* **P** **22 44 16.8 +1.1**
PCMB Pacaembu 14.10 86 *eP* **P** **22 44 21.6 +0.4**
NNA Nana 14.94 317 P **Pn** **22 44 31.2 +0.8**
comp=E,1.6nm,0.3s,baz=155,slow=12,SNR=2.2
ITRB Iturama 15.34 80 *eP* **Pn** **22 44 35.6 +0.4**
FRTB Fartura 15.48 94 *eP* **Pn** **22 44 37.4 +0.6**
CZSB Cruzeiro do Su 16.54 338 *eP* **P** **22 44 48.3 +0.1**
IPMB Ipameri, GO 17.80 76 *eP* **Pn** **22 45 03.1 -1.3**
VAO Valinhos 17.88 93 *eP* **P** **22 45 03.7 +0.8**
SNDB Serra Nova Dou 18.21 55 *eP* **P** **22 45 06.5 +0.1**
BDFB Brasilia 18.89 70 P **P** **22 45 14.2 +0.2**
comp=E,1.3nm,0.3s,baz=242,slow=9.6,SNR=12
BDFB Brasilia 18.89 70 P **P** **22 45 14.4 +0.4**
BDFB IAmb IAmb 22 45 15.3

comp=Z,7.7nm,0.6s
BDFB Brasilia 18.89 70 *e*P **P 22 45 14.5 +0.6**
NPGB Novo Progresso 19.27 35 *e*P **P 22 45 19.1 +1.2**
PEXB Peixe 20.46 60 *e*P **P 22 45 30.8 +0.2**
ITTB Itaituba 21.38 30 *e*P **P 22 45 38.4 -1.8**
JANB Januaria 22.37 73 *e*P **P 22 45 48.9 -0.7**
MCRA Macar, Loja 22.85 323 P **P 22 45 55.2 +1.2**
MCRA IAmb IAmb 22 45 58.0
comp=Z,4.6nm,0.9s
SMTB Santa Maria do 22.99 55 *e*P **P 22 45 54.4 -0.8**
SDBA SAO DESIDERIO 23.08 66 *e*P **P 22 45 55.3 -0.8**
BOSC San Juan Bosco 23.12 328 P **P 22 45 57.3 +0.7**
PRPB Parauapebas 23.29 46 *e*P **P 22 46 56.5 -1.4**
MALB Monte Alegre 24.28 31 *e*P **P 22 46 05.6 -1.3**
NAN01 Guarapari, ES 25.16 83 *e*P **P 22 46 14.8 -0.1**
GUA01 Guaratinga, BA 25.84 80 *e*P **P 22 46 20.8 -0.2**
GDU01 Guandu, BA 27.10 74 *e*P **P 22 46 31.7 -0.5**
MDP Montagnes des 31.18 27 P **P 22 47 07.6 -0.6**
comp=Z,18nm,1.1s,baz=217,slow=15,SNR=9.7
RCBR Riachuelo 34.09 64 P **P 22 47 32.1 -1.4**
RCBR IAmb IAmb 22 47 53.0
comp=Z,19nm,1.3s
MTO3 Montecristo 43.61 327 P **P 22 48 53.7 +1.1**
MTO3 IAmb IAmb 22 48 55.5
comp=Z,11nm,1.2s
JSC Jenkinsville 58.89 346 P **P 22 50 46.0 +0.6**
SNAA Sanae 59.91 161 P **P 22 50 49.8 -2.2**
SNAA IAmb IAmb 22 50 55.4
comp=Z,9.9nm,1.5s
WVT Waverly 62.40 341 P **P 22 51 08.6 -0.3**
TX32 Lajitas Array 63.36 324 P **P 22 51 16.4 +0.8**
TXAR Lajitas Array 63.36 324 P **P 22 51 16.4 +0.8**
comp=Z,0.2nm,0.4s,baz=150,slow=7.3,SNR=9.4
DBIC Dimbokro 67.03 72 P **P 22 51 38.2 -1.2**
E46A Sault Ste Mari 71.12 347 P **P 22 52 03.8 +0.1**
E46A IAmb IAmb 22 52 04.4
comp=Z,8.8nm,1.1s
KOWA Kowa 71.61 65 P **P 22 52 06.2 -1.1**
TOA0 Torodi Ar. Sit 75.77 69 P **P 22 52 30.5 -1.0**
TOA0 IAmb IAmb 22 52 31.8
comp=Z,5.8nm,1.3s
TORD Torodi Ar. Bea 75.77 69 P **P 22 52 30.7 -0.8**
comp=Z,1.3nm,0.4s,baz=257,slow=5.4,SNR=31
TORD Torodi Ar. Bea 75.77 69 P **P 22 52 30.6 -0.9**
PDAR Pinedale Array 76.75 329 P **P 22 52 37.4 +0.6**
comp=Z,0.5nm,0.5s,baz=125,slow=11,SNR=6.8
PDAR Pinedale Array 76.75 329 P **P 22 52 38.1 +1.4**
FCC Fort Churchill 84.83 346 P **P 22 53 19.5 +0.8**
FCC IAmb IAmb 22 53 20.0
comp=Z,7.2nm,1.4s
YKA Yellowknife Ar 93.58 340 P **P 22 54 00.3 +0.4**
comp=Z,0.3nm,0.5s,baz=131,slow=4.5,SNR=12
WRA Warramunga Arr 132.57 207 PKP **PKiKP 22 59 59.5 -0.2**
comp=Z,0.5nm,1.1s,baz=144,slow=1.8,SNR=1.7
MKAR Makanchi Array 145.57 39 PKPbc **PKPab 23 00 23.4 +0.9**
comp=Z,0.3nm,0.5s,baz=290,slow=4.3,SNR=4.3

*IDC **13** 23:01:22.9±1.4,2°.49S×140°.97E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/30, mbtmp3.8/8, ML4.3/1, MS3.0/5, Ms1 3.0/5, ms1mx2.7/63, Error ellipse: s-maj=48.6km s-min=20.9km az=93.0*
*NEIC **13** 23:01:26.1±1.2,2°.50S±0°.06×140°.4E±0°.1, h10km±1km, mb4.3/17, Error ellipse: s-maj=22.0km s-min=7.1km az=112.0*
ISC 13 23:01:28.1±0.8,2°.55S±0°.09×140°.4E±0°.1, h24km, n36, σ1§16/30, mb4.0/14, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**9.30**	**280**	LR	LR	23 07 51.8	
	comp=Z,52nm,18.3s,baz=73,slow=40						
PMG	**Port Moresby**	**9.56**	**136**	LR	LR	23 08 25.2	
	comp=Z,94nm,20.3s,baz=26,slow=46						
COEN	**Coen**	**11.66**	**167**	Pn	**Pn**	**23 04 14.2 +1.1**	
MTN	**Manton Dam**	**13.75**	**221**	Pn	**Pn**	**23 04 41.1 -0.6**	
GUMO	**Guam**	**16.63**	**15**	LR	LR	23 11 15.5	
	comp=Z,54nm,20.3s,baz=111,slow=36						
KNRA	**Kununurra**	**17.38**	**221**		**Pn**	**23 05 29.2 0.0**	
KNRA				IAmb	IAmb	23 05 36.0	
	comp=Z,10nm,0.9s						
WB0	**Warramunga Arr**	**18.10**	**199**	P	**Pn**	**23 05 37.6 -0.5**	
WRA	**Warramunga Arr**	**18.28**	**199**	P	**P**	**23 05 41.1 +0.8**	
	comp=Z,1.0nm,0.3s,baz=25,slow=12,SNR=27						
WRA	**Warramunga Arr**	**18.28**	**199**	P	**Pn**	**23 05 38.9 -1.4**	
FITZ	**Fitzroy Crossi**	**21.19**	**222**	P	**P**	**23 06 13.8 +1.7**	
	comp=Z,1.5nm,0.4s,baz=46,slow=11,SNR=10						
FITZ				LR	LR	23 16 36.8	
	comp=Z,44nm,18.7s,baz=132,slow=42						
FITZ	**Fitzroy Crossi**	**21.19**	**222**	P	**P**	**23 06 12.0 0.0**	
FITZ				IAmb	IAmb	23 06 19.5	
	comp=Z,4.6nm,0.9s						
AS31	**Alice Springs**	**21.92**	**196**	P	**P**	**23 06 20.2 +0.3**	
ASAR	**Alice Springs**	**21.92**	**196**	P	**P**	**23 06 20.6 +0.7**	
	comp=Z,4.0nm,0.7s,baz=31,slow=10.0,SNR=46						
ASAR				LR	LR	23 15 52.6	
	comp=Z,72nm,20.5s,baz=104,slow=39						
ASAR	**Alice Springs**	**21.92**	**196**	P	**P**	**23 06 19.2 -0.8**	
STKA	**Stephens Creek**	**29.20**	**178**	P	**P**	**23 07 27.2 -0.6**	
	comp=Z,0.8nm,0.4s,baz=356,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**29.20**	**178**	P	**P**	**23 07 27.4 -0.5**	
BBOO	**Buckleboo**	**30.38**	**187**	P	**P**	**23 07 38.1 -0.3**	
BBOO				IAmb	IAmb	23 07 38.4	
	comp=Z,11nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**33.26**	**50**	T	T	23 42 58.7	
	baz=232,slow=75,SNR=90						
H11S2	**WAKE ISLAND Hy**	**33.27**	**50**	T	T	23 42 56.8	
	baz=232,slow=75,SNR=61						
H11S1	**WAKE ISLAND Hy**	**33.27**	**50**	T	T	23 42 59.1	
	baz=232,slow=75,SNR=81						
KULM	**Kulim**	**40.48**	**281**	P	**P**	**23 09 04.1 -1.3**	
KULM				IAmb	IAmb	23 09 12.0	
	comp=Z,14nm,1.2s						
CMAR	**Chiang Mai Arr**	**45.84**	**299**	P	**P**	**23 09 49.9 +1.1**	
	comp=Z,0.3nm,0.4s,baz=125,slow=6.1,SNR=2.1						
BKZ	**Black Stump Fm**	**49.05**	**143**	P	**P**	**23 10 13.1 -0.3**	
KHZ	**Kahutara**	**49.52**	**148**	P	**P**	**23 10 16.4 -0.5**	
MKAR	**Makanchi Array**	**70.71**	**322**	P	**P**	**23 12 43.6 +1.4**	
	comp=Z,0.3nm,0.7s,baz=101,slow=8.2,SNR=2.6						
MKAR	**Makanchi Array**	**70.71**	**322**	P	**P**	**23 12 42.1 -0.1**	
MAKZ	**Makanchi**	**70.91**	**322**	P	**P**	**23 12 42.6 -0.8**	
ZALV	**Zalesovo Beam**	**72.66**	**329**	P	**P**	**23 12 55.1 +1.4**	
	comp=Z,0.4nm,0.4s,baz=132,slow=2.1,SNR=1.9						
KURK	**Kurchatov**	**74.57**	**324**	P	**P**	**23 13 04.3 -0.7**	
KURK				IAmb	IAmb	23 13 09.4	
	comp=Z,3.4nm,1.4s						
VNDA	**Vanda**	**75.80**	**175**	P	**P**	**23 13 12.2 +0.6**	
VNDA				IAmb	IAmb	23 13 33.6	
	comp=Z,4.1nm,1.4s						
J20K	**Nowinta River**	**81.82**	**24**	P	**P**	**23 13 45.9 +1.0**	
J20K				IAmb	IAmb	23 13 46.9	
	comp=Z,1.2nm,0.8s						
PPLA	**Purkeypile**	**82.14**	**25**	P	**P**	**23 13 46.6 -0.2**	
PPLA				IAmb	IAmb	23 13 56.4	
	comp=Z,4.9nm,1.2s						
ILAR	**Eielson Array**	**84.98**	**24**	P	**P**	**23 13 57.1 -4.0**	
	comp=Z,0.2nm,0.6s,baz=258,slow=4.3,SNR=2.4						
M27K	**Edge Creek, AK**	**86.55**	**27**	P	**P**	**23 14 09.8 +0.6**	
BMAR	**Burnt Mountain**	**86.61**	**22**	P	**P**	**23 14 10.4 +1.1**	
QSPA	**South Pole Qui**	**87.40**	**180**	P	**P**	**23 14 12.9 -0.3**	
QSPA				IAmb	IAmb	23 14 34.3	
	comp=Z,3.2nm,1.1s						

*IDC **13** 23:23:52.0±0.8,3°.30N×126°.52E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/35, mbtmp3.9/11, ML3.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/73, Error ellipse: s-maj=40.3km s-min=14.3km az=65.0*
*NEIC **13** 23:23:53.6±1.4,3°.32N±0°.07×126°.48E±0°.06, h10km±1km, mb4.4/24, Error ellipse: s-maj=12.0km s-min=10.5km az=326.0*
*DJA **13** 23:23:54.6±0.5,4°.N±7°×12°.7E±°, h32km±9km, M4.1/13, mb4.2/7, mB4.7/1, MLv4.0/13, Mw(mB)3.9/1*
ISC 13 23:23:53.2±0.5,3°.27N±0°.05×126°.50E±0°.06, h10km, n57, σ1§77/51, mb4.2/19, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.06**	**293**	P	Pn	23 24 21.5	+7.4
SGSI				S	**Sn**	**23 24 36.6**	**+7.7**
TNTI	**Ternate**	**2.62**	**161**	Pn	**Pn**	**23 24 36.6**	**+1.0**
TNTI	**Ternate**	**2.62**	**161**	P	**Pb**	**23 24 39.6**	**-0.7**
KCP	**Kidapawan**	**3.98**	**339**	*e*P	**Pn**	**23 24 57.2**	**+2.9**
KCP				*e*S	**Sb**	**23 25 48.3**	**-3.3**
LBMI	**Labuha**	**4.00**	**166**	P	**Pn**	**23 24 59.1**	**+4.4**
GTOI	**Gorontalo**	**4.36**	**233**	P	**Pb**	**23 25 09.5**	**-0.4**
	0.0nm7.4nm,0.8s						
MRSI	**Marisa**	**5.33**	**239**	P	**Pb**	**23 25 22.9**	**-3.6**
	0.1nm30nm,0.6s						
LUWI	**Luwuk**	**5.67**	**221**	Pn	**Pn**	**23 25 17.9**	**+0.3**
LUWI	**Luwuk**	**5.67**	**221**	P	Pb	23 25 28.1	-4.3
	1.0nm52nm,0.7s						
TOLI2	**Tolitoli**	**6.10**	**250**	Pn	**Pn**	**23 25 24.0**	**+0.5**
SWI	**Sorong**	**6.28**	**131**	P	**Pn**	**23 25 24.9**	**-1.1**
	0.1nm32nm,0.9s						
SIJI	**Sorong**	**6.29**	**131**	Pn	**Pn**	**23 25 27.1**	**+1.0**
	2.8nm,0.3s,baz=332,slow=16,SNR=6.5						
SIJI				Sn	**Sn**	**23 26 39.7**	**+1.6**
	0.7nm,0.3s,baz=257,slow=23,SNR=1.6						
APSI	**Ampana**	**6.38**	**230**	P	Pb	23 25 38.7	-5.7
	0.2nm51nm,0.7s						
MPSI	**Mapaga**	**7.21**	**246**	P	Pb	23 25 50.8	-7.8
KAPI	**Kappang**	**10.63**	**219**	LR	LR	23 30 59.8	
	comp=Z,35nm,19.2s,baz=66,slow=40						
MTN	**Manton Dam**	**16.65**	**164**	Pn	**Pn**	**23 27 46.5**	**-0.4**
MTN				IAmb	IAmb	23 28 01.1	
	comp=Z,38nm,1.4s						
KNRA	**Kununurra**	**18.95**	**173**	P	**P**	**23 28 14.1**	**-0.6**
KNRA				IAmb	IAmb	23 28 20.1	
	comp=Z,17nm,1.1s						
YULB	**Yu-li**	**20.63**	**346**	P	**P**	**23 28 31.4**	**-1.6**
YULB				IAmb	IAmb	23 28 46.2	
	comp=Z,24nm,1.4s						
TPUB	**Ta-pu**	**20.71**	**345**	P	**P**	**23 28 31.6**	**-2.2**
SSLB	**Suanglung**	**21.09**	**346**	P	**P**	**23 28 37.4**	**-0.6**
SSLB				IAmb	IAmb	23 28 38.1	
	comp=Z,15nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.25**	**182**	P	**P**	**23 28 41.6**	**+2.0**
	comp=Z,2.0nm,0.7s,baz=348,slow=9.8,SNR=4.3						
FITZ	**Fitzroy Crossi**	**21.25**	**182**	P	**P**	**23 28 38.9**	**-0.7**
WB0	**Warramunga Arr**	**24.17**	**162**	P	**P**	**23 29 09.6**	**-0.2**
WB0				IAmb	IAmb	23 29 19.0	
	comp=Z,9.8nm,0.8s						
WRA	**Warramunga Arr**	**24.32**	**162**	P	**P**	**23 29 10.7**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=338,slow=11,SNR=22						
WRA	**Warramunga Arr**	**24.32**	**162**	P	**P**	**23 29 10.3**	**-0.9**
AS31	**Alice Springs**	**27.72**	**165**	P	**P**	**23 29 42.4**	**+0.4**
ASAR	**Alice Springs**	**27.72**	**165**	P	**P**	**23 29 42.5**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=352,slow=7.9,SNR=12						
GSI	**Gunungsitoli**	**28.97**	**267**	P	**P**	**23 29 52.0**	**-1.2**
CTA	**Charters Tower**	**30.25**	**141**	LR	LR	23 42 15.7	
	comp=Z,47nm,18.0s,baz=82,slow=36						
CMAR	**Chiang Mai Arr**	**30.91**	**301**	P	**P**	**23 30 11.8**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=121,slow=11,SNR=2.6						
FORT	**Forrest**	**33.89**	**178**	P	**P**	**23 30 37.2**	**+1.0**
BBOO	**Buckleboo**	**37.01**	**167**	P	**P**	**23 31 03.7**	**+0.6**
BBOO				IAmb	IAmb	23 31 21.9	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**37.78**	**159**	P	**P**	**23 31 10.0**	**+0.3**
	comp=Z,4.1nm,0.6s,baz=322,slow=9.4,SNR=10						
STKA	**Stephens Creek**	**37.78**	**159**	P	**P**	**23 31 09.3**	**-0.4**
ARMA	**Armidale**	**41.21**	**146**	P	**P**	**23 31 37.7**	**-0.8**
H11S3	**WAKE ISLAND Hy**	**42.13**	**66**	T	T	00 16 15.2	
	baz=253,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**42.14**	**66**	T	T	00 16 09.4	
	baz=253,slow=75,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**42.14**	**66**	T	T	00 16 11.0	
	baz=253,slow=75,SNR=12						
SONM	**Songino Array**	**47.66**	**342**	P	**P**	**23 32 29.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=150,slow=8.8,SNR=2.3						
PETK	**Petropavlovsk-**	**55.94**	**22**	P	**P**	**23 33 32.7**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=195,slow=10,SNR=2.5						
PETK	**Petropavlovsk-**	**55.94**	**22**	P	**P**	**23 33 30.7**	**-0.8**
MK31	**Makanchi Array**	**57.80**	**326**	P	**P**	**23 33 44.8**	**0.0**
MK31				IAmb	IAmb	23 34 04.1	
	comp=Z,4.7nm,1.4s						
MKAR	**Makanchi Array**	**57.80**	**326**	P	**P**	**23 33 44.5**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=122,slow=7.9,SNR=16						
MAKZ	**Makanchi**	**57.99**	**325**	P	**P**	**23 33 46.4**	**+0.2**
MAKZ				IAmb	IAmb	23 34 09.9	
	comp=Z,9.4nm,1.4s						
KDJ	**Kajisay**	**58.54**	**319**	P	**P**	**23 33 49.5**	**-0.8**
KDJ				IAmb	IAmb	23 34 15.6	
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**60.90**	**333**	P	**P**	**23 34 05.2**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=125,slow=7.2,SNR=1.6						
KURK	**Kurchatov**	**62.01**	**328**	P	**P**	**23 34 13.1**	**-0.5**
KURK				IAmb	IAmb	23 34 17.6	
	comp=Z,3.6nm,0.8s						
KK31	**Karatay Array**	**63.41**	**317**	P	**P**	**23 34 22.9**	**-0.3**
KKAR	**Karatay Array**	**63.41**	**317**	P	**P**	**23 34 23.0**	**-0.2**
GEYT	**Alibeck**	**71.00**	**309**	P	**P**	**23 35 10.2**	**-1.4**
GEYT				IAmb	IAmb	23 35 12.6	
	comp=Z,2.4nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**71.00**	**309**	P	**P**	**23 35 10.3**	**-1.3**
ABKAR	**Akbulak array**	**72.36**	**321**	P	**P**	**23 35 19.2**	**-0.2**
ABKAR	**Akbulak array**	**72.36**	**321**	P	**P**	**23 35 19.4**	**0.0**
ABKAR				IAmb	IAmb	23 35 27.8	
	comp=Z,4.3nm,1.5s						
VNDA	**Vanda**	**83.00**	**173**		**P**	**23 36 19.1**	**+1.0**
SML	**Sawmill**	**84.85**	**28**	P	**P**	**23 36 27.1**	**-0.9**
BMAR	**Burnt Mountain**	**86.59**	**23**	P	**P**	**23 36 36.4**	**-0.2**
BRTR	**Keskin Array B**	**90.14**	**310**	P	**P**	**23 36 55.2**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=123,slow=5.3,SNR=3.8						

*IDC **13** 23:30:39.4±1.8, 15°.28S×74°.98W, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.7/24, mbtmp3.8/6, ML3.4/3, MS3.1/4, Ms1 3.1/4, ms1mx2.8/58, Error ellipse: s-maj=68.7km s-min=16.2km az=51.0*
*NEIC **13** 23:30:39.5±1.1, 15°.80S±0°.08×75°.5W±0°.1, h10km±1km, mb4.3/5, Error ellipse: s-maj=22.6km s-min=8.1km az=241.0*
ISC 13 23:30:41.3±0.8, 15°.74S±0°.09×75°.4W±0°.1, h26km, n47, σ1§38/39, mb4.1/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.99**	**339**	Pn	**Pn**	**23 31 40.1**	**-0.8**
	1.7nm,0.3s,baz=244,slow=4.0,SNR=2.1						
NNA				Sn	**Sn**	**23 32 24.5**	**-2.5**
	15nm,0.3s,baz=126,slow=4.6,SNR=4.8						
NNA				Lg	Lg	23 32 37.5	
	46nm,0.3s,baz=205,slow=16,SNR=6.5						
AP01	**Chacalluta**	**5.49**	**119**	Pn	**Pn**	**23 32 01.2**	**-0.2**
PB12	**IPOC Station P**	**5.62**	**121**	Pn	**Pn**	**23 32 03.7**	**+0.4**
PB16	**IPOC Station P**	**6.19**	**115**		**Pn**	**23 32 12.2**	**+0.6**
TA02	**Huaiquique**	**6.73**	**133**		**Pn**	**23 32 18.6**	**+0.1**
PB11	**IPOC Station P**	**6.77**	**127**	Pn	**Pn**	**23 32 19.9**	**-0.2**
TA01	**Diego Aracena**	**6.89**	**135**		**Pn**	**23 32 20.4**	**-0.3**
LPAZ	**La Paz**	**7.00**	**95**	Pn	**Pn**	**23 32 25.5**	**+2.8**
	1.3nm,0.3s,baz=276,slow=9.7,SNR=22						
LPAZ				Sn	Sn	23 33 50.8	+8.9
	baz=187,slow=25,SNR=1.2						
LPAZ				LR	LR	23 35 31.7	
	comp=Z,106nm,21.7s,baz=306,slow=44						
LPAZ	**La Paz**	**7.00**	**95**	Pn	**Pn**	**23 32 24.2**	**+1.4**
GO01	**Chusmiza**	**7.08**	**124**		**Pn**	**23 32 24.4**	**+0.8**
PATCX	**Punta Patache**	**7.09**	**136**	Pn	**Pn**	**23 32 23.4**	**0.0**
PB08	**IPOC Station P**	**7.37**	**127**		**Pn**	**23 32 27.7**	**+0.1**
PB02	**IPOC Station P**	**7.61**	**138**		**Pn**	**23 32 30.6**	**0.0**
PB01	**IPOC Station P**	**7.69**	**134**		**Pn**	**23 32 31.8**	**0.0**
PB07	**IPOC Station P**	**7.91**	**140**		**Pn**	**23 32 34.5**	**-0.3**
PB04	**IPOC Station P**	**8.21**	**144**	Pn	**Pn**	**23 32 38.3**	**-0.7**
PB09	**IPOC Station P**	**8.37**	**137**		**Pn**	**23 32 41.7**	**+0.5**
PB06	**IPOC Station P**	**8.84**	**142**	Pn	**Pn**	**23 32 47.3**	**-0.2**
PB10	**IPOC Station P**	**8.97**	**150**	Pn	**Pn**	**23 32 47.9**	**-1.3**
LVC	**Limon Verde**	**9.17**	**139**	Pn	**Pn**	**23 32 53.4**	**+1.1**
	2.9nm,0.3s,baz=320,slow=9.5,SNR=24						
LVC				Sn	**Sn**	**23 34 32.5**	**-2.4**
	0.5nm,0.3s,baz=276,slow=22,SNR=1.5						
LVC				Lg	Lg	23 35 37.4	
	0.5nm,0.3s,baz=126,slow=22,SNR=6.8						
LVC				LR	LR	23 36 11.0	
	comp=Z,88nm,20.1s,baz=301,slow=36						
PB15	**IPOC Station P**	**9.29**	**144**		**Pn**	**23 32 53.5**	**-0.3**
GO02	**Mina Guanaco**	**10.83**	**151**	Pn	**Pn**	**23 33 14.0**	**-1.0**
AC02	**Maricunga**	**12.48**	**153**	Pn	**Pn**	**23 33 38.7**	**+0.9**
BOSC	**San Juan Bosco**	**12.88**	**346**		**Pn**	**23 33 43.8**	**+0.8**
SIV	**San Ignacio**	**13.78**	**93**	Pn	**Pn**	**23 33 50.8**	**-4.3**
	0.1nm,0.3s,baz=292,slow=16,SNR=4.2						
SIV				LR	LR	23 39 44.7	
	comp=Z,101nm,19.1s,baz=236,slow=41						
H03N1	**Juan Fernandez**	**17.91**	**190**	T	T	23 53 43.9	
	baz=12,slow=74,SNR=439						
H03N2	**Juan Fernandez**	**17.91**	**190**	T	T	23 53 41.3	
	baz=12,slow=74,SNR=378						
H03N3	**Juan Fernandez**	**17.92**	**190**	T	T	23 53 40.4	
	baz=12,slow=74,SNR=412						
ROSC	**El Rosal**	**20.48**	**3**	LR	LR	23 45 06.0	
	comp=Z,100nm,19.2s,baz=296,slow=43						
BAUV	**El Baul**	**25.59**	**17**	P	**P**	**23 36 08.6**	**+0.1**
BAUV				IAmb	IAmb	23 36 23.2	
	comp=Z,12nm,1.2s						
TXAR	**Lajitas Array**	**52.48**	**329**	P	**P**	**23 39 53.2**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=153,slow=8.1,SNR=4.5						
TXAR	**Lajitas Array**	**52.48**	**329**	P	**P**	**23 39 52.2**	**-0.1**
VNA1	**Neumayer--Stat**	**67.73**	**161**	P	**P**	**23 41 39.3**	**+3.2**
VNA2	**Neumayer--Watz**	**68.08**	**161**	P	**P**	**23 41 40.4**	**+2.0**
SNAA	**Sanae**	**69.69**	**161**	P	**P**	**23 41 50.0**	**+1.6**
SNAA	**Sanae**	**69.69**	**161**	P	**P**	**23 41 49.1**	**+0.6**
TROLL	**Troll, Antarti**	**71.40**	**161**	P	**P**	**23 42 00.3**	**+1.4**
TOA0	**Torodi Ar. Sit**	**81.44**	**74**	P	**P**	**23 42 56.4**	**-0.3**
TOA0				IAmb	IAmb	23 42 59.2	
	comp=Z,2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.44**	**74**	P	**P**	**23 42 56.6**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=261,slow=4.4,SNR=10						
TORD	**Torodi Ar. Bea**	**81.44**	**74**	P	**P**	**23 42 56.9**	**+0.1**
TORD				IAmb	IAmb	23 42 57.6	
	comp=Z,1.6nm,0.8s						
YKA	**Yellowknife Ar**	**83.83**	**343**	P	**P**	**23 43 08.2**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=141,slow=5.6,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**120.81**	**284**	T	T	02 01 56.2	
	baz=98,slow=74,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**120.82**	**284**	T	T	02 01 51.1	
	baz=98,slow=74,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**120.83**	**284**	T	T	02 01 57.4	
	baz=98,slow=74,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**120.85**	**282**	T	T	02 01 55.4	
	baz=99,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**120.85**	**282**	T	T	02 01 55.4	
	baz=99,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**120.86**	**282**	T	T	02 01 56.6	
	baz=99,slow=75,SNR=16						

*IDC **13** 23:42:25.6±2.9, 37°.31N×113°.89W, h0km, mb2.7/1, mb1 3.3/3, mb1mx3.1/35, mbtmp2.9/3, ML3.8/2, MS2.6/2, Ms1 2.6/2, ms1mx2.4/11, Error ellipse: s-maj=38.9km s-min=10.2km az=165.0*
*ANF **13** 23:42:26.5±0.3, 37°.53N×113°.89W, h5km, ML3.8/19, Error ellipse: s-maj=3.4km s-min=2.3km az=30.0*
*UUSS **13** 23:42:27.0±1.9, 37°.50N±0°.04×113°.94W±0°.04, h4km±7km, ML3.4/21, ML3.4/122(NEIC), Error ellipse: s-maj=5.7km s-min=4.4km az=201.0*
*NEIC **13** 23:42:27.4±1.8, 37°.51N±0°.02×113°.97W±0°.03, h1km±10km, Error ellipse: s-maj=4.3km s-min=2.9km az=55.0*
ISC 13 23:42:28.3±0.7, 37°.50N±0°.02×113°.98W±0°.02, h10km, n113, σ1§29/118, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.35**	**172**		**Pg**	**23 42 34.2**	**-1.1**
ICU	**Indian Springs**	**0.35**	**172**		**Sg**	**23 42 39.5**	**-0.4**
CCUT	**Cedar City**	**0.49**	**83**		**Pg**	**23 42 36.1**	**-1.8**
CCUT	**Cedar City**	**0.49**	**83**		**Sg**	**23 42 42.5**	**-2.0**
CCUT	**Cedar City**	**0.49**	**83**	IAML		23 42 45.5	
	comp=N,1µm,1.3s						
CCUT				IAML		23 42 52.1	
	comp=E,674nm,0.8s						
ARUT	**Antelope Range**	**0.52**	**56**		**Pg**	**23 42 36.8**	**-1.7**
ZNPU	**Zion National**	**0.69**	**101**		**Pg**	**23 42 40.1**	**-1.6**
ZNPU					**Sg**	**23 42 49.1**	**-1.5**
SZCU	**Shurtz Canyon**	**0.72**	**82**		**Pg**	**23 42 40.9**	**-1.2**
SZCU	**Shurtz Canyon**	**0.72**	**82**	IAML		23 42 52.8	
	comp=N,1µm,0.3s						
SZCU				IAML		23 42 53.0	
	comp=E,892nm,0.2s						
LCMT	**Little Creek M**	**0.76**	**129**		**Pg**	**23 42 41.3**	**-1.7**
LCMT				IAML		23 42 54.0	
	comp=E,817nm,0.2s						
LCMT	**Little Creek M**	**0.76**	**129**		**Sg**	**23 42 51.3**	**-1.6**
PRN	**Pahroc Range**	**0.86**	**264**		**Pg**	**23 42 44.4**	**-0.4**
BHU	**Blowhard Mount**	**0.90**	**83**		**Pg**	**23 42 44.7**	**-0.9**
DWU	**Dry Willow Pea**	**0.99**	**52**		**Pg**	**23 42 45.4**	**-1.9**
KNB	**Kanab**	**1.04**	**117**		**Pg**	**23 42 46.4**	**-1.9**
KNB	**Kanab**	**1.04**	**117**	IAML		23 43 00.2	
	comp=E,641nm,0.6s						
PSUT	**Pine Spring**	**1.04**	**5**		**Pg**	**23 42 46.6**	**-1.7**
EKU	**East Kanab**	**1.26**	**109**		**Pn**	**23 42 50.4**	**-1.6**
IMU	**Iron Mountain**	**1.31**	**30**		**Pn**	**23 42 51.

WUAZ Sb **Sb** **23 43 55.5 +0.2**
baz=315
LCH **Last Change Ra** **2.93 266** **Pn** **23 43 15.1 0.0**
LCH IAML 23 44 08.6
comp=N,98nm,0.6s
LCH IAML 23 44 10.5
comp=E,115nm,0.6s
GMRC **Granite Mounta** **3.03 207** P **Pn** **23 43 16.1 -0.3**
baz=27,SNR=12
GMRC S **Sn** **23 43 52.0 -0.8**
baz=27
GSC **Goldstone, Bar** **3.16 227** **Pn** **23 43 18.9 +0.7**
GSC IAML 23 44 15.4
comp=E,161nm,0.7s
GSC IAML 23 44 20.9
comp=N,80nm,0.7s
GSC **Goldstone, Bar** **3.16 227** Sb **Sb** **23 44 06.4 +3.2**
baz=46
MPMC **Manual Prospec** **3.16 244** P **Pn** **23 43 18.2 -0.1**
baz=62,SNR=18
SRU **San Rafael Swe** **3.16 58** **Pn** **23 43 19.3 +1.0**
SRU IAML 23 44 17.2
comp=E,76nm,0.6s
P17A **Butcher Ranch,** **3.22 51** **Pn** **23 43 20.0 +1.0**
HEC **Hector,Ludlow** **3.27 216** P **Pn** **23 43 19.6 -0.1**
baz=35,SNR=12
HEC S **Sn** **23 43 59.4 +0.7**
baz=35
NV11 **Mina Array Sit** **3.43 287** **Pn** **23 43 20.1 -1.8**
NV11 IAML 23 44 18.7
comp=E,60nm,0.6s
NV11 IAML 23 44 25.5
comp=N,73nm,0.9s
IRM **Iron Mountain** **3.46 196** P **Pn** **23 43 22.1 -0.2**
baz=16
IRM Sb **Sb** **23 44 15.3 +3.5**
baz=16
BGU **Big Grassy Mou** **3.50 12** **Pn** **23 43 22.3 -0.7**
BGU IAML 23 44 21.5
comp=N,52nm,0.8s
BGU IAML 23 44 29.1
comp=E,96nm,0.9s
NVAR **Mina Array Bea** **3.54 287** Pn **Pn** **23 43 23.2 -0.3**
comp=E,3.6nm,0.3s,baz=114,slow=13,SNR=42
NVAR Pg **Pb** **23 43 30.8 -0.4**
comp=E,44nm,0.3s,baz=112,slow=17,SNR=120
NVAR Lg Lg 23 44 21.5
comp=E,13nm,0.3s,baz=96,slow=34,SNR=1.7
NVAR LR LR 23 45 07.2
comp=E,70nm,20.9s,baz=39,slow=46
NVAR **Mina Array Bea** **3.54 287** **Pn** **23 43 22.6 -0.9**
RRX **Edison Barstow** **3.58 224** Sb **Sg** **23 44 19.8 -3.3**
baz=42
KVN **Kaiserville** **3.59 297** **Pn** **23 43 24.0 -0.2**
KVN IAML 23 44 36.6
comp=E,66nm,1.0s
KVN IAML 23 44 41.7
comp=N,51nm,1.1s
P18A **Preston Nutter** **3.62 53** **Pn** **23 43 26.5 +1.8**
CTU **Camp Tracy** **3.63 28** **Pn** **23 43 23.6 -1.2**
CTU IAML 23 44 26.7
comp=E,45nm,0.9s
CTU IAML 23 44 28.5
comp=N,49nm,0.7s
Y14A **Wickenburg** **3.64 167** **Pn** **23 43 24.8 +0.1**
Y14A IAML 23 44 26.2
comp=E,112nm,0.7s
Y14A IAML 23 44 26.6
comp=N,106nm,0.9s
LHV **Little Huntoon** **3.66 283** **Pn** **23 43 25.4 +0.5**
JLU **Jordanelle** **3.67 32** **Pn** **23 43 25.9 +0.5**
X16A **Lo Mia Camp, P** **3.70 145** **Pn** **23 43 27.2 +1.5**
X16A IAML 23 44 27.7
comp=E,62nm,1.1s
X16A IAML 23 44 29.4
comp=N,50nm,0.8s
RYN **Ryan** **3.76 289** **Pn** **23 43 26.1 -0.3**
RYN IAML 23 44 31.3
comp=E,91nm,0.5s
RYN IAML 23 44 32.9
comp=N,98nm,0.4s
BLYC **Blythe** **3.76 187** **Pn** **23 43 27.3 +1.0**
BLYC IAML 23 44 31.2
comp=E,73nm,0.9s
BLYC IAML 23 44 32.0
comp=N,42nm,0.6s
BELC **Belle Mtn. Jos** **3.85 206** P **Pn** **23 43 27.6 -0.1**
baz=25
BMN **Battle Mountai** **3.87 320** **Pn** **23 43 28.6 +0.6**
BMN IAML 23 44 34.7
comp=E,69nm,0.5s
BMN IAML 23 44 36.4
comp=N,77nm,0.9s
PV10 **Paradox Valley** **4.00 76** **Pn** **23 43 30.4 +0.4**
CCAC **Calif City Air** **4.01 236** **Pn** **23 43 30.6 +0.8**
CCAC IAML 23 44 45.6
comp=E,66nm,1.2s
CCAC IAML 23 44 52.6
comp=N,59nm,1.5s
BBRC **Big Bear Solar** **4.01 217** Sb **Sg** **23 44 33.0 -4.2**
baz=36
BC3 **Big Chuckawall** **4.02 198** P **Pn** **23 43 29.9 0.0**
baz=17
PV23 **Carpenter Ridg** **4.04 75** **Pn** **23 43 31.4 +0.9**
ISA **Isabella, Lake** **4.05 245** **Pn** **23 43 31.1 +0.7**
MDPB **Devils Postpil** **4.05 273** Pn **Pn** **23 43 30.6 0.0**
PV11 **David Mesa, Pa** **4.12 77** **Pn** **23 43 32.4 +1.0**
W18A **Petrified Fore** **4.17 123** **Pn** **23 43 32.9 +0.8**
W18A **Petrified Fore** **4.17 123** Sb **Sb** **23 44 34.8 +2.5**
baz=306
PFO **Pinyon Flats O** **4.37 208** LR LR 23 45 28.8
comp=N,107nm,21.1s,baz=354,slow=43
PFO **Pinyon Flats O** **4.37 208** Pn **Pn** **23 43 35.0 +0.2**
PFO **Pinyon Flats O** **4.37 208** S **Sn** **23 44 27.4 +1.6**
baz=27
TPFO **Pinon Flats** **4.37 208** P **Pn** **23 43 34.8 -0.1**
baz=27,SNR=5.2
HVU **Hansel Valley** **4.38 12** **Pn** **23 43 36.6 +1.6**
HWUT **Hardware Ranch** **4.51 24** **Pn** **23 43 37.6 +0.8**
HWUT IAML 23 44 54.3
comp=N,44nm,1.0s
HWUT IAML 23 45 00.5
comp=N,40nm,1.1s
RDMU **Red Mountain** **4.61 47** **Pn** **23 43 39.0 +0.8**
MURC **Murrieta** **4.69 215** P **Pn** **23 43 39.6 +0.5**
baz=33,SNR=7.9
113A **Mohawk Valley,** **4.72 178** **Pn** **23 43 40.9 +1.4**
113A IAML 23 45 01.7
comp=E,31nm,1.0s
113A IAML 23 45 05.7
comp=N,32nm,0.8s
ELS **Elsinore Mount** **4.76 217** **Pn** **23 43 41.0 +0.9**
PAHR **Pah Rah Range** **4.77 299** **Pn** **23 43 41.5 +1.2**
PAHR IAML 23 44 60.0
comp=E,26nm,1.2s
PAHR IAML 23 45 00.4
comp=N,21nm,0.9s
MONP2 **Monument Peak** **5.01 204** P **Pn** **23 43 43.9 +0.2**
baz=23
YUH **Yuha Desert** **5.09 199** Pn **Pn** **23 43 45.4 +0.7**
YUH IAML 23 45 12.0
comp=E,12nm,3.1s
O20A **White River Ci** **5.20 58** **Pn** **23 43 47.2 +0.9**
BAR **Barrett** **5.29 205** Pn **Pn** **23 43 47.6 +0.3**
BEKR **Beckworth** **5.52 297** **Pn** **23 43 51.4 +0.7**
214A **Organ Pipe Nat** **5.61 170** Pn **Pn** **23 43 53.2 +1.5**
S22A **4UR Ranch, Cre** **5.68 85** **Pn** **23 43 53.7 +0.7**
AHID **Auburn Hatcher** **5.71 22** Pn **Pn** **23 43 54.7 +1.5**
SMCO **Snowmass** **5.76 71** **Pn** **23 43 55.1 +0.9**
TUC **Tucson** **5.80 152** **Pn** **23 43 55.6 +1.1**
HLID **Hailey** **6.07 357** Pn **Pn** **23 43 59.9 +1.7**
BW06 **Boulder Array** **6.26 31** Pn **Pn** **23 44 02.0 +1.1**
PDAR **Pinedale Array** **6.26 31** Pn **Pn** **23 44 03.0 +2.1**
comp=E,0.3nm,0.3s,baz=213,slow=13,SNR=13
PDAR Pg **Pb** **23 44 21.9 +4.4**
comp=E,0.4nm,0.3s,baz=210,slow=14,SNR=13
PDAR Lg Lg 23 45 45.7
comp=E,0.4nm,0.3s,baz=208,slow=35,SNR=3.6
PDAR **Pinedale Array** **6.26 31** **Pn** **23 44 01.5 +0.6**
TPAW **Teton Pass** **6.42 20** Pn **Pn** **23 44 02.4 -0.7**
LENM **Lemitar** **6.59 118** **Pn** **23 44 06.5 +1.2**
ANMO **Albuquerque** **6.59 110** **Pn** **23 44 05.4 0.0**
J08A **Circle Bar Ran** **6.78 331** Pn **Pn** **23 44 09.3 +1.4**
N23A **Red Feather La** **7.10 59** Pn **Pn** **23 44 13.9 +1.4**
TXAR **Lajitas Array** **11.85 130** Lg Lg 23 48 43.4
comp=E,0.0nm,0.3s,baz=321,slow=27,SNR=5.2

YKA **Yellowknife Ar** **25.03 359** P **P** **23 47 54.1 +1.9**
comp=E,0.1nm,0.6s,baz=178,slow=9.4,SNR=3.6

OSPL ***14*** *00:07:55.4±0.9, 18.25°N×73.74°W, h9km±17km, ML2.0*
SSNC 14 00:07:56.3±1.7, 18.55°N×73.46°W, h11km±14km, MD3.0, ML1.9, MW2.7, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAKH	**Jacmel**	**0.94**	**109**	*i* P	Pn	00 08 15.7	+0.2
JAKH				*e*S	Sn	00 08 31.0	+2.1
JAKH				IAML		00 08 36.9	
	comp=Z,15nm,0.5s						
PAPH	**Port-au-Prince**	**1.10**	**91**	*i* P	Pn	00 08 18.5	+0.8
PAPH				IAML		00 08 39.5	
	comp=Z,23nm,0.2s						
MASC	**Masc**	**1.78**	**336**	*e*P	Pn	00 08 24.0	-3.0
MASC				*e*S	Sn	00 08 45.9	-3.7
MASC				IAML		00 08 47.3	
	comp=E,9.0nm,0.3s						
MASC				IAML		00 08 47.5	
	comp=N,7.2nm,0.4s						
LONE2	**Loma La Sidra**	**1.88**	**89**	*i* P	Pb	00 08 30.7	0.0
LONE2				*e*S	Sb	00 08 55.5	+1.2
LONE2				IAML		00 09 01.5	
	comp=Z,19nm,1.4s						
GTBY	**Guantanamo Bay**	**2.08**	**312**	*e*P	Pn	00 08 29.7	-1.5
GTBY				*e*S	Sn	00 08 53.9	-3.2
GTBY				*e*Sg	Sb	00 08 56.1	-3.9
GTBY	**Guantanamo Bay**	**2.08**	**312**	*i* P	Pn	00 08 29.1	-2.1
GTBY				*e*S	Sn	00 08 54.0	-3.1
GTBY				IAML		00 08 59.9	
	comp=Z,3.8nm,0.4s						
SDDR	**Presa de Saban**	**2.10**	**78**	*i* P	Pb	00 08 33.6	-0.8
SDDR				*e*S	Sb	00 09 02.0	+1.4
SDDR				IAML		00 09 10.6	
	comp=Z,8.9nm,0.8s						
RCC	**Rio Carpintero**	**2.56**	**305**	*e*P	Pn	00 08 35.4	-2.4
RCC				*e*S	Sn	00 09 04.2	-4.8
RCC				IAML		00 09 10.1	
	comp=N,6.1nm,0.4s						
RCC				IAML		00 09 11.8	
	comp=E,8.5nm,0.3s						

IDC ***14*** *00:39:51.0±2.4, 22.78°N×94.57°E, h156km±48km, mb3.5/4, mb1 3.4/5, mb1mx2.9/56, mbtmp3.8/5, Error ellipse: s-maj=77.7km s-min=20.0km az=27.0*
NDI ***14*** *00:39:50.5±2.0, 23.12°N×94.39°E, h10km, ML3.3*
ISC 14 00:39:54.6±1.7, 23.33°N±0.10×94.4°E±0.1, h150km, n12, σ1§02/18, mb3.6/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**2.39**	**355**	*e*P	**Pn**	**00 40 34.1**	**-0.4**
KOHI				*e*S	**Sn**	**00 41 05.7**	**+0.4**
KOHI				IAML		00 41 13.1	
	comp=N,34nm,0.4s						
KOHI				IAML		00 41 15.2	
	comp=E,70nm,0.5s						
BRDH	**Bariadhala**	**2.58**	**256**	P	**Pn**	**00 40 35.4**	**-1.3**
	comp=E,0.2nm,0.3s,baz=180,slow=24,SNR=1.3						
BRDH				S	**Sn**	**00 41 09.1**	**0.0**
	comp=E,0.0nm,0.3s,baz=180,slow=24,SNR=1.0						
MOKO	**MOKOCHONG**	**2.98**	**3**	*e*P	**Pn**	**00 40 41.5**	**-0.3**
MOKO				*e*S	**Sn**	**00 41 17.6**	**-0.9**
TEZP	**TEZPUR**	**3.57**	**337**	*e*P	**Pn**	**00 40 48.2**	**-0.9**
TEZP				*e*S	**Sn**	**00 41 30.6**	**-1.0**
TEZP				IAML		00 41 33.3	
	comp=N,99nm,0.1s						
GUWA	**GUWAHATI**	**3.74**	**320**	*e*P	**Pn**	**00 40 49.2**	**-2.3**
GUWA				*e*S	**Sn**	**00 41 34.9**	**-0.7**
ITAN	**ITANAGAR**	**3.84**	**352**	*e*P	**Pn**	**00 40 52.3**	**-0.4**
ITAN				*e*S	**Sn**	**00 41 38.2**	**+0.2**
TURI	**Tura**	**4.28**	**302**	*e*P	**Pn**	**00 40 59.7**	**+1.2**
TURI				*e*S	**Sn**	**00 41 49.0**	**+0.8**
TURI				IAML		00 41 53.3	
	comp=N,320nm,0.1s						
TURI				IAML		00 41 53.6	
	comp=E,308nm,0.2s						
CMAR	**Chiang Mai Arr**	**6.47**	**138**	P	Pn	00 41 16.9	-11
	comp=E,0.2nm,0.3s,baz=310,slow=13,SNR=7.5						
MKAR	**Makanchi Array**	**25.35**	**340**	P	**P**	**00 45 08.7**	**+1.1**
	comp=E,0.5nm,0.4s,baz=149,slow=10,SNR=10						
KURBB	**Kurchatov Arra**	**29.90**	**340**	P	**P**	**00 45 48.9**	**+0.9**
	comp=E,0.6nm,0.6s,baz=163,slow=7.4,SNR=5.3						
AKTO	**Aktyubinsk**	**39.08**	**323**	P	**P**	**00 47 07.7**	**+0.8**
	comp=E,0.7nm,0.5s,baz=113,slow=7.7,SNR=2.3						
ARCES	**ARCESS Array B**	**60.97**	**339**	P	**P**	**00 49 50.9**	**-0.6**
	comp=E,5.4nm,1.0s,baz=97,slow=7.4,SNR=2.3						

IDC 14 00:52:21.4±1.4, 42.28°N×29.37°W, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.4/36, mbtmp3.4/7, ML3.7/1, MS3.1/17, Ms1 3.1/17, ms1mx2.9/61, Error ellipse: s-maj=44.5km s-min=26.7km az=21.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**19.34**	**89**	P	P	00 56 48.8	+0.5
	0.1nm,0.3s,baz=284,slow=11,SNR=1.7						
ESDC				LR	LR	01 02 49.0	
	comp=Z,25nm,21.0s,baz=284,slow=32						
EKA	**Eskdalemuir Ar**	**21.48**	**44**	LR	LR	01 04 01.6	
	comp=Z,85nm,18.4s,baz=324,slow=33						
MDT	**Midelt**	**21.73**	**108**	LR	LR	01 03 43.0	
	comp=Z,43nm,19.7s,baz=220,slow=31						
DAVOX	**Davos/Dischmat**	**28.13**	**67**	LR	LR	01 07 32.6	
	comp=Z,37nm,21.2s,baz=265,slow=32						
GERES	**GERESS Array B**	**30.53**	**63**	LR	LR	01 10 29.7	
	comp=Z,51nm,18.2s,baz=271,slow=36						
NOA	**NORSAR Array B**	**30.70**	**38**	LR	LR	01 08 40.4	
	comp=Z,19nm,21.7s,baz=340,slow=32						
HFS	**Hagfors**	**31.61**	**41**	LR	LR	01 08 56.4	
	comp=Z,31nm,21.7s,baz=254,slow=32						
VRAC	**Vranov**	**32.39**	**61**	LR	LR	01 11 14.7	
	comp=Z,38nm,18.9s,baz=252,slow=35						
VAE	**Valguarnera**	**33.86**	**83**	LR	LR	01 11 07.8	
	comp=Z,67nm,19.1s,baz=324,slow=34						
SADO	**Sadowa**	**35.72**	**291**	LR	LR	01 13 03.6	
	comp=Z,44nm,18.3s,baz=178,slow=35						
TORD	**Torodi Ar. Bea**	**39.58**	**128**	P	P	00 59 54.4	-0.1
	0.8nm,0.9s,baz=310,slow=9.2,SNR=4.2						
AKASG	**Malin Array Be**	**40.25**	**57**	LR	LR	01 14 55.9	
	comp=Z,35nm,21.1s,baz=284,slow=34						
TKL	**Tuckaleechee C**	**42.20**	**280**	LR	LR	01 17 00.6	
	comp=Z,28nm,19.5s,baz=278,slow=35						
OBN	**Obninsk**	**43.74**	**49**	LR	LR	01 18 52.3	
	comp=Z,7.5nm,18.9s,baz=76,slow=36						
BRTR	**Keskin Array B**	**46.65**	**71**	LR	LR	01 19 59.0	
	comp=Z,18nm,18.1s,baz=278,slow=36						
BELG	**Belogornoye**	**50.80**	**50**	LR	LR	01 22 48.2	
	comp=Z,33nm,18.5s,baz=313,slow=36						
AKTO	**Aktyubinsk**	**57.52**	**49**	LR	LR	01 28 14.8	
	comp=Z,18nm,18.3s,baz=332,slow=37						
JTS	**Las Juntas de**	**57.88**	**253**	LR	LR	01 22 39.7	
	comp=Z,35nm,21.4s,baz=151,slow=31						
TXAR	**Lajitas Array**	**59.86**	**284**	P	P	01 02 28.8	-0.2
	0.3nm,0.7s,baz=69,slow=7.0,SNR=4.5						
ILAR	**Eielson Array**	**62.70**	**335**	P	P	01 02 47.9	+0.3
	0.2nm,0.9s,baz=40,slow=5.9,SNR=1.4						
KURBB	**Kurchatov Arra**	**68.20**	**41**	P	P	01 03 23.4	+0.1
	0.1nm,0.3s,baz=313,slow=5.7,SNR=2.3						
MKAR	**Makanchi Array**	**72.61**	**42**	P	P	01 03 49.8	-0.6
	0.3nm,0.8s,baz=317,slow=5.9,SNR=2.2						
SONM	**Songino Array**	**82.12**	**28**	P	P	01 04 44.1	+0.2
	0.3nm,0.7s,baz=336,slow=6.6,SNR=2.0						

IDC ***14*** *01:14:46.5±6.6, 3.31°S×135.48°E, h60km±55km, mb3.3/2, mb1 3.6/5, mb1mx3.3/28, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=85.2km s-min=24.4km az=72.0*
ISC 14 01:14:45.5±2.1, 3.3°S±0.2×135.5°E±0.2, h50km, n5, σ0§57/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.90**	**300**	P	**Pn**	**01 15 56.6**	**-0.1**
	1.6nm,0.3s,baz=236,slow=23,SNR=9.8						
SIJI				S	**Sn**	**01 16 52.7**	**+0.5**
	7.8nm,0.3s,baz=119,slow=23,SNR=10.0						
WRA	**Warramunga Arr**	**16.57**	**184**	P	**Pn**	**01 18 34.8**	**+0.2**
	0.2nm,0.3s,baz=6.5,slow=12,SNR=9.7						
WRA				S	Sn	01 21 24.0	-14
	0.2nm,0.3s,baz=0.5,slow=23,SNR=4.2						

FITZ **Fitzroy Crossi** **17.61** **213** P **Pn** **01 18 46.8** **-0.7**
0.1nm,0.3s,baz=26,slow=14,SNR=2.1
FITZ S Sn 01 21 49.2 -14
0.1nm,0.3s,baz=192,slow=19,SNR=1.9
ASAR **Alice Springs** **20.30** **184** P **P** **01 19 17.9** **+0.5**
1.5nm,0.5s,baz=7.9,slow=11,SNR=19
MKAR **Makanchi Array** **68.36** **324** P **P** **01 25 41.7** **-0.2**
0.2nm,0.4s,baz=107,slow=6.4,SNR=4.3

IDC 14 01:20:38.4±1.1, 42.33°N×29.16°W, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.6/33, mbtmp3.5/10, MS3.4/20, Ms1 3.4/20, ms1mx3.1/89, Error ellipse: s-maj=36.3km s-min=19.8km az=9.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**19.18**	**89**	P	P	01 25 03.1	-0.5
	baz=279,slow=11,SNR=2.2						
ESDC				LR	LR	01 30 56.1	
	comp=Z,58nm,21.1s,baz=294,slow=32						
EKA	**Eskdalemuir Ar**	**21.34**	**44**	LR	LR	01 32 19.5	
	comp=Z,118nm,18.2s,baz=184,slow=33						
MDT	**Midelt**	**21.59**	**108**	LR	LR	01 31 54.1	
	comp=Z,44nm,19.9s,baz=302,slow=31						
SFJD	**Kangerlussuaq**	**27.35**	**342**	LR	LR	01 34 41.0	
	comp=Z,71nm,20.2s,baz=154,slow=31						
DAVOX	**Davos/Dischmat**	**27.97**	**67**	LR	LR	01 36 02.4	
	comp=Z,65nm,21.6s,baz=264,slow=33						
GERES	**GERESS Array B**	**30.37**	**63**	P	P	01 26 52.9	+0.9
	0.2nm,0.3s,baz=267,slow=5.9,SNR=1.9						
GERES				LR	LR	01 37 54.0	
	comp=Z,62nm,19.3s,baz=278,slow=34						
NOA	**NORSAR Array B**	**30.56**	**38**	LR	LR	01 38 29.7	
	comp=Z,17nm,18.8s,baz=255,slow=35						
HFS	**Hagfors**	**31.47**	**41**	LR	LR	01 38 09.0	
	comp=Z,71nm,19.9s,baz=250,slow=33						
VRAC	**Vranov**	**32.23**	**62**	LR	LR	01 38 43.5	
	comp=Z,65nm,19.8s,baz=279,slow=34						
VAE	**Valguarnera**	**33.50**	**83**	LR	LR	01 39 48.4	
	comp=Z,104nm,20.3s,baz=327,slow=34						
SADO	**Sadowa**	**35.85**	**291**	LR	LR	01 41 21.0	
	comp=Z,58nm,18.9s,baz=2.5,slow=35						
FINES	**FINESS Array B**	**37.67**	**40**	P	P	01 27 54.5	-0.4
	1.5nm,0.9s,baz=262,slow=9.7,SNR=1.4						
FINES				LR	LR	01 42 23.0	
	comp=Z,28nm,18.5s,baz=218,slow=35						
MLR	**Muntele Rosu**	**39.17**	**66**	LR	LR	01 44 08.0	
	comp=Z,41nm,19.0s,baz=26,slow=36						
TORD	**Torodi Ar. Bea**	**39.49**	**128**	P	P	01 28 10.8	+0.1
	1.3nm,0.9s,baz=326,slow=6.4,SNR=6.3						
SJG	**San Juan**	**39.59**	**244**	LR	LR	01 40 44.2	
	comp=Z,18nm,21.3s,baz=40,slow=30						
AKASG	**Malin Array Be**	**40.09**	**57**	P	P	01 28 14.8	-0.6
	0.2nm,0.4s,baz=276,slow=9.0,SNR=2.2						
AKASG				LR	LR	01 44 35.1	
	comp=Z,88nm,18.7s,baz=289,slow=36						
TKL	**Tuckaleechee C**	**42.35**	**280**	LR	LR	01 42 50.6	
	comp=Z,40nm,21.4s,baz=148,slow=32						
BELG	**Belogornoye**	**50.65**	**50**	LR	LR	01 50 56.8	
	comp=Z,71nm,18.8s,baz=281,slow=36						
YKA	**Yellowknife Ar**	**51.57**	**324**	P	P	01 29 46.1	+0.3
	0.3nm,0.8s,baz=63,slow=7.5,SNR=5.2						
ROSC	**El Rosal**	**54.74**	**240**	LR	LR	01 50 57.9	
	comp=Z,44nm,19.3s,baz=54,slow=33						
PDAR	**Pinedale Array**	**56.97**	**300**	P	P	01 30 25.7	-0.1
	0.4nm,0.8s,baz=61,slow=6.3,SNR=2.7						
JTS	**Las Juntas de**	**58.04**	**254**	LR	LR	01 51 05.5	
	comp=Z,62nm,21.5s,baz=126,slow=32						
TXAR	**Lajitas Array**	**60.00**	**284**	P	P	01 30 46.7	-0.3
	0.8nm,0.9s,baz=79,slow=6.3,SNR=9.5						
MKAR	**Makanchi Array**	**72.47**	**42**	P	P	01 32 06.3	-0.3
	0.2nm,0.6s,baz=305,slow=5.1,SNR=2.9						
LVC	**Limon Verde**	**74.32**	**218**	LR	LR	02 01 12.7	
	comp=Z,45nm,20.4s,baz=352,slow=33						
SONM	**Songino Array**	**82.00**	**28**	P	P	01 33 00.6	+0.4
	0.2nm,0.3s,baz=316,slow=4.0,SNR=2.8						

IDC ***14*** *01:30:51.0±3.1, 28.57°N×52.44°E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.3/40, mbtmp3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/64, Error ellipse: s-maj=83.2km s-min=32.5km az=152.0*
TEH ***14*** *01:30:55.1, 28.56°N×52.22°E, h16km, ML3.3*
DSN ***14*** *01:30:59.0±1.7, 28.38°N×52.44°E, h10km, ML3.1/4, Error ellipse: s-maj=15.4km s-min=10.9km az=136.0*
ISC 14 01:30:54.2±0.8, 28.57°N±0.05×52.21°E±0.05, h10km, n40, σ1§64/41, mb3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QIR1	**Qir**	**0.74**	**97**	*e*		01 31 30.5	
	comp=Z,31μm,0.5s						
QIR1				*e*Pg	**Pg**	**01 31 08.8**	**+0.3**
AHBU	**AHRAM**	**0.85**	**290**	*e*Pg	**Pg**	**01 31 11.3**	**+0.6**
SHI	**Shiraz**	**1.10**	**14**	*e*Pg	**Pg**	**01 31 16.1**	**+0.7**
SHI				*e*		01 31 36.4	
	comp=Z,9μm,0.7s						
KAZ1	**Kazerun**	**1.16**	**335**	*e*Pg	**Pb**	**01 31 17.3**	**+0.9**
KAZ1				*e*		01 31 49.2	
	comp=Z,17μm,0.4s						
JHRM	**Jahrom**	**1.21**	**93**	*e*Pg	**Pb**	**01 31 17.9**	**+0.7**
LMD1	**Lamerd**	**1.49**	**145**	*e*Pg	**Pg**	**01 31 23.4**	**+0.6**
LMD1				*e*		01 31 53.3	
	comp=Z,10μm,0.8s						
LAR1	**LAR**	**2.11**	**115**	*e*Pn	**Pn**	**01 31 30.9**	**+1.2**
KLNJ	**Kolanjah**	**2.49**	**348**	*e*Pn	**Pn**	**01 31 35.9**	**+0.8**
KLNJ				*e*		01 32 29.3	
	comp=Z,1μm,0.6s						
IRAM	**Ramesheh**	**3.23**	**3**	*e*Pn	**Pn**	**01 31 46.5**	**+1.3**
IRAM				*e*		01 32 42.0	
	comp=Z,404nm,0.6s						
IMEH	**Mehriz**	**3.50**	**36**	*e*Pn	**Pn**	**01 31 51.1**	**+2.2**
IGAR	**Gharneh**	**3.82**	**358**	*e*Pn	**Pn**	**01 31 56.2**	**+2.9**
ICHK	**Chekchek**	**4.12**	**27**	*e*Pn	**Pn**	**01 31 59.7**	**+2.2**
KHGB	**Koh Gabri**	**4.13**	**63**	*e*Pn	**Pn**	**01 31 59.4**	**+1.8**
KHGB				*e*		01 33 13.5	
	comp=Z,179nm,0.5s						
KRBR	**Kerman**	**4.22**	**69**	*e*Pn	**Pn**	**01 32 01.5**	**+2.7**
NASN	**Na'in**	**4.24**	**7**	*e*Pn	**Pn**	**01 32 00.9**	**+1.7**
IZEF	**Zefreh**	**4.31**	**1**	*e*Pn	**Pn**	**01 32 01.4**	**+1.3**
YZKH	**Yazd**	**4.33**	**28**	*e*Pn	**Pn**	**01 32 02.0**	**+1.9**
BANOM	**Banah**	**4.50**	**125**	*e*Pn	**Pn**	**01 32 04.0**	**+1.5**
BANOM	**Banah**	**4.50**	**125**	P	**Pn**	**01 32 02.2**	**-0.3**
BANOM				S	**Sn**	**01 32 53.6**	**-1.2**
MSFE	**Esma-Masafi**	**4.76**	**131**	*e*Pn	**Pn**	**01 32 07.6**	**+1.5**
MSFE	**Esma-Masafi**	**4.76**	**131**	P	**Pn**	**01 32 07.4**	**+1.3**
IKLH	**Kolahrood**	**4.76**	**354**	*e*Pn	**Pn**	**01 32 07.3**	**+1.0**
ASUD	**Al Ashush, Dub**	**4.82**	**144**	*e*Pn	**Pn**	**01 32 07.1**	**+0.2**
KHNJ	**Kahnooj**	**4.89**	**96**	*e*Pn	**Pn**	**01 32 10.2**	**+2.4**
UOSS	**Minazif**	**5.08**	**134**	P	**Pn**	**01 32 13.1**	**+2.7**
HATD	**Hatta, Dubai**	**5.12**	**136**	*e*Pn	**Pn**	**01 32 11.5**	**+0.5**
HATD	**Hatta, Dubai**	**5.12**	**136**	P	**Pn**	**01 32 12.1**	**+1.0**
ASHO	**Ashiyiah**	**5.18**	**137**	*e*Pn	**Pn**	**01 32 13.0**	**+1.1**
KRSH	**Karshahi**	**5.38**	**359**	*e*Pn	**Pn**	**01 32 15.3**	**+0.6**
KHMZ	**Khomeyn**	**5.50**	**340**	*e*Pn	**Pn**	**01 32 17.8**	**+1.4**
MZR	**Muzera**	**5.66**	**168**	*e*Pn	**Pn**	**01 32 20.8**	**+2.3**
MZR	**Muzera**	**5.66**	**168**	P	**Pn**	**01 32 19.8**	**+1.4**
MZR				S	**Sn**	**01 33 24.3**	**+0.7**
ISFB	**Sefidab**	**5.76**	**0**	*e*Pn	**Pn**	**01 32 20.2**	**+0.3**
**

mb1 4.7/45,mb1mx4.6/60,mbtmp4.8/45,ML4.2/3,MS4.4/70, Ms1 4.4/70,ms1mx4.3/104,Error ellipse: s-maj=12.1km s-min=7.2km az=164.0

BJI ***14*** *01:37:24.7±0.0,51°.94N×174°.66W,h24km,mb5.2/72, mB5.1/45,Ms4.9/58,Ms7 4.7/56*

GCMT ***14*** *01:37:24.0±0.2,51°.39N±0°.02×174°.01W±0°.03,h19km, MW5.1/112,Moment Tensor Solution. s62,c84; s112,c174; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.68±.22; $M_{\theta\theta}$-3.01±.15; $M_{\phi\phi}$-1.67±.14; $M_{r\theta}$3.47±.33; $M_{\theta\phi}$-2.62±.09; $M_{r\phi}$2.65±.31; Best double couple: $M_0$6.53500×10^{16} NP1:ϕ_s232.00000°,δ24.00000°, λ89.00000°. NP2:ϕ_s52.00000°,δ66.00000°,λ90.00000°. Principal axes: T 6.3530, Plg69.0000°, Azm323.0000°; N 0.3640, Plg0.0000°, Azm232.0000°; P -6.7170, Plg21.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***14*** *01:37:26.6±0.0,51°.70N×174°.75W,h45km±4km,mb5.4, Ms4.4*

ANF ***14*** *01:37:27.8±0.9,51°.62N×173°.84W,h42km±5km,ML5.3/2, Error ellipse: s-maj=9.0km s-min=4.3km az=63.0*

ISC 14 01:37:25.0±0.4,51°.57N±0°.04×174°.08W±0°.03,h33km±1km, h32km:pP-P,n1526,σ1911/1628,mb5.2/402,MS4.6/119, 77C-69D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.64**	**354**			**Pn**	**01 37 39.1**	**+1.5**
ATKA						**Sn**	**01 37 51.6**	**+5.0**
ATKA	**Atka Island**	**0.64**	**354**	P		**Pn**	**01 37 39.3**	**+1.7**
KOFP	**Korovin Flat P**	**0.70**	**359**			**Pn**	**01 37 40.5**	**+1.9**
KOKL	**Mount Kliuchef**	**0.76**	**355**			**Pb**	**01 37 41.4**	**+1.6**
GSMY	**Great Sitkin M**	**1.31**	**292**			**Pn**	**01 37 46.7**	**-0.3**
GSTR	**Great Sitkin T**	**1.33**	**294**	Pn		**Pn**	**01 37 47.4**	**+0.1**
GSCK	**Great Sitkin C**	**1.36**	**290**			**Pn**	**01 37 47.3**	**-0.4**
GSTD	**Great Sitkin T**	**1.37**	**292**			**Pn**	**01 37 47.6**	**-0.2**
ADK	**Adak**	**1.65**	**282**	Pn		**Pn**	**01 37 50.7**	**-0.9**
ADK				Sn		**Sn**	**01 38 13.0**	**+1.5**
ADK	**Adak**	**1.65**	**282**	P		**Pn**	**01 37 51.4**	**-0.1**
KIWB	**Kanaga Island**	**1.93**	**280**			**Pn**	**01 37 54.9**	**-0.5**
KIKV	**Kanaga Island**	**1.94**	**280**			**Pn**	**01 37 55.8**	**+0.2**
KICM	**Kanaga Island**	**1.96**	**281**			**Pn**	**01 37 56.2**	**+0.3**
KIMD	**Kanaga Island**	**1.97**	**277**			**Pn**	**01 37 55.6**	**-0.4**
TAPA	**Tanaga Point A**	**2.33**	**277**			**Pn**	**01 38 01.1**	**+0.1**
TAFP	**Tanaga Falls P**	**2.45**	**279**			**Pn**	**01 38 03.0**	**+0.4**
TASE	**Tanaga Southea**	**2.47**	**278**			**Pn**	**01 38 03.5**	**+0.5**
GAEA	**Gareloi East**	**2.91**	**276**			**Pn**	**01 38 09.8**	**+0.9**
NIKH	**Nikolski High**	**3.50**	**64**	Pn		**Pn**	**01 38 16.2**	**-0.8**
NIKH	**Nikolski High**	**3.50**	**64**			**Sn**	**01 38 57.6**	**+0.3**
NIKH	**Nikolski High** baz=246,SNR=27	**3.50**	**64**	P		**Pn**	**01 38 17.4**	**+0.4**
NIKH	baz=246			S		**Sn**	**01 38 58.0**	**+0.6**
OKFG	**Magazine Ridge**	**4.20**	**62**			**Pn**	**01 38 28.5**	**+1.9**
OKFG						**Sn**	**01 39 18.2**	**+3.8**
UNV	**Unalaska Valle**	**5.14**	**61**	Pn		**Pn**	**01 38 38.4**	**-1.1**
UNV	**Unalaska Valle**	**5.14**	**61**			**Sn**	**01 39 40.6**	**+3.0**
UNV	**Unalaska Valle** baz=245	**5.14**	**61**	P		**Pn**	**01 38 40.7**	**+1.2**
UNV	baz=245			S		**Sn**	**01 39 40.0**	**+2.4**
UNV	**Unalaska Valle**	**5.14**	**61**	P		**Pn**	**01 38 41.2**	**+1.7**
AKMO	**Akutan Morgan**	**5.51**	**60**			**Pn**	**01 38 45.8**	**+1.2**
AKGG	**Akutan Green G**	**5.56**	**59**			**Pn**	**01 38 47.0**	**+1.7**
SPIA	**Saint Paul Isl**	**6.04**	**20**	Pn		**Pn**	**01 38 52.2**	**+0.3**
SPIA	**Saint Paul Isl** baz=203,SNR=9.5	**6.04**	**20**	P		**Pn**	**01 38 54.5**	**+2.6**
SPIA	**Saint Paul Isl**	**6.04**	**20**	P		Pn	01 38 56.5	+4.6
WESE	**West Dahl East**	**6.42**	**59**			**Pn**	**01 38 58.6**	**+1.4**
SSLS	**Shishaldin Sou**	**6.83**	**59**			**Pn**	**01 39 06.1**	**+3.3**
SSLN	**Shishaldin Nor**	**6.87**	**58**			**Pn**	**01 39 06.1**	**+2.7**
ISLZ	**Isanotski Laza**	**6.99**	**59**			**Pn**	**01 39 06.3**	**+1.3**
FALS	**False Pass**	**7.20**	**59**	Pn		**Pn**	**01 39 08.7**	**+0.9**
FALS	**False Pass** baz=246,SNR=12	**7.20**	**59**	P		**Pn**	**01 39 09.8**	**+2.0**
FALS	**False Pass**	**7.20**	**59**	P		**Pn**	**01 39 10.5**	**+2.7**
SHEM	**Shemya Is, Ala** 3.4nm,0.3s,baz=320,slow=5.3,SNR=2.4	**7.36**	**284**	Pn		**Pn**	**01 39 10.4**	**+0.4**
SHEM	3.9nm,0.3s,baz=300,slow=23,SNR=1.3			Sn		**Sn**	**01 40 35.1**	**+2.8**
SHEM	comp=Z,5μm,18.4s,baz=110,slow=41			LR		LR	01 42 29.0	
SDPT	**Sand Point**	**8.95**	**60**			**Pn**	**01 39 31.9**	**+0.1**
SDPT	**Sand Point** baz=250	**8.95**	**60**	P		**Pn**	**01 39 32.4**	**+0.6**
CHGN	**Chignik**	**10.37**	**57**	Pn		**Pn**	**01 39 51.7**	**+0.5**
CHIR	**Chirikof Islan**	**11.73**	**62**	Pn		**Pn**	**01 40 07.7**	**-2.1**
CHIR	**Chirikof Islan** baz=256	**11.73**	**62**	P		**Pn**	**01 40 09.1**	**-0.7**
GAMB	**Gambell**	**12.30**	**5**	Pn		**Pn**	**01 40 20.3**	**+2.7**
GAMB	**Gambell** baz=187	**12.30**	**5**	P		**Pn**	**01 40 18.0**	**+0.5**
SII	**Sitkinak Islan**	**12.69**	**59**	Pn		**Pn**	**01 40 21.5**	**-1.5**
SII	**Sitkinak Islan** baz=254	**12.69**	**59**	P		**Pn**	**01 40 21.6**	**-1.4**
OHAK	**Old Harbor**	**13.34**	**57**	Pn		**Pn**	**01 40 29.5**	**-2.3**
OHAK	**Old Harbor** baz=253	**13.34**	**57**	P		**Pn**	**01 40 29.9**	**-1.9**
O18K	**Koktuh Hills**	**13.45**	**45**			**Pn**	**01 40 33.7**	**+0.5**
O18K	**Koktuh Hills** baz=240	**13.45**	**45**	P		**Pn**	**01 40 34.0**	**+0.7**
N18K	**Kilae Creek**	**13.60**	**41**	Pn		**Pn**	**01 40 34.1**	**-1.2**
N18K	**Kilae Creek** baz=236	**13.60**	**41**	P		**Pn**	**01 40 35.8**	**+0.6**
Q19K	**Cape Douglas,**	**13.75**	**50**			**Pn**	**01 40 36.5**	**-0.9**
Q19K	**Cape Douglas,** baz=246	**13.75**	**50**	P		**Pn**	**01 40 37.3**	**0.0**
ANM	**Nome**	**13.80**	**16**	P		**Pn**	**01 40 39.0**	**+1.0**
ANM	**Nome**	**13.80**	**16**	Pn		**Pn**	**01 40 39.0**	**+1.0**
ANM	**Nome** baz=203,SNR=20	**13.80**	**16**	P		**Pn**	**01 40 40.6**	**+2.6**
KDAK	**Kodiak Island** 1.5nm,0.3s,baz=248,slow=1.8,SNR=21	**13.87**	**55**	Pn		**Pn**	**01 40 36.9**	**-2.1**
KDAK	baz=143,slow=22,SNR=0.9			Sn		**Sn**	**01 43 03.8**	**-7.8**
KDAK	**Kodiak Island**	**13.87**	**55**	*de*P		**Pn**	**01 40 36.7**	**-2.3**
KDAK	**Kodiak Island**	**13.87**	**55**			**Pn**	**01 40 37.2**	**-1.8**
KDAK	**Kodiak Island** baz=252	**13.87**	**55**	P		**Pn**	**01 40 36.9**	**-2.1**
SVW2	**Sparrevohn**	**13.96**	**40**			**Pn**	**01 40 40.6**	**+0.4**
P19K	**Oil Pt**	**14.24**	**47**	Pn		**Pn**	**01 40 44.9**	**+0.8**
P19K	**Oil Pt** baz=244,SNR=12	**14.24**	**47**	P		**Pn**	**01 40 46.3**	**+2.2**
N19K	**Bonanza Creek**	**14.25**	**42**	Pn		**Pn**	**01 40 44.7**	**+0.5**
N19K	**Bonanza Creek** baz=238,SNR=29	**14.25**	**42**	P		**Pn**	**01 40 46.4**	**+2.1**
TNA	**Tin City**	**14.38**	**10**	Pn		**Pn**	**01 40 47.5**	**+1.6**
TNA	**Tin City** baz=196	**14.38**	**10**	P		**Pn**	**01 40 47.9**	**+2.1**
O20K	**Slope Mountain** baz=244,SNR=8.1	**14.70**	**46**	P		**Pn**	**01 40 52.3**	**+1.9**
RSO	**Redoubt South**	**14.82**	**45**	Pn		**Pn**	**01 40 52.1**	**0.0**
L19K	**White Mountain**	**14.88**	**37**	Pn		**Pn**	**01 40 53.4**	**+0.7**
L19K	comp=Z,70nm,0.9s				IAmb	IAmb	01 41 03.2	
L19K	**White Mountain** baz=233,SNR=73	**14.88**	**37**	P		**P**	**01 40 55.7**	**-2.4**
M19K	**Big River Lodg**	**14.89**	**38**			**Pn**	**01 40 54.2**	**+1.4**
M19K	comp=Z,57nm,0.8s				IAmb	IAmb	01 41 16.8	
M19K	**Big River Lodg** baz=234	**14.89**	**38**	P		**P**	**01 40 56.0**	**-2.1**
TTA	**Tatalina**	**14.93**	**33**	P		**Pn**	**01 40 53.4**	**0.0**
TTA	comp=Z,133nm,1.1s			pmax		pmax		
TTA	**Tatalina**	**14.93**	**33**	Pn		**Pn**	**01 40 53.4**	**0.0**
TTA	comp=Z,133nm,1.1s				IAmb	IAmb	01 41 15.7	
TTA	**Tatalina** baz=228,SNR=59	**14.93**	**33**	P		**P**	**01 40 55.6**	**-3.1**
HOM	**Homer**	**14.98**	**49**	P		**Pn**	**01 40 55.1**	**+1.2**
HOM	**Homer** baz=247	**14.98**	**49**	P		**Pn**	**01 40 55.2**	**+1.2**
CNPM	**China Poot**	**15.12**	**49**	Pn		**Pn**	**01 40 54.2**	**-1.7**
CNPM	comp=Z,66nm,0.9s				IAmb	IAmb	01 41 22.9	
BRLK	**Bradley Lake**	**15.38**	**49**			**Pn**	**01 40 59.0**	**-0.3**
SPCR	**Spurr Chakacha** baz=241	**15.40**	**43**	P		**P**	**01 41 01.2**	**-2.7**
L20K	**Farewell, AK** baz=234,SNR=47	**15.42**	**37**	P		**P**	**01 41 02.4**	**-1.6**
BRSE	**Bradley Lake S** baz=248,SNR=11	**15.43**	**49**	P		**Pn**	**01 41 00.2**	**+0.2**
SPU	**Mount Spurr**	**15.46**	**43**	Pn		**Pn**	**01 41 00.7**	**+0.3**
CAPN	**Captain Cook N**	**15.66**	**45**	Pn		**Pn**	**01 41 03.3**	**+0.5**
CAPN	comp=Z,88nm,0.8s				IAmb	IAmb	01 41 25.7	
K20K	**Telida**	**15.88**	**34**			**Pn**	**01 41 06.8**	**+1.0**
K20K	comp=Z,191nm,1.4s				IAmb	IAmb	01 41 30.6	
K20K	**Telida** baz=231,SNR=52	**15.88**	**34**	P		**Pn**	**01 41 06.7**	**+1.0**
SEW	**Seward**	**16.17**	**49**			**Pn**	**01 41 07.8**	**-1.6**
SEW	**Seward** baz=249	**16.17**	**49**	P		**Pn**	**01 41 08.5**	**-0.9**
O22K	**Cooper Landing**	**16.19**	**47**	Pn		**Pn**	**01 41 10.1**	**+0.5**
O22K	comp=Z,220nm,0.7s				IAmb	IAmb	01 41 35.4	
O22K	**Cooper Landing** baz=247,SNR=11	**16.19**	**47**	P		**Pn**	**01 41 09.2**	**-0.4**
PPLA	**Purkeypile**	**16.30**	**37**	Pn		**P**	**01 41 12.5**	**-1.4**
PPLA	**Purkeypile** baz=236,SNR=17	**16.30**	**37**	P		**Pn**	**01 41 10.4**	**-0.8**
J20K	**Nowinta River**	**16.39**	**32**	Pn		**P**	**01 41 13.7**	**-1.0**
J20K	**Nowinta River** baz=229,SNR=22	**16.39**	**32**	P		**P**	**01 41 13.2**	**-1.5**
RC01	**Rabbit Creek A**	**16.42**	**45**	Pn		**P**	**01 41 13.7**	**-1.5**
RC01	**Rabbit Creek A** baz=245	**16.42**	**45**	P		**Pn**	**01 41 12.9**	**+0.2**
RC01	baz=245			S		**Sn**	**01 44 13.6**	**-0.1**
M22K	**Willow**	**16.55**	**43**	Pn		**Pn**	**01 41 13.4**	**-0.7**
M22K	**Willow** baz=242	**16.55**	**43**	P		**Pn**	**01 41 14.4**	**+0.2**
CAST	**Castle Rocks**	**16.64**	**36**			**P**	**01 41 15.8**	**-1.7**
CAST	**Castle Rocks** baz=234,SNR=31	**16.64**	**36**	P		**P**	**01 41 16.5**	**-1.0**
PET	**Petropavlovsk**	**16.70**	**286**	*e*P		**P**	**01 41 18.0**	**-0.3**
PET				*e*S		**Sn**	**01 44 21.8**	**+1.3**
PET	comp=Z,600nm,15.1s			pmax		pmax		
PET	comp=Z,49nm,0.8s			pmax		pmax		
PET	comp=Z,600nm,12.4s			MLR		MLR		
PET	comp=Z,1μm,15.0s			MLR		MLR		
PET	comp=Z,1μm,15.0s							
PET	**Petropavlovsk**	**16.70**	**286**	P		**Pn**	**01 41 15.8**	**-0.4**
PET	**Petropavlovsk**	**16.70**	**286**	P		**P**	**01 41 18.2**	**-0.1**
CUT	**Chulitna**	**16.80**	**41**	P		**P**	**01 41 17.8**	**-1.4**
CUT	comp=Z,137nm,1.3s				IAmb	IAmb	01 41 43.1	
CUT	**Chulitna** baz=240	**16.80**	**41**	P		**P**	**01 41 17.9**	**-1.3**
CHUM	**Lake Minchumin** baz=233,SNR=26	**16.83**	**35**	P		**P**	**01 41 18.6**	**-1.0**
PMR	**Palmer**	**16.90**	**44**	P		**Pn**	**01 41 18.8**	**+0.2**
PMR	comp=Z,29nm,1.0s			pmax		pmax		
PMR	**Palmer**	**16.90**	**44**	P		**Pn**	**01 41 18.8**	**+0.2**
PMR	**Palmer** baz=244	**16.90**	**44**	P		**P**	**01 41 19.0**	**-1.3**
PWL	**Port Wells**	**16.96**	**47**			**Pn**	**01 41 17.7**	**-1.8**
PWL	**Port Wells** baz=248,SNR=17	**16.96**	**47**	P		**Pn**	**01 41 17.5**	**-2.0**
PWL	baz=248			S		**Sn**	**01 44 24.6**	**-2.2**
GHO	**Glory Hole Cre**	**17.07**	**44**	P		**Pn**	**01 41 20.4**	**-0.4**
KNK	**Knik Glacier**	**17.12**	**45**	P		**Pn**	**01 41 21.3**	**-0.1**
KNK	**Knik Glacier** baz=246,SNR=20	**17.12**	**45**	P		**Pn**	**01 41 20.2**	**-1.3**
KNK	baz=246			S		**Sn**	**01 44 28.7**	**-1.9**
KTH	**Kantishna Hill**	**17.14**	**37**	P		**Pn**	**01 41 19.8**	**-1.9**
PEA0B	**Petropavlovsk-**	**17.27**	**286**	*de*P		**P**	**01 41 26.4**	**+1.9**
PEA0B	**Petropavlovsk-**	**17.27**	**286**	P		**Pn**	**01 41 21.4**	**-2.0**
PETK	**Petropavlovsk-** comp=Z,1.4nm,0.3s,baz=85,slow=16,SNR=23	**17.27**	**286**	P		**Pn**	**01 41 23.5**	**+0.2**
PETK	comp=Z,933nm,21.1s,baz=93,slow=36			LR		LR	01 47 44.8	
PETK	**Petropavlovsk-**	**17.27**	**286**	P		**Pn**	**01 41 21.5**	**-1.8**
TRF	**Thorofare Moun**	**17.32**	**38**	P		**Pn**	**01 41 23.1**	**-1.0**
TRF	**Thorofare Moun** baz=237,SNR=23	**17.32**	**38**	P		**Pn**	**01 41 23.2**	**-0.9**
SML	**Sawmill** baz=245,SNR=12	**17.34**	**44**	P		**Pn**	**01 41 23.2**	**-1.0**
SML	baz=245			S		**Sn**	**01 44 33.7**	**-2.2**
RDOG	**Red Dog Mine**	**17.41**	**14**	P		**Pn**	**01 41 23.7**	**-1.2**
RDOG	**Red Dog Mine** baz=204,SNR=30	**17.41**	**14**	P		**Pn**	**01 41 24.7**	**-0.2**
BPAW	**Bear Paw Mtn.**	**17.43**	**35**	P		**Pn**	**01 41 24.8**	**-0.5**
BPAW	**Bear Paw Mtn.** baz=234,SNR=76	**17.43**	**35**	P		**P**	**01 41 26.6**	**+0.3**
GLI	**Glacier Island**	**17.54**	**47**	P		**P**	**01 41 26.8**	**-0.6**
GLI	**Glacier Island** baz=250	**17.54**	**47**	P		**Pn**	**01 41 25.8**	**-0.7**
GLI	baz=250			S		**Sn**	**01 44 36.3**	**-4.3**
WAT1	**Susitna Watana** baz=242	**17.70**	**41**	P		**P**	**01 41 28.4**	**-0.9**
I21K	**Tanana**	**17.75**	**31**	P		**P**	**01 41 30.1**	**+0.3**
I21K	comp=Z,98nm,0.9s				IAmb	IAmb	01 41 39.4	
I21K	**Tanana** baz=230,SNR=72	**17.75**	**31**	P		**P**	**01 41 30.0**	**+0.3**
FID	**Port Fidalgo**	**17.78**	**48**	P		**Pn**	**01 41 28.2**	**-1.4**
SCM	**Sheep Creek Mo** baz=246,SNR=17	**17.78**	**44**	P		**P**	**01 41 29.7**	**-0.5**
SCM	baz=246			S		**Sn**	**01 44 45.0**	**-1.7**
H21K	**Melozitna Rive**	**17.80**	**29**	P		**P**	**01 41 30.4**	**+0.1**
H21K	**Melozitna Rive** baz=228,SNR=56	**17.80**	**29**	P		**P**	**01 41 31.0**	**+0.7**
WAT6	**Susitna Watana** baz=244,SNR=12	**17.92**	**42**	P		**Pn**	**01 41 30.8**	**-0.6**
WAT6	baz=244			S		**Sn**	**01 44 47.9**	**-2.2**
MCK	**McKinley**	**17.99**	**38**	P		**Pn**	**01 41 30.7**	**-1.5**
MCK	comp=Z,68nm,1.0s			pmax		pmax		
MCK	**McKinley**	**17.99**	**38**	P		**Pn**	**01 41 30.7**	**-1.5**
MCK	**McKinley** baz=239,SNR=46	**17.99**	**38**	P		**P**	**01 41 31.7**	**-0.7**
EYAK	**Cordova Ski Ar**	**18.06**	**49**	P		**Pn**	**01 41 32.2**	**-0.8**
EYAK	**Cordova Ski Ar** baz=252	**18.06**	**49**	P		**P**	**01 41 32.9**	**-0.2**
DIV	**Divide**	**18.23**	**47**	P		**Pn**	**01 41 33.0**	**-2.1**
KLU	**Klutina** baz=250,SNR=16	**18.28**	**46**	P		**Pn**	**01 41 34.9**	**-0.9**
DHY	**Denali Highway**	**18.29**	**41**	P		**Pn**	**01 41 33.6**	**-2.4**
DHY	**Denali Highway** baz=243,SNR=21	**18.29**	**41**	P		**P**	**01 41 35.6**	**-0.3**
M24K	**Tolsona, Glenn** baz=247,SNR=13	**18.39**	**44**	P		**P**	**01 41 36.0**	**-0.9**
NEA2	**Nenana**	**18.40**	**35**	P		**P**	**01 41 35.3**	**-1.6**
NEA2	**Nenana** baz=236,SNR=15	**18.40**	**35**	P		**P**	**01 41 35.9**	**-1.0**
RAGM	**Ragged Mountai**	**18.52**	**50**	P		**Pn**	**01 41 38.5**	**-0.2**
KAIM	**Kayak Island** baz=256	**18.53**	**52**	P		**Pn**	**01 41 39.5**	**+0.8**
I23K	**Minto, Yukon-K** baz=235,SNR=66	**18.61**	**34**	P		**Pn**	**01 41 39.7**	**+0.1**
SKR	**Severo-Kuril's**	**18.67**	**279**	*e*P		**P**	**01 41 38.0**	**-1.9**
SKR				*e*S		**Sn**	**01 45 03.1**	**-4.9**
SKR	comp=Z,300nm,4.3s			pmax		pmax		
SKR	comp=Z,200nm,5.2s			pmax		pmax		
SKR	comp=Z,1μm,15.0s			MLR		MLR		
SKR	comp=Z,1μm,18.0s			MLR		MLR		
WRH	**Wood River Hil**	**18.69**	**36**	P		**P**	**01 41 38.8**	**-1.3**
HMT	**Hamilton**	**18.71**	**50**	P		**P**	**01 41 38.5**	**-1.8**
HMT	comp=Z,52nm,0.6s				IAmb	IAmb	01 42 01.6	
BMRM	**Bremner River** baz=253	**18.72**	**48**	P		**P**	**01 41 39.9**	**-0.6**
CCB	**Clear Creek Bu**	**18.89**	**36**	P		**P**	**01 41 41.4**	**-0.9**
MDM	**Murphy Dome**	**18.90**	**35**	P		**P**	**01 41 40.1**	**-2.3**
N25K	**Chitina, Valde** baz=251,SNR=13	**18.92**	**47**	P		**P**	**01 41 41.7**	**-1.0**
HARP	**HAARP** baz=248,SNR=11	**18.94**	**44**	P		**Pn**	**01 41 42.7**	**-1.0**
H23K	**Yukon River** baz=233,SNR=46	**18.95**	**32**	P		**Pn**	**01 41 43.2**	**-0.5**
TCOL	**CIGO, UAF Yank** baz=238	**18.99**	**35**	P		**P**	**01 41 42.9**	**-0.4**
COLA	**College**	**18.99**	**35**	*i*P	*e*	**P**	**01 41 43.2**	**-0.1**
COLA	comp=Z,43nm,1.2s			pmax		pmax		
COLA	**College**	**18.99**	**35**	P		**P**	**01 41 42.3**	**-1.1**
COLA	**College** baz=238	**18.99**	**35**	P		**P**	**01 41 42.9**	**-0.4**
BERG	**Berg Lake**	**18.99**	**51**	P		**P**	**01 41 42.6**	**-0.9**
BERG	comp=Z,72nm,0.9s				IAmb	IAmb	01 41 60.0	
PAX	**Paxson** baz=246,SNR=15	**19.03**	**42**	P		**P**	**01 41 43.1**	**-0.8**
BILL	**Bilibino**	**19.08**	**337**	*d*	*i*P	**Pn**	**01 41 46.1**	**+0.8**
BILL	comp=Z,109nm,1.8s			pmax		pmax		
BILL	comp=Z,1μm,17.0s			MLR		MLR		
BILL	**Bilibino**	**19.08**	**337**			**P**	**01 41 42.9**	**-1.4**
BILL	comp=Z,101nm,1.0s				IAmb	IAmb	01 41 59.1	
HDA	**Harding Lake**	**19.09**	**37**	P		**P**	**01 41 43.0**	**-1.5**
HDA	comp=Z,89nm,1.0s				IAmb	IAmb	01 41 46.8	
HDA	**Harding Lake** baz=240,SNR=63	**19.09**	**37**	P		**P**	**01 41 43.9**	**-0.5**
GLB	**Gilahina Butte**	**19.23**	**47**	P		**P**	**01 41 43.5**	**-2.5**
POKR	**Poker Flat Res**	**19.27**	**35**	P		**P**	**01 41 43.6**	**-2.8**
POKR	**Poker Flat Res** baz=238	**19.27**	**35**	P		**P**	**01 41 46.0**	**-0.4**
IL31		**19.29**	**36**	P		**P**	**01 41 44.6**	**-2.0**
ILAR	**Eielson Array** comp=Z,2.0nm,0.3s,baz=234,slow=8.9,SNR=76	**19.29**	**36**	P		**P**	**01 41 45.8**	**-0.9**
ILAR	comp=Z,0.2nm,0.3s,baz=230,slow=17,SNR=7.1			S		**Sn**	**01 45 21.5**	**-1.4**
ILAR	comp=Z,0.1nm,0.3s,baz=264,slow=3.7,SNR=7.8			ScP		**ScP**	**01 49 40.2**	**-0.8**
ILAR	**Eielson Array**	**19.29**	**36**	P		**P**	**01 41 44.6**	**-2.0**
SNH	**Sunshine Point**	**19.36**	**51**	P		**P**	**01 41 46.8**	**-0.7**
SNH	comp=Z,99nm,1.0s				IAmb	IAmb	01 41 59.9	
TGL	**Tana Glacier**	**19.50**	**50**	P		**P**	**01 41 47.8**	**-1.3**
H24K	**Noodor Dome**	**19.51**	**33**	P		**Pn**	**01 41 49.7**	**-0.9**
H24K	comp=Z,189nm,1.1s				IAmb	IAmb	01 42 08.0	
H24K	**Noodor Dome** baz=235,SNR=85	**19.51**	**33**	P		**Pn**	**01 41 49.9**	**-0.6**
MCARA	**McCarthy VSAT** baz=254	**19.57**	**48**	P		**P**	**01 41 49.6**	**-0.1**
RIDG	**Independent Ri**	**19.60**	**40**	P		**P**	**01 41 47.8**	**-2.3**
RIDG	**Independent Ri** baz=245,SNR=29	**19.60**	**40**	P		**P**	**01 41 50.3**	**+0.1**
COLD	**Coldfoot** baz=228,SNR=39	**19.63**	**28**	P		**Pn**	**01 41 51.9**	**-0.1**
ISLE	**Juniper Island**	**19.70**	**50**	P		**P**	**01 41 49.4**	**-1.9**
J25K	**Salcha River,**	**19.78**	**38**	P		**P**	**01 41 49.7**	**-2.4**
J25K	comp=Z,204nm,0.8s				IAmb	IAmb	01 42 05.7	
J25K	**Salcha River,** baz=242,SNR=193	**19.78**	**38**	P		**P**	**01 41 51.3**	**-0.9**
DOT	**Dot Lake**	**19.89**	**41**	P		**P**	**01 41 53.1**	**-0.1**
DOT	comp=Z,49nm,0.8s				IAmb	IAmb	01 42 19.2	
M26K	**Nabesna, AK** baz=251,SNR=25	**19.89**	**45**	P		**P**	**01 41 52.8**	**-0.5**
L26K	**Log Cabin Wild**	**19.95**	**43**	P		**P**	**01 41 51.4**	**-2.5**
L26K	**Log Cabin Wild** baz=249	**19.95**	**43**	P		**P**	**01 41 53.8**	**-0.1**
GRNC	**Granite Creek**	**20.01**	**50**	P		**P**	**01 41 52.8**	**-2.0**
SCRK	**Sand Creek** baz=246,SNR=100	**20.05**	**40**	P		**P**	**01 41 54.2**	**-0.9**
BARN	**Barnard Glacie**	**20.13**	**49**	P		**P**	**01 41 54.7**	**-1.4**
TABL	**Table Mountain**	**20.24**	**51**	P		**P**	**01 41 55.3**	**-2.0**
TABL	comp=Z,83nm,1.1s				IAmb	IAmb	01 42 24.5	
CTG	**Chitna Glacier** baz=257,SNR=11	**20.26**	**50**	P		**P**	**01 41 56.8**	**-0.6**
M27K	**Edge Creek, AK**	**20.37**	**46**	P		**P**	**01 41 57.4**	**-1.2**
M27K	**Edge Creek, AK** baz=252	**20.37**	**46**	P		**P**	**01 41 58.3**	**-0.3**
LOGN	**Logan Glacier**	**20.39**	**50**	P		**P**	**01 41 57.6**	**-1.2**
LOGN	comp=Z,67nm,0.9s				IAmb	IAmb	01 42 21.0	
J26L	**Joseph Creek** baz=245,SNR=218	**20.43**	**39**	P		**P**	**01 41 58.5**	**-0.7**
L27K	**Beaver Creek,**	**20.61**	**44**	P		**P**	**01 42 00.0**	**-1.1**
L27K	**Beaver Creek,** baz=251,SNR=20	**20.61**	**44**	P		Pn	01 42 02.8	-0.7
PCA	**Pinnacle**	**20.61**	**52**	P		**P**	**01 41 59.1**	**-2.1**
PCA	comp=Z,65nm,0.6s				IAmb	IAmb	01 42 19.4	
PINM	**Pinnacle** baz=260	**20.62**	**52**	P		**P**	**01 42 00.9**	**-0.3**
BCAR	**Beaver Creek A**	**20.63**	**44**	P		**P**	**01 41 60.0**	**-1.4**
TOLK	**Toolik Lake Re** baz=227,SNR=134	**20.76**	**25**	P		Pn	01 42 03.5	-1.7
BVCY	**Beaver Creek** baz=254,SNR=28	**20.84**	**46**	P		Pn	01 42 05.1	-1.1
YUK3	**Moose Creek** baz=256,SNR=6.2	**20.86**	**48**	P		**P**	**01 42 02.8**	**-1.2**
BCPM	**Bancas Point**	**20.90**	**53**	P		**P**	**01 42 03.2**	**-1.0**
BCPM	comp=Z,88nm,1.1s				IAmb	IAmb	01 42 22.6	
PNL	**Peninsula** baz=262	**20.98**	**54**	P		**P**	**01 42 05.6**	**+0.5**
SEY	**Seymchan** comp=Z,11nm,0.9s,baz=111,slow=9.8,SNR=19	**21.13**	**315**	P		**P**	**01 42 07.4**	**+0.8**
SEY	comp=Z,4.7nm,1.1s,baz=164,slow=4.4,SNR=4.3			ScP		**ScP**	**01 49 45.0**	**-0.4**
SEY	comp=Z,3μm,18.2s,baz=112,slow=38			LR		LR	01 50 48.4	
SEY	**Seymchan**	**21.13**	**315**	*i*	*e*P	**P**	**01 42 06.9**	**+0.3**
SEY	comp=Z,17nm,1.0s			pmax		pmax		
MA2	**Magadan** comp=Z,7.6nm,0.6s,baz=109,slow=6.5,SNR=9.6	**21.20**	**306**	P		**P**	**01 42 06.1**	**-1.4**
MA2	comp=Z,2μm

baz=261
EPYK Eagle Plains 23.79 37 P P 01 42 34.2 -0.2
EPYK IAmb IAmb 01 42 50.9
comp=Z,50nm,1.0s
EPYK Eagle Plains 23.79 37 P P 01 42 33.1 -1.2
baz=250,SNR=30
WRAK Wrangell Islan 24.72 62 P P 01 42 42.4 -0.4
baz=276
INK Inuvik 25.63 34 P P 01 42 50.5 -0.5
comp=Z,28nm,1.1s,baz=252,slow=7.8,SNR=43
INK ScP **ScP 01 49 57.6 +0.3**
comp=Z,5.0nm,1.1s,baz=223,slow=4.6,SNR=5.0
INK Inuvik 25.63 34 P P 01 42 51.6 +0.7
INK pmax pmax
comp=Z,46nm,1.0s
INK Inuvik 25.63 34 P P 01 42 51.6 +0.7
INK IAmb IAmb 01 43 07.2
comp=Z,46nm,1.0s
INK Inuvik 25.63 34 P P 01 42 50.0 -1.0
baz=250,SNR=35
DLBC Dease Lake 25.78 57 P P 01 42 53.4 +0.8
comp=Z,19nm,1.0s,baz=268,slow=8.6,SNR=15
DLBC LR LR 01 53 27.1
comp=Z,1μm,19.4s,baz=281,slow=37
DLBC Dease Lake 25.78 57 P P 01 42 52.1 -0.4
DLBC IAmb IAmb 01 43 13.0
comp=Z,32nm,0.9s
KUR Kuril'sk 25.82 271 *eP* **P 01 42 53.5 +0.6**
KUR *eS* **S 01 47 22.3 +2.3**
RUBB Prince Rupert 26.23 67 P P 01 42 55.3 -1.2
RUBB IAmb IAmb 01 43 14.7
comp=Z,45nm,0.8s
TGTN Hyland Airport 26.59 50 P P 01 42 59.3 -0.5
baz=269,SNR=8.7
UGL Uglegorsk 27.80 282 *eP* **P 01 43 12.9 +2.3**
UGL pmax pmax
comp=Z,60nm,0.8s
BBB Bella Bella 28.02 70 P P 01 43 11.7 -1.0
comp=Z,34nm,1.1s,baz=71,slow=23,SNR=2.8
BBB LR LR 01 52 57.1
comp=Z,514nm,19.8s,baz=290,slow=33
BBB Bella Bella 28.02 70 P P 01 43 12.2 -0.4
BBB IAmb IAmb 01 43 28.5
comp=Z,74nm,1.1s
YSS Yuzh-Sakhalins 28.23 278 *eP* **P 01 43 15.7 +1.2**
YSS *e* 01 44 20.4
YSS *eS* **S 01 47 56.8 -1.2**
YSS *eSS* SS 01 49 40.0 -18
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=Z,300nm,3.2s
YSS MLR MLR
comp=Z,1μm,15.0s
YSS MLR MLR
comp=N,600nm,12.0s
YSS Yuzh-Sakhalins 28.23 278 P P 01 43 13.7 -0.8
YSS IAmb IAmb 01 43 16.9
comp=Z,62nm,1.1s
YSS Yuzh-Sakhalins 28.23 278 P P 01 43 16.0 +1.5
C36M Paulatuk 29.21 34 P P 01 43 22.0 -1.0
baz=258,SNR=9.5
A36M Sachs Harbour 29.50 28 P P 01 43 25.5 0.0
baz=252,SNR=16
JKA Kamikawa-asahi 29.65 273 P P 01 43 26.0 -1.2
JKA IAmb IAmb 01 43 41.7
comp=Z,42nm,0.9s
ASAJ Asahikawa 29.65 273 P P 01 43 27.3 +0.1
comp=Z,34nm,1.0s,baz=74,slow=3.9,SNR=11
ASAJ LR LR 01 58 31.1
comp=Z,541nm,18.4s,baz=117,slow=43
GRNR Gornyy 30.57 288 ⇑ *iP* **P 01 43 35.4 +0.1**
GRNR pmax pmax
comp=Z,30nm,0.8s
GRNR MLR MLR
comp=N,300nm,15.0s
GRNR MLR MLR
comp=Z,410nm,16.0s
YAK Yakutsk 31.50 311 LR LR 01 56 47.6
comp=Z,2μm,19.1s,baz=94,slow=37
YAK Yakutsk 31.50 311 *eP* P 01 43 37.2 -6.1
YAK *e* 01 46 38.9
YAK *eS* **S 01 48 42.6 -6.4**
YAK *e* 01 54 11.5
YAK pmax pmax
comp=Z,5.0nm,0.9s
YAK smax smax
comp=E,515nm,26.5s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=E,2μm,20.0s
LLLB Lillooet 32.23 71 P P 01 43 49.5 -0.4
LLLB IAmb IAmb 01 44 06.2
comp=Z,44nm,0.9s
D03D Eldon 32.78 77 P P 01 43 54.6 -0.1
baz=296
YKA Yellowknife Ar 32.95 47 P P 01 43 55.6 -0.4
comp=Z,4.9nm,1.0s,baz=274,slow=10,SNR=48
YKA PcP **PcP 01 46 39.8 +0.5**
comp=Z,3.4nm,0.8s,baz=283,slow=2.9,SNR=6.9
YKA ScP **ScP 01 50 20.9 +0.2**
comp=Z,1.9nm,1.0s,baz=276,slow=3.3,SNR=5.4
YKA LR LR 01 59 02.5
comp=Z,1μm,18.8s,baz=276,slow=39
YKA Yellowknife Ar 32.95 47 P P 01 43 54.7 -1.3
YKA **PcP 01 46 38.7 -0.7**
YKA **ScP 01 50 19.5 -1.2**
B05A Bryant 33.06 75 P P 01 43 57.7 +0.6
baz=295
E04D Cinebar 33.54 78 P P 01 44 01.9 +0.5
baz=298
KLR Kul'dur 33.95 288 LR LR 01 58 07.2
comp=Z,674nm,20.2s,baz=67,slow=37
KLR Kul'dur 33.95 288 *ceP* **P 01 44 04.1 -0.8**
KLR pmax pmax
comp=Z,32nm,1.3s
B08A Colville Reser 34.67 73 P P 01 44 09.2 -2.1
ZEA Zeya 34.78 297 *eP* **P 01 44 11.1 -0.9**
ZEA *e* 01 45 43.7
ZEA *eS* **S 01 49 33.0 -7.1**
ZEA *eSS* **SnSn 01 51 49.9 -4.9**
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA pmax pmax
comp=Z,100nm,6.8s
ZEA smax smax
comp=E,100nm,11.6s
ZEA MLR MLR
comp=N,300nm,16.0s
H11N2 WAKE ISLAND Hy 35.11 212 T T 02 22 10.2
baz=20,slow=76,SNR=142
H11N3 WAKE ISLAND Hy 35.12 212 T T 02 22 08.0
baz=20,slow=76,SNR=129
H11N1 WAKE ISLAND Hy 35.13 212 T T 02 21 58.1
baz=20,slow=76,SNR=117
HAWA Hanford 35.46 76 P P 01 44 15.5 -2.5
HAWA IAmb IAmb 01 44 34.0
comp=Z,33nm,0.8s
C09A Chrisman Ranch 35.56 74 P P 01 44 17.6 -1.2
C09A IAmb IAmb 01 44 34.3
comp=Z,37nm,0.8s
JYT Yasato 35.70 263 P P 01 44 19.3 -0.8
YBH Yreka Blue Hor 35.93 85 P P 01 44 22.4 +0.2
comp=Z,6.5nm,0.8s,baz=331,slow=5.4,SNR=7.9
YBH LR LR 01 55 46.5
comp=Z,566nm,21.1s,baz=315,slow=31
YBH Yreka Blue Hor 35.93 85 P P 01 44 21.0 -1.1
J05D Fort Rock, OR 36.00 82 P P 01 44 22.7 -0.1
baz=302
NEW Newport 36.03 72 P P 01 44 22.8 -0.1
comp=Z,12nm,0.8s,baz=291,slow=5.2,SNR=14
NEW LR LR 01 59 07.6
comp=Z,410nm,18.8s,baz=311,slow=36
NEW Newport 36.03 72 P P 01 44 22.8 -0.1
NEW pmax pmax
comp=Z,70nm,0.9s
NEW Newport 36.03 72 P P 01 44 22.8 -0.1
NEW Newport 36.03 72 P P 01 44 22.3 -0.6
baz=297,SNR=13
EDM Edmonton 36.12 63 P P 01 44 24.2 +0.6
EDM pmax pmax
comp=Z,77nm,0.8s
EDM Edmonton 36.12 63 P P 01 44 24.2 +0.6
USRK Ussuriysk Ar. 36.18 280 P P 01 44 23.9 -0.3
comp=Z,83nm,0.9s,baz=57,slow=7.8,SNR=58
USRK PcP **PcP 01 46 47.7 -1.3**
comp=Z,3.6nm,0.9s,baz=42,slow=3.2,SNR=2.2
USRK LR LR 02 00 00.5
comp=Z,775nm,19.9s,baz=52,slow=38
USA0B Ussuriysk Arra 36.18 280 P P 01 44 23.9 -0.2
USA0B pmax pmax
comp=Z,60nm,0.8s
USA0B Ussuriysk Arra 36.18 280 P P 01 44 23.9 -0.2
H11S1 WAKE ISLAND Hy 36.32 212 T T 02 23 37.3
baz=20,slow=76,SNR=803
H11S2 WAKE ISLAND Hy 36.33 212 T T 02 23 38.4
baz=20,slow=76,SNR=335
H11S3 WAKE ISLAND Hy 36.33 212 T T 02 23 38.4
baz=20,slow=76,SNR=102
N02D Trinity Center 36.36 86 P P 01 44 26.5 +0.7
baz=304
M04C Macdoel 36.44 85 P P 01 44 27.2 +0.7
baz=304
MAJO Matsushiro 36.73 265 *ciP* **P 01 44 29.2 +0.2**
MAJO pmax pmax
comp=Z,25nm,1.0s
MAJO Matsushiro 36.73 265 P P 01 44 28.8 -0.2
MAJO IAmb IAmb 01 44 30.6
comp=Z,28nm,1.0s
MAJO Matsushiro 36.73 265 P P 01 44 29.7 +0.7
MJAR Matsushiro Arr 36.73 265 P P 01 44 30.1 +1.1
comp=Z,2.6nm,0.4s,baz=37,slow=21,SNR=12
MJAR LR LR 01 58 48.3
comp=Z,716nm,20.7s,baz=58,slow=35
MJAR Matsushiro Arr 36.73 265 P P 01 44 28.7 -0.3
MJB9 Matsu-Tunnel 36.73 265 P P 01 44 28.9 -0.1
MJB9 IAmb IAmb 01 44 30.5
comp=Z,28nm,1.0s
O02D Mt. Diablo Mer 36.76 87 P P 01 44 29.0 -0.3
baz=305,SNR=6.0
O03E Paynes Creek 37.31 87 P P 01 44 33.3 -0.6
O03E IAmb IAmb 01 44 58.7
comp=Z,66nm,1.1s
O03E Paynes Creek 37.31 87 P P 01 44 33.9 0.0
baz=305
MDJ Mudanjiang 37.43 282 P P 01 44 34.2 -0.6
MDJ IAmb IAmb 01 44 35.6
comp=Z,34nm,1.0s
MDJ Mudanjiang 37.43 282 P P 01 44 34.0 -0.8
MDJ S **S 01 50 23.3 +2.5**
MDJ ScP **ScP 01 50 35.8 -1.5**
MDJ PcS **PcS 01 50 39.1 -2.1**
MDJ pmax pmax
comp=Z,37nm,1.1s
MDJ pmax pmax
comp=Z,100nm,3.8s
MDJ LR LR
comp=Z,370nm,18.4s
MDJ LR LR
comp=Z,760nm,24.1s
MDJ LR LR
comp=Z,1μm,21.8s
MDJ Mudanjiang 37.43 282 P P 01 44 34.4 -0.4
MSHR Mys Shultsa 37.56 278 *ceP* **P 01 44 36.5 +0.6**
MSHR pmax pmax
comp=Z,30nm,0.7s
WALA Waterton Lakes 37.56 69 P P 01 44 35.5 -0.5
WALA IAmb IAmb 01 44 51.5
comp=Z,50nm,0.9s
GDXM Geysers 37.57 89 P P 01 44 35.0 -1.1
GDXM IAmb IAmb 01 44 53.4
comp=Z,27nm,1.0s
J08A Circle Bar Ran 37.66 80 P P 01 44 35.5 -1.3
J08A IAmb IAmb 01 45 00.4
comp=Z,19nm,0.9s
JGF Kuroka 37.87 264 P P 01 44 37.7 -0.9
JGF IAmb IAmb 01 44 54.1
comp=Z,18nm,0.7s
JTMT Jette 37.96 71 P P 01 44 39.3 -0.1
JTMT IAmb IAmb 01 45 00.6
comp=Z,24nm,0.9s
WVOR Wild Horse Val 38.06 81 P P 01 44 39.7 -0.6
WVOR pmax pmax
comp=Z,15nm,0.9s
WVOR Wild Horse Val 38.06 81 P P 01 44 39.7 -0.6
BNX BinXian 38.18 285 ⇓ *P* **P 01 44 40.3 -0.8**
BNX pmax pmax
comp=Z,44nm,1.1s
BNX pmax pmax
comp=Z,210nm,3.6s
RES Resolute Bay 38.34 25 P P 01 44 42.0 -0.1
comp=Z,2.0nm,0.7s,baz=252,slow=13,SNR=11
RES PcP **PcP 01 46 56.1 +1.0**
comp=Z,4.7nm,0.8s,baz=250,slow=5.0,SNR=4.8
RES LR LR 02 05 34.5
comp=Z,946nm,18.7s,baz=279,slow=44
RES Resolute Bay 38.34 25 P P 01 44 42.0 -0.1
RES pmax pmax
comp=Z,11nm,1.2s
RES Resolute Bay 38.34 25 P P 01 44 42.0 -0.1
BEKR Beckworth 38.46 86 P P 01 44 43.5 -0.2
MSO Missoula 38.61 73 P P 01 44 45.2 +0.3
baz=300
PAHR Pah Rah Range 39.16 86 P P 01 44 48.6 -1.0
PAHR IAmb IAmb 01 45 05.6
comp=Z,31nm,0.9s
VCNR Virginia City 39.24 86 P P 01 44 50.2 -0.1
VCNR IAmb IAmb 01 45 07.2
comp=Z,32nm,0.9s
MFID Camas Ranch 39.25 78 P P 01 44 49.2 -1.0
CMB Columbia Colle 39.54 88 P P 01 44 52.2 -0.4
CMB pmax pmax
comp=Z,17nm,1.1s
CMB Columbia Colle 39.54 88 P P 01 44 52.2 -0.4
LRM Limekiln Ridge 40.01 73 P P 01 44 56.6 -0.1
HLID Hailey 40.03 77 P P 01 44 56.2 -0.6
baz=303,SNR=8.2
BBGB Big Mountain B 40.04 91 P P 01 44 55.4 -1.4
BBGB IAmb IAmb 01 45 17.8
comp=Z,92nm,1.2s
BMN Battle Mountai 40.08 83 P P 01 44 55.9 -1.3
BMN pmax pmax
comp=Z,12nm,0.8s
BMN Battle Mountai 40.08 83 P P 01 44 55.9 -1.3
DLMT Dillon 40.17 74 P P 01 44 58.2 +0.3
BOD Bodaibo 40.20 308 *eP* **P 01 44 57.2 -0.6**
BOD pmax pmax
comp=Z,19nm,1.3s
KVN Kaiserville 40.35 85 P P 01 44 58.7 -0.8
KVN pmax pmax
comp=Z,12nm,0.9s
KVN Kaiserville 40.35 85 P P 01 44 58.7 -0.8
CN2 Changchun 40.39 284 *eP* **P 01 44 59.5 0.0**
CN2 sP pwP 01 45 13.1 +0.2
CN2 S **S 01 51 03.5 -1.8**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,800nm,20.0s
CN2 LR LR
comp=Z,1μm,20.0s
EGMT Eagleton 40.48 69 P P 01 45 00.5 +0.1
EGMT IAmb IAmb 01 45 17.5
comp=Z,68nm,1.1s
EGMT Eagleton 40.48 69 P P 01 44 59.9 -0.5
baz=300,SNR=26
NVAR Mina Array Bea 40.60 86 P P 01 45 02.2 +0.6
comp=Z,6.6nm,0.8s,baz=290,slow=8.3,SNR=36
NVAR PcP **PcP 01 47 03.8 +0.6**
comp=Z,1.2nm,0.7s,baz=276,slow=2.4,SNR=1.6
NVAR ScP **ScP 01 50 49.6 -0.3**
comp=Z,2.8nm,0.9s,baz=275,slow=4.6,SNR=7.7
NVAR Mina Array Bea 40.60 86 P P 01 45 01.2 -0.4
NVAR ScP **ScP 01 50 49.3 -0.6**
BOZ Bozeman (W) 40.62 73 P P 01 45 01.7 +0.1
BOZ pmax pmax
comp=Z,35nm,0.8s
BOZ Bozeman (W) 40.62 73 P P 01 45 01.7 +0.1
BOZ IAmb IAmb 01 45 16.4
comp=Z,35nm,0.8s
BOZ Bozeman (W) 40.62 73 P P 01 45 00.9 -0.8
baz=302,SNR=17
NV11 Mina Array Sit 40.69 86 P P 01 45 01.7 -0.6
MLAC Mammoth, Mammo 40.76 88 P P 01 45 02.1 -0.9
baz=308
JCJ Chichijima 40.89 250 LR LR 02 03 59.8
comp=Z,223nm,19.0s,baz=120,slow=39
HIA Hailar 40.93 294 *ciP* **P 01 45 03.2 -0.8**
HIA pmax pmax
comp=Z,33nm,1.0s
HIA Hailar 40.93 294 P P 01 45 03.5 -0.5
HIA IAmb IAmb 01 45 04.9
comp=Z,29nm,1.0s
ELK Elko 41.12 81 P P 01 45 05.8 -0.1
comp=Z,6.3nm,0.8s,baz=309,slow=8.6,SNR=21
ELK LR LR 02 00 00.3
comp=Z,502nm,19.0s,baz=312,slow=33
ELK Elko 41.12 81 P P 01 45 05.4 -0.5
YHL Hebgen Lake 41.29 74 P P 01 45 07.2 -0.1
YHL IAmb IAmb 01 45 22.2
comp=Z,27nm,0.8s
TPH Tonopah 41.49 86 P P 01 45 08.2 -0.7
TPH pmax pmax
comp=Z,95nm,1.0s
TPH Tonopah 41.49 86 P P 01 45 08.2 -0.7
TIN Tinemaha, Big 41.49 88 P P 01 45 09.4 +0.5
baz=309
YMR Madison River 41.52 74 P P 01 45 09.4 +0.3
YMR IAmb IAmb 01 45 24.1
comp=Z,29nm,0.9s
FFC Flin Flon 41.61 56 P P 01 45 09.8 +0.4
FFC pmax pmax
comp=Z,36nm,0.9s
FFC Flin Flon 41.61 56 P P 01 45 09.8 +0.4
FFC IAmb IAmb 01 45 23.7
comp=Z,36nm,0.9s
GCMT Greycliff 41.69 72 P P 01 45 10.3 0.0
YFT Old Faithful 41.71 74 P P 01 45 10.0 -0.7
VES Vestal, Richgr 41.73 90 P P 01 45 10.2 -0.4
baz=310
PKM Mcpherson Peak 41.88 92 P P 01 45 11.4 -0.7
baz=310
H17A Grant Village 41.90 74 P P 01 45 12.2 -0.1
H17A IAmb IAmb 01 45 28.6
comp=Z,29nm,0.8s
H17A Grant Village 41.90 74 P P 01 45 12.7 +0.5
baz=303,SNR=6.6
LKWY Lake 41.91 74 P P 01 45 12.0 -0.4
LKWY pmax pmax
comp=Z,32nm,0.7s
LKWY Lake 41.91 74 P P 01 45 11.9 -0.4
LKWY IAmb IAmb 01 45 28.9
comp=Z,32nm,0.7s
CWC Cottonwood Cre 41.97 89 P P 01 45 13.1 +0.3
baz=309
FLWY Flagg Ranch 42.00 74 P P 01 45 12.9 -0.1
GRAC Grapevine Rang 42.07 87 P P 01 45 13.3 -0.1
GRAC Grapevine Rang 42.07 87 P P 01 45 13.6 +0.2
baz=309
MOOW Moose Ponds 42.15 75 P P 01 45 13.7 -0.7
TPAW Teton Pass 42.17 75 P P 01 45 14.2 -0.4
ISA Isabella, Lake 42.22 90 P P 01 45 14.3 -0.5
ISA pmax pmax
comp=Z,14nm,0.9s
ISA Isabella, Lake 42.22 90 P P 01 45 14.3 -0.5
ISA Isabella, Lake 42.22 90 P P 01 45 14.4 -0.5
baz=310,SNR=6.2
RLMT Red Lodge 42.28 72 P P 01 45 15.2 -0.2
baz=303,SNR=14
REDW Red Top Meadow 42.30 75 P P 01 45 15.7 +0.2
LOHW Long Hollow 42.31 75 P P 01 45 15.7 0.0
R11A Troy Canyon, C 42.34 84 P P 01 45 15.6 -0.3
baz=308,SNR=12
BGU Big Grassy Mou 42.37 80 P P 01 45 15.4 -0.6
KSRS Korea Array 42.58 274 P P 01 45 17.6 +0.1
comp=Z,26nm,1.0s,baz=57,slow=7.7,SNR=46
KSRS LR LR 02 02 29.7
comp=Z,330nm,20.2s,baz=65,slow=35
KS19 Wonju Array Si 42.58 274 P P 01 45 17.3 -0.3
KS19 IAmb IAmb 01 45 20.7
comp=Z,38nm,1.1s
MPMC Manual Prospec 42.58 89 P P 01 45 17.3 -0.6
baz=310,SNR=5.3
KSAR Wonju Array Be 42.61 274 P P 01 45 17.1 -0.7
KSAR Wonju Array Be 42.61 274 P P 01 45 17.1 -0.7
FURC Furnace Creek, 42.71 88 P P 01 45 18.9 +0.3
baz=309,SNR=5.6
TPNV Topopah Spring 42.79 87 P P 01 45 18.6 -0.9
TPNV pmax pmax
comp=Z,16nm,0.9s
TPNV Topopah Spring 42.79 87 P P 01 45 18.6 -0.9
TPNV Topopah Spring 42.79 87 P P 01 45 19.5 0.0
baz=309,SNR=19
HWUT Hardware Ranch 42.87 78 P P 01 45 19.7 -0.5
DUG Dugway, Tooele 42.94 80 P P 01 45 20.7 +0.1
DUG pmax pmax
comp=Z,17nm,0.9s
DUG Dugway, Tooele 42.94 80 P P 01 45 20.7 +0.1
DUG Dugway, Tooele 42.94 80 P P 01 45 20.3 -0.4
baz=306,SNR=11
EDW2 Edwards Air Fo 43.02 90 P P 01 45 20.9 -0.4
baz=310
QSM Queen of Sheba 43.03 88 P P 01 45 21.1 -0.1
LAO LASA Array 43.23 69 P P 01 45 23.1 +0.3
LAO IAmb IAmb 01 45 37.5
comp=Z,34nm,1.1s
LAO LASA Array 43.23 69 P P 01 45 23.8 +1.0
baz=302
PRN Pahroc Range 43.25 85 P P 01 45 23.1 -0.1
PRN IAmb IAmb 01 45 39.6
comp=Z,62nm,1.0s
CTU Camp Tracy 43.30 79 P P 01 45 23.2 -0.3
PSUT Pine Spring 43.30 83 P P 01 45 23.3 -0.3
INCN Inchon 43.36 275 P P 01 45 23.4 -0.5
INCN pmax pmax
comp=Z,96nm,1.2s
INCN Inchon 43.36 275 P P 01 45 23.4 -0.5
INCN IAmb IAmb 01 45 26.6
comp=Z,96nm,1.1s
INCN Inchon 43.36 275 P P 01 45 25.1 +1.1
INCN P P **01 45 25.1 +1.1**
INCN Inchon 43.36 275 P P 01 45 25.4 +1.5
BW06 Boulder Array 43.42 75 P P 01 45 24.6 0.0
BW06 IAmb IAmb 01 45 40.0
comp=Z,22nm,0.8s
BW06 Boulder Array 43.42 75 P P 01 45 23.9 -0.8
baz=305,SNR=11
PD31 Pinedale Array 43.42 75 P P 01 45 24.6 -0.1
PD31 IAmb IAmb 01 45 40.0
comp=Z,19nm,0.8s
PDAR Pinedale Array 43.42 75 P P 01 45 24.7 +0.1
comp=Z,5.9nm,0.8s,baz=306,slow=5.1,SNR=30
PDAR ScP **ScP 01 51 01.0 -0.2**
comp=Z,0.2nm,0.3s,baz=288,slow=0.6,SNR=3.4
PDAR LR LR 02 03 36.9
comp=Z,306nm,18.1s,baz=310,slow=36
SHOC Shoshone, Teco 43.44 88 P P 01 45 24.2 -0.4
baz=310
GSC Goldstone, Bar 43.49 89 P P 01 45 24.2 -0.9
baz=310,SNR=18
JNU Nakatsue 43.53 267 P P 01 45 25.3 -0.1
comp=Z,24nm,0.9s,baz=58,slow=5.1,SNR=7.7
JNU Nakatsue 43.53 267 P P 01 45 26.8 +1.5
comp=Z,47nm,1.0s
JLU Jordanelle 43.53 79 P P 01 45 25.6 0.0
NLU North Lily Min 43.54 80 P P 01 45 25.0 -0.5
TJN Taejon 43.60 273 *ceP* **P 01 45 26.1 +0.3**
TJN Taejon 43.60 273 P P 01 45 26.8 +1.0
BFSC Mount Baldy Ra 43.65 91 P P 01 45 25.2 -1.3
baz=311,SNR=6.0
FCC Fort Churchill 43.67 48 P P 01 45 25.1 -0.9
FCC pmax pmax
comp=Z,13nm,0.9s
FCC Fort Churchill 43.67 48 P P 01 45 25.1 -0.9
CIS Catalina Islan 43.73 92 P P 01 45 26.6 -0.4
baz=312
SHPR Sheep Range 43.75 86 P P 01 45 26.2 -1.0
MPU Maple Canyon 43.77 80 P P 01 45 26.6 -0.9
TULEG Thule 43.85 19 P P 01 45 28.1 +0.7
HEC Hector,Ludlow 44.09 89 P P 01 45 29.1 -0.8
baz=310,SNR=6.3
ELS Elsinore Mount 44.19 91 P P 01 45 30.0 -0.7
CCUT Cedar City 44.21 84 P P 01 45 30.7 -0.3
MSU Marysvale 44.35 82 P P 01 45 31.8 -0.3
MSU Marysvale 44.35 82 P P 01 45 31.8 -0.3
MURC Murrieta 44.36 91 P P 01 45 31.8 -0.2
baz=312
TMUT Trail Mountain 44.47 80 P P 01 45 31.5 -1.7
TMUT IAmb IAmb 01 45 48.7
comp=Z,24nm,0.9s
GMRC Granite Mounta 44.54 89 P P 01 45 33.0 -0.6
baz=311,SNR=8.2

LCMT Little Creek M 44.62 84 P **P** **01 45 33.9 -0.3**
LCMT IAmb IAmb 01 45 50.6
comp=Z,23nm,0.8s
P17A Butcher Ranch, 44.65 80 P **P** **01 45 33.5 -1.0**
RDMU Red Mountain 44.70 78 P **P** **01 45 34.4 -0.5**
RDMU IAmb IAmb 01 45 53.3
comp=Z,24nm,0.9s
PFO Pinyon Flats O 44.81 90 P **P** **01 45 35.4 -0.3**
comp=Z,3.7nm,0.8s,baz=320,slow=3.9,SNR=6.5
PFO LR LR 02 00 17.7
comp=Z,475nm,21.6s,baz=298,slow=31
PFO Pinyon Flats O 44.81 90⇓*iP* **P** **01 45 34.9 -0.8**
PFO pmax pmax
comp=Z,13nm,1.0s
PFO Pinyon Flats O 44.81 90 P **P** **01 45 35.5 -0.3**
PFO Pinyon Flats O 44.81 90 P **P** **01 45 35.3 -0.5**
baz=312
TPFO Pinon Flats 44.82 90 P **P** **01 45 35.6 -0.2**
baz=312
BELC Belle Mtn. Jos 44.85 90 P **P** **01 45 35.6 -0.4**
baz=311
P18A Preston Nutter 44.86 79 P **P** **01 45 35.4 -0.9**
P18A IAmb IAmb 01 45 58.0
comp=Z,16nm,0.9s
KNB Kanab 44.88 84 P **P** **01 45 35.9 -0.4**
KNB pmax pmax
comp=Z,20nm,0.9s
KNB Kanab 44.88 84 P **P** **01 45 35.9 -0.4**
KNB IAmb IAmb 01 45 52.3
comp=Z,20nm,0.9s
PKCU Pink Cliffs 44.93 83 P **P** **01 45 36.0 -0.9**
SRU San Rafael Swe 45.00 80 P **P** **01 45 36.8 -0.4**
SRU pmax pmax
comp=Z,21nm,0.8s
SRU San Rafael Swe 45.00 80 P **P** **01 45 36.8 -0.4**
SRU IAmb IAmb 01 46 01.8
comp=Z,21nm,0.8s
IRM Iron Mountain 45.27 89 P **P** **01 45 39.1 -0.1**
baz=311
BAR Barrett 45.30 92 P **P** **01 45 38.7 -0.9**
BAR IAmb IAmb 01 45 53.4
comp=Z,22nm,1.0s
K22A Casper 45.31 74 P **P** **01 45 39.9 +0.2**
baz=306
K22A Casper 45.31 74 P **P** **01 45 38.7 -0.9**
baz=306
MONP2 Monument Peak 45.32 91 P **P** **01 45 38.7 -1.1**
baz=312
BC3 Big Chuckawall 45.41 90 P **P** **01 45 39.9 -0.6**
baz=311
IKP In-Ko-Pah, Jac 45.67 91 P **P** **01 45 42.1 -0.4**
baz=312
NRIK Noril'sk 45.71 331 P **P** **01 45 42.3 +0.1**
comp=Z,13nm,0.8s,baz=72,slow=9.4,SNR=22
NRIK PcP **PcP** **01 47 20.3 +0.7**
comp=Z,8.2nm,0.9s,baz=45,slow=2.9,SNR=5.4
NRIK LR LR 02 05 48.9
comp=Z,483nm,21.9s,baz=50,slow=37
NRIK Noril'sk 45.71 331*c iP* **P** **01 45 42.1 -0.1**
NRIK pmax pmax
comp=Z,17nm,1.1s
NRIK Noril'sk 45.71 331 P **P** **01 45 42.4 +0.1**
NRIK IAmb IAmb 01 45 44.3
comp=Z,11nm,0.7s
NRIK **PcP** **01 47 20.1 +0.6**
O20A White River Ci 45.77 77 P **P** **01 45 42.7 -0.7**
O20A IAmb IAmb 01 46 07.0
comp=Z,25nm,0.8s
O20A White River Ci 45.77 77 P **P** **01 45 42.4 -0.9**
baz=307,SNR=10
YUH Yuha Desert 45.79 91 P **P** **01 45 43.3 -0.1**
PDMCI Parker Dam,Lak 45.80 88 P **P** **01 45 43.3 -0.1**
baz=311
BLYC Blythe 45.93 89 P **P** **01 45 44.7 +0.3**
BLYC IAmb IAmb 01 45 58.6
comp=Z,21nm,1.1s
RSSD Black Hills 45.94 70 P **P** **01 45 44.4 -0.2**
RSSD pmax pmax
comp=Z,17nm,1.1s
RSSD Black Hills 45.94 70 P **P** **01 45 44.4 -0.2**
RSSD IAmb IAmb 01 45 58.3
comp=Z,17nm,1.1s
RSSD Black Hills 45.94 70 P **P** **01 45 44.5 -0.1**
baz=305
RSSD Black Hills 45.94 70 P **P** **01 45 44.2 -0.5**
baz=305
XLT XiLinHaoTe 45.94 289⇓*iP* **P** **01 45 45.3 +0.8**
XLT pP sP 01 45 55.0 -1.2
XLT sP pwP 01 45 58.0 -0.1
XLT S **S** **01 52 19.3 -7.5**
XLT pmax pmax
comp=Z,17nm,1.0s
XLT pmax pmax
comp=Z,150nm,4.2s
XLT LR LR
comp=Z,51nm,16.6s
XLT LR LR
comp=Z,470nm,18.2s
XLT LR LR
comp=Z,470nm,18.0s
GLA Glamis 46.21 90 P **P** **01 45 46.3 -0.4**
baz=312
PV23 Carpenter Ridg 46.34 80 P **P** **01 45 47.6 -0.3**
PV23 IAmb IAmb 01 46 12.1
comp=Z,20nm,0.9s
PV10 Paradox Valley 46.37 80 P **P** **01 45 48.6 +0.4**
PV10 IAmb IAmb 01 46 03.3
comp=Z,28nm,0.9s
MDND Maddock 46.37 64 P **P** **01 45 48.3 +0.6**
MDND Maddock 46.37 64 P **P** **01 45 47.5 -0.2**
baz=304
PV11 David Mesa, Pa 46.52 80 P **P** **01 45 48.2 -1.1**
PV07 Paradox Valley 46.57 80 P **P** **01 45 49.2 -0.4**
PV07 IAmb IAmb 01 46 05.9
comp=Z,13nm,0.8s
PV13 Radium Mtn., P 46.64 80 P **P** **01 45 50.1 -0.1**
N23A Red Feather La 46.71 75 P **P** **01 45 51.0 +0.3**
N23A IAmb IAmb 01 46 20.2
comp=Z,19nm,0.8s
N23A Red Feather La 46.71 75 P **P** **01 45 49.5 -1.3**
baz=307
PV15 Paradox Valley 46.73 80 P **P** **01 45 50.8 -0.2**
PV15 IAmb IAmb 01 46 06.8
comp=Z,24nm,0.9s
WUAZ Wupatki 46.74 85 P **P** **01 45 51.0 0.0**
WUAZ IAmb IAmb 01 46 07.2
comp=Z,23nm,0.8s
WUAZ Wupatki 46.74 85 P **P** **01 45 50.4 -0.6**
baz=310
Y14A Wickenburg 46.75 87 P **P** **01 45 50.5 -0.5**
Y14A IAmb IAmb 01 46 07.3
comp=Z,11nm,0.9s
PHWY Pilot Hill 46.76 74 P **P** **01 45 50.8 -0.4**
ULM Lac du Bonnet 47.08 59 P **P** **01 45 52.9 -0.4**
comp=Z,7.9nm,0.6s,baz=302,slow=8.4,SNR=10
ULM LR LR 02 05 49.6
comp=Z,500nm,19.6s,baz=318,slow=36
ULM Lac du Bonnet 47.08 59*c iP* **P** **01 45 53.4 +0.2**
ULM Lac du Bonnet 47.08 59 P **P** **01 45 52.9 -0.4**
ULM IAmb IAmb 01 46 07.4
comp=Z,22nm,0.8s
SMCO Snowmass 47.13 78 P **P** **01 45 53.9 -0.4**
X16A Lo Mia Camp, P 47.41 86 P **P** **01 45 56.6 +0.3**
MVCO Mesa Verde 47.43 81 P **P** **01 45 56.5 0.0**
MVCO IAmb IAmb 01 46 24.7
comp=Z,9.5nm,0.8s
MVCO Mesa Verde 47.43 81 P **P** **01 45 56.5 0.0**
baz=309
ISCO Idaho Springs 47.58 76 P **P** **01 45 57.3 -0.3**
baz=308
W18A Petrified Fore 48.01 84 P **P** **01 46 00.4 -0.5**
W18A IAmb IAmb 01 46 16.6
comp=Z,26nm,1.0s
W18A Petrified Fore 48.01 84 P **P** **01 46 00.5 -0.4**
baz=311
S22A 4UR Ranch, Cre 48.12 79 P **P** **01 46 00.5 -1.3**
S22A 4UR Ranch, Cre 48.12 79 P **P** **01 46 01.4 -0.5**
baz=309
AGMN Agassiz Nation 48.19 61 P **P** **01 46 02.0 +0.2**
AGMN Agassiz Nation 48.19 61 P **P** **01 46 02.0 +0.2**
baz=305,SNR=12
AGMN Agassiz Nation 48.19 61 P **P** **01 46 01.5 -0.3**
baz=305,SNR=12
BJI Beijing 48.20 285 P **P** **01 46 02.8 +0.8**
BJI pP **pP** **01 46 08.9 -1.8**
BJI sP **sP** **01 46 11.8 -1.9**
BJI S **S** **01 53 00.6 +1.8**
BJI pmax pmax
comp=Z,30nm,1.0s
BJI LR LR
comp=Z,950nm,18.8s
BJI LR LR
comp=Z,400nm,19.8s
BJI LR LR
comp=Z,1μm,21.2s
214A Organ Pipe Nat 48.20 89 P **P** **01 46 02.4 +0.2**
214A Organ Pipe Nat 48.20 89 P **P** **01 46 02.2 0.0**
baz=313
BJT Baijiatuau 48.21 285 P **P** **01 46 02.5 +0.4**
BJT pmax pmax
comp=Z,28nm,1.0s
BJT Baijiatuau 48.21 285 P **P** **01 46 02.5 +0.4**
BJT IAmb IAmb 01 46 03.8
comp=Z,28nm,1.0s
SUSD Miller 48.70 67 P **P** **01 46 06.0 +0.1**
SUSD Miller 48.70 67 P **P** **01 46 04.7 -1.2**
baz=307
SUSD Miller 48.70 67 P **P** **01 46 05.2 -0.7**
baz=306
ULN Ulaanbaatar 48.79 299*c iP* **P** **01 46 06.2 -0.5**
ULN pmax pmax
comp=Z,35nm,1.0s
ULN Ulaanbaatar 48.79 299 P **P** **01 46 06.6 0.0**
ULN IAmb IAmb 01 46 08.3
comp=Z,29nm,0.9s
ULN Ulaanbaatar 48.79 299 P **P** **01 46 07.1 +0.4**
ULN P **P** **01 46 07.1 +0.4**
SDCO Great Sand Dun 48.93 78 P **P** **01 46 07.8 -0.2**
SDCO Great Sand Dun 48.93 78 P **P** **01 46 08.1 +0.1**
baz=310,SNR=7.9
SDCO Great Sand Dun 48.93 78 P **P** **01 46 07.6 -0.5**
baz=310,SNR=7.9
SONM Songino Array 49.17 299 P **P** **01 46 10.0 +0.4**
comp=Z,18nm,0.8s,baz=49,slow=8.2,SNR=99
SONM PcP **PcP** **01 47 33.3 +0.9**
comp=Z,3.1nm,0.8s,baz=50,slow=3.2,SNR=2.4
SONM ScP **ScP** **01 51 24.6 -0.3**
comp=Z,2.3nm,0.9s,baz=45,slow=2.9,SNR=6.0
SONM LR LR 02 08 06.9
comp=Z,1μm,19.0s,baz=66,slow=38
SONM Songino Array 49.17 299 P **P** **01 46 09.2 -0.3**
SONM IAmb IAmb 01 46 10.9
comp=Z,24nm,0.9s
TUC Tucson 49.23 87 P **P** **01 46 10.2 +0.1**
TUC pmax pmax
comp=Z,14nm,1.0s
TUC Tucson 49.23 87 P **P** **01 46 10.2 +0.1**
TUC IAmb IAmb 01 46 30.1
comp=Z,14nm,1.0s
TUC Tucson 49.23 87 P **P** **01 46 10.3 +0.1**
baz=312
B35A Bob, Littlefor 49.31 60 P **P** **01 46 10.6 +0.1**
B35A IAmb IAmb 01 46 27.1
comp=Z,25nm,0.8s
B35A Bob, Littlefor 49.31 60 P **P** **01 46 10.2 -0.3**
baz=306,SNR=12
ZAK Zakamensk 49.35 303*eP* **P** **01 46 11.2 +0.3**
ZAK *e* 01 47 33.5
ZAK pmax pmax
comp=Z,65nm,1.2s
ZAK pmax pmax
comp=Z,33nm,1.2s
F33A 5 Mile Ranch, 49.38 64 P **P** **01 46 11.1 +0.1**
F33A IAmb IAmb 01 46 33.6
comp=Z,14nm,0.8s
F33A 5 Mile Ranch, 49.38 64 P **P** **01 46 10.9 -0.2**
baz=307
MOY Mondy 49.78 306*eP* **P** **01 46 14.6 +0.5**
MOY pmax pmax
comp=Z,32nm,1.5s
K31A O'Neill 49.92 69 P **P** **01 46 14.7 -0.6**
K31A O'Neill 49.92 69 P **P** **01 46 15.7 +0.5**
baz=308
T25A Trinidad 49.99 78 P **P** **01 46 16.1 +0.1**
T25A IAmb IAmb 01 46 31.8
comp=Z,28nm,0.9s
T25A Trinidad 49.99 78 P **P** **01 46 15.4 -0.6**
baz=310,SNR=9.8
TIA Tai'an 50.05 280⇑P **P** **01 46 16.4 +0.2**
TIA pmax pmax
comp=Z,33nm,1.2s
TIA pmax pmax
comp=Z,170nm,2.7s
TIA LR LR
comp=Z,410nm,16.7s
TIA LR LR
comp=Z,480nm,17.7s
TIA LR LR
comp=Z,510nm,20.8s
ANMO Albuquerque 50.16 82 LR LR 02 05 12.9
comp=Z,260nm,20.8s,baz=308,slow=33
ANMO Albuquerque 50.16 82⇓*eP* **P** **01 46 18.1 +0.8**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 50.16 82 P **P** **01 46 17.2 -0.1**
ANMO Albuquerque 50.16 82 P **P** **01 46 16.7 -0.6**
baz=311
ANMO Albuquerque 50.16 82 P **P** **01 46 16.7 -0.6**
baz=311
LENM Lemitar 50.35 83 P **P** **01 46 18.9 +0.1**
SPITS Spitsbergen Ar 50.36 357 P **P** **01 46 18.3 +0.2**
comp=Z,7.0nm,0.7s,baz=66,slow=6.5,SNR=26
SPITS LR LR 02 07 18.7
comp=Z,569nm,20.7s,baz=294,slow=36
HHC Hu-ho-hao-te 50.45 289*eP* **P** **01 46 19.8 +0.5**
HHC sP pwP 01 46 33.5 +0.5
HHC S **S** **01 53 35.3 +4.7**
HHC sS sS 01 53 45.9 -0.1
HHC pmax pmax
comp=Z,27nm,1.0s
HHC pmax pmax
comp=Z,180nm,5.3s
HHC LR LR
comp=Z,440nm,17.2s
HHC LR LR
comp=Z,510nm,18.1s
HHC LR LR
comp=Z,640nm,17.1s
ECSD EROS Data Cent 50.48 67 P **P** **01 46 19.1 -0.3**
ECSD IAmb IAmb 01 46 33.3
comp=Z,26nm,0.9s
ECSD EROS Data Cent 50.48 67 P **P** **01 46 18.9 -0.5**
baz=308,SNR=9.2
ECSD EROS Data Cent 50.48 67 P **P** **01 46 18.0 -1.4**
baz=308,SNR=9.2
Y22A Socorro 50.51 83 P **P** **01 46 19.8 -0.2**
baz=312,SNR=5.8
BNM Barren Site 50.58 83 P **P** **01 46 19.3 -1.2**
HNS HongShan 50.75 283⇑P **P** **01 46 22.5 +1.0**
HNS PP **PP** **01 48 22.4 +4.9**
HNS S **S** **01 53 40.8 +6.1**
HNS ScS **ScS** **01 56 10.3 +0.8**
HNS pmax pmax
comp=Z,64nm,1.1s
HNS LR LR
comp=Z,250nm,20.2s
HNS LR LR
comp=Z,280nm,22.0s
EYMN Ely 50.76 59 P **P** **01 46 21.9 +0.4**
EYMN IAmb IAmb 01 46 38.4
comp=Z,22nm,0.8s
EYMN Ely 50.76 59 P **P** **01 46 20.8 -0.7**
baz=307
F36A Milaca 50.92 63 P **P** **01 46 22.8 +0.1**
F36A IAmb IAmb 01 46 36.8
comp=Z,13nm,0.6s
F36A Milaca 50.92 63 P **P** **01 46 22.2 -0.5**
baz=308,SNR=6.1
SSE Sheshan 50.94 273 P **P** **01 46 24.8 +1.8**
SSE S **S** **01 53 40.0 +2.6**
SSE pmax pmax
comp=Z,49nm,0.9s
SSE pmax pmax
comp=Z,120nm,3.4s
121A Cookes Peak, D 50.94 85 P **P** **01 46 23.5 +0.2**
121A Cookes Peak, D 50.94 85 P **P** **01 46 22.9 -0.3**
baz=312
DAG Danmarks Havn 50.98 7 P **P** **01 46 22.4 -0.3**
DAG pmax pmax
comp=Z,13nm,0.9s
BGNE Belgrade 51.03 70 P **P** **01 46 23.7 +0.1**
BGNE Belgrade 51.03 70 P **P** **01 46 24.2 +0.6**
baz=309
BGNE Belgrade 51.03 70 P **P** **01 46 23.6 0.0**
baz=309
BTO Baotou 51.51 289*eP* **P** **01 46 28.3 +1.0**
BTO S **S** **01 53 44.4 -0.9**
BTO LR LR
comp=Z,2μm,18.1s
BTO LR LR
comp=Z,2μm,17.4s
E38A The Farm, Brul 51.55 61 P **P** **01 46 27.3 -0.1**
E38A IAmb IAmb 01 46 35.2
comp=Z,34nm,0.8s
SPMN Marine on St. 51.71 63 P **P** **01 46 28.4 -0.2**
SPMN Marine on St. 51.71 63 P **P** **01 46 28.7 +0.1**
baz=308
L34A Svendsen Farm, 51.71 68 P **P** **01 46 28.2 -0.5**
L34A Svendsen Farm, 51.71 68 P **P** **01 46 28.2 -0.5**
baz=309
CBKS Cedar Bluff 51.73 73 P **P** **01 46 29.2 +0.2**
baz=310
NJ2 Nanjing 51.74 275⇓P **P** **01 46 30.1 +1.1**
NJ2 pP **pP** **01 46 35.8 -2.0**
NJ2 sP **sP** **01 46 40.1 -0.7**
NJ2 LR LR
comp=Z,390nm,16.6s
NJ2 LR LR
comp=Z,350nm,16.6s
NJ2 LR LR
comp=Z,580nm,19.9s
TIY Taiyuan 51.93 285*eP* **P** **01 46 31.8 +1.4**
TIY S **S** **01 53 47.9 -3.2**
TIY pmax pmax
comp=Z,31nm,0.5s
TIY pmax pmax
comp=Z,140nm,4.7s
TIY LR LR
comp=Z,290nm,18.8s
TIY LR LR
comp=Z,620nm,20.2s
TIY LR LR
comp=Z,630nm,22.0s
I37A Lemond, Waseca 52.13 64 P **P** **01 46 32.1 +0.3**
I37B Waseca 52.13 64 P **P** **01 46 31.7 -0.1**
baz=309
N35A Tabor 52.84 69 P **P** **01 46 37.1 0.0**
N35A Tabor 52.84 69 P **P** **01 46 36.8 -0.2**
baz=310
D41A Chassel 52.87 59 P **P** **01 46 36.2 -1.0**
baz=309
MNTX Cornudas Mount 53.00 84 P **P** **01 46 38.4 0.0**
MNTX Cornudas Mount 53.00 84 P **P** **01 46 38.5 0.0**
baz=313,SNR=7.3
MNTX Cornudas Mount 53.00 84 P **P** **01 46 38.1 -0.3**
baz=313,SNR=7.3
MSTX Muleshoe 53.08 80 P **P** **01 46 38.5 -0.5**
MSTX IAmb IAmb 01 46 54.5
comp=Z,30nm,0.9s
MSTX Muleshoe 53.08 80 P **P** **01 46 38.6 -0.5**
baz=312
MSTX Muleshoe 53.08 80 P **P** **01 46 38.6 -0.5**
baz=312
G40A Rib Lake 53.12 61 P **P** **01 46 38.9 -0.2**
G40A IAmb IAmb 01 46 46.7
comp=Z,16nm,0.8s
G40A Rib Lake 53.12 61 P **P** **01 46 38.9 -0.2**
baz=309,SNR=11
COWI Conover 53.17 60 P **P** **01 46 38.8 -0.6**
baz=309
KSU1 Kansas State U 53.41 71 P **P** **01 46 40.1 -1.2**
baz=311
SCIA State Center 53.57 66 P **P** **01 46 42.2 -0.2**
baz=310
LYN LuoYang 53.99 282⇑*iP* **P** **01 46 46.3 +0.7**
LYN pP pwP 01 46 59.4 +0.2
LYN sP sP 01 47 03.8 +6.4
LYN pmax pmax
comp=Z,50nm,1.0s
LYN pmax pmax
comp=Z,290nm,3.6s
LYN LR LR
comp=Z,470nm,18.0s
LYN LR LR
comp=Z,560nm,20.4s
LYN LR LR
comp=Z,560nm,22.0s
E43A Lone Tree Farm 54.14 59 P **P** **01 46 46.8 +0.3**
baz=310
N38A Joes South For 54.28 67 P **P** **01 46 47.3 -0.3**
baz=311
SFJD Kangerlussuaq 54.32 24 LR LR 02 13 51.8
comp=Z,355nm,19.2s,baz=314,slow=40
JFWS Jewell Farm 54.60 64 P **P** **01 46 49.2 -0.7**
JFWS pmax pmax
comp=Z,23nm,0.7s
JFWS Jewell Farm 54.60 64 P **P** **01 46 49.2 -0.7**
JFWS IAmb IAmb 01 47 03.0
comp=Z,23nm,0.7s
JFWS Jewell Farm 54.60 64 P **P** **01 46 49.1 -0.8**
baz=310
JFWS Jewell Farm 54.60 64 P **P** **01 46 49.3 -0.6**
baz=310
I42A Draeger Farm, 54.70 62 P **P** **01 46 50.8 +0.1**
baz=310,SNR=6.3
P38A Dawn 54.87 69 P **P** **01 46 50.9 -1.0**
P38A Dawn 54.87 69 P **P** **01 46 50.6 -1.3**
baz=311
T35A Sooner Cattle 54.90 73 P **P** **01 46 51.5 -0.7**
T35A IAmb IAmb 01 47 08.0
comp=Z,18nm,0.8s
H43A Windswept, Lux 54.95 61 P **P** **01 46 51.7 -0.7**
H43A Windswept, Lux 54.95 61 P **P** **01 46 52.3 -0.1**
baz=310,SNR=8.9
WMOK Wichita Mounta 55.00 77 P **P** **01 46 52.4 -0.5**
WMOK pmax pmax
comp=Z,12nm,0.8s
WMOK Wichita Mounta 55.00 77 P **P** **01 46 52.4 -0.5**
WMOK IAmb IAmb 01 47 20.2
comp=Z,12nm,0.8s
WMOK Wichita Mounta 55.00 77 P **P** **01 46 52.7 -0.3**
baz=313,SNR=6.1
WMOK Wichita Mounta 55.00 77 P **P** **01 46 52.0 -0.9**
baz=312,SNR=6.1
LPIG La Paz 55.30 94 LR LR 02 07 57.3
comp=Z,171nm,18.2s,baz=306,slow=33
L42A Oliver, Polo 55.52 64 P **P** **01 46 56.0 -0.6**
L42A IAmb IAmb 01 47 09.8
comp=Z,21nm,0.8s
L42A Oliver, Polo 55.52 64 P **P** **01 46 56.2 -0.3**
baz=311
E46A Sault Ste Mari 55.57 57 P **P** **01 46 57.1 +0.3**
E46A IAmb IAmb 01 47 13.2
comp=Z,40nm,1.0s
E46A Sault Ste Mari 55.57 57 P **P** **01 46 57.2 +0.3**
baz=311,SNR=8.2
WHN Wuhan 55.57 277⇑P **P** **01 46 59.5 +2.4**
WHN pmax pmax
comp=Z,42nm,0.8s
NACB Ninganchiao 55.59 266 P **P** **01 46 56.5 -0.7**
NACB IAmb IAmb 01 47 12.2
comp=Z,38nm,0.9s
N41A Harden Midland 55.70 66 P **P** **01 46 57.6 -0.2**
N41A IAmb IAmb 01 47 10.9
comp=Z,24nm,0.9s
TX31 Lajitas Ar. Si 55.70 85 P **P** **01 46 57.5 -0.7**
TX31 Lajitas Ar. Si 55.70 85 P **P** **01 46 57.7 -0.5**
baz=315,SNR=9.4
TX32 Lajitas Array 55.70 85 P **P** **01 46 57.5 -0.7**
TX32 IAmb IAmb 01 47 11.6
comp=Z,18nm,0.9s
TXAR Lajitas Array 55.70 85 P **P** **01 46 57.5 -0.7**
comp=Z,2.1nm,0.7s,baz=299,slow=5.0,SNR=30
TXAR ScP **ScP** **01 51 52.3 -1.2**
comp=Z,2.7nm,1.0s,baz=298,slow=2.7,SNR=9.7
TXAR LR LR 02 10 23.1
comp=Z,141nm,18.2s,baz=311,slow=36
G45A Suttons Bay 55.72 59 P **P** **01 46 58.2 +0.2**
G45A IAmb IAmb 01 47 15.3
comp=Z,31nm,0.9s
P40A Paris 55.79 68 P **P** **01 46 58.1 -0.5**
P40A Paris 55.79 68 P **P** **01 46 57.9 -0.7**
baz=312,SNR=9.5
K43A Burlington 55.80 63 P **P** **01 46 58.5 -0.1**
K43A IAmb IAmb 01 47 11.6
comp=Z,22nm,0.8s
W35A Tecumseh 55.87 75 P **P** **01 46 58.5 -0.6**
W35A IAmb IAmb 01 47 14.8

comp=Z,30nm,0.8s
ABTX Abilene, Hawle 55.91 79 P P 01 46 59.6 +0.1
ABTX IAmb IAmb 01 47 16.0
comp=Z,34nm,0.9s
ABTX Abilene, Hawle 55.91 79 P P 01 46 59.7 +0.2
baz=314
ABTX Abilene, Hawle 55.91 79 P P 01 46 59.1 -0.4
baz=313
ZALV Zalesovo Beam 56.00 316 P P 01 46 59.6 -0.2
comp=Z,1.0nm,0.6s,baz=37,slow=7.1,SNR=4.3
ZALV PcP **PcP 01 47 58.5 +0.6**
comp=Z,8.3nm,0.8s,baz=52,slow=2.6,SNR=12
ZALV ScP **ScP 01 51 54.3 +0.1**
comp=Z,0.9nm,0.6s,baz=57,slow=5.5,SNR=3.7
ZALV LR LR 02 12 39.8
comp=Z,693nm,18.3s,baz=50,slow=38
ZALV Zalesovo Beam 56.00 316 P P 01 47 00.1 +0.3
ZALV **PcP 01 47 57.0 -0.8**
ZALV **ScP 01 51 54.9 +0.7**
TUL1 Leonard 56.01 73 P P 01 46 59.9 -0.2
TUL1 IAmb IAmb 01 47 15.4
comp=Z,15nm,0.7s
TUL1 Leonard 56.01 73 P P 01 46 59.5 -0.7
baz=312
I45A Fountain 56.07 60 P P 01 47 00.7 +0.2
SSLB Suanglung 56.27 266 P P 01 47 01.9 -0.3
SSLB Suanglung 56.27 266 P P 01 47 02.3 +0.1
S39A Bolivar 56.28 70 P P 01 47 00.4 -1.6
S39A IAmb IAmb 01 47 16.5
comp=Z,11nm,0.8s
S39A Bolivar 56.28 70 P P 01 46 59.8 -2.2
baz=312
L44A Lake County Fo 56.38 63 P P 01 47 02.9 +0.1
baz=312
GLMI Grayling 56.42 59 P P 01 47 03.6 +0.6
GLMI Grayling 56.42 59 P P 01 47 02.5 -0.5
baz=311
R40A Maddies Statio 56.49 69 P P 01 47 02.0 -1.6
R40A IAmb IAmb 01 47 18.5
comp=Z,16nm,0.7s
R40A Maddies Statio 56.49 69 P P 01 47 01.9 -1.6
baz=312
XAN Xi'an 56.50 284 P P 01 47 03.8 +0.1
XAN pP pP 01 47 12.4 -0.2
XAN S **S 01 54 53.3 +0.6**
XAN pmax pmax
comp=Z,55nm,1.1s
XAN pmax pmax
comp=Z,210nm,3.5s
XAN LR LR
comp=Z,490nm,17.8s
XAN LR LR
comp=Z,610nm,17.8s
XAN LR LR
comp=Z,820nm,23.0s
HDIL Hopedale 56.69 65 P P 01 47 05.0 +0.1
HDIL Hopedale 56.69 65 P P 01 47 04.0 -0.9
baz=312
TPUB Ta-pu 56.82 266 P P 01 47 05.2 -1.0
TPUB IAmb IAmb 01 47 21.7
comp=Z,44nm,1.0s
TPUB Ta-pu 56.82 266 P P 01 47 07.3 +1.2
HHAR Hobbs 56.86 72 P P 01 47 06.7 +0.4
HHAR IAmb IAmb 01 47 21.0
comp=Z,18nm,1.2s
HHAR Hobbs 56.86 72 P P 01 47 05.1 -1.1
baz=313
X37A Clayton 57.16 74 P P 01 47 08.5 +0.1
X37A IAmb IAmb 01 47 24.1
comp=Z,23nm,0.8s
X37A Clayton 57.16 74 P P 01 47 08.2 -0.1
baz=313
P43A Skaggs, Pawnee 57.17 66 P P 01 47 08.5 +0.2
CCM Cathedral Cave 57.24 69 P P 01 47 08.7 -0.2
CCM pmax pmax
comp=Z,15nm,1.0s
CCM Cathedral Cave 57.24 69 P P 01 47 08.7 -0.2
CCM IAmb IAmb 01 47 24.0
comp=Z,15nm,0.9s
CCM Cathedral Cave 57.24 69 P P 01 47 08.1 -0.8
baz=313
CCM Cathedral Cave 57.24 69 P P 01 47 07.8 -1.1
baz=312
MGMO Mountain Grove 57.26 70 P P 01 47 07.6 -1.5
MGMO IAmb IAmb 01 47 23.8
comp=Z,19nm,0.8s
JCT Junction City 57.30 81 P P 01 47 09.3 -0.1
JCT pmax pmax
comp=Z,18nm,1.0s
JCT Junction City 57.30 81 P P 01 47 09.3 -0.1
JCT IAmb IAmb 01 47 25.4
comp=Z,18nm,0.9s
JCT Junction City 57.30 81 P P 01 47 08.5 -0.9
baz=314
J47A Sunmer 57.37 60 P P 01 47 09.7 0.0
J47A IAmb IAmb 01 47 18.1
comp=Z,22nm,0.8s
L46A Eue Claire 57.39 62 P P 01 47 10.0 +0.1
U40A Yellville 57.45 71 P P 01 47 09.0 -1.4
U40A IAmb IAmb 01 47 22.8
comp=Z,19nm,0.9s
U40A Yellville 57.45 71 P P 01 47 09.0 -1.4
baz=313,SNR=7.4
U40A P P 01 47 09.0 -1.4
baz=313,SNR=7.4
U40A Yellville 57.45 71 P P 01 47 08.5 -2.0
baz=313,SNR=7.4
WHTX Lake Whitney, 57.68 78 P P 01 47 12.2 +0.2
WHTX IAmb IAmb 01 47 28.1
comp=Z,24nm,0.8s
WHTX Lake Whitney, 57.68 78 P P 01 47 11.5 -0.6
baz=314
W39A Magazine 57.69 73 P P 01 47 11.4 -0.7
W39A IAmb IAmb 01 47 34.1
comp=Z,22nm,0.8s
W39A Magazine 57.69 73 P P 01 47 11.0 -1.1
baz=313
FVM French Village 57.77 68 P P 01 47 12.2 -0.4
FVM pmax pmax
comp=Z,27nm,0.9s
FVM French Village 57.77 68 P P 01 47 12.2 -0.4
FVM IAmb IAmb 01 47 25.4
comp=Z,27nm,0.8s
FVM French Village 57.77 68 P P 01 47 11.2 -1.4
baz=313
VLDQ Val d'Or 57.88 52 P P 01 47 11.3 -1.9
VLDQ IAmb IAmb 01 47 25.7
comp=Z,32nm,0.9s
Q44A Meyer Farm, Va 57.96 67 P P 01 47 14.5 +0.6
SCHQ Schefferville 57.98 41 P P 01 47 13.1 -0.7
comp=Z,10nm,0.9s,baz=312,slow=7.8,SNR=13
SCHQ LR LR 02 14 38.4
comp=Z,782nm,18.4s,baz=330,slow=38
SCHQ Schefferville 57.98 41 P P 01 47 13.7 -0.2
SCHQ IAmb IAmb 01 47 15.8
comp=Z,16nm,1.0s
SFIN Lafayette 58.04 64 P P 01 47 14.4 -0.1
SFIN Lafayette 58.04 64 P P 01 47 14.3 -0.1
baz=313
SFIN Lafayette 58.04 64 P P 01 47 14.3 -0.1
baz=313
LZH Lanzhou 58.13 289 ⇑P P 01 47 16.3 +0.9
LZH pP pP 01 47 25.4 +1.2
LZH sP pwP 01 47 32.3 +3.1
LZH S **S 01 55 15.9 +1.5**
LZH pmax pmax
comp=Z,46nm,1.3s
LZH pmax pmax
comp=Z,280nm,6.5s
LZH LR LR
comp=Z,640nm,15.4s
LZH LR LR
comp=Z,1μm,15.6s
LZH LR LR
comp=Z,1μm,18.2s
GTA Gaotai 58.20 295 ⇑P P 01 47 15.9 +0.1
GTA sP pwP 01 47 30.6 +0.9
GTA pmax pmax
comp=Z,36nm,0.9s
GTA pmax pmax
comp=Z,100nm,8.8s
GTA LR LR
comp=Z,570nm,17.1s
GTA LR LR
comp=Z,850nm,18.3s
GTA LR LR
comp=Z,740nm,18.3s
FCAR Ozark Folk Cen 58.20 71 P P 01 47 14.5 -1.2
FCAR IAmb IAmb 01 47 31.3
comp=Z,38nm,0.9s
ARA0 ARCESS Array S 58.35 352 eP P 01 47 15.9 -0.3
ARCES ARCESS Array B 58.35 352 P P 01 47 15.7 -0.5
comp=Z,13nm,0.8s,baz=13,slow=7.7,SNR=29
ARCES PcP **PcP 01 48 06.4 -0.4**
comp=Z,21nm,0.8s,baz=28,slow=3.4,SNR=10.0
ARCES LR LR 02 13 40.5
comp=Z,405nm,19.9s,baz=360,slow=37
ARCES ARCESS Array B 58.35 352 P P 01 47 15.9 -0.3
ARCES pmax pmax
comp=Z,35nm,1.4s
ARCES ARCESS Array B 58.35 352 P P 01 47 15.9 -0.3
ARCES IAmb IAmb 01 47 24.1
comp=Z,35nm,1.4s
L48A N Adams 58.46 61 P P 01 47 17.2 -0.1
L48A IAmb IAmb 01 47 28.2
comp=Z,21nm,0.8s
L48A N Adams 58.46 61 P P 01 47 17.4 +0.1
baz=313
L48A P P 01 47 17.4 +0.1
baz=313
N47A Urbana 58.49 63 P P 01 47 17.4 -0.2
N47A Urbana 58.49 63 P P 01 47 16.9 -0.7
baz=313,SNR=5.3
N47A P P 01 47 16.9 -0.7
baz=313,SNR=5.3
WHAR Wooly Hollow 58.52 72 P P 01 47 16.5 -1.3
WHAR IAmb IAmb 01 47 33.3
comp=Z,23nm,0.9s
OLIL Olney 58.60 66 P P 01 47 18.4 0.0
W41B Gary Mavity, V 58.62 72 P P 01 47 18.0 -0.6
W41B IAmb IAmb 01 47 34.6
comp=Z,24nm,0.8s
W41B Gary Mavity, V 58.62 72 P P 01 47 17.8 -0.8
baz=314
W41B Gary Mavity, V 58.62 72 P P 01 47 17.9 -0.6
baz=314
AAM Ann Arbor 58.63 60 P P 01 47 18.7 +0.1
baz=313
JETT Jettan, Norway 58.72 354 eP P 01 47 19.0 +0.2
TRO Tromso 58.73 355 eP P 01 47 19.2 +0.4
X40A Basin Creek Fa 58.75 73 P P 01 47 19.9 +0.4
X40A IAmb IAmb 01 47 35.0
comp=Z,14nm,0.8s
X40A Basin Creek Fa 58.75 73 P P 01 47 18.9 -0.5
baz=314
LVZ Lovozero 58.92 348 deP P 01 47 20.0 -0.3
LVZ pmax pmax
comp=Z,98nm,1.7s
LVZ Lovozero 58.92 348 P P 01 47 19.6 -0.7
KTK1 Kautokeino 59.05 353 eP P 01 47 21.0 -0.1
833A Chaparral WMA, 59.06 82 P P 01 47 20.4 -1.4
baz=315
WLAR White Oak Lake 59.13 74 P P 01 47 22.3 +0.2
BLO Bloomington 59.19 65 P P 01 47 22.1 -0.4
BLO pmax pmax
comp=Z,35nm,0.8s
BLO Bloomington 59.19 65 P P 01 47 22.1 -0.4
O48B Farmland 59.21 63 P P 01 47 21.6 -1.0
baz=314,SNR=9.3
O48B Farmland 59.21 63 P P 01 47 20.9 -1.7
baz=313,SNR=9.3
N49A Columbus Grove 59.29 62 P P 01 47 22.7 -0.4
N49A IAmb IAmb 01 47 39.1
comp=Z,28nm,1.1s
SADO Sadowa 59.33 56 LR LR 02 14 44.6
comp=Z,602nm,18.1s,baz=356,slow=38
SADO Sadowa 59.33 56 P P 01 47 23.7 +0.3
SADO IAmb IAmb 01 47 39.0
comp=Z,17nm,0.9s
USIN University of 59.37 66 P P 01 47 23.5 -0.2
APA Apatity 59.40 348 ⇓iP P 01 47 18.1 -5.4
APA pmax pmax
comp=Z,18nm,1.0s
P48A Milroy 59.61 64 P P 01 47 24.7 -0.6
P48A IAmb IAmb 01 47 41.6
comp=Z,34nm,0.9s
P48A Milroy 59.61 64 P P 01 47 24.5 -0.8
baz=314
P48A P P 01 47 24.5 -0.8
baz=314
Z41A Richland Creek 59.62 74 P P 01 47 25.2 -0.3
baz=314
P49A Miami Univ. Ec 59.95 63 P P 01 47 26.9 -0.9
baz=314
P49A Miami Univ. Ec 59.95 63 P P 01 47 26.7 -1.1
baz=314
HKT Hockley 60.10 79 ⇓eP P 01 47 29.9 +1.1
HKT pmax pmax
comp=Z,3.0nm,1.1s
N51A Ashland 60.28 61 P P 01 47 28.8 -1.2
baz=314
N51A P P 01 47 28.8 -1.2
baz=314
DELO Deloro Mine 60.28 55 P P 01 47 30.0 +0.1
T47A Sharon Grove 60.37 67 P P 01 47 29.7 -0.9
ACSO Alum Creek Sta 60.43 62 P P 01 47 30.9 -0.1
baz=314
WVT Waverly 60.55 68 P P 01 47 31.6 -0.2
WVT pmax pmax
comp=Z,23nm,1.0s
WVT Waverly 60.55 68 P P 01 47 31.6 -0.2
WVT IAmb IAmb 01 47 45.4
comp=Z,23nm,0.9s
WVT Waverly 60.55 68 P P 01 47 31.7 -0.2
baz=314
WVT Waverly 60.55 68 P P 01 47 30.9 -0.9
baz=314
STEI Steigen 60.61 356 eP P 01 47 32.0 +0.2
LATQ La Tuque 60.65 50 P P 01 47 31.8 -0.6
ERPA Erie 60.73 58 P P 01 47 32.6 -0.4
baz=314
OXF Oxford 60.76 70 P P 01 47 33.1 -0.2
OXF pmax pmax
comp=Z,74nm,0.9s
OXF Oxford 60.76 70 P P 01 47 33.1 -0.2
OXF Oxford 60.76 70 P P 01 47 32.9 -0.4
baz=314
M53A WI Miller and 60.84 59 P P 01 47 33.2 -0.6
baz=314
P51A Williamsport 60.91 62 P P 01 47 33.9 -0.4
P51A IAmb IAmb 01 47 47.1
comp=Z,17nm,0.8s
ALLY Alegheny Colle 60.98 59 P P 01 47 35.3 +0.6
KURK Kurchatov 60.98 316 ceP P 01 47 34.0 -0.6
KURK pmax pmax
comp=Z,10.0nm,0.5s
KURK Kurchatov 60.98 316 P P 01 47 33.9 -0.6
KURK IAmb IAmb 01 47 35.7
comp=Z,17nm,0.8s
KURK Kurchatov 60.98 316 P P 01 47 34.4 -0.1
KURK P P 01 47 34.4 -0.1
R50A Paris 61.04 64 P P 01 47 35.7 +0.5
R50A IAmb IAmb 01 47 49.0
comp=Z,26nm,0.9s
J55A Hilton 61.06 56 P P 01 47 35.9 +0.7
J55A Hilton 61.06 56 P P 01 47 35.6 +0.4
baz=315,SNR=6.5
J55A P P 01 47 35.6 +0.4
baz=315,SNR=6.5
Q51A Peebles 61.07 63 P P 01 47 35.8 +0.5
baz=315,SNR=7.6
Q51A P P 01 47 35.8 +0.5
baz=315,SNR=7.6
KURBB Kurchatov Arra 61.08 316 LR LR 02 16 00.9
comp=Z,1μm,18.1s,baz=33,slow=38
O52A Adamsville 61.14 61 P P 01 47 36.2 +0.4
O52A Adamsville 61.14 61 P P 01 47 36.2 +0.4
baz=315,SNR=9.0
O52A P P 01 47 36.2 +0.4
baz=315,SNR=9.0
FAUS Fauske 61.16 356 eP P 01 47 36.2 +0.7
N53A Lisbon 61.20 60 P P 01 47 35.6 -0.6
N53A IAmb IAmb 01 47 50.6
comp=Z,28nm,1.1s
WVNY West Valley, N 61.26 57 P P 01 47 36.2 -0.4
WVNY IAmb IAmb 01 47 52.4
comp=Z,21nm,0.8s
M54A Oil Creek Stat 61.33 59 P P 01 47 37.0 -0.1
M54A IAmb IAmb 01 47 45.3
comp=Z,24nm,0.9s
M54A Oil Creek Stat 61.33 59 P P 01 47 36.8 -0.4
baz=315
O53A New Philadelph 61.38 61 P P 01 47 37.1 -0.4
baz=315
CLTN Cedars of Leba 61.44 67 P P 01 47 37.5 -0.4
U49A Red Boiling Sp 61.46 66 P P 01 47 38.1 +0.1
U49A IAmb IAmb 01 47 51.5
comp=Z,17nm,0.8s
N54A Moraine State 61.54 59 P P 01 47 38.7 +0.1
baz=315
N54A Moraine State 61.54 59 P P 01 47 38.1 -0.5
baz=315
J56A Wolcott 61.55 55 P P 01 47 38.9 +0.4
J56A Wolcott 61.55 55 P P 01 47 39.4 +0.9
baz=315,SNR=13
J56A P P 01 47 39.4 +0.9
baz=315,SNR=13
MNTQ Montreal, Queb 61.59 52 P P 01 47 37.9 -0.9
MNTQ IAmb IAmb 01 47 52.0
comp=Z,25nm,0.8s
BMNY Brushton-Moira 61.63 53 P P 01 47 38.7 -0.3
baz=316,SNR=17
T50A Nancy 61.64 65 P P 01 47 38.7 -0.5
T50A IAmb IAmb 01 47 53.5
comp=Z,37nm,1.1s
T50A Nancy 61.64 65 P P 01 47 39.0 -0.3
baz=315
T50A P P 01 47 39.0 -0.3
baz=315
WCNY West Carthage 61.66 54 P P 01 47 39.6 +0.3
baz=316,SNR=18
WMQ Urumqi 61.67 306 eP P 01 47 40.4 +0.9
WMQ pP pwP 01 47 52.4 -1.2
WMQ pmax pmax
comp=Z,16nm,1.3s
WMQ pmax pmax
comp=Z,120nm,4.7s
WMQ LR LR
comp=Z,1μm,16.7s
WMQ LR LR
comp=Z,710nm,21.5s
WMQ LR LR
comp=Z,590nm,21.7s
LONY Lake Ozonia 61.75 53 P P 01 47 39.8 -0.1
LONY Lake Ozonia 61.75 53 P P 01 47 38.8 -1.1
baz=316,SNR=17
CD2 Chengdu 61.80 285 ⇑P P 01 47 40.9 +0.4
CD2 sP pwP 01 47 53.5 -0.7
CD2 S **S 01 56 03.6 +2.2**
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,150nm,5.9s
CD2 LR LR
comp=Z,560nm,16.7s
CD2 LR LR
comp=Z,660nm,19.1s
P53A Whipple 61.82 61 P P 01 47 40.8 +0.3
baz=315,SNR=7.2
P53A P P 01 47 40.8 +0.3
baz=315,SNR=7.2
M55A Ridgway 61.84 58 P P 01 47 40.9 +0.4
baz=315
M55A P P 01 47 40.9 +0.4
baz=315
O54A Avella 61.88 60 P P 01 47 41.3 +0.4
O54A IAmb IAmb 01 47 56.0
comp=Z,27nm,0.8s
O54A Avella 61.88 60 P P 01 47 41.3 +0.4
baz=315,SNR=6.3
O54A P P 01 47 41.3 +0.4
baz=315,SNR=6.3
L56A Greenwood 62.00 57 P P 01 47 42.0 +0.4
L56A Greenwood 62.00 57 P P 01 47 42.6 +1.0
baz=315,SNR=6.0
L56A P P 01 47 42.6 +1.0
baz=315,SNR=6.0
FRNY Flat Rock 62.09 52 P P 01 47 40.2 -1.9
baz=316,SNR=6.7
K57A Scipio Center 62.11 56 P P 01 47 42.9 +0.6
baz=316,SNR=11
MK31 Makanchi Array 62.18 311 deP P 01 47 41.9 -0.9
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 62.18 311 P P 01 47 42.0 -0.7
MKAR Makanchi Array 62.18 311 P P 01 47 42.2 -0.5
comp=Z,5.4nm,0.6s,baz=47,slow=5.6,SNR=64
MKAR LR LR 02 17 38.7
comp=Z,585nm,18.5s,baz=39,slow=39
X48A Hartselle 62.18 69 P P 01 47 43.2 +0.3
X48A IAmb IAmb 01 47 55.7
comp=Z,24nm,1.2s
J58A Remsen 62.29 54 P P 01 47 43.9 +0.3
baz=316,SNR=25
J58A P P 01 47 43.9 +0.3
baz=316,SNR=25
MAKZ Makanchi 62.32 311 P P 01 47 43.5 -0.2
MAKZ pmax pmax
comp=Z,11nm,1.2s
MAKZ Makanchi 62.32 311 P P 01 47 43.5 -0.2
R53A Hurricane 62.33 63 P P 01 47 44.0 +0.1
R53A Hurricane 62.33 63 P P 01 47 44.5 +0.6
baz=315
R53A P P 01 47 44.5 +0.6
baz=315
NCB Newcomb 62.39 53 P P 01 47 44.2 0.0
baz=316,SNR=7.2
MOR8 Moi Rana 62.41 356 eP P 01 47 42.8 -1.1
Z47A Carrollton 62.47 71 P P 01 47 44.3 -0.6
Z47A Carrollton 62.47 71 P P 01 47 44.3 -0.6
baz=316
Q54A Coxs Mills 62.48 61 P P 01 47 45.2 +0.3
Q54A Coxs Mills 62.48 61 P P 01 47 45.5 +0.6
baz=315,SNR=5.8
Q54A P P 01 47 45.5 +0.6
baz=315,SNR=5.8
MCWV Mont Chateau 62.54 60 P P 01 47 45.7 +0.5
baz=316
MCWV Mont Chateau 62.54 60 P P 01 47 44.9 -0.4
baz=315
BRVK Borovoye 62.61 322 ciP P 01 47 44.8 -0.7
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 62.61 322 P P 01 47 45.2 -0.3
BRVK Borovoye 62.61 322 P P 01 47 45.5 0.0
BRVK P P 01 47 45.5 0.0
J59A Piesco 62.61 54 P P 01 47 45.4 -0.3
J59A Piesco 62.61 54 P P 01 47 45.7 0.0
baz=316,SNR=15
J59A P P 01 47 45.7 0.0
baz=316,SNR=15
D62A Allapoint, All 62.63 48 P P 01 47 45.6 -0.1
baz=317,SNR=7.4
D62A P P 01 47 45.6 -0.1
baz=317,SNR=7.4
W50A Signal Mountai 62.66 67 P P 01 47 46.2 +0.1
baz=316
TZTN Tazewell 62.71 65 P P 01 47 46.5 0.0
TZTN IAmb IAmb 01 48 00.4
comp=Z,28nm,0.9s
TZTN Tazewell 62.71 65 P P 01 47 45.8 -0.6
baz=315
KRVT Keravat (AS076 62.72 219 LR LR 02 11 21.2
comp=Z,172nm,19.6s,baz=158,slow=32
BINY Binghamton 62.77 56 P P 01 47 47.9 +1.1
baz=316,SNR=14
BINY Binghamton 62.77 56 P P 01 47 46.3 -0.5
baz=316,SNR=14
PRGR Permogore 62.79 340 eP P 01 47 45.7 -0.8
PRGR pmax pmax
comp=Z,30nm,0.9s
M57A Sunshine Farm, 62.79 57 P P 01 47 46.6 -0.3
M57A IAmb IAmb 01 48 03.7
comp=Z,19nm,0.8s
O56A Blue Knob Stat 62.80 59 P P 01 47 47.6 +0.6
baz=316
O56A Blue Knob Stat 62.80 59 P P 01 47 46.6 -0.4
baz=316
SSPA Standing Stone 62.90 58 P P 01 47 48.4 +0.8
SSPA Standing Stone 62.90 58 P P 01 47 48.4 +0.8
baz=316
SSPA Standing Stone 62.90 58 P P 01 47 47.4 -0.2
baz=316
SVE Sverdlovsk 62.97 330 eP P 01 47 48.6 +0.8
SVE pmax pmax
comp=Z,17nm,0.9s
SVE MLR MLR
comp=Z,974nm,18.0s
MCVT Middlebury Col 63.02 53 P P 01 47 48.5 +0.1

baz=317
S54A Dingess, Beckl 63.06 63 P **P** **01 47 48.5 -0.3**
S54A Dingess, Beckl 63.06 63 P **P** **01 47 49.2 +0.4**
baz=316
S54A P **P** **01 47 49.2 +0.4**
baz=316
F62A Pittston Farm, 63.07 49 P **P** **01 47 47.4 -1.2**
baz=317
F62A P **P** **01 47 47.4 -1.2**
baz=317
ACCN Adirondack Com 63.09 54 P **P** **01 47 48.1 -0.8**
ACCN Adirondack Com 63.09 54 P **P** **01 47 48.6 -0.3**
baz=317,SNR=19
V52A Sevierville 63.18 66 P **P** **01 47 48.3 -1.2**
baz=316
TKL Tuckaleechee C 63.21 66 LR LR 02 15 22.5
comp=Z,454nm,21.5s,baz=328,slow=36
GYA Guiyang 63.22 279 ⇑P **P** **01 47 50.1 0.0**
GYA sP pwP 01 48 03.8 +0.1
GYA pmax pmax
comp=Z,14nm,1.1s
GYA LR LR
comp=Z,510nm,20.9s
LRAL Lakeview Retre 63.22 70 P **P** **01 47 51.1 +1.3**
baz=316
LRAL Lakeview Retre 63.22 70 P **P** **01 47 48.9 -1.0**
baz=316
HCNY Howe Caverns 63.22 54 P **P** **01 47 50.4 +0.7**
baz=316,SNR=22
L59A Walton 63.26 55 P **P** **01 47 51.4 +1.3**
baz=316,SNR=26
L59A P **P** **01 47 51.4 +1.3**
baz=316,SNR=26
GOMU GeErMu 63.27 295 P **P** **01 47 50.4 -0.2**
GOMU sP pP 01 47 58.1 -1.4
GOMU S **S** **01 56 22.3 +1.8**
GOMU pmax pmax
comp=Z,34nm,1.0s
GOMU pmax pmax
comp=Z,32nm,4.2s
GOMU LR LR
comp=Z,350nm,18.5s
GOMU LR LR
comp=Z,380nm,18.0s
GOMU LR LR
comp=Z,400nm,18.7s
G62A West of Eustis 63.30 50 P **P** **01 47 50.1 -0.1**
G62A West of Eustis 63.30 50 P **P** **01 47 50.7 +0.5**
baz=317,SNR=11
G62A P **P** **01 47 50.7 +0.5**
baz=317,SNR=11
LBNH Lisbon 63.34 52 P **P** **01 47 51.0 +0.5**
baz=317,SNR=5.9
LBNH Lisbon 63.34 52 P **P** **01 47 49.5 -0.9**
baz=317,SNR=5.9
Q56A Snyder Ridge, 63.34 60 P **P** **01 47 51.0 +0.4**
Q56A IAmb IAmb 01 48 04.3
comp=Z,17nm,0.8s
KSPA Keystone Colle 63.34 56 P **P** **01 47 50.2 -0.4**
KSPA IAmb IAmb 01 48 06.0
comp=Z,22nm,0.7s
KSPA Keystone Colle 63.34 56 P **P** **01 47 50.9 +0.4**
baz=316
N58A Sunbury 63.37 57 P **P** **01 47 51.0 +0.3**
baz=316
N58A P **P** **01 47 51.0 +0.3**
baz=316
R55A Marlinton 63.38 61 P **P** **01 47 50.1 -0.8**
E63A Oxbow 63.41 48 P **P** **01 47 49.4 -1.4**
baz=318,SNR=6.3
E63A P **P** **01 47 49.4 -1.4**
baz=318,SNR=6.3
H62A Milan 63.47 51 P **P** **01 47 51.0 -0.3**
baz=317,SNR=12
H62A P **P** **01 47 51.0 -0.3**
baz=317,SNR=12
F63A Nahmakanta, Br 63.62 49 P **P** **01 47 52.3 0.0**
F63A IAmb IAmb 01 47 53.2
comp=Z,23nm,1.1s
F63A Nahmakanta, Br 63.62 49 P **P** **01 47 51.8 -0.5**
baz=318,SNR=7.1
F63A P **P** **01 47 51.8 -0.5**
baz=318,SNR=7.1
P57A Homestead Farm 63.66 59 P **P** **01 47 53.1 +0.5**
P57A IAmb IAmb 01 48 06.8
comp=Z,24nm,0.8s
J61A Chester 63.68 53 P **P** **01 47 52.6 -0.2**
baz=317,SNR=12
J61A P **P** **01 47 52.6 -0.2**
baz=317,SNR=12
PAGS Pennsylvania G 63.80 58 P **P** **01 47 53.7 +0.1**
N59A State Game Lan 63.81 57 P **P** **01 47 53.5 -0.2**
N59A State Game Lan 63.81 57 P **P** **01 47 54.2 +0.6**
baz=316
F64A Sherman 63.85 49 P **P** **01 47 53.7 -0.1**
F64A IAmb IAmb 01 48 07.7
comp=Z,29nm,0.9s
F64A Sherman 63.85 49 P **P** **01 47 53.2 -0.6**
baz=318,SNR=6.4
F64A P **P** **01 47 53.2 -0.6**
baz=318,SNR=6.4
PKME Peaks-Kenny Pk 63.85 50 P **P** **01 47 53.8 0.0**
baz=318
PKME Peaks-Kenny Pk 63.85 50 P **P** **01 47 54.0 +0.1**
baz=318
ARU Arti 63.94 331 LR LR 02 19 25.2
comp=Z,801nm,20.1s,baz=46,slow=39
ARU Arti 63.94 331 *c* *i*P **P** **01 47 54.0 -0.2**
ARU *PP **pP** **01 48 02.3 -1.3**
ARU 01 48 28.6
ARU 01 50 13.9
ARU S **S** **01 56 26.9 -0.5**
ARU SS **SS** **02 00 36.5 +1.4**
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU MLR MLR
comp=Z,821nm,19.0s
BLA Blacksburg 63.98 62 P **P** **01 47 54.2 -0.7**
BLA pmax pmax
comp=Z,50nm,0.8s
BLA Blacksburg 63.98 62 P **P** **01 47 54.2 -0.7**
BLA Blacksburg 63.98 62 P **P** **01 47 55.4 +0.5**
baz=316
NPNY Mohonk Preserv 64.04 55 P **P** **01 47 55.8 +0.7**
baz=317,SNR=7.1
I63A Otisfield 64.13 51 P **P** **01 47 55.7 +0.1**
I63A Otisfield 64.13 51 P **P** **01 47 55.8 +0.1**
baz=318,SNR=7.8
I63A P **P** **01 47 55.8 +0.1**
baz=318,SNR=7.8
NSS Namsos 64.14 357 *e*P **P** **01 47 55.8 +0.4**
MVL Millersville 64.17 58 P **P** **01 47 56.5 +0.5**
MVL IAmb IAmb 01 48 20.2
comp=Z,18nm,0.9s
L61B Northampton 64.27 54 P **P** **01 47 56.9 +0.2**
L61B IAmb IAmb 01 48 11.5
comp=Z,31nm,1.0s
L61B Northampton 64.27 54 P **P** **01 47 57.0 +0.4**
baz=317,SNR=5.9
L61B Northampton 64.27 54 P **P** **01 47 56.4 -0.2**
baz=317,SNR=5.9
ODNJ Ogdensburg 64.29 56 P **P** **01 47 56.7 -0.1**
ODNJ Ogdensburg 64.29 56 P **P** **01 47 57.4 +0.6**
baz=317,SNR=9.8
SDMD Soldier's Deli 64.33 58 P **P** **01 47 57.8 +0.7**
baz=317
K62A Royalston 64.34 53 P **P** **01 47 57.3 +0.2**
K62A Royalston 64.34 53 P **P** **01 47 56.8 -0.2**
baz=317,SNR=9.1
K62A P **P** **01 47 56.8 -0.2**
baz=317,SNR=9.1
BRNY Black Rk. Fore 64.35 55 P **P** **01 47 57.9 +0.7**
baz=317,SNR=10.0
S57A Dark Hollow, R 64.39 61 P **P** **01 47 58.5 +1.0**
S57A IAmb IAmb 01 48 14.7
comp=Z,22nm,0.8s
KSCT Kent School, K 64.39 55 P **P** **01 47 57.6 +0.1**
250A Grady 64.41 70 P **P** **01 47 58.4 +0.7**
TRNY Table Rock, Ra 64.44 56 P **P** **01 47 58.2 +0.4**
TRNY IAmb IAmb 01 48 13.0
comp=Z,25nm,0.8s
V55A Taylorsville 64.52 64 P **P** **01 47 58.5 +0.2**
V55A IAmb IAmb 01 48 12.9
comp=Z,24nm,0.9s
BRAL Brewton 64.53 71 P **P** **01 47 59.0 +0.6**
baz=316

BRNJ Basking Ridge 64.60 56 P **P** **01 47 58.5 -0.3**
BRNJ Basking Ridge 64.60 56 P **P** **01 47 59.5 +0.7**
baz=317
WUPA West Chester U 64.61 57 P **P** **01 47 59.4 +0.5**
WUPA IAmb IAmb 01 48 21.4
comp=Z,11nm,1.1s
KIRV Kirov 64.63 336 LR LR 02 20 05.0
comp=Z,521nm,18.6s,baz=23,slow=40
KIRV Kirov 64.63 336 *c*eP **P** **01 47 58.7 0.0**
UNH University of 64.70 52 P **P** **01 47 59.2 -0.2**
baz=318,SNR=7.4
PAL Palisades 64.71 55 P **P** **01 47 59.5 0.0**
PAL pmax pmax
comp=Z,51nm,1.0s
PAL Palisades 64.71 55 P **P** **01 47 59.5 0.0**
PAL Palisades 64.71 55 P **P** **01 48 00.4 +1.0**
baz=317,SNR=7.6
PAL Palisades 64.71 55 P **P** **01 47 59.8 +0.3**
baz=317,SNR=7.6
G65A Princeton 64.72 49 P **P** **01 47 59.7 +0.2**
KLMR Klimovskoe 64.73 343 *e*P **P** **01 47 57.5 -1.8**
KLMR *e* 01 48 30.9
KLMR *e* 01 50 19.8
KLMR pmax pmax
comp=Z,25nm,1.1s
KLMR Klimovskoe 64.73 343 *e*P **P** **01 47 57.5 -1.8**
KLMR AMP 01 47 59.7
comp=Z,25nm,1.1s
KLMR *e*PcP **PcP** **01 48 30.9 -1.8**
KLMR *e*PP **PP** **01 50 19.9 -1.3**
KLMR LQ LQ 02 13 22.9
KLMR LQ LQ 02 13 22.9
KLMR LR LR 02 15 29.5
HRV Adam Dziewonsk 64.79 53 P **P** **01 47 59.9 -0.1**
HRV pmax pmax
comp=Z,47nm,1.1s
HRV Adam Dziewonsk 64.79 53 P **P** **01 47 59.9 -0.1**
HRV Adam Dziewonsk 64.79 53 P **P** **01 48 00.4 +0.4**
baz=318
HRV Adam Dziewonsk 64.79 53 P **P** **01 48 00.3 +0.3**
baz=318
152A Waverly Hall 64.81 69 P **P** **01 48 00.6 +0.3**
152A IAmb IAmb 01 48 15.5
comp=Z,16nm,0.8s
FOR Fordham 64.82 56 P **P** **01 48 01.5 +1.3**
baz=317,SNR=6.8
R58B Mineral 64.83 60 P **P** **01 48 00.9 +0.6**
R58B IAmb IAmb 01 48 22.5
comp=Z,19nm,1.0s
CPNY Central Park 64.84 56 P **P** **01 48 00.4 0.0**
CBN Corbin Frederi 64.93 60 P **P** **01 48 02.7 +1.7**
baz=317
KMSC Kings Mountain 64.96 65 P **P** **01 48 01.5 +0.2**
KMSC Kings Mountain 64.96 65 P **P** **01 48 01.9 +0.6**
baz=316
UCCT U. Connecticut 64.98 54 P **P** **01 48 01.3 0.0**
GOGA Godfrey 65.00 67 P **P** **01 48 00.5 -1.0**
GOGA pmax pmax
comp=Z,26nm,0.9s
GOGA Godfrey 65.00 67 P **P** **01 48 00.5 -1.0**
GOGA IAmb IAmb 01 48 17.2
comp=Z,26nm,0.8s
GOGA Godfrey 65.00 67 P **P** **01 48 00.7 -0.8**
baz=316
HODGE Hodges 65.10 66 P **P** **01 48 01.6 -0.5**
baz=317
M63A Gales Ferry 65.36 54 P **P** **01 48 03.9 +0.3**
M63A Gales Ferry 65.36 54 P **P** **01 48 04.0 +0.3**
baz=318,SNR=8.2
M63A P **P** **01 48 04.0 +0.3**
baz=318,SNR=8.2
LMN Caledonia Moun 65.49 46 P **P** **01 48 04.3 -0.3**
OTUK Ortayu 65.53 318 P **P** **01 48 04.5 -0.3**
352A Blakely 65.55 70 P **P** **01 48 03.9 -1.3**
VALR Valaam 65.66 347 *ce*P **P** **01 48 04.6 -0.7**
VALR pmax pmax
comp=Z,45nm,0.9s
T59A Double "B" Far 65.73 61 P **P** **01 48 06.2 +0.1**
BIRD Birdtown, Kers 65.82 64 P **P** **01 48 07.6 +0.8**
DRLN Deer Lake 65.96 40 P **P** **01 48 07.7 +0.2**
DRLN IAmb IAmb 01 48 20.9
comp=Z,20nm,0.8s
PDGK Podgornoye 66.08 310 P **P** **01 48 08.2 -0.3**
FIA1 FINESS Array S 66.19 350 P **P** **01 48 07.8 -0.9**
FIA1 IAmb IAmb 01 48 09.2
comp=Z,29nm,1.1s
FINES FINESS Array B 66.19 350 P **P** **01 48 08.2 -0.6**
comp=Z,14nm,0.7s,baz=15,slow=7.9,SNR=27
FINES LR LR 02 20 11.7
comp=Z,342nm,20.0s,baz=20,slow=39
FINES FINESS Array B 66.19 350 *i*P **P** **01 48 08.1 -0.6**
FINES pmax pmax
comp=Z,13nm,0.7s
PZH PanZhiHua 66.20 283 P **P** **01 48 10.0 +0.5**
PZH pP **pP** **01 48 17.8 -0.7**
PZH sP **pwP** **01 48 23.3 0.0**
PZH PP **PP** **01 50 41.6 +6.4**
PZH S **S** **01 56 55.8 -0.4**
PZH sS **sS** **01 57 09.6 -1.0**
PZH pmax pmax
comp=Z,40nm,1.0s
PZH pmax pmax
comp=Z,280nm,3.9s
PZH LR LR
comp=Z,770nm,20.6s
PZH LR LR
comp=Z,690nm,19.6s
PZH LR LR
comp=Z,790nm,21.6s
AKN Aaknes 66.59 359 *e*P **P** **01 48 12.0 +0.6**
KMI Kunming 66.60 281 ⇓P **P** **01 48 14.3 +2.1**
KMI sP pwP 01 48 25.9 -0.1
KMI pmax pmax
comp=Z,21nm,0.8s
KMI LR LR
comp=Z,320nm,19.9s
KMI LR LR
comp=Z,260nm,17.5s
KMI LR LR
comp=Z,220nm,19.9s
DOMB Dombas 66.70 358 *e*P **P** **01 48 11.8 -0.3**
TAOE Nuku Hiva Isla 66.91 143 *e*S **S** **01 57 10.0 +5.3**
comp=Z,203nm,25.9s
TAOE Nuku Hiva Isla 66.91 143 *e*LR LR 02 08 26.2
comp=Z,380nm,23.0s
RAF Rauma 67.04 352 *e*P **P** **01 48 14.2 +0.1**
NHSC New Hope 67.10 65 P **P** **01 48 13.6 -1.4**
baz=317
PUL Pulkovo 67.27 347 *ce*P **P** **01 48 16.0 +0.4**
PUL pmax pmax
comp=Z,56nm,0.8s
MDOK Medeo 67.36 311 P **P** **01 48 16.3 -0.4**
NC204 NORSAR Array S 67.44 357 P **P** **01 48 17.0 +0.2**
NC204 IAmb IAmb 01 48 17.4
comp=Z,22nm,0.9s
NC303 NORSAR Array S 67.47 357 P **P** **01 48 17.4 +0.4**
NC303 IAmb IAmb 01 48 17.9
comp=Z,31nm,1.2s
NC405 NORSAR Array S 67.57 357 P **P** **01 48 17.8 +0.2**
MEF Metsahovi 67.57 350 *e*P **P** **01 48 17.6 +0.1**
HYA Hoyanger 67.61 360 *e*P **P** **01 48 16.1 -1.7**
NB201 NORSAR Array S 67.65 357 P **P** **01 48 18.5 +0.4**
NB2 NORSAR Subarra 67.66 357 P **P** **01 48 17.9 -0.3**
comp=Z,16nm,1.0s,baz=4.8,slow=6.5
NB2 NORSAR Subarra 67.66 357 P **P** **01 48 17.9 -0.3**
baz=4.8,slow=6.5
NOA NORSAR Array B 67.66 357 P **P** **01 48 18.0 -0.1**
comp=Z,9.9nm,1.0s,baz=2.3,slow=6.4,SNR=25
NOA LR LR 02 18 56.1
comp=Z,186nm,18.5s,baz=350,slow=37
NC602 NORSAR Array S 67.95 357 *e*P **P** **01 48 19.4 -0.5**
NORES NORESS Array B 67.95 357 P **P** **01 48 20.1 +0.1**
SKAR Skarslia 68.08 359 *e*P **P** **01 48 21.0 +0.1**
TARG Taragay, Kyrgy 68.10 310 P **P** **01 48 21.9 +0.1**
TARG IAmb IAmb 01 48 25.2
comp=Z,21nm,1.4s
TKM2 Tokmak 2 68.22 312 P **P** **01 48 22.7 +0.4**
SNR=8.6
TKM2 Tokmak 2 68.22 312 *i*P **P** **01 48 22.2 0.0**
TKM2 pmax pmax
comp=Z,9.0nm,0.9s
ASK Askoy 68.30 0 *e*P **P** **01 48 22.5 +0.4**
ULHL Ulahol 68.45 311 P **P** **01 48 24.9 +1.2**
SNR=7.5
USP Ospenovka 68.46 313 P **P** **01 48 24.1 +0.6**

SNR=16
HFS Hagfors 68.47 356 LR LR 02 19 18.5
comp=Z,205nm,19.3s,baz=7.5,slow=37
UPP Uppsala 68.52 354 *e*P **P** **01 48 23.6 +0.1**
CHMS Chumysh 68.55 313 *i*P **P** **01 48 24.7 +0.6**
CHMS pmax pmax
comp=Z,14nm,1.1s
OSL Oslo 68.78 357 *e*P **P** **01 48 26.3 +1.2**
AAK Ala-Archa 68.95 313 P **P** **01 48 27.4 +0.7**
SNR=15
AAK Ala-Archa 68.95 313 LR LR 02 21 08.8
comp=Z,651nm,18.4s,baz=38,slow=38
AAK Ala-Archa 68.95 313 *c* *i*P **P** **01 48 27.0 +0.2**
AAK pmax pmax
comp=Z,17nm,0.8s
AAK Ala-Archa 68.95 313 P **P** **01 48 26.9 +0.2**
AAK IAmb IAmb 01 48 43.6
comp=Z,14nm,0.8s
AAK Ala-Archa 68.95 313 P **P** **01 48 27.6 +0.8**
AAK P **P** **01 48 27.6 +0.8**
AAK Ala-Archa 68.95 313 *i*P **P** **01 48 26.9 +0.2**
SNR=20
VSU Vasula 69.02 348 *c* *i*P **P** **01 48 26.2 -0.4**
VSU pmax pmax
comp=Z,188nm,0.9s
VSU Vasula 69.02 348 *e*P **P** **01 48 27.0 +0.4**
KONO Kongsberg 69.09 358 P **P** **01 48 27.6 +0.5**
KONO pmax pmax
comp=Z,26nm,1.1s
KONO Kongsberg 69.09 358 P **P** **01 48 27.6 +0.5**
KONO IAmb IAmb 01 48 28.5
comp=Z,26nm,1.1s
KONO Kongsberg 69.09 358 *e*P **P** **01 48 27.4 +0.3**
MTSE Matsula 69.11 350 *e*P **P** **01 48 27.4 +0.3**
AKTO Aktyubinsk 69.17 327 LR LR 02 22 21.1
comp=Z,614nm,19.5s,baz=38,slow=39
AKTO Aktyubinsk 69.17 327 P **P** **01 48 27.4 -0.4**
EKS2 Erkin-Say 69.26 313 P **P** **01 48 29.4 +0.8**
SNR=22
UCH Uchtor 69.27 312 P **P** **01 48 31.0 +1.9**
SNR=7.4
BLS5 Biasjo 69.36 360 *e*P **P** **01 48 28.3 -0.5**
AB31 Akbulak array 69.51 326 *i*P **P** **01 48 29.6 -0.2**
SIJI Sorong 69.56 240 P **P** **01 48 30.2 -0.4**
comp=Z,9.9nm,0.4s,baz=344,slow=5.5,SNR=9.0
STRU Stroemstad 69.67 357 *e*P **P** **01 48 30.2 -0.4**
AML Almayashu 69.72 313 P **P** **01 48 32.7 +0.9**
SNR=21
AML Almayashu 69.72 313 P **P** **01 48 32.7 +0.9**
AML Almayashu 69.72 313 *i*P **P** **01 48 32.4 +0.6**
SNR=21
MOS Moscow 69.87 342 *e*P **P** **01 48 30.5 -1.4**
MOS pmax pmax
comp=Z,44nm,1.0s
MOS MLR MLR
comp=Z,400nm,2.0s
VIKU Vikbolandet 69.93 354 *e*P **P** **01 48 32.7 +0.4**
PMOR Pomariorio Ree 70.11 153 *e*T T 03 05 12.4
comp=Z,8.5nm,0.2s
CMIG Matias Romero 70.12 87 LR LR 02 14 44.8
comp=Z,331nm,21.9s,baz=310,slow=32
LSA Lhasa 70.12 293 P **P** **01 48 36.3 +1.8**
LSA pmax pmax
comp=Z,70nm,0.9s
LSA Lhasa 70.12 293 P **P** **01 48 36.3 +1.8**
LSA Lhasa 70.12 293 P **P** **01 48 36.1 +1.6**
LSA pmax pmax
comp=Z,100nm,1.0s
LSA Lhasa 70.12 293 P **P** **01 48 36.5 +2.0**
KK31 Karatay Array 70.37 315 *i*P **P** **01 48 34.8 -0.5**
KK31 Karatay Array 70.37 315 P **P** **01 48 35.3 0.0**
KK31 IAmb IAmb 01 48 57.5
comp=Z,12nm,1.0s
SNART Snartemo 70.44 359 *e*P **P** **01 48 35.6 +0.2**
SNART Snartemo 70.44 359 *e*P **P** **01 48 36.0 +0.6**
HOMB Homborsund 70.50 359 *e*P **P** **01 48 36.2 +0.5**
BELG Belogornoye 70.61 334 LR LR 02 24 37.3
comp=Z,508nm,18.1s,baz=35,slow=40
BELG Belogornoye 70.61 334 *c* *i*P **P** **01 48 36.3 -0.2**
BELG pmax pmax
comp=Z,3.0nm,1.0s
TJOU Tjoern 70.66 357 *e*P **P** **01 48 35.6 -1.0**
OBN Obninsk 70.67 342 LR LR 02 23 31.9
comp=Z,79nm,20.9s,baz=0.0,slow=39
OBN Obninsk 70.67 342 *c* *i*P **P** **01 48 36.2 -0.6**
OBN *i* 01 48 56.6
OBN *e* 01 51 10.0
OBN *e*PPP PPP 01 52 50.7
OBN pmax pmax
comp=Z,37nm,1.3s
OBN MLR MLR
comp=Z,272nm,23.0s
KSH Kashi 70.70 310 P **P** **01 48 41.5 +4.0**
KSH sP PcP 01 48 56.3 -2.0
KSH pmax pmax
comp=Z,41nm,1.1s
KSH LR LR
comp=Z,610nm,20.0s
KSH LR LR
comp=Z,380nm,18.7s
KSH LR LR
comp=Z,800nm,23.1s
BORU Boraas 71.01 356 *e*P **P** **01 48 38.6 -0.2**
ISAL Salakas 71.91 348 *e*P **P** **01 48 45.0 +0.7**
PBUR Paburge 71.95 351 *e*P **P** **01 48 44.7 +0.2**
MYLDM Lahad Datu 72.01 255 P **P** **01 48 45.1 -0.4**
IIGN Ignalina 72.12 348 *e*P **P** **01 48 45.9 +0.3**
DEL Delary 72.12 355 *e*P **P** **01 48 45.9 +0.3**
DEL Delary 72.12 355 *i*P **P** **01 48 45.0 -0.6**
PPT2 Papeete2 72.12 155 *e*S **S** **01 58 12.3 +6.4**
comp=Z,257nm,26.2s
PPT2 Papeete2 72.12 155 *e*LR LR 02 10 45.9
comp=Z,441nm,20.8s,baz=341
PPT2 Papeete2 72.12 155 *e*T T 03 07 43.5
comp=Z,3.0nm,0.3s
BLEU Blekinge 72.18 354 *e*P **P** **01 48 44.6 -1.3**
PABE Paberze 72.24 349 P **P** **01 48 46.3 0.0**
PABE Paberze 72.24 349 *e*P **P** **01 48 46.6 +0.3**
UBPT Khong Chiam 72.27 272 P **P** **01 48 46.6 -0.4**
UBPT IAmb IAmb 01 49 01.8
comp=Z,27nm,1.1s
MUD Monsted U'grnd 72.30 358 *i*P **P** **01 48 46.0 -0.6**
MUD IAmb IAmb 01 48 48.1
comp=Z,37nm,1.3s
NACGM Naroch 72.48 348 *e*P **P** **01 48 47.1 -0.6**
LPSR Galich'ya Gora 72.54 340 *e*P **P** **01 48 47.7 -0.4**
LPSR pmax pmax
comp=Z,30nm,1.0s
BJUU Bjuv 72.56 356 *e*P **P** **01 48 47.0 -1.2**
BTK Batken 72.68 313 P **P** **01 48 49.9 +0.6**
BTK pmax pmax
comp=Z,28nm,1.1s
BTK Batken 72.68 313 P **P** **01 48 49.9 +0.6**
BTK IAmb IAmb 01 48 51.1
comp=Z,28nm,1.1s
DRK Karamyk 72.69 312 P **P** **01 48 49.9 +0.2**
DRK IAmb IAmb 01 48 52.8
comp=Z,21nm,0.8s
MNK Minsk 72.72 347 *i*P **P** **01 48 49.2 +0.1**
MNK *i* 01 49 06.3
MNK *i* 01 51 30.8
MNK *i* PPP PPP 01 53 15.4
MNK *i* S **S** **01 58 09.9 -1.9**
MNK *i* 01 58 52.9
MNK *i* SS **SS** **02 02 52.5 +2.1**
MNK *i* SSS SSS 02 06 13.3
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,56nm,0.9s
MNK pmax pmax
comp=N,22nm,0.9s
MNK MLR MLR
comp=Z,461nm,22.0s
MNK MLR MLR
comp=N,298nm,22.0s
MNK MLR MLR
comp=E,17nm,22.0s
MNK Minsk 72.72 347 *i*P **P** **01 48 49.2 +0.1**
comp=E,2.0nm,0.8s
MNK *i*P **P** **01 48 49.2 +0.1**
comp=N,22nm,0.9s
MNK *i*P **P** **01 48 49.2 +0.1**
comp=Z,56nm,0.9s,baz=13
MNK *i* PcP **PcP** **01 49 06.3 -0.1**

MNK *i* PP **PP** **01 51 30.9 +0.5**
MNK *i* PPP PPP 01 53 15.4
MNK *i* S **S** **01 58 09.9 -1.9**
MNK *i* SS **SS** **02 02 52.5 +2.1**
MNK *i* SSS SSS 02 06 13.3
MNK *i* LQ LQ 02 12 17.9
MNK *i* LR LR 02 18 42.5
MNK *i* LRM MLR 02 22 19.7
comp=Z,461nm,21.7s
MNK *i* LRM MLR 02 22 52.9
comp=N,298nm,21.7s
MNK *i* LRM MLR 02 23 03.1
comp=E,17nm,21.7s
KKM Kota Kinabalu 72.72 258 P **P** **01 48 50.7 +0.8**
SHL Shillong 72.80 289 P **P** **01 48 50.3 0.0**
SHL pmax pmax
comp=Z,93nm,1.0s
SHL Shillong 72.80 289 P **P** **01 48 50.3 0.0**
SHL Shillong 72.80 289 P **P** **01 48 50.5 +0.1**
SNR=24
GTOI Gorontalo 72.97 249 P **P** **01 48 49.6 -1.6**
comp=Z,159nmcomp=Z,14nm,1.0s
LUNU Lund 72.98 356 *e*P **P** **01 48 50.0 -0.7**
EKA Eskdalemuir Ar 73.19 5 LR LR 02 19 46.6
comp=Z,140nm,21.3s,baz=356,slow=35
EKA Eskdalemuir Ar 73.19 5 P **P** **01 48 52.4 +0.4**
VRH Novokhopyorsk 73.21 337 *e*P **P** **01 48 50.9 -1.2**
VRH pmax pmax
comp=Z,40nm,1.3s
VORR Voronezh 73.35 339 *e*P **P** **01 48 53.3 +0.4**
VORR pmax pmax
comp=Z,22nm,1.2s
CHTO Chiang Mai 73.64 280 P **P** **01 48 55.1 -0.1**
CHTO pmax pmax
comp=Z,34nm,1.0s
CHTO Chiang Mai 73.64 280 P **P** **01 48 55.1 -0.1**
CHTO IAmb IAmb 01 49 10.4
comp=Z,34nm,1.0s
CHTO Chiang Mai 73.64 280 P **P** **01 48 57.1 +2.0**
CHTO P **P** **01 48 57.1 +2.0**
CHTO Chiang Mai 73.64 280 P **P** **01 48 56.5 +1.3**
GAR Garm 73.76 313 P **P** **01 48 56.1 +0.3**
VSR Storozhevoye 73.79 339 *e*P **P** **01 48 55.5 0.0**
VSR pmax pmax
comp=Z,30nm,0.8s
SUW Suwalki 73.80 349 *e*P **P** **01 48 54.7 -0.8**
SUW *e*L L 02 21 52.2
comp=Z,275nm,23.6s
SUW Suwalki 73.80 349 P **P** **01 48 54.9 -0.6**
SUW pmax pmax
comp=Z,94nm,1.0s
SUW Suwalki 73.80 349 P **P** **01 48 54.9 -0.6**
SUW Suwalki 73.80 349 *e*P **P** **01 48 55.3 -0.3**
TAPN Taplejung 73.87 294 *e*P **P** **01 48 57.5 +0.7**
TOLI2 Tolitoli 73.89 251 P **P** **01 48 56.2 -0.4**
TOLI2 IAmb IAmb 01 49 12.1
comp=Z,46nm,1.0s
TOLI2 Tolitoli 73.89 251 P **P** **01 48 56.2 -0.4**
CM31 Chiang Mai Arr 73.91 279 P **P** **01 48 57.1 +0.3**
CM31 IAmb IAmb 01 49 12.9
comp=Z,42nm,0.9s
CM31 Chiang Mai Arr 73.91 279 P **P** **01 48 58.9 +2.2**
SNR=20
CM31 P **P** **01 48 58.9 +2.2**
SNR=20
CMAR Chiang Mai Arr 73.91 279 P **P** **01 48 56.9 +0.1**
comp=Z,15nm,0.9s,baz=27,slow=6.5,SNR=63
CMAR LR LR 02 25 53.1
comp=Z,275nm,18.6s,baz=40,slow=39
CMAR Chiang Mai Arr 73.91 279 P **P** **01 48 57.1 +0.4**
VORD Divnogorie 73.99 339 *e*P **P** **01 48 56.5 -0.2**
VORD pmax pmax
comp=Z,50nm,1.0s
RGN Rugen 74.07 356 *e*P **P** **01 48 58.1 +1.0**
comp=Z,115nm,1.1s,baz=3.9,slow=5.6
ODAN Odare 74.43 293 *e*P **P** **01 49 00.5 +0.5**
LUWI Luwuk 74.47 248 P **P** **01 49 00.9 +0.9**
GUN Gumba 74.48 295 *e*P **P** **01 49 01.2 +0.8**
comp=Z,366nm,0.9s
JIRN Jiri 74.50 295 *e*P **P** **01 49 01.5 +1.0**
comp=Z,117nm,1.0s
CHGR Chuyangaron 74.57 314 P **P** **01 49 00.7 +0.2**
BSEG Bad Segeberg 74.80 357 *e*P **P** **01 49 02.2 +0.9**
comp=Z,54nm,1.0s,baz=3.9,slow=5.6
RAMN Ramite 74.81 294 *e*P **P** **01 49 02.9 +0.7**
comp=Z,108nm,0.5s
KKN Kakani 74.91 296 *e*P **P** **01 49 03.1 +0.4**
PKI Pulchoki 75.01 295 *e*P **P** **01 49 03.8 +0.4**
comp=Z,200nm,1.1s
PKIN Phulchoki 75.01 295 *e*P **P** **01 49 03.8 +0.4**
comp=Z,170nm,1.1s
GKP Gorka Klasztor 75.10 353 *i* P **P** **01 49 03.2 +0.1**
GKP *e*L L 02 20 39.5
comp=Z,442nm,23.1s
GKP Gorka Klasztor 75.10 353 P **P** **01 49 03.2 +0.1**
GKP Gorka Klasztor 75.10 353 *e*P **P** **01 49 03.6 +0.5**
GKN Gorkha 75.11 296 *e*P **P** **01 49 04.3 +0.5**
comp=Z,218nm,1.0s
DMN Daman 75.15 296 *e*P **P** **01 49 04.8 +0.6**
DZM Mont Dzumac 75.29 199 *e*LR LR 02 12 15.0
comp=Z,255nm,20.3s
DANN Dangsing 75.33 297 *e*P **P** **01 49 06.0 +0.8**
comp=Z,367nm,0.9s
KOLN Koldanda 75.87 297 *e*P **P** **01 49 08.7 +0.5**
comp=Z,195nm,1.0s
PYUN Piuthan 75.95 297 *e*P **P** **01 49 09.2 +0.5**
comp=Z,302nm,1.0s
RETH Rethem/Aller, 76.02 358 *e*P **P** **01 49 09.2 +0.8**
comp=Z,34nm,1.0s,baz=3.9,slow=5.6
RUE Ruedersdorf 76.11 355 *e*P **P** **01 49 09.8 +0.9**
RUE Ruedersdorf 76.11 355 *e*P **P** **01 49 09.5 +0.6**
comp=Z,78nm,1.2s,baz=3.9,slow=5.6
AKASG Malin Array Be 76.20 345 P **P** **01 49 08.7 -0.8**
comp=Z,7.2nm,0.4s,baz=18,slow=6.0,SNR=30
AKASG LR LR 02 27 07.7
comp=Z,277nm,19.4s,baz=12,slow=39
AKASG Malin Array Be 76.20 345*ce*P **P** **01 49 08.6 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKASG Malin Array Be 76.20 345 P **P** **01 49 08.7 -0.8**
AKASG IAmb IAmb 01 49 09.7
comp=Z,27nm,1.1s
AKBB Malin Array Si 76.20 345*c i*P **P** **01 49 08.3 -1.1**
AKBB Malin Array Si 76.20 345 P **P** **01 49 08.4 -1.0**
AKBB IAmb IAmb 01 49 10.2
comp=Z,20nm,0.8s
BEL Belsk 76.20 351 *e*P **P** **01 49 09.9 +0.4**
BEL *e*L L 02 22 54.9
comp=Z,432nm,23.2s
NRDL Niedersach Rie 76.25 357 *e*P **P** **01 49 10.2 +0.7**
comp=Z,32nm,1.1s,baz=3.9,slow=5.6
NRDL *ep*P **sP** **01 49 22.6 +1.0**
FLTG Flechtingen 76.37 357 *e*P **P** **01 49 10.5 +0.2**
comp=Z,46nm,1.2s,baz=3.9,slow=5.6
IBBN Ibbenburen 76.48 359 *e*P **P** **01 49 11.8 +0.8**
comp=Z,78nm,1.2s,baz=3.9,slow=5.6
ASSE Asse, Remlinge 76.59 357 *e*P **P** **01 49 12.3 +0.8**
comp=Z,24nm,1.1s,baz=3.9,slow=5.6
ASSE *ep*P **sP** **01 49 25.1 +1.5**
NIL Nilore 76.68 308 P **P** **01 49 13.0 +0.5**
NIL pmax pmax
comp=Z,105nm,1.1s
NIL Nilore 76.68 308 P **P** **01 49 13.0 +0.5**
NIL Nilore 76.68 308 P **P** **01 49 13.7 +1.1**
NIL P **P** **01 49 13.7 +1.1**
CLZ Clausthal 76.89 357 *e*P **P** **01 49 14.3 +0.9**
comp=Z,66nm,1.1s,baz=3.9,slow=5.6
GTTG Gottingen 77.20 357 *e*P **P** **01 49 16.0 +1.0**
comp=Z,61nm,1.0s,baz=3.9,slow=5.6
GTTG *ep*P **sP** **01 49 28.9 +1.7**
CLL Collm 77.32 355 P **P** **01 49 16.0 +0.2**
CLL pmax pmax
comp=Z,29nm,0.9s
CLL Collm 77.32 355 P **P** **01 49 16.0 +0.2**
CLL IAmb IAmb 01 49 17.0
comp=Z,29nm,0.9s
CLL Collm 77.32 355⇑ *i*P **P** **01 49 15.9 +0.2**
comp=Z,37nm,1.1s
CLL *e*PcP **sP** **01 49 28.0 +0.1**
CLL *e*S **S** **01 59 09.0 +5.9**
CLL *e*PS **PnS** **01 59 48.0 +3.3**
CLL *e*SS SS 02 04 17.0 +17
CLL *ex* x 02 09 12.0
CLL Lm MLR 02 30 00.0
comp=N,200nm,18.4s
CLL Lm MLR 02 30 00.0
comp=E,200nm,21.1s
CLL Lm MLR 02 30 00.0
comp=Z,200nm,19.0s
CLL Collm 77.32 355 *e*P **P** **01 49 15.8 +0.1**
comp=Z,37nm,1.1s,baz=3.9,slow=5.6
BUG Bochum–Univer 77.36 359 *e*P **P** **01 49 16.3 +0.4**
comp=Z,23nm,1.1s,baz=3.9,slow=5.6
NEUB Neuenburg 77.47 356 *e*P **P** **01 49 17.3 +0.7**
comp=Z,86nm,1.0s,baz=3.9,slow=5.6
NEUB *ep*P **sP** **01 49 30.2 +1.4**
KASTN Kahler Asten 77.58 358 *e*P **P** **01 49 17.9 +0.7**
comp=Z,19nm,1.0s,baz=3.9,slow=5.6
KSP Ksiaz 77.58 353 *e*P **P** **01 49 17.5 +0.2**
KSP *e*L L 02 29 19.9
comp=Z,314nm,19.6s
KSP Ksiaz 77.58 353 P **P** **01 49 17.4 +0.2**
TBI Tubuai 77.67 157 *e*LR LR 02 13 23.5
comp=Z,459nm,23.8s,baz=341
TBI Tubuai 77.67 157 *e*T T 03 14 40.0
comp=Z,3.8nm,0.3s
FBE Freiberg 77.69 355 *e*P **P** **01 49 18.6 +0.8**
comp=Z,57nm,0.9s,baz=3.9,slow=5.6
BRG Berggiesshubel 77.70 355 *i* P **P** **01 49 18.4 +0.4**
BRG Amp 01 49 19.4
comp=Z,40nm,1.0s
BRG *ex* x 01 49 25.5
BRG Amp 01 49 27.4
comp=Z,24nm,1.0s
BRG Berggiesshubel 77.70 355 *i* P **P** **01 49 18.3 +0.4**
BRG *e* 01 49 25.4
BRG pmax pmax
comp=Z,41nm,1.0s
BRG pmax pmax
comp=Z,25nm,1.0s
BRG Berggiesshubel 77.70 355 *e*P **P** **01 49 18.1 +0.2**
comp=Z,40nm,1.0s,baz=3.9,slow=5.6
LVV L'vov 77.81 348 *e*P **P** **01 49 18.3 -0.3**
CHVC Chvalec 77.85 353 *e*P **P** **01 49 18.9 +0.1**
CHVC AMS AMS 02 29 00.0
comp=Z,400nm,17.3s
OSTC Ostas 77.87 353 *e*P **P** **01 49 18.9 0.0**
OSTC AMS AMS 02 29 10.0
comp=Z,400nm,19.8s
OJC Ojcow 77.90 351 *i* P **P** **01 49 19.0 0.0**
OJC *e*L L 02 23 58.6
comp=Z,487nm,22.6s
OJC Ojcow 77.90 351 P **P** **01 49 18.3 -0.8**
OJC pmax pmax
comp=Z,18nm,1.1s
OJC Ojcow 77.90 351 P **P** **01 49 18.3 -0.8**
OJC IAmb IAmb 01 49 20.3
comp=Z,18nm,1.1s
UBBA Unterbreizbach 77.93 357 *e*P **P** **01 49 19.4 +0.4**
comp=Z,25nm,1.4s,baz=3.9,slow=5.6
UPC Upice 77.94 353 *e*P **P** **01 49 19.6 +0.4**
UPC MLR MLR
comp=Z,400nm,19.3s
UPC Upice 77.94 353 *e*P **P** **01 49 19.6 +0.4**
UPC AMS AMS 02 29 00.0
comp=Z,400nm,19.3s
KBL Kabul 77.99 311 P **P** **01 49 19.5 -0.5**
KBL pmax pmax
comp=Z,48nm,1.0s
KBL Kabul 77.99 311 P **P** **01 49 19.5 -0.5**
KBL Kabul 77.99 311 P **P** **01 49 19.8 -0.3**
SNR=25
KBL P **P** **01 49 19.8 -0.3**
SNR=25
PVCC Panska Ves 78.01 354 *e*P **P** **01 49 20.2 +0.6**
PVCC MLR MLR
comp=Z,400nm,21.0s
PVCC Panska Ves 78.01 354 *e*P **P** **01 49 20.2 +0.6**
PVCC AMS AMS 02 29 30.0
comp=Z,400nm,21.0s
MOX Moxa 78.04 356 *e*P **P** **01 49 20.4 +0.6**
comp=Z,41nm,1.1s,baz=3.9,slow=5.6
MOX *e*L L 02 27 27.5
comp=Z,181nm,19.0s
DPC Dobruska-Polom 78.07 353 *e*P **P** **01 49 20.3 +0.3**
DPC MLR MLR
comp=Z,300nm,20.9s
DPC Dobruska-Polom 78.07 353 *e*P **P** **01 49 20.3 +0.3**
DPC AMS AMS 02 29 10.0
comp=Z,300nm,20.9s
KWP Kalwaria Pacla 78.16 349 *i* P **P** **01 49 20.8 +0.2**
KWP *e*L L 02 29 40.3
comp=Z,377nm,18.4s
KWP Kalwaria Pacla 78.16 349 P **P** **01 49 18.4 -2.1**
KWP pmax pmax
comp=Z,338nm,0.9s
KWP Kalwaria Pacla 78.16 349 P **P** **01 49 18.4 -2.1**
PLN Plauen 78.18 356 *e*P **P** **01 49 21.1 +0.5**
comp=Z,22nm,1.0s,baz=3.9,slow=5.6
PLN *ep*P **sP** **01 49 34.5 +1.8**
MEM Membach 78.19 360 *bP* **P** **01 49 21.2 +0.6**
comp=Z,18nm,1.0s
WERD Werda 78.21 356 *e*P **P** **01 49 21.4 +0.6**
comp=Z,22nm,1.0s,baz=3.9,slow=5.6
BTNL Ternell 78.22 360 *dP* **P** **01 49 21.3 +0.5**
comp=Z,17nm,1.0s
BSTI Sart Tilman 78.22 0 *dP* **P** **01 49 21.5 +0.7**
comp=Z,3.6nm,1.0s
TANN Tannenbergstha 78.24 356 *e*P **P** **01 49 21.6 +0.6**
comp=Z,23nm,1.1s,baz=3.9,slow=5.6
TANN *ep*P **sP** **01 49 35.1 +2.0**
AHRW Bad Neuenahr-A 78.26 359 *e*P **P** **01 49 21.9 +0.9**
comp=Z,36nm,1.1s,baz=3.9,slow=5.6
SNF Seneffe 78.29 1 *dP* **P** **01 49 21.8 +0.7**
GUNZ Gunzen 78.29 356 *e*P **P** **01 49 21.9 +0.7**
comp=Z,24nm,1.0s,baz=3.9,slow=5.6
KRLC Kraliky 78.31 353 *e*P **P** **01 49 21.6 +0.2**
KRLC MLR MLR
comp=Z,300nm,15.8s
KRLC Kraliky 78.31 353 *e*P **P** **01 49 21.6 +0.2**
KRLC AMS AMS 02 33 20.0
comp=Z,300nm,15.8s
WERN Wernitzgruen 78.37 356 *e*P **P** **01 49 22.5 +0.8**
comp=Z,53nm,1.0s,baz=3.9,slow=5.6
WERN *ep*P **sP** **01 49 34.9 +1.1**
BCLA Clavier 78.38 0 *bP* **P** **01 49 22.1 +0.4**
comp=Z,13nm,1.1s
BGES Gesves 78.42 1 *dP* **P** **01 49 22.0 +0.1**
comp=Z,11nm,1.0s
NKC Novy Kostel 78.42 356 *e*P **P** **01 49 22.3 +0.4**
NKC MLR MLR
comp=Z,300nm,14.3s
NKC Novy Kostel 78.42 356 *e*P **P** **01 49 22.3 +0.4**
NKC AMS AMS 02 32 00.0
comp=Z,300nm,14.3s
OKC Ostrava-Krasne 78.43 352 *e*P **P** **01 49 22.5 +0.5**
OKC MLR MLR
comp=Z,300nm,15.5s
OKC Ostrava-Krasne 78.43 352 *e*P **P** **01 49 22.5 +0.5**
OKC AMS AMS 02 30 40.0
comp=Z,300nm,15.5s
BHOU Houvegnez 78.45 360 *dP* **P** **01 49 23.0 +0.9**
BMRD Maredsous 78.50 1 *bP* **P** **01 49 22.9 +0.6**
comp=Z,20nm,1.0s
MORC Moravsky Berou 78.54 352⇓ P **P** **01 49 23.2 +0.5**
MORC Moravsky Berou 78.54 352⇓ P **P** **01 49 23.2 +0.5**
MORC Moravsky Berou 78.54 352 P **P** **01 49 22.4 -0.3**
MORC IAmb IAmb 01 49 24.0
comp=Z,12nm,0.9s
MORC Moravsky Berou 78.54 352 *e*P **P** **01 49 22.7 0.0**
GOF Gofitskoye 78.55 334⇑ *e*P **P** **01 49 22.9 +0.2**
GOF pmax pmax
comp=Z,52nm,0.9s
PRU Pruhonice 78.55 354 *e*P **P** **01 49 22.7 +0.1**
PRU MLR MLR
comp=Z,400nm,19.5s
PRU Pruhonice 78.55 354 *e*P **P** **01 49 22.7 +0.1**
PRU AMS AMS 02 29 40.0
comp=Z,400nm,19.5s
TNS Taunus Mts 78.56 358 *e*P **P** **01 49 23.3 +0.6**
comp=Z,44nm,1.0s,baz=3.9,slow=5.6
NIE Niedzica 78.64 350 *e*P **P** **01 49 24.4 +1.2**
NIE *e*L L 02 24 36.2
comp=Z,228nm,22.4s
NIE Niedzica 78.64 350 P **P** **01 49 24.7 +1.5**
RCHB Rochefort 78.65 0 *dP* **P** **01 49 22.2 -0.9**
comp=Z,15nm,1.0s
MANZ Manzenberg 78.68 356 *e*P **P** **01 49 23.9 +0.5**
comp=Z,5.5nm,1.1s,baz=3.9,slow=5.6
GIVF Givet 78.70 1 *e*P **P** **01 49 23.9 +0.5**
GIVF pmax pmax
comp=Z,24nm,1.0s
DOU Dourbes 78.70 1 *bP* **P** **01 49 23.9 +0.5**
comp=Z,15nm,1.0s
BAIF Baives 78.73 1 *e*P **P** **01 49 24.3 +0.7**
BAIF pmax pmax
comp=Z,24nm,1.0s
ROTZ Rotzenmuhle 78.90 356 *e*P **P** **01 49 25.2 +0.7**
comp=Z,6.2nm,1.1s,baz=3.9,slow=5.6
ROTZ *ep*P **sP** **01 49 38.3 +1.6**
KDU Kakadu 78.92 233 P **P** **01 49 26.2 +1.2**
LANS Liptovska Anna 78.99 351 *e*P **P** **01 49 26.7 +1.6**
LANS pmax pmax
comp=Z,16nm,1.1s
LANS Liptovska Anna 78.99 351 *e*P **P** **01 49 26.7 +1.6**
GRA1 Grafenberg Arr 79.01 356 P **P** **01 49 26.0 +0.8**
GRF Grafenberg Arr 79.01 356 P **P** **01 49 26.0 +0.8**
GRF pmax pmax
comp=Z,71nm,1.0s
GRF Grafenberg Arr 79.01 356 *e*P **P** **01 49 26.2 +1.0**
comp=Z,75nm,1.0s,baz=3.9,slow=5.6
GRF *ep*P **sP** **01 49 39.3 +2.0**
GRF *e*L L 02 30 49.2
comp=Z,189nm,18.6s
CRVS Cervenica-Dubn 79.03 350 *e*P **P** **01 49 25.3 0.0**
CRVS pmax pmax
comp=Z,16nm,1.0s
CRVS Cervenica-Dubn 79.03 350 *e*P **P** **01 49 25.2 0.0**
VRAC Vranov 79.08 353⇑ P **P** **01 49 26.3 +0.7**
VRAC Vranov 79.08 353 LR LR 02 26 20.6
comp=Z,123nm,19.7s,baz=5.5,slow=37
VRAC Vranov 79.08 353⇑ P **P** **01 49 26.3 +0.7**
VRAC Vranov 79.08 353 *e*P **P** **01 49 26.1 +0.5**
WLF Walferdange 79.14 360 P **P** **01 49 26.1 +0.2**
WLF pmax pmax
comp=Z,18nm,0.8s
WLF Walferdange 79.14 360 P **P** **01 49 26.1 +0.2**
WLF IAmb IAmb 01 49 28.4
comp=Z,18nm,0.8s
WLF Walferdange 79.14 360 *e*P **P** **01 49 26.7 +0.9**
comp=Z,23nm,1.0s,baz=3.9,slow=5.6
WLF Walferdange 79.14 360 *dP* **P** **01 49 27.0 +1.1**
comp=Z,16nm,0.9s
MAK Makhachkala 79.17 330 *e*P **P** **01 49 24.8 -1.3**
MAK *e* 01 52 24.3
MAK *e*PPP PPP 01 54 12.0
MAK *e*S **S** **01 59 18.6 -4.6**
MAK pmax pmax
comp=Z,41nm,1.1s
TREC Trest 79.18 354 *e*P **P** **01 49 26.4 +0.3**
TREC MLR MLR
comp=Z,300nm,14.8s
TREC Trest 79.18 354 *e*P **P** **01 49 26.4 +0.3**
TREC AMS AMS 02 34 50.0
comp=Z,300nm,14.8s
UZH Uzhgorod 79.20 349 *e*P **P** **01 49 26.5 +0.3**
UZH *e* 01 49 28.7
UZH *i* 01 49 32.7
KRUC Moravsky 79.34 353 *e*P **P** **01 49 27.3 +0.3**
KAPI Kappang 79.43 248 P **P** **01 49 32.6 +4.7**
comp=Z,1.8nm,0.3s,baz=32,slow=24,SNR=1.3
KAPI Kappang 79.43 248⇑ *e*P **P** **01 49 26.8 -1.1**
KAPI pmax pmax
comp=Z,6.0nm,1.0s
JAVC Velka Javorina 79.44 352 *e*P **P** **01 49 28.9 +1.3**
KHC Kasperske Hory 79.46 355 P **P** **01 49 28.4 +0.7**
KHC pmax pmax
comp=Z,41nm,1.1s
KHC Kasperske Hory 79.46 355 P **P** **01 49 28.4 +0.7**
KHC IAmb IAmb 01 49 29.7
comp=Z,41nm,1.1s
KHC Kasperske Hory 79.46 355 *e*P **P** **01 49 28.3 +0.7**
KHC *ex* x 01 49 41.0
KHC AMS AMS 02 30 30.0
comp=Z,300nm,20.5s
BKSI Bulukumba 79.47 247 P **P** **01 49 27.7 -0.4**
comp=Z,884nmcomp=Z,78nm,1.0s
GROC Groznyy 79.47 332 *e*P **P** **01 49 28.1 +0.3**
GROC *e* 01 49 35.9
GROC pmax pmax
comp=Z,3.0nm,0.4s
WET Wettzell 79.48 355 *e*P **P** **01 49 28.5 +0.7**
comp=Z,20nm,1.1s,baz=3.9,slow=5.6
TRPA Tarpa 79.66 349⇓ P **P** **01 49 29.7 +1.0**
TRPA Tarpa 79.66 349 P **P** **01 49 29.4 +0.7**
KVAR Kislovodsk Arr 79.66 334 LR LR 02 28 55.3
comp=Z,201nm,20.0s,baz=270,slow=39
KIV Kislovodsk 79.67 334⇓ P **P** **01 49 29.6 +0.6**
KIV Kislovodsk 79.67 334 *e*P **P** **01 49 29.1 +0.1**
KIV *e*S **S** **01 59 28.4 -0.3**
KIV *e*SS **SS** **02 04 37.9 +1.9**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,190nm,19.0s
KIV Kislovodsk 79.67 334 P **P** **01 49 29.5 +0.5**
KIV P **P** **01 49 29.5 +0.5**
KIV Kislovodsk 79.67 334 *i* P **P** **01 49 29.3 +0.3**
SNR=8.6
VYHS Vyhne 79.70 351 *e*P **P** **01 49 29.5 +0.5**
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 79.70 351 *e*P **P** **01 49 29.5 +0.5**
CKRC Cesky Krumlov 79.73 354 *e*P **P** **01 49 29.2 +0.1**
GEC2 GERESS Array S 79.74 355 P **P** **01 49 29.4 +0.1**
GEC2 IAmb IAmb 01 49 30.7
comp=Z,20nm,0.9s
GEC2 GERESS Array S 79.74 355 *e*P **P** **01 49 29.6 +0.4**
comp=Z,23nm,1.0s,baz=3.9,slow=5.6
GEC2 *ep*P **sP** **01 49 43.1 +1.7**
GERES GERESS Array B 79.74 355 P **P** **01 49 29.9 +0.6**
comp=Z,14nm,0.9s,baz=346,slow=2.8,SNR=74
GERES LR LR 02 26 24.6
comp=Z,185nm,19.3s,baz=8.0,slow=37
BURAR Bucovina Array 79.81 347⇓ P **P** **01 49 30.1 +0.4**
BURAR Bucovina Array 79.81 347⇓ P **P** **01 49 30.1 +0.4**
BURAR Bucovina Array 79.81 347 P **P** **01 49 30.1 +0.4**
BURAR IAmb IAmb 01 49 31.8
comp=Z,28nm,1.0s
KBZ Khabaz 79.82 334 P **P** **01 49 29.1 -0.5**
comp=Z,7.2nm,0.9s,baz=26,slow=0.4,SNR=21
KBZ LR LR 02 29 16.9
comp=Z,342nm,19.9s,baz=28,slow=39
KBZ Khabaz 79.82 334*de*P **P** **01 49 30.2 +0.6**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KIS Kishinev 79.86 344⇑ *i*P **P** **01 49 29.4 -0.4**
comp=Z,28nm,0.7s
KIS *e*L L 02 25 06.0
KIS LRM MLR 02 31 16.0
comp=Z,200nm,17.5s
KIS Kishinev 79.86 344*c i*P **P** **01 49 29.4 -0.4**
KIS pmax pmax
comp=Z,30nm,0.7s
IAS Iasi 79.87 345 P **P** **01 49 30.6 +0.7**
GEYT Alibeck 79.87 321 P **P** **01 49 30.2 +0.1**
comp=Z,13nm,1.0s,baz=327,slow=2.5,SNR=24
GEYT LR LR 02 29 38.2
comp=Z,640nm,18.5s,baz=50,slow=39
GEYT Alibeck 79.87 321 P **P** **01 49 30.9 +0.7**
GEYT IAmb IAmb 01 49 32.1
comp=Z,20nm,1.1s
GYA0 ALIBECK ARRAY 79.87 321 P **P** **01 49 30.3 +0.2**
GYA0B ALIBECK ARRAY 79.87 321 P **P** **01 49 30.4 +0.2**
GYA0B IAmb IAmb 01 49 32.0
comp=Z,22nm,1.1s
FLN La Foliniere 79.89 4 *e*P **P** **01 49 30.1 +0.1**
FLN pmax pmax
comp=Z,27nm,1.1s
KSM Kuching 79.92 260 P **P** **01 49 32.6 +2.0**
MILM Milestii Mici 79.93 344⇑ *i*P **P** **01 49 29.8 -0.4**
comp=Z,80nm,0.9s
MILM Milestii Mici 79.93 344 *e*PP PP 01 52 36.0 +4.8
MILM *e*LR LR 02 22 34.0
comp=Z,400nm,18.0s
MILM Milestii Mici 79.93 344*c i*P **P** **01 49 29.8 -0.4**
MILM *e* 01 49 37.0
MILM *e* 01 52 36.0
MILM *e* 01 54 27.0
MILM pmax pmax
comp=Z,80nm,0.9s
MODS Modra-Piesok 79.96 352 *e*P **P** **01 49 31.5 +1.1**
MODS pmax pmax
comp=Z,46nm,1.0s
MODS Modra-Piesok 79.96 352 *e*P **P** **01 49 31.5 +1.1**
BMR Baia Mare 79.99 348 P **P** **01 49 32.0 +1.5**

STU Stuttgart 80.00 358 P P 01 49 31.8 +1.3
STU Stuttgart 80.00 358 eP P 01 49 31.1 +0.6
comp=Z,101nm,1.1s,baz=3.9,slow=5.6
LDF La Druitiere 80.08 4 eP P 01 49 31.0 0.0
LDF pmax pmax
comp=Z,18nm,0.9s
ZST Bratislava 80.15 352 eP P 01 49 32.5 +1.1
ZST pmax pmax
comp=Z,64nm,1.0s
ZST Bratislava 80.15 352 eP P 01 49 32.5 +1.1
PSZ Piszkesteto 80.17 351 P P 01 49 30.0 -1.6
PSZ pmax pmax
comp=Z,18nm,1.1s
PSZ Piszkesteto 80.17 351 P P 01 49 30.0 -1.6
PSZ IAmb IAmb 01 49 33.5
comp=Z,18nm,1.1s
PSZ Piszkesteto 80.17 351 P P 01 49 31.9 +0.3
GRR Gorron 80.25 5 eP P 01 49 32.2 +0.3
GRR pmax pmax
comp=Z,27nm,1.0s
VASR Vaslui 80.37 345 ⇓P P 01 49 33.4 +0.8
CDF Champ du Feu 80.39 359 eP P 01 49 32.3 -0.5
CDF pmax pmax
comp=Z,31nm,0.9s
ZEI Tsey 80.40 333 eP P 01 49 32.0 -1.1
ZEI pmax pmax
comp=Z,10.0nm,1.0s
ARCR ARCALIA 80.45 347 ⇓P P 01 49 34.5 +1.5
BFO Black Forest 80.45 358 eP P 01 49 33.6 +0.5
comp=Z,27nm,1.0s,baz=3.9,slow=5.6
LTVH Ltavrtes, Hu 80.47 349 P P 01 49 33.6 +0.5
CONA Conrad Observa 80.51 353 i P P 01 49 34.1 +0.6
comp=Z,18nm,1.0s,SNR=15
FUR Furstenfeldbru 80.53 356 eP P 01 49 34.1 +0.6
comp=Z,33nm,0.9s,baz=3.9,slow=5.6
QUIF Quistinic 80.58 6 eP P 01 49 37.2 +3.5
QUIF pmax pmax
comp=Z,113nm,1.8s
ECH Echery 80.58 359 P P 01 49 33.5 -0.3
ECH pmax pmax
comp=Z,45nm,0.9s
ECH Echery 80.58 359 P P 01 49 33.5 -0.3
TESR Tescani 80.68 346 ⇑P P 01 49 34.6 +0.3
RONA Rosalia, Austr 80.71 353 eP P 01 49 35.6 +1.1
comp=Z,4.1nm,0.5s
BSZH Besenyszg 80.74 350 P P 01 49 35.0 +0.5
SOC Sochi 80.80 336 eP P 01 49 32.1 -2.8
SOC e 01 52 36.6
SOC ePPP PPP 01 54 27.3
SOC eS S 01 59 35.7 -4.7
SOC eSS SS 02 05 05.1 +12
SOC MLR MLR
comp=Z,470nm,20.0s
HAU Haudompre 80.80 360 eP P 01 49 35.4 +0.5
HAU pmax pmax
comp=Z,43nm,0.9s
SEKA Sheki 80.85 330 P P 01 49 33.9 -1.5
CSKK Cskako 80.88 352 P P 01 49 36.2 +0.9
BIOA Bad Ischl, Aus 80.89 355 i P P 01 49 36.3 +0.9
comp=Z,17nm,1.0s,SNR=13
RJOB Jochberg 80.89 355 eP P 01 49 35.9 +0.5
comp=Z,15nm,0.9s,baz=3.9,slow=5.6
EGYH Egyhazaskeszo 80.90 352 P P 01 49 35.0 -0.4
CJR Cluj-Napoca 80.92 348 P P 01 49 37.7 +2.1
DRGR 80.96 348 ⇓P P 01 49 36.2 +0.4
DRGR 80.96 348 ⇓P P 01 49 36.2 +0.4
HINF Hinteralfeld 80.99 359 eP P 01 49 36.1 +0.2
HINF pmax pmax
comp=Z,31nm,1.0s
GHRR 81.00 345 ⇓P P 01 49 37.4 +1.5
UBR Ueberruh 81.06 357 eP P 01 49 36.8 +0.4
comp=Z,30nm,1.3s,baz=3.9,slow=5.6
UBR epP sP 01 49 49.7 +1.2
VLDR Vladesti 81.10 345 ⇓P P 01 49 37.7 +1.2
MPLH Magyarpolny 81.13 352 P P 01 49 38.0 +1.3
HRA Herat 81.19 316 P P 01 49 38.1 +0.6
HRA IAmb IAmb 01 49 39.2
comp=Z,39nm,1.1s
ARSA Arzberg 81.21 353 i P P 01 49 37.9 +0.8
comp=Z,9.4nm,0.8s,SNR=7.3
OZUR 81.22 346 ⇑P P 01 49 38.4 +1.2
RETA Reutte 81.23 357 i P P 01 49 38.0 +0.7
comp=Z,15nm,1.0s,SNR=6.0
SCTR Scanteiesti 81.28 345 ⇑P P 01 49 38.1 +0.7
MNGR Mingechevir, A 81.28 330 P P 01 49 37.4 -0.2
VRI Vrincioaia 81.30 345 ⇑P P 01 49 38.4 +0.8
VRI Vrincioaia 81.30 345 ⇑P P 01 49 38.4 +0.8
PLOR Plostina 81.32 346 ⇓P P 01 49 38.6 +0.8
PLOR Plostina 81.32 346 ⇓P P 01 49 38.6 +0.8
ODBI Odobesti 81.34 345 ⇑P P 01 49 39.9 +2.1
WATA Walderalm 81.35 356 i P P 01 49 38.8 +0.8
comp=Z,32nm,0.9s,SNR=12
MOTA Moosalm 81.36 356 i P P 01 49 38.7 +0.6
comp=Z,30nm,1.1s,SNR=12
COVR Voineasa-Covas 81.40 346 ⇓P P 01 49 39.5 +1.3
SLCR Slobozia Conac 81.40 345 ⇓P P 01 49 39.4 +1.3
DOPR Dopca 81.40 346 ⇓P P 01 49 39.7 +1.6
WTTA Wattenberg 81.42 356 i P P 01 49 39.4 +1.0
comp=Z,37nm,1.0s,SNR=13
IZVR Izvoarele 81.44 345 ⇓P P 01 49 39.8 +1.5
DAVA Damuels 81.46 357 eP P 01 49 39.4 +0.7
comp=Z,14nm,1.0s
BATI Baumata 81.46 242 P P 01 49 38.5 -0.3
comp=Z,15nm,0.4s
SCHL Schela 81.47 345 ⇓P P 01 49 39.7 +1.3
SQTA Sankt Quirin 81.48 356 i P P 01 49 38.3 -0.4
comp=Z,13nm,0.8s,SNR=11
JTS Las Juntas de 81.49 84 LR LR 02 25 36.0
comp=Z,62nm,19.8s,baz=14,slow=36
KBA Koelnbreinsper 81.52 355 i P P 01 49 40.1 +1.1
comp=Z,43nm,1.0s,SNR=24
LOR Lormes 81.52 1 eP P 01 49 39.2 +0.4
LOR pmax pmax
comp=Z,32nm,0.9s
SIRR Siria 81.60 349 ⇓P P 01 49 39.9 +0.7
BISRR Bisoca 81.61 345 ⇓P P 01 49 40.7 +1.4
TLCR 81.61 344 ⇓P P 01 49 40.4 +1.2
TLCR 81.61 344 ⇓P P 01 49 40.4 +1.2
GANJ Ganja 81.64 330 P P 01 49 39.1 -0.4
FETA Feichten 81.70 357 i P P 01 49 40.8 +0.9
comp=Z,25nm,0.9s,SNR=19
SSF Saint Saulge 81.72 2 eP P 01 49 40.3 +0.5
SSF pmax pmax
comp=Z,31nm,0.9s
GRER 81.73 345 ⇑P P 01 49 41.0 +1.1
CFR Carcaliu 81.74 344 ⇓P P 01 49 40.7 +0.8
CFR Carcaliu 81.74 344 ⇓P P 01 49 40.7 +0.8
MLR Muntele Rosu 81.78 346 ⇓P P 01 49 41.8 +1.5
MLR Muntele Rosu 81.78 346 LR LR 02 31 46.7
comp=Z,280nm,18.3s,baz=26,slow=40
MLR Muntele Rosu 81.78 346 ⇓P P 01 49 41.8 +1.5
NEHR Nehoiu 81.79 346 ⇓P P 01 49 41.4 +1.2
SOKA Soboth 81.81 354 i P P 01 49 40.9 +0.5
comp=Z,25nm,0.9s,SNR=20
PERS Pernice 81.85 354 i P P 01 49 41.0 +0.5
ABTA Abfaltersbach 81.89 355 i P P 01 49 41.3 +0.4
comp=Z,12nm,1.0s,SNR=6.9
DAVOX Davos/Dischmat 81.97 357 LR LR 02 25 01.5
comp=Z,128nm,21.9s,baz=50,slow=35
VOIR 81.97 347 ⇑P P 01 49 42.8 +1.6
VOIR 81.97 347 ⇑P P 01 49 42.8 +1.6
AVF Avril sur Loir 81.99 2 eP P 01 49 40.7 -0.5
AVF pmax pmax
comp=Z,32nm,1.0s
TPGR Topolog 82.00 344 ⇑P P 01 49 42.4 +1.1
JURR Jurilovca 82.01 344 ⇓P P 01 49 42.4 +1.1
OBKA Obir 82.02 354 eP P 01 49 42.0 +0.5
comp=Z,9.7nm,0.7s
ISR Istrita 82.05 345 ⇑P P 01 49 42.7 +1.0
ISR Istrita 82.05 345 ⇑P P 01 49 42.7 +1.0
ARR Arges 82.10 347 ⇓P P 01 49 43.1 +1.3
KOVH Kovagotottos 82.15 351 P P 01 49 42.1 0.0
MTUR Matau 82.17 346 ⇑P P 01 49 44.8 +2.5
MTUR Matau 82.17 346 ⇑P P 01 49 44.8 +2.5
CABF La Chapelle 82.20 360 eP P 01 49 43.4 +1.0
CABF pmax pmax
comp=Z,54nm,1.0s
SECR 82.21 346 ⇓P P 01 49 43.3 +0.9
HARR Harsova 82.24 344 ⇓P P 01 49 43.7 +1.2
HARR Harsova 82.24 344 ⇓P P 01 49 43.7 +1.2
BZS Buzias 82.25 349 ⇓P P 01 49 43.1 +0.5
BZS Buzias 82.25 349 ⇓P P 01 49 43.1 +0.5
TUE Stuetta 82.29 358 P P 01 49 43.9 +0.9
TUE IAmb IAmb 01 49 45.2
comp=Z,33nm,0.9s
GZR Gura Zlata 82.32 348 ⇑P P 01 49 43.3 +0.3
GZR Gura Zlata 82.32 348 ⇑P P 01 49 43.3 +0.3
TLBR Topalu 82.37 344 ⇑P P 01 49 43.8 +0.6
TIRR Tirgusor 82.39 344 ⇑P P 01 49 44.1 +0.8
TIRR Tirgusor 82.39 344 ⇑P P 01 49 44.1 +0.8
QIS Mount Isa 82.46 223 P P 01 49 45.3 +1.4
TCF Toulx Ste Croi 82.47 3 eP P 01 49 44.1 +0.3
TCF pmax pmax
comp=Z,19nm,0.9s
GNI Garni 82.58 331 LR LR 02 33 17.0
comp=Z,423nm,18.4s,baz=21,slow=41
GNI Garni 82.58 331⇓ eP P 01 49 46.0 +1.4
GNI pmax pmax
comp=Z,17nm,1.5s
GNI Garni 82.58 331 P P 01 49 46.5 +1.9
GNI P P 01 49 46.5 +1.9
LKRN Lenkeran, Azer 82.60 328 P P 01 49 44.3 -0.2
CTI Castel Tesino 82.63 356 P P 01 49 43.7 -1.0
CTI pmax pmax
comp=Z,13nm,1.0s
CTI Castel Tesino 82.63 356 P P 01 49 43.7 -1.0
CTI IAmb IAmb 01 49 47.5
comp=Z,13nm,1.0s
MFTR Murfatlar 82.66 344 ⇓P P 01 49 46.0 +1.3
EFOR EFORIE 82.72 344 ⇑P P 01 49 46.7 +1.7
ICOR Ion Corvin 82.82 344 ⇓P P 01 49 47.1 +1.5
RASA Rasa 82.84 345 ⇑P P 01 49 45.2 -0.5
HERR Herculane 82.87 348 ⇑P P 01 49 45.8 0.0
FRGS Fruska Gora 82.90 350 ⇑P P 01 49 45.2 -0.8
BOJS Bojanci 82.97 353 i P P 01 49 46.4 +0.1
MANR Mangalia 82.98 344 ⇑P P 01 49 47.4 +1.0
SGRR Singureni 83.02 346 ⇓P P 01 49 46.8 +0.2
MDVR Moldovita 83.06 349 ⇓P P 01 49 47.3 +0.5
PSN Preselentsi 83.18 344 P P 01 49 48.0 +0.6
NAX Nakhchivan 83.24 330 P P 01 49 47.4 -0.6
LPL La Plagne 83.29 359 eP P 01 49 49.7 +1.4
LPL pmax pmax
comp=Z,12nm,1.0s
LPG La Plagne 83.31 359 eP P 01 49 49.1 +0.6
LPG pmax pmax
comp=Z,24nm,1.4s
TEOL Teolo 83.32 356 P P 01 49 48.4 +0.2
PUNG Punghina 83.40 348 ⇓P P 01 49 47.5 -1.0
RJF Les Rejaudoux 83.43 3 eP P 01 49 47.4 -1.3
RJF pmax pmax
comp=Z,22nm,1.1s
SSB Saint Sauveur 83.52 1 P P 01 49 50.0 +0.8
SSB pmax pmax
comp=Z,21nm,1.1s
SSB Saint Sauveur 83.52 1 P P 01 49 50.0 +0.8
SSB IAmb IAmb 01 49 51.4
comp=Z,21nm,1.1s
RAZG Razgrad 83.57 345 ⇑P P 01 49 49.7 +0.2
DIKM Dikmen 83.71 338 ⇓P P 01 49 52.0 +1.8
BNI Bardonecchia 83.75 359 P P 01 49 50.8 +0.2
BNI pmax pmax
comp=Z,43nm,1.1s
BNI Bardonecchia 83.75 359 P P 01 49 50.8 +0.2
LFF La Frestale 83.76 4 eP P 01 49 51.2 +0.8
LFF pmax pmax
comp=Z,32nm,1.0s
PRD Provadia 83.78 344 i P P 01 49 51.0 +0.5
CAF Calviac 83.82 3 eP P 01 49 51.6 +0.8
CAF pmax pmax
comp=Z,32nm,1.0s
ORIF Oris-en-Rattie 83.89 0 eP P 01 49 52.6 +1.4
ORIF pmax pmax
comp=Z,13nm,0.8s
VIVF Saint-Julien-l 83.94 1 eP P 01 49 51.8 +0.4
VIVF pmax pmax
comp=Z,17nm,0.9s
KVT Kavak 84.06 338 P P 01 49 53.6 +1.5
BLKB Belogradchik 84.08 348 ⇑P P 01 49 51.8 -0.3
MBDF Montbardon 84.08 359 eP P 01 49 53.6 +1.4
MBDF pmax pmax
comp=Z,19nm,0.9s
MPEP Malo Peshtene 84.19 347 i P P 01 49 53.2 +0.5
WRAB Tennant Creek 84.25 228⇑ eP P 01 49 51.0 -2.1
WRAB pmax pmax
comp=Z,6.0nm,1.7s
WRAB Tennant Creek 84.25 228 P P 01 49 54.4 +1.3
WRA Warramunga Arr 84.26 228 P P 01 49 51.9 -1.2
comp=Z,1.3nm,0.7s,baz=36,slow=6.5,SNR=8.6
WRA Warramunga Arr 84.26 228 i P P 01 49 51.9 -1.2
WRA pmax pmax
comp=Z,2.0nm,0.8s
GURO Guroymak-BITLI 84.86 332 P P 01 49 54.7 -1.5
GURO IAmb IAmb 01 49 58.6
comp=Z,16nm,1.4s
PGB Panagyurishte 84.92 347 i P P 01 49 56.1 -0.3
VTS Vitosha 84.99 347 ⇑P P 01 49 57.1 +0.2
VTS Vitosha 84.99 347 ⇑P P 01 49 57.1 +0.2
VTS Vitosha 84.99 347 i P P 01 49 57.1 +0.2
OSSC Osservatorio P 85.17 356 P P 01 49 56.3 -1.3
DIM Dimitrovgrad 85.21 345 P P 01 49 59.2 +1.4
EDRB Edirne 85.21 345 P P 01 49 58.3 +0.5
FRF La Foret Royal 85.24 359 eP P 01 49 58.6 +0.7
FRF pmax pmax
comp=Z,51nm,1.1s
MURB Monte Urbino 85.37 355 P P 01 49 58.7 0.0
MTLF Montolieu 85.41 3 eP P 01 49 59.7 +0.9
MTLF pmax pmax
comp=Z,30nm,1.0s
LMR La Mourre 85.47 360 eP P 01 49 55.6 -3.5
LMR pmax pmax
comp=Z,44nm,1.0s
SJPF Ste Jean 85.49 5 eP P 01 50 00.3 +1.1
SJPF pmax pmax
comp=Z,24nm,1.4s
EPF Esparros 85.65 4 eP P 01 50 00.0 -0.1
EPF pmax pmax
comp=Z,14nm,1.0s
PDG Podgorica 85.66 350 ⇓P P 01 50 00.3 +0.3
RZN Rozhen 85.69 346 i P P 01 50 00.9 +0.5
ETSF Etsaut 85.74 5 eP P 01 50 01.5 +1.0
ETSF pmax pmax
comp=Z,16nm,0.9s
KKB Krupnik 85.75 347 i P P 01 50 01.2 +0.7
NRCA Norcia 85.77 355 P P 01 49 59.9 -0.8
SKO Skopje 85.86 348 i P P 01 50 01.8 +0.8
BR131 Keskin Array S 85.91 339 i P P 01 50 01.5 0.0
BR131 Keskin Array S 85.91 339 P P 01 50 01.9 +0.4
SNR=7.3
BR131 P P 01 50 01.9 +0.4
SNR=7.3
BRTR Keskin Array B 85.91 339 P P 01 50 01.0 -0.6
comp=Z,7.5nm,0.9s,baz=48,slow=1.8,SNR=35
BRTR LR LR 02 33 03.9
comp=Z,167nm,20.2s,baz=50,slow=39
BRTR Keskin Array B 85.91 339 eP P 01 50 02.0 +0.5
BRTR pmax pmax
comp=Z,8.0nm,0.9s
MMB Musomiste 85.93 347 i P P 01 50 02.2 +0.8
PSI Prapat 85.95 269 LR LR 02 34 12.3
comp=Z,76nm,18.0s,baz=35,slow=40
ANTO Ankara 85.96 340 P P 01 50 01.9 +0.2
ANTO pmax pmax
comp=Z,14nm,1.0s
ANTO Ankara 85.96 340 P P 01 50 01.9 +0.2
ANTO IAmb IAmb 01 50 03.7
comp=Z,14nm,1.0s
QLP Quilpie 86.01 217 P P 01 50 02.4 +0.7
STIP Stip 86.04 348 i P P 01 50 01.7 -0.2
RDO Rodhopi 86.09 345 P P 01 50 02.7 +0.5
NVR Nevrokopi 86.14 347 P P 01 50 03.0 +0.5
PGF Pioggiola 86.22 358 eP P 01 50 03.3 +0.4
PGF pmax pmax
comp=Z,44nm,1.0s
BNN Bunyan 86.22 337 P P 01 50 03.4 +0.4
AQU L'Aquila 86.23 354 P P 01 50 03.5 +0.6
AQU pmax pmax
comp=Z,53nm,1.0s
AQU L'Aquila 86.23 354 P P 01 50 03.5 +0.6
ALN Alexandroupoli 86.25 345 P P 01 50 03.1 +0.1
PHP Peshkopia 86.26 349 P P 01 50 03.0 -0.1
PBRG Braganca 86.35 9 eP P 01 50 02.7 -0.8
VAY Valandovo 86.35 348 i P P 01 50 04.4 +0.9
KAVA Kavala 86.39 346 P P 01 50 03.7 0.0
SRS Serrai 86.41 347 P P 01 50 03.9 +0.1
SJG San Juan 86.64 65 LR LR 02 32 23.6
comp=Z,133nm,18.1s,baz=316,slow=38
KOKK Kokkinochori, 86.64 346 P P 01 50 04.4 -0.5
TIR Tirane 86.66 350 P P 01 50 05.1 +0.1
TIR pmax pmax
comp=Z,57nm,0.9s
TIR Tirane 86.66 350 P P 01 50 05.1 +0.1
GRG Griva 86.73 348 P P 01 50 05.8 +0.4
OHR Ohrid 86.79 349 i P P 01 50 06.3 +0.6
HYBB Hyderabad (bro 86.87 294 eP P 01 50 03.2 -3.2
HYBB epP pP 01 50 16.8 +1.2
HYBB esP pwP 01 50 22.6 +2.0
FNA Florina 87.04 348 P P 01 50 06.6 -0.3
OUR Ouranopolis 87.12 346 P P 01 50 06.9 -0.3
KBN Korca 87.27 349 P P 01 50 06.9 -1.2
KBN pmax pmax
comp=Z,27nm,0.9s
KBN Korca 87.27 349 P P 01 50 06.9 -1.2
LIT Litokhoron 87.56 347 P P 01 50 08.2 -1.2
LIT pmax pmax
comp=Z,20nm,1.2s
LIT Litokhoron 87.56 347 P P 01 50 08.2 -1.2
LIT IAmb IAmb 01 50 10.4
comp=Z,20nm,1.2s
MTE Manteigas 87.66 10 eP P 01 50 07.9 -2.0
comp=Z,66nm,1.6s
MATE Matera 87.67 352 ⇑P P 01 50 11.0 +1.2
AS31 Alice Springs 87.69 226 P P 01 50 09.3 -0.7
ASAR Alice Springs 87.69 226 P P 01 50 09.5 -0.5
comp=Z,3.0nm,0.8s,baz=30,slow=4.4,SNR=28
ASAR Alice Springs 87.69 226 P P 01 50 08.9 -1.1
LSK Leskovik 87.76 349 P P 01 50 10.7 +0.3
PCAS Casmilo, Conde 87.89 11 eP P 01 50 10.7 -0.2
comp=Z,85nm,1.9s
LEM Lembang 88.08 257 LR LR 02 26 00.8
comp=Z,51nm,21.4s,baz=290,slow=33
XOR Xorichti 88.19 347 P P 01 50 11.4 -1.0
JAN Janina 88.21 349 P P 01 50 11.9 -0.6
PSBE So Bento 88.38 11 eP P 01 50 04.4 -8.9
IGT Igoumenitsa 88.40 349 P P 01 50 12.8 -0.6
POO Poona 88.60 298 eP P 01 50 10.0 -4.7
PMRV Marv??o 88.63 10 eP P 01 50 10.8 -3.7
comp=Z,42nm,1.8s
AGG Agios Georgios 88.64 347 P P 01 50 13.6 -1.0
AGG pmax pmax
comp=Z,7.0nm,0.8s
AGG Agios Georgios 88.64 347 P P 01 50 13.6 -1.0
AGG IAmb IAmb 01 50 15.8
comp=Z,7.0nm,0.8s
ESBB Sonseca Array 88.72 8 P P 01 50 15.2 +0.2
ESBB IAmb IAmb 01 50 15.9
comp=Z,16nm,1.1s
ESDC Sonseca Array 88.72 8 P P 01 50 14.8 -0.2
comp=Z,8.8nm,0.9s,baz=348,slow=4.7,SNR=36
ESDC Sonseca Array 88.72 8 P P 01 50 14.1 -0.8
ESDC IAmb IAmb 01 50 16.0
comp=Z,11nm,1.0s
EVR Evrytania 88.82 348 P P 01 50 15.4 -0.1
ANX Ano Chora 89.12 348 P P 01 50 16.6 -0.3
EFP Efpalio 89.29 348 P P 01 50 14.9 -2.7
KLV Kalavryta, Ach 89.63 347 P P 01 50 18.9 -0.4
RLS Riolos of Patr 89.71 348 P P 01 50 19.7 +0.2
DRO Drossia 89.78 348 P P 01 50 20.0 +0.1
ITM Ithomi 90.51 347 P P 01 50 22.2 -1.1
ITM IAmb IAmb 01 50 31.1
comp=Z,13nm,0.8s
CSS Mathiatis 90.53 338 P P 01 50 21.5 -2.0
CSS IAmb IAmb 01 50 24.9
comp=Z,23nm,1.2s
VAE Valguarnera 91.01 353 LR LR 02 34 43.1
comp=Z,177nm,18.9s,baz=342,slow=38
SHME Shamm 91.03 316 P P 01 50 25.5 -0.4
SHME SNR=5.2 P P 01 50 25.5 -0.4
SNR=5.2
SHME Shamm 91.03 316 i P P 01 50 25.1 -0.8
SNR=12
BANOM Banah 91.07 316 P P 01 50 25.8 -0.3
BANOM Banah 91.07 316 i P P 01 50 25.4 -0.7
SNR=5.8
SDV Santo Domingo 91.35 74 LR LR 02 33 59.3
comp=Z,133nm,19.9s,baz=340,slow=37
SDV Santo Domingo 91.35 74 eP P 01 50 37.3 +10
MASF Masafi 91.61 316 P P 01 50 28.5 -0.1
MASF P P 01 50 28.5 -0.1
MSFE Esma-Masafi 91.62 316 P P 01 50 28.1 -0.6
UMQ Umm Al-Quwin 91.69 316 P P 01 50 28.4 -0.5
STKA Stephens Creek 91.76 216 P P 01 50 28.6 -0.3
comp=Z,1.4nm,0.6s,baz=356,slow=6.0,SNR=5.7
STKA LR LR 02 28 10.4
comp=Z,203nm,18.9s,baz=39,slow=33
STKA Stephens Creek 91.76 216 P P 01 50 28.5 -0.3
MMAI Mount Meron Ar 91.87 336 LR LR 02 39 37.4
comp=Z,104nm,18.1s,baz=199,slow=41
UOSS Minazif 91.96 316 P P 01 50 28.0 -2.2
UOSS IAmb IAmb 01 50 31.1
comp=Z,15nm,1.0s
UOSS Minazif 91.96 316 P P 01 50 29.1 -1.1
UOSS P P 01 50 29.1 -1.1
UOSS Minazif 91.96 316 i P P 01 50 28.8 -1.5
SNR=14
HATD Hatta, Dubai 92.10 316 P P 01 50 30.2 -0.7
HATD P P 01 50 30.2 -0.7
HATD Hatta, Dubai 92.10 316 P P 01 50 29.8 -1.1
NAZ Nazwa, Dubai 92.16 316 P P 01 50 30.9 -0.3
NAZ P P 01 50 30.9 -0.3
ASHO Ashiyiah 92.25 316 P P 01 50 31.3 -0.3
ASHO P P 01 50 31.3 -0.3
ASHO Ashiyiah 92.25 316 i P P 01 50 30.5 -1.1
SNR=9.0
BIDO Bidbid 92.35 313 P P 01 50 32.0 0.0
WSAR Wadi Sarin 92.36 313 LR LR 02 36 13.4
comp=Z,223nm,20.9s,baz=78,slow=38
WSAR Wadi Sarin 92.36 313 P P 01 50 32.2 +0.1
FAQ Al Faqa, Dubai 92.40 316 P P 01 50 31.7 -0.6
FAQ P P 01 50 31.7 -0.6
ASUD Al Ashush, Dub 92.62 316 P P 01 50 33.4 +0.1
ASUD P P 01 50 33.4 +0.1
ASUD Al Ashush, Dub 92.62 316 i P P 01 50 33.1 -0.2
SNR=9.0
HOQ Hoqain 92.66 314 P P 01 50 33.2 -0.3
WBK Wadi Bani Khal 92.75 312 P P 01 50 34.5 +0.6
WBK P P 01 50 34.5 +0.6
SMDO Samad 92.78 313 P P 01 50 34.0 -0.1
SMDO P P 01 50 34.0 -0.1
AJN Ajban 92.83 316 P P 01 50 33.9 -0.3
ALNE Al Ain 92.94 316 P P 01 50 34.3 -0.4
ALNE P P 01 50 34.3 -0.4
ALNE Al Ain 92.94 316 P P 01 50 34.2 -0.6
JLN Jalan Bani Buh 92.94 312 P P 01 50 35.2 +0.4
JLN P P 01 50 35.2 +0.4
KEST Kesra 93.01 357 P P 01 50 35.2 +0.2
comp=Z,6.0nm,0.9s,baz=306,slow=5.4,SNR=3.9
KEST Kesra 93.01 357 P P 01 50 35.9 +0.9
ARQ Araqi 93.23 315 P P 01 50 35.1 -1.0
ARQ SNR=8.5 P P 01 50 35.1 -1.0
SNR=8.5
GHRH Al-Ghuwayriyah 93.24 320 P P 01 50 36.6 +0.5
OTAV Otavalo 93.33 85 eP P 01 50 48.5 +11
KHOR Al-Khor Airpor 93.33 320 P P 01 50 36.1 -0.4
SHMA Al-Shehemyia 93.35 320 P P 01 50 36.9 +0.4
JMDO Jabal Madar 93.35 313 P P 01 50 36.7 -0.1
JMDO SNR=5.6 P P 01 50 36.7 -0.1
SNR=5.6
JRN Qarnain Island 93.39 318 P P 01 50 36.0 -0.8
JRN P P 01 50 36.0 -0.8
BSY Bisya 93.44 314 P P 01 50 37.0 -0.1
BSY SNR=6.7 P P 01 50 37.0 -0.1
SNR=6.7
PALK Pallekele 93.68 286 LR LR 02 35 53.0
comp=Z,141nm,20.8s,baz=141,slow=37
PALK Pallekele 93.68 286⇓ eP P 01 50 37.2 -1.1
PALK pmax pmax
comp=Z,9.0nm,1.0s
MZWR Madinat Zayed 94.00 317 P P 01 50 39.6 0.0
MZWR P P 01 50 39.6 0.0
UMZA Um Al Zommool 94.37 315 P P 01 50 41.1 -0.3
UMZA P P 01 50 41.1 -0.3
SMRA Abu-Samra 94.39 320 P P 01 50 40.5 -0.9
MHTO MHTO 94.61 312 P P 01 50 42.2 -0.3
MHTO SNR=8.6 P P 01 50 42.2 -0.3
SNR=8.6
MZR Muzera 94.84 317 P P 01 50 43.0 -0.5

SNR=5.7
MZR P P 01 50 43.0 -0.5
SNR=5.7
MZR Muzera 94.84 317 *i* P P 01 50 42.7 -0.9
SNR=16
EIL Elat 95.17 335 LR LR 02 41 30.9
comp=Z,211nm,18.1s,baz=54,slow=40
MDT Midelt 95.47 9 LR LR 02 35 57.2
comp=Z,78nm,19.3s,baz=4.5,slow=37
DQM DQM 95.73 312 P P 01 50 46.9 -0.7
WHFO Wadi Hawf 99.19 314 P Pdif 01 51 02.8 -0.5
WHFO P Pdif 01 51 02.8 -0.5
TORD Torodi Ar. Bea 115.45 5 PKP PKiKP 01 56 02.6 -0.8
comp=Z,0.5nm,0.6s,baz=353,slow=1.7,SNR=5.1
H03N2 Juan Fernandez 118.39 109 T T 04 06 12.6
baz=317,slow=77,SNR=24
H03N1 Juan Fernandez 118.40 109 T T 04 06 13.9
baz=317,slow=77,SNR=30
H03N3 Juan Fernandez 118.40 109 T T 04 06 13.2
baz=317,slow=77,SNR=33
KMBO Kilima Mbogo 123.24 322 PKP PKPdf 01 56 18.5 -0.3
comp=Z,2.4nm,1.0s,baz=20,slow=12,SNR=4.3
CPUP Villa Florida 126.64 87 PKP PKPdf 01 56 22.6 -1.9
comp=Z,1.2nm,0.8s,baz=212,slow=19,SNR=1.8
PLCA Paso Flores 128.23 110 PKP PKPdf 01 56 26.3 -1.0
comp=Z,3.3nm,1.1s,baz=186,slow=15,SNR=2.2
PLCA Paso Flores 128.23 110 *eP* PKiKP 01 56 38.1 +10
VNDA Vanda 129.69 187 PKP PKPdf 01 56 28.1 -0.7
comp=Z,0.6nm,0.9s,baz=287,slow=3.9,SNR=2.5
TIJ01 Guaruva-PR 131.07 79 *eP* PKiKP 01 56 43.0 +9.0
BLWY Bulawayo 143.94 322 *i* P PKPbc 01 56 55.6 +0.7
BLWY Bulawayo 143.94 322 *i* P PKPbc 01 56 55.6 +0.7
MATP Matopo 144.25 322 *i* P PKPbc 01 56 56.7 +1.0
MATP Matopo 144.25 322 *i* P PKPbc 01 56 56.7 +1.0
MSNA Messina 145.36 318 *i* P **PKPab 01 57 00.7 +1.3**
MSNA Messina 145.36 318 *i* P **PKPab 01 57 00.7 +1.3**
MOPA Mopani 145.81 315 *i* P **PKPab 01 57 01.5 +0.5**
MOPA Mopani 145.81 315 *i* P **PKPab 01 57 01.5 +0.5**
TSUM Tsumeb 146.41 340 PKPdf 01 57 00.9 -0.3
CNG Changalane 147.84 312 *i* P **PKPbc 01 57 06.9 +0.6**
CNG Changalane 147.84 312 *i* P **PKPbc 01 57 06.9 +0.6**
MAW Mawson 148.44 218 PKPbc PKPbc 01 57 06.6 +0.1
comp=Z,9.7nm,0.9s,baz=61,slow=1.6,SNR=8.6
MAW Mawson 148.44 218 PKiKP **PKPdf 01 57 03.7 +0.8**
MAW Mawson 148.44 218 PKPdf 01 57 03.7 +0.8
LBTB Lobatse 149.51 323 PKHKP PKPpre 01 57 06.4
LBTB Lobatse 149.51 323 PKPdf **PKPdf 01 57 06.4 +0.2**
LBTB Lobatse 149.51 323 *i* P **PKPdf 01 57 07.9 +1.7**
LBTB Lobatse 149.51 323 *i* P **PKPdf 01 57 07.9 +1.7**
BELA Belgrano 2 149.76 164 PKPdf 01 57 06.1 +1.2
BOSA Boshof 152.87 320 PKPbc **PKPbc 01 57 17.8 -0.6**
comp=Z,6.6nm,0.5s,baz=24,slow=2.0,SNR=13
BOSA Boshof 152.87 320 PKiKP **PKPdf 01 57 10.5 -0.8**
BOSA Boshof 152.87 320 PKPdf **PKPdf 01 57 10.5 -0.8**
BOSA Boshof 152.87 320 *i* P **PKPdf 01 57 13.5 +2.2**
BOSA *eP* **PKPbc 01 57 15.4 -3.1**
BOSA Boshof 152.87 320 *i* P **PKPdf 01 57 13.5 +2.2**
BOSA *eP* **PKPbc 01 57 15.4 -3.1**

*NEIC **14** 01:52:02.8±1.3,2°.76N±0°.09×128°.7E±0°.1,h225km±12km, mb4.1/12, Error ellipse: s-maj=16.8km s-min=12.6km az=96.0*
*DJA **14** 01:52:03.7±0.4,3°N±3°×12°8E±°,h207km±2km,M4.5/24, mB5.0/7,mb4.5/24,MLv4.6/11,Mw(mB)4.3/7*
*IDC **14** 01:52:05.1±2.0,2°.73N×128°.71E,h259km±19km,mb3.5/13, mb1 3.7/13,mb1mx3.4/47,mbtmp4.1/13, Error ellipse: s-maj=21.5km s-min=8.9km az=71.0*

ISC 14 01:51:59.8±0.5,2°.80N±0°.05×128°.69E±0°.06,h200km,n70, σ2$17/79,mb4.2/26,1C,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.41**	**213**	P	**Pn**	**01 52 43.7**	**+0.9**
TNTI				S	**Sn**	**01 53 18.0**	**+1.7**
SGSI	**Sangihe**	**3.28**	**286**	P	**Pn**	**01 52 54.6**	**+1.8**
LBMI	**Labuha**	**3.62**	**199**	P	**Pn**	**01 53 00.4**	**+3.5**
LBMI				S	**Sn**	**01 53 45.5**	**+3.7**
KMSI	**Cibinong**	**5.20**	**245**	P	**Pn**	**01 53 19.1**	**+2.2**
KMSI				S	**Sn**	**01 54 17.0**	**-0.6**
KCP	**Kidapawan**	**5.51**	**319**	*eP*	**Pn**	**01 53 23.8**	**+3.0**
SANI	**Sanana**	**5.53**	**209**	P	**Pn**	**01 53 21.5**	**+0.5**
	0.5nm2µm99nn0.8s						
SANI				S	**Sn**	**01 54 19.0**	**-6.2**
	0.5nm2µm99nn0.8s						
GTOI	**Gorontalo**	**6.07**	**249**	P	**Pn**	**01 53 30.3**	**+2.2**
	0.1nm196nm15nn0.6s						
GTOI				S	**Sn**	**01 54 37.0**	**-0.9**
	0.1nm196nm15nn0.6s						
FAKI	**Fak Fak**	**6.70**	**148**	Pn	**Pn**	**01 53 40.4**	**+4.1**
LUWI	**Luwuk**	**7.04**	**237**	Pn	**Pn**	**01 53 42.1**	**+1.4**
LUWI	**Luwuk**	**7.04**	**237**	P	**Pn**	**01 53 41.9**	**+1.2**
	1.1nm4µm66nn0.8s						
APSI	**Ampana**	**7.95**	**242**	P	**Pn**	**01 53 53.9**	**+1.4**
	0.2nm30nn1.1s						
TOLI2	**Tolitoli**	**8.08**	**258**	Pn	**Pn**	**01 53 55.3**	**+1.1**
MPSI	**Mapaga**	**9.12**	**255**	P	**Pn**	**01 54 08.9**	**+1.1**
	3µm8.2nm0.6s						
BKSI	**Bulukumba**	**11.76**	**227**	P	**Pn**	**01 54 42.7**	**+0.9**
	519nm41nn0.6s						
GENI	**Genyem**	**12.66**	**115**	P	**P**	**01 55 00.1**	**+3.2**
	124nm0.9s						
MTKI	**Muara Teweh, K**	**14.29**	**255**	P	**P**	**01 55 16.1**	**+1.2**
WBSI	**Waikabubak, Su**	**15.45**	**217**	P	**P**	**01 55 29.4**	**+1.6**
	28nm0.6s						
MTN	**Manton Dam**	**15.73**	**171**	P	**Pn**	**01 55 31.3**	**+0.2**
PLAI	**Plampang**	**15.87**	**223**	P	**Pn**	**01 55 34.6**	**+1.9**
	47nm0.7s						
SBUM	**Sibu**	**16.46**	**269**	P	**Pn**	**01 55 41.0**	**+1.2**
KMMI	**Kalianget**	**17.66**	**236**	P	**P**	**01 55 53.5**	**+1.4**
	60nm1.1s						
IGBI	**Denpasar**	**17.77**	**229**	P	**Pn**	**01 55 57.2**	**+2.0**
	28nm0.6s						
JAGI	**Jajag, Banyuwa**	**18.32**	**232**	P	**P**	**01 56 00.6**	**+1.3**
	21nm0.8s						
BLJI	**Banyuglugur**	**18.35**	**235**	P	**Pn**	**01 56 03.5**	**+1.4**
	22nm0.6s						
KNRA	**Kununurra**	**18.36**	**180**	P	**P**	**01 56 00.2**	**+0.5**
GMJI	**Gumukmas**	**18.77**	**234**	P	**Pn**	**01 56 07.8**	**+0.8**
	32nm1.1s						
PWJI	**Pagerwojo**	**19.98**	**237**	P	**P**	**01 56 19.0**	**+1.8**
	52nm0.8s						
PCJI	**Pacitan**	**20.60**	**238**	P	**P**	**01 56 26.5**	**+2.7**
	2µm66nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.98**	**188**	P	**P**	**01 56 27.5**	**-0.2**
	1.1nm,0.4s,baz=6.4,slow=5.6,SNR=16						
FITZ	**Fitzroy Crossi**	**20.98**	**188**	P	**P**	**01 56 27.6**	**-0.2**
FITZ				IAmb	IAmb	01 56 47.3	
	comp=Z,3.5nm,1.0s						
KPJI	**Karang Pucung**	**22.14**	**243**	P	**P**	**01 56 40.0**	**+0.4**
	comp=Z,40nm,0.7s						
LEM	**Lembang**	**23.11**	**245**	P	**P**	**01 56 49.1**	**+0.5**
	comp=Z,36nm,0.5s,baz=117,slow=12,SNR=3.5						
LEM	**Lembang**	**23.11**	**245**	P	**P**	**01 56 49.7**	**+1.1**
	comp=Z,32nm,0.9s						
WB0	**Warramunga Arr**	**23.12**	**166**	P	**P**	**01 56 48.1**	**-0.3**
WB0				IAmb	IAmb	01 56 49.5	
	comp=Z,5.6nm,0.6s						
WRA	**Warramunga Arr**	**23.27**	**166**	P	**P**	**01 56 49.1**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=342,slow=10,SNR=31						
WRA				S	**S**	**02 00 43.4**	**-3.7**
	comp=Z,0.5nm,0.7s,baz=342,slow=14,SNR=2.6						
WRA				ScP	**ScP**	**02 03 41.8**	**-8.8**
	comp=Z,0.5nm,0.7s,baz=342,slow=2.7,SNR=0.9						
WRA	**Warramunga Arr**	**23.27**	**166**	P	**P**	**01 56 49.2**	**-0.6**
WB2	**Warramunga Arr**	**23.27**	**166**	P	**P**	**01 56 49.4**	**-0.4**
WB2				IAmb	IAmb	01 56 52.5	
	comp=Z,5.6nm,0.8s						
CNJI	**Cibinong**	**23.75**	**245**	P	**P**	**01 56 53.4**	**-0.8**
	comp=Z,55nm,0.9s						
CGJI	**Cibinong**	**24.79**	**248**	P	**P**	**01 57 01.9**	**-1.8**
	comp=Z,1µmcomp=Z,48nm,0.6s						
AS31	**Alice Springs**	**26.79**	**169**	P	**P**	**01 57 21.9**	**+0.3**
AS31				IAmb	IAmb	01 57 22.0	
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**26.79**	**169**	P	**P**	**01 57 21.4**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=353,slow=7.7,SNR=34						
ASAR				PcP	**PcP**	**02 00 37.6**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=346,slow=2.3,SNR=1.5						
ASAR				ScP	**ScP**	**02 03 51.6**	**-9.0**
	comp=Z,0.2nm,0.3s,baz=336,slow=2.0,SNR=1.1						
PSI	**Prapat**	**29.73**	**271**	P	**P**	**01 57 47.5**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=66,slow=3.5,SNR=4.2						
GSI	**Gunungsitoli**	**31.13**	**268**	P	**P**	**01 57 58.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**33.03**	**300**	P	**P**	**01 58 17.6**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=116,slow=7.0,SNR=22						
CMAR	**Chiang Mai Arr**	**33.03**	**300**	P	**P**	**01 58 16.9**	**+0.4**
CHTO	**Chiang Mai**	**33.18**	**301**	P	**P**	**01 58 18.8**	**+1.0**
CHTO				IAmb	IAmb	01 58 19.4	
	comp=Z,5.7nm,0.7s						
KSRS	**Korea Array**	**34.49**	**359**	P	**P**	**01 58 30.0**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=180,slow=6.2,SNR=1.9						
STKA	**Stephens Creek**	**36.60**	**161**	P	**P**	**01 58 46.7**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=344,slow=8.9,SNR=12						
STKA	**Stephens Creek**	**36.60**	**161**	P	**P**	**01 58 46.6**	**-0.3**
TAPN	**Taplejung**	**46.14**	**306**	*eP*	**P**	**02 00 04.9**	**-0.1**
ODAN	**Odare**	**46.20**	**305**	*eP*	**P**	**02 00 05.4**	**+0.1**
RAMN	**Ramite**	**46.88**	**305**	*eP*	**P**	**02 00 10.9**	**+0.2**
	comp=Z,33nm,0.4s						
JIRN	**Jiri**	**47.50**	**306**	*eP*	**P**	**02 00 15.7**	**+0.1**
GUN	**Gumba**	**47.85**	**306**	*eP*	**P**	**02 00 18.2**	**0.0**
	comp=Z,29nm,0.5s						
PKI	**Pulchoki**	**48.10**	**305**	*eP*	**P**	**02 00 19.5**	**-0.6**
	comp=Z,3.9nm,0.3s						
PKIN	**Phulchoki**	**48.11**	**305**	*eP*	**P**	**02 00 19.5**	**-0.7**
	comp=Z,7.6nm,0.3s						
KKN	**Kakani**	**48.29**	**305**	*eP*	**P**	**02 00 21.2**	**-0.3**
DMN	**Daman**	**48.36**	**305**	*eP*	**P**	**02 00 21.8**	**-0.2**
SONM	**Songino Array**	**48.81**	**340**	P	**P**	**02 00 25.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=143,slow=7.3,SNR=4.5						
SONM	**Songino Array**	**48.81**	**340**	P	**P**	**02 00 24.9**	**-0.1**
KOLN	**Koldanda**	**49.66**	**305**	*eP*	**P**	**02 00 31.9**	**+0.1**
DANN	**Dangsing**	**49.75**	**305**	*eP*	**P**	**02 00 32.4**	**-0.2**
	comp=Z,35nm,0.6s						
PYUN	**Piuthan**	**50.28**	**305**	*eP*	**P**	**02 00 36.6**	**+0.1**
	comp=Z,22nm,0.6s						
MKAR	**Makanchi Array**	**59.44**	**325**	P	**P**	**02 01 41.3**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=119,slow=8.4,SNR=25						
ZALV	**Zalesovo Beam**	**62.31**	**332**	P	**P**	**02 01 59.5**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=133,slow=8.5,SNR=5.1						
KDAK	**Kodiak Island**	**81.63**	**32**	P	**P**	**02 03 54.1**	**-1.2**
	comp=Z,2.0nm,0.4s,baz=358,slow=1.5,SNR=7.3						
KDAK	**Kodiak Island**	**81.63**	**32**	P	**P**	**02 03 56.2**	**+0.8**
KDAK				IAmb	IAmb	02 04 10.2	
	comp=Z,8.7nm,1.1s						
VNDA	**Vanda**	**82.27**	**173**	P	**P**	**02 03 56.0**	**-2.3**
	comp=Z,0.6nm,1.0s,baz=323,slow=5.5,SNR=2.1						
ARCES	**ARCESS Array B**	**91.99**	**340**	P	**P**	**02 04 44.0**	**-1.5**
	comp=Z,3.7nm,1.0s,baz=72,slow=7.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**125.07**	**288**	PKP	**PKPdf**	**02 10 36.2**	**-1.2**
	comp=Z,0.7nm,1.0s,baz=80,slow=1.5,SNR=6.3						

*MAN **14** 01:56:14.6,5°.09N×126°.65E,h12km, mb4.8, ML3.8, MS3.7, Hypocentre not reviewed by the ISC*
*IDC **14** 01:56:15.6±0.8,5°.63N×126°.59E,h0km,mb3.9/12, mb1 4.1/12,mb1mx3.9/52,mbtmp3.9/12, Error ellipse: s-maj=51.5km s-min=17.3km az=67.0*
*NEIC **14** 01:56:25.7±1.2,5°.49N±0°.04×126°.4E±0°.2,h77km±8km, mb4.4/8, Error ellipse: s-maj=26.9km s-min=5.3km az=83.0*

ISC 14 01:56:23.8±0.6,5°.44N±0°.06×126°.47E±0°.09,h66km,n45, σ1$28/43,mb4.2/19,4C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.00**	**311**	*eP*	**Pn**	**01 56 38.7**	**-3.4**
DDMP	**Don Marcelino,**	**1.00**	**311**	*eS*	Sn	01 57 44.3	+49
MATI	**Mati**	**1.51**	**352**	*eP*	**Pn**	**01 56 47.1**	**-1.6**
GSPH	**General Santos**	**1.64**	**293**	*i* P	**Pn**	**01 56 48.6**	**-2.1**
GSPH				*i* S	**Sn**	**01 57 12.3**	**+1.4**
DAV	**Davao City (W)**	**1.84**	**331**	P	**Pn**	**01 56 53.2**	**-0.1**
DAV				Sn	**Sn**	**01 57 16.5**	**+0.9**
KCP	**Kidapawan**	**2.07**	**319**	*eP*	**Pn**	**01 56 54.9**	**-1.5**
KCP				*eS*	**Sn**	**01 57 25.5**	**+4.3**
BIPH	**Bislig**	**2.72**	**358**	*eP*	**Pn**	**01 57 03.2**	**-2.0**
BIPH	**Bislig**	**2.72**	**358**	*eS*	Sn	01 57 49.3	+12
BUKP	**Musuan**	**2.79**	**330**	*iP*	**Pn**	**01 57 05.5**	**-0.7**
BUKP	**Musuan**	**2.79**	**330**	*eS*	Sn	01 57 13.6	-25
TOLI2	**Tolitoli**	**7.12**	**233**	Pn	**Pn**	**01 58 04.0**	**-1.5**
WB0	**Warramunga Arr**	**26.24**	**163**	P	**P**	**02 01 54.3**	**+1.4**
WB0				IAmb	IAmb	02 02 05.0	
	comp=Z,6.3nm,0.6s						
WRA	**Warramunga Arr**	**26.39**	**163**	P	**P**	**02 01 55.4**	**+1.2**
	comp=Z,1.7nm,0.9s,baz=343,slow=10,SNR=7.1						
WRA	**Warramunga Arr**	**26.39**	**163**	P	**P**	**02 01 55.0**	**+0.7**
WB2	**Warramunga Arr**	**26.39**	**163**	P	**P**	**02 01 55.2**	**+1.0**
WB2				IAmb	IAmb	02 02 06.7	
	comp=Z,5.5nm,0.8s						
WR0	**Warramunga Arr**	**26.46**	**163**	P	**P**	**02 01 55.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**29.81**	**298**	P	**P**	**02 02 24.9**	**+0.1**
	comp=Z,3.3nm,0.4s,baz=114,slow=6.9,SNR=5.4						
ASAR	**Alice Springs**	**29.83**	**166**	P	**P**	**02 02 25.6**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=344,slow=7.3,SNR=2.8						
STKA	**Stephens Creek**	**39.82**	**160**	P	**P**	**02 03 51.8**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=303,slow=4.7,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**41.79**	**66**	T	T	02 48 32.3	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.80**	**66**	T	T	02 48 35.1	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**41.81**	**66**	T	T	02 48 33.6	
	baz=255,slow=75						
RAMN	**Ramite**	**43.57**	**304**	*eP*	**P**	**02 04 22.7**	**+0.8**
JIRN	**Jiri**	**44.17**	**305**	*eP*	**P**	**02 04 27.6**	**+0.7**
	comp=Z,7.6nm,1.0s						
GUN	**Gumba**	**44.52**	**305**	*eP*	**P**	**02 04 30.0**	**+0.4**
	comp=Z,19nm,0.8s						
SONM	**Songino Array**	**45.60**	**341**	P	**P**	**02 04 36.2**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=161,slow=9.2,SNR=4.4						
KOLN	**Koldanda**	**46.35**	**304**	*eP*	**P**	**02 04 44.5**	**+0.6**
	comp=Z,19nm,0.7s						
DANN	**Dangsing**	**46.42**	**304**	*eP*	**P**	**02 04 44.8**	**+0.2**
PYUN	**Piuthan**	**46.97**	**304**	*eP*	**P**	**02 04 49.5**	**+0.7**
	comp=Z,22nm,0.9s						
MKAR	**Makanchi Array**	**56.01**	**325**	P	**P**	**02 05 55.6**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=120,slow=8.4,SNR=8.3						
MKAR	**Makanchi Array**	**56.01**	**325**	P	**P**	**02 05 55.4**	**-0.3**
MKAR				PcP	**PcP**	**02 06 52.9**	**-0.5**
NIL	**Nilore**	**56.68**	**307**	P	**P**	**02 05 59.5**	**-1.3**
ZALV	**Zalesovo Beam**	**58.95**	**333**	P	**P**	**02 06 15.9**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=133,slow=6.5,SNR=4.4						
GAR	**Garm**	**60.58**	**312**	P	**P**	**02 06 27.9**	**0.0**
ABKAR	**Akbulak array**	**70.67**	**320**	P	**P**	**02 07 32.4**	**-0.2**
ILAR	**Eielson Array**	**83.68**	**25**	P	**P**	**02 08 45.0**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=262,slow=5.5,SNR=4.9						
ILAR	**Eielson Array**	**83.68**	**25**	P	**P**	**02 08 44.5**	**-0.6**
ARCES	**ARCESS Array B**	**88.76**	**340**	P	**P**	**02 09 11.3**	**+1.3**
	comp=Z,3.1nm,0.8s,baz=81,slow=7.7,SNR=4.0						
ARCES	**ARCESS Array B**	**88.76**	**340**	P	**P**	**02 09 10.4**	**+0.4**
FINES	**FINESS Array B**	**90.21**	**332**	P	**P**	**02 09 17.0**	**+0.2**
	comp=Z,3.4nm,1.0s,baz=49,slow=5.8,SNR=5.3						
AKASG	**Malin Array Be**	**90.41**	**321**	P	**P**	**02 09 18.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=66,slow=5.2,SNR=1.6						
QSPA	**South Pole Qui**	**95.34**	**180**	P	**P**	**02 09 40.3**	**-0.3**
QSPA				IAmb	IAmb	02 09 47.7	
	comp=Z,2.4nm,1.2s						
NOA	**NORSAR Array B**	**97.14**	**334**	P	**P**	**02 09 48.1**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=66,slow=4.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**122.12**	**289**	PKP	**PKiKP**	**02 15 13.1**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=32,slow=1.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**122.12**	**289**		**PKPdf**	**02 15 11.5**	**-0.6**

*IDC **14** 01:56:24.7±1.7, 15°.79S×173°.29W,h0km,mb3.8/7, mb1 4.2/8,mb1mx3.9/47,mbtmp3.8/8,ML3.7/1, Error ellipse: s-maj=98.9km s-min=19.9km az=146.0*
*NEIC **14** 01:56:28.8±2.0, 16°.03S±0°.08×172°.77W±0°.09,h35km±1km, mb4.6/5, Error ellipse: s-maj=15.4km s-min=12.8km az=307.0*

ISC 14 01:56:27.5±0.7,16°.05S±0°.08×172°.9W±0°.1,h26km,n21, σ1$59/23,mb4.0/10,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.37**	**26**	Pn	**Pn**	**01 57 03.7**	**-1.1**
	19nm,0.3s,baz=218,slow=2.8,SNR=12						
AFI				Sn	**Sn**	**01 57 29.6**	**-3.4**
	83nm,0.3s,baz=134,slow=21,SNR=10						
AFI	**Afiamalu**	**2.37**	**26**	Pn	**Pn**	**01 57 03.8**	**-0.9**
NIUE	**Niue**	**4.11**	**138**	Pn	**Pn**	**01 57 26.9**	**-1.8**
WB2	**Warramunga Arr**	**50.20**	**257**	P	**P**	**02 05 20.9**	**-0.7**
WB2				IAmb	IAmb	02 05 45.5	
	comp=Z,6.8nm,1.2s						
WRA	**Warramunga Arr**	**50.21**	**257**	P	**P**	**02 05 19.7**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=91,slow=6.6,SNR=6.0						
WRA				PcP	**PcP**	**02 06 40.8**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=95,slow=3.3,SNR=1.8						
ASAR	**Alice Springs**	**50.41**	**252**	P	**P**	**02 05 21.5**	**-1.7**
	comp=Z,3.1nm,0.7s,baz=89,slow=7.9,SNR=27						
ASAR	**Alice Springs**	**50.41**	**252**	P	**P**	**02 05 21.3**	**-1.9**
NVAR	**Mina Array Bea**	**74.46**	**42**	P	**P**	**02 08 05.6**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=224,slow=7.6,SNR=4.4						
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**02 08 40.6**	**+2.6**
	comp=Z,0.2nm,0.8s,baz=224,slow=7.6,SNR=2.5						
PDAR	**Pinedale Array**	**82.40**	**42**	P	**P**	**02 08 50.2**	**+2.5**
	comp=Z,0.6nm,0.9s,baz=223,slow=6.2,SNR=4.7						
PDAR	**Pinedale Array**	**82.40**	**42**	P	**P**	**02 08 47.4**	**-0.3**
WRH	**Wood River Hil**	**82.49**	**11**	P	**P**	**02 08 47.2**	**-0.1**
WRH				IAmb	IAmb	02 08 50.0	
	comp=Z,4.6nm,0.9s						
DOT	**Dot Lake**	**82.52**	**13**	P	**P**	**02 08 49.1**	**+1.5**
DOT				IAmb	IAmb	02 08 50.5	
	comp=Z,3.8nm,0.9s						
CCB	**Clear Creek Bu**	**82.70**	**11**	P	**P**	**02 08 49.7**	**+1.3**
IL31		**82.98**	**11**	P	**P**	**02 08 49.7**	**-0.1**
ILAR	**Eielson Array**	**82.98**	**11**	P	**P**	**02 08 51.4**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=230,slow=6.4,SNR=21						
YKA	**Yellowknife Ar**	**90.48**	**23**	P	**P**	**02 09 26.3**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=231,slow=4.6,SNR=7.5						
GERES	**GERESS Array B**	**146.85**	**352**	PKPbc	**PKPbc**	**02 16 07.1**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=0.0,slow=3.1,SNR=5.1						
GERES	**GERESS Array B**	**146.85**	**352**		**PKPdf**	**02 16 06.5**	**+0.8**
BRTR	**Keskin Array B**	**146.99**	**321**	PKPbc	**PKPbc**	**02 16 08.3**	**0.0**
	comp=Z,2.2nm,0.7s,baz=122,slow=2.5,SNR=13						
BRTR	**Keskin Array B**	**146.99**	**321**		**PKPdf**	**02 16 06.6**	**+0.3**

*IDC **14** 02:08:58.0±1.5, 10°.31N×63°.01W,h0km,mb3.4/4, mb1 3.9/6,mb1mx3.6/43,mbtmp3.7/6,ML3.5/2,Error ellipse: s-maj=49.0km s-min=22.7km az=11.0*
*TRN **14** 02:08:59.2, 10°.21N×63°.22W,h18km,MD4.2*
*FUNV **14** 02:09:01.0, 10°.22N×62°.98W,h3km,MW3.9*

ISC 14 02:09:00.1±1.8,10°.24N±0°.04×63°.04W±0°.03,h13km±12km, n48,σ1$39/66,mb3.6/4,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.47**	**336**	*eP*	**Pb**	**02 09 10.3**	**0.0**
CRUV				*eS*	**Sb**	**02 09 16.3**	**-0.8**
COAV	**Cumanacoa**	**0.78**	**264**	*eP*	**Pb**	**02 09 16.6**	**+1.0**
CUMV	**Cumana_UDO**	**1.15**	**279**	*eP*	**Pn**	**02 09 23.6**	**+1.8**
CUMV				*eS*	**Sn**	**02 09 40.4**	**+2.9**
PCRV	**Puerto La Cruz**	**1.57**	**268**	*eS*	**Sg**	**02 09 50.9**	**+0.2**
TRN	**Trinidad (W)**	**1.66**	**76**	*eP*	**Pn**	**02 09 29.9**	**+0.9**
TRN				*eS*	**Sg**	**02 09 53.0**	**-0.7**
PRGV	**PARIAGUAN**	**2.16**	**227**	*eP*	**Pn**	**02 09 37.7**	**+1.8**
PRGV				*eS*	**Sn**	**02 10 04.7**	**+2.1**
GRFF	**Grenada Fort F**	**2.20**	**35**	*eP*	**Pn**	**02 09 37.3**	**+0.9**
GRFF				*eS*	**Sn**	**02 10 05.7**	**+2.1**
GRGR	**Grenville**	**2.32**	**36**	*eP*	**Pn**	**02 09 39.0**	**+1.0**
GRGR				*eS*	**Sn**	**02 10 07.3**	**+0.9**
GRHS	**Sauteurs**	**2.40**	**35**	*eP*	**Pn**	**02 09 40.8**	**+1.6**
GRHS				*eS*	**Sn**	**02 10 10.4**	**+1.9**
GRSS	**Sisters**	**2.48**	**34**	*eP*	**Pn**	**02 09 41.4**	**+1.2**
TOSP	**Speyside**	**2.68**	**67**	*eP*	**Pn**	**02 09 44.0**	**+1.1**
TOSP				*eS*	**Sn**	**02 10 18.3**	**+3.0**
GCMP	**Grenada, Carri**	**2.73**	**35**	*eP*	**Pn**	**02 09 44.3**	**+0.6**
GCMP				*eS*	**Sn**	**02 10 18.3**	**+1.6**
BIRV	**Birongo**	**3.18**	**274**	*eP*	**Pn**	**02 09 52.0**	**+2.1**
BIRV				*eS*	**Sn**	**02 10 29.6**	**+1.7**
MERV	**Las Mercedes**	**3.36**	**253**	*eP*	**Pn**	**02 09 54.0**	**+1.6**
MERV				*eS*	**Sn**	**02 10 33.3**	**+1.3**
SVB	**Belmont**	**3.48**	**30**	*eP*	**Pn**	**02 09 55.6**	**+1.6**
SVB				*eS*	**Sn**	**02 10 35.5**	**+0.2**
SVV	**Soufriere Volc**	**3.54**	**30**	*eP*	**Pn**	**02 09 55.6**	**+0.8**
MCLT

IDC ***14*** *02:23:26.5±1.6, 16°.40S×177°.12W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.9/35, mbtmp3.8/9, ML4.9/1, MS4.4/20, Ms1 4.4/20, ms1mx4.0/67, Error ellipse: s-maj=81.7km s-min=20.9km az=147.0*

GCMT ***14*** *02:23:35.0±0.3, 16°.99S±0°.02×176°.93W±0°.02, h19km±1km, MW5.1/94, Moment Tensor Solution. s36,c38; s94,c136; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.11±.22; Mθθ=4.48±.18; Mϕϕ4.59±.18; Mrθ=-0.20±.38; Mθϕ0.50±.14; Mϕr2.99±.47; Best double couple: Mw5.30100×10¹⁶ NP1:ϕs52.00000°, δ68.00000°, λ15.00000°. NP2: ϕs316.00000°, δ76.00000°, λ157.00000°. Principal axes: T 6.0560, Plg26.0000°, Azm272.0000°; N -1.5080, Plg63.0000°, Azm107.0000°; P -4.5450, Plg6.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 14 02:23:32.1±1.3, 16°.55S±0°.4×177°.2W±0°.2, h35km, n34, σ0s64/12, mb3.8/8, MS4.3/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.73**	**254**	Pn		**Pn**	**02 24 40.9**	**-0.1**
	1.6nm,0.3s,baz=63,slow=23,SNR=4.2							
MSVF				Sn		**Sn**	**02 25 34.5**	**-0.2**
	0.8nm,0.3s,baz=124,slow=22,SNR=1.9							
MSVF				LR		LR	02 26 28.8	
	comp=Z,11μm,18.3s,baz=73,slow=38							
RAO	**Raoul Island**	**12.76**	**183**	LR		LR	02 30 11.1	
	comp=Z,2μm,21.9s,baz=357,slow=32							
DZM	**Mont Dzumac**	**16.43**	**248**	LR		LR	02 32 31.3	
	comp=Z,2μm,21.7s,baz=106,slow=33							
DZM	**Mont Dzumac**	**16.43**	**248**	eLR		LR	02 31 04.8	
	comp=Z,2μm,25.6s							
RAR	**Rarotonga**	**17.15**	**109**	LR		LR	02 32 19.1	
	comp=Z,738nm,21.7s,baz=281,slow=31							
URZ	**Urewera**	**22.30**	**192**	LR		LR	02 35 31.7	
	comp=Z,1μm,21.9s,baz=28,slow=32							
HNR	**Honiara**	**23.34**	**285**	LR		LR	02 36 30.7	
	comp=Z,725nm,20.5s,baz=114,slow=34							
PAE	**Paea**	**26.41**	**97**	*e*T		T	02 55 43.3	
	1.8nm,0.3s							
PPT2	**Papeete2**	**26.42**	**96**	*e*LR		LR	02 35 29.4	
	comp=Z,2μm,26.8s,baz=258							
PPT2	**Papeete2**	**26.42**	**96**	*e*T		T	02 55 44.5	
	2.3nm,0.3s							
PPT	**Papeete**	**26.42**	**96**	LR		LR	02 36 35.8	
	comp=Z,395nm,20.6s,baz=202,slow=30							
TBI	**Tubuai**	**26.93**	**109**	*e*LR		LR	02 35 47.4	
	comp=Z,2μm,27.8s							
RPZ	**Rata Peaks**	**28.95**	**198**	LR		LR	02 40 28.6	
	comp=Z,1μm,19.0s,baz=34,slow=35							
KRVT	**Keravat (AS076**	**32.54**	**288**	LR		LR	02 42 13.9	
	comp=Z,566nm,20.0s,baz=255,slow=35							
CTA	**Charters Tower**	**34.86**	**258**	LR		LR	02 42 49.0	
	comp=Z,737nm,19.9s,baz=97,slow=33							
PMG	**Port Moresby**	**35.41**	**277**	LR		LR	02 44 11.4	
	comp=Z,347nm,18.4s,baz=94,slow=35							
TAOE	**Nuku Hiva Isla**	**36.87**	**83**	*e*S		S	02 36 01.4	-19
	114nm,26.7s							
TAOE				*e*LR		LR	02 40 17.2	
	comp=Z,849nm,28.9s							
TAOE	**Nuku Hiva Isla**	**36.87**	**83**	*e*T		T	03 08 38.8	
	25nm,0.3s							
STKA	**Stephens Creek**	**40.36**	**240**	P		**P**	**02 31 06.1**	**-0.6**
	0.6nm,0.4s,baz=100,slow=7.5,SNR=2.2							
STKA				LR		LR	02 46 59.8	
	comp=Z,239nm,18.3s,baz=66,slow=35							
WRA	**Warramunga Arr**	**46.06**	**258**	P		**P**	**02 31 53.7**	**+0.8**
	1.8nm,1.2s,baz=97,slow=7.2,SNR=4.6							
WRA				LR		LR	02 50 06.6	
	comp=Z,604nm,19.2s,baz=98,slow=35							
ASAR	**Alice Springs**	**46.32**	**253**	P		**P**	**02 31 54.9**	**-0.1**
	4.5nm,0.8s,baz=85,slow=8.3,SNR=22							
ASAR				LR		LR	02 50 38.2	
	comp=Z,812nm,18.8s,baz=107,slow=35							
SIJI	**Sorong**	**53.07**	**282**	LR		LR	02 54 37.6	
	comp=Z,268nm,19.9s,baz=276,slow=35							
FITZ	**Fitzroy Crossi**	**54.43**	**259**	LR		LR	02 54 57.2	
	comp=Z,632nm,19.5s,baz=102,slow=35							
BATI	**Baumata**	**57.73**	**268**	LR		LR	02 57 14.0	
	comp=Z,232nm,19.6s,baz=105,slow=35							
VNDA	**Vanda**	**61.99**	**185**	LR		LR	02 56 06.0	
	comp=Z,90nm,20.2s,baz=26,slow=32							
RPN	**Rapa Nui**	**63.25**	**112**	LR		LR	02 54 18.0	
	comp=Z,243nm,21.3s,baz=262,slow=29							
NVAR	**Mina Array Bea**	**77.57**	**44**	P		**P**	**02 35 24.3**	**-0.6**
	0.3nm,0.6s,baz=225,slow=8.6,SNR=2.4							
SEY	**Seymchan**	**82.63**	**346**	P		**P**	**02 35 51.1**	**-0.2**
	1.0nm,0.5s,baz=81,slow=9.2,SNR=1.8							
ILAR	**Eielson Array**	**84.22**	**13**	P		**P**	**02 35 58.7**	**-0.8**
	2.5nm,1.0s,baz=224,slow=6.3,SNR=9.7							
TXAR	**Lajitas Array**	**84.23**	**57**	P		**P**	**02 36 00.9**	**+0.4**
	0.1nm,0.7s,baz=219,slow=7.0,SNR=1.5							
MAW	**Mawson**	**85.62**	**199**	LR		LR	03 12 21.8	
	comp=Z,147nm,18.4s,baz=110,slow=34							
CMAR	**Chiang Mai Arr**	**89.50**	**289**	P		**P**	**02 36 27.0**	**+0.7**
	0.2nm,0.4s,baz=86,slow=3.0,SNR=1.2							
BRTR	**Keskin Array B**	**144.56**	**317**	PKP		**PKPab**	**02 43 04.5**	**+0.6**
	1.1nm,0.7s,baz=79,slow=2.2,SNR=4.4							
GERES	**GERESS Array B**	**146.49**	**347**	PKPbc		**PKPdf**	**02 43 09.1**	**+0.8**
	0.1nm,0.3s,baz=348,slow=1.4,SNR=1.7							

NEIC ***14*** *02:27:23.4±1.1, 51°.27N±0°.05×174°.2W±0°.6, h4km±39km, Error ellipse: s-maj=52.5km s-min=6.4km az=91.0*

AEIC ***14*** *02:27:25±3.4, 51°.47N±0°.04×174°.33W±0°.08, h1km±7km, ML2.9/12, Error ellipse: s-maj=7.5km s-min=5.5km az=127.0*

IDC ***14*** *02:27:43.4±8.8, 53°.12N×174°.43W, h103km±80km, mb3.2/6, mb1 3.4/8, mb1mx3.1/54, mbtmp3.5/8, ML3.8/2, Error ellipse: s-maj=44.8km s-min=29.9km az=6.0*

ISC 14 02:27:26.0±1.3, 51°.4N±0°.1×174°.02W±0°.08, h35km, n18, σ0s88/19, mb3.6/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.86**	**353**			**Pn**	**02 27 41.1**	**-0.4**
ATKA						**Sn**	**02 27 54.0**	**+1.2**
KOFP	**Korovin Flat P**	**0.93**	**357**			**Pn**	**02 27 42.8**	**+0.2**
KOKL	**Mount Kliuchef**	**0.98**	**353**			**Pn**	**02 27 43.3**	**+0.1**
GSMY	**Great Sitkin M**	**1.45**	**299**			**Pn**	**02 27 49.1**	**-0.6**
GSCK	**Great Sitkin C**	**1.49**	**297**			**Pn**	**02 27 50.1**	**-0.1**
GSTD	**Great Sitkin T**	**1.50**	**299**			**Pn**	**02 27 49.9**	**-0.5**
GSTD						**Sn**	**02 28 09.7**	**+0.9**
ADK	**Adak**	**1.75**	**289**	Pn		**Pn**	**02 27 53.5**	**-0.2**
ADK				Sn		**Sn**	**02 28 13.4**	**-1.4**
KIWB	**Kanaga Island**	**2.02**	**286**	Pn		**Pn**	**02 27 56.8**	**-0.7**
KIKV	**Kanaga Island**	**2.04**	**286**			**Pn**	**02 27 58.9**	**+1.1**
TASE	**Tanaga Southea**	**2.55**	**282**			**Pn**	**02 28 06.1**	**+1.2**
KDAK	**Kodiak Island**	**13.96**	**54**	P		**P**	**02 30 48.2**	**-0.4**
	1.0nm,0.3s,baz=309,slow=5.8,SNR=14							
ILAR	**Eielson Array**	**19.44**	**36**	P		**P**	**02 31 47.9**	**-1.2**
	0.2nm,0.3s,baz=220,slow=10,SNR=11							
YKA	**Yellowknife Ar**	**33.06**	**47**	P		**P**	**02 33 58.5**	**+0.8**
	0.1nm,0.8s,baz=272,slow=9.1,SNR=1.5							
PDAR	**Pinedale Array**	**43.44**	**75**	P		P	02 35 34.1	+8.6
	0.1nm,0.5s,baz=289,slow=5.6,SNR=1.5							
SONM	**Songino Array**	**49.31**	**299**	P		**P**	**02 36 12.1**	**+0.7**
	0.2nm,0.4s,baz=29,slow=6.6,SNR=2.1							
ARCES	**ARCESS Array B**	**58.58**	**352**	P		**P**	**02 37 17.3**	**-1.2**
	3.7nm,0.9s,baz=6.2,slow=9.2,SNR=1.6							
KURBB	**Kurchatov Arra**	**61.27**	**316**	P		**P**	**02 37 37.6**	**+0.3**
	0.4nm,0.5s,baz=45,slow=6.6,SNR=2.5							
ASAR	**Alice Springs**	**87.57**	**226**	P		P	02 40 25.1	+15
	0.3nm,0.3s,baz=31,slow=4.0,SNR=4.3							

ISK ***14*** *02:59:28.6, 38°.66N×25°.95E, h8km, ML2.1/6*

DDA ***14*** *02:59:29.0±0.0, 38°.65N×26°.03E, h7km±4km, ML1.9*

THE ***14*** *02:59:30.7, 38°.62N×25°.95E, h21km±2km, ML2.0/5, Error ellipse: s-maj=3.3km s-min=1.2km az=82.0*

ATH ***14*** *02:59:31.2, 38°.68N×26°.05E, h11km±6km, ML2.5/3, Error ellipse: s-maj=6.6km s-min=2.1km az=229.0*

ISC 14 02:59:29.1±1.2, 38°.66N±0°.02×26°.05E±0°.03, h9km±10km, n27, σ0s64/44, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.27**	**179**	P		**Pb**	**02 59 36.3**	**0.0**
CHOS				S		**Sb**	**02 59 40.7**	**-0.2**
CHOS				AML	AML		02 59 42.0	
	comp=N,1757μm,0.2s							
CHOS				AML	AML		02 59 42.0	
	comp=E,3679μm,0.2s							
CHOS	**Chios island**	**0.27**	**179**	P		**Pb**	**02 59 36.2**	**0.0**
CHOS				S		**Sb**	**02 59 40.3**	**-0.6**
	comp=E,1μm,0.2s							
PSRA	**Psara**	**0.40**	**253**	P		**Pb**	**02 59 38.9**	**+0.7**
PSRA				S		**Sb**	**02 59 44.3**	**-0.1**
PSRA				AML	AML		02 59 44.4	
	comp=N,2651μm,0.3s							
PSRA				AML	AML		02 59 44.6	
	comp=E,3362μm,0.2s							
URLA	**Izmir**	**0.52**	**125**	PG		**Pb**	**02 59 40.9**	**+0.4**
URLA				SG		**Sb**	**02 59 48.8**	**+0.7**
URLA	**Izmir**	**0.52**	**125**	P		**Pg**	**02 59 39.3**	**+0.1**
URLA				S		**Sb**	**02 59 47.8**	**-0.4**
URLA				*i* AML	AML		02 59 49.0	
	comp=E,63nm,0.4s							
ZEYE	**Izmir, Urla-Ze**	**0.55**	**139**	P		**Pb**	**02 59 40.6**	**-0.3**
ZEYE				S		**Sb**	**02 59 47.6**	**-1.3**
ZEYE				*i* AML	AML		02 59 53.0	
	comp=E,81nm,0.3s							
ZEYE				*i* AML	AML		02 59 53.0	
	comp=E,77nm,0.5s							
PRK	**Paraskevi**	**0.61**	**17**	P		**Pb**	**02 59 42.8**	**+0.9**
PRK	**Paraskevi**	**0.61**	**17**	P		**Pb**	**02 59 42.8**	**+0.9**
PRK				S		**Sn**	**02 59 54.2**	**+0.3**
	comp=E,205nm,0.4s							
DKL	**Dikili**	**0.79**	**58**	PG		**Pb**	**02 59 45.5**	**+0.6**
DKL				SG		**Sn**	**02 59 58.0**	**-0.2**
AYVA	**Ayvalik**	**0.82**	**38**	P		**Pg**	**02 59 44.4**	**-0.5**
AYVA				S		**Sb**	**02 59 56.7**	**+0.1**
BLCB	**Balcova**	**0.83**	**109**	P		**Pn**	**02 59 47.6**	**+0.7**
BLCB	**Balcova**	**0.83**	**109**	PG		**Pn**	**02 59 46.6**	**-0.3**
BLCB				SG		**Sn**	**02 59 59.3**	**+0.1**
KOCA	**Canakkale, Ayv**	**0.84**	**5**	P		**Pg**	**02 59 45.0**	**-0.3**
KOCA				S		**Sb**	**02 59 58.3**	**+0.9**
KOCA				*i* AML	AML		02 59 59.0	
	comp=E,48nm,0.6s							
KOCA				*i* AML	AML		03 00 00.0	
	comp=E,50nm,0.7s							
ZEDA	**zmir-Bergama**	**0.86**	**69**	P		**Pb**	**02 59 46.5**	**+0.3**
DGB	**zmir**	**0.89**	**132**	P		**Pg**	**02 59 46.4**	**+0.1**
DGB				S		**Sg**	**02 59 57.7**	**-0.2**
SMG	**Samos**	**1.14**	**146**	P		**Pn**	**02 59 52.8**	**+1.7**
SMG				AML	AML		03 00 10.1	
	comp=E,353μm,0.5s							
SMG				AML	AML		03 00 10.5	
	comp=N,194μm,0.3s							
SMG	**Samos**	**1.14**	**146**	P		**Pb**	**02 59 50.7**	**-0.2**
SMG				S		**Sg**	**03 00 05.4**	**-0.2**
	comp=N,135nm,0.4s							
BAYC	**CANAKKALE_Bayr**	**1.15**	**20**	P		**Pb**	**02 59 50.6**	**-0.5**
BAYC				S		**Sb**	**03 00 04.6**	**-1.5**
BUHA	**Balikesir, Bur**	**1.16**	**43**	P		**Pb**	**02 59 50.6**	**-0.7**
BUHA				S		**Sn**	**03 00 07.7**	**+0.2**
BUHA				*i* AML	AML		03 00 18.0	
	comp=N,20nm,0.6s							
BOZC	**Bozcaada**	**1.18**	**0**	PN		**Pn**	**02 59 51.6**	**-0.2**
EZN	**Ezine**	**1.19**	**10**	P		**Pn**	**02 59 51.6**	**-0.2**
EZN				S		**Sb**	**03 00 07.7**	**+0.6**
	comp=N,30nm,0.5s							
EZN	**Ezine**	**1.19**	**10**	PN		**Pn**	**02 59 51.7**	**-0.1**
GCAM	**G?zelcaml?**	**1.34**	**135**	PN		**Pg**	**02 59 55.0**	**+0.2**
LIA	**Limnos Island**	**1.41**	**332**	P		**Pg**	**02 59 56.7**	**+0.6**
LIA	**Limnos Island**	**1.41**	**332**	P		**Pn**	**02 59 54.9**	**0.0**
LIA				S		**Sn**	**03 00 12.1**	**-1.4**
	comp=N,28nm,0.4s							
STEP	**BALIKESIR_Sava**	**1.49**	**61**	P		**Pb**	**02 59 57.5**	**+0.6**
APE	**Apeiranthos**	**1.64**	**195**	P		**Pn**	**02 59 57.8**	**-0.3**

BJI ***14*** *03:06:07.1±0.0, 53°.97N×160°.72E, h46km, mb5.3/78, mB5.4/71, Ms5.6/92, Ms7 5.6/84*

KRSC ***14*** *03:06:07.3±0.9, 53°.66N×161°.11E, h48km±16km, ML6.2*

NEIC ***14*** *03:06:09±1.3, 53°.77N±0°.07×160°.80E±0°.07, h32km±1km, mb5.7/812, Ms_20 5.4/330, Mwb5.7/149, Mww5.8, Error ellipse: s-maj=13.3km s-min=5.1km az=153.0*

IDC ***14*** *03:06:09.1±1.2, 53°.86N×160°.68E, h35km±8km, mb5.2/38, mb1 5.3/41, mb1mx5.3/43, mbtmp5.4/41, ML5.6/5, MS5.3/88, Ms1 5.3/88, ms1mx5.2/98, Error ellipse: s-maj=10.4km s-min=7.2km az=146.0*

NEIC ***14*** *03:06:09.2, 53°.77N×160°.80E, h35km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=3.14; Mθθ-1.04; Mϕϕ-2.11; Mrθ1.39; Mθϕ-1.18; Mϕr1.93; Fault plane solution: Mw3.84000×10¹⁷ NP1:ϕs211.40000°, δ25.88000°, λ87.10000°. NP2:ϕs34.62000°, δ64.16000°, λ91.41000°. Principal axes: T 3.9680, Plg71.0000°, Azm308.0000°; N -0.2738, Plg1.0000°, Azm214.0000°; P -3.6942, Plg19.0000°, Azm124.0000°;*

MOS ***14*** *03:06:11.1±1.1, 53°.73N×160°.77E, h43km, mb5.9/105, MS5.5/68 Error ellipse: s-maj=5.3km s-min=3.1km az=75.7*

MOS Felt (III) at Petropavlovsk-Kamchatskiy.

BGR ***14*** *03:06:12.3±0.0, 54°.31N×160°.76E, h40km, mb6.2, Ms5.5*

NEIC ***14*** *03:06:14, 53°.38N×161°.11E, h36km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10¹⁷Nm; Mrr5.20; Mθθ-2.04; Mϕϕ-3.15; Mrθ2.53; Mθϕ-1.10; Mϕr4.16; Fault plane solution: Mw6.75000×10¹⁷ NP1: ϕs212.00000°, δ21.00000°, λ90.00000°. NP2:ϕs31.00000°, δ69.00000°, λ90.00000°. Principal axes: T 7.3249, Plg66.0000°, Azm301.0000°; N -1.3698, Plg0.0000°, Azm121.0000°; P -5.9550, Plg24.0000°, Azm211.0000°;*

GCMT ***14*** *03:06:14.0±0.1, 53°.71N±0°.01×161°.20E±0°.01, h44km, MW5.8/165, Moment Tensor Solution. s157,c329; s165,c449; Duration: 2s0 Moment tensor: Scale 10¹⁷ Nm; Mrr5.87±.06; Mθθ-1.19±.05; Mϕϕ-4.67±.05; Mrθ2.12±.06; Mθϕ-3.09±.04; Mϕr2.66±.06; Best double couple: Mw7.05000×10¹⁷ NP1:ϕs205.00000°, δ31.00000°, λ82.00000°. NP2:ϕs35.00000°, δ59.00000°, λ95.00000°. Principal axes: T 6.7650, Plg75.0000°, Azm318.0000°; N 0.5820, Plg4.0000°, Azm212.0000°; P -7.3360, Plg14.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 14 03:06:09.7±0.2, 53°.80N±0°.03×160°.79E±0°.02, h45km±1km, h45km:pP-P, n2447, σ1s53/2542, mb5.7/707, MS5.4/320, 601C-20Id, Fault plane solution: NP1:ϕs42.11286°, δ53.88195°, λ92.73019°. NP2:ϕs217.48767°, δ36.20708°, λ86.26517°. Principal axes: T Plg80.8806°, Azm324.3824°; N Plg2.2052°, Azm220.5027°; P Plg8.8444°, Azm130.1595°**; Near coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
Kll	**Karymskiy**	**0.83**	**287**	PN		**Pn**	**03 06 26.4**	**+1.3**
Kll	**Karymskiy**	**0.83**	**287**	*e*P		**Pn**	**03 06 26.4**	**+1.3**
SPN	**Mys Shipunski**	**0.84**	**214**	PN		**Pn**	**03 06 24.6**	**-0.5**
SPN				S		**Sn**	**03 06 35.7**	**-0.7**
SPN	**Mys Shipunski**	**0.84**	**214**	*e*P		**Pn**	**03 06 24.6**	**-0.5**
SPN				*e*S		**Sn**	**03 06 35.7**	**-0.7**
MKZ	**Mys Kozlova**	**0.94**	**36**	PN		**Pn**	**03 06 25.8**	**-0.7**
MKZ	**Mys Kozlova**	**0.94**	**36**	*e*P		**Pn**	**03 06 25.8**	**-0.7**
NLC	**Nalytchevo**	**1.07**	**235**	PN		**Pn**	**03 06 28.6**	**+0.4**
NLC				S		**Sn**	**03 06 42.7**	**+0.8**
NLC	**Nalytchevo**	**1.07**	**235**	*e*P		**Pn**	**03 06 28.6**	**+0.4**
NLC				*e*S		**Sn**	**03 06 42.7**	**+0.8**
SDLR	**Sedlovina**	**1.25**	**246**	PN		**Pn**	**03 06 32.0**	**+1.1**
SDLR	**Sedlovina**	**1.25**	**246**	*e*P		**Pn**	**03 06 32.0**	**+1.1**
SMAR	**Somma**	**1.30**	**247**	PN		**Pn**	**03 06 32.7**	**+1.0**
SMAR	**Somma**	**1.30**	**247**	*e*P		**Pn**	**03 06 32.7**	**+1.0**
UGLR	**Uglovaya**	**1.32**	**244**	PN		**Pn**	**03 06 33.0**	**+1.2**
UGLR	**Uglovaya**	**1.32**	**244**	*e*P		**Pn**	**03 06 33.0**	**+1.2**
KRER	**Koryakskii**	**1.32**	**249**	PN		**Pn**	**03 06 33.4**	**+1.6**
KRER	**Koryakskii**	**1.32**	**249**	*e*P		**Pn**	**03 06 33.4**	**+1.6**
AVH	**Avacha**	**1.34**	**247**	PN		**Pn**	**03 06 33.5**	**+1.5**
AVH	**Avacha**	**1.34**	**247**	*e*P		**Pn**	**03 06 33.5**	**+1.5**
KOK	**Koryaka**	**1.38**	**249**	PN		**Pn**	**03 06 34.1**	**+1.4**
KOK	**Koryaka**	**1.38**	**249**	*e*P		**Pn**	**03 06 34.1**	**+1.4**
TUMD	**Tumrok D**	**1.43**	**351**	*e*P		**Pn**	**03 06 34.6**	**+1.4**
TUMD				*e*S		**Sn**	**03 06 53.9**	**+3.1**
DALK	**Dalny**	**1.44**	**239**	PN		**Pn**	**03 06 34.1**	**+0.8**
DALK				S		**Sn**	**03 06 52.6**	**+1.5**
DALK	**Dalny**	**1.44**	**239**	*e*P		**Pn**	**03 06 34.1**	**+0.8**
DALK				*e*S		**Sn**	**03 06 52.6**	**+1.5**
PET	**Petropavlovsk**	**1.50**	**240**	*i*PN		**Pn**	**03 06 34.9**	**+0.8**
PET				*e*S		**Sn**	**03 06 54.3**	**+1.9**
PET				pmax	pmax			
	comp=Z,13μm,5.3s							
PET				pmax	pmax			
	comp=Z,34μm,3.1s							
PET				pmax	pmax			
	comp=Z,17μm,0.6s							
PET				smax	smax			
	comp=N,136μm,0.6s							
PET				smax	smax			
	comp=E,157μm,0.7s							
PET	**Petropavlovsk**	**1.50**	**240**			**Pn**	**03 06 34.5**	**+0.3**
PET						**Sn**	**03 06 54.5**	**+2.0**
PET	**Petropavlovsk**	**1.50**	**240**	P		**Pn**	**03 06 35.8**	**+1.7**
PET	**Petropavlovsk**	**1.50**	**240**	*e*P		**Pn**	**03 06 35.0**	**+0.8**
TUMR	**Tumrok**	**1.54**	**346**	PN		**Pn**	**03 06 36.9**	**+2.1**
TUMR	**Tumrok**	**1.54**	**346**	*e*P		**Pn**	**03 06 36.9**	**+2.1**
GNL	**Ganaly**	**1.70**	**268**	PN		**Pn**	**03 06 38.9**	**+1.9**
GNL	**Ganaly**	**1.70**	**268**	*e*P		**Pn**	**03 06 38.9**	**+1.9**
KRMR	**Karymshinskiy**	**1.87**	**240**	PN		**Pn**	**03 06 41.2**	**+2.0**
KRMR				S		**Sn**	**03 07 05.1**	**+3.5**
KRMR	**Karymshinskiy**	**1.87**	**240**	*e*P		**Pn**	**03 06 41.2**	**+2.0**
KRMR				*e*S		**Sn**	**03 07 05.1**	**+3.5**
RUS	**Russkaya**	**1.94**	**226**	PN		**Pn**	**03 06 40.2**	**+0.1**
RUS	**Russkaya**	**1.94**	**226**	*e*P		**Pn**	**03 06 40.2**	**+0.1**
I44RU	**PETROPAVLOVSK-**	**1.97**	**251**	Pn		**Pn**	**03 06 40.0**	**-0.6**
	baz=71,slow=23,SNR=0.8							
I44RU				*i*			03 16 10.0	
	baz=68,slow=326,SNR=4.9							
PEA0B	**Petropavlovsk-**	**1.98**	**251**	*d i*PN		**Pn**	**03 06 42.8**	**+2.1**
PEA0B	**Petropavlovsk-**	**1.98**	**251**	Pn		**Pn**	**03 06 42.2**	**+1.5**
PEA0B				Sn		**Sn**	**03 07 06.3**	**+2.1**
PETK	**Petropavlovsk-**	**1.98**	**251**	Pn		**Pn**	**03 06 41.5**	**+0.8**
	comp=E,1μm,0.3s,baz=83,slow=15,SNR=1588							
PETK				Lg	Lg		03 07 09.7	
	comp=E,2μm,0.3s,baz=78,slow=40,SNR=8.6							
PETK				LR	LR		03 07 17.8	
	comp=E,43μm,21.5s,baz=59,slow=36							
PETK	**Petropavlovsk-**	**1.98**	**251**	PN		**Pn**	**03 06 41.8**	**+1.1**
PETK	**Petropavlovsk-**	**1.98**	**251**	Pn		**Pn**	**03 06 41.8**	**+1.1**
KMNR	**Kamenistaya**	**1.99**	**351**	PN		**Pn**	**03 06 43.8**	**+2.8**
KMNR	**Kamenistaya**	**1.99**	**351**	*e*P		**Pn**	**03 06 43.8**	**+2.8**
MTVR	**Mutnovka**	**2.05**	**231**	PN		**Pn**	**03 06 42.6**	**+0.8**
MTVR	**Mutnovka**	**2.05**	**231**	*e*P		**Pn**	**03 06 42.6**	**+0.8**
GRL	**Gorelyy**	**2.06**	**234**	PN		**Pn**	**03 06 43.3**	**+1.4**
GRL	**Gorelyy**	**2.06**	**234**	*e*P		**Pn**	**03 06 43.3**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**2.15**	**359**	PN		**Pn**	**03 06 45.9**	**+2.8**
BZGR	**Bezymyannyi-Gr**	**2.15**	**359**	*e*P		**Pn**	**03 06 45.9**	**+2.8**
KIRR	**Kirishev**	**2.18**	**353**	PN		**Pn**	**03 06 45.9**	**+2.3**
KIRR	**Kirishev**	**2.18**	**353**	*e*P		**Pn**	**03 06 45.9**	**+2.3**
BZWR	**Bezymyannyi-We**	**2.18**	**356**	PN		**Pn**	**03 06 46.9**	**+3.3**
BZWR	**Bezymyannyi-We**	**2.18**	**356**	*e*P		**Pn**	**03 06 46.9**	**+3.3**
KPT	**Kopyto**	**2.20**	**352**	PN		**Pn**	**03 06 46.4**	**+2.6**
KPT	**Kopyto**	**2.20**	**352**	*e*P		**Pn**	**03 06 46.4**	**+2.6**
ZLN	**Zelenaya**	**2.22**	**0**	PN		**Pn**	**03 06 47.5**	**+3.3**
ZLN	**Zelenaya**	**2.22**	**0**	*e*P		**Pn**	**03 06 47.5**	**+3.3**
ASAK	**Asacha**	**2.25**	**232**	PN		**Pn**	**03 06 46.0**	**+1.5**
ASAK	**Asacha**	**2.25**	**232**	*e*P		**Pn**	**03 06 46.0**	**+1.5**
LGNR	**Loginova**	**2.29**	**359**	PN		**Pn**	**03 06 49.1**	**+3.8**
LGNR	**Loginova**	**2.29**	**359**	*e*P		**Pn**	**03 06 49.1**	**+3.8**
CIRR	**Tsirk**	**2.32**	**359**	PN		**Pn**	**03 06 49.2**	**+3.6**
CIRR	**Tsirk**	**2.32**	**359**	*e*P		**Pn**	**03 06 49.2**	**+3.6**
APC	**Apacha**	**2.35**	**250**	PN		**Pn**	**03 06 48.7**	**+2.9**
APC	**Apacha**	**2.35**	**250**	*e*P		**Pn**	**03 06 48.7**	**+2.9**
KRSR	**Krestovskiy**	**2.43**	**357**	PN		**Pn**	**03 06 49.9**	**+2.9**
KRSR	**Krestovskiy**	**2.43**	**357**	*e*P		**Pn**	**03 06 49.9**	**+2.9**
ESO	**Esso**	**2.45**	**331**	PN		**Pn**	**03 06 49.6**	**+2.4**
ESO	**Esso**	**2.45**	**331**	*e*P		**Pn**	**03 06 49.6**	**+2.4**
KLY	**Klyuchi**	**2.52**	**358**	PN		**Pn**	**03 06 50.5**	**+2.4**
KLY	**Klyuchi**	**2.52**	**358**	*e*P		**Pn**	**03 06 50.5**	**+2.4**
KDTR	**Khodutka, Kamc**	**2.59**	**221**	PN		**Pn**	**03 06 50.4**	**+1.4**
KDTR				S		**Sn**	**03 07 21.7**	**+2.5**
KDTR	**Khodutka, Kamc**	**2.59**	**221**	*e*P		**Pn**	**03 06 50.4**	**+1.4**
KDTR				*e*S		**Sn**	**03 07

comp=Z,8μm,17.0s
KUR MLR MLR
comp=E,6μm,15.0s
KUR MLR MLR
comp=N,4μm,12.0s
NKL Nikolayevsk 12.00 275 *e*PN **Pn 03 09 02.6 +4.7**
NKL pmax pmax
comp=N,1.0nm,1.1s
NKL pmax pmax
comp=E,6.0nm,1.1s
NKL pmax pmax
comp=Z,255nm,1.1s
NKL MLR MLR
comp=Z,11μm,19.0s
UGL Uglegorsk 12.59 256 *d i* PN **P 03 09 12.8 -3.6**
UGL *e*S Sn 03 11 36.9 +12
UGL pmax pmax
comp=Z,4μm,3.0s
UGL pmax pmax
comp=Z,785nm,1.3s
UGL smax smax
comp=E,5μm,7.0s
UGL smax smax
comp=N,5μm,10.3s
UGL MLR MLR
comp=Z,10μm,15.0s
UGL MLR MLR
comp=N,6μm,13.0s
UGL MLR MLR
comp=E,12μm,14.0s
YSS Yuzh-Sakhalins 13.37 247 *ce*PN **Pn 03 09 20.8 +4.1**
YSS *e*S **Sn 03 11 49.0 +5.2**
YSS pmax pmax
comp=Z,240nm,1.1s
YSS pmax pmax
comp=Z,3μm,6.1s
YSS MLR MLR
comp=Z,12μm,15.0s
YSS MLR MLR
comp=E,7μm,13.0s
YSS Yuzh-Sakhalins 13.37 247 Pn **Pn 03 09 19.5 +2.8**
KIWB Kanaga Island 13.47 89 **Pn 03 09 17.7 -0.3**
ADK Adak 13.74 89 P **Pn 03 09 21.0 -0.6**
ADK Adak 13.74 89 Pn **Pn 03 09 21.0 -0.6**
ADK Adak 13.74 89 P **Pn 03 09 20.6 -1.0**
YUK Yuzh-Kuril'sk 13.82 231 *e*P **Pn 03 09 21.8 -1.0**
YUK *e*S **Sn 03 11 58.9 +4.2**
YUK pmax pmax
comp=Z,703nm,0.9s
YUK pmax pmax
comp=E,234nm,0.3s
YUK pmax pmax
comp=N,325nm,0.7s
GSTR Great Sitkin T 14.05 88 Pn **Pn 03 09 25.8 -0.1**
BILL Bilibino 14.53 8 *d i* P **Pn 03 09 34.3 +2.2**
BILL *i* S **Sn 03 12 14.8 +3.2**
BILL pmax pmax
comp=Z,108nm,1.7s
BILL MLR MLR
comp=Z,5μm,11.0s
ATKA Atka Island 15.12 86 P **Pn 03 09 40.6 +0.5**
GRNR Gornyy 15.20 268 ⇓ *i* P **P 03 09 46.4 +1.0**
GRNR pmax pmax
comp=E,50nm,0.9s
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,60nm,0.9s
GRNR MLR MLR
comp=E,5μm,16.0s
JKA Kamikawa-asahi 15.34 238 Pn **Pn 03 09 44.2 +1.2**
JKA IAmb IAmb 03 10 04.2
comp=Z,414nm,0.9s
ASAJ Asahikawa 15.34 238 Pn **Pn 03 09 44.1 +1.2**
comp=Z,8.7nm,0.3s,baz=60,slow=9.1,SNR=96
ASAJ LR LR 03 15 04.7
comp=Z,16μm,20.5s,baz=46,slow=35
ASAJ Asahikawa 15.34 238 P **Pn 03 09 44.2 +1.2**
ASAJ pmax pmax
comp=Z,414nm,0.9s
ERM Erimo 16.64 232 *de*P **Pn 03 09 57.1 -2.4**
ERM MLR MLR
comp=Z,7μm,20.0s
ERM Erimo 16.64 232 **Pn 03 09 55.7 -3.8**
ERM IAmb IAmb 03 10 07.7
comp=Z,252nm,0.7s
SPIA Saint Paul Isl 16.69 67 **Pn 03 10 00.9 +0.9**
SPIA IAmb IAmb 03 10 04.4
comp=Z,1μm,1.4s
SPIA Saint Paul Isl 16.69 67 P **Pn 03 09 59.7 -0.3**
baz=271,SNR=7.4
SPIA S **S 03 13 10.1 -3.5**
baz=271
SPIA Saint Paul Isl 16.69 67 P **P 03 10 03.3 +1.4**
JEW Eniwo 16.84 237 **Pn 03 10 02.5 +0.5**
GAMB Gambell 17.25 44 P **Pn 03 10 06.8 -0.2**
baz=247,SNR=14
GAMB S **S 03 13 22.9 -2.0**
baz=247
TEY Ternei 17.94 251 ⇑ *e*P **P 03 10 16.0 +0.3**
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=E,20nm,1.5s
TEY pmax pmax
comp=Z,400nm,1.4s
TEY pmax pmax
comp=E,200nm,5.0s
TEY pmax pmax
comp=Z,200nm,7.6s
NIKH Nikolski High 18.06 80 **P 03 10 15.4 -1.6**
NIKH Nikolski High 18.06 80 P **P 03 10 16.5 -0.5**
baz=285,SNR=9.1
NIKH S **Sn 03 13 38.4 +1.0**
baz=285
YAK Yakutsk 18.30 309 P **Pn 03 10 20.2 +0.3**
comp=Z,3.0nm,0.3s,baz=103,slow=14,SNR=9.4
YAK LR LR 03 17 59.0
comp=Z,16μm,20.9s,baz=108,slow=39
YAK Yakutsk 18.30 309 *c i* P **P 03 10 19.7 +0.1**
YAK *e*S **S 03 13 45.9 -0.3**
YAK pmax pmax
comp=Z,275nm,1.1s
YAK pmax pmax
comp=N,59nm,1.2s
YAK pmax pmax
comp=E,245nm,1.3s
YAK pmax pmax
comp=Z,530nm,1.4s
YAK pmax pmax
comp=N,96nm,1.2s
YAK pmax pmax
comp=E,471nm,1.4s
YAK smax smax
comp=E,587nm,3.3s
YAK smax smax
comp=N,176nm,1.5s
YAK MLR MLR
comp=Z,22μm,17.0s
YAK MLR MLR
comp=E,14μm,17.0s
YAK MLR MLR
comp=N,4μm,18.0s
YAK Yakutsk 18.30 309 P **Pn 03 10 20.3 +0.4**
YAK IAmb IAmb 03 10 40.7
comp=Z,351nm,0.8s
KLR Kul'dur 18.57 268 P **Pn 03 10 23.9 +0.6**
comp=Z,9.5nm,0.3s,baz=62,slow=11,SNR=56
KLR LR LR 03 18 20.9
comp=Z,13μm,18.8s,baz=68,slow=40
KLR Kul'dur 18.57 268 *ce*P **Pn 03 10 24.8 +1.5**
KLR pmax pmax
comp=Z,235nm,1.7s
UNV Unalaska Valle 19.22 77 P **Pn 03 10 31.0 +0.1**
UNV IAmb IAmb 03 10 33.2
comp=Z,778nm,1.5s
UNV Unalaska Valle 19.22 77 P **P 03 10 29.6 -0.1**
baz=283,SNR=14
UNV S **S 03 14 03.4 -1.3**
baz=283
UNV Unalaska Valle 19.22 77 P **Pn 03 10 32.0 +1.1**
TNA Tin City 19.44 40 P **Pn 03 10 33.1 -0.4**
TNA IAmb IAmb 03 10 57.4
comp=Z,325nm,1.2s
TNA Tin City 19.44 40 P **P 03 10 32.0 0.0**
baz=248,SNR=8.9
TNA S **Sn 03 14 10.7 +0.2**
baz=248
ZEA Zeya 19.73 283 *e*P **P 03 10 36.2 +0.9**
ZEA *e*S S 03 14 04.0 -11
ZEA pmax pmax
comp=E,40nm,1.3s
ZEA pmax pmax
comp=Z,120nm,1.3s
ZEA pmax pmax
comp=E,2μm,8.5s
ZEA pmax pmax
comp=Z,2μm,10.9s
ZEA smax smax
comp=N,2μm,9.0s
ZEA smax smax
comp=E,1μm,7.8s
ZEA MLR MLR
comp=N,3μm,15.0s
ZEA MLR MLR
comp=Z,6μm,16.0s
ANM Nome 20.13 44 P Pn 03 10 40.9 -0.8
ANM pmax pmax
comp=Z,151nm,1.3s
ANM Nome 20.13 44 P Pn 03 10 40.9 -0.8
ANM Nome 20.13 44 P **P 03 10 39.6 0.0**
baz=254,SNR=32
ANM S **S 03 14 24.8 +1.9**
baz=254
FALS False Pass 20.76 73 P **P 03 10 46.6 +0.2**
FALS IAmb IAmb 03 11 06.4
comp=Z,266nm,0.8s
FALS False Pass 20.76 73 P **P 03 10 45.9 -0.6**
baz=282
FALS S **S 03 14 35.7 +0.3**
baz=282
FALS False Pass 20.76 73 P Pn 03 10 49.4 +0.2
JMM Marumori 21.05 229 P **P 03 10 49.5 -0.2**
USA0B Ussuriysk Arra 21.06 255 P **P 03 10 50.8 +1.0**
USA0B pmax pmax
comp=Z,145nm,1.3s
USA0B Ussuriysk Arra 21.06 255 P **P 03 10 50.8 +1.0**
USRK Ussuriysk Ar. 21.06 255 P **P 03 10 49.5 -0.3**
comp=Z,27nm,0.6s,baz=51,slow=13,SNR=51
USRK PcP **PcP 03 14 55.9 +1.2**
comp=Z,12nm,1.0s,baz=37,slow=3.6,SNR=4.6
USRK LR LR 03 19 30.9
comp=Z,3μm,21.8s,baz=50,slow=38
USRK Ussuriysk Ar. 21.06 255 P **P 03 10 50.1 +0.3**
USRK Ussuriysk Ar. 21.06 255 P **P 03 10 50.1 +0.3**
JSD Sado 22.09 234 P **P 03 11 00.7 -0.1**
MDJ Mudanjiang 22.20 258 P **P 03 11 00.1 -1.9**
MDJ Mudanjiang 22.20 258 P **P 03 11 00.8 -1.2**
MDJ pP pP 03 11 09.8 -3.0
MDJ S **S 03 15 02.9 -0.6**
MDJ sS Sn 03 15 16.8 -0.1
MDJ pmax pmax
comp=Z,1μm,6.6s
MDJ LR LR
comp=Z,5μm,19.5s
MDJ LR LR
comp=Z,7μm,22.2s
MDJ LR LR
comp=Z,11μm,21.4s
RDOG Red Dog Mine 22.22 36 P **P 03 11 00.9 -1.1**
RDOG Red Dog Mine 22.22 36 P **P 03 11 01.7 -0.3**
baz=248,SNR=110
RDOG S **S 03 15 03.0 -0.6**
baz=248
SDPT Sand Point 22.31 70 P **P 03 11 01.2 -1.9**
SDPT IAmb IAmb 03 11 38.8
comp=Z,198nm,0.9s
SDPT Sand Point 22.31 70 P **P 03 11 02.8 -0.2**
baz=282
SDPT S **S 03 15 07.7 +2.4**
baz=282
MSHR Mys Shultsa 22.55 252 *ce*P **P 03 11 02.5 -3.2**
MSHR pmax pmax
comp=Z,31nm,1.0s
MSHR MLR MLR
comp=Z,7μm,20.0s
TIXI Tiksi 22.62 334 P **P 03 11 05.2 -1.0**
comp=Z,35nm,0.6s,baz=91,slow=23,SNR=46
TIXI LR LR 03 20 55.6
comp=Z,14μm,19.8s,baz=177,slow=39
TIXI Tiksi 22.62 334 *ce*P **P 03 11 05.3 -1.0**
TIXI pmax pmax
comp=Z,217nm,1.7s
TIXI MLR MLR
comp=Z,10μm,14.0s
TIXI Tiksi 22.62 334 P **P 03 11 06.0 -0.3**
TIXI **PcP 03 14 58.2 +0.9**
TIXI IAMs_20 IAMs_20 03 20 45.5
comp=Z,13μm,19.0s
JYT Yasato 22.68 228 P **P 03 11 06.6 -0.5**
BNX BinXian 22.85 263 ⇑ P **P 03 11 08.8 0.0**
BNX pP **pP 03 11 19.9 +0.2**
BNX sP **sP 03 11 25.6 +0.3**
BNX PP **PnPn 03 11 37.9 +3.6**
BNX S **S 03 15 07.8 -7.0**
BNX sS Sn 03 15 26.4 -6.0
BNX pmax pmax
comp=Z,4μm,4.6s
BNX LR LR
comp=Z,11μm,13.3s
BNX LR LR
comp=Z,11μm,14.4s
BNX LR LR
comp=Z,17μm,16.7s
CHGN Chignik 23.26 67 P **P 03 11 12.5 -0.4**
baz=281
CHGN S **S 03 15 25.6 +4.2**
baz=281
MJB9 Matsu-Tunnel 23.31 231 P **P 03 11 11.7 -1.9**
MAJO Matsushiro 23.31 231 *c i* P **P 03 11 14.2 +0.6**
MAJO pmax pmax
comp=Z,433nm,0.9s
MAJO MLR MLR
comp=Z,8μm,22.0s
MAJO Matsushiro 23.31 231 P **P 03 11 11.5 -2.1**
MAJO Matsushiro 23.31 231 P **P 03 11 14.9 +1.3**
MJAR Matsushiro Arr 23.31 231 P **P 03 11 14.2 +0.7**
comp=Z,297nm,1.0s,baz=17,slow=17,SNR=251
MJAR PcP **PcP 03 14 58.9 -0.5**
comp=Z,6.5nm,0.8s,baz=341,slow=1.9,SNR=2.4
GCSA Galena City Sc 23.75 46 P **P 03 11 17.6 +0.2**
baz=263
GCSA S **S 03 15 32.7 +3.6**
baz=263
TTA Tatalina 23.98 50 P **P 03 11 20.4 +0.7**
TTA pmax pmax
comp=Z,412nm,1.5s
TTA Tatalina 23.98 50 P **P 03 11 20.4 +0.7**
TTA IAmb IAmb 03 11 43.1
comp=Z,412nm,1.5s
TTA Tatalina 23.98 50 P **P 03 11 19.6 -0.1**
baz=268,SNR=39
TTA S **S 03 15 34.8 +1.7**
baz=268
N18K Kilae Creek 24.05 56 P **P 03 11 21.1 +0.8**
N18K IAMs_20 IAMs_20 03 20 42.0
comp=Z,10μm,20.0s
N18K Kilae Creek 24.05 56 P **P 03 11 20.0 -0.3**
baz=273,SNR=21
N18K S **S 03 15 34.8 +0.7**
baz=273
SVW2 Sparrevohn 24.18 55 P **P 03 11 22.2 +0.7**
O18K Koktuh Hills 24.45 58 IAMs_20 IAMs_20 03 20 53.4
comp=Z,9μm,20.0s
O18K Koktuh Hills 24.45 58 P **P 03 11 24.5 +0.6**
baz=275
O18K S **S 03 15 41.3 +0.7**
baz=275
JGF Kuroka 24.48 231 P **P 03 11 25.1 +0.6**
JGF IAmb IAmb 03 11 27.4
comp=Z,206nm,1.1s
L19K White Mountain 24.50 52 P **P 03 11 25.1 +0.6**
L19K IAmb IAmb 03 11 49.3
comp=Z,196nm,1.5s
L19K White Mountain 24.50 52 P **P 03 11 24.9 +0.5**
baz=270,SNR=22
L19K S **S 03 15 43.4 +1.9**
baz=270
M19K Big River Lodg 24.72 53 P **P 03 11 27.2 +0.8**
M19K IAmb IAmb 03 11 50.3
comp=Z,177nm,1.3s
M19K Big River Lodg 24.72 53 P **P 03 11 26.6 +0.2**
baz=271,SNR=14
M19K S **S 03 15 45.1 +0.1**
baz=271
N19K Bonanza Creek 24.73 56 P **P 03 11 27.3 +0.7**
N19K Bonanza Creek 24.73 56 P **P 03 11 26.2 -0.4**
baz=274,SNR=12
N19K S **S 03 15 46.4 +1.1**
baz=274
INU Inuyama 24.84 232 P **P 03 11 28.3 +0.6**
INU IAmb IAmb 03 11 50.7
comp=Z,192nm,1.0s
INU Inuyama 24.84 232 P **P 03 11 29.2 +1.5**
O19K Port Alsworth 24.86 57 P **P 03 11 28.4 +0.9**
O19K IAMs_20 IAMs_20 03 21 16.5
comp=Z,9μm,20.0s
O19K Port Alsworth 24.86 57 P **P 03 11 27.4 -0.2**
baz=275,SNR=10.0
O19K S **S 03 15 48.5 +1.4**
baz=275
J20K Nowinta River 24.87 47 P **P 03 11 28.7 +1.0**
J20K IAmb IAmb 03 12 05.2
comp=Z,161nm,1.0s
J20K Nowinta River 24.87 47 P **P 03 11 27.8 +0.1**
baz=267,SNR=70
J20K S **S 03 15 46.8 -0.5**
baz=267
K20K Telida 24.87 49 P **P 03 11 28.6 +0.9**
K20K IAmb IAmb 03 11 54.9
comp=Z,249nm,1.4s
K20K Telida 24.87 49 P **P 03 11 28.4 +0.7**
baz=268,SNR=55
K20K S **S 03 15 49.3 +1.9**
baz=268
CHIR Chirikof Islan 24.89 68 IAMs_20 IAMs_20 03 20 33.6
comp=Z,9μm,21.0s
CHIR Chirikof Islan 24.89 68 P **P 03 11 27.8 -0.2**
baz=284
L20K Farewell, AK 24.95 52 P **P 03 11 28.7 +0.2**
baz=271,SNR=23
L20K S **S 03 15 51.6 +2.9**
baz=271
CN2 Changchun 25.09 261 *e*P **P 03 11 29.3 -0.6**
CN2 pP pP 03 11 40.8 -0.8
CN2 sP sP 03 11 46.4 -0.6
CN2 S **S 03 15 46.6 -4.6**
CN2 pmax pmax
comp=Z,140nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,5μm,16.0s
CN2 LR LR
comp=Z,10μm,16.0s
CN2 LR LR
comp=Z,11μm,16.0s
IMAR Indian Mountai 25.20 43 P **P 03 11 30.8 +0.1**
Q19K Cape Douglas, 25.35 60 P **P 03 11 33.3 +1.2**
Q19K IAmb IAmb 03 11 50.1
comp=Z,272nm,1.1s
Q19K Cape Douglas, 25.35 60 P **P 03 11 31.9 -0.2**
baz=278,SNR=8.7
P19K Oil Pt 25.46 58 P **P 03 11 33.9 +0.8**
P19K IAMs_20 IAMs_20 03 21 54.5
comp=Z,8μm,20.0s
P19K Oil Pt 25.46 58 P **P 03 11 32.9 -0.2**
baz=277
P19K S **S 03 15 58.7 +1.9**
baz=277
A21K Barrow 25.47 30 P **P 03 11 33.9 +0.9**
A21K Barrow 25.47 30 P **P 03 11 33.4 +0.4**
baz=249
SII Sitkinak Islan 25.50 65 P **P 03 11 33.4 -0.2**
SII IAmb IAmb 03 12 07.3
comp=Z,243nm,1.0s
SII Sitkinak Islan 25.50 65 P **P 03 11 33.3 -0.2**
baz=283,SNR=9.1
SII Sitkinak Islan 25.50 65 P **P 03 11 35.6 +2.1**
JHJ Hachijo jima 2 25.51 224 P **P 03 11 35.5 +1.8**
comp=Z,368nm,0.8s,baz=261,slow=12,SNR=6.0
H21K Melozitna Rive 25.55 44 P **P 03 11 34.6 +0.7**
H21K Melozitna Rive 25.55 44 P **P 03 11 33.8 -0.1**
baz=265,SNR=66
H21K S **S 03 15 59.2 +1.1**
baz=265
RSO Redoubt South 25.61 56 P **P 03 11 35.0 +0.3**
CHUM Lake Minchumin 25.67 48 P **P 03 11 34.9 0.0**
baz=269,SNR=42
CHUM S **S 03 16 00.6 +0.7**
baz=269
HIA Hailar 25.67 277 *c i* P **P 03 11 33.9 -1.2**
HIA pmax pmax
comp=Z,242nm,1.1s
HIA MLR MLR
comp=Z,9μm,16.0s
HIA Hailar 25.67 277 P **P 03 11 34.2 -0.9**
HIA IAmb IAmb 03 11 36.1
comp=Z,277nm,1.2s
HIA Hailar 25.67 277 IAMs_20 IAMs_20 03 22 22.5
comp=Z,10μm,20.0s
O20K Slope Mountain 25.71 57 P **P 03 11 35.7 +0.2**
baz=277
O20K S **S 03 16 01.6 +0.8**
baz=277
PPLA Purkeypile 25.73 51 P **P 03 11 35.9 +0.3**
PPLA IAmb IAmb 03 11 59.0
comp=Z,467nm,1.4s
PPLA Purkeypile 25.73 51 P **P 03 11 36.0 +0.3**
baz=271,SNR=24
PPLA S **S 03 16 02.4 +1.2**
baz=271
CAST Castle Rocks 25.77 49 P **P 03 11 36.7 +0.8**
CAST IAmb IAmb 03 11 59.5
comp=Z,198nm,1.3s
CAST Castle Rocks 25.77 49 P **P 03 11 36.4 +0.5**
baz=270,SNR=31
SPCR Spurr Chakacha 25.80 54 P **P 03 11 35.9 -0.4**
baz=275,SNR=6.7
SPCR S **S 03 16 03.1 +0.8**
baz=275
OHAK Old Harbor 25.84 64 P **P 03 11 34.9 -1.6**
OHAK IAmb IAmb 03 11 57.7
comp=Z,166nm,1.0s
OHAK Old Harbor 25.84 64 P **P 03 11 35.4 -1.1**
baz=282,SNR=17
I21K Tanana 25.86 45 P **P 03 11 37.7 +1.0**
I21K Tanana 25.86 45 P **P 03 11 36.2 -0.4**
baz=267,SNR=28
I21K S **S 03 16 02.6 -0.3**
baz=267
KDAK Kodiak Island 26.10 62 P **P 03 11 38.1 -0.7**
comp=Z,15nm,0.7s,baz=266,slow=3.9,SNR=14
KDAK PcP **PcP 03 15 06.5 +1.4**
comp=Z,22nm,1.0s,baz=214,slow=6.2,SNR=4.3
KDAK ScP **ScP 03 18 42.7 +2.0**
comp=Z,7.2nm,0.8s,baz=229,slow=0.8,SNR=4.4
KDAK Kodiak Island 26.10 62 *de*P **P 03 11 39.6 +0.8**
KDAK pmax pmax
comp=Z,31nm,0.9s
KDAK MLR MLR
comp=Z,12μm,22.0s
KDAK Kodiak Island 26.10 62 P **P 03 11 39.0 +0.2**
KDAK **ScP 03 18 39.5 -1.3**
KDAK Kodiak Island 26.10 62 P **P 03 11 38.6 -0.3**
baz=281
BOD Bodaibo 26.18 298 *e*P **P 03 11 38.3 -1.3**
BOD pmax pmax
comp=Z,251nm,1.6s
BPAW Bear Paw Mtn. 26.25 48 P **P 03 11 40.8 +0.6**
BPAW Bear Paw Mtn. 26.25 48 P **P 03 11 40.9 +0.6**
baz=270,SNR=65
BPAW S **S 03 16 09.7 +0.4**
baz=270
KTH Kantishna Hill 26.29 49 P **P 03 11 41.5 +0.9**
KTH IAmb IAmb 03 12 08.7
comp=Z,237nm,1.2s
KTH IAMs_20 IAMs_20 03 23 03.1
comp=Z,6μm,19.0s
CAPN Captain Cook N 26.36 55 P **P 03 11 41.0 -0.1**
baz=276
CNPM China Poot 26.48 58 IAMs_20 IAMs_20 03 22 08.5
comp=Z,7μm,20.0s
TRF Thorofare Moun 26.57 49 P **P 03 11 43.8 +0.5**
TRF IAMs_20 IAMs_20 03 23 11.7
comp=Z,6μm,18.0s
TRF Thorofare Moun 26.57 49 P **P 03 11 43.2 -0.1**
baz=272,SNR=37
TRF S **S 03 16 14.1 -0.4**
baz=272

BRLK **Bradley Lake** 26.62 58 P **P** 03 11 43.4 -0.3
BRLK IAMs_20 IAMs_20 03 22 22.0
comp=Z,7µm,20.0s
BRSE **Bradley Lake S** 26.70 58 P **P** 03 11 43.8 -0.5
baz=279
BRSE S **S** 03 16 14.9 -1.4
baz=279
COLD **Coldfoot** 26.74 41 P **P** 03 11 45.2 +0.6
COLD **Coldfoot** 26.74 41 P **P** 03 11 44.5 -0.1
baz=264,SNR=28
COLD S **S** 03 16 16.6 -0.2
baz=264
M22K **Willow** 26.75 53 P **P** 03 11 44.8 +0.1
M22K IAMs_20 IAMs_20 03 22 21.6
comp=Z,7µm,20.0s
M22K **Willow** 26.75 53 P **P** 03 11 44.2 -0.5
baz=275
H23K **Yukon River** 26.91 44 P **P** 03 11 47.0 +0.9
H23K **Yukon River** 26.91 44 P **P** 03 11 46.6 +0.5
baz=268,SNR=61
H23K S **S** 03 16 20.9 +1.4
baz=268
I23K **Minto, Yukon-K** 26.96 45 P **P** 03 11 47.6 +1.0
I23K **Minto, Yukon-K** 26.96 45 P **P** 03 11 46.5 -0.1
baz=269,SNR=39
I23K S **S** 03 16 20.2 -0.1
baz=269
JHS **Saijyo** 27.01 237 P **P** 03 11 48.1 +0.8
JHS IAmb IAmb 03 11 50.5
comp=Z,220nm,1.1s
RC01 **Rabbit Creek A** 27.01 54 P **P** 03 11 47.2 +0.2
RC01 IAMs_20 IAMs_20 03 22 22.3
comp=Z,7µm,21.0s
RC01 **Rabbit Creek A** 27.01 54 P **P** 03 11 47.1 0.0
baz=277
RC01 S **S** 03 16 21.2 0.0
baz=277
NEA2 **Nenana** 27.09 47 P **P** 03 11 48.4 +0.7
NEA2 **Nenana** 27.09 47 P **P** 03 11 47.7 -0.1
baz=270,SNR=27
NEA2 S **S** 03 16 21.6 -0.8
baz=270
O22K **Cooper Landing** 27.09 56 P **P** 03 11 47.5 -0.3
O22K IAmb IAmb 03 12 22.5
comp=Z,107nm,0.9s
O22K IAMs_20 IAMs_20 03 22 39.6
comp=Z,9µm,20.0s
O22K **Cooper Landing** 27.09 56 P **P** 03 11 47.4 -0.4
baz=278
TOLK **Toolik Lake Re** 27.15 38 P **P** 03 11 47.9 -0.4
TOLK **Toolik Lake Re** 27.15 38 P **P** 03 11 47.5 -0.8
baz=262,SNR=42
TOLK S **S** 03 16 21.8 -1.5
baz=262
MCK **McKinley** 27.17 49 P **P** 03 11 48.9 +0.4
MCK pmax pmax
comp=Z,153nm,1.2s
MCK MLR MLR
comp=Z,5µm,19.0s
MCK **McKinley** 27.17 49 P **P** 03 11 48.9 +0.4
MCK IAmb IAmb 03 12 11.5
comp=Z,153nm,1.2s
MCK **McKinley** 27.17 49 P **P** 03 11 48.4 -0.1
baz=272,SNR=38
MCK S **S** 03 16 22.0 -1.7
baz=272
RND **Reindeer** 27.22 49 P **P** 03 11 49.1 +0.1
RND pmax pmax
comp=Z,163nm,1.2s
RND MLR MLR
comp=Z,7µm,18.0s
RND **Reindeer** 27.22 49 P **P** 03 11 49.0 +0.1
RND IAmb IAmb 03 12 13.0
comp=Z,163nm,1.2s
RND IAMs_20 IAMs_20 03 23 41.7
comp=Z,7µm,18.0s
PMR **Palmer** 27.24 53 P **P** 03 11 49.5 +0.4
PMR pmax pmax
comp=Z,67nm,1.4s
PMR **Palmer** 27.24 53 P **P** 03 11 49.5 +0.4
PMR **Palmer** 27.24 53 P **P** 03 11 48.2 -0.9
baz=276,SNR=7.7
SEW **Seward** 27.28 57 P **P** 03 11 50.0 +0.5
SEW IAmb IAmb 03 12 20.3
comp=Z,156nm,1.2s
SEW **Seward** 27.28 57 P **P** 03 11 49.0 -0.5
baz=279
SEW S **S** 03 16 24.9 -0.5
baz=279
SNY **Shenyang** 27.38 259 ⇑P **P** 03 11 49.9 -0.7
SNY S **S** 03 16 22.4 -4.9
SNY pmax pmax
comp=Z,51nm,1.6s
SNY pmax pmax
comp=Z,740nm,5.0s
SNY LR LR
comp=Z,12µm,17.5s
SNY LR LR
comp=Z,8µm,19.9s
SNY LR LR
comp=Z,14µm,20.4s
WAT1 **Susitna Watana** 27.40 50 S **S** 03 16 22.7 -4.5
baz=274
MDM **Murphy Dome** 27.44 46 P **P** 03 11 52.3 +1.3
WRH **Wood River Hil** 27.51 47 P **P** 03 11 52.6 +1.1
WRH IAmb IAmb 03 12 14.8
comp=Z,192nm,1.2s
KNK **Knik Glacier** 27.58 54 P **P** 03 11 52.5 +0.3
KNK IAmb IAmb 03 12 14.7
comp=Z,163nm,1.1s
KNK IAMs_20 IAMs_20 03 22 07.5
comp=Z,7µm,21.0s
KNK **Knik Glacier** 27.58 54 P **P** 03 11 52.0 -0.3
baz=277,SNR=23
KNK S **S** 03 16 28.2 -2.0
baz=277
H24K **Noodor Dome** 27.59 44 P **P** 03 11 53.0 +0.7
H24K **Noodor Dome** 27.59 44 P **P** 03 11 52.5 +0.2
baz=269,SNR=27
H24K S **S** 03 16 30.5 +0.2
baz=269
SML **Sawmill** 27.60 53 P **P** 03 11 53.1 +0.7
SML IAmb IAmb 03 12 15.8
comp=Z,420nm,1.5s
SML **Sawmill** 27.60 53 P **P** 03 11 51.8 -0.5
baz=277,SNR=27
SML S **S** 03 16 30.5 +0.1
baz=277
TCOL **CIGO, UAF Yank** 27.60 46 P **P** 03 11 53.2 +0.9
TCOL **CIGO, UAF Yank** 27.60 46 P **P** 03 11 51.9 -0.4
baz=271,SNR=7.7
TCOL S **S** 03 16 29.3 -1.0
baz=271
COLA **College** 27.61 46 P **P** 03 11 53.0 +0.7
COLA pmax pmax
comp=Z,58nm,0.9s
COLA MLR MLR
comp=Z,4µm,21.0s
COLA **College** 27.61 46 P **P** 03 11 53.0 +0.7
COLA **College** 27.61 46 P **P** 03 11 52.4 0.0
baz=271
COLA S **S** 03 16 29.0 -1.4
baz=271
CCB **Clear Creek Bu** 27.63 47 P **P** 03 11 53.3 +0.7
CCB IAmb IAmb 03 12 15.7
comp=Z,162nm,1.3s
JMN **Monobe** 27.66 234 P **P** 03 11 54.2 +1.1
JMN IAmb IAmb 03 12 00.1
comp=Z,287nm,1.3s
PWL **Port Wells** 27.72 55 P **P** 03 11 53.9 +0.5
PWL IAmb IAmb 03 12 15.4
comp=Z,144nm,1.1s
PWL IAMs_20 IAMs_20 03 22 32.1
comp=Z,8µm,21.0s
PWL **Port Wells** 27.72 55 P **P** 03 11 52.5 -0.9
baz=278,SNR=12
PWL S **S** 03 16 31.0 -1.3
baz=278
POKR **Poker Plat Res** 27.78 45 P **P** 03 11 54.7 +0.8
POKR **Poker Plat Res** 27.78 45 P **P** 03 11 53.5 -0.4
baz=271,SNR=19
POKR S **S** 03 16 33.5 +0.2
baz=271
WAT6 **Susitna Watana** 27.79 51 P **P** 03 11 53.5 -0.8
baz=276,SNR=20
WAT6 S **S** 03 16 31.3 -2.4
baz=276

KS19 **Wonju Array Si** 27.87 248 P **P** 03 11 56.0 +1.1
KSRS **Korea Array** 27.87 248 P **P** 03 11 55.2 +0.3
comp=Z,23nm,0.9s,baz=42,slow=9.2,SNR=60
KSRS PcP **PcP** 03 15 10.8 +1.2
comp=Z,16nm,1.0s,baz=29,slow=2.5,SNR=12
KSRS ScP **ScP** 03 18 48.9 +2.4
comp=Z,1.7nm,0.8s,baz=54,slow=2.2,SNR=4.6
KSAR **Wonju Array Be** 27.90 248 P **P** 03 11 55.9 +0.7
KSAR 03 15 10.6
KSAR **Wonju Array Be** 27.90 248 P **P** 03 11 55.9 +0.7
KSAR PcP **PcP** 03 15 10.6 +0.8
DHY **Denali Highway** 27.91 50 P **P** 03 11 55.9 +0.6
DHY IAmb IAmb 03 12 18.7
comp=Z,230nm,1.3s
DHY **Denali Highway** 27.91 50 P **P** 03 11 54.9 -0.4
baz=275,SNR=30
DHY S **S** 03 16 36.8 +1.2
baz=275
HDA **Harding Lake** 28.01 47 P **P** 03 11 56.0 0.0
HDA **Harding Lake** 28.01 47 P **P** 03 11 54.9 -1.1
baz=273,SNR=28
HDA S **S** 03 16 34.2 -2.6
baz=273
HDA S **S** 03 16 34.2 -2.6
baz=273
IL31 28.02 46 P **P** 03 11 56.7 +0.7
ILAR **Eielson Array** 28.02 46 P **P** 03 11 56.1 +0.1
comp=Z,38nm,0.8s,baz=264,slow=7.9,SNR=337
ILAR PcP **PcP** 03 15 08.9 -0.7
comp=Z,2.4nm,0.5s,baz=285,slow=3.5,SNR=5.4
ILAR ScP **ScP** 03 18 45.8 -0.7
comp=Z,2.7nm,1.1s,baz=271,slow=3.7,SNR=4.9
ILAR PKiKP **PKiKP** 03 22 43.4 -1.6
comp=Z,0.2nm,0.5s,baz=299,slow=1.8,SNR=4.5
ILAR LR LR 03 25 07.0
comp=Z,3µm,18.1s,baz=272,slow=41
ILAR P3KPbc 03 44 18.1
comp=Z,0.9nm,1.0s,baz=75,slow=4.3,SNR=6.1
ILAR **Eielson Array** 28.02 46 P **P** 03 11 56.2 +0.1
ILAR **Eielson Array** 28.02 46 P **P** 03 11 56.2 +0.1
ILAR PcP **PcP** 03 15 09.5 -0.1
SCM **Sheep Creek Mo** 28.07 53 P **P** 03 11 54.9 -1.7
SCM pmax pmax
comp=Z,100nm,0.9s
SCM MLR MLR
comp=Z,5µm,21.0s
SCM **Sheep Creek Mo** 28.07 53 P **P** 03 11 54.9 -1.7
SCM IAmb IAmb 03 12 25.2
comp=Z,100nm,0.9s
SCM **Sheep Creek Mo** 28.07 53 P **P** 03 11 56.4 -0.2
baz=277,SNR=18
SCM S **S** 03 16 38.5 +0.6
baz=277
CIT **Chita** 28.14 286 *e*P **P** 03 11 57.0 -0.3
CIT *e* 03 12 15.8
CIT *e* 03 12 50.8
CIT *e* 03 13 06.8
CIT pmax pmax
comp=Z,114nm,1.4s
GLI **Glacier Island** 28.31 54 P **P** 03 11 58.4 -0.3
GLI IAMs_20 IAMs_20 03 23 22.8
comp=Z,6µm,20.0s
GLI **Glacier Island** 28.31 54 P **P** 03 11 57.5 -1.2
baz=279
GLI S **S** 03 16 39.8 -1.9
baz=279
INCN **Inchon** 28.56 249 P **P** 03 12 01.2 +0.1
INCN P **P** 03 12 01.2 +0.1
INCN **Inchon** 28.56 249 P **P** 03 12 03.5 +2.3
comp=Z,28nm,1.1s
M24K **Tolsona, Glenn** 28.57 52 P **P** 03 12 01.2 +0.1
M24K IAmb IAmb 03 12 32.6
comp=Z,139nm,1.1s
M24K **Tolsona, Glenn** 28.57 52 P **P** 03 11 59.6 -1.5
baz=278,SNR=12
M24K S **S** 03 16 44.6 -1.2
baz=278
FID **Port Fidalgo** 28.63 55 P **P** 03 12 01.5 0.0
FID IAmb IAmb 03 12 29.0
comp=Z,146nm,1.5s
FID IAMs_20 IAMs_20 03 23 29.8
comp=Z,7µm,20.0s
J25K **Salcha River,** 28.68 46 P **P** 03 12 01.4 -0.6
J25K **Salcha River,** 28.68 46 P **P** 03 12 00.7 -1.3
baz=274,SNR=25
J25K S **S** 03 16 44.9 -2.6
baz=274
KLU **Klutina** 28.78 53 P **P** 03 12 03.8 +0.9
KLU IAmb IAmb 03 12 36.0
comp=Z,163nm,1.4s
KLU IAMs_20 IAMs_20 03 22 45.0
comp=Z,6µm,21.0s
KLU **Klutina** 28.78 53 P **P** 03 12 02.0 -0.9
baz=279,SNR=14
KLU S **S** 03 16 50.5 +1.4
baz=279
PAX **Paxson** 28.79 50 P **P** 03 12 04.0 +1.0
PAX pmax pmax
comp=Z,91nm,1.5s
PAX **Paxson** 28.79 50 P **P** 03 12 04.0 +1.0
PAX **Paxson** 28.79 50 P **P** 03 12 02.2 -0.8
baz=277,SNR=13
PAX S **S** 03 16 47.4 -1.8
baz=277
DIV **Divide** 28.91 54 P **P** 03 12 04.7 +0.6
BMAR **Burnt Mountain** 28.93 41 P **P** 03 12 05.3 +1.1
Q23K **Middleton Isla** 28.95 57 P **P** 03 12 04.0 -0.3
baz=282
TJN **Taejon** 28.96 247 P **P** 03 12 05.8 +1.1
TJN pmax pmax
comp=Z,498nm,1.4s
TJN **Taejon** 28.96 247 P **P** 03 12 05.8 +1.1
TJN **Taejon** 28.96 247 P **P** 03 12 06.9 +2.2
RIDG **Independent Ri** 28.98 48 P **P** 03 12 03.5 -1.2
baz=276,SNR=34
HARP **HAARP** 29.00 51 P **P** 03 12 03.7 -1.1
baz=278,SNR=6.4
EYAK **Cordova Ski Ar** 29.02 55 P **P** 03 12 05.9 +0.9
EYAK **Cordova Ski Ar** 29.02 55 P **P** 03 12 03.8 -1.2
baz=281
EYAK S **S** 03 16 52.7 -0.1
baz=281
JTU **Tsushima** 29.28 242 P **P** 03 12 08.3 +0.9
SCRK **Sand Creek** 29.34 48 P **P** 03 12 08.0 +0.1
SCRK **Sand Creek** 29.34 48 P **P** 03 12 06.8 -1.1
baz=276,SNR=57
SCRK S **S** 03 16 54.5 -3.4
baz=276
DOT **Dot Lake** 29.34 48 P **P** 03 12 07.6 -0.2
N25K **Chitina, Valde** 29.39 53 P **P** 03 12 08.4 +0.1
N25K **Chitina, Valde** 29.39 53 P **P** 03 12 07.9 -0.4
baz=280,SNR=9.6
N25K S **S** 03 16 58.4 -0.2
baz=280
J26L **Joseph Creek** 29.47 47 P **P** 03 12 07.9 -1.2
baz=275,SNR=9.7
J26L S **S** 03 16 57.9 -2.0
baz=275
BMRM **Bremner River** 29.50 54 P **P** 03 12 10.0 +0.7
BMRM IAmb IAmb 03 12 31.5
comp=Z,106nm,1.1s
BMRM IAMs_20 IAMs_20 03 24 12.1
comp=Z,9µm,20.0s
BMRM **Bremner River** 29.50 54 P **P** 03 12 08.9 -0.4
baz=281,SNR=11
BMRM S **S** 03 17 02.3 +1.9
baz=281
RAGM **Ragged Mountai** 29.58 55 IAMs_20 IAMs_20 03 24 50.2
comp=Z,9µm,19.0s
MENT **Mentasta** 29.58 50 P **P** 03 12 11.1 +1.1
JNU **Nakatsue** 29.62 238 P **P** 03 12 11.6 +1.0
comp=Z,244nm,1.2s,baz=57,slow=3.9,SNR=26
JNU LR LR 03 25 00.7
comp=Z,3µm,21.9s,baz=43,slow=38
JNU **Nakatsue** 29.62 238 P **P** 03 12 11.4 +0.8
JNU IAmb IAmb 03 12 16.2
comp=Z,234nm,1.2s
JNU **Nakatsue** 29.62 238 P **P** 03 12 12.0 +1.4
L26K **Log Cabin Wild** 29.74 50 P **P** 03 12 11.9 +0.5
L26K IAMs_20 IAMs_20 03 25 03.4
comp=Z,7µm,19.0s
L26K **Log Cabin Wild** 29.74 50 P **P** 03 12 11.5 +0.1
baz=278,SNR=8.7
L26K S **S** 03 17 04.1 0.0
baz=278
GLB **Gilahina Butte** 29.79 53 P **P** 03 12 12.6 +0.8

GLB IAMs_20 IAMs_20 03 24 09.7
comp=Z,6µm,21.0s
HMT **Hamilton** 29.79 55 P **P** 03 12 12.8 +1.0
HMT IAMs_20 IAMs_20 03 25 06.8
comp=Z,9µm,21.0s
KAIM **Kayak Island** 29.80 56 IAMs_20 IAMs_20 03 24 17.1
comp=Z,7µm,20.0s
KAIM **Kayak Island** 29.80 56 P **P** 03 12 11.0 -0.9
baz=283
M26K **Nabesna, AK** 30.00 51 P **P** 03 12 14.8 +1.1
M26K IAmb IAmb 03 12 37.8
comp=Z,187nm,1.4s
M26K **Nabesna, AK** 30.00 51 P **P** 03 12 14.8 +1.1
baz=280,SNR=27
M26K S **S** 03 17 11.4 +3.2
baz=280
VRDI **Verde Repeater** 30.00 53 P **P** 03 12 14.7 +0.8
JCJ **Chichijima** 30.01 215 P **P** 03 12 14.8 +0.7
comp=Z,339nm,1.0s,baz=25,slow=4.2,SNR=5.0
JCJ LR LR 03 26 05.8
comp=Z,630nm,19.3s,baz=0.5,slow=40
JCJ **Chichijima** 30.01 215 P **P** 03 12 14.9 +0.9
JCJ **Chichijima** 30.01 215 P **P** 03 12 15.7 +1.7
BERG **Berg Lake** 30.05 55 IAMs_20 IAMs_20 03 25 15.2
comp=Z,8µm,20.0s
MIDW **Midway** 30.16 139 IAMs_20 IAMs_20 03 21 14.7
comp=Z,12µm,22.0s
MCARA **McCarthy VSAT** 30.17 53 P **P** 03 12 15.6 +0.5
baz=281,SNR=5.0
MCARA S **S** 03 17 12.3 +1.5
baz=281
TGL **Tana Glacier** 30.39 54 P **P** 03 12 17.3 +0.1
TGL IAMs_20 IAMs_20 03 24 29.7
comp=Z,11µm,20.0s
DL2 **Dalian** 30.41 257 P **P** 03 12 16.3 -1.2
DL2 S **S** 03 17 12.3 -2.6
DL2 pmax pmax
comp=Z,59nm,1.0s
DL2 pmax pmax
comp=Z,280nm,4.7s
DL2 LR LR
comp=Z,7µm,23.5s
DL2 LR LR
comp=Z,7µm,22.6s
DL2 LR LR
comp=Z,10µm,24.1s
L27K **Beaver Creek,** 30.42 49 P **P** 03 12 18.3 +0.9
L27K IAmb IAmb 03 12 41.3
comp=Z,165nm,1.2s
L27K IAMs_20 IAMs_20 03 25 33.4
comp=Z,7µm,19.0s
L27K **Beaver Creek,** 30.42 49 P **P** 03 12 17.8 +0.4
baz=279,SNR=110
L27K S **S** 03 17 15.5 +0.7
baz=279
BCAR **Beaver Creek A** 30.44 49 P **P** 03 12 18.5 +1.0
WAX **Waxell Ridge** 30.45 55 P **P** 03 12 18.9 +1.2
WAX IAMs_20 IAMs_20 03 24 42.2
comp=Z,7µm,21.0s
EGAK **Eagle** 30.47 46 P **P** 03 12 17.7 -0.1
baz=277
EGAK S **S** 03 17 15.6 +0.2
baz=277
SNH **Sunshine Point** 30.52 55 IAMs_20 IAMs_20 03 26 43.0
comp=Z,8µm,19.0s
M27K **Edge Creek, AK** 30.52 51 P **P** 03 12 19.5 +1.1
M27K IAmb IAmb 03 12 42.5
comp=Z,92nm,1.1s
M27K IAMs_20 IAMs_20 03 24 50.0
comp=Z,6µm,21.0s
M27K **Edge Creek, AK** 30.52 51 P **P** 03 12 19.2 +0.9
baz=280,SNR=38
M27K S **S** 03 17 17.3 +0.8
baz=280
XLT **XiLinHaoTe** 30.57 270 ⇓*i*P **P** 03 12 19.1 +0.1
XLT pP pP 03 12 28.9 -2.0
XLT sP sP 03 12 30.9 -5.3
XLT PcP **PcP** 03 15 18.8 +2.2
XLT S **S** 03 17 14.1 -3.5
XLT SS **SnSn** 03 18 56.4 -0.7
XLT pmax pmax
comp=Z,60nm,1.4s
XLT pmax pmax
comp=Z,490nm,9.1s
XLT LR LR
comp=Z,5µm,16.7s
XLT LR LR
comp=Z,8µm,18.4s
ISLE **Juniper Island** 30.66 54 P **P** 03 12 19.8 +0.2
ISLE IAmb IAmb 03 12 54.8
comp=Z,168nm,1.5s
ISLE IAMs_20 IAMs_20 03 24 38.8
comp=Z,11µm,21.0s
BARN **Barnard Glacie** 30.88 53 P **P** 03 12 22.2 +0.6
BARN IAMs_20 IAMs_20 03 24 57.6
comp=Z,6µm,20.0s
GRNC **Granite Creek** 30.91 54 P **P** 03 12 22.7 +0.8
GRNC IAmb IAmb 03 12 46.2
comp=Z,108nm,1.3s
GRNC IAMs_20 IAMs_20 03 24 47.4
comp=Z,8µm,21.0s
BVCY **Beaver Creek** 30.97 50 P **P** 03 12 22.3 +0.1
baz=281,SNR=16
CTG **Chitna Glacier** 31.05 53 P **P** 03 12 23.0 -0.1
baz=283,SNR=9.4
CTG S **S** 03 17 26.4 +1.5
baz=283
CTGM **Chitina Glacie** 31.06 53 P **P** 03 12 23.6 +0.5
CTGM IAMs_20 IAMs_20 03 25 03.2
comp=Z,7µm,20.0s
JSU **Suzuyama** 31.14 237 P **P** 03 12 25.1 +1.1
JSU IAmb IAmb 03 12 30.6
comp=Z,174nm,1.1s
LOGN **Logan Glacier** 31.25 53 P **P** 03 12 25.8 +1.0
LOGN IAMs_20 IAMs_20 03 24 58.3
comp=Z,7µm,21.0s
TABL **Table Mountain** 31.27 54 P **P** 03 12 25.4 +0.3
TABL IAmb IAmb 03 12 49.2
comp=Z,100nm,1.2s
TABL IAMs_20 IAMs_20 03 25 19.0
comp=Z,9µm,20.0s
YUK3 **Moose Creek** 31.29 51 P **P** 03 12 25.3 +0.1
baz=282,SNR=18
YUK3 S **S** 03 17 30.4 +1.7
baz=282
DAWY **Dawson** 31.33 47 P **P** 03 12 26.4 +1.0
DAWY **Dawson** 31.33 47 P **P** 03 12 25.9 +0.5
baz=280,SNR=26
DAWY S **S** 03 17 29.1 +0.1
baz=280
I29M **Ogilvie Camp,** 31.59 44 P **P** 03 12 28.2 +0.5
I29M IAMs_20 IAMs_20 03 25 11.2
comp=Z,6µm,21.0s
I29M **Ogilvie Camp,** 31.59 44 P **P** 03 12 27.6 0.0
baz=278,SNR=42
I29M S **S** 03 17 33.9 +1.0
baz=278
J29M **Klondike Camp** 31.77 46 P **P** 03 12 29.9 +0.6
baz=280
PINM **Pinnacle** 31.79 55 P **P** 03 12 29.1 -0.4
baz=285
EPYK **Eagle Plains** 32.09 42 P **P** 03 12 33.0 +0.9
EPYK **Eagle Plains** 32.09 42 P **P** 03 12 32.1 0.0
baz=278,SNR=36
EPYK S **S** 03 17 42.1 +1.3
baz=278
BCPM **Bancas Point** 32.13 55 P **P** 03 12 32.9 +0.5
BCPM IAmb IAmb 03 12 51.8
comp=Z,68nm,0.7s
BCPM IAMs_20 IAMs_20 03 26 13.6
comp=Z,8µm,19.0s
YUK4 **Talbot Arm** 32.23 52 P **P** 03 12 34.0 +0.5
baz=284,SNR=12
PNL **Peninsula** 32.32 55 P **P** 03 12 33.9 -0.2
baz=286
YUK6 **Outpost Mounta** 32.47 53 P **P** 03 12 35.8 +0.2
baz=285,SNR=6.5
YUK6 S **S** 03 17 49.2 +2.1
baz=285
M30M **Minto, Yukon** 32.78 49 P **P** 03 12 38.5 +0.4
M30M IAMs_20 IAMs_20 03 27 13.8
comp=Z,6µm,19.0s
M30M **Minto, Yukon** 32.78 49 P **P** 03 12 38.8 +0.6
baz=284,SNR=10
M30M S **S** 03 17 52.9 +1.3
baz=284
BJI **Beijing** 32.86 264 P **P** 03 12 38.0 -0.9

BJI pP **pP** **03 12 46.8 -4.1**
BJI PcP **PcP** **03 15 24.4 +1.7**
BJI S **S** **03 17 48.3 -4.8**
BJI pmax pmax
comp=Z,25nm,1.3s
BJI pmax pmax
comp=Z,400nm,5.3s
BJI LR LR
comp=Z,7μm,16.0s
BJI LR LR
comp=Z,4μm,15.3s
BJI LR LR
comp=Z,9μm,16.8s
BJT Baijiatuau 32.88 264 P **P** **03 12 39.0 -0.1**
BJT pmax pmax
comp=Z,28nm,1.1s
BJT MLR MLR
comp=Z,7μm,18.0s
BJT Baijiatuau 32.88 264 P **P** **03 12 39.0 -0.1**
BJT Baijiatuau 32.88 264 IAMs_20 IAMs_20 03 27 27.7
comp=Z,7μm,18.0s
HYT Haines Junctio 32.91 53 P **P** **03 12 39.9 +0.5**
HYT Haines Junctio 32.91 53 P **P** **03 12 40.1 +0.8**
baz=286,SNR=18
INK Inuvik 33.05 38 P **P** **03 12 41.4 +1.0**
comp=Z,32nm,0.7s,baz=282,slow=7.4,SNR=155
INK PcP **PcP** **03 15 23.1 +0.3**
comp=Z,5.0nm,0.4s,baz=311,slow=5.8,SNR=5.3
INK PKiKP **PKiKP** **03 22 46.7 -1.5**
comp=Z,2.9nm,1.1s,baz=175,slow=8.1,SNR=3.8
INK Inuvik 33.05 38 P **P** **03 12 41.5 +1.1**
INK Inuvik 33.05 38 P **P** **03 12 41.3 +1.0**
baz=278,SNR=57
INK S **S** **03 17 56.2 +0.6**
baz=278
IRK Irkutsk 33.27 291 *e*P **P** **03 12 42.1 -0.4**
IRK pmax pmax
comp=Z,85nm,1.4s
N31M Braeburn, Yuko 33.52 51 P **P** **03 12 45.4 +0.7**
N31M IAMs_20 IAMs_20 03 27 41.5
comp=Z,5μm,19.0s
N31M Braeburn, Yuko 33.52 51 P **P** **03 12 45.9 +1.3**
baz=286,SNR=13
ULN Ulaanbaatar 33.75 282 *ce*P **P** **03 12 46.3 -0.6**
ULN pmax pmax
comp=Z,29nm,1.7s
ULN Ulaanbaatar 33.75 282 P **P** **03 12 46.7 -0.2**
ULN Ulaanbaatar 33.75 282 P **P** **03 12 46.1 -0.8**
M31M Drury Creek, Y 33.96 49 P **P** **03 12 48.9 +0.5**
M31M IAmb IAmb 03 13 15.6
comp=Z,94nm,1.2s
M31M IAMs_20 IAMs_20 03 28 08.9
comp=Z,7μm,20.0s
M31M Drury Creek, Y 33.96 49 P **P** **03 12 49.4 +1.1**
baz=286,SNR=32
M31M S **S** **03 18 09.7 -0.1**
baz=286
SONM Songino Array 34.15 283 P **P** **03 12 50.0 -0.3**
comp=Z,7.8nm,0.4s,baz=60,slow=8.0,SNR=30
SONM PcP **PcP** **03 15 26.2 -0.2**
comp=Z,24nm,1.0s,baz=70,slow=1.4,SNR=9.2
SONM ScP **ScP** **03 19 10.2 +2.9**
comp=Z,3.2nm,1.0s,baz=74,slow=2.6,SNR=4.1
SONM LR LR 03 28 09.5
comp=Z,13μm,18.6s,baz=68,slow=39
SONM Songino Array 34.15 283 P **P** **03 12 50.1 -0.3**
SONM 03 15 26.4
SONM pmax pmax
comp=Z,16nm,0.9s
SONM Songino Array 34.15 283 P **P** **03 12 50.1 -0.2**
SONM PcP **PcP** **03 15 26.4 0.0**
WHY Whitehorse 34.19 52 P **P** **03 12 51.3 +0.9**
WHY IAmb IAmb 03 13 14.1
comp=Z,116nm,1.4s
WHY Whitehorse 34.19 52 P **P** **03 12 51.5 +1.1**
baz=288,SNR=17
WHY S **S** **03 18 15.5 +2.0**
baz=288
H11N2 WAKE ISLAND Hy 34.33 170 T T 03 49 29.3
baz=354,slow=76,SNR=1267
H11N3 WAKE ISLAND Hy 34.34 170 T T 03 49 20.2
baz=354,slow=76,SNR=1431
H11N1 WAKE ISLAND Hy 34.34 170 T T 03 49 36.0
baz=354,slow=76,SNR=1595
SKAG Skagway 34.36 54 P **P** **03 12 52.4 +0.6**
SKAG Skagway 34.36 54 P **P** **03 12 51.6 -0.1**
baz=289
ZAK Zakamensk 34.67 288 *e*P **P** **03 12 54.3 -0.5**
ZAK *e* 03 14 17.7
ZAK pmax pmax
comp=Z,58nm,1.3s
ZAK pmax pmax
comp=Z,44nm,1.5s
WAKE Wake Island 34.75 170 IAMs_20 IAMs_20 03 23 39.1
comp=Z,8μm,21.0s
TIA Tai'an 34.86 258 ⇑P **P** **03 12 55.8 -0.6**
TIA S **S** **03 18 17.6 -6.6**
TIA pmax pmax
comp=Z,320nm,2.5s
TIA LR LR
comp=Z,6μm,18.7s
TIA LR LR
comp=Z,6μm,20.6s
TIA LR LR
comp=Z,8μm,21.3s
BESE Bessie Mountai 34.89 56 P **P** **03 12 56.9 +0.4**
BESE IAmb IAmb 03 13 30.8
comp=Z,161nm,1.4s
HHC Hu-ho-hao-te 35.08 269 *e*P **P** **03 12 56.9 -1.4**
HHC sP sP 03 13 16.1 +0.4
HHC S **S** **03 18 30.9 +3.3**
HHC ScP **ScP** **03 19 07.9 -2.9**
HHC pmax pmax
comp=Z,41nm,1.0s
HHC pmax pmax
comp=Z,260nm,4.7s
HHC LR LR
comp=Z,4μm,17.7s
HHC LR LR
comp=Z,5μm,17.9s
HHC LR LR
comp=Z,9μm,17.2s
SIT Sitka 35.22 58 P **P** **03 12 58.3 -1.0**
baz=293
JIS Juneau Island 35.23 56 P **P** **03 13 00.2 +0.9**
JIS IAmb IAmb 03 13 34.5
comp=Z,109nm,1.2s
A36M Sachs Harbour 35.30 31 P **P** **03 13 01.2 +1.4**
A36M IAmb IAmb 03 13 04.1
comp=Z,100nm,0.8s
A36M Sachs Harbour 35.30 31 P **P** **03 13 00.4 +0.6**
baz=279,SNR=151
A36M S **S** **03 18 31.7 +1.5**
baz=279
MOY Mondy 35.34 291 *e*P **P** **03 13 00.4 -0.1**
MOY pmax pmax
comp=Z,89nm,1.7s
H11S1 WAKE ISLAND Hy 35.52 170 T T 03 50 43.4
baz=352,slow=76,SNR=187
H11S3 WAKE ISLAND Hy 35.53 170 T T 03 50 39.0
baz=352,slow=76,SNR=267
H11S2 WAKE ISLAND Hy 35.53 170 T T 03 50 44.2
baz=352,slow=76,SNR=110
NRIK Noril'sk 35.58 324 P **P** **03 13 01.5 -0.6**
comp=Z,5.2nm,0.6s,baz=85,slow=9.3,SNR=13
NRIK PcP **PcP** **03 15 29.8 -0.2**
comp=Z,16nm,0.8s,baz=144,slow=1.1,SNR=3.8
NRIK LR LR 03 28 45.3
comp=Z,14μm,19.1s,baz=76,slow=38
NRIK Noril'sk 35.58 324 ⇓*e*P **P** **03 13 01.3 -0.9**
NRIK pmax pmax
comp=Z,24nm,1.5s
NRIK MLR MLR
comp=Z,24μm,17.0s
NRIK Noril'sk 35.58 324 P **P** **03 13 01.5 -0.6**
JOW Kunigami 36.06 235 LR LR 03 29 60.0
comp=Z,2μm,19.1s,baz=56,slow=40
JOW Kunigami 36.06 235 P **P** **03 13 07.7 +0.9**
JOW Kunigami 36.06 235 P **P** **03 13 08.2 +1.4**
BTO Baotou 36.14 270 *e*P **P** **03 13 07.4 -0.1**
BTO S **S** **03 18 44.0 +0.1**
BTO LR LR
comp=Z,22μm,14.6s
BTO LR LR
comp=Z,32μm,16.5s
C36M Paulatuk 36.23 35 P **P** **03 13 08.9 +1.2**
C36M IAmb IAmb 03 13 10.2
comp=Z,129nm,0.9s
C36M Paulatuk 36.23 35 P **P** **03 13 08.2 +0.4**
baz=284,SNR=161
C36M S **S** **03 18 44.7 +0.3**
baz=284
SSE Sheshan 36.31 247 P **P** **03 13 09.0 +0.1**
SSE S **S** **03 18 45.1 -1.3**
SSE pmax pmax
comp=Z,26nm,0.7s
SSE pmax pmax
comp=Z,310nm,3.5s
SSE LR LR
comp=Z,1μm,19.7s
SSE LR LR
comp=Z,1μm,17.9s
TIY Taiyuan 36.59 264 *e*P **P** **03 13 11.3 +0.1**
TIY S **S** **03 18 46.9 -3.8**
TIY SS **SnSn** **03 21 14.6 -8.3**
TIY pmax pmax
comp=Z,390nm,4.1s
TIY LR LR
comp=Z,6μm,20.8s
TIY LR LR
comp=Z,3μm,21.6s
TIY LR LR
comp=Z,5μm,18.4s
NJ2 Nanjing 36.88 251 ⇑*i*P **P** **03 13 13.6 -0.1**
NJ2 pP **pP** **03 13 22.6 -3.2**
NJ2 sP **sP** **03 13 25.9 -5.2**
NJ2 PcP **PcP** **03 15 36.1 +1.6**
NJ2 S **S** **03 18 56.0 +0.9**
NJ2 pmax pmax
comp=Z,93nm,0.9s
NJ2 pmax pmax
comp=Z,700nm,3.6s
NJ2 LR LR
comp=Z,4μm,18.1s
NJ2 LR LR
comp=Z,5μm,17.7s
NJ2 LR LR
comp=Z,7μm,19.4s
TGTN Hyland Airport 36.92 49 P **P** **03 13 14.5 +0.7**
baz=291,SNR=9.8
WRAK Wrangell Islan 36.98 58 P **P** **03 13 14.8 +0.5**
WRAK Wrangell Islan 36.98 58 P **P** **03 13 14.4 +0.1**
baz=295
CRAG Craig 36.99 60 P **P** **03 13 13.6 -0.8**
baz=296
DLBC Dease Lake 37.29 54 LR LR 03 29 12.1
comp=Z,3μm,19.4s,baz=300,slow=37
DLBC Dease Lake 37.29 54 P **P** **03 13 17.8 +0.8**
LYN LuoYang 38.73 260 ⇑P **P** **03 13 29.3 0.0**
LYN pP pP 03 13 39.8 -1.7
LYN sP sP 03 13 47.3 +0.5
LYN PP **PP** **03 14 59.3 +0.8**
LYN S **S** **03 19 15.8 -7.4**
LYN SS **SS** **03 22 05.0 -10**
LYN pmax pmax
comp=Z,50nm,1.1s
LYN pmax pmax
comp=Z,890nm,4.1s
LYN LR LR
comp=Z,6μm,22.8s
LYN LR LR
comp=Z,4μm,26.5s
LYN LR LR
comp=Z,6μm,16.5s
WHN Wuhan 40.56 254 ⇑P **P** **03 13 44.3 -0.2**
WHN S **S** **03 19 50.6 +0.1**
WHN pmax pmax
comp=Z,110nm,1.0s
WHN pmax pmax
comp=Z,920nm,3.9s
WHN LR LR
comp=Z,5μm,15.1s
WHN LR LR
comp=Z,6μm,16.3s
WHN LR LR
comp=Z,8μm,17.7s
TATO Taipei 41.01 241 P **P** **03 13 49.6 +1.3**
TATO IAmb IAmb 03 13 52.6
comp=Z,117nm,0.9s
TATO Taipei 41.01 241 IAMs_20 IAMs_20 03 30 33.0
comp=Z,4μm,20.0s
TATO Taipei 41.01 241 P **P** **03 13 49.6 +1.3**
EUNU Eureka 41.16 14 P **P** **03 13 50.0 +1.0**
BBB Bella Bella 41.17 62 LR LR 03 29 09.4
comp=Z,5μm,21.7s,baz=298,slow=34
XAN Xi'an 41.18 263 P **P** **03 13 48.5 -1.2**
XAN pP pP 03 13 58.3 -3.6
XAN PP **PnPn** **03 15 28.4 -1.4**
XAN PcP **PcP** **03 15 47.3 -0.8**
XAN S **S** **03 19 59.0 -0.8**
XAN SS **SS** **03 22 55.6 -8.0**
XAN pmax pmax
comp=Z,510nm,11.9s
XAN LR LR
comp=Z,5μm,16.7s
XAN LR LR
comp=Z,8μm,17.5s
XAN LR LR
comp=Z,12μm,16.8s
YHNB Yeheng 41.31 241 P **P** **03 13 51.2 +0.3**
YHNB IAmb IAmb 03 13 54.3
comp=Z,114nm,1.2s
YHNB IAMs_20 IAMs_20 03 31 04.3
comp=Z,4μm,20.0s
YHNB Yeheng 41.31 241 P **P** **03 13 53.3 +2.4**
NACB Ninganchiao 41.61 240 P **P** **03 13 53.4 +0.1**
NACB IAMs_20 IAMs_20 03 30 53.0
comp=Z,5μm,22.0s
GUMO Guam 42.04 203 LR LR 03 30 21.8
comp=Z,2μm,20.8s,baz=36,slow=34
ALE Alert 42.16 8 IAMs_20 IAMs_20 03 31 48.9
comp=Z,6μm,21.0s
ALE Alert 42.16 8 ⇑P **P** **03 13 58.1 +1.0**
ALE pP **pP** **03 14 07.2 -2.1**
ALE sP **sP** **03 14 12.2 -2.3**
SSLB Suanglung 42.26 241 P **P** **03 13 57.9 -0.7**
SSLB IAmb IAmb 03 14 04.6
comp=Z,298nm,1.3s
SSLB IAMs_20 IAMs_20 03 31 25.2
comp=Z,6μm,22.0s
SSLB Suanglung 42.26 241 P **P** **03 13 59.5 +1.0**
YKA Yellowknife Ar 42.36 43 P **P** **03 13 59.7 +0.8**
comp=Z,14nm,0.5s,baz=298,slow=7.8,SNR=217
YKA PcP **PcP** **03 15 52.4 +1.0**
comp=Z,6.3nm,0.7s,baz=302,slow=3.3,SNR=5.3
YKA ScP **ScP** **03 19 39.1 +1.1**
comp=Z,2.8nm,1.1s,baz=305,slow=3.5,SNR=3.7
YKA LR LR 03 33 50.7
comp=Z,3μm,19.1s,baz=294,slow=39
YKA PKPPKP 03 45 46.5
comp=Z,0.3nm,0.9s,baz=164,slow=2.1,SNR=4.7
YULB Yu-li 42.41 240 P **P** **03 13 59.9 +0.2**
YULB IAmb IAmb 03 14 18.9
comp=Z,85nm,0.9s
YULB IAMs_20 IAMs_20 03 31 40.1
comp=Z,4μm,21.0s
RES Resolute Bay 42.51 22 P **P** **03 14 01.2 +1.2**
comp=Z,65nm,0.8s,baz=297,slow=8.2,SNR=292
RES LR LR 03 33 38.0
comp=Z,1μm,20.5s,baz=302,slow=39
RES Resolute Bay 42.51 22 P **P** **03 14 01.5 +1.5**
RES IAmb IAmb 03 14 02.6
comp=Z,75nm,0.8s
QZH Quanzhou 42.56 244 ⇑*i*P **P** **03 14 02.0 +1.1**
QZH sP **sP** **03 14 17.9 -0.6**
QZH S **S** **03 20 20.9 +0.7**
QZH pmax pmax
comp=Z,70nm,1.5s
QZH pmax pmax
comp=Z,730nm,7.3s
QZH LR LR
comp=Z,1μm,14.4s
QZH LR LR
comp=Z,2μm,14.8s
QZH LR LR
comp=Z,2μm,14.0s
ZAA0 Zalesovo Array 42.75 302 P **P** **03 14 00.3 -1.9**
ZALV Zalesovo Beam 42.75 302 P **P** **03 14 00.4 -1.8**
comp=Z,9.4nm,0.4s,baz=57,slow=6.7,SNR=57
ZALV PcP **PcP** **03 15 51.5 -1.4**
comp=Z,8.2nm,0.7s,baz=66,slow=5.9,SNR=2.8
ZALV LR LR 03 33 17.6
comp=Z,9μm,18.8s,baz=68,slow=38
ZALV Zalesovo Beam 42.75 302 *i*P **P** **03 14 00.4 -1.8**
ZALV pmax pmax
comp=Z,10.0nm,0.4s
ZALV Zalesovo Beam 42.75 302 P **P** **03 14 00.1 -2.1**
LZH Lanzhou 42.77 269 ⇑P **P** **03 14 03.0 +0.3**
LZH sP sP 03 14 19.4 -0.9
LZH PP **PP** **03 15 44.8 +2.5**
LZH PcP **PcP** **03 15 54.8 +1.3**
LZH S **S** **03 20 21.8 -1.6**
LZH sS sS 03 20 43.3 +0.6
LZH pmax pmax
comp=Z,94nm,1.3s
LZH pmax pmax
comp=Z,820nm,5.7s
LZH LR LR
comp=Z,10μm,13.6s
LZH LR LR
comp=Z,6μm,14.0s
LZH LR LR
comp=Z,12μm,16.3s
TPUB Ta-pu 42.83 241 P **P** **03 14 02.5 -0.7**
TPUB IAmb IAmb 03 14 06.9
comp=Z,268nm,1.1s
TPUB IAMs_20 IAMs_20 03 31 54.3
comp=Z,6μm,22.0s
TPUB Ta-pu 42.83 241 P **P** **03 14 04.6 +1.4**
GTA Gaotai 42.95 276 ⇑P **P** **03 14 04.3 +0.2**
GTA sP pP 03 14 19.3 +2.9
GTA PP **PP** **03 15 45.3 +1.1**
GTA S **S** **03 20 26.1 +0.1**
GTA pmax pmax
comp=Z,81nm,1.4s
GTA pmax pmax
comp=Z,620nm,10.8s
GTA LR LR
comp=Z,7μm,18.7s
GTA LR LR
comp=Z,7μm,19.5s
GTA LR LR
comp=Z,8μm,14.3s
TWG Pinlang 42.99 240 P **P** **03 14 04.2 -0.2**
TWG IAmb IAmb 03 14 17.3
comp=Z,251nm,1.4s
KNMB Chin-men Tao 43.06 244 P **P** **03 14 05.7 +0.8**
KNMB IAmb IAmb 03 14 09.9
comp=Z,114nm,1.0s
CNSH ChangSha 43.15 253 ⇑P **P** **03 14 05.3 -0.4**
CNSH S **S** **03 20 27.6 -1.3**
CNSH pmax pmax
comp=Z,43nm,1.2s
CNSH LR LR
comp=Z,2μm,16.7s
CNSH LR LR
comp=Z,4μm,20.2s
CNSH LR LR
comp=Z,4μm,20.4s
ENH Enshi 43.56 258 P **P** **03 14 07.8 -1.3**
ENH IAMs_20 IAMs_20 03 34 15.5
comp=Z,6μm,19.0s
NOR Nord 44.84 359 *i*P **P** **03 14 18.0 -0.6**
NOR IAmb IAmb 03 14 20.5
comp=Z,16nm,1.1s
LLLB Lillooet 45.30 61 P **P** **03 14 22.9 +0.2**
TULEG Thule 46.16 14 P **P** **03 14 29.2 +0.1**
TULEG IAmb IAmb 03 14 30.4
comp=Z,80nm,0.9s
TULEG Thule 46.16 14 *i*P **P** **03 14 29.3 +0.1**
TULEG IAmb IAmb 03 14 30.1
comp=Z,74nm,0.8s
KBS Kingsbay 46.23 352 *c*⇑P **P** **03 14 30.9 +1.2**
KBS pmax pmax
comp=Z,138nm,1.3s
KBS MLR MLR
comp=Z,2μm,19.0s
KBS Kingsbay 46.23 352 P **P** **03 14 30.5 +0.8**
KBS IAmb IAmb 03 14 33.0
comp=Z,57nm,0.8s
KBS Kingsbay 46.23 352 *i*P **P** **03 14 30.3 +0.7**
KBS Kingsbay 46.23 352 *e*P **P** **03 14 30.9 +1.2**
KBS Kingsbay 46.23 352 ⇑P **P** **03 14 31.0 +1.2**
KBS pP **pP** **03 14 39.7 -2.3**
KBS sP **sP** **03 14 44.8 -2.5**
SGCP Gonzaga 46.36 235 *e*P **P** **03 14 32.5 +1.2**
ZSN Zaisan 46.44 295 *e*P **P** **03 14 29.5 -2.2**
ZSN Zaisan 46.44 295 *e*P **P** **03 14 29.6 -2.2**
baz=295
CD2 Chengdu 46.45 264 P **P** **03 14 31.6 -0.5**
CD2 PP **PP** **03 16 22.0 +0.4**
CD2 S **S** **03 21 17.6 +0.8**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,610nm,8.6s
CD2 LR LR
comp=Z,5μm,15.9s
CD2 LR LR
comp=Z,6μm,19.1s
D03D Eldon 46.49 65 P **P** **03 14 31.6 -0.4**
baz=308
SPA0 Spitsbergen Ar 46.51 350 *e*P **P** **03 14 32.3 +0.4**
SPITS Spitsbergen Ar 46.51 350 P **P** **03 14 32.0 +0.2**
comp=Z,74nm,0.5s,baz=46,slow=8.3,SNR=56
SPITS LR LR 03 34 56.6
comp=Z,2μm,18.2s,baz=271,slow=37
SPITS Spitsbergen Ar 46.51 350 P **P** **03 14 32.8 +0.9**
SPITS pmax pmax
comp=Z,160nm,0.7s
SPB2 Spitsbergen Ar 46.51 350 P **P** **03 14 32.5 +0.7**
B05A Bryant 46.58 64 P **P** **03 14 32.5 -0.2**
baz=307,SNR=8.8
B06A Marblemount 46.75 63 P **P** **03 14 34.5 +0.5**
PATS Pohnpei 46.87 183 IAMs_20 IAMs_20 03 29 32.3
comp=Z,5μm,22.0s
HOPEN Hopen 46.94 347 *e*P **P** **03 14 35.7 +0.5**
SEM Semipalatinsk 47.08 300 *e*P **P** **03 14 33.7 -3.2**
SEM pmax pmax
comp=Z,36nm,1.2s
SEM MLR MLR
comp=Z,2μm,20.0s
SEM Semipalatinsk 47.08 300 *e*P **P** **03 14 33.8 -3.2**
comp=Z,36nm,1.2s,baz=300
SEM LR LR 03 33 11.3
comp=Z,2μm,20.0s,baz=300
HKPS Hong Kong Po S 47.11 247 P **P** **03 14 38.6 +1.4**
HKPS IAMs_20 IAMs_20 03 35 32.8
comp=Z,3μm,20.0s
WMQ Urumqi 47.13 289 *e*P **P** **03 14 37.3 +0.1**
WMQ pP pP 03 14 45.8 -3.8
WMQ sP sP 03 14 52.8 -2.0
WMQ PcP **PcP** **03 16 09.6 +1.3**
WMQ S **S** **03 21 27.8 +1.5**
WMQ sS sS 03 21 40.5 -5.3
WMQ ScS **ScS** **03 24 24.8 -2.4**
WMQ SS **SS** **03 24 43.3 -10**
WMQ pmax pmax
comp=Z,100nm,1.5s
WMQ pmax pmax
comp=Z,700nm,4.3s
WMQ LR LR
comp=Z,5μm,21.3s
WMQ LR LR
comp=Z,11μm,15.7s
WMQ LR LR
comp=Z,11μm,19.5s
WMQ Urumqi 47.13 289 ⇓P **P** **03 14 37.5 +0.3**
D05A Enumclaw 47.29 65 P **P** **03 14 38.1 -0.3**
D05A IAmb IAmb 03 15 06.0
comp=Z,56nm,0.8s
E04D Cinebar 47.37 66 P **P** **03 14 39.2 +0.3**
E04D IAmb IAmb 03 15 11.7
comp=Z,102nm,1.1s
E04D Cinebar 47.37 66 P **P** **03 14 39.3 +0.4**
baz=308
HSPB Hornsund (broa 47.64 350 *e*P **P** **03 14 41.6 +1.0**
HSPB *e*L L 03 35 43.2
comp=Z,3μm,18.5s
HSPB Hornsund (broa 47.64 350 *e*P **P** **03 14 41.5 +0.9**
KURK Kurchatov 47.72 302 *ce*P **P** **03 14 40.0 -1.6**
KURK pmax pmax
comp=Z,191nm,1.7s
KURK MLR MLR
comp=Z,9μm,17.0s
KURK Kurchatov 47.72 302 P **P** **03 14 39.7 -1.9**
KURK IAmb IAmb 03 14 44.1

comp=Z,165nm,1.3s
KURK Kurchatov 47.72 302 P P 03 14 39.6 -1.9
KURK P P 03 14 39.6 -1.9
KURK Kurchatov 47.72 302 ⇑P P 03 14 39.6 -1.9
KURK pP pP 03 14 50.0 -4.0
KURBB Kurchatov Arra 47.82 302 LR LR 03 36 19.2
comp=Z,10μm,18.5s,baz=34,slow=38
F04A Amboy 47.84 66 P P 03 14 43.6 +1.0
LTY Liberty 47.95 64 P P 03 14 44.2 +0.6
B08A Colville Reser 47.98 62 P P 03 14 44.0 +0.3
B08A IAmb IAmb 03 15 16.2
comp=Z,64nm,1.2s
EDM Edmonton 48.01 54 P P 03 14 44.8 +0.9
EDM pmax pmax
comp=Z,111nm,1.1s
EDM Edmonton 48.01 54 P P 03 14 44.8 +0.9
EDM IAmb IAmb 03 15 10.5
comp=Z,111nm,1.1s
GOMU GeErMu 48.03 276 P P 03 14 43.9 -0.8
GOMU S S 03 21 39.1 -0.7
GOMU pmax pmax
comp=Z,12nm,0.6s
GOMU pmax pmax
comp=Z,340nm,8.9s
GOMU LR LR
comp=Z,6μm,20.0s
GOMU LR LR
comp=Z,6μm,19.8s
GOMU LR LR
comp=Z,2μm,19.0s
GYA Guiyang 48.06 258⇑*i*P P 03 14 43.8 -0.9
GYA sP pP 03 14 58.6 +1.6
GYA PcP **PcP 03 16 12.8 +0.9**
GYA S **S 03 21 38.8 -1.1**
GYA ScS **ScS 03 24 32.4 -1.5**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,760nm,5.0s
GYA LR LR
comp=Z,2μm,16.5s
GYA LR LR
comp=Z,3μm,27.2s
GYA LR LR
comp=Z,5μm,25.8s
COR Corvallis 48.21 68 IAMs_20 IAMs_20 03 31 20.6
comp=Z,4μm,22.0s
MK31 Makanchi Array 48.23 295 *e*P P 03 14 42.8 -2.8
MK31 Makanchi Array 48.23 295 P P 03 14 43.5 -2.2
MKAR Makanchi Array 48.23 295 P P 03 14 43.7 -2.0
comp=Z,7.2nm,0.4s,baz=55,slow=6.6,SNR=108
MKAR LR LR 03 36 15.5
comp=Z,2μm,20.2s,baz=40,slow=38
MKAR PKPPKP P'P'df 03 45 40.2 -17
comp=Z,0.6nm,0.8s,baz=241,slow=2.5,SNR=3.7
MKAR P4KPbc 03 52 24.1
comp=Z,0.9nm,1.1s,baz=45,slow=4.5,SNR=4.0
MKAR Makanchi Array 48.23 295 P P 03 14 44.0 -1.7
MAKZ Makanchi 48.39 296 P P 03 14 44.6 -2.3
F05D White Salmon 48.39 66 P P 03 14 47.1 +0.2
baz=309
H04D Lebanon 48.56 68 P P 03 14 48.8 +0.6
baz=310
HOOD Mount Hood Mea 48.64 67 P P 03 14 49.2 +0.2
HOOD IAmb IAmb 03 15 19.5
comp=Z,81nm,0.9s
I03D Drain, OR 48.75 69 P P 03 14 50.4 +0.7
baz=310
H04A Detroit Lake 48.76 68 P P 03 14 49.9 +0.2
H04A IAmb IAmb 03 15 18.9
comp=Z,53nm,1.1s
J01E Myrtle Point 48.77 70 P P 03 14 50.3 +0.5
baz=310
SMPP San Manuel, Pa 48.81 235 *e*P P 03 14 51.5 +1.1
E07A Sunnyside 48.83 64 P P 03 14 50.6 +0.4
G05D Wamic, OR 48.88 66 P P 03 14 51.1 +0.4
baz=310
C09A Chrisman Ranch 48.88 62 P P 03 14 50.7 +0.1
BOLP Bolinao 48.99 236 *e*P P 03 14 53.1 +1.4
D08A Wollman Farm, 49.01 63 P P 03 14 52.1 +0.5
HAWA Hanford 49.11 64 P P 03 14 53.0 +0.7
NEW Newport 49.19 61 P P 03 14 53.6 +0.6
comp=Z,17nm,1.1s,baz=312,slow=6.4,SNR=18
NEW LR LR 03 33 59.4
comp=Z,4μm,21.3s,baz=302,slow=34
NEW Newport 49.19 61 P P 03 14 53.0 0.0
NEW pmax pmax
comp=Z,21nm,1.0s
NEW Newport 49.19 61 P P 03 14 53.0 0.0
NEW Newport 49.19 61 IAMs_20 IAMs_20 03 33 37.5
comp=Z,4μm,21.0s
NEW Newport 49.19 61 P P 03 14 53.0 0.0
baz=309,SNR=13
I04A Tendick Farm, 49.21 69 P P 03 14 54.2 +1.0
baz=310
F07A Phinny Hill Vi 49.21 65 P P 03 14 54.4 +1.3
F07A IAmb IAmb 03 15 20.8
comp=Z,53nm,0.7s
E08A Dider Farm, El 49.30 64 P P 03 14 55.0 +1.2
E08A IAmb IAmb 03 15 26.3
comp=Z,76nm,1.5s
I05D Terrebonne, OR 49.45 67 P P 03 14 55.1 0.0
baz=310
BJO1 Bjornoya 49.45 347 *e*P P 03 14 55.0 +0.4
SCZP Santa Cruz 49.51 236 *e*P P 03 14 56.7 +1.0
DAG Danmarks Havn 49.70 360 P P 03 14 56.3 -0.1
DAG Danmarks Havn 49.70 360 *i*P P 03 14 56.0 -0.4
DAG IAmb IAmb 03 14 57.6
comp=Z,61nm,0.9s
J04D Umpqua Nationa 49.73 69 P P 03 14 57.9 +0.5
J04D IAmb IAmb 03 15 27.1
comp=Z,118nm,1.1s
J04D Umpqua Nationa 49.73 69 P P 03 14 57.9 +0.5
baz=311
E09A Wood Farm, Sta 49.77 63 P P 03 14 58.2 +0.8
E09A IAmb IAmb 03 15 24.6
comp=Z,44nm,0.8s
PINE Pine Mountain 50.02 68 P P 03 15 00.5 +0.9
G08A Pilot Rock 50.12 65 P P 03 15 00.9 +0.7
LQP Lukban 50.16 233⇑*e*P P 03 15 02.9 +2.0
J05D Fort Rock, OR 50.19 68 P P 03 15 00.2 -0.6
baz=311
L04D Klamath Falls 50.30 70 P P 03 15 01.6 0.0
L04D IAmb IAmb 03 15 28.4
comp=Z,67nm,1.0s
L04D Klamath Falls 50.30 70 P P 03 15 01.5 -0.1
baz=311
BRVK Borovoye 50.31 308*ce*P P 03 14 59.3 -2.1
BRVK pmax pmax
comp=Z,67nm,1.7s
BRVK MLR MLR
comp=Z,9μm,17.0s
BRVK Borovoye 50.31 308 P P 03 14 59.6 -1.8
BRVK Borovoye 50.31 308 P P 03 15 00.3 -1.1
BRVK Borovoye 50.31 308 ⇓P P 03 14 59.8 -1.6
BRVK pP pP 03 15 09.8 -4.0
WALA Waterton Lakes 50.33 58 P P 03 15 02.7 +0.9
WALA IAmb IAmb 03 15 35.6
comp=Z,58nm,1.0s
YBH Yreka Blue Hor 50.39 71 P P 03 15 04.3 +2.0
comp=Z,6.3nm,0.7s,baz=338,slow=5.7,SNR=8.4
YBH LR LR 03 33 00.2
comp=Z,4μm,21.3s,baz=316,slow=32
YBH Yreka Blue Hor 50.39 71 P P 03 15 02.2 -0.1
YBH pmax pmax
comp=Z,27nm,1.0s
YBH Yreka Blue Hor 50.39 71 P P 03 15 02.2 -0.1
YBH IAMs_20 IAMs_20 03 32 39.2
comp=Z,5μm,22.0s
MACP Maragondon, Ca 50.42 234 *e*P P 03 15 04.9 +2.3
TGY Tagaytay City 50.45 234 LR LR 03 36 53.5
comp=Z,1μm,20.9s,baz=5.0,slow=37
M02C Callahan 50.54 71 IAMs_20 IAMs_20 03 32 29.1
comp=Z,5μm,22.0s
F10A Beach Ranch, E 50.60 63 P P 03 15 04.9 +1.1
I07A Izee 50.61 67 P P 03 15 04.8 +0.8
K05A Summer Lake 50.74 69 P P 03 15 05.7 +0.7
K05A IAmb IAmb 03 15 39.6
comp=Z,79nm,1.3s
M04C Macdoel 50.84 70 P P 03 15 06.2 +0.5
M04C Macdoel 50.84 70 P P 03 15 06.0 +0.2
baz=312
N02D Trinity Center 50.90 72 IAMs_20 IAMs_20 03 33 10.7
comp=Z,4μm,21.0s
N02D Trinity Center 50.90 72 P P 03 15 05.8 -0.3
baz=312
PZH PanZhiHua 50.90 262 P P 03 15 06.4 +0.1
PZH pP **pP 03 15 18.6 -0.2**
PZH sP **sP 03 15 24.3 +0.3**
PZH PcP **PcP 03 16 24.0 +1.7**
PZH PP **PP 03 16 58.8 -4.0**
PZH PcS **PcS 03 20 19.1 -1.0**
PZH ScS ScS 03 24 51.8 -1.3
PZH pmax pmax
comp=Z,30nm,0.5s
PZH pmax pmax
comp=Z,510nm,7.5s
PZH LR LR
comp=Z,2μm,20.6s
PZH LR LR
comp=Z,2μm,19.4s
PZH LR LR
comp=Z,3μm,16.2s
PGP Puerto Galera 50.96 233⇑*i*P P 03 15 07.9 +1.2
JTMT Jette 50.99 60 P P 03 15 07.5 +0.8
JTMT IAmb IAmb 03 15 18.0
comp=Z,58nm,0.8s
LUBP Lubang 51.10 234 *e*P P 03 15 07.9 +0.2
BRZS Berezniki 51.14 304 *e*P P 03 15 04.8 -2.9
BRZS Berezniki 51.14 304 *e*P P 03 15 04.8 -2.9
baz=304
UPNV Upernavik 51.15 13 *i*P P 03 15 07.5 +0.1
UPNV IAmb IAmb 03 15 08.8
comp=Z,189nm,1.2s
BMO Blue Mountains 51.30 64 P P 03 15 09.4 +0.3
BMO pmax pmax
comp=Z,43nm,1.4s
BMO Blue Mountains 51.30 64 P P 03 15 09.4 +0.3
BMO IAMs_20 IAMs_20 03 34 28.2
comp=Z,3μm,21.0s
KMI Kunming 51.36 260⇑P P 03 15 09.3 -0.6
KMI pP pP 03 15 21.3 -1.1
KMI S **S 03 22 22.3 -3.8**
KMI pmax pmax
comp=Z,26nm,1.1s
KMI pmax pmax
comp=Z,660nm,4.6s
KMI LR LR
comp=Z,4μm,20.0s
KMI LR LR
comp=Z,5μm,20.5s
KMI LR LR
comp=Z,4μm,24.8s
O02D Mt. Diablo Mer 51.39 72 P P 03 15 08.9 -0.8
baz=312
TDK Taldyqorghan 51.46 296 *e*P P 03 15 08.1 -2.0
TDK *e*S S 03 22 24.6 -2.1
TDK pmax pmax
comp=Z,32nm,1.0s
TDK MLR MLR
comp=Z,4μm,19.0s
TDK Taldyqorghan 51.46 296 *e*P P 03 15 08.2 -2.0
comp=Z,32nm,1.0s,baz=296
TDK *e*S S 03 22 24.6 -2.1
baz=296
TDK LR LR 03 36 36.9
comp=Z,4μm,19.3s,baz=296
MOD Modoc Plateau 51.62 69 P P 03 15 12.0 +0.4
MOD IAMs_20 IAMs_20 03 33 25.9
comp=Z,4μm,22.0s
J08A Circle Bar Ran 51.65 67 P P 03 15 12.5 +0.8
MSO Missoula 51.76 61 P P 03 15 13.2 +0.7
MSO Missoula 51.76 61 P P 03 15 12.2 -0.3
baz=311,SNR=22
PLID Pearl Lake 51.84 63 P P 03 15 13.9 +0.7
O03E Paynes Creek 51.86 72 P P 03 15 14.6 +1.3
O03E IAmb IAmb 03 15 50.8
comp=Z,107nm,1.1s
O03E Paynes Creek 51.86 72 P P 03 15 13.2 -0.2
baz=313
PDGK Podgornoye 51.98 294 P P 03 15 12.7 -1.6
SVE Sverdlovsk 52.05 317 *e*P P 03 15 14.4 0.0
SVE *e*S S 03 22 37.0 +2.5
SVE pmax pmax
comp=Z,66nm,1.9s
SVE MLR MLR
comp=Z,8μm,18.0s
QIZ Qiongzhong 52.09 249 P P 03 15 15.9 +0.8
QIZ Qiongzhong 52.09 249 IAMs_20 IAMs_20 03 37 53.6
comp=Z,2μm,20.0s
QIZ Qiongzhong 52.09 249 P P 03 15 15.9 +0.8
QIZ sP **pP 03 15 27.6 0.0**
QIZ S **S 03 22 38.5 +2.7**
QIZ sS **sS 03 22 55.0 -0.7**
QIZ pmax pmax
comp=Z,25nm,1.1s
QIZ pmax pmax
comp=Z,1μm,4.7s
QIZ LR LR
comp=Z,1μm,24.0s
QIZ LR LR
comp=Z,2μm,18.1s
QIZ LR LR
comp=Z,2μm,18.2s
SHLS Shalkode 52.11 294 *e*P P 03 15 11.3 -3.9
SHLS *e*S S 03 22 29.9 -6.1
SHLS pmax pmax
comp=Z,42nm,1.1s
SHLS Shalkode 52.11 294 *e*P P 03 15 11.3 -3.9
comp=Z,42nm,1.1s,baz=293
SHLS *e*S S 03 22 29.9 -6.1
baz=293
HAMF Hammerfest 52.12 343 *e*P P 03 15 14.6 -0.1
DBG Daneborg 52.18 0 *i*P P 03 15 14.9 -0.1
DBG IAmb IAmb 03 15 15.9
comp=Z,319nm,2.0s
WVOR Wild Horse Val 52.18 68 P P 03 15 16.6 +0.9
WVOR pmax pmax
comp=Z,25nm,1.1s
WVOR Wild Horse Val 52.18 68 P P 03 15 16.6 +0.9
WVOR IAMs_20 IAMs_20 03 33 52.8
comp=Z,4μm,22.0s
LVZ Lovozero 52.21 337⇑*e*P P 03 15 14.9 -0.6
LVZ pmax pmax
comp=Z,59nm,1.0s
LVZ MLR MLR
comp=Z,6μm,21.0s
LVZ Lovozero 52.21 337 P P 03 15 15.3 -0.2
LVZ IAmb IAmb 03 15 16.7
comp=Z,65nm,0.9s
FFC Flin Flon 52.23 47 P P 03 15 16.4 +0.6
FFC pmax pmax
comp=Z,35nm,1.1s
FFC MLR MLR
comp=Z,2μm,19.0s
FFC Flin Flon 52.23 47 P P 03 15 16.4 +0.6
KEV Kevo 52.28 341 IAMs_20 IAMs_20 03 40 45.3
comp=Z,2μm,21.0s
ARXS Arharly 52.29 296 *e*P P 03 15 14.5 -2.0
KPKS Kokpek 52.33 294 *e*P P 03 15 14.2 -2.5
KPKS pmax pmax
comp=Z,16nm,0.9s
KPKS Kokpek 52.33 294 *e*P P 03 15 14.2 -2.5
comp=Z,16nm,0.9s,baz=294
UZB Uzynbulak 52.36 294 *e*P P 03 15 14.9 -2.1
UZB pmax pmax
comp=Z,20nm,1.0s
UZB Uzynbulak 52.36 294 *e*P P 03 15 14.9 -2.1
comp=Z,20nm,1.0s,baz=294
OTUK Ortayu 52.45 303 P P 03 15 15.3 -2.2
ORV Oroville 52.54 72 P P 03 15 18.4 +0.1
ORV pmax pmax
comp=Z,33nm,1.1s
ORV Oroville 52.54 72 P P 03 15 18.4 +0.1
ORV IAMs_20 IAMs_20 03 33 37.0
comp=Z,4μm,22.0s
FCC Fort Churchill 52.67 39 P P 03 15 19.6 +0.7
FCC pmax pmax
comp=Z,133nm,0.9s
FCC Fort Churchill 52.67 39 P P 03 15 19.6 +0.7
FCC IAmb IAmb 03 15 20.7
comp=Z,133nm,0.9s
NUUG Nuugaatsiaq 52.67 13 *i*P P 03 15 18.4 -0.4
NUUG IAmb IAmb 03 15 32.9
comp=Z,107nm,1.5s
MCCM Marconi Confer 52.72 74 IAMs_20 IAMs_20 03 34 06.0
comp=Z,4μm,20.0s
ARA0 ARCESS Array S 52.75 342⇑*i*P P 03 15 19.8 +0.4
ARCES ARCESS Array B 52.75 342 P P 03 15 19.4 0.0
comp=Z,16nm,0.6s,baz=38,slow=8.8,SNR=89
ARCES PcP **PcP 03 16 30.4 +2.1**
comp=Z,5.9nm,0.5s,baz=27,slow=4.1,SNR=6.3
ARCES LR LR 03 42 46.5
comp=Z,2μm,19.8s,baz=32,slow=42
ARCES ARCESS Array B 52.75 342 P P 03 15 19.3 -0.1
ARCES PcP **PcP 03 16 27.6 -0.8**
SATY Saty 52.75 294 *e*P P 03 15 17.6 -2.3
SATY pmax pmax
comp=Z,43nm,1.7s
SATY Saty 52.75 294 *e*P P 03 15 17.6 -2.3
comp=Z,43nm,1.7s,baz=294
APA Apatity 52.76 337⇓*i*P P 03 15 18.3 -1.2
APA *i* 03 17 17.0
APA *i*PPP PPP 03 18 30.0
APA *i*S **S 03 22 41.0 -2.9**
APA *i*PS PKiKP 03 22 58.0 -8.4
APA pmax pmax
comp=Z,30nm,0.9s
HRY Holter Researc 52.93 59 P P 03 15 21.4 +0.2
BEKR Beckworth 52.97 71 P P 03 15 22.4 +0.7
TBP Tagbilaran 52.98 228⇓*e*P P 03 15 22.5 +0.8
CHKK Chushkaly 52.98 296 *e*P P 03 15 18.9 -2.6
CHKK Chushkaly 52.98 296 *e*P P 03 15 18.1 -3.4
baz=296
MFID Camas Ranch 53.05 65 P P 03 15 22.9 +0.8
EGMT Eagleton 53.09 57 P P 03 15 23.2 +0.8
EGMT IAMs_20 IAMs_20 03 36 33.2
comp=Z,4μm,22.0s
EGMT Eagleton 53.09 57 P P 03 15 22.1 -0.2
baz=312,SNR=14
ARU Arti 53.16 317 LR LR 03 40 40.0
comp=Z,7μm,21.2s,baz=39,slow=39
ARU Arti 53.16 317*d i*P P 03 15 21.5 -1.0
ARU *PP **sP 03 15 38.1 -2.2**
ARU 03 16 27.9
ARU S **S 03 22 49.5 -0.1**
ARU SS **SS 03 26 24.4 -4.3**
ARU pmax pmax
comp=Z,93nm,1.5s
ARU MLR MLR
comp=Z,7μm,21.0s
ARU Arti 53.16 317 P P 03 15 21.6 -1.0
LRM Limekiln Ridge 53.20 61 P P 03 15 24.0 +0.6
TARA Tarawa 53.22 165 IAMs_20 IAMs_20 03 33 57.7
comp=Z,5μm,21.0s
KUU Kurty 53.30 296 *e*P P 03 15 20.5 -3.3
KUU pmax pmax
comp=Z,28nm,1.0s
KUU MLR MLR
comp=Z,4μm,19.0s
KUU Kurty 53.30 296 *e*P P 03 15 20.5 -3.3
comp=Z,28nm,1.0s,baz=296
KUU LR LR 03 37 56.3
comp=Z,4μm,18.5s,baz=296
MDOK Medeo 53.41 295 *e*P P 03 15 22.7 -2.1
MDOK MLR MLR
comp=Z,2μm,15.0s
MDOK Medeo 53.41 295 *e*P P 03 15 22.7 -2.1
baz=295
MDOK LR LR 03 38 30.8
comp=Z,2μm,14.9s,baz=295
DLMT Dillon 53.44 61 P P 03 15 25.5 +0.5
AAA Alma-Ata 53.45 295 *e*P P 03 15 23.0 -2.0
AAA pmax pmax
comp=Z,21nm,0.7s
AAA Alma-Ata 53.45 295 *e*P P 03 15 23.1 -2.0
comp=Z,22nm,0.7s,baz=295
TNSS Tian-Shan 53.55 295 *e*P P 03 15 23.8 -2.4
TNSS Tian-Shan 53.55 295 *e*P P 03 15 23.8 -2.4
baz=295
KTK1 Kautokeino 53.61 342 *e*P P 03 15 25.8 +0.1
JETT Jettan, Norway 53.62 344 *e*P P 03 15 25.6 -0.2
PAHR Pah Rah Range 53.62 71 P P 03 15 27.2 +0.8
MCMT McKenzie Canyo 53.67 62 P P 03 15 27.5 +0.7
HLID Hailey 53.70 64 P P 03 15 27.9 +0.9
HLID IAMs_20 IAMs_20 03 35 54.6
comp=Z,3μm,21.0s
HLID Hailey 53.70 64 P P 03 15 27.4 +0.4
baz=313,SNR=15
BTLS Baital 53.73 299 *e*P P 03 15 24.7 -2.2
BTLS Baital 53.73 299 *e*P P 03 15 24.7 -2.2
baz=299
BOZ Bozeman (W) 53.78 60 IAMs_20 IAMs_20 03 37 45.5
comp=Z,3μm,22.0s
BOZ Bozeman (W) 53.78 60 P P 03 15 27.9 +0.4
baz=313,SNR=30
TRO Tromso 53.79 344⇑*i*P P 03 15 26.6 -0.4
PNTR Pine Nut 53.93 71 IAmb IAmb 03 16 01.8
comp=Z,110nm,1.2s
KDJ Kajisay 54.05 294 P P 03 15 29.1 -0.4
KDJ pmax pmax
comp=Z,59nm,1.1s
KDJ Kajisay 54.05 294 P P 03 15 29.1 -0.4
KDJ IAmb IAmb 03 15 31.8
comp=Z,58nm,1.1s
PRGR Permogore 54.07 328 *e*P P 03 15 26.7 -2.4
PRGR pmax pmax
comp=Z,27nm,0.6s
DIBR DIBRUGARH 54.22 269⇑*e*P P 03 15 30.8 +0.1
TKM2 Tokmak 2 54.36 296 P P 03 15 31.1 -0.7
SNR=15
TKM2 Tokmak 2 54.36 296 P P 03 15 30.1 -1.7
ULHL Ulahol 54.48 295 P P 03 15 31.9 -0.8
SNR=34
SGDS Sogindy 54.51 297 *e*P P 03 15 30.3 -2.4
SGDS Sogindy 54.51 297 *e*P P 03 15 30.4 -2.4
baz=297
USP Ospenovka 54.70 297 P P 03 15 33.3 -0.8
SNR=18
KVN Kaiserville 54.79 70 IAmb IAmb 03 15 54.6
comp=Z,39nm,0.9s
LSA Lhasa 54.80 273 IAMs_20 IAMs_20 03 41 09.2
comp=Z,3μm,20.0s
LSA Lhasa 54.80 273 P P 03 15 35.6 +0.1
LSA pmax pmax
comp=Z,18nm,0.6s
KCP Kidapawan 54.85 225⇑*i*P P 03 15 37.6 +2.2
KBK Karagaybulak 54.89 296 P P 03 15 31.3 -4.3
SNR=11
KIRV Kirov 55.08 323 LR LR 03 42 17.2
comp=Z,10μm,19.1s,baz=36,slow=39
KIRV Kirov 55.08 323*de*P P 03 15 36.6 +0.2
NVAR Mina Array Bea 55.11 71 P P 03 15 39.1 +1.7
comp=Z,14nm,0.7s,baz=296,slow=7.2,SNR=94
NVAR LR LR 03 36 01.3
comp=Z,3μm,21.6s,baz=295,slow=32
NVAR PKPPKP P'P'df 03 45 30.7 -17
comp=Z,0.8nm,0.9s,baz=159,slow=2.1,SNR=3.5
LKWY Lake 55.12 61 IAMs_20 IAMs_20 03 42 09.0
comp=Z,2μm,20.0s
LHV Little Huntoon 55.12 71 IAmb IAmb 03 16 14.2
comp=Z,114nm,1.2s
YMP Mirror Lake Pl 55.13 60 IAmb IAmb 03 16 16.9
comp=Z,80nm,1.2s
AAK Ala-Archa 55.14 296 P P 03 15 35.9 -1.5
SNR=21
AAK Ala-Archa 55.14 296 LR LR 03 40 37.6
comp=Z,7μm,19.8s,baz=42,slow=38
AAK Ala-Archa 55.14 296*c i*P P 03 15 36.1 -1.3
AAK pmax pmax
comp=Z,61nm,1.7s
AAK MLR MLR
comp=Z,7μm,19.0s
AAK Ala-Archa 55.14 296 P P 03 15 36.0 -1.5
AAK Ala-Archa 55.14 296 P P 03 15 36.4 -1.0
AAK P P 03 15 36.4 -1.0
AAK Ala-Archa 55.14 296 *i*P P 03 15 36.1 -1.3
SNR=11
H17A Grant Village 55.15 61 IAmb IAmb 03 15 59.8
comp=Z,49nm,1.1s
H17A Grant Village 55.15 61 P P 03 15 38.0 +0.4
baz=314,SNR=39
ITAN ITANAGAR 55.16 269⇑*e*P P 03 15 38.6 +1.1
ELK Elko 55.20 67 LR LR 03 36 12.6
comp=Z,4μm,21.9s,baz=320,slow=33
ELK Elko 55.20 67 IAMs_20 IAMs_20 03 35 51.2
comp=Z,4μm,21.0s
PPR Puerto Princes 55.26 233⇓*i*P P 03 15 41.2 +2.9
JMIC Jan Mayen 55.28 356 LR LR 03 38 15.4
comp=Z,1μm,20.8s,baz=54,slow=35
FLWY Flagg Ranch 55.30 61 IAmb IAmb 03 15 59.9
comp=Z,44nm,0.8s
MOKO MOKOCHONG 55.30 268 *e*P P 03 15 39.6 +0.8
RLMT Red Lodge 55.32 59 IAmb IAmb 03 16 07.0
comp=Z,50nm,0.8s
RLMT IAMs_20 IAMs_20 03 39 57.2

comp=Z,3µm,22.0s
RLMT Red Lodge 55.32 59 P P 03 15 39.5 +0.8
baz=314,SNR=52
UCH Uchtor 55.41 296 P P 03 15 39.3 -0.5
SNR=9.3
DGMT Dagmar 55.50 54 IAmb IAmb 03 15 43.9
comp=Z,61nm,1.2s
DGMT Dagmar 55.50 54 IAMs_20 IAMs_20 03 40 56.7
comp=Z,4µm,20.0s
DGMT Dagmar 55.50 54 P P 03 15 41.1 +1.3
baz=314,SNR=17
DGMT Dagmar 55.50 54 P P 03 15 40.1 +0.4
baz=314,SNR=17
EKS2 Erkin-Say 55.51 297 P P 03 15 39.2 -0.7
SNR=19
LAO LASA Array 55.76 56 IAmb IAmb 03 15 44.7
comp=Z,48nm,0.9s
LAO LASA Array 55.76 56 P P 03 15 43.4 +1.7
baz=314,SNR=30
LAO LASA Array 55.76 56 P P 03 15 42.4 +0.7
baz=314,SNR=30
STEI Steigen 55.91 345 *e*P P 03 15 42.1 -0.2
AML Almayashu 55.92 296 P P 03 15 42.1 -1.2
SNR=21
AML Almayashu 55.92 296 P P 03 15 42.5 -0.8
AML Almayashu 55.92 296 *i* P P 03 15 41.9 -1.4
SNR=21
LOF Lofoten 55.98 346⇑ *i*P P 03 15 42.9 +0.1
KOHI KOHIMA 56.00 268 *e*P P 03 15 44.5 +0.8
AHID Auburn Hatcher 56.01 63 IAmb IAmb 03 16 23.0
comp=Z,53nm,1.2s
SCO Scoresbysund 56.01 1 IAMs_20 IAMs_20 03 38 31.6
comp=Z,3µm,22.0s
TEZP TEZPUR 56.10 270 *e*P P 03 15 42.0 -2.3
TIN Tinemaha, Big 56.12 72 P P 03 15 46.0 +1.5
baz=315,SNR=5.7
SMMC Simmler 56.35 75 P P 03 15 46.4 +0.3
baz=316
FAUS Fauske 56.41 345⇑ *i*P P 03 15 45.7 -0.2
VES Vestal, Richgr 56.50 74 P P 03 15 47.7 +0.7
baz=316
ICESG Greenland Ices 56.51 9 *i* P P 03 15 47.3 +0.3
ICESG IAmb IAmb 03 15 48.5
comp=Z,118nm,0.7s
KSH Kashi 56.52 293 P P 03 15 50.1 +2.8
KSH pP pP 03 16 02.4 +2.4
KSH sP sP 03 16 11.8 +6.7
KSH S S 03 23 37.8 +2.4
KSH pmax pmax
comp=Z,47nm,1.4s
KSH LR LR
comp=Z,4µm,18.6s
KSH LR LR
comp=Z,4µm,17.0s
KSH LR LR
comp=Z,6µm,20.8s
KLMR Klimovskoe 56.55 330 *e*P P 03 15 45.7 -1.2
KLMR *e*S S 03 23 32.5 -2.3
KLMR *e*SS SS 03 27 21.4 -0.4
KLMR pmax pmax
comp=Z,114nm,0.7s
KLMR MLR MLR
comp=Z,6µm,17.0s
KLMR Klimovskoe 56.55 330 *e*P P 03 15 45.8 -1.2
KLMR AMP 03 15 50.0
comp=Z,114nm,0.7s
KLMR *e*S S 03 23 32.6 -2.3
KLMR *e*S S 03 23 32.6 -2.3
KLMR *e*SS SS 03 27 21.4 -0.4
KLMR LQ LQ 03 35 58.3
KLMR LQ LQ 03 35 58.3
KLMR LR LR 03 40 23.0
KLMR AMP 03 43 38.5
comp=Z,6µm,16.9s
HWUT Hardware Ranch 56.57 64 IAmb IAmb 03 15 51.1
comp=Z,39nm,0.8s
DZA Taraz 56.63 298 *e*P P 03 15 45.5 -2.4
DZA Taraz 56.63 298 *e*P P 03 15 45.5 -2.4
baz=298
CWC Cottonwood Cre 56.64 73 P P 03 15 48.1 -0.1
baz=316
GRAC Grapevine Rang 56.65 72 IAmb IAmb 03 16 18.3
comp=Z,99nm,1.4s
GRAC Grapevine Rang 56.65 72 P P 03 15 50.0 +1.8
baz=315,SNR=12
R11A Troy Canyon, C 56.69 69 P P 03 15 50.0 +1.4
baz=315,SNR=29
FRB Frobisher Bay 56.69 24 LR LR 03 41 40.0
comp=Z,2µm,21.9s,baz=326,slow=38
PKM Mcpherson Peak 56.76 75 P P 03 15 50.0 +0.8
baz=316
BW06 Boulder Array 56.81 62 P P 03 15 50.6 +1.1
baz=315,SNR=55
PDAR Pinedale Array 56.82 62 P P 03 15 50.9 +1.4
comp=Z,18nm,0.8s,baz=323,slow=2.8,SNR=147
PDAR LR LR 03 41 35.3
comp=Z,999nm,19.1s,baz=336,slow=37
PDAR PKPPKP P'P'df 03 45 27.2 -18
comp=Z,0.9nm,1.0s,baz=191,slow=3.0,SNR=4.1
DUG Dugway, Tooele 56.90 66 IAmb IAmb 03 16 16.9
comp=Z,67nm,1.0s
DUG Dugway, Tooele 56.90 66 P P 03 15 51.2 +1.2
baz=315,SNR=58
KK31 Karatay Array 56.91 299 *i* P P 03 15 47.8 -2.1
ISA Isabella, Lake 56.97 73 P P 03 15 50.7 +0.3
baz=316,SNR=9.9
GUWA GUWAHATI 57.08 270 *e*P P 03 15 50.2 -1.0
GUWA IAmb IAmb 03 15 54.6
comp=Z,20nm,0.7s
CTU Camp Tracy 57.12 65 IAmb IAmb 03 16 15.6
comp=Z,43nm,0.9s
ARVC Arvin 57.15 74 P P 03 15 52.8 +1.2
baz=316
SFJD Kangerlussuaq 57.23 14 LR LR 03 41 48.2
comp=Z,3µm,21.1s,baz=345,slow=37
SFJD Kangerlussuaq 57.23 14 P P 03 15 51.4 -0.3
SFJD pmax pmax
comp=Z,103nm,1.0s
SFJD MLR MLR
comp=Z,2µm,21.0s
SFJD Kangerlussuaq 57.23 14 P P 03 15 51.4 -0.3
SFJD IAmb IAmb 03 15 52.6
comp=Z,103nm,1.0s
SFJD Kangerlussuaq 57.23 14 IAMs_20 IAMs_20 03 41 26.1
comp=Z,2µm,21.0s
SFJD Kangerlussuaq 57.23 14 *i* P P 03 15 51.5 -0.3
SFJD IAmb IAmb 03 15 52.6
comp=Z,284nm,1.8s
MPMC Manual Prospec 57.25 72 P P 03 15 54.0 +1.5
baz=316
FURC Furnace Creek, 57.31 72 P P 03 15 54.3 +1.6
baz=316,SNR=22
TPNV Topopah Spring 57.31 71 IAmb IAmb 03 16 25.3
comp=Z,86nm,1.2s
TPNV Topopah Spring 57.31 71 P P 03 15 54.1 +1.1
baz=316,SNR=28
JLU Jordanelle 57.34 65 IAmb IAmb 03 16 25.7
comp=Z,73nm,1.4s
SHL Shillong 57.43 270 IAmb IAmb 03 15 56.8
comp=Z,58nm,1.2s
SHL Shillong 57.43 270 *e*P P 03 15 53.0 -0.9
SHL IAmb IAmb 03 16 05.6
comp=Z,17nm,0.8s
SHL Shillong 57.43 270 P P 03 15 53.4 -0.5
SNR=17
NLU North Lily Min 57.47 66 IAmb IAmb 03 16 33.6
comp=Z,62nm,1.1s
LRMC Laurel Mtn Rad 57.55 73 P P 03 15 54.8 +0.2
baz=316
KONS Konsvik 57.56 345 *e*P P 03 15 55.0 +0.9
GWY Greenwater Val 57.62 72 IAmb IAmb 03 16 34.8
comp=Z,66nm,1.1s
PRN Pahroc Range 57.65 70 IAmb IAmb 03 16 36.9
comp=Z,126nm,1.3s
AB31 Akbulak array 57.66 310 *i* P P 03 15 53.0 -2.0
ABKAR Akbulak array 57.66 310 IAmb IAmb 03 15 57.7
comp=Z,46nm,1.1s
AKTO Aktyubinsk 57.66 312 LR LR 03 43 45.6
comp=Z,4µm,19.4s,baz=37,slow=39
AKTO Aktyubinsk 57.66 312 P P 03 15 52.6 -2.4
MOR8 Moi Rana 57.66 345⇑ *i*P P 03 15 53.2 -1.6
QSM Queen of Sheba 57.66 72 IAmb IAmb 03 16 18.2
comp=Z,64nm,1.2s
STOK Stokkvaagen 57.73 345 *e*P P 03 15 55.9 +0.6
EDW2 Edwards Air Fo 57.80 74 P P 03 15 57.1 +0.7
baz=316,SNR=11

IUG Iuzhnay 57.84 299 *e*P P 03 15 54.1 -2.4
IUG Iuzhnay 57.84 299 *e*P P 03 15 54.2 -2.4
baz=299
SOEG Soedalen 57.98 5 *i* P P 03 15 57.4 +0.4
SOEG IAmb IAmb 03 15 59.7
comp=Z,254nm,1.3s
ULM Lac du Bonnet 58.03 47 P P 03 15 58.4 +0.8
comp=Z,32nm,0.8s,baz=315,slow=7.2,SNR=32
ULM LR LR 03 42 10.5
comp=Z,5µm,20.5s,baz=316,slow=37
ULM PKPPKP P'P'df 03 45 41.8 -2.5
comp=Z,1.1nm,0.4s,baz=180,slow=5.1,SNR=1.7
ULM Lac du Bonnet 58.03 47 *c i*P P 03 15 58.7 +1.1
ULM Lac du Bonnet 58.03 47 IAmb IAmb 03 16 18.2
comp=Z,55nm,1.0s
DECC Green Verdugo 58.06 75 P P 03 15 58.9 +0.8
baz=316
GTK Tadong 58.07 273 *e*P P 03 15 56.4 -2.0
MDND Maddock 58.10 51 IAmb IAmb 03 16 01.4
comp=Z,119nm,1.1s
MDND Maddock 58.10 51 P P 03 15 59.5 +1.3
baz=316,SNR=9.4
MDND Maddock 58.10 51 P P 03 15 59.1 +0.9
baz=316,SNR=9.4
GSC Goldstone, Bar 58.18 73 P P 03 15 59.3 +0.4
baz=316,SNR=19
DY2G Dye2 58.31 12 *i* P P 03 15 59.3 -0.3
DY2G IAmb IAmb 03 16 01.0
comp=Z,772nm,1.9s
KRVT Keravat (AS076 58.36 190 LR LR 03 36 53.2
comp=Z,2µm,21.2s,baz=141,slow=32
TURI Tura 58.36 271 *e*P P 03 15 59.9 -0.3
RDMU Red Mountain 58.37 63 IAmb IAmb 03 16 40.2
comp=Z,110nm,1.1s
RRX Edison Barstow 58.38 73 P P 03 16 01.2 +0.9
baz=316
TMUT Trail Mountain 58.41 66 IAmb IAmb 03 16 39.5
comp=Z,46nm,0.8s
CHTO Chiang Mai 58.46 259 P P 03 16 01.9 +0.9
CHTO pmax pmax
comp=Z,102nm,1.2s
CHTO MLR MLR
comp=Z,3µm,20.0s
CHTO Chiang Mai 58.46 259 P P 03 16 01.9 +0.9
CHTO IAmb IAmb 03 16 03.8
comp=Z,102nm,1.2s
CHTO Chiang Mai 58.46 259 IAMs_20 IAMs_20 03 43 18.4
comp=Z,3µm,20.0s
CHTO Chiang Mai 58.46 259 P P 03 16 01.8 +0.9
CHTO Chiang Mai 58.46 259 P P 03 16 01.7 +0.7
CHTO Chiang Mai 58.46 259 ⇑P P 03 16 01.2 +0.2
BFSC Mount Baldy Ra 58.46 74 P P 03 16 02.6 +1.6
baz=317
K22A Casper 58.47 60 P P 03 16 02.7 +1.7
baz=316,SNR=15
K22A S S 03 24 01.8 +0.9
baz=316
K22A Casper 58.47 60 P P 03 16 01.5 +0.5
baz=316,SNR=15
FMP Fort Macarthur 58.48 75 P P 03 16 02.1 +1.1
baz=317
E28A Huff 58.52 53 IAmb IAmb 03 16 04.2
comp=Z,118nm,1.4s
E28A Huff 58.52 53 P P 03 16 02.7 +1.6
baz=317
VALR Valaam 58.53 334 *d i*P P 03 16 01.2 +0.3
VALR pmax pmax
comp=Z,139nm,0.8s
VALR MLR MLR
comp=Z,2µm,16.0s
P17A Butcher Ranch, 58.53 65 IAmb IAmb 03 16 06.5
comp=Z,58nm,1.3s
SMPI Sarmi 58.56 206 P P 03 16 04.5 +2.9
comp=Z,36nm,0.8s
TAPN Taplejung 58.57 274 *e*P P 03 16 01.7 -0.4
comp=Z,112nm,0.5s
TUQ Turquoise Moun 58.58 72 P P 03 16 02.7 +0.9
baz=316
SZCU Shurtz Canyon 58.60 68 IAmb IAmb 03 16 43.4
comp=Z,70nm,1.4s
DLV T Lat 58.63 245 IAMs_20 IAMs_20 03 42 23.0
comp=Z,2µm,20.0s
RSSD Black Hills 58.67 57 P P 03 16 03.7 +1.2
RSSD pmax pmax
comp=Z,73nm,0.8s
RSSD Black Hills 58.67 57 P P 03 16 03.6 +1.2
RSSD IAmb IAmb 03 16 05.2
comp=Z,73nm,0.8s
RSSD Black Hills 58.67 57 P P 03 16 03.5 +1.0
baz=316,SNR=75
RSSD S S 03 24 01.3 -2.3
baz=316
RSSD Black Hills 58.67 57 P P 03 16 03.4 +1.0
baz=316
RSSD Black Hills 58.67 57 ⇓P P 03 16 03.8 +1.4
P18A Preston Nutter 58.69 65 IAmb IAmb 03 16 43.1
comp=Z,50nm,1.1s
CM31 Chiang Mai Arr 58.74 258 IAmb IAmb 03 16 06.1
comp=Z,89nm,1.1s
CM31 Chiang Mai Arr 58.74 258 P P 03 16 04.1 +1.2
SNR=27
CM31 P P 03 16 04.1 +1.2
SNR=27
CMAR Chiang Mai Arr 58.74 258 P P 03 16 04.1 +1.2
comp=Z,30nm,0.8s,baz=23,slow=6.6,SNR=103
CMAR ScP ScP 03 20 50.8 +2.0
comp=Z,0.7nm,0.4s,baz=13,slow=5.4,SNR=2.6
CMAR LR LR 03 43 36.9
comp=Z,3µm,20.4s,baz=40,slow=38
CMAR PKPPKP P'P'df 03 45 37.5 -1.5
comp=Z,0.4nm,0.3s,baz=207,slow=1.6,SNR=4.5
HEC Hector,Ludlow 58.78 73 P P 03 16 04.8 +1.6
baz=317
RWWY Rawlins 58.81 61 IAmb IAmb 03 16 29.9
comp=Z,47nm,0.9s
RWWY IAMs_20 IAMs_20 03 41 12.5
comp=Z,2µm,22.0s
DRK Karamyk 58.81 295 IAmb IAmb 03 16 36.4
comp=Z,31nm,0.8s
BBRC Big Bear Solar 58.86 74 P P 03 16 05.4 +1.5
baz=317
SRU San Rafael Swe 58.91 65 IAmb IAmb 03 16 43.5
comp=Z,68nm,0.9s
BTK Batken 58.92 296 P P 03 16 03.3 -0.8
BTK pmax pmax
comp=Z,41nm,0.9s
BTK Batken 58.92 296 P P 03 16 03.3 -0.8
BTK IAmb IAmb 03 16 27.6
comp=Z,41nm,0.8s
LCMT Little Creek M 58.94 69 IAmb IAmb 03 16 35.8
comp=Z,51nm,1.2s
ELS Elsinore Mount 59.02 74 IAmb IAmb 03 16 27.3
comp=Z,41nm,1.1s
ODAN Odare 59.13 274 *e*P P 03 16 05.9 0.0
PKCU Pink Cliffs 59.14 68 IAmb IAmb 03 16 41.9
comp=Z,49nm,1.0s
KNB Kanab 59.17 68 IAmb IAmb 03 16 32.4
comp=Z,92nm,1.4s
MURC Murrieta 59.19 74 P P 03 16 06.8 +0.8
baz=317,SNR=9.4
GMRC Granite Mounta 59.20 72 P P 03 16 07.0 +0.9
baz=317,SNR=25
GUN Gumba 59.24 276 *e*P P 03 16 06.5 -0.2
comp=Z,76nm,0.4s
JIRN Jiri 59.24 276 *e*P P 03 16 06.1 -0.7
comp=Z,14nm,0.7s
MYLDM Lahad Datu 59.39 231 IAmb IAmb 03 16 12.1
comp=Z,119nm,1.2s
O20A White River Ci 59.39 63 IAmb IAmb 03 16 29.5
comp=Z,48nm,0.8s
O20A White River Ci 59.39 63 P P 03 16 08.4 +1.0
baz=316,SNR=26
BELO BELONIA 59.44 268 *e*P P 03 16 07.8 0.0
AGMN Agassiz Nation 59.48 49 IAmb IAmb 03 16 10.0
comp=Z,46nm,0.9s
AGMN IAMs_20 IAMs_20 03 43 41.8
comp=Z,2µm,20.0s
AGMN Agassiz Nation 59.48 49 P P 03 16 08.6 +0.9
baz=318,SNR=25
AGMN S S 03 24 14.5 +0.9
baz=318
AGMN Agassiz Nation 59.48 49 P P 03 16 08.1 +0.4
baz=318,SNR=25
RAMN Ramite 59.53 275 *e*P P 03 16 08.1 -0.5
comp=Z,195nm,0.4s
NSS Namsos 59.57 345⇑ *i*P P 03 16 08.1 0.0
BELC Belle Mtn. Jos 59.58 73 P P 03 16 09.7 +0.9

baz=317,SNR=14
PFO Pinyon Flats O 59.60 74 LR LR 03 38 45.8
comp=Z,2µm,20.4s,baz=299,slow=33
PFO Pinyon Flats O 59.60 74 P P 03 16 09.1 +0.2
PFO pmax pmax
comp=Z,32nm,1.4s
PFO Pinyon Flats O 59.60 74 P P 03 16 09.1 +0.2
PFO IAMs_20 IAMs_20 03 38 35.3
comp=Z,3µm,21.0s
PFO Pinyon Flats O 59.60 74 P P 03 16 10.2 +1.3
baz=317,SNR=5.7
TPFO Pinon Flats 59.60 74 P P 03 16 10.1 +1.1
baz=317
FINES FINESS Array B 59.64 337 P P 03 16 08.5 -0.1
comp=Z,88nm,0.6s,baz=33,slow=6.3,SNR=309
FINES LR LR 03 47 16.2
comp=Z,3µm,18.0s,baz=28,slow=41
KKN Kakani 59.68 276 *e*P P 03 16 09.0 -0.6
comp=Z,177nm,0.4s
NUUK Nuuk 59.69 16 *i* P P 03 16 09.4 +0.6
NUUK IAmb IAmb 03 16 10.6
comp=Z,248nm,1.6s
KKM Kota Kinabalu 59.71 234 P P 03 16 12.6 +2.8
comp=Z,108nm,1.6s
SWI Sorong 59.73 215 P P 03 16 11.7 +1.9
comp=Z,2µmcomp=Z,131nm,1.4s
SIJI Sorong 59.74 215 LR LR 03 41 04.6
comp=Z,548nm,19.8s,baz=66,slow=35
109C Camp Elliot, M 59.76 75 IAmb IAmb 03 16 50.5
comp=Z,46nm,1.2s
109C Camp Elliot, M 59.76 75 P P 03 16 10.8 +1.0
baz=317
PKI Pulchoki 59.77 276 *e*P P 03 16 09.6 -0.8
comp=Z,38nm,0.4s
PKIN Phulchoki 59.77 276 *e*P P 03 16 09.7 -0.6
comp=Z,82nm,0.6s
U15A North Rim 59.89 69 IAmb IAmb 03 16 43.7
comp=Z,64nm,1.4s
GKN Gorkha 59.90 277 *e*P P 03 16 10.1 -1.0
DMN Daman 59.92 276 *e*P P 03 16 10.6 -0.7
comp=Z,41nm,0.4s
IRM Iron Mountain 59.95 72 P P 03 16 12.4 +1.2
baz=317,SNR=30
GAR Garm 59.95 296 P P 03 16 10.7 -0.6
GAR IAmb IAmb 03 16 34.7
comp=Z,62nm,0.9s
PUL Pulkovo 60.03 334⇑ *e*P P 03 16 06.3 -5.0
PUL pmax pmax
comp=Z,212nm,1.3s
PUL MLR MLR
comp=Z,5µm,17.0s
N23A Red Feather La 60.04 61 IAmb IAmb 03 16 33.9
comp=Z,52nm,1.0s
N23A Red Feather La 60.04 61 P P 03 16 12.7 +0.6
baz=317,SNR=31
ANGG Ammassalik, Gr 60.08 9 P P 03 16 11.1 -0.5
ANGG IAMs_20 IAMs_20 03 42 46.4
comp=Z,3µm,21.0s
ANGG Ammassalik, Gr 60.08 9 *i* P P 03 16 11.0 -0.5
ANGG IAmb IAmb 03 16 12.3
comp=Z,367nm,1.6s
BC3 Big Chuckawall 60.14 73 P P 03 16 13.6 +1.0
baz=317,SNR=11
MONP2 Monument Peak 60.15 74 P P 03 16 13.8 +1.1
baz=317
BAR Barrett 60.16 75 IAmb IAmb 03 16 53.2
comp=Z,51nm,1.4s
DANN Dangsing 60.16 278 *e*P P 03 16 12.3 -0.7
comp=Z,47nm,0.4s
PV23 Carpenter Ridg 60.20 65 IAmb IAmb 03 16 45.5
comp=Z,68nm,1.0s
PV10 Paradox Valley 60.24 65 IAmb IAmb 03 16 40.4
comp=Z,61nm,0.9s
B35A Bob, Littlefor 60.38 48 IAmb IAmb 03 16 16.0
comp=Z,77nm,1.1s
B35A Bob, Littlefor 60.38 48 P P 03 16 14.7 +0.8
baz=319,SNR=30
B35A S S 03 24 24.8 -0.2
baz=319
PV11 David Mesa, Pa 60.39 65 IAmb IAmb 03 16 53.6
comp=Z,90nm,1.0s
PDMCI Parker Dam,Lak 60.41 72 P P 03 16 15.4 +1.2
baz=317,SNR=22
PV07 Paradox Valley 60.41 65 IAmb IAmb 03 16 40.4
comp=Z,45nm,0.9s
BELG Belogornoye 60.45 320 LR LR 03 45 40.2
comp=Z,12µm,18.3s,baz=36,slow=39
BELG Belogornoye 60.45 320 *c i*P P 03 16 13.5 -0.8
BELG pmax pmax
comp=Z,44nm,1.1s
BELG MLR MLR
comp=Z,2µm,18.0s
SWSC Sam W. Stewart 60.46 74 P P 03 16 14.6 0.0
baz=318
IKP In-Ko-Pah, Jac 60.50 74 P P 03 16 15.1 +0.1
baz=318
PV13 Radium Mtn., P 60.52 65 IAmb IAmb 03 16 37.5
comp=Z,73nm,0.9s
PV15 Paradox Valley 60.56 65 IAmb IAmb 03 16 54.7
comp=Z,56nm,0.9s
BLYC Blythe 60.59 72 IAmb IAmb 03 16 21.6
comp=Z,49nm,1.2s
KOLN Koldanda 60.68 278 *e*P P 03 16 15.8 -0.7
comp=Z,46nm,0.5s
PYUN Piuthan 60.80 278 *e*P P 03 16 16.3 -1.0
comp=Z,572nm,1.2s
CHGR Chuyangaron 60.82 296 IAmb IAmb 03 16 37.4
comp=Z,62nm,0.8s
SUSD Miller 60.91 54 IAmb IAmb 03 16 57.5
comp=Z,83nm,1.2s
SUSD Miller 60.91 54 P P 03 16 18.3 +0.7
baz=318
SUSD Miller 60.91 54 P P 03 16 17.9 +0.3
baz=318
GLA Glamis 60.94 73 IAmb IAmb 03 16 40.8
comp=Z,43nm,0.9s
GLA Glamis 60.94 73 P P 03 16 19.3 +1.4
baz=318,SNR=11
RAF Rauma 60.99 339 *e*P P 03 16 18.3 +0.6
ISCO Idaho Springs 61.01 62 IAmb IAmb 03 16 41.5
comp=Z,49nm,1.1s
ISCO IAMs_20 IAMs_20 03 42 33.9
comp=Z,3µm,22.0s
ISCO Idaho Springs 61.01 62 P P 03 16 20.7 +2.0
baz=318,SNR=47
ISCO S S 03 24 38.2 +4.1
baz=318
ISCO Idaho Springs 61.01 62 P P 03 16 20.0 +1.3
baz=318,SNR=47
TBLU Trondheim 61.04 345⇑ *i*P P 03 16 17.3 -0.9
WUAZ Wupatki 61.06 69 IAmb IAmb 03 16 51.6
comp=Z,44nm,1.1s
WUAZ Wupatki 61.06 69 P P 03 16 19.8 +0.9
baz=318,SNR=20
MEF Metsahovi 61.11 337 *e*P P 03 16 19.1 +0.5
F33A 5 Mile Ranch, 61.12 51 IAmb IAmb 03 16 21.4
comp=Z,81nm,1.1s
F33A 5 Mile Ranch, 61.12 51 P P 03 16 20.4 +1.4
baz=319,SNR=23
F33A S S 03 24 35.0 +0.4
baz=319
MOS Moscow 61.29 327 *e*P P 03 16 19.3 -0.6
MOS *e* 03 17 01.3
MOS *e*PPP PPP 03 20 03.3
MOS *e*S S 03 24 32.9 -3.5
MOS *e*SSS SSS 03 31 11.2
MOS pmax pmax
comp=Z,171nm,0.8s
MOS pmax pmax
comp=Z,300nm,0.9s
MOS MLR MLR
comp=N,3µm,17.0s
MOS MLR MLR
comp=E,2µm,17.0s
MOS MLR MLR
comp=Z,4µm,17.0s
FAKI Fak Fak 61.33 213 P P 03 16 21.2 +0.6
FAKI IAmb IAmb 03 16 49.2
comp=Z,78nm,1.0s
FAKI Fak Fak 61.33 213 P P 03 16 22.8 +2.1
comp=Z,2µmcomp=Z,92nm,1.1s
FAKI Fak Fak 61.33 213 P P 03 16 22.1 +1.4
MVCO Mesa Verde 61.38 65 IAmb IAmb 03 17 00.4
comp=Z,39nm,1.0s
MVCO IAMs_20 IAMs_20 03 38 59.0
comp=Z,2µm,22.0s
MVCO Mesa Verde 61.38 65 P P 03 16 22.1 +1.0

baz=318,SNR=20
GTOI Gorontalo 61.47 224 P **P** **03 16 22.4 +0.8**
comp=Z,626nmcomp=Z,23nm,1.1s
EYMN Ely 61.66 47 IAmb IAmb 03 16 24.2
comp=Z,68nm,0.9s
EYMN Ely 61.66 47 P **P** **03 16 23.3 +0.7**
baz=320,SNR=20
EYMN S **S** **03 24 41.8 +0.3**
baz=320
EYMN Ely 61.66 47 P **P** **03 16 22.9 +0.3**
baz=320,SNR=20
BORG Borgarnes 61.78 1 LR LR 03 42 05.2
comp=Z,1µm,21.2s,baz=358,slow=35
BORG Borgarnes 61.78 1 P **P** **03 16 23.1 +0.1**
BORG pmax pmax
comp=Z,180nm,1.1s
BORG Borgarnes 61.78 1 P **P** **03 16 23.1 +0.1**
BORG Borgarnes 61.78 1 ⇓P **P** **03 16 25.8 +2.7**
BORG pP **pP** **03 16 36.0 +0.4**
Q24A Divide 61.87 62 P **P** **03 16 25.4 +0.9**
baz=318,SNR=15
S22A 4UR Ranch, Cre 61.88 64 IAmb IAmb 03 16 57.3
comp=Z,62nm,1.2s
S22A 4UR Ranch, Cre 61.88 64 P **P** **03 16 25.9 +1.2**
baz=318,SNR=47
SMLA Simla 61.93 285 *e*P **P** **03 16 23.6 -1.0**
SMLA IAmb IAmb 03 16 42.2
comp=Z,45nm,0.5s
TOLI2 Tolitoli 61.98 227 P **P** **03 16 25.4 +0.3**
TOLI2 Tolitoli 61.98 227 P **P** **03 16 26.8 +1.7**
OGNE Ogallala 62.00 58 IAmb IAmb 03 16 28.4
comp=Z,120nm,1.4s
OGNE Ogallala 62.00 58 P **P** **03 16 26.7 +1.6**
baz=318,SNR=6.2
OGNE Ogallala 62.00 58 P **P** **03 16 26.1 +1.0**
baz=318,SNR=6.2
MRSI Marisa 62.06 225 P **P** **03 16 26.8 +1.3**
comp=Z,3µmcomp=Z,193nm,1.5s
MOL Molde 62.08 346 *e*P **P** **03 16 25.5 +0.3**
MOL Molde 62.08 346 ⇑*i*P **P** **03 16 25.2 +0.1**
VSU Vasula 62.09 335 *de*P **P** **03 16 26.0 +0.8**
VSU pmax pmax
comp=Z,214nm,0.7s
VSU MLR MLR
comp=Z,7µm,17.0s
VSU Vasula 62.09 335 *e*P **P** **03 16 26.1 +0.8**
AAL Aland 62.13 339 *e*P **P** **03 16 25.3 -0.2**
OBN Obninsk 62.15 328 LR LR 03 46 10.3
comp=Z,2µm,20.9s,baz=28,slow=39
OBN Obninsk 62.15 328 *c*⇓P **P** **03 16 24.6 -1.1**
OBN *e**PP **pP** **03 16 44.8 +6.5**
OBN *e**SP sP 03 16 53.5 +10
OBN *e* 03 17 04.9
OBN *e* 03 18 43.6
OBN *e*S **S** **03 24 44.4 -2.8**
OBN *e*SS **SS** **03 28 49.3 -0.3**
OBN pmax pmax
comp=Z,293nm,1.7s
OBN MLR MLR
comp=Z,6µm,21.0s
OBN Obninsk 62.15 328 P **P** **03 16 25.2 -0.5**
W18A Petrified Fore 62.26 68 IAmb IAmb 03 16 52.7
comp=Z,43nm,1.1s
W18A Petrified Fore 62.26 68 P **P** **03 16 27.8 +0.8**
baz=318
NIL Nilore 62.27 290 P **P** **03 16 26.4 -0.5**
NIL pmax pmax
comp=Z,76nm,0.9s
NIL MLR MLR
comp=Z,7µm,20.0s
NIL Nilore 62.27 290 P **P** **03 16 26.4 -0.5**
NIL IAmb IAmb 03 17 04.4
comp=Z,76nm,0.8s
NIL Nilore 62.27 290 P **P** **03 16 26.4 -0.5**
DOMB Dombas 62.37 345 ⇑*i*P **P** **03 16 27.3 +0.2**
F36A Milaca 62.37 49 P **P** **03 16 27.9 +0.6**
baz=320,SNR=19
F36A S **S** **03 24 49.2 -1.2**
baz=320
K31A O'Neill 62.37 55 IAmb IAmb 03 16 50.3
comp=Z,68nm,0.9s
K31A O'Neill 62.37 55 P **P** **03 16 28.6 +1.1**
baz=319,SNR=11
AKN Aaknes 62.53 346 *e*P **P** **03 16 29.0 +0.7**
ECSD EROS Data Cent 62.56 53 IAmb IAmb 03 16 30.2
comp=Z,34nm,0.9s
ECSD EROS Data Cent 62.56 53 IAMs_20 IAMs_20 03 44 56.5
comp=Z,2µm,20.0s
ECSD EROS Data Cent 62.56 53 P **P** **03 16 29.4 +0.7**
baz=319,SNR=32
ECSD S **S** **03 24 54.5 +1.6**
baz=319
ECSD EROS Data Cent 62.56 53 P **P** **03 16 28.4 -0.2**
baz=319,SNR=32
MTSE Matsula 62.59 336 *e*P **P** **03 16 29.9 +1.3**
SDCO Great Sand Dun 62.59 63 IAMs_20 IAMs_20 03 45 07.8
comp=Z,2µm,20.0s
SDCO Great Sand Dun 62.59 63 P **P** **03 16 30.7 +1.4**
baz=318,SNR=32
SDCO S **S** **03 24 58.1 +4.1**
baz=318
SDCO Great Sand Dun 62.59 63 P **P** **03 16 30.2 +0.9**
baz=318,SNR=32
E38A The Farm, Brul 62.67 48 IAmb IAmb 03 16 31.1
comp=Z,83nm,0.9s
E38A The Farm, Brul 62.67 48 P **P** **03 16 29.6 +0.3**
baz=321,SNR=16
SANI Sanana 62.73 220 P **P** **03 16 30.8 +0.8**
comp=Z,2µmcomp=Z,109nm,1.4s
SANI Sanana 62.73 220 P **P** **03 16 31.8 +1.8**
214A Organ Pipe Nat 62.89 72 IAmb IAmb 03 16 35.6
comp=Z,43nm,1.2s
214A Organ Pipe Nat 62.89 72 P **P** **03 16 32.1 +1.1**
baz=318,SNR=19
UPP Uppsala 62.91 340 *e*P **P** **03 16 31.5 +0.8**
NB2 NORSAR Subarra 62.98 344 P **P** **03 16 31.2 0.0**
comp=Z,182nm,1.0s,baz=20,slow=6.9
NB2 NORSAR Subarra 62.98 344 P **P** **03 16 31.2 0.0**
baz=20,slow=6.9
NOA NORSAR Array B 62.98 344 P **P** **03 16 30.9 -0.4**
comp=Z,26nm,0.4s,baz=28,slow=6.0,SNR=430
HNR Honiara 62.99 181 LR LR 03 39 30.4
comp=Z,2µm,21.6s,baz=4.0,slow=32
HNR Honiara 62.99 181 IAMs_20 IAMs_20 03 38 45.8
comp=Z,3µm,22.0s
IVI Ivigtut 63.06 15 P **P** **03 16 31.9 +0.3**
IVI Ivigtut 63.06 15 *i*P **P** **03 16 31.6 0.0**
IVI IAmb IAmb 03 16 32.7
comp=Z,106nm,0.9s
IVI Ivigtut 63.06 15 ⇓P **P** **03 16 32.0 +0.3**
MPSI Mapaga 63.06 227 P **P** **03 16 33.4 +1.2**
comp=Z,2µmcomp=Z,77nm,1.8s
LUWI Luwuk 63.08 224 P **P** **03 16 32.4 0.0**
LUWI Luwuk 63.08 224 P **P** **03 16 32.8 +0.4**
comp=Z,3µmcomp=Z,146nm,1.2s
LUWI Luwuk 63.08 224 P **P** **03 16 32.8 +0.4**
comp=Z,144nm,1.3s
KSCO Kaye Shedlock' 63.14 60 IAmb IAmb 03 17 01.1
comp=Z,51nm,1.1s
KSCO Kaye Shedlock' 63.14 60 P **P** **03 16 34.6 +1.8**
baz=319
KSCO S **S** **03 25 02.5 +1.9**
baz=319
KSCO Kaye Shedlock' 63.14 60 P **P** **03 16 33.2 +0.4**
baz=319
SPMN Marine on St. 63.18 49 IAmb IAmb 03 16 34.9
comp=Z,61nm,0.9s
SPMN Marine on St. 63.18 49 P **P** **03 16 33.6 +0.9**
baz=320,SNR=23
SPMN Marine on St. 63.18 49 P **P** **03 16 33.2 +0.4**
baz=320,SNR=23
NC602 NORSAR Array S 63.21 344 IAmb IAmb 03 16 33.5
comp=Z,89nm,1.1s
NC602 NORSAR Array S 63.21 344 ⇑*i*P **P** **03 16 32.8 0.0**
NORES NORESS Array B 63.21 344 P **P** **03 16 32.5 -0.2**
FOO Floro 63.36 347 *e*P **P** **03 16 34.3 +0.7**
HFS Hagfors 63.41 342 LR LR 03 47 17.5
comp=Z,2µm,19.6s,baz=26,slow=39
AAI Ambon 63.43 217 P **P** **03 16 37.7 +3.0**
comp=Z,4µmcomp=Z,120nm,1.2s
APSI Ampana 63.43 225 P **P** **03 16 36.1 +1.4**
comp=Z,1µmcomp=Z,106nm,1.2s
LPSR Galich'ya Gora 63.45 325 *e*P **P** **03 16 33.7 -0.7**
LPSR pmax pmax
comp=Z,200nm,0.8s
LPSR pmax pmax
comp=Z,190nm,0.7s
LPSR MLR MLR
comp=Z,4µm,17.0s
NRS Narsarsuaq 63.51 14 *i*P **P** **03 16 34.7 +0.1**
NRS IAmb IAmb 03 16 35.1
comp=Z,82nm,1.0s
BGNE Belgrade 63.58 56 P **P** **03 16 36.4 +0.9**
baz=320,SNR=13
BGNE S **S** **03 25 08.0 +2.2**
baz=320
BGNE Belgrade 63.58 56 P **P** **03 16 36.0 +0.5**
baz=320,SNR=13
D41A Chassel 63.61 46 P **P** **03 16 36.1 +0.5**
baz=322,SNR=16
VRH Novokhopyorsk 63.61 322 *e*P **P** **03 16 34.7 -0.8**
VRH pmax pmax
comp=Z,360nm,1.5s
VRH pmax pmax
comp=Z,420nm,1.6s
VRH MLR MLR
comp=Z,6µm,17.0s
HYA Hoyanger 63.62 347 *e*P **P** **03 16 35.6 +0.3**
T25A Trinidad 63.62 63 IAmb IAmb 03 17 08.1
comp=Z,46nm,1.2s
T25A Trinidad 63.62 63 P **P** **03 16 37.0 +0.9**
baz=319,SNR=22
TUC Tucson 63.76 71 P **P** **03 16 35.6 -1.3**
TUC pmax pmax
comp=Z,28nm,1.3s
TUC Tucson 63.76 71 P **P** **03 16 35.6 -1.3**
TUC Tucson 63.76 71 P **P** **03 16 38.4 +1.4**
baz=319
TUC Tucson 63.76 71 ⇓P **P** **03 16 39.0 +2.1**
SKAR Skarslia 63.78 345 *e*P **P** **03 16 36.6 +0.1**
I37B Waseca 63.84 51 P **P** **03 16 38.6 +1.4**
baz=321,SNR=39
I37B S **S** **03 25 12.5 +3.6**
baz=321
SUE Sulen 63.92 347 ⇑*i*P **P** **03 16 37.9 +0.6**
SLIT Slitere, Latvi 63.92 337 *e*P **P** **03 16 37.6 +0.2**
KBL Kabul 63.93 293 P **P** **03 16 35.2 -3.0**
KBL pmax pmax
comp=Z,66nm,1.2s
KBL Kabul 63.93 293 P **P** **03 16 35.2 -3.0**
KBL IAmb IAmb 03 17 14.0
comp=Z,66nm,1.2s
KBL Kabul 63.93 293 P **P** **03 16 37.6 -0.5**
SNR=25
KBL P **P** **03 16 37.6 -0.5**
SNR=25
PMG Port Moresby 64.02 195 LR LR 03 41 51.4
comp=Z,520nm,20.8s,baz=16,slow=33
PMG Port Moresby 64.02 195 *c*⇓P **P** **03 16 39.2 +0.8**
PMG pmax pmax
comp=Z,49nm,1.3s
PMG Port Moresby 64.02 195 P **P** **03 16 38.8 +0.4**
PMG IAmb IAmb 03 16 40.6
comp=Z,53nm,0.9s
PMG Port Moresby 64.02 195 P **P** **03 16 39.3 +0.8**
PMG Port Moresby 64.02 195 P **P** **03 16 39.4 +0.9**
L34A Svendsen Farm, 64.02 54 P **P** **03 16 38.9 +0.6**
baz=320,SNR=16
L34A S **S** **03 25 12.1 +1.0**
baz=320
OSL Oslo 64.11 344 *e*P **P** **03 16 39.6 +1.1**
COWI Conover 64.12 47 IAmb IAmb 03 16 40.2
comp=Z,65nm,0.8s
COWI Conover 64.12 47 P **P** **03 16 39.0 +0.1**
baz=322
COWI S **S** **03 25 10.3 -2.0**
baz=322
VORR Voronezh 64.13 324 ⇑*i*P **P** **03 16 39.3 +0.5**
VORR *e**SP **pP** **03 16 53.0 +1.4**
VORR 03 17 01.8
VORR S S 03 25 32.9 +21
VORR pmax pmax
comp=Z,210nm,1.6s
VORR MLR MLR
comp=Z,6µm,19.0s
ANMO Albuquerque 64.17 66 LR LR 03 41 46.4
comp=Z,2µm,21.1s,baz=320,slow=33
ANMO Albuquerque 64.17 66 *c*⇓P **P** **03 16 41.3 +1.6**
ANMO pmax pmax
comp=Z,24nm,1.3s
ANMO Albuquerque 64.17 66 P **P** **03 16 39.9 +0.2**
ANMO Albuquerque 64.17 66 IAMs_20 IAMs_20 03 41 13.8
comp=Z,3µm,22.0s
ANMO Albuquerque 64.17 66 P **P** **03 16 41.5 +1.8**
baz=319,SNR=25
ANMO Albuquerque 64.17 66 P **P** **03 16 40.8 +1.1**
baz=319
G40A Rib Lake 64.31 48 IAmb IAmb 03 16 42.1
comp=Z,96nm,1.4s
G40A Rib Lake 64.31 48 P **P** **03 16 40.8 +0.6**
baz=322,SNR=21
VIKU Vikbolandet 64.35 340 *e*P **P** **03 16 40.9 +0.7**
ASK Askoy 64.41 347 ⇑*e*P **P** **03 16 40.9 +0.4**
N33A J Bar K, Exete 64.44 56 IAmb IAmb 03 16 42.8
comp=Z,94nm,0.9s
N33B J Bar K, Exete 64.44 56 P **P** **03 16 41.5 +0.3**
baz=320,SNR=6.2
N33B S **S** **03 25 17.0 +0.7**
baz=320
BER Bergen 64.49 347 *e*P **P** **03 16 41.4 +0.3**
BER Bergen 64.49 347 ⇑*i*P **P** **03 16 41.8 +0.7**
VSR Storozhevoye 64.52 324 *e*P **P** **03 16 41.0 -0.4**
VSR pmax pmax
comp=Z,240nm,1.5s
VSR pmax pmax
comp=Z,250nm,1.1s
VSR MLR MLR
comp=Z,8µm,26.0s
KONO Kongsberg 64.56 344 *ce*P **P** **03 16 42.0 +0.4**
KONO pmax pmax
comp=Z,200nm,1.7s
KONO MLR MLR
comp=Z,2µm,20.0s
KONO Kongsberg 64.56 344 P **P** **03 16 42.3 +0.7**
KONO Kongsberg 64.56 344 IAMs_20 IAMs_20 03 45 51.7
comp=Z,2µm,21.0s
KONO Kongsberg 64.56 344 ⇑*i*P **P** **03 16 42.1 +0.5**
Y22A Socorro 64.65 67 P **P** **03 16 45.2 +2.3**
baz=319,SNR=9.6
VORD Divnogorie 64.68 323 *e*P **P** **03 16 42.8 +0.3**
VORD pmax pmax
comp=Z,70nm,0.6s
ODD1 Odda 64.76 346 *e*P **P** **03 16 43.3 +0.3**
SBUM Sibu 64.77 236 IAMs_20 IAMs_20 03 47 04.7
comp=Z,2µm,20.0s
CBKS Cedar Bluff 64.77 58 IAmb IAmb 03 16 45.1
comp=Z,45nm,0.9s
CBKS IAMs_20 IAMs_20 03 45 35.2
comp=Z,3µm,22.0s
CBKS Cedar Bluff 64.77 58 P **P** **03 16 43.7 +0.4**
baz=320
CBKS S **S** **03 25 20.1 -0.5**
baz=320
CBKS Cedar Bluff 64.77 58 P **P** **03 16 43.7 +0.4**
baz=320
ISAL Salakas 64.80 333 *e*P **P** **03 16 44.4 +1.1**
E43A Lone Tree Farm 64.81 45 IAmb IAmb 03 16 46.9
comp=Z,39nm,0.8s
E43A Lone Tree Farm 64.81 45 P **P** **03 16 43.3 -0.1**
baz=323,SNR=24
E43A S **S** **03 25 19.3 -1.4**
baz=323
F42A Maple Grove Fa 64.82 46 P **P** **03 16 44.3 +0.8**
baz=322,SNR=13
SCHQ Schefferville 64.83 28 P **P** **03 16 43.5 0.0**
comp=Z,46nm,0.6s,baz=334,slow=5.1,SNR=142
SCHQ PKPPKP **P'P'df** **03 45 31.9 -2.1**
comp=Z,10nm,1.1s,baz=55,slow=3.0,SNR=5.8
SCHQ Schefferville 64.83 28 IAmb IAmb 03 16 44.6
comp=Z,56nm,0.7s
IIGN Ignalina 64.97 333 *e*P **P** **03 16 45.7 +1.4**
K38A Parkersburg 65.19 51 IAmb IAmb 03 16 47.8
comp=Z,65nm,0.9s
K38A Parkersburg 65.19 51 P **P** **03 16 46.5 +0.6**
baz=321,SNR=8.1
K38A S **S** **03 25 26.6 +1.1**
baz=321
NACGM Naroch 65.22 333 *e*P **P** **03 16 46.6 +0.7**
N35A Tabor 65.22 54 IAmb IAmb 03 16 48.0
comp=Z,76nm,0.8s
N35A Tabor 65.22 54 P **P** **03 16 47.1 +0.9**
baz=321,SNR=13
N35A S **S** **03 25 27.1 +1.2**
baz=321
BLS5 Blasjo 65.26 346 ⇑*i*P **P** **03 16 46.6 +0.4**
121A Cookes Peak, D 65.26 68 IAmb IAmb 03 17 20.4
comp=Z,63nm,1.3s
121A Cookes Peak, D 65.26 68 P **P** **03 16 48.6 +1.8**
baz=319,SNR=14
121A Cookes Peak, D 65.26 68 P **P** **03 16 48.2 +1.4**
baz=319,SNR=14
MNK Minsk 65.27 332 *i*P **P** **03 16 47.3 +1.1**
MNK *i* *PP **sP** **03 17 03.6 -0.5**
MNK *i* 03 19 11.4
MNK *i* PPP PPP 03 20 44.7
MNK *i* S **S** **03 25 25.1 -0.9**
MNK *i* *SS **sS** **03 25 54.9 +7.3**
MNK *i* 03 26 37.0
MNK *i* SS **SS** **03 29 41.7 +3.4**
MNK pmax pmax
comp=Z,178nm,0.9s
MNK pmax pmax
comp=E,11nm,1.0s
MNK pmax pmax
comp=N,117nm,1.1s
MNK MLR MLR
comp=Z,4µm,24.0s
MNK MLR MLR
comp=N,3µm,21.0s
MNK Minsk 65.27 332 *i*P **P** **03 16 47.4 +1.1**
comp=E,11nm,1.0s
MNK *i*P **P** **03 16 47.4 +1.1**
comp=N,117nm,1.1s
MNK *i*P **P** **03 16 47.4 +1.1**
comp=Z,178nm,0.9s,baz=209
MNK *i* pP **sP** **03 17 03.6 -0.5**
MNK *i* PP **PP** **03 19 11.4 +1.9**
MNK *i* PPP PPP 03 20 44.8
MNK *i* S **S** **03 25 25.2 -0.9**
MNK *i* sS **sS** **03 25 55.0 +7.3**
MNK *i* SS **SS** **03 29 41.8 +3.4**
MNK *i* SSS SSS 03 32 45.3
MNK *i* LQ LQ 03 40 09.3
MNK *i* LR LR 03 43 41.7
MNK *i* LRM MLR 03 47 45.1
comp=E,179nm,16.1s
MNK *i* LRM MLR 03 47 52.0
comp=N,3µm,21.2s
MNK *i* LRM MLR 03 47 52.0
comp=Z,4µm,23.8s
319A Douglas 65.31 70 IAmb IAmb 03 16 58.3
comp=Z,67nm,1.1s
PABE Paberze 65.42 335 P **P** **03 16 48.1 +0.9**
PABE Paberze 65.42 335 *e*P **P** **03 16 48.1 +0.9**
SCIA State Center 65.56 52 IAMs_20 IAMs_20 03 46 40.9
comp=Z,2µm,21.0s
SCIA State Center 65.56 52 P **P** **03 16 49.4 +1.0**
baz=321,SNR=20
SCIA S **S** **03 25 32.2 +2.2**
baz=321
SCIA State Center 65.56 52 P **P** **03 16 49.0 +0.6**
baz=321,SNR=20
R32A Long Quarter, 65.58 58 P **P** **03 16 48.3 -0.3**
baz=320,SNR=5.4
R32A S **S** **03 25 30.1 -0.4**
baz=320
KMY Karmoy 65.63 346 *e*P **P** **03 16 49.5 +1.0**
E46A Sault Ste Mari 65.93 43 IAmb IAmb 03 16 51.2
comp=Z,69nm,0.8s
E46A Sault Ste Mari 65.93 43 P **P** **03 16 50.3 -0.3**
baz=324,SNR=34
I42A Draeger Farm, 65.96 48 IAmb IAmb 03 16 52.6
comp=Z,60nm,0.9s
I42A Draeger Farm, 65.96 48 P **P** **03 16 51.0 +0.1**
baz=323,SNR=20
I42A S **S** **03 25 33.9 -0.9**
baz=323
H43A Windswept, Lux 66.00 47 P **P** **03 16 51.2 0.0**
baz=323,SNR=18
H43A S **S** **03 25 36.0 +0.7**
baz=323
HOMB Homborsund 66.05 344 *e*P **P** **03 16 51.5 +0.2**
KSU1 Kansas State U 66.11 56 IAmb IAmb 03 16 52.9
comp=Z,35nm,0.9s
KSU1 Kansas State U 66.11 56 P **P** **03 16 51.3 -0.6**
baz=321,SNR=7.5
KSU1 Kansas State U 66.11 56 P **P** **03 16 51.1 -0.8**
baz=321,SNR=7.5
JFWS Jewell Farm 66.13 49 IAmb IAmb 03 16 52.7
comp=Z,33nm,0.8s
JFWS Jewell Farm 66.13 49 P **P** **03 16 51.9 -0.2**
baz=322,SNR=10
JFWS S **S** **03 25 36.7 -0.4**
baz=322
JFWS Jewell Farm 66.13 49 P **P** **03 16 51.8 -0.2**
baz=322,SNR=10
SNART Snartemo 66.19 345 *e*P **P** **03 16 52.6 +0.5**
JBP Jabalpur 66.29 277 *e*P **P** **03 16 51.9 -1.4**
L40A Anamosa 66.36 51 IAmb IAmb 03 16 54.8
comp=Z,83nm,0.8s
L40A Anamosa 66.36 51 P **P** **03 16 53.6 +0.1**
baz=322,SNR=30
DGPR DIGLIPUR 66.42 260 *e*P **P** **03 16 55.2 +1.1**
DGPR IAmb IAmb 03 16 57.6
comp=Z,757nm,1.3s
N38A Joes South For 66.42 53 P **P** **03 16 54.4 +0.5**
baz=322,SNR=22
N38A S **S** **03 25 41.0 +0.4**
baz=322
G45A Suttons Bay 66.44 45 IAmb IAmb 03 16 55.1
comp=Z,75nm,0.8s
G45A Suttons Bay 66.44 45 P **P** **03 16 54.2 +0.2**
baz=324,SNR=22
G45A P **P** **03 16 54.2 +0.2**
baz=324,SNR=22
G45A S **S** **03 25 41.2 +0.5**
baz=324
G45A S **S** **03 25 41.2 +0.5**
baz=324
MTKI Muara Teweh, K 66.44 232 P **P** **03 16 54.9 +0.6**
EPT El Paso 66.55 68 IAMs_20 IAMs_20 03 43 55.0
comp=Z,1µm,19.0s
KIDD KIDD Seismic O 66.55 68 P **P** **03 16 57.2 +2.2**
baz=320
KSM Kuching 66.55 237 P **P** **03 16 57.7 +2.7**
OVD Ostervraa, Den 66.68 343 *i*P **P** **03 16 55.5 +0.2**
OVD IAmb IAmb 03 16 56.9
comp=Z,193nm,0.5s
DEL Delary 66.81 341 *e*P **P** **03 16 56.4 +0.3**
MSTX Muleshoe 66.89 64 IAmb IAmb 03 17 18.3
comp=Z,58nm,1.0s
MSTX Muleshoe 66.89 64 P **P** **03 16 58.2 +1.0**
baz=320,SNR=44
MSTX S **S** **03 25 47.9 +1.3**
baz=320
MSTX Muleshoe 66.89 64 P **P** **03 16 57.8 +0.6**
baz=320,SNR=44
SUW Suwalki 66.97 334 *e*P **P** **03 16 57.2 +0.1**
SUW *e*L L 03 47 06.1
comp=Z,4µm,24.0s
SUW Suwalki 66.97 334 *e*P **P** **03 16 57.5 +0.4**
SPSI Sidrap Palu 66.97 225 P **P** **03 16 58.6 +1.0**
comp=Z,4µmcomp=Z,2µmcomp=Z,118nm,1.2s
I45A Fountain 67.00 46 P **P** **03 16 58.3 +0.7**
baz=324,SNR=11
I45A P **P** **03 16 58.3 +0.7**
baz=324,SNR=11
I45A S **S** **03 25 46.9 -0.5**
baz=324
I45A S **S** **03 25 46.9 -0.5**
baz=324
U32A Winter Ranch, 67.01 60 IAmb IAmb 03 16 59.5
comp=Z,41nm,1.0s
U32A Winter Ranch, 67.01 60 P **P** **03 16 58.3 +0.5**
baz=321,SNR=5.2
GLMI Grayling 67.05 45 IAMs_20 IAMs_20 03 48 51.9
comp=Z,2µm,19.0s
GLMI Grayling 67.05 45 P **P** **03 16 58.1 +0.3**
baz=324,SNR=13
GLMI S **S** **03 25 47.7 -0.3**
baz=324
GLMI Grayling 67.05 45 P **P** **03 16 57.7 -0.2**
baz=324,SNR=13
GEYT Alibeck 67.06 303 P **P** **03 16 57.0 -1.1**
comp=Z,14nm,0.6s,baz=270,slow=0.3,SNR=19
GEYT LR LR 03 48 57.6
comp=Z,10µm,18.3s,baz=60,slow=38
GEYT Alibeck 67.06 303 IAmb IAmb 03 17 00.4
comp=Z,56nm,1.2s

GYA0 **ALIBECK ARRAY** 67.06 303 P **P** 03 16 57.4 -0.7
GYA0B **ALIBECK ARRAY** 67.06 303 IAmb IAmb 03 17 00.3
comp=Z,59nm,1.2s
GOET **G??ttrup** 67.11 344 *i* P **P** **03 16 58.9 +0.9**
GOET IAmb IAmb 03 17 00.2
comp=Z,469nm,1.6s
L42A **Oliver, Polo** 67.12 50 IAmb IAmb 03 16 59.4
comp=Z,86nm,0.8s
L42A **Oliver, Polo** 67.12 50 P **P** **03 16 57.7 -0.6**
baz=323,SNR=25
L42A S **S** **03 25 48.0 -0.9**
baz=323
K43A **Burlington** 67.16 48 P **P** **03 16 58.2 -0.3**
baz=323,SNR=14
K43A S **S** **03 25 49.0 -0.4**
baz=323
STKI **Sintang** 67.19 235 P **P** **03 17 01.6 +2.5**
comp=Z,38nm,0.6s
P38A **Dawn** 67.19 54 IAmb IAmb 03 17 00.7
comp=Z,109nm,1.0s
P38A **Dawn** 67.19 54 P **P** **03 16 59.0 +0.1**
baz=322,SNR=36
P38A S **S** **03 25 49.6 -0.3**
baz=322
MNTX **Cornudas Mount** 67.22 67 IAmb IAmb 03 17 31.5
comp=Z,70nm,1.4s
MNTX IAMs_20 IAMs_20 03 43 52.5
comp=Z,2µm,20.0s
MNTX **Cornudas Mount** 67.22 67 P **P** **03 17 00.9 +1.8**
baz=320,SNR=41
MNTX S **S** **03 25 53.5 +3.1**
baz=320
MNTX **Cornudas Mount** 67.22 67 P **P** **03 16 59.6 +0.5**
baz=320,SNR=41
BNSI **Bone** 67.22 225 P **P** **03 17 00.7 +1.5**
comp=Z,1µmcomp=Z,65nm,1.2s
BIGH **Upper Bighouse** 67.38 351 *e*P **P** **03 16 60.0 +0.3**
BIGH IAmb IAmb 03 17 02.2
comp=Z,331nm,1.7s
N41A **Harden Midland** 67.60 51 P **P** **03 17 01.2 -0.2**
baz=323,SNR=24
N41A S **S** **03 25 53.5 -1.3**
baz=323
MUD **Monsted U'grnd** 67.68 343 *i* P **P** **03 17 01.9 +0.3**
MUD IAmb IAmb 03 17 03.5
comp=Z,281nm,1.6s
HRA **Herat** 67.69 298 P **P** **03 17 01.4 -0.9**
HRA IAmb IAmb 03 17 05.6
comp=Z,65nm,1.2s
BHPL **Bhopal** 67.74 279 *e*P **P** **03 17 01.9 -0.6**
BHPL IAmb IAmb 03 17 15.0
comp=Z,42nm,0.8s
PBA **Port Blair** 67.74 259 *e*P **P** **03 17 03.0 +0.5**
PBA IAmb IAmb 03 17 05.6
comp=Z,364nm,1.2s
PBA **Port Blair** 67.74 259 P **P** **03 17 03.4 +0.8**
SNR=27
L44A **Lake County Fo** 67.77 48 IAMs_20 IAMs_20 03 47 46.9
comp=Z,3µm,20.0s
L44A **Lake County Fo** 67.77 48 P **P** **03 17 02.4 0.0**
baz=323,SNR=11
L44A **Lake County Fo** 67.77 48 P **P** **03 17 02.0 -0.4**
baz=323,SNR=11
COP **Copenhagen** 67.82 341 *i* P **P** **03 17 03.5 +1.0**
COP IAmb IAmb 03 17 03.8
comp=Z,676nm,0.9s
LINV **Loch Inver, As** 67.83 352 *e*P **P** **03 17 03.1 +0.5**
LINV IAmb IAmb 03 17 05.2
comp=Z,400nm,1.7s
T35A **Sooner Cattle** 67.85 58 IAmb IAmb 03 17 31.7
comp=Z,38nm,1.0s
T35B **Sooner Cattle** 67.85 58 P **P** **03 17 03.2 +0.2**
baz=321,SNR=11
T35B S **S** **03 25 56.2 -1.7**
baz=321
BSD **Bornholm Skovb** 67.87 340 *e*P **P** **03 17 04.0 +1.2**
BSD **Bornholm Skovb** 67.87 340 *i* P **P** **03 17 02.8 0.0**
BSD IAmb IAmb 03 17 04.5
comp=Z,100nm,0.5s
KAPI **Kappang** 67.92 225 LR LR 03 45 55.8
comp=Z,227nm,21.0s,baz=36,slow=35
KAPI **Kappang** 67.92 225*c* *i* P **P** **03 17 04.6 +1.0**
KAPI pmax pmax
comp=Z,46nm,1.3s
KAPI **Kappang** 67.92 225 P **P** **03 17 04.7 +1.0**
KAPI IAmb IAmb 03 17 29.9
comp=Z,71nm,1.2s
KAPI **Kappang** 67.92 225 P **P** **03 17 05.1 +1.5**
KAPI P **P** **03 17 05.1 +1.5**
KAPI **Kappang** 67.92 225 P **P** **03 17 05.5 +1.9**
comp=Z,60nm,1.5s
LEWI **Lewis, Hebride** 67.97 353 *e*P **P** **03 17 03.9 +0.5**
LEWI IAmb IAmb 03 17 05.1
comp=Z,173nm,1.3s
P40A **Paris** 67.98 53 P **P** **03 17 04.2 +0.5**
baz=322,SNR=84
P40A S **S** **03 25 57.4 -1.8**
baz=322
MAK **Makhachkala** 68.01 313 *e*P **P** **03 17 03.9 0.0**
MAK *e*S **S** **03 26 01.3 +1.8**
MAK *e*SS **SS** **03 30 27.9 +6.7**
comp=Z,114nm,1.3s
MAK pmax pmax
MAK MLR MLR
comp=Z,3µm,17.0s
BKSI **Bulukumba** 68.05 224 P **P** **03 17 05.6 +1.2**
comp=Z,1µmcomp=Z,59nm,0.9s
GOF **Gofitskoye** 68.15 317⇑ *e*P **P** **03 17 04.8 0.0**
GOF *e*S S 03 26 18.6 +17
GOF pmax pmax
comp=Z,186nm,0.9s
LLD **Lille Linde** 68.20 341 *i* P **P** **03 17 05.8 +1.0**
LLD IAmb IAmb 03 17 06.2
comp=Z,121nm,1.1s
MCD **Coleburn Disti** 68.22 351 *e*P **P** **03 17 05.4 +0.4**
AKASG **Malin Array Be** 68.22 329 P **P** **03 17 04.3 -0.8**
comp=Z,58nm,0.4s,baz=29,slow=6.9,SNR=162
AKASG LR LR 03 50 22.5
comp=Z,6µm,20.0s,baz=26,slow=39
AKBB **Malin Array Si** 68.22 329*c* *i* P **P** **03 17 04.3 -0.8**
J47A **Sunmer** 68.25 46 P **P** **03 17 05.9 +0.4**
baz=324,SNR=26
J47A P **P** **03 17 05.9 +0.4**
baz=324,SNR=26
J47A S **S** **03 26 03.0 +0.6**
baz=324
J47A S **S** **03 26 03.0 +0.6**
baz=324
M44A **Midewin, Midew** 68.34 49 P **P** **03 17 06.3 +0.3**
baz=324,SNR=13
WMOK **Wichita Mounta** 68.39 61 IAmb IAmb 03 17 08.8
comp=Z,78nm,0.9s
WMOK **Wichita Mounta** 68.39 61 P **P** **03 17 07.1 +0.6**
baz=321,SNR=97
WMOK S **S** **03 26 04.7 +0.3**
baz=321
WMOK **Wichita Mounta** 68.39 61 P **P** **03 17 06.8 +0.3**
baz=321,SNR=97
KULM **Kulim** 68.42 248 P **P** **03 17 06.8 0.0**
KULM IAmb IAmb 03 17 28.2
comp=Z,101nm,1.2s
HDIL **Hopedale** 68.44 50 IAMs_20 IAMs_20 03 48 05.0
comp=Z,2µm,19.0s
HDIL **Hopedale** 68.44 50 P **P** **03 17 06.9 +0.2**
baz=323,SNR=39
HDIL **Hopedale** 68.44 50 P **P** **03 17 06.5 -0.2**
baz=323,SNR=39
MDO **Dochfour** 68.46 351 *e*P **P** **03 17 06.8 +0.3**
KAC **Achnashellach** 68.48 352 *e*P **P** **03 17 07.1 +0.4**
GROC **Groznyy** 68.54 315 *e*P **P** **03 17 06.5 -0.7**
GROC *e**SP **PcP** **03 17 31.2 -0.9**
GROC *e* 03 17 34.0
GROC *e* 03 19 47.5
GROC *e**SS **sS** **03 26 33.8 +6.3**
GROC pmax pmax
comp=Z,65nm,1.1s
L46A **Eue Claire** 68.61 47 P **P** **03 17 08.0 +0.3**
baz=324,SNR=10
L46A P **P** **03 17 08.0 +0.3**
baz=324,SNR=10
BSSI **Bau Bau, Buton** 68.64 224 P **P** **03 17 09.4 +1.3**
comp=Z,1µmcomp=Z,93nm,1.1s
KPL **Plockton** 68.67 352 *e*P **P** **03 17 08.0 +0.2**
KPL IAmb IAmb 03 17 09.4
comp=Z,299nm,1.6s
BBKI **Banjar Baru** 68.69 230 P **P** **03 17 07.0 -1.5**
comp=Z,204nm,1.2s
BBKI pP **pP** **03 17 22.3 +0.8**
comp=Z,204nm,1.2s
FNO **Franklin** 68.70 59 P **P** **03 17 08.9 +0.5**
FNO IAmb IAmb 03 17 10.7
comp=Z,91nm,1.1s
RGN **Rugen** 68.72 340 *e*P **P** **03 17 09.5 +1.4**
comp=Z,759nm,1.4s,baz=18,slow=6.0
DRUM **Mains of Drumt** 68.81 350 *e*P **P** **03 17 09.3 +0.7**
DRUM IAmb IAmb 03 17 10.2
comp=Z,140nm,1.0s
S39A **Bolivar** 68.82 55 IAmb IAmb 03 17 10.0
comp=Z,57nm,1.3s
S39A **Bolivar** 68.82 55 P **P** **03 17 08.3 -0.8**
baz=322,SNR=30
S39A S **S** **03 26 06.5 -2.9**
baz=322
R40A **Maddies Statio** 68.85 54 IAmb IAmb 03 17 10.8
comp=Z,87nm,0.9s
R40A **Maddies Statio** 68.85 54 P **P** **03 17 09.0 -0.2**
baz=323,SNR=71
R40A S **S** **03 26 09.0 -0.7**
baz=323
IPM **Ipoh** 68.89 247 P **P** **03 17 10.0 +0.3**
IPM IAmb IAmb 03 17 12.1
comp=Z,97nm,1.1s
IPM IAMs_20 IAMs_20 03 45 19.8
comp=Z,2µm,22.0s
IPM **Ipoh** 68.89 247 P **P** **03 17 10.9 +1.1**
comp=Z,100nm,1.3s
X34A **Smith Ranch, M** 68.99 60 IAmb IAmb 03 17 12.9
comp=Z,52nm,1.1s
TUL1 **Leonard** 69.00 58 IAmb IAmb 03 17 12.2
comp=Z,135nm,1.4s
TUL1 IAMs_20 IAMs_20 03 48 55.2
comp=Z,3µm,21.0s
TUL1 **Leonard** 69.00 58 P **P** **03 17 10.4 +0.2**
baz=322,SNR=25
TUL1 S **S** **03 26 11.6 +0.1**
baz=322
TUL1 **Leonard** 69.00 58 P **P** **03 17 10.2 -0.1**
baz=322,SNR=25
W35A **Tecumseh** 69.05 59 IAmb IAmb 03 17 12.7
comp=Z,100nm,1.2s
P43A **Skaggs, Pawnee** 69.07 51 P **P** **03 17 10.8 +0.2**
baz=323,SNR=15
P43A S **S** **03 26 11.4 -0.8**
baz=323
GKP **Gorka Klasztor** 69.08 338 *i* P **P** **03 17 11.5 +1.1**
GKP *e*L L 03 44 33.9
comp=Z,5µm,32.3s
GKP **Gorka Klasztor** 69.08 338 *e*P **P** **03 17 11.5 +1.1**
O44A **Mansfield** 69.14 50 IAmb IAmb 03 17 12.6
comp=Z,145nm,1.4s
O44A **Mansfield** 69.14 50 P **P** **03 17 10.8 -0.2**
baz=324
COEN **Coen** 69.15 198 IAmb IAmb 03 17 13.4
comp=Z,106nm,1.1s
COEN **Coen** 69.15 198 P **P** **03 17 12.1 +0.9**
SANVU **Saraoutou** 69.18 173 IAmb IAmb 03 17 32.0
comp=Z,106nm,1.2s
SANVU IAMs_20 IAMs_20 03 45 19.7
comp=Z,3µm,19.0s
SANVU **Saraoutou** 69.18 173 P **P** **03 17 14.7 +3.4**
KVAR **Kislovodsk Arr** 69.20 317 LR LR 03 51 48.9
comp=Z,4µm,20.0s,baz=276,slow=40
KIV **Kislovodsk** 69.21 317 *e*P **P** **03 17 11.2 -0.3**
KIV *e* 03 19 44.3
KIV *e*PPP PPP 03 21 26.8
KIV *e*S **S** **03 26 13.4 -0.6**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,4µm,17.0s
KIV **Kislovodsk** 69.21 317 P **P** **03 17 11.3 -0.3**
KIV IAmb IAmb 03 17 28.9
comp=Z,93nm,1.5s
KIV **Kislovodsk** 69.21 317 P **P** **03 17 11.4 -0.1**
KIV P **P** **03 17 11.4 -0.1**
KIV **Kislovodsk** 69.21 317 *i* P **P** **03 17 10.9 -0.6**
SNR=13
SADO **Sadowa** 69.31 41 LR LR 03 49 47.9
comp=Z,2µm,18.8s,baz=354,slow=38
SADO **Sadowa** 69.31 41 IAmb IAmb 03 17 12.8
comp=Z,69nm,1.4s
KBZ **Khabaz** 69.31 317 P **P** **03 17 11.8 -0.2**
comp=Z,55nm,1.0s,baz=49,slow=5.6,SNR=52
KBZ PKP2ab 03 45 25.4
comp=Z,1.8nm,0.9s,baz=287,slow=7.7,SNR=4.0
KBZ LR LR 03 52 10.0
comp=Z,6µm,20.2s,baz=19,slow=40
KBZ **Khabaz** 69.31 317*c* *i* P **P** **03 17 11.9 -0.1**
KBZ MLR MLR
comp=Z,6µm,20.0s
INVG **Invergeldie, C** 69.44 351 *e*P **P** **03 17 12.5 -0.1**
LATQ **La Tugue** 69.44 36 IAmb IAmb 03 17 13.9
comp=Z,56nm,1.1s
LGD **Lagodekhi** 69.47 313 P **P** **03 17 12.1 -1.0**
L48A **N Adams** 69.47 46 P **P** **03 17 13.2 +0.2**
baz=325,SNR=39
L48A P **P** **03 17 13.2 +0.2**
baz=325,SNR=39
L48A S **S** **03 26 10.9 -6.1**
baz=325
L48A S **S** **03 26 10.9 -6.1**
baz=325
PBKI **Pangkalan Bun** 69.51 234 P **P** **03 17 12.4 -1.1**
comp=Z,438nm,1.1s
AAM **Ann Arbor** 69.51 46 IAMs_20 IAMs_20 03 49 12.1
comp=Z,2µm,20.0s
AAM **Ann Arbor** 69.51 46 P **P** **03 17 13.9 +0.6**
baz=325,SNR=11
AAM **Ann Arbor** 69.51 46 P **P** **03 17 13.3 0.0**
baz=325,SNR=11
CCM **Cathedral Cave** 69.53 53 P **P** **03 17 13.1 -0.4**
CCM pmax pmax
comp=Z,106nm,1.1s
CCM **Cathedral Cave** 69.53 53 P **P** **03 17 13.1 -0.4**
CCM IAmb IAmb 03 17 15.2
comp=Z,106nm,1.1s
CCM **Cathedral Cave** 69.53 53 P **P** **03 17 13.9 +0.5**
baz=323,SNR=53
CCM S **S** **03 26 15.9 -1.8**
baz=323
CCM **Cathedral Cave** 69.53 53 P **P** **03 17 13.4 0.0**
baz=323
CCM **Cathedral Cave** 69.53 53 ⇑P **P** **03 17 14.0 +0.5**
CCM pP **pP** **03 17 24.0 -1.6**
SLM **Saint Louis** 69.54 52 P **P** **03 17 13.9 +0.4**
baz=323,SNR=14
SLM S **S** **03 26 18.0 +0.2**
baz=323
BEL **Belsk** 69.55 335 *e*P **P** **03 17 14.8 +1.4**
BEL *e*L L 03 49 27.4
comp=Z,4µm,24.1s
K50A **Casco** 69.56 45 IAmb IAmb 03 17 37.7
comp=Z,92nm,1.2s
K50A **Casco** 69.56 45 P **P** **03 17 13.8 +0.2**
baz=326
K50A P **P** **03 17 13.8 +0.2**
baz=326
SEKA **Sheki** 69.56 312 P **P** **03 17 12.7 -1.0**
SFIN **Lafayette** 69.58 49 IAmb IAmb 03 17 15.1
comp=Z,140nm,1.5s
SFIN **Lafayette** 69.58 49 P **P** **03 17 13.3 -0.4**
baz=324,SNR=16
SFIN **Lafayette** 69.58 49 P **P** **03 17 13.2 -0.5**
baz=324,SNR=16
ABTX **Abilene, Hawle** 69.59 63 IAmb IAmb 03 17 16.3
comp=Z,66nm,1.0s
ABTX **Abilene, Hawle** 69.59 63 P **P** **03 17 15.2 +1.2**
baz=322,SNR=30
ABTX S **S** **03 26 18.3 -0.3**
baz=322
ABTX **Abilene, Hawle** 69.59 63 P **P** **03 17 14.2 +0.2**
baz=322,SNR=30
HHAR **Hobbs** 69.63 56 IAmb IAmb 03 17 15.5
comp=Z,64nm,0.8s
HHAR **Hobbs** 69.63 56 P **P** **03 17 14.1 -0.1**
baz=322
HHAR S **S** **03 26 15.5 -3.5**
baz=322
ZEI **Tsey** 69.67 316 *e*P **P** **03 17 11.4 -3.2**
ZEI pmax pmax
comp=Z,69nm,1.4s
GUDG **Gudauri** 69.70 315 P **P** **03 17 15.0 +0.3**
LAWE **Loch Awe, Argy** 69.72 352 *e*P **P** **03 17 14.5 +0.2**
LAWE IAmb IAmb 03 17 15.9
comp=Z,423nm,1.6s
MGMO **Mountain Grove** 69.75 55 IAmb IAmb 03 17 15.6
comp=Z,49nm,0.9s
N47A **Urbana** 69.79 48 P **P** **03 17 14.8 -0.2**
baz=325,SNR=19
N47A P **P** **03 17 14.8 -0.2**
baz=325,SNR=19
N47A S **S** **03 26 18.7 -2.0**
baz=325
N47A S **S** **03 26 18.7 -2.0**
baz=325
ESY **Stoneypath** 69.80 350⇓ *e*P **P** **03 17 15.0 +0.2**
DDFL **Dedoflistskaro** 69.84 313 P **P** **03 17 17.5 +2.1**
BSEG **Bad Segeberg** 69.88 342 *e*P **P** **03 17 16.6 +1.3**
comp=Z,232nm,1.5s,baz=18,slow=6.0
Q44A **Meyer Farm, Va** 69.89 51 IAmb IAmb 03 17 18.1
comp=Z,66nm,0.8s
Q44A **Meyer Farm, Va** 69.89 51 P **P** **03 17 15.7 0.0**
baz=324,SNR=19
Q44A S **S** **03 26 21.3 -0.7**
baz=324
MNGR **Mingechevir, A** 69.97 312 P **P** **03 17 16.0 -0.1**
FVM **French Village** 69.97 53 P **P** **03 17 16.5 +0.3**
baz=323,SNR=40
FVM S **S** **03 26 23.1 +0.2**
baz=323
TX31 **Lajitas Ar. Si** 69.98 68 IAmb IAmb 03 17 22.8
comp=Z,84nm,0.9s
TX31 **Lajitas Ar. Si** 69.98 68 P **P** **03 17 17.7 +1.2**
baz=321,SNR=90
TX31 S **S** **03 26 25.6 +2.2**
baz=321
TXAR **Lajitas Array** 69.98 68 P **P** **03 17 17.6 +1.1**
comp=Z,12nm,0.5s,baz=302,slow=4.7,SNR=190
TXAR PKP2ab 03 45 16.4
comp=Z,0.9nm,0.9s,baz=163,slow=6.5,SNR=5.9
ONI **Oni** 70.03 316 P **P** **03 17 17.5 +1.0**
ONI **Oni** 70.03 316 IAmb IAmb 03 17 19.4
comp=Z,53nm,1.1s
HLG **Helgoland** 70.07 343 *e*P **P** **03 17 17.8 +1.4**
comp=Z,421nm,1.8s,baz=18,slow=6.0
PGBU **Glenifferbraes** 70.08 351 *e*P **P** **03 17 16.9 +0.4**
PGBU IAmb IAmb 03 17 18.4
comp=Z,665nm,1.4s
U40A **Yellville** 70.10 55 IAmb IAmb 03 17 18.5
comp=Z,107nm,0.9s
U40A **Yellville** 70.10 55 P **P** **03 17 16.8 -0.2**
baz=323,SNR=89
U40A P **P** **03 17 16.8 -0.2**
baz=323,SNR=89
U40A S **S** **03 26 20.8 -3.7**
baz=323
U40A S **S** **03 26 20.8 -3.7**
baz=323
U40A **Yellville** 70.10 55 P **P** **03 17 16.8 -0.2**
baz=323,SNR=89
LMQ **La Malbaie** 70.13 34 IAmb IAmb 03 17 18.2
comp=Z,82nm,0.9s
P46A **Rosedale** 70.14 50 P **P** **03 17 17.5 +0.3**
baz=324,SNR=8.0
MMRI **Maumere** 70.21 221 P **P** **03 17 21.2 +3.4**
X37A **Clayton** 70.25 58 P **P** **03 17 18.5 +0.5**
baz=322,SNR=10
X37A S **S** **03 26 25.5 -0.8**
baz=322
Z35A **Perchaven, San** 70.28 60 IAmb IAmb 03 17 19.7
comp=Z,44nm,1.1s
Z35A **Perchaven, San** 70.28 60 P **P** **03 17 18.2 0.0**
baz=322,SNR=7.9
LPIG **La Paz** 70.28 76 LR LR 03 46 02.9
comp=Z,447nm,19.0s,baz=310,slow=34
GANJ **Ganja** 70.41 313 P **P** **03 17 18.0 -0.9**
N49A **Columbus Grove** 70.42 47 IAmb IAmb 03 17 20.6
comp=Z,139nm,1.2s
N49A **Columbus Grove** 70.42 47 P **P** **03 17 18.9 0.0**
baz=325,SNR=20
N49A P **P** **03 17 18.9 0.0**
baz=325,SNR=20
N49A S **S** **03 26 24.9 -3.1**
baz=325
N49A S **S** **03 26 24.9 -3.1**
baz=325
EKA **Eskdalemuir Ar** 70.43 350 P **P** **03 17 18.6 -0.1**
ESK **Eskdalemuir** 70.45 350 P **P** **03 17 18.9 0.0**
ESK pmax pmax
comp=Z,83nm,0.9s
ESK **Eskdalemuir** 70.45 350 P **P** **03 17 18.9 0.0**
ESK IAmb IAmb 03 17 20.2
comp=Z,83nm,0.9s
ESK **Eskdalemuir** 70.45 350 ⇓P **P** **03 17 19.3 +0.5**
ESK pP **pP** **03 17 28.5 -3.2**
ESK sP **sP** **03 17 33.7 -3.0**
OLIL **Olney** 70.45 51 P **P** **03 17 19.2 +0.1**
baz=324,SNR=15
KDU **Kakadu** 70.49 209 P **P** **03 17 19.8 +0.4**
M50A **Fremont** 70.51 46 IAmb IAmb 03 17 20.9
comp=Z,55nm,0.8s
M50A **Fremont** 70.51 46 P **P** **03 17 19.7 +0.3**
baz=326,SNR=5.8
M50A P **P** **03 17 19.7 +0.3**
baz=326,SNR=5.8
LVV **L'vov** 70.53 332 *e*P **P** **03 17 18.0 -1.4**
LVV *e* 03 21 34.6
LVV *e*S **S** **03 26 22.2 -6.8**
LVV *e* 03 27 01.0
LVV pmax pmax
comp=Z,240nm,1.4s
LVV MLR MLR
comp=N,1µm,16.0s
LVV MLR MLR
comp=E,2µm,16.0s
LVV MLR MLR
comp=Z,2µm,16.0s
LHMI **Lhok Sumawe** 70.53 251 IAMs_20 IAMs_20 03 46 55.9
comp=Z,2µm,22.0s
LHMI **Lhok Sumawe** 70.53 251 P **P** **03 17 19.8 -0.1**
comp=Z,6µmcomp=Z,6µmcomp=Z,390nm,1.2s
LHMI **Lhok Sumawe** 70.53 251 P **P** **03 17 22.0 +2.1**
O48B **Farmland** 70.54 48 P **P** **03 17 19.2 -0.5**
baz=325,SNR=31
O48B S **S** **03 26 29.4 -0.1**
baz=325
O48B **Farmland** 70.54 48 P **P** **03 17 19.1 -0.5**
baz=325,SNR=31
ANN **Anapa** 70.54 321 *e*P **P** **03 17 18.0 -1.5**
ANN pmax pmax
comp=Z,109nm,1.0s
ANN MLR MLR
comp=Z,5µm,22.0s
ANN MLR MLR
comp=E,2µm,18.0s
ANN MLR MLR
comp=N,10µm,19.0s
W39A **Magazine** 70.57 57 IAmb IAmb 03 17 21.9
comp=Z,83nm,1.4s
W39A IAMs_20 IAMs_20 03 50 17.0
comp=Z,2µm,19.0s
W39A **Magazine** 70.57 57 P **P** **03 17 20.4 +0.5**
baz=323,SNR=18
W39A S **S** **03 26 28.7 -1.2**
baz=323
W39A **Magazine** 70.57 57 P **P** **03 17 19.8 -0.1**
baz=323,SNR=18
RUE **Ruedersdorf** 70.58 339 *e*P **P** **03 17 20.9 +1.3**
RUE **Ruedersdorf** 70.58 339 *e*P **P** **03 17 20.7 +1.1**
comp=Z,698nm,1.6s,baz=18,slow=6.0
SOC **Sochi** 70.70 319*c* *i* P **P** **03 17 19.2 -1.3**
SOC *e**PP **pP** **03 17 34.7 +1.5**
SOC *e**SP **PcP** **03 17 41.4 +0.2**
SOC *e* 03 19 53.5
SOC *e*PPP PPP 03 21 34.7
SOC *e*S **S** **03 26 30.2 -1.0**
SOC *e**SS **SKSac** **03 27 12.4 -6.3**
SOC *e*SS **SS** **03 31 06.3 +3.7**
SOC *e*SSS SSS 03 34 14.8
SOC pmax pmax
comp=Z,39nm,1.1s
SOC MLR MLR
comp=Z,9µm,20.0s
NEWG **New Galloway** 70.75 351 *e*P **P** **03 17 20.6 0.0**
NEWG IAmb IAmb 03 17 21.6
comp=Z,74nm,0.9s
S44A **Carbondale** 70.76 52 P **P** **03 17 21.3 +0.3**
baz=324,SNR=36
S44A S **S** **03 26 29.0 -3.1**
baz=324
J54A **Appleton** 70.76 42 P **P** **03 17 20.8 -0.1**

baz=327,SNR=12
J54A P **P** **03 17 20.8 -0.1**
baz=327,SNR=12
MNTQ Montreal, Queb 70.76 37 IAmb IAmb 03 17 22.1
comp=Z,135nm,1.4s
EDMD Edmundbyers 70.80 350 *eP* **P** **03 17 20.8 -0.2**
EDMD IAmb IAmb 03 17 22.5
comp=Z,246nm,1.5s
BLO Bloomington 70.81 49 IAmb IAmb 03 17 22.8
comp=Z,76nm,1.1s
FCAR Ozark Folk Cen 70.83 55 IAmb IAmb 03 17 22.8
comp=Z,73nm,0.8s
PECO Prince Edward 70.84 40 IAmb IAmb 03 17 22.4
comp=Z,101nm,1.3s
LKRN Lenkeran, Azer 70.89 310 P **P** **03 17 21.3 -0.4**
PBMO Poplar Bluff 70.94 54 P **P** **03 17 22.9 +0.8**
baz=324,SNR=56
PBMO S **S** **03 26 33.0 -1.2**
baz=324
CLGH Cloghs, Cushen 70.95 352 *eP* **P** **03 17 22.4 +0.5**
CLGH IAmb IAmb 03 17 23.5
comp=Z,322nm,1.4s
O49A Covington 70.95 47 P **P** **03 17 22.3 +0.2**
baz=325,SNR=23
O49A P **P** **03 17 22.3 +0.2**
baz=325,SNR=23
D62A Allapoint, All 70.96 34 P **P** **03 17 22.0 0.0**
D62A IAmb IAmb 03 17 23.5
comp=Z,86nm,0.8s
D62A Allapoint, All 70.96 34 P **P** **03 17 22.3 +0.3**
baz=331,SNR=39
D62A P **P** **03 17 22.3 +0.3**
baz=331,SNR=39
AKH Akhalkalaki 70.99 315 ⇑P **P** **03 17 23.2 +0.6**
AKH Akhalkalaki 70.99 315 P **P** **03 17 23.1 +0.6**
BMNY Brushton-Moira 71.00 38 P **P** **03 17 21.8 -0.6**
baz=329,SNR=26
MTN Manton Dam 71.04 211 P **P** **03 17 24.2 +1.4**
comp=Z,164nm,1.2s
GAL1 Galloway 71.04 351 *eP* **P** **03 17 22.5 +0.1**
GAL1 IAmb IAmb 03 17 23.9
comp=Z,426nm,1.7s
TSI Tuntungan 71.05 249 P **P** **03 17 25.0 +2.0**
comp=Z,18μmcomp=Z,217nm,0.9s
KWP Kalwaria Pacla 71.06 333 *eP* **P** **03 17 24.1 +1.5**
KWP *eL* L 03 52 38.4
comp=Z,4μm,19.4s
P48A Milroy 71.07 48 P **P** **03 17 22.3 -0.6**
baz=325,SNR=42
P48A P **P** **03 17 22.3 -0.6**
baz=325,SNR=42
J55A Hilton 71.09 41 IAmb IAmb 03 17 23.5
comp=Z,65nm,0.8s
J55A Hilton 71.09 41 P **P** **03 17 22.8 -0.1**
baz=328,SNR=22
J55A P **P** **03 17 22.8 -0.1**
baz=328,SNR=22
J55A S **S** **03 26 30.5 -5.2**
baz=328
J55A S **S** **03 26 30.5 -5.2**
baz=328
BATI Baumata 71.11 219 P **P** **03 17 25.3 +2.0**
comp=Z,729nmcomp=Z,41nm,1.6s
M52A Chesterland 71.11 45 IAmb IAmb 03 17 24.3
comp=Z,80nm,0.8s
M52A Chesterland 71.11 45 P **P** **03 17 23.6 +0.6**
baz=326,SNR=11
M52A P **P** **03 17 23.6 +0.6**
baz=326,SNR=11
DSRI Dabo 71.15 241 P **P** **03 17 26.2 +2.6**
comp=Z,69nm,1.4s
LCAR Lake Charles 71.16 54 P **P** **03 17 23.4 0.0**
baz=324,SNR=7.8
KESW Keswick, Cumbr 71.16 350 *eP* **P** **03 17 23.7 +0.6**
KESW IAmb IAmb 03 17 24.9
comp=Z,443nm,1.3s
LONY Lake Ozonia 71.17 38 IAmb IAmb 03 17 25.0
comp=Z,51nm,1.2s
LONY IAMs_20 IAMs_20 03 50 33.4
comp=Z,2μm,20.0s
LONY Lake Ozonia 71.17 38 P **P** **03 17 22.9 -0.5**
baz=329,SNR=16
JCT Junction City 71.18 64 IAmb IAmb 03 17 26.9
comp=Z,62nm,1.1s
JCT IAMs_20 IAMs_20 03 46 07.3
comp=Z,3μm,22.0s
JCT Junction City 71.18 64 P **P** **03 17 24.6 +0.8**
baz=322,SNR=32
JCT Junction City 71.18 64 P **P** **03 17 24.3 +0.6**
baz=322,SNR=32
ERPA Erie 71.19 43 IAmb IAmb 03 17 25.9
comp=Z,92nm,0.8s
ERPA Erie 71.19 43 P **P** **03 17 23.8 +0.3**
baz=327,SNR=12
ERPA Erie 71.19 43 P **P** **03 17 23.5 0.0**
baz=327,SNR=12
N51A Ashland 71.19 46 P **P** **03 17 23.8 +0.2**
baz=326,SNR=28
N51A P **P** **03 17 23.8 +0.2**
baz=326,SNR=28
RETH Rethem/Aller, 71.20 342 *eP* **P** **03 17 24.4 +1.1**
comp=Z,386nm,1.7s,baz=18,slow=6.0
WHAR Wooly Hollow 71.23 56 IAmb IAmb 03 17 27.5
comp=Z,122nm,1.3s
WHTX Lake Whitney, 71.23 61 IAmb IAmb 03 17 26.0
comp=Z,51nm,1.1s
WHTX Lake Whitney, 71.23 61 P **P** **03 17 24.6 +0.6**
baz=322,SNR=12
WHTX Lake Whitney, 71.23 61 P **P** **03 17 24.1 +0.1**
baz=322,SNR=12
FLTG Flechtingen 71.23 341 *eP* **P** **03 17 24.1 +0.6**
comp=Z,353nm,1.8s,baz=18,slow=6.0
OJC Ojcow 71.29 335 *i* P **P** **03 17 25.1 +1.1**
OJC *eS* **S** **03 26 39.1 +1.3**
OJC *eL* L 03 50 55.1
comp=Z,4μm,24.0s
NRDL Niedersach Rie 71.29 342 *eP* **P** **03 17 24.9 +1.1**
comp=Z,301nm,1.8s,baz=18,slow=6.0
WCNY West Carthage 71.31 39 P **P** **03 17 23.7 -0.5**
baz=329,SNR=17
P49A Miami Univ. Ec 71.32 48 P **P** **03 17 24.2 -0.3**
baz=325,SNR=40
P49A Miami Univ. Ec 71.32 48 P **P** **03 17 24.1 -0.3**
baz=325,SNR=40
W41B Gary Mavity, V 71.34 56 IAmb IAmb 03 17 26.4
comp=Z,106nm,1.0s
W41B Gary Mavity, V 71.34 56 P **P** **03 17 24.3 -0.3**
baz=323,SNR=56
W41B S **S** **03 26 32.9 -6.0**
baz=323
W41B Gary Mavity, V 71.34 56 P **P** **03 17 24.7 +0.2**
baz=323,SNR=56
FRNY Flat Rock 71.34 38 P **P** **03 17 23.0 -1.5**
baz=330,SNR=8.5
AFI Afiamalu 71.40 152 LR LR 03 42 14.1
comp=Z,2μm,21.9s,baz=338,slow=30
PSI Prapat 71.43 248 LR LR 03 50 34.0
comp=Z,675nm,19.8s,baz=30,slow=37
J56A Wolcott 71.45 41 IAmb IAmb 03 17 26.0
comp=Z,134nm,1.4s
J56A Wolcott 71.45 41 P **P** **03 17 24.7 -0.4**
baz=328,SNR=17
J56A P **P** **03 17 24.7 -0.4**
baz=328,SNR=17
M53A WI Miller and 71.47 44 IAMs_20 IAMs_20 03 50 04.4
comp=Z,3μm,21.0s
M53A WI Miller and 71.47 44 P **P** **03 17 25.6 +0.3**
baz=327,SNR=23
KCSI Kotacane, Aceh 71.47 250 P **P** **03 17 22.7 -2.9**
comp=Z,790nmcomp=Z,39nm,0.8s
GNI Garni 71.50 313 LR LR 03 53 58.5
comp=Z,5μm,19.6s,baz=35,slow=40
GNI Garni 71.50 313 *c i*P **P** **03 17 26.3 +0.6**
GNI pmax pmax
comp=Z,141nm,1.3s
GNI MLR MLR
comp=Z,5μm,19.0s
GNI Garni 71.50 313 P **P** **03 17 25.8 +0.2**
GNI IAmb IAmb 03 17 30.5
comp=Z,152nm,1.3s
GNI Garni 71.50 313 P **P** **03 17 26.7 +1.0**
GNI Garni 71.50 313 P **P** **03 17 26.2 +0.5**
Z38A Mt. Pleasant 71.50 59 IAmb IAmb 03 17 27.4
comp=Z,51nm,0.8s
Z38A Mt. Pleasant 71.50 59 P **P** **03 17 26.8 +1.3**
baz=323,SNR=6.7
WVNY West Valley, N 71.50 42 IAmb IAmb 03 17 27.6
comp=Z,100nm,1.0s
WVNY West Valley, N 71.50 42 P **P** **03 17 25.6 +0.1**
baz=328,SNR=26
ACSO Alum Creek Sta 71.50 46 P **P** **03 17 25.3 -0.2**
baz=326,SNR=26
ACSO Alum Creek Sta 71.50 46 P **P** **03 17 25.3 -0.2**
baz=326,SNR=26
MMNY Mt. Morris Dam 71.50 42 IAmb IAmb 03 17 26.1
comp=Z,86nm,0.8s
ALLY Allegheny Colle 71.52 44 P **P** **03 17 25.9 +0.3**
baz=327,SNR=10
ASSE Asse, Remlinge 71.53 341 *eP* **P** **03 17 26.5 +1.2**
comp=Z,292nm,1.6s,baz=18,slow=6.0
KSP Ksiaz 71.56 337 *i* P **P** **03 17 26.8 +1.1**
KSP *eS* **S** **03 26 42.3 +1.3**
KSP *eL* L 03 46 48.7
comp=Z,4μm,30.0s
HYB Hyderabad 71.58 274 *eP* **P** **03 17 26.0 -0.3**
HYB IAmb IAmb 03 17 27.1
comp=Z,120nm,1.5s
HYBB Hyderabad (bro 71.58 274 *eP* **P** **03 17 26.9 +0.7**
HYBB *epP* **pP** **03 17 37.3 -1.9**
HYBB *esP* **sP** **03 17 41.0 -3.3**
HYBB *ePcP* **PcP** **03 17 46.0 +0.6**
HYBB *ePP* **PP** **03 20 05.8 +0.5**
HYBB *eS* **S** **03 26 40.7 -1.4**
T45B Paducah 71.59 52 P **P** **03 17 26.9 +0.9**
baz=324,SNR=21
T45B S **S** **03 26 42.2 +0.5**
baz=324
X40A Basin Creek Fa 71.60 57 IAmb IAmb 03 17 28.1
comp=Z,53nm,1.1s
X40A IAMs_20 IAMs_20 03 50 58.4
comp=Z,2μm,19.0s
X40A Basin Creek Fa 71.60 57 P **P** **03 17 26.9 +0.8**
baz=323,SNR=19
X40A P **P** **03 17 26.9 +0.8**
baz=323,SNR=19
X40A S **S** **03 26 41.6 -0.3**
baz=323
X40A S **S** **03 26 41.6 -0.3**
baz=323
X40A Basin Creek Fa 71.60 57 P **P** **03 17 25.6 -0.5**
baz=323,SNR=19
KIS Kishinev 71.62 328 *eP* **P** **03 17 25.4 -0.6**
comp=Z,330nm,1.4s
KIS *eS* **S** **03 26 40.0 -1.7**
KIS *eLR* LR 03 49 57.0
comp=Z,2μm,16.0s
KIS Kishinev 71.62 328 *eP* **P** **03 17 25.0 -1.0**
KIS *e* 03 21 48.0
KIS *eS* **S** **03 26 40.0 -1.7**
KIS pmax pmax
comp=Z,330nm,1.4s
KIS MLR MLR
comp=Z,2μm,16.0s
HPK Haverah Park 71.62 349 *eP* **P** **03 17 26.4 +0.4**
HPK IAmb IAmb 03 17 27.7
comp=Z,659nm,1.6s
IOMK Kirk Michael 71.63 351 *eP* **P** **03 17 26.4 +0.4**
IOMK IAmb IAmb 03 17 27.4
comp=Z,513nm,1.5s
SIM Simferopol' 71.63 323 *eP* **P** **03 17 25.8 -0.3**
SIM *eS* **S** **03 26 38.0 -3.9**
SIM pmax pmax
comp=Z,87nm,1.1s
STHS Stebnicka Huta 71.65 333 *eP* **P** **03 17 28.4 +2.2**
STHS pmax pmax
comp=Z,24nm,0.8s
STHS Stebnicka Huta 71.65 333 *eP* **P** **03 17 28.4 +2.2**
F62A Pittston Farm, 71.69 35 P **P** **03 17 26.9 +0.3**
baz=331
F62A P **P** **03 17 26.9 +0.3**
baz=331
MILM Milestii Mici 71.69 328⇑ *i*P **P** **03 17 25.8 -0.7**
comp=Z,620nm,1.7s
MILM *eS* **S** **03 26 36.0 -6.6**
MILM *eLR* LR 03 41 54.0
comp=Z,4μm,16.5s
MILM Milestii Mici 71.69 328 *c i*P **P** **03 17 25.8 -0.7**
MILM *e* 03 17 44.0
MILM *eS* **S** **03 26 36.0 -6.6**
MILM *e* 03 27 04.0
MILM pmax pmax
comp=Z,600nm,1.7s
MILM MLR MLR
comp=N,4μm,16.5s
BATG Bathurst New B 71.74 32 IAmb IAmb 03 17 29.7
comp=Z,77nm,1.2s
E63A Oxbow 71.74 33 P **P** **03 17 26.5 -0.3**
baz=332,SNR=13
E63A P **P** **03 17 26.5 -0.3**
baz=332,SNR=13
WIM Isle of Man 71.75 351⇓ *eP* **P** **03 17 27.0 +0.3**
GMM Mts of Mourne 71.77 352 *eP* **P** **03 17 26.9 +0.1**
PPBI Pangkal Pinang 71.78 239 P **P** **03 17 29.6 +2.3**
comp=Z,26μmcomp=Z,128nm,1.3s
RAC Raciborz 71.81 336 *eP* **P** **03 17 27.8 +0.7**
RAC LMZ LR 03 53 33.3
comp=Z,5.0nm,17.9s
RAC Raciborz 71.81 336 *eP* **P** **03 17 27.8 +0.7**
RAC MLR MLR
comp=Z,5μm,17.9s
KOLS Kolonicke sedl 71.81 333 *eP* **P** **03 17 28.5 +1.3**
KOLS pmax pmax
comp=Z,167nm,1.5s
KOLS Kolonicke sedl 71.81 333 *eP* **P** **03 17 28.5 +1.3**
M54A Oil Creek Stat 71.83 43 P **P** **03 17 27.6 +0.2**
baz=327,SNR=18
M54A Oil Creek Stat 71.83 43 P **P** **03 17 26.9 -0.6**
baz=327,SNR=18
IAS Iasi 71.84 328⇓ P **P** **03 17 27.8 +0.5**
IAS Iasi 71.84 328⇓ P **P** **03 17 27.8 +0.5**
OSTC Ostas 71.84 337 *eP* **P** **03 17 28.0 +0.6**
OSTC *eS* **S** **03 26 36.3 -8.0**
OSTC AMS AMS 03 55 30.0
comp=Z,3μm,15.1s
CLL Collm 71.84 339 *i* P **P** **03 17 27.9 +0.6**
CLL *eS* **S** **03 26 40.0 -4.2**
CLL pmax pmax
comp=Z,352nm,1.3s
CLL MLR MLR
comp=Z,3μm,21.0s
CLL Collm 71.84 339 IAMs_20 IAMs_20 03 52 33.5
comp=Z,3μm,20.0s
CLL Collm 71.84 339 *i* P **P** **03 17 27.9 +0.6**
comp=Z,352nm,1.3s
CLL *eP*max 03 17 31.0
CLL *eP*P **PP** **03 20 04.0 -2.4**
CLL *eP*PP PPP 03 21 54.0
CLL *eS* **S** **03 26 40.0 -4.2**
CLL *esS* **sS** **03 27 04.0 -2.0**
CLL *eP*S **PnS** **03 27 18.0 0.0**
CLL *eP*PS PPS 03 27 30.0
CLL *eSS* **SS** **03 31 30.0 +10**
CLL *ex* x 03 32 30.0
CLL *eSSS* SSS 03 34 54.0
CLL *ex* x 03 35 42.0
CLL *eSSSS* 03 36 18.0
CLL LmV 03 52 00.0
comp=Z,3μm,21.0s
CLL Lmax 03 52 00.0
CLL Collm 71.84 339 *eP* **P** **03 17 27.9 +0.6**
comp=Z,352nm,1.3s,baz=18,slow=6.0
CHVC Chvalec 71.85 337 *eP* **P** **03 17 27.9 +0.5**
CHVC AMS AMS 03 55 40.0
comp=Z,2μm,15.2s
NCB Newcomb 71.86 39 P **P** **03 17 27.5 0.0**
baz=329,SNR=14
CLZ Clausthal 71.86 341 *eP* **P** **03 17 28.8 +1.3**
comp=Z,517nm,1.5s,baz=18,slow=6.0
IBBN Ibbenburen 71.89 343 *eP* **P** **03 17 28.6 +1.0**
comp=Z,322nm,1.4s,baz=18,slow=6.0
NIE Niedzica 71.89 334 *i* P **P** **03 17 29.9 +2.2**
NIE *eL* L 03 52 43.9
comp=Z,3μm,19.5s
LNXT Lenox 71.93 53 P **P** **03 17 29.3 +1.2**
baz=324,SNR=16
N53A Lisbon 71.93 45 IAmb IAmb 03 17 29.3
comp=Z,69nm,0.9s
N53A Lisbon 71.93 45 P **P** **03 17 28.3 +0.3**
baz=327,SNR=17
N53A P **P** **03 17 28.3 +0.3**
baz=327,SNR=17
UPC Upice 71.93 337 *eP* **P** **03 17 28.6 +0.7**
UPC *eS* **S** **03 26 41.9 -3.4**
UPC MLR MLR
comp=Z,3μm,15.0s
UPC Upice 71.93 337 *eP* **P** **03 17 28.6 +0.7**
UPC *eS* **S** **03 26 41.9 -3.4**
UPC AMS AMS 03 55 40.0
comp=Z,3μm,15.0s
LMK Market Rasen 71.97 348 *eP* **P** **03 17 27.9 -0.1**
LMK IAmb IAmb 03 17 29.4
comp=Z,314nm,1.5s
NAX Nakhchivan 71.98 312 P **P** **03 17 27.7 -0.7**
J58A Remsen 71.98 40 IAmb IAmb 03 17 30.7
comp=Z,96nm,1.1s
J58A Remsen 71.98 40 P **P** **03 17 28.1 -0.2**
baz=329,SNR=35
J58A P **P** **03 17 28.1 -0.2**
baz=329,SNR=35
DPC Dobruska-Polom 72.01 337 *eP* **P** **03 17 29.3 +0.9**
DPC *eS* **S** **03 26 39.9 -6.4**
DPC MLR MLR
comp=Z,2μm,15.6s
DPC Dobruska-Polom 72.01 337 *eP* **P** **03 17 29.3 +0.9**
DPC *eS* **S** **03 26 39.9 -6.4**
DPC AMS AMS 03 55 30.0
comp=Z,2μm,15.6s
ILTH Belurgan, Co L 72.01 352 *eP* **P** **03 17 28.3 +0.1**
K57A Scipio Center 72.05 41 IAmb IAmb 03 17 29.8
comp=Z,107nm,1.4s
K57A Scipio Center 72.05 41 P **P** **03 17 28.0 -0.7**
baz=328,SNR=12
OKC Ostrava-Krasne 72.05 336 *eP* **P** **03 17 29.6 +1.0**
OKC *eS* **S** **03 26 44.1 -2.5**
OKC MLR MLR
comp=Z,4μm,17.8s
OKC Ostrava-Krasne 72.05 336 *eP* **P** **03 17 29.6 +1.0**
OKC *eS* **S** **03 26 44.1 -2.5**
OKC AMS AMS 03 53 40.0
comp=Z,4μm,17.8s
BRG Berggiesshubel 72.05 339 *i* P **P** **03 17 29.2 +0.7**
BRG Amp 03 17 31.6
comp=Z,260nm,1.7s
BRG *ex* x 03 17 36.8
BRG Amp 03 17 39.0
comp=Z,50nm,1.1s
BRG *ex* x 03 18 03.1
BRG Amp 03 18 04.1
comp=Z,46nm,1.0s
BRG Berggiesshubel 72.05 339 S **S** **03 26 45.0 -1.6**
BRG Amp 03 54 45.0
comp=N,2.1nm,16.2s
BRG Amp 03 54 48.0
comp=Z,2.3nm,17.9s
BRG Amp 03 54 50.0
comp=E,0.6nm,14.5s
BRG Berggiesshubel 72.05 339 *i* P **P** **03 17 29.2 +0.7**
BRG S **S** **03 26 45.0 -1.6**
BRG pmax pmax
comp=Z,260nm,1.7s
BRG smax smax
comp=N,2μm,16.2s
BRG Berggiesshubel 72.05 339 *eP* **P** **03 17 29.3 +0.7**
comp=N,260nm,1.7s,baz=18,slow=6.0
CRVS Cervenica-Dubn 72.06 333 *eP* **P** **03 17 29.8 +1.1**
CRVS pmax pmax
comp=Z,465nm,2.1s
CRVS Cervenica-Dubn 72.06 333 *eP* **P** **03 17 29.8 +1.1**
UZH Uzhgorod 72.08 332 *d i*P **P** **03 17 28.4 -0.4**
UZH *i* 03 17 47.9
UZH *i* 03 20 17.7
UZH *e*PPP PPP 03 21 49.3
UZH *i* S **S** **03 26 42.7 -4.3**
UZH *e* 03 27 21.4
UZH *i* PS PnS 03 27 45.1 +24
O52A Adamsville 72.09 46 P **P** **03 17 28.9 -0.1**
baz=326,SNR=44
O52A P **P** **03 17 28.9 -0.1**
baz=326,SNR=44
O52A S **S** **03 26 44.3 -3.1**
baz=326
O52A S **S** **03 26 44.3 -3.1**
baz=326
G62A West of Eustis 72.09 35 P **P** **03 17 30.1 +1.1**
baz=331,SNR=32
G62A P **P** **03 17 30.1 +1.1**
baz=331,SNR=32
G62A S **S** **03 26 45.7 -1.6**
baz=331
G62A S **S** **03 26 45.7 -1.6**
baz=331
P51A Williamsport 72.09 47 P **P** **03 17 29.0 0.0**
baz=326,SNR=13
P51A P **P** **03 17 29.0 0.0**
baz=326,SNR=13
P51A S **S** **03 26 45.6 -1.8**
baz=326
P51A S **S** **03 26 45.6 -1.8**
baz=326
WLAR White Oak Lake 72.10 57 IAmb IAmb 03 17 31.4
comp=Z,90nm,1.1s
435B Jarrell 72.11 62 IAMs_20 IAMs_20 03 47 25.3
comp=Z,2μm,22.0s
435B Jarrell 72.11 62 P **P** **03 17 30.3 +1.0**
baz=322,SNR=5.5
435B S **S** **03 26 46.9 -1.0**
baz=322
435B Jarrell 72.11 62 P **P** **03 17 29.6 +0.3**
baz=322
FBE Freiberg 72.13 339 *eP* **P** **03 17 30.1 +1.1**
comp=Z,294nm,1.3s,baz=18,slow=6.0
R49A Shelbyville 72.14 49 IAmb IAmb 03 17 30.8
comp=Z,60nm,0.8s
R49A Shelbyville 72.14 49 P **P** **03 17 29.7 +0.4**
baz=325,SNR=14
R49A P **P** **03 17 29.7 +0.4**
baz=325,SNR=14
R49A S **S** **03 26 46.8 -1.2**
baz=325
R49A S **S** **03 26 46.8 -1.2**
baz=325
L56A Greenwood 72.15 42 P **P** **03 17 29.4 0.0**
baz=328,SNR=32
L56A P **P** **03 17 29.4 0.0**
baz=328,SNR=32
L56A S **S** **03 26 44.6 -3.5**
baz=328
L56A S **S** **03 26 44.6 -3.5**
baz=328
BUR08 Bucovina Ar. S 72.15 330 IAmb IAmb 03 17 31.3
comp=Z,176nm,1.3s
F63A Nahmakanta, Br 72.15 34 IAmb IAmb 03 17 30.7
comp=Z,48nm,0.9s
N54A Moraine State 72.16 44 IAmb IAmb 03 17 30.5
comp=Z,55nm,0.8s
N54A Moraine State 72.16 44 P **P** **03 17 29.4 0.0**
baz=327,SNR=21
N54A Moraine State 72.16 44 P **P** **03 17 28.9 -0.5**
baz=327,SNR=21
KRLC Kraliky 72.16 337 *eP* **P** **03 17 29.9 +0.6**
KRLC *eS* **S** **03 26 44.7 -3.3**
KRLC MLR MLR
comp=Z,3μm,16.2s
KRLC Kraliky 72.16 337 *eP* **P** **03 17 29.9 +0.6**
KRLC *eS* **S** **03 26 44.7 -3.3**
KRLC AMS AMS 03 54 00.0
comp=Z,3μm,16.2s
BURAR Bucovina Array 72.17 330 ⇑P **P** **03 17 29.9 +0.4**
BURAR Bucovina Array 72.17 330 P **P** **03 17 31.4 +1.9**
LBWR Ladybower, Pea 72.18 349 *eP* **P** **03 17 29.6 +0.2**
LBWR IAmb IAmb 03 17 30.9
comp=Z,248nm,1.1s
J59A Piesco 72.19 39 IAmb IAmb 03 17 30.6
comp=Z,126nm,1.5s
J59A Piesco 72.19 39 P **P** **03 17 29.2 -0.3**
baz=329,SNR=18
J59A P **P** **03 17 29.2 -0.3**
baz=329,SNR=18
PLAI Plampang 72.19 225 P **P** **03 17 29.5 -0.2**
comp=Z,2μmcomp=Z,2μmcomp=Z,132nm,1.1s
PLAI Plampang 72.19 225 P **P** **03 17 29.8 +0.1**
NEUB Neuenburg 72.19 340 *eP* **P** **03 17 30.3 +0.9**
comp=Z,609nm,1.8s,baz=18,slow=6.0
GTTG Gottingen 72.22 341 *eP* **P** **03 17 30.7 +1.1**
comp=Z,329nm,1.7s,baz=18,slow=6.0
M55A Ridgway 72.23 43 IAmb IAmb 03 17 30.9
comp=Z,82nm,0.9s
M55A Ridgway 72.23 43 P **P** **03 17 29.8 -0.1**
baz=328,SNR=22

M55A P P 03 17 29.8 -0.1
baz=328,SNR=22
PVCC Panska Ves 72.24 338 *e*P P 03 17 30.5 +0.8
PVCC MLR MLR
comp=Z,3µm,15.8s
PVCC Panska Ves 72.24 338 *e*P P 03 17 30.5 +0.8
PVCC AMS AMS 03 55 00.0
comp=Z,3µm,15.8s
O53A New Philadelph 72.24 45 IAmb IAmb 03 17 30.9
comp=Z,74nm,0.8s
O53A IAMs_20 IAMs_20 03 50 37.8
comp=Z,2µm,20.0s
O53A New Philadelph 72.24 45 P P 03 17 29.7 -0.2
baz=327,SNR=23
WBSI Waikabubak, Su 72.25 223 P P 03 17 30.6 +0.4
comp=Z,1µmcomp=Z,84nm,1.1s
MORC Moravsky Berou 72.25 336 ⇓P P 03 17 31.2 +1.3
MORC Moravsky Berou 72.25 336 ⇓P P 03 17 31.2 +1.3
MORC Moravsky Berou 72.25 336 ⇑*i*P P 03 17 30.7 +0.8
MORC *e*S S 03 26 49.9 +0.8
F64A Sherman 72.26 34 IAmb IAmb 03 17 31.1
comp=Z,59nm,0.8s
F64A Sherman 72.26 34 P P 03 17 30.1 +0.2
baz=332,SNR=20
F64A P P 03 17 30.1 +0.2
baz=332,SNR=20
KMMI Kalianget 72.26 229 P P 03 17 31.6 +1.4
comp=Z,216nm,1.3s
VASR Vaslui 72.26 328 ⇑P P 03 17 30.9 +1.0
BASI Baing, Sumba 72.30 222 P P 03 17 32.1 +1.7
comp=Z,2µmcomp=Z,187nm,1.2s
MCVT Middlebury Col 72.32 38 P P 03 17 30.6 +0.2
baz=330,SNR=9.0
T47A Sharon Grove 72.33 51 P P 03 17 31.1 +0.6
baz=325,SNR=62
T47A S S 03 26 50.9 +0.7
baz=325
BKNI Bangkinang 72.34 245 P P 03 17 32.9 +2.1
comp=Z,4µmcomp=Z,291nm,1.2s
BKNI Bangkinang 72.34 245 P P 03 17 32.9 +2.1
comp=Z,287nm,1.2s
Q51A Peebles 72.34 47 IAmb IAmb 03 17 31.8
comp=Z,52nm,0.8s
Q51A Peebles 72.34 47 P P 03 17 30.4 -0.1
baz=326,SNR=22
Q51A P P 03 17 30.4 -0.1
baz=326,SNR=22
DRLN Deer Lake 72.35 25 IAmb IAmb 03 17 32.3
comp=Z,61nm,1.1s
LANS Liptovska Anna 72.36 334 *e*P P 03 17 32.6 +2.1
LANS pmax pmax
comp=Z,66nm,0.7s
LANS Liptovska Anna 72.36 334 *e*P P 03 17 32.6 +2.1
P52A Corning 72.36 46 IAmb IAmb 03 17 31.4
comp=Z,56nm,0.8s
P52A IAMs_20 IAMs_20 03 50 59.1
comp=Z,3µm,20.0s
P52A Corning 72.36 46 P P 03 17 30.3 -0.3
baz=326,SNR=11
H62A Milan 72.44 36 IAmb IAmb 03 17 32.7
comp=Z,102nm,0.8s
H62A Milan 72.44 36 P P 03 17 31.8 +0.8
baz=331,SNR=38
H62A P P 03 17 31.8 +0.8
baz=331,SNR=38
H62A S S 03 26 50.2 -1.1
baz=331
H62A S S 03 26 50.2 -1.1
baz=331
LBNH Lisbon 72.46 37 IAmb IAmb 03 17 33.5
comp=Z,161nm,1.4s
LBNH IAMs_20 IAMs_20 03 52 23.4
comp=Z,2µm,20.0s
LBNH Lisbon 72.46 37 P P 03 17 32.0 +0.9
baz=330,SNR=18
LBNH Lisbon 72.46 37 P P 03 17 31.1 -0.1
baz=330,SNR=18
WME Myndd Eilian 72.46 351 ⇓*e*P P 03 17 30.8 -0.1
TRPA Tarpa 72.47 332 ⇑P P 03 17 32.4 +1.2
TRPA Tarpa 72.47 332 P P 03 17 32.3 +1.2
WPS Cemaes, Angles 72.47 351 *e*P P 03 17 31.0 0.0
WPS IAmb IAmb 03 17 31.6
comp=Z,101nm,1.2s
PKME Peaks-Kenny Pk 72.47 35 IAmb IAmb 03 17 33.5
comp=Z,140nm,1.4s
PKME Peaks-Kenny Pk 72.47 35 P P 03 17 31.8 +0.6
baz=332,SNR=13
PKME S S 03 26 49.8 -1.7
baz=332
PKME Peaks-Kenny Pk 72.47 35 P P 03 17 31.8 +0.6
baz=332,SNR=13
SBSI Sibolga 72.49 248 P P 03 17 31.1 -0.6
comp=Z,35nm,0.6s
R50A Paris 72.53 48 IAmb IAmb 03 17 33.6
comp=Z,73nm,0.9s
R50A Paris 72.53 48 P P 03 17 32.3 +0.7
baz=326,SNR=25
R50A P P 03 17 32.3 +0.7
baz=326,SNR=25
R50A S S 03 26 52.0 -0.4
baz=326
R50A S S 03 26 52.0 -0.4
baz=326
STNC Stoke 72.54 349 *e*P P 03 17 32.1 +0.6
STNC IAmb IAmb 03 17 33.2
comp=Z,219nm,1.5s
ACCN Adirondack Com 72.56 38 IAmb IAmb 03 17 32.6
comp=Z,50nm,0.9s
ACCN Adirondack Com 72.56 38 P P 03 17 31.2 -0.6
baz=330,SNR=25
WACR West Acre 72.57 348 *e*P P 03 17 31.8 +0.2
WACR IAmb IAmb 03 17 33.2
comp=Z,290nm,1.1s
WLF1 Llynfaes 72.57 351 *e*P P 03 17 28.6 -3.0
WLF1 IAmb IAmb 03 17 32.9
comp=Z,303nm,1.6s
CCAR Cane Creek 72.58 56 IAmb IAmb 03 17 34.0
comp=Z,68nm,0.9s
Z41A Richland Creek 72.60 57 P P 03 17 32.7 +0.6
baz=324,SNR=5.3
Z41A P P 03 17 32.7 +0.6
baz=324,SNR=5.3
Z41A Richland Creek 72.60 57 P P 03 17 32.9 +0.8
baz=324,SNR=5.3
BMR Baia Mare 72.62 331 ⇓P P 03 17 33.1 +1.1
BMR Baia Mare 72.62 331 ⇓P P 03 17 33.1 +1.1
SRBI Singaraja 72.62 228 P P 03 17 34.3 +2.0
comp=Z,3µmcomp=Z,2µmcomp=Z,72nm,1.0s
YRC Rhoscolyn 72.63 351 ⇓*e*P P 03 17 32.2 +0.2
BIR Birlad 72.65 328 ⇑P P 03 17 33.1 +0.9
BIR Birlad 72.65 328 ⇑P P 03 17 33.1 +0.9
O54A Avella 72.65 45 P P 03 17 33.1 +0.8
baz=327,SNR=18
O54A P P 03 17 33.1 +0.8
baz=327,SNR=18
WVT Waverly 72.69 52 P P 03 17 32.8 +0.2
WVT pmax pmax
comp=Z,77nm,0.8s
WVT Waverly 72.69 52 P P 03 17 32.8 +0.2
WVT IAmb IAmb 03 17 34.4
comp=Z,77nm,0.8s
WVT Waverly 72.69 52 IAMs_20 IAMs_20 03 48 09.6
comp=Z,2µm,22.0s
WVT Waverly 72.69 52 P P 03 17 33.5 +0.8
baz=325,SNR=57
WVT S S 03 26 53.8 -0.5
baz=325
WVT Waverly 72.69 52 P P 03 17 33.0 +0.4
baz=325
YLL Llanberis 72.70 351 ⇓*e*P P 03 17 33.1 +0.7
KECS Kecovo 72.70 334 *e*P P 03 17 33.9 +1.4
KECS pmax pmax
comp=Z,54nm,0.7s
KECS Kecovo 72.70 334 *e*P P 03 17 33.9 +1.4
BINY Binghamton 72.71 41 IAmb IAmb 03 17 34.0
comp=Z,90nm,1.4s
BINY Binghamton 72.71 41 P P 03 17 32.0 -0.6
baz=329,SNR=10
BINY Binghamton 72.71 41 P P 03 17 32.3 -0.4
baz=329,SNR=10
TESR Tescani 72.73 329 ⇑P P 03 17 32.8 +0.1
MNSI Mandailing Nat 72.74 247 P P 03 17 34.1 +1.0
PRU Pruhonice 72.75 338 *e*P P 03 17 33.7 +0.9
PRU *e*S S 03 26 53.2 -1.5
PRU MLR MLR
comp=Z,3µm,16.4s
PRU Pruhonice 72.75 338 *e*P P 03 17 33.7 +0.9
PRU *e*S S 03 26 53.2 -1.5
PRU AMS AMS 03 55 10.0
comp=Z,3µm,16.4s
MOX Moxa 72.76 340 *e*P P 03 17 33.9 +1.1
comp=Z,502nm,2.0s,baz=18,slow=6.0
MOX *e*L L 03 52 51.2
comp=Z,2µm,21.6s
MSVF Nonsavu 72.77 163 LR LR 03 43 59.9
comp=Z,1µm,20.6s,baz=358,slow=31
CWF Charnwood Fore 72.79 349 *e*P P 03 17 33.2 +0.3
CWF IAmb IAmb 03 17 34.6
comp=Z,240nm,1.3s
PLN Plauen 72.80 340 *e*P P 03 17 34.2 +1.1
comp=Z,211nm,1.4s,baz=18,slow=6.0
TANN Tannenbergstha 72.80 339 *e*P P 03 17 34.3 +1.2
comp=Z,210nm,1.5s,baz=18,slow=6.0
WERD Werda 72.80 340 *e*P P 03 17 34.2 +1.1
comp=Z,322nm,1.5s,baz=18,slow=6.0
P53A Whipple 72.80 46 IAmb IAmb 03 17 35.0
comp=Z,150nm,1.3s
P53A Whipple 72.80 46 P P 03 17 33.5 +0.3
baz=327,SNR=18
P53A P P 03 17 33.5 +0.3
baz=327,SNR=18
BUG Bochum-Univer 72.81 343 *e*P P 03 17 33.9 +0.8
comp=Z,352nm,1.6s,baz=18,slow=6.0
KASTN Kahler Asten 72.84 342 *e*P P 03 17 34.4 +1.1
comp=Z,306nm,1.7s,baz=18,slow=6.0
IGLA Glengowla, Co 72.84 354 *e*P P 03 17 33.3 +0.1
W45A Hickory Valley 72.84 54 P P 03 17 34.3 +0.8
baz=324,SNR=31
W45A S S 03 26 56.1 0.0
baz=324
FOEL Foel Wylfa 72.85 350 *e*P P 03 17 33.7 +0.4
FOEL IAmb IAmb 03 17 35.0
comp=Z,565nm,1.8s
NATX Nacogdoches 72.86 60 IAmb IAmb 03 17 36.2
comp=Z,96nm,1.0s
NATX Nacogdoches 72.86 60 P P 03 17 35.1 +1.4
baz=323,SNR=9.9
NATX Nacogdoches 72.86 60 P P 03 17 34.7 +1.0
baz=323,SNR=9.9
Q52A Bidwell 72.86 47 P P 03 17 33.9 +0.2
baz=326,SNR=21
Q52A P P 03 17 33.9 +0.2
baz=326,SNR=21
Q52A S S 03 26 53.7 -2.6
baz=326
Q52A S S 03 26 53.7 -2.6
baz=326
GUNZ Gunzen 72.88 339 *e*P P 03 17 34.8 +1.2
comp=Z,360nm,1.6s,baz=18,slow=6.0
VLDR Vladesti 72.88 327 ⇑P P 03 17 34.1 +0.5
HCNY Howe Caverns 72.89 39 P P 03 17 33.4 -0.3
baz=329,SNR=7.7
GHRR 72.90 328 ⇓P P 03 17 34.9 +1.2
ARCR ARCALIA 72.90 330 ⇑P P 03 17 35.4 +1.7
VARL Varlezi 72.90 328 ⇑P P 03 17 35.0 +1.3
UBBA Unterbreizbach 72.91 341 *e*P P 03 17 34.8 +1.2
comp=Z,163nm,1.1s,baz=18,slow=6.0
VRAC Vranov 72.92 336 ⇓P P 03 17 35.2 +1.4
VRAC Vranov 72.92 336 LR LR 03 54 40.6
comp=Z,4µm,18.7s,baz=24,slow=40
VRAC Vranov 72.92 336 ⇓P P 03 17 35.2 +1.4
VRAC Vranov 72.92 336 ⇑*i*P P 03 17 34.7 +0.9
VRAC *e*S S 03 26 56.9 +0.3
WERN Wernitzgruen 72.94 339 *e*P P 03 17 35.1 +1.2
comp=Z,445nm,1.8s,baz=18,slow=6.0
WVL Waterville 72.96 35 P P 03 17 33.0 -1.0
baz=332,SNR=21
NKC Novy Kostel 72.97 339 *e*P P 03 17 34.7 +0.6
NKC *e*S S 03 26 50.2 -7.0
NKC MLR MLR
comp=Z,2µm,19.2s
NKC Novy Kostel 72.97 339 *e*P P 03 17 34.7 +0.6
NKC *e*S S 03 26 50.2 -7.0
NKC AMS AMS 03 53 00.0
comp=Z,2µm,19.2s
I62A Tamworth 72.98 37 P P 03 17 34.9 +0.7
baz=331,SNR=12
I62A P P 03 17 34.9 +0.7
baz=331,SNR=12
M57A Sunshine Farm, 72.99 42 IAmb IAmb 03 17 35.7
comp=Z,72nm,0.7s
M57A Sunshine Farm, 72.99 42 P P 03 17 34.4 0.0
baz=328,SNR=23
M57A P P 03 17 34.4 0.0
baz=328,SNR=23
J61A Chester 73.01 38 IAmb IAmb 03 17 36.3
comp=Z,133nm,1.5s
J61A Chester 73.01 38 P P 03 17 34.7 +0.4
baz=330,SNR=13
J61A P P 03 17 34.7 +0.4
baz=330,SNR=13
MTSU Mount Surprise 73.03 196 P P 03 17 36.1 +1.4
comp=Z,24nm,1.0s
SCTR Scanteiesti 73.06 327 ⇓P P 03 17 35.6 +1.0
JAVC Velka Javorina 73.08 336 ⇑*i*P P 03 17 36.3 +1.5
L59A Walton 73.08 40 IAmb IAmb 03 17 37.5
comp=Z,75nm,1.1s
L59A Walton 73.08 40 P P 03 17 34.4 -0.5
baz=329,SNR=14
L59A P P 03 17 34.4 -0.5
baz=329,SNR=14
833A Chaparral WMA, 73.09 65 P P 03 17 36.1 +1.0
baz=322,SNR=11
833A Chaparral WMA, 73.09 65 P P 03 17 36.5 +1.4
baz=322,SNR=11
I63A Otisfield 73.09 36 P P 03 17 35.7 +0.8
baz=331,SNR=34
I63A P P 03 17 35.7 +0.8
baz=331,SNR=34
G65A Princeton 73.10 34 P P 03 17 35.5 +0.6
baz=332,SNR=20
G65A P P 03 17 35.5 +0.6
baz=332,SNR=20
VYHS Vyhne 73.12 335 *e*P P 03 17 36.0 +1.0
VYHS pmax pmax
comp=Z,86nm,1.4s
VYHS Vyhne 73.12 335 *e*P P 03 17 36.0 +1.0
ELMS Elmsett, Ipswi 73.14 347 *e*P P 03 17 35.0 +0.1
ELMS IAmb IAmb 03 17 36.5
comp=Z,420nm,1.5s
PANC Panciu 73.15 328 ⇓P P 03 17 36.5 +1.3
HLM1 Long Mynd 73.18 350 *e*P P 03 17 35.6 +0.4
HLM1 IAmb IAmb 03 17 37.0
comp=Z,247nm,1.4s
TREC Trest 73.19 337 *e*P P 03 17 36.0 +0.6
TREC *e*S S 03 26 57.4 -2.3
TREC MLR MLR
comp=Z,3µm,16.3s
TREC Trest 73.19 337 *e*P P 03 17 36.0 +0.6
TREC *e*S S 03 26 57.4 -2.3
TREC AMS AMS 03 54 40.0
comp=Z,3µm,16.3s
KRUC Moravsky 73.19 336 ⇑*i*P P 03 17 36.1 +0.7
KRUC *e*S S 03 26 58.9 -0.8
SLCR Slobozia Conac 73.20 328 ⇑P P 03 17 36.0 +0.6
TLCR 73.23 327 ⇓P P 03 17 35.7 +0.1
TLCR 73.23 327 P P 03 17 37.3 +1.7
IZVR Izvoarele 73.25 328 ⇑P P 03 17 37.2 +1.5
MESR Meseseni 73.25 331 ⇑P P 03 17 37.0 +1.3
OXF Oxford 73.25 54 IAMs_20 IAMs_20 03 49 35.6
comp=Z,2µm,21.0s
OXF Oxford 73.25 54 P P 03 17 36.4 +0.4
baz=324,SNR=24
OXF S SKiKP 03 27 03.1 -0.1
baz=324
OXF Oxford 73.25 54 P P 03 17 36.3 +0.3
baz=324,SNR=24
ODBI Odobesti 73.27 328 ⇑P P 03 17 37.6 +1.7
MANZ Manzenberg 73.28 339 *e*P P 03 17 36.9 +1.0
comp=Z,40nm,1.4s,baz=18,slow=6.0
VRI Vrincioaia 73.28 328 ⇑P P 03 17 37.0 +1.0
VRI Vrincioaia 73.28 328 ⇑P P 03 17 37.0 +1.0
SSPA Standing Stone 73.29 43 P P 03 17 36.1 0.0
baz=328
SSPA IAmb IAmb 03 17 37.7
comp=Z,112nm,1.3s
SSPA Standing Stone 73.29 43 IAMs_20 IAMs_20 03 50 43.3
comp=Z,3µm,21.0s
SSPA Standing Stone 73.29 43 P P 03 17 35.7 -0.4
baz=328,SNR=18
SSPA Standing Stone 73.29 43 P P 03 17 36.1 0.0
baz=328
MCWV Mont Chateau 73.31 45 IAMs_20 IAMs_20 03 52 55.5
comp=Z,2µm,18.0s
MCWV Mont Chateau 73.31 45 P P 03 17 36.9 +0.7
baz=327,SNR=11
MCWV Mont Chateau 73.31 45 P P 03 17 36.7 +0.5
baz=327,SNR=11
O56A Blue Knob Stat 73.32 43 IAmb IAmb 03 17 38.8
comp=Z,97nm,1.1s
O56A Blue Knob Stat 73.32 43 P P 03 17 36.6 +0.2
baz=328,SNR=25
O56A Blue Knob Stat 73.32 43 P P 03 17 36.6 +0.2
baz=328,SNR=25
PLOR Plostina 73.32 328 ⇑P P 03 17 36.6 +0.3
PLOR Plostina 73.32 328 ⇑P P 03 17 36.6 +0.3
U49A Red Boiling Sp 73.33 51 IAmb IAmb 03 17 38.5
comp=Z,178nm,1.4s
U49A Red Boiling Sp 73.33 51 P P 03 17 36.2 -0.2
baz=326,SNR=30
U49A S S 03 26 60.0 -1.6
baz=326
LTVH Ltavrtes, Hu 73.33 332 ⇑P P 03 17 36.8 +0.7
LTVH Ltavrtes, Hu 73.33 332 P P 03 17 36.9 +0.7
T50A Nancy 73.34 50 IAmb IAmb 03 17 39.2
comp=Z,69nm,0.9s
T50A Nancy 73.34 50 P P 03 17 37.0 +0.6
baz=326
T50A P P 03 17 37.0 +0.6
baz=326
T50A S S 03 26 58.4 -3.3
baz=326
T50A S S 03 26 58.4 -3.3
baz=326
KSPA Keystone Colle 73.34 41 P P 03 17 36.1 -0.3
baz=329,SNR=8.7
OZUR 73.37 329 ⇑P P 03 17 37.4 +0.9
PSZ Piszkesteto 73.38 334 ⇓P P 03 17 38.1 +1.5
PSZ Piszkesteto 73.38 334 ⇓P P 03 17 38.1 +1.5
PSZ Piszkesteto 73.38 334 IAmb IAmb 03 17 41.1
comp=Z,82nm,1.1s
PSZ Piszkesteto 73.38 334 P P 03 17 37.7 +1.1
S51A Beattyville 73.38 48 IAmb IAmb 03 17 38.0
comp=Z,45nm,0.8s
S51A Beattyville 73.38 48 P P 03 17 36.8 +0.1
baz=326,SNR=15
S51A P P 03 17 36.8 +0.1
baz=326,SNR=15
LMN Caledonia Moun 73.40 31 IAmb IAmb 03 17 38.0
comp=Z,58nm,0.9s
GGN Saint George 73.41 33 IAmb IAmb 03 17 38.1
comp=Z,73nm,0.8s
GSI Gunungsitoli 73.42 249 P P 03 17 38.6 +1.5
comp=Z,3µmcomp=Z,189nm,0.9s
GSI Gunungsitoli 73.42 249 P P 03 17 38.6 +1.5
comp=Z,189nm,1.0s
CBBR Cluj-Babes-Bol 73.42 331 ⇑P P 03 17 38.2 +1.4
CFR Carcaliu 73.45 327 ⇑P P 03 17 37.2 +0.3
CFR Carcaliu 73.45 327 ⇑P P 03 17 37.2 +0.3
CJR Cluj-Napoca 73.46 331 ⇓P P 03 17 38.5 +1.4
CJR Cluj-Napoca 73.46 331 ⇓P P 03 17 38.5 +1.4
Q54A Coxs Mills 73.46 46 P P 03 17 37.2 0.0
baz=327,SNR=20
Q54A P P 03 17 37.2 0.0
baz=327,SNR=20
COVR Voineasa-Covas 73.47 329 ⇓P P 03 17 38.5 +1.4
ROTZ Rotzenmuhle 73.47 339 *e*P P 03 17 38.3 +1.3
comp=Z,72nm,1.5s,baz=18,slow=6.0
V48A Smith Brothers 73.48 52 IAmb IAmb 03 17 39.3
comp=Z,125nm,1.1s
V48A Smith Brothers 73.48 52 P P 03 17 37.8 +0.5
baz=325,SNR=38
V48A S SKiKP 03 27 03.8 +0.3
baz=325
PLAL Pickwick Lake 73.51 53 IAmb IAmb 03 17 39.3
comp=Z,131nm,1.0s
PLAL IAMs_20 IAMs_20 03 49 00.3
comp=Z,2µm,22.0s
735A Kenedy 73.52 64 S S 03 27 08.3 +4.4
baz=323
R53A Hurricane 73.53 47 P P 03 17 38.1 +0.5
baz=327,SNR=28
R53A P P 03 17 38.1 +0.5
baz=327,SNR=28
R53A S SKiKP 03 27 02.1 -1.4
baz=327
R53A S SKiKP 03 27 02.1 -1.4
baz=327
BISRR Bisoca 73.58 328 ⇓P P 03 17 39.1 +1.3
JURR Jurilovca 73.58 326 ⇓P P 03 17 38.2 +0.5
N58A Sunbury 73.58 42 IAmb IAmb 03 17 38.6
comp=Z,52nm,0.9s
N58A Sunbury 73.58 42 P P 03 17 36.7 -1.1
baz=329,SNR=15
N58A P P 03 17 36.7 -1.1
baz=329,SNR=15
DOPR Dopca 73.61 329 ⇑P P 03 17 39.1 +1.2
MODS Modra-Piesok 73.62 336 *e*P P 03 17 39.9 +1.9
MODS pmax pmax
comp=Z,575nm,1.8s
MODS Modra-Piesok 73.62 336 *e*P P 03 17 39.9 +1.9
BORR Bors 73.63 332 ⇑P P 03 17 40.0 +2.0
DRGR 73.64 331 ⇑P P 03 17 38.8 +0.6
DRQR 73.64 331 ⇑P P 03 17 38.8 +0.6
GRER 73.64 328 ⇓P P 03 17 40.0 +1.9
TPGR Topolog 73.65 327 ⇑P P 03 17 38.6 +0.4
IWEX Carrickbyrne, 73.69 352 *e*P P 03 17 39.1 +0.8
HGN Heimansgroeve 73.69 344 *e*P P 03 17 38.6 +0.3
HKT Hockley 73.69 62 P P 03 17 38.5 0.0
HKT pmax pmax
comp=Z,49nm,1.5s
HKT MLR MLR
comp=Z,2µm,21.0s
HKT Hockley 73.69 62 P P 03 17 38.5 0.0
HKT Hockley 73.69 62 IAMs_20 IAMs_20 03 50 07.4
comp=Z,2µm,21.0s
BEBN Eben Emael 73.70 344 *d*P P 03 17 38.7 +0.4
MCH1 Michaelchurch 73.71 350 *e*P P 03 17 38.6 +0.2
MCH1 IAmb IAmb 03 17 39.4
comp=Z,89nm,1.0s
AHRW Bad Neuenahr-A 73.71 343 *e*P P 03 17 39.6 +1.2
comp=Z,435nm,1.9s,baz=18,slow=6.0
K62A Royalston 73.71 38 P P 03 17 39.1 +0.6
baz=330,SNR=7.9
K62A P P 03 17 39.1 +0.6
baz=330,SNR=7.9
Y45A Yeager Farm, C 73.71 55 P P 03 17 39.6 +0.9
baz=324,SNR=19
Y45A S S 03 27 06.8 +0.8
baz=324
L61B Northampton 73.74 38 IAMs_20 IAMs_20 03 51 29.0
comp=Z,2µm,21.0s
L61B Northampton 73.74 38 P P 03 17 39.0 +0.3
baz=330,SNR=8.0
L61B Northampton 73.74 38 P P 03 17 38.8 +0.1
baz=330,SNR=8.0
GRA1 Grafenberg Arr 73.74 340 IAMs_20 IAMs_20 03 53 31.7
comp=Z,3µm,21.0s
GRF Grafenberg Arr 73.74 340 *e*P P 03 17 40.2 +1.6
comp=Z,792nm,1.7s,baz=18,slow=6.0
GRF *e*L L 03 53 31.0
comp=Z,3µm,21.8s
143A Socs Landing, 73.74 57 IAmb IAmb 03 17 41.5
comp=Z,139nm,1.1s
143A Socs Landing, 73.74 57 P P 03 17 39.9 +1.0
baz=324,SNR=15
143A S S 03 27 06.5 +0.2
baz=324
GRFO Grafenberg 73.74 340 P P 03 17 39.5 +0.9
GRFO pmax pmax
comp=Z,294nm,1.2s
GRFO MLR MLR
comp=Z,3µm,21.0s
GRFO Grafenberg 73.74 340 P P 03 17 39.5 +0.9
GRFO IAMs_20 IAMs_20 03 53 30.8
comp=Z,3µm,21.0s
MDB Medias 73.75 330 ⇓P P 03 17 41.4 +2.7
TNS Taunus Mts 73.77 342 *e*P P 03 17 40.0 +1.1
comp=Z,292nm,1.7s,baz=18,slow=6.0
KHC Kasperske Hory 73.77 338 *c i*P P 03 17 39.8 +0.9
KHC pmax pmax
comp=Z,285nm,1.2s
KHC Kasperske Hory 73.77 338 *e*P P 03 17 39.9 +1.0
KHC *ex* x 03 17 45.5
KHC *e*PCP **sP** 03 17 57.5 +0.7
KHC *e*S **SKiKP** 03 27 03.2 -0.5
KHC AMS AMS 03 56 00.0
comp=Z,3µm,16.9s
NPNY Mohonk Preserv 73.79 40 P P 03 17 38.1 -1.0
baz=330,SNR=7.7

NEHR Nehoiu 73.81 328 ⇑P P 03 17 40.6 +1.4
MEM Membach 73.83 344 *d*P P 03 17 39.7 +0.6
comp=Z,163nm,0.9s
MEM *d*pP **pP** 03 17 47.6 -4.5
BTNL Ternell 73.83 344 *d*P P 03 17 39.7 +0.5
comp=Z,125nm,0.9s
ZST Bratislava 73.83 336 *e*P P 03 17 41.3 +2.2
ZST pmax pmax
comp=Z,752nm,1.7s
ZST Bratislava 73.83 336 *e*P P 03 17 41.3 +2.2
UNH University of 73.83 37 P P 03 17 39.7 +0.5
baz=331,SNR=26
STRD Stroud 73.83 349 *e*P P 03 17 39.8 +0.7
STRD IAmb IAmb 03 17 40.8
comp=Z,379nm,1.4s
BSZH Besenyszg 73.85 333 P P 03 17 41.6 +2.4
MLR Muntele Rosu 73.86 329 ⇑P P 03 17 40.8 +1.2
MLR Muntele Rosu 73.86 329 LR LR 03 53 59.5
comp=Z,6µm,20.0s,baz=30,slow=39
MLR Muntele Rosu 73.86 329 ⇑P P 03 17 40.8 +1.2
MLR Muntele Rosu 73.86 329 IAmb IAmb 03 17 44.4
comp=Z,74nm,0.8s
SRO Srobarova 73.89 335 *e*P P 03 17 41.3 +1.8
SRO pmax pmax
comp=Z,271nm,1.6s
SRO Srobarova 73.89 335 *e*P P 03 17 41.3 +1.8
N59A State Game Lan 73.89 41 IAmb IAmb 03 17 40.5
comp=Z,45nm,0.9s
N59A State Game Lan 73.89 41 P P 03 17 39.1 -0.5
baz=329,SNR=16
N59A S **SKiKP** 03 27 04.1 +0.1
baz=329
N59A State Game Lan 73.89 41 P P 03 17 39.5 -0.1
baz=329,SNR=16
SMRI Semarang 73.89 233 P P 03 17 41.5 +1.7
comp=Z,4µmcomp=Z,184nm,1.2s
SMRI Semarang 73.89 233 P P 03 17 41.5 +1.7
comp=Z,186nm,1.2s
CKRC Cesky Krumlov 73.90 338 *e*P P 03 17 40.2 +0.6
CKRC *e*S **SKiKP** 03 27 03.4 -0.5
UCC Uccle 73.91 345 *d*P P 03 17 40.2 +0.7
WET Wettzell 73.91 339 *e*P P 03 17 41.1 +1.5
comp=Z,386nm,1.6s,baz=18,slow=6.0
BSTI Sart Tilman 73.93 344 *d*P P 03 17 40.5 +0.8
comp=Z,21nm,0.0s
RSBS Rosebush, Pemb 73.93 351 *e*P P 03 17 39.8 +0.2
RSBS IAmb IAmb 03 17 41.8
comp=Z,224nm,1.6s
HARR Harsova 73.95 327 ⇑P P 03 17 40.2 +0.3
HARR Harsova 73.95 327 ⇑P P 03 17 40.2 +0.3
MDRS Chennai 73.99 270 *e*P P 03 17 41.6 +1.1
MDRS IAmb IAmb 03 17 42.3
comp=Z,125nm,1.2s
TIRR Tirgusor 74.00 327 ⇑P P 03 17 40.6 +0.4
TIRR Tirgusor 74.00 327 ⇑P P 03 17 40.6 +0.4
BUD Budapest 74.01 334 P P 03 17 41.6 +1.5
ISR Istrita 74.01 328 ⇓P P 03 17 42.5 +2.2
ISR Istrita 74.01 328 ⇓P P 03 17 42.5 +2.2
GEC2 GERESS Array S 74.02 338 *e*P P 03 17 41.3 +1.0
comp=Z,239nm,1.6s,baz=18,slow=6.0
GERES GERESS Array B 74.02 338 P P 03 17 41.0 +0.7
comp=Z,28nm,0.5s,baz=36,slow=6.2,SNR=207
GERES LR LR 03 56 34.3
comp=Z,3µm,18.1s,baz=30,slow=41
TLBR Topalu 74.05 327 ⇑P P 03 17 40.8 +0.4
SWN1 Swindon 74.05 349 *e*P P 03 17 40.9 +0.5
SWN1 IAmb IAmb 03 17 42.3
comp=Z,875nm,1.5s
DIKM Dikmen 74.06 321 ⇑P P 03 17 42.0 +1.4
BHOU Houvegnez 74.08 344 *d*P P 03 17 41.1 +0.6
comp=Z,70nm,1.4s
HRV Adam Dziewonsk 74.10 38 IAMs_20 IAMs_20 03 52 23.5
comp=Z,2µm,20.0s
HRV Adam Dziewonsk 74.10 38 P P 03 17 41.5 +0.7
baz=331
HRV Adam Dziewonsk 74.10 38 P P 03 17 41.1 +0.3
baz=331
KOUNC Koumac, New Ca 74.10 177 P P 03 17 44.0 +3.2
PWJI Pagerwojo 74.10 231 P P 03 17 40.7 -0.4
comp=Z,2µmcomp=Z,254nm,1.1s
Q56A Snyder Ridge, 74.10 45 P P 03 17 41.4 +0.5
baz=328
Q56A P P 03 17 41.4 +0.5
baz=328
Q56A S **S** 03 27 08.4 -1.9
baz=328
Q56A S **S** 03 27 08.4 -1.9
baz=328
BCLA Clavier 74.13 344 *d*P P 03 17 41.2 +0.4
comp=Z,52nm,1.3s
BRNY Black Rk. Fore 74.14 40 P P 03 17 41.2 +0.1
baz=330,SNR=11
KRJI Kerinci 74.14 243 P P 03 17 43.2 +1.7
comp=Z,467nm,1.0s
VOIR 74.19 329 ⇑P P 03 17 42.6 +1.2
VOIR 74.19 329 ⇑P P 03 17 42.6 +1.2
TSCT Constanta Port 74.19 326 ⇑P P 03 17 42.7 +1.4
ODNJ Ogdensburg 74.19 40 P P 03 17 40.9 -0.5
baz=330,SNR=7.6
BGES Gesves 74.20 344 *d*P P 03 17 41.5 +0.2
comp=Z,44nm,1.1s
SNF Seneffe 74.21 345 *d*P P 03 17 41.8 +0.6
comp=Z,55nm,0.9s
P57A Homestead Farm 74.21 43 IAmb IAmb 03 17 43.4
comp=Z,93nm,1.4s
P57A Homestead Farm 74.21 43 P P 03 17 42.0 +0.4
baz=328,SNR=14
P57A P P 03 17 42.0 +0.4
baz=328,SNR=14
AMRR Amara 74.22 327 ⇓P P 03 17 42.2 +0.8
AMRR Amara 74.22 327 ⇓P P 03 17 42.2 +0.8
SECR 74.23 328 ⇑P P 03 17 41.9 +0.4
CVDA Cernavoda 74.24 327 ⇓P P 03 17 42.5 +1.0
S54A Dingess, Beckl 74.25 47 IAmb IAmb 03 17 43.1
comp=Z,57nm,0.8s
S54A Dingess, Beckl 74.25 47 P P 03 17 42.4 +0.5
baz=327,SNR=13
S54A P P 03 17 42.4 +0.5
baz=327,SNR=13
S54A S **S** 03 27 11.1 -0.9
baz=327
S54A S **S** 03 27 11.1 -0.9
baz=327
MFTR Murfatlar 74.25 326 ⇓P P 03 17 42.7 +1.1
KVT Kavak 74.25 320 P P 03 17 42.8 +1.0
EFOR EFORIE 74.27 326 ⇓P P 03 17 43.0 +1.2
TRNY Table Rock, Ra 74.29 40 IAmb IAmb 03 17 44.1
comp=Z,61nm,1.2s
TZTN Tazewell 74.31 49 IAmb IAmb 03 17 44.4
comp=Z,134nm,1.4s
TZTN Tazewell 74.31 49 P P 03 17 43.0 +0.8
baz=326,SNR=16
TZTN S **S** 03 27 12.3 -0.4
baz=326
TZTN Tazewell 74.31 49 P P 03 17 42.4 +0.2
baz=326,SNR=16
LUPA Lehigh Univers 74.31 41 IAmb IAmb 03 17 43.6
comp=Z,104nm,1.3s
CSKK Cskako 74.32 335 P P 03 17 43.0 +1.0
BMRD Maredsous 74.33 344 *d*P P 03 17 42.3 +0.3
comp=Z,68nm,1.2s
342A Flagon Creek P 74.35 58 IAmb IAmb 03 17 45.3
comp=Z,69nm,1.0s
R55A Marlinton 74.35 46 P P 03 17 43.2 +0.7
baz=328,SNR=20
R55A P P 03 17 43.2 +0.7
baz=328,SNR=20
R55A S **S** 03 27 11.2 -2.1
baz=328
R55A S **S** 03 27 11.2 -2.1
baz=328
ARR Arges 74.37 330 ⇑P P 03 17 43.9 +1.4
CONA Conrad Observa 74.38 336 *i* P P 03 17 43.7 +1.2
comp=Z,32nm,0.6s,SNR=80
RCHB Rochefort 74.40 344 *d*P P 03 17 42.6 +0.2
comp=Z,46nm,1.2s
441A DeRidder 74.42 59 IAmb IAmb 03 17 45.8
comp=Z,50nm,0.9s
DEV Deva 74.42 331 ⇓P P 03 17 44.3 +1.7
DEV Deva 74.42 331 ⇓P P 03 17 44.3 +1.7
SIRR Siria 74.42 332 ⇑P P 03 17 44.1 +1.5
X48A Hartselle 74.43 53 IAmb IAmb 03 17 44.5
comp=Z,135nm,1.4s
X48A Hartselle 74.43 53 P P 03 17 42.9 0.0
baz=325,SNR=18
X48A S **S** 03 27 09.9 -4.1
baz=325
KNRA Kununurra 74.44 212 P P 03 17 44.0 +1.1
SOP Sopron 74.44 336 P P 03 17 44.6 +1.9
UCCT U. Connecticut 74.47 38 IAmb IAmb 03 17 43.8
comp=Z,114nm,1.3s
RONA Rosalia, Austr 74.49 336 *i* P P 03 17 44.5 +1.4
comp=Z,24nm,0.6s,SNR=42
SULR 74.50 328 ⇑P P 03 17 43.4 +0.3
EGYH Egyhazaskeszo 74.50 335 P P 03 17 44.6 +1.5
ICOR Ion Corvin 74.51 327 ⇓P P 03 17 44.4 +1.2
GIVF Givet 74.51 344 *e*P P 03 17 42.7 -0.4
GIVF pmax pmax
comp=Z,329nm,1.8s
MANR Mangalia 74.52 326 ⇓P P 03 17 44.0 +0.8
PAL Palisades 74.53 40 IAmb IAmb 03 17 45.5
comp=Z,94nm,1.1s
PAL IAMs_20 IAMs_20 03 53 08.0
comp=Z,2µm,19.0s
PAL Palisades 74.53 40 P P 03 17 43.2 -0.1
baz=330,SNR=14
PAL Palisades 74.53 40 P P 03 17 43.1 -0.1
baz=330,SNR=14
PCJI Pacitan 74.55 231 P P 03 17 42.5 -1.1
comp=Z,82nm,1.8s
BRNJ Basking Ridge 74.56 40 P P 03 17 43.6 +0.2
baz=330
DOU Dourbes 74.56 344 *e*P P 03 17 43.4 +0.1
DOU Dourbes 74.56 344 *d*P P 03 17 43.6 +0.2
comp=Z,46nm,0.8s
DOU *d*pP **pP** 03 17 52.3 -4.0
LOT Lotru 74.56 330 ⇓P P 03 17 44.4 +0.8
V51A Loudon 74.56 50 IAmb IAmb 03 17 45.5
comp=Z,175nm,1.4s
V51A Loudon 74.56 50 P P 03 17 44.0 +0.4
baz=326,SNR=23
V51A S **S** 03 27 13.6 -1.9
baz=326
VBMS Vicksburg 74.57 56 IAmb IAmb 03 17 46.3
comp=Z,120nm,1.1s
VBMS IAMs_20 IAMs_20 03 51 32.7
comp=Z,2µm,22.0s
VBMS Vicksburg 74.57 56 P P 03 17 45.0 +1.3
baz=324,SNR=9.9
VBMS Vicksburg 74.57 56 P P 03 17 44.1 +0.4
baz=324,SNR=9.9
AMBH Ambrzfalva 74.60 333 P P 03 17 45.5 +1.8
UGM Wanagama 74.60 232 P P 03 17 44.8 +0.8
comp=Z,226nm,1.4s
UGM Wanagama 74.60 232 P P 03 17 44.6 +0.6
MASI Maura Aman, Be 74.62 242 P P 03 17 45.1 +0.9
comp=Z,4µmcomp=Z,325nm,1.2s
W50A Signal Mountai 74.62 51 IAmb IAmb 03 17 45.8
comp=Z,107nm,0.9s
W50A Signal Mountai 74.62 51 P P 03 17 44.2 +0.2
baz=326,SNR=48
W50A S **S** 03 27 15.0 -1.3
baz=326
RASA Rasa 74.63 327 ⇓P P 03 17 44.6 +0.8
CTA Charters Tower 74.64 194 LR LR 03 47 50.7
comp=Z,411nm,20.0s,baz=24,slow=34
BAIF Baives 74.65 345 *e*P P 03 17 43.7 -0.2
BAIF pmax pmax
comp=Z,142nm,1.1s
FOR Fordham 74.66 40 P P 03 17 44.3 +0.2
baz=330,SNR=8.3
MPLH Magyarpolny 74.68 335 P P 03 17 45.7 +1.6
CPNY Central Park 74.69 40 IAmb IAmb 03 17 46.6
comp=Z,93nm,1.1s
WLF Walferdange 74.72 343 IAmb IAmb 03 17 47.0
comp=Z,191nm,1.5s
WLF IAMs_20 IAMs_20 03 55 33.5
comp=Z,2µm,21.0s
WLF Walferdange 74.72 343 *e*P P 03 17 45.6 +1.3
comp=Z,177nm,1.5s,baz=18,slow=6.0
WLF Walferdange 74.72 343 *d*P P 03 17 45.4 +1.1
comp=Z,32nm,1.5s
KLI Kotabumi 74.73 239 P P 03 17 45.9 +1.1
comp=Z,186nm,1.1s
SDMD Soldier's Deli 74.75 43 P P 03 17 44.4 -0.3
baz=329,SNR=15
N62A Caumsett State 74.76 40 IAmb IAmb 03 17 46.0
comp=Z,93nm,1.2s
N62A Caumsett State 74.76 40 P P 03 17 44.4 -0.2
baz=330,SNR=6.8
N62A P P 03 17 44.4 -0.2
baz=330,SNR=6.8
TUPA Temple Univers 74.76 41 P P 03 17 44.1 -0.6
baz=330,SNR=14
PANJ Princeton 74.77 41 P P 03 17 44.3 -0.4
baz=330,SNR=12
PSN Preselentsi 74.77 326 *i* P P 03 17 45.2 +0.5
SISI Saibi 74.78 246 P P 03 17 46.4 +1.4
comp=Z,2µmcomp=Z,82nm,1.4s
CPCT Cooper Cave 74.78 50 IAmb IAmb 03 17 46.7
comp=Z,173nm,1.4s
GBN Guysborough 74.79 29 IAmb IAmb 03 17 47.5
comp=Z,135nm,1.3s
MOA Molln 74.83 337 *i* P P 03 17 46.0 +1.0
comp=Z,15nm,0.5s,SNR=47
TIH Tihany 74.84 335 P P 03 17 40.5 -4.5
HTL Hartland 74.85 350 *e*P P 03 17 45.8 +0.8
HTL IAmb IAmb 03 17 46.8
comp=Z,137nm,1.1s
KPJI Karang Pucung 74.85 234 P P 03 17 45.7 +0.3
comp=Z,40nm,1.2s
L64A Middleborough 74.85 37 P P 03 17 44.1 -1.0
baz=331,SNR=16
L64A P P 03 17 44.1 -1.0
baz=331,SNR=16
HAL Halifax 74.87 31 IAmb IAmb 03 17 47.2
comp=Z,199nm,1.5s
V52A Sevierville 74.87 49 IAmb IAmb 03 17 47.6
comp=Z,184nm,1.5s
V52A Sevierville 74.87 49 P P 03 17 45.4 -0.1
baz=326,SNR=18
V52A S **S** 03 27 18.0 -1.0
baz=326
M63A Gales Ferry 74.88 38 IAmb IAmb 03 17 46.9
comp=Z,166nm,1.3s
M63A Gales Ferry 74.88 38 P P 03 17 45.9 +0.5
baz=331,SNR=13
M63A P P 03 17 45.9 +0.5
baz=331,SNR=13
GEDE Greenville 74.89 42 P P 03 17 45.2 -0.3
baz=329,SNR=6.4
GZR Gura Zlata 74.90 331 ⇑P P 03 17 45.7 +0.2
GZR Gura Zlata 74.90 331 ⇑P P 03 17 45.7 +0.2
TKL Tuckaleechee C 74.94 50 LR LR 03 53 50.6
comp=Z,2µm,18.3s,baz=330,slow=38
TKL Tuckaleechee C 74.94 50 P P 03 17 45.7 -0.2
baz=326,SNR=14
146A Union 74.95 55 P P 03 17 47.5 +1.6
baz=325,SNR=40
146A S **S** 03 27 18.6 -1.3
baz=325
Z47A Carrollton 74.97 54 P P 03 17 46.6 +0.6
baz=325,SNR=33
Z47A S **S** 03 27 19.2 -0.9
baz=325
BLSI Bandar Lampung 74.97 238 P P 03 17 46.4 +0.2
STU Stuttgart 75.02 341 P P 03 17 47.5 +1.4
STU Stuttgart 75.02 341 IAmb IAmb 03 17 48.4
comp=Z,172nm,1.3s
STU IAMs_20 IAMs_20 03 54 11.6
comp=Z,2µm,21.0s
STU Stuttgart 75.02 341 *e*P P 03 17 47.0 +0.9
comp=Z,556nm,1.5s,baz=18,slow=6.0
BZS Buzias 75.03 332 ⇓P P 03 17 46.7 +0.6
BZS Buzias 75.03 332 ⇓P P 03 17 46.7 +0.6
LEM Lembang 75.05 235 LR LR 03 53 17.1
comp=Z,412nm,20.8s,baz=25,slow=38
344A Westbrook Farm 75.09 57 IAmb IAmb 03 17 49.2
comp=Z,78nm,0.9s
344A Westbrook Farm 75.09 57 P P 03 17 48.4 +1.7
baz=324,SNR=16
U54A Nelsons Funny 75.10 48 P P 03 17 47.0 +0.2
baz=327,SNR=18
U54A P P 03 17 47.0 +0.2
baz=327,SNR=18
U54A S **S** 03 27 19.8 -1.8
baz=327
U54A S **S** 03 27 19.8 -1.8
baz=327
ARSA Arzberg 75.10 336 *i* P P 03 17 47.8 +1.2
comp=Z,26nm,0.5s,SNR=51
BIOA Bad Ischl, Aus 75.12 338 *i* P P 03 17 47.8 +1.1
comp=Z,18nm,0.5s,SNR=34
BLA Blacksburg 75.12 46 IAmb IAmb 03 17 48.9
comp=Z,146nm,1.3s
BLA IAMs_20 IAMs_20 03 52 25.6
comp=Z,2µm,20.0s
BLA Blacksburg 75.12 46 P P 03 17 47.2 +0.3
baz=328,SNR=12
BLA S **S** 03 27 21.0 -0.9
baz=328
BLA Blacksburg 75.12 46 P P 03 17 46.9 0.0
baz=328,SNR=12
FUR Furstenfeldbru 75.18 339 *e*P P 03 17 48.2 +1.2
comp=Z,314nm,1.5s,baz=18,slow=6.0
Y49A Blount Mountai 75.22 53 IAmb IAmb 03 17 48.5
comp=Z,70nm,0.9s
Y49A Blount Mountai 75.22 53 P P 03 17 47.8 +0.3
baz=326,SNR=23
Y49A S **S** 03 27 21.9 -1.0
baz=326
M65A Busby, Falmout 75.25 37 IAMs_20 IAMs_20 03 53 52.5
comp=Z,1µm,20.0s
M65A Busby, Falmout 75.25 37 P P 03 17 47.5 0.0
baz=331
RJOB Jochberg 75.26 338 *e*P P 03 17 49.0 +1.4
comp=Z,85nm,0.9s,baz=18,slow=6.0
LWLI Liwa 75.27 239 P P 03 17 47.6 -0.4
comp=Z,144nm,0.6s
MORH Mrgy, Hungar 75.28 334 ⇑*i* P P 03 17 46.3 -1.3
MORH Mrgy, Hungar 75.28 334 P P 03 17 47.7 +0.1
S57A Dark Hollow, R 75.28 45 P P 03 17 49.0 +1.2
baz=328,SNR=31
S57A P P 03 17 49.0 +1.2
baz=328,SNR=31
S57A S **S** 03 27 24.2 +0.8
baz=328
S57A S **S** 03 27 24.2 +0.8
baz=328
COPA Copaceanca 75.31 329 ⇓P P 03 17 48.9 +1.1
W52A Murphy 75.34 50 IAmb IAmb 03 17 50.2
comp=Z,96nm,1.1s
W52A Murphy 75.34 50 P P 03 17 49.0 +0.8
baz=326,SNR=21
W52A S **S** 03 27 25.5 +1.2
baz=326
DYA Yadsworthy 75.35 350 *e*P P 03 17 48.0 +0.1
DYA IAmb IAmb 03 17 49.4
comp=Z,194nm,1.1s
X51A Calhoun 75.36 51 IAmb IAmb 03 17 50.2
comp=Z,96nm,1.0s
X51A Calhoun 75.36 51 P P 03 17 48.8 +0.6
baz=326,SNR=22
X51A P P 03 17 48.8 +0.6
baz=326,SNR=22
V53A Saluda 75.37 49 IAmb IAmb 03 17 50.6
comp=Z,142nm,1.5s
V53A Saluda 75.37 49 P P 03 17 49.1 +0.8
baz=327,SNR=19
V53A P P 03 17 49.1 +0.8
baz=327,SNR=19
V53A S **S** 03 27 23.5 -1.1
baz=327
V53A S **S** 03 27 23.5 -1.1
baz=327
BANR Banloc 75.38 332 ⇑P P 03 17 49.4 +1.2
RAZG Razgrad 75.42 327 ⇓P P 03 17 48.3 -0.1
PRD Provadia 75.46 327 *i* P P 03 17 49.5 +0.9
HERR Herculane 75.47 331 ⇑P P 03 17 49.2 +0.5
KASI Kota Agung 75.48 239 P P 03 17 46.3 -2.8
comp=Z,81nm,1.1s
BEHE Becsehely 75.52 335 ⇑*i* P P 03 17 49.3 +0.3
BEHE Becsehely 75.52 335 P P 03 17 50.4 +1.4
KOVH Kovagotottos 75.54 334 P P 03 17 49.7 +0.7
R58B Mineral 75.56 44 P P 03 17 49.9 +0.6
baz=329,SNR=24
R58B P P 03 17 49.9 +0.6
baz=329,SNR=24
R58B S **S** 03 27 26.9 +0.4
baz=329
R58B S **S** 03 27 26.9 +0.4
baz=329
CBN Corbin Frederi 75.56 44 IAMs_20 IAMs_20 03 52 41.0
comp=Z,2µm,20.0s
CBN Corbin Frederi 75.56 44 P P 03 17 50.1 +0.8
baz=329,SNR=13
CBN Corbin Frederi 75.56 44 P P 03 17 49.5 +0.2
baz=329,SNR=13
BFO Black Forest 75.61 341 P P 03 17 50.2 +0.7
BFO pmax pmax
comp=Z,235nm,1.5s
BFO MLR MLR
comp=Z,2µm,21.0s
BFO Black Forest 75.61 341 P P 03 17 50.2 +0.7
BFO IAMs_20 IAMs_20 03 54 19.1
comp=Z,2µm,21.0s
BFO Black Forest 75.61 341 *e*P P 03 17 50.3 +0.9
comp=Z,231nm,1.5s,baz=18,slow=6.0
LRAL Lakeview Retre 75.61 53 IAmb IAmb 03 17 50.5
comp=Z,43nm,0.9s
LRAL IAMs_20 IAMs_20 03 50 12.4
comp=Z,3µm,22.0s
LRAL Lakeview Retre 75.61 53 P P 03 17 49.6 -0.1
baz=326,SNR=27
LRAL S **S** 03 27 23.1 -4.1
baz=326
LRAL Lakeview Retre 75.61 53 P P 03 17 49.2 -0.5
baz=326,SNR=27
DJES Djerdap 75.64 331 ⇑P P 03 17 50.2 +0.5
KOGS Kog 75.67 336 *i* P P 03 17 50.2 +0.4
VLAD Vladila 75.68 329 ⇓P P 03 17 50.8 +0.9
ZIMR 75.70 328 ⇓P P 03 17 50.2 +0.2
ZIMR 75.70 328 P P 03 17 53.5 +3.5
CNJI Cibinong 75.70 236 P P 03 17 47.7 -2.6
comp=Z,62nm,1.2s
DZM Mont Dzumac 75.71 175 LR LR 03 46 46.8
comp=Z,2µm,20.6s,baz=23,slow=32
DZM Mont Dzumac 75.71 175 *e*P P 03 17 52.5 +2.3
comp=Z,182nm,1.2s
DZM *e*S **S** 03 27 25.9 -2.4
comp=Z,1µm,24.4s
DZM Mont Dzumac 75.71 175 *e*LR LR 03 41 08.7
comp=Z,5µm,29.0s,baz=356
DZM Mont Dzumac 75.71 175 IAmb IAmb 03 17 54.2
comp=Z,98nm,1.2s
CDF Champ du Feu 75.73 342 *e*P P 03 17 49.1 -1.1
CDF pmax pmax
comp=Z,283nm,1.4s
NOUC Port Laguerre 75.73 175 P P 03 17 52.5 +2.3
SOKA Soboth 75.75 336 *i* P P 03 17 51.4 +1.0
comp=Z,58nm,0.4s,SNR=70
KBA Koelnbreinsper 75.76 338 *i* P P 03 17 51.9 +1.3
comp=Z,133nm,0.5s,SNR=127
MDVR Moldovita 75.76 331 ⇑P P 03 17 50.5 +0.1
346A Big Creek Wild 75.77 56 IAmb IAmb 03 17 53.4
comp=Z,98nm,0.8s
346A Big Creek Wild 75.77 56 P P 03 17 52.2 +1.6
baz=325,SNR=10
T57A Hurt 75.80 46 IAmb IAmb 03 17 52.0
comp=Z,40nm,0.8s
T57A Hurt 75.80 46 P P 03 17 51.0 +0.2
baz=328,SNR=12
T57A P P 03 17 51.0 +0.2
baz=328,SNR=12
CGJI Cibinong 75.81 237 P P 03 17 49.2 -1.8
comp=Z,4µmcomp=Z,133nm,1.1s
U56A King 75.87 47 IAmb IAmb 03 17 53.2
comp=Z,191nm,1.4s
U56A King 75.87 47 P P 03 17 51.9 +0.8
baz=328,SNR=13
U56A P P 03 17 51.9 +0.8
baz=328,SNR=13
U56A S **S** 03 27 29.0 -1.0
baz=328
U56A S **S** 03 27 29.0 -1.0
baz=328
SZH Strazhica 75.87 328 *i* P P 03 17 50.3 -0.7
PUNG Punghina 75.87 330 ⇑P P 03 17 51.3 +0.4
CASEE Lake Jocassee 75.88 49 P P 03 17 51.9 +0.6
baz=327,SNR=34
CASEE S **S** 03 27 30.1 0.0
baz=327
UBR Ueberruh 75.88 340 *e*P P 03 17 52.2 +1.1
comp=Z,338nm,1.5s,baz=18,slow=6.0
WATA Walderalm 75.91 339 *i* P P 03 17 52.6 +1.2
comp=Z,35nm,0.5s,SNR=58
KALN Kalnik 75.92 335 P P 03 17 51.6 +0.3
V55A Taylorsville 75.92 48 IAmb IAmb 03 17 53.4
comp=Z,58nm,1.1s
V55A Taylorsville 75.92 48 P P 03 17 52.1 +0.7

baz=327,SNR=11
V55A P P 03 17 52.1 +0.7
baz=327,SNR=11
RETA Reutte 75.93 340 *i* P P 03 17 52.4 +1.0
comp=Z,27nm,0.7s,SNR=32
ECH Echery 75.94 342 P P 03 17 52.0 +0.7
ECH Echery 75.94 342 IAMs_20 IAMs_20 03 53 58.7
comp=Z,2µm,22.0s
FRGS Fruska Gora 75.95 333⇑ P P 03 17 51.5 +0.1
FRGS Fruska Gora 75.95 333⇑ *i* P P 03 17 50.3 -1.2
WTTA Wattenberg 75.96 339 *i* P P 03 17 52.9 +1.2
comp=Z,46nm,0.6s,SNR=93
LOBO Lobor 75.99 336 P P 03 17 51.9 +0.3
MOTA Moosalm 76.00 339 *i* P P 03 17 52.8 +0.9
comp=Z,65nm,0.8s,SNR=56
OBKA Obir 76.02 337 *i* P P 03 17 53.2 +1.2
comp=Z,42nm,0.5s,SNR=56
OUENC Ouen Island, N 76.08 174 IAmb IAmb 03 18 13.0
comp=Z,91nm,1.2s
SQTA Sankt Quirin 76.09 339 *i* P P 03 17 53.7 +1.4
comp=Z,78nm,0.6s,SNR=78
PVL Pavlikeni 76.10 328 *i* P P 03 17 52.5 +0.2
MYKA Terra Mystica 76.12 337 *i* P P 03 17 53.4 +0.9
comp=Z,31nm,0.5s,SNR=37
A252A Venje 76.21 334 P P 03 17 52.6 -0.3
Z51A Franklin 76.24 52 IAmb IAmb 03 17 54.8
comp=Z,150nm,1.2s
Z51A Franklin 76.24 52 P P 03 17 53.0 -0.3
baz=326,SNR=31
Z51A S S 03 27 33.9 -0.3
baz=326
PTJ Puntijarka 76.25 336 P P 03 17 54.0 +0.7
ABTA Abfaltersbach 76.26 338 *i* P P 03 17 54.2 +0.9
comp=Z,84nm,0.8s,SNR=70
QIS Mount Isa 76.27 200 P P 03 17 53.6 +0.2
Y52A Lilburn 76.30 51 IAmb IAmb 03 17 55.7
comp=Z,168nm,1.4s
Y52A Lilburn 76.30 51 P P 03 17 54.3 +0.6
baz=327,SNR=21
Y52A P P 03 17 54.3 +0.6
baz=327,SNR=21
Y52A S S 03 27 33.1 -1.7
baz=327
Y52A S S 03 27 33.1 -1.7
baz=327
DAVA Damuels 76.31 340 *i* P P 03 17 54.6 +0.9
comp=Z,42nm,1.2s,SNR=31
ZAG Zagreb 76.32 335⇑ *i* P P 03 17 55.0 +1.5
MOSL Moslavina 76.33 335 P P 03 17 53.6 0.0
BR131 Keskin Array S 76.34 321*c i* P P 03 17 53.7 -0.2
BR131 Keskin Array S 76.34 321 IAmb IAmb 03 17 56.8
comp=Z,128nm,1.2s
BR131 Keskin Array S 76.34 321 P P 03 17 53.9 -0.1
SNR=37
BRTR Keskin Array B 76.34 321 P P 03 17 53.8 -0.2
comp=Z,38nm,1.1s,baz=40,slow=3.0,SNR=62
BRTR LR LR 03 55 14.1
comp=Z,3µm,21.4s,baz=27,slow=39
JQE Queens East 76.36 349 *eP* P 03 17 53.8 +0.2
JVM Valle D.L. Mar 76.36 349 *eP* P 03 17 54.3 +0.6
HINF Hinteralfeld 76.38 342 *eP* P 03 17 53.4 -0.5
HINF pmax pmax
comp=Z,211nm,1.7s
FETA Feichten 76.39 339 *i* P P 03 17 55.4 +1.3
comp=Z,52nm,0.6s,SNR=59
CRES Cresnjev 76.45 336⇑ *i* P P 03 17 55.2 +0.9
KMSC Kings Mountain 76.47 48 IAmb IAmb 03 17 56.4
comp=Z,196nm,1.5s
KMSC Kings Mountain 76.47 48 P P 03 17 54.8 +0.2
baz=328,SNR=16
KMSC Kings Mountain 76.47 48 P P 03 17 54.4 -0.1
baz=328,SNR=16
LJU Ljubljana 76.47 337⇑ *i* P P 03 17 54.1 -0.3
LJU Ljubljana 76.47 337 *i* P P 03 17 54.7 +0.4
MPEP Malo Peshtene 76.47 329 *i* P P 03 17 56.4 +2.0
PAULI Pauline 76.52 49 IAmb IAmb 03 17 56.6
comp=Z,52nm,1.1s
PAULI Pauline 76.52 49 P P 03 17 55.5 +0.6
baz=327,SNR=8.1
ANTO Ankara 76.53 321 P P 03 17 55.1 +0.2
ANTO pmax pmax
comp=Z,161nm,1.2s
ANTO MLR MLR
comp=Z,2µm,21.0s
ANTO Ankara 76.53 321 P P 03 17 55.1 +0.2
ANTO IAMs_20 IAMs_20 03 55 34.1
comp=Z,2µm,21.0s
T59A Double "B" Far 76.54 45 IAmb IAmb 03 17 57.1
comp=Z,121nm,1.1s
T59A Double "B" Far 76.54 45 P P 03 17 56.1 +1.2
baz=329,SNR=16
T59A P P 03 17 56.1 +1.2
baz=329,SNR=16
T59A S S 03 27 37.5 +0.2
baz=329
T59A S S 03 27 37.5 +0.2
baz=329
BLKB Belogradchik 76.54 330⇑ P P 03 17 54.9 0.0
TEKS Tekeris 76.59 333⇑ *i* P P 03 17 54.3 -0.8
FLN La Foliniere 76.59 347 *eP* P 03 17 54.4 -0.6
FLN pmax pmax
comp=Z,210nm,1.3s
OZLJ Ozalj 76.64 336 P P 03 17 55.6 +0.3
LDF La Druitiere 76.71 347 *eP* P 03 17 55.1 -0.6
LDF pmax pmax
comp=Z,157nm,1.4s
T60A Surry 76.73 44 P P 03 17 56.8 +0.9
baz=329,SNR=8.0
T60A P P 03 17 56.8 +0.9
baz=329,SNR=8.0
CEY Cerknica 76.78 337⇑ *i* P P 03 17 56.2 0.0
DAVOX Davos/Dischmat 76.79 340 LR LR 03 55 26.5
comp=Z,2µm,21.6s,baz=16,slow=39
BOJS Bojanci 76.80 336 *i* P P 03 17 57.1 +0.8
ISK Istanbul-Kandi 76.81 325 P P 03 17 55.7 -0.6
HODGE Hodges 76.82 49 IAmb IAmb 03 17 58.6
comp=Z,125nm,1.3s
HODGE Hodges 76.82 49 P P 03 17 56.9 +0.3
baz=327,SNR=20
HODGE S S 03 27 38.9 -1.5
baz=327
250A Grady 76.83 53 IAmb IAmb 03 17 58.0
comp=Z,69nm,1.0s
250A Grady 76.83 53 P P 03 17 57.0 +0.3
baz=326,SNR=19
250A S S 03 27 38.3 -2.3
baz=326
WR0 Warramunga Arr 76.86 205 IAmb IAmb 03 17 58.8
comp=Z,125nm,1.2s
DIVS Divibare 76.88 332⇑ *i* P P 03 17 56.2 -0.6
V58A Windy Hill, Pi 76.88 46 P P 03 17 57.6 +0.7
baz=328,SNR=24
V58A P P 03 17 57.6 +0.7
baz=328,SNR=24
V58A S S 03 27 39.5 -1.6
baz=328
V58A S S 03 27 39.5 -1.6
baz=328
EDRB Edirne 76.89 327 P P 03 17 56.2 -0.6
WRAB Tennant Creek 76.89 205*c i* P P 03 17 57.3 +0.4
WRAB pmax pmax
comp=Z,125nm,1.1s
WRA Warramunga Arr 76.90 205 P P 03 17 57.2 +0.3
comp=Z,79nm,1.0s,baz=15,slow=5.7,SNR=126
WRA LR LR 03 48 30.9
comp=Z,370nm,21.8s,baz=8.0,slow=33
GOGA Godfrey 76.95 51 P P 03 17 57.6 +0.3
baz=327,SNR=9.7
GOGA S S 03 27 39.2 -2.7
baz=327
GOGA Godfrey 76.95 51 P P 03 17 57.4 +0.1
baz=327,SNR=9.7
TRI Trieste 76.96 337 P P 03 17 57.7 +0.6
TRI Trieste 76.96 337 IAmb IAmb 03 17 58.0
comp=Z,67nm,1.0s
U59A Littleton 76.97 45 IAmb IAmb 03 17 59.0
comp=Z,60nm,0.9s
U59A Littleton 76.97 45 P P 03 17 58.0 +0.6
baz=329,SNR=15
U59A P P 03 17 58.0 +0.6
baz=329,SNR=15
152A Waverly Hall 76.99 52 IAmb IAmb 03 17 59.2
comp=Z,114nm,1.2s
152A Waverly Hall 76.99 52 P P 03 17 57.8 +0.3
baz=326,SNR=22
152A S S 03 27 40.2 -2.1
baz=326

GRR Gorron 77.01 348 *eP* P 03 17 57.0 -0.4
GRR pmax pmax
comp=Z,362nm,1.4s
BLY Banja Luka 77.02 334⇑ *i* P P 03 17 57.4 -0.1
W57A Gilead 77.05 47 IAmb IAmb 03 17 59.7
comp=Z,171nm,1.4s
W57A Gilead 77.05 47 P P 03 17 58.0 +0.2
baz=328,SNR=11
W57A P P 03 17 58.0 +0.2
baz=328,SNR=11
SKDS Skadanscina 77.06 337⇑ *i* P P 03 17 57.2 -0.5
PGB Panagyurishte 77.07 329 *i* P P 03 17 58.1 +0.2
BRAL Brewton 77.12 55 IAmb IAmb 03 18 00.6
comp=Z,89nm,0.9s
BRAL Brewton 77.12 55 P P 03 17 59.9 +1.7
baz=326,SNR=8.5
BRAL Brewton 77.12 55 P P 03 17 58.6 +0.4
baz=326,SNR=8.5
RIY Rijeka 77.15 336⇑ *i* P P 03 17 58.6 +0.4
RIY Rijeka 77.15 336 P P 03 17 58.1 -0.1
JSC Jenkinsville 77.22 49 IAmb IAmb 03 18 00.6
comp=Z,118nm,1.4s
JSC Jenkinsville 77.22 49 P P 03 17 59.0 +0.2
baz=328,SNR=8.0
BBLS Lazići 77.25 332⇑ *i* P P 03 17 59.1 +0.2
BIRD Birdtown, Kers 77.27 48 IAmb IAmb 03 18 00.9
comp=Z,129nm,1.4s
BIRD Birdtown, Kers 77.27 48 P P 03 17 59.2 +0.2
baz=328,SNR=14
A250A Rusevo Krmpots 77.28 336 P P 03 17 58.8 -0.2
VTS Vitosha 77.29 329⇓ P P 03 17 59.9 +0.6
VTS Vitosha 77.29 329⇓ P P 03 17 59.9 +0.6
VTS Vitosha 77.29 329 IAmb IAmb 03 18 00.6
comp=Z,87nm,1.1s
VTS Vitosha 77.29 329 *i* P P 03 17 59.4 +0.1
PLIT Plitvice 77.30 335 P P 03 17 58.9 -0.2
PLD Plovdiv 77.31 328 *i* P P 03 17 59.0 -0.1
SGMF Saint Gilles 77.35 349 *eP* P 03 17 59.1 -0.2
SGMF pmax pmax
comp=Z,148nm,1.2s
ROSF Rostrenen 77.35 349 *eP* P 03 17 59.9 +0.7
ROSF Rostrenen 77.35 349 *eP* P 03 17 59.2 -0.1
ROSF pmax pmax
comp=Z,543nm,1.6s
MGRS Mrkonjic Grad 77.36 334⇑ *i* P P 03 18 00.7 +1.3
LOR Lormes 77.42 344 *eP* P 03 17 59.4 -0.3
LOR pmax pmax
comp=Z,425nm,1.6s
SHME Shamm 77.49 297 P P 03 17 59.6 -0.8
SNR=7.8
SHME Shamm 77.49 297 *i* P P 03 17 59.2 -1.2
SNR=16
RUDO Rudo 77.49 332⇑ *i* P P 03 17 59.9 -0.3
SMRN Sveta Marina 77.50 336 P P 03 17 59.8 -0.4
BANOM Banah 77.51 297 P P 03 17 59.8 -0.7
SNR=21
BANOM Banah 77.51 297 *i* P P 03 17 59.3 -1.3
SNR=46
UDBI Udbina 77.59 335 P P 03 18 00.6 -0.1
RABC Rab 77.62 336 P P 03 18 00.5 -0.3
SRKY Kupres RS 77.66 334 *eP* P 03 18 01.8 +0.6
SSF Saint Saulge 77.68 344 *eP* P 03 18 00.9 -0.2
SSF pmax pmax
comp=Z,229nm,1.6s
RZN Rozhen 77.68 328 *i* P P 03 18 01.5 0.0
SENIN Lac Senin/Sane 77.69 342 IAMs_20 IAMs_20 03 55 33.3
comp=Z,2µm,21.0s
FITZ Fitzroy Crossi 77.72 214 LR LR 03 51 47.3
comp=Z,181nm,21.9s,baz=14,slow=35
BRJN Brijuni 77.72 337 P P 03 18 00.3 -1.1
QUIF Quistinic 77.75 349 *eP* P 03 18 01.3 -0.2
QUIF pmax pmax
comp=Z,64nm,0.8s
PLE Pljevlja 77.75 332 *eP* P 03 18 01.9 +0.1
NVLJ Novalja 77.78 336 P P 03 18 01.1 -0.5
154A Montrose 77.79 51 P P 03 18 02.8 +0.8
baz=327,SNR=19
Y57A Sumter 77.83 48 IAmb IAmb 03 18 03.4
comp=Z,46nm,0.8s
Y57A Sumter 77.83 48 P P 03 18 02.6 +0.5
baz=328,SNR=5.0
Y57A P P 03 18 02.6 +0.5
baz=328,SNR=5.0
X58A Rowland 77.84 47 P P 03 18 02.8 +0.7
baz=328,SNR=14
X58A P P 03 18 02.8 +0.7
baz=328,SNR=14
HAW Hawthorne Fire 77.84 49 P P 03 18 02.7 +0.5
baz=328,SNR=12
CNNC Cliffs of the 77.88 46 P P 03 18 03.0 +0.6
baz=329,SNR=11
CNNC Cliffs of the 77.88 46 P P 03 18 01.9 -0.5
baz=329,SNR=11
352A Blakely 77.88 53 IAmb IAmb 03 18 04.0
comp=Z,65nm,0.8s
352A Blakely 77.88 53 P P 03 18 03.0 +0.5
baz=326,SNR=12
352A S S 03 27 52.1 +0.1
baz=326
RDO Rodhopi 77.91 327 P P 03 18 00.7 -1.8
KIJV Kijevo 77.92 335 P P 03 18 02.9 +0.3
AVF Avril sur Loir 77.97 344 *eP* P 03 18 02.6 -0.1
AVF pmax pmax
comp=Z,295nm,1.4s
ALN Alexandroupoli 77.97 327 P P 03 18 02.5 -0.3
VRC Vir 77.99 336 P P 03 18 02.3 -0.6
UPM Unac-Piva 78.00 333 *eP* P 03 18 02.6 -0.7
KKB Krupnik 78.02 329 *i* P P 03 18 03.3 +0.1
MASF Masafi 78.03 297 P P 03 18 02.6 -0.9
SNR=9.8
SMF Signal de Mont 78.03 344 *eP* P 03 18 03.0 -0.1
SMF pmax pmax
comp=Z,242nm,1.6s
IVA Berane 78.04 332 *eP* P 03 18 03.5 +0.2
MSFE Esma-Masafi 78.04 297 *i* P P 03 18 02.4 -1.1
SNR=11
ENEZ Enez 78.08 326 P P 03 18 03.6 +0.2
MMB Musomiste 78.08 329 *i* P P 03 18 03.7 +0.2
KOME Kolasin 78.16 332 *eP* P 03 18 03.8 -0.2
UMQ Umm Al-Quwin 78.17 297 P P 03 18 04.3 +0.1
UMQ Umm Al-Quwin 78.17 297 P P 03 18 03.7 -0.5
RICI Ricice 78.21 334 P P 03 18 03.1 -1.0
451A Vernon 78.21 54 S S 03 27 59.3 +3.7
baz=326
MORI Morici 78.22 335 P P 03 18 04.0 -0.2
Y58A Scranton 78.24 48 P P 03 18 04.6 +0.1
baz=328,SNR=12
Y58A P P 03 18 04.6 +0.1
baz=328,SNR=12
NVR Nevrokopi 78.25 328 P P 03 18 04.7 +0.2
DUGI Dugi Otok 78.27 335 P P 03 18 04.4 -0.1
BGF Bois d'Agland 78.27 345 *eP* P 03 18 04.4 -0.1
BGF pmax pmax
comp=Z,137nm,1.4s
PCHI Peechi 78.31 272⇑ *eP* P 03 18 05.1 +0.1
PALK Pallekele 78.32 266 LR LR 03 56 38.1
comp=Z,1µm,20.6s,baz=143,slow=39
PALK Pallekele 78.32 266*c i* P P 03 18 05.2 0.0
PALK pmax pmax
comp=Z,168nm,1.1s
PALK MLR MLR
comp=Z,2µm,20.0s
PALK Pallekele 78.32 266 P P 03 18 04.8 -0.3
PALK Pallekele 78.32 266 IAMs_20 IAMs_20 03 56 27.1
comp=Z,2µm,21.0s
PALK Pallekele 78.32 266 P P 03 18 05.6 +0.4
UOSS Minazif 78.35 296 P P 03 18 03.9 -1.3
UOSS IAmb IAmb 03 18 07.0
comp=Z,84nm,1.2s
UOSS Minazif 78.35 296 IAMs_20 IAMs_20 03 57 13.2
comp=Z,1µm,20.0s
UOSS Minazif 78.35 296 P P 03 18 04.1 -1.1
UOSS Minazif 78.35 296 *i* P P 03 18 04.0 -1.3
SNR=16
KAVA Kavala 78.37 328 P P 03 18 04.8 -0.3
BRY Bratogost 78.38 333 *eP* P 03 18 04.7 -0.6
BRY Bratogost 78.38 333 *eP* P 03 18 04.4 -0.9
NKME Niksic 78.39 332 *eP* P 03 18 05.2 -0.1
WSAR Wadi Sarin 78.41 293 LR LR 03 56 38.9
comp=Z,4µm,21.4s,baz=75,slow=39
WSAR Wadi Sarin 78.41 293 P P 03 18 05.6 0.0
SNR=9.6
SKO Skopje 78.42 330 *i* P P 03 18 06.2 +0.8
MAKA Makarska 78.43 334 P P 03 18 04.5 -0.8
ZIRJ Zirje 78.44 335 P P 03 18 04.5 -0.9

STIP Stip 78.45 330 *i* P P 03 18 05.4 -0.1
BIDO Bidbid 78.46 294 P P 03 18 05.5 -0.3
SNR=7.6
HATD Hatta, Dubai 78.48 296 P P 03 18 05.3 -0.7
SNR=20
HATD Hatta, Dubai 78.48 296 *i* P P 03 18 05.1 -0.9
SNR=16
SMTH Samothraki Isl 78.52 327 P P 03 18 05.1 -0.8
TIGA Tifton 78.54 52 P P 03 18 07.1 +0.9
baz=327,SNR=17
TIGA S S 03 27 57.6 -1.5
baz=327
TIGA Tifton 78.54 52 P P 03 18 06.4 +0.2
baz=327,SNR=17
SRS Serrai 78.55 328 P P 03 18 05.6 -0.5
NAZ Nazwa, Dubai 78.60 297 P P 03 18 05.7 -0.9
SNR=13
NAZ Nazwa, Dubai 78.60 297 *i* P P 03 18 05.4 -1.2
SNR=9.9
TREB Trebinje 78.61 333 *eP* P 03 18 05.7 -0.7
CEME Cevo 78.61 332 *eP* P 03 18 06.3 -0.2
LPL La Plagne 78.62 342 *eP* P 03 18 07.5 +0.9
LPL pmax pmax
comp=Z,280nm,1.2s
PDG Podgorica 78.62 332⇓ P P 03 18 06.7 +0.3
PDG Podgorica 78.62 332⇑ *i* P P 03 18 06.2 -0.2
TTG Podgorica 78.62 332 *eP* P 03 18 06.7 +0.3
LPG La Plagne 78.63 342 *eP* P 03 18 07.8 +1.0
LPG pmax pmax
comp=Z,335nm,1.2s
ASHO Ashiyiah 78.64 296 P P 03 18 06.0 -0.8
SNR=26
ASHO Ashiyiah 78.64 296 *i* P P 03 18 05.8 -1.1
SNR=25
TCF Toulx Ste Croi 78.64 345 *eP* P 03 18 06.5 0.0
TCF pmax pmax
comp=Z,114nm,1.2s
STON Ston 78.64 333⇑ *i* P P 03 18 05.6 -0.9
STON Ston 78.64 333 P P 03 18 05.2 -1.3
255A Hazlehurst 78.65 51 P P 03 18 07.5 +0.8
baz=327,SNR=12
THAS Thassos island 78.66 327 P P 03 18 05.9 -0.7
MFF Saint Martin d 78.67 347 *eP* P 03 18 06.8 +0.2
MFF pmax pmax
comp=Z,287nm,1.6s
VAY Valandovo 78.68 329 *i* P P 03 18 07.9 +1.1
HVAR Hvar 78.68 334 P P 03 18 05.9 -0.8
NHSC New Hope 78.69 48 P P 03 18 08.2 +1.3
baz=328,SNR=5.8
NHSC New Hope 78.69 48 P P 03 18 07.3 +0.3
baz=328,SNR=5.8
KOKK Kokkinochori, 78.70 328 P P 03 18 06.2 -0.7
DBRK Dubrovnik 78.71 333 P P 03 18 05.9 -1.0
WBK Wadi Bani Khal 78.73 293 P P 03 18 07.5 +0.1
SNR=13
HCY Herceg Novi 78.82 333⇑ *i* P P 03 18 07.1 -0.4
HCY Herceg Novi 78.82 333 *eP* P 03 18 07.3 -0.2
SOHO SOHO 78.82 296 P P 03 18 06.9 -0.9
SOHO SOHO 78.82 296 *i* P P 03 18 05.9 -1.9
SNR=11
FAQ Al Faqa, Dubai 78.83 297 P P 03 18 06.7 -1.2
SNR=9.4
FAQ Al Faqa, Dubai 78.83 297 *i* P P 03 18 06.7 -1.2
SNR=7.3
EZN Ezine 78.84 326 P P 03 18 07.0 -0.7
BUM Brajici-Budva 78.84 332 *eP* P 03 18 07.5 -0.3
HOQ Hoqain 78.85 295 P P 03 18 07.3 -0.7
SNR=15
JLN Jalan Bani Buh 78.86 292 P P 03 18 08.3 +0.2
SNR=13
DRME Dracevica, Mon 78.87 332⇑ *i* P P 03 18 08.3 +0.5
DRME Dracevica, Mon 78.87 332 *eP* P 03 18 08.4 +0.6
SMDO Samad 78.87 294 P P 03 18 08.1 -0.1
SNR=15
SOH Sokhos 78.89 328 P P 03 18 07.3 -0.7
LSTV Lastovo 78.95 334 P P 03 18 07.2 -1.0
PHP Peshkopia 78.98 331 P P 03 18 08.5 0.0
GRG Griva 79.06 329 P P 03 18 09.1 +0.2
ASUD Al Ashush, Dub 79.07 297 P P 03 18 08.6 -0.6
SNR=7.5
ASUD Al Ashush, Dub 79.07 297 *i* P P 03 18 08.2 -1.0
SNR=10
BNI Bardonecchia 79.07 342 P P 03 18 11.1 +2.0
OUR Ouranopolis 79.14 328 P P 03 18 09.6 +0.3
LIA Limnos Island 79.15 327 P P 03 18 09.3 -0.1
ISP Isparta 79.17 322⇓ *eP* P 03 18 10.1 +0.4
ISP pmax pmax
comp=Z,88nm,1.2s
HORT Hortiatis 79.18 329 P P 03 18 09.6 0.0
THE Thessaloniki 79.19 329 P P 03 18 08.7 -0.8
553A Crawfordville 79.19 53 S S 03 28 05.7 -0.3
baz=327
KULA Kula-Manisa 79.22 324 P P 03 18 09.8 -0.1
SSB Saint Sauveur 79.24 343 IAMs_20 IAMs_20 03 55 38.1
comp=Z,2µm,22.0s
PLG Polygyros 79.27 328 P P 03 18 09.5 -0.6
EIDS Eidsvold 79.28 189 IAmb IAmb 03 18 13.0
comp=Z,79nm,1.2s
AJN Ajban 79.30 297 P P 03 18 09.3 -1.1
SNR=8.0
AJN Ajban 79.30 297 *i* P P 03 18 08.7 -1.7
SNR=6.8
ALNE Al Ain 79.31 296 P P 03 18 10.0 -0.5
SNR=25
ALNE Al Ain 79.31 296 *i* P P 03 18 09.5 -1.0
SNR=13
ORIF Oris-en-Rattie 79.35 342 *eP* P 03 18 11.4 +0.9
ORIF pmax pmax
comp=Z,395nm,1.6s
MBDF Montbardon 79.37 341 *eP* P 03 18 11.2 +0.5
MBDF pmax pmax
comp=Z,74nm,0.9s
PRK Paraskevi 79.38 326 P P 03 18 11.8 +1.2
JMDO Jabal Madar 79.40 293 P P 03 18 10.7 -0.3
SNR=19
OHR Ohrid 79.40 330 *i* P P 03 18 11.7 +0.9
TIR Tirane 79.45 331⇑ P P 03 18 11.9 +0.9
TIR Tirane 79.45 331 P P 03 18 11.6 +0.6
TIR Tirane 79.45 331⇑ P P 03 18 11.9 +0.9
ARQ Araqi 79.47 295 P P 03 18 11.0 -0.4
SNR=18
FNA Florina 79.53 330 P P 03 18 11.6 +0.1
TRD Trivandrum 79.55 270 *eP* P 03 18 11.8 -0.1
BSY Bisya 79.59 294 P P 03 18 11.7 -0.4
SNR=23
PAIG Paliouri 79.61 328 P P 03 18 11.8 -0.1
VIVF Saint-Julien-l 79.62 343 *eP* P 03 18 12.6 +0.7
VIVF pmax pmax
comp=Z,326nm,1.6s
RJF Les Rejaudoux 79.70 345 *eP* P 03 18 12.5 +0.2
RJF pmax pmax
comp=Z,168nm,1.6s
TAOE Nuku Hiva Isla 79.73 121 *eS* S 03 28 11.3 -0.8
comp=Z,2µm,32.0s
TAOE Nuku Hiva Isla 79.73 121 *eLQ* LQ 03 39 24.8
comp=Z,1µm,26.4s
TAOE *eLR* LR 03 43 00.0
comp=Z,5µm,31.6s,baz=337
LIT Litokhoron 79.82 329 P P 03 18 12.6 -0.5
LIT Litokhoron 79.82 329 IAmb IAmb 03 18 14.0
comp=Z,74nm,1.0s
KZN Kozani 79.85 329 P P 03 18 13.3 0.0
KBN Korca 79.85 330 P P 03 18 13.4 +0.1
BLCB Balcova 79.90 325 P P 03 18 12.9 -0.5
NEST Nestorio 79.97 330 P P 03 18 14.2 +0.3
CAF Calviac 79.99 345 *eP* P 03 18 14.5 +0.6
CAF pmax pmax
comp=Z,260nm,1.5s
SBF Sospel 80.08 341 *eP* P 03 18 14.3 -0.1
SBF pmax pmax
comp=Z,362nm,1.4s
JRN Qarnain Island 80.11 299 P P 03 18 13.7 -1.1
SNR=7.8
PENT Pentalofos 80.14 330 P P 03 18 15.2 +0.3
SGRT San Giovanni R 80.19 334 IAmb IAmb 03 18 16.1
comp=Z,101nm,0.9s
AQU L'Aquila 80.22 336 P P 03 18 17.3 +2.1
AQU L'Aquila 80.22 336⇑ *i* P P 03 18 16.1 +0.9
CHOS Chios island 80.23 325 P P 03 18 15.4 0.0
KHOR Al-Khor Airpor 80.25 300 P P 03 18 15.6 +0.1
XOR Xorichti 80.27 328 P P 03 18 14.4 -1.1
SKY Skiros Island 80.28 327 P P 03 18 14.8 -0.7
KPRO Kipourio 80.30 330 P P 03 18 14.1 -1.6
NEO Neokhori 80.32 328 P P 03 18 15.2 -0.6
SHMA Al-Shehemyia 80.34 301 P P 03 18 15.2 -0.8

CASP	Castiglione de comp=Z,93nm,1.4s	80.39	338	IAmb	IAmb	03 18 17.2
SAKB	Bahrain	80.45	301	P	P	03 18 16.2 -0.4
THL	Klokotos Trika	80.46	329	P	P	03 18 15.3 -1.1
FRF	La Foret Royal	80.52	341	*e*P	P	03 18 16.8 +0.1
FRF	comp=Z,229nm,1.3s			pmax	pmax	
MZWR	Madinat Zayed	80.54	297	P	P	03 18 15.8 -1.3
ASAR	Alice Springs comp=Z,81nm,0.9s,baz=14,slow=4.9,SNR=324	80.57	205	P	P	03 18 17.9 +0.9
ASAR	comp=Z,0.7nm,0.4s,baz=198,slow=2.0,SNR=11			PKKPbc	PKKPbc	03 36 57.4 +0.9
ASAR	comp=Z,444nm,21.7s,baz=22,slow=33			LR	LR	03 50 22.2
ASAR	Alice Springs	80.57	205	P	P	03 18 18.0 +0.9
SMG	Samos	80.58	325	P	P	03 18 16.5 -0.6
MHTO	MHTO SNR=20	80.58	293	P	P	03 18 17.1 -0.3
YER	Yerkesik	80.59	323	P	P	03 18 17.1 -0.2
BHL	Bhannes	80.62	316	*e*P	P	03 18 16.8 -0.7
CSS	Mathiatis comp=Z,58nm,0.8s	80.63	319	IAmb	IAmb	03 18 18.5
KYMI	Kymi, Euboea I	80.65	327	P	P	03 18 16.4 -1.1
UMZA	Um Al Zommool	80.71	296	P	P	03 18 17.1 -0.9
JAN	Janina	80.72	330	P	P	03 18 18.0 +0.1
FETY	Fethiye	80.75	323	P	P	03 18 17.2 -0.9
LMR	La Mourre	80.76	341	*e*P	P	03 18 18.3 +0.3
LMR	comp=Z,335nm,1.3s			pmax	pmax	
SRN	Sarande	80.77	330	P	P	03 18 17.9 -0.2
656A	Willston baz=328,SNR=9.6	80.77	52	P	P	03 18 19.8 +1.6
AGG	Agios Georgios	80.86	328	P	P	03 18 17.5 -1.2
AGG	Agios Georgios comp=Z,74nm,1.3s	80.86	328	IAmb	IAmb	03 18 20.4
MAKR	Makrakomi, Fth	80.93	329	P	P	03 18 18.3 -0.7
ATAL	Atalanti	80.94	328	P	P	03 18 18.2 -0.9
MATE	Matera	80.98	333	⇑P	P	03 18 19.6 +0.4
KEK	Kerkira	80.98	331	P	P	03 18 19.4 +0.1
LKR	Lokris	80.99	328	P	P	03 18 18.3 -1.0
IGT	Igoumenitsa	80.99	330	P	P	03 18 18.9 -0.4
BODT	Bodrum	80.99	324	P	P	03 18 18.3 -1.1
KSL	Kastellorizon	81.00	322	P	P	03 18 18.5 -0.9
SHBL	Chebaa	81.06	316	*e*P	P	03 18 19.2 -0.8
KARY	Karystos	81.09	327	P	P	03 18 18.1 -1.8
EVR	Evrytania	81.11	329	P	P	03 18 19.6 -0.5
TRNA	Turayna	81.13	300	P	P	03 18 19.2 -1.1
PAOL	Paolisi comp=Z,104nm,1.3s	81.18	335	IAmb	IAmb	03 18 23.8
DAT	Datca	81.20	324	P	P	03 18 19.6 -1.0
DION	Dionisos Attik	81.21	327	P	P	03 18 19.9 -0.6
PTL	Penteli	81.26	327	P	P	03 18 19.9 -0.9
PMOR	Pomariorio Ree comp=Z,17nm,0.2s	81.30	130	*e*T	T	04 47 44.3
SMRA	Abu-Samra	81.32	300	P	P	03 18 20.2 -1.0
VILL	Villia	81.33	327	P	P	03 18 20.1 -1.1
ATHU	Athens Univers	81.36	327	P	P	03 18 19.7 -1.6
MZR	Muzera SNR=21	81.37	297	P	P	03 18 20.6 -1.0
MZR	Muzera SNR=27	81.37	297	*i* P	P	03 18 20.3 -1.3
ANX	Ano Chora	81.38	329	P	P	03 18 20.9 -0.6
ATH	Athens Observa	81.38	327	P	P	03 18 20.6 -0.8
VLY	Voula,Athens	81.46	327	P	P	03 18 20.8 -1.0
NISR	Nisiros	81.46	324	P	P	03 18 20.6 -1.2
MMAI	Mount Meron Ar comp=Z,2µm,19.9s,baz=174,slow=40	81.50	316	LR	LR	03 59 49.8
MTLF	Montolieu	81.51	344	*e*P	P	03 18 23.0 +1.0
MTLF	comp=Z,237nm,1.5s			pmax	pmax	
TSLK	Tsoukalades, L	81.55	330	P	P	03 18 22.3 0.0
LTK	Loutraki	81.57	328	P	P	03 18 21.9 -0.5
LKD2	Lefkada island	81.58	330	P	P	03 18 22.5 0.0
APE	Apeiranthos	81.60	325	P	P	03 18 20.1 -2.5
APE	Apeiranthos	81.60	325	*c i* P	P	03 18 20.9 -1.7
APE	comp=Z,45nm,1.0s			pmax	pmax	
APE	comp=Z,2µm,22.0s			MLR	MLR	
ASF	Jabal al Asfar comp=Z,5µm,20.2s,baz=104,slow=39	81.60	315	LR	LR	03 59 23.1
NYDR	Nydri-Lefkada	81.64	330	P	P	03 18 22.6 -0.1
THAL	Thalero	81.65	328	P	P	03 18 21.6 -1.2
DQM	DQM	81.67	292	P	P	03 18 22.3 -0.9
LAKA	Lakka	81.68	328	P	P	03 18 21.9 -1.1
EVGI	Lefkada island	81.74	330	P	P	03 18 22.6 -0.7
KLV	Kalavryta, Ach	81.81	328	P	P	03 18 22.4 -1.4
EPID	Epidavros	81.89	327	P	P	03 18 22.4 -1.8
FSK	Fiskardo	81.91	330	P	P	03 18 23.0 -1.2
RLS	Riolos of Patr	82.01	329	P	P	03 18 24.3 -0.4
DRO	Drossia	82.03	328	P	P	03 18 24.4 -0.5
RAR	Rarotonga comp=Z,2µm,20.1s,baz=330,slow=31	82.07	143	LR	LR	03 48 13.4
KRND	KRANIDI	82.10	327	P	P	03 18 23.2 -2.0
EPF	Esparros	82.10	346	*e*P	P	03 18 25.3 +0.1
EPF	comp=Z,104nm,1.6s			pmax	pmax	
KEF4	Livadi, Kephal	82.14	330	P	P	03 18 25.3 -0.1
VLS	Valsamata	82.17	329	P	P	03 18 24.7 -0.9
DMLN	Damoulianata-K	82.17	330	P	P	03 18 25.5 -0.1
KEF3	Kipouria, Keph	82.22	330	P	P	03 18 24.7 -1.1
PSDA	Pessada-Kefalo	82.23	329	P	P	03 18 25.1 -0.7
SJPF	Ste Jean	82.24	347	*e*P	P	03 18 27.7 +1.8
SJPF	comp=Z,13nm,0.6s			pmax	pmax	
TIP	Timpagrande	82.34	333	⇓P	P	03 18 27.4 +0.8
TIP	Timpagrande comp=Z,2µm,22.0s	82.34	333	IAMs_20	IAMs_20	03 57 17.4
DWPF	Disney Wildern	82.35	52	P	P	03 18 27.1 +0.5
DWPF	comp=Z,103nm,0.9s			IAmb	IAmb	03 18 29.0
DWPF	Disney Wildern baz=326,SNR=7.1	82.35	52	P	P	03 18 27.8 +1.2
DWPF	Disney Wildern baz=328	82.35	52	P	P	03 18 27.9 +1.3
ETSF	Etsaut	82.36	346	*e*P	P	03 18 27.6 +1.0
ETSF	comp=Z,85nm,1.2s			pmax	pmax	
KARP	Karpathos	82.41	323	P	P	03 18 25.6 -1.3
ITM	Ithomi	82.67	328	P	P	03 18 27.6 -0.6
ITM	Ithomi comp=Z,107nm,0.9s	82.67	328	IAmb	IAmb	03 18 28.3
VLI	Veliai	82.77	327	P	P	03 18 25.7 -3.0
PPT	Papeete comp=Z,2µm,18.6s,baz=316,slow=32	82.82	133	LR	LR	03 50 17.4
PPT2	Papeete2 comp=Z,3µm,30.2s	82.84	133	*e*S	S	03 28 42.5 -1.6
PPT2	Papeete2 comp=Z,8µm,29.5s,baz=328	82.84	133	*e*LR	LR	03 44 30.9
PPT2	Papeete2 comp=Z,3.8nm,0.4s	82.84	133	*e*T	T	04 49 41.9
GHAJ	Ghor Haditha comp=Z,148nm,1.5s	82.92	315	IAmb	IAmb	03 18 32.3
PSA00	Pilbara Seismi comp=Z,89nm,1.2s	82.95	218	IAmb	IAmb	03 18 31.4
PSA00	Pilbara Seismi comp=Z,76nm,1.4s	82.95	218	IAmb	IAmb	03 18 31.4
PYL	PYLOS	82.99	328	P	P	03 18 27.8 -2.1
ZKR	Zakros	83.13	324	P	P	03 18 30.1 -0.5
KTHA	Kythira Island	83.15	327	P	P	03 18 29.1 -1.6
KTHR	Kythira	83.17	327	P	P	03 18 29.8 -1.0
HRKL	Herakleio	83.33	325	P	P	03 18 30.4 -1.2
FRMA	Ierapetra Chan	83.39	324	P	P	03 18 31.0 -0.9
IDI	Anoyia	83.43	325	P	P	03 18 30.3 -1.9
IDI	Anoyia comp=Z,59nm,0.9s	83.43	325	IAmb	IAmb	03 18 32.5
ANKY	Antikythira Is	83.43	326	P	P	03 18 30.9 -1.2
CEL	Celeste comp=Z,61nm,0.9s	83.43	333	IAmb	IAmb	03 18 45.7
RODP	Rodopos	83.56	326	P	P	03 18 29.5 -3.3
IMMV	Iera Moni Meta	83.58	326	P	P	03 18 31.4 -1.5
VSL	Villasalto comp=Z,2µm,20.0s	83.86	338	IAMs_20	IAMs_20	04 00 59.6
GVDS	Gavdos	84.10	325	P	P	03 18 34.0 -1.6
GVD	Gavdhos	84.11	325	P	P	03 18 33.2 -2.4
PGAV	Gavieira, Arco comp=Z,238nm,1.6s	84.15	352	*e*P	P	03 18 37.4 +1.6
PBRG	Braganca comp=Z,202nm,1.7s	84.17	351	*e*P	P	03 18 37.1 +1.2
ARMA	Armidale comp=Z,48nm,1.1s	84.24	188	IAmb	IAmb	03 18 57.8
VAE	Valguarnera comp=Z,2µm,18.6s,baz=22,slow=40	84.56	334	LR	LR	04 01 58.8
EIL	Elat	84.60	315	LR	LR	04 01 37.8
	comp=Z,3µm,20.6s,baz=32,slow=39					
DOK	Doka SNR=12	84.60	294	P	P	03 18 38.0 -0.3
POLO	Lamas de Olo comp=Z,101nm,1.2s	84.69	351	*e*P	P	03 18 40.2 +1.6
RAO	Raoul Island comp=Z,862nm,20.9s,baz=358,slow=32	84.74	161	LR	LR	03 51 02.8
MVO	Moncorvo comp=Z,216nm,1.5s	84.83	351	*e*P	P	03 18 40.4 +1.1
MVO	Moncorvo	84.83	351	*e*LQ	LQ	03 35 22.9
MVO	Moncorvo comp=Z,221nm,22.0s	84.83	351	*e*LR	LR	03 47 38.3
DMTO	DMTO	84.89	293	P	P	03 18 38.5 -1.2
WHFO	Wadi Hawf SNR=16	85.36	294	P	P	03 18 40.8 -1.5
RBK	Rabkut SNR=5.6	85.47	293	P	P	03 18 41.8 -1.0
BBSR	BB Station	85.58	37	P	P	03 18 43.1 +0.1
BBSR	comp=Z,75nm,1.2s			IAmb	IAmb	03 18 45.2
BBSR	BB Station comp=Z,1µm,21.0s	85.58	37	IAMs_20	IAMs_20	03 57 52.6
MTE	Manteigas	85.64	351	*e*P	P	03 18 45.3 +2.0
MTE	Manteigas comp=Z,820nm,18.0s	85.64	351	*e*LQ *e*LR	LQ LR	03 39 40.6 03 45 44.1
COI	Coimbra comp=Z,174nm,1.7s	85.91	352	*e*P	P	03 18 42.9 -1.6
ESBB	Sonseca Array comp=Z,72nm,1.1s	85.97	348	IAmb	IAmb	03 18 57.8
ESDC	Sonseca Array comp=Z,18nm,0.8s,baz=1.4,slow=5.4,SNR=82	85.98	348	P	P	03 18 45.4 +0.4
ESDC	Sonseca Array comp=Z,74nm,1.1s	85.98	348	IAmb	IAmb	03 18 58.4
PCAS	Casmilo, Conde comp=Z,166nm,1.2s	86.07	352	*e*P	P	03 18 46.7 +1.3
ABTO	Ayut SNR=20	86.08	294	P	P	03 18 45.0 -0.8
PAB	San Pablo	86.15	349	P	P	03 18 46.5 +0.6
PAB	comp=Z,46nm,1.1s			pmax	pmax	
PAB	San Pablo	86.15	349	P	P	03 18 46.5 +0.6
PAB	comp=Z,46nm,1.1s			IAmb	IAmb	03 18 59.2
PAB	San Pablo comp=Z,1µm,20.0s	86.15	349	IAMs_20	IAMs_20	04 02 05.9
PMRV	Marv??o comp=Z,85nm,1.7s	86.59	351	*e*P	P	03 18 48.6 +0.7
PSBE	So Bento comp=Z,142nm,1.9s	86.63	352	*e*P	P	03 18 44.9 -3.2
STKA	Stephens Creek comp=Z,36nm,0.9s,baz=346,slow=7.0,SNR=80	86.93	196	P	P	03 18 50.2 +0.9
STKA	comp=Z,1µm,21.4s,baz=13,slow=34			LR	LR	03 55 16.2
STKA	Stephens Creek	86.93	196	*i* P	P	03 18 50.4 +1.0
STKA	Stephens Creek	86.93	196	P	P	03 18 50.2 +0.9
CMAH	Djebel Manchou	87.04	339	P	P	03 18 52.6 +2.3
PESTR	Estremoz comp=Z,57nm,2.2s	87.16	351	*e*P	P	03 18 50.8 0.0
ABSA	Djebel Ababsia	87.37	339	P	P	03 18 54.3 +2.4
LIS	Lisbon	87.45	352	*e*P	P	03 18 52.5 +0.4
LIS	comp=Z,1µm,18.1s			IAMs_20	IAMs_20	04 06 42.3
LIS	Lisbon	87.45	352	*e*P	P	03 18 52.5 +0.4
KEST	Kesra comp=Z,27nm,0.7s,baz=314,slow=1.9,SNR=66	87.47	337	P	P	03 18 52.3 -0.1
KEST	comp=Z,3µm,21.4s,baz=339,slow=39			LR	LR	04 02 58.1
KEST	Kesra comp=Z,66nm,0.9s	87.47	337	IAmb	IAmb	03 19 08.4
KEST	Kesra	87.47	337	P	P	03 18 52.1 -0.3
EVO	Evora comp=Z,74nm,1.6s	87.53	351	*e*P	P	03 18 52.5 0.0
PBAR	Barrancos comp=Z,40nm,1.1s	87.80	350	*e*P	P	03 18 54.2 +0.4
TBI	Tubuai comp=Z,4µm,22.8s,baz=332	87.99	135	*e*LR	LR	03 46 48.6
TBI	Tubuai comp=Z,4,1nm,0.2s	87.99	135	*e*T	T	04 56 08.8
PNCL	Nicolau / Gran comp=Z,62nm,1.8s	88.00	352	*e*P	P	03 18 50.3 -4.4
PCVE	Castro Verde comp=Z,47nm,1.1s	88.43	351	*e*P	P	03 18 57.7 +0.9
PVAQ	Vaqueiros comp=Z,88nm,1.5s	88.62	351	*e*P	P	03 18 58.3 +0.6
PVAQ	Vaqueiros	88.62	351	*e*LR	LR	03 48 11.9
PVAQ	Vaqueiros comp=Z,71nm,1.5s	88.62	351	IAmb	IAmb	03 19 14.2
MORF	Marmelete	88.81	352	*e*P	P	03 18 59.2 +0.6
MORF	comp=Z,842nm,16.0s			IAMs_20	IAMs_20	04 06 57.8
MORF	Marmelete comp=Z,108nm,1.7s	88.81	352	*e*P	P	03 18 58.7 +0.1
MORF	Marmelete	88.81	352	*e*P	P	03 18 59.2 +0.6
BBOO	Buckleboo comp=Z,57nm,1.3s	88.88	201	IAmb	IAmb	03 19 00.6
CAN	Canberra	89.34	190	P	P	03 19 01.9 +1.1
CAN	comp=Z,64nm,1.1s			pmax	pmax	
CAN	Canberra	89.34	190	P	P	03 19 01.9 +1.1
CAN	comp=Z,64nm,1.1s			IAmb	IAmb	03 19 04.0
SOCY	Socotra comp=Z,910nm,20.0s	89.93	291	IAMs_20	IAMs_20	04 03 46.2
SOCY	Socotra SNR=13	89.93	291	P	P	03 19 02.2 -2.1
SMIR	Smir Dam	90.08	349	P	P	03 19 05.0 +0.5
GOG	Mont Gurugu	90.24	347	P	P	03 19 08.0 +2.5
TAF	Taforalt	90.56	346	P	P	03 19 08.0 +1.1
CHEFC	Chefchaouen	90.65	349	P	P	03 19 08.0 +0.6
JBK	JBK	91.05	346	P	P	03 19 11.0 +1.6
MORW	Morawa comp=Z,60nm,1.1s	91.17	218	IAmb	IAmb	03 19 10.7
TGUH	Tegucigalpa,Un comp=Z,1µm,22.0s	91.19	64	IAMs_20	IAMs_20	04 01 25.3
TDRA	Tendrara	92.25	346	P	P	03 19 17.0 +2.1
GTBY	Guantanamo Bay comp=Z,1µm,22.0s	92.30	51	IAMs_20	IAMs_20	04 00 34.6
MTDJ	Mount Denham comp=Z,2µm,21.0s	92.62	54	IAMs_20	IAMs_20	04 02 31.4
URZ	Urewera comp=Z,1µm,21.8s,baz=17,slow=32	92.77	167	LR	LR	03 54 52.4
URZ	Urewera comp=Z,2µm,20.0s	92.77	167	IAMs_20	IAMs_20	03 56 23.3
MDT	Midelt comp=Z,650nm,20.3s,baz=38,slow=38	92.82	348	LR	LR	04 05 34.9
MDT	Midelt	92.82	348	P	P	03 19 17.8 +0.4
FIGM	Figuig	93.02	345	P	P	03 19 21.0 +2.6
BOAB	BOACO BROADBAND comp=Z,52nm,1.1s	93.38	64	IAmb	IAmb	03 19 41.7
BKZ	Black Stump Fm comp=Z,1µm,21.0s	93.58	168	IAMs_20	IAMs_20	03 57 04.8
ACON	Acoyapa comp=Z,23nm,1.0s	94.05	64	IAmb	IAmb	03 19 24.5
ESPN	Las Esperanzas comp=Z,30nm,1.0s	94.32	63	IAmb	IAmb	03 19 46.3
RKT	Rikitea comp=Z,5.0nm,0.2s	94.41	124	*e*T	T	05 04 33.0
SDDR	Presa de Saban comp=Z,37nm,1.5s	94.86	49	IAmb	IAmb	03 19 29.2
JTS	Las Juntas de comp=Z,225nm,21.6s,baz=58,slow=37	95.56	64	LR	LR	04 04 57.8
ZGR	Zagora	95.61	348	P	P	03 19 31.0 +0.7
ATD	Arta Tunnel comp=Z,4µm,20.7s,baz=26,slow=38	96.47	299	LR	LR	04 08 03.7
SRBA	San Rafael, Bu comp=Z,22nm,1.4s	97.30	64	IAmb	IAmb	03 19 39.4
RPZ	Rata Peaks comp=Z,2µm,20.2s,baz=14,slow=33	97.53	173	LR	LR	03 59 17.6
SJG	San Juan comp=Z,844nm,21.0s	97.84	45	IAMs_20	IAMs_20	04 06 51.0
MTP	Monte Pirata comp=Z,17nm,1.0s	98.10	44	IAmb	IAmb	03 19 43.0
SMRT	St. Maarten comp=Z,1µm,20.0s	99.15	42	IAMs_20	IAMs_20	04 08 00.2
FURI	Furi comp=Z,1µm,21.0s	100.83	302	IAMs_20	IAMs_20	04 11 23.6
SVN	Savane Anatole comp=Z,1µm,20.0s	102.81	42	IAMs_20	IAMs_20	04 09 33.2
ILAM	Ilet Lapin Mar comp=Z,1µm,22.0s	102.98	41	IAMs_20	IAMs_20	04 07 27.9
MPOM	Morne Pois Mar comp=Z,1µm,20.0s	103.29	41	IAMs_20	IAMs_20	04 10 24.2
SDV	Santo Domingo comp=Z,892nm,20.0s	104.00	53	IAMs_20	IAMs_20	04 10 38.9
GRGR	Grenville comp=Z,751nm,20.0s	105.07	43	IAMs_20	IAMs_20	04 12 34.3
TORD	Torodi Ar. Bea comp=Z,1.0nm,0.8s,baz=30,slow=3.7,SNR=9.3	110.97	338	Pdiff	Pdif	03 20 41.7 +2.8
TORD	comp=Z,1.2nm,0.5s,baz=0.3,slow=2.1,SNR=19			PKiKP	PKiKP	03 24 38.1 0.0
TORD	comp=Z,1.2nm,0.9s,baz=205,slow=2.6,SNR=4.4			PKKPbc	PKKPbc	03 35 32.1 -0.8
NNA	Nana comp=Z,622nm,22.0s	118.48	70	IAMs_20	IAMs_20	04 05 41.1
DBIC	Dimbokro comp=Z,4.3nm,0.4s,baz=41,slow=2.6,SNR=14	118.55	344	PKP	PKiKP	03 24 52.8 +0.1
DBIC	Dimbokro	118.55	344	PKPdf	PKiKP	03 24 53.1 +0.5
TIC	Toumodi	118.61	344	*e*PKP2	PKiKP	03 24 53.2 +0.4
KIC	Kosan Boka comp=Z,8.3nm,0.4s	118.84	344	*e*PKP2	PKiKP	03 24 53.3 +0.1
LIC	Lamto comp=Z,32nm,1.3s	119.02	344	*e*PKP2	PKiKP	03 24 54.5 +0.9
ABPO	Ambohimpanom comp=Z,1µm,22.0s	119.02	277	IAMs_20	IAMs_20	04 11 53.1
MCPB	Macapa, AP	120.22	39	*e*P	PKiKP	03 24 56.6 +0.6
ETMB	Extrema	122.35	59	*e*P	PKiKP	03 25 02.3 +2.3
ITTB	Itaituba	122.43	45	*e*P	PKiKP	03 25 01.6 +1.4
NPGB	Novo Progresso	125.00	46	*e*P	PKiKP	03 25 06.5 +1.2
LPAZ	La Paz comp=Z,6.3nm,0.8s,baz=18,slow=5.2,SNR=22	126.78	65	PKP	PKiKP	03 25 09.3 -0.2
VILB	Vilhena	128.01	54	*e*P	PKiKP	03 25 12.5 +1.2
NBCL	Cascavel-CE	128.17	25	*e*P	PKiKP	03 25 13.0 +1.4
PDRB	Porto dos Gac	128.46	50	*e*P	PKiKP	03 25 12.5 +0.3
NBPB	Pedra_Branca-C	129.11	27	*e*P	PKiKP	03 25 14.8 +1.2
SMTB	Santa Maria do	129.72	38	*e*P	PKiKP	03 25 15.8 +1.0
PTLB	Pontes e Lacer	130.68	55	*e*P	PKiKP	03 25 18.4 +1.8
NBPV	Pedro Velho	130.99	21	*e*P	PKiKP	03 25 19.0 +1.8
VNDA	Vanda comp=Z,6.9nm,0.9s,baz=317,slow=4.8,SNR=28	131.05	180	PKP	PKPdf	03 25 13.9 -0.6
VNDA	comp=Z,7.4nm,1.2s,baz=3.8,slow=3.7,SNR=4.5			SKPbc	SKPbc	03 28 33.6 -1.5
VNDA	Vanda	131.05	180	PKIKP	PKPdf	03 25 14.0 -0.6
VNDA	Vanda	131.05	180	PKPdf	PKiKP	03 25 15.0 -0.5
NBMA	Muriti-CE	131.07	26	*e*P	PKiKP	03 25 18.2 +0.7
SBA	Scott Base	131.44	178	PKIKP	PKiKP	03 25 17.1 +0.9
SBA	Scott Base	131.44	178	PKPdf	PKiKP	03 25 17.1 +0.9
LVC	Limon Verde	131.47	70	PKIKP	PKiKP	03 25 18.3 -0.1
LVC	Limon Verde	131.47	70	PKPdf	PKiKP	03 25 18.3 -0.1
LVC	Limon Verde	131.47	70	*e*P	PKiKP	03 25 19.9 +1.5
PEXB	Peixe	132.43	40	*e*P	PKiKP	03 25 20.8 +0.6
NBRF	Rio Formoso -	133.21	22	*e*P	PKiKP	03 25 22.6 +0.9
NBAN	Anadia - AL	133.91	24	*e*P	PKiKP	03 25 23.9 +0.8
NBPN	Ponto Novo - B	134.00	29	*e*P	PKiKP	03 25 24.3 +0.9
TSUM	Tsumeb	135.41	306	PKPdf	PKPdf	03 25 25.2 +0.6
BDFB	Brasilia comp=Z,3.0nm,0.5s,baz=227,slow=4.4,SNR=7.2	135.77	42	PKP	PKPdf	03 25 25.1 -0.3
BDFB	comp=Z,4.8nm,1.0s,baz=349,slow=7.9,SNR=3.9			SKPbc	SKPbc	03 28 52.3 -0.7
LBTB	Lobatse	136.09	293	PKIKP	PKPdf	03 25 24.9 -0.8
LBTB	Lobatse	136.09	293	PKPdf	PKPdf	03 25 24.9 -0.8
AQDB	Aquidauana	136.64	54	PKPdf	PKPdf	03 25 26.5 -0.2
IPMB	Ipameri, GO	137.80	43	*e*P	PKPdf	03 25 29.9 +0.8
MT03	Universidad Ad	138.77	82		PKPdf	03 25 31.9 +0.6
BO04	La Punta	139.06	82		PKPdf	03 25 31.5 +0.6
BOSA	Boshof comp=Z,1.8nm,0.4s,baz=58,slow=2.4,SNR=9.6	139.09	290	PKhKP	PKPpre	03 25 24.1
BOSA	Boshof	139.09	290	PKIKP	PKPdf	03 25 28.5 -2.7
CPUP	Villa Florida comp=Z,1.7nm,0.8s,baz=15,slow=3.0,SNR=3.4	140.71	61	PKhKP	PKPpre	03 25 26.5
CPUP	comp=Z,7.9nm,1.0s,baz=270,slow=2.4,SNR=7.0			PKP	PKPdf	03 25 34.2 +0.2
MAW	Mawson comp=Z,5.7nm,0.9s,baz=118,slow=7.6,SNR=4.3	140.80	217	PKhKP	PKPpre	03 25 28.8
MAW	comp=Z,14nm,0.9s,baz=335,slow=2.9,SNR=10.0			PKP	PKPdf	03 25 33.2 +0.4
QSPA	South Pole Qui comp=Z,79nm,1.0s,baz=171,slow=0.6,SNR=124	143.54	180	PKhKP	PKPpre	03 25 34.9
QSPA	South Pole Qui	143.54	180	PKPdf	PKPab	03 25 34.0 -0.5
PLCA	Paso Flores comp=Z,24nm,1.0s,baz=316,slow=4.3,SNR=34	143.60	90	PKP	PKPbc	03 25 37.0 +0.6
SUR	Sutherland	144.44	291	PKPdf	PKPdf	03 25 40.4 -0.4
COYC	Coyhaique	145.54	98	PKPdf	PKPab	03 25 42.8 +0.3
CPSB	Cacapava Do Su	146.01	60	*e*P	PKPab	03 25 45.7 +1.0
TER01	Tubaro-SC	146.61	53	*e*P	PKPab	03 25 46.7 -0.4
PLTB	Pedras Altas	147.00	62		PKPdf	03 25 44.0 -0.9
PLTB	Pedras Altas	147.00	62	*e*P	PKPbc	03 25 47.5 +0.5
SYO	Syowa Base	149.51	217	*i e*PKPdf	PKPdf	03 25 49.2 +1.5
SYO	Syowa Base	149.51	217	⇓*i e*PKPbc	PKPdf	03 25 53.8 +0.4
TROLL	Troll, Antarti	159.46	199	PKPab	PKPab	03 26 39.6 -0.3
TROLL	Troll, Antarti	159.46	199	PKPdf	PKPdf	03 26 02.0 +0.3
SNAA	Sanae	160.69	196	PKPab	PKPab	03 26 44.9 -0.4
SNAA	Sanae	160.69	196	PKPdf	PKPdf	03 26 02.7 -0.3
SNAA	Sanae comp=Z,4.2nm,1.1s,baz=211,slow=5.9,SNR=3.7	160.69	196	PKP	PKPdf	03 26 02.8 -0.3
SNAA	comp=Z,15nm,0.9s,baz=198,slow=6.4,SNR=18			PKPab	PKPab	03 26 44.9 -0.4
SNAA	Sanae	160.69	196	PKPab	PKPab	03 26 45.5 +0.3
VNA3	Neumayer Olymp	161.99	190	PKPab	PKPab	03 26 50.3 -0.6
VNA1	Neumayer Olymp	161.99	190	PKPdf	PKPdf	03 26 02.8 -0.5
VNA2	Neumayer--Watz	162.03	193	PKPab	PKPab	03 26 50.9 -0.1
VNA2	Neumayer--Watz baz=108,slow=1.0	162.03	193	PKPdf	PKPdf	03 26 03.6 -0.8
VNA2	Neumayer--Watz	162.03	193	pPKPab	pPKPab	03 27 04.9 +1.3
VNA1	Neumayer--Stat	162.39	192	PKPab	PKPab	03 26 52.6 0.0
VNA1	Neumayer--Stat	162.39	192	PKPdf	PKPdf	03 26 01.9 -2.8
VNA1	Neumayer--Stat	162.39	192	pPKPab	pPKPab	03 27 08.0 +2.8

IDC **14** *03:24:03.4±1.0,56.45N×151.55W,h0km,mb4.0/17, mb1 4.1/20,mb1mx3.9/57,mbtmp3.9/20,ML3.3/3,MS4.4/1, Ms1 4.4/1,ms1mx3.4/101 Error ellipse: s-maj=26.9km s-min=15.3km az=15.0*

NEIC **14** *03:24:06.6±1.3,56.49N±0.06×151.57W±0.07,h21km±7km, Error ellipse: s-maj=9.7km s-min=1.5km az=147

O18K Koktuh Hills 3.85 332 IAML 03 26 04.5
comp=N,98nm,0.8s
O19K Port Alsworth 3.96 340 Pn **03 25 07.1 +0.8**
RED Redoubt Volcan 3.96 352 Pn **03 25 06.8 +0.4**
RED Sn **03 25 52.3 0.0**
RSO Redoubt South 4.00 352 Pn **03 25 07.5 +0.3**
RDWB Redoubt West 4.04 351 Pn **03 25 07.8 +0.3**
RDWB Sn **03 25 53.8 -0.4**
SLKM Skilak Lake 4.07 10 Pn **03 25 07.1 -0.8**
O22K Cooper Landing 4.10 13 Pn **03 25 07.3 -0.9**
NCT North Crescent 4.12 351 Pn **03 25 09.0 +0.4**
DFT Drift River 4.13 353 Pn **03 25 08.8 +0.1**
RDJH Redoubt Jeurge 4.14 352 Pn **03 25 09.2 +0.4**
VNHG Veniaminof 1 4.21 269 Pn **03 25 09.0 -0.9**
CAPN Captain Cook N 4.27 3 Pn **03 25 11.5 +0.9**
N19K Bonanza Creek 4.56 342 Pn **03 25 15.4 +0.7**
N19K Bonanza Creek 4.56 342 IAML 03 26 28.2
comp=E,37nm,0.9s
PWL Port Wells 4.68 20 Pn **03 25 15.3 -0.9**
PWL Port Wells 4.68 20 IAML 03 26 12.8
comp=N,70nm,0.8s
PWL IAML 03 26 15.0
comp=E,49nm,1.1s
RC01 Rabbit Creek A 4.69 11 Pn **03 25 15.9 -0.4**
RC01 Rabbit Creek A 4.69 11 IAML 03 26 10.7
comp=N,56nm,0.4s
RC01 IAML 03 26 14.6
comp=E,57nm,0.4s
CKN Chakachatna No 4.73 357 Pn **03 25 17.1 +0.2**
N18K Kilae Creek 4.74 334 Pn **03 25 18.0 +1.0**
N18K Kilae Creek 4.74 334 IAML 03 26 41.7
comp=E,34nm,1.2s
SPBG Spurr Blockage 4.78 356 Pn **03 25 17.9 +0.3**
SPCG Spurr Capps Gl 4.80 358 Pn **03 25 18.0 +0.1**
SPWE Spurr West 4.80 355 Pn **03 25 18.3 +0.3**
GLI Glacier Island 4.97 26 Pn **03 25 18.8 -1.4**
GLI Glacier Island 4.97 26 IAML 03 26 26.6
comp=E,30nm,0.9s
STLK Strandline Lak 5.00 359 Pn **03 25 20.6 -0.1**
FID Port Fidalgo 5.02 30 Pn **03 25 19.3 -1.6**
FID Port Fidalgo 5.02 30 IAML 03 26 18.2
comp=E,50nm,0.5s
FID IAML 03 26 34.4
comp=N,34nm,0.6s
SVW2 Sparrevohn 5.04 337 Pn **03 25 21.9 +0.8**
SVW2 Sparrevohn 5.04 337 IAML 03 26 46.7
comp=N,29nm,0.9s
EYAK Cordova Ski Ar 5.08 35 Pn **03 25 21.0 -0.6**
KNK Knik Glacier 5.17 17 Pn **03 25 22.1 -0.9**
KNK Knik Glacier 5.17 17 IAML 03 26 28.1
comp=N,36nm,0.6s
KNK IAML 03 26 32.7
comp=E,41nm,0.7s
JPK Jack Peak 5.25 28 Pn **03 25 23.3 -0.7**
PMR Palmer 5.25 13 Pn Pn **03 25 23.3 -0.7**
PMR IAML 03 26 31.7
comp=N,23nm,1.2s
M22K Willow 5.31 8 Pn **03 25 23.6 -1.2**
RAGM Ragged Mountai 5.32 40 Pn **03 25 24.2 -0.8**
HMT Hamilton 5.44 42 Pn **03 25 26.4 -0.3**
GOAT Goat Mountain 5.44 39 Pn **03 25 26.2 -0.5**
GHO Glory Hole Cre 5.45 14 Pn **03 25 26.6 -0.3**
DIV Divide 5.53 31 Pn **03 25 26.7 -1.3**
SML Sawmill 5.57 16 Pn **03 25 27.8 -0.6**
M19K Big River Lodg 5.59 346 Pn **03 25 29.0 +0.2**
BERG Berg Lake 5.69 44 Pn **03 25 29.6 -0.4**
BMRM Bremner River 5.76 36 Pn **03 25 30.6 -0.5**
GRIN Grindle Hills 5.76 46 Pn **03 25 30.8 -0.3**
SCM Sheep Creek Mo 5.77 21 Pn **03 25 31.3 +0.1**
KLU Klutina 5.79 28 Pn **03 25 30.9 -0.6**
KHIT Khitrov Hills 5.89 45 Pn **03 25 32.3 -0.6**
L19K White Mountain 5.92 345 Pn **03 25 33.5 +0.2**
WAX Waxell Ridge 6.05 46 Pn **03 25 34.5 -0.6**
L20K Farewell, AK 6.09 350 Pn **03 25 35.7 +0.1**
TGL Tana Glacier 6.25 44 Pn **03 25 37.6 -0.2**
N25K Chitina, Valde 6.25 32 Pn **03 25 37.6 -0.3**
M24K Tolsona, Glenn 6.26 24 Pn **03 25 38.3 +0.4**
VRDI Verde Repeater 6.34 38 Pn **03 25 38.5 -0.7**
ISLE Juniper Island 6.35 46 Pn **03 25 38.7 -0.5**
GLB Gilahina Butte 6.37 36 Pn **03 25 38.9 -0.6**
BAGL Bagley Icefiel 6.38 47 Pn **03 25 39.5 0.0**
WAT6 Susitna Watana 6.39 16 Pn **03 25 39.6 -0.2**
PPLA Purkeypile 6.41 358 Pn **03 25 40.0 -0.1**
WAT1 Susitna Watana 6.52 12 Pn **03 25 41.5 0.0**
KIAG Kiagna River 6.54 44 Pn **03 25 41.5 -0.3**
MCARA McCarthy VSAT 6.60 39 Pn **03 25 42.3 -0.2**
BALM Baldy 6.61 43 Pn **03 25 42.5 -0.3**
GRNC Granite Creek 6.66 47 Pn **03 25 43.1 -0.4**
PTPK Patty Peak 6.66 42 Pn **03 25 43.7 +0.1**
TABL Table Mountain 6.75 50 Pn **03 25 44.0 -0.9**
HARP HAARP 6.75 26 Pn **03 25 44.8 +0.1**
TT01 Tatalina 6.79 343 Pn **03 25 44.9 -0.2**
TTA Tatalina 6.81 343 Pn **03 25 44.9 -0.6**
BARN Barnard Glacie 6.82 44 Pn **03 25 45.2 -0.5**
DHY Denali Highway 6.92 16 Pn **03 25 47.1 0.0**
CAST Castle Rocks 6.93 358 Pn Pn **03 25 47.4 +0.3**
CTGM Chitina Glacie 6.96 46 Pn **03 25 47.0 -0.6**
PCA Pinnacle 6.97 54 Pn **03 25 47.4 -0.3**
K20K Telida 6.97 351 Pn **03 25 47.5 -0.2**
TRF Thorofare Moun 6.99 5 Pn **03 25 47.6 -0.5**
LOGN Logan Glacier 7.01 48 Pn **03 25 48.0 -0.4**
RND Reindeer 7.05 10 Pn **03 25 48.6 -0.2**
KTH Kantishna Hill 7.07 2 Pn **03 25 48.6 -0.5**
PAX Paxson 7.18 23 Pn **03 25 51.0 +0.4**
BCPM Bancas Point 7.20 56 Pn **03 25 50.6 -0.2**
PNL Peninsula 7.20 59 Pn **03 25 50.8 0.0**
M26K Nabesna, AK 7.35 33 Pn **03 25 53.0 +0.1**
MCK McKinley 7.36 9 Pn **03 25 53.0 0.0**
MENT Mentasta 7.57 28 Pn **03 25 55.5 -0.4**
BPAW Bear Paw Mtn. 7.62 2 Pn **03 25 55.2 -1.3**
YUK2 White River 7.65 42 Pn **03 25 57.3 +0.3**
M27K Edge Creek, AK 7.67 36 Pn **03 25 57.4 0.0**
L26K Log Cabin Wild 7.74 29 Pn **03 25 58.4 +0.2**
YUK3 Moose Creek 7.78 43 Pn **03 25 59.5 +0.5**
J20K Nowinta River 7.79 352 Pn **03 25 58.2 -0.6**
RIDG Independent Ri 7.99 22 Pn **03 26 01.9 +0.3**
DOT Dot Lake 8.08 25 Pn **03 26 03.0 +0.1**
YUK7 Dusty Glacier 8.11 55 Pn **03 26 03.5 0.0**
WRH Wood River Hil 8.17 11 Pn **03 26 03.9 -0.2**
YUK6 Outpost Mounta 8.19 52 Pn **03 26 05.0 +0.5**
NEA2 Nenana 8.20 8 Pn **03 26 04.5 0.0**
L27K Beaver Creek, 8.20 33 Pn **03 26 04.2 -0.4**
HDA Harding Lake 8.24 14 Pn **03 26 04.9 -0.2**
CCB Clear Creek Bu 8.37 11 Pn **03 26 05.7 -1.1**
YUK5 Granite Creek 8.49 51 Pn **03 26 09.2 +0.5**
TCOL CIGO, UAF Yank 8.58 11 Pn **03 26 09.7 0.0**
COLA College 8.59 11 Pn **03 26 09.8 0.0**
IL31 8.60 14 Pn **03 26 09.6 -0.3**
ILAR Eielson Array 8.60 14 Pn Pn **03 26 07.9 -2.1**
comp=N,1.5nm,0.3s,baz=205,slow=14,SNR=71
ILAR Sn **Sn** **03 27 40.9 -5.3**
comp=N,0.7nm,0.3s,baz=180,slow=10.0,SNR=5.4
ILAR Eielson Array 8.60 14 Pn **Pn** **03 26 09.2 -0.7**
MDM Murphy Dome 8.63 10 Pn **03 26 09.9 -0.5**
J25K Salcha River, 8.68 18 Pn **03 26 10.7 -0.4**
I21K Tanana 8.70 359 Pn **03 26 10.4 -0.9**
I23K Minto, Yukon-K 8.73 6 Pn **03 26 11.1 -0.6**
POKR Poker Plat Res 8.87 12 Pn **03 26 13.3 -0.3**
H21K Melozitna Rive 9.19 357 Pn **03 26 17.2 -0.9**
H23K Yukon River 9.39 5 Pn **03 26 19.9 -0.9**
JIS Juneau Island 9.46 72 Pn **03 26 20.6 -1.2**
H24K Noodor Dome 9.52 9 Pn **03 26 22.6 -0.1**
N31M Braeburn, Yuko 9.55 52 Pn Pn **03 26 23.5 +0.4**
M30M Minto, Yukon 9.65 45 Pn **03 26 24.3 -0.2**
WHY Whitehorse 9.66 58 Pn **03 26 23.8 -0.8**
DAWY Dawson 9.68 34 Pn **03 26 24.6 -0.3**
M31M Drury Creek, Y 10.45 50 Pn **03 26 36.0 +0.6**
ANM Nome 10.52 326 Pn Pn **03 26 38.2 +2.0**
DLBC Dease Lake 11.76 72 Pn Pn **03 26 53.5 +0.1**
comp=N,0.1nm,0.3s,baz=215,slow=12,SNR=2.1
INK Inuvik 14.40 28 Pn Pn **03 27 28.8 -0.4**
comp=N,0.1nm,0.3s,baz=230,slow=14,SNR=5.4
INK Inuvik 14.40 28 Pn Pn **03 27 28.4 -0.8**
C36M Paulatuk 17.72 33 Pn Pn **03 28 11.3 -0.6**
A36M Sachs Harbour 19.00 25 P **03 28 27.9 +1.2**
A36M IAmb IAmb 03 28 41.5
comp=Z,14nm,0.9s
YKA Yellowknife Ar 19.49 57 P P **03 28 33.3 +1.1**
comp=Z,0.1nm,0.3s,baz=268,slow=10,SNR=17
YKA Yellowknife Ar 19.49 57 P P **03 28 31.8 -0.4**
SEY Seymchan 28.13 306 P P **03 29 56.9 -0.1**
comp=Z,0.9nm,0.6s,baz=78,slow=7.0,SNR=5.3
PDAR Pinedale Array 29.98 99 P P **03 30 12.0 -1.9**
comp=Z,0.2nm,0.6s,baz=335,slow=6.1,SNR=2.4
TIXI Tiksi 34.78 327 P P **03 30 55.7 +0.5**
comp=Z,0.6nm,0.3s,baz=87,slow=22,SNR=3.6
TIXI Tiksi 34.78 327 P P **03 30 53.7 -1.5**
TIXI IAmb IAmb 03 31 05.8
comp=Z,3.6nm,1.1s
YAK Yakutsk 38.26 312 LR LR 03 46 37.1
comp=Z,501nm,19.6s,baz=276,slow=35
TXAR Lajitas Array 43.12 108 P P **03 32 05.7 0.0**
comp=Z,0.2nm,0.8s,baz=307,slow=7.5,SNR=2.0
TXAR PcP **PcP** **03 33 54.3 -0.9**
comp=Z,0.2nm,0.6s,baz=214,slow=0.7,SNR=2.6
KLR Kul'dur 44.56 295 P P **03 32 17.0 +0.1**
comp=Z,3.8nm,0.8s,baz=15,slow=9.1,SNR=7.9
SCHQ Schefferville 44.92 55 P P **03 32 20.2 +0.5**
comp=Z,3.3nm,1.0s,baz=339,slow=6.4,SNR=4.5
SCHQ Schefferville 44.92 55 P P **03 32 20.4 +0.8**
NRIK Noril'sk 47.37 336 P P **03 32 38.2 -0.5**
comp=Z,1.9nm,0.4s,baz=83,slow=5.9,SNR=5.1
H11N2 WAKE ISLAND Hy 47.90 237 T T 04 24 20.1
baz=29,slow=76,SNR=7.6
H11N3 WAKE ISLAND Hy 47.91 237 T T 04 24 21.3
baz=29,slow=76,SNR=8.5
H11N1 WAKE ISLAND Hy 47.92 237 T T 04 24 20.6
baz=29,slow=76,SNR=5.9
H11S1 WAKE ISLAND Hy 49.05 237 T T 04 25 45.9
baz=29,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 49.06 237 T T 04 25 45.3
baz=29,slow=76,SNR=9.9
H11S3 WAKE ISLAND Hy 49.07 237 T T 04 25 44.5
baz=29,slow=76,SNR=10
ARCES ARCESS Array B 54.24 1 P P **03 33 29.1 -1.3**
comp=Z,2.6nm,0.8s,baz=356,slow=8.6,SNR=1.2
SONM Songino Array 57.49 309 P P **03 33 55.2 +1.0**
comp=Z,2.6nm,0.8s,baz=46,slow=6.1,SNR=12
SONM PcP **PcP** **03 34 49.0 +1.4**
comp=Z,0.9nm,0.7s,baz=56,slow=3.4,SNR=1.9
NB2 NORSAR Subarra 62.01 9 P P **03 34 25.9 +1.0**
comp=Z,0.5nm,0.6s,baz=348,slow=6.9
NOA NORSAR Array B 62.01 9 P P **03 34 25.3 +0.3**
comp=Z,0.7nm,0.7s,baz=351,slow=6.9,SNR=4.6
FINES FINESS Array B 62.37 1 P P **03 34 28.0 +0.7**
comp=Z,2.1nm,0.7s,baz=352,slow=7.7,SNR=10
FINES FINESS Array B 62.37 1 P P **03 34 28.0 +0.7**
MKAR Makanchi Array 67.64 323 P P **03 35 02.1 +0.3**
comp=Z,1.3nm,0.5s,baz=35,slow=6.3,SNR=12
AKASG Malin Array Be 73.15 359 P P **03 35 35.7 +0.3**
comp=Z,1.3nm,0.5s,baz=8.8,slow=6.5,SNR=8.3
GERES GERESS Array B 74.30 10 P P **03 35 42.2 0.0**
comp=Z,0.4nm,0.6s,baz=358,slow=5.1,SNR=2.4
KBZ Khabaz 79.38 349 P P **03 36 10.8 0.0**
comp=Z,1.0nm,0.8s,baz=330,slow=2.6,SNR=5.1
ESDC Sonseca Array 80.33 25 P P **03 36 16.8 +0.6**
comp=Z,1.4nm,1.0s,baz=348,slow=5.6,SNR=4.3
CMAR Chiang Mai Arr 85.02 296 P P **03 36 40.9 +0.1**
comp=Z,1.0nm,0.8s,baz=17,slow=5.5,SNR=7.0
BOSA Boshof 152.03 6 PKPbc **PKPdf** **03 43 59.0 +5.4**
comp=Z,1.6nm,0.9s,baz=297,slow=2.3,SNR=2.0

*IDC **14** 03:26:23.1±1.9, 41.77N×143.23E, h47km±16km, mb3.7/17, mb1 3.9/21, mb1mx3.7/58, mbtmp3.9/21, ML3.4/4, Error ellipse: s-maj=17.6km s-min=11.5km az=116.0*
*NEIC **14** 03:26:23.5±1.0, 41.80N±0.04×143.3E±0.1, h43km±2km, mb4.4/14, Error ellipse: s-maj=13.3km s-min=6.1km az=93.0*
*JMA **14** 03:26:23.5±0.1, 41.79N×143.37E, h32km±1km, M4.2*
JMA Felt II J1.
ISC 14 03:26:22.5±0.5, 41.76N±0.04×143.38E±0.07, h43km, n70, σ1s05/65, mb4.1/24, 5C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
ERM	**Erimo**	**0.31**	**327**		**Pn**	**03 26 30.8**	**-0.3**
ERM				Sn	**Sn**	**03 26 36.8**	**-0.4**
JEM	**Erimo**	**0.31**	**327**	⇓P	**Pn**	**03 26 30.6**	**-0.5**
JEM				eS	**Sn**	**03 26 35.4**	**-1.7**
JTHR	**Tokachihiroo**	**0.54**	**354**	⇑P	**Pn**	**03 26 34.0**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.70**	**318**	⇓P	**Pn**	**03 26 36.4**	**+0.3**
JCH	**Churui**	**0.86**	**359**	⇑P	**Pn**	**03 26 38.6**	**+0.4**
JCH				eS	**Sn**	**03 26 50.8**	**+1.2**
JSHD	**Hidakashinhida**	**0.94**	**314**	⇑P	**Pn**	**03 26 40.5**	**+1.2**
JOB	**Onbets**	**1.20**	**16**	⇑P	**Pn**	**03 26 43.6**	**+0.8**
JBT2	**Biratori 2**	**1.27**	**324**	⇑P	**Pn**	**03 26 45.0**	**+1.2**
JIAM	**Iburiatsuma**	**1.39**	**309**	P	**Pn**	**03 26 48.0**	**+2.6**
JEW	**Eniwo**	**1.80**	**308**		**Pn**	**03 26 52.6**	**+1.6**
JTM	**Tenmabayashi**	**1.99**	**242**	Pn	**Pn**	**03 26 55.3**	**+1.6**
JKA	**Kamikawa-asahi**	**2.43**	**347**	Pn	**Pn**	**03 27 01.3**	**+1.6**
ASAJ	**Asahikawa**	**2.43**	**347**	P	**Pn**	**03 27 01.0**	**+1.3**
	13nm,0.3s,baz=203,slow=13,SNR=56						
ASAJ				S	**Sn**	**03 27 28.1**	**0.0**
	12nm,0.3s,baz=157,slow=14,SNR=6.6						
JMM	**Marumori**	**4.37**	**208**		**Pn**	**03 27 26.6**	**+0.3**
JSD	**Sado**	**5.41**	**228**	Pn	**Pn**	**03 27 42.1**	**+1.4**
JYT	**Yasato**	**6.05**	**205**	Pn	**Pn**	**03 27 50.7**	**+1.2**
MJB9	**Matsu-Tunnel**	**6.58**	**219**		**Pn**	**03 27 57.8**	**+1.2**
MAJO	**Matsushiro**	**6.58**	**219**	Pn	**Pn**	**03 27 57.3**	**+0.6**
MJAR	**Matsushiro Arr**	**6.58**	**219**	P	**Pn**	**03 27 56.8**	**+0.1**
	0.5nm,0.3s,baz=38,slow=12,SNR=20						
MJAR	**Matsushiro Arr**	**6.58**	**219**	Pn	**Pn**	**03 27 57.5**	**+0.8**
JHJ	**Hachijo jima 2**	**9.08**	**199**	S	Sn	03 30 01.0	-11
	9.2nm,0.3s,baz=15,slow=19,SNR=2.9						
KSRS	**Korea Array**	**12.67**	**255**	P	**Pn**	**03 29 19.9**	**0.0**
	0.1nm,0.3s,baz=71,slow=13,SNR=4.9						
PETK	**Petropavlovsk-**	**14.89**	**35**	P	**Pn**	**03 29 49.2**	**-0.8**
	0.2nm,0.3s,baz=219,slow=11,SNR=2.2						
SEY	**Seymchan**	**21.87**	**11**	P	**P**	**03 31 09.1**	**-2.2**
	6.0nm,0.7s,baz=186,slow=7.8,SNR=18						
SONM	**Songino Array**	**26.75**	**296**	P	**P**	**03 31 56.5**	**-1.7**
	0.3nm,0.4s,baz=82,slow=7.2,SNR=5.2						
SONM	**Songino Array**	**26.75**	**296**	P	**P**	**03 31 56.6**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**29.66**	**131**	T	T	04 03 45.5	
	baz=324,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**29.68**	**131**	T	T	04 03 49.5	
	baz=324,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**29.68**	**131**	T	T	04 03 47.4	
	baz=324,slow=75,SNR=51						
H11S1	**WAKE ISLAND Hy**	**30.53**	**132**	T	T	04 04 37.9	
	baz=325,slow=76,SNR=92						
H11S3	**WAKE ISLAND Hy**	**30.54**	**132**	T	T	04 04 37.8	
	baz=325,slow=76,SNR=77						
H11S2	**WAKE ISLAND Hy**	**30.55**	**132**	T	T	04 04 43.5	
	baz=325,slow=76,SNR=56						
ZALV	**Zalesovo Beam**	**40.02**	**308**	P	**P**	**03 33 52.7**	**-0.3**
	2.5nm,0.7s,baz=84,slow=7.5,SNR=12						
ZALV				PcP	**PcP**	**03 35 56.8**	**-0.4**
	1.4nm,0.8s,baz=95,slow=3.0,SNR=3.0						
MK31	**Makanchi Array**	**43.06**	**298**	P	**P**	**03 34 17.9**	**-0.1**
MKAR	**Makanchi Array**	**43.06**	**298**	P	**P**	**03 34 17.9**	**-0.2**
	1.6nm,0.8s,baz=85,slow=10,SNR=13						
MKAR	**Makanchi Array**	**43.06**	**298**	P	**P**	**03 34 18.5**	**+0.5**
NEA2	**Nenana**	**43.80**	**35**	P	**P**	**03 34 24.7**	**+1.0**
NEA2				IAmb	IAmb	03 34 43.2	
	comp=Z,5.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.28**	**252**	P	**P**	**03 34 27.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=36,slow=7.8,SNR=1.5						
CMAR	**Chiang Mai Arr**	**44.28**	**252**	P	**P**	**03 34 27.0**	**-1.1**
KURK	**Kurchatov**	**44.36**	**305**	P	**P**	**03 34 28.2**	**-0.1**
KURK				IAmb	IAmb	03 34 42.8	
	comp=Z,4.9nm,0.9s						
ILAR	**Eielson Array**	**44.72**	**35**	P	**P**	**03 34 32.2**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=258,slow=5.8,SNR=11						
ILAR	**Eielson Array**	**44.72**	**35**	P	**P**	**03 34 31.7**	**+0.6**
SCRK	**Sand Creek**	**46.06**	**36**	P	**P**	**03 34 42.9**	**+1.2**
SCRK				IAmb	IAmb	03 35 00.7	
	comp=Z,5.0nm,1.1s						
L27K	**Beaver Creek,**	**47.15**	**37**	P	**P**	**03 34 52.4**	**+2.1**
L27K				IAmb	IAmb	03 35 10.9	
	comp=Z,4.0nm,0.9s						
BOOM	**Boomskoye usch**	**48.79**	**295**	P	**P**	**03 35 02.1**	**-1.3**
BOOM				IAmb	IAmb	03 35 04.9	
	comp=Z,2.3nm,0.8s						
INK	**Inuvik**	**49.51**	**29**	P	**P**	**03 35 08.0**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=300,slow=5.9,SNR=12						
INK	**Inuvik**	**49.51**	**29**	P	**P**	**03 35 09.2**	**+1.0**
INK				IAmb	IAmb	03 35 12.3	
	comp=Z,2.7nm,1.0s						
HYT	**Haines Junctio**	**49.64**	**39**	P	**P**	**03 35 09.4**	**-0.2**
RES	**Resolute Bay**	**57.65**	**16**	P	**P**	**03 36 08.0**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=308,slow=6.1,SNR=19						
RES	**Resolute Bay**	**57.65**	**16**	P	**P**	**03 36 08.4**	**+0.6**
RES				IAmb	IAmb	03 36 25.5	
	comp=Z,7.5nm,1.1s						
YKA	**Yellowknife Ar**	**58.98**	**32**	P	**P**	**03 36 17.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=304,slow=6.8,SNR=14						
YKA	**Yellowknife Ar**	**58.98**	**32**	P	**P**	**03 36 17.8**	**+0.6**
WRA	**Warramunga Arr**	**61.95**	**190**	P	**P**	**03 36 36.1**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=5.9,slow=6.7,SNR=5.6						
FINES	**FINESS Array B**	**65.36**	**332**	P	**P**	**03 36 59.1**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=35,slow=7.0,SNR=7.0						
FINES	**FINESS Array B**	**65.36**	**332**	P	**P**	**03 37 00.3**	**+0.4**
ASAR	**Alice Springs**	**65.68**	**190**	P	**P**	**03 37 02.8**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=5.8,slow=6.6,SNR=15						
NOA	**NORSAR Array B**	**70.42**	**337**	P	**P**	**03 37 30.9**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=46,slow=3.9,SNR=1.6						
LHV	**Little Huntoon**	**70.98**	**56**	P	**P**	**03 37 36.2**	**+0.7**
LHV				IAmb	IAmb	03 37 39.2	
	comp=Z,5.7nm,0.9s						
NVAR	**Mina Array Bea**	**70.99**	**55**	P	**P**	**03 37 36.6**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=288,slow=6.5,SNR=10						
NVAR	**Mina Array Bea**	**70.99**	**55**	P	**P**	**03 37 36.4**	**+0.5**
AKASG	**Malin Array Be**	**71.50**	**322**	P	**P**	**03 37 38.1**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=42,slow=5.0,SNR=6.8						
AKASG	**Malin Array Be**	**71.50**	**322**	P	**P**	**03 37 38.9**	**+0.5**
PDAR	**Pinedale Array**	**73.31**	**47**	P	**P**	**03 37 50.9**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=280,slow=2.3,SNR=8.2						
SCHQ	**Schefferville**	**80.38**	**17**	P	**P**	**03 38 28.7**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=334,slow=15,SNR=1.7						
SCHQ	**Schefferville**	**80.38**	**17**	P	**P**	**03 38 30.1**	**+1.0**
TXAR	**Lajitas Array**	**86.07**	**54**	P	**P**	**03 39 00.1**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=294,slow=4.0,SNR=10						
TXAR	**Lajitas Array**	**86.07**	**54**	P	**P**	**03 39 00.0**	**+1.1**
H03N2	**Juan Fernandez**	**145.74**	**90**	T	T	06 29 01.3	
	baz=300,slow=76,SNR=179						
H03N3	**Juan Fernandez**	**145.76**	**90**	T	T	06 28 58.5	
	baz=300,slow=76,SNR=281						
H03N1	**Juan Fernandez**	**145.76**	**90**	T	T	06 28 58.3	
	baz=300,slow=76,SNR=155						

*RSNC **14** 04:01:43.9±1.6, 6.84N×73.16W, h147km±8km, ML3.3, Mw3.8*
*IDC **14** 04:01:45.1±3.8, 6.67N×73.40W, h182km±32km, mb2.9/2, mb1 3.3/3, mb1mx2.9/25, mbtmp3.4/3, Error ellipse: s-maj=85.0km s-min=41.2km az=87.0*
ISC 14 04:01:42.1±0.9, 6.85N±0.03×73.11W±0.04, h158km±6km, n28, σ1s25/49, 4C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
BARC	**Barichara**	**0.27**	**195**	⇓*i*P	**Pn**	**04 02 03.8**	**0.0**
BARC				*i*		04 02 20.0	
	comp=Z,563nm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**40**	⇑*i*P	**Pn**	**04 02 06.6**	**+1.0**
PAMC				*e*S	**Sn**	**04 02 23.6**	**0.0**
PAMC				*i*		04 02 26.2	
	comp=Z,534nm,0.5s						
RUSC	**La Rusia**	**0.95**	**178**	⇓*i*P	**Pn**	**04 02 07.7**	**-0.2**
RUSC				⇓*e*P	**Pn**	**04 02 07.7**	**-0.2**
RUSC				*e*S	**Sn**	**04 02 26.4**	**-1.1**
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	*e*P	**Pn**	**04 02 10.1**	**-0.8**
PTBC				*e*S	**Sn**	**04 02 31.5**	**-1.6**
PTBC				*i*		04 02 38.8	
	comp=Z,159nm,0.2s						
TAMC	**Tame, Arauca**	**1.38**	**107**	⇓*i*P	**Pn**	**04 02 12.2**	**+1.1**
TAMC				*e*S	**Sn**	**04 02 33.9**	**+0.6**
OCAC	**Ocana**	**1.40**	**352**	⇑*i*P	**Pn**	**04 02 11.8**	**+0.4**
OCAC				*e*S	**Sn**	**04 02 34.2**	**+0.3**
OCAC				*i*		04 02 39.0	
	comp=Z,350nm,0.2s						
SPBC	**San Pablo de B**	**1.52**	**219**	⇓*e*P	**Pn**	**04 02 12.7**	**+0.1**
SPBC				*e*S	**Sn**	**04 02 35.0**	**-1.1**
SPBC				*i*		04 02 39.9	
	comp=Z,146nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	*e*P	**Pn**	**04 02 16.3**	**+0.3**
ZARC				*e*S	**Sn**	**04 02 41.5**	**-0.5**
ZARC				*i*		04 02 48.0	
	comp=Z,201nm,0.3s						
NORC	**Norcasia**	**2.16**	**234**	⇑*e*P	**Pn**	**04 02 20.3**	**+0.6**
NORC				*e*S	**Sn**	**04 02 47.6**	**-1.1**
NORC				*i*		04 02 53.7	
	comp=Z,69nm,0.2s						
CHIC	**Chingaza**	**2.29**	**196**	*e*P	**Pn**	**04 02 22.0**	**+0.5**
CHIC				*e*S	**Sn**	**04 02 51.2**	**-0.7**
CHIC				*i*		04 02 54.9	
	comp=Z,92nm,0.4s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**04 02 23.6**	**+1.6**
	comp=Z,12nm,0.3s,baz=86,slow=19,SNR=33						
ROSC				S	**Sn**	**04 02 52.6**	**-0.1**
	comp=Z,47nm,0.3s,baz=131,slow=18,SNR=18						
ROSC	**El Rosal**	**2.33**	**211**	*e*P	**Pn**	**04 02 23.5**	**+1.5**
ROSC				*e*S	**Sn**	**04 02 52.5**	**-0.2**
ROSC				*i*		04 03 00.0	
	comp=Z,132nm,0.3s						
HELC	**Santa Helena**	**2.49**	**255**	*e*P	**Pn**	**04 02 26.1**	**+2.3**
HELC				*i*		04 03 04.1	
	comp=Z,58nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	**Pn**	**04 02 23.6**	**-0.8**
UREC				*e*S	**Sn**	**04 02 55.1**	**-1.9**
UREC				*i*		04 03 05.6	
	comp=Z,107nm,0.3s						
SOCV	**Socops**	**2.65**	**57**	⇑*e*P	**Pn**	**04 02 26.6**	**+1.1**
SOCV				*e*S	**Sn**	**04 02 58.4**	**-0.7**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	*e*P	**Pn**	**04 02 28.8**	**+1.5**
GUY2C				*e*S	**Sn**	**04 03 05.3**	**+3.1**
GUY2C				*i*		04 03 12.1	
	comp=Z,35nm,0.4s						
VILC	**Villavicencio,**	**2.78**	**192**	*e*P	**Pn**	**04 02 27.7**	**+0.5**
VILC				*i*		04 03 07.2	
	comp=Z,4μm,0.4s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EWUT				S	**Sb**	**04 03 29.5**	**+2.0**
	baz=302						
JIJ	**Ishigaki jima**	**1.17**	**70**	P	**Pb**	**04 03 13.1**	**0.0**
JIJ				S	**Sb**	**04 03 28.4**	**+0.5**
TWC	**Suao**	**1.18**	**303**	*i* P	**Pb**	**04 03 12.8**	**-0.4**
	baz=299						
TWC				*i* S	**Sb**	**04 03 27.4**	**-0.6**
	baz=299						
ENA	**Nanau**	**1.18**	**293**	*i* P	**Pb**	**04 03 13.8**	**+0.6**
	baz=301						
ENA				*i* S	**Sb**	**04 03 28.4**	**+0.2**
	baz=301						
NACB	**Ninganchiao**	**1.24**	**280**	*e*P	**Pn**	**04 03 12.8**	**-0.5**
	baz=273						
EGS		**1.26**	**314**	*e*P	**Pb**	**04 03 16.0**	**+1.3**
	baz=316						
NDS	**Dongshan**	**1.29**	**301**	P	**Pb**	**04 03 15.6**	**+0.3**
	baz=299						
NDS				*e*S	**Sb**	**04 03 30.7**	**-0.7**
	baz=299						
NTC	**Toucheng**	**1.34**	**311**	*e*P	**Pb**	**04 03 16.2**	**+0.3**
	baz=313						
TWB1	**Santiao Chiao**	**1.35**	**320**	*e*P	**Pb**	**04 03 15.9**	**-0.2**
	baz=329						
TWB1				*e*S	**Sn**	**04 03 31.2**	**-0.6**
	baz=329						
ETLH	**Xiulin Townshi**	**1.35**	**280**	*e*P	**Pn**	**04 03 14.8**	**-0.1**
	baz=280						
TWE	**Neicheng**	**1.38**	**303**	P	**Pb**	**04 03 17.4**	**+0.8**
	baz=311						
TWE				S	**Sb**	**04 03 35.0**	**+1.2**
	baz=311						
JISG	**Ishigakijimahi**	**1.40**	**64**	*e*S	**Sb**	**04 03 33.5**	**-0.9**
LATG	**Datong**	**1.40**	**294**	P	**Pb**	**04 03 16.9**	**-0.2**
	baz=301						
LATG				S	**Sb**	**04 03 35.0**	**+0.3**
	baz=301						
ENTT	**Nioudou**	**1.42**	**298**	*e*P	**Pb**	**04 03 17.3**	**0.0**
	baz=299						
ENTT				S	**Sb**	**04 03 35.5**	**+0.6**
	baz=299						
TIPB	**Shuangxi**	**1.42**	**315**	*i* P	**Pb**	**04 03 16.3**	**-1.1**
	baz=310						
TIPB				S	**Sn**	**04 03 31.5**	**-2.2**
	baz=310						
NDT	**Datong Townshi**	**1.44**	**296**	P	**Pb**	**04 03 18.2**	**+0.5**
	baz=297						
NDT				*e*S	**Sb**	**04 03 36.8**	**+1.1**
	baz=297						
HGSD	**Ruisui**	**1.46**	**251**	P	**Pn**	**04 03 16.0**	**-0.4**
	baz=253						
SXI1	**Grass Mountain**	**1.48**	**320**	P	**Pn**	**04 03 17.0**	**+0.4**
	baz=326						
SXI1				S	**Sn**	**04 03 34.4**	**-0.8**
	baz=326						
NNSB	**Datong**	**1.49**	**288**	*e*P	**Pn**	**04 03 17.4**	**+0.5**
	baz=283						
NNSB				*e*S	**Sb**	**04 03 36.4**	**-0.7**
	baz=283						
NNS	**Nan Shan**	**1.50**	**289**	P	**Pb**	**04 03 17.9**	**-0.9**
	baz=293						
NNS				*e*S	**Sn**	**04 03 35.4**	**-0.4**
	baz=293						
NWF	**Wu-fen Shan**	**1.52**	**316**	*i* P	**Pb**	**04 03 17.8**	**-1.3**
	baz=311						
NWF				*i* S	**Sn**	**04 03 35.8**	**-0.4**
	baz=311						
NWLT	**Wulai**	**1.53**	**302**	*e*P	**Pb**	**04 03 18.7**	**-0.6**
	baz=309						
NWLT				*e*S	**Sn**	**04 03 36.4**	**-0.1**
	baz=309						
EHY	**Hungye**	**1.55**	**253**	P	**Pn**	**04 03 17.4**	**-0.1**
	baz=247						
EHY				*e*S	**Sn**	**04 03 36.8**	**0.0**
	baz=247						
FUSS	**Fushou**	**1.57**	**281**	*e*P	**Pn**	**04 03 17.8**	**-0.3**
	baz=275						
YHNB	**Yeheng**	**1.58**	**296**	*e*P	**Pb**	**04 03 19.6**	**-0.6**
	baz=297						
YHNB				*e*S	**Sn**	**04 03 37.1**	**-0.7**
	baz=297						
NSK	**Sanguang**	**1.60**	**296**	P	**Pb**	**04 03 19.9**	**-0.6**
	baz=297						
NSK				S	**Sn**	**04 03 37.9**	**-0.3**
	baz=297						
EYUL	**Yuli**	**1.60**	**248**	*e*P	**Pn**	**04 03 18.5**	**+0.2**
	baz=245						
EYUL				*e*S	**Sn**	**04 03 38.9**	**+0.7**
	baz=245						
YULB	**Yu-li**	**1.61**	**249**	P	**Pn**	**04 03 18.4**	**0.0**
	baz=245						
YULB				*e*S	**Sn**	**04 03 38.1**	**-0.2**
	baz=245						
OWD	**Renai**	**1.61**	**270**	P	**Pn**	**04 03 18.8**	**+0.3**
	baz=272						
CHGB	**Renai**	**1.61**	**274**	P	**Pn**	**04 03 19.0**	**+0.4**
	baz=278						
CHGB				S	**Sn**	**04 03 38.5**	**-0.2**
	baz=278						
VWDT	**VWDT**	**1.66**	**263**	*e*P	**Pn**	**04 03 19.2**	**+0.3**
	baz=261						
VWDT				*e*S	**Sn**	**04 03 38.5**	**-0.9**
	baz=261						
WUSB	**Renai**	**1.66**	**271**	P	**Pn**	**04 03 19.7**	**+0.5**
	baz=272						
CHKT	**Chengkung**	**1.68**	**239**	*e*P	**Pn**	**04 03 18.6**	**-0.7**
	baz=232						
CHKT				*e*S	**Sn**	**04 03 37.9**	**-2.1**
	baz=232						
FULB	**Fuli**	**1.69**	**243**	*e*P	**Pn**	**04 03 19.1**	**-0.4**
	baz=235						
FULB				*e*S	**Sn**	**04 03 40.2**	**-0.2**
	baz=235						
YM01	**YM01**	**1.71**	**314**	*e*P	**Pn**	**04 03 20.6**	**+0.8**
	baz=315						
YM01				*e*S	**Sn**	**04 03 39.8**	**-1.0**
	baz=315						
NFF	**Wufeng Townshi**	**1.78**	**292**	*e*P	**Pn**	**04 03 22.0**	**+1.1**
	baz=291						
EDH	**Donghe**	**1.80**	**237**	*e*P	**Pn**	**04 03 20.2**	**-0.7**
	baz=233						
EDH				*e*S	**Sn**	**04 03 41.2**	**-1.7**
	baz=233						
SSLB	**Suanglung**	**1.82**	**265**	*e*P	**Pn**	**04 03 22.6**	**+1.3**
	baz=263						
WHP	**Taichung City**	**1.84**	**280**	*e*P	**Pb**	**04 03 24.5**	**-0.1**
	baz=275						
WCS	**Beigang Elemen**	**1.85**	**273**	*e*P	**Pn**	**04 03 22.8**	**+1.1**
	baz=275						
SMLT	**Sun Moon Lake**	**1.86**	**268**	*e*P	**Pb**	**04 03 24.1**	**-0.9**
	baz=261						
LDUT	**Ludao**	**1.86**	**227**	*e*P	**Pn**	**04 03 21.6**	**-0.2**
	baz=222						
LDUT				*e*S	**Sn**	**04 03 43.2**	**-1.4**
	baz=222						
TYC	**Yuchr**	**1.90**	**268**	*e*P	**Pb**	**04 03 24.4**	**-1.1**
	baz=267						
LONT	**Longtian**	**1.97**	**238**	*e*P	**Pn**	**04 03 23.8**	**+0.5**
	baz=234						
LONT				*e*S	**Sn**	**04 03 47.0**	**-0.1**
	baz=234						
ALS	**Alishan**	**2.00**	**257**	*e*P	**Pn**	**04 03 25.2**	**+1.2**
	baz=255						
TWGBT	**Beinan**	**2.05**	**236**	*e*P	**Pn**	**04 03 24.7**	**+0.2**
	baz=233						
TWGBT				*e*S	**Sn**	**04 03 49.3**	**0.0**
	baz=233						
CHN5	**Tsauling**	**2.10**	**260**	*e*P	**Pn**	**04 03 27.3**	**+2.1**
	baz=259						
TPUB	**Ta-pu**	**2.22**	**253**	*e*P	**Pn**	**04 03 28.5**	**+1.7**
	baz=251						
CHN4	**Tsaushan**	**2.23**	**254**	*e*P	**Pn**	**04 03 29.3**	**+2.4**
	baz=252						
SGST	**Jiashian**	**2.33**	**248**	*e*P	**Pn**	**04 03 30.4**	**+2.1**
	baz=246						
SGST				*e*S	**Sn**	**04 03 58.3**	**+2.1**
	baz=246						
CHN1	**Nanshi**	**2.34**	**251**	*e*P	**Pn**	**04 03 30.9**	**+2.5**
	baz=258						
TWK	**Hsinying**	**2.35**	**253**	*e*P	**Pb**	**04 03 31.2**	**-2.0**
	baz=251						
TSMG	**Majia**	**2.45**	**240**	*e*P	**Pn**	**04 03 30.2**	**+0.3**
	baz=235						
MASBT	**Mashibuluo**	**2.51**	**238**	*e*P	**Pn**	**04 03 31.7**	**+1.0**
	baz=234						

IDC 14 04:03:22.9±1.8**, 14°.28S×166°.45E, h0**km**, mb3.5**/3**, mb1 3.8**/4**, mb1mx3.6**/32**, mbtmp3.5**/4**, ML3.3**/1**, Error ellipse: s-maj=53.5km s-min=33.7km az=125.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.75**	**180**	Pn	Pn	04 05 17.4	+0.2
	0.4nm,0.3s,baz=11,slow=16,SNR=6.6						
DZM				Sn	Sn	04 06 40.7	-5.1
	0.2nm,0.3s,baz=53,slow=18,SNR=1.6						
WRA	**Warramunga Arr**	**31.17**	**255**	P	P	04 09 43.7	-0.2
	0.4nm,0.9s,baz=89,slow=8.9,SNR=2.2						
ASAR	**Alice Springs**	**32.10**	**248**	P	P	04 09 52.1	+0.1
	0.2nm,0.5s,baz=76,slow=9.5,SNR=1.5						
ILAR	**Eielson Array**	**86.34**	**18**	P	P	04 16 06.5	-0.1
	0.5nm,0.8s,baz=234,slow=5.9,SNR=6.7						

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*ISU **14** 04:09:20.6, 40°.26N×73°.25E, h4km, Hypocentre not reviewed by the ISC*
*IDC **14** 04:09:23.3±1.5, 39°.92N×72°.88E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.3/30, mbtmp3.4/6, ML2.7/2, Error ellipse: s-maj=40.0km s-min=25.9km az=143.0*
*SOME **14** 04:09:29.5, 40°.42N×73°.30E, h15km*
*KRNET **14** 04:09:29.7±0.1, 40°.36N×73°.22E, h17km, mb3.8*
*MOS **14** 04:09:30.7±0.9, 40°.41N×73°.16E, h15km, mb4.5/2, Error ellipse: s-maj=8.3km s-min=5.1km az=70.9*
MOS Felt (III-IV) at Alga-Bas, Kablan-Kol', Taldyk; (III) at Arpatektir, Bek-Dzhar, Toguz-Bulak; (II-III) at Karatay, Kyzyl-Tuu, Langar, Papan.
*NNC **14** 04:09:32.5±2.5, 40°.58N×73°.12E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=24.4km s-min=10.7km az=175.0*
ISC 14 04:09:28.5±1.1**, 40°.34N**±0°.03**×73°.26E**±0°.02**, h11**km±7km**, n109, σ2°.47**/174**, mb3.7**/6**, 39C-24D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.41**	**297**	⇓*i*PG	**Pg**	**04 09 36.9**	**+0.3**
OHH				*i* S	**Sg**	**04 09 42.3**	**+0.3**
OHH	**Osh**	**0.41**	**297**	⇓*i*P	**Pg**	**04 09 36.9**	**+0.3**
	baz=97						
OHH				⇓*i*S	**Sg**	**04 09 42.3**	**+0.3**
	baz=97						
ANR	**Andizhan**	**0.80**	**301**	P		04 09 44.2	
ANR				S		04 09 56.4	
FRG	**Fergana**	**1.13**	**272**	P		04 09 50.0	
FRG				S		04 10 11.8	
CHMI	**Chimion**	**1.33**	**267**	P		04 09 53.4	
CHMI				S		04 10 11.8	
DRK	**Karamyk**	**1.42**	**233**	⇑*i*P	**Pb**	**04 09 55.9**	**+0.8**
	baz=32						
DRK				⇑*i*S	**Sg**	**04 10 14.4**	**+0.3**
	baz=32						
MINT	**Mingtut**	**1.75**	**275**	P		04 10 01.3	
MINT				S		04 10 25.7	
ARK	**Arkit**	**1.76**	**326**	⇓*i*P	**Pb**	**04 10 01.3**	**+0.5**
	baz=27						
ARK				⇓*i*S	**Sg**	**04 10 24.6**	**-0.4**
	baz=27						
AML	**Almayashu**	**1.82**	**10**	P	**Pb**	**04 10 02.8**	**+0.8**
	SNR=960						
AML	**Almayashu**	**1.82**	**10**	*i* PN	**Pb**	**04 10 02.9**	**+0.8**
AML				*i* S	**Sg**	**04 10 27.1**	**+0.1**
BTK	**Batken**	**1.89**	**262**	*i* PN	**Pb**	**04 10 03.5**	**+0.4**
BTK				*i* S	**Sg**	**04 10 28.2**	**-1.1**
BTK	**Batken**	**1.89**	**262**	⇑*i*P	**Pb**	**04 10 03.5**	**+0.4**
	baz=62						
BTK				⇑*i*S	**Sg**	**04 10 28.2**	**-1.1**
	baz=62						
TRKS	**Terek-Say**	**2.00**	**307**	⇓*i*PN	**Pb**	**04 10 04.2**	**-0.8**
TRKS				*i* S	**Sb**	**04 10 29.7**	**-0.3**
TRKS	**Terek-Say**	**2.00**	**307**	⇓*i*P	**Pb**	**04 10 04.2**	**-0.8**
	baz=6.0						
TRKS				⇓*i*S	**Sb**	**04 10 29.7**	**-0.3**
	baz=6.0						
UCH	**Uchtor**	**2.11**	**26**	P	**Pb**	**04 10 07.8**	**+0.8**
	SNR=43						
UCH	**Uchtor**	**2.11**	**26**	*i* PN	**Pb**	**04 10 07.2**	**+0.2**
UCH				*i* S	**Sb**	**04 10 34.7**	**+1.3**
UCH	**Uchtor**	**2.11**	**26**	⇑*i*P	**Pb**	**04 10 07.2**	**+0.2**
	baz=27						
UCH				⇑*i*S	**Sb**	**04 10 34.7**	**+1.3**
	baz=27						
EKS2	**Erkin-Say**	**2.35**	**9**	P	**Pb**	**04 10 11.1**	**+0.2**
	SNR=32						
EKS2	**Erkin-Say**	**2.35**	**9**	*e*PN	**Pb**	**04 10 10.3**	**-0.7**
EKS2	**Erkin-Say**	**2.35**	**9**	⇑*i*P	**Pb**	**04 10 10.3**	**-0.7**
	baz=10.0						
EKS2				⇑*i*S	**Sb**	**04 10 39.9**	**-0.2**
	baz=10.0						
MRKS	**Merke**	**2.40**	**359**	*e*P	**Pg**	**04 10 14.7**	**+0.1**
	70nm,0.4s						
MRKS				*e*S	**Sg**	**04 10 46.7**	**+1.0**
	376nm,0.2s						
AAK	**Ala-Archa**	**2.48**	**22**	P	**Pb**	**04 10 12.8**	**-0.3**
	SNR=16						
AAK	**Ala-Archa**	**2.48**	**22**	*d i*PN	**Pb**	**04 10 12.6**	**-0.5**
AAK				*i* S	**Sb**	**04 10 41.9**	**-1.8**
AAK	**Ala-Archa**	**2.48**	**22**	⇑*e*P	**Pb**	**04 10 11.9**	**-1.2**
	baz=22						
AAK				⇑*i*S	**Sb**	**04 10 43.1**	**-0.6**
	baz=22						
GAR	**Garm**	**2.64**	**240**	*e*PN	**Pb**	**04 10 14.1**	**-1.8**
GAR				*i* S	**Sb**	**04 10 46.5**	**-1.8**
GAR	**Garm**	**2.64**	**240**	⇑*e*P	**Pb**	**04 10 14.1**	**-1.8**
	baz=40						
GAR				⇑*i*S	**Sb**	**04 10 46.5**	**-1.8**
	baz=40						
KBK	**Karagaybulak**	**2.64**	**28**	P	**Pb**	**04 10 17.0**	**+1.1**
	SNR=10						
KBK	**Karagaybulak**	**2.64**	**28**	⇓*e*PN	**Pb**	**04 10 14.3**	**-1.6**
KBK				*i* S	**Sb**	**04 10 47.1**	**-1.3**
KBK	**Karagaybulak**	**2.64**	**28**	⇓*e*P	**Pb**	**04 10 14.3**	**-1.6**
	baz=29						
KBK				⇓*i*S	**Sb**	**04 10 47.1**	**-1.3**
	baz=29						
FRU1	**Bishkek**	**2.67**	**22**	*i* PN	**Pb**	**04 10 15.0**	**-1.4**
FRU1				*i* S	**Sb**	**04 10 48.3**	**-1.0**
FRU1	**Bishkek**	**2.67**	**22**	⇑*i*P	**Pb**	**04 10 15.0**	**-1.4**
	baz=23						
FRU1				⇑*i*S	**Sb**	**04 10 48.3**	**-1.0**
	baz=23						
CHMG	**Chimgan**	**2.74**	**297**	P		04 10 15.7	
CHRV	**Charvak**	**2.82**	**298**	P		04 10 16.9	
CHMS	**Chumysh**	**2.88**	**22**	*e*PN	**Pn**	**04 10 17.6**	**+3.2**
CHMS	**Chumysh**	**2.88**	**22**	⇑*i*P	**Pn**	**04 10 17.6**	**+3.2**
	baz=23						
CHMS				⇑*i*S	**Sb**	**04 10 52.7**	**-2.5**
	baz=23						
CHMS	**Chumysh**	**2.88**	**22**	⇓Pn	**Pb**	**04 10 18.4**	**-1.6**
	2.1nm,0.5s						
CHMS				⇑Pg	**Pg**	**04 10 21.9**	**-1.8**
	19nm,0.5s						
CHMS				⇓Lg	Lg	04 10 60.0	
	28nm,0.6s						
DZA	**Taraz**	**2.93**	**331**	*e*PN	**Pn**	**04 10 15.2**	**+0.1**
DZA				*e*		04 10 22.6	
DZA	**Taraz**	**2.93**	**331**	*e*P	**Pb**	**04 10 22.3**	**+1.5**
	127nm,0.2s						
DZA				*e*S	**Sg**	**04 10 59.8**	**-2.9**
	381nm,0.2s						
DZA	**Taraz**	**2.93**	**331**	*e*Pn	**Pn**	**04 10 15.3**	**+0.1**
	baz=332						
DZA				*e*Pg	**Pb**	**04 10 22.6**	**+1.8**
	baz=332						
ULHL	**Ulahol**	**2.94**	**49**	P	**Pn**	**04 10 19.0**	**+3.5**
	SNR=8.2						
ULHL	**Ulahol**	**2.94**	**49**	*i* PN	**Pn**	**04 10 18.8**	**+3.3**
ULHL				*i* S	**Sb**	**04 10 54.7**	**-2.5**
ULHL	**Ulahol**	**2.94**	**49**	⇑*i*P	**Pn**	**04 10 18.8**	**+3.3**
	baz=49						
ULHL				⇑*i*S	**Sb**	**04 10 54.7**	**-2.5**
	baz=49						
BOOM	**Boomskoye usch**	**2.94**	**42**	⇓*e*PN	**Pn**	**04 10 18.8**	**+3.4**
BOOM				*i* S	**Sb**	**04 10 54.8**	**-2.4**
BOOM	**Boomskoye usch**	**2.94**	**42**	⇓*e*P	**Pn**	**04 10 18.8**	**+3.4**
	baz=43						
BOOM				⇓*i*S	**Sb**	**04 10 54.8**	**-2.4**
	baz=43						
IUG	**Iuzhnay**	**3.03**	**308**	*e*PN	**Pn**	**04 10 17.1**	**+0.6**
IUG				*e*		04 10 24.1	
IUG				*e*		04 11 03.9	
IUG	**Iuzhnay**	**3.03**	**308**	*e*P	**Pg**	**04 10 25.1**	**-1.5**
	2μm,0.4s						
IUG				*e*S	**Sg**	**04 11 04.2**	**-1.7**
	271nm,0.2s						
IUG	**Iuzhnay**	**3.03**	**308**	*e*Pn	**Pn**	**04 10 17.1**	**+0.6**
	baz=308						
IUG				*e*Pg	**Pb**	**04 10 24.1**	**+1.6**
	baz=308						
IUG				*e*Lg	Lg	04 11 03.1	
	baz=308						
TGS	**TashGRES**	**3.04**	**292**	P		04 10 21.3	
USP	**Ospenovka**	**3.07**	**17**	P	**Pb**	**04 10 25.3**	**+2.2**
	SNR=13						
USP	**Ospenovka**	**3.07**	**17**	*i* PN	**Pn**	**04 10 20.2**	**+3.2**
USP				*i* S	**Sn**	**04 10 57.0**	**+3.3**
USP	**Ospenovka**	**3.07**	**17**	⇑*i*P	**Pn**	**04 10 20.2**	**+3.2**
	baz=18						
USP				⇑*i*S	**Sn**	**04 10 57.0**	**+3.3**
	baz=18						
TKM2	**Tokmak 2**	**3.12**	**33**	P	**Pb**	**04 10 22.1**	**-2.0**
	SNR=15						
TKM2	**Tokmak 2**	**3.12**	**33**	*e*PN	**Pn**	**04 10 21.2**	**+3.4**
TKM2	**Tokmak 2**	**3.12**	**33**	⇓*e*P	**Pn**	**04 10 21.2**	**+3.4**
	baz=34						
TKM2				⇓*i*S	**Sn**	**04 10 58.8**	**+3.6**
	baz=34						
TKM2	**Tokmak 2**	**3.12**	**33**	⇑Pn	**Pb**	**04 10 21.7**	**-2.4**
	0.7nm,0.4s						
TKM2				⇑Pg	**Pg**	**04 10 25.9**	**-2.3**
	9.0nm,0.3s						
TKM2				⇓Lg	Lg	04 11 06.8	
	51nm,0.8s						
TAS	**Tashkent**	**3.17**	**289**	*i* PN	**Pn**	**04 10 21.2**	**+2.9**
TAS				*i* S	**Sn**	**04 10 58.8**	**+2.7**
TAS	**Tashkent**	**3.17**	**289**	⇑*i*P	**Pn**	**04 10 21.2**	**+2.9**
	baz=89						
TAS				⇑*i*S	**Sn**	**04 10 58.8**	**+2.7**
	baz=89						
NZBK	**Nazarbek**	**3.27**	**287**	P		04 10 23.0	
SGDS	**Sogindy**	**3.27**	**18**	*e*P	**Pb**	**04 10 29.3**	**+2.6**
	9.6nm,0.3s						
SGDS				*e*S	**Sg**	**04 11 11.7**	**-1.9**
	63nm,0.3s						
KST	**Kastek**	**3.37**	**36**	*e*P	**Pg**	**04 10 31.9**	**-1.2**
	9.1nm,0.4s						
KST				*e*S	**Sg**	**04 11 16.6**	**-0.3**
	42nm,0.5s						
CHM	**Chimkent**	**3.39**	**307**	PN	**Pn**	**04 10 21.9**	**+0.5**
KK31	**Karatay Array**	**3.44**	**324**	PN	**Pn**	**04 10 24.1**	**+2.0**
KK31	**Karatay Array**	**3.44**	**324**	⇑Pn	**Pn**	**04 10 24.2**	**+2.0**
	7.0nm,0.2s,baz=131,slow=14,SNR=183						
KK31				Pg	**Pb**	**04 10 30.9**	**+1.4**
	7.0nm,0.2s,baz=142,slow=15,SNR=60						
KK31				⇓Lg	Lg	04 11 16.7	
	26nm,0.3s,baz=131,slow=30,SNR=7.5						
KKAR	**Karatay Array**	**3.44**	**324**	*i* PN	**Pn**	**04 10 25.0**	**+2.9**
KKAR				*i* S	**Sn**	**04 11 05.5**	**+2.6**
KKAR	**Karatay Array**	**3.44**	**324**	⇑*i*P	**Pn**	**04 10 25.0**	**+2.9**
	baz=24						
KKAR				⇑*i*S	**Sn**	**04 11 05.5**	**+2.6**
	baz=24						
DGS	**Degeres**	**3.45**	**32**	*e*P	**Pb**	**04 10 32.5**	**+2.7**
	50nm,0.4s						
DGS				*e*S	**Sg**	**04 11 18.0**	**-1.5**
	35nm,0.6s						
KDJ	**Kajisay**	**3.45**	**58**	⇑*i*P	**Pn**	**04 10 26.4**	**+4.0**
	baz=58						
KDJ				⇑*i*S	**Sn**	**04 11 07.1**	**+3.6**
	baz=58						
CHGR	**Chuyangaron**	**3.59**	**243**	*e*PN	**Pn**	**04 10 27.4**	**+3.2**
CHGR				*i* S	**Sn**	**04 11 09.4**	**+2.7**
CHGR	**Chuyangaron**	**3.59**	**243**	⇑*e*P	**Pn**	**04 10 27.4**	**+3.2**
	baz=43						
CHGR				⇑*i*S	**Sn**	**04 11 09.4**	**+2.7**
	baz=43						
MTBS	**Maitube**	**3.66**	**39**	*e*P	**Pb**	**04 10 35.8**	**+2.6**
	10nm,0.3s						
MTBS				*e*S	**Sg**	**04 11 23.9**	**-2.1**
	40nm,0.7s						
BRLS	**Borolday**	**3.71**	**317**	*e*PN	**Pb**	**04 10 35.2**	**+1.1**
BRLS				*e*		04 11 23.6	
BRLS	**Borolday**	**3.71**	**317**	*e*P	**Pb**	**04 10 36.2**	**+2.0**
	22nm,0.1s						
BRLS				*e*S	**Sb**	**04 11 22.8**	**+3.6**
	76nm,0.2s						
BRLS	**Borolday**	**3.71**	**317**	*e*Pg	**Pb**	**04 10 35.3**	**+1.1**
	baz=314						
BRLS				*e*Lg	Lg	04 11 23.6	
	baz=314						
KRBS	**Karabastau**	**3.81**	**27**	*e*P	**Pb**	**04 10 38.3**	**+2.5**
	2.9nm,0.5s						
KRBS				*e*S	**Sg**	**04 11 27.7**	**-3.0**
	34nm,0.4s						
TNSS	**Tian-Shan**	**3.86**	**44**	*e*PN	**Pb**	**04 10 38.7**	**+1.9**
TNSS				*e*S	**Sg**	**04 11 29.4**	**-3.0**
TNSS	**Tian-Shan**	**3.86**	**44**	*e*P	**Pb**	**04 10 39.0**	**+2.2**
	7.8nm,0.5s						
TNSS				*e*S	**Sg**	**04 11 29.5**	**-3.0**
	19nm,0.3s						
TNSS	**Tian-Shan**	**3.86**	**44**	*e*Pb	**Pb**	**04 10 38.8**	**+1.9**
	baz=46						
TNSS				*e*Sb	**Sg**	**04 11 29.4**	**-3.0**
	baz=46						
MDOK	**Medeo**	**4.00**	**44**	*e*PN	**Pn**	**04 10 31.5**	**+1.7**
MDOK				*e*		04 10 44.5	
MDOK				*e*S	**Sg**	**04 11 34.0**	**-2.8**
MDOK	**Medeo**	**4.00**	**44**	*e*P	**Pb**	**04 10 42.6**	**+3.5**
	4.2nm,0.6s						
MDOK				*e*S	**Sg**	**04 11 35.2**	**-1.6**
	35nm,0.4s						
MDOK	**Medeo**	**4.00**	**44**	*e*Pn	**Pn**	**04 10 31.6**	**+1.7**
	baz=45						
MDOK				*e*Pg	**Pg**	**04 10 44.5**	**-0.6**
	baz=45						
MDOK				*e*Sb	**Sg**	**04 11 34.0**	**-2.8**
	baz=45						
MDOK				*e*Lg	Lg	04 11 39.9	
	baz=45						
MDOK	**Medeo**	**4.00**	**44**	⇑Pg	**Pb**	**04 10 42.5**	**+3.4**
	8.6nm,0.5s						
MDOK				⇑Lg	Lg	04 11 35.3	
	29nm,0.6s						
KOTS	**Kotyrbulak**	**4.08**	**44**	*e*P	**Pb**	**04 10 44.3**	**+3.9**
	15nm,0.4s						
KOTS				*e*S	**Sg**	**04 11 37.6**	**-1.9**
	54nm,0.5s						
ANVS	**Anan'yevo**	**4.11**	**52**	⇑*i*P	**Pn**	**04 10 35.1**	**+3.7**
	baz=53						
ANVS				⇑*i*S	**Sn**	**04 11 22.7**	**+3.1**
	baz=53						
KTBS	**Karatobe**	**4.22**	**36**	*e*P	**Pb**	**04 10 45.9**	**+3.0**
	1.6nm,0.5s						
KTBS				*e*S	**Sg**	**04 11 41.0**	**-3.1**
	29nm,0.3s						
KUU	**Kurty**	**4.22**	**32**	*e*P	**Pb**	**04 10 46.6**	**+3.8**
	3.8nm,0.4s						
KUU				*e*S	**Sg**	**04 11 41.4**	**-2.7**
	30nm,0.3s						
KUU	**Kurty**	**4.22**	**32**	*e*Pg	**Pg**	**04 10 47.8**	**-1.6**
	baz=33						
KUU				*e*Sb	**Sb**	**04 11 39.3**	**+5.5**
	baz=33						
CHKK	**Chushkaly**	**4.47**	**37**	*e*P	**Pb**	**04 10 51.0**	**+3.9**
	1.3nm,0.4s						
CHKK				*e*S	**Sg**	**04 11 49.1**	**-3.0**
	61nm,0.2s						
CHKK	**Chushkaly**	**4.47**	**37**	*e*Pg	**Pg**	**04 10 52.6**	**-1.5**
	baz=38						
SATY	**Saty**	**4.71**	**53**	*e*PN	**Pn**	**04 10 41.9**	**+2.2**
SATY				*e*		04 10 57.3	
SATY	**Saty**	**4.71**	**53**	*e*P	**Pb**	**04 10 55.6**	**+4.4**
	6.4nm,0.6s						
SATY				*e*S	**Sg**	**04 11 56.9**	**-2.9**
	19nm,0.4s						
SATY	**Saty**	**4.71**	**53**	*e*Pn	**Pn**	**04 10 41.9**	**+2.2**
	baz=54						
SATY				*e*Pb	**Pb**	**04 10 53.8**	**+2.5**
	baz=54						
SATY				*e*Pg	**Pg**	**04 10 57.3**	**-1.4**
	baz=54						
BTLS	**Baital**	**4.73**	**7**	*e*P	**Pb**	**04 10 54.6**	**+3.1**
	3.0nm,0.6s						
BTLS				*e*S	**Sg**	**04 11 55.0**	**-5.5**
	29nm,0.2s						
KURS	**Kuram**	**4.83**	**48**	*e*P	**Pb**	**04 10 57.7**	**+4.5**
	2.5nm,0.4s						
KURS				*e*S	**Sg**	**04 12 00.6**	**-2.9**
	14nm,0.4s						
KPKS	**Kokpek**	**5.11**	**51**	*e*PN	**Pn**	**04 10 47.0**	**+1.9**

KPKS					*e*			04 11 04.0	
KPKS	**Kokpek**	**5.11**	**51**	*e*P		**Pb**		**04 11 01.3**	**+3.3**
	4.4nm,0.3s								
KPKS				⇓	*i*S		**Sg**	**04 12 08.2**	**-4.4**
	30nm,0.3s								
KPKS	**Kokpek**	**5.11**	**51**	*e*Pn		**Pn**		**04 10 47.0**	**+1.9**
	baz=51								
KPKS				*e*Pg		**Pg**		**04 11 04.0**	**-2.3**
	baz=51								
UZB	**Uzynbulak**	**5.14**	**55**	*e*P		**Pb**		**04 11 03.0**	**+4.4**
	3.0nm,0.7s								
UZB					*e*S	**Sg**		**04 12 09.4**	**-4.1**
	9.8nm,0.3s								
ARXS	**Arharly**	**5.14**	**40**	*e*P		Pb		04 11 03.5	+5.0
	2.0nm,0.4s								
ARXS					*e*S	**Sg**		**04 12 11.1**	**-2.5**
	24nm,0.3s								
SHLS	**Shalkode**	**5.42**	**57**	*e*PN		Pn		04 10 55.9	+6.4
SHLS	**Shalkode**	**5.42**	**57**	*e*P		**Pg**		**04 11 12.4**	**0.0**
	1.5nm,0.3s								
SHLS					*e*S	**Sg**		**04 12 26.9**	**+4.3**
	9.6nm,1.1s								
SHLS	**Shalkode**	**5.42**	**57**	*e*Pn		Pn		04 10 55.9	+6.5
	baz=59								
PDGK	**Podgornoye**	**5.53**	**55**	⇑	Pg	**Pg**		**04 11 13.2**	**-1.2**
	5.2nm,0.8s								
PDGK				⇓	Lg	Lg		04 12 23.9	
	17nm,0.8s								
OTUK	**Ortayu**	**7.93**	**356**	⇑	Lg	Lg		04 13 36.8	
	24nm,0.8s								
MK31	**Makanchi Array**	**9.19**	**42**	*i*	P	Pn		04 11 47.1	+6.1
MKAR	**Makanchi Array**	**9.19**	**42**		Pn	**Pn**		**04 11 44.9**	**+3.8**
	0.1nm,0.3s,baz=232,slow=13,SNR=2.1								
KURK	**Kurchatov**	**11.03**	**18**	*i*	P	**Pn**		**04 12 07.7**	**+1.6**
BRVK	**Borovoye**	**12.88**	**352**	⇑	*i*P	**Pn**		**04 12 33.5**	**+2.0**
AB31	**Akbulak array**	**12.98**	**318**		P	**Pn**		**04 12 31.6**	**-1.2**
AB31	**Akbulak array**	**12.98**	**318**		Pn	**Pn**		**04 12 31.6**	**-1.2**
	0.8nm,0.5s,baz=126,slow=14,SNR=32								
AB31				⇓	Sn	**Sn**		**04 14 49.6**	**-7.6**
	0.5nm,0.6s,baz=123,slow=23,SNR=4.3								
ZALV	**Zalesovo Beam**	**15.69**	**26**		Pn	**Pn**		**04 13 11.2**	**+1.8**
	0.1nm,0.3s,baz=212,slow=9.4,SNR=2.4								
OBN	**Obninsk**	**28.37**	**314**	*e*P		**P**		**04 15 25.1**	**+2.7**
OBN					pmax	pmax			
	comp=Z,2.0nm,0.7s								
ARCES	**ARCESS Array B**	**38.34**	**335**		P	**P**		**04 16 46.7**	**-2.3**
	comp=Z,4.9nm,1.1s,baz=101,slow=9.4,SNR=1.5								
BILL	**Bilibino**	**54.38**	**28**	*e*P		P		04 19 00.0	+5.0
BILL					pmax	pmax			
	comp=Z,1.0nm,0.2s								
TORD	**Torodi Ar. Bea**	**67.59**	**268**		P	P		04 20 20.3	-5.2
	comp=Z,0.2nm,0.7s,baz=46,slow=5.2,SNR=1.5								
YKA	**Yellowknife Ar**	**77.32**	**4**		P	**P**		**04 21 22.7**	**0.0**
	comp=Z,0.1nm,0.5s,baz=349,slow=5.6,SNR=2.3								
YKA	**Yellowknife Ar**	**77.32**	**4**	*i*	P	P		04 21 28.5	+5.8
WRA	**Warramunga Arr**	**82.58**	**124**		P	**P**		**04 21 48.0**	**-3.7**
	comp=Z,0.3nm,0.8s,baz=315,slow=5.0,SNR=1.9								

UPA ***14*** *04:20:23.5±1.6, 7°.35N×77°.93W, h7km±11km, MW4.2*
RSNC ***14*** *04:20:24.7±1.3, 7°.37N×77°.87W, h2km±6km, ML2.9, Mw3.4*
ISC 14 04:20:23.3±1.6, 7°.36N±0°.03×77°.93W±0°.03, h13km±12km, n44, σ1°52/64, 5C-5D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.24**	**150**	⇑	*i*P	**Pb**		**04 20 29.8**	**+0.1**
PTAC					*i*			04 20 34.7	
	comp=Z,25μm,0.2s								
UPD2	**Meteti**	**1.18**	**356**	⇑	*e*P	**Pn**		**04 20 45.1**	**-0.4**
UPD2					*e*S	**Sg**		**04 21 01.9**	**+0.4**
UPD2					*i*			04 21 08.1	
	comp=Z,603nm,0.4s								
UPD2	**Meteti**	**1.18**	**356**	⇑	*i*P	**Pn**		**04 20 45.2**	**-0.4**
UPD2					*i*S	**Sg**		**04 21 02.0**	**+0.4**
SOLC	**Bahia Solano**	**1.24**	**155**	⇓	*e*P	**Pn**		**04 20 45.7**	**-0.6**
SOLC					*e*S	**Sg**		**04 21 03.9**	**+0.5**
SOLC					*i*			04 21 08.6	
	comp=Z,343nm,0.2s								
DBBC	**Dabeiba**	**1.74**	**101**	⇓	*e*P	**Pn**		**04 20 53.5**	**+0.2**
DBBC					*i*			04 21 18.8	
	comp=Z,1μm,0.6s								
LCBC	**Los crdobas,**	**2.15**	**46**	*e*P		**Pb**		**04 21 01.9**	**-0.2**
LCBC				*e*S		**Sb**		**04 21 29.1**	**+0.5**
LCBC				*i*				04 21 36.2	
	comp=Z,64nm,0.3s								
LCBC	**Los crdobas,**	**2.15**	**46**	*e*P		**Pn**		**04 20 59.1**	**+0.2**
CHPO	**Chepo, Panama**	**2.15**	**327**	*i*P		**Pn**		**04 20 59.2**	**+0.3**
CHPO				*e*S		**Sn**		**04 21 26.9**	**+1.6**
TABO3	**Taboga, Panama**	**2.15**	**312**	*e*P		**Pn**		**04 20 58.9**	**0.0**
UPA	**Univ. de Panam**	**2.26**	**316**	*e*P		**Pb**		**04 21 03.0**	**-1.1**
UPA				*e*S		**Sb**		**04 21 32.4**	**+0.4**
UPA				*i*				04 21 38.5	
	comp=Z,22nm,0.7s								
UPA	**Univ. de Panam**	**2.26**	**316**	*i*P		**Pn**		**04 21 00.9**	**+0.4**
UPA				*i*S		**Sn**		**04 21 28.6**	**+0.4**
ARRA3	**Arrajan, Pana**	**2.34**	**313**	*e*P		**Pn**		**04 21 02.3**	**+0.8**
AZU	**Azuero**	**2.36**	**281**	*e*P		**Pn**		**04 21 02.6**	**+0.7**
AZU				*e*S		**Sn**		**04 21 30.2**	**-0.5**
AZU	**Azuero**	**2.36**	**281**	⇑	*i*P	**Pn**		**04 21 02.7**	**+0.9**
UREC	**San Jos de Ur**	**2.41**	**81**	*e*P		**Pn**		**04 21 03.3**	**+0.8**
UREC				*e*S		**Sb**		**04 21 33.1**	**-3.1**
UREC				*i*				04 21 41.2	
	comp=Z,34nm,0.3s								
CBOC	**Ciudad Bolivar**	**2.42**	**128**	*e*P		**Pn**		**04 21 03.0**	**+0.2**
CBOC				*e*S		**Sn**		**04 21 33.1**	**+0.8**
CBOC				*i*				04 21 49.9	
	comp=Z,59nm,0.5s								
GAMB1	**Gamboa**	**2.48**	**315**	*i*P		**Pn**		**04 21 04.5**	**+1.0**
ZANG	**Zanguenga, Cho**	**2.49**	**310**	⇑	*i*P	**Pn**		**04 21 03.8**	**+0.3**
TOSI3	**Tonosi**	**2.49**	**271**	*e*P		**Pn**		**04 21 04.4**	**+0.8**
TOSI3				*e*S		**Sn**		**04 21 33.1**	**-0.8**
VTON	**El Valle, Cocl**	**2.49**	**300**	*e*P		**Pn**		**04 21 04.3**	**+0.6**
CHIT3	**Chitre**	**2.54**	**284**	*e*P		**Pn**		**04 21 05.1**	**+0.9**
FRIJ	**El Hiral**	**2.57**	**316**	*e*P		**Pn**		**04 21 04.5**	**-0.2**
MIRA3	**Miramar, Colon**	**2.60**	**328**	*i*P		**Pn**		**04 21 04.6**	**-0.6**
BCIP	**Isla Barro Col**	**2.60**	**314**	*e*P		**Pn**		**04 21 05.3**	**+0.1**
BCIP				*e*S		**Sb**		**04 21 42.5**	**+0.7**
BCIP				*i*				04 22 03.3	
	comp=Z,44nm,0.6s								
BCIP	**Isla Barro Col**	**2.60**	**314**	*e*P		**Pn**		**04 21 04.8**	**-0.4**
HELC	**Santa Helena**	**2.65**	**116**	*e*P		**Pn**		**04 21 07.8**	**+1.7**
HELC				*e*S		**Sb**		**04 21 40.8**	**-2.8**
HELC				*i*				04 21 45.1	
	comp=Z,26nm,0.3s								
MLIR	**Monte Lirio**	**2.67**	**315**	*e*P		**Pn**		**04 21 04.1**	**-1.9**
CACAO	**El Cacao, Vera**	**2.91**	**270**	⇓	*e*P	**Pn**		**04 21 09.8**	**+0.4**
PLMC	**San Jos del P**	**2.94**	**146**	⇓	*e*P	**Pn**		**04 21 09.4**	**-0.4**
PLMC					*i*			04 21 53.8	
	comp=Z,18nm,0.4s								
MARI3	**Mariato, Verag**	**3.05**	**276**	*e*P		**Pn**		**04 21 12.1**	**+0.8**
ZARC	**Zaragoza, Cauc**	**3.05**	**87**	*e*P		**Pn**		**04 21 13.0**	**+1.7**
ZARC				*e*S		**Sn**		**04 21 47.7**	**0.0**
ZARC				*i*				04 21 50.6	
	comp=Z,42nm,0.3s								
GMAL	**Guarumal, Vera**	**3.30**	**277**	⇓	*e*P	**Pn**		**04 21 17.1**	**+2.4**
GMAL				*i*S		**Sn**		**04 21 54.2**	**+0.3**
GUY2C	**Guyana, Caldas**	**3.32**	**130**	*e*P		**Pn**		**04 21 17.7**	**+2.3**
GUY2C				*e*S		**Sb**		**04 21 59.9**	**-2.9**
GUY2C				*i*				04 22 04.8	
	comp=Z,30nm,0.6s								
NORC	**Norcasia**	**3.53**	**120**	*e*P		**Pn**		**04 21 20.7**	**+2.8**
NORC				*e*S		**Sb**		**04 22 04.3**	**-4.2**
NORC				*i*				04 22 08.8	
	comp=Z,18nm,0.5s								
PTBC	**PUERTO BERRIO,**	**3.54**	**103**	*e*P		**Pn**		**04 21 19.1**	**+0.9**
PTBC				*e*S		**Sn**		**04 22 00.1**	**+0.2**
PTBC				*i*				04 22 09.3	
	comp=Z,19nm,0.6s								
SJCC	**San Jacinto, C**	**3.71**	**47**	*e*P		**Pn**		**04 21 21.1**	**+0.7**
SJCC				*e*S		**Sn**		**04 22 03.5**	**-0.5**
SJCC				*i*				04 22 16.1	
	comp=Z,10nm,0.6s								
YOTC	**Yotoco, Valle**	**3.71**	**155**	*e*P		**Pn**		**04 21 22.0**	**+1.5**
ANIL	**Santa Ana**	**3.80**	**138**	*e*P		**Pb**		**04 21 29.4**	**-1.1**
ANIL				*i*				04 22 20.6	
	comp=Z,24nm,0.4s								
SPBC	**San Pablo de B**	**4.19**	**114**	*e*P		**Pn**		**04 21 30.7**	**+3.6**
SPBC				*i*				04 22 28.3	
	comp=Z,6.5nm,0.6s								
ORTC	**Ortega, Tolima**	**4.35**	**142**	*e*P		Pn		04 21 34.6	+5.4
ORTC				*i*				04 22 37.6	
	comp=Z,7.2nm,0.6s								
OCAC	**Ocana**	**4.65**	**79**	*e*P		**Pn**		**04 21 35.1**	**+1.6**
OCAC					*e*S	**Sn**		**04 22 27.5**	**+0.1**
OCAC					*i*			04 22 30.2	
	comp=Z,45nm,0.5s								
PAMC	**Pamplona, Colo**	**5.19**	**90**	*e*P		**Pn**		**04 21 44.3**	**+3.2**
PAMC				*e*S		**Sn**		**04 22 43.7**	**+2.5**
SOTA	**Rioblanco**	**5.36**	**166**	*e*P		**Pn**		**04 21 47.0**	**+3.5**
SOTA				*i*				04 22 59.7	
	comp=Z,3.5nm,0.6s								
CRJC	**Cerrejon, Guaj**	**6.17**	**54**	*e*P		**Pn**		**04 21 55.4**	**+1.1**

IDC ***14*** *04:39:41.3±0.9, 11°.26N×141°.14E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.8/33, mbtmp3.7/9, Error ellipse: s-maj=32.6km s-min=21.3km az=90.0*
ISC 14 04:39:46.5±0.9, 11°.2N±0°.2×141°.1E±0°.2, h35km, n10, σ0s95/10, mb3.7/9, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.69**	**192**		P	**P**		**04 46 06.5**	**-0.5**
	0.3nm,0.3s,baz=51,slow=11,SNR=6.5								
ASAR	**Alice Springs**	**35.40**	**191**		P	**P**		**04 46 39.2**	**0.0**
	0.3nm,0.5s,baz=18,slow=12,SNR=4.9								
CMAR	**Chiang Mai Arr**	**41.32**	**285**		P	**P**		**04 47 29.9**	**+0.7**
	0.4nm,0.6s,baz=82,slow=7.3,SNR=4.8								
SONM	**Songino Array**	**46.66**	**328**		P	**P**		**04 48 12.0**	**+0.2**
	0.4nm,0.6s,baz=142,slow=7.7,SNR=2.7								
MKAR	**Makanchi Array**	**60.69**	**318**		P	**P**		**04 49 54.8**	**+0.4**
	0.4nm,0.5s,baz=97,slow=9.1,SNR=5.1								
ZALV	**Zalesovo Beam**	**61.45**	**326**		P	**P**		**04 49 58.8**	**-0.6**
	0.8nm,0.4s,baz=106,slow=8.4,SNR=4.2								
ILAR	**Eielson Array**	**72.25**	**25**		P	**P**		**04 51 07.5**	**-0.4**
	0.5nm,0.6s,baz=246,slow=6.1,SNR=10								
YKA	**Yellowknife Ar**	**86.61**	**27**		P	**P**		**04 52 27.4**	**+1.3**
	0.4nm,0.5s,baz=288,slow=5.0,SNR=12								
FINES	**FINESS Array B**	**91.71**	**334**		P	**P**		**04 52 48.5**	**-1.7**
	1.8nm,0.7s,baz=26,slow=4.9,SNR=4.2								
LPAZ	**La Paz**	**151.16**	**103**	PKPbc		**PKiKP**		**04 59 39.0**	**+0.6**
	0.4nm,0.6s,baz=288,slow=3.2,SNR=2.3								

IDC ***14*** *04:55:23.2±2.6, 6°.80S×129°.61E, h143km±28km, mb3.6/6, mb1 3.7/10, mb1mx3.3/53, mbtmp4.1/10, Error ellipse: s-maj=46.5km s-min=16.3km az=80.0*
NEIC ***14*** *04:55:25.4±1.8, 6°.82S±0°.07×129°.5E±0°.1, h159km±10km, mb4.0/11, Error ellipse: s-maj=19.1km s-min=10.0km az=79.0*
ISC 14 04:55:23.6±0.6, 6°.78S±0°.05×129°.48E±0°.08, h150km, n38, σ2s39/42, mb3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.16**	**124**			Pn	**Pn**	**04 56 02.9**	**+2.2**
SAUI						Sn	**Sn**	**04 56 31.0**	**+1.8**
BNDI	**Bandanaira**	**2.28**	**11**		P	Pn		04 56 09.7	+7.6
SIJI	**Sorong**	**6.13**	**17**		P	**Pn**		**04 56 51.6**	**-0.6**
	7.1nm,0.3s,baz=271,slow=22,SNR=27								
SIJI						S	**Sn**	**04 57 54.6**	**-6.8**
	8.5nm,0.3s,baz=228,slow=23,SNR=10								
MTN	**Manton Dam**	**6.24**	**165**			Pn	**Pn**	**04 56 54.7**	**+1.1**
MTN						Sn	**Sn**	**04 58 01.0**	**-3.1**
MTN	**Manton Dam**	**6.24**	**165**		P	**Pn**		**04 56 54.9**	**+1.3**
KDU	**Kakadu**	**6.57**	**154**		P	**Pn**		**04 56 58.4**	**+0.5**
KNRA	**Kununurra**	**8.87**	**185**			**Pn**		**04 57 29.9**	**+1.3**
KNRA	**Kununurra**	**8.87**	**185**		P	**Pn**		**04 57 30.0**	**+1.3**
PLAI	**Plampang**	**11.78**	**259**		P	**P**		**04 58 12.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**11.86**	**198**		P	**Pn**		**04 58 08.5**	**+0.4**
	1.2nm,0.3s,baz=30,slow=11,SNR=36								
FITZ						S	**Sn**	**05 00 13.1**	**-6.2**
	0.4nm,0.3s,baz=254,slow=24,SNR=2.4								
FITZ	**Fitzroy Crossi**	**11.86**	**198**			Pn	**Pn**	**04 58 08.8**	**+0.7**
WB0	**Waramunga Arr**	**13.76**	**160**			Pn	**Pn**	**04 58 29.3**	**-3.3**
WRA	**Warramunga Arr**	**13.91**	**161**		P	Pn		**04 58 32.1**	**-2.4**
	0.7nm,0.3s,baz=336,slow=13,SNR=31								
WRA						S	Sn	05 00 59.5	-9.1
	1.7nm,0.3s,baz=333,slow=23,SNR=9.5								
WR0	**Warramunga Arr**	**13.99**	**160**		P	Pn	**Pn**	**04 58 33.1**	**-2.4**
COEN	**Coen**	**15.23**	**119**		Pn	Pn	**Pn**	**04 58 51.6**	**+0.6**
COEN					IAmb	IAmb		04 58 53.4	
	comp=Z,8.6nm,0.9s								
COEN	**Coen**	**15.23**	**119**		P	Pn	**Pn**	**04 58 50.7**	**-0.4**
QIS	**Mount Isa**	**16.85**	**145**		P	P	**P**	**04 59 10.5**	**+0.1**
AS31	**Alice Springs**	**17.32**	**166**		P	Pn	**Pn**	**04 59 17.5**	**+1.0**
AS31					IAmb	IAmb		04 59 18.9	
	comp=Z,2.6nm,0.6s								
ASAR	**Alice Springs**	**17.32**	**166**		P	**Pn**	**Pn**	**04 59 17.1**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=345,slow=9.8,SNR=72								
ASAR					S	**S**		**05 02 21.6**	**-6.9**
	comp=Z,0.2nm,0.3s,baz=345,slow=24,SNR=4.1								
ASAR	**Alice Springs**	**17.32**	**166**		P	**Pn**	**Pn**	**04 59 16.9**	**+0.5**
WRKA	**Warakurna**	**18.19**	**183**		P	**P**	**P**	**04 59 26.1**	**+1.0**
OOD	**Oodnadatta**	**21.71**	**165**		P	**P**	**P**	**05 00 03.1**	**+0.2**
FORT	**Forrest**	**23.91**	**183**		P	**P**	**P**	**05 00 26.1**	**+2.4**
BBOO	**Buckleboo**	**26.61**	**168**		P	**P**	**P**	**05 00 47.5**	**-0.6**
BBOO					IAmb	IAmb	IAmb	05 00 57.1	
	comp=Z,7.3nm,1.2s								
STKA	**Stephens Creek**	**27.41**	**157**		P	**P**	**P**	**05 00 54.3**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=337,slow=15,SNR=2.0								
STKA	**Stephens Creek**	**27.41**	**157**		P	**P**	**P**	**05 00 59.8**	**+4.5**
CMAR	**Chiang Mai Arr**	**39.20**	**310**		P	**P**	**P**	**05 02 37.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=132,slow=6.2,SNR=1.8								
CHTO	**Chiang Mai**	**39.41**	**311**		P	**P**	**P**	**05 02 39.7**	**+0.5**
CHTO					IAmb	IAmb		05 02 46.8	
	comp=Z,1.7nm,0.8s								
SONM	**Songino Array**	**58.07**	**342**		P	**P**	**P**	**05 05 01.8**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=153,slow=10.0,SNR=3.7								
SONM	**Songino Array**	**58.07**	**342**		P	**P**	**P**	**05 05 01.3**	**+0.1**
SONM					IAmb	IAmb		05 05 06.9	
	comp=Z,2.5nm,1.5s								
MK31	**Makanchi Array**	**67.76**	**327**		P	**P**	**P**	**05 06 05.8**	**+0.7**
MK31					IAmb	IAmb		05 06 07.3	
	comp=Z,2.5nm,0.6s								
MKAR	**Makanchi Array**	**67.76**	**327**		P	**P**	**P**	**05 06 06.8**	**+1.6**
	comp=Z,3.2nm,0.4s,baz=121,slow=8.0,SNR=38								
MAKZ	**Makanchi**	**67.94**	**327**		P	**P**	**P**	**05 06 07.8**	**+1.6**
ZAAO	**Zalesovo Array**	**71.16**	**334**		P	**P**	**P**	**05 06 26.2**	**+0.5**
ZALV	**Zalesovo Beam**	**71.16**	**334**		P	**P**	**P**	**05 06 25.8**	**0.0**
	comp=Z,0.9nm,0.6s,baz=123,slow=5.6,SNR=5.0								
KURBB	**Kurchatov Arra**	**72.06**	**329**		P	**P**	**P**	**05 06 32.2**	**+1.0**
	comp=Z,2.0nm,0.5s,baz=130,slow=5.0,SNR=24								
KURK	**Kurchatov**	**72.06**	**329**		P	**P**	**P**	**05 06 31.9**	**+0.6**
KURK					IAmb	IAmb		05 06 32.6	
	comp=Z,1.8nm,0.6s								
ABKAR	**Akbulak array**	**82.02**	**322**		P	**P**	**P**	**05 07 27.6**	**+0.7**

NEIC ***14*** *05:01:15.3±1.2, 19°.97S±0°.04×69°.15W±0°.07, h103km±3km, mb4.1/7, ML3.9(GUC), Error ellipse: s-maj=9.8km s-min=5.9km az=99.0*
GUC ***14*** *05:01:16.3±0.8, 19°.95S×69°.15W, h97km±2km, ML3.8*
IDC ***14*** *05:01:16.8±1.2, 20°.04S×68°.89W, h116km±11km, mb3.5/4, mb1 3.6/8, mb1mx3.4/36, mbtmp3.9/8, Error ellipse: s-maj=28.6km s-min=9.2km az=98.0*
VAO ***14*** *05:02:15.8±0.8, 19°.34S×64°.29W, h323km, mb3.9*
ISC 14 05:01:14.9±0.7, 19°.97S±0°.03×69°.18W±0°.05, h100km±6km, n72, σ1s37/87, 6C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.17**	**171**				**Pn**	**05 01 30.3**	**+0.7**
PB08						Sn	**Sn**	**05 01 41.4**	**+0.9**
PB08	**IPOC Station P**	**0.17**	**171**	⇓	*i*P		**Pn**	**05 01 30.6**	**+1.1**
PB08					*i*S		**Sn**	**05 01 41.5**	**+1.0**
PB08					IAML			05 01 44.1	
	comp=E,9μm,0.2s								
GO01	**Chusmiza**	**0.30**	**358**				**Pn**	**05 01 31.1**	**+0.9**
GO01						Sn	**Sn**	**05 01 42.2**	**+0.7**
GO01	**Chusmiza**	**0.30**	**358**	⇓	*i*P		**Pn**	**05 01 30.9**	**+0.7**
GO01					*e*S		**Sn**	**05 01 42.1**	**+0.7**
PB11	**IPOC Station P**	**0.49**	**295**				**Pn**	**05 01 31.3**	**+0.4**
PB11						Sn	**Sn**	**05 01 43.6**	**+0.8**
PB11	**IPOC Station P**	**0.49**	**295**	⇑	*i*P		**Pn**	**05 01 31.6**	**+0.7**
PB11					*i*S		**Sn**	**05 01 43.0**	**+0.2**
PB11					IAML			05 01 44.4	
	comp=E,5μm,0.5s								
HMBC	**Humberstone**	**0.73**	**245**	⇑	*i*P		**Pn**	**05 01 33.5**	**+0.8**
HMBC					*i*S		**Sn**	**05 01 47.3**	**+1.2**
HMBC					IAML			05 01 50.9	
	comp=N,8μm,0.3s								
TA02	**Huaiquique**	**0.94**	**251**				**Pn**	**05 01 35.3**	**+0.6**
TA02						Sn	**Sn**	**05 01 50.9**	**+1.3**
TA02	**Huaiquique**	**0.94**	**251**	⇑	*i*P		**Pn**	**05 01 35.6**	**+0.9**
TA02					*i*S		**Sn**	**05 01 50.9**	**+1.3**
PB01	**IPOC Station P**	**1.10**	**195**				**Pn**	**05 01 37.7**	**+1.1**
PB01						Sn	**Sn**	**05 01 54.1**	**+1.2**
PB01	**IPOC Station P**	**1.10**	**195**	⇑	*i*P		**Pn**	**05 01 37.7**	**+1.1**
PB01					*i*S		**Sn**	**05 01 54.1**	**+1.2**
PB01					IAML			05 01 55.7	
	comp=E,4μm,0.3s								
TA01	**Diego Aracena**	**1.11**	**238**				**Pn**	**05 01 37.1**	**+0.6**
TA01	**Diego Aracena**	**1.11**	**238**	⇑	*i*P		**Pn**	**05 01 37.2**	**+0.6**
TA01					*i*S		**Sn**	**05 01 53.6**	**+0.8**
TA01					IAML			05 01 57.3	
	comp=E,1μm,0.2s								
PATCX	**Punta Patache**	**1.24**	**227**				**Pn**	**05 01 38.9**	**+0.7**
PATCX	**Punta Patache**	**1.24**	**227**	⇑	*i*P		**Pn**	**05 01 38.8**	**+0.7**
PATCX					*i*S		**Sn**	**05 01 56.6**	**+0.8**
PATCX					IAML			05 02 00.6	
	comp=N,2μm,0.3s								
PB02	**IPOC Station P**	**1.50**	**206**				**Pn**	**05 01 42.5**	**+1.2**
PB02	**IPOC Station P**	**1.50**	**206**	*e*P			**Pn**	**05 01 42.5**	**+1.2**
PB02				*e*S			**Sn**	**05 02 02.6**	**+1.4**
PB02				IAML				05 02 10.3	
	comp=N,2μm,0.2s								
PB16	**IPOC Station P**	**1.66**	**349**				**Pn**	**05 01 45.6**	**+1.8**
PB16	**IPOC Station P**	**1.66**	**349**	⇓	*i*P		**Pn**	**05 01 45.4**	**+1.6**
PB16				*e*S			**Sn**	**05 02 07.9**	**+2.4**
PB16				IAML				05 02 11.8	
	comp=N,344nm,0.2s								
PB12	**IPOC Station P**	**1.73**	**321**				**Pn**	**05 01 44.8**	**+0.5**
PB12	**IPOC Station P**	**1.73**	**321**	*e*P			**Pn**	**05 01 44.6**	**+0.4**
PB12				*e*S			**Sn**	**05 02 06.9**	**+0.4**
PB12				IAML				05 02 12.7	
	comp=E,1μm,0.2s								
PB09	**IPOC Station P**	**1.81**	**182**				**Pn**	**05 01 47.3**	**+2.0**
PB09	**IPOC Station P**	**1.81**	**182**	*e*P			**Pn**	**05 01 47.0**	**+1.6**
PB09				*e*S			**Sn**	**05 02 11.8**	**+3.3**
PB09				IAML				05 02 15.1	
	comp=E,515nm,0.4s								
PB07	**IPOC Station P**	**1.86**	**201**				**Pn**	**05 01 47.3**	**+1.3**
PB07	**IPOC Station P**	**1.86**	**201**	*e*P			**Pn**	**05 01 47.0**	**+1.1**
PB07				*e*S			**Sn**	**05 02 11.0**	**+1.4**
PB07				IAML				05 02 18.5	
	comp=E,1μm,0.4s								
AP01	**Chacalluta**	**1.94**	**325**				**Pn**	**05 01 47.4**	**+0.8**
AP01	**Chacalluta**	**1.94**	**325**	*e*P			**Pn**	**05 01 47.5**	**+0.9**
AP01				*e*S			**Sn**	**05 02 12.4**	**+1.6**
AP01				IAML				05 02 21.4	
	comp=E,2μm,0.3s								
PB04	**IPOC Station P**	**2.52**	**201**				**Pn**	**05 01 56.6**	**+2.2**
PB04	**IPOC Station P**	**2.52**	**201**	*e*P			**Pn**	**05 01 55.9**	**+1.5**
LVC	**Limon Verde**	**2.64**	**175**	P			**Pn**	**05 01 58.0**	**+1.8**
	comp=E,8.2nm,0.3s,baz=27,slow=8.7,SNR=69								
LVC				S			**Sn**	**05 02 28.8**	**+1.0**
	comp=E,22nm,0.3s,baz=323,slow=10,SNR=9.4							

	9.2nm,0.3s,baz=183,slow=12,SNR=9.2							
STKA	**Stephens Creek**	**11.02**	**211**	Pn	Pn	05 12 17.9	**0.0**	
	0.2nm,0.3s,baz=9.6,slow=14,SNR=1.7							
WRA	**Warramunga Arr**	**13.13**	**279**	Pn	Pn	05 12 46.1	-0.7	
	0.0nm,0.3s,baz=100,slow=12,SNR=2.2							
WRA				Lg	Lg	05 16 31.8		
	0.1nm,0.3s,baz=108,slow=25,SNR=1.8							
ASAR	**Alice Springs**	**13.17**	**262**	Pn	Pn	05 12 47.4	+0.1	
	0.1nm,0.3s,baz=91,slow=14,SNR=2.3							
ASAR				Lg	Lg	05 16 36.8		
	0.1nm,0.3s,baz=82,slow=28,SNR=4.6							
I22FR	**PORTLAGUERRE I17.30**		**93**	*i*		06 47 50.0		
	baz=264,slow=311,SNR=1.1							
TORD	**Torodi Ar. Bea**	**146.81**	**260**	PKPbc	PKPdf	05 29 22.7	+0.6	
	0.4nm,0.6s,baz=111,slow=3.1,SNR=2.8							

UPA ***14*** *05:19:29.9±2.5, 7°.45N×82°.11W, h17km±15km, MW4.1*
UCR ***14*** *05:19:30.7±1.7, 7°.40N×82°.43W, h5km, MW3.8*

ISC 14 05:19:28.0±1.4, 7°.58N±0°.06×82°.08W±0°.03, h1km±10km, n50, σ1°09/72, 4C-20D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REME3	**Remedios, Chir**	**0.69**	**20**⇑	*i* P	**Pn**	**05 19 44.9**	**+0.1**
CHIR3	**Chiriqui UPA,**	**0.85**	**343**⇑	*i* P	**Pn**	**05 19 47.1**	**0.0**
CHIR3				*i* S	**Sn**	**05 20 00.6**	**+0.4**
GMAL	**Guarumal, Vera**	**0.85**	**77**	*e*P	**Pg**	**05 19 45.6**	**+1.2**
GMAL	**Guarumal, Vera**	**0.85**	**77**⇓	*i* P	**Pg**	**05 19 45.6**	**+1.2**
GMAL				*i* S	**Sb**	**05 19 57.4**	**-0.2**
PEDE3	**Pedregal, Chir**	**0.87**	**337**⇓	*e*P	**Pn**	**05 19 47.5**	**+0.1**
PEDE3				*i* S	**Sn**	**05 20 01.4**	**+0.7**
DVD	**David**	**0.93**	**336**⇑	*e*P	**Pn**	**05 19 48.3**	**+0.1**
BAGA3	**Bagala, Chiriq**	**0.99**	**333**	*e*P	**Pn**	**05 19 49.7**	**+0.7**
RSUS3	**Rio de Jesus,**	**0.99**	**66**⇓	*i* P	**Pb**	**05 19 48.5**	**+0.5**
PTPM	**Petroterminale**	**1.01**	**308**⇓	*i* P	**Pg**	**05 19 48.5**	**+1.1**
PTPM				*i* S	**Sg**	**05 20 01.0**	**+0.5**
MARI3	**Mariato, Verag**	**1.08**	**86**⇓	*i* P	**Pg**	**05 19 49.6**	**+0.9**
MARI3				*e*S	**Sb**	**05 20 05.6**	**+1.6**
PSOM3	**Paja de Sombre**	**1.13**	**348**⇓	*i* P	**Pn**	**05 19 51.3**	**+0.4**
PSOM3				*i* S	**Sn**	**05 20 04.5**	**-2.6**
BCO2	**Palmira**	**1.22**	**338**⇓	*i* P	**Pn**	**05 19 52.9**	**+0.5**
BCO2				*i* S	**Sn**	**05 20 11.1**	**+1.5**
CACAO	**El Cacao, Vera**	**1.23**	**101**	*e*P	**Pg**	**05 19 50.9**	**-0.6**
CACAO	**El Cacao, Vera**	**1.23**	**101**⇓	*i* P	**Pg**	**05 19 51.2**	**-0.3**
CACAO				*e*S	**Sg**	**05 20 07.2**	**-0.2**
LNBQ3	**Los Naranjos,**	**1.26**	**343**⇓	*i* P	**Pn**	**05 19 53.2**	**+0.4**
LNBQ3				*i* S	**Sn**	**05 20 10.2**	**-0.4**
CDITO	**Canoas**	**1.27**	**321**⇓	*e*P	**Pg**	**05 19 52.6**	**+0.3**
BRU2	**Volcan**	**1.35**	**333**⇓	*i* P	**Pn**	**05 19 54.7**	**+0.5**
BRU2				*i* S	**Sn**	**05 20 14.0**	**+1.1**
CHGR2	**Aguacate**	**1.35**	**357**	*e*P	**Pn**	**05 19 53.9**	**-0.2**
CHGR2				*e*S	**Sn**	**05 20 12.0**	**-0.7**
MLIR3	**Monte Lirio, C**	**1.42**	**329**⇓	*e*P	**Pn**	**05 19 56.3**	**+1.3**
MLIR3	**Monte Lirio, C**	**1.42**	**329**	*e*S	**Sn**	**05 20 16.9**	**+2.5**
CALO3	**Calobre, Verag**	**1.43**	**59**⇓	*e*P	**Pb**	**05 19 55.8**	**+0.4**
CALO3				*e*S	**Sn**	**05 20 13.9**	**-0.6**
PIRO	**Carate, Puerto**	**1.50**	**303**⇓	*i* P	**Pn**	**05 19 54.4**	**-1.5**
PIRO				*e*S	**Sb**	**05 20 14.3**	**-1.8**
PIRO	**Carate, Puerto**	**1.50**	**303**⇓	*i* P	**Pn**	**05 19 54.8**	**-1.2**
EDSV	**San Vito**	**1.52**	**324**	*e*P	**Pn**	**05 19 56.9**	**+0.4**
EDSV				*e*S	**Sn**	**05 20 18.9**	**+2.0**
CRIS3	**El Cristo, Coc**	**1.59**	**65**⇓	*e*P	**Pn**	**05 19 58.2**	**+0.9**
CRIS3				*e*S	**Sg**	**05 20 18.6**	**-0.6**
TOSI3	**Tonosi**	**1.63**	**96**	*e*P	**Pb**	**05 20 00.2**	**+1.3**
CHIT3	**Chitre**	**1.69**	**77**⇑	*e*P	**Pn**	**05 19 59.0**	**+0.4**
CHIT3				*e*S	**Sn**	**05 20 19.5**	**-1.3**
AZU	**Azuero**	**1.80**	**83**	*e*P	**Pn**	**05 20 00.3**	**+0.2**
AZU	**Azuero**	**1.80**	**83**⇓	*i* P	**Pn**	**05 20 01.0**	**+0.8**
	baz=264,slow=14							
AZU				*i* S	**Sn**	**05 20 24.4**	**+0.8**
CNI2	**El Empalme, Bo**	**1.88**	**348**⇓	*i* P	**Pg**	**05 20 03.4**	**-0.6**
CNI2				*e*S	**Sg**	**05 20 28.6**	**+0.3**
EDPN	**Palmar Norte**	**1.94**	**315**	*e*P	**Pn**	**05 20 02.3**	**+0.2**
EDPN				*e*S	**Sn**	**05 20 26.5**	**-0.6**
PCRI3	**Pocri, Los San**	**1.94**	**87**	*e*P	Pn	05 19 56.9	-5.2
EDBA	**Buenos Aires**	**1.97**	**323**	*e*P	**Pb**	**05 20 04.8**	**0.0**
PEDA3	**Pedasi**	**2.03**	**91**	*e*P	**Pn**	**05 20 00.9**	**-2.4**
DRK0	**Durika**	**2.04**	**325**⇓	*e*P	**Pn**	**05 20 04.4**	**+0.8**
VTON	**El Valle, Cocl**	**2.20**	**62**	*i* P	**Pg**	**05 20 10.1**	**-0.1**
VTON				*i* S	**Sg**	**05 20 37.3**	**-1.4**
PEZE	**Perez Zeledon,**	**2.39**	**319**	*e*P	**Pn**	**05 20 09.1**	**+0.7**
PEZE				*e*S	**Sb**	**05 20 39.6**	**-2.4**
ZANG	**Zanguenga, Cho**	**2.58**	**58**	*e*P	**Pb**	**05 20 14.4**	**-0.6**
BCIP	**Isla Barro Col**	**2.72**	**54**⇓	*e*P	**Pn**	**05 20 15.2**	**+2.4**
MLIR	**Monte Lirio**	**2.75**	**53**	*e*P	**Pb**	**05 20 16.7**	**-1.3**
GAMB1	**Gamboa**	**2.80**	**57**	*e*P	**Pb**	**05 20 19.4**	**+0.6**
RIMA	**Rio Macho**	**2.80**	**321**	*e*P	**Pn**	**05 20 15.4**	**+1.2**
LCR2	**La Lucha 2**	**2.88**	**319**	*e*P	**Pn**	**05 20 15.8**	**+0.6**
LCR2				*e*S	**Sn**	**05 20 51.3**	**+0.8**
UPA	**Univ. de Panam**	**2.88**	**61**	*e*P	**Pg**	**05 20 22.0**	**-1.2**
HDC	**Heredia**	**3.14**	**320**	*e*P	**Pn**	**05 20 20.4**	**+1.6**
HDC				*e*S	**Sn**	**05 20 57.8**	**+0.9**
JACO	**JACO, Garabito**	**3.29**	**309**	*e*P	**Pn**	**05 20 19.8**	**-0.8**
CHPO	**Chepo, Panama**	**3.33**	**61**	*e*P	**Pb**	**05 20 26.7**	**-1.1**
JTS	**Las Juntas de**	**3.92**	**314**	*e*P	**Pn**	**05 20 29.9**	**+0.5**
JTS	**Las Juntas de**	**3.92**	**314**	*e*P	**Pn**	**05 20 29.8**	**+0.5**
SAJU	**San Juanillo,**	**4.36**	**305**	*e*P	**Pn**	**05 20 35.1**	**-0.3**

IDC 14 05:28:34.3±3.4, 55°.25N×85°.87E, h0km, mb1 2.6/2, mb1mx2.6/48, mbtmp2.6/2, ML1.9/2, Error ellipse: s-maj=28.5km s-min=21.9km az=29.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**205**	*i*		05 40 00.0	
	baz=24,slow=334,SNR=0.8						
ZALV	**Zalesovo Beam**	**1.44**	**205**	Pg	Pn	05 29 01.3	-0.4
	1.1nm,0.3s,baz=22,slow=18,SNR=19						
ZALV				Lg	Lg	05 29 20.8	
	0.3nm,0.3s,baz=24,slow=23,SNR=3.8						
KURBB	**Kurchatov Arra**	**6.42**	**227**	Pn	Pn	05 30 10.1	+0.1
	0.0nm,0.3s,baz=44,slow=14,SNR=5.0						
KURBB				Lg	Lg	05 31 57.1	
	baz=45,slow=35,SNR=2.3						
MKAR	**Makanchi Array**	**6.77**	**196**	Pn	Pn	05 30 42.1	-0.2
	0.0nm,0.3s,baz=12,slow=12,SNR=2.7						
MKAR				Lg	Lg	05 33 09.7	
	baz=20,slow=26,SNR=1.6						

NOU ***14*** *05:28:57.8, 19°.20S×170°.49E, h238km, MLv4.0/7, Vanuatu Islands*
IDC ***14*** *05:29:09.7±5.3, 19°.31S×169°.24E, h157km±48km, mb3.5/4, mb1 3.7/5, mb1mx3.4/34, mbtmp3.8/5, Error ellipse: s-maj=81.2km s-min=33.7km az=165.0*

ISC 14 05:29:13.9±1.5, 19°.85±0°.3×169°.3E±0°.2, h200km, n10, σ1°47/11, mb3.7/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.05**	**216**	P	**Pn**	**05 29 51.3**	**-1.7**
YATNC	**Mamie plateau,**	**3.19**	**225**	P	**Pn**	**05 30 05.6**	**-0.2**
OUENC	**Ouen Island, N**	**3.48**	**221**	P	**Pn**	**05 30 10.2**	**+1.0**
DZM	**Mont Dzumac**	**3.50**	**230**	P	**Pn**	**05 30 07.8**	**-1.9**
	1.0nm,0.3s,baz=53,slow=8.9,SNR=25						
DZM				S	**Sn**	**05 30 52.8**	**-0.7**
	0.9nm,0.3s,baz=62,slow=19,SNR=4.4						
DZM	**Mont Dzumac**	**3.50**	**230**	P	**Pn**	**05 30 09.8**	**+0.1**
NOUC	**Port Laguerre**	**3.62**	**231**	P	**Pn**	**05 30 12.1**	**+1.0**
STKA	**Stephens Creek**	**27.61**	**239**	P	**P**	**05 34 45.4**	**+2.5**
	0.7nm,0.2s,baz=84,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**32.87**	**264**	P	**P**	**05 35 27.8**	**-1.4**
	0.3nm,0.3s,baz=91,slow=8.0,SNR=10						
ASAR	**Alice Springs**	**33.07**	**257**	P	**P**	**05 35 31.0**	**0.0**
	1.5nm,0.6s,baz=85,slow=8.8,SNR=21						
TXAR	**Lajitas Array**	**96.97**	**61**	P	**P**	**05 42 23.3**	**+0.1**
	0.2nm,0.6s,baz=218,slow=5.7,SNR=2.1						

IDC 14 05:29:59.5±2.5, 54°.25N×86°.13E, h0km, mb1 2.9/2, mb1mx2.8/48, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=19.2km s-min=11.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.83**	**249**	*i*		05 35 30.0	
	baz=68,slow=336,SNR=3.1						
ZALV	**Zalesovo Beam**	**0.83**	**249**	Pg	Pg	05 30 14.2	-1.1
	1.2nm,0.3s,baz=67,slow=18,SNR=7.0						
ZALV				Lg	Lg	05 30 26.9	
	4.0nm,0.3s,baz=69,slow=32,SNR=7.9						
KURBB	**Kurchatov Arra**	**5.89**	**235**	Pn	Pn	05 31 29.4	+1.5
	0.1nm,0.3s,baz=51,slow=13,SNR=4.7						
KURBB				Lg	Lg	05 33 08.4	
	0.0nm,0.3s,baz=47,slow=37,SNR=1.4						
MKAR	**Makanchi Array**	**7.85**	**200**	Pn	Pn	05 31 55.5	+0.6
	0.3nm,0.3s,baz=22,slow=12,SNR=8.8						

BJI ***14*** *05:41:51.4±0.0, 23°.69N×94°.04E, h70km, mb4.4/37, mB4.6/13, Ms3.8/2, Ms7 3.6/4*
IDC ***14*** *05:41:53.5±0.6, 23°.69N×94°.18E, h75km±4km, mb4.0/26, mb1 4.1/27, mb1mx3.9/54, mbtmp4.2/27, MS3.0/1, Ms1 3.0/1, ms1mx2.5/94, Error ellipse: s-maj=8.9km s-min=8.3km az=136.0*
NDI ***14*** *05:41:53.4±3.5, 23°.78N×94°.09E, h33km, mb4.7, ML4.5, mb4.6(NEIC)*
NEIC ***14*** *05:41:53.1±1.0, 23°.82N±0°.07×94°.20E±0°.07, h61km±7km, mb4.6/93, Error ellipse: s-maj=10.4km s-min=8.1km az=218.0*

ISC 14 05:41:53.1±0.4, 23°.74N±0°.03×94°.10E±0°.04, h70km±3km, h70km:pP-P, n205, σ2s05/255, mb4.5/70, 2C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SILR	**SILCHAR**	**1.58**	**312**	*e*S	**Sn**	**05 42 39.5**	**+0.8**
KOHI	**KOHIMA**	**1.98**	**0**	*e*P	**Pn**	**05 42 25.4**	**+0.8**
KOHI				*e*S	**Sn**	**05 42 48.6**	**+0.2**
KOHI				IAML		05 42 50.2	
	comp=E,6μm,0.3s						
KOHI				IAML		05 42 50.2	
	comp=N,6μm,0.6s						
BELO	**BELONIA**	**2.48**	**259**	*e*P	**Pn**	**05 42 32.1**	**+0.8**
BELO				*e*S	**Sn**	**05 43 01.5**	**+1.0**
BRDH	**Bariadhala**	**2.49**	**245**	P	**Pn**	**05 42 32.6**	**+1.2**
	comp=N,0.5nm,0.3s,baz=360,slow=24,SNR=16						
BRDH				S	**Sn**	**05 43 02.5**	**+1.6**
	comp=N,1.3nm,0.3s,baz=180,slow=24,SNR=36						
MOKO	**MOKOCHONG**	**2.60**	**8**	*e*P	**Pn**	**05 42 33.6**	**+0.5**
MOKO				*e*S	**Sn**	**05 43 03.2**	**-0.4**
MOKO				IAML		05 43 07.0	
	comp=N,2μm,0.3s						
MOKO				IAML		05 43 07.6	
	comp=E,2μm,0.3s						
AGT	**Agartala**	**2.61**	**274**	*e*P	**Pn**	**05 42 33.8**	**+0.7**
AGT				*e*S	**Sn**	**05 43 03.8**	**+0.1**
AGT				IAML		05 43 05.7	
	comp=E,3μm,0.4s						
AGT				IAML		05 43 06.0	
	comp=N,2μm,0.3s						
SHL	**Shillong**	**2.72**	**313**	Pn	**Pn**	**05 42 34.0**	**-0.7**
SHL				Sn	**Sn**	**05 43 03.2**	**-3.3**
SHL	**Shillong**	**2.72**	**313**	*e*P	**Pn**	**05 42 34.2**	**-0.4**
SHL				*e*S	**Sn**	**05 43 03.5**	**-3.1**
SHL				IAML		05 43 04.4	
	comp=N,2μm,0.1s						
SHL				IAML		05 43 05.3	
	comp=E,2μm,0.2s						
JORH	**JORHAT**	**3.00**	**3**	*e*P	**Pn**	**05 42 38.5**	**+0.2**
JORH				*e*S	**Sn**	**05 43 11.9**	**-1.1**
TEZP	**TEZPUR**	**3.10**	**338**	*e*P	**Pn**	**05 42 38.9**	**-0.7**
TEZP				*e*S	**Sn**	**05 43 11.4**	**-4.2**
TEZP				IAML		05 43 13.7	
	comp=N,5μm,0.1s						
GUWA	**GUWAHATI**	**3.28**	**319**	*e*P	**Pn**	**05 42 41.1**	**-1.0**
GUWA				*e*S	**Sn**	**05 43 14.9**	**-5.1**
ITAN	**ITANAGAR**	**3.41**	**354**	*e*P	**Pn**	**05 42 43.8**	**-0.1**
ITAN				*e*S	**Sn**	**05 43 20.6**	**-2.6**
ITAN				IAML		05 43 21.7	
	comp=N,3μm,0.1s						
ITAN				IAML		05 43 22.3	
	comp=E,2μm,0.4s						
DIBR	**DIBRUGARH**	**3.79**	**11**	*e*P	**Pn**	**05 42 48.7**	**-0.4**
DIBR				*e*S	**Sn**	**05 43 30.4**	**-1.9**
DIBR				IAML		05 43 31.4	
	comp=N,3μm,0.2s						
DIBR				IAML		05 43 31.4	
	comp=E,2μm,0.2s						
TURI	**Tura**	**3.87**	**299**	*e*P	**Pn**	**05 42 50.7**	**+0.4**
TURI				IAML		05 43 35.9	
	comp=N,3μm,0.1s						
TURI				IAML		05 43 36.3	
	comp=E,5μm,0.2s						
LKP	**Lekhapani**	**3.91**	**23**	*e*P	**Pn**	**05 42 51.0**	**+0.2**
LKP				*e*S	**Sn**	**05 43 33.1**	**-2.4**
DHUB	**DHUBRI**	**4.37**	**302**	*e*P	**Pn**	**05 42 56.4**	**-0.5**
DHUB				*e*S	**Sn**	**05 43 40.4**	**-6.2**
DHUB				IAML		05 43 44.8	
	comp=N,4μm,0.1s						
DHUB				IAML		05 43 45.4	
	comp=E,6μm,0.2s						
GTK	**Tadong**	**6.11**	**307**	*e*P	**Pn**	**05 43 21.1**	**+0.2**
GTK				*e*S	**Sn**	**05 44 26.7**	**-2.9**
GTK				IAML		05 44 30.4	
	comp=N,484nm,0.2s						
LSA	**Lhasa**	**6.50**	**337**	Pn	**Pn**	**05 43 27.2**	**+0.7**
LSA	**Lhasa**	**6.50**	**337**	P	**Pn**	**05 43 28.3**	**+1.8**
LSA				smax	smax		
	comp=N,230nm,0.6s						
LSA				smax	smax		
	comp=N,200nm,0.8s						
CHTO	**Chiang Mai**	**6.66**	**136**	Pn	**Pn**	**05 43 27.3**	**-1.1**
TAPN	**Taplejung**	**6.80**	**303**	*e*Pn	**Pn**	**05 43 30.7**	**+0.2**
TAPN				*e*Sn	**Sn**	**05 44 44.7**	**-1.9**
	comp=N,1μm,0.6s						
TAPN	**Taplejung**	**6.80**	**303**	*e*Pn	**Pn**	**05 43 30.2**	**-0.3**
TAPN				*e*Sn	**Sn**	**05 44 41.6**	**-5.0**
ODAN	**Odare**	**6.82**	**299**	*e*Pn	**Pn**	**05 43 30.8**	**+0.1**
ODAN				*e*Sn	**Sn**	**05 44 43.5**	**-3.6**
	comp=N,737nm,0.4s						
ODAN	**Odare**	**6.82**	**299**	*e*Pn	**Pn**	**05 43 30.1**	**-0.6**
ODAN				*e*Sn	**Sn**	**05 44 41.9**	**-5.2**
CM31	**Chiang Mai Arr**	**6.93**	**138**	Pn	**Pn**	**05 43 32.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**6.93**	**138**	P	**Pn**	**05 43 31.0**	**-1.0**
	comp=N,0.7nm,0.3s,baz=313,slow=13,SNR=5.8						
CMAR				S	**Sn**	**05 44 47.6**	**-1.9**
	comp=N,0.5nm,0.3s,baz=320,slow=19,SNR=4.7						
CMAR				ScP	**ScP**	**05 53 41.5**	**-1.4**
	comp=N,0.2nm,0.3s,baz=276,slow=1.9,SNR=6.6						
CMAR	**Chiang Mai Arr**	**6.93**	**138**	Pn	**Pn**	**05 43 32.1**	**0.0**
PZH	**PanZhiHua**	**7.46**	**67**	P	Pn	05 43 43.4	+4.1
PZH				S	**Sn**	**05 45 00.6**	**-1.8**
PZH				pmax	pmax		
	comp=N,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=N,80nm,5.5s						
PZH				LR	LR		
	comp=N,230nm,5.4s						
PZH				LR	LR		
	comp=N,180nm,4.9s						
PZH				LR	LR		
	comp=N,190nm,4.5s						
RAMN	**Ramite**	**7.50**	**297**	*e*Pn	**Pn**	**05 43 39.8**	**-0.2**
RAMN				*e*Sn	**Sn**	**05 44 58.8**	**-4.9**
	comp=N,287nm,0.3s						
RAMN	**Ramite**	**7.50**	**297**	*e*Pn	**Pn**	**05 43 39.5**	**-0.5**
KMI	**Kunming**	**8.00**	**78**⇑	P	Pn	05 43 51.4	+4.6
KMI				sP		05 44 12.0	
KMI				pmax	pmax		
	comp=N,37nm,1.1s						
JIRN	**Jiri**	**8.13**	**300**	*e*Pn	**Pn**	**05 43 48.1**	**-0.7**
JIRN				*e*Sn	**Sn**	**05 45 14.6**	**-4.8**
	comp=N,133nm,0.3s						
JIRN	**Jiri**	**8.13**	**300**	*e*Pn	**Pn**	**05 43 48.0**	**-0.7**
JIRN				*e*Sn	**Sn**	**05 45 13.3**	**-6.1**
GUN	**Gumba**	**8.49**	**301**	*e*Pn	**Pn**	**05 43 53.0**	**-0.7**
GUN				*e*Sn	**Sn**	**05 45 23.7**	**-4.4**
	comp=N,527nm,0.4s						
GUN	**Gumba**	**8.49**	**301**	*e*Pn	**Pn**	**05 43 52.8**	**-0.9**
GUN				*e*Sn	**Sn**	**05 45 21.7**	**-6.4**
PKI	**Pulchoki**	**8.72**	**298**	*e*Pn	**Pn**	**05 43 55.8**	**-1.0**
PKI				*e*Sn	**Sn**	**05 45 28.0**	**-5.7**
	comp=N,118nm,0.2s						
PKI	**Pulchoki**	**8.72**	**298**	*e*Pn	**Pn**	**05 43 55.9**	**-0.9**
PKI				*e*Sn	**Sn**	**05 45 27.1**	**-6.6**
	comp=N,318nm,0.5s						
PKIN	**Phulchoki**	**8.73**	**298**	*e*Pn	**Pn**	**05 43 55.8**	**-1.1**
PKIN	**Phulchoki**	**8.73**	**298**	*e*Pn	**Pn**	**05 43 55.6**	**-1.3**
PKIN				*e*Sn	**Sn**	**05 45 27.4**	**-6.5**
	comp=N,485nm,0.4s						
KKN	**Kakani**	**8.91**	**299**	*e*Pn	**Pn**	**05 43 58.1**	**-1.2**
KKN				*e*Sn	**Sn**	**05 45 32.2**	**-6.1**
	comp=N,169nm,0.2s						
KKN	**Kakani**	**8.91**	**299**	*e*Pn	**Pn**	**05 43 58.2**	**-1.1**
KKN				*e*Sn	**Sn**	**05 45 31.5**	**-6.8**
	comp=N,460nm,0.5s						
DMN	**Daman**	**8.98**	**297**	*e*Pn	**Pn**	**05 43 59.0**	**-1.3**
GKN	**Gorkha**	**9.52**	**298**	*e*Pn	**Pn**	**05 44 06.4**	**-1.2**
GKN				*e*Sn	**Sn**	**05 45 47.1**	**-5.9**
	comp=N,240nm,0.3s						
GKN	**Gorkha**	**9.52**	**298**	*e*Pn	**Pn**	**05 44 06.0**	**-1.6**
GKN				*e*Sn	**Sn**	**05 45 46.0**	**-7.0**
	comp=N,861nm,0.6s						
KOLN	**Koldanda**	**10.28**	**295**	*e*Pn	**Pn**	**05 44 16.0**	**-2.0**
KOLN				*e*Sn	Sn	05 46 03.8	-7.9
	comp=N,229nm,0.3s						
KOLN	**Koldanda**	**10.28**	**295**	*e*Pn	**Pn**	**05 44 15.9**	**-2.0**
KOLN				*e*Sn	Sn	05 46 03.7	-8.0
	comp=N,229nm,0.3s						
DANN	**Dangsing**	**10.37**	**298**	*e*Pn	**Pn**	**05 44 18.1**	**-1.2**
DANN	**Dangsing**	**10.37**	**298**	*e*Pn	**Pn**	**05 44 17.2**	**-2.1**
DGPR	**DIGLIPUR**	**10.56**	**186**	*e*P	**Pn**	**05 44 20.8**	**-0.9**
DGPR				*e*S	**Sn**	**05 46 11.4**	**-6.9**
DGPR				IAML		05 46 16.9	
	comp=E,36nm,0.5s						
DGPR				IAML		05 46 23.5	
	comp=N,40nm,0.4s						
PYUN	**Piuthan**	**10.90**	**296**	*e*Pn	**Pn**	**05 44 24.8**	**-1.7**
PYUN				*e*Sn	Sn	05 46 19.0	-7.9
	comp=N,158nm,0.4s						
PYUN	**Piuthan**	**10.90**	**296**	*e*Pn	**Pn**	**05 44 24.3**	**-2.2**
PBA	**Port Blair**	**12.08**	**186**		**Pn**	**05 44 42.3**	**-0.2**
PBA	**Port Blair**	**12.08**	**186**	*e*P	**Pn**	**05 44 42.2**	**-0.2**
PBA				IAmb	IAmb	05 44 44.7	
	comp=Z,77nm,0.5s						
GOMU	**GeErMu**	**12.44**	**3**	P	**Pn**	**05 44 45.4**	**-2.1**
GOMU				pmax	pmax		
	comp=Z,12nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,73nm,9.3s						
JBP	**Jabalpur**	**12.97**	**270**	*e*P	**Pn**	**05 44 55.8**	**+1.4**
JBP				*ex*	x	05 44 55.8	
JBP				IAmb	IAmb	05 44 57.8	
	comp=Z,23nm,0.8s						
JBP				*e*S	**Sn**	**05 47 12.6**	**-4.5**
UBPT	**Khong Chiam**	**13.62**	**126**	Pn	**Pn**	**05 45 04.5**	**+1.3**
LZH	**Lanzhou**	**14.92**	**32**	*e*P	**P**	**05 45 23.3**	**-0.9**
LZH				pP	Pn	05 45 31.0	+11
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
ENH	**Enshi**	**15.18**	**61**		**Pn**	**05 45 21.2**	**-2.2**
ENH				IAmb	IAmb	05 45 26.8	
	comp=Z,36nm,0.6s						
BHPL	**Bhopal**	**15.31**	**271**	*e*P	**Pn**	**05 45 24.2**	**-1.0**
BHPL				IAmb	IAmb	05 45 26.4	
	comp=Z,38nm,0.5s						
BHPL				*e*S	Sn	05 48 02.6	-11
QIZ	**Qiongzhong**	**15.39**	**105**	Pn	**Pn**	**05 45 25.3**	**-0.9**
QIZ				IAmb	IAmb	05 45 31.5	
	comp=Z,26nm,0.8s						
HYB	**Hyderabad**	**15.85**	**250**	IAmb	IAmb	05 45 37.1	
	comp=Z,22nm,0.7s						
HYB				*e*S	Sn	05 48 13.3	-14
HYBB	**Hyderabad (bro**	**15.85**	**250**	*e*P	**P**	**05 45 36.4**	**+1.8**
HYBB				IVmB_BB		05 45 36.6	
	comp=Z,128nm,0.6s						
HYBB				*e*pP	**pP**	**05 45 49.3**	**+0.2**
HYBB				*e*S	**S**	**05 48 41.1**	**+3.6**
HYBB				IVMs_BB	IVMs_BB	05 49 34.7	
	comp=Z,93nm,5.0s						
NDI	**New Delhi**	**15.93**	**292**	*e*P	**Pn**	**05 45 33.0**	**0.0**
NDI				*e*S	Sn	05 48 16.0	-13
SRIT	**Nakonsritamara**	**15.95**	**160**		**Pn**	**05 45 33.1**	**-0.2**
GTA	**Gaotai**	**16.36**	**16**	*e*P	**P**	**05 45 40.0**	**-0.2**
GTA				pP	pP	05 45 51.4	-3.2
GTA				sP	sP	05 46 00.6	-3.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XAN	**Xi'an**	**16.53**	**48**	P	**P**	**05 45 41.9**	**-0.1**
XAN				pP	pP	05 45 52.5	-3.9
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SMLA	**Simla**	**16.73**	**300**⇑	*e*P	**Pn**	**05 45 40.9**	**-2.0**
SMLA				*e*S	Sn	05 48 35.5	-13
WHN	**Wuhan**	**19.24**	**65**	P	**Pn**	**05 46 16.6**	**+3.2**
POO	**Poona**	**19.58**	**258**	*e*S	S	05 49 37.0	-16
PO

comp=Z,0.6nm,0.5s,baz=162,slow=2.3,SNR=5.9
KURBB ScP **ScP** **05 54 28.8 -1.1**
comp=Z,0.8nm,0.6s,baz=149,slow=2.7,SNR=11
KURK Kurchatov 29.49 340 P **P** **05 47 51.0 +0.6**
MYLDM Lahad Datu 29.88 124 P **P** **05 47 53.3 -0.9**
MYLDM IAmb IAmb 05 47 57.5
comp=Z,25nm,1.2s
ZAA0 Zalesovo Array 30.97 349 P **P** **05 48 03.8 +0.3**
ZALV Zalesovo Beam 30.97 349 P **P** **05 48 04.0 +0.6**
comp=Z,1.0nm,0.4s,baz=156,slow=7.8,SNR=7.3
ZALV Zalesovo Beam 30.97 349 P **P** **05 48 03.6 +0.2**
JOW Kunigami 31.00 77 P **P** **05 48 02.7 -1.4**
comp=Z,12nm,0.3s,baz=252,slow=20,SNR=23
KSRS Korea Array 31.98 57 P **P** **05 48 09.3 -3.3**
comp=Z,0.9nm,0.4s,baz=252,slow=9.1,SNR=2.7
KSRS PcP **PcP** **05 51 01.1 0.0**
comp=Z,1.2nm,0.5s,baz=254,slow=3.0,SNR=5.4
JNU Nakatsue 33.53 65 P **P** **05 48 25.1 -1.1**
JNU IAmb IAmb 05 48 36.4
comp=Z,18nm,1.3s
TOLI2 Tolitoli 34.27 127 P **P** **05 48 32.8 +0.1**
TOLI2 IAmb IAmb 05 48 34.1
comp=Z,6.9nm,0.9s
BVAR Borovoye Array 34.33 334 P **P** **05 48 33.1 +0.2**
comp=Z,0.3nm,0.4s
JHS Saijyo 35.60 63 P **P** **05 48 42.8 -1.3**
JHS IAmb IAmb 05 48 45.7
comp=Z,16nm,1.2s
JMN Monobe 36.09 65 P **P** **05 48 46.2 -2.0**
ABKAR Akbulak array 36.94 322 P **P** **05 48 56.8 +1.6**
AKTO Aktyubinsk 38.62 323 P **P** **05 49 10.4 +1.0**
comp=Z,0.7nm,0.4s,baz=167,slow=7.6,SNR=4.1
KLR Kul'dur 38.93 40 PcP **PcP** **05 51 21.0 -0.4**
comp=Z,2.3nm,0.9s,baz=281,slow=7.2,SNR=4.4
MJAR Matsushiro Arr 39.90 61 P **P** **05 49 18.4 -1.9**
comp=Z,1.3nm,0.3s,baz=332,slow=11,SNR=4.3
MJAR Matsushiro Arr 39.90 61 P **P** **05 49 18.4 -1.9**
NRIK Noril'sk 45.79 357 PcP **PcP** **05 51 44.0 +0.3**
comp=Z,2.2nm,0.5s,baz=80,slow=5.1,SNR=4.9
MBWA Marble Bar 51.13 149 P **P** **05 50 48.7 -0.3**
PSA00 Pilbara Seismi 51.54 149 P **P** **05 50 52.1 0.0**
PSA00 IAmb IAmb 05 50 52.7
comp=Z,3.9nm,0.8s
KNRA Kununurra 51.79 136 P **P** **05 50 53.6 -0.3**
TIXI Tiksi 51.82 13 P **P** **05 50 53.6 +0.1**
comp=Z,8.3nm,0.3s,baz=292,slow=7.7,SNR=21
TIXI Tiksi 51.82 13 P **P** **05 50 53.5 0.0**
SEY Seymchan 54.81 28 P **P** **05 51 14.5 -1.1**
comp=Z,0.9nm,0.5s,baz=355,slow=23,SNR=4.5
SEY PcP **PcP** **05 52 16.1 -1.0**
comp=Z,2.0nm,0.8s,baz=273,slow=7.1,SNR=6.6
AKASG Malin Array Be 56.20 316 P **P** **05 51 25.3 -0.4**
comp=Z,0.9nm,0.5s,baz=81,slow=6.4,SNR=5.4
AKASG pP **pP** **05 51 44.0 -0.2**
comp=Z,2.2nm,0.6s,baz=79,slow=6.8,SNR=4.8
MORW Morawa 56.59 157 P **P** **05 51 29.4 +0.7**
MNK Minsk 57.27 321 *i* P **P** **05 51 35.2 +2.0**
comp=E,3.0nm,0.8s
MNK *i* P **P** **05 51 35.2 +2.0**
comp=N,8.0nm,0.7s
MNK *i* P **P** **05 51 35.2 +2.0**
comp=Z,6.0nm,0.7s,baz=93
MNK *i* pP **pP** **05 51 53.3 +1.5**
MNK *i* PP **PP** **05 53 40.5 -0.4**
MNK *i* PPP PPP 05 55 00.9
MNK *i* S **S** **05 59 26.9 +3.0**
MNK *i* sS **sS** **05 59 58.8 +4.1**
MNK *i* SS **SS** **06 03 19.4 +5.7**
MNK *i* SSS SSS 06 05 50.0
MNK *i* LQ LQ 06 12 18.2
MNK *i* LR LR 06 16 00.8
MNK *i* LRM MLR 06 18 51.5
comp=Z,106nm,20.0s
MNK *i* LRM MLR 06 18 52.8
comp=N,179nm,20.0s
MNK *i* LRM MLR 06 18 55.5
comp=E,18nm,22.6s
KARP Karpathos 58.37 298 P **P** **05 51 42.2 +0.8**
WB0 Warramunga Arr 58.42 134 P **P** **05 51 41.5 -0.2**
WRA Warramunga Arr 58.51 135 P **P** **05 51 42.1 -0.2**
comp=E,3.0nm,0.4s,baz=321,slow=7.4,SNR=123
WRA PcP **PcP** **05 52 31.1 -1.1**
comp=E,2.3nm,0.7s,baz=325,slow=3.6,SNR=9.2
WRA Warramunga Arr 58.51 135 P **P** **05 51 41.6 -0.8**
WB2 Warramunga Arr 58.52 135 P **P** **05 51 42.5 0.0**
WR0 Warramunga Arr 58.65 134 P **P** **05 51 43.3 -0.1**
FINES FINESS Array B 58.95 329 P **P** **05 51 45.7 +0.9**
comp=E,3.7nm,1.0s,baz=101,slow=7.2,SNR=2.0
FINES pP **pP** **05 52 04.0 +0.6**
comp=E,2.8nm,0.6s,baz=104,slow=8.0,SNR=3.6
FINES FINESS Array B 58.95 329 P **P** **05 51 45.2 +0.4**
ARCES ARCESS Array B 60.51 338 P **P** **05 51 57.0 +1.5**
comp=E,3.4nm,0.9s,baz=77,slow=5.2,SNR=3.8
ARCES ARCESS Array B 60.51 338 P **P** **05 51 56.6 +1.1**
NWAO Narrogin (SRO) 60.52 158 P **P** **05 51 55.7 -0.2**
COEN Coen 60.87 128 P **P** **05 51 58.9 +0.3**
AS31 Alice Springs 60.94 138 P **P** **05 51 59.7 +0.6**
AS31 IAmb IAmb 05 51 59.9
comp=Z,3.4nm,0.6s
ASAR Alice Springs 60.94 138 P **P** **05 51 59.2 +0.1**
comp=Z,7.7nm,0.6s,baz=320,slow=6.9,SNR=88
ASAR Alice Springs 60.94 138 P **P** **05 51 59.4 +0.4**
BILL Bilibino 61.55 24 P **P** **05 52 02.5 -0.1**
BILL IAmb IAmb 05 52 03.0
comp=Z,9.8nm,1.1s
FORT Forrest 63.23 147 P **P** **05 52 14.5 +0.3**
SPITS Spitsbergen Ar 64.42 347 P **P** **05 52 21.6 +0.1**
comp=Z,9.8nm,1.0s,baz=112,slow=9.1,SNR=6.2
NB2 NORSAR Subarra 66.11 328 P **P** **05 52 32.4 -0.3**
comp=Z,3.7nm,1.0s,baz=84,slow=6.5
NOA NORSAR Array B 66.11 328 P **P** **05 52 30.7 -2.0**
comp=Z,0.1nm,0.4s,baz=101,slow=4.5,SNR=1.4
NOA pP **pP** **05 52 50.7 -0.9**
comp=Z,1.2nm,0.7s,baz=85,slow=6.4,SNR=4.8
NC204 NORSAR Array S 66.31 328 P **P** **05 52 34.0 +0.1**
NC204 IAmb IAmb 05 52 55.0
comp=Z,12nm,0.9s
GERES GERESS Array B 66.33 315 P **P** **05 52 35.5 +1.1**
comp=Z,0.3nm,0.4s,baz=96,slow=6.7,SNR=3.5
GERES pP **pP** **05 52 54.0 +0.6**
comp=Z,1.3nm,0.6s,baz=90,slow=4.0,SNR=3.7
BBOO Buckleboo 69.02 143 P **P** **05 52 51.1 -0.2**
STKA Stephens Creek 71.55 139 P **P** **05 53 06.2 -0.5**
comp=Z,3.5nm,0.6s,baz=0.5,slow=4.3,SNR=11
STKA Stephens Creek 71.55 139 P **P** **05 53 06.8 0.0**
EIDS Eidsvold 73.67 128 P **P** **05 53 19.8 +0.3**
EUNU Eureka 76.42 0 P **P** **05 53 34.5 0.0**
IMAR Indian Mountai 77.07 23 P **P** **05 53 38.6 +0.2**
TOLK Toolik Lake Re 77.08 20 P **P** **05 53 39.2 +0.7**
TOLK IAmb IAmb 05 53 39.9
comp=Z,6.4nm,0.8s
ARMA Armidale 77.09 132 P **P** **05 53 40.6 +1.4**
ARMA IAmb IAmb 05 54 08.7
comp=Z,8.3nm,1.1s
H21K Melozitna Rive 77.57 23 P **P** **05 53 41.9 +0.7**
H21K IAmb IAmb 05 53 42.1
comp=Z,6.0nm,0.7s
COLD Coldfoot 77.64 21 P **P** **05 53 42.1 +0.5**
COLD IAmb IAmb 05 53 43.5
comp=Z,5.0nm,1.4s
TTA Tatalina 77.69 26 P **P** **05 53 41.9 -0.1**
TOO Toolangi 77.80 141 P **P** **05 53 43.6 +0.8**
TOO IAmb IAmb 05 53 43.7
comp=Z,4.7nm,0.7s
J20K Nowinta River 77.81 25 P **P** **05 53 43.1 +0.6**
J20K IAmb IAmb 05 53 49.9
comp=Z,6.0nm,1.4s
K20K Telida 78.25 25 P **P** **05 53 45.7 +0.7**
K20K IAmb IAmb 05 53 45.8
comp=Z,3.3nm,0.7s
CAN Canberra 78.43 137 P **P** **05 53 46.9 +0.5**
CAN IAmb IAmb 05 53 49.0
comp=Z,11nm,1.3s
L19K White Mountain 78.52 27 P **P** **05 53 46.9 +0.4**
L19K IAmb IAmb 05 53 47.7
comp=Z,4.3nm,0.9s
H23K Yukon River 78.63 22 P **P** **05 53 47.9 +0.8**
SVW2 Sparrevohn 78.74 28 P **P** **05 53 48.4 +0.6**
SVW2 IAmb IAmb 05 53 55.5
comp=Z,6.9nm,1.2s
N18K Kilae Creek 78.81 28 P **P** **05 53 48.6 +0.5**
N18K IAmb IAmb 05 53 48.7
comp=Z,3.0nm,0.7s
M19K Big River Lodg 78.84 27 P **P** **05 53 48.8 +0.5**
M19K IAmb IAmb 05 54 00.6
comp=Z,8.7nm,1.4s
CAST Castle Rocks 78.99 25 P **P** **05 53 49.5 +0.4**
CAST IAmb IAmb 05 53 50.2
comp=Z,6.8nm,1.0s
BPAW Bear Paw Mtn. 79.04 24 P **P** **05 53 49.4 0.0**
BPAW IAmb IAmb 05 53 50.6
comp=Z,3.6nm,0.6s
H24K Noodor Dome 79.19 22 P **P** **05 53 50.9 +0.7**
PPLA Purkeypile 79.22 25 P **P** **05 53 50.6 +0.1**
PPLA IAmb IAmb 05 53 50.9
comp=Z,3.4nm,0.8s
BMAR Burnt Mountain 79.32 20 P **P** **05 53 52.7 +1.8**
N19K Bonanza Creek 79.35 28 P **P** **05 53 51.7 +0.5**
N19K IAmb IAmb 05 53 55.0
comp=Z,4.4nm,0.9s
MDM Murphy Dome 79.57 23 P **P** **05 53 52.7 +0.5**
MDM IAmb IAmb 05 53 53.2
comp=Z,10nm,0.8s
ILAR Eielson Array 80.14 22 P **P** **05 53 54.1 -1.2**
comp=Z,1.8nm,0.6s,baz=300,slow=4.9,SNR=16
ILAR PP **PP** **05 56 57.7 -0.1**
comp=Z,0.4nm,0.7s,baz=305,slow=6.9,SNR=4.4
ILAR Eielson Array 80.14 22 P **P** **05 53 54.3 -1.0**
RIDG Independent Ri 81.48 23 IAmb IAmb 05 54 03.5
comp=Z,5.7nm,0.8s
SCRK Sand Creek 81.63 22 IAmb IAmb 05 54 04.3
comp=Z,6.3nm,1.2s
RES Resolute Bay 81.64 2 P **P** **05 54 03.6 +0.5**
comp=Z,3.0nm,0.8s,baz=347,slow=4.6,SNR=18
RES Resolute Bay 81.64 2 IAmb IAmb 05 54 04.6
comp=Z,4.3nm,0.9s
OHAK Old Harbor 81.71 30 P **P** **05 54 03.3 -0.5**
OHAK IAmb IAmb 05 54 08.5
comp=Z,13nm,1.2s
INK Inuvik 81.84 16 P **P** **05 54 04.3 +0.2**
comp=Z,4.3nm,0.5s,baz=336,slow=4.9,SNR=38
INK Inuvik 81.84 16 P **P** **05 54 04.4 +0.2**
INK IAmb IAmb 05 54 04.9
comp=Z,5.2nm,0.7s
LBTB Lobatse 82.16 238 P **P** **05 54 08.0 +1.2**
KLU Klutine 82.44 25 IAmb IAmb 05 54 08.4
comp=Z,4.8nm,0.6s
N25K Chitina, Valde 82.88 24 IAmb IAmb 05 54 11.3
comp=Z,5.8nm,0.7s
L27K Beaver Creek, 82.96 22 IAmb IAmb 05 54 12.2
comp=Z,7.1nm,0.9s
BCAR Beaver Creek A 82.98 22 P **P** **05 54 11.0 +0.7**
DAWY Dawson 83.12 21 P **P** **05 54 11.3 +0.3**
DAWY IAmb IAmb 05 54 24.3
comp=Z,7.2nm,1.5s
C36M Paulatuk 83.19 13 P **P** **05 54 10.9 -0.3**
M27K Edge Creek, AK 83.40 23 IAmb IAmb 05 54 15.0
comp=Z,12nm,1.1s
BOSA Boshof 84.25 235 P **P** **05 54 18.2 +0.7**
comp=Z,1.5nm,0.5s,baz=49,slow=4.3,SNR=6.8
BOSA Boshof 84.25 235 P **P** **05 54 18.3 +0.8**
BOSA IAmb IAmb 05 54 39.1
comp=Z,5.9nm,1.0s
BARN Barnard Glacie 84.32 24 IAmb IAmb 05 54 19.5
comp=Z,8.6nm,0.8s
TORD Torodi Ar. Bea 86.96 283 P **P** **05 54 32.3 +1.1**
comp=Z,0.7nm,1.0s,baz=62,slow=6.1,SNR=3.7
TORD pP **pP** **05 54 51.5 +0.5**
comp=Z,0.6nm,0.7s,baz=42,slow=5.9,SNR=3.4
YKA Yellowknife Ar 91.07 13 P **P** **05 54 49.1 -0.5**
comp=Z,0.7nm,0.7s,baz=334,slow=4.8,SNR=20
YKA PP **PP** **05 58 24.3 -1.8**
comp=Z,0.3nm,0.8s,baz=332,slow=7.5,SNR=3.7
TXAR Lajitas Array 124.54 19 PKP **PKPdf** **06 00 45.3 +0.2**
comp=Z,0.9nm,0.7s,baz=197,slow=1.5,SNR=11
ROSC El Rosal 149.43 337 PKPbc **PKPdf** **06 01 58.2 -0.9**
comp=Z,10nm,0.4s,baz=90,slow=6.9,SNR=11
ROSC pPKPbc **sPKPdf** **06 01 58.2 -0.9**
comp=Z,9.6nm,0.4s,baz=27,slow=11,SNR=2.5
CPUP Villa Florida 154.00 258 PKPbc **PKPbc** **06 01 44.4 -0.8**
comp=Z,1.4nm,0.9s,baz=85,slow=2.5,SNR=7.0
CPUP Villa Florida 154.00 258 **PKPbc** **06 01 45.0 -0.2**

*NNC **14** 06:07:57.2±2.0,54°.20N×87°.17E,h0km,mb3.2,mpv3.0,*
Error ellipse: s-maj=13.6km s-min=7.3km az=72.0,
Suspected Mining explosion.
*IDC **14** 06:07:57.8±2.9,54°.09N×87°.14E,h0km,mb1 3.1/2,*
mb1mx2.9/31,mbtmp3.1/2,ML2.4/2,Error ellipse:
s-maj=27.1km s-min=15.8km az=66.0

ISC 14 06:07:56.3±3.6,54°.2N±0°.2×87°.2E±0°.2,h0km,n8,σ1§45/11,
2C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
I46RU	**ZALESOVO INFRA**	**1.42**	**260**	*i*			06 17 00.0	
	baz=82,slow=336,SNR=7.7							
ZAA0	**Zalesovo Array**	**1.42**	**260**	P		**Pb**	**06 08 22.4**	**-1.3**
	1.9nm,0.6s,baz=81,slow=16							
ZAA0				S		**Sg**	**06 08 42.7**	**+0.7**
	12nm,0.9s,baz=78,slow=26							
ZALV	**Zalesovo Beam**	**1.42**	**260**	Pg		**Pg**	**06 08 22.8**	**-0.8**
	2.7nm,0.3s,baz=84,slow=16,SNR=40							
ZALV				Lg		Lg	06 08 41.5	
	2.4nm,0.3s,baz=83,slow=29,SNR=8.3							
KURK	**Kurchatov**	**6.30**	**240**	⇓Pn		**Pn**	**06 09 32.2**	**+1.8**
	5.0nm,1.1s							
KURK				⇓Sn		**Sn**	**06 10 44.0**	**+0.9**
	1.8nm,0.9s							
KURK				⇓Lg		Lg	06 11 18.3	
	11nm,0.9s							
KURBB	**Kurchatov Arra**	**6.41**	**239**	Pn		**Pn**	**06 09 32.9**	**+1.1**
	0.1nm,0.3s,baz=56,slow=14,SNR=25							
KURBB	**Kurchatov Arra**	**6.41**	**239**	⇓Pn		**Pn**	**06 09 32.9**	**+1.1**
	4.2nm,0.8s							
KURBB				⇑Lg		Lg	06 11 19.3	
	7.2nm,0.7s							
MK31	**Makanchi Array**	**8.07**	**205**	⇓Pn		**Pn**	**06 09 56.2**	**+1.5**
	0.1nm,0.4s,baz=30,slow=14,SNR=4.6							
MK31				⇑Sn		**Sn**	**06 11 27.0**	**+0.4**
	1.7nm,0.9s							
MK31				⇓Lg		Lg	06 12 12.7	
	4.3nm,0.9s,baz=35,slow=31,SNR=4.4							
MKAR	**Makanchi Array**	**8.07**	**205**	Pn		**Pn**	**06 09 55.6**	**+0.9**
	0.1nm,0.3s,baz=23,slow=12,SNR=6.1							
MKAR				Sn		**Sn**	**06 11 24.4**	**-2.2**
	0.1nm,0.3s,baz=27,slow=27,SNR=3.2							
MKAR				Lg		Lg	06 12 05.7	
	0.1nm,0.3s,baz=25,slow=31,SNR=2.5							

*SNET **14** 06:11:15.4±0.8,13°.00N×89°.06W,h40km±20km,ML3.5*
*INET **14** 06:11:16.0±0.7,13°.06N×88°.91W,h21km±11km,MW3.2*

ISC 14 06:11:14.1±2.3,12°.9N±0°.1×89°.06W±0°.07,h30km±13km,
n23,σ0§22/29,2C-6D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
LALI	**Alcalda de L**	**0.62**	**336**	*eP*		**Pn**	**06 11 26.9**	**-0.1**
LALI				*eS*		**Sb**	**06 11 35.2**	**+0.2**
SJTE	**Alcalda de S**	**0.70**	**4**	⇓*eP*		**Pb**	**06 11 27.6**	**-0.2**
LFRS	**El Faro**	**0.70**	**360**	⇓*iP*		**Pb**	**06 11 27.9**	**-0.1**
COEB	**Comit de Eme**	**0.78**	**42**	*eP*		**Pb**	**06 11 29.3**	**0.0**
COEB				IAML			06 11 42.0	
	comp=Z,2μm,0.2s							
SNET	**Serv Nac Est T**	**0.79**	**348**	⇓*eP*		**Pn**	**06 11 29.0**	**-0.3**
SNET				*eS*		**Sb**	**06 11 39.8**	**+0.1**
SNET	**Serv Nac Est T**	**0.79**	**348**	*eP*		**Pn**	**06 11 29.1**	**-0.3**
SNET				*eS*		**Sb**	**06 11 39.8**	**+0.1**
PAVA	**Las Pavas**	**0.80**	**9**	⇓*eP*		**Pn**	**06 11 29.4**	**-0.2**
UEES	**Universidad Ev**	**0.81**	**348**	*eP*		**Pn**	**06 11 29.5**	**-0.3**
LBRS	**Las Brisas**	**0.82**	**1**	*eP*		**Pn**	**06 11 29.8**	**0.0**
LFU	**La Fuente**	**0.83**	**356**	⇓*iP*		**Pn**	**06 11 29.9**	**0.0**
LFU				*eS*		**Sn**	**06 11 41.2**	**0.0**
BOQS	**Boqueron**	**0.84**	**345**	⇓*iP*		**Pn**	**06 11 30.2**	**0.0**
SCLA	**Alcaldia de Sa**	**0.85**	**22**	*eP*		**Pn**	**06 11 30.2**	**+0.1**
SCLA				*eS*		**Sn**	**06 11 42.0**	**+0.4**
PQSS	**Presa 15 de Se**	**0.86**	**35**	⇑*eP*		**Pb**	**06 11 30.5**	**-0.1**
LCY	**Lacayo**	**0.90**	**56**	⇓*eP*		**Pb**	**06 11 31.2**	**-0.2**
PACA	**Pacayal**	**0.91**	**52**	*eP*		**Pb**	**06 11 31.4**	**0.0**
CEVE	**Cerro Verde**	**1.06**	**329**	*eP*		**Pn**	**06 11 33.5**	**+0.2**
CEVE				IAML			06 11 48.7	
	comp=Z,1μm,0.2s							
SBLS	**San Blas**	**1.07**	**329**	*eP*		**Pn**	**06 11 33.7**	**+0.3**
SBLS				*eS*		**Sn**	**06 11 46.9**	**-0.4**
RTR	**El Retiro**	**1.13**	**330**	*eP*		**Pn**	**06 11 34.5**	**+0.4**
NUBE	**Las Nubes**	**1.21**	**325**	*eP*		**Pn**	**06 11 35.1**	**-0.1**
LCND	**La Caada**	**1.21**	**71**	*eP*		**Pn**	**06 11 35.1**	**+0.1**
LCND				IAML			06 11 55.2	
	comp=Z,745nm,0.3s							
SLOZ	**Alcaldia de Sa**	**1.31**	**328**	*eP*		**Pn**	**06 11 36.8**	**+0.3**
CSGN	**Cosiguina Volc**	**1.47**	**87**	*eP*		**Pn**	**06 11 38.6**	**-0.1**
MTO3	**Montecristo**	**1.50**	**349**	*eP*		**Pn**	**06 11 39.4**	**+0.1**

*TRN **14** 06:14:25.3,18°.11N×64°.92W,h20km,M3.6(RSPR)*
*OSPL **14** 06:14:27.8±2.8,18°.30N×64°.87W,h0km±237km,ML3.4*
*NEIC **14** 06:14:27.3±2.3,18°.06N±0°.05×65°.00W±0°.03,h14km±5km,*
Error ellipse: s-maj=7.6km s-min=3.2km az=199.0
*RSPR **14** 06:14:28.0,18°.12N×64°.95W,h14km±1km,MD3.6/17*

ISC 14 06:14:27.0-1.0,18°.10N±0°.03×64°.96W±0°.02,h15km±8km,
n95,σ1§09/126,18C-16D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
STVI	**Saint Thomas**	**0.26**	**2**	⇑*eP*		**Pb**	**06 14 33.3**	**0.0**
STVI	**Saint Thomas**	**0.26**	**2**			**Pb**	**06 14 33.3**	**0.0**
STVI						**Sb**	**06 14 37.2**	**-0.3**
STVI				IAML			06 14 38.0	
	comp=N,10μm,0.2s							
STVI	**Saint Thomas**	**0.26**	**2**	⇑*eP*		**Pb**	**06 14 33.3**	**0.0**
STVI				*eS*		**Sb**	**06 14 37.3**	**-0.3**
CUPR	**Culebra, Puert**	**0.37**	**305**	⇑*eP*		**Pg**	**06 14 34.9**	**+0.3**
CUPR	**Culebra, Puert**	**0.37**	**305**	*eS*		**Sb**	**06 14 40.5**	**-0.3**
CUPR	**Culebra, Puert**	**0.37**	**305**			**Pg**	**06 14 34.8**	**+0.3**
CUPR						**Sb**	**06 14 40.4**	**-0.5**
CDVI	**St. Croix**	**0.39**	**151**	⇑*eP*		**Pb**	**06 14 35.5**	**-0.1**
CDVI	**St. Croix**	**0.39**	**151**			**Pb**	**06 14 35.5**	**-0.1**
CDVI						**Sb**	**06 14 41.6**	**+0.3**
CDVI				IAML			06 14 43.3	
	comp=E,9μm,0.3s							
CDVI				IAML			06 14 46.9	
	comp=N,10μm,0.3s							
CDVI	**St. Croix**	**0.39**	**151**	⇑*eP*		**Pb**	**06 14 35.5**	**-0.1**
CDVI				*eS*		**Sb**	**06 14 41.8**	**+0.4**
TBVI	**Tortola**	**0.46**	**46**	⇑*eP*		**Pg**	**06 14 36.2**	**+0.1**
TBVI	**Tortola**	**0.46**	**46**	⇑*eP*		**Pg**	**06 14 36.2**	**+0.1**
TBVI				*eS*		**Sg**	**06 14 42.5**	**+0.1**
MTP	**Monte Pirata**	**0.56**	**270**	⇓*eP*		**Pg**	**06 14 38.0**	**0.0**
MTP	**Monte Pirata**	**0.56**	**270**			**Pg**	**06 14 38.0**	**0.0**
MTP						**Sg**	**06 14 45.4**	**-0.2**
MTP				IAML			06 14 45.9	
	comp=N,15μm,0.3s							
MTP	**Monte Pirata**	**0.56**	**270**	⇓*eP*		**Pg**	**06 14 38.0**	**0.0**
MTP				*eS*		**Sg**	**06 14 45.4**	**-0.2**
CBYP	**Canovanas**	**0.87**	**282**	⇓*eP*		**Pb**	**06 14 42.5**	**-1.4**
CBYP	**Canovanas**	**0.87**	**282**			**Pb**	**06 14 42.4**	**-1.4**
CBYP						**Sb**	**06 14 54.4**	**-0.9**
CBYP	**Canovanas**	**0.87**	**282**	⇓*eP*		**Pb**	**06 14 42.5**	**-1.4**
CBYP				*eS*		**Sb**	**06 14 54.5**	**-0.8**
PDPR	**Patillas Dam,**	**1.01**	**266**	⇑*eP*		**Pb**	**06 14 45.3**	**-0.9**
PDPR	**Patillas Dam,**	**1.01**	**266**	*eS*		**Sb**	**06 14 58.7**	**-0.6**
PDPR	**Patillas Dam,**	**1.01**	**266**			**Sb**	**06 14 58.7**	**-0.6**
GCPR	**Guaynabo City**	**1.09**	**281**	⇑*eP*		**Pb**	**06 14 46.5**	**-1.0**
GCPR	**Guaynabo City**	**1.09**	**281**	*eS*		**Sb**	**06 15 00.4**	**-1.1**
GCPR	**Guaynabo City**	**1.09**	**281**			**Pb**	**06 14 46.6**	**-0.9**
GCPR						**Sb**	**06 15 00.6**	**-0.9**
GCPR				IAML			06 15 01.8	
	comp=N,1μm,0.4s							
GCPR				IAML			06 15 02.2	
	comp=E,1μm,0.3s							
IGPR	**InterUniversit**	**1.10**	**263**	⇑*eP*		**Pb**	**06 14 46.5**	**-1.2**
IGPR	**InterUniversit**	**1.10**	**263**	*eS*		**Sb**	**06 15 00.1**	**-1.7**
IGPR	**InterUniversit**	**1.10**	**263**			**Sb**	**06 15 00.1**	**-1.7**
SJG	**San Juan**	**1.13**	**271**			**Pb**	**06 14 47.4**	**-0.8**
SJG				IAML			06 15 05.7	
	comp=E,1μm,0.4s							
SJG				IAML			06 15 06.6	
	comp=E,1μm,0.4s							
SJG	**San Juan**	**1.13**	**271**	*eP*		**Pb**	**06 14 47.1**	**-1.1**
SJG	**San Juan**	**1.13**	**271**	*e*			06 15 01.6	
EMPR	**Esperanza - Ma**	**1.54**	**285**	⇑*eP*		**Pn**	**06 14 53.7**	**-0.1**
EMPR	**Esperanza - Ma**	**1.54**	**285**	*eS*		**Sb**	**06 15 14.1**	**-0.3**
EMPR	**Esperanza - Ma**	**1.54**	**285**			**Pn**	**06 14 53.8**	**-0.1**
EMPR						**Sb**	**06 15 14.9**	**+0.5**
CELP	**Cerrillos**	**1.54**	**269**	⇓*eP*		**Pn**	**06 14 54.0**	**+0.1**
CELP	**Cerrillos**	**1.54**	**269**			**Pn**	**06 14 54.1**	**+0.1**
CELP						**Sb**	**06 15 14.7**	**+0.1**
CELP				IAML			06 15 20.6	
	comp=N,517nm,0.3s							
CELP	**Cerrillos**	**1.54**	**269**	⇓*eP*		**Pn**	**06 14 54.0**	**+0.1**
CELP				*eS*		**Sn**	**06 15 13.5**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.68**	**276**	⇓*eP*		**Pn**	**06 14 56.5**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.68**	**276**	*eS*		**Sn**	**06 15 17.1**	**0.0**
UUPR	**Utuado, UPR, P**	**1.68**	**276**			**Pn**	**06 14 56.5**	**+0.6**
UUPR						**Sn**	**06 15 17.1**	**0.0**
AOPR	**Arecibo Observ**	**1.72**	**279**	⇓*eP*		**Pn**	**06 14 56.9**	**+0.4**
AOPR	**Arecibo Observ**	**1.72**	**279**			**Pn**	**06 14 56.8**	**+0.4**
AOPR				IAML			06 15 23.4	
	comp=N,3μm,0.3s							
AOPR	**Arecibo Observ**	**1.72**	**279**	*eP*		**Pn**	**06 14 56.8**	**+0.4**
AOPR				*eS*		**Sb**	**06 15 19.3**	**-0.5**
SMRT	**St. Maarten**	**1.80**	**91**			**Pn**	**06 14 57.2**	**-0.2**
SMRT				IAML			06 15 20.3	
	comp=N,2μm,0.2s							
SMRT				IAML			06 15 20.4	
	comp=E,2μm,0.2s							
SMRT	**St. Maarten**	**1.80**	**91**	*eP*		**Pn**	**06 14 57.1**	**-0.3**
SMRT				*eS*		**Sn**	**06 15 18.7**	**-1.3**
GBPR	**Guanica, Bosqu**	**1.83**	**267**	⇑*eP*		**Pn**	**06 14 58.4**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.83**	**267**	⇑*eP*		**Pn**	**06 14 58.4**	**+0.6**
GBPR				*eS*		**Sb**	**06 15 23.8**	**+0.9**
SEUS	**St. Eustatius**	**1.98**	**107**	*eP*		**Pg**	**06 15 07.8**	**+2.8**
MLPR	**Magueyes Islan**	**1.99**	**267**	⇓*eP*		**Pn**	**06 15 00.7**	**+0.7**
MLPR	**Magueyes Islan**	**1.99**	**267**	*eS*		**Sb**	**06 15 29.0**	**+1.6**
MLPR	**Magueyes Islan**	**1.99**	**267**			**Pn**	**06 15 00.6**	**+0.6**
LSP	**Las Mesas**	**2.02**	**273**	⇑*eP*		**Pb**	**06 15 02.5**	**-1.0**
LSP	**Las Mesas**	**2.02**	**273**	⇑*eP*		**Pb**	**06 15 02.5**	**-1.0**
LSP				*eS*		**Sb**	**06 15 27.5**	**-0.9**
CRPR	**Cabo Rojo, PR**	**2.05**	**268**	⇑*eP*		**Pn**	**06 15 01.6**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.05**	**268**			**Pn**	**06 15 01.2**	**+0.3**
CRPR				IAML			06 15 41.0	
	comp=N,338nm,0.9s							
CRPR	**Cabo Rojo, PR**	**2.05**	**268**	⇑*eP*		**Pn**	**06 15 01.6**	**+0.8**
CRPR				*eS*		**Sb**	**06 15 29.8**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.05**	**268**	*i* P		**Pn**	**06 15 01.6**	**+0.7**
CRPR				*eS*		**Sb**	**06 15 29.7**	**+0.7**
CRPR				IAML			06 15 36.3	
	comp=Z,226nm,0.8s	

DSLB	**Salisbury**	**4.30 127**	*eP*		**Pn**	06 15 30.9	**-1.0**
DSLB	**Salisbury**	**4.30 127**	*eS*		**Sn**	06 16 19.5	**-2.3**
MDN	**Morne-Daniel**	**4.40 128**	*eP*		**Pn**	06 15 32.7	**-0.5**
SVN	**Savane Anatole**	**4.87 131**	Pn		**Pn**	06 15 39.8	**+0.1**
FDF	**Fort de France**	**4.96 132**	Pn		**Pn**	06 15 40.9	**0.0**
BIM	**Bigot**	**5.16 133**	Pn		**Pn**	06 15 43.7	**0.0**
BIM	**Bigot**	**5.16 133**	*eP*		**Pn**	06 15 43.0	**-0.7**
MPOM	**Morne Pois Mar**	**5.36 132**	Pn		**Pn**	06 15 46.0	**-0.4**
MPOM	**Morne Pois Mar**	**5.36 132**	*eP*		**Pn**	06 15 45.1	**-1.3**
SLBI	**Saint Lucia, B**	**5.58 136**	*eP*		**Pn**	06 15 48.3	**-1.1**
SVB	**Belmont**	**5.98 143**	Pn		**Pn**	06 15 54.1	**-0.9**
SDDR	**Presa de Saban**	**6.07 279**			**Pn**	06 15 58.3	**+2.1**
SDDR	**Presa de Saban**	**6.07 279**	*eP*		**Pn**	06 15 56.5	**+0.3**
SDDR	**Presa de Saban**	**6.07 279**	*i* P		**Pn**	06 15 58.4	**+2.2**
SDDR			*eS*		**Sn**	06 17 03.5	**-1.9**
SDDR			IAML			06 17 24.7	
	comp=Z,11nm,0.6s						
BIRV	**Birongo**	**7.68 190**	Pn		**Pn**	06 16 15.8	**-2.5**
SDV	**Santo Domingo**	**10.69 212**	Pn		**Pn**	06 17 01.6	**+1.8**

*IDC **14** 06:25:43.4±0.8, 19°.67S×66°.79W, h252^{km}±9^{km}, mb3.1/5, mb1 3.4/9, mb1mx3.3/26, mbtmp3.8/9, Error ellipse: s-maj=16.7km s-min=11.1km az=99.0*
*VAO **14** 06:25:44.3±0.4, 19°.70S×67°.41W, h327^{km}, mb3.9*
*NEIC **14** 06:25:44.7±2.5, 19°.69S±0°.07×66°.84W±0°.10, h260^{km}±9^{km}, mb4.3/10, Error ellipse: s-maj=13.3km s-min=10.2km az=95.0*
*SCB **14** 06:25:47.6±1.8, 19°.72S×66°.97W, h224^{km}±37^{km}, ML3.4/15, MW3.6, Error ellipse: s-maj=9.8km s-min=6.2km az=1.0*

ISC 14 06:25:44.4±0.6, **19°.69S**±0°.04×**66°.93W**±0°.05, **h265**^{km}±7^{km}, **n106**, σ1°**30**/135, **mb3.7**/8, **2C-1D**, **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.97 142**		P	**Pn**	**06 26 29.0**	**+0.6**
MOCB				IAML		06 27 03.2	
	88nm,0.7s						
GO01	**Chusmiza**	**2.14 270**			**Pn**	**06 26 30.7**	**+0.8**
GO01	**Chusmiza**	**2.14 270**‖		*eP*	**Pn**	**06 26 30.8**	**+0.8**
GO01				*eS*	**S**	**06 27 06.1**	**+0.2**
GO01				IAML		06 27 18.7	
	comp=N,502nm,0.2s						
PB08	**IPOC Station P**	**2.14 257**			**Pn**	**06 26 31.1**	**+1.1**
PB08			Sn		**S**	**06 27 06.5**	**+0.7**
PB08	**IPOC Station P**	**2.14 257**		*eP*	**Pn**	**06 26 31.0**	**+1.1**
PB08				*eS*	**S**	**06 27 06.7**	**+0.8**
PB08				IAML		06 27 12.6	
	comp=N,200nm,0.2s						
PB08				IAML		06 27 13.4	
	comp=E,234nm,0.1s						
PB08	**IPOC Station P**	**2.14 257**	P		**Pn**	**06 26 30.5**	**+0.6**
PB08				IAML		06 27 13.8	
	comp=E,77nm,0.2s						
PB11	**IPOC Station P**	**2.57 268**			**Pn**	**06 26 34.1**	**+0.4**
PB11			Sn		**S**	**06 27 11.9**	**-0.9**
PB11	**IPOC Station P**	**2.57 268**		*eP*	**Pn**	**06 26 34.1**	**+0.4**
PB11				*eS*	**S**	**06 27 11.7**	**-1.1**
PB11	**IPOC Station P**	**2.57 268**	P		**Pn**	**06 26 34.3**	**+0.6**
PB11				IAML		06 27 13.4	
	comp=E,166nm,0.8s						
PB01	**IPOC Station P**	**2.76 240**			**Pn**	**06 26 36.3**	**+0.8**
PB01			Sn		**S**	**06 27 15.0**	**-0.9**
PB01	**IPOC Station P**	**2.76 240**		*eP*	**Pn**	**06 26 36.1**	**+0.6**
PB01				*eS*	**S**	**06 27 15.1**	**-0.8**
PB01	**IPOC Station P**	**2.76 240**	P		**Pn**	**06 26 36.3**	**+0.8**
PB01				IAML		06 27 18.0	
	comp=E,142nm,0.2s						
PB16	**IPOC Station P**	**2.79 298**			**Pn**	**06 26 37.8**	**+1.4**
PB16	**IPOC Station P**	**2.79 298**		*eP*	**Pn**	**06 26 37.7**	**+1.4**
PB16				*eS*	**S**	**06 27 17.9**	**+0.5**
PB16				IAML		06 27 23.1	
	comp=E,94nm,0.4s						
PB16	**IPOC Station P**	**2.79 298**	P		**Pn**	**06 26 37.8**	**+1.4**
PB16				IAML		06 27 25.4	
	comp=E,68nm,0.4s						
YJA	**Yavi**	**2.81 152**	P		**Pn**	**06 26 36.8**	**+0.5**
YJA				IAML		06 27 22.5	
	comp=E,7.1nm,0.6s						
HMBC	**Humberstone**	**2.85 258**	*eP*		**Pn**	**06 26 36.5**	**0.0**
HMBC				*eS*	**S**	**06 27 16.2**	**-1.5**
PB09	**IPOC Station P**	**3.02 226**			**Pn**	**06 26 39.5**	**+1.3**
PB09			Sn		**S**	**06 27 20.9**	**0.0**
PB09	**IPOC Station P**	**3.02 226**		*eP*	**Pn**	**06 26 39.5**	**+1.3**
PB09				*eS*	**S**	**06 27 20.5**	**-0.5**
PB09	**IPOC Station P**	**3.02 226**	P		**Pn**	**06 26 40.0**	**+1.8**
PB09				IAML		06 27 27.1	
	comp=E,88nm,0.5s						
BBOE	**La Paz, Chanca**	**3.03 340**	P		**Pn**	**06 26 40.3**	**+1.4**
BBOE				IAML		06 27 26.0	
	comp=E,32nm,0.7s						
TA02	**Huaiquique**	**3.07 259**			**Pn**	**06 26 39.2**	**+0.6**
TA02			Sn		**S**	**06 27 19.9**	**-1.7**
TA02	**Huaiquique**	**3.07 259**		*eP*	**Pn**	**06 26 39.3**	**+0.7**
TA02				*eS*	**S**	**06 27 20.1**	**-1.6**
TA01	**Diego Aracena**	**3.18 253**			**Pn**	**06 26 40.2**	**+0.4**
TA01			Sn		**S**	**06 27 21.1**	**-2.7**
TA01	**Diego Aracena**	**3.18 253**		*eP*	**Pn**	**06 26 40.1**	**+0.3**
TA01				*eS*	**S**	**06 27 21.3**	**-2.4**
PB02	**IPOC Station P**	**3.22 239**			**Pn**	**06 26 41.7**	**+1.3**
PB02			Sn		**S**	**06 27 23.4**	**-1.4**
PB02	**IPOC Station P**	**3.22 239**		*eP*	**Pn**	**06 26 40.7**	**+0.4**
PB02				*eS*	**S**	**06 27 22.9**	**-2.0**
PB02	**IPOC Station P**	**3.22 239**	P		**Pn**	**06 26 41.2**	**+0.8**
PB02				IAML		06 27 24.9	
	comp=E,164nm,0.4s						
PATCX	**Punta Patache**	**3.23 249**			**Pn**	**06 26 41.3**	**+0.8**
PATCX			Sn		**S**	**06 27 22.6**	**-2.4**
PATCX	**Punta Patache**	**3.23 249**		*eP*	**Pn**	**06 26 41.0**	**+0.5**
PATCX				*eS*	**S**	**06 27 22.8**	**-2.1**
PB12	**IPOC Station P**	**3.39 288**			**Pn**	**06 26 42.1**	**-0.1**
PB12			Sn		**S**	**06 27 26.3**	**-1.8**
PB12	**IPOC Station P**	**3.39 288**		*eP*	**Pn**	**06 26 42.1**	**-0.1**
PB12				*eS*	**S**	**06 27 26.1**	**-2.0**
BBOD	**La Paz, Gloria**	**3.42 332**	P		**Pn**	**06 26 44.4**	**+1.3**
BBOD				IAML		06 27 30.5	
	comp=E,39nm,0.7s						
PB07	**IPOC Station P**	**3.43 233**			**Pn**	**06 26 43.7**	**+1.0**
PB07			Sn		**S**	**06 27 27.0**	**-2.1**
PB07	**IPOC Station P**	**3.43 233**		*eP*	**Pn**	**06 26 43.4**	**+0.7**
PB07				*i* S	**S**	**06 27 27.4**	**-1.8**
PB07	**IPOC Station P**	**3.43 233**	P		**Pn**	**06 26 44.0**	**+1.3**
PB07				IAML		06 27 29.6	
	comp=E,48nm,0.2s						
LVC	**Limon Verde**	**3.45 212**	P		**Pn**	**06 26 44.1**	**+1.1**
	comp=E,6.5nm,0.3s,baz=36,slow=9.7,SNR=59						
LVC			S		**S**	**06 27 28.4**	**-1.3**
	comp=E,4.8nm,0.3s,baz=276,slow=19,SNR=18						
LVC	**Limon Verde**	**3.45 212**	P		**Pn**	**06 26 44.2**	**+1.1**
LVC	**Limon Verde**	**3.45 212**	*eP*		**Pn**	**06 26 44.1**	**+1.1**
AP01	**Chacalluta**	**3.49 291**			**Pn**	**06 26 43.5**	**+0.3**
AP01			Sn		**S**	**06 27 28.1**	**-1.7**
AP01	**Chacalluta**	**3.49 291**	*eP*		**Pn**	**06 26 43.6**	**+0.4**
AP01			*i* S		**S**	**06 27 28.2**	**-1.7**
LPAZ	**La Paz**	**3.57 341**	P		**Pn**	**06 26 45.2**	**+0.5**
	comp=E,5.1nm,0.3s,baz=133,slow=6.9,SNR=216						
LPAZ			S		**S**	**06 27 30.1**	**-2.6**
	comp=E,1.3nm,0.3s,baz=74,slow=20,SNR=6.3						
LPAZ	**La Paz**	**3.57 341**	P		**Pn**	**06 26 45.3**	**+0.5**
LPAZ				IAML		06 27 35.5	
	comp=E,15nm,1.6s						
LPAZ	**La Paz**	**3.57 341**	*eP*		**Pn**	**06 26 45.4**	**+0.6**
PB06	**IPOC Station P**	**3.89 219**			**Pn**	**06 26 48.9**	**+1.1**
PB06	**IPOC Station P**	**3.89 219**‖		*eP*	**Pn**	**06 26 48.9**	**+1.1**
PB06				*eS*	**S**	**06 27 37.1**	**-1.2**
PB06	**IPOC Station P**	**3.89 219**	P		**Pn**	**06 26 49.2**	**+1.4**
PB06				IAML		06 27 39.8	
	comp=E,89nm,0.6s						
PB04	**IPOC Station P**	**4.00 228**			**Pn**	**06 26 50.1**	**+1.0**
PB04	**IPOC Station P**	**4.00 228**‖		*eP*	**Pn**	**06 26 49.7**	**+0.6**
PB04				*eS*	**S**	**06 27 38.8**	**-1.8**
PB04	**IPOC Station P**	**4.00 228**	P		**Pn**	**06 26 50.3**	**+1.2**
PB04			S		**S**	**06 27 36.0**	**-4.6**
PB04				IAML		06 27 42.1	
	comp=E,85nm,0.4s						
PB04				IAML		06 27 42.2	
	comp=E,80nm,0.5s						
PB15	**IPOC Station P**	**4.23 214**			**Pn**	**06 26 53.3**	**+1.5**
PB10	**IPOC Station P**	**5.09 221**	Pn		**Pn**	**06 27 02.4**	**+0.7**
PB10	**IPOC Station P**	**5.09 221**	P		**Pn**	**06 27 03.7**	**+1.9**
GO02	**Mina Guanaco**	**5.98 204**			**Pn**	**06 27 13.3**	**+0.3**
SIV	**San Ignacio**	**6.68 58**	P		**Pn**	**06 27 18.4**	**-3.0**
	comp=E,1.7nm,0.3s,baz=244,slow=14,SNR=48						
AC01	**Pan de Azucar**	**7.27 207**	Pn		**Pn**	**06 27 28.1**	**-0.5**
AC02	**Maricunga**	**7.40 195**	Pn		**Pn**	**06 27 31.1**	**+0.3**
AC04	**Llanos de Chal**	**9.29 203**	Pn		**Pn**	**06 27 52.3**	**-1.6**
VILB	**Vilhena**	**9.30 45**	*eP*		**P**	**06 27 57.3**	**-3.0**
ETMB	**Extrema**	**9.84 4**	*eP*		**Pn**	**06 28 00.8**	**-0.1**
SALV	**Santo Antonio**	**11.34 72**	*eP*		**P**	**06 28 23.6**	**+0.6**
PP1B	**Ponte de Pedra**	**11.61 82**	*eP*		**P**	**06 28 26.5**	**+0.6**
PDRB	**Porto dos Gac**	**12.68 52**	*eP*		**P**	**06 28 37.8**	**-0.1**
CZSB	**Cruzeiro do Su**	**13.14 334**	*eP*		Pn	06 28 36.8	-5.0
ITQB	**Itaqui**	**13.65 139**	*eP*		**P**	**06 28 49.3**	**+0.9**
CLDB	**Colider**	**13.85 52**	*eP*		**Pn**	**06 28 50.1**	**-0.3**
PTGB	**Pitanga**	**14.64 113**	*eP*		**Pn**	**06 29 02.4**	**+2.5**
PCMB	**Pacanembu**	**14.79 100**	*eP*		**Pn**	**06 29 03.8**	**+2.2**
ITAB	**Concordia**	**15.51 122**	*eP*		**Pn**	**06 29 09.7**	**-0.5**
CPSB	**Cacapava Do Su**	**16.21 134**	*eP*		**P**	**06 29 17.2**	**+0.5**
NPGB	**Novo Progresso**	**16.85 43**	*eP*		**P**	**06 29 23.9**	**0.0**
SNDB	**Serra Nova Dou**	**16.87 65**	*eP*		**P**	**06 29 23.6**	**-0.5**
PLTB	**Pedras Altas**	**16.97 138**	*eP*		**P**	**06 29 24.2**	**-0.8**
BB19B	**Bebedouro**	**17.31 98**	*eP*		**P**	**06 29 29.3**	**+0.5**
MACA	**Manacapuru-AM**	**17.52 21**	*eP*		**P**	**06 29 30.7**	**-0.4**
IPMB	**Ipameri, GO**	**17.80 88**	*eP*		**P**	**06 29 34.8**	**+0.7**
RCLB	**Rio Claro- Sao**	**18.31 102**	*eP*		**P**	**06 29 39.4**	**-0.1**
TER01	**Tubaro-SC**	**18.46 122**	*eP*		**P**	**06 29 41.0**	**-0.1**
BDFB	**Brasilia**	**18.46 80**	P		**P**	**06 29 41.5**	**+0.2**
	comp=E,0.5nm,0.3s,baz=260,slow=13,SNR=8.6						
BDFB	**Brasilia**	**18.46 80**	P		**P**	**06 29 42.0**	**+0.6**
BDFB				IAmb	IAmb	06 29 42.6	
	comp=Z,6.1nm,0.9s						
BDFB	**Brasilia**	**18.46 80**	*eP*		**P**	**06 29 42.1**	**+0.7**
ITTB	**Itaituba**	**18.73 37**	*eP*		**P**	**06 29 43.3**	**-0.9**
PEXB	**Peixe**	**19.42 70**	*eP*		**P**	**06 29 52.0**	**+0.5**
BOSC	**San Juan Bosco**	**19.94 324**	P		**P**	**06 29 57.3**	**+0.1**
ARNL	**Arenillas**	**20.54 320**	P		**P**	**06 30 03.7**	**+0.4**
ARNL				IAmb	IAmb	06 30 07.7	
	comp=Z,16nm,1.4s						
PRPB	**Parauapebas**	**21.38 53**	*eP*		**P**	**06 30 11.0**	**-0.8**
SMTB	**Santa Maria do**	**21.58 63**	*eP*		**P**	**06 30 13.2**	**-0.4**
MALB	**Monte Alegre**	**21.62 36**	*eP*		**P**	**06 30 12.1**	**-1.8**
DIAM	**Diamantina, MG**	**22.03 90**	*eP*		**P**	**06 30 17.3**	**-0.5**
JANB	**Januaria**	**22.06 82**	*eP*		**P**	**06 30 17.4**	**-0.6**
SDBA	**SAO DESIDERIO**	**22.35 74**	*eP*		**P**	**06 30 19.9**	**-0.8**
CAM01	**Campos-RJ**	**23.72 100**	*eP*		**P**	**06 30 33.1**	**+0.2**
GDU01	**Guandu, BA**	**26.84 81**	*eP*		**P**	**06 30 59.0**	**-2.1**
NBPN	**Ponto Novo - B**	**27.21 75**	*eP*		**P**	**06 31 03.4**	**-1.0**
BAUV	**El Baul**	**28.47 358**	P		**P**	**06 31 17.8**	**+2.3**
NBLA	**Lagarto - SE**	**29.36 77**	*eP*		**P**	**06 31 22.5**	**-0.9**
TXAR	**Lajitas Array**	**60.26 323**	P		**P**	**06 35 26.7**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=132,slow=9.0,SNR=2.1						
SNAA	**Sanae**	**63.39 161**	P		**P**	**06 35 45.1**	**-0.4**
SNAA				IAmb	IAmb	06 36 53.1	
	comp=Z,18nm,1.7s						
SDCO	**Great Sand Dun**	**67.68 328**	P		**P**	**06 36 16.4**	**+2.8**
Q24A	**Divide**	**68.45 329**	P		**P**	**06 36 19.6**	**+1.2**
Q24A				IAmb	IAmb	06 36 21.2	
	comp=Z,3.8nm,0.8s						
Q16A	**Castle Valley**	**71.52 325**	P		**P**	**06 36 36.8**	**-0.1**
Q16A				IAmb	IAmb	06 37 41.5	
	comp=Z,11nm,1.7s						
PDAR	**Pinedale Array**	**73.50 329**	P		**P**	**06 36 49.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=119,slow=8.6,SNR=5.6						
TORD	**Torodi Ar. Bea**	**75.00 70**	P		**P**	**06 36 56.2**	**-1.2**
	comp=Z,2.8nm,0.5s,baz=256,slow=5.5,SNR=31						
TORD	**Torodi Ar. Bea**	**75.00 70**	P		**P**	**06 36 55.9**	**-1.4**
NVAR	**Mina Array Bea**	**75.25 321**	P		**P**	**06 37 00.8**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=165,slow=4.7,SNR=3.2						
YKA	**Yellowknife Ar**	**90.12 340**	P		**P**	**06 38 13.2**	**-0.8**
	comp=Z,0.2nm,0.9s,baz=126,slow=3.4,SNR=2.5						

*IDC **14** 06:41:06.0±1.3, 4°.73S×153°.45E, h0^{km}, mb3.7/8, mb1 3.9/8, mb1mx3.6/39, mbtmp3.7/8, Error ellipse: s-maj=36.4km s-min=22.6km az=129.0*

ISC 14 06:41:13.7±1.1, **4°.7S**±0°.2×**153°.2E**±0°.1, **h50**^{km}, **n10**, σ0**6**°**60**/11, **mb3.6**/8, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.23 286**		Pn	**Pn**	**06 41 34.5**	**+0.1**
	102nm,0.3s,baz=248,slow=2.9,SNR=85						
KRVT				Sn	**Sn**	**06 41 49.4**	**-0.6**
	163nm,0.3s,baz=141,slow=22,SNR=46						
WRA	**Warramunga Arr**	**23.84 229**		P	**P**	**06 46 22.6**	**+0.1**
	1.3nm,0.4s,baz=53,slow=10.0,SNR=25						
ASAR	**Alice Springs**	**26.53 223**		P	**P**	**06 46 47.2**	**+0.3**
	0.1nm,0.3s,baz=57,slow=9.0,SNR=2.0						
FITZ	**Fitzroy Crossi**	**30.08 241**		P	**P**	**06 47 17.9**	**-0.7**
	1.2nm,0.4s,baz=60,slow=7.1,SNR=7.3						
KLR	**Kul'dur**	**56.82 343**		P	**P**	**06 50 52.9**	**-0.1**
	1.3nm,0.7s,baz=221,slow=5.2,SNR=3.3						
CMAR	**Chiang Mai Arr**	**58.18 295**		P	**P**	**06 51 03.9**	**+0.8**
	0.5nm,0.7s,baz=116,slow=5.6,SNR=4.3						
MKAR	**Makanchi Array**	**80.48 319**		P	**P**	**06 53 21.3**	**+0.9**
	0.3nm,0.5s,baz=90,slow=8.1,SNR=5.7						
ILAR	**Eielson Array**	**81.88 22**		P	**P**	**06 53 26.6**	**-0.8**
	0.3nm,0.6s,baz=255,slow=5.1,SNR=2.0						
YKA	**Yellowknife Ar**	**95.11 28**		P	**P**	**06 54 31.0**	**-0.1**
	0.2nm,1.0s,baz=251,slow=5.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**150.65 289**		PKPbc	**PKiKP**	**07 01 02.0**	**+0.1**
	1.1nm,0.4s,baz=94,slow=2.2,SNR=13						

*DSN **14** 07:16:40.7±2.6, 26°.83N×58°.84E, h10^{km}, ML3.2/8, Error ellipse: s-maj=44.0km s-min=23.2km az=131.0*
*TEH **14** 07:16:49.9, 27°.01N×57°.94E, h9^{km}, ML3.4*
*OMAN **14** 07:16:51.7±1.1, 26°.57N×57°.94E, h9^{km}±26^{km}, ml3.0/10, Error ellipse: s-maj=46.4km s-min=7.9km az=28.0*

ISC 14 07:16:39.9±1.3, **26°.72N**±0°.03×**58°.40E**±0°.04, **h5**^{km}±14^{km}, **n33**, σ1°**31**/36, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**1.37 333**		*e*Sg	**Sg**	**07 17 23.9**	**0.0**
KHNJ				*e*Pg	**Pg**	**07 17 08.0**	**+1.8**
IBND	**Bandar-abas**	**1.81 294**		*e*Pg	**Pg**	**07 17 15.8**	**+1.2**
IBND				*e*		07 17 19.1	
	comp=Z,8μm,0.3s						
IBND				*e*Sg	**Sb**	**07 17 36.6**	**+0.1**
BANOM	**Banah**	**2.05 248**		P	**Pg**	**07 17 20.0**	**+0.8**
	SNR=42						
BANOM				S	**Sg**	**07 17 46.6**	**+0.9**
BANOM	**Banah**	**2.05 248**		*e*P	**Pg**	**07 17 20.2**	**+1.0**
	SNR=26						
GENO	**Geno**	**2.10 289**		*e*Pn	**Pg**	**07 17 19.6**	**-0.6**
GENO				*e*		07 17 50.4	
	comp=Z,4μm,0.4s						
SHME	**Shamm**	**2.13 252**		P	**Pg**	**07 17 21.2**	**+0.4**
	SNR=7.6						
SHME	**Shamm**	**2.13 252**		*e*P	**Pg**	**07 17 21.7**	**+0.8**
	SNR=7.5						
CHBR	**Chabahar**	**2.18 121**		*e*Pn	Pg	07 17 37.3	+16
KBAM	**BAM**	**2.40 1**		*e*Pn	**Pg**	**07 17 27.4**	**+1.4**
KBAM				*e*		07 17 32.9	
	comp=Z,2μm,0.4s						
MASF	**Masafi**	**2.42 237**		P	**Pb**	**07 17 24.4**	**+0.3**
MSFE	**Esma-Masafi**	**2.43 237**		*e*P	**Pb**	**07 17 24.3**	**+0.1**
	SNR=6.7						
UOSS	**Minazif**	**2.66 229**		P	**Pb**	**07 17 27.8**	**-0.2**
UOSS				S	**Sn**	**07 17 57.6**	**+1.6**
UOSS	**Minazif**	**2.66 229**		P	**Pb**	**07 17 27.1**	**-0.9**
HATD	**Hatta, Dubai**	**2.78 228**		P	**Pg**	**07 17 33.2**	**-0.1**
HATD	**Hatta, Dubai**	**2.78 228**		P	**Pg**	**07 17 33.0**	**-0.3**
ASHO	**Ashiyiah**	**2.93 227**		P	**Pb**	**07 17 34.1**	**+1.4**
	SNR=7.4						
ASHO	**Ashiyiah**	**2.93 227**		*i* P	**Pb**	**07 17 32.1**	**-0.6**
	SNR=7.3						
ASHO				S	**Sg**	**07 18 12.7**	**-1.5**
SOHO	**SOHO**	**3.08 214**		P	**Pb**	**07 17 33.1**	**-2.2**
FAQ	**Al Faqa, Dubai**	**3.21 233**		P	**Pb**	**07 17 37.8**	**+0.4**
HOQ	**Hoqain**	**3.28 198**		P	**Pb**	**07 17 39.2**	**+0.5**
HOQ				S	**Sb**	**07 18 17.3**	**-1.6**
ZHDN	**Zahedan**	**3.41 38**		*e*Pn	**Pg**	**07 17 46.1**	**+0.7**
ASUD	**Al Ashush, Dub**	**3.47 234**		P	**Pb**	**07 17 42.0**	**+0.1**
	SNR=6.2						
ASUD	**Al Ashush, Dub**	**3.47 234**		*i* P	**Pb**	**07 17 40.3**	**-1.6**
	SNR=5.9						
WSAR	**Wadi Sarin**	**3.48 176**		P	**Pg**	**07 17 45.4**	**-1.2**
WSAR				S	**Sb**	**07 18 25.6**	**+1.1**
KRBR	**Kerman**	**3.55 336**		*e*Pn	**Pb**	**07 17 43.3**	**-0.2**
TVBK	**TV Kerman**	**3.56 336**		*e*	Pg	07 17 57.5	+9.4
	comp=Z,867nm,0.2s						
SRVN	**Saravan**	**3.63 78**		*e*Pn	Pg	07 17 54.4	+4.9
SMDO	**Samad**	**3.66 185**		P	**Pb**	**07 17 47.0**	**+1.7**
SMDO				S	**Sb**	**07 18 29.0**	**-0.9**
KHGB	**Koh Gabri**	**4.01 336**		*e*Pn	**Pb**	**07 17 48.4**	**-2.9**
KHGB				*e*		07 18 54.7	
	comp=Z,583nm,0.6s						
WBK	**Wadi Bani Khal**	**4.13 173**		P	**Pb**	**07 17 53.9**	**+0.8**
BSRN	**Basiran**	**5.26 7**		*e*Pn	**Pb**	**07 18 09.2**	**-3.3**
YZKH	**Yazd**	**6.55 330**		*e*Pn	Pn	07 18 24.0	+7.0
IRAM	**Ramesheh**	**7.30 315**		*e*Pn	Pn	07 18 32.6	+5.2

IDC 14 07:16:52.4±3.0, **53°.38N**×**87°.38E**, **h0**^{km}, **mb1 2.6**/2, **mb1mx2.6**/49, **mbtmp2.6**/2, **ML2.2**/2, **Error ellipse: s-maj=26.1km s-min=15.3km az=68.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.63 292**		*i*		07 27 40.0	
	baz=107,slow=335,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.63 292**		Pg	Pn	07 17 21.5	-0.8
	0.6nm,0.3s,baz=111,slow=14,SNR=12						
ZALV				Lg		07 17 44.3	
	1.0nm,0.3s,baz=109,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**6.12 247**		Pn	Pn	07 18 24.7	+0.7
	0.0nm,0.3s,baz=63,slow=14,SNR=5.3						
KURBB				Lg		07 20 04.7	
	0.0nm,0.3s,baz=64,slow=36,SNR=2.2						
MKAR	**Makanchi Array**	**7.36 208**		Pn	Pn	07 18 42.5	+1.5
	0.1nm,0.3s,baz=26,slow=11,SNR=2.5						
MKAR				Lg		07 20 43.7	
	0.0nm,0.3s,baz=35,slow=30,SNR=3.3						

*IDC **14** 07:17:41.7±2.0, 7°.55S×128°.53E, h153^{km}±24^{km}, mb3.3/2, mb1 3.4/7, mb1mx3.0/47, mbtmp3.8/7, Error ellipse: s-maj=22.8km s-min=18.3km az=98.0*

ISC 14 07:17:41.2±1.0, **7.73S**±0°.07×**128.70E**±0°.09, **h151**^{km}, **n7**, σ**2°37**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.55 243**		P	**Pn**	**07 19 02.9**	**+0.9**
	16nm,0.3s,baz=127,slow=20,SNR=1.9						
BATI				S	**Sn**	**07 20 04.4**	**-0.7**
	9.4nm,0.3s,baz=67,slow=21,SNR=1.5						
SIJI	**Sorong**	**7.28 21**		P	**Pn**	**07 19 24.4**	**-0.6**
	1.9nm,0.3s,baz=217,slow=20,SNR=11						
FITZ	**Fitzroy Crossi**	**10.73 196**		P	**Pn**	**07 20 11.5**	**+0.6**
	0.3nm,0.3s,baz=20,slow=14,SNR=20						
FITZ				S	**Sn**	**07 22 06.9**	**-2.7**
	0.6nm,0.3s,baz=112,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**13.32 156**		P	**P**	**07 20 47.4**	**-1.3**
	0.3nm,0.3s,baz=342,slow=12,SNR=7.3						
WRA				S	**Sn**	**07 23 09.7**	**-2.4**
	0.5nm,0.3s,baz=276,slow=21,SNR=8.3						
ASAR	**Alice Springs**	**16.62 163**		P	**Pn**	**07 21 30.0**	**+4.4**
	0.3nm,0.3s,baz=339,slow=10,SNR=24						
ASAR				S	**S**	**07 24 29.4**	**-0.9**
	0.1nm,0.3s,baz=345,slow=25,SNR=1.6						
STKA	**Stephens Creek**	**26.87 155**		P	**P**	**07 23 10.3**	**+2.5**
	0.6nm,0.4s,baz=338,slow=10.0,SNR=5.1						
MKAR	**Makanchi Array**	**68.13 328**		P	**P**	**07 28 23.6**	**-1.3**
	0.2nm,0.4s,baz=118,slow=6.8,SNR=4.5						

*G

VA06	Catapilco	2.43	235			Pn	07 35 42.1	-0.4
VA06	Catapilco	2.43	235	eP		Pn	07 35 42.0	-0.5
VA06				eS		Sn	07 36 10.8	-1.3
VA06				IAML			07 36 15.4	
	comp=E,2µm,0.4s							
PEL	Peldehue	2.45	217			Pn	07 35 42.5	-0.3
PEL	Peldehue	2.45	217	eP		Pn	07 35 42.8	-0.1
PEL				*i* S		Sn	07 36 13.2	+0.5
PEL				IAML			07 36 21.0	
	comp=N,782nm,0.2s							
PEL	Peldehue	2.45	217	eP		Pn	07 35 43.1	+0.2
PEL				eS		Sn	07 36 14.5	+1.8
ACLC	CERRO LA CRUZ	2.46	45	eP		Pn	07 35 43.7	+0.7
ACLC				eS		Sn	07 36 14.7	+1.7
ACLC				IAML			07 36 45.7	
	comp=Z,781nm,0.6s							
ROCH	El Roble	2.50	224⇑	eP			07 35 44.0	
ROCH			⇑	eP		Pn	07 35 41.3	-2.4
ROCH				eS		Sn	07 36 12.4	-1.8
ROCH				eS			07 36 15.1	
ROCH				IAML			07 36 16.3	
	comp=E,1µm,0.3s							
ROCH				IAML			07 36 18.2	
	comp=N,1µm,0.3s							
ROC1	El Roble	2.51	224			Pn	07 35 41.2	-2.6
VCA	Vinchina	2.52	15	eP		Pn	07 35 45.3	+1.4
VCA				eS		Sn	07 36 17.5	+3.0
VCA				IAML			07 36 24.9	
	comp=E,2µm,0.5s							
VCA	Vinchina	2.52	15	eP		Pn	07 35 45.3	+1.4
VCA				eS		Sn	07 36 15.9	+1.4
VCA				IAML			07 36 19.7	
	comp=Z,1µm,0.4s							
LCO	Las Campanas	2.65	324	Pn		Pn	07 35 46.3	+0.6
LCO	Las Campanas	2.65	324	eP		Pn	07 35 46.1	+0.5
LCO				eS		Sn	07 36 18.0	+0.4
MT03	Universidad Ad	2.66	210			Pn	07 35 45.9	+0.2
MT03	Universidad Ad	2.66	210	eP		Pn	07 35 46.3	+0.7
MT03				*i* S		Sn	07 36 19.2	+1.6
MT03				IAML			07 36 21.6	
	comp=E,2µm,0.3s							
MT03	Universidad Ad	2.66	210	eP		Pn	07 35 46.3	+0.7
MT03				eS		Sn	07 36 19.8	+2.2
MT03				IAML			07 36 20.7	
	comp=Z,792nm,0.2s							
MT05	Renca	2.68	214			Pn	07 35 45.4	-0.5
MT05	Renca	2.68	214	eP		Pn	07 35 46.1	+0.3
MT05				eS		Sn	07 36 19.2	+1.2
MT05	Renca	2.68	214	eP		Pn	07 35 46.2	+0.4
MT05				eS		Sn	07 36 19.4	+1.4
MT05				IAML			07 36 21.2	
	comp=Z,785nm,0.2s							
MT02	Curacav	2.78	221			Pn	07 35 46.2	-0.9
LMEL	Las Melosas	2.86	202			Pn	07 35 48.9	+0.5
LMEL	Las Melosas	2.86	202	eP		Pn	07 35 49.3	+0.9
LMEL				eS		Sn	07 36 24.1	+1.6
LMEL				IAML			07 36 36.4	
	comp=N,657nm,0.2s							
VA01	Torpederas	2.94	231			Pn	07 35 47.5	-1.7
VA01	Torpederas	2.94	231⇑	eP		Pn	07 35 48.3	-0.8
VA01				eS		Sn	07 36 23.4	-0.6
VA01				IAML			07 36 29.4	
	comp=E,738nm,0.3s							
MRA	San Martin	3.01	115	eP		Pn	07 35 50.4	+0.1
MRA				eS		Sn	07 36 25.1	-0.7
MT09	Talagante	3.11	213			Pn	07 35 50.9	-0.7
MT09	Talagante	3.11	213	eP		Pn	07 35 50.8	-0.7
MT09				eS		Sn	07 36 28.3	0.0
MT09				IAML			07 36 31.9	
	comp=E,847nm,0.2s							
BO04	La Punta	3.13	206			Pn	07 35 51.2	-0.6
BO04	La Punta	3.13	206	eP		Pn	07 35 51.7	-0.1
BO04				eS		Sn	07 36 28.5	-0.2
BO04				IAML			07 36 32.3	
	comp=N,456nm,0.5s							
MT01	Popeta	3.31	215			Pn	07 35 52.1	-2.0
MT01	Popeta	3.31	215	eP		Pn	07 35 52.6	-1.6
MT01				eS		Sn	07 36 31.3	-1.6
MT01				IAML			07 36 38.2	
	comp=N,382nm,0.2s							
MT01	Popeta	3.31	215	eP		Pn	07 35 52.7	-1.4
MT01				eS		Sn	07 36 20.0	-13
VA05	Santo Domingo	3.35	222			Pn	07 35 53.0	-1.5
VA05	Santo Domingo	3.35	222⇑	eP		Pn	07 35 53.3	-1.3
VA05				eS		Sn	07 36 32.9	-0.8
VA05				IAML			07 36 35.9	
	comp=E,903nm,0.4s							
AC04	Llanos de Chal	3.50	327	Pn		Pn	07 35 55.8	-0.9
AC04	Llanos de Chal	3.50	327	eP		Pn	07 35 56.4	-0.3
AC04				eS		Sn	07 36 32.4	-5.0
RFA	San Rafael	3.60	174	eP		Pn	07 35 57.2	-0.9
RFA				eS		Sn	07 36 23.0	-17
RFA				eS		Sn	07 36 39.0	-0.9
RFA				IAML			07 37 00.2	
	comp=Z,508nm,0.5s							
BO01	Tunca	3.67	209	Pn		Pn	07 35 57.6	-1.4
BO01	Tunca	3.67	209	eP		Pn	07 35 57.6	-1.4
BO01				eS		Sn	07 36 41.0	-0.5
GO03	Copiap	3.75	342			Pn	07 35 59.9	-0.2
GO03	Copiap	3.75	342	eP		Pn	07 36 00.6	+0.5
GO03				eP			07 36 00.9	
GO03				eS		Sn	07 36 44.4	+0.9
BO02	Sierra Bellavi	3.92	203			Pn	07 36 01.4	-0.9
AC06	Mina Casimiro	4.01	342	Pn		Pn	07 36 03.1	-0.3
AC02	Maricunga	4.33	358	Pn		Pn	07 36 09.1	+0.8
GO05	Huala	4.57	212			Pn	07 36 07.9	-3.0
ML02	Panimavida	5.01	204			Pn	07 36 14.1	-2.9
AC01	Pan de Azucar	5.22	343			Pn	07 36 19.1	-0.7
GO02	Mina Guanaco	6.02	354	Pn		Pn	07 36 29.6	-1.4
PB10	IPOC Station P	7.77	349	Pn		Pn	07 36 51.4	-3.0
LVC	Limon Verde	8.54	0	P		Pn	07 37 02.9	-2.2
	comp=Z,2.9nm,0.3s,baz=195,slow=7.7,SNR=17							
LVC				S		Sn	07 38 32.4	-7.5
	comp=Z,1.1nm,0.3s,baz=270,slow=21,SNR=1.8							
LVC				LR		LR	07 40 33.0	
	comp=Z,100nm,19.7s,baz=196,slow=38							
PLCA	Paso Flores	9.62	187	P		Pn	07 37 17.2	-2.2
	comp=Z,0.3nm,0.3s,baz=360,slow=11,SNR=12							
PLCA	Paso Flores	9.62	187	eP		Pn	07 37 17.2	-2.2
CPUP	Villa Florida	11.28	68	P		Pn	07 37 39.1	-2.7
	comp=Z,0.2nm,0.3s,baz=221,slow=10,SNR=6.0							
GO01	Chusmiza	11.47	359			Pn	07 37 42.8	-2.0
CPSB	Cacapava Do Su	13.35	91	eP		Pn	07 38 06.1	-3.0
LPAZ	La Paz	14.85	3	P		Pn	07 38 28.2	-0.7
	comp=Z,0.5nm,0.3s,baz=177,slow=7.1,SNR=34							
LPAZ	La Paz	14.85	3	eP		P	07 38 31.0	-0.9
ITAB	Concordia	15.20	79	eP		Pn	07 38 33.5	+0.8
PTGB	Pitanga	16.24	71	eP		Pn	07 38 46.4	+0.6
SIV	San Ignacio	16.74	27	P		Pn	07 38 52.2	+0.3
	comp=Z,0.7nm,0.3s,baz=201,slow=9.0,SNR=46							
TER01	Tubaro-SC	17.39	86	eP		P	07 38 59.5	+0.1
PTLB	Pontes e Lacer	18.05	32	eP		Pn	07 39 07.8	+0.2
PCMB	Pacaembu	18.47	63	eP		Pn	07 39 12.9	+0.2
PP1B	Ponte de Pedra	18.60	47	eP		Pn	07 39 14.8	+0.6
SALV	Santo Antonio	19.44	42	eP		P	07 39 23.1	+1.3
VILB	Vilhena	19.85	26	eP		P	07 39 27.1	+0.8
GO09	Cerro Castillo	20.23	186	P		P	07 39 31.1	+1.1
GO09				IAmb		IAmb	07 39 32.2	
	comp=Z,30nm,0.9s							
ITRB	Iturama	20.27	60	eP		P	07 39 31.4	+0.5
MG05	Puerto Natales	20.65	186	P		Pn	07 39 36.1	-1.8
ETMB	Extrema	21.41	7	eP		P	07 39 44.1	+1.1
PDRB	Porto dos Gac	22.51	33	eP		P	07 39 55.8	+1.2
MG03	Isla Dawson	22.68	182	P		P	07 39 56.8	+0.9
IPMB	Ipameri, GO	22.93	60	eP		P	07 39 58.3	-0.4
CZSB	Cruzeiro do Su	23.60	351	eP		P	07 40 06.1	+1.2
CLDB	Colider	23.60	34	eP		P	07 40 05.4	+0.5
VAS01	Vassouras-RJ	24.39	75	eP		P	07 40 11.9	-0.1
BDFB	Brasilia	24.59	56	P		P	07 40 13.7	-0.3
	comp=Z,1.2nm,0.6s,baz=217,slow=18,SNR=1.8							
BDFB	Brasilia	24.59	56	eP		P	07 40 13.8	-0.3
SNDB	Serra Nova Dou	25.12	44	eP		P	07 40 18.6	-0.2
TBTG	Tabatinga, AM	26.87	358	eP		P	07 40 35.1	+0.6
NPGB	Novo Progresso	27.17	31	eP		P	07 40 37.0	-0.2
SDBA	SAO DESIDERIO	28.99	55	eP		P	07 40 53.3	-0.1
ITTB	Itaituba	29.43	28	eP		P	07 40 57.4	+0.2
BOAV	Boa Vista	34.34	15	eP		P	07 41 40.4	+0.2
MCPB	Macapa, AP	34.58	31	eP		P	07 41 43.0	+0.7
NBPS	Pedro II - PI	37.13	50	eP		P	07 42 04.3	+0.2
BAUV	El Baul	39.91	1	P		P	07 42 26.8	-0.4
BAUV				IAmb		IAmb	07 42 27.6	
	comp=Z,14nm,0.7s							
SJCC	San Jacinto, C	41.28	351	P		P	07 42 38.7	+0.2
SJCC				IAmb		IAmb	07 42 40.1	
	comp=Z,24nm,1.1s							
BIRV	Birongo	41.50	4	P		P	07 42 39.9	-0.4
TGUH	Tegucigalpa,Un	48.30	336	P		P	07 43 35.4	+1.0
BELA	Belgrano 2	49.22	171	P		P	07 43 40.6	+0.1
MTO3	Montecristo	49.38	334	P		P	07 43 43.3	+0.6
VNA2	Neumayer--Watz	51.62	158	P		P	07 43 59.2	+0.5
	baz=285,slow=8.0							
SNAA	Sanae	53.23	159	P		P	07 44 10.9	+0.3
SNAA	Sanae	53.23	159	P		P	07 44 11.0	+0.4
	comp=Z,1.6nm,0.8s,baz=288,slow=9.6,SNR=2.5							
SOR	Soroa	55.34	344	P		P	07 44 26.3	0.0
SOR				IAmb		IAmb	07 44 26.3	
	comp=Z,17nm,1.3s							
QSPA	South Pole Qui	59.05	180	P		P	07 44 51.9	-0.2
	comp=Z,1.6nm,0.6s,baz=165,slow=0.8,SNR=12							
QSPA	South Pole Qui	59.05	180	P		P	07 44 52.3	+0.1
QSPA				IAmb		IAmb	07 45 21.7	
	comp=Z,13nm,1.4s							
Y52A	Lilburn	66.25	346	P		P	07 45 39.7	-0.4
Y52A				IAmb		IAmb	07 45 41.0	
	comp=Z,8.4nm,0.9s							
V58A	Windy Hill, Pi	67.31	351	P		P	07 45 47.2	+0.5
V58A				IAmb		IAmb	07 45 48.7	
	comp=Z,9.7nm,1.2s							
X48A	Hartselle	67.48	344	P		P	07 45 48.3	+0.5
X48A				IAmb		IAmb	07 45 49.2	
	comp=Z,11nm,0.8s							
SWET	Sewanee	67.95	345	P		P	07 45 50.9	0.0
TXAR	Lajitas Array	68.66	328	P		P	07 45 56.7	+1.3
	comp=Z,1.8nm,0.8s,baz=154,slow=8.2,SNR=21							
TXAR				pP		pP	07 46 25.0	+1.0
	comp=Z,0.6nm,0.8s,baz=138,slow=9.5,SNR=3.3							
WVT	Waverly	69.27	344	P		P	07 45 59.2	+0.3
LCAR	Lake Charles	70.07	341	P		P	07 46 03.9	0.0
FCAR	Ozark Folk Cen	70.18	340	P		P	07 46 05.0	+0.5
FCAR				IAmb		IAmb	07 46 05.8	
	comp=Z,7.0nm,0.9s							
PBMO	Poplar Bluff	70.54	342	P		P	07 46 07.0	+0.3
U40A	Yeliville	70.83	340	P		P	07 46 08.9	+0.4
U40A				IAmb		IAmb	07 46 10.0	
	comp=Z,9.6nm,0.7s							
TUL1	Leonard	71.34	337	P		P	07 46 12.3	+0.7
TUL1				IAmb		IAmb	07 46 13.1	
	comp=Z,8.2nm,0.8s							
MGMO	Mountain Grove	71.40	340	P		P	07 46 11.9	0.0
MGMO				IAmb		IAmb	07 46 13.6	
	comp=Z,8.8nm,0.9s							
DBIC	Dimbokro	71.78	70	P		P	07 46 15.3	+0.6
	comp=Z,3.9nm,0.6s,baz=252,slow=5.1,SNR=6.5							
DBIC	Dimbokro	71.78	70	P		P	07 46 13.7	-1.1
DBIC				IAmb		IAmb	07 46 37.8	
	comp=Z,16nm,1.4s							
MSTX	Muleshoe	72.23	331	P		P	07 46 17.5	+0.4
MSTX				IAmb		IAmb	07 46 18.9	
	comp=Z,11nm,0.8s							
R40A	Maddies Statio	72.46	341	P		P	07 46 18.7	+0.5
P40A	Paris	73.56	342	P		P	07 46 24.9	+0.2
P40A				IAmb		IAmb	07 46 26.1	
	comp=Z,16nm,0.8s							
P38A	Dawn	74.06	340	P		P	07 46 27.7	+0.1
P38A				IAmb		IAmb	07 46 28.7	
	comp=Z,8.9nm,1.0s							
ANMO	Albuquerque	74.65	329	P		P	07 46 31.4	0.0
N38A	Joes South Fot	75.06	341	P		P	07 46 33.3	0.0
N38A				IAmb		IAmb	07 46 34.5	
	comp=Z,13nm,0.7s							
L40A	Anamosa	75.72	343	P		P	07 46 36.9	-0.1
N35A	Tabor	75.82	339	P		P	07 46 38.2	+0.5
ECSD	EROS Data Cent	78.74	340	P		P	07 46 54.4	+0.4
ECSD				IAmb		IAmb	07 46 55.4	
	comp=Z,10.0nm,0.8s							
BOSA	Boshof	79.03	117	P		P	07 46 56.4	+0.2
	comp=Z,2.4nm,0.8s,baz=190,slow=2.2,SNR=4.2							
TOA0	Torodi Ar. Sit	80.77	69	P		P	07 47 05.4	-0.2
TORD	Torodi Ar. Bea	80.77	69	P		P	07 47 05.7	+0.1
	comp=Z,5.6nm,0.9s,baz=262,slow=4.9,SNR=23							
TORD				pP		pP	07 47 33.8	-0.5
	comp=Z,1.3nm,0.7s,baz=261,slow=4.8,SNR=3.4							
TORD	Torodi Ar. Bea	80.77	69	P		P	07 47 05.5	-0.1
PDAR	Pinedale Array	82.50	331	P		P	07 47 15.1	+0.8
	comp=Z,1.5nm,0.8s,baz=134,slow=7.6,SNR=12							
NVAR	Mina Array Bea	83.14	323	P		P	07 47 17.4	-0.3
	comp=Z,1.0nm,0.7s,baz=152,slow=5.2,SNR=9.2							
ULM	Lac du Bonnet	84.52	343	P		P	07 47 24.3	+0.2
	comp=Z,2.5nm,0.5s,baz=152,slow=5.1,SNR=7.0							
ULM	Lac du Bonnet	84.52	343	IAmb		IAmb	07 47 25.1	
	comp=Z,4.8nm,0.9s							
DGMT	Dagmar	85.34	337	P		P	07 47 29.3	+0.9
SCHQ	Schefferville	85.68	1	P		P	07 47 30.0	+0.2
	comp=Z,2.5nm,0.9s,baz=194,slow=5.9,SNR=4.1							
SCHQ	Schefferville	85.68	1	IAmb		IAmb	07 47 30.8	
	comp=Z,8.6nm,1.2s							
RPZ	Rata Peaks	87.48	219	LR		LR	08 19 02.8	
	comp=Z,44nm,19.6s,baz=220,slow=30							
YKA	Yellowknife Ar	100.27	340	P		Pdif	07 48 37.2	+0.2
	comp=Z,0.3nm,0.6s,baz=141,slow=4.7,SNR=14							
ASAR	Alice Springs	121.23	205	PKP		PKPdf	07 53 43.6	-0.9
	comp=Z,0.4nm,0.7s,baz=132,slow=2.3,SNR=4.4							
WRA	Warramunga Arr	124.47	207	PKP		PKPdf	07 53 50.3	-0.5
	comp=Z,0.9nm,0.5s,baz=154,slow=1.8,SNR=23							
WRA				pPKP		pPKPdf	07 54 21.7	+0.2
	comp=Z,0.3nm,0.9s,baz=155,slow=1.7,SNR=1.5							
YAK	Yakutsk	146.85	344	PKPbc		PKPbc	07 54 32.8	+0.3
	comp=Z,9.4nm,0.5s,baz=5.5,slow=0.6,SNR=4.7							
AAK	Ala-Archa	148.84	58	PKPbc		PKPbc	07 54 39.1	+0.5
	comp=Z,5.8nm,0.6s,baz=260,slow=3.2,SNR=16							
AAK				pPKPbc		pPKPbc	07 55 09.1	-0.2
	comp=Z,3.5nm,0.7s,baz=212,slow=8.1,SNR=3.9							
KURBB	Kurchatov Arra	149.03	42	PKPbc		PKiKP	07 54 39.5	-0.4
	comp=Z,2.6nm,0.8s,baz=301,slow=3.3,SNR=20							
KURBB				pPKPbc		pPKPbc	07 55 09.4	+0.3
	comp=Z,0.8nm,0.7s,baz=290,slow=3.3,SNR=3.7							
KSH	Kashi	150.35	64	PKPbc		PKPbc	07 54 42.8	+0.4
KSH				pPKP		pPKPbc	07 55 13.6	+0.5
KSH				sPKP			07 55 18.6	
ZALV	Zalesovo Beam	150.46	32	PKPbc		PKiKP	07 54 42.6	-0.1
	comp=Z,8.6nm,0.6s,baz=305,slow=3.2,SNR=26							
ZALV				pPKPbc		pPKPbc	07 55 12.7	-0.1
	comp=Z,1.7nm,0.5s,baz=294,slow=2.9,SNR=3.4							
MKAR	Makanchi Array	152.94	47	PKPbc		PKiKP	07 54 48.3	+0.2
	comp=Z,2.6nm,0.7s,baz=307,slow=1.9,SNR=27							
MKAR				PKPab		PKPab	07 55 00.0	+0.4
	comp=Z,2.6nm,0.8s,baz=293,slow=3.7,SNR=14							
MKAR				pPKPbc		pPKPbc	07 55 18.2	-0.4
	comp=Z,0.8nm,0.7s,baz=276,slow=2.1,SNR=2.8							
SONM	Songino Array	162.99	11	PKPab		PKPab	07 55 43.4	+0.3
	comp=Z,0.8nm,0.6s,baz=328,slow=5.1,SNR=5.0							
PZH	PanZhiHua	170.60	117	PKP		PKPdf	07 54 57.1	-2.3

IDC 14 07:52:46.4±2.7, 53.74N×86.97E, h0km, mb1 2.8/2, mb1mx2.7/49, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=26.2km s-min=15.2km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.29	280	*i*		08 00 50.0	
	baz=101,slow=332,SNR=2.9						
ZALV	Zalesovo Beam	1.29	280	Pg	Pg	07 53 09.4	-1.7
	1.1nm,0.3s,baz=100,slow=17,SNR=14						
ZALV				Lg	Lg	07 53 28.4	
	1.1nm,0.3s,baz=98,slow=28,SNR=11						
KURBB	Kurchatov Arra	6.06	242	Pn	Pn	07 54 17.9	+0.9
	0.1nm,0.3s,baz=60,slow=13,SNR=7.2						
MKAR	Makanchi Array	7.57	205	Pn	Pn	07 54 39.3	+1.4
	0.2nm,0.3s,baz=24,slow=13,SNR=6.6						

DJA 14 08:03:31.3±0.6, 3°S±4'×113°9E±', h25km±5km, M4.1/6, mb4.3/2, MLv4.0/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	Sarmi	0.87	10	P	Pb	08 03 46.7	-1.0
SRPI	Serui, Papua	2.51	293	P	Pn	08 04 11.0	+0.4
SRPI				S	Sn	08 04 39.8	-0.7
BAKI	Biak	2.95	304	P	Pn	08 04 17.5	+0.8
SWI	Sorong	7.56	285	P	Pn	08 05 20.9	+0.9

IDC 14 08:16:28.7±13.0, 36.80N×70.82E, h208km±65km, mb2.7/1, mb1 3.0/5, mb1mx2.7/58, mbtmp3.6/5, Error ellipse: s-maj=219.5km s-min=98.0km az=144.0

ISC 14 08:16:27.5±2.2, 36.7°N±0.2°×71.0°E±0.1, h188km, n7, σ1s54/10, 2C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.43	357	Pn	Pn	08 18 02.2	+2.2
	2.2nm,0.3s,baz=177,slow=12,SNR=25						
KK31				Sn	Sn	08 19 12.4	-0.9
	9.8nm,0.6s,baz=183,slow=24,SNR=23						
AAK	Ala-Archa	6.54	23	P	Pn	08 18 02.6	+1.0
	0.9nm,0.3s,baz=215,slow=7.9,SNR=9.3						
AAK				S	Sn	08 19 16.5	+0.3
	0.7nm,0.3s,baz=142,slow=20,SNR=19						
MKAR	Makanchi Array	13.15	36	P	Pn	08 19 26.9	-0.2
	0.3nm,0.3s,baz=226,slow=11,SNR=10						
AB31	Akbulak array	14.92	331	⇑Pn	P	08 19 51.7	+1.6
	0.4nm,0.5s,baz=140,slow=11,SNR=17						
AB31				⇑Sn	S	08 22 34.3	-1.6
	0.2nm,0.5s						
KURBB	Kurchatov Arra	14.96	19	P	Pn	08 19 48.0	-1.4
	0.0nm,0.3s,baz=205,slow=11,SNR=2.0						
ZALV	Zalesovo Beam	19.76	25	P	P	08 20 42.4	-0.4
	0.7nm,0.3s,baz=210,slow=11,SNR=8.2						
YKA	Yellowknife Ar	81.07	3	P	P	08 28 19.5	-1.6
	0.1nm,0.4s,baz=352,slow=5.5,SNR=6.3						

MAN 14 08:25:35.5, 9.97N×125.19E, h11km, mb4.7, ML3.6, MS3.5, Hypocentre not reviewed by the ISC
MAN INTENSITY III - PINTUYAN SAN RICARDO SAN FRANCISCO AND ANAHAWAN SOUTHERN LEYTE.
IDC 14 08:25:55.4±2.3, 10.01N×125.07E, h200km±23km, mb3.1/9, mb1 3.3/10, mb1mx3.2/44, mbtmp3.6/10, MS2.8/4, Ms1 2.8/4, ms1mx2.5/24, Error ellipse: s-maj=30.8km s-min=14.3km az=70.0

ISC 14 08:25:36.1±1.1, 10.08N±0.05°×125.21E±0.05, h20km±4km, n27, σ1s44/28, mb3.5/9, MS2.8/3, 2C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	Maasin	0.35	278	eP	Pg	08 25 43.4	-0.3
SCPH	Surigao	0.41	136⇓	eP	Pg	08 25 43.8	-0.7
SCPH				eS	Sg	08 25 50.6	+0.3
GLSP	General Luna,	0.95	108	eP	Pb	08 25 52.7	-1.2
OCLP	Ormoc	1.13	328	eP	Pn	08 25 57.9	+1.1
BUTP	Butuan	1.18	160	eP	Pn	08 25 54.3	-3.2
LLP	Lapu-Lapu	1.25	281⇓	*i*P	Pn	08 25 57.5	-1.0
LLP				*i* S	Sb	08 26 13.5	-1.2
TBP	Tagbilaran	1.39	254	eP	Pn	08 25 59.0	-1.4
TBP				*i* S	Sn	08 26 18.1	0.0
BUKP	Musuan	2.19	184	eP	Pn	08 26 11.3	-0.3
BIPH	Bislig	2.20	149⇑	*i*P	Pn	08 26 13.0	+1.4
BIPH				eS	Sb	08 26 42.9	+0.7
CNOP	Candoni, Negro	2.55	265	eP	Pn	08 26 16.2	-0.1
RCP	Roxas	2.83	301⇑	eP	Pn	08 26 21.5	+1.2
RCP				eS	Sn	08 26 55.0	+1.1
CTBH	Cotabato--PC H	3.00	199	eP	Pn	08 26 24.3	+1.7
DAV	Davao City (W)	3.02	173	P	Pg	08 26 45.8	+12
	29nm,0.3s,baz=306,slow=14,SNR=1.6						
DAV				S	Sg	08 27 26.6	+14
	baz=237,slow=17,SNR=0.9						
KCP	Kidapawan	3.06	182⇓	eP	Pn	08 26 27.6	+4.2
SIJI	Sorong	12.44	151	LR	LR	08 34 22.3	
	comp=Z,14nm,19.9s,baz=285,slow=41						
LEM	Lembang	24.27	227	LR	LR	08 43 06.4	
	comp=Z,69nm,18.0s,baz=16,slow=43						
CMAR	Chiang Mai Arr	26.76	291	P	P	08 31 16.3	+1.4
	0.3nm,0.4s,baz=101,slow=4.9,SNR=2.5						
MJAR	Matsushiro Arr	28.85	22	LR	LR	08 41 02.8	
	comp=Z,24nm,21.4s,baz=190,slow=31						
WRA	Warramunga Arr	31.16	163	P	P	08 31 54.5	+0.5
	0.2nm,0.6s,baz=342,slow=9.6,SNR=1.6						
ASAR	Alice Springs	34.60	166	P	P	08 32 24.1	+0.1
	0.5nm,0.7s,baz=340,slow=7.2,SNR=9.0						
ASAR				PcP	PcP	08 34 56.9	-1.5
	0.2nm,0.7s,baz=349,slow=2.9,SNR=1.9						
ASAJ	Asahikawa	37.10	21	LR	LR	08 47 59.0	
	comp=Z,15nm,18.8s,baz=92,slow=36						
SONM	Songino Array	40.84	341	P	P	08 33 16.4	-0.3
	0.4nm,0.6s,baz=162,slow=9.8,SNR=2.0						
STKA	Stephens Creek	44.57	160	P	P	08 33 48.0	+1.1
	1.1nm,0.7s,baz=330,slow=12,SNR=4.0						
PETK	Petropavlovsk-	50.24	25	P	P	08 34 31.1	+0.3
	1.4nm,0.

ms1mx2.6/53,**Error ellipse: s-maj=285.1km s-min=72.9km az=95.0,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.96**	**326**	T	T	09 04 33.2	
	baz=149,slow=75,SNR=4.2						
H01W2	**Cape Leeuwin H**	**15.96**	**326**	T	T	09 04 32.0	
	baz=149,slow=75,SNR=4.0						
H01W3	**Cape Leeuwin H**	**15.98**	**326**	T	T	09 04 30.8	
	baz=149,slow=75,SNR=3.7						
STKA	**Stephens Creek**	**20.97**	**43**	LR	LR	08 56 21.6	
	comp=Z,26nm,18.1s,baz=200,slow=36						
ASAR	**Alice Springs**	**25.96**	**19**	P	P	08 49 18.9	-0.8
	1.1nm,0.8s,baz=190,slow=9.1,SNR=14						
WRA	**Warramunga Arr**	**29.67**	**18**	P	P	08 49 51.1	-1.7
	0.5nm,1.0s,baz=192,slow=8.6,SNR=1.7						
FITZ	**Fitzroy Crossi**	**30.53**	**1**	LR	LR	09 01 35.4	
	comp=Z,43nm,19.2s,baz=146,slow=35						
LEM	**Lembang**	**44.25**	**335**	LR	LR	09 11 32.6	
	comp=Z,33nm,18.4s,baz=314,slow=38						
YKA	**Yellowknife Ar**	**145.00**	**44**	PKPbc	PKPdf	09 03 23.4	+0.1
	0.3nm,0.8s,baz=266,slow=3.0,SNR=5.7						

IDC ***14*** *08:54:19.7±2.8, 6.˚49S×149.˚83E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/33, mbtmp3.7/5, ML2.3/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/33, Error ellipse: s-maj=69.9km s-min=41.6km az=112.0*

ISC 14 08:54:27.5±2.2, 6.˚7S×149.˚7E, h50km, n6, σ0s84/7, mb3.4/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**223**	Pn	**Pn**	**08 55 23.4**	**+1.0**
	16nm,0.3s,baz=38,slow=8.7,SNR=21						
PMG				Sn	**Sn**	**08 56 04.1**	**-0.7**
	21nm,0.3s,baz=34,slow=21,SNR=12						
PMG				LR	LR	08 56 34.9	
	comp=Z,50nm,19.2s,baz=72,slow=34						
WRA	**Warramunga Arr**	**19.92**	**227**	P	**P**	**08 58 55.4**	**+0.2**
	1.5nm,0.6s,baz=52,slow=11,SNR=15						
ASAR	**Alice Springs**	**22.72**	**220**	P	**P**	**08 59 25.8**	**+0.3**
	0.5nm,0.5s,baz=56,slow=9.5,SNR=12						
FITZ	**Fitzroy Crossi**	**26.07**	**242**	P	**P**	**08 59 55.7**	**-0.9**
	1.7nm,0.6s,baz=54,slow=9.9,SNR=2.1						
STKA	**Stephens Creek**	**26.20**	**196**	P	**P**	**08 59 57.0**	**-0.6**
	0.3nm,0.3s,baz=6.2,slow=8.9,SNR=1.5						
TORD	**Torodi Ar. Bea**	**147.86**	**284**	PKPbc	**PKPbc**	**09 14 08.2**	**+0.1**
	0.5nm,0.5s,baz=70,slow=3.6,SNR=6.1						

KRSC 14 08:57:33.0±1.2, 55.˚52N×165.˚98E, h39km±13km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.32**	**180**	*eP*	Pn	08 57 41.6	+0.3
BKI				*eS*	Sn	08 57 47.8	+0.1
KBTR	**Krutoberegovo**	**1.91**	**293**	*eP*	Pn	08 58 03.3	+0.4
MKZ	**Mys Kozlova**	**2.63**	**250**	*eP*	Pn	08 58 15.8	+3.0
MKZ				*eS*	Sn	08 58 47.3	+4.0
TUMD	**Tumrok D**	**3.20**	**267**	*eP*	Pn	08 58 24.8	+4.1
TUMD				*eS*	Sn	08 59 03.7	+6.2
TUMR	**Tumrok**	**3.33**	**268**	*eP*	Pn	08 58 26.5	+3.9
SPN	**Mys Shipunski**	**4.25**	**238**	*eS*	Sn	08 59 26.9	+3.6
SDLR	**Sedlovina**	**4.71**	**244**	*eP*	Pn	08 58 46.0	+4.4
SMAR	**Somma**	**4.76**	**245**	*eP*	Pn	08 58 46.4	+4.1
KRER	**Koryakskii**	**4.77**	**245**	*eP*	Pn	08 58 47.3	+4.9
UGLR	**Uglovaya**	**4.78**	**244**	*eP*	Pn	08 58 47.3	+4.8
AVH	**Avacha**	**4.79**	**245**	*eP*	Pn	08 58 47.6	+5.0
KOK	**Koryaka**	**4.83**	**246**	*eP*	Pn	08 58 47.9	+4.7
GNL	**Ganaly**	**5.01**	**252**	*eP*	Pn	08 58 50.7	+5.0
KRMR	**Karymshinskiy**	**5.34**	**243**	*eP*	Pn	08 58 55.9	+5.9
MTVR	**Mutnovka**	**5.51**	**240**	*eP*	Pn	08 58 57.0	+4.5
MTVR				*eS*	Sn	08 59 58.7	+4.1
ASAK	**Asacha**	**5.71**	**240**	*eP*	Pn	08 59 00.2	+5.0

MOS ***14*** *09:38:42.6±1.3, 33.˚84S×70.˚12W, h111km, mb5.5/13, Error ellipse: s-maj=16.4km s-min=6.8km az=94.3*

SJA ***14*** *09:38:42.3±2.1, 33.˚89S×70.˚50W, h128km±8km, ML5.1, MW4.8*

GUC ***14*** *09:38:44.4±0.7, 33.˚86S×70.˚45W, h118km±3km, ML5.3, MW5.5*

IDC ***14*** *09:38:44.3±0.4, 33.˚86S×70.˚20W, h111km±3km, mb5.0/22, mb1 5.1/25, mb1mx5.0/32, mbtmp5.4/25, MS3.8/26, Ms1 3.8/26, ms1mx3.6/52, Error ellipse: s-maj=13.4km s-min=8.2km az=78.0*

VAO ***14*** *09:38:44.7±0.3, 33.˚87S×70.˚20W, h113km, mb5.2*

NEIC ***14*** *09:38:44.4, 33.˚86S×70.˚40W, h116km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.69; Mθθ-1.03; Mφφ0.34; Mrθ-3.62; Mrφ-0.85; Mθφ-2.84; Fault plane solution: M0 4.76000×10^16 NP1:φs94.73000°, δ8.41000°, λ133.10000°. NP2:φs231.32000°, δ83.87000°, λ84.23000°. Principal axes: T 4.4050, Plg51.0000°, Azm135.0000°; N 0.6465, Plg6.0000°, Azm232.0000°; P -5.0515, Plg39.0000°, Azm327.0000°;*

NEIC ***14*** *09:38:44.1±1.7, 33.˚88S±0.˚04×70.˚42W±0.˚08, h111km±3km, mb5.5/533, Mwr5.1/74, Mww5.1, Md5.2(SJA), ML5.3(GUC) Error ellipse: s-maj=9.3km s-min=6.3km az=98.0*

NEIC ***14*** *09:38:47, 33.˚65S×70.˚54W, h140km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10^16Nm; Mrr3.76; Mθθ-3.00; Mφφ-0.76; Mrθ-3.38; Mθφ-2.78; Mφr-1.48; Fault plane solution: M0 5.76000×10^16 NP1: φs45.00000°, δ26.00000°, λ72.00000°. NP2:φs244.00000°, δ65.00000°, λ98.00000°. Principal axes: T 5.1800, Plg68.0000°, Azm170.0000°; N 1.0286, Plg8.0000°, Azm61.0000°; P -6.2086, Plg20.0000°, Azm328.0000°;*

GCMT ***14*** *09:38:48.1±0.2, 33.˚85S±0.˚01×70.˚39W±0.˚02, h129km±1km, MW5.2/105, Moment Tensor Solution. s69,c88; s105,c159; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.20±.17; Mθθ-1.68±.20; Mφφ0.47±.24; Mrθ-4.68±.10; Mθφ0.50±.16; Mφr-4.61±.14; Best double couple: M0 6.69800×10^16 NP1:φs120.00000°, δ10.00000°, λ162.00000°. NP2:φs228.00000°, δ87.00000°, λ80.00000°. Principal axes: T 7.2080, Plg47.0000°, Azm128.0000°; N -1.0220, Plg10.0000°, Azm229.0000°; P -6.1890, Plg41.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 09:38:43.9±0.2, 33.˚88S±0.˚03×70.˚39W±0.˚03, h114km±2km, h114km:pP-P, n1088, σ1s12/1023, mb5.4/277, 68C-259D, Fault plane solution: NP1:φs320.50501°, δ22.17469°, λ-0.11684°. NP2:φs50.61319°, δ89.95590°, λ-112.17464°. Principal axes: T Plg40.8638°, Azm161.2778°; N Plg22.1746°, Azm50.6312°; P Plg40.9463°, Azm299.9216°; **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.16**	**80**		**Pn**	**09 38 59.8**	**0.0**
LMEL	**Las Melosas**	**0.16**	**80**	*eP*	**Pn**	**09 38 60.0**	**+0.1**
LMEL				*eS*	**Sn**	**09 39 12.4**	**+0.6**
LMEL				IAML		09 39 15.2	
	comp=N,168μm,0.5s						
BO04	**La Punta**	**0.21**	**238**		**Pn**	**09 39 00.1**	**+0.3**
BO04	**La Punta**	**0.21**	**238**	*eP*	**Pn**	**09 39 00.2**	**+0.3**
BO04				*eS*	**Sn**	**09 39 11.9**	**+0.1**
MT03	**Universidad Ad**	**0.39**	**345**		**Pn**	**09 39 01.0**	**+0.3**
MT03	**Universidad Ad**	**0.39**	**345**	*eP*	**Pn**	**09 39 01.0**	**+0.3**
MT03				*eS*	**Sn**	**09 39 14.3**	**+1.0**
MT03				IAML		09 39 15.2	
	comp=Z,157μm,0.3s						
MT09	**Talagante**	**0.51**	**281**		**Pn**	**09 39 01.5**	**+0.2**
MT09	**Talagante**	**0.51**	**281**	⇑*eP*	**Pn**	**09 39 01.5**	**+0.2**
MT09				*eS*	**Sn**	**09 39 14.6**	**+0.1**
FCH	**Farellones**	**0.55**	**9**	*eP*	**Pn**	**09 39 02.4**	**+0.5**
FCH				*eS*	**Sn**	**09 39 16.3**	**+0.9**
FCH				IAML		09 39 17.2	
	comp=N,133μm,0.3s						
MT05	**Renca**	**0.56**	**329**		**Pn**	**09 39 01.9**	**+0.3**
MT05	**Renca**	**0.56**	**329**	*eP*	**Pn**	**09 39 01.7**	**+0.1**
MT05				*eS*	**Sn**	**09 39 15.3**	**+0.3**
MT05				IAML		09 39 16.7	
	comp=E,207μm,0.4s						
MT05	**Renca**	**0.56**	**329**	*eP*	**Pn**	**09 39 01.9**	**+0.3**
MT05				*eS*	**Sn**	**09 39 15.9**	**+0.9**
MT05				IAML		09 39 19.4	
	comp=Z,46μm,0.2s						
MT01	**Popeta**	**0.72**	**271**		**Pn**	**09 39 02.7**	**0.0**
MT01	**Popeta**	**0.72**	**271**	⇑*eP*	**Pn**	**09 39 02.6**	**0.0**
MT01				*eS*	**Sn**	**09 39 16.5**	**-0.5**
MT01				IAML		09 39 17.5	
	comp=N,143μm,0.2s						
MT01	**Popeta**	**0.72**	**271**	*eP*	**Pn**	**09 39 02.7**	**0.0**
MT01				*eS*	**Sn**	**09 39 16.5**	**-0.5**
MT01				IAML		09 39 20.4	
	comp=Z,35μm,0.3s						
PEL	**Peldehue**	**0.77**	**341**	*eP*	**Pn**	**09 39 03.6**	**+0.3**
PEL	**Peldehue**	**0.77**	**341**		**Pn**	**09 39 03.6**	**+0.3**
PEL	**Peldehue**	**0.77**	**341**	*eP*	**Pn**	**09 39 03.0**	**-0.3**
BO01	**Tunca**	**0.77**	**228**	Pn	**Pn**	**09 39 03.1**	**-0.1**
BO01	**Tunca**	**0.77**	**228**	*eP*	**Pn**	**09 39 03.4**	**+0.2**
BO01				*eS*	**Sn**	**09 39 18.0**	**+0.2**
BO01				IAML		09 39 19.5	
	comp=N,70μm,0.5s						
BO01	**Tunca**	**0.77**	**228**	*eP*	**Pn**	**09 39 03.3**	**+0.1**
BO01				*eS*	**Sn**	**09 39 17.3**	**-0.5**
BO01				IAML		09 39 19.6	
	comp=Z,38μm,0.2s						
MT02	**Curacav**	**0.88**	**314**		**Pn**	**09 39 04.2**	**+0.1**
MT02	**Curacav**	**0.88**	**314**	⇑*eP*	**Pn**	**09 39 04.3**	**+0.1**
MT02				*eS*	**Sn**	**09 39 19.7**	**+0.2**
MT02				IAML		09 39 22.0	
	comp=N,54μm,0.5s						
MT02	**Curacav**	**0.88**	**314**	*eP*	**Pn**	**09 39 04.0**	**-0.2**
MT02				*eS*	**Sn**	**09 39 20.1**	**+0.7**
MT02				IAML		09 39 25.6	
	comp=Z,24μm,0.8s						
BO02	**Sierra Bellavi**	**0.97**	**199**		**Pn**	**09 39 05.7**	**+0.6**
BO02	**Sierra Bellavi**	**0.97**	**199**	*eP*	**Pn**	**09 39 05.9**	**+0.7**
BO02				*eS*	**Sn**	**09 39 22.1**	**+0.8**
BO02				IAML		09 39 24.0	
	comp=E,160μm,0.3s						
BO02	**Sierra Bellavi**	**0.97**	**199**	*eP*	**Pn**	**09 39 05.9**	**+0.7**
BO02				*eS*	**Sn**	**09 39 22.9**	**+1.6**
BO02				IAML		09 39 26.3	
	comp=Z,56μm,0.4s						
ROC1	**El Roble**	**1.04**	**330**		**Pn**	**09 39 03.9**	**-2.2**
ROCH	**El Roble**	**1.04**	**330**	*eP*	**Pn**	**09 39 03.7**	**-2.3**
ROCH				*eS*	**Sn**	**09 39 21.0**	**-1.8**
ROCH				IAML		09 39 27.3	
	comp=E,85μm,0.5s						
VA05	**Santo Domingo**	**1.04**	**282**		**Pn**	**09 39 05.7**	**-0.1**
VA05	**Santo Domingo**	**1.04**	**282**	*eP*	**Pn**	**09 39 05.6**	**-0.1**
VA05				*eS*	**Sn**	**09 39 21.5**	**-0.8**
VA05				IAML		09 39 23.1	
	comp=N,97μm,0.5s						
VA03	**San Esteban**	**1.12**	**353**		**Pn**	**09 39 07.5**	**+0.8**
VA03	**San Esteban**	**1.12**	**353**	*eP*	**Pn**	**09 39 07.3**	**+0.6**
VA03				*eS*	**Sn**	**09 39 24.3**	**+0.3**
VA03	**San Esteban**	**1.12**	**353**	*eP*	**Pn**	**09 39 07.0**	**+0.3**
VA03				*eS*	**Sn**	**09 39 25.3**	**+1.3**
VA03				IAML		09 39 27.2	
	comp=Z,70μm,0.4s						
VA01	**Torpederas**	**1.35**	**309**		**Pn**	**09 39 09.6**	**+0.5**
VA01	**Torpederas**	**1.35**	**309**	⇑*eP*	**Pn**	**09 39 09.2**	**+0.1**
VA01				*eS*	**Sn**	**09 39 27.6**	**-0.7**
VA01				IAML		09 39 32.7	
	comp=E,69μm,0.3s						
VA01	**Torpederas**	**1.35**	**309**	*eP*	**Pn**	**09 39 09.0**	**-0.1**
VA01				*eS*	**Sn**	**09 39 30.6**	**+2.3**
VA01				IAML		09 39 33.2	
	comp=Z,20μm,0.6s						
BO03	**Pichilemu**	**1.44**	**244**	*eP*	**Pn**	**09 39 10.0**	**-0.2**
BO03				*eS*	**Sn**	**09 39 29.7**	**-0.5**
BO03				IAML		09 39 32.3	
	comp=N,36μm,0.8s						
VA06	**Catapilco**	**1.52**	**330**	Pn	**Pn**	**09 39 11.1**	**0.0**
AAGR	**Agrelo**	**1.52**	**59**	*eP*	**Pn**	**09 39 12.3**	**+1.0**
AAGR				IAML		09 40 00.1	
	comp=Z,1μm,0.8s						
ARCO	**CERRO ARCO**	**1.60**	**50**	*eP*	**Pn**	**09 39 13.0**	**+0.8**
ARCO				IAML		09 39 43.4	
	comp=Z,6μm,1.2s						
GO05	**Huala**	**1.70**	**228**		**Pn**	**09 39 13.1**	**-0.2**
GO05	**Huala**	**1.70**	**228**	*eP*	**Pn**	**09 39 12.9**	**-0.5**
RFA	**San Rafael**	**1.83**	**120**	*eP*	**Pn**	**09 39 15.3**	**+0.4**
RFA				IAML		09 39 50.4	
	comp=Z,3μm,0.7s						
ASAL	**Salagasta**	**1.83**	**46**	*eP*	**Pn**	**09 39 16.0**	**+1.0**
ASAL				*eS*	**Sn**	**09 39 44.1**	**+5.5**
ASAL				IAML		09 39 48.6	
	comp=Z,2μm,2.8s						
AUSP	**Uspallata**	**1.85**	**27**	*eP*	**Pn**	**09 39 16.6**	**+1.1**
AUSP				*eS*	**Sn**	**09 39 41.2**	**+1.7**
EDS3	**Malargue**	**2.06**	**157**	*eP*	**Pn**	**09 39 18.6**	**+0.7**
ML02	**Panimavida**	**2.06**	**204**		**Pn**	**09 39 18.0**	**+0.2**
RTLS	**Leoncito**	**2.27**	**24**	*eP*	**Pn**	**09 39 22.5**	**+1.8**
RTLS				*eS*	**Sn**	**09 39 51.5**	**+2.6**
RTLS				IAML		09 39 54.6	
	comp=Z,4μm,0.5s						
RTCV	**Cerro Valdivia**	**2.54**	**38**	*eP*	**Pn**	**09 39 24.0**	**0.0**
RTCV				IAML		09 40 00.1	
	comp=Z,80nm,0.9s						
CO02	**Combarbal**	**2.71**	**349**		**Pn**	**09 39 26.2**	**-0.1**
CO02	**Combarbal**	**2.71**	**349**	*eP*	**Pn**	**09 39 26.1**	**-0.3**
CO02				IAML		09 40 02.5	
	comp=Z,21μm,0.3s						
ZON	**Zonda**	**2.73**	**32**	*eP*	**Pn**	**09 39 27.0**	**+0.4**
ZON				IAML		09 40 07.3	
	comp=Z,4μm,0.7s						
RTLL	**Cerro Villicun**	**3.01**	**33**	*eP*	**Pn**	**09 39 30.0**	**-0.2**
BI05	**Punta Hualpn**	**3.67**	**218**		**Pn**	**09 39 37.2**	**-1.6**
GO04	**Tololo Observa**	**3.71**	**355**	*eP*	**Pn**	**09 39 38.9**	**-0.8**
AROD	**Rodeo**	**3.78**	**12**	*eP*	**Pn**	**09 39 41.8**	**+1.2**
ACDV	**Cuesta del Vie**	**3.85**	**17**	*eP*	**Pn**	**09 39 42.0**	**+0.6**
ACDV				IAML		09 40 30.4	
	comp=Z,3μm,0.5s						
CO01	**Juntas del Tor**	**3.90**	**4**		**Pn**	**09 39 42.7**	**+0.6**
CO01	**Juntas del Tor**	**3.90**	**4**	*eP*	**Pn**	**09 39 43.0**	**+0.9**
CO01				IAML		09 40 55.8	
	comp=Z,2μm,0.6s						
AVFE	**Valle Fertil**	**4.06**	**39**	*eP*	**Pn**	**09 39 43.4**	**-0.7**
AVFE				IAML		09 40 32.8	
	comp=Z,2μm,0.3s						
ACHE	**Chepes**	**4.15**	**50**	*eP*	**Pn**	**09 39 45.0**	**-0.4**
MRA	**San Martin**	**4.18**	**71**	*eP*	**Pn**	**09 39 45.6**	**-0.2**
MRA				IAML		09 41 16.0	
	comp=Z,1μm,1.3s						
LCO	**Las Campanas**	**4.86**	**357**	P	**Pn**	**09 39 54.7**	**-0.4**
LCO	**Las Campanas**	**4.86**	**357**	Pn	**Pn**	**09 39 54.7**	**-0.4**
LCO	**Las Campanas**	**4.86**	**357**	*eP*	**Pn**	**09 39 54.0**	**-1.1**
LCO				IAML		09 40 59.6	
	comp=Z,23μm,0.4s						
LC01	**Cunco**	**5.15**	**193**	Pn	**Pn**	**09 39 57.2**	**-1.5**
LC01	**Cunco**	**5.15**	**193**	*eP*	**Pn**	**09 39 57.0**	**-1.8**
LC01				IAML		09 41 03.1	
	comp=Z,393nm,0.8s						
ACLC	**CERRO LA CRUZ**	**5.32**	**34**	*eP*	**Pn**	**09 39 59.2**	**-2.0**
ACLC				IAML		09 41 01.0	
	comp=Z,1μm,0.4s						
VCA	**Vinchina**	**5.45**	**21**	*eP*	**Pn**	**09 40 02.4**	**-0.6**
VCA				IAML		09 41 09.9	
	comp=Z,3μm,0.4s						
AC04	**Llanos de Chal**	**5.68**	**354**	Pn	**Pn**	**09 40 05.8**	**-0.1**
AC04	**Llanos de Chal**	**5.68**	**354**	*eP*	**Pn**	**09 40 05.0**	**-1.0**
AC04				IAML		09 41 17.9	
	comp=Z,2μm,0.8s						
GO03	**Copiap**	**6.26**	**1**		**Pn**	**09 40 12.7**	**-1.2**
GO03	**Copiap**	**6.26**	**1**	*eP*	**Pn**	**09 40 13.0**	**-0.9**
AC06	**Mina Casimiro**	**6.50**	**0**	Pn	**Pn**	**09 40 15.8**	**-1.3**
PLCA	**Paso Flores**	**6.85**	**181**	P	**Pn**	**09 40 21.2**	**-0.5**
	comp=Z,4.0nm,0.3s,baz=355,slow=11,SNR=118						
PLCA	**Paso Flores**	**6.85**	**181**	*eP*	**Pn**	**09 40 21.9**	**+0.1**
AC02	**Maricunga**	**7.10**	**9**	*eP*	**Pn**	**09 40 24.0**	**-1.6**
AC02				IAML		09 42 35.3	
	comp=Z,628nm,1.0s						
LL03	**Petrohue**	**7.42**	**192**		**Pn**	**09 40 28.8**	**-0.6**
FSA	**Cafayete**	**8.63**	**27**	*eP*	**Pn**	**09 40 43.0**	**-3.1**
PB14	**IPOC Station P**	**9.22**	**360**	*eP*	**Pn**	**09 40 51.0**	**-3.2**
LVC	**Limon Verde**	**11.30**	**7**	P	**Pn**	**09 41 18.1**	**-4.2**
	comp=Z,7.9nm,0.3s,baz=183,slow=9.0,SNR=52						
LVC				S	Sn	09 43 14.4	-12
	comp=Z,6.1nm,0.3s,baz=227,slow=12,SNR=1.9						
COYC	**Coyhaique**	**11.75**	**186**		**Pn**	**09 41 27.8**	**0.0**
TA01	**Diego Aracena**	**13.26**	**1**		**Pn**	**09 41 45.8**	**-1.9**
CPUP	**Villa Florida**	**13.57**	**60**	P	Pn	09 41 44.9	-6.9
	comp=Z,0.4nm,0.3s,baz=235,slow=12,SNR=7.8						
CPUP				LR	LR	09 48 10.2	
	comp=Z,293nm,21.1s,baz=243,slow=42						
CPUP	**Villa Florida**	**13.57**	**60**	P	**Pn**	**09 41 48.7**	**-3.0**
CPUP	**Villa Florida**	**13.57**	**60**	Pn	**Pn**	**09 41 48.6**	**-3.0**
PLTB	**Pedras Altas**	**14.28**	**86**	*eP*	**Pn**	**09 41 57.1**	**-3.6**
CPSB	**Cacapava Do Su**	**14.77**	**81**	*eP*	**Pn**	**09 42 03.6**	**-3.5**
ITAB	**Concordia**	**17.05**	**72**	P	**P**	**09 42 34.5**	**-0.8**
ITAB				IAmb	IAmb	09 42 37.3	
	comp=Z,170nm,0.9s						
ITAB	**Concordia**	**17.05**	**72**	*eP*	**P**	**09 42 34.1**	**-1.2**
GO09	**Cerro Castillo**	**17.44**	**184**	IAmb	IAmb	09 42 43.4	
	comp=Z,191nm,1.0s						
LPAZ	**La Paz**	**17.63**	**7**	P	**Pn**	**09 42 43.3**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=189,slow=7.7,SNR=14						
LPAZ	**La Paz**	**17.63**	**7**	P	**Pn**	**09 42 43.2**	**+0.3**
LPAZ				IAmb	IAmb	09 42 46.5	
	comp=Z,181nm,0.8s						
MG05	**Puerto Natales**	**17.86**	**184**	P	**Pn**	**09 42 44.9**	**+0.1**
PTGB	**Pitanga**	**18.38**	**65**	*eP*	**P**	**09 42 49.8**	**-0.3**
AQDB	**Aquidauana**	**18.65**	**48**	P	**P**	**09 42 53.2**	**+0.3**
AQDB	**Aquidauana**	**18.65**	**48**	*eP*	**P**	**09 42 53.1**	**+0.2**
TER01	**Tubaro-SC**	**18.94**	**79**	*eP*	**P**	**09 42 55.4**	**-0.6**
GO10	**Punta Arenas**	**19.28**	**181**	IAmb	IAmb	09 43 07.6	
	comp=Z,165nm,0.7s						
SIV	**San Ignacio**	**19.69**	**28**	P	**P**	**09 43 03.9**	**-0.4**
	comp=Z,14nm,0.3s,baz=201,slow=8.6,SNR=737						
EFI	**East Falkland**	**19.91**	**157**	*i* P	**P**	**09 43 05.0**	**-1.3**
EFI	**East Falkland**	**19.91**	**157**	P	**P**	**09 43 05.3**	**-1.0**
MG03	**Isla Dawson**	**19.97**	**180**	P	**P**	**09 43 07.5**	**+0.6**
MG03				IAmb	IAmb	09 43 09.7	
	comp=Z,294nm,1.1s						
DSPA	**Despedida**	**20.13**	**176**	P	**P**	**09 43 09.4**	**+0.8**
TIJ01	**Guaruva-PR**	**20.43**	**71**	*eP*	**P**	**09 43 08.1**	**-4.1**
PCMB	**Pacaembu**	**20.84**	**59**	*eP*	**P**	**09 43 15.2**	**-1.4**
PTLB	**Pontes e Lacer**	**20.98**	**32**	*eP*	**P**	**09 43 17.9**	**-0.1**
USHA	**Ushuaia**	**21.00**	**177**	P	**P**	**09 43 18.8**	**+0.9**
	comp=Z,394nm,0.9s,baz=356,slow=8.7,SNR=66						
USHA				LR	LR	09 50 57.1	
	comp=Z,366nm,20.8s,baz=15,slow=35						
FRTB	**Fartura**	**21.04**	**66**	*eP*	**P**	**09 43 17.5**	**-1.3**
MG01	**Puerto William**	**21.14**	**176**	P	**P**	**09 43 20.2**	**+0.7**
MG01				IAmb	IAmb	09 43 27.0	
	comp=Z,289nm,0.8s						
PP1B	**Ponte de Pedra**	**21.35**	**44**	*eP*	**P**	**09 43 21.3**	**-0.8**
SALV	**Santo Antonio**	**22.27**	**40**	*eP*	**P**	**09 43 30.2**	**-1.5**
PET01	**Itanhaem-SP**	**22.30**	**71**	*eP*	**P**	**09 43 31.5**	**-0.6**
NNA	**Nana**	**22.57**	**343**	P	**P**	**09 43 35.7**	**+0.9**
	comp=Z,139nm,0.7s,baz=181,slow=11,SNR=68						
NNA	**Nana**	**22.57**	**343**	*ceP*	**P**	**09 43 35.6**	**+0.8**
NNA				pmax	pmax		
	comp=Z,245nm,0.7s						
NNA	**Nana**	**22.57**	**343**	P	**P**	**09 43 35.0**	**+0.2**
NNA				IAmb	IAmb	09 43 37.6	
	comp=Z,162nm,0.8s						
ITRB	**Iturama**	**22.72**	**57**	*eP*	**P**	**09 43 34.6**	**-1.7**
VILB	**Vilhena**	**22.80**	**26**	*eP*	**P**	**09 43 36.2**	**-0.9**
RCLB	**Rio Claro- Sao**	**23.11**	**66**	*eP*	**P**	**09 43 38.9**	**-1.1**
BB19B	**Bebedouro**	**23.16**	**62**	*eP*	**P**	**09 43 38.4**	**-2.2**
VAO	**Valinhos**	**23.22**	**68**	*eP*	**P**	**09 43 38.5**	**-2.6**
PARB	**Paraibuna**	**24.09**	**71**	*eP*	**P**	**09 43 47.8**	**-1.2**
ETMB	**Extrema**	**24.25**	**10**	*eP*	**P**	**09 43 51.1**	**-0.8**
ESAR	**Angra dos Reis**	**25.18**	**71**	*eP*	**P**	**09 43 58.4**	**-0.4**
IPMB	**Ipameri, GO**	**25.38**	**57**	*eP*	**P**	**09 43 59.1**	**-1.5**
PDRB	**Porto dos Gac**	**25.44**	**33**	*eP*	**P**	**09 44 00.7**	**-0.4**
MAN01	**Angra dos Reis**	**25.64**	**72**	*eP*	**P**	**09 44 02.3**	**-0.7**
BSCB	**Bom Sucesso**	**26.02**	**67**	*eP*	**P**	**09 44 05.4**	**-1.1**
CZSB	**Cruzeiro do Su**	**26.11**	**355**	*eP*	**P**	**09 44 08.0**	**+0.8**
VAS01	**Vassouras-RJ**	**26.35**	**71**	*eP*	**P**	**09 44 09.2**	**-0.2**
CLDB	**Colider**	**26.51**	**34**	*eP*	**P**	**09 44 10.2**	**-0.7**
BDFB	**Brasilia**	**27.14**	**54**	P	**P**	**09 44 16.1**	**-0.6**
	comp=Z,38nm,0.6s,baz=222,slow=8.5,SNR=66						
BDFB				pP	**pP**	**09 44 41.3**	**-1.4**
	comp=Z,18nm,0.6s,baz=200,slow=12,SNR=3.0						
BDFB	**Brasilia**	**27.14**	**54**	P	**P**	**09 44 15.5**	**-1.2**
BDFB	**Brasilia**	**27.14**	**54**	*eP*	**P**	**09 44 16.0**	**-0.7**
DUB01	**Friburgo-RJ**	**27.30**	**72**	*eP*	**P**	**09 44 17.7**	**-0.2**
SNDB	**Serra Nova Dou**	**27.91**	**43**	*eP*	**P**	**09 44 22.3**	**-1.0**
CAM01	**Campos-RJ**	**28.00**	**72**	*eP*	**P**	**09 44 23.5**	**-0.6**
DIAM	**Diamantina, MG**	**28.46**	**64**	*eP*	**P**	**09 44 27.9**	**-0.5**
ALF01	**Guarapari-ES**

comp=Z,25nm,0.5s
OCAC Ocana 41.97 356 *e*P **P** **09 46 21.2 -2.8**
MDP Montagnes des 42.24 27 LR LR 10 05 44.0
comp=Z,206nm,18.6s,baz=222,slow=38
MPGF Montagnes des 42.25 27 ⇓P **P** **09 46 25.2 -0.9**
MPGF pP **pP** **09 46 52.6 -0.6**
RCBR Riachuelo 42.42 57 P **P** **09 46 27.4 -0.2**
comp=Z,12nm,1.0s,baz=18,slow=11,SNR=4.5
RCBR LR LR 10 05 53.2
comp=Z,139nm,19.7s,baz=356,slow=38
RCBR Riachuelo 42.42 57 P **P** **09 46 27.4 -0.2**
RCBR pmax pmax
comp=Z,42nm,1.3s
RCBR Riachuelo 42.42 57 *e*P **P** **09 46 27.3 -0.2**
NBPV Pedro Velho 42.43 58 *e*P **P** **09 46 27.7 +0.2**
SDV Santo Domingo 42.53 360 P **P** **09 46 28.0 -0.4**
comp=Z,67nm,0.8s,baz=167,slow=8.7,SNR=101
SDV Santo Domingo 42.53 360 P **P** **09 46 28.1 -0.4**
SDV IAmb IAmb 09 46 29.1
comp=Z,87nm,1.0s
SDV Santo Domingo 42.53 360 *e*P **P** **09 46 27.7 -0.7**
SDV Santo Domingo 42.53 360 *e*P **P** **09 46 28.3 -0.1**
SDV Santo Domingo 42.53 360 ⇓P **P** **09 46 28.1 -0.4**
SDV pP **pP** **09 46 54.2 -1.1**
BCIP Isla Barro Col 43.73 346 *e*P **P** **09 46 39.7 +1.7**
SJCC San Jacinto, C 43.77 353 *e*P **P** **09 46 38.6 +0.3**
DABV Dabajuro 44.55 360 *e*P **P** **09 46 42.5 -1.9**
CRJC Cerrejon, Guaj 44.71 357 *e*P **P** **09 46 43.0 -2.8**
SMRC Santa Marta, M 44.94 355 *e*P **P** **09 46 47.5 0.0**
URIC Uribia, Colomb 45.35 358 *e*P **P** **09 46 48.7 -2.0**
HDC Heredia 45.54 341 P **P** **09 46 55.2 +2.8**
JTS Las Juntas de 46.05 340 P **P** **09 46 58.3 +2.0**
comp=Z,37nm,0.9s,baz=214,slow=1.4,SNR=24
JTS Las Juntas de 46.05 340 ⇓P **P** **09 46 58.3 +2.0**
JTS pP **pP** **09 47 24.6 +1.6**
GRFF Grenada Fort F 46.41 12 *e*P **P** **09 47 01.3 +2.2**
GRGR Grenville 46.50 12 *e*P **P** **09 46 59.3 -0.5**
GRHS Sauteurs 46.59 12 *e*P **P** **09 47 00.7 +0.2**
GRSS Sisters 46.67 12 *e*P **P** **09 47 01.9 +0.8**
BELA Belgrano 2 46.77 170 P **P** **09 47 01.8 +0.6**
BELA IAmb IAmb 09 47 03.5
comp=Z,99nm,0.8s
GCMP Grenada, Carri 46.89 12 *e*P **P** **09 47 02.1 -0.7**
SVB Belmont 47.69 12 *e*P **P** **09 47 08.3 -0.7**
ESPN Las Esperanzas 47.69 341 IAmb IAmb 09 47 11.3
comp=Z,87nm,0.6s
ACON Acoyapa 47.71 340 IAmb IAmb 09 47 10.8
comp=Z,49nm,0.9s
MCLT Moule a Chique 48.17 12 *e*P **P** **09 47 10.5 -2.2**
BOAB BOACO BROADBAN 48.31 340 IAmb IAmb 09 47 17.8
comp=Z,75nm,0.9s
SLBI Saint Lucia, B 48.47 12 *e*P **P** **09 47 15.2 +0.2**
MATN Matagalpa 48.84 340 IAmb IAmb 09 47 21.2
comp=Z,34nm,0.8s
MPOM Morne Pois Mar 48.90 12 *e*P **P** **09 47 17.6 -0.7**
BIM Bigot 48.94 12 *e*P **P** **09 47 17.2 -1.4**
VNA3 Neumayer Olymp 48.96 158 P **P** **09 47 18.9 +0.7**
FDF Fort de France 49.13 12 P **P** **09 47 19.5 -0.6**
FDF Fort de France 49.13 12 *e* **P** **09 47 19.1 -1.1**
FDF Fort de France 49.13 12 ⇓P **P** **09 47 19.0 -1.1**
FDF ⇓pP **pP** **09 47 50.0 +2.2**
ILAM Ilet Lapin Mar 49.22 12 *e*P **P** **09 47 17.8 -2.9**
VNA1 Neumayer--Stat 49.25 157 P **P** **09 47 21.4 +1.0**
VNA2 Neumayer--Watz 49.60 157 P **P** **09 47 23.7 +0.6**
baz=283,slow=8.0
DSLB Salisbury 49.78 11 *e*P **P** **09 47 23.6 -1.4**
TDBA Terre de Bas, 50.15 11 IAmb IAmb 09 47 27.5
comp=Z,35nm,0.6s
TDBA Terre de Bas, 50.15 11 *e*P **P** **09 47 25.9 -1.8**
MAGL Barre de l'ile 50.30 11 *e*P **P** **09 47 27.7 -1.2**
CBE Ff, Capester 50.37 11 IAmb IAmb 09 47 34.0
comp=Z,62nm,0.7s
CBE Ff, Capester 50.37 11 *e*P **P** **09 47 28.0 -1.5**
ABD La Joyeuse, An 50.78 11 *e*P **P** **09 47 30.7 -1.8**
MLYT Lee's Yard 50.92 10 *e*P **P** **09 47 29.1 -4.4**
MBFL Flemmings, Mon 50.94 10 *e*P **P** **09 47 31.9 -1.8**
SNAA Sanae 51.18 158 P **P** **09 47 35.6 +0.5**
SNAA Sanae 51.18 158 P **P** **09 47 35.6 +0.5**
comp=Z,108nm,0.7s,baz=280,slow=7.4,SNR=278
SNAA LR LR 10 08 16.4
comp=Z,107nm,18.6s,baz=278,slow=35
SNAA Sanae 51.18 158 ⇑*i*P **P** **09 47 35.5 +0.5**
SNAA Sanae 51.18 158 *ce*P **P** **09 47 35.5 +0.5**
SNAA pmax pmax
comp=Z,150nm,0.8s
SNAA Sanae 51.18 158 P **P** **09 47 35.2 +0.2**
MTO3 Montecristo 51.30 336 IAmb IAmb 09 47 38.9
comp=Z,54nm,0.9s
ANBD Bethesda, Anti 51.30 11 *e* **P** **09 47 34.6 -1.8**
MLPR Magueyes Islan 51.65 4 P **P** **09 47 38.7 -0.3**
PDPR Patillas Dam, 51.77 5 IAmb IAmb 09 47 39.9
comp=Z,52nm,0.7s
SJG San Juan 51.85 5 LR LR 10 13 32.4
comp=Z,54nm,18.6s,baz=168,slow=40
SJG San Juan 51.85 5 P **P** **09 47 39.4 -1.1**
SJG pmax pmax
comp=Z,66nm,0.7s
SJG San Juan 51.85 5 P **P** **09 47 39.4 -1.1**
SJG San Juan 51.85 5 ⇑P **P** **09 47 39.6 -0.9**
JAKH Jacmel 51.86 357 IAmb IAmb 09 47 42.8
comp=Z,29nm,0.6s
MTP Monte Pirata 51.89 6 P **P** **09 47 38.8 -1.9**
MTP IAmb IAmb 09 47 41.4
comp=Z,60nm,1.3s
PRSN Puerto Rico Se 51.89 4 IAmb IAmb 09 47 41.5
comp=Z,66nm,1.1s
ANWB Willy Bob 51.91 10 *e* **P** **09 47 39.1 -1.8**
AOPR Arecibo Observ 52.05 4 IAmb IAmb 09 47 43.1
comp=Z,63nm,0.9s
AOPR Arecibo Observ 52.05 4 *e* **P** **09 47 41.6 -0.3**
GCPR Guaynabo City 52.05 5 IAmb IAmb 09 47 41.4
comp=Z,49nm,0.8s
SMRT St. Maarten 52.10 9 *e*P **P** **09 47 40.4 -1.9**
CUPR Culebra, Puert 52.12 6 IAmb IAmb 09 47 43.6
comp=Z,29nm,0.7s
STVI Saint Thomas 52.19 7 IAmb IAmb 09 47 44.1
comp=Z,51nm,0.6s
MTDJ Mount Denham 52.26 351 IAmb IAmb 09 47 44.9
comp=Z,52nm,0.8s
SDDR Presa de Saban 52.57 359 IAmb IAmb 09 47 48.8
comp=Z,38nm,0.7s
TROLL Troll, Antarti 52.90 158 P **P** **09 47 48.6 +0.8**
LCCY Blossom Villag 54.04 349 P **P** **09 47 56.7 +0.2**
CMIG Matias Romero 55.80 331 P **P** **09 48 10.5 +1.2**
comp=Z,25nm,0.9s,baz=153,slow=5.3,SNR=42
CMIG pP **pP** **09 48 37.3 +0.6**
comp=Z,32nm,0.9s,baz=88,slow=3.0,SNR=8.3
CMIG LR LR 10 08 08.9
comp=Z,55nm,20.1s,baz=159,slow=32
QSPA South Pole Qui 56.36 180 P **P** **09 48 14.3 +1.5**
comp=Z,133nm,0.8s,baz=156,slow=1.3,SNR=493
QSPA LR LR 10 11 50.8
comp=Z,117nm,18.7s,baz=170,slow=35
QSPA South Pole Qui 56.36 180 P **P** **09 48 14.4 +1.5**
QSPA South Pole Qui 56.36 180 ⇑P **P** **09 48 14.4 +1.5**
QSPA ⇑pP **pP** **09 48 44.8 +3.8**
QSPA sP **sP** **09 48 54.0 +0.1**
SOR Soroa 57.62 346 P **P** **09 48 22.4 +0.4**
SOR Soroa 57.62 346 P **P** **09 48 21.5 -0.5**
SOR pP **pP** **09 48 49.0 -1.0**
061Z Ochoppi 60.25 349 P **P** **09 48 40.7 +0.6**
baz=170
060A Indiantown 61.31 350 P **P** **09 48 48.1 +0.9**
baz=171
DWPF Disney Wildern 62.53 349 P **P** **09 48 55.4 -0.1**
DWPF Disney Wildern 62.53 349 P **P** **09 48 55.9 +0.5**
baz=170
DWPF Disney Wildern 62.53 349 P **P** **09 48 55.5 0.0**
baz=170
DWPF Disney Wildern 62.53 349 ⇑P **P** **09 48 55.8 +0.4**
DWPF pP **pP** **09 49 23.4 -0.1**
SBA Scott Base 63.47 191 P **P** **09 49 02.2 +1.1**
SBA pmax pmax
comp=Z,15nm,1.0s
SBA Scott Base 63.47 191 P **P** **09 49 02.2 +1.1**
SBA Scott Base 63.47 191 P **P** **09 49 03.6 +2.5**
SBA pP **PcP** **09 49 33.4 -3.5**
656A Willston 63.94 348 P **P** **09 49 04.9 +0.2**
baz=169,SNR=13
VNDA Vanda 64.49 191 P **P** **09 49 10.1 +2.3**
comp=Z,7.3nm,0.7s,baz=134,slow=5.7,SNR=49
VNDA pP **pP** **09 49 37.9 +1.7**
comp=Z,4.3nm,0.8s,baz=130,slow=7.9,SNR=3.2
VNDA PKPPKP **P'P'df** **10 17 53.0 -3.8**
comp=Z,0.9nm,0.5s,baz=140,slow=3.6,SNR=9.0
VNDA Vanda 64.49 191 IAmb IAmb 09 49 11.2
comp=Z,65nm,1.9s
553A Crawfordville 65.09 347 P **P** **09 49 12.8 +0.7**
baz=167,SNR=5.5
456A Hilliard 65.19 349 P **P** **09 49 13.7 +0.9**
baz=169
SYO Syowa Base 65.47 158 ⇑*e*P **P** **09 49 14.4 +0.2**
SYO Syowa Base 65.47 158 ⇑*e*pP pP 09 49 39.1 -4.2
451A Vernon 65.77 346 P **P** **09 49 16.8 +0.3**
baz=166
BBSR BB Station 66.11 5 P **P** **09 49 19.2 +0.5**
baz=185
TIGA Tifton 66.15 348 P **P** **09 49 18.9 0.0**
baz=168,SNR=9.6
TIGA Tifton 66.15 348 P **P** **09 49 18.9 0.0**
baz=168,SNR=9.6
KVTX Kingsville 66.42 333 P **P** **09 49 23.3 +2.5**
baz=155,SNR=9.5
255A Hazlehurst 66.44 349 IAmb IAmb 09 49 21.8
comp=Z,81nm,1.1s
255A Hazlehurst 66.44 349 P **P** **09 49 20.9 +0.1**
baz=169
352A Blakely 66.44 346 P **P** **09 49 20.6 -0.2**
352A **pP** **09 49 48.2 -1.0**
352A Blakely 66.44 346 P **P** **09 49 20.8 0.0**
baz=167,SNR=16
BRAL Brewton 66.58 344 P **P** **09 49 22.4 +0.7**
baz=165
BRAL Brewton 66.58 344 P **P** **09 49 22.2 +0.5**
baz=165
250A Grady 67.19 345 IAmb IAmb 09 49 26.5
comp=Z,64nm,0.8s
250A Grady 67.19 345 P **P** **09 49 25.5 -0.1**
baz=166,SNR=11
154A Montrose 67.21 348 pP 09 49 52.5 -1.6
154A Montrose 67.21 348 P **P** **09 49 25.3 -0.3**
baz=169,SNR=14
NHSC New Hope 67.26 351 P **P** **09 49 26.5 +0.5**
baz=171,SNR=5.9
NHSC New Hope 67.26 351 P **P** **09 49 26.4 +0.4**
baz=171,SNR=5.9
346A Big Creek Wild 67.36 342 P **P** **09 49 28.0 +1.4**
baz=163,SNR=35
152A Waverly Hall 67.55 347 IAmb IAmb 09 49 28.7
comp=Z,57nm,1.0s
152A Waverly Hall 67.55 347 P **P** **09 49 27.5 -0.3**
baz=167,SNR=20
735A Kenedy 67.58 334 P **P** **09 49 30.0 +1.9**
baz=156,SNR=38
833A Chaparral WMA, 67.69 332 P **P** **09 49 30.3 +1.4**
baz=154,SNR=44
833A Chaparral WMA, 67.69 332 P **P** **09 49 30.2 +1.4**
baz=154,SNR=44
HAW Hawthorne Fire 67.71 350 P **P** **09 49 28.9 +0.1**
baz=170,SNR=9
344A Westbrook Farm 67.75 341 P **P** **09 49 30.6 +1.4**
baz=162,SNR=11
441A DeRidder 67.79 339 P **P** **09 49 31.3 +1.9**
baz=160,SNR=11
HKT Hockley 67.89 336 *d i*P **P** **09 49 31.2 +1.3**
HKT pmax pmax
comp=Z,64nm,1.3s
HKT Hockley 67.89 336 P **P** **09 49 31.0 +1.1**
HKT IAmb IAmb 09 49 33.5
comp=Z,60nm,1.2s
HKT Hockley 67.89 336 P **P** **09 49 31.2 +1.3**
baz=157
HKT Hockley 67.89 336 ⇓P **P** **09 49 31.2 +1.3**
Y59A Loris 67.98 352 IAmb IAmb 09 49 31.8
comp=Z,69nm,0.8s
GOGA Godfrey 68.05 348 P **P** **09 49 30.8 -0.1**
GOGA pmax pmax
comp=Z,81nm,1.0s
GOGA Godfrey 68.05 348 P **P** **09 49 30.8 -0.1**
GOGA IAmb IAmb 09 49 31.9
comp=Z,81nm,1.0s
GOGA Godfrey 68.05 348 P **P** **09 49 30.9 -0.1**
baz=168,SNR=20
GOGA Godfrey 68.05 348 P **P** **09 49 30.9 -0.1**
baz=168,SNR=20
342B Flagon Creek P 68.12 340 P **P** **09 49 33.3 +1.9**
baz=160,SNR=21
Y57A Sumter 68.19 351 IAmb IAmb 09 49 32.9
comp=Z,71nm,0.8s
Y57A Sumter 68.19 351 P **P** **09 49 32.2 +0.5**
baz=171,SNR=8.7
Y57A P **P** **09 49 32.2 +0.5**
baz=171,SNR=8.7
Z51A Franklin 68.27 347 IAmb IAmb 09 49 33.5
comp=Z,42nm,0.8s
Z51A Franklin 68.27 347 P **P** **09 49 32.5 +0.2**
baz=167,SNR=11
LRAL Lakeview Retre 68.36 345 IAmb IAmb 09 49 34.1
comp=Z,54nm,0.9s
LRAL Lakeview Retre 68.36 345 P **P** **09 49 33.0 +0.1**
baz=165,SNR=22
LRAL Lakeview Retre 68.36 345 P **P** **09 49 33.1 +0.2**
baz=165,SNR=22
VBMS Vicksburg 68.42 342 P **P** **09 49 33.5 +0.3**
VBMS Vicksburg 68.42 342 P **P** **09 49 34.5 +1.3**
baz=162,SNR=34
VBMS Vicksburg 68.42 342 P **P** **09 49 34.6 +1.3**
baz=162,SNR=34
146A Union 68.45 343 P **P** **09 49 34.6 +1.1**
baz=163,SNR=22
SLBS Sierra La Lagu 68.50 321 ⇓P **P** **09 49 36.2 +2.1**
SLBS pP **pP** **09 50 03.7 +1.2**
SLBS sP **sP** **09 50 16.0 +1.1**
JSC Jenkinsville 68.56 350 IAmb IAmb 09 49 35.2
comp=Z,50nm,0.9s
JSC Jenkinsville 68.56 350 P **P** **09 49 34.5 +0.4**
baz=170,SNR=11
X58A Rowland 68.59 352 P **P** **09 49 34.8 +0.5**
baz=172,SNR=20
X58A P **P** **09 49 34.8 +0.5**
baz=172,SNR=20
Y52A Lilburn 68.60 348 P **P** **09 49 34.6 +0.2**
baz=168,SNR=26
Y52A P **P** **09 49 34.6 +0.2**
baz=168,SNR=26
HODGE Hodges 68.66 349 IAmb IAmb 09 49 35.9
comp=Z,40nm,0.9s
HODGE Hodges 68.66 349 P **P** **09 49 35.1 +0.3**
baz=170,SNR=11
Z47A Carrollton 68.76 344 P **P** **09 49 36.1 +0.8**
baz=164,SNR=50
BIRD Birdtown, Kers 68.81 351 IAmb IAmb 09 49 36.4
comp=Z,33nm,0.6s
BIRD Birdtown, Kers 68.81 351 P **P** **09 49 36.0 +0.3**
baz=171,SNR=10.0
LPIG La Paz 69.03 321 LR LR 10 12 24.9
comp=Z,92nm,20.8s,baz=183,slow=29
Y49A Blount Mountai 69.04 346 IAmb IAmb 09 49 38.3
comp=Z,64nm,1.0s
Y49A Blount Mountai 69.04 346 P **P** **09 49 37.4 +0.2**
baz=166,SNR=21
CNNC Cliffs of the 69.11 353 P **P** **09 49 38.5 +1.0**
baz=173,SNR=8.1
CNNC Cliffs of the 69.11 353 P **P** **09 49 38.2 +0.7**
baz=173,SNR=8.1
143A Socs Landing, 69.12 341 P **P** **09 49 39.0 +1.5**
baz=162,SNR=76
HPIG 69.12 327 IAmb IAmb 09 49 40.5
comp=Z,121nm,1.4s
HPIG pP 09 50 06.5 +0.1
PAULI Pauline 69.17 350 IAmb IAmb 09 49 39.2
comp=Z,106nm,1.2s
PAULI Pauline 69.17 350 P **P** **09 49 38.3 +0.4**
baz=170,SNR=14
NATX Nacogdoches 69.18 338 P **P** **09 49 39.6 +1.6**
baz=159,SNR=14
NATX Nacogdoches 69.18 338 P **P** **09 49 39.4 +1.4**
baz=159,SNR=14
435B Jarrell 69.25 335 IAmb IAmb 09 49 40.7
comp=Z,78nm,0.8s
435B Jarrell 69.25 335 P **P** **09 49 39.9 +1.4**
baz=156,SNR=11
435B Jarrell 69.25 335 P **P** **09 49 39.6 +1.1**
baz=156
W57A Gilead 69.26 352 IAmb IAmb 09 49 39.5
comp=Z,67nm,0.8s
W57A Gilead 69.26 352 P **P** **09 49 38.8 +0.4**
baz=172,SNR=15
W57A P **P** **09 49 38.8 +0.4**
baz=172,SNR=15
KMSC Kings Mountain 69.42 350 IAmb IAmb 09 49 40.5
comp=Z,56nm,0.8s
KMSC Kings Mountain 69.42 350 P **P** **09 49 39.7 +0.3**
baz=170,SNR=14
KMSC Kings Mountain 69.42 350 P **P** **09 49 39.3 -0.1**
baz=170,SNR=14
X51A Calhoun 69.42 347 P **P** **09 49 40.1 +0.7**
baz=167,SNR=43
X51A P **P** **09 49 40.1 +0.7**
baz=167,SNR=43
CASEE Lake Jocassee 69.51 349 P **P** **09 49 40.7 +0.7**
baz=169,SNR=12
FPAL Fort Paine 69.54 347 IAmb IAmb 09 49 41.3
comp=Z,55nm,0.8s
X48A Hartselle 69.74 345 P **P** **09 49 41.2 -0.2**
X48A IAmb IAmb 09 49 43.0
comp=Z,137nm,1.1s
X48A Hartselle 69.74 345 P **P** **09 49 42.0 +0.6**
baz=165,SNR=48
Y45A Yeager Farm, C 69.74 343 P **P** **09 49 42.7 +1.3**
baz=163,SNR=54
237A Washetta, Mont 69.77 337 P **P** **09 49 42.9 +1.3**
baz=158,SNR=11
W52A Murphy 69.77 348 IAmb IAmb 09 49 42.9
comp=Z,64nm,0.9s
W52A Murphy 69.77 348 P **P** **09 49 42.0 +0.4**
baz=168,SNR=16
JCT Junction City 69.78 333 P **P** **09 49 43.0 +1.2**
baz=154,SNR=89
JCT Junction City 69.78 333 P **P** **09 49 42.9 +1.1**
baz=154,SNR=89
V58A Windy Hill, Pi 69.79 352 IAmb IAmb 09 49 42.7
comp=Z,116nm,1.1s
V58A Windy Hill, Pi 69.79 352 P **P** **09 49 42.1 +0.4**
baz=172,SNR=20
V58A P **P** **09 49 42.1 +0.4**
baz=172,SNR=20
Z41A Richland Creek 70.02 340 P **P** **09 49 44.6 +1.4**
baz=160,SNR=21
Z41A P **P** **09 49 44.6 +1.4**
baz=160,SNR=21
Z41A Richland Creek 70.02 340 P **P** **09 49 44.4 +1.2**
baz=160,SNR=21
V55A Taylorsville 70.10 351 IAmb IAmb 09 49 44.9
comp=Z,89nm,0.8s
V55A Taylorsville 70.10 351 P **P** **09 49 44.1 +0.5**
baz=170,SNR=28
V55A P **P** **09 49 44.1 +0.5**
baz=170,SNR=28
W50A Signal Mountai 70.12 347 P **P** **09 49 44.3 +0.5**
baz=167,SNR=55
V53A Saluda 70.15 349 IAmb IAmb 09 49 45.0
comp=Z,79nm,0.9s
V53A Saluda 70.15 349 P **P** **09 49 44.2 +0.2**
baz=169,SNR=27
V53A P **P** **09 49 44.2 +0.2**
baz=169,SNR=27
U59A Littleton 70.21 354 IAmb IAmb 09 49 46.0
comp=Z,215nm,1.6s
U59A Littleton 70.21 354 P **P** **09 49 44.8 +0.6**
baz=174,SNR=16
U59A P **P** **09 49 44.8 +0.6**
baz=174,SNR=16
CPCT Cooper Cave 70.22 348 IAmb IAmb 09 49 45.5
comp=Z,79nm,0.8s
TKL Tuckaleechee C 70.30 348 IAmb IAmb 09 49 45.6
comp=Z,72nm,1.0s
TKL Tuckaleechee C 70.30 348 P **P** **09 49 44.8 0.0**
baz=168,SNR=17
WHTX Lake Whitney, 70.31 336 P **P** **09 49 45.9 +1.0**
baz=156,SNR=25
WHTX Lake Whitney, 70.31 336 P **P** **09 49 45.7 +0.8**
baz=156,SNR=25
TX31 Lajitas Ar. Si 70.31 329 P **P** **09 49 46.4 +1.2**
baz=151,SNR=182
TX32 Lajitas Array 70.31 329 IAmb IAmb 09 49 46.9
comp=Z,34nm,0.7s
TXAR Lajitas Array 70.31 329 P **P** **09 49 46.3 +1.1**
comp=Z,30nm,0.6s,baz=158,slow=9.4,SNR=525
TXAR pP **pP** **09 50 14.1 +0.4**
comp=Z,9.5nm,0.6s,baz=158,slow=8.4,SNR=5.9
TXAR LR LR 10 15 18.7
comp=Z,59nm,21.3s,baz=150,slow=31
TXAR PKP2bc 10 17 43.1
comp=Z,0.8nm,1.1s,baz=222,slow=3.0,SNR=4.3
OXF Oxford 70.33 343 P **P** **09 49 45.3 +0.3**
baz=163,SNR=42
OXF Oxford 70.33 343 P **P** **09 49 45.1 +0.1**
baz=163,SNR=42
V52A Sevierville 70.45 349 IAmb IAmb 09 49 46.5
comp=Z,86nm,1.1s
V52A Sevierville 70.45 349 P **P** **09 49 45.6 -0.1**
baz=168,SNR=21
PLAL Pickwick Lake 70.47 345 IAmb IAmb 09 49 47.0
comp=Z,87nm,0.8s
U56A King 70.48 351 P **P** **09 49 46.6 +0.7**
baz=171,SNR=16
U56A P **P** **09 49 46.6 +0.7**
baz=171,SNR=16
V51A Loudon 70.54 348 IAmb IAmb 09 49 47.7
comp=Z,49nm,0.8s
V51A Loudon 70.54 348 P **P** **09 49 46.3 +0.1**
baz=168,SNR=16
Z38A Mt. Pleasant 70.67 338 IAmb IAmb 09 49 49.3
comp=Z,138nm,1.3s
Z38A Mt. Pleasant 70.67 338 P **P** **09 49 48.4 +1.3**
baz=159,SNR=12
T59A Double "B" Far 70.80 354 IAmb IAmb 09 49 49.6
comp=Z,152nm,1.3s
T59A Double "B" Far 70.80 354 P **P** **09 49 48.7 +0.9**
baz=174,SNR=16
T59A P **P** **09 49 48.7 +0.9**
baz=174,SNR=16
U54A Nelsons Funny 70.84 350 P **P** **09 49 48.4 +0.2**
baz=170,SNR=22
U54A P **P** **09 49 48.4 +0.2**
baz=170,SNR=22
W45A Hickory Valley 70.89 344 P **P** **09 49 48.9 +0.5**
baz=164,SNR=32
T60A Surry 70.90 355 P **P** **09 49 49.5 +1.2**
baz=174
T60A P **P** **09 49 49.5 +1.2**
baz=174
CCD Concordia, Ant 70.92 184 ⇑P **P** **09 49 49.7 +1.1**
V48A Smith Brothers 70.94 346 P **P** **09 49 49.1 +0.5**
baz=166,SNR=34
T57A Hurt 70.99 353 IAmb IAmb 09 49 50.2
comp=Z,41nm,0.8s
T57A Hurt 70.99 353 P **P** **09 49 49.5 +0.5**
baz=172,SNR=12
T57A P **P** **09 49 49.5 +0.5**
baz=172,SNR=12
TZTN Tazewell 71.13 349 IAmb IAmb 09 49 50.6
comp=Z,176nm,1.7s
TZTN Tazewell 71.13 349 P **P** **09 49 49.9 0.0**
baz=168,SNR=9.4
TZTN Tazewell 71.13 349 P **P** **09 49 49.5 -0.3**
baz=168,SNR=9.4
CLTN Cedars of Leba 71.18 346 IAmb IAmb 09 49 51.3
comp=Z,59nm,0.7s
X40A Basin Creek Fa 71.19 341 P **P** **09 49 50.7 +0.5**
baz=160,SNR=13
X40A P **P** **09 49 50.7 +0.5**
baz=160,SNR=13
X40A Basin Creek Fa 71.19 341 P **P** **09 49 50.4 +0.3**
baz=160,SNR=13
UALR University of 71.32 341 IAmb IAmb 09 49 52.4
comp=Z,48nm,1.0s
BLA Blacksburg 71.34 352 IAmb IAmb 09 49 52.5
comp=Z,37nm,0.8s
BLA Blacksburg 71.34 352 P **P** **09 49 51.4 +0.3**
baz=171,SNR=8.0
BLA Blacksburg 71.34 352 P **P** **09 49 51.5 +0.3**
baz=171,SNR=8.0
MIAR Mount Ida 71.45 340 IAmb IAmb 09 49 53.4
comp=Z,144nm,1.6s
MIAR Mount Ida 71.45 340 P **P** **09 49 52.4 +0.5**
baz=160
MIAR Mount Ida 71.45 340 P **P** **09 49 52.3 +0.5**
baz=160
Z35A Perchaven, San 71.46 336 P **P** **09 49 53.0 +1.1**
baz=157,SNR=49
U49A Red Boiling Sp 71.48 347 IAmb IAmb 09 49 52.4
comp=Z,40nm,0.7s
U49A Red Boiling Sp 71.48 347 P **P** **09 49 52.0 +0.1**
baz=167,SNR=23
WVT Waverly 71.53 345 P **P** **09 49 52.4 +0.2**
WVT pmax pmax
comp=Z,354nm,0.7s
WVT Waverly 71.53 345 P **P** **09 49 52.4 +0.2**

WVT	Waverly	71.53 345	P	P	09 49 52.5 +0.2
	baz=165,SNR=216				
WVT	Waverly	71.53 345	P	P	09 49 52.4 +0.2
	baz=165				
WVT	Waverly	71.53 345	⇓P	P	09 49 52.5 +0.2
WVT			pP	pP	09 50 20.9 -0.1
WVT			sP	sP	09 50 33.1 -0.2
HBAR	Harrisburg	71.63 343	IAmb	IAmb	09 49 54.1
	comp=Z,164nm,1.3s				
ABTX	Abilene, Hawle	71.65 334	P	P	09 49 54.0 +0.9
	baz=155,SNR=124				
ABTX	Abilene, Hawle	71.65 334	P	P	09 49 53.9 +0.8
	baz=155,SNR=124				
W41B	Gary Mavity, V	71.67 341	IAmb	IAmb	09 49 54.6
	comp=Z,40nm,0.8s				
W41B	Gary Mavity, V	71.67 341	P	P	09 49 53.6 +0.5
	baz=161,SNR=24				
W41B	Gary Mavity, V	71.67 341	P	P	09 49 53.5 +0.5
	baz=161,SNR=24				
S57A	Dark Hollow, R	71.72 353	IAmb	IAmb	09 49 54.5
	comp=Z,57nm,0.7s				
S57A				pP	09 50 22.1 -0.1
S57A	Dark Hollow, R	71.72 353	P	P	09 49 53.9 +0.6
	baz=172,SNR=18				
S57A			P	P	09 49 53.9 +0.6
	baz=172,SNR=18				
WHAR	Wooly Hollow	71.80 341	IAmb	IAmb	09 49 55.4
	comp=Z,79nm,1.1s				
R58B	Mineral	71.81 354	IAmb	IAmb	09 49 56.1
	comp=Z,182nm,1.6s				
R58B	Mineral	71.81 354	P	P	09 49 54.8 +0.9
	baz=174,SNR=13				
R58B			P	P	09 49 54.8 +0.9
	baz=174,SNR=13				
ELIM	Elim	71.82 120	*e*P	P	09 49 54.4 +0.1
ELIM			IAmb	IAmb	09 49 55.6
	comp=Z,304nm,2.1s				
LNXT	Lenox	71.87 344	P	P	09 49 55.2 +1.0
	baz=163,SNR=6.8				
CBN	Corbin Frederi	72.01 354	IAmb	IAmb	09 49 56.6
	comp=Z,52nm,0.6s				
CBN	Corbin Frederi	72.01 354	P	P	09 49 56.1 +1.1
	baz=174				
CBN	Corbin Frederi	72.01 354	P	P	09 49 55.8 +0.8
	baz=174				
X37A	Clayton	72.02 339	P	P	09 49 55.7 +0.5
	baz=158,SNR=20				
S54A	Dingess, Beckl	72.03 351	IAmb	IAmb	09 49 55.7
	comp=Z,46nm,0.7s				
S54A	Dingess, Beckl	72.03 351	P	P	09 49 55.2 0.0
	baz=170,SNR=11				
S54A			P	P	09 49 55.2 0.0
	baz=170,SNR=11				
CER	Ceres	72.09 118	⇑*i*P	P	09 49 56.6 +0.6
CER			IAmb	IAmb	09 49 57.4
	comp=Z,16nm,1.0s				
W39A	Magazine	72.12 340	P	P	09 49 57.0 +1.2
	baz=160,SNR=118				
W39A	Magazine	72.12 340	P	P	09 49 57.0 +1.2
	baz=160,SNR=118				
T47A	Sharon Grove	72.20 346	IAmb	IAmb	09 49 57.0
	comp=Z,82nm,0.8s				
T47A	Sharon Grove	72.20 346	P	P	09 49 56.1 -0.1
	baz=166,SNR=39				
S51A	Beattyville	72.20 349	IAmb	IAmb	09 49 57.2
	comp=Z,81nm,0.8s				
S51A	Beattyville	72.20 349	P	P	09 49 56.3 +0.1
	baz=168,SNR=30				
S51A			P	P	09 49 56.3 +0.1
	baz=168,SNR=30				
LCAR	Lake Charles	72.24 342	P	P	09 49 56.8 +0.4
	baz=162,SNR=141				
FCAR	Ozark Folk Cen	72.32 342	IAmb	IAmb	09 49 58.1
	comp=Z,53nm,0.9s				
R55A	Marlinton	72.36 352	IAmb	IAmb	09 49 59.0
	comp=Z,90nm,0.7s				
R55A	Marlinton	72.36 352	P	P	09 49 58.1 +0.8
	baz=172,SNR=18				
R55A			P	P	09 49 58.1 +0.8
	baz=172,SNR=18				
T45B	Paducah	72.55 345	P	P	09 49 58.2 -0.1
	baz=164,SNR=5.6				
T45A	Paducah	72.56 345	IAmb	IAmb	09 49 59.3
	comp=Z,131nm,0.9s				
R53A	Hurricane	72.64 350	IAmb	IAmb	09 49 59.7
	comp=Z,48nm,0.9s				
R53A	Hurricane	72.64 350	P	P	09 49 59.2 +0.4
	baz=170,SNR=9.4				
R53A			P	P	09 49 59.2 +0.4
	baz=170,SNR=9.4				
PBMO	Poplar Bluff	72.73 343	P	P	09 49 59.7 +0.4
	baz=163,SNR=32				
X34A	Smith Ranch, M	72.81 337	IAmb	IAmb	09 50 01.7
	comp=Z,107nm,0.8s				
MAW	Mawson	72.90 163	P	P	09 50 00.9 +0.8
	comp=Z,35nm,0.8s,baz=209,slow=6.7,SNR=45				
MAW			LR	LR	10 21 43.7
	comp=Z,92nm,19.6s,baz=228,slow=35				
MAW	Mawson	72.90 163	P	P	09 50 00.6 +0.5
R50A	Paris	72.95 349	IAmb	IAmb	09 50 01.5
	comp=Z,54nm,0.9s				
R50A	Paris	72.95 349	P	P	09 50 00.6 -0.1
	baz=168,SNR=14				
R50A			P	P	09 50 00.6 -0.1
	baz=168,SNR=14				
U40A	Yellville	72.95 341	IAmb	IAmb	09 50 02.0
	comp=Z,96nm,0.9s				
U40A	Yellville	72.95 341	P	P	09 50 01.1 +0.4
	baz=161,SNR=72				
U40A			P	P	09 50 01.1 +0.4
	baz=161,SNR=72				
U40A	Yellville	72.95 341	P	P	09 50 01.0 +0.4
	baz=161,SNR=72				
Q56A	Snyder Ridge,	73.01 353	P	P	09 50 01.5 +0.5
	baz=172				
Q56A			P	P	09 50 01.5 +0.5
	baz=172				
W35A	Tecumseh	73.01 338	IAmb	IAmb	09 50 01.8
	comp=Z,48nm,0.7s				
MATJ	Matjiesfontein	73.08 119	⇑*i*P	P	09 50 02.7 +0.8
MATJ			IAmb	IAmb	09 50 03.6
	comp=Z,61nm,0.8s				
MNTX	Cornudas Mount	73.09 329	IAmb	IAmb	09 50 02.6
	comp=Z,69nm,0.7s				
MNTX	Cornudas Mount	73.09 329	P	P	09 50 01.8 +0.1
	baz=150,SNR=134				
MNTX	Cornudas Mount	73.09 329	P	P	09 50 01.7 +0.1
	baz=150,SNR=134				
R49A	Shelbyville	73.10 348	IAmb	IAmb	09 50 02.2
	comp=Z,47nm,0.8s				
R49A	Shelbyville	73.10 348	P	P	09 50 01.3 -0.2
	baz=167,SNR=14				
R49A			P	P	09 50 01.3 -0.2
	baz=167,SNR=14				
Q54A	Coxs Mills	73.14 352	IAmb	IAmb	09 50 02.3
	comp=Z,30nm,0.7s				
Q54A	Coxs Mills	73.14 352	P	P	09 50 01.6 -0.1
	baz=171,SNR=9.0				
Q54A			P	P	09 50 01.6 -0.1
	baz=171,SNR=9.0				
SDMD	Soldier's Deli	73.16 355	P	P	09 50 02.4 +0.5
	baz=174,SNR=5.8				
HHAR	Hobbs	73.18 340	IAmb	IAmb	09 50 02.9
	comp=Z,65nm,0.6s				
HHAR	Hobbs	73.18 340	P	P	09 50 02.5 +0.4
	baz=160				
WMOK	Wichita Mounta	73.26 336	IAmb	IAmb	09 50 03.9
	comp=Z,77nm,1.4s				
WMOK	Wichita Mounta	73.26 336	P	P	09 50 02.4 -0.1
	baz=156,SNR=42				
WMOK	Wichita Mounta	73.26 336	P	P	09 50 02.6 0.0
	baz=156,SNR=42				
USIN	University of	73.26 346	IAmb	IAmb	09 50 03.0
	comp=Z,142nm,1.1s				
USIN				pP	09 50 30.3 -1.0
FNO	Franklin	73.27 337	IAmb	IAmb	09 50 04.7
	comp=Z,88nm,1.0s				
Q52A	Bidwell	73.30 350	IAmb	IAmb	09 50 03.7
	comp=Z,73nm,0.9s				
Q52A	Bidwell	73.30 350	P	P	09 50 02.9 +0.2
	baz=170,SNR=12				
Q52A			P	P	09 50 02.9 +0.2
	baz=170,SNR=12				
P57A	Homestead Farm	73.33 354	IAmb	IAmb	09 50 05.0
	comp=Z,57nm,0.8s				
P57A	Homestead Farm	73.33 354	P	P	09 50 03.7 +0.9
	baz=173,SNR=13				
P57A			P	P	09 50 03.7 +0.9
	baz=173,SNR=13				
S44A	Carbondale	73.34 344	IAmb	IAmb	09 50 03.8
	comp=Z,80nm,1.1s				
S44A	Carbondale	73.34 344	P	P	09 50 03.0 +0.1
	baz=164,SNR=12				
SIUC	Southern Illin	73.35 345	IAmb	IAmb	09 50 03.9
	comp=Z,82nm,1.1s				
CVNA	Calvinia	73.36 117	⇑*i*P	P	09 50 03.9 +0.3
CVNA			IAmb	IAmb	09 50 12.0
	comp=Z,67nm,0.9s				
TUL1	Leonard	73.37 339	IAmb	IAmb	09 50 04.5
	comp=Z,88nm,0.8s				
TUL1	Leonard	73.37 339	P	P	09 50 03.6 +0.4
	baz=158,SNR=23				
TUL1	Leonard	73.37 339	P	P	09 50 03.5 +0.3
	baz=158,SNR=23				
HSIG		73.39 324	IAmb	IAmb	09 50 06.1
	comp=Z,64nm,0.9s				
LIC	Lamto	73.44 71	*e*P	P	09 50 04.5 +0.4
	comp=Z,43nm,1.0s				
U38A	Gravette	73.45 340	P	P	09 50 04.9 +1.2
	baz=159,SNR=9.0				
GEDE	Greenville	73.48 356	P	P	09 50 04.6 +1.0
	baz=176,SNR=6.2				
Q51A	Peebles	73.52 350	IAmb	IAmb	09 50 05.0
	comp=Z,72nm,0.9s				
Q51A	Peebles	73.52 350	P	P	09 50 04.2 +0.2
	baz=169,SNR=15				
Q51A			P	P	09 50 04.2 +0.2
	baz=169,SNR=15				
MGMO	Mountain Grove	73.55 342	IAmb	IAmb	09 50 05.6
	comp=Z,67nm,0.9s				
WUPA	West Chester U	73.60 356	P	P	09 50 05.0 +0.6
WUPA				pP	09 50 33.1 -0.4
KIDD	KIDD Seismic O	73.64 328	P	P	09 50 06.1 +1.2
	baz=149,SNR=17				
SUR	Sutherland	73.69 118	LR	LR	10 17 56.4
	comp=Z,56nm,20.2s,baz=187,slow=32				
SUR	Sutherland	73.69 118	P	P	09 50 05.4 -0.2
SUR			IAmb	IAmb	09 50 14.0
	comp=Z,47nm,0.8s				
MCWV	Mont Chateau	73.69 352	P	P	09 50 05.3 +0.3
	baz=172,SNR=5.3				
MCWV	Mont Chateau	73.69 352	P	P	09 50 05.2 +0.3
	baz=172,SNR=5.3				
TIC	Toumodi	73.70 70	*e*P	P	09 50 05.5 -0.2
P53A	Whipple	73.70 351	IAmb	IAmb	09 50 06.1
	comp=Z,97nm,1.4s				
P53A	Whipple	73.70 351	P	P	09 50 05.1 +0.1
	baz=170,SNR=11				
P53A			P	P	09 50 05.1 +0.1
	baz=170,SNR=11				
MVL	Millersville	73.71 355	IAmb	IAmb	09 50 07.0
	comp=Z,79nm,1.5s				
KIC	Kosan Boka	73.75 71	*e*P	P	09 50 05.9 0.0
	comp=Z,63nm,0.7s				
TUPA	Temple Univers	73.81 356	P	P	09 50 06.5 +0.9
	baz=176,SNR=9.1				
DBIC	Dimbokro	73.84 70	P	P	09 50 06.5 0.0
	comp=Z,29nm,0.7s,baz=234,slow=5.4,SNR=31				
DBIC			pP	pP	09 50 34.1 -2.3
	comp=Z,15nm,0.8s,baz=232,slow=4.7,SNR=3.5				
DBIC			LR	LR	10 19 59.4
	comp=Z,50nm,20.1s,baz=216,slow=34				
DBIC	Dimbokro	73.84 70	⇑*i*P	P	09 50 06.2 -0.2
DBIC			IAmb	IAmb	09 50 07.3
	comp=Z,31nm,0.8s				
DBIC	Dimbokro	73.84 70	P	P	09 50 06.2 -0.2
FVM	French Village	73.88 344	P	P	09 50 06.5 +0.4
	baz=163,SNR=47				
P51A	Williamsport	73.93 350	IAmb	IAmb	09 50 07.1
	comp=Z,73nm,0.9s				
P51A	Williamsport	73.93 350	P	P	09 50 06.3 0.0
	baz=169,SNR=16				
P51A			P	P	09 50 06.3 0.0
	baz=169,SNR=16				
P52A	Corning	73.95 351	IAmb	IAmb	09 50 07.2
	comp=Z,69nm,0.9s				
P52A	Corning	73.95 351	P	P	09 50 06.2 -0.2
	baz=170,SNR=18				
PAGS	Pennsylvania G	73.97 355	IAmb	IAmb	09 50 07.7
	comp=Z,44nm,0.7s				
PANJ	Princeton	73.99 357	P	P	09 50 07.8 +1.2
	baz=176,SNR=5.5				
MSTX	Muleshoe	74.02 332	P	P	09 50 08.0 +0.9
	baz=152,SNR=53				
MSTX	Muleshoe	74.02 332	P	P	09 50 07.7 +0.5
	baz=152,SNR=53				
OLIL	Olney	74.09 346	IAmb	IAmb	09 50 07.8
	comp=Z,110nm,1.3s				
OLIL	Olney	74.09 346	P	P	09 50 06.9 -0.4
	baz=165,SNR=12				
CCM	Cathedral Cave	74.15 343	P	P	09 50 06.9 -0.7
CCM			pmax	pmax	
	comp=Z,181nm,1.1s				
CCM	Cathedral Cave	74.15 343	P	P	09 50 06.9 -0.7
CCM	Cathedral Cave	74.15 343	P	P	09 50 08.1 +0.5
	baz=162,SNR=96				
CCM	Cathedral Cave	74.15 343	P	P	09 50 08.1 +0.5
	baz=162				
O56A	Blue Knob Stat	74.16 354	IAmb	IAmb	09 50 08.9
	comp=Z,30nm,0.6s				
O56A	Blue Knob Stat	74.16 354	P	P	09 50 08.5 +0.8
	baz=173,SNR=13				
O56A	Blue Knob Stat	74.16 354	P	P	09 50 08.3 +0.6
	baz=173,SNR=13				
BLO	Bloomington	74.20 347	IAmb	IAmb	09 50 08.4
	comp=Z,57nm,0.7s				
P49A	Miami Univ. Ec	74.24 349	IAmb	IAmb	09 50 08.6
	comp=Z,185nm,1.5s				
P49A	Miami Univ. Ec	74.24 349	P	P	09 50 07.8 -0.3
	baz=168,SNR=20				
P49A	Miami Univ. Ec	74.24 349	P	P	09 50 07.7 -0.4
	baz=168,SNR=20				
O54A	Avella	74.27 352	P	P	09 50 07.7 -0.6
	baz=171				
O54A			P	P	09 50 07.7 -0.6
	baz=171				
P48A	Milroy	74.29 348	P	P	09 50 07.4 -1.0
P48A				pP	09 50 35.8 -1.5
P48A	Milroy	74.29 348	P	P	09 50 08.0 -0.4
	baz=167,SNR=32				
P48A			P	P	09 50 08.0 -0.4
	baz=167,SNR=32				
BRNJ	Basking Ridge	74.29 357	IAmb	IAmb	09 50 10.4
	comp=Z,47nm,0.8s				
BRNJ	Basking Ridge	74.29 357	P	P	09 50 09.0 +0.6
	baz=176,SNR=7.7				
S39A	Bolivar	74.33 341	IAmb	IAmb	09 50 10.8
	comp=Z,62nm,0.8s				
S39A	Bolivar	74.33 341	P	P	09 50 09.2 +0.5
	baz=160,SNR=68				
O52A	Adamsville	74.38 351	IAmb	IAmb	09 50 09.8
	comp=Z,50nm,0.8s				
O52A	Adamsville	74.38 351	P	P	09 50 08.9 -0.1
	baz=170,SNR=12				
O52A			P	P	09 50 08.9 -0.1
	baz=170,SNR=12				
O53A	New Philadelph	74.43 351	IAmb	IAmb	09 50 10.2
	comp=Z,106nm,1.6s				
O53A	New Philadelph	74.43 351	P	P	09 50 09.1 -0.2
	baz=171,SNR=6.1				
Q44A	Meyer Farm, Va	74.45 345	IAmb	IAmb	09 50 09.8
	comp=Z,73nm,1.1s				
Q44A	Meyer Farm, Va	74.45 345	P	P	09 50 08.7 -0.7
	baz=164,SNR=7.1				
SLM	Saint Louis	74.46 344	IAmb	IAmb	09 50 10.5
	comp=Z,122nm,1.0s				
SLM	Saint Louis	74.46 344	P	P	09 50 08.6 -0.9
	baz=163,SNR=7.0				
SSPA	Standing Stone	74.47 354	P	P	09 50 09.3 -0.1
SSPA			IAmb	IAmb	09 50 10.9
	comp=Z,88nm,1.5s				
SSPA	Standing Stone	74.47 354	P	P	09 50 09.5 +0.1
	baz=174,SNR=10.0				
SSPA	Standing Stone	74.47 354	P	P	09 50 09.9 +0.5
	baz=174				
N62A	Caumsett State	74.49 358	IAmb	IAmb	09 50 11.3
	comp=Z,57nm,0.6s				
N62A	Caumsett State	74.49 358	P	P	09 50 10.5 +1.0
	baz=177				
N62A			P	P	09 50 10.5 +1.0
	baz=177				
T35A	Sooner Cattle	74.52 339	IAmb	IAmb	09 50 11.6
	comp=Z,96nm,0.9s				
T35B	Sooner Cattle	74.52 339	P	P	09 50 10.4 +0.6
	baz=158,SNR=43				
319A	Douglas	74.55 326	IAmb	IAmb	09 50 13.2
	comp=Z,102nm,0.8s				
N58A	Sunbury	74.58 355	P	P	09 50 10.9 +0.9
	baz=175,SNR=8.4				
N58A			P	P	09 50 10.9 +0.9
	baz=175,SNR=8.4				
PAL	Palisades	74.58 357	P	P	09 50 10.3 +0.2
	baz=177				
N59A	State Game Lan	74.59 356	IAmb	IAmb	09 50 12.3
	comp=Z,44nm,0.8s				
N59A	State Game Lan	74.59 356	P	P	09 50 10.7 +0.5
	baz=175,SNR=18				
N59A	State Game Lan	74.59 356	P	P	09 50 11.2 +1.0
	baz=175,SNR=18				
R40A	Maddies Statio	74.62 342	P	P	09 50 10.8 +0.4
	baz=161,SNR=135				
ACSO	Alum Creek Sta	74.65 350	P	P	09 50 10.5 -0.1
	baz=169,SNR=33				
ACSO	Alum Creek Sta	74.65 350	P	P	09 50 10.4 -0.1
	baz=169,SNR=33				
ODNJ	Ogdensburg	74.69 357	IAmb	IAmb	09 50 12.6
	comp=Z,42nm,0.8s				
ODNJ	Ogdensburg	74.69 357	P	P	09 50 11.4 +0.7
	baz=176,SNR=11				
GRAN	Grantham	74.72 119	⇑*i*P	P	09 50 11.8 +0.3
GRAN			IAmb	IAmb	09 50 13.0
	comp=Z,41nm,0.7s				
P46A	Rosedale	74.77 347	P	P	09 50 10.3 -0.9
	baz=166,SNR=15				
O49A	Covington	74.81 349	IAmb	IAmb	09 50 12.2
	comp=Z,86nm,0.7s				
O49A	Covington	74.81 349	P	P	09 50 11.4 -0.1
	baz=168,SNR=22				
O49A			P	P	09 50 11.4 -0.1
	baz=168,SNR=22				
U32A	Winter Ranch,	74.82 336	P	P	09 50 12.6 +1.0
	baz=156,SNR=65				
121A	Cookes Peak, D	74.85 328	IAmb	IAmb	09 50 15.1
	comp=Z,100nm,0.8s				
121A	Cookes Peak, D	74.85 328	P	P	09 50 14.1 +2.0
	baz=149,SNR=88				
121A	Cookes Peak, D	74.85 328	P	P	09 50 14.0 +2.0
	baz=149,SNR=88				
N53A	Lisbon	74.94 352	IAmb	IAmb	09 50 13.4
	comp=Z,61nm,1.3s				
N53A	Lisbon	74.94 352	P	P	09 50 11.9 -0.3
	baz=171,SNR=5.5				
N53A			P	P	09 50 11.9 -0.3
	baz=171,SNR=5.5				
N54A	Moraine State	74.99 352	IAmb	IAmb	09 50 13.7
	comp=Z,51nm,0.7s				
N54A	Moraine State	74.99 352	P	P	09 50 13.0 +0.5
	baz=172,SNR=17				
N54A	Moraine State	74.99 352	P	P	09 50 12.7 +0.2
	baz=172,SNR=17				
BRNY	Black Rk. Fore	75.00 357	P	P	09 50 13.5 +1.0
	baz=177,SNR=7.1				
O48B	Farmland	75.02 348	P	P	09 50 12.3 -0.3
	baz=167,SNR=27				
O48B	Farmland	75.02 348	P	P	09 50 12.1 -0.5
	baz=167,SNR=27				
M57A	Sunshine Farm,	75.10 355	P	P	09 50 13.8 +0.7
	baz=174,SNR=7.3				
M57A			P	P	09 50 13.8 +0.7
	baz=174,SNR=7.3				
KSPA	Keystone Colle	75.23 356	P	P	09 50 14.6 +0.8
	baz=175,SNR=6.7				
AUGR	Augrabies	75.23 115	*e*P	P	09 50 14.4 -0.1
AUGR			IAmb	IAmb	09 50 15.7
	comp=Z,45nm,0.9s				
N51A	Ashland	75.24 351	IAmb	IAmb	09 50 14.7
	comp=Z,61nm,0.8s				
N51A	Ashland	75.24 351	P	P	09 50 13.8 0.0
	baz=170,SNR=9.9				
N51A			P	P	09 50 13.8 0.0
	baz=170,SNR=9.9				
P43A	Skaggs, Pawnee	75.26 345	P	P	09 50 14.2 +0.1
	baz=164,SNR=17				
NPNY	Mohonk Preserv	75.34 357	P	P	09 50 15.4 +1.0
	baz=177,SNR=12				
M55A	Ridgway	75.37 354	IAmb	IAmb	09 50 16.0
	comp=Z,66nm,0.7s				
M55A	Ridgway	75.37 354	P	P	09 50 15.1 +0.4
	baz=173,SNR=22				
M55A			P	P	09 50 15.1 +0.4
	baz=173,SNR=22				
SFIN	Lafayette	75.48 347	IAmb	IAmb	09 50 14.9
	comp=Z,31nm,0.7s				
SFIN	Lafayette	75.48 347	P	P	09 50 14.3 -0.9
	baz=166,SNR=11				
SFIN	Lafayette	75.48 347	P	P	09 50 13.7 -1.5
	baz=166,SNR=11				
M54A	Oil Creek Stat	75.50 353	IAmb	IAmb	09 50 15.9
	comp=Z,36nm,0.6s				
M54A	Oil Creek Stat	75.50 353	P	P	09 50 14.6 -0.8
	baz=172,SNR=14				
M54A	Oil Creek Stat	75.50 353	P	P	09 50 14.3 -1.1
	baz=172,SNR=14				
N49A	Columbus Grove	75.51 349	IAmb	IAmb	09 50 16.2
	comp=Z,76nm,0.8s				
N49A	Columbus Grove	75.51 349	P	P	09 50 15.2 -0.2
	baz=168,SNR=20				
N49A			P	P	09 50 15.2 -0.2
	baz=168,SNR=20				
O44A	Mansfield	75.53 346	P	P	09 50 15.3 -0.2
	baz=165,SNR=26				
M53A	WI Miller and	75.54 352	IAmb	IAmb	09 50 16.6
	comp=Z,41nm,0.8s				
M53A	WI Miller and	75.54 352	P	P	09 50 15.4 -0.2
	baz=171,SNR=7.2				
KEIM	Keimoes	75.66 115	⇑*i*P	P	09 50 17.2 +0.4
KEIM			IAmb	IAmb	09 50 18.2
	comp=Z,27nm,0.7s				
ALLY	Alegheny Colle	75.69 352	P	P	09 50 16.7 +0.2
	baz=172				
N47A	Urbana	75.71 348	P	P	09 50 15.2 -1.3
N47A			IAmb	IAmb	09 50 16.8
	comp=Z,102nm,0.8s				
N47A				pP	09 50 44.0 -2.0
N47A	Urbana	75.71 348	P	P	09 50 16.0 -0.6
	baz=167,SNR=18				
N47A			P	P	09 50 16.0 -0.6
	baz=167,SNR=18				
M52A	Chesterland	75.72 352	IAmb	IAmb	09 50 17.6
	comp=Z,58nm,0.7s				
M52A	Chesterland	75.72 352	P	P	09 50 16.9 +0.3
	baz=171,SNR=6.9				
M52A			P	P	09 50 16.9 +0.3
	baz=171,SNR=6.9				
P40A	Paris	75.74 343	P	P	09 50 17.3 +0.5
	baz=162,SNR=109				
Y22D	IRIS PASSCAL I	75.79 329	P	P	09 50 19.0 +1.7
	baz=149				
M50A	Fremont	75.81 350	IAmb	IAmb	09 50 17.9
	comp=Z,55nm,0.8s				
M50A	Fremont	75.81 350	P	P	09 50 17.1 0.0
	baz=169,SNR=6.4				
M50A			P	P	09 50 17.1 0.0
	baz=169,SNR=6.4				
L59A	Walton	75.82 356	IAmb	IAmb	09 50 19.1
	comp=Z,56nm,0.8s				
L59A	Walton	75.82 356	P	P	09 50 18.3 +1.1
	baz=176,SNR=14				
L59A			P	P	09 50 18.3 +1.1
	baz=176,SNR=14				
BINY	Binghamton	75.88 356	P	P	09 50 18.2 +0.7
	baz=175,SNR=8.7				
BINY	Binghamton	75.88 356	P	P	09 50 18.0 +0.5
	baz=175,SNR=8.7				
L56A	Greenwood	75.93 355	IAmb	IAmb	09 50 18.9
	comp=Z,52nm,0.7s				
L56A	Greenwood	75.93 355	P	P	09 50 18.6 +0.7
	baz=174,SNR=18				
L56A			P	P	09 50 18.6 +0.7
	baz=174,SNR=18				
L61B	Northampton	75.98 358	IAmb	IAmb	09 50 20.0
	comp=Z,58nm,0.8s				
L61B	Northampton	75.98 358	P	P	09 50 19.1 +1.1
	baz=178,SNR=15				
L61B	Northampton	75.98 358	P	P	09 50 18.8 +0.7
	baz=178,SNR=15				
HRV	Adam Dziewonsk	76.02 359	P	P	09 50 17.0 -1.3
HRV			pmax	pmax	
	comp=Z,49nm,1.0s				
HRV	Adam Dziewonsk	76.02 359	P	P	09 50 17.0 -1.3
HRV			IAmb	IAmb	09 50 20.6
	comp=Z,49nm,0.9s				
HRV	Adam Dziewonsk	76.02 359	P	P	09 50 19.8 +1.5
	baz=179				

TUC **Tucson** 76.03 326 P P 09 50 19.6 +0.9
TUC pmax pmax
comp=Z,32nm,1.3s
TUC **Tucson** 76.03 326 P P 09 50 19.6 +0.9
TUC **Tucson** 76.03 326 P P 09 50 20.1 +1.4
baz=146
UPI **Upington** 76.05 115⇧ *i*P P 09 50 19.0 -0.1
UPI IAmb IAmb 09 50 20.3
comp=Z,49nm,1.5s
HDIL **Hopedale** 76.09 345 P P 09 50 18.8 +0.1
baz=164,SNR=18
HDIL **Hopedale** 76.09 345 P P 09 50 18.6 -0.1
baz=164,SNR=18
ERPA **Erie** 76.14 353 IAmb IAmb 09 50 20.0
comp=Z,51nm,0.7s
ERPA **Erie** 76.14 353 P P 09 50 18.8 -0.2
baz=172,SNR=6.5
ERPA **Erie** 76.14 353 P P 09 50 18.9 0.0
baz=172,SNR=6.5
K62A **Royalston** 76.19 359 P P 09 50 20.7 +1.4
baz=178,SNR=5.9
K62A P P 09 50 20.7 +1.4
baz=178,SNR=5.9
P38A **Dawn** 76.20 342 IAmb IAmb 09 50 20.6
comp=Z,157nm,1.2s
P38A **Dawn** 76.20 342 P P 09 50 19.6 +0.2
baz=160,SNR=56
WVNY **West Valley, N** 76.28 354 IAmb IAmb 09 50 21.5
comp=Z,68nm,0.8s
WVNY **West Valley, N** 76.28 354 P P 09 50 20.5 +0.7
baz=173,SNR=24
HCNY **Howe Caverns** 76.29 357 P P 09 50 20.9 +1.1
baz=177,SNR=6.8
ANMO **Albuquerque** 76.34 330 LR LR 10 19 36.4
comp=Z,62nm,19.8s,baz=146,slow=32
ANMO **Albuquerque** 76.34 330 *ce*P P 09 50 22.0 +1.4
ANMO pmax pmax
comp=Z,66nm,1.2s
ANMO **Albuquerque** 76.34 330 P P 09 50 21.7 +1.1
ANMO IAmb IAmb 09 50 23.3
comp=Z,57nm,1.1s
ANMO **Albuquerque** 76.34 330 P P 09 50 22.2 +1.6
baz=150,SNR=87
ANMO **Albuquerque** 76.34 330 P P 09 50 22.2 +1.6
baz=150
K57A **Scipio Center** 76.44 355 IAmb IAmb 09 50 21.8
comp=Z,33nm,0.7s
K57A **Scipio Center** 76.44 355 P P 09 50 20.5 -0.2
baz=175,SNR=9.8
L48A **N Adams** 76.55 349 IAmb IAmb 09 50 21.7
comp=Z,59nm,0.8s
L48A **N Adams** 76.55 349 P P 09 50 20.9 -0.4
baz=168,SNR=13
L48A P P 09 50 20.9 -0.4
baz=168,SNR=13
MMNY **Mt. Morris Dam** 76.55 354 P P 09 50 21.2 -0.1
MMNY IAmb IAmb 09 50 22.6
comp=Z,163nm,1.5s
MMNY pP 09 50 50.4 -0.2
KSU1 **Kansas State U** 76.57 339 IAmb IAmb 09 50 22.6
comp=Z,75nm,0.7s
KSU1 **Kansas State U** 76.57 339 P P 09 50 21.8 +0.3
baz=158,SNR=29
KSU1 **Kansas State U** 76.57 339 P P 09 50 21.7 +0.2
baz=158,SNR=29
N41A **Harden Midland** 76.58 344 P P 09 50 21.6 +0.2
baz=163,SNR=5.9
R32A **Long Quarter,** 76.59 337 IAmb IAmb 09 50 23.6
comp=Z,105nm,1.0s
R32A **Long Quarter,** 76.59 337 P P 09 50 22.6 +1.0
baz=156,SNR=37
M44A **Midewin, Midew** 76.64 346 IAmb IAmb 09 50 22.4
comp=Z,94nm,0.8s
M44A **Midewin, Midew** 76.64 346 P P 09 50 21.7 -0.1
baz=165,SNR=10
214A **Organ Pipe Nat** 76.71 324 IAmb IAmb 09 50 25.6
comp=Z,65nm,0.9s
214A **Organ Pipe Nat** 76.71 324 P P 09 50 24.4 +1.9
baz=145,SNR=51
AAM **Ann Arbor** 76.78 350 IAmb IAmb 09 50 23.4
comp=Z,118nm,1.7s
AAM **Ann Arbor** 76.78 350 P P 09 50 22.3 -0.2
baz=169
AAM **Ann Arbor** 76.78 350 P P 09 50 22.3 -0.2
baz=169
J61A **Chester** 76.88 358 P P 09 50 24.5 +1.4
baz=178,SNR=6.3
J61A P P 09 50 24.5 +1.4
baz=178,SNR=6.3
L46A **Eue Claire** 76.92 348 IAmb IAmb 09 50 23.6
comp=Z,56nm,0.7s
L46A **Eue Claire** 76.92 348 P P 09 50 22.8 -0.6
baz=166,SNR=7.1
L46A P P 09 50 22.8 -0.6
baz=166,SNR=7.1
ACCN **Adirondack Com** 76.95 358 IAmb IAmb 09 50 25.5
comp=Z,67nm,1.4s
ACCN **Adirondack Com** 76.95 358 P P 09 50 24.1 +0.6
baz=177,SNR=7.9
SOE **Somerset East** 76.96 121 *e*P P 09 50 24.2 +0.1
SOE IAmb IAmb 09 50 25.6
comp=Z,54nm,0.8s
SFX **San Felipe** 76.99 322 P P 09 50 25.2 +1.2
SFX IAmb IAmb 09 50 26.8
comp=Z,46nm,0.8s
SFX pP 09 50 53.5 +0.4
J58A **Remsen** 77.00 356 P P 09 50 24.4 +0.6
baz=176,SNR=7.0
J58A P P 09 50 24.4 +0.6
baz=176,SNR=7.0
J56A **Wolcott** 77.01 355 IAmb IAmb 09 50 24.9
comp=Z,63nm,0.7s
J56A **Wolcott** 77.01 355 P P 09 50 24.1 +0.3
baz=174,SNR=12
J56A P P 09 50 24.1 +0.3
baz=174,SNR=12
J59A **Piesco** 77.06 357 IAmb IAmb 09 50 25.8
comp=Z,56nm,1.2s
J59A **Piesco** 77.06 357 P P 09 50 24.6 +0.4
baz=176,SNR=14
J59A P P 09 50 24.6 +0.4
baz=176,SNR=14
J55A **Hilton** 77.07 354 IAmb IAmb 09 50 25.3
comp=Z,127nm,1.8s
J55A **Hilton** 77.07 354 P P 09 50 24.4 +0.3
baz=174,SNR=5.4
J55A P P 09 50 24.4 +0.3
baz=174,SNR=5.4
K50A **Casco** 77.10 351 P P 09 50 24.1 -0.2
baz=170,SNR=20
K50A P P 09 50 24.1 -0.2
baz=170,SNR=20
J54A **Appleton** 77.15 354 P P 09 50 24.9 +0.3
baz=173
J54A P P 09 50 24.9 +0.3
baz=173
N38A **Joes South For** 77.23 342 P P 09 50 25.5 +0.4
baz=161,SNR=26
CBKS **Cedar Bluff** 77.28 337 IAmb IAmb 09 50 27.6
comp=Z,84nm,0.8s
CBKS **Cedar Bluff** 77.28 337 P P 09 50 26.8 +1.2
baz=155,SNR=14
CBKS **Cedar Bluff** 77.28 337 P P 09 50 26.5 +1.0
baz=155,SNR=14
L44A **Lake County Fo** 77.38 347 IAmb IAmb 09 50 26.7
comp=Z,97nm,1.0s
L44A **Lake County Fo** 77.38 347 P P 09 50 25.6 -0.3
baz=165
L44A **Lake County Fo** 77.38 347 P P 09 50 25.7 -0.3
baz=165
T25A **Trinidad** 77.44 333 P P 09 50 28.5 +1.8
baz=152,SNR=126
MCVT **Middlebury Col** 77.50 358 P P 09 50 27.7 +1.1
baz=178,SNR=6.0
NCB **Newcomb** 77.56 357 P P 09 50 27.8 +0.9
baz=177,SNR=7.6
I63A **Otisfield** 77.56 360 IAmb IAmb 09 50 29.6
comp=Z,70nm,0.9s
I63A **Otisfield** 77.56 360 P P 09 50 28.7 +1.8
baz=180,SNR=9.4
I63A P P 09 50 28.7 +1.8
baz=180,SNR=9.4
L42A **Oliver, Polo** 77.56 345 IAmb IAmb 09 50 27.8
comp=Z,73nm,0.9s
L42A **Oliver, Polo** 77.56 345 P P 09 50 26.9 -0.1
baz=164,SNR=19
WCNY **West Carthage** 77.64 356 P P 09 50 28.1 +0.8
baz=176,SNR=25

PECO **Prince Edward** 77.67 355 IAmb IAmb 09 50 28.8
comp=Z,52nm,0.6s
LBNH **Lisbon** 77.76 359 IAmb IAmb 09 50 30.2
comp=Z,52nm,0.8s
LBNH **Lisbon** 77.76 359 P P 09 50 29.3 +1.3
baz=179,SNR=11
LBNH **Lisbon** 77.76 359 P P 09 50 29.1 +1.1
baz=179,SNR=11
J47A **Sunmer** 77.87 349 IAmb IAmb 09 50 29.1
comp=Z,56nm,0.8s
J47A **Sunmer** 77.87 349 P P 09 50 28.3 -0.4
baz=168,SNR=12
J47A P P 09 50 28.3 -0.4
baz=168,SNR=12
W18A **Petrified Fore** 77.89 328 IAmb IAmb 09 50 32.1
comp=Z,75nm,1.1s
W18A **Petrified Fore** 77.89 328 P P 09 50 30.9 +1.7
baz=148,SNR=30
TSUM **Tsumeb** 77.93 105 LR LR 10 19 57.3
comp=Z,53nm,20.9s,baz=325,slow=32
TSUM **Tsumeb** 77.93 105⇧ *i*P P 09 50 30.1 +0.3
TSUM IAmb IAmb 09 50 31.1
comp=Z,264nm,0.9s
TSUM **Tsumeb** 77.93 105 P P 09 50 29.0 -0.8
N35A **Tabor** 77.93 341 P P 09 50 29.3 +0.3
baz=159,SNR=52
L40A **Anamosa** 77.95 344 P P 09 50 29.1 0.0
baz=162,SNR=52
K43A **Burlington** 77.96 347 IAmb IAmb 09 50 31.6
comp=Z,46nm,0.8s
K43A **Burlington** 77.96 347 P P 09 50 29.2 0.0
baz=165,SNR=7.3
HVD **Gariep Dam** 78.03 119⇧ *i*P P 09 50 30.5 +0.2
HVD IAmb IAmb 09 50 31.7
comp=Z,66nm,0.9s
WVL **Waterville** 78.07 1 P P 09 50 30.1 +0.4
baz=181
X16A **Lo Mia Camp, P** 78.08 326 IAmb IAmb 09 50 33.9
comp=Z,63nm,1.0s
H62A **Milan** 78.08 359 P P 09 50 31.3 +1.6
baz=179
H62A P P 09 50 31.3 +1.6
baz=179
LONY **Lake Ozonia** 78.22 357 P P 09 50 31.1 +0.6
baz=176,SNR=12
I49A **Point Hope** 78.27 351 IAmb IAmb 09 52 34.3
comp=Z,119nm,1.2s
SCIA **State Center** 78.28 343 IAmb IAmb 09 50 32.2
comp=Z,44nm,0.8s
SCIA **State Center** 78.28 343 P P 09 50 31.4 +0.4
baz=161
SCIA **State Center** 78.28 343 P P 09 50 31.3 +0.4
baz=161
N33B **J Bar K, Exete** 78.33 339 P P 09 50 31.6 +0.4
baz=157,SNR=6.9
N33A **J Bar K, Exete** 78.33 339 IAmb IAmb 09 50 32.8
comp=Z,115nm,0.8s
SDCO **Great Sand Dun** 78.39 332 P P 09 50 33.5 +1.5
baz=151,SNR=52
SDCO **Great Sand Dun** 78.39 332 P P 09 50 33.3 +1.3
baz=151,SNR=52
FRNY **Flat Rock** 78.39 358 P P 09 50 32.1 +0.7
FRNY IAmb IAmb 09 50 33.3
comp=Z,42nm,0.8s
FRNY pP 09 51 01.2 +0.1
FRNY **Flat Rock** 78.39 358 P P 09 50 32.4 +0.9
baz=177,SNR=15
Y14A **Wickenburg** 78.42 325 IAmb IAmb 09 50 34.8
comp=Z,54nm,1.1s
BMNY **Brushton-Moira** 78.43 357 P P 09 50 32.5 +0.8
baz=176,SNR=13
KSCO **Kaye Shedlock'** 78.44 335 IAmb IAmb 09 50 34.7
comp=Z,104nm,1.2s
KSCO **Kaye Shedlock'** 78.44 335 P P 09 50 33.6 +1.5
baz=153,SNR=8.1
KSCO **Kaye Shedlock'** 78.44 335 P P 09 50 33.5 +1.4
baz=153,SNR=8.1
JFWS **Jewell Farm** 78.55 345 IAmb IAmb 09 50 33.5
comp=Z,62nm,0.7s
JFWS **Jewell Farm** 78.55 345 P P 09 50 32.7 +0.3
baz=163,SNR=25
JFWS **Jewell Farm** 78.55 345 P P 09 50 32.4 0.0
baz=163,SNR=25
GLA **Glamis** 78.59 323 P P 09 50 34.9 +1.9
baz=144,SNR=9.0
SADO **Sadowa** 78.68 354 IAmb IAmb 09 50 34.1
comp=Z,33nm,0.7s
G62A **West of Eustis** 78.72 360 IAmb IAmb 09 50 35.6
comp=Z,58nm,1.1s
G62A **West of Eustis** 78.72 360 P P 09 50 34.9 +1.5
baz=180,SNR=12
G62A P P 09 50 34.9 +1.5
baz=180,SNR=12
PKME **Peaks-Kenny Pk** 78.78 1 P P 09 50 34.7 +1.1
baz=181,SNR=6.8
PKME **Peaks-Kenny Pk** 78.78 1 P P 09 50 34.3 +0.8
baz=181,SNR=6.8
K38A **Parkersburg** 78.87 343 IAmb IAmb 09 50 34.4
comp=Z,29nm,0.6s
K38A **Parkersburg** 78.87 343 P P 09 50 33.9 -0.3
baz=161
S22A **4UR Ranch, Cre** 78.91 331 P P 09 50 36.4 +1.5
baz=150,SNR=48
BOSA **Boshof** 78.91 117 P P 09 50 35.1 0.0
comp=Z,50nm,0.7s,baz=237,slow=4.6,SNR=98
BOSA LR LR 10 20 44.6
comp=Z,47nm,19.9s,baz=192,slow=32
BOSA **Boshof** 78.91 117⇧ *i*P P 09 50 35.0 -0.1
BOSA IAmb IAmb 09 50 35.9
comp=Z,60nm,0.8s
BOSA **Boshof** 78.91 117 P P 09 50 34.9 -0.2
BOSA IAmb IAmb 09 50 44.4
comp=Z,80nm,0.7s
IKP **In-Ko-Pah, Jac** 78.92 322 P P 09 50 36.8 +2.0
baz=143,SNR=8.3
WUAZ **Wupatki** 78.96 327 IAmb IAmb 09 50 38.1
comp=Z,52nm,1.1s
WUAZ **Wupatki** 78.96 327 P P 09 50 36.9 +1.8
baz=146,SNR=28
SWSC **Sam W. Stewart** 79.00 322 P P 09 50 37.1 +2.0
baz=143,SNR=8.6
BLYC **Blythe** 79.01 324 P P 09 50 36.7 +1.6
BLYC IAmb IAmb 09 50 38.3
comp=Z,60nm,0.9s
BLYC pP pP 09 51 05.1 +0.9
MVCO **Mesa Verde** 79.13 330 IAmb IAmb 09 50 38.6
comp=Z,62nm,1.2s
MVCO **Mesa Verde** 79.13 330 P P 09 50 37.3 +1.3
baz=149,SNR=34
BGNE **Belgrade** 79.15 339 P P 09 50 36.4 +0.7
baz=157,SNR=13
BGNE **Belgrade** 79.15 339 P P 09 50 36.5 +0.7
baz=157,SNR=13
L34A **Svendsen Farm,** 79.16 341 IAmb IAmb 09 50 37.3
comp=Z,79nm,0.8s
L34A **Svendsen Farm,** 79.16 341 P P 09 50 36.2 +0.5
baz=158,SNR=6.0
F63A **Nahmakanta, Br** 79.22 1 P P 09 50 37.2 +1.3
baz=181,SNR=6.4
F63A P P 09 50 37.2 +1.3
baz=181,SNR=6.4
I42A **Draeger Farm,** 79.22 346 IAmb IAmb 09 50 37.1
comp=Z,42nm,0.8s
I42A **Draeger Farm,** 79.22 346 P P 09 50 36.2 +0.2
baz=164,SNR=14
PDMCI **Parker Dam,Lak** 79.27 324 P P 09 50 38.0 +1.5
baz=144,SNR=6.7
MONP2 **Monument Peak** 79.27 322 P P 09 50 38.9 +2.0
baz=143,SNR=8.4
Q24A **Divide** 79.31 333 IAmb IAmb 09 50 39.6
comp=Z,69nm,0.9s
Q24A **Divide** 79.31 333 P P 09 50 38.5 +1.4
baz=151,SNR=21
KOWA **Kowa** 79.34 65 P P 09 50 37.6 +0.2
BC3 **Big Chuckawall** 79.39 323 P P 09 50 39.0 +1.6
baz=143,SNR=39
F64A **Sherman** 79.39 1 P P 09 50 37.9 +1.0
baz=182
F64A P P 09 50 37.9 +1.0
baz=182
GLMI **Grayling** 79.39 350 P P 09 50 36.5 -0.4
baz=168
GLMI **Grayling** 79.39 350 P P 09 50 36.9 0.0
baz=168
F62A **Pittston Farm,** 79.40 0 P P 09 50 38.1 +1.1
baz=180,SNR=8.5
F62A P P 09 50 38.1 +1.1
baz=180,SNR=8.5

H43A **Windswept, Lux** 79.56 347 IAmb IAmb 09 50 38.9
comp=Z,61nm,0.8s
H43A **Windswept, Lux** 79.56 347 P P 09 50 37.1 -0.7
baz=165,SNR=8.7
109C **Camp Elliot, M** 79.62 321 P P 09 50 40.4 +1.9
baz=142
IRM **Iron Mountain** 79.64 324 P P 09 50 40.5 +1.9
baz=144,SNR=26
SWZ **Schweizer** 79.73 116 *e*P P 09 50 39.1 -0.5
SWZ IAmb IAmb 09 50 40.1
comp=Z,32nm,0.8s
TRQ **Mont Tremblant** 79.82 357 P P 09 50 39.4 +0.1
TRQ IAmb IAmb 09 50 40.6
comp=Z,44nm,0.9s
TRQ pP pP 09 51 08.6 -0.4
TPFO **Pinon Flats** 79.86 322 P P 09 50 42.2 +2.3
baz=143,SNR=19
PFO **Pinon Flats O** 79.86 322 P P 09 50 42.2 +2.3
comp=Z,52nm,0.8s,baz=133,slow=4.3,SNR=55
PFO pP pP 09 51 10.4 +1.3
comp=Z,17nm,0.8s,baz=120,slow=5.7,SNR=4.8
PFO LR LR 10 19 02.1
comp=Z,60nm,19.4s,baz=197,slow=30
PFO **Pinon Flats O** 79.86 322 *i*P P 09 50 41.6 +1.7
PFO pmax pmax
comp=Z,81nm,0.8s
PFO **Pinon Flats O** 79.86 322 P P 09 50 41.5 +1.5
PFO IAmb IAmb 09 50 43.2
comp=Z,62nm,0.8s
PFO **Pinon Flats O** 79.86 322 P P 09 50 42.2 +2.3
baz=143,SNR=11
NEE2 **Needles Airpor** 79.87 324 P P 09 50 41.4 +1.6
baz=144
BELC **Belle Mtn. Jos** 79.94 323 P P 09 50 42.3 +2.0
baz=143,SNR=19
E63A **Oxbow** 79.95 1 P P 09 50 40.7 +0.8
baz=182
E63A P P 09 50 40.7 +0.8
baz=182
OGNE **Ogallala** 79.96 336 P P 09 50 41.7 +1.4
baz=154,SNR=7.1
OGNE **Ogallala** 79.96 336 P P 09 50 41.3 +1.1
baz=154,SNR=7.1
PV13 **Radium Mtn., P** 80.07 330 IAmb IAmb 09 50 43.5
comp=Z,73nm,1.2s
CASY **Casey** 80.16 180 P P 09 50 41.6 +0.6
CASY IAmb IAmb 09 50 43.4
comp=Z,67nm,1.0s
SMCO **Snowmass** 80.20 332 IAmb IAmb 09 50 44.9
comp=Z,55nm,1.0s
PV11 **David Mesa, Pa** 80.21 330 IAmb IAmb 09 50 44.2
comp=Z,71nm,1.5s
ISCO **Idaho Springs** 80.22 333 P P 09 50 43.4 +1.4
baz=151,SNR=40
ISCO **Idaho Springs** 80.22 333 P P 09 50 43.2 +1.3
baz=151,SNR=40
MURC **Murrieta** 80.23 322 P P 09 50 43.8 +2.0
baz=142,SNR=17
I37B **Waseca** 80.31 343 P P 09 50 42.2 +0.3
baz=161,SNR=18
PV10 **Paradox Valley** 80.35 330 P P 09 50 43.4 +0.8
PV10 IAmb IAmb 09 50 44.4
comp=Z,51nm,1.0s
PV10 pP 09 51 11.8 0.0
GMRC **Granite Mounta** 80.39 324 P P 09 50 44.9 +2.1
baz=143,SNR=46
K31A **O'Neill** 80.44 339 P P 09 50 43.8 +1.1
baz=156,SNR=22
D62A **Allapoint, All** 80.60 1 P P 09 50 43.9 +0.6
baz=181,SNR=5.9
D62A P P 09 50 43.9 +0.6
baz=181,SNR=5.9
BBRC **Big Bear Solar** 80.61 322 P P 09 50 46.3 +2.2
baz=142,SNR=11
CIS **Catalina Islan** 80.71 321 P P 09 50 46.1 +1.7
baz=141
HEC **Hector,Ludlow** 80.77 323 P P 09 50 46.7 +2.0
baz=143,SNR=8.9
G40A **Rib Lake** 80.80 346 P P 09 50 44.5 0.0
baz=163,SNR=5.9
E46A **Sault Ste Mari** 80.86 350 IAmb IAmb 09 50 45.8
comp=Z,90nm,0.9s
E46A **Sault Ste Mari** 80.86 350 P P 09 50 44.9 +0.1
baz=168,SNR=25
KNB **Kanab** 80.86 327 IAmb IAmb 09 50 48.3
comp=Z,58nm,1.0s
ECSD **EROS Data Cent** 80.86 341 IAmb IAmb 09 50 46.2
comp=Z,72nm,0.8s
ECSD **EROS Data Cent** 80.86 341 P P 09 50 45.3 +0.4
baz=158,SNR=107
ECSD **EROS Data Cent** 80.86 341 P P 09 50 45.1 +0.2
baz=158,SNR=107
F42A **Maple Grove Fa** 80.88 348 P P 09 50 45.5 +0.6
baz=165
SNKL **Senekal, Frees** 80.95 118⇧ *i*P P 09 50 45.8 -0.4
SNKL IAmb IAmb 09 50 47.1
comp=Z,58nm,0.8s
BFSC **Mount Baldy Ra** 80.97 322 P P 09 50 47.6 +1.7
baz=142,SNR=12
TUQ **Turquoise Moun** 81.04 324 P P 09 50 47.9 +1.7
baz=143,SNR=19
LMQ **La Malbaie** 81.05 0 P P 09 50 45.0 -0.8
LBTB **Lobatse** 81.11 114 LR LR 10 22 55.5
comp=Z,48nm,19.7s,baz=221,slow=33
LBTB **Lobatse** 81.11 114⇧ *i*P P 09 50 46.8 -0.2
LBTB IAmb IAmb 09 50 47.7
comp=Z,51nm,0.8s
LBTB **Lobatse** 81.11 114 P P 09 50 46.7 -0.2
LBTB pmax pmax
comp=Z,52nm,0.8s
LBTB **Lobatse** 81.11 114 P P 09 50 46.7 -0.2
LBTB IAmb IAmb 09 50 47.9
comp=Z,52nm,0.8s
LBTB **Lobatse** 81.11 114 *i*P P 09 50 47.8 +0.8
LBTB **Lobatse** 81.11 114 *i*P P 09 50 47.8 +0.8
RRX **Edison Barstow** 81.13 323 P P 09 50 48.7 +2.2
baz=142
E43A **Lone Tree Farm** 81.28 348 IAmb IAmb 09 50 48.4
comp=Z,60nm,0.9s
E43A **Lone Tree Farm** 81.28 348 P P 09 50 47.5 +0.5
baz=166,SNR=18
N23A **Red Feather La** 81.30 334 P P 09 50 48.8 +1.2
baz=151,SNR=20
SPMN **Marine on St.** 81.31 344 IAmb IAmb 09 50 47.7
comp=Z,40nm,0.5s
SPMN **Marine on St.** 81.31 344 P P 09 50 47.0 -0.2
baz=161,SNR=19
SPMN **Marine on St.** 81.31 344 P P 09 50 46.9 -0.4
baz=161,SNR=19
DECC **Green Verdugo** 81.33 322 P P 09 50 49.4 +1.8
baz=141
GSC **Goldstone, Bar** 81.37 323 P P 09 50 49.7 +1.7
baz=143,SNR=11
PRYS **Parys** 81.39 117⇧ *i*P P 09 50 47.8 -0.7
PRYS IAmb IAmb 09 50 48.9
comp=Z,28nm,0.9s
COWI **Conover** 81.39 347 P P 09 50 48.0 +0.3
baz=164
O20A **White River Ci** 81.52 332 IAmb IAmb 09 50 51.0
comp=Z,98nm,1.8s
O20A **White River Ci** 81.52 332 P P 09 50 49.8 +1.1
baz=149,SNR=14
KSR **Koster** 81.63 115 *e*P P 09 50 49.3 -0.6
KSR IAmb IAmb 09 50 50.5
comp=Z,22nm,0.7s
EDW2 **Edwards Air Fo** 81.64 322 P P 09 50 50.8 +1.5
baz=142,SNR=11
OSI **Osito Audit: C** 81.81 322 P P 09 50 52.0 +1.9
baz=141,SNR=6.2
P18A **Preston Nutter** 81.91 330 IAmb IAmb 09 50 53.4
comp=Z,49nm,1.0s
LRMC **Laurel Mtn Rad** 81.95 323 P P 09 50 52.7 +1.7
baz=142,SNR=5.2
F36A **Milaca** 82.08 344 IAmb IAmb 09 50 51.9
comp=Z,44nm,0.7s
F36A **Milaca** 82.08 344 P P 09 50 51.1 -0.1
baz=161,SNR=38
SUSD **Miller** 82.17 340 P P 09 50 51.8 0.0
baz=156
D41A **Chassel** 82.21 348 P P 09 50 52.6 +0.7
baz=165,SNR=29
ARVC **Arvin** 82.26 322 P P 09 50 54.1 +1.7
baz=141
MPMC **Manual Prospec** 82.31 323 P P 09 50 54.5 +1.5
baz=142,SNR=19
FURC **Furnace Creek,** 82.33 324 P P 09 50 54.6 +1.9
baz=143,SNR=15

E38A	**The Farm, Brul**	**82.35**	**345**	P		**P**	**09 50 52.7**	**+0.1**
	baz=162,SNR=6.8								
TPNV	**Topopah Spring**	**82.41**	**325**	P		**P**	**09 50 55.5**	**+2.1**
	baz=143,SNR=23								
RDMU	**Red Mountain**	**82.42**	**331**	IAmb		IAmb	09 50 55.5		
	comp=Z,42nm,0.9s								
RWWY	**Rawlins**	**82.46**	**333**	IAmb		IAmb	09 50 55.8		
	comp=Z,58nm,1.1s								
ISA	**Isabella, Lake**	**82.50**	**322**	P		**P**	**09 50 55.7**	**+2.0**
	baz=142,SNR=14								
PKM	**Mcpherson Peak**	**82.59**	**321**	P		**P**	**09 50 56.4**	**+2.0**
	baz=140,SNR=14								
F33A	**5 Mile Ranch,**	**82.73**	**342**	P		**P**	**09 50 54.5**	**-0.1**
	baz=159,SNR=11								
SLR	**Silverton**	**82.74**	**116** ⇑	*i* P		**P**	**09 50 55.0**	**-0.6**
SLR				IAmb		IAmb	09 50 56.0		
	comp=Z,42nm,1.0s								
NWCL	**Newcastle**	**82.81**	**118**	*e* P		**P**	**09 50 55.9**	**0.0**
NWCL				IAmb		IAmb	09 50 56.5		
	comp=Z,18nm,1.0s								
TOA0	**Torodi Ar. Sit**	**82.88**	**69**	P		**P**	**09 50 55.8**	**-0.4**
TOA0				IAmb		IAmb	09 50 57.3		
	comp=Z,38nm,0.8s								
TORD	**Torodi Ar. Bea**	**82.88**	**69**	P		**P**	**09 50 56.2**	**+0.1**
	comp=Z,32nm,0.8s,baz=256,slow=4.2,SNR=166								
TORD				pP		**pP**	**09 51 25.4**	**-1.2**
	comp=Z,20nm,0.9s,baz=248,slow=5.0,SNR=6.0								
TORD				LR		LR	10 27 25.3		
	comp=Z,43nm,18.6s,baz=218,slow=35								
TORD	**Torodi Ar. Bea**	**82.88**	**69**	IAmb		IAmb	09 50 57.3		
	comp=Z,32nm,0.8s								
CWC	**Cottonwood Cre**	**82.91**	**323**	P		**P**	**09 50 57.7**	**+1.7**
	baz=142								
VES	**Vestal, Richgr**	**82.95**	**322**	P		**P**	**09 50 57.5**	**+1.6**
	baz=141,SNR=16								
GRAC	**Grapevine Rang**	**82.99**	**324**	P		**P**	**09 50 58.3**	**+2.0**
	baz=142,SNR=8.4								
SMMC	**Simmler**	**83.01**	**321**	P		**P**	**09 50 58.7**	**+2.3**
	baz=140,SNR=7.5								
K22A	**Casper**	**83.04**	**334**	IAmb		IAmb	09 50 58.8		
	comp=Z,34nm,0.9s								
K22A	**Casper**	**83.04**	**334**	P		**P**	**09 50 57.8**	**+1.2**
	baz=150,SNR=19								
K22A	**Casper**	**83.04**	**334**	P		**P**	**09 50 57.6**	**+1.1**
	baz=150,SNR=19								
R11A	**Troy Canyon, C**	**83.21**	**326**	P		**P**	**09 50 59.2**	**+1.7**
	baz=144,SNR=56								
RSSD	**Black Hills**	**83.46**	**336**	P		**P**	**09 50 58.9**	**+0.2**
RSSD				pmax		pmax			
	comp=Z,29nm,0.9s								
RSSD	**Black Hills**	**83.46**	**336**	P		**P**	**09 50 58.9**	**+0.2**
RSSD	**Black Hills**	**83.46**	**336**	P		**P**	**09 50 59.4**	**+0.7**
	baz=152,SNR=28								
RSSD	**Black Hills**	**83.46**	**336**	P		**P**	**09 50 59.3**	**+0.6**
	baz=152								
TIN	**Tinemaha, Big**	**83.46**	**323**	P		**P**	**09 51 00.8**	**+2.0**
	baz=142,SNR=5.4								
PAGB	**Antelope Grade**	**83.46**	**321**	IAmb		IAmb	09 51 02.0		
	comp=Z,45nm,1.1s								
DUG	**Dugway, Tooele**	**83.47**	**329**	P		**P**	**09 51 00.0**	**+1.3**
	baz=146,SNR=27								
DRLN	**Deer Lake**	**83.56**	**8**	P		**P**	**09 50 59.1**	**+0.4**
DRLN				IAmb		IAmb	09 50 59.8		
	comp=Z,31nm,0.8s								
EYMN	**Ely**	**83.62**	**346**	P		**P**	**09 50 58.9**	**-0.3**
	baz=162,SNR=8.2								
EYMN	**Ely**	**83.62**	**346**	P		**P**	**09 50 58.9**	**-0.3**
	baz=162,SNR=8.2								
MLAC	**Mammoth, Mammo**	**84.21**	**323**	P		**P**	**09 51 04.4**	**+1.7**
	baz=141								
PDAR	**Pinedale Array**	**84.28**	**332**	P		**P**	**09 51 03.2**	**+0.2**
	comp=Z,9.8nm,0.7s,baz=141,slow=5.8,SNR=86								
PDAR				pP		**pP**	**09 51 31.8**	**-0.6**
	comp=Z,4.6nm,0.7s,baz=135,slow=5.3,SNR=5.2								
PDAR				PKKPbc		**PKKPbc**	**10 09 14.8**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=117,slow=0.4,SNR=11								
BW06	**Boulder Array**	**84.28**	**332**	P		**P**	**09 51 03.2**	**+0.3**
	baz=148,SNR=26								
POGA	**Pongola**	**84.35**	**119** ⇑	*i* P		**P**	**09 51 03.5**	**-0.1**
POGA				IAmb		IAmb	09 51 04.7		
	comp=Z,35nm,0.9s								
Q09A	**Carvers**	**84.35**	**325**	IAmb		IAmb	09 51 06.0		
	comp=Z,57nm,1.2s								
B35A	**Bob, Littlefor**	**84.49**	**345**	IAmb		IAmb	09 51 04.3		
	comp=Z,31nm,0.7s								
B35A	**Bob, Littlefor**	**84.49**	**345**	P		**P**	**09 51 03.6**	**+0.1**
	baz=161,SNR=24								
NVAR	**Mina Array Bea**	**84.58**	**324**	P		**P**	**09 51 06.0**	**+1.5**
	comp=Z,15nm,0.8s,baz=156,slow=5.9,SNR=91								
NVAR				pP		**pP**	**09 51 34.6**	**+0.6**
	comp=Z,13nm,0.7s,baz=152,slow=6.1,SNR=13								
NVAR				PKKPbc		**PKKPbc**	**10 09 15.8**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=314,slow=1.4,SNR=4.4								
E28A	**Huff**	**84.61**	**340**	IAmb		IAmb	09 51 05.8		
	comp=Z,73nm,0.7s								
E28A	**Huff**	**84.61**	**340**	P		**P**	**09 51 05.0**	**+0.8**
	baz=155,SNR=25								
AHID	**Auburn Hatcher**	**84.89**	**331**	IAmb		IAmb	09 51 07.6		
	comp=Z,53nm,1.4s								
AGMN	**Agassiz Nation**	**84.92**	**343**	P		**P**	**09 51 05.8**	**+0.1**
	baz=159,SNR=19								
AGMN	**Agassiz Nation**	**84.92**	**343**	P		**P**	**09 51 05.7**	**0.0**
	baz=159,SNR=19								
ELK	**Elko**	**84.98**	**327**	P		**P**	**09 51 07.6**	**+1.1**
	comp=Z,20nm,0.9s,baz=160,slow=3.0,SNR=76								
ELK				pP		**pP**	**09 51 36.2**	**+0.2**
	comp=Z,13nm,0.8s,baz=126,slow=2.9,SNR=9.5								
ELK				LR		LR	10 27 14.0		
	comp=Z,37nm,18.1s,baz=135,slow=34								
CMB	**Columbia Colle**	**85.30**	**323**	P		**P**	**09 51 09.3**	**+1.4**
CNG	**Changalane**	**85.31**	**118** ⇑	*i* P		**P**	**09 51 08.8**	**+0.4**
CNG				IAmb		IAmb	09 51 09.8		
	comp=Z,24nm,1.1s								
CNG	**Changalane**	**85.31**	**118**	*i* P		**P**	**09 51 09.3**	**+1.0**
CNG	**Changalane**	**85.31**	**118**	*i* P		**P**	**09 51 09.3**	**+1.0**
MDND	**Maddock**	**85.47**	**341**	P		**P**	**09 51 09.3**	**+0.8**
	baz=156,SNR=10.0								
MDND	**Maddock**	**85.47**	**341**	P		**P**	**09 51 09.0**	**+0.5**
	baz=156,SNR=10.0								
PNTR	**Pine Nut**	**85.72**	**324**	IAmb		IAmb	09 51 13.2		
	comp=Z,32nm,0.8s								
FLWY	**Flagg Ranch**	**85.84**	**332**	IAmb		IAmb	09 51 12.8		
	comp=Z,42nm,0.8s								
MATP	**Matopo**	**85.88**	**112**	*i* P		**P**	**09 51 12.6**	**+1.2**
MATP	**Matopo**	**85.88**	**112**	*i* P		**P**	**09 51 12.6**	**+1.2**
MSNA	**Messina**	**85.96**	**114** ⇑	*i* P		**P**	**09 51 12.6**	**+0.9**
MSNA				IAmb		IAmb	09 51 13.4		
	comp=Z,73nm,0.8s								
MSNA	**Messina**	**85.96**	**114**	*i* P		**P**	**09 51 12.6**	**+0.9**
MSNA	**Messina**	**85.96**	**114**	*i* P		**P**	**09 51 12.6**	**+0.9**
H17A	**Grant Village**	**86.05**	**332**	P		**P**	**09 51 13.0**	**+1.2**
	baz=148,SNR=8.2								
PAHR	**Pah Rah Range**	**86.10**	**324**	IAmb		IAmb	09 51 14.8		
	comp=Z,78nm,1.8s								
BLWY	**Bulawayo**	**86.12**	**112** ⇑	*i* P		**P**	**09 51 12.8**	**+0.1**
BLWY				IAmb		IAmb	09 51 13.7		
	comp=Z,175nm,0.8s								
BLWY	**Bulawayo**	**86.12**	**112**	*i* P		**P**	**09 51 13.1**	**+0.4**
BLWY	**Bulawayo**	**86.12**	**112**	*i* P		**P**	**09 51 13.1**	**+0.4**
RLMT	**Red Lodge**	**86.17**	**334**	IAmb		IAmb	09 51 14.1		
	comp=Z,91nm,1.6s								
RLMT	**Red Lodge**	**86.17**	**334**	P		**P**	**09 51 12.9**	**+0.7**
	baz=148,SNR=32								
MOPA	**Mopani**	**86.32**	**116** ⇑	*i* P		**P**	**09 51 13.8**	**+0.3**
MOPA				IAmb		IAmb	09 51 14.9		
	comp=Z,43nm,0.9s								
MOPA	**Mopani**	**86.32**	**116**	*i* P		**P**	**09 51 14.5**	**+1.0**
MOPA	**Mopani**	**86.32**	**116**	*i* P		**P**	**09 51 14.5**	**+1.0**
YMR	**Madison River**	**86.43**	**332**	IAmb		IAmb	09 51 16.0		
	comp=Z,44nm,0.8s								
LAO	**LASA Array**	**86.45**	**336**	IAmb		IAmb	09 51 15.0		
	comp=Z,41nm,0.8s								
LAO	**LASA Array**	**86.45**	**336**	P		**P**	**09 51 14.1**	**+0.6**
	baz=151,SNR=37								
LAO	**LASA Array**	**86.45**	**336**	P		**P**	**09 51 13.9**	**+0.5**
	baz=151,SNR=37								
YHH	**Holmes Hill**	**86.49**	**332**	IAmb		IAmb	09 51 16.2		
	comp=Z,30nm,0.8s								
ULM	**Lac du Bonnet**	**86.75**	**344**	P		**P**	**09 51 14.5**	**-0.2**
	comp=Z,19nm,0.7s,baz=168,slow=4.0,SNR=4.4								
ULM				pP		**pP**	**09 51 43.0**	**-1.3**
	comp=Z,14nm,0.8s,baz=188,slow=3.7,SNR=5.3								
HLID	**Hailey**	**86.91**	**330**	P		**P**	**09 51 17.2**	**+1.4**
	baz=145,SNR=28								
ORV	**Oroville**	**87.02**	**323**	IAmb		IAmb	09 51 19.2		
	comp=Z,39nm,1.2s								
DGMT	**Dagmar**	**87.36**	**338**	P		**P**	**09 51 18.9**	**+1.1**
	baz=152,SNR=37								
DGMT	**Dagmar**	**87.36**	**338**	P		**P**	**09 51 18.7**	**+1.0**
	baz=152,SNR=37								
BOZ	**Bozeman (W)**	**87.47**	**332**	P		**P**	**09 51 19.0**	**+0.6**
	baz=147,SNR=9.1								
DLMT	**Dillon**	**87.65**	**332**	IAmb		IAmb	09 51 21.8		
	comp=Z,46nm,1.4s								
O03E	**Paynes Creek**	**87.74**	**323**	IAmb		IAmb	09 51 22.9		
	comp=Z,29nm,0.9s								
O03E	**Paynes Creek**	**87.74**	**323**	P		**P**	**09 51 20.3**	**+0.5**
	baz=140,SNR=6.7								
O02D	**Mt. Diablo Mer**	**88.14**	**323**	P		**P**	**09 51 22.8**	**+1.1**
	baz=139								
MOD	**Modoc Plateau**	**88.23**	**325**	IAmb		IAmb	09 51 24.9		
	comp=Z,84nm,1.8s								
SCHQ	**Schefferville**	**88.40**	**2**	P		**P**	**09 51 21.9**	**-0.5**
	comp=Z,4.2nm,0.5s,baz=182,slow=3.7,SNR=22								
SCHQ				pP		**pP**	**09 51 51.2**	**-1.4**
	comp=Z,2.4nm,0.6s,baz=158,slow=6.2,SNR=2.6								
SCHQ				LR		LR	10 34 19.9		
	comp=Z,34nm,18.5s,baz=131,slow=38								
SCHQ	**Schefferville**	**88.40**	**2**	P		**P**	**09 51 21.6**	**-0.8**
J08A	**Circle Bar Ran**	**88.52**	**327**	IAmb		IAmb	09 51 55.1		
	comp=Z,53nm,0.8s								
LSZ	**Lusaka**	**88.54**	**107**	LR		LR	10 27 38.4		
	comp=Z,74nm,18.9s,baz=260,slow=33								
LSZ	**Lusaka**	**88.54**	**107** ⇑	*i* P		**P**	**09 51 25.8**	**+1.4**
LSZ				IAmb		IAmb	09 51 26.8		
	comp=Z,201nm,0.9s								
N02D	**Trinity Center**	**88.70**	**323**	P		**P**	**09 51 24.8**	**+0.5**
	baz=139								
PLID	**Pearl Lake**	**88.81**	**330**	IAmb		IAmb	09 51 56.2		
	comp=Z,31nm,0.9s								
EGMT	**Eagleton**	**88.82**	**335**	IAmb		IAmb	09 51 25.9		
	comp=Z,42nm,1.6s								
EGMT	**Eagleton**	**88.82**	**335**	P		**P**	**09 51 24.9**	**+0.2**
	baz=148,SNR=7.1								
M04C	**Macdoel**	**88.88**	**324**	P		**P**	**09 51 26.2**	**+1.0**
	baz=140								
M02C	**Callahan**	**89.09**	**323**	P		**P**	**09 51 27.0**	**+0.9**
	baz=139								
K05A	**Summer Lake**	**89.15**	**325**	IAmb		IAmb	09 51 58.6		
	comp=Z,63nm,1.5s								
MSO	**Missoula**	**89.39**	**332**	P		**P**	**09 51 28.5**	**+1.1**
	baz=145								
L04D	**Klamath Falls**	**89.44**	**324**	P		**P**	**09 51 28.7**	**+0.8**
	baz=139								
J05D	**Fort Rock, OR**	**89.74**	**326**	P		**P**	**09 51 30.9**	**+1.6**
	baz=140								
I05D	**Terrebonne, OR**	**90.59**	**326**	P		**P**	**09 51 34.7**	**+1.7**
	baz=140								
MDT	**Midelt**	**90.68**	**50**	P		**P**	**09 51 33.4**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=73,slow=0.8,SNR=3.8								
MDT				pP		**pP**	**09 52 04.2**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=285,slow=2.7,SNR=3.4								
MDT				LR		LR	10 31 50.3		
	comp=Z,40nm,18.8s,baz=202,slow=35								
I03D	**Drain, OR**	**91.06**	**325**	P		**P**	**09 51 36.8**	**+1.7**
	baz=138								
G05D	**Wamic, OR**	**91.27**	**327**	P		**P**	**09 51 38.1**	**+1.9**
	baz=140								
HAWA	**Hanford**	**91.36**	**328**	IAmb		IAmb	09 51 38.7		
	comp=Z,27nm,1.3s								
NEW	**Newport**	**91.82**	**331**	LR		LR	10 28 45.1		
	comp=Z,62nm,20.5s,baz=165,slow=33								
C09A	**Chrisman Ranch**	**91.92**	**330**	IAmb		IAmb	09 51 40.6		
	comp=Z,15nm,0.7s								
FFC	**Flin Flon**	**92.34**	**342**	P		**P**	**09 51 39.9**	**-0.9**
FFC				pmax		pmax			
	comp=Z,5.0nm,0.8s								
FFC	**Flin Flon**	**92.34**	**342**	P		**P**	**09 51 39.9**	**-0.9**
FCC	**Fort Churchill**	**94.39**	**348**	IAmb		IAmb	09 51 51.2		
	comp=Z,12nm,0.9s								
EDM	**Edmonton**	**94.43**	**336**	IAmb		IAmb	09 52 19.9		
	comp=Z,20nm,1.2s								
MBAR	**Mbarara**	**98.91**	**97**	LR		LR	10 30 53.1		
	comp=Z,29nm,21.2s,baz=210,slow=32								
YKA	**Yellowknife Ar**	**102.39**	**341**	P		**Pdif**	**09 52 25.6**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=144,slow=4.5,SNR=45								
YKA				pP		**pPdif**	**09 52 54.7**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=146,slow=4.8,SNR=4.2								
YKA				PP		**PP**	**09 56 36.6**	**-3.9**
	comp=Z,1.5nm,0.8s,baz=141,slow=8.0,SNR=10								
YKA				PKKPbc		**PKKPbc**	**10 08 26.5**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=320,slow=3.8,SNR=14								
RES	**Resolute Bay**	**109.49**	**353**	PKKPbc		PKKPbc	10 08 05.3	-1.8	
	comp=Z,0.9nm,0.6s,baz=36,slow=3.3,SNR=3.9								
INK	**Inuvik**	**112.04**	**339**	PKKPbc		PKKPbc	10 07 56.4	-2.2	
	comp=Z,1.9nm,1.0s,baz=276,slow=3.3,SNR=7.8								
ILAR	**Eielson Array**	**114.71**	**333**	PKP		PKPdf	09 57 09.9	0.0	
	comp=Z,0.9nm,0.8s,baz=150,slow=0.7,SNR=9.7								
ILAR				pPKP		pPKiKP	09 57 39.6	-1.9	
	comp=Z,0.6nm,0.7s,baz=149,slow=2.7,SNR=3.7								
ILAR				PP		**PP**	**09 58 08.8**	**-1.2**	
	comp=Z,2.1nm,0.9s,baz=118,slow=5.5,SNR=8.1								
ILAR				PKKPbc		**PKKPbc**	**10 07 48.0**	**-1.5**	
	comp=Z,0.2nm,0.6s,baz=323,slow=32,SNR=4.1								
TRF	**Thorofare Moun**	**115.47**	**331**	P		**PKiKP**	**09 57 11.9**	**+0.3**	
	baz=115								
BPAW	**Bear Paw Mtn.**	**116.02**	**331**	P		**PKiKP**	**09 57 12.6**	**+0.1**	
	baz=114								
CAST	**Castle Rocks**	**116.19**	**330**	P		**PKPdf**	**09 57 12.7**	**-0.2**	
	baz=114								
N19K	**Bonanza Creek**	**116.21**	**327**	P		**PKPdf**	**09 57 12.7**	**-0.3**	
	baz=113								
CHUM	**Lake Minchumin**	**116.47**	**331**	P		**PKiKP**	**09 57 13.4**	**+0.1**	
	baz=113								
COLD	**Coldfoot**	**116.98**	**335**	P		**PKiKP**	**09 57 15.3**	**+1.1**	
	baz=113								
TOLK	**Toolik Lake Re**	**117.33**	**336**	PKPdf		**PKiKP**	**09 57 15.0**	**+0.1**	
TOLK	**Toolik Lake Re**	**117.33**	**336**	P		**PKiKP**	**09 57 15.9**	**+1.0**	
	baz=113								
J20K	**Nowinta River**	**117.33**	**331**	P		**PKiKP**	**09 57 15.6**	**+0.7**	
	baz=111								
H21K	**Melozitna Rive**	**117.35**	**332**	P		**PKiKP**	**09 57 15.9**	**+0.9**	
	baz=112								
TTA	**Tatalina**	**117.66**	**329**	P		**PKiKP**	**09 57 16.6**	**+0.8**	
	baz=110								
ASAR	**Alice Springs**	**118.28**	**205**	PKP		**PKPdf**	**09 57 17.6**	**-0.7**	
	comp=Z,1.4nm,0.8s,baz=138,slow=1.8,SNR=19								
ASAR				pPKP		**pPKPdf**	**09 57 48.0**	**-1.9**	
	comp=Z,0.8nm,0.7s,baz=133,slow=1.7,SNR=3.9								
ASAR				PKKPbc		**PKKPbc**	**10 07 36.3**	**+0.2**	
	comp=Z,0.7nm,0.7s,baz=342,slow=2.9,SNR=12								
ASAR				PKKP		**PKKPdf**	**10 08 06.5**	**+2.6**	
	comp=Z,1.0nm,0.7s,baz=343,slow=3.1,SNR=8.0								
GCSA	**Galena City Sc**	**118.64**	**331**	P		**PKiKP**	**09 57 18.7**	**+1.2**	
	baz=109								
NACGM	**Naroch**	**120.86**	**42**	*e* PKP		**PKPdf**	**09 57 19.1**	**-3.0**	
AKBB	**Malin Array Si**	**121.10**	**47**	*c i* PKiKP		**PKPdf**	**09 57 19.0**	**-3.6**	
MNK	**Minsk**	**121.37**	**43**	*i* PKiKP		**PKiKP**	**09 57 24.1**	**+1.0**	
MNK				*i*			09 57 54.0		
MNK				*i*			09 58 57.4		
MNK				*i* PPP		PPP	10 01 32.0		
MNK				*i*			10 04 25.8		
MNK				*i* SS		SS	10 15 22.3	+0.5	
MNK				pmax		pmax			
	comp=Z,11nm,0.6s								
MNK				pmax		pmax			
	comp=E,3.0nm,0.9s								
MNK				pmax		pmax			
	comp=N,14nm,0.7s								
MNK				MLR		MLR			
	comp=Z,78nm,19.0s								
MNK				MLR		MLR			
	comp=E,25nm,20.0s								
MNK				MLR		MLR			
	comp=N,100nm,21.0s								
MNK	**Minsk**	**121.37**	**43**	*i* PKP		**PKiKP**	**09 57 24.2**	**+1.0**	
	comp=E,3.0nm,0.8s								
MNK				*i* PKP		**PKiKP**	**09 57 24.2**	**+1.0**	
	comp=N,14nm,0.7s								
MNK				*i* PKP		**PKiKP**	**09 57 24.2**	**+1.0**	
	comp=Z,11nm,0.6s,baz=76								
MNK				*i* pPKP		**pPKPdf**	**09 57 54.1**	**-0.6**	
MNK				*i* PP		**PP**	**09 58 57.5**	**+1.2**	
MNK				*i* PPP		PPP	10 01 32.1		
MNK				*i* SKS		**SKSdf**	**10 04 25.8**	**+1.6**	
MNK				*i* SS		**SS**	**10 15 22.3**	**+0.6**	
MNK				*i* SSS		SSS	10 20 01.4		
MNK				*i* LRM		MLR	10 49 12.6		
	comp=Z,78nm,19.4s								
MNK				*i* LRM		MLR	10 49 19.0		
	comp=E,25nm,20.0s								
MNK				*i* LRM		MLR	10 49 24.8		
	comp=N,100nm,20.6s								
WB2	**Warramunga Arr**	**121.52**	**208**			**PKPdf**	**09 57 24.5**	**0.0**	
WRA	**Warramunga Arr**	**121.52**	**207**	PKP		**PKPdf**	**09 57 24.4**	**-0.1**	
	comp=N,2.8nm,0.6s,baz=162,slow=1.7,SNR=69								
WRA				pPKP		**pPKPdf**	**09 57 54.3**	**-1.9**	
	comp=N,1.5nm,0.6s,baz=170,slow=1.6,SNR=4.1								
WRA				PKKPbc		**PKKPbc**	**10 07 24.1**	**0.0**	
	comp=N,0.7nm,0.9s,baz=343,slow=4.2,SNR=5.7								
WRA				PKP		**PKPdf**	**10 07 54.5**	**-3.2**	
	comp=N,0.8nm,0.8s,baz=344,slow=4.1,SNR=5.6								
WRA	**Warramunga Arr**	**121.52**	**207**			**PKPdf**	**09 57 24.2**	**-0.3**	
RDOG	**Red Dog Mine**	**121.86**	**334**			**PKPdf**	**09 57 23.5**	**-0.1**	
FINES	**FINESS Array B**	**122.11**	**34**	PKKPbc		PKKPbc	10 07 21.9	-0.5	
	comp=N,2.2nm,0.9s,baz=66,slow=4.6,SNR=4.7								
ANM	**Nome**	**122.11**	**329**	P		**PKiKP**	**09 57 25.3**	**+0.9**	
	baz=102								
ARCES	**ARCESS Array B**	**123.33**	**25**	PKP		**PKPdf**	**09 57 25.5**	**-0.9**	
	comp=N,2.3nm,0.8s,baz=306,slow=4.1,SNR=6.0								
ARCES				pPKP		**pPKPdf**	**09 57 57.5**	**-0.6**	
	comp=N,2.6nm,0.8s,baz=276,slow=3.5,SNR=2.0								
PSA00	**Pilbara Seismi**	**124.00**	**192**	PKPdf		**PKPdf**	**09 57 28.9**	**-0.3**	
FITZ	**Fitzroy Crossi**	**126.10**	**199**	PKP		**PKiKP**	**09 57 33.6**	**-0.1**	
	comp=N,4.5nm,0.8s,baz=221,slow=5.5,SNR=8.8								
FITZ				pPKP		**pPKPdf**	**09 58 02.6**	**-2.2**	
	comp=N,1.3nm,0.6s,baz=191,slow=6.8,SNR=1.7								
OBN	**Obninsk**	**126.41**	**43**	*e* PKIKP		**PKPdf**	**09 57 29.5**	**-3.1**	
OBN				*e*			09 57 57.1		
OBN				pmax		pmax			
	comp=Z,10.0nm,0.5s								
KLMR	**Klimovskoe**	**128.50**	**36**	*e* PKIKP		**PKPdf**	**09 57 34.7**	**-1.8**	
KLMR				pmax		pmax			
	comp=Z,15nm,1.4s								
KLMR	**Klimovskoe**	**128.50**	**36**	*e* PKPdf		**PKPdf**	**09 57 34.7**	**-1.8**	
KLMR				AMP			09 57 38.1		
	comp=Z,15nm,1.4s								
BILL	**Bilibino**	**133.32**	**334**	*e* PKIKP		**PKiKP**	**09 57 46.5**	**-0.2**	
BILL				*e*			09 58 14.8		
BILL				*e* PPP		PPP	10 03 09.0		
BILL				pmax		pmax			
	comp=Z,2.0nm,1.0s								
CMJI	**Cimerak**	**138.56**	**178**	PKP		**PKiKP**	**09 57 58.3**	**-0.7**	
ARU	**Arti**	**138.75**	**41**	*i* PKIKP		**PKPdf**	**09 57 55.4**	**-0.4**	
ARU				SS		SS	10 18 47.4	-7.3	
SEY	**Seymchan**	**140.60**	**331**	*i* PKIKP		**PKiKP**	**09 58 00.5**	**-1.1**	
TIXI	**Tiksi**	**140.81**	**350**	*i* PKHKP		PKPpre	09 57 51.8		
PETK	**Petropavlovsk-**	**141.05**	**314**	PKhKP		PKPpre	09 57 54.4		
	comp=Z,2.5nm,0.7s,baz=81,slow=4.7,SNR=3.9								
NRIK	**Noril'sk**	**142.41**	**13**	PKP		**PKPdf**	**09 58 00.6**	**-1.5**	
	comp=Z,1.8nm,0.4s,baz=347,slow=1.3,SNR=4.5								
NRIK	**Noril'sk**	**142.41**	**13**	*i* PKIKP		**PKPdf**	**09 58 01.9**	**-0.2**	
MA2	**Magadan**	**142.78**	**326**	*i* PKIKP		**PKPdf**	**09 58 04.3**	**+1.3**	
JMBI	**JAMBI**	**144.24**	**170**	PKP		**PKPdf**	**09 58 06.4**	**-0.6**	
KMSI	**Cibinong**	**144.24**	**205**	PKP		**PKPdf**	**09 58 07.3**	**+0.3**	
POO	**Poona**	**144.67**	**107**	*e* P		**PKPab**	**09 58 03.0**	**-3.6**	
MTKI	**Muara Teweh, K**	**145.01**	**189**	PKP		**PKPdf**	**09 58 09.2**	**+0.8**	
SMKI	**Samarinda**	**145.12**	**193**	PKP		**PKiKP**	**09 58 11.3**	**-1.2**	
DSRI	**Dabo**	**145.50**	**171**	PKP		**PKPab**	**09 58 10.1**	**+0.4**	
BKNI	**Bangkinang**	**145.67**	**165**	PKP		**PKPdf**	**09 58 10.2**	**-0.2**	
MNSI	**Mandailing Nat**	**145.78**	**162**	PKP		**PKPab**	**09 58 10.6**	**-0.2**	
BRVK	**Borovoye**	**146.18**	**43**	*c i* PKP2		**PKPab**	**09 58 11.5**	**+0.2**	

KAPI				Sn	Sn	09 59 26.2	+0.9	
	5.2nm,0.3s,baz=213,slow=22,SNR=11							
WRA	**Warramunga Arr**	**18.96**	**146**	P	P	10 02 07.8	-0.9	
	0.1nm,0.3s,baz=322,slow=13,SNR=6.0							
ASAR	**Alice Springs**	**21.86**	**153**	P	P	10 02 41.5	+1.3	
	1.4nm,0.7s,baz=328,slow=10,SNR=21							
STKA	**Stephens Creek**	**32.42**	**150**	P	P	10 04 16.9	-0.5	
	0.9nm,0.8s,baz=331,slow=12,SNR=2.9							
MKAR	**Makanchi Array**	**62.37**	**329**	P	P	10 08 10.1	-0.1	
	0.5nm,0.6s,baz=136,slow=8.2,SNR=4.7							

*IDC **14** 10:26:14.8±4.4,34°.11N×135°.74E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.2/36,mbtmp3.5/3,ML2.7/1,MS3.6/2, Ms1 3.6/2,ms1mx2.4/76,Error ellipse: s-maj=193.5km s-min=31.2km az=117.0*

*JMA **14** 10:26:29.1±0.2,36°.26N×137°.23E,h271km±2km,M2.7*

ISC 14 10:26:30.3±1.2,36°.2N±0°.1×137°.2E±0°.1,h250km,n16, σ1ᵍ95/16,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYTA	**Yamagatataniai**	**0.72**	**212**	P	**Pn**	**10 27 05.3**	**+1.3**
JYTA				eS	S	10 27 33.1	+2.6
MAT	**Matsushiro**	**0.88**	**67**	P	**Pn**	**10 27 05.9**	**+1.2**
MAT				eS	**S**	**10 27 34.7**	**+2.9**
MJAR	**Matsushiro Arr**	**0.88**	**67**	Pn	**Pn**	**10 27 06.0**	**+1.2**
	0.9nm,0.3s,baz=220,slow=9.7,SNR=23						
JSZ	**Suzu**	**1.25**	**6**	P	**Pn**	**10 27 07.5**	**+0.7**
JRY	**Ryogami san**	**1.39**	**97**	S	**S**	**10 27 39.1**	**+1.7**
JWT	**Wachi**	**1.73**	**238**	P	**Pn**	**10 27 11.3**	**+0.8**
JAG	**Ashikaga**	**1.83**	**82**	P	**Pn**	**10 27 11.6**	**+0.3**
JIE	**Ise**	**1.85**	**193**	P	**Pn**	**10 27 13.2**	**+1.6**
JSD	**Sado**	**2.02**	**24**	P	**Pn**	**10 27 13.2**	**+0.3**
JKN2	**Miekihoku**	**2.10**	**202**	P	**Pn**	**10 27 15.1**	**+1.3**
JWY	**Kouya**	**2.38**	**214**	P	**Pn**	**10 27 17.7**	**+1.2**
JTNC	**Tanabenakahech**	**2.71**	**209**	P	**Pn**	**10 27 20.5**	**+0.6**
PSI	**Prapat**	**48.49**	**206**	LR	LR	10 54 50.0	
	comp=Z,69nm,18.8s,baz=220,slow=37						
WRA	**Warramunga Arr**	**55.90**	**183**	P	**P**	**10 35 39.4**	**-3.1**
	0.5nm,0.4s,baz=358,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**59.63**	**184**	P	**P**	**10 36 05.3**	**-3.0**
	0.1nm,0.3s,baz=357,slow=5.7,SNR=6.0						
AKASG	**Malin Array Be**	**72.84**	**321**	LR	LR	11 12 04.9	
	comp=Z,32nm,20.9s,baz=29,slow=37						

*IDC **14** 11:03:13.7±5.0,24°.71S×179°.90E,h444km±52km,mb3.2/7, mb1 3.3/8,mb1mx3.2/20,mbtmp4.1/8,Error ellipse: s-maj=36.7km s-min=16.4km az=63.0*

ISC 14 11:03:19.4±1.1,25°.03S±0°.09×179°.6E±0°.1,h500km,n55, σ2ᵍ90/73,mb3.6/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.76**	**153**	P	**P**	**11 04 45.2**	**+1.1**
WCZ	**Waipu Caves**	**11.77**	**201**	P	**P**	**11 05 58.6**	**+3.3**
WIAZ	**Waiheke Island**	**12.33**	**197**	P	**P**	**11 06 02.2**	**+1.0**
MXZ	**Matakaoa Point**	**12.54**	**185**	P	**P**	**11 06 03.7**	**+0.2**
MKAZ	**Moumakai**	**12.62**	**196**	P	**P**	**11 06 06.5**	**+2.3**
WMGZ	**Waiomatatini S**	**12.79**	**184**	P	**P**	**11 06 02.9**	**-3.1**
URZ	**Urewera**	**13.35**	**188**	P	**P**	**11 06 11.7**	**-0.3**
	2.6nm,0.3s,baz=359,slow=1.6,SNR=18						
URZ				S	**S**	**11 08 36.8**	**+2.3**
	1.6nm,0.3s,baz=61,slow=22,SNR=16						
MTHZ	**Maungataniwha**	**13.97**	**189**	P	**P**	**11 06 19.7**	**+1.0**
MTHZ				S	**S**	**11 08 40.7**	**-5.8**
RATZ	**Rangitukua**	**14.16**	**192**	P	**P**	**11 06 22.0**	**+1.3**
BKZ	**Black Stump Fm**	**14.33**	**190**	P	**P**	**11 06 23.0**	**+0.6**
BKZ				S	**S**	**11 08 53.4**	**0.0**
TMVZ	**Te Maari**	**14.42**	**192**	P	**P**	**11 06 24.7**	**+1.2**
ETVZ	**East Tongariro**	**14.44**	**192**	P	**P**	**11 06 24.8**	**+1.1**
NNVZ	**North Ngauruho**	**14.45**	**192**	P	**P**	**11 06 26.1**	**+2.3**
OTVZ	**Oturere**	**14.47**	**192**	P	**P**	**11 06 25.3**	**+1.3**
NGZ	**Ngauruhoe**	**14.50**	**192**	P	**P**	**11 06 26.5**	**+2.2**
SNVZ	**South Ngauruho**	**14.50**	**192**	P	**P**	**11 06 26.6**	**+2.2**
TUVZ	**Tukino**	**14.58**	**192**	P	**P**	**11 06 27.6**	**-3.5**
KWHZ	**Kaweka Forest**	**14.60**	**190**	P	**P**	**11 06 26.7**	**+1.5**
KWHZ				S	**S**	**11 08 57.8**	**-0.7**
WNVZ	**Wahianoa**	**14.64**	**192**	P	**P**	**11 06 26.0**	**+0.1**
BHHZ	**Black Hill Sta**	**14.72**	**191**	P	**P**	**11 06 26.1**	**-0.4**
KRHZ	**Kereru**	**14.82**	**190**	P	**P**	**11 06 27.0**	**-0.6**
KRHZ				S	**S**	**11 08 58.0**	**-4.6**
LREZ	**Lake Rotokare**	**15.04**	**196**	P	**P**	**11 06 33.9**	**+4.1**
PXZ	**Pawanui**	**15.13**	**188**	P	**P**	**11 06 31.3**	**+0.5**
PXZ				S	**S**	**11 09 04.5**	**-4.1**
TSZ	**Takapari Road**	**15.29**	**191**	P	**P**	**11 06 33.0**	**+0.5**
TSZ				S	**S**	**11 09 09.8**	**-1.9**
PRHZ	**Porangahau**	**15.39**	**189**	P	**P**	**11 06 34.4**	**+0.9**
DVHZ	**Dannevirke**	**15.49**	**190**	P	**P**	**11 06 34.7**	**+0.2**
DVHZ				S	**S**	**11 09 13.0**	**-2.6**
ANWZ	**Angora Road**	**15.60**	**189**	P	**P**	**11 06 36.4**	**+0.8**
ANWZ				S	**S**	**11 09 14.0**	**-3.6**
BFZ	**Birch Farm**	**15.85**	**189**	P	**P**	**11 06 37.3**	**-1.0**
BFZ				S	**S**	**11 09 19.9**	**-2.5**
MRZ	**Mangatainoka R**	**15.94**	**191**	P	**P**	**11 06 38.1**	**-1.1**
MRZ				S	**S**	**11 09 19.2**	**-4.8**
OGWZ	**Otaki Gorge**	**16.17**	**192**	P	**P**	**11 06 40.6**	**-1.0**
HOWZ	**Holdsworth Sta**	**16.18**	**191**	P	**P**	**11 06 41.7**	**0.0**
HOWZ				S	**S**	**11 09 25.7**	**-2.7**
TMWZ	**Te Maipa**	**16.32**	**190**	P	**P**	**11 06 43.0**	**-0.2**
TMWZ				S	**S**	**11 09 32.8**	**+1.7**
DUWZ	**D'Urville Isla**	**16.42**	**195**	P	**P**	**11 06 45.2**	**+0.9**
CAW	**Cannon Point**	**16.47**	**192**	P	**P**	**11 06 44.2**	**-0.5**
CAW				S	**S**	**11 09 30.4**	**-3.1**
TCW	**Tory Channel**	**16.73**	**194**	P	**P**	**11 06 47.4**	**0.0**
MSWZ	**Moikau Station**	**16.73**	**191**	P	**P**	**11 06 47.3**	**-0.2**
BHW	**Baring Head**	**16.80**	**192**	P	**P**	**11 06 48.5**	**+0.4**
QRZ	**Quartz Range**	**16.82**	**199**	P	**P**	**11 06 50.1**	**+1.7**
PLWZ	**Palliser**	**16.88**	**191**	P	**P**	**11 06 48.3**	**-0.7**
PLWZ				S	**S**	**11 09 40.3**	**-0.6**
NNZ	**Nelson**	**16.95**	**196**	P	**P**	**11 06 50.2**	**+0.5**
TUWZ	**Tuamarina**	**17.01**	**195**	P	**P**	**11 06 50.3**	**+0.1**
TUWZ				S	**S**	**11 09 41.6**	**-1.4**
MRNZ	**Matariki Terra**	**17.28**	**198**	P	**P**	**11 06 53.6**	**+0.7**
RPZ	**Rata Peaks**	**19.90**	**198**	P	**P**	**11 07 16.7**	**-0.3**
	3.2nm,0.4s,baz=25,slow=6.8,SNR=1.4						
HNR	**Honiara**	**24.29**	**306**	P	**P**	**11 07 53.1**	**-3.7**
	34nm,0.7s,baz=162,slow=9.6,SNR=1.8						
STKA	**Stephens Creek**	**33.97**	**250**	P	**P**	**11 09 22.3**	**+1.6**
	0.9nm,0.4s,baz=76,slow=9.5,SNR=5.7						
ASAR	**Alice Springs**	**41.50**	**262**	P	**P**	**11 10 23.6**	**+1.2**
	0.3nm,0.3s,baz=90,slow=7.5,SNR=15						
ASAR				S	**S**	**11 16 01.8**	**+0.2**
	0.4nm,1.0s,baz=99,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**41.97**	**268**	P	**P**	**11 10 26.7**	**+0.4**
	0.7nm,0.5s,baz=98,slow=7.3,SNR=25						
WRA				S	**S**	**11 16 05.7**	**-2.8**
	0.5nm,0.9s,baz=97,slow=14,SNR=2.2						
VNDA	**Vanda**	**53.22**	**185**	P	**P**	**11 11 51.9**	**+2.0**
	0.8nm,0.5s,baz=8.6,slow=8.1,SNR=13						
MAW	**Mawson**	**76.56**	**201**	P	**P**	**11 14 18.3**	**+1.0**
	2.2nm,0.5s,baz=150,slow=6.5,SNR=9.5						
PETK	**Petropavlovsk-**	**80.11**	**347**	P	**P**	**11 14 35.3**	**-1.2**
	1.6nm,0.6s,baz=120,slow=5.8,SNR=5.3						
TROLL	**Troll, Antarti**	**83.20**	**181**	P	**P**	**11 14 52.7**	**+0.3**
SNAA	**Sanae**	**83.54**	**179**	P	**P**	**11 14 53.6**	**-0.4**
VNA3	**Neumayer Olymp**	**83.77**	**177**	P	**P**	**11 14 54.5**	**-0.6**
VNA2	**Neumayer--Watz**	**84.18**	**178**	P	**P**	**11 14 57.0**	**-0.1**
	baz=178,slow=4.0						
TORD	**Torodi Ar. Bea**	**168.01**	**190**	PKPab	**PKPab**	**11 23 39.4**	**-0.2**
	0.7nm,0.7s,baz=182,slow=3.5,SNR=4.9						

KRSC 14 11:28:47.1±0.9,55°.53N×165°.87E,h33km±11km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.33**	**170**	*e*P	Pn	11 28 55.4	-0.1
BKI				*e*S	Sn	11 29 01.2	+0.4
KBTR	**Krutoberegovo**	**1.85**	**293**	*e*P	Pn	11 29 17.4	+0.9
KBG	**Krutoberegovo**	**1.93**	**294**	*e*P	Pn	11 29 18.5	+1.0
MKZ	**Mys Kozlova**	**2.57**	**250**	*e*P	Pb	11 29 29.7	-2.8
MKZ				*e*S	Sb	11 30 00.3	-3.4
SMKR	**Semkarok**	**2.69**	**295**	*e*P	Pn	11 29 31.2	+3.2
BDR	**Baidarnaya**	**2.82**	**294**	*e*P	Pn	11 29 33.0	+3.2
SRKR	**Sorokina**	**2.87**	**295**	*e*P	Pn	11 29 33.3	+2.8
KLY	**Klyuchi**	**3.04**	**287**	*e*P	Pn	11 29 34.8	+2.0
TUMD	**Tumrok D**	**3.14**	**266**	*e*P	Pn	11 29 38.1	+3.9
TUMD				*e*S	Sb	11 30 15.9	-4.1
KMNR	**Kamenistaya**	**3.20**	**276**	*e*P	Pb	11 29 39.4	-3.9
TUMR	**Tumrok**	**3.27**	**268**	*e*P	Pb	11 29 40.5	-4.0
SPN	**Mys Shipunski**	**4.20**	**237**	*e*S	Sn	11 30 40.5	+3.9
SDLR	**Sedlovina**	**4.66**	**244**	*e*P	Pn	11 29 59.7	+4.5
SMAR	**Somma**	**4.71**	**244**	*e*P	Pn	11 30 00.6	+4.6
KRER	**Koryakskii**	**4.72**	**245**	*e*P	Pn	11 30 00.9	+4.9
UGLR	**Uglovaya**	**4.73**	**244**	*e*P	Pn	11 30 00.8	+4.7
AVH	**Avacha**	**4.74**	**244**	*e*P	Pn	11 30 01.7	+5.4
KOK	**Koryaka**	**4.78**	**245**	*e*P	Pn	11 30 02.2	+5.4
DALK	**Dalny**	**4.86**	**242**	*e*P	Pn	11 30 02.4	+4.6
DALK				*e*S	Sn	11 30 57.7	+4.8
PET	**Petropavlovsk**	**4.92**	**242**	*e*P	Pn	11 30 03.2	+4.6
PET				*e*S	Sn	11 30 59.6	+5.4
GNL	**Ganaly**	**4.96**	**252**	*e*P	Pn	11 30 04.2	+4.9
KRMR	**Karymshinskiy**	**5.29**	**242**	*e*P	Pn	11 30 08.9	+5.2
MTVR	**Mutnovka**	**5.46**	**239**	*e*P	Pn	11 30 10.7	+4.5
MTVR				*e*S	Sn	11 31 11.9	+4.0
GRL	**Gorelyy**	**5.47**	**240**	*e*P	Pn	11 30 11.6	+5.2
ASAK	**Asacha**	**5.66**	**240**	*e*P	Pn	11 30 13.8	+4.9

*IDC **14** 11:28:55.1±1.8,7°.46S×128°.63E,h149km±17km,mb3.1/1, mb1 3.3/6,mb1mx2.9/53,mbtmp3.7/6,Error ellipse: s-maj=23.0km s-min=17.3km az=107.0*

ISC 14 11:28:53.4±0.9,7°.56S±0°.06×128°.83E±0°.09,h131km,n6, σ3ᵍ16/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.74**	**242**	P	**Pn**	**11 30 17.6**	**+1.0**
	14nm,0.3s,baz=306,slow=3.8,SNR=18						
BATI				S	**Sn**	**11 31 21.6**	**+0.2**
	11nm,0.3s,baz=92,slow=20,SNR=9.2						
SIJI	**Sorong**	**7.08**	**20**	P	**Pn**	**11 30 35.7**	**+1.2**
	2.0nm,0.3s,baz=192,slow=19,SNR=16						
SIJI				S	**Sn**	**11 31 51.6**	**-2.0**
	0.4nm,0.3s,baz=188,slow=22,SNR=1.2						
FITZ	**Fitzroy Crossi**	**10.93**	**196**	P	**Pn**	**11 31 26.0**	**-0.1**
	0.5nm,0.3s,baz=18,slow=11,SNR=33						
FITZ				S	**Sn**	**11 33 21.6**	**-5.0**
	0.7nm,0.3s,baz=315,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**13.42**	**157**	P	**Pn**	**11 32 01.0**	**+2.3**
	0.2nm,0.3s,baz=329,slow=13,SNR=12						
WRA				S	**Sn**	**11 34 22.9**	**-4.0**
	0.3nm,0.3s,baz=337,slow=22,SNR=1.8						
ASAR	**Alice Springs**	**16.74**	**164**	P	**Pn**	**11 32 44.3**	**+4.0**
	0.1nm,0.3s,baz=346,slow=11,SNR=9.3						
ASAR				S	**S**	**11 35 51.5**	**+3.6**
	0.2nm,0.3s,baz=323,slow=21,SNR=4.4						
ASAR				ScP	**ScP**	**11 40 41.8**	**-2.3**
	baz=355,slow=1.7,SNR=4.2						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**11 39 37.4**	**-1.5**
	0.2nm,0.4s,baz=112,slow=7.8,SNR=4.4						

WEL 14 11:30:15.0±0.8,32°.S±7°×17°.9E±1°.7,h33km,M4.0/8, mB4.6/6,ML4.4/17,MLv4.2/8,Mw(mB)3.8/6,Error ellipse: s-maj=0.0km s-min=0.0km az=111.3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.94**	**39**	S	Sn	11 31 59.5	+1.3
MXZ	**Matakaoa Point**	**5.24**	**188**	P	Pn	11 31 33.7	+2.7
MXZ				S	Sn	11 32 33.0	+2.7
WMGZ	**Waiomatatini S**	**5.48**	**187**	P	Pn	11 31 36.2	+1.9
WMGZ				S	Sn	11 32 38.4	+2.1
HAZ	**Te Kaha**	**5.51**	**192**	P	Pn	11 31 35.4	+0.7
HAZ				S	Sn	11 32 39.0	+2.1
PKGZ	**Pakihiroa**	**5.59**	**190**	P	Pn	11 31 37.6	+1.7
PKGZ				S	Sn	11 32 41.2	+2.2
RUGZ	**Raukumara Rang**	**5.73**	**193**	P	Pn	11 31 38.6	+0.7
RUGZ				S	Sn	11 32 44.3	+1.8
PUZ	**Puketiti**	**5.75**	**188**	P	Pn	11 31 37.4	-0.7
PUZ				S	Sn	11 32 45.2	+2.4
TWGZ	**Tauwhareparae**	**5.89**	**190**	P	Pn	11 31 41.4	+1.4
TWGZ				S	Sn	11 32 48.5	+2.2
MWZ	**Matawai**	**6.12**	**193**	P	Pn	11 31 42.3	-0.8
MWZ				S	Sn	11 32 54.4	+2.4
URZ	**Urewera**	**6.13**	**196**	P	Pn	11 31 45.5	+2.2
URZ				S	Sn	11 32 56.2	+3.9
CNGZ	**Carnagh Statio**	**6.16**	**188**	P	Pn	11 31 42.9	-0.7
CNGZ				S	Sn	11 32 50.1	-2.9
MUGZ	**Murupara**	**6.42**	**198**	P	Pn	11 31 48.4	+1.1
RIGZ	**Rimuhau**	**6.44**	**190**	P	Pn	11 31 47.2	-0.3
RTZ	**Ruatahuna**	**6.50**	**196**	P	Pn	11 31 46.5	-1.9
MTHZ	**Maungataniwha**	**6.76**	**196**	P	Pn	11 31 50.5	-1.5
RAHZ	**Arahi**	**6.77**	**194**	P	Pn	11 31 52.9	+0.8
RAHZ				S	Sn	11 33 10.7	+2.8
MHGZ	**Mahia Peninsul**	**6.86**	**189**	P	Pn	11 31 52.4	-0.9
MHGZ				S	Sn	11 33 03.8	-6.3
WHNZ	**Waihua**	**6.89**	**193**	P	Pn	11 31 49.2	-4.5
WHNZ				S	Sn	11 33 07.1	-3.9
NMHZ	**Naumai**	**7.00**	**196**	P	Pn	11 31 53.6	-1.7
NMHZ				S	Sn	11 33 17.2	+3.4
ARHZ	**Aropaoanui**	**7.12**	**194**	P	Pn	11 31 55.6	-1.2
ARHZ				S	Sn	11 33 14.2	-2.4
BKZ	**Black Stump Fm**	**7.14**	**197**	P	Pn	11 31 56.1	-1.1
BKZ				S	Sn	11 33 18.3	+1.0
MCHZ	**McNeill Hill**	**7.36**	**196**	P	Pn	11 32 00.3	+0.2
MCHZ				S	Sn	11 33 23.9	+1.4

*IDC **14** 11:34:33.8±4.9,36°.06N×71°.27E,h229km±40km,mb3.2/3, mb1 3.5/5,mb1mx2.9/54,mbtmp4.1/5,Error ellipse: s-maj=53.2km s-min=35.6km az=144.0*

*NNC **14** 11:34:42.8±4.1,36°.93N×71°.25E,h235km±51km,mb2.9, mpv4.1,Error ellipse: s-maj=38.1km s-min=26.4km az=14.0*

ISC 14 11:34:38.5±1.6,36°.6N±0°.1×71°.3E±0°.1,h250km,n20, σ1ᵍ92/25,mb3.6/3,7C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.80**	**18**	P	**Pn**	**11 36 05.2**	**+0.8**
	SNR=171						
UCH	**Uchtor**	**6.12**	**23**	P	**Pn**	**11 36 09.8**	**+1.3**
	SNR=132						
EKS2	**Erkin-Say**	**6.32**	**17**	P	**Pn**	**11 36 12.2**	**+1.6**
	SNR=6.5						
AAK	**Ala-Archa**	**6.49**	**21**	P	**Pn**	**11 36 14.5**	**+1.7**
	SNR=28						
AAK	**Ala-Archa**	**6.49**	**21**	P	**Pn**	**11 36 15.0**	**+2.2**
	11nm,0.3s,baz=169,slow=7.5,SNR=76						
AAK				S	**S**	**11 37 24.6**	**-3.7**
	1.6nm,0.3s,baz=211,slow=14,SNR=4.4						
KK31	**Karatay Array**	**6.49**	**355**	⇑P	**Pn**	**11 36 12.7**	**+0.1**
	7.1nm,0.6s,baz=169,slow=11,SNR=78						
KK31				S	**S**	**11 37 25.5**	**-2.6**
	24nm,0.5s,baz=176,slow=22,SNR=26						
KBK	**Karagaybulak**	**6.64**	**24**	P	**Pn**	**11 36 16.6**	**+1.8**
	SNR=5.8						
ULHL	**Ulahol**	**6.79**	**33**	P	**Pn**	**11 36 17.5**	**+0.8**
	SNR=7.4						
CHMS	**Chumysh**	**6.89**	**22**	P	**Pn**	**11 36 20.1**	**+2.3**
	SNR=5.2						
CHMS	**Chumysh**	**6.89**	**22**	⇑P	**Pn**	**11 36 19.5**	**+1.7**
	9.0nm,0.6s						
CHMS				⇑S	**S**	**11 37 35.1**	**-2.3**
	6.9nm,0.6s						
USP	**Ospenovka**	**7.07**	**19**	P	**Pn**	**11 36 22.6**	**+2.6**
	SNR=5.4						
TKM2	**Tokmak 2**	**7.10**	**27**	P	**Pn**	**11 36 22.1**	**+1.5**
	SNR=22						
TKM2	**Tokmak 2**	**7.10**	**27**	⇓P	**Pn**	**11 36 21.9**	**+1.3**
	9.8nm,0.5s						
TKM2				⇑S	**S**	**11 37 40.9**	**-1.6**
	12nm,0.9s						
MKAR	**Makanchi Array**	**13.05**	**36**	P	**Pn**	**11 37 36.3**	**+1.4**
	0.1nm,0.3s,baz=205,slow=10,SNR=5.1						
AB31	**Akbulak array**	**15.07**	**330**	⇑P	**P**	**11 37 58.9**	**-0.1**
	0.3nm,0.3s,baz=136,slow=12,SNR=15						
AB31				⇑S	**S**	**11 40 48.0**	**+2.5**
	0.8nm,0.7s						
AKTO	**Aktyubinsk**	**16.78**	**329**	P	**Pn**	**11 38 19.5**	**-0.1**
	0.6nm,0.3s,baz=143,slow=11,SNR=23						
AKTO	**Aktyubinsk**	**16.78**	**329**	⇑P	**Pn**	**11 38 19.6**	**0.0**
	6.7nm,0.7s						
ARCES	**ARCESS Array B**	**41.10**	**337**	P	**P**	**11 41 59.1**	**+1.4**
	4.8nm,1.0s,baz=114,slow=6.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P	**P**	**11 44 55.6**	**-2.7**
	0.6nm,0.5s,baz=45,slow=6.5,SNR=7.5						
YKA	**Yellowknife Ar**	**81.10**	**3**	P	**P**	**11 46 26.3**	**+0.8**
	0.1nm,0.5s,baz=349,slow=5.6,SNR=4.3						

*ISN **14** 11:46:51.7±0.7,35°.19N×46°.43E,h19km±29km,ML3.2*
*TEH **14** 11:46:53.6,35°.07N×46°.37E,h8km,ML3.1*

ISC 14 11:46:50.8±0.9,35°.24N±0°.03×46°.48E±0°.03,h10km,n26, σ1ᵍ37/30,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILIN	**Lien**	**0.51**	**129**	*e*Sg	**Sn**	**11 47 12.2**	**-1.2**
ILIN				*e*Pg	**Pb**	**11 47 02.7**	**+0.6**
IDHR	**Dehrash**	**0.54**	**188**	*e*Pg	**Pg**	**11 47 01.3**	**-0.2**
SNGE	**Sanandaj**	**0.73**	**101**	*e*Pg	**Pb**	**11 47 05.6**	**-0.1**
IGHG	**Ghaleghazi**	**0.91**	**175**	*e*		11 47 27.7	
	comp=Z,14μm,0.7s						
IGHG				*e*Pg	**Pg**	**11 47 08.8**	**+0.4**
KER	**Kermanshah**	**1.01**	**148**	*e*Pg	**Pg**	**11 47 10.5**	**+0.3**
KER				*e*		11 47 35.6	
	comp=Z,6μm,0.6s						
KCHF	**Cheshme Sefid,**	**1.07**	**154**	*e*Pg	**Pn**	**11 47 12.2**	**+0.2**
KCHF				*e*		11 47 30.8	
	comp=Z,12μm,0.5s						
IBZA	**Bozab**	**1.37**	**124**	*e*Pg	**Pg**	**11 47 18.6**	**+1.4**
IBZA				*e*		11 47 50.0	
	comp=Z,4μm,0.4s						
MAHB	**Mahabad**	**1.65**	**338**	*e*Pn	Pg	11 47 27.1	+4.6
MAHB				*e*		11 47 55.5	
	comp=Z,3μm,0.4s						
IKRK	**Kirkuk**	**1.75**	**276**	*e*Pg	**Pb**	**11 47 22.0**	**-1.1**
IKRK				*e*Sg	**Sb**	**11 47 45.0**	**-0.2**
IKRK				AML	AML	11 47 51.8	
	comp=N,306nm,0.6s						
IKRK				AML	AML	11 47 54.3	
	comp=E,404nm,0.4s						
IKFM	**Kafar-mosalman**	**2.05**	**146**	*e*Pn	**Pg**	**11 47 29.7**	**-0.5**
IBDR	**Badra**	**2.17**	**192**	*e*Pn	**Pn**	**11 47 28.0**	**+1.0**
IBDR				*e*Sn	**Sn**	**11 47 54.0**	**0.0**
IBDR				AML	AML	11 48 05.5	
	comp=E,292nm,0.6s						
IBDR				AML	AML	11 48 10.1	
	comp=N,180nm,0.6s						
HAGD	**Aghdareh**	**2.22**	**100**	*e*Pn	**Pg**	**11 47 33.9**	**+0.4**
HAGD				*e*		11 48 12.9	
	comp=Z,861nm,0.6s						
ZNJK	**Zanjan**	**2.29**	**51**	*e*Pn	**Pg**	**11 47 36.6**	**+1.8**
IAZR	**Azarshahr**	**2.47**	**351**	*e*Pn	**Pg**	**11 47 38.2**	**0.0**
QABG	**Abgarm-Qazvin**	**2.58**	**79**	*e*Pn	**Pg**	**11 47 39.4**	**-0.9**
QABG				*e*		11 48 24.8	
	comp=E,498nm,0.6s						
BHD	**Baghdad**	**2.62**	**222**	*e*Pn	**Pn**	**11 47 34.0**	**+0.8**
BHD				*e*Sn	**Sn**	**11 48 05.0**	**-0.1**
ISRB	**Sarab**	**2.75**	**20**	*e*Pn	**Pg**	**11 47 42.7**	**-0.9**
ISRB				*e*		11 48 32.4	
	comp=Z,436nm,0.4s						
IRAZ	**Razeghan**	**2.83**	**86**	*e*Pn	**Pg**	**11 47 44.1**	**-0.9**
IRAZ				*e*		11 48 50.6	
	comp=Z,724nm,0.7s						
ASAO	**Ashtian**	**3.00**	**102**	*e*Pn	**Pg**	**11 47 47.7**	**-0.6**
IHRS	**Heris**	**3.11**	**8**	*e*Pn	**Pb**	**11 47 46.6**	**+0.3**
IHRS				*e*		11 47 54.9	
	comp=Z,224nm,0.6s						
KHMZ	**Khomeyn**	**3.24**	**117**	*e*Pn	**Pg**	**11 47 51.2**	**-1.8**
RAFI	**Al-Rafai**	**3.52**	**185**	*e*Pn	**Pn**	**11 47 47.0**	**+1.4**
RAFI				*e*Sn	**Sn**	**11 48 27.0**	**-0.3**
GRMI	**Germi**	**3.74**	**17**	*e*Pn	**Pb**	**11 47 56.1**	**-0.9**
GHVR	**GHOM**	**4.03**	**99**	*e*Pn	**Pb**	**11 48 01.0**	**-1.0**
AMIS	**Naft Sefid**	**4.27**	**146**	*e*Pn	**Pn**	**11 48 00.0**	**+4.1**
QAMS	**Qamsar**	**4.33**	**109**	*e*Pn	**Pb**	**11 48 03.5**	**-3.7**

IDC 14 11:56:48.4±7.2,18°.38S×174°.43W,h0km,mb3.7/3, mb1 4.1/3,mb1mx3.6/30,mbtmp3.7/3,Error ellipse: s-maj=306.6km s-min=41.4km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

	0.1nm,0.3s,baz=99,slow=14,SNR=1.7						
KSRS				LR	LR	12 04 17.2	
	comp=Z,37nm,21.4s,baz=105,slow=37						
KLR	**Kul'dur**	**14.78**	**340**	LR	LR	12 06 51.6	
	comp=Z,37nm,20.8s,baz=158,slow=35						
NJ2	**Nanjing**	**17.57**	**264**	*e*P	**Pn**	**12 02 20.9**	**0.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
PETK	**Petropavlovsk-**	**21.67**	**31**	P	**P**	**12 03 05.0**	**-0.8**
	comp=Z,2.7nm,0.9s,baz=205,slow=6.4,SNR=2.6						
GUMO	**Guam**	**22.44**	**166**	LR	LR	12 11 09.7	
	comp=Z,21nm,18.1s,baz=67,slow=34						
HHC	**Hu-ho-hao-te**	**22.57**	**292**	*e*P	**P**	**12 03 16.0**	**+0.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,4.4s						
H11N2	**WAKE ISLAND Hy**	**28.78**	**116**	T	T	12 33 58.1	
	baz=308,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.79**	**116**	T	T	12 34 01.7	
	baz=308,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**28.80**	**116**	T	T	12 33 58.1	
	baz=308,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.42**	**118**	T	T	12 34 43.4	
	baz=310,slow=76,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**29.42**	**118**	T	T	12 34 43.4	
	baz=310,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**29.43**	**118**	T	T	12 34 44.6	
	baz=310,slow=76,SNR=7.6						
WMQ	**Urumqi**	**40.17**	**298**	*e*P	**P**	**12 05 52.4**	**+1.4**
ZALV	**Zalesovo Beam**	**41.80**	**314**	P	**P**	**12 06 02.7**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=108,slow=7.7,SNR=1.9						
MKAR	**Makanchi Array**	**43.63**	**303**	P	**P**	**12 06 18.4**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=87,slow=11,SNR=8.7						
MKAR	**Makanchi Array**	**43.63**	**303**	P	**P**	**12 06 18.2**	**-1.0**
KURK	**Kurchatov**	**45.66**	**309**	P	**P**	**12 06 33.3**	**-1.8**
KURK				IAmb	IAmb	12 06 34.4	
	comp=Z,4.2nm,0.6s						
COEN	**Coen**	**49.41**	**175**	P	**P**	**12 07 05.0**	**+0.4**
ILAR	**Eielson Array**	**51.49**	**32**	P	**P**	**12 07 20.1**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=275,slow=6.1,SNR=5.9						
KNRA	**Kununurra**	**52.02**	**193**	P	**P**	**12 07 23.0**	**-1.2**
BCAR	**Beaver Creek A**	**53.90**	**34**	P	**P**	**12 07 40.0**	**+2.2**
FITZ	**Fitzroy Crossi**	**55.02**	**196**	P	**P**	**12 07 45.7**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=7.9,slow=8.8						
FITZ	**Fitzroy Crossi**	**55.02**	**196**	P	**P**	**12 07 45.9**	**-0.3**
FITZ				IAmb	IAmb	12 08 10.2	
	comp=Z,5.6nm,1.4s						
WB0	**Warramunga Arr**	**55.29**	**186**	P	**P**	**12 07 47.3**	**-0.9**
WB0				IAmb	IAmb	12 07 47.8	
	comp=Z,3.3nm,0.6s						
WRAB	**Tennant Creek**	**55.46**	**186**	P	**P**	**12 07 48.2**	**-1.1**
WRAB				IAmb	IAmb	12 07 49.0	
	comp=Z,6.8nm,1.1s						
WB2	**Warramunga Arr**	**55.47**	**186**	P	**P**	**12 07 48.4**	**-1.0**
WB2				IAmb	IAmb	12 07 49.1	
	comp=Z,6.4nm,1.0s						
WR0	**Warramunga Arr**	**55.47**	**186**	P	**P**	**12 07 48.5**	**-0.9**
WR0				IAmb	IAmb	12 07 49.1	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**55.47**	**186**	P	**P**	**12 07 48.5**	**-1.0**
	comp=Z,3.1nm,0.6s,baz=360,slow=7.6,SNR=54						
WRA				PcP	**PcP**	**12 08 48.9**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=0.9,slow=4.4,SNR=1.9						
WRA	**Warramunga Arr**	**55.47**	**186**	P	**P**	**12 07 48.1**	**-1.3**
INK	**Inuvik**	**56.33**	**26**	P	**P**	**12 07 55.2**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=295,slow=5.3,SNR=6.3						
INK	**Inuvik**	**56.33**	**26**	P	**P**	**12 07 55.5**	**+0.5**
ABKAR	**Akbulak array**	**57.72**	**310**	P	**P**	**12 08 04.2**	**-1.0**
ASAR	**Alice Springs**	**59.20**	**186**	P	**P**	**12 08 14.9**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=24,slow=10,SNR=13						
ASAR				PcP	**PcP**	**12 09 04.1**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=356,slow=3.1,SNR=1.6						
EIDS	**Eidsvold**	**61.62**	**168**	P	**P**	**12 08 32.3**	**+0.2**
EUNU	**Eureka**	**61.81**	**8**	P	**P**	**12 08 32.9**	**-0.1**
YKA	**Yellowknife Ar**	**65.78**	**29**	P	**P**	**12 09 01.1**	**+1.9**
	comp=Z,0.1nm,0.6s,baz=270,slow=5.6,SNR=1.4						
FORT	**Forrest**	**66.92**	**191**	P	**P**	**12 09 06.4**	**-0.4**

*IGIL **14** 12:01:33.9, 35˚.42N×3˚.77W, h5km, ML2.8*
*CNRM **14** 12:01:33.6, 35˚.52N×3˚.76W, h22km, ml3.2*
*SFS **14** 12:01:34.0, 35˚.40N×3˚.70W, h11km, ML3.1, ALBORAN SUR*
*MDD **14** 12:01:34.9±0.6, 35˚.42N×3˚.77W, h11km±5km, mb_Lg2.9/21, Error ellipse: s-maj=5.0km s-min=2.2km az=168.0*
*INMG **14** 12:01:35.3±1.8, 35˚.45N×3˚.79W, h16km±8km, ML2.6, Error ellipse: s-maj=4.1km s-min=3.8km az=120.0*

ISC 14 12:01:34.1±1.1, **35˚48N**±0˚.02×**3˚79W**±0˚.02, **h19**km±3km, **n77**, σ1**s30**/130, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.29**	**205**	P	**Pg**	**12 01 40.1**	**-0.6**
PALE	**Palemas**	**0.29**	**205**	P	**Pg**	**12 01 40.6**	**-0.1**
PALE				S	**Sg**	**12 01 44.8**	**-0.4**
PVLZ	**Peæn de**	**0.52**	**234**	P	**Pg**	**12 01 44.5**	**-0.1**
PVLZ				S	**Sn**	**12 01 55.4**	**+0.7**
GOG	**Mont Gurugu**	**0.70**	**112**	P	**Pb**	**12 01 48.0**	**+0.3**
GOG	**Mont Gurugu**	**0.70**	**112**	P	**Pg**	**12 01 47.2**	**-0.7**
GOG				S	**Sb**	**12 01 57.2**	**+0.3**
EMEL	**Melilla**	**0.70**	**105**	Pg	**Pg**	**12 01 47.5**	**-0.5**
EMEL				Sg	**Sg**	**12 01 56.4**	**-1.0**
EMEL				*i* Vmb_Lg		12 01 58.3	
EALB	**Alboran**	**0.76**	**53**	Pg	**Pb**	**12 01 49.1**	**+0.3**
EALB				Sg	**Sb**	**12 01 59.3**	**+0.6**
EALB				*i* Vmb_Lg		12 02 00.2	
AKLM	**AKL**	**0.97**	**184**	P	**Pb**	**12 01 51.8**	**-0.6**
AKLM				S	**Sb**	**12 02 04.4**	**-0.5**
TAF	**Taforalt**	**1.31**	**120**	P	**Pg**	**12 01 60.0**	**+0.5**
TAF				S	**Sg**	**12 02 17.0**	**+0.4**
TAF	**Taforalt**	**1.31**	**120**	P	**Pn**	**12 01 56.4**	**-1.0**
TAF				S	**Sb**	**12 02 13.5**	**-1.0**
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pg**	**12 01 60.0**	**+0.5**
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pn**	**12 01 55.9**	**-1.5**
SMIR				S	**Sb**	**12 02 13.5**	**-1.0**
CHEFC	**Chefchaouen**	**1.32**	**254**	P	**Pb**	**12 01 59.0**	**+0.6**
CHEFC	**Chefchaouen**	**1.32**	**254**	P	**Pn**	**12 01 58.4**	**+0.8**
CHEFC				S	**Sn**	**12 02 14.7**	**-0.1**
EMIJ	**Mijas**	**1.34**	**324**	Pn	**Pn**	**12 01 57.7**	**-0.1**
EMIJ				Sn	**Sb**	**12 02 15.4**	**0.0**
EMIJ				*i* Vmb_Lg		12 02 19.3	
ECEU	**Ceuta**	**1.36**	**288**	Pn	**Pn**	**12 01 57.1**	**-0.8**
ECEU				Sn	**Sn**	**12 02 13.5**	**-1.9**
ECEU				*i* Vmb_Lg		12 02 15.4	
EMAL	**Malaga-Limoner**	**1.38**	**338**	P	**Pn**	**12 01 58.2**	**0.0**
EMAL				S	**Sn**	**12 02 14.1**	**-1.8**
ELGU	**Los Guajares,**	**1.39**	**5**	Pn	**Pn**	**12 01 58.2**	**-0.3**
ELGU				Sn	**Sn**	**12 02 15.0**	**-1.3**
ELGU				*i* Vmb_Lg		12 02 17.0	
JBK	**JBK**	**1.52**	**138**	P	**Pn**	**12 01 59.2**	**-1.2**
JBK				S	**Sn**	**12 02 17.4**	**-2.4**
EBER	**Berja**	**1.59**	**27**	Pn	**Pn**	**12 02 01.4**	**+0.1**
EBER				Sn	**Sb**	**12 02 22.0**	**-0.7**
EBER				*i* Vmb_Lg		12 02 24.4	
EGOR	**Sierra Gorda,**	**1.64**	**351**	Pn	**Pn**	**12 02 02.7**	**+0.7**
EGOR				Sn	**Sg**	**12 02 25.3**	**-1.9**
EGOR				*i* Vmb_Lg		12 02 28.4	
EJIF	**Jimena Fronter**	**1.67**	**306**	Pn	**Pb**	**12 02 04.2**	**-0.1**
EQUE	**Quentar**	**1.74**	**9**	Pn	**Pb**	**12 02 04.8**	**-0.7**
EQUE				Sn	**Sn**	**12 02 25.4**	**+0.3**
EQUE				*i* Vmb_Lg		12 02 28.7	
SICH	**Sidi Chahed**	**1.86**	**223**	P	**Pn**	**12 02 05.2**	**+0.2**
ENIJ	**Nijar**	**1.96**	**40**	Pn	**Pn**	**12 02 06.7**	**+0.4**
ENIJ				Sn	**Sn**	**12 02 29.6**	**-0.7**
ENIJ				*i* Vmb_Lg		12 02 32.1	
LCRM	**LCR**	**2.00**	**207**	P	**Pg**	**12 02 12.0**	**-0.6**
LCRM				S	**Sg**	**12 02 40.0**	**+1.4**
LCRM	**LCR**	**2.00**	**207**	P	**Pn**	**12 02 08.9**	**+2.0**
LCRM				S	**Sg**	**12 02 37.6**	**-1.0**
ESPR	**Espera**	**2.17**	**310**	Pn	**Pb**	**12 02 11.8**	**-1.0**
ESPR				Sn	**Sb**	**12 02 40.4**	**+1.1**
ESPR				*i* Vmb_Lg		12 02 44.8	
EQES	**Quesada**	**2.38**	**14**	Sn	**Sb**	**12 02 45.9**	**+0.3**
MD31	**MD31**	**2.73**	**197**	P	**Pn**	**12 02 18.0**	**+1.1**
MD31				S	**Sn**	**12 02 50.0**	**+0.5**
MDT	**Midelt**	**2.75**	**195**	P	**Pn**	**12 02 19.5**	**+2.3**
MDT	**Midelt**	**2.75**	**195**	P	**Pn**	**12 02 19.5**	**+2.3**
MDT				S	**Sn**	**12 02 51.2**	**+1.3**
EADA	**Adamuz**	**2.75**	**347**	Pn	**Pn**	**12 02 19.0**	**+1.8**
EADA				Sn	**Sb**	**12 02 53.1**	**-2.9**
EADA				*i* Vmb_Lg		12 03 00.6	
ECAB	**El Cabril**	**2.90**	**334**	Pn	**Pn**	**12 02 20.6**	**+1.4**
ECAB				Sn	**Sn**	**12 02 56.8**	**+3.2**
ECAB				*i* Vmb_Lg		12 03 01.2	
EZAR	**Zarzadilla de**	**2.92**	**35**	Pn	**Pn**	**12 02 20.4**	**+0.8**
EZAR				Sn	**Sn**	**12 02 54.9**	**+0.7**
EMUR	**La Murta**	**3.12**	**40**	Pn	**Pn**	**12 02 23.8**	**+1.5**
EMUR				Sn	**Sn**	**12 02 58.1**	**-0.9**
EMUR				*i* Vmb_Lg		12 03 03.2	
EMIN	**Mina Concepcio**	**3.25**	**315**	Pn	**Pn**	**12 02 24.8**	**+0.8**
EMIN				Sn	**Sn**	**12 03 01.9**	**-0.3**
EMIN				*i* Vmb_Lg		12 03 06.6	
EGRO	**El Granado**	**3.61**	**306**	Pn	**Pn**	**12 02 30.0**	**+1.0**
EGRO				Sn	**Sn**	**12 03 10.0**	**-1.0**
EGRO				*i* Vmb_Lg		12 03 12.2	
ETOB	**Tobarra**	**3.63**	**29**	Pn	**Pn**	**12 02 31.2**	**+1.9**
ETOB				Sn	**Sn**	**12 03 13.0**	**+1.4**
ETOB				*i* Vmb_Lg		12 03 15.4	
PVAQ	**Vaqueiros**	**3.70**	**302**	*e*Pn	**Pn**	**12 02 30.9**	**+0.7**
PVAQ				*e*Sn	**Sn**	**12 03 12.5**	**-0.8**
PVAQ				A	A	12 03 14.1	
	13nm,0.3s						
PVAQ	**Vaqueiros**	**3.70**	**302**	P	**Pn**	**12 02 30.9**	**+0.7**
PVAQ	**Vaqueiros**	**3.70**	**302**	P	**Pn**	**12 02 30.9**	**+0.7**
PVAQ				S	**Sn**	**12 03 13.4**	**+0.1**
PBAR	**Barrancos**	**3.74**	**317**	*e*Pn	**Pn**	**12 02 31.8**	**+1.0**
PBAR				*e*Sn	**Sn**	**12 03 14.1**	**-0.2**
PBAR				A	A	12 03 20.6	
	5.2nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.78**	**299**	*e*Pn	**Pn**	**12 02 31.6**	**+0.3**
PBDV				*e*Sn	**Sn**	**12 03 13.8**	**-1.4**
PBDV				A	A	12 03 20.0	
	8.2nm,0.2s						
PCVE	**Castro Verde**	**4.04**	**303**	*e*Pn	**Pn**	**12 02 35.7**	**+0.9**
PCVE				*e*Sn	**Sn**	**12 03 20.9**	**-0.7**
PCVE				A	A	12 03 23.4	
	8.4nm,0.4s						
PAB	**San Pablo**	**4.08**	**354**	Pn	**Pn**	**12 02 37.6**	**+2.1**
PAB	**San Pablo**	**4.08**	**354**	P	**Pn**	**12 02 37.5**	**+2.1**
AFON	**Font Roja**	**4.10**	**38**	Pn	**Pn**	**12 02 36.4**	**+0.6**
PBEJ	**Beja**	**4.14**	**309**	*e*Pn	**Pn**	**12 02 38.0**	**+1.7**
PBEJ				*e*Sn	**Sn**	**12 03 23.9**	**-0.3**
PBEJ				A	A	12 03 29.3	
	5.3nm,0.7s						
ESDC	**Sonseca Array**	**4.19**	**358**	Pn	**Pn**	**12 02 39.2**	**+2.3**
MORF	**Marmelete**	**4.32**	**296**	*e*P	**Pn**	**12 02 39.0**	**+0.2**
MORF				*e*S	**Sn**	**12 03 26.6**	**-2.1**
MORF				IAML		12 03 32.2	
	comp=N,18nm,0.3s						
MORF	**Marmelete**	**4.32**	**296**	*e*Pn	**Pn**	**12 02 39.1**	**+0.2**
MORF				*e*Sn	**Sn**	**12 03 28.0**	**-0.7**
MORF				A	A	12 03 31.8	
	comp=N,8.9nm,0.1s						
PFVI	**Vila Bisbo**	**4.39**	**293**	*e*Pn	**Pn**	**12 02 41.7**	**+2.0**
PFVI				*e*Sn	**Sn**	**12 03 29.0**	**-1.2**
PFVI				A	A	12 03 40.0	
	comp=N,10.0nm,1.0s						
PTEO	**Sao Teotonio**	**4.48**	**299**	*e*Pn	**Pn**	**12 02 41.9**	**+1.1**
PTEO				*e*Sn	**Sn**	**12 03 31.2**	**-1.2**
PTEO				A	A	12 03 35.1	
	comp=N,9.1nm,0.4s						
PESTR	**Estremoz**	**4.54**	**319**	*e*Pn	**Pn**	**12 02 43.3**	**+1.5**
PESTR				*e*Sn	**Sn**	**12 03 33.6**	**-0.4**
PESTR				A	A	12 03 37.3	
	comp=N,5.7nm,0.6s						
PESTR	**Estremoz**	**4.54**	**319**	P	**Pn**	**12 02 41.5**	**-0.2**
PESTR				S	**Sn**	**12 03 33.4**	**-0.6**
EVO	**Evora**	**4.55**	**313**	P	**Pn**	**12 02 43.0**	**+1.2**
EVO				S	**Sn**	**12 03 32.4**	**-1.8**
EVO	**Evora**	**4.55**	**313**	*e*Pn	**Pn**	**12 02 43.2**	**+1.4**
EVO				*e*Sn	**Sn**	**12 03 32.3**	**-0.9**
EVO				A	A	12 03 51.9	
	comp=N,8.6nm,0.1s						
PNCL	**Nicolau / Gran**	**4.62**	**306**	*e*Pn	**Pn**	**12 02 43.7**	**+0.9**
PNCL				*e*Sn	**Sn**	**12 03 34.4**	**-1.5**
PNCL				A	A	12 03 36.7	
	comp=N,6.3nm,0.8s						
PMRV	**Marv??o**	**4.87**	**325**	*e*Pn	**Pn**	**12 02 48.0**	**+1.7**
PMRV				*e*Sn	**Sn**	**12 03 41.8**	**-0.3**
PMRV				A	A	12 03 52.7	
	comp=N,3.1nm,0.6s						
EPLA	**Plasencia**	**4.92**	**339**	Pn	**Pn**	**12 02 48.2**	**+1.2**
EPLA				*i* Vmb_Lg		12 04 00.7	
PMTG	**Montargil**	**5.03**	**317**	*e*Pn	**Pn**	**12 02 50.0**	**+1.5**
PMTG				*e*Sn	**Sn**	**12 03 44.7**	**-1.4**
PMTG				A	A	12 03 46.1	
	comp=N,5.4nm,0.4s						
GUD	**Guadarrama**	**5.16**	**357**	Pn	**Pn**	**12 02 52.3**	**+2.0**
GUD				*i* Vmb_Lg		12 04 20.3	
PACT	**Alcochete**	**5.20**	**311**	*e*Pn	**Pn**	**12 02 52.5**	**+1.8**
PACT				*e*Sn	**Sn**	**12 03 50.7**	**+0.6**
OUZM	**OUZ**	**5.20**	**209**	P	**Pn**	**12 02 51.9**	**+1.0**
PCBR	**Castelo Branco**	**5.24**	**327**	*e*Pn	**Pn**	**12 02 53.1**	**+1.7**
PCBR				*e*Sn	**Sn**	**12 03 50.1**	**-1.1**
PCBR				A	A	12 03 55.3	
	comp=N,3.9nm,0.5s						
EIBI	**Ibiza**	**5.41**	**48**	Pn	**Pn**	**12 02 54.3**	**+0.6**
EIBI				*i* Vmb_Lg		12 03 16.6	
ETOR	**Torete**	**5.50**	**14**	Pn	**Pn**	**12 02 57.6**	**+2.6**
PSBE	**So Bento**	**5.66**	**317**	*e*Pn	**Pn**	**12 02 58.9**	**+1.8**
PCAS	**Casmilo, Conde**	**5.89**	**322**	*e*Pn	**Pn**	**12 03 02.4**	**+2.1**
PCAS				*e*Sn	**Sn**	**12 04 07.2**	**-0.1**
PCAS				A	A	12 04 15.2	
	comp=N,5.0nm,0.6s						
PVIS	**Viseu**	**6.14**	**329**	*e*Pn	**Pn**	**12 03 06.0**	**+2.2**
PVIS				*e*Sn	**Sn**	**12 04 13.1**	**-0.5**
PVIS				A	A	12 04 16.8	
	comp=N,5.0nm,0.8s						
MVO	**Moncorvo**	**6.22**	**337**	*e*Pn	**Pn**	**12 03 07.0**	**+2.2**
PVRL	**Vila Real**	**6.55**	**333**	*e*Pn	**Pn**	**12 03 11.5**	**+2.1**
PVRL				*e*Sn	**Sn**	**12 04 23.5**	**-0.1**
PVRL				A	A	12 04 28.4	
	comp=N,5.2nm,0.1s						
POLO	**Lamas de Olo**	**6.67**	**333**	*e*Pn	**Pn**	**12 03 13.4**	**+2.4**
PBRG	**Braganca**	**6.72**	**341**	*e*Pn	**Pn**	**12 03 13.8**	**+2.1**
PCAB	**Cabril**	**7.05**	**333**	*e*Pn	**Pn**	**12 03 18.1**	**+1.9**
PGAV	**Gavieira, Arco**	**7.36**	**333**	*e*Pn	**Pn**	**12 03 23.1**	**+2.6**

*TUL **14** 12:10:05.1±1.2, 36˚.17N±0˚.02×96˚.81W±0˚.02, h5km±7km, ML3.0, mb_Lg2.7/43(NEIC), Error ellipse: s-maj=2.9km s-min=2.6km az=123.0*

NEIC 14 12:10:05.3±1.0, **36˚17N**±0˚.02×**96˚83W**±0˚.02, **h4**km±7km, **Error ellipse: s-maj=3.0km s-min=1.8km az=144.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.79**	**19**	Pg	Pg	12 10 20.1	-0.3
TUL1	**Leonard**	**0.88**	**107**	Pg	Pg	12 10 21.4	-0.8
W35A	**Tecumseh**	**1.02**	**182**	Pg	Pg	12 10 23.9	-0.9
FNO	**Franklin**	**1.02**	**207**		Pg	12 10 24.1	-0.7
U32A	**Winter Ranch,**	**1.77**	**277**		Pn	12 10 36.5	-0.1
X34A	**Smith Ranch, M**	**1.77**	**208**	Pn	Pn	12 10 37.4	+0.8
X37A	**Clayton**	**1.98**	**142**		Pn	12 10 40.0	+0.4
WMOK	**Wichita Mounta**	**2.14**	**229**		Pn	12 10 42.3	+0.5
WMOK				IAmb_Lg		12 11 15.1	
	comp=Z,21nm,0.8s						
HHAR	**Hobbs**	**2.34**	**86**		Pn	12 10 46.0	+1.5
W39A	**Magazine**	**2.67**	**111**	Pn	Pn	12 10 49.8	+0.9
R32A	**Long Quarter,**	**2.70**	**327**	Pn	Pn	12 10 49.6	+0.1
KSU1	**Kansas State U**	**2.93**	**3**	IAmb_Lg		12 11 39.0	
	comp=Z,24nm,1.0s						
MIAR	**Mount Ida**	**3.12**	**120**		Pn	12 10 55.7	+0.5
S39A	**Bolivar**	**3.19**	**61**	Pn	Pn	12 10 56.8	+0.5
S39A				IAmb_Lg		12 11 51.3	
	comp=Z,23nm,0.8s						
U40A	**Yellville**	**3.22**	**86**	Pn	Pn	12 10 57.1	+0.5
Z38A	**Mt. Pleasant**	**3.28**	**152**	IAmb_Lg		12 11 55.0	
	comp=Z,24nm,0.8s						
X40A	**Basin Creek Fa**	**3.67**	**116**	IAmb_Lg		12 12 08.7	
	comp=Z,12nm,0.8s						
MGMO	**Mountain Grove**	**3.80**	**74**	IAmb_Lg		12 12 13.2	
	comp=Z,15nm,0.7s						
WHAR	**Wooly Hollow**	**3.80**	**102**	IAmb_Lg		12 12 11.4	
	comp=Z,17nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.83**	**93**	IAmb_Lg		12 12 10.9	
	comp=Z,18nm,0.7s						
W41B	**Gary Mavity, V**	**3.86**	**104**	IAmb_Lg		12 12 09.8	
	comp=Z,20nm,0.8s						
UALR	**University of**	**3.92**	**110**	IAmb_Lg		12 12 08.4	
	comp=Z,9.8nm,0.7s						
R40A	**Maddies Statio**	**4.21**	**58**	IAmb_Lg		12 12 22.2	
	comp=Z,11nm,0.7s						
P38A	**Dawn**	**4.32**	**36**	IAmb_Lg		12 12 20.2	
	comp=Z,7.9nm,0.7s						
N33A	**J Bar K, Exete**	**4.59**	**354**	IAmb_Lg		12 12 40.9	
	comp=Z,25nm,0.8s						
LCAR	**Lake Charles**	**4.60**	**90**	IAmb_Lg		12 12 35.3	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**4.84**	**65**	IAmb_Lg		12 12 49.0	
	comp=Z,17nm,0.8s						
HBAR	**Harrisburg**	**5.05**	**95**	IAmb_Lg		12 12 49.5	
	comp=Z,15nm,0.7s						
P40A	**Paris**	**5.06**	**47**	IAmb_Lg		12 12 56.0	
	comp=Z,15nm,0.9s						
PBMO	**Poplar Bluff**	**5.20**	**81**	IAmb_Lg		12 12 52.2	
	comp=Z,12nm,0.7s						
FVM	**French Village**	**5.43**	**69**	IAmb_Lg		12 13 02.2	
	comp=Z,14nm,0.8s						
JCT	**Junction City**	**6.20**	**204**	IAmb_Lg		12 13 34.1	
	comp=Z,8.7nm,0.9s						
K31A	**O'Neill**	**6.61**	**348**	IAmb_Lg		12 13 51.0	
	comp=Z,15nm,0.7s						
O44A	**Mansfield**	**7.69**	**56**	IAmb_Lg		12 14 07.1	
	comp=Z,13nm,0.8s						

*TUL **14** 12:14:27.9±1.0, 36˚.17N±0˚.01×96˚.81W±0˚.02, h4km±7km, ML2.5, mb_Lg2.2/12(NEIC), Error ellipse: s-maj=2.6km s-min=1.0km az=52.0*

NEIC 14 12:14:27.9±0.7, **36˚17N**±0˚.01×**96˚81W**±0˚.02, **h9**km±6km, **Error ellipse: s-maj=2.1km s-min=2.0km az=167.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.78**	**18**	Pg	Pg	12 14 42.9	-0.2
TUL1	**Leonard**	**0.87**	**107**	Pg	Pg	12 14 44.3	-0.3
W35A	**Tecumseh**	**1.01**	**183**	Pg	Pg	12 14 46.6	-0.8
W35A				Sg	Sg	12 15 00.7	+0.1
FNO	**Franklin**	**1.03**	**208**	Pg	Pg	12 14 46.9	-0.8
U32A	**Winter Ranch,**	**1.78**	**277**	Pn	Pn	12 14 59.6	+0.7
X37A	**Clayton**	**1.97**	**143**	Pn	Pb	12 15 03.2	-0.7
WMOK	**Wichita Mounta**	**2.15**	**229**		Pn	12 15 05.0	+1.0
WMOK				IAmb_Lg		12 15 37.4	
	comp=Z,9.5nm,0.9s						
S39A	**Bolivar**	**3.18**	**60**	IAmb_Lg		12 16 14.1	
	comp=Z,6.5nm,0.8s						
FCAR	**Ozark Folk Cen**	**3.81**	**93**	IAmb_Lg		12 16 36.4	
	comp=Z,4.7nm,0.8s						
W41B	**Gary Mavity, V**	**3.85**	**104**	IAmb_Lg		12 16 32.9	
	comp=Z,7.3nm,0.7s						
R40A	**Maddies Statio**	**4.20**	**58**	IAmb_Lg		12 16 41.2	
	comp=Z,7.5nm,1.1s						

*IDC **14** 12:17:02.5±0.3, 14˚.40S×166˚.57E, h0km, mb5.1/40, mb1 5.1/44, mb1mx5.0/57, mbtmp5.0/44, ML2.7/1, MS5.8/28, Ms1 5.8/28, ms1mx5.5/63, Error ellipse: s-maj=12.1km s-min=11.0km az=144.0*
*BJI **14** 12:17:04.0±0.0, 14˚.51S×166˚.48E, h10km, mb5.2/52, mB6.0/61, Ms6.4/33, Ms7 6.1/30*
*MOS **14** 12:17:04.5±1.1, 14˚.37S×166˚.40E, h21km, mb5.7/48, MS5.9/9, Error ellipse: s-maj=8.3km s-min=6.9km az=128.0*
*NEIC **14** 12:17:05.2±2.6, 14˚.49S±0˚.06×166˚.50E±0˚.07, h7km±3km, mb5.8/236, Ms_20 6.1/354, Mwb5.9/11, Mww5.9, Error ellipse: s-maj=10.4km s-min=7.3km az=54.0*
*NEIC **14** 12:17:05.6, 14˚.50S×166˚.50E, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.83; $M_{\theta\theta}$0.97; $M_{\phi\phi}$-3.80; $M_{r\theta}$4.04; $M_{\theta\phi}$4.34; $M_{\phi r}$-6.41; Fault plane solution: $M_0$9.38000×10^{17} NP1:ϕ_s146.93000°, δ74.41000°, λ87.56000°. NP2:ϕ_s335.95000°, δ15.77000°, λ98.69000°. Principal axes: T 7.0999, Plg61.0000°, Azm53.0000°; N 3.5315, Plg2.0000°, Azm148.0000°; P -10.6314, Plg29.0000°, Azm239.0000°;*
*GCMT **14** 12:17:08.2±0.1, 14˚.38S±0˚.01×166˚.37E±0˚.01, h12km, MW5.9/147, Moment Tensor Solution. s110,c208; s147,c438; Duration: 2s2 Moment tensor: Scale 10^{18} Nm; M_{rr}0.83±.01; $M_{\theta\theta}$-0.26±.01; $M_{\phi\phi}$-0.57±.01; $M_{r\theta}$0.26±.03; $M_{\theta\phi}$0.53±.01; $M_{\phi r}$-0.16±.02; Best double couple: $M_0$0.95400×10^{18} NP1:$\ph

TARA IAmb IAmb 12 21 18.1
comp=Z,800nm,1.4s
TARA Tarawa 16.96 22 P P 12 21 03.7 -0.1
TARA Tarawa 16.96 22 P P 12 21 06.3 +2.5
RABL Rabaul 17.51 304 P P 12 21 09.5 -0.5
KRVT Keravat (AS076 17.55 304 P Pn 12 21 09.3 0.0
baz=198,slow=15,SNR=5.3
KRVT LR LR 12 28 26.9
comp=Z,10µm,18.6s,baz=273,slow=39
RK1H Rockhampton Ha 17.58 237 P P 12 21 10.3 -0.3
EIDS Eidsvold 18.12 231 P P 12 21 16.5 -0.1
baz=18,SNR=20
EIDS Eidsvold 18.12 231 Pn 12 21 15.2 -1.1
EIDS Eidsvold 18.12 231 ⇓P Pn 12 21 16.4 +0.1
EIDS Eidsvold 18.12 231 P P 12 21 18.0 +1.4
PMG Port Moresby 19.65 283 P P 12 21 33.4 -0.1
comp=Z,0.7nm,0.3s,baz=94,slow=8.6,SNR=40
PMG LR LR 12 28 22.4
comp=Z,86µm,18.0s,baz=46,slow=35
PMG Port Moresby 19.65 283 *ce*P **P 12 21 33.6 +0.1**
PMG Port Moresby 19.65 283 P P 12 21 34.1 +0.6
PMG IAmb IAmb 12 21 37.5
comp=Z,1µm,1.8s
PMG Port Moresby 19.65 283 ⇓P P 12 21 33.9 +0.3
PMG Port Moresby 19.65 283 P Pn 12 21 36.0 +1.1
PMG Port Moresby 19.65 283 P Pn 12 21 35.5 +0.6
CTA Charters Tower 20.18 251 P P 12 21 39.1 -0.1
comp=Z,305nm,1.3s,baz=67,slow=12,SNR=27
CTA LR LR 12 27 58.8
comp=Z,41µm,21.7s,baz=76,slow=32
CTA Charters Tower 20.18 251 P Pn 12 21 40.8 -0.3
CTA Charters Tower 20.18 251 P **P 12 21 39.9 +0.7**
CTAO Charters Tower 20.18 251 P Pn 12 21 40.3 -0.8
CTAO pmax pmax
comp=Z,591nm,1.5s
CTAO Charters Tower 20.18 251 P Pn 12 21 40.3 -0.8
CTAO IAmb IAmb 12 21 42.4
comp=Z,591nm,1.5s
RMQ Roma 20.48 232 P **P 12 21 42.9 +0.4**
baz=20,SNR=187
RMQ Roma 20.48 232 P Pn 12 21 45.5 +0.8
RAO Raoul Island 20.52 138 P Pn 12 21 46.2 +1.1
comp=Z,330nm,0.6s,baz=232,slow=20,SNR=4.6
RAO Raoul Island 20.52 138 P Pn 12 21 50.4 +5.3
ARMA Armidale 20.98 218 P Pn 12 21 49.5 -1.1
baz=21,SNR=20
ARMA Armidale 20.98 218 P Pn 12 21 49.3 -1.2
ARMA IAmb IAmb 12 22 06.6
comp=Z,271nm,1.3s
ARMA Armidale 20.98 218 ⇓P Pn 12 21 49.4 -1.2
ARMA Armidale 20.98 218 P Pn 12 21 50.2 -0.3
AFI Afiamalu 21.00 91 P **P 12 21 51.6 +3.5**
comp=Z,200nm,1.0s,baz=300,slow=5.0,SNR=8.8
AFI LR LR 12 27 59.7
comp=Z,21µm,21.9s,baz=272,slow=31
AFI Afiamalu 21.00 91 P **P 12 21 51.7 +3.5**
AFI pmax pmax
comp=Z,440nm,1.2s
AFI Afiamalu 21.00 91 P **P 12 21 51.7 +3.5**
AFI IAmb IAmb 12 22 03.3
comp=Z,440nm,1.2s
AFI Afiamalu 21.00 91 ⇑P P 12 21 50.4 +2.1
AFI Afiamalu 21.00 91 P P 12 21 56.1 +7.9
OUZ Omahuta 21.58 164 P **P 12 21 56.6 +2.4**
OUZ IAmb IAmb 12 22 23.9
comp=Z,1µm,1.7s
OUZ Omahuta 21.58 164 ⇑P P 12 21 57.3 +3.1
MTSU Mount Surprise 21.66 257 P **P 12 21 55.2 -0.1**
baz=22,SNR=11
MTSU Mount Surprise 21.66 257 P **P 12 21 56.3 +1.0**
MANU Manus Island 22.65 301 P **P 12 22 06.2 +0.3**
MANU IAmb IAmb 12 22 27.9
comp=Z,745nm,2.0s
COEN Coen 22.69 268 P **P 12 22 05.2 -1.2**
COEN IAmb IAmb 12 22 29.9
comp=Z,415nm,1.8s
COEN Coen 22.69 268 ⇓P P 12 22 05.4 -1.0
COEN Coen 22.69 268 P **P 12 22 06.1 -0.2**
PATS Pohnpei 22.73 338 P **P 12 22 08.4 +1.7**
baz=23,SNR=6.3
PATS Pohnpei 22.73 338 P **P 12 22 07.2 +0.5**
PATS Pohnpei 22.73 338 P **P 12 22 09.6 +2.9**
NIUE Niue 22.94 105 P **P 12 22 11.3 +2.3**
NIUE Niue 22.94 105 P P 12 22 16.9 +7.9
MGCD Mangrove Creek 23.33 214 P **P 12 22 14.5 +1.7**
baz=23,SNR=9.1
MGCD Mangrove Creek 23.33 214 P **P 12 22 17.4 +4.6**
RIV Riverview 23.78 213 P **P 12 22 19.6 +2.4**
baz=24,SNR=6.1
RIV Riverview 23.78 213 P **P 12 22 19.2 +2.0**
RIV pmax pmax
comp=Z,380nm,2.8s
RIV Riverview 23.78 213 ⇓P P 12 22 18.3 +1.1
SYDH Sydney Hard Ro 23.95 214 P **P 12 22 20.8 +2.0**
QLP Quilpie 24.08 237 P **P 12 22 20.3 +0.1**
baz=24,SNR=25
QLP Quilpie 24.08 237 ⇓P P 12 22 19.5 -0.6
QLP Quilpie 24.08 237 P **P 12 22 21.3 +1.1**
KNTN Kanton 24.39 63 P **P 12 22 24.2 +1.2**
KNTN IAmb IAmb 12 22 28.5
comp=Z,391nm,1.6s
KNTN Kanton 24.39 63 P **P 12 22 28.3 +5.3**
HIZ Hauiti 25.01 165 P **P 12 22 30.6 +2.0**
MXZ Matakaoa Point 25.23 158 P **P 12 22 29.4 -1.0**
MXZ IAmb IAmb 12 22 40.2
comp=Z,271nm,1.0s
URZ Urewera 25.44 160 LR LR 12 31 22.6
comp=Z,19µm,18.5s,baz=345,slow=34
URZ Urewera 25.44 160 P **P 12 22 33.5 +1.2**
URZ Urewera 25.44 160 ⇑P P 12 22 33.2 +0.9
URZ Urewera 25.44 160 P **P 12 22 37.0 +4.7**
CMSA Cobar Meteorol 25.55 225 P **P 12 22 33.9 +0.4**
baz=26,SNR=46
CMSA Cobar Meteorol 25.55 225 P **P 12 22 35.4 +1.9**
CNB Canberra Magne 25.87 214 P **P 12 22 38.9 +2.6**
baz=26,SNR=8.2
CNB Canberra Magne 25.87 214 P **P 12 22 38.5 +2.1**
CAN Canberra 26.07 214 P **P 12 22 39.3 +1.1**
CAN pmax pmax
comp=Z,100nm,1.8s
CAN Canberra 26.07 214 IAmb IAmb 12 22 57.2
comp=Z,127nm,1.4s
CAN Canberra 26.07 214 ⇑P P 12 22 39.4 +1.2
CAN Canberra 26.07 214 P **P 12 22 40.0 +1.8**
BKZ Black Stump Fm 26.08 162 P **P 12 22 38.9 +0.7**
BKZ IAmb IAmb 12 23 00.1
comp=Z,804nm,1.9s
BKZ Black Stump Fm 26.08 162 P **P 12 22 40.8 +2.6**
QIS Mount Isa 26.39 253 P **P 12 22 40.7 -0.5**
baz=26,SNR=7.6
QIS Mount Isa 26.39 253 P **P 12 22 41.7 +0.4**
QRZ Quartz Range 26.74 170 IAmb IAmb 12 22 56.8
comp=Z,515nm,1.3s
NNZ Nelson 27.27 169 IAmb IAmb 12 23 17.3
comp=Z,390nm,1.6s
INKA Innaminka 27.39 237 P **P 12 22 51.4 +1.3**
BFZ Birch Farm 27.42 164 IAmb IAmb 12 23 00.8
comp=Z,234nm,1.3s
BFZ Birch Farm 27.42 164 P **P 12 22 54.3 +4.1**
comp=Z,149nm,1.9s
CAW Cannon Point 27.52 166 P **P 12 22 52.4 +1.3**
DSZ Denniston Nort 27.52 172 P **P 12 22 53.9 +2.7**
SNZO South Karori 27.63 167 P **P 12 22 56.5 +4.4**
THZ Tophouse 27.71 170 IAmb IAmb 12 23 07.8
comp=Z,242nm,1.2s
BHW Baring Head 27.76 167 P **P 12 22 54.8 +1.5**
PAWZ Paruwai Farm 27.87 166 P **P 12 22 55.0 +0.7**
PLWZ Palliser 28.00 166 P **P 12 22 55.3 -0.2**
INZ Inchbonnie 28.44 172 P **P 12 23 00.3 +1.0**
KHZ Kahutara 28.46 169 IAmb IAmb 12 23 23.8
comp=Z,404nm,1.6s
KHZ Kahutara 28.46 169 ⇑P P 12 22 59.3 -0.1
KHZ Kahutara 28.46 169 P **P 12 23 02.2 +2.7**
LTZ Lake Taylor 28.61 171 IAmb IAmb 12 23 20.3
comp=Z,553nm,1.7s
LTZ Lake Taylor 28.61 171 P **P 12 23 03.6 +2.7**
STKA Stephens Creek 28.63 229 P **P 12 23 00.8 -0.4**
comp=Z,19nm,0.7s,baz=54,slow=8.0,SNR=43
STKA PcP **PcP 12 26 12.7 +0.6**
comp=Z,12nm,1.0s,baz=25,slow=2.9,SNR=3.2
STKA LR LR 12 34 12.0
comp=Z,56µm,18.9s,baz=54,slow=36
STKA Stephens Creek 28.63 229 P **P 12 23 01.4 +0.2**
baz=28,SNR=26
STKA Stephens Creek 28.63 229 *d*P **P 12 23 01.0 -0.2**
STKA Stephens Creek 28.63 229 P **P 12 23 02.8 +1.6**
WVZ Waitaha Valley 28.70 174 P **P 12 23 03.8 +2.2**
FOZ Fox Glacier 29.07 175 IAmb IAmb 12 23 15.3
comp=Z,128nm,1.0s
FOZ Fox Glacier 29.07 175 P **P 12 23 09.1 +4.2**
OXZ Oxford 29.11 172 IAmb IAmb 12 23 15.5
comp=Z,253nm,1.3s
RPZ Rata Peaks 29.37 173 P **P 12 23 09.6 +2.1**
comp=Z,24nm,0.9s,baz=334,slow=1.6,SNR=10.0
RPZ LR LR 12 34 04.4
comp=Z,18µm,18.3s,baz=344,slow=35
RPZ Rata Peaks 29.37 173 IAmb IAmb 12 23 27.7
comp=Z,144nm,1.1s
RPZ Rata Peaks 29.37 173 P **P 12 23 09.8 +2.2**
JCZ Jackson Bay 29.53 177 P **P 12 23 10.3 +1.1**
MQZ McQueen's Vall 29.57 171 IAmb IAmb 12 23 17.9
comp=Z,165nm,1.1s
MQZ McQueen's Vall 29.57 171 P **P 12 23 11.1 +1.8**
ARCZ Arundel 29.61 173 P **P 12 23 12.1 +2.4**
TOO Toolangi 29.64 215 P **P 12 23 11.2 +1.0**
baz=30,SNR=7.7
TOO Toolangi 29.64 215 P **P 12 23 10.5 +0.4**
TOO Toolangi 29.64 215 IAmb IAmb 12 23 27.0
comp=Z,140nm,1.7s
TOO Toolangi 29.64 215 ⇑P P 12 23 11.2 +1.0
TOO Toolangi 29.64 215 P **P 12 23 11.3 +1.2**
OKCZ Okains Bay 29.65 170 P **P 12 23 13.4 +3.4**
LBZ Lake Benmore 29.94 175 IAmb IAmb 12 23 29.7
comp=Z,365nm,1.8s
LBZ Lake Benmore 29.94 175 P **P 12 23 16.4 +3.7**
TMZ Timaru 30.02 174 P **P 12 23 14.5 +1.1**
SMPI Sarmi 30.19 292 P **P 12 23 15.2 0.0**
comp=Z,3µmcomp=Z,2µmcomp=Z,94nm,1.4s
LCRK Leigh Creek 30.51 234 P **P 12 23 19.3 +1.4**
BRAT Ballarat 30.52 217 P **P 12 23 19.8 +2.0**
ODZ Otahua Downs 30.64 174 IAmb IAmb 12 23 47.2
comp=Z,99nm,1.3s
ODZ Otahua Downs 30.64 174 P **P 12 23 20.7 +1.9**
DCZ Deep Cove 30.87 179 IAmb IAmb 12 23 33.4
comp=Z,223nm,1.3s
GLAD Gladstone 30.95 208 P **P 12 23 23.6 +2.0**
WB0 Warramunga Arr 31.16 256 IAmb IAmb 12 23 38.8
comp=Z,76nm,1.4s
WB2 Warramunga Arr 31.22 255 P **P 12 23 21.8 -2.5**
WB2 IAmb IAmb 12 23 43.8
comp=Z,94nm,1.5s
WRAB Tennant Creek 31.22 255 *ce*P **P 12 23 21.8 -2.5**
WRAB pmax pmax
comp=Z,105nm,2.5s
WRAB MLR MLR
comp=Z,21µm,16.0s
WRAB Tennant Creek 31.22 255 P **P 12 23 21.9 -2.3**
WRAB Tennant Creek 31.22 255 ⇓P P 12 23 21.8 -2.5
WRAB Tennant Creek 31.22 255 P **P 12 23 23.5 -0.8**
WRA Warramunga Arr 31.23 255 P **P 12 23 21.9 -2.5**
comp=Z,12nm,1.1s,baz=86,slow=8.8,SNR=33
WRA PcP **PcP 12 26 19.4 +0.3**
comp=Z,10nm,1.1s,baz=88,slow=2.9,SNR=4.9
WRA ScP **ScP 12 30 03.4 +1.1**
comp=Z,1.4nm,1.0s,baz=92,slow=2.8,SNR=2.6
WRA LR LR 12 34 43.8
comp=Z,32µm,21.7s,baz=80,slow=34
ARPS Mount Arapiles 31.28 220 P **P 12 23 27.5 +2.9**
HTT Hallett 31.36 228 P **P 12 23 26.2 +0.8**
baz=31,SNR=23
HTT Hallett 31.36 228 ⇓P P 12 23 25.6 +0.1
HTT Hallett 31.36 228 P **P 12 23 26.8 +1.4**
OOD Oodnadatta 31.59 240 P **P 12 23 29.0 +1.6**
CORO Coronation Par 31.71 208 P **P 12 23 30.4 +2.1**
NAPP Napperby 31.81 229 P **P 12 23 30.9 +1.6**
ASAR Alice Springs 32.13 249 P **P 12 23 30.3 -2.0**
comp=Z,37nm,1.3s,baz=79,slow=9.2,SNR=49
ASAR ScP **ScP 12 30 06.7 +1.3**
comp=Z,4.1nm,1.2s,baz=76,slow=3.9,SNR=4.7
ASAR LR LR 12 36 07.4
comp=Z,20µm,18.1s,baz=92,slow=36
WHYH Whyalla 32.16 230 P **P 12 23 34.0 +1.7**
TWOA Tennyson Woods 32.44 226 P **P 12 23 36.1 +1.3**
MOO Moorlands 32.48 207 P **P 12 23 37.3 +2.3**
baz=32,SNR=7.6
MOO Moorlands 32.48 207 P **P 12 23 37.3 +2.3**
RAR Rarotonga 32.67 107 P **P 12 23 41.7 +4.8**
comp=Z,66nm,1.1s,baz=239,slow=5.7,SNR=8.8
RAR LR LR 12 35 38.0
comp=Z,3µm,18.2s,baz=276,slow=34
RAR Rarotonga 32.67 107 P P 12 23 41.9 +4.9
RAR Rarotonga 32.67 107 P P 12 23 43.5 +6.5
H11S2 WAKE ISLAND Hy 32.78 0 T T 12 58 39.0
baz=184,slow=76,SNR=17
H11S3 WAKE ISLAND Hy 32.79 0 T T 12 58 40.1
baz=184,slow=76,SNR=11
TAU Tasmania Unive 32.80 207 P **P 12 23 37.2 -0.6**
TAU pmax pmax
comp=Z,230nm,1.7s
TAU Tasmania Unive 32.80 207 P **P 12 23 37.2 -0.6**
TAU IAmb IAmb 12 23 56.6
comp=Z,230nm,1.7s
TAU Tasmania Unive 32.80 207 ⇓P P 12 23 39.9 +2.1
TAU Tasmania Unive 32.80 207 P P 12 23 42.7 +4.9
H11S1 WAKE ISLAND Hy 32.80 0 T T 12 58 37.6
baz=184,slow=76,SNR=10
BAKI Biak 32.88 291 P **P 12 23 42.0 +3.1**
comp=Z,2µmcomp=Z,77nm,1.6s
KDU Kakadu 33.18 269 P **P 12 23 41.9 +0.4**
baz=33,SNR=4.3
KDU Kakadu 33.18 269 P **P 12 23 42.1 +0.6**
BBOO Buckleboo 33.19 231 P **P 12 23 41.3 -0.1**
baz=33,SNR=107
BBOO Buckleboo 33.19 231 IAmb IAmb 12 23 54.7
comp=Z,96nm,1.1s
BBOO Buckleboo 33.19 231 P **P 12 23 42.6 +1.2**
MULG Mulgathing 33.77 237 P **P 12 23 46.6 +0.1**
MTN Manton Dam 34.46 268 P **P 12 23 50.0 -2.7**
baz=34,SNR=3.0
MTN Manton Dam 34.46 268 IAmb IAmb 12 24 15.3
comp=Z,227nm,2.0s
MTN Manton Dam 34.46 268 P **P 12 23 53.7 +1.1**
SAUI Saumlaki 35.17 277 IAMs_20 IAMs_20 12 36 50.6
comp=Z,31µm,21.0s
KNRA Kununurra 36.50 263 P **P 12 24 08.0 -2.2**
baz=36,SNR=4.7
KNRA Kununurra 36.50 263 IAmb IAmb 12 24 33.4
comp=Z,83nm,1.1s
KNRA Kununurra 36.50 263 P **P 12 24 09.7 -0.4**
WRKA Warakurna 37.40 248 P **P 12 24 16.1 -1.7**
baz=37,SNR=38
WRKA Warakurna 37.40 248 ⇓P P 12 24 16.1 -1.7
WRKA Warakurna 37.40 248 P **P 12 24 17.5 -0.3**
SIJI Sorong 37.44 288 P **P 12 24 16.3 -1.9**
comp=Z,6.1nm,0.4s,baz=73,slow=5.9,SNR=14
BNDI Bandanaira 37.44 282 P **P 12 24 20.1 +1.9**
SWI Sorong 37.44 288 P **P 12 24 18.6 +0.4**
comp=Z,5µmcomp=Z,2µmcomp=Z,59nm,1.4s
FORT Forrest 38.84 239 P **P 12 24 29.8 0.0**
baz=39,SNR=34
FORT Forrest 38.84 239 P **P 12 24 29.1 -0.7**
FORT IAmb IAmb 12 24 40.3
comp=Z,137nm,0.9s
FORT Forrest 38.84 239 ⇓P P 12 24 29.2 -0.7
FORT Forrest 38.84 239 P **P 12 24 30.9 +1.1**
FITZ Fitzroy Crossi 39.40 259 P **P 12 24 32.5 -2.1**
comp=Z,12nm,0.7s,baz=87,slow=13,SNR=14
FITZ LR LR 12 40 41.1
comp=Z,24µm,18.4s,baz=67,slow=36
LBMI Labuha 41.01 286 P **P 12 24 50.0 +1.9**
comp=Z,4µmcomp=Z,5µmcomp=Z,236nm,1.7s
SANI Sanana 41.93 283 ⇓P P 12 24 54.8 -0.8
SANI Sanana 41.93 283 P **P 12 24 55.9 +0.2**
comp=Z,7µmcomp=Z,5µmcomp=Z,133nm,1.8s
SANI Sanana 41.93 283 P **P 12 24 56.5 +0.8**
BATI Baumata 42.09 271 P **P 12 24 56.2 -0.8**
comp=Z,60nm,0.8s,baz=104,slow=1.9,SNR=11
BATI Baumata 42.09 271 P **P 12 24 58.7 +1.7**
comp=Z,4µmcomp=Z,4µmcomp=Z,85nm,1.2s
PAE Paea 42.18 100 *eP* **P 12 24 59.2 +1.6**
comp=Z,69nm,1.4s
PPT2 Papeete2 42.19 100 *eP* **P 12 24 59.6 +1.8**
comp=Z,221nm,1.4s
PPT2 *eS* **S 12 31 16.4 -1.8**
comp=Z,4µm,25.0s
PPT2 *e*LQ LQ 12 34 44.8
comp=Z,29µm,28.8s
PPT2 *e*LR LR 12 36 35.3
comp=Z,10µm,22.8s,baz=268
PPT Papeete 42.19 100 P **P 12 24 58.0 +0.3**
comp=Z,50nm,1.0s,baz=198,slow=9.6,SNR=3.4
PPT LR LR 12 38 38.4
comp=Z,6µm,20.8s,baz=262,slow=31
PPT Papeete 42.19 100 P **P 12 24 58.0 +0.3**
PPTF Pamatai, Papee 42.20 100 P P 12 25 05.1 +7.2
TBI Tubuai 42.37 109 *e*S **S 12 31 20.8 +0.1**
comp=Z,3µm,26.2s
TBI *e*LQ LQ 12 34 49.2
comp=Z,20µm,28.5s
TBI *e*LR LR 12 36 39.3
comp=Z,12µm,26.2s,baz=280
PMOR Pomariorio Ree 43.97 97 *e*P **P 12 25 13.9 +1.7**
comp=Z,444nm,1.2s
VAH Vaihoa 44.21 97 *e*P **P 12 25 15.5 +1.4**
comp=Z,227nm,1.2s
KMSI Cibinong 44.72 286 P **P 12 25 22.6 +4.4**
comp=Z,341nmcomp=Z,215nm,0.9s
PSA00 Pilbara Seismi 44.85 254 P **P 12 25 18.2 -1.0**
PSA00 IAmb IAmb 12 25 22.8
comp=Z,318nm,1.9s
PSA00 Pilbara Seismi 44.85 254 P **P 12 25 20.1 +0.9**
MBWA Marble Bar 44.96 255 IAMs_20 IAMs_20 12 43 17.9
comp=Z,19µm,20.0s
LUWI Luwuk 45.30 283 P **P 12 25 22.0 -0.8**
LUWI Luwuk 45.30 283 ⇑P P 12 25 22.6 -0.2
LUWI Luwuk 45.30 283 P **P 12 25 23.9 +1.2**
comp=Z,5µmcomp=Z,5µmcomp=Z,168nm,1.6s
LUWI Luwuk 45.30 283 P **P 12 25 24.0 +1.2**
GTOI Gorontalo 45.65 285 P **P 12 25 26.7 +1.1**
comp=Z,1µmcomp=Z,1µmcomp=Z,44nm,2.1s
MEEK Meekatharra 46.25 247 P **P 12 25 29.6 -0.7**
baz=46,SNR=20
MEEK Meekatharra 46.25 247 P **P 12 25 31.1 +0.8**
APSI Ampana 46.40 283 P **P 12 25 32.7 +1.2**
comp=Z,3µmcomp=Z,82nm,2.0s
BKSI Bulukumba 46.58 276 P **P 12 25 33.5 +0.6**
comp=Z,5µmcomp=Z,3µmcomp=Z,54nm,2.4s
MRSI Marisa 46.59 285 P P 12 25 44.4 +11
BNSI Bone 46.83 278 P **P 12 25 35.9 +1.0**
comp=Z,5µmcomp=Z,4µmcomp=Z,105nm,1.9s
KAPI Kappang 47.01 277 P **P 12 25 35.1 -1.2**
comp=Z,64nm,1.2s,baz=109,slow=5.7,SNR=22
KAPI Kappang 47.01 277 *d*P **P 12 25 34.9 -1.4**
KAPI Kappang 47.01 277 P **P 12 25 36.3 0.0**
KAPI IAmb IAmb 12 25 51.0
comp=Z,194nm,1.3s
KAPI Kappang 47.01 277 ⇓P P 12 25 36.1 -0.2
KAPI Kappang 47.01 277 P **P 12 25 37.7 +1.4**
SPSI Sidrap Palu 47.27 278 P **P 12 25 38.6 +0.2**
comp=Z,4µmcomp=Z,2µmcomp=Z,54nm,2.2s
TTSI Tana Toraja 47.49 279 P P 12 25 54.8 +15
KLBR Kellerberrin 47.63 240 P **P 12 25 40.9 -0.1**
baz=48,SNR=7.8
KLBR Kellerberrin 47.63 240 P **P 12 25 41.4 +0.5**
TOLI2 Tolitoli 47.90 285 P **P 12 25 41.9 -1.4**
TOLI2 IAmb IAmb 12 26 05.3
comp=Z,341nm,2.0s
TOLI2 IAMs_20 IAMs_20 12 44 52.8
comp=Z,20µm,22.0s
TOLI2 Tolitoli 47.90 285 P **P 12 25 43.6 +0.4**
PLAI Plampang 48.05 271 P P 12 25 51.4 +7.0
comp=Z,4µmcomp=Z,117nm,1.4s
PLAI Plampang 48.05 271 P **P 12 25 45.0 +0.6**
NWAO Narrogin (SRO) 48.29 239 P **P 12 25 44.6 -1.4**
NWAO Narrogin (SRO) 48.29 239 P **P 12 25 44.5 -1.4**
NWAO IAmb IAmb 12 26 10.8
comp=Z,85nm,1.1s
NWAO Narrogin (SRO) 48.29 239 IAMs_20 IAMs_20 12 46 17.9
comp=Z,21µm,19.0s
BLDU Ballidu 48.37 242 P **P 12 25 46.5 -0.1**
baz=48,SNR=7.8
BLDU Ballidu 48.37 242 P **P 12 25 46.6 -0.1**
MPSI Mapaga 48.47 284 P **P 12 25 47.4 -0.2**
comp=Z,4µmcomp=Z,3µmcomp=Z,77nm,1.4s
MORW Morawa 48.76 244 P **P 12 25 49.3 -0.4**
baz=49,SNR=12
MORW Morawa 48.76 244 P **P 12 25 49.0 -0.7**
MORW IAmb IAmb 12 25 58.8
comp=Z,56nm,0.8s
MORW Morawa 48.76 244 ⇑P P 12 25 48.7 -1.0
MORW Morawa 48.76 244 P **P 12 25 49.9 +0.2**
RKGY Rocky Gully 48.82 237 P **P 12 25 51.6 +1.6**
MUN Mundaring 48.99 240 P **P 12 25 51.8 +0.4**
baz=49,SNR=3.7
MUN Mundaring 48.99 240 P **P 12 25 51.3 -0.1**
MUN Mundaring 48.99 240 P **P 12 25 51.5 +0.1**
SRBI Singaraja 50.68 271 P **P 12 26 07.4 +2.9**
comp=Z,7µmcomp=Z,7µmcomp=Z,134nm,1.5s
MYLDM Lahad Datu 51.52 289 ⇑P P 12 26 12.0 +1.2
JAGI Jajag, Banyuwa 51.63 271 IAmb IAmb 12 26 27.7
comp=Z,286nm,1.4s
JAGI Jajag, Banyuwa 51.63 271 ⇑P P 12 26 10.1 -1.6
JAGI Jajag, Banyuwa 51.63 271 P **P 12 26 11.4 -0.3**
comp=Z,5µmcomp=Z,4µmcomp=Z,145nm,1.7s
JAGI Jajag, Banyuwa 51.63 271 P **P 12 26 12.1 +0.4**
ABJI Asem Bagus 51.69 271 P **P 12 26 14.3 +2.2**
comp=Z,6µmcomp=Z,7µmcomp=Z,173nm,1.0s
BBKI Banjar Baru 52.14 277 P **P 12 26 17.1 +1.6**
comp=Z,7µmcomp=Z,101nm,2.0s
BLJI Banyuglugur 52.32 271 P **P 12 26 17.6 +0.8**
comp=Z,3µmcomp=Z,3µmcomp=Z,69nm,1.7s
GMJI Gumukmas 52.36 271 P **P 12 26 20.7 +3.6**
comp=Z,4µmcomp=Z,120nm,1.9s
TAOE Nuku Hiva Isla 52.38 90 *e*P **P 12 26 19.0 +1.6**
comp=Z,203nm,1.3s
TAOE *e*S **S 12 33 41.2 -2.5**
comp=Z,4µm,26.3s
TAOE *e*LQ LQ 12 39 02.4
comp=Z,4µm,29.7s
TAOE *e*LR LR 12 41 17.4
comp=Z,22µm,29.1s,baz=262
MTKI Muara Teweh, K 52.80 280 P **P 12 26 23.2 +2.8**
KKM Kota Kinabalu 53.95 289 P **P 12 26 28.8 -0.1**
KKM Kota Kinabalu 53.95 289 ⇓P P 12 26 28.7 -0.2
KKM Kota Kinabalu 53.95 289 P **P 12 26 30.2 +1.3**
PCJI Pacitan 54.57 270 P **P 12 26 34.1 +0.8**
comp=Z,6µmcomp=Z,234nm,1.3s
DRV Dumont d'Urvil 55.02 193 P **P 12 26 36.4 +0.7**
UGM Wanagama 55.26 270 P P 12 26 47.6 +9.2
UGM Wanagama 55.26 270 P **P 12 26 39.4 +1.0**
JOW Kunigami 55.43 318 P **P 12 26 40.5 +1.3**
comp=Z,19nm,0.9s,baz=108,slow=19,SNR=3.0
SMRI Semarang 55.53 271 P **P 12 26 45.0 +4.7**
comp=Z,7µmcomp=Z,11µmcomp=Z,260nm,2.0s
SMRI Semarang 55.53 271 P **P 12 26 41.6 +1.3**
STKI Sintang 56.36 280 P **P 12 26 48.1 +1.8**
comp=Z,2µmcomp=Z,70nm,2.1s
SBUM Sibu 56.40 283 IAmb IAmb 12 26 57.1
comp=Z,148nm,1.5s
SBUM Sibu 56.40 283 ⇓P P 12 26 46.6 +0.1
KPJI Karang Pucung 56.93 271 P **P 12 26 50.9 +0.6**
comp=Z,3µmcomp=Z,129nm,1.0s
JGF Kuroka 57.00 332 ⇑P P 12 26 54.0 +3.6
JMN Monobe 57.20 328 ⇓P P 12 26 52.5 +0.7
CMJI Cimerak 57.30 270 P P 12 27 03.7 +11
JSU Suzuyama 57.39 323 ⇓P P 12 26 55.7 +2.5
MJAR Matsushiro Arr 57.40 333 P **P 12 26 51.4 -1.7**
comp=Z,5.2nm,0.6s,baz=167,slow=8.7,SNR=19
MJAR Matsushiro Arr 57.40 333 P **P 12 26 51.2 -1.9**
MJAR Matsushiro Arr 57.40 333 P **P 12 26 51.2 -1.9**
MAJO Matsushiro 57.40 333 *i*P **P 12 26 52.0 -1.1**
MAJO pmax pmax
comp=Z,65nm,1.1s
MAJO Matsushiro 57.40 333 P **P 12 26 52.3 -0.8**
MAJO Matsushiro 57.40 333 ⇓P P 12 26 52.7 -0.5
MAJO Matsushiro 57.40 333 P **P 12 26 54.1 +1.0**
MJB9 Matsu-Tunnel 57.40 333 P **P 12 26 52.9 -0.3**
JMM Marumori 57.44 336 ⇑P P 12 27 00.1 +6.8
JMM ⇑P **PP 12 28 57.8 -3.3**
JMM ⇑P **PP 12 28 58.0 -3.1**
JMM ⇑P **PP 12 29 01.2 +0.1**
KSM Kuching 57.90 281 IAmb IAmb 12 27 04.9
comp=Z,187nm,1.7s
KSM Kuching 57.90 281 ⇓P P 12 26 56.9 -0.3
KSM Kuching 57.90 281 P **P 12 26 58.5 +1.3**
LEM Lembang 58.31 271 P **P 12 27 00.8 +0.6**
comp=Z,43nm,0.8s,baz=147,slow=6.5,SNR=16
TPUB Ta-pu 58.58 309 P **P 12 27 03.3 +1.6**
JHS Saijyo 58.58 328 ⇑P P 12 27 02.4 +0.9
SSLB Suanglung 58.62 310 P **P 12 27 03.3 +1.3**
JSD Sado 58.63 334 P **P 12 27 02.2 +0.5**
CNJI Cibinong 58.68 270 P P 12 27 11.1 +8.5
YHNB Yeheng 58.83 311 IAmb IAmb 12 27 19.8
comp=Z,122nm,1.1s

YHNB Yeheng 58.83 311 P **P** 12 27 04.0 +0.5
DBJI Dramaga 59.21 271 P **P** 12 27 07.5 +1.2
comp=Z,83nm,1.5s
JTM Tenmabayashi 59.88 338 IAmb IAmb 12 27 31.8
comp=Z,187nm,1.3s
JTM Tenmabayashi 59.88 338 ⇑P **P** 12 27 10.4 +0.1
JTM ⇑P **PP** 12 29 24.1 +1.4
JTM ⇓P **PP** 12 29 24.4 +1.8
JTM ⇑P **PP** 12 29 26.6 +4.0
CGJI Cibinong 60.22 271 P **P** 12 27 13.2 0.0
comp=Z,5μmcomp=Z,113nm,1.0s
PPBI Pangkal Pinang 60.87 276 P **P** 12 27 19.3 +1.6
comp=Z,46nm,1.4s
QZH Quanzhou 61.04 310 ⇓*i*P **P** 12 27 23.3 +4.7
QZH pmax pmax
comp=Z,1μm,6.2s
KASI Kota Agung 61.62 272 P **P** 12 27 22.9 +0.1
comp=Z,3μmcomp=Z,2μmcomp=Z,94nm,1.5s
JKA Kamikawa-asahi 62.30 341 IAmb IAmb 12 27 40.8
comp=Z,192nm,1.2s
ASAJ Asahikawa 62.30 341 P **P** 12 27 27.1 +0.4
comp=Z,22nm,0.9s,baz=245,slow=11,SNR=6.5
TJN Taejon 62.70 325*ce*P **P** 12 27 29.8 +0.3
SSE Sheshan 62.89 317 P **P** 12 27 32.3 +1.4
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,430nm,9.2s
VNDA Vanda 63.07 181 P **P** 12 27 32.5 +1.1
comp=Z,39nm,1.2s,baz=356,slow=7.2,SNR=54
VNDA LR LR 12 51 16.0
comp=Z,5μm,20.1s,baz=18,slow=32
VNDA PKPPKP **P'P'df** 12 56 34.2 -0.6
comp=Z,5.0nm,1.3s,baz=194,slow=4.0,SNR=4.9
VNDA Vanda 63.07 181 P **P** 12 27 31.8 +0.3
VNDA Vanda 63.07 181 P **P** 12 27 31.8 +0.3
KSRS Korea Array 63.17 326 P **P** 12 27 32.5 -0.2
comp=Z,7.0nm,1.0s,baz=146,slow=6.8,SNR=19
DLV T Lat 63.26 292 P **P** 12 27 35.7 +1.8
SBA Scott Base 63.36 180 P **P** 12 27 35.1 +1.7
SBA pmax pmax
comp=Z,341nm,1.5s
SBA Scott Base 63.36 180 P **P** 12 27 35.1 +1.7
CASY Casey 63.48 202 P **P** 12 27 35.5 +1.2
CASY Casey 63.48 202 ⇓P **P** 12 27 35.7 +1.3
GZH Guangzhou 64.09 305 P **P** 12 27 41.5 +2.5
MYKOM Kota Tinggi 64.16 279 P **P** 12 27 41.6 +1.9
MYKOM IAmb IAmb 12 27 48.0
comp=Z,206nm,2.0s
YSS Yuzh-Sakhalins 64.81 342 *e*P **P** 12 27 43.4 +0.2
YSS pmax pmax
comp=Z,70nm,1.1s
YSS pmax pmax
comp=Z,2μm,5.2s
YSS MLR MLR
comp=Z,6μm,15.0s
YSS Yuzh-Sakhalins 64.81 342 P **P** 12 27 43.4 +0.2
YSS Yuzh-Sakhalins 64.81 342 ⇑P **P** 12 27 44.1 +0.9
YSS Yuzh-Sakhalins 64.81 342 P **P** 12 27 45.7 +2.5
QIZ Qiongzhong 65.04 299 P **P** 12 27 46.5 +1.2
QIZ PP **PP** 12 30 06.9 -1.7
QIZ S **S** 12 36 28.0 +0.1
QIZ pmax pmax
comp=Z,460nm,4.0s
QIZ LR LR
comp=Z,10μm,10.6s
QIZ LR LR
comp=Z,10μm,9.4s
QIZ LR LR
comp=Z,4μm,7.8s
NJ2 Nanjing 65.05 316 *e*P **P** 12 27 46.3 +1.2
NJ2 pP **pwP** 12 27 49.8 -1.1
NJ2 sP **sP** 12 27 51.4 +2.9
NJ2 pmax pmax
comp=Z,17nm,0.9s
TEY Ternei 65.20 337 *e*P **P** 12 27 48.3 +2.5
MSHR Mys Shultsa 65.47 332 *i*P **P** 12 27 47.7 +0.1
SKR Severo-Kuril's 65.55 353 *e*P **P** 12 27 53.0 +5.1
SKR *e*S **S** 12 36 38.6 +5.7
SKR pmax pmax
comp=Z,400nm,9.2s
SKR pmax pmax
comp=Z,73nm,2.2s
SKR MLR MLR
comp=Z,3μm,17.0s
VLA Vladivostok 65.56 333 *i*P **P** 12 27 48.2 0.0
VLA pmax pmax
comp=Z,193nm,1.9s
USRK Ussuriysk Ar. 66.38 334 P **P** 12 27 53.9 +0.4
comp=Z,27nm,0.9s,baz=145,slow=6.0,SNR=25
UGL Uglegorsk 66.92 343 *e*P **P** 12 27 57.1 +0.4
CNSH ChangSha 67.05 309 ⇓P **P** 12 28 02.4 +4.3
UBPT Khong Chiam 67.26 294 P **P** 12 28 02.4 +2.8
UBPT Khong Chiam 67.26 294 ⇑P **P** 12 28 01.3 +1.7
SHEM Shemya Is, Ala 67.27 5 LR LR 12 54 57.0
comp=Z,5μm,18.6s,baz=241,slow=34
WHN Wuhan 67.29 312 ⇑P **P** 12 27 59.3 -0.2
WHN sP **pwP** 12 28 12.5 +7.1
GULI GuiLin 67.55 306 ⇓P **P** 12 28 03.0 +1.7
PET Petropavlovsk 67.59 355 *e*P **P** 12 27 59.8 -1.1
PET *e*S **S** 12 36 55.2 -2.4
PET pmax pmax
comp=Z,57nm,1.4s
PET MLR MLR
comp=Z,5μm,16.0s
PET MLR MLR
comp=Z,5μm,15.0s
PET Petropavlovsk 67.59 355 P **P** 12 28 01.1 +0.2
PET Petropavlovsk 67.59 355 P **P** 12 28 02.3 +1.4
IPM Ipoh 67.64 281 P **P** 12 28 02.5 +0.3
IPM IAmb IAmb 12 28 10.1
comp=Z,106nm,1.3s
IPM Ipoh 67.64 281 P **P** 12 28 03.9 +1.7
DL2 Dalian 67.71 323 P **P** 12 28 02.0 0.0
DL2 pmax pmax
comp=Z,42nm,0.9s
DL2 pmax pmax
comp=Z,990nm,5.6s
PEA0B Petropavlovsk- 67.76 354*ce*P **P** 12 28 01.8 -0.3
PETK Petropavlovsk- 67.76 354 P **P** 12 28 01.5 -0.5
comp=Z,43nm,1.2s,baz=101,slow=7.7,SNR=20
MDJ Mudanjiang 67.77 332 P **P** 12 28 02.3 +0.1
MDJ pP pwP 12 28 10.6 +2.5
MDJ sP sP 12 28 15.9 +10
MDJ S **S** 12 37 03.9 +3.8
MDJ SS **SS** 12 41 25.6 +3.7
MDJ pmax pmax
comp=Z,37nm,1.3s
MDJ pmax pmax
comp=Z,710nm,4.3s
MDJ LR LR
comp=Z,3μm,14.0s
MDJ LR LR
comp=Z,6μm,13.5s
MDJ LR LR
comp=Z,10μm,15.8s
MDJ Mudanjiang 67.77 332 P **P** 12 28 04.1 +1.9
MNSI Mandailing Nat 67.97 277 P **P** 12 28 04.0 -0.2
comp=Z,2μmcomp=Z,50nm,1.6s
KULM Kulim 68.24 282 IAmb IAmb 12 28 13.8
comp=Z,133nm,1.5s
KULM Kulim 68.24 282 ⇑P **P** 12 28 06.4 +0.4
TYV Tymovskoe 68.37 344 *e*P **P** 12 28 05.9 0.0
TYV pmax pmax
comp=Z,400nm,3.0s
TYV pmax pmax
comp=Z,29nm,1.5s
SNY Shenyang 68.65 327 ⇑P **P** 12 28 08.0 +0.2
SNY pmax pmax
comp=Z,990nm,8.8s
TIA Tai'an 68.72 319 ⇑P **P** 12 28 07.8 -0.7
TIA pmax pmax
comp=Z,27nm,1.4s
CN2 Changchun 69.11 329 *e*P **P** 12 28 10.3 -0.4
CN2 *e*pP sP 12 28 14.8 +0.7
CN2 pmax pmax
comp=Z,20nm,1.1s
PSI Prapat 69.16 279 P **P** 12 28 10.7 -1.1
comp=Z,5.4nm,0.4s,baz=169,slow=3.4,SNR=13
BNX BinXian 69.62 332 ⇓P **P** 12 28 13.8 0.0
BNX pmax pmax
comp=Z,78nm,1.1s
BNX pmax pmax
comp=Z,2μm,5.0s
GSI Gunungsitoli 70.04 277 P **P** 12 28 18.2 +1.2
GSI Gunungsitoli 70.04 277 P **P** 12 28 18.3 +1.2
GRNR Gornyy 70.15 340 ⇓*i*P **P** 12 28 18.3 +1.3
GRNR pmax pmax
comp=Z,40nm,1.1s
NIKH Nikolski High 70.45 15 P **P** 12 28 18.9 +0.1
baz=205
KCSI Kotacane, Aceh 70.47 279 P P 12 28 34.1 +14
KLR Kul'dur 70.53 337 P **P** 12 28 19.2 -0.1
comp=Z,38nm,1.3s,baz=129,slow=6.2,SNR=18
KLR Kul'dur 70.53 337 *c i*P **P** 12 28 19.3 0.0
KLR pmax pmax
comp=Z,167nm,1.6s
LYN LuoYang 70.84 315 ⇑P **P** 12 28 21.8 +0.3
LYN pP pwP 12 28 28.4 +1.0
LYN sP sP 12 28 30.8 +5.8
LYN pmax pmax
comp=Z,20nm,0.8s
LYN pmax pmax
comp=Z,2μm,5.8s
HNS HongShan 70.98 319 ⇑P **P** 12 28 23.0 +0.7
HNS S **S** 12 37 41.4 +3.0
HNS LR LR
comp=Z,3μm,14.0s
HNS LR LR
comp=Z,5μm,15.8s
HNS LR LR
comp=Z,3μm,12.6s
GYA Guiyang 71.03 305 ⇑*i*P **P** 12 28 25.4 +2.4
GYA sP pwP 12 28 30.1 +1.2
GYA pmax pmax
comp=Z,21nm,1.1s
GYA pmax pmax
comp=Z,1μm,9.0s
BJI Beijing 71.67 321 P **P** 12 28 26.6 +0.2
BJI PcP **PcP** 12 28 43.5 -2.0
BJI pmax pmax
comp=Z,37nm,1.2s
BJI pmax pmax
comp=Z,1μm,8.8s
UNV Unalaska Valle 71.86 16 P **P** 12 28 26.4 -0.8
baz=208
TIY Taiyuan 72.64 318 *e*P **P** 12 28 33.3 +0.9
TIY pmax pmax
comp=Z,1μm,5.4s
XAN Xi'an 73.04 313 P **P** 12 28 34.8 0.0
XAN pP sP 12 28 39.4 +1.1
XAN pmax pmax
comp=Z,63nm,1.8s
XAN pmax pmax
comp=Z,2μm,6.1s
XAN LR LR
comp=Z,8μm,13.7s
XAN LR LR
comp=Z,7μm,15.8s
XAN LR LR
comp=Z,12μm,15.1s
KMI Kunming 73.61 302 ⇑P **P** 12 28 41.9 +3.3
KMI sP pwP 12 28 46.5 +1.9
KMI PP **PP** 12 31 26.1 +3.1
KMI S **S** 12 38 09.8 +0.3
KMI sS sS 12 38 15.4 +1.5
KMI SS **SS** 12 42 55.5 +2.5
KMI pmax pmax
comp=Z,36nm,1.5s
KMI pmax pmax
comp=Z,1μm,7.1s
KMI LR LR
comp=Z,9μm,14.2s
KMI LR LR
comp=Z,6μm,14.2s
KMI LR LR
comp=Z,8μm,14.2s
XLT XiLinHaoTe 74.13 325 ⇑*i*P **P** 12 28 41.5 +0.4
XLT pP pwP 12 28 48.3 +1.3
XLT sP PcP 12 28 51.5 -4.6
XLT S **S** 12 38 12.3 -2.0
XLT sS sS 12 38 23.4 +4.7
XLT pmax pmax
comp=Z,48nm,2.1s
XLT pmax pmax
comp=Z,1μm,5.9s
XLT LR LR
comp=Z,6μm,12.5s
XLT LR LR
comp=Z,10μm,11.8s
CM31 Chiang Mai Arr 74.24 294 IAmb IAmb 12 28 50.9
comp=Z,72nm,1.1s
CMAR Chiang Mai Arr 74.24 294 P **P** 12 28 43.2 +1.0
comp=Z,6.3nm,0.9s,baz=126,slow=4.4,SNR=38
CMAR PKPPKP **P'P'df** 12 56 12.6 -1.1
comp=Z,1.1nm,1.0s,baz=289,slow=2.8,SNR=6.3
CMAR Chiang Mai Arr 74.24 294 P **P** 12 28 43.0 +0.8
CMAR Chiang Mai Arr 74.24 294 P **P** 12 28 43.0 +0.8
CHTO Chiang Mai 74.37 295 P **P** 12 28 43.9 +1.0
CHTO pmax pmax
comp=Z,88nm,1.3s
CHTO Chiang Mai 74.37 295 P **P** 12 28 43.9 +1.0
CHTO IAmb IAmb 12 28 51.3
comp=Z,88nm,1.3s
CHTO Chiang Mai 74.37 295 ⇑P **P** 12 28 43.7 +0.8
CHTO Chiang Mai 74.37 295 P **P** 12 28 45.0 +2.1
MA2 Magadan 74.92 352 *ce*P **P** 12 28 44.1 -1.1
MA2 pmax pmax
comp=Z,56nm,1.7s
MA2 Magadan 74.92 352 P **P** 12 28 44.0 -1.1
MA2 IAmb IAmb 12 29 02.5
comp=Z,259nm,1.9s
MA2 Magadan 74.92 352 ⇑P **P** 12 28 44.3 -0.9
MA2 Magadan 74.92 352 P **P** 12 28 48.1 +2.9
SDPT Sand Point 74.93 19 P **P** 12 28 42.1 -3.2
baz=213
HHC Hu-ho-hao-te 74.98 320 *e*P **P** 12 28 47.0 +0.9
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,1μm,6.6s
PZH PanZhiHua 75.01 303 P **P** 12 28 46.3 -0.3
PZH pP **sP** 12 28 49.8 -0.3
PZH sP **pwP** 12 28 53.6 +1.0
PZH PcP **PcP** 12 29 00.8 +0.4
PZH PP **PP** 12 31 32.8 -1.9
PZH S **S** 12 38 24.9 0.0
PZH SKS **SKSac** 12 38 48.3 -7.9
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,1μm,6.9s
PZH LR LR
comp=Z,2μm,17.1s
PZH LR LR
comp=Z,5μm,17.3s
PZH LR LR
comp=Z,4μm,15.3s
CD2 Chengdu 75.34 308 P **P** 12 28 48.8 +0.5
CD2 pmax pmax
comp=Z,50nm,1.1s
CD2 pmax pmax
comp=Z,1μm,9.0s
QSPA South Pole Qui 75.53 180 LR LR 12 59 31.3
comp=Z,3μm,19.1s,baz=22,slow=34
QSPA South Pole Qui 75.53 180 P **P** 12 28 49.0 +0.1
BTO Baotou 75.81 319 *e*P **P** 12 28 53.1 +2.2
BTO S **S** 12 38 39.9 +6.7
ZEA Zeya 75.82 337 *e*P **P** 12 28 50.8 +0.3
ZEA pmax pmax
comp=E,10.0nm,2.4s
ZEA pmax pmax
comp=N,50nm,2.0s
ZEA pmax pmax
comp=Z,60nm,2.0s
CHIR Chirikof Islan 76.91 21 P **P** 12 28 55.1 -1.5
baz=218
LZH Lanzhou 77.67 313 ⇑P **P** 12 29 02.8 +1.2
LZH sP pwP 12 29 09.1 +1.6
LZH pmax pmax
comp=Z,79nm,1.3s
LZH pmax pmax
comp=Z,2μm,6.5s
LZH LR LR
comp=Z,6μm,16.3s
LZH LR LR
comp=Z,6μm,16.5s
LZH LR LR
comp=Z,10μm,18.6s
SEY Seymchan 77.98 353 P **P** 12 29 01.9 -0.5
comp=Z,17nm,0.8s,baz=157,slow=6.2,SNR=52
SEY Seymchan 77.98 353 *ce*P **P** 12 29 01.8 -0.6
SEY pmax pmax
comp=Z,70nm,1.6s
SII Sitkinak Islan 77.99 21 P **P** 12 29 01.3 -1.4
baz=219
OHAK Old Harbor 78.81 21 IAmb IAmb 12 29 20.8
comp=Z,180nm,1.5s
OHAK Old Harbor 78.81 21 P **P** 12 29 05.8 -1.3
baz=220,SNR=8.6
OHAK S **S** 12 39 03.3 -1.6
baz=220
KDAK Kodiak Island 79.49 21 P **P** 12 29 10.6 -0.3
comp=Z,16nm,1.0s,baz=35,slow=3.9,SNR=5.6
KDAK Kodiak Island 79.49 21 *i*P **P** 12 29 09.7 -1.2
KDAK pmax pmax
comp=Z,69nm,1.6s
KDAK Kodiak Island 79.49 21 P **P** 12 29 09.8 -1.0
KDAK Kodiak Island 79.49 21 P **P** 12 29 09.3 -1.6
baz=220
KDAK S **S** 12 39 12.6 +0.5
baz=220
GAMB Gambell 79.81 10 IAmb IAmb 12 29 13.4
comp=Z,96nm,1.2s
GAMB Gambell 79.81 10 ⇑P **P** 12 29 11.9 -0.6
GAMB ⇓P **pP** 12 29 12.6 -2.4
GAMB Gambell 79.81 10 P **P** 12 29 11.8 -0.7
baz=201,SNR=11
GAMB S **S** 12 39 17.8 +2.6
baz=201
P18K Big Mountain, 79.88 19 IAmb IAmb 12 29 29.0
comp=Z,175nm,1.6s
P18K Big Mountain, 79.88 19 P **P** 12 29 11.4 -1.7
baz=218
P18K S **S** 12 39 14.7 -1.6
baz=218
Q19K Cape Douglas, 80.02 20 IAmb IAmb 12 29 40.0
comp=Z,119nm,1.1s
Q19K Cape Douglas, 80.02 20 P **P** 12 29 12.1 -1.7
baz=219
Q19K S **S** 12 39 17.5 -0.2
baz=219
O18K Koktuh Hills 80.25 18 IAmb IAmb 12 29 30.2
comp=Z,155nm,2.0s
O18K Koktuh Hills 80.25 18 P **P** 12 29 13.1 -1.9
baz=218
O18K S **S** 12 39 17.4 -2.7
baz=218
CIT Chita 80.54 330 *e*P **P** 12 29 16.2 -0.6
CIT pmax pmax
comp=Z,266nm,1.8s
N18K Kilae Creek 80.71 18 P **P** 12 29 18.7 +1.2
N18K Kilae Creek 80.71 18 P **P** 12 29 16.0 -1.4
baz=217
N18K S **S** 12 39 24.4 -0.5
baz=217
P19K Oil Pt 80.72 19 P **P** 12 29 16.5 -1.0
P19K IAmb IAmb 12 29 20.2
comp=Z,118nm,1.2s
P19K Oil Pt 80.72 19 P **P** 12 29 14.9 -2.6
baz=219
P19K S **S** 12 39 23.7 -1.3
baz=219
O19K Port Alsworth 80.80 19 IAmb IAmb 12 29 32.8
comp=Z,240nm,1.8s
O19K Port Alsworth 80.80 19 P **P** 12 29 16.1 -1.7
baz=218,SNR=15
O19K S **S** 12 39 24.9 -0.8
baz=218
SVW2 Sparrevohn 81.14 18 IAmb IAmb 12 29 34.7
comp=Z,139nm,1.5s
N19K Bonanza Creek 81.24 18 P **P** 12 29 18.8 -1.6
baz=218
N19K S **S** 12 39 30.0 -0.5
baz=218
HOM Homer 81.24 20 P **P** 12 29 18.6 -1.7
baz=221
O20K Slope Mountain 81.24 19 P **P** 12 29 18.0 -2.3
baz=220
O20K S **S** 12 39 31.1 +0.5
baz=220
CNPM China Poot 81.28 20 IAmb IAmb 12 29 22.6
comp=Z,117nm,1.2s
ULN Ulaanbaatar 81.56 324 *ce*P **P** 12 29 22.6 +0.1
ULN pmax pmax
comp=Z,59nm,1.7s
ULN Ulaanbaatar 81.56 324 P **P** 12 29 22.8 +0.3
ULN Ulaanbaatar 81.56 324 ⇑P **P** 12 29 22.6 +0.1
ULN ⇓P **pP** 12 29 23.1 -1.9
ULN ⇓P **pwP** 12 29 28.9 +0.5
BRLK Bradley Lake 81.57 20 IAmb IAmb 12 29 34.8
comp=Z,62nm,1.2s
BRSE Bradley Lake S 81.60 20 P **P** 12 29 21.2 -1.0
baz=222
BRSE S **S** 12 39 35.1 +0.9
baz=222
YAK Yakutsk 81.62 343 P **P** 12 29 21.4 -0.8
comp=Z,25nm,0.7s,baz=169,slow=0.5,SNR=28
YAK Yakutsk 81.62 343 *e*P **P** 12 29 21.4 -0.8
YAK *e* 12 29 26.1
YAK *e**PP **pwP** 12 29 28.1 -0.1
YAK *e*S **S** 12 39 32.4 -1.8
YAK pmax pmax
comp=Z,128nm,1.0s
YAK pmax pmax
comp=E,24nm,1.4s
YAK pmax pmax
comp=N,41nm,1.2s
YAK smax smax
comp=N,2μm,5.3s
YAK smax smax
comp=E,1μm,5.6s
YAK MLR MLR
comp=Z,8μm,17.0s
YAK MLR MLR
comp=N,4μm,16.0s
YAK MLR MLR
comp=E,2μm,16.0s
YAK Yakutsk 81.62 343 P **P** 12 29 21.5 -0.7
YAK IAmb IAmb 12 29 35.6
comp=Z,181nm,1.1s
YAK Yakutsk 81.62 343 ⇑P **P** 12 29 21.6 -0.6
YAK ⇓P **pP** 12 29 22.2 -2.6
ANM Nome 81.68 12 IAmb IAmb 12 29 24.6
comp=Z,121nm,1.2s
ANM Nome 81.68 12 P **P** 12 29 22.1 -0.4
baz=208,SNR=33
ANM S **S** 12 39 36.2 +1.4
baz=208
MAW Mawson 81.84 202 P **P** 12 29 24.1 +0.7
comp=Z,19nm,1.0s,baz=93,slow=5.5,SNR=13
MAW LR LR 13 00 52.4
comp=Z,7μm,21.4s,baz=80,slow=32
MAW Mawson 81.84 202 P **P** 12 29 24.4 +1.0
baz=82,SNR=8.9
MAW Mawson 81.84 202 P **P** 12 29 24.8 +1.3
MAW Mawson 81.84 202 P **P** 12 29 24.8 +1.3
SONM Songino Array 81.92 324 P **P** 12 29 24.3 0.0
comp=Z,8.9nm,1.0s,baz=134,slow=5.2,SNR=27
SONM PKPPKP **P'P'df** 12 55 59.6 +2.6
comp=Z,0.5nm,0.6s,baz=298,slow=3.1,SNR=3.8
GTA Gaotai 82.03 314 ⇑P **P** 12 29 25.5 +0.4
GTA pP PcP 12 29 30.4 -0.2
GTA sP pwP 12 29 32.6 +1.5
GTA pmax pmax
comp=Z,21nm,1.3s
TNA Tin City 82.10 10 IAmb IAmb 12 29 39.0
comp=Z,214nm,1.8s
TNA Tin City 82.10 10 P **P** 12 29 23.9 -0.8
baz=205,SNR=6.5
TNA S **S** 12 39 39.8 +0.8
baz=205
M19K Big River Lodg 82.12 18 IAmb IAmb 12 29 27.3
comp=Z,48nm,1.1s
M19K Big River Lodg 82.12 18 P **P** 12 29 24.4 -0.6
baz=218,SNR=27
M19K S **S** 12 39 39.9 +0.4
baz=218
L19K White Mountain 82.21 17 IAmb IAmb 12 29 28.0
comp=Z,94nm,1.5s
L19K White Mountain 82.21 17 P **P** 12 29 24.9 -0.5
baz=218,SNR=22
L19K S **S** 12 39 42.5 +2.0
baz=218
SPCR Spurr Chakacha 82.24 19 P **P** 12 29 23.6 -2.0
baz=220
CAPN Captain Cook N 82.24 19 P **P** 12 29 24.5 -1.0

baz=221
SEW Seward 82.31 21 IAmb IAmb 12 29 38.1
comp=Z,68nm,1.1s
SEW Seward 82.31 21 P **P** **12 29 24.3 -1.6**
baz=223
SEW S **S** **12 39 41.6 +0.2**
baz=223
BILL Bilibino 82.31 360 *de*P **P** **12 29 24.7 -1.1**
BILL *e**PP **sP** **12 29 29.0 -0.2**
BILL *e**SP **pwP** **12 29 32.0 +0.2**
BILL *e* 12 32 38.9
BILL *e*S **S** **12 39 38.7 -2.5**
BILL pmax pmax
comp=Z,129nm,1.7s
BILL MLR MLR
comp=Z,2µm,14.0s
BILL Bilibino 82.31 360 P **P** **12 29 24.9 -0.9**
BILL IAmb IAmb 12 29 40.0
comp=Z,104nm,1.2s
TTA Tatalina 82.49 16 IAmb IAmb 12 29 29.2
comp=Z,60nm,1.2s
TTA Tatalina 82.49 16 ⇑P **P** **12 29 26.1 -0.8**
TTA ⇓P **pP** **12 29 26.9 -2.5**
TTA Tatalina 82.49 16 P **P** **12 29 26.4 -0.5**
baz=216,SNR=36
TTA S **S** **12 39 41.1 -2.2**
baz=216
O22K Cooper Landing 82.50 20 P **P** **12 29 25.0 -1.8**
baz=222
O22K S **S** **12 39 44.0 +0.7**
baz=222
L20K Farewell, AK 82.73 17 P **P** **12 29 27.7 -0.4**
baz=218,SNR=44
L20K S **S** **12 39 47.3 +1.6**
baz=218
Q23K Middleton Isla 82.92 22 P **P** **12 29 26.9 -2.2**
baz=226
RC01 Rabbit Creek A 82.94 20 P **P** **12 29 28.1 -1.1**
baz=222,SNR=5.4
RC01 S **S** **12 39 47.0 -0.9**
baz=222
PWL Port Wells 83.24 20 P **P** **12 29 29.7 -1.1**
baz=224,SNR=20
PWL S **S** **12 39 50.6 -0.4**
baz=224
M22K Willow 83.31 19 P **P** **12 29 29.7 -1.3**
baz=222,SNR=15
K20K Telida 83.36 17 P **P** **12 29 31.0 -0.4**
baz=218,SNR=28
K20K S **S** **12 39 49.1 -3.0**
baz=218
PMR Palmer 83.51 20 P **P** **12 29 30.9 -1.1**
baz=223,SNR=12
PMR S **S** **12 39 54.1 +0.5**
baz=223
PPLA Purkeypile 83.55 18 IAmb IAmb 12 29 47.1
comp=Z,148nm,1.6s
PPLA Purkeypile 83.55 18 P **P** **12 29 30.2 -2.3**
baz=220,SNR=9.4
KNK Knik Glacier 83.60 20 P **P** **12 29 31.5 -1.1**
baz=224,SNR=13
KNK S **S** **12 39 52.4 -2.2**
baz=224
GLI Glacier Island 83.68 21 P **P** **12 29 31.7 -1.3**
baz=225,SNR=15
GLI S **S** **12 39 55.3 -0.1**
baz=225
GCSA Galena City Sc 83.74 15 P **P** **12 29 32.5 -0.6**
baz=216,SNR=14
GCSA S **S** **12 39 56.7 +0.9**
baz=216
CUT Chulitna 83.75 19 P **P** **12 29 31.7 -1.6**
baz=222,SNR=20
EYAK Cordova Ski Ar 83.92 22 IAmb IAmb 12 29 35.3
comp=Z,100nm,1.3s
EYAK Cordova Ski Ar 83.92 22 P **P** **12 29 32.9 -1.3**
baz=226,SNR=8.3
EYAK S **S** **12 39 59.0 +1.3**
baz=226
SML Sawmill 83.93 20 P **P** **12 29 33.0 -1.3**
baz=224,SNR=12
SML S **S** **12 39 59.0 +1.1**
baz=224
CAST Castle Rocks 83.98 17 P **P** **12 29 32.6 -1.9**
baz=220,SNR=110
BOD Bodaibo 83.98 335 *e*P **P** **12 29 33.1 -1.5**
BOD pmax pmax
comp=Z,120nm,1.7s
J20K Nowinta River 83.99 16 IAmb IAmb 12 29 49.0
comp=Z,208nm,1.6s
J20K Nowinta River 83.99 16 P **P** **12 29 34.2 -0.4**
baz=218,SNR=31
J20K S **S** **12 39 54.8 -3.6**
baz=218
CHUM Lake Minchumin 84.27 17 P **P** **12 29 34.8 -1.2**
baz=220,SNR=54
CHUM S **S** **12 40 00.0 -1.1**
baz=220
SCM Sheep Creek Mo 84.28 20 P **P** **12 29 35.0 -1.1**
baz=225,SNR=9.0
SCM S **S** **12 40 03.2 +1.7**
baz=225
HMT Hamilton 84.31 22 IAmb IAmb 12 29 50.7
comp=Z,155nm,1.4s
GOMU GeErMu 84.32 309 P **P** **12 29 37.9 +0.6**
GOMU sP pwP 12 29 45.1 +1.7
GOMU pmax pmax
comp=Z,1µm,8.4s
GOMU LR LR
comp=Z,3µm,14.9s
GOMU LR LR
comp=Z,2µm,14.5s
GOMU LR LR
comp=Z,4µm,14.4s
KLU Klutina 84.52 21 P **P** **12 29 36.2 -1.1**
baz=226,SNR=5.3
KLU S **S** **12 40 03.0 -0.9**
baz=226
TRF Thorofare Moun 84.53 18 P **P** **12 29 35.5 -2.0**
baz=222,SNR=33
TRF S **S** **12 40 02.7 -1.4**
baz=222
BERG Berg Lake 84.55 22 IAmb IAmb 12 29 38.8
comp=Z,148nm,1.2s
WAT1 Susitna Watana 84.60 19 P **P** **12 29 36.3 -1.4**
baz=223
WAT1 S **S** **12 40 05.2 +0.6**
baz=223
BMRM Bremner River 84.61 22 P **P** **12 29 36.6 -1.2**
baz=227
BMRM S **S** **12 40 03.5 -1.3**
baz=227
WAT6 Susitna Watana 84.68 19 P **P** **12 29 37.1 -1.2**
baz=224,SNR=13
WAT6 S **S** **12 40 07.0 +1.3**
baz=224
BPAW Bear Paw Mtn. 84.81 17 IAmb IAmb 12 29 39.0
comp=Z,83nm,1.2s
BPAW Bear Paw Mtn. 84.81 17 P **P** **12 29 36.0 -2.7**
baz=221,SNR=34
BPAW S **S** **12 40 05.6 -1.1**
baz=221
M24K Tolsona, Glenn 84.86 20 P **P** **12 29 38.5 -0.5**
baz=226
M24K S **S** **12 40 09.0 +1.7**
baz=226
LSA Lhasa 84.87 302 P **P** **12 29 40.1 -0.3**
SNCC San Nicolas Is 84.88 54 P **P** **12 29 37.5 -2.2**
baz=249
ZAK Zakamensk 84.98 325 *e*P **P** **12 29 39.5 -0.5**
ZAK pmax pmax
comp=Z,83nm,1.5s
N25K Chitina, Valde 85.05 21 P **P** **12 29 37.9 -2.2**
baz=227,SNR=6.3
N25K S **S** **12 40 08.9 -0.4**
baz=227
O02D Mt. Diablo Mer 85.06 47 P **P** **12 29 39.2 -1.4**
baz=246
MCK McKinley 85.15 18 P **P** **12 29 38.8 -1.6**
baz=223,SNR=50
DHY Denali Highway 85.15 19 P **P** **12 29 39.5 -1.1**
baz=224,SNR=22
DHY S **S** **12 40 10.1 -0.3**
baz=224
ISLE Juniper Island 85.20 23 IAmb IAmb 12 29 55.0
comp=Z,52nm,1.0s
VRDI Verde Repeater 85.20 22 IAmb IAmb 12 29 55.2
comp=Z,233nm,2.0s

RDOG Red Dog Mine 85.23 11 P **P** **12 29 40.5 -0.3**
baz=210,SNR=14
RDOG S **S** **12 40 11.5 +0.9**
baz=210
PKM Mcpherson Peak 85.24 52 P **P** **12 29 40.3 -1.4**
baz=249
L02E Cave Junction 85.30 44 P **P** **12 29 40.4 -1.3**
baz=246
I21K Tanana 85.36 16 P **P** **12 29 40.9 -0.5**
baz=220,SNR=75
I21K S **S** **12 40 12.2 +0.2**
baz=220
IRK Irkutsk 85.38 327 *e*P **P** **12 29 40.2 -1.6**
IRK pmax pmax
comp=Z,170nm,1.8s
HARP HAARP 85.41 20 P **P** **12 29 41.0 -0.7**
baz=226
N02D Trinity Center 85.43 46 P **P** **12 29 40.6 -1.9**
baz=246
MCARA McCarthy VSAT 85.46 22 P **P** **12 29 40.6 -1.4**
baz=228,SNR=6.5
MCARA S **S** **12 40 13.4 +0.2**
baz=228
K02D Willamette Mer 85.47 44 P **P** **12 29 41.0 -1.6**
baz=246
M02C Callahan 85.50 45 P **P** **12 29 40.9 -1.9**
baz=246
GRNC Granite Creek 85.50 23 IAmb IAmb 12 29 56.7
comp=Z,33nm,0.9s
H21K Melozitna Rive 85.51 16 P **P** **12 29 41.8 -0.3**
baz=219,SNR=101
H21K S **S** **12 40 15.0 +1.5**
baz=219
IMAR Indian Mountai 85.52 15 P **P** **12 29 41.6 -0.6**
TABL Table Mountain 85.54 23 IAmb IAmb 12 29 57.0
comp=Z,39nm,0.8s
PCA Pinnacle 85.67 24 IAmb IAmb 12 29 44.7
comp=Z,46nm,1.1s
PAX Paxson 85.70 20 P **P** **12 29 41.3 -2.0**
baz=226
PAX S **S** **12 40 14.2 -1.4**
baz=226
YBH Yreka Blue Hor 85.73 45 P **P** **12 29 43.5 -0.4**
comp=Z,9.2nm,1.1s,baz=202,slow=10.0,SNR=4.0
YBH LR LR 13 00 38.8
comp=Z,4µm,21.2s,baz=295,slow=30
YBH Yreka Blue Hor 85.73 45 IAmb IAmb 12 32 12.2
comp=Z,83nm,2.0s
PNL Peninsula 85.74 24 P **P** **12 29 41.6 -1.9**
baz=232
PNL S **S** **12 40 16.8 +0.9**
baz=232
NEA2 Nenana 85.74 18 P **P** **12 29 41.3 -2.1**
baz=223,SNR=64
NEA2 S **S** **12 40 12.6 -3.1**
baz=223
BARN Barnard Glacie 85.75 23 IAmb IAmb 12 29 45.6
comp=Z,81nm,1.2s
CTG Chitna Glacier 85.81 23 P **P** **12 29 42.1 -1.9**
baz=230,SNR=16
CTG S **S** **12 40 18.2 +1.4**
baz=230
CTGM Chitina Glacie 85.81 23 IAmb IAmb 12 29 45.1
comp=Z,51nm,1.1s
LOGN Logan Glacier 85.84 23 IAmb IAmb 12 29 45.8
comp=Z,39nm,1.2s
WRH Wood River Hil 85.94 18 IAmb IAmb 12 29 44.9
comp=Z,132nm,1.2s
CRAG Craig 86.06 30 S **S** **12 40 20.9 +1.7**
baz=238
I23K Minto, Yukon-K 86.07 17 IAmb IAmb 12 30 01.2
comp=Z,201nm,2.0s
I23K Minto, Yukon-K 86.07 17 P **P** **12 29 43.2 -1.7**
baz=222,SNR=22
I23K S **S** **12 40 18.1 -0.7**
baz=222
M26K Nabesna, AK 86.15 21 IAmb IAmb 12 29 47.3
comp=Z,47nm,1.1s
M26K Nabesna, AK 86.15 21 P **P** **12 29 44.0 -1.5**
baz=228,SNR=22
M26K S **S** **12 40 20.6 +0.7**
baz=228
CCB Clear Creek Bu 86.15 18 IAmb IAmb 12 29 45.2
comp=Z,69nm,1.2s
L04D Klamath Falls 86.20 45 P **P** **12 29 42.9 -3.4**
baz=247
HDA Harding Lake 86.24 18 P **P** **12 29 44.3 -1.5**
baz=225,SNR=97
HDA S **S** **12 40 15.8 -4.9**
baz=225
HDA S **S** **12 40 15.8 -4.9**
baz=225
MENT Mentasta 86.26 20 IAmb IAmb 12 30 28.5
comp=Z,34nm,1.1s
TCOL CIGO, UAF Yank 86.30 18 IAmb IAmb 12 29 46.6
comp=Z,123nm,1.1s
TCOL CIGO, UAF Yank 86.30 18 P **P** **12 29 44.5 -1.6**
baz=224,SNR=33
TCOL S **S** **12 40 16.8 -4.4**
baz=224
COLA College 86.30 18 *c* iP **P** **12 29 44.2 -1.8**
COLA pmax pmax
comp=Z,136nm,1.2s
COLA College 86.30 18 ⇑P **P** **12 29 43.9 -2.1**
COLA ⇓P **PcP** **12 29 44.8 -3.7**
COLA College 86.30 18 P **P** **12 29 44.5 -1.6**
baz=224
COLA S **S** **12 40 16.1 -5.1**
baz=224
RIDG Independent Ri 86.43 20 IAmb IAmb 12 29 58.4
comp=Z,169nm,1.7s
RIDG Independent Ri 86.43 20 P **P** **12 29 45.5 -1.4**
baz=227,SNR=15
RIDG S **S** **12 40 19.5 -3.1**
baz=227
L26K Log Cabin Wild 86.44 21 P **P** **12 29 45.5 -1.4**
baz=228,SNR=18
L26K S **S** **12 40 20.3 -2.5**
baz=228
M27K Edge Creek, AK 86.51 21 IAmb IAmb 12 29 49.0
comp=Z,35nm,1.1s
M27K Edge Creek, AK 86.51 21 P **P** **12 29 45.9 -1.5**
baz=230,SNR=17
M27K S **S** **12 40 23.1 -0.6**
baz=230
H23K Yukon River 86.52 17 IAmb IAmb 12 29 48.7
comp=Z,125nm,1.3s
H23K Yukon River 86.52 17 P **P** **12 29 46.0 -1.2**
baz=222,SNR=54
H23K S **S** **12 40 23.8 +0.5**
baz=222
ILAR Eielson Array 86.52 18 P **P** **12 29 45.1 -2.1**
comp=Z,26nm,0.8s,baz=233,slow=4.9,SNR=103
ILAR PKKP **PKKPdf** **12 47 42.8 +2.4**
comp=Z,0.9nm,0.9s,baz=19,slow=0.5,SNR=4.7
ILAR PKPPKP **P'P'df** **12 55 48.5 +1.3**
comp=Z,0.6nm,1.0s,baz=29,slow=3.3,SNR=4.1
ISA Isabella, Lake 86.54 52 P **P** **12 29 45.4 -2.7**
baz=250
POKR Poker Flat Res 86.60 18 P **P** **12 29 45.0 -2.6**
baz=224,SNR=14
POKR S **S** **12 40 23.5 -0.6**
baz=224
YUK3 Moose Creek 86.65 22 P **P** **12 29 46.5 -1.6**
baz=231,SNR=17
BFSC Mount Baldy Ra 86.68 54 P **P** **12 29 46.4 -2.5**
baz=250
G03D McMinnville, O 86.77 42 P **P** **12 29 46.6 -2.2**
baz=246
MOY Mondy 86.86 325 *e*P **P** **12 29 49.2 -0.1**
MOY pmax pmax
comp=Z,105nm,3.2s
J25K Salcha River, 86.87 19 IAmb IAmb 12 29 50.8
comp=Z,72nm,1.2s
J25K Salcha River, 86.87 19 P **P** **12 29 47.1 -1.9**
baz=226,SNR=70
J25K S **S** **12 40 22.4 -4.6**
baz=226
SCRK Sand Creek 86.88 20 IAmb IAmb 12 29 52.4
comp=Z,34nm,1.0s
SCRK Sand Creek 86.88 20 P **P** **12 29 47.4 -1.7**
baz=228,SNR=41
SCRK S **S** **12 40 26.9 -0.1**
baz=228
BVCY Beaver Creek 86.91 22 P **P** **12 29 47.6 -1.6**
baz=230,SNR=5.9
YUK6 Outpost Mounta 86.93 24 P **P** **12 29 47.5 -2.0**
baz=233

WRAK Wrangell Islan 86.94 29 P **P** **12 29 47.6 -1.8**
baz=238
BBB Bella Bella 86.96 34 LR LR 13 01 24.5
comp=Z,7µm,21.6s,baz=296,slow=31
TAPN Taplejung 86.98 299 *e*P **P** **12 29 51.4 +0.7**
BESE Bessie Mountai 86.98 27 IAmb IAmb 12 30 04.5
comp=Z,87nm,2.0s
L27K Beaver Creek, 86.99 21 P **P** **12 29 47.9 -1.6**
baz=230,SNR=12
L27K S **S** **12 40 27.5 -0.6**
baz=230
H24K Noodor Dome 86.99 17 P **P** **12 29 47.3 -2.3**
baz=224,SNR=13
BELA Belgrano 2 87.00 176 IAmb IAmb 12 29 50.6
comp=Z,89nm,1.2s
YUK4 Talbot Arm 87.06 23 P **P** **12 29 49.1 -1.1**
baz=232,SNR=5.5
YUK4 S **S** **12 40 29.4 +0.2**
baz=232
ODAN Odare 87.10 299 *e*P **P** **12 29 53.2 +2.0**
CWC Cottonwood Cre 87.11 51 P **P** **12 29 48.6 -2.3**
baz=250
HYT Haines Junctio 87.19 24 P **P** **12 29 48.9 -1.8**
baz=234,SNR=7.3
SKAG Skagway 87.28 26 IAmb IAmb 12 29 53.4
comp=Z,45nm,1.6s
SKAG Skagway 87.28 26 P **P** **12 29 49.4 -1.5**
baz=235,SNR=6.4
SKAG S **S** **12 40 33.5 +2.6**
baz=235
J05D Fort Rock, OR 87.34 44 P **P** **12 29 49.9 -2.0**
baz=247
J05D S **S** **12 40 39.3 +6.8**
baz=247
J26L Joseph Creek 87.37 19 P **P** **12 29 50.2 -1.2**
baz=228,SNR=14
J26L S **S** **12 40 34.6 +2.8**
baz=228
COLD Coldfoot 87.39 15 IAmb IAmb 12 29 53.1
comp=Z,81nm,1.2s
COLD Coldfoot 87.39 15 P **P** **12 29 51.0 -0.4**
baz=222,SNR=73
COLD S **S** **12 40 35.4 +3.7**
baz=222
PFO Pinyon Flats O 87.41 54 LR LR 13 01 20.1
comp=Z,10µm,20.2s,baz=292,slow=30
PFO Pinyon Flats O 87.41 54 *i* P **P** **12 29 52.2 -0.2**
PFO pmax pmax
comp=Z,75nm,3.8s
MPMC Manual Prospec 87.43 52 P **P** **12 29 50.6 -1.9**
baz=250
NVAR Mina Array Bea 87.63 49 P **P** **12 29 52.5 -1.0**
comp=Z,3.1nm,0.9s,baz=226,slow=14,SNR=12
NVAR LR LR 13 01 21.2
comp=Z,10µm,20.6s,baz=286,slow=30
D03D Eldon 87.83 40 P **P** **12 29 52.8 -1.1**
baz=246
PALK Pallekele 87.83 278 P **P** **12 29 55.3 +0.6**
comp=Z,12nm,1.1s,baz=201,slow=4.6,SNR=5.8
PALK Pallekele 87.83 278 P **P** **12 29 56.4 +1.7**
PALK pmax pmax
comp=Z,58nm,1.3s
PALK Pallekele 87.83 278 P **P** **12 29 56.4 +1.7**
PALK IAmb IAmb 12 30 20.3
comp=Z,58nm,1.2s
QSM Queen of Sheba 87.87 52 IAmb IAmb 12 31 30.5
comp=Z,38nm,1.8s
BELC Belle Mtn. Jos 87.90 54 P **P** **12 29 52.8 -2.0**
baz=251
FURC Furnace Creek, 88.04 52 P **P** **12 29 53.0 -2.1**
baz=250
WHY Whitehorse 88.14 25 IAmb IAmb 12 30 05.8
comp=Z,49nm,2.0s
WHY Whitehorse 88.14 25 P **P** **12 29 53.6 -1.6**
baz=236
BC3 Big Chuckawall 88.22 55 P **P** **12 29 53.8 -2.4**
baz=251
N31M Braeburn, Yuko 88.26 24 P **P** **12 29 54.5 -1.2**
baz=235,SNR=6.0
TPH Tonopah 88.31 50 IAmb IAmb 12 30 25.3
comp=Z,168nm,1.7s
EGAK Eagle 88.33 20 IAmb IAmb 12 29 57.0
comp=Z,63nm,1.2s
EGAK Eagle 88.33 20 P **P** **12 29 54.3 -1.6**
baz=230,SNR=28
EGAK S **S** **12 40 42.6 +1.9**
baz=230
JIRN Jiri 88.36 299 *e*P **P** **12 29 57.1 -0.3**
comp=Z,56nm,1.1s
GMRC Granite Mounta 88.42 54 P **P** **12 29 54.9 -2.3**
baz=251
DAWY Dawson 88.47 21 P **P** **12 29 54.9 -1.7**
baz=232,SNR=20
DAWY S **S** **12 40 45.1 +2.8**
baz=232
M30M Minto, Yukon 88.50 23 P **P** **12 29 55.0 -1.9**
baz=234,SNR=11
TOLK Toolik Lake Re 88.61 15 IAmb IAmb 12 30 13.9
comp=Z,132nm,1.6s
TOLK Toolik Lake Re 88.61 15 P **P** **12 29 56.7 -0.5**
baz=222
TOLK S **S** **12 40 46.0 +2.7**
baz=222
IRM Iron Mountain 88.62 54 P **P** **12 29 56.2 -1.9**
baz=252
TPNV Topopah Spring 88.67 51 P **P** **12 29 57.0 -1.4**
baz=251
GUN Gumba 88.70 299 *e*P **P** **12 29 58.6 -0.3**
comp=Z,81nm,0.9s
SYO Syowa Base 88.73 197⇑ *e*P **P** **12 29 59.4 +1.6**
B05A Bryant 88.74 39 P **P** **12 29 57.6 -0.5**
baz=247
WVOR Wild Horse Val 88.81 46 IAmb IAmb 12 30 27.1
comp=Z,64nm,1.9s
I07A Izee 88.81 44 IAmb IAmb 12 30 15.4
comp=Z,73nm,2.0s
BLYC Blythe 88.98 55 P **P** **12 29 59.4 -0.3**
BLYC IAmb IAmb 12 31 04.8
comp=Z,66nm,1.9s
PKI Pulchoki 89.00 299 *e*P **P** **12 29 59.8 -0.5**
comp=Z,199nm,1.3s
PKIN Phulchoki 89.01 299 *e*P **P** **12 29 59.8 -0.5**
comp=Z,188nm,1.3s
DLBC Dease Lake 89.06 28 P **P** **12 29 58.5 -1.1**
comp=Z,7.1nm,1.2s,baz=332,slow=2.3,SNR=4.2
KKN Kakani 89.17 299 *e*P **P** **12 30 00.4 -0.6**
A21K Barrow 89.18 11 P **P** **12 29 59.7 0.0**
baz=216
A21K S **S** **12 40 51.5 +3.1**
baz=216
M31M Drury Creek, Y 89.21 24 P **P** **12 29 58.5 -1.6**
baz=236
DMN Daman 89.27 299 *e*P **P** **12 30 01.3 -0.2**
comp=Z,184nm,1.3s
SHPR Sheep Range 89.35 52 IAmb IAmb 12 30 57.3
comp=Z,54nm,1.9s
PDMCI Parker Dam,Lak 89.46 54 P **P** **12 30 00.3 -1.6**
baz=252
TIXI Tiksi 89.62 349 P **P** **12 30 00.1 -1.7**
comp=Z,14nm,1.0s,baz=90,slow=20,SNR=19
TIXI Tiksi 89.62 349 *ce*P **P** **12 30 00.7 -1.1**
TIXI pmax pmax
comp=Z,20nm,1.0s
TIXI Tiksi 89.62 349 P **P** **12 30 00.5 -1.2**
R11A Troy Canyon, C 89.62 50 P **P** **12 30 01.6 -1.3**
baz=251
I29M Ogilvie Camp, 89.64 20 P **P** **12 30 01.2 -0.9**
baz=233
LPIG La Paz 89.71 65 LR LR 13 03 00.6
comp=Z,2µm,18.8s,baz=286,slow=31
GKN Gorkha 89.78 299 *e*P **P** **12 30 02.8 -1.0**
comp=Z,157nm,1.2s
214A Organ Pipe Nat 89.82 57 P **P** **12 30 02.3 -1.4**
baz=253
E08A Dider Farm, El 89.97 42 IAmb IAmb 12 30 23.3
comp=Z,53nm,1.6s
KOLN Koldanda 90.59 298 *e*P **P** **12 30 07.3 -0.3**
comp=Z,229nm,1.6s
DANN Dangsing 90.62 299 *e*P **P** **12 30 06.8 -1.0**
comp=Z,151nm,1.2s
ELK Elko 90.64 48 P **P** **12 30 06.5 -1.1**
comp=Z,4.4nm,1.0s,baz=220,slow=3.5,SNR=7.5
ELK LR LR 13 02 33.0
comp=Z,7µm,21.9s,baz=287,slow=30
CCUT Cedar City 91.04 52 IAmb IAmb 12 30 45.2
comp=Z,45nm,1.8s
PYUN Piuthan 91.20 299 *e*P **P** **12 30 08.9 -1.6**
KNB Kanab 91.30 52 IAmb IAmb 12 30 52.5

comp=Z,51nm,1.6s
TGTN Hyland Airport 91.34 26 P **P** 12 30 09.5 -0.6
baz=242
TUC Tucson 91.56 57 P **P** 12 30 11.1 -0.8
TUC pmax pmax
comp=Z,12nm,1.3s
TUC MLR MLR
comp=Z,5µm,20.0s
TUC Tucson 91.56 57 P **P** 12 30 11.1 -0.8
TUC Tucson 91.56 57 P **P** 12 30 09.9 -2.0
baz=254
NEW Newport 91.83 41 P **P** 12 30 11.5 -1.1
comp=Z,5.3nm,0.9s,baz=242,slow=9.6,SNR=5.9
NEW Newport 91.83 41 P **P** 12 30 11.0 -1.6
baz=250
WUAZ Wupatki 91.99 54 P **P** 12 30 12.3 -1.6
baz=254
TCRU Three Creeks R 92.04 51 IAmb IAmb 12 30 45.7
comp=Z,57nm,2.0s
WMQ Urumqi 92.09 315 P **P** 12 30 14.4 +0.4
WMQ pP pwP 12 30 20.5 +0.4
WMQ S **S** 12 41 21.0 +4.5
WMQ pmax pmax
comp=Z,30nm,0.9s
WMQ pmax pmax
comp=Z,700nm,5.7s
WMQ Urumqi 92.09 315 SS **S** 12 41 21.3 +4.8
HLID Hailey 92.10 46 P **P** 12 30 12.7 -1.5
baz=252
DUG Dugway, Tooele 92.23 49 P **P** 12 30 12.6 -2.3
baz=253
HYBB Hyderabad (bro 92.41 287 *e*P **P** 12 30 16.0 -0.1
HYBB *e*PP **PP** 12 33 55.7 -1.5
HYBB *e*PKiKP **PKiKP** 12 35 04.1 -1.3
HYBB *es*PKiKP **sPKiKP** 12 35 08.4 -0.4
HYBB *e*SKSac **SKSac** 12 40 48.6 -1.5
HYBB *e*SP **SP** 12 42 31.1 +0.2
HYBB Hyderabad (bro 92.41 287 *e*SKSac **SKSac** 12 40 48.7 -1.5
INK Inuvik 92.89 19 P **P** 12 30 14.6 -2.4
comp=Z,6.8nm,1.2s,baz=221,slow=6.6,SNR=10
INK PKiKP **PKiKP** 12 35 03.6 -1.0
comp=Z,0.8nm,0.8s,baz=228,slow=2.7,SNR=1.8
INK PKKPbc **PKKPbc** 12 47 30.0 -0.5
comp=Z,2.2nm,1.1s,baz=35,slow=3.5,SNR=3.2
INK Inuvik 92.89 19 IAmb IAmb 12 30 31.4
comp=Z,28nm,1.6s
INK Inuvik 92.89 19 P **P** 12 30 15.1 -1.9
baz=237
TROLL Troll, Antarti 93.03 185 P **P** 12 30 18.9 +0.8
SNAA Sanae 93.74 183 P **P** 12 30 21.3 +0.1
SNAA Sanae 93.74 183 *ce*P **P** 12 30 20.8 -0.4
SNAA Sanae 93.74 183 P **P** 12 30 21.1 -0.1
SNAA IAmb IAmb 12 30 25.2
comp=Z,47nm,1.0s
VNA3 Neumayer Olymp 94.43 181 P **P** 12 30 24.5 +0.1
BOZ Bozeman (W) 94.60 44 P **P** 12 30 24.0 -1.6
baz=254
VNA2 Neumayer--Watz 94.69 182 P **P** 12 30 25.7 +0.2
baz=180,slow=4.0
VNA1 Neumayer--Stat 94.99 182 P **P** 12 30 26.5 -0.3
ZSN Zaisan 95.05 318 *e*P **P** 12 30 25.9 -1.6
ZSN Zaisan 95.05 318 *e*P **P** 12 30 25.9 -1.6
baz=318
BW06 Boulder Array 95.29 47 P **P** 12 30 26.8 -2.2
baz=255
PDAR Pinedale Array 95.29 47 P **P** 12 30 29.4 +0.4
comp=Z,0.6nm,0.8s,baz=268,slow=4.3,SNR=5.1
PDAR PP **PP** 12 34 24.6 +5.2
comp=Z,0.7nm,0.9s,baz=258,slow=8.1,SNR=3.9
PDAR PKiKP **PKiKP** 12 35 10.4 +0.5
comp=Z,0.4nm,0.7s,baz=169,slow=1.8,SNR=1.8
PDAR LR LR 13 06 05.4
comp=Z,3µm,21.0s,baz=334,slow=31
ANMO Albuquerque 95.73 56 P **P** 12 30 30.6 -0.5
comp=Z,1.9nm,1.0s,baz=240,slow=5.4,SNR=3.5
ANMO LR LR 13 05 30.1
comp=Z,5µm,20.9s,baz=312,slow=30
ANMO Albuquerque 95.73 56 *i* P **P** 12 30 30.1 -1.1
ANMO Albuquerque 95.73 56 P **P** 12 30 31.2 0.0
ANMO Albuquerque 95.73 56 P **P** 12 30 29.3 -1.8
baz=256
C36M Paulatuk 96.40 20 IAmb IAmb 12 30 32.3
comp=Z,28nm,1.2s
C36M Paulatuk 96.40 20 P **P** 12 30 30.7 -2.4
baz=246
MK31 Makanchi Array 96.58 317 *i* P **P** 12 30 34.2 -0.3
MKAR Makanchi Array 96.58 317 P **P** 12 30 34.0 -0.5
comp=Z,10.0nm,1.0s,baz=101,slow=6.3,SNR=47
MKAR PKKPbc **PKKPbc** 12 47 17.4 -2.6
comp=Z,0.8nm,0.6s,baz=280,slow=2.3,SNR=6.2
MKAR Makanchi Array 96.58 317 *i* P **P** 12 30 34.5 0.0
TXAR Lajitas Array 96.76 62 P **P** 12 30 34.7 -1.2
comp=Z,0.3nm,0.7s,baz=235,slow=4.4,SNR=5.6
TXAR LR LR 13 05 10.9
comp=Z,4µm,21.5s,baz=323,slow=30
MAKZ Makanchi 96.79 316 P **P** 12 30 35.1 -0.3
MAKZ pmax pmax
comp=Z,76nm,1.0s
MAKZ Makanchi 96.79 316 P **P** 12 30 35.1 -0.3
ZALV Zalesovo Beam 96.81 324 P **P** 12 30 33.8 -1.5
comp=Z,6.7nm,0.9s,baz=108,slow=4.8,SNR=32
ZALV Zalesovo Beam 96.81 324 *i* P **P** 12 30 34.0 -1.3
ZALV pmax pmax
comp=Z,7.0nm,0.9s
A36M Sachs Harbour 97.15 17 IAmb IAmb 12 30 37.0
comp=Z,35nm,1.1s
A36M Sachs Harbour 97.15 17 P **P** 12 30 34.9 -1.5
baz=245
YKA Yellowknife Ar 97.65 27 P **P** 12 30 37.5 -1.5
comp=Z,7.9nm,1.0s,baz=253,slow=4.7,SNR=54
YKA PP **PP** 12 34 34.7 -2.1
comp=Z,0.6nm,0.9s,baz=262,slow=6.2,SNR=4.1
YKA PKiKP **PKiKP** 12 35 12.9 -0.3
comp=Z,0.5nm,0.7s,baz=250,slow=1.4,SNR=5.8
SHLS Shalkode 97.69 312 *e*P **P** 12 30 36.7 -3.1
SHLS Shalkode 97.69 312 *e*P **P** 12 30 36.7 -3.1
baz=313
KPKS Kokpek 98.31 313 *e*P **P** 12 30 40.9 -1.6
KPKS Kokpek 98.31 313 *e*P **P** 12 30 40.9 -1.6
baz=313
SATY Saty 98.43 312 *e*P **P** 12 30 40.8 -2.3
SATY Saty 98.43 312 *e*P **P** 12 30 40.8 -2.3
baz=312
SEM Semipalatinsk 98.71 320 *e*P **P** 12 30 41.2 -3.1
SEM Semipalatinsk 98.71 320 *e*P **P** 12 30 41.2 -3.1
baz=320
TDK Taldyqorghan 98.82 314 *e*P **P** 12 30 42.9 -1.7
TDK Taldyqorghan 98.82 314 *e*P **P** 12 30 43.0 -1.7
baz=314
MDOK Medeo 99.42 312 *e*P **Pdif** 12 30 45.5 -2.1
MDOK Medeo 99.42 312 *e*P **Pdif** 12 30 45.5 -2.1
baz=312
AAA Alma-Ata 99.53 312 *e*P **Pdif** 12 30 45.9 -2.0
AAA Alma-Ata 99.53 312 *e*P **Pdif** 12 30 46.0 -2.0
baz=312
KSH Kashi 99.53 308 P **Pdif** 12 30 49.6 +1.5
KSH sP pwP 12 30 55.8 +1.6
KSH pmax pmax
comp=Z,2.0nm,0.5s
KSH pmax pmax
comp=Z,410nm,8.6s
NRIK Noril'sk 99.62 339 P **Pdif** 12 30 46.0 -1.7
comp=Z,6.6nm,0.8s,baz=142,slow=3.3,SNR=12
NRIK Noril'sk 99.62 339 *ce*P **Pdif** 12 30 46.5 -1.1
NRIK pmax pmax
comp=Z,17nm,1.1s
KURK Kurchatov 99.79 320 *ce*P **Pdif** 12 30 47.3 -1.5
KURK pmax pmax
comp=Z,24nm,3.4s
KURBB Kurchatov Arra 99.83 320 PKKPbc PKKPbc 12 47 09.3 -1.6
comp=Z,1.0nm,0.7s,baz=286,slow=3.3,SNR=7.2
KUU Kurty 100.07 313 *e*P **Pdif** 12 30 48.2 -2.0
KUU Kurty 100.07 313 *e*P **Pdif** 12 30 48.2 -2.0
baz=313
IUG luzhnay 104.38 310 *e*PKiKP **PKiKP** 12 35 23.8 -2.3
baz=310
ULM Lac du Bonnet 105.81 41 PKiKP **PKiKP** 12 35 26.2 -2.0
comp=Z,2.4nm,0.6s,baz=235,slow=3.5,SNR=5.0
OXF Oxford 109.52 58 P **PKiKP** 12 35 34.6 -1.1
baz=266
ARU Arti 111.92 325 *i* PKIKP **PKiKP** 12 35 39.1 -0.4
ARU 12 36 18.4
ARU SS SS 12 51 53.1 -6.7
GOGA Godfrey 114.39 60 P PKPdf 12 35 44.2 -0.8
baz=268
ACSO Alum Creek Sta 114.78 52 P PKPdf 12 35 45.0 -0.5
baz=272
O53A New Philadelph 116.13 52 P **PKPdf** 12 35 47.6 -0.5
baz=273
KIRV Kirov 116.33 329 *i* PKIKP **PKPdf** 12 35 47.4 -0.5
M53A WI Miller and 116.47 51 P **PKPdf** 12 35 48.2 -0.5
baz=274
BLA Blacksburg 116.87 55 P **PKPdf** 12 35 49.5 -0.2
baz=272
N54A Moraine State 117.02 51 P **PKPdf** 12 35 49.4 -0.4
baz=274
PRGR Permogore 117.16 333 *e*PKIKP **PKPdf** 12 35 48.5 -0.9
PRGR pmax pmax
comp=Z,5.0nm,1.1s
M54A Oil Creek Stat 117.22 51 P **PKPdf** 12 35 49.3 -0.9
baz=275
LPAZ La Paz 117.91 117 PKP **PKPdf** 12 35 52.6 -0.4
comp=Z,3.2nm,0.7s,baz=276,slow=1.3,SNR=11
O56A Blue Knob Stat 118.15 52 P **PKPdf** 12 35 51.2 -0.9
baz=275
SSPA Standing Stone 118.63 51 P **PKPdf** 12 35 52.1 -0.8
baz=275
BELG Belogornoye 118.94 322 *i* PKIKP **PKPdf** 12 35 53.0 -0.1
ARCES ARCESS Array B 119.86 345 PKP **PKPdf** 12 35 53.5 -1.0
comp=Z,9.6nm,0.6s,baz=71,slow=2.4,SNR=26
ARCES PKKPbc **PKKPab** 12 46 04.2 -0.7
comp=Z,3.2nm,0.7s,baz=202,slow=1.3,SNR=6.9
ARCES ARCESS Array B 119.86 345 PKIKP **PKPdf** 12 35 54.3 -0.2
ARCES ARCESS Array B 119.86 345 PKPdf **PKPdf** 12 35 54.3 -0.2
BINY Binghamton 119.88 50 P **PKPdf** 12 35 54.5 -0.8
baz=276
KLMR Klimovskoe 120.18 333 *e*PKIKP **PKPdf** 12 35 52.9 -2.3
KLMR pmax pmax
comp=Z,59nm,1.4s
KLMR Klimovskoe 120.18 333 *e*PKPdf **PKPdf** 12 35 52.9 -2.3
KLMR AMP 12 36 07.4
comp=Z,59nm,1.4s
N59A State Game Lan 120.20 51 P **PKPdf** 12 35 55.2 -0.7
baz=277
LONY Lake Ozonia 120.52 47 P **PKPdf** 12 35 55.4 -1.1
baz=280
MAK Makhachkala 120.96 312 *e*P **Pdif** 12 32 19.5 -3.6
MAK *i* 12 35 53.1
MAK *e* 12 37 21.0
MAK pmax pmax
comp=Z,25nm,0.3s
CPUP Villa Florida 121.10 133 PKP **PKPdf** 12 35 56.6 -1.6
comp=Z,8.6nm,1.1s,baz=244,slow=1.2,SNR=7.1
CPUP Villa Florida 121.10 133 PKIKP **PKPdf** 12 35 57.3 -0.8
CPUP Villa Florida 121.10 133 PKPdf **PKPdf** 12 35 57.3 -0.8
PAL Palisades 121.59 51 P **PKPdf** 12 35 57.9 -0.7
baz=278
GROC Groznyy 122.15 312 *i* PKIKP **PKiKP** 12 35 59.9 +0.1
GROC pmax pmax
comp=Z,23nm,0.6s
L61B Northampton 122.26 49 P **PKPdf** 12 35 59.2 -0.7
baz=280
LBNH Lisbon 122.46 47 P **PKPdf** 12 35 59.7 -0.4
baz=282
SCHQ Schefferville 122.48 33 PKP **PKPdf** 12 35 58.5 -1.4
comp=Z,5.9nm,0.8s,baz=257,slow=3.6,SNR=12
SCHQ Schefferville 122.48 33 PKPdf **PKPdf** 12 35 58.3 -1.6
VRH Novokhopyorsk 122.79 322 *e*PKIKP **PKPdf** 12 35 58.1 -2.4
SUR Sutherland 123.02 215 PKPdf **PKiKP** 12 36 03.2 +1.0
BOSA Boshof 123.11 221 PKP **PKPdf** 12 36 01.5 -0.6
comp=Z,9.1nm,0.8s,baz=88,slow=1.5,SNR=14
BOSA Boshof 123.11 221 PKIKP **PKPdf** 12 36 01.9 -0.2
BOSA Boshof 123.11 221 PKPdf **PKPdf** 12 36 01.9 -0.2
MOS Moscow 123.34 328 *e*PKIKP **PKPdf** 12 36 00.0 -1.4
GNI Garni 123.46 309 *i* PKIKP **PKPdf** 12 36 02.5 +0.1
ZEI Tsey 123.59 312 *i* PKIKP **PKPdf** 12 36 02.0 -0.7
ZEI pmax pmax
comp=Z,11nm,1.0s
SDV Santo Domingo 123.82 89 PKPdf **PKPdf** 12 36 02.7 -1.1
SDV Santo Domingo 123.82 89 *e*P **PKPdf** 12 36 02.3 -1.6
LPSR Galich'ya Gora 123.92 324 *e*PKIKP **PKPdf** 12 36 02.5 -0.2
PKME Peaks-Kenny Pk 124.05 45 P **PKPdf** 12 36 03.0 -0.2
baz=285
KBZ Khabaz 124.11 313 PKP **PKiKP** 12 36 03.7 +0.1
comp=Z,4.9nm,1.0s,baz=166,slow=1.2,SNR=9.0
KBZ Khabaz 124.11 313 *i* PKIKP **PKPdf** 12 36 03.2 -0.1
VORR Voronezh 124.11 323 *e*PKIKP **PKPdf** 12 36 03.1 0.0
VORR pmax pmax
comp=Z,104nm,1.8s
OBN Obninsk 124.15 328 *e*PKIKP **PKPdf** 12 36 02.5 -0.5
OBN *e* 12 37 45.5
OBN pmax pmax
comp=Z,19nm,0.4s
OBN MLR MLR
comp=Z,2µm,17.0s
KIV Kislovodsk 124.20 314 *e*PKIKP **PKPdf** 12 36 03.1 -0.5
KIV pmax pmax
comp=Z,12nm,1.0s
VSR Storozhevoye 124.30 323 *e*PKIKP **PKPdf** 12 35 58.6 -4.8
F64A Sherman 124.54 44 **PKPdf** 12 36 02.6 -1.5
FINES FINESS Array B 125.26 338 PKP **PKPdf** 12 36 04.0 -1.0
comp=Z,24nm,1.0s,baz=98,slow=2.9,SNR=17
FINES FINESS Array B 125.26 338 PKIKP **PKPdf** 12 36 04.9 -0.1
FINES FINESS Array B 125.26 338 PKPdf **PKPdf** 12 36 04.9 -0.1
LBTB Lobatse 125.31 224 PKIKP **PKiKP** 12 36 06.7 -0.1
LBTB Lobatse 125.31 224 PKPdf **PKiKP** 12 36 06.7 -0.1
GURO Guroymak-BITLI 125.81 307 PKPdf **PKPdf** 12 36 06.8 -0.1
AQDB Aquidauana 125.83 129 PKPdf **PKPdf** 12 36 06.5 -0.8
VILB Vilhena 126.25 118 *e*P **PKPdf** 12 36 07.3 -1.0
KIBK Kibwezi 126.35 256 PKPdf **PKPdf** 12 36 08.1 -0.6
SOC Sochi 126.38 314 *i* PKIKP **PKPdf** 12 36 05.3 -2.4
SOC *e* 12 37 58.6
SOC *e*PPP PPP 12 40 42.7
SOC *e*PS **PS** 12 48 06.8 +0.4
KMBO Kilima Mbogo 127.50 257 PKP **PKPdf** 12 36 10.7 -0.3
comp=Z,0.8nm,0.3s,baz=203,slow=3.8,SNR=4.1
KMBO Kilima Mbogo 127.50 257 PKIKP **PKiKP** 12 36 12.4 +0.8
KMBO Kilima Mbogo 127.50 257 PKPdf **PKiKP** 12 36 12.4 +0.8
KMBO Kilima Mbogo 127.50 257 *e*P **PKPdf** 12 36 08.6 -2.5
KMBO Kilima Mbogo 127.50 257 *e*P **PKPdf** 12 36 08.6 -2.5
ANKE Ethiopia-Afar 127.87 271 *e*P **PKiKP** 12 36 12.3 -0.1
ANKE Ethiopia-Afar 127.87 271 *e*P **PKiKP** 12 36 12.3 -0.1
NRS Narsarsuaq 128.02 19 PKIKP **PKPdf** 12 36 09.1 -1.1
NRS Narsarsuaq 128.02 19 **PKPdf** 12 36 09.1 -1.1
NRS Narsarsuaq 128.02 19 *i* P **PKPdf** 12 36 08.9 -1.3
NRS IAmb IAmb 12 36 22.4
comp=Z,52nm,1.0s
PCMB Pacaembu 128.37 133 *e*P **PKPdf** 12 36 11.8 -0.4
DILA Dilla 128.62 267 *e*P **PKPdf** 12 36 08.8 -4.3
DILA Dilla 128.62 267 *e*P **PKPdf** 12 36 08.8 -4.3
AAE Adis Abeba 128.70 270 *e*P **PKiKP** 12 36 13.9 -0.2
AAE Adis Abeba 128.70 270 *e*P **PKiKP** 12 36 13.9 -0.2
FURI Furi 128.76 270 *e*P **PKPdf** 12 36 10.3 -3.2
FURI Furi 128.76 270 *e*P **PKPdf** 12 36 10.3 -3.2
MNK Minsk 128.79 330 *i* PKIKP **PKPdf** 12 36 11.5 -0.4
MNK *i* 12 43 23.2
MNK *i* SS SS 12 55 36.2 +0.3
MNK *i* SSS SSS 13 00 21.3
MNK pmax pmax
comp=E,4.0nm,1.1s
MNK pmax pmax
comp=Z,29nm,1.1s
MNK pmax pmax
comp=N,13nm,0.7s
MNK MLR MLR
comp=N,2µm,21.0s
MNK MLR MLR
comp=Z,3µm,17.0s
MNK MLR MLR
comp=E,437nm,19.0s
MNK Minsk 128.79 330 *i* PKP **PKPdf** 12 36 11.6 -0.4
comp=E,3.0nm,1.1s
MNK *i* PKP **PKPdf** 12 36 11.6 -0.4
comp=N,13nm,0.7s
MNK *i* PKP **PKPdf** 12 36 11.6 -0.4
comp=Z,29nm,1.1s,baz=56
MNK *i* PP PP 12 38 01.8 -16
MNK *i* PPP PPP 12 40 55.1
MNK *i* SKS **SKSdf** 12 43 23.2 -0.3
MNK *i* SS **SS** 12 55 36.2 +0.3
MNK *i* SSS SSS 13 00 21.3
MNK *i* LR LR 13 30 13.8
MNK *i* LRM MLR 13 31 46.0
comp=N,2µm,21.3s
MNK *i* LRM MLR 13 32 24.4
comp=E,437nm,18.7s
MNK *i* LRM MLR 13 32 24.4
comp=Z,3µm,16.8s
NACGM Naroch 129.07 331 *e*PKP **PKPdf** 12 36 12.6 +0.2
SJG San Juan 129.40 78 PKIKP **PKPdf** 12 36 13.1 -1.1
SJG San Juan 129.40 78 **PKPdf** 12 36 13.1 -1.1
PABE Paberze 129.97 333 PKPdf **PKPdf** 12 36 14.5 +0.4
DRLN Deer Lake 130.08 37 PKPdf **PKPdf** 12 36 14.1 -0.5
AKASG Malin Array Be 130.17 326 PKP **PKPdf** 12 36 13.4 -1.3
comp=Z,10nm,1.0s,baz=50,slow=2.0,SNR=22
NB2 NORSAR Subarra 130.23 345 PKPdf **PKPdf** 12 36 14.7 +0.1
comp=Z,25nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra 130.23 345 PKPdf **PKPdf** 12 36 14.7 +0.1
baz=31,slow=1.9
NOA NORSAR Array B 130.23 345 PKP **PKPdf** 12 36 14.3 -0.2
comp=Z,7.6nm,0.9s,baz=33,slow=2.0,SNR=4.2
NOA SKP 12 39 51.8
comp=Z,9.1nm,1.0s,baz=26,slow=4.0,SNR=4.4
LODK Lodwar 130.68 262 *e*P PKPpre 12 36 03.3
LODK Lodwar 130.68 262 *e*P PKPpre 12 36 03.3
BRTR Keskin Array B 131.85 311 PKP **PKPdf** 12 36 18.4 -0.1
comp=Z,2.6nm,0.8s,baz=116,slow=3.4,SNR=9.8
BRTR Keskin Array B 131.85 311 PKIKP **PKPdf** 12 36 18.1 -0.3
BRTR Keskin Array B 131.85 311 PKPdf **PKPdf** 12 36 18.1 -0.3
NPGB Novo Progresso 133.22 114 *e*P **PKPdf** 12 36 21.0 -0.6
LVV **L'vov** 133.44 327 *e*PKIKP PKPdf 12 36 12.2 -8.7
LVV *e* 12 57 03.9
MBAR Mbarara 133.80 255 *e*P PKPpre 12 36 10.1
MBAR Mbarara 133.80 255 *e*P PKPpre 12 36 10.1
PSN Preselentsi 134.16 318 P **PKPdf** 12 36 20.0 -2.4
BDFB Brasilia 134.55 130 PKP **PKPdf** 12 36 24.1 0.0
comp=Z,8.0nm,0.6s,baz=180,slow=2.3,SNR=10
BDFB SKP 12 40 00.2
comp=Z,2.1nm,0.4s,baz=280,slow=6.7,SNR=4.5
BDFB Brasilia 134.55 130 PKIKP **PKPdf** 12 36 23.9 -0.3
BDFB Brasilia 134.55 130 PKPdf **PKPdf** 12 36 23.9 -0.3
MLR Muntele Rosu 134.71 321 PKIKP **PKPdf** 12 36 23.0 -0.6
MLR Muntele Rosu 134.71 321 PKPdf **PKPdf** 12 36 23.0 -0.6
UZH Uzhgorod 135.06 327 *e*PKHKP PKPpre 12 36 09.7
UZH *e* 12 36 22.0
UZH *i* 12 36 27.1
SZH Strazhica 135.80 318 P **PKPdf** 12 36 24.0 -1.5
DIAM Diamantina, MG 135.83 137 *e*P **PKPdf** 12 36 26.6 +0.1
MORC Moravsky Berou 136.71 331 *e*PKP **PKPdf** 12 36 26.1 -1.0
OSTC Ostas 136.77 333 *e*PKPDF **PKPdf** 12 36 28.0 +0.9
CHVC Chvalec 136.82 333 *e*PKPDF **PKPdf** 12 36 28.1 +0.9
KRLC Kraliky 136.85 332 *e*PKIKP **PKPdf** 12 36 27.9 +0.6
KRLC Kraliky 136.85 332 *e*PKPDF **PKPdf** 12 36 27.9 +0.6
DPC Dobruska-Polom 136.87 332 *e*PKIKP **PKiKP** 12 36 29.0 -0.2
DPC Dobruska-Polom 136.87 332 *e*PKPDF **PKiKP** 12 36 29.0 -0.2
UPC Upice 136.89 333 *e*PKIKP **PKiKP** 12 36 29.5 +0.4
UPC Upice 136.89 333 *e*PKPDF **PKiKP** 12 36 29.5 +0.4
MPEP Malo Peshtene 137.15 320 P **PKPdf** 12 36 24.0 -4.1
JAVC Velka Javorina 137.27 330 *e*PKP **PKPdf** 12 36 28.8 +0.6
VRAC Vranov 137.48 331 *e*PKP **PKPdf** 12 36 28.7 +0.2
BRG Berggiesshubel 137.52 334 *e*PKP **PKiKP** 12 36 29.5 -0.9
BRG Amp 12 36 33.1
comp=Z,29nm,1.3s
BRG *ex* x 12 36 40.7
BRG Amp 12 36 43.7
comp=Z,34nm,1.4s
BRG *ex* x 12 36 52.0
BRG Amp 12 36 55.0
comp=Z,20nm,1.3s
BRG Berggiesshubel 137.52 334 *e*PKIKP **PKiKP** 12 36 29.5 -0.9
BRG *e* 12 36 40.7
BRG pmax pmax
comp=Z,29nm,1.3s
BRG pmax pmax
comp=Z,34nm,1.4s
BRG pmax pmax
comp=Z,20nm,1.3s
CLL Collm 137.57 336 *e*PKIKP **PKPdf** 12 36 28.0 -0.5
CLL *e* 12 36 39.0
CLL pmax pmax
comp=Z,24nm,1.3s
CLL Collm 137.57 336 *e*PKPdf **PKPdf** 12 36 28.0 -0.5
comp=Z,24nm,1.3s
CLL *ex* x 12 36 39.0
JANB Januaria 137.63 133 *e*P **PKPdf** 12 36 28.5 -1.3
KRUC Moravsky 137.74 331 *e*PKP **PKPdf** 12 36 28.9 -0.1
VTS Vitosha 137.85 319 ⇑PKIKP **PKPdf** 12 36 30.5 +0.9
VTS Vitosha 137.85 319 PKPdf **PKPdf** 12 36 29.8 +0.2
VTS Vitosha 137.85 319 P **PKPdf** 12 36 27.9 -1.7
PRU Pruhonice 137.92 333 *e*PKIKP **PKiKP** 12 36 30.6 -0.6
PRU Pruhonice 137.92 333 *e*PKPDF **PKiKP** 12 36 30.6 -0.6
MMB Musomiste 138.04 317 P **PKPdf** 12 36 27.5 -2.3
KKB Krupnik 138.32 318 P **PKPdf** 12 36 29.2 -1.1
PRPB Parauapebas 138.47 117 *e*P **PKPdf** 12 36 31.2 -0.2
RONA Rosalia, Austr 138.73 329 *e*PKPdf **PKPdf** 12 36 31.7 +0.8
comp=Z,25nm,1.2s
CONA Conrad Observa 138.79 330 *e*PKPdf **PKPdf** 12 36 31.4 +0.3
comp=Z,28nm,1.4s
CKRC Cesky Krumlov 138.88 332 *e*PKPDF **PKPdf** 12 36 30.0 -1.1
KHC Kasperske Hory 138.98 333 *e*PKIKP **PKPdf** 12 36 31.2 -0.1
KHC *e* 12 36 39.0
KHC Kasperske Hory 138.98 333 *e*PKPDF **PKPdf** 12 36 31.2 -0.1
KHC *ex* x 12 36 39.0
MCPB Macapa, AP 139.03 108 *e*P **PKPdf** 12 36 32.3 -0.1
GERES GERESS Array B 139.13 333 PKhKP PKPpre 12 36 24.2
comp=Z,0.3nm,0.3s,baz=80,slow=1.1,SNR=2.9
GERES PKP **PKPdf** 12 36 32.1 +0.5
comp=Z,0.8nm,0.3s,baz=328,slow=1.7,SNR=8.6
GERES GERESS Array B 139.13 333 PKIKP **PKPdf** 12 36 31.8 +0.1
GERES GERESS Array B 139.13 333 **PKPdf** 12 36 31.8 +0.1
ARSA Arzberg 139.42 330 *e*PKPdf **PKPdf** 12 36 32.7 +0.6
comp=Z,14nm,1.1s
GUA01 Guaratinga, BA 139.59 139 *e*P **PKPdf** 12 36 32.8 -0.5
MOA Molln 139.60 331 *e*PKPdf **PKiKP** 12 36 35.0 +0.2
comp=Z,16nm,1.2s
BIOA Bad Ischl, Aus 140.01 331 *e*PKPdf **PKiKP** 12 36 34.5 -1.1
comp=Z,24nm,1.3s
SOKA Soboth 140.06 329 *e*PKPdf **PKPdf** 12 36 33.4 0.0
comp=Z,15nm,1.3s
AGG Agios Georgios 140.20 315 PKIKP **PKPdf** 12 36 33.0 -0.8
AGG Agios Georgios 140.20 315 PKPdf **PKPdf** 12 36 33.0 -0.8
OBKA Obir 140.42 329 *e*PKPdf **PKPdf** 12 36 33.7 -0.4
comp=Z,18nm,1.9s
CRES Cresnjev 140.43 328 *e*PKPdf **PKPdf** 12 36 35.0 +1.0
KBA Koelnbreinsper 140.59 331 *e*PKPdf **PKPdf** 12 36 34.5 +0.1
comp=Z,17nm,1.1s
BTNL Ternell 140.67 340 *d*PKPdf **PKPdf** 12 36 34.2 -0.1
CMC01 Camacan, BA 140.68 138 *e*P **PKPdf** 12 36 34.8 -0.5
MEM Membach 140.69 340 *d*PKPdf **PKPdf** 12 36 34.8 +0.5
LJU Ljubljana 140.75 329 *e*PKPdf **PKPdf** 12 36 33.4 -1.2
BHOU Houvegnez 140.91 340 *d*PKPdf **PKPdf** 12 36 35.8 +1.1
WATA Walderalm 141.21 333 *e*PKPdf **PKPdf** 12 36 36.5 +1.0
comp=Z,18nm,1.0s
ABTA Abfaltersbach 141.22 331 *e*PKPdf **PKPdf** 12 36 35.6 +0.1
comp=Z,24nm,1.3s
WTTA Wattenberg 141.24 333 *e*PKPdf **PKPdf** 12 36 34.8 -0.8
comp=Z,21nm,1.2s
RCHB Rochefort 141.33 341 *d*PKPdf **PKPdf** 12 36 36.1 +0.6
BMRD Maredsous 141.35 341 *d*PKPdf **PKPdf** 12 36 35.4 -0.1
MOTA Moosalm 141.41 333 *e*PKPdf **PKPdf** 12 36 34.6 -1.3
comp=Z,27nm,1.2s
RETA Reutte 141.45 334 *e*PKPdf **PKPdf** 12 36 35.1 -0.8
comp=Z,9.1nm,1.1s
WLF Walferdange 141.45 340 *d*PKPdf **PKPdf** 12 36 36.1 +0.4
SQTA Sankt Quirin 141.46 333 *e*PKPdf **PKPdf** 12 36 35.6 -0.3
comp=Z,20nm,1.3s
BFO Black Forest 141.78 336 PKIKP **PKPdf** 12 36 32.0 -4.4
BFO Black Forest 141.78 336 PKPpre 12 36 32.0
TMAB Tom-Au,PA,Br 141.78 113 *e*P **PKPdf** 12 36 38.1 +0.8
FETA Feichten 141.82 333 *e*PKPdf **PKPdf** 12 36 36.3 -0.3
comp=Z,28nm,1.3s
DAVA Damuels 141.98 334 *e*PKPdf **PKPdf** 12 36 35.8 -1.1
comp=Z,20nm,1.2s
TIP Timpagrande 143.83 319 PKPdf PKPbc 12 36 37.7 -0.3
CEL Celeste 144.91 318 PKPdf **PKPab** 12 36 41.1 -0.3
BNI Bardonecchia 145.11 335 PKIKP **PKPab** 12 36 42.0 +0.1
BNI Bardonecchia 145.11 335 **PKPab** 12 36 42.0 +0.1
VSL Villasalto 148.05 325 **PKPdf** 12 36 48.0 +0.6
SHEL Horse Pasture 148.80 194 PKP2 **PKiKP** 12 36 55.5 +0.9
SHEL Horse Pasture 148.80 194 PKPab **PKiKP** 12 36 55.5 +0.9
RCBR Riachuelo 149.92 131 PKIKP **PKPdf** 12 36 50.9 -0.4
RCBR Riachuelo 149.92 131 **PKPdf** 12 36 50.9 -0.4
MAHO Mahon 150.32 332 PKP **PKPdf** 12 36 50.0 -1.0
H07N1 FLORES T-PHASE 150.49 28 *e*PKP **PKiKP** 12 36 57.1 -0.3
KEST Kesra 150.61 320 PKPbc **PKPbc** 12 36 57.1 0.0
comp=Z,40nm,1.0s,baz=105,slow=0.6,SNR=15
H07S1 FLORES T-PHASE 150.70 29 *e*PKP **PKiKP** 12 36 57.8 -0.1
PBRG Braganca 152.18 349 *e*PKP **PKPdf** 12 36 54.3 +0.4
PGAV Gavieira, Arco 152.27 352 *e*PKP **PKPdf** 12 36 54.6 +0.5
PGAV Gavieira, Arco 152.27 352 *e*LR LR 13 27 39.1
comp=Z,13µm,18.0s
SRBC Serra Branca 152.37 25 *e*PKP **PKPdf** 12 36 56.3 +2.1
PMAN Manadas 152.69 26 *e*PKP **PKiKP** 12 37 02.8 +0.8

GUD	**Guadarrama**	**152.72**	**344**	PKIKP	**PKPdf**	**12 36 55.4**	**+0.5**
POLO	**Lamas de Olo**	**152.78**	**351**	*e*PKP	**PKPdf**	**12 36 55.2**	**+0.3**
UCM	**Universidad Co**	**152.79**	**343**	PKP	**PKPdf**	**12 36 54.6**	**-0.3**
MVO	**Moncorvo**	**152.86**	**349**	*e*PKP	**PKPbc**	**12 36 59.0**	**-3.1**
MVO	**Moncorvo**	**152.86**	**349**	*e*LR	LR	13 25 01.1	
	comp=Z,12μm,20.0s						
PVRL	**Vila Real**	**152.86**	**351**	*e*PKP	**PKiKP**	**12 37 02.9**	**+0.6**
PVIS	**Viseu**	**153.44**	**351**	*e*PKP	**PKiKP**	**12 37 03.6**	**+0.1**
ESDC	**Sonseca Array**	**153.58**	**343**	PKP	**PKPdf**	**12 36 55.5**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=320,slow=3.9,SNR=6.4						
ESDC				PKPbc	**PKPbc**	**12 37 03.5**	**-0.3**
	comp=Z,6.9nm,1.1s,baz=1.1,slow=2.3,SNR=17						
MTE	**Manteigas**	**153.69**	**350**	*e*PKP	**PKPbc**	**12 37 01.3**	**-2.7**
MTE	**Manteigas**	**153.69**	**350**	*e*LR	LR	13 14 11.9	
	comp=Z,13μm,20.0s						
COI	**Coimbra**	**154.02**	**351**	*e*PKP	**PKPdf**	**12 36 59.5**	**+3.0**
PCAS	**Casmilo, Conde**	**154.18**	**351**	*e*PKP	**PKPdf**	**12 36 58.9**	**+2.1**
PCBR	**Castelo Branco**	**154.22**	**349**	*e*PKP	**PKPdf**	**12 36 56.7**	**-0.1**
CART	**Cartagena**	**154.49**	**337**	PKP	**PKPdf**	**12 36 53.1**	**-4.2**
PMRV	**Marv??o**	**154.61**	**349**	*e*PKP	**PKPbc**	**12 37 02.3**	**-3.6**
PMRV	**Marv??o**	**154.61**	**349**	*e*LR	LR	13 20 48.1	
	comp=Z,13μm,18.0s						
PSBE	**So Bento**	**154.75**	**352**	*e*PKP	**PKPbc**	**12 37 02.5**	**-3.7**
PMTG	**Montargil**	**155.10**	**350**	*e*PKP	**PKPdf**	**12 37 02.6**	**+4.5**
PESTR	**Estremoz**	**155.19**	**349**	*e*PKP	**PKPdf**	**12 37 01.9**	**+3.6**
PMAFR	**Mafra**	**155.37**	**352**	*e*PKP	**PKPdf**	**12 37 03.0**	**+4.5**
PACT	**Alcochete**	**155.49**	**351**	*e*PKP	**PKPdf**	**12 36 58.7**	**+0.1**
PMST	**Lisbon--Monsan**	**155.57**	**352**	*e*PKP	**PKPdf**	**12 36 59.5**	**+0.8**
LIS	**Lisbon**	**155.59**	**352**	*e*PKPdf	**PKPdf**	**12 36 58.7**	**0.0**
LIS	**Lisbon**	**155.59**	**352**	*e*PKP	**PKPdf**	**12 36 58.2**	**-0.5**
EVO	**Evora**	**155.59**	**350**	PKP	**PKPdf**	**12 36 55.1**	**-3.7**
EVO	**Evora**	**155.59**	**350**	*e*PKP	**PKPdf**	**12 36 52.7**	**-6.1**
PBAR	**Barrancos**	**155.75**	**348**	*e*PKP	**PKPdf**	**12 37 03.1**	**+4.1**
PNCL	**Nicolau / Gran**	**156.09**	**350**	*e*PKP	**PKPdf**	**12 37 01.1**	**+1.7**
EMAL	**Malaga-Limoner**	**156.42**	**342**	PKP	**PKPdf**	**12 36 56.6**	**-3.3**
PCVE	**Castro Verde**	**156.47**	**349**	*e*PKP	**PKPdf**	**12 37 00.1**	**+0.1**
PVAQ	**Vaqueiros**	**156.63**	**348**	*e*PKP	**PKPdf**	**12 36 59.8**	**-0.4**
PVAQ	**Vaqueiros**	**156.63**	**348**	*e*LR	LR	13 22 17.2	
	comp=Z,13μm,20.0s						
PTEO	**Sao Teotonio**	**156.67**	**351**	*e*PKP	PKPdf	12 37 08.6	+8.4
ARNO	**Arenosillo**	**156.72**	**346**	PKP	**PKPdf**	**12 36 57.6**	**-2.7**
PBDV	**Barranco-do-Ve**	**156.83**	**349**	*e*PKP	**PKPdf**	**12 37 05.2**	**+4.7**
MORF	**Marmelete**	**156.89**	**350**	*e*PKPdf	**PKPdf**	**12 37 00.4**	**-0.2**
MORF	**Marmelete**	**156.89**	**350**	*e*PKP	**PKPdf**	**12 37 02.8**	**+2.2**
PFVI	**Vila Bisbo**	**157.09**	**351**	*e*PKP	**PKPdf**	**12 37 02.9**	**+2.1**
SFS	**San Fernando**	**157.19**	**345**	PKP	**PKPdf**	**12 36 56.9**	**-4.0**
PVLZ	**Peæn de**	**157.84**	**340**	PKP	**PKPdf**	**12 36 59.3**	**-2.4**
AVE	**Averroes**	**160.50**	**345**	PKP	**PKPdf**	**12 37 01.1**	**-3.9**
PMPST	**Porto Santo, M**	**161.32**	**8**	*e*PKP	**PKPdf**	**12 37 07.7**	**+1.9**
PMPS	**Porto Santo**	**161.34**	**8**	*e*PKP	**PKPdf**	**12 37 08.6**	**+2.8**
PMOZ	**Porto Moniz, M**	**161.44**	**10**	*e*PKP	**PKPdf**	**12 37 09.9**	**+3.8**
TOA0	**Torodi Ar. Sit**	**165.25**	**267**		**PKPdf**	**12 37 08.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**165.25**	**267**	PKP	**PKPdf**	**12 37 09.2**	**-0.9**
	comp=Z,5.6nm,1.2s,baz=353,slow=1.3,SNR=15						
TORD				PKPab	**PKPab**	**12 38 07.8**	**+0.3**
	comp=Z,5.2nm,1.0s,baz=103,slow=3.7,SNR=3.8						
TORD				PP	**PP**	**12 41 55.4**	**+0.8**
	comp=Z,1.0nm,1.1s,baz=84,slow=4.5,SNR=1.3						
TORD	**Torodi Ar. Bea**	**165.25**	**267**		**PKPdf**	**12 37 08.3**	**-1.7**
DBIC	**Dimbokro**	**168.54**	**228**	PKP	**PKPdf**	**12 37 12.3**	**-0.3**
	comp=Z,4.8nm,1.0s,baz=116,slow=3.0,SNR=2.6						
KOWA	**Kowa**	**170.89**	**271**		**PKPdf**	**12 37 13.3**	**-0.6**

DJA ***14*** *12:18:19.0±1.3, 6.7°N±10.1°×12.7°E±9.1°, h162km±18km, M4.4/6, mb4.4/5, mB4.8/4, MLv4.5/6, Mw(mB)4.1/4*

MAN ***14*** *12:18:20.9, 6.2°N×125.9°E, h128km, mb4.6, ML3.4, MS3.3, Hypocentre not reviewed by the ISC*

ISC 14 12:18:19.9±1.4, 6.04°N±0.08°×126.09°E±0.09°, h127km, n12, σ1§48/14, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.39**	**279**	*e*P	**Pn**	**12 18 39.2**	**+1.2**
MATI	**Mati**	**0.91**	**10**	*e*P	**Pn**	**12 18 43.4**	**+1.6**
GSPH	**General Santos**	**1.14**	**272**	⇓*i*P	**Pn**	**12 18 43.8**	**-0.3**
GSPH				*i* S	**Sn**	**12 19 02.0**	**-0.3**
BIPH	**Bislig**	**2.14**	**7**	⇑*e*P	**Pn**	**12 18 55.1**	**-0.4**
BIPH				*e*S	**Sn**	**12 19 22.1**	**-0.7**
PAGZ	**Pagadian**	**3.23**	**304**	⇑*e*P	**Pn**	**12 19 09.5**	**0.0**
GLSP	**General Luna,**	**3.72**	**1**	⇑*e*P	**Pn**	**12 19 15.6**	**-0.3**
TBP	**Tagbilaran**	**4.25**	**329**	⇑*e*P	**Pn**	**12 19 22.1**	**-0.8**
TNTI	**Ternate**	**5.39**	**166**	P	**Pn**	**12 19 38.7**	**+0.5**
	3.9nm16μm121nm,0.5s						
GTOI	**Gorontalo**	**6.19**	**210**	P	**Pn**	**12 19 49.5**	**+0.5**
	0.2nm514nm47nm,0.6s						
LBMI	**Labuha**	**6.78**	**168**	P	**Pn**	**12 19 57.7**	**+0.6**
	0.5nm2μm51nm,0.8s						
MRSI	**Marisa**	**6.91**	**217**	P	**Pn**	**12 20 02.1**	**+3.4**
SANI	**Sanana**	**8.04**	**181**	P	**Pn**	**12 20 11.5**	**-2.5**

MOS ***14*** *12:26:33.4±1.4, 32.7°N×130.7°E, h13km, mb6.0/119, MS6.2/62, Error ellipse: s-maj=15.7km s-min=4.9km az=121.9*

JMA ***14*** *12:26:34.4, 32.7°N×130.8°E, h11km±1km, M6.5 Broadband fault plane solution: P waves. NP1: φs44.00000°, δ69.00000°, λ-148.00000°. NP2: φs301.00000°, δ61.00000°, λ-25.00000°. Principal axes: T Plg5.0000°, Azm171.0000°; N Plg53.0000°, Azm74.0000°; P Plg37.0000°, Azm265.0000°;*

JMA Felt VII J1.

IDC ***14*** *12:26:34.9±1.3, 32.7°N×130.7°E, h12km±7km, mb5.3/41, mb1 5.3/47, mb1mx5.3/50, mbtmp5.3/47, ML4.5/5, MS5.9/77, Ms1 5.9/77, ms1mx5.9/94 Error ellipse: s-maj=10.6km s-min=7.7km az=78.0*

NIED ***14*** *12:26:34.4, 32.7°N×130.8°E, h11km, MW6.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr=0.04; Mθθ=1.52; Mφφ=-1.47; Mrθ=0.25; Mθφ=0.75; Mφr=0.41; Fault plane solution: M₀1.74000×10¹⁸ NP1: φs122.00000°, δ74.00000°, λ-1.00000°. NP2:φs212.00000°, δ89.00000°, λ-164.00000°.*

NEIC ***14*** *12:26:35.7±2.3, 32.7°N±0.04°×130.7°E±0.06, h9km±1km, mb5.8/510, Ms_20 6.1/266, Mwb6.1/101, Mww6.2 Error ellipse: s-maj=8.7km s-min=5.5km az=106.0*

BJI ***14*** *12:26:36.0±0.0, 32.7°N×130.6°E, h20km, mb5.5/75, mB6.3/77, Ms6.6/92, Ms7 6.5/88*

NEIC ***14*** *12:26:36.3, 32.8°N×130.6°E, h10km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.31; Mθθ1.38; Mφφ-1.07; Mrθ-0.30; Mθφ0.80; Mφr-0.09; Fault plane solution: M₀1.52000×10¹⁸ NP1:φs208.07000°, δ83.87000°, λ173.46000°. NP2:φs298.77000°, δ83.50000°, λ6.17000°. Principal axes: T 1.6647, Plg9.0000°, Azm163.0000°; N -0.3549, Plg81.0000°, Azm345.0000°; P -1.3098, Plg0.0000°, Azm253.0000°;*

BGR ***14*** *12:26:37.8±0.0, 33.7°N×131.8°E, h15km, mb5.9, Ms6.6*

KEA ***14*** *12:26:37.2, 32.6°N×130.8°E, h11km, MS6.1/3*

GCMT ***14*** *12:26:39.7±0.1, 32.7°N×130.7°E, h15km, MW6.2/167, Moment Tensor Solution. s151, c338; s167, c608; Duration: 3ₜ0 Moment tensor: Scale 10¹⁸Nm; Mrr=0.33±.01; Mθθ2.06±.01; Mφφ-1.74±.01; Mrθ0.10±.02; Mθφ1.08±.01; Mφr-0.47±.03; Best double couple: M₀2.25000×10¹⁸ NP1:φs299.00000°, δ79.00000°, λ-10.00000°. NP2:φs31.00000°, δ80.00000°, λ-169.00000°. Principal axes: T 2.3460, Plg1.0000°, Azm165.0000°; N -0.1970, Plg75.0000°, Azm73.0000°; P -2.1540, Plg15.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *12:26:43, 32.7°N×130.6°E, h14km, Moment Tensor Solution. Duration: 10ₜ0 Moment tensor: Scale 10¹⁸Nm; Mrr=0.24; Mθθ1.87; Mφφ-1.63; Mrθ-0.76; Mθφ0.92; Mφr-0.32; Fault plane solution: M₀2.15000×10¹⁸ NP1: φs303.00000°, δ74.00000°, λ9.00000°. NP2:φs210.00000°, δ81.00000°, λ164.00000°. Principal axes: T 2.3550, Plg17.0000°, Azm166.0000°; N -0.4872, Plg72.0000°, Azm3.0000°; P -1.8677, Plg5.0000°, Azm257.0000°;*

ISC 14 12:26:34.6±0.4, 32.75°N±0.02×130.77°E±0.02, h6km±2km, h7km:pP-P, n1844, σ2ₜ02/1864, mb5.8/495, MS6.1/282, 192C-361D, Fault plane solution: NP1:φs328.39050°, δ57.94112°, λ-11.26246°. **NP2:**φs64.42429°, δ80.47253°, λ-147.43784°. **Principal axes:** T Plg14.9683°, Azm192.5135°; N Plg56.2204°, Azm78.9552°; P Plg29.4962°, Azm291.2123°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.21**	**170**	⇑P	**Pg**	**12 26 38.7**	**0.0**
JTA	**Tamana**	**0.29**	**317**	⇑P	**Pg**	**12 26 40.9**	**+0.7**
JNU	**Nakatsue**	**0.38**	**14**	Pg	**Pg**	**12 26 41.5**	**-0.4**
	22μm,0.3s,baz=201,slow=5.8						
JNU				LR	LR	12 27 04.8	
	comp=Z,324μm,18.8s,baz=304,slow=74						
JNU	**Nakatsue**	**0.38**	**14**	Pg	**Pg**	**12 26 42.3**	**+0.3**
JNU				Sg	**Sg**	**12 26 47.7**	**+0.8**
JNU	**Nakatsue**	**0.38**	**14**	⇑P	**Pg**	**12 26 42.2**	**+0.3**
JTZ	**Takazaki**	**0.89**	**162**	⇑P	**Pg**	**12 26 51.2**	**-0.5**
JSU	**Suzuyama**	**1.27**	**192**	Pn	**Pn**	**12 26 58.0**	**-0.9**
JII	**Iki**	**1.35**	**320**	P	**Pn**	**12 26 59.1**	**-0.9**
JSJ	**Shimokoshiki**	**1.40**	**220**	P	**Pn**	**12 26 58.6**	**-2.0**
UWA2	**Uwa jima 2**	**1.63**	**73**	⇓P	**Pn**	**12 27 02.5**	**-1.3**
JTO	**Tosashimizu**	**1.72**	**86**	⇓P	**Pn**	**12 27 04.3**	**-0.7**
JTSM	**Tsushimamitsus**	**1.96**	**324**	⇓P	**Pn**	**12 27 06.8**	**-1.5**
JKU	**Kubokawa**	**2.01**	**73**	⇓P	**Pn**	**12 27 08.7**	**-0.3**
JHM	**Kurahashi**	**2.02**	**46**	P	**Pn**	**12 27 08.4**	**-0.7**
JHGM	**Hagimishima**	**2.05**	**9**	P	**Pn**	**12 27 08.6**	**-0.9**
JTN	**Tanegashima 3**	**2.10**	**175**	P	**Pn**	**12 27 09.6**	**-0.7**
JTU	**Tsushima**	**2.10**	**327**	P	**Pn**	**12 27 08.8**	**-1.5**
JTU	**Tsushima**	**2.10**	**327**	Pn	**Pn**	**12 27 09.3**	**-1.0**
JTU	**Tsushima**	**2.10**	**327**	⇓P	**Pn**	**12 27 08.8**	**-1.5**
JET	**Tanbara**	**2.17**	**61**	P	**Pn**	**12 27 11.0**	**-0.2**
JHT	**Toyohira**	**2.35**	**35**	⇑P	**Pn**	**12 27 13.7**	**0.0**
JYAK	**Yakushimahirau**	**2.52**	**185**	⇑P	**Pn**	**12 27 15.7**	**-0.3**
JGT2	**ShimaneMisato**	**2.72**	**32**	⇑P	**Pn**	**12 27 18.9**	**+0.1**
JMN	**Monobe**	**2.78**	**69**	Pn	**Pn**	**12 27 19.3**	**-0.4**
JHS	**Saijyo**	**2.97**	**40**	Pn	**Pn**	**12 27 22.2**	**0.0**
JISK	**Izumosakaura**	**3.24**	**32**	P	**Pn**	**12 27 25.7**	**-0.2**
JAI	**Aioi**	**3.25**	**70**	P	**Pn**	**12 27 26.3**	**+0.2**
JAD	**Aida**	**3.57**	**51**	P	**Pn**	**12 27 31.1**	**+0.6**
JWM	**Minabe**	**3.99**	**73**	P	**Pn**	**12 27 35.3**	**-1.0**
JOI	**OKI**	**4.08**	**29**	P	**Pn**	**12 27 36.8**	**-0.6**
JTNC	**Tanabenakahech**	**4.19**	**74**	P	**Pn**	**12 27 37.9**	**-1.1**
JKSM	**Kasumi**	**4.29**	**48**	P	**Pn**	**12 27 41.2**	**+0.8**
JAM	**Amami Oshima**	**4.44**	**193**	P	**Pn**	**12 27 44.2**	**+1.7**
TJN	**Taejon**	**4.58**	**323**	P	**Pn**	**12 27 44.3**	**0.0**
TJN	**Taejon**	**4.58**	**323**	Pn	**Pn**	**12 27 44.3**	**0.0**
JKY	**Yasaka**	**4.60**	**50**	P	**Pn**	**12 27 44.8**	**+0.2**
JWT	**Wachi**	**4.60**	**55**	P	**Pn**	**12 27 44.9**	**+0.3**
TSUJ	**Tsu 2**	**5.10**	**66**	P	**Pn**	**12 27 51.3**	**-0.1**
JTK	**Tokunoshima**	**5.20**	**198**	P	**Pn**	**12 27 55.0**	**+2.2**
KSRS	**Korea Array**	**5.24**	**334**	Pn	**Pn**	**12 27 54.0**	**+0.7**
	8.2nm,0.3s,baz=150,slow=4,SNR=38						
KSRS				Lg	Lg	12 29 20.0	
	150nm,0.3s,baz=152,slow=27,SNR=7.9						
KSRS				LR	LR	12 29 23.6	
	comp=Z,52μm,20.4s,baz=155,slow=32						
KSAR	**Wonju Array Be**	**5.24**	**334**	P	**Pn**	**12 27 53.6**	**+0.2**
KSAR	**Wonju Array Be**	**5.24**	**334**	Pn	**Pn**	**12 27 53.6**	**+0.2**
KS19	**Wonju Array Si**	**5.30**	**334**	Pn	**Pn**	**12 27 54.0**	**-0.3**
JYTA	**Yamagatataniai**	**5.70**	**59**	P	**Pn**	**12 28 00.8**	**+1.1**
JOKE	**Okinoerabujima**	**5.70**	**200**	P	**Pn**	**12 28 02.2**	**+2.4**
INU	**Inuyama**	**5.80**	**62**	Pn	**Pn**	**12 28 02.2**	**+1.2**
INCN	**Inchon**	**5.81**	**325**	P	**Pn**	**12 28 01.7**	**+0.4**
INCN	**Inchon**	**5.81**	**325**	Pn	**Pn**	**12 28 01.7**	**+0.4**
INCN	**Inchon**	**5.81**	**325**	P	**Pn**	**12 28 02.1**	**+0.9**
JGF	**Kuroka**	**6.15**	**61**	Pn	**Pn**	**12 28 08.1**	**+2.0**
JGF	**Kuroka**	**6.15**	**61**	⇓P	**Pn**	**12 28 07.0**	**+1.0**
JOW	**Kunigami**	**6.29**	**201**	Pn	**Pn**	**12 28 08.9**	**+1.0**
	68nm,0.3s,baz=101,slow=24,SNR=136						
JOW				Sn	**Sn**	**12 29 23.5**	**+3.5**
	baz=19,slow=19,SNR=1.1						
JOW	**Kunigami**	**6.29**	**201**	P	**Pn**	**12 28 10.1**	**+2.3**
JOW	**Kunigami**	**6.29**	**201**	Pn	**Pn**	**12 28 09.1**	**+1.3**
JOW	**Kunigami**	**6.29**	**201**	⇓P	**Pn**	**12 28 10.1**	**+2.3**
JOW	**Kunigami**	**6.29**	**201**	P	**Pn**	**12 28 11.7**	**+3.9**
HJU	**Haeju**	**6.69**	**323**	P	**Pn**	**12 28 16.2**	**+2.9**
HJU				*e*P	Pb	12 28 22.7	-8.6
HJU				S	**Sn**	**12 29 36.5**	**+6.6**
HJU				AMS	AMS		
	comp=N,123μm,1.9s						
HJU				AMS	AMS		
	comp=E,288μm,4.5s						
HJU				AMS	AMS		
	comp=Z,165μm,2.6s						
JMZ	**Minamidaito 2**	**6.92**	**177**	P	**Pn**	**12 28 17.3**	**+0.8**
JMZ				*e*S	**Sn**	**12 29 35.6**	**0.0**
JSZ	**Suzu**	**7.15**	**47**	P	**Pn**	**12 28 20.8**	**+1.2**
MAJO	**Matsushiro**	**7.20**	**56**	*i* P	**Pn**	**12 28 22.2**	**+1.8**
MAJO				pmax	pmax		
	comp=Z,303nm,0.7s						
MAJO	**Matsushiro**	**7.20**	**56**	Pn	**Pn**	**12 28 21.8**	**+1.4**
MAJO	**Matsushiro**	**7.20**	**56**	⇓P	**Pn**	**12 28 22.4**	**+2.0**
MAJO	**Matsushiro**	**7.20**	**56**	P	**Pn**	**12 28 24.7**	**+4.3**
MJB9	**Matsu-Tunnel**	**7.20**	**56**		**Pn**	**12 28 21.8**	**+1.4**
MJAR	**Matsushiro Arr**	**7.20**	**56**	Pn	**Pn**	**12 28 21.5**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=286,slow=7.9,SNR=50						
MJAR				Lg	Lg	12 30 22.9	
	baz=239,slow=30,SNR=2.6						
MJAR				LR	LR	12 31 44.6	
	comp=Z,56μm,20.6s,baz=232,slow=43						
MJAR	**Matsushiro Arr**	**7.20**	**56**	P	**Pn**	**12 28 22.0**	**+1.6**
MJAR	**Matsushiro Arr**	**7.20**	**56**	Pn	**Pn**	**12 28 22.0**	**+1.6**
JOD2	**Odawara 2**	**7.35**	**68**	P	**Pn**	**12 28 23.8**	**+1.4**
JRY	**Ryogami san**	**7.47**	**62**	P	**Pn**	**12 28 25.9**	**+1.8**
PYAG	**Pyongyang**	**7.48**	**329**	P	Pn	12 28 30.2	+6.0
PYAG				pP	Pb	12 28 32.1	-13
PYAG				S	Sn	12 29 59.0	+10
PYAG				AMS	AMS		
	comp=N,116μm,4.2s						
PYAG				AMS	AMS		
	comp=E,66μm,2.4s						
PYAG				AMS	AMS		
	comp=Z,168μm,6.0s						
JHJ	**Hachijo jima 2**	**7.59**	**85**	Pn	**Pn**	**12 28 25.8**	**+0.1**
	comp=Z,451nm,0.3s,baz=4.8,slow=7.3,SNR=64						
JHJ				Sn	**Sn**	**12 29 55.4**	**+3.5**
	baz=101,slow=18,SNR=2.0						
JHJ				LR	LR	12 31 20.3	
	comp=Z,17μm,18.2s,baz=272,slow=37						
JHJ2	**Mitsune**	**7.62**	**85**	Pn	**Pn**	**12 28 25.9**	**-0.1**
JHJ2	**Mitsune**	**7.62**	**85**	⇑P	**Pn**	**12 28 25.9**	**-0.1**
HHU	**Hamhung**	**7.62**	**341**	P	**Pn**	**12 28 29.2**	**+3.1**
HHU				sP	Pb	12 28 32.4	-15
HHU				S	**Sn**	**12 29 55.9**	**+3.2**
HHU				AMS	AMS		
	comp=N,19μm,1.8s						
HHU				AMS	AMS		
	comp=E,40μm,3.9s						
HHU				AMS	AMS		
	comp=Z,21μm,2.0s						
JSD	**Sado**	**8.07**	**47**	Pn	**Pn**	**12 28 33.9**	**+1.6**
JSD	**Sado**	**8.07**	**47**	⇓P	**Pn**	**12 28 35.3**	**+3.0**
SSE	**Sheshan**	**8.31**	**261**	P	**Pn**	**12 28 36.5**	**+0.9**
SSE				pmax	pmax		
	comp=Z,73nm,1.0s						
SSE				pmax	pmax		
	comp=Z,2μm,5.8s						
JYT	**Yasato**	**8.52**	**63**	Pn	**Pn**	**12 28 41.9**	**+3.5**
JYT	**Yasato**	**8.52**	**63**	⇑P	Pn	12 28 43.6	+5.2
JYT				⇑P	Pn	12 28 44.4	+6.0
JYT				⇑P	Pn	12 28 50.3	+12
JFT	**Otama**	**9.16**	**56**	P	**Pn**	**12 28 50.4**	**+3.1**
JMJ	**Miyako jima 2**	**9.25**	**213**	P	**Pn**	**12 28 52.6**	**+4.1**
DL2	**Dalian**	**9.63**	**312**	P	**Pn**	**12 28 54.9**	**+1.3**
DL2				S	**Sn**	**12 30 44.6**	**+2.5**
DL2				pmax	pmax		
	comp=Z,120nm,1.0s						
DL2				pmax	pmax		
	comp=Z,7μm,9.0s						
DL2				LR	LR		
	comp=Z,353μm,12.2s						
DL2				LR	LR		
	comp=Z,234μm,12.2s						
DL2				LR	LR		
	comp=Z,105μm,15.6s						
JMM	**Marumori**	**9.65**	**55**		**Pn**	**12 28 56.7**	**+2.8**
MSHR	**Mys Shultsa**	**9.81**	**2**	*i* P	**Pn**	**12 28 58.7**	**+2.5**
NJ2	**Nanjing**	**10.10**	**269**	⇓*i*P	**Pn**	**12 29 03.3**	**+3.2**
NJ2				sP		12 29 08.9	
NJ2				S	**Sn**	**12 30 56.3**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,250nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,5μm,4.2s						
NJ2				LR	LR		
	comp=Z,194μm,11.2s						
NJ2				LR	LR		
	comp=Z,105μm,10.0s						
NJ2				LR	LR		
	comp=Z,228μm,13.3s						
JIO	**Ouri**	**10.32**	**54**	P	**Pn**	**12 29 06.9**	**+3.8**
VLA	**Vladivostok**	**10.39**	**5**	*i* P	**Pn**	**12 29 07.5**	**+3.5**
YOJ	**Yonaguni jima**	**10.71**	**221**	P	**Pn**	**12 29 11.3**	**+2.8**
YOJ	**Yonaguni jima**	**10.71**	**221**		**Pn**	**12 29 11.3**	**+2.8**
YOJ	**Yonaguni jima**	**10.71**	**221**	P	**Pn**	**12 29 12.5**	**+4.1**
SNY	**Shenyang**	**10.71**	**330**	⇑P	Pn	12 29 13.8	+5.4
TATO	**Taipei**	**11.23**	**229**		**Pn**	**12 29 19.2**	**+3.6**
TATO	**Taipei**	**11.23**	**229**	P	**Pn**	**12 29 18.9**	**+3.3**
TATO				S	Sn	12 31 32.3	+11
JCJ	**Chichijima**	**11.39**	**117**	Pn	Pn	12 29 24.4	+6.6
	comp=Z,13nm,0.3s,baz=326,slow=7.4,SNR=16						
JCJ	**Chichijima**	**11.39**	**117**	Pn	**Pn**	**12 29 20.2**	**+2.4**
JCJ	**Chichijima**	**11.39**	**117**	P	Pn	12 29 25.8	+8.0
I45RU	**USSURIYSK INFR**	**11.47**	**4**	*i*		13 32 30.0	
	baz=179,slow=334,SNR=2.3						
USA0B	**Ussuriysk Arra**	**11.47**	**4**	*i* P	**Pn**	**12 29 20.7**	**+1.9**
USRK	**Ussuriysk Ar.**	**11.47**	**4**	Pn	**Pn**	**12 29 22.4**	**+3.6**
	baz=187,slow=12,SNR=17						
USRK				LR	LR	12 33 19.3	
	comp=Z,79μm,21.5s,baz=173,slow=35						
USRK	**Ussuriysk Ar.**	**11.47**	**4**	P	**Pn**	**12 29 22.8**	**+4.0**
USRK	**Ussuriysk Ar.**	**11.47**	**4**	Pn	**Pn**	**12 29 22.8**	**+4.0**
YHNB	**Yeheng**	**11.52**	**228**		**Pn**	**12 29 21.9**	**+2.2**
YHNB	**Yeheng**	**11.52**	**228**	P	**Pn**	**12 29 24.0**	**+4.3**
NACB	**Ninganchiao**	**11.75**	**226**		**Pn**	**12 29 24.5**	**+1.7**
TIA	**Tai'an**	**11.78**	**291**	⇑P	**Pn**	**12 29 27.3**	**+4.2**
TIA				pmax	pmax		
	comp=Z,86nm,1.9s						
TIA				pmax	pmax		
	comp=Z,11μm,6.3s						
TIA				LR	LR		
	comp=Z,578μm,15.5s						
TIA				LR	LR		
	comp=Z,182μm,15.5s						
TIA				LR	LR		
	comp=Z,100μm,10.3s						
CN2	**Changchun**	**11.79**	**341**	*e*P	Pn	12 29 28.1	+4.9
CN2				S	**Sn**	**12 31 30.1**	**-5.0**
CN2				pmax	pmax		
	comp=Z,200nm,2.0s						
CN2				pmax	pmax		
	comp=Z,13μm,6.0s						
CN2				LR	LR		
	comp=Z,79μm,13.0s						
CN2				LR	LR		
	comp=Z,208μm,13.0s						
CN2				LR	LR		
	comp=Z,84μm,15.0s						
MDJ	**Mudanjiang**	**11.88**	**356**	P	**Pn**	**12 29 22.8**	**-1.6**
MDJ				pP		12 29 29.9	
MDJ				sP		12 29 32.9	
MDJ				S	**Sn**	**12 31 38.1**	**+0.8**
MDJ				SS	**SnSn**	**12 31 50.0**	**+0.5**
MDJ				ScP	**ScP**	**12 38 36.3**	**-8.8**
MDJ				PcS	**PcS**	**12 38 38.8**	**-6.9**
MDJ				pmax	pmax		
	comp=Z,25nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,240nm,3.7s						
MDJ				LR	LR		
	comp=N,48μm,21.4s						
MDJ				LR	LR		
	comp=E,49μm,18.8s						
MDJ				LR	LR		
	comp=Z,91μm,24.9s						
MDJ	**Mudanjiang**	**11.88**	**356**	P	**Pn**	**12 29 27.8**	**+3.4**
JYM2	**Yakumo 2**	**12.06**	**36**	P	**Pn**	**12 29 30.7**	**+3.8**
SSLB	**Suanglung**	**12.43**	**227**	P	**Pn**	**12 29 36.0**	**+4.0**
JNB	**Noboribetsu**	**12.65**	**37**	P	**Pn**	**12 29 39.5**	**+4.5**
TPUB	**Ta-pu**	**12.99**	**226**	P	**Pn**	**12 29 44.2**	**+4.5**
TEY	**Ternei**	**13.07**	**19**	⇑*e*P	**Pn**	**12 29 45.5**	**+4.8**
TEY				pmax	pmax		
	comp=E,10.0nm,1.4s						
TEY				pmax	pmax	

comp=Z,827μm,11.9s
ASAJ Asahikawa 14.63 36 Pn **Pn 12 30 02.4 +0.4**
comp=Z,7.3nm,0.3s,baz=215,slow=12,SNR=21
ASAJ LR LR 12 35 19.3
comp=Z,33μm,20.1s,baz=234,slow=36
ASAJ Asahikawa 14.63 36 P **Pn 12 30 01.2 -0.8**
JKA Kamikawa-asahi 14.63 36 Pn **Pn 12 30 01.1 -0.9**
JAR Ashorobuto 14.67 40 P **Pn 12 30 02.5 -0.1**
JMP Maruseppu 14.94 38 P **Pn 12 30 06.7 +0.5**
JTKR Abashiri--Toko 15.20 39 P **Pn 12 30 08.9 -0.7**
LYN LuoYang 15.35 282 ⇓*i*P **Pn 12 30 13.3 +1.6**
LYN sP sP 12 30 20.4 +1.3
LYN PP **PnPn 12 30 27.3 +7.5**
LYN S **Sn 12 33 06.3 +4.3**
LYN pmax pmax
comp=Z,470nm,2.4s
LYN pmax pmax
comp=Z,13μm,6.0s
LYN LR LR
comp=Z,329μm,15.5s
LYN LR LR
comp=Z,81μm,13.7s
LYN LR LR
comp=Z,210μm,12.9s
TIY Taiyuan 15.77 293 *e*P **Pn 12 30 18.4 +1.1**
TIY PP **PnPn 12 30 33.4 +7.7**
TIY S **Sn 12 33 17.3 +4.9**
TIY SS **S 12 33 29.9 +2.5**
TIY pmax pmax
comp=Z,170nm,2.0s
TIY pmax pmax
comp=Z,8μm,6.9s
TIY LR LR
comp=Z,357μm,16.3s
TIY LR LR
comp=Z,106μm,17.5s
TIY LR LR
comp=Z,86μm,15.3s
JRA Rausu 15.83 41 P **Pn 12 30 18.2 +0.3**
XLT XiLinHaoTe 15.99 318 ⇓*i*P **Pn 12 30 20.8 +0.6**
XLT pP pP 12 30 24.8 -0.7
XLT sP sP 12 30 27.9 +1.5
XLT PP **PnPn 12 30 34.1 +5.3**
XLT S **Sn 12 33 20.4 +2.6**
XLT sS S 12 33 22.5 -9.4
XLT SS **SnSn 12 33 36.4 +5.7**
XLT PcP **PcP 12 35 24.3 +7.0**
XLT pmax pmax
comp=Z,480nm,2.0s
XLT pmax pmax
comp=Z,14μm,4.0s
XLT LR LR
comp=Z,26μm,16.9s
XLT LR LR
comp=Z,178μm,17.2s
XLT LR LR
comp=Z,142μm,10.6s
CNSH ChangSha 16.04 258 ⇓P **Pn 12 30 21.8 +1.1**
CNSH S **Sn 12 33 20.8 +2.0**
CNSH pmax pmax
comp=Z,310nm,1.8s
CNSH LR LR
comp=Z,144μm,12.2s
CNSH LR LR
comp=Z,139μm,14.4s
CNSH LR LR
comp=Z,177μm,11.8s
YUK Yuzh-Kuril'sk 16.31 42*d i*P **Pn 12 30 22.8 -1.2**
YUK *i* S **Sn 12 33 28.4 +3.2**
YUK pmax pmax
comp=N,317nm,0.8s
YUK pmax pmax
comp=E,239nm,0.8s
YUK pmax pmax
comp=Z,370nm,0.8s
YUK pmax pmax
comp=Z,1μm,2.2s
KLR Kul'dur 16.48 2 Pn **Pn 12 30 27.1 +0.9**
comp=Z,0.2nm,0.3s,baz=181,slow=11,SNR=7.3
KLR LR LR 12 36 36.6
comp=Z,37μm,18.2s,baz=178,slow=36
KLR Kul'dur 16.48 2*ce*P **P 12 30 28.3 -0.7**
KLR pmax pmax
comp=Z,1μm,1.5s
YSS Yuzh-Sakhalins 16.88 29*ce*P **Pn 12 30 30.6 -0.7**
YSS pmax pmax
comp=Z,781nm,1.2s
YSS Yuzh-Sakhalins 16.88 29 **Pn 12 30 31.0 -0.3**
YSS IAmb IAmb 12 30 40.5
comp=Z,1μm,1.4s
YSS Yuzh-Sakhalins 16.88 29 ⇓P **Pn 12 30 32.0 +0.8**
YSS Yuzh-Sakhalins 16.88 29 P **P 12 30 33.4 0.0**
HHC Hu-ho-hao-te 17.35 303 *e*P **P 12 30 38.6 -0.2**
HHC S **Sn 12 33 50.0 -0.8**
HHC sS S 12 33 57.6 -2.0
HHC SS **SnSn 12 34 07.3 +3.2**
HHC pmax pmax
comp=Z,110nm,1.4s
HHC pmax pmax
comp=Z,17μm,8.8s
HHC LR LR
comp=Z,112μm,12.8s
HHC LR LR
comp=Z,134μm,14.3s
HHC LR LR
comp=Z,148μm,13.9s
HKC Hong Kong Obse 18.00 239 ⇑P **P 12 30 48.0 +2.0**
HKPS Hong Kong Po S 18.04 239 IAmb IAmb 12 30 57.1
comp=Z,855nm,1.4s
GZH Guangzhou 18.14 242 P **Pn 12 30 40.9 -6.2**
GZH S Sn 12 33 56.1 -14
GZH pmax pmax
comp=Z,13μm,7.7s
GZH LR LR
comp=Z,107μm,11.0s
GZH LR LR
comp=Z,128μm,13.3s
KUR Kuril'sk 18.17 42 *e*P **Pn 12 30 47.2 -0.2**
KUR *e*S **Sn 12 34 11.0 +0.6**
KUR pmax pmax
comp=Z,402nm,1.3s
KUR pmax pmax
comp=N,58nm,1.4s
KUR pmax pmax
comp=E,73nm,1.4s
KUR pmax pmax
comp=Z,6μm,7.1s
KUR smax smax
comp=N,12μm,6.2s
KUR smax smax
comp=E,7μm,5.2s
KUR MLR MLR
comp=E,50μm,14.0s
KUR MLR MLR
comp=Z,32μm,14.0s
KUR MLR MLR
comp=N,8μm,12.0s
XAN Xi'an 18.29 280 P **P 12 30 49.5 +0.4**
XAN S **Sn 12 34 14.3 +0.9**
XAN SS **SnSn 12 34 33.8 +6.8**
XAN pmax pmax
comp=N,370nm,1.9s
XAN pmax pmax
comp=N,16μm,6.5s
XAN LR LR
comp=N,116μm,12.5s
XAN LR LR
comp=N,153μm,12.7s
XAN LR LR
comp=N,122μm,12.8s
ENH Enshi 18.31 268 P **P 12 30 49.5 +0.1**
ENH IAmb IAmb 12 31 20.1
comp=Z,1μm,1.4s
BTO Baotou 18.37 301 *e*P **P 12 30 52.9 +2.9**
BTO LR LR
comp=Z,762μm,19.3s
BTO LR LR
comp=Z,328μm,17.7s
UGL Uglegorsk 18.37 24 *e*P **P 12 30 53.7 +3.8**
UGL *e*S **Sn 12 34 11.0 -4.2**
UGL pmax pmax
comp=Z,5μm,6.7s
UGL smax smax
comp=N,13μm,9.7s
UGL smax smax
comp=E,11μm,7.6s
UGL MLR MLR
comp=Z,22μm,13.0s
UGL MLR MLR
comp=N,42μm,14.0s
UGL MLR MLR
comp=E,23μm,14.0s
HIA Hailar 18.44 337 P **Pn 12 30 52.2 +1.5**
HIA Hailar 18.44 337 P **Pn 12 30 52.2 +1.5**
GRNR Gornyy 18.48 11 ⇑P **Pn 12 30 52.4 +1.3**
GRNR pmax pmax
comp=N,20nm,0.6s
GRNR pmax pmax
comp=Z,20nm,0.6s
GRNR MLR MLR
comp=E,73μm,14.0s
MCO Taipa Grande 18.56 240 P **Pn 12 30 56.0 +3.7**
GULI GuiLin 19.31 253 ⇓P **Pn 12 31 02.6 +1.2**
GULI pmax pmax
comp=E,170nm,1.7s
GULI LR LR
comp=E,130μm,13.6s
GULI LR LR
comp=E,132μm,12.5s
GULI LR LR
comp=E,207μm,12.5s
TYV Tymovskoe 20.10 22 *e*P Pn 12 31 11.2 +0.6
TYV *e*S Sn 12 35 00.0 +3.1
TYV pmax pmax
comp=Z,1μm,3.0s
TYV pmax pmax
comp=Z,1μm,1.0s
TYV smax smax
comp=N,6μm,7.9s
TYV smax smax
comp=E,11μm,7.9s
TYV MLR MLR
comp=N,45μm,16.0s
TYV MLR MLR
comp=Z,36μm,16.0s
TGY Tagaytay City 20.62 208 P **P 12 31 14.4 -0.3**
comp=Z,100nm,0.3s,baz=1.5,slow=3.6,SNR=9.1
ZEA Zeya 21.12 354 *e*P **P 12 31 21.9 +2.0**
ZEA *e* 12 31 30.9
ZEA *e*S **S 12 35 08.7 -6.4**
ZEA pmax pmax
comp=E,2μm,2.8s
ZEA pmax pmax
comp=N,6μm,2.2s
ZEA pmax pmax
comp=Z,8μm,2.1s
ZEA pmax pmax
comp=N,1μm,1.5s
ZEA pmax pmax
comp=Z,2μm,1.6s
ZEA smax smax
comp=N,13μm,7.3s
ZEA smax smax
comp=E,24μm,9.0s
ZEA MLR MLR
comp=N,24μm,10.0s
ZEA MLR MLR
comp=Z,26μm,9.0s
NKL Nikolayevsk 21.60 16 *e*P **P 12 31 25.1 +0.2**
NKL *e*S **S 12 35 20.3 -4.0**
NKL pmax pmax
comp=E,4.0nm,0.8s
NKL pmax pmax
comp=N,1.0nm,0.9s
NKL pmax pmax
comp=Z,465nm,1.2s
NKL MLR MLR
comp=E,27nm,13.0s
NKL MLR MLR
comp=N,1.0nm,11.0s
NKL MLR MLR
comp=Z,28μm,12.0s
GYA Guiyang 21.85 260 ⇓*i*P **P 12 31 27.8 -0.3**
GYA pP sP 12 31 34.4 +3.7
GYA S **S 12 35 21.8 -8.3**
GYA sS Sn 12 35 38.4 -1.2
GYA pmax pmax
comp=Z,180nm,1.0s
GYA pmax pmax
comp=Z,6μm,7.7s
GYA LR LR
comp=Z,59μm,15.4s
GYA LR LR
comp=Z,161μm,12.0s
GYA LR LR
comp=Z,154μm,12.4s
LZH Lanzhou 22.43 286 ⇓P **P 12 31 34.1 -0.2**
LZH pP sP 12 31 40.5 +3.6
LZH sP pP 12 31 43.3 +7.2
LZH S **S 12 35 42.1 +1.0**
LZH SS **SnSn 12 36 13.0 +4.1**
LZH pmax pmax
comp=Z,380nm,1.0s
LZH pmax pmax
comp=Z,9μm,4.5s
LZH LR LR
comp=Z,186μm,11.9s
LZH LR LR
comp=Z,132μm,10.8s
LZH LR LR
comp=Z,170μm,14.6s
CIT Chita 22.97 332 *e*P **P 12 31 39.6 -0.1**
CIT *e* 12 32 03.9
CIT pmax pmax
comp=Z,2μm,2.9s
CD2 Chengdu 23.00 273 ⇓P **P 12 31 39.1 -1.1**
CD2 S **S 12 35 43.8 -7.5**
CD2 SS **SnSn 12 36 31.1 +8.3**
CD2 pmax pmax
comp=Z,340nm,1.3s
CD2 pmax pmax
comp=Z,8μm,7.3s
CD2 LR LR
comp=Z,47μm,15.2s
CD2 LR LR
comp=Z,270μm,12.8s
CD2 LR LR
comp=Z,332μm,12.4s
GUMO Guam 23.02 143 P **P 12 31 40.7 +0.3**
comp=Z,854nm,1.1s,baz=278,slow=1.8,SNR=18
GUMO LR LR 12 39 54.5
comp=Z,12nm,18.0s,baz=330,slow=35
GUMO Guam 23.02 143 P **P 12 31 41.5 +1.1**
GUMO Guam 23.02 143 ⇓P **P 12 31 41.1 +0.8**
GUMO Guam 23.02 143 P **P 12 31 43.8 +3.4**
QIZ Qiongzhong 23.20 239 P **P 12 31 43.0 +0.7**
QIZ S **S 12 35 53.9 -0.8**
QIZ pmax pmax
comp=Z,7μm,6.4s
QIZ LR LR
comp=Z,75μm,15.2s
QIZ LR LR
comp=Z,60μm,13.7s
QIZ LR LR
comp=Z,70μm,12.8s
QIZ Qiongzhong 23.20 239 P **P 12 31 43.2 +0.9**
ULN Ulaanbaatar 23.43 317*ce*P **P 12 31 44.5 0.0**
ULN pmax pmax
comp=Z,423nm,1.1s
ULN MLR MLR
comp=Z,63μm,10.0s
ULN Ulaanbaatar 23.43 317 P **P 12 31 43.9 -0.6**
ULN IAmb IAmb 12 31 52.9
comp=Z,358nm,1.1s
ULN Ulaanbaatar 23.43 317 IAMs_20 IAMs_20 12 41 55.8
comp=Z,54μm,19.0s
ULN Ulaanbaatar 23.43 317 P **P 12 31 44.2 -0.3**
ULN S **S 12 36 02.6 +4.4**
ULN Ulaanbaatar 23.43 317 ⇓P **P 12 31 44.1 -0.4**
SONM Songino Array 23.79 316 P **P 12 31 47.4 -0.7**
comp=Z,60nm,0.8s,baz=132,slow=9.3,SNR=28
SONM LR LR 12 42 10.6
comp=Z,43nm,18.6s,baz=112,slow=39
SONM Songino Array 23.79 316 P **P 12 31 47.2 -0.9**
SONM Songino Array 23.79 316 P **P 12 31 47.1 -0.9**
SONM IAmb IAmb 12 31 56.0
comp=Z,339nm,1.2s
KMI Kunming 25.63 260 ⇓P **P 12 32 04.3 -0.9**
KMI pP sP 12 32 09.4 +1.5
KMI sP pP 12 32 14.3 +7.2
KMI PP **PnPn 12 32 47.3 +6.3**
KMI S **S 12 36 29.3 -4.7**
KMI sS sS 12 36 38.4 +1.2
KMI SS **SnSn 12 37 32.8 +5.3**
KMI pmax pmax
comp=Z,210nm,1.2s
KMI pmax pmax
comp=Z,5μm,6.9s
KMI LR LR
comp=Z,124μm,12.3s
KMI LR LR
comp=Z,121μm,13.5s
KMI LR LR
comp=Z,160μm,13.2s
GTA Gaotai 25.80 294 ⇓P **P 12 32 05.9 -0.6**
GTA pP sP 12 32 11.5 +2.2
GTA sP pP 12 32 14.4 +6.0
GTA S **S 12 36 41.1 +4.7**
GTA pmax pmax
comp=Z,6μm,7.6s
GTA LR LR
comp=Z,286μm,18.3s
GTA LR LR
comp=Z,70μm,13.5s
GTA LR LR
comp=Z,78μm,12.7s
SKR Severo-Kuril's 25.86 39 *e*P **P 12 32 08.8 +2.1**
SKR pmax pmax
comp=Z,500nm,3.6s
SKR pmax pmax
comp=Z,272nm,1.1s
PZH PanZhiHua 25.94 264 ⇓P **P 12 32 07.0 -0.9**
PZH pP **sP 12 32 10.6 0.0**
PZH S **S 12 36 41.8 +3.1**
PZH SS **SnSn 12 37 43.6 +8.7**
PZH pmax pmax
comp=Z,340nm,1.5s
PZH pmax pmax
comp=Z,5μm,6.7s
PZH LR LR
comp=Z,61μm,15.2s
PZH LR LR
comp=Z,88μm,14.2s
PZH LR LR
comp=Z,89μm,14.9s
DAV Davao City (W) 26.01 192 IAMs_20 IAMs_20 12 44 13.6
comp=Z,48μm,20.0s
ZAK Zakamensk 26.85 319 *e*P **P 12 32 15.5 -0.3**
ZAK pmax pmax
comp=Z,150nm,1.5s
IRK Irkutsk 27.33 323 *e*P **P 12 32 20.8 +0.7**
IRK pmax pmax
comp=Z,853nm,2.8s
BOD Bodaibo 27.54 340 *e*P **P 12 32 21.5 -0.4**
BOD pmax pmax
comp=Z,450nm,1.9s
PEA0B Petropavlovsk- 28.05 35*ce*P **P 12 32 27.0 +0.5**
PEA0B Petropavlovsk- 28.05 35 P **P 12 32 27.5 +1.0**
PEA0B IAmb IAmb 12 33 12.3
comp=Z,418nm,1.8s
PETK Petropavlovsk- 28.05 35 P **P 12 32 26.9 +0.5**
comp=Z,16nm,1.0s,baz=203,slow=1.1,SNR=12
PETK LR LR 12 44 19.7
comp=Z,23μm,18.9s,baz=207,slow=38
PETK Petropavlovsk- 28.05 35 P **P 12 32 27.0 +0.5**
PETK Petropavlovsk- 28.05 35 P **P 12 32 27.3 +0.8**
PET Petropavlovsk 28.47 36 *e*P **P 12 32 31.5 +1.3**
PET *e*S **S 12 37 14.8 -3.1**
PET pmax pmax
comp=Z,142nm,1.9s
PET MLR MLR
comp=Z,52μm,20.0s
PET Petropavlovsk 28.47 36 P **P 12 32 30.4 +0.2**
PET IAmb IAmb 12 32 42.9
comp=Z,140nm,1.1s
PET IAMs_20 IAMs_20 12 43 58.7
comp=Z,37μm,19.0s
PET Petropavlovsk 28.47 36 ⇓P **P 12 32 31.2 +1.0**
PET Petropavlovsk 28.47 36 P **P 12 32 31.3 +1.0**
MOY Mondy 28.74 320 *e*P **P 12 32 32.4 -0.4**
MOY pmax pmax
comp=Z,368nm,3.1s
UBPT Khong Chiam 28.80 239 P **P 12 32 33.0 -0.5**
UBPT IAmb IAmb 12 32 57.4
comp=Z,290nm,1.6s
UBPT Khong Chiam 28.80 239 ⇑P **P 12 32 34.0 +0.5**
DLV T Lat 29.10 230 P **P 12 32 37.3 +0.9**
DLV IAMs_20 IAMs_20 12 45 26.4
comp=Z,29μm,18.0s
DLV T Lat 29.10 230 P **P 12 32 36.5 +0.2**
YAK Yakutsk 29.30 359 P **P 12 32 36.2 -1.3**
comp=Z,48nm,0.9s,baz=163,slow=2.7,SNR=8.4
YAK LR LR 12 44 10.9
comp=Z,22μm,20.2s,baz=170,slow=36
YAK Yakutsk 29.30 359 *e*P **P 12 32 37.4 0.0**
YAK *e* 12 35 43.9
YAK *e*S **S 12 37 27.9 -2.8**
YAK *e*SS **SnSn 12 38 58.9 +2.9**
YAK pmax pmax
comp=Z,315nm,1.2s
YAK pmax pmax
comp=N,271nm,1.4s
YAK pmax pmax
comp=E,71nm,1.3s
YAK smax smax
comp=N,24μm,23.5s
YAK MLR MLR
comp=Z,25μm,23.0s
YAK MLR MLR
comp=N,16μm,21.0s
YAK MLR MLR
comp=E,22μm,22.0s
YAK Yakutsk 29.30 359 P **P 12 32 35.0 -2.5**
YAK Yakutsk 29.30 359 ⇓P **P 12 32 36.9 -0.6**
MYLDM Lahad Datu 29.73 205 IAmb IAmb 12 33 48.7
comp=Z,424nm,1.6s
GOMU GeErMu 29.73 287 P **P 12 32 42.0 -0.1**
GOMU sP sP 12 32 50.0 +5.2
GOMU S **S 12 37 37.4 -1.4**
GOMU pmax pmax
comp=Z,77nm,1.7s
GOMU pmax pmax
comp=Z,1μm,5.7s
GOMU LR LR
comp=Z,60μm,19.1s
GOMU LR LR
comp=Z,34μm,19.4s
GOMU LR LR
comp=Z,35μm,19.3s
KKM Kota Kinabalu 29.84 210 P **P 12 32 42.7 -0.1**
KKM IAmb IAmb 12 33 14.6
comp=Z,164nm,1.5s
KKM Kota Kinabalu 29.84 210 P **P 12 32 44.2 +1.4**
MA2 Magadan 29.95 20 LR LR 12 44 29.6
comp=Z,12μm,18.4s,baz=212,slow=36
MA2 Magadan 29.95 20 P **P 12 32 42.6 -0.6**
MA2 pmax pmax
comp=Z,91nm,1.2s
MA2 MLR MLR
comp=Z,14μm,18.0s
MA2 Magadan 29.95 20 P **P 12 32 42.6 -0.6**
MA2 Magadan 29.95 20 ⇓P **P 12 32 43.6 +0.4**
MA2 Magadan 29.95 20 P **P 12 32 43.0 -0.2**
LKP Lekhapani 30.62 269 *e*P **P 12 32 48.5 -1.0**
LKP IAmb IAmb 12 33 09.7
comp=Z,540nm,1.6s
SPMM Sapulut 30.94 209 P P 12 32 58.0 +5.6
MNI Manado 31.64 191 P **P 12 32 58.9 +0.3**
MNI pmax pmax
comp=Z,251nm,0.8s
CHTO Chiang Mai 31.70 252 P **P 12 32 58.7 -0.4**
CHTO pmax pmax
comp=Z,251nm,1.4s
CHTO MLR MLR
comp=Z,29μm,20.0s
CHTO Chiang Mai 31.70 252 P **P 12 32 58.7 -0.4**
CHTO IAmb IAmb 12 33 07.0
comp=Z,251nm,1.4s
CHTO Chiang Mai 31.70 252 IAMs_20 IAMs_20 12 47 46.0
comp=Z,29μm,20.0s
CHTO Chiang Mai 31.70 252 P **P 12 32 57.2 -2.0**
CHTO S **S 12 38 10.3 +1.1**
CHTO Chiang Mai 31.70 252 ⇓P **P 12 32 59.0 -0.1**
CHTO Chiang Mai 31.70 252 P **P 12 32 58.8 -0.4**
CM31 Chiang Mai Arr 31.89 251 P **P 12 33 00.5 -0.4**
CM31 IAmb IAmb 12 33 13.0
comp=Z,77nm,0.9s

CM31 Chiang Mai Arr 31.89 251 P **P** **12 33 00.9 0.0**
SNR=20
CMAR Chiang Mai Arr 31.89 251 P **P** **12 33 00.6 -0.2**
comp=Z,8.9nm,0.6s,baz=49,slow=7.4,SNR=63
CMAR LR LR 12 47 54.7
comp=Z,64µm,18.0s,baz=60,slow=40
CMAR Chiang Mai Arr 31.89 251 *i* P **P** **12 33 00.9 +0.1**
CMAR Chiang Mai Arr 31.89 251 P **P** **12 33 00.8 0.0**
TNTI Ternate 31.97 186 P **P** **12 33 02.8 +1.3**
TNTI IAmb IAmb 12 33 09.7
comp=Z,180nm,1.1s
TNTI Ternate 31.97 186 P **P** **12 33 03.1 +1.6**
comp=Z,129nm,0.9s
TNTI Ternate 31.97 186 P **P** **12 33 03.6 +2.1**
MOKO MOKOCHONG 32.08 268 *e*P **P** **12 33 01.6 -1.0**
MOKO IAmb IAmb 12 33 13.7
comp=Z,100nm,0.9s
ITAN ITANAGAR 32.47 270 *e*P **P** **12 33 05.7 -0.1**
ITAN IAmb IAmb 12 33 16.5
comp=Z,407nm,1.1s
GTOI Gorontalo 32.77 194 P **P** **12 33 05.8 -2.7**
comp=Z,15nm,1.2s
TOLI2 Tolitoli 32.85 199 P **P** **12 33 07.9 -1.3**
TOLI2 IAmb IAmb 12 33 18.2
comp=Z,192nm,1.6s
TOLI2 Tolitoli 32.85 199 P **P** **12 33 09.3 +0.1**
SEY Seymchan 33.16 18 P **P** **12 33 11.1 -0.3**
comp=Z,37nm,1.1s,baz=212,slow=6.2,SNR=18
SEY LR LR 12 46 26.8
comp=Z,34µm,18.5s,baz=214,slow=36
SEY Seymchan 33.16 18*ce*P **P** **12 33 10.0 -1.4**
SEY pmax pmax
comp=Z,25nm,0.8s
SEY MLR MLR
comp=Z,30µm,17.0s
MRSI Marisa 33.17 196 P **P** **12 33 11.4 -0.5**
comp=Z,74nm,1.6s
LBMI Labuha 33.36 186 P **P** **12 33 12.4 -1.2**
comp=Z,139nm,1.2s
TEZP TEZPUR 33.42 270 *e*P **P** **12 33 13.4 -0.7**
TEZP IAmb IAmb 12 33 23.9
comp=Z,251nm,1.0s
SWI Sorong 33.44 179 P **P** **12 33 14.6 +0.3**
SWI pmax pmax
comp=Z,47nm,1.5s
SWI Sorong 33.44 179 P **P** **12 33 14.1 -0.2**
comp=Z,3µmcomp=Z,47nm,1.5s
SIJI Sorong 33.45 179 LR LR 12 47 00.8
comp=Z,11µm,18.2s,baz=15,slow=37
MPSI Mapaga 33.83 200 P **P** **12 33 18.0 +0.2**
comp=Z,27µmcomp=Z,71nm,1.4s
LSA Lhasa 33.88 276 IAmb IAmb 12 33 45.7
comp=Z,145nm,1.1s
LSA IAMs_20 IAMs_20 12 48 02.2
comp=Z,45µm,18.0s
LSA Lhasa 33.88 276 P **P** **12 33 17.3 -1.4**
LSA S **S** **12 38 41.9 -2.0**
LSA pmax pmax
comp=Z,56nm,1.3s
LSA LR LR
comp=Z,29µm,12.8s
LSA LR LR
comp=Z,34µm,20.6s
LSA LR LR
comp=Z,25µm,15.7s
LSA Lhasa 33.88 276 P **P** **12 33 18.6 -0.1**
BAKI Biak 34.14 170 P **P** **12 33 20.8 +0.4**
comp=Z,109nm,1.1s
GUWA GUWAHATI 34.50 269 *e*P **P** **12 33 22.6 -0.9**
GUWA IAmb IAmb 12 33 34.3
comp=Z,72nm,0.9s
SHL Shillong 34.56 268 P **P** **12 33 23.0 -1.3**
SHL pmax pmax
comp=Z,146nm,1.1s
SHL Shillong 34.56 268 IAmb IAmb 12 33 43.2
comp=Z,198nm,1.2s
SHL Shillong 34.56 268 *e*P **P** **12 33 22.9 -1.4**
SHL IAmb IAmb 12 33 43.4
comp=Z,115nm,1.0s
SHL Shillong 34.56 268 P **P** **12 33 23.3 -1.0**
SNR=17
APSI Ampana 34.58 196 P **P** **12 33 24.1 -0.1**
comp=Z,41nm,1.2s
SBUM Sibu 34.81 214 ⇑P **P** **12 33 26.3 0.0**
SRPI Serui, Papua 34.82 170 P **P** **12 33 26.1 -0.2**
SANI Sanana 34.91 188 ⇑P **P** **12 33 25.2 -1.9**
SANI Sanana 34.91 188 P **P** **12 33 24.5 -2.6**
comp=Z,204nm,0.8s
SANI Sanana 34.91 188 P **P** **12 33 29.8 +2.7**
WMQ Urumqi 35.21 301 P **P** **12 33 29.3 -0.3**
WMQ pP sP 12 33 35.0 +2.7
WMQ sP pP 12 33 42.3 +11
WMQ S **S** **12 39 05.5 +2.2**
WMQ sS sS 12 39 13.9 +7.4
WMQ pmax pmax
comp=Z,130nm,1.9s
WMQ pmax pmax
comp=Z,2µm,3.7s
WMQ LR LR
comp=Z,87µm,16.9s
WMQ LR LR
comp=Z,45µm,15.9s
WMQ LR LR
comp=Z,29µm,19.7s
TURI Tura 35.87 269 *e*P **P** **12 33 35.0 -0.4**
TURI IAmb IAmb 12 33 45.7
comp=Z,89nm,0.9s
MSAI Masohi 35.95 183 P **P** **12 33 36.9 +0.9**
comp=Z,306nmcomp=Z,32nm,1.1s
DHUB DHUBRI 35.99 270 *e*P **P** **12 33 35.0 -1.3**
DHUB IAmb IAmb 12 33 45.7
comp=Z,265nm,1.3s
AAI Ambon 36.32 184 P **P** **12 33 40.1 +0.9**
AAI pmax pmax
comp=Z,237nm,1.1s
AAI Ambon 36.32 184 P **P** **12 33 39.2 0.0**
comp=Z,4µmcomp=Z,236nm,1.1s
KSM Kuching 36.58 216 ⇓P **P** **12 33 41.5 0.0**
KSM Kuching 36.58 216 P **P** **12 33 42.0 +0.5**
MTKI Muara Teweh, K 36.72 207 P **P** **12 33 42.0 -0.6**
comp=Z,7µmcomp=Z,80nm,1.1s
SHEM Shemya Is, Ala 36.85 44 P **P** **12 33 45.6 +2.3**
comp=Z,271nm,1.1s,baz=288,slow=7.6,SNR=4.8
SMY Shemya 36.85 44 P **P** **12 33 45.7 +2.3**
SMY pmax pmax
comp=Z,476nm,1.2s
SMY Shemya 36.85 44 P **P** **12 33 45.7 +2.3**
STKI Sintang 37.26 213 P **P** **12 33 47.5 +0.3**
comp=Z,9µmcomp=Z,35nm,1.2s
TAPN Taplejung 37.47 273 *e*P **P** **12 33 49.1 -0.2**
comp=Z,324nm,1.0s
ZSN Zaisan 37.49 307*d* *i*P **P** **12 33 48.5 -0.4**
ZSN *e*S **S** **12 39 37.2 -0.8**
ZSN pmax pmax
comp=Z,203nm,3.2s
ZSN Zaisan 37.49 307 ⇓ *i*P **P** **12 33 48.6 -0.4**
comp=Z,203nm,3.2s,baz=307
ZSN *e*S **S** **12 39 37.3 -0.8**
baz=307
SRIT Nakonsritamara 37.53 237 IAmb IAmb 12 33 56.5
comp=Z,258nm,1.4s
ODAN Odare 37.90 273 *e*P **P** **12 33 52.3 -0.6**
RAMN Ramite 38.53 273 *e*P **P** **12 33 58.1 -0.2**
JIRN Jiri 38.65 274 *e*P **P** **12 33 59.3 0.0**
comp=Z,119nm,0.8s
ZAA0 Zalesovo Array 38.68 317 **S** **12 39 55.6 -0.2**
ZALV Zalesovo Beam 38.68 317 P **P** **12 33 58.0 -0.9**
comp=Z,20nm,0.9s,baz=98,slow=7.8,SNR=22
ZALV PcP **PcP** **12 36 09.2 -1.5**
comp=Z,14nm,0.8s,baz=112,slow=2.6,SNR=4.9
ZALV ScP **S** **12 39 55.4 -0.4**
comp=Z,10nm,1.0s,baz=112,slow=3.9,SNR=5.6
ZALV LR LR 12 50 41.8
comp=Z,15µm,19.2s,baz=108,slow=38
ZALV PKPPKP **P'P'df** **13 06 35.5 -7.8**
comp=Z,0.2nm,0.3s,baz=245,slow=3.0,SNR=3.7
ZALV Zalesovo Beam 38.68 317 *i* P **P** **12 33 58.0 -0.9**
ZALV pmax pmax
comp=Z,36nm,1.1s
ZALV Zalesovo Beam 38.68 317 P **P** **12 33 57.8 -1.1**
GUN Gumba 38.83 275 *e*P **P** **12 34 01.0 +0.2**
TIXI Tiksi 38.97 359 LR LR 12 50 25.5
comp=Z,32µm,20.6s,baz=181,slow=37
TIXI Tiksi 38.97 359*ce*P **P** **12 34 00.9 -0.1**
TIXI pmax pmax
comp=Z,218nm,2.5s
TIXI MLR MLR
comp=Z,31µm,20.0s
TIXI Tiksi 38.97 359 P **P** **12 34 00.2 -0.8**
TIXI IAMs_20 IAMs_20 12 50 14.1
comp=Z,31µm,20.0s
TIXI Tiksi 38.97 359 ⇑P **P** **12 34 00.6 -0.4**
KAPI Kappang 38.99 198 LR LR 12 49 09.8
comp=Z,12µm,21.8s,baz=12,slow=35
KAPI Kappang 38.99 198 P **P** **12 34 01.8 0.0**
KAPI pmax pmax
comp=Z,72nm,1.2s
KAPI Kappang 38.99 198 P **P** **12 34 01.8 0.0**
KULM Kulim 39.18 232 P **P** **12 34 02.1 -1.4**
KULM IAmb IAmb 12 34 10.0
comp=Z,329nm,2.0s
KULM IAMs_20 IAMs_20 12 52 14.0
comp=Z,29µm,18.0s
KULM Kulim 39.18 232 ⇑P **P** **12 34 03.3 -0.2**
MK31 Makanchi Array 39.19 306 *i* P **P** **12 34 01.1 -2.2**
MK31 pmax pmax
comp=Z,65nm,1.0s
MK31 Makanchi Array 39.19 306 IAmb IAmb 12 34 11.1
comp=Z,61nm,1.1s
MKAR Makanchi Array 39.19 306 P **P** **12 34 02.1 -1.2**
comp=Z,44nm,1.0s,baz=93,slow=10,SNR=42
MKAR ScP **ScP** **12 39 57.0 -4.6**
comp=Z,3.6nm,0.9s,baz=48,slow=1.8,SNR=3.8
MKAR LR LR 12 50 48.6
comp=Z,19µm,18.9s,baz=93,slow=37
MKAR Makanchi Array 39.19 306 *i* P **P** **12 34 02.5 -0.8**
PKI Pulchoki 39.33 275 *e*P **P** **12 34 04.3 -0.7**
comp=Z,490nm,1.1s
PKIN Phulchoki 39.34 275 *e*P **P** **12 34 04.4 -0.6**
comp=Z,394nm,1.0s
KKN Kakani 39.37 275 *e*P **P** **12 34 05.0 -0.2**
comp=Z,398nm,1.0s
MAKZ Makanchi 39.41 306 P **P** **12 34 04.4 -0.7**
MAKZ pmax pmax
comp=Z,76nm,1.0s
MAKZ MLR MLR
comp=Z,17µm,19.0s
MAKZ Makanchi 39.41 306 P **P** **12 34 04.3 -0.7**
MAKZ Makanchi 39.41 306 ⇓P **P** **12 34 04.4 -0.7**
IPM Ipoh 39.54 231 P **P** **12 34 05.6 -0.9**
DMN Daman 39.57 275 *e*P **P** **12 34 06.5 -0.5**
DGPR DIGLIPUR 39.63 250 *e*P **P** **12 34 06.8 -0.4**
DGPR IAmb IAmb 12 34 17.4
comp=Z,235nm,0.8s
GKN Gorkha 39.84 276 *e*P **P** **12 34 08.5 -0.6**
comp=Z,422nm,1.0s
MYKOM Kota Tinggi 39.85 225 IAMs_20 IAMs_20 12 50 45.7
comp=Z,19µm,18.0s
MYKOM Kota Tinggi 39.85 225 ⇓P **P** **12 34 09.1 +0.1**
BSSI Bau Bau, Buton 39.90 196 P **P** **12 34 12.4 +3.0**
comp=Z,91nm,1.6s
TPRI Tanjung Pinang 40.16 223 P **P** **12 34 11.9 +0.3**
comp=Z,5µmcomp=Z,249nm,1.2s
DANN Dangsing 40.47 277 *e*P **P** **12 34 14.2 -0.2**
comp=Z,931nm,0.9s
PBA Port Blair 40.68 248 P **P** **12 34 16.1 +0.2**
PBA IAmb IAmb 12 34 31.8
comp=Z,159nm,0.9s
PBA Port Blair 40.68 248 *e*P **P** **12 34 18.0 +2.1**
PBA IAmb IAmb 12 34 26.3
comp=Z,71nm,0.7s
PBA Port Blair 40.68 248 P **P** **12 34 18.1 +2.1**
PBA Port Blair 40.68 248 ⇓P **P** **12 34 15.3 -0.7**
KOLN Koldanda 40.78 276 *e*P **P** **12 34 16.6 -0.4**
comp=Z,388nm,0.9s
BILL Bilibino 40.80 20*ce*P **P** **12 34 16.2 -0.2**
BILL *e* 12 35 52.9
BILL *e*PPP PPP 12 36 18.1
BILL pmax pmax
comp=Z,190nm,1.3s
BILL MLR MLR
comp=Z,20µm,16.0s
BILL Bilibino 40.80 20 P **P** **12 34 16.5 +0.1**
BILL IAmb IAmb 12 34 21.6
comp=Z,414nm,1.7s
BILL IAMs_20 IAMs_20 12 52 43.5
comp=Z,18µm,18.0s
SEM Semipalatinsk 40.83 311*d* *i*P **P** **12 34 16.2 -0.9**
SEM *e*S **S** **12 40 26.3 -2.3**
SEM pmax pmax
comp=Z,254nm,1.8s
SEM Semipalatinsk 40.83 311 ⇓ *i*P **P** **12 34 16.2 -0.9**
comp=Z,254nm,1.8s,baz=311
SEM *e*S **S** **12 40 26.3 -2.3**
baz=311
SEM LR LR 12 50 47.8
baz=311
PDGK Podgornoye 41.16 300 P **P** **12 34 17.6 -2.3**
PYUN Piuthan 41.19 277 *e*P **P** **12 34 20.2 -0.1**
comp=Z,1µm,1.1s
SHLS Shalkode 41.19 300*d* *i*P **P** **12 34 16.5 -3.6**
SHLS *e*S **S** **12 40 27.5 -6.5**
SHLS Shalkode 41.19 300 ⇓ *i*P **P** **12 34 16.5 -3.6**
baz=300
SHLS *e*S **S** **12 40 27.6 -6.5**
baz=300
UZB Uzynbulak 41.52 300 *i* P **P** **12 34 21.7 -1.0**
UZB *e*S **S** **12 40 37.4 -1.4**
UZB pmax pmax
comp=Z,170nm,2.1s
UZB Uzynbulak 41.52 300 *i* P **P** **12 34 21.8 -1.0**
comp=Z,170nm,2.1s,baz=300
UZB *e*S **S** **12 40 37.5 -1.4**
baz=300
KPKS Kokpek 41.74 300*d* *i*P **P** **12 34 23.6 -1.0**
KPKS *e*S **S** **12 40 40.2 -1.9**
KPKS pmax pmax
comp=Z,155nm,2.1s
KPKS Kokpek 41.74 300 ⇓ *i*P **P** **12 34 23.6 -1.0**
comp=Z,155nm,2.1s,baz=300
KPKS *e*S **S** **12 40 40.2 -1.9**
baz=300
LHMI Lhok Sumawe 41.76 236 IAMs_20 IAMs_20 12 52 25.7
comp=Z,19µm,20.0s
TDK Taldyqorghan 41.88 303*d* *i*P **P** **12 34 25.5 -0.1**
TDK *e*S **S** **12 40 42.8 -1.1**
TDK pmax pmax
comp=Z,916nm,2.9s
TDK MLR MLR
comp=Z,26µm,14.0s
TDK Taldyqorghan 41.88 303 ⇓ *i*P **P** **12 34 25.5 -0.1**
comp=Z,916nm,2.9s,baz=303
TDK *e*S **S** **12 40 42.8 -1.1**
baz=303
TDK LR LR 12 52 15.9
comp=Z,26µm,14.5s,baz=303
KURK Kurchatov 41.90 311 P **P** **12 34 24.3 -1.3**
KURK IAmb IAmb 12 34 32.7
comp=Z,224nm,1.2s
KURK Kurchatov 41.90 311 P **P** **12 34 25.1 -0.5**
KURK S **S** **12 40 41.7 -2.3**
KURK Kurchatov 41.90 311 ⇓P **P** **12 34 24.5 -1.1**
KURBB Kurchatov Arra 41.95 311 LR LR 12 52 47.4
comp=Z,61µm,19.3s,baz=72,slow=38
KURBB PKPPKP 13 06 34.0
comp=Z,0.5nm,0.9s,baz=316,slow=2.6,SNR=4.3
MMRI Maumere 41.95 193 P **P** **12 34 28.3 +2.0**
comp=Z,194nm,1.3s
MMRI Maumere 41.95 193 P **P** **12 34 28.9 +2.6**
KIWB Kanaga Island 41.96 47 P **P** **12 34 26.6 +0.5**
SATY Saty 41.97 300*d* *i*P **P** **12 34 25.8 -0.7**
SATY pmax pmax
comp=Z,266nm,2.7s
SATY Saty 41.97 300 ⇓ *i*P **P** **12 34 25.8 -0.7**
comp=Z,266nm,2.7s,baz=300
RABL Rabaul 41.98 147 P **P** **12 34 28.5 +1.9**
RABL Rabaul 41.98 147 P **P** **12 34 28.5 +1.9**
KRVT Keravat (AS076 42.02 147 P **P** **12 34 27.7 +0.8**
comp=Z,140nm,0.8s,baz=264,slow=9.4,SNR=12
KRVT LR LR 12 48 23.6
comp=Z,10µm,21.4s,baz=110,slow=31
PSI Prapat 42.17 232 P **P** **12 34 27.0 -1.3**
comp=Z,12nm,0.7s,baz=9.2,slow=7.7,SNR=6.8
PSI LR LR 12 54 22.7
comp=Z,17µm,18.0s,baz=38,slow=40
ADK Adak 42.26 47 P **P** **12 34 29.4 +1.0**
ADK pmax pmax
comp=Z,375nm,1.4s
ADK Adak 42.26 47 P **P** **12 34 29.4 +1.0**
ADK IAmb IAmb 12 34 37.9
comp=Z,375nm,1.4s
ADK Adak 42.26 47 ⇓P **P** **12 34 29.7 +1.2**
ARXS Arharly 42.32 302 *e*P **P** **12 34 28.1 -1.2**
ARXS pmax pmax
comp=Z,765nm,1.3s
TARG Taragay, Kyrgy 42.53 298 IAmb IAmb 12 34 46.8
comp=Z,170nm,1.1s
BKNI Bangkinang 42.71 227 P **P** **12 34 32.7 +0.1**
BKNI IAmb IAmb 12 34 42.7
comp=Z,304nm,1.1s
BKNI Bangkinang 42.71 227 P **P** **12 34 33.0 +0.4**
comp=Z,5µmcomp=Z,270nm,1.2s
JMBI JAMBI 42.74 222 P **P** **12 34 34.2 +1.4**
comp=Z,3µmcomp=Z,203nm,0.8s
CHKK Chushkaly 42.95 301 *e*P **P** **12 34 33.7 -0.6**
CHKK Chushkaly 42.95 301 *e*P **P** **12 34 33.7 -0.6**
baz=301
MDOK Medeo 42.96 300 *i* P **P** **12 34 34.3 -0.2**
MDOK *e*S **S** **12 40 58.8 -1.3**
MDOK MLR MLR
comp=Z,28µm,16.0s
MDOK Medeo 42.96 300 *i* P **P** **12 34 34.4 -0.2**
baz=300
MDOK *e*S **S** **12 40 58.9 -1.3**
baz=300
MDOK LR LR 12 51 46.5
comp=Z,28µm,16.1s,baz=300
TNSS Tian-Shan 43.04 300 *i* P **P** **12 34 35.6 +0.1**
TNSS Tian-Shan 43.04 300 *i* P **P** **12 34 35.7 +0.1**
baz=300
AAA Alma-Ata 43.05 300 *e*P **P** **12 34 35.4 +0.3**
AAA *e*S **S** **12 41 00.7 -0.6**
AAA MLR MLR
comp=Z,36µm,15.0s
AAA Alma-Ata 43.05 300 *e*P **P** **12 34 35.5 +0.3**
baz=300
AAA *e*S **S** **12 41 00.8 -0.6**
baz=300
AAA LR LR 12 52 01.2
comp=Z,36µm,15.0s,baz=300
PTH Pithoragarh 43.05 280 *e*P **P** **12 34 35.0 -0.5**
ALBI Allahabad 43.14 273 *e*P **P** **12 34 35.0 -1.0**
PLAI Plampang 43.16 199 P **P** **12 34 35.0 -1.2**
PMBI Palembang 43.19 220 P **P** **12 34 37.7 +1.3**
comp=Z,11µmcomp=Z,10µmcomp=Z,347nm,0.5s
MNSI Mandailing Nat 43.26 229 P **P** **12 34 35.1 -1.9**
comp=Z,3µmcomp=Z,206nm,1.0s
TBJI Tambak Boyo 43.28 208 P **P** **12 34 37.8 +0.7**
comp=Z,5µmcomp=Z,331nm,1.4s
UWJI Ujung Watu 43.28 209 P **P** **12 34 35.0 -2.1**
comp=Z,5µmcomp=Z,383nm,1.1s
KUU Kurty 43.41 301*d* *i*P **P** **12 34 37.5 -0.5**
KUU *e*S **S** **12 41 05.2 -1.3**
KUU pmax pmax
comp=Z,600nm,2.6s
KUU Kurty 43.41 301 ⇓ *i*P **P** **12 34 37.5 -0.5**
comp=Z,600nm,2.6s,baz=301
KUU *e*S **S** **12 41 05.3 -1.3**
baz=301
KUU LR LR 12 52 33.3
baz=301
ULHL Ulahol 43.63 299 P **P** **12 34 39.8 -0.2**
SNR=11
ATKA Atka Island 43.81 47 P **P** **12 34 41.6 +0.5**
NRIK Noril'sk 43.83 339 P **P** **12 34 40.4 -0.6**
comp=Z,55nm,0.7s,baz=119,slow=9.2,SNR=57
NRIK LR LR 12 53 47.2
comp=Z,43µm,18.6s,baz=122,slow=37
NRIK PKP2ab 13 07 42.4
comp=Z,3.0nm,0.5s,baz=169,slow=2.5,SNR=4.6
NRIK Noril'sk 43.83 339*d* *i*P **P** **12 34 40.2 -0.8**
NRIK pmax pmax
comp=Z,172nm,0.9s
NRIK MLR MLR
comp=Z,51µm,13.0s
NRIK Noril'sk 43.83 339 P **P** **12 34 40.2 -0.8**
NRIK IAmb IAmb 12 34 51.0
comp=Z,135nm,0.9s
JAGI Jajag, Banyuwa 43.95 204 P **P** **12 34 44.9 +2.4**
JAGI IAmb IAmb 12 35 25.7
comp=Z,186nm,1.6s
JAGI Jajag, Banyuwa 43.95 204 P **P** **12 34 44.7 +2.2**
TKM2 Tokmak 2 44.04 300 P **P** **12 34 42.8 -0.5**
SNR=36
TKM2 Tokmak 2 44.04 300 *i* P **P** **12 34 42.7 -0.6**
TKM2 pmax pmax
comp=Z,313nm,1.2s
SMRI Semarang 44.06 210 P **P** **12 34 46.8 +3.4**
comp=Z,326nm,1.3s
SMRI Semarang 44.06 210 P **P** **12 34 44.2 +0.8**
BLSP Bilaspur 44.11 269 *e*P **P** **12 34 41.1 -2.8**
GSI Gunungsitoli 44.18 232 P **P** **12 34 42.8 -1.7**
GSI IAMs_20 IAMs_20 12 55 44.5
comp=Z,24µm,18.0s
GSI Gunungsitoli 44.18 232 ⇓P **P** **12 34 42.8 -1.7**
GSI Gunungsitoli 44.18 232 P **P** **12 34 43.4 -1.0**
KSH Kashi 44.19 295 P **P** **12 34 47.4 +2.9**
KSH sP sP 12 34 55.1 +7.9
KSH PcS **PcS** **12 40 21.6 -0.9**
KSH S **S** **12 41 23.8 +5.6**
KSH sS sS 12 41 34.9 +13
KSH pmax pmax
comp=Z,59nm,2.0s
KSH pmax pmax
comp=Z,4µm,7.9s
KSH LR LR
comp=Z,49µm,14.1s
KSH LR LR
comp=Z,51µm,14.0s
KSH LR LR
comp=Z,47µm,16.5s
KRJI Kerinci 44.37 224 P **P** **12 34 46.6 +0.5**
comp=Z,21µmcomp=Z,964nm,1.9s
PWJI Pagerwojo 44.39 207 P **P** **12 34 47.4 +1.3**
comp=Z,248nm,1.2s
KBK Karagaybulak 44.54 300 P **P** **12 34 47.5 +0.2**
SNR=28
DDI Dehra Dun 44.61 282 *e*P **P** **12 34 47.1 -0.8**
DDI IAmb IAmb 12 34 57.9
comp=Z,145nm,0.9s
CHMS Chumysh 44.65 300 P **P** **12 34 47.1 -0.9**
SNR=34
CHMS Chumysh 44.65 300 *i* P **P** **12 34 46.3 -1.7**
CHMS pmax pmax
comp=Z,165nm,1.1s
SGDS Sogindy 44.69 301 *e*P **P** **12 34 47.9 -0.4**
SGDS *e*S **S** **12 41 23.9 -1.3**
SGDS Sogindy 44.69 301 *e*P **P** **12 34 48.0 -0.4**
baz=301
SGDS *e*S **S** **12 41 23.9 -1.3**
baz=301
PMG Port Moresby 44.74 157 P **P** **12 34 50.3 +1.4**
comp=Z,16nm,1.0s,baz=20,slow=9.5,SNR=4.2
PMG LR LR 12 53 29.5
comp=Z,15µm,18.9s,baz=338,slow=36
PMG Port Moresby 44.74 157 IAMs_20 IAMs_20 12 48 38.9
comp=Z,26µm,21.0s
PMG Port Moresby 44.74 157 P **P** **12 34 51.5 +2.6**
PMG Port Moresby 44.74 157 P **P** **12 34 51.7 +2.8**
FRU1 Bishkek 44.76 300 IAmb IAmb 12 34 56.9
comp=Z,146nm,1.0s
KLI Kotabumi 44.77 218 P **P** **12 34 48.0 -1.1**
KLI Kotabumi 44.77 218 P **P** **12 34 48.6 -0.5**
comp=Z,8µmcomp=Z,683nm,0.7s
USP Ospenovka 44.80 300 P **P** **12 34 49.0 -0.2**
SNR=32
UGM Wanagama 44.80 209 P **P** **12 34 49.0 -0.4**
AAK Ala-Archa 44.88 300 P **P** **12 34 49.7 -0.3**
SNR=30
AAK Ala-Archa 44.88 300 LR LR 12 54 45.2
comp=Z,40µm,20.2s,baz=76,slow=38
AAK Ala-Archa 44.88 300*d* *i*P **P** **12 34 49.3 -0.7**
AAK pmax pmax
comp=Z,98nm,1.0s
AAK MLR MLR
comp=Z,49µm,15.0s
AAK Ala-Archa 44.88 300 P **P** **12 34 49.6 -0.3**
AAK Ala-Archa 44.88 300 P **P** **12 34 50.0 +0.1**
AAK S **S** **12 41 31.2 +3.0**
AAK Ala-Archa 44.88 300 ⇓P **P** **12 34 49.7 -0.3**
AAK Ala-Archa 44.88 300 *i* P **P** **12 34 49.3 -0.7**
SNR=45
UCH Uchtor 44.91 299 P **P** **12 34 51.1 +0.5**
SNR=124
BTLS Baital 44.96 303*d* *i*P **P** **12 34 49.6 -0.8**
BTLS *e*S **S** **12 41 24.5 -4.5**
BTLS *e*S S 12 41 27.3 -1.8
BTLS pmax pmax

comp=Z,244nm,2.4s
BTLS Baital 44.96 303 ⇓*i* P **P 12 34 49.7 -0.8**
comp=Z,244nm,2.4s,baz=303
BTLS *e* S **S 12 41 24.6 -4.5**
baz=303
BTLS *e* S S 12 41 27.4 -1.7
baz=303
LEM Lembang 45.11 213 P **P 12 34 51.3 -0.7**
comp=Z,71nm,0.6s,baz=98,slow=8.1,SNR=10
LEM LR LR 12 56 25.3
comp=Z,8µm,18.9s,baz=51,slow=40
SMLA Simla 45.11 283 *e*P **P 12 34 50.7 -1.0**
SMLA IAmb IAmb 12 34 58.0
comp=Z,105nm,0.7s
KDU Kakadu 45.21 178 ⇑P **P 12 34 51.9 -0.7**
KDU Kakadu 45.21 178 P **P 12 34 51.3 -1.3**
MTN Manton Dam 45.34 180 IAmb IAmb 12 34 59.9
comp=Z,127nm,0.8s
MTN Manton Dam 45.34 180 ⇑P **P 12 34 50.7 -2.9**
MTN Manton Dam 45.34 180 P **P 12 34 52.1 -1.5**
EKS2 Erkin-Say 45.40 300 P **P 12 34 53.8 -0.3**
SNR=19
JBP Jabalpur 45.50 271 *ex* x 12 34 53.4
AML Almayashu 45.53 299 P **P 12 34 56.0 +0.5**
SNR=78
AML Almayashu 45.53 299 P **P 12 34 56.2 +0.8**
AML Almayashu 45.53 299 *i* P **P 12 34 55.4 0.0**
SNR=106
BRZS Berezniki 45.67 310 *d i*P **P 12 34 55.3 -0.7**
BRZS *e*S **S 12 41 37.8 -1.4**
BRZS Berezniki 45.67 310 ⇓*i* P **P 12 34 55.3 -0.7**
baz=310
BRZS *e*S **S 12 41 37.9 -1.4**
baz=310
NDI New Delhi 45.82 280 *e*P **P 12 34 55.0 -2.4**
THN Thein Dam 45.92 285 *e*P **P 12 34 57.5 -0.7**
OTUK Ortayu 45.94 308 P **P 12 34 57.1 -1.1**
SPIA Saint Paul Isl 46.52 40 P **P 12 35 02.3 -0.2**
baz=265
KUDL Kundal 46.60 279 *e*P **P 12 35 02.9 -0.7**
GAMB Gambell 46.89 31 IAmb IAmb 12 35 13.8
comp=Z,136nm,1.5s
GAMB IAMs_20 IAMs_20 12 56 23.2
comp=Z,16µm,19.0s
GAMB Gambell 46.89 31 P **P 12 35 05.5 +0.3**
baz=257,SNR=8.0
GAMB S **S 12 41 59.3 +3.1**
baz=257
NIKH Nikolski High 47.10 46 P **P 12 35 06.5 -0.6**
baz=270
DZA Taraz 47.15 300 *e*P **P 12 35 07.3 -0.4**
DZA Taraz 47.15 300 *e*P **P 12 35 07.3 -0.4**
baz=300
BRVK Borovoye 47.17 314 *i* P **P 12 35 06.5 -1.1**
BRVK pmax pmax
comp=Z,156nm,0.8s
BRVK MLR MLR
comp=Z,37µm,12.0s
BRVK Borovoye 47.17 314 P **P 12 35 06.7 -1.0**
BRVK Borovoye 47.17 314 P **P 12 35 07.5 -0.1**
BRVK S **S 12 41 59.2 -1.2**
BRVK Borovoye 47.17 314 ⇓P **P 12 35 06.9 -0.7**
NIL Nilore 47.59 288 P **P 12 35 11.2 -0.1**
NIL pmax pmax
comp=Z,703nm,1.9s
NIL Nilore 47.59 288 P **P 12 35 11.2 -0.1**
NIL Nilore 47.59 288 IAMs_20 IAMs_20 12 54 19.2
comp=Z,18µm,21.0s
BHPL Bhopal 47.62 273 *e*P **P 12 35 10.1 -1.5**
BHPL IAmb IAmb 12 35 18.5
comp=Z,75nm,1.3s
KK31 Karatay Array 47.72 301 *i* P **P 12 35 11.4 -0.7**
KK31 Karatay Array 47.72 301 P **P 12 35 11.7 -0.4**
KKAR Karatay Array 47.72 301 P **P 12 35 11.7 -0.4**
KKAR pmax pmax
comp=Z,246nm,0.9s
KKAR Karatay Array 47.72 301 P **P 12 35 11.7 -0.4**
KKAR Karatay Array 47.72 301 P **P 12 35 11.8 -0.3**
KKAR Karatay Array 47.72 301 ⇓P **P 12 35 11.4 -0.7**
COEN Coen 47.94 164 P **P 12 35 14.5 +0.5**
COEN IAmb IAmb 12 35 30.9
comp=Z,79nm,1.1s
COEN Coen 47.94 164 ⇑P **P 12 35 14.7 +0.7**
COEN Coen 47.94 164 P **P 12 35 14.7 +0.7**
BTK Batken 48.01 297 IAmb IAmb 12 35 30.1
comp=Z,127nm,1.1s
KNRA Kununurra 48.20 183 P **P 12 35 14.3 -1.6**
KNRA Kununurra 48.20 183 P **P 12 35 15.2 -0.7**
BRLS Borolday 48.22 301 *e*P **P 12 35 16.7 +0.7**
BRLS Borolday 48.22 301 *e*P **P 12 35 16.8 +0.7**
baz=300
IUG Iuzhnay 48.22 300 *d i*P **P 12 35 15.8 -0.3**
IUG *e*S **S 12 42 14.9 -1.0**
IUG Iuzhnay 48.22 300 ⇓*i*P **P 12 35 15.9 -0.3**
baz=300
IUG *e*S **S 12 42 14.9 -1.0**
baz=300
UNV Unalaska Valle 48.51 45 P **P 12 35 16.9 -1.0**
baz=271
UNV S **S 12 42 18.6 -0.8**
baz=271
AJM Ajmer 48.72 278 *e*P **P 12 35 19.3 -0.8**
TNA Tin City 48.85 29 IAmb IAmb 12 35 46.1
comp=Z,104nm,1.2s
TNA Tin City 48.85 29 ⇓P **P 12 35 22.2 +1.7**
TNA Tin City 48.85 29 P **P 12 35 20.8 +0.3**
baz=259,SNR=7.3
TNA S **S 12 42 27.5 +3.5**
baz=259
AKL Akola 49.03 270 *e*P **P 12 35 22.4 -0.1**
XMI Christmas Isla 49.18 213 P **P 12 35 24.4 +0.8**
HYB Hyderabad 49.22 265 *e*P **P 12 35 23.9 -0.1**
HYB IAmb IAmb 12 35 30.0
comp=Z,30nm,1.1s
HYBB Hyderabad (bro 49.22 265 *e*P **P 12 35 23.8 -0.3**
HYBB *es*P **sP 12 35 28.0 +1.2**
HYBB *e*PP **PP 12 37 19.4 +1.5**
HYBB *e*S **S 12 42 30.4 -0.1**
CHGR Chuyangaron 49.56 295 P **P 12 35 25.8 -0.6**
CHGR pmax pmax
comp=Z,403nm,0.9s
CHGR Chuyangaron 49.56 295 P **P 12 35 25.8 -0.6**
ANM Nome 49.76 31 IAmb IAmb 12 36 08.5
comp=Z,150nm,1.4s
ANM IAMs_20 IAMs_20 12 57 58.9
comp=Z,14µm,19.0s
ANM Nome 49.76 31 P **P 12 35 28.2 +0.7**
baz=262,SNR=20
ANM S **S 12 42 40.0 +3.2**
baz=262
MDRS Chennai 49.98 259 *e*P **P 12 35 30.2 +0.4**
MDRS IAmb IAmb 12 35 35.4
comp=Z,37nm,0.8s
FALS False Pass 50.29 43 P **P 12 35 30.1 -1.4**
baz=272
HNR Honiara 50.34 141 LR LR 12 55 17.4
comp=Z,3µm,19.9s,baz=320,slow=34
HNR Honiara 50.34 141 P **P 12 35 35.0 +2.6**
KBL Kabul 50.70 290 P **P 12 35 35.0 -0.3**
KBL pmax pmax
comp=Z,200nm,1.4s
KBL Kabul 50.70 290 P **P 12 35 35.0 -0.3**
KBL IAmb IAmb 12 35 44.0
comp=Z,200nm,1.4s
KBL Kabul 50.70 290 P **P 12 35 35.2 -0.1**
SNR=27
KBL S **S 12 42 51.5 +0.4**
FITZ Fitzroy Crossi 50.80 186 LR LR 12 58 07.6
comp=Z,4µm,20.2s,baz=22,slow=37
RDOG Red Dog Mine 51.23 26 IAmb IAmb 12 35 45.5
comp=Z,232nm,1.8s
RDOG IAMs_20 IAMs_20 12 58 12.6
comp=Z,15µm,19.0s
RDOG Red Dog Mine 51.23 26 P **P 12 35 38.4 -0.2**
baz=262
RDOG S **S 12 43 01.2 +4.0**
baz=262
SDPT Sand Point 51.95 43 P **P 12 35 43.2 -0.8**
baz=274
MTSU Mount Surprise 52.23 164 P **P 12 35 47.4 +0.8**
SALM Salem 52.42 259 *e*P **P 12 35 48.6 +0.5**
WRAB Tennant Creek 52.50 176 *ce*P **P 12 35 46.3 -2.2**
WRAB pmax pmax
comp=Z,79nm,1.7s
WRAB Tennant Creek 52.50 176 P **P 12 35 46.8 -1.7**
WRAB IAmb IAmb 12 36 18.3
comp=Z,407nm,1.9s
WRAB Tennant Creek 52.50 176 ⇑P **P 12 35 47.1 -1.4**
WRAB Tennant Creek 52.50 176 P **P 12 35 47.7 -0.8**
WRA Warramunga Arr 52.51 176 P **P 12 35 46.6 -1.9**
comp=Z,17nm,0.7s,baz=356,slow=8.5,SNR=54
WRA S **S 12 43 12.2 -3.5**
comp=Z,5.9nm,1.3s,baz=358,slow=13,SNR=5.6
WRA LR LR 12 58 09.1
comp=Z,4µm,20.5s,baz=341,slow=36
WRA Warramunga Arr 52.51 176 *i* P **P 12 35 46.7 -1.9**
WRA Warramunga Arr 52.51 176 P **P 12 35 47.1 -1.5**
WB2 Warramunga Arr 52.51 176 IAmb IAmb 12 35 54.3
comp=Z,71nm,0.8s
WR0 Warramunga Arr 52.54 176 IAmb IAmb 12 35 56.3
comp=Z,148nm,1.1s
SVE Sverdlovsk 52.61 319 *ce*P **P 12 35 48.7 -0.3**
SVE *e* 12 37 46.7
SVE *e*S **S 12 43 16.4 0.0**
SVE *e*SS **SS 12 46 55.3 +1.1**
SVE pmax pmax
comp=Z,206nm,1.5s
SVE MLR MLR
comp=E,17µm,15.0s
SVE MLR MLR
comp=Z,28µm,17.0s
POO Poona 52.66 269 *e*P **P 12 35 49.5 -0.5**
POO IAmb IAmb 12 35 53.0
comp=Z,26nm,0.7s
PALK Pallekele 52.82 253 LR LR 12 59 39.0
comp=Z,15µm,20.4s,baz=149,slow=38
PALK Pallekele 52.82 253 *i* P **P 12 35 50.7 -0.4**
PALK pmax pmax
comp=Z,79nm,1.4s
PALK Pallekele 52.82 253 P **P 12 35 50.1 -1.1**
PALK Pallekele 52.82 253 IAMs_20 IAMs_20 12 59 16.6
comp=Z,17µm,21.0s
PALK Pallekele 52.82 253 P **P 12 35 51.2 +0.1**
PALK Pallekele 52.82 253 ⇓P **P 12 35 50.8 -0.3**
PALK ⇑P **P 12 35 51.2 +0.1**
KAD Karad 52.95 268 *e*P **P 12 35 50.7 -1.4**
GCSA Galena City Sc 53.42 31 P **P 12 35 54.5 -0.2**
baz=270,SNR=7.7
GCSA S **S 12 43 28.6 +1.5**
baz=270
QIS Mount Isa 53.68 170 P **P 12 35 56.4 -0.8**
A21K Barrow 53.78 22 IAMs_20 IAMs_20 12 57 56.7
comp=Z,17µm,22.0s
A21K Barrow 53.78 22 P **P 12 35 56.9 -0.4**
baz=266
A21K S **S 12 43 34.8 +3.0**
baz=266
ARU Arti 53.79 319 LR LR 12 59 10.8
comp=Z,13µm,20.4s,baz=83,slow=36
ARU Arti 53.79 319 *d i*P **P 12 35 56.7 -0.9**
ARU 12 36 58.7
ARU 12 37 54.1
ARU PPP PPP 12 39 02.7
ARU S **S 12 43 32.5 +0.1**
ARU 12 45 42.8
ARU SSS SSS 12 49 04.0
ARU pmax pmax
comp=Z,157nm,1.0s
ARU MLR MLR
comp=Z,17µm,20.0s
ARU Arti 53.79 319 IAMs_20 IAMs_20 12 59 07.8
comp=Z,20µm,22.0s
ARU Arti 53.79 319 ⇓P **P 12 35 56.8 -0.8**
KOD Kodaikanal 53.79 258 *e*P **P 12 35 57.0 -1.6**
TTA Tatalina 53.84 33 ⇓P **P 12 35 59.1 +1.1**
TTA Tatalina 53.84 33 P **P 12 35 58.1 +0.1**
baz=272,SNR=29
TTA S **S 12 43 35.4 +2.4**
baz=272
AB31 Akbulak array 53.98 310 *i* P **P 12 35 57.7 -1.4**
ABKAR Akbulak array 53.98 310 P **P 12 35 58.4 -0.8**
ABKAR Akbulak array 53.98 310 IAmb IAmb 12 36 02.7
comp=Z,99nm,0.9s
ABKAR Akbulak array 53.98 310 ⇓P **P 12 35 58.5 -0.6**
N18K Kilae Creek 54.01 36 IAmb IAmb 12 36 10.2
comp=Z,162nm,1.4s
N18K IAMs_20 IAMs_20 13 01 49.9
comp=Z,14µm,18.0s
N18K Kilae Creek 54.01 36 P **P 12 35 58.9 -0.4**
baz=274,SNR=19
N18K S **S 12 43 34.9 -0.5**
baz=274
L19K White Mountain 54.41 34 IAmb IAmb 12 36 38.4
comp=Z,107nm,1.2s
L19K IAMs_20 IAMs_20 13 01 12.5
comp=Z,19µm,19.0s
L19K White Mountain 54.41 34 P **P 12 36 01.8 -0.3**
baz=274,SNR=36
L19K S **S 12 43 43.3 +2.6**
baz=274
O18K Koktuh Hills 54.41 37 IAmb IAmb 12 36 13.0
comp=Z,209nm,1.4s
O18K IAMs_20 IAMs_20 12 56 43.8
comp=Z,15µm,22.0s
O18K Koktuh Hills 54.41 37 P **P 12 36 02.0 -0.2**
baz=275,SNR=26
O18K S **S 12 43 46.2 +5.4**
baz=275
P18K Big Mountain, 54.45 37 IAmb IAmb 12 36 10.0
comp=Z,95nm,1.2s
P18K Big Mountain, 54.45 37 P **P 12 36 01.9 -0.5**
baz=276
P18K S **S 12 43 44.6 +3.3**
baz=276
CTA Charters Tower 54.59 162 LR LR 12 57 20.1
comp=Z,9µm,21.2s,baz=348,slow=34
CTA Charters Tower 54.59 162 P **P 12 36 04.9 +1.0**
CTA Charters Tower 54.59 162 P **P 12 36 04.8 +0.9**
CTAO Charters Tower 54.59 162 P **P 12 36 04.7 +0.9**
CTAO pmax pmax
comp=Z,98nm,1.2s
CTAO Charters Tower 54.59 162 P **P 12 36 04.7 +0.9**
CTAO IAmb IAmb 12 36 37.3
comp=Z,98nm,1.1s
J20K Nowinta River 54.62 31 P **P 12 36 03.3 -0.3**
baz=273,SNR=55
J20K S **S 12 43 47.6 +4.2**
baz=273
CHIR Chirikof Islan 54.64 42 IAMs_20 IAMs_20 12 56 40.6
comp=Z,15µm,22.0s
CHIR Chirikof Islan 54.64 42 P **P 12 36 03.2 -0.7**
baz=278
M19K Big River Lodg 54.65 34 IAmb IAmb 12 36 35.2
comp=Z,150nm,1.6s
M19K IAMs_20 IAMs_20 13 00 48.3
comp=Z,11µm,18.0s
M19K Big River Lodg 54.65 34 P **P 12 36 04.0 +0.1**
baz=274,SNR=18
M19K S **S 12 43 46.0 +2.1**
baz=274
N19K Bonanza Creek 54.69 35 P **P 12 36 03.2 -1.1**
baz=275,SNR=14
N19K S **S 12 43 49.1 +4.4**
baz=275
K20K Telida 54.70 32 IAmb IAmb 12 36 36.3
comp=Z,189nm,1.3s
K20K IAMs_20 IAMs_20 13 01 28.0
comp=Z,14µm,19.0s
K20K Telida 54.70 32 P **P 12 36 04.6 +0.4**
baz=274,SNR=70
K20K S **S 12 43 51.0 +6.4**
baz=274
IMAR Indian Mountai 54.71 29 P **P 12 36 04.7 +0.5**
O19K Port Alsworth 54.83 36 IAmb IAmb 12 36 13.0
comp=Z,96nm,1.0s
O19K Port Alsworth 54.83 36 P **P 12 36 05.8 +0.7**
baz=276,SNR=22
O19K S **S 12 43 52.9 +6.6**
baz=276
L20K Farewell, AK 54.84 33 P **P 12 36 05.5 +0.2**
baz=274,SNR=36
L20K S **S 12 43 51.1 +4.6**
baz=274
AKTO Aktyubinsk 54.99 312 LR LR 12 58 56.2
comp=Z,23µm,19.7s,baz=85,slow=35
AKTO Aktyubinsk 54.99 312 P **P 12 36 04.9 -1.6**
PSA00 Pilbara Seismi 55.02 192 P **P 12 36 04.9 -2.0**
PSA00 Pilbara Seismi 55.02 192 IAmb IAmb 12 36 14.2
comp=Z,71nm,1.1s
PSA00 Pilbara Seismi 55.02 192 P **P 12 36 05.7 -1.2**
H21K Melozitna Rive 55.11 29 IAmb IAmb 12 36 17.8
comp=Z,136nm,1.5s
H21K Melozitna Rive 55.11 29 P **P 12 36 06.7 -0.5**
baz=273,SNR=24
H21K S **S 12 43 51.1 +1.1**
baz=273
TRD Trivandrum 55.16 257 *e*P **P 12 36 08.5 +0.3**
TRD IAmb IAmb 12 36 14.4
comp=Z,142nm,1.3s
Q19K Cape Douglas, 55.31 38 IAmb IAmb 12 36 54.1
comp=Z,193nm,1.4s
Q19K IAMs_20 IAMs_20 12 57 23.7
comp=Z,11µm,20.0s
Q19K Cape Douglas, 55.31 38 P **P 12 36 07.4 -1.3**
baz=277
Q19K S **S 12 43 53.6 +0.7**
baz=277
SII Sitkinak Islan 55.34 41 IAmb IAmb 12 36 25.4
comp=Z,118nm,1.0s
SII IAMs_20 IAMs_20 12 58 44.1
comp=Z,16µm,20.0s
SII Sitkinak Islan 55.34 41 P **P 12 36 08.2 -0.7**
baz=278
SII S **S 12 43 54.8 +1.5**
baz=278
SII Sitkinak Islan 55.34 41 P **P 12 36 10.5 +1.6**
P19K Oil Pt 55.43 37 IAmb IAmb 12 36 13.9
comp=Z,197nm,1.4s
P19K Oil Pt 55.43 37 P **P 12 36 09.3 -0.3**
baz=277,SNR=7.0
P19K S **S 12 43 53.6 -1.0**
baz=277
CHUM Lake Minchumin 55.44 32 P **P 12 36 10.5 +1.0**
baz=275,SNR=33
CHUM S **S 12 43 58.2 +3.8**
baz=275
I21K Tanana 55.48 30 IAmb IAmb 12 36 43.5
comp=Z,127nm,1.1s
I21K IAMs_20 IAMs_20 13 02 54.7
comp=Z,11µm,18.0s
I21K Tanana 55.48 30 P **P 12 36 10.5 +0.7**
baz=274,SNR=30
I21K S **S 12 43 59.4 +4.4**
baz=274
CAST Castle Rocks 55.58 32 IAmb IAmb 12 36 42.5
comp=Z,211nm,1.5s
CAST IAMs_20 IAMs_20 12 59 04.2
comp=Z,13µm,22.0s
CAST Castle Rocks 55.58 32 P **P 12 36 11.2 +0.6**
baz=275,SNR=40
PPLA Purkeypile 55.58 33 P **P 12 36 11.0 +0.2**
baz=276,SNR=31
PPLA S **S 12 44 00.2 +3.5**
baz=276
O20K Slope Mountain 55.68 36 P **P 12 36 11.2 -0.3**
baz=277
O20K S **S 12 43 58.2 +0.2**
baz=277
OHAK Old Harbor 55.73 40 P **P 12 36 11.6 0.0**
OHAK IAmb IAmb 12 36 21.2
comp=Z,191nm,1.4s
OHAK Old Harbor 55.73 40 P **P 12 36 11.1 -0.6**
baz=279,SNR=15
OHAK S **S 12 44 00.4 +2.0**
baz=279
SPCR Spurr Chakacha 55.75 35 P **P 12 36 11.8 -0.2**
baz=277,SNR=30
SPCR S **S 12 44 03.3 +4.4**
baz=277
BPAW Bear Paw Mtn. 56.00 31 IAmb IAmb 12 36 24.3
comp=Z,127nm,1.3s
BPAW Bear Paw Mtn. 56.00 31 P **P 12 36 12.9 -0.7**
baz=276,SNR=38
BPAW S **S 12 44 05.9 +3.9**
baz=276
KDAK Kodiak Island 56.02 39 P **P 12 36 13.5 -0.2**
comp=Z,181nm,1.2s,baz=268,slow=4.5,SNR=26
KDAK Kodiak Island 56.02 39 *d i*P **P 12 36 14.5 +0.7**
KDAK pmax pmax
comp=Z,256nm,1.3s
KDAK MLR MLR
comp=Z,21µm,18.0s
KDAK Kodiak Island 56.02 39 P **P 12 36 13.8 +0.1**
KDAK IAmb IAmb 12 36 17.7
comp=Z,213nm,1.3s
KDAK Kodiak Island 56.02 39 IAMs_20 IAMs_20 12 58 16.8
comp=Z,17µm,22.0s
KDAK Kodiak Island 56.02 39 ⇓P **P 12 36 14.4 +0.6**
KDAK ⇓P **P 12 36 14.5 +0.7**
KDAK Kodiak Island 56.02 39 P **P 12 36 13.5 -0.2**
baz=279
KDAK S **S 12 44 03.4 +1.1**
baz=279
COLD Coldfoot 56.05 27 P **P 12 36 13.7 -0.2**
baz=274,SNR=22
COLD S **S 12 44 03.4 +0.8**
baz=274
KTH Kantishna Hill 56.09 32 IAMs_20 IAMs_20 12 59 29.9
comp=Z,18µm,22.0s
HRA Herat 56.09 292 IAmb IAmb 12 36 23.4
comp=Z,209nm,1.2s
AS31 Alice Springs 56.18 177 P **P 12 36 14.1 -1.2**
ASAR Alice Springs 56.18 177 P **P 12 36 13.8 -1.6**
comp=Z,22nm,0.8s,baz=3.6,slow=6.1,SNR=106
ASAR S **S 12 44 02.3 -2.8**
comp=Z,5.3nm,1.1s,baz=11,slow=15,SNR=7.4
ASAR LR LR 13 01 59.4
comp=Z,3µm,19.2s,baz=17,slow=38
ASAR PKP2bc 13 06 24.3
comp=Z,1.9nm,0.9s,baz=163,slow=2.6,SNR=7.4
ASAR P4KPbc 13 13 30.1
comp=Z,1.2nm,0.8s,baz=356,slow=4.2,SNR=11
ASAR Alice Springs 56.18 177 P **P 12 36 13.4 -1.9**
TOLK Toolik Lake Re 56.19 26 IAMs_20 IAMs_20 13 01 20.4
comp=Z,15µm,19.0s
TOLK Toolik Lake Re 56.19 26 P **P 12 36 14.6 -0.3**
baz=274,SNR=18
TOLK S **S 12 44 07.1 +2.7**
baz=274
HOM Homer 56.23 37 IAMs_20 IAMs_20 12 58 33.9
comp=Z,16µm,21.0s
HOM Homer 56.23 37 P **P 12 36 14.2 -1.1**
baz=278
CAPN Captain Cook N 56.32 35 IAMs_20 IAMs_20 12 57 59.4
comp=Z,16µm,20.0s
TRF Thorofare Moun 56.38 32 IAmb IAmb 12 36 26.6
comp=Z,210nm,1.8s
TRF IAMs_20 IAMs_20 13 00 09.8
comp=Z,15µm,21.0s
TRF Thorofare Moun 56.38 32 P **P 12 36 15.9 -0.6**
baz=277,SNR=17
TRF S **S 12 44 08.6 +1.3**
baz=277
H23K Yukon River 56.44 29 IAMs_20 IAMs_20 13 03 18.3
comp=Z,11µm,18.0s
H23K Yukon River 56.44 29 P **P 12 36 17.0 +0.2**
baz=276,SNR=100
H23K S **S 12 44 14.6 +6.8**
baz=276
CUT Chulitna 56.52 33 IAMs_20 IAMs_20 13 01 20.4
comp=Z,13µm,20.0s
CUT Chulitna 56.52 33 P **P 12 36 16.0 -1.3**
baz=278,SNR=25
CUT S **S 12 44 10.6 +1.8**
baz=278
I23K Minto, Yukon-K 56.59 30 IAmb IAmb 12 36 25.8
comp=Z,280nm,1.9s
I23K IAMs_20 IAMs_20 12 59 58.4
comp=Z,13µm,22.0s
I23K Minto, Yukon-K 56.59 30 P **P 12 36 16.9 -0.9**
baz=277,SNR=21
I23K S **S 12 44 14.7 +5.1**
baz=277
BRLK Bradley Lake 56.59 36 P **P 12 36 17.7 -0.2**
BRLK IAmb IAmb 12 36 25.7
comp=Z,103nm,1.0s
BWN Browne 56.66 31 IAMs_20 IAMs_20 13 02 30.8
comp=Z,13µm,19.0s
BRSE Bradley Lake S 56.67 36 P **P 12 36 18.0 -0.4**
baz=279,SNR=13
BRSE S **S 12 44 12.6 +1.7**
baz=279
M22K Willow 56.68 34 IAMs_20 IAMs_20 13 02 43.7
comp=Z,17µm,18.0s
M22K Willow 56.68 34 P **P 12 36 17.6 -0.8**
baz=278,SNR=31
M22K S **S 12 44 14.5 +3.6**
baz=278
FIS Fire Island 56.72 35 IAMs_20 IAMs_20 13 03 39.9

comp=Z,13µm,18.0s
NEA2 Nenana 56.78 31 IAmb IAmb 12 36 48.6
comp=Z,138nm,1.1s
NEA2 IAMs_20 IAMs_20 13 03 02.8
comp=Z,13µm,18.0s
NEA2 Nenana 56.78 31 P **P** **12 36 19.4 +0.3**
baz=277,SNR=66
NEA2 S **S** **12 44 17.0 +4.8**
baz=277
MCK McKinley 56.95 32 IAmb IAmb 12 36 51.4
comp=Z,133nm,1.1s
MCK McKinley 56.95 32 P **P** **12 36 19.9 -0.5**
baz=278,SNR=32
MCK S **S** **12 44 17.3 +2.7**
baz=278
RC01 Rabbit Creek A 56.96 35 IAmb IAmb 12 36 30.8
comp=Z,204nm,1.4s
RC01 IAMs_20 IAMs_20 12 59 05.0
comp=Z,19µm,21.0s
RC01 Rabbit Creek A 56.96 35 P **P** **12 36 20.0 -0.4**
baz=279,SNR=17
RC01 S **S** **12 44 14.6 -0.1**
baz=279
RND Reindeer 57.03 32 IAMs_20 IAMs_20 13 00 37.4
comp=Z,14µm,19.0s
O22K Cooper Landing 57.06 35 IAmb IAmb 12 36 36.0
comp=Z,100nm,0.7s
O22K IAMs_20 IAMs_20 12 59 11.2
comp=Z,12µm,21.0s
O22K Cooper Landing 57.06 35 P **P** **12 36 20.1 -1.0**
baz=279
O22K S **S** **12 44 16.3 +0.3**
baz=279
MDM Murphy Dome 57.09 30 IAMs_20 IAMs_20 13 02 38.4
comp=Z,10µm,18.0s
H24K Noodor Dome 57.12 29 IAMs_20 IAMs_20 13 02 47.9
comp=Z,11µm,18.0s
H24K Noodor Dome 57.12 29 P **P** **12 36 21.1 -0.5**
baz=277,SNR=74
H24K S **S** **12 44 23.1 +6.3**
baz=277
PMR Palmer 57.17 34 IAmb IAmb 12 36 25.7
comp=Z,184nm,1.4s
PMR Palmer 57.17 34 P **P** **12 36 21.3 -0.6**
baz=279,SNR=48
PMR S **S** **12 44 18.9 +1.5**
baz=279
WRH Wood River Hil 57.21 31 IAMs_20 IAMs_20 13 01 59.1
comp=Z,11µm,20.0s
WAT1 Susitna Watana 57.25 33 P **P** **12 36 21.8 -0.7**
baz=279
WAT1 S **S** **12 44 18.5 -0.1**
baz=279
SEW Seward 57.25 36 P **P** **12 36 21.0 -1.5**
baz=280,SNR=14
SEW S **S** **12 44 18.6 +0.1**
baz=280
TCOL CIGO, UAF Yank 57.26 30 IAMs_20 IAMs_20 13 02 59.6
comp=Z,12µm,19.0s
TCOL CIGO, UAF Yank 57.26 30 P **P** **12 36 22.3 -0.2**
baz=278,SNR=31
TCOL S **S** **12 44 22.2 +3.8**
baz=278
COLA College 57.26 30 ⇓P **P** **12 36 22.3 -0.2**
COLA College 57.26 30 P **P** **12 36 23.4 +0.9**
COLA College 57.26 30 IAMs_20 IAMs_20 13 02 59.6
comp=Z,11µm,19.0s
COLA College 57.26 30 ⇑P **P** **12 36 23.9 +1.4**
COLA College 57.26 30 P **P** **12 36 22.6 +0.1**
baz=278
COLA S **S** **12 44 21.3 +2.8**
baz=278
GIRL Giralia 57.31 198 P **P** **12 36 25.0 +1.8**
CCB Clear Creek Bu 57.31 30 IAMs_20 IAMs_20 13 03 55.7
comp=Z,10µm,19.0s
POKR Poker Plat Res 57.40 30 P **P** **12 36 23.3 -0.2**
baz=278,SNR=43
POKR S **S** **12 44 25.1 +4.6**
baz=278
SML Sawmill 57.51 34 IAmb IAmb 12 36 28.6
comp=Z,161nm,1.2s
SML Sawmill 57.51 34 P **P** **12 36 23.0 -1.4**
baz=280,SNR=32
SML S **S** **12 44 26.9 +4.8**
baz=280
KNK Knik Glacier 57.52 34 IAmb IAmb 12 36 28.5
comp=Z,195nm,1.2s
KNK IAMs_20 IAMs_20 12 59 36.4
comp=Z,15µm,22.0s
KNK Knik Glacier 57.52 34 P **P** **12 36 23.7 -0.7**
baz=280,SNR=32
KNK S **S** **12 44 23.2 +1.1**
baz=280
WRKA Warakurna 57.52 183 ⇑P **P** **12 36 23.3 -1.5**
WRKA Warakurna 57.52 183 P **P** **12 36 23.8 -1.0**
WAT6 Susitna Watana 57.66 33 P **P** **12 36 24.4 -1.1**
baz=280,SNR=29
WAT6 S **S** **12 44 26.0 +1.8**
baz=280
PWL Port Wells 57.67 35 IAmb IAmb 12 36 33.0
comp=Z,198nm,1.5s
PWL Port Wells 57.67 35 P **P** **12 36 23.6 -1.8**
baz=280,SNR=16
PWL S **S** **12 44 27.1 +3.0**
baz=280
IL31 57.68 30 IAmb IAmb 12 36 29.3
comp=Z,163nm,1.7s
ILAR Eielson Array 57.68 30 P **P** **12 36 25.0 -0.5**
comp=Z,12nm,0.7s,baz=270,slow=5.2,SNR=45
ILAR PKP2bc 13 06 23.4
comp=Z,3.0nm,1.2s,baz=137,slow=2.5,SNR=4.0
ILAR Eielson Array 57.68 30 P **P** **12 36 25.6 +0.1**
HDA Harding Lake 57.71 31 IAmb IAmb 12 36 29.2
comp=Z,137nm,1.2s
HDA IAMs_20 IAMs_20 13 02 40.1
comp=Z,16µm,20.0s
HDA Harding Lake 57.71 31 P **P** **12 36 24.6 -1.1**
baz=279,SNR=53
HDA S **S** **12 44 25.4 +0.9**
baz=279
HDA S **S** **12 44 25.4 +0.9**
baz=279
DHY Denali Highway 57.74 32 IAmb IAmb 12 36 57.0
comp=Z,179nm,1.6s
DHY IAMs_20 IAMs_20 13 00 29.4
comp=Z,14µm,22.0s
DHY Denali Highway 57.74 32 P **P** **12 36 25.5 -0.6**
baz=280,SNR=24
DHY S **S** **12 44 25.7 +0.4**
baz=280
SCM Sheep Creek Mo 57.97 34 IAMs_20 IAMs_20 12 59 56.3
comp=Z,12µm,22.0s
SCM Sheep Creek Mo 57.97 34 P **P** **12 36 26.9 -0.8**
baz=280,SNR=28
SCM S **S** **12 44 31.1 +2.8**
baz=280
GEYT Alibeck 58.11 297 P **P** **12 36 28.7 -0.3**
comp=Z,17nm,0.8s,baz=146,slow=2.9,SNR=14
GEYT LR LR 13 02 04.7
comp=Z,18µm,18.7s,baz=75,slow=37
GEYT Alibeck 58.11 297 P **P** **12 36 28.9 -0.1**
GYA0 ALIBECK ARRAY 58.11 297 P **P** **12 36 28.1 -0.9**
BMAR Burnt Mountain 58.19 27 P **P** **12 36 30.6 +1.5**
GLI Glacier Island 58.26 35 IAmb IAmb 12 36 33.7
comp=Z,178nm,1.3s
GLI Glacier Island 58.26 35 P **P** **12 36 27.8 -1.8**
baz=281,SNR=21
GLI S **S** **12 44 34.9 +3.1**
baz=281
KIRV Kirov 58.33 323 LR LR 13 04 54.0
comp=Z,20µm,18.5s,baz=87,slow=39
KIRV Kirov 58.33 323 *d* P **P** **12 36 29.0 -1.1**
J25K Salcha River, 58.35 30 IAMs_20 IAMs_20 13 03 17.8
comp=Z,17µm,20.0s
J25K Salcha River, 58.35 30 P **P** **12 36 29.5 -0.8**
baz=280,SNR=23
J25K S **S** **12 44 34.6 +1.5**
baz=280
M24K Tolsona, Glenn 58.46 33 IAmb IAmb 12 36 54.0
comp=Z,164nm,1.1s
M24K Tolsona, Glenn 58.46 33 P **P** **12 36 30.8 -0.3**
baz=281,SNR=16
M24K S **S** **12 44 39.1 +4.6**
baz=281
MNCY Minicoy 58.52 259 *e* P P 12 36 47.6 +16
MNCY IAmb IAmb 12 37 03.1
comp=Z,345nm,1.3s
FID Port Fidalgo 58.58 35 IAMs_20 IAMs_20 13 00 38.2
comp=Z,12µm,20.0s
PAX Paxson 58.61 32 P **P** **12 36 29.5 -2.7**
baz=281,SNR=25
PAX S **S** **12 44 38.3 +1.7**
baz=281
KLU Klutina 58.70 34 IAmb IAmb 12 37 03.1
comp=Z,58nm,1.0s
KLU Klutina 58.70 34 P **P** **12 36 32.0 -0.8**
baz=282,SNR=19
KLU S **S** **12 44 42.6 +5.0**
baz=282
RIDG Independent Ri 58.74 31 IAMs_20 IAMs_20 13 01 15.3
comp=Z,16µm,21.0s
RIDG Independent Ri 58.74 31 P **P** **12 36 32.2 -0.8**
baz=281,SNR=26
RIDG S **S** **12 44 40.1 +2.0**
baz=281
DIV Divide 58.84 34 IAmb IAmb 12 36 41.3
comp=Z,77nm,0.8s
HARP HAARP 58.87 33 P **P** **12 36 33.9 0.0**
baz=282,SNR=20
HARP S **S** **12 44 42.8 +3.1**
baz=282
RK1H Rockhampton Ha 58.92 159 P **P** **12 36 37.3 +2.8**
Q23K Middleton Isla 58.92 36 P **P** **12 36 33.8 -0.4**
baz=283
Q23K S **S** **12 44 44.3 +3.9**
baz=283
EYAK Cordova Ski Ar 58.98 35 IAmb IAmb 12 36 39.4
comp=Z,194nm,1.6s
EYAK Cordova Ski Ar 58.98 35 P **P** **12 36 34.2 -0.4**
baz=282,SNR=9.4
EYAK S **S** **12 44 45.5 +4.4**
baz=282
SCRK Sand Creek 59.07 31 IAmb IAmb 12 36 39.2
comp=Z,110nm,1.1s
SCRK Sand Creek 59.07 31 P **P** **12 36 34.7 -0.6**
baz=282,SNR=62
SCRK S **S** **12 44 44.2 +1.7**
baz=282
DOT Dot Lake 59.10 31 IAmb IAmb 12 36 44.9
comp=Z,61nm,1.0s
J26L Joseph Creek 59.14 30 P **P** **12 36 34.0 -1.8**
baz=282,SNR=31
J26L S **S** **12 44 46.5 +3.2**
baz=282
HMDM Hanimaadhoo 59.23 257 P **P** **12 36 36.9 -0.1**
HMDM IAMs_20 IAMs_20 13 03 54.4
comp=Z,14µm,21.0s
HMDM Hanimaadhoo 59.23 257 P **P** **12 36 37.6 +0.6**
SANVU Saraoutou 59.25 138 P **P** **12 36 40.0 +3.0**
N25K Chitina, Valde 59.29 34 IAmb IAmb 12 36 45.6
comp=Z,75nm,0.8s
N25K Chitina, Valde 59.29 34 P **P** **12 36 35.6 -1.3**
baz=283,SNR=31
N25K S **S** **12 44 48.6 +3.2**
baz=283
BMRM Bremner River 59.43 34 P **P** **12 36 36.1 -1.7**
baz=283,SNR=39
BMRM S **S** **12 44 50.5 +3.4**
baz=283
PRGR Permogore 59.52 326 *e* P **P** **12 36 34.7 -3.6**
PRGR *e* 12 37 25.0
PRGR pmax pmax
comp=Z,80nm,0.8s
L26K Log Cabin Wild 59.55 32 IAmb IAmb 12 36 43.4
comp=Z,95nm,1.1s
L26K IAMs_20 IAMs_20 13 04 47.6
comp=Z,12µm,18.0s
L26K Log Cabin Wild 59.55 32 P **P** **12 36 39.5 +0.9**
baz=283,SNR=48
L26K S **S** **12 44 53.1 +4.6**
baz=283
GLB Gilahina Butte 59.70 34 IAmb IAmb 12 36 44.4
comp=Z,176nm,1.4s
KAIM Kayak Island 59.76 35 IAMs_20 IAMs_20 13 00 30.4
comp=Z,14µm,21.0s
KAIM Kayak Island 59.76 35 P **P** **12 36 38.9 -1.1**
baz=284
M26K Nabesna, AK 59.85 33 P **P** **12 36 40.9 +0.2**
baz=284,SNR=75
M26K S **S** **12 44 58.9 +6.4**
baz=284
VRDI Verde Repeater 59.92 34 IAmb IAmb 12 36 50.2
comp=Z,111nm,0.9s
SUCK Suckling Hills 60.04 35 IAMs_20 IAMs_20 13 05 01.2
comp=Z,13µm,18.0s
MCARA McCarthy VSAT 60.08 34 P **P** **12 36 41.3 -0.9**
baz=284,SNR=45
MCARA S **S** **12 44 56.8 +1.4**
baz=284
EGAK Eagle 60.09 30 P **P** **12 36 42.0 -0.2**
baz=284,SNR=21
EGAK S **S** **12 45 00.5 +5.1**
baz=284
MEEK Meekatharra 60.19 193 P **P** **12 36 42.5 -0.8**
L27K Beaver Creek, 60.21 32 IAMs_20 IAMs_20 13 02 10.1
comp=Z,16µm,21.0s
L27K Beaver Creek, 60.21 32 P **P** **12 36 43.1 -0.1**
baz=284,SNR=69
L27K S **S** **12 45 03.2 +6.1**
baz=284
BCAR Beaver Creek A 60.23 32 P **P** **12 36 43.4 +0.1**
TGL Tana Glacier 60.33 34 IAmb IAmb 12 36 52.8
comp=Z,94nm,0.8s
TGL IAMs_20 IAMs_20 13 02 04.6
comp=Z,12µm,22.0s
M27K Edge Creek, AK 60.37 32 IAmb IAmb 12 36 53.4
comp=Z,58nm,0.8s
M27K IAMs_20 IAMs_20 13 01 10.5
comp=Z,13µm,22.0s
M27K Edge Creek, AK 60.37 32 P **P** **12 36 44.2 -0.1**
baz=285,SNR=54
M27K S **S** **12 45 04.3 +5.0**
baz=285
QLP Quilpie 60.38 166 P **P** **12 36 43.8 -0.8**
WAX Waxell Ridge 60.39 35 IAMs_20 IAMs_20 13 04 45.0
comp=Z,9µm,18.0s
OOD Oodnadatta 60.40 175 P **P** **12 36 43.8 -0.8**
SNH Sunshine Point 60.47 35 IAmb IAmb 12 36 49.2
comp=Z,116nm,1.0s
SNH IAMs_20 IAMs_20 13 01 15.4
comp=Z,12µm,21.0s
ISLE Juniper Island 60.60 34 IAmb IAmb 12 36 54.5
comp=Z,94nm,0.9s
BARN Barnard Glacie 60.80 34 IAmb IAmb 12 36 56.0
comp=Z,58nm,0.8s
BVCY Beaver Creek 60.81 32 P **P** **12 36 45.0 -2.2**
baz=285,SNR=11
BVCY S **S** **12 45 09.2 +4.4**
baz=285
GRNC Granite Creek 60.84 34 IAmb IAmb 12 37 25.7
comp=Z,109nm,1.4s
BELG Belogornoye 60.85 316 LR LR 13 04 41.5
comp=Z,18µm,20.5s,baz=68,slow=38
BELG Belogornoye 60.85 316 *d* P **P** **12 36 46.4 -1.1**
BELG pmax pmax
comp=Z,41nm,1.3s
BELG MLR MLR
comp=Z,2µm,15.0s
INKA Innaminka 60.91 170 P **P** **12 36 48.5 +0.4**
EIDS Eidsvold 60.96 159 P **P** **12 36 48.3 -0.2**
EIDS IAmb IAmb 12 36 52.3
comp=Z,189nm,1.8s
EIDS Eidsvold 60.96 159 ⇓P **P** **12 36 51.3 +2.8**
EIDS Eidsvold 60.96 159 P **P** **12 36 49.1 +0.6**
CTG Chitna Glacier 60.98 34 P **P** **12 36 48.0 -0.5**
baz=286,SNR=29
DAWY Dawson 61.01 30 ⇓P **P** **12 36 49.2 +0.6**
DAWY ⇓P **pP** **12 36 49.7 -0.9**
DAWY Dawson 61.01 30 P **P** **12 36 45.7 -2.9**
baz=286,SNR=24
DAWY S **S** **12 45 11.4 +4.1**
baz=286
I29M Ogilvie Camp, 61.11 29 IAmb IAmb 12 36 57.0
comp=Z,72nm,1.0s
I29M IAMs_20 IAMs_20 13 01 41.0
comp=Z,12µm,22.0s
I29M Ogilvie Camp, 61.11 29 P **P** **12 36 49.4 +0.2**
baz=286,SNR=42
I29M S **S** **12 45 13.0 +4.5**
baz=286
YUK3 Moose Creek 61.16 33 P **P** **12 36 48.2 -1.7**
baz=286,SNR=35
YUK3 S **S** **12 45 15.3 +5.7**
baz=286
LOGN Logan Glacier 61.17 34 IAmb IAmb 12 36 59.1
comp=Z,64nm,1.0s
TABL Table Mountain 61.21 34 IAmb IAmb 12 37 28.5
comp=Z,136nm,1.4s
RMQ Roma 61.35 162 P **P** **12 36 52.2 +1.0**
J29M Klondike Camp 61.40 30 P **P** **12 36 51.0 -0.3**
baz=286
J29M S **S** **12 45 18.7 +6.4**
baz=286
KOUNC Koumac, New Ca 61.94 144 P **P** **12 36 56.5 +1.3**
KOUNC Koumac, New Ca 61.94 144 P **P** **12 36 57.8 +2.6**
HOPEN Hopen 61.98 345 *e* P **P** **12 36 54.7 -0.2**
HOPEN IVmB_BB 12 36 56.8
comp=Z,1µm,1.1s
HOPEN *e* S **S** **12 45 19.4 +0.2**
HOPEN *e* SS **SS** **12 49 20.9 +0.2**
HOPEN IVMs_BB IVMs_BB 13 08 44.5
comp=Z,5µm,15.7s
INK Inuvik 62.05 25 P **P** **12 36 55.2 -0.2**
comp=Z,34nm,0.9s,baz=288,slow=6.7,SNR=57
INK PKP2bc 13 06 08.5
comp=Z,2.7nm,0.9s,baz=112,slow=8.3,SNR=4.3
INK Inuvik 62.05 25 IAmb IAmb 12 36 59.6
comp=Z,128nm,1.5s
INK Inuvik 62.05 25 ⇓P **P** **12 36 55.3 -0.1**
INK Inuvik 62.05 25 P **P** **12 36 54.9 -0.5**
baz=288,SNR=38
INK S **S** **12 45 23.0 +2.8**
baz=288
BCPM Bancas Point 62.08 35 IAMs_20 IAMs_20 13 02 02.3
comp=Z,10µm,20.0s
YUK4 Talbot Arm 62.12 33 P **P** **12 36 55.2 -1.1**
baz=288,SNR=42
YUK4 S **S** **12 45 27.4 +5.7**
baz=288
PNL Peninsula 62.28 35 P **P** **12 36 56.4 -0.7**
baz=288,SNR=17
PNL S **S** **12 45 28.4 +5.0**
baz=288
LVZ Lovozero 62.33 335 IAMs_20 IAMs_20 13 06 09.3
comp=Z,19µm,21.0s
YUK6 Outpost Mounta 62.37 33 P **P** **12 36 57.3 -0.8**
baz=288,SNR=25
YUK6 S **S** **12 45 33.7 +8.7**
baz=288
M30M Minto, Yukon 62.57 31 P **P** **12 36 59.2 +0.1**
baz=289,SNR=46
M30M S **S** **12 45 34.0 +7.0**
baz=289
KLMR Klimovskoe 62.58 327 *e* P **P** **12 36 56.3 -2.8**
KLMR *e* S **S** **12 45 21.6 -5.5**
KLMR *e* SS **SS** **12 49 26.1 -4.4**
KLMR *e* SSS SSS 12 52 16.5
KLMR pmax pmax
comp=Z,96nm,0.8s
KLMR MLR MLR
comp=Z,28µm,16.0s
KLMR Klimovskoe 62.58 327 *e* P **P** **12 36 56.3 -2.8**
KLMR AMP 12 37 06.5
comp=Z,96nm,0.8s
KLMR *e* S **S** **12 45 21.7 -5.4**
KLMR *e* S **S** **12 45 21.7 -5.4**
KLMR *e* SS **SS** **12 49 26.2 -4.3**
KLMR *e* SS **SS** **12 49 26.2 -4.3**
KLMR *e* SSS SSS 12 52 16.5
KLMR *e* SSS SSS 12 52 16.5
KLMR LQ LQ 12 59 25.8
KLMR LQ LQ 12 59 25.8
KLMR LR LR 13 04 38.3
KLMR AMP 13 07 03.3
comp=Z,28µm,15.6s
MULG Mulgathing 62.77 177 P **P** **12 36 59.7 -0.9**
HYT Haines Junctio 62.81 33 P **P** **12 37 01.4 +0.5**
baz=289,SNR=62
HYT S **S** **12 45 37.5 +7.2**
baz=289
APA Apatity 62.88 335 ⇓ *i* P **P** **12 36 57.6 -3.4**
APA *i* 12 37 37.0
APA *i* 12 39 15.0
APA *i* PPP PPP 12 40 51.0
APA *i* PS **PnS** **12 45 40.0 -5.3**
APA *i* 12 46 52.0
APA pmax pmax
comp=Z,45nm,1.0s
SPB2 Spitsbergen Ar 62.93 348 P **P** **12 37 00.8 -0.3**
SPB2 IAmb IAmb 12 37 10.9
comp=Z,127nm,1.1s
SPA0 Spitsbergen Ar 62.93 348 *e* P **P** **12 37 01.1 -0.1**
SPA0 *e* S **S** **12 45 31.9 +0.8**
SPITS Spitsbergen Ar 62.93 348 LR LR 13 05 33.5
comp=Z,10µm,20.5s,baz=256,slow=37
SPITS Spitsbergen Ar 62.93 348 P **P** **12 37 01.3 +0.1**
KAAM Kaadhehdhoo 63.00 252 P **P** **12 37 02.2 -0.4**
KAAM IAMs_20 IAMs_20 13 06 15.6
comp=Z,11µm,19.0s
KAAM Kaadhehdhoo 63.00 252 P **P** **12 37 03.1 +0.5**
KAAM Kaadhehdhoo 63.00 252 ⇑P **P** **12 37 03.4 +0.8**
MORW Morawa 63.05 194 IAmb IAmb 12 37 10.4
comp=Z,112nm,1.4s
MORW Morawa 63.05 194 ⇓P **P** **12 37 01.1 -1.4**
MORW ⇓P **pP** **12 37 03.7 -0.9**
MORW Morawa 63.05 194 P **P** **12 37 00.1 -2.4**
JLN Jalan Bani Buh 63.16 280 P **P** **12 37 03.7 +0.1**
SNR=11
JLN S **S** **12 45 42.4 +7.0**
FORT Forrest 63.24 183 ⇑P **P** **12 37 02.0 -1.8**
FORT ⇑P **pP** **12 37 02.4 -3.4**
FORT Forrest 63.24 183 P **P** **12 37 02.3 -1.4**
LCRK Leigh Creek 63.25 173 P **P** **12 37 03.2 -0.6**
KBS Kingsbay 63.27 349 *ce* P **P** **12 37 04.8 +1.3**
KBS pmax pmax
comp=Z,81nm,1.3s
KBS Kingsbay 63.27 349 P **P** **12 37 03.5 0.0**
KBS IAmb IAmb 12 37 05.4
comp=Z,64nm,0.9s
KBS Kingsbay 63.27 349 *i* P **P** **12 37 03.7 +0.3**
KBS IAmb IAmb 12 37 05.1
comp=Z,134nm,0.8s
KBS Kingsbay 63.27 349 ⇓P **P** **12 37 04.2 +0.8**
KBS Kingsbay 63.27 349 *eP* **P** **12 37 03.8 +0.3**
WBK Wadi Bani Khal 63.32 281 P **P** **12 37 05.0 +0.3**
SNR=15
WBK S **S** **12 45 40.5 +3.0**
WSAR Wadi Sarin 63.32 282 LR LR 13 08 22.8
comp=Z,11µm,18.6s,baz=82,slow=40
WSAR Wadi Sarin 63.32 282 P **P** **12 37 04.9 +0.2**
SNR=12
WSAR S **S** **12 45 35.5 -2.1**
A36M Sachs Harbour 63.36 20 IAMs_20 IAMs_20 13 08 13.4
comp=Z,11µm,22.0s
A36M Sachs Harbour 63.36 20 P **P** **12 37 04.0 -0.1**
baz=294,SNR=106
A36M S **S** **12 45 40.9 +4.4**
baz=294
N31M Braeburn, Yuko 63.38 32 IAMs_20 IAMs_20 13 03 47.8
comp=Z,10µm,22.0s
N31M Braeburn, Yuko 63.38 32 P **P** **12 37 04.6 +0.2**
baz=290,SNR=47
N31M S **S** **12 45 45.0 +7.8**
baz=290
BIDO Bidbid 63.61 282 P **P** **12 37 07.3 +0.8**
SNR=10
BIDO S **S** **12 45 47.9 +6.7**
HSPB Hornsund (broa 63.69 347 *i* P **P** **12 37 07.5 +1.2**
HSPB *e* S **S** **12 45 44.0 +3.4**
HSPB *e* L L 13 07 36.1
comp=Z,12µm,19.9s
HSPB Hornsund (broa 63.69 347 *e* P **P** **12 37 05.4 -0.8**
HSPB IVmB_BB 12 37 08.2
comp=Z,1µm,1.4s
HSPB *e* S **S** **12 45 42.4 +1.8**
HSPB IVMs_BB IVMs_BB 13 07 05.9
comp=Z,4µm,12.7s
M31M Drury Creek, Y 63.75 31 IAmb IAmb 12 37 17.5
comp=Z,126nm,1.4s
M31M IAMs_20 IAMs_20 13 04 16.8
comp=Z,10µm,21.0s
M31M Drury Creek, Y 63.75 31 P **P** **12 37 06.6 -0.3**
baz=291,SNR=28
M31M S **S** **12 45 49.3 +7.5**
baz=291
SMDO Samad 63.88 282 P **P** **12 37 08.3 -0.2**
SNR=19
SMDO S **S** **12 45 50.5 +5.8**
MAK Makhachkala 64.01 306 *eP* P 12 37 03.1 -5.8
MAK *eS* S 12 45 34.7 -11
MAK *e*SS **SS** **12 49 48.5 -5.2**

MAK eSSS SSS 12 52 39.3
MAK pmax pmax
comp=Z,231nm,1.9s
MAK pmax pmax
comp=Z,4μm,7.2s
MAK smax smax
comp=N,3μm,7.9s
MAK smax smax
comp=E,4μm,7.3s
MAK MLR MLR
comp=N,21μm,13.0s
MAK MLR MLR
comp=E,31μm,15.0s
MAK MLR MLR
comp=Z,25μm,15.0s
BANOM Banah 64.07 285 P **P 12 37 10.2 +0.6**
SNR=18
BANOM S **S 12 45 46.5 -0.3**
BANOM Banah 64.07 285 *i* P **P 12 37 09.4 -0.2**
SNR=15
WHY Whitehorse 64.08 33 P **P 12 37 10.0 +0.8**
WHY Whitehorse 64.08 33 ⇓P **P 12 37 11.1 +1.9**
WHY ⇑P **pP 12 37 11.4 +0.2**
WHY Whitehorse 64.08 33 P **P 12 37 08.3 -0.9**
baz=291,SNR=42
WHY S **S 12 45 52.4 +6.3**
baz=291
JMDO Jabal Madar 64.14 281 P **P 12 37 10.0 -0.1**
SNR=9.2
JMDO S **S 12 45 54.3 +6.5**
SHME Shamm 64.14 285 P **P 12 37 10.6 +0.5**
SNR=25
SHME S **S 12 45 47.4 -0.3**
SHME Shamm 64.14 285 *i* P **P 12 37 09.9 -0.2**
SNR=34
KEV Kevo 64.21 338 P **P 12 37 08.8 -1.0**
KEV pmax pmax
comp=Z,69nm,1.0s
KEV MLR MLR
comp=Z,20μm,19.0s
KEV Kevo 64.21 338 P **P 12 37 08.8 -1.0**
KEV IAmb IAmb 12 37 11.1
comp=Z,69nm,1.0s
KEV Kevo 64.21 338 ⇑P **P 12 37 08.7 -1.1**
BJO1 Bjornoya 64.24 344 *e*P **P 12 37 09.0 -0.8**
BJO1 IVmB_BB 12 37 30.0
comp=Z,2μm,2.6s
BJO1 *e*S **S 12 45 46.9 -0.5**
BJO1 *e*SS **SS 12 49 54.5 -1.5**
BJO1 IVMs_BB IVMs_BB 13 09 33.7
comp=Z,5μm,19.5s
NOUC Port Laguerre 64.25 143 P **P 12 37 12.7 +2.1**
HOQ Hoqain 64.26 282 P **P 12 37 11.2 +0.4**
SNR=9.1
HOQ S **S 12 45 54.6 +5.4**
DZM Mont Dzumac 64.29 143 P **P 12 37 11.3 +0.3**
comp=Z,20nm,0.6s,baz=328,slow=5.5,SNR=18
DZM LR LR 13 02 53.5
comp=Z,5μm,19.7s,baz=334,slow=34
DZM Mont Dzumac 64.29 143 *e*P **P 12 37 13.2 +2.2**
comp=Z,206nm,1.2s
DZM *e*S **S 12 45 52.9 +3.4**
comp=Z,12μm,33.8s
DZM *e*LQ LQ 12 53 44.0
comp=Z,18μm,34.5s
DZM *e*LR LR 12 56 27.3
comp=Z,24μm,31.5s
DZM Mont Dzumac 64.29 143 ⇑P **P 12 37 12.5 +1.5**
DZM Mont Dzumac 64.29 143 P **P 12 37 12.8 +1.8**
SKAG Skagway 64.30 34 ⇓P **P 12 37 12.4 +1.9**
SKAG ⇓P **pP 12 37 12.6 0.0**
SKAG Skagway 64.30 34 P **P 12 37 10.0 -0.5**
baz=291,SNR=43
SKAG S **S 12 45 55.7 +7.2**
baz=291
BLDU Ballidu 64.42 193 P **P 12 37 09.7 -1.8**
MASF Masafi 64.42 285 P **P 12 37 12.4 +0.5**
SNR=12
MASF S **S 12 45 52.2 +1.0**
MSFE Esma-Masafi 64.42 285 *i* P **P 12 37 11.1 -0.9**
SNR=13
YATNC Mamie plateau, 64.51 143 P **P 12 37 15.2 +2.9**
UOSS Minazif 64.57 284 P **P 12 37 13.6 +0.7**
UOSS IAmb IAmb 12 37 42.3
comp=Z,83nm,1.2s
UOSS Minazif 64.57 284 IAMs_20 IAMs_20 13 09 14.4
comp=Z,11μm,20.0s
UOSS Minazif 64.57 284 P **P 12 37 13.6 +0.7**
UOSS S **S 12 45 56.9 +3.9**
UOSS Minazif 64.57 284 *i* P **P 12 37 11.3 -1.6**
SNR=9.5
NOR Nord 64.65 355 *i* P **P 12 37 12.5 0.0**
NOR IAmb IAmb 12 37 19.5
comp=Z,230nm,1.9s
SOHO SOHO 64.65 283 P **P 12 37 13.9 +0.5**
SOHO SOHO 64.65 283 *i* P **P 12 37 12.5 -0.9**
SNR=14
HATD Hatta, Dubai 64.68 284 P **P 12 37 14.2 +0.6**
SNR=14
HATD Hatta, Dubai 64.68 284 *i* P **P 12 37 12.7 -0.9**
SNR=16
VRH Novokhopyorsk 64.70 316 *e*P **P 12 37 12.2 -1.0**
VRH *e* 12 37 12.9
VRH pmax pmax
comp=Z,120nm,0.6s
VRH pmax pmax
comp=Z,170nm,0.8s
VRH MLR MLR
comp=Z,16μm,14.0s
BSY Bisya 64.72 282 P **P 12 37 13.9 0.0**
SNR=16
UMQ Umm Al-Quwin 64.76 285 *i* P **P 12 37 14.6 +0.6**
SNR=9.2
ARA0 ARCESS Array S 64.78 338 *e*P **P 12 37 12.0 -1.5**
ARA0 *e*S **S 12 45 51.3 -3.0**
ARA0 *e*SS **SS 12 50 03.3 -1.3**
ARA0 IVMs_BB IVMs_BB 13 10 20.9
comp=Z,12μm,19.3s
ARCES ARCESS Array B 64.78 338 P **P 12 37 12.0 -1.5**
comp=Z,16nm,0.8s,baz=62,slow=5.3,SNR=9.7
ARCES LR LR 13 10 34.1
comp=Z,22μm,18.3s,baz=72,slow=41
ARCES ARCESS Array B 64.78 338 IAmb IAmb 12 37 22.3
comp=Z,129nm,1.6s
OUENC Ouen Island, N 64.78 143 P **P 12 37 16.7 +2.6**
ASHO Ashiyiah 64.80 284 P **P 12 37 14.6 +0.2**
SNR=15
ASHO S **S 12 45 53.0 -2.9**
ASHO Ashiyiah 64.80 284 *i* P **P 12 37 14.5 0.0**
SNR=9.9
C36M Paulatuk 64.83 22 P **P 12 37 12.6 -1.2**
baz=296,SNR=80
C36M S **S 12 45 57.1 +2.3**
baz=296
HAMF Hammerfest 64.84 339 *e*P **P 12 37 13.7 -0.1**
HAMF *e*S **S 12 45 56.1 +1.1**
HAMF *e*SS **SS 12 50 07.4 +1.9**
HAMF IVMs_BB IVMs_BB 13 10 01.2
comp=Z,11μm,22.1s
BESE Bessie Mountai 64.85 35 IAmb IAmb 12 37 52.2
comp=Z,129nm,1.3s
MHTO MHTO 64.88 280 P **P 12 37 14.5 -0.4**
SNR=16
MHTO S **S 12 45 57.9 +1.1**
NAZ Nazwa, Dubai 64.99 285 P **P 12 37 15.7 +0.1**
SNR=11
NAZ S **S 12 45 54.6 -3.5**
NAZ Nazwa, Dubai 64.99 285 *i* P **P 12 37 15.5 -0.1**
SNR=13
ARQ Araqi 65.02 283 P **P 12 37 15.9 +0.1**
SNR=16
ARQ S **S 12 46 03.7 +5.1**
GROC Groznyy 65.08 307 *e*P **P 12 37 15.0 -0.9**
GROC *e* 12 37 49.1
GROC *e* 12 39 40.7
GROC *e*S **S 12 45 55.4 -3.4**
GROC pmax pmax
comp=Z,147nm,1.2s
GROC MLR MLR
comp=Z,9μm,14.0s
STKA Stephens Creek 65.09 170 P **P 12 37 14.8 -1.0**
comp=Z,36nm,0.6s,baz=343,slow=6.3,SNR=31
STKA LR LR 13 04 38.6
comp=Z,8μm,21.9s,baz=357,slow=35
STKA Stephens Creek 65.09 170 P **P 12 37 14.9 -1.0**
STKA Stephens Creek 65.09 170 P **P 12 37 14.9 -1.0**
STKA Stephens Creek 65.09 170 P **P 12 37 15.3 -0.6**
FAQ Al Faqa, Dubai 65.16 284 P **P 12 37 16.6 -0.1**
SNR=14
FAQ S **S 12 45 57.8 -2.4**
FAQ Al Faqa, Dubai 65.16 284 *i* P **P 12 37 15.8 -0.9**
SNR=14
KLBR Kellerberrin 65.17 192 P **P 12 37 14.7 -1.7**
SIT Sitka 65.19 37 P **P 12 37 18.0 +1.7**
SIT pmax pmax
comp=Z,105nm,1.2s
SIT Sitka 65.19 37 P **P 12 37 18.0 +1.7**
SIT IAmb IAmb 12 37 34.3
comp=Z,105nm,1.2s
SIT Sitka 65.19 37 P **P 12 37 15.8 -0.5**
baz=292
SIT S **S 12 46 05.3 +5.8**
baz=292
JIS Juneau Island 65.19 35 IAmb IAmb 12 37 25.4
comp=Z,147nm,1.4s
MOS Moscow 65.30 322 *e*P **P 12 37 14.3 -2.7**
MOS *e* 12 37 47.5
MOS *e* 12 39 39.1
MOS *e*PPP PPP 12 41 12.9
MOS *e*S **S 12 45 57.8 -3.1**
MOS *e* 12 46 23.9
MOS *e* 12 47 09.8
MOS pmax pmax
comp=Z,297nm,1.2s
MOS pmax pmax
comp=Z,800nm,2.5s
MOS smax smax
comp=N,2μm,12.0s
MOS MLR MLR
comp=Z,18μm,16.0s
ALNE Al Ain 65.33 284 P **P 12 37 17.9 +0.1**
SNR=14
ALNE S **S 12 46 08.6 +6.2**
ALNE Al Ain 65.33 284 *i* P **P 12 37 17.2 -0.7**
SNR=12
BBOO Buckleboo 65.41 175 IAmb IAmb 12 37 21.2
comp=Z,77nm,1.1s
BBOO Buckleboo 65.41 175 P **P 12 37 16.8 -1.1**
ASUD Al Ashush, Dub 65.42 284 P **P 12 37 18.7 +0.3**
SNR=8.3
ASUD S **S 12 46 05.0 +1.5**
ASUD Al Ashush, Dub 65.42 284 *i* P **P 12 37 17.7 -0.7**
SNR=13
CMSA Cobar Meteorol 65.48 166 P **P 12 37 19.0 +0.6**
EUNU Eureka 65.57 7 IAmb IAmb 12 37 57.7
comp=Z,92nm,1.1s
DQM DQM 65.72 279 P **P 12 37 19.7 -0.7**
DQM S **S 12 46 03.8 -3.4**
AJN Ajban 65.73 284 P **P 12 37 20.0 -0.4**
SNR=12
AJN S **S 12 46 06.9 -0.3**
AJN Ajban 65.73 284 *i* P **P 12 37 19.5 -0.9**
SNR=14
KTK1 Kautokeino 65.74 338 *e*P **P 12 37 18.9 -0.9**
KTK1 *e*PP **PP 12 39 43.8 -0.1**
KTK1 *e*S **S 12 46 06.4 +0.3**
KTK1 *e*SS **SS 12 50 21.7 +2.2**
KTK1 IVMs_BB IVMs_BB 13 10 59.2
comp=Z,10μm,12.8s
WHYH Whyalla 65.75 174 P **P 12 37 20.0 -0.1**
LPSR Galich'ya Gora 65.78 318 *e*P **P 12 37 17.7 -2.6**
LPSR *e* 12 37 18.9
LPSR pmax pmax
comp=Z,190nm,1.3s
LPSR pmax pmax
comp=Z,170nm,1.2s
LPSR MLR MLR
comp=Z,12μm,14.0s
MUN Mundaring 65.84 194 P **P 12 37 20.8 +0.1**
ARMA Armidale 65.86 160 P **P 12 37 21.2 +0.1**
ARMA Armidale 65.86 160 P **P 12 37 21.6 +0.5**
NAPP Napperby 65.95 173 P **P 12 37 21.1 -0.3**
VORR Voronezh 65.98 317 *e*P **P 12 37 20.3 -1.3**
VORR *e*PP **sP 12 37 24.1 -0.3**
VORR S **S 12 46 03.8 -5.7**
VORR 12 47 14.1
VORR pmax pmax
comp=Z,119nm,1.4s
VORR MLR MLR
comp=Z,19μm,19.0s
OBN Obninsk 66.09 321 LR LR 13 09 27.6
comp=Z,4μm,18.5s,baz=66,slow=39
OBN Obninsk 66.09 321 *d* P **P 12 37 20.8 -1.4**
OBN *e* 12 37 49.2
OBN *e* 12 39 45.1
OBN pmax pmax
comp=Z,167nm,1.3s
OBN MLR MLR
comp=Z,13μm,12.0s
VSR Storozhevoye 66.18 317 *e*P **P 12 37 21.3 -1.6**
VSR *e* 12 37 22.5
VSR pmax pmax
comp=Z,230nm,1.4s
VSR pmax pmax
comp=Z,320nm,1.4s
VSR MLR MLR
comp=Z,14μm,18.0s
GOF Gofitskoye 66.20 309 ⇑*e*P **P 12 37 22.5 -0.6**
GOF pmax pmax
comp=Z,313nm,1.0s
HTT Hallett 66.28 173 P **P 12 37 23.3 -0.3**
VALR Valaam 66.29 329 *i* P **P 12 37 21.3 -2.0**
VALR pmax pmax
comp=Z,116nm,0.7s
VALR MLR MLR
comp=Z,7μm,12.0s
JETT Jettan, Norway 66.35 339 *e*P **P 12 37 23.3 -0.4**
JETT *e*S **S 12 46 11.5 -2.1**
JETT IVMs_BB IVMs_BB 13 06 49.8
comp=Z,10μm,20.8s
UMZA Um Al Zommool 66.41 283 P **P 12 37 24.1 -0.7**
UMZA S **S 12 46 13.1 -2.5**
ZEI Tsey 66.53 307 *e*P **P 12 37 22.4 -3.1**
ZEI pmax pmax
comp=Z,62nm,0.9s
NWAO Narrogin (SRO) 66.57 192 P **P 12 37 23.8 -1.6**
NWAO Narrogin (SRO) 66.57 192 P **P 12 37 23.8 -1.6**
NWAO IAmb IAmb 12 37 33.4
comp=Z,92nm,1.1s
OUL Oulu 66.66 334 P **P 12 37 24.5 -1.2**
OUL pmax pmax
comp=Z,83nm,0.9s
TGTN Hyland Airport 66.68 31 P **P 12 37 26.5 +0.5**
baz=296,SNR=33
TGTN S **S 12 46 25.0 +7.2**
baz=296
TRO Tromso 66.76 339 *e*P **P 12 37 25.3 -0.9**
TRO *e*S **S 12 46 15.3 -3.0**
TRO *e*SS **SS 12 50 35.0 -0.1**
TRO IVMs_BB IVMs_BB 13 09 55.9
comp=Z,11μm,22.7s
KBZ Khabaz 66.82 308 P **P 12 37 26.7 -0.4**
comp=Z,151nm,0.9s,baz=68,slow=5.1,SNR=65
KBZ PKPPKP **P'P'df 13 05 58.2 -3.9**
comp=Z,3.5nm,0.9s,baz=55,slow=2.4,SNR=8.4
KBZ LR LR 13 09 55.2
comp=Z,27μm,18.6s,baz=86,slow=39
KBZ Khabaz 66.82 308 *d* P **P 12 37 26.6 -0.5**
KBZ pmax pmax
comp=Z,222nm,1.0s
KBZ MLR MLR
comp=Z,23μm,18.0s
KIV Kislovodsk 66.87 308 ⇑P **P 12 37 27.9 +0.4**
KIV Kislovodsk 66.87 308 *e*P **P 12 37 27.0 -0.5**
KIV *e*S **S 12 46 19.6 -1.2**
KIV *e*SS **SS 12 50 39.0 +0.7**
KIV pmax pmax
comp=Z,301nm,1.1s
KIV pmax pmax
comp=Z,696nm,4.2s
KIV MLR MLR
comp=Z,16μm,17.0s
KIV Kislovodsk 66.87 308 P **P 12 37 27.4 -0.2**
KIV Kislovodsk 66.87 308 P **P 12 37 27.8 +0.3**
KIV S **S 12 46 19.2 -1.5**
KIV Kislovodsk 66.87 308 *i* P **P 12 37 26.8 -0.7**
SNR=33
ONI Oni 66.91 307 IAmb IAmb 12 37 32.8
comp=Z,104nm,1.0s
CRAG Craig 66.95 38 IAmb IAmb 12 37 43.7
comp=Z,159nm,1.7s
CRAG Craig 66.95 38 P **P 12 37 28.0 +0.3**
baz=295
WRAK Wrangell Islan 66.95 37 IAmb IAmb 12 37 43.0
comp=Z,80nm,1.4s
WRAK Wrangell Islan 66.95 37 P **P 12 37 28.2 +0.5**
baz=295
WRAK S **S 12 46 28.7 +7.7**
baz=295
MZWR Madinat Zayed 66.99 284 P **P 12 37 27.8 -0.7**
MZWR S **S 12 46 20.4 -2.1**
GNI Garni 67.01 304 LR LR 13 08 27.0
comp=Z,16μm,20.1s,baz=75,slow=38
GNI Garni 67.01 304 *d* P **P 12 37 29.0 +0.4**
GNI Garni 67.01 304 P **P 12 37 28.9 +0.3**
GNI Garni 67.01 304 IAMs_20 IAMs_20 13 08 15.1
comp=Z,15μm,20.0s
GNI Garni 67.01 304 P **P 12 37 29.6 +1.0**
GNI S **S 12 46 25.8 +3.1**
GNI Garni 67.01 304 ⇓P **P 12 37 29.0 +0.4**
GNI ⇑P **P 12 37 29.6 +1.0**
GNI Garni 67.01 304 P **P 12 37 28.7 +0.2**
DLBC Dease Lake 67.23 34 LR LR 13 05 42.1
comp=Z,7μm,21.7s,baz=300,slow=35
DLBC Dease Lake 67.23 34 IAmb IAmb 12 37 36.0
comp=Z,68nm,1.4s
JRN Qarnain Island 67.30 286 P **P 12 37 29.3 -1.1**
SNR=17
JRN S **S 12 46 24.0 -2.2**
AKH Akhalkalaki 67.36 306 ⇑P **P 12 37 31.6 +0.8**
AKH Akhalkalaki 67.36 306 P **P 12 37 31.6 +0.8**
MSVF Nonsavu 67.55 131 P **P 12 37 33.8 +1.8**
comp=Z,10nm,0.7s,baz=349,slow=16,SNR=3.1
MSVF LR LR 13 04 16.4
comp=Z,3μm,21.4s,baz=317,slow=33
MSVF Nonsavu 67.55 131 P **P 12 37 33.6 +1.5**
MSVF pmax pmax
comp=Z,307nm,1.9s
MSVF Nonsavu 67.55 131 P **P 12 37 33.6 +1.5**
MSVF Nonsavu 67.55 131 P **P 12 37 34.8 +2.7**
MZR Muzera 67.66 284 P **P 12 37 32.2 -0.5**
SNR=14
MZR S **S 12 46 28.1 -2.7**
MZR Muzera 67.66 284 *i* P **P 12 37 32.0 -0.8**
SNR=22
GHWR Ruwais 67.72 285 P **P 12 37 32.8 -0.3**
GHWR S **S 12 46 28.8 -2.5**
CHVG Ch'k'valeri 67.78 307 ⇑P **P 12 37 33.4 +0.2**
CHVG Ch'k'valeri 67.78 307 ⇑P **P 12 37 33.4 +0.2**
TWOA Tennyson Woods 67.83 173 P **P 12 37 33.2 -0.1**
KHOR Al-Khor Airpor 68.08 287 P **P 12 37 34.5 -0.8**
KHOR S **S 12 46 30.5 -5.0**
SHAO Shalim 68.21 278 P **P 12 37 35.1 -1.1**
SHAO Shalim 68.21 278 P **P 12 37 35.7 -0.6**
NTLH Newcastle Hard 68.22 161 P **P 12 37 38.3 +2.5**
DIB Dawson Inlet, 68.25 40 IAmb IAmb 12 38 17.2
comp=Z,126nm,1.5s
DGAR Diego Garcia 68.29 245 IAMs_20 IAMs_20 13 09 47.7
comp=Z,11μm,19.0s
DGAR Diego Garcia 68.29 245 P **P 12 37 34.9 -1.9**
FINES FINESS Array B 68.31 330 P **P 12 37 34.6 -1.6**
comp=Z,54nm,0.5s,baz=70,slow=5.1,SNR=57
FINES LR LR 13 10 18.3
comp=Z,17μm,18.3s,baz=69,slow=38
MGCD Mangrove Creek 68.36 162 P **P 12 37 38.0 +1.3**
SHMA Al-Shehemyia 68.41 288 P **P 12 37 36.5 -0.9**
BATM Batumi 68.51 306 ⇑P **P 12 37 37.6 -0.2**
BATM Batumi 68.51 306 ⇑P **P 12 37 37.6 -0.2**
SAKB Bahrain 68.70 288 P **P 12 37 38.6 -0.6**
TRNA Turayna 68.72 286 P **P 12 37 38.4 -0.9**
RES Resolute Bay 68.74 12 LR LR 13 08 43.7
comp=Z,8μm,22.0s,baz=310,slow=37
SYDH Sydney Hard Ro 68.78 162 P **P 12 37 40.5 +1.2**
STEI Steigen 68.82 339 IVmB_BB 12 37 37.9
comp=Z,2μm,3.8s
STEI *e*P **P 12 37 39.1 -0.2**
STEI *e*S **S 12 46 39.7 -3.4**
STEI IVMs_BB IVMs_BB 13 12 51.4
comp=Z,10μm,19.3s
DMTO DMTO 68.92 278 P **P 12 37 40.1 -0.6**
SOC Sochi 68.98 309 *e*P **P 12 37 38.6 -2.1**
SOC *e* 12 40 08.0
SOC *e*PPP PPP 12 41 49.1
SOC *e*S **S 12 46 44.0 -1.8**
SOC *e* 12 47 32.8
SOC *e*SS **SS 12 51 07.3 -3.4**
SOC pmax pmax
comp=Z,121nm,1.1s
SOC MLR MLR
comp=Z,16μm,17.0s
DAG Danmarks Havn 69.09 353 P **P 12 37 39.5 -1.3**
DAG pmax pmax
comp=Z,131nm,1.3s
DAG Danmarks Havn 69.09 353 *i* P **P 12 37 41.3 +0.5**
DAG IAmb IAmb 12 37 45.9
comp=Z,197nm,1.3s
DAG Danmarks Havn 69.09 353 ⇓P **P 12 37 39.2 -1.6**
DAG ⇑P **pP 12 37 39.6 -3.2**
FAUS Fauske 69.12 338 *e*P **P 12 37 40.6 -0.5**
FAUS IVmB_BB 12 37 51.5
comp=Z,2μm,2.9s
FAUS *e*S **S 12 46 47.6 +0.9**
FAUS *e*SS **SS 12 51 13.7 +1.9**
FAUS IVMs_BB IVMs_BB 13 12 15.4
comp=Z,8μm,17.8s
DOK Doka 69.17 279 P **P 12 37 41.3 -0.9**
SNR=10.0
LOF Lofoten 69.22 339 IVmB_BB 12 37 41.4
comp=Z,2μm,3.5s
LOF *e*P **P 12 37 41.5 -0.2**
LOF *e*S **S 12 46 49.2 +1.4**
LOF IVMs_BB IVMs_BB 13 13 05.2
comp=Z,5μm,17.9s
VSU Vasula 69.47 327 *i* P **P 12 37 43.6 +0.2**
VSU MLR MLR
comp=Z,43μm,15.0s
VSU Vasula 69.47 327 *e*P **P 12 37 42.4 -1.1**
VSU Vasula 69.47 327 ⇓P **P 12 37 42.1 -1.3**
VSU ⇓P **P 12 37 42.2 -1.1**
GURO Guroymak-BITLI 69.59 303 IAmb IAmb 12 37 59.1
comp=Z,167nm,1.4s
MEF Metsahovi 69.64 329 *e*P **P 12 37 42.9 -1.5**
RBK Rabkut 69.65 278 P **P 12 37 44.5 -0.7**
WHFO Wadi Hawf 69.81 279 P **P 12 37 45.0 -1.3**
SNR=7.8
CAN Canberra 69.84 164 P **P 12 37 46.2 +0.2**
CAN pmax pmax
comp=Z,143nm,1.6s
CAN Canberra 69.84 164 IAmb IAmb 12 37 50.7
comp=Z,123nm,1.2s
CAN Canberra 69.84 164 P **P 12 37 45.9 -0.1**
CNB Canberra Magne 69.92 164 P **P 12 37 47.9 +1.4**
ANN Anapa 69.93 311 *d* P **P 12 37 45.2 -1.3**
ANN *e*S **S 12 47 00.9 +4.0**
ANN *e*SS **SS 12 51 25.3 +0.1**
ANN pmax pmax
comp=Z,298nm,1.3s
ANN MLR MLR
comp=Z,21μm,18.0s
ARPS Mount Arapiles 69.94 171 P **P 12 37 45.6 -0.8**
KTUT Trabzon 70.08 306 ⇑P **P 12 37 48.0 +0.5**
MOR8 Moi Rana 70.11 337 *e*P **P 12 37 44.8 -2.5**
MOR8 IVmB_BB 12 37 46.8
comp=Z,1μm,1.1s
MOR8 *e*S **S 12 46 56.4 -2.1**
MOR8 *e*SS **SS 12 51 25.6 -1.5**
MOR8 IVMs_BB IVMs_BB 13 11 11.2
comp=Z,7μm,18.4s
TULEG Thule 70.28 5 IAmb IAmb 12 37 57.3
comp=Z,110nm,1.1s
TULEG IAMs_20 IAMs_20 13 09 09.6
comp=Z,14μm,21.0s
TULEG Thule 70.28 5 *i* P **P 12 37 47.2 -1.0**
TULEG IAmb IAmb 12 37 52.6
comp=Z,88nm,1.0s
RAF Rauma 70.32 331 *e*P **P 12 37 46.9 -1.7**
KONS Konsvik 70.34 338 *e*P **P 12 37 48.6 -0.1**
STOK Stokkvaagen 70.47 338 *e*P **P 12 37 48.8 -0.7**
ABTO Aybut 70.48 278 P **P 12 37 49.5 -0.9**
SNR=11
MTSE Matsula 70.66 328 *e*P **P 12 37 49.5 -1.2**
MNK Minsk 70.86 323 *i* P **P 12 37 50.8 -1.2**
MNK *i* 12 38 11.5
MNK *i* 12 40 27.2
MNK *i* PPP PPP 12 42 09.7

MNK *i* S **S** **12 47 03.9 -3.6**
MNK *i* 12 47 54.2
MNK *i* SS **SS** **12 51 38.5 -0.6**
MNK pmax pmax
comp=N,51nm,1.0s
MNK pmax pmax
comp=Z,124nm,0.9s
MNK pmax pmax
comp=E,17nm,1.1s
MNK MLR MLR
comp=N,7µm,17.0s
MNK MLR MLR
comp=Z,12µm,20.0s
MNK MLR MLR
comp=E,2µm,19.0s
MNK Minsk 70.86 323 *i* P **P** **12 37 50.9 -1.2**
comp=E,17nm,1.1s
MNK *i* P **P** **12 37 50.9 -1.2**
comp=N,51nm,1.0s
MNK *i* P **P** **12 37 50.9 -1.2**
comp=Z,124nm,0.9s,baz=240
MNK *i* PcP **PcP** **12 38 11.6 -1.1**
MNK *i* PP **PP** **12 40 27.2 -1.4**
MNK *i* PPP PPP 12 42 09.7
MNK *i* S **S** **12 47 04.0 -3.6**
MNK *i* SS **SS** **12 51 38.6 -0.6**
MNK *i* SSS SSS 12 55 00.8
MNK *i* LQ LQ 13 04 00.3
MNK *i* LR LR 13 08 59.5
MNK *i* LRM MLR 13 10 58.2
comp=N,7µm,17.0s
MNK *i* LRM MLR 13 11 26.8
comp=E,2µm,18.6s
MNK *i* LRM MLR 13 11 26.8
comp=Z,12µm,20.4s
BRAT Ballarat 71.01 169 P **P** **12 37 53.0 +0.1**
IDID Didziasalis 71.03 324 *eP* **P** **12 37 52.4 -0.7**
ISAL Salakas 71.20 325 *eP* **P** **12 37 53.8 -0.3**
NACGM Naroch 71.22 324 *eP* **P** **12 37 53.2 -1.0**
IIGN Ignalina 71.27 324 *eP* **P** **12 37 54.1 -0.4**
TOO Toolangi 71.30 168 P **P** **12 37 55.0 +0.3**
TOO pmax pmax
comp=Z,71nm,1.3s
TOO Toolangi 71.30 168 IAmb IAmb 12 37 59.4
comp=Z,156nm,1.4s
TOO Toolangi 71.30 168 P **P** **12 37 55.1 +0.3**
DBG Daneborg 71.48 352 *i* P **P** **12 37 56.1 +0.6**
DBG IAmb IAmb 12 38 01.5
comp=Z,191nm,2.0s
DBG Daneborg 71.48 352 *eP* **P** **12 37 55.2 -0.3**
AAL Aland 71.52 330 *eP* **P** **12 37 54.4 -1.5**
GEXS Deakin Univers 71.71 169 P **P** **12 37 59.4 +2.3**
YKA Yellowknife Ar 71.71 26 P **P** **12 37 57.4 +0.4**
comp=Z,12nm,0.8s,baz=304,slow=5.9,SNR=81
YKA Yellowknife Ar 71.71 26 *i* P **P** **12 37 57.7 +0.7**
YKA Yellowknife Ar 71.71 26 P **P** **12 37 57.1 +0.1**
NSS Namsos 71.94 337 *eP* **P** **12 37 57.6 -0.7**
NSS *eS* **S** **12 47 19.0 -0.6**
NSS *eSS* **SS** **12 51 56.7 +1.6**
NSS IVMs_BB IVMs_BB 13 11 14.2
comp=Z,7µm,20.2s
SIM Simferopol' **71.95 312** *c i* P **P** **12 37 56.6 -2.2**
SIM *e* 12 38 14.0
SIM *eS* **S** **12 47 16.0 -4.5**
SIM pmax pmax
comp=Z,115nm,0.9s
SIM MLR MLR
comp=Z,2µm,32.2s
AKASG Malin Array Be 72.04 319 P **P** **12 37 57.8 -1.4**
comp=Z,58nm,0.6s,baz=54,slow=6.2,SNR=96
AKASG LR LR 13 12 00.0
comp=Z,14µm,18.8s,baz=66,slow=38
AKASG Malin Array Be 72.04 319 P **P** **12 37 57.5 -1.7**
AKASG IAmb IAmb 12 38 02.4
comp=Z,150nm,1.1s
PABE Paberze 72.29 325 *eP* **P** **12 37 59.9 -0.7**
SOCY Socotra 72.46 273 IAMs_20 IAMs_20 13 09 59.5
comp=Z,10µm,20.0s
SOCY Socotra 72.46 273 P **P** **12 38 00.3 -2.1**
SNR=16
JMIC Jan Mayen 72.58 347 LR LR 13 11 46.6
comp=Z,5µm,18.9s,baz=64,slow=37
UPP Uppsala 72.68 331 *eP* **P** **12 38 01.3 -1.5**
DIKM Dikmen 72.79 309 ⇑P **P** **12 38 03.6 -0.4**
PBUR Paburge 72.97 326 *eP* **P** **12 38 04.5 -0.2**
TBLU Trondheim 73.34 336 *eP* **P** **12 38 05.6 -1.2**
TBLU IVmBBB 12 38 06.8
comp=Z,638nm,1.4s
TBLU *eS* **S** **12 47 33.7 -2.0**
TBLU *eSS* **SS** **12 52 15.9 -0.7**
TBLU IVMs_BB IVMs_BB 13 12 18.8
comp=Z,7µm,15.0s
BZK Bozkurt 73.46 309 ⇑P **P** **12 38 07.2 -0.7**
SUW Suwalki 73.48 324 *eP* **P** **12 38 06.3 -1.4**
SUW *eL* L 13 13 52.0
comp=Z,23µm,19.8s
SUW Suwalki 73.48 324 P **P** **12 38 06.3 -1.4**
SUW pmax pmax
comp=Z,232nm,1.1s
SUW Suwalki 73.48 324 *eP* **P** **12 38 06.5 -1.2**
XMAS Kiritimati 73.60 98 P **P** **12 38 10.9 +1.9**
XMAS Kiritimati 73.60 98 P **P** **12 38 11.2 +2.1**
SORM Soroca 73.83 317 ⇑P **P** **12 38 08.6 -1.3**
SORM Soroca 73.83 317 ⇑P **P** **12 38 08.6 -1.3**
VIKU Vikbolandet 73.87 330 *eP* **P** **12 38 08.5 -1.4**
HFS Hagfors 74.08 332 LR LR 13 16 05.6
comp=Z,16µm,18.2s,baz=58,slow=40
KIS Kishinev 74.15 316 ⇓ *eP* **P** **12 38 10.0 -1.8**
comp=Z,520nm,7.6s
KIS Kishinev 74.15 316 *de* P **P** **12 38 10.0 -1.8**
KIS *e* PPP PPP 12 42 37.0
KIS *eS* **S** **12 47 47.0 +1.7**
KIS pmax pmax
comp=Z,520nm,7.6s
KIS MLR MLR
comp=Z,6µm,16.0s
MILM Milestii Mici 74.19 316 ⇓ *iP* **P** **12 38 10.0 -2.0**
comp=Z,900nm,3.4s
MILM *e* LQ LQ 13 02 28.0
comp=Z,19µm,18.0s
MILM LRM MLR 13 13 52.0
comp=Z,16µm,17.0s
MILM Milestii Mici 74.19 316 ⇓ P **P** **12 38 10.3 -1.8**
MILM Milestii Mici 74.19 316 *d* P **P** **12 38 10.0 -2.0**
MILM *e* 12 38 33.0
MILM *eS* **SKiKP** **12 47 41.0 +0.8**
MILM pmax pmax
comp=Z,900nm,3.4s
NC303 NORSAR Array S 74.27 334 IAmb IAmb 12 38 29.1
comp=Z,140nm,1.4s
HORU Horodok 74.36 319 P **P** **12 38 11.9 -1.1**
NB2 NORSAR Subarra 74.45 334 P **P** **12 38 11.3 -2.1**
comp=Z,776nm,3.3s,baz=47,slow=5.9
NB2 NORSAR Subarra 74.45 334 P **P** **12 38 11.1 -2.3**
NB2 pmax pmax
comp=Z,5µm,3.8s
NB2 NORSAR Subarra 74.45 334 P **P** **12 38 11.3 -2.1**
baz=47,slow=5.9
NOA NORSAR Array B 74.45 334 P **P** **12 38 11.3 -2.1**
comp=Z,24nm,0.9s,baz=48,slow=5.9,SNR=33
NOA LR LR 13 16 11.0
comp=Z,13µm,18.5s,baz=70,slow=40
NC204 NORSAR Array S 74.46 334 IAmb IAmb 12 38 29.7
comp=Z,180nm,1.1s
NC602 NORSAR Array S 74.52 334 IAmb IAmb 12 38 40.8
comp=Z,84nm,1.1s
NC602 NORSAR Array S 74.52 334 *eP* **P** **12 38 13.2 -0.5**
NORES NORESS Array B 74.52 334 P **P** **12 38 12.3 -1.4**
NORES pmax pmax
comp=Z,9.0nm,1.0s
DOMB Dombas 74.56 335 *eP* **P** **12 38 12.7 -1.3**
DOMB IVmB_BB 12 38 14.7
comp=Z,756nm,1.0s
DOMB *eS* **S** **12 47 48.0 -1.6**
DOMB *eSS* **SS** **12 52 36.6 +1.4**
DOMB IVMs_BB IVMs_BB 13 17 52.7
comp=Z,8µm,12.8s
NBO00 NORSAR Array S 74.62 334 IAmb IAmb 12 38 31.4
comp=Z,150nm,1.2s
UPNV Upernavik 74.64 2 *i* P **P** **12 38 14.2 0.0**
UPNV IAmb IAmb 12 38 25.5
comp=Z,50nm,1.0s
NAO01 NORSAR Array S 74.70 334 IAmb IAmb 12 38 31.4
comp=Z,292nm,1.8s
MOL Molde 74.72 336 *eP* **P** **12 38 14.8 -0.1**
MOL IVMs_BB IVMs_BB 13 12 45.2
comp=Z,8µm,21.0s
IAS Iasi 74.78 317 ⇓P **P** **12 38 15.1 -0.4**
IAS Iasi 74.78 317 P **P** **12 38 14.7 -0.8**
IAS pmax pmax
comp=Z,422nm,1.1s
BR131 Keskin Array S 74.80 308 P **P** **12 38 15.3 -0.6**
SNR=40
BRTR Keskin Array B 74.81 308 P **P** **12 38 15.0 -1.0**
comp=Z,101nm,1.0s,baz=96,slow=5.6,SNR=75
BRTR LR LR 13 13 19.6
comp=Z,9µm,21.6s,baz=62,slow=38
BRTR Keskin Array B 74.81 308 P **P** **12 38 14.5 -1.4**
VASR Vaslui 74.94 316 ⇓P **P** **12 38 16.3 -0.1**
GLAD Gladstone 75.08 167 P **P** **12 38 19.3 +2.3**
TLCR 75.09 314 ⇓P **P** **12 38 16.9 -0.4**
TLCR 75.09 314 ⇓P **P** **12 38 16.9 -0.4**
AKN Aaknes 75.18 336 *eP* **P** **12 38 17.4 -0.2**
AKN IVmBBB 12 38 18.8
comp=Z,784nm,1.2s
AKN *eS* **S** **12 47 53.7 -2.7**
AKN *eSS* **SS** **12 52 44.4 -0.3**
AKN IVMs_BB IVMs_BB 13 16 21.3
comp=Z,10µm,14.9s
VLDR Vladesti 75.19 315 ⇓P **P** **12 38 17.9 0.0**
JURR Jurilovca 75.27 314 ⇑P **P** **12 38 17.9 -0.5**
ANTO Ankara 75.30 308 P **P** **12 38 18.2 -0.5**
ANTO pmax pmax
comp=Z,62nm,0.9s
ANTO MLR MLR
comp=Z,7µm,21.0s
ANTO Ankara 75.30 308 P **P** **12 38 18.2 -0.5**
ANTO IAmb IAmb 12 38 22.1
comp=Z,62nm,0.8s
BR231 Keskin MP Arra 75.32 308 IAmb IAmb 12 38 22.3
comp=Z,75nm,1.0s
SCTR Scanteiesti 75.33 315 ⇓P **P** **12 38 18.8 +0.2**
LVV L'vov 75.34 320 *eP* **P** **12 38 17.9 -0.8**
LVV *eS* **S** **12 47 57.0 -1.6**
LVV MLR MLR
comp=Z,10µm,22.0s
OSL Oslo 75.36 333 *eP* **P** **12 38 18.5 0.0**
OSL *eS* **S** **12 47 57.6 -0.7**
CORO Coronation Par 75.37 167 P **P** **12 38 20.7 +2.1**
GHRR 75.47 316 ⇑P **P** **12 38 19.6 +0.2**
TPGR Topolog 75.50 314 ⇑P **P** **12 38 19.2 -0.5**
CFR Carcaliu 75.50 315 ⇑P **P** **12 38 18.6 -1.0**
CFR Carcaliu 75.50 315 P **P** **12 38 18.6 -1.0**
SCHL Schela 75.52 315 ⇓P **P** **12 38 20.2 +0.5**
KSV Kosov 75.60 318 P **P** **12 38 18.3 -1.9**
TESR Tescani 75.67 316 ⇑P **P** **12 38 20.0 -0.7**
TIRR Tirgusor 75.72 314 ⇑P **P** **12 38 20.2 -0.7**
TIRR Tirgusor 75.72 314 ⇑P **P** **12 38 20.2 -0.7**
SKAR Skarslia 75.75 335 *eP* **P** **12 38 20.1 -0.7**
SKAR *eS* **S** **12 48 01.3 -1.6**
SKAR *eSS* **SS** **12 52 56.6 +3.2**
SKAR IVMs_BB IVMs_BB 13 13 59.4
comp=Z,6µm,16.8s
MORS Morshin 75.80 320 P **P** **12 38 20.9 -0.4**
ODBI Odobesti 75.84 315 ⇑P **P** **12 38 22.2 +0.7**
MFTR Murfatlar 75.86 314 ⇑P **P** **12 38 21.4 -0.3**
HARR Harsova 75.89 314 ⇑P **P** **12 38 21.3 -0.6**
HARR Harsova 75.89 314 ⇑P **P** **12 38 21.3 -0.6**
BUR08 Bucovina Ar. S 75.89 318 IAmb IAmb 12 38 29.1
comp=Z,98nm,1.0s
TLBR Topalu 75.89 314 ⇑P **P** **12 38 20.9 -1.0**
BURAR Bucovina Array 75.90 318 ⇑P **P** **12 38 21.8 -0.2**
BURAR Bucovina Array 75.90 318 ⇑P **P** **12 38 21.8 -0.2**
BURAR Bucovina Array 75.90 318 P **P** **12 38 21.2 -0.8**
BEL Belsk 75.90 323 *eP* **P** **12 38 21.1 -0.7**
BEL *eL* L 13 14 40.8
comp=Z,23µm,17.7s
BEL Belsk 75.90 323 P **P** **12 38 21.9 +0.1**
BEL pmax pmax
comp=Z,347nm,1.0s
NLWA Neilton Lookou 75.91 42 IAmb IAmb 12 39 11.5
comp=Z,137nm,1.4s
KONO Kongsberg 75.97 333 *ce* P **P** **12 38 22.6 +0.5**
KONO pmax pmax
comp=Z,36nm,1.7s
KONO Kongsberg 75.97 333 P **P** **12 38 21.4 -0.7**
KONO Kongsberg 75.97 333 *eP* **P** **12 38 22.0 -0.1**
VRI Vrincioaia 75.97 316 ⇓P **P** **12 38 21.9 -0.5**
VRI Vrincioaia 75.97 316 ⇓P **P** **12 38 21.9 -0.5**
PLOR Plostina 76.03 316 ⇑P **P** **12 38 22.5 -0.2**
PLOR ⇓P **P** **12 38 22.6 -0.2**
PLOR Plostina 76.03 316 ⇑P **P** **12 38 22.5 -0.2**
GRER 76.09 315 ⇑P **P** **12 38 24.5 +1.5**
BISRR Bisoca 76.16 315 ⇑P **P** **12 38 24.2 +0.7**
KWP Kalwaria Pacla 76.16 320 *i* P **P** **12 38 23.1 -0.3**
KWP *ePP* **PP** **12 41 07.5 -6.3**
KWP *eS* **S** **12 48 06.7 -1.0**
KWP *eL* L 13 15 27.4
comp=Z,17µm,21.6s
KWP Kalwaria Pacla 76.16 320 P **P** **12 38 23.2 -0.2**
KWP pmax pmax
comp=Z,443nm,1.1s
HYA Hoyanger 76.17 336 *eP* **P** **12 38 22.8 -0.3**
HYA *eS* **S** **12 48 06.3 -0.9**
FOO Floro 76.25 336 *eP* **P** **12 38 22.8 -0.8**
FOO IVmB_BB 12 38 25.1
comp=Z,952nm,2.0s
FOO *eS* **S** **12 48 09.3 +1.1**
FOO *eSS* **SS** **12 53 01.6 +0.9**
FOO IVMs_BB IVMs_BB 13 16 03.8
comp=Z,7µm,20.1s
ICOR Ion Corvin 76.27 314 ⇑P **P** **12 38 24.1 +0.1**
KALB Balgarevo 76.27 313 ⇑P **P** **12 38 25.1 +1.1**
D03D Eldon 76.28 42 P **P** **12 38 24.0 0.0**
baz=304,SNR=6.6
COVR Voineasa-Covas 76.29 316 ⇑P **P** **12 38 24.8 +0.6**
BHL Bhannes 76.32 302 *eP* **P** **12 38 23.2 -1.5**
DEL Delary 76.33 329 *eP* **P** **12 38 22.9 -1.3**
MOO Moorlands 76.33 168 P **P** **12 38 23.6 -0.6**
OZUR 76.40 316 ⇓P **P** **12 38 25.6 +0.8**
B05A Bryant 76.42 41 P **P** **12 38 25.5 +0.7**
baz=304,SNR=7.1
NEHR Nehoiu 76.47 315 ⇓P **P** **12 38 25.6 +0.4**
ISR Istrita 76.49 315 ⇑P **P** **12 38 25.6 +0.2**
ISR Istrita 76.49 315 ⇑P **P** **12 38 25.6 +0.2**
SHBL Chebaa 76.53 301 *eP* **P** **12 38 24.8 -1.2**
B06A Marblemount 76.62 41 IAmb IAmb 12 39 05.1
comp=Z,226nm,1.9s
MLR Muntele Rosu 76.64 316 ⇓P **P** **12 38 25.3 -1.0**
MLR ⇓P **pP** **12 38 26.2 -2.2**
MLR Muntele Rosu 76.64 316 LR LR 13 15 58.1
comp=Z,23µm,18.6s,baz=54,slow=39
MLR Muntele Rosu 76.64 316 ⇓P **P** **12 38 25.3 -1.0**
MLR Muntele Rosu 76.64 316 IAmb IAmb 12 38 30.9
comp=Z,93nm,1.1s
D04E Lakebay 76.65 42 P **P** **12 38 26.6 +0.5**
baz=304
ARCR ARCALIA 76.68 318 ⇑P **P** **12 38 26.8 +0.5**
DOPR Dopca 76.70 316 ⇓P **P** **12 38 27.3 +0.8**
BSD Bornholm Skovb 76.73 328 P **P** **12 38 25.4 -1.0**
BSD pmax pmax
comp=Z,120nm,1.0s
BSD Bornholm Skovb 76.73 328 *eP* **P** **12 38 26.0 -0.4**
BSD Bornholm Skovb 76.73 328 *eP* **P** **12 38 25.0 -1.5**
BSD IAmb IAmb 12 38 43.1
comp=Z,152nm,1.2s
SUE Sulen 76.73 336 *eP* **P** **12 38 25.6 -0.7**
SUE IVmB_BB 12 38 25.9
comp=Z,2µm,3.7s
SUE *eS* **S** **12 48 12.0 -1.5**
SUE *eSS* **SS** **12 53 12.2 +4.2**
SUE IVMs_BB IVMs_BB 13 19 28.8
comp=Z,8µm,12.8s
KOLS Kolonicke sedl 76.79 320 *eP* **P** **12 38 26.7 -0.3**
KOLS pmax pmax
comp=Z,42nm,0.8s
KOLS Kolonicke sedl 76.79 320 *eP* **P** **12 38 26.7 -0.3**
GKP Gorka Klasztor 76.79 326 *eP* **P** **12 38 27.8 +1.0**
GKP *eL* L 13 15 45.4
comp=Z,33µm,19.5s
GKP Gorka Klasztor 76.79 326 *eP* **P** **12 38 25.7 -1.1**
TAU Tasmania Unive 76.81 168 P **P** **12 38 26.8 0.0**
TAU pmax pmax
comp=Z,180nm,1.3s
TAU MLR MLR
comp=Z,8µm,18.0s
TAU Tasmania Unive 76.81 168 P **P** **12 38 26.8 0.0**
TAU IAmb IAmb 12 38 31.5
comp=Z,180nm,1.3s
TAU IAMs_20 IAMs_20 13 11 43.2
comp=Z,8µm,18.0s
TAU Tasmania Unive 76.81 168 P **P** **12 38 26.9 +0.1**
SECR 76.81 315 ⇑P **P** **12 38 26.9 -0.2**
ODD1 Odda 76.89 335 *eP* **P** **12 38 26.4 -1.0**
ODD1 *eS* **S** **12 48 13.6 -1.8**
TRSU Trosnyk 76.89 319 P **P** **12 38 26.9 -0.6**
MMAI Mount Meron Ar 76.95 301 LR LR 13 16 29.1
comp=Z,14µm,20.3s,baz=210,slow=39
UZH Uzhgorod 76.95 320 *eP* **P** **12 38 25.4 -2.4**
UZH *i* 12 38 27.3
UZH *i* 12 38 31.4
UZH *i* 12 38 44.7
UZH *i* 12 41 18.4
UZH *ePPP* PPP 12 43 02.5
UZH *i* S **S** **12 48 07.5 -8.8**
UZH *ePS* PnS 12 48 32.3 -21
UZH *i* SS **SS** **12 53 17.7 +5.7**
UZH *eSSS* SSS 12 56 26.0
UZH MLR MLR
comp=N,11µm,16.0s
UZH MLR MLR
comp=E,5µm,16.0s
UZH MLR MLR
comp=Z,2µm,16.0s
ASK Askoy 76.99 336 *eP* **P** **12 38 28.3 +0.4**
ASK *eS* **S** **12 48 14.7 -1.6**
ASK *eSS* **SS** **12 53 12.5 +0.5**
BER Bergen 77.02 335 P **P** **12 38 26.5 -1.4**
BER pmax pmax
comp=Z,49nm,0.9s
BER Bergen 77.02 335 IVmB_BB 12 38 27.4
comp=Z,1µm,3.5s
BER *eP* **P** **12 38 28.4 +0.5**
BER *eS* **S** **12 48 15.8 -0.7**
BER *eSS* **SS** **12 53 15.3 +3.0**
BER IVMs_BB IVMs_BB 13 18 34.5
comp=Z,9µm,14.9s
STHS Stebnicka Huta 77.06 321 *eP* **P** **12 38 29.1 +0.6**
STHS Stebnicka Huta 77.06 321 *eP* **P** **12 38 29.1 +0.6**
D05A Enumclaw 77.09 42 IAmb IAmb 12 39 13.8
comp=Z,194nm,1.6s
TRPA Tarpa 77.10 319 ⇓P **P** **12 38 29.3 +0.6**
TRPA Tarpa 77.10 319 P **P** **12 38 29.0 +0.3**
E04D Cinebar 77.12 43 P **P** **12 38 28.8 0.0**
baz=304
F04D Rainier, OR 77.13 43 P **P** **12 38 28.9 0.0**
baz=304
VOIR 77.19 316 ⇓P **P** **12 38 30.1 +0.7**
VOIR 77.19 316 ⇓P **P** **12 38 30.1 +0.7**
CRVS Cervenica-Dubn 77.25 320 *eP* **P** **12 38 29.5 0.0**
CRVS pmax pmax
comp=Z,173nm,1.2s
CRVS Cervenica-Dubn 77.25 320 *eP* **P** **12 38 29.5 0.0**
BLS5 Blasjo 77.29 334 IVmB_BB 12 38 28.9
comp=Z,1µm,4.1s
BLS5 *eP* **P** **12 38 29.2 -0.4**
BLS5 *eS* **S** **12 48 19.0 -0.8**
BLS5 *eSS* **SS** **12 53 17.6 +1.0**
BLS5 IVMs_BB IVMs_BB 13 17 43.0
comp=Z,9µm,13.2s
CJR Cluj-Napoca 77.32 318 ⇑P **P** **12 38 31.3 +1.3**
CJR Cluj-Napoca 77.32 318 ⇑P **P** **12 38 31.3 +1.3**
HOMB Homborsund 77.33 333 *eP* **P** **12 38 29.8 +0.1**
HOMB IVmB_BB 12 38 30.4
comp=Z,463nm,1.2s
HOMB *eS* **S** **12 48 19.3 -0.7**
HOMB *eSS* **SS** **12 53 17.5 +0.4**
HOMB IVMs_BB IVMs_BB 13 16 17.3
comp=Z,7µm,13.4s
OJC Ojcow 77.35 322 *i* P **P** **12 38 29.6 -0.5**
OJC *ePP* **PP** **12 41 25.3 +1.6**
OJC *eS* **S** **12 48 18.7 -2.0**
OJC *eL* L 13 13 14.0
comp=Z,23µm,19.5s
RAZG Razgrad 77.36 314 ⇓P **P** **12 38 29.6 -0.6**
CSS Mathiatis 77.43 303 IAmb IAmb 12 38 34.2
comp=Z,116nm,0.9s
MESR Meseseni 77.44 318 ⇓P **P** **12 38 31.6 +1.0**
COP Copenhagen 77.45 329 *i* P **P** **12 38 31.4 +1.0**
COP IAmb IAmb 12 38 31.6
comp=Z,678nm,0.9s
G03D McMinnville, O 77.47 44 P **P** **12 38 28.8 -2.0**
baz=304
ARR Arges 77.48 316 ⇑P **P** **12 38 31.1 +0.1**
F04A Amboy 77.55 43 IAmb IAmb 12 38 48.1
comp=Z,124nm,1.5s
NIE Niedzica 77.56 321 *i* P **P** **12 38 32.0 +0.7**
NIE *ePP* **PP** **12 41 28.1 +2.5**
NIE *eS* **S** **12 48 31.4 +8.3**
NIE *eL* L 13 14 12.1
comp=Z,8µm,20.9s
NIE Niedzica 77.56 321 P **P** **12 38 32.0 +0.7**
NIE pmax pmax
comp=Z,92nm,1.2s
GHAJ Ghor Haditha 77.70 299 IAMs_20 IAMs_20 13 18 37.4
comp=Z,9µm,19.0s
HUMR Humele 77.74 315 ⇓P **P** **12 38 32.0 -0.3**
SNART Snartemo 77.77 333 *eP* **P** **12 38 31.6 -0.6**
SNART *eS* **S** **12 48 23.0 -1.8**
DRGR 77.77 318 ⇑P **P** **12 38 32.3 -0.3**
DRGR 77.77 318 ⇑P **P** **12 38 32.3 -0.3**
COPA Copaceanca 77.82 315 ⇓P **P** **12 38 32.3 -0.5**
ISP Isparta 77.87 307 P **P** **12 38 31.9 -1.4**
ISP pmax pmax
comp=Z,87nm,0.9s
ISP Isparta 77.87 307 IAmb IAmb 12 38 35.8
comp=Z,65nm,0.8s
ISP IAMs_20 IAMs_20 13 13 50.4
comp=Z,12µm,21.0s
KMY Karmoy 77.88 335 *eP* **P** **12 38 32.9 +0.1**
KMY *eS* **S** **12 48 23.4 -2.6**
KMY IVMs_BB IVMs_BB 13 18 10.1
comp=Z,7µm,15.8s
GOET G??ttrup 77.89 332 *i* P **P** **12 38 31.7 -1.2**
GOET IAmb IAmb 12 38 34.1
comp=Z,156nm,0.9s
EDM Edmonton 77.93 34 IAmb IAmb 12 39 11.9
comp=Z,98nm,1.3s
LOT Lotru 77.93 316 ⇓P **P** **12 38 33.8 +0.2**
KECS Kecovo 78.02 320 *eP* **P** **12 38 36.1 +2.3**
KECS pmax pmax
comp=Z,198nm,1.2s
KECS Kecovo 78.02 320 *eP* **P** **12 38 36.1 +2.3**
F05D White Salmon 78.13 43 P **P** **12 38 33.5 -1.1**
baz=305
EDRB Edirne 78.15 312 P **P** **12 38 33.7 -1.0**
LANS Liptovska Anna 78.16 321 *eP* **P** **12 38 35.2 +0.5**
LANS pmax pmax
comp=Z,44nm,0.9s
LANS Liptovska Anna 78.16 321 *eP* **P** **12 38 35.2 +0.5**
H04D Lebanon 78.16 44 P **P** **12 38 33.3 -1.4**
baz=305
DEV Deva 78.19 317 ⇓P **P** **12 38 35.4 +0.6**
DEV Deva 78.19 317 ⇓P **P** **12 38 35.4 +0.6**
J01E Myrtle Point 78.21 46 P **P** **12 38 33.8 -1.2**
baz=304
ICESG Greenland Ices 78.21 356 *i* P **P** **12 38 34.8 -0.1**
ICESG IAmb IAmb 12 38 36.5
comp=Z,76nm,1.0s
RAC Raciborz 78.26 323 *eP* **P** **12 38 35.2 +0.1**
RAC LMZ LR 13 13 39.6
comp=Z,15nm,20.5s
RAC Raciborz 78.26 323 *eP* **P** **12 38 35.2 +0.1**
RAC MLR MLR
comp=Z,15µm,20.5s
I03D Drain, OR 78.26 45 P **P** **12 38 34.1 -1.2**
baz=304
MUD Monsted U'grnd 78.30 331 P **P** **12 38 34.4 -0.8**
MUD pmax pmax
comp=Z,106nm,1.3s
MUD Monsted U'grnd 78.30 331 *i* P **P** **12 38 34.1 -1.1**
MUD IAmb IAmb 12 38 36.2
comp=Z,82nm,0.9s
HOOD Mount Hood Mea 78.34 43 IAmb IAmb 12 39 10.7
comp=Z,90nm,1.3s
VLAD Vladila 78.38 315 ⇓P **P** **12 38 35.5 -0.4**
OKC Ostrava-Krasne 78.43 322 *eP* **P** **12 38 36.1 0.0**
OKC *eS* **S** **12 48 31.2 -1.1**
OKC MLR MLR
comp=Z,30µm,15.3s
OKC Ostrava-Krasne 78.43 322 *eP* **P** **12 38 36.1 0.0**
OKC *eS* **S** **12 48 31.2 -1.1**

OKC AMS AMS 13 17 50.0
comp=Z,30µm,15.3s
GZR Gura Zlata 78.54 317 ⇑P P 12 38 36.6 -0.3
GZR Gura Zlata 78.54 317 ⇑P P 12 38 36.6 -0.3
G05D Wamic, OR 78.58 43 P **P 12 38 36.8 -0.2**
baz=305
K02D Willamette Mer 78.63 46 P **P 12 38 36.8 -0.7**
baz=304
PSZ Piszkesteto 78.67 320 ⇓P P 12 38 38.2 +0.7
PSZ Piszkesteto 78.67 320 ⇓P P 12 38 38.2 +0.7
PSZ Piszkesteto 78.67 320 IAmb IAmb 12 38 44.4
comp=Z,183nm,1.2s
PSZ Piszkesteto 78.67 320 P **P 12 38 37.7 +0.2**
SRE Strehaia 78.71 316 ⇓P P 12 38 38.3 +0.6
SRE Strehaia 78.71 316 ⇓P P 12 38 38.3 +0.6
KULA Kula-Manisa 78.74 309 P **P 12 38 36.7 -1.4**
KSP Ksiaz 78.75 324 *i* P **P 12 38 37.5 -0.4**
KSP *eL* L 13 16 43.5
comp=Z,25µm,18.6s
KSP Ksiaz 78.75 324 P **P 12 38 37.5 -0.4**
KSP pmax pmax
comp=Z,152nm,1.2s
I04A Tendick Farm, 78.77 45 P **P 12 38 37.5 -0.7**
baz=305
MORC Moravsky Berou 78.78 323 ⇓P P 12 38 37.3 -0.7
MORC Moravsky Berou 78.78 323 ⇓P P 12 38 37.3 -0.7
MORC Moravsky Berou 78.78 323 IAmb IAmb 12 38 42.2
comp=Z,114nm,1.1s
MORC Moravsky Berou 78.78 323 ⇓*i* P **P 12 38 37.4 -0.7**
MORC *e* 12 48 33.1
C09A Chrisman Ranch 78.78 40 IAmb IAmb 12 39 22.5
comp=Z,105nm,1.4s
BSZH Besenyszg 78.83 319 P **P 12 38 37.1 -1.3**
VYHS Vyhne 78.89 321 *eP* **P 12 38 38.6 -0.1**
VYHS pmax pmax
comp=Z,43nm,1.0s
VYHS Vyhne 78.89 321 *eP* **P 12 38 38.6 -0.1**
RUE Ruedersdorf 78.92 326 *eP* **P 12 38 38.4 -0.3**
RUE Ruedersdorf 78.92 326 *eP* **P 12 38 38.2 -0.5**
comp=Z,244nm,1.2s,baz=46,slow=5.3
OSTC Ostas 78.97 324 *eP* **P 12 38 38.1 -1.0**
OSTC *eS* **S 12 48 37.9 -0.2**
OSTC AMS AMS 13 17 40.0
comp=Z,24µm,17.7s
L02E Cave Junction 78.97 47 P **P 12 38 38.7 -0.6**
baz=304
KRLC Kraliky 78.98 323 *eP* **P 12 38 38.0 -1.2**
KRLC *eS* **S 12 48 30.0 -8.3**
KRLC MLR MLR
comp=Z,15µm,16.9s
KRLC Kraliky 78.98 323 *eP* **P 12 38 38.0 -1.2**
KRLC *eS* **S 12 48 30.0 -8.3**
KRLC AMS AMS 13 17 10.0
comp=Z,15µm,16.9s
EIL Elat 79.00 298 LR LR 13 17 35.7
comp=Z,9µm,18.1s,baz=52,slow=39
CHVC Chvalec 79.03 324 *eP* **P 12 38 38.6 -0.8**
CHVC AMS AMS 13 17 30.0
comp=Z,22µm,19.8s
DPC Dobruska-Polom 79.04 324 *eP* **P 12 38 39.2 -0.3**
DPC *eS* **S 12 48 39.2 +0.2**
DPC MLR MLR
comp=Z,20µm,19.5s
DPC Dobruska-Polom 79.04 324 *eP* **P 12 38 39.2 -0.3**
DPC *eS* **S 12 48 39.2 +0.2**
DPC AMS AMS 13 17 30.0
comp=Z,20µm,19.5s
HERR Herculane 79.04 317 ⇑P P 12 38 39.0 -0.6
BZS Buzias 79.07 318 ⇑P P 12 38 39.0 -0.7
BZS Buzias 79.07 318 ⇑P P 12 38 39.0 -0.7
I05D Terrebonne, OR 79.09 44 P **P 12 38 39.8 -0.1**
baz=306
PUNG Punghina 79.09 316 ⇓P P 12 38 40.2 +0.4
UPC Upice 79.10 324 *eP* **P 12 38 39.1 -0.7**
UPC *eS* **S 12 48 38.0 -1.5**
UPC MLR MLR
comp=Z,22µm,15.7s
UPC Upice 79.10 324 *eP* **P 12 38 39.1 -0.7**
UPC *eS* S 12 48 38.0 -1.5
UPC AMS AMS 13 16 30.0
comp=Z,22µm,15.7s
ALN Alexandroupoli 79.11 312 P **P 12 38 39.2 -0.8**
ALN pmax pmax
comp=Z,49nm,0.9s
NEW Newport 79.12 39 P **P 12 38 40.3 +0.3**
baz=308,SNR=15
AMBH Ambrzfalva 79.14 319 P **P 12 38 40.0 -0.1**
JAVC Velka Javorina 79.28 322 ⇓*i* P **P 12 38 41.5 +0.6**
RDO Rodhopi 79.29 312 P **P 12 38 39.7 -1.3**
LRW Lerwick 79.38 338 *eP* **P 12 38 40.8 -0.3**
LRW IAmb IAmb 12 38 42.2
comp=Z,98nm,0.9s
LRW IAMs_20 IAMs_20 13 18 47.1
comp=Z,14µm,19.7s
KSL Kastellorizon 79.40 306 P **P 12 38 39.3 -2.3**
BUD Budapest 79.40 320 P **P 12 38 41.7 +0.3**
BUD pmax pmax
comp=Z,97nm,1.1s
BUD Budapest 79.40 320 P **P 12 38 41.2 -0.2**
FETY Fethiye 79.48 307 P **P 12 38 40.1 -2.0**
MDVR Moldovita 79.51 317 ⇑P P 12 38 41.4 -0.8
BSEG Bad Segeberg 79.53 329 P **P 12 38 41.6 -0.4**
BSEG pmax pmax
comp=Z,106nm,0.8s
BSEG Bad Segeberg 79.53 329 *eP* **P 12 38 40.6 -1.4**
comp=Z,104nm,1.0s,baz=46,slow=5.3
VRAC Vranov 79.56 323 ⇓P P 12 38 42.1 -0.2
VRAC Vranov 79.56 323 LR LR 13 16 13.6
comp=Z,17µm,19.0s,baz=60,slow=38
VRAC Vranov 79.56 323 ⇓P P 12 38 42.1 -0.2
VRAC Vranov 79.56 323 ⇓*i* P **P 12 38 41.9 -0.4**
VRAC *ePP* **PP 12 41 45.8 +3.6**
VRAC *e* 12 48 39.8
SRO Srobarova 79.58 321 *eP* **P 12 38 42.6 +0.1**
SRO Srobarova 79.58 321 *eP* **P 12 38 42.5 +0.1**
SMOL Smolenice 79.62 322 *eP* **P 12 38 42.9 +0.3**
SMOL pmax pmax
comp=Z,44nm,1.0s
SMOL Smolenice 79.62 322 *eP* **P 12 38 42.9 +0.3**
BLKB Belogradchik 79.62 315 ⇑P P 12 38 42.2 -0.6
L04D Klamath Falls 79.73 46 IAmb IAmb 12 38 51.6
comp=Z,119nm,1.3s
L04D Klamath Falls 79.73 46 P **P 12 38 42.4 -1.2**
baz=305
YER Yerkesik 79.74 308 P **P 12 38 42.9 -0.7**
J05D Fort Rock, OR 79.76 45 P **P 12 38 42.3 -1.4**
baz=306,SNR=5.6
MODS Modra-Piesok 79.78 322 *eP* **P 12 38 43.6 0.0**
MODS pmax pmax
comp=Z,221nm,1.2s
MODS Modra-Piesok 79.78 322 *eP* **P 12 38 43.5 0.0**
PVCC Panska Ves 79.80 324 *eP* **P 12 38 43.3 -0.3**
PVCC MLR MLR
comp=Z,21µm,17.4s
PVCC Panska Ves 79.80 324 *eP* **P 12 38 43.3 -0.3**
PVCC AMS AMS 13 16 30.0
comp=Z,21µm,17.4s
KRUC Moravsky 79.81 323 ⇓*i* P **P 12 38 43.1 -0.6**
KRUC *ePP* **PP 12 41 47.0 +2.7**
KRUC *e* 12 48 45.0
K04D Chiloquin, OR 79.83 46 P **P 12 38 43.1 -1.0**
baz=306
M02C Callahan 79.87 47 P **P 12 38 42.3 -1.9**
baz=305
VTS Vitosha 79.87 314 ⇓P P 12 38 42.2 -2.1
VTS Vitosha 79.87 314 ⇓P P 12 38 42.2 -2.1
VTS Vitosha 79.87 314 IAmb IAmb 12 38 51.2
comp=Z,87nm,1.0s
BRG Berggiesshubel 79.88 325 *eP* **P 12 38 43.2 -0.8**
BRG Amp 12 38 45.6
comp=Z,68nm,1.1s
BRG *ex* x 12 38 53.4
BRG Amp 12 38 54.9
comp=Z,35nm,1.0s
BRG Berggiesshubel 79.88 325 *eP* **P 12 38 43.2 -0.8**
BRG *e* 12 38 53.4
BRG S **S 12 48 53.0 +5.3**
BRG pmax pmax
comp=Z,68nm,1.1s
BRG pmax pmax
comp=Z,35nm,1.0s
BRG pmax pmax
comp=Z,27µm,16.1s
BRG MLR MLR
comp=E,14µm,15.6s
BRG MLR MLR
comp=N,15µm,18.0s
BRG Berggiesshubel 79.88 325 *eP* **P 12 38 42.8 -1.2**
comp=N,77nm,1.1s,baz=46,slow=5.3
CSKK Cskako 79.89 320 P **P 12 38 44.1 0.0**
ZST Bratislava 79.99 322 *eP* **P 12 38 44.7 +0.1**
ZST pmax pmax
comp=Z,3µm,3.6s
ZST Bratislava 79.99 322 *eP* **P 12 38 44.7 +0.1**
CLL Collm 80.05 326 ⇓*i* P **P 12 38 43.9 -1.0**
CLL *eS* **S 12 48 47.0 -2.5**
CLL pmax pmax
comp=Z,208nm,1.0s
CLL MLR MLR
comp=Z,25µm,20.2s
CLL Collm 80.05 326 IAmb IAmb 12 38 46.6
comp=Z,172nm,0.9s
CLL Collm 80.05 326 ⇓*i* P **P 12 38 43.9 -1.0**
comp=Z,208nm,1.0s
CLL *ePP* **PP 12 41 48.0 +1.8**
CLL *e*(PPPP) 12 45 06.0
CLL *eS* **S 12 48 47.0 -2.5**
CLL *ePS* **PnS 12 49 42.0 +9.2**
CLL *eSS* **SS 12 54 06.0 +7.6**
CLL *e*SSS SSS 12 57 36.0
CLL *e*SSSS 12 59 48.0
CLL LmV 13 17 00.0
comp=Z,25µm,20.2s
CLL Collm 80.05 326 *eP* **P 12 38 43.6 -1.3**
comp=Z,208nm,1.0s,baz=46,slow=5.3
THAS Thassos island 80.11 312 P **P 12 38 43.7 -1.7**
TREC Trest 80.13 323 *eP* **P 12 38 44.8 -0.6**
TREC MLR MLR
comp=Z,25µm,19.1s
TREC Trest 80.13 323 *eP* **P 12 38 44.8 -0.6**
TREC AMS AMS 13 18 30.0
comp=Z,25µm,19.1s
FBE Freiberg 80.14 325 *eP* **P 12 38 44.7 -0.6**
comp=Z,201nm,1.1s,baz=46,slow=5.3
PRU Pruhonice 80.16 324 *eP* **P 12 38 44.9 -0.6**
PRU *eS* **S 12 48 52.0 +1.3**
PRU MLR MLR
comp=Z,22µm,16.4s
PRU Pruhonice 80.16 324 *eP* **P 12 38 44.9 -0.6**
PRU *eS* **S 12 48 52.0 +1.3**
PRU AMS AMS 13 18 10.0
comp=Z,22µm,16.4s
BOVS Bovan 80.19 316 ⇑P P 12 38 43.7 -2.1
FLTG Flechtingen 80.20 327 *eP* **P 12 38 43.9 -1.8**
comp=Z,165nm,1.0s,baz=46,slow=5.3
N02D Trinity Center 80.20 47 P **P 12 38 45.1 -0.9**
baz=305
MSEY Mahe Island 80.23 258 P **P 12 38 46.1 -0.4**
MSEY pmax pmax
comp=Z,75nm,1.2s
MSEY MLR MLR
comp=Z,13µm,20.0s
MSEY Mahe Island 80.23 258 P **P 12 38 46.1 -0.4**
MSEY Mahe Island 80.23 258 P **P 12 38 46.0 -0.4**
MSEY Mahe Island 80.23 258 P **P 12 38 45.3 -1.2**
M04C Macdoel 80.27 46 P **P 12 38 46.2 -0.2**
baz=306,SNR=7.3
EGYH Egyhazaskeszo 80.35 321 P **P 12 38 46.6 0.0**
TIH Tihany 80.37 320 P P 12 38 40.6 -6.1
FRGS Fruska Gora 80.37 318 ⇑P P 12 38 45.5 -1.3
FRGS Fruska Gora 80.37 318 ⇓*i* P **P 12 38 44.3 -2.5**
MORH Mrgy, Hungar 80.38 319 ⇑P P 12 38 46.2 -0.5
MORH Mrgy, Hungar 80.38 319 ⇓*i* P **P 12 38 45.4 -1.4**
MORH Mrgy, Hungar 80.38 319 P **P 12 38 45.7 -1.0**
SMG Samos 80.38 309 P **P 12 38 45.3 -1.7**
BORG Borgarnes 80.39 348 LR LR 13 15 21.9
comp=Z,4µm,20.1s,baz=19,slow=36
MPLH Magyarpolny 80.39 321 P **P 12 38 46.1 -0.8**
HLG Helgoland 80.40 330 *eP* **P 12 38 44.9 -1.8**
comp=Z,100nm,1.0s,baz=46,slow=5.3
BODT Bodrum 80.43 308 P **P 12 38 45.8 -1.5**
DAT Datca 80.44 308 P **P 12 38 45.0 -2.4**
KOKK Kokkinochori, 80.44 313 P **P 12 38 45.7 -1.5**
SRS Serrai 80.52 313 P **P 12 38 45.9 -1.8**
SRS Serrai 80.52 313 P **P 12 38 46.3 -1.4**
SRS pmax pmax
comp=Z,74nm,1.2s
SFJD Kangerlussuaq 80.56 1 P **P 12 38 45.7 -1.6**
comp=Z,29nm,0.8s,baz=4.1,slow=4.6,SNR=10
SFJD LR LR 13 16 45.3
comp=Z,5µm,19.3s,baz=340,slow=37
SFJD Kangerlussuaq 80.56 1 P **P 12 38 47.0 -0.3**
SFJD Kangerlussuaq 80.56 1 IAMs_20 IAMs_20 13 16 52.3
comp=Z,7µm,21.0s
SFJD Kangerlussuaq 80.56 1 *i* P **P 12 38 45.9 -1.4**
SFJD IAmb IAmb 12 39 04.1
comp=Z,52nm,1.3s
ASSE Asse, Remlinge 80.59 327 *eP* **P 12 38 46.4 -1.3**
comp=Z,172nm,1.8s,baz=46,slow=5.3
SOP Sopron 80.59 321 P **P 12 38 48.4 +0.5**
SOP pmax pmax
comp=Z,120nm,1.3s
SOP Sopron 80.59 321 P **P 12 38 47.6 -0.3**
NRDL Niedersach Rie 80.60 328 *eP* **P 12 38 46.5 -1.2**
comp=Z,58nm,1.1s,baz=46,slow=5.3
O02D Mt. Diablo Mer 80.60 48 P **P 12 38 46.7 -1.5**
baz=305
NEUB Neuenburg 80.70 326 *eP* **P 12 38 47.5 -0.9**
comp=Z,298nm,1.1s,baz=46,slow=5.3
RONA Rosalia, Austr 80.72 321 *i* P **P 12 38 48.6 -0.1**
comp=Z,93nm,1.6s,SNR=30
KOVH Kovagotottos 80.76 319 P **P 12 38 47.7 -1.1**
RETH Rethem/Aller, 80.76 328 *eP* **P 12 38 47.1 -1.5**
comp=Z,154nm,1.2s,baz=46,slow=5.3
CONA Conrad Observa 80.80 322 *i* P **P 12 38 49.1 -0.1**
comp=Z,74nm,0.9s,SNR=35
SOH Sokhos 80.84 313 P **P 12 38 47.8 -1.6**
SOH pmax pmax
comp=Z,18nm,1.4s
TANN Tannenbergstha 80.90 325 *eP* **P 12 38 48.3 -1.3**
comp=Z,73nm,1.1s,baz=46,slow=5.3
DIVS Divibare 80.91 317 IAmb IAmb 12 38 53.9
comp=Z,98nm,1.1s
DIVS Divibare 80.91 317 ⇓*i* P **P 12 38 47.8 -2.0**
CLZ Clausthal 80.92 327 *eP* **P 12 38 48.6 -1.1**
comp=Z,177nm,1.1s,baz=46,slow=5.3
WERD Werda 80.95 325 *eP* **P 12 38 48.6 -1.2**
comp=Z,118nm,1.2s,baz=46,slow=5.3
GUNZ Gunzen 80.99 325 *eP* **P 12 38 48.2 -1.8**
comp=Z,89nm,0.9s,baz=46,slow=5.3
PLN Plauen 81.00 325 *eP* **P 12 38 48.8 -1.2**
comp=Z,94nm,1.2s,baz=46,slow=5.3
WERN Wernitzgruen 81.02 325 *eP* **P 12 38 49.1 -1.1**
comp=Z,175nm,1.1s,baz=46,slow=5.3
NKC Novy Kostel 81.02 325 *eP* **P 12 38 49.9 -0.3**
NKC *eS* **S 12 49 00.0 +0.2**
NKC MLR MLR
comp=Z,28µm,15.8s
NKC Novy Kostel 81.02 325 *eP* **P 12 38 49.9 -0.3**
NKC *eS* **S 12 49 00.0 +0.2**
NKC AMS AMS 13 17 50.0
comp=Z,28µm,15.8s
VAY Valandovo 81.03 314 *i* P **P 12 38 49.2 -1.1**
CKRC Cesky Krumlov 81.03 323 *eP* **P 12 38 49.8 -0.4**
CKRC *eS* **S 12 49 01.2 +1.3**
STIP Stip 81.04 314 *i* P **P 12 38 48.1 -2.3**
DY2G Dye2 81.06 359 *i* P **P 12 38 50.4 0.0**
DY2G IAmb IAmb 12 39 18.9
comp=Z,186nm,1.3s
MOX Moxa 81.15 326 P **P 12 38 50.0 -0.8**
MOX pmax pmax
comp=Z,61nm,0.9s
MOX Moxa 81.15 326 *eP* **P 12 38 49.6 -1.3**
comp=Z,113nm,1.4s,baz=46,slow=5.3
MOX *eL* L 13 18 23.8
comp=Z,25µm,21.2s
O03E Paynes Creek 81.15 48 P **P 12 38 50.5 -0.7**
baz=306
KHC Kasperske Hory 81.19 324 *d* *i* P **P 12 38 49.7 -1.4**
KHC pmax pmax
comp=Z,150nm,1.0s
KHC MLR MLR
comp=Z,42µm,19.0s
KHC Kasperske Hory 81.19 324 IAmb IAmb 12 38 55.1
comp=Z,68nm,1.0s
KHC Kasperske Hory 81.19 324 *eP* **P 12 38 50.6 -0.5**
KHC *ex* x 12 38 59.5
KHC *eS* **S 12 48 59.1 -2.5**
KHC AMS AMS 13 18 50.0
comp=Z,23µm,19.2s
BEHE Becsehely 81.24 320 ⇓*i* P **P 12 38 50.3 -1.1**
BEHE Becsehely 81.24 320 P **P 12 38 50.0 -1.3**
GTTG Gottingen 81.31 327 *eP* **P 12 38 50.4 -1.3**
comp=Z,133nm,0.9s,baz=46,slow=5.3
GEC2 GERESS Array S 81.32 323 *eP* **P 12 38 50.4 -1.5**
comp=Z,62nm,1.0s,baz=46,slow=5.3
GERES GERESS Array B 81.32 323 P **P 12 38 50.9 -1.0**
comp=Z,39nm,0.9s,baz=45,slow=2.6,SNR=39
GERES PKKPbc **PKKPbc 12 57 26.4 0.0**
comp=Z,0.5nm,0.3s,baz=222,slow=4.0,SNR=6.2
GERES LR LR 13 19 47.4
comp=Z,23µm,18.7s,baz=48,slow=39
GERES GERESS Array B 81.32 323 P **P 12 38 50.6 -1.3**
GERES GERESS Array B 81.32 323 P **P 12 38 50.5 -1.3**
SKO Skopje 81.33 315 *i* P **P 12 38 51.6 -0.4**
GRG Griva 81.34 313 P **P 12 38 50.3 -1.8**
MANZ Manzenberg 81.35 325 *eP* **P 12 38 50.8 -1.2**
comp=Z,20nm,1.1s,baz=46,slow=5.3
KARP Karpathos 81.37 307 P **P 12 38 50.7 -1.6**
KARP Karpathos 81.37 307 IAMs_20 IAMs_20 13 17 59.2
comp=Z,11µm,22.0s
BBLS Lazići 81.38 317 ⇓*i* P **P 12 38 51.2 -1.1**
ARSA Arzberg 81.41 321 *i* P **P 12 38 51.8 -0.5**
comp=Z,73nm,0.9s,SNR=20
ROTZ Rotzenmuhle 81.45 325 *eP* **P 12 38 51.9 -0.6**
comp=Z,31nm,1.1s,baz=46,slow=5.3
FCC Fort Churchill 81.47 22 IAmb IAmb 12 39 00.5
comp=Z,72nm,1.0s
MLA1 Latheron 81.52 337 *eP* **P 12 38 51.9 -0.7**
WET Wettzell 81.53 324 *eP* **P 12 38 52.1 -0.9**
comp=Z,67nm,1.2s,baz=46,slow=5.3
KOGS Kog 81.53 321 *i* P **P 12 38 51.8 -1.2**
KOGS *ePP* **PP 12 41 58.5 -0.1**
KOGS *eS* **S 12 49 02.7 -2.5**
ANGG Ammassalik, Gr 81.54 355 IAMs_20 IAMs_20 13 21 19.9
comp=Z,7µm,20.0s
RUDO Rudo 81.56 317 *eP* **P 12 38 53.1 0.0**
TOZ Tahuroa Road 81.58 146 P **P 12 38 54.5 +1.5**
MOA Molln 81.68 322 *i* P **P 12 38 53.1 -0.6**
comp=Z,56nm,1.0s,SNR=16
MSO Missoula 81.70 39 IAMs_20 IAMs_20 13 11 08.1
comp=Z,7µm,21.0s
MSO Missoula 81.70 39 P **P 12 38 53.2 -0.8**
baz=310,SNR=19
IBBN Ibbenburen 81.77 329 *eP* **P 12 38 52.6 -1.4**
comp=Z,206nm,1.1s,baz=46,slow=5.3
UBBA Unterbreizbach 81.79 327 *eP* **P 12 38 52.9 -1.2**
comp=Z,190nm,1.7s,baz=46,slow=5.3
LIT Litokhoron 81.79 313 P **P 12 38 52.5 -2.0**
LIT Litokhoron 81.79 313 IAmb IAmb 12 39 12.5
comp=Z,97nm,1.2s
FFC Flin Flon 81.80 28 P **P 12 38 54.6 +0.5**
FFC pmax pmax
comp=Z,54nm,1.0s
FFC Flin Flon 81.80 28 P **P 12 38 54.6 +0.5**
FFC Flin Flon 81.80 28 IAMs_20 IAMs_20 13 10 00.0
comp=Z,7µm,20.0s
WVOR Wild Horse Val 81.80 44 IAmb IAmb 12 39 25.2
comp=Z,132nm,2.0s
GRF Grafenberg Arr 81.97 325 *eP* **P 12 38 54.5 -0.7**
comp=Z,355nm,1.1s,baz=46,slow=5.3
GRF *eL* L 13 19 24.2
comp=Z,30µm,18.4s
PERS Pernice 82.02 321 *i* P **P 12 38 54.7 -0.9**
PERS *e* 12 49 58.6
PERS *eSS* SS 12 54 36.5 +8.4
SOKA Soboth 82.03 321 *i* P **P 12 38 55.1 -0.6**
comp=Z,148nm,0.9s,SNR=47
BLY Banja Luka 82.09 319 ⇓*i* P **P 12 38 55.1 -0.8**
BIOA Bad Ischl, Aus 82.10 323 *i* P **P 12 38 55.7 -0.3**
comp=Z,108nm,1.4s,SNR=26
ATD Arta Tunnel 82.13 279 LR LR 13 19 05.9
comp=Z,7µm,18.9s,baz=47,slow=38
ATD Arta Tunnel 82.13 279 IAMs_20 IAMs_20 13 19 04.9
comp=Z,8µm,20.0s
KASTN Kahler Asten 82.25 328 *eP* **P 12 38 55.5 -1.2**
comp=Z,76nm,0.9s,baz=46,slow=5.3
ATAL Atalanti 82.28 311 P **P 12 38 54.4 -2.7**
PDG Podgorica 82.35 316 ⇑P **P 12 38 59.8 +2.6**
PDG Podgorica 82.35 316 IAmb IAmb 12 39 02.6
comp=Z,143nm,1.1s
PDG Podgorica 82.35 316 *eP* **P 12 38 55.2 -2.1**
CRES Cresnjev 82.36 320 ⇓*i* P **P 12 38 55.7 -1.6**
MGRS Mrkonjic Grad 82.36 319 *eP* **P 12 38 57.2 -0.2**
OBKA Obir 82.40 321 *i* P **P 12 38 56.9 -0.7**
comp=Z,129nm,1.7s,SNR=12
BRY Bratogost 82.47 317 *eP* **P 12 38 57.4 -0.7**
RJOB Jochberg 82.50 323 *eP* **P 12 38 57.5 -0.6**
comp=Z,111nm,1.0s,baz=46,slow=5.3
KBN Korca 82.53 314 IAmb IAmb 12 39 03.8
comp=Z,101nm,1.1s
DRME Dracevica, Mon 82.54 316 *eP* **P 12 38 57.7 -0.6**
BUG Bochum--Univer 82.59 328 P **P 12 38 57.7 -0.7**
BUG pmax pmax
comp=Z,97nm,1.0s
BUG Bochum--Univer 82.59 328 *eP* **P 12 38 57.2 -1.1**
comp=Z,106nm,1.1s,baz=46,slow=5.3
FRB Frobisher Bay 82.61 9 LR LR 13 17 07.3
comp=Z,16µm,20.3s,baz=344,slow=37
KBA Koelnbreinsper 82.66 322 *i* P **P 12 38 58.1 -1.0**
comp=Z,95nm,1.1s,SNR=18
KBA Koelnbreinsper 82.66 322 P **P 12 38 58.2 -0.9**
KBA pmax pmax
comp=Z,96nm,1.4s
TREB Trebinje 82.70 317 *eP* **P 12 38 59.3 +0.2**
HAZ Te Kaha 82.70 144 P **P 12 38 57.7 -1.2**
LJU Ljubljana 82.71 321 ⇓*i* P **P 12 38 57.6 -1.5**
LJU Ljubljana 82.71 321 *i* P **P 12 38 58.1 -1.1**
LJU *e* 12 39 41.7
LJU *eS* **S 12 49 13.7 -3.6**
LEWI Lewis, Hebride 82.74 339 *eP* **P 12 38 57.4 -1.7**
LEWI IAmb IAmb 12 39 00.2
comp=Z,48nm,0.9s
LEWI IAMs_20 IAMs_20 13 19 35.0
comp=Z,10µm,18.6s
NNVZ North Ngauruho 82.75 146 P **P 12 38 59.7 +0.3**
URZ Urewera 82.77 145 P **P 12 38 58.7 -0.5**
baz=10,slow=1.6
URZ LR LR 13 12 11.5
comp=Z,3µm,20.1s,baz=324,slow=33
URZ Urewera 82.77 145 P **P 12 38 58.9 -0.3**
MYKA Terra Mystica 82.80 322 *i* P **P 12 38 58.4 -1.2**
comp=Z,148nm,1.5s,SNR=26
ETVZ East Tongariro 82.80 146 P **P 12 39 00.6 +1.0**
RUGZ Raukumara Rang 82.81 144 P **P 12 38 59.0 -0.7**
FWVZ Far West T-bar 82.82 147 P **P 12 39 00.2 +0.4**
TNS Taunus Mts 82.92 327 *eP* **P 12 38 58.9 -1.3**
comp=Z,131nm,1.1s,baz=46,slow=5.3
PKGZ Pakihiroa 82.95 144 P **P 12 39 00.8 +0.5**
CEY Cerknica 82.96 321 ⇓*i* P **P 12 38 58.5 -2.0**
STON Ston 82.97 317 *eP* **P 12 38 58.9 -1.6**
FUR Furstenfeldbru 82.98 324 *eP* **P 12 38 59.8 -0.7**
comp=Z,525nm,1.4s,baz=46,slow=5.3
RTZ Ruatahuna 82.98 145 P **P 12 38 58.8 -1.7**
EMB Emerald Bay 82.99 48 IAmb IAmb 12 39 08.2
comp=Z,79nm,1.3s
PAHR Pah Rah Range 83.00 47 IAmb IAmb 12 39 08.8
comp=Z,59nm,1.3s
MWZ Matawai 83.03 145 P **P 12 39 01.0 +0.4**
ANX Ano Chora 83.04 312 P **P 12 38 58.8 -2.3**
IDI Anoyia 83.05 308 ⇑P **P 12 38 59.1 -2.0**
IDI Anoyia 83.05 308 P **P 12 38 58.5 -2.7**
IDI Anoyia 83.05 308 IAmb IAmb 12 39 08.3
comp=Z,81nm,1.1s
IDI IAMs_20 IAMs_20 13 17 05.4
comp=Z,8µm,22.0s
EGMT Eagleton 83.06 36 IAmb IAmb 12 39 19.9
comp=Z,54nm,1.0s
EGMT IAMs_20 IAMs_20 13 11 19.5
comp=Z,6µm,20.0s
EGMT Eagleton 83.06 36 P **P 12 38 59.8 -1.3**
baz=313,SNR=21
MTHZ Maungataniwha 83.11 145 P **P 12 39 02.0 +0.9**
PUZ Puketiti 83.18 144 P **P 12 39 01.1 -0.3**
BKZ Black Stump Fm 83.19 146 P **P 12 39 01.3 -0.2**
BKZ Black Stump Fm 83.19 146 P **P 12 39 01.8 +0.3**
RIY Rijeka 83.20 320 ⇓*i* P **P 12 39 00.3 -1.4**
KLV Kalavryta, Ach 83.22 311 P **P 12 38 59.1 -2.9**
PNTR Pine Nut 83.23 48 IAmb IAmb 12 39 34.3
comp=Z,221nm,1.9s
BHHZ Black Hill Sta 83.24 146 P **P 12 39 02.0 +0.3**
RAHZ Arahi 83.27 145 P **P 12 39 02.5 +0.6**
SNGZ Shannon Statio 83.29 145 P **P 12 39 04.1 +2.1**
ABTA Abfaltersbach 83.30 322 *i* P **P 12 39 00.3 -2.0**

comp=Z,157nm,1.1s,SNR=31
SKDS Skadanscina 83.31 321 *e*P P **12 39 00.1 -2.2**
AHRW Bad Neuenahr-A 83.32 328 *e*P P **12 39 00.9 -1.3**
comp=Z,212nm,1.1s,baz=46,slow=5.3
TRI Trieste 83.33 321 P P **12 39 01.4 -0.9**
TRI pmax pmax
comp=Z,149nm,1.3s
DLMT Dillon 83.36 39 IAmb IAmb 12 39 48.0
comp=Z,94nm,1.1s
CMB Columbia Colle 83.37 49 IAmb IAmb 12 39 09.7
comp=Z,84nm,1.4s
WATA Walderalm 83.39 323 *i*P P **12 39 01.6 -1.2**
comp=Z,88nm,0.9s,SNR=18
WTTA Wattenberg 83.40 323 *i*P P **12 39 02.0 -0.9**
comp=Z,110nm,1.1s,SNR=18
WTTA Wattenberg 83.40 323 P P **12 39 02.4 -0.5**
WTTA pmax pmax
comp=Z,102nm,1.1s
MCHZ McNeill Hill 83.50 146 P P **12 39 04.0 +0.9**
YERR Yerington 83.52 47 IAmb IAmb 12 39 13.7
comp=Z,180nm,1.9s
HLID Hailey 83.53 42 P P **12 39 03.3 -0.4**
baz=310,SNR=26
IMMV Iera Moni Meta 83.55 308 P P **12 39 01.9 -1.8**
STU Stuttgart 83.57 325 P P **12 39 03.2 -0.3**
STU pmax pmax
comp=Z,192nm,0.9s
STU Stuttgart 83.57 325 *e*P P **12 39 02.7 -0.9**
comp=Z,437nm,1.0s,baz=46,slow=5.3
MOTA Moosalm 83.62 324 *i*P P **12 39 02.7 -1.3**
comp=Z,77nm,0.8s,SNR=26
SQTA Sankt Quirin 83.65 323 *i*P P **12 39 03.2 -1.0**
comp=Z,86nm,0.9s,SNR=13
TSZ Takapari Road 83.65 147 P P **12 39 03.5 -0.3**
THZ Tophouse 83.67 150 IAmb IAmb 12 39 10.4
comp=Z,53nm,0.7s
GDLE Glaisdale, N Y 83.68 334 *e*P P **12 39 03.5 -0.4**
GDLE IAMs_20 IAMs_20 13 21 56.3
comp=Z,18µm,16.2s
RETA Reutte 83.69 324 *i*P P **12 39 03.2 -1.0**
comp=Z,102nm,1.0s,SNR=20
BTNL Ternell 83.71 328 *d*P P **12 39 02.9 -1.3**
comp=Z,49nm,1.1s
BOZ Bozeman (W) 83.72 39 IAmb IAmb 12 39 17.0
comp=Z,101nm,1.8s
BOZ Bozeman (W) 83.72 39 P P **12 39 03.2 -1.4**
baz=312,SNR=30
MEM Membach 83.75 328 *d*P P **12 39 03.2 -1.1**
comp=Z,56nm,1.0s
BEBN Eben Emael 83.76 329 *d*P P **12 39 03.8 -0.6**
comp=Z,125nm,0.9s
EDMD Edmundbyers 83.78 335 *e*P P **12 39 03.1 -1.3**
EDMD IAmb IAmb 12 39 06.5
comp=Z,100nm,1.5s
EDMD IAMs_20 IAMs_20 13 22 18.8
comp=Z,15µm,14.7s
EKA Eskdalemuir Ar 83.81 336 LR LR 13 19 03.0
comp=Z,15µm,21.8s,baz=38,slow=38
EKA Eskdalemuir Ar 83.81 336 P P **12 39 02.5 -2.1**
EVGI Lefkada island 83.81 312 P P **12 39 01.7 -3.3**
ESK Eskdalemuir 83.84 336 P P **12 39 04.6 -0.1**
ESK pmax pmax
comp=Z,63nm,1.2s
ESK MLR MLR
comp=Z,15µm,22.0s
ESK Eskdalemuir 83.84 336 P P **12 39 04.6 -0.1**
ESK IAmb IAmb 12 39 13.8
comp=Z,63nm,1.2s
GVDS Gavdos 83.84 308 P P **12 39 03.4 -1.7**
GVD Gavdhos 83.84 308 P P **12 39 03.2 -2.0**
ITM Ithomi 83.88 311 P P **12 39 02.5 -2.8**
UBR Ueberruh 83.88 324 *e*P P **12 39 03.8 -1.5**
comp=Z,394nm,1.6s,baz=46,slow=5.3
FOZ Fox Glacier 83.89 153 IAmb IAmb 12 39 13.3
comp=Z,127nm,1.4s
BHOU Houvegnez 83.93 328 *d*P P **12 39 04.0 -1.4**
comp=Z,46nm,1.2s
BSTI Sart Tilman 83.96 328 *d*P P **12 39 04.6 -0.9**
comp=Z,16nm,0.8s
FETA Feichten 84.02 323 *i*P P **12 39 05.1 -1.0**
comp=Z,103nm,0.9s,SNR=22
VLS Valsamata 84.12 312 P P **12 39 04.3 -2.3**
PYL PYLOS 84.17 310 P P **12 39 03.5 -3.3**
RYN Ryan 84.18 47 IAmb IAmb 12 39 15.2
comp=Z,83nm,1.2s
KVN Kaiserville 84.18 47 IAmb IAmb 12 39 15.2
comp=Z,92nm,1.2s
PMPB Monarch Peak 84.19 50 IAmb IAmb 12 39 44.8
comp=Z,109nm,1.4s
TIWZ Tintock 84.19 147 P P **12 39 07.0 +0.4**
BCLA Clavier 84.20 328 *b*P P **12 39 05.4 -1.3**
comp=Z,49nm,1.1s
ANWZ Angora Road 84.21 147 P P **12 39 07.1 +0.5**
LTZ Lake Taylor 84.25 151 IAmb IAmb 12 39 13.1
comp=Z,137nm,1.6s
DAVA Damuels 84.27 324 *i*P P **12 39 06.0 -1.4**
comp=Z,243nm,1.0s,SNR=32
BFZ Birch Farm 84.28 147 P P **12 39 06.9 0.0**
BFZ Birch Farm 84.28 147 P P **12 39 08.1 +1.1**
BFO Black Forest 84.30 326 P P **12 39 05.8 -1.5**
BFO pmax pmax
comp=Z,266nm,1.0s
BFO MLR MLR
comp=Z,16µm,20.0s
BFO Black Forest 84.30 326 P P **12 39 05.8 -1.5**
BFO Black Forest 84.30 326 *e*P P **12 39 06.0 -1.3**
comp=Z,333nm,1.1s,baz=46,slow=5.3
BGES Gesves 84.32 328 *d*P P **12 39 05.7 -1.6**
comp=Z,33nm,1.1s
HPK Haverah Park 84.34 334 *e*P P **12 39 05.2 -2.1**
HPK IAMs_20 IAMs_20 13 22 33.2
comp=Z,17µm,17.1s
NEWG New Galloway 84.35 336 *e*P P **12 39 06.5 -0.9**
NEWG IAmb IAmb 12 39 07.7
comp=Z,95nm,1.3s
NEWG IAMs_20 IAMs_20 13 18 37.6
comp=Z,14µm,21.0s
WLF Walferdange 84.36 327 *e*P P **12 39 06.3 -1.3**
comp=Z,200nm,0.9s,baz=46,slow=5.3
WLF Walferdange 84.36 327 *d*P P **12 39 07.1 -0.4**
comp=Z,118nm,0.9s
KESW Keswick, Cumbr 84.38 335 *e*P P **12 39 05.7 -1.8**
KESW IAmb IAmb 12 39 12.7
comp=Z,104nm,1.2s
KESW IAMs_20 IAMs_20 13 17 27.5
comp=Z,15µm,21.5s
RCHB Rochefort 84.42 328 *d*P P **12 39 06.3 -1.5**
comp=Z,66nm,1.1s
LHV Little Huntoon 84.42 48 IAmb IAmb 12 39 41.3
comp=Z,133nm,1.3s
NVAR Mina Array Bea 84.44 47 P P **12 39 08.7 +0.2**
comp=Z,13nm,0.8s,baz=301,slow=4.7,SNR=61
NVAR Mina Array Bea 84.44 47 P P **12 39 08.0 -0.5**
KHZ Kahutara 84.48 150 IAmb IAmb 12 39 09.8
comp=Z,60nm,0.9s
BMRD Maredsous 84.52 329 *d*P P **12 39 06.9 -1.4**
comp=Z,97nm,1.0s
RPZ Rata Peaks 84.53 152 P P **12 39 07.5 -0.7**
comp=Z,56nm,0.7s,baz=248,slow=11,SNR=23
RPZ LR LR 13 12 09.5
comp=Z,4µm,22.0s,baz=328,slow=32
RPZ Rata Peaks 84.53 152 IAmb IAmb 12 39 11.2
comp=Z,79nm,0.8s
DCZ Deep Cove 84.56 155 IAmb IAmb 12 39 16.5
comp=Z,60nm,1.2s
SNF Seneffe 84.58 329 *d*P P **12 39 07.2 -1.3**
comp=Z,92nm,0.8s
OXZ Oxford 84.60 151 IAmb IAmb 12 39 14.8
comp=Z,62nm,0.7s
SLE Schleitheim 84.61 325 P P **12 39 07.5 -1.4**
SLE pmax pmax
comp=Z,181nm,1.2s
DAVOX Davos/Dischmat 84.61 324 LR LR 13 21 15.1
comp=Z,27µm,18.0s,baz=46,slow=39
GAL1 Galloway 84.72 336 *e*P P **12 39 07.3 -1.9**
GAL1 IAMs_20 IAMs_20 13 18 58.0
comp=Z,14µm,19.9s
DOU Dourbes 84.74 329 *b*P P **12 39 08.2 -1.3**
comp=Z,54nm,1.1s
LBWR Ladybower, Pea 84.81 334 *e*P P **12 39 08.0 -1.8**
LBWR IAmb IAmb 12 39 10.9
comp=Z,265nm,1.0s
LBWR IAMs_20 IAMs_20 13 24 26.9
comp=Z,13µm,15.9s
ELK Elko 84.85 44 IAmb IAmb 12 39 42.6
comp=Z,73nm,1.6s
Q09A Carvers 84.88 47 IAmb IAmb 12 39 25.8
comp=Z,66nm,1.0s
MATE Matera 84.95 316 ⇓P P **12 39 11.2 +0.5**
VOG Valley Oaks Go 85.04 50 P P **12 39 10.2 -1.0**
baz=308
LKWY Lake 85.06 39 IAmb IAmb 12 40 04.5
comp=Z,53nm,1.1s
YMP Mirror Lake Pl 85.07 39 IAmb IAmb 12 39 30.3
comp=Z,122nm,1.7s
H17A Grant Village 85.08 39 IAmb IAmb 12 39 28.7
comp=Z,69nm,1.2s
H17A Grant Village 85.08 39 P P **12 39 11.3 -0.3**
baz=312,SNR=27
IOMK Kirk Michael 85.16 336 *e*P P **12 39 09.7 -1.7**
IOMK IAMs_20 IAMs_20 13 19 13.5
comp=Z,39µm,18.7s
CWF Charnwood Fore 85.17 333 *e*P P **12 39 09.3 -2.2**
CWF IAMs_20 IAMs_20 13 22 22.2
comp=Z,21µm,17.2s
FLWY Flagg Ranch 85.22 39 IAmb IAmb 12 39 18.8
comp=Z,54nm,1.2s
SMMC Simmler 85.25 51 P P **12 39 10.5 -1.9**
baz=307,SNR=5.7
RLMT Red Lodge 85.28 38 P P **12 39 12.3 -0.3**
baz=313,SNR=23
WIM Isle of Man 85.28 336 *e*P P **12 39 10.4 -1.7**
RAR Rarotonga 85.29 119 LR LR 13 11 06.9
comp=Z,2µm,19.2s,baz=309,slow=31
TIN Tinemaha, Big 85.33 49 P P **12 39 13.1 +0.3**
baz=309
DGMT Dagmar 85.41 33 IAmb IAmb 12 39 57.2
comp=Z,80nm,1.2s
DGMT Dagmar 85.41 33 IAMs_20 IAMs_20 13 20 19.1
comp=Z,5µm,18.0s
DGMT Dagmar 85.41 33 P P **12 39 13.5 +0.6**
baz=316
DGMT S S **12 49 46.4 +2.0**
baz=316
DGMT Dagmar 85.41 33 P P **12 39 11.0 -1.9**
baz=316,SNR=9.7
MOOW Moose Ponds 85.42 40 IAmb IAmb 12 39 37.0
comp=Z,77nm,1.7s
ODZ Otahua Downs 85.49 153 IAmb IAmb 12 39 21.9
comp=Z,121nm,1.4s
VES Vestal, Richgr 85.52 50 P P **12 39 11.5 -2.1**
baz=308,SNR=12
LCH Last Change Ra 85.58 48 IAmb IAmb 12 39 45.9
comp=Z,122nm,1.7s
PKM Mcpherson Peak 85.62 51 P P **12 39 12.5 -1.9**
baz=307,SNR=10
LAO LASA Array 85.72 35 IAMs_20 IAMs_20 13 16 17.5
comp=Z,7µm,20.0s
LAO LASA Array 85.72 35 P P **12 39 15.6 +1.0**
baz=315
LAO LASA Array 85.72 35 P P **12 39 12.0 -2.5**
baz=315,SNR=11
AQU L'Aquila 85.74 319 P P **12 39 15.6 +0.9**
AQU L'Aquila 85.74 319 ⇓*i*P P **12 39 14.1 -0.6**
WME Myndd Eilian 85.76 335 *e*P P **12 39 12.9 -1.6**
FOEL Foel Wylfa 85.76 334 *e*P P **12 39 12.9 -1.6**
FOEL IAmb IAmb 12 39 18.9
comp=Z,182nm,1.1s
FOEL IAMs_20 IAMs_20 13 23 41.0
comp=Z,17µm,15.2s
CWC Cottonwood Cre 85.80 49 P P **12 39 14.2 -1.0**
baz=308
WPS Cemaes, Angles 85.83 335 *e*P P **12 39 12.8 -1.9**
WPS IAmb IAmb 12 39 23.3
comp=Z,92nm,1.2s
WPS IAMs_20 IAMs_20 13 21 34.1
comp=Z,14µm,17.5s
TIP Timpagrande 85.85 315 ⇑P P **12 39 16.2 +0.8**
TIP Timpagrande 85.85 315 IAmb IAmb 12 39 25.7
comp=Z,82nm,1.3s
BCW Bitter Crk WRg 85.86 51 IAmb IAmb 12 39 23.6
comp=Z,146nm,1.4s
WLF1 Llynfaes 85.88 335⇑ *e*P P **12 39 13.9 -1.1**
WLF1 IAmb IAmb 12 39 15.4
comp=Z,324nm,1.4s
WLF1 IAMs_20 IAMs_20 13 19 00.3
comp=Z,28µm,22.0s
GRAC Grapevine Rang 85.91 48 IAmb IAmb 12 39 23.9
comp=Z,110nm,1.4s
GRAC Grapevine Rang 85.91 48 P P **12 39 14.7 -0.9**
baz=309,SNR=18
YLL Llanberis 85.92 335 *e*P P **12 39 14.2 -1.1**
HLM1 Long Mynd 85.94 334 *e*P P **12 39 13.9 -1.5**
HLM1 IAmb IAmb 12 39 19.5
comp=Z,84nm,1.1s
HLM1 IAMs_20 IAMs_20 13 21 34.1
comp=Z,16µm,20.8s
LLW Llanuwychllyn 85.97 334 *e*P P **12 39 13.7 -1.8**
LLW IAMs_20 IAMs_20 13 19 17.4
comp=Z,7µm,20.5s
YRC Rhoscolyn 85.97 335⇑ *e*P P **12 39 13.8 -1.7**
BGU Big Grassy Mou 86.02 43 IAmb IAmb 12 39 48.2
comp=Z,90nm,1.8s
ISA Isabella, Lake 86.02 50 P P **12 39 15.5 -0.7**
baz=308,SNR=7.1
ARVC Arvin 86.12 50 P P **12 39 15.8 -0.8**
baz=308
OSSC Osservatorio P 86.13 321 IAmb IAmb 12 39 47.0
comp=Z,99nm,1.0s
R11A Troy Canyon, C 86.16 46 IAmb IAmb 12 39 49.0
comp=Z,108nm,1.8s
R11A Troy Canyon, C 86.16 46 P P **12 39 15.0 -2.0**
baz=310,SNR=34
SENIN Lac Senin/Sane 86.18 325 IAmb IAmb 12 39 33.9
comp=Z,62nm,1.0s
STRD Stroud 86.25 333 *e*P P **12 39 15.5 -1.4**
STRD IAmb IAmb 12 39 17.9
comp=Z,142nm,0.9s
STRD IAMs_20 IAMs_20 13 22 04.8
comp=Z,17µm,18.4s
NRS Narsarsuaq 86.37 358 IAMs_20 IAMs_20 13 18 26.9
comp=Z,10µm,22.0s
MCH1 Michaelchurch 86.40 333 *e*P P **12 39 16.3 -1.3**
MCH1 IAmb IAmb 12 39 26.1
comp=Z,182nm,1.1s
MCH1 IAMs_20 IAMs_20 13 23 18.3
comp=Z,20µm,17.7s
HWUT Hardware Ranch 86.40 42 IAmb IAmb 12 39 48.9
comp=Z,73nm,1.3s
MPMC Manual Prospec 86.41 49 P P **12 39 16.4 -1.9**
baz=309,SNR=16
OSI Osito Audit: C 86.50 51 P P **12 39 17.9 -0.7**
baz=308
S11A Rachel 86.51 47 IAmb IAmb 12 39 48.3
comp=Z,166nm,1.5s
FURC Furnace Creek, 86.55 48 P P **12 39 17.9 -0.7**
baz=309,SNR=13
DUG Dugway, Tooele 86.62 43 P P **12 39 18.6 -0.6**
baz=311,SNR=20
CCAC Calif City Air 86.63 50 IAmb IAmb 12 39 23.4
comp=Z,162nm,1.8s
TPNV Topopah Spring 86.63 48 P P **12 39 18.6 -0.8**
baz=309,SNR=15
LRMC Laurel Mtn Rad 86.64 50 P P **12 39 18.8 -0.6**
baz=308
BW06 Boulder Array 86.73 40 P P **12 39 17.4 -2.4**
baz=313,SNR=42
PDAR Pinedale Array 86.73 40 P P **12 39 20.1 +0.3**
comp=Z,14nm,0.8s,baz=314,slow=1.1,SNR=70
PDAR PP PP **12 42 45.7 +4.3**
comp=Z,3.0nm,1.0s,baz=299,slow=3.7,SNR=3.6
PDAR Pinedale Array 86.73 40 P P **12 39 19.9 +0.2**
SNCC San Nicolas Is 86.81 52 P P **12 39 17.6 -2.4**
baz=308
EDW2 Edwards Air Fo 86.81 50 P P **12 39 19.4 -0.7**
baz=308
GWY Greenwater Val 86.85 48 IAmb IAmb 12 39 24.5
comp=Z,101nm,1.6s
QSM Queen of Sheba 86.86 49 IAmb IAmb 12 39 52.9
comp=Z,126nm,1.5s
CEL Celeste 86.96 314 IAMs_20 IAMs_20 13 20 24.6
comp=Z,10µm,21.0s
DECC Green Verdugo 86.98 51 P P **12 39 18.4 -2.5**
baz=308
FURI Furi 87.00 279 IAMs_20 IAMs_20 13 21 46.8
comp=Z,8µm,20.0s
RSBS Rosebush, Pemb 87.08 334 *e*P P **12 39 19.7 -1.3**
RSBS IAMs_20 IAMs_20 13 19 24.6
comp=Z,18µm,20.5s
PRN Pahroc Range 87.08 47 IAmb IAmb 12 39 53.7
comp=Z,59nm,1.4s
JLU Jordanelle 87.13 42 IAmb IAmb 12 39 52.5
comp=Z,82nm,1.7s
SHOC Shoshone, Teco 87.28 48 P P **12 39 20.0 -2.3**
baz=309
GSC Goldstone, Bar 87.31 49 IAmb IAmb 12 39 29.4
comp=Z,86nm,1.8s
GSC Goldstone, Bar 87.31 49 P P **12 39 21.0 -1.6**
baz=309,SNR=9.6
BNI Bardonecchia 87.42 324 IAmb IAmb 12 39 30.8
comp=Z,46nm,0.8s
BFSC Mount Baldy Ra 87.43 50 P P **12 39 22.0 -1.2**
baz=309
RRX Edison Barstow 87.46 50 P P **12 39 23.2 0.0**
baz=309
SHPR Sheep Range 87.59 47 IAmb IAmb 12 39 34.2
comp=Z,119nm,2.0s
SCI2 San Clemente I 87.62 52 P P **12 39 23.8 -0.1**
baz=308
ULM Lac du Bonnet 87.62 28 P P **12 39 22.4 -1.3**
comp=Z,51nm,0.9s,baz=320,slow=5.0,SNR=48
ULM LR LR 13 20 19.8
comp=Z,8µm,20.9s,baz=332,slow=37
ULM Lac du Bonnet 87.62 28 IAmb IAmb 12 39 25.1
comp=Z,81nm,1.0s
TUQ Turquoise Moun 87.79 49 P P **12 39 24.1 -0.8**
baz=310
TCRU Three Creeks R 87.87 44 IAmb IAmb 12 39 54.0
comp=Z,111nm,1.7s
BBRC Big Bear Solar 87.89 50 P P **12 39 25.3 -0.3**
baz=309
HEC Hector,Ludlow 87.91 49 P P **12 39 24.8 -0.7**
baz=309,SNR=9.4
MDND Maddock 87.94 31 P P **12 39 23.7 -1.6**
baz=320
ELS Elsinore Mount 87.94 51 IAmb IAmb 12 39 29.5
comp=Z,106nm,1.9s
MURC Murrieta 88.12 51 P P **12 39 26.2 -0.2**
baz=309
RDMU Red Mountain 88.21 41 IAmb IAmb 12 39 57.6
comp=Z,83nm,1.5s
P17A Butcher Ranch, 88.29 43 IAmb IAmb 12 39 55.6
comp=Z,64nm,1.1s
SSB Saint Sauveur 88.30 325 IAmb IAmb 12 39 27.7
comp=Z,43nm,0.7s
VAE Valguarnera 88.36 315 LR LR 13 21 05.3
comp=Z,5µm,19.3s,baz=44,slow=37
GMRC Granite Mounta 88.37 49 P P **12 39 25.6 -2.2**
baz=310,SNR=12
MTPU Mount Pierson 88.40 45 IAmb IAmb 12 40 12.5
comp=Z,105nm,1.6s
Q16A Castle Valley 88.41 44 IAmb IAmb 12 39 59.0
comp=Z,73nm,1.3s
E28A Huff 88.42 33 IAmb IAmb 12 39 34.9
comp=Z,81nm,1.3s
K22A Casper 88.42 38 IAmb IAmb 12 39 34.7
comp=Z,47nm,1.1s
K22A Casper 88.42 38 P P **12 39 28.6 +0.8**
baz=315
K22A Casper 88.42 38 P P **12 39 26.4 -1.4**
baz=315,SNR=16
LCMT Little Creek M 88.44 46 IAmb IAmb 12 40 00.4
comp=Z,64nm,1.6s
P18A Preston Nutter 88.47 43 IAmb IAmb 12 39 32.8
comp=Z,65nm,1.1s
PFO Pinyon Flats O 88.60 50 P P **12 39 29.3 +0.5**
PFO pmax pmax
comp=Z,93nm,1.9s
PFO Pinyon Flats O 88.60 50 P P **12 39 29.3 +0.5**
PFO IAmb IAmb 12 39 32.7
comp=Z,93nm,1.9s
PFO Pinyon Flats O 88.60 50 P P **12 39 28.0 -0.8**
baz=309,SNR=5.3
TPFO Pinon Flats 88.60 50 P P **12 39 29.3 +0.5**
baz=309,SNR=5.9
109C Camp Elliot, M 88.63 51 P P **12 39 26.5 -2.2**
baz=309
RSSD Black Hills 88.64 36 P P **12 39 28.3 -0.6**
RSSD pmax pmax
comp=Z,59nm,1.2s
RSSD Black Hills 88.64 36 P P **12 39 28.3 -0.6**
RSSD IAmb IAmb 12 39 36.9
comp=Z,59nm,1.1s
RSSD Black Hills 88.64 36 P P **12 39 29.2 +0.3**
baz=317
RSSD Black Hills 88.64 36 P P **12 39 26.3 -2.6**
baz=317
BELC Belle Mtn. Jos 88.65 50 P P **12 39 27.2 -1.9**
baz=310
SRU San Rafael Swe 88.66 43 IAmb IAmb 12 39 59.5
comp=Z,46nm,1.2s
KNB Kanab 88.69 46 IAmb IAmb 12 39 45.3
comp=Z,114nm,1.5s
RWWY Rawlins 88.73 39 IAmb IAmb 12 39 59.6
comp=Z,49nm,1.1s
MONP2 Monument Peak 89.07 51 P P **12 39 29.4 -1.7**
baz=309
IRM Iron Mountain 89.10 49 P P **12 39 29.5 -1.6**
baz=310,SNR=11
AGMN Agassiz Nation 89.17 29 IAmb IAmb 12 39 37.4
comp=Z,56nm,1.4s
AGMN IAMs_20 IAMs_20 13 23 20.3
comp=Z,7µm,18.0s
AGMN Agassiz Nation 89.17 29 P P **12 39 30.9 -0.2**
baz=322
AGMN S S **12 50 16.6 -4.0**
baz=322
AGMN Agassiz Nation 89.17 29 P P **12 39 29.7 -1.4**
baz=322,SNR=15
BC3 Big Chuckawall 89.22 50 P P **12 39 30.8 -0.9**
baz=310,SNR=7.2
O20A White River Ci 89.25 41 P P **12 39 30.9 -1.0**
baz=314,SNR=9.5
U15A North Rim 89.40 46 IAmb IAmb 12 39 37.8
comp=Z,130nm,1.9s
IKP In-Ko-Pah, Jac 89.43 51 P P **12 39 32.3 -0.3**
baz=310
SWSC Sam W. Stewart 89.44 50 P P **12 39 31.0 -1.6**
baz=310
PDMCI Parker Dam,Lak 89.64 49 P P **12 39 31.2 -2.3**
baz=310
PHWY Pilot Hill 89.94 39 IAmb IAmb 12 40 05.7
comp=Z,54nm,1.2s
N23A Red Feather La 89.97 39 IAmb IAmb 12 40 17.4
comp=Z,52nm,1.1s
N23A Red Feather La 89.97 39 P P **12 39 34.6 -0.6**
baz=316,SNR=23
PV23 Carpenter Ridg 89.97 43 IAmb IAmb 12 40 06.4
comp=Z,119nm,1.3s
B35A Bob, Littlefor 89.98 28 IAmb IAmb 12 39 36.6
comp=Z,66nm,0.8s
B35A Bob, Littlefor 89.98 28 P P **12 39 33.3 -1.5**
baz=324
B35A S S **12 50 25.1 -2.9**
baz=324
GLA Glamis 90.01 50 P P **12 39 34.6 -0.7**
baz=310
PV10 Paradox Valley 90.01 43 IAmb IAmb 12 39 39.8
comp=Z,94nm,1.0s
PV11 David Mesa, Pa 90.16 43 IAmb IAmb 12 40 07.2
comp=Z,104nm,1.2s
PV07 Paradox Valley 90.19 43 IAmb IAmb 12 40 07.2
comp=Z,84nm,1.5s
PV13 Radium Mtn., P 90.28 43 IAmb IAmb 12 39 41.3
comp=Z,149nm,1.5s
PV15 Paradox Valley 90.35 43 IAmb IAmb 12 40 08.0
comp=Z,56nm,1.2s
WUAZ Wupatki 90.56 46 P P **12 39 36.7 -1.3**
baz=312,SNR=18
SMCO Snowmass 90.62 41 IAmb IAmb 12 40 09.5
comp=Z,83nm,1.6s
SUSD Miller 90.83 33 P P **12 39 39.9 +1.0**
baz=320
SUSD S S **12 50 27.2 -8.9**
baz=320
SUSD Miller 90.83 33 P P **12 39 37.3 -1.6**
baz=320,SNR=5.6
PMOR Pomariorio Ree 90.91 107 *e*T T 14 19 33.5
comp=Z,54nm,0.2s
ISCO Idaho Springs 90.92 40 P P **12 39 40.4 +0.6**
baz=316
ISCO Idaho Springs 90.92 40 P P **12 39 37.2 -2.6**
baz=316,SNR=10
F33A 5 Mile Ranch, 90.93 31 IAmb IAmb 12 39 47.0
comp=Z,69nm,1.2s
F33A 5 Mile Ranch, 90.93 31 P P **12 39 39.4 +0.1**
baz=322
F33A S S **12 50 36.9 0.0**
baz=322
PPT Papeete 90.99 110 LR LR 13 12 15.2
comp=Z,2µm,21.9s,baz=298,slow=30
PPT2 Papeete2 91.00 110 *e*LQ LQ 13 04 58.1

comp=Z,18µm,29.2s
PPT2 eLR LR 13 08 49.4
comp=Z,5µm,23.5s,baz=299
PPT2 Papeete2 91.00 110 *e*T T 14 19 39.8
comp=Z,0.8nm,0.3s
MVCO Mesa Verde 91.12 43 IAmb IAmb 12 39 50.8
comp=Z,84nm,1.4s
MVCO Mesa Verde 91.12 43 P **P 12 39 40.9 +0.2**
baz=314,SNR=28
EYMN Ely 91.18 27 IAmb IAmb 12 39 42.2
comp=Z,63nm,0.9s
EYMN Ely 91.18 27 IAMs_20 IAMs_20 13 18 43.2
comp=Z,7µm,22.0s
EYMN Ely 91.18 27 P **P 12 39 39.9 -0.6**
baz=326
EYMN S S 12 50 28.3 -11
baz=326
EYMN Ely 91.18 27 P **P 12 39 39.2 -1.2**
baz=326,SNR=16
SCHQ Schefferville 91.46 10 P **P 12 39 41.0 -0.6**
comp=Z,13nm,1.0s,baz=9.2,slow=5.3,SNR=7.5
SCHQ LR LR 13 23 15.3
comp=Z,12µm,19.5s,baz=346,slow=37
S22A 4UR Ranch, Cre 91.70 42 P **P 12 39 41.8 -1.6**
baz=315,SNR=29
Q24A Divide 91.77 40 IAmb IAmb 12 40 14.3
comp=Z,58nm,1.7s
Q24A Divide 91.77 40 P **P 12 39 42.3 -1.4**
baz=316,SNR=12
W18A Petrified Fore 91.82 46 P **P 12 39 42.0 -1.8**
baz=313
OGNE Ogallala 91.97 37 IAmb IAmb 12 39 51.1
comp=Z,98nm,1.4s
OGNE Ogallala 91.97 37 P **P 12 39 44.6 +0.2**
baz=318
OGNE Ogallala 91.97 37 P **P 12 39 42.7 -1.6**
baz=318
214A Organ Pipe Nat 92.01 50 IAmb IAmb 12 40 00.0
comp=Z,63nm,1.6s
214A Organ Pipe Nat 92.01 50 P **P 12 39 44.9 +0.3**
baz=311,SNR=14
F36A Milaca 92.08 29 S **S 12 50 44.2 -3.1**
baz=324
E38A The Farm, Brul 92.26 28 IAmb IAmb 12 39 46.9
comp=Z,109nm,1.6s
E38A The Farm, Brul 92.26 28 S **S 12 50 45.4 -3.5**
baz=326
K31A O'Neill 92.32 34 P **P 12 39 47.5 +1.6**
baz=320
K31A S **S 12 50 50.3 +0.7**
baz=320
ECSD EROS Data Cent 92.44 32 P **P 12 39 46.7 +0.3**
baz=322
ECSD S **S 12 50 51.5 +0.8**
baz=322
ECSD EROS Data Cent 92.44 32 P **P 12 39 45.0 -1.4**
baz=322,SNR=11
SDCO Great Sand Dun 92.45 41 P **P 12 39 47.5 +0.6**
baz=316
SDCO Great Sand Dun 92.45 41 P **P 12 39 44.8 -2.1**
baz=316,SNR=14
KEST Kesra 92.54 316 P **P 12 39 46.8 -0.2**
comp=Z,5.4nm,0.7s,baz=331,slow=6.1,SNR=5.0
KEST LR LR 13 27 24.8
comp=Z,10µm,19.5s,baz=351,slow=40
LODK Lodwar 92.71 276 IAMs_20 IAMs_20 13 28 16.3
comp=Z,6µm,19.0s
SPMN Marine on St. 92.89 29 IAmb IAmb 12 39 49.8
comp=Z,22nm,0.8s
SPMN Marine on St. 92.89 29 P **P 12 39 48.8 +0.4**
baz=325
SPMN Marine on St. 92.89 29 P **P 12 39 45.7 -2.7**
baz=325
D41A Chassel 93.02 26 S **S 12 50 57.1 +1.5**
baz=328
TUC Tucson 93.06 48 P **P 12 39 50.1 +0.6**
TUC pmax pmax
comp=Z,27nm,1.3s
TUC Tucson 93.06 48 P **P 12 39 50.1 +0.6**
TUC Tucson 93.06 48 P **P 12 39 48.3 -1.3**
baz=312
KSCO Kaye Shedlock' 93.09 39 IAmb IAmb 12 39 57.4
comp=Z,81nm,1.6s
KSCO Kaye Shedlock' 93.09 39 P **P 12 39 48.3 -1.3**
baz=318
T25A Trinidad 93.48 41 P **P 12 39 48.8 -2.8**
baz=316,SNR=7.6
BGNE Belgrade 93.54 35 P **P 12 39 49.2 -2.3**
baz=321
KIBK Kibwezi 93.55 270 P **P 12 39 50.8 -1.3**
KMBO Kilima Mbogo 93.56 271 P **P 12 39 50.2 -2.1**
comp=Z,1nm,1.1s,baz=26,slow=7.6,SNR=7.1
KMBO Kilima Mbogo 93.56 271 *i*P **P 12 39 49.5 -2.8**
KMBO Kilima Mbogo 93.56 271 P **P 12 39 51.9 -0.4**
KMBO Kilima Mbogo 93.56 271 P **P 12 39 51.0 -1.3**
KMBO Kilima Mbogo 93.56 271 P **P 12 39 51.5 -0.8**
COWI Conover 93.61 27 S **S 12 51 00.5 -0.4**
baz=327
I37A Lemond, Waseca 93.62 30 IAmb IAmb 12 39 59.5
comp=Z,52nm,0.9s
I37B Waseca 93.62 30 P **P 12 39 52.6 +0.8**
baz=324
I37B S **S 12 51 02.4 +1.3**
baz=324
ANMO Albuquerque 93.88 44*ce*P **P 12 39 55.2 +1.8**
ANMO Albuquerque 93.88 44 P **P 12 39 54.9 +1.5**
ANMO Albuquerque 93.88 44 P **P 12 39 54.7 +1.3**
baz=315
ANMO Albuquerque 93.88 44 P **P 12 39 51.5 -1.9**
baz=315
G40A Rib Lake 93.90 28 IAmb IAmb 12 39 54.7
comp=Z,30nm,0.8s
G40A Rib Lake 93.90 28 P **P 12 39 53.1 +0.1**
baz=327
G40A S **S 12 51 03.6 +0.1**
baz=327
TAOE Nuku Hiva Isla 93.96 98 *e*S **S 12 51 04.1 -0.9**
comp=Z,2µm,27.5s
TAOE Nuku Hiva Isla 93.96 98 *e*LQ LQ 13 05 57.4
comp=Z,9µm,30.5s
TAOE eLR LR 13 10 16.6
comp=Z,6µm,29.6s,baz=302
E43A Lone Tree Farm 94.17 25 S **S 12 51 04.4 -1.3**
baz=329
TBI Tubuai 94.28 115 *e*S **S 12 51 06.2 -1.0**
comp=Z,3µm,28.2s
TBI Tubuai 94.28 115 *e*LQ LQ 13 05 58.2
comp=Z,15µm,35.8s
TBI eLR LR 13 10 20.5
comp=Z,5µm,26.2s
Y22A Socorro 94.29 45 P **P 12 39 56.2 +0.9**
baz=315
BNM Barren Site 94.34 44 P **P 12 39 55.3 -0.3**
319A Douglas 94.64 48 IAmb IAmb 12 40 45.2
comp=Z,44nm,1.4s
OPO Ambohidratompo 94.65 251 LR LR 13 21 38.6
comp=Z,4µm,18.5s,baz=220,slow=35
CBKS Cedar Bluff 94.73 37 P **P 12 39 55.2 -1.9**
baz=320
121A Cookes Peak, D 94.77 46 IAmb IAmb 12 40 30.8
comp=Z,62nm,1.7s
121A Cookes Peak, D 94.77 46 P **P 12 39 58.7 +1.2**
baz=314
121A Cookes Peak, D 94.77 46 P **P 12 39 57.3 -0.2**
baz=314
E46A Sault Ste Mari 95.11 24 IAmb IAmb 12 40 24.9
comp=Z,49nm,1.4s
HSIG 95.15 51 IAmb IAmb 12 40 03.5
comp=Z,33nm,1.2s
H43A Windswept, Lux 95.51 27 S **S 12 51 17.8 +0.3**
baz=326
JFWS Jewell Farm 95.84 29 S **S 12 51 18.3 -2.1**
baz=326
JFWS Jewell Farm 95.84 29 P **P 12 39 59.8 -2.2**
baz=326
KSU1 Kansas State U 96.07 35 S **S 12 51 23.3 +0.7**
baz=322
KSU1 Kansas State U 96.07 35 P **P 12 40 01.2 -1.9**
baz=322
L40A Anamosa 96.14 30 IAmb IAmb 12 40 10.1
comp=Z,35nm,1.2s
L40A Anamosa 96.14 30 S **S 12 51 20.7 -2.3**
baz=326
N38A Joes South For 96.30 32 S **S 12 51 24.6 +0.1**
baz=324
GLMI Grayling 96.35 24 IAMs_20 IAMs_20 13 23 46.6
comp=Z,9µm,21.0s
ESDC Sonseca Array 96.62 326 P **P 12 40 03.4 -2.2**
comp=Z,8.7nm,1.1s,baz=24,slow=3.8,SNR=8.9
ESDC PP **PP 12 44 00.4 +1.3**
comp=Z,8.1nm,1.1s,baz=40,slow=8.2,SNR=4.9
ESDC PKKP **PKKPbc 12 56 48.2 -0.5**
comp=Z,1.3nm,0.9s,baz=232,slow=2.2,SNR=5.5
ESDC LR LR 13 26 45.8
comp=Z,7µm,19.4s,baz=38,slow=37
ESDC Sonseca Array 96.62 326 P **P 12 40 03.6 -2.0**
MSTX Muleshoe 96.70 42 P **P 12 40 06.3 +0.1**
baz=317
VOI Vohitsoka 96.75 248 IAMs_20 IAMs_20 13 18 37.7
comp=Z,8µm,20.0s
MNTX Cornudas Mount 96.81 45 IAMs_20 IAMs_20 13 21 31.3
comp=Z,6µm,18.0s
MNTX Cornudas Mount 96.81 45 P **P 12 40 07.2 +0.6**
baz=316
MNTX Cornudas Mount 96.81 45 P **P 12 40 06.5 -0.1**
baz=316
P38A Dawn 97.11 33 IAmb IAmb 12 40 39.9
comp=Z,63nm,2.0s
L44A Lake County Fo 97.40 28 IAMs_20 IAMs_20 13 24 54.6
comp=Z,6µm,21.0s
T35A Sooner Cattle 97.82 36 IAmb IAmb 12 40 23.9
comp=Z,30nm,1.4s
LMQ La Malbaie 97.84 14 IAmb IAmb 12 40 13.7
comp=Z,22nm,1.2s
TRQ Mont Tremblant 98.12 17 P **P 12 40 10.7 -1.6**
TRQ IAmb IAmb 12 40 18.9
comp=Z,27nm,1.1s
SADO Sadowa 98.18 21 LR LR 13 27 06.1
comp=Z,6µm,21.0s,baz=358,slow=37
WMOK Wichita Mounta 98.33 39 P Pdif 12 40 13.8 +0.4
baz=320
WMOK Wichita Mounta 98.33 39 P **P 12 40 11.2 -2.2**
baz=320,SNR=8.2
MBAR Mbarara 98.76 275 LR LR 13 27 40.6
comp=Z,8µm,19.5s,baz=44,slow=37
LPIG La Paz 98.84 54 LR LR 13 19 13.3
comp=Z,2µm,20.2s,baz=315,slow=32
AAM Ann Arbor 98.89 25 IAMs_20 IAMs_20 13 16 51.2
comp=Z,6µm,20.0s
TUL1 Leonard 98.97 37 P **P 12 40 14.4 -1.8**
baz=322
SFIN Lafayette 99.25 28 P **Pdif 12 40 15.0 -2.3**
baz=320
CCM Cathedral Cave 99.42 32 P **Pdif 12 40 18.0 -0.2**
baz=325
ABTX Abilene, Hawle 99.45 41 P **Pdif 12 40 18.0 -0.5**
baz=319
TX31 Lajitas Ar. Si 99.53 46 IAmb IAmb 12 40 23.3
comp=Z,62nm,1.7s
TXAR Lajitas Array 99.53 46 P **Pdif 12 40 19.4 +0.5**
comp=Z,2.2nm,0.8s,baz=288,slow=2.8,SNR=14
TXAR PP **PP 12 44 25.4 +3.6**
comp=Z,2.9nm,1.1s,baz=310,slow=4.3,SNR=5.6
TXAR PKKPbc **PKKPbc 12 56 40.4 -0.2**
comp=Z,0.9nm,1.0s,baz=116,slow=6.1,SNR=4.9
TXAR Lajitas Array 99.53 46 **Pdif 12 40 19.8 +0.9**
LONY Lake Ozonia 99.61 18 IAMs_20 IAMs_20 13 26 46.1
comp=Z,7µm,20.0s
U40A Yellville 100.06 34 P **Pdif 12 40 19.6 -1.5**
baz=324
ERPA Erie 100.31 23 IAMs_20 IAMs_20 13 25 17.5
comp=Z,5µm,20.0s
M53A WI Miller and 100.69 24 IAMs_20 IAMs_20 13 23 39.3
comp=Z,6µm,21.0s
P49A Miami Univ. Ec 100.91 27 IAMs_20 IAMs_20 13 24 32.9
comp=Z,7µm,21.0s
ACSO Alum Creek Sta 100.95 26 IAMs_20 IAMs_20 13 17 44.8
comp=Z,8µm,20.0s
M54A Oil Creek Stat 100.96 23 IAMs_20 IAMs_20 13 28 25.2
comp=Z,4µm,20.0s
MIAR Mount Ida 101.16 36 P **Pdif 12 40 25.4 -0.6**
baz=323
N54A Moraine State 101.35 23 IAMs_20 IAMs_20 13 20 33.9
comp=Z,8µm,21.0s
BINY Binghamton 101.46 20 IAMs_20 IAMs_20 13 20 45.5
comp=Z,7µm,22.0s
BINY Binghamton 101.46 20 P **Pdif 12 40 24.2 -3.0**
baz=337
O53A New Philadelph 101.57 24 P **Pdif 12 40 25.8 -1.9**
baz=333
X40A Basin Creek Fa 101.57 36 IAMs_20 IAMs_20 13 26 20.4
comp=Z,6µm,22.0s
P52A Corning 101.78 25 IAMs_20 IAMs_20 13 17 03.6
comp=Z,6µm,20.0s
N59A State Game Lan 102.71 20 IAMs_20 IAMs_20 13 30 14.2
comp=Z,8µm,19.0s
PAL Palisades 103.15 19 IAMs_20 IAMs_20 13 30 28.8
comp=Z,5µm,19.0s
BLA Blacksburg 104.55 25 IAMs_20 IAMs_20 13 30 26.6
comp=Z,7µm,18.0s
NHSC New Hope 108.29 27 IAMs_20 IAMs_20 13 35 44.1
comp=Z,5µm,20.0s
VNDA Vanda 111.63 173 PKiKP **PKiKP 12 45 08.8 -0.1**
comp=Z,1.6nm,1.0s,baz=295,slow=4.4,SNR=5.9
VNDA PP **PP 12 45 50.0 -1.1**
comp=Z,3.4nm,1.1s,baz=299,slow=7.1,SNR=3.8
DWPF Disney Wildern 112.18 31 IAMs_20 IAMs_20 13 32 16.2
comp=Z,5µm,22.0s
TORD Torodi Ar. Bea 113.31 305 PKiKP **PKiKP 12 45 12.8 -1.0**
comp=Z,1.3nm,0.8s,baz=58,slow=1.2,SNR=10
TORD PP **PP 12 46 03.0 -0.6**
comp=Z,4.1nm,1.0s,baz=64,slow=6.8,SNR=6.0
TORD PKKPbc **PKKPbc 12 55 58.2 +0.4**
comp=Z,2.1nm,0.8s,baz=250,slow=2.1,SNR=12
BBSR BB Station 113.60 14 IAMs_20 IAMs_20 13 37 12.7
comp=Z,4µm,18.0s
CMIG Matias Romero 113.96 48 PP **PP 12 46 10.0 +2.0**
comp=Z,0.6nm,0.3s,baz=300,slow=6.8,SNR=4.8
BOSA Boshof 117.05 252 PKP **PKPdf 12 45 19.8 -1.0**
comp=Z,1.8nm,0.8s,baz=111,slow=2.8,SNR=3.1
BOSA PKKPab **PKKPab 12 55 48.5 -0.1**
comp=Z,6.4nm,1.2s,baz=277,slow=6.1,SNR=3.3
SYO Syowa Base 120.57 205 *ep*Pdiff pPdif 12 41 58.4 +5.1
GRTK Grand Turk 122.12 24 IAMs_20 IAMs_20 13 39 37.5
comp=Z,6µm,21.0s
DBIC Dimbokro 122.42 305 PKP **PKPdf 12 45 29.1 -2.3**
comp=Z,8.1nm,1.0s,baz=358,slow=3.9,SNR=3.9
DBIC PKKPab **PKKPab 12 55 26.9 -1.0**
comp=Z,2.1nm,0.6s,baz=187,slow=3.2,SNR=2.0
QSPA South Pole Qui 122.51 180 PKP **PKPdf 12 45 27.6 -2.4**
comp=Z,15nm,0.9s,baz=261,slow=1.4,SNR=23
QSPA South Pole Qui 122.51 180 **PKPdf 12 45 27.9 -2.2**
SACV Santiago Islan 126.59 329 IAMs_20 IAMs_20 13 39 05.2
comp=Z,5µm,21.0s
SRBA San Rafael, Bu 127.07 44 **PKiKP 12 45 41.1 +0.1**
SMRT St. Maarten 127.78 17 IAMs_20 IAMs_20 13 43 31.6
comp=Z,4µm,22.0s
SEUS St. Eustatius 128.33 17 IAMs_20 IAMs_20 13 43 37.0
comp=Z,5µm,22.0s
ANWB Willy Bob 128.44 15 IAMs_20 IAMs_20 13 42 23.5
comp=Z,3µm,22.0s
GDSD La Dsirade Is 129.91 15 IAMs_20 IAMs_20 13 41 37.3
comp=Z,5µm,21.0s
HATO Hato, Curacao 131.50 26 IAMs_20 IAMs_20 13 44 15.9
comp=Z,5µm,22.0s
TROLL Troll, Antarti 132.37 199 P PKPdf 12 45 34.5 -14
GRGR Grenville 133.81 17 IAMs_20 IAMs_20 13 44 44.8
comp=Z,3µm,21.0s
SDV Santo Domingo 133.84 30 PKhKP PKPpre 12 45 45.5
comp=Z,4.4nm,0.8s,baz=263,slow=4.5,SNR=3.8
SDV PKP **PKPdf 12 45 52.3 -1.1**
comp=Z,18nm,0.7s,baz=322,slow=1.7,SNR=18
SDV Santo Domingo 133.84 30 PKPpre 12 45 46.1
SDV Santo Domingo 133.84 30 *e*P **PKiKP 12 45 54.4 -0.3**
SNAA Sanae 134.00 199 P PKPpre 12 45 39.9
SNAA Sanae 134.00 199 PKIKP **PKPdf 12 45 52.1 +0.3**
SNAA Sanae 134.00 199 PKPdf **PKPdf 12 45 52.1 +0.3**
SNAA IAMs_20 IAMs_20 13 45 42.8
comp=Z,5µm,21.0s
VNA2 Neumayer--Watz 135.64 198 P PKPdf 12 45 39.4 -15
baz=93,slow=1.0
ROSC El Rosal 135.67 37 PKP **PKPdf 12 45 57.6 +0.5**
comp=Z,19nm,0.8s,baz=275,slow=11,SNR=6.6
VNA3 Neumayer Olymp 136.03 197 P PKPpre 12 45 42.9
OTAV Otavalo 137.16 46 *e*P **PKPdf 12 46 00.2 +0.3**
SHEL Horse Pasture 137.33 282 IAMs_20 IAMs_20 13 46 29.3
comp=Z,4µm,19.0s
ASCN Ascension 139.34 300 IAMs_20 IAMs_20 13 51 44.7
comp=Z,5µm,21.0s
MDP Montagnes des 142.21 6 PKhKP PKPpre 12 46 03.3
comp=Z,9.6nm,0.8s,baz=271,slow=1.0,SNR=5.7
BOAV Boa Vista 143.44 19 *e*P **PKiKP 12 46 12.5 -1.6**
TBTG Tabatinga, AM 145.62 39 *e*P **PKPdf 12 46 14.6 0.0**
PMSA Palmer Station 146.68 168 *e*P **PKPbc 12 46 16.3 0.0**
CZSB Cruzeiro do Su 146.92 46 *e*P **PKPbc 12 46 18.6 +0.1**

NNA Nana 147.32 57 PKPbc **PKPdf 12 46 17.2 -0.2**
comp=Z,40nm,0.8s,baz=317,slow=5.9,SNR=13
NNA Nana 147.32 57 **PKPdf 12 46 17.3 -0.1**
MCPB Macapa, AP 147.67 5 *e*P **PKPdf 12 46 19.2 +1.2**
MACA Manacapuru-AM 148.66 22 *e*P **PKPdf 12 46 21.3 +1.7**
MALB Monte Alegre 148.90 10 *e*P **PKPdf 12 46 21.3 +1.3**
ESPZ Base Esperanza 148.95 173 **PKPdf 12 46 18.2 -0.2**
NBMO Morrinhos-CE 149.47 342 *e*P **PKPdf 12 46 22.4 +1.5**
TMAB Tom-Au,PA,Br 149.76 358 *e*P **PKPdf 12 46 23.0 +1.7**
NBCL Cascavel-CE 149.83 338 *e*P **PKPbc 12 46 24.2 -2.0**
ROSB Rosrio 149.91 350 *e*P **PKPdf 12 46 22.7 +1.1**
RCBR Riachuelo 150.47 332 PKPbc **PKPbc 12 46 26.5 -1.4**
comp=Z,73nm,1.1s,baz=117,slow=2.5,SNR=4.9
RCBR Riachuelo 150.47 332 *e*P **PKPdf 12 46 23.6 +1.1**
NBPV Pedro Velho 150.76 331 *e*P **PKPdf 12 46 23.6 +0.7**
NBPB Pedra_Branca-C 151.47 340 *e*P **PKPdf 12 46 24.8 +0.7**
NBRF Rio Formoso - 152.72 328 *e*P **PKPdf 12 46 27.1 +1.3**
NBMA Muriti-CE 152.93 337 *e*P **PKPdf 12 46 27.4 +1.2**
PRPB Parauapebas 153.55 1 *e*P **PKPdf 12 46 27.7 +0.6**
NPGB Novo Progresso 153.79 14 *e*P **PKPdf 12 46 27.4 -0.1**
MG03 Isla Dawson 154.05 151 pPKPab 12 46 49.5 -0.7
NBAN Anadia - AL 154.10 330 *e*P **PKPdf 12 46 28.9 +1.0**
USHA Ushuaia 154.10 154 PKPbc **PKiKP 12 46 35.7 +1.0**
comp=Z,32nm,0.8s,baz=264,slow=1.9,SNR=7.7
LPAZ La Paz 156.31 51 PKP **PKPdf 12 46 31.8 +0.2**
comp=Z,5.5nm,1.1s,baz=13,slow=7.1,SNR=12
LPAZ La Paz 156.31 51 *e*P **PKPdf 12 46 31.5 0.0**
NBPN Ponto Novo - B 156.66 337 *e*P **PKPdf 12 46 32.1 +0.7**
SNDB Serra Nova Dou 159.23 6 *e*P **PKPdf 12 46 35.3 +0.8**
LVC Limon Verde 159.89 65 PKPab **PKPab 12 47 14.2 -0.4**
comp=Z,21nm,1.3s,baz=252,slow=3.2,SNR=2.3
LVC Limon Verde 159.89 65 IAMs_20 IAMs_20 13 44 51.8
comp=Z,3µm,22.0s
LVC Limon Verde 159.89 65 *e*P **PKPdf 12 46 37.9 +2.5**
EFI East Falkland 160.02 164 IAMs_20 IAMs_20 13 57 28.4
comp=Z,3µm,22.0s
SIV San Ignacio 160.16 36 PKP **PKPdf 12 46 34.7 -0.8**
comp=Z,8.2nm,1.0s,baz=264,slow=1.6,SNR=15
SIV PKPab **PKPab 12 47 15.0 -0.4**
comp=Z,16nm,0.8s,baz=297,slow=6.7,SNR=12
PTLB Pontes e Lacer 160.56 30 *e*P **PKPdf 12 46 38.2 +2.4**
CMC01 Camacan, BA 160.56 331 *e*P **PKPdf 12 46 37.3 +1.5**
PLCA Paso Flores 161.18 121 PKP **PKPdf 12 46 35.0 -0.9**
comp=Z,2.7nm,1.0s,baz=244,slow=6.3,SNR=3.4
PLCA PKPab **PKPab 12 47 20.5 +1.0**
comp=Z,4.7nm,0.8s,baz=229,slow=5.4,SNR=5.6
PLCA Paso Flores 161.18 121 PKPdf **PKPdf 12 46 36.0 +0.1**
PEL Peldehue 161.99 97 PKP2 **PKPab 12 47 24.3 +1.0**
PEL Peldehue 161.99 97 PKPab **PKPab 12 47 24.3 +1.0**
BDFB Brasilia 162.93 356 PKP **PKPdf 12 46 37.2 -1.2**
comp=Z,12nm,1.0s,baz=349,slow=2.7,SNR=7.9
BDFB PKPab **PKPab 12 47 26.2 -1.3**
comp=Z,3.1nm,0.5s,baz=45,slow=2.9,SNR=2.0
PP1B Ponte de Pedra 164.07 20 *e*P **PKPdf 12 46 40.5 +1.2**
DIAM Diamantina, MG 164.76 340 *e*P **PKPdf 12 46 40.8 +0.7**
IPMB Ipameri, GO 165.26 356 *e*P **PKPdf 12 46 41.4 +0.9**
AQDB Aquidauana 166.48 27 PKPab **PKPab 12 47 43.3 +0.3**
AQDB Aquidauana 166.48 27 *e*P **PKPdf 12 46 42.9 +1.6**
ITRB Iturama 166.96 5 *e*P **PKPdf 12 46 42.3 +0.6**
CAM01 Campos-RJ 167.21 326 *e*P **PKPdf 12 46 42.6 +0.8**
VAS01 Vassouras-RJ 168.37 332 *e*P **PKPdf 12 46 44.6 +2.0**
CPUP Villa Florida 170.48 50 PKP **PKPdf 12 46 43.2 -0.6**
comp=Z,1.2nm,0.5s,baz=10,slow=4.8,SNR=2.7
CPUP PKPab **PKPab 12 47 59.8 -0.9**
comp=Z,4.2nm,1.0s,baz=26,slow=3.2,SNR=2.8

JMA 14 12:28:11.9,32.68N×130.75E,h10km±1km,M4.1,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**158**	P	Pg	12 28 15.2	+0.1
JIU3				S	Sg	12 28 17.7	+0.4
JTA	**Tamana**	**0.34**	**327**	P	Pg	12 28 18.8	+0.2
JTA				S	Sg	12 28 23.4	+0.3

JMA 14 12:28:58.0,32.74N×130.79E,h12km±1km,M3.5,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.19**	**174**	P	Pg	12 29 02.2	0.0
JIU3				*e*S	Sg	12 29 05.4	+0.3
JTA	**Tamana**	**0.31**	**316**	P	Pg	12 29 04.5	+0.1
JTA				*e*S	Sg	12 29 08.8	+0.2

JMA 14 12:34:10.3,32.69N×130.76E,h10km,M3.7,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**162**	P	Pg	12 34 13.7	+0.1
JIU3				S	Sg	12 34 16.3	+0.4
JTA	**Tamana**	**0.33**	**325**	P	Pg	12 34 17.1	+0.1

*IDC **14** 12:37:39.7±1.0,32.78N×130.58E,h0km,mb3.6/6, mb1 3.8/8,mb1mx3.5/75,mbtmp3.7/8,ML4.4/1,Error ellipse: s-maj=18.7km s-min=8.1km az=130.0*
*JMA **14** 12:37:40.9,32.74N×130.79E,h9km±1km,M3.9*
JMA Felt IV J1.

ISC 14 12:37:41.5±0.7,32.76N±0.05×130.74E±0.08,h10km,n13, σ1$37/15,mb3.5/6,1C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.22**	**163**	⇑P	**Pg**	**12 37 45.0**	**-1.0**
JIU3				*e*S	**Sg**	**12 37 48.2**	**-0.9**
JTA	**Tamana**	**0.27**	**320**	P	**Pg**	**12 37 47.2**	**+0.3**
JTA				S	**Sb**	**12 37 51.7**	**-1.3**
JNU	**Nakatsue**	**0.38**	**18**	Pg	**Pg**	**12 37 48.3**	**-0.7**
	849nm,0.3s,baz=202,slow=16,SNR=14						
JNU				Lg	Lg	12 37 53.4	
	2µm,0.3s,baz=75,slow=19,SNR=14						
KSRS	**Korea Array**	**5.22**	**335**	Pg	**Pb**	**12 39 13.7**	**+0.8**
	0.7nm,0.3s,baz=148,slow=17,SNR=2.3						
KSRS				Lg	Lg	12 40 23.1	
	3.2nm,0.3s,baz=156,slow=30,SNR=7.9						
JOW	**Kunigami**	**6.28**	**201**	Pn	**Pn**	**12 39 17.0**	**+2.7**
	2.2nm,0.3s,baz=20,slow=9.9,SNR=9.4						
MJAR	**Matsushiro Arr**	**7.22**	**56**	Pn	**Pn**	**12 39 28.5**	**+1.4**
	baz=246,slow=13						
MJAR				Lg	Lg	12 41 30.1	
	0.1nm,0.3s,baz=249,slow=30,SNR=2.0						
JHJ	**Hachijo jima 2**	**7.61**	**85**	Pn	**Pn**	**12 39 34.1**	**+1.7**
	20nm,0.3s,baz=233,slow=20,SNR=1.9						
MKAR	**Makanchi Array**	**39.17**	**306**	P	**P**	**12 45 08.9**	**-0.5**
	0.2nm,0.5s,baz=98,slow=7.6,SNR=1.5						
KURBB	**Kurchatov Arra**	**41.92**	**311**	P	**P**	**12 45 31.6**	**-0.4**
	0.6nm,0.7s,baz=99,slow=9.1,SNR=3.0						
WRA	**Warramunga Arr**	**52.52**	**176**	P	**P**	**12 46 55.1**	**+0.2**
	0.5nm,0.8s,baz=354,slow=7.8,SNR=2.0						
ASAR	**Alice Springs**	**56.19**	**177**	P	**P**	**12 47 21.2**	**-0.5**
	0.3nm,0.8s,baz=11,slow=12,SNR=1.9						
FINES	**FINESS Array B**	**68.29**	**330**	P	**P**	**12 48 41.5**	**-0.9**
	0.7nm,0.5s,baz=71,slow=6.9,SNR=4.9						
AKASG	**Malin Array Be**	**72.02**	**319**	P	**P**	**12 49 03.5**	**-1.9**
	1.0nm,0.6s,baz=56,slow=6.1,SNR=4.2						

*IDC **14** 12:41:01.6±0.8,32.63N×130.71E,h0km,mb3.7/12, mb1 3.9/14,mb1mx3.7/73,mbtmp3.8/14,ML3.4/2,Error ellipse: s-maj=21.1km s-min=8.2km az=110.0*
*JMA **14** 12:41:03.4,32.68N×130.74E,h12km±1km,M4.0*
JMA Felt III J1.

ISC 14 12:41:03.8±1.2,32.72N±0.05×130.63E±0.08,h10km±8km, n20,σ1$81/22,mb3.6/12,2C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.23**	**137**	⇑P	**Pg**	**12 41 06.9**	**-1.7**
JTA	**Tamana**	**0.26**	**342**	⇑P	**Pb**	**12 41 10.2**	**-0.3**
JTA				S	**Sg**	**12 41 15.0**	**+2.4**
JNU	**Nakatsue**	**0.45**	**28**	Pg	**Pg**	**12 41 12.1**	**-0.6**
	514nm,0.3s,baz=181,slow=11,SNR=16						
JNU				Lg	Lg	12 41 18.0	
	4µm,0.3s,baz=70,slow=23,SNR=52						
KSRS	**Korea Array**	**5.22**	**336**	Pn	**Pn**	**12 42 23.5**	**+1.7**
	0.2nm,0.3s,baz=157,slow=14,SNR=1.8						
KSRS				Pg	**Pg**	**12 42 40.4**	**-3.3**
	2.3nm,0.3s,baz=151,slow=17,SNR=7.7						
KSRS				Lg	Lg	12 43 46.5	
	3.7nm,0.3s,baz=156,slow=30,SNR=8.8						
JOW	**Kunigami**	**6.21**	**200**	Pn	**Pn**	**12 42 39.0**	**+3.4**
	2.1nm,0.3s,baz=35,slow=19,SNR=7.9						

MJAR	**Matsushiro Arr**	**7.32**	**57**	Pn		**Pn**	**12 42 53.6**	**+2.9**
	0.3nm,0.3s,baz=241,slow=13,SNR=6.1							
JHJ	**Hachijo jima 2**	**7.71**	**85**	Pn		**Pn**	**12 42 53.8**	**-2.3**
	11nm,0.3s,baz=321,slow=16,SNR=2.0							
CMAR	**Chiang Mai Arr**	**31.77**	**251**	P		**P**	**12 47 29.4**	**+1.0**
	0.5nm,0.8s,baz=64,slow=9.2,SNR=2.2							
MKAR	**Makanchi Array**	**39.11**	**306**	P		**P**	**12 48 31.7**	**+0.5**
	0.6nm,0.7s,baz=98,slow=9.6,SNR=2.8							
KURBB	**Kurchatov Arra**	**41.88**	**311**	P		**P**	**12 48 53.8**	**-0.2**
	1.0nm,0.8s,baz=99,slow=8.2,SNR=6.2							
WRA	**Warramunga Arr**	**52.48**	**176**	P		**P**	**12 50 14.7**	**-2.3**
	0.4nm,0.8s,baz=358,slow=7.9,SNR=2.2							
ASAR	**Alice Springs**	**56.16**	**176**	P		**P**	**12 50 42.7**	**-0.9**
	0.4nm,0.7s,baz=2.8,slow=6.9,SNR=8.5							
ILAR	**Eielson Array**	**57.77**	**30**	P		**P**	**12 50 55.2**	**+0.6**
	0.6nm,0.8s,baz=287,slow=7.5,SNR=5.6							
INK	**Inuvik**	**62.13**	**25**	P		**P**	**12 51 24.9**	**+0.5**
	1.0nm,1.0s,baz=255,slow=8.2,SNR=2.0							
KBZ	**Khabaz**	**66.75**	**308**	P		**P**	**12 51 55.9**	**+0.7**
	1.5nm,0.7s,baz=59,slow=6.9,SNR=5.1							
FINES	**FINESS Array B**	**68.28**	**330**	P		**P**	**12 52 03.6**	**-0.9**
	1.2nm,0.4s,baz=66,slow=5.1,SNR=12							
AKASG	**Malin Array Be**	**71.99**	**319**	P		**P**	**12 52 26.9**	**-0.5**
	0.6nm,0.5s,baz=54,slow=6.9,SNR=2.3							
NB2	**NORSAR Subarra**	**74.43**	**334**	P		**P**	**12 52 41.0**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=47,slow=5.6							
NOA	**NORSAR Array B**	**74.43**	**334**	P		**P**	**12 52 41.0**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=50,slow=5.6,SNR=3.9							
GERES	**GERESS Array B**	**81.27**	**323**	P		**P**	**12 53 19.9**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=33,slow=3.2,SNR=4.3							

JMA 14 12:41:32.4, 32.73N×130.76E, h11km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	**Izumi3**	**0.19**	**166**	P		Pg	12 41 36.4	0.0
JIU3				S		Sg	12 41 39.3	+0.1
JTA	**Tamana**	**0.30**	**321**	P		Pg	12 41 38.6	+0.1
JTA				S		Sg	12 41 43.2	+0.6

JMA 14 12:41:54.3, 32.68N×130.75E, h10km±1km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**158**	P		Pg	12 41 57.6	+0.1
JIU3				S		Sg	12 42 00.0	+0.3
JTA	**Tamana**	**0.34**	**327**	P		Pg	12 42 01.1	+0.1
JTA				S		Sg	12 42 06.0	+0.5

JMA 14 12:42:02.3, 32.68N×130.75E, h8km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**158**	P		Pg	12 42 05.5	+0.2
JIU3				S		Sg	12 42 07.9	+0.5
JTA	**Tamana**	**0.34**	**327**	P		Pg	12 42 09.1	+0.2

*IDC **14** 12:42:22.5±0.4, 32.65N×130.74E, h0km, mb4.4/32, mb1 4.5/35, mb1mx4.4/73, mbtmp4.4/35, ML4.0/3, Error ellipse: s-maj=12.2km s-min=6.7km az=102.0*
*MOS **14** 12:42:22.4±0.9, 32.53N×130.75E, h12km, mb4.9/29, Error ellipse: s-maj=10.0km s-min=5.7km az=103.6*
*JMA **14** 12:42:24.4, 32.72N×130.77E, h12km±1km, M4.9*
JMA Felt IV J1.
*NEIC **14** 12:42:24.9±1.7, 32.54N±0.04×130.64E±0.07, h10km±1km, mb4.7/60, Error ellipse: s-maj=10.7km s-min=5.7km az=103.0*

ISC 14 12:42:24.9±0.9, 32.66N±0.03×130.78E±0.05, h10km±5km, n170, σ1s52/153, mb4.7/88, 6C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	**Izumi3**	**0.12**	**166**	⇑P		**Pb**	**12 42 28.5**	**-0.7**
JIU3				S		**Sg**	**12 42 31.4**	**+1.6**
JTA	**Tamana**	**0.36**	**325**	⇑P		**Pg**	**12 42 31.0**	**-1.1**
JNU	**Nakatsue**	**0.47**	**10**	Pg		**Pg**	**12 42 32.5**	**-1.5**
	2μm,0.3s,baz=177,slow=9.6,SNR=9.0							
JNU				Lg		Lg	12 42 37.5	
	8μm,0.3s,baz=284,slow=21,SNR=17							
JSU	**Suzuyama**	**1.19**	**194**	Pn		**Pg**	**12 42 47.7**	**+0.1**
JTU	**Tsushima**	**2.19**	**329**	Pn		**Pb**	**12 43 02.3**	**-2.2**
JMN	**Monobe**	**2.81**	**67**	Pn		**Pb**	**12 43 15.5**	**+0.4**
JHS	**Saijyo**	**3.04**	**39**	Pn		**Pn**	**12 43 13.8**	**+0.9**
KSRS	**Korea Array**	**5.32**	**335**	Pg		**Pb**	**12 44 01.1**	**+3.2**
	7.9nm,0.3s,baz=154,slow=17,SNR=8.7							
KSRS				Lg		Lg	12 45 09.0	
	19nm,0.3s,baz=156,slow=32,SNR=7.1							
KSAR	**Wonju Array Be**	**5.33**	**334**	P		**Pn**	**12 43 46.2**	**+1.8**
KSAR	**Wonju Array Be**	**5.33**	**334**			**Pn**	**12 43 46.2**	**+1.8**
INU	**Inuyama**	**5.83**	**61**			**Pn**	**12 43 51.6**	**+0.3**
INCN	**Inchon**	**5.89**	**326**	P		**Pn**	**12 43 52.8**	**+0.7**
INCN	**Inchon**	**5.89**	**326**	Pn		**Pn**	**12 43 52.8**	**+0.7**
JGF	**Kuroka**	**6.19**	**60**			**Pn**	**12 43 58.4**	**+2.1**
JOW	**Kunigami**	**6.21**	**201**	Pn		**Pn**	**12 43 59.4**	**+2.9**
	17nm,0.3s,baz=38,slow=9.0,SNR=20							
JOW	**Kunigami**	**6.21**	**201**	Pn		**Pn**	**12 43 58.9**	**+2.4**
MAJO	**Matsushiro**	**7.24**	**56**	*i* P		**Pn**	**12 44 11.0**	**+0.3**
MAJO	**Matsushiro**	**7.24**	**56**			**Pn**	**12 44 11.9**	**+1.2**
MJAR	**Matsushiro Arr**	**7.24**	**56**	Pn		**Pn**	**12 44 12.3**	**+1.6**
	0.9nm,0.3s,baz=237,slow=13,SNR=19							
MJAR				Lg		Lg	12 46 12.4	
	baz=236,slow=29,SNR=2.0							
JHJ	**Hachijo jima 2**	**7.59**	**84**	Pn		**Pn**	**12 44 16.6**	**+1.2**
	42nm,0.3s,baz=71,slow=16,SNR=7.3							
NJ2	**Nanjing**	**10.11**	**270**	*e*P		**Pn**	**12 44 49.6**	**-0.4**
NJ2				pmax		pmax		
	comp=Z,21nm,0.6s							
USRK	**Ussuriysk Ar.**	**11.56**	**4**	Pn		**Pn**	**12 45 13.2**	**+3.4**
	baz=183,slow=14,SNR=4.8							
CN2	**Changchun**	**11.88**	**341**	*e*P		**Pn**	**12 45 15.8**	**+1.6**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ASAJ	**Asahikawa**	**14.70**	**36**	Pn		**Pn**	**12 45 52.6**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=205,slow=14,SNR=8.1							
LYN	**LuoYang**	**15.38**	**282**	⇑P		**P**	**12 46 06.9**	**+0.4**
XLT	**XiLinHaoTe**	**16.07**	**318**	⇓*i*P		**P**	**12 46 15.0**	**+0.7**
XLT				pP		sP	12 46 18.3	-0.3
XLT				sP		pP	12 46 22.9	+5.7
XLT				PcP		**PcP**	**12 51 12.3**	**+5.3**
XLT				pmax		pmax		
	comp=Z,28nm,1.2s							
XLT				pmax		pmax		
	comp=Z,12μm,10.8s							
KLR	**Kul'dur**	**16.57**	**2**	*i* P		**P**	**12 46 18.5**	**-1.1**
KLR				pmax		pmax		
	comp=Z,20nm,0.9s							
YSS	**Yuzh-Sakhalins**	**16.95**	**29**	*e*P		**P**	**12 46 22.7**	**-1.2**
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
HHC	**Hu-ho-hao-te**	**17.41**	**303**	*e*P		**P**	**12 46 27.8**	**-1.3**
HHC				pmax		pmax		
	comp=Z,18nm,0.9s							
HHC				pmax		pmax		
	comp=Z,8μm,5.2s							
XAN	**Xi'an**	**18.31**	**280**	P		**Pn**	**12 46 37.4**	**-1.6**
XAN				pmax		pmax		
	comp=Z,11nm,1.4s							
ZEA	**Zeya**	**21.22**	**354**	*e*P		**P**	**12 47 12.9**	**+2.4**
ZEA				pmax		pmax		
	comp=N,20nm,1.4s							
ZEA				pmax		pmax		
	comp=Z,50nm,1.3s							
LZH	**Lanzhou**	**22.47**	**286**	*e*P		**P**	**12 47 19.3**	**-5.0**
LZH				pP		pP	12 47 22.8	-4.5
LZH				pmax		pmax		
	comp=Z,28nm,1.2s							
ULN	**Ulaanbaatar**	**23.50**	**317**	*i* P		**P**	**12 47 35.2**	**+0.3**
ULN				pmax		pmax		
	comp=Z,115nm,3.9s							
ULN	**Ulaanbaatar**	**23.50**	**317**	P		**P**	**12 47 34.8**	**-0.1**
SONM	**Songino Array**	**23.86**	**317**	P		**P**	**12 47 38.2**	**-0.2**
	comp=Z,8.7nm,0.9s,baz=131,slow=10,SNR=12							
SONM	**Songino Array**	**23.86**	**317**	P		**P**	**12 47 38.2**	**-0.2**
SONM				pmax		pmax		
	comp=Z,22nm,1.4s							
PZH	**PanZhiHua**	**25.94**	**264**	P		**P**	**12 47 58.1**	**+0.6**
PZH				pmax		pmax		
	comp=Z,20nm,1.2s							
GOMU	**GeErMu**	**29.77**	**287**	P		**P**	**12 48 32.4**	**+0.4**
GOMU				pP		sP	12 48 35.8	-0.7
GOMU				sP		pP	12 48 39.8	+4.6
GOMU						pmax	pmax	
	comp=Z,2.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.87**	**251**	P		**P**	**12 48 50.4**	**+0.1**
	comp=Z,3.4nm,1.0s,baz=50,slow=6.7,SNR=13							
SEY	**Seymchan**	**33.24**	**18**	P		**P**	**12 49 01.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=180,slow=20,SNR=1.5							
WMQ	**Urumqi**	**35.26**	**301**	*e*P		**P**	**12 49 21.3**	**+1.6**
JIRN	**Jiri**	**38.66**	**275**	*e*P		**P**	**12 49 49.7**	**+0.6**
	comp=Z,8.0nm,0.8s							
ZALV	**Zalesovo Beam**	**38.75**	**317**	P		**P**	**12 49 49.5**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=97,slow=7.6,SNR=3.5							
ZALV				PcP		**PcP**	**12 51 59.1**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=103,slow=4.6,SNR=2.6							
GUN	**Gumba**	**38.84**	**275**	*e*P		**P**	**12 49 50.7**	**+0.1**
	comp=Z,22nm,0.5s							
MK31	**Makanchi Array**	**39.25**	**306**	*i* P		**P**	**12 49 52.3**	**-1.1**
MKAR	**Makanchi Array**	**39.25**	**306**	P		**P**	**12 49 52.5**	**-0.9**
	comp=Z,4.8nm,1.0s,baz=84,slow=6.7,SNR=13							
PKI	**Pulchoki**	**39.35**	**275**	*e*P		**P**	**12 49 56.4**	**+1.6**
	comp=Z,23nm,0.9s							
PKIN	**Phulchoki**	**39.35**	**275**	*e*P		**P**	**12 49 56.2**	**+1.4**
DANN	**Dangsing**	**40.48**	**277**	*e*P		**P**	**12 50 04.3**	**+0.1**
KOLN	**Koldanda**	**40.80**	**276**	*e*P		**P**	**12 50 08.1**	**+1.4**
	comp=Z,22nm,0.9s							
BILL	**Bilibino**	**40.89**	**19**	*e*P		**P**	**12 50 06.7**	**0.0**
BILL				pmax		pmax		
	comp=Z,21nm,2.6s							
BILL	**Bilibino**	**40.89**	**19**	P		**P**	**12 50 07.5**	**+0.9**
PYUN	**Piuthan**	**41.21**	**277**	*e*P		**P**	**12 50 10.3**	**+0.2**
KURK	**Kurchatov**	**41.96**	**311**	*ce*P		**P**	**12 50 13.8**	**-1.9**
KURK				pmax		pmax		
	comp=Z,165nm,2.9s							
KURBB	**Kurchatov Arra**	**42.01**	**311**	P		**P**	**12 50 15.2**	**-0.9**
	comp=Z,8.5nm,0.9s,baz=98,slow=8.9,SNR=22							
TARG	**Taragay, Kyrgy**	**42.58**	**298**	P		**P**	**12 50 23.6**	**+2.2**
NRIK	**Noril'sk**	**43.92**	**339**	P		**P**	**12 50 29.9**	**-1.4**
NRIK				pmax		pmax		
	comp=Z,15nm,1.2s							
NRIK	**Noril'sk**	**43.92**	**339**	P		**P**	**12 50 29.9**	**-1.4**
NRIK				IAmb		IAmb	12 50 58.9	
	comp=Z,15nm,1.1s							
AAK	**Ala-Archa**	**44.93**	**300**	P		**P**	**12 50 39.2**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=180,slow=9.7,SNR=4.7							
AAK	**Ala-Archa**	**44.93**	**300**	*i* P		**P**	**12 50 38.7**	**-1.3**
AAK				pmax		pmax		
	comp=Z,29nm,3.6s							
BRVK	**Borovoye**	**47.24**	**314**	*i* P		**P**	**12 50 56.7**	**-1.1**
BRVK				pmax		pmax		
	comp=Z,12nm,0.7s							
BRVK	**Borovoye**	**47.24**	**314**	P		**P**	**12 50 57.1**	**-0.7**
KK31	**Karatay Array**	**47.77**	**301**	P		**P**	**12 51 01.9**	**-0.2**
KK31				pmax		pmax		
	comp=Z,21nm,1.0s							
KK31	**Karatay Array**	**47.77**	**301**	P		**P**	**12 51 01.9**	**-0.2**
KKAR	**Karatay Array**	**47.77**	**301**	P		**P**	**12 51 00.8**	**-1.3**
KKAR							12 51 01.7	
KKAR				pmax		pmax		
	comp=Z,21nm,1.0s							
KKAR	**Karatay Array**	**47.77**	**301**	P		**P**	**12 51 00.8**	**-1.3**
KKAR	**Karatay Array**	**47.77**	**301**	P		**P**	**12 51 01.6**	**-0.5**
KKAR				IAmb		IAmb	12 51 06.6	
	comp=Z,21nm,0.9s							
GAR	**Garm**	**48.65**	**295**	P		**P**	**12 51 10.3**	**+1.1**
GAR				IAmb		IAmb	12 51 39.0	
	comp=Z,7.8nm,0.8s							
CHGR	**Chuyangaron**	**49.61**	**295**	P		**P**	**12 51 15.0**	**-1.4**
CHGR				pmax		pmax		
	comp=Z,13nm,0.7s							
CHGR	**Chuyangaron**	**49.61**	**295**	P		**P**	**12 51 15.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**50.71**	**186**	P		**P**	**12 51 23.8**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=8.2,slow=7.7,SNR=11							
WRAB	**Tennant Creek**	**52.41**	**176**	*ce*P		**P**	**12 51 34.7**	**-2.7**
WRAB				pmax		pmax		
	comp=Z,25nm,2.5s							
WRA	**Warramunga Arr**	**52.42**	**176**	P		**P**	**12 51 35.5**	**-2.0**
	comp=Z,2.2nm,0.5s,baz=356,slow=7.9,SNR=16							
WRA	**Warramunga Arr**	**52.42**	**176**	*i* P		**P**	**12 51 36.2**	**-1.3**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.5s							
WR0	**Warramunga Arr**	**52.45**	**176**	P		**P**	**12 51 36.0**	**-1.7**
WR0				IAmb		IAmb	12 51 37.4	
	comp=Z,8.1nm,0.8s							
SVE	**Sverdlovsk**	**52.69**	**319**	*e*P		**P**	**12 51 42.4**	**+3.3**
SVE				pmax		pmax		
	comp=Z,10.0nm,0.8s							
ARU	**Arti**	**53.86**	**319**	P		**P**	**12 51 47.3**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=107,slow=6.0,SNR=7.2							
ARU	**Arti**	**53.86**	**319**	*c i*P		**P**	**12 51 50.8**	**+3.0**
ARU							12 52 54.8	
ARU							12 53 52.0	
ARU				S		**S**	**12 59 30.3**	**+7.7**
ARU				SS		**SKiKP**	**13 03 00.0**	**-1.3**
ARU				pmax		pmax		
	comp=Z,13nm,1.0s							
ABKAR	**Akbulak array**	**54.04**	**310**	P		**P**	**12 51 48.6**	**-0.6**
ABKAR				IAmb		IAmb	12 51 52.8	
	comp=Z,6.4nm,0.8s							
ABKAR	**Akbulak array**	**54.04**	**310**	P		**P**	**12 51 48.9**	**-0.3**
L19K	**White Mountain**	**54.48**	**34**	P		**P**	**12 51 54.0**	**+1.7**
L19K				IAmb		IAmb	12 51 59.5	
	comp=Z,7.5nm,1.1s							
CTA	**Charters Tower**	**54.50**	**162**	P		**P**	**12 51 52.4**	**-0.4**
	comp=Z,7.8nm,1.0s,baz=9.6,slow=9.6,SNR=2.3							
AKTO	**Aktyubinsk**	**55.06**	**312**	P		**P**	**12 51 56.0**	**-0.6**
AKTO	**Aktyubinsk**	**55.06**	**312**	P		**P**	**12 51 56.0**	**-0.6**
AS31	**Alice Springs**	**56.09**	**177**	P		**P**	**12 52 03.3**	**-0.9**
ASAR	**Alice Springs**	**56.09**	**177**	P		**P**	**12 52 03.2**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=360,slow=6.4,SNR=24							
ASAR	**Alice Springs**	**56.09**	**177**	P		**P**	**12 52 02.9**	**-1.3**
H23K	**Yukon River**	**56.52**	**29**	IAmb		IAmb	12 52 11.3	
	comp=Z,6.7nm,0.9s							
NEA2	**Nenana**	**56.85**	**31**	IAmb		IAmb	12 52 14.0	
	comp=Z,6.4nm,0.8s							
RND	**Reindeer**	**57.10**	**32**	IAmb		IAmb	12 52 27.9	
	comp=Z,8.7nm,1.0s							
MDM	**Murphy Dome**	**57.16**	**30**	IAmb		IAmb	12 52 36.8	
	comp=Z,10nm,1.1s							
H24K	**Noodor Dome**	**57.20**	**29**	P		P	**12 52 12.9**	**+1.2**
ILAR	**Eielson Array**	**57.76**	**30**	P		P	**12 52 16.0**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=271,slow=7.2,SNR=12							
HDA	**Harding Lake**	**57.79**	**31**	IAmb		IAmb	12 52 19.2	
	comp=Z,6.6nm,0.8s							
BMAR	**Burnt Mountain**	**58.27**	**27**	P		P	**12 52 20.3**	**+1.1**
SCRK	**Sand Creek**	**59.14**	**31**	IAmb		IAmb	12 52 29.2	
	comp=Z,6.0nm,0.9s							
DOT	**Dot Lake**	**59.17**	**31**	IAmb		IAmb	12 52 30.4	
	comp=Z,6.0nm,1.0s							
N25K	**Chitina, Valde**	**59.36**	**34**	IAmb		IAmb	12 52 30.0	
	comp=Z,6.4nm,0.9s							
MENT	**Mentasta**	**59.48**	**32**	IAmb		IAmb	12 52 37.3	
	comp=Z,8.0nm,1.0s							
L26K	**Log Cabin Wild**	**59.62**	**32**	IAmb		IAmb	12 52 49.1	
	comp=Z,9.5nm,1.1s							
M26K	**Nabesna, AK**	**59.92**	**32**	IAmb		IAmb	12 52 48.4	
	comp=Z,9.2nm,1.0s							
VRDI	**Verde Repeater**	**59.99**	**34**	IAmb		IAmb	12 52 34.9	
	comp=Z,7.4nm,0.8s							
L27K	**Beaver Creek,**	**60.29**	**32**	IAmb		IAmb	12 52 38.2	
	comp=Z,12nm,1.4s							
M27K	**Edge Creek, AK**	**60.44**	**32**	IAmb		IAmb	12 52 40.2	
	comp=Z,11nm,1.3s							
I29M	**Ogilvie Camp,**	**61.18**	**29**	IAmb		IAmb	12 53 08.5	
	comp=Z,8.1nm,1.4s							
INK	**Inuvik**	**62.13**	**25**	P		P	**12 52 45.5**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=290,slow=8.8,SNR=11							
INK	**Inuvik**	**62.13**	**25**	P		P	**12 52 45.8**	**+0.2**
INK				IAmb		IAmb	12 52 50.2	
	comp=Z,7.1nm,1.2s							
M30M	**Minto, Yukon**	**62.64**	**31**	P		P	**12 52 49.9**	**+0.8**
KLMR	**Klimovskoe**	**62.66**	**327**	*e*P		P	**12 52 48.8**	**-0.4**
KLMR				pmax		pmax		
	comp=Z,14nm,1.4s							
KLMR	**Klimovskoe**	**62.66**	**327**	*e*P		P	**12 52 48.9**	**-0.3**
KLMR				AMP			12 52 52.6	
	comp=Z,14nm,1.4s							
HYT	**Haines Junctio**	**62.88**	**33**	IAmb		IAmb	12 52 56.7	
	comp=Z,4.9nm,0.9s							
SPITS	**Spitsbergen Ar**	**63.02**	**348**	P		P	**12 52 50.8**	**-0.7**
	comp=Z,5.6nm,0.9s,baz=93,slow=8.1,SNR=1.8							
A36M	**Sachs Harbour**	**63.44**	**20**	P		P	**12 52 54.5**	**+0.3**
DZM	**Mont Dzumac**	**64.21**	**143**	P		P	**12 52 59.4**	**-0.6**
	comp=Z,6.6nm,0.6s,baz=0.0,slow=7.1,SNR=2.4							
ARCES	**ARCESS Array B**	**64.87**	**338**	P		P	**12 53 03.1**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=47,slow=5.3,SNR=5.7							
C36M	**Paulatuk**	**64.91**	**22**	IAmb		IAmb	12 53 07.0	
	comp=Z,6.5nm,0.8s							
STKA	**Stephens Creek**	**65.00**	**170**	P		P	**12 53 04.4**	**-0.6**
	comp=Z,3.2nm,0.4s,baz=349,slow=6.5,SNR=15							
STKA	**Stephens Creek**	**65.00**	**170**	P		P	**12 53 04.3**	**-0.6**
STKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
STKA	**Stephens Creek**	**65.00**	**170**	P		P	**12 53 04.3**	**-0.6**
KBZ	**Khabaz**	**66.89**	**308**	P		P	**12 53 17.8**	**+0.7**
	comp=Z,7.2nm,0.9s,baz=157,slow=2.2,SNR=7.7							
KBZ	**Khabaz**	**66.89**	**308**	*i* P		P	**12 53 17.0**	**-0.1**
KBZ				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KIV	**Kislovodsk**	**66.93**	**308**	*e*P		P	**12 53 17.6**	**+0.1**
KIV				pmax		pmax		
	comp=Z,17nm,1.1s							
FINES	**FINESS Array B**	**68.40**	**330**	P		P	**12 53 25.1**	**-1.2**
	comp=Z,4.5nm,0.4s,baz=69,slow=5.8,SNR=34							
RES	**Resolute Bay**	**68.83**	**12**	P		P	**12 53 28.3**	**-0.5**
RES				pmax		pmax		
	comp=Z,7.0nm,1.3s							
RES	**Resolute Bay**	**68.83**	**12**	P		P	**12 53 28.3**	**-0.5**
RES				IAmb		IAmb	12 53 49.5	
	comp=Z,7.4nm,1.3s							
DAG	**Danmarks Havn**	**69.18**	**353**	P		P	**12 53 30.3**	**-0.7**
DAG	**Danmarks Havn**	**69.18**	**353**	*i* P		P	**12 53 29.0**	**-2.0**
NACGM	**Naroch**	**71.30**	**324**	*e*P		P	12 53 52.5	+8.3
YKA	**Yellowknife Ar**	**71.78**	**26**	P		P	**12 53 46.1**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=309,slow=5.6,SNR=6.5							
YKA	**Yellowknife Ar**	**71.78**	**26**	*i* P		P	**12 53 49.2**	**+2.1**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**72.12**	**319**	P		P	**12 53 47.7**	**-1.6**
	comp=Z,3.7nm,0.6s,baz=54,slow=6.3,SNR=10							
AKASG	**Malin Array Be**	**72.12**	**319**	IAmb		IAmb	12 53 52.4	
	comp=Z,7.0nm,1.1s							
AKBB	**Malin Array Si**	**72.12**	**319**	*i* P		P	**12 53 48.1**	**-1.2**
HFS	**Hagfors**	**74.17**	**332**	P		P	**12 53 58.7**	**-2.5**
	comp=Z,2.7nm,0.7s,baz=126,slow=7.3,SNR=3.1							
NB2	**NORSAR Subarra**	**74.53**	**334**	P		P	**12 54 01.5**	**-1.9**
	comp=Z,14nm,1.2s,baz=47,slow=6.2							
NOA	**NORSAR Array B**	**74.53**	**334**	P		P	**12 54 01.9**	**-1.6**
	comp=Z,3.3nm,1.0s,baz=49,slow=5.8,SNR=7.8							
KMPD	**K-Podol'skiy**	**74.76**	**318**	P		P	**12 54 04.0**	**-0.9**
BRTR	**Keskin Array B**	**74.87**	**308**	P		P	**12 54 05.0**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=122,slow=4.5,SNR=5.5							
BRTR	**Keskin Array B**	**74.87**	**308**	*i* P		P	**12 54 05.5**	**-0.4**
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
BUR08	**Bucovina Ar. S**	**75.97**	**318**	P		P	**12 54 11.0**	**-1.0**
BUR08				IAmb		IAmb	12 54 16.2	
	comp=Z,8.0nm,1.1s							
BURAR	**Bucovina Array**	**75.97**	**318**	P		P	**12 54 11.3**	**-0.7**
BURAR				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BURAR	**Bucovina Array**	**75.97**	**318**	P		P	**12 54 11.3**	**-0.7**
BURAR				IAmb		IAmb	12 54 16.6	
	comp=Z,5.9nm,0.9s							
VRI	**Vrincioaia**	**76.05**	**316**	P		P	12 54 16.5	+4.1
VRI				pmax		pmax		
	comp=Z,11nm,1.3s							
KWP	**Kalwaria Pacla**	**76.23**	**320**	P		P	**12 54 13.3**	**-0.1**
KWP				pmax		pmax		
	comp=Z,34nm,1.1s							
OJC	**Ojcow**	**77.43**	**322**	P		P	**12 54 19.6**	**-0.5**
OJC				pmax		pmax		
	comp=Z,18nm,1.0s							
OJC	**Ojcow**	**77.43**	**322**	P		P	**12 54 19.6**	**-0.5**
NIE	**Niedzica**	**77.64**	**321**	P		P	**12 54 22.5**	**+1.2**
NIE				pmax		pmax		
	comp=Z,7.0nm,1.2s							
KSP	**Ksiaz**	**78.83**	**324**	P		P	**12 54 27.8**	**0.0**
KSP				pmax		pmax		
	comp=Z,11nm,1.4s							
MORC	**Moravsky Berou**	**78.86**	**323**	P		P	**12 54 27.0**	**-1.1**
MORC				pmax		pmax		
	comp=Z,9.0nm,1.1s							
MORC	**Moravsky Berou**	**78.86**	**323**	P		P	**12 54 27.0**	**-1.1**
MORC				IAmb

CUPR	Culebra, Puert	1.16 197			Sb	12 50 19.6	-0.8	
MTP	Monte Pirata	1.45 205	⇑	eP	Pn	12 50 09.3	+0.1	
MTP	Monte Pirata	1.45 205		eS	Sn	12 50 27.1	-0.4	
MTP	Monte Pirata	1.45 205			Pn	12 50 09.1	-0.1	
MTP				IAML		12 50 32.1		
	comp=N,1μm,0.4s							
MTP				IAML		12 50 35.5		
	comp=E,1μm,0.4s							
MTP	Monte Pirata	1.45 205			Sn	12 50 27.1	-0.4	
CBYP	Canovanas	1.45 218	⇑	eP	Pn	12 50 09.0	-0.3	
CBYP	Canovanas	1.45 218			Pn	12 50 08.9	-0.4	
GCPR	Guaynabo City	1.56 225	⇑	eP	Pn	12 50 10.5	-0.4	
GCPR	Guaynabo City	1.56 225		eS	Sn	12 50 29.7	-0.6	
GCPR	Guaynabo City	1.56 225			Pn	12 50 10.4	-0.4	
GCPR	Guaynabo City	1.56 225			Sn	12 50 29.7	-0.6	
CDVI	St. Croix	1.66 175			Pb	12 50 13.3	-1.1	
PDPR	Patillas Dam,	1.74 217			Pn	12 50 13.2	-0.1	
PDPR				IAML		12 50 45.4		
	comp=E,709nm,0.7s							
SJG	San Juan	1.75 222		Pn	Pn	12 50 13.3	-0.1	
	comp=E,40nm,0.3s,baz=56,slow=15,SNR=60							
SJG				Sn	Sn	12 50 35.1	+0.1	
	comp=E,126nm,0.3s,baz=174,slow=8.1,SNR=13							
SJG				LR	LR	12 50 58.4		
	comp=E,507nm,18.9s,baz=36,slow=42							
SJG	San Juan	1.75 222			Pn	12 50 13.3	-0.1	
SJG				IAML		12 50 39.3		
	comp=E,762nm,0.4s							
EMPR	Esperanza - Ma	1.79 239	⇑	eP	Pn	12 50 14.2	+0.3	
EMPR	Esperanza - Ma	1.79 239		eS	Sn	12 50 35.3	-0.7	
EMPR	Esperanza - Ma	1.79 239			Pn	12 50 14.3	+0.3	
EMPR				IAML		12 50 47.4		
	comp=N,996nm,0.6s							
EMPR	Esperanza - Ma	1.79 239			Sn	12 50 35.3	-0.7	
IGPR	InterUniversit	1.83 218	⇑	eP	Pn	12 50 14.6	0.0	
IGPR	InterUniversit	1.83 218		eS	Sn	12 50 37.1	+0.1	
AOPR	Arecibo Observ	2.04 239	⇑	eP	Pn	12 50 17.6	+0.1	
AOPR	Arecibo Observ	2.04 239		eS	Sn	12 50 42.0	-0.2	
AOPR	Arecibo Observ	2.04 239			Pn	12 50 17.6	+0.1	
AOPR	Arecibo Observ	2.04 239			Sn	12 50 42.0	-0.2	
UUPR	Utuado, UPR, P	2.06 236	⇑	eP	Pn	12 50 17.4	-0.3	
UUPR	Utuado, UPR, P	2.06 236			Pn	12 50 17.4	-0.3	
CELP	Cerrillos	2.06 230	⇑	eP	Pn	12 50 18.2	+0.4	
CELP	Cerrillos	2.06 230		eS	Sn	12 50 42.3	-0.5	
CELP	Cerrillos	2.06 230		Pn	Pn	12 50 18.2	+0.4	
CELP				IAML		12 50 51.2		
	comp=E,549nm,0.7s							
CELP	Cerrillos	2.06 230			Sn	12 50 42.3	-0.5	
OBIP	Obispado Ponce	2.10 230	⇑	eP	Pn	12 50 18.8	+0.5	
OBIP	Obispado Ponce	2.10 230		eS	Sn	12 50 43.6	-0.2	
OBIP	Obispado Ponce	2.10 230			Pn	12 50 18.8	+0.5	
OBIP	Obispado Ponce	2.10 230			Sn	12 50 43.6	-0.2	
SMRT	St. Maarten	2.21 128		Pn	Pn	12 50 19.4	-0.5	
SMRT				IAML		12 50 52.0		
	comp=N,776nm,0.2s							
SMRT				IAML		12 51 00.7		
	comp=E,910nm,0.5s							
AGPR	Aguadilla, PR	2.28 246	⇓	eP	Pn	12 50 20.7	-0.1	
AGPR	Aguadilla, PR	2.28 246		eS	Sn	12 50 48.5	+0.4	
AGPR	Aguadilla, PR	2.28 246		Pn	Pn	12 50 20.8	+0.1	
AGPR	Aguadilla, PR	2.28 246			Sn	12 50 48.5	+0.4	
GBPR	Guanica, Bosqu	2.35 233	⇑	eP	Pn	12 50 22.2	+0.5	
LSP	Las Mesas	2.40 239	⇑	eP	Pn	12 50 22.7	+0.4	
PRSN	Puerto Rico Se	2.42 241			Pn	12 50 23.0	+0.3	
PRSN				IAML		12 50 58.7		
	comp=E,878nm,0.3s							
MLPR	Magueyes Islan	2.48 235	⇑	eP	Pn	12 50 23.9	+0.5	
MLPR	Magueyes Islan	2.48 235		eS	Sn	12 50 52.8	-0.2	
MLPR	Magueyes Islan	2.48 235		Pn	Pn	12 50 24.0	+0.5	
MLPR	Magueyes Islan	2.48 235			Sn	12 50 52.8	-0.2	
CRPR	Cabo Rojo, PR	2.51 236	⇑	eP	Pn	12 50 24.2	+0.4	
CRPR	Cabo Rojo, PR	2.51 236		eS	Sn	12 50 53.4	-0.3	
CRPR	Cabo Rojo, PR	2.51 236			Pn	12 50 24.4	+0.5	
CRPR				IAML		12 51 10.2		
	comp=N,357nm,0.6s							
CRPR	Cabo Rojo, PR	2.51 236			Sn	12 50 53.4	-0.3	
IDE	Isla Desecheo	2.63 247	⇓	eP	Pn	12 50 25.8	+0.3	
IDE	Isla Desecheo	2.63 247		eS	Sn	12 50 57.1	+0.4	
SEUS	St. Eustatius	2.66 136		Pn	Pn	12 50 25.1	-0.8	
SEUS				IAML		12 51 11.2		
	comp=E,497nm,0.1s							
PCDR	Punta Cana, DR	3.40 255	⇑	eP	Pn	12 50 36.6	+0.5	
PCDR	Punta Cana, DR	3.40 255		eS	Sn	12 51 16.2	+0.5	
PCDR	Punta Cana, DR	3.40 255			Pn	12 50 36.6	+0.5	
PCDR					Sn	12 51 16.2	+0.5	
PCDR	Punta Cana, DR	3.40 255		IAML		12 51 43.3		
	comp=N,211nm,1.3s							
ANWB	Willy Bob	3.44 120		Pn	Pn	12 50 37.0	+0.3	
ANWB				IAML		12 51 43.0		
	comp=N,153nm,1.0s							
ANWB				IAML		12 51 52.2		
	comp=N,164nm,1.3s							
CBE	Ff, Capester	4.59 136			Pn	12 50 53.9	+1.4	
TDBA	Terre de Bas,	4.73 138		Pn	Pn	12 50 54.7	+0.2	
TDBA				IAML		12 51 56.3		
	comp=N,108nm,0.3s							
TDBA				IAML		12 52 06.2		
	comp=E,75nm,0.8s							
H05N1	Guadeloupe/Mar	4.80 129		Pn	Pn	12 50 54.6	-0.8	
H05N1				Sn	Sn	12 51 46.5	-3.9	
MAGL	Barre de l'ile	4.89 134			Pn	12 50 59.9	+3.2	
BANI	BANI	5.25 260			Pn	12 51 03.1	+1.3	
BANI	BANI	5.25 260	*i*	P	Pn	12 51 03.4	+1.7	
BANI				eS	Sn	12 52 02.8	+1.2	
BANI				IAML		12 52 09.9		
	comp=E,44nm,0.4s							
LOBA2	Hotel Casa Bon	6.00 258	*i*	P	Pn	12 51 12.9	+1.0	
LOBA2				eS	Sn	12 52 17.6	-2.3	
LOBA2				IAML		12 52 20.9		
	comp=E,20nm,2.7s							
SDDR	Presa de Saban	6.04 267			Pn	12 51 13.8	+1.4	
SDDR	Presa de Saban	6.04 267	*i*	P	Pn	12 51 13.6	+1.2	
SDDR				eS	Sn	12 52 18.3	-2.6	
SDDR				IAML		12 52 29.6		
	comp=E,38nm,0.3s							
GRTK	Grand Turk	6.19 291		Pn	Pn	12 51 13.8	-0.6	
GRTK	Grand Turk	6.19 291	*i*	P	Pn	12 51 12.8	-1.7	
GRTK				eS	Sn	12 52 17.8	-6.7	
GRTK				IAML		12 52 33.1		
	comp=E,45nm,2.5s							
LONE2	Loma La Sidra	6.26 263	*i*	P	Pn	12 51 16.8	+1.1	
LONE2				IAML		12 52 33.6		
	comp=E,20nm,1.9s							
JAKH	Jacmel	7.29 262		Pn	Pn	12 51 30.9	+1.3	
URIC	Uribia, Colomb	10.26 223		Pn	Pn	12 52 11.2	+0.8	
BAUV	El Baul	10.84 197		Pn	Pn	12 52 20.2	+1.8	
SDV	Santo Domingo	11.84 209		Pn	Pn	12 52 35.6	+3.3	
	comp=Z,0.8nm,0.3s,baz=19,slow=8.0,SNR=6.9							
SDV				Sn	Sn	12 54 44.8	+0.9	
	comp=Z,0.3nm,0.3s,baz=358,slow=16,SNR=1.5							
SDV	Santo Domingo	11.84 209			Pn	12 52 35.1	+2.8	
ZARC	Zaragoza, Cauc	15.29 220			Pn	12 53 19.3	+0.3	
UREC	San Jos de Ur	15.51 223		eP	Pn	12 53 22.4	+0.5	
PTBC	PUERTO BERRIO,	15.81 217		eP	Pn	12 53 25.9	+0.1	
CHIC	Chingaza	17.03 211		eP	Pn	12 53 41.1	-0.6	
GUY2C	Guyana, Caldas	17.40 217		eP	Pn	12 53 45.6	-0.7	
PCON	Cinco Dias	20.36 215		eP	P	12 54 17.2	-3.0	
SOTA	Rioblanco	20.64 215		eP	P	12 54 23.2	+0.2	
TXAR	Lajitas Array	36.51 293		P	P	12 56 50.4	+2.0	
	comp=Z,1.3nm,0.8s,baz=107,slow=11,SNR=10							
ANMO	Albuquerque	39.76 302		P	P	12 57 17.2	+1.3	
	comp=Z,1.0nm,0.8s,baz=110,slow=7.5,SNR=2.7							
PDAR	Pinedale Array	44.10 312		P	P	12 57 52.7	+1.4	
	comp=Z,0.4nm,0.7s,baz=130,slow=8.4,SNR=2.8							
NVAR	Mina Array Bea	49.71 304		P	P	12 58 36.7	+1.4	
	comp=Z,0.2nm,0.3s,baz=88,slow=8.2,SNR=2.3							
YKA	Yellowknife Ar	54.82 334		P	P	12 59 11.5	-1.0	
	comp=Z,0.1nm,0.5s,baz=116,slow=7.5,SNR=3.3							
TORD	Torodi Ar. Bea	63.92 85		P	P	13 00 15.9	-0.3	
	comp=Z,1.1nm,1.1s,baz=293,slow=7.2,SNR=2.2							
ASAR	Alice Springs	161.99 253		PKPab	PKPab	13 10 30.7	-0.3	
	comp=Z,0.4nm,0.9s,baz=113,slow=4.2,SNR=4.8							

*IDC **14** 12:53:22.0±1.2, 32.76N×130.74E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/56, mbtmp3.4/6, ML2.1/1, Error ellipse: s-maj=29.1km s-min=8.6km az=113.0*
*JMA **14** 12:53:22.1, 32.75N×130.79E, h8km±1km, M3.5*
JMA Felt III J1.
ISC 14 12:53:23.7±0.8,**32.74N**±0.04×**130.80E**±0.08,**h12**km,**n11**, σ1§**65**/13,**mb3.3**/5,**3C**,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.19**	**177**	⇑P		**Pg**	**12 53 26.4**	**-1.5**
JIU3					S	Sg	12 53 29.8	-1.0
JTA	**Tamana**	**0.32**	**314**	⇑P		**Pg**	**12 53 28.3**	**-1.8**
JNU	**Nakatsue**	**0.38**	**10**	Pg		**Pg**	**12 53 29.4**	**-2.0**
	315nm,0.3s,baz=176,slow=8.0,SNR=20							
JNU				Lg		Lg	12 53 34.5	
	2μm,0.3s,baz=355,slow=6.5,SNR=21							
JNU	**Nakatsue**	**0.38**	**10**	⇑P		**Pg**	**12 53 29.9**	**-1.4**
JNU					S	Sg	12 53 35.0	-1.5
KSRS	**Korea Array**	**5.26**	**334**	Pg		**Pb**	**12 54 57.9**	**+2.4**
	0.6nm,0.3s,baz=154,slow=16,SNR=8.1							
KSRS				Lg		Lg	12 56 04.2	
	0.4nm,0.3s,baz=153,slow=30,SNR=4.2							
MJAR	**Matsushiro Arr**	**7.18**	**56**	Pn		**Pn**	**12 55 09.5**	**+0.9**
	0.0nm,0.3s,baz=244,slow=13,SNR=1.9							
MKAR	**Makanchi Array**	**39.22**	**306**	P		**P**	**13 00 49.8**	**-1.9**
	0.3nm,0.8s,baz=91,slow=8.6,SNR=2.0							
KURBB	**Kurchatov Arra**	**41.97**	**311**	P		**P**	**13 01 14.5**	**+0.1**
	0.5nm,0.8s,baz=96,slow=8.8,SNR=5.5							
ASAR	**Alice Springs**	**56.17**	**177**	P		**P**	**13 03 03.8**	**+0.5**
	0.3nm,0.9s,baz=358,slow=7.1,SNR=2.3							
FINES	**FINESS Array B**	**68.34**	**330**	P		**P**	**13 04 25.7**	**+1.3**
	1.2nm,0.7s,baz=78,slow=7.3,SNR=3.4							
YKA	**Yellowknife Ar**	**71.70**	**26**	P		**P**	**13 04 44.7**	**-0.4**
	0.1nm,0.7s,baz=291,slow=6.2,SNR=4.7							

JMA 14 12:54:58.9, 32.80N×130.83E, h6km, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.25**	**183**	P		Pg	12 55 04.0	-2.2

*IDC **14** 12:54:59.6±1.5, 32.71N×131.02E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/54, mbtmp3.8/8, Error ellipse: s-maj=63.0km s-min=8.0km az=79.0*
*JMA **14** 12:55:01.8, 32.77N×130.83E, h8km, M3.9*
JMA Felt IV J1.
ISC 14 12:55:03.1±0.7,**32.77N**±0.04×**130.79E**±0.07,**h12**km,**n15**, σ1§**86**/18,**mb3.7**/8,**2C**,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.22**	**176**	⇑P		**Pg**	**12 55 06.5**	**-1.3**
JIU3					S	Sg	12 55 09.9	-1.0
JTA	**Tamana**	**0.29**	**312**	P		**Pg**	**12 55 08.0**	**-1.2**
JTA					S	Sg	12 55 12.6	-0.6
JNU	**Nakatsue**	**0.36**	**11**	Pg		**Pg**	**12 55 08.2**	**-2.2**
	4μm,0.3s,baz=83,slow=21,SNR=28							
JNU	**Nakatsue**	**0.36**	**11**	⇑P		**Pg**	**12 55 09.0**	**-1.4**
JNU					S	Sg	12 55 13.9	-1.4
KSRS	**Korea Array**	**5.24**	**334**	Pg		**Pb**	**12 56 37.1**	**+2.5**
	1.3nm,0.3s,baz=152,slow=18,SNR=10							
KSRS				Lg		Lg	12 57 47.4	
	1.7nm,0.3s,baz=149,slow=32,SNR=9.0							
JOW	**Kunigami**	**6.30**	**201**	Pn		**Pn**	**12 56 38.3**	**+2.4**
	2.8nm,0.3s,baz=29,slow=10,SNR=8.9							
MJAR	**Matsushiro Arr**	**7.18**	**56**	Pn		**Pn**	**12 56 51.4**	**+3.5**
	0.2nm,0.3s,baz=237,slow=13,SNR=6.9							
SONM	**Songino Array**	**23.80**	**316**	P		**P**	**13 00 17.2**	**+1.4**
	2.3nm,0.9s,baz=120,slow=10,SNR=5.8							
MKAR	**Makanchi Array**	**39.20**	**305**	P		**P**	**13 02 30.8**	**-0.3**
	0.1nm,0.4s,baz=93,slow=7.2,SNR=3.4							
KURBB	**Kurchatov Arra**	**41.95**	**311**	P		**P**	**13 02 53.1**	**-0.6**
	1.2nm,0.7s,baz=97,slow=8.9,SNR=11							
WRA	**Warramunga Arr**	**52.52**	**176**	P		**P**	**13 04 14.0**	**-2.3**
	0.8nm,0.9s,baz=354,slow=7.8,SNR=3.6							
ASAR	**Alice Springs**	**56.19**	**177**	P		**P**	**13 04 41.0**	**-2.1**
	0.7nm,0.9s,baz=358,slow=5.6,SNR=6.5							
FINES	**FINESS Array B**	**68.31**	**330**	P		**P**	**13 06 02.9**	**-0.9**
	1.2nm,0.5s,baz=69,slow=6.3,SNR=7.3							
AKASG	**Malin Array Be**	**72.05**	**319**	P		**P**	**13 06 26.0**	**-0.9**
	2.0nm,0.6s,baz=54,slow=5.8,SNR=8.6							
BRTR	**Keskin Array B**	**74.81**	**308**	P		**P**	**13 06 42.9**	**-0.7**
	1.2nm,0.8s,baz=94,slow=5.8,SNR=3.0							

*IDC **14** 12:56:34.6±1.0, 14.53N×92.78W, h0km, mb4.1/18, mb1 4.3/20, mb1mx4.2/48, mbtmp4.1/20, ML4.2/2, Error ellipse: s-maj=41.3km s-min=14.6km az=45.0*
*SNET **14** 12:56:40.5±1.0, 14.22N×93.06W, h52km±50km, ML4.4*
*UCR **14** 12:56:40.5±1.2, 14.23N×93.07W, h46km±94km, ML4.0, mb4.3(NEIC)*
*NEIC **14** 12:56:42.0±2.6, 14.47N±0.07×93.13W±0.05, h48km±8km, mb4.3/37, Md4.3/12(MEX), Error ellipse: s-maj=11.2km s-min=6.4km az=207.0*
*MEX **14** 12:56:41.6±1.5, 14.54N×93.26W, h24km±118km, MD4.3*
*GCG **14** 12:56:41.4±0.4, 14.87N×93.03W, h50km±61km, MD4.5*
ISC 14 12:56:39.2±0.6,**14.32N**±0.06×**93.24W**±0.05,**h35**km±2km, **n111**, σ1§**54**/128,**mb4.3**/30,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		**1.11**	**58**			**Pn**	**12 56 56.8**	**-1.4**
THIG						Sn	12 57 09.8	-2.5
THIG		**1.11**	**58**	eP		**Pn**	**12 56 56.8**	**-1.4**
THIG				*i*	S	Sn	12 57 09.5	-2.8
PCIG		**1.38**	**1**			**Pn**	**12 56 59.5**	**-2.4**
PCIG						Sn	12 57 16.6	-2.4
PCIG		**1.38**	**1**	*i*	P	**Pn**	**12 56 59.5**	**-2.4**
PCIG				*i*	S	Sn	12 57 13.1	-5.9
RTAL	**Retalhuleu**	**1.51**	**82**			**Pn**	**12 57 03.2**	**-0.5**
RTAL	**Retalhuleu**	**1.51**	**82**	eP		**Pn**	**12 57 02.4**	**-1.3**
RTAL				eS		Sn	12 57 21.4	-0.8
STG3	**Santiaguito 3,**	**1.66**	**76**	eP		**Pn**	**12 57 05.5**	**-0.5**
HUEH	**Huehuetenango**	**1.95**	**59**			**Pn**	**12 57 10.6**	**+0.6**
HUEH	**Huehuetenango**	**1.95**	**59**	eP		**Pn**	**12 57 11.0**	**+0.9**
HUEH				eS		Sn	12 57 34.5	+1.1
HUEH	**Huehuetenango**	**1.95**	**59**	eP		**Pn**	**12 57 11.0**	**+0.9**
HUEH				eS		Sn	12 57 34.5	+1.1
CCIG	**Comitan**	**2.23**	**28**			**Pn**	**12 57 14.8**	**+1.0**
CCIG	**Comitan**	**2.23**	**28**	eP		**Pn**	**12 57 14.8**	**+1.0**
CCIG				*i*	S	Sn	12 57 39.7	-0.4
FUG	**Fuego 3**	**2.33**	**86**	eP		**Pn**	**12 57 15.7**	**+0.5**
FUG				eS		Sn	12 57 42.3	-0.3
TGIG		**2.45**	**3**			**Pn**	**12 57 16.8**	**+0.1**
TGIG						Sn	12 57 44.8	-0.7
TGIG		**2.45**	**3**	eP		**Pn**	**12 57 16.8**	**+0.1**
TGIG				eS		Sn	12 57 44.8	-0.7
PCG	**Pacaya**	**2.55**	**88**	eP		**Pn**	**12 57 19.3**	**+1.0**
NBG	**Las Nubes**	**2.81**	**84**	eP		**Pn**	**12 57 23.7**	**+1.8**
HUIG	**Huatulco**	**3.13**	**298**	eP		**Pn**	**12 57 24.6**	**-1.4**
HUIG				eP		Pn	12 57 24.6	-1.4
HUIG				*i*	S	Sn	12 58 21.0	+19
CMIG	**Matias Romero**	**3.18**	**330**	Pn		**Pn**	**12 57 25.7**	**-1.0**
	34nm,0.3s,baz=149,slow=13,SNR=206							
CMIG						Sn	12 58 02.4	-1.1
	49nm,0.3s,baz=186,slow=20,SNR=11							
CMIG	**Matias Romero**	**3.18**	**330**	eP		**Pn**	**12 57 25.2**	**-1.5**
CMIG				*i*	S	Sn	12 58 01.0	-2.4
SLOZ	**Alcaldia de Sa**	**3.36**	**94**	eP		**Pn**	**12 57 29.2**	**-0.1**
SLOZ				eS		Sn	12 58 06.4	-1.6
SLOZ				IAML			12 58 35.0	
	comp=Z,378nm,0.6s							
NUBE	**Las Nubes**	**3.38**	**97**	eP		**Pn**	**12 57 28.9**	**-0.7**
NUBE				eS		Sn	12 58 05.1	-3.5
NUBE	**Las Nubes**	**3.38**	**97**	eP		**Pn**	**12 57 28.9**	**-0.7**
NUBE				eS		Sn	12 58 05.1	-3.5
RTR	**El Retiro**	**3.51**	**96**	eP		**Pn**	**12 57 31.1**	**-0.3**
RTR	**El Retiro**	**3.51**	**96**	eP		**Pn**	**12 57 31.1**	**-0.3**
MRL	**Marmol**	**3.52**	**77**	eP		**Pn**	**12 57 32.2**	**+0.6**
CEVE	**Cerro Verde**	**3.54**	**97**	eP		**Pn**	**12 57 31.7**	**-0.2**
CEVE				eS		Sn	12 58 11.9	-0.8
CEVE				IAML			12 58 25.5	
	comp=Z,2μm,0.5s							
CEVE	**Cerro Verde**	**3.54**	**97**	eP		**Pn**	**12 57 31.7**	**-0.2**
CEVE				eS		Sn	12 58 11.9	-0.8
CEVE				IAML			12 58 25.5	
	comp=Z,2μm,0.5s							
SBLS	**San Blas**	**3.54**	**97**	eP		**Pn**	**12 57 31.7**	**-0.2**
SBLS	**San Blas**	**3.54**	**97**	eP		**Pn**	**12 57 31.7**	**-0.2**
SNJE	**San Jose**	**3.55**	**97**	eP		**Pn**	**12 57 31.9**	**-0.1**
SNJE				eS		Sn	12 58 11.9	-1.0
SNJE	**San Jose**	**3.55**	**97**	eP		**Pn**	**12 57 31.9**	**-0.1**
SNJE				eS		Sn	12 58 11.9	-1.0
MTO3	**Montecristo**	**3.76**	**88**			**Pn**	**12 57 34.5**	**-0.4**
MTO3	**Montecristo**	**3.76**	**88**	eP		**Pn**	**12 57 34.5**	**-0.4**
MTO3	**Montecristo**	**3.76**	**88**	eP		**Pn**	**12 57 34.5**	**-0.4**
ESQI	**Esquipulas**	**3.78**	**86**			**Pn**	**12 57 36.1**	**+1.0**

LFRS	El Faro	4.11	99	eP		Pn	12 57 39.5	-0.2
LFRS				eS		Sn	12 58 25.0	-1.6
LFRS	El Faro	4.11	99	eP		Pn	12 57 39.5	-0.2
LFRS				eS		Sn	12 58 25.0	-1.6
PEIG	Puerto Escondi	4.13	294	eP		Pn	12 57 39.9	+0.1
PETF	Flores	4.15	51			Pn	12 57 41.3	+1.2
PETF	Flores	4.15	51	eP		Pn	12 57 40.8	+0.7
PETF	Flores	4.15	51	eP		Pn	12 57 40.8	+0.7
VHO	Vista Hermosa	4.34	310	eP		Pn	12 57 44.1	+1.2
VHO				eS		Sn	12 58 33.3	+1.0
YOIG	Yosondua	4.86	302	eP		Pn	12 57 51.1	+1.0
YOIG				*e*			12 58 41.0	
PNIG	Pinotepa	5.15	294	eP		Pn	12 57 53.4	-0.4
TXIG	Tlaxiaco	5.25	304	eP		Pn	12 57 55.3	-0.1
TXIG				eS		Sn	12 58 49.6	-5.3
TOIG	Toxpalan	5.26	316	eP		Pn	12 57 55.5	+0.1
TOIG				eS		Sn	12 58 50.5	-4.3
TGUH	Tegucigalpa,Un	5.79	92			Pn	12 58 03.1	+0.3
TLIG	Tlapa	6.06	303	Pn		Pn	12 58 08.0	+1.6
CRIN	San Cristobal	6.23	104			Pn	12 58 10.6	+1.8
CNGN	Cerro Negro	6.62	105			Pn	12 58 15.8	+1.8
MATN	Matagalpa	7.24	100			Pn	12 58 23.9	+1.2
BOAB	BOACO BROADBAN	7.60	103	Pn		Pn	12 58 27.6	+0.1
ORTG	Ortega, Santa	8.56	116			Pn	12 58 41.2	+0.5
DUNO	Dulce Nombre,	8.66	118			Pn	12 58 44.8	+2.7
ESPN	Las Esperanzas	8.95	103			Pn	12 58 47.9	+1.9
JTS	Las Juntas de	9.03	115	Lg		Lg	13 01 00.6	
	comp=Z,0.5nm,0.3s,baz=297,slow=18,SNR=10.0							
RIMA	Rio Macho	10.22	115			Pn	12 59 06.0	+2.4
SRBA	San Rafael, Bu	10.91	117			Pn	12 59 14.4	+1.4
DRKO	Durika	11.00	116			Pn	12 59 15.7	+1.4
833A	Chaparral WMA,	15.07	339	Pn		Pn	13 00 10.2	+0.7
JCT	Junction City	17.18	340	P		Pn	13 00 37.2	+0.6
TX31	Lajitas Ar. Si	17.79	329	P		P	13 00 46.0	+1.3
TX31				IAmb	IAmb		13 00 53.4	
	comp=Z,37nm,1.1s							
TX32	Lajitas Array	17.79	329			P	13 00 46.0	+1.3
TXAR	Lajitas Array	17.79	329	P		P	13 00 45.9	+1.3
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=19							
TXAR	Lajitas Array	17.79	329			P	13 00 47.0	+2.3
152A	Waverly Hall	19.85	22	P		P	13 01 06.8	-0.3
152A				IAmb	IAmb		13 01 11.9	
	comp=Z,13nm,0.8s							
MIAR	Mount Ida	20.14	359	IAmb	IAmb		13 01 18.2	
	comp=Z,19nm,1.0s							
MNTX	Cornudas Mount	20.57	329	P		P	13 01 16.3	+1.3
W35A	Tecumseh	21.00	352	P		P	13 01 21.4	+1.8
W35A				IAmb	IAmb		13 01 22.6	
	comp=Z,10nm,0.6s							
FNO	Franklin	21.19	351	P		P	13 01 22.8	+1.2
MSTX	Muleshoe	21.39	338	P		P	13 01 24.4	+0.5
MSTX				IAmb	IAmb		13 01 33.2	
	comp=Z,17nm,0.9s							
FCAR	Ozark Folk Cen	21.51	2	P		P	13 01 25.3	+0.3
FCAR				IAmb	IAmb		13 01 27.6	
	comp=Z,12nm,0.9s							
SDV	Santo Domingo	22.78	101	P		P	13 01 36.5	-2.6
	comp=Z,6.6nm,0.6s,baz=309,slow=8.2,SNR=11							
SDV	Santo Domingo	22.78	101	P		P	13 01 38.0	-1.2
SDV				IAmb	IAmb		13 01 40.8	
	comp=Z,7.1nm,0.7s							
BNM	Barren Site	23.17	331	P		P	13 01 44.1	+1.1
ANMO	Albuquerque	23.75	332	P		P	13 01 49.6	+1.1
	comp=Z,2.9nm,0.9s,baz=132,slow=8.9,SNR=5.1							
ANMO	Albuquerque	23.75	332	IAmb	IAmb		13 01 57.7	
	comp=Z,3.9nm,1.0s							
TUC	Tucson	24.03	321	P		P	13 01 53.6	+2.6
TUC				IAmb	IAmb

PCIG		**1.47**	**3**	*i* P	**Pn**	**13 04 08.0**	**-0.9**
PCIG				*i* S	**Sb**	**13 04 25.2**	**-3.4**
RTAL	**Retalhuleu**	**1.58**	**79**		**Pn**	**13 04 11.4**	**+0.9**
RTAL	**Retalhuleu**	**1.58**	**79**	*e*P	**Pn**	**13 04 11.4**	**+0.9**
RTAL				*e*S	**Sn**	**13 04 27.3**	**-3.9**
STG3	**Santiaguito 3,**	**1.74**	**74**	*e*P	**Pn**	**13 04 13.8**	**+1.0**
HUEH	**Huehuetenango**	**2.05**	**58**		**Pn**	**13 04 18.0**	**+0.9**
HUEH	**Huehuetenango**	**2.05**	**58**	*e*P	**Pn**	**13 04 18.8**	**+1.6**
HUEH	**Huehuetenango**	**2.05**	**58**	*e*P	**Pn**	**13 04 18.8**	**+1.6**
CCIG	**Comitan**	**2.33**	**29**		**Pb**	**13 04 23.1**	**-1.4**
CCIG	**Comitan**	**2.33**	**29**		**Sn**	**13 04 49.7**	**-0.2**
CCIG	**Comitan**	**2.33**	**29**	*i* P	**Pb**	**13 04 23.0**	**-1.4**
CCIG				*i* S	**Sn**	**13 04 49.7**	**-0.2**
FUG	**Fuego 3**	**2.39**	**84**	*e*P	**Pn**	**13 04 24.0**	**+2.2**
FUG				*e*S	**Sn**	**13 04 52.6**	**+1.1**
TGIG		**2.54**	**4**		**Pn**	**13 04 25.4**	**+1.6**
TGIG					**Sn**	**13 04 54.8**	**-0.2**
TGIG		**2.54**	**4**	*i* P	**Pn**	**13 04 25.4**	**+1.6**
TGIG				*i* S	**Sn**	**13 04 54.8**	**-0.2**
PCG	**Pacaya**	**2.61**	**86**	*e*P	**Pb**	**13 04 28.2**	**-1.2**
NBG	**Las Nubes**	**2.88**	**83**	*e*P	**Pb**	**13 04 33.1**	**-0.9**
CMIG	**Matias Romero**	**3.23**	**332**	Pn	**Pn**	**13 04 34.3**	**+1.1**
	30nm,0.3s,baz=160,slow=12,SNR=251						
CMIG				Sn	**Sn**	**13 05 11.5**	**-0.4**
	70nm,0.3s,baz=9.6,slow=22,SNR=9.0						
CMIG				Lg	Lg	13 05 26.8	
	63nm,0.3s,baz=286,slow=22,SNR=7.2						
CMIG	**Matias Romero**	**3.23**	**332**		**Pn**	**13 04 34.2**	**+1.1**
CMIG					**Sn**	**13 05 08.8**	**-3.2**
CMIG	**Matias Romero**	**3.23**	**332**	*i* P	**Pn**	**13 04 34.2**	**+1.1**
CMIG				*i* S	**Sn**	**13 05 08.8**	**-3.2**
SLOZ	**Alcaldia de Sa**	**3.42**	**93**	*e*P	**Pn**	**13 04 37.1**	**+1.3**
SLOZ				*e*S	**Sn**	**13 05 11.5**	**-5.1**
SLOZ				IAML		13 05 35.6	
	comp=Z,267nm,0.6s						
NUBE	**Las Nubes**	**3.43**	**95**	*e*P	**Pn**	**13 04 37.5**	**+1.4**
NUBE				*e*S	**Sn**	**13 05 11.8**	**-5.3**
NUBE				IAML		13 05 18.2	
	comp=Z,287nm,0.4s						
NUBE	**Las Nubes**	**3.43**	**95**	*e*P	**Pn**	**13 04 37.5**	**+1.4**
NUBE				*e*S	**Sn**	**13 05 11.8**	**-5.3**
NUBE				IAML		13 05 18.2	
	comp=Z,287nm,0.4s						
RTR	**El Retiro**	**3.56**	**95**	*e*P	**Pn**	**13 04 39.4**	**+1.5**
RTR	**El Retiro**	**3.56**	**95**	*e*P	**Pn**	**13 04 39.4**	**+1.5**
SBLS	**San Blas**	**3.59**	**96**	*e*P	**Pn**	**13 04 40.4**	**+2.1**
SBLS	**San Blas**	**3.59**	**96**	*e*P	**Pn**	**13 04 40.4**	**+2.1**
CEVE	**Cerro Verde**	**3.59**	**96**	*e*P	**Pn**	**13 04 40.4**	**+2.1**
CEVE				*e*S	**Sn**	**13 05 16.9**	**-4.2**
CEVE				IAML		13 05 37.4	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**3.59**	**96**	*e*P	**Pn**	**13 04 40.4**	**+2.1**
CEVE				*e*S	**Sn**	**13 05 16.9**	**-4.2**
CEVE				IAML		13 05 37.4	
	comp=Z,2μm,0.3s						
MRL	**Marmol**	**3.60**	**76**	*e*P	**Pn**	**13 04 41.3**	**+2.8**
SNJE	**San Jose**	**3.60**	**95**	*e*P	**Pn**	**13 04 39.9**	**+1.4**
SNJE	**San Jose**	**3.60**	**95**	*e*P	**Pn**	**13 04 39.9**	**+1.4**
MTO3	**Montecristo**	**3.82**	**87**		**Pn**	**13 04 42.9**	**+1.3**
MTO3	**Montecristo**	**3.82**	**87**	*e*P	**Pn**	**13 04 42.7**	**+1.2**
MTO3	**Montecristo**	**3.82**	**87**	*e*P	**Pn**	**13 04 42.7**	**+1.2**
PEIG	**Puerto Escondi**	**4.11**	**296**	*i* P	**Pn**	**13 04 45.0**	**-0.3**
PEIG				*i* S	**Sn**	**13 05 29.1**	**-4.7**
LFRS	**El Faro**	**4.16**	**98**	*e*P	**Pn**	**13 04 48.1**	**+2.1**
LFRS				*e*S	**Sn**	**13 05 30.0**	**-5.0**
LFRS	**El Faro**	**4.16**	**98**	*e*P	**Pn**	**13 04 48.1**	**+2.1**
LFRS				*e*S	**Sn**	**13 05 30.0**	**-5.0**
PETF	**Flores**	**4.25**	**51**		**Pn**	**13 04 49.4**	**+2.2**
PETF	**Flores**	**4.25**	**51**	*e*P	**Pn**	**13 04 49.5**	**+2.2**
PETF	**Flores**	**4.25**	**51**	*e*P	**Pn**	**13 04 49.5**	**+2.2**
PAVA	**Las Pavas**	**4.26**	**96**	*e*P	**Pn**	**13 04 49.1**	**+1.6**
PAVA	**Las Pavas**	**4.26**	**96**	*e*P	**Pn**	**13 04 49.1**	**+1.6**
VHO	**Vista Hermosa**	**4.35**	**311**	*e*P	**Pn**	**13 04 48.0**	**-0.8**
VHO				*i* S	**Sn**	**13 05 35.7**	**-4.3**
YOIG	**Yosondua**	**4.86**	**303**	*i* P	**Pn**	**13 04 55.4**	**-0.5**
YOIG				*i* S	**Sn**	**13 05 48.5**	**-3.9**
PNIG	**Pinotepa**	**5.13**	**295**		**Pn**	**13 05 02.2**	**+2.8**
PNIG					**Sn**	**13 05 54.1**	**-4.9**
PNIG	**Pinotepa**	**5.13**	**295**	*i* P	**Pn**	**13 05 02.2**	**+2.8**
PNIG				*i* S	**Sn**	**13 05 54.1**	**-4.9**
TOIG	**Toxpalan**	**5.28**	**317**	*i* P	**Pn**	**13 05 00.2**	**-1.3**
TOIG				*i* S	**Sn**	**13 05 58.8**	**-3.9**
CNGN	**Cerro Negro**	**6.65**	**104**		**Pn**	**13 05 21.6**	**+1.3**
BOAB	**BOACO BROADBAN**	**7.64**	**102**	Pn	**Pn**	**13 05 35.5**	**+1.7**
ORTG	**Ortega, Santa**	**8.57**	**116**		**Pn**	**13 05 50.7**	**+4.0**
RIMA	**Rio Macho**	**10.24**	**115**		Pn	13 06 15.2	+5.5
SRBA	**San Rafael, Bu**	**10.92**	**116**		**Pn**	**13 06 23.4**	**+4.4**
DRK0	**Durika**	**11.01**	**116**		Pn	13 06 23.1	+4.9
SOR	**Soroa**	**12.95**	**47**		**Pn**	**13 06 46.7**	**+0.1**
833A	**Chaparral WMA,**	**15.13**	**339**		**P**	**13 07 20.5**	**-1.0**
833A				IAmb	IAmb	13 07 29.0	
	comp=Z,27nm,1.0s						
TX31	**Lajitas Ar. Si**	**17.83**	**329**		**P**	**13 07 55.4**	**+3.8**
TX31				IAmb	IAmb	13 08 02.4	
	comp=Z,20nm,1.1s						
TXAR	**Lajitas Array**	**17.83**	**329**	P	**P**	**13 07 54.4**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=147,slow=13,SNR=20						
TXAR	**Lajitas Array**	**17.83**	**329**		**P**	**13 07 55.5**	**+3.9**
X37A	**Clayton**	**20.36**	**355**	P	**P**	**13 08 20.1**	**+0.9**
X37A				IAmb	IAmb	13 08 27.9	
	comp=Z,20nm,1.5s						
MNTX	**Cornudas Mount**	**20.61**	**330**	P	Pn	13 08 24.5	+0.2
ROSC	**El Rosal**	**20.89**	**115**	P	**P**	**13 08 25.8**	**+0.2**
	comp=Z,7.9nm,0.4s,baz=44,slow=23,SNR=1.7						
ROSC				LR	LR	13 16 52.4	
	comp=Z,4μm,20.7s,baz=219,slow=38						
SDV	**Santo Domingo**	**22.82**	**101**	P	**P**	**13 08 46.3**	**+0.2**
	comp=Z,6.2nm,0.6s,baz=311,slow=7.8,SNR=9.8						
S39A	**Bolivar**	**23.37**	**360**	P	**P**	**13 08 50.5**	**-0.7**
S39A				IAmb	IAmb	13 08 53.1	
	comp=Z,7.6nm,0.6s						
ANMO	**Albuquerque**	**23.80**	**332**	P	**P**	**13 08 57.7**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=146,slow=17,SNR=3.0						
T25A	**Trinidad**	**24.88**	**339**	P	**P**	**13 09 05.9**	**+0.3**
T25A				IAmb	IAmb	13 09 17.5	
	comp=Z,9.4nm,0.9s						
SDCO	**Great Sand Dun**	**25.81**	**337**	P	**P**	**13 09 15.6**	**+1.3**
SDCO				IAmb	IAmb	13 09 18.1	
	comp=Z,11nm,1.4s						
N38A	**Joes South For**	**26.47**	**0**		**P**	**13 09 18.6**	**-1.2**
ECSD	**EROS Data Cent**	**29.54**	**355**	P	**P**	**13 09 45.6**	**-1.6**
PD31	**Pinedale Array**	**31.70**	**337**	P	**P**	**13 10 09.3**	**+2.6**
BW06	**Boulder Array**	**31.70**	**337**	P	**P**	**13 10 09.0**	**+2.3**
NVAR	**Mina Array Bea**	**32.71**	**322**	P	**P**	**13 10 19.6**	**+4.1**
	comp=Z,2.6nm,0.8s,baz=139,slow=8.6,SNR=16						
REDW	**Red Top Meadow**	**32.71**	**336**	P	**P**	**13 10 16.9**	**+1.4**
LOHW	**Long Hollow**	**32.83**	**337**	P	**P**	**13 10 19.1**	**+2.6**
LOHW				IAmb	IAmb	13 10 21.9	
	comp=Z,4.1nm,0.8s						
MOOW	**Moose Ponds**	**32.99**	**336**	P	**P**	**13 10 20.8**	**+2.8**
YHL	**Hebgen Lake**	**34.10**	**337**	P	**P**	**13 10 30.5**	**+2.9**
YHL				IAmb	IAmb	13 10 35.8	
	comp=Z,4.4nm,1.2s						
PAHR	**Pah Rah Range**	**34.18**	**323**	P	**P**	**13 10 27.0**	**-1.3**
MCMT	**McKenzie Canyo**	**34.73**	**335**	P	**P**	**13 10 33.3**	**+0.3**
PLID	**Pearl Lake**	**36.28**	**332**	P	**P**	**13 10 48.8**	**+2.4**
PLID				IAmb	IAmb	13 10 49.5	
	comp=Z,3.7nm,0.9s						
F10A	**Beach Ranch, E**	**37.52**	**332**	P	**P**	**13 10 59.0**	**+2.3**
EDM	**Edmonton**	**42.02**	**342**	P	**P**	**13 11 35.5**	**+1.4**
EDM				IAmb	IAmb	13 11 36.1	
	comp=Z,6.6nm,0.6s						
YKA	**Yellowknife Ar**	**50.52**	**347**	P	**P**	**13 12 41.6**	**+0.9**
	comp=Z,5.2nm,0.7s,baz=152,slow=7.4,SNR=107						
YKA				PcP	**PcP**	**13 13 59.3**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=151,slow=3.7,SNR=5.8						
INK	**Inuvik**	**59.87**	**344**	P	**P**	**13 13 49.2**	**+1.1**
	comp=Z,3.1nm,0.7s,baz=122,slow=6.6,SNR=16						
RES	**Resolute Bay**	**60.46**	**360**	P	**P**	**13 13 52.5**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=185,slow=9.5,SNR=19						
ILAR	**Eielson Array**	**62.14**	**337**	P	**P**	**13 14 05.1**	**+1.5**
	comp=Z,1.7nm,0.9s,baz=163,slow=4.9,SNR=15						
ILAR	**Eielson Array**	**62.14**	**337**	P	**P**	**13 14 04.4**	**+0.9**
RND	**Reindeer**	**62.29**	**335**	P	**P**	**13 14 05.7**	**+0.9**
WRH	**Wood River Hil**	**62.46**	**336**	P	**P**	**13 14 06.2**	**+0.5**
WRH				IAmb	IAmb	13 14 16.8	
	comp=Z,3.8nm,1.4s						
ESDC	**Sonseca Array**	**80.56**	**51**	P	**P**	**13 15 53.9**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=289,slow=4.5,SNR=4.1						
ARCES	**ARCESS Array B**	**86.31**	**18**	P	**P**	**13 16 24.8**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=300,slow=2.0,SNR=1.7						
TORD	**Torodi Ar. Bea**	**91.55**	**76**	P	**P**	**13 16 49.2**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=310,slow=5.2,SNR=2.1						
KURBB	**Kurchatov Arra**	**115.03**	**6**	PKP	PKPdf	13 22 24.8	+0.9
	comp=Z,0.2nm,0.4s,baz=345,slow=1.4,SNR=4.1						
WRA	**Warramunga Arr**	**134.23**	**256**	PKP	**PKPdf**	**13 23 03.0**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=83,slow=1.8,SNR=4.8						
CMAR	**Chiang Mai Arr**	**145.35**	**339**	PKPbc	**PKPdf**	**13 23 22.5**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=342,slow=3.7,SNR=16						

JMA 14 13:05:00.1, 32.73N×130.79E, h12km±1km, M3.5, 2C
Broadband fault plane solution: P waves. NP1:
ϕs47.00000°, δ87.00000°, λ-153.00000°. NP2:
ϕs315.00000°, δ63.00000°, λ-4.00000°. Principal axes:
T Plg16.0000°, Azm178.0000°; N Plg63.0000°,
Azm53.0000°; P Plg21.0000°, Azm274.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.18**	**174**	⇑P	Pg	13 05 04.4	+0.2
JIU3				S	Sg	13 05 07.4	+0.4
JTA	**Tamana**	**0.32**	**317**	⇑P	Pg	13 05 06.6	0.0
JTA				S	Sg	13 05 11.1	+0.2
JTZ	**Takazaki**	**0.86**	**163**	P	Pg	13 05 16.9	+0.1
JTZ				S	Sb	13 05 28.6	0.0

JMA 14 13:06:28.9, 32.70N×130.75E, h13km±1km, M3.7, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.16**	**161**	⇑P	Pg	13 06 32.7	0.0
JIU3				S	Sg	13 06 35.6	+0.2
JTA	**Tamana**	**0.32**	**325**	P	Pg	13 06 35.6	+0.1
JTA				S	Sg	13 06 40.0	+0.1
JTZ	**Takazaki**	**0.85**	**160**	⇑P	Pb	13 06 45.5	0.0
JTZ				*e*S	Sg	13 06 56.5	+0.1

JMA 14 13:06:51.6, 32.71N×130.77E, h13km±1km, M4.6
JMA Felt IV J1.
IDC 14 13:06:51.6±0.6, 32.74N×130.66E, h0km, mb4.0/24, mb1 1.4/28, mb1mx4.0/65, mbtmp4.0/28, ML3.7/4, Error ellipse: s-maj=14.4km s-min=6.6km az=118.0
NEIC 14 13:06:53.4±2.6, 32.83N±0.03×130.69E±0.07, h10km±1km, mb4.4/9, Error ellipse: s-maj=10.6km s-min=5.5km az=93.0

ISC 14 13:06:52.4±0.9, 32.71N±0.03×130.77E±0.05, h8km±6km, n57, σ1s53/58, mb4.1/31, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.16**	**166**	P	**Pg**	**13 06 55.5**	**-0.2**
JTA	**Tamana**	**0.33**	**323**	⇑P	**Pg**	**13 06 58.1**	**-0.7**
JTA				S	**Sg**	**13 07 02.8**	**-0.3**
JNU	**Nakatsue**	**0.42**	**13**	Pg	**Pg**	**13 06 59.6**	**-1.0**
	946nm,0.3s,baz=177,slow=7.0,SNR=30						
JNU				Lg	Lg	13 07 05.5	
	3μm,0.3s,baz=258,slow=19,SNR=17						
JNU	**Nakatsue**	**0.42**	**13**	Pg	**Pg**	**13 07 00.1**	**-0.6**
JTZ	**Takazaki**	**0.85**	**161**	P	**Pb**	**13 07 08.4**	**-0.9**
JTZ				S	**Sb**	**13 07 20.3**	**-0.6**
JMN	**Monobe**	**2.80**	**68**	Pn	**Pb**	**13 07 39.5**	**-3.2**
TJN	**Taejon**	**4.62**	**323**		**Pn**	**13 08 02.5**	**+0.1**
KSRS	**Korea Array**	**5.28**	**335**	Pn	**Pn**	**13 08 11.3**	**-0.3**
	1.2nm,0.3s,baz=152,slow=18,SNR=5.1						
KSRS				Pg	**Pb**	**13 08 26.9**	**+2.0**
	2.4nm,0.3s,baz=152,slow=16,SNR=11						
INU	**Inuyama**	**5.82**	**61**	Pn	**Pn**	**13 08 18.9**	**-0.1**
JGF	**Kuroka**	**6.18**	**60**		**Pn**	**13 08 26.8**	**+2.8**
JOW	**Kunigami**	**6.24**	**201**	Pn	**Pn**	**13 08 26.7**	**+1.9**
	4.9nm,0.3s,baz=62,slow=11,SNR=14						
MJAR	**Matsushiro Arr**	**7.23**	**56**	Pn	**Pn**	**13 08 41.3**	**+2.9**
	0.4nm,0.3s,baz=234,slow=12,SNR=14						
JHJ	**Hachijo jima 2**	**7.59**	**84**	Pn	**Pn**	**13 08 45.3**	**+2.0**
	15nm,0.3s,baz=54,slow=11,SNR=5.4						
USRK	**Ussuriysk Ar.**	**11.52**	**4**	Pn	Pn	13 09 43.3	+6.2
	baz=186,slow=12,SNR=4.7						
USRK	**Ussuriysk Ar.**	**11.52**	**4**		**Pn**	**13 09 38.9**	**+1.8**
LYN	**LuoYang**	**15.36**	**282**	⇑P	**P**	**13 10 30.8**	**-3.4**
KLR	**Kul'dur**	**16.52**	**2**	Pn	**P**	**13 10 49.4**	**+2.3**
	baz=164,slow=11						
LZH	**Lanzhou**	**22.45**	**286**	*e*P	P	13 11 58.6	+6.6
LZH				pP	sP	13 12 02.8	+7.5
LZH				pmax	pmax		
	comp=Z,25nm,1.5s						
ULN	**Ulaanbaatar**	**23.46**	**317**	P	**P**	**13 11 58.4**	**-4.0**
ULN				IAmb	IAmb	13 12 09.2	
	comp=Z,12nm,1.1s						
SONM	**Songino Array**	**23.82**	**317**	P	**P**	**13 12 05.7**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=121,slow=8.8,SNR=9.7						
SONM	**Songino Array**	**23.82**	**317**	P	**P**	**13 12 03.6**	**-2.4**
GTA	**Gaotai**	**25.82**	**294**	*e*P	**P**	**13 12 23.8**	**-0.5**
GTA				pP	**pP**	**13 12 27.3**	**+0.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PZH	**PanZhiHua**	**25.93**	**264**	P	**P**	**13 12 25.5**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.88**	**251**	P	**P**	**13 13 18.0**	**-0.3**
	comp=Z,2.0nm,0.4s,baz=49,slow=8.1,SNR=1.7						
ZALV	**Zalesovo Beam**	**38.72**	**317**	P	**P**	**13 14 17.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=288,slow=42,SNR=2.2						
TIXI	**Tiksi**	**39.02**	**359**	P	**P**	**13 14 18.2**	**-0.8**
	comp=Z,0.6nm,0.2s,baz=272,slow=24,SNR=1.7						
MKAR	**Makanchi Array**	**39.22**	**306**	P	**P**	**13 14 20.7**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=95,slow=11,SNR=6.0						
MKAR	**Makanchi Array**	**39.22**	**306**	P	**P**	**13 14 18.9**	**-2.2**
KURK	**Kurchatov**	**41.93**	**311**	P	**P**	**13 14 42.0**	**-1.4**
KURK				IAmb	IAmb	13 14 49.0	
	comp=Z,6.5nm,1.1s						
KURBB	**Kurchatov Arra**	**41.98**	**311**	P	**P**	**13 14 42.6**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=97,slow=8.9,SNR=12						
NRIK	**Noril'sk**	**43.88**	**339**	P	**P**	**13 14 58.5**	**-0.4**
	comp=Z,2.4nm,0.4s,baz=118,slow=11,SNR=4.0						
NRIK	**Noril'sk**	**43.88**	**339**	P	**P**	**13 14 59.3**	**+0.4**
NRIK				IAmb	IAmb	13 15 04.0	
	comp=Z,4.8nm,0.9s						
BVAR	**Borovoye Array**	**47.13**	**314**	P	**P**	**13 15 24.8**	**-0.2**
	comp=Z,2.6nm,0.7s						
BRVK	**Borovoye**	**47.20**	**314**	P	**P**	**13 15 23.8**	**-1.7**
BRVK				IAmb	IAmb	13 15 28.8	
	comp=Z,4.5nm,0.8s						
KK31	**Karatay Array**	**47.74**	**301**	P	**P**	**13 15 29.1**	**-0.8**
KKAR	**Karatay Array**	**47.74**	**301**	P	**P**	**13 15 29.2**	**-0.7**
KKAR	**Karatay Array**	**47.74**	**301**	P	**P**	**13 15 29.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.75**	**186**	P	**P**	**13 15 54.1**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=31,slow=8.9,SNR=2.2						
WRA	**Warramunga Arr**	**52.46**	**176**	P	**P**	**13 16 06.7**	**+0.9**
	comp=Z,2.5nm,0.9s,baz=350,slow=7.9,SNR=10						
ABKAR	**Akbulak array**	**54.01**	**310**	P	**P**	**13 16 16.1**	**-0.8**
ASAR	**Alice Springs**	**56.14**	**177**	P	**P**	**13 16 32.3**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=360,slow=5.7,SNR=8.9						
ILAR	**Eielson Array**	**57.73**	**30**	P	**P**	**13 16 43.0**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=284,slow=5.1,SNR=2.9						
INK	**Inuvik**	**62.09**	**25**	P	**P**	**13 17 13.2**	**0.0**
	comp=Z,1.7nm,0.9s,baz=318,slow=5.6,SNR=4.6						
A36M	**Sachs Harbour**	**63.41**	**20**	P	**P**	**13 17 22.1**	**+0.1**
A36M				IAmb	IAmb	13 17 37.4	
	comp=Z,4.3nm,1.1s						
STKA	**Stephens Creek**	**65.05**	**170**	P	**P**	**13 17 32.4**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=70,slow=6.1,SNR=2.9						
STKA	**Stephens Creek**	**65.05**	**170**	P	**P**	**13 17 31.9**	**-1.3**
KBZ	**Khabaz**	**66.85**	**308**	P	**P**	**13 17 45.3**	**+0.5**
	comp=Z,4.8nm,1.0s,baz=60,slow=9.6,SNR=5.0						
FINES	**FINESS Array B**	**68.35**	**330**	P	**P**	**13 17 52.1**	**-1.9**
	comp=Z,3.0nm,0.6s,baz=198,slow=30,SNR=2.4						
RES	**Resolute Bay**	**68.79**	**12**	P	**P**	**13 17 56.2**	**-0.3**
	comp=Z,1.8nm,1.0s,baz=289,slow=6.8,SNR=3.8						
YKA	**Yellowknife Ar**	**71.75**	**26**	P	**P**	**13 18 16.5**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=305,slow=5.8,SNR=7.8						
AKASG	**Malin Array Be**	**72.08**	**319**	P	**P**	**13 18 15.3**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=51,slow=6.5,SNR=6.7						
NOA	**NORSAR Array B**	**74.49**	**334**	P	**P**	**13 18 31.6**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=50,slow=5.7,SNR=3.4						
BRTR	**Keskin Array B**	**74.83**	**308**	P	**P**	**13 18 35.2**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=116,slow=3.4,SNR=5.2						
CLL	**Collm**	**80.09**	**326**	*e*Px	Px	13 19 07.0	
GERES	**GERESS Array B**	**81.36**	**323**	P	**P**	**13 19 11.3**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=103,slow=2.1,SNR=5.9						
NVAR	**Mina Array Bea**	**84.47**	**47**	P	**P**	**13 19 28.0**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=292,slow=4.8,SNR=2.5						
PDAR	**Pinedale Array**	**86.76**	**40**	P	**P**	**13 19 39.7**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=343,slow=2.8,SNR=2.6						

JMA 14 13:07:27.3, 32.71N×130.76E, h9km±1km, M3.2, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.17**	**165**	P	Pg	13 07 31.0	+0.2
JIU3				S	Sg	13 07 33.7	+0.4
JTA	**Tamana**	**0.32**	**323**	P	Pg	13 07 33.7	+0.1

MOS 14 13:07:32.9±1.1, 32.70N×130.76E, h12km, mb5.7/100, MS5.2/12, Error ellipse: s-maj=6.0km s-min=3.9km az=107.4
IDC 14 13:07:33.2±0.3, 32.74N×130.79E, h0km, mb4.9/42, mb1 5.0/46, mb1mx4.9/62, mbtmp4.9/46, ML4.5/4, MS5.1/19, Ms1 5.1/19, ms1mx4.7/85, Error ellipse: s-maj=10.8km s-min=5.3km az=98.0
BJI 14 13:07:34.3±0.0, 32.69N×130.95E, h22km, mb5.2/70, mB5.9/45, Ms5.8/81, Ms7 5.7/77
NIED 14 13:07:35.3, 32.78N×130.85E, h8km, MW5.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr-0.67; Mθθ1.25; Mϕϕ-0.57; Mrθ0.05; Mθϕ0.88; Mϕr-0.00; Fault plane solution: M₀1.27000×10¹⁷ NP1:ϕs23.00000°, δ86.00000°, λ-178.00000°. NP2:ϕs293.00000°, δ88.00000°, λ-4.00000°.
NEIC 14 13:07:35.5±1.8, 32.74N±0.05×130.82E±0.08, h10km±1km, mb5.5/80, Ms_20 5.3/16, Mww5.4 Error ellipse: s-maj=11.1km s-min=7.7km az=89.0
JMA 14 13:07:35.2, 32.78N×130.85E, h8km±1km, M5.8
BGR 14 13:07:36.1±0.0, 33.24N×131.91E, h10km, mb5.8, Ms5.6
GCMT 14 13:07:37.5±0.1, 32.81N±0.01×130.74E±0.01, h19km, MW5.5/123, Moment Tensor Solution. s48,c67; s123,c240; Duration: 1s3 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.97±.06; Mθθ1.73±.04; Mϕϕ-0.75±.03; Mrθ0.29±.08; Mθϕ1.23±.03; Mϕr-0.45±.08; Best double couple: M₀1.95100×10¹⁷ NP1:ϕs29.00000°, δ63.00000°, λ-153.00000°. NP2:ϕs286.00000°, δ66.00000°, λ-30.00000°. Principal axes: T 2.2400, Plg2.0000°, Azm338.0000°; N -0.5720, Plg52.0000°, Azm70.0000°; P -1.6630, Plg38.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
NEIC 14 13:07:39, 32.79N×130.84E, h12km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.77; Mθθ1.31; Mϕϕ-0.54; Mrθ-0.04; Mθϕ1.01; Mϕr-0.58; Fault plane solution: M₀1.63000×10¹⁷ NP1: ϕs285.00000°, δ58.00000°, λ-26.00000°. NP2:ϕs29.00000°, δ68.00000°, λ-145.00000°. Principal axes: T 1.7838, Plg6.0000°, Azm155.0000°; N -0.3738, Plg50.0000°, Azm58.0000°; P -1.4100, Plg40.0000°, Azm250.0000°;

ISC 14 13:07:36.3±0.6, 32.77N±0.02×130.85E±0.03, h18km±2km, n918, σ1s47/961, mb5.5/282, MS5.3/45, 57C-75D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.22**	**188**	P	**Pb**	**13 07 39.9**	**-1.6**
JIU3				S	**Sb**	**13 07 43.2**	**-1.7**
JTA	**Tamana**	**0.33**	**307**	P	**Pg**	**13 07 41.8**	**-1.6**
JTA				S	**Sg**	**13 07 46.3**	**-2.0**
JNU	**Nakatsue**	**0.36**	**4**	Pg	**Pg**	**13 07 40.9**	**-3.0**
	8μm,0.3s,baz=190,slow=9.6,SNR=35						
JNU				Lg	Lg	13 07 46.6	
	24μm,0.3s,baz=204,slow=13,SNR

TIA pmax pmax
comp=Z,28nm,1.8s
TIA pmax pmax
comp=Z,1μm,4.8s
TIA LR LR
comp=Z,59μm,16.9s
TIA LR LR
comp=Z,20μm,10.5s
TIA LR LR
comp=Z,25μm,13.0s
MDJ Mudanjiang 11.87 356 P **Pn** **13 10 23.8 -0.9**
MDJ pP 13 10 30.8
MDJ S **Sn** **13 12 38.1 +1.4**
MDJ sS 13 12 49.3
MDJ SS **SnSn** **13 12 51.8 +2.9**
MDJ ScP **ScP** **13 19 37.0 -6.5**
MDJ PcS **PcS** **13 19 39.4 -6.0**
MDJ ScS **ScS** **13 23 14.3 -4.8**
MDJ pmax pmax
comp=Z,29nm,2.0s
MDJ pmax pmax
comp=Z,2μm,5.4s
MDJ LR LR
comp=Z,9μm,10.4s
MDJ LR LR
comp=Z,18μm,12.0s
MDJ LR LR
comp=Z,10μm,11.5s
YULB Yu-li 12.57 224 Pn **Pn** **13 10 33.6 -0.8**
BNX BinXian 13.23 349 ⇓P **Pn** **13 10 47.1 +4.0**
BNX pmax pmax
comp=Z,200nm,1.3s
BNX pmax pmax
comp=Z,4μm,7.3s
QZH Quanzhou 13.26 237 ⇓*i*P **Pn** **13 10 45.4 +1.7**
QZH pmax pmax
comp=Z,130nm,1.6s
QZH LR LR
comp=Z,12μm,9.5s
QZH LR LR
comp=Z,12μm,10.9s
QZH LR LR
comp=Z,18μm,10.6s
ERM Erimo 13.44 43 *i*P **Pn** **13 10 47.0 +1.0**
ERM Erimo 13.44 43 Pn **Pn** **13 10 47.1 +1.0**
BJI Beijing 13.86 306 P **Pn** **13 10 52.8 +1.0**
BJI pmax pmax
comp=Z,47nm,2.1s
BJI LR LR
comp=Z,30μm,16.0s
BJI LR LR
comp=Z,18μm,18.0s
BJI LR LR
comp=Z,15μm,13.6s
HNS HongShan 14.00 294 ⇓P **Pn** **13 10 55.3 +1.6**
HNS S **Sn** **13 13 31.5 +2.9**
HNS LR LR
comp=Z,22μm,16.5s
HNS LR LR
comp=Z,11μm,16.3s
HNS LR LR
comp=Z,8μm,15.5s
WHN Wuhan 14.23 265 ⇓P **Pn** **13 10 58.4 +1.5**
WHN pP **P** **13 11 03.0 -1.2**
WHN S **Sn** **13 13 40.8 +6.5**
WHN pmax pmax
comp=Z,350nm,1.5s
WHN LR LR
comp=Z,20μm,9.3s
WHN LR LR
comp=Z,95μm,10.9s
WHN LR LR
comp=Z,119μm,11.7s
ASAJ Asahikawa 14.58 36 Pn **Pn** **13 11 02.4 +0.7**
comp=Z,2.1nm,0.3s,baz=199,slow=12,SNR=20
ASAJ Asahikawa 14.58 36 P **Pn** **13 11 01.6 -0.1**
JKA Kamikawa-asahi 14.58 36 Pn **Pn** **13 11 01.6 -0.1**
LYN LuoYang 15.41 282 ⇓*i*P **Pn** **13 11 14.3 +1.5**
LYN PP **sP** **13 11 26.8 +1.8**
LYN S **Sn** **13 14 10.8 +7.7**
LYN pmax pmax
comp=Z,180nm,1.7s
LYN pmax pmax
comp=Z,3μm,6.3s
LYN LR LR
comp=Z,28μm,12.2s
LYN LR LR
comp=Z,17μm,14.1s
LYN LR LR
comp=Z,34μm,12.6s
TIY Taiyuan 15.83 293 *e*P **P** **13 11 20.6 -1.4**
TIY S **Sn** **13 14 07.3 -6.0**
TIY LR LR
comp=Z,25μm,12.5s
TIY LR LR
comp=Z,16μm,10.5s
TIY LR LR
comp=Z,17μm,15.1s
XLT XiLinHaoTe 16.03 318 ⇑*i*P **Pn** **13 11 22.5 +1.6**
XLT pP pP 13 11 27.3 -2.1
XLT sP sP 13 11 29.8 -2.0
XLT S **Sn** **13 14 21.0 +2.8**
XLT PcP **PcP** **13 16 20.3 +3.2**
XLT pmax pmax
comp=Z,82nm,1.8s
XLT pmax pmax
comp=Z,5μm,9.8s
XLT LR LR
comp=Z,3μm,11.8s
XLT LR LR
comp=Z,21μm,9.8s
XLT LR LR
comp=Z,26μm,10.5s
KLR Kul'dur 16.46 2 Pn **P** **13 11 32.4 +3.6**
comp=Z,0.9nm,0.3s,baz=172,slow=9.9,SNR=7.3
KLR Kul'dur 16.46 2 *i*P **Pn** **13 11 27.1 +0.8**
YSS Yuzh-Sakhalins 16.83 29 *e*P **P** **13 11 32.9 -0.1**
YSS pmax pmax
comp=Z,140nm,1.2s
YSS MLR MLR
comp=E,11μm,13.0s
YSS MLR MLR
comp=Z,9μm,13.0s
YSS Yuzh-Sakhalins 16.83 29 **Pn** **13 11 31.2 +0.2**
APYP Conner 17.18 213 *e*P **Pn** **13 11 35.6 +0.1**
HHC Hu-ho-hao-te 17.40 303 *e*P **P** **13 11 39.0 -0.5**
HHC pP pP 13 11 44.6 0.0
HHC S **S** **13 14 57.6 -2.1**
HHC pmax pmax
comp=Z,40nm,0.9s
HHC pmax pmax
comp=Z,3μm,7.4s
HHC LR LR
comp=Z,10μm,14.0s
HHC LR LR
comp=Z,20μm,11.1s
HHC LR LR
comp=Z,22μm,13.0s
KUR Kuril'sk 18.12 42 *e*P **P** **13 11 48.7 +1.5**
KUR pmax pmax
comp=Z,113nm,0.9s
UGL Uglegorsk 18.34 24 *e*P **P** **13 11 49.8 +0.3**
UGL *e*S **Sn** **13 15 15.7 +2.0**
UGL pmax pmax
comp=Z,75nm,1.6s
UGL smax smax
comp=E,2μm,9.0s
UGL smax smax
comp=N,3μm,9.6s
UGL MLR MLR
comp=Z,5μm,15.0s
UGL MLR MLR
comp=N,3μm,12.0s
UGL MLR MLR
comp=E,4μm,11.0s
XAN Xi'an 18.35 280 P **P** **13 11 49.9 0.0**
XAN pmax pmax
comp=E,150nm,1.3s
XAN pmax pmax
comp=E,3μm,5.9s
XAN LR LR
comp=E,25μm,11.3s
XAN LR LR
comp=E,19μm,12.5s
XAN LR LR
comp=E,19μm,12.2s

BTO Baotou 18.42 301 *e*P **Pn** **13 11 53.8 +3.0**
BTO S **Sn** **13 15 13.8 -2.3**
BTO LR LR
comp=E,80μm,17.9s
BTO LR LR
comp=E,25μm,17.8s
GRNR Gornyy 18.45 11 ⇓*i*P **P** **13 11 50.4 -0.5**
GRNR *e*S **S** **13 15 21.9 +1.1**
GRNR pmax pmax
comp=Z,6.0nm,1.0s
GRNR smax smax
comp=N,2.0nm,0.8s
GRNR MLR MLR
comp=E,9μm,12.0s
GRNR MLR MLR
comp=N,3μm,14.0s
GRNR MLR MLR
comp=Z,4μm,15.0s
BALP Baler 18.92 209 *e*P **Pn** **13 11 58.3 +1.4**
SMPP San Manuel, Pa 18.93 212 *e*P **P** **13 11 55.9 -0.5**
JCNP Jose Panganiba 19.84 204 *e*P **P** **13 12 07.1 +0.8**
PVCP Virac 20.04 199 *e*P Pn 13 12 10.9 +0.6
TYV Tymovskoe 20.07 22 *e*P Pn 13 12 11.9 +1.6
TYV pmax pmax
comp=Z,27nm,1.4s
TYV pmax pmax
comp=Z,400nm,2.3s
LQP Lukban 20.42 207 ⇓*e*P **P** **13 12 12.1 -0.6**
MACP Maragondon, Ca 20.60 209 *e*P Pn 13 12 16.0 -0.9
ZEA Zeya 21.12 354 *e*P **P** **13 12 21.6 +1.7**
ZEA *e*S **S** **13 16 09.1 -4.9**
ZEA pmax pmax
comp=N,900nm,6.2s
ZEA pmax pmax
comp=Z,2μm,4.0s
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,120nm,1.1s
ZEA pmax pmax
comp=Z,260nm,1.2s
ZEA smax smax
comp=N,2μm,6.3s
ZEA smax smax
comp=E,4μm,7.3s
ZEA MLR MLR
comp=E,3μm,10.0s
ZEA MLR MLR
comp=N,4μm,9.0s
ZEA MLR MLR
comp=Z,4μm,9.0s
LUBP Lubang 21.27 210 *e*P **P** **13 12 22.3 +0.5**
GYA Guiyang 21.92 260 ⇑*i*P **P** **13 12 29.3 +0.4**
GYA sP pP 13 12 35.3 +1.2
GYA pmax pmax
comp=Z,99nm,1.1s
GYA LR LR
comp=Z,29μm,11.2s
LZH Lanzhou 22.49 286 ⇓P **P** **13 12 34.9 -0.1**
LZH sP sP 13 12 42.0 -0.7
LZH pmax pmax
comp=Z,120nm,1.1s
LZH pmax pmax
comp=Z,2μm,5.0s
LZH LR LR
comp=Z,17μm,10.8s
LZH LR LR
comp=Z,22μm,11.4s
LZH LR LR
comp=Z,27μm,14.1s
GUMO Guam 22.98 143 P **P** **13 12 44.0 +3.9**
GUMO pmax pmax
comp=Z,1μm,1.4s
GUMO Guam 22.98 143 P **P** **13 12 44.0 +3.9**
CIT Chita 22.99 332 *e*P **P** **13 12 40.1 +0.2**
CIT *e* 13 13 09.5
CIT *e* 13 13 19.7
CIT pmax pmax
comp=Z,554nm,2.5s
CD2 Chengdu 23.07 273 ⇓P **P** **13 12 39.8 -1.2**
CD2 pmax pmax
comp=Z,420nm,1.4s
CD2 pmax pmax
comp=Z,3μm,6.9s
CD2 LR LR
comp=Z,5μm,13.1s
CD2 LR LR
comp=Z,42μm,12.6s
CD2 LR LR
comp=Z,44μm,12.4s
QIZ Qiongzhong 23.27 239 P **P** **13 12 44.4 +1.4**
QIZ S **S** **13 16 55.1 +0.6**
QIZ pmax pmax
comp=Z,44nm,0.8s
QIZ LR LR
comp=Z,8μm,11.0s
QIZ LR LR
comp=Z,8μm,9.9s
QIZ LR LR
comp=Z,10μm,12.0s
ULN Ulaanbaatar 23.46 317 *i*P **P** **13 12 44.6 -0.3**
ULN pmax pmax
comp=Z,190nm,1.2s
ULN Ulaanbaatar 23.46 317 P **P** **13 12 43.2 -1.7**
ULN IAmb IAmb 13 12 47.3
comp=Z,171nm,1.1s
ULN Ulaanbaatar 23.46 317 IAMs_20 IAMs_20 13 22 42.1
comp=Z,8μm,19.0s
ULN Ulaanbaatar 23.46 317 P **P** **13 12 45.3 +0.5**
ULN S **S** **13 17 03.9 +6.3**
SONM Songino Array 23.83 316 P **P** **13 12 48.7 +0.3**
comp=Z,40nm,1.0s,baz=130,slow=8.3,SNR=35
SONM LR LR 13 22 56.3
comp=Z,8μm,18.7s,baz=102,slow=39
SONM Songino Array 23.83 316 P **P** **13 12 48.7 +0.3**
SONM pmax pmax
comp=Z,103nm,1.2s
SONM Songino Array 23.83 316 P **P** **13 12 48.7 +0.3**
KMI Kunming 25.70 260 ⇓P **P** **13 13 05.3 -0.5**
KMI PP sP 13 13 46.8 +33
KMI pmax pmax
comp=Z,51nm,1.1s
KMI LR LR
comp=Z,16μm,11.8s
KMI LR LR
comp=Z,19μm,12.3s
KMI LR LR
comp=Z,22μm,12.6s
GTA Gaotai 25.86 294 ⇓P **P** **13 13 06.8 -0.2**
GTA pP pP 13 13 12.4 -0.1
GTA sP sP 13 13 15.0 +0.1
GTA pmax pmax
comp=Z,25nm,1.3s
GTA pmax pmax
comp=Z,2μm,7.2s
GTA LR LR
comp=Z,30μm,16.7s
GTA LR LR
comp=Z,12μm,13.5s
GTA LR LR
comp=Z,12μm,14.3s
PZH PanZhiHua 26.01 264 ⇓P **P** **13 13 07.9 -0.6**
PZH S **S** **13 17 37.4 -1.2**
PZH pmax pmax
comp=Z,170nm,1.8s
PZH LR LR
comp=Z,8μm,11.8s
PZH LR LR
comp=Z,15μm,12.6s
PZH LR LR
comp=Z,11μm,12.9s
ZAK Zakamensk 26.88 319 *e*P **P** **13 13 16.1 0.0**
ZAK pmax pmax
comp=Z,51nm,1.4s
BOD Bodaibo 27.56 340 *e*P **P** **13 13 22.1 +0.2**
BOD pmax pmax
comp=Z,63nm,1.9s
PEA0B Petropavlovsk- 28.00 35 *ce*P **P** **13 13 27.5 +1.5**
PETK Petropavlovsk- 28.00 35 P **P** **13 13 26.7 +0.7**
comp=Z,9.7nm,1.1s,baz=254,slow=26,SNR=3.3
PETK LR LR 13 25 15.4
comp=Z,3μm,20.2s,baz=217,slow=38
PET Petropavlovsk 28.43 36 *e*P **P** **13 13 28.5 -1.2**
PET pmax pmax
comp=Z,54nm,1.8s
PET Petropavlovsk 28.43 36 P **P** **13 13 31.4 +1.6**

PET IAmb IAmb 13 13 34.2
comp=Z,131nm,1.7s
MOY Mondy 28.78 320 *e*P **P** **13 13 33.0 0.0**
MOY pmax pmax
comp=Z,106nm,3.6s
UBPT Khong Chiam 28.87 239 P **P** **13 13 35.1 +1.1**
YAK Yakutsk 29.29 359 *e*P **P** **13 13 39.8 +2.5**
YAK *e* 13 16 42.3
YAK *e*S **S** **13 18 31.0 +1.7**
YAK *e*SS **SnSn** **13 19 55.8 +0.5**
YAK *e* 13 24 11.7
YAK pmax pmax
comp=N,36nm,1.2s
YAK pmax pmax
comp=Z,39nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax smax
comp=N,364nm,5.9s
YAK smax smax
comp=E,273nm,4.6s
GOMU GeErMu 29.79 287 P **P** **13 13 42.8 +0.3**
GOMU sP sP 13 13 49.5 -0.9
GOMU S **S** **13 18 37.8 -0.7**
GOMU pmax pmax
comp=E,60nm,1.8s
GOMU LR LR
comp=E,6μm,16.3s
GOMU LR LR
comp=E,3μm,16.5s
GOMU LR LR
comp=E,3μm,16.1s
MA2 Magadan 29.91 20 P **P** **13 13 42.7 -0.2**
comp=E,15nm,1.2s,baz=219,slow=8.1,SNR=11
MA2 Magadan 29.91 20 *ce*P **P** **13 13 43.2 +0.3**
MA2 pmax pmax
comp=Z,27nm,1.3s
CHTO Chiang Mai 31.77 252 P **P** **13 13 59.9 +0.2**
CHTO pmax pmax
comp=Z,101nm,1.4s
CHTO MLR MLR
comp=Z,3μm,19.0s
CHTO Chiang Mai 31.77 252 P **P** **13 13 59.9 +0.2**
CHTO IAmb IAmb 13 14 02.7
comp=Z,101nm,1.4s
CHTO Chiang Mai 31.77 252 IAMs_20 IAMs_20 13 27 02.9
comp=Z,3μm,19.0s
CHTO Chiang Mai 31.77 252 P **P** **13 14 00.0 +0.3**
CHTO S **S** **13 19 16.1 +7.1**
CM31 Chiang Mai Arr 31.96 251 P **P** **13 14 01.5 +0.2**
CM31 IAmb IAmb 13 14 03.8
comp=Z,66nm,1.4s
CM31 Chiang Mai Arr 31.96 251 P **P** **13 14 03.1 +1.8**
SNR=13
CMAR Chiang Mai Arr 31.96 251 P **P** **13 14 01.9 +0.5**
comp=Z,9.2nm,0.9s,baz=46,slow=7.3,SNR=26
CMAR Chiang Mai Arr 31.96 251 P **P** **13 14 02.1 +0.8**
TNTI Ternate 31.99 187 P **P** **13 14 01.0 -0.6**
comp=Z,62nm,0.8s
MOKO MOKOCHONG 32.14 268 *e*P **P** **13 14 02.8 -0.3**
ITAN ITANAGAR 32.54 270 *e*P **P** **13 14 06.8 +0.4**
SEY Seymchan 33.12 18 P **P** **13 14 11.1 +0.1**
comp=Z,17nm,1.2s,baz=204,slow=7.3,SNR=14
SEY LR LR 13 27 54.6
comp=Z,3μm,20.2s,baz=199,slow=37
SEY Seymchan 33.12 18 *ce*P **P** **13 14 12.0 +0.9**
SEY pmax pmax
comp=Z,25nm,1.4s
MRSI Marisa 33.20 196 P **P** **13 14 11.9 -0.2**
comp=Z,24nm,1.6s
LBMI Labuha 33.37 186 P **P** **13 14 12.6 -1.1**
comp=Z,1μmcomp=Z,32nm,1.3s
SWI Sorong 33.45 179 P **P** **13 14 14.2 -0.1**
comp=Z,18nm,1.2s
SIJI Sorong 33.46 179 P **P** **13 14 13.6 -0.9**
comp=Z,13nm,0.9s,baz=346,slow=12,SNR=5.9
TEZP TEZPUR 33.49 270 *e*P **P** **13 14 14.6 -0.1**
MPSI Mapaga 33.87 200 P **P** **13 14 18.0 0.0**
comp=Z,24nm,1.3s
LSA Lhasa 33.95 276 IAMs_20 IAMs_20 13 29 00.9
comp=Z,4μm,18.0s
LSA Lhasa 33.95 276 P **P** **13 14 19.9 +0.7**
LSA pmax pmax
comp=Z,48nm,1.4s
LSA Lhasa 33.95 276 P **P** **13 14 20.0 +0.8**
GUWA GUWAHATI 34.57 269 ⇑*e*P **P** **13 14 23.5 -0.6**
SHL Shillong 34.63 268 P **P** **13 14 24.1 -0.7**
SHL pmax pmax
comp=Z,56nm,1.3s
SHL Shillong 34.63 268 *e*P **P** **13 14 24.1 -0.7**
SHL IAmb IAmb 13 14 31.1
comp=Z,18nm,1.2s
SHL Shillong 34.63 268 P **P** **13 14 24.2 -0.6**
SNR=19
SANI Sanana 34.93 189 P **P** **13 14 25.1 -2.1**
comp=Z,35nm,0.8s
WMQ Urumqi 35.26 301 ⇓*i*P **P** **13 14 30.1 +0.2**
WMQ sP sP 13 14 42.8 +4.9
WMQ pmax pmax
comp=Z,69nm,1.7s
WMQ pmax pmax
comp=Z,760nm,4.3s
WMQ LR LR
comp=Z,17μm,17.1s
WMQ LR LR
comp=Z,5μm,12.9s
WMQ LR LR
comp=Z,4μm,20.3s
SMPI Sarmi 35.36 166 P **P** **13 14 32.3 +1.4**
comp=Z,36nm,1.4s
BELO BELONIA 35.88 265 *e*P **P** **13 14 35.7 +0.4**
TURI Tura 35.94 269 *e*P **P** **13 14 36.2 +0.4**
MSAI Masoji 35.96 183 P **P** **13 14 36.7 +0.7**
comp=Z,282nmcomp=Z,8.6nm,1.0s
DHUB DHUBRI 36.05 270 *e*P **P** **13 14 35.2 -1.6**
KSM Kuching 36.63 216 P **P** **13 14 42.3 +0.5**
KSM IAmb IAmb 13 14 44.0
comp=Z,95nm,1.4s
STKI Sintang 37.30 213 P **P** **13 14 48.5 +1.0**
TAPN Taplejung 37.53 273 *e*P **P** **13 14 50.2 +0.4**
ZSN Zaisan 37.54 307 *e*P **P** **13 14 47.2 -2.1**
ZSN *e*S **S** **13 20 36.0 -1.5**
ZSN Zaisan 37.54 307 *e*P **P** **13 14 47.3 -2.1**
baz=307
ZSN *e*S **S** **13 20 36.1 -1.5**
baz=307
ODAN Odare 37.96 273 *e*P **P** **13 14 53.2 -0.2**
JIRN Jiri 38.71 275 *e*P **P** **13 15 00.2 +0.4**
comp=Z,93nm,1.0s
ZALV Zalesovo Beam 38.72 317 P **P** **13 14 58.6 -0.5**
comp=Z,22nm,1.2s,baz=98,slow=6.4,SNR=31
ZALV PcP **PcP** **13 17 09.7 -0.9**
comp=Z,12nm,1.0s,baz=87,slow=3.3,SNR=8.1
GUN Gumba 38.89 275 *e*P **P** **13 15 01.8 +0.5**
comp=Z,543nm,1.0s
TIXI Tiksi 38.96 359 P **P** **13 14 59.7 -1.1**
comp=Z,12nm,0.9s,baz=92,slow=23,SNR=17
TIXI LR LR 13 31 21.5
comp=Z,3μm,18.8s,baz=183,slow=37
TIXI Tiksi 38.96 359 *ce*P **P** **13 14 58.7 -2.2**
TIXI pmax pmax
comp=Z,37nm,1.7s
TIXI Tiksi 38.96 359 P **P** **13 15 00.3 -0.6**
KAPI Kappang 39.02 198 P **P** **13 15 02.7 +0.7**
BBKI Banjar Baru 39.09 206 P **P** **13 15 02.9 +0.3**
comp=Z,9μmcomp=Z,108nm,1.7s
MK31 Makanchi Array 39.24 305 *i*P **P** **13 15 02.9 -0.7**
MK31 Makanchi Array 39.24 305 P **P** **13 15 03.1 -0.5**
MKAR Makanchi Array 39.24 305 P **P** **13 15 03.2 -0.4**
comp=Z,27nm,1.0s,baz=93,slow=10,SNR=53
MKAR Makanchi Array 39.24 305 P **P** **13 15 03.4 -0.2**
KULM Kulim 39.24 232 IAMs_20 IAMs_20 13 30 24.3
comp=Z,2μm,20.0s
PKI Pulchoki 39.40 275 *e*P **P** **13 15 05.3 -0.2**
comp=Z,203nm,1.1s
PKIN Phulchoki 39.40 275 *e*P **P** **13 15 05.2 -0.3**
KKN Kakani 39.43 275 *e*P **P** **13 15 05.8 +0.1**
comp=Z,201nm,1.1s
MAKZ Makanchi 39.45 305 P **P** **13 15 04.6 -0.8**
MAKZ pmax pmax
comp=Z,44nm,1.1s
MAKZ Makanchi 39.45 305 P **P** **13 15 04.6 -0.8**
IPM Ipoh 39.60 231 IAMs_20 IAMs_20 13 33 25.6
comp=Z,4μm,19.0s
DMN Daman 39.64 275 *e*P **P** **13 15 07.3 -0.1**
DGPR DIGLIPUR 39.70 250 *e*P **P** **13 15 07.6 -0.1**

DGPR IAmb IAmb 13 15 09.7
comp=Z,251nm,1.1s
GKN Gorkha 39.90 276 *e*P **P 13 15 09.2 -0.3**
TPRI Tanjung Pinang 40.21 223 P **P 13 15 12.3 +0.4**
comp=Z,133nm,1.2s
DANN Dangsing 40.53 277 *e*P **P 13 15 15.1 +0.2**
comp=Z,321nm,1.0s
PBA Port Blair 40.75 248 P **P 13 15 16.2 -0.2**
BILL Bilibino 40.77 20*c*eP **P 13 15 15.0 -1.0**
BILL e 13 16 51.7
BILL *e*PPP PPP 13 17 17.3
BILL *e*S **S 13 21 29.2 +3.7**
BILL *e*SS **SS 13 24 28.2 +1.9**
BILL pmax pmax
comp=Z,62nm,1.3s
BILL MLR MLR
comp=Z,3µm,17.0s
BILL Bilibino 40.77 20 P **P 13 15 17.0 +1.0**
BILL IAmb IAmb 13 15 21.7
comp=Z,176nm,1.8s
KOLN Koldanda 40.85 276 *e*P **P 13 15 17.4 0.0**
comp=Z,228nm,1.1s
SEM Semipalatinsk 40.88 311 *e*P **P 13 15 14.5 -2.8**
SEM *e*S **S 13 21 25.1 -2.9**
SEM pmax pmax
comp=Z,77nm,1.3s
SEM Semipalatinsk 40.88 311 *e*P **P 13 15 14.6 -2.8**
comp=Z,77nm,1.3s,baz=311
SEM *e*S **S 13 21 25.2 -2.9**
baz=311
PDGK Podgornoye 41.22 300 P **P 13 15 19.1 -1.1**
SHLS Shalkode 41.25 300 *e*P P 13 15 15.3 -5.1
SHLS *e*S **S 13 21 27.4 -6.1**
SHLS Shalkode 41.25 300 *e*P P 13 15 15.4 -5.1
baz=300
SHLS *e*S **S 13 21 27.5 -6.1**
baz=300
PYUN Piuthan 41.25 277 *e*P **P 13 15 20.9 +0.1**
comp=Z,397nm,1.1s
DSRI Dabo 41.32 222 P **P 13 15 22.5 +1.4**
comp=Z,7.0nm,1.1s
UZB Uzynbulak 41.57 300 *e*P **P 13 15 20.7 -2.4**
UZB *e*S **S 13 21 36.9 -1.4**
UZB Uzynbulak 41.57 300 *e*P **P 13 15 20.7 -2.4**
baz=300
UZB *e*S **S 13 21 37.0 -1.4**
baz=300
KPKS Kokpek 41.80 300 *e*P **P 13 15 22.5 -2.4**
KPKS Kokpek 41.80 300 *e*P **P 13 15 22.6 -2.4**
baz=300
PPBI Pangkal Pinang 41.87 219 P **P 13 15 26.6 +1.0**
comp=Z,18µmcomp=Z,58nm,1.1s
TDK Taldyqorghan 41.93 303 *e*P **P 13 15 24.3 -1.5**
TDK pmax pmax
comp=Z,56nm,1.2s
TDK MLR MLR
comp=Z,4µm,15.0s
TDK Taldyqorghan 41.93 303 *e*P **P 13 15 24.4 -1.5**
comp=Z,56nm,1.2s,baz=303
TDK LR LR 13 33 07.8
comp=Z,4µm,14.6s,baz=303
KURK Kurchatov 41.94 311*c*eP **P 13 15 25.1 -0.7**
KURK pmax pmax
comp=Z,198nm,1.7s
KURK Kurchatov 41.94 311 P **P 13 15 25.4 -0.5**
KURK IAmb IAmb 13 15 27.0
comp=Z,142nm,1.2s
KURK Kurchatov 41.94 311 P **P 13 15 25.9 +0.1**
KURBB Kurchatov Arra 41.99 311 P **P 13 15 26.0 -0.2**
comp=Z,54nm,1.1s,baz=97,slow=9.2,SNR=83
KURBB LR LR 13 33 33.9
comp=Z,7µm,18.5s,baz=53,slow=37
KRVT Keravat (AS076 41.99 147 P **P 13 15 27.1 +0.6**
comp=Z,36nm,0.8s,baz=196,slow=8.7,SNR=10
SATY Saty 42.02 300 *e*P **P 13 15 24.5 -2.3**
SATY Saty 42.02 300 *e*P **P 13 15 24.5 -2.3**
baz=300
PSI Prapat 42.23 232 P **P 13 15 28.8 +0.1**
comp=Z,8.8nm,0.5s,baz=1.2,slow=4.5,SNR=16
ARXS Arharly 42.38 302 *e*P **P 13 15 28.8 -0.8**
BKNI Bangkinang 42.77 227 P **P 13 15 33.6 +0.7**
comp=Z,177nm,1.1s
CHKK Chushkaly 43.00 301 *e*P **P 13 15 32.9 -1.7**
CHKK Chushkaly 43.00 301 *e*P **P 13 15 32.9 -1.7**
baz=301
MDOK Medeo 43.01 300 *e*P **P 13 15 32.2 -2.6**
MDOK pmax pmax
comp=Z,210nm,1.4s
MDOK MLR MLR
comp=Z,4µm,15.0s
MDOK Medeo 43.01 300 *e*P **P 13 15 32.2 -2.6**
comp=Z,210nm,1.4s,baz=300
MDOK LR LR 13 32 58.5
comp=Z,4µm,14.6s,baz=300
TNSS Tian-Shan 43.09 300 *e*P **P 13 15 34.4 -1.4**
TNSS Tian-Shan 43.09 300 *e*P **P 13 15 34.4 -1.4**
baz=300
AAA Alma-Ata 43.10 300 *e*P **P 13 15 34.7 -0.8**
AAA pmax pmax
comp=Z,123nm,1.1s
AAA Alma-Ata 43.10 300 *e*P **P 13 15 34.7 -0.8**
comp=Z,123nm,1.1s,baz=300
SRBI Singaraja 43.27 203 P **P 13 15 36.2 -0.7**
comp=Z,38nm,1.1s
BATI Baumata 43.28 190 P **P 13 15 34.7 -2.4**
comp=Z,26nm,0.7s,baz=301,slow=9.4,SNR=4.3
MNSI Mandailing Nat 43.32 229 P **P 13 15 37.6 +0.2**
comp=Z,79nm,1.1s
KUU Kurty 43.47 301 *e*P **P 13 15 35.8 -2.5**
KUU *e*S **S 13 22 04.3 -1.7**
KUU pmax pmax
comp=Z,61nm,1.2s
KUU Kurty 43.47 301 *e*P **P 13 15 35.9 -2.5**
comp=Z,61nm,1.2s,baz=301
KUU *e*S **S 13 22 04.4 -1.7**
baz=301
ULHL Ulahol 43.69 299 P **P 13 15 40.6 +0.2**
SNR=11
NRIK Noril'sk 43.84 339 P **P 13 15 41.1 +0.1**
comp=Z,41nm,1.0s,baz=113,slow=8.9,SNR=36
NRIK LR LR 13 35 16.3
comp=Z,3µm,18.5s,baz=194,slow=38
NRIK Noril'sk 43.84 339*c*eP **P 13 15 39.7 -1.3**
NRIK pmax pmax
comp=Z,71nm,1.1s
NRIK Noril'sk 43.84 339 P **P 13 15 40.0 -1.0**
NRIK IAmb IAmb 13 15 42.3
comp=Z,60nm,1.1s
TKM2 Tokmak 2 44.09 300 P **P 13 15 44.5 +0.8**
SNR=58
TKM2 Tokmak 2 44.09 300 P **P 13 15 44.1 +0.5**
SMRI Semarang 44.10 210 P **P 13 15 44.6 +0.9**
comp=Z,82nm,0.8s
GSI Gunungsitoli 44.24 232 P **P 13 15 44.4 -0.4**
comp=Z,137nm,2.1s
KSH Kashi 44.25 295 P **P 13 15 48.4 +3.6**
KSH pP sP 13 15 53.8 +0.9
KSH PcP **PcP 13 17 29.9 +0.7**
KSH pmax pmax
comp=Z,47nm,1.5s
KSH LR LR
comp=Z,6µm,13.3s
KSH LR LR
comp=Z,6µm,14.3s
KSH LR LR
comp=Z,7µm,16.8s
KRJI Kerinci 44.43 224 P **P 13 15 46.7 +0.3**
comp=Z,7µmcomp=Z,335nm,1.7s
PWJI Pagerwojo 44.43 207 P **P 13 15 45.4 -0.9**
comp=Z,48nm,1.0s
KBK Karagaybulak 44.59 300 P **P 13 15 48.4 +0.7**
SNR=21
KBK Karagaybulak 44.59 300 P **P 13 15 48.3 +0.7**
KBK pmax pmax
comp=Z,86nm,1.2s
CHMS Chumysh 44.70 300 P **P 13 15 48.8 +0.5**
SNR=30
SGDS Sogindy 44.74 301 *e*P **P 13 15 46.9 -1.7**
SGDS pmax pmax
comp=Z,71nm,1.7s
SGDS Sogindy 44.74 301 *e*P **P 13 15 46.9 -1.7**
comp=Z,71nm,1.7s,baz=301
KLI Kotabumi 44.82 218 P **P 13 15 49.3 -0.1**
comp=Z,120nm,0.7s
MASI Maura Aman, Be 44.83 223 P **P 13 15 50.0 +0.5**
comp=Z,225nm,1.6s

USP Ospenovka 44.85 300 P **P 13 15 49.9 +0.4**
SNR=27
USP Ospenovka 44.85 300 P **P 13 15 49.9 +0.4**
USP pmax pmax
comp=Z,70nm,1.3s
AAK Ala-Archa 44.93 300 P **P 13 15 50.6 +0.4**
SNR=24
AAK Ala-Archa 44.93 300 LR LR 13 37 10.8
comp=Z,3µm,18.5s,baz=62,slow=40
AAK Ala-Archa 44.93 300*c*eP **P 13 15 50.2 -0.1**
AAK pmax pmax
comp=Z,92nm,1.7s
AAK Ala-Archa 44.93 300 P **P 13 15 49.7 -0.6**
AAK IAmb IAmb 13 15 51.9
comp=Z,61nm,1.1s
AAK Ala-Archa 44.93 300 P **P 13 15 50.9 +0.6**
AAK Ala-Archa 44.93 300 *i* P **P 13 15 50.1 -0.2**
SNR=25
UCH Uchtor 44.96 299 P **P 13 15 52.1 +1.1**
SNR=62
UCH Uchtor 44.96 299 P **P 13 15 52.0 +1.1**
UCH pmax pmax
comp=Z,128nm,1.3s
KPJI Karang Pucung 45.01 212 P **P 13 15 51.1 +0.3**
comp=Z,83nm,1.5s
BTLS Baital 45.02 303 *e*P **P 13 15 48.8 -1.9**
BTLS pmax pmax
comp=Z,66nm,1.7s
BTLS Baital 45.02 303 *e*P **P 13 15 48.8 -1.9**
comp=Z,66nm,1.7s,baz=303
LEM Lembang 45.15 214 P **P 13 15 53.0 +0.8**
comp=Z,52nm,0.7s,baz=49,slow=6.5,SNR=21
LEM LR LR 13 36 22.0
comp=Z,1µm,19.4s,baz=302,slow=38
LEM Lembang 45.15 214 P **P 13 15 52.9 +0.7**
comp=Z,2µmcomp=Z,89nm,1.6s
CBJI Citeko 45.16 215 P **P 13 15 52.7 +0.6**
SMLA Simla 45.17 283 *e*P **P 13 15 51.6 -0.5**
SMLA IAmb IAmb 13 16 04.2
comp=Z,46nm,1.1s
SISI Saibi 45.27 228 P **P 13 15 52.0 -1.0**
comp=Z,71nm,0.9s
DBJI Dramaga 45.33 215 P **P 13 15 54.1 +0.7**
comp=Z,74µmcomp=Z,92nm,1.5s
MTN Manton Dam 45.35 180 P **P 13 15 52.0 -1.5**
MTN IAmb IAmb 13 15 53.3
comp=Z,58nm,1.0s
LWLI Liwa 45.37 219 P **P 13 15 52.9 -1.1**
comp=Z,56nm,0.7s
MNAI Manna 45.42 221 P **P 13 15 56.0 +1.8**
comp=Z,233nm,1.4s
EKS2 Erkin-Say 45.45 300 P **P 13 15 54.5 +0.2**
SNR=20
EKS2 Erkin-Say 45.45 300 P **P 13 15 54.6 +0.2**
EKS2 pmax pmax
comp=Z,40nm,1.4s
AML Almayashu 45.58 299 P **P 13 15 56.7 +1.0**
SNR=49
AML Almayashu 45.58 299 P **P 13 15 56.6 +0.9**
AML pmax pmax
comp=Z,116nm,1.3s
AML Almayashu 45.58 299 P **P 13 15 57.0 +1.3**
AML Almayashu 45.58 299 *i* P **P 13 15 56.5 +0.8**
SNR=49
BRZS Berezniki 45.72 310 *e*P **P 13 15 54.6 -1.6**
BRZS pmax pmax
comp=Z,50nm,1.4s
BRZS Berezniki 45.72 310 *e*P **P 13 15 54.6 -1.6**
comp=Z,50nm,1.4s,baz=310
CGJI Cibinong 45.89 216 P **P 13 15 55.1 -2.8**
comp=Z,31nm,1.2s
OTUK Ortayu 45.99 308 P **P 13 15 58.4 0.0**
SPIA Saint Paul Isl 46.47 40 P **P 13 16 01.7 -0.3**
baz=264
GAMB Gambell 46.85 31 P **P 13 16 05.2 +0.4**
baz=257
NIKH Nikolski High 47.04 46 P **P 13 16 07.1 +0.5**
baz=270
BVAR Borovoye Array 47.14 314 P **P 13 16 07.2 -0.1**
comp=Z,35nm,1.0s
DZA Taraz 47.20 300 *e*P **P 13 16 06.8 -1.2**
DZA pmax pmax
comp=Z,43nm,1.4s
DZA Taraz 47.20 300 *e*P **P 13 16 06.9 -1.1**
comp=Z,43nm,1.4s,baz=300
BRVK Borovoye 47.21 314*c*eP **P 13 16 07.0 -0.8**
BRVK pmax pmax
comp=Z,102nm,1.0s
BRVK Borovoye 47.21 314 P **P 13 16 08.1 +0.3**
BRVK Borovoye 47.21 314 P **P 13 16 08.5 +0.6**
NIL Nilore 47.65 288 P **P 13 16 10.6 -1.0**
NIL pmax pmax
comp=Z,131nm,1.5s
NIL Nilore 47.65 288 P **P 13 16 10.6 -1.0**
NIL Nilore 47.65 288 P **P 13 16 12.3 +0.7**
BHPL Bhopal 47.69 273 *e*P **P 13 16 11.5 -0.6**
BHPL IAmb IAmb 13 16 12.8
comp=Z,66nm,1.4s
KK31 Karatay Array 47.77 301 P **P 13 16 12.3 -0.1**
KK31 Karatay Array 47.77 301 P **P 13 16 12.8 +0.4**
KKAR Karatay Array 47.77 301 P **P 13 16 12.8 +0.4**
KKAR pmax pmax
comp=Z,199nm,1.1s
KKAR Karatay Array 47.77 301 P **P 13 16 12.7 +0.3**
KKAR Karatay Array 47.77 301 P **P 13 16 12.8 +0.3**
KKAR IAmb IAmb 13 16 14.1
comp=Z,199nm,1.1s
COEN Coen 47.93 164 P **P 13 16 13.6 -0.2**
COEN IAmb IAmb 13 16 18.9
comp=Z,81nm,1.6s
KNRA Kununurra 48.21 183 P **P 13 16 15.2 -0.7**
IUG Iuzhnay 48.27 300 *e*P **P 13 16 15.5 -0.9**
IUG Iuzhnay 48.27 300 *e*P **P 13 16 15.6 -0.9**
baz=300
UNV Unalaska Valle 48.45 45 P **P 13 16 17.8 +0.4**
baz=271
TNA Tin City 48.81 29 P **P 13 16 20.4 +0.3**
baz=259
HYB Hyderabad 49.29 265 *e*P **P 13 16 24.9 +0.5**
HYB IAmb IAmb 13 16 26.0
comp=Z,44nm,1.1s
ANM Nome 49.72 31 P **P 13 16 26.1 -0.9**
ANM pmax pmax
comp=Z,121nm,1.8s
ANM Nome 49.72 31 P **P 13 16 26.1 -0.9**
ANM IAmb IAmb 13 16 32.7
comp=Z,121nm,1.8s
ANM Nome 49.72 31 P **P 13 16 27.6 +0.6**
baz=262
MDRS Chennai 50.05 259 *e*P **P 13 16 32.2 +2.0**
MDRS IAmb IAmb 13 16 33.2
comp=Z,16nm,0.8s
KBL Kabul 50.76 290 P **P 13 16 36.0 +0.4**
SNR=22
FITZ Fitzroy Crossi 50.82 186 P **P 13 16 35.3 -0.5**
comp=Z,14nm,0.9s,baz=15,slow=7.5,SNR=17
SDPT Sand Point 51.89 43 P **P 13 16 43.7 +0.1**
baz=274
WB0 Warramunga Arr 52.34 176 P **P 13 16 46.3 -1.0**
WRAB Tennant Creek 52.51 176*c*eP **P 13 16 47.1 -1.3**
WRAB pmax pmax
comp=Z,52nm,1.7s
WRAB Tennant Creek 52.51 176 P **P 13 16 47.4 -1.0**
WRA Warramunga Arr 52.52 176 P **P 13 16 47.5 -0.9**
comp=Z,13nm,0.9s,baz=356,slow=7.8,SNR=28
WRA Warramunga Arr 52.52 176 P **P 13 16 47.2 -1.3**
WB2 Warramunga Arr 52.52 176 P **P 13 16 47.5 -1.0**
WR0 Warramunga Arr 52.55 176 P **P 13 16 47.9 -0.8**
SVE Sverdlovsk 52.65 319*c*eP **P 13 16 49.4 +0.3**
SVE pmax pmax
comp=Z,118nm,1.3s
SVE MLR MLR
comp=Z,3µm,14.0s
PALK Pallekele 52.89 253 P **P 13 16 50.4 -1.1**
PALK pmax pmax
comp=Z,41nm,1.0s
PALK Pallekele 52.89 253 P **P 13 16 50.4 -1.1**
PALK Pallekele 52.89 253 P **P 13 16 52.3 +0.8**
GCSA Galena City Sc 53.37 31 P **P 13 16 55.3 +1.0**
baz=270
A21K Barrow 53.74 22 P **P 13 16 58.0 +1.0**
baz=265
TTA Tatalina 53.79 33 P **P 13 16 58.3 +0.7**
baz=272,SNR=5.8
ARU Arti 53.82 319 LR LR 13 39 40.3
comp=Z,2µm,18.8s,baz=97,slow=36

ARU Arti 53.82 319*d i* P **P 13 16 57.4 -0.4**
ARU 13 17 57.9
ARU 13 18 57.9
ARU S **S 13 24 35.3 +3.8**
ARU SS **SKiKP 13 28 09.9 -0.6**
ARU pmax pmax
comp=Z,128nm,1.1s
N18K Kilae Creek 53.96 36 P **P 13 16 58.4 -0.4**
baz=274
AB31 Akbulak array 54.02 310 P **P 13 16 58.6 -0.7**
ABKAR Akbulak array 54.02 310 P **P 13 16 59.3 -0.1**
ABKAR Akbulak array 54.02 310 P **P 13 16 59.1 -0.2**
ABKAR IAmb IAmb 13 17 00.8
comp=Z,85nm,1.2s
L19K White Mountain 54.36 34 P **P 13 17 03.0 +1.4**
L19K IAmb IAmb 13 17 07.1
comp=Z,70nm,1.5s
L19K White Mountain 54.36 34 P **P 13 17 01.6 0.0**
baz=274,SNR=7.5
O18K Koktuh Hills 54.37 37 P **P 13 17 02.5 +0.8**
baz=275,SNR=7.6
P18K Big Mountain, 54.40 37 P **P 13 17 02.3 +0.4**
baz=275
J20K Nowinta River 54.57 31 P **P 13 17 04.7 +1.6**
J20K IAmb IAmb 13 17 08.6
comp=Z,118nm,1.8s
J20K Nowinta River 54.57 31 P **P 13 17 03.1 0.0**
baz=273,SNR=6.8
CTA Charters Tower 54.58 162 P **P 13 17 03.5 -0.1**
comp=Z,21nm,1.1s,baz=293,slow=9.0,SNR=5.3
M19K Big River Lodg 54.60 34 P **P 13 17 04.8 +1.4**
M19K Big River Lodg 54.60 34 P **P 13 17 04.6 +1.2**
baz=274,SNR=5.5
N19K Bonanza Creek 54.64 35 P **P 13 17 04.5 +0.7**
baz=275
K20K Telida 54.65 32 P **P 13 17 05.3 +1.6**
K20K IAmb IAmb 13 17 09.3
comp=Z,149nm,1.9s
K20K Telida 54.65 32 P **P 13 17 04.4 +0.7**
baz=274,SNR=6.3
IMAR Indian Mountai 54.66 29 P **P 13 17 04.8 +1.0**
O19K Port Alsworth 54.78 36 P **P 13 17 05.5 +0.9**
baz=276
L20K Farewell, AK 54.80 33 P **P 13 17 05.2 +0.4**
baz=274,SNR=7.5
AKTO Aktyubinsk 55.03 312 LR LR 13 39 43.5
comp=Z,3µm,18.7s,baz=88,slow=35
H21K Melozitna Rive 55.07 29 P **P 13 17 07.6 +0.9**
H21K IAmb IAmb 13 17 12.0
comp=Z,65nm,1.9s
H21K Melozitna Rive 55.07 29 P **P 13 17 07.6 +0.9**
baz=273,SNR=5.6
TRD Trivandrum 55.23 257 *e*P **P 13 17 11.2 +2.7**
CHUM Lake Minchumin 55.40 32 P **P 13 17 09.5 +0.5**
baz=275,SNR=5.5
I21K Tanana 55.44 30 P **P 13 17 10.3 +0.9**
baz=274
CAST Castle Rocks 55.54 32 P **P 13 17 10.2 +0.1**
baz=275,SNR=5.9
PPLA Purkeypile 55.54 33 P **P 13 17 11.6 +1.3**
PPLA Purkeypile 55.54 33 P **P 13 17 10.5 +0.2**
baz=275,SNR=6.3
OHAK Old Harbor 55.67 40 P **P 13 17 11.4 +0.2**
baz=278
SPCR Spurr Chakacha 55.71 35 P **P 13 17 11.8 +0.3**
baz=277,SNR=5.4
BPAW Bear Paw Mtn. 55.96 31 P **P 13 17 13.1 -0.1**
baz=276
KDAK Kodiak Island 55.97 39 P **P 13 17 13.7 +0.5**
comp=Z,35nm,1.1s,baz=266,slow=4.7,SNR=13
KDAK Kodiak Island 55.97 39 P **P 13 17 13.7 +0.5**
KDAK pmax pmax
comp=Z,92nm,1.4s
KDAK Kodiak Island 55.97 39 P **P 13 17 13.7 +0.5**
KDAK IAmb IAmb 13 17 17.6
comp=Z,92nm,1.4s
KDAK Kodiak Island 55.97 39 P **P 13 17 13.2 0.0**
baz=279
COLD Coldfoot 56.01 27 P **P 13 17 14.0 +0.5**
baz=274
TOLK Toolik Lake Re 56.15 26 P **P 13 17 15.7 +1.2**
TOLK Toolik Lake Re 56.15 26 P **P 13 17 14.9 +0.4**
baz=274
AS31 Alice Springs 56.19 177 P **P 13 17 14.6 -0.6**
ASAR Alice Springs 56.19 177 P **P 13 17 14.7 -0.6**
comp=Z,16nm,0.9s,baz=2.5,slow=6.4,SNR=42
ASAR Alice Springs 56.19 177 P **P 13 17 14.2 -1.0**
TRF Thorofare Moun 56.34 32 P **P 13 17 15.5 -0.6**
baz=277
H23K Yukon River 56.40 29 P **P 13 17 17.8 +1.5**
H23K IAmb IAmb 13 17 39.9
comp=Z,43nm,1.0s
H23K Yukon River 56.40 29 P **P 13 17 15.9 -0.4**
baz=276,SNR=16
CUT Chulitna 56.47 33 P **P 13 17 16.6 -0.2**
baz=277
BRLK Bradley Lake 56.55 36 P **P 13 17 17.6 +0.2**
BRLK IAmb IAmb 13 17 22.5
comp=Z,64nm,1.3s
I23K Minto, Yukon-K 56.55 30 P **P 13 17 17.6 +0.4**
baz=276
BRSE Bradley Lake S 56.62 36 P **P 13 17 17.6 -0.3**
baz=279
M22K Willow 56.63 34 P **P 13 17 17.6 -0.3**
baz=278
NEA2 Nenana 56.73 31 P **P 13 17 19.2 +0.6**
baz=277,SNR=11
MCK McKinley 56.90 32 P **P 13 17 20.5 +0.6**
MCK pmax pmax
comp=Z,86nm,1.7s
MCK McKinley 56.90 32 P **P 13 17 20.5 +0.6**
MCK IAmb IAmb 13 17 24.5
comp=Z,86nm,1.7s
MCK McKinley 56.90 32 P **P 13 17 19.9 +0.1**
baz=278,SNR=5.4
RC01 Rabbit Creek A 56.91 35 P **P 13 17 20.0 +0.1**
baz=279
H24K Noodor Dome 57.08 29 P **P 13 17 21.3 +0.2**
baz=277,SNR=11
PMR Palmer 57.12 34 P **P 13 17 21.8 +0.4**
PMR Palmer 57.12 34 P **P 13 17 20.9 -0.4**
baz=279,SNR=5.2
WAT1 Susitna Watana 57.20 33 P **P 13 17 21.7 -0.3**
baz=279
SEW Seward 57.20 36 P **P 13 17 22.0 0.0**
SEW IAmb IAmb 13 17 26.1
comp=Z,68nm,1.2s
SEW Seward 57.20 36 P **P 13 17 21.5 -0.5**
baz=280
TCOL CIGO, UAF Yank 57.21 30 P **P 13 17 22.1 +0.1**
baz=278,SNR=5.2
COLA College 57.22 30 *i* P **P 13 17 22.6 +0.6**
COLA pmax pmax
comp=Z,54nm,1.8s
COLA College 57.22 30 P **P 13 17 22.4 +0.4**
baz=278
POKR Poker Plat Res 57.36 30 P **P 13 17 23.2 +0.1**
baz=278
SML Sawmill 57.46 34 P **P 13 17 24.8 +0.9**
SML Sawmill 57.46 34 P **P 13 17 24.8 +0.9**
SML IAmb IAmb 13 17 28.5
comp=Z,44nm,1.1s
SML Sawmill 57.46 34 P **P 13 17 23.5 -0.5**
baz=279,SNR=5.9
KNK Knik Glacier 57.47 34 P **P 13 17 24.1 +0.2**
baz=280,SNR=9.0
WAT6 Susitna Watana 57.61 33 P **P 13 17 25.2 +0.1**
baz=279,SNR=6.1
PWL Port Wells 57.62 35 P **P 13 17 24.6 -0.4**
baz=280
IL31 57.64 30 P **P 13 17 26.1 +1.1**
ILAR Eielson Array 57.64 30 P **P 13 17 24.8 -0.3**
comp=Z,4.2nm,0.7s,baz=289,slow=6.6,SNR=17
ILAR Eielson Array 57.64 30 P **P 13 17 25.0 0.0**
HDA Harding Lake 57.67 31 P **P 13 17 25.5 +0.2**
baz=279,SNR=14
DHY Denali Highway 57.69 32 P **P 13 17 25.4 -0.3**
baz=279
SCM Sheep Creek Mo 57.93 34 P **P 13 17 27.4 +0.2**
baz=280,SNR=5.9
BMAR Burnt Mountain 58.15 27 P **P 13 17 30.5 +1.8**
GEYT Aibeck 58.16 297 P **P 13 17 29.8 +0.6**
comp=Z,7.7nm,0.7s,baz=60,slow=24,SNR=10
GLI Glacier Island 58.21 35 P **P 13 17 29.0 -0.2**
baz=281,SNR=5.6
J25K Salcha River, 58.31 30 P **P 13 17 29.7 -0.1**
baz=280

KIRV **Kirov** 58.36 323 *ce*P P **13 17 28.7 -1.4**
M24K **Tolsona, Glenn** 58.41 33 P P **13 17 30.4 -0.2**
baz=281
PAX **Paxson** 58.57 32 P P **13 17 31.9 +0.3**
baz=281
MNCY **Minicoy** 58.59 259 *e*P P 13 17 49.0 +17
KLU **Klutina** 58.65 34 P P **13 17 32.2 0.0**
baz=282
RIDG **Independent Ri** 58.70 31 P P **13 17 32.9 +0.4**
RIDG IAmb IAmb 13 17 37.7
comp=Z,65nm,1.7s
RIDG **Independent Ri** 58.70 31 P P **13 17 32.3 -0.2**
baz=281
HARP **HAARP** 58.82 33 P P **13 17 33.6 +0.3**
baz=282
EYAK **Cordova Ski Ar** 58.93 35 P P **13 17 34.0 -0.1**
baz=282
SCRK **Sand Creek** 59.02 31 P P **13 17 34.7 -0.2**
baz=282,SNR=15
J26L **Joseph Creek** 59.10 30 P P **13 17 35.2 -0.2**
baz=282,SNR=5.8
N25K **Chitina, Valde** 59.25 34 P P **13 17 36.2 -0.2**
baz=283,SNR=6.6
HMDM **Hanimaadhoo** 59.29 257 P P **13 17 38.2 +0.9**
BMRM **Bremner River** 59.39 34 P P **13 17 37.7 +0.3**
baz=283,SNR=5.1
L26K **Log Cabin Wild** 59.50 32 P P **13 17 38.5 +0.4**
baz=283,SNR=17
PRGR **Permogore** 59.55 326 *e*P P **13 17 36.1 -2.3**
PRGR pmax pmax
comp=Z,13nm,0.9s
M26K **Nabesna, AK** 59.80 33 P P **13 17 40.8 +0.5**
baz=284,SNR=14
VRDI **Verde Repeater** 59.87 34 IAmb IAmb 13 17 45.7
comp=Z,28nm,0.9s
MCARA **McCarthy VSAT** 60.03 34 P P **13 17 41.9 +0.1**
baz=284
EGAK **Eagle** 60.05 30 P P **13 17 42.6 +0.8**
baz=284
L27K **Beaver Creek,** 60.17 32 P P **13 17 43.4 +0.7**
L27K IAmb IAmb 13 17 48.0
comp=Z,30nm,1.0s
L27K **Beaver Creek,** 60.17 32 P P **13 17 43.4 +0.7**
baz=284,SNR=12
BCAR **Beaver Creek A** 60.19 32 P P **13 17 43.8 +0.9**
M27K **Edge Creek, AK** 60.32 32 P P **13 17 44.4 +0.5**
baz=284,SNR=12
BELG **Belogornoye** 60.88 316 LR LR 13 45 37.4
comp=Z,2µm,19.4s,baz=81,slow=38
BELG **Belogornoye** 60.88 316 *d* P P **13 17 46.7 -0.9**
BELG pmax pmax
comp=Z,28nm,1.2s
CTG **Chitna Glacier** 60.93 34 P P **13 17 48.2 +0.2**
baz=286
DAWY **Dawson** 60.97 30 P P **13 17 48.4 +0.3**
baz=286
YUK3 **Moose Creek** 61.12 33 P P **13 17 49.9 +0.5**
baz=286
INK **Inuvik** 62.01 25 P P **13 17 55.4 +0.4**
comp=Z,17nm,1.0s,baz=284,slow=7.3,SNR=17
INK LR LR 13 48 21.6
comp=Z,2µm,18.0s,baz=308,slow=40
INK **Inuvik** 62.01 25 P P **13 17 55.3 +0.4**
baz=288,SNR=13
YUK4 **Talbot Arm** 62.07 33 P P **13 17 56.4 +0.6**
baz=288,SNR=6.0
PNL **Peninsula** 62.23 35 P P **13 17 56.5 -0.2**
baz=288
YUK6 **Outpost Mounta** 62.33 33 P P **13 17 57.6 0.0**
baz=288
M30M **Minto, Yukon** 62.52 31 P P **13 17 58.9 +0.3**
baz=288,SNR=19
KLMR **Klimovskoe** 62.61 327 *e*P P **13 17 56.1 -3.0**
KLMR *e* 13 20 12.2
KLMR pmax pmax
comp=Z,105nm,1.4s
KLMR **Klimovskoe** 62.61 327 *e*P P **13 17 56.1 -3.0**
KLMR AMP 13 18 00.6
comp=Z,105nm,1.4s
KLMR *e*PP PP **13 20 12.3 -4.2**
HYT **Haines Junctio** 62.76 33 P P **13 18 00.3 0.0**
baz=289,SNR=13
APA **Apatity** 62.90 335 ⇓ *i*P P **13 18 01.4 +0.4**
APA pmax pmax
comp=Z,27nm,0.9s
APA MLR MLR
comp=Z,2µm,16.0s
JLN **Jalan Bani Buh** 63.22 280 P P **13 18 04.8 +1.0**
SNR=7.5
FORT **Forrest** 63.26 183 P P **13 18 03.2 -0.4**
A36M **Sachs Harbour** 63.33 20 IAmb IAmb 13 18 08.4
comp=Z,48nm,1.0s
A36M **Sachs Harbour** 63.33 20 P P **13 18 03.4 -0.3**
baz=294,SNR=13
N31M **Braeburn, Yuko** 63.33 32 P P **13 18 04.0 0.0**
N31M IAmb IAmb 13 18 09.6
comp=Z,39nm,1.1s
N31M **Braeburn, Yuko** 63.33 32 P P **13 18 03.6 -0.4**
baz=290,SNR=8.9
WBK **Wadi Bani Khal** 63.38 281 P P **13 18 05.8 +0.8**
SNR=15
WSAR **Wadi Sarin** 63.38 282 P P **13 18 05.6 +0.7**
SNR=9.8
BIDO **Bidbid** 63.67 282 P P **13 18 07.9 +1.0**
SNR=9.3
M31M **Drury Creek, Y** 63.71 31 P P **13 18 07.0 +0.5**
baz=291,SNR=8.5
SMDO **Samad** 63.94 282 P P **13 18 09.4 +0.7**
SNR=13
WHY **Whitehorse** 64.03 33 P P **13 18 09.4 +0.7**
WHY **Whitehorse** 64.03 33 P P **13 18 08.5 -0.3**
baz=291,SNR=15
MAK **Makhachkala** 64.06 306 *e*P P **13 18 05.4 -3.6**
MAK *e*S S **13 26 37.8 -6.9**
MAK pmax pmax
comp=Z,166nm,1.3s
MAK MLR MLR
comp=Z,2µm,13.0s
BANOM **Banah** 64.13 285 P P **13 18 10.8 +1.0**
SNR=14
BANOM **Banah** 64.13 285 *i*P P **13 18 10.2 +0.3**
SNR=11
JMDO **Jabal Madar** 64.20 281 P P **13 18 10.8 +0.5**
SNR=11
SHME **Shamm** 64.20 285 P P **13 18 11.7 +1.4**
SNR=22
SHME **Shamm** 64.20 285 *i*P P **13 18 10.8 +0.6**
SNR=23
SKAG **Skagway** 64.25 34 P P **13 18 09.5 -0.5**
baz=291
HOQ **Hoqain** 64.32 283 P P **13 18 11.5 +0.4**
SNR=9.8
MASF **Masafi** 64.48 285 P P **13 18 13.3 +1.2**
SNR=9.7
MSFE **Esma-Masafi** 64.49 285 *i*P P **13 18 12.5 +0.3**
SNR=11
UOSS **Minazif** 64.63 284 P P **13 18 14.9 +1.8**
UOSS **Minazif** 64.63 284 *i*P P **13 18 12.7 -0.4**
SNR=8.6
NOR **Nord** 64.64 355 *e*P P **13 18 11.5 -0.8**
SOHO **SOHO** 64.72 283 P P **13 18 14.4 +0.7**
SOHO **SOHO** 64.72 283 *i*P P **13 18 13.7 0.0**
SNR=11
VRH **Novokhopyorsk** 64.74 316 *e*P P **13 18 12.4 -0.9**
VRH pmax pmax
comp=Z,100nm,1.3s
HATD **Hatta, Dubai** 64.74 284 P P **13 18 14.8 +0.9**
SNR=16
HATD **Hatta, Dubai** 64.74 284 *i*P P **13 18 14.4 +0.5**
SNR=12
BSY **Bisya** 64.78 282 P P **13 18 15.0 +0.8**
SNR=13
BSY P P **13 18 15.0 +0.8**
SNR=13
ARCES **ARCESS Array B** 64.80 338 P P **13 18 12.4 -1.1**
comp=Z,13nm,1.0s,baz=60,slow=7.3,SNR=7.8
ARCES LR LR 13 50 50.5
comp=Z,3µm,18.0s,baz=91,slow=40
ARCES **ARCESS Array B** 64.80 338 P P **13 18 11.5 -1.9**
C36M **Paulatuk** 64.80 22 IAmb IAmb 13 18 17.8
comp=Z,35nm,0.9s
C36M **Paulatuk** 64.80 22 P P **13 18 12.7 -0.7**
baz=296,SNR=18
UMQ **Umm Al-Quwin** 64.82 285 P P **13 18 15.9 +1.6**
UMQ **Umm Al-Quwin** 64.82 285 *i*P P **13 18 15.9 +1.6**
SNR=5.1
ASHO **Ashiyiah** 64.86 284 P P **13 18 15.5 +0.8**
SNR=20
ASHO P P **13 18 15.5 +0.8**
SNR=20
ASHO **Ashiyiah** 64.86 284 *i*P P **13 18 15.0 +0.3**
SNR=17
MHTO **MHTO** 64.94 280 P P **13 18 15.6 +0.5**
SNR=17
NAZ **Nazwa, Dubai** 65.05 285 P P **13 18 16.9 +1.0**
SNR=14
NAZ **Nazwa, Dubai** 65.05 285 *i*P P **13 18 16.0 +0.2**
SNR=13
ARQ **Araqi** 65.08 283 P P **13 18 17.3 +1.2**
SNR=15
STKA **Stephens Creek** 65.09 170 P P **13 18 15.5 -0.2**
comp=Z,19nm,0.9s,baz=347,slow=7.5,SNR=28
GROC **Groznyy** 65.13 307 *e*P P **13 18 15.9 -0.1**
GROC *e* 13 18 48.7
GROC *e* 13 20 37.6
GROC pmax pmax
comp=Z,44nm,0.6s
FAQ **Al Faqa, Dubai** 65.22 284 P P **13 18 17.6 +0.7**
SNR=14
FAQ **Al Faqa, Dubai** 65.22 284 *i*P P **13 18 16.9 0.0**
SNR=8.9
MOS **Moscow** 65.33 322 *e*P P **13 18 14.8 -2.3**
MOS *e* 13 22 18.1
MOS pmax pmax
comp=Z,268nm,1.5s
MOS MLR MLR
comp=Z,3µm,15.0s
ALNE **Al Ain** 65.39 284 P P **13 18 18.8 +0.8**
SNR=22
ALNE **Al Ain** 65.39 284 *i*P P **13 18 18.4 +0.3**
SNR=15
BBOO **Buckleboo** 65.41 175 IAmb IAmb 13 18 17.7
comp=Z,28nm,1.0s
ASUD **Al Ashush, Dub** 65.48 284 P P **13 18 19.7 +1.0**
SNR=11
ASUD **Al Ashush, Dub** 65.48 284 *i*P P **13 18 19.0 +0.3**
SNR=8.5
EUNU **Eureka** 65.55 7 IAmb IAmb 13 18 48.5
comp=Z,97nm,1.9s
AJN **Ajban** 65.79 285 P P **13 18 21.6 +1.0**
SNR=11
AJN **Ajban** 65.79 285 *i*P P **13 18 20.4 -0.2**
SNR=13
LPSR **Galich'ya Gora** 65.82 318 *e*P P **13 18 19.1 -1.2**
LPSR pmax pmax
comp=Z,120nm,1.2s
ARMA **Armidale** 65.85 160 P P **13 18 20.1 -0.7**
ARMA IAmb IAmb 13 18 26.0
comp=Z,59nm,1.3s
VORR **Voronezh** 66.02 317 *i*P P **13 18 21.6 0.0**
VORR pmax pmax
comp=Z,178nm,1.7s
OBN **Obninsk** 66.12 321 *de*P P **13 18 21.6 -0.6**
OBN *e* 13 18 50.7
OBN *e*PPP PPP 13 22 19.8
OBN pmax pmax
comp=Z,235nm,1.7s
OBN MLR MLR
comp=Z,2µm,16.0s
VSR **Storozhevoye** 66.22 317 *e*P P **13 18 22.2 -0.7**
VSR pmax pmax
comp=Z,120nm,1.2s
GOF **Gofitskoye** 66.24 309 ⇓ *e*P P **13 18 23.7 +0.5**
GOF pmax pmax
comp=Z,172nm,1.0s
VALR **Valaam** 66.31 329 *i*P P **13 18 21.4 -1.9**
VALR pmax pmax
comp=Z,150nm,1.6s
UMZA **Um Al Zommool** 66.48 283 P P **13 18 25.1 +0.1**
UMZA P P **13 18 25.1 +0.1**
ZEI **Tsey** 66.57 307 *e*P P **13 18 22.7 -2.9**
ZEI pmax pmax
comp=Z,89nm,1.4s
KBZ **Khabaz** 66.87 308 P P **13 18 27.5 +0.3**
comp=Z,94nm,1.0s,baz=68,slow=5.1,SNR=79
KBZ **Khabaz** 66.87 308 *ce*P P **13 18 26.9 -0.3**
KBZ pmax pmax
comp=Z,161nm,1.1s
KIV **Kislovodsk** 66.92 308 *e*P P **13 18 27.8 +0.1**
KIV pmax pmax
comp=Z,216nm,1.1s
KIV **Kislovodsk** 66.92 308 P P **13 18 29.0 +1.4**
KIV **Kislovodsk** 66.92 308 *i*P P **13 18 28.5 +0.9**
SNR=30
MZWR **Madinat Zayed** 67.05 284 P P **13 18 28.7 0.0**
GNI **Garni** 67.06 304 *ce*P P **13 18 28.7 0.0**
GNI pmax pmax
comp=Z,148nm,1.3s
GNI **Garni** 67.06 304 P P **13 18 30.5 +1.8**
JRN **Qarnain Island** 67.36 286 P P **13 18 30.4 -0.2**
SNR=9.2
JRN P P **13 18 30.4 -0.2**
SNR=9.2
AKH **Akhalkalaki** 67.41 306 P P **13 18 33.3 +2.4**
MZR **Muzera** 67.72 284 P P **13 18 33.1 +0.1**
SNR=26
MZR P P **13 18 33.1 +0.1**
SNR=26
MZR **Muzera** 67.72 284 *i*P P **13 18 32.9 -0.1**
SNR=15
KARS **Kars** 68.02 305 P P **13 18 37.2 +2.4**
KARS pmax pmax
comp=Z,236nm,1.4s
SHAO **Shalim** 68.28 278 P P **13 18 36.7 +0.2**
SHAO **Shalim** 68.28 278 P P **13 18 36.1 -0.4**
FINES **FINESS Array B** 68.34 330 P P **13 18 35.2 -0.9**
comp=Z,12nm,0.6s,baz=67,slow=6.0,SNR=31
RES **Resolute Bay** 68.72 12 IAmb IAmb 13 18 42.6
comp=Z,36nm,1.1s
DMTO **DMTO** 68.99 278 P P **13 18 41.6 +0.6**
SOC **Sochi** 69.03 309 *e*P P **13 18 38.0 -2.8**
SOC pmax pmax
comp=Z,123nm,1.6s
DAG **Danmarks Havn** 69.09 353 P P **13 18 40.4 -0.2**
DAG pmax pmax
comp=Z,32nm,1.1s
DAG **Danmarks Havn** 69.09 353 *i*P P **13 18 39.0 -1.6**
DOK **Doka** 69.24 279 P P **13 18 42.4 -0.1**
SNR=5.8
VSU **Vasula** 69.50 327 *e*P P **13 18 43.8 +0.3**
MEF **Metsahovi** 69.66 329 *e*P P **13 18 43.9 -0.5**
RBK **Rabkut** 69.71 278 P P **13 18 46.0 +0.5**
SNR=7.9
WHFO **Wadi Hawf** 69.87 279 P P **13 18 45.9 -0.6**
SNR=6.0
ANN **Anapa** 69.97 311 *e*P P **13 18 45.9 -0.7**
ANN pmax pmax
comp=Z,162nm,1.0s
TULEG **Thule** 70.26 5 *e*P P **13 18 46.4 -1.4**
RAF **Rauma** 70.35 331 *e*P P **13 18 48.7 +0.1**
ABTO **Aybut** 70.54 278 P P **13 18 51.0 +0.4**
SNR=14
MTSE **Matsula** 70.69 328 *e*P P **13 18 51.0 +0.3**
MNK **Minsk** 70.90 323 *i*P P **13 18 49.4 -2.6**
MNK *i* 13 19 09.9
MNK *i*S S **13 28 04.0 -2.4**
MNK *i* 13 28 53.0
MNK *i*SS SS **13 32 38.2 -0.1**
MNK pmax pmax
comp=Z,94nm,1.1s
MNK pmax pmax
comp=E,16nm,1.2s
MNK pmax pmax
comp=N,58nm,1.1s
MNK MLR MLR
comp=Z,2µm,19.0s
MNK MLR MLR
comp=E,186nm,19.0s
MNK MLR MLR
comp=N,1µm,19.0s
MNK **Minsk** 70.90 323 *i*P P **13 18 49.4 -2.6**
comp=E,16nm,1.2s
MNK *i*P P **13 18 49.4 -2.6**
comp=N,58nm,1.1s
MNK *i*P P **13 18 49.4 -2.6**
comp=Z,94nm,1.1s,baz=241
MNK *i*PcP PcP **13 19 09.9 -2.7**
MNK *i*PP PP **13 21 21.7 -7.1**
MNK *i*PPP PPP 13 23 02.6
MNK *i*S S **13 28 04.1 -2.4**
MNK *i*SS SS **13 32 38.3 -0.1**
MNK *i*SSS SSS 13 35 54.7
MNK *i*LQ LQ 13 45 02.0
MNK *i*LR LR 13 50 25.5
MNK *i*LRM MLR 13 52 05.8
comp=Z,2µm,18.5s
MNK *i*LRM MLR 13 52 24.3
comp=E,186nm,18.5s
MNK *i*LRM MLR 13 52 35.2
comp=N,1µm,18.5s
IDID **Didziasalis** 71.06 324 *e*P P **13 18 53.2 +0.2**
ISAL **Salakas** 71.23 325 *e*P P **13 18 54.6 +0.5**
NACGM **Naroch** 71.25 324 *e*P P **13 18 54.5 +0.2**
TOO **Toolangi** 71.30 168 P P **13 18 54.5 -0.1**
TOO pmax pmax
comp=Z,31nm,1.1s
TOO **Toolangi** 71.30 168 P P **13 18 54.5 -0.1**
TOO IAmb IAmb 13 18 59.3
comp=Z,31nm,1.1s
IIGN **Ignalina** 71.30 324 *e*P P **13 18 54.3 -0.2**
YKA **Yellowknife Ar** 71.67 26 P P **13 18 56.5 0.0**
comp=Z,2.8nm,0.8s,baz=305,slow=5.9,SNR=17
SIM **Simferopol'** 71.99 312 *e*P P **13 18 58.0 -0.9**
SIM pmax pmax
comp=Z,77nm,1.0s
AKASG **Malin Array Be** 72.08 319 P P **13 18 58.5 -0.7**
comp=Z,43nm,0.9s,baz=50,slow=6.6,SNR=84
AKASG **Malin Array Be** 72.08 319 *ce*P P **13 18 58.5 -0.7**
AKASG pmax pmax
comp=Z,48nm,0.9s
AKBB **Malin Array Si** 72.08 319 *ce*P P **13 18 58.7 -0.6**
AKBB **Malin Array Si** 72.08 319 P P **13 18 58.8 -0.4**
KIEV **Kiev** 72.09 319 P P **13 18 58.0 -1.3**
PABE **Paberze** 72.31 325 IAMs_20 IAMs_20 13 48 37.2
comp=Z,1µm,20.0s
PABE **Paberze** 72.31 325 *e*P P **13 19 00.8 +0.2**
SOCY **Socotra** 72.53 273 P P **13 19 00.8 -1.8**
SOCY **Socotra** 72.53 273 P P **13 19 01.3 -1.4**
SNR=12
UPP **Uppsala** 72.70 331 *e*P P **13 19 02.6 -0.2**
DIKM **Dikmen** 72.84 309 ⇓ P P **13 19 04.4 +0.4**
PBUR **Paburge** 73.00 326 *e*P P **13 19 05.2 +0.6**
BZK **Bozkurt** 73.51 309 ⇓ P P **13 19 07.6 -0.4**
SUW **Suwalki** 73.51 324 *e*P P **13 19 07.6 -0.1**
SUW *e*S SKiKP **13 28 41.7 +4.4**
SUW **Suwalki** 73.51 324 *e*P P **13 19 07.2 -0.5**
SORM **Soroca** 73.87 317 ⇓ P P **13 19 09.3 -0.6**
SORM **Soroca** 73.87 317 ⇓ P P **13 19 09.3 -0.6**
VIKU **Vikbolandet** 73.89 330 *e*P P **13 19 09.1 -0.7**
MILM **Milestii Mici** 74.23 316 ⇑ P P **13 19 11.5 -0.6**
MILM **Milestii Mici** 74.23 316 ⇑ P P **13 19 11.5 -0.6**
HORU **Horodok** 74.39 319 P P **13 19 13.2 +0.2**
NB2 **NORSAR Subarra** 74.47 334 P P **13 19 11.7 -1.6**
comp=Z,30nm,1.1s,baz=50,slow=6.2
NB2 **NORSAR Subarra** 74.47 334 P P **13 19 11.7 -1.6**
baz=50,slow=6.2
NOA **NORSAR Array B** 74.47 334 P P **13 19 12.0 -1.3**
comp=Z,6.1nm,0.9s,baz=49,slow=5.7,SNR=12
NOA LR LR 13 57 16.7
comp=Z,2µm,18.0s,baz=240,slow=40
NOA **NORSAR Array B** 74.47 334 P P **13 19 12.0 -1.3**
NC204 **NORSAR Array S** 74.48 334 P P **13 19 12.4 -0.9**
UPNV **Upernavik** 74.62 2 *e*P P **13 19 13.3 -0.6**
KMPD **K-Podol'skiy** 74.72 318 P P **13 19 14.0 -0.9**
BR131 **Keskin Array S** 74.85 308 *d* P P **13 19 14.5 -1.5**
BR131 **Keskin Array S** 74.85 308 P P **13 19 16.1 +0.1**
SNR=34
BRTR **Keskin Array B** 74.85 308 P P **13 19 15.8 -0.2**
comp=Z,57nm,1.0s,baz=97,slow=4.2,SNR=88
BRTR **Keskin Array B** 74.85 308 *ce*P P **13 19 15.8 -0.2**
BRTR pmax pmax
comp=Z,58nm,1.0s
BRTR **Keskin Array B** 74.85 308 P P **13 19 15.0 -1.0**
VASR **Vaslui** 74.97 316 ⇑ P P **13 19 16.3 -0.1**
TLCR 75.13 314 ⇓ P P **13 19 17.7 +0.4**
TLCR 75.13 314 ⇓ P P **13 19 17.7 +0.4**
VLDR **Vladesti** 75.22 315 ⇑ P P **13 19 17.9 +0.1**
JURR **Jurilovca** 75.31 314 ⇓ P P **13 19 18.4 0.0**
SCTR **Scanteiesti** 75.37 315 ⇑ P P **13 19 18.7 +0.1**
LVV **L'vov** 75.38 320 *e*P P **13 19 18.6 -0.1**
TPGR **Topolog** 75.54 314 ⇓ P P **13 19 19.5 -0.2**
CFR **Carcaliu** 75.54 315 ⇓ P P **13 19 19.1 -0.6**
CFR **Carcaliu** 75.54 315 P P **13 19 19.6 -0.1**
KSV **Kosov** 75.64 318 P P **13 19 19.9 -0.3**
TESR **Tescani** 75.71 316 ⇑ P P **13 19 20.4 -0.2**
TIRR **Tirgusor** 75.76 314 ⇑ P P **13 19 21.0 +0.1**
TIRR **Tirgusor** 75.76 314 ⇑ P P **13 19 21.0 +0.1**
PANC **Panciu** 75.76 316 ⇑ P P **13 19 21.7 +0.7**
MORS **Morshin** 75.83 320 P P **13 19 21.6 +0.3**
ODBI **Odobesti** 75.88 315 ⇑ P P **13 19 22.9 +1.3**
MFTR **Mufteiar** 75.90 314 ⇓ P P **13 19 22.5 +0.7**
HARR **Harsova** 75.93 314 ⇓ P P **13 19 22.3 +0.4**
HARR **Harsova** 75.93 314 ⇓ P P **13 19 22.3 +0.4**
BUR08 **Bucovina Ar. S** 75.93 318 P P **13 19 22.0 0.0**
BEL **Belsk** 75.93 323 *e*P P **13 19 22.4 +0.6**
BEL **Belsk** 75.93 323 P P **13 19 23.6 +1.8**
BEL pmax pmax
comp=Z,265nm,1.2s
TLBR **Topalu** 75.93 314 ⇑ P P **13 19 22.6 +0.7**
BUR01 **Bucovina Ar. S** 75.93 318 ⇑ P P **13 19 22.2 +0.2**
BURAR **Bucovina Array** 75.93 318 P P **13 19 22.1 0.0**
VRI **Vrincioaia** 76.01 316 ⇓ P P **13 19 23.0 +0.6**
VRI **Vrincioaia** 76.01 316 ⇓ P P **13 19 23.0 +0.6**
PLOR **Plostina** 76.07 316 ⇑ P P **13 19 23.6 +0.9**
PLOR **Plostina** 76.07 316 ⇑ P P **13 19 23.6 +0.9**
KWP **Kalwaria Pacla** 76.19 320 *e*P P **13 19 24.0 +0.6**
ICOR **Ian Corvin** 76.31 314 ⇑ P P **13 19 24.7 +0.7**
COVR **Voineasa-Covas** 76.33 316 ⇓ P P **13 19 25.1 +0.9**
OZUR 76.44 316 ⇓ P P **13 19 25.4 +0.6**
ISR **Istrita** 76.53 315 ⇓ P P **13 19 27.2 +1.8**
MLR **Muntele Rosu** 76.68 316 ⇓ P P **13 19 26.7 +0.4**
MLR **Muntele Rosu** 76.68 316 ⇓ P P **13 19 26.7 +0.4**
ARCR **ARCALIA** 76.72 318 ⇑ P P **13 19 27.8 +1.4**
DOPR **Dopca** 76.74 316 ⇓ P P **13 19 27.2 +0.7**
BSD **Bornholm Skovb** 76.75 328 *e*P P **13 19 26.1 -0.2**
TAU **Tasmania Unive** 76.81 168 P P **13 19 27.3 +0.7**
TAU pmax pmax
comp=Z,50nm,1.2s
TAU **Tasmania Unive** 76.81 168 P P **13 19 27.3 +0.7**
TAU IAmb IAmb 13 19 32.0
comp=Z,50nm,1.2s
GKP **Gorka Klasztor** 76.82 326 *e*P P **13 19 26.9 +0.1**
KOLS **Kolonicke sedl** 76.82 320 *e*P P **13 19 27.5 +0.5**
KOLS pmax pmax
comp=Z,36nm,1.0s
KOLS **Kolonicke sedl** 76.82 320 *e*P P **13 19 27.5 +0.5**
SECR 76.86 315 ⇑ P P **13 19 27.9 +0.8**
BMR **Baia Mare** 76.87 319 ⇓ P P **13 19 27.9 +0.7**
BMR **Baia Mare** 76.87 319 ⇓ P P **13 19 27.9 +0.7**
TRSU **Trosnyk** 76.93 319 P P **13 19 28.2 +0.7**
UZH **Uzhgorod** 76.99 320 *e*P P **13 19 25.6 -2.2**
UZH *i* 13 19 29.5
UZH *i* 13 19 35.0
VOIR 77.23 316 ⇑ P P **13 19 29.8 +0.4**
VOIR 77.23 316 ⇑ P P **13 19 29.8 +0.4**
CRVS **Cervenica-Dubn** 77.28 320 *e*P P **13 19 30.2 +0.7**
CRVS pmax pmax
comp=Z,129nm,1.3s
CRVS **Cervenica-Dubn** 77.28 320 *e*P P **13 19 30.2 +0.7**
CJR **Cluj-Napoca** 77.35 318 ⇑ P P **13 19 31.3 +1.3**
CJR **Cluj-Napoca** 77.35 318 ⇑ P P **13 19 31.3 +1.3**
OJC **Ojcow** 77.39 322 *e*P P **13 19 30.4 +0.3**
OJC **Ojcow** 77.39 322 P P **13 19 30.5 +0.4**
OJC pmax pmax
comp=Z,197nm,1.1s
OJC **Ojcow** 77.39 322 P P **13 19 30.5 +0.4**
RAZG **Razgrad** 77.39 314 ⇑ P P **13 19 30.8 +0.5**
ARR **Arges** 77.52 316 ⇓ P P **13 19 31.8 +0.8**
NIE **Niedzica** 77.60 321 *e*P P **13 19 32.8 +1.5**
HUMR **Humele** 77.78 315 ⇓ P P **13 19 32.1 -0.3**
DRGR 77.81 318 ⇑ P P **13 19 32.9 +0.3**
DRGR 77.81 318 ⇑ P P **13 19 32.9 +0.3**
COPA **Copaceanca** 77.86 315 ⇓ P P **13 19 33.2 +0.4**
GOET **G??ttrup** 77.91 332 *e*P P **13 19 32.2 -0.5**
ISP **Isparta** 77.92 307 P P **13 19 33.0 -0.4**
ISP pmax pmax
comp=Z,57nm,1.1s
LOT **Lotru** 77.97 317 ⇑ P P **13 19 33.8 +0.2**
KECS **Kecovo** 78.05 320 *e*P P **13 19 34.7 +0.9**
KECS pmax pmax
comp=Z,58nm,1.1s
KECS **Kecovo** 78.05 320 *e*P P **13 19 34.7 +0.9**
LANS **Liptovska Anna** 78.19 321 *e*P P **13 19 36.0 +1.4**
LANS pmax pmax
comp=Z,44nm,1.2s

LANS Liptovska Anna 78.19 321 eP P 13 19 36.0 +1.4
ICESG Greenland Ices 78.20 357 eP P 13 19 35.2 +0.5
DEV Deva 78.22 317 ⇑P P 13 19 36.1 +1.3
DEV Deva 78.22 317 ⇑P P 13 19 36.1 +1.3
MUD Monsted U'grnd 78.32 331 eP P 13 19 33.2 -1.9
OKC Ostrava-Krasne 78.47 322 eP P 13 19 36.1 0.0
OKC Ostrava-Krasne 78.47 322 eP P 13 19 36.1 0.0
RAO Raoul Island 78.51 136 LR LR 13 51 59.4
comp=Z,437nm,19.5s,baz=306,slow=34
GZR Gura Zlata 78.58 317 ⇓P P 13 19 37.0 +0.1
GZR Gura Zlata 78.58 317 ⇓P P 13 19 37.0 +0.1
PSZ Piszkesteto 78.70 320 ⇓P P 13 19 37.9 +0.4
PSZ Piszkesteto 78.70 320 ⇓P P 13 19 37.9 +0.4
PSZ Piszkesteto 78.70 320 P P 13 19 38.5 +0.9
KSP Ksiaz 78.78 324 eP P 13 19 38.3 +0.5
KSP Ksiaz 78.78 324 P P 13 19 38.1 +0.3
KSP pmax pmax
comp=Z,111nm,1.2s
MORC Moravsky Berou 78.81 323 ⇓P P 13 19 38.2 +0.2
MORC Moravsky Berou 78.81 323 ⇓P P 13 19 38.2 +0.2
MORC Moravsky Berou 78.81 323 eP P 13 19 38.0 -0.1
BSZH Besenyszg 78.87 320 P P 13 19 39.5 +1.2
VYHS Vyhne 78.92 321 eP P 13 19 39.6 +1.0
VYHS pmax pmax
comp=Z,56nm,1.2s
VYHS Vyhne 78.92 321 eP P 13 19 39.6 +1.0
RUE Ruedersdorf 78.95 326 eP P 13 19 39.0 +0.3
comp=Z,265nm,1.4s,baz=47,slow=5.3
OSTC Ostas 79.00 324 eP P 13 19 39.5 +0.5
KRLC Kraliky 79.02 323 eP P 13 19 39.1 -0.1
KRLC Kraliky 79.02 323 eP P 13 19 39.1 -0.1
CHVC Chvalec 79.06 324 eP P 13 19 39.9 +0.5
NEW Newport 79.07 39 P P 13 19 38.7 -0.8
baz=307
DPC Dobruska-Polom 79.08 324 eP P 13 19 39.1 -0.4
DPC Dobruska-Polom 79.08 324 eP P 13 19 39.1 -0.4
HERR Herculane 79.08 317 ⇓P P 13 19 39.6 +0.1
BZS Buzias 79.11 318 ⇓P P 13 19 39.6 -0.1
BZS Buzias 79.11 318 ⇓P P 13 19 39.6 -0.1
UPC Upice 79.13 324 eP P 13 19 40.2 +0.5
UPC Upice 79.13 324 eP P 13 19 40.2 +0.5
DJES Djerdap 79.15 316 ⇓P P 13 19 40.1 +0.1
AMBH Ambrzfalva 79.18 319 P P 13 19 41.6 +1.5
JAVC Velka Javorina 79.31 322 eP P 13 19 42.1 +1.3
BUD Budapest 79.44 320 P P 13 19 42.1 +0.7
MDVR Moldovita 79.55 317 ⇓P P 13 19 42.0 -0.2
BSEG Bad Segeberg 79.55 329 eP P 13 19 41.7 -0.2
comp=Z,77nm,1.1s,baz=47,slow=5.3
VRAC Vranov 79.59 323 ⇓P P 13 19 42.7 +0.4
VRAC Vranov 79.59 323 ⇓P P 13 19 42.7 +0.4
VRAC Vranov 79.59 323 eP P 13 19 42.5 +0.2
SMOL Smolenice 79.65 322 eP P 13 19 43.7 +1.1
SMOL pmax pmax
comp=Z,72nm,1.2s
SMOL Smolenice 79.65 322 eP P 13 19 43.7 +1.1
BLKB Belogradchik 79.66 315 ⇓P P 13 19 42.9 +0.1
M02C Callahan 79.81 47 P P 13 19 43.5 -0.2
baz=305
MODS Modra-Piesok 79.82 322 eP P 13 19 44.8 +1.3
MODS pmax pmax
comp=Z,342nm,1.3s
MODS Modra-Piesok 79.82 322 eP P 13 19 44.8 +1.3
PVCC Panska Ves 79.83 324 eP P 13 19 43.7 +0.2
PVCC Panska Ves 79.83 324 eP P 13 19 43.7 +0.2
KRUC Moravsky 79.84 323 eP P 13 19 43.8 +0.2
VTS Vitosha 79.91 314 ⇑P P 13 19 45.1 +0.8
VTS Vitosha 79.91 314 ⇑P P 13 19 45.1 +0.8
BRG Berggiesshubel 79.91 325 eP P 13 19 44.0 +0.1
BRG Amp 13 19 46.0
comp=Z,48nm,1.2s
BRG ex x 13 19 53.0
BRG Amp 13 19 54.0
comp=Z,20nm,1.1s
BRG Berggiesshubel 79.91 325 eP P 13 19 44.0 +0.1
BRG e 13 19 53.0
BRG pmax pmax
comp=Z,48nm,1.2s
BRG pmax pmax
comp=Z,20nm,1.2s
BRG Berggiesshubel 79.91 325 eP P 13 19 44.0 +0.1
comp=Z,71nm,1.3s,baz=47,slow=5.3
CSKK Cskako 79.92 320 P P 13 19 44.5 +0.5
ZST Bratislava 80.02 322 eP P 13 19 45.9 +1.3
ZST pmax pmax
comp=Z,358nm,1.5s
ZST Bratislava 80.02 322 eP P 13 19 45.9 +1.3
CLL Collm 80.08 326 ⇓iP P 13 19 44.8 0.0
CLL pmax pmax
comp=Z,166nm,1.1s
CLL MLR MLR
comp=Z,4μm,17.9s
CLL Collm 80.08 326 ⇓iP P 13 19 44.8 0.0
comp=Z,166nm,1.1s
CLL ePP PP 13 22 49.0 +2.7
CLL Collm 80.08 326 eP P 13 19 44.6 -0.3
comp=Z,166nm,1.1s,baz=47,slow=5.3
TREC Trest 80.16 323 eP P 13 19 45.7 +0.3
TREC Trest 80.16 323 eP P 13 19 45.7 +0.3
FBE Freiberg 80.16 325 eP P 13 19 45.7 +0.4
comp=Z,194nm,1.2s,baz=47,slow=5.3
PRU Pruhonice 80.19 324 eP P 13 19 45.7 +0.2
PRU Pruhonice 80.19 324 eP P 13 19 45.7 +0.2
M04C Macdoel 80.21 46 P P 13 19 45.9 0.0
baz=305
FLTG Flechtingen 80.22 327 eP P 13 19 45.1 -0.5
comp=Z,140nm,1.2s,baz=47,slow=5.3
MSEY Mahe Island 80.30 258 P P 13 19 47.4 +0.7
MSEY Mahe Island 80.30 258 P P 13 19 46.4 -0.2
EGYH Egyhazaskeszo 80.38 321 P P 13 19 47.3 +0.8
FRGS Fruska Gora 80.41 318 ⇓P P 13 19 45.9 -0.9
FRGS Fruska Gora 80.41 318 eP P 13 19 45.8 -1.0
MORH Mrgy, Hungar 80.42 319 ⇓P P 13 19 46.6 -0.1
MORH Mrgy, Hungar 80.42 319 eP P 13 19 46.5 -0.2
MORH Mrgy, Hungar 80.42 319 P P 13 19 46.8 +0.1
MPLH Magyarpolny 80.42 321 P P 13 19 47.1 +0.3
HLG Helgoland 80.43 330 eP P 13 19 46.3 -0.3
comp=Z,144nm,1.6s,baz=47,slow=5.3
ASSE Asse, Remlinge 80.61 327 eP P 13 19 47.7 +0.1
comp=Z,60nm,1.3s,baz=47,slow=5.3
NRDL Niedersach Rie 80.62 328 eP P 13 19 47.5 -0.1
comp=Z,71nm,1.3s,baz=47,slow=5.3
SOP Sopron 80.63 321 P P 13 19 48.6 +0.8
NEUB Neuenburg 80.72 326 eP P 13 19 48.3 0.0
comp=Z,222nm,1.2s,baz=47,slow=5.3
RONA Rosalia, Austr 80.75 322 iP P 13 19 49.5 +0.9
comp=Z,101nm,1.3s,SNR=22
RETH Rethem/Aller, 80.79 328 eP P 13 19 48.4 -0.2
comp=Z,101nm,1.3s,baz=47,slow=5.3
KOVH Kovagotottos 80.79 319 P P 13 19 48.8 0.0
CONA Conrad Observa 80.83 322 iP P 13 19 49.9 +0.7
comp=Z,143nm,1.2s,SNR=57
TANN Tannenbergstha 80.93 325 eP P 13 19 49.5 0.0
comp=Z,72nm,1.3s,baz=47,slow=5.3
DIVS Divibare 80.94 317 P P 13 19 49.7 0.0
DIVS IAmb IAmb 13 19 50.8
comp=Z,87nm,1.2s
DIVS Divibare 80.94 317 eP P 13 19 49.1 -0.7
CLZ Clausthal 80.95 327 eP P 13 19 49.8 +0.2
comp=Z,157nm,1.2s,baz=47,slow=5.3
WERD Werda 80.98 325 eP P 13 19 49.7 0.0
comp=Z,84nm,1.2s,baz=47,slow=5.3
GUNZ Gunzen 81.02 325 eP P 13 19 50.1 +0.1
comp=Z,105nm,1.2s,baz=47,slow=5.3
PLN Plauen 81.03 325 eP P 13 19 50.0 0.0
comp=Z,75nm,1.2s,baz=47,slow=5.3
WERN Wernitzgruen 81.05 325 eP P 13 19 50.3 +0.2
comp=Z,115nm,1.2s,baz=47,slow=5.3
DY2G Dye2 81.05 359 iP P 13 19 48.2 -1.9
DY2G IAmb IAmb 13 19 52.5
comp=Z,147nm,1.8s
NKC Novy Kostel 81.05 325 eP P 13 19 50.5 +0.4
NKC Novy Kostel 81.05 325 eP P 13 19 50.5 +0.4
CKRC Cesky Krumlov 81.06 323 eP P 13 19 50.4 +0.2
STIP Stip 81.08 314 eP P 13 19 49.5 -1.0
MOX Moxa 81.18 326 eP P 13 19 50.8 0.0
comp=Z,73nm,1.3s,baz=47,slow=5.3
MOX eL L 13 58 49.8
comp=Z,2μm,19.9s
KHC Kasperske Hory 81.22 324 diP P 13 19 50.5 -0.6
KHC pmax pmax
comp=Z,105nm,1.1s
KHC Kasperske Hory 81.22 324 eP P 13 19 51.2 +0.1
KHC ex x 13 20 05.5
BEHE Becsehely 81.27 320 P P 13 19 52.0 +0.7

GTTG Gottingen 81.34 327 eP P 13 19 51.6 0.0
comp=Z,91nm,1.1s,baz=47,slow=5.3
GEC2 GERESS Array S 81.35 324 eP P 13 19 51.6 -0.2
comp=Z,52nm,1.1s,baz=47,slow=5.3
GERES GERESS Array B 81.35 324 P P 13 19 51.6 -0.2
comp=Z,24nm,1.0s,baz=48,slow=2.0,SNR=70
SKO Skopje 81.37 315 eP P 13 19 52.2 +0.3
MANZ Manzenberg 81.38 325 eP P 13 19 52.0 +0.1
comp=Z,18nm,1.2s,baz=47,slow=5.3
BBLS Lazići 81.42 317 eP P 13 19 52.6 +0.3
FCC Fort Churchill 81.44 22 P P 13 19 51.8 -0.2
FCC pmax pmax
comp=Z,35nm,1.1s
FCC Fort Churchill 81.44 22 P P 13 19 51.8 -0.2
ARSA Arzberg 81.44 321 iP P 13 19 52.7 +0.4
comp=Z,70nm,1.1s,SNR=15
ROTZ Rotzenmuhle 81.48 325 eP P 13 19 52.8 +0.4
comp=Z,34nm,1.3s,baz=47,slow=5.3
WET Wettzell 81.56 324 eP P 13 19 52.8 -0.1
comp=Z,42nm,1.2s,baz=47,slow=5.3
RUDO Rudo 81.59 317 eP P 13 19 52.8 -0.3
MSO Missoula 81.65 39 P P 13 19 53.1 -0.5
baz=310
MOA Molln 81.71 323 iP P 13 19 54.4 +0.8
comp=Z,56nm,1.2s,SNR=17
IBBN Ibbenburen 81.80 329 eP P 13 19 53.5 -0.5
comp=Z,96nm,1.1s,baz=47,slow=5.3
UBBA Unterbreizbach 81.81 327 eP P 13 19 54.1 +0.1
comp=Z,114nm,1.6s,baz=47,slow=5.3
GRF Grafenberg Arr 82.00 325 eP P 13 19 55.7 +0.5
comp=Z,282nm,1.2s,baz=47,slow=5.3
GRF eL L 14 00 31.1
comp=Z,2μm,19.0s
SOKA Soboth 82.07 321 iP P 13 19 56.0 +0.3
comp=Z,128nm,1.1s,SNR=32
BLY Banja Luka 82.13 319 eP P 13 19 56.2 +0.3
BIOA Bad Ischl, Aus 82.14 323 iP P 13 19 56.2 +0.2
comp=Z,72nm,1.3s,SNR=16
OHR Ohrid 82.27 314 eP P 13 19 51.9 -4.9
KASTN Kahler Asten 82.28 328 eP P 13 19 56.3 -0.3
comp=Z,63nm,1.3s,baz=47,slow=5.3
PDG Podgorica 82.38 316 ⇑P P 13 19 57.3 +0.1
PDG Podgorica 82.38 316 eP P 13 19 56.7 -0.6
CRES Cresnjev 82.39 320 eP P 13 19 56.6 -0.7
MGRS Mrkonjic Grad 82.39 319 eP P 13 19 58.1 +0.8
OBKA Obir 82.43 321 iP P 13 19 58.0 +0.5
comp=Z,76nm,1.4s,SNR=10.0
RJOB Jochberg 82.53 323 eP P 13 19 58.2 +0.1
comp=Z,114nm,1.2s,baz=47,slow=5.3
DRME Dracevica, Mon 82.58 316 eP P 13 19 55.7 -2.6
BUG Bochum-Univer 82.62 328 eP P 13 19 57.8 -0.5
comp=Z,84nm,1.3s,baz=47,slow=5.3
KBA Koelnbreinsper 82.69 322 iP P 13 19 59.3 +0.3
comp=Z,80nm,1.6s,SNR=19
URZ Urewera 82.74 145 P P 13 19 58.3 -0.5
comp=Z,15nm,1.1s,baz=256,slow=2.8,SNR=5.4
URZ LR LR 13 51 25.7
comp=Z,914nm,21.6s,baz=294,slow=32
LJU Ljubljana 82.75 321 eP P 13 19 58.9 -0.2
LJU Ljubljana 82.75 321 iP P 13 19 58.9 -0.2
MYKA Terra Mystica 82.83 322 iP P 13 19 59.2 -0.4
comp=Z,65nm,1.5s,SNR=17
TNS Taunus Mts 82.94 327 eP P 13 20 00.1 0.0
comp=Z,94nm,1.2s,baz=47,slow=5.3
CEY Cerknica 83.00 321 eP P 13 19 59.8 -0.6
FUR Furstenfeldbru 83.01 324 eP P 13 20 00.8 +0.4
comp=Z,291nm,1.2s,baz=47,slow=5.3
EGMT Eagleton 83.02 36 P P 13 20 00.6 0.0
baz=312
JAVS Javornik 83.09 321 iP P 13 20 00.4 -0.6
IDI Anoyia 83.09 308 ⇓P P 13 19 59.6 -1.6
BKZ Black Stump Fm 83.16 146 P P 13 20 00.8 -0.3
BKZ IAmb IAmb 13 20 05.7
comp=Z,59nm,1.3s
RIY Rijeka 83.23 320 eP P 13 20 01.5 -0.1
ABTA Abfaltersbach 83.33 322 iP P 13 20 01.4 -0.9
comp=Z,103nm,1.1s,SNR=26
SKDS Skadanscina 83.34 321 eP P 13 20 01.0 -1.2
AHRW Bad Neuenahr-A 83.34 328 eP P 13 20 02.0 -0.1
comp=Z,144nm,1.2s,baz=47,slow=5.3
TRI Trieste 83.37 321 P P 13 20 02.6 +0.3
TRI pmax pmax
comp=Z,125nm,1.2s
WATA Walderalm 83.42 323 iP P 13 20 02.5 -0.3
comp=Z,62nm,1.2s,SNR=9.6
WTTA Wattenberg 83.44 323 iP P 13 20 02.8 -0.1
comp=Z,93nm,1.2s,SNR=18
HLID Hailey 83.48 42 P P 13 20 02.5 -0.6
baz=310
STU Stuttgart 83.60 325 P P 13 20 04.2 +0.7
STU pmax pmax
comp=Z,381nm,1.1s
STU Stuttgart 83.60 325 eP P 13 20 03.5 0.0
comp=Z,411nm,1.1s,baz=47,slow=5.3
MOTA Moosalm 83.65 324 iP P 13 20 03.6 -0.3
comp=Z,56nm,0.9s,SNR=18
BOZ Bozeman (W) 83.67 39 P P 13 20 04.3 +0.2
baz=311
SQTA Sankt Quirin 83.68 323 iP P 13 20 03.9 -0.1
comp=Z,60nm,1.0s,SNR=9.2
RETA Reutte 83.72 324 iP P 13 20 04.1 -0.1
comp=Z,110nm,1.2s,SNR=38
BTNL Ternell 83.74 328 dP P 13 20 03.8 -0.3
comp=Z,28nm,1.2s
MEM Membach 83.77 328 dP P 13 20 03.8 -0.5
comp=Z,32nm,1.1s
EKA Eskdalemuir Ar 83.82 336 P P 13 20 02.8 -1.7
UBR Ueberruh 83.91 324 eP P 13 20 05.0 -0.2
comp=Z,152nm,1.3s,baz=47,slow=5.3
ITM Ithomi 83.92 311 P P 13 20 03.5 -1.9
BHOU Houvegnez 83.96 328 dP P 13 20 05.4 +0.1
comp=Z,26nm,1.1s
BSTI Sart Tilman 83.99 328 dP P 13 20 05.0 -0.4
FETA Feichten 84.06 323 iP P 13 20 05.7 -0.3
comp=Z,75nm,1.1s,SNR=26
BCLA Clavier 84.22 328 bP P 13 20 06.2 -0.4
comp=Z,25nm,1.2s
DAVA Damuels 84.30 324 iP P 13 20 07.2 -0.1
comp=Z,131nm,1.1s,SNR=46
BFO Black Forest 84.32 326 eP P 13 20 06.9 -0.3
comp=Z,217nm,1.2s,baz=47,slow=5.3
BGES Gesves 84.34 329 dP P 13 20 07.0 -0.2
comp=Z,20nm,1.2s
NVAR Mina Array Bea 84.38 48 P P 13 20 08.4 +0.5
comp=Z,6.7nm,1.0s,baz=302,slow=5.2,SNR=15
WLF Walferdange 84.39 328 eP P 13 20 07.5 +0.1
comp=Z,177nm,1.2s,baz=47,slow=5.3
WLF Walferdange 84.39 328 dP P 13 20 07.7 +0.3
comp=Z,64nm,1.1s
RCHB Rochefort 84.45 328 dP P 13 20 06.7 -1.0
comp=Z,37nm,1.1s
RPZ Rata Peaks 84.51 152 P P 13 20 07.9 0.0
RPZ IAmb IAmb 13 20 12.8
comp=Z,27nm,0.9s
BMRD Maredsous 84.54 329 dP P 13 20 07.5 -0.7
comp=Z,41nm,1.1s
SNF Seneffe 84.60 329 dP P 13 20 08.0 -0.5
comp=Z,37nm,1.1s
GIVF Givet 84.66 328 eP P 13 20 07.8 -1.0
GIVF pmax pmax
comp=Z,85nm,1.4s
CDF Champ du Feu 84.76 326 eP P 13 20 08.9 -0.6
CDF pmax pmax
comp=Z,216nm,1.4s
DOU Dourbes 84.77 329 bP P 13 20 08.9 -0.5
comp=Z,24nm,1.3s
ECH Echery 84.96 326 P P 13 20 10.0 -0.4
ECH pmax pmax
comp=Z,571nm,1.2s
BAIF Baives 84.97 329 eP P 13 20 09.3 -1.0
BAIF pmax pmax
comp=Z,42nm,1.3s
H17A Grant Village 85.03 39 P P 13 20 10.3 -0.9
baz=312
TUE Stuetta 85.12 324 P P 13 20 10.8 -0.7
HINF Hinteralfeld 85.39 326 eP P 13 20 11.4 -1.2
HINF pmax pmax
comp=Z,80nm,1.2s
HAU Haudompre 85.49 326 eP P 13 20 12.1 -1.0
HAU pmax pmax
comp=Z,99nm,1.3s
CWC Cottonwood Cre 85.74 49 P P 13 20 14.7 -0.1
baz=308
AQU L'Aquila 85.77 319 P P 13 20 16.2 +1.6
AQU pmax pmax
comp=Z,215nm,1.3s

AQU L'Aquila 85.77 319 eP P 13 20 15.6 +1.0
GRAC Grapevine Rang 85.85 48 P P 13 20 15.6 +0.5
baz=308
ISA Isabella, Lake 85.97 50 P P 13 20 15.3 -0.5
baz=308
ARVC Arvin 86.06 50 P P 13 20 15.9 -0.3
baz=308
R11A Troy Canyon, C 86.10 46 P P 13 20 16.0 -0.6
baz=309
MPMC Manual Prospec 86.35 49 P P 13 20 17.7 -0.1
baz=308
FURC Furnace Creek, 86.49 48 P P 13 20 18.6 +0.5
baz=309
DUG Dugway, Tooele 86.56 43 P P 13 20 19.1 +0.4
baz=311
TPNV Topopah Spring 86.58 48 P P 13 20 18.3 -0.5
baz=309
BW06 Boulder Array 86.67 40 P P 13 20 18.5 -0.8
baz=313
PDAR Pinedale Array 86.67 40 P P 13 20 18.7 -0.6
comp=Z,4.4nm,0.9s,baz=318,slow=2.0,SNR=16
LPL La Plagne 87.09 324 eP P 13 20 20.1 -1.2
LPL pmax pmax
comp=Z,33nm,1.0s
LPG La Plagne 87.09 324 eP P 13 20 20.2 -1.2
LPG pmax pmax
comp=Z,52nm,1.2s
LOR Lormes 87.18 327 eP P 13 20 20.1 -1.3
LOR pmax pmax
comp=Z,84nm,1.4s
GSC Goldstone, Bar 87.26 49 P P 13 20 21.8 -0.3
baz=309
FMP Fort Macarthur 87.28 51 P P 13 20 21.4 -0.7
baz=308
BFSC Mount Baldy Ra 87.37 51 P P 13 20 23.3 +0.6
baz=308
BNI Bardonecchia 87.45 324 P P 13 20 23.3 +0.4
BNI pmax pmax
comp=Z,20nm,1.2s
ULM Lac du Bonnet 87.58 28 P P 13 20 23.4 +0.2
comp=Z,15nm,0.9s,baz=316,slow=5.6,SNR=13
MBDF Montbardon 87.64 324 eP P 13 20 21.8 -2.0
MBDF pmax pmax
comp=Z,42nm,1.5s
SMF Signal de Mont 87.65 327 eP P 13 20 22.3 -1.4
SMF pmax pmax
comp=Z,76nm,1.2s
LDF La Druitiere 87.93 330 eP P 13 20 24.4 -0.5
LDF pmax pmax
comp=Z,22nm,1.2s
ORIF Oris-en-Rattie 87.94 324 eP P 13 20 23.8 -1.4
ORIF pmax pmax
comp=Z,42nm,1.4s
FLN La Foliniere 87.95 330 eP P 13 20 25.5 +0.5
FLN pmax pmax
comp=Z,45nm,1.4s
BGF Bois d'Agland 88.17 327 eP P 13 20 24.8 -1.3
BGF pmax pmax
comp=Z,34nm,1.2s
GMRC Granite Mounta 88.31 49 P P 13 20 28.1 +0.9
baz=310
K22A Casper 88.37 38 P P 13 20 27.4 0.0
baz=315
FRF La Foret Royal 88.53 323 eP P 13 20 26.0 -1.9
FRF pmax pmax
comp=Z,47nm,1.3s
PFO Pinyon Flats O 88.54 50 P P 13 20 28.4 +0.1
comp=Z,1.2nm,0.2s,baz=9.7,slow=6.3,SNR=4.2
VIVF Saint-Julien-l 88.57 325 eP P 13 20 26.7 -1.4
VIVF pmax pmax
comp=Z,45nm,1.1s
RSSD Black Hills 88.59 36 P P 13 20 28.2 -0.2
baz=316
IRM Iron Mountain 89.04 49 P P 13 20 30.5 0.0
baz=310
BC3 Big Chuckawall 89.16 50 P P 13 20 31.6 +0.4
baz=310
O20A White River Ci 89.20 41 P P 13 20 31.2 -0.2
baz=314
MFF Saint Martin d 89.48 329 eP P 13 20 31.3 -1.0
MFF pmax pmax
comp=Z,75nm,1.2s
PDMCI Parker Dam,Lak 89.58 49 P P 13 20 33.9 +0.9
baz=310
RJF Les Rejaudoux 89.73 327 eP P 13 20 32.6 -0.9
RJF pmax pmax
comp=Z,66nm,1.2s
CAF Calviac 89.76 326 eP P 13 20 33.0 -0.7
CAF pmax pmax
comp=Z,75nm,1.2s
N23A Red Feather La 89.92 39 P P 13 20 35.3 +0.5
baz=315
GLA Glamis 89.95 50 P P 13 20 35.6 +0.8
baz=310
WUAZ Wupatki 90.50 46 P P 13 20 37.6 +0.1
baz=312
SUSD Miller 90.78 33 P P 13 20 39.1 +0.7
baz=320
ISCO Idaho Springs 90.87 40 P P 13 20 39.6 +0.2
baz=316
MTLF Montolieu 90.88 325 eP P 13 20 37.6 -1.3
MTLF pmax pmax
comp=Z,34nm,1.2s
MVCO Mesa Verde 91.07 43 P P 13 20 40.5 +0.3
baz=314
EYMN Ely 91.14 27 P P 13 20 39.5 -0.6
EYMN IAmb IAmb 13 20 44.1
comp=Z,28nm,1.0s
EYMN Ely 91.14 27 P P 13 20 40.4 +0.3
baz=326
SCHQ Schefferville 91.44 10 P P 13 20 40.0 -1.2
comp=Z,4.0nm,1.0s,baz=337,slow=6.5,SNR=4.3
S22A 4UR Ranch, Cre 91.65 42 P P 13 20 43.0 0.0
baz=315
Q24A Divide 91.72 40 P P 13 20 43.3 +0.1
baz=316
214A Organ Pipe Nat 91.95 50 P P 13 20 44.2 +0.1
baz=311
SDCO Great Sand Dun 92.39 41 P P 13 20 46.5 +0.1
baz=316
ECSD EROS Data Cent 92.40 32 P P 13 20 45.9 -0.1
baz=322
ETSF Etsaut 92.53 327 eP P 13 20 46.7 +0.1
ETSF pmax pmax
comp=Z,28nm,1.5s
KEST Kesra 92.58 316 P P 13 20 46.1 -0.9
comp=Z,3.2nm,0.8s,baz=291,slow=9.7,SNR=2.6
TUC Tucson 93.01 48 P P 13 20 49.5 +0.4
baz=312
T25A Trinidad 93.43 41 P P 13 20 51.7 +0.6
baz=316
KMBO Kilima Mbogo 93.63 271 P P 13 20 51.1 -1.3
comp=Z,1.3nm,0.7s,baz=22,slow=4.9,SNR=3.5
ANMO Albuquerque 93.83 44 iP P 13 20 52.2 -0.7
ANMO pmax pmax
comp=Z,14nm,1.8s
ANMO Albuquerque 93.83 44 P P 13 20 52.9 0.0
baz=315
ESDC Sonseca Array 96.65 327 P P 13 21 04.0 -1.5
comp=Z,5.3nm,1.0s,baz=27,slow=4.0,SNR=15
TXAR Lajitas Array 99.47 46 P Pdif 13 21 18.9 +0.5
comp=Z,0.3nm,0.7s,baz=306,slow=3.1,SNR=4.7
SYO Syowa Base 120.60 205 ⇑iPdiff Pdif 13 22 52.0 +0.9
MATN Matagalpa 122.56 44 IAMs_20 IAMs_20 14 02 47.1
comp=Z,1μm,20.0s
SEUS St. Eustatius 128.30 17 IAMs_20 IAMs_20 14 21 32.1
comp=Z,1μm,22.0s
TROLL Troll, Antarti 132.40 199 PKPdf PKPdf 13 26 47.6 -1.1
SNAA Sanae 134.03 199 PKPdf PKPdf 13 26 50.9 -0.7
VNA2 Neumayer--Watz 135.67 198 PKPdf PKPdf 13 26 54.5 -0.1
VNA3 Neumayer Olymp 136.06 197 PKPdf PKPdf 13 26 55.3 0.0
VNA1 Neumayer--Stat 136.06 198 PKPdf PKPdf 13 26 55.5 +0.2
OTAV Otavalo 137.10 46 eP PKiKP 13 27 02.8 +1.4
BOAV Boa Vista 143.41 19 eP PKiKP 13 27 13.4 -0.3
PMSA Palmer Station 146.68 168 eP PKPab 13 27 17.6 +0.4
CZSB Cruzeiro do Su 146.87 46 eP PKPbc 13 27 18.2 0.0
NNA Nana 147.26 57 ciPKP2 PKiKP 13 27 21.7 0.0
NNA pmax pmax
comp=Z,78nm,1.7s
MCPB Macapa, AP 147.65 5 eP PKPdf 13 27 18.8 +1.1
MACA Manacapuru-AM 148.63 23 eP PKPbc 13 27 21.7 -1.2
MALB Monte Alegre 148.88 10 eP PKPbc 13 27 22.3 -1.3
NBMO Morrinhos-CE 149.48 342 eP PKPdf 13 27 21.7 +1.1
TMAB Tom-Au,PA,Br 149.75 358 eP PKPbc 13 27 23.5 -2.3
NBCL Cascavel-CE 149.84 338 eP PKPdf 13 27 22.3 +1.1
NBPS Pedro II - PI 150.87 344 eP PKPdf 13 27 24.1 +1.1

ITTB	Itaituba	151.09	14	*e*P	PKPbc	13 27 26.4	-2.5
NBPB	Pedra_Branca-C	151.48	340	*e*P	PKPdf	13 27 26.4	+2.7
ETMB	Extrema	152.26	38	*e*P	PKPdf	13 27 27.6	+2.7
NBRF	Rio Formoso -	152.74	328	*e*P	PKPdf	13 27 28.2	+2.6
NBMA	Muriti-CE	152.95	337	*e*P	PKPdf	13 27 27.6	+1.6
LPAZ	La Paz	156.25	51	*e*P	PKPdf	13 27 32.9	+1.8
GDU01	Guandu, BA	159.12	333	*e*P	PKPdf	13 27 36.5	+2.5
PP1B	Ponte de Pedra	164.04	20	*e*P	PKPdf	13 27 40.6	+1.5
ESAR	Angra dos Reis	169.44	336	*e*P	PKPdf	13 27 45.3	+2.4

JMA 14 13:08:30.9, 32.77N×130.85E, h10km±1km, M3.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.22**	**188**	P	Pg	13 08 35.7	+0.2
JIU3				*e*S	Sg	13 08 39.2	+0.6
JTA	**Tamana**	**0.33**	**306**	P	Pg	13 08 37.5	0.0

JMA 14 13:09:34.5, 32.78N×130.86E, h9km±1km, M4.4, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.23**	**190**	P	Pg	13 09 39.3	+0.1
JIU3				S	Sg	13 09 42.7	+0.3
JTA	**Tamana**	**0.33**	**304**	P	Pg	13 09 41.4	+0.3
JTA				S	Sg	13 09 45.9	+0.4
JNU	**Nakatsue**	**0.34**	**3**	P	Pg	13 09 41.6	+0.3
JNU				S	Sg	13 09 46.5	+0.7
JTZ	**Takazaki**	**0.90**	**168**	P	Pb	13 09 52.2	0.0

TAP 14 13:10:17.9, 24.45N×121.83E, h18km, ML2.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.04**	**259**	P	Pg	13 10 21.3	+0.2
	baz=257						
EWUT				*e*S	Sg	13 10 23.2	0.0
	baz=257						
ENA	**Nanau**	**0.08**	**251**	*e*P	Pg	13 10 21.6	+0.2
	baz=247						
ENA				*e*S	Sg	13 10 23.7	0.0
	baz=247						
TWC	**Suao**	**0.16**	**8**	P	Pb	13 10 22.4	+0.1
	baz=20						
TWC				*e*S	Sb	13 10 25.1	0.0
	baz=20						
NDS	**Dongshan**	**0.20**	**331**	P	Pb	13 10 23.2	+0.1
	baz=331						
NDS				*e*S	Sg	13 10 26.3	0.0
	baz=331						
LATG	**Datong**	**0.28**	**287**	P	Pb	13 10 24.7	+0.1
	baz=286						
LATG				S	Sb	13 10 28.9	-0.1
	baz=286						
ENTT	**Nioudou**	**0.30**	**308**	*e*P	Pb	13 10 24.9	0.0
	baz=308						
TWE	**Neicheng**	**0.30**	**332**	*e*P	Pb	13 10 24.9	0.0
	baz=334						
TWE				*e*S	Sb	13 10 29.3	-0.2
	baz=334						
ILA	**Ilan**	**0.32**	**347**	*e*S	Sb	13 10 30.4	+0.5
	baz=344						
NDT	**Datong Townshi**	**0.32**	**298**	*e*P	Pb	13 10 25.3	+0.1
	baz=297						
NDT				*e*S	Sb	13 10 30.4	+0.4
	baz=297						
ETL	**Fush Village**	**0.35**	**212**	*e*P	Pg	13 10 25.1	-0.1
	baz=204						
NACB	**Ninganchiao**	**0.35**	**217**	P	Pg	13 10 25.1	-0.2
	baz=216						
NACB				*e*S	Sg	13 10 30.2	-0.1
	baz=216						
FUSB	**Fushanzhiwuyua**	**0.37**	**325**	*e*P	Pb	13 10 26.0	-0.1
	baz=325						
FUSB				*e*S	Sb	13 10 31.5	-0.2
	baz=325						
ETLH	**Xiulin Townshi**	**0.40**	**232**	P	Pg	13 10 26.1	-0.1
	baz=231						
ETLH				S	Sg	13 10 31.8	0.0
	baz=231						
NTC	**Toucheng**	**0.40**	**1**	*e*P	Pb	13 10 26.5	0.0
	baz=1.0						
NTC				*e*S	Sg	13 10 31.9	+0.1
	baz=1.0						
EGS		**0.40**	**14**	*e*P	Pb	13 10 26.9	+0.3
	baz=20						
NNSB	**Datong**	**0.40**	**266**	*e*P	Pb	13 10 26.7	0.0
	baz=266						
NNSB				*e*S	Sg	13 10 32.1	+0.2
	baz=266						
NNS	**Nan Shan**	**0.41**	**268**	*e*P	Pb	13 10 26.8	0.0
	baz=267						
NNS				*e*S	Sg	13 10 32.5	+0.3
	baz=267						
TWD	**Chiawan**	**0.43**	**209**	*e*P	Pg	13 10 26.5	-0.1
	baz=207						
TWD				*e*S	Sb	13 10 33.0	-0.1
	baz=207						
NWLT	**Wulai**	**0.44**	**318**	*e*P	Pb	13 10 27.3	+0.2
	baz=314						
NWLT				*e*S	Sg	13 10 32.8	0.0
	baz=314						
YHNB	**Yeheng**	**0.46**	**298**		Pb	13 10 27.6	0.0
YHNB	**Yeheng**	**0.46**	**298**	P	Pb	13 10 27.9	+0.2
	baz=298						
YHNB				S	Sb	13 10 34.2	0.0
	baz=298						
NSK	**Sanguang**	**0.48**	**298**	*e*P	Pb	13 10 28.1	+0.1
	baz=298						
NSK				*e*S	Sb	13 10 34.5	-0.1
	baz=298						
TIPB	**Shuangxi**	**0.52**	**0**	*e*P	Pb	13 10 28.7	+0.2
	baz=1.0						
TIPB				S	Sg	13 10 35.4	+0.1
	baz=1.0						
FUSS	**Fushou**	**0.57**	**249**	*e*P	Pg	13 10 28.5	-0.8
	baz=248						
FUSS				*e*S	Sg	13 10 36.4	-0.6
	baz=248						
TWB1	**Santiao Chiao**	**0.57**	**15**	*e*P	Pb	13 10 29.5	0.0
	baz=16						
TWB1				*e*S	Sg	13 10 36.7	-0.3
	baz=16						
WHF	**Hehuan Shan**	**0.60**	**239**	*e*P	Pg	13 10 29.9	0.0
	baz=238						
WHF				*e*S	Sb	13 10 38.3	-0.1
	baz=238						
NWF	**Wu-fen Shan**	**0.62**	**356**	*e*P	Pn	13 10 31.6	-0.4
	baz=349						
NWF				*e*S	Sb	13 10 38.9	+0.3
	baz=349						
SXI1	**Grass Mountain**	**0.64**	**4**	*e*P	Pb	13 10 31.2	+0.6
	baz=9.0						
SXI1				*e*S	Sb	13 10 39.4	+0.1
	baz=9.0						
NFF	**Wufeng Townshi**	**0.67**	**286**	*e*S	Sb	13 10 40.1	0.0
	baz=292						
CHGB	**Renai**	**0.71**	**237**	*e*P	Pg	13 10 32.0	0.0
	baz=236						
YM01	**YM01**	**0.73**	**341**	*e*P	Pn	13 10 33.5	+0.1
	baz=341						
ESL	**Shilin**	**0.73**	**209**	*e*P	Pb	13 10 31.9	-0.2
	baz=208						
OWD	**Renai**	**0.77**	**230**	*e*P	Pb	13 10 32.8	-0.2
	baz=229						
WUSB	**Renai**	**0.79**	**235**	*e*P	Pb	13 10 33.3	0.0
	baz=226						
WHP	**Taichung City**	**0.82**	**258**	*e*S	Sg	13 10 45.2	+0.3
	baz=257						
WCS	**Beigang Elemen**	**0.92**	**245**	*e*P	Pn	13 10 36.8	+0.8
	baz=244						
VWDT	**VWDT**	**0.94**	**222**	*e*P	Pb	13 10 35.3	-0.3
	baz=221						
SSLB	**Suanglung**	**1.04**	**230**	Pn	Pb	13 10 37.4	+0.1
SSLB	**Suanglung**	**1.04**	**230**	*e*P	Pb	13 10 37.2	-0.2
	baz=230						

JMA 14 13:15:13.7, 32.77N×130.84E, h8km±1km, M3.6, 1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.22**	**186**	P	Pg	13 15 18.2	0.0
JIU3				S	Sg	13 15 21.8	+0.6
JTA	**Tamana**	**0.32**	**307**	⇓P	Pg	13 15 20.2	+0.1
JTA				S	Sg	13 15 24.9	+0.5
JNU	**Nakatsue**	**0.35**	**5**	P	Pg	13 15 20.9	+0.2
JNU				S	Sg	13 15 26.1	+0.8
JTZ	**Takazaki**	**0.89**	**166**	P	Pb	13 15 31.3	-0.1
JTZ				S	Sg	13 15 42.8	+0.4

JMA 14 13:15:32.9, 32.68N×130.75E, h9km±1km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**158**	P	Pg	13 15 36.2	+0.2
JIU3				*e*S	Sg	13 15 38.8	+0.6
JTA	**Tamana**	**0.34**	**327**	P	Pg	13 15 39.7	+0.1
JTA				S	Sg	13 15 44.5	+0.4

*IDC **14** 13:16:08.0±0.9, 32.69N×130.80E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.5/82, mbtmp3.7/12, ML3.4/3, Error ellipse: s-maj=21.7km s-min=8.3km az=99.0*
*JMA **14** 13:16:08.7, 32.72N×130.80E, h6km±1km, M4.1*
JMA Felt IV J1.

ISC 14 13:16:09.0±1.3, 32.76N±0.04×130.82E±0.07, h4km±9km, n16, σ1s29/19, mb3.5/9, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.21**	**182**	⇑P	**Pg**	**13 16 12.4**	**-0.7**
JIU3				S	**Sg**	**13 16 15.2**	**-0.7**
JTA	**Tamana**	**0.32**	**309**	⇑P	**Pg**	**13 16 15.4**	**+0.3**
JTA				*e*S	**Sg**	**13 16 20.3**	**+1.1**
JNU	**Nakatsue**	**0.36**	**7**	Pg	**Pg**	**13 16 16.4**	**+0.5**
	333nm,0.3s,baz=192,slow=12,SNR=2.1						
JNU				Lg	Lg	13 16 22.4	
	3μm,0.3s,baz=294,slow=23,SNR=18						
KSRS	**Korea Array**	**5.25**	**334**	Pn	**Pn**	**13 17 28.3**	**+0.1**
	0.8nm,0.3s,baz=149,slow=14,SNR=1.9						
KSRS				Pg	**Pg**	**13 17 46.3**	**-3.2**
	1.6nm,0.3s,baz=151,slow=16,SNR=2.9						
KSRS				Lg	Lg	13 18 56.8	
	2.7nm,0.3s,baz=151,slow=29,SNR=5.4						
JOW	**Kunigami**	**6.31**	**201**	Pn	**Pn**	**13 17 45.3**	**+2.5**
	9.0nm,0.3s,baz=102,slow=23,SNR=16						
MJAR	**Matsushiro Arr**	**7.16**	**56**	Pn	**Pn**	**13 17 55.1**	**+0.6**
	0.1nm,0.3s,baz=274,slow=17,SNR=1.7						
JHJ	**Hachijo jima 2**	**7.54**	**85**	Pn	**Pn**	**13 18 00.0**	**+0.3**
	17nm,0.3s,baz=64,slow=17,SNR=1.5						
MKAR	**Makanchi Array**	**39.22**	**305**	P	**P**	**13 23 39.9**	**+1.5**
	0.4nm,0.7s,baz=91,slow=8.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**41.97**	**311**	P	**P**	**13 24 00.4**	**-0.6**
	0.5nm,0.7s,baz=97,slow=9.1,SNR=4.3						
WRA	**Warramunga Arr**	**52.52**	**176**	P	**P**	**13 25 22.2**	**-1.2**
	0.5nm,0.8s,baz=357,slow=7.9,SNR=1.1						
ASAR	**Alice Springs**	**56.19**	**177**	P	**P**	**13 25 49.9**	**-0.2**
	0.3nm,0.5s,baz=9.7,slow=13,SNR=5.3						
FINES	**FINESS Array B**	**68.33**	**330**	P	**P**	**13 27 10.2**	**-0.9**
	0.8nm,0.4s,baz=74,slow=6.5,SNR=6.2						
YKA	**Yellowknife Ar**	**71.68**	**26**	P	**P**	**13 27 32.1**	**+0.5**
	0.2nm,0.7s,baz=305,slow=5.3,SNR=2.4						
AKASG	**Malin Array Be**	**72.06**	**319**	P	**P**	**13 27 33.6**	**-0.6**
	1.0nm,0.6s,baz=51,slow=6.8,SNR=2.1						
NOA	**NORSAR Array B**	**74.46**	**334**	P	**P**	**13 27 47.7**	**-0.5**
	0.4nm,0.8s,baz=13,slow=3.9,SNR=1.9						
GERES	**GERESS Array B**	**81.34**	**324**	P	**P**	**13 28 26.8**	**0.0**
	0.3nm,0.4s,baz=108,slow=9.4,SNR=2.1						

*JMA **14** 13:18:04.7, 32.78N×130.83E, h9km±1km, M4.0*
JMA Felt IV J1.
*IDC **14** 13:18:04.1±1.1, 32.76N×130.78E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.2/81, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=27.3km s-min=7.9km az=105.0*

ISC 14 13:18:06.0±0.8, 32.81N±0.05×130.75E±0.07, h12km, n11, σ2s16/12, mb3.4/5, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.23**	**311**	⇓P	**Pg**	**13 18 11.0**	**0.0**
JTA				S	**Sg**	**13 18 15.5**	**+1.1**
JIU3	**Izumi3**	**0.27**	**168**	⇑P	**Pg**	**13 18 09.5**	**-2.1**
JNU	**Nakatsue**	**0.33**	**20**	Pg	**Pg**	**13 18 11.3**	**-1.5**
	7μm,0.3s,baz=81,slow=21,SNR=22						
JNU				Lg	Lg	13 18 16.1	
	baz=290,slow=16						
KSRS	**Korea Array**	**5.18**	**334**	Pg	**Pg**	**13 19 41.2**	**-4.0**
	baz=148,slow=16,SNR=5.2						
KSRS				Lg	Lg	13 20 49.0	
	1.9nm,0.3s,baz=155,slow=30,SNR=3.2						
JOW	**Kunigami**	**6.33**	**200**	Pn	**Pn**	**13 19 40.3**	**+1.1**
	2.2nm,0.3s,baz=309,slow=26,SNR=2.1						
MJAR	**Matsushiro Arr**	**7.19**	**57**	Pn	**Pn**	**13 19 53.7**	**+2.8**
	0.2nm,0.3s,baz=242,slow=13,SNR=5.3						
MKAR	**Makanchi Array**	**39.14**	**305**	P	**P**	**13 25 35.1**	**+1.6**
	0.1nm,0.4s,baz=98,slow=7.6,SNR=2.2						
KURBB	**Kurchatov Arra**	**41.89**	**311**	P	**P**	**13 25 56.1**	**0.0**
	0.3nm,0.4s,baz=97,slow=8.5,SNR=3.4						
WRA	**Warramunga Arr**	**52.57**	**176**	P	**P**	**13 27 20.2**	**+0.6**
	0.4nm,0.8s,baz=13,slow=3.9,SNR=1.6						
ASAR	**Alice Springs**	**56.24**	**177**	P	**P**	**13 27 44.3**	**-2.0**
	0.4nm,0.8s,baz=11,slow=10,SNR=2.6						
AKASG	**Malin Array Be**	**71.99**	**319**	P	**P**	**13 29 28.0**	**-1.4**
	0.5nm,0.4s,baz=56,slow=6.2,SNR=1.7						

JMA 14 13:19:37.9, 32.77N×130.84E, h9km, M3.6, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.22**	**186**	P	Pg	13 19 42.6	+0.2
JIU3				S	Sg	13 19 46.1	+0.6
JTA	**Tamana**	**0.32**	**307**	⇓P	Pg	13 19 44.4	+0.1
JTA				S	Sg	13 19 49.0	+0.4
JNU	**Nakatsue**	**0.35**	**5**	⇑P	Pg	13 19 45.1	+0.2
JNU				S	Sg	13 19 50.0	+0.4
JTZ	**Takazaki**	**0.89**	**166**	⇑P	Pb	13 19 55.3	-0.2
JTZ				S	Sb	13 20 07.2	-0.3

*IDC **14** 13:22:16.9±0.5, 32.60N×130.93E, h0km, mb4.2/31, mb1 4.4/34, mb1mx4.2/79, mbtmp4.2/34, ML3.8/2, Error ellipse: s-maj=15.9km s-min=7.1km az=87.0*
*MOS **14** 13:22:17.0±1.2, 32.59N×130.82E, h15km, mb4.9/7, Error ellipse: s-maj=12.2km s-min=6.6km az=100.0*
*JMA **14** 13:22:18.8, 32.69N×130.74E, h12km±1km, M4.6 Broadband fault plane solution: P waves. NP1: ϕ_s=310.00000°, δ82.00000°, λ38.00000°. NP2: ϕ_s=213.00000°, δ53.00000°, λ170.00000°. Principal axes: T Plg32.0000°, Azm178.0000°; N Plg52.0000°, Azm320.0000°; P Plg19.0000°, Azm76.0000°;*
JMA Felt IV J1.
*NEIC **14** 13:22:19.0±1.7, 32.67N±0.03×130.69E±0.07, h10km±1km, mb4.8/27 Error ellipse: s-maj=10.5km s-min=4.7km az=106.0*

ISC 14 13:22:19.6±0.8, 32.62N±0.03×130.75E±0.05, h15km±4km, n201, σ1s57/204, mb4.5/54, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.09**	**142**	P	**Pg**	**13 22 22.5**	**-0.3**
JIU3				S	**Sg**	**13 22 25.4**	**+0.5**
JTA	**Tamana**	**0.39**	**332**	⇑P	**Pg**	**13 22 25.6**	**-2.0**
JTA				S	**Sg**	**13 22 30.2**	**-2.8**
JNU	**Nakatsue**	**0.52**	**12**	Pg	**Pg**	**13 22 27.4**	**-2.5**
	2μm,0.3s,baz=183,slow=11,SNR=107						
JNU				Lg	Lg	13 22 33.3	
	14μm,0.3s,baz=8.2,slow=19,SNR=64						
JNU	**Nakatsue**	**0.52**	**12**	Pg	**Pg**	**13 22 28.0**	**-1.9**
JNU				Sg	**Sg**	**13 22 34.3**	**-2.5**
JSU	**Suzuyama**	**1.14**	**193**		**Pb**	**13 22 40.4**	**-0.6**
JTU	**Tsushima**	**2.21**	**330**	Pn	**Pn**	**13 22 54.1**	**-1.7**
JMN	**Monobe**	**2.85**	**66**	Pn	**Pn**	**13 23 06.2**	**+1.6**
JHS	**Saijyo**	**3.08**	**39**	Pn	**Pn**	**13 23 08.1**	**+0.3**
TJN	**Taejon**	**4.68**	**324**	P	**Pn**	**13 23 29.0**	**-0.6**
TJN	**Taejon**	**4.68**	**324**	Pn	**Pn**	**13 23 29.0**	**-0.6**
KSRS	**Korea Array**	**5.35**	**335**	Pn	**Pn**	**13 23 38.7**	**-0.2**
	1.5nm,0.3s,baz=153,slow=14,SNR=6.3						
KSRS				Pg	**Pb**	**13 23 56.0**	**+3.2**
	8.8nm,0.3s,baz=151,slow=17,SNR=21						
KSRS				Lg	Lg	13 25 02.3	
	13nm,0.3s,baz=154,slow=30,SNR=6.8						
KS19	**Wonju Array Si**	**5.42**	**335**	Pn	**Pn**	**13 23 38.8**	**-1.0**
INU	**Inuyama**	**5.88**	**61**	Pn	**Pn**	**13 23 46.9**	**+0.8**
INCN	**Inchon**	**5.91**	**326**	P	**Pn**	**13 23 45.9**	**-0.8**
INCN	**Inchon**	**5.91**	**326**		**Pn**	**13 23 45.9**	**-0.8**
JOW	**Kunigami**	**6.15**	**201**	Pn	**Pn**	**13 23 52.6**	**+2.7**
	4.1nm,0.3s,baz=29,slow=13,SNR=17						
JOW	**Kunigami**	**6.15**	**201**		**Pn**	**13 23 53.2**	**+3.3**
JGF	**Kuroka**	**6.24**	**60**		**Pn**	**13 23 52.3**	**+1.2**
MAJO	**Matsushiro**	**7.29**	**55**	P	**Pn**	**13 24 06.8**	**+1.2**
MAJO	**Matsushiro**	**7.29**	**55**	Pn	**Pn**	**13 24 06.8**	**+1.2**
MJAR	**Matsushiro Arr**	**7.29**	**55**	Pn	**Pn**	**13 24 05.9**	**+0.4**
	0.6nm,0.3s,baz=281,slow=9.9,SNR=17						
JHJ	**Hachijo jima 2**	**7.62**	**84**	Pn	**Pn**	**13 24 10.8**	**+0.8**
	26nm,0.3s,baz=12,slow=11,SNR=6.3						
JHJ2	**Mitsune**	**7.64**	**84**	Pn	**Pn**	**13 24 10.3**	**-0.1**
JSD	**Sado**	**8.18**	**47**	Pn	**Pn**	**13 24 17.9**	**+0.2**
NJ2	**Nanjing**	**10.08**	**270**	*e*P	**Pn**	**13 24 43.1**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**11.61**	**4**	Pn	**Pn**	**13 25 05.1**	**+0.5**
	baz=148,slow=40,SNR=3.2						
JTM	**Tenmabayashi**	**11.61**	**42**	Pn	**Pn**	**13 25 00.2**	**-4.5**
CN2	**Changchun**	**11.92**	**341**	*e*P	**Pn**	**13 25 11.8**	**+2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MDJ	**Mudanjiang**	**12.02**	**356**	P	**Pn**	**13 25 10.0**	**-0.2**
MDJ				pP		13 25 17.1	
MDJ				sP		13 25 21.8	
MDJ				S	**Sn**	**13 27 27.1**	**+3.2**
MDJ				sS		13 27 37.9	
MDJ				ScP	**ScP**	**13 34 17.9**	**-10**
MDJ				PcS	**PcS**	**13 34 23.3**	**-6.1**
MDJ	**Mudanjiang**	**12.02**	**356**	ScS	ScS	13 37 57.3	-6.2
MDJ				pmax	pmax		
	comp=Z,15nm,3.9s						
MDJ				pmax	pmax		
	comp=Z,3μm,8.1s						
MDJ				LR	LR		
	comp=N,3μm,13.2s						
MDJ				LR	LR		
	comp=E,3μm,11.1s						
MDJ				LR	LR		
	comp=Z,3μm,12.2s						
BNX	**BinXian**	**13.36**	**350**	⇑P	**P**	**13 25 34.9**	**-3.2**
BNX				pmax	pmax		
	comp=Z,23nm,1.1s						
BNX				pmax	pmax		
	comp=Z,4μm,8.1s						
ASAJ	**Asahikawa**	**14.75**	**36**	Pn	**Pn**	**13 25 46.2**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=218,slow=13,SNR=8.4						
JKA	**Kamikawa-asahi**	**14.75**	**36**	P	**Pn**	**13 25 47.8**	**+0.2**
LYN	**LuoYang**	**15.36**	**282**	*e*P	**P**	**13 26 02.9**	**+2.5**
LYN				LR	LR		
	comp=N,3μm,12.9s						
LYN				LR	LR		
	comp=Z,3μm,15.9s						
KLR	**Kul'dur**	**16.61**	**2**	Pn	**P**	**13 26 17.4**	**+3.1**
	comp=Z,1.1nm,0.3s,baz=160,slow=9.1,SNR=35						
YSS	**Yuzh-Sakhalins**	**17.00**	**29**	*e*P	**P**	**13 26 19.4**	**+0.9**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
HHC	**Hu-ho-hao-te**	**17.41**	**304**	*e*P	**Pn**	**13 26 20.4**	**-1.6**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,2μm,6.9s						
ZEA	**Zeya**	**21.26**	**354**	*e*P	**P**	**13 27 07.0**	**+1.9**
ZEA				pmax	pmax		
	comp=N,20nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.1s						
LZH	**Lanzhou**	**22.46**	**286**	*e*P	P	13 27 31.0	+13
LZH				pP	sP	13 27 35.8	+11
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
SONM	**Songino Array**	**23.88**	**317**	P	**P**	**13 27 34.4**	**+1.8**
	comp=Z,6.0nm,1.0s,baz=131,slow=9.3,SNR=9.4						
GTA	**Gaotai**	**25.84**	**294**	*e*P	**P**	**13 27 54.6**	**+4.0**
GTA				pP	sP	13 27 59.4	+2.1
GTA				sP	pP	13 28 02.8	+7.5
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PZH	**PanZhiHua**	**25.91**	**264**	P	**P**	**13 27 52.5**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PET	**Petropavlovsk**	**28.59**	**36**	*e*P	**P**	**13 28 15.5**	**+0.6**
PET	**Petropavlovsk**	**28.59**	**36**	P	**P**	**13 28 15.5**	**+0.6**
YAK	**Yakutsk**	**29.44**	**359**	*e*P	P	13 28 27.4	+5.1
YAK				*e*S	**S**	**13 33 22.0**	**+6.4**
YAK				*e*SS	**SnSn**	**13 34 43.8**	**+1.2**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				smax	smax		
	comp=N,964nm,8.6s						
YAK				smax	smax		
	comp=E,858nm,7.3s						
YAK				MLR	MLR		
	comp=Z,2μm,21.0s						
YAK				MLR	MLR		
	comp=N,2μm,17.0s						
YAK				MLR	MLR		
	comp=E,1μm,18.0s						
MA2	**Magadan**	**30.08**	**20**	P	**P**	**13 28 27.4**	**-0.7**
	comp=E,0.6nm,0.3s,baz=124,slow=22,SNR=1.3						
CMAR	**Chiang Mai Arr**	**31.84**	**252**	P	**P**	**13 28 44.9**	**+1.0**
	comp=E,1.3nm,0.8s,baz=42,slow=7.1,SNR=10						
SEY	**Seymchan**	**33.29**	**18**	P	**P**	**13 28 55.6**	**-0.6**
	comp=E,1.1nm,0.7s,baz=217,slow=1.6,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**34.71**	**103**	T	T	14 05 13.3	
	baz=297,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**34.72**	**103**	T	T	14 05 10.5	
	baz=297,slow=74,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**34.73**	**103**	T	T	14 05 14.6	
	baz=297,slow=74,SNR=7.0						
WMQ	**Urumqi**	**35.27**	**301**	*e*P	**P**	**13 29 15.6**	**+1.9**
WMQ				pP	pP	13 29 18.4	-0.1
WMQ				pmax	pmax		
	comp=Z,18nm,1.9s						
ZALV	**Zalesovo Beam**	**38.77**	**317**	P	**P**	**13 29 45.2**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=114,slow=42,SNR=4.3						
TIXI	**Tiksi**	**39.10**	**359**	P	**P**	**13 29 44.9**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=270,slow=23,SNR=7.3						
MKAR	**Makanchi Array**	**39.26**	**306**	P	**P**	**13 29 48.1**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=94,slow=9.4,SNR=16						
MKAR	**Makanchi Array**	**39.26**	**306**	P	**P**	**13 29 46.7**	**-0.8**
MKAR	**Makanchi Array**	**39.26**	**306**	P	**P**	**13 29 46.7**	**-0.8**
BILL	**Bilibino**	**40.94**	**19**	*e*P	**P**	**13 29 59.6**	**-1.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**41.98**	**311**	P	**P**	**13 30 07.4**	**-2.4**
KURK				pm

WRA	Warramunga Arr	52.38	176	P		P	13 31 30.3	-0.8	
	comp=Z,2.0nm,0.8s,baz=352,slow=8.0,SNR=9.5								
WRA	Warramunga Arr	52.38	176	P		P	13 31 30.4	-0.8	
WRA	Warramunga Arr	52.38	176	P		P	13 31 30.4	-0.8	
ARU	Arti	53.88	319	P		P	13 31 44.2	+2.3	
ABKAR	Akbulak array	54.05	310	P		P	13 31 42.3	-1.0	
ABKAR	Akbulak array	54.05	310	P		P	13 31 43.2	-0.1	
CTA	Charters Tower	54.47	162	P		P	13 31 44.5	-2.0	
	comp=Z,6.7nm,1.1s,baz=17,slow=10.0,SNR=1.5								
O18K	Koktuh Hills	54.53	37	P		P	13 31 46.8	+0.1	
	baz=275								
J20K	Nowinta River	54.74	31	P		P	13 31 47.7	-0.4	
	baz=273								
N19K	Bonanza Creek	54.81	35	P		P	13 31 49.5	+0.8	
	baz=275								
K20K	Telida	54.82	32	P		P	13 31 49.0	+0.4	
	baz=274								
O19K	Port Alsworth	54.95	36	P		P	13 31 50.0	+0.4	
	baz=276								
L20K	Farewell, AK	54.96	33	P		P	13 31 50.1	+0.3	
	baz=274								
AKTO	Aktyubinsk	55.07	312	P		P	13 31 50.5	-0.2	
	comp=Z,1.9nm,0.8s,baz=75,slow=11,SNR=5.4								
CHUM	Lake Minchumin	55.56	32	P		P	13 31 54.9	+0.9	
	baz=275								
I21K	Tanana	55.61	30	P		P	13 31 54.2	-0.1	
	baz=274								
CAST	Castle Rocks	55.71	32	P		P	13 31 56.0	+0.9	
CAST	Castle Rocks	55.71	32	P		P	13 31 55.4	+0.3	
	baz=275								
PPLA	Purkeypile	55.71	33	P		P	13 31 54.4	-0.8	
	baz=276								
OHAK	Old Harbor	55.84	40	P		P	13 31 57.0	+1.0	
	baz=278								
ASAR	Alice Springs	56.05	177	P		P	13 31 57.4	-0.5	
	comp=Z,2.3nm,0.9s,baz=4.2,slow=6.0,SNR=17								
ASAR	Alice Springs	56.05	177	P		P	13 31 56.5	-1.4	
BPAW	Bear Paw Mtn.	56.13	31	P		P	13 31 58.7	+0.6	
	baz=276								
KDAK	Kodiak Island	56.13	39	P		P	13 31 58.3	+0.2	
	baz=279								
COLD	Coldfoot	56.18	27	P		P	13 31 58.7	+0.3	
	baz=274								
TOLK	Toolik Lake Re	56.32	26	P		P	13 31 59.0	-0.5	
	baz=274								
H23K	Yukon River	56.57	29	P		P	13 32 00.9	-0.3	
H23K				IAmb		IAmb	13 32 03.3		
	comp=Z,6.0nm,0.8s								
H23K	Yukon River	56.57	29	P		P	13 32 01.3	+0.1	
	baz=276,SNR=6.6								
I23K	Minto, Yukon-K	56.72	30	P		P	13 32 03.6	+1.4	
	baz=276								
M22K	Willow	56.80	34	P		P	13 32 03.2	+0.4	
	baz=278								
NEA2	Nenana	56.90	30	P		P	13 32 04.0	+0.4	
	baz=277,SNR=5.1								
MCK	McKinley	57.07	32	P		P	13 32 05.1	+0.3	
	baz=278								
RC01	Rabbit Creek A	57.08	35	P		P	13 32 04.7	-0.1	
	baz=279								
MDM	Murphy Dome	57.21	30	P		P	13 32 06.3	+0.5	
MDM				IAmb		IAmb	13 32 07.8		
	comp=Z,10nm,0.8s								
H24K	Noodor Dome	57.25	29	P		P	13 32 06.0	0.0	
	baz=277,SNR=5.2								
PMR	Palmer	57.29	34	P		P	13 32 06.0	-0.4	
	baz=279								
SEW	Seward	57.37	36	P		P	13 32 05.8	-1.1	
	baz=280								
POKR	Poker Plat Res	57.53	30	P		P	13 32 07.6	-0.4	
	baz=278								
SML	Sawmill	57.63	34	P		P	13 32 08.4	-0.5	
	baz=280								
KNK	Knik Glacier	57.64	34	P		P	13 32 07.9	-1.0	
KNK				IAmb		IAmb	13 32 55.9		
	comp=Z,7.6nm,0.7s								
KNK	Knik Glacier	57.64	34	P		P	13 32 08.1	-0.7	
	baz=280								
WAT6	Susitna Watana	57.78	33	P		P	13 32 10.1	+0.1	
	baz=280								
ILAR	Eielson Array	57.81	30	P		P	13 32 09.3	-0.6	
	comp=Z,2.2nm,0.8s,baz=271,slow=5.5,SNR=24								
ILAR	Eielson Array	57.81	30	P		P	13 32 08.8	-1.1	
ILAR	Eielson Array	57.81	30	P		P	13 32 08.8	-1.1	
HDA	Harding Lake	57.84	31	P		P	13 32 09.4	-0.8	
	baz=279,SNR=5.1								
DHY	Denali Highway	57.86	32	P		P	13 32 10.7	+0.1	
	baz=280								
SCM	Sheep Creek Mo	58.10	34	P		P	13 32 12.4	+0.2	
	baz=280								
J25K	Salcha River,	58.48	30	P		P	13 32 14.7	0.0	
	baz=280								
PAX	Paxson	58.74	32	P		P	13 32 16.5	0.0	
	baz=281								
KLU	Klutina	58.82	34	P		P	13 32 16.6	-0.5	
	baz=282								
HARP	HAARP	58.99	33	P		P	13 32 18.1	-0.2	
	baz=282								
SCRK	Sand Creek	59.19	31	P		P	13 32 19.2	-0.6	
SCRK				IAmb		IAmb	13 32 20.2		
	comp=Z,7.1nm,0.8s								
SCRK	Sand Creek	59.19	31	P		P	13 32 18.6	-1.2	
	baz=282,SNR=11								
DOT	Dot Lake	59.23	31	P		P	13 32 19.3	-0.6	
DOT				IAmb		IAmb	13 32 20.2		
	comp=Z,4.9nm,0.7s								
J26L	Joseph Creek	59.26	30	P		P	13 32 19.2	-1.1	
	baz=282								
N25K	Chitina, Valde	59.42	34	P		P	13 32 21.3	0.0	
	baz=283								
MENT	Mentasta	59.53	32	P		P	13 32 22.7	+0.7	
BMRM	Bremner River	59.55	34	P		P	13 32 22.5	+0.3	
BMRM	Bremner River	59.55	34	P		P	13 32 22.2	0.0	
	baz=283								
L26K	Log Cabin Wild	59.67	32	P		P	13 32 23.5	+0.5	
L26K				IAmb		IAmb	13 32 24.4		
	comp=Z,4.9nm,0.9s								
L26K	Log Cabin Wild	59.67	32	P		P	13 32 23.0	0.0	
	baz=283								
M26K	Nabesna, AK	59.97	32	P		P	13 32 25.7	+0.6	
M26K	Nabesna, AK	59.97	32	P		P	13 32 25.4	+0.3	
	baz=284,SNR=10								
MCARA	McCarthy VSAT	60.20	34	P		P	13 32 26.7	+0.1	
	baz=284								
EGAK	Eagle	60.21	30	P		P	13 32 26.4	-0.2	
	baz=284								
L27K	Beaver Creek,	60.34	32	P		P	13 32 28.1	+0.5	
L27K				IAmb		IAmb	13 32 29.2		
	comp=Z,6.2nm,0.8s								
L27K	Beaver Creek,	60.34	32	P		P	13 32 27.4	-0.2	
	baz=284,SNR=8.1								
BCAR	Beaver Creek A	60.36	32	P		P	13 32 28.2	+0.5	
M27K	Edge Creek, AK	60.49	32	P		P	13 32 29.1	+0.3	
M27K				IAmb		IAmb	13 32 30.0		
	comp=Z,7.4nm,0.8s								
M27K	Edge Creek, AK	60.49	32	P		P	13 32 29.1	+0.3	
	baz=284								
BARN	Barnard Glacie	60.92	34	P		P	13 32 32.3	+0.5	
BARN				IAmb		IAmb	13 32 32.9		
	comp=Z,6.0nm,0.7s								
BVCY	Beaver Creek	60.93	32	P		P	13 32 31.1	-0.5	
	baz=285								
CTG	Chitna Glacier	61.10	34	P		P	13 32 32.8	-0.1	
	baz=286								
DAWY	Dawson	61.14	30	P		P	13 32 32.7	-0.3	
	baz=286								
I29M	Ogilvie Camp,	61.23	29	P		P	13 32 33.3	-0.3	
	baz=286,SNR=5.4								
YUK3	Moose Creek	61.29	33	P		P	13 32 34.3	0.0	
	baz=286								
INK	Inuvik	62.18	25	P		P	13 32 39.4	-0.5	
	comp=Z,3.2nm,0.8s,baz=292,slow=7.6,SNR=15								
INK	Inuvik	62.18	25	P		P	13 32 39.5	-0.3	
INK	Inuvik	62.18	25	P		P	13 32 39.5	-0.3	
	baz=288,SNR=5.3								
YUK4	Talbot Arm	62.24	33	P		P	13 32 40.6	-0.1	
	baz=288								
PNL	Peninsula	62.40	35	P		P	13 32 42.3	+0.7	
	baz=288								
YUK6	Outpost Mounta	62.50	33	P		P	13 32 42.4	0.0	
	baz=288								
M30M	Minto, Yukon	62.69	31	P		P	13 32 43.7	+0.2	
	baz=289								
HYT	Haines Junctio	62.93	33	P		P	13 32 45.4	+0.1	
HYT				IAmb		IAmb	13 32 47.1		
	comp=Z,5.2nm,0.8s								
HYT	Haines Junctio	62.93	33	P		P	13 32 45.1	-0.1	
	baz=289								
SPITS	Spitsbergen Ar	63.06	348	P		P	13 32 45.8	+0.1	
	comp=Z,6.3nm,1.0s,baz=9.6,slow=37,SNR=1.7								
A36M	Sachs Harbour	63.49	20	P		P	13 32 48.5	0.0	
A36M	Sachs Harbour	63.49	20	P		P	13 32 48.2	-0.4	
	baz=294,SNR=15								
N31M	Braeburn, Yuko	63.50	32	P		P	13 32 49.3	+0.5	
	baz=290								
M31M	Drury Creek, Y	63.87	31	P		P	13 32 51.3	0.0	
	baz=291								
WHY	Whitehorse	64.20	33	P		P	13 32 53.7	+0.1	
	baz=291								
ARCES	ARCESS Array B	64.90	338	P		P	13 32 59.2	+1.3	
	comp=Z,3.1nm,0.8s,baz=64,slow=10,SNR=5.1								
ARCES	ARCESS Array B	64.90	338	P		P	13 32 57.3	-0.6	
ARCES				pmax		pmax			
	comp=Z,146nm,2.0s								
ARCES	ARCESS Array B	64.90	338	P		P	13 32 57.2	-0.6	
STKA	Stephens Creek	64.96	170	P		P	13 32 58.4	-0.2	
	comp=Z,1.2nm,0.5s,baz=340,slow=6.1,SNR=4.7								
STKA	Stephens Creek	64.96	170	P		P	13 32 58.3	-0.2	
C36M	Paulatuk	64.97	22	P		P	13 32 58.1	-0.2	
C36M				IAmb		IAmb	13 32 59.0		
	comp=Z,8.1nm,0.8s								
C36M	Paulatuk	64.97	22	P		P	13 32 57.9	-0.4	
	baz=296,SNR=12								
KBZ	Khabaz	66.89	308	P		P	13 33 12.8	+1.7	
	comp=Z,6.3nm,1.0s,baz=112,slow=1.6,SNR=11								
KIV	Kislovodsk	66.94	308	*e*P		P	13 33 14.9	+3.3	
KIV				pmax		pmax			
	comp=Z,14nm,1.0s								
FINES	FINESS Array B	68.42	330	P		P	13 33 19.4	-1.1	
	comp=Z,2.7nm,0.6s,baz=78,slow=5.2,SNR=12								
FINES	FINESS Array B	68.42	330	P		P	13 33 18.7	-1.7	
FINES	FINESS Array B	68.42	330	P		P	13 33 18.7	-1.7	
RES	Resolute Bay	68.88	12	P		P	13 33 22.8	-0.2	
	comp=Z,2.6nm,0.8s,baz=321,slow=6.3,SNR=14								
RES	Resolute Bay	68.88	12	P		P	13 33 21.9	-1.1	
RES				pmax		pmax			
	comp=Z,4.0nm,1.0s								
RES	Resolute Bay	68.88	12	P		P	13 33 21.9	-1.1	
RES				IAmb		IAmb	13 33 23.8		
	comp=Z,4.1nm,0.9s								
DAG	Danmarks Havn	69.22	353	*i* P		P	13 33 28.0	+2.8	
YKA	Yellowknife Ar	71.84	26	P		P	13 33 41.0	-0.3	
	comp=Z,0.9nm,0.8s,baz=302,slow=5.7,SNR=18								
YKA	Yellowknife Ar	71.84	26	P		P	13 33 40.0	-1.3	
YKA	Yellowknife Ar	71.84	26	P		P	13 33 40.0	-1.3	
AKASG	Malin Array Be	72.14	319	P		P	13 33 42.5	-0.8	
	comp=Z,1.6nm,0.5s,baz=56,slow=6.3,SNR=7.5								
NB2	NORSAR Subarra	74.56	334	P		P	13 33 56.6	-0.9	
	comp=Z,2.4nm,0.8s,baz=50,slow=5.9								
NOA	NORSAR Array B	74.56	334	P		P	13 33 56.7	-0.9	
	comp=Z,1.8nm,0.9s,baz=49,slow=5.7,SNR=5.8								
BRTR	Keskin Array B	74.88	308	P		P	13 33 58.9	-1.1	
	comp=Z,3.4nm,0.9s,baz=130,slow=2.3,SNR=2.8								
G05D	Wamic, OR	78.69	43	P		P	13 34 21.4	+0.2	
	baz=305								
DPC	Dobruska-Polom	79.14	324	*e*PCP		PcP	13 34 29.7	-2.3	
M02C	Callahan	79.97	47	P		P	13 34 29.0	+0.6	
	baz=305								
CLL	Collm	80.16	326	*i* P		P	13 34 32.1	+3.1	
CLL				pmax		pmax			
	comp=Z,8.0nm,1.0s								
CLL				MLR		MLR			
	comp=Z,900nm,18.2s								
KHC	Kasperske Hory	81.30	324	*e*PCP		PcP	13 34 38.7	-2.7	
GERES	GERESS Array B	81.42	323	P		P	13 34 37.3	+1.4	
	comp=Z,2.1nm,0.9s,baz=90,slow=1.3,SNR=7.8								
EGMT	Eagleton	83.18	36	P		P	13 34 45.4	+0.2	
	baz=312								
HLID	Hailey	83.64	42	P		P	13 34 47.7	-0.1	
	baz=310								
BOZ	Bozeman (W)	83.84	39	P		P	13 34 48.8	+0.1	
	baz=311								
NVAR	Mina Array Bea	84.54	47	P		P	13 34 52.4	-0.1	
	comp=Z,1.0nm,0.7s,baz=306,slow=5.1,SNR=7.6								
DAVOX	Davos/Dischmat	84.72	324	P		P	13 34 55.3	+2.1	
	comp=Z,6.3nm,0.9s,baz=51,slow=3.6,SNR=6.5								
PDAR	Pinedale Array	86.84	40	P		P	13 35 03.7	-0.2	
	comp=Z,1.1nm,0.9s,baz=271,slow=0.4,SNR=9.7								
ULM	Lac du Bonnet	87.75	28	P		P	13 35 07.1	-0.7	
	comp=Z,2.2nm,0.4s,baz=272,slow=4.8,SNR=3.9								

*ATH **14** 13:24:34.6, 35.54N×25.19E, h53km±2km, ML3.4/12, Error ellipse: s-maj=2.7km s-min=0.9km az=194.0*
*DDA **14** 13:24:35.3±0.0, 35.79N×25.61E, h2km±2km, ML2.8*
*ISK **14** 13:24:35.0, 35.56N×25.22E, h47km±2km, ML3.4/16*
*IDC **14** 13:24:36.7±4.4, 35.32N×25.34E, h89km±45km, mb3.3/3, mb1 3.2/5, mb1mx3.0/60, mbtmp3.5/5, Error ellipse: s-maj=82.9km s-min=24.7km az=139.0*
*THE **14** 13:24:36.0, 35.51N×25.19E, h50km±1km, ML3.1/12, Error ellipse: s-maj=1.8km s-min=0.6km az=182.0*

ISC 14 13:24:35.1±0.9, 35.52N±0.03×25.19E±0.02, h55km±6km, n88, σ1.917/124, mb3.3/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HRKL	Herakleio	0.22	199	P		Pn	13 24 44.3	+0.2
HRKL				S		Sn	13 24 50.5	+0.1
HRKL				AML		AML	13 24 53.8	
	comp=E,42216μm,0.4s							
HRKL				AML		AML	13 24 54.5	
	comp=N,44964μm,0.3s							
HRKL	Herakleio	0.22	199	P		Pn	13 24 44.3	+0.2
HRKL				S		Sn	13 24 50.6	+0.1
	comp=N,7μm,0.4s							
HRKL	Herakleio	0.22	199	PG		Pn	13 24 44.4	+0.2
HRKL				SG		Sn	13 24 50.6	+0.1
IACM	Heraklion	0.24	204	P		Pn	13 24 44.2	0.0
IACM				S		Sn	13 24 50.8	0.0
IACM	Heraklion	0.24	204	P		Pn	13 24 44.1	-0.1
IACM				S		Sn	13 24 50.7	0.0
KSTL	Kastelli Herak	0.24	204	P		Pn	13 24 45.2	+1.0
KSTL				S		Sn	13 24 52.2	+1.5
KSTL				AML		AML	13 24 52.9	
	comp=N,11691μm,0.3s							
KSTL				AML		AML	13 24 53.5	
	comp=E,5636μm,0.2s							
KSTL	Kastelli Herak	0.24	204	P		Pn	13 24 45.2	+1.0
KSTL				S		Sn	13 24 52.2	+1.5
	comp=E,1μm,0.2s							
IDI	Anoyia	0.34	226	P		Pn	13 24 44.9	-0.2
IDI				S		Sn	13 24 51.7	-0.6
IDI				AML		AML	13 24 52.3	
	comp=N,8765μm,0.2s							
IDI				AML		AML	13 24 52.4	
	comp=E,9291μm,0.1s							
IDI	Anoyia	0.34	226	P		Pn	13 24 44.8	-0.2
IDI				S		Sn	13 24 51.7	-0.6
	comp=E,5μm,0.2s							
IDI	Anoyia	0.34	226	PG		Pn	13 24 44.9	-0.2
IDI				SG		Sn	13 24 51.9	-0.4
TMBK	Timbaki Herakl	0.57	218	P		Pn	13 24 48.1	+0.6
TMBK				S		Sn	13 24 56.7	+0.4
TMBK				AML		AML	13 25 01.1	
	comp=N,6556μm,0.4s							
TMBK				AML		AML	13 25 02.4	
	comp=E,8405μm,0.4s							
TMBK	Timbaki Herakl	0.57	218	P		Pn	13 24 48.1	+0.6
TMBK				S		Sn	13 24 57.5	+1.1
	comp=E,1μm,0.4s							
PRNS	Prines Rethymn	0.58	255	P		Pn	13 24 48.3	+0.7
PRNS				S		Sn	13 24 57.7	+1.0
	comp=E,858nm,0.5s							
FRMA	Ierapetra Chan	0.67	139	P		Pn	13 24 49.9	+1.2
FRMA				S		Sn	13 25 01.2	+2.6
FRMA	Ierapetra Chan	0.67	139	P		Pn	13 24 50.3	+1.6
FRMA				S		Sn	13 25 00.7	+2.1
	comp=E,842nm,0.5s							
THR9	Santorini-Faro	0.84	9	P		Pn	13 24 51.2	+0.3
THR9	Santorini-Faro	0.84	9	P		Pn	13 24 51.4	+0.5
THR6	Thira Island,	0.85	11	P		Pn	13 24 51.3	+0.4
THR6	Thira Island,	0.85	11	P		Pn	13 24 51.4	+0.4
SNT5	Nea Kammeni, S	0.90	11	P		Pn	13 24 52.0	+0.4
SNT5				S		Sn	13 25 03.5	-0.2
THR3	Thira Island,	0.90	11	P		Pn	13 24 51.9	+0.3
THR5	Thira Island,	0.90	8	P		Pn	13 24 52.2	+0.5
THR5	Thira Island,	0.90	8	P		Pn	13 24 52.1	+0.5
THR8	Santorini-Mono	0.91	15	P		Pn	13 24 51.8	-0.1
THR8	Santorini-Mono	0.91	15	P		Pn	13 24 51.7	-0.1
SAP3	Santorini-Thir	0.92	8	P		Pn	13 24 52.6	+0.7
SAP3				S		Sn	13 25 06.7	+2.4
	comp=E,3μm,0.2s							
ZKR	Zakros	0.93	116	P		Pn	13 24 52.5	+0.5
ZKR				S		Sn	13 25 05.6	+1.1
ZKR				AML		AML	13 25 12.9	
	comp=E,1883μm,0.4s							
ZKR				AML		AML	13 25 14.8	
	comp=N,704μm,0.4s							
ZKR	Zakros	0.93	116	P		Pn	13 24 52.7	+0.6
ZKR				S		Sn	13 25 05.0	+0.4
	comp=N,665nm,0.3s							
ZKR	Zakros	0.93	116	PG		Pn	13 24 52.4	+0.3
THR2	Thira island,	0.94	12	P		Pn	13 24 52.6	+0.4
CMBO	Columbo, Santo	0.96	10	P		Pn	13 24 53.0	+0.6
CMBO				S		Sn	13 25 06.0	+0.8
CMBO				AML		AML	13 25 08.3	
	comp=N,4020μm,0.6s							
CMBO				AML		AML	13 25 10.5	
	comp=E,3945μm,0.4s							
CMBO	Columbo, Santo	0.96	10	P		Pn	13 24 53.1	+0.6
CMBO				S		Sn	13 25 06.1	+0.8
	comp=E,2μm,0.5s							
IMMV	Iera Moni Meta	0.99	267	P		Pn	13 24 53.6	+0.8
IMMV				S		Sn	13 25 07.1	+1.3
IMMV				AML		AML	13 25 11.1	
	comp=N,2784μm,0.5s							
IMMV				AML		AML	13 25 11.4	
	comp=E,2954μm,0.4s							
IMMV	Iera Moni Meta	0.99	267	P		Pn	13 24 53.6	+0.8
IMMV				S		Sn	13 25 06.1	+0.2
	comp=E,1μm,0.4s							
IMMV	Iera Moni Meta	0.99	267	PG		Pn	13 24 53.5	+0.7
IMMV				SG		Sn	13 25 07.4	+1.5
GVDS	Gavdos	1.13	233	P		Pn	13 24 55.7	+1.0
GVD	Gavdhos	1.13	233	P		Pn	13 24 55.2	+0.5
GVD	Gavdhos	1.13	233	P		Pn	13 24 55.7	+1.0
GVD	Gavdhos	1.13	233	PN		Pn	13 24 55.9	+1.2
RODP	Rodopos	1.17	272	P		Pn	13 24 55.5	+0.3
RODP				S		Sn	13 25 11.1	+0.9
	comp=E,318nm,0.3s							
RODP	Rodopos	1.17	272	PN		Pn	13 24 55.9	+0.7
KNDR	Palaiochora Ch	1.26	257	PN		Pn	13 24 58.2	+1.7
MHLO	Agia Marina, M	1.33	331	P		Pn	13 24 58.2	+0.8
MHLO				S		Sn	13 25 14.2	+0.2
MHLO				AML		AML	13 25 17.1	
	comp=E,10722μm,0.3s							
MHLO				AML		AML	13 25 18.8	
	comp=N,9318μm,0.6s							
MHLO	Agia Marina, M	1.33	331	P		Pn	13 24 58.2	+0.8
MHLO				S		Sn	13 25 15.2	+1.2
	comp=N,5μm,0.4s							
APE	Apeiranthos	1.57	10	P		Pn	13 25 01.0	+0.3
APE				S		Sn	13 25 20.2	+0.3
APE	Apeiranthos	1.57	10	P		Pn	13 25 00.9	+0.3
APE	Apeiranthos	1.57	10	PN		Pn	13 25 00.7	0.0
ANKY	Antikythira Is	1.58	283	P		Pn	13 25 00.7	0.0
ANKY				AML		AML	13 25 30.9	
	comp=N,613μm,0.5s							
ANKY				AML		AML	13 25 33.7	
	comp=E,515μm,0.6s							
ANKY	Antikythira Is	1.58	283	P		Pn	13 25 00.7	0.0
KARP	Karpathos	1.61	89	P		Pn	13 25 00.8	-0.4
KARP				AML		AML	13 25 23.4	
	comp=E,1209μm,0.4s							
KARP				AML		AML	13 25 28.8	
	comp=N,2178μm,0.4s							
KARP	Karpathos	1.61	89	P		Pn	13 25 00.6	-0.6
KARP				S		Sn	13 25 21.4	+0.6
KARP	Karpathos	1.61	89	PN		Pn	13 25 00.9	-0.3
KTHA	Kythira Island	1.88	294	P		Pn	13 25 04.6	-0.2
KTHA				AML		AML	13 25 35.0	
	comp=N,863μm,0.2s							
KTHA				AML		AML	13 25 35.4	
	comp=E,1426μm,0.2s							
KTHA	Kythira Island	1.88	294	P		Pn	13 25 04.7	-0.2
KOSK	Kos Island	1.90	49	PN		Pn	13 25 05.3	+0.2
KOSK				SN		Sn	13 25 27.7	-0.1
NISR	Nisiros	1.91	55	P		Pn	13 25 05.6	+0.4
KTHR	Kythira	1.92	293	P		Pn	13 25 05.5	+0.1
KTHR	Kythira	1.92	293	P		Pn	13 25 05.5	+0.1
VLI	Veliai	2.18	304	P		Pn	13 25 09.2	+0.3
DAT	Datca	2.28	57	PN		Pn	13 25 10.8	+0.4
DAT	Datca	2.28	57	P		Pn	13 25 09.7	-0.7
DAT				S		Sn	13 25 35.9	-1.4
DAT				*i* AML		AML	13 25 40.0	
	comp=E,65nm,0.5s							
DAT				*i* AML		AML	13 25 41.0	
	comp=E,68nm,0.3s							
BODT	Bodrum	2.30	47	P		Pn	13 25 10.9	+0.3
BODT	Bodrum	2.30	47	PN		Pn	13 25 10.9	+0.3
KRND	KRANIDI	2.48	319	P		Pn	13 25 14.0	+1.0
KRND				AML		AML	13 25 47.8	
	comp=E,584μm,0.4s							
KRND				AML		AML	13 25 49.5	
	comp=N,630μm,0.4s							
KRND	KRANIDI	2.48	319	P		Pn	13 25 14.3	+1.3
KARY	Karystos	2.58	347	P		Pn	13 25 15.5	+1.2
KARY	Karystos	2.58	347	P		Pn	13 25 15.6	+1.2
VLY	Voula,Athens	2.58	335	P		Pn	13 25 15.2	+0.8
EPID	Epidavros	2.67	322	P		Pn	13 25 16.9	+1.1
EPID	Epidavros	2.67	322	P		Pn	13 25 16.8	+1.1
DION	Dionisos Attik	2.74	339	P		Pn	13 25 18.1	+1.4
TURN	Turunc	2.77	62	P		Pn	13 25 17.5	+0.5
TURN				S		Sn	13 25 50.7	+1.5
TURN				*i* AML		AML	13 25 57.0	
	comp=N,64nm,0.3s							
TURN				*i* AML		AML	13 25 57.0	
	comp=N,52nm,0.5s							
YER	Yerkesik	2.97	56	PN		Pn	13 25 21.4	+1.6
VILL	Villia	3.04	331	P		Pn	13 25 22.4	+1.7
AY

JMA Felt III J1.
ISC 14 13:26:39.1±0.8,**32.77N**±0.03×**130.83E**±0.08,**h12**km,**n10,** σ1.1**57/14**,**mb3.8/3,3C,Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.22**	**185**	⇑P		**Pg**	**13 26 43.3**	**-0.5**
JIU3				S		**Sg**	**13 26 46.6**	**-0.4**
JTA	**Tamana**	**0.32**	**307**	⇑P		**Pg**	**13 26 45.2**	**-0.4**
JTA				S		**Sg**	**13 26 49.6**	**-0.3**
JNU	**Nakatsue**	**0.35**	**6**	Pg		**Pg**	**13 26 45.9**	**-0.3**
	1μm,0.3s,baz=63,slow=18,SNR=24							
JNU				Lg		Lg	13 26 51.3	
	1μm,0.3s,baz=65,slow=17,SNR=55							
JNU	**Nakatsue**	**0.35**	**6**	⇑P		**Pg**	**13 26 46.6**	**+0.4**
JNU				S		**Sg**	**13 26 51.4**	**+0.4**
JTZ	**Takazaki**	**0.89**	**166**	P		**Pg**	**13 26 56.3**	**0.0**
JTZ				S		**Sg**	**13 27 08.3**	**-0.1**
KSRS	**Korea Array**	**5.25**	**334**	Pn		**Pn**	**13 27 58.7**	**+1.4**
	baz=152,slow=15,SNR=1.1							
KSRS				Lg		Lg	13 29 25.1	
	0.4nm,0.3s,baz=158,slow=30,SNR=2.9							
JOW	**Kunigami**	**6.32**	**201**	Pn		**Pn**	**13 28 16.1**	**+3.9**
	1.3nm,0.3s,baz=109,slow=25,SNR=6.1							
WRA	**Warramunga Arr**	**52.52**	**176**	P		**P**	**13 35 50.3**	**-1.9**
	0.3nm,0.8s,baz=352,slow=8.1,SNR=1.6							
FINES	**FINESS Array B**	**68.33**	**330**	P		**P**	**13 37 39.0**	**-0.9**
	0.9nm,0.4s,baz=66,slow=4.7,SNR=2.2							
AKASG	**Malin Array Be**	**72.07**	**319**	P		**P**	**13 38 01.0**	**-2.0**
	0.3nm,0.3s,baz=57,slow=6.8,SNR=1.3							

*IDC **14** 13:32:38.7±1.3,32.81N×131.16E,h0km,mb3.5/3, mb1 3.6/5,mb1mx3.3/45,mbtmp3.4/5,ML2.8/2,MS4.3/1, Ms1 4.3/1,ms1mx3.5/82,Error ellipse: s-maj=36.0km s-min=17.2km az=78.0*
*JMA **14** 13:32:41.8,32.67N×130.74E,h9km±1km,M3.9*
JMA Felt III J1.
ISC 14 13:32:40.4±0.9,**32.82N**±0.04×**131.02E**±0.07,**h12**km,**n10,** σ2.**09/16**,**mb3.5/3,4C,Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.32**	**338**	⇑P		**Pn**	**13 32 51.1**	**+0.1**
JNU				S		**Sb**	**13 32 57.5**	**+4.1**
JIU3	**Izumi3**	**0.32**	**213**	⇑P		**Pg**	**13 32 45.0**	**-2.0**
JIU3				S		**Sg**	**13 32 47.5**	**-3.9**
JTA	**Tamana**	**0.43**	**289**	⇑P		**Pg**	**13 32 48.8**	**-0.2**
JTA				S		**Sg**	**13 32 53.6**	**-1.2**
JTZ	**Takazaki**	**0.92**	**176**	⇑P		**Pg**	**13 32 58.2**	**0.0**
JTZ				S		**Sg**	**13 33 09.4**	**-0.8**
KSRS	**Korea Array**	**5.27**	**332**	Pn		**Pn**	**13 33 59.9**	**+0.9**
	0.7nm,0.3s,baz=154,slow=15,SNR=6.9							
KSRS				Pg		**Pg**	**13 34 18.0**	**-3.4**
	1.1nm,0.3s,baz=151,slow=16,SNR=9.2							
KSRS				Lg		Lg	13 35 27.2	
	1.7nm,0.3s,baz=62,slow=31,SNR=1.4							
JOW	**Kunigami**	**6.43**	**202**	Pn		**Pn**	**13 34 16.4**	**+1.5**
	baz=45,slow=13							
JOW				Sn		**Sn**	**13 35 29.5**	**+1.2**
	0.2nm,0.3s,baz=244,slow=29,SNR=1.4							
MJAR	**Matsushiro Arr**	**6.99**	**56**	Pn		**Pn**	**13 34 21.5**	**-1.1**
	0.1nm,0.3s,baz=278,slow=11,SNR=2.2							
WRA	**Warramunga Arr**	**52.56**	**176**	P		**P**	**13 41 52.9**	**-1.0**
	0.1nm,0.5s,baz=355,slow=7.9,SNR=1.4							
ASAR	**Alice Springs**	**56.24**	**177**	P		**P**	**13 42 21.1**	**+0.5**
	0.5nm,1.0s,baz=354,slow=6.1,SNR=3.3							
ASAR				LR		LR	14 07 49.9	
	comp=Z,264nm,19.3s,baz=310,slow=38							
FINES	**FINESS Array B**	**68.36**	**330**	P		**P**	**13 43 41.8**	**+0.4**
	1.7nm,0.9s,baz=94,slow=7.1,SNR=3.5							

*IDC **14** 13:38:41.3±0.5,32.57N×130.82E,h0km,mb4.4/25, mb1 4.5/30,mb1mx4.4/47,mbtmp4.4/30,ML3.9/5,MS4.3/9, Ms1 4.3/9,ms1mx4.0/98,Error ellipse: s-maj=13.1km s-min=7.3km az=93.0*
*MOS **14** 13:38:42.1±1.5,32.52N×130.75E,h16km,mb4.9/30,Error ellipse: s-maj=8.7km s-min=5.0km az=99.9*
*NEIC **14** 13:38:43.6±1.7,32.68N±0.02×130.72E±0.07,h10km±1km, mb4.8/40,Error ellipse: s-maj=10.4km s-min=2.9km az=107.0*
*NIED **14** 13:38:43.5,32.68N×130.74E,h11km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.35; Mθθ1.97; Mϕϕ-2.31; Mrθ-0.66; Mϕr0.87; Mθr0.15; Fault plane solution: M0 2.42000×10^16 NP1: ϕs213.00000°,δ74.00000°,λ171.00000°. NP2: ϕs305.00000°,δ82.00000°,λ16.00000°.*
*JMA **14** 13:38:43.5,32.68N×130.74E,h11km±1km,M5.0*
ISC 14 13:38:44.6±0.6,**32.58N**±0.03×**130.86E**±0.04,**h16**km±3km, **n208,** σ2.**15/215**,**mb4.7**/86,**MS4.6**/9,**13C-4D,Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.05**	**232**	P		**Pg**	**13 38 46.8**	**-0.7**
JIU3				S		**Sg**	**13 38 49.8**	**+0.3**
JTA	**Tamana**	**0.47**	**324**	⇑P		**Pg**	**13 38 50.3**	**-3.7**
JTA				S		**Sg**	**13 38 55.2**	**-5.2**
JNU	**Nakatsue**	**0.54**	**2**	Pg		**Pg**	**13 38 52.2**	**-3.1**
	3μm,0.3s,baz=262,slow=5.0,SNR=262							
JNU				Lg		Lg	13 38 59.2	
	7μm,0.3s,baz=281,slow=23,SNR=35							
JNU	**Nakatsue**	**0.54**	**2**	Pg		Pg	13 38 49.9	-5.4
JNU				Sg		**Sg**	**13 38 58.7**	**-3.9**
JSU	**Suzuyama**	**1.12**	**198**			**Pb**	**13 39 05.5**	**-0.1**
JSU				Sn		**Sg**	**13 39 21.3**	**+0.3**
JTU	**Tsushima**	**2.29**	**328**	Pn		**Pn**	**13 39 18.4**	**-3.3**
JMN	**Monobe**	**2.78**	**65**	Pn		**Pn**	**13 39 28.6**	**+0.2**
JHS	**Saijyo**	**3.06**	**37**	Pn		**Pn**	**13 39 32.6**	**+0.4**
TJN	**Taejon**	**4.76**	**324**	*ce*P		**Pn**	**13 39 53.7**	**-2.0**
TJN	**Taejon**	**4.76**	**324**			**Pn**	**13 39 53.3**	**-2.4**
KSRS	**Korea Array**	**5.43**	**334**	Pn		**Pn**	**13 40 03.2**	**-1.6**
	2.4nm,0.3s,baz=156,slow=15,SNR=21							
KSRS				Pg		**Pb**	**13 40 20.9**	**+1.9**
	7.2nm,0.3s,baz=150,slow=17,SNR=17							
KSRS				Lg		Lg	13 41 30.6	
	40nm,0.3s,baz=153,slow=30,SNR=3.8							
KSRS				LR		LR	13 42 18.6	
	comp=Z,1μm,18.3s,baz=140,slow=40							
KSAR	**Wonju Array Be**	**5.43**	**334**	P		**Pn**	**13 40 04.6**	**-0.3**
KSAR	**Wonju Array Be**	**5.43**	**334**			**Pn**	**13 40 04.6**	**-0.3**
KS19	**Wonju Array Si**	**5.49**	**334**			**Pn**	**13 40 02.9**	**-2.8**
INU	**Inuyama**	**5.81**	**60**			**Pn**	**13 40 10.6**	**+0.5**
INCN	**Inchon**	**6.00**	**326**	P		**Pn**	**13 40 09.9**	**-2.7**
INCN	**Inchon**	**6.00**	**326**	Pn		**Pn**	**13 40 09.9**	**-2.7**
JOW	**Kunigami**	**6.15**	**202**	Pn		**Pn**	**13 40 17.1**	**+2.2**
	16nm,0.3s,baz=96,slow=20,SNR=59							
JOW	**Kunigami**	**6.15**	**202**	Pn		**Pn**	**13 40 17.7**	**+2.9**
JGF	**Kuroka**	**6.18**	**59**	Pn		**Pn**	**13 40 15.9**	**+0.8**
MAJO	**Matsushiro**	**7.24**	**55**	*i* P		**Pn**	**13 40 31.3**	**+1.6**
MAJO	**Matsushiro**	**7.24**	**55**	Pn		**Pn**	**13 40 29.9**	**+0.2**
MJAR	**Matsushiro Arr**	**7.24**	**55**	Pn		**Pn**	**13 40 30.9**	**+1.2**
	1.3nm,0.3s,baz=235,slow=13,SNR=37							
MJAR				LR		LR	13 43 16.7	
	comp=Z,2μm,19.8s,baz=244,slow=38							
JHJ	**Hachijo jima 2**	**7.53**	**83**	Pn		**Pn**	**13 40 35.2**	**+1.5**
	40nm,0.3s,baz=214,slow=14,SNR=17							
JHJ				Sn		**Sn**	**13 42 00.9**	**+2.1**
	8.0nm,0.3s,baz=211,slow=11,SNR=1.8							
JHJ				LR		LR	13 43 22.9	
	comp=Z,1μm,18.3s,baz=288,slow=37							
JHJ2	**Mitsune**	**7.56**	**84**			**Pn**	**13 40 35.6**	**+1.6**
JMM	**Marumori**	**9.69**	**54**	Pn		**Pn**	**13 41 03.8**	**+0.6**
MSHR	**Mys Shultsa**	**9.99**	**1**	*ce*P		**Pn**	**13 41 10.0**	**+2.7**
MSHR				pmax	pmax			
	comp=Z,51nm,1.7s							
NJ2	**Nanjing**	**10.17**	**270**	*e*P		**Pn**	**13 41 07.3**	**-2.6**
NJ2				pmax	pmax			
	comp=Z,14nm,0.5s							
NJ2				LR	LR			
	comp=N,3μm,11.4s							
NJ2				LR	LR			
	comp=E,2μm,10.0s							
NJ2				LR	LR			
	comp=Z,2μm,9.8s							
JCJ	**Chichijima**	**11.25**	**116**	LR		LR	13 45 20.3	
	comp=Z,716nm,18.6s,baz=322,slow=35							
USA0B	**Ussuriysk Arra**	**11.64**	**4**	*i* P		**Pn**	**13 41 31.6**	**+1.7**
USRK	**Ussuriysk Ar.**	**11.64**	**4**	Pn		**Pn**	**13 41 31.8**	**+1.9**
	baz=188,slow=13,SNR=19							
USRK				LR		LR	13 45 35.9	
	comp=Z,2μm,18.3s,baz=255,slow=36							
TIA	**Tai'an**	**11.91**	**291**	*e*P		**Pn**	**13 41 37.3**	**+3.6**
TIA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
TIA				LR	LR			
	comp=N,9μm,15.7s							
TIA				LR	LR			
	comp=E,3μm,16.7s							
TIA				LR	LR			
	comp=Z,3μm,12.3s							
CN2	**Changchun**	**11.98**	**341**	*e*P		**Pn**	**13 41 39.1**	**+4.5**
CN2				pmax	pmax			
	comp=Z,20nm,1.2s							
CN2				LR	LR			
	comp=N,3μm,10.0s							
CN2				LR	LR			
	comp=E,6μm,10.0s							
CN2				LR	LR			
	comp=Z,2μm,11.0s							
MDJ	**Mudanjiang**	**12.06**	**356**	P		**Pn**	**13 41 33.6**	**-2.1**
MDJ				sP		P	13 41 45.0	-3.5
MDJ				S		**Sn**	**13 43 50.4**	**+0.6**
MDJ				sS			13 44 00.3	
MDJ				ScP		**ScP**	**13 50 43.8**	**-8.8**
MDJ				PcS		**PcS**	**13 50 49.3**	**-5.0**
MDJ	**Mudanjiang**	**12.06**	**356**	ScS		ScS	13 54 20.8	-7.5
MDJ				pmax	pmax			
	comp=Z,7.0nm,2.7s							
MDJ				pmax	pmax			
	comp=Z,1μm,11.5s							
MDJ				LR	LR			
	comp=N,2μm,13.8s							
MDJ				LR	LR			
	comp=E,2μm,13.4s							
MDJ				LR	LR			
	comp=Z,3μm,16.5s							
SSLB	**Suanglung**	**12.36**	**227**	Pn		**Pn**	**13 41 44.1**	**+4.1**
YULB	**Yu-li**	**12.45**	**225**	Pn		**Pn**	**13 41 41.0**	**-0.1**
BNX	**BinXian**	**13.41**	**350**	⇓P		**P**	**13 41 59.3**	**-4.2**
BNX				pmax	pmax			
	comp=Z,54nm,1.2s							
BNX				pmax	pmax			
	comp=Z,1μm,5.4s							
HNS	**HongShan**	**14.08**	**294**	⇑P		**P**	**13 42 13.3**	**+2.2**
HNS				S		**S**	**13 45 02.0**	**+1.5**
HNS				pmax	pmax			
	comp=Z,7.0nm,1.1s							
HNS				LR	LR			
	comp=N,4μm,16.0s							
HNS				LR	LR			
	comp=E,1μm,16.9s							
HNS				LR	LR			
	comp=Z,2μm,16.7s							
WHN	**Wuhan**	**14.22**	**266**	⇓P		**P**	**13 42 08.8**	**-3.9**
WHN				LR	LR			
	comp=N,7μm,9.3s							
WHN				LR	LR			
	comp=E,3μm,9.4s							
WHN				LR	LR			
	comp=E,8μm,12.0s							
ASAJ	**Asahikawa**	**14.73**	**35**	Pn		**Pn**	**13 42 12.2**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=225,slow=13,SNR=9.5							
ASAJ				LR		LR	13 47 44.2	
	comp=Z,1μm,18.2s,baz=310,slow=37							
ASAJ	**Asahikawa**	**14.73**	**35**	P		**Pn**	**13 42 11.4**	**-0.8**
JKA	**Kamikawa-asahi**	**14.73**	**35**	Pn		**Pn**	**13 42 11.4**	**-0.8**
LYN	**LuoYang**	**15.46**	**282**	⇑P		**Pn**	**13 42 22.1**	**+0.1**
LYN				sP		sP	13 42 31.8	-1.2
LYN				S		**Sn**	**13 45 17.9**	**+5.0**
LYN				SS		S	13 45 42.1	+13
LYN				pmax	pmax			
	comp=Z,30nm,1.4s							
LYN				pmax	pmax			
	comp=Z,670nm,5.5s							
LYN				LR	LR			
	comp=N,6μm,14.9s							
LYN				LR	LR			
	comp=E,1μm,12.4s							
LYN				LR	LR			
	comp=Z,4μm,11.8s							
XLT	**XiLinHaoTe**	**16.18**	**319**	⇓*i*P		**P**	**13 42 34.3**	**-0.1**
XLT				pP		pP	13 42 39.0	0.0
XLT				sP		sP	13 42 42.4	+1.3
XLT				PP		**PnPn**	**13 42 47.8**	**+7.7**
XLT				sS		S	13 45 40.8	-2.6
XLT				SS		**SnSn**	**13 45 54.8**	**+11**
XLT				pmax	pmax			
	comp=Z,29nm,1.2s							
XLT				pmax	pmax			
	comp=Z,1μm,9.7s							
XLT				LR	LR			
	comp=N,750nm,15.5s							
XLT				LR	LR			
	comp=E,6μm,13.1s							
XLT				LR	LR			
	comp=Z,2μm,12.9s							
KLR	**Kul'dur**	**16.65**	**2**	Pn		**Pn**	**13 42 38.0**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=172,slow=10,SNR=27							
KLR	**Kul'dur**	**16.65**	**2**	*i* P		**P**	**13 42 38.7**	**-0.8**
YSS	**Yuzh-Sakhalins**	**16.99**	**29**	*e*P		**P**	**13 42 44.6**	**+1.3**
YSS				pmax	pmax			
	comp=Z,40nm,0.9s							
HHC	**Hu-ho-hao-te**	**17.51**	**304**	*e*P		**Pn**	**13 42 46.0**	**-2.1**
HHC				pmax	pmax			
	comp=Z,14nm,0.8s							
HHC				pmax	pmax			
	comp=Z,520nm,6.1s							
HHC				LR	LR			
	comp=N,3μm,10.7s							
HHC				LR	LR			
	comp=E,2μm,11.1s							
HHC				LR	LR			
	comp=Z,4μm,12.7s							
XAN	**Xi'an**	**18.39**	**281**	P		**P**	**13 42 55.3**	**-3.6**
XAN				pP		Pn	13 42 59.3	+0.3
XAN				pmax	pmax			
	comp=Z,16nm,1.3s							
XAN				LR	LR			
	comp=N,4μm,12.2s							
XAN				LR	LR			
	comp=E,3μm,13.0s							
XAN				LR	LR			
	comp=Z,3μm,12.4s							
BTO	**Baotou**	**18.52**	**302**	*e*P		**P**	**13 43 00.1**	**-0.3**
GRNR	**Gornyy**	**18.63**	**11**	*e*P		**Pn**	**13 43 02.2**	**+0.5**
GRNR				MLR	MLR			
	comp=E,2μm,13.0s							
GRNR				MLR	MLR			
	comp=Z,1μm,16.0s							
ZEA	**Zeya**	**21.31**	**354**	*e*P		**P**	**13 43 30.7**	**+0.3**
ZEA				pmax	pmax			
	comp=N,50nm,1.6s							
ZEA				pmax	pmax			
	comp=Z,90nm,1.6s							
GYA	**Guiyang**	**21.90**	**260**	⇓P		**P**	**13 43 39.6**	**+2.4**
GYA				pmax	pmax			
	comp=Z,29nm,0.8s							
GYA				LR	LR			
	comp=Z,2μm,10.8s							
LZH	**Lanzhou**	**22.55**	**286**	*e*P		**P**	**13 43 44.5**	**+0.3**
LZH				pP		sP	13 43 49.5	-1.4
LZH				sP		pP	13 43 53.5	+4.8
LZH				PP		**PnPn**	**13 44 12.0**	**+4.4**
LZH				pmax	pmax			
	comp=Z,40nm,1.3s							
LZH				LR	LR			
	comp=N,3μm,11.9s							
LZH				LR	LR			
	comp=E,2μm,12.5s							
LZH				LR	LR			
	comp=Z,2μm,14.6s							
GUMO	**Guam**	**22.83**	**143**	LR		LR	13 51 42.9	
	comp=Z,527nm,18.1s,baz=8.0,slow=34							
CD2	**Chengdu**	**23.09**	**273**	P		**P**	**13 43 47.8**	**-1.9**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ULN	**Ulaanbaatar**	**23.61**	**317**	*ce*P		**P**	**13 43 53.5**	**-1.3**
ULN				pmax	pmax			
	comp=Z,38nm,1.3s							
SONM	**Songino Array**	**23.97**	**317**	P		**P**	**13 43 58.4**	**+0.1**
	comp=Z,11nm,1.0s,baz=125,slow=8.5,SNR=20							
KMI	**Kunming**	**25.67**	**260**	⇑P		**P**	**13 44 14.9**	**+0.8**
KMI				pP		pP	13 44 16.9	-2.3
KMI				pmax	pmax			
	comp=Z,11nm,0.6s							
GTA	**Gaotai**	**25.94**	**294**	*e*P		**P**	**13 44 15.0**	**-1.3**
GTA				pP		pP	13 44 19.8	-1.4
GTA				sP		sP	13 44 22.8	-0.5
GTA				pmax	pmax			
	comp=Z,9.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,660nm,6.0s							
GTA				LR	LR			
	comp=N,5μm,16.7s							
GTA				LR	LR			
	comp=E,1μm,15.9s							
GTA				LR	LR			
	comp=Z,1μm,14.7s							
PZH	**PanZhiHua**	**26.00**	**264**	P		**P**	**13 44 16.0**	**-0.9**
PZH				pmax	pmax			
	comp=Z,20nm,0.9s							
PZH				pmax	pmax			
	comp=Z,290nm,5.0s							
ZAK	**Zakamensk**	**27.03**	**319**	*e*P		**P**	**13 44 26.1**	**+0.1**
ZAK				pmax	pmax			
	comp=Z,14nm,1.2s							
MOY	**Mondy**	**28.92**	**320**	*e*P		**P**	**13 44 46.1**	**+3.2**
MOY				pmax	pmax			
	comp=Z,22nm,3.6s							
YAK	**Yakutsk**	**29.48**	**359**	*e*P		**P**	**13 44 51.0**	**+3.5**
YAK				*e**PP		**sP**	**13 44 54.6**	**-0.1**
YAK				*e*			13 47 57.6	
YAK				*e*S		**S**	**13 49 45.4**	**+4.4**
YAK				*e*SS		**SnSn**	**13 51 17.0**	**+8.6**
YAK				pmax	pmax			
	comp=Z,14nm,1.2s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.5s							
YAK				pmax	pmax			
	comp=N,13nm,1.5s							
YAK				smax	smax			
	comp=N,147nm,4.3s							
YAK				smax	smax			
	comp=E,133nm,5.8s							
YAK				MLR	MLR			
	comp=Z,940nm,15.0s							
YAK				MLR	MLR			
	comp=E,834nm,17.0s							
GOMU	**GeErMu**	**29.86**	**287**	P		**P**	**13 44 51.3**	**-0.4**
GOMU				pP		pP	13 44 55.1	-1.5
GOMU				sP		sP	13 44 59.1	+0.5
GOMU				pmax	pmax			
	comp=Z,2.0nm,0.7s							
GOMU				LR	LR			
	comp=N,1μm,16.6s							
GOMU				LR	LR			
	comp=E,650nm,17.1s							
GOMU				LR	LR			
	comp=Z,490nm,17.0s							
MA2	**Magadan**	**30.08**	**20**	*i* P		**P**	**13 44 56.4**	**+3.5**
MA2				pmax	pmax			
	comp=Z,3.0nm,1.2s							
CHTO	**Chiang Mai**	**31.72**	**252**	P		**P**	**13 45 07.2**	**-0.6**
CHTO				pmax	pmax			
	comp=Z,16nm,1.1s							
CHTO	**Chiang Mai**	**31.72**	**252**	P		**P**	**13 45 07.2**	**-0.6**
CHTO				IAmb		IAmb	13 45 12.8	
	comp=Z,16nm,1.1s							
CMAR	**Chiang Mai Arr**	**31.91**	**252**	P		**P**	**13 45 09.5**	**0.0**
	comp=Z,9.8nm,1.1s,baz=46,slow=7.0,SNR=22							
CMAR				LR		LR	13 59 00.8	
	comp=Z,661nm,18.1s,baz=325,slow=38							
SEY	**Seymchan**	**33.30**	**18**	*ce*P		**P**	**13 45 23.3**	**+2.2**
SEY				pmax	pmax			
	comp=Z,5.0nm,1.3s							
H11N2	**WAKE ISLAND Hy**	**34.62**	**103**	T		T	14 21 40.9	
	baz=297,slow=74,SNR=28							
H11N1	**WAKE ISLAND Hy**	**34.62**	**103**	T		T	14 21 44.6	
	baz=297,slow=74,SNR=18							
H11N3	**WAKE ISLAND Hy**	**34.63**	**103**	T		T	14 21 45.4	
	baz=297,slow=74,SNR=20							
SANI	**Sanana**	**34.75**	**189**	P		**P**	**13 45 32.5**	**-1.7**
	comp=Z,13nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**35.06**	**105**	T		T	14 22 12.1	
	baz=301,slow=75,SNR=10							
H11S1	**WAKE ISLAND Hy**	**35.06**	**105**	T		T	14 22 11.6	
	baz=301,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**35.07**	**105**	T		T	14 22 11.6	
	baz=301,slow=75,SNR=7.3							
SMPI	**Sarmi**	**35.18**	**166**	P		**P**	**13 45 39.1**	**+1.2**
	comp=Z,11nm,1.2s							
WMQ	**Urumqi**	**35.36**	**301**	*e*P		**P**	**13 45 40.3**	**+0.9**
JIRN	**Jiri**	**38.73**	**275**	*e*P		**P**	**13 46 08.2**	**-0.4**
ZALV	**Zalesovo Beam**	**38.86**	**317**	P		**P**	**13 46 09.4**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=122,slow=7.5,SNR=13							
ZALV	**Zalesovo Beam**	**38.86**	**317**	*i* P		**P**	**13 46 12.0**	**+3.1**
ZALV				pmax	pmax			
	comp=Z,5.0nm,1.1s							
GUN	**Gumba**	**38.92**	**275**	*e*P		**P**	**13 46 09.4**	**-0.7**
	comp=Z,54nm,0.9s							
BBKI	**Banjar Baru**	**38.93**	**206**	P		**P**	**13 46 10.4**	**+0.6**
	comp=Z,36nm,1.3s							
TIXI	**Tiksi**	**39.14**	**359**	*i* P		**P**	**13 46 13.2**	**+2.2**
TIXI				pmax	pmax			
	comp=Z,12nm,2.4s							
MK31	**Makanchi Array**	**39.35**	**306**	*i* P		**P**	**13 46 11.1**	**-2.1**
MK31				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MKAR	**Makanchi Array**	**39.35**	**306**	P		**P**	**13 46 11.1**	**-2.0**
	comp=Z,3.7nm,0.8s,baz=92,slow=9.6,SNR=22							
MKAR	**Makanchi Array**	**39.35**	**306**	*i* P		**P**	**13 46 13.1**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
MKAR	**Makanchi Array**	**39.35**	**306**	P		**P**	**13 46 11.5**	**-1.7**
PKI	**Pulchoki**	**39.42**	**275**	*e*P		**P**	**13 46 13.2**	**-1.1**
	comp=Z,7.9nm,0.7s							
PKIN	**Phulchoki**	**39.43**	**275**	*e*P		**P**	**13 46 13.5**	**-0.8**
KKN	**Kakani**	**39.46**	**275**	*e*P		**P**	**13 46 13.6**	**-0.9**
MAKZ	**Makanchi**	**39.57**	**306**	P		**P**	**13 46 14.3**	**-0.6**
GKN	**Gorkha**	**39.93**	**276**	*e*P		**P**	**13 46 17.3**	**-1.0**
DANN	**Dangsing**	**40.56**	**277**	*e*P		**P**	**13 46 22.6**	**-1.1**
	comp=Z,21nm,0.8s							
KOLN	**Koldanda**	**40.88**	**276**	*e*P		**P**	**13 46 24.9**	**-1.3**
BILL	**Bilibino**	**40.94**	**19**	*e*P		**P**	**13 46 29.0**	**+3.0**
BILL				*e*			13 48 02.2	
BILL				*e*PPP		PPP	13 48 31.3	
BILL				pmax	pmax			
	comp=Z,3.0nm,0.9s							
PYUN	**Piuthan**	**41.28**	**277**	*e*P		**P**	**13 46 28.8**	**-0.8**
	comp=Z,66nm,1.0s							
KRVT	**Keravat (AS076**	**41.83**	**147**	P		**P**	**13 46 31.1**	**-2.7**
	comp=Z,24nm,0.6s,baz=26,slow=10,SNR=7.5							
KURK	**Kurchatov**	**42.07**	**311**	*i* P		**P**	**13 46 32.9**	**-2.5**
KURK				pmax	pmax			
	comp=Z,17nm,1.1s							
KURBB	**Kurchatov Arra**	**42.12**	**311**	P		**P**	**13 46 34.4**	**-1.4**
	comp=Z,9.7nm,1.0s,baz=97,slow=8.7,SNR=23							
MDOK	**Medeo**	**43.11**	**300**	P		**P**	**13 46 43.7**	**-0.5**
MNSI	**Mandailing Nat**	**43.21**	**229**	P		**P**	**13 46 44.7**	**-0.4**
	comp=Z,14nm,0.8s							
NRIK	**Noril'sk**	**44.02**	**339**	P		**P**	**13 46 50.3**	**-0.6**
	comp=Z,6.8nm,0.8

KNRA	Kununurra	48.02	183	P		P	13 47 22.4	-0.6
WB0	Warramunga Arr	52.16	176	P		P	13 47 53.1	-1.3
WRAB	Tennant Creek	52.32	176	*ce*P		P	13 47 55.6	0.0
WRAB					pmax	pmax		
	comp=Z,12nm,1.7s							
WRAB	Tennant Creek	52.32	176	P		P	13 47 54.5	-1.1
WRA	Warramunga Arr	52.33	176	P		P	13 47 54.8	-0.9
	comp=Z,5.0nm,0.9s,baz=350,slow=8.0,SNR=26							
WRA	Warramunga Arr	52.33	176	P		P	13 47 54.4	-1.3
WB2	Warramunga Arr	52.33	176	P		P	13 47 54.8	-0.9
WR0	Warramunga Arr	52.36	176	P		P	13 47 55.1	-0.8
WR0					IAmb	IAmb	13 47 56.3	
	comp=Z,13nm,0.9s							
SVE	Sverdlovsk	52.79	319	*e*P		P	13 48 00.7	+1.9
PALK	Pallekele	52.84	253	LR		LR	14 10 03.6	
	comp=Z,497nm,21.6s,baz=95,slow=36							
ARU	Arti	53.97	319	*c i*P		P	13 48 06.1	-1.3
ARU							13 49 09.6	
ARU				S		S	13 55 41.4	-0.9
ARU				SS		SKiKP	13 59 16.9	-2.7
ARU				pmax		pmax		
	comp=Z,10.0nm,1.6s							
AB31	Akbulak array	54.15	310	*e*P		P	13 48 07.1	-1.7
ABKAR	Akbulak array	54.15	310	P		P	13 48 07.2	-1.6
J20K	Nowinta River	54.72	31	P		P	13 48 13.0	+0.2
J20K				IAmb		IAmb	13 48 39.6	
	comp=Z,6.9nm,0.9s							
K20K	Telida	54.80	32	P		P	13 48 14.1	+0.7
K20K				IAmb		IAmb	13 48 40.3	
	comp=Z,11nm,1.1s							
IMAR	Indian Mountai	54.82	29	P		P	13 48 13.0	-0.5
AKTO	Aktyubinsk	55.16	312	P		P	13 48 18.9	+2.7
PPLA	Purkeypile	55.69	33	P		P	13 48 21.1	+1.2
CAST	Castle Rocks	55.69	32	P		P	13 48 20.5	+0.7
CAST				IAmb		IAmb	13 48 25.6	
	comp=Z,9.8nm,1.2s							
AS31	Alice Springs	56.01	177	P		P	13 48 22.0	-0.5
ASAR	Alice Springs	56.01	177	P		P	13 48 21.9	-0.6
	comp=Z,4.8nm,0.9s,baz=0.6,slow=6.5,SNR=37							
KDAK	Kodiak Island	56.11	39	P		P	13 48 21.5	-1.3
	comp=Z,7.8nm,0.8s,baz=317,slow=6.6,SNR=6.0							
H23K	Yukon River	56.56	29	P		P	13 48 26.3	+0.3
H23K				IAmb		IAmb	13 48 32.7	
	comp=Z,11nm,1.1s							
MCK	McKinley	57.05	32	P		P	13 48 28.8	-0.8
MCK				pmax		pmax		
	comp=Z,8.0nm,1.1s							
MCK	McKinley	57.05	32	P		P	13 48 28.8	-0.8
MCK				IAmb		IAmb	13 48 35.1	
	comp=Z,7.9nm,1.1s							
RND	Reindeer	57.13	32	P		P	13 48 30.1	-0.1
RND				pmax		pmax		
	comp=Z,10.0nm,0.9s							
RND	Reindeer	57.13	32	P		P	13 48 30.1	-0.1
RND				IAmb		IAmb	13 48 47.7	
	comp=Z,9.9nm,0.9s							
WRH	Wood River Hil	57.32	31	P		P	13 48 31.0	-0.4
SEW	Seward	57.35	36	P		P	13 48 30.6	-1.0
SML	Sawmill	57.61	34	P		P	13 48 32.8	-0.7
SML	Sawmill	57.61	34	P		P	13 48 32.8	-0.7
SML				IAmb		IAmb	13 48 51.3	
	comp=Z,22nm,1.4s							
PWL	Port Wells	57.77	35	P		P	13 48 34.3	-0.3
ILAR	Eielson Array	57.79	30	P		P	13 48 34.0	-0.7
	comp=Z,1.8nm,0.7s,baz=264,slow=5.6,SNR=19							
SCM	Sheep Creek Mo	58.08	34	P		P	13 48 36.6	-0.3
SCM				pmax		pmax		
	comp=Z,23nm,1.2s							
SCM	Sheep Creek Mo	58.08	34	P		P	13 48 36.5	-0.3
BMAR	Burnt Mountain	58.31	27	P		P	13 48 37.6	-0.7
KIRV	Kirov	58.51	323	*ce*P		P	13 48 42.0	+2.2
FID	Port Fidalgo	58.68	35	P		P	13 48 40.2	-0.7
FID				IAmb		IAmb	13 48 57.8	
	comp=Z,14nm,1.0s							
RIDG	Independent Ri	58.85	31	P		P	13 48 42.0	-0.2
SCRK	Sand Creek	59.18	31	P		P	13 48 43.8	-0.7
SCRK				IAmb		IAmb	13 48 49.2	
	comp=Z,10nm,1.2s							
DOT	Dot Lake	59.21	31	P		P	13 48 44.1	-0.5
DOT				IAmb		IAmb	13 48 49.2	
	comp=Z,6.1nm,1.0s							
N25K	Chitina, Valde	59.40	34	P		P	13 48 45.9	-0.1
N25K				IAmb		IAmb	13 49 03.4	
	comp=Z,7.5nm,0.9s							
MENT	Mentasta	59.51	32	P		P	13 48 47.1	+0.4
MENT				IAmb		IAmb	13 48 52.3	
	comp=Z,12nm,0.9s							
M26K	Nabesna, AK	59.95	32	P		P	13 48 50.2	+0.4
BCAR	Beaver Creek A	60.34	32	P		P	13 48 53.0	+0.6
BARN	Barnard Glacie	60.90	34	P		P	13 48 56.5	0.0
BARN				IAmb		IAmb	13 49 10.2	
	comp=Z,7.7nm,1.0s							
DAWY	Dawson	61.12	30	P		P	13 48 57.2	-0.6
INK	Inuvik	62.17	25	P		P	13 49 04.2	-0.5
	comp=Z,2.3nm,0.7s,baz=285,slow=7.8,SNR=12							
M30M	Minto, Yukon	62.68	31	P		P	13 49 09.0	+0.8
M30M				IAmb		IAmb	13 49 16.3	
	comp=Z,6.6nm,1.2s							
KLMR	Klimovskoe	62.77	327	*e*P		P	13 49 06.1	-2.7
KLMR				pmax		pmax		
	comp=Z,14nm,1.3s							
KLMR	Klimovskoe	62.77	327	*e*P		P	13 49 06.1	-2.7
KLMR				AMP			13 49 12.6	
	comp=Z,14nm,1.3s							
HYT	Haines Junctio	62.91	33	P		P	13 49 10.1	+0.2
A36M	Sachs Harbour	63.50	20	P		P	13 49 13.1	-0.4
M31M	Drury Creek, Y	63.86	31	P		P	13 49 16.0	-0.1
STKA	Stephens Creek	64.91	170	P		P	13 49 23.0	-0.1
	comp=Z,2.7nm,0.6s,baz=336,slow=5.5,SNR=9.0							
STKA	Stephens Creek	64.91	170	P		P	13 49 22.4	-0.7
C36M	Paulatuk	64.97	22	P		P	13 49 22.6	-0.5
C36M				IAmb		IAmb	13 49 30.3	
	comp=Z,7.6nm,0.8s							
ARCES	ARCESS Array B	64.97	338	P		P	13 49 21.6	-1.6
	comp=Z,3.6nm,0.9s,baz=46,slow=7.8,SNR=5.0							
ARCES	ARCESS Array B	64.97	338	P		P	13 49 20.8	-2.4
ARCES				pmax		pmax		
	comp=Z,29nm,1.5s							
ARCES	ARCESS Array B	64.97	338	P		P	13 49 20.8	-2.4
VORR	Voronezh	66.16	317	*e*P		P	13 49 29.8	-1.3
VORR				pmax		pmax		
	comp=Z,60nm,0.4s							
OBN	Obninsk	66.28	321	*e*P		P	13 49 32.2	+0.4
OBN				*e*			13 49 59.2	
OBN				*e*			13 51 58.8	
OBN				pmax		pmax		
	comp=Z,6.0nm,0.9s							
ZEI	Tsey	66.69	307	*e*P		P	13 49 31.4	-3.6
ZEI				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KBZ	Khabaz	66.99	308	P		P	13 49 36.6	+0.1
	comp=Z,9.7nm,1.0s,baz=56,slow=6.7,SNR=7.8							
KBZ	Khabaz	66.99	308	*ce*P		P	13 49 37.0	+0.5
KIV	Kislovodsk	67.04	308	*e*P		P	13 49 38.4	+1.4
KIV				pmax		pmax		
	comp=Z,21nm,1.0s							
FINES	FINESS Array B	68.50	330	P		P	13 49 43.7	-2.0
	comp=Z,2.2nm,0.4s,baz=65,slow=5.5,SNR=24							
RES	Resolute Bay	68.89	12	P		P	13 49 47.4	-0.6
RES				pmax		pmax		
	comp=Z,15nm,1.4s							
RES	Resolute Bay	68.89	12	P		P	13 49 47.4	-0.6
RES				IAmb		IAmb	13 49 55.6	
	comp=Z,15nm,1.4s							
DAG	Danmarks Havn	69.27	353	*i* P		P	13 49 51.0	+0.7
NACGM	Naroch	71.40	324	*e*P		P	13 50 02.1	-1.6
YKA	Yellowknife Ar	71.83	26	P		P	13 50 05.8	-0.3
	comp=Z,0.7nm,0.9s,baz=303,slow=5.9,SNR=11							
AKASG	Malin Array Be	72.22	319	P		P	13 50 07.2	-1.5
	comp=Z,3.4nm,0.6s,baz=53,slow=6.6,SNR=8.7							
AKASG	Malin Array Be	72.22	319	*i* P		P	13 50 09.5	+0.8
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.6s							
NB2	NORSAR Subarra	74.64	334	P		P	13 50 20.7	-2.1
	comp=Z,18nm,1.7s,baz=50,slow=6.2							
NOA	NORSAR Array B	74.64	334	P		P	13 50 21.0	-1.8
	comp=Z,0.9nm,0.7s,baz=50,slow=5.7,SNR=6.3							
BRTR	Keskin Array B	74.97	308	P		P	13 50 24.5	-0.8
	comp=Z,2.0nm,0.8s,baz=67,slow=11,SNR=5.4							
CLL	Collm	80.24	326	*e*P		P	13 50 56.0	+1.7
CLL				pmax		pmax		
	comp=Z,8.0nm,1.0s							
CLL				MLR		MLR		
	comp=Z,900nm,18.2s							
CLL	Collm	80.24	326	*e*P		P	13 50 56.0	+1.7
	comp=Z,8.0nm,1.0s							
CLL				LmV			14 27 00.0	
	comp=Z,900nm,18.2s							
GERES	GERESS Array B	81.50	324	P		P	13 51 02.0	+0.7
	comp=Z,1.1nm,0.5s,baz=24,slow=2.7,SNR=5.6							
GERES	GERESS Array B	81.50	324	P		P	13 51 02.0	+0.7
FCC	Fort Churchill	81.61	22	P		P	13 51 00.4	-1.0
FCC				pmax		pmax		
	comp=Z,15nm,1.3s							
FCC	Fort Churchill	81.61	22	P		P	13 51 00.4	-1.0
FCC				IAmb		IAmb	13 51 11.9	
	comp=Z,15nm,1.3s							
NVAR	Mina Array Bea	84.50	48	P		P	13 51 17.2	+0.1
	comp=Z,0.7nm,0.7s,baz=291,slow=4.8,SNR=5.7							
PDAR	Pinedale Array	86.81	40	P		P	13 51 27.8	-0.7
	comp=Z,0.9nm,0.7s,baz=334,slow=1.1,SNR=8.4							
PDAR	Pinedale Array	86.81	40	P		P	13 51 28.1	-0.5
ULM	Lac du Bonnet	87.74	28	P		P	13 51 33.1	+0.5
	comp=Z,2.1nm,0.6s,baz=272,slow=5.4,SNR=2.3							

IDC ***14*** *13:43:13.6±0.7,32.˚66N×131.˚11E,h0km,mb3.9/15, mb1 4.1/17,mb1mx3.9/49,mbtmp3.9/17,ML3.9/1,Error ellipse: s-maj=21.5km s-min=7.8km az=71.0*
JMA ***14*** *13:43:15.1,32.˚68N×130.˚74E,h11km±1km,M4.4*
JMA Felt IV J1.
NEIC ***14*** *13:43:15.9±1.9,32.˚71N±0.˚02×130.˚69E±0.˚08,h10km±1km, mb4.5/14,Error ellipse: s-maj=11.7km s-min=3.0km az=106.0*

ISC 14 13:43:15.0±1.2,32.˚72N±0.˚03×130.˚83E±0.˚05,h4km±8km, n62,σ1s62/65,mb4.3/27,2C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	Izumi3	0.17	183	⇑P		Pg	13 43 18.6	+0.2
JTA	Tamana	0.34	314	⇑P		Pg	13 43 22.0	+0.3
JTA				S		Sg	13 43 26.9	+0.7
JNU	Nakatsue	0.40	6	Pg		Pg	13 43 23.9	+1.2
	936nm,0.3s,baz=178,slow=6.9,SNR=98							
JNU				Lg		Lg	13 43 30.4	
	7μm,0.3s,baz=72,slow=18,SNR=75							
JNU	Nakatsue	0.40	6			Pg	13 43 24.5	+1.7
JSU	Suzuyama	1.25	195	Pn		Pb	13 43 37.5	-1.8
JTU	Tsushima	2.15	327	Pn		Pn	13 43 50.9	-0.8
JMN	Monobe	2.75	68	Pn		Pb	13 44 03.4	-1.4
JHS	Saijyo	2.96	39	Pn		Pn	13 44 04.5	+1.6
KSRS	Korea Array	5.29	334	Pn		Pn	13 44 35.0	+0.3
	baz=152,slow=15,SNR=1.1							
KSRS				Pg		Pg	13 44 52.4	-3.8
	3.6nm,0.3s,baz=152,slow=17,SNR=6.4							
KSRS				Lg		Lg	13 46 04.4	
	4.6nm,0.3s,baz=155,slow=30,SNR=2.7							
INU	Inuyama	5.77	61	Pn		Pn	13 44 44.1	+2.7
INCN	Inchon	5.86	325	Pn		Pn	13 44 41.9	-0.8
JGF	Kuroka	6.13	60	Pn		Pn	13 44 48.3	+1.9
JOW	Kunigami	6.27	201	Pn		Pn	13 44 49.5	+1.1
	5.6nm,0.3s,baz=66,slow=13,SNR=9.9							
JOW				Sn		Sn	13 46 02.8	+2.2
	baz=181,slow=16,SNR=1.0							
JOW	Kunigami	6.27	201	Pn		Pn	13 44 49.8	+1.4
MJAR	Matsushiro Arr	7.18	56	Pn		Pn	13 45 02.4	+1.6
	0.2nm,0.3s,baz=229,slow=12,SNR=2.6							
JHJ	Hachijo jima 2	7.54	85	Pn		Pn	13 45 06.3	+0.5
	25nm,0.3s,baz=257,slow=20,SNR=6.6							
NJ2	Nanjing	10.14	269	*e*P		Pn	13 45 39.6	-1.9
NJ2				pmax		pmax		
	comp=Z,25nm,0.5s							
USRK	Ussuriysk Ar.	11.50	4	Pn		Pn	13 46 07.3	+7.4
	baz=198,slow=11,SNR=9.7							
USRK	Ussuriysk Ar.	11.50	4	Pn		Pn	13 45 57.0	-2.9
XLT	XiLinHaoTe	16.05	318	*e*P		P	13 47 09.3	+4.2
XLT				pP		sP	13 47 12.6	+5.8
XLT				sP		pP	13 47 17.0	+11
XLT				PP		PnPn	13 47 22.4	+12
XLT				S		S	13 50 11.9	-2.1
XLT				SS		SnSn	13 50 27.5	+15
XLT				pmax		pmax		
	comp=Z,28nm,1.5s							
XLT				pmax		pmax		
	comp=Z,920nm,5.1s							
XLT				LR		LR		
	comp=N,140nm,14.3s							
XLT				LR		LR		
	comp=E,1μm,14.7s							
XLT				LR		LR		
	comp=Z,1μm,12.9s							
KLR	Kul'dur	16.51	2	Pn		P	13 47 12.8	+2.7
	comp=Z,0.3nm,0.3s,baz=176,slow=6.7,SNR=11							
HHC	Hu-ho-hao-te	17.41	303	*e*P		P	13 47 19.0	-1.2
HHC				pmax		pmax		
	comp=Z,10.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,670nm,5.2s							
XAN	Xi'an	18.34	280	P		P	13 47 30.4	-0.1
XAN				pP		sP	13 47 34.3	+2.1
XAN				pmax		pmax		
	comp=Z,7.0nm,1.3s							
XAN				LR		LR		
	comp=N,1μm,14.4s							
XAN				LR		LR		
	comp=E,2μm,15.8s							
XAN				LR		LR		
	comp=Z,1μm,15.0s							
LZH	Lanzhou	22.49	286	*e*P		P	13 48 18.9	+3.3
LZH				pP		sP	13 48 23.1	+5.8
LZH				pmax		pmax		
	comp=Z,17nm,1.1s							
CD2	Chengdu	23.05	273	P		P	13 48 22.8	+1.3
CD2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
SONM	Songino Array	23.84	316	P		P	13 48 31.7	+2.3
	comp=Z,3.9nm,0.8s,baz=120,slow=8.5,SNR=5.7							
GTA	Gaotai	25.86	294	*e*P		P	13 48 50.5	+2.7
GTA				sP		sP	13 48 57.9	+8.3
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,230nm,6.4s							
GTA				LR		LR		
	comp=N,2μm,11.5s							
GTA				LR		LR		
	comp=E,1μm,12.7s							
GTA				LR		LR		
	comp=Z,1μm,14.7s							
CMAR	Chiang Mai Arr	31.93	251	P		P	13 49 42.6	+0.7
	comp=Z,1.1nm,0.9s,baz=249,slow=12,SNR=4.0							
WMQ	Urumqi	35.26	301	*e*P		P	13 50 11.9	+1.0
WMQ				pP		sP	13 50 15.8	+3.2
WMQ				pmax		pmax		
	comp=Z,17nm,0.7s							
MKAR	Makanchi Array	39.25	306	P		P	13 50 45.5	+0.9
	comp=Z,1.6nm,0.9s,baz=94,slow=8.6,SNR=5.8							
KURBB	Kurchatov Arra	42.00	311	P		P	13 51 07.8	+0.6
	comp=Z,0.9nm,0.3s,baz=98,slow=9.4,SNR=5.8							
BRVK	Borovoye	47.22	314	P		P	13 51 49.4	+0.6
BRVK				IAmb		IAmb	13 51 51.7	
	comp=Z,4.6nm,0.9s							
KKAR	Karatay Array	47.77	301	P		P	13 51 54.4	+1.0
WRA	Warramunga Arr	52.48	176	P		P	13 52 27.2	-2.0
	comp=Z,0.7nm,0.6s,baz=355,slow=7.9,SNR=4.5							
WB2	Warramunga Arr	52.48	176	P		P	13 52 27.3	-1.8
ABKAR	Akbulak array	54.03	310	P		P	13 52 39.6	-0.8
ABKAR	Akbulak array	54.03	310	P		P	13 52 39.5	-0.9
PPLA	Purkeypile	55.58	33	P		P	13 52 50.8	-0.8
AS31	Alice Springs	56.15	177	P		P	13 52 55.3	-0.6
ASAR	Alice Springs	56.15	177	P		P	13 52 55.7	-0.1
	comp=Z,0.9nm,0.8s,baz=358,slow=5.8,SNR=11							
ASAR	Alice Springs	56.15	177	P		P	13 52 55.6	-0.3
H23K	Yukon River	56.45	29	P		P	13 52 58.4	+0.9
H23K				IAmb		IAmb	13 52 59.8	
	comp=Z,4.4nm,0.9s							
BRLK	Bradley Lake	56.59	36	P		P	13 52 57.9	-0.8
RND	Reindeer	57.03	32	P		P	13 53 01.3	-0.5
RND				IAmb		IAmb	13 53 02.5	
	comp=Z,4.6nm,0.9s							
MDM	Murphy Dome	57.09	30	P		P	13 53 02.4	+0.2
MDM				IAmb		IAmb	13 53 03.8	
	comp=Z,4.3nm,0.8s							
ILAR	Eielson Array	57.69	30	P		P	13 53 05.7	-0.6
	comp=Z,0.9nm,0.8s,baz=284,slow=7.9,SNR=8.3							
SCRK	Sand Creek	59.07	31	P		P	13 53 15.7	-0.5
SCRK				IAmb		IAmb	13 53 16.8	
	comp=Z,3.2nm,0.9s							
MENT	Mentasta	59.40	32	P		P	13 53 17.6	-0.8
MENT				IAmb		IAmb	13 53 19.9	
	comp=Z,3.8nm,0.8s							
M26K	Nabesna, AK	59.85	33	P		P	13 53 22.0	+0.5
L27K	Beaver Creek,	60.22	32	P		P	13 53 23.8	-0.2
L27K				IAmb		IAmb	13 53 25.7	
	comp=Z,4.1nm,0.9s							
A36M	Sachs Harbour	63.37	20	P		P	13 53 43.3	-1.7
A36M				IAmb		IAmb	13 53 46.0	
	comp=Z,4.3nm,0.9s							
KBZ	Khabaz	66.88	308	P		P	13 54 08.9	+0.7
	comp=Z,1.4nm,0.6s,baz=254,slow=3.8,SNR=3.3							
FINES	FINESS Array B	68.36	330	P		P	13 54 17.0	-0.3
	comp=Z,1.1nm,0.5s,baz=54,slow=5.5,SNR=6.5							
FINES	FINESS Array B	68.36	330	P		P	13 54 16.4	-1.0
YKA	Yellowknife Ar	71.71	26	P		P	13 54 37.7	-0.2
	comp=Z,0.4nm,0.8s,baz=299,slow=6.1,SNR=5.0							
AKASG	Malin Array Be	72.10	319	P		P	13 54 41.5	+1.1
	comp=Z,1.7nm,0.5s,baz=55,slow=6.4,SNR=5.2							
NB2	NORSAR Subarra	74.50	334	P		P	13 54 53.5	-1.0
	comp=Z,2.5nm,1.1s,baz=52,slow=5.9							
NOA	NORSAR Array B	74.50	334	P		P	13 54 53.0	-1.4
	comp=Z,0.9nm,0.8s,baz=51,slow=5.6,SNR=3.7							
BRTR	Keskin Array B	74.86	308	P		P	13 54 56.3	-0.8
	comp=Z,0.8nm,0.5s,baz=272,slow=39,SNR=1.8							
CLL	Collm	80.10	326	*e*P		P	13 55 28.0	+2.0
CLL				*ex*		x	13 55 31.0	
NVAR	Mina Array Bea	84.42	48	P		P	13 55 46.2	-3.0
	comp=Z,0.5nm,0.7s,baz=291,slow=5.3,SNR=1.7							
PDAR	Pinedale Array	86.72	40	P		P	13 55 58.9	-1.7
	comp=Z,0.6nm,0.8s,baz=333,slow=1.0,SNR=2.6							

IDC ***14*** *13:47:16.7±1.1,33.˚06N×131.˚40E,h0km,mb3.6/5, mb1 3.6/7,mb1mx3.4/52,mbtmp3.6/7,ML3.5/1,Error ellipse: s-maj=20.0km s-min=9.2km az=15.0*
JMA ***14*** *13:47:19.0,32.˚77N×130.˚83E,h9km±1km,M3.6*
JMA Felt III J1.

ISC 14 13:47:19.2±0.8,32.˚82N±0.˚04×130.˚90E±0.˚10,h12km,n12, σ1s21/16,mb3.4/5,3C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	Izumi3	0.28	195	⇑P		Pg	13 47 23.6	-1.3
JIU3				S		Sg	13 47 27.1	-1.6
JNU	Nakatsue	0.31	357	Pg		Pb	13 47 25.8	-0.9
	301nm,0.3s,baz=176,slow=8.4,SNR=29							
JNU				Lg		Lg	13 47 30.9	
	2μm,0.3s,baz=42,slow=14,SNR=61							
JNU	Nakatsue	0.31	357	⇑P		Pb	13 47 26.3	-0.4
JNU				S		Sb	13 47 31.4	-0.3
JTA	Tamana	0.34	296	P		Pg	13 47 25.5	-0.6
JTA				S		Sg	13 47 30.0	-0.7
JTZ	Takazaki	0.93	170	⇑P		Pb	13 47 36.5	-0.7
JTZ				S		Sg	13 47 48.4	-0.7
KSRS	Korea Array	5.23	333	Pn		Pn	13 48 38.0	+0.8
	baz=163,slow=15,SNR=1.0							
KSRS				Lg		Lg	13 50 01.9	
	0.8nm,0.3s,baz=152,slow=30,SNR=5.7							
JOW	Kunigami	6.38	202	Pn		Pn	13 48 55.6	+2.5
	2.1nm,0.3s,baz=104,slow=22,SNR=11							
KURBB	Kurchatov Arra	41.99	311	P		P	13 55 09.9	-0.1
	0.5nm,0.7s,baz=94,slow=9.0,SNR=3.8							
WRA	Warramunga Arr	52.56	176	P		P	13 56 33.4	+0.7
	0.3nm,0.7s,baz=357,slow=8.5,SNR=1.9							
ASAR	Alice Springs	56.24	177	P		P	13 57 01.2	+1.8
	0.2nm,0.5s,baz=10,slow=14,SNR=7.2							
FINES	FINESS Array B	68.31	330	P		P	13 58 18.8	-1.0
	2.3nm,0.9s,baz=60,slow=6.6,SNR=3.8							
AKASG	Malin Array Be	72.07	319	P		P	13 58 42.5	-0.5
	0.2nm,0.3s,baz=53,slow=5.5,SNR=5.0							

JMA ***14*** *13:51:38.6,32.˚68N×130.˚74E,h12km±1km,M3.6*
JMA Felt III J1.
IDC ***14*** *13:51:39.2±1.4,32.˚81N×130.˚54E,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.3/50,mbtmp3.8/3,ML3.1/1,Error ellipse: s-maj=21.4km s-min=9.3km az=135.0*

ISC 14 13:51:40.1±0.9,32.˚73N±0.˚04×130.˚8E±0.˚1,h10km,n7, σ1s79/10,2C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	Izumi3	0.18	179	⇑P		Pg	13 51 42.2	-1.6
JIU3				S		Sg	13 51 44.9	-1.5
JTA	Tamana	0.33	316	⇑P		Pg	13 51 45.5	-1.2
JTA				S		Sg	13 51 50.2	-0.9
JNU	Nakatsue	0.40	8	Pg		Pg	13 51 47.0	-1.0
	341nm,0.3s,baz=196,slow=8.2,SNR=44							
JNU				Lg		Lg	13 51 53.4	
	847nm,0.3s,baz=109,slow=19,SNR=18							
KSRS	Korea Array	5.28	334	Pn		Pn	13 52 57.8	-1.1
	baz=152,slow=14,SNR=1.4							
KSRS				Pg		Pb	13 53 14.1	+1.8
	0.7nm,0.3s,baz=151,slow=17,SNR=3.4							
KSRS				Lg		Lg	13 54 22.0	
	2.4nm,0.3s,baz=154,slow=31,SNR=8.2							
JOW	Kunigami	6.27	201	Pn		Pn	13 53 14.6	+1.9
	1.0nm,0.3s,baz=83,slow=16,SNR=1.4							
WRA	Warramunga Arr	52.48	176	P		P	14 00 55.1	+1.8
	0.4nm,0.9s,baz=356,slow=7.7,SNR=2.1							
FINES	FINESS Array B	68.35	330	P		P	14 02 39.7	-1.6
	2.1nm,0.9s,baz=74,slow=8.1,SNR=4.2							

IDC ***14*** *13:52:07.4±1.0,54.˚15N×162.˚60W,h0km,mb3.9/17, mb1 4.0/20,mb1mx3.9/65,mbtmp3.9/20,ML3.6/3,Error ellipse: s-maj=23.8km s-min=14.3km az=168.0*

OKFG	**Magazine Ridge**	**3.37**	**259**			**Pn**	13 53 03.7	**+1.2**
KDAK	**Kodiak Island**	**6.57**	**53**	Pn		**Pn**	13 53 46.4	**0.0**
	1.2nm,0.3s,baz=241,slow=6.6,SNR=15							
KDAK					Sn	**Sn**	13 54 56.8	**-3.3**
	1.5nm,0.3s,baz=8.8,slow=23,SNR=5.8							
KDAK	**Kodiak Island**	**6.57**	**53**	Pn		**Pn**	13 53 46.6	**+0.2**
O18K	**Koktuh Hills**	**6.90**	**32**			**Pn**	13 53 54.1	**+3.1**
N18K	**Kilae Creek**	**7.39**	**26**	Pn		**Pn**	13 54 00.2	**+2.5**
O19K	**Port Alsworth**	**7.45**	**33**			**Pn**	13 54 01.7	**+3.3**
SVW2	**Sparrevohn**	**7.85**	**25**			**Pn**	13 54 07.5	**+3.8**
N19K	**Bonanza Creek**	**7.89**	**29**			**Pn**	13 54 07.9	**+3.3**
CNPM	**China Poot**	**8.12**	**44**	Pn		**Pn**	13 54 11.0	**+3.3**
M19K	**Big River Lodg**	**8.82**	**25**	Pn		**Pn**	13 54 20.3	**+3.0**
ADK	**Adak**	**8.93**	**261**	Pn		**Pn**	13 54 19.4	**+0.7**
L19K	**White Mountain**	**8.95**	**23**	Pn		**Pn**	13 54 21.1	**+2.1**
SEW	**Seward**	**9.19**	**45**	Pn		**Pn**	13 54 22.9	**+0.6**
TTA	**Tatalina**	**9.38**	**18**	Pn		**Pn**	13 54 26.9	**+2.0**
RC01	**Rabbit Creek A**	**9.68**	**39**	Pn		**Pn**	13 54 30.6	**+1.6**
PWL	**Port Wells**	**10.07**	**43**	Pn		**Pn**	13 54 34.9	**+0.5**
K20K	**Telida**	**10.15**	**22**	Pn		**Pn**	13 54 37.7	**+2.2**
PPLA	**Purkeypile**	**10.22**	**27**	Pn		**Pn**	13 54 41.2	**+4.7**
KNK	**Knik Glacier**	**10.36**	**40**	Pn		**Pn**	13 54 38.9	**+0.6**
GHO	**Glory Hole Cre**	**10.42**	**38**	Pn		**Pn**	13 54 43.2	**+4.0**
ANM	**Nome**	**10.53**	**353**	Pn		**Pn**	13 54 43.8	**+3.3**
SML	**Sawmill**	**10.65**	**39**	Pn		**Pn**	13 54 42.5	**+0.1**
CAST	**Castle Rocks**	**10.68**	**26**	Pn		**Pn**	13 54 42.9	**+0.3**
FID	**Port Fidalgo**	**10.78**	**46**	Pn		**Pn**	13 54 43.6	**-0.5**
J20K	**Nowinta River**	**10.87**	**19**	Pn		**Pn**	13 54 47.7	**+2.5**
SCM	**Sheep Creek Mo**	**11.04**	**40**	Pn		**Pn**	13 54 47.6	**-0.1**
TRF	**Thorofare Moun**	**11.19**	**29**	Pn		**Pn**	13 54 51.0	**+1.3**
DIV	**Divide**	**11.27**	**45**	Pn		**Pn**	13 54 52.5	**+1.6**
KLU	**Klutina**	**11.40**	**43**	Pn		**Pn**	13 54 51.6	**-1.0**
M24K	**Tolsona, Glenn**	**11.65**	**41**	Pn		**Pn**	13 54 55.1	**-0.8**
BMRM	**Bremner River**	**11.69**	**47**	Pn		**Pn**	13 54 56.9	**+0.4**
DHY	**Denali Highway**	**11.82**	**35**	Pn		**Pn**	13 54 56.9	**-1.6**
BERG	**Berg Lake**	**11.84**	**51**	Pn		**Pn**	13 54 57.4	**-1.2**
N25K	**Chitina, Valde**	**12.00**	**45**	Pn		**Pn**	13 55 00.3	**-0.5**
WAX	**Waxell Ridge**	**12.25**	**51**	Pn		**Pn**	13 55 04.5	**+0.3**
VRDI	**Verde Repeater**	**12.30**	**47**	Pn		**Pn**	13 55 05.8	**+0.8**
PAX	**Paxson**	**12.43**	**38**	Pn		**Pn**	13 55 06.6	**0.0**
H21K	**Melozitna Rive**	**12.45**	**19**	Pn		**Pn**	13 55 09.1	**+2.2**
ISLE	**Juniper Island**	**12.54**	**51**	Pn		**Pn**	13 55 09.6	**+1.3**
IMAR	**Indian Mountai**	**12.58**	**16**	Pn		**Pn**	13 55 12.1	**+3.5**
WRH	**Wood River Hil**	**12.60**	**29**	Pn		**Pn**	13 55 07.0	**-1.8**
GRNC	**Granite Creek**	**12.86**	**51**	Pn		**Pn**	13 55 14.7	**+2.0**
MDM	**Murphy Dome**	**12.93**	**28**	Pn		**Pn**	13 55 13.6	**+0.3**
TABL	**Table Mountain**	**13.04**	**53**	Pn		**Pn**	13 55 15.9	**+0.8**
M26K	**Nabesna, AK**	**13.05**	**43**			**Pn**	13 55 15.8	**+0.6**
MENT	**Mentasta**	**13.06**	**40**			**Pn**	13 55 15.8	**+0.6**
RIDG	**Independent Ri**	**13.12**	**36**			**Pn**	13 55 16.5	**+0.4**
ILAR	**Eielson Array**	**13.17**	**30**	Pn		**Pn**	13 55 14.9	**-1.7**
	0.1nm,0.3s,baz=221,slow=14,SNR=1.8							
ILAR					Sn	**Sn**	13 57 36.0	**-5.8**
	0.0nm,0.3s,baz=139,slow=44,SNR=1.4							
ILAR	**Eielson Array**	**13.17**	**30**	Pn		**Pn**	13 55 19.1	**+2.4**
L26K	**Log Cabin Wild**	**13.25**	**40**	Pn		**Pn**	13 55 19.6	**+1.8**
H23K	**Yukon River**	**13.29**	**23**	Pn		**Pn**	13 55 19.7	**+1.4**
M27K	**Edge Creek, AK**	**13.49**	**44**	Pn		**Pn**	13 55 22.8	**+1.6**
SCRK	**Sand Creek**	**13.57**	**36**	Pn		**Pn**	13 55 21.0	**-1.2**
BCRM	**Bancas Point**	**13.61**	**56**	Pn		**Pn**	13 55 22.9	**+0.2**
H24K	**Noodor Dome**	**13.70**	**26**	Pn		**Pn**	13 55 24.9	**+0.9**
L27K	**Beaver Creek,**	**13.86**	**42**	Pn		**Pn**	13 55 26.7	**+0.6**
BCAR	**Beaver Creek A**	**13.87**	**42**	Pn		**Pn**	13 55 26.6	**+0.2**
COLD	**Coldfoot**	**14.34**	**19**	Pn		**Pn**	13 55 35.2	**+2.6**
DAWY	**Dawson**	**15.30**	**41**	Pn		**Pn**	13 55 46.5	**+1.0**
TOLK	**Toolik Lake Re**	**15.69**	**17**	Pn		**Pn**	13 55 52.5	**+2.0**
TOLK					IAmb	IAmb	13 55 57.1	
	comp=Z,9.6nm,0.7s							
BMAR	**Burnt Mountain**	**15.77**	**26**	Pn		**Pn**	13 55 52.2	**+0.6**
I29M	**Ogilvie Camp,**	**16.37**	**37**	Pn		**Pn**	13 56 01.0	**+1.7**
I29M					IAmb	IAmb	13 56 35.6	
	comp=Z,5.4nm,0.6s							
INK	**Inuvik**	**19.54**	**32**	P		**P**	13 56 36.6	**+0.1**
	comp=Z,0.4nm,0.3s,baz=227,slow=12,SNR=7.3							
INK	**Inuvik**	**19.54**	**32**	P		**P**	13 56 34.4	**-2.1**
PET	**Petropavlovsk**	**22.96**	**283**	P		**P**	13 57 11.5	**-1.9**
C36M	**Paulatuk**	**23.07**	**34**	P		**P**	13 57 12.7	**-1.7**
C36M					IAmb	IAmb	13 57 19.7	
	comp=Z,5.1nm,1.4s							
PEA0B	**Petropavlovsk-**	**23.48**	**284**	P		**P**	13 57 17.7	**-1.0**
PETK	**Petropavlovsk-**	**23.48**	**284**	P		**P**	13 57 18.1	**-0.5**
	comp=Z,6.6nm,0.4s,baz=82,slow=13,SNR=60							
PETK	**Petropavlovsk-**	**23.48**	**284**	P		**P**	13 57 17.9	**-0.8**
A36M	**Sachs Harbour**	**23.84**	**28**	P		**P**	13 57 20.6	**-1.3**
A36M					IAmb	IAmb	13 57 25.4	
	comp=Z,6.4nm,0.9s							
SEY	**Seymchan**	**24.67**	**309**	P		**P**	13 57 28.4	**-1.2**
	comp=Z,0.6nm,0.5s,baz=136,slow=23,SNR=3.5							
MA2	**Magadan**	**25.71**	**301**	P		**P**	13 57 39.1	**0.0**
	comp=Z,1.2nm,0.4s,baz=84,slow=9.5,SNR=5.6							
YKA	**Yellowknife Ar**	**25.85**	**52**	P		**P**	13 57 42.2	**+1.9**
	comp=Z,0.7nm,0.6s,baz=270,slow=9.3,SNR=11							
YKA	**Yellowknife Ar**	**25.85**	**52**	P		**P**	13 57 41.0	**+0.8**
NVAR	**Mina Array Bea**	**33.65**	**100**	P		**P**	13 58 51.2	**+1.3**
	comp=Z,0.4nm,0.7s,baz=298,slow=7.8,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**41.63**	**226**	T		T	14 44 25.1	
	baz=27,slow=76,SNR=133							
H11N3	**WAKE ISLAND Hy**	**41.63**	**226**	T		T	14 44 33.2	
	baz=27,slow=76,SNR=106							
H11N1	**WAKE ISLAND Hy**	**41.65**	**226**	T		T	14 44 28.3	
	baz=27,slow=76,SNR=125							
H11S1	**WAKE ISLAND Hy**	**42.80**	**226**	T		T	14 45 54.7	
	baz=26,slow=76,SNR=181							
H11S2	**WAKE ISLAND Hy**	**42.81**	**226**	T		T	14 45 52.7	
	baz=26,slow=76,SNR=170							
H11S3	**WAKE ISLAND Hy**	**42.81**	**226**	T		T	14 46 00.1	
	baz=26,slow=76,SNR=170							
DAG	**Danmarks Havn**	**47.30**	**11**	*i* P		**P**	14 00 42.0	**+0.2**
SPITS	**Spitsbergen Ar**	**47.90**	**0**	P		**P**	14 00 46.0	**-0.5**
	comp=Z,5.0nm,0.8s,baz=24,slow=14,SNR=7.0							
TXAR	**Lajitas Array**	**48.63**	**96**	P		**P**	14 00 53.8	**+0.9**
	comp=Z,0.2nm,0.6s,baz=292,slow=4.8,SNR=2.3							
TXAR					PcP	**PcP**	14 02 17.1	**-0.9**
	comp=Z,0.2nm,0.4s,baz=302,slow=5.2,SNR=1.8							
TXAR	**Lajitas Array**	**48.63**	**96**	P		**P**	14 00 53.1	**+0.2**
SCHQ	**Schefferville**	**51.17**	**48**	P		**P**	14 01 14.4	**+2.7**
	comp=Z,1.2nm,0.7s,baz=230,slow=17,SNR=1.9							
ARCES	**ARCESS Array B**	**58.46**	**357**	P		**P**	14 01 49.5	**-0.7**
	comp=Z,4.0nm,0.9s,baz=18,slow=9.0,SNR=2.1							
ZALV	**Zalesovo Beam**	**58.81**	**320**	P		**P**	14 02 07.4	**+0.5**
	comp=Z,0.5nm,0.4s,baz=48,slow=6.4,SNR=2.4							
NOA	**NORSAR Array B**	**65.01**	**3**	P		**P**	14 02 47.1	**-1.4**
	comp=Z,1.2nm,0.9s,baz=353,slow=6.4,SNR=3.5							
MKAR	**Makanchi Array**	**65.48**	**317**	P		**P**	14 02 51.2	**-0.5**
	comp=Z,0.9nm,0.8s,baz=39,slow=6.5,SNR=9.5							
MKAR	**Makanchi Array**	**65.48**	**317**	P		**P**	14 02 49.8	**-1.9**
AKASG	**Malin Array Be**	**75.04**	**352**	P		**P**	14 03 49.0	**-1.1**
	comp=Z,1.7nm,0.5s,baz=9.0,slow=5.6,SNR=6.6							
GERES	**GERESS Array B**	**77.29**	**3**	P		**P**	14 04 03.8	**+0.7**
	comp=Z,0.3nm,0.3s,baz=348,slow=3.4,SNR=4.2							
KBZ	**Khabaz**	**80.10**	**342**	P		**P**	14 04 20.0	**+1.6**
	comp=Z,1.6nm,0.9s,baz=319,slow=4.4,SNR=4.3							
CMAR	**Chiang Mai Arr**	**80.19**	**288**	P		**P**	14 04 19.6	**+0.4**
	comp=Z,2.0nm,0.9s,baz=11,slow=5.4,SNR=16							
BRTR	**Keskin Array B**	**85.45**	**348**	P		**P**	14 04 46.5	**0.0**
	comp=Z,0.9nm,0.5s,baz=143,slow=0.6,SNR=3.8							
H03N2	**Juan Fernandez**	**112.81**	**116**	T		T	16 13 29.1	
	baz=323,slow=77,SNR=22							
H03N1	**Juan Fernandez**	**112.82**	**116**	T		T	16 13 39.7	
	baz=323,slow=77,SNR=27							
H03N3	**Juan Fernandez**	**112.82**	**116**	T		T	16 13 37.6	
	baz=323,slow=77,SNR=24							

JMA 14 13:57:23.4,32.69N×130.74E,h14km±1km,M3.8,2C
Broadband fault plane solution: P waves. NP1:
ϕ_s201.00000°,δ82.00000°,λ171.00000°. **NP2:**
ϕ_s293.00000°,δ82.00000°,λ9.00000°. **Principal axes:** T Plg12.0000°, Azm157.0000°; N Plg78.0000°, Azm337.0000°; P Plg0.0000°, Azm247.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.15**	**156**	⇑P		Pg		13 57 27.2	0.0
JIU3				S		Sg		13 57 30.1	+0.3
JTA	**Tamana**	**0.32**	**327**	⇑P		Pg		13 57 30.2	+0.1
JTA				S		Sg		13 57 34.7	+0.1

*IDC **14** 13:59:41.0±0.9,27.48N×140.17E,h333km±10km,mb2.5/5, mb1 3.0/9,mb1mx2.8/48,mbtmp3.6/9 Error ellipse: s-maj=29.3km s-min=11.8km az=76.0*
ISC 14 13:59:41.7±0.9,27.51N±0.10×140.3E±0.2,h350km,n10,
σ1s30/12,mb2.6/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.74**	**103**	P		P	**Pn**	**14 00 30.9**	**-0.4**
	7.9nm,0.3s,baz=342,slow=20,SNR=6.1								
JCJ				S		S	**S**	**14 01 08.6**	**-2.5**
	68nm,0.3s,baz=153,slow=24,SNR=21								
JHJ	**Hachijo jima 2**	**5.61**	**356**	P		P	**Pn**	**14 01 08.2**	**+0.2**
	16nm,0.3s,baz=103,slow=23,SNR=13								
JHJ				S		S	**S**	**14 02 16.7**	**-1.3**
	19nm,0.3s,baz=63,slow=23,SNR=1.7								
MJAR	**Matsushiro Arr**	**9.18**	**349**	P		P	**Pn**	**14 01 49.1**	**-0.7**
	0.2nm,0.3s,baz=132,slow=26,SNR=5.0								
ASAJ	**Asahikawa**	**16.68**	**6**	P		**P**		**14 03 14.9**	**+0.5**
	0.1nm,0.3s,baz=206,slow=22,SNR=1.8								
USRK	**Ussuriysk Ar.**	**17.95**	**340**	P		**P**		**14 03 28.1**	**+0.2**
	baz=140,slow=9.6,SNR=17								
WRA	**Warramunga Arr**	**47.52**	**188**	P		**P**		**14 07 43.7**	**+0.5**
	0.1nm,0.3s,baz=6.3,slow=7.8,SNR=9.9								
MKAR	**Makanchi Array**	**48.91**	**309**	P		**P**		**14 07 52.3**	**-1.2**
	0.1nm,0.5s,baz=79,slow=5.9,SNR=1.8								
ASAR	**Alice Springs**	**51.24**	**188**	P		**P**		**14 08 11.4**	**+0.4**
	0.2nm,0.8s,baz=360,slow=5.5,SNR=1.6								
YKA	**Yellowknife Ar**	**72.58**	**28**	P		**P**		**14 10 32.5**	**+1.3**
	0.1nm,0.6s,baz=296,slow=5.9,SNR=4.5								
NVAR	**Mina Array Bea**	**81.58**	**51**	P		**P**		**14 11 23.4**	**+1.7**
	0.2nm,0.5s,baz=289,slow=2.8,SNR=2.8								

*IDC **14** 14:00:25.3±1.3,16.66S×173.53W,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.8/48,mbtmp3.9/7,ML3.6/1,Error ellipse: s-maj=54.1km s-min=21.0km az=132.0*
ISC 14 14:00:26.7±1.1,16.6S±0.2×173.5W±0.3,h10km,n7,
σ0s99/8,mb3.8/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.15**	**32**	Pn		P	**Pn**	**14 01 16.3**	**-0.1**
	6.1nm,0.3s,baz=202,slow=5.4,SNR=11								
AFI				S		Sn	**Sn**	**14 01 52.8**	**-1.3**
	30nm,0.3s,baz=45,slow=23,SNR=7.5								
URZ	**Urewera**	**23.11**	**199**	P		P		**14 05 31.7**	**-1.1**
	2.7nm,0.5s,baz=38,slow=1.2,SNR=6.7								
STKA	**Stephens Creek**	**43.36**	**241**	P		P		**14 08 29.4**	**+0.1**
	2.0nm,1.0s,baz=56,slow=9.5,SNR=3.9								
WRA	**Warramunga Arr**	**49.48**	**258**	P		P		**14 09 17.4**	**-0.3**
	0.5nm,0.7s,baz=96,slow=7.2,SNR=6.8								
ASAR	**Alice Springs**	**49.65**	**253**	P		P		**14 09 18.8**	**-0.2**
	4.4nm,0.7s,baz=88,slow=8.7,SNR=72								
PDAR	**Pinedale Array**	**83.22**	**42**	P		P		**14 12 55.0**	**+1.4**
	0.5nm,0.8s,baz=234,slow=3.0,SNR=3.9								
ILAR	**Eielson Array**	**83.62**	**11**	P		P		**14 12 55.3**	**+0.4**
	0.4nm,0.7s,baz=219,slow=7.0,SNR=2.6								

*IDC **14** 14:01:59.1±1.5,32.85N×131.28E,h0km,mb3.6/3, mb1 3.7/5,mb1mx3.4/50,mbtmp3.6/5,ML3.2/2,Error ellipse: s-maj=35.0km s-min=8.7km az=48.0*
*JMA **14** 14:02:01.6,32.78N×130.81E,h11km±1km,M3.7*
ISC 14 14:02:01.6±0.8,32.85N±0.04×130.91E±0.09,h12km,n11,
σ1s94/16,mb3.5/3,3C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.28**	**355**	Pg		P	**Pb**	**14 02 08.1**	**-0.4**
	268nm,0.3s,baz=185,slow=12,SNR=22								
JNU				Lg		Lg		14 02 12.8	
	1μm,0.3s,baz=312,slow=16,SNR=104								
JNU	**Nakatsue**	**0.28**	**355**	⇑P			**Pb**	**14 02 08.7**	**+0.2**
JNU				*i* S			**Sb**	**14 02 13.3**	**+0.1**
JIU3	**Izumi3**	**0.31**	**195**	⇑P			**Pg**	**14 02 06.6**	**-1.3**
JIU3				S			**Sg**	**14 02 10.2**	**-1.8**
JTA	**Tamana**	**0.34**	**290**	⇑P			**Pg**	**14 02 07.7**	**-0.7**
JTA				S			**Sg**	**14 02 12.0**	**-1.0**
JTZ	**Takazaki**	**0.95**	**171**	P			**Pb**	**14 02 19.6**	**-0.5**
JTZ				S			**Sg**	**14 02 31.4**	**-1.0**
KSRS	**Korea Array**	**5.21**	**333**	Pn			**Pn**	**14 03 21.2**	**+1.9**
	0.2nm,0.3s,baz=153,slow=14,SNR=2.5								
KSRS				Pg			**Pg**	**14 03 37.2**	**-4.1**
	1.7nm,0.3s,baz=151,slow=16,SNR=10								
KSRS				Lg			Lg	14 04 46.8	
	1.6nm,0.3s,baz=152,slow=28,SNR=4.2								
JOW	**Kunigami**	**6.42**	**202**	Pn			**Pn**	**14 03 38.4**	**+2.5**
	2.5nm,0.3s,baz=90,slow=19,SNR=8.2								
KLR	**Kul'dur**	**16.38**	**2**	Pn			**P**	**14 05 57.3**	**+3.2**
	0.1nm,0.3s,baz=154,slow=8.8,SNR=5.7								
WRA	**Warramunga Arr**	**52.59**	**176**	P			**P**	**14 11 13.5**	**-1.8**
	0.3nm,0.6s,baz=0.1,slow=8.6,SNR=1.8								
ASAR	**Alice Springs**	**56.27**	**177**	P			**P**	**14 11 40.9**	**-1.1**
	0.4nm,0.8s,baz=1.1,slow=4.6,SNR=5.5								
FINES	**FINESS Array B**	**68.29**	**330**	P			**P**	**14 13 02.1**	**0.0**
	1.7nm,0.9s,baz=76,slow=5.9,SNR=1.3								

JMA 14 14:02:33.6,32.80N×130.83E,h8km±2km,M3.8,1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.25**	**183**	P		Pg		14 02 38.8	+0.2
JIU3				S		Sg		14 02 42.7	+0.7
JTA	**Tamana**	**0.30**	**303**	P		Pg		14 02 39.7	+0.2
JTA				S		Sg		14 02 44.0	+0.5
JNU	**Nakatsue**	**0.32**	**7**	⇑P		Pg		14 02 40.1	+0.1
JNU				S		Sg		14 02 44.7	+0.4
JTZ	**Takazaki**	**0.92**	**166**	P		Pb		14 02 51.8	0.0

*MAN **14** 14:08:33.2,10.02N×126.18E,h27km,mb4.4,ML3.2, MS3.0,Hypocentre not reviewed by the ISC*
MAN INTENSITY II - SURIGAO CITY.
*NEIC **14** 14:08:38.5±1.2,9.96N±0.09×126.1E±0.2,h94km±6km, mb4.2/18,Error ellipse: s-maj=32.6km s-min=11.5km az=77.0*
*IDC **14** 14:08:43.4±1.6,9.86N×125.90E,h143km±16km,mb3.7/17, mb1 3.8/18,mb1mx3.7/51,mbtmp4.1/18,Error ellipse: s-maj=23.3km s-min=11.8km az=72.0*
ISC 14 14:08:35.5±1.3,9.99N±0.05×126.16E±0.07,h68km±12km, n63,σ1s98/68,mb4.2/26,2C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.14**	**208**	*e*P			**Pn**	**14 08 53.9**	**-1.9**
MSLP	**Maasin**	**1.28**	**277**	*e*P			**Pn**	**14 08 56.0**	**-1.6**
BIPH	**Bislig**	**1.80**	**174**	⇓*i*P			**Pn**	**14 09 03.0**	**-1.5**
BIPH				*i* S			**Sn**	**14 09 25.6**	**-0.8**
OCLP	**Ormoc**	**1.85**	**305**	*e*P			**Pn**	**14 09 03.7**	**-1.4**
LLP	**Lapu-Lapu**	**2.18**	**279**	⇓*i*P			**Pn**	**14 09 09.0**	**-0.6**
LLP				*i* S			**Sn**	**14 09 35.0**	**-0.6**
TBP	**Tagbilaran**	**2.28**	**263**	*e*P			**Pn**	**14 09 11.3**	**+0.4**
TBP				*i* S			**Sn**	**14 09 38.8**	**+0.9**
SNPH	**Sibulan**	**2.95**	**258**	*i* P			**Pn**	**14 09 19.9**	**-0.1**
SNPH				*i* S			**Sn**	**14 10 01.9**	**+7.5**
DAV	**Davao City (W)**	**2.95**	**191**	P			Pn	14 09 29.0	+8.9
	32nm,0.3s,baz=245,slow=14,SNR=1.4								
DAV				S			**Sn**	**14 10 02.4**	**+8.0**
	34nm,0.3s,baz=300,slow=21,SNR=6.3								
DCPH	**Dipolog City**	**3.10**	**243**	⇓*e*P			**Pn**	**14 09 20.6**	**-1.5**
DCPH				*e*S			**Sn**	**14 09 56.9**	**-1.0**
KCP	**Kidapawan**	**3.14**	**200**	⇑*e*P			**Pn**	**14 09 24.0**	**+1.3**
KCP				*i* S			**Sn**	**14 10 01.2**	**+2.2**
CTBH	**Cotabato--PC H**	**3.33**	**215**	*e*P			**Pn**	**14 09 25.5**	**+0.2**
CTBH				*i* S			**Sn**	**14 09 56.9**	**-6.8**
CNOP	**Candoni, Negro**	**3.47**	**268**	*e*P			**Pn**	**14 09 27.0**	**-0.1**
GUIM	**Jordan**	**3.57**	**281**	*e*P			**Pn**	**14 09 28.6**	**+0.1**
RCP	**Roxas**	**3.70**	**295**	⇑*e*P			**Pn**	**14 09 30.1**	**-0.1**
DDMP	**Don Marcelino,**	**3.88**	**187**	*e*P			**Pn**	**14 09 35.4**	**+2.6**
PVCP	**Virac**	**4.09**	**332**	*e*P			**Pn**	**14 09 35.0**	**-0.6**
CUYO	**Cuyo Island**	**5.13**	**280**	*e*P			**Pn**	**14 09 49.6**	**-0.2**
JCNP	**Jose Panganiba**	**5.45**	**322**	*e*P			**Pn**	**14 09 52.5**	**-1.7**
BOAC	**Boac**	**5.45**	**310**	*e*P			**Pn**	**14 09 57.8**	**+3.5**
LQP	**Lukban**	**6.10**	**313**	⇓*e*P			**Pn**	**14 10 03.7**	**+0.4**
BALP	**Baler**	**7.26**	**323**	*e*P			**Pn**	**14 10 17.2**	**-1.8**
MTN	**Manton Dam**	**23.21**	**168**	P		P		**14 13 36.8**	**-0.1**
MTN						IAmb	IAmb	14 13 41.8	
	comp=Z,10nm,1.1s								
KNRA	**Kununurra**	**25.63**	**174**	P		P		**14 13 59.3**	**+0.5**
KNRA						IAmb	IAmb	14 14 10.1	
	comp=Z,7.2nm,0.9s								
CMAR	**Chiang Mai Arr**	**27.66**	**291**	P		P		**14 14 16.9**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=103,slow=7.6,SNR=13								
FITZ	**Fitzroy Crossi**	**27.91**	**181**	P		P		**14 14 19.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=18,slow=9.7,SNR=7.0								
FITZ	**Fitzroy Crossi**	**27.91**	**181**	P		P		**14 14 18.8**	**-0.5**
FITZ						IAmb	IAmb	14 14 37.1	
	comp=Z,5.9nm,1.1s								
WB0	**Warramunga Arr**	**30.66**	**165**	P		P		**14 14 43.0**	**-0.8**
WRAB	**Tennant Creek**	**30.81**	**165**	P		P		**14 14 44.4**	**-0.7**
WRAB						IAmb	IAmb	14 15 00.6	
	comp=Z,5.4nm,1.1s								
WRA	**Warramunga Arr**	**30.81**	**165**	P		P		**14 14 44.5**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=342,slow=8.9,SNR=12								
WRA	**Warramunga Arr**	**30.81**	**165**	P		P		**14 14 46.6**	**-0.5**
WR0	**Warramunga Arr**	**30.88**	**164**	P		P		**14 14 45.8**	**+0.1**
WR0						IAmb	IAmb	14 14 59.4	
	comp=Z,3.1nm,1.0s								
AS31	**Alice Springs**	**34.29**	**167**	P		P		**14 15 14.9**	**-0.7**
ASAR	**Alice Springs**	**34.29**	**167**	P		P		**14 15 15.4**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=350,slow=6.9,SNR=38								
ASAR					PcP	**PcP**		**14 17 49.4**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=347,slow=2.7,SNR=2.1								
ASAR	**Alice Springs**	**34.29**	**167**	P		P		**14 15 15.2**	**-0.3**
KLR	**Kul'dur**	**39.40**	**6**	P		P		**14 16 01.2**	**+2.6**
	comp=Z,1.0nm,0.6s,baz=180,slow=5.1,SNR=7.4								
H11N1	**WAKE ISLAND Hy**	**40.45**	**71**	T		T		14 59 28.5	
	baz=264,slow=74,SNR=95								
H11N2	**WAKE ISLAND Hy**	**40.46**	**71**	T		T		14 59 30.6	
	baz=264,slow=74,SNR=79								
H11N3	**WAKE ISLAND Hy**	**40.47**	**71**	T		T		14 59 29.9	
	baz=264,slow=74,SNR=88								
FORT	**Forrest**	**40.57**	**177**	P		P		**14 16 09.0**	**+0.5**
ULN	**Ulaanbaatar**	**41.05**	**340**	P		P		**14 16 12.7**	**+0.2**
ULN						IAmb	IAmb	14 16 13.4	
	comp=Z,3.9nm,0.6s								
BBOO	**Buckleboo**	**43.59**	**168**	P		P		**14 16 33.8**	**+0.8**
BBOO						IAmb	IAmb	14 16 36.9	
	comp=Z,7.1nm,1.1s								
STKA	**Stephens Creek**	**44.17**	**161**	P		P		**14 16 38.0**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=351,slow=6.5,SNR=5.7								
STKA	**Stephens Creek**	**44.17**	**161**	P		P		**14 16 36.2**	**-1.5**
SANVU	**Saraoutou**	**47.87**	**121**	P		P	

SEKA S Sn 14 25 02.7 -0.3
AGDM Agdam 4.57 269 P Pn 14 24 11.4 -0.3
SNR=48
AGDM S Sn 14 25 01.9 -1.7
MNGR Mingechevir, A 4.58 278 P Pn 14 24 11.7 -0.1
MNGR Mingechevir, A 4.58 278 P Pn 14 24 11.3 -0.5
SNR=6.9
MNGR S Sn 14 25 02.8 -1.0
GEYT Alibeck 4.59 120 Pn Pn 14 24 13.0 +0.9
16nm,0.3s,baz=301,slow=12,SNR=73
GEYT Sn Sn 14 25 01.6 -2.6
9.1nm,0.3s,baz=292,slow=17,SNR=1.3
GEYT Alibeck 4.59 120 Pn Pn 14 24 13.0 +0.9
GYA0 ALIBECK ARRAY 4.59 120 P Pn 14 24 13.8 +1.7
GYA0 S Sn 14 25 04.8 +0.6
GYA0B ALIBECK ARRAY 4.59 120 Pn Pn 14 24 13.2 +1.2
GYA0B ALIBECK ARRAY 4.59 120 ⇑Pn Pn 14 24 13.1 +1.0
GYA0B ⇑Sn Sn 14 25 04.8 +0.6
MAK Makhachkala 4.93 304 *e*P Pn 14 24 14.9 -1.7
MAK *e*S Sn 14 25 11.0 -1.3
MAK pmax pmax
comp=Z,145nm,0.7s
MAK MLR MLR
comp=Z,231nm,12.0s
ZKTA Zakatala 5.05 287 P Pn 14 24 20.3 +2.0
ZKTA Zakatala 5.05 287 P Pn 14 24 19.0 +0.7
SNR=13
ZKTA S Sn 14 25 15.9 +0.5
GANJ Ganja 5.16 276 P Pn 14 24 18.3 -1.5
GANJ Ganja 5.16 276 P Pn 14 24 18.6 -1.2
SNR=7.5
GANJ S Sn 14 25 13.9 -4.0
DBC Dubki 5.39 302 *i*P Pn 14 24 24.3 +1.3
GDB GEDABAY 5.59 276 P Pn 14 24 24.7 -1.1
SNR=44
GDB S Sn 14 25 24.6 -4.2
ORD Ordubad 5.64 258 P Pn 14 24 26.1 -0.3
SNR=28
ORD S Sn 14 25 26.2 -3.8
BTLR Botlikh 5.65 297 *i*P Pn 14 24 27.9 +1.4
DVE Vedeno 5.83 299 *i*P Pn 14 24 30.1 +1.1
SBZ Shahbuz 5.86 263 P Pn 14 24 29.9 +0.5
SNR=8.0
SBZ S Sn 14 25 32.6 -2.8
QZX Qazax, Azerbai 5.90 280 P Pn 14 24 29.0 -0.9
SNR=28
QZX S Sn 14 25 32.7 -3.5
NAX Nakhchivan 5.95 261 P Pn 14 24 32.4 +1.7
NAX Nakhchivan 5.95 261 P Pn 14 24 31.5 +0.8
SNR=6.2
NAX S Sn 14 25 35.0 -2.5
GROC Groznyy 6.15 300 *i*P Pn 14 24 34.1 +0.7
HYR Heyderabad 6.34 267 S Sn 14 25 45.0 -2.1
GNI Garni 6.38 271 Pn Pn 14 24 37.5 +0.9
comp=Z,3.1nm,0.3s,baz=59,slow=4.0,SNR=4.0
GNI Sn Sn 14 25 48.2 0.0
comp=Z,6.2nm,0.3s,baz=309,slow=20,SNR=4.3
GNI Garni 6.38 271 Pn Pn 14 24 34.9 -1.7
ZEI Tsey 7.30 293 *e*P Pn 14 24 48.7 -0.6
ZEI pmax pmax
comp=Z,11nm,0.6s
ONI Oni 7.57 291 P Pn 14 24 55.5 +2.6
ONI Oni 7.57 291 Pn Pn 14 24 55.5 +2.6
KBZ Khabaz 8.30 298 Pn Pn 14 25 01.8 -1.0
comp=Z,2.1nm,0.3s,baz=130,slow=11,SNR=23
KBZ Sn Sn 14 26 29.5 -5.6
comp=Z,4.1nm,0.3s,baz=219,slow=14,SNR=4.3
KBZ Khabaz 8.30 298*ce*P Pn 14 25 01.1 -1.7
KVAR Kislovodsk Arr 8.52 299 Pn Pn 14 25 05.5 -0.4
baz=112,slow=19,SNR=4.0
KVAR Sn Sn 14 26 34.1 -6.5
baz=199,slow=8.0,SNR=8.7
KIV Kislovodsk 8.53 299 *e*P Pn 14 25 05.4 -0.6
KIV *e*S Sn 14 26 40.6 -0.2
KIV pmax pmax
comp=Z,48nm,1.0s
KIV Kislovodsk 8.53 299 Pn 14 25 05.8 -0.1
KIV Kislovodsk 8.53 299 Pn Pn 14 25 03.9 -2.1
GOF Gofitskoye 8.77 306⇓ *e*P Pn 14 25 10.5 +1.3
AB31 Akbulak array 10.17 26 P Pn 14 25 26.8 -1.5
AB31 S Sn 14 27 14.2 -6.7
AB31 Akbulak array 10.17 26 ⇓Pn Pn 14 25 26.8 -1.5
comp=Z,1.3nm,0.4s,baz=207,slow=13,SNR=120
AB31 ⇑Sn Sn 14 27 14.2 -6.7
comp=Z,31nm,0.5s,baz=214,slow=24,SNR=6.5
ABKAR Akbulak array 10.17 26 Pn 14 25 27.7 -0.7
ABKAR Akbulak array 10.17 26 Pn Pn 14 25 26.6 -1.7
AKTO Aktyubinsk 10.69 17 Pn Pn 14 25 35.6 +0.2
comp=Z,1.6nm,0.3s,baz=202,slow=12,SNR=18
AKTO Sn Sn 14 27 26.6 -7.0
comp=Z,11nm,0.3s,baz=45,slow=23,SNR=11
AKTO Aktyubinsk 10.69 17 P Pn 14 25 34.8 -0.6
AKTO S Sn 14 27 26.5 -7.0
AKTO Aktyubinsk 10.69 17 ⇑Pn Pn 14 25 34.9 -0.6
comp=Z,9.7nm,0.6s
AKTO ⇑Sn Sn 14 27 26.5 -7.0
comp=Z,94nm,0.6s
BELG Belogornoye 12.64 345 Pn Pn 14 26 00.3 -1.6
comp=Z,3.2nm,0.3s,baz=194,slow=2.0,SNR=8.1
BELG Sn Sn 14 28 09.3 -12
comp=Z,11nm,0.3s,baz=61,slow=13,SNR=15
BELG Belogornoye 12.64 345 *i*P Pn 14 26 00.2 -1.8
KK31 Karatay Array 13.32 72 P Pn 14 26 11.6 +0.1
KK31 Karatay Array 13.32 72 Pn 14 26 11.6 +0.1
KK31 Karatay Array 13.32 72 ⇑Pn Pn 14 26 11.2 -0.3
comp=Z,9.0nm,0.8s,baz=255,slow=18,SNR=64
KK31 ⇑Sn Sn 14 28 32.2 -5.8
comp=Z,4.0nm,0.5s,baz=272,slow=21,SNR=3.7
KKAR Karatay Array 13.32 72 P Pn 14 26 10.6 -0.8
KKAR Karatay Array 13.32 72 Pn 14 26 10.6 -0.8
KKAR Karatay Array 13.32 72 Pn 14 26 11.6 +0.2
VRH Novokhopyorsk 13.44 328 *e*P Pn 14 26 12.5 -0.4
VRH pmax pmax
comp=Z,30nm,0.6s
VORD Divnogorie 14.33 323 *e*P Pn 14 26 22.8 -2.1
VORD pmax pmax
comp=Z,10.0nm,0.5s
SHME Shamm 14.46 169 P P 14 26 31.1 -1.4
VSR Storozhevoye 14.56 323 *e*P Pn 14 26 25.4 -2.6
VSR pmax pmax
comp=Z,20nm,1.0s
BANOM Banah 14.61 168 Pn Pn 14 26 28.9 -0.1
VORR Voronezh 14.86 324 *e*P Pn 14 26 32.2 +0.4
VORR *e*S Sn 14 29 05.2 -10
VORR pmax pmax
comp=Z,28nm,1.1s
BRTR Keskin Array B 14.90 274 Pn Pn 14 26 34.2 +1.5
comp=Z,0.1nm,0.3s,baz=71,slow=12,SNR=2.9
UOSS Minazif 15.56 169 Pn Pn 14 26 42.0 +0.9
AML Almayashu 15.62 77 Pn Pn 14 26 41.7 -0.6
LPSR Galich'ya Gora 15.64 326 *e*P Pn 14 26 40.4 -1.6
LPSR pmax pmax
comp=Z,30nm,0.7s
ASHO Ashiyiah 15.80 170 Pn Pn 14 26 46.6 +2.4
OTUK Ortayu 15.88 54 P Pn 14 26 43.0 -2.1
OTUK S Sn 14 29 29.9 -10
OTUK Ortayu 15.88 54 ⇓P Pn 14 26 43.0 -2.1
comp=Z,9.7nm,0.6s
OTUK ⇑S Sn 14 29 30.0 -10
comp=Z,9.5nm,0.5s
AAK Ala-Archa 16.22 75 Pn Pn 14 26 50.4 +0.8
comp=Z,0.7nm,0.3s,baz=264,slow=5.5,SNR=11
AAK Ala-Archa 16.22 75*ce*P Pn 14 26 50.9 +1.3
AAK pmax pmax
comp=Z,7.0nm,1.3s
AAK Ala-Archa 16.22 75 P Pn 14 26 51.1 +1.5
AAK Ala-Archa 16.22 75 Pn Pn 14 26 50.7 +1.1
ARU Arti 16.51 11 Pn Pn 14 26 51.0 -2.0
comp=Z,0.0nm,0.3s,baz=200,slow=7.7,SNR=12
ARU Sn Sn 14 29 42.6 -13
comp=Z,0.0nm,0.3s,baz=315,slow=22,SNR=11
ARU Arti 16.51 11*c i*P Pn 14 26 52.3 -0.7
ARU S Sn 14 29 54.6 -0.6
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 16.51 11 Pn 14 26 51.3 -1.7
ARU IAmb IAmb 14 27 10.5
comp=Z,15nm,0.5s
TKM2 Tokmak 2 17.03 74 *i*P Pn 14 27 00.8 +1.0
TKM2 pmax pmax
comp=Z,11nm,0.9s
TKM2 Tokmak 2 17.03 74 ⇓P Pn 14 27 00.9 +1.0
comp=Z,11nm,0.9s
SVE Sverdlovsk 17.24 14 *e*P Pn 14 27 01.9 -0.2

SVE *e*S Sn 14 30 04.8 -7.9
BOOM Boomskoye usch 17.28 75 P P 14 27 04.6 +0.8
BOOM pmax pmax
comp=Z,8.0nm,1.0s
BOOM Boomskoye usch 17.28 75 P P 14 27 04.6 +0.8
BRVK Borovoye 17.31 37 *i*P Pn 14 27 03.1 +0.2
BRVK pmax pmax
comp=Z,29nm,1.0s
BRVK Borovoye 17.31 37 P Pn 14 27 03.5 +0.5
BRVK IAmb IAmb 14 27 25.6
comp=Z,72nm,1.4s
BRVK Borovoye 17.31 37 ⇑P Pn 14 27 03.1 +0.2
comp=Z,29nm,1.0s
BRVK ⇑S Sn 14 30 01.6 -13
comp=Z,9.9nm,0.6s
BVAR Borovoye Array 17.33 37 P P 14 27 04.6 +0.5
BVAR S Sn 14 30 05.3 -10
BVA1 Borovoye Array 17.33 37 ⇑P Pn 14 27 03.8 +0.5
comp=Z,22nm,0.6s
KSH Kashi 17.58 85 P Pn 14 27 05.4 -1.2
KSH pP P 14 27 13.0 +5.9
KSH sP pP 14 27 22.4 +3.9
KSH pmax pmax
comp=Z,2.0nm,0.5s
WSAR Wadi Sarin 17.67 163 P Pn 14 27 08.7 +1.0
comp=Z,0.7nm,0.3s,baz=355,slow=6.3,SNR=10
OBN Obninsk 18.43 329 P P 14 27 16.4 +0.3
comp=Z,3.0nm,0.3s,baz=139,slow=16,SNR=4.9
OBN Obninsk 18.43 329 *e*P P 14 27 15.5 -0.5
OBN pmax pmax
comp=Z,14nm,0.4s
OBN MLR MLR
comp=Z,509nm,17.0s
KIRV Kirov 18.43 354 P P 14 27 16.2 +0.2
comp=Z,6.0nm,0.3s,baz=189,slow=2.4,SNR=8.7
KIRV LR LR 14 35 11.3
comp=Z,644nm,20.0s,baz=270,slow=40
KIRV Kirov 18.43 354*ce*P P 14 27 16.4 +0.4
TLCR 18.44 293 ⇑P Pn 14 27 16.9 +0.1
TLCR 18.44 293 ⇑P Pn 14 27 16.9 +0.1
MOS Moscow 18.49 332 *e*P P 14 27 14.1 -2.7
MOS *e*S Sn 14 30 27.7 -15
MOS pmax pmax
comp=Z,99nm,0.7s
CFR Carcaliu 18.91 293 ⇑P P 14 27 20.9 -0.6
CFR Carcaliu 18.91 293 ⇑P P 14 27 20.9 -0.6
SORM Soroca 19.30 302 ⇓P P 14 27 25.0 -0.7
SORM Soroca 19.30 302 ⇓P P 14 27 25.0 -0.7
AKASG Malin Array Be 19.59 310 S S 14 31 00.1 -7.0
baz=112,slow=24,SNR=1.6
PDGK Podgornoye 19.89 73 P Pn 14 27 34.5 +0.2
PDGK Podgornoye 19.89 73 ⇑P Pn 14 27 34.5 +0.2
comp=Z,4.1nm,0.7s
VRI Vrincioaia 19.97 295 ⇓P P 14 27 34.1 +1.0
VRI Vrincioaia 19.97 295 ⇓P P 14 27 34.1 +1.0
PLOR Plostina 20.03 295 ⇓P P 14 27 35.1 +1.4
PLOR Plostina 20.03 295 ⇓P P 14 27 35.1 +1.4
TESR Tescani 20.11 297 ⇑P P 14 27 34.7 +0.1
COVR Voineasa-Covas 20.34 295 ⇑P P 14 27 38.2 +1.1
MLR Muntele Rosu 20.48 294 ⇓P Pn 14 27 40.7 -0.6
MLR Muntele Rosu 20.48 294 P P 14 27 40.3 +1.5
comp=Z,6.7nm,0.4s,baz=24,slow=3.9,SNR=9.6
MLR Muntele Rosu 20.48 294 ⇓P Pn 14 27 40.7 -0.6
MLR Muntele Rosu 20.48 294 P P 14 27 39.6 +0.9
KURBB Kurchatov Arra 20.51 51 P Pn 14 27 41.6 +0.2
comp=Z,9.7nm,0.8s,baz=253,slow=11,SNR=64
KURBB S S 14 31 20.5 -5.0
comp=Z,0.4nm,0.5s,baz=277,slow=5,SNR=2.3
KURBB Kurchatov Arra 20.51 51 P Pn 14 27 41.4 0.0
KURBB S S 14 31 22.3 -3.1
KURBB Kurchatov Arra 20.51 51 ⇑P Pn 14 27 41.4 0.0
comp=Z,7.8nm,0.7s
KURBB ⇑S S 14 31 22.3 -3.1
comp=Z,5.7nm,0.7s
KURK Kurchatov 20.60 51 *i*P Pn 14 27 42.1 -0.4
KURK pmax pmax
comp=Z,24nm,0.8s
KURK Kurchatov 20.60 51 Pn 14 27 42.6 +0.1
KURK IAmb IAmb 14 27 43.5
comp=Z,21nm,0.8s
KURK Kurchatov 20.60 51 ⇑P Pn 14 27 42.1 -0.4
comp=Z,20nm,0.7s
KURK ⇑S S 14 31 21.6 -5.5
comp=Z,6.2nm,1.2s
DOPR Dopca 20.91 295 ⇓P P 14 27 44.3 +0.9
KARP Karpathos 20.95 265 P P 14 27 43.6 -0.3
KARP IAmb IAmb 14 28 05.1
comp=Z,29nm,0.8s
VOIR 21.11 293 ⇓P P 14 27 45.9 +0.5
VOIR 21.11 293 ⇓P P 14 27 45.9 +0.5
BURAR Bucovina Array 21.25 299 ⇑P P 14 27 47.4 +0.4
BURAR Bucovina Array 21.25 299 ⇑P P 14 27 47.4 +0.4
BURAR Bucovina Array 21.25 299 P P 14 27 47.0 0.0
BURAR IAmb IAmb 14 27 51.2
comp=Z,12nm,0.8s
BUR08 Bucovina Ar. S 21.27 299 P P 14 27 47.1 -0.1
BUR08 IAmb IAmb 14 27 50.7
comp=Z,9.7nm,0.7s
ARR Arges 21.39 293 ⇑P P 14 27 49.5 +1.0
PRGR Permogore 21.82 350 *e*P P 14 27 51.8 -1.0
PRGR *e*S S 14 31 48.5 -2.5
PRGR pmax pmax
comp=Z,6.0nm,0.6s
MAKZ Makanchi 21.85 63 ⇑P P 14 27 56.2 +2.9
MAKZ Makanchi 21.85 63 P P 14 27 55.2 +1.9
MAKZ Makanchi 21.85 63 ⇑P P 14 27 55.5 +2.2
comp=Z,9.6nm,1.0s
MNK Minsk 22.01 319 *i*P P 14 27 54.3 -0.6
MNK *i* 14 28 16.9
MNK *i* 14 31 51.3
MNK *i*S S 14 31 55.4 +0.7
MNK *i*SS SnSn 14 32 27.8 +4.4
MNK *i*SSS SSS 14 32 40.7
MNK pmax pmax
comp=N,20nm,1.1s
MNK pmax pmax
comp=E,4.0nm,0.7s
MNK pmax pmax
comp=Z,45nm,0.9s
MNK MLR MLR
comp=E,41nm,15.0s
MNK MLR MLR
comp=N,304nm,18.0s
MNK MLR MLR
comp=Z,242nm,16.0s
MNK Minsk 22.01 319 *i*P P 14 27 54.3 -0.6
comp=E,4.0nm,0.7s
MNK *i*P P 14 27 54.3 -0.6
comp=N,20nm,1.1s
MNK *i*P P 14 27 54.3 -0.6
comp=Z,45nm,0.8s,baz=297
MNK *i*PP PnPn 14 28 17.0 -1.3
MNK *i*PcP PcP 14 31 51.4 0.0
MNK *i*S S 14 31 55.5 +0.7
MNK *i*SS SnSn 14 32 27.9 +4.4
MNK *i*SSS SSS 14 32 40.8
MNK *i*LQ LQ 14 34 34.8
MNK *i*LR LR 14 36 22.8
MNK *i*LRM MLR 14 37 33.5
comp=E,41nm,15.5s
MNK *i*LRM MLR 14 37 51.1
comp=N,304nm,18.1s
MNK *i*LRM MLR 14 38 14.9
comp=Z,242nm,16.1s
MK31 Makanchi Array 22.06 63 *i*P P 14 27 57.8 +2.3
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 22.06 63 P P 14 27 57.9 +2.4
MK31 Makanchi Array 22.06 63 P P 14 27 57.9 +2.3
comp=Z,3.9nm,0.7s,baz=254,slow=9.9,SNR=44
MKAR Makanchi Array 22.06 63 P P 14 27 58.1 +2.5
comp=Z,3.4nm,0.6s,baz=255,slow=11,SNR=31
MKAR Makanchi Array 22.06 63 P P 14 27 57.8 +2.2
MKAR Makanchi Array 22.06 63 P P 14 27 57.8 +2.2
KLMR Klimovskoe 22.19 342 *e*P P 14 27 54.6 -2.2
KLMR pmax pmax
comp=Z,31nm,0.8s
KLMR Klimovskoe 22.19 342 *e*P P 14 27 54.7 -2.1
KLMR AMP 14 28 01.9
comp=Z,31nm,0.8s
VTS Vitosha 22.42 286 ⇑P P 14 27 59.7 +0.1
VTS Vitosha 22.42 286 P P 14 28 02.6 +2.9
VTS Vitosha 22.42 286 P P 14 27 59.0 -0.6
LVV L'vov 22.48 305 *e*P P 14 28 00.4 +0.4

NACGM Naroch 22.77 319 *e*P P 14 28 03.5 +0.5
DRGR 22.84 297 ⇓P P 14 28 04.0 +0.1
DRGR 22.84 297 ⇓P P 14 28 04.0 +0.1
HERR Herculane 22.94 292 ⇑P P 14 28 04.7 -0.2
IIGN Ignalina 23.26 319 *e*P P 14 28 06.6 -1.4
KWP Kalwaria Pacla 23.27 304 P P 14 28 08.6 +0.5
KWP pmax pmax
comp=Z,117nm,0.6s
KWP Kalwaria Pacla 23.27 304 P P 14 28 08.6 +0.5
UZH Uzhgorod 23.35 301 *e*P P 14 28 08.9 0.0
UZH *e* 14 28 17.5
UZH *e* 14 28 24.9
KOLS Kolonicke sedl 23.42 302 *e*P P 14 28 11.4 +1.9
KOLS pmax pmax
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 23.42 302 *e*P P 14 28 11.4 +1.9
ISAL Salakas 23.42 320 *e*P P 14 28 09.8 +0.4
SUW Suwalki 24.28 314 P P 14 28 18.5 +1.1
SUW pmax pmax
comp=Z,48nm,0.8s
ITM Ithomi 24.43 273 P P 14 28 17.1 -1.9
ITM IAmb IAmb 14 28 30.2
comp=Z,18nm,1.3s
PABE Paberze 24.47 318 P P 14 28 19.7 +0.6
PABE Paberze 24.47 318 *e*P P 14 28 20.2 +1.1
DIVS Divibare 24.69 290 P P 14 28 21.2 -0.2
DIVS IAmb IAmb 14 28 23.2
comp=Z,8.4nm,0.9s
VSU Vasula 24.70 326 *e*P P 14 28 21.3 +0.2
OJC Ojcow 25.23 304 *e*P P 14 28 26.9 +0.8
OJC Ojcow 25.23 304 P P 14 28 24.5 -1.6
OJC pmax pmax
comp=Z,8.0nm,0.8s
OJC Ojcow 25.23 304 P P 14 28 24.5 -1.6
OJC IAmb IAmb 14 28 27.4
comp=Z,8.3nm,0.8s
LANS Liptovska Anna 25.27 302 *e*P P 14 28 28.4 +1.8
LANS pmax pmax
comp=Z,3.0nm,1.1s
LANS Liptovska Anna 25.27 302 *e*P P 14 28 28.4 +1.8
ZAA0 Zalesovo Array 25.28 47 P P 14 28 27.6 +1.1
ZAA0 IAmb IAmb 14 28 29.8
comp=Z,9.5nm,0.8s
ZALV Zalesovo Beam 25.28 47 P P 14 28 28.5 +2.0
comp=Z,9.0nm,0.7s,baz=263,slow=11,SNR=46
ZALV Zalesovo Beam 25.28 47 P P 14 28 28.2 +1.7
WMQ Urumqi 25.82 71 *e*P P 14 28 36.1 +4.5
WMQ pP pP 14 28 41.8 -2.6
WMQ sP sP 14 28 48.8 -1.6
WMQ PP PnPn 14 29 15.9 +5.4
WMQ pmax pmax
comp=Z,20nm,0.9s
KOVH Kovagotottos 25.99 294 P P 14 28 33.8 +0.7
MTSE Matsula 26.11 325 *e*P P 14 28 34.4 +0.4
MODS Modra-Piesok 26.64 300 *e*P P 14 28 40.1 +1.2
MODS Modra-Piesok 26.64 300 *e*P P 14 28 40.1 +1.2
MEF Metsahovi 26.70 328 *e*P P 14 28 39.7 +0.5
FIA1 FINESS Array S 26.79 331 P P 14 28 39.7 -0.4
FIA1 IAmb IAmb 14 28 59.6
comp=Z,12nm,1.0s
FINES FINESS Array B 26.79 331 P P 14 28 40.5 +0.4
comp=Z,6.8nm,0.5s,baz=139,slow=11,SNR=33
FINES FINESS Array B 26.79 331 P P 14 28 40.2 +0.1
AAL Aland 28.54 325 *e*P P 14 28 55.4 -0.3
BRG Berggiesshubel 29.02 304 *ex* x 14 29 01.4
BRG Amp 14 29 02.0
comp=Z,3.8nm,0.9s
BRG Berggiesshubel 29.02 304 *e*P P 14 29 01.3 +1.2
BRG pmax pmax
comp=Z,4.0nm,0.9s
GERES GERESS Array B 29.03 300 P P 14 29 00.8 +0.4
comp=Z,1.0nm,0.6s,baz=87,slow=9.5,SNR=6.8
MOX Moxa 30.47 304 P P 14 29 14.6 +1.6
MOX pmax pmax
comp=Z,14nm,1.0s
BSEG Bad Segeberg 31.60 310 P P 14 29 24.1 +1.3
BSEG pmax pmax
comp=Z,16nm,1.0s
KEV Kevo 32.51 343 P P 14 29 31.1 +0.5
KEV pmax pmax
comp=Z,29nm,1.5s
KEV Kevo 32.51 343 P P 14 29 31.1 +0.5
NC602 NORSAR Array S 32.58 323 P P 14 29 31.4 0.0
NC602 IAmb IAmb 14 29 31.9
comp=Z,8.3nm,0.7s
NC602 NORSAR Array S 32.58 323 *e*P P 14 29 31.3 0.0
NORES NORESS Array B 32.58 323 P P 14 29 33.7 +2.3
NC405 NORSAR Array S 32.63 323 P P 14 29 31.8 -0.1
ARA0 ARCESS Array S 32.67 342 *e*P P 14 29 33.0 +0.9
ARCES ARCESS Array B 32.67 342 P P 14 29 33.0 +0.9
comp=Z,1.5nm,0.5s,baz=141,slow=8.7,SNR=15
NB201 NORSAR Array S 32.80 323 P P 14 29 33.3 -0.1
GOMU GeErMu 32.81 84 P P 14 29 36.5 +2.4
GOMU pP pP 14 29 39.5 -7.6
GOMU sP sP 14 29 44.0 -9.1
GOMU S S 14 34 58.8 +11
GOMU pmax pmax
comp=Z,1.0nm,0.4s
GOMU pmax pmax
comp=Z,170nm,7.9s
GOMU LR LR
comp=N,210nm,15.9s
GOMU LR LR
comp=E,91nm,15.5s
GOMU LR LR
comp=Z,190nm,16.1s
KTK1 Kautokeino 32.83 341 *e*P P 14 29 34.4 +0.9
NB2 NORSAR Subarra 32.84 323 P P 14 29 32.9 -0.7
comp=Z,4.8nm,0.5s,baz=115,slow=8.6
NB2 NORSAR Subarra 32.84 323 P P 14 29 32.9 -0.7
baz=115,slow=8.6
NOA NORSAR Array B 32.84 323 P P 14 29 33.6 0.0
comp=Z,2.8nm,0.4s,baz=114,slow=8.4,SNR=32
NAO01 NORSAR Array S 32.92 323 P P 14 29 33.7 -0.7
KONO Kongsberg 33.17 320 *e*P P 14 29 36.6 +0.1
MOR8 Moi Rana 33.73 333 *e*P P 14 29 42.0 +0.6
HAMF Hammerfest 33.92 343 *e*P P 14 29 43.7 +0.8
SKAR Skarslia 34.08 322 *e*P P 14 29 45.0 +0.6
FAUS Fauske 34.09 335 *e*P P 14 29 45.4 +1.0
DOMB Dombas 34.14 324 *e*P P 14 29 45.9 +0.9
NRIK Noril'sk 34.28 21*ce*P P 14 29 48.2 +2.2
NRIK pmax pmax
comp=Z,5.0nm,1.0s
KONS Konsvik 34.36 333 *e*P P 14 29 47.6 +0.8
TRO Tromso 34.38 340 *e*P P 14 29 47.9 +1.0
STEI Steigen 34.41 336 *e*P P 14 29 47.4 +0.3
BLS5 Blasjo 34.67 319 *e*P P 14 29 49.8 +0.2
ODD1 Odda 34.69 320 *e*P P 14 29 50.9 +1.1
HYA Hoyanger 35.20 322 *e*P P 14 29 55.2 +1.1
BER Bergen 35.43 321 *e*P P 14 29 57.0 +1.0
ULN Ulaanbaatar 38.80 60*ce*P P 14 30 27.0 +2.0
ULN pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 39.48 312 P P 14 30 30.3 -0.1
LZH Lanzhou 39.68 79 *e*P P 14 30 34.6 +2.1
LZH pP pP 14 30 40.5 -5.2
LZH sP sP 14 30 43.3 -8.3
LZH pmax pmax
comp=Z,17nm,1.3s
SPB2 Spitsbergen Ar 40.78 349 P P 14 30 42.4 +1.5
SPA0 Spitsbergen Ar 40.79 349 *e*P P 14 30 43.0 +2.0
SPITS Spitsbergen Ar 40.79 349 P P 14 30 42.1 +1.2
SPITS pmax pmax
comp=Z,33nm,1.4s
ESDC Sonseca Array 43.03 288 P P 14 30 59.5 -0.3
comp=Z,1.5nm,0.8s,baz=66,slow=8.5,SNR=8.1
HHC Hu-ho-hao-te 43.69 69 *e*P P 14 31 09.3 +4.2
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,150nm,4.5s
XAN Xi'an 44.31 80 P P 14 31 08.0 -2.1
XAN sP pP 14 31 12.3 -11
XAN pmax pmax
comp=Z,5.0nm,0.6s
DAG Danmarks Havn 46.96 343 *i*P P 14 31 30.0 -0.4
DAG IAmb IAmb 14 31 31.9
comp=Z,9.7nm,0.5s
DBG Daneborg 47.15 339 *e*P P 14 31 31.4 -0.5
NOR Nord 47.43 349 *e*P P 14 31 33.4 -0.6
TIXI Tiksi 47.87 24 P P 14 31 39.1 +1.6
comp=Z,5.0nm,0.5s,baz=295,slow=8.7
TIXI Tiksi 47.87 24*ce*P P 14 31 38.5 +1.0

TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 47.87 24 P P 14 31 39.1 +1.6
TIXI IAmb IAmb 14 31 40.3
comp=Z,16nm,1.5s
TORD Torodi Ar. Bea 52.37 254 P P 14 32 11.5 -0.9
comp=Z,0.3nm,0.5s,baz=53,slow=6.5,SNR=2.5
EUNU Eureka 57.74 352 P P 14 32 52.0 +1.7
EUNU IAmb IAmb 14 32 53.3
comp=Z,4.4nm,0.8s
SEY Seymchan 58.90 32 P P 14 33 00.7 +2.2
comp=Z,0.9nm,0.5s,baz=277,slow=8.8,SNR=11
SEY Seymchan 58.90 32 *i* P P **14 32 58.8 +0.3**
SEY pmax pmax
comp=Z,2.0nm,0.8s
MA2 Magadan 59.82 36 P P 14 33 06.7 +1.9
comp=Z,1.0nm,0.5s,baz=288,slow=7.9,SNR=6.1
MA2 Magadan 59.82 36 *ce* P P **14 33 06.8 +1.9**
MA2 pmax pmax
comp=Z,11nm,2.5s
BILL Bilibino 61.05 23 *e* P P **14 33 15.7 +2.5**
BILL *e* 14 33 56.8
BILL *e* 14 35 30.7
BILL *e* PPP PPP 14 36 54.9
BILL pmax pmax
comp=Z,6.0nm,1.7s
BILL MLR MLR
comp=Z,169nm,17.0s
BILL Bilibino 61.05 23 P P **14 33 15.2 +2.0**
BILL IAmb IAmb 14 33 15.9
comp=Z,4.5nm,0.9s
YSS Yuzh-Sakhalins 61.80 51 *e* P P **14 33 18.7 +0.1**
A36M Sachs Harbour 67.98 359 P P **14 33 58.8 +0.4**
A36M IAmb IAmb 14 34 00.5
comp=Z,7.5nm,0.8s
TOLK Toolik Lake Re 70.04 9 P P **14 34 13.1 +1.8**
C36M Paulatuk 70.62 359 P P **14 34 14.9 +0.3**
C36M IAmb IAmb 14 34 15.7
comp=Z,4.0nm,0.7s
IMAR Indian Mountai 72.01 11 P P **14 34 24.0 +0.9**
SCHQ Schefferville 72.23 328 P P **14 34 25.1 +0.5**
comp=Z,1.9nm,0.5s,baz=37,slow=8.3,SNR=7.5
SCHQ Schefferville 72.23 328 P P **14 34 24.2 -0.4**
H23K Yukon River 72.74 10 P P **14 34 28.9 +1.4**
H23K IAmb IAmb 14 34 30.7
comp=Z,5.2nm,0.8s
ILAR Eielson Array 74.07 9 P P **14 34 36.3 +1.0**
comp=Z,0.9nm,0.7s,baz=335,slow=4.6,SNR=7.9
YKA Yellowknife Ar 77.05 354 P P **14 34 52.8 +0.4**
comp=Z,1.0nm,0.7s,baz=8.6,slow=6.1,SNR=24

*IDC **14** 14:28:11.9±0.6,32.°72N×130.°80E,h0km,mb4.0/22, mb1 4.2/26,mb1mx4.1/50,mbtmp4.0/26,ML3.7/4,Error ellipse: s-maj=15.4km s-min=6.5km az=100.0*
*JMA **14** 14:28:13.6,32.°79N×130.°85E,h13km±1km,M4.4 Broadband fault plane solution: P waves. NP1: ϕs291.00000°,δ89.00000°,λ-21.00000°. NP2:ϕs21.00000°, δ69.00000°,λ-179.00000°. Principal axes: T Plg14.0000°, Azm338.0000°; N Plg69.0000°, Azm109.0000°; P Plg15.0000°, Azm244.0000°;*
JMA Felt IV J1.
*NIED **14** 14:28:13.7,32.°79N×130.°85E,h13km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-1.22; Mθθ2.18; Mφφ-0.96; Mrθ0.67; Mθφ3.05; Mφr-0.57; Fault plane solution: M0 3.62000×10^15^ NP1:ϕs16.00000°, δ72.00000°,λ-165.00000°. NP2:ϕs281.00000°, δ76.00000°,λ-19.00000°.*
*NEIC **14** 14:28:13.4±1.8,32.°79N±0.°03×130.°73E±0.°06,h10km±1km, mb4.4/13 Error ellipse: s-maj=9.8km s-min=3.6km az=115.0*

ISC 14 14:28:13.8±0.4,32.°79N±0.°03×130.°77E±0.°05,h12km,n80, σ1§56/89,mb4.2/33,4C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.24**	**172**	⇑P		**Pg**		**14 28 18.8**	**-0.1**
JIU3				S		**Sg**		**14 28 22.5**	**+0.2**
JTA	**Tamana**	**0.27**	**311**	⇑P		**Pb**		**14 28 20.2**	**-0.4**
JTA				S		**Sb**		**14 28 24.8**	**-0.3**
JNU	**Nakatsue**	**0.34**	**15**	Pg		**Pg**		**14 28 20.1**	**-0.7**
	2μm,0.3s,baz=183,slow=10,SNR=422								
JNU				Lg		Lg		14 28 25.1	
	14μm,0.3s,baz=299,slow=22,SNR=66								
JNU	**Nakatsue**	**0.34**	**15**	Pg		**Pg**		**14 28 20.6**	**-0.2**
JNU				Sg		**Sg**		**14 28 25.1**	**-0.4**
JTZ	**Takazaki**	**0.92**	**163**	⇑P		**Pg**		**14 28 31.3**	**-0.4**
JTZ				S		**Sb**		**14 28 43.5**	**-0.5**
JSU	**Suzuyama**	**1.31**	**192**			**Pn**		**14 28 37.8**	**-0.2**
JTU	**Tsushima**	**2.08**	**327**	Pn		**Pn**		**14 28 48.2**	**-0.2**
JMN	**Monobe**	**2.77**	**69**	Pn		**Pn**		**14 28 59.1**	**+1.1**
JHS	**Saijyo**	**2.94**	**41**	Pn		**Pn**		**14 29 00.5**	**+0.1**
TJN	**Taejon**	**4.55**	**323**	Pn		**Pn**		**14 29 23.5**	**+1.0**
KSRS	**Korea Array**	**5.21**	**334**	Pn		**Pn**		**14 29 32.3**	**+0.8**
	1.4nm,0.3s,baz=150,slow=14,SNR=15								
KSRS				Pg		**Pb**		**14 29 48.6**	**+3.9**
	5.3nm,0.3s,baz=152,slow=16,SNR=42								
KSRS				Lg		Lg		14 30 59.0	
	5.5nm,0.3s,baz=154,slow=30,SNR=4.0								
KSAR	**Wonju Array Be**	**5.21**	**334**	Pn		**Pn**		**14 29 33.1**	**+1.5**
KS19	**Wonju Array Si**	**5.27**	**334**			**Pn**		**14 29 32.9**	**+0.6**
INU	**Inuyama**	**5.78**	**62**	Pn		**Pn**		**14 29 40.9**	**+1.6**
JGF	**Kuroka**	**6.13**	**61**	Pn		**Pn**		**14 29 45.9**	**+1.6**
JOW	**Kunigami**	**6.32**	**201**	Pn		**Pn**		**14 29 49.9**	**+3.1**
	12nm,0.3s,baz=125,slow=24,SNR=17								
JOW				Sn		**Sn**		**14 31 02.2**	**+3.2**
	baz=108,slow=20,SNR=0.8								
JOW	**Kunigami**	**6.32**	**201**	Pn		**Pn**		**14 29 50.0**	**+3.2**
MAJO	**Matsushiro**	**7.18**	**57**	Pn		**Pn**		**14 30 00.9**	**+2.3**
MJAR	**Matsushiro Arr**	**7.18**	**57**	Pn		**Pn**		**14 30 00.6**	**+2.0**
	0.6nm,0.3s,baz=227,slow=14,SNR=14								
JHJ	**Hachijo jima 2**	**7.58**	**85**	Pn		**Pn**		**14 30 04.3**	**+0.1**
	16nm,0.3s,baz=17,slow=19,SNR=4.5								
JHJ2	**Mitsune**	**7.61**	**85**	Pn		**Pn**		**14 30 04.4**	**-0.1**
NJ2	**Nanjing**	**10.10**	**269**	*e*P		**Pn**		**14 30 39.1**	**+0.4**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
USRK	**Ussuriysk Ar.**	**11.43**	**4**	Pn		**Pn**		**14 31 00.5**	**+3.6**
	baz=193,slow=14,SNR=2.4								
USRK	**Ussuriysk Ar.**	**11.43**	**4**			**Pn**		**14 30 56.2**	**-0.7**
CN2	**Changchun**	**11.76**	**341**	*e*P		**Pn**		**14 31 03.6**	**+2.3**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CN2				LR		LR			
	comp=N,400nm,9.0s								
CN2				LR		LR			
	comp=E,1μm,9.0s								
CN2				LR		LR			
	comp=Z,800nm,11.0s								
MDJ	**Mudanjiang**	**11.85**	**356**	P		**Pn**		**14 31 02.5**	**0.0**
MDJ				S		**Sn**		**14 33 14.4**	**-0.2**
MDJ				sS				14 33 24.8	
MDJ				SS		**SnSn**		**14 33 27.3**	**+0.5**
MDJ				ScP		**ScP**		**14 40 18.4**	**-4.3**
MDJ				PcS		**PcS**		**14 40 21.9**	**-2.0**
MDJ	**Mudanjiang**	**11.85**	**356**	ScS		ScS		14 43 54.5	-3.8
MDJ				pmax		pmax			
	comp=Z,5.0nm,2.0s								
MDJ				pmax		pmax			
	comp=Z,230nm,4.7s								
MDJ				LR		LR			
	comp=N,410nm,7.4s								
MDJ				LR		LR			
	comp=E,640nm,10.4s								
MDJ				LR		LR			
	comp=Z,550nm,14.2s								
HNS	**HongShan**	**13.93**	**294**	⇑P		**P**		**14 31 36.3**	**-2.9**
HNS				*e*S		S		14 34 17.6	-10
HNS				pmax		pmax			
	comp=Z,3.0nm,0.5s								
HNS				LR		LR			
	comp=N,530nm,16.3s								
HNS				LR		LR			
	comp=E,220nm,14.3s								
HNS				LR		LR			
	comp=Z,340nm,16.7s								
ASAJ	**Asahikawa**	**14.60**	**36**	Pn		**P**		**14 31 43.8**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=237,slow=17,SNR=4.8								
JKA	**Kamikawa-asahi**	**14.60**	**36**	Pn		**Pn**		**14 31 40.8**	**+0.6**
KLR	**Kul'dur**	**16.44**	**2**	Pn		**P**		**14 32 06.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=167,slow=10,SNR=18								
HHC	**Hu-ho-hao-te**	**17.33**	**303**	*e*P		**Pn**		**14 32 12.8**	**-2.9**
HHC				pmax		pmax			
	comp=Z,10.0nm,0.9s								
HHC				pmax		pmax			
	comp=Z,89nm,6.5s								
HHC				LR		LR			
	comp=N,330nm,12.9s								
HHC				LR		LR			
	comp=E,630nm,12.0s								
HHC				LR		LR			
	comp=Z,440nm,12.2s								
XAN	**Xi'an**	**18.28**	**280**	P		**Pn**		**14 32 25.8**	**-1.6**
XAN				pP		pP		14 32 29.5	-1.4
XAN				pmax		pmax			
	comp=Z,7.0nm,1.2s								
XAN				LR		LR			
	comp=N,1μm,16.5s								
XAN				LR		LR			
	comp=E,470nm,14.4s								
XAN				LR		LR			
	comp=Z,710nm,15.1s								
CD2	**Chengdu**	**23.00**	**273**	P		**P**		**14 33 19.4**	**+0.8**
CD2				pmax		pmax			
	comp=Z,20nm,1.1s								
SONM	**Songino Array**	**23.77**	**316**	P		**P**		**14 33 27.4**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=126,slow=7.3,SNR=2.4								
GTA	**Gaotai**	**25.79**	**294**	*e*P		**P**		**14 33 47.9**	**+3.1**
GTA				pP		sP		14 33 53.3	+3.3
GTA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
PZH	**PanZhiHua**	**25.95**	**264**	P		**P**		**14 33 46.8**	**+0.5**
PZH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
PEA0B	**Petropavlovsk-**	**28.02**	**36**	P		**P**		**14 34 02.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**31.91**	**251**	P		**P**		**14 34 39.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=49,slow=7.9,SNR=9.6								
CMAR	**Chiang Mai Arr**	**31.91**	**251**	P		**P**		**14 34 36.7**	**-2.6**
SEY	**Seymchan**	**33.12**	**18**	P		**P**		**14 34 50.7**	**+1.3**
	comp=Z,1.7nm,0.9s,baz=229,slow=7.8,SNR=5.2								
WMQ	**Urumqi**	**35.19**	**301**	*e*P		**P**		**14 35 09.3**	**+1.5**
WMQ				LR		LR			
	comp=N,580nm,17.9s								
WMQ				LR		LR			
	comp=E,340nm,17.1s								
WMQ				LR		LR			
	comp=Z,240nm,17.9s								
ZALV	**Zalesovo Beam**	**38.66**	**317**	PcP		**PcP**		**14 37 49.1**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=98,slow=2.9,SNR=3.7								
MKAR	**Makanchi Array**	**39.17**	**305**	P		**P**		**14 35 43.5**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=95,slow=10,SNR=3.4								
KURK	**Kurchatov**	**41.88**	**311**	P		**P**		**14 36 03.2**	**-0.6**
KURK				IAmb		IAmb		14 36 16.0	
	comp=Z,4.3nm,1.1s								
KURBB	**Kurchatov Arra**	**41.92**	**311**	P		**P**		**14 36 04.7**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=98,slow=9.4,SNR=4.6								
NRIK	**Noril'sk**	**43.80**	**339**	P		**P**		**14 36 20.4**	**+1.4**
	comp=Z,2.5nm,0.6s,baz=124,slow=11,SNR=4.9								
MTN	**Manton Dam**	**45.38**	**180**	P		**P**		**14 36 28.4**	**-3.8**
KKAR	**Karatay Array**	**47.70**	**301**	P		**P**		**14 36 48.8**	**-1.5**
KNRA	**Kununurra**	**48.23**	**183**	P		**P**		**14 36 53.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**50.84**	**186**	P		**P**		**14 37 12.1**	**-2.3**
FITZ				IAmb		IAmb		14 37 14.5	
	comp=Z,2.6nm,0.8s								
WB0	**Warramunga Arr**	**52.37**	**176**	P		**P**		**14 37 24.5**	**-1.3**
WB0				IAmb		IAmb		14 37 41.6	
	comp=Z,10nm,1.4s								
WRA	**Warramunga Arr**	**52.54**	**176**	P		**P**		**14 37 25.9**	**-1.2**
	comp=Z,2.5nm,0.8s,baz=356,slow=8.4,SNR=25								
WRA	**Warramunga Arr**	**52.54**	**176**	P		**P**		**14 37 25.0**	**-2.2**
WR0	**Warramunga Arr**	**52.57**	**176**	P		**P**		**14 37 26.3**	**-1.0**
WR0				IAmb		IAmb		14 37 27.3	
	comp=Z,4.3nm,0.8s								
ARU	**Arti**	**53.76**	**319**	P		**P**		**14 37 36.5**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=64,slow=4.8,SNR=4.5								
ABKAR	**Akbulak array**	**53.96**	**310**	P		**P**		**14 37 37.0**	**-0.4**
ABKAR				IAmb		IAmb		14 37 43.3	
	comp=Z,3.5nm,0.7s								
ABKAR	**Akbulak array**	**53.96**	**310**	P		**P**		**14 37 37.4**	**+0.1**
AS31	**Alice Springs**	**56.22**	**177**	P		**P**		**14 37 52.9**	**-1.0**
ASAR	**Alice Springs**	**56.22**	**177**	P		**P**		**14 37 53.2**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=9.3,slow=13,SNR=60								
ASAR	**Alice Springs**	**56.22**	**177**	P		**P**		**14 37 53.1**	**-0.8**
H23K	**Yukon River**	**56.41**	**29**	P		**P**		**14 37 54.2**	**-0.6**
H23K				IAmb		IAmb		14 38 00.8	
	comp=Z,2.9nm,0.8s								
ILAR	**Eielson Array**	**57.65**	**30**	P		**P**		**14 38 03.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=272,slow=7.5,SNR=5.6								
M26K	**Nabesna, AK**	**59.82**	**33**	P		**P**		**14 38 19.2**	**+0.4**
M26K				IAmb		IAmb		14 38 38.0	
	comp=Z,4.7nm,1.0s								
INK	**Inuvik**	**62.02**	**25**	P		**P**		**14 38 33.7**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=334,slow=3.1,SNR=3.6								
ARCES	**ARCESS Array B**	**64.75**	**338**	P		**P**		**14 38 53.2**	**+1.6**
	comp=Z,2.2nm,0.9s,baz=15,slow=5.0,SNR=3.9								
STKA	**Stephens Creek**	**65.13**	**170**	P		**P**		**14 38 54.3**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=339,slow=5.9,SNR=11								
STKA	**Stephens Creek**	**65.13**	**170**	P		**P**		**14 38 53.8**	**-0.6**
KBZ	**Khabaz**	**66.80**	**308**	P		**P**		**14 39 06.1**	**+0.9**
	comp=Z,6.6nm,1.0s,baz=65,slow=2.1,SNR=12								
FINES	**FINESS Array B**	**68.28**	**330**	P		**P**		**14 39 13.8**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=63,slow=5.6,SNR=14								
FINES	**FINESS Array B**	**68.28**	**330**	P		**P**		**14 39 13.5**	**-0.8**
YKA	**Yellowknife Ar**	**71.67**	**26**	P		**P**		**14 39 35.4**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=306,slow=6.0,SNR=4.2								
AKASG	**Malin Array Be**	**72.02**	**319**	P		**P**		**14 39 37.0**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=54,slow=6.9,SNR=6.0								
NB2	**NORSAR Subarra**	**74.42**	**334**	P		**P**		**14 39 51.5**	**0.0**
	comp=Z,0.9nm,0.6s,baz=50,slow=5.9								
NOA	**NORSAR Array B**	**74.42**	**334**	P		**P**		**14 39 50.6**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=50,slow=5.6,SNR=5.0								
BRTR	**Keskin Array B**	**74.79**	**308**	P		**P**		**14 39 54.4**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=72,slow=7.9,SNR=9.4								
CLL	**Collm**	**80.02**	**326**	*e*P		**P**		**14 40 23.0**	**0.0**
	comp=Z,8.0nm,1.1s								
GERES	**GERESS Array B**	**81.29**	**323**	P		**P**		**14 40 30.7**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=44,slow=6.3,SNR=4.1								
NVAR	**Mina Array Bea**	**84.41**	**47**	P		**P**		**14 40 46.7**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=284,slow=5.5,SNR=2.4								
PDAR	**Pinedale Array**	**86.70**	**40**	P		**P**		**14 40 57.8**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=316,slow=3.8,SNR=2.2								

*IDC **14** 14:29:56.4±0.6,32.°71N×130.°72E,h0km,mb4.1/22, mb1 4.3/27,mb1mx4.2/46,mbtmp4.2/27,ML3.9/4,Error ellipse: s-maj=14.2km s-min=6.9km az=110.0*
*NEIC **14** 14:29:57.9±1.7,32.°76N±0.°03×130.°81E±0.°07,h10km±1km, mb4.5/19,Error ellipse: s-maj=10.4km s-min=3.9km az=286.0*
*NIED **14** 14:29:58.1,32.°78N×130.°84E,h13km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-1.01; Mθθ2.17; Mφφ-1.16; Mrθ1.15; Mθφ2.98; Mφr-1.18; Fault plane solution: M0 3.89000×10^15^ NP1:ϕs18.00000°, δ66.00000°,λ-161.00000°. NP2:ϕs281.00000°, δ73.00000°,λ-26.00000°.*
*JMA **14** 14:29:58.1,32.°78N×130.°84E,h13km±1km,M4.6 Broadband fault plane solution: P waves. NP1: ϕs276.00000°,δ72.00000°,λ-30.00000°. NP2:ϕs16.00000°, δ61.00000°,λ-159.00000°. Principal axes: T Plg7.0000°, Azm328.0000°; N Plg55.0000°, Azm68.0000°; P Plg34.0000°, Azm233.0000°;*
JMA Felt IV J1.

ISC 14 14:29:58.3±0.4,32.°76N±0.°03×130.°84E±0.°05,h12km,n95, σ1§33/98,mb4.5/48,MS4.3/3,3C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.21**	**185**	⇑P		**Pg**		**14 30 03.1**	**+0.3**
JIU3				S		**Sg**		**14 30 06.6**	**+0.7**
JTA	**Tamana**	**0.33**	**309**	⇑P		**Pg**		**14 30 04.6**	**-0.3**
JTA				S		**Sg**		**14 30 09.1**	**-0.2**
JNU	**Nakatsue**	**0.36**	**6**	Pg		**Pg**		**14 30 04.9**	**-0.7**
	23μm,0.3s,baz=163,slow=21,SNR=25								
JNU				Lg		Lg		14 30 09.6	
	baz=289,slow=12								
JNU	**Nakatsue**	**0.36**	**6**	Pg		**Pg**		**14 30 05.3**	**-0.3**
JNU				Sg		**Sg**		**14 30 10.2**	**-0.3**
JTZ	**Takazaki**	**0.88**	**166**	⇑P		**Pb**		**14 30 15.7**	**+0.2**
JTZ				S		**Sb**		**14 30 27.6**	**+0.4**
JSU	**Suzuyama**	**1.29**	**195**	Pn		**Pn**		**14 30 21.8**	**-0.4**
JTU	**Tsushima**	**2.13**	**326**	Pn		**Pn**		**14 30 32.8**	**-0.9**
JMN	**Monobe**	**2.73**	**68**	Pn		**Pn**		**14 30 41.1**	**-0.8**
KSRS	**Korea Array**	**5.26**	**334**	Pn		**Pn**		**14 31 17.0**	**+0.4**
	5.7nm,0.3s,baz=148,slow=15,SNR=2.0								
KSRS				Pg		**Pb**		**14 31 32.6**	**+2.5**
	12nm,0.3s,baz=151,slow=18,SNR=7.4								
KSRS				Lg		Lg		14 32 43.3	
	9.1nm,0.3s,baz=152,slow=30,SNR=4.4								
JOW	**Kunigami**	**6.31**	**201**	Pn		**Pn**		**14 31 34.3**	**+3.1**
	9.0nm,0.3s,baz=115,slow=25,SNR=8.1								
JOW				Sn		**Sn**		**14 32 43.5**	**+0.3**
	baz=174,slow=19,SNR=0.8								
JOW	**Kunigami**	**6.31**	**201**	Pn		**Pn**		**14 31 34.7**	**+3.5**
MJAR	**Matsushiro Arr**	**7.15**	**56**	Pn		**Pn**		**14 31 44.5**	**+1.8**
	0.9nm,0.3s,baz=226,slow=14,SNR=11								
JHJ	**Hachijo jima 2**	**7.53**	**85**	Pn		**Pn**		**14 31 49.3**	**+1.4**
	16nm,0.3s,baz=259,slow=16,SNR=1.8								
USRK	**Ussuriysk Ar.**	**11.46**	**4**	Pn		**Pn**		**14 32 45.3**	**+3.6**
	baz=200,slow=15,SNR=2.7								
ASAJ	**Asahikawa**	**14.59**	**36**	Pn		**Pn**		**14 33 27.3**	**+2.7**
	0.7nm,0.3s,baz=225,slow=10,SNR=10								
ASAJ	**Asahikawa**	**14.59**	**36**	P		**P**		**14 33 27.3**	**-0.3**
JKA	**Kamikawa-asahi**	**14.60**	**36**			**Pn**		**14 33 23.3**	**-1.2**
LYN	**LuoYang**	**15.40**	**282**	*e*P		**Pn**		**14 33 33.8**	**-1.6**
LYN				pmax		pmax			
	comp=Z,10.0nm,0.5s								
LYN				LR		LR			
	comp=N,1μm,16.3s								
LYN				LR		LR			
	comp=E,280nm,9.8s								
LYN				LR		LR			
	comp=Z,820nm,11.6s								
KLR	**Kul'dur**	**16.47**	**2**	Pn		**P**		**14 33 51.1**	**-0.7**
	baz=180,slow=7.5,SNR=1.6								
YSS	**Yuzh-Sakhalins**	**16.84**	**29**	Pn		**Pn**		**14 33 52.9**	**-1.0**
YSS				IAmb		IAmb		14 34 00.8	
	comp=Z,40nm,1.0s								
HHC	**Hu-ho-hao-te**	**17.39**	**303**	*e*P		**Pn**		**14 34 00.1**	**-0.8**
HHC				pmax		pmax			
	comp=Z,25nm,0.9s								
HHC				pmax		pmax			
	comp=Z,150nm,5.2s								
HHC				LR		LR			
	comp=N,320nm,14.9s								
HHC				LR		LR			
	comp=E,520nm,12.8s								
HHC				LR		LR			
	comp=Z,440nm,13.6s								
XAN	**Xi'an**	**18.34**	**280**	P		**Pn**		**14 34 10.8**	**-1.8**
XAN				pP		pP		14 34 14.8	-1.3
XAN				pmax		pmax			
	comp=Z,9.0nm,1.2s								
XAN				LR		LR			
	comp=N,1μm,16.7s								
XAN				LR		LR			
	comp=E,470nm,13.1s								
XAN				LR		LR			
	comp=Z,720nm,16.5s								
BTO	**Baotou**	**18.41**	**301**	*e*P		**Pn**		**14 34 14.4**	**+0.9**
LZH	**Lanzhou**	**22.48**	**286**	*e*P		**P**		**14 34 58.1**	**+0.4**
LZH				sP		sP		14 35 04.8	+2.1
LZH				pmax		pmax			
	comp=Z,19nm,1.1s								
LZH				LR		LR			
	comp=N,660nm,11.4s								
LZH				LR		LR			
	comp=E,530nm,11.9s								
LZH				LR		LR			
	comp=Z,740nm,13.7s								
CD2	**Chengdu**	**23.06**	**273**	P		**P**		**14 35 03.9**	**+0.2**
CD2				pmax		pmax			
	comp=Z,30nm,1.0s								
CD2				LR		LR			
	comp=N,150nm,16.2s								
CD2				LR		LR			
	comp=E,1μm,14.2s								
CD2				LR		LR			
	comp=Z,990nm,12.4s								
SONM	**Songino Array**	**23.82**	**316**	P		**P**		**14 35 11.8**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=134,slow=10,SNR=3.6								
SONM	**Songino Array**	**23.82**	**316**	P		**P**		**14 35 08.9**	**-2.3**
PZH	**PanZhiHua**	**26.00**	**264**	P		**P**		**14 35 31.1**	**-0.1**
PZH				S		**S**		**14 40 04.8**	**+2.9**
PZH				pmax		pmax			
	comp=Z,10.0nm,1.1s								
PZH				pmax		pmax			
	comp=Z,120nm,5.9s								
PZH				LR		LR			
	comp=N,260nm,12.4s								
PZH				LR		LR			
	comp=E,310nm,12.0s								
PZH				LR		LR			
	comp=Z,390nm,14.0s								
CMAR	**Chiang Mai Arr**	**31.95**	**251**	P		**P**		**14 36 24.6**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=52,slow=7.3,SNR=12								
H11N2	**WAKE ISLAND Hy**	**34.68**	**103**	T		T		15 12 47.5	
	baz=298,slow=74,SNR=8.6								
H11N1	**WAKE ISLAND Hy**	**34.68**	**103**	T		T		15 12 51.3	
	baz=298,slow=74,SNR=9.0								
H11N3	**WAKE ISLAND Hy**	**34.69**	**103**	T		T		15 12 57.8	
	baz=298,slow=74,SNR=9.9								
H11S3	**WAKE ISLAND Hy**	**35.12**	**105**	T		T		15 13 25.0	
	baz=302								
H11S1	**WAKE ISLAND Hy**	**35.13**	**105**	T		T		15 13 29.0	
	baz=302								
H11S2	**WAKE ISLAND Hy**	**35.14**	**105**	T		T		15 13 25.7	
	baz=302								
WMQ	**Urumqi**	**35.25**	**301**	*e*P		**P**		**14 36 56.6**	**+3.8**
WMQ				pmax		pmax			
	comp=Z,22nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,170nm,4.3s								
KSM	**Kuching**	**36.62**	**216**	P		**P**		**14 37 02.1**	**-2.5**
KSM				IAmb		IAmb		14 37 06.3	
	comp=Z,11nm,1.2s								
ZALV	**Zalesovo Beam**	**38.72**	**317**	P		**P**		**14 37 21.6**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=96,slow=15,SNR=4.2								
ZALV				PcP		**PcP**		**14 39 32.4**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=90,slow=4.4,SNR=4.2								
GUN	**Gumba**	**38.88**	**275**	*e*P		**P**		**14 37 24.5**	**+0.4**
	comp=Z,62nm,0.8s								
TIXI	**Tiks

NEA2	**Nenana**	**56.74**	**31**	P	**P**	**14 39 42.7**	**+1.1**
NEA2				IAmb	IAmb	14 40 05.0	
	comp=Z,4,6nm,1.0s						
RND	**Reindeer**	**56.99**	**32**	P	**P**	**14 39 44.2**	**+0.7**
RND				IAmb	IAmb	14 39 47.3	
	comp=Z,7.0nm,1.1s						
MDM	**Murphy Dome**	**57.05**	**30**	P	**P**	**14 39 44.5**	**+0.6**
MDM				IAmb	IAmb	14 39 49.1	
	comp=Z,8.1nm,1.0s						
ILAR	**Eielson Array**	**57.65**	**30**	P	**P**	**14 39 49.9**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=266,slow=6.0,SNR=6.1						
M26K	**Nabesna, AK**	**59.81**	**33**	P	**P**	**14 40 03.4**	**+0.1**
INK	**Inuvik**	**62.02**	**25**	P	**P**	**14 40 20.0**	**+2.0**
	comp=Z,1.0nm,0.5s,baz=295,slow=9.5,SNR=4.4						
ARCES	**ARCESS Array B**	**64.80**	**338**	P	**P**	**14 40 35.5**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=56,slow=8.9,SNR=4.3						
C36M	**Paulatuk**	**64.81**	**22**	P	**P**	**14 40 36.4**	**0.0**
C36M				IAmb	IAmb	14 40 40.3	
	comp=Z,4.8nm,0.9s						
STKA	**Stephens Creek**	**65.09**	**170**	P	**P**	**14 40 38.3**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=328,slow=6.3,SNR=11						
STKA	**Stephens Creek**	**65.09**	**170**	P	**P**	**14 40 37.9**	**-0.7**
STKA				IAmb	IAmb	14 40 39.3	
	comp=Z,0.9nm,0.8s						
KBZ	**Khabaz**	**66.86**	**308**	P	**P**	**14 40 50.6**	**+0.5**
	comp=Z,8.3nm,0.9s,baz=92,slow=2.6,SNR=13						
FINES	**FINESS Array B**	**68.34**	**330**	P	**P**	**14 40 58.4**	**-0.7**
	comp=Z,4.0nm,0.4s,baz=72,slow=5.7,SNR=23						
FINES	**FINESS Array B**	**68.34**	**330**	P	**P**	**14 40 58.3**	**-0.8**
DAG	**Danmarks Havn**	**69.09**	**353**	*i* P	**P**	**14 41 04.0**	**+0.4**
YKA	**Yellowknife Ar**	**71.68**	**26**	P	**P**	**14 41 20.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=306,slow=5.7,SNR=3.8						
AKASG	**Malin Array Be**	**72.07**	**319**	P	**P**	**14 41 20.4**	**-1.8**
	comp=Z,2.1nm,0.5s,baz=49,slow=7.0,SNR=8.8						
NB2	**NORSAR Subarra**	**74.47**	**334**	P	**P**	**14 41 35.7**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**74.47**	**334**	P	**P**	**14 41 35.5**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=50,slow=5.6,SNR=4.7						
BRTR	**Keskin Array B**	**74.85**	**309**	P	**P**	**14 41 38.5**	**-0.5**
	comp=Z,4.9nm,0.9s,baz=90,slow=6.2,SNR=14						
BURAR	**Bucovina Array**	**75.93**	**318**	P	**P**	**14 41 44.8**	**-0.2**
CLL	**Collm**	**80.08**	**326**	*i* P	**P**	**14 42 07.3**	**-0.5**
	comp=Z,9.0nm,0.9s						
CLL				*e*PcP	**PcP**	**14 42 15.0**	**-0.2**
CONA	**Conrad Observa**	**80.83**	**322**	*e*P	**P**	**14 42 13.0**	**+0.9**
	comp=Z,2.1nm,0.6s						
GERES	**GERESS Array B**	**81.35**	**324**	P	**P**	**14 42 14.7**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=80,slow=1.5,SNR=8.7						
SOKA	**Soboth**	**82.07**	**321**	*e*P	**P**	**14 42 18.8**	**+0.2**
	comp=Z,4.2nm,0.7s						
MOTA	**Moosalm**	**83.65**	**324**	*e*P	**P**	**14 42 27.2**	**+0.3**
	comp=Z,2.7nm,0.3s						
FETA	**Feichten**	**84.05**	**323**	*e*P	**P**	**14 42 28.8**	**-0.1**
	comp=Z,2.8nm,0.7s						
DAVA	**Damuels**	**84.29**	**324**	*e*P	**P**	**14 42 29.9**	**-0.3**
	comp=Z,1.0nm,0.2s						
NVAR	**Mina Array Bea**	**84.39**	**48**	P	**P**	**14 42 32.3**	**+1.4**
	comp=Z,1.4nm,1.1s,baz=284,slow=4.2,SNR=3.7						

IDC 14 14:43:05.4±3.2, 10°53S×152°49E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.1/47, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=57.6km s-min=48.9km az=86.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.37**	**282**	Pn	Pn	14 44 26.6	-0.3
	0.5nm,0.3s,baz=157,slow=7.7,SNR=1.8						
WRA	**Warrannunga Arr**	**19.84**	**240**	P		14 47 38.0	-0.1
	0.1nm,0.3s,baz=61,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**22.02**	**231**	P	P	14 48 01.8	+0.2
	0.6nm,0.8s,baz=62,slow=11,SNR=8.7						
STKA	**Stephens Creek**	**23.51**	**204**	P	P	14 48 17.1	0.0
	1.3nm,0.6s,baz=24,slow=9.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**151.31**	**278**	PKPbc	PKPbc	15 03 01.9	-0.2
	0.1nm,0.4s,baz=62,slow=1.5,SNR=2.8						

*IDC **14** 14:43:39.6±0.5, 32°.70N×130°.73E, h0km, mb4.6/36, mb1 4.7/41, mb1mx4.5/75, mbtmp4.6/41, ML3.7/4, MS4.0/8, Ms1 4.0/8, ms1mx3.8/96, Error ellipse: s-maj=13.3km s-min=6.4km az=114.0*

*BJI **14** 14:43:40.2±0.0, 32°.55N×131°.15E, h37km, mb4.7/55, mB4.9/41, Ms5.0/69, Ms7 4.8/62*

*MOS **14** 14:43:40.4±1.0, 32°.68N×130°.68E, h17km, mb5.1/54, MS4.3/5, Error ellipse: s-maj=6.7km s-min=3.8km az=116.6*

*NEIC **14** 14:43:41.6±1.7, 32°.78N±0°.03×130°.75E±0°.07, h10km±1km, mb4.9/43, Error ellipse: s-maj=9.9km s-min=4.3km az=104.0*

*JMA **14** 14:43:41.1, 32°.77N×130°.83E, h14km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φs273.00000°, δ75.00000°, λ-30.00000°. NP2: φs12.00000°, δ61.00000°, λ-162.00000°. Principal axes: T Plg9.0000°, Azm325.0000°; N Plg56.0000°, Azm69.0000°; P Plg32.0000°, Azm229.0000°;*

*NIED **14** 14:43:41.2, 32°.77N×130°.83E, h14km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr-0.93; Mθθ1.54; Mφφ-0.61; Mrθ0.39; Mθφ2.16; Mφr-0.90; Fault plane solution: M0 2.71000×10^16 NP1: φs279.00000°, δ67.00000°, λ-22.00000°. NP2: φs18.00000°, δ70.00000°, λ-155.00000°.*

*GCMT **14** 14:43:43.6±0.5, 32°.86N±0°.02×130°.77E±0°.03, h27km±1km, MW5.1/74, Moment Tensor Solution. s16,c18; s74,c95; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.52±.51; Mθθ4.29±.35; Mφφ-1.78±.35; Mrθ1.70±.53; Mθφ4.06±.21; Mφr-1.62±.60; Best double couple: M0 5.94400×10^16 NP1: φs24.00000°, δ60.00000°, λ-156.00000°. NP2: φs282.00000°, δ69.00000°, λ-32.00000°. Principal axes: T 6.3990, Plg5.0000°, Azm335.0000°; N -0.9200, Plg52.0000°, Azm72.0000°; P -5.4890, Plg37.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **14** 14:43:47.0±0.0, 33°.74N×130°.78E, h15km, mb4.7, Ms6.7*

ISC 14 14:43:42.2±0.6, 32°.74N±0°.02×130°.81E±0°.03, h16km±3km, n511, σ1s29/547, mb4.9/159, MS4.7/17, 69C-46D, Fault plane solution: NP1: φs83.84906°, δ89.77669°, λ58.50274°. **NP2:** φs353.48462°, δ31.49798°, λ179.57259°. **Principal axes:** T Plg37.2776°, Azm326.1854°; N Plg31.4970°, Azm83.9859°; P Plg36.8817°, Azm201.3565°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.19**	**179**	⇑P	**Pg**	**14 43 46.0**	**-0.8**
JIU3				S	**Sg**	**14 43 49.5**	**-0.4**
JTA	**Tamana**	**0.32**	**314**	⇑P	**Pg**	**14 43 47.7**	**-1.3**
JTA				S	**Sg**	**14 43 52.5**	**-1.1**
JNU	**Nakatsue**	**0.39**	**9**	Pg	**Pg**	**14 43 48.3**	**-1.8**
	4μm,0.3s,baz=181,slow=11,SNR=1014						
JNU				Lg	Lg	14 43 53.5	
	30μm,0.3s,baz=324,slow=14,SNR=85						
JNU				LR	LR	14 44 12.0	
	comp=Z,21μm,18.3s,baz=176,slow=74						
JNU	**Nakatsue**	**0.39**	**9**	Pg	**Pg**	**14 43 48.5**	**-1.7**
JNU				Sg	**Sg**	**14 43 53.3**	**-2.2**
JTZ	**Takazaki**	**0.87**	**164**	⇑P	**Pb**	**14 43 58.6**	**-0.3**
JTZ				S	**Sg**	**14 44 10.7**	**+0.1**
JSU	**Suzuyama**	**1.27**	**194**	Pn	**Pn**	**14 44 04.8**	**-0.5**
JSU				Sn	**Sg**	**14 44 23.2**	**+0.1**
JTU	**Tsushima**	**2.13**	**327**	Pn	**Pn**	**14 44 15.7**	**-1.4**
JMN	**Monobe**	**2.76**	**68**	Pn	**Pn**	**14 44 26.0**	**+0.2**
JHS	**Saijyo**	**2.96**	**40**	Pn	**Pn**	**14 44 28.9**	**+0.3**
TJN	**Taejon**	**4.61**	**323**	*ce*P	**Pn**	**14 44 50.6**	**-0.6**
TJN	**Taejon**	**4.61**	**323**		**Pn**	**14 44 50.8**	**-0.4**
TJN	**Taejon**	**4.61**	**323**	P	**Pn**	**14 44 53.3**	**+2.1**
KSRS	**Korea Array**	**5.26**	**334**	Pn	**Pn**	**14 44 59.8**	**-0.4**
	3.5nm,0.3s,baz=147,slow=14,SNR=41						
KSRS				Lg	Lg	14 46 26.4	
	19nm,0.3s,baz=156,slow=29,SNR=7.7						
KSAR	**Wonju Array Be**	**5.27**	**334**	P	**Pn**	**14 44 59.8**	**-0.5**
KSAR	**Wonju Array Be**	**5.27**	**334**		**Pn**	**14 44 59.8**	**-0.5**
KS19	**Wonju Array Si**	**5.33**	**334**		**Pn**	**14 44 60.0**	**-1.1**
INU	**Inuyama**	**5.77**	**62**	Pn	**Pn**	**14 45 08.6**	**+1.3**
INCN	**Inchon**	**5.84**	**325**	P	**Pn**	**14 45 06.5**	**-1.6**
INCN	**Inchon**	**5.84**	**325**	Pn	**Pn**	**14 45 06.5**	**-1.6**
JGF	**Kuroka**	**6.13**	**60**		**Pn**	**14 45 13.1**	**+0.9**
JOW	**Kunigami**	**6.29**	**201**	Pn	**Pn**	**14 45 16.0**	**+1.7**
	26nm,0.3s,baz=103,slow=16,SNR=40						
JOW				Sn	**Sn**	**14 46 26.8**	**+1.0**
	baz=126,slow=19,SNR=0.8						
JOW	**Kunigami**	**6.29**	**201**	Pn	**Pn**	**14 45 17.1**	**+2.8**
JOW	**Kunigami**	**6.29**	**201**	P	**Pn**	**14 45 17.1**	**+2.8**
MAJO	**Matsushiro**	**7.18**	**56**	P	**Pn**	**14 45 28.6**	**+2.0**
MAJO	**Matsushiro**	**7.18**	**56**	Pn	**Pn**	**14 45 28.6**	**+2.0**
MAJO	**Matsushiro**	**7.18**	**56**	P	**Pn**	**14 45 29.3**	**+2.7**
MJAR	**Matsushiro Arr**	**7.18**	**56**	Pn	**Pn**	**14 45 28.6**	**+2.0**
	0.6nm,0.3s,baz=225,slow=5.7,SNR=5.8						
MJAR				LR	LR	14 48 31.5	
	comp=Z,4μm,18.9s,baz=228,slow=40						
JHJ	**Hachijo jima 2**	**7.56**	**85**	Pn	**Pn**	**14 45 32.6**	**+0.9**
	95nm,0.3s,baz=55,slow=20,SNR=25						
JHJ				LR	LR	14 48 39.5	
	comp=Z,1μm,19.0s,baz=314,slow=39						
JHJ2	**Mitsune**	**7.58**	**85**	Pn	**Pn**	**14 45 32.4**	**+0.4**
MSHR	**Mys Shultsa**	**9.83**	**2**	*i* P	**Pn**	**14 46 03.9**	**+1.1**
NJ2	**Nanjing**	**10.13**	**269**	⇓P	**Pn**	**14 46 10.3**	**+3.3**
NJ2				S	**Sn**	**14 48 07.0**	**+6.7**
NJ2				pmax	pmax		
	comp=Z,56nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,240nm,3.8s						
NJ2				LR	LR		
	comp=N,4μm,10.0s						
NJ2				LR	LR		
	comp=E,3μm,11.4s						
NJ2				LR	LR		
	comp=Z,4μm,11.2s						
VLA	**Vladivostok**	**10.40**	**4**	*i* P	**Pn**	**14 46 13.4**	**+2.8**
JCJ	**Chichijima**	**11.36**	**117**	LR	LR	14 50 34.0	
	comp=Z,488nm,18.6s,baz=322,slow=36						
USRK	**Ussuriysk Ar.**	**11.48**	**4**	Pn	**Pn**	**14 46 29.0**	**+3.6**
	baz=201,slow=13,SNR=17						
USRK				LR	LR	14 50 33.1	
	comp=Z,313nm,21.2s,baz=182,slow=36						
YHNB	**Yeheng**	**11.54**	**228**	P	**Pn**	**14 46 29.4**	**+3.0**
TIA	**Tai'an**	**11.81**	**291**	⇓P	Pn	14 46 37.8	+7.8
TIA				pmax	pmax		
	comp=Z,13nm,1.0s						
TIA				pmax	pmax		
	comp=Z,330nm,8.7s						
TIA				LR	LR		
	comp=N,10μm,15.6s						
TIA				LR	LR		
	comp=E,4μm,10.4s						
TIA				LR	LR		
	comp=Z,1μm,5.4s						
CN2	**Changchun**	**11.81**	**341**	*e*P	**Pn**	**14 46 33.0**	**+3.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				LR	LR		
	comp=N,2μm,9.0s						
CN2				LR	LR		
	comp=E,4μm,9.0s						
CN2				LR	LR		
	comp=Z,2μm,10.0s						
MDJ	**Mudanjiang**	**11.90**	**356**	P	**Pn**	**14 46 31.8**	**+0.7**
MDJ				pP		14 46 37.9	
MDJ				sP		14 46 44.3	
MDJ				S	**Sn**	**14 48 44.8**	**+1.3**
MDJ				sS		14 48 56.4	
MDJ				SS	**SnSn**	**14 48 58.6**	**+2.9**
MDJ				PcS	**PcS**	**14 55 51.3**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,220nm,4.7s						
MDJ				LR	LR		
	comp=N,2μm,12.2s						
MDJ				LR	LR		
	comp=E,4μm,11.8s						
MDJ				LR	LR		
	comp=Z,2μm,13.7s						
SSLB	**Suanglung**	**12.44**	**227**	Pn	**Pn**	**14 46 39.4**	**+0.7**
SSLB	**Suanglung**	**12.44**	**227**	P	**Pn**	**14 46 41.4**	**+2.7**
QZH	**Quanzhou**	**13.22**	**237**	*e*P	**Pn**	**14 46 50.4**	**+1.1**
QZH				LR	LR		
	comp=N,2μm,10.9s						
QZH				LR	LR		
	comp=E,2μm,10.0s						
QZH				LR	LR		
	comp=Z,3μm,11.2s						
BNX	**BinXian**	**13.24**	**350**	⇓P	**Pn**	**14 46 52.9**	**+3.4**
BNX				pmax	pmax		
	comp=Z,82nm,1.5s						
BNX				pmax	pmax		
	comp=Z,510nm,3.8s						
ERM	**Erimo**	**13.48**	**43**	*i* P	**Pn**	**14 46 56.1**	**+3.3**
BJI	**Beijing**	**13.85**	**306**	P	**Pn**	**14 46 59.3**	**+1.5**
BJI				LR	LR		
	comp=N,5μm,16.4s						
BJI				LR	LR		
	comp=E,2μm,14.8s						
BJI				LR	LR		
	comp=Z,3μm,14.0s						
HNS	**HongShan**	**13.98**	**294**	⇑P	**P**	**14 47 04.8**	**-2.7**
HNS				S	Sn	14 49 44.8	+10
HNS				LR	LR		
	comp=N,4μm,16.7s						
HNS				LR	LR		
	comp=E,2μm,16.3s						
HNS				LR	LR		
	comp=Z,2μm,15.3s						
WHN	**Wuhan**	**14.19**	**266**	⇑P	**Pn**	**14 47 05.3**	**+2.8**
WHN				S	Sn	14 49 50.0	+10
WHN				LR	LR		
	comp=N,12μm,20.1s						
WHN				LR	LR		
	comp=E,12μm,11.3s						
WHN				LR	LR		
	comp=Z,14μm,11.6s						
ASAJ	**Asahikawa**	**14.62**	**36**	Pn	**Pn**	**14 47 08.9**	**+0.6**
	0.6nm,0.3s,baz=231,slow=16,SNR=7.1						
ASAJ	**Asahikawa**	**14.62**	**36**	P	**Pn**	**14 47 08.5**	**+0.1**
JKA	**Kamikawa-asahi**	**14.62**	**36**	Pn	**Pn**	**14 47 08.5**	**+0.1**
LYN	**LuoYang**	**15.38**	**282**	⇓P	**Pn**	**14 47 20.3**	**+1.7**
LYN				S	**S**	**14 50 16.8**	**-8.0**
LYN				pmax	pmax		
	comp=Z,30nm,1.4s						
LYN				pmax	pmax		
	comp=Z,510nm,4.2s						
LYN				LR	LR		
	comp=N,8μm,16.1s						
LYN				LR	LR		
	comp=E,2μm,13.3s						
LYN				LR	LR		
	comp=Z,5μm,12.9s						
XLT	**XiLinHaoTe**	**16.03**	**318**	⇓*i*P	**P**	**14 47 32.5**	**+2.1**
XLT				pP	pP	14 47 35.3	+0.4
XLT				sP	sP	14 47 40.0	+3.0
XLT				S	**Sn**	**14 50 26.6**	**+2.3**
XLT				pmax	pmax		
	comp=Z,32nm,1.4s						
XLT				pmax	pmax		
	comp=Z,560nm,4.7s						
XLT				LR	LR		
	comp=N,350nm,12.3s						
XLT				LR	LR		
	comp=E,3μm,12.2s						
XLT				LR	LR		
	comp=Z,3μm,10.8s						
KLR	**Kul'dur**	**16.49**	**2**	Pn	**Pn**	**14 47 33.4**	**+0.6**
	0.4nm,0.3s,baz=168,slow=8.7,SNR=48						
KLR				LR	LR	14 54 19.8	
	comp=Z,370nm,19.1s,baz=186,slow=39						
KLR	**Kul'dur**	**16.49**	**2**	*ce*P	**P**	**14 47 34.4**	**-1.0**
KLR				pmax	pmax		
	comp=Z,50nm,1.3s						
YSS	**Yuzh-Sakhalins**	**16.87**	**29**	*e*P	**P**	**14 47 39.3**	**-0.3**
YSS				pmax	pmax		
	comp=Z,400nm,2.8s						
YSS				pmax	pmax		
	comp=Z,70nm,1.1s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**16.87**	**29**		**Pn**	**14 47 38.4**	**+0.8**
YSS				IAmb	IAmb	14 47 43.2	
	comp=Z,76nm,1.0s						
YSS	**Yuzh-Sakhalins**	**16.87**	**29**	P	**P**	**14 47 40.2**	**+0.6**
HHC	**Hu-ho-hao-te**	**17.39**	**303**	*e*P	**Pn**	**14 47 44.8**	**+0.6**
HHC				S	**Sn**	**14 50 59.8**	**+2.4**
HHC				pmax	pmax		
	comp=Z,360nm,5.8s						
HHC				LR	LR		
	comp=Z,3μm,13.9s						
HHC				LR	LR		
	comp=Z,3μm,11.8s						
XAN	**Xi'an**	**18.32**	**280**	P	**Pn**	**14 47 54.6**	**-1.1**
XAN				S	**Sn**	**14 51 20.3**	**+0.2**
XAN				pmax	pmax		
	comp=Z,38nm,1.3s						
XAN				LR	LR		
	comp=Z,6μm,18.8s						
XAN				LR	LR		
	comp=Z,2μm,15.9s						
XAN				LR	LR		
	comp=Z,3μm,15.0s						
BTO	**Baotou**	**18.40**	**301**	*e*P	**Pn**	**14 47 57.3**	**+0.6**
BTO				LR	LR		
	comp=Z,12μm,19.4s						
BTO				LR	LR		
	comp=Z,5μm,14.7s						
GRNR	**Gornyy**	**18.48**	**11**	⇑*i*P	**Pn**	**14 48 00.7**	**+3.1**
GRNR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,1μm,12.0s						
GRNR				MLR	MLR		
	comp=N,560nm,16.0s						
TYV	**Tymovskoe**	**20.10**	**22**	*e*P	Pn	14 48 18.2	+1.3
TYV				pmax	pmax		
	comp=Z,14nm,1.5s						
TYV				pmax	pmax		
	comp=Z,100nm,2.4s						
TGY	**Tagaytay City**	**20.62**	**208**	P	**P**	**14 48 20.4**	**-0.7**
	comp=Z,45nm,0.3s,baz=284,slow=4.2,SNR=3.3						
ZEA	**Zeya**	**21.14**	**354**	*e*P	**P**	**14 48 28.2**	**+1.9**
ZEA				*e*S	**S**	**14 52 14.4**	**-6.4**
ZEA				pmax	pmax		
	comp=E,100nm,3.4s						
ZEA				pmax	pmax		
	comp=N,200nm,2.4s						
ZEA				pmax	pmax		
	comp=Z,200nm,1.8s						
ZEA				pmax	pmax		
	comp=N,60nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,100nm,1.3s						
ZEA				smax	smax		
	comp=N,400nm,7.2s						
ZEA				smax	smax		
	comp=E,600nm,6.1s						
ZEA				MLR	MLR		
	comp=E,500nm,9.0s						
ZEA				MLR	MLR		
	comp=N,800nm,11.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,8.0s						
GYA	**Guiyang**	**21.88**	**260**	⇑*i*P	**P**	**14 48 35.0**	**+0.4**
GYA				S	**S**	**14 52 34.8**	**-1.2**
GYA				pmax	pmax		
	comp=Z,36nm,0.9s						
GYA				LR	LR		
	comp=Z,2μm,10.2s						
GYA				LR	LR		
	comp=Z,3μm,10.2s						
GYA				LR	LR		
	comp=Z,4μm,12.2s						
LZH	**Lanzhou**	**22.47**	**286**	⇑P	**P**	**14 48 41.0**	**+0.1**
LZH				pP	sP	14 48 46.5	-1.1
LZH				S	**S**	**14 52 43.4**	**-3.7**
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
LZH				pmax	pmax		
	comp=Z,190nm,5.0s						
LZH				LR	LR		
	comp=Z,4μm,12.1s						
LZH				LR	LR		
	comp=Z,3μm,10.3s						
LZH				LR	LR		
	comp=Z,4μm,13.0s						
GUMO	**Guam**	**22.99**	**143**	LR	LR	14 56 02.8	
	comp=Z,470nm,21.7s,baz=317,slow=32						
CIT	**Chita**	**23.00**	**332**	*e*P	**P**	**14 48 49.5**	**+3.3**
CIT				*e*		14 48 55.1	
CIT				*e*		14 49 14.2	
CIT				*e*		14 49 23.4	
CD2	**Chengdu**	**23.04**	**273**	P	**P**	**14 48 45.8**	**-1.0**
CD2				S	**S**	**14 52 57.5**	**+0.5**
CD2				pmax	pmax		
	comp=Z,90nm,1.3s						
CD2				pmax	pmax		
	comp=Z,350nm,5.3s						
CD2				LR	LR		
	comp=Z,1μm,13.3s						
CD2				LR	LR		
	comp=Z,7μm,14.5s						
CD2				LR	LR		
	comp=Z,5μm,12.2s						
QIZ	**Qiongzhong**	**23.23**	**239**	P	**P**	**14 48 48.1**	**-0.6**
QIZ				S	**S**	**14 53 00.3**	**+0.1**
QIZ				LR	LR		
	comp=Z,1μm,9.9s						
QIZ				LR	LR		
	comp=Z,1μm,11.9s						
QIZ				LR	LR		
	comp=Z,1μm,9.4s						
ULN	**Ulaanbaatar**	**23.46**	**317**	*ce*P	**P**	**14 48 51.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,29nm,1.3s						
ULN	**Ulaanbaatar**	**23.46**	**317**	P	**P**	**14 48 52.1**	**+1.1**
SONM	**Songino Array**	**23.82**	**316**	P	**P**	**14 48 54.9**	**+0.4**
	comp=Z,7.2nm,0.9s,baz=128,slow=12,SNR=12						
SONM				LR	LR	14 57 50.9	
	comp=Z,349nm,18.8s,baz=326,slow=36						
KMI	**Kunming**	**25.66**	**260**	⇑P	**P**	**14 49 10.8**	**-0.8**
KMI				pmax	pmax		
	comp=Z,16nm,0.9s						
KMI				LR	LR		
	comp=Z,2μm,13.7s						
KMI				LR	LR		
	comp=Z,2μm,11.5s						
KMI				LR	LR		
	comp=Z,2μm,11.3s						
GTA	**Gaotai**	**25.84**	**294**	⇓P	**P**	**14 49 12.5**	**-0.5**
GTA				pmax	pmax		
	comp=Z,160nm,6.4s						
GTA				LR	LR		
	comp=Z,6μm,16.3s						
GTA				LR	LR		
	comp=Z,2μm,13.1s						
GTA				LR	LR		
	comp=Z,2μm,12.7s						
PZH	**PanZhiHua**	**25.97**	**264**	P	**P**	**14 49 13.4**	**-0.9**
PZH				S	**S**	**14 53 50.3**	**+5.9**
PZH				pmax	pmax		
	comp=Z,40nm,1.4s						
PZH				pmax	pmax		
	comp=Z,230nm,3.5s						
PZH				LR	LR		
	comp=Z,2μm,13.5s						
PZH				LR	LR		
	comp=Z,2μm,12.9s						
PZH				LR	LR		
	comp=Z,1μm,13.7s						
DAV	**Davao City (W)**	**26.00**	**192**	LR	LR	15 01 19.7	
	comp=Z,244nm,18.1s,baz=38,slow=41						
ZAK	**Zakamensk**	**26.88**	**319**	*e*P	**P**	**14 49 22.1**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,16nm,1.4s						
IRK	**Irkutsk**	**27.36**	**323**	*e*P	**P**	**14 49 28.4**	**+1.9**
IRK				pmax	pmax		
	comp=Z,33nm,2.2s						
PET	**Petropavlovsk**	**28.47**	**36**	P	**P**	**14 49 33.4**	**-2.9**
PET				IAmb	IAmb	14 49 50.8	
	comp=Z,23nm,1.2s						
MOY	**Mondy**	**28.77**	**320**	*e*P	**P**	**14 49 40.2**	**+1.0**
MOY				pmax	pmax		
	comp=Z,21nm,2.9s						
YAK	**Yakutsk**	**29.32**	**359**	P	**P**	**14 49 45.5**	**+1.8**
	comp=Z,3.2nm,0.4s,baz=92,slow=1.4,SNR=1.6						
YAK	**Yakutsk**	**29.32**	**359**	*e*P	**P**	**14 49 46.2**	**+2.5**
YAK				*e**PP	**pP**	**14 49 49.4**	**+0.8**
YAK				*e*		14 52 51.0	
YAK				*e*S	**S**	**14 54 41.0**	**+4.9**
YAK				*e**SS	**sS**	**14 54 47.2**	**+3.0**
YAK				*e*SS	**SnSn**	**14 56 02.8**	**+0.6**
YAK				*e*		15 00 25.0	
YAK				pmax	pmax		
	comp=Z,13nm,1.0s						
YAK				pmax	pmax		

comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK smax smax
comp=N,25nm,2.3s
YAK smax smax
comp=E,12nm,2.6s
YAK MLR MLR
comp=Z,485nm,12.0s
YAK MLR MLR
comp=E,502nm,12.0s
YAK MLR MLR
comp=N,192nm,11.0s
GOMU GeErMu 29.77 287 P **P** **14 49 48.8 +0.3**
GOMU S **S** **14 54 44.5 -0.1**
GOMU pmax pmax
comp=N,10.0nm,1.2s
GOMU pmax pmax
comp=N,130nm,5.2s
GOMU LR LR
comp=N,1µm,17.3s
GOMU LR LR
comp=N,660nm,17.9s
GOMU LR LR
comp=N,560nm,17.9s
MA2 Magadan 29.95 20 P **P** **14 49 51.5 +2.1**
comp=N,1.2nm,0.2s,baz=189,slow=10.0,SNR=6.4
MA2 Magadan 29.95 20 *ce*P **P** **14 49 51.5 +2.1**
MA2 pmax pmax
comp=Z,7.0nm,1.3s
MA2 Magadan 29.95 20 P **P** **14 49 49.4 0.0**
CHTO Chiang Mai 31.73 252 P **P** **14 50 04.7 -0.8**
CHTO pmax pmax
comp=Z,15nm,0.9s
CHTO Chiang Mai 31.73 252 P **P** **14 50 04.7 -0.8**
CHTO IAmb IAmb 14 50 07.6
comp=Z,15nm,0.9s
CHTO Chiang Mai 31.73 252 P **P** **14 50 06.1 +0.5**
CHTO Chiang Mai 31.73 252 P **P** **14 50 06.3 +0.8**
CM31 Chiang Mai Arr 31.92 251 P **P** **14 50 04.6 -2.6**
CM31 IAmb IAmb 14 50 14.2
comp=Z,13nm,1.0s
CM31 Chiang Mai Arr 31.92 251 P **P** **14 50 08.1 +0.9**
CMAR Chiang Mai Arr 31.92 251 P **P** **14 50 07.1 -0.1**
comp=Z,2.8nm,0.6s,baz=48,slow=8.5,SNR=24
SEY Seymchan 33.16 18 P **P** **14 50 18.5 +1.0**
comp=Z,4.4nm,1.1s,baz=198,slow=7.9,SNR=8.0
SEY Seymchan 33.16 18 *ce*P **P** **14 50 16.8 -0.8**
SEY pmax pmax
comp=Z,11nm,1.4s
SHL Shillong 34.59 268 P **P** **14 50 29.8 -0.9**
SHL Shillong 34.59 268 P **P** **14 50 30.6 -0.1**
SNR=6.3
H11N2 WAKE ISLAND Hy 34.70 103 T T 15 26 32.7
baz=297,slow=75,SNR=21
H11N1 WAKE ISLAND Hy 34.70 103 T T 15 26 37.3
baz=297,slow=75,SNR=10
H11N3 WAKE ISLAND Hy 34.71 103 T T 15 26 40.0
baz=297,slow=75,SNR=15
SBUM Sibu 34.82 214 P **P** **14 50 30.3 -2.2**
SANI Sanana 34.90 188 P **P** **14 50 32.0 -1.1**
H11S3 WAKE ISLAND Hy 35.14 105 T T 15 27 07.6
baz=301,slow=75,SNR=9.1
H11S1 WAKE ISLAND Hy 35.14 105 T T 15 27 10.3
baz=301,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 35.16 105 T T 15 27 09.9
baz=301,slow=75,SNR=6.8
WMQ Urumqi 35.24 301 *e*P **P** **14 50 36.3 +0.3**
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ LR LR
comp=Z,970nm,11.9s
WMQ LR LR
comp=Z,870nm,13.1s
WMQ LR LR
comp=Z,560nm,17.9s
KSM Kuching 36.59 216 P **P** **14 50 46.4 -1.3**
KSM IAmb IAmb 14 50 50.0
comp=Z,13nm,0.8s
KSM Kuching 36.59 216 P **P** **14 50 48.4 +0.7**
TAPN Taplejung 37.50 273 *e*P **P** **14 50 55.5 -0.2**
comp=Z,17nm,0.8s
ZSN Zaisan 37.53 307 *e*P **P** **14 50 54.6 -0.8**
ZSN Zaisan 37.53 307 *e*P **P** **14 50 54.7 -0.8**
baz=307
ODAN Odare 37.93 273 *e*P **P** **14 50 59.0 -0.3**
comp=Z,32nm,0.9s
JIRN Jiri 38.68 275 *e*P **P** **14 51 05.9 +0.1**
ZALV Zalesovo Beam 38.71 317 P **P** **14 51 04.7 -0.6**
comp=Z,1.0nm,0.6s,baz=108,slow=8.0,SNR=7.5
ZALV PcP **PcP** **14 53 15.3 -1.5**
comp=Z,1.8nm,0.6s,baz=93,slow=4.3,SNR=6.1
ZALV ScP **S** **14 57 01.8 +0.4**
comp=Z,0.6nm,0.5s,baz=90,slow=5.0,SNR=5.3
GUN Gumba 38.86 275 *e*P **P** **14 51 07.4 +0.1**
comp=Z,153nm,0.9s
TIXI Tiksi 38.98 359 *ce*P **P** **14 51 07.6 +0.3**
TIXI pmax pmax
comp=Z,8.0nm,1.1s
MK31 Makanchi Array 39.23 306 *i* P **P** **14 51 09.0 -0.7**
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MKAR Makanchi Array 39.23 306 P **P** **14 51 09.2 -0.5**
comp=Z,6.8nm,1.0s,baz=93,slow=9.7,SNR=29
MKAR Makanchi Array 39.23 306 P **P** **14 51 09.1 -0.6**
PKI Pulchoki 39.36 275 *e*P **P** **14 51 11.1 -0.3**
comp=Z,51nm,1.0s
PKIN Phulchoki 39.37 275 *e*P **P** **14 51 11.0 -0.4**
comp=Z,41nm,1.0s
KKN Kakani 39.40 275 *e*P **P** **14 51 11.5 -0.1**
comp=Z,56nm,1.0s
MAKZ Makanchi 39.44 306 P **P** **14 51 10.5 -1.0**
MAKZ Makanchi 39.44 306 P **P** **14 51 10.9 -0.6**
DMN Daman 39.60 275 *e*P **P** **14 51 13.2 -0.2**
comp=Z,24nm,0.9s
GKN Gorkha 39.87 276 *e*P **P** **14 51 15.0 -0.5**
comp=Z,41nm,1.0s
DANN Dangsing 40.50 277 *e*P **P** **14 51 21.0 +0.2**
comp=Z,93nm,0.9s
BILL Bilibino 40.81 20 *de*P **P** **14 51 23.8 +1.3**
BILL *e* 14 52 58.4
BILL *e*PPP PPP 14 53 25.2
BILL *e*S **S** **14 57 34.6 +2.1**
BILL *e*SSS SSS 15 01 03.9
BILL pmax pmax
comp=Z,21nm,1.3s
BILL MLR MLR
comp=Z,550nm,12.0s
KOLN Koldanda 40.82 276 *e*P **P** **14 51 23.2 -0.2**
comp=Z,74nm,1.1s
SEM Semipalatinsk 40.87 311 *e*P **P** **14 51 20.7 -2.8**
SEM Semipalatinsk 40.87 311 *e*P **P** **14 51 20.7 -2.8**
baz=311
PDGK Podgornoye 41.20 300 P **P** **14 51 25.1 -1.2**
PYUN Piuthan 41.22 277 *e*P **P** **14 51 26.7 0.0**
comp=Z,114nm,1.0s
SHLS Shalkode 41.23 300 *e*P **P** **14 51 22.5 -4.0**
SHLS Shalkode 41.23 300 *e*P **P** **14 51 22.6 -4.0**
baz=300
UZB Uzynbulak 41.55 300 *e*P **P** **14 51 27.9 -1.2**
UZB Uzynbulak 41.55 300 *e*P **P** **14 51 28.0 -1.2**
baz=300
KPKS Kokpek 41.78 300 *e*P **P** **14 51 29.8 -1.2**
KPKS Kokpek 41.78 300 *e*P **P** **14 51 29.8 -1.2**
baz=300
TDK Taldyqorghan 41.91 303 *e*P **P** **14 51 31.6 -0.3**
TDK Taldyqorghan 41.91 303 *e*P **P** **14 51 31.7 -0.3**
baz=303
KURK Kurchatov 41.93 311 *i* P **P** **14 51 30.8 -1.1**
KURK pmax pmax
comp=Z,22nm,1.1s
KURK Kurchatov 41.93 311 P **P** **14 51 28.5 -3.5**
KURK IAmb IAmb 14 51 36.5
comp=Z,20nm,1.1s
KURK Kurchatov 41.93 311 P **P** **14 51 31.8 -0.1**
KURBB Kurchatov Arra 41.98 311 P **P** **14 51 31.8 -0.5**
comp=Z,13nm,1.1s,baz=97,slow=8.8,SNR=49
SATY Saty 42.01 300 *e*P **P** **14 51 31.9 -0.9**
SATY Saty 42.01 300 *e*P **P** **14 51 32.0 -0.9**
baz=300
ADK Adak 42.24 47 P **P** **14 51 32.2 -2.2**
ADK pmax pmax
comp=Z,106nm,1.5s
ADK Adak 42.24 47 P **P** **14 51 32.2 -2.2**
CHKK Chushkaly 42.98 301 *e*P **P** **14 51 40.0 -0.7**
CHKK Chushkaly 42.98 301 *e*P **P** **14 51 40.1 -0.7**
baz=301
KDJ Kajisay 42.99 299 P **P** **14 51 40.1 -0.8**
KDJ pmax pmax
comp=Z,8.0nm,1.1s
KDJ Kajisay 42.99 299 P **P** **14 51 40.1 -0.8**
MDOK Medeo 42.99 300 *e*P **P** **14 51 39.8 -1.1**
MDOK Medeo 42.99 300 *e*P **P** **14 51 39.9 -1.1**
baz=300
TNSS Tian-Shan 43.08 300 *e*P **P** **14 51 41.6 -0.3**
TNSS Tian-Shan 43.08 300 *e*P **P** **14 51 41.7 -0.3**
baz=300
AAA Alma-Ata 43.09 300 *e*P **P** **14 51 41.0 -0.5**
AAA Alma-Ata 43.09 300 *e*P **P** **14 51 41.1 -0.5**
baz=300
KUU Kurty 43.45 301 *e*P **P** **14 51 42.0 -2.4**
KUU Kurty 43.45 301 *e*P **P** **14 51 42.1 -2.4**
baz=301
ULHL Ulahol 43.67 299 P **P** **14 51 46.8 +0.4**
SNR=7.2
NRIK Noril'sk 43.86 339 P **P** **14 51 47.0 -0.4**
comp=Z,10nm,0.8s,baz=109,slow=6.9,SNR=10
NRIK Noril'sk 43.86 339 *ce*P **P** **14 51 46.9 -0.4**
NRIK pmax pmax
comp=Z,16nm,1.0s
BOOM Boomskoye usch 43.87 299 P **P** **14 51 47.6 -0.4**
BOOM pmax pmax
comp=Z,10.0nm,1.1s
BOOM Boomskoye usch 43.87 299 P **P** **14 51 47.6 -0.4**
TKM2 Tokmak 2 44.07 300 P **P** **14 51 50.1 +0.4**
SNR=28
TKM2 Tokmak 2 44.07 300 *i* P **P** **14 51 49.6 -0.1**
TKM2 pmax pmax
comp=Z,30nm,1.0s
GSI Gunungsitoli 44.20 232 P **P** **14 51 50.3 -0.4**
GSI Gunungsitoli 44.20 232 P **P** **14 51 50.2 -0.5**
KSH Kashi 44.23 295 P **P** **14 51 54.4 +3.5**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=Z,1µm,11.9s
KSH LR LR
comp=Z,1µm,15.9s
KSH LR LR
comp=Z,1µm,15.6s
CHMS Chumysh 44.68 300 P **P** **14 51 54.9 +0.6**
SNR=6.5
SGDS Sogindy 44.72 301 *e*P **P** **14 51 53.8 -0.9**
SGDS Sogindy 44.72 301 *e*P **P** **14 51 53.8 -0.9**
baz=301
AAK Ala-Archa 44.91 300 P **P** **14 51 56.8 +0.5**
SNR=6.9
AAK Ala-Archa 44.91 300 *ce*P **P** **14 51 56.1 -0.2**
AAK pmax pmax
comp=Z,13nm,1.3s
AAK Ala-Archa 44.91 300 P **P** **14 51 56.6 +0.3**
UCH Uchtor 44.95 299 P **P** **14 51 58.0 +1.0**
SNR=30
BTLS Baital 45.00 303 *e*P **P** **14 51 55.6 -1.2**
BTLS Baital 45.00 303 *e*P **P** **14 51 55.7 -1.2**
baz=303
LEM Lembang 45.11 213 P **P** **14 51 58.3 +0.2**
comp=Z,12nm,0.4s,baz=108,slow=9.4,SNR=7.7
MTN Manton Dam 45.33 180 P **P** **14 51 59.2 -0.4**
EKS2 Erkin-Say 45.43 300 P **P** **14 52 01.0 +0.5**
SNR=5.5
AML Almayashu 45.56 299 P **P** **14 52 02.6 +0.8**
SNR=15
AML Almayashu 45.56 299 P **P** **14 52 02.9 +1.1**
BRZS Berezniki 45.71 310 *e*P **P** **14 52 01.1 -1.3**
BRZS Berezniki 45.71 310 *e*P **P** **14 52 01.1 -1.3**
baz=310
OTUK Ortayu 45.98 308 P **P** **14 52 04.1 -0.4**
DZA Taraz 47.19 300 *e*P **P** **14 52 13.6 -0.5**
DZA Taraz 47.19 300 *e*P **P** **14 52 13.6 -0.5**
baz=300
BRVK Borovoye 47.20 314 *i* P **P** **14 52 13.6 -0.4**
BRVK pmax pmax
comp=Z,15nm,0.9s
BRVK Borovoye 47.20 314 P **P** **14 52 13.7 -0.4**
BRVK IAmb IAmb 14 52 17.4
comp=Z,13nm,0.8s
BRVK Borovoye 47.20 314 P **P** **14 52 14.4 +0.4**
BRVK P **P** **14 52 14.4 +0.4**
NIL Nilore 47.62 288 P **P** **14 52 16.6 -1.0**
NIL pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 47.62 288 P **P** **14 52 16.6 -1.0**
NIL IAmb IAmb 14 52 19.1
comp=Z,10nm,0.9s
NIL Nilore 47.62 288 P **P** **14 52 17.2 -0.5**
KK31 Karatay Array 47.75 301 *i* P **P** **14 52 18.5 0.0**
KK31 Karatay Array 47.75 301 P **P** **14 52 18.9 +0.4**
KKAR Karatay Array 47.75 301 P **P** **14 52 18.1 -0.4**
KKAR Karatay Array 47.75 301 P **P** **14 52 18.1 -0.4**
KNRA Kununurra 48.18 183 P **P** **14 52 20.9 -1.0**
KNRA Kununurra 48.18 183 P **P** **14 52 21.2 -0.7**
comp=Z,32nm,1.1s
IUG Iuzhnay 48.25 300 *e*P **P** **14 52 21.7 -0.8**
IUG Iuzhnay 48.25 300 *e*P **P** **14 52 21.7 -0.8**
baz=300
KBL Kabul 50.73 290 P **P** **14 52 41.7 +0.1**
SNR=8.1
FITZ Fitzroy Crossi 50.79 186 P **P** **14 52 40.9 -0.9**
comp=Z,5.1nm,0.7s,baz=5.7,slow=7.5,SNR=13
FITZ Fitzroy Crossi 50.79 186 P **P** **14 52 40.7 -1.1**
FITZ IAmb IAmb 14 52 42.0
comp=Z,16nm,1.3s
SVE Sverdlovsk 52.64 319 *e*P **P** **14 52 55.7 +0.4**
SVE pmax pmax
comp=Z,14nm,0.8s
CHGN Chignik 53.02 41 P **P** **14 52 58.2 +0.2**
baz=275
ARU Arti 53.82 319 *c i*P **P** **14 53 03.9 -0.1**
ARU 14 54 07.1
ARU 14 55 00.8
ARU PPP PPP 14 56 11.7
ARU S **S** **15 00 40.3 +2.4**
ARU SS **SKiKP** **15 04 14.9 -2.1**
ARU pmax pmax
comp=Z,17nm,1.0s
AB31 Akbulak array 54.01 310 *i* P **P** **14 53 04.8 -0.7**
ABKAR Akbulak array 54.01 310 P **P** **14 53 05.0 -0.5**
ABKAR Akbulak array 54.01 310 P **P** **14 53 05.3 -0.1**
ABKAR IAmb IAmb 14 53 08.0
comp=Z,7.4nm,0.8s
L19K White Mountain 54.40 34 P **P** **14 53 08.4 +0.2**
baz=274
J20K Nowinta River 54.61 31 P **P** **14 53 10.3 +0.7**
J20K Nowinta River 54.61 31 P **P** **14 53 10.1 +0.5**
baz=273
M19K Big River Lodg 54.64 34 P **P** **14 53 10.2 +0.3**
baz=274
K20K Telida 54.69 32 P **P** **14 53 10.8 +0.5**
K20K IAmb IAmb 14 53 16.4
comp=Z,15nm,1.4s
K20K Telida 54.69 32 P **P** **14 53 10.7 +0.5**
baz=274
O19K Port Alsworth 54.82 36 P **P** **14 53 11.7 +0.5**
baz=276
L20K Farewell, AK 54.84 33 P **P** **14 53 12.1 +0.8**
baz=274
AKTO Aktyubinsk 55.02 312 P **P** **14 53 12.5 -0.3**
H21K Melozitna Rive 55.11 29 P **P** **14 53 13.5 +0.3**
baz=273
CHUM Lake Minchumin 55.43 32 P **P** **14 53 15.5 -0.1**
baz=275
I21K Tanana 55.48 30 P **P** **14 53 16.4 +0.5**
baz=274
CAST Castle Rocks 55.58 32 P **P** **14 53 16.7 +0.1**
baz=275
PPLA Purkeypile 55.58 33 P **P** **14 53 17.1 +0.3**
PPLA IAmb IAmb 14 53 35.3
comp=Z,17nm,1.2s
PPLA Purkeypile 55.58 33 P **P** **14 53 16.7 -0.1**
baz=276
O20K Slope Mountain 55.68 36 P **P** **14 53 17.6 +0.1**
baz=277
SPCR Spurr Chakacha 55.75 35 P **P** **14 53 18.4 +0.4**
baz=277
BPAW Bear Paw Mtn. 56.00 31 P **P** **14 53 20.7 +1.1**
baz=276
KDAK Kodiak Island 56.01 39 P **P** **14 53 20.3 +0.6**
comp=Z,6.9nm,0.9s,baz=171,slow=5.7,SNR=4.1
KDAK Kodiak Island 56.01 39 P **P** **14 53 20.0 +0.2**
baz=279
COLD Coldfoot 56.05 27 P **P** **14 53 19.9 -0.1**
baz=274
TOLK Toolik Lake Re 56.19 26 P **P** **14 53 20.2 -0.8**
baz=274
TRF Thorofare Moun 56.38 32 P **P** **14 53 22.2 -0.4**
baz=277
H23K Yukon River 56.44 29 P **P** **14 53 22.9 +0.1**
H23K IAmb IAmb 14 53 28.4
comp=Z,19nm,1.2s
H23K Yukon River 56.44 29 P **P** **14 53 23.5 +0.7**
baz=276,SNR=8.4
I23K Minto, Yukon-K 56.59 30 P **P** **14 53 24.1 +0.3**
baz=276
M22K Willow 56.67 34 P **P** **14 53 24.7 +0.3**
baz=278
NEA2 Nenana 56.77 31 P **P** **14 53 23.4 -1.8**
baz=277,SNR=5.6
MCK McKinley 56.94 32 P **P** **14 53 24.7 -1.7**
baz=278
RC01 Rabbit Creek A 56.95 35 P **P** **14 53 25.5 -1.0**
baz=279
RND Reindeer 57.02 32 P **P** **14 53 27.0 0.0**
RND pmax pmax
comp=Z,13nm,1.0s
RND Reindeer 57.02 32 P **P** **14 53 27.0 0.0**
RND IAmb IAmb 14 53 31.1
comp=Z,13nm,1.0s
H24K Noodor Dome 57.12 29 P **P** **14 53 27.6 0.0**
baz=277
PMR Palmer 57.16 34 P **P** **14 53 27.4 -0.5**
baz=279
WAT1 Susitna Watana 57.24 33 P **P** **14 53 28.4 -0.1**
baz=279
POKR Poker Plat Res 57.40 30 P **P** **14 53 30.1 +0.5**
baz=278
SML Sawmill 57.50 34 P **P** **14 53 30.4 0.0**
baz=280
WRKA Warakurna 57.51 183 P **P** **14 53 30.3 -0.4**
KNK Knik Glacier 57.51 34 P **P** **14 53 30.5 +0.1**
baz=280
WAT6 Susitna Watana 57.65 33 P **P** **14 53 31.0 -0.6**
baz=280
ILAR Eielson Array 57.68 30 P **P** **14 53 31.3 -0.2**
comp=Z,3.0nm,1.0s,baz=275,slow=6.8,SNR=18
HDA Harding Lake 57.71 31 P **P** **14 53 31.2 -0.5**
baz=279,SNR=5.9
DHY Denali Highway 57.73 32 P **P** **14 53 32.0 -0.2**
baz=280
KIRV Kirov 58.36 323 *ce*P **P** **14 53 36.0 -0.3**
KLU Klutina 58.69 34 P **P** **14 53 39.0 +0.3**
baz=282
RIDG Independent Ri 58.73 31 P **P** **14 53 38.1 -0.9**
RIDG Independent Ri 58.73 31 P **P** **14 53 38.8 -0.3**
baz=281
HARP HAARP 58.86 33 P **P** **14 53 39.8 -0.1**
baz=282
SCRK Sand Creek 59.06 31 P **P** **14 53 41.2 -0.2**
SCRK IAmb IAmb 14 53 45.4
comp=Z,10.0nm,1.0s
SCRK Sand Creek 59.06 31 P **P** **14 53 40.3 -1.1**
baz=282,SNR=12
DOT Dot Lake 59.09 31 P **P** **14 53 41.0 -0.5**
J26L Joseph Creek 59.13 30 P **P** **14 53 41.3 -0.5**
baz=282
HMDM Hanimaadhoo 59.25 257 P **P** **14 53 43.9 +0.7**
N25K Chitina, Valde 59.29 34 P **P** **14 53 42.8 -0.1**
baz=283
BMRM Bremner River 59.43 34 P **P** **14 53 43.6 -0.3**
BMRM IAmb IAmb 14 53 54.6
comp=Z,13nm,0.9s
BMRM Bremner River 59.43 34 P **P** **14 53 43.6 -0.3**
baz=283
L26K Log Cabin Wild 59.54 32 P **P** **14 53 45.4 +0.8**
L26K IAmb IAmb 14 53 49.5
comp=Z,8.7nm,1.0s
L26K Log Cabin Wild 59.54 32 P **P** **14 53 44.9 +0.3**
baz=283
PRGR Permogore 59.55 326 *e*P **P** **14 53 40.5 -4.1**
PRGR pmax pmax
comp=Z,6.0nm,0.9s
M26K Nabesna, AK 59.84 33 P **P** **14 53 46.7 0.0**
baz=284,SNR=7.0
VRDI Verde Repeater 59.91 34 P **P** **14 53 46.6 -0.7**
VRDI IAmb IAmb 14 53 51.9
comp=Z,9.6nm,0.9s
MCARA McCarthy VSAT 60.07 34 P **P** **14 53 49.1 +0.9**
MCARA McCarthy VSAT 60.07 34 P **P** **14 53 47.8 -0.4**
baz=284,SNR=5.6
EGAK Eagle 60.08 30 P **P** **14 53 47.5 -0.8**
baz=284
L27K Beaver Creek, 60.21 32 P **P** **14 53 50.1 +1.0**
L27K IAmb IAmb 14 53 54.3
comp=Z,9.7nm,0.9s
L27K Beaver Creek, 60.21 32 P **P** **14 53 49.3 +0.1**
baz=284,SNR=7.2
BCAR Beaver Creek A 60.23 32 P **P** **14 53 50.2 +0.8**
M27K Edge Creek, AK 60.36 32 P **P** **14 53 50.8 +0.4**
M27K IAmb IAmb 14 53 55.1
comp=Z,7.7nm,0.9s
M27K Edge Creek, AK 60.36 32 P **P** **14 53 50.3 0.0**
baz=284
BARN Barnard Glacie 60.79 34 P **P** **14 53 53.8 +0.4**
BARN IAmb IAmb 14 53 58.0
comp=Z,11nm,0.9s
CTG Chitna Glacier 60.97 34 P **P** **14 53 53.8 -0.7**
baz=286
DAWY Dawson 61.01 30 P **P** **14 53 54.2 -0.4**
baz=286
I29M Ogilvie Camp, 61.10 29 P **P** **14 53 54.6 -0.6**
baz=286
YUK3 Moose Creek 61.16 33 P **P** **14 53 56.1 +0.2**
baz=286
INK Inuvik 62.05 25 P **P** **14 54 02.0 +0.6**
comp=Z,7.6nm,1.1s,baz=290,slow=5.7,SNR=9.8
INK Inuvik 62.05 25 P **P** **14 54 00.5 -1.0**
INK pmax pmax
comp=Z,14nm,1.2s
INK Inuvik 62.05 25 P **P** **14 54 00.5 -1.0**
INK IAmb IAmb 14 54 05.8
comp=Z,14nm,1.2s
INK Inuvik 62.05 25 P **P** **14 54 01.6 +0.2**
baz=288,SNR=6.4
YUK4 Talbot Arm 62.11 33 P **P** **14 54 02.1 -0.2**
baz=288
YUK6 Outpost Mounta 62.37 33 P **P** **14 54 03.7 -0.4**
baz=288
M30M Minto, Yukon 62.56 31 P **P** **14 54 04.8 -0.3**
baz=288
KLMR Klimovskoe 62.61 327 *e*P **P** **14 54 03.7 -1.6**
KLMR pmax pmax
comp=Z,23nm,1.3s
KLMR Klimovskoe 62.61 327 *e*P **P** **14 54 03.8 -1.6**
KLMR AMP 14 54 07.7
comp=Z,23nm,1.3s
HYT Haines Junctio 62.80 33 P **P** **14 54 06.1 -0.7**
baz=289,SNR=6.3
KAAM Kaadhehdhoo 63.03 252 P **P** **14 54 09.8 +1.0**
JLN Jalan Bani Buh 63.19 280 P **P** **14 54 10.2 +0.3**
FORT Forrest 63.23 183 P **P** **14 54 08.7 -1.1**
FORT Forrest 63.23 183 P **P** **14 54 09.0 -0.7**
KBS Kingsbay 63.29 349 *ce*P **P** **14 54 10.5 +0.8**
KBS pmax pmax
comp=Z,34nm,0.7s
WBK Wadi Bani Khal 63.35 281 P **P** **14 54 11.8 +0.8**
WSAR Wadi Sarin 63.35 282 P **P** **14 54 11.6 +0.6**
A36M Sachs Harbour 63.36 20 P **P** **14 54 10.0 -0.1**
A36M Sachs Harbour 63.36 20 P **P** **14 54 10.3 +0.2**
baz=294,SNR=13
N31M Braeburn, Yuko 63.37 32 P **P** **14 54 10.5 -0.1**
baz=290
BIDO Bidbid 63.65 282 P **P** **14 54 13.4 +0.6**
BIDO P **P** **14 54 13.4 +0.6**
SMDO Samad 63.91 282 P **P** **14 54 15.0 +0.2**
SMDO P **P** **14 54 15.0 +0.2**
WHY Whitehorse 64.07 33 P **P** **14 54 13.9 -1.3**
baz=291
BANOM Banah 64.10 285 P **P** **14 54 16.8 +0.9**
BANOM P **P** **14 54 16.8 +0.9**
JMDO Jabal Madar 64.17 281 P **P** **14 54 17.0 +0.6**
JMDO P **P** **14 54 17.0 +0.6**
SHME Shamm 64.18 285 P **P** **14 54 17.8 +1.5**
SNR=6.9
SHME P **P** **14 54 17.8 +1.5**
SNR=6.9
HOQ Hoqain 64.29 282 P **P** **14 54 17.5 +0.4**
SKAG Skagway 64.29 34 P **P** **14 54 14.9 -1.6**
baz=291

HATD Hatta, Dubai 64.71 284 P P 14 54 21.2 +1.3
HATD P P 14 54 21.2 +1.3
LKRN Lenkeran, Azer 64.74 301 P P 14 54 19.9 +0.1
BSY Bisya 64.75 282 P P 14 54 20.5 +0.3
BSY P P 14 54 20.5 +0.3
ARCES ARCESS Array B 64.81 338 P P 14 54 19.5 -0.2
comp=Z,2.8nm,0.8s,baz=64,slow=8.2,SNR=5.8
ARCES ARCESS Array B 64.81 338 P P 14 54 18.0 -1.8
ARCES pmax pmax
comp=Z,3.0nm,1.2s
ARCES ARCESS Array B 64.81 338 P P 14 54 18.0 -1.8
C36M Paulatuk 64.83 22 P P 14 54 20.1 +0.3
C36M Paulatuk 64.83 22 P P 14 54 19.6 -0.3
baz=296,SNR=14
ASHO Ashiyiah 64.84 284 P P 14 54 22.3 +1.6
ASHO P P 14 54 22.3 +1.6
SEKA Sheki 64.91 304 P P 14 54 20.5 -0.5
MHTO MHTO 64.91 280 P P 14 54 20.0 -1.2
MHTO P P 14 54 20.0 -1.2
STKA Stephens Creek 65.07 170 P P 14 54 20.7 -1.2
comp=Z,6.2nm,0.5s,baz=359,slow=8.5,SNR=10
STKA Stephens Creek 65.07 170 P P 14 54 19.8 -2.0
GROC Groznyy 65.12 307 eP P 14 54 20.0 -2.2
GROC e 14 54 53.4
GROC pmax pmax
comp=Z,37nm,0.4s
ZKTA Zakatala 65.15 305 P P 14 54 22.5 0.0
MNGR Mingechevir, A 65.16 304 P P 14 54 22.7 +0.2
MOS Moscow 65.33 322 eP P 14 54 21.3 -2.0
MOS pmax pmax
comp=Z,48nm,0.7s
ALNE Al Ain 65.36 284 P P 14 54 24.8 +0.7
SNR=5.9
ALNE P P 14 54 24.8 +0.7
SNR=5.9
BBOO Buckleboo 65.39 175 P P 14 54 22.9 -1.0
ASUD Al Ashush, Dub 65.46 284 P P 14 54 23.7 -1.0
ASUD P P 14 54 23.7 -1.0
GANJ Ganja 65.74 304 P P 14 54 26.0 -0.3
VORR Voronezh 66.01 317 iP P 14 54 27.3 -0.5
VORR pmax pmax
comp=Z,22nm,1.3s
OBN Obninsk 66.12 321 P P 14 54 28.3 -0.1
comp=Z,4.2nm,0.4s,baz=107,slow=11,SNR=6.1
OBN Obninsk 66.12 321 ceP P 14 54 27.8 -0.6
OBN e 14 54 56.8
OBN e 14 56 53.4
OBN eS S 15 03 21.0 +4.9
OBN pmax pmax
comp=Z,38nm,1.3s
OBN MLR MLR
comp=Z,1μm,23.0s
UMZA Um Al Zommool 66.45 283 P P 14 54 30.7 -0.4
UMZA P P 14 54 30.7 -0.4
ZEI Tsey 66.56 307 eP P 14 54 30.1 -1.7
ZEI pmax pmax
comp=Z,18nm,1.3s
KBZ Khabaz 66.86 308 P P 14 54 33.4 0.0
comp=Z,18nm,0.8s,baz=91,slow=2.3,SNR=46
KBZ Khabaz 66.86 308 ceP P 14 54 32.9 -0.4
KBZ pmax pmax
comp=Z,28nm,1.0s
KVAR Kislovodsk Arr 66.90 308 P P 14 54 33.6 -0.2
comp=Z,24nm,1.2s,baz=49,slow=19,SNR=12
KIV Kislovodsk 66.91 308 eP P 14 54 33.8 0.0
KIV pmax pmax
comp=Z,34nm,1.0s
KIV Kislovodsk 66.91 308 P P 14 54 34.3 +0.5
KIV P P 14 54 34.3 +0.5
NAX Nakhchivan 66.91 303 P P 14 54 33.9 0.0
GNI Garni 67.04 304 P P 14 54 35.5 +0.6
comp=Z,6.1nm,0.4s,baz=162,slow=6.2,SNR=12
GNI Garni 67.04 304 ceP P 14 54 33.3 -1.6
GNI pmax pmax
comp=Z,36nm,1.3s
GNI Garni 67.04 304 P P 14 54 35.7 +0.8
GNI P P 14 54 35.7 +0.8
JRN Qarnain Island 67.33 286 P P 14 54 35.7 -1.0
JRN P P 14 54 35.7 -1.0
MZR Muzera 67.70 284 P P 14 54 38.6 -0.4
SNR=5.0
MZR P P 14 54 38.6 -0.4
SNR=5.0
FINES FINESS Array B 68.34 330 P P 14 54 41.8 -0.6
comp=Z,4.6nm,0.5s,baz=68,slow=6.1,SNR=26
FINES FINESS Array B 68.34 330 P P 14 54 41.6 -0.9
RES Resolute Bay 68.75 12 P P 14 54 44.4 -0.3
RES pmax pmax
comp=Z,18nm,1.5s
RES Resolute Bay 68.75 12 P P 14 54 44.4 -0.3
RES IAmb IAmb 14 54 49.9
comp=Z,18nm,1.5s
DAG Danmarks Havn 69.11 353 iP P 14 54 47.0 0.0
DOK Doka 69.21 279 P P 14 54 47.7 -0.9
RBK Rabkut 69.68 278 P P 14 54 50.7 -0.8
WHFO Wadi Hawf 69.84 279 P P 14 54 51.7 -0.9
WHFO P P 14 54 51.7 -0.9
ABTO Aybut 70.51 278 P P 14 54 56.0 -0.6
ABTO P P 14 54 56.0 -0.6
NACGM Naroch 71.25 324 eP P 14 54 54.3 -6.1
YKA Yellowknife Ar 71.70 26 P P 14 55 03.1 0.0
comp=Z,1.3nm,0.8s,baz=299,slow=6.0,SNR=15
SIM Simferopol' 71.99 312 eP P 14 55 02.2 -2.9
SIM pmax pmax
comp=Z,11nm,0.6s
AKASG Malin Array Be 72.07 319 P P 14 55 04.4 -1.1
comp=Z,7.2nm,0.6s,baz=50,slow=6.6,SNR=26
SOCY Socotra 72.50 273 P P 14 55 07.0 -1.7
SORM Soroca 73.87 317 ⇑P P 14 55 15.1 -1.0
SORM Soroca 73.87 317 ⇑P P 14 55 15.1 -1.0
NB2 NORSAR Subarra 74.47 334 P P 14 55 18.8 -0.7
comp=Z,13nm,1.4s,baz=50,slow=5.9
NOA NORSAR Array B 74.47 334 P P 14 55 19.2 -0.3
comp=Z,3.0nm,0.8s,baz=50,slow=5.6,SNR=14
BR131 Keskin Array S 74.84 308 P P 14 55 21.9 -0.3
SNR=9.7
BR131 P P 14 55 21.9 -0.3
SNR=9.7
BRTR Keskin Array B 74.84 308 P P 14 55 22.0 -0.2
comp=Z,12nm,0.9s,baz=95,slow=5.3,SNR=40
BRTR Keskin Array B 74.84 308 P P 14 55 21.7 -0.5
LVV L'vov 75.37 320 eP P 14 55 24.9 0.0
TESR Tescani 75.71 316 ⇑P P 14 55 26.6 -0.3
BURAR Bucovina Array 75.93 318 ⇑P P 14 55 27.8 -0.5
BURAR Bucovina Array 75.93 318 ⇑P P 14 55 27.8 -0.5
BURAR Bucovina Array 75.93 318 P P 14 55 28.2 0.0
VRI Vrincioaia 76.01 316 ⇓P P 14 55 29.7 +1.1
VRI Vrincioaia 76.01 316 ⇓P P 14 55 29.7 +1.1
PLOR Plostina 76.06 316 ⇓P P 14 55 30.9 +1.9
PLOR Plostina 76.06 316 ⇓P P 14 55 30.9 +1.9
MLR Muntele Rosu 76.67 316 P P 14 55 32.4 -0.2
comp=Z,14nm,1.2s,baz=143,slow=10,SNR=6.1
DOPR Dopca 76.74 316 ⇑P P 14 55 33.6 +0.9
KOLS Kolonicke sedl 76.82 320 eP P 14 55 33.8 +0.6
KOLS pmax pmax
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 76.82 320 eP P 14 55 33.8 +0.6
UZH Uzhgorod 76.98 320 eP P 14 55 32.0 -2.0
UZH e 14 55 44.5
TRPA Tarpa 77.14 319 ⇑P P 14 55 35.5 +0.6
TRPA Tarpa 77.14 319 P P 14 55 35.2 +0.3
CRVS Cervenica-Dubn 77.28 320 eP P 14 55 35.9 +0.2
CRVS pmax pmax
comp=Z,21nm,1.2s
CRVS Cervenica-Dubn 77.28 320 eP P 14 55 35.8 +0.1
MTUR Matau 77.34 316 ⇑P P 14 55 49.7 +13
OJC Ojcow 77.38 322 eP P 14 55 36.0 -0.3
ARR Arges 77.51 316 ⇓P P 14 55 38.2 +1.1
DRGR 77.81 318 ⇑P P 14 55 39.1 +0.3
DRGR 77.81 318 ⇑P P 14 55 39.1 +0.3
KECS Kecovo 78.05 320 eP P 14 55 39.7 -0.3
KECS pmax pmax
comp=Z,15nm,0.9s
KECS Kecovo 78.05 320 eP P 14 55 39.7 -0.3
LANS Liptovska Anna 78.19 321 eP P 14 55 41.7 +0.8
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 78.19 321 eP P 14 55 41.7 +0.8
GZR Gura Zlata 78.57 317 ⇓P P 14 55 43.4 +0.3
GZR Gura Zlata 78.57 317 ⇓P P 14 55 43.4 +0.3
PSZ Piszkesteto 78.70 320 ⇑P P 14 55 43.6 -0.2
PSZ Piszkesteto 78.70 320 ⇑P P 14 55 43.6 -0.2
PSZ Piszkesteto 78.70 320 P P 14 55 43.6 -0.2

KSP Ksiaz 78.78 324 eP P 14 55 44.0 0.0
MORC Moravsky Berou 78.81 323 ⇑P P 14 55 44.6 +0.3
MORC Moravsky Berou 78.81 323 ⇑P P 14 55 44.6 +0.3
MORC Moravsky Berou 78.81 323 eP P 14 55 44.4 +0.1
VYHS Vyhne 78.92 321 eP P 14 55 45.6 +0.7
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 78.92 321 eP P 14 55 45.6 +0.7
KRLC Kraliky 79.02 323 eP P 14 55 45.2 -0.2
KRLC Kraliky 79.02 323 eP P 14 55 45.2 -0.2
EIL Elat 79.03 298 P P 14 55 45.3 -0.5
comp=Z,2.5nm,0.6s,baz=96,slow=9.9,SNR=3.6
CHVC Chvalec 79.06 324 eP P 14 55 45.2 -0.4
DPC Dobruska-Polom 79.08 324 eP P 14 55 45.8 +0.1
DPC Dobruska-Polom 79.08 324 eP P 14 55 45.8 +0.1
HERR Herculane 79.08 317 ⇓P P 14 55 46.0 +0.3
UPC Upice 79.13 324 eP P 14 55 46.0 0.0
UPC Upice 79.13 324 eP P 14 55 46.0 0.0
JAVC Velka Javorina 79.31 322 eP P 14 55 48.4 +1.4
BSEG Bad Segeberg 79.56 329 eP P 14 55 47.5 -0.6
comp=Z,5.9nm,0.7s,baz=47,slow=5.3
VRAC Vranov 79.59 323 ⇓P P 14 55 49.5 +1.0
VRAC Vranov 79.59 323 P P 14 55 49.1 +0.7
comp=Z,8.7nm,0.7s,baz=60,slow=5.3,SNR=11
VRAC Vranov 79.59 323 eP P 14 55 48.9 +0.4
SMOL Smolenice 79.65 322 eP P 14 55 49.9 +1.1
SMOL pmax pmax
comp=Z,11nm,1.1s
SMOL Smolenice 79.65 322 eP P 14 55 49.9 +1.1
MODS Modra-Piesok 79.82 322 eP P 14 55 50.4 +0.6
MODS pmax pmax
comp=Z,62nm,1.3s
MODS Modra-Piesok 79.82 322 eP P 14 55 50.4 +0.6
KRUC Moravsky 79.84 323 eP P 14 55 50.1 +0.2
VTS Vitosha 79.90 314 ⇓P P 14 55 55.7 +5.2
VTS Vitosha 79.90 314 ⇓P P 14 55 55.7 +5.2
BRG Berggiesshubel 79.91 325 eP P 14 55 50.2 -0.1
BRG Amp 14 55 53.3
comp=Z,12nm,1.2s
BRG Berggiesshubel 79.91 325 eP P 14 55 50.1 -0.1
BRG pmax pmax
comp=Z,12nm,1.2s
BRG Berggiesshubel 79.91 325 eP P 14 55 50.1 -0.1
comp=Z,5.9nm,0.9s,baz=47,slow=5.3
CLL Collm 80.08 326 ⇓iP P 14 55 50.4 -0.7
CLL i 14 55 53.6
CLL pmax pmax
comp=Z,26nm,0.9s
CLL Collm 80.08 326 P P 14 55 50.1 -1.0
CLL Collm 80.08 326 ⇓iP P 14 55 50.4 -0.7
comp=Z,26nm,0.9s
CLL ix x 14 55 53.6
CLL Collm 80.08 326 eP P 14 55 50.8 -0.3
comp=Z,15nm,0.8s,baz=47,slow=5.3
FBE Freiberg 80.17 325 eP P 14 55 51.6 0.0
comp=Z,20nm,1.1s,baz=47,slow=5.3
PRU Pruhonice 80.19 324 eP P 14 55 51.9 +0.2
PRU Pruhonice 80.19 324 eP P 14 55 51.9 +0.2
FLTG Flechtingen 80.23 327 eP P 14 55 51.3 -0.5
comp=Z,11nm,1.0s,baz=47,slow=5.3
FRGS Fruska Gora 80.40 318 ⇑P P 14 55 52.2 -0.8
MORH Mrgy, Hungar 80.41 319 ⇑P P 14 55 52.9 -0.1
MORH Mrgy, Hungar 80.41 319 P P 14 55 52.1 -0.9
MPLH Magyarpolny 80.42 321 P P 14 55 53.2 +0.1
NEUB Neuenburg 80.73 326 eP P 14 55 54.5 0.0
comp=Z,13nm,0.8s,baz=47,slow=5.3
RONA Rosalia, Austr 80.75 321 eP P 14 55 55.6 +0.7
comp=Z,15nm,1.1s
KOVH Kovagotottos 80.79 319 P P 14 55 54.5 -0.4
CONA Conrad Observa 80.83 322 iP P 14 55 56.1 +0.8
comp=Z,23nm,1.2s,SNR=12
TANN Tannenbergstha 80.93 325 eP P 14 55 55.7 -0.1
comp=Z,10nm,1.2s,baz=47,slow=5.3
CLZ Clausthal 80.95 327 eP P 14 55 56.0 +0.2
comp=Z,10nm,0.9s,baz=47,slow=5.3
GUNZ Gunzen 81.02 325 eP P 14 55 56.1 -0.2
comp=Z,7.3nm,0.9s,baz=47,slow=5.3
WERN Wernitzgruen 81.05 325 eP P 14 55 56.4 0.0
comp=Z,14nm,1.0s,baz=47,slow=5.3
NKC Novy Kostel 81.05 325 eP P 14 55 56.0 -0.4
NKC Novy Kostel 81.05 325 eP P 14 55 56.0 -0.4
CKRC Cesky Krumlov 81.06 323 eP P 14 55 55.7 -0.7
MOX Moxa 81.18 326 eP P 14 55 56.9 -0.1
comp=Z,4.3nm,0.9s,baz=47,slow=5.3
KHC Kasperske Hory 81.22 324 eP P 14 55 56.8 -0.5
KHC Kasperske Hory 81.22 324 eP P 14 55 56.8 -0.5
GEC2 GERESS Array S 81.35 324 eP P 14 55 57.8 -0.3
comp=Z,7.4nm,1.1s,baz=47,slow=5.3
GERES GERESS Array B 81.35 324 P P 14 55 57.8 -0.3
comp=Z,4.3nm,1.0s,baz=48,slow=2.0,SNR=18
MANZ Manzenberg 81.38 325 eP P 14 55 58.2 0.0
comp=Z,1.8nm,1.0s,baz=47,slow=5.3
ARSA Arsta 81.44 321 eP P 14 55 58.4 -0.2
comp=Z,8.8nm,1.0s
ROTZ Rotzenmuhle 81.48 325 eP P 14 55 58.8 +0.2
comp=Z,1.9nm,1.0s,baz=47,slow=5.3
WET Wettzell 81.56 324 eP P 14 55 59.3 +0.2
comp=Z,3.0nm,0.9s,baz=47,slow=5.3
MOA Molln 81.71 322 eP P 14 56 00.4 +0.5
comp=Z,22nm,1.4s
SOKA Soboth 82.07 321 iP P 14 56 02.0 +0.2
comp=Z,17nm,0.9s,SNR=9.3
BIOA Bad Ischl, Aus 82.13 323 eP P 14 56 02.5 +0.3
comp=Z,16nm,1.2s
KASTN Kahler Asten 82.28 328 eP P 14 56 02.6 -0.2
comp=Z,3.8nm,0.8s,baz=47,slow=5.3
OBKA Obir 82.43 321 eP P 14 56 03.7 -0.1
comp=Z,9.8nm,1.0s
RJOB Jochberg 82.53 323 eP P 14 56 04.7 +0.4
comp=Z,8.9nm,0.8s,baz=47,slow=5.3
KBA Koeleinsper 82.69 322 eP P 14 56 04.8 -0.4
comp=Z,19nm,1.5s
MYKA Terra Mystica 82.83 322 eP P 14 56 05.2 -0.6
comp=Z,11nm,1.1s
TNS Taunus Mts 82.95 327 eP P 14 56 06.2 -0.2
comp=Z,12nm,1.1s,baz=47,slow=5.3
ABTA Abfaltersbach 83.33 322 eP P 14 56 07.3 -1.2
comp=Z,19nm,1.0s
AHRW Bad Neuenahr-A 83.35 328 eP P 14 56 08.6 +0.3
comp=Z,11nm,0.8s,baz=47,slow=5.3
WATA Walderalm 83.42 323 eP P 14 56 08.7 -0.3
comp=Z,6.2nm,0.6s
WTTA Wattenberg 83.43 323 eP P 14 56 08.3 -0.8
comp=Z,17nm,1.3s
MOTA Moosalm 83.65 324 eP P 14 56 09.5 -0.7
comp=Z,11nm,0.8s
SQTA Sankt Quirin 83.68 323 eP P 14 56 10.0 -0.3
comp=Z,6.1nm,0.7s
RETA Reutte 83.72 324 eP P 14 56 10.4 -0.1
comp=Z,16nm,1.0s
EKA Eskdalemuir Ar 83.83 336 P P 14 56 10.2 -0.6
comp=Z,0.7nm,0.5s,baz=42,slow=6.7,SNR=2.4
UBR Ueberruh 83.91 324 eP P 14 56 10.9 -0.6
comp=Z,7.2nm,0.9s,baz=47,slow=5.3
FETA Feichten 84.06 323 iP P 14 56 11.9 -0.4
comp=Z,14nm,1.1s,SNR=6.0
DAVA Damuels 84.30 324 iP P 14 56 12.6 -0.9
comp=Z,32nm,1.1s,SNR=13
BFO Black Forest 84.33 326 eP P 14 56 13.0 -0.4
comp=Z,24nm,1.0s,baz=47,slow=5.3
WLF Walferdange 84.39 328 eP P 14 56 14.2 +0.5
comp=Z,13nm,0.8s,baz=47,slow=5.3
WLF Walferdange 84.39 328 dP P 14 56 14.1 +0.5
NVAR Mina Array Bea 84.42 47 P P 14 56 14.9 +0.5
comp=Z,0.9nm,0.3s,baz=304,slow=7.0,SNR=6.1
RCHB Rochefort 84.45 328 dP P 14 56 13.4 -0.5
BMRD Maredsous 84.55 329 dP P 14 56 13.6 -0.8
comp=Z,8.8nm,1.2s
DAVOX Davos/Dischmat 84.64 324 P P 14 56 14.9 -0.4
comp=Z,14nm,0.7s,baz=23,slow=3.3,SNR=21
GIVF Givet 84.67 328 eP P 14 56 14.1 -1.0
GIVF pmax pmax
comp=Z,15nm,1.0s
CDF Champ du Feu 84.77 326 eP P 14 56 14.2 -1.6
CDF pmax pmax
comp=Z,19nm,1.0s
BAIF Baives 84.97 329 eP P 14 56 14.0 -2.6
BAIF pmax pmax
comp=Z,6.0nm,0.6s
HINF Hinteralfeld 85.39 326 eP P 14 56 17.7 -1.1
HINF pmax pmax
comp=Z,11nm,1.0s
HAU Haudompre 85.49 326 eP P 14 56 18.3 -1.0
HAU pmax pmax
comp=Z,15nm,1.1s
PDAR Pinedale Array 86.72 40 P P 14 56 25.8 0.0
comp=Z,1.1nm,0.9s,baz=292,slow=0.8,SNR=6.8
LPL La Plagne 87.09 324 eP P 14 56 26.2 -1.3
LPL pmax pmax
comp=Z,20nm,1.2s
LPG La Plagne 87.09 324 eP P 14 56 26.4 -1.2
LPG pmax pmax
comp=Z,10.0nm,0.8s
ULM Lac du Bonnet 87.62 28 P P 14 56 31.1 +1.4
comp=Z,3.4nm,0.6s,baz=335,slow=5.2,SNR=4.0
MBDF Montbardon 87.64 324 eP P 14 56 31.2 +1.2
MBDF pmax pmax
comp=Z,38nm,1.7s
SMF Signal de Mont 87.65 327 eP P 14 56 28.6 -1.3
SMF pmax pmax
comp=Z,7.0nm,0.9s
AVF Avril sur Loir 87.77 327 eP P 14 56 29.1 -1.3
AVF pmax pmax
comp=Z,30nm,1.6s
VIVF Saint-Julien-l 88.57 325 eP P 14 56 32.8 -1.6
VIVF pmax pmax
comp=Z,16nm,1.2s
MFF Saint Martin d 89.48 329 eP P 14 56 37.6 -0.9
MFF pmax pmax
comp=Z,53nm,1.6s
RJF Les Rejaudoux 89.73 327 eP P 14 56 38.9 -0.8
RJF pmax pmax
comp=Z,28nm,1.3s
CAF Calviac 89.76 326 eP P 14 56 39.2 -0.7
CAF pmax pmax
comp=Z,25nm,1.4s
ESDC Sonseca Array 96.65 327 P P 14 57 12.0 +0.2
comp=Z,1.5nm,1.0s,baz=16,slow=9.7,SNR=5.0

JMA 14 14:45:26.0, 32.74N×130.78E, h10km±1km, M3.7, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	Izumi3	0.19	172	P	Pg	14 45 30.2	+0.1
JIU3				S	Sg	14 45 33.6	+0.8
JTA	Tamana	0.30	317	P	Pg	14 45 32.3	+0.2
JTA				S	Sg	14 45 36.8	+0.6
JNU	Nakatsue	0.39	12	⇑P	Pg	14 45 33.9	+0.2
JNU				S	Sg	14 45 39.3	+0.4
JTZ	Takazaki	0.88	163	P	Pb	14 45 43.5	+0.2
JTZ				S	Sb	14 45 55.2	+0.1

JMA 14 14:45:54.7, 32.77N×130.82E, h12km±1km, M4.1, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	Izumi3	0.22	182	⇑P	Pg	14 45 59.4	0.0
JIU3				S	Sg	14 46 02.9	+0.3
JTA	Tamana	0.31	309	⇑P	Pg	14 46 01.0	0.0
JTA				S	Sg	14 46 05.5	+0.3
JNU	Nakatsue	0.35	8	⇑P	Pg	14 46 01.9	0.0
JNU				S	Sg	14 46 06.8	+0.2
JTZ	Takazaki	0.90	165	P	Pb	14 46 12.3	+0.1
JTZ				S	Sb	14 46 23.9	-0.2

*DJA **14** 14:48:18.5±0.3, 6°S±3°×14°9E±°, h156km±5km, M4.7/17, mb4.8/17, mB5.1/6, MLv5.0/3, Mw(mB)4.4/6, MwMwp5.4/1, Mwp5.6/1*
*NEIC **14** 14:48:18.6±2.0, 5.72S±0.07×149.43E±0.09, h156km±7km, mb4.7/61, Error ellipse: s-maj=12.4km s-min=9.9km az=103.0*
*IDC **14** 14:48:18.0±0.9, 5.71S×149.36E, h149km±9km, mb4.3/22, mb1 4.4/27, mb1mx4.1/50, mbtmp4.8/27, Error ellipse: s-maj=13.3km s-min=6.7km az=117.0*

ISC 14 14:48:17.8±0.3, 5.74S±0.04×149.40E±0.05, h147km, n225, σ1°04/232, mb4.7/59, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	2.98	62	P	Pn	14 49 04.8	0.0
	28nm,0.3s,baz=214,slow=3.4,SNR=47						
KRVT				S	Sn	14 49 42.0	+0.9
	26nm,0.3s,baz=287,slow=17,SNR=2.8						
RABL	Rabaul	3.15	61	Pn	Pn	14 49 06.6	-0.5
RABL	Rabaul	3.15	61	P	Pn	14 49 07.1	0.0
MANU	Manus Island	4.19	331		Pn	14 49 22.8	+2.3
PMG	Port Moresby	4.27	211	P	Pn	14 49 22.3	+0.7
	87nm,0.3s,baz=22,slow=4.6,SNR=91						
PMG				S	Sn	14 50 11.4	+0.4
	26nm,0.3s,baz=354,slow=7.5,SNR=3.7						
PMG	Port Moresby	4.27	211	Pn	Pn	14 49 21.9	+0.4
PMG	Port Moresby	4.27	211	P	Pn	14 49 22.2	+0.7
MMPI	Merauke	9.35	253	P	Pn	14 50 30.0	+0.8
	5μm471nm,0.7s						
COEN	Coen	10.21	216	P	Pn	14 50 41.7	+1.0
HNR	Honiara	11.08	110	P	Pn	14 50 53.3	+1.0
	0.4nm,0.3s,baz=200,slow=3.7,SNR=4.9						
MTSU	Mount Surprise	13.28	202	P	Pn	14 51 22.7	+1.9
CTA	Charters Tower	14.59	192	P	Pn	14 51 38.6	+1.3
	1.3nm,0.3s,baz=9.2,slow=11,SNR=14						
CTA	Charters Tower	14.59	192	P	Pn	14 51 38.6	+1.3
QIS	Mount Isa	17.53	212	P	Pn	14 52 13.3	-0.1
RK1H	Rockhampton Ha	17.58	177	P	Pn	14 52 14.4	+0.6
KDU	Kakadu	18.07	246	P	P	14 52 17.8	-0.4
MTN	Manton Dam	19.35	247	P	P	14 52 31.8	-0.3
MTN	Manton Dam	19.35	247	P	P	14 52 31.8	-0.3
EIDS	Eidsvold	19.59	175		P	14 52 35.9	+1.4
EIDS				IAmb	IAmb	14 52 41.3	
	comp=Z,45nm,1.0s						
EIDS	Eidsvold	19.59	175	P	Pn	14 52 36.2	-1.2
GUMO	Guam	19.72	347	P	P	14 52 36.5	+0.4
	comp=Z,6.4nm,0.3s,baz=21,slow=22,SNR=1.9						
WB0	Warramunga Arr	20.19	225	P	P	14 52 41.4	+0.2
WB0				IAmb	IAmb	14 52 44.7	
	comp=Z,18nm,0.7s						
WR0	Warramunga Arr	20.21	224	P	P	14 52 41.1	-0.3
WR0				IAmb	IAmb	14 52 44.9	
	comp=Z,25nm,0.7s						
WRAB	Tennant Creek	20.33	225	P	P	14 52 42.7	+0.1
WRAB	Tennant Creek	20.33	225	P	P	14 52 42.5	-0.1
WB2	Warramunga Arr	20.33	225	P	P	14 52 42.6	0.0
WRA	Warramunga Arr	20.34	225	P	P	14 52 42.6	-0.1
	comp=Z,28nm,0.6s,baz=50,slow=10.0,SNR=106						
WRA				S	S	14 56 19.5	-3.4
	comp=Z,7.5nm,0.8s,baz=44,slow=18,SNR=20						
WRA				ScP	ScP	15 00 12.1	-0.9
	comp=Z,6.3nm,0.8s,baz=45,slow=2.7,SNR=16						
WRA	Warramunga Arr	20.34	225	P	P	14 52 41.6	-1.2
RMQ	Roma	20.64	182	P	P	14 52 47.3	+1.4
AAI	Ambon	21.23	275	P	P	14 52 51.8	-0.5
	comp=Z,39nm,1.7s						
QLP	Quilpie	21.31	193	P	P	14 52 53.8	+0.8
KNRA	Kununurra	22.53	242	P	P	14 53 04.4	-1.2
KNRA	Kununurra	22.53	242	P	P	14 53 04.2	-1.4
NOUC	Port Laguerre	23.06	136	P	P	14 53 11.8	+1.3
DZM	Mont Dzumac	23.14	136	P	P	14 53 11.3	0.0
DZM				IAmb	IAmb	14 53 13.6	
	comp=Z,67nm,1.1s						
DZM	Mont Dzumac	23.14	136	P	P	14 53 12.1	+0.8
AS31	Alice Springs	23.24	218	P	P	14 53 12.7	+0.5
ASAR	Alice Springs	23.24	218	P	P	14 53 12.6	+0.3
	comp=Z,9.7nm,0.4s,baz=50,slow=8.2,SNR=286						
ASAR				S	S	14 57 15.0	+1.6
	comp=Z,9.3nm,1.0s,baz=36,slow=17,SNR=12						
ASAR				ScP	ScP	15 00 19.5	-0.7
	comp=Z,6.1nm,0.9s,baz=45,slow=3.2,SNR=20						
ASAR	Alice Springs	23.24	218	P	P	14 53 12.3	+0.1
INKA	Innaminka	23.38	200	P	P	14 53 13.9	+0.6
YATNC	Mamie plateau,	23.44	135	P	P	14 53 15.9	+1.9
	comp=Z,38nm,1.3s						
ARMA	Armidale	24.64	175	P	P	14 53 26.1	+1.1
ARMA				IAmb	IAmb	14 53 27.4	
	comp=Z,38nm,1.1s						
ARMA	Armidale	24.64	175	P	P	14 53 26.0	+1.1
OOD	Oodnadatta	25.51	209	P	P	14 53 33.8	+1.1
BATI	Baumata	25.86	258	P	P	14 53 36.3	+0.2
	comp=Z,16nm,0.6s,baz=161,slow=5.0,SNR=4.4						
CMSA	Cobar Meteorol	25.90	187	P	P	14 53 36.6	+0.4
FITZ	Fitzroy Crossi	26.25	240	P	P	14 53 38.9	-0.5
	comp=Z,60nm,0.7s,baz=64,slow=8.8,SNR=163						
FITZ				S	S	14 58 00.3	-0.8
	comp=Z,5.0nm,1.1s,baz=29,slow=19,SNR=1.3						
FITZ	Fitzroy Crossi	26.25	240	P	P	14 53 38.2	-1.2
STKA	Stephens Creek	27.01	195	P	P	14 53 46.8	+0.6
	comp=Z,2.1nm,0.4s,baz=31,slow=10,SNR=14						

STKA	Stephens Creek	27.01	195	P		P		14 53 45.8	-0.4
STKA	Stephens Creek	27.01	195	P		P		14 53 47.1	+1.0
WRKA	Warakurna	27.88	224	P		P		14 53 53.3	-0.8
MULG	Mulgathing	28.37	209	P		P		14 53 58.3	+0.1
HTT	Hallett	29.23	198	P		P		14 54 06.4	+0.5
CAN	Canberra	29.44	181	P		P		14 54 08.3	+0.5
CAN				IAmb		IAmb		14 54 14.2	
	comp=Z,14nm,1.1s								
CAN	Canberra	29.44	181	P		P		14 54 08.8	+1.1
BBOO	Buckleboo	29.67	203	P		P		14 54 08.7	-1.0
BBOO				IAmb		IAmb		14 54 23.7	
	comp=Z,14nm,1.0s								
BBOO	Buckleboo	29.67	203	P		P		14 54 09.1	-0.6
ARPS	Mount Arapiles	31.65	192	P		P		14 54 27.5	+0.4
TOO	Toolangi	31.89	186	P		P		14 54 28.5	-0.7
TOO				IAmb		IAmb		14 54 31.5	
	comp=Z,23nm,1.1s								
TOO	Toolangi	31.89	186	P		P		14 54 29.7	+0.5
FORT	Forrest	31.98	216	P		P		14 54 28.9	-1.2
FORT	Forrest	31.98	216	P		P		14 54 30.1	0.0
PSA00	Pilbara Seismi	32.65	238	P		P		14 54 35.1	-0.9
PSA00	Pilbara Seismi	32.65	238	P		P		14 54 33.8	-2.3
PSA00				IAmb		IAmb		14 54 36.6	
	comp=Z,8.0nm,0.7s								
PSA00	Pilbara Seismi	32.65	238	P		P		14 54 35.5	-0.5
MEEK	Meekatharra	35.96	231	P		P		14 55 04.4	-0.2
MOO	Moorlands	36.60	183	P		P		14 55 11.1	+1.4
TAU	Tasmania Unive	37.06	183	P		P		14 55 12.3	-1.3
TAU				IAmb		IAmb		14 55 15.7	
	comp=Z,31nm,1.1s								
TAU	Tasmania Unive	37.06	183	P		P		14 55 14.8	+1.2
GIRL	Giralia	37.86	240	P		P		14 55 20.7	+0.1
GIRL	Giralia	37.86	240	P		P		14 55 21.1	+0.5
JOW	Kunigami	38.30	329	P		P		14 55 24.3	+0.1
	comp=Z,52nm,0.7s,baz=164,slow=11,SNR=12								
JOW	Kunigami	38.30	329	P		P		14 55 23.2	-1.0
MORW	Morawa	39.14	230	P		P		14 55 30.9	-0.4
BLDU	Ballidu	39.44	227	P		P		14 55 33.2	-0.5
YOJ	Yonaguni jima	39.52	320	P		P		14 55 32.6	-1.8
QRZ	Quartz Range	40.62	153	P		P		14 55 44.6	+1.4
YHNB	Yeheng	40.72	319	P		P		14 55 44.4	0.0
YHNB				IAmb		IAmb		14 55 47.2	
	comp=Z,38nm,1.0s								
URZ	Urewera	41.00	146	P		P		14 55 47.3	+0.9
JSU	Suzuyama	41.22	335	P		P		14 55 47.4	-0.9
TUWZ	Tuamarina	41.74	152	P		P		14 55 52.6	+0.1
SNZO	South Karori	42.01	151	P		P		14 55 54.9	+0.3
BFZ	Birch Farm	42.30	149	P		P		14 55 57.2	+0.2
KHZ	Kahutara	42.34	153	P		P		14 55 58.2	+1.0
RPZ	Rata Peaks	42.35	157	P		P		14 55 58.3	+0.9
	comp=Z,17nm,0.9s,baz=92,slow=6.1,SNR=4.6								
RPZ	Rata Peaks	42.35	157	P		P		14 55 58.5	+1.1
MSWZ	Moikau Station	42.36	151	P		P		14 55 55.9	-1.6
MAJO	Matsushiro	43.35	347	P		P		14 56 04.9	-0.6
MAJO				IAmb		IAmb		14 56 10.1	
	comp=Z,18nm,0.9s								
JTM	Tenmabayashi	46.92	351	P		P		14 56 33.2	-0.4
KSRS	Korea Array	47.41	337	P		P		14 56 37.5	+0.2
	comp=Z,11nm,0.8s,baz=148,slow=8.4,SNR=19								
NJ2	Nanjing	47.53	324	*e*P		P		14 56 40.1	+1.7
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
JKA	Kamikawa-asahi	50.00	354	P		P		14 56 56.4	-0.6
JKA				IAmb		IAmb		14 57 02.7	
	comp=Z,27nm,0.9s								
ASAJ	Asahikawa	50.00	354	P		P		14 56 57.9	+0.8
	comp=Z,18nm,0.6s,baz=215,slow=11,SNR=19								
USA0B	Ussuriysk Arra	52.13	344	P		P		14 57 11.9	-1.0
USA0B				IAmb		IAmb		14 57 14.6	
	comp=Z,17nm,0.8s								
USRK	Ussuriysk Ar.	52.13	344	P		P		14 57 13.4	+0.5
	comp=Z,11nm,0.7s,baz=184,slow=7.5,SNR=20								
USRK	Ussuriysk Ar.	52.13	344	P		P		14 57 13.2	+0.2
YSS	Yuzh-Sakhalins	52.79	354	P		P		14 57 17.8	+0.1
YSS				IAmb		IAmb		14 57 19.1	
	comp=Z,21nm,0.7s								
MDJ	Mudanjiang	53.20	342	P		P		14 57 20.9	+0.1
MDJ				pP		pP		14 57 29.4	-25
MDJ				sP		sP		14 57 35.5	-35
MDJ				ScP		ScP		15 02 27.3	+17
MDJ				S		**S**		**15 04 45.1**	**+4.8**
MDJ				sS		sS		15 05 03.3	-36
MDJ				pmax		pmax			
	comp=Z,19nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,710nm,7.4s								
BNX	BinXian	54.88	341	⇓P		P		14 57 33.1	+0.1
BNX				pmax		pmax			
	comp=Z,130nm,1.5s								
BNX				pmax		pmax			
	comp=Z,910nm,5.2s								
XAN	Xi'an	55.03	319	P		P		14 57 34.8	+0.5
XAN				pP		pwP		14 58 11.6	+1.1
XAN				pmax		pmax			
	comp=Z,11nm,1.3s								
CMAR	Chiang Mai Arr	55.24	297	P		P		14 57 34.9	-1.2
	comp=Z,1.3nm,0.8s,baz=124,slow=6.0,SNR=14								
CMAR	Chiang Mai Arr	55.24	297	P		P		14 57 34.0	-2.1
PZH	PanZhiHua	56.18	307	P		P		14 57 44.8	+2.0
PZH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,210nm,7.3s								
KLR	Kul'dur	56.87	346	P		P		14 57 47.3	+0.2
	comp=Z,5.1nm,0.9s,baz=115,slow=2.4,SNR=6.0								
XLT	XiLinHaoTe	57.83	332	*e*P		P		14 58 01.0	+7.0
XLT				pP		sP		14 58 37.6	-6.4
XLT				sP		PcP		14 58 57.8	+13
XLT	XiLinHaoTe	57.83	332	SS		SS		15 09 43.1	+7.7
XLT				pmax		pmax			
	comp=Z,13nm,0.9s								
XLT				pmax		pmax			
	comp=Z,750nm,8.4s								
XLT				LR		LR			
	comp=N,2μm,10.1s								
XLT				LR		LR			
	comp=E,57μm,8.2s								
XLT				LR		LR			
	comp=Z,16μm,8.4s								
HHC	Hu-ho-hao-te	57.90	327	*e*P		P		14 57 56.1	+1.5
HHC				pmax		pmax			
	comp=Z,13nm,1.1s								
HHC				pmax		pmax			
	comp=Z,350nm,7.5s								
PEA0B	Petropavlovsk-	59.05	6	P		P		14 58 02.3	+0.2
PETK	Petropavlovsk-	59.05	6	P		P		14 58 02.1	-0.1
	comp=Z,26nm,0.6s,baz=166,slow=6.8,SNR=42								
PETK	Petropavlovsk-	59.05	6	P		P		14 58 02.5	+0.3
PET	Petropavlovsk	59.06	7	P		P		14 58 01.4	-0.9
ADK	Adak	64.29	23	P		P		14 58 36.2	-1.1
MA2	Magadan	65.12	1	P		P		14 58 42.8	+0.2
	comp=Z,5.7nm,0.7s,baz=151,slow=5.8,SNR=25								
SONM	Songino Array	65.36	330	P		P		14 58 45.0	+0.4
	comp=Z,3.4nm,0.9s,baz=132,slow=4.4,SNR=4.4								
SEY	Seymchan	68.52	1	P		P		14 59 04.0	0.0
	comp=Z,8.0nm,1.0s,baz=170,slow=5.8,SNR=22								
UNV	Unalaska Valle	69.91	26	P		P		14 59 12.4	-0.4
	baz=227								
VNDA	Vanda	72.04	177	P		P		14 59 25.9	+0.7
	comp=Z,1.2nm,0.7s,baz=334,slow=6.3,SNR=8.7								
VNDA	Vanda	72.04	177	P		P		14 59 26.0	+0.7
WMQ	Urumqi	74.16	319	*e*P		P		14 59 39.4	+1.0
ANM	Nome	77.70	18	P		P		14 59 57.6	-0.3
ANM	Nome	77.70	18	P		P		14 59 58.2	+0.3
	baz=226								
OHAK	Old Harbor	77.94	28	P		P		14 59 59.8	+0.4
	baz=239								
MKAR	Makanchi Array	78.83	320	P		P		15 00 02.6	-1.9
	comp=Z,1.0nm,0.9s,baz=105,slow=7.9,SNR=8.6								
MKAR				PP		PP		15 03 01.3	-3.9
	comp=Z,0.8nm,0.9s,baz=103,slow=10,SNR=3.9								
N19K	Bonanza Creek	79.32	24	P		P		15 00 06.2	-0.8
	baz=237								
TTA	Tatalina	79.89	22	P		P		15 00 10.3	+0.3
TTA	Tatalina	79.89	22	P		P		15 00 10.4	+0.3
	baz=235								
L19K	White Mountain	79.92	23	P		P		15 00 10.3	+0.2
L19K	White Mountain	79.92	23	P		P		15 00 10.0	-0.1
	baz=237								
M19K	Big River Lodg	79.95	24	P		P		15 00 11.1	+0.8
M19K	Big River Lodg	79.95	24	P		P		15 00 10.3	0.0
	baz=237								
ZALV	Zalesovo Beam	80.08	327	P		P		15 00 09.3	-1.8
	comp=Z,1.4nm,0.5s,baz=120,slow=6.6,SNR=7.7								
ZALV	Zalesovo Beam	80.08	327	P		P		15 00 08.9	-2.2
L20K	Farewell, AK	80.46	23	P		P		15 00 13.1	+0.1
	baz=237								
RDOG	Red Dog Mine	80.81	16	P		P		15 00 14.5	-0.2
	baz=228								
K20K	Telida	80.87	22	P		P		15 00 15.0	-0.1
K20K				IAmb		IAmb		15 00 16.5	
	comp=Z,7.1nm,0.8s								
K20K	Telida	80.87	22	P		P		15 00 15.0	-0.1
	baz=237,SNR=6.8								
KSH	Kashi	80.99	311	P		P		15 00 19.5	+3.0
KSH				pmax		pmax			
	comp=Z,3.0nm,1.1s								
SEW	Seward	81.11	26	P		P		15 00 16.6	+0.2
	baz=242								
J20K	Nowinta River	81.28	22	P		P		15 00 16.3	-1.0
J20K	Nowinta River	81.28	22	P		P		15 00 17.4	+0.1
	baz=237,SNR=5.4								
PPLA	Purkeypile	81.35	23	P		P		15 00 17.6	-0.3
RC01	Rabbit Creek A	81.45	25	P		P		15 00 17.7	-0.6
	baz=241								
CAST	Castle Rocks	81.66	23	P		P		15 00 18.7	-0.7
CAST				IAmb		IAmb		15 00 19.8	
	comp=Z,10nm,0.9s								
CAST	Castle Rocks	81.66	23	P		P		15 00 18.7	-0.7
	baz=239,SNR=7.7								
CHUM	Lake Minchumin	81.81	22	P		P		15 00 19.6	-0.5
	baz=239,SNR=19								
PMR	Palmer	81.95	25	P		P		15 00 20.1	-0.7
	baz=242								
PWL	Port Wells	81.95	26	P		P		15 00 20.5	-0.4
PWL				IAmb		IAmb		15 00 21.3	
	comp=Z,20nm,0.8s								
PWL	Port Wells	81.95	26	P		P		15 00 19.8	-1.1
	baz=243								
KTH	Kantishna Hill	82.18	23	P		P		15 00 20.9	-1.2
KTH				IAmb		IAmb		15 00 21.6	
	comp=Z,8.7nm,0.8s								
TRF	Thorofare Moun	82.37	23	P		P		15 00 22.1	-1.2
TRF	Thorofare Moun	82.37	23	P		P		15 00 21.6	-1.7
	baz=241								
SML	Sawmill	82.39	25	P		P		15 00 22.7	-0.5
SML				IAmb		IAmb		15 00 23.6	
	comp=Z,13nm,0.8s								
SML	Sawmill	82.39	25	P		P		15 00 22.1	-1.1
	baz=243								
IMAR	Indian Mountai	82.41	20	P		P		15 00 23.0	-0.2
BPAW	Bear Paw Mtn.	82.43	22	P		P		15 00 22.5	-0.8
	baz=240								
GLI	Glacier Island	82.50	26	P		P		15 00 23.2	-0.5
	baz=244								
H21K	Melozitna Rive	82.56	21	P		P		15 00 23.7	-0.3
	baz=238								
I21K	Tanana	82.61	21	P		P		15 00 23.8	-0.3
	baz=239								
FID	Port Fidalgo	82.72	26	P		P		15 00 24.2	-0.7
FID				IAmb		IAmb		15 00 42.5	
	comp=Z,16nm,1.2s								
WAT1	Susitna Watana	82.77	24	P		P		15 00 24.4	-0.7
	baz=242								
SCM	Sheep Creek Mo	82.83	25	P		P		15 00 24.4	-1.1
	baz=244								
EYAK	Cordova Ski Ar	82.96	27	P		P		15 00 25.3	-0.7
	baz=245								
WAT6	Susitna Watana	82.99	25	P		P		15 00 25.9	-0.6
	baz=243								
MCK	McKinley	83.04	23	P		P		15 00 25.3	-1.2
MCK				IAmb		IAmb		15 00 26.6	
	comp=Z,18nm,0.9s								
MCK	McKinley	83.04	23	P		P		15 00 25.1	-1.4
	baz=242,SNR=14								
KLU	Klutina	83.28	26	P		P		15 00 27.3	-0.5
KLU				IAmb		IAmb		15 00 29.2	
	comp=Z,11nm,0.9s								
KLU	Klutina	83.28	26	P		P		15 00 27.0	-0.9
	baz=245								
DHY	Denali Highway	83.36	24	P		P		15 00 27.8	-0.5
DHY				IAmb		IAmb		15 00 29.1	
	comp=Z,8.3nm,0.8s								
DHY	Denali Highway	83.36	24	P		P		15 00 26.9	-1.5
	baz=243,SNR=8.8								
NEA2	Nenana	83.40	22	P		P		15 00 27.0	-1.2
	baz=242,SNR=6.8								
M24K	Tolsona, Glenn	83.43	25	P		P		15 00 27.6	-1.1
	baz=245								
I23K	Minto, Yukon-K	83.55	22	P		P		15 00 27.7	-1.3
	baz=241								
BMRM	Bremner River	83.64	27	P		P		15 00 28.5	-1.2
	baz=246								
WRH	Wood River Hil	83.71	23	P		P		15 00 28.5	-1.3
WRH				IAmb		IAmb		15 00 29.4	
	comp=Z,7.7nm,0.9s								
H23K	Yukon River	83.81	21	P		P		15 00 29.3	-1.1
	baz=241								
CCB	Clear Creek Bu	83.90	23	P		P		15 00 29.1	-1.7
CCB				IAmb		IAmb		15 00 30.2	
	comp=Z,6.6nm,0.8s								
N25K	Chitina, Valde	83.90	26	P		P		15 00 29.8	-1.2
	baz=246								
TCOL	CIGO, UAF Yank	83.99	22	P		P		15 00 30.1	-1.1
	baz=243								
COLA	College	83.99	22	P		P		15 00 30.5	-0.8
	baz=243								
HARP	HAARP	83.99	25	P		P		15 00 30.4	-1.0
	baz=245								
PAX	Paxson	84.10	25	P		P		15 00 30.8	-1.2
	baz=245								
HDA	Harding Lake	84.13	23	P		P		15 00 31.3	-0.7
	baz=244								
POKR	Poker Flat Res	84.26	22	P		P		15 00 31.7	-0.9
	baz=243								
COLD	Coldfoot	84.27	20	P		P		15 00 31.8	-0.9
	baz=240								
IL31		84.31	23	P		P		15 00 31.1	-1.7
IL31				IAmb		IAmb		15 00 32.3	
	comp=Z,8.2nm,0.8s								
ILAR	Eielson Array	84.31	23	P		P		15 00 31.2	-1.7
	comp=Z,7.4nm,0.7s,baz=249,slow=5.2,SNR=86								
ILAR	Eielson Array	84.31	23	P		P		15 00 31.5	-1.4
H24K	Noodor Dome	84.42	22	P		P		15 00 33.1	-0.4
	baz=243								
RIDG	Independent Ri	84.67	24	P		P		15 00 33.5	-1.4
RIDG	Independent Ri	84.67	24	P		P		15 00 34.0	-0.8
	baz=246								
J25K	Salcha River,	84.83	23	P		P		15 00 34.5	-1.2
J25K				IAmb		IAmb		15 00 35.7	
	comp=Z,14nm,0.8s								
J25K	Salcha River,	84.83	23	P		P		15 00 34.9	-0.7
	baz=245,SNR=17								
DOT	Dot Lake	84.96	24	P		P		15 00 35.3	-0.9
DOT				IAmb		IAmb		15 00 37.1	
	comp=Z,8.1nm,0.9s								
L26K	Log Cabin Wild	85.01	25	P		P		15 00 35.5	-0.9
	baz=247,SNR=5.0								
CTG	Chitna Glacier	85.11	27	P		P		15 00 36.5	-0.7
	baz=249								
SCRK	Sand Creek	85.12	24	P		P		15 00 35.8	-1.3
SCRK	Sand Creek	85.12	24	P		P		15 00 36.2	-0.9
	baz=246								
TOLK	Toolik Lake Re	85.17	19	P		P		15 00 37.1	-0.1
TOLK	Toolik Lake Re	85.17	19	P		P		15 00 37.2	-0.1
	baz=241								
M27K	Edge Creek, AK	85.38	26	P		P		15 00 37.1	-1.4
M27K				IAmb		IAmb		15 00 40.1	
	comp=Z,8.2nm,0.8s								
M27K	Edge Creek, AK	85.38	26	P		P		15 00 38.4	-0.1
	baz=248,SNR=7.6								
J26L	Joseph Creek	85.50	24	P		P		15 00 38.8	-0.2
	baz=247,SNR=6.3								
L27K	Beaver Creek,	85.66	25	P		P		15 00 39.8	0.0
	baz=248								
NRIK	Noril'sk	85.77	342	P		P		15 00 39.4	-0.6
	comp=Z,3.2nm,0.6s,baz=130,slow=4.7,SNR=7.4								
YUK3	Moose Creek	85.80	27	P		P		15 00 40.7	0.0
	baz=250								
BVCY	Beaver Creek	85.84	26	P		P		15 00 41.0	+0.4
	baz=249								
BMAR	Burnt Mountain	86.30	21	P		P		15 00 41.6	-1.2
YUK4	Talbot Arm	86.47	27	P		P		15 00 43.7	-0.2
	baz=251,SNR=5.6								
EGAK	Eagle	86.56	24	P		P		15 00 44.0	-0.1
	baz=249								
HYT	Haines Junctio	86.84	28	P		P		15 00 45.4	-0.3
	baz=252,SNR=6.3								
DAWY	Dawson	87.03	25	P		P		15 00 46.4	0.0
DAWY				IAmb		IAmb		15 00 47.7	
	comp=Z,7.8nm,0.9s								
DAWY	Dawson	87.03	25	P		P		15 00 46.1	-0.4
	baz=251,SNR=7.6								
M30M	Minto, Yukon	87.68	26	P		P		15 00 49.5	-0.1
	baz=253								
N31M	Braeburn, Yuko	87.83	28	P		P		15 00 49.5	-0.8
	baz=254								
I29M	Ogilvie Camp,	87.90	24	P		P		15 00 50.4	-0.1
	baz=252								
WHY	Whitehorse	88.03	29	P		P		15 00 50.5	-0.8
	baz=255								
INK	Inuvik	90.54	21	P		P		15 01 02.4	-0.4
	baz=256								
SYO	Syowa Base	91.65	200	⇑*e*P		P		15 01 08.0	+0.1
K04D	Chiloquin, OR	93.00	48	P		P		15 01 13.1	-1.8
	baz=265								
A36M	Sachs Harbour	93.97	18	P		P		15 01 17.8	-0.7
	baz=264								
C36M	Paulatuk	94.10	21	P		P		15 01 18.7	-0.4
	baz=265								
YKA	Yellowknife Ar	97.83	28	P		P		15 01 34.7	-1.5
	comp=Z,0.5nm,0.9s,baz=271,slow=4.7,SNR=7.5								
TORD	Torodi Ar. Bea	147.33	285	PKPbc		PKPdf		15 07 43.7	+1.1
	comp=Z,2.0nm,0.8s,baz=60,slow=3.0,SNR=13								
TORD	Torodi Ar. Bea	147.33	285			PKPbc		15 07 44.1	-1.1

DDA 14 14:54:00.2±0.0, 39.86N×29.49E, h7km±2km, ML1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STBT	Saitabat	0.34	326	P		P	Pg	14 54 07.2	+0.3
STBT				S		S	Sg	14 54 11.8	+0.4
STBT				*i*	AML	AML	AML	14 54 12.0	
	comp=N,79nm,0.5s								
STBT				*i*	AML	AML	AML	14 54 13.0	
	comp=E,94nm,0.4s								
ULDT	Uludag	0.39	317	P		P	Pg	14 54 08.3	+0.4
ULDT				S		S	Sg	14 54 13.8	+0.8
ULDT				*i*	AML	AML	AML	14 54 14.0	
	comp=N,55nm,0.2s								
ULDT				*i*	AML	AML	AML	14 54 16.0	
	comp=E,36nm,0.4s								
AUBOZ	BOZOYUK	0.42	83	P		P	Pg	14 54 08.5	0.0
AUBOZ				S		S	Sg	14 54 14.9	+0.9
AUBOZ				*i*	AML	AML	AML	14 54 16.0	
	comp=E,64nm,0.4s								
AUBOZ				*i*	AML	AML	AML	14 54 16.0	
	comp=N,50nm,0.5s								
BILE	Bilecik/Merkez	0.42	45	P		P	Pg	14 54 09.0	+0.5
BILE				S		S	Sg	14 54 14.6	+0.5
IGD	Bursa	0.46	332	P		P	Pg	14 54 09.3	+0.2
ANDZ	Kutahya, Merke	0.47	137	P		P	Pg	14 54 09.7	+0.3
ANDZ				S		S	Sg	14 54 16.4	+0.8
ANDZ				*i*	AML	AML	AML	14 54 17.0	
	comp=N,38nm,0.2s								
AVDN	Avdancik/Bursa	0.50	331	P		P	Pg	14 54 10.2	+0.4
YYLC	Yaylacik	0.68	311	P		P	Pb	14 54 13.9	-0.4
YYLC				*i*	AML	AML	AML	14 54 24.0	
	comp=N,33nm,0.4s								
BORA	Eskisehir	0.75	88	P		P	Pg	14 54 14.0	-0.6
BORA				*i*	AML	AML	AML	14 54 33.0	
	comp=E,19nm,0.2s								
GDZ	Gediz	0.77	180	P		P	Pb	14 54 15.7	-0.3
DURS	Dursunbey	0.82	252	P		P	Pg	14 54 16.0	0.0
DURS				*i*	AML	AML	AML	14 54 32.0	
	comp=N,36nm,0.4s								
DURS				*i*	AML	AML	AML	14 54 33.0	
	comp=E,26nm,0.1s								
GEYV	SAKARYA_Geyve	0.88	45	P		P	Pn	14 54 19.7	+0.7
GEYV				*i*	AML	AML	AML	14 54 34.0	
	comp=E,32nm,0.4s								
GEYV				*i*	AML	AML	AML	14 54 35.0	
	comp=N,33nm,0.4s								

*TRN **14** 15:00:44.8, 18.09N×65.00W, h17km, M3.6(RSPR)*
*NEIC **14** 15:00:46.9±1.5, 18.06N±0.06×64.97W±0.03, h19km±3km,*
Error ellipse: s-maj=8.5km s-min=4.1km az=181.0
*RSPR **14** 15:00:47.5, 18.10N×64.96W, h8km±1km, MD3.6/10*

ISC 14 15:00:46.8±0.9, 18.10N±0.03×64.98W±0.02, h26km±7km, n83, σ1810/103, 16C-7D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	0.25	5	⇑*e*P		P	Pb	15 00 53.0	-0.2
STVI	Saint Thomas	0.25	5			P	Pb	15 00 53.0	-0.2
STVI							Sb	15 00 57.1	-0.5
STVI	Saint Thomas	0.25	5	IAML				15 00 57.6	
	comp=N,14μm,0.2s								
STVI	Saint Thomas	0.25	5	⇑*e*P		P	Pb	15 00 53.0	-0.2
STVI				*e*S			Sb	15 00 57.1	-0.5
CUPR	Culebra, Puert	0.35	305	⇑*i*P		P	Pb	15 00 54.6	-0.1
CUPR	Culebra, Puert	0.35	305	*e*S		P	Sb	15 00 59.8	-0.4
CUPR	Culebra, Puert	0.35	305			P	Pb	15 00 54.6	-0.1
CUPR							Sb	15 00 59.8	-0.4
CUPR	Culebra, Puert	0.35	305	IAML				15 01 00.2	
	comp=E,2μm,0.4s								
CUPR				IAML				15 01 01.7	
	comp=N,2μm,0.3s								
CDVI	St. Croix	0.40	150	⇑*e*P		P	Pb	15 00 55.2	-0.3
CDVI	St. Croix	0.40	150			P	Pb	15 00 55.2	-0.3
CDVI							Sb	15 01 01.1	-0.3
CDVI	St. Croix	0.40	150	IAML				15 01 04.9	
	comp=N,5μm,0.5s								
CDVI				IAML				15 01 06.5	
	comp=E,4μm,0.4s								
CDVI	St. Croix	0.40	150	*i*P		P	Pb	15 00 55.1	-0.3
CDVI				*e*S			Sb	15 01 01.9	+0.5
TBVI	Tortola	0.46	48	⇑*e*P		P	Pb	15 00 55.8	-0.6
TBVI	Tortola	0.46	48	⇑*e*P		P	Pb	15 00 55.8	-0.6
TBVI				*e*S			Sb	15 01 02.2	-0.8
MTP

UUPR	**Utuado, UPR, P**	**1.66**	**275**			**Pb**	**15 01 16.0**	**-0.8**
AOPR	**Arecibo Observ**	**1.71**	**278**⇑	*e*P		**Pb**	**15 01 16.3**	**-1.2**
AOPR	**Arecibo Observ**	**1.71**	**278**	*e*S		**Sn**	**15 01 37.0**	**+1.1**
AOPR	**Arecibo Observ**	**1.71**	**278**			**Pb**	**15 01 16.3**	**-1.2**
AOPR						**Sn**	**15 01 37.0**	**+1.1**
AOPR	**Arecibo Observ**	**1.71**	**278**	*e*P		**Pb**	**15 01 16.3**	**-1.2**
AOPR				*e*S		**Sb**	**15 01 38.0**	**-0.6**
SMRT	**St. Maarten**	**1.81**	**91**			**Pn**	**15 01 16.4**	**+0.2**
SMRT				Sn		**Sn**	**15 01 37.8**	**-0.6**
SMRT	**St. Maarten**	**1.81**	**91**	*e*P		**Pn**	**15 01 16.5**	**+0.2**
MLPR	**Magueyes Islan**	**1.97**	**266**⇑	*e*P		**Pn**	**15 01 20.0**	**+1.5**
MLPR	**Magueyes Islan**	**1.97**	**266**			**Pn**	**15 01 20.0**	**+1.5**
CRPR	**Cabo Rojo, PR**	**2.03**	**268**⇑	*e*P		**Pn**	**15 01 20.7**	**+1.4**
CRPR	**Cabo Rojo, PR**	**2.03**	**268**			**Pn**	**15 01 20.7**	**+1.4**
CRPR	**Cabo Rojo, PR**	**2.03**	**268**	IAML			15 02 00.2	
	comp=N,210nm,0.7s							
CRPR	**Cabo Rojo, PR**	**2.03**	**268**⇑	*e*P		**Pn**	**15 01 20.7**	**+1.4**
AGPR	**Aguadilla, PR**	**2.06**	**280**⇓	*e*P		**Pn**	**15 01 21.1**	**+1.4**
AGPR	**Aguadilla, PR**	**2.06**	**280**			**Pn**	**15 01 21.1**	**+1.4**
AGPR						**Sn**	**15 01 46.0**	**+1.4**
AGPR	**Aguadilla, PR**	**2.06**	**280**	IAML			15 01 56.3	
	comp=E,353nm,0.6s							
AGPR				IAML			15 01 58.8	
	comp=N,341nm,0.5s							
AGPR	**Aguadilla, PR**	**2.06**	**280**⇓	*e*P		**Pn**	**15 01 21.1**	**+1.4**
AGPR				*e*S		**Sn**	**15 01 46.0**	**+1.4**
PRSN	**Puerto Rico Se**	**2.06**	**273**			**Pn**	**15 01 22.2**	**-1.4**
SKI	**Saint Kitts**	**2.27**	**109**	*e*P		**Pn**	**15 01 24.4**	**+1.8**
SKI				*e*S		**Sn**	**15 01 51.5**	**+1.8**
IDE	**Isla Desecheo**	**2.39**	**277**⇓	*e*P		**Pn**	**15 01 25.8**	**+1.5**
IDE	**Isla Desecheo**	**2.39**	**277**⇓	*e*P		**Pn**	**15 01 25.8**	**+1.5**
IDE				*e*S		**Sn**	**15 01 54.2**	**+1.5**
ANWB	**Willy Bob**	**3.07**	**98**	Pn		**Pn**	**15 01 34.0**	**+0.4**
ANWB				IAML			15 02 17.2	
	comp=N,82nm,2.5s							
ANWB	**Willy Bob**	**3.07**	**98**	*e*P		**Pn**	**15 01 33.7**	**+0.1**
ANWB				*e*S		**Sn**	**15 02 08.2**	**-1.3**
ANBD	**Bethesda, Anti**	**3.24**	**108**	*e*P		**Pn**	**15 01 37.8**	**+1.9**
ANBD				*e*S		**Sn**	**15 02 16.7**	**+3.1**
PCDR	**Punta Cana, DR**	**3.26**	**278**	Pn		**Pn**	**15 01 37.1**	**+0.9**
PCDR				IAML			15 02 31.0	
	comp=E,66nm,1.4s							
PCDR				IAML			15 02 44.8	
	comp=N,94nm,1.2s							
ABD	**La Joyeuse, An**	**3.71**	**115**	Pn		**Pn**	**15 01 43.6**	**+1.2**
ABD				IAML			15 03 00.9	
	comp=E,77nm,3.2s							
ABD				IAML			15 03 38.1	
	comp=N,54nm,2.5s							
CBE	**Ff, Capester**	**3.81**	**122**	Pn		**Pn**	**15 01 44.0**	**+0.3**
CBE				IAML			15 02 48.5	
	comp=E,126nm,0.5s							
TBG	**Guadaloupe-3**	**3.90**	**125**	*e*P		**Pn**	**15 01 45.8**	**+0.8**
TDBA	**Terre de Bas,**	**3.91**	**125**	Pn		**Pn**	**15 01 44.5**	**-0.6**
TDBA				IAML			15 03 07.0	
	comp=N,48nm,1.1s							
TDBA	**Terre de Bas,**	**3.91**	**125**	*e*P		**Pn**	**15 01 46.9**	**+1.8**
TDBA				*e*S		**Sn**	**15 02 28.8**	**-1.3**
MAGL	**Barre de l'ile**	**4.13**	**121**	Pn		**Pn**	**15 01 49.0**	**+0.8**
MAGL				IAML			15 02 57.2	
	comp=E,84nm,2.9s							
MAGL				IAML			15 04 21.2	
	comp=N,70nm,3.0s							
MAGL	**Barre de l'ile**	**4.13**	**121**	*e*P		**Pn**	**15 01 50.2**	**+2.0**
MAGL				*e*S		**Sn**	**15 02 33.3**	**-2.5**
GDSD	**La Dsirade Is**	**4.14**	**115**	Pn		**Pn**	**15 01 48.9**	**+0.6**
GDSD				IAML			15 03 12.7	
	comp=N,38nm,3.0s							
SC01	**Santiago de lo**	**5.61**	**284**	Pn		**Pn**	**15 02 09.9**	**+1.4**
SVB	**Belmont**	**6.00**	**143**	Pn		**Pn**	**15 02 14.2**	**+0.3**
SDDR	**Presa de Saban**	**6.05**	**279**	Pn		**Pn**	**15 02 15.2**	**+0.5**
SDDR	**Presa de Saban**	**6.05**	**279**	*e*S		**Pn**	**15 02 17.8**	**+3.1**
GRTK	**Grand Turk**	**6.71**	**301**	Pn		**Pn**	**15 02 23.1**	**-0.5**
BIRV	**Birongo**	**7.69**	**190**	Pn		**Pn**	**15 02 33.8**	**-3.3**
URIC	**Uribia, Colomb**	**9.30**	**228**	Pn		**Pn**	**15 02 57.5**	**-1.8**
BAUV	**El Baul**	**9.58**	**199**	Pn		**Pn**	**15 03 03.5**	**+0.4**

JMA 14 15:03:23.7,32.74N×130.79E,h10km±1km,M2.2,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.19**	**174**	P	Pg	15 03 27.9	+0.1
JIU3				*e*S	Sg	15 03 30.8	+0.3
JTA	**Tamana**	**0.31**	**316**	P	Pg	15 03 30.1	+0.2
JTA				S	Sg	15 03 34.5	+0.4

KEA ***14*** *15:03:42.1,32.7N×130.8E,h16km,MS5.3/4*

MOS ***14*** *15:03:45.5±1.0,32.6N×130.8E,h11km,mb5.7/129, MS6.3/65, Error ellipse: s-maj=5.4km s-min=3.5km az=107.2*

NIED ***14*** *15:03:46.5,32.7N×130.8E,h7km,MW6.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.14; Mθθ0.75; Mϕϕ -0.89; Mrθ0.05; Mθϕ0.41; Mϕr0.58; Fault plane solution: M₀1.06000×10¹⁸ NP1: ϕs119.00000°,δ62.00000°,λ-4.00000°. NP2:ϕs211.00000°, δ86.00000°,λ-152.00000°.*

JMA ***14*** *15:03:46.4,32.7N×130.8E,h7km±2km,M6.4 Broadband fault plane solution: P waves. NP1: ϕs301.00000°,δ90.00000°,λ16.00000°. NP2: ϕs211.00000°,δ74.00000°,λ180.00000°. Principal axes: T Plg11.0000°, Azm167.0000°; N Plg74.0000°, Azm301.0000°; P Plg11.0000°, Azm75.0000°;*

IDC ***14*** *15:03:46.2±0.3,32.7N×130.8E,h0km,mb5.1/40, mb1 5.1/46,mb1mx5.1/54,mbtmp5.1/46,ML4.8/6,MS5.8/66, Ms1 5.8/66,ms1mx5.7/73 Error ellipse: s-maj=10.5km s-min=5.5km az=91.0*

NEIC ***14*** *15:03:47.2±1.8,32.7N±0.0×130.7E±0.0,h8km±1km, mb5.5/364,Ms_20 5.9/405,Mwb6.0/43,Mwr6.0/10,Mww6.0, Error ellipse: s-maj=7.4km s-min=4.7km az=280.0*

BJI ***14*** *15:03:47.0±0.0,32.7N×130.8E,h10km,mb5.2/74, mB6.0/81,Ms6.5/98,Ms7 6.4/92*

BGR ***14*** *15:03:47.9±0.0,33.0N×132.2E,h10km,mb5.4,Ms6.7*

NEIC ***14*** *15:03:47.6,32.6N×130.7E,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.03; Mθθ1.01; Mϕϕ-0.97; Mrθ0.11; Mθϕ1.02; Mϕr-0.10; Fault plane solution: M₀1.43000×10¹⁸ NP1:ϕs22.18000°, δ84.32000°,λ-177.88000°. NP2:ϕs291.97000°, δ87.89000°,λ-5.69000°. Principal axes: T 1.4412, Plg3.0000°, Azm337.0000°; N -0.0218, Plg84.0000°, Azm92.0000°; P -1.4193, Plg6.0000°, Azm247.0000°;*

NEIC ***14*** *15:03:47,32.6N×130.8E,h8km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.08; Mθθ0.78; Mϕϕ-0.85; Mrθ-0.32; Mθϕ0.59; Mϕr-0.14; Fault plane solution: M₀1.06000×10¹⁸ NP1:ϕs298.67000°, δ75.53000°,λ12.25000°. NP2:ϕs205.56000°,δ78.14000°, λ165.21000°. Principal axes: T 1.0831, Plg19.0000°, Azm162.0000°; N -0.0404, Plg71.0000°, Azm348.0000°; P -1.0427, Plg2.0000°, Azm252.0000°;*

GCMT ***14*** *15:03:50.2±0.1,32.7N×130.6E,h12km,MW6.0/166, Moment Tensor Solution. s146,c300; s166,c541; Duration: 2s4 Moment tensor: Scale 10¹⁸Nm; Mrr0.01±.01; Mθθ0.97±.01; Mϕϕ-0.97±.01; Mrθ0.22±.02; Mθϕ0.58±.01; Mϕr-0.12±.02; Best double couple: M₀1.16200×10¹⁸ NP1:ϕs30.00000°,δ77.00000°, λ180.00000°. NP2:ϕs120.00000°,δ90.00000°,λ13.00000°. Principal axes: T 1.1580, Plg9.0000°, Azm345.0000°; N 0.0080, Plg77.0000°, Azm121.0000°; P -1.1660, Plg9.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *15:03:52,32.7N×130.7E,h12km,Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10¹⁸Nm; Mrr-0.04; Mθθ1.03; Mϕϕ-0.99; Mrθ0.20; Mθϕ0.57; Mϕr-0.02; Fault plane solution: M₀1.18000×10¹⁸ NP1:ϕs30.00000°, δ81.00000°,λ177.00000°. NP2:ϕs120.00000°,δ87.00000°, λ9.00000°. Principal axes: T 1.2055, Plg9.0000°, Azm346.0000°; N -0.0598, Plg81.0000°, Azm141.0000°; P -1.1458, Plg4.0000°, Azm255.0000°;*

ISC 14 15:03:47.9±0.4,32.6N±0.0×130.8E±0.0,h10km±2km, h10km:pP-P,n1629,σ1s70/1703,mb5.5/430,MS5.9/322, 89C-69D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.12**	**185**	⇑P	**Pg**	**15 03 49.8**	**-0.9**
JTA	**Tamana**	**0.39**	**321**	P	**Pg**	**15 03 53.2**	**-2.3**
JTA				*e*S	**Sg**	**15 03 58.4**	**-2.2**
JNU	**Nakatsue**	**0.46**	**6**	Pg	**Pg**	**15 03 54.6**	**-2.2**
	11μm,0.3s,baz=189,slow=9.5,SNR=641						
JNU				Lg	Lg	15 03 59.6	
	19μm,0.3s,baz=194,slow=17,SNR=35						
JNU	**Nakatsue**	**0.46**	**6**	Pg	**Pg**	**15 03 55.0**	**-1.8**
JNU				Sg	**Sg**	**15 04 01.1**	**-1.8**
JNU	**Nakatsue**	**0.46**	**6**	⇑P	**Pg**	**15 03 55.0**	**-1.8**
JTZ	**Takazaki**	**0.79**	**164**	⇑P	**Pg**	**15 04 03.0**	**-0.2**
JSU	**Suzuyama**	**1.20**	**195**	Pn	**Pb**	**15 04 09.5**	**-1.2**
JSU				Sn	**Sb**	**15 04 25.4**	**-0.8**
JSU	**Suzuyama**	**1.20**	**195**	⇑P	**Pb**	**15 04 09.4**	**-1.2**
JII	**Iki**	**1.45**	**321**	P	**Pn**	**15 04 11.6**	**-2.5**
UWA2	**Uwa jima 2**	**1.61**	**70**	P	**Pn**	**15 04 15.2**	**-1.2**
JNA	**Nagahama**	**1.65**	**57**	⇓P	**Pn**	**15 04 15.4**	**-1.5**
JKU	**Kubokawa**	**1.99**	**71**	⇓P	**Pn**	**15 04 21.2**	**-0.4**
JTN	**Tanegashima 3**	**2.01**	**176**	⇑P	**Pn**	**15 04 21.7**	**-0.1**
JHM	**Kurahashi**	**2.05**	**44**	⇓P	**Pn**	**15 04 21.4**	**-0.9**
JTSM	**Tsushimamitsus**	**2.06**	**325**	⇑P	**Pn**	**15 04 19.7**	**-2.8**
JTU	**Tsushima**	**2.20**	**328**	⇑P	**Pn**	**15 04 21.7**	**-2.7**
JTU	**Tsushima**	**2.20**	**328**	Pn	**Pn**	**15 04 21.8**	**-2.7**
JTU				Sn	**Sn**	**15 04 47.4**	**-4.4**
JTU	**Tsushima**	**2.20**	**328**	⇑P	**Pn**	**15 04 21.9**	**-2.6**
JMTN	**Minamitane**	**2.26**	**178**	P	**Pn**	**15 04 25.4**	**+0.1**
JHT	**Toyohira**	**2.40**	**33**	⇓P	**Pn**	**15 04 26.7**	**-0.5**
JGT2	**ShimaneMisato**	**2.77**	**30**	⇓P	**Pn**	**15 04 32.2**	**-0.1**
JMN	**Monobe**	**2.77**	**67**	P	**Pn**	**15 04 32.0**	**-0.4**
JMN	**Monobe**	**2.77**	**67**	Pn	**Pn**	**15 04 31.9**	**-0.4**
JMN	**Monobe**	**2.77**	**67**	⇓P	**Pn**	**15 04 31.9**	**-0.4**
JHS	**Saijyo**	**3.01**	**39**	⇓P	**Pn**	**15 04 35.5**	**-0.1**
JHS	**Saijyo**	**3.01**	**39**	Pn	**Pn**	**15 04 35.3**	**-0.3**
JHS				Sn	**Sn**	**15 05 09.5**	**-2.2**
JHS	**Saijyo**	**3.01**	**39**	⇓P	**Pn**	**15 04 35.6**	**-0.1**
JISK	**Izumosakaura**	**3.29**	**30**	⇓P	**Pn**	**15 04 39.3**	**-0.1**
JWM	**Minabe**	**3.98**	**71**	P	**Pn**	**15 04 47.9**	**-1.0**
JTNC	**Tanabenakahech**	**4.17**	**73**	P	**Pn**	**15 04 50.5**	**-1.1**
JWY	**Kouya**	**4.28**	**67**	P	**Pn**	**15 04 52.6**	**-0.5**
JKSM	**Kasumi**	**4.32**	**46**	P	**Pn**	**15 04 53.6**	**+0.1**
JKY	**Yasaka**	**4.62**	**49**	P	**Pn**	**15 04 57.5**	**-0.2**
TJN	**Taejon**	**4.68**	**323**	*ce*P	**Pn**	**15 04 56.7**	**-1.8**
TJN	**Taejon**	**4.68**	**323**		**Pn**	**15 04 54.9**	**-3.6**
TJN				Sn	**Sn**	**15 05 48.8**	**-4.0**
JKN2	**Miekihoku**	**4.82**	**70**	P	**Pn**	**15 05 00.5**	**+0.1**
KSRS	**Korea Array**	**5.34**	**334**	Pn	**Pn**	**15 05 06.7**	**-0.8**
	7.7nm,0.3s,baz=151,slow=14,SNR=59						
KSRS				Pg	**Pb**	**15 05 24.1**	**+3.0**
	31nm,0.3s,baz=152,slow=17,SNR=26						
KSRS				Lg	Lg	15 06 34.3	
	50nm,0.3s,baz=150,slow=30,SNR=7.3						
KSRS				LR	LR	15 07 18.3	
	comp=Z,166μm,20.0s,baz=155,slow=40						
KSAR	**Wonju Array Be**	**5.34**	**334**	P	**Pn**	**15 05 05.7**	**-1.9**
KSAR	**Wonju Array Be**	**5.34**	**334**	Pn	**Pn**	**15 05 05.7**	**-1.9**
KS19	**Wonju Array Si**	**5.40**	**334**		**Pn**	**15 05 06.6**	**-1.8**
KS19				Sn	**Sn**	**15 06 08.1**	**-2.5**
JYTA	**Yamagatataniai**	**5.71**	**58**	P	**Pn**	**15 05 13.4**	**+0.8**
INU	**Inuyama**	**5.80**	**61**	Pn	**Pn**	**15 05 14.1**	**+0.2**
INU	**Inuyama**	**5.80**	**61**	⇓P	**Pn**	**15 05 14.2**	**+0.3**
JKG	**Kaga**	**5.80**	**50**	P	**Pn**	**15 05 14.4**	**+0.5**
INCN	**Inchon**	**5.91**	**326**	P	**Pn**	**15 05 12.4**	**-3.0**
INCN	**Inchon**	**5.91**	**326**	Pn	**Pn**	**15 05 12.4**	**-3.0**
INCN	**Inchon**	**5.91**	**326**	⇓P	**Pn**	**15 05 14.0**	**-1.5**
JIH	**Iheya**	**6.13**	**205**	P	**Pn**	**15 05 21.5**	**+3.0**
JGF	**Kuroka**	**6.16**	**60**	Pn	**Pn**	**15 05 19.5**	**+0.7**
JGF	**Kuroka**	**6.16**	**60**	⇑P	**Pn**	**15 05 19.6**	**+0.7**
JOW	**Kunigami**	**6.22**	**202**	Pn	**Pn**	**15 05 21.5**	**+1.7**
	85nm,0.3s,baz=39,slow=8.8,SNR=96						
JOW				Sn	**Sn**	**15 06 33.0**	**+2.1**
	baz=297,slow=14,SNR=0.8						
JOW	**Kunigami**	**6.22**	**202**	Pn	**Pn**	**15 05 21.6**	**+1.8**
JOW	**Kunigami**	**6.22**	**202**	⇑P	**Pn**	**15 05 21.4**	**+1.7**
HJU	**Haeju**	**6.79**	**324**	P	Pn	15 05 21.6	-5.9
HJU				pP	**Pn**	**15 05 25.0**	**-2.5**
HJU				S	**Sn**	**15 06 44.5**	**-0.3**
HJU				AMS	AMS		
	comp=N,26μm,2.5s						
HJU				AMS	AMS		
	comp=E,35μm,3.4s						
HJU				AMS	AMS		
	comp=Z,11μm,1.0s						
JHG	**Hegura jima**	**7.18**	**42**	P	**Pn**	**15 05 34.1**	**+1.2**
MAJO	**Matsushiro**	**7.21**	**56**	*i* P	**Pn**	**15 05 34.2**	**+0.8**
MAJO	**Matsushiro**	**7.21**	**56**	Pn	**Pn**	**15 05 33.5**	**+0.1**
MAJO	**Matsushiro**	**7.21**	**56**	⇓P	**Pn**	**15 05 34.1**	**+0.8**
MAT	**Matsushiro**	**7.21**	**56**	P	**Pn**	**15 05 34.0**	**+0.7**
MJB9	**Matsu-Tunnel**	**7.21**	**55**	Pn	**Pn**	**15 05 34.1**	**+0.8**
MJAR	**Matsushiro Arr**	**7.21**	**56**	Pn	**Pn**	**15 05 34.0**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=230,slow=14,SNR=142						
MJAR				LR	LR	15 08 33.7	
	comp=Z,179μm,19.4s,baz=230,slow=40						
MJAR	**Matsushiro Arr**	**7.21**	**56**	P	**Pn**	**15 05 34.0**	**+0.6**
JKE	**Kume jima 2**	**7.23**	**210**	P	**Pn**	**15 05 35.9**	**+2.3**
JOD2	**Odawara 2**	**7.34**	**67**	P	**Pn**	**15 05 37.4**	**+2.3**
JHJ	**Hachijo jima 2**	**7.55**	**84**	Pn	**Pn**	**15 05 38.8**	**+0.8**
	comp=Z,242nm,0.3s,baz=213,slow=14,SNR=41						
JHJ				Sn	**Sn**	**15 07 05.5**	**+1.9**
	baz=108,slow=18,SNR=2.1						
JHJ				LR	LR	15 08 35.3	
	comp=Z,71μm,19.2s,baz=270,slow=38						
JHJ2	**Mitsune**	**7.58**	**84**		**Pn**	**15 05 37.8**	**-0.5**
JHJ2	**Mitsune**	**7.58**	**84**	⇑P	**Pn**	**15 05 39.2**	**+0.9**
PYAG	**Pyongyang**	**7.58**	**329**	P	Pn	15 05 31.3	-7.1
PYAG				pP	**Pn**	**15 05 33.6**	**-4.8**
PYAG				S	**Sn**	**15 06 59.0**	**-5.4**
PYAG				AMS	AMS		
	comp=N,7μm,2.7s						
PYAG				AMS	AMS		
	comp=E,4μm,1.7s						
PYAG				AMS	AMS		
	comp=Z,4μm,1.7s						
HHU	**Hamhung**	**7.72**	**341**	P	Pn	15 05 31.8	-8.5
HHU				sP	**Pn**	**15 05 39.0**	**-1.2**
HHU				S	Sn	15 06 56.7	-11
HHU				AMS	AMS		
	comp=N,3μm,1.2s						
HHU				AMS	AMS		
	comp=E,5μm,1.8s						
HHU				AMS	AMS		
	comp=Z,5μm,1.9s						
JAG	**Ashikaga**	**8.05**	**60**	P	**Pn**	**15 05 45.6**	**+0.8**
JSD	**Sado**	**8.10**	**47**	Pn	**Pn**	**15 05 46.0**	**+0.6**
JSD	**Sado**	**8.10**	**47**	⇓P	**Pn**	**15 05 48.1**	**+2.7**
SSE	**Sheshan**	**8.34**	**262**	P	**Pn**	**15 05 49.0**	**+0.2**
SSE				pmax	pmax		
	comp=Z,65nm,1.7s						
SSE				pmax	pmax		
	comp=Z,2μm,3.6s						
JYT	**Yasato**	**8.52**	**63**	Pn	**Pn**	**15 05 49.7**	**-1.5**
JYT	**Yasato**	**8.52**	**63**	⇑P	**Pn**	**15 05 53.0**	**+1.9**
SUJ	**Sinuiju**	**9.01**	**327**	P	Pn	15 05 51.9	-6.0
SUJ				pP	**Pn**	**15 05 55.5**	**-2.4**
SUJ				S	**Sn**	**15 07 31.0**	**-8.3**
SUJ				AMS	AMS		
	comp=N,25μm,4.5s						
SUJ				AMS	AMS		
	comp=E,10μm,1.8s						
SUJ				AMS	AMS		
	comp=Z,19μm,3.4s						
JMM	**Marumori**	**9.66**	**55**	Pn	**Pn**	**15 06 08.7**	**+1.8**
JMM	**Marumori**	**9.66**	**55**	⇓P	**Pn**	**15 06 08.7**	**+1.8**
DL2	**Dalian**	**9.72**	**312**	⇑P	**Pn**	**15 06 08.0**	**+0.3**
DL2				S	**Sn**	**15 07 57.3**	**+0.4**
DL2				pmax	pmax		
	comp=Z,72nm,0.7s						
DL2				pmax	pmax		
	comp=Z,3μm,9.1s						
DL2				LR	LR		
	comp=Z,546μm,10.7s						
DL2				LR	LR		
	comp=Z,346μm,11.2s						
DL2				LR	LR		
	comp=Z,119μm,13.6s						
MSHR	**Mys Shultsa**	**9.90**	**1***c*	*i* P	**Pn**	**15 06 11.3**	**+1.1**
NJ2	**Nanjing**	**10.14**	**270**	⇓*i* P	**Pn**	**15 06 15.3**	**+1.8**
NJ2				pP		15 06 18.4	
NJ2				S	**Sn**	**15 08 08.8**	**+1.5**
NJ2				sS		15 08 18.3	
NJ2				SS	**SnSn**	**15 08 24.5**	**+5.6**
NJ2				pmax	pmax		
	comp=Z,86nm,1.4s						
NJ2				pmax	pmax		
	comp=Z,8μm,7.3s						
NJ2				LR	LR		
	comp=Z,233μm,9.9s						
NJ2				LR	LR		
	comp=Z,96μm,10.0s						
NJ2				LR	LR		
	comp=Z,172μm,13.2s						
JRG	**Rokugo**	**10.40**	**47**	P	**Pn**	**15 06 20.8**	**+3.8**
VLA	**Vladivostok**	**10.47**	**4**	*i* P	**Pn**	**15 06 18.0**	**+0.1**
YOJ	**Yonaguni jima**	**10.67**	**222**	P	**Pn**	**15 06 19.6**	**-1.2**
YOJ	**Yonaguni jima**	**10.67**	**222**	Pn	**Pn**	**15 06 19.6**	**-1.2**
SNY	**Shenyang**	**10.81**	**330**	⇑P	**Pn**	**15 06 24.3**	**+1.7**
SNY				S	**Sn**	**15 08 23.3**	**-0.3**
SNY				pmax	pmax		
	comp=Z,16nm,0.6s						
SNY				pmax	pmax		
	comp=Z,7μm,10.2s						
SNY				LR	LR		
	comp=Z,249μm,11.8s						
SNY				LR	LR		
	comp=Z,371μm,11.2s						
SNY				LR	LR		
	comp=Z,126μm,10.9s						
TATO	**Taipei**	**11.21**	**229**		**Pn**	**15 06 26.7**	**-1.4**
JCJ	**Chichijima**	**11.31**	**116**	Pn	**Pn**	**15 06 29.9**	**+0.4**
	comp=Z,6.1nm,0.3s,baz=274,slow=19,SNR=1.3						
JCJ				Sn	**Sn**	**15 08 37.9**	**+1.8**
	comp=Z,3.9nm,0.3s,baz=239,slow=17,SNR=1.7						
JCJ				LR	LR	15 09 15.1	
	comp=Z,11μm,21.8s,baz=317,slow=29						
JCJ	**Chichijima**	**11.31**	**116**	Pn	**Pn**	**15 06 28.7**	**-0.8**
YHNB	**Yeheng**	**11.50**	**229**	Pn	**Pn**	**15 06 34.6**	**+2.5**
JTM	**Tenmabayashi**	**11.54**	**42**	Pn	**Pn**	**15 06 34.4**	**+1.8**
JTM	**Tenmabayashi**	**11.54**	**42**	⇓P	**Pn**	**15 06 35.4**	**+2.8**
I45RU	**USSURIYSK INFR**	**11.55**	**4**	*i*		16 14 20.0	
	baz=179,slow=333,SNR=1.5						
USA0B	**Ussuriysk Arra**	**11.55**	**4**	P	**Pn**	**15 06 31.1**	**-1.7**
USA0B	**Ussuriysk Arra**	**11.55**	**4**	Pn	**Pn**	**15 06 31.1**	**-1.7**
USRK	**Ussuriysk Ar.**	**11.55**	**4**	Pn	**Pn**	**15 06 36.8**	**+4.1**
	baz=191,slow=14,SNR=70						
USRK				LR	LR	15 10 41.3	
	comp=Z,77μm,19.1s,baz=174,slow=36						
USRK	**Ussuriysk Ar.**	**11.55**	**4**	P	**Pn**	**15 06 32.4**	**-0.4**
USRK	**Ussuriysk Ar.**	**11.55**	**4**	Pn	**Pn**	**15 06 32.4**	**-0.4**
NACB	**Ninganchiao**	**11.72**	**226**	Pn	**Pn**	**15 06 33.8**	**-1.4**
TIA	**Tai'an**	**11.85**	**291**	⇑P	**Pn**	**15 06 40.6**	**+3.7**
TIA				pmax	pmax		
	comp=Z,51nm,2.2s						
TIA				pmax	pmax		
	comp=Z,3μm,7.1s						
TIA				LR	LR		
	comp=Z,483μm,13.7s						
TIA				LR	LR		
	comp=Z,178μm,12.3s						
TIA				LR	LR		
	comp=Z,70μm,12.3s						
CN2	**Changchun**	**11.89**	**341**	*e*P	**Pn**	**15 06 39.8**	**+2.4**
CN2				pP		15 06 43.3	
CN2				S	**Sn**	**15 08 54.8**	**+4.7**
CN2				pmax	pmax		
	comp=Z,20nm,0.5s						
CN2				pmax	pmax		
	comp=Z,8μm,9.0s						
CN2				LR	LR		
	comp=Z,162μm,11.0s						
CN2				LR	LR		
	comp=Z,116μm,11.0s						
CN2				LR	LR		
	comp=Z,169μm,15.0s						
MDJ	**Mudanjiang**	**11.97**	**356**		**Pn**	**15 06 39.2**	**+0.7**
MDJ	**Mudanjiang**	**11.97**	**356**	P	**Pn**	**15 06 39.6**	**+1.1**
MDJ				pP		15 06 46.5	
MDJ				sP		15 06 51.3	
MDJ				S	**Sn**	**15 08 51.8**	**-0.3**
MDJ				sS		15 09 03.3	
MDJ				SS	**SnSn**	**15 09 05.3**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,8μm,8.3s						
MDJ				LR	LR		
	comp=Z,32μm,22.5s						
MDJ				LR	LR		
	comp=Z,97μm,14.5s						
MDJ				LR	LR		
	comp=Z,65μm,23.9s						
JYM2	**Yakumo 2**	**12.10**	**36**	P	**Pn**	**15 06 43.7**	**+3.4**
SSLB	**Suanglung**	**12.40**	**227**	Pn	**Pn**	**15 06 45.0**	**+0.5**
YULB	**Yu-li**	**12.49**	**225**	Pn	**Pn**	**15 06 43.0**	**-2.7**
JNB	**Noboribetsu**	**12.69**	**37**	P	**Pn**	**15 06 52.5**	**+4.1**
TPUB	**Ta-pu**	**12.96**	**227**	Pn	**Pn**	**15 06 48.7**	**-3.4**
TWG	**Pinlang**	**13.06**	**224**	Pn	Pn	15 06 48.5	-4.9
JEW	**Eniwo**	**13.17**	**37**	Pn	**Pn**	**15 06 53.4**	**-1.5**
JEW	**Eniwo**	**13.17**	**37**	⇓P	**Pn**	**15 06 58.5**	**+3.6**
QZH	**Quanzhou**	**13.19**	**237**	⇓*i* P	**Pn**	**15 06 56.6**	**+1.4**
QZH				S	**Sn**	**15 09 24.0**	**+2.0**
QZH				SS	**SnSn**	**15 09 34.9**	**+0.

LYN	**LuoYang**	**15.41**	**282**	⇑P	**Pn**	**15 07 25.8**	**+0.4**
LYN				S	**S**	**15 10 25.1**	**-7.2**
LYN				pmax	pmax		
	comp=Z,240nm,2.3s						
LYN				pmax	pmax		
	comp=Z,8μm,4.9s						
LYN				LR	LR		
	comp=Z,300μm,15.7s						
LYN				LR	LR		
	comp=Z,65μm,12.7s						
LYN				LR	LR		
	comp=Z,220μm,11.6s						
TIY	**Taiyuan**	**15.85**	**294**	*e*P	**Pn**	**15 07 32.3**	**+1.2**
TIY				S	**Sn**	**15 10 28.5**	**+1.6**
TIY				pmax	pmax		
	comp=Z,2μm,6.9s						
TIY				LR	LR		
	comp=Z,311μm,15.8s						
TIY				LR	LR		
	comp=Z,83μm,14.3s						
TIY				LR	LR		
	comp=Z,96μm,12.4s						
CNSH	**ChangSha**	**16.07**	**259**	⇓P	**Pn**	**15 07 34.0**	**+0.2**
CNSH				S	**Sn**	**15 10 35.0**	**+2.9**
CNSH				pmax	pmax		
	comp=Z,160nm,2.2s						
CNSH				LR	LR		
	comp=Z,90μm,10.7s						
CNSH				LR	LR		
	comp=Z,100μm,11.0s						
CNSH				LR	LR		
	comp=Z,94μm,12.6s						
XLT	**XiLinHaoTe**	**16.09**	**318**	⇑*i*P	**P**	**15 07 36.5**	**-1.1**
XLT				pP	pP	15 07 40.0	-0.5
XLT				sP	sP	15 07 44.3	+2.5
XLT				PP	**PnPn**	**15 07 50.0**	**+7.1**
XLT				SS	**S**	**15 10 54.5**	**+8.2**
XLT				PcP	**PcP**	**15 12 30.8**	**+0.7**
XLT				pmax	pmax		
	comp=Z,150nm,2.2s						
XLT				pmax	pmax		
	comp=Z,4μm,8.4s						
XLT				LR	LR		
	comp=Z,31μm,15.7s						
XLT				LR	LR		
	comp=Z,214μm,15.5s						
XLT				LR	LR		
	comp=Z,184μm,13.1s						
YUK	**Yuzh-Kuril'sk**	**16.34**	**42***c*	*i*P	**Pn**	**15 07 36.8**	**-0.5**
YUK				*i*S	**Sn**	**15 10 38.0**	**-0.5**
YUK				pmax	pmax		
	comp=Z,146nm,0.5s						
YUK				pmax	pmax		
	comp=Z,1μm,1.8s						
KLR	**Kul'dur**	**16.56**	**2**	LR	LR	15 13 48.6	
	comp=Z,45μm,18.1s,baz=176,slow=36						
KLR	**Kul'dur**	**16.56**	**2***c*	*i*P	**Pn**	**15 07 40.9**	**+0.8**
YSS	**Yuzh-Sakhalins**	**16.93**	**29**	*e*P	**Pn**	**15 07 42.3**	**-2.4**
YSS				*e*S	**Sn**	**15 10 45.8**	**-7.0**
YSS				pmax	pmax		
	comp=Z,4μm,5.1s						
YSS				pmax	pmax		
	comp=Z,230nm,0.9s						
YSS				MLR	MLR		
	comp=Z,48μm,12.0s						
YSS				MLR	MLR		
	comp=E,75μm,13.0s						
YSS	**Yuzh-Sakhalins**	**16.93**	**29**	P	**Pn**	**15 07 42.4**	**-2.3**
YSS	**Yuzh-Sakhalins**	**16.93**	**29**	⇓P	**Pn**	**15 07 43.8**	**-1.0**
APYP	**Conner**	**17.08**	**213**	*e*P	**Pn**	**15 07 47.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**17.44**	**303**	*e*P	**Pn**	**15 07 51.6**	**+0.3**
HHC				S	**S**	**15 11 09.6**	**-4.2**
HHC				sS	sS	15 11 12.1	-6.3
HHC				pmax	pmax		
	comp=E,57nm,1.6s						
HHC				pmax	pmax		
	comp=E,4μm,7.4s						
HHC				LR	LR		
	comp=E,124μm,13.0s						
HHC				LR	LR		
	comp=E,158μm,13.7s						
HHC				LR	LR		
	comp=E,174μm,12.4s						
CAUP	**Cauayan**	**17.64**	**210**	*e*P	**P**	**15 07 56.8**	**+2.1**
SAMP	**Sagada Mountai**	**17.92**	**212**	*e*P	**Pn**	**15 07 57.1**	**-0.1**
HKPS	**Hong Kong Po S**	**18.04**	**239**		**Pn**	**15 07 56.7**	**-1.9**
HKPS				IAmb	IAmb	15 08 18.0	
	comp=Z,708nm,1.9s						
GZH	**Guangzhou**	**18.14**	**243**	P	**Pn**	**15 07 53.8**	**-6.1**
GZH				S	Sn	15 11 11.3	-11
GZH				pmax	pmax		
	comp=Z,14μm,8.0s						
GZH				LR	LR		
	comp=Z,84μm,12.3s						
GZH				LR	LR		
	comp=Z,70μm,10.9s						
KUR	**Kuril'sk**	**18.21**	**42**	*i*P	**Pn**	**15 08 00.0**	**-0.6**
XAN	**Xi'an**	**18.35**	**280**	P	**Pn**	**15 08 01.5**	**-1.0**
XAN				S	**Sn**	**15 11 28.3**	**+0.8**
XAN				SS	S	15 11 47.8	+16
XAN				pmax	pmax		
	comp=Z,8μm,7.3s						
XAN				LR	LR		
	comp=Z,187μm,12.9s						
XAN				LR	LR		
	comp=Z,107μm,13.7s						
XAN				LR	LR		
	comp=Z,119μm,11.7s						
ENH	**Enshi**	**18.36**	**268**	P	**Pn**	**15 08 01.1**	**-1.5**
ENH				IAmb	IAmb	15 08 21.7	
	comp=Z,1μm,1.9s						
UGL	**Uglegorsk**	**18.43**	**24**	*e*P	**Pn**	**15 08 03.7**	**+0.4**
UGL				*e*S	**Sn**	**15 11 27.5**	**-1.7**
UGL				pmax	pmax		
	comp=Z,143nm,1.3s						
UGL				pmax	pmax		
	comp=Z,4μm,5.2s						
UGL				smax	smax		
	comp=N,10μm,10.6s						
UGL				smax	smax		
	comp=E,8μm,9.5s						
UGL				MLR	MLR		
	comp=Z,45μm,13.0s						
UGL				MLR	MLR		
	comp=N,24μm,16.0s						
UGL				MLR	MLR		
	comp=E,45μm,10.0s						
BTO	**Baotou**	**18.45**	**301**	*e*P	**Pn**	**15 08 06.5**	**+2.7**
BTO				LR	LR		
	comp=E,591μm,19.0s						
BTO				LR	LR		
	comp=E,238μm,17.5s						
HIA	**Hailar**	**18.54**	**337**	P	**Pn**	**15 08 04.7**	**0.0**
HIA				pmax	pmax		
	comp=Z,512nm,1.3s						
HIA	**Hailar**	**18.54**	**337**	P	**Pn**	**15 08 04.7**	**0.0**
HIA				IAmb	IAmb	15 08 11.0	
	comp=Z,512nm,1.3s						
GRNR	**Gornyy**	**18.55**	**11**	⇓*i*P	**Pn**	**15 08 05.0**	**+0.2**
GRNR				pmax	pmax		
	comp=N,6.0nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,75μm,14.0s						
GRNR				MLR	MLR		
	comp=N,27μm,16.0s						
MCO	**Taipa Grande**	**18.56**	**240**	P	**Pn**	**15 08 08.0**	**+3.0**
BALP	**Baler**	**18.82**	**209**	*e*P	**Pn**	**15 08 09.7**	**+1.4**
SMPP	**San Manuel, Pa**	**18.84**	**212**	*e*P	**P**	**15 08 07.2**	**-0.8**
BOLP	**Bolinao**	**18.99**	**214**	*e*P	**P**	**15 08 09.5**	**-0.1**
PCPH	**Palayan**	**19.18**	**210**	⇓*e*P	**Pn**	**15 08 12.7**	**+0.1**
GULI	**GuiLin**	**19.33**	**253**	⇑P	**Pn**	**15 08 15.3**	**+0.9**
GULI				S	**S**	**15 11 51.8**	**-0.3**
GULI				pmax	pmax		
	comp=N,80nm,1.1s						
GULI				LR	LR		
	comp=N,98μm,15.2s						
GULI				LR	LR		
	comp=N,94μm,17.4s						
GULI				LR	LR		
	comp=N,129μm,14.6s						
SCZP	**Santa Cruz**	**19.52**	**213**	*e*P	**P**	**15 08 15.6**	**+0.2**
JCNP	**Jose Panganiba**	**19.74**	**204**	*e*P	**Pn**	**15 08 19.6**	**+0.4**
PVCP	**Virac**	**19.94**	**199**	*e*P	**Pn**	**15 08 21.2**	**-0.4**
SCSP	**San Jose Seism**	**20.07**	**201**	*e*P	Pn	15 08 26.4	+3.3
TYV	**Tymovskoe**	**20.16**	**22**	*e*P	Pn	15 08 23.8	-0.3
TYV				*e*S	Sn	15 12 13.1	+2.2
TYV				pmax	pmax		
	comp=Z,2μm,5.2s						
TYV				smax	smax		
	comp=N,8μm,7.2s						
TYV				smax	smax		
	comp=E,2μm,7.2s						
TYV				MLR	MLR		
	comp=N,26μm,14.0s						
TYV				MLR	MLR		
	comp=E,32μm,14.0s						
TYV				MLR	MLR		
	comp=Z,37μm,16.0s						
LQP	**Lukban**	**20.32**	**207**	⇓*e*P	**P**	**15 08 24.2**	**-0.1**
MACP	**Maragondon, Ca**	**20.51**	**209**	*e*P	**P**	**15 08 26.4**	**+0.3**
TGY	**Tagaytay City**	**20.56**	**208**	P	Pn	15 08 28.3	-0.8
	comp=Z,173nm,0.4s,baz=329,slow=5.7,SNR=11						
TGY	**Tagaytay City**	**20.56**	**208**	⇑*e*P	**P**	**15 08 24.9**	**-2.0**
BOAC	**Boac**	**20.81**	**205**	*e*P	**P**	**15 08 30.0**	**+0.6**
PGP	**Puerto Galera**	**21.10**	**208**	⇑*e*P	**P**	**15 08 30.9**	**-1.8**
LUBP	**Lubang**	**21.18**	**210**	*e*P	**P**	**15 08 32.4**	**-1.0**
ZEA	**Zeya**	**21.22**	**354**	*e*P	**P**	**15 08 35.6**	**+2.0**
ZEA				*e*S	**S**	**15 12 24.2**	**-5.1**
ZEA				pmax	pmax		
	comp=N,3μm,4.5s						
ZEA				pmax	pmax		
	comp=E,600nm,4.5s						
ZEA				pmax	pmax		
	comp=Z,5μm,4.4s						
ZEA				pmax	pmax		
	comp=E,70nm,1.0s						
ZEA				pmax	pmax		
	comp=N,480nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,690nm,1.6s						
ZEA				smax	smax		
	comp=E,8μm,7.8s						
ZEA				smax	smax		
	comp=N,26μm,9.8s						
ZEA				MLR	MLR		
	comp=N,19μm,9.0s						
ZEA				MLR	MLR		
	comp=E,15μm,9.0s						
ZEA				MLR	MLR		
	comp=Z,21μm,10.0s						
NKL	**Nikolayevsk**	**21.67**	**16**	*e*P	**P**	**15 08 39.0**	**+0.6**
NKL				*e*S	**S**	**15 12 38.0**	**-0.1**
NKL				pmax	pmax		
	comp=N,1.0nm,0.9s						
NKL				pmax	pmax		
	comp=E,3.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,135nm,0.9s						
NKL				MLR	MLR		
	comp=E,47nm,17.0s						
NKL				MLR	MLR		
	comp=N,1.0nm,12.0s						
NKL				MLR	MLR		
	comp=Z,22μm,12.0s						
GYA	**Guiyang**	**21.88**	**260**	⇑*i*P	**P**	**15 08 41.4**	**+0.3**
GYA				sP	sP	15 08 48.6	+3.1
GYA				S	**S**	**15 12 40.3**	**-2.7**
GYA				SS	**SnSn**	**15 13 13.8**	**+5.7**
GYA				pmax	pmax		
	comp=Z,120nm,1.1s						
GYA				pmax	pmax		
	comp=Z,3μm,5.7s						
GYA				LR	LR		
	comp=Z,60μm,10.4s						
GYA				LR	LR		
	comp=Z,78μm,15.2s						
GYA				LR	LR		
	comp=Z,90μm,11.4s						
RCP	**Roxas**	**22.28**	**201**	⇑*e*P	**P**	**15 08 46.0**	**+0.8**
LZH	**Lanzhou**	**22.50**	**286**	⇑P	**P**	**15 08 48.3**	**+0.6**
LZH				sP	sP	15 08 55.8	+3.8
LZH				S	**S**	**15 12 49.6**	**-5.1**
LZH				SS	**SnSn**	**15 13 33.9**	**+11**
LZH				pmax	pmax		
	comp=Z,260nm,1.2s						
LZH				pmax	pmax		
	comp=Z,3μm,4.9s						
LZH				LR	LR		
	comp=Z,150μm,11.4s						
LZH				LR	LR		
	comp=Z,120μm,11.8s						
LZH				LR	LR		
	comp=Z,147μm,13.5s						
GUMO	**Guam**	**22.92**	**143**	P	**P**	**15 08 52.5**	**+0.5**
	comp=Z,276nm,1.0s,baz=310,slow=3.8,SNR=8.0						
GUMO				LR	LR	15 16 31.0	
	comp=Z,9μm,19.5s,baz=320,slow=33						
GUMO	**Guam**	**22.92**	**143**	P	**P**	**15 08 49.8**	**-2.2**
GUMO				pmax	pmax		
	comp=Z,1μm,1.4s						
GUMO				MLR	MLR		
	comp=Z,11μm,19.0s						
GUMO	**Guam**	**22.92**	**143**	P	**P**	**15 08 49.8**	**-2.2**
GUMO	**Guam**	**22.92**	**143**	⇑P	**P**	**15 08 52.6**	**+0.5**
CD2	**Chengdu**	**23.05**	**273**	⇑P	**P**	**15 08 52.9**	**-0.6**
CD2				pP	pP	15 08 55.8	-0.6
CD2				S	**S**	**15 12 57.4**	**-7.0**
CD2				SS	**SnSn**	**15 13 42.0**	**+5.4**
CD2				pmax	pmax		
	comp=Z,340nm,1.1s						
CD2				pmax	pmax		
	comp=Z,4μm,6.9s						
CD2				LR	LR		
	comp=Z,37μm,13.8s						
CD2				LR	LR		
	comp=Z,229μm,13.4s						
CD2				LR	LR		
	comp=Z,148μm,12.9s						
CIT	**Chita**	**23.07**	**332**	*e*P	**P**	**15 08 54.5**	**+1.1**
CIT				*e*		15 09 22.6	
CIT				pmax	pmax		
	comp=Z,714nm,2.6s						
LLP	**Lapu-Lapu**	**23.12**	**197**	*e*P	**P**	**15 08 54.8**	**+0.6**
GLSP	**General Luna,**	**23.18**	**192**	*e*P	P	15 09 19.3	+25
QIZ	**Qiongzhong**	**23.20**	**239**	P	**P**	**15 08 52.9**	**-2.1**
QIZ				sP	**pP**	**15 08 58.4**	**+0.4**
QIZ				S	**S**	**15 13 04.8**	**-2.1**
QIZ				pmax	pmax		
	comp=Z,4μm,5.9s						
QIZ				LR	LR		
	comp=Z,72μm,11.9s						
QIZ				LR	LR		
	comp=Z,50μm,13.7s						
QIZ				LR	LR		
	comp=Z,54μm,13.9s						
GUIM	**Jordan**	**23.21**	**201**	*e*P	**P**	**15 08 54.1**	**-0.9**
ULN	**Ulaanbaatar**	**23.52**	**317**	*ce*P	**P**	**15 08 58.6**	**+0.4**
ULN				pmax	pmax		
	comp=Z,149nm,1.3s						
ULN				MLR	MLR		
	comp=Z,100μm,12.0s						
ULN	**Ulaanbaatar**	**23.52**	**317**	P	**P**	**15 08 57.7**	**-0.5**
ULN				IAmb	IAmb	15 09 12.6	
	comp=Z,226nm,1.2s						
ULN	**Ulaanbaatar**	**23.52**	**317**	⇓P	**P**	**15 08 58.2**	**0.0**
TBP	**Tagbilaran**	**23.75**	**197**	*e*P	**P**	**15 08 58.5**	**-1.9**
SONM	**Songino Array**	**23.89**	**317**	P	**P**	**15 09 02.0**	**+0.4**
	comp=Z,42nm,0.9s,baz=126,slow=9.7,SNR=44						
SONM				Lg	Lg	15 16 23.2	
	comp=Z,0.8nm,0.5s,baz=117,slow=34,SNR=1.4						
SONM				LR	LR	15 19 21.7	
	comp=Z,64μm,19.2s,baz=114,slow=39						
SONM	**Songino Array**	**23.89**	**317**	P	**P**	**15 09 01.0**	**-0.7**
SONM				pmax	pmax		
	comp=Z,79nm,0.9s						
SONM	**Songino Array**	**23.89**	**317**	P	**P**	**15 09 01.0**	**-0.7**
CNOP	**Candoni, Negro**	**23.95**	**200**	*e*P	**P**	**15 09 01.2**	**-1.1**
SNPH	**Sibulan**	**24.25**	**199**	*e*P	P	15 09 14.4	+9.2
BIPH	**Bislig**	**24.71**	**191**	⇓*e*P	**P**	**15 09 05.4**	**-3.9**
PPR	**Puerto Princes**	**25.37**	**209**	⇓*i*P	**P**	**15 09 14.9**	**-0.4**
KMI	**Kunming**	**25.66**	**260**	⇓P	**P**	**15 09 17.5**	**-0.6**
KMI				pP	pP	15 09 19.1	-2.2
KMI				PP	**PnPn**	**15 09 59.1**	**+4.9**
KMI				S	**S**	**15 13 45.8**	**-1.0**
KMI				pmax	pmax		
	comp=Z,79nm,0.9s						
KMI				pmax	pmax		
	comp=Z,3μm,6.9s						
KMI				LR	LR		
	comp=Z,61μm,13.8s						
KMI				LR	LR		
	comp=Z,79μm,13.1s						
KMI				LR	LR		
	comp=Z,81μm,16.1s						
GTA	**Gaotai**	**25.88**	**294**	⇑P	**P**	**15 09 20.6**	**+0.7**
GTA				pP	sP	15 09 25.4	+1.0
GTA				sP	pP	15 09 28.9	+5.8
GTA				S	**S**	**15 13 49.6**	**-0.3**
GTA				pmax	pmax		
	comp=Z,47nm,1.0s						
GTA				pmax	pmax		
	comp=Z,1μm,6.0s						
GTA				LR	LR		
	comp=Z,223μm,16.3s						
GTA				LR	LR		
	comp=Z,59μm,11.9s						
GTA				LR	LR		
	comp=Z,64μm,12.0s						
SKR	**Severo-Kuril's**	**25.89**	**38**	*e*P	**P**	**15 09 24.9**	**+5.2**
SKR				*e*S	**S**	**15 13 50.7**	**+1.1**
SKR				*e*SS	**SnSn**	**15 14 52.3**	**+6.6**
SKR				pmax	pmax		
	comp=Z,2μm,2.7s						
SKR				pmax	pmax		
	comp=Z,149nm,1.6s						
SKR				MLR	MLR		
	comp=Z,22μm,16.0s						
DAV	**Davao City (W)**	**25.93**	**192**	LR	LR	15 21 23.6	
	comp=Z,24μm,18.3s,baz=30,slow=41						
DAV	**Davao City (W)**	**25.93**	**192**	IAMs_20	IAMs_20	15 19 19.8	
	comp=Z,37μm,22.0s						
PZH	**PanZhiHua**	**25.98**	**264**	⇓P	**P**	**15 09 19.4**	**-1.5**
PZH				pP	**sP**	**15 09 25.4**	**-0.1**
PZH				sP	**pP**	**15 09 27.5**	**+3.4**
PZH				S	**S**	**15 13 45.5**	**-6.1**
PZH				sS	**sS**	**15 13 59.9**	**+3.1**
PZH				pmax	pmax		
	comp=Z,200nm,1.5s						
PZH				pmax	pmax		
	comp=Z,3μm,6.3s						
PZH				LR	LR		
	comp=Z,44μm,14.0s						
PZH				LR	LR		
	comp=Z,45μm,15.1s						
PZH				LR	LR		
	comp=Z,55μm,15.9s						
KCP	**Kidapawan**	**26.08**	**193**	⇓*e*P	**P**	**15 09 20.9**	**-0.9**
ZAK	**Zakamensk**	**26.94**	**319**	*e*P	**P**	**15 09 29.5**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,74nm,1.4s						
IRK	**Irkutsk**	**27.43**	**323**	*e*P	**P**	**15 09 35.0**	**+1.3**
IRK				pmax	pmax		
	comp=Z,231nm,1.9s						
BOD	**Bodaibo**	**27.64**	**341**	*e*P	**P**	**15 09 36.5**	**+1.1**
BOD				pmax	pmax		
	comp=Z,142nm,2.1s						
PEA0B	**Petropavlovsk-**	**28.10**	**35**	*i*P	**P**	**15 09 39.4**	**-0.2**
PETK	**Petropavlovsk-**	**28.10**	**35**	P	**P**	**15 09 40.0**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=197,slow=3.6,SNR=7.5						
PETK				LR	LR	15 22 24.9	
	comp=Z,12μm,18.1s,baz=225,slow=40						
PETK	**Petropavlovsk-**	**28.10**	**35**	P	**P**	**15 09 38.0**	**-1.6**
PETK	**Petropavlovsk-**	**28.10**	**35**	P	**P**	**15 09 38.0**	**-1.6**
PET	**Petropavlovsk**	**28.52**	**36**	*e*P	**P**	**15 09 46.1**	**+2.8**
PET				*e*S	**S**	**15 14 30.2**	**-0.7**
PET				pmax	pmax		
	comp=Z,78nm,1.9s						
PET				pmax	pmax		
	comp=Z,1μm,4.6s						
PET				pmax	pmax		
	comp=Z,600nm,8.9s						
PET				MLR	MLR		
	comp=Z,57μm,18.0s						
PET	**Petropavlovsk**	**28.52**	**36**	P	**P**	**15 09 43.2**	**-0.1**
PET				IAmb	IAmb	15 09 48.2	
	comp=Z,272nm,1.9s						
PET	**Petropavlovsk**	**28.52**	**36**	⇓P	**P**	**15 09 46.1**	**+2.8**
UBPT	**Khong Chiam**	**28.80**	**239**	P	**P**	**15 09 44.9**	**-1.2**
UBPT	**Khong Chiam**	**28.80**	**239**	⇑P	**P**	**15 09 47.5**	**+1.3**
MOY	**Mondy**	**28.84**	**320**	*e*P	**P**	**15 09 46.5**	**+0.2**
MOY				pmax	pmax		
	comp=Z,109nm,3.2s						
SGSI	**Sangihe**	**29.25**	**191**	P	**P**	**15 09 48.2**	**-1.9**
	comp=Z,100nm,0.8s						
YAK	**Yakutsk**	**29.39**	**359**	P	**P**	**15 09 49.7**	**-1.2**
	comp=Z,13nm,0.6s,baz=3.1,slow=2.0,SNR=13						
YAK				LR	LR	15 21 32.7	
	comp=Z,25μm,19.3s,baz=170,slow=36						
YAK	**Yakutsk**	**29.39**	**359**	*e*P	**P**	**15 09 54.0**	**+3.1**
YAK				*e**PP	**sP**	**15 10 00.0**	**+4.7**
YAK				*e*		15 10 45.2	
YAK				*e*		15 12 57.6	
YAK				*e*S	**S**	**15 14 47.8**	**+3.4**
YAK				*e*S	**S**	**15 14 47.8**	**+3.4**
YAK				*e*SS	**SnSn**	**15 16 10.4**	**-0.3**
YAK				pmax	pmax		
	comp=Z,147nm,1.0s						
YAK				pmax	pmax		
	comp=N,79nm,1.2s						
YAK				pmax	pmax		
	comp=E,22nm,1.3s						
YAK				pmax	pmax		
	comp=Z,333nm,3.0s						
YAK				pmax	pmax		
	comp=N,290nm,3.3s						
YAK				pmax	pmax		
	comp=E,114nm,3.5s						
YAK				smax	smax		
	comp=E,1μm,6.6s						
YAK				smax	smax		
	comp=N,7μm,8.4s						
YAK				MLR	MLR		
	comp=Z,26μm,13.0s						
YAK				MLR	MLR		
	comp=N,12μm,10.0s						
YAK				MLR	MLR		
	comp=E,12μm,11.0s						
YAK	**Yakutsk**	**29.39**	**359**	P	**P**	**15 09 48.2**	**-2.7**
YAK				IAmb	IAmb	15 09 57.4	
	comp=Z,138nm,1.0s						
YAK				IAMs_20	IAMs_20	15 21 20.9	
	comp=Z,25μm,20.0s						
YAK	**Yakutsk**	**29.39**	**359**	⇓P	**P**	**15 09 49.9**	**-1.0**
MYLDM	**Lahad Datu**	**29.67**	**205**	P	**P**	**15 09 54.2**	**+0.4**
MYLDM				IAmb	IAmb	15 10 59.9	
	comp=Z,152nm,1.4s						
MYLDM				IAMs_20	IAMs_20	15 21 27.3	
	comp=Z,25μm,18.0s						
MYLDM	**Lahad Datu**	**29.67**	**205**	⇑P	**P**	**15 09 55.7**	**+1.8**
KKM	**Kota Kinabalu**	**29.78**	**210**	P	**P**	**15 09 54.4**	**-0.5**
KKM				IAmb	IAmb	15 10 31.2	
	comp=Z,81nm,1.3s						
GOMU	**GeErMu**	**29.80**	**287**	P	**P**	**15 09 55.3**	**-0.1**
GOMU				pP	pP	15 09 58.8	+0.3
GOMU				sP	sP	15 10 02.6	+2.8
GOMU				S	**S**	**15 14 49.1**	**-3.1**
GOMU				pmax	pmax		
	comp=Z,12nm,1.2s						
GOMU				pmax	pmax		
	comp=Z,730nm,4.1s						
GOMU				LR	LR		
	comp=Z,41nm,17.5s						
GOMU				LR	LR		
	comp=Z,21nm,17.8s						
GOMU				LR	LR		
	comp=Z,22nm,17.5s						
MA2	**Magadan**	**30.01**	**20**	P	**P**	**15 09 56.2**	**-0.2**
	comp=Z,12nm,0.8s,baz=204,slow=9.0,SNR=17						
MA2				LR	LR	15 21 50.3	
	comp=Z,11nm,18.6s,baz=211,slow=36						
MA2	**Magadan**	**30.01**	**20**	*ce*P	**P**	**15 09 55.8**	**-0.7**
MA2				pmax	pmax		
	comp=Z,80nm,2.5s						
MA2				MLR	MLR		
	comp=Z,26μm,15.0s						
MA2	**Magadan**	**30.01**	**20**	P	**P**	**15 09 55.2**	**-1.3**
MA2	**Magadan**	**30.01**	**20**	⇑P	**P**	**15 09 56.3**	**-0.2**
LKP	**Lekhapani**	**30.66**	**269**	*e*P	**P**	**15 10 03.6**	**+1.0**
LKP				IAmb	IAmb	15 10 22.0	
	comp=Z,57nm,0.9s						
CHTO	**Chiang Mai**	**31.72**	**252**	P	**P**	**15 10 12.0**	**0.0**
CHTO				pmax	pmax		
	comp=Z,81nm,1.0s						
CHTO				MLR	MLR		
	comp=Z,52μm,22.0s						
CHTO	**Chiang Mai**	**31.72**	**252**	P	**P**	**15 10 11.9**	**0.0**

CHTO IAmb IAmb 15 10 16.7
comp=Z,81nm,0.9s
CHTO Chiang Mai 31.72 252 ⇓P **P 15 10 12.2 +0.2**
TNTI Ternate 31.89 187 P **P 15 10 11.5 -1.9**
TNTI Ternate 31.89 187 P **P 15 10 11.9 -1.5**
comp=Z,1µmcomp=Z,40nm,0.7s
CM31 Chiang Mai Arr 31.91 252 P **P 15 10 12.8 -0.8**
CM31 IAmb IAmb 15 10 20.1
comp=Z,63nm,1.1s
CMAR Chiang Mai Arr 31.91 252 P **P 15 10 14.2 +0.5**
comp=Z,28nm,0.9s,baz=45,slow=7.3,SNR=94
CMAR LR LR 15 25 03.1
comp=Z,45µm,18.5s,baz=60,slow=40
CMAR Chiang Mai Arr 31.91 252*ce*P **P 15 10 14.1 +0.4**
CMAR pmax pmax
comp=Z,30nm,0.9s
CMAR Chiang Mai Arr 31.91 252 P **P 15 10 12.4 -1.3**
MOKO MOKOCHONG 32.12 268 *e*P **P 15 10 16.0 +0.3**
MOKO IAmb IAmb 15 10 36.0
comp=Z,100nm,1.2s
ITAN ITANAGAR 32.52 270 *e*P **P 15 10 20.5 +1.5**
ITAN IAmb IAmb 15 10 24.4
comp=Z,104nm,1.1s
GTOI Gorontalo 32.70 195 P **P 15 10 17.4 -3.1**
comp=Z,232nmcomp=Z,8.3nm,1.3s
MRSI Marisa 33.09 196 P **P 15 10 22.9 -1.1**
comp=Z,882nmcomp=Z,36nm,1.7s
SEY Seymchan 33.23 18 LR LR 15 23 38.6
comp=Z,27µm,18.1s,baz=214,slow=36
SEY Seymchan 33.23 18*ce*P **P 15 10 25.1 +0.4**
SEY pmax pmax
comp=Z,87nm,2.5s
SEY MLR MLR
comp=Z,24µm,16.0s
LBMI Labuha 33.27 186 P **P 15 10 24.9 -0.7**
comp=Z,1µmcomp=Z,54nm,1.0s
SWI Sorong 33.35 179 P **P 15 10 25.6 -0.6**
SWI pmax pmax
comp=Z,23nm,1.2s
SWI Sorong 33.35 179 P **P 15 10 25.8 -0.4**
comp=Z,1µmcomp=Z,22nm,1.0s
SIJI Sorong 33.36 179 LR LR 15 22 03.8
comp=Z,12µm,21.6s,baz=13,slow=33
TEZP TEZPUR 33.47 270 *e*P **P 15 10 27.2 0.0**
TEZP IAmb IAmb 15 10 31.4
comp=Z,144nm,1.1s
MPSI Mapaga 33.77 200 P **P 15 10 29.0 -0.8**
comp=Z,964nmcomp=Z,27nm,1.3s
LSA Lhasa 33.94 276 P **P 15 10 31.8 -0.1**
LSA S **S 15 15 54.3 -2.7**
LSA LR LR
comp=Z,12µm,12.1s
LSA LR LR
comp=Z,18µm,11.4s
LSA LR LR
comp=Z,15µm,12.8s
LSA Lhasa 33.94 276 P **P 15 10 32.5 +0.6**
APSI Ampana 34.50 196 P **P 15 10 36.6 +0.4**
comp=Z,494nmcomp=Z,26nm,1.3s
GUWA GUWAHATI 34.55 270 *e*P **P 15 10 37.1 +0.5**
GUWA IAmb IAmb 15 10 40.2
comp=Z,78nm,1.0s
SHL Shillong 34.60 268 P **P 15 10 34.4 -2.9**
SHL pmax pmax
comp=Z,70nm,1.1s
SHL Shillong 34.60 268 P **P 15 10 34.4 -2.9**
SHL IAmb IAmb 15 10 40.7
comp=Z,70nm,1.1s
SHL Shillong 34.60 268 *e*P **P 15 10 37.1 -0.2**
SHL IAmb IAmb 15 10 51.5
comp=Z,40nm,1.0s
H11N2 WAKE ISLAND Hy 34.66 103 T T 15 46 43.5
baz=297,slow=74,SNR=36
H11N1 WAKE ISLAND Hy 34.67 103 T T 15 46 46.9
baz=297,slow=74,SNR=43
H11N3 WAKE ISLAND Hy 34.68 103 T T 15 46 41.9
baz=297,slow=74,SNR=43
SBUM Sibu 34.77 214 P **P 15 10 37.0 -1.5**
SBUM IAMs_20 IAMs_20 15 27 27.9
comp=Z,15µm,18.0s
SBUM Sibu 34.77 214 ⇑P **P 15 10 38.4 -0.2**
SANI Sanana 34.83 188 P **P 15 10 37.3 -1.8**
comp=Z,1µmcomp=Z,75nm,0.9s
H11S3 WAKE ISLAND Hy 35.11 105 T T 15 47 19.8
baz=301,slow=75,SNR=21
H11S1 WAKE ISLAND Hy 35.11 105 T T 15 47 19.4
baz=301,slow=75,SNR=30
H11S2 WAKE ISLAND Hy 35.12 105 T T 15 47 19.8
baz=301,slow=75,SNR=15
SMPI Sarmi 35.27 166 P **P 15 10 42.4 -0.4**
comp=Z,944nmcomp=Z,44nm,1.1s
WMQ Urumqi 35.29 301 P **P 15 10 44.1 +1.1**
WMQ sP sP 15 10 56.1 +8.7
WMQ S **S 15 16 20.8 +3.9**
WMQ SS **SnSn 15 18 34.8 +0.2**
WMQ pmax pmax
comp=Z,51nm,2.3s
WMQ pmax pmax
comp=Z,730nm,4.1s
WMQ LR LR
comp=Z,71µm,15.3s
WMQ LR LR
comp=Z,41µm,14.5s
WMQ LR LR
comp=Z,28µm,16.7s
MSAI Masohi 35.86 183 P **P 15 10 48.6 +0.7**
comp=Z,14nm,1.0s
DHUB DHUBRI 36.03 270 *e*P **P 15 10 50.4 +1.0**
DHUB IAmb IAmb 15 10 53.1
comp=Z,53nm,1.0s
AAI Ambon 36.24 184 P **P 15 10 51.0 -0.2**
comp=Z,2µmcomp=Z,133nm,1.2s
KSM Kuching 36.54 216 P **P 15 10 54.0 +0.3**
KSM Kuching 36.54 216 ⇑P **P 15 10 54.3 +0.5**
MTKI Muara Teweh, K 36.66 207 P **P 15 10 54.5 -0.3**
comp=Z,45nm,0.9s
GTK Tadong 36.78 273 *e*P **P 15 10 56.7 +0.8**
GTK IAmb IAmb 15 11 11.0
comp=Z,32nm,0.9s
SHEM Shemya Is, Ala 36.88 44 LR LR 15 24 53.7
comp=Z,5µm,21.1s,baz=254,slow=34
STKI Sintang 37.21 213 P **P 15 10 59.8 +0.3**
comp=Z,5µmcomp=Z,21nm,2.1s
TAPN Taplejung 37.52 273 *e*P **P 15 11 03.6 +1.2**
SRIT Nakonsritamara 37.53 237 P **P 15 11 00.5 -1.7**
SRIT IAmb IAmb 15 11 14.4
comp=Z,97nm,1.4s
ZSN Zaisan 37.58 307 *e*P **P 15 11 01.4 -1.0**
ZSN *e*S **S 15 16 49.6 -2.1**
ZSN Zaisan 37.58 307 *e*P **P 15 11 01.5 -1.0**
baz=307
ZSN *e*S **S 15 16 49.7 -2.1**
baz=307
ODAN Odare 37.95 273 *e*P **P 15 11 05.9 -0.1**
comp=Z,105nm,0.9s
RAMN Ramite 38.58 273 *e*P **P 15 11 11.4 0.0**
JIRN Jiri 38.70 275 *e*P **P 15 11 13.2 +0.7**
BBSI Bau Bau 38.74 193 P **P 15 11 10.5 -1.9**
comp=Z,142nmcomp=Z,9.5nm,1.1s
ZAA0 Zalesovo Array 38.78 317 P **P 15 11 11.0 -1.3**
ZALV Zalesovo Beam 38.78 317 P **P 15 11 12.0 -0.4**
comp=Z,15nm,1.1s,baz=96,slow=7.6,SNR=22
ZALV PcP **PcP 15 13 23.4 -0.3**
comp=Z,5.6nm,0.8s,baz=92,slow=4.5,SNR=3.9
ZALV ScP **S 15 17 09.1 -0.5**
comp=Z,4.6nm,1.1s,baz=105,slow=2.2,SNR=2.5
ZALV LR LR 15 27 30.9
comp=Z,15µm,19.2s,baz=108,slow=37
ZALV Zalesovo Beam 38.78 317 *i*P **P 15 11 13.0 +0.7**
ZALV pmax pmax
comp=Z,15nm,1.1s
ZALV Zalesovo Beam 38.78 317 P **P 15 11 10.9 -1.5**
GUN Gumba 38.88 275 *e*P **P 15 11 14.7 +0.7**
comp=Z,707nm,1.0s
KAPI Kappang 38.92 198 P **P 15 11 13.1 -0.7**
comp=Z,5.5nm,0.5s,baz=36,slow=6.2,SNR=4.8
KAPI LR LR 15 26 28.4
comp=Z,9µm,21.8s,baz=8.5,slow=35
KAPI Kappang 38.92 198 P **P 15 11 11.6 -2.3**
BBKI Banjar Baru 39.00 206 P **P 15 11 14.0 -0.5**
comp=Z,10µmcomp=Z,96nm,0.8s
TIXI Tiksi 39.06 359 LR LR 15 27 37.4
comp=Z,35µm,19.6s,baz=181,slow=37
TIXI Tiksi 39.06 359*ce*P **P 15 11 12.5 -1.9**
TIXI pmax pmax
comp=Z,51nm,1.7s
TIXI MLR MLR
comp=Z,25µm,12.0s
TIXI Tiksi 39.06 359 P **P 15 11 12.2 -2.3**
TIXI Tiksi 39.06 359 ⇑P **P 15 11 12.9 -1.6**
BKSI Bulukumba 39.12 197 P **P 15 11 16.5 +0.9**
comp=Z,707nmcomp=Z,33nm,0.9s
KULM Kulim 39.17 232 P **P 15 11 15.4 -0.6**
KULM IAMs_20 IAMs_20 15 29 05.5
comp=Z,20µm,18.0s
KULM Kulim 39.17 232 ⇑P **P 15 11 16.6 +0.6**
MK31 Makanchi Array 39.28 306 P **P 15 11 15.1 -1.6**
MK31 pmax pmax
comp=Z,29nm,1.1s
MK31 Makanchi Array 39.28 306 P **P 15 11 15.1 -1.6**
MKAR Makanchi Array 39.28 306 P **P 15 11 16.4 -0.4**
comp=Z,21nm,1.0s,baz=92,slow=9.7,SNR=62
MKAR LR LR 15 30 03.4
comp=Z,22µm,18.7s,baz=93,slow=40
MKAR Makanchi Array 39.28 306 *i*P **P 15 11 16.0 -0.7**
MKAR pmax pmax
comp=Z,21nm,1.0s
MKAR Makanchi Array 39.28 306 P **P 15 11 15.2 -1.5**
PKI Pulchoki 39.38 275 *e*P **P 15 11 18.2 0.0**
comp=Z,212nm,1.0s
PKIN Phulchoki 39.39 275 *e*P **P 15 11 17.8 -0.4**
comp=Z,200nm,1.1s
KKN Kakani 39.42 275 *e*P **P 15 11 18.9 +0.6**
MAKZ Makanchi 39.50 306 P **P 15 11 16.6 -1.9**
MAKZ pmax pmax
comp=Z,26nm,1.0s
MAKZ MLR MLR
comp=Z,32µm,18.0s
MAKZ Makanchi 39.50 306 P **P 15 11 16.6 -1.9**
MAKZ Makanchi 39.50 306 ⇓P **P 15 11 18.2 -0.3**
IPM Ipoh 39.52 231 P **P 15 11 17.6 -1.4**
IPM Ipoh 39.52 231 ⇓P **P 15 11 18.7 -0.3**
DMN Daman 39.62 275 *e*P **P 15 11 19.6 -0.5**
DGPR DIGLIPUR 39.65 250 *e*P **P 15 11 21.4 +1.4**
DGPR IAmb IAmb 15 11 28.4
comp=Z,77nm,0.9s
MYKOM Kota Tinggi 39.82 225 P **P 15 11 20.5 -1.0**
MYKOM IAmb IAmb 15 11 33.9
comp=Z,201nm,2.0s
MYKOM Kota Tinggi 39.82 225 ⇓P **P 15 11 22.4 +0.9**
BSSI Bau Bau, Buton 39.83 196 P **P 15 11 19.7 -1.8**
comp=Z,1µmcomp=Z,72nm,1.8s
GKN Gorkha 39.89 276 *e*P **P 15 11 22.4 +0.2**
comp=Z,118nm,1.1s
TPRI Tanjung Pinang 40.12 223 P **P 15 11 24.7 +0.7**
comp=Z,7µmcomp=Z,95nm,0.7s
DANN Dangsing 40.52 277 *e*P **P 15 11 27.5 -0.1**
comp=Z,340nm,1.1s
KOLN Koldanda 40.84 276 *e*P **P 15 11 29.8 -0.3**
BILL Bilibino 40.87 19*ce*P **P 15 11 29.1 -0.5**
BILL *e* 15 13 04.3
BILL *e*PPP PPP 15 13 30.5
BILL *i*S **S 15 17 42.4 +1.8**
BILL pmax pmax
comp=Z,187nm,2.5s
BILL MLR MLR
comp=Z,27µm,15.0s
BILL Bilibino 40.87 19 P **P 15 11 29.4 -0.2**
BILL IAmb IAmb 15 11 48.5
comp=Z,148nm,1.5s
BILL IAMs_20 IAMs_20 15 29 46.2
comp=Z,13µm,18.0s
SEM Semipalatinsk 40.92 311 *e*P **P 15 11 29.3 -1.2**
SEM *e*S **S 15 17 40.7 -1.6**
SEM Semipalatinsk 40.92 311 *e*P **P 15 11 29.3 -1.2**
baz=311
SEM *e*S **S 15 17 40.7 -1.6**
baz=311
PYUN Piuthan 41.24 277 *e*P **P 15 11 33.1 -0.3**
comp=Z,346nm,1.1s
PDGK Podgornoye 41.25 300 P **P 15 11 31.4 -1.8**
SHLS Shalkode 41.28 300 *e*P **P 15 11 29.6 -3.8**
SHLS *e*S **S 15 17 42.2 -5.3**
SHLS Shalkode 41.28 300 *e*P **P 15 11 29.7 -3.8**
baz=300
SHLS *e*S **S 15 17 42.3 -5.3**
baz=300
UZB Uzynbulak 41.60 300 *e*P **P 15 11 34.8 -1.3**
UZB *e*S **S 15 17 51.4 -1.0**
UZB Uzynbulak 41.60 300 *e*P **P 15 11 34.9 -1.3**
baz=300
UZB *e*S **S 15 17 51.5 -1.0**
baz=300
LHMI Lhok Sumawe 41.75 236 IAMs_20 IAMs_20 15 27 39.9
comp=Z,13µm,22.0s
PPBI Pangkal Pinang 41.78 219 P **P 15 11 38.2 +0.6**
KPKS Kokpek 41.83 300 *e*P **P 15 11 37.0 -0.9**
KPKS *e*S **S 15 17 54.9 -0.8**
KPKS Kokpek 41.83 300 *e*P **P 15 11 37.0 -0.9**
baz=300
KPKS *e*S **S 15 17 54.9 -0.8**
baz=300
RABL Rabaul 41.88 147 P **P 15 11 38.0 -0.4**
MMRI Maumere 41.88 193 P **P 15 11 36.6 -1.7**
MMRI IAmb IAmb 15 11 56.2
comp=Z,84nm,1.1s
MMRI Maumere 41.88 193 P **P 15 11 36.7 -1.7**
comp=Z,81nm,1.2s
KRVT Keravat (AS076 41.92 147 P **P 15 11 38.8 +0.1**
comp=Z,94nm,1.0s,baz=182,slow=2.3,SNR=8.8
KRVT LR LR 15 25 43.2
comp=Z,4µm,20.6s,baz=112,slow=31
TDK Taldyqorghan 41.97 303 *e*P **P 15 11 38.2 -0.7**
TDK *e*S **S 15 17 57.1 -0.4**
TDK pmax pmax
comp=Z,225nm,2.1s
TDK MLR MLR
comp=Z,28µm,15.0s
TDK Taldyqorghan 41.97 303 *e*P **P 15 11 38.2 -0.7**
comp=Z,225nm,2.1s,baz=303
TDK *e*S **S 15 17 57.1 -0.4**
baz=303
TDK LR LR 15 29 38.1
comp=Z,28µm,15.1s,baz=303
KURK Kurchatov 41.99 311 *i*P **P 15 11 37.2 -1.8**
KURK pmax pmax
comp=Z,57nm,1.0s
KURK MLR MLR
comp=Z,43µm,14.0s
KURK Kurchatov 41.99 311 P **P 15 11 37.3 -1.6**
KURK Kurchatov 41.99 311 ⇑P **P 15 11 38.5 -0.5**
KURBB Kurchatov Arra 42.04 311 P **P 15 11 38.9 -0.5**
comp=Z,29nm,0.9s,baz=98,slow=9.2,SNR=73
KURBB LR LR 15 29 56.9
comp=Z,56µm,18.3s,baz=72,slow=37
SATY Saty 42.06 300 *e*P **P 15 11 39.1 -0.7**
SATY *e*S **S 15 17 59.0 -0.1**
SATY Saty 42.06 300 *e*P **P 15 11 39.2 -0.6**
baz=300
SATY *e*S **S 15 17 59.0 -0.1**
baz=300
PSI Prapat 42.16 232 LR LR 15 31 21.7
comp=Z,10µm,18.3s,baz=42,slow=39
ARXS Arharly 42.41 302 *e*P **P 15 11 42.0 -0.6**
ARXS pmax pmax
comp=Z,45nm,1.0s
TARG Taragay, Kyrgy 42.61 298 P **P 15 11 42.9 -1.8**
KMMI Kalianget 42.63 205 P **P 15 11 43.1 -1.4**
comp=Z,2µmcomp=Z,94nm,0.9s
BKNI Bangkinang 42.69 227 P **P 15 11 45.0 0.0**
comp=Z,120nm,1.0s
KDJ Kajisay 43.03 299 P **P 15 11 46.9 -1.0**
KDJ pmax pmax
comp=Z,85nm,1.8s
KDJ Kajisay 43.03 299 P **P 15 11 46.9 -1.0**
CHKK Chushkaly 43.03 301 *e*P **P 15 11 46.9 -0.7**
CHKK Chushkaly 43.03 301 *e*P **P 15 11 47.0 -0.7**
baz=301
MDOK Medeo 43.04 300 *e*P **P 15 11 46.7 -1.2**
MDOK *e*S **S 15 18 12.9 -0.7**
MDOK MLR MLR
comp=Z,31µm,15.0s
MDOK Medeo 43.04 300 *e*P **P 15 11 46.7 -1.2**
baz=300
MDOK *e*S **S 15 18 12.9 -0.7**
baz=300
MDOK LR LR 15 29 13.5
comp=Z,31µm,15.0s,baz=300
PLAI Plampang 43.10 199 P **P 15 11 46.2 -2.1**
comp=Z,2µmcomp=Z,86nm,1.4s
TNSS Tian-Shan 43.12 300 *e*P **P 15 11 47.8 -1.0**
baz=300
TNSS Tian-Shan 43.12 300 *e*P **P 15 11 47.8 -1.0**
AAA Alma-Ata 43.13 300 *e*P **P 15 11 47.7 -0.8**
AAA *e*S **S 15 18 14.4 -0.4**
AAA pmax pmax
comp=Z,66nm,1.3s
AAA MLR MLR
comp=Z,43µm,16.0s
AAA Alma-Ata 43.13 300 *e*P **P 15 11 47.7 -0.8**
comp=Z,66nm,1.3s,baz=300
AAA *e*S **S 15 18 14.5 -0.4**
baz=300
AAA LR LR 15 29 13.5
comp=Z,43µm,15.6s,baz=300
PMBI Palembang 43.15 220 P **P 15 11 49.0 +0.2**
SRBI Singaraja 43.17 203 P **P 15 11 48.6 -0.3**
comp=Z,1µmcomp=Z,58nm,1.4s
BATI Baumata 43.17 190 P **P 15 11 46.0 -2.9**
ABJI Asem Bagus 43.23 204 P **P 15 11 49.2 -0.2**
comp=Z,2µmcomp=Z,93nm,1.4s
MNSI Mandailing Nat 43.24 229 P **P 15 11 49.4 -0.1**
comp=Z,2µmcomp=Z,55nm,0.9s
KUU Kurty 43.50 301 *e*P **P 15 11 50.5 -0.9**
KUU *e*S **S 15 18 18.9 -1.2**
KUU pmax pmax
comp=Z,234nm,2.4s
KUU MLR MLR
comp=Z,15µm,14.0s
KUU Kurty 43.50 301 *e*P **P 15 11 50.6 -0.9**
comp=Z,234nm,2.4s,baz=301
KUU *e*S **S 15 18 18.9 -1.2**
baz=301
KUU LR LR 15 29 36.4
comp=Z,15µm,13.7s,baz=301
ULHL Ulahol 43.72 299 P **P 15 11 52.7 -0.7**
SNR=16
JAGI Jajag, Banyuwa 43.89 204 P **P 15 11 54.4 -0.3**
comp=Z,2µmcomp=Z,28nm,1.4s
BOOM Boomskoye usch 43.91 299 P **P 15 11 54.0 -0.9**
BOOM pmax pmax
comp=Z,48nm,1.5s
BOOM Boomskoye usch 43.91 299 P **P 15 11 54.0 -0.9**
NRIK Noril'sk 43.93 339 P **P 15 11 54.1 -0.4**
comp=Z,79nm,1.0s,baz=119,slow=10,SNR=31
NRIK LR LR 15 30 59.1
comp=Z,41µm,18.4s,baz=132,slow=37
NRIK Noril'sk 43.93 339*ce*P **P 15 11 53.9 -0.6**
NRIK pmax pmax
comp=Z,96nm,1.0s
NRIK MLR MLR
comp=Z,94µm,13.0s
NRIK Noril'sk 43.93 339 P **P 15 11 53.5 -1.0**
NRIK IAmb IAmb 15 12 00.1
comp=Z,93nm,1.0s
GMJI Gumukmas 43.95 205 P **P 15 11 54.9 -0.3**
comp=Z,25nm,1.2s
SMRI Semarang 44.01 210 P **P 15 11 55.5 -0.2**
comp=Z,4µmcomp=Z,73nm,0.7s
TKM2 Tokmak 2 44.12 300 P **P 15 11 57.3 +0.6**
SNR=82
TKM2 Tokmak 2 44.12 300 *i*P **P 15 11 56.0 -0.7**
TKM2 pmax pmax
comp=Z,54nm,0.8s
GSI Gunungsitoli 44.16 232 P **P 15 11 55.8 -1.1**
GSI IAMs_20 IAMs_20 15 32 51.9
comp=Z,17µm,18.0s
GSI Gunungsitoli 44.16 232 ⇑P **P 15 11 56.3 -0.7**
GSI Gunungsitoli 44.16 232 P **P 15 11 55.7 -1.3**
comp=Z,99nm,1.7s
KSH Kashi 44.27 295 P **P 15 12 02.3 +4.5**
KSH sP sP 15 12 10.3 +8.0
KSH S **S 15 18 37.0 +5.4**
KSH pmax pmax
comp=Z,24nm,1.7s
KSH pmax pmax
comp=Z,790nm,7.9s
KSH LR LR
comp=Z,72µm,15.5s
KSH LR LR
comp=Z,48µm,16.8s
KSH LR LR
comp=Z,45µm,17.1s
PWJI Pagerwojo 44.34 208 P **P 15 11 58.8 +0.5**
comp=Z,73nm,1.0s
KRJI Kerinci 44.34 225 P **P 15 11 58.6 +0.1**
comp=Z,9µmcomp=Z,342nm,0.9s
KBK Karagaybulak 44.62 300 P **P 15 12 03.3 +2.6**
SNR=6.1
PMG Port Moresby 44.65 157 P **P 15 12 02.3 +1.5**
comp=Z,11nm,0.9s,baz=1.7,slow=9.4,SNR=2.9
PMG LR LR 15 28 27.3
comp=Z,6µm,21.1s,baz=340,slow=33
DDI Dehra Dun 44.67 282 *e*P **P 15 12 04.0 +2.9**
CHMS Chumysh 44.73 300 P **P 15 12 01.2 -0.2**
SNR=17
CHMS Chumysh 44.73 300 *i*P **P 15 12 00.4 -0.9**
CHMS pmax pmax
comp=Z,79nm,1.2s
KLI Kotabumi 44.73 218 P **P 15 12 01.5 0.0**
comp=Z,173nm,0.8s
MASI Maura Aman, Be 44.74 223 P **P 15 12 01.9 +0.3**
comp=Z,5µmcomp=Z,267nm,1.0s
UGM Wanagama 44.75 209 P **P 15 12 01.7 +0.1**
comp=Z,134nm,1.1s
SGDS Sogindy 44.77 301 *e*P **P 15 12 00.3 -1.4**
SGDS *e*S **S 15 18 38.1 -0.6**
SGDS Sogindy 44.77 301 *e*P **P 15 12 00.4 -1.4**
baz=301
SGDS *e*S **S 15 18 38.2 -0.6**
baz=301
FRU1 Bishkek 44.84 300 P **P 15 12 01.0 -1.2**
FRU1 pmax pmax
comp=Z,72nm,1.1s
FRU1 Bishkek 44.84 300 P **P 15 12 01.0 -1.2**
FRU1 IAmb IAmb 15 12 09.1
comp=Z,72nm,1.1s
USP Ospenovka 44.89 301 P **P 15 12 02.9 +0.4**
SNR=11
KPJI Karang Pucung 44.91 212 P **P 15 12 02.0 -0.9**
comp=Z,3µmcomp=Z,114nm,1.2s
AAK Ala-Archa 44.96 300 P **P 15 12 05.7 +2.4**
SNR=20
AAK Ala-Archa 44.96 300 LR LR 15 31 53.3
comp=Z,33µm,18.1s,baz=72,slow=38
AAK Ala-Archa 44.96 300*ce*P **P 15 12 02.7 -0.6**
AAK pmax pmax
comp=Z,31nm,1.3s
AAK MLR MLR
comp=Z,41µm,15.0s
AAK Ala-Archa 44.96 300 P **P 15 12 02.0 -1.3**
AAK Ala-Archa 44.96 300 P **P 15 12 04.8 +1.5**
AAK P **P 15 12 04.8 +1.5**
AAK Ala-Archa 44.96 300 ⇑P **P 15 12 03.3 0.0**
AAK ⇑P **P 15 12 04.9 +1.5**
AAK Ala-Archa 44.96 300 *i*P **P 15 12 03.4 0.0**
SNR=25
BLSI Bandar Lampung 44.96 217 P **P 15 12 03.3 0.0**
comp=Z,2µmcomp=Z,77nm,0.8s
UCH Uchtor 44.99 299 P **P 15 12 04.4 +0.5**
SNR=68
BTLS Baital 45.05 303 *e*P **P 15 12 03.1 -0.7**
BTLS *e*S **S 15 18 41.9 -0.7**
BTLS Baital 45.05 303 *e*P **P 15 12 03.1 -0.7**
baz=303
BTLS *e*S **S 15 18 42.0 -0.7**
baz=303
LEM Lembang 45.06 214 LR LR 15 33 43.9
comp=Z,5µm,18.4s,baz=22,slow=40
LEM Lembang 45.06 214 P **P 15 12 04.3 0.0**
comp=Z,2µmcomp=Z,124nm,1.0s
SMLA Simla 45.17 283 *e*P **P 15 12 04.8 -0.1**
SMLA IAmb IAmb 15 12 08.9
comp=Z,95nm,1.3s
SISI Saibi 45.18 228 P **P 15 12 02.0 -3.1**
comp=Z,95nm,0.7s
DBJI Dramaga 45.23 215 P **P 15 12 05.3 -0.2**
comp=Z,3µmcomp=Z,74nm,2.3s
MTN Manton Dam 45.25 180 P **P 15 12 03.5 -2.1**
MTN IAmb IAmb 15 12 07.2
comp=Z,56nm,0.8s
LWLI Liwa 45.28 219 P **P 15 12 05.3 -0.7**
comp=Z,91nm,0.7s
EKS2 Erkin-Say 45.48 300 P **P 15 12 07.4 0.0**
SNR=18
AML Almayashu 45.61 299 P **P 15 12 11.8 +3.0**
SNR=62
AML Almayashu 45.61 299 P **P 15 12 11.3 +2.5**

AML Almayashu 45.61 299 *i* P P 15 12 09.4 +0.7
SNR=65
CNJI Cibinong 45.71 214 P P 15 12 07.3 -1.9
comp=Z,2µmcomp=Z,85nm,1.1s
BRZS Berezniki 45.76 310 *e*P P 15 12 08.8 -0.6
BRZS *e*S S 15 18 53.0 +0.2
BRZS Berezniki 45.76 310 *e*P P 15 12 08.8 -0.6
baz=310
BRZS *e*S S 15 18 53.0 +0.2
baz=310
CGJI Cibinong 45.80 216 P P 15 12 07.3 -2.6
comp=Z,32nm,1.5s
OTUK Ortayu 46.03 308 P P 15 12 10.6 -0.9
GAMB Gambell 46.94 31 IAMs_20 IAMs_20 15 33 51.5
comp=Z,10µm,18.0s
GAMB Gambell 46.94 31 P P 15 12 17.4 -0.9
baz=257
NIKH Nikolski High 47.13 46 P P 15 12 19.2 -0.8
baz=270
DZA Taraz 47.24 300 *e*P P 15 12 19.9 -1.2
DZA *e*S S 15 19 13.5 -0.6
DZA Taraz 47.24 300 *e*P P 15 12 19.9 -1.2
baz=300
DZA *e*S S 15 19 13.5 -0.6
baz=300
BRVK Borovoye 47.26 314 *i* P P 15 12 20.0 -1.1
BRVK pmax pmax
comp=Z,70nm,1.0s
BRVK MLR MLR
comp=Z,37µm,12.0s
BRVK Borovoye 47.26 314 P P 15 12 19.9 -1.2
BRVK IAmb IAmb 15 12 24.3
comp=Z,49nm,0.8s
BRVK Borovoye 47.26 314 ⇑P P 15 12 20.0 -1.1
BRVK ⇓P P 15 12 20.3 -0.8
BRVK ⇑P P 15 12 23.1 +2.1
NIL Nilore 47.66 288 P P 15 12 23.2 -1.3
NIL pmax pmax
comp=Z,127nm,1.4s
NIL MLR MLR
comp=Z,12µm,20.0s
NIL Nilore 47.66 288 P P 15 12 23.2 -1.3
NIL Nilore 47.66 288 IAMs_20 IAMs_20 15 35 55.7
comp=Z,13µm,20.0s
NIL Nilore 47.66 288 P P 15 12 23.8 -0.7
BHPL Bhopal 47.67 273 *e*P P 15 12 30.2 +5.5
BHPL IAmb IAmb 15 12 38.2
comp=Z,35nm,1.1s
KK31 Karatay Array 47.80 301 *i* P P 15 12 24.6 -0.8
KK31 Karatay Array 47.80 301 P P 15 12 24.7 -0.8
KKAR Karatay Array 47.80 301 P P 15 12 24.2 -1.2
KKAR Karatay Array 47.80 301 P P 15 12 24.2 -1.2
KKAR Karatay Array 47.80 301 P P 15 12 24.4 -1.0
KKAR IAmb IAmb 15 12 28.5
comp=Z,81nm,0.9s
KKAR Karatay Array 47.80 301 ⇓P P 15 12 24.3 -1.2
COEN Coen 47.84 164 P P 15 12 26.4 +0.6
COEN IAmb IAmb 15 12 42.7
comp=Z,30nm,1.0s
COEN Coen 47.84 164 ⇓P P 15 12 27.6 +1.7
BTK Batken 48.09 297 P P 15 12 27.6 -0.2
BTK pmax pmax
comp=Z,40nm,1.0s
BTK Batken 48.09 297 P P 15 12 27.6 -0.2
BTK IAmb IAmb 15 12 55.1
comp=Z,40nm,0.9s
KNRA Kununurra 48.11 183 P P 15 12 26.5 -1.4
IUG luzhnay 48.30 300 *e*P P 15 12 28.0 -1.4
IUG *e*S S 15 19 28.0 -1.4
IUG luzhnay 48.30 300 *e*P P 15 12 28.1 -1.4
baz=300
IUG *e*S S 15 19 28.1 -1.4
baz=300
UNV Unalaska Valle 48.53 45 P P 15 12 30.0 -0.9
baz=271
GAR Garm 48.68 295 P P 15 12 31.6 -0.8
TNA Tin City 48.91 29 P P 15 12 32.8 -0.8
baz=259
HYB Hyderabad 49.26 265 *e*P P 15 12 36.7 -0.3
HYB IAmb IAmb 15 12 47.4
comp=Z,34nm,1.1s
HYBB Hyderabad (bro 49.26 265 *e*P P 15 12 35.9 -1.1
HYBB *es*P pP 15 12 38.7 -1.6
HYBB *e*PP PP 15 14 29.3 -1.6
HYBB *e*ScP ScP 15 17 54.4 -0.9
HYBB *e*S S 15 19 42.0 -1.3
HYBB *e*ScS ScS 15 22 29.3 -0.3
HYBB IVMs_BB IVMs_BB 15 35 22.5
comp=Z,2µm,17.6s
CHGR Chuyangaron 49.64 295 P P 15 12 39.3 -0.4
CHGR pmax pmax
comp=Z,248nm,1.2s
CHGR Chuyangaron 49.64 295 P P 15 12 39.3 -0.4
ANM Nome 49.81 30 P P 15 12 40.1 -0.4
ANM pmax pmax
comp=Z,31nm,1.0s
ANM MLR MLR
comp=Z,10µm,18.0s
ANM Nome 49.81 30 P P 15 12 40.1 -0.4
ANM IAMs_20 IAMs_20 15 34 36.2
comp=Z,10µm,18.0s
ANM Nome 49.81 30 P P 15 12 39.8 -0.7
baz=262,SNR=6.4
HNR Honiara 50.24 141 P P 15 12 45.1 +0.8
comp=Z,42nm,0.7s,baz=209,slow=16,SNR=4.4
HNR LR LR 15 31 42.0
comp=Z,4µm,21.7s,baz=318,slow=33
HNR Honiara 50.24 141 P P 15 12 44.0 -0.3
HNR pmax pmax
comp=Z,328nm,1.4s
HNR Honiara 50.24 141 P P 15 12 44.0 -0.3
FITZ Fitzroy Crossi 50.72 186 LR LR 15 37 38.7
comp=Z,2µm,18.1s,baz=11,slow=40
FITZ Fitzroy Crossi 50.72 186 P P 15 12 47.2 -0.7
KBL Kabul 50.77 290 P P 15 12 47.4 -1.1
KBL pmax pmax
comp=Z,58nm,1.1s
KBL Kabul 50.77 290 P P 15 12 47.4 -1.1
KBL IAmb IAmb 15 13 08.5
comp=Z,58nm,1.1s
KBL Kabul 50.77 290 P P 15 12 48.1 -0.4
SNR=30
KBL P P 15 12 48.1 -0.4
SNR=30
KBL P P 15 12 48.1 -0.4
SNR=30
RDOG Red Dog Mine 51.29 26 P P 15 12 50.9 -0.8
RDOG IAMs_20 IAMs_20 15 37 04.0
comp=Z,10µm,18.0s
RDOG Red Dog Mine 51.29 26 P P 15 12 50.2 -1.5
baz=262,SNR=13
WB0 Warramunga Arr 52.25 176 P P 15 12 57.4 -1.9
WRAB Tennant Creek 52.41 176 *ce*P P 15 12 58.8 -1.7
WRAB pmax pmax
comp=Z,46nm,1.3s
WRAB MLR MLR
comp=Z,4µm,17.0s
WRAB Tennant Creek 52.41 176 P P 15 12 59.1 -1.3
WRA Warramunga Arr 52.42 176 P P 15 12 59.6 -1.0
comp=Z,30nm,1.1s,baz=356,slow=8.4,SNR=69
WRA LR LR 15 33 05.0
comp=Z,3µm,21.6s,baz=355,slow=34
WRA Warramunga Arr 52.42 176 P P 15 12 59.5 -1.0
WB2 Warramunga Arr 52.42 176 P P 15 12 59.4 -1.2
WR0 Warramunga Arr 52.45 176 P P 15 12 58.8 -2.0
WR0 IAmb IAmb 15 13 03.1
comp=Z,56nm,0.9s
SVE Sverdlovsk 52.71 319⇑ *e*P P 15 13 02.5 +0.2
SVE *e* 15 15 00.8
SVE *e*S S 15 20 30.6 +0.6
SVE *e*SS SS 15 24 02.9 -5.1
SVE pmax pmax
comp=Z,103nm,2.0s
SVE MLR MLR
comp=Z,35µm,14.0s
SVE MLR MLR
comp=E,23µm,13.0s
POO Poona 52.71 269 *e*P P 15 13 03.5 +0.5
POO IAmb IAmb 15 13 13.0
comp=Z,50nm,1.2s
PALK Pallekele 52.84 253 LR LR 15 36 47.2
comp=Z,11µm,20.6s,baz=147,slow=38
PALK Pallekele 52.84 253 P P 15 13 04.9 +1.0
PALK Pallekele 52.84 253 IAMs_20 IAMs_20 15 36 24.6
comp=Z,13µm,21.0s

CHGN Chignik 53.07 41 P P 15 13 04.0 -0.9
baz=275
GCSA Galena City Sc 53.47 31 P P 15 13 07.5 -0.3
baz=270
A21K Barrow 53.84 22 IAMs_20 IAMs_20 15 35 08.3
comp=Z,14µm,22.0s
A21K Barrow 53.84 22 P P 15 13 09.6 -0.9
baz=265
ARU Arti 53.88 319 LR LR 15 37 07.4
comp=Z,12µm,19.0s,baz=84,slow=37
ARU Arti 53.88 319 *di*P P 15 13 10.6 -0.4
ARU 15 14 18.3
ARU 15 15 07.1
ARU PPP PPP 15 16 21.3
ARU S S 15 20 48.0 +2.0
ARU 15 22 57.5
ARU SS SS 15 24 29.7 +3.1
ARU SSS SSS 15 26 21.5
ARU pmax pmax
comp=Z,43nm,1.0s
ARU MLR MLR
comp=Z,18µm,13.0s
ARU Arti 53.88 319 P P 15 13 09.4 -1.6
TTA Tatalina 53.88 33 P P 15 13 11.2 +0.2
TTA pmax pmax
comp=Z,30nm,1.2s
TTA Tatalina 53.88 33 P P 15 13 11.2 +0.2
TTA Tatalina 53.88 33 P P 15 13 10.2 -0.8
baz=272,SNR=9.4
N18K Kilae Creek 54.06 36 P P 15 13 12.1 -0.1
N18K IAmb IAmb 15 13 19.5
comp=Z,99nm,1.6s
N18K IAMs_20 IAMs_20 15 35 11.7
comp=Z,9µm,21.0s
N18K Kilae Creek 54.06 36 P P 15 13 11.8 -0.4
baz=274,SNR=7.8
AB31 Akbulak array 54.07 310 *i* P P 15 13 11.2 -1.3
ABKAR Akbulak array 54.07 310 P P 15 13 11.2 -1.2
ABKAR Akbulak array 54.07 310 P P 15 13 11.4 -1.1
ABKAR IAmb IAmb 15 13 21.0
comp=Z,90nm,1.4s
SVW2 Sparrevohn 54.18 35 P P 15 13 12.7 -0.5
L19K White Mountain 54.46 34 P P 15 13 16.2 +1.0
L19K IAmb IAmb 15 13 51.8
comp=Z,38nm,1.1s
L19K IAMs_20 IAMs_20 15 38 24.1
comp=Z,10µm,18.0s
L19K White Mountain 54.46 34 P P 15 13 14.4 -0.8
baz=274,SNR=12
O18K Koktuh Hills 54.46 37 P P 15 13 15.5 +0.3
O18K IAmb IAmb 15 13 22.2
comp=Z,39nm,1.1s
O18K Koktuh Hills 54.46 37 P P 15 13 15.2 0.0
baz=275
P18K Big Mountain, 54.49 37 P P 15 13 15.7 +0.2
P18K IAmb IAmb 15 13 21.9
comp=Z,63nm,1.2s
P18K Big Mountain, 54.49 37 P P 15 13 13.1 -2.3
baz=275
CTA Charters Tower 54.49 162 LR LR 15 34 28.0
comp=Z,6µm,20.7s,baz=342,slow=34
J20K Nowinta River 54.67 31 P P 15 13 16.8 +0.2
J20K IAmb IAmb 15 13 23.6
comp=Z,85nm,1.4s
J20K IAMs_20 IAMs_20 15 37 47.5
comp=Z,7µm,18.0s
J20K Nowinta River 54.67 31 P P 15 13 16.1 -0.5
baz=273,SNR=28
CHIR Chirikof Islan 54.67 42 P P 15 13 16.1 -0.6
baz=278
M19K Big River Lodg 54.69 34 P P 15 13 16.2 -0.6
M19K IAMs_20 IAMs_20 15 38 33.4
comp=Z,11µm,18.0s
M19K Big River Lodg 54.69 34 P P 15 13 16.1 -0.8
baz=274
N19K Bonanza Creek 54.73 35 P P 15 13 16.5 -0.8
N19K IAMs_20 IAMs_20 15 35 42.6
comp=Z,8µm,20.0s
N19K Bonanza Creek 54.73 35 P P 15 13 16.7 -0.5
baz=275,SNR=6.8
K20K Telida 54.74 32 P P 15 13 17.0 -0.3
K20K IAmb IAmb 15 13 52.1
comp=Z,65nm,1.2s
K20K IAMs_20 IAMs_20 15 39 07.7
comp=Z,8µm,18.0s
K20K Telida 54.74 32 P P 15 13 16.6 -0.6
baz=274,SNR=20
IMAR Indian Mountai 54.76 29 P P 15 13 16.8 -0.5
O19K Port Alsworth 54.87 36 P P 15 13 17.8 -0.3
O19K IAmb IAmb 15 13 24.9
comp=Z,59nm,1.0s
O19K IAMs_20 IAMs_20 15 38 13.3
comp=Z,8µm,18.0s
O19K Port Alsworth 54.87 36 P P 15 13 17.3 -0.8
baz=276,SNR=12
L20K Farewell, AK 54.89 33 P P 15 13 17.2 -1.1
baz=274,SNR=16
PSA00 Pilbara Seismi 54.94 193 P P 15 13 17.5 -1.5
PSA00 IAmb IAmb 15 13 33.3
comp=Z,46nm,1.2s
PSA00 Pilbara Seismi 54.94 193 P P 15 13 16.9 -2.1
PSA00 IAmb IAmb 15 13 33.3
comp=Z,21nm,1.0s
AKTO Aktyubinsk 55.08 312 LR LR 15 38 43.3
comp=Z,29µm,18.2s,baz=84,slow=38
AKTO Aktyubinsk 55.08 312 P P 15 13 19.3 -0.5
H21K Melozitna Rive 55.16 29 P P 15 13 21.2 +1.0
H21K Melozitna Rive 55.16 29 P P 15 13 19.8 -0.4
baz=273,SNR=14
Q19K Cape Douglas, 55.35 38 IAMs_20 IAMs_20 15 39 58.0
comp=Z,8µm,18.0s
Q19K Cape Douglas, 55.35 38 P P 15 13 20.6 -1.0
baz=277
SII Sitkinak Islan 55.37 41 P P 15 13 23.1 +1.3
SII IAMs_20 IAMs_20 15 36 05.8
comp=Z,12µm,21.0s
P19K Oil Pt 55.47 37 IAMs_20 IAMs_20 15 35 32.2
comp=Z,7µm,20.0s
P19K Oil Pt 55.47 37 P P 15 13 20.3 -2.3
baz=277
CHUM Lake Minchumin 55.49 32 P P 15 13 21.7 -0.8
baz=275,SNR=24
I21K Tanana 55.54 30 P P 15 13 23.5 +0.6
I21K IAmb IAmb 15 13 30.0
comp=Z,72nm,1.2s
I21K Tanana 55.54 30 P P 15 13 21.2 -1.6
baz=274,SNR=24
RSO Redoubt South 55.62 36 P P 15 13 24.0 +0.2
CAST Castle Rocks 55.63 32 P P 15 13 24.0 +0.4
CAST IAmb IAmb 15 13 30.6
comp=Z,49nm,1.1s
CAST IAMs_20 IAMs_20 15 40 01.1
comp=Z,8µm,18.0s
CAST Castle Rocks 55.63 32 P P 15 13 22.5 -1.1
baz=275,SNR=26
PPLA Purkeypile 55.63 33 P P 15 13 24.1 +0.3
PPLA Purkeypile 55.63 33 P P 15 13 22.7 -1.1
baz=276,SNR=20
O20K Slope Mountain 55.73 36 P P 15 13 22.9 -1.5
baz=277
OHAK Old Harbor 55.76 40 P P 15 13 24.3 -0.3
OHAK IAmb IAmb 15 13 30.4
comp=Z,52nm,1.0s
OHAK Old Harbor 55.76 40 P P 15 13 22.9 -1.6
baz=278
JOHN Johnston Islan 55.80 91 IAMs_20 IAMs_20 15 39 45.0
comp=Z,8µm,19.0s
SPCR Spurr Chakacha 55.80 35 P P 15 13 23.5 -1.4
baz=277
BPAW Bear Paw Mtn. 56.05 31 P P 15 13 26.1 -0.5
BPAW IAmb IAmb 15 13 33.5
comp=Z,34nm,1.0s
BPAW IAMs_20 IAMs_20 15 38 42.2
comp=Z,7µm,19.0s
BPAW Bear Paw Mtn. 56.05 31 P P 15 13 26.0 -0.7
baz=276,SNR=17
KDAK Kodiak Island 56.06 39 P P 15 13 26.1 -0.6
comp=Z,31nm,0.9s,baz=343,slow=6.7,SNR=13
KDAK LR LR 15 40 25.0
comp=Z,7µm,18.9s,baz=262,slow=39
KDAK Kodiak Island 56.06 39 *i* P P 15 13 26.3 -0.4
KDAK Kodiak Island 56.06 39 P P 15 13 26.2 -0.4
KDAK IAmb IAmb 15 13 31.4
comp=Z,76nm,1.1s
KDAK Kodiak Island 56.06 39 IAMs_20 IAMs_20 15 40 42.8
comp=Z,10µm,19.0s

KDAK Kodiak Island 56.06 39 P P 15 13 25.9 -0.7
baz=279
AS31 Alice Springs 56.09 177 P P 15 13 25.8 -1.5
ASAR Alice Springs 56.09 177 P P 15 13 26.6 -0.8
comp=Z,32nm,1.0s,baz=4.4,slow=6.7,SNR=88
ASAR LR LR 15 39 06.5
comp=Z,4µm,18.9s,baz=5.0,slow=38
ASAR PKP2bc 15 43 39.1
comp=Z,1.1nm,0.9s,baz=205,slow=1.2,SNR=6.8
ASAR Alice Springs 56.09 177 P P 15 13 25.2 -2.1
COLD Coldfoot 56.11 27 P P 15 13 27.1 +0.2
COLD Coldfoot 56.11 27 P P 15 13 25.9 -1.1
baz=274,SNR=14
KTH Kantishna Hill 56.14 32 P P 15 13 27.0 -0.3
KTH IAMs_20 IAMs_20 15 37 02.4
comp=Z,7µm,19.0s
HRA Herat 56.17 292 P P 15 13 27.8 -0.4
HRA IAmb IAmb 15 13 33.5
comp=Z,67nm,1.1s
TOLK Toolik Lake Re 56.25 26 P P 15 13 27.6 -0.5
TOLK IAmb IAmb 15 14 37.9
comp=Z,71nm,1.6s
TOLK IAMs_20 IAMs_20 15 41 49.0
comp=Z,9µm,19.0s
TOLK Toolik Lake Re 56.25 26 P P 15 13 27.5 -0.5
baz=274,SNR=18
CAPN Captain Cook N 56.36 35 IAMs_20 IAMs_20 15 36 44.6
comp=Z,7µm,20.0s
CAPN Captain Cook N 56.36 35 P P 15 13 27.1 -1.7
baz=278
TRF Thorofare Moun 56.43 32 P P 15 13 29.2 -0.3
TRF Thorofare Moun 56.43 32 P P 15 13 28.8 -0.8
baz=277,SNR=9.9
H23K Yukon River 56.49 29 P P 15 13 29.9 +0.1
H23K IAmb IAmb 15 13 56.2
comp=Z,71nm,1.1s
H23K Yukon River 56.49 29 P P 15 13 28.4 -1.3
baz=276,SNR=47
CNPM China Poot 56.50 37 P P 15 13 30.9 +1.0
CNPM IAmb IAmb 15 13 52.4
comp=Z,37nm,1.0s
CUT Chulitna 56.57 33 P P 15 13 30.4 +0.1
CUT IAMs_20 IAMs_20 15 38 41.0
comp=Z,7µm,20.0s
CUT Chulitna 56.57 33 P P 15 13 28.9 -1.4
baz=277,SNR=8.3
BRLK Bradley Lake 56.64 36 P P 15 13 30.4 -0.5
BRLK IAmb IAmb 15 13 37.5
comp=Z,61nm,1.0s
BRLK IAMs_20 IAMs_20 15 35 57.8
comp=Z,9µm,22.0s
I23K Minto, Yukon-K 56.64 30 P P 15 13 31.1 +0.3
I23K IAmb IAmb 15 13 37.6
comp=Z,146nm,1.9s
I23K Minto, Yukon-K 56.64 30 P P 15 13 29.5 -1.2
baz=276,SNR=14
BWN Browne 56.71 31 P P 15 13 31.2 0.0
BWN IAMs_20 IAMs_20 15 39 04.4
comp=Z,7µm,19.0s
BRSE Bradley Lake S 56.71 36 P P 15 13 30.0 -1.4
baz=279
M22K Willow 56.73 34 P P 15 13 30.9 -0.4
M22K Willow 56.73 34 P P 15 13 29.2 -2.2
baz=278,SNR=13
FIS Fire Island 56.76 35 IAMs_20 IAMs_20 15 37 00.2
comp=Z,8µm,20.0s
NEA2 Nenana 56.83 31 P P 15 13 31.2 -1.0
NEA2 IAmb IAmb 15 13 38.8
comp=Z,80nm,1.0s
NEA2 IAMs_20 IAMs_20 15 39 14.7
comp=Z,7µm,18.0s
NEA2 Nenana 56.83 31 P P 15 13 30.8 -1.3
baz=277,SNR=55
MCK McKinley 57.00 32 P P 15 13 32.0 -1.4
MCK McKinley 57.00 32 P P 15 13 31.9 -1.4
MCK IAmb IAmb 15 13 58.5
comp=Z,50nm,1.2s
MCK IAMs_20 IAMs_20 15 40 09.1
comp=Z,6µm,18.0s
MCK McKinley 57.00 32 P P 15 13 30.5 -2.9
baz=278,SNR=14
RC01 Rabbit Creek A 57.00 35 P P 15 13 31.6 -1.8
RC01 IAmb IAmb 15 13 37.9
comp=Z,98nm,1.3s
RC01 IAMs_20 IAMs_20 15 36 26.5
comp=Z,8µm,19.0s
RC01 Rabbit Creek A 57.00 35 P P 15 13 30.8 -2.6
baz=279,SNR=9.8
RND Reindeer 57.08 32 P P 15 13 32.8 -1.2
RND pmax pmax
comp=Z,75nm,1.0s
RND Reindeer 57.08 32 P P 15 13 32.8 -1.2
RND IAmb IAmb 15 13 58.9
comp=Z,75nm,1.0s
RND IAMs_20 IAMs_20 15 37 21.2
comp=Z,10µm,19.0s
O22K Cooper Landing 57.10 35 IAMs_20 IAMs_20 15 39 54.2
comp=Z,10µm,18.0s
O22K Cooper Landing 57.10 35 P P 15 13 31.3 -2.8
baz=279
MDM Murphy Dome 57.14 30 P P 15 13 34.2 -0.2
H24K Noodor Dome 57.17 29 P P 15 13 35.1 +0.5
H24K IAmb IAmb 15 13 41.8
comp=Z,71nm,1.1s
H24K Noodor Dome 57.17 29 P P 15 13 33.2 -1.4
baz=277,SNR=39
PMR Palmer 57.22 34 P P 15 13 34.2 -0.6
PMR pmax pmax
comp=Z,63nm,1.1s
PMR Palmer 57.22 34 P P 15 13 34.2 -0.6
PMR IAmb IAmb 15 13 39.4
comp=Z,63nm,1.1s
PMR Palmer 57.22 34 P P 15 13 32.4 -2.5
baz=279,SNR=18
WRH Wood River Hil 57.27 31 P P 15 13 35.4 +0.2
WRH IAMs_20 IAMs_20 15 39 29.2
comp=Z,7µm,19.0s
GHO Glory Hole Cre 57.28 34 P P 15 13 34.9 -0.6
GHO IAmb IAmb 15 14 01.6
comp=Z,48nm,0.9s
GHO IAMs_20 IAMs_20 15 40 04.2
comp=Z,9µm,18.0s
SEW Seward 57.30 36 P P 15 13 34.2 -1.2
SEW IAmb IAmb 15 13 41.0
comp=Z,72nm,0.9s
SEW Seward 57.30 36 P P 15 13 33.6 -1.9
baz=280,SNR=7.6
WAT1 Susitna Watana 57.30 33 P P 15 13 33.3 -2.2
baz=279
TCOL CIGO, UAF Yank 57.31 30 P P 15 13 35.0 -0.5
baz=278
COLA College 57.31 30 *i* P P 15 13 36.1 +0.6
COLA pmax pmax
comp=Z,111nm,2.2s
COLA MLR MLR
comp=Z,5µm,15.0s
COLA College 57.31 30 ⇑P P 15 13 37.1 +1.6
COLA College 57.31 30 P P 15 13 34.4 -1.1
baz=278
CCB Clear Creek Bu 57.36 30 P P 15 13 35.2 -0.6
CCB IAMs_20 IAMs_20 15 41 15.7
comp=Z,7µm,18.0s
POKR Poker Plat Res 57.45 30 P P 15 13 36.8 +0.3
POKR IAmb IAmb 15 13 44.0
comp=Z,77nm,1.0s
POKR Poker Plat Res 57.45 30 P P 15 13 35.0 -1.5
baz=278,SNR=52
SML Sawmill 57.56 34 IAMs_20 IAMs_20 15 40 03.5
comp=Z,11µm,19.0s
SML Sawmill 57.56 34 P P 15 13 36.2 -1.2
baz=279,SNR=9.1
KNK Knik Glacier 57.56 34 P P 15 13 37.4 0.0
KNK IAmb IAmb 15 13 52.3
comp=Z,65nm,1.1s
KNK IAMs_20 IAMs_20 15 36 47.3
comp=Z,8µm,22.0s
KNK Knik Glacier 57.56 34 P P 15 13 36.4 -1.0
baz=280,SNR=15
WAT6 Susitna Watana 57.70 33 P P 15 13 37.0 -1.6
baz=280,SNR=15
PWL Port Wells 57.72 35 P P 15 13 36.7 -1.7
PWL IAmb IAmb 15 13 44.1
comp=Z,64nm,0.9s
PWL IAMs_20 IAMs_20 15 42 33.4
comp=Z,10µm,18.0s
PWL Port Wells 57.72 35 P P 15 13 36.6 -1.9
baz=280,SNR=10

IL31 57.73 30 P P 15 13 37.5 -1.0
ILAR Eielson Array 57.73 30 P P 15 13 37.5 -1.0
comp=Z,15nm,0.8s,baz=281,slow=3.6,SNR=82
ILAR LR LR 15 38 40.3
comp=Z,5µm,18.2s,baz=288,slow=36
ILAR Eielson Array 57.73 30 P P 15 13 36.5 -2.0
ILAR Eielson Array 57.73 30 P P 15 13 36.5 -2.0
HDA Harding Lake 57.77 31 P P 15 13 37.6 -1.1
HDA IAmb IAmb 15 13 40.7
comp=Z,42nm,0.8s
HDA Harding Lake 57.77 31 P P 15 13 37.6 -1.1
baz=279,SNR=41
DHY Denali Highway 57.79 32 P P 15 13 38.8 -0.3
DHY IAmb IAmb 15 13 43.9
comp=Z,58nm,1.4s
DHY Denali Highway 57.79 32 P P 15 13 37.4 -1.7
baz=280,SNR=15
SCM Sheep Creek Mo 58.02 34 P P 15 13 39.8 -0.9
SCM pmax pmax
comp=Z,68nm,1.1s
SCM MLR MLR
comp=Z,8µm,19.0s
SCM Sheep Creek Mo 58.02 34 P P 15 13 39.8 -0.9
SCM IAmb IAmb 15 14 03.6
comp=Z,68nm,1.1s
SCM IAMs_20 IAMs_20 15 40 25.4
comp=Z,8µm,19.0s
SCM Sheep Creek Mo 58.02 34 P P 15 13 38.7 -2.0
baz=280,SNR=13
GEYT Alibeck 58.19 297 P P 15 13 42.7 +0.5
comp=Z,8.1nm,1.1s,baz=110,slow=7.8,SNR=2.5
GEYT LR LR 15 39 24.0
comp=Z,15µm,18.0s,baz=80,slow=37
GEYT Alibeck 58.19 297 P P 15 13 40.5 -1.8
GYA0B ALIBECK ARRAY 58.19 297 P P 15 13 40.7 -1.5
BMAR Burnt Mountain 58.25 27 P P 15 13 42.1 0.0
GLI Glacier Island 58.31 35 P P 15 13 42.0 -0.6
GLI IAmb IAmb 15 13 48.5
comp=Z,42nm,1.0s
GLI IAMs_20 IAMs_20 15 40 60.0
comp=Z,6µm,18.0s
GLI Glacier Island 58.31 35 P P 15 13 40.6 -2.0
baz=281
J25K Salcha River, 58.41 30 P P 15 13 41.9 -1.4
J25K Salcha River, 58.41 30 P P 15 13 41.6 -1.7
baz=280,SNR=5.6
KIRV Kirov 58.43 323 *ce*P P 15 13 43.6 +0.2
M24K Tolsona, Glenn 58.51 33 P P 15 13 44.3 +0.2
M24K IAmb IAmb 15 14 01.3
comp=Z,64nm,0.9s
M24K Tolsona, Glenn 58.51 33 P P 15 13 42.8 -1.2
baz=281,SNR=8.6
MNCY Minicoy 58.55 259 *e*P P 15 14 00.6 +16
MNCY IAmb IAmb 15 14 07.7
comp=Z,62nm,0.9s
FID Port Fidalgo 58.63 35 P P 15 13 44.3 -0.5
FID IAMs_20 IAMs_20 15 41 18.1
comp=Z,9µm,18.0s
PAX Paxson 58.66 32 P P 15 13 45.1 0.0
PAX pmax pmax
comp=Z,30nm,1.2s
PAX Paxson 58.66 32 P P 15 13 45.1 0.0
PAX Paxson 58.66 32 P P 15 13 43.9 -1.3
baz=281,SNR=12
KLU Klutina 58.74 34 P P 15 13 45.3 -0.5
KLU IAmb IAmb 15 14 02.9
comp=Z,49nm,1.0s
KLU IAMs_20 IAMs_20 15 40 40.5
comp=Z,7µm,18.0s
KLU Klutina 58.74 34 P P 15 13 43.9 -1.8
baz=282,SNR=13
RIDG Independent Ri 58.79 31 P P 15 13 45.3 -0.7
RIDG IAmb IAmb 15 14 22.2
comp=Z,42nm,1.2s
RIDG IAMs_20 IAMs_20 15 38 36.5
comp=Z,9µm,19.0s
RIDG Independent Ri 58.79 31 P P 15 13 43.6 -2.4
baz=281,SNR=12
DIV Divide 58.89 34 P P 15 13 46.7 0.0
HARP HAARP 58.92 33 P P 15 13 44.5 -2.3
baz=282,SNR=19
Q23K Middleton Isla 58.97 36 IAMs_20 IAMs_20 15 37 44.7
comp=Z,7µm,21.0s
EYAK Cordova Ski Ar 59.02 35 P P 15 13 46.8 -0.7
EYAK IAmb IAmb 15 13 52.1
comp=Z,38nm,1.0s
EYAK Cordova Ski Ar 59.02 35 P P 15 13 45.9 -1.6
baz=282,SNR=6.9
SCRK Sand Creek 59.12 31 P P 15 13 47.3 -1.0
SCRK Sand Creek 59.12 31 P P 15 13 47.3 -1.0
baz=282,SNR=80
DOT Dot Lake 59.15 31 P P 15 13 47.1 -1.4
DOT IAmb IAmb 15 13 54.1
comp=Z,34nm,0.9s
J26L Joseph Creek 59.19 30 P P 15 13 47.5 -1.3
baz=282,SNR=25
HMDM Hanimaadhoo 59.25 257 IAMs_20 IAMs_20 15 41 02.4
comp=Z,10µm,20.0s
N25K Chitina, Valde 59.34 34 P P 15 13 49.6 -0.2
N25K IAmb IAmb 15 13 57.4
comp=Z,38nm,0.9s
N25K IAMs_20 IAMs_20 15 37 46.3
comp=Z,8µm,21.0s
N25K Chitina, Valde 59.34 34 P P 15 13 47.8 -2.1
baz=283,SNR=22
MENT Mentasta 59.45 32 P P 15 13 50.8 +0.3
BMRM Bremner River 59.48 34 P P 15 13 50.3 -0.5
BMRM IAMs_20 IAMs_20 15 41 24.9
comp=Z,10µm,18.0s
BMRM Bremner River 59.48 34 P P 15 13 48.5 -2.3
baz=283,SNR=34
RAGM Ragged Mountai 59.58 35 P P 15 13 51.5 +0.1
L26K Log Cabin Wild 59.60 32 P P 15 13 51.5 -0.1
L26K IAmb IAmb 15 13 56.3
comp=Z,29nm,0.9s
L26K IAMs_20 IAMs_20 15 40 55.0
comp=Z,8µm,19.0s
L26K Log Cabin Wild 59.60 32 P P 15 13 50.5 -1.0
baz=283,SNR=11
PRGR Permogore 59.62 327 *e*P P 15 13 50.5 -1.2
PRGR pmax pmax
comp=Z,11nm,1.4s
GLB Gilahina Butte 59.75 34 P P 15 13 53.0 +0.3
GLB IAmb IAmb 15 13 59.2
comp=Z,68nm,1.3s
GLB IAMs_20 IAMs_20 15 37 58.9
comp=Z,9µm,22.0s
HMT Hamilton 59.79 35 P P 15 13 53.0 +0.1
HMT IAMs_20 IAMs_20 15 41 52.2
comp=Z,9µm,18.0s
KAIM Kayak Island 59.81 35 IAMs_20 IAMs_20 15 37 52.1
comp=Z,9µm,21.0s
M26K Nabesna, AK 59.90 32 P P 15 13 53.7 +0.1
M26K IAMs_20 IAMs_20 15 42 27.9
comp=Z,7µm,18.0s
M26K Nabesna, AK 59.90 32 P P 15 13 52.3 -1.3
baz=284,SNR=73
VRDI Verde Repeater 59.96 34 P P 15 13 54.1 -0.2
VRDI IAmb IAmb 15 13 57.2
comp=Z,35nm,0.8s
BERG Berg Lake 60.05 35 P P 15 13 54.5 -0.2
BERG IAMs_20 IAMs_20 15 39 14.3
comp=Z,9µm,22.0s
SUCK Suckling Hills 60.09 35 IAMs_20 IAMs_20 15 38 13.1
comp=Z,10µm,21.0s
MCARA McCarthy VSAT 60.13 34 P P 15 13 54.9 -0.3
MCARA IAMs_20 IAMs_20 15 38 22.0
comp=Z,9µm,22.0s
MCARA McCarthy VSAT 60.13 34 P P 15 13 53.1 -2.1
baz=284,SNR=21
EGAK Eagle 60.14 30 P P 15 13 54.6 -0.6
EGAK IAmb IAmb 15 14 00.4
comp=Z,107nm,1.8s
EGAK Eagle 60.14 30 P P 15 13 53.5 -1.7
baz=284
L27K Beaver Creek, 60.27 32 P P 15 13 55.8 -0.3
L27K IAmb IAmb 15 13 59.6
comp=Z,35nm,0.8s
L27K IAMs_20 IAMs_20 15 39 20.5
comp=Z,9µm,20.0s
L27K Beaver Creek, 60.27 32 P P 15 13 54.2 -1.9
baz=284,SNR=51
BCAR Beaver Creek A 60.28 32 P P 15 13 55.1 -1.2
TGL Tana Glacier 60.37 34 P P 15 13 56.7 -0.3
TGL IAmb IAmb 15 13 59.8
comp=Z,43nm,0.8s
TGL IAMs_20 IAMs_20 15 39 27.6
comp=Z,11µm,21.0s
M27K Edge Creek, AK 60.42 32 P P 15 13 57.3 -0.1
M27K IAmb IAmb 15 14 00.4
comp=Z,33nm,0.7s
M27K IAMs_20 IAMs_20 15 42 27.6
comp=Z,8µm,18.0s
M27K Edge Creek, AK 60.42 32 P P 15 13 55.8 -1.5
WAX Waxell Ridge 60.44 35 P P 15 13 56.6 -0.8
WAX IAmb IAmb 15 14 04.0
comp=Z,65nm,1.1s
WAX IAMs_20 IAMs_20 15 41 58.4
comp=Z,9µm,18.0s
SNH Sunshine Point 60.52 35 P P 15 13 55.7 -2.2
SNH IAMs_20 IAMs_20 15 42 40.4
comp=Z,8µm,19.0s
ISLE Juniper Island 60.65 34 P P 15 13 58.9 0.0
ISLE IAmb IAmb 15 14 25.2
comp=Z,57nm,1.0s
ISLE IAMs_20 IAMs_20 15 39 33.8
comp=Z,9µm,22.0s
BARN Barnard Glacie 60.85 34 P P 15 13 60.0 -0.4
BARN IAmb IAmb 15 14 03.6
comp=Z,37nm,0.7s
BARN IAMs_20 IAMs_20 15 39 37.1
comp=Z,8µm,22.0s
BVCY Beaver Creek 60.86 32 P P 15 13 58.4 -1.8
baz=285,SNR=9.4
GRNC Granite Creek 60.89 34 P P 15 14 01.5 +0.8
GRNC IAmb IAmb 15 14 15.6
comp=Z,51nm,1.2s
GRNC IAMs_20 IAMs_20 15 39 55.2
comp=Z,8µm,22.0s
BELG Belogornoye 60.94 316 LR LR 15 42 11.9
comp=Z,23µm,18.4s,baz=69,slow=38
BELG Belogornoye 60.94 316 *i* P P 15 13 59.4 -1.4
BELG pmax pmax
comp=Z,39nm,2.2s
BELG MLR MLR
comp=Z,3µm,18.0s
CTG Chitna Glacier 61.02 34 P P 15 13 59.5 -2.0
baz=286,SNR=18
CTGM Chitina Glacie 61.03 34 P P 15 14 01.4 -0.1
CTGM IAmb IAmb 15 14 08.1
comp=Z,49nm,0.9s
CTGM IAMs_20 IAMs_20 15 39 50.7
comp=Z,8µm,22.0s
DAWY Dawson 61.06 30 P P 15 14 01.1 -0.5
DAWY Dawson 61.06 30 P P 15 13 59.5 -2.1
baz=286,SNR=21
I29M Ogilvie Camp, 61.16 29 P P 15 14 02.0 -0.2
I29M IAmb IAmb 15 14 08.9
comp=Z,49nm,1.1s
I29M IAMs_20 IAMs_20 15 38 52.1
comp=Z,8µm,22.0s
I29M Ogilvie Camp, 61.16 29 P P 15 14 00.3 -1.9
baz=286,SNR=54
YUK3 Moose Creek 61.21 33 P P 15 14 00.4 -2.5
baz=286,SNR=15
LOGN Logan Glacier 61.22 34 P P 15 14 02.4 -0.5
LOGN IAmb IAmb 15 14 31.9
comp=Z,32nm,1.0s
LOGN IAMs_20 IAMs_20 15 40 04.9
comp=Z,8µm,22.0s
PINM Pinnacle 61.78 35 P P 15 14 03.4 -3.2
baz=287
HOPEN Hopen 62.08 345 *e*P P 15 14 09.0 +0.8
HOPEN IVmB_BB 15 14 09.2
comp=Z,1µm,2.5s
HOPEN *e*S S 15 22 35.0 +2.3
HOPEN *e*SS SS 15 26 37.5 +2.9
HOPEN IVMs_BB IVMs_BB 15 44 50.8
comp=Z,5µm,13.5s
INK Inuvik 62.11 25 P P 15 14 08.2 -0.3
comp=Z,24nm,0.8s,baz=289,slow=6.2,SNR=70
INK Inuvik 62.11 25 P P 15 14 07.9 -0.6
INK pmax pmax
comp=Z,39nm,1.1s
INK Inuvik 62.11 25 P P 15 14 07.9 -0.6
INK IAmb IAmb 15 14 13.3
comp=Z,39nm,1.1s
INK Inuvik 62.11 25 P P 15 14 06.3 -2.2
baz=288,SNR=35
BCPM Bancas Point 62.12 35 P P 15 14 08.4 -0.3
BCPM IAMs_20 IAMs_20 15 43 08.8
comp=Z,9µm,19.0s
YUK4 Talbot Arm 62.17 33 P P 15 14 07.2 -2.1
baz=288,SNR=24
PNL Peninsula 62.32 35 P P 15 14 08.1 -2.0
baz=288,SNR=6.5
YUK6 Outpost Mounta 62.42 33 P P 15 14 08.9 -2.1
baz=288,SNR=11
M30M Minto, Yukon 62.62 31 P P 15 14 12.7 +0.6
M30M IAmb IAmb 15 14 17.2
comp=Z,56nm,1.2s
M30M Minto, Yukon 62.62 31 P P 15 14 09.8 -2.3
baz=288,SNR=28
KLMR Klimovskoe 62.68 327 *e*P P 15 14 12.2 -0.1
KLMR *e*S S 15 22 40.4 -0.1
KLMR *e*SS SS 15 26 45.5 +1.1
KLMR pmax pmax
comp=Z,87nm,1.2s
KLMR MLR MLR
comp=Z,39µm,15.0s
KLMR Klimovskoe 62.68 327 *e*P P 15 14 12.3 -0.1
KLMR AMP 15 14 20.2
comp=Z,87nm,1.2s
KLMR *e*S S 15 22 40.4 -0.1
KLMR *e*S S 15 22 40.4 -0.1
KLMR *e*SS SS 15 26 45.5 +1.1
KLMR *e*SS SS 15 26 45.5 +1.1
KLMR *e*SSS SSS 15 29 39.5
KLMR *e*SSS SSS 15 29 39.5
KLMR LQ LQ 15 36 51.8
KLMR LQ LQ 15 36 51.8
KLMR LR LR 15 42 16.8
KLMR AMP 15 44 13.9
comp=Z,39µm,15.0s
HYT Haines Junctio 62.86 33 P P 15 14 14.4 +0.6
HYT IAmb IAmb 15 14 19.7
comp=Z,56nm,1.0s
HYT Haines Junctio 62.86 33 P P 15 14 11.9 -1.9
baz=289,SNR=25
MORW Morawa 62.98 195 P P 15 14 13.0 -1.7
MORW IAmb IAmb 15 14 16.5
comp=Z,36nm,1.2s
APA Apatity 62.98 335 *i* P P 15 14 14.8 +0.5
APA pmax pmax
comp=Z,23nm,0.9s
APA MLR MLR
comp=Z,19µm,16.0s
KAAM Kaadhehdhoo 63.02 252 IAMs_20 IAMs_20 15 39 36.5
comp=Z,8µm,22.0s
SPB2 Spitsbergen Ar 63.02 348 P P 15 14 13.7 -0.8
SPB2 IAmb IAmb 15 14 30.2
comp=Z,44nm,1.0s
SPA0 Spitsbergen Ar 63.02 348 *e*P P 15 14 14.9 +0.4
SPA0 *e*S S 15 22 47.5 +2.9
SPA0 *e*SS SS 15 26 51.2 +1.9
SPA0 IVMs_BB IVMs_BB 15 42 35.1
comp=Z,4µm,17.5s
SPITS Spitsbergen Ar 63.02 348 LR LR 15 42 56.2
comp=Z,12µm,20.3s,baz=252,slow=37
SPITS Spitsbergen Ar 63.02 348 P P 15 14 14.0 -0.5
SPITS pmax pmax
comp=Z,71nm,1.3s
FORT Forrest 63.16 183 P P 15 14 14.4 -1.4
JLN Jalan Bani Buh 63.22 280 P P 15 14 16.8 +0.2
JLN P P 15 14 16.8 +0.2
KBS Kingsbay 63.37 349 IAMs_20 IAMs_20 15 41 52.2
comp=Z,10µm,22.0s
KBS Kingsbay 63.37 349 *e*P P 15 14 17.7 +1.0
WBK Wadi Bani Khal 63.38 281 P P 15 14 18.6 +0.9
SNR=7.3
WBK P P 15 14 18.6 +0.9
SNR=7.3
WSAR Wadi Sarin 63.38 282 LR LR 15 45 32.0
comp=Z,8µm,18.7s,baz=74,slow=40
WSAR Wadi Sarin 63.38 282 P P 15 14 17.9 +0.2
SNR=6.7
A36M Sachs Harbour 63.43 20 P P 15 14 16.7 -0.5
A36M Sachs Harbour 63.43 20 P P 15 14 15.6 -1.6
baz=294,SNR=103
N31M Braeburn, Yuko 63.43 32 P P 15 14 17.8 +0.3
N31M IAMs_20 IAMs_20 15 40 59.2
comp=Z,7µm,21.0s
N31M Braeburn, Yuko 63.43 32 P P 15 14 15.5 -2.0
baz=290,SNR=18
BIDO Bidbid 63.68 282 P P 15 14 19.7 0.0
SNR=6.9
BIDO P P 15 14 19.7 0.0
SNR=6.9
HSPB Hornsund (broa 63.79 347 *e*P P 15 14 21.1 +1.6
HSPB *e*S S 15 22 57.4 +3.4
HSPB *e*L L 15 44 58.3
comp=Z,14µm,18.5s
HSPB Hornsund (broa 63.79 347 *e*P P 15 14 20.1 +0.5
HSPB IVmBBB 15 14 21.7
comp=Z,534nm,1.3s
HSPB *e*S S 15 22 56.4 +2.3
HSPB *e*SS SS 15 27 04.2 +3.0
HSPB IVMs_BB IVMs_BB 15 44 47.0
comp=Z,5µm,16.5s
M31M Drury Creek, Y 63.80 31 P P 15 14 19.8 -0.1
M31M IAmb IAmb 15 14 24.7
comp=Z,55nm,1.6s
M31M IAMs_20 IAMs_20 15 43 16.0
comp=Z,7µm,19.0s
M31M Drury Creek, Y 63.80 31 P P 15 14 17.4 -2.5
baz=291
SMDO Samad 63.94 282 P P 15 14 21.6 +0.1
SNR=10
SMDO P P 15 14 21.6 +0.1
SNR=10
MAK Makhachkala 64.10 306 *e*P P 15 14 22.4 +0.3
MAK *e*PPP PPP 15 18 09.8
MAK *e*S S 15 23 01.9 +3.1
MAK *e*SS SS 15 27 02.3 -5.0
MAK pmax pmax
comp=Z,162nm,1.4s
MAK pmax pmax
comp=Z,624nm,3.1s
MAK smax smax
comp=E,1µm,4.4s
MAK smax smax
comp=N,4µm,7.9s
MAK MLR MLR
comp=E,33µm,17.0s
MAK MLR MLR
comp=Z,25µm,15.0s
MAK MLR MLR
comp=N,25µm,13.0s
WHY Whitehorse 64.13 33 P P 15 14 22.4 +0.2
WHY IAmb IAmb 15 14 29.1
comp=Z,63nm,1.2s
WHY Whitehorse 64.13 33 P P 15 14 20.9 -1.3
baz=291,SNR=14
BANOM Banah 64.14 285 P P 15 14 21.5 -1.2
SNR=14
BANOM P P 15 14 21.5 -1.2
SNR=14
BANOM Banah 64.14 285 *i* P P 15 14 22.3 -0.4
SNR=24
DZM Mont Dzumac 64.19 143 *e*P P 15 14 26.7 +3.7
comp=Z,166nm,1.3s
DZM *e*S S 15 23 05.4 +4.9
comp=Z,6µm,33.5s
DZM *e*LQ LQ 15 30 53.8
comp=Z,10µm,33.1s
DZM *e*LR LR 15 33 41.5
comp=Z,14µm,31.1s
DZM Mont Dzumac 64.19 143 P P 15 14 23.3 +0.3
JMDO Jabal Madar 64.20 281 P P 15 14 24.4 +1.2
SNR=6.2
JMDO P P 15 14 24.4 +1.2
SNR=6.2
JMDO P P 15 14 24.4 +1.2
SNR=6.2
SHME Shamm 64.21 286 P P 15 14 23.0 -0.1
SNR=28
SHME P P 15 14 23.0 -0.1
SNR=28
SHME P P 15 14 23.0 -0.1
SNR=28
SHME Shamm 64.21 286 *i* P P 15 14 23.2 0.0
SNR=23
HOQ Hoqain 64.32 283 P P 15 14 23.8 -0.1
SNR=8.2
HOQ P P 15 14 23.8 -0.1
SNR=8.2
HOQ P P 15 14 23.8 -0.1
SNR=8.2
BJO1 Bjornoya 64.34 344 *e*P P 15 14 23.6 +0.4
BJO1 *e*S S 15 23 03.7 +2.8
BJO1 *e*SS SS 15 27 11.9 +2.1
BJO1 IVMs_BB IVMs_BB 15 45 32.8
comp=Z,7µm,18.5s
SKAG Skagway 64.35 34 P P 15 14 22.5 -0.9
SKAG IAmb IAmb 15 14 29.3
comp=Z,50nm,1.0s
SKAG Skagway 64.35 34 P P 15 14 21.9 -1.5
baz=291,SNR=17
MASF Masafi 64.49 285 P P 15 14 25.3 +0.3
SNR=6.7
MASF P P 15 14 25.3 +0.3
SNR=6.7
MSFE Esma-Masafi 64.49 285 *i* P P 15 14 25.3 +0.2
SNR=17
UOSS Minazif 64.64 284 P P 15 14 23.3 -2.6
UOSS IAmb IAmb 15 15 22.7
comp=Z,34nm,1.3s
UOSS Minazif 64.64 284 IAMs_20 IAMs_20 15 46 22.8
comp=Z,8µm,20.0s
UOSS Minazif 64.64 284 P P 15 14 25.4 -0.5
UOSS P P 15 14 25.4 -0.5
UOSS Minazif 64.64 284 *i* P P 15 14 25.4 -0.5
SNR=14
HATD Hatta, Dubai 64.75 284 P P 15 14 27.3 +0.6
SNR=12
HATD P P 15 14 27.3 +0.6
SNR=12
HATD Hatta, Dubai 64.75 284 *i* P P 15 14 26.6 0.0
SNR=23
BSY Bisya 64.78 282 P P 15 14 27.1 +0.2
SNR=10
BSY P P 15 14 27.1 +0.2
SNR=10
LKRN Lenkeran, Azer 64.79 301 P P 15 14 27.9 +1.2
VRH Novokhopyorsk 64.80 316 *e*P P 15 14 26.7 +0.2
VRH *e*S S 15 23 05.8 -1.4
VRH pmax pmax
comp=Z,90nm,1.7s
VRH smax smax
comp=N,2µm,6.8s
VRH MLR MLR
comp=Z,27µm,14.0s
UMQ Umm Al-Quwin 64.83 285 P P 15 14 28.0 +0.9
UMQ P P 15 14 28.0 +0.9
UMQ Umm Al-Quwin 64.83 285 *i* P P 15 14 28.3 +1.2
SNR=5.6
ASHO Ashiyiah 64.87 284 P P 15 14 27.9 +0.4
SNR=9.6
ASHO P P 15 14 27.9 +0.4
SNR=9.6
ASHO P P 15 14 27.9 +0.4
SNR=9.6
ASHO Ashiyiah 64.87 284 *i* P P 15 14 27.3 -0.2
SNR=12
ALE Alert 64.87 2 IAMs_20 IAMs_20 15 43 06.5
comp=Z,9µm,18.0s
ARA0 ARCESS Array S 64.88 338 *e*P P 15 14 27.0 +0.1
ARA0 IVmBBB 15 14 28.4
comp=Z,2µm,4.0s
ARA0 *e*PP PP 15 16 50.9 +1.8
ARA0 *e*S S 15 23 06.5 -1.2
ARA0 *e*SS SS 15 27 22.7 +4.3
ARA0 IVMs_BB IVMs_BB 15 47 34.4
comp=Z,13µm,13.6s
ARCES ARCESS Array B 64.88 338 P P 15 14 26.0 -0.8
comp=Z,16nm,1.0s,baz=55,slow=6.4,SNR=15
ARCES ARCESS Array B 64.88 338 P P 15 14 26.0 -0.8
ARCES ARCESS Array B 64.88 338 P P 15 14 26.6 -0.2
BESE Bessie Mountai 64.90 35 P P 15 14 27.3 +0.2
BESE IAmb IAmb 15 15 04.0
comp=Z,58nm,1.4s
C36M Paulatuk 64.90 22 P P 15 14 26.2 -0.7
C36M Paulatuk 64.90 22 P P 15 14 25.6 -1.3
baz=296,SNR=86
MHTO MHTO 64.94 280 P P 15 14 27.5 -0.5
SNR=12
MHTO P P 15 14 27.5 -0.5
SNR=12

HAMF **Hammerfest** 64.94 339 *e*P **P** 15 14 26.4 -0.7
HAMF *e*S **S** 15 23 10.0 +1.6
HAMF *e*SS **SS** 15 27 22.4 +3.1
HAMF IVMs_BB IVMs_BB 15 47 14.4
comp=Z,11µm,17.9s
SEKA **Sheki** 64.96 304 P **P** 15 14 28.0 +0.1
STKA **Stephens Creek** 65.00 170 P **P** 15 14 27.6 -0.4
comp=Z,12nm,0.7s,baz=338,slow=6.7,SNR=35
STKA LR LR 15 41 56.2
comp=Z,6µm,21.6s,baz=356,slow=35
STKA **Stephens Creek** 65.00 170 P **P** 15 14 26.6 -1.4
MMPY **Sheldon Lake,** 65.00 30 P **P** 15 14 27.1 -0.7
baz=293
NAZ **Nazwa, Dubai** 65.06 285 P **P** 15 14 28.9 +0.2
SNR=12
NAZ P **P** 15 14 28.9 +0.2
SNR=12
NAZ **Nazwa, Dubai** 65.06 285 *i* P **P** 15 14 32.0 +3.3
SNR=17
ARQ **Araqi** 65.08 283 P **P** 15 14 29.1 +0.2
SNR=7.3
ARQ P **P** 15 14 29.1 +0.2
SNR=7.3
ARQ P **P** 15 14 29.1 +0.2
SNR=7.3
ZKTA **Zakatala** 65.20 305 P **P** 15 14 30.5 +1.1
MNGR **Mingechevir, A** 65.21 304 P **P** 15 14 30.6 +1.2
FAQ **Al Faqa, Dubai** 65.22 284 P **P** 15 14 27.8 -2.0
SNR=16
FAQ P **P** 15 14 27.8 -2.0
SNR=16
FAQ **Al Faqa, Dubai** 65.22 284 *i* P **P** 15 14 29.0 -0.8
SNR=17
SIT **Sitka** 65.23 37 P **P** 15 14 29.8 +0.6
SIT pmax pmax
comp=Z,54nm,1.0s
SIT **Sitka** 65.23 37 P **P** 15 14 29.8 +0.6
SIT IAmb IAmb 15 14 35.3
comp=Z,54nm,1.0s
SIT **Sitka** 65.23 37 P **P** 15 14 27.9 -1.3
baz=292
JIS **Juneau Island** 65.24 35 P **P** 15 14 28.9 -0.4
JIS IAmb IAmb 15 14 53.1
comp=Z,41nm,1.2s
JIS IAMs_20 IAMs_20 15 46 24.3
comp=Z,6µm,18.0s
BBOO **Buckleboo** 65.31 175 P **P** 15 14 29.1 -0.9
BBOO IAmb IAmb 15 14 45.4
comp=Z,26nm,0.9s
MOS **Moscow** 65.39 322 *e*P **P** 15 14 29.2 -1.1
MOS *e* 15 15 05.0
MOS *e* 15 17 01.6
MOS *e*S **S** 15 23 13.5 -0.9
MOS *e* 15 24 23.9
MOS pmax pmax
comp=Z,500nm,1.8s
MOS pmax pmax
comp=Z,222nm,1.6s
MOS MLR MLR
comp=E,17µm,15.0s
MOS MLR MLR
comp=Z,19µm,15.0s
ALNE **Al Ain** 65.39 284 P **P** 15 14 30.8 -0.1
SNR=24
ALNE **Al Ain** 65.39 284 *i* P **P** 15 14 30.8 -0.1
SNR=18
ASUD **Al Ashush, Dub** 65.49 284 P **P** 15 14 31.7 +0.2
SNR=10
ASUD **Al Ashush, Dub** 65.49 284 *i* P **P** 15 14 30.6 -0.9
SNR=8.3
EUNU **Eureka** 65.66 7 P **P** 15 14 31.0 -0.8
ARMA **Armidale** 65.76 160 P **P** 15 14 30.6 -2.4
ARMA IAmb IAmb 15 14 38.8
comp=Z,38nm,1.2s
GANJ **Ganja** 65.79 304 P **P** 15 14 34.7 +1.4
AJN **Ajban** 65.80 285 P **P** 15 14 33.3 -0.2
SNR=8.2
AJN P **P** 15 14 33.3 -0.2
SNR=8.2
AJN **Ajban** 65.80 285 *i* P **P** 15 14 32.7 -0.7
SNR=14
KTK1 **Kautokeino** 65.84 338 *e*P **P** 15 14 32.5 -0.6
KTK1 IVmB_BB 15 14 34.5
comp=Z,2µm,3.6s
KTK1 *e*S **S** 15 23 21.0 +1.5
KTK1 *e*SS **SS** 15 27 35.6 +2.2
KTK1 IVMs_BB IVMs_BB 15 48 01.7
comp=Z,10µm,19.6s
LPSR **Galich'ya Gora** 65.88 318 *e*P **P** 15 14 32.7 -0.8
LPSR *e*S **S** 15 23 16.3 -4.1
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR smax smax
comp=N,2µm,7.4s
LPSR MLR MLR
comp=Z,21µm,14.0s
VORR **Voronezh** 66.08 317 *e*P **P** 15 14 36.8 +2.0
VORR *e* 15 15 05.0
VORR *e*S **S** 15 23 18.0 -4.9
VORR *e* 15 24 31.3
VORR pmax pmax
comp=Z,108nm,1.5s
VORR MLR MLR
comp=Z,28µm,17.0s
OBN **Obninsk** 66.19 321 *e*P **P** 15 14 35.7 +0.2
OBN *e* 15 15 05.3
OBN *e* 15 17 03.3
OBN *e*PPP PPP 15 18 38.8
OBN *i*S **S** 15 23 21.6 -2.5
OBN *e*SS **SS** 15 27 32.9 -6.3
OBN pmax pmax
comp=Z,97nm,1.3s
OBN MLR MLR
comp=Z,17µm,12.0s
OBN **Obninsk** 66.19 321 P **P** 15 14 35.0 -0.5
VSR **Storozhevoye** 66.28 317 *e*P **P** 15 14 35.5 -0.6
VSR *e*S **S** 15 23 20.1 -5.2
VSR pmax pmax
comp=Z,30nm,0.7s
VSR smax smax
comp=N,1µm,6.8s
VSR MLR MLR
comp=Z,26µm,18.0s
GOF **Gofitskoye** 66.29 309⇑ *e*P **P** 15 14 36.9 +0.6
GOF pmax pmax
comp=Z,111nm,0.9s
VORD **Divnogorie** 66.30 316 *e*P **P** 15 14 37.1 +0.8
VORD *e*S **S** 15 23 24.9 -0.7
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD smax smax
comp=N,470nm,7.0s
VALR **Valaam** 66.39 329 *i* P **P** 15 14 36.5 -0.1
VALR pmax pmax
comp=Z,102nm,1.4s
JETT **Jettan, Norway** 66.45 339 *e*P **P** 15 14 37.0 0.0
UMZA **Um Al Zommool** 66.48 283 P **P** 15 14 37.1 -0.7
ZEI **Tsey** 66.61 307 *e*P **P** 15 14 36.8 -1.9
ZEI pmax pmax
comp=Z,30nm,1.0s
TGTN **Hyland Airport** 66.73 31 P **P** 15 14 36.8 -2.2
baz=296,SNR=16
TRO **Tromso** 66.86 339 *e*P **P** 15 14 39.9 +0.4
TRO *e*S **S** 15 23 31.2 -0.5
TRO *e*SS **SS** 15 27 51.4 +2.4
KBZ **Khabaz** 66.91 308 P **P** 15 14 40.5 +0.2
comp=Z,44nm,1.1s,baz=53,slow=3.3,SNR=33
KBZ **Khabaz** 66.91 308 *ce*P **P** 15 14 40.3 0.0
KBZ pmax pmax
comp=Z,90nm,1.2s
KBZ MLR MLR
comp=Z,22µm,16.0s
KIV **Kislovodsk** 66.96 308 *e*P **P** 15 14 40.8 0.0
KIV *e*S **S** 15 23 34.6 +0.5
KIV pmax pmax
comp=Z,112nm,3.5s
KIV pmax pmax
comp=Z,93nm,1.1s
KIV MLR MLR
comp=Z,15µm,17.0s
KIV **Kislovodsk** 66.96 308 P **P** 15 14 40.5 -0.2
KIV **Kislovodsk** 66.96 308 P **P** 15 14 40.3 -0.5
KIV **Kislovodsk** 66.96 308 *i* P **P** 15 14 41.2 +0.4
SNR=32
NAX **Nakhchivan** 66.96 303 P **P** 15 14 42.3 +1.5

WRAK **Wrangell Islan** 66.99 37 P **P** 15 14 39.4 -1.1
baz=295
ONI **Oni** 67.00 307 P **P** 15 14 40.7 -0.3
ONI pmax pmax
comp=Z,84nm,1.3s
ONI **Oni** 67.00 307 P **P** 15 14 40.7 -0.3
MZWR **Madinat Zayed** 67.06 284 P **P** 15 14 40.5 -1.1
GNI **Garni** 67.10 304 LR LR 15 45 36.3
comp=Z,11µm,19.2s,baz=77,slow=37
GNI **Garni** 67.10 304 *ce*P **P** 15 14 42.9 +1.1
GNI pmax pmax
comp=Z,45nm,1.3s
GNI MLR MLR
comp=Z,13µm,15.0s
GNI **Garni** 67.10 304 P **P** 15 14 42.1 +0.3
GNI **Garni** 67.10 304 P **P** 15 14 43.0 +1.3
GNI **Garni** 67.10 304 P **P** 15 14 42.6 +0.8
DLBC **Dease Lake** 67.28 34 LR LR 15 44 56.7
comp=Z,3µm,18.2s,baz=302,slow=37
DLBC **Dease Lake** 67.28 34 P **P** 15 14 43.6 +1.1
DLBC IAmb IAmb 15 15 20.7
comp=Z,78nm,1.8s
JRN **Qarnain Island** 67.37 286 P **P** 15 14 43.8 +0.3
SNR=6.8
AKH **Akhalkalaki** 67.45 306 ⇑P **P** 15 14 45.6 +1.6
AKH **Akhalkalaki** 67.45 306 P **P** 15 14 45.6 +1.6
MSVF **Nonsavu** 67.46 131 LR LR 15 41 24.3
comp=Z,2µm,21.1s,baz=319,slow=34
MZR **Muzera** 67.73 284 P **P** 15 14 46.7 +0.8
SNR=15
MZR **Muzera** 67.73 284 *i* P **P** 15 14 45.2 -0.7
SNR=20
GHWR **Ruwais** 67.79 285 P **P** 15 14 46.7 +0.5
WRGLY **Wrigley** 67.95 28 P **P** 15 14 45.9 -0.6
baz=299
KARS **Kars** 68.06 305 P **P** 15 14 48.8 +1.0
KARS pmax pmax
comp=Z,699nm,1.8s
KARS **Kars** 68.06 305 P **P** 15 14 48.8 +1.0
KHOR **Al-Khor Airpor** 68.14 287 P **P** 15 14 47.8 -0.6
SHAO **Shalim** 68.27 278 P **P** 15 14 49.6 +0.3
DGAR **Diego Garcia** 68.29 245 IAMs_20 IAMs_20 15 44 48.5
comp=Z,7µm,18.0s
FIA1 **FINESS Array S** 68.41 330 P **P** 15 14 47.9 -1.5
FIA1 IAmb IAmb 15 14 56.2
comp=Z,52nm,1.0s
FINES **FINESS Array B** 68.41 330 P **P** 15 14 48.1 -1.3
comp=Z,17nm,0.5s,baz=71,slow=5.9,SNR=56
FINES **FINESS Array B** 68.41 330 P **P** 15 14 48.0 -1.4
SHMA **Al-Shehemyia** 68.48 288 P **P** 15 14 48.9 -1.6
SAKB **Bahrain** 68.77 288 P **P** 15 14 52.0 -0.3
TRNA **Turayna** 68.79 286 P **P** 15 14 51.6 -0.8
RES **Resolute Bay** 68.82 12 P **P** 15 14 51.1 -0.7
comp=Z,19nm,0.8s,baz=324,slow=6.1,SNR=67
RES LR LR 15 48 21.1
comp=Z,4µm,18.0s,baz=318,slow=39
RES **Resolute Bay** 68.82 12 P **P** 15 14 51.0 -0.7
RES pmax pmax
comp=Z,36nm,1.1s
RES **Resolute Bay** 68.82 12 P **P** 15 14 51.0 -0.8
RES IAmb IAmb 15 14 59.6
comp=Z,36nm,1.1s
STEI **Steigen** 68.92 339 *e*P **P** 15 14 52.5 0.0
STEI *e*S **S** 15 23 58.1 +1.7
DMTO **DMTO** 68.98 278 P **P** 15 14 53.7 0.0
SOC **Sochi** 69.07 309 *d*iP **P** 15 14 52.9 -1.0
SOC *i*S **S** 15 23 59.9 +0.8
SOC *e*SSS SSS 15 31 28.2
SOC pmax pmax
comp=Z,46nm,1.0s
SOC MLR MLR
comp=Z,12µm,18.0s
DAG **Danmarks Havn** 69.18 353 P **P** 15 14 53.4 -0.6
DAG **Danmarks Havn** 69.18 353 *i* P **P** 15 14 54.3 +0.2
DAG IAmb IAmb 15 14 59.7
comp=Z,116nm,1.6s
FAUS **Fauske** 69.22 338 *e*P **P** 15 14 54.6 +0.2
FAUS IVmB_BB 15 14 57.6
comp=Z,523nm,1.9s
FAUS *e*S **S** 15 24 00.8 +0.7
DOK **Doka** 69.23 279 P **P** 15 14 55.0 -0.3
LOF **Lofoten** 69.32 339 *e*P **P** 15 14 53.9 -1.0
LOF IVmB_BB 15 14 56.0
comp=Z,1µm,2.2s
LOF *e*S **S** 15 24 04.2 +3.1
LOF *e*SS **SS** 15 28 29.9 +2.8
LOF IVMs_BB IVMs_BB 15 53 27.3
comp=Z,7µm,11.6s
VSU **Vasula** 69.57 327 *e*P **P** 15 14 57.4 +0.7
RBK **Rabkut** 69.71 278 P **P** 15 14 57.5 -0.7
MEF **Metsahovi** 69.74 329 *e*P **P** 15 14 58.6 +0.9
CAN **Canberra** 69.75 164 P **P** 15 14 58.4 +0.4
CAN pmax pmax
comp=Z,54nm,1.5s
CAN MLR MLR
comp=Z,4µm,19.0s
CAN **Canberra** 69.75 164 P **P** 15 14 58.4 +0.4
CAN IAmb IAmb 15 15 04.1
comp=Z,54nm,1.5s
WHFO **Wadi Hawf** 69.87 279 P **P** 15 14 59.1 -0.1
SNR=6.4
ANN **Anapa** 70.02 311 *e*P **P** 15 14 59.5 -0.2
ANN *e*S **S** 15 24 09.7 -0.5
ANN pmax pmax
comp=Z,76nm,0.9s
ANN MLR MLR
comp=Z,17µm,15.0s
ANN MLR MLR
comp=N,14µm,17.0s
ANN MLR MLR
comp=E,3µm,13.0s
KTUT **Trabzon** 70.17 306 P **P** 15 15 02.4 +1.6
MOR8 **Moi Rana** 70.21 337 *e*P **P** 15 14 59.1 -1.5
MOR8 IVmB_BB 15 15 00.4
comp=Z,1µm,5.0s
MOR8 *e*S **S** 15 24 09.9 -1.9
MOR8 *e*SS **SS** 15 28 40.9 -0.1
MOR8 IVMs_BB IVMs_BB 15 52 10.7
comp=Z,8µm,13.0s
TULEG **Thule** 70.36 5 P **P** 15 14 59.9 -1.4
TULEG IAmb IAmb 15 15 08.0
comp=Z,65nm,1.1s
TULEG **Thule** 70.36 5 *i* P **P** 15 15 02.1 +0.8
TULEG IAmb IAmb 15 15 07.6
comp=Z,79nm,1.2s
RAF **Rauma** 70.42 331 *e*P **P** 15 15 02.1 +0.2
KONS **Konsvik** 70.44 338 *e*P **P** 15 15 02.4 +0.5
ABTO **Aybut** 70.53 278 P **P** 15 15 03.1 -0.2
MTSE **Matsula** 70.76 328 *e*P **P** 15 15 04.5 +0.5
MNK **Minsk** 70.96 323 *e*P **P** 15 15 08.0 +2.7
MNK **Minsk** 70.96 323 *i* P **P** 15 15 07.4 +2.1
comp=E,6.0nm,1.1s
MNK *i* P **P** 15 15 07.4 +2.1
comp=N,27nm,0.8s
MNK *i* P **P** 15 15 07.4 +2.1
comp=Z,52nm,0.9s,baz=240
MNK *i* PcP **PcP** 15 15 27.7 +2.0
MNK *i* PP PP 15 17 51.0 +8.9
MNK *i* PPP PPP 15 19 27.1
MNK *i*S **S** 15 24 23.0 +2.1
MNK *i*SS **SS** 15 28 57.3 +4.3
MNK *i* SSS SSS 15 32 16.1
MNK *i* LQ LQ 15 41 28.1
MNK *i* LR LR 15 46 02.9
MNK *i* LRM MLR 15 48 49.3
comp=E,2µm,15.2s
MNK *i* LRM MLR 15 48 49.3
comp=Z,10µm,16.9s
MNK *i* LRM MLR 15 49 06.0
comp=N,5µm,16.1s
BBB **Bella Bella** 71.12 40 LR LR 15 45 02.0
comp=N,4µm,20.4s,baz=310,slow=35
IDID **Didziasalis** 71.13 324 *e*P **P** 15 15 06.8 +0.5
TOO **Toolangi** 71.20 168 P **P** 15 15 07.0 +0.2
TOO pmax pmax
comp=Z,41nm,1.4s
TOO **Toolangi** 71.20 168 P **P** 15 15 07.0 +0.2
TOO IAmb IAmb 15 15 24.5
comp=Z,41nm,1.4s
ISAL **Salakas** 71.30 325 *e*P **P** 15 15 09.4 +2.1
NACGM **Naroch** 71.32 324 *e*P **P** 15 15 09.7 +2.3
NACGM **Naroch** 71.32 324 *e*P **P** 15 15 09.7 +2.3
NACGM **Naroch** 71.32 324⇑ *e*P **P** 15 15 09.7 +2.3
baz=60

NACGM **Naroch** 71.32 324 *e*Pb **P** 15 15 10.5 +3.0
comp=Z,82nm,0.9s
NACGM **Naroch** 71.32 324 PcP **PcP** 15 15 29.3 +2.0
NACGM **Naroch** 71.32 324 PP PP 15 17 47.4 +2.3
NACGM **Naroch** 71.32 324 PPP PPP 15 19 30.8
NACGM **Naroch** 71.32 324 S **S** 15 24 28.8 +3.8
NACGM **Naroch** 71.32 324 PS 15 24 31.5
NACGM **Naroch** 71.32 324 ScS SKiKP 15 25 14.9 +27
NACGM **Naroch** 71.32 324 SS SS 15 29 03.8 +5.5
NACGM **Naroch** 71.32 324 SSS SSS 15 32 23.0
NACGM **Naroch** 71.32 324 LQ LQ 15 41 34.8
NACGM **Naroch** 71.32 324 LR LR 15 46 02.5
IGN **Ignalina** 71.37 324 *e*P **P** 15 15 07.8 0.0
DBG **Daneborg** 71.58 352 *e*P **P** 15 15 06.4 -2.3
DBG IAmb IAmb 15 15 47.8
comp=Z,21nm,1.1s
AFI **Afiamalu** 71.76 121 LR LR 15 43 15.0
comp=Z,1µm,18.3s,baz=312,slow=33
YKA **Yellowknife Ar** 71.77 26 P **P** 15 15 09.5 -0.5
comp=Z,5.2nm,0.8s,baz=300,slow=5.8,SNR=59
YKA LR LR 15 48 03.2
comp=Z,3µm,20.3s,baz=304,slow=37
NSS **Namsos** 72.04 337 *e*P **P** 15 15 11.3 -0.3
NSS IVmBBB 15 15 12.2
comp=Z,762nm,2.3s
NSS *e*S **S** 15 24 32.0 -1.0
NSS IVMs_BB IVMs_BB 15 52 28.8
comp=Z,7µm,12.0s
SIM **Simferopol'** 72.05 312 *e*P **P** 15 15 11.6 -0.4
SIM *e* 15 17 47.0
SIM *e*S **S** 15 24 30.0 -3.8
SIM pmax pmax
comp=Z,36nm,1.1s
AKASG **Malin Array Be** 72.14 319 P **P** 15 15 12.2 -0.3
comp=Z,30nm,0.7s,baz=51,slow=6.3,SNR=77
AKASG **Malin Array Be** 72.14 319 IAmb IAmb 15 15 14.6
comp=Z,54nm,0.8s
AKBB **Malin Array Si** 72.14 319 *ce*P **P** 15 15 11.7 -0.8
AKBB **Malin Array Si** 72.14 319 P **P** 15 15 11.9 -0.6
AKBB IAmb IAmb 15 15 14.5
comp=Z,43nm,0.8s
PABE **Paberze** 72.39 325 P **P** 15 15 13.7 -0.1
PABE **Paberze** 72.39 325 *e*P **P** 15 15 14.3 +0.5
SOCY **Socotra** 72.51 273 P **P** 15 15 12.5 -2.9
SOCY IAMs_20 IAMs_20 15 47 15.7
comp=Z,6µm,19.0s
SOCY **Socotra** 72.51 273 P **P** 15 15 13.6 -1.8
SNR=7.4
JMIC **Jan Mayen** 72.67 347 LR LR 15 49 09.4
comp=Z,4µm,19.2s,baz=67,slow=38
UPP **Uppsala** 72.78 331 *e*P **P** 15 15 16.6 +0.5
TBLU **Trondheim** 73.44 336 *e*P **P** 15 15 18.6 -1.4
TBLU IVmB_BB 15 15 20.3
comp=Z,696nm,2.2s
TBLU *e*S **S** 15 24 49.1 0.0
TBLU *e*SS **SS** 15 29 31.3 +0.9
TBLU IVMs_BB IVMs_BB 15 52 23.6
comp=Z,9µm,14.4s
SUW **Suwalki** 73.58 324 *e*P **P** 15 15 21.8 +0.9
SUW *e*L L 15 50 54.1
comp=Z,35µm,17.7s
SUW **Suwalki** 73.58 324 P **P** 15 15 20.3 -0.6
SUW pmax pmax
comp=Z,122nm,1.2s
SUW MLR MLR
comp=Z,33µm,18.0s
SUW **Suwalki** 73.58 324 P **P** 15 15 20.3 -0.6
SUW **Suwalki** 73.58 324 *e*P **P** 15 15 21.7 +0.8
BNN **Bunyan** 73.83 306 P **P** 15 15 23.1 +0.2
SORM **Soroca** 73.93 317 ⇑P **P** 15 15 22.8 -0.3
VIKU **Vikbolandet** 73.97 330 *e*P **P** 15 15 23.1 0.0
HFS **Hagfors** 74.19 332 LR LR 15 52 57.8
comp=Z,20µm,19.0s,baz=52,slow=40
KIS **Kishinev** 74.25 316 *e*P **P** 15 15 25.0 0.0
KIS **Kishinev** 74.25 316 *e*PP PP 15 18 09.0 -1.3
KIS *e*S **S** 15 24 58.0 -0.6
KIS **Kishinev** 74.25 316 *e*P **P** 15 15 25.0 0.0
KIS 15 18 09.0
KIS *e*S **S** 15 24 58.0 -0.6
KIS *e*PS 15 25 20.0
KIS MLR MLR
comp=Z,8µm,16.0s
MILM **Milestii Mici** 74.29 316 *e*P **P** 15 15 23.0 -2.2
MILM *e*S **S** 15 24 57.0 -2.1
MILM *e*LQ LQ 15 39 51.0
comp=Z,20µm,16.0s
MILM LRM MLR 15 50 56.0
comp=Z,20µm,16.0s
MILM **Milestii Mici** 74.29 316 *e*P **P** 15 15 23.0 -2.2
MILM *e* 15 15 44.0
MILM *e*S **S** 15 24 57.0 -2.1
MILM MLR MLR
comp=Z,20µm,16.0s
NC405 **NORSAR Array S** 74.31 334 P **P** 15 15 23.2 -1.9
NC405 IAmb IAmb 15 15 27.0
comp=Z,79nm,1.0s
NC303 **NORSAR Array S** 74.37 334 P **P** 15 15 25.2 -0.3
NC303 IAmb IAmb 15 15 27.3
comp=Z,36nm,1.1s
NB201 **NORSAR Array S** 74.51 334 P **P** 15 15 26.3 0.0
NB2 **NORSAR Subarra** 74.55 334 P **P** 15 15 26.3 -0.3
comp=Z,32nm,1.0s,baz=50,slow=5.9
NB2 **NORSAR Subarra** 74.55 334 P **P** 15 15 26.3 -0.3
baz=50,slow=5.9
NOA **NORSAR Array B** 74.55 334 P **P** 15 15 26.0 -0.5
comp=Z,18nm,0.9s,baz=49,slow=5.8,SNR=51
NC204 **NORSAR Array S** 74.56 334 P **P** 15 15 26.1 -0.6
NC204 IAmb IAmb 15 15 28.1
comp=Z,56nm,1.1s
NC602 **NORSAR Array S** 74.62 334 P **P** 15 15 26.3 -0.7
NC602 IAmb IAmb 15 15 31.6
comp=Z,65nm,1.3s
NC602 **NORSAR Array S** 74.62 334 *e*P **P** 15 15 26.1 -0.9
DOMB **Dombas** 74.66 335 *e*P **P** 15 15 26.7 -0.5
DOMB IVmB_BB 15 15 30.8
comp=Z,441nm,1.3s
DOMB *e*S **S** 15 25 03.7 +0.8
NBO00 **NORSAR Array S** 74.72 334 P **P** 15 15 27.8 +0.3
UPNV **Upernavik** 74.72 2 *e*P **P** 15 15 27.9 +0.6
BR131 **Keskin Array S** 74.90 308 *i* P **P** 15 15 28.7 -0.4
BR131 **Keskin Array S** 74.90 308 P **P** 15 15 28.9 -0.1
BR131 IAmb IAmb 15 15 33.4
comp=Z,54nm,1.0s
BR131 **Keskin Array S** 74.90 308 P **P** 15 15 28.5 -0.7
SNR=28
BRTR **Keskin Array B** 74.90 308 P **P** 15 15 29.0 -0.1
comp=Z,33nm,1.0s,baz=93,slow=4.9,SNR=43
BRTR LR LR 15 53 25.2
comp=Z,7µm,18.3s,baz=60,slow=40
BRTR **Keskin Array B** 74.90 308 *ce*P **P** 15 15 29.2 +0.1
BRTR pmax pmax
comp=Z,33nm,1.0s
BRTR **Keskin Array B** 74.90 308 P **P** 15 15 28.4 -0.7
TLCR 75.19 314 ⇑P **P** 15 15 33.4 +2.9
LLLB **Lillooet** 75.27 39 P **P** 15 15 30.5 -0.5
LLLB IAmb IAmb 15 15 37.2
comp=Z,51nm,1.5s
AKN **Aaknes** 75.28 336 *e*P **P** 15 15 31.1 +0.4
AKN IVmB_BB 15 15 32.4
comp=Z,420nm,2.0s
AKN *e*S **S** 15 25 10.1 +0.3
SCO **Scoresbysund** 75.30 351 IAMs_20 IAMs_20 15 50 11.3
comp=Z,5µm,22.0s
ANTO **Ankara** 75.39 308 P **P** 15 15 30.4 -1.4
ANTO pmax pmax
comp=Z,48nm,1.2s
ANTO **Ankara** 75.39 308 P **P** 15 15 30.4 -1.4
ANTO IAmb IAmb 15 15 38.3
comp=Z,48nm,1.1s
ANTO IAMs_20 IAMs_20 15 47 01.3
comp=Z,7µm,22.0s
LVV **L'vov** 75.44 320 *e*P **P** 15 15 32.2 +0.3
LVV *e* 15 18 23.8
LVV *e* 15 20 06.0
LVV *e*S **S** 15 25 10.2 -1.7
LVV *e* 15 25 49.3
LVV *e* 15 33 20.6
LVV pmax pmax
comp=Z,100nm,1.4s
LVV MLR MLR
comp=N,11µm,16.0s
LVV MLR MLR
comp=E,11µm,16.0s
LVV MLR MLR

comp=Z,10µm,16.0s
OSL Oslo 75.46 333 *e*P **P** **15 15 32.2 +0.5**
TPGR Topolog 75.60 314 ⇓P **P** **15 15 33.6 +0.7**
CFR Carcaliu 75.60 315 ⇑P **P** **15 15 33.4 +0.6**
CFR Carcaliu 75.60 315 ⇑P **P** **15 15 33.4 +0.6**
TESR Tescani 75.77 316 ⇓P **P** **15 15 34.4 +0.6**
SKAR Skarslia 75.85 335 *e*P **P** **15 15 34.8 +0.7**
SKAR IVmBBB 15 15 36.0
comp=Z,669nm,2.9s
SKAR *e*S **S** **15 25 17.3 +1.1**
SKAR eSS **SS** **15 30 08.3 +1.1**
BUR08 Bucovina Ar. S 75.99 318 P **P** **15 15 35.3 +0.1**
BUR08 IAmb IAmb 15 15 41.7
comp=Z,79nm,1.3s
BURAR Bucovina Array 75.99 318 ⇑P **P** **15 15 35.5 +0.3**
BURAR Bucovina Array 75.99 318 ⇑P **P** **15 15 35.5 +0.3**
BURAR Bucovina Array 75.99 318 P **P** **15 15 34.9 -0.3**
BURAR IAmb IAmb 15 15 42.1
comp=Z,47nm,1.1s
BEL Belsk 76.00 323 *e*P **P** **15 15 36.8 +1.8**
BEL *e*L L 15 54 33.6
comp=Z,17µm,17.3s
VRI Vrincioaia 76.07 316 ⇑P **P** **15 15 37.2 +1.6**
VRI Vrincioaia 76.07 316 ⇑P **P** **15 15 37.2 +1.6**
KONO Kongsberg 76.07 333 P **P** **15 15 33.1 -2.2**
KONO pmax pmax
comp=Z,19nm,1.1s
KONO MLR MLR
comp=Z,21µm,18.0s
KONO Kongsberg 76.07 333 P **P** **15 15 33.1 -2.2**
KONO Kongsberg 76.07 333 *e*P **P** **15 15 35.6 +0.4**
PLOR Plostina 76.12 316 ⇑P **P** **15 15 38.8 +2.9**
MDUB Mudurnu 76.13 309 P **P** **15 15 34.7 -1.5**
KWP Kalwaria Pacla 76.26 320 *e*P **P** **15 15 38.5 +1.9**
KWP *e*L L 15 51 51.7
comp=Z,17µm,19.8s
KWP Kalwaria Pacla 76.26 320 P **P** **15 15 36.0 -0.6**
KWP MLR MLR
comp=Z,160µm,20.0s
KWP Kalwaria Pacla 76.26 320 P **P** **15 15 36.0 -0.6**
HYA Hoyanger 76.27 336 *e*P **P** **15 15 37.0 +0.7**
HYA *e*S **S** **15 25 21.2 +0.7**
HYA *e*SS **SS** **15 30 16.8 +3.6**
D03D Eldon 76.31 42 P **P** **15 15 35.3 -1.6**
baz=304
FOO Floro 76.35 336 *e*P **P** **15 15 37.6 +0.8**
FOO IVmB_BB 15 15 42.6
comp=Z,676nm,3.0s
FOO *e*S **S** **15 25 19.9 -1.5**
FOO eSS **SS** **15 30 16.9 +2.5**
FOO IVMs_BB IVMs_BB 15 54 20.1
comp=Z,10µm,15.2s
COVR Voineasa-Covas 76.39 316 ⇓P **P** **15 15 39.1 +1.7**
DEL Delary 76.43 329 *e*P **P** **15 15 37.9 +0.5**
B05A Bryant 76.46 41 P **P** **15 15 36.4 -1.3**
baz=304
OZUR 76.50 316 ⇑P **P** **15 15 38.7 +0.7**
B06A Marblemount 76.66 41 P **P** **15 15 38.3 -0.5**
B06A IAmb IAmb 15 16 03.8
comp=Z,23nm,0.7s
D04E Lakebay 76.69 42 P **P** **15 15 38.0 -1.0**
baz=304
TAU Tasmania Unive 76.72 168 P **P** **15 15 39.4 +0.5**
TAU pmax pmax
comp=Z,107nm,1.8s
TAU Tasmania Unive 76.72 168 P **P** **15 15 39.4 +0.5**
TAU IAmb IAmb 15 17 05.0
comp=Z,107nm,1.8s
TAU Tasmania Unive 76.72 168 IAMs_20 IAMs_20 15 47 34.0
comp=Z,5µm,20.0s
MLR Muntele Rosu 76.73 316 ⇑P **P** **15 15 40.7 +1.2**
MLR Muntele Rosu 76.73 316 P **P** **15 15 39.5 0.0**
MLR pmax pmax
comp=Z,42nm,1.2s
MLR MLR MLR
comp=Z,22µm,18.0s
MLR Muntele Rosu 76.73 316 P **P** **15 15 39.5 0.0**
MLR IAmb IAmb 15 15 46.0
comp=Z,42nm,1.2s
ARCR ARCALIA 76.78 318 ⇑P **P** **15 15 41.5 +1.9**
DOPR Dopca 76.80 316 ⇑P **P** **15 15 41.4 +1.7**
BSD Bornholm Skovb 76.83 328 *e*P **P** **15 15 40.8 +1.1**
KOLS Kolonicke sedl 76.89 320 *e*P **P** **15 15 40.9 +0.8**
KOLS Kolonicke sedl 76.89 320 *e*P **P** **15 15 40.9 +0.8**
ODD1 Odda 76.99 335 *e*P **P** **15 15 40.8 +0.3**
ODD1 *e*S **S** **15 25 28.4 -0.2**
MMAI Mount Meron Ar 77.03 301 LR LR 15 53 38.3
comp=Z,12µm,19.6s,baz=206,slow=39
UZH Uzhgorod 77.05 320 *e*P **P** **15 15 38.5 -2.5**
UZH *e* 15 15 41.6
UZH *i* 15 15 46.9
UZH *e* 15 15 49.5
UZH *i* PPP PPP 15 20 23.3
UZH *i* S **S** **15 25 22.4 -7.2**
UZH *e*PS **PnS** **15 25 56.9 -11**
UZH eSS **SS** **15 30 27.7 +1.9**
ASK Askoy 77.09 336 *e*P **P** **15 15 41.4 +0.4**
ASK *e*S **S** **15 25 30.9 +1.3**
ASK eSS **SS** **15 30 27.2 +1.4**
PRD Provadia 77.10 313 P **P** **15 15 41.4 0.0**
BER Bergen 77.11 335 IVmB_BB 15 15 42.7
comp=Z,1µm,4.7s
BER *e*S **S** **15 25 29.7 -0.2**
BER eSS **SS** **15 30 28.8 +2.7**
E04D Cinebar 77.15 43 P **P** **15 15 40.0 -1.7**
baz=304
TRPA Tarpa 77.20 319 ⇓P **P** **15 15 43.3 +1.4**
TRPA Tarpa 77.20 319 P **P** **15 15 43.7 +1.8**
CRVS Cervenica-Dubn 77.34 320 *e*P **P** **15 15 43.3 +0.6**
CRVS Cervenica-Dubn 77.34 320 *e*P **P** **15 15 43.3 +0.6**
BLS5 Blasjo 77.39 334 *e*P **P** **15 15 42.0 -0.8**
BLS5 IVmB_BB 15 15 48.0
comp=Z,701nm,1.9s
BLS5 *e*S **S** **15 25 33.8 +0.7**
BLS5 IVMs_BB IVMs_BB 15 56 00.9
comp=Z,7µm,13.4s
RAZG Razgrad 77.45 314 ⇑P **P** **15 15 45.3 +1.9**
OJC Ojcow 77.45 322 *e*P **P** **15 15 43.6 +0.3**
OJC *e*S **S** **15 25 36.2 +2.2**
OJC *e*L L 15 54 20.5
comp=Z,34µm,16.4s
OJC Ojcow 77.45 322 P **P** **15 15 42.3 -1.0**
OJC pmax pmax
comp=Z,86nm,1.1s
OJC MLR MLR
comp=Z,26µm,18.0s
OJC Ojcow 77.45 322 P **P** **15 15 42.3 -1.0**
CSS Mathiatis 77.52 303 P **P** **15 15 42.8 -1.2**
CSS IAmb IAmb 15 15 51.4
comp=Z,51nm,1.0s
ARR Arges 77.57 316 ⇑P **P** **15 15 45.6 +1.5**
NIE Niedzica 77.66 321 *e*P **P** **15 15 47.6 +3.1**
NIE *e*L L 15 51 34.3
comp=Z,9µm,18.2s
NIE Niedzica 77.66 321 P **P** **15 15 46.3 +1.8**
GHAJ Ghor Haditha 77.79 299 P **P** **15 15 45.0 -0.5**
SNART Snartemo 77.87 333 *e*P **P** **15 15 46.0 +0.6**
SNART *e*S **S** **15 25 38.3 +0.2**
B08A Colville Reser 77.92 40 P **P** **15 15 45.1 -0.9**
ISP Isparta 77.96 307 P **P** **15 15 45.5 -1.0**
ISP pmax pmax
comp=Z,39nm,0.9s
ISP MLR MLR
comp=Z,9µm,21.0s
ISP Isparta 77.96 307 P **P** **15 15 45.5 -1.0**
ISP IAmb IAmb 15 15 49.5
comp=Z,39nm,0.9s
EDM Edmonton 77.98 34 P **P** **15 15 46.1 -0.1**
EDM pmax pmax
comp=Z,155nm,1.9s
EDM Edmonton 77.98 34 P **P** **15 15 46.1 -0.1**
KMY Karmoy 77.98 335 *e*P **P** **15 15 46.5 +0.5**
GOET G??ttrup 77.98 332 *i*P **P** **15 15 47.3 +1.2**
JMB Yambol 78.01 313 P **P** **15 15 46.8 +0.3**
LOT Lotru 78.03 317 ⇓P **P** **15 15 48.7 +1.9**
KECS Kecovo 78.11 320 *e*P **P** **15 15 47.8 +0.8**
KECS pmax pmax
comp=Z,26nm,1.2s
KECS Kecovo 78.11 320 *e*P **P** **15 15 47.8 +0.8**
F05D White Salmon 78.16 43 P **P** **15 15 46.0 -1.3**
baz=305
H04D Lebanon 78.19 44 P **P** **15 15 44.6 -2.9**
baz=304

J01E Myrtle Point 78.24 46 P **P** **15 15 47.0 -0.8**
baz=304
EDRB Edirne 78.25 312 P **P** **15 15 50.4 +2.6**
LANS Liptovska Anna 78.26 321 *e*P **P** **15 15 51.1 +3.3**
LANS pmax pmax
comp=Z,12nm,1.0s
LANS Liptovska Anna 78.26 321 *e*P **P** **15 15 51.1 +3.3**
I03D Drain, OR 78.29 45 P **P** **15 15 47.1 -0.9**
baz=304
ICESG Greenland Ices 78.30 357 *i*P **P** **15 15 47.5 -0.6**
ICESG IAmb IAmb 15 15 53.9
comp=Z,45nm,1.0s
RAC Raciborz 78.36 323 *e*P **P** **15 15 49.0 +0.7**
RAC LMZ LR 15 50 51.4
comp=Z,14nm,20.3s
RAC Raciborz 78.36 323 *e*P **P** **15 15 49.0 +0.7**
RAC MLR MLR
comp=Z,14µm,20.3s
HOOD Mount Hood Mea 78.38 43 P **P** **15 15 46.6 -2.1**
HOOD IAmb IAmb 15 16 16.8
comp=Z,44nm,1.1s
MUD Monsted U'grnd 78.40 331 *i*P **P** **15 15 49.4 +1.0**
OKC Ostrava-Krasne 78.53 322 *e*S **S** **15 25 43.0 -2.6**
OKC AMS AMS 15 54 40.0
comp=Z,26µm,14.7s
GZR Gura Zlata 78.64 317 ⇑P **P** **15 15 51.1 +1.1**
GZR Gura Zlata 78.64 317 ⇑P **P** **15 15 51.1 +1.1**
K02D Willamette Mer 78.66 46 P **P** **15 15 48.8 -1.5**
baz=304
PSZ Piszkesteto 78.77 320 ⇑P **P** **15 15 51.5 +0.7**
PSZ Piszkesteto 78.77 320 P **P** **15 15 50.3 -0.4**
PSZ pmax pmax
comp=Z,182nm,1.6s
PSZ MLR MLR
comp=Z,18µm,18.0s
PSZ Piszkesteto 78.77 320 P **P** **15 15 50.3 -0.4**
PSZ Piszkesteto 78.77 320 P **P** **15 15 52.7 +2.0**
I04A Tendick Farm, 78.80 45 P **P** **15 15 50.3 -0.7**
baz=305
C09A Chrisman Ranch 78.82 40 P **P** **15 15 49.7 -1.2**
C09A IAmb IAmb 15 16 24.3
comp=Z,79nm,1.6s
KULA Kula-Manisa 78.83 309 P **P** **15 15 50.6 -0.7**
KSP Ksiaz 78.85 324 *e*P **P** **15 15 52.8 +1.7**
KSP *e*S **S** **15 25 55.1 +6.2**
KSP *e*L L 15 54 49.1
comp=Z,30µm,17.9s
KSP Ksiaz 78.85 324 P **P** **15 15 51.5 +0.5**
MORC Moravsky Berou 78.88 323 ⇑P **P** **15 15 51.9 +0.6**
MORC Moravsky Berou 78.88 323 ⇑P **P** **15 15 51.9 +0.6**
MORC Moravsky Berou 78.88 323 P **P** **15 15 50.5 -0.8**
MORC IAmb IAmb 15 15 58.0
comp=Z,68nm,1.4s
MORC Moravsky Berou 78.88 323 *e*P **P** **15 15 51.5 +0.2**
DIM Dimitrovgrad 78.89 313 P **P** **15 15 55.4 +4.0**
D08A Wollman Farm, 78.91 41 P **P** **15 15 50.6 -0.8**
HAWA Hanford 78.96 42 P **P** **15 15 51.0 -0.8**
VYHS Vyhne 78.99 321 *e*P **P** **15 15 52.3 +0.5**
VYHS pmax pmax
comp=Z,19nm,1.3s
VYHS Vyhne 78.99 321 *e*P **P** **15 15 52.3 +0.5**
RUE Ruedersdorf 79.02 326 *e*P **P** **15 15 54.2 +2.4**
RUE Ruedersdorf 79.02 326 *e*P **P** **15 15 52.8 +0.9**
comp=Z,72nm,1.0s,baz=46,slow=5.2
OSTC Ostas 79.07 324 *e*P **P** **15 15 52.7 +0.5**
OSTC *e*S **S** **15 25 43.1 -8.3**
OSTC AMS AMS 15 54 30.0
comp=Z,30µm,17.4s
EIL Elat 79.08 298 LR LR 15 53 49.8
comp=Z,7µm,18.1s,baz=61,slow=38
KRLC Kraliky 79.08 323 *e*P **P** **15 15 52.5 +0.1**
KRLC *e*S **S** **15 25 48.9 -2.7**
KRLC MLR MLR
comp=Z,16µm,13.0s
KRLC Kraliky 79.08 323 *e*P **P** **15 15 52.5 +0.1**
KRLC *e*S **S** **15 25 48.9 -2.7**
KRLC AMS AMS 15 52 50.0
comp=Z,16µm,13.0s
I05D Terrebonne, OR 79.12 44 P **P** **15 15 52.1 -0.6**
baz=305
CHVC Chvalec 79.13 324 *e*P **P** **15 15 53.1 +0.5**
CHVC AMS AMS 15 54 30.0
comp=Z,31µm,16.6s
DPC Dobruska-Polom 79.14 324 *e*P **P** **15 15 52.7 0.0**
DPC *e*S **S** **15 25 50.9 -1.3**
DPC MLR MLR
comp=Z,24µm,16.7s
DPC Dobruska-Polom 79.14 324 *e*P **P** **15 15 52.7 0.0**
DPC *e*S **S** **15 25 50.9 -1.3**
DPC AMS AMS 15 54 40.0
comp=Z,24µm,16.7s
NEW Newport 79.16 39 LR LR 15 50 49.7
comp=Z,2µm,20.6s,baz=320,slow=36
NEW Newport 79.16 39 P **P** **15 15 52.2 -0.6**
NEW pmax pmax
comp=Z,24nm,1.3s
NEW MLR MLR
comp=Z,4µm,18.0s
NEW Newport 79.16 39 P **P** **15 15 52.2 -0.6**
NEW Newport 79.16 39 IAMs_20 IAMs_20 15 55 28.8
comp=Z,4µm,18.0s
NEW Newport 79.16 39 P **P** **15 15 52.3 -0.5**
baz=307
BZS Buzias 79.17 318 ⇑P **P** **15 15 53.6 +0.7**
BZS Buzias 79.17 318 ⇑P **P** **15 15 53.6 +0.7**
KDZ Kurdzhali 79.18 313 P **P** **15 15 53.8 +0.8**
UPC Upice 79.20 324 *e*P **P** **15 15 53.1 +0.2**
UPC *e*S **S** **15 25 52.9 +0.2**
UPC MLR MLR
comp=Z,30µm,17.3s
UPC Upice 79.20 324 *e*P **P** **15 15 53.1 +0.2**
UPC *e*S **S** **15 25 52.9 +0.2**
UPC AMS AMS 15 54 30.0
comp=Z,30µm,17.3s
MPEP Malo Peshtene 79.24 315 P **P** **15 15 55.9 +2.6**
PLD Plovdiv 79.36 313 P **P** **15 15 55.1 +1.1**
JAVC Velka Javorina 79.38 322 *e*P **P** **15 15 55.6 +1.6**
RDO Rodhopi 79.39 312 P **P** **15 15 54.3 +0.2**
PGB Panagyurishte 79.44 314 P **P** **15 15 54.6 +0.1**
BUD Budapest 79.50 320 P **P** **15 15 57.4 +2.8**
RZN Rozhen 79.59 313 P **P** **15 15 56.6 +1.1**
MDVR Moldovita 79.61 317 ⇑P **P** **15 15 55.4 +0.1**
BSEG Bad Segeberg 79.63 329 *e*P **P** **15 15 55.5 +0.4**
comp=Z,25nm,0.9s,baz=46,slow=5.2
VRAC Vranov 79.66 323 *e*P **P** **15 15 55.9 +0.4**
PINE Pine Mountain 79.67 44 P **P** **15 15 57.0 +1.1**
PINE IAmb IAmb 15 16 29.8
comp=Z,42nm,1.1s
SMOL Smolenice 79.72 322 *e*P **P** **15 15 57.9 +2.1**
SMOL pmax pmax
comp=Z,17nm,1.2s
SMOL Smolenice 79.72 322 *e*P **P** **15 15 57.9 +2.1**
BLKB Belogradchik 79.72 315 ⇑P **P** **15 15 57.0 +1.0**
L04D Klamath Falls 79.76 46 P **P** **15 15 55.8 -0.5**
baz=305
YBH Yreka Blue Hor 79.79 47 P **P** **15 15 56.9 +0.4**
comp=Z,5.4nm,1.0s,baz=255,slow=5.6,SNR=4.8
YBH LR LR 15 47 16.6
comp=Z,3µm,21.5s,baz=310,slow=33
J05D Fort Rock, OR 79.79 45 P **P** **15 15 55.9 -0.6**
baz=306
YER Yerkesik 79.83 308 P **P** **15 15 56.6 -0.1**
YER Yerkesik 79.83 308 P **P** **15 15 58.2 +1.5**
K04D Chiloquin, OR 79.86 46 P **P** **15 15 56.6 -0.3**
baz=305
MODS Modra-Piesok 79.88 322 *e*P **P** **15 15 58.5 +1.8**
MODS pmax pmax
comp=Z,107nm,1.4s
MODS Modra-Piesok 79.88 322 *e*P **P** **15 15 58.5 +1.8**
M02C Callahan 79.89 47 P **P** **15 15 55.7 -1.3**
baz=305
PVCC Panska Ves 79.90 324 *e*S **S** **15 26 00.7 +0.6**
PVCC AMS AMS 15 55 00.0
comp=Z,28µm,16.1s
KRUC Moravsky 79.91 323 *e*P **P** **15 15 57.4 +0.6**
VTS Vitosha 79.97 314 P **P** **15 15 55.9 -1.6**
VTS pmax pmax
comp=Z,42nm,1.1s
VTS Vitosha 79.97 314 P **P** **15 15 55.9 -1.6**
VTS Vitosha 79.97 314 P **P** **15 15 57.2 -0.2**
BRG Berggiesshubel 79.98 325 *e*P **P** **15 15 57.6 +0.4**
BRG Amp 15 16 05.5
comp=Z,40nm,1.3s
BRG Berggiesshubel 79.98 325 S **S** **15 26 06.0 +5.0**
BRG Amp 15 55 10.0
comp=N,23nm,16.8s
BRG Amp 15 55 14.0
comp=Z,35nm,16.5s
BRG Amp 15 55 25.0
comp=E,19nm,16.2s
BRG Berggiesshubel 79.98 325 *e*P **P** **15 15 57.5 +0.4**
BRG pmax pmax
comp=Z,40nm,1.3s
BRG Berggiesshubel 79.98 325 *e*P **P** **15 15 57.3 +0.1**
comp=Z,13nm,0.9s,baz=46,slow=5.2
ZST Bratislava 80.08 322 *e*P **P** **15 15 57.6 -0.2**
ZST Bratislava 80.08 322 *e*P **P** **15 15 57.6 -0.2**
CLL Collm 80.15 326 *i*P **P** **15 15 57.6 -0.5**
CLL *e*S **S** **15 25 59.0 -3.7**
CLL pmax pmax
comp=Z,60nm,0.9s
CLL MLR MLR
comp=Z,34µm,18.1s
CLL Collm 80.15 326 P **P** **15 15 57.6 -0.5**
CLL IAmb IAmb 15 16 01.8
comp=Z,63nm,1.0s
CLL Collm 80.15 326 *i*P **P** **15 15 57.6 -0.5**
comp=Z,60nm,0.9s
CLL *e*(PcP) **sP** **15 16 03.0 +0.3**
comp=Z,138nm,1.5s
CLL *ex* x 15 16 31.0
CLL *e*PP **PP** **15 19 04.0 +4.3**
CLL *e*S **S** **15 25 59.0 -3.7**
CLL *e*PS **PnS** **15 26 51.0 +4.1**
CLL *e*SS **SS** **15 31 18.0 +5.9**
CLL eSSS SSS 15 34 42.0
CLL *e*SSSS 15 37 00.0
CLL LmV 15 55 00.0
comp=Z,34µm,18.1s
CLL Lmax 15 55 00.0
CLL Collm 80.15 326 *e*P **P** **15 15 58.0 -0.1**
comp=Z,45nm,0.9s,baz=46,slow=5.2
THAS Thassos island 80.20 312 P **P** **15 15 56.9 -1.7**
N02D Trinity Center 80.22 47 P **P** **15 15 57.4 -1.4**
baz=305
TREC Trest 80.23 323 AMS AMS 15 55 20.0
comp=Z,23µm,17.0s
FBE Freiberg 80.23 325 *e*P **P** **15 15 58.9 +0.3**
comp=Z,37nm,0.9s,baz=46,slow=5.2
MMB Musomiste 80.26 313 P **P** **15 15 58.2 -0.7**
PRU Pruhonice 80.26 324 *e*P **P** **15 15 58.7 0.0**
PRU *e*S **S** **15 26 04.6 +0.7**
PRU MLR MLR
comp=Z,28µm,16.8s
PRU Pruhonice 80.26 324 *e*P **P** **15 15 58.7 0.0**
PRU *e*S **S** **15 26 04.6 +0.7**
PRU AMS AMS 15 55 20.0
comp=Z,28µm,16.8s
M04C Macdoel 80.29 46 P **P** **15 15 59.5 +0.3**
M04C IAmb IAmb 15 16 33.1
comp=Z,41nm,1.1s
M04C Macdoel 80.29 46 P **P** **15 15 59.0 -0.2**
baz=305
FLTG Flechtingen 80.30 327 *e*P **P** **15 15 58.9 0.0**
comp=Z,45nm,1.0s,baz=46,slow=5.2
WALA Waterton Lakes 80.34 37 P **P** **15 15 59.2 -0.1**
FRGS Fruska Gora 80.47 318 ⇓P **P** **15 15 59.9 0.0**
SMG Samos 80.47 309 P **P** **15 15 59.2 -0.9**
MORH Mrgy, Hungar 80.48 319 ⇑P **P** **15 15 60.0 +0.1**
MORH Mrgy, Hungar 80.48 319 P **P** **15 16 00.2 +0.3**
BORG Borgarnes 80.48 348 LR LR 15 51 05.5
comp=Z,3µm,21.2s,baz=29,slow=35
BORG Borgarnes 80.48 348 IAMs_20 IAMs_20 15 56 16.3
comp=Z,5µm,20.0s
MPLH Magyarpolny 80.49 321 P **P** **15 16 02.6 +2.6**
KKB Krupnik 80.49 314 P **P** **15 15 59.5 -0.6**
BODT Bodrum 80.52 308 P **P** **15 15 59.7 -0.7**
SRS Serrai 80.61 313 P **P** **15 15 58.5 -2.3**
O02D Mt. Diablo Mer 80.63 48 P **P** **15 16 00.8 -0.2**
baz=305
SFJD Kangerlussuaq 80.65 1 P **P** **15 15 59.7 -0.7**
SFJD pmax pmax
comp=Z,110nm,1.6s
SFJD MLR MLR
comp=Z,7µm,18.0s
SFJD Kangerlussuaq 80.65 1 P **P** **15 15 59.7 -0.7**
SFJD IAmb IAmb 15 16 06.7
comp=Z,110nm,1.6s
ASSE Asse, Remlinge 80.69 327 *e*P **P** **15 16 01.6 +0.8**
comp=Z,8.1nm,0.9s,baz=46,slow=5.2
SOP Sopron 80.69 321 P **P** **15 16 02.5 +1.4**
NRDL Niedersach Rie 80.70 328 *e*P **P** **15 16 00.9 0.0**
comp=Z,16nm,1.0s,baz=46,slow=5.2
NEUB Neuenburg 80.80 326 *e*P **P** **15 16 02.2 +0.6**
comp=Z,82nm,1.0s,baz=46,slow=5.2
RONA Rosalia, Austr 80.82 322 *e*P **P** **15 16 02.8 +1.0**
comp=Z,46nm,1.2s
KOVH Kovagototos 80.85 319 P **P** **15 16 02.3 +0.3**
CONA Conrad Observa 80.90 322 *i*P **P** **15 16 03.3 +1.0**
comp=Z,104nm,2.0s,SNR=25
JTMT Jette 80.98 38 P **P** **15 16 02.4 -0.4**
TANN Tannenbergstha 81.00 325 *e*P **P** **15 16 02.8 +0.1**
comp=Z,36nm,1.2s,baz=46,slow=5.2
DIVS Divibare 81.00 317 P **P** **15 16 02.6 -0.4**
DIVS IAmb IAmb 15 16 15.5
comp=Z,54nm,1.3s
CLZ Clausthal 81.02 327 *e*P **P** **15 16 02.9 +0.1**
comp=Z,68nm,0.9s,baz=46,slow=5.2
WERD Werda 81.05 325 *e*P **P** **15 16 03.6 +0.6**
comp=Z,40nm,1.1s,baz=46,slow=5.2
GUNZ Gunzen 81.09 325 *e*P **P** **15 16 03.4 +0.2**
comp=Z,26nm,0.9s,baz=46,slow=5.2
VAY Valandovo 81.12 314 *i*P **P** **15 16 04.8 +1.3**
WERN Wernitzgruen 81.12 325 *e*P **P** **15 16 03.5 +0.1**
comp=Z,32nm,0.9s,baz=46,slow=5.2
NKC Novy Kostel 81.12 325 *e*P **P** **15 16 03.2 -0.2**
NKC *e*S **S** **15 26 10.5 -2.5**
NKC MLR MLR
comp=Z,41µm,16.1s
NKC Novy Kostel 81.12 325 *e*P **P** **15 16 03.2 -0.2**
NKC *e*S **S** **15 26 10.5 -2.5**
NKC AMS AMS 15 55 40.0
comp=Z,41µm,16.1s
CKRC Cesky Krumlov 81.13 323 *e*P **P** **15 16 03.6 +0.2**
CKRC *e*S **S** **15 26 10.5 -2.6**
BMO Blue Mountains 81.14 42 P **P** **15 16 04.4 +0.7**
BMO pmax pmax
comp=Z,27nm,1.4s
BMO MLR MLR
comp=Z,4µm,20.0s
BMO Blue Mountains 81.14 42 P **P** **15 16 04.3 +0.7**
STIP Stip 81.14 314 *i*P **P** **15 16 04.6 +1.0**
DY2G Dye2 81.15 359 *e*P **P** **15 16 01.2 -2.3**
DY2G *i*P **pP** **15 16 03.6 -3.3**
DY2G IAmb IAmb 15 16 08.7
comp=Z,141nm,1.5s
MOD Modoc Plateau 81.16 46 P **P** **15 16 03.7 -0.2**
O03E Paynes Creek 81.18 48 P **P** **15 16 03.8 -0.2**
baz=306
MOX Moxa 81.25 326 *e*P **P** **15 16 04.1 +0.1**
comp=Z,19nm,1.0s,baz=46,slow=5.2
MOX *e*L L 15 55 46.4
comp=Z,37nm,18.3s
KHC Kasperske Hory 81.29 324 *e*P **P** **15 16 04.0 -0.3**
KHC *e*S **S** **15 26 14.6 -0.3**
KHC MLR MLR
comp=Z,27nm,18.0s
KHC Kasperske Hory 81.29 324 P **P** **15 16 04.1 -0.2**
KHC Kasperske Hory 81.29 324 *e*P **P** **15 16 04.0 -0.3**
KHC *ex* x 15 16 22.0
KHC *e*S **S** **15 26 14.6 -0.3**
KHC AMS AMS 15 55 50.0
comp=Z,27µm,18.0s
J08A Circle Bar Ran 81.37 44 P **P** **15 16 04.8 -0.1**
GTTG Gottingen 81.41 327 *e*P **P** **15 16 05.0 +0.2**
comp=Z,40nm,0.9s,baz=46,slow=5.2
GEC2 GERESS Array S 81.42 324 P **P** **15 16 04.8 -0.2**
GEC2 GERESS Array S 81.42 324 *e*P **P** **15 16 05.4 +0.3**
comp=Z,22nm,1.0s,baz=46,slow=5.2
GERES GERESS Array B 81.42 324 P **P** **15 16 05.0 -0.1**
comp=Z,16nm,0.9s,baz=41,slow=2.5,SNR=21
GERES PKKPbc **PKKPbc** **15 34 38.5 -0.3**
comp=Z,1.0nm,0.7s,baz=232,slow=3.2,SNR=6.2
GERES GERESS Array B 81.42 324 P **P** **15 16 04.1 -0.9**
GERES GERESS Array B 81.42 324 P **P** **15 16 04.1 -0.9**
SKO Skopje 81.42 315 *i*P **P** **15 16 07.2 +2.1**
MANZ Manzenberg 81.45 325 *e*P **P** **15 16 05.1 0.0**
comp=Z,6.2nm,0.9s,baz=46,slow=5.2
KARP Karpathos 81.46 307 P **P** **15 16 04.5 -0.9**

KARP IAMs_20 IAMs_20 15 53 32.2
comp=Z,5µm,20.0s
ARSA Arzberg 81.51 321 *i* P **P** **15 16 06.1 +0.6**
comp=Z,24nm,0.9s,SNR=7.0
FCC Fort Churchill 81.54 22 P **P** **15 16 04.4 -0.9**
FCC pmax pmax
comp=Z,131nm,1.7s
FCC Fort Churchill 81.54 22 P **P** **15 16 04.4 -0.9**
ROTZ Rotzenmuhle 81.55 325 *e*P **P** **15 16 06.0 +0.4**
comp=Z,7.3nm,1.0s,baz=46,slow=5.2
ANGG Ammassalik, Gr 81.63 355 P **P** **15 16 06.4 +0.8**
WET Wettzell 81.63 324 *e*P **P** **15 16 06.7 +0.6**
comp=Z,11nm,0.9s,baz=46,slow=5.2
PLID Pearl Lake 81.72 41 P **P** **15 16 07.3 +0.4**
MSO Missoula 81.74 39 P **P** **15 16 06.1 -0.7**
baz=310
MOA Molln 81.78 323 *i* P **P** **15 16 07.6 +0.7**
comp=Z,21nm,1.2s,SNR=15
ORV Oroville 81.80 48 P **P** **15 16 05.9 -1.2**
ORV pmax pmax
comp=Z,49nm,1.8s
ORV Oroville 81.80 48 P **P** **15 16 05.9 -1.2**
FFC Flin Flon 81.85 28 P **P** **15 16 05.8 -1.3**
FFC pmax pmax
comp=Z,151nm,2.0s
FFC MLR MLR
comp=Z,4µm,19.0s
FFC Flin Flon 81.85 28 P **P** **15 16 05.8 -1.3**
FFC Flin Flon 81.85 28 IAMs_20 IAMs_20 15 53 45.9
comp=Z,4µm,19.0s
IBBN Ibbenburen 81.87 329 *e*P **P** **15 16 07.2 0.0**
comp=Z,48nm,0.8s,baz=46,slow=5.2
LIT Litokhoron 81.89 313 P **P** **15 16 05.8 -1.8**
UBBA Unterbreizbach 81.89 327 *e*P **P** **15 16 08.0 +0.7**
comp=Z,10nm,0.9s,baz=46,slow=5.2
GRA1 Grafenberg Arr 82.07 325 P **P** **15 16 07.6 -0.8**
GRF Grafenberg Arr 82.07 325 P **P** **15 16 07.6 -0.8**
GRF pmax pmax
comp=Z,283nm,1.6s
GRF MLR MLR
comp=Z,31µm,18.0s
GRF Grafenberg Arr 82.07 325 *e*P **P** **15 16 08.8 +0.5**
comp=Z,44nm,0.9s,baz=46,slow=5.2
GRF *e*L L 15 56 05.5
comp=Z,29µm,18.9s
GRFO Grafenberg 82.08 325 P **P** **15 16 08.1 -0.3**
GRFO pmax pmax
comp=Z,274nm,1.6s
GRFO MLR MLR
comp=Z,32µm,18.0s
GRFO Grafenberg 82.08 325 P **P** **15 16 08.1 -0.3**
SOKA Soboth 82.13 321 *i* P **P** **15 16 09.2 +0.4**
comp=Z,78nm,1.1s,SNR=21
ATD Arta Tunnel 82.19 279 IAMs_20 IAMs_20 15 56 14.3
comp=Z,5µm,19.0s
ATD Arta Tunnel 82.19 279 P **P** **15 16 10.0 +0.4**
BIOA Bad Ischl, Aus 82.20 323 *e*P **P** **15 16 09.5 +0.4**
comp=Z,62nm,1.4s
BEKR Beckworth 82.32 47 P **P** **15 16 09.6 -0.5**
ZKR Zakros 82.34 307 P **P** **15 16 09.3 -0.8**
KASTN Kahler Asten 82.35 328 *e*P **P** **15 16 09.1 -0.7**
comp=Z,16nm,0.9s,baz=46,slow=5.2
OBKA Obir 82.50 321 *e*P **P** **15 16 11.0 +0.3**
comp=Z,41nm,1.6s
RJOB Jochberg 82.60 323 *e*P **P** **15 16 12.2 +0.9**
comp=Z,23nm,0.9s,baz=46,slow=5.2
AGG Agios Georgios 82.62 312 P **P** **15 16 10.5 -1.0**
AGG Agios Georgios 82.62 312 P **P** **15 16 12.0 +0.5**
AGG pmax pmax
comp=Z,43nm,1.5s
AGG Agios Georgios 82.62 312 P **P** **15 16 12.0 +0.5**
AGG IAmb IAmb 15 16 29.5
comp=Z,43nm,1.5s
URZ Urewera 82.67 145 P **P** **15 16 12.6 +1.2**
URZ IAmb IAmb 15 16 24.1
comp=Z,40nm,1.3s
BUG Bochum--Univer 82.69 328 *e*P **P** **15 16 11.0 -0.6**
comp=Z,26nm,0.9s,baz=46,slow=5.2
KBA Koelnbreinsper 82.75 322 *i* P **P** **15 16 11.9 -0.3**
comp=Z,42nm,1.2s,SNR=18
MFID Camas Ranch 82.86 42 P **P** **15 16 13.3 +0.5**
MYKA Terra Mystica 82.89 322 *i* P **P** **15 16 14.6 +1.8**
comp=Z,69nm,1.6s,SNR=6.5
HRY Holter Researc 82.93 38 P **P** **15 16 11.5 -1.5**
TNS Taunus Mts 83.02 327 *e*P **P** **15 16 13.8 +0.5**
comp=Z,30nm,0.9s,baz=46,slow=5.2
FUR Furstenfeldbru 83.08 324 *e*P **P** **15 16 14.6 +1.0**
comp=Z,98nm,1.0s,baz=46,slow=5.2
BKZ Black Stump Fm 83.09 146 P **P** **15 16 13.4 -0.2**
BKZ IAmb IAmb 15 16 17.1
comp=Z,59nm,1.1s
EGMT Eagleton 83.11 36 P **P** **15 16 13.6 -0.3**
EGMT IAmb IAmb 15 16 44.4
comp=Z,39nm,1.1s
EGMT IAMs_20 IAMs_20 15 51 53.9
comp=Z,5µm,21.0s
EGMT Eagleton 83.11 36 P **P** **15 16 13.3 -0.6**
baz=312
ANX Ano Chora 83.13 312 P **P** **15 16 12.2 -2.0**
IDI Anoyia 83.14 308 ⇓P **P** **15 16 13.4 -0.8**
IDI Anoyia 83.14 308 P **P** **15 16 12.1 -2.2**
IDI Anoyia 83.14 308 P **P** **15 16 12.4 -1.9**
IDI IAmb IAmb 15 16 44.4
comp=Z,57nm,1.4s
IDI IAMs_20 IAMs_20 15 54 15.4
comp=Z,7µm,22.0s
LRM Limekiln Ridge 83.18 39 P **P** **15 16 13.3 -1.2**
LAKA Lakka 83.31 311 P **P** **15 16 13.3 -1.7**
NNZ Nelson 83.33 149 P **P** **15 16 13.7 -1.0**
ABTA Abfaltersbach 83.40 322 *i* P **P** **15 16 14.7 -0.7**
comp=Z,67nm,1.1s,SNR=11
DLMT Dillon 83.40 39 P **P** **15 16 14.7 -0.9**
DLMT IAmb IAmb 15 16 31.5
comp=Z,37nm,1.1s
AHRW Bad Neuenahr-A 83.42 328 *e*P **P** **15 16 15.8 +0.5**
comp=Z,56nm,0.9s,baz=46,slow=5.2
TRI Trieste 83.43 321 P **P** **15 16 16.7 +1.2**
TRI pmax pmax
comp=Z,256nm,1.9s
TRI Trieste 83.43 321 P **P** **15 16 16.7 +1.2**
WATA Walderalm 83.48 323 *i* P **P** **15 16 15.6 -0.3**
comp=Z,44nm,1.3s,SNR=7.6
WTTA Wattenberg 83.50 323 *i* P **P** **15 16 16.1 +0.1**
comp=Z,58nm,1.2s,SNR=13
HLID Hailey 83.57 42 P **P** **15 16 16.7 +0.2**
HLID Hailey 83.57 42 P **P** **15 16 16.1 -0.4**
baz=310
THZ Tophouse 83.57 150 P **P** **15 16 14.5 -1.6**
THZ IAmb IAmb 15 16 17.4
comp=Z,27nm,1.0s
THZ IAMs_20 IAMs_20 15 56 18.4
comp=Z,4µm,18.0s
STU Stuttgart 83.67 325 *e*P **P** **15 16 16.8 +0.1**
comp=Z,166nm,0.9s,baz=46,slow=5.2
MOTA Moosalm 83.72 324 *i* P **P** **15 16 16.3 -0.9**
comp=Z,42nm,0.9s,SNR=15
SQTA Sankt Quirin 83.75 323 *i* P **P** **15 16 17.0 -0.2**
comp=Z,28nm,0.9s,SNR=8.0
BOZ Bozeman (W) 83.76 39 P **P** **15 16 15.8 -1.6**
BOZ pmax pmax
comp=Z,20nm,1.2s
BOZ MLR MLR
comp=Z,4µm,19.0s
BOZ Bozeman (W) 83.76 39 P **P** **15 16 15.8 -1.6**
BOZ IAMs_20 IAMs_20 15 55 30.5
comp=Z,4µm,19.0s
BOZ Bozeman (W) 83.76 39 P **P** **15 16 16.9 -0.5**
baz=311
RETA Reutte 83.79 324 *i* P **P** **15 16 17.6 +0.2**
comp=Z,77nm,1.3s,SNR=17
BTNL Ternell 83.81 328 *d*PcP **P** **15 16 19.1 +1.7**
MEM Membach 83.85 328 *d*PcP **P** **15 16 19.1 +1.6**
BMN Battle Mountai 83.90 45 P **P** **15 16 18.6 +0.4**
BMN pmax pmax
comp=Z,64nm,1.5s
BMN Battle Mountai 83.90 45 P **P** **15 16 18.6 +0.4**
BMN IAmb IAmb 15 16 24.9
comp=Z,64nm,1.5s
EKA Eskdalemuir Ar 83.91 336 P **P** **15 16 18.5 +0.8**
ESK Eskdalemuir 83.94 336 P **P** **15 16 18.3 +0.4**
ESK pmax pmax
comp=Z,95nm,1.6s
ESK MLR MLR
comp=Z,15µm,20.0s
ESK Eskdalemuir 83.94 336 P **P** **15 16 18.3 +0.4**
BSWZ Blackbirch Sta 83.95 149 P **P** **15 16 17.4 -0.6**

ITM Ithomi 83.97 311 P **P** **15 16 16.6 -1.8**
ITM Ithomi 83.97 311 P **P** **15 16 16.2 -2.2**
UBR Ueberruh 83.98 324 *e*P **P** **15 16 18.2 -0.2**
comp=Z,29nm,0.9s,baz=46,slow=5.2
BHOU Houvegnez 84.03 328 *d*PcP **P** **15 16 20.1 +1.6**
FETA Feichten 84.12 323 *i* P **P** **15 16 18.8 -0.4**
comp=Z,48nm,1.3s,SNR=13
LTZ Lake Taylor 84.15 151 IAMs_20 IAMs_20 15 47 28.6
comp=Z,5µm,22.0s
RYN Ryan 84.21 47 P **P** **15 16 20.4 +0.6**
KVN Kaiserville 84.21 47 P **P** **15 16 18.9 -1.0**
KVN pmax pmax
comp=Z,42nm,1.2s
KVN Kaiserville 84.21 47 P **P** **15 16 18.9 -1.0**
KVN IAmb IAmb 15 16 26.2
comp=Z,42nm,1.2s
BCLA Clavier 84.30 328 *d*PcP **P** **15 16 21.4 +1.6**
CTI Castel Tesino 84.31 322 P **P** **15 16 18.7 -1.4**
CTI pmax pmax
comp=Z,67nm,1.1s
CTI Castel Tesino 84.31 322 P **P** **15 16 18.7 -1.4**
MSWZ Moikau Station 84.31 148 P **P** **15 16 18.8 -1.0**
DAVA Damuels 84.36 324 *i* P **P** **15 16 19.7 -0.7**
comp=Z,99nm,1.0s,SNR=38
KHZ Kahutara 84.38 150 P **P** **15 16 18.9 -1.2**
KHZ IAmb IAmb 15 16 20.9
comp=Z,31nm,0.9s
KHZ IAMs_20 IAMs_20 15 56 52.1
comp=Z,4µm,18.0s
BFO Black Forest 84.39 326 P **P** **15 16 19.2 -1.2**
BFO pmax pmax
comp=Z,86nm,1.0s
BFO MLR MLR
comp=Z,13µm,20.0s
BFO Black Forest 84.39 326 P **P** **15 16 19.2 -1.2**
BFO Black Forest 84.39 326 *e*P **P** **15 16 20.2 -0.3**
comp=Z,67nm,0.9s,baz=46,slow=5.2
BGES Gesves 84.42 329 *d*PcP **P** **15 16 21.8 +1.4**
RPZ Rata Peaks 84.43 152 P **P** **15 16 19.6 -0.8**
RPZ IAmb IAmb 15 16 29.5
comp=Z,50nm,1.1s
RPZ IAMs_20 IAMs_20 15 46 56.0
comp=Z,4µm,22.0s
PLWZ Palliser 84.44 148 P **P** **15 16 20.3 -0.2**
LHV Little Huntoon 84.45 48 P **P** **15 16 21.9 +1.1**
LHV IAmb IAmb 15 16 27.7
comp=Z,59nm,1.2s
WLF Walferdange 84.46 328 P **P** **15 16 20.0 -0.7**
WLF pmax pmax
comp=Z,71nm,0.9s
WLF MLR MLR
comp=Z,17µm,20.0s
WLF Walferdange 84.46 328 P **P** **15 16 20.0 -0.7**
WLF Walferdange 84.46 328 *e*P **P** **15 16 21.2 +0.5**
comp=Z,66nm,0.9s,baz=46,slow=5.2
WLF Walferdange 84.46 328 *d*PcP **PcP** **15 16 23.0 -1.3**
NVAR Mina Array Bea 84.46 48 P **P** **15 16 21.1 -0.1**
comp=Z,6.4nm,0.7s,baz=284,slow=4.7,SNR=18
NVAR LR LR 15 51 22.4
comp=Z,1µm,19.4s,baz=303,slow=34
NVAR Mina Array Bea 84.46 48 P **P** **15 16 19.9 -1.3**
OXZ Oxford 84.50 151 P **P** **15 16 20.1 -0.5**
OXZ IAmb IAmb 15 16 23.0
comp=Z,36nm,1.1s
RCHB Rochefort 84.52 328 *d*PcP **P** **15 16 22.1 +1.1**
NV11 Mina Array Sit 84.56 47 P **P** **15 16 19.0 -2.6**
NV11 IAmb IAmb 15 16 25.9
comp=Z,67nm,1.8s
BMRD Maredsous 84.62 329 *d*PcP **P** **15 16 22.8 +1.4**
LBZ Lake Benmore 84.66 153 P **P** **15 16 22.2 +0.8**
LBZ IAmb IAmb 15 16 24.6
comp=Z,39nm,1.1s
GCMT Greycliff 84.66 38 P **P** **15 16 18.1 -3.9**
SNF Seneffe 84.68 329 *d*P **P** **15 16 20.1 -1.6**
SNF *d*Pdif **pP** **15 16 23.4 -1.8**
YHH Holmes Hill 84.71 39 P **P** **15 16 23.3 +0.8**
YMR Madison River 84.73 39 P **P** **15 16 21.2 -1.2**
GIVF Givet 84.74 328 *e*P **P** **15 16 22.0 -0.1**
GIVF pmax pmax
comp=Z,55nm,1.2s
TEOL Teolo 84.77 322 P **P** **15 16 20.3 -2.0**
DOU Dourbes 84.84 329 *d*P **P** **15 16 21.6 -0.9**
PAGB Antelope Grade 84.85 51 P **P** **15 16 21.9 -1.1**
PAGB IAmb IAmb 15 16 29.1
comp=Z,63nm,1.2s
ELK Elko 84.88 44 P **P** **15 16 23.6 +0.3**
ELK pmax pmax
comp=Z,49nm,1.9s
ELK MLR MLR
comp=Z,3µm,19.0s
ELK Elko 84.88 44 P **P** **15 16 23.6 +0.3**
ELK IAmb IAmb 15 16 50.5
comp=Z,49nm,1.9s
ECH Echery 85.03 326 P **P** **15 16 21.9 -1.7**
ECH pmax pmax
comp=Z,95nm,1.3s
ECH Echery 85.03 326 P **P** **15 16 21.9 -1.7**
BAIF Baives 85.04 329 *e*P **P** **15 16 25.0 +1.4**
BAIF pmax pmax
comp=Z,18nm,0.9s
LKWY Lake 85.10 39 P **P** **15 16 23.8 -0.6**
LKWY pmax pmax
comp=Z,28nm,1.2s
LKWY MLR MLR
comp=Z,7µm,20.0s
LKWY Lake 85.10 39 P **P** **15 16 23.8 -0.6**
LKWY IAmb IAmb 15 16 40.8
comp=Z,28nm,1.1s
YMP Mirror Lake Pl 85.11 39 P **P** **15 16 22.7 -1.8**
YMP IAmb IAmb 15 16 54.2
comp=Z,34nm,1.3s
H17A Grant Village 85.12 39 P **P** **15 16 25.5 +1.0**
H17A IAmb IAmb 15 16 41.1
comp=Z,38nm,1.1s
H17A Grant Village 85.12 39 P **P** **15 16 24.2 -0.3**
baz=312
SALO Salr 85.18 323 P **P** **15 16 22.0 -2.5**
TUE Stuetta 85.19 324 P **P** **15 16 22.9 -1.7**
RAR Rarotonga 85.20 119 LR LR 15 47 23.6
comp=Z,2µm,21.9s,baz=308,slow=31
FLWY Flagg Ranch 85.26 39 P **P** **15 16 24.8 -0.3**
FLWY IAmb IAmb 15 16 46.0
comp=Z,51nm,1.3s
SMMC Simmler 85.27 51 P **P** **15 16 23.9 -1.1**
baz=307
RLMT Red Lodge 85.32 38 P **P** **15 16 24.8 -0.5**
RLMT IAmb IAmb 15 16 31.6
comp=Z,36nm,1.4s
RLMT Red Lodge 85.32 38 P **P** **15 16 25.5 +0.1**
baz=313
TIN Tinemaha, Big 85.35 49 P **P** **15 16 25.5 0.0**
baz=308
TPH Tonopah 85.35 47 P **P** **15 16 24.9 -0.8**
TPH pmax pmax
comp=Z,194nm,1.0s
TPH Tonopah 85.35 47 P **P** **15 16 24.9 -0.8**
HINF Hinteralfeld 85.46 326 *e*P **P** **15 16 24.7 -1.1**
HINF pmax pmax
comp=Z,47nm,1.1s
DGMT Dagmar 85.46 33 IAMs_20 IAMs_20 15 57 48.9
comp=Z,4µm,20.0s
DGMT Dagmar 85.46 33 P **P** **15 16 25.1 -0.7**
baz=316
MOOW Moose Ponds 85.46 40 P **P** **15 16 26.5 +0.4**
MOOW IAmb IAmb 15 16 33.0
comp=Z,43nm,1.8s
TPAW Teton Pass 85.52 40 P **P** **15 16 25.9 -0.6**
TPAW IAMs_20 IAMs_20 15 58 52.2
comp=Z,3µm,18.0s
HAU Haudompre 85.56 326 *e*P **P** **15 16 24.9 -1.4**
HAU pmax pmax
comp=Z,80nm,1.4s
LCH Last Change Ra 85.61 48 P **P** **15 16 26.6 -0.3**
LCH IAmb IAmb 15 16 33.0
comp=Z,57nm,1.6s
LOHW Long Hollow 85.63 40 P **P** **15 16 26.2 -0.8**
HVU Hansel Valley 85.64 42 P **P** **15 16 25.6 -1.4**
HVU pmax pmax
comp=Z,14nm,1.1s
HVU Hansel Valley 85.64 42 P **P** **15 16 25.6 -1.4**
PKM Mcpherson Peak 85.64 51 P **P** **15 16 26.9 -0.2**
baz=307
REDW Red Top Meadow 85.66 40 P **P** **15 16 27.0 -0.1**
REDW IAMs_20 IAMs_20 15 58 57.9
comp=Z,3µm,18.0s

NRCA Norcia 85.68 319 P **P** **15 16 26.9 -0.1**
LAO LASA Array 85.77 35 P **P** **15 16 28.0 +0.6**
LAO IAmb IAmb 15 16 33.6
comp=Z,34nm,1.1s
LAO IAMs_20 IAMs_20 15 53 39.3
comp=Z,4µm,22.0s
LAO LASA Array 85.77 35 P **P** **15 16 26.6 -0.8**
baz=315
ANKE Ethiopia-Afar 85.81 279 *e*P **P** **15 16 25.1 -3.3**
ANKE ⇓*e*S **S** **15 27 05.0 +2.8**
ANKE Ethiopia-Afar 85.81 279 *e*P **P** **15 16 25.1 -3.3**
ANKE IAMs_20 IAMs_20 15 26 43.3
comp=N,1µm,0.2s
ANKE ⇓*e*S **S** **15 27 05.0 +2.8**
ZCCA Zocca 85.81 321 P **P** **15 16 26.9 -0.7**
CWC Cottonwood Cre 85.82 49 P **P** **15 16 28.3 +0.3**
baz=308
AQU L'Aquila 85.83 319 P **P** **15 16 27.7 -0.1**
AQU pmax pmax
comp=Z,145nm,1.1s
AQU L'Aquila 85.83 319 P **P** **15 16 27.7 -0.1**
AHID Auburn Hatcher 85.92 41 P **P** **15 16 29.5 +1.1**
AHID IAmb IAmb 15 16 55.3
comp=Z,55nm,1.2s
AHID IAMs_20 IAMs_20 15 57 13.9
comp=Z,4µm,20.0s
GRAC Grapevine Rang 85.93 48 P **P** **15 16 28.4 +0.1**
GRAC IAmb IAmb 15 16 59.1
comp=Z,35nm,1.1s
GRAC Grapevine Rang 85.93 48 P **P** **15 16 29.1 +0.7**
baz=308
ISA Isabella, Lake 86.05 50 P **P** **15 16 29.7 +0.7**
baz=308
R11A Troy Canyon, C 86.19 46 P **P** **15 16 29.0 -0.8**
R11A IAmb IAmb 15 16 36.2
comp=Z,62nm,1.7s
R11A Troy Canyon, C 86.19 46 P **P** **15 16 28.7 -1.1**
baz=309
OSSC Osservatorio P 86.23 321 P **P** **15 16 29.2 -0.4**
OSSC IAmb IAmb 15 16 55.2
comp=Z,36nm,1.1s
SENIN Lac Senin/Sane 86.28 325 P **P** **15 16 29.3 -0.8**
SENIN IAmb IAmb 15 16 35.8
comp=Z,63nm,1.2s
MPMC Manual Prospec 86.43 49 P **P** **15 16 30.2 -0.8**
baz=308
HWUT Hardware Ranch 86.44 42 P **P** **15 16 31.5 +0.6**
HWUT IAmb IAmb 15 16 49.5
comp=Z,43nm,1.4s
FURC Furnace Creek, 86.58 48 P **P** **15 16 31.6 +0.2**
baz=309
DUG Dugway, Tooele 86.65 43 P **P** **15 16 30.8 -1.2**
DUG pmax pmax
comp=Z,37nm,1.4s
DUG Dugway, Tooele 86.65 43 P **P** **15 16 30.8 -1.2**
DUG IAmb IAmb 15 16 38.6
comp=Z,37nm,1.4s
DUG IAMs_20 IAMs_20 16 00 52.4
comp=Z,4µm,19.0s
DUG Dugway, Tooele 86.65 43 P **P** **15 16 31.9 -0.1**
baz=311
TPNV Topopah Spring 86.66 48 P **P** **15 16 31.1 -1.0**
TPNV pmax pmax
comp=Z,62nm,1.5s
TPNV Topopah Spring 86.66 48 P **P** **15 16 31.1 -1.0**
TPNV IAmb IAmb 15 16 38.2
comp=Z,62nm,1.4s
TPNV Topopah Spring 86.66 48 P **P** **15 16 31.2 -1.0**
baz=309
BW06 Boulder Array 86.76 40 P **P** **15 16 30.8 -1.8**
BW06 Boulder Array 86.76 40 P **P** **15 16 32.1 -0.5**
baz=313
PD31 Pinedale Array 86.76 40 P **P** **15 16 31.2 -1.4**
PDAR Pinedale Array 86.76 40 P **P** **15 16 31.9 -0.7**
comp=Z,4.2nm,0.8s,baz=313,slow=0.8,SNR=28
PDAR Pinedale Array 86.76 40 P **P** **15 16 30.8 -1.8**
QSM Queen of Sheba 86.89 49 P **P** **15 16 32.3 -0.7**
AAE Adis Abeba 86.91 279 ⇓*e*P **P** **15 16 31.1 -2.7**
AAE ⇓*e*S **S** **15 27 11.0 -1.9**
AAE Adis Abeba 86.91 279 ⇓*e*P **P** **15 16 31.1 -2.7**
AAE ⇓*e*S **S** **15 27 11.0 -1.9**
FURI Furi 87.06 279 *e*S **S** **15 27 13.0 -1.3**
FURI Furi 87.06 279 *e*S **S** **15 27 13.0 -1.3**
FURI IAMs_20 IAMs_20 15 28 29.3
comp=Z,1µm,10.9s
PSUT Pine Spring 87.11 45 P **P** **15 16 32.5 -1.8**
PASC Pasadena Art C 87.14 51 IAMs_20 IAMs_20 15 48 19.3
comp=Z,6µm,22.0s
LPL La Plagne 87.16 324 *e*P **P** **15 16 33.3 -1.1**
LPL pmax pmax
comp=Z,20nm,0.8s
LPG La Plagne 87.16 324 *e*P **P** **15 16 33.4 -1.1**
LPG pmax pmax
comp=Z,37nm,1.0s
NLU North Lily Min 87.24 43 P **P** **15 16 33.5 -1.4**
GSC Goldstone, Bar 87.34 49 P **P** **15 16 35.0 -0.3**
baz=309
BNI Bardonecchia 87.52 324 P **P** **15 16 36.0 -0.1**
BNI pmax pmax
comp=Z,27nm,1.2s
BNI Bardonecchia 87.52 324 P **P** **15 16 36.0 -0.1**
BNI IAmb IAmb 15 16 42.7
comp=Z,27nm,1.2s
SHPR Sheep Range 87.62 47 P **P** **15 16 35.4 -1.3**
ULM Lac du Bonnet 87.68 28 P **P** **15 16 35.9 -0.7**
comp=Z,25nm,1.0s,baz=322,slow=5.1,SNR=15
ULM LR LR 15 57 31.3
comp=Z,7µm,20.6s,baz=334,slow=37
ULM Lac du Bonnet 87.68 28 P **P** **15 16 35.6 -1.0**
ULM pmax pmax
comp=Z,48nm,1.0s
ULM Lac du Bonnet 87.68 28 P **P** **15 16 35.6 -1.0**
AVF Avril sur Loir 87.84 327 *e*P **P** **15 16 37.9 +0.5**
AVF pmax pmax
comp=Z,38nm,1.1s
TCRU Three Creeks R 87.90 44 P **P** **15 16 37.7 -0.5**
TCRU IAmb IAmb 15 16 45.4
comp=Z,47nm,1.4s
MDND Maddock 87.99 31 P **P** **15 16 37.5 -0.6**
MDND Maddock 87.99 31 P **P** **15 16 37.5 -0.6**
baz=320
ORIF Oris-en-Rattie 88.01 324 *e*P **P** **15 16 38.9 +0.5**
ORIF pmax pmax
comp=Z,20nm,1.2s
FLN La Foliniere 88.03 330 *e*P **P** **15 16 42.3 +4.0**
FLN pmax pmax
comp=Z,94nm,1.8s
TMUT Trail Mountain 88.17 43 P **P** **15 16 37.8 -1.7**
BGF Bois d'Agland 88.25 327 *e*P **P** **15 16 40.7 +1.4**
BGF pmax pmax
comp=Z,34nm,1.4s
RDMU Red Mountain 88.25 41 P **P** **15 16 38.4 -1.4**
RDMU IAmb IAmb 15 16 46.1
comp=Z,34nm,1.3s
P17A Butcher Ranch, 88.33 43 P **P** **15 16 39.7 -0.4**
P17A IAmb IAmb 15 16 46.7
comp=Z,48nm,1.3s
GMRC Granite Mounta 88.39 49 P **P** **15 16 40.7 +0.3**
baz=310
SSB Saint Sauveur 88.40 325 P **P** **15 16 38.1 -2.0**
SSB pmax pmax
comp=Z,25nm,0.9s
SSB MLR MLR
comp=Z,15µm,18.0s
SSB Saint Sauveur 88.40 325 P **P** **15 16 38.1 -2.0**
SSB IAmb IAmb 15 16 43.4
comp=Z,25nm,0.9s
VAE Valguarnera 88.45 315 LR LR 16 02 35.3
comp=Z,5µm,20.7s,baz=48,slow=40
K22A Casper 88.46 38 P **P** **15 16 38.0 -2.7**
K22A Casper 88.46 38 P **P** **15 16 39.3 -1.4**
baz=315
GRR Gorron 88.48 330 *e*P **P** **15 16 42.2 +1.8**
GRR pmax pmax
comp=Z,77nm,1.6s
P18A Preston Nutter 88.50 43 P **P** **15 16 40.0 -1.1**
P18A IAmb IAmb 15 16 47.6
comp=Z,38nm,1.1s
FRF La Foret Royal 88.60 323 *e*P **P** **15 16 42.0 +0.9**
FRF pmax pmax
comp=Z,20nm,1.0s
PFO Pinyon Flats O 88.62 50 LR LR 15 50 02.4
comp=Z,5µm,21.6s,baz=304,slow=31
PFO Pinyon Flats O 88.62 50 IAMs_20 IAMs_20 15 54 10.6
comp=Z,5µm,20.0s

TPFO	Pinon Flats	88.62	50	P		P		15 16 40.0	-1.5
	baz=309								
VIVF	Saint-Julien-l	88.64	325	eP		P		15 16 40.7	-0.6
VIVF				pmax		pmax			
	comp=Z,32nm,1.0s								
109C	Camp Elliot, M	88.65	51	IAMs_20		IAMs_20		15 49 00.1	
	comp=Z,4µm,21.0s								
BELC	Belle Mtn. Jos	88.67	50	P		P		15 16 41.1	-0.7
	baz=309								
RSSD	Black Hills	88.68	36	P		P		15 16 42.2	+0.5
RSSD				pmax		pmax			
	comp=Z,89nm,1.7s								
RSSD	Black Hills	88.68	36	P		P		15 16 42.2	+0.5
RSSD	Black Hills	88.68	36	IAMs_20		IAMs_20		16 01 32.4	
	comp=Z,4µm,18.0s								
RSSD	Black Hills	88.68	36	P		P		15 16 41.3	-0.4
	baz=317								
SRU	San Rafael Swe	88.69	43	P		P		15 16 40.0	-1.8
SRU				pmax		pmax			
	comp=Z,17nm,1.0s								
SRU	San Rafael Swe	88.69	43	P		P		15 16 40.0	-1.8
DILA	Dilla	88.70	277	eS		S		15 27 30.9	+1.2
DILA	Dilla	88.70	277	eS		S		15 27 30.9	+1.2
DILA				IAMs_20		IAMs_20		15 29 11.0	
	comp=E,6µm,57.2s								
KNB	Kanab	88.72	46	P		P		15 16 41.6	-0.4
KNB				pmax		pmax			
	comp=Z,75nm,1.6s								
KNB	Kanab	88.72	46	P		P		15 16 41.5	-0.4
TCF	Toulx Ste Croi	88.74	327	eP		P		15 16 43.2	+1.5
TCF				pmax		pmax			
	comp=Z,71nm,1.5s								
RWWY	Rawlins	88.77	39	IAMs_20		IAMs_20		15 58 09.1	
	comp=Z,4µm,20.0s								
LMR	La Mourre	88.83	323	eP		P		15 16 44.2	+2.0
LMR				pmax		pmax			
	comp=Z,48nm,1.3s								
IRM	Iron Mountain	89.12	49	P		P		15 16 43.0	-0.8
	baz=310								
AGMN	Agassiz Nation	89.23	29	P		P		15 16 41.5	-2.4
AGMN				IAMs_20		IAMs_20		16 00 32.1	
	comp=Z,5µm,19.0s								
AGMN	Agassiz Nation	89.23	29	P		P		15 16 43.0	-1.0
	baz=322								
BC3	Big Chuckawall	89.24	50	P		P		15 16 44.0	-0.4
	baz=310								
O20A	White River Ci	89.29	41	P		P		15 16 42.8	-1.8
O20A	White River Ci	89.29	41	P		P		15 16 44.1	-0.5
	baz=314								
W13A	Hualapai Mount	89.31	48	P		P		15 16 43.6	-1.2
IKP	In-Ko-Pah, Jac	89.45	51	P		P		15 16 44.4	-0.9
	baz=309								
SWSC	Sam W. Stewart	89.47	51	P		P		15 16 45.5	+0.2
	baz=310								
MFF	Saint Martin d	89.56	329	eP		P		15 16 47.2	+1.7
MFF				pmax		pmax			
	comp=Z,77nm,1.3s								
PDMCI	Parker Dam,Lak	89.66	49	P		P		15 16 45.4	-0.8
	baz=310								
RJF	Les Rejaudoux	89.80	327	eP		P		15 16 46.7	0.0
RJF				pmax		pmax			
	comp=Z,31nm,0.9s								
CAF	Calviac	89.83	326	eP		P		15 16 48.8	+1.9
CAF				pmax		pmax			
	comp=Z,27nm,0.9s								
PHWY	Pilot Hill	89.98	39	P		P		15 16 47.4	-0.6
PHWY				IAmb		IAmb		15 16 54.0	
	comp=Z,52nm,1.5s								
N23A	Red Feather La	90.01	39	P		P		15 16 47.8	-0.3
N23A				IAmb		IAmb		15 16 54.7	
	comp=Z,67nm,1.4s								
N23A	Red Feather La	90.01	39	P		P		15 16 46.9	-1.2
	baz=315								
PV23	Carpenter Ridg	90.01	43	P		P		15 16 48.2	+0.1
PV23				IAmb		IAmb		15 16 54.8	
	comp=Z,56nm,1.1s								
B35A	Bob, Littlefor	90.04	28	P		P		15 16 47.1	-0.6
PV10	Paradox Valley	90.04	43	P		P		15 16 48.7	+0.4
PV13	Radium Mtn., P	90.32	43	P		P		15 16 49.7	+0.2
PV13				IAmb		IAmb		15 16 56.0	
	comp=Z,50nm,1.2s								
LFF	La Frestale	90.44	327	eP		P		15 16 50.6	+1.0
LFF				pmax		pmax			
	comp=Z,32nm,0.9s								
WUAZ	Wupatki	90.59	46	P		P		15 16 50.3	-0.5
WUAZ				IAmb		IAmb		15 16 57.3	
	comp=Z,28nm,1.3s								
WUAZ	Wupatki	90.59	46	P		P		15 16 49.7	-1.0
	baz=312								
SMCO	Snowmass	90.65	41	P		P		15 16 50.3	-1.0
SMCO				IAmb		IAmb		15 16 57.8	
	comp=Z,42nm,1.6s								
SMCO				IAMs_20		IAMs_20		15 59 08.1	
	comp=Z,4µm,19.0s								
SUSD	Miller	90.88	33	P		P		15 16 51.3	-0.5
	baz=320								
113A	Mohawk Valley,	90.89	50	P		P		15 16 50.1	-1.9
113A				IAmb		IAmb		15 16 58.2	
	comp=Z,32nm,1.7s								
PPT2	Papeete2	90.92	110	eS		S		15 27 50.0	+0.2
	comp=Z,745nm,23.0s								
PPT2	Papeete2	90.92	110	eLQ		LQ		15 42 07.4	
	comp=Z,10µm,29.2s								
PPT2				eLR		LR		15 45 59.5	
	comp=Z,7µm,23.8s								
MTLF	Montolieu	90.95	325	eP		P		15 16 53.5	+1.4
MTLF				pmax		pmax			
	comp=Z,12nm,1.0s								
ISCO	Idaho Springs	90.96	40	P		P		15 16 51.5	-1.1
ISCO				pmax		pmax			
	comp=Z,16nm,1.4s								
ISCO				MLR		MLR			
	comp=Z,4µm,20.0s								
ISCO	Idaho Springs	90.96	40	P		P		15 16 51.5	-1.1
ISCO				IAMs_20		IAMs_20		15 57 06.1	
	comp=Z,4µm,20.0s								
ISCO	Idaho Springs	90.96	40	P		P		15 16 52.1	-0.5
	baz=316								
F33A	5 Mile Ranch,	90.98	31	P		P		15 16 51.1	-1.1
MVCO	Mesa Verde	91.15	43	P		P		15 16 52.7	-0.8
MVCO				IAmb		IAmb		15 16 59.9	
	comp=Z,40nm,1.2s								
MVCO				IAMs_20		IAMs_20		16 01 14.6	
	comp=Z,3µm,20.0s								
MVCO	Mesa Verde	91.15	43	P		P		15 16 53.5	+0.1
	baz=314								
EYMN	Ely	91.24	27	P		P		15 16 52.3	-1.1
EYMN				IAmb		IAmb		15 16 59.5	
	comp=Z,34nm,1.0s								
EYMN	Ely	91.24	27	IAMs_20		IAMs_20		16 03 16.2	
	comp=Z,4µm,20.0s								
EYMN	Ely	91.24	27	P		P		15 16 52.6	-0.7
	baz=326								
X16A	Lo Mia Camp, P	91.28	47	P		P		15 16 51.9	-2.1
X16A				IAmb		IAmb		15 17 00.8	
	comp=Z,27nm,1.6s								
SCHQ	Schefferville	91.54	10	P		P		15 16 55.1	+0.6
	comp=Z,8.7nm,0.9s,baz=354,slow=4.7,SNR=12								
SCHQ	Schefferville	91.54	10	P		P		15 16 53.7	-0.9
SCHQ				IAmb		IAmb		15 16 58.4	
	comp=Z,25nm,1.4s								
S22A	4UR Ranch, Cre	91.74	42	P		P		15 16 55.5	-0.7
S22A	4UR Ranch, Cre	91.74	42	P		P		15 16 55.2	-1.0
	baz=315								
OGNE	Ogallala	92.01	37	IAMs_20		IAMs_20		16 05 13.7	
	comp=Z,4µm,20.0s								
214A	Organ Pipe Nat	92.03	50	P		P		15 16 56.8	-0.6
	baz=311								
F36A	Milaca	92.14	29	P		P		15 16 54.8	-2.7
F36A				IAmb		IAmb		15 17 10.3	
	comp=Z,30nm,1.6s								
E38A	The Farm, Brul	92.32	28	P		P		15 16 56.8	-1.5
SDCO	Great Sand Dun	92.48	41	P		P		15 16 57.2	-2.5
SDCO				IAMs_20		IAMs_20		16 00 25.5	
	comp=Z,4µm,19.0s								
SDCO	Great Sand Dun	92.48	41	P		P		15 16 59.0	-0.7
	baz=316								
ECSD	EROS Data Cent	92.49	32	P		P		15 16 57.4	-1.8
ECSD				IAmb		IAmb		15 17 04.9	
	comp=Z,16nm,1.0s								
ECSD	EROS Data Cent	92.49	32	IAMs_20		IAMs_20		15 59 28.9	
	comp=Z,5µm,20.0s								
ECSD	EROS Data Cent	92.49	32	P		P		15 16 57.9	-1.3
	baz=322								
ETSF	Etsaut	92.60	327	eP		P		15 17 02.6	+2.8
ETSF				pmax		pmax			
	comp=Z,58nm,1.8s								
KEST	Kesra	92.64	316	P		P		15 17 02.0	+1.8
	comp=Z,8.5nm,0.9s,baz=346,slow=5.5,SNR=6.5								
KEST	Kesra	92.64	316	P		P		15 16 58.9	-1.2
LODK	Lodwar	92.77	276	IAMs_20		IAMs_20		16 00 50.4	
	comp=Z,4µm,21.0s								
SPMN	Marine on St.	92.95	29	P		P		15 17 00.5	-0.8
	baz=324								
TUC	Tucson	93.09	48	P		P		15 17 00.3	-2.0
TUC				pmax		pmax			
	comp=Z,16nm,1.2s								
TUC	Tucson	93.09	48	P		P		15 17 00.3	-2.0
TUC	Tucson	93.09	48	IAMs_20		IAMs_20		15 51 56.4	
	comp=Z,4µm,22.0s								
TUC	Tucson	93.09	48	P		P		15 17 01.5	-0.8
	baz=312								
T25A	Trinidad	93.52	41	P		P		15 17 02.1	-2.3
	baz=316								
KIBK	Kibwezi	93.59	270	IAMs_20		IAMs_20		16 01 23.4	
	comp=Z,4µm,20.0s								
KMBO	Kilima Mbogo	93.61	271	P		P		15 17 05.0	-0.1
	comp=Z,1.0nm,0.4s,baz=35,slow=4.0,SNR=6.2								
KMBO	Kilima Mbogo	93.61	271	iP		P		15 17 05.9	+0.7
KMBO				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KMBO	Kilima Mbogo	93.61	271	P		P		15 17 03.2	-2.0
KMBO	Kilima Mbogo	93.61	271	IAMs_20		IAMs_20		16 05 54.6	
	comp=Z,4µm,21.0s								
KMBO	Kilima Mbogo	93.61	271	P		P		15 17 07.7	+2.6
COWI	Conover	93.67	27	IAMs_20		IAMs_20		16 02 13.5	
	comp=Z,4µm,19.0s								
TAOE	Nuku Hiva Isla	93.90	98	eS		S		15 28 18.7	+2.0
	comp=Z,1µm,29.2s								
TAOE	Nuku Hiva Isla	93.90	98	eLQ		LQ		15 43 07.8	
	comp=Z,5µm,30.9s								
TAOE				eLR		LR		15 47 20.4	
	comp=Z,6µm,25.3s								
ANMO	Albuquerque	93.91	44	LR		LR		16 01 12.2	
	comp=Z,4µm,18.5s,baz=335,slow=37								
ANMO	Albuquerque	93.91	44	eP		P		15 17 06.5	+0.3
ANMO				pmax		pmax			
	comp=Z,31nm,2.2s								
ANMO				MLR		MLR			
	comp=Z,3µm,20.0s								
ANMO	Albuquerque	93.91	44	P		P		15 17 05.4	-0.8
	baz=315								
G40A	Rib Lake	93.96	28	P		P		15 17 05.1	-0.9
G40A				IAmb		IAmb		15 17 11.6	
	comp=Z,16nm,0.9s								
TBI	Tubuai	94.20	115	eS		S		15 28 19.4	+0.7
	comp=Z,2µm,29.2s								
TBI	Tubuai	94.20	115	eLQ		LQ		15 43 07.8	
	comp=Z,8µm,35.5s								
TBI				eLR		LR		15 47 30.4	
	comp=Z,5µm,25.8s								
Y22D	IRIS PASSCAL I	94.25	45	IAMs_20		IAMs_20		16 02 12.7	
	comp=Z,4µm,18.0s								
CBKS	Cedar Bluff	94.78	37	IAMs_20		IAMs_20		16 02 27.9	
	comp=Z,3µm,20.0s								
121A	Cookes Peak, D	94.80	46	P		P		15 17 09.6	-0.6
	baz=314								
ABPO	Ambohimpanom	94.88	251	IAMs_20		IAMs_20		16 00 57.8	
	comp=Z,5µm,19.0s								
SCIA	State Center	95.46	31	IAMs_20		IAMs_20		16 00 02.3	
	comp=Z,4µm,22.0s								
KSU1	Kansas State U	96.12	35	IAMs_20		IAMs_20		16 00 57.1	
	comp=Z,5µm,20.0s								
KSU1	Kansas State U	96.12	35	P		P		15 17 14.1	-1.8
	baz=322								
PBRG	Braganca	96.24	330	ePP		PP		15 21 04.2	-4.5
ESDC	Sonseca Array	96.72	327	P		P		15 17 18.3	-0.4
	comp=Z,5.2nm,1.0s,baz=16,slow=3.8,SNR=13								
ESDC				PP		PP		15 21 10.8	-1.7
	comp=Z,2.0nm,1.1s,baz=53,slow=7.6,SNR=5.2								
ESDC				PKKPbc		PKKPbc		15 34 00.9	-0.2
	comp=Z,0.6nm,0.8s,baz=294,slow=1.3,SNR=4.5								
ESDC	Sonseca Array	96.72	327	P		P		15 17 18.0	-0.7
MSTX	Muleshoe	96.73	42	P		P		15 17 18.6	-0.3
	baz=317								
PGAV	Gavieira, Arco	96.75	331	eLR		LR		15 51 31.9	
	comp=Z,12µm,18.0s								
VOI	Vohitsoka	96.77	248	IAMs_20		IAMs_20		15 58 15.4	
	comp=Z,5µm,21.0s								
MNTX	Cornudas Mount	96.84	46	P		P		15 17 17.4	-2.0
MNTX	Cornudas Mount	96.84	46	P		P		15 17 19.2	-0.1
	baz=315								
MVO	Moncorvo	96.89	329	ePP		PP		15 21 11.8	-2.0
MVO				iLQ		LQ		15 30 09.4	
MVO	Moncorvo	96.89	329	eLR		LR		15 51 31.8	
	comp=Z,11µm,20.0s								
L44A	Lake County Fo	97.45	28	IAMs_20		IAMs_20		16 01 41.7	
	comp=Z,5µm,21.0s								
MTE	Manteigas	97.74	329	ePP		PP		15 21 27.2	+6.9
MTE				eS		S		15 28 53.2	+4.0
MTE				iLQ		LQ		15 30 15.9	
MTE	Manteigas	97.74	329	eLR		LR		15 50 41.0	
	comp=Z,15µm,18.0s								
HDIL	Hopedale	98.25	30	IAMs_20		IAMs_20		16 03 39.1	
	comp=Z,4µm,18.0s								
WMOK	Wichita Mounta	98.36	39	IAMs_20		IAMs_20		16 04 36.1	
	comp=Z,3µm,20.0s								
WMOK	Wichita Mounta	98.36	39	P		P		15 17 25.9	-0.3
	baz=320								
PMRV	Marv??o	98.47	329	eLR		LR		15 55 36.2	
	comp=Z,13µm,18.0s								
LPIG	La Paz	98.86	54	LR		LR		15 53 21.3	
	comp=Z,2µm,21.3s,baz=311,slow=30								
AAM	Ann Arbor	98.95	25	IAMs_20		IAMs_20		16 07 37.1	
	comp=Z,4µm,19.0s								
TUL1	Leonard	99.01	37	IAMs_20		IAMs_20		16 06 19.9	
	comp=Z,4µm,18.0s								
SFIN	Lafayette	99.30	28	P		Pdif		15 17 29.1	-1.1
	baz=328								
CCM	Cathedral Cave	99.47	32	IAMs_20		IAMs_20		16 05 02.6	
	comp=Z,4µm,20.0s								
TXAR	Lajitas Array	99.55	46	P		Pdif		15 17 31.6	-0.1
	comp=Z,0.5nm,0.8s,baz=318,slow=1.2,SNR=3.0								
TXAR				PP		PP		15 21 34.7	0.0
	comp=Z,0.9nm,0.9s,baz=305,slow=4.4,SNR=4.2								
TXAR				LR		LR		15 59 57.1	
	comp=Z,3µm,20.7s,baz=331,slow=34								
U40A	Yellville	100.10	34	IAMs_20		IAMs_20		16 08 06.5	
	comp=Z,5µm,19.0s								
PVAQ	Vaqueiros	100.28	328	eLR		LR		15 54 49.4	
	comp=Z,20µm,18.0s								
VT1	Waterbury	100.41	17	IAMs_20		IAMs_20		16 03 57.2	
	comp=Z,5µm,22.0s								
W39A	Magazine	100.58	36	IAMs_20		IAMs_20		16 02 49.3	
	comp=Z,5µm,21.0s								
LBNH	Lisbon	100.70	16	IAMs_20		IAMs_20		16 05 29.5	
	comp=Z,3µm,20.0s								
P49A	Miami Univ. Ec	100.97	27	IAMs_20		IAMs_20		16 04 00.6	
	comp=Z,5µm,20.0s								
JCT	Junction City	101.00	43	IAMs_20		IAMs_20		16 04 13.3	
	comp=Z,3µm,21.0s								
ACSO	Alum Creek Sta	101.01	26	IAMs_20		IAMs_20		16 06 44.6	
	comp=Z,5µm,20.0s								
HNH	Hanover	101.11	17	IAMs_20		IAMs_20		16 04 28.6	
	comp=Z,3µm,22.0s								
MIAR	Mount Ida	101.20	36	IAMs_20		IAMs_20		16 03 11.1	
	comp=Z,4µm,22.0s								
FFD	Franklin Falls	101.49	17	IAMs_20		IAMs_20		16 08 17.4	
	comp=Z,4µm,18.0s								
BINY	Binghamton	101.53	20	IAMs_20		IAMs_20		16 06 35.8	
	comp=Z,4µm,21.0s								
X40A	Basin Creek Fa	101.61	36	IAMs_20		IAMs_20		16 07 05.6	
	comp=Z,4µm,20.0s								
O53A	New Philadelph	101.63	24	IAMs_20		IAMs_20		16 04 40.8	
	comp=Z,5µm,20.0s								
TRY	Troy	101.68	18	IAMs_20		IAMs_20		16 04 33.6	
	comp=Z,5µm,22.0s								
P52A	Corning	101.85	25	IAMs_20		IAMs_20		16 09 06.7	
	comp=Z,4µm,18.0s								
435B	Jarrell	102.02	41	IAMs_20		IAMs_20		16 07 02.2	
	comp=Z,4µm,20.0s								
L61B	Northampton	102.20	18	IAMs_20		IAMs_20		16 05 12.2	
	comp=Z,4µm,21.0s								
L61B	Northampton	102.20	18	P		Pdif		15 17 40.8	-2.2
	baz=340								
SSPA	Standing Stone	102.39	22	IAMs_20		IAMs_20		16 07 23.7	
	comp=Z,4µm,19.0s								
HRV	Adam Dziewonsk	102.42	17	IAMs_20		IAMs_20		16 07 00.1	
	comp=Z,3µm,19.0s								
QUA2	Belchertown	102.44	17	IAMs_20		IAMs_20		16 05 18.7	
	comp=Z,3µm,20.0s								
O56A	Blue Knob Stat	102.50	23	IAMs_20		IAMs_20		16 09 47.8	
	comp=Z,4µm,22.0s								
WVT	Waverly	102.59	31	IAMs_20		IAMs_20		16 06 08.9	
	comp=Z,4µm,20.0s								
MCWV	Mont Chateau	102.63	24	P		Pdif		15 17 44.7	-0.3
	baz=334								
833A	Chaparral WMA,	102.84	44	P		Pdif		15 17 44.9	-1.3
	baz=319								
NATX	Nacogdoches	102.85	39	IAMs_20		IAMs_20		16 09 52.7	
	comp=Z,4µm,20.0s								
BRYW	Bryant College	102.98	17	IAMs_20		IAMs_20		16 05 25.0	
	comp=Z,5µm,22.0s								
YLE	Yale	103.19	18	IAMs_20		IAMs_20		16 09 25.7	
	comp=Z,4µm,19.0s								
PAL	Palisades	103.22	19	IAMs_20		IAMs_20		16 07 20.5	
	comp=Z,4µm,20.0s								
OXF	Oxford	103.23	33	P		Pdif		15 17 46.7	-1.1
	baz=326								
HKT	Hockley	103.63	41	IAMs_20		IAMs_20		16 13 06.3	
	comp=Z,3µm,19.0s								
KVTX	Kingsville	104.30	44	IAMs_20		IAMs_20		16 11 12.8	
	comp=Z,4µm,18.0s								
VBMS	Vicksburg	104.58	35	IAMs_20		IAMs_20		16 11 05.2	
	comp=Z,4µm,18.0s								
GOGA	Godfrey	106.77	29	IAMs_20		IAMs_20		16 13 35.4	
	comp=Z,4µm,18.0s								
PMOZ	Porto Moniz, M	108.22	332	eLR		LR		15 54 36.3	
	comp=Z,6µm,20.0s								
UNM	Universidad Na	109.59	50	IAMs_20		IAMs_20		16 14 42.6	
	comp=Z,3µm,20.0s								
DWPF	Disney Wildern	112.23	31	IAMs_20		IAMs_20		16 09 16.2	
	comp=Z,4µm,22.0s								
TORD	Torodi Ar. Bea	113.40	305	PKiKP		PKiKP		15 22 26.9	+0.2
	comp=Z,0.5nm,0.4s,baz=66,slow=1.2,SNR=8.7								
TORD				PP		PP		15 23 17.3	+0.4
	comp=Z,4.3nm,1.1s,baz=36,slow=5.1,SNR=7.9								
TORD				PKKPbc		PKKPbc		15 33 10.1	0.0
	comp=Z,1.2nm,0.8s,baz=254,slow=3.3,SNR=6.6								
BBSR	BB Station	113.67	14	IAMs_20		IAMs_20		16 12 28.7	
	comp=Z,3µm,20.0s								
MTO3	Montecristo	119.45	46	IAMs_20		IAMs_20		16 23 47.7	
	comp=Z,2µm,20.0s								
SYO	Syowa Base	120.50	205	iePKPdf		pPKPdf		15 22 41.5	-0.7
TGUH	Tegucigalpa,Un	120.97	44	IAMs_20		IAMs_20		16 25 15.3	
	comp=Z,2µm,19.0s								
QSPA	South Pole Qui	122.42	180	PKP		PKPdf		15 22 41.7	-0.7
	comp=Z,6.7nm,0.9s,baz=311,slow=1.0,SNR=14								
QSPA	South Pole Qui	122.42	180	P		PKPdf		15 22 40.4	-2.0
QSPA	South Pole Qui	122.42	180	IAMs_20		IAMs_20		16 12 26.1	
	comp=Z,3µm,20.0s								
DBIC	Dimbokro	122.51	305	PKP		PKiKP		15 22 45.5	+1.1
	comp=Z,5.7nm,0.8s,baz=65,slow=4.0,SNR=4.5								
MTDJ	Mount Denham	122.58	32	IAMs_20		IAMs_20		16 22 39.6	
	comp=Z,3µm,18.0s								
HDC	Heredia	126.04	44	IAMs_20		IAMs_20		16 27 57.9	
	comp=Z,3µm,20.0s								
SMRT	St. Maarten	127.85	17	IAMs_20		IAMs_20		16 19 20.6	
	comp=Z,3µm,20.0s								
SEUS	St. Eustatius	128.41	17	IAMs_20		IAMs_20		16 20 59.4	
	comp=Z,3µm,22.0s								
ANWB	Willy Bob	128.52	15	IAMs_20		IAMs_20		16 25 42.0	
	comp=Z,2µm,20.0s								
BCIP	Isla Barro Col	129.15	40	IAMs_20		IAMs_20		16 24 57.8	
	comp=Z,2µm,22.0s								
PAYG	Puerto Ayora	129.92	59	IAMs_20		IAMs_20		16 20 51.7	
	comp=Z,2µm,20.0s								
SVN	Savane Anatole	131.39	16	IAMs_20		IAMs_20		16 19 43.3	
	comp=Z,3µm,22.0s								
FDF	Fort de France	131.50	16	IAMs_20		IAMs_20		16 19 58.2	
	comp=Z,2µm,22.0s								
ILAM	Ilet Lapin Mar	131.52	15	IAMs_20		IAMs_20		16 19 56.7	
	comp=Z,2µm,22.0s								
HATO	Hato, Curacao	131.56	26	IAMs_20		IAMs_20		16 24 48.4	
	comp=Z,3µm,21.0s								
BIM	Bigot	131.72	16	IAMs_20		IAMs_20		16 25 44.2	
	comp=Z,2µm,22.0s								
MPOM	Morne Pois Mar	131.84	15	IAMs_20		IAMs_20		16 22 38.2	
	comp=Z,2µm,21.0s								
GRGR	Grenville	133.89	17	IAMs_20		IAMs_20		16 21 36.7	
	comp=Z,3µm,21.0s								
SDV	Santo Domingo	133.89	30	PKPdf		PKPdf		15 23 03.6	-2.6
SDV	Santo Domingo	133.89	30	eP		PKiKP		15 23 09.4	+2.0
SNAA	Sanae	133.93	199	PKP		PKPdf		15 23 04.3	0.0
	comp=Z,2.7nm,1.0s,baz=312,slow=2.4,SNR=4.0								
SNAA	Sanae	133.93	199	IAMs_20		IAMs_20		16 23 00.9	
	comp=Z,2µm,20.0s								
BOAV	Boa Vista	143.51	19	eP		PKiKP		15 23 25.9	-1.0
CZSB	Cruzeiro do Su	146.95	47	eP		PKPbc		15 23 31.6	+0.3
NNA	Nana	147.33	57	PKiKP		PKPdf		15 23 29.0	-1.0
NNA	Nana	147.33	57			PKPdf		15 23 29.0	-1.0
NNA	Nana	147.33	57	IAMs_20		IAMs_20		16 17 22.9	
	comp=Z,2µm,22.0s								
MCPB	Macapa, AP	147.75	5	eP		PKPbc		15 23 34.0	+0.4
MACA	Manacapuru-AM	148.73	23	eP		PKPbc		15 23 35.8	-0.3
MALB	Monte Alegre	148.98	10	eP		PKPbc		15 23 37.2	+0.5
NBMO	Morrinhos-CE	149.57

INCN	Inchon	5.87	326		P	Pn	15 07 48.4	-0.3	
INCN	Inchon	5.87	326		Pn	Pn	15 07 48.4	-0.3	
JGF	Kuroka	6.17	60		Pn	Pn	15 07 54.6	+1.8	
JOW	Kunigami	6.23	201		Pn	Pn	15 07 57.0	+3.3	
	25nm,0.3s,baz=25,slow=9.1,SNR=1.9								
JOW	Kunigami	6.23	201		Pn	Pn	15 07 55.4	+1.8	
JHJ	Hachijo jima 2	7.58	84		Pn	Pn	15 08 13.5	+1.4	
	66nm,0.3s,baz=73,slow=22,SNR=8.5								
JHJ2	Mitsune	7.60	84		Pn	Pn	15 08 14.2	+1.7	
JSD	Sado	8.11	47		Pn	Pn	15 08 20.1	+0.7	
NJ2	Nanjing	10.12	270	*eP*		Pn	15 08 47.9	+1.0	
NJ2					pmax	pmax			
	comp=Z,8.0nm,0.5s								
VLA	Vladivostok	10.45	4	*i* P		Pn	15 08 52.8	+1.3	
VLA					pmax	pmax			
	comp=Z,97nm,1.1s								
YHNB	Yeheng	11.49	228		Pn	Pn	15 09 06.6	+0.8	
USA0B	Ussuriysk Arra	11.53	4		P	Pn	15 09 06.7	+0.4	
USA0B	Ussuriysk Arra	11.53	4		Pn	Pn	15 09 06.7	+0.4	
USRK	Ussuriysk Ar.	11.53	4		Pn	Pn	15 09 11.3	+5.1	
	baz=189,slow=15,SNR=8.4								
USRK	Ussuriysk Ar.	11.53	4		P	Pn	15 09 06.5	+0.2	
USRK	Ussuriysk Ar.	11.53	4		Pn	Pn	15 09 06.5	+0.2	
JTM	Tenmabayashi	11.54	43		Pn	Pn	15 09 05.5	-0.8	
MDJ	Mudanjiang	11.95	356		P	Pn	15 09 12.1	+0.1	
MDJ					pmax	pmax			
	comp=Z,16nm,1.9s								
MDJ					pmax	pmax			
	comp=Z,5μm,9.0s								
SSLB	Suanglung	12.39	227		Pn	Pn	15 09 16.8	-1.4	
YULB	Yu-li	12.48	225		Pn	Pn	15 09 18.4	-1.0	
JEW	Eniwo	13.17	37		Pn	Pn	15 09 28.4	-0.3	
ERM	Erimo	13.53	43	*i* P		Pn	15 09 31.5	-2.1	
ERM	Erimo	13.53	43		Pn	Pn	15 09 33.8	+0.2	
ASAJ	Asahikawa	14.68	36		Pn	Pn	15 09 49.2	0.0	
	comp=Z,2.0nm,0.3s,baz=220,slow=12,SNR=6.4								
JKA	Kamikawa-asahi	14.68	36		Pn	Pn	15 09 49.5	+0.3	
LYN	LuoYang	15.38	282	⇓P		P	15 10 07.4	+3.9	
LYN					pmax	pmax			
	comp=Z,60nm,1.2s								
KLR	Kul'dur	16.54	2	*i* P		Pn	15 10 14.7	+1.0	
KLR					pmax	pmax			
	comp=Z,123nm,1.0s								
YSS	Yuzh-Sakhalins	16.93	29	*ceP*		Pn	15 10 18.5	0.0	
YSS					pmax	pmax			
	comp=Z,135nm,1.3s								
YSS	Yuzh-Sakhalins	16.93	29	Pn		Pn	15 10 17.8	-0.7	
HHC	Hu-ho-hao-te	17.40	303	*eP*		P	15 10 26.6	+0.6	
HHC					pmax	pmax			
	comp=Z,28nm,1.2s								
HHC					pmax	pmax			
	comp=Z,910nm,5.6s								
XAN	Xi'an	18.32	280		P	P	15 10 36.6	+0.5	
XAN					pP	sP	15 10 40.3	+2.9	
XAN					pmax	pmax			
	comp=Z,65nm,1.3s								
HIA	Hailar	18.51	337	*i* P		P	15 10 37.9	-0.2	
HIA					pmax	pmax			
	comp=Z,121nm,1.5s								
HIA	Hailar	18.51	337		P	Pn	15 10 41.8	+3.6	
ZEA	Zeya	21.19	354	*eP*		P	15 11 10.0	+2.7	
ZEA					pmax	pmax			
	comp=N,110nm,1.4s								
ZEA					pmax	pmax			
	comp=Z,210nm,1.4s								
LZH	Lanzhou	22.47	286	⇑P		P	15 11 20.0	-1.3	
LZH					pP	sP	15 11 25.5	+2.9	
LZH					sP	pP	15 11 29.5	+7.3	
LZH					pmax	pmax			
	comp=Z,61nm,1.2s								
GUMO	Guam	22.95	143		P	P	15 11 24.7	-1.7	
GUMO					pmax	pmax			
	comp=Z,455nm,1.5s								
GUMO	Guam	22.95	143		P	P	15 11 24.6	-1.7	
ULN	Ulaanbaatar	23.49	317	*i* P		P	15 11 31.7	-0.1	
ULN					pmax	pmax			
	comp=Z,38nm,0.9s								
ULN	Ulaanbaatar	23.49	317		P	P	15 11 28.9	-2.9	
SONM	Songino Array	23.85	317		P	P	15 11 37.7	+2.4	
	comp=Z,27nm,0.9s,baz=126,slow=11,SNR=4.8								
SONM	Songino Array	23.85	317		P	P	15 11 33.0	-2.3	
SONM					pmax	pmax			
	comp=Z,32nm,0.9s								
SONM	Songino Array	23.85	317		P	P	15 11 33.0	-2.3	
KMI	Kunming	25.63	260	⇓P		P	15 11 53.4	+1.5	
KMI					pmax	pmax			
	comp=Z,42nm,1.0s								
GTA	Gaotai	25.84	294	⇑P		P	15 11 56.4	+2.8	
GTA					pP	sP	15 12 01.3	+6.4	
GTA					sP	pP	15 12 03.9	+9.4	
GTA					pmax	pmax			
	comp=Z,59nm,0.9s								
GTA					pmax	pmax			
	comp=Z,450nm,6.0s								
SKR	Severo-Kuril's	25.90	39	*i* P		P	15 11 52.6	-1.2	
PZH	PanZhiHua	25.95	264		P	P	15 11 56.4	+1.7	
PZH					pmax	pmax			
	comp=Z,70nm,1.3s								
PZH					pmax	pmax			
	comp=Z,1μm,6.1s								
PEA0B	Petropavlovsk-	28.09	35		P	P	15 12 13.5	-0.1	
PEA0B					pmax	pmax			
	comp=Z,46nm,1.3s								
PEA0B	Petropavlovsk-	28.09	35		P	P	15 12 13.5	-0.1	
PEA0B					lAmb	lAmb	15 13 04.0		
	comp=Z,46nm,1.2s								
PETK	Petropavlovsk-	28.09	35		P	P	15 12 12.8	-0.8	
PETK	Petropavlovsk-	28.09	35		P	P	15 12 12.8	-0.8	
PET	Petropavlovsk	28.52	36		P	P	15 12 16.5	-0.8	
PET					lAmb	lAmb	15 12 45.9		
	comp=Z,59nm,1.4s								
UBPT	Khong Chiam	28.79	239		P	P	15 12 19.8	-0.2	
UBPT					lAmb	lAmb	15 12 27.9		
	comp=Z,96nm,1.8s								
DLV	T Lat	29.07	230		P	P	15 12 20.5	-2.3	
DLV					lAmb	lAmb	15 13 02.3		
	comp=Z,52nm,1.5s								
YAK	Yakutsk	29.37	359	*eP*		P	15 12 25.3	+0.6	
YAK				*eS*		S	15 17 19.7	+0.9	
YAK					pmax	pmax			
	comp=Z,49nm,1.2s								
YAK					pmax	pmax			
	comp=N,46nm,1.3s								
YAK					pmax	pmax			
	comp=E,15nm,1.3s								
YAK					smax	smax			
	comp=E,3μm,7.7s								
YAK					smax	smax			
	comp=N,4μm,7.9s								
YAK	Yakutsk	29.37	359		P	P	15 12 22.7	-2.0	
YAK					lAmb	lAmb	15 12 31.1		
	comp=Z,36nm,0.9s								
MYLDM	Lahad Datu	29.68	205		P	P	15 12 27.3	-0.6	
MYLDM					lAmb	lAmb	15 12 43.7		
	comp=Z,168nm,1.9s								
GOMU	GeErMu	29.77	287		P	P	15 12 32.6	+3.5	
GOMU					pP	sP	15 12 36.3	+5.9	
GOMU					sP	pP	15 12 40.4	+10	
GOMU					S	S	15 17 31.3	+4.9	
GOMU					pmax	pmax			
	comp=Z,13nm,0.9s								
GOMU					pmax	pmax			
	comp=Z,130nm,4.2s								
GOMU					LR	LR			
	comp=Z,22μm,11.8s								
KKM	Kota Kinabalu	29.79	210		P	P	15 12 26.7	-2.3	
MA2	Magadan	30.00	20		P	P	15 12 29.0	-1.4	
MA2					pmax	pmax			
	comp=Z,52nm,1.9s								
MA2	Magadan	30.00	20		P	P	15 12 29.0	-1.4	
CHTO	Chiang Mai	31.70	252		P	P	15 12 45.6	-0.2	
CHTO					*PP	P	15 12 45.7	-0.1	
CHTO	Chiang Mai	31.70	252			P	15 12 45.7	-0.1	
CHTO	Chiang Mai	31.70	252		P	P	15 12 45.5	-0.2	
CM31	Chiang Mai Arr	31.89	251		P	P	15 12 46.2	-1.2	
CM31					lAmb	lAmb	15 12 52.5		
	comp=Z,42nm,1.2s								
CMAR	Chiang Mai Arr	31.89	251		P	P	15 12 49.9	+2.4	
	comp=Z,10nm,0.9s,baz=52,slow=7.3,SNR=13								
CMAR	Chiang Mai Arr	31.89	251		P	P	15 12 46.7	-0.8	
CMAR	Chiang Mai Arr	31.89	251		P	P	15 12 46.7	-0.8	
SEY	Seymchan	33.21	18	*i* P		P	15 12 56.8	-1.8	
SEY					pmax	pmax			
	comp=Z,33nm,2.2s								
H11N2	WAKE ISLAND Hy	34.70	103		T	T	15 49 18.2		
	baz=301								
H11N1	WAKE ISLAND Hy	34.70	103		T	T	15 49 19.7		
	baz=301								
H11N3	WAKE ISLAND Hy	34.72	103		T	T	15 49 19.4		
	baz=301								
WAKE	Wake Island	34.72	104		P	P	15 13 12.3	+0.1	
SBUM	Sibu	34.77	214		P	P	15 13 12.8	+0.3	
WMQ	Urumqi	35.26	301	*eP*		P	15 13 19.3	+2.6	
WMQ					pP	sP	15 13 24.6	+6.6	
WMQ					pmax	pmax			
	comp=Z,45nm,1.3s								
WMQ					LR	LR			
	comp=Z,26μm,15.9s								
KSM	Kuching	36.54	216		P	P	15 13 28.2	+0.4	
SRIT	Nakonsritamara	37.51	237		P	P	15 13 37.2	+1.1	
ZAA0	Zalesovo Array	38.74	317		P	P	15 13 46.3	+0.2	
ZALV	Zalesovo Beam	38.74	317		PcP	PcP	15 15 57.4	-0.3	
	comp=Z,2.9nm,0.8s,baz=96,slow=4.3,SNR=3.1								
TIXI	Tiksi	39.03	359	*i* P		P	15 13 46.5	-1.8	
TIXI					pmax	pmax			
	comp=Z,24nm,1.2s								
TIXI	Tiksi	39.03	359		P	P	15 13 47.1	-1.2	
KULM	Kulim	39.16	232		P	P	15 13 48.9	-1.1	
MK31	Makanchi Array	39.24	306	*i* P		P	15 13 50.7	+0.2	
MK31	Makanchi Array	39.24	306		P	P	15 13 49.8	-0.7	
MKAR	Makanchi Array	39.24	306		P	P	15 13 51.6	+1.1	
	comp=Z,14nm,0.9s,baz=90,slow=11,SNR=6.8								
MKAR	Makanchi Array	39.24	306	*i* P		P	15 13 52.5	+2.0	
MKAR					pmax	pmax			
	comp=Z,14nm,0.9s								
MAKZ	Makanchi	39.46	306		P	P	15 13 50.2	-2.1	
MAKZ					pmax	pmax			
	comp=Z,14nm,0.9s								
MAKZ	Makanchi	39.46	306		P	P	15 13 50.2	-2.1	
IPM	Ipoh	39.51	231		P	P	15 13 52.2	-0.8	
MYKOM	Kota Tinggi	39.82	225		P	P	15 13 55.4	0.0	
BILL	Bilibino	40.86	19	*eP*		P	15 14 02.3	-1.2	
BILL				*e*			15 15 38.1		
BILL				*e*	PPP	PPP	15 16 01.6		
BILL					pmax	pmax			
	comp=Z,25nm,1.0s								
BILL	Bilibino	40.86	19		P	P	15 14 03.0	-0.5	
SEM	Semipalatinsk	40.89	311	*eP*		P	15 14 04.1	-0.2	
SEM	Semipalatinsk	40.89	311	*eP*		P	15 14 04.1	-0.2	
	baz=311								
SHLS	Shalkode	41.24	300	*eP*		P	15 14 05.0	-2.2	
SHLS	Shalkode	41.24	300	*eP*		P	15 14 05.0	-2.2	
	baz=300								
KWAJ	Kwajalein Atol	41.51	117		P	P	15 14 08.6	-0.8	
KWAJ					pmax	pmax			
	comp=Z,271nm,1.1s								
KWAJ	Kwajalein Atol	41.51	117		P	P	15 14 08.6	-0.8	
UZB	Uzynbulak	41.56	300	*eP*		P	15 14 10.2	+0.3	
UZB	Uzynbulak	41.56	300	*eP*		P	15 14 10.2	+0.3	
	baz=300								
LHMI	Lhok Sumawe	41.74	236		P	P	15 14 09.2	-2.1	
LHMI					lAmb	lAmb	15 14 31.5		
	comp=Z,65nm,1.0s								
KURK	Kurchatov	41.95	311	*ceP*		P	15 14 13.9	+1.2	
KURK					pmax	pmax			
	comp=Z,41nm,1.3s								
KURK	Kurchatov	41.95	311		P	P	15 14 13.5	+0.8	
KURBB	Kurchatov Arra	42.00	311		P	P	15 14 13.3	+0.2	
	comp=Z,22nm,0.8s,baz=97,slow=8.9,SNR=10.0								
ADK	Adak	42.29	47		P	P	15 14 15.8	+0.4	
ADK					pmax	pmax			
	comp=Z,154nm,1.5s								
ADK	Adak	42.29	47		P	P	15 14 15.8	+0.4	
ADK					lAmb	lAmb	15 15 22.1		
	comp=Z,154nm,1.5s								
TARG	Taragay, Kyrgy	42.57	298		P	P	15 14 18.5	+0.1	
KDJ	Kajisay	43.00	299		P	P	15 14 21.9	+0.3	
KDJ					pmax	pmax			
	comp=Z,41nm,1.6s								
KDJ	Kajisay	43.00	299		P	P	15 14 21.9	+0.3	
KUU	Kurty	43.47	301	*eP*		P	15 14 26.2	+1.1	
KUU	Kurty	43.47	301	*eP*		P	15 14 26.3	+1.1	
	baz=301								
BOOM	Boomskoye usch	43.88	299		P	P	15 14 29.0	+0.3	
BOOM					pmax	pmax			
	comp=Z,32nm,1.3s								
BOOM	Boomskoye usch	43.88	299		P	P	15 14 29.0	+0.3	
NRIK	Noril'sk	43.90	339		P	P	15 14 28.1	-0.1	
	comp=Z,16nm,0.7s,baz=115,slow=12,SNR=5.3								
NRIK	Noril'sk	43.90	339	*i* P		P	15 14 27.4	-0.9	
NRIK					pmax	pmax			
	comp=Z,22nm,0.8s								
NRIK	Noril'sk	43.90	339		P	P	15 14 27.8	-0.4	
GSI	Gunungsitoli	44.15	232		P	P	15 14 32.2	+1.3	
GSI					lAmb	lAmb	15 14 33.2		
	comp=Z,132nm,1.6s								
SGDS	Sogindy	44.74	301	*eP*		P	15 14 36.0	+0.6	
SGDS	Sogindy	44.74	301	*eP*		P	15 14 36.1	+0.6	
	baz=301								
AAK	Ala-Archa	44.92	300	*i* P		P	15 14 36.4	-0.6	
AAK					pmax	pmax			
	comp=Z,23nm,1.1s								
AAK	Ala-Archa	44.92	300		P	P	15 14 36.7	-0.3	
BTLS	Baital	45.02	303	*eP*		P	15 14 38.5	+1.0	
BTLS	Baital	45.02	303	*eP*		P	15 14 38.5	+1.0	
	baz=303								
MTN	Manton Dam	45.27	180		P	P	15 14 40.2	+0.4	
MTN					lAmb	lAmb	15 14 41.2		
	comp=Z,22nm,0.8s								
BRZS	Berezniki	45.73	310	*eP*		P	15 14 44.0	+0.9	
BRZS	Berezniki	45.73	310	*eP*		P	15 14 44.0	+0.9	
	baz=310								
BRVK	Borovoye	47.23	314	*i* P		P	15 14 55.2	+0.4	
BRVK					pmax	pmax			
	comp=Z,50nm,1.0s								
BRVK	Borovoye	47.23	314			P	15 14 55.5	+0.7	
NIL	Nilore	47.62	288		P	P	15 14 59.1	+0.9	
NIL					pmax	pmax			
	comp=Z,142nm,2.0s								
NIL	Nilore	47.62	288		P	P	15 14 59.1	+0.9	
KK31	Karatay Array	47.77	301		P	P	15 14 59.2	0.0	
KK31					pmax	pmax			
	comp=Z,86nm,1.1s								
KK31	Karatay Array	47.77	301		P	P	15 14 59.2	0.0	
KKAR	Karatay Array	47.77	301		P	P	15 14 59.0	-0.2	
KKAR							15 14 59.1		
KKAR					pmax	pmax			
	comp=Z,86nm,1.1s								
KKAR	Karatay Array	47.77	301		P	P	15 14 59.0	-0.2	
KKAR	Karatay Array	47.77	301		P	P	15 14 59.1	-0.2	
KKAR					lAmb	lAmb	15 15 03.0		
	comp=Z,86nm,1.1s								
COEN	Coen	47.87	164		P	P	15 15 00.4	+0.3	
COEN					lAmb	lAmb	15 16 08.7		
	comp=Z,45nm,1.6s								
BTK	Batken	48.05	297		P	P	15 15 00.7	-0.8	
BTK					pmax	pmax			
	comp=Z,42nm,1.4s								
BTK	Batken	48.05	297		P	P	15 15 00.7	-0.8	
BTK					lAmb	lAmb	15 15 08.8		
	comp=Z,42nm,1.4s								
KNRA	Kununurra	48.13	183		P	P	15 15 01.8	-0.3	
KNRA					lAmb	lAmb	15 15 20.6		
	comp=Z,53nm,1.4s								
IUG	Iuzhnay	48.27	300	*eP*		P	15 15 03.0	-0.2	
IUG	Iuzhnay	48.27	300	*eP*		P	15 15 03.1	-0.2	
	baz=300								
GAR	Garm	48.65	295		P	P	15 15 06.9	+0.7	
TNA	Tin City	48.91	29		P	P	15 15 07.2	-0.4	
TNA					lAmb	lAmb	15 15 09.3		
	comp=Z,53nm,1.2s								
TNA	Tin City	48.91	29		P	P	15 15 08.1	+0.5	
	baz=259								
TAS	Tashkent	48.95	299		P	P	15 15 09.1	+0.7	
TAS					pmax	pmax			
	comp=Z,61nm,0.4s								
TAS	Tashkent	48.95	299		P	P	15 15 09.1	+0.7	
XMIS	Christmas Isla	49.18	214		P	P	15 15 09.5	-0.8	
HYBB	Hyderabad (bro	49.24	265	*eP*		P	15 15 10.1	-0.7	
HYBB				*eS*		S	15 22 16.6	-1.1	
HYBB				*e*	ScS	ScS	15 25 03.6	-0.8	
CHGR	Chuyangaron	49.60	295		P	P	15 15 15.4	+1.9	
CHGR					pmax	pmax			
	comp=Z,74nm,1.0s								
CHGR	Chuyangaron	49.60	295		P	P	15 15 13.6	+0.1	
ANM	Nome	49.81	30		P	P	15 15 15.0	+0.4	
ANM					pmax	pmax			
	comp=Z,10.0nm,0.8s								
ANM	Nome	49.81	30		P	P	15 15 14.9	+0.4	
ANM	Nome	49.81	30		P	P	15 15 15.2	+0.7	
	baz=262								
HNR	Honiara	50.28	141		P	P	15 15 18.9	+0.3	
HNR					pmax	pmax			
	comp=Z,42nm,0.6s								
HNR	Honiara	50.28	141		P	P	15 15 18.9	+0.3	
FITZ	Fitzroy Crossi	50.74	186		P	P	15 15 23.5	+1.5	
RDOG	Red Dog Mine	51.28	26		P	P	15 15 25.2	-0.4	
	baz=262								
WB0	Warramunga Arr	52.27	176		P	P	15 15 33.7	+0.2	
WB0					lAmb	lAmb	15 16 23.7		
	comp=Z,45nm,1.7s								
WRA	Warramunga Arr	52.44	176		P	P	15 15 34.1	-0.7	
	comp=Z,4.8nm,0.7s,baz=354,slow=7.8,SNR=3.9								
WRA	Warramunga Arr	52.44	176		P	P	15 15 34.8	0.0	
WRA					pmax	pmax			
	comp=Z,1.0nm,1.1s								
WRA	Warramunga Arr	52.44	176		P	P	15 15 34.8	0.0	
WB2	Warramunga Arr	52.44	176		P	P	15 15 34.4	-0.4	
PALK	Pallekele	52.82	253		P	P	15 15 38.6	+0.7	
PALK					pmax	pmax			
	comp=Z,11nm,0.9s								
PALK	Pallekele	52.82	253		P	P	15 15 38.6	+0.7	
ARU	Arti	53.85	319	*d iP*		P	15 15 46.2	+1.4	
ARU							15 17 41.5		
ARU					S	S	15 23 24.3	+4.0	
ARU					SS	SKiKP	15 26 59.2	-0.2	
ARU					pmax	pmax			
	comp=Z,49nm,1.0s								
ARU	Arti	53.85	319		P	P	15 15 45.3	+0.5	
ARU					lAmb	lAmb	15 15 48.5		
	comp=Z,45nm,1.0s								
TTA	Tatalina	53.88	33		P	P	15 15 45.0	-0.1	
TTA					pmax	pmax			
	comp=Z,17nm,1.2s								
TTA	Tatalina	53.88	33		P	P	15 15 45.0	-0.1	
TTA	Tatalina	53.88	33		P	P	15 15 44.7	-0.3	
	baz=272								
ABKAR	Akbulak array	54.03	310		P	P	15 15 46.5	+0.2	
ABKAR	Akbulak array	54.03	310		P	P	15 15 45.9	-0.4	
ABKAR					lAmb	lAmb	15 15 49.8		
	comp=Z,23nm,0.8s								
N18K	Kilae Creek	54.06	36		P	P	15 15 47.5	+1.2	
N18K					lAmb	lAmb	15 15 49.2		
	comp=Z,37nm,1.4s								
N18K	Kilae Creek	54.06	36		P	P	15 15 47.3	+1.0	
	baz=274								
SVW2	Sparrevohn	54.18	35		P	P	15 15 48.2	+1.1	
L19K	White Mountain	54.45	34		P	P	15 15 49.5	+0.3	
L19K					lAmb	lAmb	15 15 51.1		
	comp=Z,32nm,1.2s								
L19K					PcP	PcP	15 16 50.8	-2.0	
L19K	White Mountain	54.45	34		P	P	15 15 49.7	+0.5	
	baz=274								
O18K	Koktuh Hills	54.46	37		P	P	15 15 49.5	+0.2	
O18K					lAmb	lAmb	15 15 51.2		
	comp=Z,47nm,1.4s								
O18K	Koktuh Hills	54.46	37		P	P	15 15 49.7	+0.5	
	baz=275								
P18K	Big Mountain,	54.49	37		P	P	15 15 50.0	+0.5	
	baz=275								
J20K	Nowinta River	54.66	31		P	P	15 15 51.0	+0.4	
J20K					lAmb	lAmb	15 15 57.5		
	comp=Z,18nm,0.9s								
J20K					PcP	PcP	15 16 53.1	-0.3	
J20K	Nowinta River	54.66	31		P	P	15 15 51.2	+0.6	
	baz=273								
M19K	Big River Lodg	54.69	34		P	P	15 15 51.4	+0.5	
M19K					lAmb	lAmb	15 16 10.8		
	comp=Z,53nm,1.8s								
M19K	Big River Lodg	54.69	34		P	P	15 15 51.3	+0.5	
	baz=274								
N19K	Bonanza Creek	54.73	35			P	15 15 50.9	-0.4	
N19K	Bonanza Creek	54.73	35		P	P	15 15 51.9	+0.5	
	baz=275								
K20K	Telida	54.74	32		P	P	15 15 51.1	-0.2	
K20K					lAmb	lAmb	15 15 53.4		
	comp=Z,36nm,1.2s								
K20K					PcP	PcP	15 16 54.5	+0.7	
K20K	Telida	54.74	32		P	P	15 15 52.0	+0.8	
	baz=274								
IMAR	Indian Mountai	54.76	29		P	P	15 15 51.4	+0.1	
IMAR					PcP	PcP	15 16 53.6	-0.1	
O19K	Port Alsworth	54.87	36		P	P	15 15 52.6	+0.4	
O19K					lAmb	lAmb	15 15 53.8		
	comp=Z,20nm,0.9s								
O19K	Port Alsworth	54.87	36		P	P	15 15 52.7	+0.6	
	baz=276								
L20K	Farewell, AK	54.89	33		P	P	15 15 53.1	+0.7	
	baz=274								
PSA00	Pilbara Seismi	54.96	192		P	P	15 15 54.4	+1.2	
H21K	Melozitna Rive	55.16	29		P	P	15 15 54.5	+0.2	
CHUM	Lake Minchumin	55.49	32		P	P	15 15 57.5	+0.9	
	baz=275								
I21K	Tanana	55.53	30		P	P	15 15 57.9	+1.0	
I21K					lAmb	lAmb	15 15 59.0		
	comp=Z,28nm,1.1s								
I21K	Tanana	55.53	30		P	P	15 15 57.5	+0.6	
	baz=274								
RSO	Redoubt South	55.62	36		P	P	15 15 58.4	+0.6	
CAST	Castle Rocks	55.63	32			P	15 15 58.2	+0.5	
CAST					lAmb	lAmb	15 15 59.5		
	comp=Z,18nm,1.0s								
CAST	Castle Rocks	55.63	32		P	P	15 15 58.2	+0.5	
	baz=275								
PPLA	Purkeypile	55.63	33		P	P	15 15 58.7	+0.9	
PPLA					lAmb	lAmb	15 15 59.9		
	comp=Z,82nm,1.6s								
PPLA	Purkeypile	55.63	33		P	P	15 15 58.4	+0.5	
	baz=276								
OHAK	Old Harbor	55.77	40		P	P	15 15 58.8	+0.1	
OHAK					lAmb	lAmb	15 15 59.3		
	comp=Z,24nm,0.9s								
OHAK	Old Harbor	55.77	40		P	P	15 15 58.7	+0.1	
	baz=278								
SPCR	Spurr Chakacha	55.80	35		P	P	15 15 59.4	+0.4	
	baz=277								
BPAW	Bear Paw Mtn.	56.05	31		P	P	15 16 01.4	+0.7	
	baz=276								
KDAK

MCK	**McKinley**	**56.99**	**32**	P	**P**	15 16 07.3	**-0.1**	
MCK	comp=Z,58nm,1.4s			lAmb	lAmb	15 16 08.5		
MCK	**McKinley**	**56.99**	**32**	P	**P**	**15 16 07.2**	**-0.2**	
	baz=278							
RC01	**Rabbit Creek A**	**57.00**	**35**	P	**P**	**15 16 07.3**	**-0.1**	
	baz=279							
RND	**Reindeer**	**57.08**	**32**	P	**P**	**15 16 07.8**	**-0.3**	
RND	comp=Z,42nm,0.9s			pmax	pmax			
RND	**Reindeer**	**57.08**	**32**	P	**P**	**15 16 07.8**	**-0.3**	
RND	comp=Z,42nm,0.9s			lAmb	lAmb	15 16 08.8		
MDM	**Murphy Dome**	**57.14**	**30**	P	**P**	**15 16 08.8**	**+0.4**	
H24K	**Noodor Dome**	**57.17**	**29**	P	**P**	**15 16 09.5**	**+0.9**	
H24K	comp=Z,21nm,1.1s			lAmb	lAmb	15 16 10.8		
H24K	**Noodor Dome**	**57.17**	**29**	P	**P**	**15 16 08.9**	**+0.3**	
	baz=277							
PMR	**Palmer**	**57.21**	**34**	P	**P**	**15 16 08.9**	**0.0**	
	baz=279							
WRH	**Wood River Hil**	**57.26**	**31**	P	**P**	**15 16 09.5**	**+0.3**	
GHO	**Glory Hole Cre**	**57.28**	**34**	P	**P**	**15 16 09.2**	**-0.3**	
GHO	comp=Z,35nm,1.1s			lAmb	lAmb	15 16 14.7		
SEW	**Seward**	**57.30**	**36**	P	**P**	**15 16 09.1**	**-0.4**	
SEW	comp=Z,43nm,0.9s			lAmb	lAmb	15 16 10.0		
SEW	**Seward**	**57.30**	**36**	P	**P**	**15 16 09.4**	**-0.1**	
	baz=280							
COLA	**College**	**57.31**	**30**	*i* P	**P**	**15 16 08.7**	**-0.8**	
COLA	comp=Z,19nm,1.2s			pmax	pmax			
CCB	**Clear Creek Bu**	**57.36**	**30**	P	**P**	**15 16 10.1**	**+0.1**	
POKR	**Poker Plat Res**	**57.45**	**30**	P	**P**	**15 16 11.4**	**+0.8**	
	baz=278							
SML	**Sawmill**	**57.55**	**34**	P	**P**	**15 16 11.6**	**+0.2**	
SML	**Sawmill**	**57.55**	**34**	P	**P**	**15 16 11.3**	**-0.1**	
SML	comp=Z,36nm,1.0s			lAmb	lAmb	15 16 12.4		
SML				PcP	**PcP**	**15 17 04.4**	**-0.4**	
SML	**Sawmill**	**57.55**	**34**	P	**P**	**15 16 11.0**	**-0.5**	
	baz=280							
KNK	**Knik Glacier**	**57.56**	**34**	lAmb	lAmb	15 16 12.9		
	comp=Z,59nm,1.2s							
KNK	**Knik Glacier**	**57.56**	**34**	P	**P**	**15 16 11.5**	**+0.1**	
	baz=280							
WAT6	**Susitna Watana**	**57.70**	**33**	P	**P**	**15 16 12.4**	**-0.2**	
	baz=280							
PWL	**Port Wells**	**57.71**	**35**		**P**	**15 16 12.0**	**-0.5**	
PWL	comp=Z,29nm,1.0s			lAmb	lAmb	15 16 13.1		
PWL	**Port Wells**	**57.71**	**35**	P	**P**	**15 16 12.0**	**-0.5**	
	baz=280							
IL31		**57.73**	**30**	lAmb	lAmb	15 16 17.3		
	comp=Z,59nm,1.8s							
ILAR	**Eielson Array**	**57.73**	**30**	P	**P**	**15 16 12.0**	**-0.6**	
	comp=Z,9.3nm,1.0s,baz=267,slow=5.7,SNR=6.9							
HDA	**Harding Lake**	**57.76**	**31**	lAmb	lAmb	15 16 13.1		
	comp=Z,30nm,0.9s							
HDA	**Harding Lake**	**57.76**	**31**	P	**P**	**15 16 12.2**	**-0.5**	
	baz=279							
DHY	**Denali Highway**	**57.79**	**32**	P	**P**	**15 16 13.3**	**+0.1**	
	baz=280							
M23K	**Glacier View**	**57.84**	**34**	P	**P**	**15 16 13.4**	**0.0**	
	baz=280							
SCM	**Sheep Creek Mo**	**58.02**	**34**	P	**P**	**15 16 14.6**	**-0.1**	
SCM	comp=Z,32nm,1.0s			pmax	pmax			
SCM	**Sheep Creek Mo**	**58.02**	**34**	P	**P**	**15 16 14.6**	**-0.1**	
SCM	comp=Z,32nm,1.0s			lAmb	lAmb	15 16 15.9		
SCM	**Sheep Creek Mo**	**58.02**	**34**	P	**P**	**15 16 14.7**	**0.0**	
	baz=280							
BMAR	**Burnt Mountain**	**58.24**	**27**	P	**P**	**15 16 16.5**	**+0.3**	
GLI	**Glacier Island**	**58.31**	**35**	lAmb	lAmb	15 16 17.5		
	comp=Z,32nm,1.0s							
GLI	**Glacier Island**	**58.31**	**35**	P	**P**	**15 16 16.4**	**-0.2**	
	baz=281							
K24K	**Donnelly Dome**	**58.37**	**31**	P	**P**	**15 16 17.0**	**-0.1**	
	baz=280							
KIRV	**Kirov**	**58.39**	**323**	*i* P	**P**	**15 16 16.5**	**-0.7**	
M24K	**Tolsona, Glenn**	**58.51**	**33**	P	**P**	**15 16 18.1**	**0.0**	
	baz=281							
PAX	**Paxson**	**58.66**	**32**	P	**P**	**15 16 19.5**	**+0.3**	
PAX	comp=Z,11nm,0.9s			pmax	pmax			
PAX	**Paxson**	**58.66**	**32**	P	**P**	**15 16 19.5**	**+0.3**	
PAX	**Paxson**	**58.66**	**32**	P	**P**	**15 16 19.0**	**-0.2**	
	baz=281							
KLU	**Klutina**	**58.74**	**34**	lAmb	lAmb	15 16 21.0		
	comp=Z,27nm,1.1s							
KLU	**Klutina**	**58.74**	**34**	P	**P**	**15 16 20.5**	**+0.7**	
	baz=282							
RIDG	**Independent Ri**	**58.79**	**31**	P	**P**	**15 16 20.4**	**+0.4**	
	baz=281							
DIV	**Divide**	**58.89**	**34**	P	**P**	**15 16 20.6**	**-0.1**	
DIV	comp=Z,33nm,0.9s			lAmb	lAmb	15 16 22.1		
HARP	**HAARP**	**58.91**	**33**	P	**P**	**15 16 21.2**	**+0.3**	
	baz=282							
EYAK	**Cordova Ski Ar**	**59.02**	**35**	P	**P**	**15 16 21.1**	**-0.5**	
	baz=282							
SCRK	**Sand Creek**	**59.11**	**31**	P	**P**	**15 16 21.9**	**-0.5**	
SCRK	comp=Z,33nm,1.0s			lAmb	lAmb	15 16 23.1		
SCRK	**Sand Creek**	**59.11**	**31**	P	**P**	**15 16 21.8**	**-0.6**	
	baz=282							
J26L	**Joseph Creek**	**59.19**	**30**	P	**P**	**15 16 22.2**	**-0.7**	
	baz=282							
N25K	**Chitina, Valde**	**59.34**	**34**	P	**P**	**15 16 24.2**	**+0.3**	
N25K	comp=Z,19nm,0.8s			lAmb	lAmb	15 16 26.3		
N25K	**Chitina, Valde**	**59.34**	**34**	P	**P**	**15 16 24.4**	**+0.4**	
	baz=283							
BMRM	**Bremner River**	**59.48**	**34**		**P**	**15 16 25.0**	**+0.2**	
BMRM	**Bremner River**	**59.48**	**34**	P	**P**	**15 16 25.3**	**+0.5**	
	baz=283							
L26K	**Log Cabin Wild**	**59.60**	**32**	lAmb	lAmb	15 16 27.1		
	comp=Z,17nm,0.9s							
L26K	**Log Cabin Wild**	**59.60**	**32**	P	**P**	**15 16 26.2**	**+0.6**	
	baz=283							
HMT	**Hamilton**	**59.79**	**35**	P	**P**	**15 16 27.7**	**+0.7**	
HMT	comp=Z,31nm,0.8s			lAmb	lAmb	15 16 28.5		
M26K	**Nabesna, AK**	**59.90**	**32**	P	**P**	**15 16 28.3**	**+0.6**	
M26K	**Nabesna, AK**	**59.90**	**32**	P	**P**	**15 16 28.3**	**+0.6**	
	baz=284							
VRDI	**Verde Repeater**	**59.96**	**34**	lAmb	lAmb	15 16 32.5		
	comp=Z,25nm,0.8s							
MCARA	**McCarthy VSAT**	**60.13**	**34**	P	**P**	**15 16 29.6**	**+0.4**	
MCARA	comp=Z,39nm,1.0s			lAmb	lAmb	15 16 32.0		
MCARA	**McCarthy VSAT**	**60.13**	**34**	P	**P**	**15 16 29.8**	**+0.5**	
	baz=284							
L27K	**Beaver Creek,**	**60.26**	**32**	P	**P**	**15 16 30.9**	**+0.7**	
	baz=284							
TGL	**Tana Glacier**	**60.37**	**34**		**P**	**15 16 31.3**	**+0.2**	
TGL	comp=Z,32nm,0.8s			lAmb	lAmb	15 16 35.2		
M27K	**Edge Creek, AK**	**60.41**	**32**	P	**P**	**15 16 31.9**	**+0.5**	
	baz=284							
WAX	**Waxell Ridge**	**60.44**	**35**	P	**P**	**15 16 31.7**	**+0.2**	
WAX	comp=Z,33nm,1.0s			lAmb	lAmb	15 16 32.4		
ISLE	**Juniper Island**	**60.65**	**34**	P	**P**	**15 16 32.9**	**-0.1**	
ISLE	comp=Z,20nm,0.8s			lAmb	lAmb	15 16 33.9		
GRNC	**Granite Creek**	**60.89**	**34**	P	**P**	**15 16 34.8**	**+0.1**	
GRNC	comp=Z,16nm,0.8s			lAmb	lAmb	15 16 38.6		
BELG	**Belogornoye**	**60.91**	**316**	*i* P	**P**	**15 16 34.6**	**-0.1**	
BELG	comp=Z,6.0nm,0.9s			pmax	pmax			
CTG	**Chitna Glacier**	**61.02**	**34**	P	**P**	**15 16 35.8**	**+0.3**	
	baz=286							
CTGM	**Chitina Glacie**	**61.02**	**34**	P	**P**	**15 16 35.6**	**0.0**	
CTGM	comp=Z,24nm,0.9s			lAmb	lAmb	15 16 40.2		
DAWY	**Dawson**	**61.06**	**30**	P	**P**	**15 16 35.8**	**+0.2**	
	baz=286							
I29M	**Ogilvie Camp,**	**61.16**	**29**	P	**P**	**15 16 36.6**	**+0.4**	
	baz=286							
LOGN	**Logan Glacier**	**61.22**	**34**	P	**P**	**15 16 36.2**	**-0.7**	
LOGN	comp=Z,21nm,1.1s			lAmb	lAmb	15 16 47.0		

J29M	**Klondike Camp**	**61.45**	**30**	P	**P**	**15 16 39.3**	**+1.0**	
	baz=286							
PINM	**Pinnacle**	**61.78**	**35**	P	**P**	**15 16 41.2**	**+0.6**	
	baz=287							
INK	**Inuvik**	**62.10**	**25**	P	**P**	**15 16 42.4**	**-0.1**	
	comp=Z,16nm,0.9s,baz=304,slow=8.0,SNR=6.3							
INK	**Inuvik**	**62.10**	**25**	lAmb	lAmb	15 16 43.4		
	comp=Z,20nm,1.0s							
INK	**Inuvik**	**62.10**	**25**	P	**P**	**15 16 42.5**	**-0.1**	
	baz=288							
PNL	**Peninsula**	**62.32**	**35**	P	**P**	**15 16 44.8**	**+0.6**	
	baz=288							
M30M	**Minto, Yukon**	**62.62**	**31**	P	**P**	**15 16 46.4**	**+0.3**	
	baz=288							
KLMR	**Klimovskoe**	**62.64**	**327**	*eP*	**P**	**15 16 43.7**	**-2.5**	
KLMR	comp=Z,44nm,1.3s			pmax	pmax			
KLMR	**Klimovskoe**	**62.64**	**327**	*eP*	**P**	**15 16 43.7**	**-2.5**	
KLMR	comp=Z,44nm,1.3s			AMP		15 16 46.7		
HYT	**Haines Junctio**	**62.85**	**33**	P	**P**	**15 16 48.6**	**+0.8**	
APA	**Apatity**	**62.95**	**335**	⇓*i* P	P	15 16 43.0	-5.2	
APA	comp=Z,11nm,0.8s			pmax	pmax			
APA	comp=Z,16μm,15.0s			MLR	MLR			
A36M	**Sachs Harbour**	**63.42**	**20**	P	**P**	**15 16 51.2**	**0.0**	
	baz=294							
N31M	**Braeburn, Yuko**	**63.43**	**32**	P	**P**	**15 16 52.3**	**+0.8**	
	baz=290							
M31M	**Drury Creek, Y**	**63.80**	**31**	P	**P**	**15 16 54.7**	**+0.7**	
	baz=291							
WHY	**Whitehorse**	**64.12**	**33**	P	**P**	**15 16 56.9**	**+0.6**	
WHY	comp=Z,26nm,1.1s			lAmb	lAmb	15 16 58.0		
WHY	**Whitehorse**	**64.12**	**33**	P	**P**	**15 16 56.7**	**+0.5**	
	baz=291							
SKAG	**Skagway**	**64.34**	**34**	lAmb	lAmb	15 17 02.8		
	comp=Z,27nm,1.1s							
SKAG	**Skagway**	**64.34**	**34**	P	**P**	**15 16 58.0**	**+0.5**	
	baz=291							
ARCES	**ARCESS Array B**	**64.85**	**338**	P	**P**	**15 17 00.0**	**-0.7**	
	comp=Z,5.8nm,0.7s,baz=61,slow=8.1,SNR=8.9							
C36M	**Paulatuk**	**64.89**	**22**	P	**P**	**15 17 00.7**	**-0.1**	
	baz=296							
STKA	**Stephens Creek**	**65.02**	**170**	P	**P**	**15 17 03.0**	**+0.8**	
	comp=Z,4.5nm,0.6s,baz=358,slow=6.3,SNR=5.3							
VORR	**Voronezh**	**66.04**	**317**	*eP*	**P**	**15 17 10.0**	**+1.3**	
VORR	comp=Z,70nm,0.6s			pmax	pmax			
OBN	**Obninsk**	**66.16**	**321**	⇓*i* P	**P**	**15 17 08.7**	**-0.6**	
OBN				*e*		15 17 37.8		
OBN				*e*		15 19 34.2		
OBN				*e*PPP	PPP	15 21 08.2		
OBN	comp=Z,21nm,0.9s			pmax	pmax			
VALR	**Valaam**	**66.35**	**329**	*i* P	**P**	**15 17 08.8**	**-1.7**	
VALR	comp=Z,41nm,1.0s			pmax	pmax			
NCK	**Nalchik**	**66.50**	**308**	*i* P	**P**	**15 17 11.6**	**-0.2**	
NCK	comp=Z,12nm,1.0s			pmax	pmax			
ZEI	**Tsey**	**66.58**	**307**	*eP*	**P**	**15 17 12.8**	**+0.2**	
ZEI	comp=Z,16nm,1.0s			pmax	pmax			
KBZ	**Khabaz**	**66.88**	**308**	P	**P**	**15 17 15.4**	**+1.3**	
	comp=Z,34nm,0.9s,baz=67,slow=3.1,SNR=7.6							
KBZ	**Khabaz**	**66.88**	**308**	*i* P	**P**	**15 17 14.5**	**+0.4**	
KBZ	comp=Z,40nm,0.9s			pmax	pmax			
KIV	**Kislovodsk**	**66.93**	**308**	*eP*	**P**	**15 17 15.1**	**+0.5**	
KIV	comp=Z,56nm,1.0s			pmax	pmax			
KIV	**Kislovodsk**	**66.93**	**308**	P	**P**	**15 17 14.0**	**-0.6**	
SHA1	**Shidzhatmaz**	**67.03**	**308**	*i* P	**P**	**15 17 16.3**	**+0.8**	
GNI	**Garni**	**67.06**	**304**	*i* P	**P**	**15 17 15.8**	**+0.2**	
GNI	comp=Z,33nm,1.3s			pmax	pmax			
NEY	**Neytrino**	**67.19**	**308**	*i* P	**P**	**15 17 15.1**	**-1.3**	
NEY	comp=Z,6.0nm,1.0s			pmax	pmax			
FIA1	**FINESS Array S**	**68.38**	**330**	P	**P**	**15 17 21.7**	**-1.6**	
FIA1	comp=Z,45nm,1.3s			lAmb	lAmb	15 17 25.4		
FINES	**FINESS Array B**	**68.38**	**330**	P	**P**	**15 17 22.1**	**-1.2**	
	comp=Z,12nm,0.6s,baz=64,slow=5.5,SNR=14							
RES	**Resolute Bay**	**68.80**	**12**	P	**P**	**15 17 25.4**	**-0.4**	
	comp=Z,18nm,0.9s,baz=316,slow=6.5,SNR=8.1							
RES	**Resolute Bay**	**68.80**	**12**	lAmb	lAmb	15 17 26.6		
	comp=Z,26nm,0.9s							
SOC	**Sochi**	**69.04**	**309**	*eP*	**P**	**15 17 26.4**	**-1.4**	
SOC				*e*PPP	PPP	15 21 42.7		
SOC				*eS*	**S**	**15 26 33.0**	**-0.5**	
SOC	comp=Z,26nm,1.0s			pmax	pmax			
MNK	**Minsk**	**70.93**	**323**	*i* P	**P**	**15 17 41.3**	**+2.1**	
MNK				*i*		15 18 01.6		
MNK				*i*		15 20 18.2		
MNK				*i* PPP	PPP	15 22 01.0		
MNK				*i* S	**S**	**15 26 55.7**	**+0.4**	
MNK				*i*		15 27 45.1		
MNK				*i* SS	**SS**	**15 31 35.3**	**+8.1**	
MNK	comp=Z,47nm,1.0s			pmax	pmax			
MNK	comp=E,4.0nm,1.1s			pmax	pmax			
MNK	comp=N,26nm,0.9s			pmax	pmax			
MNK	comp=Z,18μm,15.0s			MLR	MLR			
MNK	comp=E,2μm,14.0s			MLR	MLR			
MNK	comp=N,8μm,14.0s			MLR	MLR			
MNK	**Minsk**	**70.93**	**323**	*i* P	**P**	**15 17 41.4**	**+2.1**	
	comp=E,4.0nm,1.1s							
MNK				*i* P	**P**	**15 17 41.4**	**+2.1**	
MNK	comp=N,26nm,0.8s							
MNK				*i* P	**P**	**15 17 41.4**	**+2.1**	
	comp=Z,47nm,1.0s,baz=60							
MNK				*i* S	**S**	**15 26 55.8**	**+0.4**	
MNK				*i* LQ	LQ	15 41 52.8		
MNK				*i* LR	LR	15 47 40.8		
MNK				*i* LRM	MLR	15 51 02.6		
MNK	comp=Z,18μm,14.8s			*i* LRM	MLR	15 51 07.1		
MNK	comp=E,2μm,13.5s			*i* LRM	MLR	15 51 10.3		
YKA	**Yellowknife Ar**	**71.76**	**26**	P	**P**	**15 17 43.9**	**-0.2**	
	comp=N,5.2nm,0.9s,baz=305,slow=5.7,SNR=5.8							
AKASG	**Malin Array Be**	**72.10**	**319**	P	**P**	**15 17 45.4**	**-1.0**	
	comp=N,18nm,0.7s,baz=54,slow=6.6,SNR=12							
AKASG	**Malin Array Be**	**72.10**	**319**	*i* P	**P**	**15 17 45.2**	**-1.1**	
AKASG	comp=Z,20nm,0.7s			pmax	pmax			
AKBB	**Malin Array Si**	**72.10**	**319**	lAmb	lAmb	15 17 48.0		
	comp=Z,21nm,0.8s							
SOCY	**Socotra**	**72.48**	**273**	P	**P**	**15 17 48.3**	**-1.0**	
SOCY	comp=Z,25nm,0.9s			lAmb	lAmb	15 17 50.6		
SUW	**Suwalki**	**73.54**	**324**	*eP*	**P**	**15 17 56.1**	**+1.3**	
NC405	**NORSAR Array S**	**74.28**	**334**	lAmb	lAmb	15 18 01.1		
	comp=Z,45nm,0.9s							
NB2	**NORSAR Subarra**	**74.52**	**334**	P	**P**	**15 17 58.5**	**-2.0**	
	comp=Z,5.8nm,0.8s,baz=48,slow=5.9							
NOA	**NORSAR Array B**	**74.52**	**334**	P	**P**	**15 17 59.0**	**-1.5**	
	comp=Z,9.9nm,0.8s,baz=50,slow=5.8,SNR=9.7							
NOA	**NORSAR Array B**	**74.52**	**334**	P	**P**	**15 17 59.0**	**-1.5**	
BR131	**Keskin Array S**	**74.86**	**308**	lAmb	lAmb	15 18 06.3		
	comp=Z,35nm,1.1s							
BRTR	**Keskin Array B**	**74.86**	**308**	P	**P**	**15 18 02.9**	**-0.1**	
	comp=Z,16nm,0.9s,baz=93,slow=5.8,SNR=8.3							
BRTR	**Keskin Array B**	**74.86**	**308**	P	**P**	**15 18 01.7**	**-1.3**	
BRTR	**Keskin Array B**	**74.86**	**308**	P	**P**	**15 18 01.7**	**-1.3**	
BUR08	**Bucovina Ar. S**	**75.95**	**318**	P	**P**	**15 18 08.0**	**-1.1**	
BUR08	comp=Z,18nm,1.0s			lAmb	lAmb	15 18 12.7		
BURAR	**Bucovina Array**	**75.96**	**318**	lAmb	lAmb	15 18 13.1		
	comp=Z,24nm,0.9s							
KWP	**Kalwaria Pacla**	**76.22**	**320**	*eP*	**P**	**15 18 12.8**	**+2.3**	
KOLS	**Kolonicke sedl**	**76.85**	**320**	*eP*	**P**	**15 18 16.1**	**+2.1**	
KOLS	comp=Z,13nm,0.7s			pmax	pmax			
KOLS	**Kolonicke sedl**	**76.85**	**320**	*eP*	**P**	**15 18 16.1**	**+2.1**	
UZH	**Uzhgorod**	**77.02**	**320**	*eP*	**P**	**15 18 12.4**	**-2.5**	

CRVS	**Cervenica-Dubn**	**77.31**	**320**	*eP*	**P**	**15 18 17.6**	**+1.0**	
CRVS	comp=Z,92nm,2.0s			pmax	pmax			
CRVS	**Cervenica-Dubn**	**77.31**	**320**	*eP*	**P**	**15 18 17.6**	**+1.0**	
OJC	**Ojcow**	**77.42**	**322**	*eP*	**P**	**15 18 16.4**	**-0.8**	
LANS	**Liptovska Anna**	**78.22**	**321**	*eP*	**P**	**15 18 24.1**	**+2.3**	
LANS	comp=Z,7.0nm,1.0s			pmax	pmax			
LANS	**Liptovska Anna**	**78.22**	**321**	*eP*	**P**	**15 18 24.1**	**+2.3**	
PSZ	**Piszkesteto**	**78.73**	**320**	lAmb	lAmb	15 18 28.6		
	comp=Z,16nm,0.9s							
KSP	**Ksiaz**	**78.81**	**324**	*eP*	**P**	**15 18 25.0**	**+0.1**	
MORC	**Moravsky Berou**	**78.84**	**323**	P	**P**	**15 18 23.8**	**-1.4**	
MORC	comp=Z,21nm,1.0s			pmax	pmax			
MORC	**Moravsky Berou**	**78.84**	**323**	P	**P**	**15 18 23.8**	**-1.4**	
MORC	comp=Z,20nm,1.0s			lAmb	lAmb	15 18 28.4		
MORC	**Moravsky Berou**	**78.84**	**323**	*eP*	**P**	**15 18 25.1**	**-0.1**	
VYHS	**Vyhne**	**78.95**	**321**	*eP*	**P**	**15 18 26.1**	**+0.3**	
VYHS	comp=Z,7.0nm,1.1s			pmax	pmax			
VYHS	**Vyhne**	**78.95**	**321**	*eP*	**P**	**15 18 26.1**	**+0.3**	
OSTC	**Ostas**	**79.03**	**324**	*eP*	**P**	**15 18 27.0**	**+0.8**	
KRLC	**Kraliky**	**79.05**	**323**	*eP*	**P**	**15 18 28.0**	**+1.7**	
KRLC	**Kraliky**	**79.05**	**323**	*eP*	**P**	**15 18 28.0**	**+1.7**	
CHVC	**Chvalec**	**79.09**	**324**	*eP*	**P**	**15 18 28.1**	**+1.6**	
DPC	**Dobruska-Polom**	**79.11**	**324**	*eP*	**P**	**15 18 25.8**	**-0.8**	
DPC	**Dobruska-Polom**	**79.11**	**324**	*eP*	**P**	**15 18 25.8**	**-0.8**	
NEW	**Newport**	**79.16**	**39**	P	**P**	**15 18 26.0**	**-1.0**	
	comp=Z,4.9nm,0.8s,baz=314,slow=5.8,SNR=3.6							
NEW	**Newport**	**79.16**	**39**	P	**P**	**15 18 26.0**	**-1.0**	
UPC	**Upice**	**79.16**	**324**	*eP*	**P**	**15 18 26.6**	**-0.3**	
UPC	**Upice**	**79.16**	**324**	*eP*	**P**	**15 18 26.6**	**-0.3**	
JAVC	**Velka Javorina**	**79.34**	**322**	*eP*	**P**	**15 18 28.9**	**+1.0**	
VRAC	**Vranov**	**79.62**	**323**	*eP*	**P**	**15 18 29.0**	**-0.4**	
MODS	**Modra-Piesok**	**79.85**	**322**	*eP*	**P**	**15 18 31.2**	**+0.6**	
MODS	comp=Z,52nm,1.3s			pmax	pmax			
MODS	**Modra-Piesok**	**79.85**	**322**	*eP*	**P**	**15 18 31.2**	**+0.6**	
PVCC	**Panska Ves**	**79.86**	**324**	*eP*	**P**	**15 18 32.8**	**+2.1**	
PVCC	**Panska Ves**	**79.86**	**324**	*eP*	**P**	**15 18 32.8**	**+2.1**	
KRUC	**Moravsky**	**79.88**	**323**	*eP*	**P**	**15 18 30.5**	**-0.3**	
BRG	**Berggiesshubel**	**79.95**	**325**	*eP*	**P**	**15 18 30.4**	**-0.8**	
BRG	comp=Z,15nm,0.9s			Amp		15 18 34.1		
BRG	**Berggiesshubel**	**79.95**	**325**	*eP*	**P**	**15 18 30.3**	**-0.8**	
BRG	comp=Z,15nm,1.0s			pmax	pmax			
BRG	comp=Z,35μm,16.5s			MLR	MLR			
BRG	comp=E,19μm,16.2s			MLR	MLR			
CLL	**Collm**	**80.12**	**326**	⇓*i* P	**P**	**15 18 30.9**	**-1.1**	
CLL				*i*		15 18 33.8		
CLL	comp=Z,35nm,1.1s			pmax	pmax			
CLL	**Collm**	**80.12**	**326**	P	**P**	**15 18 30.5**	**-1.5**	
CLL	comp=Z,39nm,0.9s			lAmb	lAmb	15 18 35.2		
CLL	**Collm**	**80.12**	**326**	⇓*i* P	**P**	**15 18 30.9**	**-1.1**	
	comp=Z,35nm,1.1s							
CLL	comp=Z,42nm,0.9s			*i* x	x	15 18 33.8		
CLL				*e*PP	**PP**	**15 21 34.0**	**+0.6**	
CLL				*ex*	x	15 21 52.0		
PRU	**Pruhonice**	**80.22**	**324**	*eP*	**P**	**15 18 31.8**	**-0.8**	
PRU	**Pruhonice**	**80.22**	**324**	*eP*	**P**	**15 18 31.8**	**-0.8**	
RONA	**Rosalia, Austr**	**80.78**	**321**	*eP*	**P**	**15 18 36.1**	**+0.4**	
	comp=Z,29nm,1.3s							
CONA	**Conrad Observa**	**80.87**	**322**	*i* P	**P**	**15 18 36.3**	**+0.1**	
	comp=Z,22nm,0.9s,SNR=12							
NKC	**Novy Kostel**	**81.09**	**325**	*eP*	**P**	**15 18 36.7**	**-0.6**	
NKC	**Novy Kostel**	**81.09**	**325**	*eP*	**P**	**15 18 36.7**	**-0.6**	
CKRC	**Cesky Krumlov**	**81.09**	**323**	*eP*	**P**	**15 18 36.3**	**-1.0**	
KHC	**Kasperske Hory**	**81.26**	**324**	*eP*	**P**	**15 18 37.5**	**-0.7**	
KHC	**Kasperske Hory**	**81.26**	**324**	*eP*	**P**	**15 18 37.5**	**-0.7**	
GEC2	**GERESS Array S**	**81.38**	**323**	P	**P**	**15 18 36.3**	**-2.7**	
GERES	**GERESS Array B**	**81.38**	**323**	P	**P**	**15 18 38.3**	**-0.7**	
	comp=Z,7.8nm,0.9s,baz=45,slow=2.5,SNR=8.9							
GERES	**GERESS Array B**	**81.38**	**323**	P	**P**	**15 18 37.5**	**-1.4**	
ARSA	**Arzberg**	**81.47**	**321**	*eP*	**P**	**15 18 39.0**	**-0.4**	
	comp=Z,21nm,1.1s							
SOKA	**Sobath**	**82.10**	**321**	*i* P	**P**	**15 18 42.5**	**-0.3**	
	comp=Z,27nm,1.0s,SNR=14							
BIOA	**Bad Ischl, Aus**	**82.17**	**323**	*eP*	**P**	**15 18 45.4**	**+2.4**	
	comp=Z,25nm,1.3s							
OBKA	**Obir**	**82.46**	**321**	*eP*	**P**	**15 18 44.5**	**-0.2**	
	comp=Z,16nm,1.3s							
KBA	**Koelnbreinsper**	**82.72**	**322**	*eP*	**P**	**15 18 45.8**	**-0.3**	
	comp=Z,19nm,1.2s							
MYKA	**Terra Mystica**	**82.86**	**322**	*eP*	**P**	**15 18 46.0**	**-0.7**	
	comp=Z,18nm,1.1s							
ABTA	**Abfaltersbach**	**83.37**	**322**	*eP*	**P**	**15 18 48.2**	**-1.2**	
	comp=Z,27nm,0.9s							
WATA	**Walderalm**	**83.45**	**323**	*eP*	**P**	**15 18 51.3**	**+1.5**	
	comp=Z,19nm,1.1s							
WTTA	**Wattenberg**	**83.47**	**323**	*eP*	**P**	**15 18 49.6**	**-0.4**	
	comp=Z,33nm,1.2s							
MOTA	**Moosalm**	**83.68**	**324**	*i* P	**P**	**15 18 50.2**	**-0.9**	
	comp=Z,16nm,1.1s,SNR=7.7							
SQTA	**Sankt Quirin**	**83.71**	**323**	*eP*	**P**	**15 18 49.2**	**-1.9**	
	comp=Z,17nm,1.0s							
RETA	**Reutte**	**83.75**	**324**	*i* P	**P**	**15 18 51.1**	**-0.3**	
	comp=Z,28nm,1.1s,SNR=6.2							
BTNL	**Ternell**	**83.78**	**328**	*dP*	**P**	**15 18 50.1**	**-1.2**	
	comp=Z,16nm,1.0s							
MEM	**Membach**	**83.81**	**328**	*dP*	**P**	**15 18 50.4**	**-1.1**	
	comp=Z,19nm,1.1s							
BHOU	**Houvegnez**	**84.00**	**328**	*dP*	**P**	**15 18 51.7**	**-0.7**	
	comp=Z,13nm,1.1s							
BSTI	**

SSB				pmax	pmax			
	comp=Z,12nm,0.9s							
SSB	**Saint Sauveur**	**88.36**	**325**	P	**P**	**15 19 12.6**	**-1.5**
SSB				IAmb	IAmb	15 19 16.4	
	comp=Z,12nm,0.9s							
AGMN	**Agassiz Nation**	**89.22**	**29**	P	**P**	**15 19 17.0**	**-1.1**
AGMN	**Agassiz Nation**	**89.22**	**29**	P	**P**	**15 19 16.9**	**-1.1**
	baz=322							
B35A	**Bob, Littlefor**	**90.03**	**28**	P	**P**	**15 19 21.5**	**-0.3**
B35A				IAmb	IAmb	15 19 22.3	
	comp=Z,25nm,0.9s							
B35A	**Bob, Littlefor**	**90.03**	**28**	P	**P**	**15 19 21.6**	**-0.3**
	baz=324							
PV10	**Paradox Valley**	**90.05**	**43**	P	**P**	**15 19 23.4**	**+1.0**
MVCO	**Mesa Verde**	**91.16**	**43**	P	**P**	**15 19 27.0**	**-0.6**
MVCO				IAmb	IAmb	15 19 28.8	
	comp=Z,12nm,1.1s							
EYMN	**Ely**	**91.23**	**27**	P	**P**	**15 19 26.0**	**-1.4**
EYMN	**Ely**	**91.23**	**27**	P	**P**	**15 19 27.0**	**-0.4**
	baz=326							
ECSD	**EROS Data Cent**	**92.49**	**32**	P	**P**	**15 19 32.9**	**-0.4**
	baz=322							
I37B	**Waseca**	**93.67**	**30**	P	**P**	**15 19 38.6**	**-0.2**
	baz=324							
G40A	**Rib Lake**	**93.95**	**28**	P	**P**	**15 19 39.1**	**-0.9**
G40A				IAmb	IAmb	15 19 40.4	
	comp=Z,10nm,0.9s							
G40A	**Rib Lake**	**93.95**	**28**	P	**P**	**15 19 38.9**	**-1.1**
	baz=326							
ESDC	**Sonseca Array**	**96.69**	**327**	P	**P**	**15 19 53.7**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=24,slow=4.0,SNR=4.3							
TXAR	**Lajitas Array**	**99.56**	**46**	P	**Pdif**	**15 20 05.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=305,slow=3.2,SNR=2.5							
SYO	**Syowa Base**	**120.51**	**205**	∥*e*Pdiff	**Pdif**	**15 21 41.8**	**+4.1**
PB06	**IPOC Station P**	**159.44**	**66**		**PKPdf**	**15 26 16.1**	**-5.3**
PB06				PKPab	**PKPab**	**15 26 59.6**	**+0.4**
LCO	**Las Campanas**	**161.19**	**84**	PKP2	**PKPab**	**15 27 06.1**	**-0.8**
LCO	**Las Campanas**	**161.19**	**84**		**PKPab**	**15 27 06.1**	**-0.8**

JMA 14 15:07:16.4, 32°.70N×130°.76E, h11km±1km, M4.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.16**	**164**	P	Pg	15 07 20.2	+0.2
JIU3				S	Sg	15 07 23.0	+0.6
JTA	**Tamana**	**0.33**	**324**	P	Pg	15 07 23.0	0.0
JTA				S	Sg	15 07 27.6	+0.3

JMA 14 15:12:56.4, 32°.68N×130°.75E, h11km±1km, M3.5, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.14**	**158**	⇑P	Pg	15 12 59.8	+0.1
JIU3				S	Sg	15 13 02.3	+0.3
JTA	**Tamana**	**0.34**	**327**	⇑P	Pg	15 13 03.4	+0.2
JTA				*e*S	Sg	15 13 08.1	+0.4

PRU 14 15:13:03.4±0.0, 49°.83N×18°.53E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.25**	**272**	*e*PG	Pg	15 13 08.2	+0.1
OKC				*e*SG	Sg	15 13 11.6	+0.3
	comp=Z,37nm,0.5s						
MORC	**Moravsky Berou**	**0.64**	**266**	*e*PG	Pg	15 13 16.0	+0.3
MORC				*e*SG	Sg	15 13 23.2	-0.8
KRLC	**Kraliky**	**1.16**	**283**	*e*SG	Sg	15 13 39.0	-1.5
	comp=Z,5.6nm,0.7s						
VRAC	**Vranov**	**1.36**	**248**	*e*PG	Pg	15 13 29.1	-0.4
VRAC				*e*SG	Sg	15 13 45.8	-1.4
DPC	**Dobruska-Polom**	**1.51**	**291**	*e*PG	Pn	15 13 31.2	-0.6
DPC				*e*SG	Sg	15 13 51.5	-0.5
	comp=Z,3.5nm,0.9s						
KRUC	**Moravsky**	**1.59**	**242**	*e*PG	Pn	15 13 32.6	-0.2
KRUC				*e*SG	Sn	15 13 53.0	-1.1
OSTC	**Ostas**	**1.66**	**297**	*e*PG	Pn	15 13 34.0	+0.3
OSTC				*e*SG	Sb	15 13 56.3	+0.1
	comp=Z,7.7nm,1.0s						

*IDC **14** 15:13:04.2±1.2, 32°.85N×130°.54E, h0km, mb3.7/3, mb1 3.7/6, mb1mx3.3/61, mbtmp3.7/6, ML3.1/3, Error ellipse: s-maj=20.0km s-min=8.4km az=141.0*
*JMA **14** 15:13:04.2, 32°.72N×130°.77E, h10km±1km, M3.9*
JMA Felt III J1.
ISC 14 15:13:04.8±0.9, 32°.76N±0°.04×130°.83E±0°.10, h10km, n9, σ1§34/11, mb3.6/3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.21**	**183**	P	**Pg**	**15 13 08.0**	**-1.2**
JIU3				S	**Sg**	**15 13 11.1**	**-1.1**
JTA	**Tamana**	**0.32**	**309**	P	**Pg**	**15 13 10.7**	**-0.5**
JTA				S	**Sg**	**15 13 15.2**	**-0.3**
JNU	**Nakatsue**	**0.36**	**7**	Pg	**Pg**	**15 13 11.4**	**-0.5**
	780nm,0.3s,baz=204,slow=21,SNR=56						
JNU				Lg	Lg	15 13 17.6	
	4μm,0.3s,baz=351,slow=6.2,SNR=63						
KSRS	**Korea Array**	**5.25**	**334**	Pn	**Pn**	**15 14 22.1**	**-1.2**
	0.4nm,0.3s,baz=150,slow=14,SNR=1.3						
KSRS				Pg	**Pb**	**15 14 37.5**	**+0.9**
	1.0nm,0.3s,baz=151,slow=16,SNR=4.3						
KSRS				Lg	Lg	15 15 46.2	
	1.8nm,0.3s,baz=154,slow=30,SNR=4.8						
JOW	**Kunigami**	**6.31**	**201**	Pn	**Pn**	**15 14 39.7**	**+1.8**
	1.9nm,0.3s,baz=129,slow=6.8,SNR=2.0						
MJAR	**Matsushiro Arr**	**7.16**	**56**	Pn	Pn	15 14 53.2	+3.7
	0.2nm,0.3s,baz=245,slow=13,SNR=5.3						
MKAR	**Makanchi Array**	**39.23**	**305**	P	**P**	**15 20 32.1**	**-1.1**
	0.9nm,1.1s,baz=83,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**56.19**	**177**	P	**P**	**15 22 46.9**	**+2.0**
	0.5nm,0.9s,baz=9.9,slow=5.9,SNR=2.7						
FINES	**FINESS Array B**	**68.33**	**330**	P	**P**	**15 24 05.1**	**-0.8**
	2.9nm,0.9s,baz=57,slow=7.0,SNR=4.3						

*NEIC **14** 15:18:17.2±1.6, 57°.23N±0°.04×157°.74W±0°.08, h19km±4km, Error ellipse: s-maj=8.0km s-min=3.7km az=131.0*
AEIC 14 15:18:16±1.5, 57°.23N±0°.03×157°.69W±0°.05, h10km±6km, ML3.2, ML3.4/42(NEIC), Error ellipse: s-maj=5.0km s-min=2.5km az=126.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.39**	**228**		Pb	15 18 24.4	-0.7
ANNW					Sb	15 18 30.8	-0.3
ANPB	**Aniakchak Plen**	**0.54**	**218**		Pg	15 18 26.2	-0.2
ANPB					Sg	15 18 33.9	+0.5
PLBL	**Peulik Blue Cr**	**0.67**	**44**		Pg	15 18 28.8	-0.1
PLK1	**Peulik 1**	**0.82**	**45**		Pg	15 18 31.6	-0.2
PLK5	**Peulik 5**	**0.89**	**29**		Pb	15 18 33.3	-0.2
PLK3	**Peulik 3**	**0.90**	**58**		Pg	15 18 32.8	-0.4
PLK3					Sb	15 18 45.3	-0.4
CHGN	**Chignik**	**1.01**	**204**	Pg	Pg	15 18 33.4	-2.0
CHGN				Sg	Sg	15 18 48.0	-0.5
CHGN				IAML		15 18 53.9	
	comp=E,646nm,0.5s						
CHGN	**Chignik**	**1.01**	**204**	P	Pg	15 18 33.8	-1.6
	baz=23						
CHGN				S	Sg	15 18 47.8	-0.7
	baz=23						
VNHG	**Veniaminof 1**	**1.30**	**220**		Pn	15 18 39.3	-0.9
KJL	**Kejulik**	**1.41**	**53**		Pn	15 18 41.3	-0.5
CAHL	**Cahill**	**1.53**	**56**		Pn	15 18 43.2	-0.3
CAHL					Sn	15 19 02.6	-0.8
ANCK	**Angle Creek**	**1.53**	**49**		Pn	15 18 43.4	-0.1
KELA	**Mount Kelaz**	**1.60**	**40**		Pn	15 18 44.2	-0.2
CHIR	**Chirikof Islan**	**1.81**	**140**		Pn	15 18 47.1	-0.2
CHIR				Sg	Sb	15 19 12.4	+0.3
CHIR				IAML		15 19 19.6	
	comp=E,227nm,1.0s						
CHIR	**Chirikof Islan**	**1.81**	**140**	P	Pn	15 18 47.4	+0.1
	baz=322						
CHIR				S	Sb	15 19 13.1	+1.0
	baz=322						
SII	**Sitkinak Islan**	**2.03**	**108**	Pn	Pb	15 18 51.9	-1.2
SII				Sn	Sb	15 19 18.9	+0.5
SII				IAML		15 19 22.7	
	comp=E,487nm,0.6s						
SII	**Sitkinak Islan**	**2.03**	**108**	P	Pb	15 18 52.6	-0.5
	baz=291						
SII				S	Sb	15 19 18.2	-0.3
	baz=291						
OHAK	**Old Harbor**	**2.39**	**88**		Pn	15 18 56.1	+0.9
OHAK	**Old Harbor**	**2.39**	**88**	P	Pn	15 18 55.8	+0.6
	baz=272						
SDPT	**Sand Point**	**2.44**	**221**	Pn	Pn	15 18 56.6	+0.7
SDPT				IAML		15 19 36.7	
	comp=E,195nm,0.9s						
SDPT				IAML		15 19 41.1	
	comp=N,170nm,1.2s						
SDPT	**Sand Point**	**2.44**	**221**		Sb	15 19 28.3	-1.8
SDPT	**Sand Point**	**2.44**	**221**	P	Pn	15 18 56.5	+0.6
	baz=38						
SDPT				S	Sb	15 19 28.3	-1.8
	baz=38						
P18K	**Big Mountain,**	**2.53**	**30**		Pn	15 18 57.4	+0.3
Q19K	**Cape Douglas,**	**2.74**	**50**		Pn	15 19 00.4	+0.3
Q19K				IAML		15 20 24.9	
	comp=N,171nm,0.9s						
KDAK	**Kodiak Island**	**2.81**	**76**		Pn	15 19 02.2	+1.2
O18K	**Koktuh Hills**	**2.94**	**25**		Pn	15 19 03.3	+0.5
O18K				IAML		15 20 02.3	
	comp=E,112nm,0.8s						
O18K				IAML		15 20 06.8	
	comp=N,120nm,0.6s						
O18K	**Koktuh Hills**	**2.94**	**25**	P	Pn	15 19 03.5	+0.7
	baz=207						
P19K	**Oil Pt**	**3.38**	**42**		Pn	15 19 09.3	+0.5
P19K				IAML		15 20 10.2	
	comp=N,136nm,0.9s						
O19K	**Port Alsworth**	**3.46**	**29**		Pn	15 19 10.5	+0.6
N18K	**Kilae Creek**	**3.59**	**14**	Pn	Pn	15 19 11.3	-0.3
N18K				IAML		15 20 10.8	
	comp=N,48nm,0.5s						
N18K				IAML		15 20 18.2	
	comp=E,63nm,0.8s						
N18K	**Kilae Creek**	**3.59**	**14**	P	Pn	15 19 12.8	+1.2
	baz=196						
O20K	**Slope Mountain**	**3.90**	**41**		Pn	15 19 17.1	+1.1
O20K	**Slope Mountain**	**3.90**	**41**	P	Pn	15 19 17.1	+1.1
	baz=225						
N19K	**Bonanza Creek**	**3.96**	**23**		Pn	15 19 17.6	+0.7
N19K				IAML		15 20 24.8	
	comp=N,52nm,0.7s						
N19K				IAML		15 20 44.2	
	comp=E,54nm,0.8s						
N19K	**Bonanza Creek**	**3.96**	**23**	P	Pn	15 19 17.6	+0.7
	baz=206						
FALS	**False Pass**	**4.00**	**236**	Pn	Pn	15 19 17.1	-0.2
HOM	**Homer**	**4.00**	**50**	Pn	Pn	15 19 17.7	+0.3
SVW2	**Sparrevohn**	**4.03**	**15**		Pn	15 19 17.8	+0.1
SVW2				IAML		15 20 35.4	
	comp=E,50nm,0.6s						
SVW2				IAML		15 20 39.2	
	comp=N,56nm,0.5s						
CNPM	**China Poot**	**4.10**	**53**		Pn	15 19 19.5	+0.7
CNPM				IAML		15 20 53.9	
	comp=N,32nm,3.1s						
CNPM				IAML		15 20 58.7	
	comp=E,33nm,3.9s						
RDWB	**Redoubt West**	**4.13**	**36**		Pn	15 19 20.0	+0.8
RSO	**Redoubt South**	**4.13**	**36**	Pn	Pn	15 19 20.0	+0.7
NCT	**North Crescent**	**4.16**	**34**		Pn	15 19 20.5	+0.9
DFR	**Drift River**	**4.25**	**35**		Pn	15 19 21.6	+0.7
BRLK	**Bradley Lake**	**4.38**	**52**	Pn	Pn	15 19 22.2	-0.4
BRLK				IAML		15 20 26.1	
	comp=N,38nm,0.1s						
BRLK				IAML		15 20 32.9	
	comp=E,36nm,0.1s						
M19K	**Big River Lodg**	**4.98**	**18**		Pn	15 19 31.4	+0.5
M19K				IAML		15 21 07.6	
	comp=N,28nm,0.7s						
M19K				IAML		15 21 11.5	
	comp=E,38nm,0.9s						
M19K	**Big River Lodg**	**4.98**	**18**	P	Pn	15 19 31.3	+0.5
	baz=201						
L19K	**White Mountain**	**5.17**	**15**	Pn	Pn	15 19 33.6	+0.1
L19K				IAML		15 21 08.7	
	comp=E,32nm,0.7s						
L19K	**White Mountain**	**5.17**	**15**	P	Pn	15 19 33.8	+0.3
	baz=197						
SEW	**Seward**	**5.17**	**53**	Pn	Pn	15 19 34.7	+1.2
O22K	**Cooper Landing**	**5.26**	**48**	Pn	Pn	15 19 34.1	-0.6
FIS	**Fire Island**	**5.49**	**41**	Pn	Pn	15 19 37.5	-0.3
L20K	**Farewell, AK**	**5.61**	**18**		Pn	15 19 40.4	+1.0
L20K	**Farewell, AK**	**5.61**	**18**	P	Pn	15 19 40.4	+1.0
	baz=202						
RC01	**Rabbit Creek A**	**5.63**	**43**	Pn	Pn	15 19 42.0	+2.3
TT01	**Tatalina**	**5.76**	**8**		Pn	15 19 41.5	0.0
TTA	**Tatalina**	**5.78**	**8**	Pn	Pn	15 19 41.2	-0.7
M22K	**Willow**	**5.95**	**37**	Pn	Pn	15 19 45.9	+1.8
PWL	**Port Wells**	**6.04**	**49**	Pn	Pn	15 19 45.6	+0.2
UNV	**Unalaska Valle**	**6.04**	**240**	Pn	Pn	15 19 45.3	-0.1
KNK	**Knik Glacier**	**6.32**	**45**	Pn	Pn	15 19 49.2	+0.1
PPLA	**Purkeypile**	**6.32**	**24**	Pn	Pn	15 19 49.3	0.0
K20K	**Telida**	**6.41**	**15**	Pn	Pn	15 19 49.0	-1.3
SML	**Sawmill**	**6.61**	**42**	Pn	Pn	15 19 54.4	+1.2
FID	**Port Fidalgo**	**6.78**	**54**	Pn	Pn	15 19 54.7	-0.8
CAST	**Castle Rocks**	**6.80**	**22**	Pn	Pn	15 19 56.7	+0.9
SCM	**Sheep Creek Mo**	**7.00**	**44**	Pn	Pn	15 19 59.5	+0.9
KTH	**Kantishna Hill**	**7.17**	**25**		Pn	15 19 59.5	-1.5
J20K	**Nowinta River**	**7.18**	**12**	Pn	Pn	15 19 59.9	-1.1
TRF	**Thorofare Moun**	**7.24**	**27**	Pn	Pn	15 20 04.4	+2.5
KLU	**Klutina**	**7.37**	**50**	Pn	Pn	15 20 04.6	+0.9
RAGM	**Ragged Mountai**	**7.46**	**59**	Pn	Pn	15 20 05.8	+1.0
RND	**Reindeer**	**7.59**	**32**	Pn	Pn	15 20 08.9	+2.3
M24K	**Tolsona, Glenn**	**7.60**	**45**	Pn	Pn	15 20 08.7	+1.8
BPAW	**Bear Paw Mtn.**	**7.63**	**23**	Pn	Pn	15 20 08.3	+1.1
HMT	**Hamilton**	**7.64**	**60**	Pn	Pn	15 20 07.8	+0.5
SUCK	**Suckling Hills**	**7.79**	**63**	Pn	Pn	15 20 09.2	-0.1
DHY	**Denali Highway**	**7.79**	**37**	Pn	Pn	15 20 09.6	+0.1
MCK	**McKinley**	**7.82**	**30**	Pn	Pn	15 20 09.1	-0.7
BERG	**Berg Lake**	**7.92**	**61**	Pn	Pn	15 20 11.0	-0.1
N25K	**Chitina, Valde**	**7.98**	**51**	Pn	Pn	15 20 12.1	0.0
BWN	**Browne**	**8.04**	**27**	Pn	Pn	15 20 12.2	-0.6
GLB	**Gilahina Butte**	**8.25**	**53**	Pn	Pn	15 20 16.5	+0.8
ANM	**Nome**	**8.25**	**336**	Pn	Pn	15 20 15.9	+0.2
VRDI	**Verde Repeater**	**8.32**	**55**	Pn	Pn	15 20 18.5	+1.7
WAX	**Waxell Ridge**	**8.34**	**61**	Pn	Pn	15 20 16.7	-0.2
PAX	**Paxson**	**8.38**	**42**	Pn	Pn	15 20 16.8	-0.7
I21K	**Tanana**	**8.44**	**17**	Pn	Pn	15 20 17.3	-0.9
TGL	**Tana Glacier**	**8.44**	**59**	Pn	Pn	15 20 19.1	+0.7
NEA2	**Nenana**	**8.49**	**26**	Pn	Pn	15 20 19.4	+0.5
ISLE	**Juniper Island**	**8.63**	**61**	Pn	Pn	15 20 22.3	+1.4
WRH	**Wood River Hil**	**8.63**	**29**	Pn	Pn	15 20 20.3	-0.6
H21K	**Melozitna Rive**	**8.77**	**13**	Pn	Pn	15 20 22.7	-0.1
CCB	**Clear Creek Bu**	**8.85**	**29**	Pn	Pn	15 20 24.5	+0.7
I23K	**Minto, Yukon-K**	**8.90**	**23**	Pn	Pn	15 20 25.1	+0.6
HDA	**Harding Lake**	**8.90**	**32**	Pn	Pn	15 20 25.5	+1.0
GRNC	**Granite Creek**	**8.94**	**60**	Pn	Pn	15 20 26.0	+0.7
IMAR	**Indian Mountai**	**8.98**	**10**	Pn	Pn	15 20 25.8	+0.2
MDM	**Murphy Dome**	**9.00**	**27**	Pn	Pn	15 20 25.3	-0.6
MENT	**Mentasta**	**9.01**	**45**	Pn	Pn	15 20 26.3	+0.2
TCOL	**CIGO, UAF Yank**	**9.02**	**28**	Pn	Pn	15 20 25.8	-0.4
COLA	**College**	**9.02**	**28**	Pn	Pn	15 20 25.7	-0.5
M26K	**Nabesna, AK**	**9.03**	**49**	Pn	Pn	15 20 26.7	+0.4
RIDG	**Independent Ri**	**9.09**	**39**	Pn	Pn	15 20 27.1	0.0
TABL	**Table Mountain**	**9.16**	**63**	Pn	Pn	15 20 27.4	-0.9
IL31		**9.19**	**30**	Pn	Pn	15 20 28.2	-0.3
ILAR	**Eielson Array**	**9.19**	**30**	Pn	Pn	15 20 27.9	-0.7
H23K	**Yukon River**	**9.45**	**21**	Pn	Pn	15 20 32.1	0.0
M27K	**Edge Creek, AK**	**9.47**	**51**	Pn	Pn	15 20 33.0	+0.5
J25K	**Salcha River,**	**9.51**	**34**	Pn	Pn	15 20 33.6	+0.7
SCRK	**Sand Creek**	**9.53**	**39**	Pn	Pn	15 20 32.9	-0.4
H24K	**Noodor Dome**	**9.81**	**24**	Pn	Pn	15 20 37.4	+0.3
L27K	**Beaver Creek,**	**9.82**	**47**	Pn	Pn	15 20 38.9	+1.8
BCAR	**Beaver Creek A**	**9.84**	**47**	Pn	Pn	15 20 38.8	+1.4
BMAR	**Burnt Mountain**	**11.87**	**25**	Pn	Pn	15 21 05.7	+0.5
TOLK	**Toolik Lake Re**	**12.02**	**14**	Pn	Pn	15 21 06.0	-1.3
YKA	**Yellowknife Ar**	**21.93**	**58**	P	P	15 23 09.0	-0.2

*IDC **14** 15:20:19.9±1.1, 32°.70N×130°.71E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.2/60, mbtmp3.5/5, ML2.9/2, Error ellipse: s-maj=26.2km s-min=8.6km az=105.0*
*JMA **14** 15:20:19.7, 32°.69N×130°.75E, h11km±1km, M3.9*
JMA Felt III J1.
ISC 14 15:20:21.0±1.3, 32°.70N±0°.04×130°.78E±0°.08, h2km±11km, n9, σ1§45/12, mb3.3/3, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.15**	**169**	⇑P	**Pg**	**15 20 23.2**	**-0.8**
JIU3				S	**Sg**	**15 20 25.9**	**-0.1**
JTA	**Tamana**	**0.33**	**322**	P	**Pg**	**15 20 26.4**	**-1.1**
JTA				S	**Sg**	**15 20 31.5**	**-0.3**
JNU	**Nakatsue**	**0.43**	**11**	Pg	**Pg**	**15 20 28.4**	**-0.8**
	305nm,0.3s,baz=349,slow=4.7,SNR=66						
JNU				Lg	Lg	15 20 34.6	
	3μm,0.3s,baz=72,slow=18,SNR=100						
KSRS	**Korea Array**	**5.29**	**335**	Pn	**Pn**	**15 21 40.2**	**-0.9**
	0.4nm,0.3s,baz=154,slow=14,SNR=3.8						
KSRS				Pg	**Pb**	**15 21 56.7**	**+2.5**
	1.5nm,0.3s,baz=152,slow=17,SNR=14						
KSRS				Lg	Lg	15 23 06.3	
	2.3nm,0.3s,baz=157,slow=30,SNR=5.6						
JOW	**Kunigami**	**6.24**	**201**	Pn	**Pn**	**15 21 56.0**	**+1.8**
	1.3nm,0.3s,baz=120,slow=12,SNR=2.6						
MJAR	**Matsushiro Arr**	**7.22**	**56**	Pn	**Pn**	**15 22 07.9**	**+0.2**
	0.2nm,0.3s,baz=243,slow=13,SNR=8.5						
WRA	**Warramunga Arr**	**52.46**	**176**	P	**P**	**15 29 33.6**	**-1.7**
	0.3nm,0.8s,baz=355,slow=7.9,SNR=1.9						
ASAR	**Alice Springs**	**56.13**	**177**	P	**P**	**15 30 01.4**	**-0.8**
	0.2nm,0.6s,baz=8.2,slow=13,SNR=7.7						
FINES	**FINESS Array B**	**68.36**	**330**	P	**P**	**15 31 23.1**	**-0.6**
	2.6nm,0.9s,baz=70,slow=6.3,SNR=4.6						

*MOS **14** 15:25:38.1±0.9, 34°.10N×138°.27E, h265km, mb4.7/52, Error ellipse: s-maj=6.2km s-min=3.9km az=105.1*
*JMA **14** 15:25:38.8±0.2, 34°.18N×138°.40E, h279km±2km, M4.8 Broadband fault plane solution: P waves. NP1: ϕs343.00000°, δ77.00000°, λ-30.00000°. NP2: ϕs81.00000°, δ61.00000°, λ-166.00000°. Principal axes: T Plg11.0000°, Azm35.0000°; N Plg58.0000°, Azm143.0000°; P Plg30.0000°, Azm298.0000°;*
JMA Felt II J1.
*NEIC **14** 15:25:39.9±1.8, 34°.16N±0°.06×138°.30E±0°.08, h268km±5km, mb4.5/214 Error ellipse: s-maj=9.7km s-min=8.6km az=78.0*
*IDC **14** 15:25:39.6±0.5, 34°.09N×138°.19E, h262km±4km, mb4.2/34, mb1 4.3/38, mb1mx4.2/56, mbtmp4.8/38, Error ellipse: s-maj=8.9km s-min=6.2km az=84.0*
ISC 14 15:25:39.4±0.4, 34°.12N±0°.04×138°.27E±0°.04, h265km±3km, n726, σ1§28/731, mb4.6/185, 57C-54D, Fault plane solution: NP1: ϕs167.18854°, δ85.63412°, λ33.93282°. **NP2:** ϕs74.25656°, δ56.17897°, λ174.74255°. **Principal axes:** T Plg26.5773°, Azm36.1930°; N Plg55.8209°, Azm173.6439°; P Plg19.8615°, Azm295.7817°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK03	**Tokai 3**	**0.26**	**281**	P	**Pn**	**15 26 15.3**	**+2.0**
TK03				S	**S**	**15 26 43.2**	**+3.2**
TK04	**Tokai 4**	**0.42**	**309**	P	**Pn**	**15 26 15.5**	**+1.9**
TK04				S	**S**	**15 26 43.6**	**+3.0**
TK02	**Tokai 2**	**0.46**	**248**	⇑P	**Pn**	**15 26 15.3**	**+1.7**
TK02				*e*S	**S**	**15 26 43.4**	**+2.8**
TTO5	**TONANKAI O.B.S**	**0.48**	**287**	⇑P	**Pn**	**15 26 15.3**	**+1.6**
TTO5				S	**S**	**15 26 43.4**	**+2.6**
JSG	**Sagara**	**0.56**	**353**	∥P	**Pn**	**15 26 15.8**	**+1.7**
JSG				S	**S**	**15 26 44.0**	**+2.4**
JKKS	**Kakegawashinom**	**0.68**	**340**	P	**Pn**	**15 26 16.1**	**+1.6**
JKKS				*e*S	**S**	**15 26 44.3**	**+2.1**
JKO	**Kozu shima**	**0.72**	**84**	∥P	**Pn**	**15 26 15.6**	**+0.9**
JIZS	**Izushimoda**	**0.78**	**40**	∥P	**Pn**	**15 26 15.8**	**+0.9**
JIZS				S	**S**	**15 26 44.0**	**+1.0**
JSKK	**Shikinejimakit**	**0.81**	**74**	P	**Pn**	**15 26 15.7**	**+0.7**
JFNN	**Fujinakano**	**1.13**	**18**	P	**Pn**	**15 26 17.5**	**+0.9**
JFNN				*e*S	**S**	**15 26 46.5**	**+0.4**
JIE	**Ise**	**1.32**	**282**	⇑P	**Pn**	**15 26 19.0**	**+1.1**
JIE				*e*S	**S**	**15 26 49.3**	**+1.0**
JOD2	**Odawara 2**	**1.33**	**30**	P	**Pn**	**15 26 18.6**	**+0.7**
TTO1	**TONANKAI O.B.S**	**1.33**	**249**	⇑P	**Pn**	**15 26 19.2**	**+1.6**
JYN	**Shimob**	**1.40**	**9**	P	**Pn**	**15 26 19.4**	**+1.0**
INU	**Inuyama**	**1.60**	**320**	Pn	**Pn**	**15 26 20.4**	**+0.6**
INU	**Inuyama**	**1.60**	**320**	P	**Pn**	**15 26 21.1**	**+1.3**
JHJ	**Hachijo jima 2**	**1.61**	**128**	P	**Pn**	**15 26 20.6**	**+0.6**
	1μm,0.3s,baz=35,slow=3.5,SNR=320						
JHJ				S	**S**	**15 26 53.0**	**+1.0**
	448nm,0.3s,baz=280,slow=24,SNR=5.4						
JHJ2	**Mitsune**	**1.63**	**127**	P	**Pn**	**15 26 20.5**	**+0.4**
JHJ2	**Mitsune**	**1.63**	**127**	Pn	**Pn**	**15 26 19.8**	**-0.3**
JHJ2	**Mitsune**	**1.63**	**127**	P	**Pn**	**15 26 21.1**	**+1.0**
JGF	**Kuroka**	**1.66**	**333**	Pn	**Pn**	**15 26 20.9**	**+0.6**
JYTA	**Yamagatataniai**	**1.94**	**320**	⇑P	**Pn**	**15 26 23.5**	**+1.0**
JYTA				S	**S**	**15 26 56.9**	**+0.2**
JRY	**Ryogami san**	**1.96**	**15**	⇑P	**Pn**	**15 26 22.6**	**-0.2**
JRY				*e*S	**S**	**15 26 57.4**	**+0.2**
JAOM	**Aogashimamukai**	**2.07**	**142**	P	**Pn**	**15 26 24.6**	**+0.8**
JWY	**Kouya**	**2.22**	**

YUK Yuzh-Kuril'sk 11.52 28⇓*iP* **Pn 15 28 16.1 -0.4**
YUK *iS* S 15 30 15.3 -10
YUK pmax pmax
comp=Z,489nm,1.1s
YUK pmax pmax
comp=Z,341nm,0.2s
YUK pmax pmax
comp=N,140nm,0.3s
YUK pmax pmax
comp=E,69nm,0.3s
SHO Shikotan 11.79 32 *eP* **Pn 15 28 18.7 -1.1**
SHO *eS* S 15 30 22.3 -8.9
SHO pmax pmax
comp=Z,173nm,1.2s
SHO pmax pmax
comp=Z,53nm,0.6s
SHO pmax pmax
comp=N,20nm,0.7s
SHO pmax pmax
comp=E,27nm,0.3s
MDJ Mudanjiang 12.44 330 P **Pn 15 28 26.2 -1.7**
MDJ Mudanjiang 12.44 330 P **Pn 15 28 27.8 -0.1**
MDJ sP sPn 15 29 28.4 +1.0
MDJ S **S 15 30 47.5 +1.3**
MDJ ScP **ScP 15 36 50.1 -2.0**
MDJ PcS **PcS 15 37 18.1 -0.6**
MDJ pmax pmax
comp=Z,100nm,1.0s
MDJ pmax pmax
comp=Z,6µm,9.7s
MDJ Mudanjiang 12.44 330 P **Pn 15 28 28.1 +0.2**
YSS Yuzh-Sakhalins 13.27 13 *eP* **Pn 15 28 37.0 -0.9**
YSS *eS* **S 15 30 57.9 -7.0**
YSS pmax pmax
comp=Z,570nm,0.6s
YSS smax smax
comp=N,60nm,0.6s
YSS smax smax
comp=E,30nm,0.7s
YSS Yuzh-Sakhalins 13.27 13 **Pn 15 28 35.9 -2.0**
YSS Yuzh-Sakhalins 13.27 13 P **Pn 15 28 37.8 -0.1**
KUR Kuril'sk 13.32 31 *eP* **P 15 28 40.1 +0.5**
KUR *eS* **S 15 31 01.4 -4.9**
KUR pmax pmax
comp=Z,104nm,0.8s
KUR pmax pmax
comp=N,27nm,0.9s
KUR pmax pmax
comp=E,30nm,0.9s
CN2 Changchun 13.88 318 *eP* **Pn 15 28 45.3 -0.1**
CN2 pmax pmax
comp=Z,140nm,0.7s
BNX BinXian 14.27 328 ⇓P **Pn 15 28 49.3 -0.8**
BNX pmax pmax
comp=Z,320nm,0.6s
BNX pmax pmax
comp=Z,5µm,6.7s
UGL Uglegorsk 15.21 10 *eP* **P 15 28 53.8 -6.6**
KLR Kul'dur 15.86 344 P **P 15 29 07.0 -0.5**
comp=Z,7.6nm,0.3s,baz=171,slow=8.0,SNR=102
KLR Kul'dur 15.86 344*ceP* **P 15 29 07.0 -0.5**
KLR pmax pmax
comp=Z,34nm,0.7s
NJ2 Nanjing 16.41 268 *eP* **P 15 29 14.5 +0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
YOJ Yonaguni jima 16.41 238 P **P 15 29 12.8 -1.0**
YOJ pmax pmax
comp=Z,160nm,1.2s
YOJ Yonaguni jima 16.41 238 P **P 15 29 12.8 -1.0**
YOJ Yonaguni jima 16.41 238 P **P 15 29 13.4 -0.4**
GRNR Gornyy 16.70 356⇓*iP* **Pn 15 29 18.9 +0.1**
GRNR pmax pmax
comp=N,10.0nm,0.7s
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR MLR MLR
comp=E,1µm,12.0s
GRNR MLR MLR
comp=N,2µm,14.0s
GRNR MLR MLR
comp=Z,5µm,11.0s
TIA Tai'an 17.42 283 ⇑P **P 15 29 24.8 +0.1**
TIA pmax pmax
comp=Z,63nm,0.7s
YHNB Yeheng 17.45 242 P **P 15 29 25.0 -0.4**
YHNB Yeheng 17.45 242 P **P 15 29 25.8 +0.5**
NACB Ninganchiao 17.59 240 P **P 15 29 23.8 -3.0**
NACB IAmb IAmb 15 29 29.7
comp=Z,14nm,0.6s
SSLB Suanglung 18.29 240 P **P 15 29 32.9 -1.4**
SSLB Suanglung 18.29 240 P **P 15 29 33.8 -0.5**
comp=Z,32nm,0.8s
YULB Yu-li 18.30 239 P **P 15 29 32.4 -1.9**
YULB IAmb IAmb 15 29 35.9
comp=Z,46nm,1.3s
BJI Beijing 18.58 295 P **P 15 29 35.5 -1.6**
BJI pmax pmax
comp=Z,19nm,0.7s
BJT Baijiatuau 18.58 295 P **P 15 29 34.2 -3.0**
BJT pmax pmax
comp=Z,47nm,1.3s
BJT Baijiatuau 18.58 295 P **P 15 29 34.2 -3.0**
BJT IAmb IAmb 15 29 40.3
comp=Z,47nm,1.3s
TWG Pinlang 18.82 238 P **P 15 29 38.8 -1.1**
TWG IAmb IAmb 15 29 44.9
comp=Z,21nm,0.7s
TPUB Ta-pu 18.83 240 P **P 15 29 39.4 -0.7**
TPUB IAmb IAmb 15 29 50.2
comp=Z,26nm,0.8s
HNS HongShan 19.39 286⇓P **P 15 29 44.1 -1.8**
HNS pmax pmax
comp=Z,43nm,1.2s
XLT XiLinHaoTe 19.77 306⇓*iP* **P 15 29 46.8 -3.1**
XLT pmax pmax
comp=Z,110nm,0.6s
XLT pmax pmax
comp=Z,6µm,7.8s
KNMB Chin-men Tao 19.80 246 P **P 15 29 48.1 -2.3**
HIA Hailar 20.43 323 P **P 15 29 54.6 -2.2**
HIA pmax pmax
comp=Z,58nm,0.7s
HIA Hailar 20.43 323 P **P 15 29 54.5 -2.2**
WHN Wuhan 20.51 267 ⇑P **P 15 29 57.0 -0.9**
WHN pmax pmax
comp=Z,70nm,0.9s
ZEA Zeya 21.11 342 *eP* **P 15 30 03.4 -0.3**
ZEA pmax pmax
comp=N,20nm,0.5s
ZEA pmax pmax
comp=Z,70nm,0.6s
GUMO Guam 21.30 162 P **P 15 30 04.6 -1.2**
GUMO pmax pmax
comp=Z,137nm,1.2s
GUMO Guam 21.30 162 P **P 15 30 04.6 -1.2**
LYN LuoYang 21.30 278⇓P **P 15 30 03.3 -2.4**
LYN pmax pmax
comp=Z,20nm,0.5s
HHC Hu-ho-hao-te 22.18 295 *eP* **P 15 30 14.3 +0.5**
HHC pmax pmax
comp=Z,130nm,0.8s
HHC pmax pmax
comp=Z,7µm,5.8s
BTO Baotou 23.31 294 *eP* **P 15 30 24.9 +0.8**
PEA0B Petropavlovsk- 23.49 30*ceP* **P 15 30 26.6 +1.1**
PEA0B Petropavlovsk- 23.49 30 P **P 15 30 21.9 -3.5**
PETK Petropavlovsk- 23.49 30 P **P 15 30 26.0 +0.6**
comp=Z,6.3nm,0.5s,baz=226,slow=7.3,SNR=22
PETK Petropavlovsk- 23.49 30 P **P 15 30 22.1 -3.3**
PET Petropavlovsk 23.84 31 *eP* **P 15 30 28.4 -0.1**
PET pmax pmax
comp=Z,24nm,0.9s
PET Petropavlovsk 23.84 31 P **P 15 30 25.9 -2.7**
PET IAmb IAmb 15 30 34.7
comp=Z,24nm,1.1s
PET Petropavlovsk 23.84 31 P **P 15 30 30.0 +1.5**
HKPS Hong Kong Po S 24.25 247 P **P 15 30 32.4 -0.3**
XAN Xi'an 24.28 278 P **P 15 30 31.8 -1.1**
XAN pP pP 15 31 11.0 -10
XAN pmax pmax
comp=Z,66nm,1.1s
ENH Enshi 24.62 269 P **P 15 30 33.9 -2.1**
MA2 Magadan 26.77 14 P **P 15 30 56.0 +1.1**
comp=Z,29nm,0.7s,baz=197,slow=7.8,SNR=106
MA2 Magadan 26.77 14*ceP* **P 15 30 55.9 +1.1**
MA2 pmax pmax
comp=Z,38nm,0.8s
MA2 Magadan 26.77 14 P **P 15 30 54.2 -0.7**
MA2 Magadan 26.77 14 P **P 15 30 56.0 +1.1**
ULN Ulaanbaatar 27.06 310*ceP* **P 15 30 59.0 +1.2**
ULN pmax pmax
comp=Z,101nm,1.6s
ULN Ulaanbaatar 27.06 310 P **P 15 30 58.9 +1.2**
SONM Songino Array 27.47 310 P **P 15 31 02.6 +1.3**
comp=Z,19nm,0.6s,baz=112,slow=9.0,SNR=31
SONM Songino Array 27.47 310 P **P 15 31 02.1 +0.8**
LZH Lanzhou 28.15 284 *eP* **P 15 31 07.1 -0.5**
LZH pP pP 15 31 29.3 -30
LZH pmax pmax
comp=Z,36nm,1.3s
GYA Guiyang 28.26 263⇑*iP* **P 15 31 07.5 -1.1**
GYA pmax pmax
comp=Z,33nm,1.0s
YAK Yakutsk 28.46 352 P **P 15 31 11.8 +2.1**
comp=Z,3.3nm,0.5s,baz=333,slow=2.2,SNR=1.8
YAK Yakutsk 28.46 352*ceP* **P 15 31 11.3 +1.5**
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK Yakutsk 28.46 352 P **P 15 31 10.5 +0.7**
H11N2 WAKE ISLAND Hy 29.15 112 T T 16 01 48.9
baz=308,slow=75,SNR=18
H11N1 WAKE ISLAND Hy 29.15 112 T T 16 01 33.8
baz=308,slow=75,SNR=38
H11N3 WAKE ISLAND Hy 29.17 112 T T 16 02 03.9
baz=308,slow=75,SNR=29
CD2 Chengdu 29.20 273 P **P 15 31 15.3 -1.4**
CD2 pmax pmax
comp=Z,160nm,0.7s
H11S3 WAKE ISLAND Hy 29.72 114 T T 16 02 31.4
baz=311,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 29.72 114 T T 16 02 34.8
baz=311,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 29.73 114 T T 16 02 33.0
baz=311,slow=75,SNR=12
SEY Seymchan 30.17 13 P **P 15 31 26.0 +1.2**
comp=Z,5.8nm,0.7s,baz=212,slow=8.7,SNR=50
SEY ScP **ScP 15 37 36.1 +0.8**
comp=Z,0.4nm,0.5s,baz=147,slow=8.9,SNR=2.1
SEY Seymchan 30.17 13*ceP* **P 15 31 26.3 +1.5**
SEY pmax pmax
comp=Z,3.0nm,0.8s
ZAK Zakamensk 30.23 313 *eP* **P 15 31 25.6 0.0**
ZAK pmax pmax
comp=Z,30nm,1.1s
MOY Mondy 32.01 315 *eP* **P 15 31 41.5 +0.3**
PZH PanZhiHua 32.31 266⇓P **P 15 31 42.5 -1.6**
PZH pmax pmax
comp=Z,20nm,0.8s
DLV T Lat 34.97 238 P **P 15 32 07.2 +0.1**
UBPT Khong Chiam 34.99 246 P **P 15 32 07.2 +0.1**
UBPT IAmb IAmb 15 32 08.3
comp=Z,22nm,0.8s
GOMU GeErMu 35.37 286 P **P 15 32 10.4 -0.2**
GOMU pP pP 15 32 13.6 -50
GOMU sP sP 15 32 17.6 -77
GOMU S **ScP 15 37 50.3 -4.2**
GOMU pmax pmax
GOMU comp=Z,67nm,1.0s
GOMU LR LR
comp=N,3µm,15.7s
GOMU LR LR
comp=E,2µm,14.9s
GOMU LR LR
comp=Z,2µm,15.3s
SIJI Sorong 35.42 192 P **P 15 32 10.1 -0.6**
comp=Z,6.2nm,0.8s,baz=20,slow=9.1,SNR=4.1
ADK Adak 36.73 47 P **P 15 32 19.7 -1.7**
ADK pmax pmax
comp=Z,58nm,1.1s
ADK Adak 36.73 47 P **P 15 32 19.7 -1.7**
ADK Adak 36.73 47 P **P 15 32 22.7 +1.3**
BILL Bilibino 37.55 17*ceP* **P 15 32 29.2 +1.2**
BILL *e**PP **pP 15 33 19.2 -2.4**
BILL *e* 15 33 57.9
BILL pmax pmax
comp=Z,12nm,1.0s
BILL Bilibino 37.55 17 P **P 15 32 28.5 +0.5**
BILL IAmb IAmb 15 32 30.9
comp=Z,12nm,0.9s
SANI Sanana 37.79 200 P **P 15 32 28.9 -1.7**
TIXI Tiksi 37.93 355 P **P 15 32 31.4 +0.3**
comp=Z,2.2nm,0.6s,baz=270,slow=20,SNR=9.7
TIXI Tiksi 37.93 355*ceP* **P 15 32 31.6 +0.5**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 37.93 355 P **P 15 32 31.4 +0.3**
CHTO Chiang Mai 38.11 257 P **P 15 32 32.5 -0.8**
CHTO pmax pmax
comp=Z,17nm,1.4s
CHTO Chiang Mai 38.11 257 P **P 15 32 32.5 -0.8**
CHTO IAmb IAmb 15 32 33.8
comp=Z,17nm,1.4s
CM31 Chiang Mai Arr 38.29 256 P **P 15 32 34.1 -0.8**
CMAR Chiang Mai Arr 38.29 256 P **P 15 32 34.4 -0.5**
comp=Z,2.5nm,0.5s,baz=52,slow=7.3,SNR=43
CMAR PcP **PcP 15 34 43.8 +0.8**
comp=Z,1.1nm,0.8s,baz=9.2,slow=1.6,SNR=5.5
CMAR ScP **ScP 15 38 05.5 +0.3**
comp=Z,0.7nm,0.9s,baz=358,slow=1.6,SNR=5.9
CMAR Chiang Mai Arr 38.29 256 P **P 15 32 33.8 -1.1**
ATKA Atka Island 38.30 47 P **P 15 32 36.1 +1.7**
SBUM Sibu 39.79 223 P **P 15 32 46.1 -1.1**
WMQ Urumqi 39.95 299 *eP* **P 15 32 49.3 +1.0**
WMQ pmax pmax
comp=Z,48nm,1.3s
LSA Lhasa 39.97 277 P **P 15 32 48.1 -1.0**
LSA pmax pmax
comp=Z,12nm,0.6s
LSA Lhasa 39.97 277 P **P 15 32 48.1 -1.0**
LSA IAmb IAmb 15 32 59.2
comp=Z,12nm,0.6s
LSA Lhasa 39.97 277 P **P 15 32 48.8 -0.3**
SHL Shillong 40.84 271 P **P 15 32 53.9 -2.1**
SHL pmax pmax
comp=Z,11nm,0.7s
SHL Shillong 40.84 271 P **P 15 32 53.9 -2.1**
SPIA Saint Paul Isl 41.44 40 P **P 15 32 59.5 -0.6**
NIKH Nikolski High 41.63 47 P **P 15 33 01.3 -0.4**
NIKH Nikolski High 41.63 47 P **P 15 33 02.7 +1.0**
baz=265
KSM Kuching 41.69 225 P **P 15 33 01.7 -1.0**
ZAA0 Zalesovo Array 42.07 315 P **P 15 33 04.4 -0.8**
ZAA0 IAmb IAmb 15 33 10.0
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 42.07 315 P **P 15 33 05.2 0.0**
comp=Z,12nm,0.6s,baz=107,slow=8.4,SNR=59
ZALV PcP **PcP 15 34 54.6 +0.1**
comp=Z,11nm,0.5s,baz=108,slow=3.3,SNR=17
ZALV ScP **ScP 15 38 19.1 -0.3**
comp=Z,2.1nm,0.9s,baz=106,slow=3.2,SNR=5.6
ZALV Zalesovo Beam 42.07 315 *iP* **P 15 33 05.0 -0.2**
ZALV pmax pmax
comp=Z,12nm,0.5s
ZALV Zalesovo Beam 42.07 315 P **P 15 33 04.7 -0.6**
GAMB Gambell 42.53 30 P **P 15 33 09.8 +1.1**
baz=250
KAPI Kappang 42.67 208 P **P 15 33 10.2 -0.3**
comp=Z,4.1nm,0.5s,baz=14,slow=12,SNR=2.1
MK31 Makanchi Array 43.57 304*diP* **P 15 33 17.7 +0.3**
MK31 Makanchi Array 43.57 304 P **P 15 33 17.1 -0.3**
MK31 IAmb IAmb 15 33 18.7
comp=Z,32nm,0.8s
MK31 PcP **PcP 15 34 59.0 -0.8**
MKAR Makanchi Array 43.57 304 P **P 15 33 17.8 +0.4**
comp=Z,33nm,0.6s,baz=89,slow=9.9,SNR=396
MKAR PcP **PcP 15 34 59.8 0.0**
comp=Z,4.2nm,0.7s,baz=79,slow=4.5,SNR=4.4
MKAR ScP **ScP 15 38 25.0 -0.6**
comp=Z,1.0nm,0.6s,baz=83,slow=5.5,SNR=5.2
MKAR Makanchi Array 43.57 304 P **P 15 33 17.2 -0.1**
MKAR PcP **PcP 15 34 59.3 -0.5**
TAPN Taplejung 43.62 275 *eP* **P 15 33 17.6 -0.8**
SRIT Nakonsritamara 43.66 244 P **P 15 33 18.4 0.0**
SRIT IAmb IAmb 15 33 19.7
comp=Z,42nm,1.2s
MAKZ Makanchi 43.78 304⇓P **P 15 33 19.7 +0.6**
MAKZ Makanchi 43.78 304 P **P 15 33 19.2 +0.1**
MAKZ IAmb IAmb 15 33 20.4
comp=Z,35nm,0.8s
ODAN Odare 44.07 275 *eP* **P 15 33 20.7 -1.2**
PMG Port Moresby 44.10 167 P **P 15 33 22.7 +0.9**
comp=Z,10nm,1.0s,baz=16,slow=12,SNR=2.1
TNA Tin City 44.64 29 P **P 15 33 27.4 +1.9**
baz=252
RAMN Ramite 44.69 275 *eP* **P 15 33 26.0 -0.8**
JIRN Jiri 44.76 276 *eP* **P 15 33 27.3 -0.2**
comp=Z,66nm,0.8s
NRIK Noril'sk 44.90 337 P **P 15 33 28.1 +0.6**
comp=Z,13nm,0.5s,baz=112,slow=8.9,SNR=16
NRIK ScP **ScP 15 38 30.7 +0.1**
comp=Z,3.0nm,0.6s,baz=92,slow=2.5,SNR=3.9
NRIK Noril'sk 44.90 337 *iP* **P 15 33 28.1 +0.6**
NRIK pmax pmax
comp=Z,17nm,1.0s
NRIK Noril'sk 44.90 337 P **P 15 33 27.6 +0.1**
NRIK IAmb IAmb 15 33 28.9
comp=Z,54nm,1.3s
GUN Gumba 44.92 277 *eP* **P 15 33 28.4 -0.3**
comp=Z,100nm,0.8s
KULM Kulim 45.13 239 P **P 15 33 29.7 -0.4**
ANM Nome 45.41 30 P **P 15 33 32.6 +1.1**
baz=256
IPM Ipoh 45.43 238 P **P 15 33 31.1 -1.4**
IPM IAmb IAmb 15 33 32.5
comp=Z,26nm,1.3s
PKI Pulchoki 45.44 277 *eP* **P 15 33 31.7 -1.0**
PKIN Phulchoki 45.45 277 *eP* **P 15 33 31.8 -0.9**
comp=Z,64nm,0.8s
KKN Kakani 45.46 277 *eP* **P 15 33 32.0 -0.8**
comp=Z,88nm,0.8s
MYKOM Kota Tinggi 45.46 232 P **P 15 33 32.0 -0.6**
DMN Daman 45.67 277 *eP* **P 15 33 33.7 -0.8**
comp=Z,72nm,0.9s
KURK Kurchatov 45.78 310 *iP* **P 15 33 35.0 +0.4**
KURK pmax pmax
comp=Z,60nm,0.9s
KURK Kurchatov 45.78 310 P **P 15 33 34.1 -0.5**
GKN Gorkha 45.91 278 *eP* **P 15 33 35.6 -0.6**
PDGK Podgornoye 45.93 300 P **P 15 33 35.5 -0.6**
BATI Baumata 46.21 200 P **P 15 33 38.1 -0.3**
comp=Z,13nm,0.6s,baz=71,slow=4.1,SNR=3.8
DANN Dangsing 46.51 278 *eP* **P 15 33 40.9 -0.1**
comp=Z,301nm,0.5s
SDPT Sand Point 46.67 44 P **P 15 33 41.8 +0.3**
baz=269
KOLN Koldanda 46.85 278 *eP* **P 15 33 43.2 -0.4**
KDU Kakadu 46.87 188 P **P 15 33 42.9 -0.5**
MTN Manton Dam 47.19 190 P **P 15 33 44.0 -1.9**
MTN IAmb IAmb 15 33 45.8
comp=Z,33nm,1.5s
MTN Manton Dam 47.19 190 P **P 15 33 45.0 -0.9**
PYUN Piuthan 47.23 278 *eP* **P 15 33 46.2 -0.3**
RDOG Red Dog Mine 47.25 26 P **P 15 33 46.3 +0.5**
RDOG Red Dog Mine 47.25 26 P **P 15 33 46.8 +1.1**
baz=255,SNR=7.3
TARG Taragay, Kyrgy 47.44 298 P **P 15 33 48.1 0.0**
TARG IAmb IAmb 15 33 49.8
comp=Z,22nm,0.8s
MDOK Medeo 47.72 300 P **P 15 33 49.9 0.0**
KNDC Almaty 47.77 300 P **P 15 33 50.9 +0.7**
KDJ Kajisay 47.82 299 P **P 15 33 50.5 -0.3**
KDJ pmax pmax
comp=Z,15nm,0.6s
KDJ Kajisay 47.82 299 P **P 15 33 50.5 -0.3**
KDJ IAmb IAmb 15 33 51.5
comp=Z,15nm,0.6s
COEN Coen 48.03 174 P **P 15 33 53.3 +0.9**
BKNI Bangkinang 48.42 234 P **P 15 33 55.0 -0.4**
comp=Z,65nm,0.5s
ULHL Ulahol 48.48 299 P **P 15 33 56.2 +0.3**
SNR=20
BOOM Boomskoye usch 48.65 299 P **P 15 33 56.6 -0.5**
BOOM pmax pmax
comp=Z,10.0nm,0.7s
BOOM Boomskoye usch 48.65 299 P **P 15 33 56.6 -0.5**
TKM2 Tokmak 2 48.81 300 P **P 15 33 59.1 +0.8**
SNR=30
TKM2 Tokmak 2 48.81 300 *iP* **P 15 33 58.8 +0.5**
TKM2 pmax pmax
comp=Z,22nm,0.7s
GCSA Galena City Sc 49.04 31 P **P 15 34 00.6 +1.2**
baz=264
N18K Kilae Creek 49.22 36 P **P 15 34 02.4 +1.5**
N18K Kilae Creek 49.22 36 P **P 15 34 03.1 +2.1**
baz=268,SNR=5.1
TTA Tatalina 49.27 33 P **P 15 34 02.3 +1.0**
TTA pmax pmax
comp=Z,10.0nm,1.2s
TTA Tatalina 49.27 33 P **P 15 34 02.3 +1.0**
TTA Tatalina 49.27 33 P **P 15 34 03.2 +2.0**
baz=266
KSH Kashi 49.30 295 P **P 15 34 05.5 +3.6**
KSH pmax pmax
comp=Z,16nm,0.8s
KBK Karagaybulak 49.33 300 P **P 15 34 02.7 +0.5**
SNR=40
UGM Wanagama 49.38 217 P **P 15 34 01.3 -1.4**
UGM Wanagama 49.38 217 P **P 15 34 01.1 -1.6**
SVW2 Sparrevohn 49.38 36 P **P 15 34 02.7 +0.6**
CHMS Chumysh 49.40 300 P **P 15 34 02.8 +0.2**
SNR=7.0
CHMS Chumysh 49.40 300 *iP* **P 15 34 01.9 -0.7**
CHMS pmax pmax
comp=Z,13nm,0.7s
CHIR Chirikof Islan 49.42 43 P **P 15 34 03.5 +1.1**
CHIR Chirikof Islan 49.42 43 P **P 15 34 03.9 +1.5**
baz=273
USP Ospenovka 49.52 301 P **P 15 34 03.8 +0.3**
SNR=17
P18K Big Mountain, 49.54 38 P **P 15 34 05.2 +1.9**
P18K IAmb IAmb 15 34 06.0
comp=Z,28nm,0.9s
O18K Koktuh Hills 49.55 37 P **P 15 34 05.4 +2.0**
O18K IAmb IAmb 15 34 07.5
comp=Z,21nm,0.7s
O18K Koktuh Hills 49.55 37 P **P 15 34 05.7 +2.4**
baz=270,SNR=6.8
AAK Ala-Archa 49.66 300 P **P 15 34 04.6 -0.1**
SNR=21
AAK Ala-Archa 49.66 300 *iP* **P 15 34 04.5 -0.1**
AAK pmax pmax
comp=Z,17nm,0.7s
AAK Ala-Archa 49.66 300 P **P 15 34 04.2 -0.5**
AAK IAmb IAmb 15 34 05.7
comp=Z,17nm,0.7s
AAK Ala-Archa 49.66 300 *iP* **P 15 34 04.9 +0.2**
SNR=28
UCH Uchtor 49.74 299 P **P 15 34 06.3 +0.7**
SNR=15
L19K White Mountain 49.77 34 P **P 15 34 06.1 +1.1**
L19K White Mountain 49.77 34 P **P 15 34 06.5 +1.5**
baz=268
N19K Bonanza Creek 49.91 36 P **P 15 34 06.9 +0.7**
N19K IAmb IAmb 15 34 09.2
comp=Z,11nm,0.8s
N19K Bonanza Creek 49.91 36 P **P 15 34 08.1 +1.9**
baz=270
M19K Big River Lodg 49.98 35 P **P 15 34 07.3 +0.8**
M19K Big River Lodg 49.98 35 P **P 15 34 08.4 +1.9**
baz=269
KLI Kotabumi 49.98 226 P **P 15 34 06.3 -0.8**
KLI pmax pmax
comp=Z,87nm,0.8s
O19K Port Alsworth 49.99 37 P **P 15 34 07.8 +1.2**
O19K IAmb IAmb 15 34 09.6
comp=Z,28nm,0.8s
O19K Port Alsworth 49.99 37 P **P 15 34 08.8 +2.1**
baz=270,SNR=7.9
LEM Lembang 50.00 221 P **P 15 34 06.8 -0.7**
comp=Z,28nm,0.6s,baz=307,slow=20,SNR=3.6
GSI Gunungsitoli 50.10 238 P **P 15 34 07.0 -1.0**
GSI Gunungsitoli 50.10 238 P **P 15 34 08.1 0.0**
OTUK Ortayu 50.10 307 P **P 15 34 07.8 +0.1**
K20K Telida 50.17 33 P **P 15 34 09.5 +1.5**
K20K IAmb IAmb 15 34 11.2
comp=Z,26nm,1.1s
K20K Telida 50.17 33 P **P 15 34 09.9 +2.0**
baz=268,SNR=11
EKS2 Erkin-Say 50.17 300 P **P 15 34 08.6 +0.2**
SNR=12
J20K Nowinta River 50.17 32 P **P 15 34 09.5 +1.6**
J20K Nowinta River 50.17 32 P **P 15 34 09.8 +1.8**
baz=267,SNR=9.7
SII Sitkinak Islan 50.18 42 P **P 15 34 08.9 +0.8**

SII IAmb IAmb 15 34 25.4
comp=Z,36nm,0.9s
SII Sitkinak Islan 50.18 42 P **P** **15 34 09.4 +1.2**
baz=273
L20K Farewell, AK 50.23 34 P **P** **15 34 10.4 +1.9**
baz=269,SNR=6.0
KNRA Kununurra 50.34 192 P **P** **15 34 09.4 -0.3**
KNRA Kununurra 50.34 192 P **P** **15 34 09.8 +0.1**
AML Almayashu 50.35 299 P **P** **15 34 11.1 +0.9**
SNR=16
AML Almayashu 50.35 299 *i* P **P** **15 34 10.3 +0.2**
SNR=17
Q19K Cape Douglas, 50.36 39 P **P** **15 34 09.1 -0.3**
Q19K Cape Douglas, 50.36 39 P **P** **15 34 09.9 +0.4**
baz=272
IMAR Indian Mountai 50.45 29 P **P** **15 34 11.2 +1.1**
P19K Oil Pt 50.55 38 P **P** **15 34 11.5 +0.6**
P19K Oil Pt 50.55 38 P **P** **15 34 11.8 +1.0**
baz=272
OHAK Old Harbor 50.63 41 P **P** **15 34 12.1 +0.6**
OHAK IAmb IAmb 15 34 13.0
comp=Z,22nm,0.8s
OHAK Old Harbor 50.63 41 P **P** **15 34 12.5 +1.1**
baz=274
BRVK Borovoye 50.74 314 *i* P **P** **15 34 12.4 0.0**
BRVK pmax pmax
comp=Z,23nm,1.2s
BRVK Borovoye 50.74 314 P **P** **15 34 11.6 -0.8**
BRVK IAmb IAmb 15 34 19.4
comp=Z,18nm,1.0s
BRVK PcP **PcP** **15 35 24.3 -1.0**
RSO Redoubt South 50.77 37 P **P** **15 34 13.3 +0.6**
H21K Melozitna Rive 50.82 30 P **P** **15 34 14.2 +1.4**
H21K Melozitna Rive 50.82 30 P **P** **15 34 14.6 +1.8**
baz=267,SNR=9.4
O20K Slope Mountain 50.84 37 P **P** **15 34 14.2 +1.1**
baz=272
CHUM Lake Minchumin 50.97 32 P **P** **15 34 15.9 +2.1**
baz=269,SNR=6.7
KDAK Kodiak Island 50.98 40 P **P** **15 34 14.4 +0.4**
KDAK pmax pmax
comp=Z,42nm,0.8s
KDAK Kodiak Island 50.98 40 P **P** **15 34 14.4 +0.4**
KDAK Kodiak Island 50.98 40 P **P** **15 34 15.1 +1.1**
baz=274
PPLA Purkeypile 51.01 34 P **P** **15 34 16.6 +2.2**
PPLA IAmb IAmb 15 34 17.6
comp=Z,12nm,0.8s
PPLA Purkeypile 51.01 34 P **P** **15 34 16.4 +1.9**
baz=270,SNR=5.1
SPCR Spurr Chakacha 51.02 36 P **P** **15 34 16.4 +2.0**
baz=271,SNR=6.1
CAST Castle Rocks 51.06 33 P **P** **15 34 15.9 +1.3**
CAST Castle Rocks 51.06 33 P **P** **15 34 16.3 +1.7**
baz=270,SNR=6.3
I21K Tanana 51.15 31 P **P** **15 34 15.2 +0.1**
I21K Tanana 51.15 31 P **P** **15 34 17.2 +2.1**
baz=268,SNR=5.6
HOM Homer 51.36 38 P **P** **15 34 17.0 +0.2**
BPAW Bear Paw Mtn. 51.56 32 P **P** **15 34 18.2 -0.1**
BPAW Bear Paw Mtn. 51.56 32 P **P** **15 34 19.5 +1.3**
baz=270
CNPM China Poot 51.57 38 P **P** **15 34 18.4 0.0**
CNPM IAmb IAmb 15 34 21.1
comp=Z,13nm,0.8s
KTH Kantishna Hill 51.59 33 P **P** **15 34 19.9 +1.3**
BRLK Bradley Lake 51.73 38 P **P** **15 34 19.6 0.0**
BRLK IAmb IAmb 15 34 22.4
comp=Z,26nm,0.9s
BRSE Bradley Lake S 51.81 38 P **P** **15 34 22.2 +2.1**
baz=274
TRF Thorofare Moun 51.87 33 P **P** **15 34 21.4 +0.7**
TRF Thorofare Moun 51.87 33 P **P** **15 34 22.0 +1.3**
baz=271
CUT Chulitna 51.91 34 P **P** **15 34 21.3 +0.5**
CUT IAmb IAmb 15 34 24.3
comp=Z,16nm,1.1s
CUT Chulitna 51.91 34 P **P** **15 34 21.6 +0.8**
baz=272
COLD Coldfoot 51.93 28 P **P** **15 34 22.9 +1.9**
COLD Coldfoot 51.93 28 P **P** **15 34 22.8 +1.9**
baz=268
M22K Willow 52.00 35 P **P** **15 34 22.6 +1.1**
baz=272
H23K Yukon River 52.17 30 P **P** **15 34 23.8 +1.0**
H23K IAmb IAmb 15 34 26.2
comp=Z,18nm,1.2s
H23K Yukon River 52.17 30 P **P** **15 34 25.1 +2.3**
baz=270,SNR=14
TOLK Toolik Lake Re 52.22 26 P **P** **15 34 24.4 +1.3**
TOLK Toolik Lake Re 52.22 26 P **P** **15 34 24.8 +1.6**
baz=268,SNR=9.2
RC01 Rabbit Creek A 52.22 36 P **P** **15 34 24.1 +0.9**
baz=273
I23K Minto, Yukon-K 52.25 31 P **P** **15 34 25.0 +1.8**
I23K Minto, Yukon-K 52.25 31 P **P** **15 34 24.7 +1.4**
baz=270
NEA2 Nenana 52.38 31 P **P** **15 34 25.6 +1.3**
NEA2 IAmb IAmb 15 34 27.0
comp=Z,14nm,0.8s
NEA2 Nenana 52.38 31 P **P** **15 34 25.7 +1.3**
baz=271,SNR=14
KK31 Karatay Array 52.40 301 *i* P **P** **15 34 24.6 -0.2**
KK31 Karatay Array 52.40 301 P **P** **15 34 24.3 -0.5**
KKAR Karatay Array 52.40 301 P **P** **15 34 24.7 -0.1**
KKAR Karatay Array 52.40 301 P **P** **15 34 24.7 -0.1**
KKAR Karatay Array 52.40 301 IAmb IAmb 15 34 26.0
comp=Z,39nm,0.9s
DRK Karamyk 52.42 296 IAmb IAmb 15 34 26.4
comp=Z,29nm,0.8s
SEW Seward 52.43 37 P **P** **15 34 25.5 +0.8**
SEW Seward 52.43 37 P **P** **15 34 25.5 +0.8**
baz=274
MCK McKinley 52.47 32 P **P** **15 34 25.8 +0.8**
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 52.47 32 P **P** **15 34 25.8 +0.8**
MCK McKinley 52.47 32 P **P** **15 34 26.1 +1.2**
baz=272
PMR Palmer 52.48 35 P **P** **15 34 25.9 +0.9**
PMR pmax pmax
comp=Z,17nm,1.2s
PMR Palmer 52.48 35 P **P** **15 34 25.9 +0.9**
PMR IAmb IAmb 15 34 26.8
comp=Z,16nm,1.2s
PMR Palmer 52.48 35 P **P** **15 34 26.1 +1.1**
baz=274
RND Reindeer 52.52 33 P **P** **15 34 26.4 +1.0**
RND pmax pmax
comp=Z,17nm,0.8s
RND Reindeer 52.52 33 P **P** **15 34 26.4 +1.0**
RND IAmb IAmb 15 34 27.1
comp=Z,17nm,0.8s
GHO Glory Hole Cre 52.57 35 IAmb IAmb 15 34 29.4
comp=Z,16nm,0.8s
WAT1 Susitna Watana 52.68 34 P **P** **15 34 27.3 +0.8**
baz=273
MDM Murphy Dome 52.73 31 P **P** **15 34 27.9 +1.0**
MDM IAmb IAmb 15 34 29.5
comp=Z,16nm,0.6s
WRH Wood River Hil 52.81 31 P **P** **15 34 27.9 +0.5**
KNK Knik Glacier 52.82 35 P **P** **15 34 28.5 +0.9**
KNK IAmb IAmb 15 34 29.6
comp=Z,13nm,0.9s
KNK Knik Glacier 52.82 35 P **P** **15 34 28.5 +0.9**
baz=274,SNR=6.3
SML Sawmill 52.85 35 P **P** **15 34 29.0 +1.2**
baz=274,SNR=8.8
H24K Noodor Dome 52.86 30 P **P** **15 34 29.5 +1.6**
H24K IAmb IAmb 15 34 30.9
comp=Z,27nm,1.5s
H24K Noodor Dome 52.86 30 P **P** **15 34 29.4 +1.6**
baz=271,SNR=9.8
TCOL CIGO, UAF Yank 52.90 31 P **P** **15 34 29.8 +1.9**
baz=272
COLA College 52.90 31 *i* P **P** **15 34 28.6 +0.6**
COLA pmax pmax
comp=Z,6.0nm,0.6s
COLA College 52.90 31 P **P** **15 34 29.7 +1.7**
baz=272
PWL Port Wells 52.92 36 P **P** **15 34 29.2 +0.9**
baz=275
BTK Batken 52.98 297 IAmb IAmb 15 34 31.0
comp=Z,9.9nm,0.7s
POKR Poker Plat Res 53.07 31 P **P** **15 34 29.9 +0.6**
POKR IAmb IAmb 15 34 32.1
comp=Z,31nm,1.2s
POKR Poker Plat Res 53.07 31 P **P** **15 34 30.9 +1.7**
baz=272,SNR=11
WAT6 Susitna Watana 53.07 34 P **P** **15 34 30.4 +0.9**
baz=274,SNR=5.3
NIL Nilore 53.12 289 P **P** **15 34 30.0 -0.2**
NIL pmax pmax
comp=Z,17nm,0.9s
NIL Nilore 53.12 289 P **P** **15 34 30.0 -0.2**
NIL IAmb IAmb 15 34 31.1
comp=Z,17nm,0.8s
DHY Denali Highway 53.20 33 P **P** **15 34 31.7 +1.2**
baz=274
HDA Harding Lake 53.31 32 P **P** **15 34 31.1 +0.1**
HDA IAmb IAmb 15 34 32.5
comp=Z,20nm,1.3s
HDA Harding Lake 53.31 32 P **P** **15 34 31.7 +0.7**
baz=273,SNR=8.4
ILAR Eielson Array 53.32 31 P **P** **15 34 31.6 +0.5**
comp=Z,2.9nm,0.7s,baz=251,slow=4.6,SNR=42
ILAR Eielson Array 53.32 31 P **P** **15 34 31.2 +0.2**
SCM Sheep Creek Mo 53.32 35 IAmb IAmb 15 34 33.6
comp=Z,29nm,0.8s
SCM Sheep Creek Mo 53.32 35 P **P** **15 34 32.5 +1.2**
baz=275,SNR=8.9
GLI Glacier Island 53.52 36 P **P** **15 34 34.1 +1.4**
baz=276
GAR Garm 53.66 296 P **P** **15 34 34.0 -0.2**
WB0 Warramunga Arr 53.71 185 P **P** **15 34 34.3 -0.1**
WB0 IAmb IAmb 15 34 36.1
comp=Z,7.9nm,0.7s
M24K Tolsona, Glenn 53.84 34 IAmb IAmb 15 34 37.8
comp=Z,17nm,0.8s
M24K Tolsona, Glenn 53.84 34 P **P** **15 34 36.9 +1.9**
baz=276
WRAB Tennant Creek 53.88 185 P **P** **15 34 35.1 -0.6**
WRAB pmax pmax
comp=Z,5.0nm,0.5s
WRAB Tennant Creek 53.88 185 P **P** **15 34 35.1 -0.6**
WRAB Tennant Creek 53.88 185 P **P** **15 34 35.5 -0.1**
WB2 Warramunga Arr 53.89 185 P **P** **15 34 35.2 -0.5**
WRA Warramunga Arr 53.89 185 P **P** **15 34 35.3 -0.4**
comp=Z,4.9nm,0.5s,baz=359,slow=7.8,SNR=77
WR0 Warramunga Arr 53.89 184 IAmb IAmb 15 34 37.4
comp=Z,11nm,0.5s
J25K Salcha River, 53.98 31 P **P** **15 34 37.3 +1.4**
baz=274
KLU Klutina 54.02 35 P **P** **15 34 37.7 +1.4**
baz=276,SNR=5.8
PAX Paxson 54.08 33 P **P** **15 34 38.1 +1.3**
baz=276
DIV Divide 54.14 36 IAmb IAmb 15 34 39.7
comp=Z,11nm,0.8s
EYAK Cordova Ski Ar 54.22 36 P **P** **15 34 39.1 +1.5**
baz=277
HARP HAARP 54.28 34 P **P** **15 34 39.7 +1.6**
baz=276,SNR=7.5
RIDG Independent Ri 54.28 32 P **P** **15 34 38.8 +0.6**
baz=276,SNR=5.3
QIS Mount Isa 54.38 178 P **P** **15 34 39.4 +0.1**
SCRK Sand Creek 54.64 32 P **P** **15 34 40.3 -0.4**
SCRK Sand Creek 54.64 32 P **P** **15 34 41.6 +0.9**
baz=276,SNR=11
N25K Chitina, Valde 54.64 35 P **P** **15 34 42.1 +1.3**
baz=277
BMRM Bremner River 54.72 36 IAmb IAmb 15 34 43.9
comp=Z,24nm,0.8s
BMRM Bremner River 54.72 36 P **P** **15 34 43.0 +1.7**
baz=278,SNR=7.2
J26L Joseph Creek 54.77 31 P **P** **15 34 42.4 +0.8**
baz=276,SNR=9.4
MENT Mentasta 54.88 33 IAmb IAmb 15 34 45.3
comp=Z,12nm,0.8s
L26K Log Cabin Wild 55.04 33 IAmb IAmb 15 34 46.4
comp=Z,16nm,0.9s
L26K Log Cabin Wild 55.04 33 P **P** **15 34 45.1 +1.6**
baz=277,SNR=13
BERG Berg Lake 55.24 36 P **P** **15 34 45.7 +0.7**
BERG IAmb IAmb 15 34 47.9
comp=Z,22nm,0.6s
M26K Nabesna, AK 55.28 34 IAmb IAmb 15 34 48.1
comp=Z,11nm,0.8s
M26K Nabesna, AK 55.28 34 P **P** **15 34 46.8 +1.5**
baz=278,SNR=8.4
MCARA McCarthy VSAT 55.42 35 P **P** **15 34 48.1 +1.9**
baz=279,SNR=9.0
TGL Tana Glacier 55.61 36 P **P** **15 34 47.4 -0.3**
TGL IAmb IAmb 15 34 50.2
comp=Z,16nm,0.8s
SVE Sverdlovsk 55.66 319 *e*P **P** **15 34 48.8 +0.8**
SVE pmax pmax
comp=Z,60nm,1.0s
L27K Beaver Creek, 55.72 33 IAmb IAmb 15 34 51.3
comp=Z,9.9nm,0.8s
L27K Beaver Creek, 55.72 33 P **P** **15 34 50.2 +1.8**
baz=279,SNR=13
EGAK Eagle 55.76 31 P **P** **15 34 49.6 +1.1**
baz=278
M27K Edge Creek, AK 55.80 34 IAmb IAmb 15 34 51.9
comp=Z,19nm,0.8s
M27K Edge Creek, AK 55.80 34 P **P** **15 34 50.6 +1.5**
baz=279,SNR=16
KBL Kabul 56.08 292 P **P** **15 34 50.6 -1.0**
KBL pmax pmax
comp=Z,16nm,1.0s
KBL Kabul 56.08 292 P **P** **15 34 50.6 -1.0**
KBL IAmb IAmb 15 34 51.9
comp=Z,16nm,0.9s
BARN Barnard Glacie 56.12 35 IAmb IAmb 15 34 53.9
comp=Z,13nm,0.6s
BVCY Beaver Creek 56.26 34 P **P** **15 34 53.6 +1.4**
baz=280
CTG Chitna Glacier 56.29 35 P **P** **15 34 54.0 +1.4**
baz=280,SNR=6.0
CTGM Chitina Glacie 56.30 35 IAmb IAmb 15 34 54.7
comp=Z,12nm,0.6s
YUK3 Moose Creek 56.56 34 P **P** **15 34 56.5 +1.9**
baz=281,SNR=8.1
DAWY Dawson 56.63 31 P **P** **15 34 54.5 -0.3**
DAWY Dawson 56.63 31 P **P** **15 34 56.2 +1.4**
baz=280
I29M Ogilvie Camp, 56.86 30 IAmb IAmb 15 34 59.0
comp=Z,13nm,1.1s
I29M Ogilvie Camp, 56.86 30 P **P** **15 34 57.9 +1.6**
baz=280
ARU Arti 56.87 319 *d i* P **P** **15 34 56.6 +0.1**
ARU 15 35 45.4
ARU S **S** **15 42 31.0 +2.4**
ARU SS **SS** **15 46 18.8 -1.9**
ARU pmax pmax
comp=Z,54nm,0.9s
ARU Arti 56.87 319 P **P** **15 34 55.6 -0.8**
YUK4 Talbot Arm 57.50 35 P **P** **15 35 03.1 +2.0**
baz=282,SNR=8.7
PNL Peninsula 57.50 37 P **P** **15 35 02.9 +2.0**
baz=283
AS31 Alice Springs 57.61 185 P **P** **15 35 01.7 -0.3**
ASAR Alice Springs 57.61 185 P **P** **15 35 02.9 +0.8**
comp=Z,3.2nm,0.5s,baz=19,slow=11,SNR=103
ASAR ScP **ScP** **15 39 25.8 -0.2**
comp=Z,0.4nm,0.8s,baz=1.8,slow=5.9,SNR=2.9
YUK6 Outpost Mounta 57.72 35 P **P** **15 35 04.7 +2.1**
baz=283,SNR=5.4
AB31 Akbulak array 57.88 311 *i* P **P** **15 35 03.4 -0.2**
M30M Minto, Yukon 58.08 33 IAmb IAmb 15 35 08.0
comp=Z,11nm,0.8s
M30M Minto, Yukon 58.08 33 P **P** **15 35 07.2 +2.4**
baz=283,SNR=13
INK Inuvik 58.13 26 IAmb IAmb 15 35 07.1
comp=Z,8.3nm,0.8s
INK Inuvik 58.13 26 P **P** **15 35 06.5 +1.5**
baz=282,SNR=15
HYT Haines Junctio 58.16 35 IAmb IAmb 15 35 08.9
comp=Z,13nm,1.2s
HYT Haines Junctio 58.16 35 P **P** **15 35 07.6 +2.1**
baz=284,SNR=5.4
AKTO Aktyubinsk 58.73 312 P **P** **15 35 09.2 -0.3**
N31M Braeburn, Yuko 58.80 34 P **P** **15 35 10.0 +0.1**
N31M IAmb IAmb 15 35 13.1
comp=Z,18nm,0.8s
N31M Braeburn, Yuko 58.80 34 P **P** **15 35 12.2 +2.4**
baz=285,SNR=7.7
M31M Drury Creek, Y 59.26 33 IAmb IAmb 15 35 15.7
comp=Z,16nm,0.8s
M31M Drury Creek, Y 59.26 33 P **P** **15 35 14.8 +1.8**
baz=285
WHY Whitehorse 59.45 35 IAmb IAmb 15 35 16.9
comp=Z,9.3nm,0.8s
WHY Whitehorse 59.45 35 P **P** **15 35 16.8 +2.4**
baz=286,SNR=6.1
SKAG Skagway 59.56 36 P **P** **15 35 17.3 +2.3**
baz=286
A36M Sachs Harbour 59.90 21 P **P** **15 35 18.8 +1.7**
baz=288,SNR=26
KIRV Kirov 61.03 323 *i* P **P** **15 35 25.1 +0.2**
C36M Paulatuk 61.13 24 P **P** **15 35 26.9 +1.5**
baz=290,SNR=46
HRA Herat 61.34 294 P **P** **15 35 27.4 -0.3**
PRGR Permogore 61.82 327 *e*P **P** **15 35 29.5 -0.6**
PRGR pmax pmax
comp=Z,11nm,0.5s
TGTN Hyland Airport 62.22 33 P **P** **15 35 35.0 +2.1**
baz=291,SNR=15
SPA0 Spitsbergen Ar 62.88 349 *e*P **P** **15 35 37.8 +0.9**
GEYT Alibeck 63.00 299 P **P** **15 35 39.0 +0.6**
comp=Z,7.2nm,0.8s,baz=285,slow=5.7,SNR=11
GEYT Alibeck 63.00 299 IAmb IAmb 15 35 39.6
comp=Z,10nm,0.9s
GYA0B ALIBECK ARRAY 63.00 299 IAmb IAmb 15 35 44.8
comp=Z,9.8nm,0.8s
BELG Belogornoye 64.19 317 *i* P **P** **15 35 46.3 +0.5**
BELG pmax pmax
comp=Z,7.0nm,0.9s
KLMR Klimovskoe 64.85 328 *e*P **P** **15 35 49.2 -0.6**
KLMR pmax pmax
comp=Z,12nm,0.6s
KLMR Klimovskoe 64.85 328 *e*P **P** **15 35 49.3 -0.6**
KLMR AMP 15 35 50.3
comp=Z,12nm,0.6s
HAMF Hammerfest 65.72 341 *e*P **P** **15 35 55.7 +0.4**
STKA Stephens Creek 65.72 177 P **P** **15 35 56.1 +0.4**
comp=Z,0.7nm,0.4s,baz=347,slow=7.1,SNR=6.2
STKA Stephens Creek 65.72 177 IAmb IAmb 15 35 57.0
comp=Z,1.8nm,1.6s
ARA0 ARCESS Array S 65.81 339 *e*P **P** **15 35 56.6 +0.6**
ARCES ARCESS Array B 65.81 339 P **P** **15 35 56.5 +0.6**
comp=Z,5.6nm,0.6s,baz=68,slow=8.9,SNR=35
RES Resolute Bay 66.04 13 P **P** **15 35 58.2 +0.9**
comp=Z,9.1nm,0.5s,baz=308,slow=5.8,SNR=28
RES Resolute Bay 66.04 13 IAmb IAmb 15 35 59.0
comp=Z,13nm,1.0s
KTK1 Kautokeino 66.78 339 *e*P **P** **15 36 02.5 +0.5**
JETT Jettan, Norway 67.27 340 *e*P **P** **15 36 05.8 +0.7**
YKA Yellowknife Ar 67.60 29 P **P** **15 36 08.1 +0.8**
comp=Z,3.0nm,0.5s,baz=298,slow=6.2,SNR=69
YKA Yellowknife Ar 67.60 29 P **P** **15 36 07.2 -0.1**
DAG Danmarks Havn 68.44 354 *i* P **P** **15 36 12.0 -0.3**
OBN Obninsk 68.88 323 *e*P **P** **15 36 15.0 -0.3**
OBN *e* 15 36 36.6
OBN *e**PP **pP** **15 37 15.0 -1.0**
OBN *e**SP **sP** **15 37 42.5 -2.1**
OBN *e*PPP PPP 15 40 33.2
OBN pmax pmax
comp=Z,18nm,0.6s
VORR Voronezh 69.18 319 *e*P **P** **15 36 17.3 +0.1**
VORR pmax pmax
comp=Z,80nm,0.4s
SEKA Sheki 69.22 306 P **P** **15 36 17.3 -0.5**
LKRN Lenkeran, Azer 69.30 303 P **P** **15 36 18.1 -0.1**
ZKTA Zakatala 69.41 307 P **P** **15 36 18.9 0.0**
MNGR Mingechevir, A 69.50 306 P **P** **15 36 19.5 +0.1**
BANOM Banah 69.69 288 *i* P **P** **15 36 21.3 +0.5**
SNR=6.5
SHME Shamm 69.75 288 *i* P **P** **15 36 21.5 +0.3**
SNR=32
STEI Steigen 69.76 340 *e*P **P** **15 36 20.8 +0.4**
GANJ Ganja 70.08 306 P **P** **15 36 22.9 -0.1**
FAUS Fauske 70.11 340 *e*P **P** **15 36 23.2 +0.5**
FINES FINESS Array B 70.18 332 P **P** **15 36 23.5 +0.3**
comp=Z,14nm,0.5s,baz=65,slow=5.4,SNR=105
FINES FINESS Array B 70.18 332 *i* P **P** **15 36 23.2 +0.1**
FINES pmax pmax
comp=Z,14nm,0.5s
FINES FINESS Array B 70.18 332 P **P** **15 36 22.9 -0.2**
UOSS Minazif 70.24 287 P **P** **15 36 24.0 -0.1**
HATD Hatta, Dubai 70.35 287 *i* P **P** **15 36 25.1 +0.2**
SNR=7.3
ASHO Ashiyiah 70.48 287 P **P** **15 36 25.7 0.0**
NAZ Nazwa, Dubai 70.65 287 P **P** **15 36 26.7 +0.1**
ZEI Tsey 70.65 309 *e*P **P** **15 36 25.6 -1.0**
ZEI pmax pmax
comp=Z,13nm,1.0s
FAQ Al Faqa, Dubai 70.82 287 P **P** **15 36 27.0 -0.6**
KBZ Khabaz 70.84 310 P **P** **15 36 28.1 +0.7**
comp=Z,5nm,0.9s,baz=76,slow=3.4,SNR=73
KBZ Khabaz 70.84 310 *i* P **P** **15 36 27.7 +0.3**
KBZ pmax pmax
comp=Z,34nm,0.9s
KIV Kislovodsk 70.86 310 ⇑P **P** **15 36 28.6 +0.9**
KIV Kislovodsk 70.86 310 *e*P **P** **15 36 27.8 +0.1**
KIV pmax pmax
comp=Z,54nm,1.1s
KIV Kislovodsk 70.86 310 P **P** **15 36 27.7 +0.1**
KIV Kislovodsk 70.86 310 *i* P **P** **15 36 29.5 +1.8**
SNR=8.0
D03D Eldon 70.97 45 P **P** **15 36 30.4 +2.3**
baz=300
ALNE Al Ain 71.03 287 *i* P **P** **15 36 28.6 -0.3**
SNR=6.2
ONI Oni 71.03 309 IAmb IAmb 15 36 30.8
comp=Z,16nm,1.0s
ASUD Al Ashush, Dub 71.09 287 *i* P **P** **15 36 29.4 +0.1**
SNR=10
B05A Bryant 71.18 44 P **P** **15 36 31.3 +1.9**
baz=300
MOR8 Moi Rana 71.19 339 *e*P **P** **15 36 28.5 -0.6**
NAX Nakhchivan 71.34 305 P **P** **15 36 30.5 -0.1**
GNI Garni 71.37 306 *i* P **P** **15 36 31.9 +1.0**
GNI pmax pmax
comp=Z,16nm,1.0s
GNI Garni 71.37 306 P **P** **15 36 30.9 -0.1**
GNI IAmb IAmb 15 36 38.5
comp=Z,13nm,0.8s
MEF Metsahovi 71.57 331 *e*P **P** **15 36 31.4 -0.1**
AKH Akhalkalaki 71.58 308 ⇑P **P** **15 36 33.6 +1.4**
AKH Akhalkalaki 71.58 308 P **P** **15 36 33.6 +1.4**
VSU Vasula 71.65 329 *i* P **P** **15 36 32.3 +0.4**
VSU pmax pmax
comp=Z,53nm,0.8s
VSU Vasula 71.65 329 *e*P **P** **15 36 32.5 +0.5**
RAF Rauma 72.10 333 *e*P **P** **15 36 34.0 -0.6**
B08A Colville Reser 72.71 43 P **P** **15 36 38.3 -0.2**
B08A IAmb IAmb 15 36 40.6
comp=Z,8.9nm,1.0s
MTSE Matsula 72.72 330 *e*P **P** **15 36 38.5 +0.2**
I03D Drain, OR 72.74 49 P **P** **15 36 40.9 +2.2**
baz=301
I04A Tendick Farm, 73.28 48 P **P** **15 36 43.3 +1.3**
baz=301
MZR Muzera 73.36 287 *i* P **P** **15 36 42.3 -0.4**
SNR=17
L02E Cave Junction 73.37 50 P **P** **15 36 44.2 +1.8**
baz=301
MNK Minsk 73.44 325 *i* P **P** **15 36 43.9 +1.3**
MNK *i**PP **pP** **15 37 44.1 0.0**
MNK *i* 15 39 31.0
MNK *i* PPP PPP 15 41 17.3
MNK *i* S **S** **15 45 50.7 +1.2**
MNK *i* SS **SS** **15 50 40.9 +3.9**
MNK pmax pmax
comp=N,29nm,0.9s
MNK pmax pmax
comp=Z,32nm,1.0s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK MLR MLR
comp=Z,1μm,21.0s
MNK MLR MLR
comp=E,233nm,18.0s
MNK MLR MLR
comp=N,1μm,17.0s
MNK Minsk 73.44 325 *i* P **P** **15 36 43.9 +1.3**
comp=E,4.0nm,0.8s
MNK *i* P **P** **15 36 43.9 +1.3**
comp=N,29nm,0.9s
MNK *i* P **P** **15 36 43.9 +1.3**
comp=Z,32nm,1.0s,baz=234
MNK *i* pP **pP** **15 37 44.2 0.0**
MNK *i* PP **PP** **15 39 31.1 +1.4**
MNK *i* PPP PPP 15 41 17.4
MNK *i* S **S** **15 45 50.8 +1.2**
MNK *i* sS **sS** **15 47 38.4 +2.5**

MNK				*i* SS	SS	15 50 40.9	+3.9	
MNK				*i* SSS	SSS	15 54 03.9		
MNK				*i* LRM	MLR	16 11 29.7		
	comp=Z,1μm,20.6s							
MNK				*i* LRM	MLR	16 11 36.2		
	comp=E,233nm,18.1s							
MNK				*i* LRM	MLR	16 11 54.2		
	comp=N,1μm,16.8s							
IDID	**Didziasalis**	**73.50**	**326**	*e*P	**P**	**15 36 44.0**	**+1.1**	
ISAL	**Salakas**	**73.63**	**327**	*e*P	**P**	**15 36 45.0**	**+1.3**	
I05D	**Terrebonne, OR**	**73.65**	**47**	P	**P**	**15 36 46.3**	**+2.2**	
	baz=302							
IIGN	**Ignalina**	**73.72**	**327**	*e*P	**P**	**15 36 45.7**	**+1.5**	
GURO	**Guroymak-BITLI**	**73.99**	**306**	IAmb	IAmb	15 36 48.2		
	comp=Z,13nm,1.0s							
NEW	**Newport**	**74.00**	**42**	P	**P**	**15 36 47.2**	**+1.2**	
	baz=304,slow=7.2							
NEW	**Newport**	**74.00**	**42**	P	**P**	**15 36 47.7**	**+1.7**	
	baz=303							
YBH	**Yreka Blue Hor**	**74.16**	**50**	P	**P**	**15 36 48.3**	**+1.2**	
	comp=Z,5.3nm,0.8s,baz=325,slow=2.1,SNR=5.0							
YBH	**Yreka Blue Hor**	**74.16**	**50**	IAmb	IAmb	15 36 50.1		
	comp=Z,6.2nm,0.9s							
L04D	**Klamath Falls**	**74.17**	**50**	P	**P**	**15 36 49.0**	**+1.7**	
	baz=302							
PINE	**Pine Mountain**	**74.18**	**48**	P	**P**	**15 36 46.7**	**-0.7**	
M02C	**Callahan**	**74.25**	**51**	P	**P**	**15 36 49.2**	**+1.5**	
	baz=302							
TBLU	**Trondheim**	**74.53**	**338**	*e*P	**P**	**15 36 48.6**	**-0.1**	
N02D	**Trinity Center**	**74.56**	**51**	P	**P**	**15 36 51.2**	**+1.8**	
	baz=302							
PABE	**Paberze**	**74.64**	**327**	P	**P**	**15 36 49.6**	**+0.2**	
PABE	**Paberze**	**74.64**	**327**	*e*P	**P**	**15 36 49.7**	**+0.3**	
M04C	**Macdoel**	**74.69**	**50**	P	**P**	**15 36 51.9**	**+1.7**	
	baz=302							
O02D	**Mt. Diablo Mer**	**74.93**	**52**	P	**P**	**15 36 53.1**	**+1.5**	
	baz=302							
AKASG	**Malin Array Be**	**75.01**	**322**	P	**P**	**15 36 51.5**	**-0.2**	
	comp=Z,12nm,0.6s,baz=49,slow=6.1,SNR=49							
WALA	**Waterton Lakes**	**75.31**	**40**	P	**P**	**15 36 53.7**	**+0.1**	
WALA				IAmb	IAmb	15 36 56.0		
	comp=Z,5.8nm,0.8s							
O03E	**Paynes Creek**	**75.51**	**51**	P	**P**	**15 36 56.0**	**+1.2**	
	baz=302							
VIKU	**Vikbolandet**	**75.69**	**333**	*e*P	**P**	**15 36 55.7**	**+0.3**	
BMO	**Blue Mountains**	**75.79**	**45**	IAmb	IAmb	15 36 58.6		
	comp=Z,5.8nm,0.7s							
NC204	**NORSAR Array S**	**75.83**	**337**	*e*P	**P**	**15 36 56.6**	**+0.4**	
NB2	**NORSAR Subarra**	**75.85**	**336**	P	**P**	**15 36 56.2**	**-0.1**	
	comp=Z,6.7nm,0.6s,baz=44,slow=5.9							
NB2	**NORSAR Subarra**	**75.85**	**336**	P	**P**	**15 36 56.2**	**-0.1**	
	baz=44,slow=5.9							
NOA	**NORSAR Array B**	**75.85**	**336**	P	**P**	**15 36 56.5**	**+0.2**	
	comp=Z,9.3nm,0.8s,baz=43,slow=5.7,SNR=21							
NOA				PP	**PP**	**15 39 52.2**	**+2.5**	
	comp=Z,1.0nm,0.7s,baz=45,slow=8.4,SNR=3.9							
J08A	**Circle Bar Ran**	**75.92**	**47**	IAmb	IAmb	15 36 59.8		
	comp=Z,10nm,0.6s							
SUW	**Suwalki**	**75.93**	**327**	*e*P	**P**	**15 36 56.8**	**-0.1**	
PLID	**Pearl Lake**	**76.42**	**45**	P	**P**	**15 36 59.8**	**-0.3**	
PLID				IAmb	IAmb	15 37 03.4		
	comp=Z,11nm,1.6s							
MSO	**Missoula**	**76.59**	**42**	P	**P**	**15 37 01.8**	**+0.9**	
	baz=306							
BEKR	**Beckworth**	**76.67**	**51**	IAmb	IAmb	15 37 03.6		
	comp=Z,8.9nm,0.8s							
SORM	**Soroca**	**76.99**	**320**	⇓P	**P**	**15 37 02.8**	**-0.1**	
SORM	**Soroca**	**76.99**	**320**	⇓P	**P**	**15 37 02.8**	**-0.1**	
BZK	**Bozkurt**	**77.33**	**312**	⇓P	**P**	**15 37 05.1**	**+0.3**	
HYA	**Hoyanger**	**77.36**	**338**	*e*P	**P**	**15 37 04.7**	**0.0**	
KONO	**Kongsberg**	**77.43**	**336**	*e*P	**P**	**15 37 05.6**	**+0.6**	
MFID	**Camas Ranch**	**77.48**	**46**	IAmb	IAmb	15 37 08.2		
	comp=Z,8.2nm,1.1s							
FFC	**Flin Flon**	**77.53**	**31**	P	**P**	**15 37 05.4**	**-0.4**	
FFC				pmax	pmax			
	comp=Z,6.0nm,0.8s							
FFC	**Flin Flon**	**77.53**	**31**	P	**P**	**15 37 05.3**	**-0.4**	
FFC				IAmb	IAmb	15 37 07.4		
	comp=Z,5.5nm,0.8s							
FCC	**Fort Churchill**	**77.73**	**25**	P	**P**	**15 37 06.5**	**-0.3**	
FCC				pmax	pmax			
	comp=Z,9.0nm,1.2s							
FCC	**Fort Churchill**	**77.73**	**25**	P	**P**	**15 37 06.5**	**-0.3**	
FCC				IAmb	IAmb	15 37 08.4		
	comp=Z,8.6nm,1.1s							
EGMT	**Eagleton**	**78.15**	**40**	IAmb	IAmb	15 37 12.0		
	comp=Z,14nm,0.9s							
EGMT	**Eagleton**	**78.15**	**40**	P	**P**	**15 37 10.8**	**+1.4**	
	baz=308							
DLMT	**Dillon**	**78.22**	**43**	P	**P**	**15 37 09.5**	**-0.4**	
DLMT				IAmb	IAmb	15 37 12.1		
	comp=Z,9.2nm,0.8s							
HLID	**Hailey**	**78.23**	**45**	P	**P**	**15 37 11.8**	**+1.7**	
	baz=306							
BMN	**Battle Mountai**	**78.34**	**49**	IAmb	IAmb	15 37 13.4		
	comp=Z,7.2nm,0.9s							
TLCR		**78.50**	**317**	⇓P	**P**	**15 37 12.2**	**+0.9**	
TLCR		**78.50**	**317**	⇓P	**P**	**15 37 12.2**	**+0.9**	
KVN	**Kaiserville**	**78.58**	**51**	P	**P**	**15 37 11.7**	**-0.3**	
KVN				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KVN	**Kaiserville**	**78.58**	**51**	P	**P**	**15 37 11.7**	**-0.3**	
KVN				IAmb	IAmb	15 37 14.4		
	comp=Z,6.8nm,0.7s							
BOZ	**Bozeman (W)**	**78.62**	**42**	P	**P**	**15 37 13.6**	**+1.5**	
	baz=307							
BLS5	**Blasjo**	**78.64**	**337**	*e*P	**P**	**15 37 12.5**	**+0.8**	
NVAR	**Mina Array Bea**	**78.80**	**51**	P	**P**	**15 37 14.7**	**+1.4**	
	comp=Z,3.8nm,0.6s,baz=296,slow=5.0,SNR=22							
BRTR	**Keskin Array B**	**78.83**	**310**	P	**P**	**15 37 13.9**	**+0.6**	
	comp=Z,11nm,0.8s,baz=103,slow=4.3,SNR=44							
BRTR	**Keskin Array B**	**78.83**	**310**	*i* P	**P**	**15 37 14.0**	**+0.6**	
BRTR				pmax	pmax			
	comp=Z,11nm,0.8s							
TESR	**Tescani**	**78.89**	**319**	⇑P	**P**	**15 37 13.7**	**+0.3**	
TPGR	**Topolog**	**78.93**	**317**	⇓P	**P**	**15 37 14.3**	**+0.7**	
BUR08	**Bucovina Ar. S**	**78.96**	**321**	P	**P**	**15 37 13.9**	**0.0**	
BUR08				IAmb	IAmb	15 37 15.4		
	comp=Z,11nm,1.1s							
BURAR	**Bucovina Array**	**78.97**	**321**	⇑P	**P**	**15 37 14.5**	**+0.6**	
BURAR	**Bucovina Array**	**78.97**	**321**	⇑P	**P**	**15 37 14.5**	**+0.6**	
BURAR	**Bucovina Array**	**78.97**	**321**	IAmb	IAmb	15 37 15.8		
	comp=Z,14nm,1.1s							
VRI	**Vrincioaia**	**79.25**	**319**	⇓P	**P**	**15 37 16.2**	**+0.9**	
VRI	**Vrincioaia**	**79.25**	**319**	⇓P	**P**	**15 37 16.2**	**+0.9**	
ANTO	**Ankara**	**79.28**	**311**	P	**P**	**15 37 15.5**	**-0.1**	
ANTO				pmax	pmax			
	comp=Z,14nm,0.6s							
ANTO	**Ankara**	**79.28**	**311**	P	**P**	**15 37 15.5**	**-0.1**	
COVR	**Voineasa-Covas**	**79.55**	**319**	⇑P	**P**	**15 37 17.5**	**+0.5**	
OZUR		**79.62**	**319**	⇓P	**P**	**15 37 18.8**	**+1.4**	
PKM	**Mcpherson Peak**	**79.80**	**55**	P	**P**	**15 37 20.5**	**+1.8**	
	baz=304							
DOPR	**Dopca**	**79.92**	**319**	⇑P	**P**	**15 37 20.4**	**+1.5**	
OJC	**Ojcow**	**79.99**	**325**	P	**P**	**15 37 18.8**	**-0.4**	
OJC				pmax	pmax			
	comp=Z,16nm,1.0s							
OJC	**Ojcow**	**79.99**	**325**	P	**P**	**15 37 18.8**	**-0.4**	
OJC				IAmb	IAmb	15 37 20.8		
	comp=Z,16nm,1.0s							
TRPA	**Tarpa**	**80.03**	**322**	⇑P	**P**	**15 37 20.5**	**+1.1**	
TRPA	**Tarpa**	**80.03**	**322**	P	**P**	**15 37 19.9**	**+0.5**	
CRVS	**Cervenica-Dubn**	**80.06**	**323**	*e*P	**P**	**15 37 19.7**	**+0.1**	
CRVS	**Cervenica-Dubn**	**80.06**	**323**	*e*P	**P**	**15 37 19.7**	**+0.1**	
CWC	**Cottonwood Cre**	**80.08**	**53**	P	**P**	**15 37 20.8**	**+0.6**	
	baz=305							
RLMT	**Red Lodge**	**80.22**	**42**	IAmb	IAmb	15 37 23.4		
	comp=Z,18nm,1.6s							
RLMT	**Red Lodge**	**80.22**	**42**	P	**P**	**15 37 22.2**	**+1.4**	
	baz=309							
GRAC	**Grapevine Rang**	**80.23**	**52**	P	**P**	**15 37 22.4**	**+1.6**	
	baz=305							
ISA	**Isabella, Lake**	**80.26**	**54**	P	**P**	**15 37 21.1**	**+0.1**	
	baz=305							
HVU	**Hansel Valley**	**80.27**	**46**	IAmb	IAmb	15 37 23.2		
	comp=Z,4.1nm,0.6s							
NIE	**Niedzica**	**80.29**	**324**	P	**P**	**15 37 23.2**	**+2.4**	
VOIR		**80.44**	**319**	⇓P	**P**	**15 37 22.4**	**+0.7**	
VOIR		**80.44**	**319**	⇓P	**P**	**15 37 22.4**	**+0.7**	
R11A	**Troy Canyon, C**	**80.58**	**50**	P	**P**	**15 37 24.2**	**+1.4**	
	baz=306							
MPMC	**Manual Prospec**	**80.69**	**53**	P	**P**	**15 37 24.7**	**+1.3**	
	baz=306							
ARR	**Arges**	**80.71**	**319**	⇓P	**P**	**15 37 24.6**	**+1.4**	
DRGR		**80.81**	**321**	⇓P	**P**	**15 37 24.5**	**+0.8**	
DRGR		**80.81**	**321**	⇓P	**P**	**15 37 24.5**	**+0.8**	
FURC	**Furnace Creek,**	**80.86**	**52**	P	**P**	**15 37 25.6**	**+1.6**	
	baz=306							
LANS	**Liptovska Anna**	**80.87**	**324**	*e*P	**P**	**15 37 25.2**	**+1.3**	
LANS				pmax	pmax			
	comp=Z,3.0nm,0.5s							
LANS	**Liptovska Anna**	**80.87**	**324**	*e*P	**P**	**15 37 25.2**	**+1.3**	
TPNV	**Topopah Spring**	**80.98**	**51**	P	**P**	**15 37 24.6**	**-0.3**	
TPNV				pmax	pmax			
	comp=Z,7.0nm,0.8s							
TPNV	**Topopah Spring**	**80.98**	**51**	P	**P**	**15 37 24.6**	**-0.3**	
TPNV				IAmb	IAmb	15 37 27.1		
	comp=Z,7.0nm,0.8s							
TPNV	**Topopah Spring**	**80.98**	**51**	P	**P**	**15 37 26.0**	**+1.1**	
	baz=306							
EDW2	**Edwards Air Fo**	**81.03**	**54**	P	**P**	**15 37 26.5**	**+1.4**	
	baz=305							
QSM	**Queen of Sheba**	**81.15**	**53**	P	**P**	**15 37 24.7**	**-1.0**	
QSM				IAmb	IAmb	15 37 27.7		
	comp=Z,12nm,1.1s							
GWY	**Greenwater Val**	**81.15**	**52**	IAmb	IAmb	15 37 27.8		
	comp=Z,6.1nm,0.8s							
KSP	**Ksiaz**	**81.19**	**327**	P	**P**	**15 37 26.3**	**+0.8**	
DUG	**Dugway, Tooele**	**81.20**	**47**	P	**P**	**15 37 27.7**	**+1.7**	
	baz=308							
MORC	**Moravsky Berou**	**81.36**	**326**	⇓P	**P**	**15 37 27.3**	**+0.8**	
MORC	**Moravsky Berou**	**81.36**	**326**	⇓P	**P**	**15 37 27.3**	**+0.8**	
MORC	**Moravsky Berou**	**81.36**	**326**	IAmb	IAmb	15 37 27.6		
	comp=Z,7.2nm,0.7s							
MORC	**Moravsky Berou**	**81.36**	**326**	*e*P	**P**	**15 37 27.1**	**+0.6**	
CHVC	**Chvalec**	**81.47**	**327**	*e*P	**P**	**15 37 27.6**	**+0.5**	
PRN	**Pahroc Range**	**81.48**	**50**	IAmb	IAmb	15 37 30.0		
	comp=Z,6.1nm,0.9s							
PSZ	**Piszkesteto**	**81.50**	**323**	⇑P	**P**	**15 37 28.6**	**+1.3**	
PSZ	**Piszkesteto**	**81.50**	**323**	⇑P	**P**	**15 37 28.6**	**+1.3**	
PSZ	**Piszkesteto**	**81.50**	**323**	P	**P**	**15 37 27.2**	**-0.1**	
PSZ				IAmb	IAmb	15 37 29.1		
	comp=Z,10.0nm,0.9s							
PSZ	**Piszkesteto**	**81.50**	**323**	P	**P**	**15 37 29.0**	**+1.7**	
KRLC	**Kraliky**	**81.50**	**326**	*e*P	**P**	**15 37 27.5**	**+0.3**	
KRLC	**Kraliky**	**81.50**	**326**	*e*P	**P**	**15 37 27.5**	**+0.3**	
DPC	**Dobruska-Polom**	**81.52**	**327**	*e*P	**P**	**15 37 28.0**	**+0.7**	
DPC	**Dobruska-Polom**	**81.52**	**327**	*e*P	**P**	**15 37 28.0**	**+0.7**	
BW06	**Boulder Array**	**81.54**	**44**	P	**P**	**15 37 28.6**	**+0.8**	
	baz=309							
PDAR	**Pinedale Array**	**81.54**	**44**	P	**P**	**15 37 28.5**	**+0.7**	
	comp=Z,1.7nm,0.7s,baz=292,slow=2.2,SNR=14							
UPC	**Upice**	**81.55**	**327**	*e*P	**P**	**15 37 28.1**	**+0.7**	
UPC	**Upice**	**81.55**	**327**	*e*P	**P**	**15 37 28.1**	**+0.7**	
GSC	**Goldstone, Bar**	**81.58**	**53**	P	**P**	**15 37 29.2**	**+1.2**	
	baz=306							
VYHS	**Vyhne**	**81.62**	**324**	*e*P	**P**	**15 37 28.9**	**+1.0**	
VYHS				pmax	pmax			
	comp=Z,5.0nm,0.6s							
VYHS	**Vyhne**	**81.62**	**324**	*e*P	**P**	**15 37 28.8**	**+0.9**	
GZR	**Gura Zlata**	**81.69**	**320**	⇓P	**P**	**15 37 28.9**	**+0.6**	
GZR	**Gura Zlata**	**81.69**	**320**	⇓P	**P**	**15 37 28.9**	**+0.6**	
JAVC	**Velka Javorina**	**81.93**	**325**	*e*P	**P**	**15 37 31.1**	**+1.6**	
VRAC	**Vranov**	**82.13**	**326**	⇓P	**P**	**15 37 31.6**	**+1.1**	
VRAC	**Vranov**	**82.13**	**326**	⇓P	**P**	**15 37 31.6**	**+1.1**	
VRAC	**Vranov**	**82.13**	**326**	*e*P	**P**	**15 37 31.2**	**+0.7**	
HERR	**Herculane**	**82.22**	**320**	⇑P	**P**	**15 37 31.3**	**+0.3**	
SMOL	**Smolenice**	**82.29**	**325**	*e*P	**P**	**15 37 32.5**	**+1.2**	
SMOL				pmax	pmax			
	comp=Z,9.0nm,0.9s							
SMOL	**Smolenice**	**82.29**	**325**	*e*P	**P**	**15 37 32.5**	**+1.2**	
CLL	**Collm**	**82.30**	**329**	*i* P	**P**	**15 37 31.3**	**0.0**	
CLL				pmax	pmax			
	comp=Z,17nm,1.2s							
CLL	**Collm**	**82.30**	**329**	*i* P	**P**	**15 37 31.3**	**0.0**	
	comp=Z,17nm,1.2s							
CLL				*e*PP	**PP**	**15 40 44.0**	**+0.8**	
KRUC	**Moravsky**	**82.39**	**326**	*e*P	**P**	**15 37 32.5**	**+0.7**	
MODS	**Modra-Piesok**	**82.46**	**325**	*e*P	**P**	**15 37 32.9**	**+0.7**	
MODS	**Modra-Piesok**	**82.46**	**325**	*e*P	**P**	**15 37 32.9**	**+0.7**	
PRU	**Pruhonice**	**82.58**	**327**	*e*P	**P**	**15 37 33.1**	**+0.3**	
PRU	**Pruhonice**	**82.58**	**327**	*e*P	**P**	**15 37 33.1**	**+0.3**	
GMRC	**Granite Mounta**	**82.64**	**53**	P	**P**	**15 37 34.5**	**+1.0**	
	baz=307							
MDVR	**Moldovita**	**82.66**	**320**	⇑P	**P**	**15 37 33.5**	**+0.2**	
PFO	**Pinyon Flats O**	**82.80**	**54**	P	**P**	**15 37 35.8**	**+1.4**	
	baz=306							
TPFO	**Pinon Flats**	**82.81**	**54**	P	**P**	**15 37 36.2**	**+1.7**	
	baz=306							
LCMT	**Little Creek M**	**82.87**	**50**	P	**P**	**15 37 33.7**	**-1.0**	
LCMT				IAmb	IAmb	15 37 37.3		
	comp=Z,6.6nm,1.0s							
BELC	**Belle Mtn. Jos**	**82.88**	**54**	P	**P**	**15 37 35.4**	**+0.6**	
	baz=306							
BLKB	**Belogradchik**	**82.90**	**319**	⇓P	**P**	**15 37 34.7**	**+0.1**	
P17A	**Butcher Ranch,**	**82.91**	**47**	IAmb	IAmb	15 37 37.5		
	comp=Z,17nm,1.3s							
RDMU	**Red Mountain**	**82.92**	**45**	P	**P**	**15 37 33.7**	**-1.3**	
RDMU				IAmb	IAmb	15 37 36.9		
	comp=Z,5.4nm,0.6s							
ELL	**Elmali**	**82.95**	**310**	P	**P**	**15 37 34.4**	**-0.7**	
ELL				pmax	pmax			
	comp=Z,69nm,1.1s							
ELL	**Elmali**	**82.95**	**310**	P	**P**	**15 37 34.4**	**-0.7**	
MPLH	**Magyarpolny**	**83.17**	**324**	P	**P**	**15 37 35.6**	**-0.2**	
VTS	**Vitosha**	**83.25**	**318**	P	**P**	**15 37 37.8**	**+1.3**	
VTS	**Vitosha**	**83.25**	**318**	IAmb	IAmb	15 37 38.5		
	comp=Z,12nm,1.0s							
MONP2	**Monument Peak**	**83.25**	**55**	P	**P**	**15 37 37.8**	**+1.0**	
	baz=306							
SRU	**San Rafael Swe**	**83.26**	**47**	P	**P**	**15 37 35.9**	**-0.8**	
SRU				pmax	pmax			
	comp=Z,10.0nm,0.9s							
SRU	**San Rafael Swe**	**83.26**	**47**	P	**P**	**15 37 35.9**	**-0.8**	
SRU				IAmb	IAmb	15 37 38.8		
	comp=Z,9.6nm,0.9s							
MORH	**Mrgy, Hungar**	**83.28**	**323**	⇑P	**P**	**15 37 36.8**	**+0.4**	
MORH	**Mrgy, Hungar**	**83.28**	**323**	P	**P**	**15 37 36.8**	**+0.4**	
SOP	**Sopron**	**83.29**	**325**	P	**P**	**15 37 37.7**	**+1.3**	
K22A	**Casper**	**83.33**	**42**	P	**P**	**15 37 38.2**	**+1.2**	
	baz=311							
NKC	**Novy Kostel**	**83.33**	**328**	*e*P	**P**	**15 37 36.7**	**+0.1**	
NKC	**Novy Kostel**	**83.33**	**328**	*e*P	**P**	**15 37 36.7**	**+0.1**	
ULM	**Lac du Bonnet**	**83.33**	**32**	P	**P**	**15 37 37.1**	**+0.5**	
	comp=Z,2.3nm,0.5s,baz=281,slow=4.1,SNR=3.9							
IRM	**Iron Mountain**	**83.36**	**53**	P	**P**	**15 37 38.3**	**+1.2**	
	baz=307							
RONA	**Rosalia, Austr**	**83.40**	**325**	*e*P	**P**	**15 37 38.2**	**+1.1**	
	comp=Z,2.4nm,0.4s							
CONA	**Conrad Observa**	**83.45**	**325**	*e*P	**P**	**15 37 38.5**	**+1.2**	
	comp=Z,5.3nm,0.6s							
BC3	**Big Chuckawall**	**83.45**	**54**	P	**P**	**15 37 38.8**	**+1.1**	
	baz=307							
CKRC	**Cesky Krumlov**	**83.53**	**327**	*e*P	**P**	**15 37 38.2**	**+0.5**	
IKP	**In-Ko-Pah, Jac**	**83.61**	**55**	P	**P**	**15 37 39.9**	**+1.5**	
	baz=307							
KHC	**Kasperske Hory**	**83.64**	**327**	*e*P	**P**	**15 37 38.5**	**+0.3**	
KHC	**Kasperske Hory**	**83.64**	**327**	P	**P**	**15 37 38.0**	**-0.2**	
KHC				IAmb	IAmb	15 37 39.6		
	comp=Z,9.3nm,0.7s							
KHC	**Kasperske Hory**	**83.64**	**327**	*e*P	**P**	**15 37 38.5**	**+0.3**	
KOVH	**Kovagotttos**	**83.64**	**323**	P	**P**	**15 37 38.6**	**+0.4**	
RSSD	**Black Hills**	**83.70**	**40**	P	**P**	**15 37 38.9**	**-0.1**	
	baz=312							
GERES	**GERESS Array B**	**83.79**	**327**	P	**P**	**15 37 39.4**	**+0.3**	
	comp=Z,5.3nm,0.7s,baz=44,slow=4.1,SNR=31							
PDMCI	**Parker Dam,Lak**	**83.93**	**53**	P	**P**	**15 37 41.2**	**+1.3**	
	baz=307							
O20A	**White River Ci**	**83.97**	**45**	P	**P**	**15 37 41.6**	**+1.3**	
	baz=310							
GLA	**Glamis**	**84.23**	**54**	P	**P**	**15 37 43.3**	**+1.8**	
	baz=307							
MOA	**Molln**	**84.25**	**326**	*e*P	**P**	**15 37 42.7**	**+1.4**	
	comp=Z,6.8nm,1.2s							
PV23	**Carpenter Ridg**	**84.60**	**47**	P	**P**	**15 37 42.8**	**-0.7**	
PV23				IAmb	IAmb	15 37 45.9		
	comp=Z,13nm,0.9s							
PV10	**Paradox Valley**	**84.63**	**47**	P	**P**	**15 37 43.4**	**-0.3**	
SOKA	**Soboth**	**84.73**	**325**	*e*P	**P**	**15 37 44.0**	**+0.2**	
	comp=Z,4.2nm,0.5s							
AGMN	**Agassiz Nation**	**84.78**	**33**	P	**P**	**15 37 44.1**	**+0.2**	
	baz=318							
N23A	**Red Feather La**	**84.81**	**43**	P	**P**	**15 37 45.9**	**+1.3**	
	baz=312							
PV13	**Radium Mtn., P**	**84.90**	**47**	P	**P**	**15 37 44.5**	**-0.5**	
WUAZ	**Wupatki**	**84.98**	**50**	P	**P**	**15 37 46.7**	**+1.3**	
	baz=309							
X16A	**Lo Mia Camp, P**	**85.62**	**51**	P	**P**	**15 37 47.6**	**-1.0**	
ISCO	**Idaho Springs**	**85.72**	**44**	P	**P**	**15 37 50.0**	**+0.9**	
	baz=312							
214A	**Organ Pipe Nat**	**86.25**	**54**	P	**P**	**15 37 52.9**	**+1.4**	
	baz=308							
S22A	**4UR Ranch, Cre**	**86.36**	**46**	P	**P**	**15 37 54.2**	**+1.9**	
	baz=311							
Q24A	**Divide**	**86.55**	**44**	P	**P**	**15 37 54.1**	**+0.9**	
	baz=312							
EYMN	**Ely**	**86.96**	**31**	P	**P**	**15 37 54.8**	**+0.2**	
	baz=321							
SDCO	**Great Sand Dun**	**87.15**	**45**	P	**P**	**15 37 57.5**	**+1.4**	
	baz=312							
ITM	**Ithomi**	**87.60**	**314**	P	**P**	**15 37 56.5**	**-1.3**	
ECSD	**EROS Data Cent**	**87.78**	**36**	P	**P**	**15 37 59.2**	**+0.6**	
	baz=317							
T25A	**Trinidad**	**88.20**	**45**	P	**P**	**15 38 01.9**	**+0.9**	
	baz=313							
MNTX	**Cornudas Mount**	**91.26**	**50**	P	**P**	**15 38 15.6**	**+0.6**	
	baz=312							
L44A	**Lake County Fo**	**93.07**	**32**	P	**P**	**15 38 23.6**	**+0.5**	
	baz=323							
WMOK	**Wichita Mounta**	**93.15**	**44**	P	**P**	**15 38 24.7**	**+1.1**	
	baz=316							
TXAR	**Lajitas Array**	**93.94**	**51**	P	**P**	**15 38 28.9**	**+1.4**	
	comp=Z,3.5nm,0.6s,baz=288,slow=3.0,SNR=32							
CCM	**Cathedral Cave**	**94.73**	**37**	P	**P**	**15 38 31.3**	**+0.5**	
	baz=321							
U40A	**Yellville**	**95.21**	**39**	P	**P**	**15 38 33.8**	**+0.8**	
	baz=320							
TORD	**Torodi Ar. Bea**	**117.44**	**311**	PKP	**PKPdf**	**15 43 53.5**	**-0.7**	
	comp=Z,0.5nm,0.6s,baz=351,slow=1.1,SNR=6.1							
BOSA	**Boshof**	**123.45**	**256**	PKP	**PKPdf**	**15 44 05.5**	**+0.1**	
	comp=Z,0.7nm,0.5s,baz=104,slow=4.2,SNR=1.5							
LPAZ	**La Paz**	**150.37**	**60**	PKPbc	**PKiKP**	**15 45 01.6**	**+0.3**	
	comp=Z,2.3nm,0.8s,baz=338,slow=4.8,SNR=6.6							
LPAZ	**La Paz**	**150.37**	**60**		**PKiKP**	**15 45 02.0**	**+0.7**	

IDC ***14*** *15:34:15.8±0.5, 32.6°64N×131.0°02E, h0km, mb4.2/22, mb1 4.4/25, mb1mx4.2/54, mbtmp4.2/25, ML3.8/3 Error ellipse: s-maj=16.8km s-min=7.1km az=80.0*

MOS ***14*** *15:34:16.6±1.3, 32.6°64N×130.9°4E, h19km, mb4.7/34, Error ellipse: s-maj=9.3km s-min=5.1km az=103.5*

JMA ***14*** *15:34:17.1, 32.6°69N×130.7°5E, h13km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs133.00000°, δ76.00000°, λ-59.00000°. NP2: φs244.00000°, δ33.00000°, λ-155.00000°. Principal axes: T Plg25.0000°, Azm199.0000°; N Plg30.0000°, Azm305.0000°; P Plg49.0000°, Azm76.0000°;*

JMA Felt IV J1.

NIED ***14*** *15:34:17.1, 32.6°69N×130.7°5E, h13km, MW4.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr-2.56; Mθθ4.73; Mφφ-2.18; Mrθ-6.99; Mθφ0.06; Mrφ-3.24; Fault plane solution: Mo8.67000×10^15 NP1: φs304.00000°, δ20.00000°, λ-32.00000°. NP2:φs65.00000°, δ79.00000°, λ-107.00000°.*

NEIC ***14*** *15:34:17.4±1.5, 32.7°0N±0.05×130.7°7E±0.06, h10km±1km, mb4.7/91 Error ellipse: s-maj=8.9km s-min=7.8km az=132.0*

ISC 14 15:34:17.4±0.9, 32°69N±0.03×130°85E±0.04, h9km±5km, n221, σ1§43/223, mb4.6/85, 10C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**191**	⇑P	**Pg**	**15 34 20.8**	**+0.2**
JIU3				S	**Sg**	**15 34 23.7**	**+0.9**
JTA	**Tamana**	**0.38**	**316**	⇑P	**Pg**	**15 34 23.8**	**-1.1**
JTA				S	**Sg**	**15 34 28.4**	**-1.6**
JNU	**Nakatsue**	**0.43**	**4**	Pg	**Pg**	**15 34 25.6**	**-0.4**
	4μm,0.3s,baz=302,slow=2.0

HIA pmax pmax
comp=Z,17nm,1.5s
HIA Hailar 18.53 337 P **P** **15 38 32.9 -1.1**
ZEA Zeya 21.20 354 *e*P **P** **15 39 05.9 +2.9**
ZEA pmax pmax
comp=N,20nm,1.4s
ZEA pmax pmax
comp=Z,40nm,1.3s
CD2 Chengdu 23.07 273 P **P** **15 39 25.8 +2.5**
CD2 pmax pmax
comp=Z,30nm,1.3s
ULN Ulaanbaatar 23.52 317 *ce*P **P** **15 39 29.5 +1.7**
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 23.52 317 P **P** **15 39 28.0 +0.2**
SONM Songino Array 23.88 316 P **P** **15 39 34.0 +2.7**
comp=Z,3.7nm,0.7s,baz=126,slow=7.5,SNR=5.2
SONM Songino Array 23.88 316 P **P** **15 39 31.2 -0.1**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 23.88 316 P **P** **15 39 31.2 -0.1**
PZH PanZhiHua 26.00 264 P **P** **15 39 51.1 +0.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 26.94 319 *e*P **P** **15 39 59.4 +0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
YAK Yakutsk 29.37 359 P **P** **15 40 21.6 +1.2**
comp=Z,3.2nm,0.5s,baz=166,slow=1.6,SNR=4.1
YAK ScP **ScP** **15 47 10.0 +1.8**
comp=Z,6.3nm,0.4s,baz=74,slow=0.5,SNR=4.6
YAK Yakutsk 29.37 359 *e*P **P** **15 40 22.1 +1.7**
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,2.0nm,1.5s
YAK Yakutsk 29.37 359 P **P** **15 40 18.7 -1.7**
YAK IAmb IAmb 15 40 26.6
comp=Z,12nm,0.9s
GOMU GeErMu 29.81 287 P **P** **15 40 25.8 +0.7**
GOMU pP pP 15 40 29.4 +1.4
GOMU sP sP 15 40 33.5 +4.3
GOMU S **S** **15 45 21.3 -0.8**
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU pmax pmax
comp=Z,4μm,11.9s
GOMU LR LR
comp=N,2μm,13.3s
GOMU LR LR
comp=E,2μm,12.6s
GOMU LR LR
comp=Z,1μm,12.6s
MA2 Magadan 29.98 20 *i*P **P** **15 40 27.0 +1.1**
MA2 pmax pmax
comp=Z,3.0nm,1.2s
MA2 Magadan 29.98 20 P **P** **15 40 24.8 -1.1**
CHTO Chiang Mai 31.74 252 P **P** **15 40 43.4 +1.5**
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 31.74 252 P **P** **15 40 39.6 -2.3**
CHTO IAmb IAmb 15 40 46.4
comp=Z,10nm,0.9s
CHTO Chiang Mai 31.74 252 **P** **15 40 40.3 -1.6**
CM31 Chiang Mai Arr 31.93 252 P **P** **15 40 42.3 -1.3**
CMAR Chiang Mai Arr 31.93 252 P **P** **15 40 44.8 +1.2**
comp=Z,1.5nm,0.7s,baz=67,slow=5.4,SNR=14
CMAR Chiang Mai Arr 31.93 252 P **P** **15 40 41.4 -2.1**
SEY Seymchan 33.20 18 P **P** **15 40 54.4 +0.3**
comp=Z,2.0nm,1.0s,baz=175,slow=13,SNR=6.8
SEY Seymchan 33.20 18 *ce*P **P** **15 40 53.3 -0.8**
SEY pmax pmax
comp=Z,17nm,3.3s
H11N2 WAKE ISLAND Hy 34.65 103 T T 16 17 11.1
baz=297,slow=74,SNR=5.8
H11N1 WAKE ISLAND Hy 34.66 103 T T 16 17 17.5
baz=297,slow=74,SNR=5.3
H11N3 WAKE ISLAND Hy 34.67 103 T T 16 17 20.0
baz=297,slow=74,SNR=9.5
H11S3 WAKE ISLAND Hy 35.10 105 T T 16 17 47.5
baz=301
H11S1 WAKE ISLAND Hy 35.10 105 T T 16 17 43.8
baz=301
H11S2 WAKE ISLAND Hy 35.11 105 T T 16 17 43.8
baz=301
WMQ Urumqi 35.30 301 *e*P **P** **15 41 15.3 +2.6**
ZAA0 Zalesovo Array 38.77 317 P **P** **15 41 39.9 -2.1**
ZALV Zalesovo Beam 38.77 317 P **P** **15 41 43.5 +1.5**
comp=Z,0.4nm,0.4s,baz=108,slow=8.1,SNR=3.8
ZALV PcP **PcP** **15 43 53.0 -0.4**
comp=Z,0.6nm,0.5s,baz=119,slow=5.1,SNR=2.7
ZALV Zalesovo Beam 38.77 317 P **P** **15 41 40.1 -1.9**
TIXI Tiksi 39.03 359 *ce*P **P** **15 41 41.9 -2.0**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 39.03 359 P **P** **15 41 42.4 -1.5**
MK31 Makanchi Array 39.28 306 *i*P **P** **15 41 48.4 +2.0**
MK31 Makanchi Array 39.28 306 P **P** **15 41 45.9 -0.5**
MKAR Makanchi Array 39.28 306 P **P** **15 41 47.5 +1.0**
comp=Z,4.1nm,0.9s,baz=95,slow=9.1,SNR=24
MKAR Makanchi Array 39.28 306 P **P** **15 41 46.5 +0.1**
MAKZ Makanchi 39.50 306 P **P** **15 41 48.4 +0.2**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
MAKZ Makanchi 39.50 306 P **P** **15 41 48.4 +0.2**
PBA Port Blair 40.72 248 P **P** **15 41 56.6 -2.0**
BILL Bilibino 40.84 19 *e*P **P** **15 41 59.0 0.0**
BILL *e* 15 42 02.8
BILL *e* 15 43 32.6
BILL *e*PPP PPP 15 44 00.2
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL Bilibino 40.84 19 P **P** **15 41 59.0 0.0**
KIWB Kanaga Island 41.96 47 P **P** **15 42 07.1 -1.3**
KURK Kurchatov 41.99 311 *ce*P **P** **15 42 09.2 +0.6**
KURK pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov 41.99 311 P **P** **15 42 08.6 0.0**
KURK IAmb IAmb 15 42 11.8
comp=Z,9.7nm,1.1s
NRIK Noril'sk 43.92 339 P **P** **15 42 24.7 +0.7**
comp=Z,6.9nm,0.8s,baz=121,slow=8.6,SNR=7.3
NRIK Noril'sk 43.92 339 *ce*P **P** **15 42 23.2 -0.8**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
NRIK Noril'sk 43.92 339 P **P** **15 42 22.3 -1.7**
NRIK IAmb IAmb 15 42 28.0
comp=Z,5.8nm,0.8s
SMRI Semarang 44.03 210 P **P** **15 42 22.9 -2.7**
GSI Gunungsitoli 44.19 232 P **P** **15 42 25.5 -1.3**
GSI IAmb IAmb 15 42 32.0
comp=Z,6.2nm,0.6s
AAK Ala-Archa 44.96 300 *ce*P **P** **15 42 34.0 +1.0**
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 44.96 300 P **P** **15 42 31.8 -1.2**
MTN Manton Dam 45.27 180 P **P** **15 42 33.9 -1.5**
MTN IAmb IAmb 15 42 34.0
comp=Z,6.3nm,0.8s
MNAI Manna 45.37 221 P **P** **15 42 35.0 -1.2**
BRVK Borovoye 47.26 314 *ce*P **P** **15 42 52.3 +1.6**
BRVK pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 47.26 314 P **P** **15 42 49.9 -0.8**
BRVK IAmb IAmb 15 42 54.8
comp=Z,7.3nm,0.8s
NIL Nilore 47.67 288 P **P** **15 42 53.1 -1.1**
NIL pmax pmax
comp=Z,6.0nm,0.9s
NIL Nilore 47.67 288 P **P** **15 42 53.1 -1.1**
NIL IAmb IAmb 15 42 57.3
comp=Z,5.8nm,0.9s
KK31 Karatay Array 47.81 301 P **P** **15 42 53.9 -1.2**
KK31 pmax pmax
comp=Z,13nm,1.0s
KK31 Karatay Array 47.81 301 P **P** **15 42 53.9 -1.2**
KKAR Karatay Array 47.81 301 P **P** **15 42 54.5 -0.7**
KKAR Karatay Array 47.81 301 P **P** **15 42 54.5 -0.7**
KKAR Karatay Array 47.81 301 P **P** **15 42 54.1 -1.1**
KKAR IAmb IAmb 15 42 58.9
comp=Z,13nm,1.0s
BTK Batken 48.09 297 P **P** **15 42 56.1 -1.4**
BTK pmax pmax
comp=Z,4.0nm,1.1s
BTK Batken 48.09 297 P **P** **15 42 56.1 -1.4**
BTK IAmb IAmb 15 43 00.9
comp=Z,4.0nm,1.1s
GAR Garm 48.69 295 P **P** **15 43 02.8 +0.6**
CHGR Chuyangaron 49.65 295 P **P** **15 43 09.4 -0.1**
CHGR pmax pmax
comp=Z,26nm,1.0s
CHGR Chuyangaron 49.65 295 P **P** **15 43 08.8 -0.6**
SDPT Sand Point 51.95 43 P **P** **15 43 26.8 +0.4**
WB0 Warramunga Arr 52.27 176 P **P** **15 43 28.5 -0.6**
WRAB Tennant Creek 52.43 176 P **P** **15 43 28.4 -1.9**
WRAB pmax pmax
comp=Z,7.0nm,1.1s
WRAB Tennant Creek 52.43 176 P **P** **15 43 28.4 -1.9**
WRAB IAmb IAmb 15 43 29.9
comp=Z,6.6nm,1.1s
WRA Warramunga Arr 52.44 176 P **P** **15 43 29.1 -1.3**
comp=Z,2.0nm,0.9s,baz=354,slow=8.0,SNR=11
WRA Warramunga Arr 52.44 176 P **P** **15 43 28.9 -1.5**
WB2 Warramunga Arr 52.44 176 P **P** **15 43 29.1 -1.3**
WR0 Warramunga Arr 52.47 176 P **P** **15 43 29.1 -1.5**
TTA Tatalina 53.85 33 P **P** **15 43 39.4 -1.1**
TTA pmax pmax
comp=Z,5.0nm,1.2s
TTA Tatalina 53.85 33 P **P** **15 43 39.4 -1.1**
ARU Arti 53.88 319 *d*i**P** **P** **15 43 43.6 +2.9**
ARU 15 45 39.6
ARU S **S** **15 51 22.0 +6.3**
ARU SS **SS** **15 54 59.3 +3.0**
ARU pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 53.88 319 P **P** **15 43 40.2 -0.5**
ARU IAmb IAmb 15 43 44.9
comp=Z,8.1nm,0.9s
ABKAR Akbulak array 54.07 310 P **P** **15 43 41.3 -0.8**
ABKAR IAmb IAmb 15 43 49.4
comp=Z,5.0nm,1.1s
ABKAR Akbulak array 54.07 310 P **P** **15 43 40.9 -1.2**
SVW2 Sparrevohn 54.15 35 P **P** **15 43 43.2 +0.7**
SVW2 IAmb IAmb 15 43 53.6
comp=Z,14nm,1.5s
L19K White Mountain 54.43 34 P **P** **15 43 44.6 -0.1**
L19K IAmb IAmb 15 44 13.4
comp=Z,12nm,1.5s
J20K Nowinta River 54.64 31 P **P** **15 43 45.9 -0.1**
J20K IAmb IAmb 15 43 57.5
comp=Z,5.5nm,1.2s
K20K Telida 54.72 32 P **P** **15 43 47.1 +0.4**
K20K IAmb IAmb 15 43 49.6
comp=Z,9.9nm,1.4s
P19K Oil Pt 55.45 37 P **P** **15 43 51.4 -0.6**
I21K Tanana 55.51 30 P **P** **15 43 52.2 -0.1**
I21K IAmb IAmb 15 43 56.6
comp=Z,6.4nm,1.1s
CAST Castle Rocks 55.60 32 P **P** **15 43 53.6 +0.5**
CAST IAmb IAmb 15 43 55.1
comp=Z,3.5nm,0.8s
PPLA Purkeypile 55.60 33 P **P** **15 43 53.8 +0.5**
PPLA IAmb IAmb 15 44 00.1
comp=Z,8.9nm,0.8s
ASAR Alice Springs 56.12 177 P **P** **15 43 56.8 -0.4**
comp=Z,1.4nm,0.7s,baz=8.4,slow=14,SNR=19
ASAR Alice Springs 56.12 177 P **P** **15 43 56.2 -0.9**
H23K Yukon River 56.47 29 P **P** **15 43 58.8 -0.5**
H23K IAmb IAmb 15 44 02.8
comp=Z,7.5nm,0.9s
BWN Browne 56.68 31 P **P** **15 44 01.1 +0.4**
NEA2 Nenana 56.80 31 P **P** **15 44 01.9 +0.3**
NEA2 IAmb IAmb 15 44 03.8
comp=Z,8.9nm,1.0s
MCK McKinley 56.97 32 P **P** **15 44 02.5 -0.3**
MCK pmax pmax
comp=Z,9.0nm,1.2s
MCK McKinley 56.97 32 P **P** **15 44 02.5 -0.3**
MCK IAmb IAmb 15 44 03.9
comp=Z,8.7nm,1.2s
RND Reindeer 57.05 32 P **P** **15 44 03.6 +0.1**
RND pmax pmax
comp=Z,15nm,1.3s
RND Reindeer 57.05 32 P **P** **15 44 03.6 +0.1**
RND IAmb IAmb 15 44 04.9
comp=Z,15nm,1.3s
MDM Murphy Dome 57.11 30 P **P** **15 44 03.7 -0.1**
MDM IAmb IAmb 15 44 06.1
comp=Z,13nm,1.0s
H24K Noodor Dome 57.15 29 P **P** **15 44 04.9 +0.8**
WRH Wood River Hil 57.24 31 P **P** **15 44 04.4 -0.3**
WRH IAmb IAmb 15 44 08.1
comp=Z,4.2nm,0.9s
GHO Glory Hole Cre 57.26 34 P **P** **15 44 05.0 0.0**
SEW Seward 57.27 36 P **P** **15 44 04.7 -0.3**
KNK Knik Glacier 57.53 34 P **P** **15 44 06.9 +0.1**
KNK IAmb IAmb 15 44 08.0
comp=Z,9.6nm,0.8s
IL31 57.71 30 P **P** **15 44 07.7 -0.2**
IL31 IAmb IAmb 15 44 10.4
comp=Z,6.5nm,1.2s
ILAR Eielson Array 57.71 30 P **P** **15 44 07.8 -0.2**
comp=Z,2.0nm,0.9s,baz=269,slow=5.4,SNR=15
SCM Sheep Creek Mo 57.99 34 P **P** **15 44 09.7 -0.4**
SCM pmax pmax
comp=Z,11nm,0.9s
SCM Sheep Creek Mo 57.99 34 P **P** **15 44 09.7 -0.4**
SCM IAmb IAmb 15 44 11.1
comp=Z,11nm,0.9s
BMAR Burnt Mountain 58.22 27 P **P** **15 44 13.4 +1.8**
KIRV Kirov 58.42 323 *ce*P **P** **15 44 15.8 +2.8**
FID Port Fidalgo 58.60 35 P **P** **15 44 13.6 -0.7**
FID IAmb IAmb 15 44 15.3
comp=Z,10nm,0.8s
RIDG Independent Ri 58.76 31 P **P** **15 44 15.2 -0.2**
RIDG IAmb IAmb 15 44 29.8
comp=Z,12nm,1.5s
SCRK Sand Creek 59.09 31 P **P** **15 44 17.6 -0.2**
SCRK IAmb IAmb 15 44 18.6
comp=Z,7.3nm,0.9s
DOT Dot Lake 59.12 31 P **P** **15 44 17.6 -0.4**
DOT IAmb IAmb 15 44 18.6
comp=Z,4.9nm,0.8s
MENT Mentasta 59.42 32 P **P** **15 44 20.0 -0.1**
M26K Nabesna, AK 59.87 32 P **P** **15 44 23.1 -0.1**
MCARA McCarthy VSAT 60.10 34 P **P** **15 44 24.2 -0.5**
L27K Beaver Creek, 60.24 32 P **P** **15 44 26.4 +0.8**
L27K IAmb IAmb 15 44 27.5
comp=Z,5.7nm,0.8s
BCAR Beaver Creek A 60.25 32 P **P** **15 44 26.2 +0.5**
M27K Edge Creek, AK 60.39 32 IAmb IAmb 15 44 28.3
comp=Z,5.0nm,0.7s
ISLE Juniper Island 60.62 34 P **P** **15 44 28.3 -0.1**
BARN Barnard Glacie 60.82 34 P **P** **15 44 29.9 0.0**
BARN IAmb IAmb 15 44 31.2
comp=Z,6.2nm,0.7s
I29M Ogilvie Camp, 61.13 29 P **P** **15 44 31.2 -0.5**
I29M IAmb IAmb 15 44 33.3
comp=Z,4.7nm,0.9s
INK Inuvik 62.08 25 P **P** **15 44 38.2 +0.3**
comp=Z,2.4nm,0.6s,baz=268,slow=9.5,SNR=12
INK Inuvik 62.08 25 IAmb IAmb 15 44 38.9
comp=Z,4.1nm,1.0s
ARCES ARCESS Array B 64.87 338 P **P** **15 44 56.8 +0.4**
comp=Z,5.7nm,1.1s,baz=61,slow=7.5,SNR=5.2
ARCES ARCESS Array B 64.87 338 IAmb IAmb 15 44 57.0
comp=Z,4.6nm,1.1s
C36M Paulatuk 64.87 22 IAmb IAmb 15 44 57.2
comp=Z,8.2nm,0.8s
STKA Stephens Creek 65.02 170 P **P** **15 44 57.2 -0.5**
comp=Z,1.1nm,0.4s,baz=6.6,slow=7.5,SNR=8.3
STKA Stephens Creek 65.02 170 IAmb IAmb 15 45 00.8
comp=Z,0.6nm,1.1s
VORR Voronezh 66.07 317 *e*P **P** **15 45 06.2 +1.7**
VORR pmax pmax
comp=Z,50nm,0.4s
OBN Obninsk 66.18 321 *e*P **P** **15 45 03.1 -2.0**
OBN *e* 15 45 34.4
OBN *e* 15 47 29.6
OBN *e*PPP PPP 15 49 07.7
OBN pmax pmax
comp=Z,6.0nm,1.0s
ZEI Tsey 66.62 307 *e*P **P** **15 45 09.6 +1.2**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 66.91 308 P **P** **15 45 11.6 +1.6**
comp=Z,7.4nm,0.8s,baz=65,slow=3.0,SNR=23
KIV Kislovodsk 66.96 308 *e*P **P** **15 45 10.9 +0.5**
KIV pmax pmax
comp=Z,10.0nm,1.0s
FINES FINESS Array B 68.40 330 P **P** **15 45 17.8 -1.2**
comp=Z,3.0nm,0.4s,baz=71,slow=5.8,SNR=30
FINES FINESS Array B 68.40 330 *i*P **P** **15 45 17.7 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.4s
RES Resolute Bay 68.79 12 P **P** **15 45 21.2 -0.1**
RES pmax pmax
comp=Z,5.0nm,1.1s
RES Resolute Bay 68.79 12 IAmb IAmb 15 45 22.1
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 71.74 26 P **P** **15 45 38.8 -0.8**
comp=Z,0.7nm,0.8s,baz=302,slow=5.9,SNR=12
YKA Yellowknife Ar 71.74 26 *i*P **P** **15 45 39.2 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 72.13 319 P **P** **15 45 41.1 -1.0**
comp=Z,3.9nm,0.5s,baz=53,slow=6.2,SNR=12
AKASG Malin Array Be 72.13 319 *i*P **P** **15 45 41.2 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 72.13 319 IAmb IAmb 15 45 45.8
comp=Z,6.3nm,0.9s
NB2 NORSAR Subarra 74.54 334 P **P** **15 45 54.3 -1.9**
comp=Z,8.7nm,1.2s,baz=50,slow=6.2
NOA NORSAR Array B 74.54 334 P **P** **15 45 54.2 -1.9**
comp=Z,1.9nm,0.8s,baz=51,slow=5.8,SNR=8.9
BR131 Keskin Array S 74.90 308 P **P** **15 45 58.1 -0.7**
BR131 pmax pmax
comp=Z,6.0nm,0.8s
BR131 Keskin Array S 74.90 308 P **P** **15 45 58.1 -0.7**
BR131 IAmb IAmb 15 46 02.3
comp=Z,5.7nm,0.8s
BRTR Keskin Array B 74.90 308 P **P** **15 45 59.9 +1.1**
comp=Z,3.0nm,0.8s,baz=86,slow=6.2,SNR=10
BRTR Keskin Array B 74.90 308 *i*P **P** **15 46 00.4 +1.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 74.90 308 P **P** **15 45 57.7 -1.1**
BUR08 Bucovina Ar. S 75.98 318 P **P** **15 46 04.4 -0.5**
BUR08 IAmb IAmb 15 46 12.9
comp=Z,3.8nm,1.0s
OJC Ojcow 77.44 322 P **P** **15 46 12.7 -0.2**
OJC pmax pmax
comp=Z,10.0nm,0.9s
OJC Ojcow 77.44 322 P **P** **15 46 12.7 -0.2**
OJC IAmb IAmb 15 46 16.9
comp=Z,10nm,0.9s
CLL Collm 80.14 326 *e*P **P** **15 46 27.0 -0.7**
CLL *i* x x 15 46 30.6
comp=Z,7.0nm,1.0s
GERES GERESS Array B 81.41 324 P **P** **15 46 35.0 +0.3**
comp=Z,1.3nm,0.9s,baz=30,slow=3.7,SNR=5.9
FCC Fort Churchill 81.51 22 IAmb IAmb 15 46 35.3
comp=Z,5.4nm,0.9s
FFC Flin Flon 81.82 28 P **P** **15 46 36.2 -0.4**
FFC pmax pmax
comp=Z,3.0nm,1.0s
FFC Flin Flon 81.82 28 P **P** **15 46 36.2 -0.4**
NVAR Mina Array Bea 84.44 48 P **P** **15 46 50.8 0.0**
comp=Z,1.0nm,0.6s,baz=295,slow=6.9,SNR=6.8
TUE Stuetta 85.18 324 P **P** **15 46 54.5 +0.1**
NRS Narsarsuaq 86.44 358 P **P** **15 46 59.6 -0.3**
NRS pmax pmax
comp=Z,31nm,1.1s
NRS Narsarsuaq 86.44 358 P **P** **15 46 59.6 -0.3**
PDAR Pinedale Array 86.73 40 P **P** **15 47 01.9 -0.2**
comp=Z,1.0nm,0.8s,baz=287,slow=1.4,SNR=9.1
ULM Lac du Bonnet 87.65 28 P **P** **15 47 05.4 -0.7**
comp=Z,4.5nm,0.8s,baz=316,slow=5.0,SNR=3.8
P18A Preston Nutter 88.47 43 P **P** **15 47 10.4 -0.2**
P18A IAmb IAmb 15 47 12.1
comp=Z,4.0nm,0.9s
B35A Bob, Littlefor 90.01 28 IAmb IAmb 15 47 17.8
comp=Z,5.9nm,0.8s

IDC 14 15:35:07.1±1.3, 18°.93S×178°.36W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.6/35, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=53.9km s-min=27.6km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.66**	**191**	P	P	15 39 37.8	+0.2
	0.4nm,0.3s,baz=8.2,slow=17,SNR=1.3						
WRA	**Warramunga Arr**	**44.50**	**261**	P	P	15 43 21.0	+0.3
	0.3nm,0.3s,baz=97,slow=7.8,SNR=22						
ASAR	**Alice Springs**	**44.56**	**255**	P	P	15 43 20.6	-0.6
	0.3nm,0.5s,baz=94,slow=7.6,SNR=12						
TXAR	**Lajitas Array**	**86.50**	**58**	P	P	15 47 52.2	-0.3
	0.5nm,0.9s,baz=235,slow=4.4,SNR=4.2						
PDAR	**Pinedale Array**	**88.06**	**43**	P	P	15 48 00.0	+0.2
	0.3nm,0.6s,baz=222,slow=3.6,SNR=2.4						

IDC 14 15:40:36.7±1.4, 14°.15S×174°.23W, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/41, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=69.0km s-min=26.0km az=157.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.39**	**85**	Pn	Pn	15 41 17.1	-0.1
	2.5nm,0.3s,baz=298,slow=10,SNR=5.6						
AFI				Sn	Sn	15 41 42.1	-5.1
	5.6nm,0.3s,baz=260,slow=16,SNR=8.9						
H11S2	**WAKE ISLAND Hy**	**37.48**	**329**	T	T	16 28 08.4	
	baz=149,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**37.49**	**329**	T	T	16 28 09.7	
	baz=149,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**37.50**	**329**	T	T	16 28 09.9	
	baz=149,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**38.43**	**331**	T	T	16 29 21.0	
	baz=150,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**38.44**	**331**	T	T	16 29 21.3	
	baz=150,slow=76,SNR=24						
H11N2	**WAKE ISLAND Hy**	**38.45**	**331**	T	T	16 29 22.4	
	baz=150,slow=76,SNR=18						
STKA	**Stephens Creek**	**43.99**	**239**	P	P	15 48 46.4	+0.3
	0.6nm,0.5s,baz=89,slow=9.1,SNR=1.9						
ASAR	**Alice Springs**	**49.75**	**251**	P	P	15 49 30.9	-0.5
	0.5nm,0.6s,baz=84,slow=8.2,SNR=13						
ILAR	**Eielson Array**	**81.38**	**11**	P	P	15 52 55.0	+0.1
	0.7nm,1.0s,baz=215,slow=6.2,SNR=4.1						

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*IDC **14** 15:43:59.1±1.9, 10°.00S×107°.12E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/46, mbtmp3.5/5, ML4.1/1, MS4.3/1, Ms1 4.3/1, ms1mx3.7/43, Error ellipse: s-maj=58.6km s-min=21.9km az=59.0*

*NEIC **14** 15:43:59.1±2.1, 10°.13S±0°.06×107°.12E±0°.05, h10km±1km, mb4.2/10, Error ellipse: s-maj=13.2km s-min=3.7km az=142.0*

ISC 14 15:43:58.5±0.7, 10°.12S±0°.07×107°.18E±0°.06, h10km, n25, σ1s84/27, mb3.9/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XMIS	**Christmas Isla**	**1.55**	**256**		**Pn**	**15 44 26.6**	**+0.5**
XMIS				Sn	**Sn**	**15 44 43.1**	**-3.2**
LEM	**Lembang**	**3.30**	**8**	Pn	**Pn**	**15 44 51.9**	**+1.5**
	22nm,0.3s,baz=60,slow=18,SNR=14						
LEM				Sn	**Sn**	**15 45 29.6**	**-0.2**
	50nm,0.3s,baz=351,slow=20,SNR=26						
UGM	**Wanagama**	**3.96**	**57**		**Pn**	**15 44 58.8**	**-0.6**
UGM				Sn	**Sn**	**15 45 41.3**	**-4.7**
JAGI	**Jajag, Banyuwa**	**7.07**	**77**		**Pn**	**15 45 42.6**	**+0.5**
MNAI	**Manna**	**7.09**	**323**	Pn	**Pn**	**15 45 40.5**	**-1.9**
GIRL	**Giralia**	**14.17**	**152**		**Pn**	**15 47 18.4**	**-0.9**
IPM	**Ipoh**	**15.75**	**337**	Pn	**Pn**	**15 47 37.5**	**-3.1**
IPM				IAmb	IAmb	15 47 47.9	
	comp=Z,22nm,1.4s						
MBWA	**Marble Bar**	**16.31**	**134**	Pn	**Pn**	**15 47 47.6**	**-0.2**
MBWA				IAmb	IAmb	15 48 00.5	
	comp=Z,16nm,1.2s						
WB0	**Warramunga Arr**	**27.95**	**113**	P	**P**	**15 49 50.9**	**+1.5**
WB0				IAmb	IAmb	15 50 13.2	
	comp=Z,6.7nm,1.3s						
WRA	**Warramunga Arr**	**27.95**	**114**	P	**P**	**15 49 53.3**	**+3.9**
	comp=Z,0.4nm,0.9s,baz=286,slow=12,SNR=2.1						
WRA	**Warramunga Arr**	**27.95**	**114**	P	**P**	**15 49 49.4**	**+0.1**
WRAB	**Tennant Creek**	**27.95**	**114**	P	**P**	**15 49 48.6**	**-0.8**
WRAB				IAmb	IAmb	15 49 53.7	

comp=Z,7.3nm,1.3s
WB2 Warramunga Arr 27.96 114 P **P** **15 49 50.1 +0.6**
ASAR Alice Springs 28.83 121 P **P** **15 49 59.7 +2.4**
comp=Z,0.3nm,0.9s,baz=298,slow=8.6,SNR=4.2
ASAR Alice Springs 28.83 121 P **P** **15 49 59.0 +1.8**
CMAR Chiang Mai Arr 29.54 344 P **P** **15 50 04.7 +1.3**
comp=Z,0.3nm,0.6s,baz=178,slow=9.4,SNR=5.3
CMAR Chiang Mai Arr 29.54 344 P **P** **15 50 03.9 +0.4**
TJN Taejon 50.00 21 P **P** **15 52 53.3 +0.3**
JCJ Chichijima 50.21 42 LR LR 16 17 06.7
comp=Z,349nm,20.2s,baz=116,slow=40
MK31 Makanchi Array 60.87 341 P **P** **15 54 11.4 +0.2**
MKAR Makanchi Array 60.87 341 P **P** **15 54 12.1 +0.9**
comp=Z,0.6nm,0.6s,baz=138,slow=8.2,SNR=10
MKAR Makanchi Array 60.87 341 P **P** **15 54 11.9 +0.6**
ABKAR Akbulak array 72.17 330 P **P** **15 55 23.6 +0.2**
ABKAR Akbulak array 72.17 330 P **P** **15 55 23.8 +0.4**
ABKAR IAmb IAmb 15 55 25.2
comp=Z,2.1nm,0.9s
TIXI Tiksi 82.86 7 P **P** **15 56 23.3 +0.6**

JMA 14 15:48:48.5, 32.74N×130.79E, h15km±1km, M3.5, 2C
Broadband fault plane solution: P waves. NP1:
ϕ_s66.00000°, δ55.00000°, λ-133.00000°. **NP2:**
ϕ_s305.00000°, δ53.00000°, λ-46.00000°. **Principal axes:**
T Plg1.0000°, Azm185.0000°; N Plg34.0000°, Azm94.0000°; P Plg56.0000°, Azm277.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.19**	**174**	⇑P	Pg	15 48 53.1	+0.1
JIU3				S	Sg	15 48 56.1	+0.1
JTA	**Tamana**	**0.31**	**316**	⇑P	Pg	15 48 55.1	+0.1
JTA				S	Sg	15 48 59.6	+0.1

*MOS **14** 15:50:29.3±1.0, 32.61N×130.72E, h14km, mb4.4/19 Error ellipse: s-maj=11.4km s-min=6.6km az=100.8*
*IDC **14** 15:50:29.4±0.6, 32.68N×130.68E, h0km, mb3.9/14, mb1 4.1/17, mb1mx4.0/39, mbtmp4.0/17, ML3.6/3, Error ellipse: s-maj=16.6km s-min=7.5km az=110.0*
*JMA **14** 15:50:31.4, 32.74N×130.76E, h13km±1km, M4.2 Broadband fault plane solution: P waves. NP1: ϕ_s194.00000°, δ82.00000°, λ-164.00000°. NP2: ϕ_s102.00000°, δ74.00000°, λ-9.00000°. Principal axes: T Plg5.0000°, Azm327.0000°; N Plg72.0000°, Azm221.0000°; P Plg17.0000°, Azm59.0000°;*
JMA Felt IV J1.
*NIED **14** 15:50:31.4, 32.74N×130.76E, h13km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.29; $M_{\theta\theta}$3.26; $M_{\phi\phi}$-2.98; $M_{r\theta}$-1.35; $M_{\theta\phi}$1.83; $M_{\phi r}$0.32; Fault plane solution: $M_0$3.86000×10^{15} NP1: ϕ_s209.00000°, δ70.00000°, λ177.00000°. NP2: ϕ_s300.00000°, δ87.00000°, λ20.00000°.*
*NEIC **14** 15:50:31.4±1.6, 32.74N±0.02×130.73E±0.01, h10km±1km, mb4.5/39 Error ellipse: s-maj=3.6km s-min=2.8km az=6.0*
ISC 14 15:50:31.6±0.4, 32.74N±0.03×130.75E±0.05, h11km, n117, σ1^{9}24/126, mb4.4/53, 5C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.19**	**163**	⇑P	Pg	15 50 35.8	0.0
JIU3				S	Sg	15 50 39.2	+0.6
JTA	**Tamana**	**0.29**	**322**	⇑P	Pg	15 50 32.6	-1.2
JTA				S	Sb	15 50 42.0	-1.7
JNU	**Nakatsue**	**0.40**	**16**	Pg	Pg	15 50 39.0	-0.5
	752nm,0.3s,baz=250,slow=3.3,SNR=36						
JNU				Lg	Lg	15 50 44.6	
	4μm,0.3s,baz=269,slow=18,SNR=70						
JNU	**Nakatsue**	**0.40**	**16**	Pg	**Pg**	15 50 39.7	+0.1
JNU				Sg	**Sg**	15 50 44.5	-0.4
JSU	**Suzuyama**	**1.25**	**192**	Pn	**Pn**	15 50 54.3	-0.7
JSU				Sg	**Sb**	15 51 10.9	-0.5
JTU	**Tsushima**	**2.11**	**328**		**Pn**	15 51 05.9	-0.9
JMN	**Monobe**	**2.81**	**68**		**Pn**	15 51 16.3	-0.1
JHS	**Saijyo**	**3.00**	**40**	Pn	**Pn**	15 51 19.4	+0.4
JHS				Sn	**Sn**	15 51 52.6	-2.4
TJN	**Taejon**	**4.58**	**323**	*i* P	**Pn**	15 51 43.2	+2.4
TJN	**Taejon**	**4.58**	**323**		**Pn**	15 51 41.2	+0.4
KSRS	**Korea Array**	**5.25**	**335**	Pn	**Pn**	15 51 50.2	+0.3
	0.8nm,0.3s,baz=153,slow=14,SNR=3.2						
KSRS				Pg	**Pb**	15 52 05.2	+1.9
	1.1nm,0.3s,baz=158,slow=14,SNR=5.3						
KSRS				Lg	Lg	15 53 17.1	
	5.1nm,0.3s,baz=155,slow=30,SNR=10.0						
INCN	**Inchon**	**5.81**	**326**	P	**Pn**	15 51 56.7	-1.1
INCN	**Inchon**	**5.81**	**326**	Pn	**Pn**	15 51 56.7	-1.1
INU	**Inuyama**	**5.82**	**62**		**Pn**	15 51 57.9	0.0
JGF	**Kuroka**	**6.18**	**61**		**Pn**	15 52 02.8	0.0
JOW	**Kunigami**	**6.26**	**201**	Pn	**Pn**	15 52 06.8	+2.9
	8.4nm,0.3s,baz=84,slow=14,SNR=16						
JOW	**Kunigami**	**6.26**	**201**	Pn	**Pn**	15 52 02.6	-1.3
MJB9	**Matsu-Tunnel**	**7.22**	**56**	Pn	**Pn**	15 52 17.3	+0.1
MAJO	**Matsushiro**	**7.23**	**56**	P	**Pn**	15 52 17.1	-0.1
MAJO	**Matsushiro**	**7.23**	**56**		**Pn**	15 52 17.1	-0.1
MJAR	**Matsushiro Arr**	**7.23**	**56**	Pn	**Pn**	15 52 18.8	+1.6
	0.3nm,0.3s,baz=244,slow=13,SNR=12						
MJAR				Lg	Lg	15 54 21.9	
	0.1nm,0.3s,baz=227,slow=25,SNR=5.2						
JHJ	**Hachijo jima 2**	**7.61**	**85**	Pn	**Pn**	15 52 22.0	-0.4
	17nm,0.3s,baz=59,slow=3.9,SNR=4.8						
JHJ2	**Mitsune**	**7.63**	**85**	Pn	**Pn**	15 52 22.0	-0.7
NJ2	**Nanjing**	**10.08**	**269**	*e*P	**Pn**	15 52 55.5	-0.8
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
USA0B	**Ussuriysk Arra**	**11.49**	**4**	*i* P	**Pn**	15 53 18.3	+2.8
KLR	**Kul'dur**	**16.50**	**2**	Pn	**P**	15 54 26.6	+1.1
	comp=Z,0.3nm,0.3s,baz=163,slow=9.3,SNR=46						
KLR	**Kul'dur**	**16.50**	**2**	*i* P	**P**	15 54 25.4	-0.1
HHC	**Hu-ho-hao-te**	**17.34**	**303**	*e*P	**Pn**	15 54 33.0	-0.7
HHC				pmax	pmax		
	comp=Z,16nm,1.4s						
HHC				pmax	pmax		
	comp=Z,1μm,7.4s						
XAN	**Xi'an**	**18.27**	**280**	P	**Pn**	15 54 44.6	-0.6
XAN				pP	pP	15 54 48.5	0.0
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BTO	**Baotou**	**18.36**	**301**	*e*P	**P**	15 54 48.3	+2.0
ZEA	**Zeya**	**21.14**	**354**	*e*P	**P**	15 55 18.7	+2.3
ZEA				pmax	pmax		
	comp=Z,20nm,1.0s						
ULN	**Ulaanbaatar**	**23.43**	**317**	*i* P	**P**	15 55 41.2	+0.4
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**23.79**	**316**	P	**P**	15 55 47.0	+2.6
	comp=Z,1.7nm,0.7s,baz=113,slow=11,SNR=3.5						
SONM	**Songino Array**	**23.79**	**316**	P	**P**	15 55 47.0	+2.6
SONM				pmax	pmax		
	comp=Z,8.0nm,1.5s						
PZH	**PanZhiHua**	**25.92**	**264**	P	**P**	15 56 09.3	+5.3
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YAK	**Yakutsk**	**29.32**	**359**	*i* P	**P**	15 56 36.2	+2.3
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GOMU	**GeErMu**	**29.72**	**287**	P	**P**	15 56 36.0	-2.2
GOMU				pP	pP	15 56 39.3	-2.3
GOMU				sP	sP	15 56 43.3	+0.3
GOMU				S	**S**	**16 01 35.8**	**+1.4**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GOMU				LR	LR		
	comp=N,980nm,15.5s						
GOMU				LR	LR		
	comp=E,1μm,15.6s						
GOMU				LR	LR		
	comp=Z,440nm,15.4s						
CHTO	**Chiang Mai**	**31.68**	**252**	P	**P**	15 56 54.2	-1.0
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CHTO	**Chiang Mai**	**31.68**	**252**	P	**P**	15 56 54.2	-1.0
CMAR	**Chiang Mai Arr**	**31.87**	**251**	P	**P**	15 56 58.7	+1.7
	comp=Z,1.0nm,0.9s,baz=51,slow=6.5,SNR=7.6						
CMAR	**Chiang Mai Arr**	**31.87**	**251**	P	**P**	15 56 54.1	-2.8
CMAR	**Chiang Mai Arr**	**31.87**	**251**	P	**P**	15 56 54.0	-2.8
SEY	**Seymchan**	**33.18**	**18**	*ce*P	**P**	15 57 08.7	+0.8
SEY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WMQ	**Urumqi**	**35.20**	**301**	*e*P	**P**	15 57 28.3	+2.5
TIXI	**Tiksi**	**38.99**	**359**	*i* P	**P**	15 57 57.0	-0.5
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MK31	**Makanchi Array**	**39.19**	**306**	P	**P**	15 57 58.7	-0.8
MK31				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MK31	**Makanchi Array**	**39.19**	**306**	P	**P**	15 57 58.7	-0.8
BILL	**Bilibino**	**40.83**	**20**	*e*P	**P**	15 58 13.1	+0.3
BILL				*e*		15 59 45.7	
BILL				*e*PPP	PPP	16 00 16.6	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**41.90**	**311**	*i* P	**P**	15 58 21.3	-0.5
KURK				pmax	pmax		
	comp=Z,7.0nm,2.1s						
NRIK	**Noril'sk**	**43.84**	**339**	P	**P**	15 58 36.8	-0.5
	comp=Z,2.0nm,0.5s,baz=116,slow=12,SNR=5.2						
NRIK	**Noril'sk**	**43.84**	**339**	P	**P**	15 58 37.0	-0.4
BRVK	**Borovoye**	**47.17**	**314**	*i* P	**P**	15 59 03.6	-0.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**47.17**	**314**	P	**P**	15 59 03.5	-0.3
BRVK				IAmb	IAmb	15 59 11.1	
	comp=Z,2.7nm,0.8s						
KK31	**Karatay Array**	**47.71**	**301**	P	**P**	15 59 08.2	-0.1
KK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK31	**Karatay Array**	**47.71**	**301**	P	**P**	15 59 08.2	-0.1
KK31				IAmb	IAmb	15 59 14.0	
	comp=Z,3.4nm,0.8s						
KKAR	**Karatay Array**	**47.71**	**301**	P	**P**	15 59 08.4	+0.1
KKAR	**Karatay Array**	**47.71**	**301**	P	**P**	15 59 08.2	-0.1
KKAR				IAmb	IAmb	15 59 14.0	
	comp=Z,3.4nm,0.8s						
KKAR	**Karatay Array**	**47.71**	**301**	P	**P**	15 59 08.4	+0.1
KNRA	**Kununurra**	**48.17**	**183**	P	**P**	15 59 10.8	-1.2
FITZ	**Fitzroy Crossi**	**50.78**	**186**	P	**P**	15 59 31.2	-0.7
WB0	**Warramunga Arr**	**52.32**	**176**	P	**P**	15 59 41.8	-1.7
WB0				IAmb	IAmb	16 00 00.0	
	comp=Z,6.8nm,1.4s						
WRA	**Warramunga Arr**	**52.49**	**176**	P	**P**	15 59 43.5	-1.2
	comp=Z,1.2nm,0.9s,baz=353,slow=7.9,SNR=6.8						
WRA	**Warramunga Arr**	**52.49**	**176**	*i* P	**P**	15 59 45.0	+0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**52.49**	**176**	P	**P**	15 59 43.0	-1.7
WR0	**Warramunga Arr**	**52.52**	**176**	P	**P**	15 59 43.2	-1.7
WR0				IAmb	IAmb	15 59 52.1	
	comp=Z,4.6nm,1.1s						
ARU	**Arti**	**53.79**	**319**	*c* P	**P**	15 59 53.4	-0.5
ARU						16 01 52.2	
ARU				S	**S**	**16 07 29.7**	**+1.5**
ARU				SS	**SS**	**16 11 08.8**	**+0.2**
ARU				pmax	pmax		
	comp=Z,9.0nm,2.1s						
ABKAR	**Akbulak array**	**53.97**	**310**	P	**P**	15 59 55.1	-0.3
ABKAR	**Akbulak array**	**53.97**	**310**	P	**P**	15 59 54.7	-0.7
ABKAR				IAmb	IAmb	15 59 58.5	
	comp=Z,1.9nm,0.8s						
K20K	**Telida**	**54.72**	**32**	P	**P**	15 59 59.9	-0.7
K20K				IAmb	IAmb	16 00 16.1	
	comp=Z,6.7nm,1.4s						
CAST	**Castle Rocks**	**55.61**	**32**	P	**P**	**16 00 07.0**	**0.0**
CAST				IAmb	IAmb	16 00 44.9	
	comp=Z,9.4nm,1.5s						
PPLA	**Purkeypile**	**55.61**	**33**	P	**P**	**16 00 06.2**	**-1.0**
ASAR	**Alice Springs**	**56.17**	**177**	P	**P**	**16 00 10.6**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=8.8,slow=14,SNR=9.7						
ASAR	**Alice Springs**	**56.17**	**177**	P	**P**	**16 00 11.2**	**-0.3**
H23K	**Yukon River**	**56.47**	**29**	P	**P**	**16 00 11.9**	**-1.2**
H23K				IAmb	IAmb	16 00 15.4	
	comp=Z,3.8nm,1.0s						
NEA2	**Nenana**	**56.80**	**31**	P	**P**	**16 00 15.7**	**+0.2**
NEA2				IAmb	IAmb	16 00 17.1	
	comp=Z,3.4nm,0.9s						
RND	**Reindeer**	**57.05**	**32**	P	**P**	**16 00 16.5**	**-0.9**
RND				pmax	pmax		
	comp=Z,7.0nm,1.3s						
RND	**Reindeer**	**57.05**	**32**	P	**P**	**16 00 16.5**	**-0.9**
RND				IAmb	IAmb	16 00 34.2	
	comp=Z,6.7nm,1.3s						
MDM	**Murphy Dome**	**57.11**	**30**	P	**P**	**16 00 18.6**	**+0.9**
MDM				IAmb	IAmb	16 00 19.8	
	comp=Z,4.9nm,0.9s						
ILAR	**Eielson Array**	**57.71**	**30**	P	**P**	**16 00 21.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=264,slow=6.9,SNR=8.2						
HDA	**Harding Lake**	**57.74**	**31**	P	**P**	**16 00 21.9**	**-0.2**
HDA				IAmb	IAmb	16 00 22.4	
	comp=Z,5.0nm,1.0s						
SCRK	**Sand Creek**	**59.09**	**31**	P	**P**	**16 00 31.4**	**-0.4**
SCRK				IAmb	IAmb	16 00 32.9	
	comp=Z,3.5nm,0.9s						
DOT	**Dot Lake**	**59.13**	**31**	P	**P**	**16 00 31.1**	**-0.7**
DOT				IAmb	IAmb	16 01 09.3	
	comp=Z,6.9nm,1.6s						
N25K	**Chitina, Valde**	**59.32**	**34**	P	**P**	**16 00 32.8**	**-0.5**
BMRM	**Bremner River**	**59.46**	**34**	P	**P**	**16 00 34.5**	**+0.2**
L26K	**Log Cabin Wild**	**59.58**	**32**	P	**P**	**16 00 35.5**	**+0.6**
M26K	**Nabesna, AK**	**59.88**	**32**	P	**P**	**16 00 37.0**	**-0.1**
M26K				IAmb	IAmb	16 00 38.7	
	comp=Z,3.6nm,0.8s						
VRDI	**Verde Repeater**	**59.94**	**34**	P	**P**	**16 00 38.3**	**+0.6**
MCARA	**McCarthy VSAT**	**60.11**	**34**	P	**P**	**16 00 39.1**	**+0.4**
L27K	**Beaver Creek,**	**60.24**	**32**	P	**P**	**16 00 40.3**	**+0.7**
L27K				IAmb	IAmb	16 00 41.4	
	comp=Z,2.9nm,0.8s						
BCAR	**Beaver Creek A**	**60.26**	**32**	P	**P**	**16 00 40.4**	**+0.7**
M27K	**Edge Creek, AK**	**60.39**	**32**	P	**P**	**16 00 41.3**	**+0.6**
M27K				IAmb	IAmb	16 00 42.1	
	comp=Z,3.7nm,0.9s						
INK	**Inuvik**	**62.07**	**25**	P	**P**	**16 00 52.0**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=292,slow=7.6,SNR=6.5						
INK	**Inuvik**	**62.07**	**25**	P	**P**	**16 00 52.0**	**+0.2**
A36M	**Sachs Harbour**	**63.38**	**20**		**P**	**16 01 00.8**	**+0.3**
A36M				IAmb	IAmb	16 01 02.4	
	comp=Z,4.8nm,0.7s						
N31M	**Braeburn, Yuko**	**63.41**	**32**	P	**P**	**16 00 58.6**	**-2.3**
C36M	**Paulatuk**	**64.86**	**22**		**P**	**16 01 10.4**	**+0.2**
C36M				IAmb	IAmb	16 01 11.1	
	comp=Z,4.6nm,0.8s						
STKA	**Stephens Creek**	**65.08**	**170**	P	**P**	**16 01 11.9**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=353,slow=4.2,SNR=4.2						
EUNU	**Eureka**	**65.59**	**7**	P	**P**	**16 01 14.5**	**-0.4**
EUNU				IAmb	IAmb	16 01 46.1	
	comp=Z,3.1nm,1.1s						
OBN	**Obninsk**	**66.09**	**321**	*e*P	**P**	**16 01 18.7**	**+0.3**
OBN				*e*		16 01 50.4	
OBN				*e*		16 03 44.2	
OBN				*e*PPP	PPP	16 05 21.3	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**66.82**	**308**	P	**P**	**16 01 23.9**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=244,slow=3.3,SNR=6.2						
KBZ	**Khabaz**	**66.82**	**308**	*i* P	**P**	**16 01 23.1**	**-0.2**
KBZ				pmax	pmax		
	comp=Z,8.0nm,2.1s						
KIV	**Kislovodsk**	**66.87**	**308**	*e*P	**P**	**16 01 22.9**	**-0.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DGAR	**Diego Garcia**	**68.26**	**245**	*ce*P	**P**	**16 01 34.9**	**+2.1**
DGAR				pmax	pmax		
	comp=Z,247nm,2.5s						
FIA1	**FINESS Array S**	**68.32**	**330**	P	**P**	**16 01 30.9**	**-1.5**
FINES	**FINESS Array B**	**68.32**	**330**	P	**P**	**16 01 31.6**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=79,slow=5.7,SNR=9.5						
FINES	**FINESS Array B**	**68.32**	**330**	P	**P**	**16 01 30.8**	**-1.7**
FINES	**FINESS Array B**	**68.32**	**330**	P	**P**	**16 01 30.8**	**-1.7**
RES	**Resolute Bay**	**68.76**	**12**	P	**P**	**16 01 35.0**	**0.0**
RES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
RES	**Resolute Bay**	**68.76**	**12**		**P**	**16 01 35.0**	**0.0**
YKA	**Yellowknife Ar**	**71.73**	**26**	P	**P**	**16 01 53.2**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=304,slow=6.0,SNR=6.4						
AKASG	**Malin Array Be**	**72.04**	**319**	P	**P**	**16 01 54.8**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=50,slow=6.3,SNR=7.2						
NOA	**NORSAR Array B**	**74.46**	**334**	P	**P**	**16 02 08.7**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=48,slow=6.0,SNR=3.4						
BRTR	**Keskin Array B**	**74.80**	**309**	P	**P**	**16 02 12.0**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=106,slow=4.0,SNR=4.6						
CLL	**Collm**	**80.06**	**326**	*e*P	**P**	**16 02 41.0**	**-0.1**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CLL	**Collm**	**80.06**	**326**	*e*P	**P**	**16 02 41.0**	**-0.1**
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**81.32**	**323**	P	**P**	**16 02 48.0**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=35,slow=4.9,SNR=4.4						
PDAR	**Pinedale Array**	**86.75**	**40**	P	**P**	**16 03 15.8**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=293,slow=1.1,SNR=6.1						

*JMA **14** 15:53:01.5, 32.78N×130.80E, h12km±1km, M3.9*
JMA Felt IV J1.
*IDC **14** 15:53:01.7±0.9, 32.85N×131.14E, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.6/39, mbtmp3.6/9, ML3.1/2, Error ellipse: s-maj=24.9km s-min=7.2km az=56.0*
ISC 14 15:53:03.6±0.7, 32.78N±0.04×130.88E±0.07, h12km, n14, σ2^{9}04/17, mb3.5/6, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.24**	**194**	⇑P	**Pg**	**15 53 06.5**	**-2.2**
JIU3				S	**Sg**	**15 53 09.9**	**-2.2**
JNU	**Nakatsue**	**0.34**	**359**	Pg	**Pg**	**15 53 08.7**	**-1.8**
	348nm,0.3s,baz=207,slow=13,SNR=9.3						
JNU				Lg	Lg	15 53 13.2	
	2μm,0.3s,baz=302,slow=22,SNR=27						
JTA	**Tamana**	**0.35**	**301**	⇑P	**Pg**	**15 53 07.5**	**-3.1**
JTA				S	**Sg**	**15 53 11.8**	**-3.5**
KSRS	**Korea Array**	**5.25**	**333**	Pn	**Pn**	**15 54 23.0**	**+1.0**
	baz=152,slow=16,SNR=0.9						
KSRS				Pg	**Pb**	**15 54 36.9**	**+1.5**
	baz=156,slow=16,SNR=3.7						
KSRS				Lg	Lg	15 55 50.1	
	1.1nm,0.3s,baz=152,slow=31,SNR=5.6						
JOW	**Kunigami**	**6.35**	**202**	Pn	**Pn**	**15 54 38.8**	**+1.7**
	1.9nm,0.3s,baz=73,slow=20,SNR=2.1						
MJAR	**Matsushiro Arr**	**7.10**	**56**	Pn	**Pn**	**15 54 45.0**	**-2.4**
	0.1nm,0.3s,baz=242,slow=14,SNR=1.2						
USRK	**Ussuriysk Ar.**	**11.43**	**4**	Pn	**Pn**	**15 55 48.7**	**+2.0**
	baz=194,slow=11,SNR=2.2						
KLR	**Kul'dur**	**16.44**	**2**	Pn	**P**	**15 56 56.2**	**-0.6**
	0.1nm,0.3s,baz=165,slow=8.5,SNR=9.9						
CMAR	**Chiang Mai Arr**	**31.99**	**251**	P	**P**	**15 59 32.0**	**+2.1**
	0.2nm,0.4s,baz=313,slow=50,SNR=3.0						
WRA	**Warramunga Arr**	**52.53**	**176**	P	**P**	**16 02 16.9**	**0.0**
	0.5nm,0.9s,baz=355,slow=7.9,SNR=2.6						
ASAR	**Alice Springs**	**56.21**	**177**	P	**P**	**16 02 44.1**	**+0.5**
	0.2nm,0.6s,baz=8.7,slow=14,SNR=4.4						
FINES	**FINESS Array B**	**68.34**	**330**	P	**P**	**16 04 05.5**	**+1.0**
	0.6nm,0.4s,baz=53,slow=7.4,SNR=4.4						
YKA	**Yellowknife Ar**	**71.64**	**26**	P	**P**	**16 04 23.8**	**-0.9**
	0.3nm,0.7s,baz=306,slow=6.0,SNR=6.1						
AKASG	**Malin Array Be**	**72.08**	**319**	P	**P**	**16 04 27.0**	**-0.7**
	1.0nm,0.6s,baz=56,slow=5.8,SNR=4.8						

JMA 14 16:04:41.1, 32.77N×130.82E, h13km±1km, M3.9, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.22**	**182**	P	Pg	16 04 46.0	+0.1
JIU3				S	Sg	16 04 49.5	+0.4
JTA	**Tamana**	**0.31**	**309**	⇑P	Pg	16 04 47.5	0.0
JTA				S	Sg	16 04 52.0	+0.2
JNU	**Nakatsue**	**0.35**	**8**	P	Pg	16 04 48.5	+0.2
JNU				S	Sg	16 04 53.2	+0.1

*DJA **14** 16:14:56.7±1.5, 3.7N±5.5×12.8E±1.2, h157km±6km, M4.3/8, mb4.2/5, mB4.3/2, MLv4.4/8, Mw(mB)3.5/2*
*IDC **14** 16:14:58.5±4.0, 2.68N×127.79E, h144km±42km, mb3.3/6, mb1 3.4/7, mb1mx3.1/51, mbtmp3.7/7, Error ellipse: s-maj=64.1km s-min=17.3km az=71.0*
ISC 14 16:14:58.3±1.1, 2.87N±0.10×128.26E±0.10, h150km, n14, σ1^{9}09/15, mb3.6/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.26**	**203**	S	**Sn**	**16 16 07.5**	**+1.5**
SGSI	**Sangihe**	**2.84**	**287**	P	**Pn**	**16 15 43.1**	**-0.6**
SIJI	**Sorong**	**4.78**	**141**	P	**Pn**	**16 16 11.1**	**+2.3**
	0.4nm,0.3s,baz=319,slow=23,SNR=2.1						
SIJI				S	**Sn**	**16 17 02.4**	**-1.4**
	0.3nm,0.3s,baz=202,slow=23,SNR=1.4						
KMSI	**Cibinong**	**4.84**	**242**	P	**Pn**	**16 16 09.7**	**0.0**
SANI	**Sanana**	**5.38**	**205**	P	**Pn**	**16 16 15.8**	**-1.1**
	0.1nm823nm10nm,0.5s						
GTOI	**Gorontalo**	**5.69**	**247**	P	**Pn**	**16 16 21.6**	**+0.6**
	0.1nm234nm23nm,0.6s						
LUWI	**Luwuk**	**6.72**	**235**	P	**Pn**	**16 16 34.2**	**-0.5**
	0.3nm35nm,0.6s						
MRSI	**Marisa**	**6.74**	**250**	P	**Pn**	**16 16 34.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**20.99**	**187**	P	**P**	**16 19 28.5**	**-1.5**
	2.3nm,1.1s,baz=9.0,slow=7.7,SNR=7.1						
WRA	**Warramunga Arr**	**23.44**	**165**	P	**P**	**16 19 54.2**	**-0.1**
	3.1nm,0.6s,baz=343,slow=10,SNR=36						
ASAR	**Alice Springs**	**26.94**	**169**	P	**P**	**16 20 25.9**	**0.0**
	0.4nm,0.5s,baz=345,slow=7.1,SNR=16						
STKA	**Stephens Creek**	**36.80**	**161**	P	**P**	**16 21 52.5**	**+0.7**
	1.7nm,0.3s,baz=341,slow=9.3,SNR=16						
MKAR	**Makanchi Array**	**59.13**	**325**	P	**P**	**16 24 43.5**	**+0.3**
	0.4nm,0.6s,baz=112,slow=8.3,SNR=7.2						
KURBB	**Kurchatov Arra**	**63.29**	**327**	P	**P**	**16 25 11

KOHI eS Sn 16 24 55.6 +2.6
KOHI IAML 16 24 56.6
comp=N,49nm,0.5s
KOHI IAML 16 24 57.1
comp=E,37nm,0.4s
MOKO MOKOCHONG 3.50 16 eP Pn 16 24 34.7 +5.4
TURI Tura 3.83 313 eP **Pn** 16 24 32.8 -1.0
TURI eS **Sn** 16 25 16.9 -0.7
TURI IAML 16 25 21.2
comp=N,4µm,0.3s
TURI IAML 16 25 21.5
comp=E,7µm,0.3s
ITAN ITANAGAR 4.19 4 eS **Sn** 16 25 26.3 0.0
DHUB DHUBRI 4.37 315 eP **Pn** 16 24 41.3 +0.2
DHUB eS **Sn** 16 25 29.7 -1.2
DHUB IAML 16 25 33.5
comp=E,41nm,0.2s
DHUB IAML 16 25 33.9
comp=N,60nm,0.2s
CMAR Chiang Mai Arr 6.83 130 Pn **Pn** 16 25 16.2 +1.4
comp=N,0.1nm,0.3s,baz=303,slow=13,SNR=6.6
MKAR Makanchi Array 25.43 342 P **P** 16 28 59.8 -1.8
comp=N,0.2nm,0.6s,baz=147,slow=8.1,SNR=3.6
WRA Warramunga Arr 58.40 134 P **P** 16 33 28.0 -1.6
comp=N,0.2nm,0.5s,baz=320,slow=7.6,SNR=6.6
ASAR Alice Springs 60.78 137 P **P** 16 33 44.6 -1.3
comp=N,0.2nm,0.4s,baz=315,slow=6.6,SNR=12

MOS ***14*** *16:44:30.7±0.9, 0.˝63S×11.˝63W, h10km, mb5.2/56, Error ellipse: s-maj=9.9km s-min=3.9km az=66.0*
IDC ***14*** *16:44:32.0±0.5, 0.˝54S×11.˝64W, h0km, mb4.6/29, mb1 4.7/30, mb1mx4.6/38, mbtmp4.6/30, ML4.4/1, MS4.5/10, Ms1 4.5/10, ms1mx4.0/78, Error ellipse: s-maj=12.9km s-min=12.6km az=143.0*
BJI ***14*** *16:44:32.0±0.0, 0.˝50S×11.˝60W, h10km, mb4.8/4, Ms5.2/1, Ms7 5.0/1*
NEIC ***14*** *16:44:33.6±1.5, 0.˝54S±0.˝07×11.˝58W±0.˝08, h10km±1km, mb5.2/222, Error ellipse: s-maj=14.4km s-min=11.4km az=117.0*
ISC 14 16:44:32.9±0.3, 0.˝52S±0.˝05×11.˝57W±0.˝05, h10km, n520, σ1s17/507, mb5.1/212, MS4.6/11, 5C-11D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**7.82**	**202**	Pn		**Pn**	**16 46 26.6**	**0.0**
	baz=16,slow=13,SNR=5.8							
H10N2				T		T	16 54 24.7	
	baz=22,slow=74,SNR=114							
H10N1	**ASCENSION HYDR**	**7.83**	**202**	Pn		**Pn**	**16 46 26.3**	**-0.4**
	baz=16,slow=13,SNR=6.6							
H10N1				T		T	16 54 16.3	
	baz=22,slow=74,SNR=126							
H10N3	**ASCENSION HYDR**	**7.84**	**202**	Pn		**Pn**	**16 46 26.9**	**+0.1**
	baz=16,slow=13,SNR=7.0							
H10N3				T		T	16 54 11.8	
	baz=22,slow=74,SNR=85							
ASCN	**Ascension**	**7.87**	**201**	Pn		**Pn**	**16 46 26.0**	**-1.5**
LIC	**Lamto**	**9.36**	**44**	*eP*		**Pn**	**16 46 49.0**	**+1.1**
	40nm,0.4s							
KIC	**Kosan Boka**	**9.65**	**45**	*eP*		**Pn**	**16 46 51.9**	**-0.1**
	37nm,0.3s							
TIC	**Toumodi**	**9.66**	**42**	*eP*		**Pn**	**16 46 51.7**	**-0.5**
DBIC	**Dimbokro**	**9.79**	**43**	Pn		**Pn**	**16 46 53.7**	**-0.2**
	3.4nm,0.3s,baz=234,slow=12,SNR=35							
DBIC					Sn	Sn	16 48 34.7	-9.3
	5.9nm,0.3s,baz=314,slow=21,SNR=2.6							
DBIC					LR	LR	16 50 08.7	
	comp=Z,2µm,20.1s,baz=248,slow=34							
DBIC	**Dimbokro**	**9.79**	**43**	P		**Pn**	**16 46 53.6**	**-0.3**
DBIC	**Dimbokro**	**9.79**	**43**	Pn		**Pn**	**16 46 53.6**	**-0.3**
MBO	**M'Bour**	**15.75**	**340**	Pn		**Pn**	**16 48 12.4**	**-2.5**
MBO				IAmb		IAmb	16 48 15.3	
	comp=Z,226nm,1.1s							
SHEL	**Horse Pasture**	**16.38**	**160**	P		**Pn**	**16 48 20.8**	**-2.3**
SHEL				pmax		pmax		
	comp=Z,89nm,0.8s							
SHEL	**Horse Pasture**	**16.38**	**160**	Pn		**Pn**	**16 48 20.8**	**-2.3**
KOWA	**Kowa**	**16.69**	**26**	Pn		**Pn**	**16 48 22.8**	**-4.3**
TOA0	**Torodi Ar. Sit**	**18.91**	**44**	P		**P**	**16 48 51.2**	**-2.7**
TORD	**Torodi Ar. Bea**	**18.91**	**44**	P		**P**	**16 48 52.0**	**-1.9**
	comp=Z,1.1nm,0.3s,baz=226,slow=12,SNR=55							
TORD					Sn	Sn	16 52 10.3	-16
	comp=Z,4.1nm,0.3s,baz=223,slow=24,SNR=12							
TORD					LR	LR	16 55 44.5	
	comp=Z,1µm,19.5s,baz=211,slow=36							
TORD	**Torodi Ar. Bea**	**18.91**	**44**	P		**P**	**16 48 51.3**	**-2.6**
SACV	**Santiago Islan**	**19.46**	**323**			**P**	**16 48 58.4**	**-1.6**
NBPV	**Pedro Velho**	**24.38**	**256**	*eP*		**P**	**16 49 52.0**	**+0.4**
NBRF	**Rio Formoso -**	**24.82**	**250**	*eP*		**P**	**16 49 55.6**	**0.0**
RCBR	**Riachuelo**	**24.85**	**257**	LR		LR	16 57 49.9	
	comp=Z,1µm,18.5s,baz=294,slow=32							
RCBR	**Riachuelo**	**24.85**	**257**	P		**P**	**16 49 56.1**	**+0.2**
RCBR				pmax		pmax		
	comp=Z,83nm,1.4s							
RCBR	**Riachuelo**	**24.85**	**257**	P		**P**	**16 49 56.1**	**+0.2**
RCBR				IAmb		IAmb	16 49 59.5	
	comp=Z,84nm,1.4s							
RCBR	**Riachuelo**	**24.85**	**257**	*eP*		**P**	**16 49 57.0**	**+1.0**
NBAN	**Anadia - AL**	**26.21**	**249**	*eP*		**P**	**16 50 08.2**	**+0.1**
NBCL	**Cascavel-CE**	**26.95**	**262**	*eP*		**P**	**16 50 15.4**	**+0.5**
NBMA	**Muriti-CE**	**27.95**	**255**	*eP*		**P**	**16 50 24.4**	**+0.5**
NBLA	**Lagarto - SE**	**28.05**	**247**	*eP*		**P**	**16 50 25.0**	**+0.2**
NBPB	**Pedra_Branca-C**	**28.41**	**259**	*eP*		**P**	**16 50 28.6**	**+0.6**
NBPS	**Pedro II - PI**	**30.09**	**262**	*eP*		**P**	**16 50 43.5**	**+0.4**
NBPN	**Ponto Novo - B**	**30.24**	**249**	*eP*		**P**	**16 50 43.8**	**-0.4**
GDU01	**Guandu, BA**	**30.67**	**243**	*eP*		**P**	**16 50 48.1**	**+0.1**
ROSB	**Rosrio**	**32.62**	**265**	*eP*		**P**	**16 51 05.3**	**0.0**
TSUM	**Tsumeb**	**34.08**	**125**	P		**P**	**16 51 18.2**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=299,slow=7.8,SNR=5.5							
TSUM					LR	LR	17 03 52.2	
	comp=Z,680nm,19.5s,baz=274,slow=34							
TSUM	**Tsumeb**	**34.08**	**125**	P		**P**	**16 51 17.6**	**-0.4**
ALF01	**Guarapari-ES**	**34.80**	**233**	*eP*		**P**	**16 51 24.1**	**+0.1**
SDBA	**SAO DESIDERIO**	**35.10**	**249**	*eP*		**P**	**16 51 26.4**	**-0.5**
JANB	**Januaria**	**35.42**	**244**	*eP*		**P**	**16 51 29.0**	**-0.6**
DIAM	**Diamantina, MG**	**36.14**	**239**	*eP*		**P**	**16 51 36.5**	**+0.7**
TMAB	**Tom-Au,PA,Br**	**36.56**	**267**	*eP*		**P**	**16 51 40.7**	**+1.4**
SMTB	**Santa Maria do**	**36.81**	**256**	*eP*		**P**	**16 51 42.0**	**+0.5**
PVAQ	**Vaqueiros**	**37.91**	**5**	*eP*		**P**	**16 51 52.7**	**+2.3**
	comp=Z,49nm,1.8s							
PTEO	**Sao Teotonio**	**37.97**	**4**	*eP*		**P**	**16 51 53.5**	**+2.6**
PEXB	**Peixe**	**38.21**	**251**	*eP*		**P**	**16 51 53.7**	**+0.3**
BSCB	**Bom Sucesso**	**38.28**	**236**	*eP*		**P**	**16 51 54.0**	**+0.1**
PBEJ	**Beja**	**38.51**	**5**	*eP*		**P**	**16 51 57.6**	**+2.1**
PNCL	**Nicolau / Gran**	**38.55**	**4**	*eP*		**P**	**16 51 58.2**	**+2.4**
PRPB	**Parauapebas**	**38.58**	**261**	*eP*		**P**	**16 51 57.4**	**+1.0**
BDFB	**Brasilia**	**38.98**	**245**	P		**P**	**16 51 59.9**	**0.0**
	comp=Z,13nm,0.8s,baz=64,slow=7.8,SNR=15							
BDFB	**Brasilia**	**38.98**	**245**	P		**P**	**16 51 59.4**	**-0.4**
BDFB				pmax		pmax		
	comp=Z,69nm,1.5s							
BDFB	**Brasilia**	**38.98**	**245**	P		**P**	**16 51 59.4**	**-0.4**
BDFB				IAmb		IAmb	16 52 01.1	
	comp=Z,69nm,1.5s							
BDFB	**Brasilia**	**38.98**	**245**	*eP*		**P**	**16 52 00.1**	**+0.2**
PMAFR	**Mafra**	**39.34**	**3**	*eP*		**P**	**16 52 03.4**	**+1.0**
PMRV	**Marv??o**	**39.94**	**5**	*eP*		**P**	**16 52 09.9**	**+2.4**
	comp=Z,46nm,1.8s							
IPMB	**Ipameri, GO**	**39.97**	**242**	*eP*		**P**	**16 52 07.4**	**-0.7**
PCBR	**Castelo Branco**	**40.34**	**5**	*eP*		**P**	**16 52 12.9**	**+2.2**
	comp=Z,32nm,1.8s							
MCPB	**Macapa, AP**	**40.49**	**270**	*eP*		**P**	**16 52 12.9**	**+0.5**
ESDC	**Sonseca Array**	**40.60**	**9**	P		**P**	**16 52 13.7**	**+0.7**
	comp=Z,2.1nm,1.0s,baz=197,slow=8.5,SNR=8.3							
ESDC	**Sonseca Array**	**40.60**	**9**	P		**P**	**16 52 12.4**	**-0.6**
ESBB	**Sonseca Array**	**40.61**	**9**	P		**P**	**16 52 14.3**	**+1.2**
MTE	**Manteigas**	**40.89**	**5**	*eP*		**P**	**16 52 17.8**	**+2.4**
	comp=Z,42nm,1.2s							
MTE	**Manteigas**	**40.89**	**5**	P		**P**	**16 52 16.2**	**+0.8**
KEST	**Kesra**	**41.00**	**26**	P		**P**	**16 52 17.8**	**+1.4**
	comp=Z,5.6nm,0.8s,baz=1.8,slow=4.8,SNR=5.3							
KEST	**Kesra**	**41.00**	**26**	P		**P**	**16 52 16.5**	**+0.2**
SNDB	**Serra Nova Dou**	**41.02**	**252**	*eP*		**P**	**16 52 17.6**	**+0.8**
MDP	**Montagnes des**	**41.40**	**278**	P		**P**	**16 52 20.8**	**+0.8**
	comp=Z,19nm,0.9s,baz=94,slow=6.3,SNR=12							
MDP					LR	LR	17 04 57.0	
	comp=Z,822nm,21.8s,baz=202,slow=30							
MVO	**Moncorvo**	**41.70**	**5**	*eP*		**P**	**16 52 23.9**	**+1.9**
	comp=Z,47nm,1.4s							
LSZ	**Lusaka**	**41.90**	**112**	P		**P**	**16 52 26.0**	**+1.9**
	comp=Z,9.7nm,0.7s,baz=314,slow=4.8,SNR=16							
LSZ	**Lusaka**	**41.90**	**112**	P		**P**	**16 52 24.1**	**0.0**
LSZ				pmax		pmax		
	comp=Z,12nm,0.8s							
LSZ	**Lusaka**	**41.90**	**112**	P		**P**	**16 52 24.1**	**0.0**
ROSA	**Rosais**	**41.95**	**340**	P		**P**	**16 52 24.1**	**0.0**
MBAR	**Mbarara**	**42.30**	**90**	P		**P**	**16 52 29.3**	**+1.8**
	comp=Z,13nm,0.8s,baz=297,slow=8.3,SNR=6.4							
MBAR					LR	LR	17 08 50.5	
	comp=Z,1µm,20.4s,baz=244,slow=34							
MBAR	**Mbarara**	**42.30**	**90**	*i* P		**P**	**16 52 28.6**	**+1.1**
MBAR				pmax		pmax		
	comp=Z,31nm,1.2s							
MBAR	**Mbarara**	**42.30**	**90**	P		**P**	**16 52 25.4**	**-2.1**
ITRB	**Iturama**	**42.49**	**241**	*eP*		**P**	**16 52 29.8**	**+1.0**
MALB	**Monte Alegre**	**42.71**	**268**	*eP*		**P**	**16 52 31.5**	**+0.9**
FRTB	**Fartura**	**43.29**	**236**	*eP*		**P**	**16 52 36.4**	**+1.2**
LBTB	**Lobatse**	**43.38**	**127**	P		**P**	**16 52 37.2**	**+1.2**
	comp=Z,4.6nm,0.8s,baz=301,slow=4.2,SNR=7.0							
LBTB	**Lobatse**	**43.38**	**127**	P		**P**	**16 52 34.3**	**-1.7**
LBTB				pmax		pmax		
	comp=Z,20nm,1.2s							
LBTB	**Lobatse**	**43.38**	**127**	P		**P**	**16 52 34.3**	**-1.7**
LBTB	**Lobatse**	**43.38**	**127**	*i* P		P	16 52 30.6	-5.4
LBTB				*eP*		P	16 52 30.6	-5.4
LBTB	**Lobatse**	**43.38**	**127**	*i* P		P	16 52 30.6	-5.4
LBTB				*eP*		P	16 52 30.6	-5.4
MATP	**Matopo**	**43.87**	**119**	P		**P**	**16 52 40.5**	**+0.4**
	comp=Z,7.1nm,0.7s,baz=289,slow=8.5,SNR=19							
MATP	**Matopo**	**43.87**	**119**	*i* P		**P**	**16 52 40.8**	**+0.7**
MATP	**Matopo**	**43.87**	**119**	*i* P		**P**	**16 52 40.8**	**+0.7**
SUR	**Sutherland**	**44.00**	**139**	P		**P**	**16 52 41.5**	**+0.6**
	comp=Z,4.3nm,1.0s,baz=107,slow=19,SNR=2.3							
SUR	**Sutherland**	**44.00**	**139**	P		**P**	**16 52 40.9**	**0.0**
SUR					IAmb	IAmb	16 52 53.5	
	comp=Z,70nm,1.7s							
PCMB	**Pacaembu**	**44.00**	**239**	*eP*		**P**	**16 52 42.2**	**+1.3**
NPGB	**Novo Progresso**	**44.15**	**260**	*eP*		**P**	**16 52 42.0**	**-0.2**
VSL	**Villasalto**	**44.20**	**23**	P		**P**	**16 52 43.1**	**+0.8**
VSL					IAmb	IAmb	16 53 21.6	
	comp=Z,34nm,1.3s							
ITTB	**Itaituba**	**44.28**	**264**	*eP*		**P**	**16 52 43.6**	**+0.3**
ETSF	**Etsaut**	**44.34**	**12**	*eP*		**P**	**16 52 45.0**	**+1.6**
ETSF				pmax		pmax		
	comp=Z,10.0nm,0.7s							
SJPF	**Ste Jean**	**44.42**	**11**	*eP*		**P**	**16 52 45.6**	**+1.6**
SJPF				pmax		pmax		
	comp=Z,20nm,1.0s							
BOSA	**Boshof**	**44.92**	**132**	P		**P**	**16 52 48.8**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=312,slow=7.2,SNR=9.1							
BOSA	**Boshof**	**44.92**	**132**	P		**P**	**16 52 48.2**	**-0.2**
BOSA				pmax		pmax		
	comp=Z,21nm,1.3s							
BOSA	**Boshof**	**44.92**	**132**	P		**P**	**16 52 48.2**	**-0.2**
BOSA	**Boshof**	**44.92**	**132**	*i* P		**P**	**16 52 49.3**	**+1.0**
BOSA	**Boshof**	**44.92**	**132**	*i* P		**P**	**16 52 49.3**	**+1.0**
CLDB	**Colider**	**45.13**	**255**	*eP*		**P**	**16 52 50.5**	**+0.5**
MTLF	**Montolieu**	**45.38**	**14**	*eP*		**P**	**16 52 52.6**	**+1.0**
MTLF				pmax		pmax		
	comp=Z,9.0nm,0.9s							
TER01	**Tubaro-SC**	**45.43**	**229**	*eP*		**P**	**16 52 53.5**	**+1.3**
PP1B	**Ponte de Pedra**	**45.84**	**246**	*eP*		**P**	**16 52 57.1**	**+1.5**
SALV	**Santo Antonio**	**46.12**	**248**	*eP*		**P**	**16 52 58.4**	**+0.6**
PDRB	**Porto dos Gac**	**46.16**	**254**	*eP*		**P**	**16 52 59.0**	**+0.8**
LFF	**La Frestale**	**46.57**	**12**	*eP*		**P**	**16 53 02.2**	**+1.3**
LFF				pmax		pmax		
	comp=Z,83nm,2.2s							
CAF	**Calviac**	**46.84**	**13**	*eP*		**P**	**16 53 04.2**	**+1.1**
CAF				pmax		pmax		
	comp=Z,29nm,1.1s							
LODK	**Lodwar**	**47.07**	**85**	P		**P**	**16 53 05.5**	**0.0**
RJF	**Les Rejaudoux**	**47.08**	**13**	*eP*		**P**	**16 53 06.1**	**+1.2**
RJF				pmax		pmax		
	comp=Z,14nm,1.0s							
TIP	**Timpagrande**	**47.28**	**30**	P		**P**	**16 53 06.9**	**+0.2**
VIVF	**Saint-Julien-l**	**47.43**	**16**	*eP*		**P**	**16 53 09.3**	**+1.6**
VIVF				pmax		pmax		
	comp=Z,13nm,1.0s							
AQDB	**Aquidauana**	**47.46**	**242**	*eP*		**P**	**16 53 08.8**	**+0.5**
ISO	**Isola**	**47.51**	**18**	P		**P**	**16 53 10.8**	**+2.4**
ISO				pmax		pmax		
	comp=Z,18nm,0.9s							
CASP	**Castiglione de**	**47.60**	**22**	P		**P**	**16 53 09.6**	**+0.5**
CASP					IAmb	IAmb	16 53 46.9	
	comp=Z,49nm,1.4s							
PAOL	**Paolisi**	**47.68**	**27**			**P**	**16 53 11.6**	**+1.9**
PAOL					IAmb	IAmb	16 53 13.6	
	comp=Z,27nm,1.1s							
SSB	**Saint Sauveur**	**47.79**	**15**	P		**P**	**16 53 11.0**	**+0.5**
SSB	**Saint Sauveur**	**47.79**	**15**			**P**	**16 53 11.6**	**+1.1**
ORIF	**Oris-en-Rattie**	**47.83**	**17**	*eP*		**P**	**16 53 12.9**	**+2.1**
ORIF				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MBDF	**Montbardon**	**47.91**	**18**	*eP*		**P**	**16 53 13.7**	**+2.1**
MBDF				pmax		pmax		
	comp=Z,15nm,0.9s							
MFF	**Saint Martin d**	**47.99**	**11**	*eP*		**P**	**16 53 13.2**	**+1.2**
MFF				pmax		pmax		
	comp=Z,111nm,1.9s							
TCF	**Toulx Ste Croi**	**48.17**	**13**	*eP*		**P**	**16 53 15.0**	**+1.6**
TCF				pmax		pmax		
	comp=Z,25nm,1.0s							
BNI	**Bardonecchia**	**48.18**	**17**	P		**P**	**16 53 13.9**	**+0.2**
BNI				pmax		pmax		
	comp=Z,8.0nm,0.8s							
BNI	**Bardonecchia**	**48.18**	**17**	P		**P**	**16 53 13.9**	**+0.2**
AQU	**L'Aquila**	**48.25**	**25**	P		**P**	**16 53 13.9**	**-0.2**
AQU				pmax		pmax		
	comp=Z,20nm,0.9s							
AQU	**L'Aquila**	**48.25**	**25**	P		**P**	**16 53 13.9**	**-0.2**
AQU					IAmb	IAmb	16 53 37.1	
	comp=Z,20nm,0.9s							
OSSC	**Osservatorio P**	**48.38**	**22**	P		**P**	**16 53 16.7**	**+1.7**
OSSC					IAmb	IAmb	16 53 53.7	
	comp=Z,43nm,1.6s							
MSSA	**Maissana**	**48.44**	**20**	P		**P**	**16 53 16.5**	**+0.9**
NRCA	**Norcia**	**48.53**	**24**	P		**P**	**16 53 17.8**	**+1.4**
NRCA					IAmb	IAmb	16 54 08.9	
	comp=Z,13nm,0.7s							
LPG	**La Plagne**	**48.61**	**17**	*eP*		**P**	**16 53 19.2**	**+2.1**
LPG				pmax		pmax		
	comp=Z,17nm,0.9s							
LPL	**La Plagne**	**48.62**	**17**	*eP*		**P**	**16 53 19.1**	**+2.0**
LPL				pmax		pmax		
	comp=Z,17nm,0.8s							
MURB	**Monte Urbino**	**48.65**	**23**	P		**P**	**16 53 17.1**	**-0.1**
ITM	**Ithomi**	**48.66**	**36**	P		**P**	**16 53 18.2**	**+0.9**
SGRT	**San Giovanni R**	**48.79**	**27**	P		**P**	**16 53 18.5**	**+0.1**
SGRT					IAmb	IAmb	16 54 51.1	
	comp=Z,45nm,1.5s							
SCTE	**Santa Cesarea**	**48.82**	**31**	P		**P**	**16 53 18.8**	**+0.4**
KMBO	**Kilima Mbogo**	**48.82**	**91**	LR		LR	17 12 12.5	
	comp=Z,679nm,20.8s,baz=275,slow=34							
KMBO	**Kilima Mbogo**	**48.82**	**91**	P		**P**	**16 53 19.0**	**-0.2**
KMBO				pmax		pmax		
	comp=Z,7.0nm,1.3s							
KMBO	**Kilima Mbogo**	**48.82**	**91**	P		**P**	**16 53 19.0**	**-0.2**
SMF	**Signal de Mont**	**48.88**	**14**	*eP*		**P**	**16 53 20.0**	**+1.1**
SMF				pmax		pmax		
	comp=Z,22nm,1.2s							
AVF	**Avril sur Loir**	**48.90**	**14**	*eP*		**P**	**16 53 20.4**	**+1.4**
AVF				pmax		pmax		
	comp=Z,15nm,1.1s							
ZCCA	**Zocca**	**48.98**	**21**	P		**P**	**16 53 20.3**	**+0.5**
ZCCA					IAmb	IAmb	16 53 22.5	
	comp=Z,19nm,0.8s							
BOAV	**Boa Vista**	**49.03**	**274**	*eP*		**P**	**16 53 21.6**	**+1.0**
MACA	**Manacapuru-AM**	**49.15**	**266**	*eP*		**P**	**16 53 22.3**	**+0.8**
SSF	**Saint Saulge**	**49.19**	**14**	*eP*		**P**	**16 53 22.6**	**+1.4**
SSF				pmax		pmax		
	comp=Z,16nm,0.9s							
PTLB	**Pontes e Lacer**	**49.23**	**250**	*eP*		**P**	**16 53 22.7**	**+0.7**
IDI	**Anoyia**	**49.25**	**40**	P		**P**	**16 53 22.1**	**+0.2**
IDI					IAmb	IAmb	16 53 30.5	
	comp=Z,22nm,1.1s							
CABF	**La Chapelle**	**49.43**	**16**	*eP*		**P**	**16 53 24.3**	**+1.1**
CABF				pmax		pmax		
	comp=Z,18nm,0.9s							
BBGH	**Gun Hill**	**49.47**	**288**	P		**P**	**16 53 24.6**	**+0.7**
LOR	**Lormes**	**49.47**	**14**	*eP*		**P**	**16 53 24.4**	**+1.0**
LOR				pmax		pmax		
	comp=Z,12nm,0.8s							
SENIN	**Lac Senin/Sane**	**49.55**	**17**	P		**P**	**16 53 25.1**	**+0.8**
GRR	**Gorron**	**49.59**	**9**	*eP*		**P**	**16 53 25.5**	**+1.2**
GRR				pmax		pmax		
	comp=Z,36nm,0.8s							
CPSB	**Cacapava Do Su**	**49.62**	**229**	*eP*		**P**	**16 53 26.1**	**+1.3**
VILB	**Vilhena**	**49.74**	**253**	*eP*		**P**	**16 53 27.4**	**+1.4**
CLF	**Chambon-Foret**	**49.83**	**12**	P		**P**	**16 53 28.0**	**+2.0**
CLF					IAmb	IAmb	16 53 29.3	
	comp=Z,44nm,1.1s							
LDF	**La Druitiere**	**49.92**	**10**	*eP*		**P**	**16 53 28.1**	**+1.4**
LDF				pmax		pmax		
	comp=Z,10.0nm,0.7s							
FLN	**La Foliniere**	**50.02**	**10**	*eP*		**P**	**16 53 28.5**	**+1.0**
FLN				pmax		pmax		
	comp=Z,47nm,1.7s							
AGG	**Agios Georgios**	**50.14**	**34**	P		**P**	**16 53 29.1**	**+0.4**
AGG				pmax		pmax		
	comp=Z,32nm,1.6s							
AGG	**Agios Georgios**	**50.14**	**34**	P		**P**	**16 53 29.1**	**+0.4**
TUE	**Stuetta**	**50.28**	**19**	P		**P**	**16 53 30.8**	**+1.0**
PLTB	**Pedras Altas**	**50.40**	**228**	*eP*		**P**	**16 53 29.9**	**-0.9**
CTI	**Castel Tesino**	**50.69**	**21**	P		**P**	**16 53 33.4**	**+0.6**
CTI				pmax		pmax		
	comp=Z,15nm,0.8s							
CTI	**Castel Tesino**	**50.69**	**21**	P		**P**	**16 53 33.4**	**+0.6**
HINF	**Hinteralfeld**	**50.75**	**16**	*eP*		**P**	**16 53 35.0**	**+1.9**
HINF				pmax		pmax		
	comp=Z,9.0nm,1.0s							
HAU	**Haudompre**	**50.78**	**15**	*eP*		**P**	**16 53 34.2**	**+0.9**
HAU				pmax		pmax		
	comp=Z,26nm,1.1s							
KARP	**Karpathos**	**50.88**	**41**	P		**P**	**16 53 35.5**	**+1.1**
KARP					IAmb	IAmb	16 53 42.5	
	comp=Z,53nm,1.1s							
CPUP	**Villa Florida**	**50.95**	**236**	P		**P**	**16 53 34.5**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=74,slow=7.3,SNR=10							
CPUP	**Villa Florida**	**50.95**	**236**	P		**P**	**16 53 33.0**	**-1.9**
CPUP				pmax		pmax		
	comp=Z,41nm,2.0s							
CPUP	**Villa Florida**	**50.95**	**236**	P		**P**	**16 53 33.0**	**-1.9**
CPUP	**Villa Florida**	**50.95**	**236**	*eP*		**P**	**16 53 34.8**	**-0.1**
SLE	**Schleitheim**	**51.17**	**17**	P		**P**	**16 53 35.4**	**-0.9**
SLE				pmax		pmax		
	comp=Z,11nm,1.1s							
DAVA	**Damuels**	**51.17**	**19**	P		**P**	**16 53 37.1**	**+0.6**
	comp=Z,24nm,0.8s,SNR=13							
TRI	**Trieste**	**51.18**	**23**	P		**P**	**16 53 37.5**	**+1.2**
TRI				pmax		pmax		
	comp=Z,59nm,1.7s							
TRI	**Trieste**	**51.18**	**23**	P		**P**	**16 53 37.5**	**+1.2**
TRI					IAmb	IAmb	16 53 50.5	
	comp=Z,59nm,1.7s							
ECH	**Echery**	**51.20**	**16**	P		**P**	**16 53 36.4**	**0.0**
ECH				pmax		pmax		
	comp=Z,40nm,1.9s							
ECH	**Echery**	**51.20**	**16**	P		**P**	**16 53 36.4**	**0.0**
FETA	**Feichten**	**51.22**	**19**	*i* P		**P**	**16 53 37.3**	**+0.5**
	comp=Z,13nm,1.0s,SNR=8.9							
CDF	**Champ du Feu**	**51.41**	**16**	*eP*		**P**	**16 53 38.7**	**+0.6**
CDF				pmax		pmax		
	comp=Z,19nm,1.0s							
SQTA	**Sankt Quirin**	**51.55**	**20**	P		**P**	**16 53 39.9**	**+0.7**
	comp=Z,26nm,0.8s,SNR=9.4							
ABTA	**Abfaltersbach**	**51.59**	**21**	*eP*		**P**	**16 53 42.0**	**+2.4**
	comp=Z,11nm,1.0s							
GDSD	**La Dsirade Is**	**51.60**	**291**	P		**P**	**16 53 40.0**	**0.0**
GDSD					IAmb	IAmb	16 53 49.3	
	comp=Z,34nm,1.1s							
MOTA	**Moosalm**	**51.62**	**20**	P		**P**	**16 53 40.2**	**+0.4**
	comp=Z,17nm,1.0s,SNR=6.1							
BFO	**Black Forest**	**51.63**	**17**	P		**P**	**16 53 39.4**	**-0.3**
BFO				pmax		pmax		
	comp=Z,10.0nm,0.8s							
BFO	**Black Forest**	**51.63**	**17**	P		**P**	**16 53 39.4**	**-0.3**
RETA	**Reutte**	**51.63**	**19**	*eP*		**P**	**16 53 40.1**	**+0.3**
	comp=Z,8.4nm,0.7s							
WTTA	**Wattenberg**	**51.73**	**20**	P		**P**	**16 53 41.6**	**+0.9**
	comp=Z,21nm,0.8s,SNR=7.4							
WTTA	**Wattenberg**	**51.73**	**20**	P		**P**	**16 53 41.7**	**+1.0**
WTTA				pmax		pmax		
	comp=Z,29nm,0.9s							
ITQB	**Itaqui**	**51.74**	**232**	P		**P**	**16 53 40.2**

GERES **GERESS Array B** 53.80 20 P P 16 53 56.1 +0.3
GERES **GERESS Array B** 53.80 20 P P 16 53 56.1 +0.3
RONA **Rosalia, Austr** 53.81 23 *i* P P 16 53 58.1 +2.3
comp=Z,17nm,0.8s,SNR=6.8
CONA **Conrad Observa** 53.83 23 *i* P P 16 53 57.8 +1.8
comp=Z,13nm,1.1s,SNR=5.8
MPLH **Magyarpolny** 53.88 24 P P 16 53 50.2 -6.1
SMRT **St. Maarten** 53.89 293 P P 16 53 56.4 -0.5
SMRT lAmb lAmb 16 54 28.8
comp=Z,33nm,1.4s
CKRC **Cesky Krumlov** 54.00 21 *e*P P 16 53 58.5 +1.3
CKRC *ex* x 16 54 03.7
KHC **Kasperske Hory** 54.00 20 *i* P P 16 53 57.6 +0.4
KHC pmax pmax
comp=Z,19nm,1.5s
KHC **Kasperske Hory** 54.00 20 P P 16 53 57.0 -0.2
KHC **Kasperske Hory** 54.00 20 *e*P P 16 53 57.8 +0.6
KHC *ex* x 16 54 08.7
KHC *e*PP PP 16 56 00.0 +1.2
CSKK **Cskako** 54.33 25 P P 16 54 00.7 +1.1
NKC **Novy Kostel** 54.58 19 *e*P P 16 54 03.5 +2.1
NKC **Novy Kostel** 54.58 19 *e*P P 16 54 03.5 +2.1
MODS **Modra-Piesok** 54.74 23 *e*P P 16 54 04.2 +1.6
MODS pmax pmax
comp=Z,29nm,1.3s
MODS **Modra-Piesok** 54.74 23 *e*P P 16 54 04.2 +1.6
KRUC **Moravsky** 54.96 22 *e*P P 16 54 04.6 +0.4
PRU **Pruhonice** 55.06 20 *e*P P 16 54 05.5 +0.6
PRU **Pruhonice** 55.06 20 *e*P P 16 54 05.5 +0.6
ETMB **Extrema** 55.12 258 *e*P P 16 54 06.2 +0.2
VRAC **Vranov** 55.24 22 LR LR 17 20 11.8
comp=Z,267nm,18.3s,baz=230,slow=39
VRAC **Vranov** 55.24 22 *e*P P 16 54 06.6 +0.4
JAVC **Velka Javorina** 55.29 23 *e*P P 16 54 08.1 +1.5
CDVI **St. Croix** 55.38 292 P P 16 54 07.4 -0.3
PSZ **Piszkesteto** 55.45 25 P P 16 54 08.5 +0.7
PSZ pmax pmax
comp=Z,14nm,0.9s
PSZ **Piszkesteto** 55.45 25 P P 16 54 08.5 +0.7
PSZ **Piszkesteto** 55.45 25 P P 16 54 09.7 +1.9
VYHS **Vyhne** 55.46 24 *e*P P 16 54 09.3 +1.5
VYHS pmax pmax
comp=Z,7.0nm,1.2s
VYHS **Vyhne** 55.46 24 *e*P P 16 54 09.3 +1.5
BIRV **Birongo** 55.48 283 P P 16 54 08.0 -0.5
BIRV lAmb lAmb 16 54 16.6
comp=Z,14nm,0.8s
PVCC **Panska Ves** 55.53 20 *e*P P 16 54 09.5 +1.3
PVCC **Panska Ves** 55.53 20 *e*P P 16 54 09.5 +1.3
BRG **Berggiesshubel** 55.61 19⇑ *i*P P 16 54 10.1 +1.1
BRG Amp 16 54 12.1
comp=Z,12nm,1.0s
BRG **Berggiesshubel** 55.61 19⇑ *i*P P 16 54 09.9 +1.1
BRG pmax pmax
comp=Z,12nm,1.0s
CLL **Collm** 55.68 18 *i* P P 16 54 10.2 +0.9
CLL *e* 16 54 14.0
CLL *e*S S 17 01 52.0 -3.6
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL MLR MLR
comp=Z,400nm,18.9s
CLL **Collm** 55.68 18 P P 16 54 09.3 0.0
CLL **Collm** 55.68 18 *i* P P 16 54 10.2 +0.9
comp=Z,10.0nm,1.1s
CLL *ex* x 16 54 14.0
CLL *e*S S 17 01 52.0 -3.6
CLL Lm MLR 17 19 00.0
comp=N,200nm,18.0s
CLL Lm MLR 17 19 00.0
comp=E,200nm,19.1s
CLL Lm MLR 17 19 00.0
comp=Z,400nm,18.9s
STVI **Saint Thomas** 55.69 293 P P 16 54 09.8 -0.2
KRLC **Kraliky** 55.94 22 *e*P P 16 54 11.6 +0.4
KRLC **Kraliky** 55.94 22 *e*P P 16 54 11.6 +0.4
MORC **Moravsky Berou** 55.98 22 P P 16 54 12.0 +0.5
MORC pmax pmax
comp=Z,11nm,1.1s
MORC **Moravsky Berou** 55.98 22 P P 16 54 12.0 +0.5
MORC **Moravsky Berou** 55.98 22 *e*P P 16 54 12.3 +0.8
CUPR **Culebra, Puert** 55.99 293 P P 16 54 12.6 +0.5
CUPR lAmb lAmb 16 54 21.0
comp=Z,16nm,0.8s
CUPR PcP PcP 16 55 10.4 -0.1
DPC **Dobruska-Polom** 56.00 21 *e*P P 16 54 12.4 +0.7
DPC **Dobruska-Polom** 56.00 21 *e*P P 16 54 12.4 +0.7
UPC **Upice** 56.02 21 *e*P P 16 54 12.5 +0.8
UPC **Upice** 56.02 21 *e*P P 16 54 12.5 +0.8
ESK **Eskdalemuir** 56.08 6 P P 16 54 12.6 +0.6
ESK pmax pmax
comp=Z,31nm,0.9s
ESK **Eskdalemuir** 56.08 6 P P 16 54 12.6 +0.6
ESK lAmb lAmb 16 54 14.0
comp=Z,31nm,0.8s
EKA **Eskdalemuir Ar** 56.10 6 P P 16 54 12.6 +0.4
CHVC **Chvalec** 56.10 21 *e*P P 16 54 12.4 +0.1
OSTC **Ostas** 56.13 21 *e*P P 16 54 13.6 +1.0
KECS **Kecovo** 56.14 25 *e*P P 16 54 15.7 +3.0
KECS pmax pmax
comp=Z,21nm,0.8s
KECS **Kecovo** 56.14 25 *e*P P 16 54 15.7 +3.0
MTP **Monte Pirata** 56.19 292 P P 16 54 12.8 -0.7
MTP PcP PcP 16 55 09.7 -1.7
LANS **Liptovska Anna** 56.24 24 *e*P P 16 54 15.4 +2.0
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS **Liptovska Anna** 56.24 24 *e*P P 16 54 15.4 +2.0
MDUB **Mudurnu** 56.35 38 P P 16 54 16.2 +1.8
CBYP **Canovanas** 56.51 292 P P 16 54 15.7 -0.2
MLR **Muntele Rosu** 56.53 31 P P 16 54 15.4 -0.2
MLR pmax pmax
comp=Z,11nm,1.1s
MLR **Muntele Rosu** 56.53 31 P P 16 54 15.4 -0.2
PDPR **Patillas Dam,** 56.61 292 P P 16 54 15.7 -0.8
PDPR lAmb lAmb 16 54 26.7
comp=Z,29nm,1.4s
TRPA **Tarpa** 56.77 27 P P 16 54 18.3 +1.1
NIE **Niedzica** 56.79 24 *e*P P 16 54 19.2 +1.9
CRVS **Cervenica-Dubn** 56.88 25 *e*P P 16 54 20.0 +2.1
CRVS pmax pmax
comp=Z,29nm,1.1s
CRVS **Cervenica-Dubn** 56.88 25 *e*P P 16 54 20.0 +2.1
BR231 **Keskin MP Arra** 56.99 40 P P 16 54 19.9 +0.9
BR231 lAmb lAmb 16 54 22.3
comp=Z,22nm,1.1s
ANTO **Ankara** 57.01 40 P P 16 54 20.3 +1.1
ANTO pmax pmax
comp=Z,54nm,1.5s
ANTO **Ankara** 57.01 40 P P 16 54 20.3 +1.1
ANTO lAmb lAmb 16 54 28.0
comp=Z,54nm,1.4s
BAUV **El Baul** 57.02 281 P P 16 54 19.5 0.0
UZH **Uzhgorod** 57.04 26*d* *i*P P 16 54 20.2 +1.2
UZH *i* 16 54 23.9
CELP **Cerrillos** 57.13 292 P P 16 54 20.2 -0.1
OBIP **Obispado Ponce** 57.15 292 P P 16 54 19.3 -1.1
OBIP lAmb lAmb 16 54 21.7
comp=Z,34nm,1.4s
OJC **Ojcow** 57.21 23 P P 16 54 20.8 +0.5
OJC pmax pmax
comp=Z,14nm,0.8s
OJC **Ojcow** 57.21 23 P P 16 54 20.8 +0.5
OJC lAmb lAmb 16 54 22.5
comp=Z,14nm,0.8s
KOLS **Kolonicke sedl** 57.26 26 *e*P P 16 54 23.2 +2.6
KOLS **Kolonicke sedl** 57.26 26 *e*P P 16 54 23.2 +2.6
AOPR **Arecibo Observ** 57.36 292 P P 16 54 21.7 -0.2
AOPR lAmb lAmb 16 54 23.3
comp=Z,22nm,0.8s
HOPE **Hope Point** 57.38 197 P P 16 54 21.1 -0.2
HOPE pmax pmax
comp=Z,309nm,2.0s
HOPE **Hope Point** 57.38 197 P P 16 54 21.1 -0.2
BR131 **Keskin Array S** 57.48 40 *i* P P 16 54 22.3 -0.2
BR131 **Keskin Array S** 57.48 40 P P 16 54 22.7 +0.1
BR131 lAmb lAmb 16 54 30.5
comp=Z,38nm,1.2s
BRTR **Keskin Array B** 57.48 40 P P 16 54 24.6 +2.0
comp=Z,9.6nm,0.9s,baz=219,slow=7.6,SNR=33
BRTR **Keskin Array B** 57.48 40 P P 16 54 23.2 +0.7
MLPR **Magueyes Islan** 57.54 292 P P 16 54 22.2 -1.0
MLPR lAmb lAmb 16 54 28.2

comp=Z,25nm,1.1s
CRPR **Cabo Rojo, PR** 57.61 292 P P 16 54 22.9 -0.7
CRPR lAmb lAmb 16 54 24.8
comp=Z,15nm,0.7s
BURAR **Bucovina Array** 57.64 29 P P 16 54 24.5 +1.1
BUR08 **Bucovina Ar. S** 57.66 29 P P 16 54 23.8 +0.2
BUR08 lAmb lAmb 16 54 27.5
comp=Z,36nm,1.9s
AGPR **Aguadilla, PR** 57.71 292 P P 16 54 24.1 -0.3
LPAZ **La Paz** 57.88 251 P P 16 54 25.8 -0.5
comp=Z,6.8nm,0.8s,baz=69,slow=4.3,SNR=28
LPAZ **La Paz** 57.88 251 P P 16 54 24.6 -1.7
LPAZ pmax pmax
comp=Z,8.0nm,0.8s
LPAZ **La Paz** 57.88 251 P P 16 54 24.6 -1.7
LPAZ **La Paz** 57.88 251 *e*P P 16 54 26.0 -0.3
KWP **Kalwaria Pacla** 57.97 26 P P 16 54 26.0 +0.4
KWP pmax pmax
comp=Z,393nm,0.5s
KWP **Kalwaria Pacla** 57.97 26 P P 16 54 25.9 +0.4
TBTG **Tabatinga, AM** 58.39 265 *e*P P 16 54 30.1 +0.9
BNN **Bunyan** 58.49 42 P P 16 54 30.1 +0.5
RGN **Rugen** 58.59 17 P P 16 54 31.0 +1.2
LVV **L'vov** 58.68 26 *e*P P 16 54 31.3 +0.7
GO01 **Chusmiza** 59.50 247 P P 16 54 35.6 -1.8
PB16 **IPOC Station P** 59.53 249 P P 16 54 35.8 -1.9
PB16 lAmb lAmb 16 54 38.3
comp=Z,22nm,1.3s
PB08 **IPOC Station P** 59.55 247 P P 16 54 35.8 -1.8
PB08 lAmb lAmb 16 54 37.9
comp=Z,27nm,1.4s
SDV **Santo Domingo** 59.56 281 P P 16 54 36.8 -0.8
SDV **Santo Domingo** 59.56 281 *e*P P 16 54 37.8 +0.2
BBSR **BB Station** 59.81 308 P P 16 54 39.0 +0.3
BBSR lAmb lAmb 16 54 40.9
comp=Z,31nm,1.1s
LVC **Limon Verde** 59.86 244 P P 16 54 37.1 -2.6
LVC pmax pmax
comp=Z,37nm,1.6s
LVC **Limon Verde** 59.86 244 P P 16 54 37.1 -2.6
LVC lAmb lAmb 16 54 40.6
comp=Z,37nm,1.6s
LVC **Limon Verde** 59.86 244 *e*P P 16 54 40.3 +0.6
PB11 **IPOC Station P** 59.94 247 P P 16 54 38.3 -1.7
PB11 lAmb lAmb 16 54 39.8
comp=Z,18nm,0.9s
PB09 **IPOC Station P** 59.98 245 P P 16 54 38.0 -2.3
PB09 lAmb lAmb 16 54 51.9
comp=Z,36nm,1.1s
PB01 **IPOC Station P** 60.04 246 P P 16 54 38.9 -1.8
AP01 **Chacalluta** 60.32 249 P P 16 54 40.4 -2.1
PB12 **IPOC Station P** 60.35 249 P P 16 54 41.0 -1.8
PB02 **IPOC Station P** 60.47 246 P P 16 54 41.9 -1.8
PB02 lAmb lAmb 16 54 44.9
comp=Z,38nm,1.1s
TA02 **Huaiquique** 60.48 247 P P 16 54 42.3 -1.2
TA02 lAmb lAmb 16 54 43.7
comp=Z,38nm,1.1s
PB06 **IPOC Station P** 60.48 244 P P 16 54 42.3 -1.4
PB06 lAmb lAmb 16 54 44.2
comp=Z,18nm,1.0s
PB15 **IPOC Station P** 60.50 244 P P 16 54 41.6 -2.3
PB07 **IPOC Station P** 60.55 245 P P 16 54 43.2 -1.1
TA01 **Diego Aracena** 60.58 247 P P 16 54 42.7 -1.5
TA01 lAmb lAmb 16 55 41.0
comp=Z,26nm,1.2s
PATCX **Punta Patache** 60.61 246 P P 16 54 43.0 -1.5
VOI **Vohitsoka** 60.63 115 P P 16 54 44.8 +0.1
VOI lAmb lAmb 16 56 22.8
comp=Z,48nm,1.5s
BANI **BANI** 60.71 291 P P 16 54 45.0 -0.3
PB04 **IPOC Station P** 60.92 245 P P 16 54 46.4 -0.3
PB04 lAmb lAmb 16 54 47.7
comp=Z,30nm,1.1s
GO02 **Mina Guanaco** 61.07 241 P P 16 54 46.5 -1.4
GO02 lAmb lAmb 16 54 50.2
comp=Z,16nm,0.8s
AC02 **Maricunga** 61.10 239 P P 16 54 47.5 -0.7
CZSB **Cruzeiro do Su** 61.34 262 *e*P P 16 54 49.7 +0.2
SUW **Suwalki** 61.47 23 *i* P P 16 54 50.6 +1.0
SUW **Suwalki** 61.47 23 P P 16 54 49.9 +0.3
SUW pmax pmax
comp=Z,70nm,1.1s
SUW **Suwalki** 61.47 23 P P 16 54 49.9 +0.3
SUW **Suwalki** 61.47 23 *e*P P 16 54 50.4 +0.8
PB10 **IPOC Station P** 61.54 243 P P 16 54 49.6 -1.1
PB14 **IPOC Station P** 61.66 242 P P 16 54 50.0 -1.8
PB14 lAmb lAmb 16 54 54.9
comp=Z,35nm,1.4s
AKASG **Malin Array Be** 61.68 28 P P 16 54 50.9 -0.2
comp=Z,0.8nm,0.4s,baz=226,slow=6.7,SNR=8.2
AKBB **Malin Array Si** 61.68 28 P P 16 54 50.6 -0.5
AKBB pmax pmax
comp=Z,19nm,1.4s
AKBB **Malin Array Si** 61.68 28 P P 16 54 50.6 -0.5
AKBB lAmb lAmb 16 54 52.1
comp=Z,19nm,1.4s
SDDR **Presa de Saban** 61.69 292 P P 16 54 51.3 -0.5
ZON **Zonda** 62.08 234 P P 16 54 53.5 -0.7
ZON pmax pmax
comp=Z,58nm,1.8s
ZON **Zonda** 62.08 234 P P 16 54 53.5 -0.7
KONO **Kongsberg** 62.24 12 P P 16 54 54.7 0.0
KONO pmax pmax
comp=Z,12nm,1.0s
KONO **Kongsberg** 62.24 12 P P 16 54 54.7 0.0
KONO lAmb lAmb 16 55 02.2
comp=Z,12nm,1.0s
AC06 **Mina Casimiro** 62.29 239 P P 16 54 54.4 -1.3
AC06 lAmb lAmb 16 55 26.6
comp=Z,31nm,1.8s
GURO **Guroymak-BITLI** 62.64 45 P P 16 54 58.0 +0.1
GURO lAmb lAmb 16 55 05.6
comp=Z,27nm,1.2s
CO01 **Juntas del Tor** 62.77 236 P P 16 54 59.5 +0.3
CO01 lAmb lAmb 16 55 02.2
comp=Z,21nm,1.4s
PABE **Paberze** 62.90 22 P P 16 54 59.2 +0.1
PABE **Paberze** 62.90 22 *e*P P 16 54 59.8 +0.7
ROSC **El Rosal** 62.91 276 P P 16 54 59.8 -0.7
ROSC pmax pmax
comp=Z,23nm,0.9s
ROSC **El Rosal** 62.91 276 P P 16 54 59.8 -0.7
ROSC lAmb lAmb 16 55 09.9
comp=Z,23nm,0.8s
VIKU **Vikbolandet** 62.95 16 *e*P P 16 55 01.1 +1.7
LCO **Las Campanas** 63.02 238 P P 16 54 59.1 -1.7
LCO pmax pmax
comp=Z,38nm,1.7s
LCO **Las Campanas** 63.02 238 P P 16 54 59.1 -1.7
LCO lAmb lAmb 16 55 01.2
comp=Z,38nm,1.6s
AC04 **Llanos de Chal** 63.12 238 P P 16 55 00.6 -0.6
DRLN **Deer Lake** 63.33 328 P P 16 55 02.6 +0.5
GO04 **Tololo Observa** 63.41 236 P P 16 55 02.4 -1.0
GO04 lAmb lAmb 16 55 04.9
comp=Z,15nm,0.8s
CO03 **El Pedregal** 63.51 236 P P 16 55 02.8 -1.1
CO03 lAmb lAmb 16 55 10.6
comp=Z,34nm,1.8s
NACGM **Naroch** 63.54 24 *e*P P 16 55 04.9 +1.5
ZARC **Zaragoza, Cauc** 63.61 279 P P 16 55 03.4 -1.4
ZARC lAmb lAmb 16 55 12.1
comp=Z,13nm,0.9s
NC602 **NORSAR Array S** 63.64 12 P P 16 55 04.4 +0.4
NORES **NORESS Array B** 63.64 12 P P 16 55 03.0 -1.0
IIGN **Ignalina** 63.65 23 *e*P P 16 55 06.0 +1.9
MNK **Minsk** 63.70 24 *i* P P 16 55 03.5 -1.0
MNK *i* 16 55 39.4
MNK *i* 16 57 23.4
MNK *i* PPP PPP 16 58 52.8
MNK *i* S S 17 03 39.2 +0.3
MNK *i* 17 04 56.9
MNK *i* SS SS 17 07 47.3 +0.5
MNK pmax pmax
comp=Z,27nm,0.9s
MNK pmax pmax
comp=N,9.0nm,1.0s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=N,450nm,23.0s
MNK MLR MLR
comp=E,28nm,14.0s
MNK MLR MLR
comp=Z,175nm,17.0s
MNK **Minsk** 63.70 24 *i* P P 16 55 03.5 -1.0
comp=E,1.0nm,0.9s
MNK *i* P P 16 55 03.5 -1.0
comp=N,9.0nm,1.0s
MNK *i* P P 16 55 03.5 -1.0
comp=Z,27nm,0.9s,baz=224
MNK *i* PcP PcP 16 55 39.5 -1.1
MNK *i* PP PP 16 57 23.5 -1.2
MNK *i* PPP PPP 16 58 52.8
MNK *i* S S 17 03 39.3 +0.3
MNK *i* SS SS 17 07 47.4 +0.5
MNK *i* SSS SSS 17 10 54.1
MNK *i* LQ LQ 17 17 00.1
MNK *i* LR LR 17 23 05.8
MNK *i* LRM MLR 17 25 02.6
comp=N,450nm,22.9s
MNK *i* LRM MLR 17 25 13.2
comp=E,28nm,14.4s
MNK *i* LRM MLR 17 25 29.7
comp=Z,175nm,17.0s
IDID **Didziasalis** 63.82 23 *e*P P 16 55 06.7 +1.4
NB2 **NORSAR Subarra** 63.84 12 P P 16 55 05.7 +0.3
comp=Z,17nm,1.4s,baz=205,slow=6.2
NOA **NORSAR Array B** 63.84 12 P P 16 55 06.0 +0.6
comp=Z,5.0nm,0.9s,baz=204,slow=6.8,SNR=9.5
CO02 **Combarbal** 63.87 235 P P 16 55 05.0 -1.3
CO02 lAmb lAmb 16 55 15.4
comp=Z,20nm,1.1s
NB201 **NORSAR Array S** 63.87 12 P P 16 55 05.4 -0.2
VA03 **San Esteban** 63.96 233 P P 16 55 05.6 -1.2
NC204 **NORSAR Array S** 63.97 12 P P 16 55 06.8 +0.6
SJCC **San Jacinto, C** 64.13 281 P P 16 55 08.1 -0.1
SJCC lAmb lAmb 16 55 17.5
comp=Z,31nm,1.0s
CO06 **Fray Jorge** 64.25 236 P P 16 55 07.8 -0.8
VA06 **Catapilco** 64.50 234 P P 16 55 08.4 -1.8
VA06 lAmb lAmb 16 56 59.6
comp=Z,45nm,1.5s
MT09 **Talagante** 64.61 233 lAmb lAmb 16 55 12.7
comp=Z,12nm,0.8s
GNI **Garni** 65.21 45 *i* P P 16 55 14.6 -0.3
GNI pmax pmax
comp=Z,21nm,1.3s
MTSE **Matsula** 65.31 19 *e*P P 16 55 15.0 +0.1
SHA1 **Shidzhatmaz** 65.33 40 *i* P P 16 55 16.1 +0.4
NAX **Nakhchivan** 65.36 46 P P 16 55 16.8 +1.0
KIV **Kislovodsk** 65.44 40 *e*P P 16 55 17.8 +1.6
KIV pmax pmax
comp=Z,18nm,1.1s
KIV **Kislovodsk** 65.44 40 P P 16 55 17.4 +1.2
KIV lAmb lAmb 16 55 23.6
comp=Z,27nm,1.3s
KBZ **Khabaz** 65.48 40 P P 16 55 17.8 +1.5
comp=Z,8.6nm,0.9s,baz=266,slow=3.9,SNR=24
KBZ **Khabaz** 65.48 40 *i* P P 16 55 17.1 +0.8
KBZ pmax pmax
comp=Z,13nm,1.0s
ZEI **Tsey** 65.72 42 *e*P P 16 55 18.5 +0.3
ZEI pmax pmax
comp=Z,7.0nm,1.8s
NCK **Nalchik** 65.83 41 *i* P P 16 55 19.7 +1.0
NCK pmax pmax
comp=Z,12nm,1.0s
VSU **Vasula** 66.12 21 *e*P P 16 55 20.8 +0.7
RAF **Rauna** 66.49 17 *e*P P 16 55 23.4 +1.0
GANJ **Ganja** 66.51 45 P P 16 55 23.6 +0.5
PLCA **Paso Flores** 66.58 225 *e*P P 16 55 24.5 +0.9
OTAV **Otavalo** 66.89 270 P P 16 55 28.7 +2.2
OTAV **Otavalo** 66.89 270 *e*P P 16 55 27.5 +1.0
VORD **Divnogorie** 66.92 32 *e*P P 16 55 25.5 +0.1
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR **Storozhevoye** 66.98 32 *e*P P 16 55 25.9 +0.1
VSR pmax pmax
comp=Z,20nm,0.8s
MNGR **Mingechevir, A** 67.10 45 P P 16 55 28.0 +1.2
ZKTA **Zakatala** 67.10 44 P P 16 55 28.1 +1.2
BATG **Bathurst New B** 67.12 323 P P 16 55 28.0 +1.2
BATG lAmb lAmb 16 55 29.3
comp=Z,32nm,1.2s
VORR **Voronezh** 67.25 32 *e*P P 16 55 27.6 +0.1
VORR pmax pmax
comp=Z,28nm,1.5s
SEKA **Sheki** 67.34 44 P P 16 55 30.1 +1.7
LKRN **Lenkeran, Azer** 67.58 47 P P 16 55 31.0 +1.1
LPSR **Galich'ya Gora** 67.62 31 *e*P P 16 55 29.4 -0.4
LPSR pmax pmax
comp=Z,10.0nm,0.6s
OBN **Obninsk** 67.92 28 *e*P P 16 55 30.1 -1.5
OBN *e* 16 55 57.8
OBN *e* 16 58 02.7
OBN pmax pmax
comp=Z,5.0nm,0.9s
FINES **FINESS Array B** 68.13 18 P P 16 55 33.6 +0.7
comp=Z,11nm,0.8s,baz=214,slow=4.5,SNR=26
FINES **FINESS Array B** 68.13 18 P P 16 55 33.3 +0.4
FINES **FINESS Array B** 68.13 18 P P 16 55 33.3 +0.4
MCRA **Macar, Loja** 68.41 266 lAmb lAmb 16 55 36.8
comp=Z,14nm,0.9s
MOS **Moscow** 68.77 27 *e*P P 16 55 36.3 -0.7
VNA1 **Neumayer--Stat** 70.05 179 P P 16 55 45.9 +1.3
UOSS **Minazif** 70.15 63 P P 16 55 46.3 +0.1
UOSS lAmb lAmb 16 56 03.5
comp=Z,15nm,0.9s
VNA2 **Neumayer--Watz** 70.34 179 P P 16 55 47.2 +0.7
baz=346,slow=7.0
VNA3 **Neumayer Olymp** 70.62 179 P P 16 55 48.5 +0.3
SCHQ **Schefferville** 71.20 330 P P 16 55 53.0 +0.9
comp=Z,3.9nm,0.9s,baz=164,slow=4.6,SNR=6.0
SNAA **Sanae** 71.26 177 P P 16 55 52.8 +0.6
SNAA **Sanae** 71.26 177 P P 16 55 52.7 +0.6
SNAA pmax pmax
comp=Z,8.0nm,0.8s
SNAA **Sanae** 71.26 177 P P 16 55 52.7 +0.6
TROLL **Troll, Antarti** 71.94 175 P P 16 55 57.1 +0.8
BELG **Belogornoye** 72.14 34*d* *i*P P 16 55 58.0 +0.3
BELG pmax pmax
comp=Z,9.0nm,0.9s
KLMR **Klimovskoe** 72.57 24 *e*P P 16 55 58.2 -1.8
KLMR pmax pmax
comp=Z,33nm,1.5s
KLMR **Klimovskoe** 72.57 24 *e*P P 16 55 58.3 -1.8
KLMR AMP 16 56 01.8
comp=Z,33nm,1.5s
RIMA **Rio Macho** 72.65 280 lAmb lAmb 16 56 03.6
comp=Z,38nm,1.5s
WVNY **West Valley, N** 73.57 315 P P 16 56 06.9 +0.4
WVNY lAmb lAmb 16 56 08.7
comp=Z,34nm,1.1s
ACON **Acoyapa** 74.08 283 P P 16 56 09.8 -0.2
ACON lAmb lAmb 16 56 11.7
comp=Z,40nm,1.1s
ARCES **ARCESS Array B** 74.21 13 P P 16 56 10.2 +0.5
comp=Z,7.1nm,0.7s,baz=208,slow=2.1,SNR=26
GEYT **Alibeck** 74.40 50 P P 16 56 12.7 +1.3
comp=Z,3.4nm,0.6s,baz=90,slow=3.0,SNR=6.1
VLDQ **Val d'Or** 74.51 321 P P 16 56 12.9 +1.2
PRGR **Permogore** 75.48 24 *e*P P 16 56 14.4 -2.6
PRGR pmax pmax
comp=Z,24nm,1.5s
ACSO **Alum Creek Sta** 76.22 312 lAmb lAmb 16 56 24.0
comp=Z,35nm,1.2s
SYO **Syowa Base** 76.44 163⇑ *e*P P 16 56 21.9 -0.5
SYO **Syowa Base** 76.44 163⇑ *e*PcP PcP 16 56 32.4 -1.7
R50A **Paris** 76.84 309 lAmb lAmb 16 56 27.6
comp=Z,31nm,1.4s
T50A **Nancy** 77.00 308 lAmb lAmb 16 56 28.9
comp=Z,49nm,1.7s
DAG **Danmarks Havn** 77.31 358 *i* P P 16 56 28.0 +0.8
U49A **Red Boiling Sp** 77.65 307 P P 16 56 30.4 +0.4
U49A lAmb lAmb 16 59 02.4
comp=Z,15nm,0.8s
BELA **Belgrano 2** 78.27 185 P P 16 56 32.9 +0.3
BELA lAmb lAmb 16 56 34.4
comp=Z,42nm,1.7s
X48A **Hartselle** 78.34 305 lAmb lAmb 16 56 35.5
comp=Z,45nm,1.7s
ARU **Arti** 79.56 32*d* *i*P P 16 56 39.5 -0.5
ARU 16 56 45.8
ARU S S 17 06 40.9 -0.8
ARU pmax pmax
comp=Z,15nm,0.9s

ARU	**Arti**	**79.56**	**32**	P		**P**		**16 56 40.1**	**+0.1**
ARU				IAmb		IAmb		16 56 47.2	
	comp=Z,37nm,1.3s								
SVE	**Sverdlovsk**	**80.77**	**32**	*e*P		**P**		**16 56 47.4**	**+0.9**
SVE				pmax		pmax			
	comp=Z,16nm,1.4s								
LCAR	**Lake Charles**	**81.89**	**306**	P		**P**		**16 56 52.2**	**-0.7**
CCM	**Cathedral Cave**	**82.19**	**308**	P		**P**		**16 56 53.7**	**-0.8**
CCM				pmax		pmax			
	comp=Z,31nm,0.9s								
CCM	**Cathedral Cave**	**82.19**	**308**	P		**P**		**16 56 53.7**	**-0.8**
CCM				IAmb		IAmb		16 58 48.1	
	comp=Z,31nm,0.8s								
L40A	**Anamosa**	**82.66**	**312**	IAmb		IAmb		16 56 57.4	
	comp=Z,10.0nm,0.7s								
MGMO	**Mountain Grove**	**82.90**	**307**	IAmb		IAmb		16 56 59.5	
	comp=Z,44nm,1.6s								
CHGR	**Chuyangaron**	**83.08**	**51**	P		**P**		**16 56 58.8**	**-0.5**
CHGR				IAmb		IAmb		16 57 01.1	
	comp=Z,10nm,0.8s								
X40A	**Basin Creek Fa**	**83.09**	**305**	P		**P**		**16 56 59.0**	**-0.2**
X40A				IAmb		IAmb		16 57 00.5	
	comp=Z,31nm,1.8s								
MAW	**Mawson**	**83.62**	**158**	P		**P**		**16 57 03.2**	**+1.9**
	comp=Z,7.8nm,0.7s,baz=292,slow=7.7,SNR=13								
GAR	**Garm**	**84.01**	**51**	IAmb		IAmb		16 57 11.7	
	comp=Z,18nm,1.3s								
BTK	**Batken**	**84.50**	**50**	P		**P**		**16 57 06.2**	**-0.3**
BTK	**Batken**	**84.50**	**50**	P		**P**		**16 57 06.2**	**-0.3**
KKAR	**Karatay Array**	**84.56**	**47**	P		**P**		**16 57 06.4**	**-0.3**
KKAR	**Karatay Array**	**84.56**	**47**	P		**P**		**16 57 06.3**	**-0.3**
F36A	**Milaca**	**84.76**	**316**	IAmb		IAmb		16 57 08.9	
	comp=Z,22nm,1.6s								
BRVK	**Borovoye**	**85.51**	**37**	*i* P		**P**		**16 57 11.7**	**+0.6**
BRVK				pmax		pmax			
	comp=Z,10.0nm,1.4s								
BRVK	**Borovoye**	**85.51**	**37**	P		**P**		**16 57 11.5**	**+0.4**
NIL	**Nilore**	**85.97**	**56**	P		**P**		**16 57 14.0**	**+0.1**
NIL				pmax		pmax			
	comp=Z,24nm,1.4s								
NIL	**Nilore**	**85.97**	**56**	P		**P**		**16 57 14.0**	**+0.1**
NIL				IAmb		IAmb		16 57 21.5	
	comp=Z,24nm,1.4s								
T35A	**Sooner Cattle**	**86.26**	**307**	P		**P**		**16 57 14.6**	**-0.6**
T35A				IAmb		IAmb		16 57 16.4	
	comp=Z,42nm,1.6s								
ECSD	**EROS Data Cent**	**86.77**	**314**	IAmb		IAmb		16 57 18.7	
	comp=Z,17nm,1.2s								
AML	**Almayashu**	**86.83**	**48**	P		**P**		**16 57 19.6**	**+1.1**
	SNR=7.7								
435B	**Jarrell**	**86.84**	**301**			**P**		**16 57 15.9**	**-2.3**
EKS2	**Erkin-Say**	**86.92**	**47**	P		**P**		**16 57 20.1**	**+1.6**
	SNR=7.1								
X34A	**Smith Ranch, M**	**87.21**	**304**	IAmb		IAmb		16 57 21.3	
	comp=Z,23nm,0.9s								
UCH	**Uchtor**	**87.44**	**48**	P		**P**		**16 57 22.3**	**+0.8**
	SNR=6.5								
AAK	**Ala-Archa**	**87.45**	**47**	P		**P**		**16 57 22.8**	**+1.6**
	SNR=13								
AAK	**Ala-Archa**	**87.45**	**47**	P		**P**		**16 57 22.7**	**+1.6**
	comp=Z,9.0nm,0.7s,baz=233,slow=3.1,SNR=36								
AAK	**Ala-Archa**	**87.45**	**47**	*i* P		**P**		**16 57 21.7**	**+0.6**
AAK				pmax		pmax			
	comp=Z,13nm,0.9s								
AAK	**Ala-Archa**	**87.45**	**47**	P		**P**		**16 57 22.0**	**+0.9**
AAK				IAmb		IAmb		16 57 23.6	
	comp=Z,11nm,0.8s								
WMOK	**Wichita Mounta**	**88.00**	**305**	P		**P**		**16 57 22.9**	**-0.9**
WMOK				pmax		pmax			
	comp=Z,18nm,1.3s								
WMOK	**Wichita Mounta**	**88.00**	**305**	P		**P**		**16 57 22.9**	**-0.9**
WMOK				IAmb		IAmb		16 57 25.1	
	comp=Z,18nm,1.2s								
TKM2	**Tokmak 2**	**88.27**	**47**	P		**P**		**16 57 26.2**	**+1.0**
	SNR=5.9								
KSH	**Kashi**	**88.43**	**51**	P		**P**		**16 57 26.0**	**+0.2**
KSH				pP		sP		16 57 31.0	+2.4
KSH				pmax		pmax			
	comp=Z,11nm,1.1s								
ULHL	**Ulahol**	**88.72**	**48**	P		**P**		**16 57 28.7**	**+1.4**
	SNR=8.3								
RES	**Resolute Bay**	**88.73**	**345**	P		**P**		**16 57 26.5**	**+0.2**
RES				pmax		pmax			
	comp=Z,19nm,1.9s								
RES	**Resolute Bay**	**88.73**	**345**	P		**P**		**16 57 26.5**	**+0.2**
RES				IAmb		IAmb		16 57 42.1	
	comp=Z,19nm,1.9s								
TARG	**Taragay, Kyrgy**	**89.88**	**48**	P		**P**		**16 57 33.5**	**+0.5**
TARG				IAmb		IAmb		16 57 35.3	
	comp=Z,16nm,1.0s								
HYBB	**Hyderabad (bro**	**90.27**	**73**	*e*P		**P**		**16 57 34.5**	**-0.3**
KURBB	**Kurchatov Arra**	**90.46**	**40**	P		**P**		**16 57 35.9**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=273,slow=5.6,SNR=14								
KURK	**Kurchatov**	**90.52**	**39**	*i* P		**P**		**16 57 35.2**	**0.0**
KURK				pmax		pmax			
	comp=Z,6.0nm,1.1s								
TXAR	**Lajitas Array**	**92.08**	**299**	P		**P**		**16 57 43.9**	**+0.8**
	comp=Z,4.7nm,0.9s,baz=116,slow=6.7,SNR=35								
TX32	**Lajitas Array**	**92.09**	**299**	P		**P**		**16 57 43.1**	**0.0**
PALK	**Pallekele**	**92.32**	**83**	LR		LR		17 35 29.0	
	comp=Z,251nm,20.9s,baz=346,slow=33								
MAKZ	**Makanchi**	**92.81**	**43**	P		**P**		**16 57 45.5**	**-0.4**
MAKZ				pmax		pmax			
	comp=Z,5.0nm,0.9s								
MAKZ	**Makanchi**	**92.81**	**43**	P		**P**		**16 57 45.5**	**-0.4**
MK31	**Makanchi Array**	**93.03**	**43**	*i* P		**P**		**16 57 47.0**	**0.0**
MKAR	**Makanchi Array**	**93.03**	**43**	P		**P**		**16 57 47.2**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=266,slow=4.0,SNR=15								
Q24A	**Divide**	**93.12**	**309**	P		**P**		**16 57 47.8**	**-0.2**
Q24A				IAmb		IAmb		16 57 50.0	
	comp=Z,12nm,1.2s								
SDCO	**Great Sand Dun**	**93.43**	**308**	IAmb		IAmb		16 58 52.1	
	comp=Z,16nm,1.4s								
NRIK	**Noril'sk**	**93.71**	**21**	P		**P**		**16 57 51.1**	**+1.5**
	comp=Z,1.0nm,0.4s,baz=16,slow=4.1,SNR=3.9								
NRIK	**Noril'sk**	**93.71**	**21**	*i* P		**P**		**16 57 50.7**	**+1.1**
NRIK				pmax		pmax			
	comp=Z,11nm,1.4s								
ANMO	**Albuquerque**	**94.31**	**305**	P		**P**		**16 57 53.8**	**+0.4**
ANMO				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ANMO	**Albuquerque**	**94.31**	**305**	P		**P**		**16 57 53.8**	**+0.4**
YKA	**Yellowknife Ar**	**96.47**	**333**	P		**P**		**16 58 02.6**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=75,slow=5.2,SNR=22								
WMQ	**Urumqi**	**97.05**	**46**	*e*P		Pdif		16 58 07.8	+2.2
PZH	**PanZhiHua**	**111.02**	**62**	PKP		**PKiKP**		**17 03 07.9**	**+0.3**
BTO	**Baotou**	**113.87**	**45**	*e*PKP		**PKiKP**		**17 03 08.6**	**-4.0**
HHC	**Hu-ho-hao-te**	**114.87**	**44**	*e*PKP		**PKiKP**		**17 03 11.8**	**-2.7**
XAN	**Xi'an**	**115.24**	**52**	PKP		PKiKP		17 03 04.3	-11
XAN				LR		LR			
	comp=N,170nm,14.7s								
XAN				LR		LR			
	comp=E,230nm,16.8s								
XAN				LR		LR			
	comp=Z,340nm,17.2s								
OHAK	**Old Harbor**	**115.76**	**338**			**PKPdf**		**17 03 16.4**	**+0.9**
NJ2	**Nanjing**	**123.74**	**51**	*e*PKP		**PKPdf**		**17 03 31.6**	**-0.1**
ASAR	**Alice Springs**	**138.74**	**128**	PKhKP		PKPpre		17 03 51.9	
	comp=Z,1.9nm,0.6s,baz=224,slow=3.0,SNR=17								
WRA	**Warramunga Arr**	**140.89**	**123**	PKhKP		PKPpre		17 03 56.5	
	comp=Z,0.6nm,0.6s,baz=246,slow=1.9,SNR=2.4								

BGR **14** *16:45:17.9±0.0,21.°90S×173.°88W,h10km*
IDC **14** *16:45:20.0±0.5,20.°48S×175.°19W,h0km,mb4.6/19, mb1 4.7/22,mb1mx4.6/42,mbtmp4.6/22,ML4.2/3,MS3.8/4, Ms1 3.8/4,ms1mx3.4/71,Error ellipse: s-maj=22.0km s-min=13.2km az=123.0*
NEIC **14** *16:45:21.2±2.3,20.°42S±0.°07×175.°07W±0.°07,h10km±1km, mb4.9/119,Error ellipse: s-maj=15.6km s-min=2.9km az=136.0*
NOU **14** *16:45:28.4,20.°83S×174.°37W,h69km,mb5.0/16,Tonga Islands*

ISC 14 16:45:21.0±0.3,20.°48S±0.°05×175.°11W±0.°06,h10km, n323,σ1§56/284,mb4.9/76,4C-3D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.08**	**75**	Pn	**Pn**	**16 46 35.4**	**-1.9**
NIUE				Sn	Sn	16 47 25.1	-11
NIUE	**Niue**	**5.08**	**75**	P	**Pn**	**16 46 35.5**	**-1.7**
MSVF	**Nonsavu**	**7.02**	**292**	LR	LR	16 48 55.8	
	comp=Z,306nm,19.0s,baz=141,slow=31						
MSVF	**Nonsavu**	**7.02**	**292**	Pn	**Pb**	**16 47 18.9**	**-4.3**
MSVF	**Nonsavu**	**7.02**	**292**	P	**Pb**	**16 47 19.2**	**-3.9**
AFI	**Afiamalu**	**7.27**	**27**	Pn	**Pn**	**16 47 09.3**	**+1.9**
	7.1nm,0.3s,baz=206,slow=6.5,SNR=14						
AFI				Sn	**Sn**	**16 48 29.1**	**-1.0**
	32nm,0.3s,baz=206,slow=16,SNR=4.5						
AFI	**Afiamalu**	**7.27**	**27**		**Pn**	**16 47 08.0**	**+0.5**
AFI	**Afiamalu**	**7.27**	**27**	P	**Pn**	**16 47 11.2**	**+3.8**
RIZ	**Raoul Island**	**9.09**	**196**	P	**Pn**	**16 47 31.8**	**-0.5**
RAO	**Raoul Island**	**9.10**	**196**	Pn	**Pn**	**16 47 33.7**	**+1.3**
GLKZ	**Green Lake**	**9.11**	**196**	P	**Pn**	**16 47 33.3**	**+0.8**
GLKZ				S	Sn	16 49 06.5	-8.6
FUNA	**Funafuti**	**13.10**	**334**	Pn	**Pn**	**16 48 26.2**	**-1.0**
RAR	**Rarotonga**	**14.36**	**96**	Pn	**Pn**	**16 48 44.5**	**+0.1**
	2.5nm,0.3s,baz=280,slow=8.8,SNR=15						
RAR				Sn	Sn	16 51 05.3	-19
	4.6nm,0.3s,baz=13,slow=20,SNR=2.4						
RAR				LR	LR	16 52 51.0	
	comp=Z,298nm,22.0s,baz=305,slow=31						
RAR	**Rarotonga**	**14.36**	**96**	Pn	**Pn**	**16 48 41.4**	**-3.0**
MARNC	**Mare, Loyalty**	**15.78**	**263**		**Pn**	**16 49 04.5**	**+1.1**
PINNC	**Pines Island,**	**16.36**	**259**	P	**Pn**	**16 49 12.7**	**+1.7**
PINNC				IAmb	IAmb	16 49 51.0	
	comp=Z,174nm,1.6s						
LIFNC	**LIFOU**	**16.52**	**266**	Pn	**Pn**	**16 49 12.6**	**-0.4**
LIFNC				IAmb	IAmb	16 49 30.6	
	comp=Z,77nm,0.8s						
YATNC	**Mamie plateau,**	**16.85**	**261**	P	P	16 49 27.2	+8.0
OUENC	**Ouen Island, N**	**16.91**	**260**	Pn	**Pn**	**16 49 14.9**	**-3.0**
DZM	**Mont Dzumac**	**17.26**	**261**	LR	LR	16 55 02.9	
	comp=Z,843nm,19.7s,baz=70,slow=34						
DZM	**Mont Dzumac**	**17.26**	**261**	*e*P	**P**	**16 49 30.8**	**+6.9**
	comp=Z,133nm,0.9s						
DZM				*e*LR	LR	16 53 42.4	
	comp=Z,1μm,25.6s						
DZM	**Mont Dzumac**	**17.26**	**261**	P	**Pn**	**16 49 18.8**	**-3.6**
DZM	**Mont Dzumac**	**17.26**	**261**	P	P	16 49 32.8	+8.9
NOUC	**Port Laguerre**	**17.39**	**261**	P	P	16 49 33.9	+8.6
SANVU	**Saraoutou**	**17.55**	**284**	P	**Pn**	**16 49 26.4**	**+0.5**
SANVU				IAmb	IAmb	16 49 38.8	
	comp=Z,56nm,0.8s						
SANVU	**Saraoutou**	**17.55**	**284**	P	P	16 49 36.7	+10
OUZ	**Omahuta**	**17.73**	**212**	Pn	**Pn**	**16 49 25.0**	**-3.1**
OUZ	**Omahuta**	**17.73**	**212**	P	**Pn**	**16 49 28.9**	**+0.8**
MXZ	**Matakaoa Point**	**17.96**	**197**	P	**Pn**	**16 49 29.6**	**-1.2**
WCZ	**Waipu Caves**	**17.96**	**209**	P	**Pn**	**16 49 31.1**	**+0.2**
KUZ	**Kuaotunu**	**18.08**	**204**	P	**P**	**16 49 35.4**	**+2.7**
CNGZ	**Carnagh Statio**	**18.85**	**196**	P	**P**	**16 49 37.4**	**-3.7**
CNGZ				S	Sn	16 52 47.9	-25
MWZ	**Matawai**	**18.90**	**198**	P	**P**	**16 49 40.7**	**-1.0**
MWZ				S	Sn	16 52 50.8	-23
EDRZ	**Edgecumbe**	**18.93**	**200**	P	**Pn**	**16 49 47.0**	**+4.3**
URZ	**Urewera**	**18.95**	**199**	P	**P**	**16 49 40.9**	**-1.4**
	comp=Z,2.1nm,0.3s,baz=36,slow=0.2,SNR=16						
URZ				Sn	Sn	16 53 00.3	-15
	comp=Z,2.3nm,0.3s,baz=91,slow=22,SNR=12						
URZ	**Urewera**	**18.95**	**199**	P	**P**	**16 49 39.9**	**-2.4**
URZ	**Urewera**	**18.95**	**199**	P	**P**	**16 49 40.9**	**-1.4**
URZ				S	Sn	16 52 51.7	-24
URZ	**Urewera**	**18.95**	**199**	P	**P**	**16 49 42.0**	**-0.3**
MUGZ	**Murupara**	**19.26**	**200**	P	**P**	**16 49 44.7**	**-1.0**
MUGZ				S	Sn	16 53 02.0	-21
KOUNC	**Koumac, New Ca**	**19.30**	**266**		**P**	**16 49 45.0**	**-1.3**
KOUNC				IAmb	IAmb	16 50 00.7	
	comp=Z,53nm,0.8s						
KOUNC	**Koumac, New Ca**	**19.30**	**266**	P	Pn	16 49 56.0	+8.7
RTZ	**Ruatahuna**	**19.32**	**199**	P	**P**	**16 49 45.5**	**-0.9**
RTZ				S	Sn	16 52 58.5	-26
PRGZ	**Paritu Road**	**19.35**	**197**	P	**Pn**	**16 49 49.5**	**+1.8**
SNGZ	**Shannon Statio**	**19.37**	**198**	P	**P**	**16 49 46.8**	**-0.1**
SNGZ				S	Sn	16 53 00.5	-25
TLZ	**Tolley Road**	**19.54**	**202**	P	**P**	**16 49 48.5**	**-0.3**
MHGZ	**Mahia Peninsul**	**19.56**	**196**	P	**P**	**16 49 49.5**	**+0.6**
MHGZ				S	S	16 53 09.0	-21
RAHZ	**Arahi**	**19.57**	**198**	P	**Pn**	**16 49 50.9**	**+0.6**
MTHZ	**Maungataniwha**	**19.58**	**199**	P	**P**	**16 49 50.3**	**+1.1**
MTHZ				S	S	16 53 08.3	-22
MRHZ	**Matea Rd**	**19.70**	**200**	P	**P**	**16 49 50.5**	**0.0**
MRHZ				S	S	16 53 12.8	-20
HIZ	**Hauiti**	**19.95**	**204**	P	**P**	**16 49 51.7**	**-1.6**
HIZ				IAmb	IAmb	16 50 34.3	
	comp=Z,131nm,1.6s						
HIZ	**Hauiti**	**19.95**	**204**	P	Pn	16 49 56.4	+1.5
BKZ	**Black Stump Fm**	**19.98**	**199**		**P**	**16 49 50.1**	**-3.4**
BKZ	**Black Stump Fm**	**19.98**	**199**	P	**P**	**16 49 51.0**	**-2.5**
BKZ				S	S	16 53 15.6	-23
MCHZ	**McNeill Hill**	**20.17**	**199**	P	**P**	**16 49 55.7**	**+0.1**
MCHZ				S	S	16 53 26.8	-15
NTVZ	**North Tongarir**	**20.18**	**201**	P	**P**	**16 49 56.9**	**+1.1**
TMVZ	**Te Maari**	**20.19**	**201**	P	**P**	**16 49 55.2**	**-0.8**
ETVZ	**East Tongariro**	**20.20**	**201**	P	**P**	**16 49 55.7**	**-0.5**
WTVZ	**West Tongariro**	**20.23**	**201**	P	**P**	**16 49 57.6**	**+1.3**
NNVZ	**North Ngauruho**	**20.23**	**201**	P	Pn	16 49 58.6	+0.2
KWHZ	**Kaweka Forest**	**20.23**	**199**	P	**P**	**16 49 55.8**	**-0.6**
KWHZ				S	S	16 53 22.5	-21
SNVZ	**South Ngauruho**	**20.27**	**201**	P	**P**	**16 49 57.9**	**+0.9**
NGZ	**Ngauruhoe**	**20.28**	**201**	P	**P**	**16 49 57.9**	**+0.9**
TUVZ	**Tukino**	**20.34**	**201**	P	**P**	**16 49 57.4**	**-0.3**
TUVZ				S	S	16 53 29.9	-16
FWVZ	**Far West T-bar**	**20.36**	**201**	P	**P**	**16 49 57.2**	**-0.8**
WHVZ	**Whangaehu Hut**	**20.38**	**201**	P	**P**	**16 49 57.9**	**-0.2**
BHHZ	**Black Hill Sta**	**20.41**	**200**	P	**P**	**16 49 57.1**	**-1.2**
BHHZ				S	S	16 53 25.2	-22
WNVZ	**Wahianoa**	**20.41**	**201**	P	**P**	**16 49 56.7**	**-1.7**
KAHZ	**Kahuranaki**	**20.44**	**198**	P	**P**	**16 49 58.1**	**-0.5**
KAHZ				S	S	16 53 30.6	-17
KRHZ	**Kereru**	**20.45**	**199**	P	**P**	**16 49 54.2**	**-4.5**
KRHZ				S	S	16 53 27.4	-20
PKVZ	**Pokaka**	**20.46**	**202**	P	**P**	**16 49 57.7**	**-1.2**
VRZ	**Vera Road**	**20.53**	**203**	P	**P**	**16 50 00.6**	**+1.1**
PXZ	**Pawanui**	**20.66**	**198**	P	**P**	**16 49 59.2**	**-1.8**
PXZ				S	S	16 53 29.5	-22
PNHZ	**Pukenui**	**20.75**	**199**	P	**P**	**16 50 00.8**	**-1.1**
PNHZ				S	S	16 53 29.0	-25
WPHZ	**Waipukurau**	**20.82**	**198**	P	**P**	**16 50 02.7**	**+0.1**
WPHZ				S	S	16 53 31.6	-23
NEZ	**North Egmont**	**20.90**	**204**	P	Pn	16 50 06.4	+0.2
PRHZ	**Porangahau**	**20.95**	**198**	P	**P**	**16 50 04.0**	**0.0**
PRHZ				S	S	16 53 37.2	-20
TSZ	**Takapari Road**	**20.96**	**199**	P	**P**	**16 50 01.6**	**-2.6**
TSZ				S	S	16 53 36.2	-22
DVHZ	**Dannevirke**	**21.11**	**199**	P	**P**	**16 50 06.2**	**+0.3**
ANWZ	**Angora Road**	**21.17**	**198**	P	**P**	**16 50 07.2**	**+0.8**
PRWZ	**Pori Road**	**21.41**	**199**	P	**P**	**16 50 10.6**	**+1.6**
BFZ	**Birch Farm**	**21.44**	**198**	P	**P**	**16 50 06.6**	**-2.8**
BFZ				IAmb	IAmb	16 50 12.3	
	comp=Z,54nm,1.2s						
BFZ	**Birch Farm**	**21.44**	**198**	P	**P**	**16 50 09.1**	**-0.2**
MRZ	**Mangatainoka R**	**21.63**	**200**	P	**P**	**16 50 09.3**	**-2.1**
TIWZ	**Tintock**	**21.64**	**199**	P	**P**	**16 50 11.9**	**+0.4**
HOWZ	**Holdsworth Sta**	**21.86**	**199**	P	**P**	**16 50 12.4**	**-1.5**
OGWZ	**Otaki Gorge**	**21.90**	**200**	P	**P**	**16 50 11.8**	**-2.5**
MSWZ	**Moikau Station**	**22.42**	**199**	P	**P**	**16 50 17.0**	**-2.9**
SNZO	**South Karori**	**22.49**	**200**	P	**P**	**16 50 17.4**	**-3.2**
BHW	**Baring Head**	**22.53**	**200**	P	**P**	**16 50 17.2**	**-3.8**
PLWZ	**Palliser**	**22.55**	**199**	P	**P**	**16 50 16.7**	**-4.6**
QRZ	**Quartz Range**	**22.85**	**205**	P	**P**	**16 50 20.0**	**-4.4**
QRZ				IAmb	IAmb	16 50 38.0	
	comp=Z,47nm,1.0s						
QRZ	**Quartz Range**	**22.85**	**205**	P	**P**	**16 50 25.6**	**+1.2**
TUWZ	**Tuamarina**	**22.86**	**202**	P	**P**	**16 50 19.3**	**-5.2**
NNZ	**Nelson**	**22.87**	**203**	P	**P**	**16 50 19.6**	**-5.0**
NNZ				IAmb	IAmb	16 50 28.3	
	comp=Z,82nm,1.4s						
NNZ	**Nelson**	**22.87**	**203**	P	**P**	**16 50 19.5**	**-5.0**
THZ	**Tophouse**	**23.52**	**203**	P	**P**	**16 50 28.0**	**-3.3**
THZ				IAmb	IAmb	16 50 59.2	
	comp=Z,96nm,1.8s						
KHZ	**Kahutara**	**23.87**	**201**	P	**P**	**16 50 31.9**	**-2.7**
KHZ				IAmb	IAmb	16 51 03.0	
	comp=Z,84nm,1.8s						
KHZ	**Kahutara**	**23.87**	**201**	P	**P**	**16 50 33.4**	**-1.2**
TBI	**Tubuai**	**23.96**	**102**	*e*LR	LR	16 56 10.0	
	comp=Z,965nm,31.0s						
TBI	**Tubuai**	**23.96**	**102**	*e*T	T	17 14 53.2	
	comp=Z,24nm,0.3s						
PAE	**Paea**	**24.29**	**88**	*e*T	T	17 15 21.8	
	comp=Z,12nm,0.3s						
PPT2	**Papeete2**	**24.30**	**88**	*e*LR	LR	16 56 13.6	
	comp=Z,989nm,27.8s						
PPT2	**Papeete2**	**24.30**	**88**	*e*T	T	17 15 26.0	
	comp=Z,11nm,0.3s						
LTZ	**Lake Taylor**	**24.64**	**203**	P	**P**	**16 50 39.3**	**-2.5**
LTZ				IAmb	IAmb	16 50 47.2	
	comp=Z,17nm,0.6s						
OXZ	**Oxford**	**25.19**	**202**	P	**P**	**16 50 44.8**	**-2.0**
OXZ				IAmb	IAmb	16 51 06.1	
	comp=Z,26nm,0.6s						
RPZ	**Rata Peaks**	**25.89**	**203**	P	**P**	**16 50 53.4**	**+0.4**
	comp=Z,10nm,0.5s,baz=337,slow=3.3,SNR=14						
RPZ	**Rata Peaks**	**25.89**	**203**	P	**P**	**16 50 51.4**	**-1.7**
RPZ	**Rata Peaks**	**25.89**	**203**	P	**P**	**16 50 53.7**	**+0.6**
FOZ	**Fox Glacier**	**26.21**	**205**	P	**P**	**16 50 54.8**	**-1.1**
PMOR	**Pomariorio Ree**	**26.47**	**83**	*e*T	T	17 18 05.9	
	comp=Z,5.1nm,0.3s						
LBZ	**Lake Benmore**	**26.79**	**204**	P	**P**	**16 50 59.5**	**-1.7**
ODZ	**Otahua Downs**	**27.18**	**202**	P	**P**	**16 51 06.2**	**+1.5**
WKZ	**Wanaka**	**27.61**	**205**	P	**P**	**16 51 07.2**	**-1.3**
WHZ	**Wether Hill Ro**	**28.92**	**205**	P	**P**	**16 51 19.9**	**-0.3**
CAN	**Canberra**	**34.78**	**237**	P	**P**	**16 52 11.1**	**-0.8**
CAN				IAmb	IAmb	16 52 33.4	
	comp=Z,47nm,1.8s						
TAOE	**Nuku Hiva Isla**	**35.66**	**76**	*e*T	T	17 29 36.7	
	comp=Z,50nm,0.2s						
RABL	**Rabaul**	**35.72**	**293**	P	**P**	**16 52 18.1**	**-2.0**
CTA	**Charters Tower**	**36.18**	**264**	LR	LR	17 05 51.7	
	comp=Z,225nm,18.1s,baz=312,slow=34						
RKT	**Rikitea**	**37.28**	**102**	*e*T	T	17 31 35.3	
	comp=Z,16nm,0.3s						
PMG	**Port Moresby**	**37.98**	**281**	P	**P**	**16 52 39.4**	**-0.1**
PMG				IAmb	IAmb	16 52 46.6	
	comp=Z,16nm,0.8s						
TOO	**Toolangi**	**38.10**	**235**	P	**P**	**16 52 39.3**	**-1.0**
TAU	**Tasmania Unive**	**38.56**	**226**	P	**P**	**16 52 43.3**	**-0.6**
STKA	**Stephens Creek**	**40.24**	**245**	P	**P**	**16 52 58.8**	**+0.6**
	comp=Z,2.8nm,0.4s,baz=88,slow=10,SNR=11						
STKA				PcP	**PcP**	**16 55 02.6**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=44,slow=6.2,SNR=3.7						
STKA	**Stephens Creek**	**40.24**	**245**	P	**P**	**16 52 58.0**	**-0.1**
COEN	**Coen**	**40.28**	**272**	P	**P**	**16 52 59.7**	**+1.0**
COEN				IAmb	IAmb	16 53 04.2	
	comp=Z,18nm,0.8s						
BBOO	**Buckleboo**	**44.98**	**244**	P	**P**	**16 53 35.0**	**-1.6**
BBOO				IAmb	IAmb	16 54 06.7	
	comp=Z,16nm,1.5s						
WR0	**Warramunga Arr**	**47.09**	**261**	P	**P**	**16 53 52.1**	**-1.4**
AS31	**Alice Springs**	**47.15**	**256**	P	**P**	**16 53 53.1**	**-0.9**
ASAR	**Alice Springs**	**47.16**	**256**	P	**P**	**16 53 53.8**	**-0.2**
	comp=Z,14nm,0.8s,baz=87,slow=8.5,SNR=75						
ASAR				PcP	**PcP**	**16 55 26.1**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=100,slow=4.5,SNR=5.7						
ASAR				ScP	**ScP**	**16 59 20.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=93,slow=4.1,SNR=5.2						
ASAR	**Alice Springs**	**47.16**	**256**	P	**P**	**16 53 52.9**	**-1.1**
WB0	**Warramunga Arr**	**47.26**	**262**	P	**P**	**16 53 54.0**	**-0.8**
WB0				IAmb	IAmb	16 53 58.6	
	comp=Z,8.0nm,0.6s						
WB2	**Warramunga Arr**	**47.27**	**261**	P	**P**	**16 53 53.7**	**-1.2**
WB2				IAmb	IAmb	16 53 58.0	
	comp=Z,12nm,1.0s						
WRAB	**Tennant Creek**	**47.27**	**261**	P	**P**	**16 53 53.4**	**-1.5**
WRAB				IAmb	IAmb	16 53 58.0	
	comp=Z,8.9nm,0.9s						
WRA	**Warramunga Arr**	**47.28**	**261**	P	**P**	**16 53 54.1**	**-0.8**
	comp=Z,3.3nm,0.5s,baz=97,slow=7.7,SNR=64						
WRA	**Warramunga Arr**	**47.28**	**261**	P	**P**	**16 53 53.7**

Q16A	**Castle Valley**	**84.05**	**45**	P		**P**		**16 57 54.0 +1.8**
Q16A				IAmb		IAmb		16 57 56.2
	comp=Z,8.9nm,1.0s							
D08A	**Wollman Farm,**	**84.10**	**35**	P		**P**		**16 57 52.5 +0.4**
D08A				IAmb		IAmb		16 57 55.2
	comp=Z,9.6nm,0.8s							
TMUT	**Trail Mountain**	**84.23**	**44**	P		**P**		**16 57 53.0 -0.3**
F10A	**Beach Ranch, E**	**84.36**	**36**	P		**P**		**16 57 54.0 +0.5**
F10A				IAmb		IAmb		16 57 56.0
	comp=Z,13nm,1.0s							
TTA	**Tatalina**	**84.49**	**9**	P		**P**		**16 57 54.4 +0.7**
MA2	**Magadan**	**84.51**	**343**	P		**P**		**16 57 54.2 +0.4**
	comp=Z,3.1nm,0.6s,baz=139,slow=7.0,SNR=15							
MA2	**Magadan**	**84.51**	**343**			**P**		**16 57 54.1 +0.3**
MA2				IAmb		IAmb		16 57 55.9
	comp=Z,4.5nm,0.8s							
PLID	**Pearl Lake**	**84.52**	**38**	IAmb		IAmb		16 57 56.6
	comp=Z,5.8nm,0.8s							
MNTX	**Cornudas Mount**	**84.55**	**53**	IAmb		IAmb		16 57 57.8
	comp=Z,7.3nm,1.1s							
HLID	**Hailey**	**84.57**	**40**	IAmb		IAmb		16 57 58.0
	comp=Z,8.7nm,0.8s							
HVU	**Hansel Valley**	**84.57**	**42**	P		**P**		**16 57 54.1 -0.6**
HVU				IAmb		IAmb		16 57 57.7
	comp=Z,8.8nm,0.8s							
GHO	**Glory Hole Cre**	**84.61**	**12**	IAmb		IAmb		16 57 55.7
	comp=Z,7.2nm,0.8s							
P17A	**Butcher Ranch,**	**84.63**	**45**	P		**P**		**16 57 56.0 +0.9**
B08A	**Colville Reser**	**84.69**	**34**	IAmb		IAmb		16 57 57.5
	comp=Z,7.7nm,0.8s							
TXAR	**Lajitas Array**	**84.78**	**56**	P		**P**		**16 57 57.9 +1.9**
	comp=Z,3.4nm,1.0s,baz=207,slow=5.3,SNR=12							
TXAR	**Lajitas Array**	**84.78**	**56**	P		**P**		**16 57 54.8 -1.2**
BNM	**Barren Site**	**84.79**	**51**	P		**P**		**16 57 54.4 -1.8**
P18A	**Preston Nutter**	**85.03**	**45**	IAmb		IAmb		16 58 12.8
	comp=Z,6.5nm,1.0s							
K20K	**Telida**	**85.18**	**9**	IAmb		IAmb		16 58 22.1
	comp=Z,17nm,1.6s							
N25K	**Chitina, Valde**	**85.38**	**14**	P		**P**		**16 57 58.7 +0.5**
N25K				IAmb		IAmb		16 58 00.9
	comp=Z,7.1nm,0.8s							
CAST	**Castle Rocks**	**85.55**	**10**	P		**P**		**16 57 58.1 -0.8**
TRF	**Thorofare Moun**	**85.89**	**11**	P		**P**		**16 58 01.0 +0.2**
TRF				IAmb		IAmb		16 58 04.0
	comp=Z,12nm,0.9s							
J20K	**Nowinta River**	**85.94**	**9**	P		**P**		**16 58 00.8 0.0**
RND	**Reindeer**	**86.11**	**12**	IAmb		IAmb		16 58 05.7
	comp=Z,8.9nm,0.8s							
MCMT	**McKenzie Canyo**	**86.21**	**39**	P		**P**		**16 58 02.9 -0.1**
MCK	**McKinley**	**86.39**	**11**	P		**P**		**16 58 03.5 +0.3**
MCK				IAmb		IAmb		16 58 06.7
	comp=Z,10nm,1.0s							
SEY	**Seymchan**	**87.00**	**346**	P		**P**		**16 58 06.8 +0.8**
	comp=Z,5.5nm,0.6s,baz=155,slow=5.3,SNR=33							
PD31	**Pinedale Array**	**87.11**	**42**	P		**P**		**16 58 06.6 -0.8**
PDAR	**Pinedale Array**	**87.11**	**42**	P		**P**		**16 58 07.3 -0.1**
	comp=Z,1.1nm,0.7s,baz=208,slow=3.4,SNR=9.4							
WRH	**Wood River Hil**	**87.22**	**11**	P		**P**		**16 58 07.4 +0.3**
PLCA	**Paso Flores**	**87.31**	**133**	P		**P**		**16 58 08.3 -0.1**
	comp=Z,1.2nm,0.6s,baz=279,slow=11,SNR=3.5							
SYO	**Syowa Base**	**87.32**	**192**	⇓*e*PcP		**P**		**16 58 09.0 +1.2**
BOZ	**Bozeman (W)**	**87.35**	**39**	IAmb		IAmb		16 58 10.9
	comp=Z,20nm,1.8s							
HDA	**Harding Lake**	**87.38**	**12**	P		**P**		**16 58 07.7 -0.2**
CCB	**Clear Creek Bu**	**87.44**	**11**	P		**P**		**16 58 08.0 -0.1**
CCB				IAmb		IAmb		16 58 09.4
	comp=Z,15nm,1.6s							
MDM	**Murphy Dome**	**87.64**	**11**	P		**P**		**16 58 08.2 -1.0**
IL31		**87.72**	**12**	IAmb		IAmb		16 58 47.8
	comp=Z,15nm,1.6s							
ILAR	**Eielson Array**	**87.72**	**12**	P		**P**		**16 58 10.0 +0.5**
	comp=Z,1.8nm,0.8s,baz=213,slow=6.3,SNR=11							
ILAR	**Eielson Array**	**87.72**	**12**	P		**P**		**16 58 09.3 -0.2**
TROLL	**Troll, Antarti**	**87.74**	**179**	P		**P**		**16 58 09.3 -0.7**
SNAA	**Sanae**	**87.94**	**178**	P		**P**		**16 58 09.9 -0.9**
VNA3	**Neumayer Olymp**	**87.96**	**175**	P		**P**		**16 58 10.9 0.0**
VNA2	**Neumayer--Watz**	**88.44**	**176**	P		**P**		**16 58 12.2 -0.9**
	baz=193,slow=4.0							
VNA1	**Neumayer--Stat**	**88.65**	**176**	P		**P**		**16 58 13.5 -0.6**
DAWY	**Dawson**	**88.72**	**15**	P		**P**		**16 58 14.1 -0.2**
DAWY				IAmb		IAmb		16 58 17.8
	comp=Z,11nm,1.6s							
COLD	**Coldfoot**	**89.39**	**9**	P		**P**		**16 58 19.1 +1.8**
COLD				IAmb		IAmb		16 58 44.8
	comp=Z,13nm,1.8s							
RSSD	**Black Hills**	**91.28**	**43**	P		**P**		**16 58 26.5 -0.5**
RSSD				IAmb		IAmb		16 58 29.2
	comp=Z,11nm,1.4s							
HHC	**Hu-ho-hao-te**	**91.29**	**313**	*e*P		**P**		**16 58 27.8 +0.8**
HHC				pmax		pmax		
	comp=Z,17nm,1.1s							
HHC				pmax		pmax		
	comp=Z,300nm,7.3s							
CMAR	**Chiang Mai Arr**	**92.67**	**289**	P		**P**		**16 58 35.1 +1.4**
	comp=Z,1.1nm,0.8s,baz=112,slow=2.7,SNR=13							
YAK	**Yakutsk**	**93.12**	**337**	P		**P**		**16 58 34.6 -0.2**
	comp=Z,8.7nm,0.4s,baz=25,slow=4.6,SNR=4.6							
INK	**Inuvik**	**93.56**	**14**	P		**P**		**16 58 37.4 +0.8**
	comp=Z,1.4nm,0.7s,baz=254,slow=3.9,SNR=4.9							
INK	**Inuvik**	**93.56**	**14**	IAmb		IAmb		16 58 38.4
	comp=Z,9.9nm,1.8s							
YKA	**Yellowknife Ar**	**95.38**	**24**	P		**P**		**16 58 45.4 +0.2**
	comp=Z,0.7nm,0.7s,baz=239,slow=4.6,SNR=14							
GOMU	**GeErMu**	**101.86**	**304**	SS		SS		17 18 07.8 +6.0
GOMU				LR		LR		
	comp=N,120nm,11.8s							
GOMU				LR		LR		
	comp=E,62nm,11.5s							
GOMU				LR		LR		
	comp=Z,120nm,12.6s							
ZALV	**Zalesovo Beam**	**112.17**	**321**	PKiKP		**PKiKP**		**17 03 55.5 -1.1**
	comp=Z,1.0nm,0.6s,baz=135,slow=1.5,SNR=4.3							
MKAR	**Makanchi Array**	**113.15**	**313**	PKiKP		**PKiKP**		**17 03 57.8 -1.0**
	comp=Z,0.5nm,0.4s,baz=185,slow=0.8,SNR=11							
KURK	**Kurchatov**	**115.81**	**317**			**PKPdf**		**17 04 02.8 -0.8**
KURBB	**Kurchatov Arra**	**115.87**	**317**	PKP		**PKPdf**		**17 04 02.8 -1.0**
	comp=Z,0.9nm,0.6s,baz=90,slow=1.7,SNR=7.7							
ARCES	**ARCESS Array B**	**129.36**	**351**	PKP		**PKPdf**		**17 04 29.1 0.0**
	comp=Z,1.2nm,0.5s,baz=15,slow=1.2,SNR=9.9							
AKASG	**Malin Array Be**	**144.26**	**333**	PKP		**PKPab**		**17 04 55.0 0.0**
	comp=Z,1.3nm,0.4s,baz=43,slow=4.1,SNR=4.2							
BSEG	**Bad Segeberg**	**146.34**	**354**	*e*PKPbc		**PKPab**		**17 05 02.3 -0.2**
	baz=8.1,slow=2.4							
NRDL	**Niedersach Rie**	**147.79**	**354**	*e*PKPbc		**PKPbc**		**17 05 06.6 +0.8**
	baz=8.1,slow=2.4							
FLTG	**Flechtingen**	**147.83**	**353**	*e*PKPbc		**PKPbc**		**17 05 06.8 +0.8**
	baz=8.1,slow=2.4							
CLL	**Collm**	**148.58**	**350**	*i* (pPKiKP)				17 05 13.9
	comp=Z,17nm,0.8s							
CLL	**Collm**	**148.58**	**350**	*e*PKPbc		**PKPbc**		**17 05 08.7 +0.7**
	baz=8.1,slow=2.4							
CLL	**Collm**	**148.58**	**350**	*i* PKPbc		**PKPbc**		**17 05 08.5 +0.4**
	comp=Z,7.0nm,0.8s							
CLL	**Collm**	**148.58**	**350**	*i* PKiKP		**PKiKP**		**17 05 09.5 -0.1**
	comp=Z,8.0nm,0.7s							
UZH	**Uzhgorod**	**148.62**	**338**	*i*		**PKPbc**		**17 05 08.7 +0.4**
UZH	**Uzhgorod**	**148.62**	**338**	*eP*		**PKPdf**		**17 05 03.6 -1.0**
UZH	**Uzhgorod**	**148.62**	**338**	*e*		**PKPdf**		**17 05 05.8 +1.2**
CRVS	**Cervenica-Dubn**	**148.68**	**339**	*e*PKP		**PKPab**		**17 05 13.8 +1.8**
UPC	**Upice**	**148.77**	**346**	*eP*		**PKPbc**		**17 05 08.0 -0.6**
UPC	**Upice**	**148.77**	**346**	*e*PKP		**PKPbc**		**17 05 08.0 -0.6**
CFR	**Carcaliu**	**148.78**	**327**	⇑P		**PKPbc**		**17 05 09.5 +0.7**
BRG	**Berggiesshubel**	**148.84**	**349**	Amp				17 05 14.7
	comp=Z,5.6nm,0.7s							
BRG	**Berggiesshubel**	**148.84**	**349**	*eP*		**PKPbc**		**17 05 09.5 +0.8**
BRG	**Berggiesshubel**	**148.84**	**349**	*e*PKPbc		**PKiKP**		**17 05 09.6 -0.5**
	baz=8.1,slow=2.4							
BRG	**Berggiesshubel**	**148.84**	**349**	*eP*		**PKPbc**		**17 05 09.5 +0.8**
BRG	**Berggiesshubel**	**148.84**	**349**	pmax		pmax		
	comp=Z,6.0nm,0.7s							
DPC	**Dobruska-Polom**	**148.85**	**346**	*eP*		**PKPbc**		**17 05 07.8 -1.1**
DPC	**Dobruska-Polom**	**148.85**	**346**	*e*PKP		**PKPbc**		**17 05 07.8 -1.1**
NEUB	**Neuenburg**	**148.86**	**352**	*e*PKPbc		**PKiKP**		**17 05 09.6 -0.6**
	baz=8.1,slow=2.4							
FBE	**Freiberg**	**148.90**	**350**	*e*PKPbc		**PKiKP**		**17 05 09.7 -0.5**
	baz=8.1,slow=2.4							
KRLC	**Kraliky**	**148.99**	**345**	*eP*		**PKPbc**		**17 05 08.3 -1.0**
KRLC	**Kraliky**	**148.99**	**345**	*e*PKP		**PKPbc**		**17 05 08.3 -1.0**
PVCC	**Panska Ves**	**149.05**	**348**	*eP*		**PKPbc**		**17 05 09.8 +0.5**
PVCC	**Panska Ves**	**149.05**	**348**	*e*PKP		**PKPbc**		**17 05 09.8 +0.5**
MORC	**Moravsky Berou**	**149.08**	**344**	*e*PKP		**PKPdf**		**17 05 05.1 -0.3**
HARR	**Harsova**	**149.22**	**327**	⇑P		**PKPbc**		**17 05 10.4 +0.5**
KECS	**Kecovo**	**149.37**	**339**	*eP*		**PKPdf**		**17 05 07.0 +1.2**
KECS	**Kecovo**	**149.37**	**339**	*e*PKP		**PKPdf**		**17 05 07.0 +1.2**
MOX	**Moxa**	**149.43**	**352**	*e*PKPbc		**PKPbc**		**17 05 10.8 +0.5**
	baz=8.1,slow=2.4							
WERD	**Werda**	**149.52**	**351**	*e*PKPbc		**PKiKP**		**17 05 11.3 -0.3**
	baz=8.1,slow=2.4							
TANN	**Tannenbergstha**	**149.53**	**350**	*e*PKPbc		**PKiKP**		**17 05 11.3 -0.4**
	baz=8.1,slow=2.4							
PRU	**Pruhonice**	**149.57**	**348**	*eP*		**PKPbc**		**17 05 10.8 +0.2**
PRU	**Pruhonice**	**149.57**	**348**	*e*PKP		**PKPbc**		**17 05 10.8 +0.2**
GUNZ	**Gunzen**	**149.60**	**351**	*e*PKPbc		**PKiKP**		**17 05 11.7 -0.1**
	baz=8.1,slow=2.4							
WERN	**Wernitzgruen**	**149.67**	**350**	*e*PKPbc		**PKiKP**		**17 05 11.9 -0.1**
	baz=8.1,slow=2.4							
VRAC	**Vranov**	**149.75**	**345**	⇑P		**PKPbc**		**17 05 10.7 -0.4**
VRAC	**Vranov**	**149.75**	**345**	⇑P		**PKPbc**		**17 05 10.7 -0.4**
VRAC	**Vranov**	**149.75**	**345**	*e*PKP		**PKPbc**		**17 05 09.2 -1.9**
VYHS	**Vyhne**	**149.88**	**341**	*e*		**PKiKP**		**17 05 12.4 0.0**
VYHS	**Vyhne**	**149.88**	**341**	*e*		**PKiKP**		**17 05 12.4 0.0**
VYHS	**Vyhne**	**149.88**	**341**	*e*PKP		**PKPdf**		**17 05 08.1 +1.5**
VYHS	**Vyhne**	**149.88**	**341**	*eP*		**PKPdf**		**17 05 08.1 +1.5**
KOLL	**Kolacno**	**149.93**	**342**	*e*		**PKiKP**		**17 05 12.8 +0.3**
KOLL	**Kolacno**	**149.93**	**342**	*e*PKP		**PKPbc**		**17 05 10.2 -1.4**
MANZ	**Manzenberg**	**150.00**	**351**	*e*PKPbc		**PKiKP**		**17 05 12.5 -0.1**
	baz=8.1,slow=2.4							
KRUC	**Moravsky**	**150.03**	**345**	*e*PKP		**PKPbc**		**17 05 10.9 -0.9**
VOIR		**150.07**	**331**	⇓P		**PKiKP**		**17 05 13.1 +0.1**
TNS	**Taunus Mts**	**150.19**	**355**	*e*PKPbc		**PKPbc**		**17 05 12.1 -0.1**
	baz=8.1,slow=2.4							
ROTZ	**Rotzenmuhle**	**150.20**	**350**	*e*PKPbc		**PKiKP**		**17 05 12.9 -0.1**
	baz=8.1,slow=2.4							
ARR	**Arges**	**150.31**	**331**	⇓P		**PKiKP**		**17 05 14.3 +0.8**
MODS	**Modra-Piesok**	**150.44**	**343**	*e*		**PKiKP**		**17 05 13.6 0.0**
MODS	**Modra-Piesok**	**150.44**	**343**	*e*		**PKiKP**		**17 05 13.6 0.0**
MODS	**Modra-Piesok**	**150.44**	**343**	*e*PKP		**PKPdf**		**17 05 10.1 +2.6**
MODS	**Modra-Piesok**	**150.44**	**343**	*eP*		**PKPdf**		**17 05 10.1 +2.6**
KHC	**Kasperske Hory**	**150.58**	**348**	*e*		**PKPab**		**17 05 17.4 -2.4**
KHC	**Kasperske Hory**	**150.58**	**348**	*e*PKP		**PKPbc**		**17 05 12.5 -0.7**
KHC				*e*pPKP		**PKPab**		**17 05 17.4 -2.4**
KHC				*ex*		x		17 05 30.5
KHC	**Kasperske Hory**	**150.58**	**348**	*eP*		**PKPbc**		**17 05 12.5 -0.7**
CKRC	**Cesky Krumlov**	**150.73**	**347**	*e*PKP		**PKPbc**		**17 05 13.7 +0.2**
GEC2	**GERESS Array S**	**150.83**	**348**	*e*PKPbc		**PKiKP**		**17 05 14.3 -0.2**
	baz=8.1,slow=2.4							
GERES	**GERESS Array B**	**150.83**	**348**	PKPbc		**PKPbc**		**17 05 14.1 +0.2**
	comp=Z,3.2nm,0.8s,baz=338,slow=1.4,SNR=20							
GERES	**GERESS Array B**	**150.83**	**348**			**PKPbc**		**17 05 13.9 0.0**
WLF	**Walferdange**	**150.86**	**358**	*e*PKPbc		**PKiKP**		**17 05 14.4 0.0**
	baz=8.1,slow=2.4							
CONA	**Conrad Observa**	**151.21**	**345**	*i* P		**PKPbc**		**17 05 15.0 +0.3**
	comp=Z,5.3nm,0.7s,SNR=4.9							
RONA	**Rosalia, Austr**	**151.31**	**344**	*eP*		**PKiKP**		**17 05 15.5 +0.1**
	comp=Z,9.4nm,0.6s							
RJOB	**Jochberg**	**152.06**	**349**	*e*PKPbc		**PKPbc**		**17 05 16.5 -0.2**
	baz=8.1,slow=2.4							
UBR	**Ueberruh**	**152.54**	**352**	*e*PKPbc		**PKiKP**		**17 05 18.0 0.0**
	baz=8.1,slow=2.4							
SOKA	**Soboth**	**152.59**	**345**	*eP*		**PKPbc**		**17 05 17.9 0.0**
	comp=Z,9.7nm,0.8s							
KBA	**Koelnbreinsper**	**152.59**	**347**	*eP*		**PKPbc**		**17 05 18.0 0.0**
	comp=Z,2.7nm,0.7s							
WTTA	**Wattenberg**	**152.72**	**350**	*i* P		**PKPbc**		**17 05 18.3 0.0**
	comp=Z,6.4nm,0.5s,SNR=5.4							
SQTA	**Sankt Quirin**	**152.83**	**351**	*eP*		**PKiKP**		**17 05 18.7 0.0**
	comp=Z,4.1nm,0.9s							
OBKA	**Obir**	**152.86**	**345**	*eP*		**PKiKP**		**17 05 19.1 +0.4**
	comp=Z,11nm,1.3s							
DAVA	**Damuels**	**152.95**	**353**	*eP*		**PKiKP**		**17 05 19.6 +0.6**
	comp=Z,4.8nm,1.0s							
ABTA	**Abfaltersbach**	**153.07**	**348**	*eP*		**PKPbc**		**17 05 18.8 -0.2**
	comp=Z,14nm,1.3s							

MOS ***14*** *16:52:59.9±1.0,32.˚66N×130.˚89E,h11km,mb4.9/26, MS4.2/5, Error ellipse: s-maj=6.7km s-min=3.9km az=106.8*

IDC ***14*** *16:52:59.7±0.5,32.˚63N×130.˚80E,h0km,mb4.5/24, mb1 4.6/30,mb1mx4.5/46,mbtmp4.5/30,ML4.2/5, MS4.0/17, Ms1 4.1/17,ms1mx3.7/98, Error ellipse: s-maj=12.5km s-min=7.2km az=99.0*

BJI ***14*** *16:53:00.8±0.0,32.˚59N×130.˚77E,h5km,mb4.5/54, mB4.8/33,Ms4.7/47,Ms7 4.3/46*

NIED ***14*** *16:53:01.4,32.˚70N×130.˚75E,h12km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr=0.25; Mθθ 0.67; Mϕϕ-0.41; Mrθ-0.37; Mθϕ0.62; Mϕr0.58; Fault plane solution: M0 1.08000×10^16 NP1: ϕs207.00000°,δ61.00000°,λ-157.00000°. NP2: ϕs105.00000°,δ70.00000°,λ-31.00000°.*

JMA ***14*** *16:53:01.4,32.˚70N×130.˚75E,h12km±1km,M4.8 Broadband fault plane solution: P waves. NP1: ϕs106.00000°,δ73.00000°,λ-37.00000°. NP2: ϕs209.00000°,δ55.00000°,λ-159.00000°. Principal axes: T Plg11.0000°, Azm161.0000°; N Plg50.0000°, Azm264.0000°; P Plg38.0000°, Azm62.0000°;*

NEIC ***14*** *16:53:02.2±1.5,32.˚69N±0.˚04×130.˚77E±0.˚07,h11km±4km, mb4.9/138,Mwr4.6/13 Error ellipse: s-maj=8.1km s-min=5.1km az=105.0*

NEIC ***14*** *16:53:02,32.˚69N×130.˚77E,h15km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.29; Mθθ 0.27; Mϕϕ-0.56; Mrθ-0.47; Mθϕ0.88; Mϕr-0.16; Fault plane solution: M0 1.12000×10^16 NP1:ϕs286.98000°, δ72.67000°,λ26.52000°. NP2:ϕs188.52000°,δ64.77000°, λ160.78000°. Principal axes: T 1.1139, Plg31.0000°, Azm150.0000°; N 0.0142, Plg59.0000°, Azm318.0000°; P -1.1281, Plg5.0000°, Azm56.0000°;*

ISC 14 16:53:02.0±0.8, 32.˚70N±0.˚02×130.˚81E±0.˚04, h10km±5km, n480,σ1§20/492, mb4.9/148, MS4.3/23, 18C-6D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.15**	**178**	⇑P		**Pg**		**16 53 05.2**	**-0.1**
JIU3				S		**Sg**		**16 53 08.0**	**+0.4**
JTA	**Tamana**	**0.35**	**319**	⇑P		**Pg**		**16 53 08.1**	**-0.9**
JTA				S		**Sg**		**16 53 12.7**	**-1.0**
JNU	**Nakatsue**	**0.43**	**8**	Pg		**Pg**		**16 53 09.7**	**-0.8**
	3μm,0.3s,baz=181,slow=15,SNR=87								
JNU				Lg		Lg		16 53 15.8	
	17μm,0.3s,baz=117,slow=23,SNR=69								
JNU	**Nakatsue**	**0.43**	**8**	Pg		**Pg**		**16 53 10.3**	**-0.2**
JNU				Sg		**Sg**		**16 53 16.5**	**+0.4**
JTZ	**Takazaki**	**0.83**	**163**	⇑P		**Pg**		**16 53 18.2**	**+0.2**
JSU	**Suzuyama**	**1.22**	**194**	Pn		**Pn**		**16 53 24.3**	**-0.9**
JSU				Sn		**Sb**		**16 53 41.2**	**+0.1**
JTU	**Tsushima**	**2.17**	**328**	Pn		**Pn**		**16 53 36.6**	**-1.6**
JMN	**Monobe**	**2.77**	**67**	Pn		**Pn**		**16 53 47.0**	**+0.4**
JHS	**Saijyo**	**3.00**	**39**	Pn		**Pn**		**16 53 50.2**	**+0.7**
TJN	**Taejon**	**4.64**	**323**	*i* P		**Pn**		**16 54 11.6**	**-0.6**
TJN	**Taejon**	**4.64**	**323**	Pn		**Pn**		**16 54 11.3**	**-0.8**
KSRS	**Korea Array**	**5.30**	**334**	Pn		**Pn**		**16 54 21.0**	**-0.2**
	1.8nm,0.3s,baz=152,slow=13,SNR=14								
KSRS				Pg		**Pb**		**16 54 37.9**	**+3.1**
	10nm,0.3s,baz=152,slow=16,SNR=38								
KSRS				Sn		**Sn**		**16 55 25.5**	**+3.1**
	6.6nm,0.3s,baz=144,slow=32,SNR=5.3								
KSRS				Lg		Lg		16 55 49.5	
	15nm,0.3s,baz=150,slow=29,SNR=6.6								
KSRS				LR		LR		16 56 38.0	
	comp=Z,1μm,19.1s,baz=150,slow=41								
KSAR	**Wonju Array Be**	**5.31**	**334**	P		**Pn**		**16 54 22.2**	**+0.9**
KSAR	**Wonju Array Be**	**5.31**	**334**	Pn		**Pn**		**16 54 22.2**	**+0.9**
KS19	**Wonju Array Si**	**5.37**	**334**			**Pn**		**16 54 21.8**	**-0.4**
INU	**Inuyama**	**5.79**	**61**			**Pn**		**16 54 28.9**	**+0.9**
INCN	**Inchon**	**5.87**	**326**	P		**Pn**		**16 54 28.3**	**-0.8**
INCN	**Inchon**	**5.87**	**326**	Pn		**Pn**		**16 54 28.3**	**-0.8**
JGF	**Kuroka**	**6.16**	**60**			**Pn**		**16 54 33.8**	**+0.7**
JOW	**Kunigami**	**6.24**	**201**	Pn		**Pn**		**16 54 35.1**	**+0.8**
	20nm,0.3s,baz=37,slow=7.7,SNR=32								
JOW				Sn		**Sn**		**16 55 46.5**	**+0.8**
	baz=198,slow=21,SNR=0.7								
JOW	**Kunigami**	**6.24**	**201**	Pn		**Pn**		**16 54 35.9**	**+1.7**
MJB9	**Matsu-Tunnel**	**7.21**	**56**	Pn		**Pn**		**16 54 49.4**	**+1.9**
MAJO	**Matsushiro**	**7.21**	**56**	*i* P		**Pn**		**16 54 48.6**	**+1.2**
MAJO	**Matsushiro**	**7.21**	**56**	Pn		**Pn**		**16 54 48.9**	**+1.4**
MJAR	**Matsushiro Arr**	**7.21**	**56**	Pn		**Pn**		**16 54 48.7**	**+1.3**
	1.9nm,0.3s,baz=246,slow=13,SNR=57								
MJAR				Lg		Lg		16 56 49.6	
	0.1nm,0.3s,baz=45,slow=57,SNR=2.9								
MJAR				LR		LR		16 57 58.7	
	comp=Z,1μm,20.5s,baz=236,slow=41								
JHJ	**Hachijo jima 2**	**7.56**	**84**	Pn		**Pn**		**16 54 52.4**	**+0.1**
	62nm,0.3s,baz=176,slow=9.1,SNR=16								
JHJ				Sn		**Sn**		**16 56 20.3**	**+2.3**
	13nm,0.3s,baz=79,slow=13,SNR=2.1								
JHJ				LR		LR		16 57 53.6	
	comp=Z,338nm,18.7s,baz=98,slow=39								
JHJ2	**Mitsune**	**7.59**	**84**	Pn		**Pn**		**16 54 53.1**	**+0.4**
JSD	**Sado**	**8.09**	**47**	Pn		**Pn**		**16 54 59.4**	**-0.1**
JMM	**Marumori**	**9.65**	**55**	Pn		**Pn**		**16 55 20.4**	**-0.6**
MSHR	**Mys Shultsa**	**9.87**	**2**	*ce*P		**Pn**		**16 55 25.5**	**+1.6**
MSHR				pmax		pmax			
	comp=Z,27nm,0.8s								
NJ2	**Nanjing**	**10.13**	**270**	*eP*		**Pn**		**16 55 27.1**	**-0.4**
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.6s								
VLA	**Vladivostok**	**10.44**	**4**	*i* P		**Pn**		**16 55 32.8**	**+1.1**
VLA				pmax		pmax			
	comp=Z,120nm,2.0s								
USA0B	**Ussuriysk Arra**	**11.52**	**4**	P		**Pn**		**16 55 45.7**	**-0.8**
USA0B	**Ussuriysk Arra**	**11.52**	**4**			**Pn**		**16 55 45.7**	**-0.8**
USRK	**Ussuriysk Ar.**	**11.52**	**4**	Pn		**Pn**		**16 55 47.0**	**+0.5**
	baz=180,slow=12,SNR=4.1								
USRK				LR		LR		16 59 52.2	
	comp=Z,684nm,19.9s,baz=193,slow=36								
USRK	**Ussuriysk Ar.**	**11.52**	**4**	P		**Pn**		**16 55 46.7**	**+0.2**
USRK	**Ussuriysk Ar.**	**11.52**	**4**	Pn		**Pn**		**16 55 46.7**	**+0.2**
TIA	**Tai'an**	**11.83**	**291**	*eP*		Pn		16 55 55.8	+5.1
TIA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
TIA				pmax		pmax			
	comp=Z,170nm,7.8s								
TIA				LR		LR			
	comp=Z,4μm,12.3s								
TIA				LR		LR			
	comp=Z,2μm,13.7s								
TIA				LR		LR			
	comp=Z,890nm,8.8s								
CN2	**Changchun**	**11.86**	**341**	*eP*		**Pn**		**16 55 53.9**	**+2.8**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CN2				LR		LR			
	comp=Z,1μm,10.0s								
CN2				LR		LR			
	comp=Z,1μm,10.0s								
CN2				LR		LR			
	comp=Z,2μm,14.0s								
MDJ	**Mudanjiang**	**11.94**	**356**	P		**Pn**		**16 55 54.0**	**+1.8**
MDJ				pP				16 55 56.6	
MDJ				S		**Sn**		**16 58 07.8**	**+2.3**
MDJ				ScP		**ScP**		**17 05 14.3**	**+2.7**
MDJ				ScS		**ScS**		**17 08 50.5**	**+3.2**
MDJ				pmax		pmax			
	comp=Z,17nm,1.9s								
MDJ				pmax		pmax			
	comp=Z,410nm,3.6s								

ZEA smax smax
comp=N,400nm,10.7s
ZEA MLR MLR
comp=Z,300nm,11.0s
GYA Guiyang 21.87 260 ⇓ *i*P P 16 57 59.3 +4.1
GYA pmax pmax
comp=Z,30nm,0.7s
GYA pmax pmax
comp=Z,250nm,3.5s
GUMO Guam 22.95 143 LR LR 17 05 32.9
comp=Z,258nm,21.4s,baz=3.5,slow=33
CD2 Chengdu 23.04 273 P **P 16 58 08.5 +1.0**
CD2 pmax pmax
comp=Z,50nm,1.2s
CD2 LR LR
comp=Z,370nm,14.2s
CD2 LR LR
comp=Z,2μm,14.2s
CD2 LR LR
comp=Z,1μm,11.3s
QIZ Qiongzhong 23.20 239 P **P 16 58 08.1 -1.1**
QIZ S **S 17 02 21.9 +0.7**
QIZ LR LR
comp=Z,740nm,11.8s
QIZ LR LR
comp=Z,510nm,13.3s
QIZ LR LR
comp=Z,530nm,9.0s
ULN Ulaanbaatar 23.49 317 P **P 16 58 12.4 +0.4**
ULN pmax pmax
comp=Z,13nm,0.8s
ULN Ulaanbaatar 23.49 317 P **P 16 58 12.4 +0.4**
SONM Songino Array 23.85 316 P **P 16 58 16.2 +0.7**
comp=Z,11nm,0.8s,baz=122,slow=9.8,SNR=18
SONM LR LR 17 08 33.4
comp=Z,556nm,18.4s,baz=338,slow=39
SONM Songino Array 23.85 316 P **P 16 58 15.5 0.0**
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM Songino Array 23.85 316 P **P 16 58 15.5 0.0**
KMI Kunming 25.65 260 ⇓ P **P 16 58 33.9 +1.7**
KMI pmax pmax
comp=Z,14nm,0.8s
KMI LR LR
comp=Z,510nm,10.9s
KMI LR LR
comp=Z,920nm,11.9s
KMI LR LR
comp=Z,600nm,11.1s
GTA Gaotai 25.85 294 ⇑ P **P 16 58 35.3 +1.4**
GTA sP sP 16 58 43.8 +5.6
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,73nm,8.0s
GTA LR LR
comp=Z,2μm,17.1s
GTA LR LR
comp=Z,360nm,17.5s
GTA LR LR
comp=Z,380nm,17.5s
PZH PanZhiHua 25.96 264 ⇑ P **P 16 58 36.3 +1.3**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,140nm,5.3s
PZH LR LR
comp=Z,2μm,16.0s
PZH LR LR
comp=Z,820nm,15.0s
PZH LR LR
comp=Z,710nm,16.9s
ZAK Zakamensk 26.91 319 *e*P **P 16 58 45.9 +2.6**
ZAK pmax pmax
comp=Z,12nm,1.3s
BOD Bodaibo 27.61 340 *e*P **P 16 58 50.1 +0.8**
BOD pmax pmax
comp=Z,13nm,2.0s
MOY Mondy 28.81 320 *e*P **P 16 59 03.0 +2.8**
YAK Yakutsk 29.36 359 P **P 16 59 05.7 +0.8**
comp=Z,5.1nm,0.4s,baz=20,slow=2.2,SNR=5.1
YAK Yakutsk 29.36 359 *e*P **P 16 59 06.2 +1.4**
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,13nm,1.4s
GOMU GeErMu 29.78 287 Pdif **P 16 59 09.1 -0.2**
GOMU GeErMu 29.78 287 P **P 16 59 09.3 0.0**
GOMU pP pP 16 59 12.8 +0.4
GOMU sP sP 16 59 16.3 +2.6
GOMU S **S 17 04 10.0 +3.9**
GOMU pmax pmax
comp=N,2.0nm,0.3s
GOMU LR LR
comp=N,360nm,19.4s
GOMU LR LR
comp=N,220nm,19.5s
GOMU LR LR
comp=N,240nm,19.2s
MA2 Magadan 29.99 20 *i*P **P 16 59 09.4 -1.1**
MA2 pmax pmax
comp=Z,7.0nm,1.4s
CHTO Chiang Mai 31.71 252 P **P 16 59 27.7 +1.6**
CHTO pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 31.71 252 P **P 16 59 27.7 +1.6**
CHTO IAmb IAmb 16 59 30.6
comp=Z,20nm,0.9s
CM31 Chiang Mai Arr 31.91 251 P **P 16 59 27.8 0.0**
CM31 IAmb IAmb 16 59 32.6
comp=Z,13nm,1.1s
CMAR Chiang Mai Arr 31.91 251 P **P 16 59 27.9 +0.1**
comp=Z,5.9nm,1.0s,baz=55,slow=5.7,SNR=23
CMAR LR LR 17 14 25.2
comp=Z,193nm,18.0s,baz=75,slow=40
WMQ Urumqi 35.27 301 *e*P P 16 59 48.1 -8.8
WMQ Urumqi 35.27 301 *e*P **P 16 59 59.3 +2.4**
WMQ pP sP 17 00 02.3 +1.0
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ LR LR
comp=Z,840nm,13.3s
WMQ LR LR
comp=Z,460nm,12.5s
WMQ LR LR
comp=Z,300nm,17.9s
KSM Kuching 36.56 216 P **P 17 00 06.6 -1.5**
KSM IAmb IAmb 17 00 11.2
comp=Z,9.8nm,0.7s
TAPN Taplejung 37.50 273 *e*P **P 17 00 18.8 +2.3**
comp=Z,13nm,0.8s
ZSN Zaisan 37.55 307 *e*P **P 17 00 16.7 +0.4**
ZSN Zaisan 37.55 307 *e*P **P 17 00 16.7 +0.4**
baz=307
ODAN Odare 37.93 273 *e*P **P 17 00 21.8 +1.8**
RAMN Ramite 38.57 273 *e*P **P 17 00 27.2 +1.8**
JIRN Jiri 38.68 275 *e*P **P 17 00 28.3 +1.8**
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 38.74 317 P **P 17 00 26.3 0.0**
comp=Z,0.7nm,0.5s,baz=106,slow=11,SNR=5.9
ZALV PcP **PcP 17 02 41.2 +3.5**
comp=Z,0.9nm,0.5s,baz=119,slow=1.3,SNR=3.9
ZALV LR LR 17 15 35.3
comp=Z,189nm,18.4s,baz=310,slow=35
ZALV Zalesovo Beam 38.74 317 *i*P **P 17 00 28.2 +1.9**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 38.74 317 P **P 17 00 25.1 -1.2**
GUN Gumba 38.86 275 *e*P **P 17 00 30.1 +2.1**
comp=Z,99nm,1.0s
BBKI Banjar Baru 39.02 206 P **P 17 00 28.8 -0.1**
comp=Z,4μmcomp=Z,24nm,0.8s
TIXI Tiksi 39.03 359 *i*P **P 17 00 26.0 -2.4**
TIXI pmax pmax
comp=Z,16nm,2.4s
TIXI Tiksi 39.03 359 P **P 17 00 26.6 -1.8**
MK31 Makanchi Array 39.25 306 *i*P **P 17 00 30.3 -0.4**
MK31 Makanchi Array 39.25 306 P **P 17 00 30.4 -0.2**
MK31 IAmb IAmb 17 00 34.1
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 39.25 306 P **P 17 00 29.4 -1.3**
comp=Z,4.8nm,0.8s,baz=96,slow=8.8,SNR=36
MKAR Makanchi Array 39.25 306 P **P 17 00 30.3 -0.4**
MKAR Makanchi Array 39.25 306 P **P 17 00 30.3 -0.4**

PKI Pulchoki 39.37 275 *e*P **P 17 00 33.7 +1.5**
comp=Z,25nm,1.0s
PKIN Phulchoki 39.38 275 *e*P **P 17 00 33.7 +1.5**
comp=Z,20nm,1.0s
KKN Kakani 39.40 275 *e*P **P 17 00 34.3 +1.9**
comp=Z,28nm,0.9s
MAKZ Makanchi 39.47 306 P **P 17 00 31.9 -0.5**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 39.47 306 P **P 17 00 31.9 -0.5**
IPM Ipoh 39.53 231 P **P 17 00 33.6 +0.4**
DMN Daman 39.61 275 *e*P **P 17 00 35.7 +1.6**
GKN Gorkha 39.88 276 *e*P **P 17 00 37.8 +1.5**
comp=Z,23nm,0.9s
DANN Dangsing 40.50 277 *e*P **P 17 00 43.6 +2.0**
comp=Z,59nm,0.9s
KOLN Koldanda 40.82 276 *e*P **P 17 00 46.1 +2.0**
comp=Z,26nm,0.9s
BILL Bilibino 40.85 19 *e*P **P 17 00 43.4 -0.2**
BILL *e* 17 02 17.8
BILL *e*PPP PPP 17 02 42.8
BILL pmax pmax
comp=Z,5.0nm,0.6s
BILL Bilibino 40.85 19 **P 17 00 43.1 -0.5**
SEM Semipalatinsk 40.89 311 *e*P **P 17 00 44.7 +0.2**
SEM Semipalatinsk 40.89 311 *e*P **P 17 00 44.7 +0.2**
baz=311
PYUN Piuthan 41.23 277 *e*P **P 17 00 49.6 +2.1**
comp=Z,75nm,0.9s
SHLS Shalkode 41.25 300 *e*P **P 17 00 45.0 -2.4**
SHLS Shalkode 41.25 300 *e*P **P 17 00 45.1 -2.4**
baz=300
PPBI Pangkal Pinang 41.79 219 P **P 17 00 52.6 +0.7**
comp=Z,4μmcomp=Z,37nm,0.4s
KPKS Kokpek 41.80 300 *e*P **P 17 00 52.2 +0.3**
KPKS Kokpek 41.80 300 *e*P **P 17 00 52.2 +0.3**
baz=300
TDK Taldyqorghan 41.94 303 *e*P **P 17 00 53.7 +0.9**
TDK Taldyqorghan 41.94 303 *e*P **P 17 00 53.8 +0.9**
baz=303
KURK Kurchatov 41.96 311 *ce*P **P 17 00 52.4 -0.5**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 41.96 311 P **P 17 00 51.8 -1.1**
KURBB Kurchatov Arra 42.01 311 P **P 17 00 52.6 -0.7**
comp=Z,10nm,0.8s,baz=97,slow=8.8,SNR=48
KURBB LR LR 17 19 32.2
comp=Z,435nm,19.0s,baz=74,slow=38
SATY Saty 42.03 300 *e*P **P 17 00 53.9 +0.2**
SATY Saty 42.03 300 *e*P **P 17 00 54.0 +0.2**
baz=300
PSI Prapat 42.16 232 LR LR 17 18 06.8
comp=Z,264nm,20.8s,baz=319,slow=36
CHKK Chushkaly 43.01 301 *e*P **P 17 01 01.7 +0.1**
CHKK Chushkaly 43.01 301 *e*P **P 17 01 01.7 +0.1**
baz=301
KDJ Kajisay 43.01 299 P **P 17 01 01.8 0.0**
KDJ pmax pmax
comp=Z,3.0nm,0.9s
KDJ Kajisay 43.01 299 P **P 17 01 01.8 0.0**
MDOK Medeo 43.01 300 *e*P **P 17 01 01.7 -0.1**
MDOK Medeo 43.01 300 *e*P **P 17 01 01.8 -0.1**
baz=300
TNSS Tian-Shan 43.10 300 *e*P **P 17 01 02.9 +0.1**
TNSS Tian-Shan 43.10 300 *e*P **P 17 01 03.0 +0.1**
baz=300
AAA Alma-Ata 43.11 300 *e*P **P 17 01 02.9 +0.4**
AAA Alma-Ata 43.11 300 *e*P **P 17 01 02.9 +0.4**
baz=300
BATI Baumata 43.20 190 LR LR 17 21 17.0
comp=Z,142nm,19.9s,baz=212,slow=39
MNSI Mandailing Nat 43.25 229 P **P 17 01 02.9 -0.9**
KUU Kurty 43.47 301 *e*P **P 17 01 05.5 +0.2**
KUU Kurty 43.47 301 *e*P **P 17 01 05.6 +0.2**
baz=301
ULHL Ulahol 43.69 299 P **P 17 01 09.3 +1.9**
SNR=5.5
NRIK Noril'sk 43.90 339 P **P 17 01 07.8 -0.6**
comp=Z,6.9nm,0.5s,baz=121,slow=10,SNR=20
NRIK LR LR 17 20 43.2
comp=Z,298nm,19.0s,baz=72,slow=38
NRIK Noril'sk 43.90 339 *ce*P **P 17 01 07.1 -1.3**
NRIK pmax pmax
comp=Z,11nm,0.8s
NRIK Noril'sk 43.90 339 P **P 17 01 07.5 -0.9**
NRIK IAmb IAmb 17 01 11.9
comp=Z,9.2nm,0.8s
TKM2 Tokmak 2 44.09 300 P **P 17 01 13.4 +2.7**
SNR=14
GSI Gunungsitoli 44.17 232 P **P 17 01 10.5 -0.8**
GSI Gunungsitoli 44.17 232 P **P 17 01 10.2 -1.0**
comp=Z,20nm,1.0s
KSH Kashi 44.24 295 P P 17 01 17.1 +5.3
KSH sP sP 17 01 26.3 +10
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH LR LR
comp=Z,410nm,12.7s
KSH LR LR
comp=Z,520nm,16.2s
KSH LR LR
comp=Z,390nm,18.7s
KRJI Kerinci 44.35 224 P **P 17 01 12.8 0.0**
comp=Z,3μmcomp=Z,79nm,0.8s
KBK Karagaybulak 44.60 300 P **P 17 01 17.1 +2.5**
SNR=8.2
CHMS Chumysh 44.70 300 P **P 17 01 13.4 -1.9**
SNR=6.2
KLI Kotabumi 44.75 218 P **P 17 01 16.7 +0.9**
KLI pmax pmax
comp=Z,66nm,0.7s
KLI Kotabumi 44.75 218 P **P 17 01 15.0 -0.8**
comp=Z,72nm,0.7s
MASI Maura Aman, Be 44.75 223 P **P 17 01 16.5 +0.6**
comp=Z,96nm,0.9s
USP Ospenovka 44.86 301 P **P 17 01 18.7 +2.2**
SNR=5.2
KPJI Karang Pucung 44.93 212 P **P 17 01 16.3 -0.9**
comp=Z,26nm,0.9s
AAK Ala-Archa 44.93 300 P **P 17 01 19.5 +2.2**
SNR=7.8
AAK Ala-Archa 44.93 300 P **P 17 01 17.2 -0.1**
comp=Z,5.0nm,0.8s,baz=116,slow=4.2,SNR=17
AAK LR LR 17 19 30.6
comp=Z,318nm,18.5s,baz=24,slow=35
AAK Ala-Archa 44.93 300 *i*P **P 17 01 17.7 +0.5**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 44.93 300 P **P 17 01 16.8 -0.4**
UCH Uchtor 44.97 299 P **P 17 01 20.9 +3.0**
SNR=16
BTLS Baital 45.02 303 *e*P **P 17 01 18.4 +0.7**
BTLS Baital 45.02 303 *e*P **P 17 01 18.5 +0.7**
baz=303
LEM Lembang 45.08 214 P **P 17 01 19.0 +0.4**
LEM pmax pmax
comp=Z,41nm,0.8s
LEM Lembang 45.08 214 P **P 17 01 17.7 -0.9**
comp=Z,26nm,0.8s
SISI Saibi 45.19 228 P **P 17 01 18.1 -1.3**
comp=Z,31nm,0.7s
MTN Manton Dam 45.28 180 P **P 17 01 17.8 -2.1**
MTN IAmb IAmb 17 01 23.9
comp=Z,11nm,0.8s
AML Almayashu 45.58 299 P **P 17 01 25.5 +2.8**
SNR=14
BRZS Berezniki 45.73 310 *e*P **P 17 01 23.7 +0.4**
BRZS Berezniki 45.73 310 *e*P **P 17 01 23.8 +0.4**
baz=310
GAMB Gambell 46.92 31 P **P 17 01 32.4 0.0**
baz=257
NIKH Nikolski High 47.12 46 P **P 17 01 34.1 0.0**
baz=270
BRVK Borovoye 47.23 314 *i*P **P 17 01 34.8 -0.2**
BRVK pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 47.23 314 P **P 17 01 34.3 -0.6**
KK31 Karatay Array 47.77 301 P **P 17 01 38.7 -0.7**
KK31 pmax pmax
comp=Z,24nm,0.9s
KK31 Karatay Array 47.77 301 P **P 17 01 38.7 -0.7**
KKAR Karatay Array 47.77 301 P **P 17 01 39.2 -0.2**
KKAR pmax pmax
comp=Z,24nm,0.9s
KKAR Karatay Array 47.77 301 P **P 17 01 38.2 -1.2**
KKAR Karatay Array 47.77 301 P **P 17 01 39.2 -0.2**

KKAR IAmb IAmb 17 01 43.1
comp=Z,24nm,0.8s
BTK Batken 48.06 297 P **P 17 01 41.5 -0.3**
BTK pmax pmax
comp=Z,5.0nm,0.9s
BTK Batken 48.06 297 P **P 17 01 41.5 -0.3**
KNRA Kununurra 48.14 183 P **P 17 01 40.9 -1.4**
KNRA IAmb IAmb 17 02 09.7
comp=Z,10.0nm,0.9s
IUG Iuzhnay 48.27 300 *e*P **P 17 01 43.3 -0.1**
IUG Iuzhnay 48.27 300 *e*P **P 17 01 43.4 -0.1**
baz=300
GAR Garm 48.66 295 P **P 17 01 47.4 +1.0**
GAR IAmb IAmb 17 01 49.9
comp=Z,15nm,1.1s
CHGR Chuyangaron 49.61 295 P **P 17 01 53.8 +0.1**
CHGR pmax pmax
comp=Z,31nm,1.0s
CHGR Chuyangaron 49.61 295 P **P 17 01 53.8 +0.1**
ANM Nome 49.79 30 P **P 17 01 55.4 +0.9**
ANM pmax pmax
comp=Z,7.0nm,0.9s
ANM Nome 49.79 30 P **P 17 01 55.4 +0.9**
ANM Nome 49.79 30 P **P 17 01 54.4 -0.1**
baz=262
WRAB Tennant Creek 52.44 176 P **P 17 02 13.2 -1.7**
WRAB pmax pmax
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 52.44 176 P **P 17 02 13.2 -1.7**
WRA Warramunga Arr 52.45 176 P **P 17 02 13.2 -1.8**
comp=Z,3.0nm,0.7s,baz=356,slow=8.1,SNR=18
WRA Warramunga Arr 52.45 176 *i*P **P 17 02 13.1 -1.9**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 52.45 176 P **P 17 02 13.5 -1.5**
WB2 Warramunga Arr 52.45 176 P **P 17 02 13.2 -1.7**
WR0 Warramunga Arr 52.48 176 P **P 17 02 13.5 -1.7**
SVE Sverdlovsk 52.67 319 *e*P **P 17 02 17.2 +0.9**
SVE pmax pmax
comp=Z,14nm,1.0s
ARU Arti 53.85 319 *d i*P **P 17 02 24.4 -0.6**
ARU 17 04 25.4
ARU S **S 17 10 01.6 +1.9**
ARU SS **SKiKP 17 13 34.7 -3.9**
ARU pmax pmax
comp=Z,21nm,1.2s
ARU Arti 53.85 319 P **P 17 02 24.7 -0.3**
ARU IAmb IAmb 17 02 28.6
comp=Z,20nm,1.1s
TTA Tatalina 53.87 33 P **P 17 02 24.9 -0.2**
baz=272
ABKAR Akbulak array 54.04 310 P **P 17 02 25.6 -0.8**
ABKAR IAmb IAmb 17 02 31.9
comp=Z,7.7nm,0.8s
ABKAR Akbulak array 54.04 310 P **P 17 02 25.6 -0.8**
N18K Kilae Creek 54.04 36 P **P 17 02 26.7 +0.4**
baz=274
L19K White Mountain 54.44 34 P **P 17 02 29.7 +0.4**
baz=274
J20K Nowinta River 54.65 31 P **P 17 02 30.6 0.0**
J20K IAmb IAmb 17 02 36.0
comp=Z,12nm,1.2s
J20K Nowinta River 54.65 31 P **P 17 02 31.1 +0.4**
baz=273
CHIR Chirikof Islan 54.66 42 P **P 17 02 31.3 +0.5**
baz=278
M19K Big River Lodg 54.68 34 P **P 17 02 31.4 +0.5**
baz=274
N19K Bonanza Creek 54.72 35 P **P 17 02 31.6 +0.3**
baz=275
K20K Telida 54.73 32 P **P 17 02 31.8 +0.5**
K20K IAmb IAmb 17 02 33.5
comp=Z,22nm,1.4s
K20K Telida 54.73 32 P **P 17 02 31.6 +0.4**
baz=274,SNR=6.6
IMAR Indian Mountai 54.74 29 P **P 17 02 31.4 +0.1**
O19K Port Alsworth 54.85 36 P **P 17 02 33.1 +1.0**
O19K IAmb IAmb 17 02 37.3
comp=Z,9.1nm,0.8s
O19K Port Alsworth 54.85 36 P **P 17 02 32.6 +0.4**
baz=276
L20K Farewell, AK 54.87 33 P **P 17 02 32.2 -0.2**
baz=274
H21K Melozitna Rive 55.15 29 P **P 17 02 34.4 +0.1**
H21K Melozitna Rive 55.15 29 P **P 17 02 34.3 +0.1**
baz=273
P19K Oil Pt 55.46 37 P **P 17 02 36.7 +0.1**
baz=277
CHUM Lake Minchumin 55.47 32 P **P 17 02 37.3 +0.7**
baz=275,SNR=6.7
I21K Tanana 55.52 30 P **P 17 02 36.9 0.0**
I21K IAmb IAmb 17 02 39.7
comp=Z,18nm,1.4s
I21K Tanana 55.52 30 P **P 17 02 37.5 +0.6**
baz=274
RSO Redoubt South 55.60 36 P **P 17 02 37.1 -0.7**
CAST Castle Rocks 55.61 32 P **P 17 02 37.9 +0.3**
CAST Castle Rocks 55.61 32 P **P 17 02 38.0 +0.3**
baz=275,SNR=5.2
PPLA Purkeypile 55.62 33 P **P 17 02 38.5 +0.6**
PPLA IAmb IAmb 17 03 03.2
comp=Z,21nm,1.3s
PPLA Purkeypile 55.62 33 P **P 17 02 38.3 +0.4**
baz=275
OHAK Old Harbor 55.75 40 P **P 17 02 39.0 +0.3**
OHAK Old Harbor 55.75 40 P **P 17 02 38.6 -0.1**
baz=278
SPCR Spurr Chakacha 55.78 35 P **P 17 02 38.8 -0.2**
baz=277
BPAW Bear Paw Mtn. 56.03 31 P **P 17 02 40.9 +0.3**
BPAW Bear Paw Mtn. 56.03 31 P **P 17 02 41.1 +0.4**
baz=276
KDAK Kodiak Island 56.04 39 P **P 17 02 40.9 +0.1**
KDAK pmax pmax
comp=Z,82nm,1.7s
KDAK Kodiak Island 56.04 39 P **P 17 02 40.9 +0.1**
KDAK Kodiak Island 56.04 39 P **P 17 02 41.6 +0.8**
baz=279
COLD Coldfoot 56.09 27 P **P 17 02 40.5 -0.5**
COLD Coldfoot 56.09 27 P **P 17 02 41.3 +0.3**
baz=274
KTH Kantishna Hill 56.12 32 P **P 17 02 42.1 +0.7**
KTH IAmb IAmb 17 02 43.2
comp=Z,17nm,1.3s
AS31 Alice Springs 56.12 177 P **P 17 02 40.1 -1.6**
ASAR Alice Springs 56.12 177 P **P 17 02 40.4 -1.3**
comp=Z,2.3nm,0.8s,baz=6.7,slow=7.7,SNR=23
ASAR Alice Springs 56.12 177 P **P 17 02 40.3 -1.4**
ASAR Alice Springs 56.12 177 P **P 17 02 40.2 -1.4**
TOLK Toolik Lake Re 56.23 26 P **P 17 02 40.5 -1.5**
TOLK Toolik Lake Re 56.23 26 P **P 17 02 42.4 +0.3**
baz=274
TRF Thorofare Moun 56.41 32 P **P 17 02 43.8 +0.2**
baz=277
H23K Yukon River 56.48 29 P **P 17 02 44.6 +0.8**
H23K IAmb IAmb 17 02 46.1
comp=Z,12nm,0.9s
H23K Yukon River 56.48 29 P **P 17 02 44.4 +0.6**
baz=276,SNR=14
CUT Chulitna 56.55 33 P **P 17 02 44.6 +0.3**
baz=277
I23K Minto, Yukon-K 56.62 30 P **P 17 02 44.9 +0.1**
baz=276
BWN Browne 56.69 31 P **P 17 02 46.9 +1.6**
BRSE Bradley Lake S 56.70 36 P **P 17 02 45.7 +0.2**
baz=279
M22K Willow 56.71 34 P **P 17 02 45.0 -0.4**
M22K Willow 56.71 34 P **P 17 02 45.8 +0.3**
baz=278
NEA2 Nenana 56.81 31 P **P 17 02 47.1 +0.9**
NEA2 IAmb IAmb 17 02 51.2
comp=Z,13nm,0.9s
NEA2 Nenana 56.81 31 P **P 17 02 46.6 +0.4**
baz=277,SNR=12
MCK McKinley 56.98 32 P **P 17 02 47.4 0.0**
MCK pmax pmax
comp=Z,6.0nm,0.7s
MCK McKinley 56.98 32 P **P 17 02 47.4 0.0**
MCK McKinley 56.98 32 P **P 17 02 47.8 +0.4**
baz=278
RC01 Rabbit Creek A 56.99 35 P **P 17 02 48.2 +0.8**
baz=279
RND Reindeer 57.06 32 P **P 17 02 47.7 -0.3**
RND pmax pmax
comp=Z,14nm,0.8s
RND Reindeer 57.06 32 P **P 17 02 47.7 -0.3**

RND IAmb IAmb 17 02 48.8
comp=Z,14nm,0.8s
MDM Murphy Dome 57.12 30 P P 17 02 48.9 +0.5
MDM IAmb IAmb 17 02 50.1
comp=Z,17nm,0.8s
H24K Noodor Dome 57.16 29 P P 17 02 48.6 -0.1
H24K Noodor Dome 57.16 29 P P 17 02 48.8 +0.1
baz=277,SNR=5.3
PMR Palmer 57.20 34 P P 17 02 49.1 +0.2
baz=279
WRH Wood River Hil 57.25 31 P P 17 02 49.6 +0.4
WRH IAmb IAmb 17 02 52.0
comp=Z,11nm,1.4s
GHO Glory Hole Cre 57.27 34 P P 17 02 49.2 -0.3
GHO IAmb IAmb 17 02 51.4
comp=Z,22nm,1.2s
WAT1 Susitna Watana 57.28 33 P P 17 02 50.0 +0.5
baz=279
SEW Seward 57.28 36 P P 17 02 50.0 +0.5
baz=280
TCOL CIGO, UAF Yank 57.29 30 P P 17 02 48.5 -1.0
TCOL IAmb IAmb 17 03 32.4
comp=Z,32nm,1.7s
COLA College 57.29 30 P P 17 02 48.5 -1.0
COLA pmax pmax
comp=Z,12nm,0.3s
COLA College 57.29 30 P P 17 02 48.5 -1.0
CCB Clear Creek Bu 57.34 30 P P 17 02 49.6 -0.3
POKR Poker Plat Res 57.44 30 P P 17 02 50.3 -0.3
POKR IAmb IAmb 17 02 52.4
comp=Z,22nm,1.1s
POKR Poker Plat Res 57.44 30 P P 17 02 50.9 +0.3
baz=278
SML Sawmill 57.54 34 P P 17 02 50.0 -1.4
SML pmax pmax
comp=Z,9.0nm,0.8s
SML Sawmill 57.54 34 P P 17 02 51.0 -0.4
SML IAmb IAmb 17 02 56.2
comp=Z,8.9nm,0.8s
SML Sawmill 57.54 34 P P 17 02 50.5 -1.0
baz=279
KNK Knik Glacier 57.55 34 P P 17 02 51.5 +0.1
KNK Knik Glacier 57.55 34 P P 17 02 50.8 -0.7
baz=280
WAT6 Susitna Watana 57.69 33 P P 17 02 51.8 -0.8
baz=279
PWL Port Wells 57.70 35 P P 17 02 50.7 -1.8
PWL IAmb IAmb 17 02 51.5
comp=Z,29nm,1.3s
PWL Port Wells 57.70 35 P P 17 02 51.0 -1.5
baz=280
IL31 57.72 30 P P 17 02 51.7 -0.8
ILAR Eielson Array 57.72 30 P P 17 02 52.0 -0.5
comp=Z,2.5nm,0.7s,baz=268,slow=5.7,SNR=23
ILAR Eielson Array 57.72 30 P P 17 02 51.4 -1.2
ILAR Eielson Array 57.72 30 P P 17 02 51.4 -1.2
HDA Harding Lake 57.75 31 P P 17 02 52.0 -0.7
HDA IAmb IAmb 17 02 53.1
comp=Z,11nm,0.8s
HDA Harding Lake 57.75 31 P P 17 02 52.2 -0.6
baz=279,SNR=10
DHY Denali Highway 57.77 32 P P 17 02 53.1 0.0
DHY IAmb IAmb 17 02 54.6
comp=Z,22nm,1.6s
DHY Denali Highway 57.77 32 P P 17 02 52.7 -0.5
baz=279
SCM Sheep Creek Mo 58.01 34 P P 17 02 54.7 0.0
SCM pmax pmax
comp=Z,16nm,1.1s
SCM Sheep Creek Mo 58.01 34 P P 17 02 54.7 0.0
SCM IAmb IAmb 17 02 56.6
comp=Z,16nm,1.1s
SCM Sheep Creek Mo 58.01 34 P P 17 02 54.0 -0.7
baz=280
BMAR Burnt Mountain 58.23 27 P P 17 02 57.5 +1.3
GLI Glacier Island 58.29 35 P P 17 02 56.2 -0.5
baz=281
J25K Salcha River, 58.38 30 P P 17 02 57.1 -0.2
baz=280
KIRV Kirov 58.39 323 *i* P P **17 02 57.8 +0.5**
M24K Tolsona, Glenn 58.49 33 P P 17 02 58.0 -0.1
baz=281
FID Port Fidalgo 58.61 35 P P 17 02 58.8 -0.1
FID IAmb IAmb 17 02 59.7
comp=Z,14nm,0.7s
PAX Paxson 58.65 32 P P 17 02 58.6 -0.6
PAX pmax pmax
comp=Z,9.0nm,1.2s
PAX Paxson 58.65 32 P P 17 02 58.6 -0.6
PAX IAmb IAmb 17 03 06.2
comp=Z,8.9nm,1.2s
PAX Paxson 58.65 32 P P 17 02 59.2 0.0
baz=281
KLU Klutina 58.73 34 P P 17 02 59.3 -0.5
KLU IAmb IAmb 17 03 04.0
comp=Z,6.7nm,0.8s
KLU Klutina 58.73 34 P P 17 02 59.7 -0.1
baz=282
RIDG Independent Ri 58.77 31 P P 17 02 59.4 -0.7
RIDG IAmb IAmb 17 03 16.7
comp=Z,26nm,1.8s
RIDG Independent Ri 58.77 31 P P 17 02 59.9 -0.1
baz=281
DIV Divide 58.87 34 P P 17 03 01.3 +0.5
DIV IAmb IAmb 17 03 02.1
comp=Z,13nm,0.8s
HARP HAARP 58.90 33 P P 17 03 01.1 +0.2
baz=282
EYAK Cordova Ski Ar 59.01 35 P P 17 03 01.5 -0.1
baz=282
SCRK Sand Creek 59.10 31 P P 17 03 02.4 0.0
SCRK IAmb IAmb 17 03 06.5
comp=Z,12nm,0.9s
SCRK Sand Creek 59.10 31 P P 17 03 02.0 -0.4
baz=282,SNR=15
DOT Dot Lake 59.13 31 P P 17 03 02.4 -0.1
DOT IAmb IAmb 17 03 03.0
comp=Z,7.3nm,0.6s
J26L Joseph Creek 59.17 30 P P 17 03 03.6 +0.7
baz=282,SNR=8.4
N25K Chitina, Valde 59.32 34 P P 17 03 04.7 +0.8
N25K IAmb IAmb 17 03 06.3
comp=Z,10nm,0.7s
N25K Chitina, Valde 59.32 34 P P 17 03 04.4 +0.5
baz=283,SNR=7.0
MENT Mentasta 59.44 32 P P 17 03 05.5 +0.8
BMRM Bremner River 59.46 34 P P 17 03 05.5 +0.6
BMRM Bremner River 59.46 34 P P 17 03 04.9 0.0
baz=283
L26K Log Cabin Wild 59.58 32 P P 17 03 05.9 +0.3
L26K IAmb IAmb 17 03 13.2
comp=Z,6.6nm,0.7s
L26K Log Cabin Wild 59.58 32 P P 17 03 06.0 +0.3
baz=283
M26K Nabesna, AK 59.88 32 P P 17 03 08.1 +0.4
M26K Nabesna, AK 59.88 32 P P 17 03 07.9 +0.1
baz=284,SNR=22
VRDI Verde Repeater 59.95 34 P P 17 03 08.6 +0.2
VRDI IAmb IAmb 17 03 09.6
comp=Z,12nm,0.8s
MCARA McCarthy VSAT 60.11 34 P P 17 03 10.2 +1.0
MCARA McCarthy VSAT 60.11 34 P P 17 03 09.7 +0.4
baz=284
EGAK Eagle 60.12 30 P P 17 03 09.1 -0.1
EGAK IAmb IAmb 17 03 14.4
comp=Z,5.6nm,0.8s
EGAK Eagle 60.12 30 P P 17 03 08.8 -0.4
baz=284
L27K Beaver Creek, 60.25 32 P P 17 03 10.2 0.0
L27K IAmb IAmb 17 03 12.0
comp=Z,9.6nm,0.8s
L27K Beaver Creek, 60.25 32 P P 17 03 10.5 +0.3
baz=284,SNR=16
BCAR Beaver Creek A 60.27 32 P P 17 03 11.0 +0.7
TGL Tana Glacier 60.36 34 P P 17 03 11.4 +0.3
TGL IAmb IAmb 17 03 12.2
comp=Z,13nm,0.8s
M27K Edge Creek, AK 60.40 32 P P 17 03 11.5 +0.1
M27K IAmb IAmb 17 03 12.8
comp=Z,9.0nm,0.7s
M27K Edge Creek, AK 60.40 32 P P 17 03 11.5 +0.1
baz=284,SNR=8.1
ISLE Juniper Island 60.63 34 P P 17 03 13.0 0.0
BARN Barnard Glacie 60.83 34 P P 17 03 15.0 +0.6
BARN IAmb IAmb 17 03 19.1
comp=Z,11nm,0.8s

BVCY Beaver Creek 60.84 32 P P 17 03 14.4 +0.2
baz=285
BELG Belogornoye 60.91 316 *i* P **P 17 03 15.2 +0.4**
BELG pmax pmax
comp=Z,2.0nm,0.8s
CTG Chitna Glacier 61.01 34 P P 17 03 15.8 +0.2
baz=286
CTGM Chitina Glacie 61.01 34 P P 17 03 15.2 -0.4
CTGM IAmb IAmb 17 03 16.9
comp=Z,12nm,0.9s
DAWY Dawson 61.05 30 P P 17 03 15.4 -0.3
DAWY IAmb IAmb 17 03 18.8
comp=Z,13nm,1.6s
DAWY Dawson 61.05 30 P P 17 03 16.1 +0.4
baz=286
I29M Ogilvie Camp, 61.14 29 P P 17 03 16.3 +0.1
I29M IAmb IAmb 17 03 21.2
comp=Z,6.7nm,0.8s
I29M Ogilvie Camp, 61.14 29 P P 17 03 16.6 +0.4
baz=286,SNR=9.6
YUK3 Moose Creek 61.20 33 P P 17 03 17.0 +0.1
baz=286
J29M Klondike Camp 61.43 30 P P 17 03 19.1 +0.8
baz=286
INK Inuvik 62.09 25 P P 17 03 22.5 0.0
comp=Z,4.5nm,0.6s,baz=292,slow=6.4,SNR=19
INK Inuvik 62.09 25 P P 17 03 22.2 -0.3
INK pmax pmax
comp=Z,15nm,1.4s
INK Inuvik 62.09 25 P P 17 03 22.2 -0.3
INK IAmb IAmb 17 03 23.5
comp=Z,15nm,1.4s
INK Inuvik 62.09 25 P P 17 03 22.3 -0.2
baz=288,SNR=9.4
YUK4 Talbot Arm 62.15 33 P P 17 03 23.7 +0.4
baz=288,SNR=5.5
PNL Peninsula 62.31 35 P P 17 03 25.0 +0.8
baz=288
YUK6 Outost Mounta 62.40 33 P P 17 03 25.6 +0.6
baz=288,SNR=6.3
M30M Minto, Yukon 62.60 31 P P 17 03 26.4 +0.3
M30M IAmb IAmb 17 03 27.6
comp=Z,5.2nm,0.8s
M30M Minto, Yukon 62.60 31 P P 17 03 27.0 +0.8
baz=288,SNR=7.7
KLMR Klimovskoe 62.64 327 *e*P P 17 03 32.2 +5.8
KLMR pmax pmax
comp=Z,11nm,1.3s
KLMR Klimovskoe 62.64 327 *e*P P 17 03 32.3 +5.9
KLMR AMP 17 03 38.2
comp=Z,11nm,1.3s
HYT Haines Junctio 62.84 33 P P 17 03 29.1 +1.2
HYT IAmb IAmb 17 03 29.9
comp=Z,10nm,0.9s
HYT Haines Junctio 62.84 33 P P 17 03 28.4 +0.6
baz=289,SNR=6.3
A36M Sachs Harbour 63.40 20 P P 17 03 31.1 -0.1
A36M Sachs Harbour 63.40 20 P P 17 03 31.0 -0.3
baz=294,SNR=23
N31M Braeburn, Yuko 63.41 32 P P 17 03 32.0 +0.5
N31M IAmb IAmb 17 03 33.5
comp=Z,12nm,1.0s
N31M Braeburn, Yuko 63.41 32 P P 17 03 32.4 +0.8
baz=290
M31M Drury Creek, Y 63.78 31 P P 17 03 34.4 +0.5
baz=291
WHY Whitehorse 64.11 33 P P 17 03 37.1 +0.8
WHY IAmb IAmb 17 03 38.0
comp=Z,6.7nm,0.9s
WHY Whitehorse 64.11 33 P P 17 03 36.4 +0.2
baz=291
SKAG Skagway 64.33 34 P P 17 03 37.6 +0.1
baz=291
ARCES ARCESS Array B 64.85 338 P P 17 03 39.4 -1.4
comp=Z,7.5nm,1.1s,baz=54,slow=6.2,SNR=7.1
ARCES LR LR 17 36 25.8
comp=Z,289nm,19.2s,baz=222,slow=40
C36M Paulatuk 64.88 22 P P 17 03 40.6 -0.3
C36M Paulatuk 64.88 22 P P 17 03 40.8 -0.1
baz=296,SNR=22
STKA Stephens Creek 65.03 170 P P 17 03 41.5 -0.8
comp=Z,3.5nm,0.8s,baz=344,slow=2.9,SNR=3.2
STKA Stephens Creek 65.03 170 P P 17 03 41.7 -0.6
STKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 65.03 170 P P 17 03 41.7 -0.6
BBOO Buckleboo 65.34 175 P P 17 03 41.9 -2.5
BBOO IAmb IAmb 17 04 21.6
comp=Z,15nm,1.6s
EUNU Eureka 65.63 7 P P 17 03 45.7 -0.1
EUNU IAmb IAmb 17 03 49.5
comp=Z,5.2nm,0.8s
VORR Voronezh 66.05 317 *e*P P **17 03 50.8 +2.0**
VORR pmax pmax
comp=Z,50nm,0.4s
OBN Obninsk 66.16 321 *e*P P **17 03 50.3 +0.9**
OBN *e* 17 04 19.4
OBN *e* 17 06 14.7
OBN pmax pmax
comp=Z,5.0nm,1.0s
ZEI Tsey 66.58 307 *e*P P **17 03 51.9 -0.8**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
TGTN Hyland Airport 66.72 31 P P 17 03 53.6 +0.6
baz=296
KBZ Khabaz 66.88 308 P P 17 03 55.0 +0.7
comp=Z,14nm,0.9s,baz=88,slow=2.8,SNR=32
KBZ LR LR 17 37 30.6
comp=Z,201nm,18.5s,baz=231,slow=40
KBZ Khabaz 66.88 308 *ce*P P **17 03 54.9 +0.6**
KBZ pmax pmax
comp=Z,16nm,0.9s
KIV Kislovodsk 66.93 308 *e*P P **17 03 54.5 -0.3**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,142nm,17.0s
CRAG Craig 66.97 38 P P 17 03 54.3 -0.3
baz=294
SHA1 Shidzhatmaz 67.04 308 *i* P P **17 03 55.7 +0.1**
GNI Garni 67.07 304 *i* P P **17 03 56.7 +0.9**
GNI pmax pmax
comp=Z,15nm,1.5s
NEY Neytrino 67.19 308 *i* P P **17 03 55.0 -1.5**
FINES FINESS Array B 68.38 330 P P 17 04 02.1 -1.3
comp=Z,3.8nm,0.5s,baz=72,slow=6.1,SNR=14
FINES FINESS Array B 68.38 330 P P 17 04 02.0 -1.4
RES Resolute Bay 68.79 12 P P 17 04 05.9 +0.1
RES pmax pmax
comp=Z,7.0nm,0.9s
RES Resolute Bay 68.79 12 P P 17 04 05.9 +0.1
RES IAmb IAmb 17 04 12.6
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 69.15 353 *i* P P **17 04 06.0 -2.0**
GURO Guroymak-BITLI 69.65 303 P P 17 04 11.7 -0.3
GURO IAmb IAmb 17 04 15.9
comp=Z,8.2nm,1.2s
NACGM Naroch 71.28 324 *e*P P **17 04 23.2 +1.8**
DBG Daneborg 71.55 352 *e*P P 17 04 17.4 -5.3
YKA Yellowknife Ar 71.74 26 P P 17 04 23.9 -0.2
comp=Z,1.3nm,0.7s,baz=305,slow=5.8,SNR=22
AKASG Malin Array Be 72.11 319 P P 17 04 25.2 -1.2
comp=Z,8.6nm,0.7s,baz=53,slow=6.4,SNR=25
AKASG Malin Array Be 72.11 319 *i* P P **17 04 26.2 -0.3**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 72.11 319 P P 17 04 26.4 -0.1
AKBB pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 72.11 319 P P 17 04 26.4 -0.1
AKBB IAmb IAmb 17 04 28.2
comp=Z,9.2nm,0.8s
PABE Paberze 72.35 325 P P 17 04 27.3 -0.5
BNN Bunyan 73.80 306 P P 17 04 38.9 +2.0
NC405 NORSAR Array S 74.28 334 P P 17 04 38.6 -0.6
NC405 IAmb IAmb 17 04 48.0
comp=Z,28nm,1.2s
NB2 NORSAR Subarra 74.52 334 P P 17 04 38.6 -2.0
comp=Z,5.0nm,1.0s,baz=50,slow=5.9
NOA NORSAR Array B 74.52 334 P P 17 04 39.0 -1.6
comp=Z,3.4nm,0.9s,baz=50,slow=5.8,SNR=9.1
NOA LR LR 17 40 06.8
comp=Z,94nm,18.7s,baz=215,slow=38
NOA NORSAR Array B 74.52 334 P P 17 04 39.0 -1.6
BR131 Keskin Array S 74.86 308 P P 17 04 42.5 -0.6
BR131 pmax pmax
comp=Z,13nm,0.9s
BR131 Keskin Array S 74.86 308 P P 17 04 42.5 -0.6
BR131 IAmb IAmb 17 04 46.4
comp=Z,13nm,0.9s
BRTR Keskin Array B 74.87 308 P P 17 04 43.2 +0.1
comp=Z,6.9nm,0.9s,baz=93,slow=5.1,SNR=24
BRTR Keskin Array B 74.87 308 *i* P P **17 04 43.9 +0.8**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 74.87 308 P P 17 04 42.4 -0.8
LVV L'vov 75.41 320 *e*P P **17 04 46.2 +0.3**
BUR08 Bucovina Ar. S 75.95 318 P P 17 04 48.8 -0.4
BUR08 IAmb IAmb 17 04 52.7
comp=Z,7.3nm,0.9s
BURAR Bucovina Array 75.96 318 ⇑P P **17 04 50.9 +1.7**
BURAR Bucovina Array 75.96 318 ⇑P P **17 04 50.9 +1.7**
BURAR Bucovina Array 75.96 318 P P 17 04 48.9 -0.3
BURAR IAmb IAmb 17 04 53.1
comp=Z,7.3nm,0.9s
VRI Vrincioaia 76.04 316 ⇓P P **17 04 52.6 +3.0**
VRI Vrincioaia 76.04 316 ⇓P P **17 04 52.6 +3.0**
KWP Kalwaria Pacla 76.22 320 P P 17 04 50.3 -0.3
KWP pmax pmax
comp=Z,198nm,0.8s
KWP Kalwaria Pacla 76.22 320 P P 17 04 50.3 -0.3
DOPR Dopca 76.77 316 ⇑P P **17 04 56.9 +3.2**
TRPA Tarpa 77.17 319 ⇑P P **17 04 57.0 +1.1**
OJC Ojcow 77.42 322 P P 17 04 56.5 -0.8
OJC pmax pmax
comp=Z,17nm,0.9s
OJC Ojcow 77.42 322 P P 17 04 56.5 -0.8
OJC IAmb IAmb 17 05 00.5
comp=Z,17nm,0.9s
GZR Gura Zlata 78.60 317 ⇑P P **17 05 06.7 +2.7**
GZR Gura Zlata 78.60 317 ⇑P P **17 05 06.7 +2.7**
MORC Moravsky Berou 78.85 323 P P 17 05 03.8 -1.5
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 78.85 323 P P 17 05 03.8 -1.5
MORC IAmb IAmb 17 05 08.6
comp=Z,7.4nm,0.9s
ELL Elmali 78.92 307 P P 17 05 04.2 -1.8
ELL pmax pmax
comp=Z,31nm,0.8s
ELL Elmali 78.92 307 P P 17 05 04.2 -1.8
CLL Collm 80.12 326 *i* P P **17 05 11.3 -0.8**
CLL MLR MLR
comp=Z,300nm,21.2s
CLL Collm 80.12 326 *i* P P **17 05 11.3 -0.8**
CLL LmV 17 43 00.0
comp=Z,300nm,21.2s
CLL Lm MLR 17 44 00.0
comp=N,300nm,18.5s
CLL Lm MLR 17 44 00.0
comp=E,200nm,19.9s
CLL Collm 80.12 326 *i* PKPab P **17 05 11.3 -0.8**
M04C Macdoel 80.28 46 P P **17 05 13.0 -0.3**
baz=305
FCC Fort Churchill 81.52 22 P P 17 05 18.4 -1.0
FCC pmax pmax
comp=Z,24nm,1.4s
FCC Fort Churchill 81.52 22 P P 17 05 18.4 -1.0
FCC IAmb IAmb 17 05 19.8
comp=Z,24nm,1.4s
MSO Missoula 81.73 39 P P 17 05 20.5 -0.5
baz=310
FFC Flin Flon 81.83 28 P P 17 05 20.0 -1.2
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 81.83 28 P P 17 05 20.0 -1.2
GRFO Grafenberg 82.04 325 P P 17 05 22.1 -0.3
GRFO pmax pmax
comp=Z,24nm,1.0s
GRFO Grafenberg 82.04 325 P P 17 05 22.1 -0.3
EGMT Eagleton 83.09 36 P P 17 05 28.1 +0.1
baz=312
HLID Hailey 83.55 42 P P 17 05 30.2 -0.3
baz=310
BOZ Bozeman (W) 83.75 39 P P 17 05 31.3 -0.2
baz=311
KVN Kaiserville 84.20 47 P P 17 05 33.3 -0.7
KVN Kaiserville 84.20 47 P P 17 05 33.3 -0.7
KVN IAmb IAmb 17 05 35.1
comp=Z,6.7nm,1.0s
CTI Castel Tesino 84.28 322 P P 17 05 32.4 -1.7
CTI pmax pmax
comp=Z,12nm,1.0s
CTI Castel Tesino 84.28 322 P P 17 05 32.4 -1.7
CTI IAmb IAmb 17 05 36.6
comp=Z,12nm,1.0s
BFO Black Forest 84.36 326 P P 17 05 32.7 -1.7
BFO pmax pmax
comp=Z,19nm,0.9s
BFO Black Forest 84.36 326 P P 17 05 32.7 -1.7
NVAR Mina Array Bea 84.45 47 P P 17 05 34.9 -0.5
comp=Z,2.3nm,0.7s,baz=293,slow=5.3,SNR=12
TEOL Teolo 84.73 322 P P 17 05 34.8 -1.5
ECH Echery 85.00 326 P P 17 05 36.0 -1.6
ECH pmax pmax
comp=Z,8.0nm,0.9s
ECH Echery 85.00 326 P P 17 05 36.0 -1.6
ECH IAmb IAmb 17 05 40.2
comp=Z,8.4nm,0.9s
TUE Stuetta 85.16 324 P P 17 05 37.1 -1.6
RLMT Red Lodge 85.30 38 P P 17 05 37.7 -1.8
RLMT IAmb IAmb 17 05 40.8
comp=Z,13nm,1.6s
RLMT Red Lodge 85.30 38 P P 17 05 39.2 -0.2
baz=313
TPH Tonopah 85.34 47 P P 17 05 39.6 -0.2
TPH pmax pmax
comp=Z,60nm,1.3s
TPH Tonopah 85.34 47 P P 17 05 39.6 -0.2
LCH Last Change Ra 85.60 48 P P 17 05 40.6 -0.4
R11A Troy Canyon, C 86.18 46 P P 17 05 44.0 +0.1
baz=309
MPMC Manual Prospec 86.42 49 P P 17 05 44.8 -0.4
baz=308
TPNV Topopah Spring 86.65 48 P P 17 05 46.3 +0.1
baz=309
PD31 Pinedale Array 86.75 40 P P 17 05 45.3 -1.4
PD31 IAmb IAmb 17 05 47.6
comp=Z,12nm,1.7s
PDAR Pinedale Array 86.75 40 P P 17 05 46.0 -0.7
comp=Z,1.7nm,0.8s,baz=15,slow=0.5,SNR=16
ULM Lac du Bonnet 87.66 28 P P 17 05 49.8 -0.8
comp=Z,7.6nm,0.9s,baz=332,slow=5.3,SNR=5.4
ULM Lac du Bonnet 87.66 28 P P 17 05 49.4 -1.2
ULM pmax pmax
comp=Z,11nm,1.1s
ULM Lac du Bonnet 87.66 28 P P 17 05 49.4 -1.2
ULM IAmb IAmb 17 05 50.9
comp=Z,11nm,1.1s
RSSD Black Hills 88.67 36 P P 17 05 54.9 -0.9
baz=316
IKP In-Ko-Pah, Jac 89.44 51 P P 17 05 59.3 -0.2
baz=309
B35A Bob, Littlefor 90.02 28 P P 17 06 00.9 -0.9
B35A IAmb IAmb 17 06 02.3
comp=Z,11nm,0.8s
MVCO Mesa Verde 91.14 43 P P 17 06 07.3 -0.3
baz=314
EYMN Ely 91.22 27 P P 17 06 06.5 -0.9
baz=326
TXAR Lajitas Array 99.54 46 P Pdif 17 06 46.6 +0.8
comp=Z,0.3nm,0.7s,baz=303,slow=5.0,SNR=2.4

JMA 14 16:54:35.7, 32.72N×130.77E, h12km±1km, M3.6, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JIU3	**Izumi3**	**0.17**	**168**	⇑P		Pg	16 54 39.8	+0.2
JIU3				S		Sg	16 54 42.9	+0.5
JTA	**Tamana**	**0.32**	**321**	⇑P		Pg	16 54 42.1	0.0
JTA				S		Sg	16 54 46.6	+0.2
JNU	**Nakatsue**	**0.41**	**13**	⇑P		Pg	16 54 44.0	+0.1
JNU				S		Sg	16 54 49.4	0.0
JTZ	**Takazaki**	**0.86**	**162**	P		Pb	16 54 52.7	+0.1
JTZ				S		Sb	16 55 04.5	+0.5

*IDC **14** 16:59:29.6±1.4, 32.86N×131.32E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/32, mbtmp3.3/5, ML3.0/2, Error*

ellipse: s-maj=33.3km s-min=9.5km az=45.0
JMA ***14*** *16:59:32.1, 32.76N× 130.82E, h11km± 1km, M3.6*
JMA Felt III J1.
ISC 14 16:59:32.4±0.9, 32.77N±0.03× 131.0E±0.1, h12km, n11, σ1§67/15, mb3.2/4, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.25**	**209**	⇑P	**Pg**	**16 59 36.7**	**-0.9**
JIU3				S	**Sg**	**16 59 40.0**	**-1.1**
JNU	**Nakatsue**	**0.36**	**349**	Pg	**Pg**	**16 59 39.0**	**-0.6**
	120nm,0.3s,baz=180,slow=8.3,SNR=71						
JNU				Lg	Lg	16 59 43.8	
	baz=308,slow=14						
JNU	**Nakatsue**	**0.36**	**349**	⇑P	**Pb**	**16 59 39.5**	**-1.2**
JNU				S	**Sb**	**16 59 44.6**	**-1.8**
JTA	**Tamana**	**0.41**	**299**	⇑P	**Pg**	**16 59 38.4**	**-2.1**
JTZ	**Takazaki**	**0.87**	**173**	⇑P	**Pb**	**16 59 49.5**	**0.0**
JTZ				S	**Sb**	**17 00 01.1**	**0.0**
KSRS	**Korea Array**	**5.29**	**333**	Pn	**Pn**	**17 00 51.8**	**+0.5**
	0.1nm,0.3s,baz=146,slow=14,SNR=1.7						
KSRS				Pg	**Pb**	**17 01 08.4**	**+3.6**
	0.8nm,0.3s,baz=150,slow=18,SNR=4.9						
KSRS				Lg	Lg	17 02 16.1	
	1.0nm,0.3s,baz=158,slow=30,SNR=5.3						
JOW	**Kunigami**	**6.36**	**202**	Pn	**Pn**	**17 01 07.8**	**+1.9**
	1.2nm,0.3s,baz=129,slow=21,SNR=2.0						
MKAR	**Makanchi Array**	**39.31**	**305**	P	**P**	**17 07 02.6**	**+1.4**
	0.1nm,0.6s,baz=96,slow=9.2,SNR=1.5						
WRA	**Warramunga Arr**	**52.51**	**176**	P	**P**	**17 08 43.9**	**-1.6**
	0.3nm,0.8s,baz=355,slow=7.8,SNR=1.8						
ASAR	**Alice Springs**	**56.19**	**177**	P	**P**	**17 09 11.8**	**-0.4**
	0.2nm,0.8s,baz=7.3,slow=15,SNR=2.5						
FINES	**FINESS Array B**	**68.38**	**330**	P	**P**	**17 10 32.6**	**-0.8**
	1.1nm,0.7s,baz=56,slow=4.8,SNR=5.3						

GEN ***14*** *17:03:16.4, 44.21N× 10.73E, h19km, MI1.5*
ROM 14 17:03:17.2±0.1, 44.189N±0.004× 10.708E±0.006, h16km± 1km, ML2.2/4, 5C-2D, Error ellipse: s-maj=0.5km s-min=0.1km az=225.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDI	**Bagni Di Lucca**	**0.15**	**212**	P	Pb	17 03 21.6	-0.1
BDI				S	Sb	17 03 25.0	+0.4
BDI				AML	AML		
	comp=N,1060μm,0.4s						
BDI				AML	AML		
	comp=E,932μm,0.4s						
BDI				AML	AML		
	comp=E,847μm,0.4s						
BDI				AML	AML		
	comp=N,1130μm,0.4s						
BDI	**Bagni Di Lucca**	**0.15**	**212**	P	Pb	17 03 21.6	-0.1
BDI				S	Sb	17 03 25.1	+0.5
GSCL	**Gusciola**	**0.18**	**332**	*i*P	Pg	17 03 21.8	0.0
GSCL				S	Sg	17 03 25.2	+0.3
GSCL				AML	AML		
	comp=E,938μm,0.7s						
GSCL				AML	AML		
	comp=N,1307μm,0.3s						
GSCL	**Gusciola**	**0.18**	**332**	P	Pg	17 03 21.9	+0.1
GSCL				S	Sb	17 03 25.4	-0.3
SARO	**Sassorosso**	**0.22**	**269**	P	Pg	17 03 22.4	0.0
SARO				S	Sb	17 03 26.5	-0.2
CARD	**Cardoso**	**0.23**	**225**	P	Pg	17 03 22.6	+0.1
CARD				S	Sb	17 03 26.8	-0.1
CARD				AML	AML		
	comp=N,940μm,0.9s						
CARD				AML	AML		
	comp=E,1320μm,0.1s						
CARD	**Cardoso**	**0.23**	**225**	P	Pg	17 03 22.7	+0.2
CARD				S	Sb	17 03 26.9	0.0
ZCCA	**Zocca**	**0.25**	**50**	P	Pb	17 03 23.5	+0.1
ZCCA	**Zocca**	**0.25**	**50**	P	Pg	17 03 15.0	-7.9
MTCR	**Monte La Croce**	**0.27**	**128**	⇑*i*P	Pg	17 03 23.2	+0.1
MTCR				S	Sb	17 03 27.8	-0.2
MTCR	**Monte La Croce**	**0.27**	**128**	P	Pg	17 03 23.2	+0.1
MTCR				S	Sb	17 03 27.7	-0.3
FNVD	**Fontana Vidola**	**0.30**	**94**	⇑*i*P	Pg	17 03 23.6	0.0
FNVD				S	Sg	17 03 28.3	+0.2
FNVD	**Fontana Vidola**	**0.30**	**94**	P	Pg	17 03 23.7	0.0
FNVD				S	Sg	17 03 28.4	+0.3
MAIM	**Mastiano**	**0.32**	**210**	P	Pb	17 03 24.5	0.0
MAIM				S	Sb	17 03 29.2	-0.1
MAIM	**Mastiano**	**0.32**	**210**	P	Pb	17 03 24.5	0.0
MAIM				S	Sb	17 03 29.1	-0.2
MPPT	**Montemurlo**	**0.36**	**130**	P	Pg	17 03 25.0	+0.3
EQUI	**Equi**	**0.40**	**267**	P	Pg	17 03 25.2	-0.2
EQUI				S	Sg	17 03 31.0	+0.1
EQUI	**Equi**	**0.40**	**267**	P	Pg	17 03 25.2	-0.1
EQUI				S	Sg	17 03 30.8	-0.1
PII	**Pisa**	**0.49**	**196**	P	Pg	17 03 27.0	0.0
PII				S	Sg	17 03 33.6	+0.2
PII				AML	AML		
	comp=E,172μm,0.5s						
PII				AML	AML		
	comp=N,187μm,0.4s						
PII	**Pisa**	**0.49**	**196**	P	Pb	17 03 27.2	-0.2
PII				S	Sg	17 03 33.6	+0.2
SEI	**Scarperia**	**0.49**	**106**	P	Pg	17 03 27.1	+0.1
SEI				S	Sb	17 03 35.0	+0.7
SEI	**Scarperia**	**0.49**	**106**	P	Pg	17 03 26.8	-0.2
SEI				S	Sb	17 03 34.9	+0.6
GRAM	**Graiana**	**0.55**	**303**	P	Pb	17 03 28.6	0.0
GRAM				S	Sb	17 03 36.4	+0.2
GRAM	**Graiana**	**0.55**	**303**	P	Pb	17 03 28.6	0.0
GRAM				S	Sb	17 03 36.6	+0.4
PLMA	**Palmaria, Port**	**0.63**	**258**	S	Sg	17 03 38.2	+0.2
MNTV	**Mantova**	**0.96**	**3**	⇑P	Pb	17 03 32.8	-2.7
PE3	**Peglio**	**1.38**	**110**	⇑P	Pg	17 03 45.0	+1.2
MCIV	**Monte Civitell**	**1.58**	**153**	S	Sg	17 04 09.0	+0.9
ARVD	**Arcevia**	**1.76**	**112**	⇑P	Pn	17 03 46.6	-0.4
CIMA	**Civitanova Mar**	**2.32**	**111**	S	Sg	17 04 32.0	+0.1
BOSI	**Bolzano**	**2.35**	**10**	⇓P	Pn	17 03 56.8	+1.7
LATB	**Latina**	**3.16**	**148**	⇓P	Pn	17 04 05.4	-0.9
RNI2	**Rionero Sannit**	**3.55**	**133**	P	Pn	17 04 12.5	+0.8
IACL	**Alicudi**	**6.28**	**153**	P	Pn	17 04 46.8	-2.3

IDC ***14*** *17:10:27.4±1.4, 32.70N× 130.70E, h0km, mb3.3/4, mb1 3.3/5, mb1mx3.2/47, mbtmp3.3/5, ML2.7/1, Error ellipse: s-maj=24.5km s-min=9.2km az=116.0*
JMA ***14*** *17:10:29.0, 32.74N× 130.80E, h13km± 1km, M3.5*
JMA Felt II J1.
ISC 14 17:10:29.4±1.2, 32.71N±0.05× 130.8E±0.1, h11km±8km, n10, σ1§49/14, mb3.2/4, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.16**	**187**	⇑P	**Pg**	**17 10 33.3**	**+0.3**
JTA	**Tamana**	**0.36**	**315**	P	**Pg**	**17 10 35.7**	**-0.9**
JTA				S	**Sg**	**17 10 40.4**	**-1.0**
JNU	**Nakatsue**	**0.41**	**5**	Pg	**Pg**	**17 10 36.4**	**-1.2**
	580nm,0.3s,baz=180,slow=9.1,SNR=130						
JNU				Lg	Lg	17 10 41.7	
	2μm,0.3s,baz=292,slow=17,SNR=4						
JTZ	**Takazaki**	**0.83**	**165**	P	**Pb**	**17 10 46.1**	**+0.2**
JTZ				S	**Sb**	**17 10 57.7**	**+0.6**
KSRS	**Korea Array**	**5.30**	**334**	Pn	**Pn**	**17 11 48.7**	**+0.3**
	0.2nm,0.3s,baz=150,slow=15,SNR=2.3						
KSRS				Pg	**Pb**	**17 12 04.6**	**+2.6**
	0.6nm,0.3s,baz=150,slow=17,SNR=7.0						
KSRS				Sn	**Sn**	**17 12 50.5**	**+1.0**
	0.5nm,0.3s,baz=152,slow=28,SNR=5.1						
KSRS				Lg	Lg	17 13 12.4	
	1.0nm,0.3s,baz=153,slow=30,SNR=5.1						
KLR	**Kul'dur**	**16.52**	**2**	Pn	**P**	**17 14 26.0**	**+2.4**
	0.1nm,0.3s,baz=180,slow=10,SNR=2.0						
MKAR	**Makanchi Array**	**39.26**	**306**	P	**P**	**17 17 57.1**	**-0.8**
	0.2nm,0.6s,baz=96,slow=8.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**42.02**	**311**	P	**P**	**17 18 19.4**	**-1.2**
	0.3nm,0.5s,baz=81,slow=5.7,SNR=2.3						
ASAR	**Alice Springs**	**56.14**	**177**	P	**P**	**17 20 08.6**	**-0.4**
	0.2nm,0.8s,baz=10,slow=14,SNR=4.1						
AKASG	**Malin Array Be**	**72.11**	**319**	P	**P**	**17 21 52.0**	**-1.6**
	0.2nm,0.2s,baz=56,slow=6.5,SNR=3.0						

IDC ***14*** *17:14:33.8±0.7, 32.65N× 130.70E, h0km, mb3.9/18, mb1 4.1/20, mb1mx4.0/48, mbtmp3.9/20, ML3.1/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/101, Error ellipse: s-maj=16.3km s-min=8.0km az=110.0*
JMA ***14*** *17:14:35.6, 32.70N× 130.76E, h11km± 1km, M4.2*
Broadband fault plane solution: P waves. NP1: ϕs=77.00000°, δ55.00000°, λ=-72.00000°. NP2: ϕs=227.00000°, δ38.00000°, λ=-114.00000°. Principal axes: T Plg9.0000°, Azm154.0000°; N Plg14.0000°, Azm246.0000°; P Plg73.0000°, Azm34.0000°;
JMA Felt III J1.
NIED ***14*** *17:14:35.6, 32.70N× 130.76E, h10km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.84; Mθθ 0.92; Mφφ=0.07; Mrθ=1.67; Mθφ 0.75; Mφr 0.58; Fault plane solution: M0 2.10000×10^15 NP1: ϕs=212.00000°, δ28.00000°, λ=153.00000°. NP2: ϕs=99.00000°, δ78.00000°, λ=64.00000°.*
NEIC ***14*** *17:14:36.3±1.8, 32.71N±0.03× 130.68E±0.07, h10km±1km, mb4.5/31 Error ellipse: s-maj=10.2km s-min=4.2km az=108.0*
ISC 14 17:14:35.9±1.0, 32.69N±0.03× 130.70E±0.05, h10km±6km, n84, σ1§12/88, mb4.2/39, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.17**	**144**	⇑P	**Pg**	**17 14 39.3**	**-0.3**
JIU3				S	**Sg**	**17 14 42.1**	**0.0**
JTA	**Tamana**	**0.31**	**334**	⇑P	**Pg**	**17 14 42.2**	**+0.1**
JTA				S	**Sb**	**17 14 46.9**	**-1.9**
JNU	**Nakatsue**	**0.46**	**19**	Pg	**Pg**	**17 14 43.8**	**-1.2**
	551nm,0.3s,baz=184,slow=14,SNR=132						
JNU				Lg	Lg	17 14 49.6	
	3μm,0.3s,baz=275,slow=19,SNR=61						
JNU	**Nakatsue**	**0.46**	**19**	Pg	**Pg**	**17 14 44.2**	**-0.8**
JTZ	**Takazaki**	**0.85**	**157**	⇑P	**Pg**	**17 14 52.4**	**+0.1**
JTZ				S	**Sb**	**17 15 04.4**	**+0.1**
JSU	**Suzuyama**	**1.19**	**190**	Pn	**Pb**	**17 14 58.3**	**-0.4**
JTU	**Tsushima**	**2.13**	**330**		**Pn**	**17 15 10.9**	**-0.6**
JMN	**Monobe**	**2.87**	**68**	Pn	**Pn**	**17 15 22.0**	**+0.2**
JHS	**Saijyo**	**3.06**	**40**	Pn	**Pn**	**17 15 24.1**	**-0.4**
TJN	**Taejon**	**4.60**	**324**		**Pn**	**17 15 45.3**	**-0.2**
KSRS	**Korea Array**	**5.27**	**335**	Pn	**Pn**	**17 15 55.0**	**+0.3**
	0.6nm,0.3s,baz=152,slow=14,SNR=7.2						
KSRS				Pg	**Pb**	**17 16 10.3**	**+2.2**
	1.1nm,0.3s,baz=154,slow=15,SNR=5.3						
KSRS				Sn	**Sn**	**17 16 57.2**	**+1.6**
	1.6nm,0.3s,baz=151,slow=26,SNR=4.9						
KSRS				Lg	Lg	17 17 20.8	
	3.9nm,0.3s,baz=152,slow=32,SNR=6.2						
KSRS				LR	LR	17 18 12.0	
	comp=Z,176nm,20.0s,baz=165,slow=41						
KSAR	**Wonju Array Be**	**5.28**	**335**	Pn	**Pn**	**17 15 53.5**	**-1.3**
KS19	**Wonju Array Si**	**5.33**	**335**		**Pn**	**17 15 55.9**	**+0.2**
INU	**Inuyama**	**5.88**	**61**	Pn	**Pn**	**17 16 02.9**	**-0.3**
JOW	**Kunigami**	**6.20**	**200**	Pn	**Pn**	**17 16 09.4**	**+1.9**
	2.2nm,0.3s,baz=7.9,slow=8.9,SNR=5.4						
JOW	**Kunigami**	**6.20**	**200**	Pn	**Pn**	**17 16 07.9**	**+0.3**
JGF	**Kuroka**	**6.24**	**60**		**Pn**	**17 16 08.8**	**+0.6**
MAJO	**Matsushiro**	**7.29**	**56**	Pn	**Pn**	**17 16 23.4**	**+0.8**
MJAR	**Matsushiro Arr**	**7.29**	**56**	Pn	**Pn**	**17 16 23.3**	**+0.7**
	0.3nm,0.3s,baz=242,slow=13,SNR=11						
MJAR				LR	LR	17 18 45.4	
	comp=Z,203nm,18.8s,baz=35,slow=34						
JHJ2	**Mitsune**	**7.68**	**84**	Pn	**Pn**	**17 16 28.9**	**+0.9**
NJ2	**Nanjing**	**10.04**	**270**	*e*P	**Pn**	**17 17 00.0**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
JKA	**Kamikawa-asahi**	**14.72**	**36**	Pn	**Pn**	**17 18 02.9**	**-1.4**
KLR	**Kul'dur**	**16.55**	**2**	Pn	**P**	**17 18 33.4**	**+2.7**
	comp=Z,0.4nm,0.3s,baz=163,slow=8.1,SNR=51						
HHC	**Hu-ho-hao-te**	**17.34**	**303**	*e*P	**Pn**	**17 18 36.8**	**-1.3**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,5.2s						
HHC				LR	LR		
	comp=N,220nm,13.6s						
HHC				LR	LR		
	comp=E,280nm,14.5s						
HHC				LR	LR		
	comp=Z,460nm,15.0s						
HKPS	**Hong Kong Po S**	**17.95**	**239**	Pn	**Pn**	**17 18 42.9**	**-2.9**
HKPS				IAmb	IAmb	17 18 58.8	
	comp=Z,53nm,1.1s						
XAN	**Xi'an**	**18.24**	**280**	P	**Pn**	**17 18 48.8**	**-0.5**
XAN				pP	pP	17 18 52.3	+0.1
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				LR	LR		
	comp=N,340nm,11.8s						
XAN				LR	LR		
	comp=E,240nm,15.7s						
XAN				LR	LR		
	comp=Z,330nm,16.1s						
LZH	**Lanzhou**	**22.39**	**286**	*e*P	**P**	**17 19 35.8**	**+1.1**
LZH				pP	sP	17 19 40.8	+2.0
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
ULN	**Ulaanbaatar**	**23.43**	**317**	P	**P**	**17 19 44.5**	**-0.9**
SONM	**Songino Array**	**23.80**	**317**	P	**P**	**17 19 49.5**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=127,slow=9.3,SNR=4.9						
SONM	**Songino Array**	**23.80**	**317**	IAmb	IAmb	17 19 53.6	
	comp=Z,2.3nm,0.8s						
GTA	**Gaotai**	**25.77**	**294**	*e*P	**P**	**17 20 11.1**	**+4.0**
GTA				sP	sP	17 20 16.8	+5.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PZH	**PanZhiHua**	**25.87**	**264**	P	**P**	**17 20 10.3**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,80nm,5.7s						
GOMU	**GeErMu**	**29.69**	**287**	P	**P**	**17 20 40.8**	**-1.7**
GOMU				pP	pP	17 20 44.4	-1.1
GOMU				sP	sP	17 20 48.3	+1.6
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,85nm,7.6s						
CMAR	**Chiang Mai Arr**	**31.81**	**251**	P	**P**	**17 21 03.6**	**+2.6**
	comp=Z,1.3nm,1.0s,baz=51,slow=5.2,SNR=9.8						
WMQ	**Urumqi**	**35.19**	**301**	*e*P	**P**	**17 21 32.3**	**+2.1**
ZALV	**Zalesovo Beam**	**38.69**	**317**	P	**P**	**17 22 00.4**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=109,slow=7.8,SNR=2.0						
TIXI	**Tiksi**	**39.04**	**359**	P	**P**	**17 22 01.9**	**-0.5**
MKAR	**Makanchi Array**	**39.18**	**306**	P	**P**	**17 22 04.0**	**0.0**
	comp=Z,0.5nm,0.7s,baz=92,slow=9.1,SNR=7.4						
KURK	**Kurchatov**	**41.90**	**311**	P	**P**	**17 22 26.3**	**0.0**
KURBB	**Kurchatov Arra**	**41.94**	**311**	P	**P**	**17 22 26.1**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=97,slow=8.9,SNR=9.3						
NRIK	**Noril'sk**	**43.88**	**340**	P	**P**	**17 22 41.8**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=124,slow=14,SNR=6.8						
NRIK				LR	LR	17 42 34.3	
	comp=Z,212nm,18.3s,baz=306,slow=38						
NRIK	**Noril'sk**	**43.88**	**340**	P	**P**	**17 22 42.2**	**0.0**
BRVK	**Borovoye**	**47.17**	**314**	P	**P**	**17 23 08.8**	**+0.3**
KK31	**Karatay Array**	**47.70**	**301**	P	**P**	**17 23 13.5**	**+0.7**
KK31				IAmb	IAmb	17 23 17.1	
	comp=Z,3.0nm,1.0s						
KKAR	**Karatay Array**	**47.70**	**301**	P	**P**	**17 23 13.3**	**+0.5**
KKAR	**Karatay Array**	**47.70**	**301**	P	**P**	**17 23 13.5**	**+0.7**
KKAR				IAmb	IAmb	17 23 17.1	
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**52.45**	**176**	P	**P**	**17 23 47.8**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=351,slow=8.2,SNR=5.3						
WRA	**Warramunga Arr**	**52.45**	**176**	P	**P**	**17 23 47.5**	**-1.4**
ABKAR	**Akbulak array**	**53.97**	**310**	P	**P**	**17 23 59.3**	**-0.6**
ABKAR				IAmb	IAmb	17 24 05.4	
	comp=Z,2.1nm,0.8s						
ABKAR	**Akbulak array**	**53.97**	**310**	P	**P**	**17 23 59.7**	**-0.2**
ASAR	**Alice Springs**	**56.12**	**176**	P	**P**	**17 24 14.8**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=1.1,slow=6.6,SNR=7.6						
H23K	**Yukon River**	**56.53**	**29**	P	**P**	**17 24 19.4**	**+1.2**
H23K				IAmb	IAmb	17 24 21.1	
	comp=Z,6.2nm,1.2s						
MDM	**Murphy Dome**	**57.18**	**30**	P	**P**	**17 24 23.6**	**+0.8**
MDM				IAmb	IAmb	17 24 24.3	
	comp=Z,5.0nm,0.9s						
ILAR	**Eielson Array**	**57.77**	**30**	P	**P**	**17 24 25.9**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=274,slow=6.1,SNR=6.3						
HDA	**Harding Lake**	**57.80**	**31**	P	**P**	**17 24 25.9**	**-1.2**
HDA				IAmb	IAmb	17 24 27.6	
	comp=Z,2.7nm,0.9s						
SCRK	**Sand Creek**	**59.16**	**31**	P	**P**	**17 24 36.2**	**-0.6**
SCRK				IAmb	IAmb	17 24 36.8	
	comp=Z,2.5nm,0.7s						
DOT	**Dot Lake**	**59.19**	**31**	P	**P**	**17 24 35.8**	**-1.0**
DOT				IAmb	IAmb	17 24 37.1	
	comp=Z,2.2nm,0.7s						
MENT	**Mentasta**	**59.49**	**32**	P	**P**	**17 24 37.7**	**-1.3**
MENT				IAmb	IAmb	17 24 44.2	
	comp=Z,4.0nm,0.8s						
M26K	**Nabesna, AK**	**59.94**	**32**	P	**P**	**17 24 43.0**	**+0.9**
VRDI	**Verde Repeater**	**60.01**	**34**	P	**P**	**17 24 42.9**	**+0.2**
L27K	**Beaver Creek,**	**60.31**	**32**	P	**P**	**17 24 45.1**	**+0.6**
L27K				IAmb	IAmb	17 24 49.7	
	comp=Z,7.5nm,1.4s						
BCAR	**Beaver Creek A**	**60.32**	**32**	P	**P**	**17 24 45.5**	**+0.8**
TGL	**Tana Glacier**	**60.42**	**34**	P	**P**	**17 24 45.8**	**+0.3**
M27K	**Edge Creek, AK**	**60.46**	**32**	P	**P**	**17 24 46.4**	**+0.6**
M27K				IAmb	IAmb	17 24 46.7	
	comp=Z,2.6nm,0.7s						
INK	**Inuvik**	**62.14**	**25**	P	**P**	**17 24 56.7**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=288,slow=6.9,SNR=5.2						
INK	**Inuvik**	**62.14**	**25**	P	**P**	**17 24 56.6**	**-0.1**
M30M	**Minto, Yukon**	**62.66**	**31**	P	**P**	**17 25 01.5**	**+1.0**
FORT	**Forrest**	**63.17**	**183**	P	**P**	**17 25 04.6**	**+0.5**
A36M	**Sachs Harbour**	**63.45**	**20**	P	**P**	**17 25 05.8**	**+0.4**
A36M				IAmb	IAmb	17 25 06.5	
	comp=Z,3.7nm,0.8s						
C36M	**Paulatuk**	**64.92**	**22**	P	**P**	**17 25 15.3**	**+0.2**
EUNU	**Eureka**	**65.65**	**7**	P	**P**	**17 25 20.2**	**+0.3**
EUNU				IAmb	IAmb	17 25 23.9	
	comp=Z,6.8nm,1.4s						
KBZ	**Khabaz**	**66.81**	**308**	P	**P**	**17 25 28.2**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=56,slow=4.0,SNR=7.2						
FINES	**FINESS Array B**	**68.34**	**330**	P	**P**	**17 25 36.0**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=81,slow=6.7,SNR=9.8						
FINES	**FINESS Array B**	**68.34**	**330**	P	**P**	**17 25 36.7**	**-0.5**
RES	**Resolute Bay**	**68.82**	**12**	P	**P**	**17 25 40.0**	**+0.1**
RES				IAmb	IAmb	17 25 43.6	
	comp=Z,2.4nm,0.8s						
YKA	**Yellowknife Ar**	**71.80**	**26**	P	**P**	**17 25 58.0**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=304,slow=6.0,SNR=11						
AKASG	**Malin Array Be**	**72.05**	**319**	P	**P**	**17 25 58.9**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=52,slow=6.3,SNR=5.7						
AKBB	**Malin Array Si**	**72.05**	**319**	P	**P**	**17 25 60.0**	**-0.1**
AKBB				IAmb	IAmb	17 26 02.8	
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**74.48**	**334**	P	**P**	**17 26 13.0**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=51,slow=5.7,SNR=3.7						
BRTR	**Keskin Array B**	**74.80**	**308**	P	**P**	**17 26 16.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=133,slow=5.2,SNR=5.4						
CLL	**Collm**	**80.07**	**326**	P	**P**	**17 26 44.7**	**-1.1**
CLL				IAmb	IAmb	17 26 48.9	
	comp=Z,5.5nm,0.9s						
GERES	**GERESS Array B**	**81.34**	**323**	P	**P**	**17 26 52.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=42,slow=2.2,SNR=5.5						
NVAR	**Mina Array Bea**	**84.53**	**47**	P	**P**	**17 27 09.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=295,slow=5.7,SNR=4.6						
PDAR	**Pinedale Array**	**86.82**	**40**	P	**P**	**17 27 20.2**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=135,slow=0.8,SNR=5.8						

IDC ***14*** *17:17:00.8±0.8, 13.19N× 143.51E, h215km± 10km, mb3.2/12, mb1 3.4/12, mb1mx3.2/46, mbtmp3.7/12, Error ellipse: s-maj=25.2km s-min=12.3km az=94.0*
ISC 14 17:16:59.6±0.7, 13.2N±0.1× 143.3E±0.1, h200km, n13, σ1§08/14, mb3.4/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.60**	**75**	P	**Pn**	**17 17 36.0**	**+1.8**
	12nm,0.3s,baz=243,slow=5.1,SNR=27						
GUMO				S	**Sn**	**17 18 01.4**	**+0.4**
	26nm,0.3s,baz=152,slow=17,SNR=13						
WRA	**Warramunga Arr**	**34.07**	**195**	P	**P**	**17 23 25.8**	**+0.6**
	2.3nm,0.6s,baz=14,slow=9.4,SNR=29						
KLR	**Kul'dur**	**37.18**	**347**	P	**P**	**17 23 51.9**	**+0.6**
	1.1nm,0.8s,baz=153,slow=16,SNR=2.3						
ASAR	**Alice Springs**	**37.75**	**194**	P	**P**	**17 23 56.8**	**+0.3**
	0.3nm,0.4s,baz=19,slow=8.7,SNR=17						
CMAR	**Chiang Mai Arr**	**42.90**	**283**	P	**P**	**17 24 39.6**	**+0.8**
	0.1nm,0.4s,baz=80,slow=6.3,SNR=4.1						
STKA	**Stephens Creek**	**44.83**	**182**	P	**P**	**17 24 52.9**	**-0.9**
	0.5nm,0.3s,baz=4.4,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**60.72**	**316**	P	**P**	**17 26 51.5**	**+1.5**
	0.3nm,0.5s,baz=94,slow=7.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**61.06**	**325**	P	**P**	**17 26 51.9**	**-0.3**
	0.4nm,0.4s,baz=91,slow=7.6,SNR=2.2						
KURBB	**Kurchatov Arra**	**63.94**	**320**	P	**P**	**17 27 11.9**	**+0.7**
	0.6nm,0.5s,baz=104,slow=6.4,SNR=7.0						
ILAR	**Eielson Array**	**69.60**	**25**	P	**P**	**17 27 45.5**	**-1.2**
	0.3nm,0.5s,baz=242,slow=5.7,SNR=4.5						
YKA	**Yellowknife Ar**	**83.93**	**27**	P	**P**	**17 29 06.2**	**-0.7**
	0.3nm,0.5s,baz=288,slow=5.3,SNR=4.7						
NVAR	**Mina Array Bea**	**88.38**	**51**	P	**P**	**17 29 28.5**	**-0.9**
	0.2nm,0.3s,baz=246,slow=5.8,SNR=2.3				

187nm,0.3s,baz=127,slow=5.2,SNR=276
GUMO S Sn 17 29 44.1 +0.5
442nm,0.3s,baz=264,slow=21,SNR=13
JOW Kunigami 20.92 315 LR LR 17 40 23.3
comp=Z,212nm,21.7s,baz=26,slow=32
H11S3 WAKE ISLAND Hy 21.86 72 T T 17 57 07.7
baz=251,slow=75,SNR=5.8
H11S1 WAKE ISLAND Hy 21.88 72 T T 17 57 12.4
baz=251,slow=75,SNR=4.5
H11S2 WAKE ISLAND Hy 21.88 72 T T 17 57 10.6
baz=251,slow=75,SNR=6.0
H11N1 WAKE ISLAND Hy 22.34 69 T T 17 57 50.5
baz=255,slow=75,SNR=14
H11N2 WAKE ISLAND Hy 22.34 69 T T 17 57 51.5
baz=255,slow=75,SNR=8.5
H11N3 WAKE ISLAND Hy 22.35 69 T T 17 57 52.5
baz=255,slow=75,SNR=12
WRA Warramunga Arr 34.02 198 P P 17 35 55.9 -0.5
0.5nm,0.5s,baz=20,slow=9.6,SNR=5.9
ASAR Alice Springs 37.67 196 P P 17 36 28.5 +0.8
0.3nm,0.6s,baz=17,slow=11,SNR=8.8
CMAR Chiang Mai Arr 44.43 283 P P 17 37 23.9 +0.4
1.0nm,0.6s,baz=88,slow=6.1,SNR=9.2
CMAR PcP PP 17 39 08.5 +0.9
0.6nm,0.6s,baz=102,slow=1.6,SNR=5.4
CMAR LR LR 17 56 19.5
comp=Z,56nm,19.2s,baz=130,slow=36
TAPN Taplejung 55.13 295 *eP* P 17 38 44.7 -0.4
JIRN Jiri 56.50 295 *eP* P 17 38 54.3 -0.7
GUN Gumba 56.79 295 *eP* P 17 38 56.7 -0.3
PKI Pulchoki 57.19 295 *eP* P 17 38 58.8 -1.0
PKIN Phulchoki 57.20 295 *eP* P 17 38 59.2 -0.6
GKN Gorkha 57.89 295 *eP* P 17 39 03.9 -0.6
DANN Dangsing 58.67 295 *eP* P 17 39 09.6 -0.6
16nm,0.6s
KOLN Koldanda 58.80 295 *eP* P 17 39 10.2 -0.8
PYUN Piuthan 59.35 295 *eP* P 17 39 14.1 -0.7
6.7nm,0.5s
MKAR Makanchi Array 62.07 316 P P 17 39 32.4 -0.3
0.2nm,0.4s,baz=88,slow=8.2,SNR=4.0
ILAR Eielson Array 69.41 25 P P 17 40 18.1 -1.5
0.8nm,0.7s,baz=248,slow=5.7,SNR=7.2
YKA Yellowknife Ar 83.69 27 P P 17 41 40.1 -0.3
1.0nm,0.9s,baz=287,slow=5.2,SNR=8.0
NVAR Mina Array Bea 87.54 51 P P 17 42 01.9 +1.4
0.4nm,0.5s,baz=269,slow=9.0,SNR=2.5
TORD Torodi Ar. Bea 135.29 304 PKP **PKiKP 17 48 34.1 0.0**
0.5nm,0.7s,baz=38,slow=2.5,SNR=3.5

SJA ***14*** *17:44:50.1±0.8,32.˚25S×72.˚16W,h4km±5km,ML4.6, MW4.3*
IDC ***14*** *17:44:54.2±0.8,32.˚15S×71.˚56W,h0km,mb4.1/6, mb1 4.1/11,mb1mx4.0/29,mbtmp4.0/11,ML3.9/5,MS4.1/24, Ms1 4.1/24,ms1mx3.9/53,Error ellipse: s-maj=33.0km s-min=16.8km az=103.0*
NEIC ***14*** *17:44:55.4±1.6,32.˚13S±0.˚03×71.˚79W±0.˚06,h18km±3km, mb4.4/8,Mwr4.6/58,ML4.5(GUC),Error ellipse: s-maj=7.1km s-min=3.8km az=69.0*
NEIC ***14*** *17:44:55.4,32.˚13S×71.˚79W,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=2.25; Mθθ=1.06; Mϕϕ 3.31; Mrθ=0.91; Mrϕ=5.37; Mθr=7.82; Fault plane solution: Mo9.97000×10¹⁵ NP1:ϕs356.09000°, δ81.98000°,λ=124.35000°. NP2:ϕs254.55000°, δ35.16000°,λ=14.02000°. Principal axes: T 10.2496, Plg29.0000°, Azm113.0000°; N -0.5897, Plg34.0000°, Azm2.0000°; P -9.6599, Plg43.0000°, Azm233.0000°;*
VAO ***14*** *17:44:57.1±0.5,32.˚18S×71.˚77W,h10km,mb4.4*
GUC ***14*** *17:44:57.1±0.8,32.˚17S×71.˚83W,h39km±2km,ML4.5*
ISC 14 17:44:53.4±1.1,**32.˚14S**±0.˚02×**71.˚83W**±0.˚03,**h0**km±7km, **n193,**σ1°**39**/215,**mb4.3**/6,**MS4.2**/24,**11C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA06	**Catapilco**	**0.62**	**134**	Pg		**Pg**	**17 45 06.6**	**+1.4**
VA06				Pn		**Pn**	**17 45 08.9**	**-0.5**
VA06						**Sb**	**17 45 15.8**	**-0.5**
VA06	**Catapilco**	**0.62**	**134**	⇑*iP*		**Pn**	**17 45 09.0**	**-0.5**
VA06					IAML		17 45 20.0	
comp=E,40μm,0.6s								
VA01	**Torpederas**	**0.90**	**170**	Pg		**Pg**	**17 45 11.1**	**+0.5**
VA01				Pn		**Pn**	**17 45 13.0**	**-0.2**
VA01	**Torpederas**	**0.90**	**170**	*eP*		**Pb**	**17 45 12.2**	**+0.3**
VA01					IAML		17 45 27.5	
comp=E,10μm,0.3s								
ROCH	**El Roble**	**1.08**	**141**	⇑*iP*		**Pn**	**17 45 16.5**	**+0.4**
ROCH				⇑*iP*		**Pg**	**17 45 14.1**	**-0.1**
ROCH				*i* S		**Sn**	**17 45 31.0**	**-0.9**
ROCH					IAML		17 45 32.8	
comp=N,19μm,0.3s								
ROCH					IAML		17 45 35.2	
comp=N,31μm,0.3s								
ROC1	**El Roble**	**1.08**	**141**			**Pg**	**17 45 14.3**	**+0.1**
ROC1				Sn		**Sg**	**17 45 28.3**	**+0.1**
ROC1	**El Roble**	**1.08**	**141**	*eP*		**Pg**	**17 45 13.3**	**-0.8**
ROC1				*eS*		**Sg**	**17 45 28.9**	**+0.7**
CO02	**Combarbal**	**1.17**	**37**	Pn		**Pg**	**17 45 15.7**	**-0.1**
CO02				Pg		**Pn**	**17 45 18.2**	**+1.2**
CO02	**Combarbal**	**1.17**	**37**	⇓*iP*		**Pn**	**17 45 18.1**	**+1.0**
CO02				*i* S		**Sn**	**17 45 34.0**	**+0.3**
CO02	**Combarbal**	**1.17**	**37**	*eP*		**Pn**	**17 45 18.0**	**+1.0**
CO02					IAML		17 45 40.0	
comp=Z,6μm,0.3s								
VA03	**San Esteban**	**1.25**	**120**	Pn		**Pb**	**17 45 16.7**	**-1.2**
VA03						**Pn**	**17 45 19.1**	**+0.8**
VA03	**San Esteban**	**1.25**	**120**	⇑*iP*		**Pn**	**17 45 19.0**	**+0.8**
VA03				*i* S		**Sn**	**17 45 35.4**	**-0.3**
VA03					IAML		17 45 38.5	
comp=E,42μm,0.3s								
VA03	**San Esteban**	**1.25**	**120**	*eP*		**Pn**	**17 45 18.9**	**+0.8**
VA03					IAML		17 45 42.6	
comp=Z,10μm,0.3s								
MT02	**Curacav**	**1.26**	**153**	Pn		**Pn**	**17 45 16.7**	**-1.6**
MT02				Pg		**Pg**	**17 45 19.5**	**+1.9**
MT02	**Curacav**	**1.26**	**153**	⇑*iP*		**Pg**	**17 45 19.1**	**+1.5**
MT02				*i* S		**Sg**	**17 45 35.0**	**+1.0**
MT02	**Curacav**	**1.26**	**153**	*eP*		**Pn**	**17 45 16.0**	**-2.3**
MT02					IAML		17 45 37.0	
comp=Z,7μm,0.6s								
PEL	**Peldehue**	**1.39**	**137**	Pn		**Pn**	**17 45 19.0**	**-1.1**
PEL						**Pg**	**17 45 21.5**	**+1.4**
PEL	**Peldehue**	**1.39**	**137**	⇑*iP*		**Pg**	**17 45 21.3**	**+1.2**
PEL				*i* S		**Sg**	**17 45 39.4**	**+1.2**
PEL					IAML		17 45 43.2	
comp=N,7μm,0.4s								
PEL	**Peldehue**	**1.39**	**137**	*eP*		**Pn**	**17 45 19.3**	**-0.8**
PEL				*eS*		**Sg**	**17 45 41.6**	**+3.4**
CO06	**Fray Jorge**	**1.47**	**6**	Pn		**Pn**	**17 45 19.6**	**-1.5**
CO06						**Pg**	**17 45 22.2**	**+0.7**
CO06	**Fray Jorge**	**1.47**	**6**	*eP*		**Pg**	**17 45 23.3**	**+1.7**
VA05	**Santo Domingo**	**1.53**	**173**	Pn		**Pn**	**17 45 21.4**	**-0.6**
VA05						**Pb**	**17 45 22.7**	**+0.2**
VA05	**Santo Domingo**	**1.53**	**173**	*eP*		**Pb**	**17 45 22.8**	**+0.2**
VA05				*i* S		**Sg**	**17 45 44.1**	**+1.6**
VA05					IAML		17 45 49.3	
comp=E,25μm,0.4s								
MT05	**Renca**	**1.55**	**144**	Pn		**Pn**	**17 45 21.9**	**-0.4**
MT05						**Pg**	**17 45 24.2**	**+1.0**
MT05	**Renca**	**1.55**	**144**	⇑*iP*		**Pg**	**17 45 23.8**	**+0.6**
MT05				*i* S		**Sb**	**17 45 43.5**	**+0.2**
MT05					IAML		17 45 47.4	
comp=E,19μm,0.1s								
MT05	**Renca**	**1.55**	**144**	*eP*		Pn	17 45 16.5	-5.9
MT05				*eP*		**Pb**	**17 45 21.5**	**-1.5**
MT05					IAML		17 46 02.4	
comp=Z,6μm,0.9s								
MT03	**Universidad Ad**	**1.75**	**141**	Pn		**Pn**	**17 45 24.6**	**-0.5**
MT03						**Pb**	**17 45 27.0**	**+0.5**
MT03	**Universidad Ad**	**1.75**	**141**	*eP*		**Pb**	**17 45 26.9**	**+0.5**
MT03				*i* S		**Sg**	**17 45 50.1**	**+0.5**
MT03					IAML		17 45 52.2	
comp=N,9μm,0.2s								
MT03	**Universidad Ad**	**1.75**	**141**	*eP*		**Pn**	**17 45 24.9**	**-0.2**
MT03					IAML		17 46 02.9	
comp=Z,8μm,0.9s								
FCH	**Farellones**	**1.76**	**133**	⇑*iP*		**Pb**	**17 45 27.0**	**+0.3**
FCH				*i* S		**Sg**	**17 45 49.8**	**-0.1**
MT09	**Talagante**	**1.78**	**157**	Pn		**Pn**	**17 45 25.2**	**-0.4**
MT09						**Pb**	**17 45 27.6**	**+0.5**
MT09	**Talagante**	**1.78**	**157**	⇑*iP*		**Pb**	**17 45 27.6**	**+0.6**
MT09				*i* S		**Sn**	**17 45 49.0**	**0.0**
MT09					IAML		17 45 56.0	
comp=E,7μm,0.4s								
MT01	**Popeta**	**1.79**	**164**	Pn		**Pn**	**17 45 24.8**	**-0.8**
MT01						**Pb**	**17 45 27.2**	**+0.2**
MT01	**Popeta**	**1.79**	**164**	*eP*		**Pb**	**17 45 27.0**	**-0.1**
MT01					IAML		17 45 56.1	
comp=E,10μm,0.8s								
MT01	**Popeta**	**1.79**	**164**	*eP*		**Pn**	**17 45 24.1**	**-1.5**
MT01					IAML		17 45 56.6	
comp=Z,7μm,0.6s								
AUSP	**Uspallata**	**2.07**	**93**	*eP*		**Pb**	**17 45 32.1**	**+0.1**
AUSP				*eS*		**Sg**	**17 46 01.4**	**+1.4**
BO04	**La Punta**	**2.11**	**151**	Pn		**Pn**	**17 45 29.6**	**-0.5**
BO04						**Pb**	**17 45 32.3**	**-0.3**
BO04	**La Punta**	**2.11**	**151**	⇑*iP*		**Pb**	**17 45 32.3**	**-0.3**
BO04				*i* S		**Sb**	**17 45 58.6**	**-0.8**
GO04	**Tololo Observa**	**2.15**	**24**	Pn		**Pn**	**17 45 30.9**	**+0.2**
GO04						**Pb**	**17 45 32.5**	**-0.7**
GO04	**Tololo Observa**	**2.15**	**24**	*eP*		**Pb**	**17 45 34.1**	**+0.8**
GO04				*i* S		**Sg**	**17 46 02.1**	**-0.3**
GO04	**Tololo Observa**	**2.15**	**24**	*eP*		**Pb**	**17 45 32.4**	**-0.9**
GO04				*eS*		**Sb**	**17 46 00.5**	**-0.1**
RTLS	**Leoncito**	**2.18**	**82**	*eP*		**Pb**	**17 45 34.2**	**+0.3**
RTLS				*eS*		**Sb**	**17 46 01.5**	**0.0**
RTLS					IAML		17 46 07.4	
comp=Z,2μm,0.3s								
LMEL	**Las Melosas**	**2.19**	**142**	Pn		**Pn**	**17 45 30.9**	**-0.2**
LMEL						**Pb**	**17 45 33.9**	**0.0**
LMEL	**Las Melosas**	**2.19**	**142**	⇑*eP*		**Pb**	**17 45 33.4**	**-0.5**
LMEL					IAML		17 46 08.1	
CO05	**La Serena**	**2.27**	**13**			**Pb**	**17 45 35.7**	**+0.5**
CO05	**La Serena**	**2.27**	**13**	*eP*		**Pb**	**17 45 35.6**	**+0.5**
CO05					IAML		17 46 15.3	
comp=N,3μm,0.5s								
BO01	**Tunca**	**2.33**	**165**			**Pb**	**17 45 35.4**	**-1.0**
BO01	**Tunca**	**2.33**	**165**	*eP*		**Pn**	**17 45 34.4**	**+1.4**
BO01				*i* S		**Sn**	**17 46 02.6**	**+0.2**
BO01					IAML		17 46 14.4	
comp=E,2μm,0.7s								
BO01	**Tunca**	**2.33**	**165**	*eP*		**Pn**	**17 45 32.7**	**-0.3**
BO01				*eS*		**Sb**	**17 46 04.0**	**-1.7**
BO01					IAML		17 46 09.3	
comp=Z,3μm,2.2s								
BO03	**Pichilemu**	**2.36**	**183**	⇓*iP*		**Pn**	**17 45 33.3**	**0.0**
ARCO	**CERRO ARCO**	**2.54**	**107**	*eP*		Pn	17 45 19.0	-17
ARCO				*eS*		**Sb**	**17 46 11.5**	**-0.5**
ARCO					IAML		17 46 18.6	
comp=Z,2μm,1.8s								
ASAL	**Salagasta**	**2.57**	**101**	*eP*		**Pb**	**17 45 40.7**	**+0.2**
ASAL				*eS*		**Sb**	**17 46 13.5**	**+0.8**
CO01	**Juntas del Tor**	**2.62**	**35**			**Pb**	**17 45 41.8**	**+0.5**
CO01	**Juntas del Tor**	**2.62**	**35**	*eP*		**Pb**	**17 45 39.6**	**-1.7**
CO01				*i* S		**Sb**	**17 46 11.6**	**-2.5**
CO01					IAML		17 46 19.4	
comp=N,3μm,0.8s								
CO01	**Juntas del Tor**	**2.62**	**35**	*eP*		**Pb**	**17 45 39.7**	**-1.6**
CO01				*eS*		**Sg**	**17 46 16.6**	**-0.9**
CO01					IAML		17 46 18.5	
comp=Z,1μm,0.2s								
AAGR	**Agrelo**	**2.70**	**111**	*eP*		**Pb**	**17 45 41.9**	**-0.8**
AAGR				*eS*		**Sg**	**17 46 25.0**	**+4.8**
AAGR				*eS*		Sb	17 46 30.2	+14
ZON	**Zonda**	**2.74**	**78**			**Pb**	**17 45 44.3**	**+1.0**
ZON	**Zonda**	**2.74**	**78**	*eP*		**Pb**	**17 45 43.6**	**+0.2**
ZON				*eS*		**Sg**	**17 46 26.8**	**+5.2**
ZON					IAML		17 46 39.1	
comp=Z,910nm,1.8s								
BO02	**Sierra Bellavi**	**2.79**	**162**			**Pn**	**17 45 38.6**	**-0.7**
BO02						**Pb**	**17 45 43.0**	**-1.1**
BO02	**Sierra Bellavi**	**2.79**	**162**	*eP*		**Pn**	**17 45 41.0**	**+1.7**
BO02					IAML		17 46 29.4	
comp=N,5μm,0.1s								
BO02	**Sierra Bellavi**	**2.79**	**162**	*eP*		**Pn**	**17 45 38.8**	**-0.5**
BO02				*eS*		**Sb**	**17 46 16.5**	**-2.4**
BO02					IAML		17 46 25.2	
comp=Z,3μm,1.1s								
RTCV	**Cerro Valdivia**	**2.81**	**85**	*eP*		**Pb**	**17 45 44.7**	**+0.3**
RTCV				*eS*		**Sg**	**17 46 23.8**	**+0.2**
AROD	**Rodeo**	**2.81**	**46**	*eP*		**Pb**	**17 45 45.8**	**+1.0**
AROD				*eS*		**Sg**	**17 46 25.0**	**+1.1**
ACCO	**Cerro Coronel**	**2.82**	**58**	*eP*		**Pb**	**17 45 44.1**	**-0.7**
ACCO				*eS*		**Sg**	**17 46 25.4**	**+1.3**
GO05	**Huala**	**2.87**	**182**	Pn		**Pn**	**17 45 40.2**	**-0.2**
GO05						**Pb**	**17 45 46.5**	**+1.1**
GO05	**Huala**	**2.87**	**182**	*eP*		**Pn**	**17 45 40.5**	**+0.1**
GO05					IAML		17 46 38.3	
comp=E,1μm,0.5s								
RTLL	**Cerro Villicun**	**2.97**	**75**	*eP*		**Pb**	**17 45 46.3**	**-0.9**
RTLL				*eS*		**Sb**	**17 46 23.5**	**-0.5**
ACDV	**Cuesta del Vie**	**3.04**	**51**	*eP*		**Pb**	**17 45 46.5**	**-2.0**
ACDV				*eS*		**Sg**	**17 46 32.8**	**+1.8**
ACDV					IAML		17 46 44.2	
comp=Z,827nm,1.0s								
LCO	**Las Campanas**	**3.26**	**18**			**Pn**	**17 45 45.5**	**-0.5**
LCO	**Las Campanas**	**3.26**	**18**	*eP*		**Pn**	**17 45 47.5**	**+1.4**
LCO				*i* S		**Sn**	**17 46 27.2**	**+1.5**
LCO	**Las Campanas**	**3.26**	**18**	*eP*		**Pn**	**17 45 47.3**	**+1.3**
COIS	**El Sosneado**	**3.50**	**148**	*eP*		**Pn**	**17 45 47.5**	**-1.6**
ML02	**Panimavida**	**3.63**	**175**			**Pn**	**17 45 50.9**	**0.0**
RFA	**San Rafael**	**3.85**	**134**	*eP*		**Pn**	**17 45 52.0**	**-1.9**
RFA				*eP*		Pb	17 45 57.6	-4.6
RFA				*eS*		**Sg**	**17 46 55.0**	**-2.0**
RFA					IAML		17 47 00.6	
comp=Z,673nm,1.7s								
AC04	**Llanos de Chal**	**3.97**	**10**			**Pb**	**17 46 03.6**	**-0.7**
AVFE	**Valle Fertil**	**4.02**	**70**	*eP*		Pb	17 46 00.7	-4.3
AVFE				*eS*		**Sb**	**17 46 52.0**	**-2.3**
AVFE					IAML		17 47 03.4	
comp=Z,690nm,2.3s								
VCA	**Vinchina**	**4.61**	**44**	*eP*		**Pn**	**17 46 08.6**	**+4.1**
VCA				*eS*		**Sb**	**17 47 10.5**	**-0.9**
VCA				*eS*		Sg	17 47 11.5	-10
VCA					IAML		17 47 32.9	
comp=Z,825nm,0.9s								
GO03	**Copiap**	**4.73**	**17**			**Pn**	**17 46 06.3**	**+0.2**
GO03	**Copiap**	**4.73**	**17**	*eP*		**Pn**	**17 46 07.4**	**+1.3**
GO03				*eS*		**Sb**	**17 47 10.5**	**-4.4**
BI05	**Punta Hualpn**	**4.74**	**193**			**Pn**	**17 46 05.2**	**-0.8**
BI05	**Punta Hualpn**	**4.74**	**193**	*eP*		**Pn**	**17 46 05.7**	**-0.4**
AC06	**Mina Casimiro**	**4.93**	**15**	Pn		**Pn**	**17 46 08.4**	**-0.4**
AC02	**Maricunga**	**5.78**	**25**	Pn		**Pn**	**17 46 19.8**	**-1.1**
AC01	**Pan de Azucar**	**6.06**	**11**	Pn		**Pn**	**17 46 23.8**	**-0.6**
H03N1	**Juan Fernandez**	**6.11**	**256**	T		T	17 52 58.2	
baz=84,slow=73,SNR=1449								
H03N3	**Juan Fernandez**	**6.12**	**256**	T		T	17 52 58.5	
baz=84,slow=73,SNR=1190								
H03N2	**Juan Fernandez**	**6.12**	**256**	T		T	17 52 59.6	
baz=84,slow=73,SNR=972								
H03S3	**Juan Fernandez**	**6.19**	**252**	T		T	17 53 05.7	
baz=75,SNR=82								
H03S1	**Juan Fernandez**	**6.19**	**252**	T		T	17 52 60.0	
baz=75,SNR=69								
H03S2	**Juan Fernandez**	**6.20**	**252**	T		T	17 53 04.7	
baz=75,SNR=161								
LC01	**Cunco**	**6.75**	**180**			**Pn**	**17 46 33.4**	**-0.3**
GO02	**Mina Guanaco**	**7.22**	**16**	Pn		**Pn**	**17 46 40.5**	**+0.1**
PLCA	**Paso Flores**	**8.64**	**174**	Pn		**Pn**	**17 47 00.7**	**+1.0**
comp=Z,1.5nm,0.3s,baz=335,slow=12,SNR=19								
PLCA						Lg	Lg	17 49 18.0
comp=Z,0.4nm,0.3s,baz=245,slow=22,SNR=1.5								
PLCA						LR	LR	17 51 00.5
comp=Z,579nm,20.0s,baz=352,slow=43								
PLCA	**Paso Flores**	**8.64**	**174**			**Pn**	**17 47 00.3**	**+0.6**
PLCA	**Paso Flores**	**8.64**	**174**	*eP*		**Pn**	**17 47 01.2**	**+1.5**
PB10	**IPOC Station P**	**8.66**	**8**	Pn		**Pn**	**17 47 00.1**	**+0.1**
LL04	**Puerto Octay**	**8.77**	**183**	Pn		**Pn**	**17 47 01.0**	**-0.4**
PB15	**IPOC Station P**	**9.13**	**14**	Pn		**Pn**	**17 47 06.0**	**-0.7**
PB06	**IPOC Station P**	**9.60**	**13**	Pn		**Pn**	**17 47 10.8**	**-2.2**
LVC	**Limon Verde**	**9.84**	**16**	Pn		**Pn**	**17 47 15.3**	**-1.2**
comp=Z,0.5nm,0.3s,baz=314,slow=16,SNR=1.9								
LVC						LR	LR	17 51 33.0
comp=Z,197nm,19.3s,baz=208,slow=41								
LVC	**Limon Verde**	**9.84**	**16**	Pn		**Pn**	**17 47 14.2**	**-2.2**
LVC	**Limon Verde**	**9.84**	**16**	*eP*		**Pn**	**17 47 18.6**	**+2.2**
PB09	**IPOC Station P**	**10.55**	**13**	Pn		**Pn**	**17 47 25.8**	**-0.3**
PB01	**IPOC Station P**	**11.24**	**11**	Pn		**Pn**	**17 47 34.3**	**-1.2**
PB11	**IPOC Station P**	**12.48**	**10**	Pn		**Pn**	**17 47 52.1**	**-0.3**
ITQB	**Itaqui**	**13.28**	**83**	*eP*		**Pn**	**17 48 03.3**	**+0.1**
CPUP	**Villa Florida**	**13.91**	**69**	Pn		**Pn**	**17 48 09.6**	**-2.3**
comp=Z,0.1nm,0.3s,baz=207,slow=19,SNR=1.6								
CPUP						Sn	**Sn**	**17 50 43.2**	**-3.9**
comp=Z,0.3nm,0.3s,baz=268,slow=15,SNR=1.9								
CPUP						Lg	Lg	17 52 16.1
comp=Z,0.5nm,0.3s,baz=162,slow=3.5,SNR=3.7								
CPUP						LR	LR	17 53 27.2
comp=Z,340nm,21.0s,baz=247,slow=37								
CPUP	**Villa Florida**	**13.91**	**69**	*eP*		**Pn**	**17 48 12.6**	**+0.8**
PLTB	**Pedras Altas**	**15.48**	**93**	*eP*		**Pn**	**17 48 34.3**	**+1.2**
CPSB	**Cacapava Do Su**	**15.82**	**89**	*eP*		**Pn**	**17 48 38.3**	**+0.8**
LPAZ	**La Paz**	**16.13**	**13**	Pn		**P**	**17 48 44.4**	**-1.2**
comp=Z,0.3nm,0.3s,baz=196,slow=5.7,SNR=2.4								
LPAZ	**La Paz**	**16.13**	**13**			**P**	**17 48 43.8**	**-1.8**
LPAZ	**La Paz**	**16.13**	**13**	*eP*		**P**	**17 48 44.4**	**-1.2**
ITAB	**Concordia**	**17.79**	**79**	*eP*		**P**	**17 49 03.6**	**+0.2**
AQDB	**Aquidauana**	**18.52**	**55**	P		**P**	**17 49 09.4**	**-1.9**
AQDB					IAmb	IAmb	17 49 23.2	
comp=Z,16nm,1.3s								
AQDB	**Aquidauana**	**18.52**	**55**	*eP*		**Pn**	**17 49 12.7**	**+1.2**
SIV	**San Ignacio**	**18.81**	**34**	P		**P**	**17 49 14.6**	**-0.1**
comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=4.7								
SIV						LR	LR	17 57 08.7
comp=Z,304nm,19.8s,baz=226,slow=39								
PTGB	**Pitanga**	**18.87**	**72**	*eP*		**Pn**	**17 49 16.4**	**+0.5**
PTLB	**Pontes e Lacer**	**20.24**	**38**	*eP*		**P**	**17 49 30.5**	**+0.3**
NNA	**Nana**	**20.58**	**346**	LR		LR	17 56 17.5	
comp=Z,260nm,18.1s,baz=162,slow=33								
PP1B	**Ponte de Pedra**	**21.07**	**51**	*eP*		**P**	**17 49 40.5**	**+1.2**
PCMB	**Pacaembu**	**21.09**	**65**	*eP*		**P**	**17 49 41.2**	**+1.7**
FRTB	**Fartura**	**21.53**	**72**	*eP*		**P**	**17 49 44.5**	**+0.2**
SALV	**Santo Antonio**	**21.82**	**46**	*eP*		**P**	**17 49 48.6**	**+1.2**
VILB	**Vilhena**	**21.87**	**32**	*eP*		**P**	**17 49 48.7**	**+0.8**
ETMB	**Extrema**	**22.81**	**14**	*eP*		**P**	**17 50 00.5**	**+2.6**
USHA	**Ushuaia**	**22.82**	**175**	P		**P**	**17 49 58.9**	**+1.2**
comp=Z,13nm,1.1s,baz=0.0,slow=8.1,SNR=3.0								
ITRB	**Iturama**	**22.88**	**62**	*eP*		**P**	**17 50 01.3**	**+2.6**
BB19B	**Bebedouro**	**23.52**	**68**	*eP*		**P**	**17 50 06.1**	**+0.8**
IPMB	**Ipameri, GO**	**25.54**	**62**	*eP*		**P**	**17 50 24.8**	**+0.8**
CLDB	**Colider**	**25.82**	**39**	*eP*		**P**	**17 50 26.6**	**+0.1**
BDFB	**Brasilia**	**27.17**	**58**	P		**P**	**17 50 38.1**	**-0.7**
comp=Z,6.3nm,1.0s,baz=231,slow=5.7,SNR=5.2								
BDFB						LR	LR	18 03 00.7
comp=Z,682nm,18.9s,baz=232,slow=40								
BDFB	**Brasilia**	**27.17**	**58**	P		**P**	**17 50 36.2**	**-2.7**
BDFB	**Brasilia**	**27.17**	**58**	*eP*		**P**	**17 50 39.4**	**+0.6**
NPGB	**Novo Progresso**	**29.30**	**35**	*eP*		**P**	**17 50 59.4**	**+1.6**
MACA	**Manacapuru-AM**	**30.67**	**22**	*eP*		**P**	**17 51 12.8**	**+3.0**
ITTB	**Itaituba**	**31.48**	**32**	*eP*		**P**	**17 51 18.7**	**+1.8**
SMTB	**Santa Maria do**	**32.27**	**49**	*eP*		**P**	**17 51 26.0**	**+2.0**
RPN	**Rapa Nui**	**32.87**	**269**	LR		LR	18 00 54.0	
comp=Z,341nm,19.3s,baz=120,slow=29								
PRPB	**Parauapebas**	**33.01**	**43**	*eP*		**P**	**17 51 31.8**	**+1.4**
PMSA	**Palmer Station**	**33.02**	**174**	LR		LR	18 03 37.1	
comp=Z,383nm,19.0s,baz=268,slow=34								
PMSA	**Palmer Station**	**33.02**	**174**	*eP*		**P**	**17 51 30.9**	**+1.0**
CMC01	**Camacan, BA**	**33.79**	**68**	*eP*		**P**	**17 51 38.0**	**+0.8**
BOAV	**Boa Vista**	**35.98**	**19**	*eP*		**P**	**17 51 57.4**	**+1.4**
NBPN	**Ponto Novo - B**	**36.04**	**61**	*eP*		**P**	**17 51 58.4**	**+1.7**
MCPB	**Macapa, AP**	**36.71**	**34**	*eP*		**P**	**17 52 03.6**	**+1.2**
NBLA	**Lagarto - SE**	**37.76**	**64**	*eP*		**P**	**17 52 12.0**	**+0.7**
NBPB	**Pedra_Branca-C**	**40.09**	**56**	*eP*		**P**	**17 52 30.7**	**-0.1**
MDP	**Montagnes des**	**41.29**	**30**	LR		LR	18 11 38.6	
comp=Z,317nm,19.2s,baz=208,slow=39								
RCBR	**Riachuelo**	**42.53**	**60**	LR		LR	18 12 21.1	
comp=Z,343nm,20.8s,baz=353,slow=39								
VNA3	**Neumayer Olymp**	**51.02**	**158**	P		**P**	**17 53 54.5**	**-2.2**
VNA1	**Neumayer--Stat**	**51.32**	**158**	P		**P**	**17 53 56.2**	**-2.7**
VNA2	**Neumayer--Watz**	**51.66**	**158**	P		**P**	**17 53 57.9**	**-3.6**
baz=283,slow=8.0								
SNAA	**Sanae**	**53.24**	**158**	P		**P**	**17 54 12.6**	**-0.7**

mb1 4.1/10,mb1mx3.8/32,mbtmp4.0/10,ML3.7/2,MS3.4/2, Ms1 3.4/2,ms1mx2.8/78 Error ellipse: s-maj=54.9km s-min=14.9km az=45.0

DJA ***14*** *18:15:13.2±0.3,10°S±3°×11°3E±°,h10km,M4.4/22, mb4.6/6,mB4.9/1,MLv4.3/22,Mw(mB)4.2/1*

NEIC ***14*** *18:15:14.1±2.4,9°54S±0°09×112°95E±0°06,h40km±9km, mb4.1/22,Error ellipse: s-maj=12.5km s-min=9.1km az=170.0*

ISC 14 18:15:13.8±0.5,**9°61S**±0°06×**112°91E**±0°04,**h36**km,**n74,** σ2⅋**06**/76,**mb4.1**/18,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.43**	**22**	P	**Pn**	**18 15 37.5**	**+0.3**
JAGI	**Jajag, Banyuwa**	**1.67**	**48**	Pn	**Pn**	**18 15 40.5**	**0.0**
JAGI				Sn	**Sn**	**18 15 55.0**	**-5.7**
JAGI	**Jajag, Banyuwa**	**1.67**	**48**	P	**Pn**	**18 15 41.5**	**+1.0**
JAGI				S	**Sn**	**18 16 02.0**	**+1.3**
JAGI	**Jajag, Banyuwa**	**1.67**	**48**	P	**Pn**	**18 15 42.5**	**+2.0**
PWJI	**Pagerwojo**	**1.92**	**325**	P	**Pn**	**18 15 44.9**	**+1.0**
BLJI	**Banyuglugur**	**1.97**	**20**	P	**Pn**	**18 15 47.7**	**+3.0**
PCJI	**Pacitan**	**2.21**	**309**	P	**Pn**	**18 15 49.4**	**+1.4**
ABJI	**Asem Bagus**	**2.23**	**36**	P	**Pn**	**18 15 51.6**	**+3.4**
ABJI				S	**Sn**	**18 16 20.0**	**+5.5**
IGBI	**Denpasar**	**2.35**	**71**	P	**Pn**	**18 15 52.4**	**+2.6**
DNP	**Denpasar**	**2.46**	**68**	P	**Pn**	**18 15 54.4**	**+3.1**
GRJI	**Gresik**	**2.71**	**351**	P	**Pn**	**18 15 55.7**	**+0.9**
SRBI	**Singaraja**	**2.73**	**57**	P	**Pn**	**18 15 57.1**	**+1.9**
KMMI	**Kalianget**	**2.75**	**23**	P	**Pn**	**18 15 57.6**	**+2.2**
UGM	**Wanagama**	**2.90**	**305**	Pn	**Pn**	**18 15 59.0**	**+1.6**
UGM	**Wanagama**	**2.90**	**305**	P	**Pn**	**18 15 58.9**	**+1.5**
UGM	**Wanagama**	**2.90**	**305**	P	**Pn**	**18 15 59.6**	**+2.2**
TBJI	**Tambak Boyo**	**2.96**	**339**	P	**Pn**	**18 15 59.6**	**+1.3**
SMRI	**Semarang**	**3.52**	**316**	Pn	**Pn**	**18 16 04.8**	**-1.3**
SMRI	**Semarang**	**3.52**	**316**	P	**Pn**	**18 16 08.2**	**+2.2**
BWJI	**Bawean**	**3.74**	**356**	P	**Pn**	**18 16 10.3**	**+1.3**
KPJI	**Karang Pucung**	**4.54**	**300**	P	**Pn**	**18 16 21.9**	**+2.0**
CMJI	**Cimerak**	**4.76**	**292**	P	**Pn**	**18 16 25.2**	**+2.1**
PLAI	**Plampang**	**4.87**	**81**	P	**Pn**	**18 16 27.9**	**+3.4**
PLAI	**Plampang**	**4.87**	**81**	P	**Pn**	**18 16 28.0**	**+3.4**
LEM	**Lembang**	**5.92**	**297**	Pn	**Pn**	**18 16 40.2**	**+1.1**
	2.0nm,0.3s,baz=156,slow=20,SNR=2.2						
LEM				Sn	**Sn**	**18 17 51.5**	**+5.7**
	2.9nm,0.3s,baz=325,slow=22,SNR=1.8						
CNJI	**Cibinong**	**6.15**	**291**	P	**Pn**	**18 16 44.9**	**+2.7**
	0.2nm38nm,1.3s						
WBSI	**Waikabubak, Su**	**6.39**	**91**	P	**Pn**	**18 16 48.6**	**+3.0**
	0.2nm27nm,1.3s						
BBKI	**Banjar Baru**	**6.40**	**18**	P	**Pn**	**18 16 47.3**	**+1.7**
	0.3nm935nm23nm,0.8s						
XMIS	**Christmas Isla**	**7.20**	**262**	Pn	**Pn**	**18 16 55.7**	**-0.9**
XMIS	**Christmas Isla**	**7.20**	**262**	P	**Pn**	**18 16 56.3**	**-0.3**
CGJI	**Cibinong**	**7.74**	**292**	P	**Pn**	**18 17 05.7**	**+1.8**
	0.1nm28nm,0.5s						
KAPI	**Kappang**	**8.18**	**57**	LR	LR	18 20 39.8	
	comp=Z,161nm,21.1s,baz=277,slow=43						
MNAI	**Manna**	**11.16**	**297**	Pn	**Pn**	**18 17 51.9**	**+0.9**
GIRL	**Giralia**	**13.03**	**175**	Pn	**Pn**	**18 18 15.5**	**-0.9**
GIRL	**Giralia**	**13.03**	**175**	P	**Pn**	**18 18 16.1**	**-0.3**
TOLI2	**Tolitoli**	**13.22**	**37**	P	**Pn**	**18 18 22.6**	**+3.5**
FITZ	**Fitzroy Crossi**	**14.96**	**126**	Pn	**Pn**	**18 18 41.8**	**-0.9**
	0.2nm,0.3s,baz=308,slow=8.4,SNR=14						
FITZ				Sn	Sn	18 21 15.2	-12
	0.1nm,0.3s,baz=350,slow=18,SNR=1.8						
KNRA	**Kununurra**	**16.60**	**113**	P	**P**	**18 19 05.5**	**-0.5**
KNRA	**Kununurra**	**16.60**	**113**	P	**P**	**18 19 06.4**	**+0.3**
MEEK	**Meekatharra**	**17.78**	**163**	P	**P**	**18 19 19.1**	**0.0**
MTN	**Manton Dam**	**18.16**	**102**	P	**Pn**	**18 19 22.1**	**-1.2**
DAV	**Davao City (W)**	**20.83**	**38**	LR	LR	18 28 52.2	
	comp=Z,152nm,20.1s,baz=63,slow=40						
WRKA	**Warakurna**	**21.21**	**138**	P	**P**	**18 19 59.5**	**+2.9**
WB0	**Warramunga Arr**	**23.08**	**118**	P	**P**	**18 20 16.2**	**-0.3**
WB0				IAmb	IAmb	18 20 26.0	
	comp=Z,8.4nm,1.3s						
WRA	**Warramunga Arr**	**23.10**	**119**	P	**P**	**18 20 17.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=291,slow=11,SNR=8.0						
WB2	**Warramunga Arr**	**23.11**	**119**	P	**P**	**18 20 17.0**	**+0.2**
WB2				IAmb	IAmb	18 20 29.5	
	comp=Z,9.6nm,1.4s						
WR0	**Warramunga Arr**	**23.28**	**119**	P	**P**	**18 20 18.5**	**0.0**
WR0				IAmb	IAmb	18 20 21.0	
	comp=Z,7.7nm,1.3s						
ASAR	**Alice Springs**	**24.45**	**127**	P	**P**	**18 20 31.2**	**+1.8**
	comp=Z,2.2nm,0.7s,baz=305,slow=8.8,SNR=43						
AS31	**Alice Springs**	**24.45**	**127**	P	**P**	**18 20 31.1**	**+1.6**
RKGY	**Rocky Gully**	**25.16**	**172**	P	**P**	**18 20 37.0**	**+1.2**
FORT	**Forrest**	**25.36**	**148**	P	**P**	**18 20 39.9**	**+2.3**
OOD	**Oodnadatta**	**28.07**	**133**	P	**P**	**18 21 03.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**31.11**	**334**	P	**P**	**18 21 29.1**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=170,slow=8.1,SNR=14						
STKA	**Stephens Creek**	**34.60**	**134**	P	**P**	**18 22 01.1**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=267,slow=6.0,SNR=4.4						
SHL	**Shillong**	**40.51**	**330**	P	**P**	**18 22 49.0**	**-0.8**
JSU	**Suzuyama**	**44.20**	**22**	P	**P**	**18 23 16.8**	**-2.7**
ULN	**Ulaanbaatar**	**57.45**	**355**	P	**P**	**18 24 57.6**	**-1.6**
ULN				IAmb	IAmb	18 24 59.8	
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**57.48**	**355**	P	**P**	**18 24 58.2**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=168,slow=9.2,SNR=8.2						
SONM	**Songino Array**	**57.48**	**355**	P	**P**	**18 24 57.8**	**-1.5**
SONM				IAmb	IAmb	18 24 59.6	
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**62.44**	**337**	P	**P**	**18 25 32.6**	**-0.7**
	comp=Z,3.0nm,0.4s,baz=150,slow=7.5,SNR=64						
GAR	**Garm**	**62.50**	**324**	P	**P**	**18 25 32.4**	**-1.6**
GAR				IAmb	IAmb	18 25 33.3	
	comp=Z,2.4nm,0.7s						
MAKZ	**Makanchi**	**62.58**	**337**	P	**P**	**18 25 32.8**	**-1.4**
MAKZ				IAmb	IAmb	18 25 34.0	
	comp=Z,0.7nm,0.6s						
AAK	**Ala-Archa**	**62.72**	**329**	P	**P**	**18 25 34.7**	**-0.8**
AAK				IAmb	IAmb	18 25 36.5	
	comp=Z,2.5nm,1.1s						
KK31	**Karatay Array**	**65.13**	**327**	P	**P**	**18 25 49.0**	**-2.1**
KK31				IAmb	IAmb	18 25 52.2	
	comp=Z,1.1nm,0.8s						
KKAR	**Karatay Array**	**65.13**	**327**	P	**P**	**18 25 49.8**	**-1.4**
KKAR	**Karatay Array**	**65.13**	**327**	P	**P**	**18 25 48.9**	**-2.2**
KKAR				IAmb	IAmb	18 25 52.2	
	comp=Z,1.1nm,0.8s						
KURK	**Kurchatov**	**67.05**	**337**	P	**P**	**18 26 02.3**	**-0.9**
KURK				IAmb	IAmb	18 26 02.7	
	comp=Z,1.4nm,0.7s						
ZAA0	**Zalesovo Array**	**67.63**	**342**	P	**P**	**18 26 05.2**	**-1.6**
ZALV	**Zalesovo Beam**	**67.63**	**342**	P	**P**	**18 26 05.5**	**-1.3**
	comp=Z,2.0nm,0.4s,baz=150,slow=4.2,SNR=14						
ZALV	**Zalesovo Beam**	**67.63**	**342**		**P**	**18 26 05.1**	**-1.7**
GEYT	**Alibeck**	**69.63**	**316**	P	**P**	**18 26 19.3**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=120,slow=8.6,SNR=2.1						
GEYT	**Alibeck**	**69.63**	**316**	P	**P**	**18 26 18.8**	**-0.9**
GEYT				IAmb	IAmb	18 26 20.6	
	comp=Z,2.4nm,0.9s						
ABKAR	**Akbulak array**	**74.70**	**327**	P	**P**	**18 26 48.9**	**-0.8**
ABKAR	**Akbulak array**	**74.70**	**327**	P	**P**	**18 26 49.1**	**-0.6**
ABKAR				IAmb	IAmb	18 26 50.1	
	comp=Z,6.3nm,0.7s						

IDC ***14*** *18:20:54.2±3.4,8°79S×113°69E,h0km,mb3.6/4, mb1 3.6/5,mb1mx3.2/38,mbtmp3.6/5,ML2.8/1,Error ellipse: s-maj=201.8km s-min=25.9km az=52.0*

DJA ***14*** *18:20:59.0±1.4,10°S±8°×11°3E±°,h27km±19km,M3.5/11, MLv3.5/11*

ISC 14 18:20:57.1±1.0,**9°66S**±0°09×**112°82E**±0°05,**h35**km,**n16,** σ1⅋**69**/19,**mb3.8**/4,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.51**	**24**	P	**Pn**	**18 21 22.0**	**+0.3**
JAGI	**Jajag, Banyuwa**	**1.77**	**48**	P	**Pn**	**18 21 25.1**	**-0.2**
JAGI				S	**Sn**	**18 21 47.0**	**+0.4**
PWJI	**Pagerwojo**	**1.91**	**328**	P	**Pn**	**18 21 28.5**	**+1.3**
PWJI				S	**Sn**	**18 21 50.5**	**+0.5**
BLJI	**Banyuglugur**	**2.05**	**22**	P	**Pn**	**18 21 31.1**	**+2.0**
BLJI				S	**Sn**	**18 21 55.6**	**+2.1**
PCJI	**Pacitan**	**2.18**	**312**	P	**Pn**	**18 21 32.5**	**+1.7**
ABJI	**Asem Bagus**	**2.32**	**37**	P	**Pn**	**18 21 34.3**	**+1.5**
IGBI	**Denpasar**	**2.45**	**70**	P	**Pn**	**18 21 36.5**	**+2.0**
KMMI	**Kalianget**	**2.83**	**24**	P	**Pn**	**18 21 41.0**	**+1.2**
SRBI	**Singaraja**	**2.84**	**57**	P	**Pn**	**18 21 41.4**	**+1.5**
UGM	**Wanagama**	**2.85**	**307**	P	**Pn**	**18 21 42.7**	**+2.5**
PLAI	**Plampang**	**4.96**	**81**	P	**Pn**	**18 22 11.8**	**+2.6**
FITZ	**Fitzroy Crossi**	**15.01**	**125**	Pn	**Pn**	**18 24 26.1**	**-0.6**
	0.0nm,0.3s,baz=305,slow=12,SNR=1.5						
FITZ				Sn	Sn	18 27 00.6	-11
	0.0nm,0.3s,baz=84,slow=14,SNR=0.8						
ASAR	**Alice Springs**	**24.49**	**127**	P	**P**	**18 26 14.2**	**+0.9**
	0.3nm,0.7s,baz=311,slow=9.7,SNR=4.3						
SONM	**Songino Array**	**57.52**	**355**	P	**P**	**18 30 40.6**	**-2.4**
	0.6nm,0.8s,baz=157,slow=8.9,SNR=2.3						
MKAR	**Makanchi Array**	**62.45**	**337**	P	**P**	**18 31 16.1**	**-0.7**
	0.7nm,0.5s,baz=155,slow=7.7,SNR=14						
ZALV	**Zalesovo Beam**	**67.65**	**343**	P	**P**	**18 31 48.9**	**-1.5**
	0.5nm,0.4s,baz=151,slow=6.6,SNR=3.9						

IDC ***14*** *18:29:14.4±0.5,36°13N×141°81E,h0km,mb4.2/28, mb1 4.3/34,mb1mx4.3/43,mbtmp4.2/34,ML3.9/4,MS3.7/7, Ms1 3.7/7,ms1mx3.1/95,Error ellipse: s-maj=14.3km s-min=10.7km az=103.0*

MOS ***14*** *18:29:15.7±1.1,36°27N×141°96E,h21km,mb4.7/18,Error ellipse: s-maj=7.9km s-min=5.0km az=105.0*

NIED ***14*** *18:29:18.3,36°22N×141°80E,h55km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.71; Mθθ-0.15; Mφφ-1.57; Mrθ0.28; Mrφ-1.03; Mθφ2.34; Fault plane solution: M₀3.05000×10¹⁵ NP1: φs228.00000°,δ23.00000°,λ125.00000°. NP2: φs11.00000°,δ71.00000°,λ76.00000°.*

JMA ***14*** *18:29:18.2±0.3,36°22N×141°80E,h55km,M4.4*

JMA Felt I J1.

NEIC ***14*** *18:29:20.8±1.8,36°21N±0°06×141°70E±0°09,h36km±6km, mb4.6/59,Error ellipse: s-maj=11.3km s-min=7.6km az=114.0*

ISC 14 18:29:15.5±0.4,**36°13N**±0°03×**141°96E**±0°04,**h10**km,**n231,** σ1⅋**55**/241,**mb4.6**/86,**MS3.8**/13,**13C-6D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.99**	**245**	⇓P	**Pn**	**18 29 35.1**	**-0.3**
CHOJ				S	**Sn**	**18 29 48.2**	**-1.2**
JHYU	**Hitachinakayam**	**1.13**	**281**	⇓P	**Pg**	**18 29 36.0**	**-1.2**
JIHU	**Itakohorinouch**	**1.17**	**263**	P	**Pn**	**18 29 37.8**	**-0.1**
JHO	**Hitachi**	**1.22**	**294**	⇓P	**Pb**	**18 29 36.8**	**-1.8**
JYT	**Yasato**	**1.43**	**275**	Pn	**Pn**	**18 29 40.0**	**-1.4**
JFK	**Kawauchi**	**1.51**	**325**	⇓P	**Pn**	**18 29 41.2**	**-1.5**
BSO1	**Boso 1**	**1.67**	**209**	P	**Pb**	**18 29 45.4**	**-0.6**
BSO3	**Boso 3**	**1.77**	**222**	P	**Pb**	**18 29 46.9**	**-1.0**
JFT	**Otama**	**1.90**	**317**	⇓P	**Pn**	**18 29 47.8**	**-0.2**
JMM	**Marumori**	**1.97**	**332**	P	**Pn**	**18 29 48.9**	**0.0**
JMM	**Marumori**	**1.97**	**332**		**Pn**	**18 29 47.9**	**-1.0**
JAG	**Ashikaga**	**2.04**	**279**	P	**Pn**	**18 29 49.2**	**-0.7**
JFY	**Yanaizu**	**2.21**	**306**	⇑P	**Pn**	**18 29 52.2**	**-0.1**
JKT	**Katashina**	**2.27**	**287**	P	**Pn**	**18 29 52.9**	**-0.3**
MJAR	**Matsushiro Arr**	**3.05**	**279**	Pn	**Pn**	**18 30 03.7**	**-0.1**
	19nm,0.3s,baz=56,slow=13,SNR=709						
MJAR				Sn	**Sn**	**18 30 39.5**	**-0.9**
	4.7nm,0.3s,baz=154,slow=20,SNR=5.4						
MJAR				LR	LR	18 31 19.4	
	comp=Z,586nm,21.8s,baz=165,slow=42						
MAJO	**Matsushiro**	**3.06**	**279**	P	**Pn**	**18 30 04.6**	**+0.7**
MAJO	**Matsushiro**	**3.06**	**279**		**Pn**	**18 30 04.6**	**+0.7**
JHJ2	**Mitsune**	**3.49**	**211**	Pn	**Pn**	**18 30 10.4**	**+0.6**
JHJ	**Hachijo jima 2**	**3.50**	**211**	Pn	**Pn**	**18 30 10.3**	**+0.5**
	105nm,0.3s,baz=333,slow=22,SNR=50						
JHJ				Sn	**Sn**	**18 30 48.6**	**-2.7**
	279nm,0.3s,baz=48,slow=22,SNR=4.4						
JSD	**Sado**	**3.52**	**304**		**Pn**	**18 30 09.9**	**-0.3**
JGF	**Kuroka**	**3.77**	**263**	Pn	**Pn**	**18 30 15.1**	**+1.3**
INU	**Inuyama**	**4.09**	**261**		**Pn**	**18 30 19.2**	**+1.2**
JTM	**Tenmabayashi**	**4.70**	**352**	Pn	**Pn**	**18 30 27.0**	**+0.5**
ERM	**Erimo**	**5.95**	**9**	P	**Pn**	**18 30 41.7**	**-1.9**
ERM	**Erimo**	**5.95**	**9**	Pn	**Pn**	**18 30 41.7**	**-1.9**
JEW	**Eniwo**	**6.72**	**357**	Pn	**Pn**	**18 30 54.1**	**0.0**
NMR	**Nemuro--Hokkai**	**7.79**	**21**	⇓*i*P	**Pn**	**18 31 06.6**	**-2.3**
NMR				*i* S	Sn	18 32 27.2	-10
ASAJ	**Asahikawa**	**8.00**	**3**	Pn	**Pn**	**18 31 10.5**	**-1.2**
	1.5nm,0.3s,baz=209,slow=14,SNR=16						
ASAJ				Sn	**Sn**	**18 32 38.1**	**-4.0**
	1.4nm,0.3s,baz=55,slow=31,SNR=1.6						
JKA	**Kamikawa-asahi**	**8.00**	**3**	Pn	**Pn**	**18 31 09.7**	**-2.0**
JKA	**Kamikawa-asahi**	**8.00**	**3**		**Sn**	**18 32 38.1**	**-4.0**
RUSJ	**Misakicho**	**8.36**	**17**	*e*P	**Pn**	**18 31 14.8**	**-1.8**
RUSJ				*e*S	**Sn**	**18 32 46.2**	**-4.8**
SHO	**Shikotan**	**8.59**	**24**	*e*P	**Pn**	**18 31 18.0**	**-1.8**
SHO				*i* S	Sn	18 32 46.9	-10
SHO				pmax	pmax		
	comp=Z,9.0nm,0.2s						
SHO				pmax	pmax		
	comp=N,7.0nm,0.3s						
SHO				smax	smax		
	comp=E,70nm,0.3s						
SHO				smax	smax		
	comp=N,21nm,0.2s						
JCJ	**Chichijima**	**9.01**	**179**	Pn	**Pn**	**18 31 24.8**	**-0.8**
	comp=N,14nm,0.3s,baz=308,slow=22,SNR=6.0						
JCJ				Sn	**Sn**	**18 33 00.1**	**-7.0**
	comp=N,20nm,0.3s,baz=281,slow=22,SNR=1.8						
JCJ	**Chichijima**	**9.01**	**179**	Pn	**Pn**	**18 31 25.5**	**-0.1**
KUR	**Kuril'sk**	**10.14**	**24**	*e*P	**Pn**	**18 31 40.2**	**-0.8**
KUR				*e*S	Sn	18 33 26.6	-8.1
KUR				pmax	pmax		
	comp=Z,40nm,1.1s						
KUR				smax	smax		
	comp=N,22nm,0.8s						
KUR				smax	smax		
	comp=E,49nm,0.8s						
YSS	**Yuzh-Sakhalins**	**10.83**	**3**	*e*P	**Pn**	**18 31 49.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**11.09**	**320**	Pn	**Pn**	**18 31 55.0**	**+0.9**
	baz=126,slow=12,SNR=5.2						
USRK	**Ussuriysk Ar.**	**11.09**	**320**	P	**Pn**	**18 31 55.0**	**+0.9**
KSRS	**Korea Array**	**11.33**	**281**	Pn	**Pn**	**18 32 00.7**	**+3.2**
	comp=E,0.5nm,0.3s,baz=92,slow=14,SNR=16						
KSRS				LR	LR	18 36 12.2	
	comp=E,277nm,19.7s,baz=95,slow=37						
MDJ	**Mudanjiang**	**12.67**	**316**	P	**Pn**	**18 32 15.9**	**+0.3**
MDJ				pP		18 32 21.3	
MDJ				sP		18 32 25.9	
MDJ				S	**Sn**	**18 34 35.1**	**-1.6**
MDJ				sS		18 34 44.8	
MDJ				pmax	pmax		
	comp=Z,6.0nm,2.7s						
MDJ				pmax	pmax		
	comp=Z,90nm,3.7s						
MDJ				LR	LR		
	comp=N,310nm,17.9s						
MDJ				LR	LR		
	comp=E,460nm,12.4s						
MDJ				LR	LR		
	comp=Z,650nm,14.7s						
CN2	**Changchun**	**14.78**	**306**	*e*P	**Pn**	**18 32 44.8**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,400nm,15.0s						
CN2				LR	LR		
	comp=E,400nm,15.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
JOW	**Kunigami**	**14.89**	**235**	Pn	**P**	**18 32 51.9**	**0.0**
	comp=Z,1.4nm,0.3s,baz=9.5,slow=6.1,SNR=5.5						
JOW	**Kunigami**	**14.89**	**235**	Pn	**Pn**	**18 32 47.9**	**+1.8**
KLR	**Kul'dur**	**15.07**	**333**	Pn	**Pn**	**18 32 46.5**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=168,slow=14,SNR=6.3						
KLR	**Kul'dur**	**15.07**	**333**	*i* P	**Pn**	**18 32 47.2**	**-1.2**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.9s						
NJ2	**Nanjing**	**19.55**	**265**	*e*P	**Pn**	**18 33 44.0**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
PETK	**Petropavlovsk-**	**20.26**	**28**	P	Pn	18 33 53.0	+0.1
	comp=Z,1.4nm,0.7s,baz=198,slow=13,SNR=2.1						
PETK				LR	LR	18 43 30.5	
	comp=Z,107nm,18.5s,baz=219,slow=42						
PETK	**Petropavlovsk-**	**20.26**	**28**	P	Pn	18 33 53.0	+0.1
ZEA	**Zeya**	**20.38**	**334**	*e*P	**P**	**18 33 51.8**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZEA				MLR	MLR		
	comp=Z,100nm,12.0s						
XLT	**XiLinHaoTe**	**21.23**	**299**	⇑*i*P	**P**	**18 33 59.3**	**-2.2**
XLT				pP	sP	18 34 05.0	+0.2
XLT				S	**S**	**18 37 50.3**	**-7.2**
XLT				SS	**SnSn**	**18 38 24.8**	**+5.5**
XLT				pmax	pmax		
	comp=Z,35nm,0.9s						
XLT				pmax	pmax		
	comp=Z,180nm,5.0s						
XLT				LR	LR		
	comp=N,25nm,14.7s						
XLT				LR	LR		
	comp=E,530nm,15.2s						
XLT				LR	LR		
	comp=Z,520nm,15.3s						
HNS	**HongShan**	**21.84**	**281**	⇑P	**P**	**18 34 14.8**	**+6.7**
HNS				S	Sn	18 38 23.5	+4.4
HNS				pmax	pmax		
	comp=Z,5.0nm,1.3s						
HNS				LR	LR		
	comp=N,220nm,16.2s						
HNS				LR	LR		
	comp=Z,180nm,14.1s						
SSLB	**Suanglung**	**21.91**	**242**	P	**P**	**18 34 06.2**	**-2.8**
SSLB				IAmb	IAmb	18 34 16.2	
	comp=Z,37nm,1.3s						
YULB	**Yu-li**	**21.92**	**240**	P	**P**	**18 34 05.5**	**-3.5**
LYN	**LuoYang**	**24.07**	**275**	*e*P	**P**	**18 34 27.9**	**-3.1**
LYN				sP	pP	18 34 32.5	-0.8
LYN				pmax	pmax		
	comp=Z,130nm,4.7s						
LYN				LR	LR		
	comp=N,170nm,8.0s						
LYN				LR	LR		
	comp=E,300nm,8.4s						
LYN				LR	LR		
	comp=Z,370nm,12.4s						
MA2	**Magadan**	**24.15**	**11**	P	**P**	**18 34 31.9**	**+0.4**
	comp=Z,4.5nm,0.7s,baz=196,slow=8.8,SNR=16						
MA2	**Magadan**	**24.15**	**11**	*ce*P	**P**	**18 34 31.6**	**+0.1**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MA2	**Magadan**	**24.15**	**11**	P	**P**	**18 34 32.0**	**+0.5**
HHC	**Hu-ho-hao-te**	**24.19**	**290**	*e*P	**P**	**18 34 32.8**	**+0.6**
HHC				sP	pwP	18 34 42.4	+5.1
HHC				S	**S**	**18 38 49.1**	**-1.2**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,86nm,5.4s						
HHC				LR	LR		
	comp=N,230nm,17.0s						
HHC				LR	LR		
	comp=E,250nm,13.6s						
HHC				LR	LR		
	comp=Z,290nm,14.8s						
BTO	**Baotou**	**25.36**	**290**	*e*P	**P**	**18 34 43.6**	**+0.8**
BTO				S	**S**	**18 39 14.3**	**+5.2**
BTO				LR	LR		
	comp=N,670nm,15.9s						
BTO				LR	LR		
	comp=E,900nm,14.9s						
XAN	**Xi'an**	**27.05**	**275**	P	**P**	**18 34 57.3**	**-0.7**
XAN				pP	pwP	18 35 05.1	+1.9
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
YAK	**Yakutsk**	**27.05**	**347**	P	**P**	**18 34 57.4**	**-0.3**
	comp=Z,10nm,0.5s,baz=127,slow=1.0,SNR=14						
YAK	**Yakutsk**	**27.05**	**347**	*c i*P	**P**	**18 34 57.2**	**-0.5**
YAK				*e**PP	**sP**	**18 35 02.1**	**+1.3**
YAK				*e*		18 35 42.2	
YAK				*e*		18 38 18.3	
YAK				*e*S	**S**	**18 39 35.1**	**-0.1**
YAK				*e**SS	**sS**	**18 39 43.5**	**+4.8**
YAK				*e*SS	**SnSn**	**18 40 44.7**	**+3.5**
YAK				*e*		18 45 46.5	
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,124nm,4.6s						
YAK				pmax	pmax		
	comp=N,85nm,4.4s						
YAK				pmax	pmax		
	comp=E,70nm,4.3s						
YAK				smax	smax		
	comp=N,65nm,4.4s						
YAK				smax	smax		
	comp=E,54nm,3.6s						
YAK				MLR	MLR		
	comp=Z,189nm,17.0s						
YAK				MLR	MLR		
	comp=N,117nm,20.0s						
YAK				MLR	MLR		
	comp=E,104nm,20.0s						
YAK	**Yakutsk**	**27.05**	**347**	P	**P**	**18 34 57.4**	**-0.3**
YAK				IAmb	IAmb	18 34 58.9	
	comp=Z,30nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**27.31**	**120**	T	T	19 03 40.6	
	baz=311,slow=74,SNR=55						
H11N1	**WAKE ISLAND Hy**	**27.32**	**120**	T	T	19 03 44.4	
	baz=311,slow=74,SNR=35						
H11N3	**WAKE ISLAND Hy**	**27.33**	**120**	T	T	19 03 47.7	
	baz=311,slow=74,SNR=31						
SEY	**Seymchan**	**27.60**	**10**	P	**P**	**18 35 03.4**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=172,slow=5.8,SNR=7.3						
SEY	**Seymchan**

GOMU				S	S	18 42 25.8	+2.8	
GOMU				pmax	pmax			
	comp=Z,13nm,0.5s							
GOMU				pmax	pmax			
	comp=Z,64nm,4.1s							
GOMU				LR	LR			
	comp=N,73nm,9.3s							
GOMU				LR	LR			
	comp=E,71nm,8.9s							
GOMU				LR	LR			
	comp=Z,81nm,8.8s							
SIJI	**Sorong**	**38.13 197**		P	**P**	**18 36 34.9**	**0.0**	
	comp=Z,3.9nm,0.4s,baz=357,slow=14,SNR=7.3							
UBPT	**Khong Chiam**	**38.56 247**		P	**P**	**18 36 38.2**	**-0.3**	
TOLI2	**Tolitoli**	**40.00 214**		P	**P**	**18 36 50.1**	**-0.3**	
TOLI2				IAmb	IAmb	18 36 53.1		
	comp=Z,7.6nm,0.8s							
LUWI	**Luwuk**	**41.07 210**		P	**P**	**18 36 59.5**	**+0.1**	
CHTO	**Chiang Mai**	**41.51 257**		P	**P**	**18 37 02.7**	**-0.3**	
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CHTO	**Chiang Mai**	**41.51 257**		P	**P**	**18 37 02.7**	**-0.3**	
WMQ	**Urumqi**	**41.64 298**	*eP*	P	**P**	**18 37 05.6**	**+1.6**	
WMQ				sP	pwP	18 37 16.3	+7.1	
WMQ				PP	**PnPn**	**18 38 44.9**	**0.0**	
WMQ				pmax	pmax			
	comp=Z,23nm,1.1s							
CM31	**Chiang Mai Arr**	**41.70 257**		P	**P**	**18 37 04.2**	**-0.4**	
CMAR	**Chiang Mai Arr**	**41.70 257**		P	**P**	**18 37 04.0**	**-0.6**	
	comp=Z,1.4nm,0.8s,baz=49,slow=5.9,SNR=16							
CMAR	**Chiang Mai Arr**	**41.70 257**		P	**P**	**18 37 04.3**	**-0.4**	
CMAR	**Chiang Mai Arr**	**41.70 257**		P	**P**	**18 37 04.3**	**-0.4**	
LSA	**Lhasa**	**42.74 276**		P	**P**	**18 37 14.8**	**+1.3**	
LSA				pmax	pmax			
	comp=Z,8.0nm,0.7s							
ZAA0	**Zalesovo Array**	**42.85 313**		P	**P**	**18 37 13.1**	**-0.4**	
ZAA0				IAmb	IAmb	18 37 14.2		
	comp=Z,6.7nm,0.8s							
ZALV	**Zalesovo Beam**	**42.85 313**		P	**P**	**18 37 13.6**	**0.0**	
	comp=Z,6.1nm,0.6s,baz=89,slow=6.8,SNR=31							
ZALV				PcP	**PcP**	**18 39 04.5**	**0.0**	
	comp=Z,2.2nm,0.6s,baz=95,slow=2.8,SNR=3.8							
ZALV	**Zalesovo Beam**	**42.85 313**		P	**P**	**18 37 13.0**	**-0.5**	
NRIK	**Noril'sk**	**44.27 336**		P	**P**	**18 37 21.5**	**-3.3**	
	comp=Z,1.5nm,0.4s,baz=135,slow=7.1,SNR=1.6							
NRIK	**Noril'sk**	**44.27 336**	*ceP*		**P**	**18 37 25.8**	**+1.0**	
NRIK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MK31	**Makanchi Array**	**44.97 303**	*i P*		**P**	**18 37 30.4**	**-0.4**	
MK31	**Makanchi Array**	**44.97 303**		P	**P**	**18 37 30.3**	**-0.5**	
MK31				IAmb	IAmb	18 37 33.4		
	comp=Z,6.5nm,0.8s							
MKAR	**Makanchi Array**	**44.97 303**		P	**P**	**18 37 30.7**	**-0.1**	
	comp=Z,6.0nm,0.6s,baz=88,slow=9.7,SNR=44							
MKAR				LR	LR	18 56 31.7		
	comp=Z,100nm,21.5s,baz=86,slow=36							
MKAR	**Makanchi Array**	**44.97 303**		P	**P**	**18 37 30.4**	**-0.4**	
MAKZ	**Makanchi**	**45.19 303**		P	**P**	**18 37 32.2**	**-0.2**	
MAKZ				pmax	pmax			
	comp=Z,7.0nm,0.7s							
MAKZ	**Makanchi**	**45.19 303**		P	**P**	**18 37 32.2**	**-0.2**	
MAKZ				IAmb	IAmb	18 37 35.2		
	comp=Z,7.4nm,0.7s							
KSM	**Kuching**	**45.26 228**		P	**P**	**18 37 33.7**	**+0.4**	
KSM				IAmb	IAmb	18 37 35.2		
	comp=Z,6.0nm,0.7s							
TAPN	**Taplejung**	**46.45 275**	*eP*		**P**	**18 37 43.3**	**+0.3**	
	comp=Z,11nm,0.5s							
K20K	**Telida**	**46.83 34**			**P**	**18 37 47.5**	**+2.3**	
KURK	**Kurchatov**	**46.84 309**	*i P*		**P**	**18 37 44.6**	**-0.7**	
KURK				pmax	pmax			
	comp=Z,14nm,0.8s							
KURK	**Kurchatov**	**46.84 309**		P	**P**	**18 37 44.7**	**-0.7**	
J20K	**Nowinta River**	**46.87 33**		P	**P**	**18 37 47.3**	**+1.9**	
J20K				IAmb	IAmb	18 38 13.8		
	comp=Z,6.0nm,1.4s							
KURBB	**Kurchatov Arra**	**46.91 309**		LR	LR	18 57 02.0		
	comp=Z,115nm,21.2s,baz=52,slow=36							
ODAN	**Odare**	**46.91 275**	*eP*		**P**	**18 37 46.5**	**-0.1**	
RSO	**Redoubt South**	**47.35 38**		P	**P**	**18 37 51.9**	**+2.5**	
KDAK	**Kodiak Island**	**47.48 41**		P	**P**	**18 37 51.6**	**+1.3**	
	comp=Z,4.7nm,0.7s,baz=264,slow=10,SNR=1.4							
KDAK	**Kodiak Island**	**47.48 41**		P	**P**	**18 37 51.6**	**+1.3**	
KDAK				pmax	pmax			
	comp=Z,40nm,1.3s							
RAMN	**Ramite**	**47.51 275**	*eP*		**P**	**18 37 51.4**	**+0.1**	
	comp=Z,32nm,0.6s							
JIRN	**Jiri**	**47.54 276**	*eP*		**P**	**18 37 52.0**	**+0.4**	
	comp=Z,5.7nm,0.9s							
PDGK	**Podgornoye**	**47.59 299**		P	**P**	**18 37 51.3**	**-0.2**	
GUN	**Gumba**	**47.69 277**	*eP*		**P**	**18 37 52.8**	**+0.1**	
	comp=Z,13nm,0.5s							
PKI	**Pulchoki**	**48.21 277**	*eP*		**P**	**18 37 56.2**	**-0.6**	
	comp=Z,17nm,0.9s							
PKIN	**Phulchoki**	**48.22 277**	*eP*		**P**	**18 37 56.4**	**-0.3**	
	comp=Z,5.2nm,0.4s							
KKN	**Kakani**	**48.22 277**	*eP*		**P**	**18 37 56.8**	**+0.1**	
DMN	**Daman**	**48.44 277**	*eP*		**P**	**18 37 58.0**	**-0.4**	
GKN	**Gorkha**	**48.65 277**	*eP*		**P**	**18 37 59.9**	**0.0**	
H23K	**Yukon River**	**48.92 31**			**P**	**18 38 03.9**	**+2.6**	
H23K				IAmb	IAmb	18 38 21.0		
	comp=Z,5.9nm,1.4s							
DANN	**Dangsing**	**49.21 278**	*eP*		**P**	**18 38 04.7**	**+0.3**	
	comp=Z,47nm,0.5s							
MDOK	**Medeo**	**49.36 299**		P	**P**	**18 38 05.2**	**0.0**	
KDJ	**Kajisay**	**49.54 298**		P	**P**	**18 38 06.9**	**+0.3**	
KDJ				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KDJ	**Kajisay**	**49.54 298**		P	**P**	**18 38 06.9**	**+0.3**	
KDJ				IAmb	IAmb	18 38 24.2		
	comp=Z,5.7nm,1.1s							
MTN	**Manton Dam**	**49.77 194**		P	**P**	**18 38 08.6**	**+0.4**	
MTN				IAmb	IAmb	18 38 19.6		
	comp=Z,7.1nm,0.8s							
PYUN	**Piuthan**	**49.93 278**	*eP*		**P**	**18 38 09.9**	**+0.1**	
	comp=Z,13nm,0.5s							
ILAR	**Eielson Array**	**50.03 32**		P	**P**	**18 38 11.0**	**+1.2**	
	comp=Z,1.6nm,0.7s,baz=264,slow=6.5,SNR=15							
ILAR	**Eielson Array**	**50.03 32**		P	**P**	**18 38 10.6**	**+0.8**	
BOOM	**Boomskoye usch**	**50.32 299**		P	**P**	**18 38 12.7**	**+0.1**	
BOOM				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BOOM	**Boomskoye usch**	**50.32 299**		P	**P**	**18 38 12.7**	**+0.1**	
BOOM				IAmb	IAmb	18 38 26.6		
	comp=Z,5.6nm,0.7s							
TKM2	**Tokmak 2**	**50.45 299**		P	**P**	**18 38 14.2**	**+0.6**	
KSH	**Kashi**	**51.18 295**		P	**P**	**18 38 22.3**	**+3.3**	
KSH				pmax	pmax			
	comp=Z,3.0nm,1.1s							
AAK	**Ala-Archa**	**51.31 299**		LR	LR	19 01 24.4		
	comp=Z,266nm,19.0s,baz=63,slow=38							
AAK	**Ala-Archa**	**51.31 299**	*ceP*		**P**	**18 38 20.0**	**+0.1**	
AAK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
AAK	**Ala-Archa**	**51.31 299**		P	**P**	**18 38 20.1**	**+0.1**	
OTUK	**Ortayu**	**51.31 307**		P	**P**	**18 38 18.3**	**-1.5**	
BRVK	**Borovoye**	**51.56 313**	*i P*		**P**	**18 38 20.7**	**-0.8**	
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BCAR	**Beaver Creek A**	**52.40 34**		P	**P**	**18 38 29.4**	**+1.8**	
LEM	**Lembang**	**53.52 224**		P	**P**	**18 38 37.8**	**+1.2**	
LEM				pmax	pmax			
	comp=Z,35nm,0.8s							
I29M	**Ogilvie Camp,**	**53.60 31**		P	**P**	**18 38 38.5**	**+2.1**	
GSI	**Gunungsitoli**	**53.72 240**		P	**P**	**18 38 37.6**	**-0.4**	
KK31	**Karatay Array**	**53.96 301**	*eP*		**P**	**18 38 39.2**	**-0.2**	
KK31	**Karatay Array**	**53.96 301**		P	**P**	**18 38 39.0**	**-0.5**	
KK31				IAmb	IAmb	18 38 44.4		
	comp=Z,6.1nm,1.0s							
KKAR	**Karatay Array**	**53.96 301**		P	**P**	**18 38 39.1**	**-0.3**	
KKAR	**Karatay Array**	**53.96 301**		P	**P**	**18 38 39.1**	**-0.3**	
KKAR				IAmb	IAmb	18 38 44.4		
	comp=Z,6.1nm,1.0s							
DRK	**Karamyk**	**54.24 296**		P	**P**	**18 38 41.9**	**+0.1**	
DRK				IAmb	IAmb	18 39 02.8		
	comp=Z,17nm,1.5s							
INK	**Inuvik**	**54.99 27**		P	**P**	**18 38 48.0**	**+1.5**	
	comp=Z,2.5nm,0.6s,baz=298,slow=6.6,SNR=16							
INK	**Inuvik**	**54.99 27**		P	**P**	**18 38 48.1**	**+1.6**	
INK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
INK	**Inuvik**	**54.99 27**		P	**P**	**18 38 48.1**	**+1.6**	
INK				IAmb	IAmb	18 38 48.9		
	comp=Z,2.8nm,0.7s							
NIL	**Nilore**	**55.32 289**		P	**P**	**18 38 49.5**	**0.0**	
NIL				pmax	pmax			
	comp=Z,7.0nm,0.7s							
NIL	**Nilore**	**55.32 289**		P	**P**	**18 38 49.5**	**0.0**	
NIL				IAmb	IAmb	18 38 50.1		
	comp=Z,6.8nm,0.7s							
GAR	**Garm**	**55.49 296**		P	**P**	**18 38 50.8**	**+0.1**	
WB0	**Warramunga Arr**	**56.05 189**		P	**P**	**18 38 55.0**	**+0.4**	
WB0				IAmb	IAmb	18 39 06.2		
	comp=Z,8.3nm,0.8s							
SVE	**Sverdlovsk**	**56.12 319**	*eP*		**P**	**18 38 54.2**	**-0.5**	
SVE				pmax	pmax			
	comp=Z,9.0nm,1.2s							
WRAB	**Tennant Creek**	**56.22 189**	*i*	P	**P**	**18 38 56.4**	**+0.6**	
WRAB	**Tennant Creek**	**56.22 189**		P	**P**	**18 38 56.3**	**+0.6**	
WRAB				IAmb	IAmb	18 39 06.9		
	comp=Z,9.6nm,1.1s							
WR0	**Warramunga Arr**	**56.22 188**		P	**P**	**18 38 56.2**	**+0.4**	
WR0				IAmb	IAmb	18 39 07.0		
	comp=Z,11nm,1.1s							
WB2	**Warramunga Arr**	**56.23 189**		P	**P**	**18 38 56.1**	**+0.3**	
WB2				IAmb	IAmb	18 39 07.0		
	comp=Z,12nm,1.1s							
WRA	**Warramunga Arr**	**56.23 189**		P	**P**	**18 38 56.1**	**+0.2**	
	comp=Z,1.6nm,0.5s,baz=5.3,slow=7.4,SNR=32							
WRA	**Warramunga Arr**	**56.23 189**		P	**P**	**18 38 56.0**	**+0.1**	
CHGR	**Chuyangaron**	**56.45 296**		P	**P**	**18 38 57.3**	**-0.3**	
CHGR				pmax	pmax			
	comp=Z,37nm,0.8s							
CHGR	**Chuyangaron**	**56.45 296**		P	**P**	**18 38 57.3**	**-0.3**	
A36M	**Sachs Harbour**	**56.94 22**		P	**P**	**18 39 02.0**	**+1.6**	
A36M				IAmb	IAmb	18 39 03.7		
	comp=Z,4.4nm,0.8s							
ARU	**Arti**	**57.33 319**	*c i*	P	**P**	**18 39 03.2**	**-0.2**	
ARU				*PP	**pwP**	**18 39 13.3**	**+4.2**	
ARU						18 39 56.2		
ARU				S	**S**	**18 47 00.1**	**+0.6**	
ARU				SS	**SS**	**18 50 48.2**	**-0.1**	
ARU				pmax	pmax			
	comp=Z,16nm,1.4s							
C36M	**Paulatuk**	**58.07 25**		P	**P**	**18 39 09.2**	**+0.9**	
C36M				IAmb	IAmb	18 39 10.6		
	comp=Z,3.7nm,0.8s							
AB31	**Akbulak array**	**58.86 311**	*i*	P	**P**	**18 39 13.3**	**-0.9**	
ABKAR	**Akbulak array**	**58.86 311**		P	**P**	**18 39 13.4**	**-0.8**	
ABKAR	**Akbulak array**	**58.86 311**		P	**P**	**18 39 13.5**	**-0.7**	
ABKAR				IAmb	IAmb	18 39 14.6		
	comp=Z,4.6nm,0.7s							
AS31	**Alice Springs**	**59.95 189**		P	**P**	**18 39 22.7**	**+0.7**	
ASAR	**Alice Springs**	**59.95 189**		P	**P**	**18 39 22.4**	**+0.5**	
	comp=Z,1.1nm,0.7s,baz=15,slow=9.3,SNR=26							
ASAR	**Alice Springs**	**59.95 189**		P	**P**	**18 39 22.6**	**+0.6**	
ASAR	**Alice Springs**	**59.95 189**		P	**P**	**18 39 22.6**	**+0.6**	
KIRV	**Kirov**	**61.23 323**	*ceP*		**P**	**18 39 29.6**	**-0.7**	
RES	**Resolute Bay**	**63.37 14**		P	**P**	**18 39 44.9**	**+0.5**	
RES				pmax	pmax			
	comp=Z,5.0nm,1.2s							
RES	**Resolute Bay**	**63.37 14**		P	**P**	**18 39 44.9**	**+0.5**	
RES				IAmb	IAmb	18 39 46.2		
	comp=Z,4.8nm,1.1s							
YKA	**Yellowknife Ar**	**64.37 30**		P	**P**	**18 39 52.3**	**+1.1**	
	comp=Z,0.9nm,0.8s,baz=300,slow=6.7,SNR=16							
ARCES	**ARCESS Array B**	**65.00 340**		P	**P**	**18 39 55.2**	**+0.1**	
	comp=Z,2.6nm,0.7s,baz=56,slow=8.2,SNR=10							
ARCES	**ARCESS Array B**	**65.00 340**		P	**P**	**18 39 55.7**	**+0.5**	
ARCES				pmax	pmax			
	comp=Z,19nm,1.3s							
ARCES	**ARCESS Array B**	**65.00 340**		P	**P**	**18 39 55.6**	**+0.5**	
STKA	**Stephens Creek**	**67.65 180**		P	**P**	**18 40 12.7**	**+0.2**	
	comp=Z,1.6nm,0.8s,baz=330,slow=13,SNR=5.9							
OBN	**Obninsk**	**69.08 324**	*eP*		**P**	**18 40 20.4**	**-0.9**	
OBN				*e*		18 40 43.9		
OBN				*e*		18 42 53.8		
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
FINES	**FINESS Array B**	**69.82 333**		P	**P**	**18 40 25.6**	**-0.1**	
	comp=Z,3.7nm,0.7s,baz=56,slow=6.9,SNR=16							
KBZ	**Khabaz**	**71.83 311**		P	**P**	**18 40 38.3**	**0.0**	
	comp=Z,2.1nm,0.8s,baz=18,slow=6.4,SNR=6.9							
KBZ	**Khabaz**	**71.83 311**	*ceP*		**P**	**18 40 39.0**	**+0.7**	
KBZ				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KIV	**Kislovodsk**	**71.83 311**	*eP*		**P**	**18 40 38.5**	**0.0**	
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KIV	**Kislovodsk**	**71.83 311**		P	**P**	**18 40 38.0**	**-0.5**	
KIV				IAmb	IAmb	18 40 53.9		
	comp=Z,5.1nm,0.7s							
NC204	**NORSAR Array S**	**75.14 338**		P	**P**	**18 40 58.2**	**+0.6**	
NVAR	**Mina Array Bea**	**75.18 53**		P	**P**	**18 41 00.3**	**+1.8**	
	comp=Z,2.2nm,0.3s,baz=303,slow=7.0,SNR=1.6							
NB2	**NORSAR Subarra**	**75.19 338**		P	**P**	**18 40 57.8**	**-0.1**	
	comp=Z,1.3nm,0.5s,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**75.19 338**		P	**P**	**18 40 57.6**	**-0.2**	
	comp=Z,2.9nm,0.8s,baz=39,slow=5.8,SNR=14							
AKASG	**Malin Array Be**	**75.28 323**		P	**P**	**18 40 58.3**	**-0.2**	
	comp=Z,4.6nm,0.6s,baz=44,slow=6.1,SNR=20							
AKASG	**Malin Array Be**	**75.28 323**		P	**P**	**18 40 58.3**	**-0.2**	
AKASG				pmax	pmax			
	comp=Z,42nm,0.8s							
AKASG	**Malin Array Be**	**75.28 323**		IAmb	IAmb	18 41 06.5		
	comp=Z,42nm,0.8s							
AKBB	**Malin Array Si**	**75.28 323**		P	**P**	**18 40 58.1**	**-0.4**	
AKBB				pmax	pmax			
	comp=Z,6.0nm,0.8s							
AKBB	**Malin Array Si**	**75.28 323**		P	**P**	**18 40 58.1**	**-0.4**	
AKBB				IAmb	IAmb	18 40 59.1		
	comp=Z,6.2nm,0.8s							
NORES	**NORESS Array B**	**75.32 337**		P	**P**	**18 40 58.5**	**-0.1**	
NBO00	**NORSAR Array S**	**75.33 338**		P	**P**	**18 40 58.5**	**-0.2**	
PDAR	**Pinedale Array**	**77.99 46**		P	**P**	**18 41 15.1**	**+0.8**	
	comp=Z,5.5nm,0.6s,baz=309,slow=1.2,SNR=6.0							
BUR08	**Bucovina Ar. S**	**79.28 322**		P	**P**	**18 41 21.9**	**+0.7**	
BUR08				IAmb	IAmb	18 41 32.2		
	comp=Z,8.3nm,1.4s							
BURAR	**Bucovina Array**	**79.29 322**		P	**P**	**18 41 21.6**	**+0.4**	
BURAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BURAR	**Bucovina Array**	**79.29 322**		P	**P**	**18 41 21.6**	**+0.4**	
BRTR	**Keskin Array B**	**79.78 312**		P	**P**	**18 41 24.9**	**+0.8**	
	comp=Z,1.7nm,0.7s,baz=77,slow=6.2,SNR=7.3							
BRTR	**Keskin Array B**	**79.78 312**		P	**P**	**18 41 24.4**	**+0.3**	
BRTR	**Keskin Array B**	**79.78 312**		P	**P**	**18 41 24.4**	**+0.3**	
DPC	**Dobruska-Polom**	**81.46 328**	*eP*		**P**	**18 41 33.4**	**+0.7**	
DPC	**Dobruska-Polom**	**81.46 328**	*eP*		**P**	**18 41 33.4**	**+0.7**	
KRLC	**Kraliky**	**81.47 328**	*eP*		**P**	**18 41 32.9**	**+0.1**	
KRLC	**Kraliky**	**81.47 328**	*eP*		**P**	**18 41 32.9**	**+0.1**	
CLL	**Collm**	**82.10 330**	*eP*		**P**	**18 41 36.0**	**0.0**	
CLL	**Collm**	**82.10 330**	*eP*		**P**	**18 41 36.0**	**0.0**	
KHC	**Kasperske Hory**	**83.54 329**	*eP*		**P**	**18 41 43.9**	**+0.3**	
KHC	**Kasperske Hory**	**83.54 329**	*eP*		**P**	**18 41 43.9**	**+0.3**	
GERES	**GERESS Array B**	**83.71 329**		P	**P**	**18 41 43.5**	**-1.0**	
	comp=Z,0.9nm,0.6s,baz=38,slow=6.8,SNR=9.2							
GERES	**GERESS Array B**	**83.71 329**		P	**P**	**18 41 44.2**	**-0.4**	
GERES	**GERESS Array B**	**83.71 329**		P	**P**	**18 41 44.2**	**-0.4**	
EKA	**Eskdalemuir Ar**	**84.13 341**		P	**P**	**18 41 47.0**	**+0.5**	
SCHQ	**Schefferville**	**86.08 16**		P	**P**	**18 41 57.0**	**+0.7**	
	comp=Z,2.1nm,1.0s,baz=297,slow=9.0,SNR=2.3							
SCHQ	**Schefferville**	**86.08 16**		P	**P**	**18 41 56.1**	**-0.2**	
TXAR	**Lajitas Array**	**90.32 53**		P	**P**	**18 42 18.2**	**+1.1**	
	comp=Z,0.5nm,0.7s,baz=281,slow=2.6,SNR=6.5							
LPAZ	**La Paz**	**146.76 61**		PKPbc	**PKPbc**	**18 48 59.5**	**+0.6**	
	comp=Z,2.5nm,0.5s,baz=276,slow=3.5,SNR=11							
LPAZ	**La Paz**	**146.76 61**			**PKPbc**	**18 48 59.7**	**+0.7**	

*IDC **14** 18:36:57.3±0.9, 32.69N×130.57E, h0km, mb3.5/11, mb1 3.7/13, mb1mx3.5/54, mbtmp3.5/13, ML2.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/66, Error ellipse: s-maj=18.1km s-min=8.4km az=124.0*
*JMA **14** 18:36:59.1, 32.67N×130.74E, h11km±1km, M4.1*
JMA Felt IV J1.
*NIED **14** 18:36:59.1, 32.67N×130.74E, h11km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.27; $M_{\theta\theta}$=1.40; $M_{\phi\phi}$=-1.13; $M_{r\theta}$=0.39; $M_{\theta\phi}$=0.02; $M_{\phi r}$=-0.36; Fault plane solution: M_0=1.38000×10^{15} NP1:ϕ_s=45.00000°, δ=66.00000°, λ=-174.00000°. NP2:ϕ_s=313.00000°, δ=84.00000°, λ=-24.00000°.*
ISC 14 18:36:59.1±1.2, 32.69N±0.05×130.67E±0.09, h9km±9km, **n20**, σ1^{s}**46**/**21**, **mb3.5**/11, **2C, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.19**	**140**	⇑P	**Pg**	**18 37 02.4**	**-0.6**
JIU3				S	**Sg**	**18 37 04.9**	**-0.8**
JTA	**Tamana**	**0.29**	**337**	⇑P	**Pb**	**18 37 06.1**	**-0.4**
JTA				S	**Sb**	**18 37 10.8**	**-0.7**
JNU	**Nakatsue**	**0.46**	**22**	Pg	**Pg**	**18 37 07.7**	**-0.4**
	628nm,0.3s,baz=201,slow=5.4,SNR=4.3						
JNU				Lg	Lg	18 37 13.7	
	3μm,0.3s,baz=70,slow=22,SNR=41						
KSRS	**Korea Array**	**5.26**	**335**	Pn	**Pn**	**18 38 16.9**	**-0.8**
	0.4nm,0.3s,baz=154,slow=14,SNR=4.6						
KSRS				Pg	**Pb**	**18 38 34.1**	**+3.1**
	0.9nm,0.3s,baz=150,slow=16,SNR=8.9						
KSRS				Lg	Lg	18 39 42.5	
	1.8nm,0.3s,baz=153,slow=30,SNR=12						
JOW	**Kunigami**	**6.20**	**200**	Pn	**Pn**	**18 38 33.3**	**+2.5**
	2.6nm,0.3s,baz=39,slow=11,SNR=7.5						
MJAR	**Matsushiro Arr**	**7.30**	**56**	Pn	**Pn**	**18 38 46.1**	**+0.2**
	0.1nm,0.3s,baz=229,slow=15,SNR=2.9						
MJAR				LR	LR	18 41 32.1	
	comp=Z,182nm,21.1s,baz=230,slow=37						
JHJ	**Hachijo jima 2**	**7.67**	**84**	LR	LR	18 42 03.2	
	comp=Z,133nm,18.3s,baz=173,slow=39						
KLR	**Kul'dur**	**16.54**	**2**	Pn	**P**	**18 40 57.1**	**+3.4**
	0.1nm,0.3s,baz=141,slow=8.9,SNR=9.8						
SONM	**Songino Array**	**23.78**	**317**	P	**P**	**18 42 11.6**	**-0.3**
	0.4nm,0.6s,baz=128,slow=9.3,SNR=2.0						
CMAR	**Chiang Mai Arr**	**31.80**	**251**	P	**P**	**18 43 23.5**	**-0.5**
	0.3nm,0.8s,baz=50,slow=7.2,SNR=2.7						
MKAR	**Makanchi Array**	**39.16**	**306**	P	**P**	**18 44 25.8**	**-1.3**
	0.3nm,0.7s,baz=92,slow=8.7,SNR=2.8						
KURBB	**Kurchatov Arra**	**41.92**	**311**	P	**P**	**18 44 49.3**	**-0.5**
	0.8nm,0.8s,baz=97,slow=9.0,SNR=8.6						
HNR	**Honiara**	**50.34**	**141**	LR	LR	19 05 55.5	
	comp=Z,39nm,18.9s,baz=216,slow=34						
WRA	**Warramunga Arr**	**52.46**	**176**	P	**P**	**18 46 13.0**	**+0.8**
	0.5nm,0.9s,baz=354,slow=7.7,SNR=2.2						
ASAR	**Alice Springs**	**56.13**	**176**	P	**P**	**18 46 38.0**	**-0.9**
	0.6nm,0.9s,baz=8.1,slow=13,SNR=6.1						
ILAR	**Eielson Array**	**57.78**	**30**	P	**P**	**18 46 49.8**	**-0.3**
	0.5nm,1.0s,baz=291,slow=5.7,SNR=2.8						
KBZ	**Khabaz**	**66.79**	**308**	P	**P**	**18 47 50.1**	**-0.8**
	0.6nm,0.4s,baz=49,slow=5.0,SNR=4.0						
FINES	**FINESS Array B**	**68.32**	**330**	P	**P**	**18 47 59.0**	**-1.2**
	1.4nm,0.8s,baz=71,slow=6.0,SNR=6.9						
YKA	**Yellowknife Ar**	**71.80**	**26**	P	**P**	**18 48 21.4**	**-0.2**
	0.1nm,0.4s,baz=307,slow=6.1,SNR=1.6						
AKASG	**Malin Array Be**	**72.03**	**319**	P	**P**	**18 48 22.6**	**-0.6**
	0.4nm,0.4s,baz=58,slow=6.2,SNR=2.0						

*IDC **14** 18:51:40.5±0.8, 32.68N×138.96E, h207km±7km, mb3.0/9, mb1 3.1/11, mb1mx3.0/42, mbtmp3.5/11, Error ellipse: s-maj=22.5km s-min=15.8km az=81.0*
*JMA **14** 18:51:40.2±0.1, 32.88N×139.35E, h220km, M3.2*
ISC 14 18:51:40.6±0.8, 32.81N±0.08×139.13E±0.09, h200km, **n27**, σ1^{s}**48**/**29**, **mb3.1**/9, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.62**	**65**	P	**Pn**	**18 52 10.0**	**+1.8**
JHJ	**Hachijo jima 2**	**0.63**	**61**	P	**Pn**	**18 52 09.6**	**+1.3**
	85nm,0.3s,baz=309,slow=12,SNR=40						
JHJ				S	**Sn**	**18 52 34.2**	**+4.5**
	22nm,0.3s,baz=91,slow=22,SNR=1.9						
JAOM	**Aogashimamukai**	**0.64**	**123**	P	**Pn**	**18 52 09.8**	**+1.4**
JHJ2	**Mitsune**	**0.65**	**63**	P	**Pn**	**18 52 09.5**	**+1.2**
JMKN	**Mikurajimanish**	**1.15**	**20**	P	**Pn**	**18 52 12.4**	**+1.0**
JKO	**Kozu shima**	**1.37**	**0**	P	**Pn**	**18 52 14.4**	**+1.2**
JIZS	**Izushimoda**	**1.91**	**354**	P	**Pn**	**18 52 19.4**	**+1.2**
JIM2	**Oshima 3**	**1.92**	**8**	P	**Pn**

JTS	**Las Juntas de**	**4.78**	**117**	Pn		**Pn**	**18 55 18.2**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=6.1,slow=23,SNR=6.0							
JTS				Sn		**Sn**	**18 56 12.9**	**+0.7**
	comp=Z,3.0nm,0.3s,baz=4.3,slow=22,SNR=4.1							
CMIG	**Matias Romero**	**7.08**	**311**	Pn		**Pn**	**18 55 50.7**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=186,slow=14,SNR=5.2							
CMIG				Sn		**Sn**	**18 57 12.2**	**+3.2**
	comp=Z,0.3nm,0.3s,baz=230,slow=9.0,SNR=1.8							
TXAR	**Lajitas Array**	**21.43**	**324**	P		**P**	**18 58 53.9**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=144,slow=11,SNR=14							
NVAR	**Mina Array Bea**	**36.50**	**320**	P		**P**	**19 01 11.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=130,slow=8.3,SNR=2.4							
SCHQ	**Schefferville**	**45.75**	**18**	P		**P**	**19 02 22.4**	**-3.8**
	comp=Z,1.3nm,0.4s,baz=197,slow=10,SNR=6.1							
YKA	**Yellowknife Ar**	**53.09**	**346**	P		**P**	**19 03 19.7**	**-2.4**
	comp=Z,1.0nm,0.9s,baz=143,slow=7.8,SNR=11							
WRA	**Warramunga Arr**	**137.58**	**254**	PKP		**PKiKP**	**19 13 35.8**	**+4.0**
	comp=Z,0.4nm,0.9s,baz=79,slow=1.8,SNR=1.8							

*KOLA **14** 19:02:01.8, 66.°72N×19.°52E, h0km, ML2.6*
*HEL **14** 19:02:08.6±0.0, 67.°09N×20.°94E, h0km, ML2.1, ML2.4(UPP), Explosion*
*IDC **14** 19:02:08.9±1.1, 67.°09N×20.°99E, h0km, mb1 2.8/3, mb1mx2.7/35, mbtmp2.6/3, ML1.7/3, Error ellipse: s-maj=12.9km s-min=6.8km az=142.0*
*NAO **14** 19:02:08.9±1.2, 67.°07N×21.°05E, ML2.6*
*UPP **14** 19:02:08.0±0.1, 67.°07N×20.°93E, h0km, ML2.4, Explosion*
*HEL **14** 19:02:08.7, 67.°11N×21.°03E, h0km, ML2.1, Explosion*
*BER **14** 19:02:11.5±3.7, 67.°04N×20.°79E, h0km, ML1.8, Suspected explosion*

ISC 14 19:02:08.5±0.7, 67.°07N±0.°02×20.°91E±0.°02, h0km, n61, σ1ᵍ25/84, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUNU	**Dundret**	**0.14**	**292**	P		**Pg**	**19 02 11.1**	**-0.1**
DUNU				S		**Sg**	**19 02 13.3**	**+0.2**
DUNU	**Dundret**	**0.14**	**292**	*i* P		**Pg**	**19 02 11.1**	**-0.1**
DUNU				*i* S		**Sg**	**19 02 13.3**	**+0.2**
MASU	**Masugnsbyn**	**0.57**	**47**	P		**Pg**	**19 02 18.7**	**-0.7**
MASU	**Masugnsbyn**	**0.57**	**47**	*i* P		**Pg**	**19 02 18.7**	**-0.7**
ERTU	**Ertsjaerv**	**0.72**	**135**	P		**Pg**	**19 02 21.6**	**-0.7**
ERTU	**Ertsjaerv**	**0.72**	**135**	*i* P		**Pg**	**19 02 21.6**	**-0.7**
PAJU	**Pajala**	**0.86**	**92**	P		**Pg**	**19 02 23.9**	**-1.1**
PAJU	**Pajala**	**0.86**	**92**	*e*P		**Pg**	**19 02 23.8**	**-1.2**
HARU	**Harads**	**0.91**	**178**	P		**Pg**	**19 02 25.1**	**-0.8**
HARU	**Harads**	**0.91**	**178**	*e*P		**Pg**	**19 02 25.1**	**-0.8**
SALU	**Saltoluokta**	**0.99**	**290**	P		**Pg**	**19 02 26.4**	**-0.9**
SALU				S		**Sg**	**19 02 40.1**	**0.0**
SALU	**Saltoluokta**	**0.99**	**290**	*e*P		**Pg**	**19 02 26.4**	**-0.9**
SALU				*e*S		**Sg**	**19 02 40.1**	**0.0**
LANU	**Lannavaara**	**1.07**	**22**	P		**Pg**	**19 02 27.5**	**-1.4**
LANU	**Lannavaara**	**1.07**	**22**	*e*P		**Pg**	**19 02 27.5**	**-1.4**
KOVU	**Salmi**	**1.20**	**346**	P		**Pg**	**19 02 29.9**	**-1.4**
KOVU	**Salmi**	**1.20**	**346**	*e*P		**Pg**	**19 02 29.9**	**-1.4**
KLF	**Kolari**	**1.20**	**81**	*e*P		**Pg**	**19 02 29.9**	**-1.6**
KLF				*e*SN		**Sb**	**19 02 48.1**	**0.0**
KALU	**Kalix**	**1.56**	**140**	P		**Pn**	**19 02 36.6**	**-0.8**
KALU	**Kalix**	**1.56**	**140**	*e*P		**Pn**	**19 02 36.5**	**-0.8**
KALU				*e*SN		**Sg**	**19 03 00.0**	**+1.5**
SJUU	**Sjulsmark**	**1.59**	**170**	P		**Pn**	**19 02 37.2**	**-0.6**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P		**Pn**	**19 02 37.2**	**-0.6**
TOF	**Tornio**	**1.69**	**124**	*e*P		**Pn**	**19 02 38.6**	**-0.5**
TOF				MSG			19 02 58.7	
	comp=Z,23nm,0.2s							
TOF				*e*S		**Sn**	**19 02 59.1**	**-2.2**
HEF	**Hetta**	**1.70**	**37**	Pn		**Pn**	**19 02 38.5**	**-0.9**
HEF				Sn		**Sg**	**19 03 03.0**	**-0.1**
HEF	**Hetta**	**1.70**	**37**	Pn		**Pn**	**19 02 38.5**	**-0.9**
HEF				Sn		**Sg**	**19 03 03.0**	**-0.1**
HEF	**Hetta**	**1.70**	**37**	*e*P		**Pn**	**19 02 38.3**	**-1.1**
	baz=218							
HEF				MSG			19 02 58.0	
	comp=Z,13nm,0.2s							
KIF	**Kilpisjarvi**	**1.95**	**359**	Pn		**Pb**	**19 02 43.5**	**-1.2**
KIF				Sn		**Sg**	**19 03 10.1**	**-0.8**
KIF	**Kilpisjarvi**	**1.95**	**359**	Pn		**Pb**	**19 02 43.5**	**-1.2**
KIF				Sn		**Sg**	**19 03 10.1**	**-0.8**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*PB		**Pn**	**19 02 43.3**	**+0.6**
KIF				MSG			19 03 06.5	
	comp=Z,16nm,0.2s							
KIF				*e*SG		**Sg**	**19 03 10.6**	**-0.3**
RNF	**Rovaniemi**	**2.07**	**101**	*e*PB		**Pn**	**19 02 44.7**	**+0.3**
RNF				*e*			19 03 05.9	
KTK1	**Kautokeino**	**2.14**	**23**	Pn		**Pn**	**19 02 45.9**	**+0.5**
I37NO	**I37NO**	**2.19**	**338**	*i*			19 16 04.3	
	baz=155,slow=330,SNR=2.5							
FAUS	**Fauske**	**2.21**	**281**	*e*P		**Pn**	**19 02 46.9**	**+0.5**
FAUS				IAML			19 03 24.0	
	comp=Z,17nm,0.2s							
JETT	**Jettan, Norway**	**2.51**	**356**	Pn		**Pb**	**19 02 52.7**	**-1.6**
JETT				Sn		**Sb**	**19 03 24.9**	**-0.7**
OUL	**Oulu**	**2.84**	**132**	*e*PB		**Pb**	**19 02 58.1**	**-1.9**
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn		**Pn**	**19 02 57.0**	**-0.3**
	baz=209,slow=14							
ARA0				Sn		**Sn**	**19 03 35.6**	**+1.6**
	baz=216,slow=22							
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn		**Pn**	**19 02 57.0**	**-0.3**
	baz=209,slow=14							
ARA0				Sn		**Sn**	**19 03 35.6**	**+1.6**
	baz=216,slow=22							
ARA0				IAML			19 03 53.4	
	comp=Z,5.0nm,0.6s							
ARA0	**ARCESS Array S**	**3.01**	**32**	*e*P		**Pn**	**19 02 57.0**	**-0.3**
	baz=213							
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn		**Pn**	**19 02 56.9**	**-0.4**
	baz=212,slow=14,SNR=73							
ARCES				Sn		**Sn**	**19 03 35.6**	**+1.6**
	baz=231,slow=21,SNR=6.0							
ARCES	**ARCESS Array B**	**3.01**	**32**	P		**Pn**	**19 02 56.9**	**-0.4**
ARCES				S		**Sb**	**19 03 40.8**	**+0.7**
OUF	**Merijarvi**	**3.14**	**148**	*e*P		**Pn**	**19 02 59.6**	**+0.6**
	baz=332							
OUF				MSG			19 03 41.2	
	comp=Z,3.4nm,0.2s							
UMAU	**Umeaa**	**3.20**	**182**	*e*P		**Pn**	**19 03 00.3**	**+0.4**
	baz=2.0							
VRF	**Varrio**	**3.42**	**75**	*e*P		**Pn**	**19 03 05.0**	**+2.0**
MSF	**Maaselka**	**3.46**	**106**	*e*PG		**Pb**	**19 03 11.8**	**+1.3**
KEV	**Kevo**	**3.51**	**37**	*e*P		**Pn**	**19 03 03.8**	**-0.4**
HAMF	**Hammerfest**	**3.73**	**14**	*e*P		**Pn**	**19 03 08.3**	**+1.2**
HAMF				IAML			19 04 16.9	
	comp=Z,5.1nm,0.9s							
KU6	**Riekki**	**3.74**	**102**	*e*P		**Pn**	**19 03 05.8**	**-1.5**
HUSU	**Husum**	**3.81**	**192**	*e*P		**Pn**	**19 03 09.4**	**+1.1**
	baz=7.0							
VAF	**Ylistaro**	**4.11**	**169**	*e*P		**Pn**	**19 03 13.1**	**+0.7**
HEMU	**Hemsoen**	**4.58**	**197**	*e*P		**Pn**	**19 03 20.4**	**+1.6**
APA0	**Apatity Array**	**4.70**	**78**	Pn		**Pn**	**19 03 20.1**	**-0.4**
APA0				Sn		**Sn**	**19 04 17.1**	**+1.4**
	baz=264,slow=18							
APA0	**Apatity Array**	**4.70**	**78**	Pn		**Pn**	**19 03 20.1**	**-0.4**
APA0				Sn		**Sn**	**19 04 17.1**	**+1.4**
	baz=264,slow=18							
APA0	**Apatity Array**	**4.70**	**78**	P		**Pn**	**19 03 22.0**	**+1.5**
APA0				S		**Sn**	**19 04 19.8**	**+4.0**
PRVG	**Vayda Guba**	**4.95**	**52**	P		**Pn**	**19 03 25.1**	**+1.1**
PRVG				S		**Sn**	**19 04 27.6**	**+5.8**
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**19 03 40.3**	**+0.9**
	baz=344,slow=12							
FIA0				Sn		**Sn**	**19 04 49.5**	**-0.1**
	baz=350,slow=22							
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**19 03 40.3**	**+0.9**
	baz=344,slow=12							
FIA0				Sn		**Sn**	**19 04 49.5**	**-0.1**
	baz=350,slow=22							
FINES	**FINESS Array B**	**6.08**	**156**	Pn		**Pn**	**19 03 40.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=343,slow=13,SNR=6.0							
FINES				Sn		**Sn**	**19 04 49.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=345,slow=22,SNR=5.7							
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn		**Pn**	**19 03 58.2**	**+0.8**
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn		**Pn**	**19 03 58.2**	**+0.8**
NOA	**NORSAR Array B**	**7.39**	**220**	Pn		**Pn**	**19 03 57.1**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=228,slow=9.6,SNR=1.7							
NRA0	**NORESS Array S**	**7.57**	**217**	Pn		**Pn**	**19 04 00.2**	**+0.3**
	baz=32,slow=14							
NRA0	**NORESS Array S**	**7.57**	**217**	Pn		**Pn**	**19 04 00.2**	**+0.3**
	baz=32,slow=14							

IDC 14 19:11:30.7±2.5, 21.°86N×93.°25E, h0km, mb3.3/3,
mb1 3.4/4, mb1mx3.2/47, mbtmp3.2/4, ML2.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/56, Error ellipse: s-maj=144.6km s-min=27.3km az=57.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.32**	**121**	Pn		Pn	19 13 07.1	+1.9
	0.1nm,0.3s,baz=308,slow=12,SNR=4.3							
CMAR				Lg		Lg	19 14 45.4	
	0.1nm,0.3s,baz=299,slow=27,SNR=2.4							
MKAR	**Makanchi Array**	**26.42**	**343**	P		P	19 17 09.3	+0.3
	0.3nm,0.6s,baz=107,slow=7.9,SNR=4.4							
SONM	**Songino Array**	**27.99**	**19**	LR		LR	19 31 12.1	
	comp=Z,35nm,21.3s,baz=218,slow=42							
WRA	**Warramunga Arr**	**57.78**	**133**	P		P	19 21 23.2	-0.8
	0.1nm,0.3s,baz=322,slow=7.4,SNR=6.6							
ASAR	**Alice Springs**	**60.10**	**136**	P		P	19 21 40.1	0.0
	0.2nm,0.4s,baz=327,slow=7.1,SNR=4.9							

*NEIC **14** 19:40:37.6±2.2, 6.°49S±0.°09×129.°3E±0.°1, h177km±9km, mb4.3/12, Error ellipse: s-maj=17.8km s-min=13.6km az=82.0*
*IDC **14** 19:40:39.0±1.8, 6.°55S×129.°26E, h189km±19km, mb3.4/6, mb1 3.7/11, mb1mx3.3/60, mbtmp4.2/11, Error ellipse: s-maj=28.2km s-min=13.9km az=83.0*
*DJA **14** 19:40:40.4±0.2, 7.°5S×129.°9E±0.°1, h212km±9km, M4.2/12, mB4.8/6, mb4.4/10, MLv4.2/12, Mw(mB)4.0/6*

ISC 14 19:40:39.7±0.6, 6.°77S±0.°05×129.°23E±0.°06, h200km, n67, σ2ᵍ38/70, mb4.0/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**2.33**	**17**	P		**Pn**	**19 41 24.3**	**+2.6**
SAUI	**Saumlaki**	**2.38**	**121**	Pn		**Pn**	**19 41 21.2**	**-1.1**
SAUI				Sn		**Sn**	**19 41 50.7**	**-4.8**
SAUI	**Saumlaki**	**2.38**	**121**	P		**Pn**	**19 41 25.6**	**+3.3**
AAI	**Ambon**	**3.23**	**341**	P		**Pn**	**19 41 32.2**	**+0.1**
MSAI	**Masohi**	**3.41**	**355**	P		**Pn**	**19 41 35.0**	**+0.7**
SANI	**Sanana**	**5.69**	**325**	P		**Pn**	**19 42 03.0**	**0.0**
	0.1nm11nm,0.4s							
SANI	**Sanana**	**5.69**	**325**	P		**Pn**	**19 42 05.7**	**+2.7**
SIJI	**Sorong**	**6.20**	**19**	P		**Pn**	**19 42 06.5**	**-3.2**
	12nm,0.3s,baz=40,slow=23,SNR=83							
SIJI				S		Sn	19 43 10.2	-11
	5.4nm,0.3s,baz=86,slow=23,SNR=15							
SWI	**Sorong**	**6.20**	**19**	P		**Pn**	**19 42 06.7**	**-3.0**
MTN	**Manton Dam**	**6.32**	**163**	Pn		**Pn**	**19 42 13.1**	**+1.9**
MTN				Sn		**Sn**	**19 43 20.6**	**-3.1**
MTN	**Manton Dam**	**6.32**	**163**	P		**Pn**	**19 42 13.6**	**+2.4**
LBMI	**Labuha**	**6.33**	**344**	P		**Pn**	**19 42 10.4**	**-0.9**
	0.1nm529nm26nm,0.4s							
BATI	**Baumata**	**6.48**	**238**	P		**Pn**	**19 42 14.5**	**+1.2**
	10nm,0.3s,baz=120,slow=3.2,SNR=23							
BATI				S		**Sn**	**19 43 25.2**	**-2.1**
	21nm,0.3s,baz=112,slow=17,SNR=11							
BATI	**Baumata**	**6.48**	**238**	P		**Pn**	**19 42 14.5**	**+1.2**
	0.2nm31nm,0.7s							
KDU	**Kakadu**	**6.70**	**152**	P		**Pn**	**19 42 18.1**	**+2.1**
BAKI	**Biak**	**8.82**	**51**	P		**Pn**	**19 42 44.6**	**+0.9**
KNRA	**Kununurra**	**8.87**	**183**	Pn		**Pn**	**19 42 45.6**	**+1.4**
KNRA				Sn		**Sn**	**19 44 21.5**	**-2.3**
KNRA	**Kununurra**	**8.87**	**183**	P		**Pn**	**19 42 46.3**	**+2.0**
WBSI	**Waikabubak, Su**	**10.15**	**253**	P		**Pn**	**19 43 00.3**	**-0.7**
	30nm,1.1s							
PLAI	**Plampang**	**11.53**	**259**	P		**P**	**19 43 22.1**	**-2.1**
	20nm,1.8s							
FITZ	**Fitzroy Crossi**	**11.79**	**197**	P		**Pn**	**19 43 23.2**	**+1.2**
	1.5nm,0.3s,baz=29,slow=8.8,SNR=85							
FITZ				S		**Sn**	**19 45 28.3**	**-5.3**
	1.9nm,0.3s,baz=123,slow=20,SNR=3.8							
FITZ	**Fitzroy Crossi**	**11.79**	**197**	Pn		**Pn**	**19 43 22.6**	**+0.6**
WB0	**Warramunga Arr**	**13.86**	**159**			**Pn**	**19 43 47.5**	**-0.6**
WB0				Sn		**S**	**19 46 18.2**	**-4.3**
WRAB	**Tennant Creek**	**14.00**	**160**	Pn		**Pn**	**19 43 50.7**	**+0.9**
WRAB				Sn		**S**	**19 46 20.9**	**-4.9**
WRAB	**Tennant Creek**	**14.00**	**160**	P		**Pn**	**19 43 51.0**	**+1.2**
WRA	**Warramunga Arr**	**14.01**	**160**	P		**Pn**	**19 43 50.9**	**+1.1**
	2.2nm,0.3s,baz=340,slow=13,SNR=66							
WRA				S		**S**	**19 46 20.1**	**-5.7**
	1.4nm,0.3s,baz=324,slow=25,SNR=6.3							
WRA	**Warramunga Arr**	**14.01**	**160**	Pn		**Pn**	**19 43 49.5**	**-0.3**
WB2	**Warramunga Arr**	**14.01**	**160**	Pn		**Pn**	**19 43 49.0**	**-0.9**
WR0	**Warramunga Arr**	**14.09**	**159**	Pn		**Pn**	**19 43 51.5**	**+0.6**
COEN	**Coen**	**15.46**	**119**	P		**Pn**	**19 44 06.7**	**-1.0**
COEN	**Coen**	**15.46**	**119**	P		**P**	**19 44 10.0**	**+2.2**
QIS	**Mount Isa**	**17.00**	**145**	P		**Pn**	**19 44 28.2**	**+2.1**
PSA00	**Pilbara Seismi**	**17.29**	**211**	P		**Pn**	**19 44 30.0**	**+0.5**
PSA00				IAmb		IAmb	19 44 32.6	
	comp=Z,15nm,1.1s							
PSA00	**Pilbara Seismi**	**17.29**	**211**	P		**Pn**	**19 44 29.7**	**+0.2**
PSA00				IAmb		IAmb	19 44 54.1	
	comp=Z,7.8nm,1.5s							
PSA00	**Pilbara Seismi**	**17.29**	**211**	P		**Pn**	**19 44 30.7**	**+1.2**
AS31	**Alice Springs**	**17.39**	**166**			**Pn**	**19 44 32.8**	**+2.0**
AS31				IAmb		IAmb	19 44 33.9	
	comp=Z,6.3nm,0.6s							
ASAR	**Alice Springs**	**17.39**	**166**	P		**Pn**	**19 44 32.7**	**+2.0**
	comp=Z,2.4nm,0.3s,baz=346,slow=11,SNR=236							
ASAR				S		**S**	**19 47 40.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=346,slow=24,SNR=7.3							
WRKA	**Warakurna**	**18.19**	**183**	P		**Pn**	**19 44 41.4**	**+1.3**
MTSU	**Mount Surprise**	**18.55**	**129**	P		**Pn**	**19 44 45.0**	**+0.7**
CTAO	**Charters Tower**	**21.17**	**130**	P		**P**	**19 45 10.9**	**+1.2**
OOD	**Oodnadatta**	**21.79**	**164**	P		**P**	**19 45 18.2**	**+2.3**
INKA	**Innaminka**	**23.55**	**154**	P		**P**	**19 45 35.4**	**+3.3**
MULG	**Mulgathing**	**23.83**	**170**	P		**P**	**19 45 37.4**	**+2.8**
FORT	**Forrest**	**23.91**	**182**	P		**P**	**19 45 37.8**	**+2.4**
FORT				IAmb		IAmb	19 46 01.2	
	comp=Z,14nm,1.2s							
FORT	**Forrest**	**23.91**	**182**	P		**P**	**19 45 39.9**	**+4.5**
LCRK	**Leigh Creek**	**25.02**	**161**	P		**P**	**19 45 48.4**	**+2.9**
BBOO	**Buckleboo**	**26.68**	**167**	P		**P**	**19 46 02.3**	**+2.0**
BBOO				IAmb		IAmb	19 46 03.0	
	comp=Z,4.2nm,0.5s							
BBOO	**Buckleboo**	**26.68**	**167**	P		**P**	**19 46 02.5**	**+2.2**
STKA	**Stephens Creek**	**27.52**	**157**	P		**P**	**19 46 10.0**	**+2.2**
	comp=Z,0.9nm,0.5s,baz=346,slow=9.6,SNR=4.6							
STKA	**Stephens Creek**	**27.52**	**157**	P		**P**	**19 46 06.6**	**-1.2**
HTT	**Hallett**	**28.02**	**163**	P		**P**	**19 46 15.5**	**+3.3**
CMSA	**Cobar Meteorol**	**29.06**	**150**	P		**P**	**19 46 24.5**	**+3.1**
ARPS	**Mount Arapiles**	**32.01**	**161**	P		**P**	**19 46 50.6**	**+3.3**
CAN	**Canberra**	**33.73**	**150**	P		**P**	**19 47 05.5**	**+3.1**
TOO	**Toolangi**	**34.05**	**157**	P		**P**	**19 47 07.8**	**+2.8**
TOO				IAmb		IAmb	19 47 10.5	
	comp=Z,5.3nm,1.1s							
PZH	**PanZhiHua**	**42.48**	**322**	P		P	19 48 22.1	+6.6
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,100nm,5.6s							
XAN	**Xi'an**	**44.91**	**336**	P		P	19 48 40.1	+5.4
XAN				pP		pP	19 49 16.9	+0.4
XAN				pmax		pmax		
	comp=Z,6.0nm,1.4s							
HHC	**Hu-ho-hao-te**	**50.09**	**343**	*e*P		P	19 49 21.4	+6.9
HHC				pmax		pmax		
	comp=Z,7.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,78nm,6.2s							
WMQ	**Urumqi**	**62.78**	**327**	*e*P		P	19 50 49.6	+5.6
MKAR	**Makanchi Array**	**67.61**	**327**	P		**P**	**19 51 14.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=115,slow=8.8,SNR=9.7							
YAK	**Yakutsk**	**68.59**	**0**	P		**P**	**19 51 19.1**	**-1.5**
	comp=Z,1.8nm,0.3s,baz=33,slow=1.7,SNR=4.8							
YAK	**Yakutsk**	**68.59**	**0**	IAmb		IAmb	19 51 21.0	
	comp=Z,5.9nm,0.8s							
ZALV	**Zalesovo Beam**	**71.04**	**334**	P		**P**	**19 51 34.6**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=149,slow=3.5,SNR=1.8							
KURBB	**Kurchatov Arra**	**71.91**	**329**	P		**P**	**19 51 40.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=129,slow=4.8,SNR=7.5							
KURK	**Kurchatov**	**71.92**	**329**	P		**P**	**19 51 40.8**	**-0.3**
KURK	**Kurchatov**	**71.92**	**329**	IAmb		IAmb	19 51 46.2	
	comp=Z,1.4nm,0.9s							
VNDA	**Vanda**	**72.77**	**173**	P		**P**	**19 51 47.4**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=297,slow=6.8,SNR=2.4							

*NEIC **14** 19:45:36.6±2.0, 10.°58S±0.°10×161.°5E±0.°1, h40km±8km, mb4.7/20, Error ellipse: s-maj=18.2km s-min=10.2km az=48.0*
*IDC **14** 19:45:37.3±2.8, 10.°64S×161.°42E, h51km±24km, mb3.9/14, mb1 4.1/16, mb1mx3.8/53, mbtmp4.2/16, ML4.0/2, MS3.7/15, Ms1 3.7/15, ms1mx3.4/59, Error ellipse: s-maj=25.4km s-min=17.8km az=110.0*

ISC 14 19:45:37.0±0.6, 10.°57S±0.°08×161.°40E±0.°09, h50km, n53, σ1ᵍ34/41, mb4.4/24, MS3.7/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.82**	**308**	P		**Pn**	**19 46 06.4**	**+0.5**
	54nm,0.3s,baz=134,slow=2.0,SNR=17							
HNR				S		**Sn**	**19 46 24.1**	**-3.8**
	133nm,0.3s,baz=202,slow=23,SNR=14							
HNR	**Honiara**	**1.82**	**308**			**Pn**	**19 46 06.0**	**+0.1**
SANVU	**Saraoutou**	**7.45**	**131**			**Pn**	**19 47 21.4**	**-1.7**
LIFNC	**LIFOU**	**11.60**	**152**	Pn		**Pn**	**19 48 17.9**	**-2.0**
DZM	**Mont Dzumac**	**12.42**	**158**	P		**Pn**	**19 48 30.8**	**-0.3**
	0.5nm,0.3s,baz=21,slow=8.4,SNR=49							
DZM				LR		LR	19 52 42.8	
	comp=Z,405nm,18.2s,baz=356,slow=34							
DZM	**Mont Dzumac**	**12.42**	**158**	*e*Pn		**Pn**	**19 48 30.4**	**-0.7**
	4.2nm,0.2s							
DZM				*e*LR		LR	19 51 13.2	
	comp=Z,360nm,21.9s							
PMG	**Port Moresby**	**14.07**	**273**	LR		LR	19 53 57.7	
	comp=Z,232nm,19.6s,baz=140,slow=36							
CTA	**Charters Tower**	**17.39**	**235**	P		**P**	**19 49 38.1**	**+1.2**
	0.5nm,0.3s,baz=64,slow=11,SNR=12							
CTA				LR		LR	19 55 47.7	
	comp=Z,209nm,18.8s,baz=77,slow=35							
EIDS	**Eidsvold**	**17.67**	**212**			**P**	**19 49 41.4**	**+1.4**
AFI	**Afiamalu**	**26.42**	**100**	LR		LR	19 59 35.2	
	comp=Z,124nm,19.2s,baz=147,slow=32							
WRAB	**Tennant Creek**	**27.67**	**247**	P		**P**	**19 51 20.6**	**+0.2**
WRA	**Warramunga Arr**	**27.68**	**247**	P		**P**	**19 51 20.9**	**+0.4**
	4.3nm,1.1s,baz=76,slow=9.6,SNR=8.7							
STKA	**Stephens Creek**	**28.01**	**218**	P		**P**	**19 51 23.3**	**-0.1**
	1.8nm,0.8s,baz=37,slow=12,SNR=6.2							
STKA				LR		LR	20 02 40.7	
	comp=Z,326nm,18.4s,baz=26,slow=37							
STKA	**Stephens Creek**	**28.01**	**218**	IAmb		IAmb	19 51 24.6	
	comp=Z,0.8nm,1.0s							
GUMO	**Guam**	**29.07**	**325**	LR		LR	20 02 59.8	
	comp=Z,43nm,18.9s,baz=160,slow=36							
ASAR	**Alice Springs**	**29.25**	**240**	P		**P**	**19 51 34.3**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=75,slow=9.3,SNR=4.9							
ASAR				LR		LR	20 03 18.2	
	comp=Z,231nm,18.4s,baz=118,slow=36							
TOO	**Toolangi**	**30.45**	**205**	P		**P**	**19 51 46.0**	**+1.0**
TOO				IAmb		IAmb	19 51 46.8	
	comp=Z,5.7nm,0.8s							
URZ	**Urewera**	**30.96**	**156**	LR		LR	20 03 02.1	
	comp=Z,119nm,18.0s,baz=30,slow=34							
SIJI	**Sorong**	**31.45**	**286**	LR		LR	20 04 26.3	
	comp=Z,43nm,20.5s,baz=80,slow=36							
BBOO	**Buckleboo**	**32.15**	**223**	P		**P**	**19 52 00.1**	**+0.1**
BBOO				IAmb		IAmb	19 52 01.0	
	comp=Z,14nm,0.9s							
KNRA	**Kununurra**	**32.16**	**257**	P		**P**	**19 51 58.8**	**-1.4**
KNRA				IAmb		IAmb	19 52 02.0	
	comp=Z,7.5nm,0.7s							
FITZ	**Fitzroy Crossi**	**35.39**	**254**	P		**P**	**19 52 27.9**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=80,slow=5.5,SNR=5.1							
FITZ				LR		LR	20 05 45.9	
	comp=Z,73nm,19.8s,baz=76,slow=34							
PPT2	**Papeete2**	**47.96**	**104**	*e*LR		LR

Fault plane solution: $M_0$2.43000×10^{14} NP1: ϕ_s202.00000°,δ67.00000°,λ178.00000°. NP2: ϕ_s293.00000°,δ88.00000°,λ23.00000°.

JMA 14 20:01:46.4,32.70N×130.76E,h10km±1km,M3.5,1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.16**	**164**	⇑P	Pg	20 01 50.1	+0.2
JIU3				S	Sg	20 01 52.7	+0.4
JTA	**Tamana**	**0.33**	**324**	P	Pg	20 01 53.1	+0.2
JNU	**Nakatsue**	**0.43**	**13**	S	Sg	20 02 00.9	+0.3
JTZ	**Takazaki**	**0.84**	**161**	P	Pb	20 02 03.1	0.0
JTZ				S	Sb	20 02 14.6	+0.1

*IDC **14** 20:10:35.1±0.6,32.˙71N×130.˙73E,h0km,mb4.1/19, mb1 4.3/24,mb1mx4.2/51,mbtmp4.2/24,ML4.0/4,MS3.7/41, Ms1 3.7/41,ms1mx3.5/92,Error ellipse: s-maj=14.7km s-min=6.8km az=108.0*

*MOS **14** 20:10:35.9±0.9,32.˙67N×130.˙67E,h16km,mb4.7/26,Error ellipse: s-maj=8.8km s-min=4.9km az=114.3*

*JMA **14** 20:10:36.8,32.˙76N×130.˙81E,h10km±1km,M4.6 Broadband fault plane solution: P waves. NP1: ϕ_s268.00000°,δ77.00000°,λ-39.00000°. NP2:ϕ_s9.00000°, δ52.00000°,λ-163.00000°. Principal axes: T Plg16.0000°, Azm323.0000°; N Plg49.0000°, Azm72.0000°; P Plg37.0000°, Azm221.0000°;*

JMA Felt IV J1.

*NIED **14** 20:10:36.9,32.˙76N×130.˙81E,h10km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.62; $M_{\theta\theta}$2.90; $M_{\phi\phi}$-1.28; $M_{r\theta}$1.60; $M_{\theta\phi}$4.33; $M_{\phi r}$-1.87; Fault plane solution: $M_0$5.58000×10^{15} NP1:ϕ_s18.00000°, δ66.00000°,λ-158.00000°. NP2:ϕ_s278.00000°, δ70.00000°,λ-26.00000°.*

*NEIC **14** 20:10:37.4±1.5,32.˙75N±0.˙03×130.˙71E±0.˙07,h10km±1km, mb4.7/73 Error ellipse: s-maj=9.9km s-min=5.0km az=288.0*

ISC 14 20:10:37.0±0.3,32.˙74N±0.˙02×130.˙74E±0.˙04,h10km,n295, σ1^{s}58/287,mb4.6/116,MS3.8/49,15C-2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.20**	**162**	⇑P	**Pg**	**20 10 41.4**	**+0.3**
JIU3				S	**Sg**	**20 10 44.7**	**+0.7**
JTA	**Tamana**	**0.29**	**322**	⇑P	**Pg**	**20 10 43.1**	**+0.3**
JTA				S	**Sg**	**20 10 47.7**	**+1.0**
JNU	**Nakatsue**	**0.40**	**17**	Pg	**Pg**	**20 10 43.7**	**-1.2**
	2μm,0.3s,baz=190,slow=4.9,SNR=1458						
JNU				Lg	Lg	20 10 48.3	
JNU	**Nakatsue**	**0.40**	**17**	⇓P	**Pg**	**20 10 44.3**	**-0.6**
JNU				*i* S	**Sg**	**20 10 49.4**	**-0.9**
JNU	**Nakatsue**	**0.40**	**17**		**Pg**	**20 10 44.0**	**-0.9**
JTZ	**Takazaki**	**0.88**	**161**	⇑P	**Pg**	**20 10 54.2**	**+0.2**
JTZ				S	**Sb**	**20 11 06.3**	**0.0**
JSU	**Suzuyama**	**1.25**	**191**	Pn	**Pn**	**20 11 00.1**	**-0.4**
JTU	**Tsushima**	**2.11**	**328**	Pn	**Pn**	**20 11 11.3**	**-1.0**
JMN	**Monobe**	**2.81**	**69**	Pn	**Pn**	**20 11 22.0**	**-0.1**
JHS	**Saijyo**	**3.00**	**41**	Pn	**Pn**	**20 11 24.8**	**+0.2**
TJN	**Taejon**	**4.58**	**323**	*ce*P	**Pn**	**20 11 46.7**	**+0.4**
TJN	**Taejon**	**4.58**	**323**		**Pn**	**20 11 46.0**	**-0.3**
TJN	**Taejon**	**4.58**	**323**	P	**Pb**	**20 11 53.0**	**-4.4**
KSRS	**Korea Array**	**5.24**	**335**	Pn	**Pn**	**20 11 55.6**	**+0.2**
	1.5nm,0.3s,baz=150,slow=14,SNR=19						
KSRS				Pg	**Pb**	**20 12 11.8**	**+3.1**
	3.2nm,0.3s,baz=152,slow=16,SNR=24						
KSRS				Lg	Lg	20 13 20.0	
	6.2nm,0.3s,baz=155,slow=30,SNR=1.8						
KSAR	**Wonju Array Be**	**5.25**	**334**	P	**Pn**	**20 11 55.6**	**+0.1**
KSAR	**Wonju Array Be**	**5.25**	**334**	Pn	**Pn**	**20 11 55.5**	**+0.1**
KS19	**Wonju Array Si**	**5.31**	**334**		**Pn**	**20 11 55.4**	**-0.9**
INCN	**Inchon**	**5.81**	**326**	P	**Pn**	**20 12 01.3**	**-1.9**
INCN	**Inchon**	**5.81**	**326**	Pn	**Pn**	**20 12 01.3**	**-1.9**
INU	**Inuyama**	**5.82**	**62**	Pn	**Pn**	**20 12 02.9**	**-0.5**
INU	**Inuyama**	**5.82**	**62**	P	**Pn**	**20 12 06.1**	**+2.7**
JGF	**Kuroka**	**6.18**	**61**		**Pn**	**20 12 09.1**	**+0.7**
JOW	**Kunigami**	**6.26**	**201**	Pn	**Pn**	**20 12 10.3**	**+0.9**
	12nm,0.3s,baz=82,slow=13,SNR=19						
JOW	**Kunigami**	**6.26**	**201**	Pn	**Pn**	**20 12 11.0**	**+1.6**
JOW	**Kunigami**	**6.26**	**201**	P	**Pn**	**20 12 13.6**	**+4.1**
MJB9	**Matsu-Tunnel**	**7.23**	**56**	Pn	**Pn**	**20 12 23.6**	**+0.9**
MAJO	**Matsushiro**	**7.23**	**56**	*i* P	**Pn**	**20 12 25.7**	**+3.0**
MAJO	**Matsushiro**	**7.23**	**56**	Pn	**Pn**	**20 12 24.7**	**+1.9**
MAJO	**Matsushiro**	**7.23**	**56**	P	**Pn**	**20 12 26.7**	**+4.0**
MJAR	**Matsushiro Arr**	**7.23**	**56**	Pn	**Pn**	**20 12 24.3**	**+1.6**
	0.8nm,0.3s,baz=243,slow=14,SNR=20						
MJAR				LR	LR	20 15 27.0	
	comp=Z,970nm,19.1s,baz=194,slow=40						
JHJ	**Hachijo jima 2**	**7.61**	**85**	Pn	**Pn**	**20 12 28.7**	**+0.7**
	33nm,0.3s,baz=84,slow=16,SNR=9.7						
JHJ				LR	LR	20 15 27.1	
	comp=Z,192nm,20.5s,baz=82,slow=38						
JHJ2	**Mitsune**	**7.64**	**85**	Pn	**Pn**	**20 12 28.2**	**-0.1**
NJ2	**Nanjing**	**10.07**	**269**	*e*P	**Pn**	**20 13 00.1**	**-1.6**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
NJ2				LR	LR		
	comp=N,1μm,10.9s						
NJ2				LR	LR		
	comp=E,570nm,10.4s						
NJ2				LR	LR		
	comp=Z,1μm,10.6s						
USRK	**Ussuriysk Ar.**	**11.49**	**5**	Pn	**Pn**	**20 13 22.2**	**+1.2**
	baz=187,slow=13,SNR=5.9						
CN2	**Changchun**	**11.80**	**341**	*e*P	**Pn**	**20 13 28.3**	**+3.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,600nm,10.0s						
CN2				LR	LR		
	comp=E,400nm,10.0s						
CN2				LR	LR		
	comp=Z,600nm,11.0s						
MDJ	**Mudanjiang**	**11.90**	**356**	P	**Pn**	**20 13 27.4**	**+0.8**
MDJ				S	**Sn**	**20 15 42.3**	**+2.9**
MDJ				sS		20 15 49.6	
MDJ				ScP	**ScP**	**20 22 42.8**	**-3.7**
MDJ				PcS	**PcS**	**20 22 46.0**	**-1.5**
MDJ				pmax	pmax		
	comp=Z,7.0nm,3.0s						
MDJ				pmax	pmax		
	comp=Z,98nm,3.6s						
MDJ				LR	LR		
	comp=N,430nm,8.0s						
MDJ				LR	LR		
	comp=E,860nm,11.1s						
MDJ				LR	LR		
	comp=Z,480nm,10.7s						
SSLB	**Suanglung**	**12.40**	**226**	Pn	**Pn**	**20 13 33.6**	**-0.1**
SSLB	**Suanglung**	**12.40**	**226**	P	Pn	20 13 40.5	+6.9
LYN	**LuoYang**	**15.33**	**282**	*e*P	**P**	**20 14 15.8**	**-2.4**
LYN				sP	pP	20 14 20.4	-0.7
LYN				PP	**sP**	**20 14 27.0**	**+4.6**
LYN				S	**Sn**	**20 17 06.4**	**+3.1**
LYN				SS	**S**	**20 17 17.3**	**-2.5**
LYN				LR	LR		
	comp=N,1μm,12.0s						
LYN				LR	LR		
	comp=E,570nm,11.2s						
LYN				LR	LR		
	comp=Z,1μm,12.4s						
KLR	**Kul'dur**	**16.50**	**2**	Pn	**P**	**20 14 32.4**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=167,slow=6.4,SNR=25						
KLR	**Kul'dur**	**16.50**	**2**	*i* P	**Pn**	**20 14 30.1**	**+1.7**
YSS	**Yuzh-Sakhalins**	**16.90**	**29**	*e*P	**P**	**20 14 35.9**	**+0.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.3s						
YSS				MLR	MLR		
	comp=Z,600nm,14.0s						
HHC	**Hu-ho-hao-te**	**17.34**	**303**	*e*P	**Pn**	**20 14 37.9**	**-1.3**
HHC				pP	P	20 14 41.0	+0.4
HHC				S	**Sn**	**20 17 49.0**	**-3.2**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.8s						
HHC				LR	LR		
	comp=N,570nm,13.5s						
HHC				LR	LR		
	comp=E,580nm,11.8s						
HHC				LR	LR		
	comp=Z,740nm,12.5s						
XAN	**Xi'an**	**18.27**	**280**	P	**Pn**	**20 14 49.6**	**-1.1**
XAN				pP	pP	20 14 53.1	-0.6
XAN				S	**Sn**	**20 18 05.3**	**-9.4**
XAN				pmax	pmax		
	comp=Z,16nm,1.4s						
XAN				LR	LR		
	comp=N,730nm,12.8s						
XAN				LR	LR		
	comp=E,580nm,14.1s						
XAN				LR	LR		
	comp=Z,570nm,15.1s						
ENH	**Enshi**	**18.29**	**268**	P	**P**	**20 14 51.2**	**+0.1**
BTO	**Baotou**	**18.36**	**301**	*e*P	**P**	**20 14 53.4**	**+1.6**
ZEA	**Zeya**	**21.14**	**354**	*e*P	**P**	**20 15 23.9**	**+2.0**
ZEA				*e*S	**S**	**20 19 11.7**	**-5.3**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
ZEA				smax	smax		
	comp=N,200nm,7.7s						
ZEA				smax	smax		
	comp=E,200nm,4.5s						
ZEA				MLR	MLR		
	comp=N,200nm,8.0s						
ZEA				MLR	MLR		
	comp=E,100nm,8.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,12.0s						
GYA	**Guiyang**	**21.83**	**260**	⇑*i*P	**P**	**20 15 30.4**	**+0.7**
GYA				pmax	pmax		
	comp=Z,15nm,0.9s						
GYA				LR	LR		
	comp=Z,890nm,11.9s						
LZH	**Lanzhou**	**22.41**	**286**	*e*P	**P**	**20 15 37.0**	**+1.0**
LZH				sP	sP	20 15 43.8	+3.6
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				pmax	pmax		
	comp=Z,85nm,4.6s						
LZH				LR	LR		
	comp=N,720nm,12.6s						
LZH				LR	LR		
	comp=E,800nm,13.1s						
LZH				LR	LR		
	comp=Z,850nm,14.3s						
CD2	**Chengdu**	**22.98**	**273**	P	**P**	**20 15 41.6**	**-0.3**
CD2				pmax	pmax		
	comp=Z,30nm,1.1s						
CD2				LR	LR		
	comp=N,210nm,14.7s						
CD2				LR	LR		
	comp=E,1μm,14.7s						
CD2				LR	LR		
	comp=Z,990nm,12.0s						
GUMO	**Guam**	**23.02**	**143**	LR	LR	20 22 57.4	
	comp=Z,128nm,21.1s,baz=318,slow=32						
ULN	**Ulaanbaatar**	**23.42**	**317**	*ce*P	**P**	**20 15 46.9**	**+0.6**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ULN	**Ulaanbaatar**	**23.42**	**317**	P	**P**	**20 15 45.4**	**-1.0**
SONM	**Songino Array**	**23.79**	**316**	P	**P**	**20 15 50.4**	**+0.5**
	comp=Z,5.8nm,0.9s,baz=103,slow=6.7,SNR=5.2						
SONM	**Songino Array**	**23.79**	**316**	P	**P**	**20 15 50.1**	**+0.2**
GTA	**Gaotai**	**25.79**	**294**	⇓P	**P**	**20 16 09.6**	**+1.3**
GTA				pP	sP	20 16 14.1	+1.5
GTA				S	S	20 20 55.6	+18
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,37nm,5.2s						
GTA				LR	LR		
	comp=N,1μm,16.7s						
GTA				LR	LR		
	comp=E,220nm,15.9s						
GTA				LR	LR		
	comp=Z,340nm,13.5s						
PZH	**PanZhiHua**	**25.91**	**264**	P	**P**	**20 16 09.3**	**-0.2**
PZH				S	**S**	**20 20 47.3**	**+7.5**
PZH				SS	**SnSn**	**20 21 41.3**	**+5.3**
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,140nm,5.6s						
PZH				LR	LR		
	comp=N,770nm,14.7s						
PZH				LR	LR		
	comp=E,1μm,13.7s						
PZH				LR	LR		
	comp=Z,770nm,15.0s						
ZAK	**Zakamensk**	**26.84**	**319**	*e*P	**P**	**20 16 20.6**	**+2.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s						
PETK	**Petropavlovsk-**	**28.08**	**35**	LR	LR	20 28 07.2	
	comp=Z,84nm,18.1s,baz=230,slow=37						
PET	**Petropavlovsk**	**28.50**	**36**	*e*P	**P**	**20 16 32.8**	**+0.5**
PET				*e*S	**S**	**20 21 16.9**	**-2.9**
PET				pmax	pmax		
	comp=Z,100nm,13.4s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
YAK	**Yakutsk**	**29.32**	**359**	LR	LR	20 27 11.6	
	comp=Z,113nm,20.9s,baz=272,slow=34						
YAK	**Yakutsk**	**29.32**	**359**	*e*P	**P**	**20 16 38.5**	**-0.9**
YAK				*e**PP	**sP**	**20 16 47.5**	**+3.7**
YAK				*e*		20 17 33.1	
YAK				*e*		20 19 49.9	
YAK				*e*S	**S**	**20 21 31.4**	**-1.0**
YAK				*e**SS	**sS**	**20 21 37.4**	**-0.1**
YAK				*e*		20 27 23.1	
YAK				pmax	pmax		
	comp=Z,11nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,116nm,4.0s						
YAK				pmax	pmax		
	comp=E,39nm,3.8s						
YAK				smax	smax		
	comp=E,38nm,3.3s						
YAK				smax	smax		
	comp=N,24nm,3.0s						
YAK				MLR	MLR		
	comp=Z,83nm,17.0s						
GOMU	**GeErMu**	**29.72**	**287**	P	**P**	**20 16 43.4**	**-0.4**
GOMU				pP	pP	20 16 46.8	0.0
GOMU				sP	sP	20 16 50.5	+2.4
GOMU				S	**S**	**20 21 45.1**	**+5.1**
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GOMU				pmax	pmax		
	comp=Z,42nm,4.1s						
GOMU				LR	LR		
	comp=N,200nm,18.7s						
GOMU				LR	LR		
	comp=E,120nm,18.3s						
GOMU				LR	LR		
	comp=Z,160nm,18.5s						
MA2	**Magadan**	**29.97**	**20**	LR	LR	20 28 42.1	
	comp=Z,29nm,19.1s,baz=213,slow=36						
CHTO	**Chiang Mai**	**31.68**	**252**	P	**P**	**20 17 00.0**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**31.68**	**252**	P	**P**	**20 17 00.0**	**-0.8**
CHTO				IAmb	IAmb	20 17 03.1	
	comp=Z,5.9nm,0.8s						
CHTO	**Chiang Mai**	**31.68**	**252**		**P**	**20 17 01.3**	**+0.5**
CM31	**Chiang Mai Arr**	**31.87**	**251**	P	**P**	**20 17 03.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**31.87**	**251**	P	**P**	**20 17 03.6**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=55,slow=7.4,SNR=21						
CMAR				LR	LR	20 30 12.7	
	comp=Z,92nm,18.2s,baz=75,slow=37						
CMAR	**Chiang Mai Arr**	**31.87**	**251**	P	**P**	**20 17 02.7**	**+0.2**
SEY	**Seymchan**	**33.18**	**18**	LR	LR	20 31 14.6	
	comp=Z,185nm,18.4s,baz=81,slow=37						
SEY	**Seymchan**	**33.18**	**18**	*ce*P	**P**	**20 17 14.5**	**+1.0**
SEY				pmax	pmax		
	comp=Z,5.0nm,1.5s						
SIJI	**Sorong**	**33.43**	**179**	LR	LR	20 28 30.4	
	comp=Z,66nm,22.0s,baz=53,slow=32						
LSA	**Lhasa**	**33.86**	**276**	P	**P**	**20 17 18.9**	**-1.5**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
LSA	**Lhasa**	**33.86**	**276**	P	**P**	**20 17 18.9**	**-1.5**
LSA				lAmb	lAmb	20 17 34.1	
	comp=Z,10.0nm,1.4s						
WMQ	**Urumqi**	**35.20**	**301**	*e*P	**P**	**20 17 32.3**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				LR	LR		
	comp=N,550nm,12.9s						
WMQ				LR	LR		
	comp=E,380nm,14.1s						
WMQ				LR	LR		
	comp=Z,170nm,16.5s						
KSM	**Kuching**	**36.56**	**216**	P	**P**	**20 17 42.7**	**-0.4**
KSM				lAmb	lAmb	20 17 45.5	
	comp=Z,7.5nm,1.0s						
SHEM	**Shemya Is, Ala**	**36.88**	**44**	LR	LR	20 31 56.0	
	comp=Z,45nm,21.1s,baz=298,slow=35						
TAPN	**Taplejung**	**37.45**	**273**	*e*P	**P**	**20 17 51.4**	**+0.4**
	comp=Z,13nm,0.9s						
ODAN	**Odare**	**37.88**	**273**	*e*P	**P**	**20 17 54.7**	**+0.1**
RAMN	**Ramite**	**38.51**	**273**	*e*P	**P**	**20 17 59.5**	**-0.4**
JIRN	**Jiri**	**38.62**	**275**	*e*P	**P**	**20 18 02.0**	**+1.0**
	comp=Z,14nm,0.9s						
ZALV	**Zalesovo Beam**	**38.68**	**317**	P	**P**	**20 18 00.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=119,slow=8.6,SNR=4.0						
ZALV				PcP	**PcP**	**20 20 09.9**	**-2.6**
	comp=Z,0.9nm,0.7s,baz=105,slow=3.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**38.68**	**317**	*i* P	**P**	**20 18 01.2**	**+0.5**
GUN	**Gumba**	**38.80**	**275**	*e*P	**P**	**20 18 03.3**	**+0.8**
	comp=Z,82nm,0.9s						
KAPI	**Kappang**	**38.97**	**198**	LR	LR	20 34 34.4	
	comp=Z,41nm,20.8s,baz=3.5,slow=37						
TIXI	**Tiksi**	**38.98**	**359**	*i* P	**P**	**20 18 04.2**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	**Tiksi**	**38.98**	**359**	P	**P**	**20 18 02.9**	**-0.1**
MK31	**Makanchi Array**	**39.18**	**306**	*i* P	**P**	**20 18 03.1**	**-2.0**
MK31	**Makanchi Array**	**39.18**	**306**	P	**P**	**20 18 02.9**	**-2.2**
MKAR	**Makanchi Array**	**39.18**	**306**	P	**P**	**20 18 04.8**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=91,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**39.18**	**306**	P	**P**	**20 18 04.6**	**-0.4**
PKI	**Pulchoki**	**39.31**	**275**	*e*P	**P**	**20 18 06.7**	**0.0**
	comp=Z,20nm,0.9s						
PKIN	**Phulchoki**	**39.32**	**275**	*e*P	**P**	**20 18 06.7**	**0.0**
	comp=Z,11nm,0.7s						
KKN	**Kakani**	**39.35**	**275**	*e*P	**P**	**20 18 07.3**	**+0.4**
	comp=Z,22nm,0.9s						
DMN	**Daman**	**39.55**	**275**	*e*P	**P**	**20 18 08.4**	**-0.2**
GKN	**Gorkha**	**39.82**	**276**	*e*P	**P**	**20 18 10.9**	**+0.1**
	comp=Z,16nm,0.9s						
DANN	**Dangsing**	**40.44**	**277**	*e*P	**P**	**20 18 16.3**	**+0.2**
	comp=Z,36nm,0.8s						
KOLN	**Koldanda**	**40.76**	**276**	*e*P	**P**	**20 18 18.7**	**+0.1**
	comp=Z,23nm,0.9s						
BILL	**Bilibino**	**40.83**	**20**	*ce*P	**P**	**20 18 19.5**	**+1.1**
BILL				*e*		20 19 52.5	
BILL				*e*PPP	PPP	20 20 22.4	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BILL	**Bilibino**	**40.83**	**20**	P	**P**	**20 18 20.6**	**+2.2**
PYUN	**Piuthan**	**41.17**	**277**	*e*P	**P**	**20 18 22.2**	**+0.2**
	comp=Z,47nm,0.9s						
KURK	**Kurchatov**	**41.89**	**311**	*ce*P	**P**	**20 18 26.5**	**-0.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURK	**Kurchatov**	**41.89**	**311**	P	**P**	**20 18 27.3**	**0.0**
KURBB	**Kurchatov Arra**	**41.94**	**311**	LR	LR	20 36 45.1	
	comp=Z,193nm,20.1s,baz=70,slow=37						
PSI	**Prapat**	**42.15**	**232**	LR	LR	20 39 37.7	
	comp=Z,167nm,18.2s,baz=63,slow=41						
TARG	**Taragay, Kyrgy**	**42.51**	**298**	P	**P**	**20 18 32.9**	**-0.2**
KDJ	**Kajisay**	**42.94**	**299**	P	**P**	**20 18 35.5**	**-0.8**
KDJ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KDJ	**Kajisay**	**42.94**	**299**	P	**P**	**20 18 35.5**	**-0.8**
NRIK	**Noril'sk**	**43.84**	**339**	P	**P**	**20 18 43.0**	**0.0**
	comp=Z,1.8nm,0.4s,baz=118,slow=7.6,SNR=4.1						
NRIK	**Noril'sk**	**43.84**	**339**	*ce*P	**P**	**20 18 42.2**	**-0.7**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NRIK	**Noril'sk**	**43.84**	**339**	lAmb	lAmb	20 19 09.2	
	comp=Z,9.1nm,1.4s						
GSI	**Gunungsitoli**	**44.15**	**232**	P	**P**	**20 18 43.1**	**-2.9**
GSI				lAmb	lAmb	20 18 46.8	
	comp=Z,28nm,1.4s						
GSI	**Gunungsitoli**	**44.15**	**232**	P	**P**	**20 18 42.6**	**-3.5**
	comp=Z,16nm,1.6s						
GSI				pP	**pP**	**20 18 45.6**	**-3.6**
	comp=Z,16nm,1.6s						
KRJI	**Kerinci**	**44.34**	**224**	P	**P**	**20 18 47.8**	**+0.1**
	comp=Z,40nm,1.4s						
PMG	**Port Moresby**	**44.74**	**157**	LR	LR	20 34 39.8	
	comp=Z,77nm,20.4s,baz=358,slow=32						
FRU1	**Bishkek**	**44.75**	**300**	P	**P**	**20 18 50.0**	**-0.7**
FRU1				pmax	pmax		
	comp=Z,16nm,1.2s						
FRU1	**Bishkek**	**44.75**	**300**	P	**P**	**20 18 50.0**	**-0.7**
FRU1				lAmb	lAmb	20 18 53.5	
	comp=Z,16nm,1.1s						
AAK	**Ala-Archa**	**44.87**	**300**	*ce*P	**P**	**20 18 50.5**	**-1.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**44.87**	**300**	P	**P**	**20 18 50.7**	**-1.0**
SISI	**Saibi**	**45.18**	**228**	P	**P**	**20 18 52.3**	**-1.9**
	comp=Z,15nm,0.8s						
CGJI	**Cibinong**	**45.82**	**216**	P	**P**	**20 18 56.5**	**-2.7**
	comp=Z,25μmcomp=Z,16nm,1.2s						
BRVK	**Borovoye**	**47.16**	**314**	*ce*P	**P**	**20 19 09.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	**Borovoye**	**47.16**	**314**	P	**P**	**20 19 09.4**	**-0.1**
BRVK				lAmb	lAmb	20 19 10.5	
	comp=Z,8.4nm,1.1s						
KK31	**Karatay Array**	**47.71**	**301**	P	**P**	**20 19 14.1**	**+0.2**
KK31				pmax	pmax		
	comp=Z,13nm,0.9s						
KK31	**Karatay Array**	**47.71**	**301**	P	**P**	**20 19 14.1**	**+0.2**
KKAR	**Karatay Array**	**47.71**	**301**	P	**P**	**20 19 13.9**	**0.0**
KKAR						20 19 14.0	
KKAR				pmax	pmax		
	comp=Z,13nm,0.9s						
KKAR	**Karatay Array**	**47.71**	**301**	P	**P**	**20 19 13.8**	**0.0**
KKAR	**Karatay Array**	**47.71**	**301**	P	**P**	**20 19 14.0**	**0.0**
KKAR				lAmb	lAmb	20 19 15.2	
	comp=Z,13nm,0.9s						
BTK	**Batken**	**48.00**	**297**	P	**P**	**20 19 15.8**	**-0.4**
BTK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BTK	**Batken**	**48.00**	**297**	P	**P**	**20 19 15.8**	**-0.4**
BTK				lAmb	lAmb	20 19 38.0	
	comp=Z,3.0nm,0.8s						
GAR	**Garm**	**48.59**	**295**	P	**P**	**20 19 20.5**	**-0.3**
GAR				lAmb	lAmb	20 19 22.1	
	comp=Z,15nm,1.3s						
CHGR	**Chuyangaron**	**49.55**	**295**	P	**P**	**20 19 28.4**	**+0.2**
CHGR				pmax	pmax		
	comp=Z,16nm,1.0s						
CHGR	**Chuyangaron**	**49.55**	**295**	P	**P**	**20 19 28.4**	**+0.2**
WRA	**Warramunga Arr**	**52.49**	**176**	P	**P**	**20 19 48.3**	**-2.0**
	comp=Z,2.1nm,0.8s,baz=355,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**52.49**	**176**	lAmb	lAmb	20 19 50.1	
	comp=Z,0.3nm,1.0s						
WR0	**Warramunga Arr**	**52.52**	**175**	P	**P**	**20 19 47.0**	**-3.5**
WR0				lAmb	lAmb	20 19 50.3	
	comp=Z,5.4nm,0.8s						
SVE	**Sverdlovsk**	**52.61**	**319**	*e*P	**P**	**20 19 51.3**	**+0.5**

comp=Z,44nm,20.9s,baz=51,slow=33
AKTO Aktyubinsk 54.98 312 LR LR 20 45 32.7
comp=Z,92nm,20.5s,baz=88,slow=38
KDAK Kodiak Island 56.05 39 LR LR 20 44 23.6
comp=Z,75nm,19.8s,baz=235,slow=36
HRA Herat 56.08 292 P **P**
HRA IAmb IAmb 20 20 18.6 **20 20 17.2 +0.5**
comp=Z,4.1nm,0.8s
KTH Kantishna Hill 56.11 32 P **P** **20 20 16.7 +0.4**
KTH IAmb IAmb 20 20 21.1
comp=Z,18nm,1.4s
AS31 Alice Springs 56.17 177 P **P** **20 20 15.6 -1.4**
ASAR Alice Springs 56.17 177 P **P** **20 20 16.2 -0.8**
comp=Z,2.4nm,0.8s,baz=9.1,slow=13,SNR=32
ASAR LR LR 20 43 12.6
comp=Z,43nm,21.5s,baz=276,slow=35
NEA2 Nenana 56.80 31 P **P** **20 20 21.6 +0.5**
NEA2 IAmb IAmb 20 20 25.2
comp=Z,7.2nm,1.2s
MDM Murphy Dome 57.11 30 P **P** **20 20 24.7 +1.4**
MDM IAmb IAmb 20 20 28.0
comp=Z,10nm,1.1s
H24K Noodor Dome 57.15 29 P **P** **20 20 25.4 +1.8**
H24K IAmb IAmb 20 20 28.2
comp=Z,5.4nm,1.1s
COLA College 57.28 30 *i* P **P** **20 20 25.1 +0.6**
COLA pmax pmax
comp=Z,11nm,1.9s
ILAR Eielson Array 57.71 30 P **P** **20 20 28.4 +0.8**
comp=Z,0.9nm,1.0s,baz=258,slow=5.4,SNR=7.0
HDA Harding Lake 57.74 31 P **P** **20 20 28.2 +0.5**
HDA IAmb IAmb 20 20 31.0
comp=Z,4.3nm,0.8s
GEYT Alibeck 58.10 297 P **P** **20 20 31.1 +0.4**
comp=Z,1.3nm,0.5s,baz=29,slow=10,SNR=3.7
GEYT LR LR 20 47 53.4
comp=Z,49nm,19.0s,baz=45,slow=38
GEYT Alibeck 58.10 297 IAmb IAmb 20 20 32.3
comp=Z,2.3nm,1.0s
KIRV Kirov 58.33 323 LR LR 20 48 40.7
comp=Z,60nm,19.4s,baz=73,slow=39
SCRK Sand Creek 59.09 31 P **P** **20 20 38.0 +0.7**
SCRK IAmb IAmb 20 20 41.0
comp=Z,7.0nm,1.1s
M26K Nabesna, AK 59.88 32 P **P** **20 20 43.5 +0.8**
M26K IAmb IAmb 20 20 47.2
comp=Z,7.6nm,1.0s
L27K Beaver Creek, 60.24 32 P **P** **20 20 45.0 -0.1**
L27K IAmb IAmb 20 20 49.5
comp=Z,4.0nm,1.0s
INK Inuvik 62.07 25 P **P** **20 20 58.8 +1.4**
comp=Z,2.8nm,1.0s,baz=255,slow=17,SNR=5.0
INK Inuvik 62.07 25 P **P** **20 20 58.8 +1.4**
INK pmax pmax
comp=Z,6.0nm,1.3s
INK Inuvik 62.07 25 IAmb IAmb 20 21 00.9
comp=Z,5.5nm,1.2s
SPITS Spitsbergen Ar 62.94 348 LR LR 20 49 55.6
comp=Z,60nm,19.0s,baz=256,slow=38
A36M Sachs Harbour 63.38 20 P **P** **20 21 06.9 +0.9**
A36M IAmb IAmb 20 21 11.1
comp=Z,5.8nm,0.8s
DZM Mont Dzumac 64.29 143 LR LR 20 47 34.4
comp=Z,59nm,18.1s,baz=293,slow=34
LKRN Lenkeran, Azer 64.70 301 P **P** **20 21 16.1 +0.8**
ARCES ARCESS Array B 64.79 338 P **P** **20 21 15.3 0.0**
comp=Z,1.5nm,0.8s,baz=39,slow=7.9,SNR=3.9
ARCES LR LR 20 53 43.4
comp=Z,62nm,19.4s,baz=39,slow=40
ARCES ARCESS Array B 64.79 338 P **P** **20 21 15.4 0.0**
ARCES pmax pmax
comp=Z,13nm,1.3s
ARCES ARCESS Array B 64.79 338 IAmb IAmb 20 21 23.7
comp=Z,13nm,1.3s
C36M Paulatuk 64.86 22 P **P** **20 21 15.5 -0.2**
C36M IAmb IAmb 20 21 19.3
comp=Z,8.5nm,1.2s
SEKA Sheki 64.87 304 P **P** **20 21 16.9 +0.4**
STKA Stephens Creek 65.08 170 P **P** **20 21 16.5 -1.1**
comp=Z,2.4nm,0.7s,baz=331,slow=8.2,SNR=8.9
STKA LR LR 20 48 45.3
comp=Z,37nm,21.9s,baz=24,slow=35
STKA Stephens Creek 65.08 170 P **P** **20 21 17.2 -0.4**
STKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 65.08 170 P **P** **20 21 17.2 -0.4**
ZKTA Zakatala 65.10 305 P **P** **20 21 18.7 +0.8**
MNGR Mingechevir, A 65.11 304 P **P** **20 21 18.8 +0.9**
GANJ Ganja 65.70 304 P **P** **20 21 22.3 +0.5**
OBN Obninsk 66.09 321 *eP* **P** **20 21 23.3 -0.7**
OBN *e* 20 21 52.7
OBN *ePPP* PPP 20 25 21.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
ZEI Tsey 66.52 307 *eP* **P** **20 21 26.1 -1.2**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 66.81 308 P **P** **20 21 29.5 +0.6**
comp=Z,9.0nm,0.9s,baz=100,slow=2.5,SNR=26
KBZ LR LR 20 53 52.8
comp=Z,83nm,18.3s,baz=86,slow=39
KBZ Khabaz 66.81 308 *i* P **P** **20 21 28.5 -0.3**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 66.86 308 *eP* **P** **20 21 28.9 -0.4**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,45nm,17.0s
KIV Kislovodsk 66.86 308 P **P** **20 21 28.9 -0.4**
NAX Nakhchivan 66.87 303 P **P** **20 21 30.1 +0.7**
ONI Oni 66.90 307 P **P** **20 21 29.7 +0.2**
ONI pmax pmax
comp=Z,4.0nm,1.0s
ONI Oni 66.90 307 P **P** **20 21 29.7 +0.2**
ONI IAmb IAmb 20 21 32.0
comp=Z,4.3nm,1.0s
SHA1 Shidzhatmaz 66.97 308 *i* P **P** **20 21 29.5 -0.7**
GNI Garni 67.00 304 LR LR 20 54 00.9
comp=Z,47nm,18.1s,baz=74,slow=39
GNI Garni 67.00 304 *i* P **P** **20 21 31.2 +0.9**
GNI pmax pmax
comp=Z,11nm,1.3s
FINES FINESS Array B 68.32 330 P **P** **20 21 37.1 -0.9**
comp=Z,3.6nm,0.4s,baz=67,slow=5.6,SNR=54
FINES LR LR 20 53 57.8
comp=Z,80nm,19.1s,baz=76,slow=38
RES Resolute Bay 68.76 12 P **P** **20 21 40.9 +0.3**
RES pmax pmax
comp=Z,7.0nm,1.4s
RES Resolute Bay 68.76 12 P **P** **20 21 40.9 +0.3**
RES IAmb IAmb 20 21 43.9
comp=Z,6.8nm,1.4s
DAG Danmarks Havn 69.10 353 P **P** **20 21 40.2 -2.5**
DAG pmax pmax
comp=Z,5.0nm,1.5s
GURO Guroymak-BITLI 69.58 303 P **P** **20 21 47.5 +1.0**
GURO IAmb IAmb 20 21 48.9
comp=Z,5.5nm,0.9s
YKA Yellowknife Ar 71.73 26 P **P** **20 21 59.1 +0.1**
comp=Z,0.8nm,0.9s,baz=292,slow=6.0,SNR=9.2
AKASG Malin Array Be 72.04 319 P **P** **20 22 00.0 -1.0**
comp=Z,4.2nm,0.6s,baz=56,slow=6.2,SNR=16
AKASG LR LR 20 55 02.8
comp=Z,58nm,21.0s,baz=60,slow=37
AKBB Malin Array Si 72.04 319 P **P** **20 21 59.7 -1.3**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 72.04 319 P **P** **20 21 59.7 -1.3**
AKBB IAmb IAmb 20 22 01.0
comp=Z,6.2nm,0.8s
BNN Bunyan 73.73 306 P **P** **20 22 11.8 +0.3**
HFS Hagfors 74.09 332 LR LR 20 59 16.2
comp=Z,47nm,18.6s,baz=48,slow=39
NB2 NORSAR Subarra 74.45 334 P **P** **20 22 14.3 -0.9**
comp=Z,2.9nm,1.0s,baz=48,slow=5.9
NOA NORSAR Array B 74.45 334 P **P** **20 22 14.5 -0.7**
comp=Z,1.2nm,0.8s,baz=47,slow=5.9,SNR=4.1
NOA LR LR 20 58 10.8
comp=Z,29nm,18.7s,baz=0.0,slow=38
BR131 Keskin Array S 74.80 308 P **P** **20 22 17.4 -0.3**
BR131 pmax pmax
comp=Z,11nm,1.0s
BR131 Keskin Array S 74.80 308 P **P** **20 22 17.4 -0.3**
BR131 IAmb IAmb 20 22 18.9
comp=Z,11nm,0.9s

BRTR Keskin Array B 74.80 308 P **P** **20 22 17.2 -0.5**
comp=Z,5.9nm,0.9s,baz=98,slow=5.1,SNR=23
BRTR LR LR 21 00 01.8
comp=Z,44nm,18.4s,baz=59,slow=40
BRTR Keskin Array B 74.80 308 P **P** **20 22 16.7 -1.0**
BUR08 Bucovina Ar. S 75.89 318 P **P** **20 22 23.7 -0.1**
BUR08 IAmb IAmb 20 22 25.3
comp=Z,6.7nm,1.0s
BURAR Bucovina Array 75.89 318 P **P** **20 22 23.7 -0.1**
BURAR pmax pmax
comp=Z,8.0nm,0.9s
BURAR Bucovina Array 75.89 318 P **P** **20 22 23.7 -0.1**
BURAR IAmb IAmb 20 22 25.6
comp=Z,7.7nm,0.9s
KWP Kalwaria Pacla 76.16 320 P **P** **20 22 24.9 -0.3**
KWP pmax pmax
comp=Z,147nm,0.9s
KWP Kalwaria Pacla 76.16 320 P **P** **20 22 24.9 -0.3**
MMAI Mount Meron Ar 76.94 301 LR LR 21 00 27.4
comp=Z,59nm,18.8s,baz=229,slow=39
CRVS Cervenica-Dubn 77.25 320 *eP* **P** **20 22 32.0 +0.7**
CRVS Cervenica-Dubn 77.25 320 *eP* **P** **20 22 32.0 +0.7**
OJC Ojcow 77.35 322 *eP* **P** **20 22 31.9 +0.1**
OJC Ojcow 77.35 322 P **P** **20 22 31.4 -0.5**
OJC pmax pmax
comp=Z,19nm,1.1s
OJC Ojcow 77.35 322 P **P** **20 22 31.4 -0.5**
CSS Mathiatis 77.42 303 P **P** **20 22 32.0 -0.5**
CSS IAmb IAmb 20 22 35.0
comp=Z,8.4nm,0.8s
NIE Niedzica 77.56 321 *eP* **P** **20 22 34.8 +1.6**
GHAJ Ghor Haditha 77.69 299 P **P** **20 22 34.0 -0.1**
LANS Liptovska Anna 78.16 321 *eP* **P** **20 22 37.4 +0.9**
LANS pmax pmax
comp=Z,4.0nm,1.2s
LANS Liptovska Anna 78.16 321 *eP* **P** **20 22 37.4 +0.9**
MORC Moravsky Berou 78.78 323 P **P** **20 22 40.2 +0.3**
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 78.78 323 P **P** **20 22 40.2 +0.3**
MORC IAmb IAmb 20 22 40.9
comp=Z,7.3nm,1.0s
MORC Moravsky Berou 78.78 323 *eP* **P** **20 22 40.0 +0.1**
ELL Elmali 78.85 306 P **P** **20 22 39.8 -0.8**
ELL pmax pmax
comp=Z,34nm,0.8s
ELL Elmali 78.85 306 P **P** **20 22 39.8 -0.8**
VYHS Vyhne 78.89 321 *eP* **P** **20 22 41.3 +0.8**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 78.89 321 *eP* **P** **20 22 41.3 +0.8**
OSTC Ostas 78.97 324 *eP* **P** **20 22 40.5 -0.4**
EIL Elat 78.98 298 LR LR 21 00 50.7
comp=Z,72nm,19.6s,baz=90,slow=38
KRLC Kraliky 78.98 323 *eP* **P** **20 22 40.6 -0.4**
KRLC Kraliky 78.98 323 *eP* **P** **20 22 40.6 -0.4**
CHVC Chvalec 79.03 324 *eP* **P** **20 22 40.9 -0.3**
DPC Dobruska-Polom 79.05 324 *eP* **P** **20 22 41.1 -0.2**
DPC Dobruska-Polom 79.05 324 *eP* **P** **20 22 41.1 -0.2**
JAVC Velka Javorina 79.28 322 *eP* **P** **20 22 43.9 +1.2**
VRAC Vranov 79.56 323 *eP* **P** **20 22 43.9 -0.2**
SRO Srobarova 79.58 321 *eP* **P** **20 22 46.2 +2.0**
SRO Srobarova 79.58 321 *eP* **P** **20 22 46.2 +2.0**
SMOL Smolenice 79.62 322 *eP* **P** **20 22 45.3 +0.9**
SMOL pmax pmax
comp=Z,4.0nm,1.0s
SMOL Smolenice 79.62 322 *eP* **P** **20 22 45.3 +0.9**
MODS Modra-Piesok 79.78 322 *eP* **P** **20 22 46.1 +0.7**
MODS pmax pmax
comp=Z,19nm,1.2s
MODS Modra-Piesok 79.78 322 *eP* **P** **20 22 46.1 +0.7**
KRUC Moravsky 79.81 322 *eP* **P** **20 22 45.7 +0.2**
VTS Vitosha 79.87 314 P **P** **20 22 46.2 +0.1**
VTS pmax pmax
comp=Z,4.0nm,1.0s
VTS Vitosha 79.87 314 P **P** **20 22 46.2 +0.1**
CLL Collm 80.05 326 ⇑ *iP* **P** **20 22 46.6 -0.1**
CLL *eS* S 20 33 05.0 +14
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 80.05 326 P **P** **20 22 46.4 -0.3**
CLL IAmb IAmb 20 22 47.7
comp=Z,14nm,1.0s
CLL Collm 80.05 326 ⇑ *iP* **P** **20 22 46.6 -0.1**
comp=Z,13nm,0.9s
CLL *eSx* Sx 20 33 05.0
CLL *eSS* **SS** **20 38 06.0 +6.2**
CLL LmV 21 01 00.0
comp=Z,100nm,18.4s
PRU Pruhonice 80.16 324 *eP* **P** **20 22 47.0 -0.3**
PRU Pruhonice 80.16 324 *eP* **P** **20 22 47.0 -0.3**
SFJD Kangerlussuaq 80.58 1 LR LR 21 00 10.7
comp=Z,40nm,18.9s,baz=204,slow=37
RONA Rosalia, Austr 80.72 321 *eP* **P** **20 22 51.0 +0.6**
comp=Z,8.9nm,1.3s
CONA Conrad Observa 80.80 322 *eP* **P** **20 22 51.4 +0.5**
comp=Z,10nm,1.0s
NKC Novy Kostel 81.03 325 *eP* **P** **20 22 52.2 +0.2**
NKC Novy Kostel 81.03 325 *eP* **P** **20 22 52.2 +0.2**
CKRC Cesky Krumlov 81.03 323 *eP* **P** **20 22 51.7 -0.4**
KHC Kasperske Hory 81.19 324 P **P** **20 22 52.4 -0.5**
KHC pmax pmax
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 81.19 324 P **P** **20 22 52.4 -0.5**
KHC IAmb IAmb 20 22 53.8
comp=Z,4.4nm,1.0s
KHC Kasperske Hory 81.19 324 *eP* **P** **20 22 52.1 -0.8**
GEC2 GERESS Array S 81.32 323 P **P** **20 22 53.4 -0.3**
GEC2 IAmb IAmb 20 22 54.6
comp=Z,4.9nm,1.0s
GERES GERESS Array B 81.32 323 P **P** **20 22 53.1 -0.5**
comp=Z,2.7nm,0.9s,baz=38,slow=2.4,SNR=16
GERES LR LR 21 03 46.3
comp=Z,120nm,18.9s,baz=56,slow=39
ARSA Arzberg 81.41 321 *eP* **P** **20 22 54.7 +0.6**
comp=Z,8.0nm,1.3s
GRA1 Grafenberg Arr 81.98 325 P **P** **20 22 57.0 -0.1**
GRF Grafenberg Arr 81.98 325 P **P** **20 22 57.0 -0.1**
GRF pmax pmax
comp=Z,16nm,1.0s
GRFO Grafenberg 81.98 325 P **P** **20 22 57.4 +0.4**
GRFO pmax pmax
comp=Z,14nm,1.0s
GRFO Grafenberg 81.98 325 P **P** **20 22 57.4 +0.4**
SOKA Soboth 82.03 321 P **P** **20 22 57.4 -0.1**
comp=Z,11nm,0.9s,SNR=12
BIOA Bad Ischl, Aus 82.10 323 *eP* **P** **20 22 58.1 +0.4**
comp=Z,2.8nm,0.7s
OBKA Obir 82.40 321 *eP* **P** **20 22 59.5 +0.1**
comp=Z,8.7nm,1.6s
FRB Frobisher Bay 82.63 9 LR LR 21 02 52.8
comp=Z,36nm,18.5s,baz=247,slow=38
ABTA Abfaltersbach 83.30 322 P **P** **20 23 03.2 -0.9**
comp=Z,6.8nm,0.9s,SNR=5.6
WATA Walderalm 83.39 323 *eP* **P** **20 23 03.8 -0.8**
comp=Z,3.1nm,0.9s
WTTA Wattenberg 83.40 323 *eP* **P** **20 23 03.9 -0.8**
comp=Z,3.0nm,0.8s
STU Stuttgart 83.58 325 P **P** **20 23 04.6 -0.7**
STU pmax pmax
comp=Z,17nm,0.8s
STU Stuttgart 83.58 325 P **P** **20 23 04.6 -0.7**
MOTA Moosalm 83.62 324 *eP* **P** **20 23 03.8 -2.0**
comp=Z,8.1nm,0.9s
SQTA Sankt Quirin 83.65 323 *eP* **P** **20 23 05.4 -0.5**
comp=Z,6.4nm,0.8s
RETA Reutte 83.69 324 *eP* **P** **20 23 06.6 +0.5**
comp=Z,8.5nm,1.1s
EKA Eskdalemuir Ar 83.81 336 LR LR 21 03 36.0
comp=Z,60nm,19.5s,baz=0.5,slow=38
FETA Feichten 84.03 323 P **P** **20 23 07.2 -0.6**
comp=Z,5.9nm,0.9s,SNR=5.5
CTI Castel Tesino 84.21 322 P **P** **20 23 07.6 -1.2**
CTI pmax pmax
comp=Z,10.0nm,1.1s
CTI Castel Tesino 84.21 322 P **P** **20 23 07.6 -1.2**
DAVA Damuels 84.27 324 P **P** **20 23 08.0 -1.1**
comp=Z,13nm,0.8s,SNR=9.5
BFO Black Forest 84.30 326 P **P** **20 23 08.3 -0.8**
BFO pmax pmax
comp=Z,15nm,0.9s
BFO Black Forest 84.30 326 P **P** **20 23 08.3 -0.8**
DAVOX Davos/Dischmat 84.61 324 LR LR 21 03 24.8
comp=Z,100nm,19.2s,baz=70,slow=38
TEOL Teolo 84.67 322 P **P** **20 23 09.9 -1.1**

TUE Stuetta 85.09 324 P **P** **20 23 12.3 -1.1**
ESDC Sonseca Array 96.62 326 LR LR 21 13 33.1
comp=Z,57nm,18.7s,baz=7.0,slow=39

IDC 14 20:22:29.7±9.9, 17.98N×144.73E, h176km±82km, mb2.9/4, mb1 3.3/5, mb1mx3.0/43, mbtmp3.5/5, MS3.4/3, Ms1 3.4/3, ms1mx2.7/16, Error ellipse: s-maj=310.7km s-min=20.7km az=112.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.36**	**178**	P	Pn	20 23 35.5	0.0
	7.2nm,0.3s,baz=346,slow=17,SNR=1.5						
GUMO				S	Sn	20 24 21.5	-5.4
	14nm,0.3s,baz=336,slow=23,SNR=3.2						
KSRS	**Korea Array**	**24.38**	**326**	LR	LR	20 35 25.5	
	comp=Z,83nm,21.0s,baz=135,slow=32						
USRK	**Ussuriysk Ar.**	**28.26**	**340**	LR	LR	20 39 08.4	
	comp=Z,73nm,21.8s,baz=187,slow=35						
KLR	**Kul'dur**	**32.90**	**344**	LR	LR	20 41 55.5	
	comp=Z,58nm,18.4s,baz=180,slow=35						
WRA	**Warramunga Arr**	**39.04**	**196**	P	P	20 29 39.6	0.0
	0.7nm,0.7s,baz=16,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**42.72**	**195**	P	P	20 30 09.3	-0.3
	0.1nm,0.4s,baz=18,slow=7.5,SNR=5.3						
ILAR	**Eielson Array**	**64.69**	**26**	P	P	20 32 48.3	-0.3
	0.2nm,0.4s,baz=251,slow=6.0,SNR=4.7						
YKA	**Yellowknife Ar**	**79.05**	**28**	P	P	20 34 14.5	+0.4
	0.2nm,0.5s,baz=274,slow=4.8,SNR=4.4						

IDC 14 20:27:29.9±3.0, 8.37N×125.57E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/39, mbtmp3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/49, Error ellipse: s-maj=269.2km s-min=26.2km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.57**	**154**	*eP*	Pn	20 27 57.2	-1.8
DDMP	**Don Marcelino,**	**2.25**	**176**	*eP*	Pn	20 27 58.8	-10
JOW	**Kunigami**	**18.54**	**8**	LR	LR	20 38 24.4	
	comp=Z,92nm,19.7s,baz=12,slow=35						
WRA	**Warramunga Arr**	**29.43**	**163**	P	P	20 33 35.5	+0.1
	0.4nm,0.8s,baz=341,slow=10,SNR=2.2						
ASAR	**Alice Springs**	**32.86**	**166**	P	P	20 34 05.6	-0.1
	0.2nm,0.6s,baz=356,slow=8.5,SNR=5.0						
MKAR	**Makanchi Array**	**53.13**	**324**	P	P	20 36 49.4	-0.1
	0.9nm,0.6s,baz=116,slow=7.1,SNR=13						

NIED ***14*** *20:31:57.3, 32.69N×130.74E, h11km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.98; $M_{\theta\theta}$7.15; $M_{\phi\phi}$-5.18; $M_{r\theta}$-3.72; $M_{\theta\phi}$3.51; $M_{r\phi}$2.51; Fault plane solution: $M_0$8.54000×10^{14} NP1: ϕ_s213.00000°, δ56.00000°, λ-168.00000°. NP2: ϕ_s116.00000°, δ80.00000°, λ-35.00000°.*

JMA 14 20:31:57.2, 32.69N×130.74E, h11km±1km, M3.8, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**156**	⇑P	Pg	20 32 00.9	+0.2
JIU3				S	Sg	20 32 03.8	+0.6
JTA	**Tamana**	**0.32**	**327**	⇑P	Pg	20 32 03.9	+0.2
JTA				S	Sg	20 32 08.3	+0.2
JNU	**Nakatsue**	**0.45**	**15**	⇑P	Pg	20 32 06.1	+0.1
JNU				S	Sg	20 32 12.2	+0.3
JTZ	**Takazaki**	**0.84**	**159**	⇑P	Pb	20 32 14.0	+0.2
JTZ				S	Sb	20 32 25.7	+0.6

STR ***14*** *20:47:29.2±1.3, 42˚N±13˚×˚±1˚2, h7km±7km, MLv2.3/11, preliminary*
LDG ***14*** *20:47:29.4±0.1, 42˚50N×5˚28E, h10km, Ml2.6/18, Error ellipse: s-maj=3.6km s-min=1.6km az=160.0*
MDD ***14*** *20:47:32.2±0.7, 42˚43N×5˚23E, h26km±6km, mb_Lg2.0/5, Error ellipse: s-maj=4.6km s-min=2.2km az=153.0*

ISC 14 20:47:28.4±1.3, 42˚47N±0˚03×5˚29E±0˚03, h15km±10km, n43, σ2s 25/74, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FLAF	**Flassans-sur-l**	**1.16**	**38**	Pg	**Pg**	**20 47 50.6**	**-0.1**
FLAF				Sn	**Sg**	**20 48 04.3**	**-1.6**
ARTF	**Artigues**	**1.18**	**19**	Pg	**Pg**	**20 47 51.3**	**+0.1**
ARTF				Sn	**Sg**	**20 48 05.7**	**-0.9**
LMR	**La Mourre**	**1.25**	**46**	*e*Pn	**Pn**	**20 47 51.2**	**-0.4**
LMR	**La Mourre**	**1.25**	**46**	*e*Pg	**Pb**	**20 47 52.5**	**+0.9**
LMR				*e*Sn	**Sg**	**20 48 06.0**	**-2.7**
	49nm,0.2s						
BSTF	**la Bastide-des**	**1.44**	**10**	Pn	**Pn**	**20 47 54.4**	**+0.5**
BSTF				Sn	**Sn**	**20 48 10.6**	**-1.9**
FRF	**La Foret Royal**	**1.48**	**42**	*e*Pn	**Pn**	**20 47 54.4**	**-0.1**
FRF	**La Foret Royal**	**1.48**	**42**	*e*P	**Pn**	**20 47 56.1**	**+1.6**
FRF				*e*Sn	**Sn**	**20 48 12.0**	**-1.6**
	36nm,0.2s						
RUSF	**Rustrel**	**1.48**	**6**	Pn	**Pn**	**20 47 56.8**	**+2.3**
TRIGF	**Trigance**	**1.52**	**32**	Pn	**Pn**	**20 47 56.9**	**+1.8**
TRIGF				Sn	**Sn**	**20 48 15.8**	**+1.1**
SMNF	**Simiane la Rot**	**1.52**	**8**	*e*Pn	**Pn**	**20 47 54.7**	**-0.4**
SMRF	**Simiane la Rot**	**1.52**	**8**	*e*Pg	**Pn**	**20 47 57.4**	**+2.3**
SMRF				*e*Sn	**Sn**	**20 48 12.3**	**-2.4**
	10.0nm,0.3s						
BLAF	**les Blancs**	**1.58**	**20**	Pg	**Pb**	**20 47 58.3**	**+0.9**
BLAF				Sn	**Sn**	**20 48 17.8**	**+1.6**
CALF	**Calern**	**1.75**	**42**	Pn	**Pn**	**20 48 00.2**	**+1.8**
CALF				Sn	**Sn**	**20 48 22.1**	**+1.5**
EJON	**La Jonquera**	**1.77**	**270**	Pn	**Pn**	**20 47 58.9**	**+0.3**
EJON				Sn	**Sn**	**20 48 18.0**	**-3.0**
EJON				*i* Vmb_Lg		20 48 21.5	
SJAF	**Saint Jean de**	**1.78**	**271**	Pn	**Pn**	**20 47 58.9**	**+0.3**
SJAF				Sn	**Sn**	**20 48 18.7**	**-2.3**
OGDI	**Digne**	**1.80**	**24**	Pg	**Pb**	**20 48 01.9**	**+0.8**
OGDI				Sn	**Sn**	**20 48 23.8**	**+2.2**
LASF	**Ste Croix**	**1.92**	**327**	*e*Pn	**Pn**	**20 48 00.1**	**-0.4**
LASF				*e*Sn	**Sn**	**20 48 22.1**	**-2.3**
	4.3nm,0.2s						
SBF	**Sospel**	**2.10**	**48**	*e*Pn	**Pn**	**20 48 02.9**	**-0.2**
SBF	**Sospel**	**2.10**	**48**	*e*Pg	**Pb**	**20 48 07.8**	**+1.6**
SBF				*e*Sn	**Sn**	**20 48 27.1**	**-1.9**
SBF				*e*Sg	**Sg**	**20 48 34.7**	**-1.3**
	12nm,0.2s						
FNEB	**Nbias**	**2.38**	**282**	Pn	**Pn**	**20 48 07.7**	**+0.7**
FNEB				Sn	**Sn**	**20 48 33.7**	**-2.3**
MTLF	**Montolieu**	**2.42**	**292**	*e*Pn	**Pn**	**20 48 07.0**	**-0.4**
MTLF				*e*Sn	**Sn**	**20 48 33.5**	**-3.3**
	22nm,0.3s						
VIVF	**Saint-Julien-l**	**2.43**	**350**	*e*Pn	**Pn**	**20 48 07.3**	**-0.3**
VIVF				*e*Sn	**Sn**	**20 48 34.6**	**-2.4**
	4.3nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.49**	**10**	*e*Pn	**Pn**	**20 48 08.3**	**-0.1**
ORIF				*e*Sn	**Sn**	**20 48 36.0**	**-2.6**
	1.5nm,0.3s						
MBDF	**Montbardon**	**2.50**	**25**	*e*Pn	**Pn**	**20 48 07.8**	**-0.9**
MBDF	**Montbardon**	**2.50**	**25**	*e*Pg	**Pb**	**20 48 15.3**	**+2.2**
MBDF				*e*Sn	**Sn**	**20 48 36.3**	**-2.7**
	3.1nm,0.4s						
PGF	**Pioggiola**	**2.75**	**87**	*e*Pn	**Pn**	**20 48 11.4**	**-0.6**
PGF				*e*Sn	**Sn**	**20 48 40.1**	**-4.9**
	6.3nm,0.2s						
PAND	**Andorre**	**2.77**	**272**	Pn	**Pn**	**20 48 13.9**	**+1.6**
BNI	**Bardonecchia**	**2.77**	**21**	Sn	**Sb**	**20 48 55.7**	**+4.2**
MLS	**Moulis**	**3.13**	**280**	Pn	**Pn**	**20 48 18.7**	**+1.5**
LBL	**Lubilhac**	**3.13**	**333**	Pn	**Pn**	**20 48 18.3**	**+1.0**
LPL	**La Plagne**	**3.22**	**18**	*e*Pn	**Pn**	**20 48 18.9**	**+0.3**
ETOS	**Mallorca**	**3.28**	**216**	Pn	**Pn**	**20 48 20.6**	**+1.3**
ETOS				Sn	**Sn**	**20 48 54.0**	**-4.1**
ETOS				*i* Vmb_Lg		20 48 58.8	
EPOB	**Poblet**	**3.33**	**252**	Pn	**Pn**	**20 48 21.8**	**+1.8**
EPOB				Sn	**Sn**	**20 48 57.7**	**-1.7**
CAF	**Calviac**	**3.39**	**318**	*e*Pn	**Pn**	**20 48 20.0**	**-0.8**
CAF				*e*Sn	**Sn**	**20 48 56.4**	**-4.4**
	1.7nm,0.2s						
MONQ	**Montcuq**	**3.53**	**304**	Pn	**Pn**	**20 48 23.5**	**+0.8**
EPF	**Esparros**	**3.69**	**280**	*e*Pn	**Pn**	**20 48 24.6**	**-0.3**
EPF				*e*Sn	**Sn**	**20 49 03.9**	**-4.2**
	3.2nm,0.4s						
ECHI	**Chisagues Biel**	**3.77**	**275**	Pn	**Pn**	**20 48 29.0**	**+2.9**
ECHI				Sn	**Sn**	**20 49 11.2**	**+1.0**
RJF	**Les Rejaudoux**	**3.93**	**317**	*e*Pn	**Pn**	**20 48 28.2**	**0.0**
RJF				*e*Sn	**Sn**	**20 49 09.8**	**-4.3**
	1.4nm,0.2s						

ERTA	**Horta de San J**	**4.00**	**249**	Pn		**Pn**	**20 48 31.9**	**+2.7**
ERTA				Sn		**Sn**	**20 49 17.9**	**+2.0**
LFF	**La Frestale**	**4.12**	**308**	*e*Pn		**Pn**	**20 48 30.1**	**-0.7**
LFF				*e*Sn		**Sn**	**20 49 14.5**	**-4.2**
	3.7nm,0.4s							
VSL	**Villasalto**	**4.29**	**132**	Sn		**Sn**	**20 49 19.9**	**-3.1**
ETSF	**Etsaut**	**4.33**	**278**	*e*Pn		**Pn**	**20 48 32.5**	**-1.3**
ETSF				*e*Sn		**Sn**	**20 49 19.7**	**-4.3**
	2.0nm,0.2s							
EORO	**Oroz-Betelu**	**4.88**	**277**	Pn		**Pn**	**20 48 44.3**	**+0.3**
EORO				Sn		**Sn**	**20 49 42.4**	**+4.8**

NEIC **14** *20:59:11.2±1.2,58.°52S±0.°09×26.°1W±0.°1,* **h100**$_{km}$**±8**$_{km}$*, mb4.3/14,Error ellipse: s-maj=15.9km s-min=5.0km az=220.0*

IDC **14** *20:59:14.1±6.9,58.°56S×26.°14W,h122*$_{km}$*±63*$_{km}$*,mb3.9/7, mb1 4.0/8,mb1mx3.7/21,mbtmp4.2/8,Error ellipse: s-maj=27.6km s-min=19.5km az=120.0*

ISC 14 20:59:11.8±0.6,58.°52S±0.°09×26.°1W±0.°1,h107$_{km}$**,n34,** σ1℗**09/28,mb4.2/10,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.29**	**156**	P		**Pn**	**21 02 29.3**	**+0.5**
VNA3	**Neumayer Olymp**	**14.47**	**158**	P		**Pn**	**21 02 31.4**	**+0.2**
VNA2	**Neumayer--Watz**	**14.69**	**155**	P		**Pn**	**21 02 33.8**	**-0.1**
SNAA	**Sanae**	**16.26**	**153**	P		**P**	**21 02 54.1**	**-0.5**
SNAA	**Sanae**	**16.26**	**153**	P		**P**	**21 02 54.2**	**-0.4**
	1.2nm,0.3s,baz=296,slow=13,SNR=40							
SNAA				S		Sn	21 05 36.0	-18
	0.1nm,0.3s,baz=341,slow=15,SNR=1.4							
SNAA	**Sanae**	**16.26**	**153**	P		**P**	**21 02 54.2**	**-0.5**
SNAA				IAmb		IAmb	21 03 23.0	
	comp=Z,11nm,1.5s							
TROLL	**Troll, Antarti**	**17.79**	**151**	P		**Pn**	**21 03 12.0**	**-0.2**
TROLL	**Troll, Antarti**	**17.79**	**151**	S		Sn	21 06 16.9	-14
PMSA	**Palmer Station**	**18.82**	**235**	Pn		**Pn**	**21 03 25.0**	**+0.6**
BELA	**Belgrano 2**	**19.66**	**185**	P		**P**	**21 03 31.3**	**-0.4**
DSPA	**Despedida**	**23.56**	**263**	P		**P**	**21 04 12.1**	**-0.1**
GO09	**Cerro Castillo**	**27.07**	**265**	P		**P**	**21 04 43.3**	**-0.7**
GO09				IAmb		IAmb	21 04 56.4	
	comp=Z,17nm,1.2s							
QSPA	**South Pole Qui**	**31.73**	**180**	P		**P**	**21 05 26.0**	**+0.8**
	comp=Z,2.6nm,0.5s,baz=13,slow=0.7,SNR=44							
QSPA	**South Pole Qui**	**31.73**	**180**	P		**P**	**21 05 26.1**	**+0.9**
QSPA				IAmb		IAmb	21 05 27.5	
	comp=Z,9.5nm,1.3s							
PLCA	**Paso Flores**	**33.05**	**283**	P		**P**	**21 05 37.8**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=119,slow=7.6,SNR=3.3							
PLCA	**Paso Flores**	**33.05**	**283**	IAmb		IAmb	21 05 38.9	
	comp=Z,4.2nm,1.0s							
MT09	**Talagante**	**38.66**	**290**	P		**P**	**21 06 24.9**	**0.0**
MT09				IAmb		IAmb	21 06 25.9	
	comp=Z,8.7nm,0.9s							
MT02	**Curacav**	**39.15**	**290**	P		**P**	**21 06 28.2**	**-0.5**
VNDA	**Vanda**	**44.13**	**182**	P		**P**	**21 07 09.3**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=185,slow=6.8,SNR=32							
VNDA	**Vanda**	**44.13**	**182**	P		**P**	**21 07 09.9**	**+1.1**
VNDA				IAmb		IAmb	21 07 10.9	
	comp=Z,2.9nm,0.7s							
BOSA	**Boshof**	**46.09**	**72**	P		**P**	**21 07 24.6**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=216,slow=5.3,SNR=6.6							
BOSA	**Boshof**	**46.09**	**72**	IAmb		IAmb	21 07 40.9	
	comp=Z,13nm,1.5s							
LBTB	**Lobatse**	**49.24**	**70**	P		**P**	**21 07 52.1**	**+2.7**
	comp=Z,1.7nm,0.6s,baz=112,slow=1.4,SNR=4.2							
GO01	**Chusmiza**	**49.75**	**303**	P		**P**	**21 07 53.8**	**0.0**
GO01				IAmb		IAmb	21 08 15.3	
	comp=Z,3.4nm,1.2s							
H10S2	**ASCENSION HYDR**	**50.23**	**15**	T		T	22 02 32.1	
	baz=33,slow=74,SNR=5.5							
H10S3	**ASCENSION HYDR**	**50.23**	**15**	T		T	22 02 29.3	
	baz=187,slow=74,SNR=5.4							
H10N1	**ASCENSION HYDR**	**51.34**	**15**	T		T	22 03 49.9	
	baz=191,slow=78,SNR=5.5							
H10N3	**ASCENSION HYDR**	**51.34**	**15**	T		T	22 03 50.6	
	baz=191,slow=78,SNR=7.6							
H10N2	**ASCENSION HYDR**	**51.36**	**15**	T		T	22 03 52.7	
	baz=191,slow=78,SNR=4.8							
TOA0	**Torodi Ar. Sit**	**74.95**	**28**	P		**P**	**21 10 41.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**74.95**	**28**	P		**P**	**21 10 42.0**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=198,slow=6.2,SNR=15							
TORD				pP		**pP**	**21 11 05.5**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=135,slow=38,SNR=2.9							
ASAR	**Alice Springs**	**96.46**	**162**	P		**P**	**21 12 28.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=187,slow=3.6,SNR=7.4							
ASAR				pP		**pP**	**21 12 52.9**	**-3.4**
	comp=Z,0.5nm,0.7s,baz=174,slow=4.2,SNR=3.1							
FINES	**FINESS Array B**	**126.30**	**28**	PKP		**PKiKP**	**21 18 00.4**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=186,slow=3.8,SNR=6.6							
ARCES	**ARCESS Array B**	**133.03**	**22**	PKP		**PKPdf**	**21 18 12.8**	**-0.1**
	comp=Z,3.9nm,1.1s,baz=111,slow=3.1,SNR=4.6							

NEIC **14** *21:41:37.9±1.8,6.°6S±0.°1×154.°58E±0.°10,h94*$_{km}$*±8*$_{km}$*, mb4.7/20,Error ellipse: s-maj=18.1km s-min=11.3km az=217.0*

IDC **14** *21:41:38.4±7.9,6.°55S×154.°59E,h109*$_{km}$*±53*$_{km}$*,mb3.3/2, mb1 3.6/4,mb1mx3.2/33,mbtmp3.8/4,MS2.6/1,Ms1 2.6/1, ms1mx2.4/28,Error ellipse: s-maj=79.9km s-min=29.0km az=91.0*

ISC 14 21:41:37.7±0.7,6.°60S±0.°08×154.°58E±0.°09,h100$_{km}$**,n33,** σ1℗**35/32,mb4.7/11,1C,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.40**	**315**	Pn		**Pn**	**21 42 28.1**	**-0.7**
RABL				Sn		**Sn**	**21 43 07.5**	**-0.8**
KRVT	**Keravat (AS076**	**3.42**	**312**	P		**Pn**	**21 42 29.8**	**+0.7**
	6.2nm,0.3s,baz=185,slow=11,SNR=1.8							
KRVT				S		**Sn**	**21 43 09.7**	**+0.9**
	22nm,0.3s,baz=56,slow=23,SNR=8.9							
HNR	**Honiara**	**6.01**	**118**	Pn		**Pn**	**21 43 03.2**	**-1.0**
PMG	**Port Moresby**	**7.86**	**249**	P		**Pn**	**21 43 29.6**	**+0.2**
	1.2nm,0.3s,baz=85,slow=12,SNR=3.8							
PMG				LR		LR	21 46 03.4	
	comp=Z,46nm,20.3s,baz=286,slow=34							
PMG	**Port Moresby**	**7.86**	**249**	Pn		**Pn**	**21 43 28.4**	**-1.0**
OUENC	**Ouen Island, N**	**19.68**	**144**	P		**P**	**21 45 59.3**	**+0.4**
OUENC				IAmb		IAmb	21 46 06.0	
	comp=Z,67nm,1.8s							
WR0	**Warramunga Arr**	**23.56**	**234**	P		**P**	**21 46 39.5**	**+0.2**
WB0	**Warramunga Arr**	**23.58**	**234**	P		**P**	**21 46 38.9**	**-0.7**
WRAB	**Tennant Creek**	**23.70**	**234**	P		**P**	**21 46 39.0**	**-1.7**
WRAB				IAmb		IAmb	21 46 58.0	
	comp=Z,11nm,0.7s							
WB2	**Warramunga Arr**	**23.70**	**234**	P		**P**	**21 46 40.7**	**0.0**
WRA	**Warramunga Arr**	**23.71**	**234**	P		**P**	**21 46 41.5**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=59,slow=9.9,SNR=7.7							
WRA	**Warramunga Arr**	**23.71**	**234**	P		**P**	**21 46 40.9**	**+0.1**
ASAR	**Alice Springs**	**26.13**	**227**	P		**P**	**21 47 02.9**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=58,slow=8.5,SNR=6.2							
H11S3	**WAKE ISLAND Hy**	**27.65**	**25**	T		T	22 15 36.1	
	baz=213							
H11S2	**WAKE ISLAND Hy**	**27.65**	**25**	T		T	22 15 46.0	
	baz=213							
H11S1	**WAKE ISLAND Hy**	**27.66**	**25**	T		T	22 15 43.9	
	baz=213							
FORT	**Forrest**	**34.60**	**223**	P		**P**	**21 48 20.1**	**+2.9**
FORT				IAmb		IAmb	21 49 27.2	
	comp=Z,10nm,1.1s							
IPM	**Ipoh**	**54.59**	**280**	P		**P**	**21 50 53.6**	**-2.7**
IPM				IAmb		IAmb	21 51 07.5	
	comp=Z,16nm,1.4s							
OHAK	**Old Harbor**	**76.35**	**26**	P		**P**	**21 53 14.5**	**-1.2**
RC01	**Rabbit Creek A**	**80.07**	**24**	P		**P**	**21 53 38.0**	**+1.8**
Q23K	**Middleton Isla**	**80.62**	**26**	P		**P**	**21 53 39.4**	**+0.3**
MID	**Middleton Isla**	**80.63**	**26**	P		**P**	**21 53 39.9**	**+0.7**
H21K	**Melozitna Rive**	**81.60**	**19**	P		**P**	**21 53 43.2**	**-1.0**
H21K				IAmb		IAmb	21 54 20.0	
	comp=Z,19nm,1.9s							
MK31	**Makanchi Array**	**82.84**	**319**	P		**P**	**21 53 51.6**	**+0.4**
MKAR	**Makanchi Array**	**82.84**	**319**	P		**P**	**21 53 52.2**	**+1.0**
ISLE	**Juniper Island**	**82.96**	**26**	P		**P**	**21 53 52.6**	**+1.0**
ISLE				IAmb		IAmb	21 54 20.9	
	comp=Z,16nm,1.1s							
GRNC	**Granite Creek**	**83.27**	**26**	P		**P**	**21 53 57.2**	**+3.9**
GRNC				IAmb		IAmb	21 56 52.7	
	comp=Z,21nm,1.4s							
COLD	**Coldfoot**	**83.37**	**19**	P		**P**	**21 53 54.8**	**+1.4**
COLD				IAmb		IAmb	21 56 32.3	
	comp=Z,9.6nm,1.7s							
H24K	**Noodor Dome**	**83.37**	**20**	P		**P**	**21 53 54.2**	**+0.7**
H24K				IAmb		IAmb	21 54 26.4	
	comp=Z,20nm,2.0s							
QSPA	**South Pole Qui**	**83.37**	**180**	P		**P**	**21 53 54.2**	**+0.6**
RIDG	**Independent Ri**	**83.40**	**23**	P		**P**	**21 53 53.7**	**0.0**
RIDG				IAmb		IAmb	21 55 50.4	
	comp=Z,18nm,1.6s							
SYO	**Syowa Base**	**92.56**	**199**	⇑*e*P		**P**	**21 54 36.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**152.53**	**286**	PKPbc		**PKPbc**	**22 01 22.6**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=78,slow=3.6,SNR=3.7							

IDC **14** *21:50:23.0±0.3,14.°45S×166.°59E,h0*$_{km}$*,mb5.3/31, mb1 5.3/35,mb1mx5.3/39,mbtmp5.3/35,ML3.6/2,MS5.9/62, Ms1 5.9/62,ms1mx5.8/68,Error ellipse: s-maj=13.2km s-min=10.6km az=77.0*

BJI **14** *21:50:23.0±0.0,14.°34S×166.°41E,h10*$_{km}$*,mb5.4/76, mB6.1/84,Ms6.2/99,Ms7 5.9/92*

NOU **14** *21:50:26.9,14.°57S×166.°29E,h0*$_{km}$*,ML5.9/100,Vanuatu Islands*

NEIC **14** *21:50:26.9,14.°55S×166.°41E,h7*$_{km}$*,Moment Tensor Solution. Moment tensor: Scale 10*^{18}*Nm; Mrr1.56; Mθθ-0.09; Mϕϕ-1.47; Mrθ0.80; Mrϕ0.78; Mθϕ-1.25; Fault plane solution: M*$_0$*2.26000×10*^{18} *NP1:*℘$_s$*149.75000°, δ65.80000°,λ84.25000°. NP2:*℘$_s$*343.55000°,δ24.83000°, λ102.56000°. Principal axes: T 2.1320, Plg69.0000°, Azm49.0000°; N 0.2406, Plg5.0000°, Azm152.0000°; P -2.3726, Plg21.0000°, Azm244.0000°;*

NEIC **14** *21:50:27.7±2.1,14.°53S±0.°06×166.°43E±0.°06,h16*$_{km}$*±1*$_{km}$*, mb5.9/279,Ms_20 6.2/430,Mwb6.2/77,Mww6.4 Error ellipse: s-maj=10.9km s-min=8.7km az=49.0*

MOS **14** *21:50:28.8±1.9,14.°34S×166.°24E,h33*$_{km}$*,mb5.9/48, MS6.0/59,Error ellipse: s-maj=7.7km s-min=5.4km az=117.3*

GCMT **14** *21:50:30.7±0.0,14.°34S×166.°38E,h12*$_{km}$*,MW6.3/167, Moment Tensor Solution. s166,c428; s167,c682; Duration: 3s4 Moment tensor: Scale 10*^{18}*Nm; Mrr2.81±.01; Mθθ-0.31±.01; Mϕϕ-2.50±.01; Mrθ1.15±.03; Mθϕ1.13±.01; Mrϕ-1.14±.03; Best double couple: M*$_0$*3.31900×10*^{18} *NP1:*℘$_s$*348.00000°,δ32.00000°, λ109.00000°. NP2:*℘$_s$*146.00000°,δ60.00000°,λ78.00000°. Principal axes: T 3.2890, Plg73.0000°, Azm28.0000°; N 0.0590, Plg10.0000°, Azm152.0000°; P -3.3500, Plg14.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC **14** *21:50:36,14.°25S×166.°20E,h26*$_{km}$*,Moment Tensor Solution. Duration: 20s0 Moment tensor: Scale 10*^{18}*Nm; Mrr3.62; Mθθ-0.72; Mϕϕ-2.90; Mrθ2.04; Mθϕ1.09; Mrϕ-3.32; Fault plane solution: M*$_0$*5.23000×10*^{18} *NP1:* ℘$_s$*343.00000°,δ21.00000°,λ101.00000°. NP2:* ℘$_s$*151.00000°,δ69.00000°,λ86.00000°. Principal axes: T 5.3845, Plg66.0000°, Azm54.0000°; N -0.3170, Plg4.0000°, Azm152.0000°; P -5.0675, Plg24.0000°, Azm244.0000°;*

ISC 14 21:50:26.0±0.3,14.°46S±0.°03×166.°49E±0.°03,h15$_{km}$**±1**$_{km}$**, h15**$_{km}$**:pP-P,n1657,**σ**2:07/1729,mb5.8/322,MS6.2/343, 107C-64D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.20**	**145**			**Pn**	**21 50 45.6**	**-2.6**
SANVU				Sn		**Sg**	**21 51 04.9**	**+0.1**
SANVU	**Saraoutou**	**1.20**	**145**	⇑P		**Pn**	**21 50 45.2**	**-3.0**
SANVU	**Saraoutou**	**1.20**	**145**	P		**Pn**	**21 50 48.3**	**0.0**
DVP	**Devils Point**	**3.63**	**154**	P		**Pn**	**21 51 24.1**	**+2.3**
RTV	**Rentapao**	**3.80**	**151**	P		**Pn**	**21 51 27.3**	**+3.2**
LIFNC	**LIFOU**	**6.33**	**174**	Pn		**Pn**	**21 51 58.4**	**-0.3**
LIFNC				Sn		**Sn**	**21 53 10.7**	**-0.1**
LIFNC	**LIFOU**	**6.33**	**174**	P		**Pn**	**21 51 59.2**	**+0.4**
KOUNC	**Koumac, New Ca**	**6.41**	**199**	Pn		**Pn**	**21 51 59.9**	**-0.1**
KOUNC				Sn		**Sn**	**21 53 15.2**	**+2.2**
KOUNC	**Koumac, New Ca**	**6.41**	**199**	⇑P		**Pn**	**21 52 00.6**	**+0.7**
KOUNC	**Koumac, New Ca**	**6.41**	**199**	P		**Pn**	**21 52 01.0**	**+1.0**
MARNC	**Mare, Loyalty**	**7.14**	**168**	Pn		**Pn**	**21 52 10.7**	**+0.8**
MARNC	**Mare, Loyalty**	**7.14**	**168**	⇑P		**Pn**	**21 52 13.9**	**+4.0**
MARNC	**Mare, Loyalty**	**7.14**	**168**	P		**Pn**	**21 52 11.9**	**+2.0**
YATNC	**Mamie plateau,**	**7.57**	**177**	P		**Pn**	**21 52 16.2**	**+0.3**
DZM	**Mont Dzumac**	**7.57**	**180**	Pn		**Pn**	**21 52 15.1**	**-0.9**
	29nm,0.3s,baz=7.4,slow=20,SNR=78							
DZM				Sn		**Sn**	**21 53 42.9**	**+1.2**
	6.0nm,0.3s,baz=110,slow=22,SNR=1.4							
DZM				LR		LR	21 54 51.1	
	comp=Z,148μm,21.9s,baz=5.0,slow=35							
DZM	**Mont Dzumac**	**7.57**	**180**	*e*Pn		**Pn**	**21 52 15.9**	**0.0**
	419nm,0.5s							
DZM				*e*Sn		**Sn**	**21 53 39.0**	**-2.7**
	698nm,0.8s							
DZM	**Mont Dzumac**	**7.57**	**180**	Pn		**Pn**	**21 52 15.5**	**-0.5**
DZM	**Mont Dzumac**	**7.57**	**180**	⇓P		**Pn**	**21 52 15.3**	**-0.7**
DZM	**Mont Dzumac**	**7.57**	**180**	P		**Pn**	**21 52 16.0**	**0.0**
NOUC	**Port Laguerre**	**7.61**	**181**	P		**Pn**	**21 52 17.8**	**+1.5**
OUENC	**Ouen Island, N**	**7.92**	**178**	Pn		**Pn**	**21 52 21.1**	**+0.3**
OUENC	**Ouen Island, N**	**7.92**	**178**	P		**Pn**	**21 52 21.9**	**+1.2**
HNR	**Honiara**	**8.12**	**307**	Pn		**Pn**	**21 52 23.7**	**+0.3**
	121nm,0.3s,baz=195,slow=5.9,SNR=19							
HNR				Sn		**Sn**	**21 53 57.8**	**+2.7**
	80nm,0.3s,baz=172,slow=16,SNR=2.4							
HNR				LR		LR	21 54 44.0	
	comp=Z,75μm,21.5s,baz=126,slow=32							
HNR	**Honiara**	**8.12**	**307**	P		**Pn**	**21 52 23.3**	**-0.1**
HNR	**Honiara**	**8.12**	**307**	Pn		**Pn**	**21 52 23.3**	**-0.1**
HNR	**Honiara**	**8.12**	**307**	⇑P		**Pn**	**21 52 22.6**	**-0.8**
HNR	**Honiara**	**8.12**	**307**	P		**Pn**	**21 52 24.9**	**+1.5**
PINNC	**Pines Island,**	**8.16**	**174**			**Pn**	**21 52 24.6**	**+0.7**
MSVF	**Nonsavu**	**11.58**	**108**	Pn		**Pn**	21 53 16.3	+5.4
	1.6nm,0.3s,baz=252,slow=20,SNR=18							
MSVF				Sn		Sn	21 55 32.5	+12
	0.7nm,0.3s,baz=107,slow=22,SNR=1.7							
MSVF				LR		LR	21 56 46.8	
	comp=Z,126μm,20.4s,baz=292,slow=33							
MSVF	**Nonsavu**	**11.58**	**108**	P		Pn	21 53 17.4	+6.5
MSVF	**Nonsavu**	**11.58**	**108**	Pn		**Pn**	**21 53 13.4**	**+2.5**
MSVF	**Nonsavu**	**11.58**	**108**	⇑P		Pn	21 53 17.8	+6.9
FUNA	**Funafuti**	**13.77**	**66**	Pn		**P**	**21 53 45.4**	**-3.9**
FUNA	**Funafuti**	**13.77**	**66**	P		**P**	**21 53 46.4**	**-3.0**
TARA	**Tarawa**	**16.95**	**23**	Pn		**Pn**	**21 54 21.0**	**-1.8**
TARA				P		**pP**	**21 54 27.4**	**-0.7**
TARA				IAmb		IAmb	21 54 35.2	
	comp=Z,616nm,1.0s							
RABL	**Rabaul**	**17.42**	**304**	Pn		**Pn**	**21 54 29.1**	**+0.4**
KRVT	**Keravat (AS076**	**17.46**	**304**	P		**P**	**21 54 30.1**	**-0.3**
	comp=Z,2.1nm,0.3s,baz=8.8,slow=7.8,SNR=6.7							
KRVT				S		**S**	**21 57 52.8**	**+1.2**
	baz=165,slow=23,SNR=1.0							
KRVT				LR		LR	22 01 39.7	
	comp=Z,34μm,18.2s,baz=267,slow=39							
RK1H	**Rockhampton Ha**	**17.53**	**237**	P		**P**	**21 54 31.7**	**+0.6**
EIDS	**Eidsvold**	**18.08**	**231**	P		**P**	**21 54 38.2**	**+1.0**
	baz=18,SNR=25							
EIDS	**Eidsvold**	**18.08**	**231**			**Pn**	**21 54 36.3**	**-0.5**
EIDS	**Eidsvold**	**18.08**	**231**	⇓P		**Pn**	**21 54 36.9**	**0.0**
EIDS	**Eidsvold**	**18.08**	**231**	P		**P**	**21 54 38.1**	**+0.9**
LHI	**Lord Howe Isla**	**18.30**	**201**			**Pn**	**21 54 38.4**	**-1.0**
PMG	**Port Moresby**	**19.56**	**283**	P		**Pn**	**21 54 55.0**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=92,slow=8.5,SNR=20							
PMG				S		**Sn**	**21 58 38.3**	**+4.0**
	comp=Z,0.9nm,0.3s,baz=278,slow=20,SNR=1.2							
PMG				LR		LR	22 01 34.3	
	comp=Z,188μm,18.2s,baz=59,slow=34							
PMG	**Port Moresby**	**19.56**	**283**	*i* P		**P**	**21 54 53.3**	**-0.2**
PMG				pmax		pmax		
	comp=Z,494nm,1.3s							
PMG				MLR		MLR		
	comp=Z,149μm,14.0s							
PMG	**Port Moresby**	**19.56**	**283**	P		**Pn**	**21 54 54.9**	**0.0**
PMG				IAmb		IAmb	21 55 35.1	
	comp=Z,566nm,1.2s							
PMG	**Port Moresby**	**19.56**	**283**	⇑P		**Pn**	**21 54 54.9**	**+0.1**
PMG	**Port Moresby**	**19.56**	**283**	P		**Pn**	**21 54 55.0**	**+0.1**
PMG	**Port Moresby**	**19.56**	**283**	P		**Pn**	**21 54 54.8**	**0.0**
CTA	**Charters Tower**	**20.11**	**251**	P		**P**	**21 55 00.1**	**+0.7**
	comp=Z,243nm,1.2s,baz=71,slow=11,SNR=27							
CTA				S		Sn	21 58 48.4	+0.8
	comp=Z,13nm,0.8s,baz=82,slow=10,SNR=2.1							
CTA				LR		LR	22 01 57.1	
	comp=Z,47μm,19.4s,baz=72,slow=34							
CTA	**Charters Tower**	**20.11**	**251**	P		Pn	21 55 01.1	-0.2
RMQ	**Roma**	**20.44**	**231**	P		Pn	21 55 04.3	-0.9
	baz=20,SNR=222							
RMQ	**Roma**	**20.44**	**231**	P		Pn	21 55 05.2	0.0
RAO	**Raoul Island**	**20.61**	**138**	P		Pn	21 55 07.4	+0.4
	comp=Z,238nm,0.5s,baz=224,slow=12,SNR=4.5							
RAO				S		Sn	21 58 59.8	+0.5
	comp=Z,78nm,0.3s,baz=148,slow=23,SNR=1.4							
RAO				LR		LR	22 00 36.8	
	comp=Z,8μm,20.0s,baz=312,slow=30							
RAO	**Raoul Island**	**20.61**	**138**	P		Pn	21 55 07.1	+0.1
RAO				pmax		pmax		
	comp=Z,574nm,1.0s							
RAO				MLR		MLR		
	comp=Z,18μm,21.0s							
RAO	**Raoul Island**	**20.61**	**138**	P		Pn	21 55 07.0	0.0
RAO				IAmb		IAmb	21 55 17.9	
	comp=Z,574nm,0.9s							
ARMA	**Armidale**	**20.96**	**218**	P		Pn	21 55 10.3	-1.0
	baz=21,SNR=9.7							
ARMA	**Armidale**	**20.96**	**218**			**P**	**21 55 09.1**	**+0.4**
ARMA				IAmb		IAmb	21 55 16.4	
	comp=Z,370nm,1.3s							
ARMA	**Armidale**	**20.96**	**218**	⇓P		Pn	21 55 10.4	-0.9
ARMA	**Armidale**	**20.96**	**218**	P		**P**	**21 55 09.7**	**+1.0**
AFI	**Afiamalu**	**21.08**	**91**	P		**P**	**21 55 12.7**	**+2.7**
	comp=Z,307nm,0.9s,baz=169,slow=5.2,SNR=16							
AFI				S		Sn	21 59 09.9	-1.0
	comp=Z,32nm,1.0s,baz=110,slow=20,SNR=2.1							
AFI				LR		LR	22 01 31.0	
	comp=Z,32μm,18.2s,baz=272,slow=32							
AFI	**Afiamalu**	**21.08**	**91**	P		**P**	**21 55 13.1**	**+3.0**
AFI				pmax		pmax		
	comp=Z,397nm,1.1s							
AFI				MLR		MLR		
	comp=Z,40μm,21.0s							
AFI	**Afiamalu**	**21.08**	**91**	P		**P**	**21 55 13.1**	**+3.0**
AFI				IAmb		IAmb	21 55 17.8	
	comp=Z,397nm,1.1s							
AFI	**Afiamalu**	**21.08**	**91**	⇑P		**P**	**21 55 08.3**	**-1.8**
AFI	**Afiamalu**	**21.08**	**91**	P		**P**	**21 55 14.2**	**+4.2**
MTSU	**Mount Surprise**	**21.59**	**257**	P		**P**	**21 55 16.4**	**+0.9**
	baz=22,SNR=15							
MTSU	**Mount Surprise**	**21.59**	**257**	P		**P**	**21 55 16.3**	**+0.8**
OUZ	**Omahuta**	**21.64**	**164**	P		**P**	**21 55 17.6**	**+1.8**
OUZ				IAmb		IAmb	21 55 39.9	
	comp=Z,820nm,1.5s							
OUZ	**Omahuta**	**21.64**	**164**	⇑P		**P**	**21 55 17.2**	**+1.4**
OUZ	**Omahuta**	**21.64**	**164**	P		**P**	**21 55 19.7**	**+3.9**
MANU	**Manus Island**	**22.56**	**301**	P		**P**	**21 55 27.1**	**+1.2**
COEN	**Coen**	**22.61**	**268**	P		**P**	**21 55 27.0**	**+0.6**
COEN	**Coen**	**22.61**	**268**	⇓P		**P**	**21 55 26.8**	**+0.4**
COEN	**Coen**	**22.61**	**268**	P		**P**	**21 55 28.6**	**+2.2**
PATS	**Pohnpei**	**22.66**	**338**	P		**P**	**21 55 28.0**	**+1.1**
	baz=23,SNR=14							
PATS	**Pohnpei**	**22.66**	**338**	P		**P**	**21 55 27.8**	**+1.0**
PATS	**Pohnpei**	**22.66**	**338**	P		**P**	**21 55 28.2**	**+1.3**
NTLH	**Newcastle Hard**	**22.76**	**214**	P		**P**	**21 55 28.1**	**+0.2**
NIUE	**Niue**	**23.03**	**105**	P		**P**	**21 55 32.2**	**+1.4**
	baz=23,SNR=4.6							
NIUE	**Niue**	**23.03**	**105**	P		**P**	**21 55 32.5**	**+1.6**
NIUE				IAmb		IAmb	21 55 40.5	
	comp=Z,967nm,1.4s							
NIUE	**Niue**	**23.03**	**105**	P		**P**	**21 55 37.0**	**+6.2**
	comp=Z,353nm,0.9s							
KWAJ	**Kwajalein Atol**	**23.14**	**3**	P		**P**	**21 55 33.1**	**+1.3**
KWAJ				pmax		pmax		
	comp=Z,340nm,0.7s							
KWAJ				MLR		MLR		
	comp=Z,31μm,19.0s							
KWAJ	**Kwajalein Atol**	**23.14**	**3**	P		**P**	**21 55 33.1**	**+1.3**
KWAJ				IAmb		IAmb	21 55 40.4	
	comp=Z,340nm,0.7s							
MGCD	**Mangr

BFZ IAmb IAmb 21 56 23.0
comp=Z,233nm,1.3s
BFZ IAMs_20 IAMs_20 22 07 01.8
comp=Z,54µm,18.0s
BFZ Birch Farm 27.48 164 P **P** **21 56 11.2 -0.5**
BFZ Birch Farm 27.48 164 P **P** **21 56 10.9 -0.8**
HOWZ Holdsworth Sta 27.49 165 P **P** **21 56 13.4 +1.6**
SNZO South Karori 27.69 167 P **P** **21 56 13.8 +0.3**
SNZO IAmb IAmb 21 56 30.2
comp=Z,148nm,1.1s
THZ Tophouse 27.77 170 IAmb IAmb 21 56 32.2
comp=Z,105nm,0.8s
TMWZ Te Maipa 27.79 165 P **P** **21 56 16.5 +2.1**
CMWZ Cape Campbell 28.01 168 P **P** **21 56 15.6 -0.7**
KHZ Kahutara 28.52 169 IAmb IAmb 21 56 32.4
comp=Z,562nm,1.8s
KHZ IAMs_20 IAMs_20 22 07 38.0
comp=Z,37µm,18.0s
KHZ Kahutara 28.52 169 ⇓P **P** **21 56 21.1 +0.2**
KHZ Kahutara 28.52 169 P **P** **21 56 21.1 +0.2**
STKA Stephens Creek 28.60 228 P **P** **21 56 21.3 -0.5**
comp=Z,29nm,0.7s,baz=40,slow=8.5,SNR=60
STKA PcP **PcP** **21 59 33.2 +0.3**
comp=Z,18nm,0.9s,baz=45,slow=3.7,SNR=2.8
STKA S **S** **22 01 09.2 -0.6**
comp=Z,5.4nm,1.0s,baz=22,slow=13,SNR=1.3
STKA ScP **ScP** **22 03 16.4 +2.6**
comp=Z,2.9nm,0.9s,baz=80,slow=6.1,SNR=1.7
STKA LR LR 22 07 57.3
comp=Z,53µm,18.7s,baz=59,slow=37
STKA Stephens Creek 28.60 228 P **P** **21 56 22.0 +0.2**
baz=29,SNR=41
STKA Stephens Creek 28.60 228 *d* iP **P** **21 56 22.3 +0.5**
STKA Stephens Creek 28.60 228 P **P** **21 56 21.4 -0.5**
STKA Stephens Creek 28.60 228 P **P** **21 56 22.0 +0.2**
LTZ Lake Taylor 28.66 171 IAmb IAmb 21 56 34.5
comp=Z,188nm,1.0s
FOZ Fox Glacier 29.11 175 IAmb IAmb 21 56 38.4
comp=Z,185nm,1.0s
OXZ Oxford 29.16 172 IAmb IAmb 21 56 38.5
comp=Z,170nm,1.1s
RPZ Rata Peaks 29.42 173 P **P** **21 56 28.7 -0.2**
RPZ S **S** **22 01 21.6 -0.8**
comp=Z,3.5nm,0.6s,baz=300,slow=21,SNR=1.1
RPZ PKiKP **PKiKP** **22 07 05.7 -2.4**
comp=Z,3.6nm,0.5s,baz=48,slow=21,SNR=1.6
RPZ LR LR 22 07 12.2
comp=Z,23µm,18.2s,baz=351,slow=34
RPZ Rata Peaks 29.42 173 P **P** **21 56 29.4 +0.5**
RPZ IAmb IAmb 21 56 43.9
comp=Z,122nm,0.9s
RPZ Rata Peaks 29.42 173 P **P** **21 56 31.7 +2.8**
MQZ McQueen's Vall 29.62 171 IAmb IAmb 21 56 40.9
comp=Z,210nm,1.1s
TOO Toolangi 29.63 215 P **P** **21 56 31.9 +1.0**
baz=30,SNR=15
TOO Toolangi 29.63 215 P **P** **21 56 31.1 +0.2**
TOO pmax pmax
comp=Z,90nm,1.3s
TOO Toolangi 29.63 215 P **P** **21 56 31.1 +0.2**
TOO Toolangi 29.63 215 ⇓P **P** **21 56 31.8 +0.8**
TOO Toolangi 29.63 215 P **P** **21 56 33.4 +2.5**
LBZ Lake Benmore 29.99 175 P **P** **21 56 34.3 +0.3**
SMPI Sarmi 30.10 292 P **P** **21 56 36.3 +1.0**
comp=Z,8µmcomp=Z,3µmcomp=Z,150nm,1.2s
WKZ Wanaka 30.35 176 P **P** **21 56 37.6 +0.5**
WKZ IAmb IAmb 21 57 05.5
comp=Z,123nm,1.1s
LCRK Leigh Creek 30.47 234 P **P** **21 56 38.9 +0.5**
BRAT Ballarat 30.50 217 P **P** **21 56 41.7 +3.1**
comp=Z,20nm,1.1s
ODZ Otahua Downs 30.69 174 P **P** **21 56 40.9 +0.7**
ODZ IAmb IAmb 21 56 53.1
comp=Z,234nm,1.8s
ODZ Otahua Downs 30.69 174 ⇑P P 21 56 49.0 +8.8
ODZ Otahua Downs 30.69 174 P P 21 56 45.6 +5.5
MLZ Mavora Lakes 30.84 178 P **P** **21 56 42.0 +0.5**
DCZ Deep Cove 30.91 179 IAmb IAmb 21 56 54.7
comp=Z,191nm,1.1s
GLAD Gladstone 30.95 208 P **P** **21 56 43.4 +1.0**
WB0 Warramunga Arr 31.10 256 P **P** **21 56 42.5 -1.6**
WB0 IAmb IAmb 21 56 48.0
comp=Z,341nm,1.9s
WB2 Warramunga Arr 31.15 255 IAmb IAmb 21 56 48.6
comp=Z,298nm,2.0s
WRAB Tennant Creek 31.15 255 *d* iP **P** **21 56 43.4 -1.2**
WRAB pmax pmax
comp=Z,124nm,2.0s
WRAB MLR MLR
comp=Z,41µm,19.0s
WRAB Tennant Creek 31.15 255 P **P** **21 56 44.2 -0.4**
WRAB IAmb IAmb 21 56 48.5
comp=Z,273nm,1.9s
WRAB Tennant Creek 31.15 255 IAMs_20 IAMs_20 22 07 57.0
comp=Z,46µm,22.0s
WRAB Tennant Creek 31.15 255 ⇓P **P** **21 56 42.7 -1.9**
WRAB Tennant Creek 31.15 255 P **P** **21 56 42.7 -1.9**
WRA Warramunga Arr 31.16 255 P **P** **21 56 41.9 -2.8**
comp=Z,19nm,0.9s,baz=84,slow=8.7,SNR=36
WRA PcP **PcP** **21 59 39.8 0.0**
comp=Z,4.8nm,0.8s,baz=83,slow=2.9,SNR=2.4
WRA S **S** **22 01 45.0 -5.3**
comp=Z,1.3nm,0.8s,baz=316,slow=41,SNR=1.4
WRA ScP **ScP** **22 03 23.5 +1.1**
comp=Z,3.0nm,0.9s,baz=78,slow=3.2,SNR=4.2
WRA PKiKP **PKiKP** **22 07 08.4 -1.6**
comp=Z,0.5nm,0.4s,baz=359,slow=0.3,SNR=6.2
WRA LR LR 22 08 58.9
comp=Z,38µm,18.1s,baz=72,slow=36
ARPS Mount Arapiles 31.26 220 P **P** **21 56 46.8 +1.5**
baz=31,SNR=6.4
ARPS Mount Arapiles 31.26 220 P **P** **21 56 47.3 +2.0**
comp=Z,40nm,0.9s
HTT Hallett 31.33 228 P **P** **21 56 46.0 -0.1**
baz=31,SNR=28
HTT Hallett 31.33 228 ⇑P **P** **21 56 45.9 -0.1**
HTT Hallett 31.33 228 P **P** **21 56 46.3 +0.2**
WHZ Wether Hill Ro 31.36 178 P **P** **21 56 46.0 0.0**
WHZ IAmb IAmb 21 56 52.5
comp=Z,137nm,1.3s
OOD Oodnadatta 31.55 240 P **P** **21 56 49.3 +1.4**
CORO Coronation Par 31.71 208 P **P** **21 56 51.2 +2.0**
NAPP Napperby 31.77 229 P **P** **21 56 50.7 +0.9**
AS31 Alice Springs 32.07 248 P **P** **21 56 50.9 -1.8**
ASAR Alice Springs 32.07 248 P **P** **21 56 51.4 -1.3**
comp=Z,12nm,0.7s,baz=74,slow=9.4,SNR=61
ASAR PcP **PcP** **21 59 41.3 -0.8**
comp=Z,8.8nm,0.8s,baz=72,slow=2.9,SNR=4.5
ASAR S **S** **22 02 05.8 +1.3**
comp=Z,2.1nm,1.0s,baz=88,slow=31,SNR=1.5
ASAR ScP **ScP** **22 03 27.5 +2.1**
comp=Z,2.4nm,1.0s,baz=106,slow=3.1,SNR=3.2
ASAR LR LR 22 09 23.3
comp=Z,36µm,18.3s,baz=87,slow=36
ASAR Alice Springs 32.07 248 P **P** **21 56 50.9 -1.7**
ASAR 21 59 41.3
ASAR Alice Springs 32.07 248 P **P** **21 56 50.9 -1.7**
WHYH Whyalla 32.12 230 P **P** **21 56 54.4 +1.5**
SRPI Serui, Papua 32.39 290 P **P** **21 56 54.6 -0.9**
comp=Z,7µmcomp=Z,4µmcomp=Z,57nm,0.5s
TWOA Tennyson Woods 32.41 226 P **P** **21 56 57.7 +2.3**
comp=Z,39nm,1.0s
MOO Moorlands 32.48 207 P **P** **21 56 58.6 +2.7**
baz=33,SNR=7.0
MOO Moorlands 32.48 207 P **P** **21 56 58.0 +2.1**
H11S2 WAKE ISLAND Hy 32.74 0 T T 22 31 21.8
baz=184,slow=76,SNR=23
H11S3 WAKE ISLAND Hy 32.74 0 T T 22 31 24.6
baz=184,slow=76,SNR=15
H11S1 WAKE ISLAND Hy 32.76 0 T T 22 31 25.7
baz=184,slow=76,SNR=26
RAR Rarotonga 32.76 107 P **P** **21 56 57.3 -1.3**
comp=Z,26nm,1.0s,baz=30,slow=12,SNR=1.9
RAR S **S** **22 02 16.8 +1.6**
comp=Z,9.3nm,0.9s,baz=334,slow=20,SNR=1.3
RAR LR LR 22 09 00.8
comp=Z,8µm,19.9s,baz=279,slow=34
RAR Rarotonga 32.76 107 P **P** **21 57 00.4 +1.7**
RAR pmax pmax
comp=Z,678nm,1.9s
RAR MLR MLR
comp=Z,16µm,21.0s
RAR Rarotonga 32.76 107 P **P** **21 57 00.3 +1.7**
RAR Rarotonga 32.76 107 P P 21 57 05.0 +6.3
BAKI Biak 32.79 291 P **P** **21 56 59.9 +0.9**
comp=Z,3µmcomp=Z,94nm,1.6s
TAU Tasmania Unive 32.80 206 P **P** **21 56 59.5 +0.8**
TAU pmax pmax
comp=Z,131nm,1.3s
TAU MLR MLR
comp=Z,22µm,20.0s
TAU Tasmania Unive 32.80 206 P **P** **21 56 59.5 +0.8**
TAU IAmb IAmb 21 57 17.9
comp=Z,131nm,1.2s
TAU Tasmania Unive 32.80 206 ⇑P **P** **21 57 00.3 +1.6**
TAU Tasmania Unive 32.80 206 P **P** **21 57 00.8 +2.1**
KDU Kakadu 33.10 269 P **P** **21 57 01.6 -0.1**
baz=33,SNR=15
KDU Kakadu 33.10 269 ⇓P **P** **21 57 01.3 -0.4**
KDU Kakadu 33.10 269 P **P** **21 57 01.7 0.0**
BBOO Buckleboo 33.16 231 P **P** **21 57 01.3 -0.7**
baz=33,SNR=49
BBOO Buckleboo 33.16 231 P **P** **21 57 01.6 -0.4**
BBOO IAmb IAmb 21 57 17.7
comp=Z,137nm,0.9s
BBOO Buckleboo 33.16 231 P **P** **21 57 01.9 -0.1**
WAKE Wake Island 33.53 0 P **P** **21 57 05.8 +0.6**
MULG Mulgathing 33.72 237 P **P** **21 57 06.9 -0.1**
H11N1 WAKE ISLAND Hy 33.96 1 T T 22 32 56.1
baz=184,slow=76,SNR=14
H11N3 WAKE ISLAND Hy 33.96 1 T T 22 32 57.1
baz=184,slow=76,SNR=12
H11N2 WAKE ISLAND Hy 33.98 1 T T 22 32 57.5
baz=184,slow=76,SNR=15
MTN Manton Dam 34.38 268 P **P** **21 57 12.8 0.0**
baz=34,SNR=4.5
MTN Manton Dam 34.38 268 P **P** **21 57 13.3 +0.4**
MTN Manton Dam 34.38 268 ⇑P **P** **21 57 12.7 -0.2**
MTN Manton Dam 34.38 268 P **P** **21 57 14.2 +1.4**
SAUI Saumlaki 35.08 277 P **P** **21 57 19.8 +0.9**
SAUI IAMs_20 IAMs_20 22 10 14.8
comp=Z,57µm,22.0s
SAUI Saumlaki 35.08 277 P **P** **21 57 19.3 +0.4**
comp=Z,18µmcomp=Z,15µmcomp=Z,524nm,1.1s
GUMO Guam 35.14 321 P **P** **21 57 20.0 +0.7**
comp=Z,75nm,0.8s,baz=197,slow=19,SNR=2.4
GUMO S **S** **22 02 52.6 +0.6**
comp=Z,22nm,0.3s,baz=185,slow=21,SNR=1.2
GUMO LR LR 22 12 36.5
comp=Z,16µm,18.3s,baz=140,slow=38
GUMO Guam 35.14 321 P **P** **21 57 20.6 +1.3**
GUMO pmax pmax
comp=Z,1µm,2.0s
GUMO MLR MLR
comp=Z,26µm,18.0s
GUMO Guam 35.14 321 P **P** **21 57 20.6 +1.3**
GUMO Guam 35.14 321 IAMs_20 IAMs_20 22 13 17.7
comp=Z,27µm,18.0s
KNRA Kununurra 36.42 263 P **P** **21 57 28.7 -1.7**
baz=36,SNR=26
KNRA Kununurra 36.42 263 IAmb IAmb 21 57 52.0
comp=Z,185nm,1.1s
KNRA Kununurra 36.42 263 P **P** **21 57 29.4 -1.0**
WRKA Warakurna 37.34 248 P **P** **21 57 36.0 -2.2**
baz=37,SNR=80
WRKA Warakurna 37.34 248 ⇑P **P** **21 57 36.2 -2.0**
WRKA Warakurna 37.34 248 P **P** **21 57 37.5 -0.7**
SIJI Sorong 37.34 288 P **P** **21 57 38.0 -0.3**
comp=Z,19nm,0.7s,baz=66,slow=5.8,SNR=13
SIJI LR LR 22 14 06.9
comp=Z,52µm,18.3s,baz=126,slow=38
SWI Sorong 37.35 288 P **P** **21 57 37.6 -0.7**
comp=Z,11µmcomp=Z,3µmcomp=Z,53nm,0.8s
BNDI Bandanaira 37.35 282 ⇑P **P** **21 57 37.5 -0.8**
BNDI Bandanaira 37.35 282 P **P** **21 57 39.8 +1.4**
MSAI Masohi 38.65 283 P **P** **21 57 48.2 -1.1**
comp=Z,12nm,0.9s
FORT Forest 38.79 239 P **P** **21 57 51.1 +0.8**
baz=39,SNR=24
FORT Forrest 38.79 239 IAmb IAmb 21 58 00.8
comp=Z,582nm,1.4s
FORT Forrest 38.79 239 ⇑P **P** **21 57 49.7 -0.6**
FORT Forrest 38.79 239 P **P** **21 57 51.4 +1.1**
AAI Ambon 39.23 282 P **P** **21 57 53.6 -0.6**
comp=Z,13µmcomp=Z,3µmcomp=Z,94nm,1.3s
XMAS Kiritimati 39.30 68 P **P** **21 57 57.4 +2.6**
XMAS IAmb IAmb 21 58 09.2
comp=Z,805nm,2.0s
XMAS Kiritimati 39.30 68 IAMs_20 IAMs_20 22 10 00.3
comp=Z,38µm,21.0s
FITZ Fitzroy Crossi 39.33 259 P **P** **21 57 53.2 -1.7**
comp=Z,33nm,0.8s,baz=106,slow=7.3,SNR=42
FITZ LR LR 22 13 57.1
comp=Z,27µm,18.2s,baz=78,slow=36
MCQ Macquarie Isla 40.38 187 P **P** **21 58 02.7 -0.5**
MCQ pmax pmax
comp=Z,369nm,1.5s
MCQ Macquarie Isla 40.38 187 P **P** **21 58 02.7 -0.5**
MCQ IAmb IAmb 21 58 10.6
comp=Z,369nm,1.5s
LBMI Labuha 40.92 286 P **P** **21 58 09.9 +1.7**
comp=Z,8µmcomp=Z,6µmcomp=Z,449nm,1.5s
TNTI Ternate 41.57 288 P **P** **21 58 14.6 +1.0**
TNTI IAmb IAmb 21 58 33.4
comp=Z,236nm,1.5s
TNTI Ternate 41.57 288 P **P** **21 58 15.2 +1.6**
comp=Z,6µmcomp=Z,3µmcomp=Z,98nm,1.7s
TNTI Ternate 41.57 288 P **P** **21 58 17.2 +3.6**
comp=Z,98nm,1.7s
SANI Sanana 41.84 283 ⇑P **P** **21 58 14.6 -1.2**
SANI Sanana 41.84 283 P **P** **21 58 15.6 -0.2**
comp=Z,14µmcomp=Z,6µmcomp=Z,234nm,0.9s
SANI Sanana 41.84 283 P **P** **21 58 15.8 0.0**
BATI Baumata 42.01 271 LR LR 22 16 27.3
comp=Z,35µm,18.4s,baz=137,slow=37
BATI Baumata 42.01 271 P **P** **21 58 18.6 +1.4**
comp=Z,7µmcomp=Z,4µmcomp=Z,174nm,1.0s
PAE Paea 42.27 100 *e*P **P** **21 58 22.0 +2.8**
comp=Z,65nm,1.3s
PPT2 Papeete2 42.27 100 *e*P **P** **21 58 22.4 +3.0**
comp=Z,243nm,1.4s
PPT2 *e*S **S** **22 04 43.5 +3.6**
comp=Z,13µm,25.0s
PPT2 *e*LQ LQ 22 08 22.6
comp=Z,65µm,28.8s
PPT2 *e*LR LR 22 10 07.3
comp=Z,45µm,28.2s,baz=262
PPT Papeete 42.27 100 P **P** **21 58 17.1 -2.2**
comp=Z,7.1nm,0.4s,baz=234,slow=22,SNR=1.2
PPT LR LR 22 13 36.2
comp=Z,10µm,18.0s,baz=268,slow=33
PPTF Pamatai, Papee 42.28 100 P **P** **21 58 21.6 +2.1**
PPTF IAmb IAmb 21 58 28.4
comp=Z,216nm,1.1s
MMRI Maumere 43.69 273 P **P** **21 58 30.4 -0.4**
MMRI Maumere 43.69 273 ⇑P **P** **21 58 28.5 -2.3**
MMRI Maumere 43.69 273 P **P** **21 58 30.4 -0.4**
comp=Z,13µmcomp=Z,7µmcomp=Z,263nm,1.0s
MMRI Maumere 43.69 273 P **P** **21 58 33.1 +2.3**
PMOR Pomariorio Ree 44.06 97 *e*P **P** **21 58 36.6 +2.9**
comp=Z,569nm,1.3s
BBSI Bau Bau 44.09 277 P **P** **21 58 36.3 +2.2**
comp=Z,288nmcomp=Z,25nm,1.3s
VAH Vaihoa 44.29 97 *e*P **P** **21 58 38.2 +2.6**
comp=Z,233nm,1.3s
SGSI Sangihe 44.42 291 P **P** **21 58 37.5 +0.8**
comp=Z,4µmcomp=Z,261nm,1.2s
KMSI Cibinong 44.63 286 P **P** **21 58 38.3 -0.1**
comp=Z,5µmcomp=Z,438nm,0.9s
PSA00 Pilbara Seismi 44.79 254 IAmb IAmb 21 59 00.3
comp=Z,242nm,1.6s
PSA00 Pilbara Seismi 44.79 254 IAmb IAmb 21 58 44.8
comp=Z,240nm,1.9s
PSA00 Pilbara Seismi 44.79 254 P **P** **21 58 42.0 +2.5**
comp=Z,68nm,1.2s
MBWA Marble Bar 44.89 254 IAMs_20 IAMs_20 22 16 32.2
comp=Z,33µm,19.0s
BASI Baing, Sumba 44.99 270 P **P** **21 58 42.0 +0.8**
MIDW Midway 45.21 20 P **P** **21 58 45.0 +2.4**
LUWI Luwuk 45.21 283 P **P** **21 58 43.9 +0.9**
LUWI Luwuk 45.21 283 ⇑P **P** **21 58 42.5 -0.5**
LUWI Luwuk 45.21 283 P **P** **21 58 43.2 +0.2**
comp=Z,11µmcomp=Z,5µmcomp=Z,441nm,1.3s
LUWI Luwuk 45.21 283 P **P** **21 58 45.9 +2.9**
GTOI Gorontalo 45.56 285 P **P** **21 58 46.8 +1.1**
comp=Z,2µmcomp=Z,60nm,1.6s
DAV Davao City (W) 45.87 295 S **S** **22 05 35.4 +3.1**
comp=Z,151nm,0.4s,baz=46,slow=12,SNR=1.2
DAV LR LR 22 16 14.3
comp=Z,5µm,20.2s,baz=108,slow=34
BSSI Bau Bau, Buton 45.93 275 P **P** **21 58 48.9 +0.2**
comp=Z,7µmcomp=Z,3µmcomp=Z,82nm,1.8s
MEEK Meekatharra 46.20 247 P **P** **21 58 49.6 -1.1**
baz=46,SNR=75
MEEK Meekatharra 46.20 247 P **P** **21 58 50.1 -0.6**
APSI Ampana 46.31 283 P **P** **21 58 52.7 +1.0**
comp=Z,7µmcomp=Z,3µmcomp=Z,240nm,1.2s
BKSI Bulukumba 46.49 276 P **P** **21 58 53.8 +0.7**
comp=Z,12µmcomp=Z,3µmcomp=Z,63nm,1.8s
MRSI Marisa 46.51 285 P **P** **21 58 52.8 -0.4**
comp=Z,10µmcomp=Z,2µmcomp=Z,112nm,1.0s
BNSI Bone 46.75 278 P **P** **21 58 56.4 +1.3**
comp=Z,11µmcomp=Z,4µmcomp=Z,185nm,1.3s
KAPI Kappang 46.93 277 LR LR 22 18 29.4
comp=Z,11µm,21.3s,baz=98,slow=36
KAPI Kappang 46.93 277 *d* iP **P** **21 58 57.3 +0.8**
KAPI Kappang 46.93 277 P **P** **21 58 57.7 +1.2**
KAPI IAmb IAmb 21 59 08.9
comp=Z,220nm,1.2s
KAPI Kappang 46.93 277 ⇑P **P** **21 58 56.2 -0.3**
SPSI Sidrap Palu 47.19 278 P **P** **21 58 58.8 +0.2**
comp=Z,10µmcomp=Z,2µmcomp=Z,98nm,1.5s
JCJ Chichijima 47.57 330 LR LR 22 18 56.3
comp=Z,6µm,19.2s,baz=142,slow=36
JCJ Chichijima 47.57 330 P **P** **21 59 00.8 -0.5**
KLBR Kellerberrin 47.58 240 P **P** **21 59 00.1 -1.3**
baz=48,SNR=13
KLBR Kellerberrin 47.58 240 P **P** **21 59 00.9 -0.5**
TOLI2 Tolitoli 47.81 285 P **P** **21 59 01.9 -1.5**
TOLI2 IAmb IAmb 21 59 15.1
comp=Z,162nm,1.2s
TOLI2 Tolitoli 47.81 285 P **P** **21 59 02.3 -1.1**
PLAI Plampang 47.97 271 P **P** **21 59 04.6 0.0**
comp=Z,12µmcomp=Z,6µmcomp=Z,338nm,1.0s
PLAI Plampang 47.97 271 P **P** **21 59 04.8 +0.2**
NWAO Narrogin (SRO) 48.24 239 IAMs_20 IAMs_20 22 20 11.1
comp=Z,30µm,19.0s
BLDU Ballidu 48.32 242 P **P** **21 59 06.9 -0.3**
baz=48,SNR=5.9
BLDU Ballidu 48.32 242 P **P** **21 59 07.6 +0.4**
comp=Z,59nm,1.3s
MPSI Mapaga 48.38 284 P **P** **21 59 06.4 -1.4**
comp=Z,11µmcomp=Z,3µmcomp=Z,160nm,1.9s
MORW Morawa 48.71 244 P **P** **21 59 09.3 -0.8**
baz=49,SNR=16
MORW Morawa 48.71 244 IAmb IAmb 21 59 33.1
comp=Z,97nm,0.9s
MORW Morawa 48.71 244 ⇑P **P** **21 59 09.3 -0.8**
MORW Morawa 48.71 244 P **P** **21 59 09.8 -0.4**
MUN Mundaring 48.94 240 P **P** **21 59 11.0 -0.9**
baz=49,SNR=8.6
MUN Mundaring 48.94 240 P **P** **21 59 13.5 +1.6**
KIP Kipapa 49.85 45 IAMs_20 IAMs_20 22 14 48.1
comp=Z,19µm,22.0s
GIRL Giralia 50.00 252 P **P** **21 59 20.4 +0.3**
baz=50,SNR=6.2
GIRL Giralia 50.00 252 P **P** **21 59 19.8 -0.3**
GIRL Giralia 50.00 252 P **P** **21 59 21.9 +1.8**
DNP Denpasar 50.48 271 P **P** **21 59 24.9 +1.0**
comp=Z,15µmcomp=Z,576nm,1.0s
POHA Pohakuloa 50.52 49 IAMs_20 IAMs_20 22 15 10.8
comp=Z,25µm,22.0s
IGBI Denpasar 50.52 270 P **P** **21 59 23.5 -0.6**
comp=Z,6µmcomp=Z,6µmcomp=Z,362nm,1.4s
SRBI Singaraja 50.60 271 P **P** **21 59 26.1 +1.3**
comp=Z,13µmcomp=Z,7µmcomp=Z,296nm,1.9s
SMKI Samarinda 50.67 282 P **P** **21 59 27.9 +2.6**
comp=Z,18µmcomp=Z,8µmcomp=Z,259nm,1.4s
MYLDM Lahad Datu 51.43 289 ⇑P **P** **21 59 31.4 +0.4**
JAGI Jajag, Banyuwa 51.55 271 ⇑P **P** **21 59 30.0 -2.0**
JAGI Jajag, Banyuwa 51.55 271 P **P** **21 59 31.5 -0.4**
comp=Z,11µmcomp=Z,5µmcomp=Z,262nm,1.5s
JAGI Jajag, Banyuwa 51.55 271 P **P** **21 59 31.3 -0.6**
ABJI Asem Bagus 51.61 271 P **P** **21 59 32.7 +0.4**
comp=Z,11µmcomp=Z,8µmcomp=Z,437nm,1.1s
KMMI Kalianget 52.03 272 P **P** **21 59 35.9 +0.4**
comp=Z,10µmcomp=Z,5µmcomp=Z,179nm,1.3s
BBKI Banjar Baru 52.06 277 P **P** **21 59 37.1 +1.4**
comp=Z,5µmcomp=Z,134nm,1.8s
BLJI Banyuglugur 52.24 271 P **P** **21 59 37.0 0.0**
comp=Z,4µmcomp=Z,152nm,0.9s
GMJI Gumuas 52.28 271 P **P** **21 59 36.6 -0.7**
comp=Z,11µmcomp=Z,3µmcomp=Z,126nm,1.0s
TAOE Nuku Hiva Isla 52.47 90 *e*S **S** **22 07 07.6 +2.4**
comp=Z,15µm,27.0s
TAOE *e*LR LR 22 14 48.3
comp=Z,66µm,28.6s,baz=264
MTKI Muara Teweh, K 52.72 280 P **P** **21 59 40.7 +0.1**
comp=Z,5µmcomp=Z,4µmcomp=Z,59nm,2.0s
TGY Tagaytay City 53.27 300 LR LR 22 21 44.2
comp=Z,4µm,20.6s,baz=116,slow=35
JHJ2 Mitsune 53.73 332 P **P** **21 59 49.0 +1.4**
JHJ Hachijo jima 2 53.75 332 S **S** **22 07 24.0 +2.2**
comp=Z,119nm,0.9s,baz=67,slow=18,SNR=1.6
JHJ LR LR 22 22 45.3
comp=Z,7µm,18.7s,baz=146,slow=36
KKM Kota Kinabalu 53.86 289 ⇑P **P** **21 59 48.3 -0.8**
PWJI Pagerwojo 53.92 271 P **P** **21 59 49.8 +0.4**
comp=Z,3µmcomp=Z,174nm,1.4s
TBJI Tambak Boyo 54.13 272 P **P** **21 59 51.3 +0.3**
comp=Z,12µmcomp=Z,4µmcomp=Z,128nm,1.4s
PCJI Pacitan 54.49 270 P **P** **21 59 54.0 +0.4**
comp=Z,11µmcomp=Z,7µmcomp=Z,545nm,1.4s
UGM Wanagama 55.18 270 P **P** **21 59 59.0 +0.3**
UGM Wanagama 55.18 270 P **P** **22 00 00.9 +2.2**
comp=Z,12µmcomp=Z,7µmcomp=Z,514nm,1.1s
UGM Wanagama 55.18 270 P **P** **22 00 02.8 +4.1**
comp=Z,514nm,1.1s
PBKI Pangkalan Bun 55.31 277 P **P** **22 00 01.1 +1.5**
comp=Z,4µmcomp=Z,123nm,1.0s
JOW Kunigami 55.34 318 S **S** **22 07 46.3 +2.8**
comp=Z,7.3nm,0.8s,baz=307,slow=18,SNR=1.6
JOW LR LR 22 23 42.6
comp=Z,12µm,18.3s,baz=135,slow=36
JOW Kunigami 55.34 318 IAmb IAmb 22 00 17.0
comp=Z,280nm,1.5s
JOW Kunigami 55.34 318 ⇑P **P** **22 00 03.3 +3.8**
YOGI Yogyakarta 55.42 270 P **P** **22 00 00.3 -0.1**
comp=Z,5µmcomp=Z,295nm,1.3s
SMRI Semarang 55.44 271 P **P** **22 00 01.8 +1.3**
SMRI Semarang 55.44 271 P **P** **22 00 01.4 +0.9**
comp=Z,15µmcomp=Z,9µmcomp=Z,336nm,1.3s
JYT Yasato 56.20 334 P **P** **22 00 07.2 +1.7**
STKI Sintang 56.28 280 P **P** **22 00 07.3 +0.8**
comp=Z,3µmcomp=Z,101nm,1.6s
SBUM Sibu 56.31 283 IAmb IAmb 22 00 20.2
comp=Z,199nm,1.5s
SBUM Sibu 56.31 283 ⇑P **P** **22 00 06.1 -0.7**
KPJI Karang Pucung 56.84 271 P **P** **22 00 10.8 +0.3**
comp=Z,5µmcomp=Z,258nm,1.5s
INU Inuyama 56.87 331 IAmb IAmb 22 00 15.9
comp=Z,201nm,1.4s
INU Inuyama 56.87 331 ⇑P **P** **22 00 09.6 -0.7**
JGF Kuroka 56.92 332 P **P** **22 00 12.4 +1.7**
JMN Monobe 57.12 328 ⇓P **P** **22 00 14.4 +2.3**
CMJI Cimerak 57.22 270 P **P** **22 00 12.5 -0.7**
comp=Z,2µmcomp=Z,102nm,1.8s
JSU Suzuyama 57.31 323 P **P** **22 00 14.8 +1.3**
JSU IAmb IAmb 22 00 18.3
comp=Z,332nm,1.6s
MJAR Matsushiro Arr 57.32 333 P **P** **22 00 12.0 -1.4**
comp=Z,45nm,1.1s,baz=186,slow=22,SNR=33
MJAR S **S** **22 08 10.2 +0.7**
comp=Z,1.7nm,0.5s,baz=49,slow=52,SNR=1.9
MJAR LR LR 22 23 32.7
comp=Z,3µm,19.4s,baz=160,slow=35
MAJO Matsushiro 57.32 333 *i* P **P** **22 00 12.9 -0.6**
MAJO pmax pmax
comp=Z,172nm,1.0s
MAJO MLR MLR
comp=Z,5µm,16.0s
MAJO Matsushiro 57.32 333 P **P** **22 00 14.0 +0.6**
MAJO IAmb IAmb 22 00 25.8
comp=Z,141nm,0.9s
MAJO Matsushiro 57.32 333 ⇑P **P** **22 00 12.6 -0.9**
MAJO Matsushiro 57.32 333 P **P** **22 00 14.6 +1.1**
comp=Z,157nm,1.2s
MJB9 Matsu-Tunnel 57.33 333 P **P** **22 00 14.3 +0.8**
MJB9 IAmb IAmb 22 00 25.7
comp=Z,135nm,0.9s
JMM Marumori 57.37 336 P **P** **22 00 15.5 +1.7**
JMM IAmb IAmb 22 00 26.2
comp=Z,227nm,1.1s
JMM Marumori 57.37 336 ⇑P **P** **22 00 17.1 +3.4**
YOJ Yonaguni jima 57.42 312 P **P** **22 00 15.3 +0.9**
YOJ pmax pmax
comp=Z,494nm,1.5s

YOJ	Yonaguni jima	57.42	312	P		P	22 00 15.3	+0.9
JCJI	Jatiwangi	57.67	271	P		P	22 00 16.7	+0.3
	comp=Z,371nm,0.9s							
KSM	Kuching	57.82	281	P		P	22 00 16.8	-0.7
KSM				IAmb		IAmb	22 00 31.0	
	comp=Z,126nm,1.1s							
KSM	Kuching	57.82	281	⇑P		P	22 00 16.3	-1.1
TWG	Pinlang	57.88	309	P		P	22 00 19.1	+1.4
TWG				IAmb		IAmb	22 00 57.2	
	comp=Z,180nm,1.6s							
YULB	Yu-li	58.04	310	P		P	22 00 20.0	+1.2
YULB				IAmb		IAmb	22 00 48.1	
	comp=Z,328nm,1.9s							
LEM	Lembang	58.23	271	LR		LR	22 26 07.0	
	comp=Z,7µm,20.8s,baz=89,slow=37							
LEM	Lembang	58.23	271	P		P	22 00 19.7	-0.8
	comp=Z,6µmcomp=Z,4µmcomp=Z,151nm,2.0s							
JNU	Nakatsue	58.27	325	⇑P		P	22 00 19.3	-0.9
NACB	Ninganchiao	58.28	311	P		P	22 00 21.2	+0.8
JHS	Saijyo	58.50	328	IAmb		IAmb	22 00 33.0	
	comp=Z,214nm,1.4s							
JHS	Saijyo	58.50	328	⇑P		P	22 00 20.8	-1.0
SSLB	Suanglung	58.53	310	P		P	22 00 23.6	+1.4
SSLB				IAmb		IAmb	22 00 39.7	
	comp=Z,138nm,1.3s							
SSLB	Suanglung	58.53	310	P		P	22 00 23.2	+1.0
	comp=Z,78nm,1.4s							
JSD	Sado	58.55	334	P		P	22 00 22.3	+0.3
CNJI	Cibinong	58.59	270	P		P	22 00 22.0	-0.9
	comp=Z,13µmcomp=Z,4µmcomp=Z,314nm,1.1s							
YHNB	Yeheng	58.74	311	P		P	22 00 25.2	+1.5
YHNB				IAMs_20		IAMs_20	22 21 36.4	
	comp=Z,14µm,20.0s							
YHNB	Yeheng	58.74	311	P		P	22 00 27.0	+3.3
	comp=Z,293nm,1.2s							
TATO	Taipei	58.84	311	P		P	22 00 26.4	+2.2
TATO	Taipei	58.84	311	IAMs_20		IAMs_20	22 24 31.8	
	comp=Z,15µm,20.0s							
CBJI	Citeko	59.06	271	P		P	22 00 25.2	-0.9
	comp=Z,11µmcomp=Z,11µmcomp=Z,217nm,0.9s							
DBJI	Dramaga	59.13	271	P		P	22 00 26.7	+0.1
	comp=Z,7µmcomp=Z,202nm,1.5s							
XMIS	Christmas Isla	59.40	266	P		P	22 00 29.1	+0.7
JTM	Tenmabayashi	59.81	338	P		P	22 00 33.2	+2.5
JTM	Tenmabayashi	59.81	338	⇓P		P	22 00 33.4	+2.7
CGJI	Cibinong	60.14	271	P		P	22 00 31.6	-1.9
	comp=Z,5µmcomp=Z,282nm,1.2s							
ERM	Erimo	60.17	340	P		P	22 00 34.7	+1.6
ERM				pmax		pmax		
	comp=Z,393nm,1.8s							
ERM				MLR		MLR		
	comp=Z,14µm,19.0s							
ERM	Erimo	60.17	340	P		P	22 00 34.7	+1.6
ERM	Erimo	60.17	340	IAMs_20		IAMs_20	22 27 59.5	
	comp=Z,14µm,19.0s							
PPBI	Pangkal Pinang	60.78	276	P		P	22 00 38.9	+0.9
	comp=Z,8µmcomp=Z,13µmcomp=Z,74nm,1.5s							
KNMB	Chin-men Tao	60.83	309	P		P	22 00 39.5	+1.5
BLSI	Bandar Lampung	60.85	272	P		P	22 00 37.3	-1.1
	comp=Z,2µmcomp=Z,61nm,1.3s							
QZH	Quanzhou	60.95	310	⇑*i*P		P	22 00 39.3	+0.5
QZH				S		S	22 08 58.8	+2.0
QZH				pmax		pmax		
	comp=Z,2µm,10.6s							
QZH				LR		LR		
	comp=Z,4µm,17.5s							
QZH				LR		LR		
	comp=Z,5µm,22.3s							
QZH				LR		LR		
	comp=Z,7µm,19.4s							
YUK	Yuzh-Kuril'sk	61.18	343	*e*P		P	22 00 32.1	-7.9
YUK				*e*S		S	22 08 58.8	-0.2
YUK				*e*SSS		SSS	22 15 41.1	
YUK				pmax		pmax		
	comp=Z,460nm,1.1s							
YUK				pmax		pmax		
	comp=E,102nm,0.8s							
YUK				pmax		pmax		
	comp=N,69nm,0.2s							
KLI	Kotabumi	61.35	272	P		P	22 00 41.2	-0.6
	comp=N,107nm,1.4s							
JEW	Eniwo	61.48	339	P		P	22 00 43.6	+1.5
KASI	Kota Agung	61.54	272	P		P	22 00 41.5	-1.6
	comp=N,7µmcomp=N,3µmcomp=N,243nm,1.3s							
KUR	Kuril'sk	61.76	345	*ce*P		P	22 00 43.0	-0.9
KUR				*i*			22 03 05.1	
KUR				PPP		PPP	22 04 38.3	
KUR				*i* S		S	22 09 10.0	+3.6
KUR				*i* SS		SS	22 13 11.8	+3.1
KUR				pmax		pmax		
	comp=E,2µm,10.7s							
KUR				pmax		pmax		
	comp=Z,3µm,10.7s							
KUR				pmax		pmax		
	comp=N,2µm,10.4s							
KUR				pmax		pmax		
	comp=N,214nm,1.5s							
KUR				pmax		pmax		
	comp=Z,428nm,1.5s							
KUR				MLR		MLR		
	comp=Z,15µm,18.0s							
KUR				MLR		MLR		
	comp=E,7µm,19.0s							
KUR				MLR		MLR		
	comp=N,14µm,18.0s							
PMBI	Palembang	61.90	274	P		P	22 00 47.2	+1.7
LWLI	Liwa	62.08	272	P		P	22 00 45.9	-1.0
	comp=N,4µmcomp=N,197nm,0.9s							
JKA	Kamikawa-asahi	62.23	341	P		P	22 00 49.4	+2.3
JKA				IAmb		IAmb	22 00 57.1	
	comp=Z,184nm,1.1s							
ASAJ	Asahikawa	62.23	341	P		P	22 00 46.7	-0.4
	comp=Z,84nm,1.1s,baz=216,slow=9.8,SNR=7.6							
ASAJ				LR		LR	22 22 13.2	
	comp=Z,7µm,21.6s,baz=158,slow=31							
ASAJ	Asahikawa	62.23	341	P		P	22 00 49.4	+2.3
ASAJ				pmax		pmax		
	comp=Z,184nm,1.1s							
TJN	Taejon	62.61	325	*ce*P		P	22 00 50.6	+0.8
DSRI	Dabo	62.73	277	P		P	22 00 50.8	-0.3
	comp=Z,5µmcomp=Z,1µmcomp=Z,66nm,1.5s							
SSE	Sheshan	62.81	317	P		P	22 00 49.8	-1.4
SSE				S		S	22 09 21.0	+0.9
SSE				pmax		pmax		
	comp=Z,15nm,0.7s							
SSE				pmax		pmax		
	comp=Z,780nm,10.7s							
SSE				LR		LR		
	comp=Z,3µm,15.9s							
SSE				LR		LR		
	comp=Z,3µm,15.7s							
KSRS	Korea Array	63.09	326	P		P	22 00 52.5	-0.5
	comp=Z,25nm,1.0s,baz=139,slow=6.5,SNR=35							
KSRS				PKP2bc			22 29 58.6	
	comp=Z,0.5nm,0.3s,baz=320,slow=3.7,SNR=4.6							
KSRS				PKP2ab			22 30 05.8	
	comp=Z,1.8nm,0.8s,baz=298,slow=2.7,SNR=6.6							
KSAR	Wonju Array Be	63.11	326	P		P	22 00 53.7	+0.7
KSAR	Wonju Array Be	63.11	326	P		P	22 00 53.7	+0.7
VNDA	Vanda	63.12	181	P		P	22 00 52.5	0.0
	comp=Z,18nm,0.9s,baz=354,slow=8.3,SNR=30							
VNDA				LR		LR	22 24 47.9	
	comp=Z,4µm,18.7s,baz=14,slow=33							
VNDA				PKPPKP		P'P'df	22 29 54.3	-1.2
	comp=Z,2.5nm,1.2s,baz=180,slow=4.0,SNR=3.3							
VNDA	Vanda	63.12	181	P		P	22 00 52.9	+0.3
VNDA				pmax		pmax		
	comp=Z,110nm,1.2s							
VNDA	Vanda	63.12	181	P		P	22 00 52.9	+0.3
VNDA				IAmb		IAmb	22 01 02.4	
	comp=Z,110nm,1.1s							
KS19	Wonju Array Si	63.16	326	P		P	22 00 55.3	+1.9
KS19				IAmb		IAmb	22 01 02.4	
	comp=Z,45nm,0.9s							
DLV	T Lat	63.17	292	P		P	22 00 53.6	-0.6
DLV				IAmb		IAmb	22 01 10.8	
	comp=Z,189nm,1.7s							
TPRI	Tanjung Pinang	63.17	279	P		P	22 00 54.6	+0.6
	comp=Z,2µmcomp=Z,87nm,1.4s							
MNAI	Manna	63.31	272	P		P	22 00 54.5	-0.4
MNAI	Manna	63.31	272	P		P	22 00 56.2	+1.3
	comp=Z,8µmcomp=Z,291nm,1.7s							
JMBI	JAMBI	63.33	276	P		P	22 00 56.9	+1.9
	comp=Z,3µmcomp=Z,115nm,0.5s							
SBA	Scott Base	63.41	180	P		P	22 00 55.3	+0.8
SBA				pmax		pmax		
	comp=Z,186nm,1.0s							
SBA	Scott Base	63.41	180	P		P	22 00 55.3	+0.8
CASY	Casey	63.49	202	P		P	22 00 55.3	0.0
CASY	Casey	63.49	202	⇑P		P	22 00 55.1	-0.2
INCN	Inchon	63.82	325	P		P	22 00 58.0	+0.2
INCN				pmax		pmax		
	comp=Z,91nm,1.2s							
INCN	Inchon	63.82	325	P		P	22 00 58.0	+0.2
INCN				IAmb		IAmb	22 01 19.2	
	comp=Z,90nm,1.2s							
GZH	Guangzhou	64.00	305	P		P	22 01 02.3	+3.0
GZH				S		S	22 09 39.4	+4.1
GZH				LR		LR		
	comp=Z,6µm,19.9s							
GZH				LR		LR		
	comp=Z,8µm,19.0s							
MYKOM	Kota Tinggi	64.07	279	P		P	22 00 60.0	0.0
MYKOM				IAmb		IAmb	22 01 18.1	
	comp=Z,168nm,1.7s							
MYKOM	Kota Tinggi	64.07	279	⇑P		P	22 00 59.9	0.0
MASI	Maura Aman, Be	64.30	273	P		P	22 01 00.6	-0.9
	comp=Z,31µmcomp=Z,4µmcomp=Z,150nm,1.0s							
YSS	Yuzh-Sakhalins	64.74	342	*ce*P		P	22 01 04.2	+0.6
YSS				*e**SP		pwP	22 01 12.0	+1.2
YSS				*e*			22 03 28.7	
YSS				*e*S		S	22 09 47.6	+4.1
YSS				*e*PS		PnS	22 10 07.0	+4.7
YSS				*e*SS		SS	22 13 50.2	-5.0
YSS				pmax		pmax		
	comp=Z,2µm,7.1s							
YSS				pmax		pmax		
	comp=Z,190nm,1.2s							
YSS				smax		smax		
	comp=N,3µm,14.8s							
YSS	Yuzh-Sakhalins	64.74	342	P		P	22 01 04.3	+0.8
YSS				IAMs_20		IAMs_20	22 27 47.5	
	comp=Z,11µm,19.0s							
YSS	Yuzh-Sakhalins	64.74	342	⇑P		P	22 01 03.4	-0.2
RGRI	Rengat	64.93	276	P		P	22 01 06.6	+1.0
	comp=Z,127nm,0.4s							
QIZ	Qiongzhong	64.95	299	P		P	22 01 06.2	+0.6
QIZ				IAmb		IAmb	22 01 21.5	
	comp=Z,146nm,1.5s							
QIZ	Qiongzhong	64.95	299	P		P	22 01 07.8	+2.2
QIZ				S		S	22 09 50.1	+2.9
QIZ				pmax		pmax		
	comp=Z,2µm,10.5s							
QIZ				LR		LR		
	comp=Z,4µm,14.2s							
QIZ				LR		LR		
	comp=Z,5µm,20.4s							
QIZ				LR		LR		
	comp=Z,10µm,24.9s							
NJ2	Nanjing	64.96	316	⇑P		P	22 01 04.3	-1.1
NJ2				pP		sP	22 01 10.6	-0.3
NJ2				sP		pwP	22 01 15.4	+2.8
NJ2				S		S	22 09 48.0	+1.2
NJ2				sS		sS	22 09 53.8	+1.4
NJ2				pmax		pmax		
	comp=Z,23nm,1.5s							
NJ2				pmax		pmax		
	comp=Z,2µm,8.2s							
NJ2				LR		LR		
	comp=Z,8µm,15.7s							
NJ2				LR		LR		
	comp=Z,7µm,18.1s							
NJ2				LR		LR		
	comp=Z,8µm,17.7s							
TEY	Ternei	65.13	337	⇓*e*P		P	22 01 06.2	0.0
TEY				pmax		pmax		
	comp=Z,10.0nm,2.4s							
KRJI	Kerinci	65.31	274	P		P	22 01 07.2	-1.0
	comp=Z,8µmcomp=Z,4µmcomp=Z,162nm,2.0s							
MSHR	Mys Shultsa	65.39	332	*ce*P		P	22 01 07.4	-0.5
MSHR				pmax		pmax		
	comp=Z,59nm,1.2s							
MSHR				MLR		MLR		
	comp=Z,3µm,17.0s							
VLA	Vladivostok	65.49	333	*d i*P		P	22 01 09.7	+1.1
VLA				pmax		pmax		
	comp=Z,186nm,1.3s							
SKR	Severo-Kuril's	65.50	353	*e*P		P	22 01 09.7	+1.3
SKR				pmax		pmax		
	comp=Z,2µm,8.8s							
SKR				MLR		MLR		
	comp=Z,3µm,14.0s							
USRK	Ussuriysk Ar.	66.31	334	P		P	22 01 14.0	+0.2
	comp=Z,134nm,1.2s,baz=155,slow=10,SNR=30							
USRK				PKP2bc			22 29 49.6	
	comp=Z,0.9nm,0.6s,baz=336,slow=4.2,SNR=4.1							
USA0B	Ussuriysk Arra	66.31	334	P		P	22 01 14.6	+0.8
USA0B				pmax		pmax		
	comp=Z,223nm,1.3s							
USA0B	Ussuriysk Arra	66.31	334	P		P	22 01 14.6	+0.8
BKNI	Bangkinang	66.36	277	P		P	22 01 16.1	+1.3
BKNI	Bangkinang	66.36	277	P		P	22 01 14.8	0.0
	comp=Z,9µmcomp=Z,6µmcomp=Z,243nm,1.4s							
PPSI	Pulau Pagai	66.55	273	P		P	22 01 16.3	+0.3
	comp=Z,5µmcomp=Z,296nm,1.3s							
UGL	Uglegorsk	66.86	343	*e*P		P	22 01 16.1	-1.1
UGL				*e*			22 03 40.3	
UGL				*e*S		S	22 10 08.7	-0.6
UGL				pmax		pmax		
	comp=Z,120nm,1.4s							
UGL				pmax		pmax		
	comp=Z,3µm,5.5s							
UGL				smax		smax		
	comp=N,4µm,13.0s							
UGL				smax		smax		
	comp=E,9µm,13.0s							
UGL				MLR		MLR		
	comp=E,5µm,14.0s							
UGL				MLR		MLR		
	comp=N,5µm,15.0s							
CNSH	ChangSha	66.96	309	⇓P		P	22 01 18.6	+0.3
CNSH				S		S	22 10 11.8	+0.4
CNSH				pmax		pmax		
	comp=N,33nm,1.9s							
CNSH				LR		LR		
	comp=N,4µm,15.3s							
CNSH				LR		LR		
	comp=N,6µm,17.6s							
CNSH				LR		LR		
	comp=N,6µm,18.2s							
UBPT	Khong Chiam	67.17	294	P		P	22 01 20.3	+0.4
UBPT				IAmb		IAmb	22 01 38.3	
	comp=Z,74nm,1.4s							
UBPT	Khong Chiam	67.17	294	⇑P		P	22 01 19.5	-0.4
WHN	Wuhan	67.20	312	⇑P		P	22 01 18.8	-1.0
WHN				sP		sP	22 01 25.9	+0.6
WHN				S		S	22 10 12.9	-1.3
WHN				ScS		SKSac	22 11 10.3	-6.8
WHN				pmax		pmax		
	comp=Z,420nm,2.0s							
WHN				pmax		pmax		
	comp=Z,2µm,3.5s							
WHN				LR		LR		
	comp=Z,23µm,15.4s							
WHN				LR		LR		
	comp=Z,9µm,17.5s							
WHN				LR		LR		
	comp=Z,18µm,19.5s							
SHEM	Shemya Is, Ala	67.23	5	P		P	22 01 20.4	+0.9
	comp=Z,104nm,0.8s,baz=274,slow=12,SNR=4.7							
SHEM				LR		LR	22 27 09.5	
	comp=Z,8µm,19.3s,baz=192,slow=33							
SMY	Shemya	67.23	5	P		P	22 01 21.6	+2.1
SMY				pmax		pmax		
	comp=Z,494nm,1.4s							
SMY	Shemya	67.23	5	P		P	22 01 21.6	+2.1
GULI	GuiLin	67.46	306	⇓P		P	22 01 22.8	+1.2
GULI				S		S	22 10 22.0	+4.5
GULI				pmax		pmax		
	comp=Z,60nm,1.7s							
GULI				LR		LR		
	comp=Z,4µm,15.7s							
GULI				LR		LR		
	comp=Z,5µm,16.8s							
GULI				LR		LR		
	comp=Z,8µm,25.5s							
PET	Petropavlovsk	67.54	355	*ce*P		P	22 01 19.9	-1.6
PET				*i* S		S	22 10 13.3	-4.1
PET				*e*SS		SS	22 14 39.3	+0.8
PET				pmax		pmax		
	comp=Z,89nm,1.7s							
PET				pmax		pmax		
	comp=Z,4µm,10.7s							
PET				pmax		pmax		
	comp=Z,4µm,14.6s							
PET				MLR		MLR		
	comp=Z,7µm,16.0s							
PET	Petropavlovsk	67.54	355	P		P	22 01 22.5	+1.1
PET				IAmb		IAmb	22 01 25.5	
	comp=Z,161nm,1.5s							
PET				IAMs_20		IAMs_20	22 25 27.1	
	comp=Z,10µm,19.0s							
KIWB	Kanaga Island	67.55	11	P		P	22 01 23.1	+1.5
IPM	Ipoh	67.56	281	P		P	22 01 21.7	-0.7
COCO	West Island	67.58	263	P		P	22 01 22.9	+0.3
COCO				pmax		pmax		
	comp=Z,314nm,0.4s							
COCO				MLR		MLR		
	comp=Z,9µm,20.0s							
COCO	West Island	67.58	263	P		P	22 01 22.9	+0.3
DL2	Dalian	67.63	323	⇑*i*P		P	22 01 20.8	-1.6
DL2				PP		PP	22 03 46.6	-5.2
DL2				S		S	22 10 21.0	+1.9
DL2				SS		SS	22 14 36.3	-4.1
DL2				pmax		pmax		
	comp=Z,100nm,1.0s							
DL2				pmax		pmax		
	comp=Z,2µm,10.7s							
DL2				LR		LR		
	comp=Z,10µm,16.3s							
DL2				LR		LR		
	comp=Z,8µm,17.1s							
DL2				LR		LR		
	comp=Z,9µm,18.8s							
ADK	Adak	67.66	11	P		P	22 01 23.9	+1.7
ADK				pmax		pmax		
	comp=Z,147nm,1.1s							
ADK				MLR		MLR		
	comp=Z,11µm,20.0s							
ADK	Adak	67.66	11			P	22 01 23.9	+1.7
ADK				IAmb		IAmb	22 01 27.9	
	comp=Z,147nm,1.1s							
ADK	Adak	67.66	11	IAMs_20		IAMs_20	22 24 58.8	
	comp=Z,11µm,20.0s							
MDJ	Mudanjiang	67.69	332	P		P	22 01 23.1	+0.5
MDJ				pP		pwP	22 01 30.8	+0.9
MDJ				sP		sP	22 01 34.6	+6.4
MDJ				S		S	22 10 24.3	+4.7
MDJ				pmax		pmax		
	comp=Z,54nm,2.0s							
MDJ				pmax		pmax		
	comp=Z,3µm,10.7s							
MDJ				LR		LR		
	comp=Z,3µm,19.4s							
MDJ				LR		LR		
	comp=Z,3µm,19.6s							
MDJ				LR		LR		
	comp=Z,8µm,16.0s							
PEA0B	Petropavlovsk-	67.71	354	*ce*P		P	22 01 22.4	-0.2
PETK	Petropavlovsk-	67.71	354	P		P	22 01 21.9	-0.7
	comp=Z,26nm,0.8s,baz=120,slow=7.0,SNR=20							
PETK				LR		LR	22 26 57.7	
	comp=Z,9µm,19.8s,baz=156,slow=32							
PETK	Petropavlovsk-	67.71	354	P		P	22 01 22.5	-0.1
PETK	Petropavlovsk-	67.71	354	P		P	22 01 22.5	-0.1
SISI	Saibi	67.80	275	P		P	22 01 22.6	-1.4
	comp=Z,2µmcomp=Z,57nm,1.4s							
MNSI	Mandailing Nat	67.89	277	P		P	22 01 23.1	-1.4
	comp=Z,3µmcomp=Z,110nm,1.3s							
GSTR	Great Sitkin T	67.98	12	P		P	22 01 26.2	+1.9
KULM	Kulim	68.16	282	IAmb		IAmb	22 01 41.8	
	comp=Z,250nm,1.7s							
KULM	Kulim	68.16	282	⇑P		P	22 01 25.9	-0.3
TYV	Tymovskoe	68.31	344	*e*P		P	22 01 27.1	+0.8
TYV				*e*S		S	22 10 29.9	+3.3
TYV				pmax		pmax		
	comp=Z,1µm,4.1s							
TYV				pmax		pmax		
	comp=Z,40nm,2.2s							
TYV				smax		smax		
	comp=N,300nm,4.3s							
TYV				smax		smax		
	comp=E,700nm,4.3s							
SNY	Shenyang	68.57	327	⇑P		P	22 01 25.8	-2.4
SNY				S		S	22 10 32.1	+2.0
SNY				pmax		pmax		
	comp=E,2µm,9.0s							
SNY				LR		LR		
	comp=E,15µm,18.5s							
SNY				LR		LR		
	comp=E,7µm,18.9s							
SNY				LR		LR		
	comp=E,11µm,17.5s							
TIA	Tai'an	68.64	319	⇑P		P	22 01 26.5	-2.3
TIA				S		S	22 10 30.9	-0.3
TIA				SS		SS	22 14 47.8	-8.4
TIA				pmax		pmax		
	comp=E,15nm,2.3s							
TIA				pmax		pmax		
	comp=E,2µm,10.3s							
TIA				LR		LR		
	comp=E,6µm,19.9s							
TIA				LR		LR		
	comp=E,4µm,15.6s							
TIA				LR		LR		
	comp=E,9µm,18.1s							
CN2	Changchun	69.03	329	*e*P		P	22 01 30.4	-0.6
CN2				S		S	22 10 34.9	-0.6
CN2				SS		SS	22 15 04.1	+2.2
CN2				pmax		pmax		
	comp=E,50nm,0.7s							
CN2				pmax		pmax		
	comp=E,2µm,10.0s							
CN2				LR		LR		
	comp=E,5µm,15.0s							
CN2				LR		LR		
	comp=E,6µm,15.0s							
CN2				LR		LR		
	comp=E,4µm,16.0s							
PSI	Prapat	69.07	279	LR		LR	22 32 29.0	
	comp=E,3µm,20.7s,baz=112,slow=36							
BNX	BinXian	69.54	332	⇓P		P	22 01 33.4	-0.8
BNX				pP		sP	22 01 39.6	-0.1
BNX				sP		pwP	22 01 42.3	+0.9
BNX				S		S	22 10 36.4	-5.1
BNX				sS		pS	22 10 46.3	+0.1
BNX				pmax		pmax		
	comp=E,80nm,0.7s							
BNX				pmax		pmax		
	comp=E,4µm,6.1s							
BNX				LR		LR		
	comp=E,15µm,14.3s							
BNX				LR		LR		
	comp=E,7µm,14.5s							
BNX				LR		LR		
	comp=E,11µm,19.6s							
GSI	Gunungsitoli	69.95	277	P		P	22 01 35.9	-1.6
GSI				IAmb		IAmb	22 01 50.2	
	comp=Z,74nm,0.9s							
GSI	Gunungsitoli	69.95	277	⇑P		P	22 01 37.2	-0.2
GSI	Gunungsitoli	69.95	277	P		P	22 01 36.4	-1.0
	comp=Z,8µmcomp=Z,4µmcomp=Z,112nm,1.9s							
GSI	Gunungsitoli	69.95	277	P		P	22 01 38.6	+1.2
	comp=Z,111nm,1.9s							
GRNR	Gornyy	70.08	340	⇓*i*P		P	22 01 38.3	+0.9
GRNR				*e*S		S	22 10 53.1	+5.4
GRNR				pmax		pmax		
	comp=Z,10.0nm,1.1s							
GRNR				smax		smax		
	comp=N,2.0nm,0.8s							
SRIT	Nakonsritamara	70.17	285	P		P	22 01 39.0	+0.3
SRIT				IAmb		IAmb	22 01 52.5	
	comp=Z,271nm,1.7s							
KCSI	Kotacane, Aceh	70.38	279	P		P	22 01 38.0	-2.0
	comp=Z,2µmcomp=Z,49nm,2.0s							
NIKH	Nikolski High	70.43	16	P		P	22 01 41.2	+1.7
NIKH				IAmb		IAmb	22 01 51.4	
	comp=Z,118nm,0.8s							
NIKH	Nikolski High	70.43	16	P		P	22 01 36.2	-3.3
	baz=206							
NIKH				S		S	22 10 54.0	+2.4
	baz=206							
KLR	Kul'dur	70.46	337	P		P	22 01 39.5	-0.2
	comp=Z,38nm,1.0s,baz=151,slow=6.3,SNR=22							
KLR				LR		LR	22 32 12.9	
	comp=Z,5µm,18.8s,baz=151,slow=36							
KLR	Kul'dur	70.46	337	*ce*P		P	22 01 39.5	-0.2
KLR				pmax		pmax		

comp=Z,133nm,1.5s
KLR MLR MLR
comp=Z,5µm,17.0s
ENH Enshi 70.61 310 P P 22 01 40.8 -0.4
LYN LuoYang 70.75 315 eP P 22 01 38.9 -2.9
LYN sP pP 22 01 44.9 -1.0
LYN PP **PP 22 04 16.0 -2.9**
LYN S **S 22 10 51.8 -4.4**
LYN pmax pmax
comp=Z,30nm,1.9s
LYN pmax pmax
comp=Z,3µm,10.8s
LYN LR LR
comp=Z,14µm,17.7s
LYN LR LR
comp=Z,3µm,20.2s
LYN LR LR
comp=Z,11µm,17.3s
HNS HongShan 70.90 319 ⇑P P 22 01 41.8 -0.8
HNS PP **PP 22 04 17.1 -3.0**
HNS S **S 22 11 00.8 +3.1**
HNS SS **SS 22 15 31.9 +1.0**
HNS pmax pmax
comp=Z,22nm,1.7s
HNS pmax pmax
comp=Z,1µm,11.2s
HNS LR LR
comp=Z,6µm,18.6s
HNS LR LR
comp=Z,7µm,20.4s
NKL Nikolayevsk 70.90 344 eP P 22 01 39.3 -3.0
NKL eS **S 22 11 03.9 +6.8**
NKL pmax pmax
comp=E,3.0nm,0.9s
NKL pmax pmax
comp=N,1.0nm,1.1s
NKL pmax pmax
comp=Z,88nm,1.0s
NKL smax smax
comp=E,3.0nm,2.5s
NKL smax smax
comp=N,3.0nm,3.5s
NKL MLR MLR
comp=E,152nm,15.0s
NKL MLR MLR
comp=N,1.0nm,11.0s
NKL MLR MLR
comp=Z,4µm,16.0s
GYA Guiyang 70.94 305⇑iP P 22 01 44.8 +1.5
GYA pP pwP 22 01 50.8 +0.2
GYA S **S 22 10 59.5 +0.6**
GYA pmax pmax
comp=Z,42nm,1.6s
GYA pmax pmax
comp=Z,2µm,10.1s
GYA LR LR
comp=Z,5µm,16.4s
GYA LR LR
comp=Z,4µm,16.4s
GYA LR LR
comp=Z,6µm,19.2s
BJT Baijiatuau 71.57 321 IAmb IAmb 22 02 00.6
comp=Z,151nm,1.4s
BJI Beijing 71.58 321 P P 22 01 45.5 -1.2
BJI S **S 22 11 06.9 +1.4**
BJI pmax pmax
comp=Z,29nm,1.9s
BJI pmax pmax
comp=Z,2µm,9.3s
BJI LR LR
comp=Z,8µm,18.5s
BJI LR LR
comp=Z,3µm,19.3s
BJI LR LR
comp=Z,6µm,21.7s
LHMI Lhok Sumawe 71.66 281 P P 22 01 48.5 +0.7
LHMI IAmb IAmb 22 02 58.5
comp=Z,97nm,1.1s
LHMI Lhok Sumawe 71.66 281 P P 22 01 47.5 -0.3
UNV Unalaska Valle 71.84 16 P P 22 01 50.1 +2.2
UNV IAmb IAmb 22 02 16.4
comp=Z,93nm,1.2s
UNV Unalaska Valle 71.84 16 P P 22 01 44.7 -3.3
baz=208
UNV S **S 22 11 08.8 +0.8**
baz=208
TIY Taiyuan 72.55 318 eP P 22 01 52.1 -0.6
TIY S **S 22 11 18.4 +1.4**
TIY pmax pmax
comp=Z,1µm,5.0s
TIY LR LR
comp=Z,8µm,17.1s
TIY LR LR
comp=Z,9µm,16.9s
TIY LR LR
comp=Z,11µm,19.0s
XAN Xi'an 72.95 313 P P 22 01 55.3 +0.1
XAN pP pP 22 01 59.9 +0.7
XAN PP **PP 22 04 40.3 +2.5**
XAN S **S 22 11 22.0 +0.3**
XAN pmax pmax
comp=Z,93nm,1.0s
XAN pmax pmax
comp=Z,3µm,10.0s
XAN LR LR
comp=Z,8µm,17.9s
XAN LR LR
comp=Z,7µm,20.6s
XAN LR LR
comp=Z,13µm,23.3s
KMI Kunming 73.52 302 ⇑P P 22 01 59.1 +0.2
KMI pP pP 22 02 03.6 +0.6
KMI PP **PP 22 04 44.8 +1.7**
KMI S **SKiKP 22 11 31.8 +2.3**
KMI sS sS 22 11 36.4 +1.9
KMI SS **SS 22 16 10.3 -1.7**
KMI pmax pmax
comp=Z,63nm,1.3s
KMI pmax pmax
comp=Z,1µm,5.0s
KMI LR LR
comp=Z,3µm,20.2s
KMI LR LR
comp=Z,5µm,24.1s
KMI LR LR
comp=Z,11µm,27.1s
FALS False Pass 73.61 18 P P 22 02 00.2 +1.7
FALS IAmb IAmb 22 02 27.9
comp=Z,59nm,0.9s
FALS False Pass 73.61 18 P P 22 01 54.7 -3.8
baz=210
SPIA Saint Paul Isl 73.94 13 P P 22 02 02.1 +1.8
SPIA Saint Paul Isl 73.94 13 P P 22 01 58.2 -2.1
baz=204
XLT XiLinHaoTe 74.05 325⇑iP P 22 02 00.4 -1.0
XLT pP pP 22 02 04.8 -0.7
XLT sP pwP 22 02 09.6 +0.9
XLT PcP **PcP 22 02 16.3 -0.3**
XLT S **S 22 11 33.0 -0.7**
XLT sS sS 22 11 41.6 +1.7
XLT ScS **SKSac 22 12 08.4 0.0**
XLT SS **SS 22 16 16.8 -2.3**
XLT pmax pmax
comp=Z,64nm,1.6s
XLT pmax pmax
comp=Z,1µm,3.7s
XLT LR LR
comp=Z,1µm,17.8s
XLT LR LR
comp=Z,5µm,15.6s
XLT LR LR
comp=Z,4µm,21.6s
CM31 Chiang Mai Arr 74.15 294 P P 22 02 03.5 +1.1
CM31 IAmb IAmb 22 02 19.7
comp=Z,258nm,1.7s
CMAR Chiang Mai Arr 74.15 294 P P 22 02 02.9 +0.5
comp=Z,28nm,1.0s,baz=128,slow=4.7,SNR=40
CMAR S **S 22 11 38.8 +3.1**
comp=Z,0.2nm,0.4s,baz=206,slow=26,SNR=1.7
CMAR LR LR 22 33 49.2
comp=Z,3µm,21.1s,baz=95,slow=35
CMAR Chiang Mai Arr 74.15 294 P P 22 02 03.0 +0.5
CHTO Chiang Mai 74.28 295 P P 22 02 03.1 -0.1
CHTO pmax pmax
comp=Z,129nm,1.4s
CHTO Chiang Mai 74.28 295 P P 22 02 03.1 -0.1

CHTO IAmb IAmb 22 02 21.0
comp=Z,129nm,1.4s
CHTO Chiang Mai 74.28 295 ⇑P P 22 02 02.6 -0.6
CHTO Chiang Mai 74.28 295 P P 22 02 06.3 +3.1
comp=Z,47nm,1.6s
MA2 Magadan 74.87 352 P P 22 02 04.6 -1.1
comp=Z,22nm,0.8s,baz=151,slow=5.4,SNR=26
MA2 LR LR 22 31 30.0
comp=Z,7µm,19.9s,baz=169,slow=33
MA2 Magadan 74.87 352ceP P 22 02 03.4 -2.3
MA2 pmax pmax
comp=Z,171nm,1.6s
MA2 MLR MLR
comp=Z,7µm,18.0s
MA2 Magadan 74.87 352 P P 22 02 05.5 -0.2
MA2 IAmb IAmb 22 02 17.3
comp=Z,198nm,1.5s
MA2 IAMs_20 IAMs_20 22 29 13.8
comp=Z,9µm,20.0s
MA2 Magadan 74.87 352 ⇑P P 22 02 03.2 -2.5
HHC Hu-ho-hao-te 74.89 320 ⇑P P 22 02 06.1 -0.3
HHC sP pwP 22 02 14.8 +1.0
HHC S **S 22 11 46.8 +3.4**
HHC SS **SS 22 16 28.3 -3.8**
HHC pmax pmax
comp=Z,33nm,1.7s
HHC pmax pmax
comp=Z,2µm,6.8s
HHC LR LR
comp=Z,7µm,16.7s
HHC LR LR
comp=Z,3µm,17.2s
HHC LR LR
comp=Z,11µm,16.6s
SDPT Sand Point 74.92 19 P P 22 02 04.2 -1.9
baz=213
PZH PanZhiHua 74.92 303 P P 22 02 06.3 -0.6
PZH pP **pP 22 02 09.8 -1.2**
PZH sP **sP 22 02 12.5 0.0**
PZH PcP **PcP 22 02 18.0 -2.8**
PZH PP **PP 22 04 56.3 +1.5**
PZH S **S 22 11 44.5 +0.2**
PZH SS **SS 22 16 32.3 -0.8**
PZH pmax pmax
comp=Z,40nm,1.0s
PZH pmax pmax
comp=Z,2µm,11.4s
PZH LR LR
comp=Z,4µm,21.6s
PZH LR LR
comp=Z,4µm,22.6s
PZH LR LR
comp=Z,7µm,24.0s
CD2 Chengdu 75.25 308 ⇓P P 22 02 09.0 +0.4
CD2 S **S 22 11 49.4 +1.8**
CD2 SS **SS 22 16 36.8 -1.0**
CD2 pmax pmax
comp=Z,50nm,1.4s
CD2 pmax pmax
comp=Z,2µm,11.8s
CD2 LR LR
comp=Z,7µm,15.2s
CD2 LR LR
comp=Z,6µm,17.7s
QSPA South Pole Qui 75.57 180 PKPPKP 22 29 31.7
baz=154,slow=0.8
QSPA LR LR 22 32 46.9
comp=Z,5µm,18.9s,baz=30,slow=34
QSPA South Pole Qui 75.57 180 P P 22 02 10.2 +0.2
QSPA IAmb IAmb 22 02 21.3
comp=Z,222nm,1.2s
HIA Hailar 75.68 331 IAmb IAmb 22 02 23.1
comp=Z,157nm,1.4s
BTO Baotou 75.73 319 eP P 22 02 12.0 +0.8
BTO S **S 22 11 50.0 -2.6**
BTO LR LR
comp=Z,30µm,17.3s
BTO LR LR
comp=Z,19µm,16.8s
ZEA Zeya 75.75 337 eP P 22 02 11.3 +0.4
ZEA eS **S 22 11 55.1 +3.0**
ZEA pmax pmax
comp=E,500nm,10.8s
ZEA pmax pmax
comp=N,500nm,6.1s
ZEA pmax pmax
comp=Z,2µm,10.0s
ZEA pmax pmax
comp=N,70nm,1.0s
ZEA pmax pmax
comp=Z,90nm,1.1s
ZEA smax smax
comp=N,4µm,15.8s
ZEA smax smax
comp=E,4µm,14.5s
CHGN Chignik 76.36 19 P P 22 02 16.8 +2.5
CHGN Chignik 76.36 19 P P 22 02 11.0 -3.3
baz=215
CHIR Chirikof Islan 76.90 21 IAMs_20 IAMs_20 22 31 46.6
comp=Z,12µm,20.0s
CHIR Chirikof Islan 76.90 21 P P 22 02 14.6 -2.8
baz=218
PBA Port Blair 77.54 286 P P 22 02 22.1 +0.2
PBA IAmb IAmb 22 02 39.3
comp=Z,102nm,1.2s
PBA Port Blair 77.54 286⇑eP P 22 02 22.2 +0.3
LZH Lanzhou 77.58 313 ⇑P P 22 02 21.8 -0.1
LZH sP pP 22 02 26.3 +0.3
LZH PP **PP 22 05 14.9 -2.3**
LZH S **S 22 12 14.3 +1.0**
LZH sS sS 22 12 23.6 +4.2
LZH SS **SS 22 17 10.0 -3.2**
LZH pmax pmax
comp=Z,170nm,1.3s
LZH pmax pmax
comp=Z,3µm,7.0s
LZH LR LR
comp=Z,6µm,15.7s
LZH LR LR
comp=Z,7µm,16.3s
LZH LR LR
comp=Z,11µm,18.2s
DGPR DIGLIPUR 77.83 287 eP P 22 02 23.3 -0.2
SEY Seymchan 77.93 353 P P 22 02 22.1 -0.9
comp=Z,40nm,0.9s,baz=155,slow=5.5,SNR=45
SEY S **S 22 12 15.1 -0.4**
comp=Z,2.6nm,0.7s,baz=163,slow=6.5,SNR=10
SEY LR LR 22 33 34.0
comp=Z,9µm,19.8s,baz=160,slow=33
SEY Seymchan 77.93 353⇑iP P 22 02 20.9 -2.1
SEY pmax pmax
comp=Z,132nm,1.4s
SII Sitkinak Islan 77.98 21 IAMs_20 IAMs_20 22 29 18.1
comp=Z,9µm,20.0s
SII Sitkinak Islan 77.98 21 P P 22 02 21.1 -2.4
baz=219
RPN Rapa Nui 78.45 115 LR LR 22 32 16.9
comp=Z,3µm,18.0s,baz=266,slow=32
OHAK Old Harbor 78.80 21 P P 22 02 29.8 +1.8
OHAK IAmb IAmb 22 02 37.1
comp=Z,77nm,0.9s
OHAK Old Harbor 78.80 21 P P 22 02 25.3 -2.6
baz=220
OHAK S **S 22 12 26.3 +1.2**
baz=220
KDAK Kodiak Island 79.48 21 LR LR 22 31 47.1
comp=Z,11µm,20.3s,baz=242,slow=31
KDAK Kodiak Island 79.48 21 iP P 22 02 32.0 +0.4
KDAK pmax pmax
comp=Z,104nm,1.1s
KDAK Kodiak Island 79.48 21 P P 22 02 33.3 +1.7
KDAK Kodiak Island 79.48 21 IAMs_20 IAMs_20 22 34 57.8
comp=Z,11µm,18.0s
KDAK Kodiak Island 79.48 21 P P 22 02 29.2 -2.4
baz=220
GAMB Gambell 79.79 10 IAmb IAmb 22 02 39.6
comp=Z,126nm,0.9s
GAMB IAMs_20 IAMs_20 22 30 07.4
comp=Z,10µm,22.0s
GAMB Gambell 79.79 10 P P 22 02 30.9 -2.3
baz=202,SNR=15
GAMB S **S 22 12 32.4 -2.8**
baz=202
P18K Big Mountain, 79.86 19 P P 22 02 30.7 -3.0
baz=218
Q19K Cape Douglas, 80.01 20 IAmb IAmb 22 02 42.4

comp=Z,144nm,1.0s
Q19K IAMs_20 IAMs_20 22 31 02.7
comp=Z,16µm,21.0s
Q19K Cape Douglas, 80.01 20 P P 22 02 31.6 -2.9
baz=219
Q19K S **S 22 12 31.9 -6.1**
baz=219
LKP Lekhapani 80.08 302 eP P 22 02 35.0 -0.7
LKP IAmb IAmb 22 02 48.6
comp=Z,113nm,1.2s
O18K Koktuh Hills 80.24 19 P P 22 02 33.0 -2.8
baz=218
AIS Amsterdam Isla 80.45 233 IAMs_20 IAMs_20 22 33 04.7
comp=Z,9µm,21.0s
CIT Chita 80.46 330 eP P 22 02 37.1 -0.1
CIT e 22 02 49.2
CIT pmax pmax
comp=Z,256nm,2.2s
N18K Kilae Creek 80.69 18 IAMs_20 IAMs_20 22 33 02.8
comp=Z,11µm,20.0s
N18K Kilae Creek 80.69 18 P P 22 02 35.5 -2.8
baz=217
N18K S **S 22 12 43.6 -1.5**
baz=217
P19K Oil Pt 80.70 19 P P 22 02 40.1 +1.8
P19K IAmb IAmb 22 02 45.9
comp=Z,84nm,0.8s
P19K IAMs_20 IAMs_20 22 32 18.1
comp=Z,11µm,19.0s
P19K Oil Pt 80.70 19 P P 22 02 34.9 -3.4
baz=219
P19K S **S 22 12 41.0 -4.3**
baz=219
O19K Port Alsworth 80.78 19 P P 22 02 39.0 +0.4
O19K IAmb IAmb 22 02 44.5
comp=Z,86nm,1.2s
O19K IAMs_20 IAMs_20 22 30 55.2
comp=Z,9µm,22.0s
O19K Port Alsworth 80.78 19 P P 22 02 35.6 -3.0
baz=218
MOKO MOKOCHONG 80.81 300 eP P 22 02 40.6 +0.8
MOKO IAmb IAmb 22 02 58.7
comp=Z,98nm,0.6s
KOHI KOHIMA 80.94 299 eP P 22 02 39.5 -1.1
KOHI IAmb IAmb 22 02 59.1
comp=Z,489nm,1.9s
SVW2 Sparrevohn 81.12 18 IAmb IAmb 22 02 46.5
comp=Z,111nm,1.4s
N19K Bonanza Creek 81.22 18 IAMs_20 IAMs_20 22 31 08.7
comp=Z,11µm,22.0s
N19K Bonanza Creek 81.22 18 P P 22 02 38.2 -2.9
baz=218
N19K S **S 22 12 50.0 -0.7**
baz=218
HOM Homer 81.23 20 P P 22 02 39.1 -1.9
HOM IAMs_20 IAMs_20 22 31 17.9
comp=Z,12µm,21.0s
HOM Homer 81.23 20 P P 22 02 37.4 -3.6
baz=221
HOM S **S 22 12 47.3 -3.3**
baz=221
O20K Slope Mountain 81.23 19 P P 22 02 38.0 -3.1
baz=220
O20K S **S 22 12 49.1 -1.6**
baz=220
CNPM China Poot 81.26 20 IAmb IAmb 22 02 48.8
comp=Z,94nm,0.9s
CNPM IAMs_20 IAMs_20 22 31 30.9
comp=Z,11µm,21.0s
ULN Ulaanbaatar 81.47 324ceP P 22 02 41.7 -1.1
ULN pmax pmax
comp=Z,121nm,1.6s
ULN MLR MLR
comp=Z,6µm,17.0s
ULN Ulaanbaatar 81.47 324 P P 22 02 42.2 -0.6
ULN IAmb IAmb 22 03 10.8
comp=Z,91nm,1.2s
ULN Ulaanbaatar 81.47 324 ⇑P P 22 02 41.5 -1.3
RSO Redoubt South 81.48 19 P P 22 02 43.7 +1.1
YAK Yakutsk 81.55 343 P P 22 02 42.8 +0.1
comp=Z,20nm,0.3s,baz=37,slow=1.9,SNR=3.9
YAK S **S 22 12 54.6 +0.8**
comp=Z,7.3nm,0.4s,baz=89,slow=0.6,SNR=1.8
YAK LR LR 22 39 26.1
comp=Z,6µm,18.0s,baz=140,slow=36
YAK Yakutsk 81.55 343 eP P 22 02 45.0 +2.3
YAK e 22 02 53.3
YAK e 22 05 50.6
YAK eS **S 22 12 57.2 +3.4**
YAK eSS **SS 22 18 16.7 +5.4**
YAK pmax pmax
comp=Z,278nm,1.4s
YAK pmax pmax
comp=E,38nm,1.2s
YAK pmax pmax
comp=N,69nm,1.1s
YAK pmax pmax
comp=Z,435nm,3.0s
YAK pmax pmax
comp=N,171nm,1.8s
YAK pmax pmax
comp=E,134nm,3.2s
YAK smax smax
comp=E,3µm,9.2s
YAK smax smax
comp=N,2µm,12.5s
YAK MLR MLR
comp=Z,9µm,20.0s
YAK MLR MLR
comp=N,4µm,16.0s
YAK MLR MLR
comp=E,2µm,15.0s
YAK Yakutsk 81.55 343 IAMs_20 IAMs_20 22 39 41.3
comp=Z,7µm,19.0s
BRLK Bradley Lake 81.56 20 P P 22 02 44.7 +1.9
BRLK IAmb IAmb 22 02 56.1
comp=Z,75nm,0.9s
BRLK IAMs_20 IAMs_20 22 31 28.3
comp=Z,11µm,21.0s
BRSE Bradley Lake S 81.59 20 P P 22 02 40.5 -2.5
baz=222
ANM Nome 81.65 12 IAmb IAmb 22 02 49.6
comp=Z,184nm,1.2s
ANM IAMs_20 IAMs_20 22 33 35.9
comp=Z,8µm,21.0s
ANM Nome 81.65 12 P P 22 02 41.5 -1.7
baz=208,SNR=31
ANM S **S 22 12 54.0 -0.8**
baz=208
ITAN ITANAGAR 81.77 301 eP P 22 02 45.3 +0.6
ITAN IAmb IAmb 22 03 03.2
comp=Z,295nm,1.4s
SONM Songino Array 81.83 324 P P 22 02 45.0 +0.3
comp=Z,12nm,0.8s,baz=135,slow=3.6,SNR=12
SONM PKKPbc **PKKPbc 22 21 15.5 -2.5**
comp=Z,0.9nm,0.4s,baz=344,slow=2.1,SNR=3.2
SONM LR LR 22 38 31.0
comp=Z,3µm,19.8s,baz=112,slow=35
SONM Songino Array 81.83 324 P P 22 02 43.9 -0.8
SONM IAmb IAmb 22 02 49.5
comp=Z,170nm,1.8s
MAW Mawson 81.85 202 P P 22 02 43.9 -0.4
comp=Z,16nm,1.0s,baz=112,slow=6.9,SNR=11
MAW LR LR 22 32 36.2
comp=Z,4µm,21.4s,baz=92,slow=31
MAW Mawson 81.85 202 P P 22 02 44.3 0.0
baz=82,SNR=8.6
MAW Mawson 81.85 202 P P 22 02 46.0 +1.6
MAW pmax pmax
comp=Z,47nm,1.9s
MAW Mawson 81.85 202 P P 22 02 46.0 +1.6
GTA Gaotai 81.94 314 ⇑P P 22 02 44.8 -0.7
GTA pP pP 22 02 49.8 +0.3
GTA S **S 22 13 03.4 +4.3**
GTA pmax pmax
comp=Z,35nm,1.9s
GTA pmax pmax
comp=Z,2µm,11.1s
GTA LR LR
comp=Z,6µm,16.7s
GTA LR LR
comp=Z,5µm,16.7s
GTA LR LR
comp=Z,6µm,19.1s
TNA Tin City 82.07 10 P P 22 02 46.6 +1.3
TNA IAmb IAmb 22 02 53.9
comp=Z,64nm,1.0s

TNA Tin City 82.07 10 ⇑P **P** 22 02 43.8 -1.5
TNA ⇑P **pwP** 22 02 52.9 0.0
TNA Tin City 82.07 10 P **P** 22 02 43.5 -1.8
baz=205
TNA S **S** 22 12 58.0 -1.1
baz=205
M19K Big River Lodg 82.11 18 IAmb IAmb 22 02 53.5
comp=Z,79nm,1.0s
M19K IAMs_20 IAMs_20 22 34 47.2
comp=Z,11µm,20.0s
M19K Big River Lodg 82.11 18 P **P** 22 02 43.2 -2.5
baz=218,SNR=18
M19K S **S** 22 12 59.1 -0.6
baz=218
L19K White Mountain 82.19 17 IAmb IAmb 22 02 52.3
comp=Z,84nm,1.0s
L19K IAMs_20 IAMs_20 22 35 09.4
comp=Z,12µm,20.0s
L19K White Mountain 82.19 17 P **P** 22 02 44.1 -2.0
baz=218,SNR=38
L19K S **S** 22 12 58.7 -1.9
baz=218
SPCR Spurr Chakacha 82.22 19 P **P** 22 02 43.3 -3.1
baz=220
SPCR S **S** 22 12 55.2 -5.8
baz=220
CAPN Captain Cook N 82.23 19 IAMs_20 IAMs_20 22 32 24.4
comp=Z,12µm,20.0s
CAPN Captain Cook N 82.23 19 P **P** 22 02 43.8 -2.5
baz=221
CAPN S **S** 22 13 00.6 -0.2
baz=221
BILL Bilibino 82.27 360 *d* *i*P **P** 22 02 44.3 -2.1
BILL *i* 22 02 54.0
BILL *e* 22 05 55.1
BILL *e*PPP PPP 22 07 45.6
BILL *i* S **S** 22 12 59.2 -1.9
BILL *i* SS **SS** 22 18 18.7 -3.1
BILL *e*SSS SSS 22 21 49.1
BILL pmax pmax
comp=Z,187nm,1.5s
BILL MLR MLR
comp=Z,3µm,17.0s
BILL Bilibino 82.27 360 P **P** 22 02 45.9 -0.5
BILL IAmb IAmb 22 02 50.2
comp=Z,306nm,1.6s
SEW Seward 82.30 21 IAmb IAmb 22 02 52.0
comp=Z,87nm,1.0s
SEW Seward 82.30 21 P **P** 22 02 43.6 -3.1
baz=223
SEW S **S** 22 13 01.0 -0.6
baz=223
TEZP TEZPUR 82.36 300 *e*P **P** 22 02 47.6 -0.2
TTA Tatalina 82.47 16 P **P** 22 02 46.9 -0.7
TTA pmax pmax
comp=Z,63nm,1.0s
TTA Tatalina 82.47 16 P **P** 22 02 46.9 -0.7
TTA IAmb IAmb 22 02 55.4
comp=Z,63nm,1.0s
TTA Tatalina 82.47 16 ⇑P **P** 22 02 45.7 -1.9
TTA ⇓P **P** 22 02 47.0 -0.7
TTA Tatalina 82.47 16 P **P** 22 02 44.6 -3.0
baz=217,SNR=40
TTA S **S** 22 13 06.4 +2.9
baz=217
O22K Cooper Landing 82.48 20 P **P** 22 02 48.7 +1.1
O22K IAMs_20 IAMs_20 22 39 31.2
comp=Z,10µm,19.0s
O22K Cooper Landing 82.48 20 P **P** 22 02 44.5 -3.1
baz=223
O22K S **S** 22 13 01.1 -2.4
baz=223
L20K Farewell, AK 82.71 17 P **P** 22 02 46.5 -2.3
baz=219,SNR=56
L20K S **S** 22 13 05.8 -0.1
baz=219
AGT Agartala 82.76 297 *e*P **P** 22 02 52.5 +2.7
AGT IAmb IAmb 22 02 54.8
comp=Z,40nm,0.8s
SHL Shillong 82.78 299 *e*P **P** 22 02 49.8 -0.4
FIS Fire Island 82.81 20 P **P** 22 02 50.4 +1.1
FIS IAMs_20 IAMs_20 22 33 23.9
comp=Z,11µm,20.0s
Q23K Middleton Isla 82.91 22 IAMs_20 IAMs_20 22 37 31.6
comp=Z,7µm,18.0s
Q23K Middleton Isla 82.91 22 P **P** 22 02 47.1 -2.8
baz=226
Q23K S **S** 22 13 08.7 +0.8
baz=226
RC01 Rabbit Creek A 82.93 20 IAmb IAmb 22 02 55.4
comp=Z,198nm,1.2s
RC01 IAMs_20 IAMs_20 22 32 55.9
comp=Z,11µm,20.0s
RC01 Rabbit Creek A 82.93 20 P **P** 22 02 46.7 -3.2
baz=222,SNR=25
RC01 S **S** 22 13 08.7 +0.7
baz=222
GUWA GUWAHATI 83.15 299 *e*P **P** 22 02 52.1 +0.3
GUWA IAmb IAmb 22 03 07.8
comp=Z,15nm,0.9s
PAF Port-aux-Franc 83.20 221 P **P** 22 02 51.2 -0.6
PAF pmax pmax
comp=Z,198nm,0.9s
PAF MLR MLR
comp=Z,7µm,20.0s
PAF Port-aux-Franc 83.20 221 P **P** 22 02 51.1 -0.6
PWL Port Wells 83.23 20 P **P** 22 02 51.0 -0.5
PWL Port Wells 83.23 20 P **P** 22 02 48.0 -3.5
baz=224,SNR=56
PWL S **S** 22 13 07.6 -3.6
baz=224
M22K Willow 83.30 19 P **P** 22 02 50.8 -1.0
M22K IAMs_20 IAMs_20 22 35 11.7
comp=Z,11µm,20.0s
M22K Willow 83.30 19 P **P** 22 02 49.1 -2.7
baz=222,SNR=13
M22K S **S** 22 13 08.8 -2.9
baz=222
K20K Telida 83.35 17 IAmb IAmb 22 03 04.8
comp=Z,54nm,1.1s
K20K IAMs_20 IAMs_20 22 36 34.9
comp=Z,10µm,20.0s
K20K Telida 83.35 17 P **P** 22 02 50.5 -1.6
baz=218,SNR=26
K20K S **S** 22 13 10.9 -1.4
baz=218
PMR Palmer 83.50 20 P **P** 22 02 52.0 -0.8
PMR pmax pmax
comp=Z,246nm,1.3s
PMR Palmer 83.50 20 P **P** 22 02 52.0 -0.8
PMR Palmer 83.50 20 P **P** 22 02 49.9 -3.0
baz=223,SNR=27
PMR S **S** 22 13 10.8 -3.0
baz=223
PPLA Purkeypile 83.53 18 P **P** 22 02 52.5 -0.6
PPLA IAmb IAmb 22 03 18.1
comp=Z,92nm,1.4s
PPLA Purkeypile 83.53 18 P **P** 22 02 49.9 -3.3
baz=220
PPLA S **S** 22 13 10.9 -3.5
baz=220
KNK Knik Glacier 83.59 20 P **P** 22 02 52.9 -0.5
KNK IAMs_20 IAMs_20 22 33 06.4
comp=Z,7µm,20.0s
KNK Knik Glacier 83.59 20 P **P** 22 02 50.3 -3.1
baz=224,SNR=28
KNK S **S** 22 13 08.5 -6.3
baz=224
GLI Glacier Island 83.67 21 P **P** 22 02 53.1 -0.6
GLI Glacier Island 83.67 21 P **P** 22 02 51.0 -2.8
baz=225,SNR=14
GLI S **S** 22 13 13.4 -2.2
baz=225
GHO Glory Hole Cre 83.70 20 IAMs_20 IAMs_20 22 33 32.5
comp=Z,11µm,20.0s
GCSA Galena City Sc 83.72 15 P **P** 22 02 52.3 -1.6
baz=216
GCSA S **S** 22 13 15.5 -0.4
baz=216
CUT Chulitna 83.74 19 P **P** 22 02 52.5 -1.5
CUT IAMs_20 IAMs_20 22 36 27.3
comp=Z,10µm,20.0s
CUT Chulitna 83.74 19 P **P** 22 02 51.0 -3.1
baz=222
CUT S **S** 22 13 15.6 -0.6
baz=222
FID Port Fidalgo 83.79 21 IAMs_20 IAMs_20 22 32 53.2
comp=Z,8µm,21.0s
EYAK Cordova Ski Ar 83.91 22 IAmb IAmb 22 03 00.9
comp=Z,80nm,1.0s
EYAK Cordova Ski Ar 83.91 22 P **P** 22 02 52.4 -2.6
baz=226,SNR=8.2
EYAK S **S** 22 13 16.4 -1.5
baz=226
BOD Bodaibo 83.91 335 *e*P **P** 22 02 54.0 -1.0
BOD pmax pmax
comp=Z,155nm,1.6s
SML Sawmill 83.92 20 P **P** 22 02 55.2 +0.1
SML pmax pmax
comp=Z,285nm,1.2s
SML Sawmill 83.92 20 P **P** 22 02 55.2 +0.1
SML IAMs_20 IAMs_20 22 33 28.1
comp=Z,9µm,20.0s
SML Sawmill 83.92 20 P **P** 22 02 52.6 -2.5
baz=224,SNR=33
SML S **S** 22 13 12.9 -5.3
baz=224
CAST Castle Rocks 83.96 17 P **P** 22 02 53.9 -1.3
CAST IAMs_20 IAMs_20 22 35 54.1
comp=Z,8µm,18.0s
CAST Castle Rocks 83.96 17 P **P** 22 02 52.0 -3.3
baz=220,SNR=128
CAST S **S** 22 13 14.9 -3.6
baz=220
KAIM Kayak Island 83.96 23 P **P** 22 02 56.5 +1.2
KAIM IAMs_20 IAMs_20 22 34 55.4
comp=Z,8µm,19.0s
KAIM Kayak Island 83.96 23 P **P** 22 02 52.6 -2.6
baz=228
J20K Nowinta River 83.97 16 P **P** 22 02 55.1 -0.2
J20K IAmb IAmb 22 03 02.4
comp=Z,88nm,1.1s
J20K Nowinta River 83.97 16 P **P** 22 02 53.0 -2.3
baz=218,SNR=59
J20K S **S** 22 13 17.6 -0.9
baz=218
TURI Tura 84.09 298 *e*P **P** 22 02 57.2 +0.5
TURI IAmb IAmb 22 03 15.0
comp=Z,379nm,1.7s
RAGM Ragged Mountai 84.18 22 IAmb IAmb 22 03 17.0
comp=Z,73nm,1.0s
RAGM IAMs_20 IAMs_20 22 39 51.1
comp=Z,11µm,18.0s
GOMU GeErMu 84.23 309 P **P** 22 02 56.8 -0.9
GOMU sP sP 22 03 03.9 +0.6
GOMU S **S** 22 13 20.3 -2.8
GOMU SS **SS** 22 18 52.3 -0.7
GOMU pmax pmax
comp=Z,18nm,2.0s
GOMU pmax pmax
comp=Z,2µm,10.4s
GOMU LR LR
comp=Z,3µm,19.2s
GOMU LR LR
comp=Z,3µm,19.2s
GOMU LR LR
comp=Z,4µm,19.4s
CHUM Lake Minchumin 84.25 17 P **P** 22 02 53.9 -2.8
baz=220,SNR=34
CHUM S **S** 22 13 17.2 -4.0
baz=220
SCM Sheep Creek Mo 84.27 20 P **P** 22 02 57.4 +0.5
SCM Sheep Creek Mo 84.27 20 P **P** 22 02 57.4 +0.5
SCM Sheep Creek Mo 84.27 20 P **P** 22 02 54.2 -2.7
baz=225,SNR=35
SCM S **S** 22 13 19.1 -2.6
baz=225
HMT Hamilton 84.30 22 IAmb IAmb 22 03 03.2
comp=Z,120nm,1.1s
HMT IAMs_20 IAMs_20 22 40 03.3
comp=Z,12µm,18.0s
SUCK Suckling Hills 84.30 23 P **P** 22 02 59.4 +2.4
SUCK IAmb IAmb 22 03 02.9
comp=Z,141nm,1.2s
SUCK IAMs_20 IAMs_20 22 35 26.3
comp=Z,9µm,20.0s
DIV Divide 84.30 21 P **P** 22 02 56.4 -0.7
DIV IAmb IAmb 22 03 03.0
comp=Z,77nm,1.0s
KTH Kantishna Hill 84.40 18 P **P** 22 02 55.7 -1.8
KTH IAMs_20 IAMs_20 22 32 48.8
comp=Z,12µm,22.0s
KMRM Mail Ridge 84.46 46 P **P** 22 02 58.8 +0.4
KMRM IAmb IAmb 22 03 05.1
comp=Z,120nm,1.4s
KLU Klutina 84.50 21 IAmb IAmb 22 03 06.8
comp=Z,90nm,1.0s
KLU IAMs_20 IAMs_20 22 33 26.6
comp=Z,7µm,21.0s
KLU Klutina 84.50 21 P **P** 22 02 55.2 -2.9
baz=226,SNR=14
KLU S **S** 22 13 18.5 -5.6
baz=226
KLU S **SKSac** 22 13 21.2 -0.1
baz=226
TRF Thorofare Moun 84.51 18 P **P** 22 02 56.9 -1.4
TRF IAmb IAmb 22 03 07.5
comp=Z,122nm,0.9s
TRF IAMs_20 IAMs_20 22 32 51.7
comp=Z,12µm,22.0s
TRF Thorofare Moun 84.51 18 P **P** 22 02 55.0 -3.3
baz=222,SNR=55
TRF S **S** 22 13 21.3 -3.1
baz=222
BGLC Bering Glacier 84.52 23 P **P** 22 02 55.4 -2.6
baz=228
BERG Berg Lake 84.54 22 IAMs_20 IAMs_20 22 38 05.8
comp=Z,9µm,19.0s
WAT1 Susitna Watana 84.59 19 P **P** 22 02 56.1 -2.4
baz=224
WAT1 S **S** 22 13 23.4 -1.4
baz=224
BMRM Bremner River 84.60 22 IAmb IAmb 22 03 04.5
comp=Z,88nm,1.0s
BMRM IAMs_20 IAMs_20 22 34 39.3
comp=Z,8µm,21.0s
BMRM Bremner River 84.60 22 P **P** 22 02 55.9 -2.7
baz=227,SNR=9.0
BMRM S **S** 22 13 23.5 -1.6
baz=227
WAT6 Susitna Watana 84.67 19 P **P** 22 02 56.5 -2.6
baz=224,SNR=51
WAT6 S **S** 22 13 21.1 -4.7
baz=224
SNH Sunshine Point 84.72 23 P **P** 22 03 01.4 +2.2
SNH IAmb IAmb 22 03 03.6
comp=Z,110nm,1.1s
SNH IAMs_20 IAMs_20 22 35 20.5
comp=Z,8µm,20.0s
LSA Lhasa 84.78 302 P **P** 22 03 01.9 +1.1
LSA pmax pmax
comp=Z,113nm,1.5s
LSA MLR MLR
comp=Z,4µm,20.0s
LSA Lhasa 84.78 302 P **P** 22 03 01.9 +1.1
LSA IAmb IAmb 22 03 16.6
comp=Z,113nm,1.5s
LSA Lhasa 84.78 302 P **P** 22 03 00.6 -0.1
LSA S **S** 22 13 29.6 +0.6
LSA pmax pmax
comp=Z,23nm,2.6s
LSA LR LR
comp=Z,3µm,22.8s
LSA LR LR
comp=Z,4µm,24.2s
LSA LR LR
comp=Z,3µm,23.5s
BPAW Bear Paw Mtn. 84.80 17 P **P** 22 02 58.3 -1.2
BPAW IAmb IAmb 22 03 01.9
comp=Z,78nm,1.1s
BPAW IAMs_20 IAMs_20 22 35 32.2
comp=Z,7µm,20.0s
BPAW Bear Paw Mtn. 84.80 17 P **P** 22 02 56.5 -3.0
baz=221,SNR=48
BPAW S **SKSac** 22 13 19.1 -3.9
baz=221
M24K Tolsona, Glenn 84.85 20 P **P** 22 03 00.2 +0.4
M24K Tolsona, Glenn 84.85 20 P **P** 22 02 57.8 -2.0
baz=226,SNR=5.7
M24K S **S** 22 13 23.8 -3.6
baz=226
WAX Waxell Ridge 84.90 23 IAmb IAmb 22 03 06.4
comp=Z,124nm,1.0s
ZAK Zakamensk 84.90 325 *e*P **P** 22 02 58.7 -1.7
ZAK *e* 22 13 28.2
ZAK pmax pmax
comp=Z,118nm,1.4s
RND Reindeer 84.92 19 IAMs_20 IAMs_20 22 36 17.4
comp=Z,12µm,20.0s
SNCC San Nicolas Is 84.92 54 P **P** 22 02 57.2 -3.6
baz=249
N25K Chitina, Valde 85.04 21 IAmb IAmb 22 03 07.0
comp=Z,53nm,0.9s
N25K Chitina, Valde 85.04 21 P **P** 22 02 57.9 -3.0
baz=227,SNR=21
N25K S **S** 22 13 23.9 -5.6
baz=227
O02D Mt. Diablo Mer 85.09 47 IAmb IAmb 22 03 18.1
comp=Z,58nm,1.4s
TGL Tana Glacier 85.11 22 IAmb IAmb 22 03 17.8
comp=Z,255nm,1.8s
TGL IAMs_20 IAMs_20 22 36 31.6
comp=Z,7µm,19.0s
MCK McKinley 85.13 18 IAMs_20 IAMs_20 22 36 54.1
comp=Z,13µm,20.0s
MCK McKinley 85.13 18 P **P** 22 02 58.3 -2.9
baz=223,SNR=84
MCK S **SKSac** 22 13 22.5 -2.6
baz=223
DHY Denali Highway 85.14 19 IAMs_20 IAMs_20 22 34 07.4
comp=Z,11µm,20.0s
DHY Denali Highway 85.14 19 P **P** 22 02 58.8 -2.6
baz=225,SNR=101
DHY S **S** 22 13 25.3 -5.3
baz=225
ISLE Juniper Island 85.19 23 IAmb IAmb 22 03 07.5
comp=Z,95nm,1.0s
ISLE IAMs_20 IAMs_20 22 36 03.8
comp=Z,9µm,20.0s
SBC Santa Barbara 85.20 53 P **P** 22 02 58.8 -3.3
baz=249
RDOG Red Dog Mine 85.21 11 IAmb IAmb 22 03 07.4
comp=Z,128nm,1.2s
RDOG Red Dog Mine 85.21 11 P **P** 22 02 60.0 -1.4
baz=210
RDOG S **S** 22 13 28.3 -2.4
baz=210
GLB Gilahina Butte 85.21 22 IAmb IAmb 22 03 07.5
comp=Z,70nm,1.0s
PKM Mcpherson Peak 85.28 52 P **P** 22 02 59.4 -3.3
baz=249
SMMC Simmler 85.29 52 P **P** 22 02 59.7 -3.0
baz=249
BWN Browne 85.30 18 IAMs_20 IAMs_20 22 33 28.7
comp=Z,9µm,22.0s
L02E Cave Junction 85.32 44 IAMs_20 IAMs_20 22 33 29.4
comp=Z,8µm,20.0s
I21K Tanana 85.34 16 IAMs_20 IAMs_20 22 39 02.5
comp=Z,10µm,18.0s
I21K Tanana 85.34 16 P **P** 22 03 00.3 -1.9
baz=220,SNR=165
I21K S **S** 22 13 30.8 -1.3
baz=220
HARP HAARP 85.39 20 P **P** 22 02 59.6 -2.9
baz=227,SNR=11
HARP S **S** 22 13 30.1 -2.7
baz=227
MCARA McCarthy VSAT 85.45 22 P **P** 22 03 04.5 +1.7
MCARA IAmb IAmb 22 03 17.3
comp=Z,82nm,1.2s
MCARA McCarthy VSAT 85.45 22 P **P** 22 02 59.8 -2.9
baz=229,SNR=7.7
MCARA S **S** 22 13 28.6 -4.7
baz=229
N02D Trinity Center 85.46 46 IAMs_20 IAMs_20 22 34 05.2
comp=Z,10µm,20.0s
N02D Trinity Center 85.46 46 P P 22 02 58.3 -5.1
baz=247
H21K Melozitna Rive 85.49 16 IAMs_20 IAMs_20 22 36 31.4
comp=Z,7µm,20.0s
H21K Melozitna Rive 85.49 16 P **P** 22 03 01.0 -1.9
baz=219,SNR=155
H21K S **S** 22 13 30.6 -3.0
baz=219
K02D Willamette Mer 85.50 44 P **P** 22 03 00.6 -3.0
baz=246
J01E Myrtle Point 85.51 43 P **P** 22 03 00.2 -3.3
baz=246
M02C Callahan 85.53 45 IAMs_20 IAMs_20 22 34 06.8
comp=Z,8µm,20.0s
TABL Table Mountain 85.53 23 IAmb IAmb 22 03 16.7
comp=Z,88nm,1.0s
PINM Pinnacle 85.66 24 P **P** 22 03 01.0 -3.0
baz=231
PAX Paxson 85.69 20 P **P** 22 03 00.7 -3.4
baz=226
PAX S **SKSac** 22 13 27.1 -1.7
baz=226
NEA2 Nenana 85.72 18 IAMs_20 IAMs_20 22 40 29.7
comp=Z,7µm,18.0s
NEA2 Nenana 85.72 18 P **P** 22 03 00.7 -3.3
baz=223,SNR=43
NEA2 S **SKSac** 22 13 27.3 -1.5
baz=223
PNL Peninsula 85.73 24 P **P** 22 03 00.6 -3.6
baz=232
PNL S **S** 22 13 30.0 -6.2
baz=232
BARN Barnard Glacie 85.74 23 P **P** 22 03 05.0 +0.5
BARN IAmb IAmb 22 03 18.0
comp=Z,64nm,0.9s
ORV Oroville 85.76 48 IAMs_20 IAMs_20 22 34 04.1
comp=Z,14µm,20.0s
YBH Yreka Blue Hor 85.76 45 LR LR 22 33 47.3
comp=Z,10µm,20.5s,baz=250,slow=30
YBH Yreka Blue Hor 85.76 45 IAMs_20 IAMs_20 22 33 47.0
comp=Z,8µm,21.0s
CTG Chitna Glacier 85.80 23 P **P** 22 03 02.0 -2.7
baz=230,SNR=23
CTG S **S** 22 13 32.1 -4.9
baz=230
CTGM Chitina Glacie 85.80 23 IAmb IAmb 22 03 10.8
comp=Z,80nm,0.9s
BCPM Bancas Point 85.81 24 P **P** 22 03 05.8 +1.1
BCPM IAMs_20 IAMs_20 22 45 37.4
comp=Z,6µm,18.0s
O03E Paynes Creek 85.83 47 P **P** 22 03 06.5 +1.3
O03E IAmb IAmb 22 03 46.2
comp=Z,62nm,1.4s
O03E IAMs_20 IAMs_20 22 34 08.9
comp=Z,9µm,20.0s
O03E Paynes Creek 85.83 47 P **P** 22 03 01.2 -4.0
baz=247
O03E S **S** 22 13 32.1 -6.0
baz=247
LOGN Logan Glacier 85.83 23 IAmb IAmb 22 03 21.6
comp=Z,37nm,0.8s
CIS Catalina Islan 85.84 54 P **P** 22 03 01.4 -4.0
baz=250
SIT Sitka 85.91 28 P **P** 22 03 01.5 -3.6
baz=236
SIT S **S** 22 13 36.3 -1.7
baz=236
WRH Wood River Hil 85.92 18 IAMs_20 IAMs_20 22 37 48.0
comp=Z,10µm,19.0s
HUMO Hull Mountain 85.94 44 IAMs_20 IAMs_20 22 34 16.8
comp=Z,7µm,19.0s
CMB Columbia Colle 85.99 49 P **P** 22 03 07.4 +1.3
CMB pmax pmax
comp=Z,9.0nm,0.9s
CMB MLR MLR
comp=Z,23µm,20.0s
CMB Columbia Colle 85.99 49 P **P** 22 03 07.4 +1.3
OSI Osito Audit: C 86.02 53 P **P** 22 03 02.4 -3.9
baz=250
OSI S **SKSac** 22 13 32.1 0.0
baz=250
FMP Fort Macarthur 86.04 54 P **P** 22 03 03.1 -3.3
baz=250
I23K Minto, Yukon-K 86.05 17 IAMs_20 IAMs_20 22 37 49.3
comp=Z,11µm,19.0s
I23K Minto, Yukon-K 86.05 17 P **P** 22 03 02.6 -3.1
baz=223,SNR=22
I23K S **SKSac** 22 13 31.5 +0.8
baz=223
CRAG Craig 86.06 30 S **S** 22 13 37.9 -1.6
baz=238
ARVC Arvin 86.12 52 S **S** 22 13 38.0 -3.0
baz=249
I03D Drain, OR 86.12 43 P **P** 22 03 02.8 -3.7
baz=246
I03D S **SKSac** 22 13 29.1 -3.0

baz=246
VOG Valley Oaks Go 86.12 51 P P 22 03 03.3 -3.4
baz=249
GTK Tadong 86.12 299 eP P 22 03 07.6 +0.5
GTK IAmb IAmb 22 03 21.2
comp=Z,95nm,1.1s
CCB Clear Creek Bu 86.14 18 IAMs_20 IAMs_20 22 37 53.6
comp=Z,10µm,20.0s
M26K Nabesna, AK 86.14 21 P P 22 03 02.8 -3.5
baz=229,SNR=36
M26K S S 22 13 34.7 -5.5
baz=229
VES Vestal, Richgr 86.17 52 P P 22 03 03.7 -3.2
baz=249
DECC Green Verdugo 86.20 53 P P 22 03 03.4 -3.8
baz=250
L04D Klamath Falls 86.23 45 P P 22 03 02.9 -4.4
baz=247
TCOL CIGO, UAF Yank 86.28 18 IAMs_20 IAMs_20 22 36 59.5
comp=Z,7µm,20.0s
TCOL CIGO, UAF Yank 86.28 18 P P 22 03 03.0 -3.8
baz=224,SNR=18
TCOL S SKSac 22 13 30.0 -2.2
baz=224
PASC Pasadena Art C 86.29 53 IAMs_20 IAMs_20 22 36 08.2
comp=Z,13µm,19.0s
COLA College 86.29 18 i P P 22 03 04.6 -2.2
COLA pmax pmax
comp=Z,164nm,1.0s
COLA MLR MLR
comp=Z,4µm,18.0s
COLA College 86.29 18 IAMs_20 IAMs_20 22 37 00.5
comp=Z,7µm,20.0s
COLA College 86.29 18 ⇑P P 22 03 02.8 -4.0
COLA College 86.29 18 P P 22 03 02.7 -4.0
baz=224
COLA S SKSac 22 13 30.9 -1.3
baz=224
M04C Macdoel 86.38 45 IAMs_20 IAMs_20 22 33 47.4
comp=Z,8µm,22.0s
M04C Macdoel 86.38 45 P P 22 03 03.7 -4.3
baz=247
RIDG Independent Ri 86.42 20 IAMs_20 IAMs_20 22 34 36.5
comp=Z,10µm,22.0s
RIDG Independent Ri 86.42 20 P P 22 03 04.9 -2.8
baz=227,SNR=41
RIDG S SKSac 22 13 36.1 +2.8
baz=227
L26K Log Cabin Wild 86.43 21 P P 22 03 08.1 +0.5
L26K Log Cabin Wild 86.43 21 P P 22 03 04.9 -2.8
baz=228,SNR=14
L26K S S 22 13 38.8 -4.2
baz=228
H23K Yukon River 86.50 17 P P 22 03 05.0 -2.9
baz=222,SNR=81
H23K S SKSac 22 13 35.5 +1.9
baz=222
ILAR Eielson Array 86.50 18 P P 22 03 05.7 -2.3
comp=Z,33nm,0.7s,baz=240,slow=5.4,SNR=81
ILAR PKiKP PKiKP 22 08 14.8 0.0
comp=Z,0.6nm,0.6s,baz=276,slow=3.1,SNR=2.0
ILAR PKKP PKKPdf 22 21 01.8 +0.6
comp=Z,0.8nm,0.6s,baz=346,slow=2.2,SNR=5.4
ILAR LR LR 22 37 56.2
comp=Z,11µm,19.4s,baz=234,slow=33
M27K Edge Creek, AK 86.50 21 P P 22 03 08.4 +0.3
M27K IAmb IAmb 22 03 14.6
comp=Z,42nm,0.9s
M27K Edge Creek, AK 86.50 21 P P 22 03 04.6 -3.6
baz=230,SNR=20
M27K S S 22 13 40.0 -3.9
baz=230
COR Corvallis 86.51 42 IAMs_20 IAMs_20 22 43 06.8
comp=Z,8µm,18.0s
POKR Poker Plat Res 86.59 18 IAMs_20 IAMs_20 22 37 38.5
comp=Z,7µm,20.0s
POKR Poker Plat Res 86.59 18 P P 22 03 04.8 -3.6
baz=224
POKR S SKSac 22 13 33.3 -0.9
baz=224
POKR S S 22 13 44.0 -0.3
baz=224
YUK3 Moose Creek 86.64 22 P P 22 03 05.9 -3.1
baz=231,SNR=20
YUK3 S S 22 13 45.2 -0.2
baz=231
EDW2 Edwards Air Fo 86.68 53 P P 22 03 06.1 -3.5
baz=250
EDW2 S S 22 13 43.4 -3.2
baz=250
BEKR Beckworth 86.69 48 P P 22 03 10.3 +0.7
BFSC Mount Baldy Ra 86.72 54 P P 22 03 06.4 -3.5
baz=250
J04D Umpqua Nationa 86.76 44 IAMs_20 IAMs_20 22 40 21.6
comp=Z,9µm,18.0s
J04D Umpqua Nationa 86.76 44 P P 22 03 05.8 -4.1
baz=247
K04D Chiloquin, OR 86.76 45 P P 22 03 06.4 -3.5
baz=247
MOY Mondy 86.78 325 eP P 22 03 08.7 -1.0
MOY pmax pmax
comp=Z,126nm,2.0s
G03D McMinnville, O 86.79 42 IAMs_20 IAMs_20 22 41 24.2
comp=Z,7µm,18.0s
H04D Lebanon 86.86 43 IAMs_20 IAMs_20 22 38 43.9
comp=Z,9µm,18.0s
H04D Lebanon 86.86 43 P P 22 03 07.0 -3.1
baz=246
J25K Salcha River, 86.86 19 IAMs_20 IAMs_20 22 35 22.7
comp=Z,11µm,20.0s
J25K Salcha River, 86.86 19 P P 22 03 07.0 -2.8
baz=226,SNR=76
J25K S S 22 13 47.1 0.0
baz=226
SCRK Sand Creek 86.86 20 IAMs_20 IAMs_20 22 34 37.8
comp=Z,8µm,22.0s
SCRK Sand Creek 86.86 20 P P 22 03 06.7 -3.1
baz=228,SNR=83
SCRK S S 22 13 49.0 +1.7
baz=228
MURC Murrieta 86.87 54 P P 22 03 07.5 -3.0
baz=250
TAPN Taplejung 86.89 299 eP P 22 03 10.7 -0.4
comp=Z,243nm,1.5s
BVCY Beaver Creek 86.90 22 P P 22 03 07.5 -2.5
baz=230,SNR=9.8
BVCY S S 22 13 51.0 +3.4
baz=230
YUK6 Outpost Mounta 86.92 24 P P 22 03 07.5 -2.8
baz=233,SNR=5.9
YUK6 S S 22 13 49.2 +1.0
baz=233
WRAK Wrangell Islan 86.94 29 IAMs_20 IAMs_20 22 36 09.5
comp=Z,9µm,19.0s
WRAK Wrangell Islan 86.94 29 P P 22 03 07.9 -2.3
baz=238
WRAK S S 22 13 49.3 +1.4
baz=238
BBB Bella Bella 86.97 34 LR LR 22 34 42.5
comp=Z,9µm,20.9s,baz=244,slow=31
H24K Noodor Dome 86.98 17 IAMs_20 IAMs_20 22 38 54.8
comp=Z,9µm,20.0s
H24K Noodor Dome 86.98 17 P P 22 03 07.9 -2.4
baz=224,SNR=20
H24K S S 22 13 49.5 +1.3
baz=224
L27K Beaver Creek, 86.98 21 P P 22 03 07.8 -2.5
baz=230,SNR=22
L27K S S 22 13 49.5 +1.2
baz=230
BESE Bessie Mountai 86.98 27 P P 22 03 12.2 +1.7
MLAC Mammoth, Mammo 86.99 50 P P 22 03 08.0 -3.2
baz=249
ODAN Odare 87.01 299 eP P 22 03 11.0 -0.6
comp=Z,240nm,1.0s
JIS Juneau Island 87.02 27 IAMs_20 IAMs_20 22 39 28.4
comp=Z,6µm,18.0s
YUK4 Talbot Arm 87.06 23 P P 22 03 08.8 -2.1
baz=233,SNR=16
LRMC Laurel Mtn Rad 87.12 52 P P 22 03 08.0 -3.8
baz=250
CWC Cottonwood Cre 87.14 51 P P 22 03 07.9 -4.0
baz=250
HYT Haines Junctio 87.19 24 P P 22 03 08.9 -2.5
baz=234,SNR=9.4
HYT S S 22 13 53.2 +2.7
baz=234
TIN Tinemaha, Big 87.24 51 P P 22 03 08.4 -4.0
baz=250
MONP2 Monument Peak 87.25 55 P P 22 03 08.6 -4.0
baz=251
MONP2 S S 22 13 51.5 -1.0
baz=251
SKAG Skagway 87.28 26 P P 22 03 13.6 +1.9
SKAG Skagway 87.28 26 P P 22 03 09.2 -2.5
baz=236
SKAG S S 22 13 49.2 -2.0
baz=236
F04D Rainier, OR 87.31 41 P P 22 03 09.3 -2.9
baz=246
NLWA Neilton Lookou 87.31 40 IAMs_20 IAMs_20 22 33 27.7
comp=Z,9µm,20.0s
PAHR Pah Rah Range 87.33 48 P P 22 03 14.1 +1.3
J26L Joseph Creek 87.35 19 P P 22 03 09.9 -2.3
baz=228,SNR=18
J26L S S 22 13 55.8 +3.9
baz=228
COLD Coldfoot 87.37 16 P P 22 03 10.5 -1.6
baz=222
COLD S S 22 13 57.7 +5.9
baz=222
K05A Summer Lake 87.39 45 P P 22 03 14.2 +1.2
K05A IAmb IAmb 22 03 30.7
comp=Z,67nm,1.3s
IKP In-Ko-Pah, Jac 87.42 56 P P 22 03 09.8 -3.4
baz=251
RRX Edison Barstow 87.45 53 P P 22 03 10.3 -2.9
baz=250
PFO Pinyon Flats O 87.45 54 LR LR 22 38 05.8
comp=Z,24µm,18.1s,baz=268,slow=33
PFO Pinyon Flats O 87.45 54 P P 22 03 11.1 -2.3
baz=251
TPFO Pinon Flats 87.45 55 P P 22 03 11.3 -2.1
baz=251
MPMC Mtual Prospec 87.46 52 P P 22 03 11.0 -2.5
baz=250
MOD Modoc Plateau 87.49 46 IAMs_20 IAMs_20 22 38 27.7
comp=Z,10µm,18.0s
NVAR Mina Array Bea 87.67 49 P P 22 03 14.5 0.0
comp=Z,5.4nm,0.9s,baz=240,slow=7.1,SNR=16
NVAR PKPPKP P'P'df 22 29 09.9 +1.0
comp=Z,0.5nm,0.5s,baz=59,slow=5.5,SNR=2.1
NVAR LR LR 22 34 49.2
comp=Z,25µm,20.3s,baz=282,slow=90
I05D Terrebonne, OR 87.70 43 P P 22 03 12.5 -1.8
baz=247
RAMN Ramite 87.71 298 eP P 22 03 15.0 0.0
GSC Goldstone, Bar 87.74 53 P P 22 03 12.1 -2.6
baz=251
PALK Pallekele 87.74 278 LR LR 22 46 27.4
comp=Z,3µm,18.2s,baz=218,slow=38
PALK Pallekele 87.74 278 P P 22 03 15.9 +0.7
PALK pmax pmax
comp=Z,191nm,1.8s
PALK MLR MLR
comp=Z,5µm,20.0s
PALK Pallekele 87.74 278 P P 22 03 15.8 +0.7
PALK IAmb IAmb 22 03 33.7
comp=Z,192nm,1.8s
LCH Last Change Ra 87.75 51 P P 22 03 15.8 +1.1
SWSC Sam W. Stewart 87.76 55 P P 22 03 11.9 -2.8
baz=251
E04D Cinebar 87.78 41 IAMs_20 IAMs_20 22 43 31.3
comp=Z,6µm,18.0s
D03D Eldon 87.85 40 P P 22 03 11.9 -2.9
baz=246
HEC Hector,Ludlow 87.94 53 P P 22 03 11.9 -3.8
baz=251
G05D Wamic, OR 88.07 42 P P 22 03 12.6 -3.3
baz=247
WHY Whitehorse 88.14 25 P P 22 03 12.8 -3.3
baz=236
F05D White Salmon 88.22 42 IAMs_20 IAMs_20 22 42 00.0
comp=Z,6µm,18.0s
F05D White Salmon 88.22 42 P P 22 03 12.8 -3.9
baz=247
N31M Braeburn, Yuko 88.25 24 P P 22 03 13.6 -2.8
baz=235,SNR=5.5
BC3 Big Chuckawall 88.26 55 P P 22 03 14.0 -3.3
baz=251
KNGR Kungurtug, Tuv 88.27 323 i P P 22 03 16.7 -0.2
JIRN Jiri 88.27 299 eP P 22 03 17.0 -0.8
comp=Z,37nm,1.1s
EGAK Eagle 88.32 20 P P 22 03 13.4 -3.2
baz=230,SNR=43
EGAK S S 22 14 05.7 +4.8
baz=230
GMRC Granite Mounta 88.46 54 P P 22 03 14.9 -3.3
baz=251
TUQ Turquoise Moun 88.46 53 P P 22 03 14.2 -4.0
baz=251
DAWY Dawson 88.46 21 P P 22 03 13.2 -4.3
baz=232,SNR=30
M30M Minto, Yukon 88.50 23 P P 22 03 15.1 -2.5
baz=234,SNR=12
M30M S S 22 14 05.7 +2.9
baz=234
A04D Lummi Island 88.56 39 P P 22 03 16.8 -1.4
baz=246
GLA Glamis 88.57 55 P P 22 03 16.0 -2.7
baz=252
TOLK Toolik Lake Re 88.58 15 P P 22 03 16.5 -1.4
baz=222
TOLK S S 22 14 08.8 +5.3
baz=222
GUN Gumba 88.61 299 eP P 22 03 18.5 -0.8
comp=Z,145nm,1.2s
IRM Iron Mountain 88.66 54 P P 22 03 17.3 -1.7
baz=252
IRM S S 22 14 12.6 +7.0
baz=252
TPNV Topopah Spring 88.70 51 ⇓P P 22 03 20.8 +1.5
TPNV Topopah Spring 88.70 51 P P 22 03 16.7 -2.6
baz=251
SYO Syowa Base 88.75 197 ⇑eP P 22 03 19.7 +0.9
I07A Izee 88.83 44 IAmb IAmb 22 04 12.9
comp=Z,90nm,1.7s
WVOR Wild Horse Val 88.83 46 P P 22 03 21.5 +1.7
WVOR pmax pmax
comp=Z,91nm,1.7s
WVOR MLR MLR
comp=Z,10µm,18.0s
WVOR Wild Horse Val 88.83 46 P P 22 03 21.4 +1.7
WVOR IAmb IAmb 22 04 12.9
comp=Z,91nm,1.7s
WVOR IAMs_20 IAMs_20 22 41 41.4
comp=Z,10µm,18.0s
WVOR Wild Horse Val 88.83 46 ⇑P P 22 03 24.1 +4.3
PKI Pulchoki 88.91 299 eP P 22 03 19.7 -1.0
PKIN Phulchoki 88.92 299 eP P 22 03 19.7 -1.0
comp=Z,93nm,1.1s
BMAR Bunt Mountain 89.04 17 P P 22 03 19.8 -0.2
DLBC Dease Lake 89.06 28 LR LR 22 40 30.2
comp=Z,6µm,18.1s,baz=250,slow=34
DLBC Dease Lake 89.06 28 P P 22 03 21.4 +1.0
KKN Kakani 89.08 299 eP P 22 03 20.5 -0.9
comp=Z,243nm,1.6s
J29M Klondike Camp 89.11 21 S S 22 14 12.1 +3.6
baz=233
A21K Barrow 89.16 11 IAMs_20 IAMs_20 22 36 09.1
comp=Z,7µm,22.0s
A21K Barrow 89.16 11 P P 22 03 18.9 -1.6
baz=216
A21K S S 22 14 11.4 +2.9
baz=216
DMN Daman 89.17 299 eP P 22 03 21.1 -0.8
comp=Z,123nm,0.9s
M31M Drury Creek, Y 89.20 24 IAMs_20 IAMs_20 22 41 32.9
comp=Z,7µm,18.0s
M31M Drury Creek, Y 89.20 24 P P 22 03 18.8 -2.1
baz=236
NEE2 Needles Airpor 89.26 54 P P 22 03 19.5 -2.4
baz=252
113A Mohawk Valley, 89.33 56 P P 22 03 23.8 +1.6
C06D Leavenworth 89.36 40 P P 22 03 20.3 -1.7
baz=248
SHPR Sheep Range 89.39 52 P P 22 03 22.9 +0.3
PDMCI Parker Dam,Lak 89.50 54 P P 22 03 20.6 -2.3
baz=252
TIXI Tiksi 89.56 349 LR LR 22 42 03.6
comp=Z,3µm,19.0s,baz=178,slow=35
TIXI Tiksi 89.56 349 eP P 22 03 20.8 -1.5
TIXI pmax pmax
comp=Z,41nm,1.1s
TIXI MLR MLR
comp=Z,4µm,17.0s
TIXI Tiksi 89.56 349 ⇑P P 22 03 19.3 -3.0
TIXI ⇑P PcP 22 03 22.2 -1.4
TIXI ⇓P sP 22 03 28.4 +0.5
FARO Faro, Yukon 89.62 24 P P 22 03 20.6 -2.3
baz=237
I29M Ogilvie Camp, 89.63 20 P P 22 03 20.2 -2.6
baz=233,SNR=7.5
I29M S S 22 14 15.4 +2.1
baz=233
MDRS Chennai 89.65 284 ⇑eP P 22 03 24.7 +0.7
R11A Troy Canyon, C 89.65 50 S S 22 14 18.1 +3.1
baz=251
HAWA Hanford 89.66 42 IAmb IAmb 22 04 04.8
comp=Z,84nm,1.9s
GKN Gorkha 89.69 299 eP P 22 03 22.6 -1.6
comp=Z,124nm,1.1s
LPIG La Paz 89.77 65 LR LR 22 34 19.1
comp=Z,4µm,20.8s,baz=256,slow=29
214A Organ Pipe Nat 89.86 57 P P 22 03 22.5 -2.2
baz=253
214A S S 22 14 27.1 +10
baz=253
W13A Hualapai Mount 89.94 54 P P 22 03 26.8 +1.5
SLBS Sierra La Lagu 89.97 66 IAMs_20 IAMs_20 22 33 06.1
comp=Z,11µm,22.0s
E08A Dider Farm, El 90.00 42 P P 22 03 27.4 +2.5
E08A IAmb IAmb 22 04 17.9
comp=Z,73nm,1.6s
D08A Wollman Farm, 90.29 41 P P 22 03 29.1 +2.8
KOLN Koldanda 90.50 298 eP P 22 03 27.3 -0.7
comp=Z,240nm,1.5s
DANN Dangsing 90.53 299 eP P 22 03 26.5 -1.7
BMO Blue Mountains 90.58 44 P P 22 03 28.6 +0.8
BMO pmax pmax
comp=Z,21nm,1.1s
BMO MLR MLR
comp=Z,7µm,19.0s
BMO Blue Mountains 90.58 44 P P 22 03 28.6 +0.8
BMO IAMs_20 IAMs_20 22 41 07.4
comp=Z,7µm,19.0s
PSUT Pine Spring 91.00 51 P P 22 03 31.4 +1.3
CCUT Cedar City 91.08 52 P P 22 03 32.3 +1.8
MFID Camas Ranch 91.11 45 IAMs_20 IAMs_20 22 37 59.5
comp=Z,7µm,19.0s
PYUN Piuthan 91.11 299 eP P 22 03 29.1 -1.8
comp=Z,72nm,1.2s
KNB Kanab 91.33 52 P P 22 03 33.5 +1.8
KNB pmax pmax
comp=Z,41nm,1.4s
KNB Kanab 91.33 52 P P 22 03 33.5 +1.8
TGTN Hyland Airport 91.33 26 P P 22 03 28.7 -2.2
baz=242
TGTN S S 22 14 29.6 +0.4
baz=242
U15A North Rim 91.57 53 P P 22 03 34.2 +1.3
TUC Tucson 91.61 57 P P 22 03 35.9 +3.0
TUC pmax pmax
comp=Z,79nm,1.4s
TUC MLR MLR
comp=Z,16µm,20.0s
TUC Tucson 91.61 57 P P 22 03 35.9 +3.0
TUC IAmb IAmb 22 04 10.1
comp=Z,79nm,1.4s
TUC Tucson 91.61 57 P P 22 03 29.8 -3.1
baz=254
TRD Trivandrum 91.64 278 ⇑eP P 22 03 33.4 0.0
PKCU Pink Cliffs 91.85 52 P P 22 03 36.0 +1.8
PKCU IAmb IAmb 22 05 03.4
comp=Z,119nm,2.0s
NEW Newport 91.85 41 LR LR 22 42 14.1
comp=Z,7µm,18.0s,baz=243,slow=34
NEW Newport 91.85 41 IAMs_20 IAMs_20 22 45 15.9
comp=Z,9µm,18.0s
NEW Newport 91.85 41 P P 22 03 30.8 -2.8
baz=250
NEW S S 22 14 36.4 +2.0
baz=250
WMQ Urumqi 92.00 315 P P 22 03 34.1 -0.4
WMQ pP pwP 22 03 42.5 +0.5
WMQ PP PP 22 07 13.3 -1.0
WMQ S S 22 14 38.5 +2.4
WMQ SS SS 22 20 47.3 +2.0
WMQ pmax pmax
comp=Z,77nm,1.7s
WMQ pmax pmax
comp=Z,890nm,4.9s
WMQ LR LR
comp=Z,5µm,16.5s
WMQ LR LR
comp=Z,3µm,20.9s
WMQ LR LR
comp=Z,3µm,17.9s
WUAZ Wupatki 92.03 54 P P 22 03 36.2 +1.3
WUAZ Wupatki 92.03 54 P P 22 03 31.4 -3.4
baz=254
WUAZ S S 22 14 43.5 +6.6
baz=254
HLID Hailey 92.13 46 P P 22 03 36.8 +1.6
HLID IAMs_20 IAMs_20 22 38 33.6
comp=Z,11µm,20.0s
HLID Hailey 92.13 46 P P 22 03 30.9 -4.3
baz=252
HLID S S 22 14 41.3 +3.8
baz=252
DUG Dugway, Tooele 92.27 49 P P 22 03 32.6 -3.2
baz=253
DUG S S 22 14 45.5 +6.7
baz=253
PMSA Palmer Station 92.27 161 LR LR 22 39 29.8
comp=Z,4µm,20.2s,baz=228,slow=32
HYB Hyderabad 92.32 287 ⇑eP P 22 03 34.9 -1.6
HYBB Hyderabad (bro 92.32 287 eP P 22 03 36.5 0.0
HYBB epP sP 22 03 42.3 +0.3
HYBB IVmB_BB 22 03 52.0
comp=Z,248nm,2.2s
HYBB ePP PP 22 07 16.9 -0.4
HYBB eSKSac SKSac 22 14 09.4 -0.6
HYBB eS S 22 14 39.2 -0.7
HYBB IVMs_BB IVMs_BB 22 36 44.4
comp=Z,879nm,43.2s
319A Douglas 92.59 58 P P 22 03 39.5 +1.9
PCHI Peechi 92.72 280 eP P 22 03 39.5 +1.2
PCHI eS SKSac 22 14 12.2 -0.1
INK Inuvik 92.87 19 LR LR 22 40 45.5
comp=Z,9µm,20.6s,baz=227,slow=33
INK Inuvik 92.87 19 P P 22 03 35.2 -2.6
baz=237
INK S S 22 14 43.8 +1.3
baz=237
TROLL Troll, Antarti 93.07 185 P P 22 03 38.0 -1.0
W18A Petrified Fore 93.21 55 P P 22 03 37.7 -2.7
baz=255
W18A S S 22 14 55.2 +7.7
baz=255
MSO Missoula 93.44 43 IAMs_20 IAMs_20 22 43 44.0
comp=Z,8µm,18.0s
KAAM Kaadhehdhoo 93.51 270 IAMs_20 IAMs_20 22 40 45.0
comp=Z,7µm,22.0s
HWUT Hardware Ranch 93.57 48 IAMs_20 IAMs_20 22 36 27.9
comp=Z,8µm,22.0s
SNAA Sanae 93.78 183 P P 22 03 41.0 -1.2
SNAA Sanae 93.78 183 LR LR 22 44 57.4
comp=Z,4µm,18.1s,baz=148,slow=35
SNAA Sanae 93.78 183 i P P 22 03 41.3 -0.9
SNAA pmax pmax
comp=Z,100nm,1.6s
SNAA MLR MLR
comp=Z,3µm,18.0s
SNAA Sanae 93.78 183 P P 22 03 41.5 -0.7
SNAA IAmb IAmb 22 03 52.4
comp=Z,144nm,1.6s
SNAA Sanae 93.78 183 ⇓P P 22 03 41.1 -1.1
SNAA ⇓P PcP 22 03 43.9 +1.2
DLMT Dillon 93.90 44 P P 22 03 45.1 +1.8
DLMT IAMs_20 IAMs_20 22 44 18.4
comp=Z,10µm,18.0s
121A Cookes Peak, D 94.12 58 P P 22 03 42.2 -2.5
baz=256
121A S S 22 15 04.7 +9.2
baz=256
AHID Auburn Hatcher 94.22 47 IAMs_20 IAMs_20 22 37 54.0
comp=Z,10µm,21.0s
VNA3 Neumayer Olymp 94.47 181 P P 22 03 43.9 -1.5
REDW Red Top Meadow 94.56 47 IAMs_20 IAMs_20 22 43 29.8
comp=Z,11µm,19.0s

BOZ Bozeman (W) 94.62 44 P **P** **22 03 45.1 -1.5**
baz=254
BOZ S **S** **22 15 01.7 +24.4**
baz=254
SNOW Snow King Moun 94.65 46 IAMs_20 IAMs_20 22 43 33.3
comp=Z,11µm,18.0s
VNA2 Neumayer--Watz 94.72 182 P **P** **22 03 45.2 -1.3**
MOOW Moose Ponds 94.73 46 IAMs_20 IAMs_20 22 38 57.5
comp=Z,10µm,20.0s
BHPL Bhopal 94.75 293 *e*P **P** **22 03 44.3 -3.2**
LOHW Long Hollow 94.80 46 IAMs_20 IAMs_20 22 38 37.2
comp=Z,10µm,21.0s
ZSN Zaisan 94.96 318 *e*P **P** **22 03 46.3 -1.6**
ZSN *e*S **SKSac** **22 14 21.1 -2.0**
ZSN pmax pmax
comp=Z,56nm,2.7s
ZSN Zaisan 94.96 318 *e*P **P** **22 03 46.4 -1.5**
comp=Z,56nm,2.7s,baz=318
ZSN *e*S **SKSac** **22 14 21.1 -2.0**
baz=318
EPT El Paso 94.98 59 IAMs_20 IAMs_20 22 37 23.6
comp=Z,10µm,22.0s
H17A Grant Village 95.02 46 P **P** **22 03 46.7 -1.9**
baz=255
H17A S **S** **22 15 10.7 +7.6**
baz=255
VNA1 Neumayer--Stat 95.03 182 P **P** **22 03 45.7 -2.2**
Y22D IRIS PASSCAL I 95.19 56 P **P** **22 03 47.5 -2.0**
baz=256
BW06 Boulder Array 95.32 47 IAMs_20 IAMs_20 22 41 09.0
comp=Z,8µm,20.0s
PD31 Pinedale Array 95.32 47 P **P** **22 03 52.7 +2.7**
PDAR Pinedale Array 95.32 47 P **P** **22 03 50.3 +0.3**
comp=Z,0.6nm,0.6s,baz=72,slow=18,SNR=10
PDAR PKiKP **PKiKP** **22 08 30.4 -0.4**
comp=Z,0.6nm,0.7s,baz=173,slow=2.4,SNR=3.9
PDAR LR LR 22 41 20.6
comp=Z,5µm,19.2s,baz=260,slow=32
O20A White River Ci 95.62 50 P **P** **22 03 50.6 -0.8**
baz=256
O20A S **S** **22 15 08.9 +0.5**
baz=256
CRZF Crozet Islands 95.74 219 IAMs_20 IAMs_20 22 52 51.6
comp=Z,6µm,18.0s
ANMO Albuquerque 95.77 56 LR LR 22 39 20.5
comp=Z,16µm,20.3s,baz=268,slow=31
ANMO Albuquerque 95.77 56 *i* P **P** **22 03 49.2 -3.0**
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 95.77 56 P **P** **22 03 51.2 -0.9**
baz=256
MNTX Cornudas Mount 95.90 59 P **P** **22 03 53.8 +1.2**
MNTX IAMs_20 IAMs_20 22 37 51.8
comp=Z,7µm,21.0s
MNTX Cornudas Mount 95.90 59 P **P** **22 03 51.2 -1.4**
baz=257
MNTX S **S** **22 15 19.0 +8.3**
baz=257
RLMT Red Lodge 96.11 45 IAMs_20 IAMs_20 22 41 22.8
comp=Z,10µm,20.0s
RLMT Red Lodge 96.11 45 S **S** **22 15 17.4 +5.0**
baz=256
S22A 4UR Ranch, Cre 96.13 53 P **P** **22 03 53.2 -0.6**
baz=257
SMCO Snowmass 96.35 51 IAMs_20 IAMs_20 22 48 52.5
comp=Z,7µm,18.0s
C36M Paulatuk 96.39 20 P **P** **22 03 52.2 -1.6**
baz=246
C36M S **S** **22 15 16.8 +3.6**
baz=246
MK31 Makanchi Array 96.49 317 *i* P **P** **22 03 54.5 -0.4**
MK31 Makanchi Array 96.49 317 P **P** **22 03 54.1 -0.9**
MK31 IAmb IAmb 22 04 10.4
comp=Z,18nm,0.8s
MKAR Makanchi Array 96.49 317 P **P** **22 03 54.0 -0.9**
comp=Z,15nm,0.8s,baz=96,slow=6.5,SNR=33
MKAR PP **PP** **22 07 49.1 -0.1**
comp=Z,5.1nm,1.0s,baz=113,slow=9.3,SNR=4.5
MKAR PKiKP **PKiKP** **22 08 31.3 -1.1**
comp=Z,1.1nm,0.7s,baz=161,slow=17,SNR=9.4
MKAR PKKPbc **PKKPbc** **22 20 38.2 -2.8**
comp=Z,1.1nm,0.8s,baz=257,slow=4.1,SNR=5.6
MKAR PKPPKP **P'P'df** **22 28 52.6 +0.9**
comp=Z,0.7nm,0.9s,baz=146,slow=0.9,SNR=4.2
MKAR Makanchi Array 96.49 317 P **P** **22 03 53.8 -1.1**
MKAR Makanchi Array 96.49 317 P **P** **22 03 53.8 -1.1**
EGMT Eagleton 96.50 42 IAMs_20 IAMs_20 22 44 45.9
comp=Z,7µm,18.0s
EGMT Eagleton 96.50 42 P **P** **22 03 53.5 -1.5**
baz=256
MAKZ Makanchi 96.70 316 P **P** **22 03 56.0 +0.1**
MAKZ pmax pmax
comp=Z,50nm,1.4s
MAKZ Makanchi 96.70 316 P **P** **22 03 56.0 +0.1**
MAKZ IAmb IAmb 22 04 04.7
comp=Z,50nm,1.4s
ZAA0 Zalesovo Array 96.73 324 IAmb IAmb 22 04 06.8
comp=Z,36nm,1.2s
ZALV Zalesovo Beam 96.73 324 P **P** **22 03 53.6 -2.2**
comp=Z,14nm,0.8s,baz=113,slow=4.3,SNR=31
ZALV PP **PP** **22 07 50.0 -0.8**
comp=Z,3.2nm,0.9s,baz=86,slow=7.6,SNR=4.7
ZALV LR LR 22 47 57.9
comp=Z,3µm,19.1s,baz=107,slow=36
RWWY Rawlins 96.75 49 IAMs_20 IAMs_20 22 38 47.0
comp=Z,12µm,22.0s
TXAR Lajitas Array 96.81 62 PP **PP** **22 07 50.7 -1.6**
comp=Z,0.5nm,1.0s,baz=224,slow=3.5,SNR=1.7
TXAR PKKPbc **PKKPbc** **22 20 37.5 -2.1**
comp=Z,0.7nm,0.8s,baz=94,slow=3.4,SNR=4.5
TXAR LR LR 22 38 52.4
comp=Z,11µm,21.7s,baz=262,slow=30
POO Poona 96.93 287 *e*P **P** **22 03 55.6 -2.0**
A36M Sachs Harbour 97.13 17 IAMs_20 IAMs_20 22 41 19.2
comp=Z,9µm,22.0s
A36M Sachs Harbour 97.13 17 P **P** **22 03 55.3 -1.9**
baz=245
A36M S **S** **22 15 21.9 +2.4**
baz=245
SDCO Great Sand Dun 97.15 53 P **P** **22 03 55.1 -3.4**
baz=257
SDCO S **S** **22 15 29.2 +7.3**
baz=257
ISCO Idaho Springs 97.51 51 IAMs_20 IAMs_20 22 39 15.3
comp=Z,11µm,22.0s
ISCO Idaho Springs 97.51 51 P **P** **22 03 57.7 -2.4**
baz=258
ISCO S **S** **22 15 30.8 +5.9**
baz=258
SHLS Shalkode 97.61 313 *e*P **P** **22 03 57.1 -3.1**
SHLS *e*S **SKSac** **22 14 34.7 -2.7**
SHLS pmax pmax
comp=Z,24nm,2.4s
SHLS Shalkode 97.61 313 *e*P **P** **22 03 57.2 -3.1**
comp=Z,24nm,2.4s,baz=313
SHLS *e*S **SKSac** **22 14 34.8 -2.7**
baz=313
YKA Yellowknife Ar 97.65 27 P **P** **22 03 57.2 -2.5**
comp=Z,13nm,0.9s,baz=254,slow=4.5,SNR=43
YKA PKiKP **PKiKP** **22 08 32.8 -1.1**
comp=Z,1.2nm,0.8s,baz=230,slow=1.3,SNR=7.4
YKA PKKPbc **PKKPbc** **22 20 34.3 -4.0**
comp=Z,0.5nm,0.9s,baz=81,slow=2.6,SNR=4.4
YKA PKPPKP **P'P'df** **22 28 48.5 +0.5**
comp=Z,0.3nm,0.8s,baz=43,slow=2.3,SNR=3.9
YKA LR LR 22 41 18.8
comp=Z,2µm,21.1s,baz=256,slow=31
T25A Trinidad 97.87 54 P **P** **22 03 58.9 -2.7**
baz=258
UZB Uzunbulak 97.92 312 *e*P **P** **22 03 59.8 -1.8**
UZB *e*S **SKSac** **22 14 37.9 -1.2**
UZB pmax pmax
comp=Z,29nm,2.3s
UZB Uzunbulak 97.92 312 *e*P **P** **22 03 59.9 -1.8**
comp=Z,29nm,2.3s,baz=312
UZB *e*S **SKSac** **22 14 37.9 -1.2**
baz=312
KPKS Kokpek 98.23 313 *e*P **P** **22 04 01.2 -1.7**
KPKS pmax pmax
comp=Z,25nm,2.5s
KPKS Kokpek 98.23 313 *e*P **P** **22 04 01.2 -1.7**
comp=Z,25nm,2.5s,baz=313
SATY Saty 98.34 312 *e*P **P** **22 04 01.7 -1.8**
SATY *e*S **SKSac** **22 14 39.8 -1.4**
SATY pmax pmax
comp=Z,20nm,2.3s
SATY Saty 98.34 312 *e*P **P** **22 04 01.8 -1.8**
comp=Z,20nm,2.3s,baz=312
SATY *e*S **SKSac** **22 14 39.8 -1.4**
baz=312
MSTX Muleshoe 98.53 57 P **P** **22 04 02.2 -2.4**
baz=258
MSTX S **S** **22 15 38.0 +4.6**
baz=258
LAO LASA Array 98.53 44 IAMs_20 IAMs_20 22 47 19.9
comp=Z,9µm,18.0s
LAO LASA Array 98.53 44 P **P** **22 04 01.8 -2.4**
baz=258
SEM Semipalatinsk 98.63 320 *e*P **P** **22 04 02.7 -2.0**
SEM *e*S **SKSac** **22 14 40.7 -1.8**
SEM Semipalatinsk 98.63 320 *e*P **P** **22 04 02.8 -2.0**
baz=320
SEM *e*S **SKSac** **22 14 40.8 -1.8**
baz=320
SEM LR LR 22 49 19.5
comp=Z,2µm,16.3s,baz=320
TDK Taldyqorghan 98.73 314 *e*P **P** **22 04 03.7 -1.4**
TDK MLR MLR
comp=Z,2µm,18.0s
TDK Taldyqorghan 98.73 314 *e*P **P** **22 04 03.7 -1.4**
baz=314
TDK LR LR 22 49 40.3
comp=Z,2µm,17.9s,baz=314
KDJ Kajisay 99.04 311 P **Pdif** **22 04 07.3 +0.5**
KDJ pmax pmax
comp=Z,13nm,1.3s
KDJ Kajisay 99.04 311 **Pdif** **22 04 07.3 +0.5**
MDOK Medeo 99.33 312 *e*P **Pdif** **22 04 05.3 -2.7**
MDOK *e*S **SKSac** **22 14 43.5 -2.7**
MDOK MLR MLR
comp=Z,1µm,18.0s
MDOK Medeo 99.33 312 *e*P **Pdif** **22 04 05.3 -2.7**
baz=312
MDOK *e*S **SKSac** **22 14 43.6 -2.7**
baz=312
MDOK LR LR 22 50 15.2
comp=Z,1µm,17.8s,baz=312
KSH Kashi 99.44 308 P **Pdif** **22 04 10.0 +1.5**
KSH pP sP 22 04 14.8 +0.7
KSH sP pwP 22 04 18.3 +2.3
KSH PP **PP** **22 08 13.9 +1.7**
KSH SKS **SKSac** **22 14 45.0 -1.9**
KSH S **ScS** **22 15 40.8 0.0**
KSH SS **SS** **22 22 35.6 +4.4**
KSH pmax pmax
comp=Z,5.0nm,1.5s
KSH pmax pmax
comp=Z,540nm,11.6s
KSH LR LR
comp=Z,5µm,17.5s
KSH LR LR
comp=Z,4µm,19.6s
KSH LR LR
comp=Z,6µm,20.9s
AAA Alma-Ata 99.44 312 *e*P **Pdif** **22 04 06.9 -1.5**
AAA *e*S **SKSac** **22 14 45.4 -1.1**
AAA Alma-Ata 99.44 312 *e*P **Pdif** **22 04 06.1 -2.3**
baz=312
AAA *e*S **SKSac** **22 14 45.5 -1.1**
baz=312
RSSD Black Hills 99.54 47 IAMs_20 IAMs_20 22 47 03.7
comp=Z,7µm,19.0s
NRIK Noril'sk 99.55 339 P **Pdif** **22 04 07.5 -0.7**
comp=Z,18nm,1.0s,baz=101,slow=4.1,SNR=11
NRIK PP **PP** **22 08 10.6 -1.5**
comp=Z,9.7nm,1.1s,baz=103,slow=7.6,SNR=4.8
NRIK LR LR 22 50 56.7
comp=Z,4µm,18.5s,baz=108,slow=36
NRIK Noril'sk 99.55 339*c*e P **Pdif** **22 04 05.6 -2.5**
NRIK pmax pmax
comp=Z,48nm,1.3s
NRIK MLR MLR
comp=Z,6µm,19.0s
NRIK Noril'sk 99.55 339 IAmb IAmb 22 04 20.6
comp=Z,45nm,1.2s
KURK Kurchatov 99.71 320 *i* P **Pdif** **22 04 07.2 -2.0**
KURK pmax pmax
comp=Z,11nm,1.2s
KURK Kurchatov 99.71 320 IAMs_20 IAMs_20 22 53 08.1
comp=Z,7µm,18.0s
KURBB Kurchatov Arra 99.75 320 LR LR 22 52 11.4
comp=Z,5µm,18.0s,baz=82,slow=37
KUU Kurty 99.98 313 *e*P **Pdif** **22 04 08.7 -1.9**
KUU *e*S **SKSac** **22 14 47.0 -2.1**
KUU pmax pmax
comp=Z,76nm,2.8s
KUU MLR MLR
comp=Z,1µm,17.0s
KUU Kurty 99.98 313 *e*P **Pdif** **22 04 08.8 -1.9**
comp=Z,76nm,2.8s,baz=313
KUU *e*S **SKSac** **22 14 47.0 -2.1**
baz=313
KUU LR LR 22 50 50.2
comp=Z,1µm,16.5s,baz=313
AAK Ala-Archa 101.09 311 *i* P **Pdif** **22 04 15.9 +0.1**
AAK pmax pmax
comp=Z,6.0nm,1.4s
AAK MLR MLR
comp=Z,4µm,18.0s
AAK Ala-Archa 101.09 311 IAMs_20 IAMs_20 22 45 46.8
comp=Z,5µm,20.0s
SGDS Sogindy 101.12 312 *e*P **Pdif** **22 04 14.2 -1.6**
SGDS Sogindy 101.12 312 *e*P **Pdif** **22 04 14.2 -1.6**
baz=312
BTLS Baital 101.79 314 *e*P **Pdif** **22 04 17.1 -1.5**
BTLS Baital 101.79 314 *e*P **Pdif** **22 04 17.2 -1.4**
baz=314
WMOK Wichita Mounta 101.92 57 IAMs_20 IAMs_20 22 41 50.2
comp=Z,10µm,21.0s
FFC Flin Flon 102.54 36 IAMs_20 IAMs_20 22 42 48.4
comp=Z,11µm,21.0s
BRZS Berezniki 103.36 319 *e*PKiKP **PKiKP** **22 08 43.8 -0.8**
baz=319
RER Riviere de l'E 103.37 244 IAMs_20 IAMs_20 22 44 47.1
comp=Z,11µm,22.0s
DZA Taraz 103.43 311 *e*PKiKP **PKiKP** **22 08 44.1 -0.9**
baz=311
PLCA Paso Flores 103.84 139 *e*P **Pdif** **22 04 29.0 +0.9**
IUG Iuzhnay 104.30 310 *e*PKiKP **PKiKP** **22 08 45.7 -1.0**
baz=310
BRVK Borovoye 105.13 322 IAMs_20 IAMs_20 22 54 58.5
comp=Z,5µm,19.0s
AGMN Agassiz Nation 105.71 43 IAMs_20 IAMs_20 22 45 18.7
comp=Z,7µm,20.0s
AGMN Agassiz Nation 105.71 43 P **PKiKP** **22 08 47.8 -1.1**
baz=266
ULM Lac du Bonnet 105.83 41 PKiKP **PKiKP** **22 08 48.7 -0.4**
comp=Z,7.1nm,0.8s,baz=286,slow=4.9,SNR=5.8
MIAR Mount Ida 106.14 58 IAMs_20 IAMs_20 22 48 41.2
comp=Z,9µm,19.0s
S39A Bolivar 106.68 55 P **PKiKP** **22 08 50.0 -1.1**
baz=264
X40A Basin Creek Fa 106.74 58 IAMs_20 IAMs_20 22 49 08.0
comp=Z,6µm,19.0s
SNET Serv Nac Est T 106.89 80 IAMs_20 IAMs_20 22 42 02.3
comp=Z,10µm,22.0s
MTO3 Montecristo 106.90 79 IAMs_20 IAMs_20 22 42 04.6
comp=Z,8µm,21.0s
U40A Yellville 106.92 56 P **PKiKP** **22 08 49.7 -1.9**
baz=264
W41B Gary Mavity, V 107.29 57 P **PKiKP** **22 08 50.2 -2.1**
baz=264
SPMN Marine on St. 107.62 47 P **PKiKP** **22 08 50.7 -1.9**
baz=267
CCM Cathedral Cave 108.34 54 P **PKiKP** **22 08 54.7 +0.5**
baz=266
VBMS Vicksburg 108.44 61 IAMs_20 IAMs_20 22 48 16.9
comp=Z,8µm,20.0s
EYMN Ely 108.62 44 IAMs_20 IAMs_20 22 50 17.7
comp=Z,9µm,19.0s
EYMN Ely 108.62 44 P **PKiKP** **22 08 52.7 -1.7**
baz=269
HOPE Hope Point 108.78 166 IAMs_20 IAMs_20 22 49 23.9
comp=Z,6µm,19.0s
TGUH Tegucigalpa,Un 108.83 80 IAMs_20 IAMs_20 22 43 01.6
comp=Z,7µm,21.0s
MSEY Mahe Island 109.03 260 IAMs_20 IAMs_20 22 50 28.7
comp=Z,7µm,21.0s
JFWS Jewell Farm 109.36 49 P **PKiKP** **22 08 54.6 -1.3**
baz=268
OXF Oxford 109.56 58 IAMs_20 IAMs_20 22 56 32.6
comp=Z,6µm,18.0s
BOAB BOACO BROADBAN 110.06 82 IAMs_20 IAMs_20 22 47 53.3
comp=Z,9µm,19.0s
COWI Conover 110.21 46 IAMs_20 IAMs_20 22 48 29.1
comp=Z,6µm,20.0s
JTS Las Juntas de 110.33 84 *e*P **PP** **22 09 30.3 -3.2**
SVE Sverdlovsk 110.65 326 *i* PKiKP **PKiKP** **22 09 00.1 +2.2**
SVE pmax pmax
comp=Z,30nm,1.8s
SVE MLR MLR
comp=Z,4µm,18.0s
PLAL Pickwick Lake 110.69 58 IAMs_20 IAMs_20 22 46 52.4
comp=Z,8µm,22.0s
VOI Vohitsoka 110.71 240 IAMs_20 IAMs_20 22 49 53.6
comp=Z,9µm,21.0s
LRAL Lakeview Retre 111.46 60 P **PKiKP** **22 08 58.5 -1.7**
baz=266
ABPO Ambohimpanom 111.57 243 IAMs_20 IAMs_20 22 49 24.5
comp=Z,9µm,22.0s
ARU Arti 111.84 325 *i* PKiKP **PKiKP** **22 09 01.0 +0.8**
ARU 22 09 47.1
ARU PPP PPP 22 12 04.4
ARU 22 16 13.4
ARU MLR MLR
comp=Z,4µm,17.0s
ARU Arti 111.84 325 IAMs_20 IAMs_20 22 54 03.8
comp=Z,5µm,18.0s
W50A Signal Mountai 112.96 58 P **PKiKP** **22 09 02.4 -0.7**
baz=268
GEYT Alibeck 113.16 305 PKiKP **PKiKP** **22 09 03.1 -0.2**
comp=Z,3.6nm,0.8s,baz=48,slow=20,SNR=3.8
P49A Miami Univ. Ec 113.49 53 P **PKiKP** **22 09 02.6 -1.3**
baz=270
E46A Sault Ste Mari 113.56 46 P **PKiKP** **22 09 03.9 +0.1**
baz=274
N49A Columbus Grove 113.88 51 P **PKiKP** **22 09 04.8 +0.2**
baz=271
N49A P **PKiKP** **22 09 04.8 +0.2**
baz=271
OTAV Otavalo 114.29 96 IAMs_20 IAMs_20 22 46 24.5
comp=Z,6µm,22.0s
S51A Beattyville 114.38 55 P **PKiKP** **22 09 05.8 +0.1**
baz=270,SNR=6.1
S51A P **PKiKP** **22 09 05.8 +0.1**
baz=270,SNR=6.1
TZTN Tazewell 114.42 56 P PKPdf 22 09 04.7 -1.1
baz=270
GOGA Godfrey 114.44 60 IAMs_20 IAMs_20 22 52 44.8
comp=Z,9µm,20.0s
GOGA Godfrey 114.44 60 P PKPdf 22 09 04.3 -1.5
baz=268
SPA0 Spitsbergen Ar 114.58 354 *e*Pdif **Pdif** **22 05 17.3 +2.5**
SPA0 *e*PKPdf PKPdf 22 09 05.4 +0.5
SPA0 *e*SP SP 22 19 38.8 +1.4
SPA0 IVMs_BB IVMs_BB 23 09 23.4
comp=Z,849nm,3.2s
HOPEN Hopen 114.78 351 *e*PKPdf PKPdf 22 09 06.4 +1.1
ACSO Alum Creek Sta 114.81 52 P PKPdf 22 09 04.6 -1.8
baz=272
BCIP Isla Barro Col 115.04 87 IAMs_20 IAMs_20 22 46 19.1
comp=Z,5µm,21.0s
P52A Corning 115.49 53 P **PKPdf** **22 09 06.1 -1.6**
baz=272
HSPB Hornsund (broa 115.68 353 *e*Pdif **Pdif** **22 05 19.4 -0.3**
HSPB *e*PKPdf **PKPdf** **22 09 08.3 +1.3**
HSPB *e*SP SP 22 19 47.5 +0.1
HSPB IVMs_BB IVMs_BB 22 59 12.8
comp=Z,1µm,18.1s
O53A New Philadelph 116.17 52 P **PKPdf** **22 09 06.7 -2.3**
baz=273
KMSC Kings Mountain 116.22 58 P **PKPdf** **22 09 07.0 -2.2**
baz=270
KIRV Kirov 116.25 329 PKP **PKPdf** **22 09 06.9 -1.6**
comp=Z,5.0nm,0.4s,baz=125,slow=2.1,SNR=4.5
KIRV Kirov 116.25 329 *i* PKiKP **PKiKP** **22 09 10.1 +1.6**
N53A Lisbon 116.42 51 P **PKiKP** **22 09 09.7 +0.2**
baz=274
N53A P **PKiKP** **22 09 09.7 +0.2**
baz=274
M53A WI Miller and 116.50 51 IAMs_20 IAMs_20 22 59 13.9
comp=Z,7µm,18.0s
M53A WI Miller and 116.50 51 P **PKPdf** **22 09 07.2 -2.4**
baz=274
BLA Blacksburg 116.92 55 P **PKPdf** **22 09 08.2 -2.4**
baz=272
N54A Moraine State 117.05 51 P **PKPdf** **22 09 08.0 -2.7**
baz=274
PRGR Permogore 117.08 333 *e*PKIKP **PKiKP** **22 09 10.6 +0.5**
PRGR pmax pmax
comp=Z,17nm,0.8s
NHSC New Hope 117.19 60 IAMs_20 IAMs_20 22 51 50.6
comp=Z,8µm,21.0s
MCWV Mont Chateau 117.25 53 P **PKPdf** **22 09 10.0 -1.1**
baz=274
M54A Oil Creek Stat 117.25 51 IAMs_20 IAMs_20 22 51 07.7
comp=Z,7µm,22.0s
M54A Oil Creek Stat 117.25 51 P **PKPdf** **22 09 11.0 -0.1**
baz=275,SNR=5.8
M54A Oil Creek Stat 117.25 51 P **PKPdf** **22 09 09.5 -1.6**
baz=275
BJO1 Bjornoya 117.30 351 *e*Pdif **Pdif** **22 05 27.2 +0.3**
BJO1 *e*PKPdf **PKPdf** **22 09 08.7 -1.4**
BJO1 *e*PP **PP** **22 10 21.1 +0.1**
BJO1 *e*SP SP 22 20 02.5 +0.5
BJO1 IVMs_BB IVMs_BB 22 59 07.5
comp=Z,3µm,3.4s
DAG Danmarks Havn 117.62 1 *i* P **PKPdf** **22 09 08.0 -2.7**
M55A Ridgway 117.93 51 P **PKPdf** **22 09 10.9 -1.4**
baz=275,SNR=5.2
M55A P **PKPdf** **22 09 10.9 -1.4**
baz=275,SNR=5.2
LPAZ La Paz 118.00 118 PKP **PKPdf** **22 09 13.1 -0.9**
comp=Z,6.5nm,0.7s,baz=353,slow=1.9,SNR=17
LPAZ PKKPab **PKKPbc** **22 19 34.6 +1.1**
comp=Z,1.4nm,0.7s,baz=61,slow=9.7,SNR=5.0
O56A Blue Knob Stat 118.19 52 P **PKPdf** **22 09 10.9 -2.0**
baz=275
LVZ Lovozero 118.31 341 IAMs_20 IAMs_20 22 59 43.5
comp=Z,5µm,20.0s
SSPA Standing Stone 118.67 51 PKPdf **PKiKP** **22 09 13.9 +0.1**
SSPA Standing Stone 118.67 51 P **PKPdf** **22 09 12.0 -1.8**
baz=276
MTDJ Mount Denham 118.71 77 IAMs_20 IAMs_20 22 49 15.5
comp=Z,5µm,22.0s
L56A Greenwood 118.76 50 P **PKPdf** **22 09 12.1 -1.9**
baz=276,SNR=7.6
L56A P **PKPdf** **22 09 12.1 -1.9**
baz=276,SNR=7.6
BELG Belogornoye 118.86 322 PKP **PKPdf** **22 09 13.2 -0.5**
comp=Z,58nm,0.9s,baz=337,slow=1.5,SNR=13
BELG Belogornoye 118.86 322 *i* PKiKP **PKiKP** **22 09 14.5 +0.7**
BELG MLR MLR
comp=Z,465nm,20.0s
APA Apatity 118.88 341 *i* PKiKP **PKiKP** **22 09 16.8 +3.4**
APA *i* 22 16 14.0
APA *i* PS **PS** **22 20 16.0 -3.8**
APA pmax pmax
comp=Z,18nm,1.0s
J56A Wolcott 119.13 48 P **PKPdf** **22 09 13.4 -1.1**
baz=278,SNR=6.0
J56A P **PKPdf** **22 09 13.4 -1.1**
baz=278,SNR=6.0
M57A Sunshine Farm, 119.17 51 PKPdf **PKiKP** **22 09 14.8 0.0**
T59A Double "B" Far 119.22 56 P **PKPdf** **22 09 14.1 -0.8**
baz=274
T59A P **PKPdf** **22 09 14.1 -0.8**
baz=274
HAMF Hammerfest 119.42 347 *e*Pdif **Pdif** **22 05 36.7 +0.2**
HAMF *e*PKPdf **PKPdf** **22 09 14.2 -0.1**
HAMF *e*PP **PP** **22 10 36.3 +0.6**
HAMF *e*SP SP 22 20 22.6 +1.2
HAMF *e*SS **SS** **22 26 58.1 +0.8**
HAMF IVMs_BB IVMs_BB 23 00 35.2
comp=Z,2µm,10.7s
ROSC El Rosal 119.44 93 PKP **PKPdf** **22 09 16.5 -0.1**
comp=Z,10nm,0.4s,baz=68,slow=16,SNR=3.2
K57A Scipio Center 119.45 49 P **PKPdf** **22 09 14.2 -1.1**
baz=278,SNR=6.1
ARA0 ARCESS Array S 119.80 345 *e*Pdif **Pdif** **22 05 38.5 +0.3**
ARA0 *e*PKPdf **PKPdf** **22 09 14.7 -0.4**
ARA0 *e*PP **PP** **22 10 40.7 +2.3**
ARA0 *e*PS **PS** **22 20 28.7 +0.7**
ARA0 *e*SS SS 22 27 07.3 +5.0
ARCES ARCESS Array B 119.80 345 PKP **PKPdf** **22 09 12.7 -2.5**
comp=Z,12nm,0.6s,baz=78,slow=2.1,SNR=30
PKKPab **PKKPab** **22 19 24.0 -2.0**
comp=Z,7.0nm,0.9s,baz=242,slow=1.9,SNR=5.9
ARCES PKKPbc **PKKPbc** **22 19 29.6 +2.2**
comp=Z,2.6nm,0.6s,baz=282,slow=1.1,SNR=6.8

BINY	**Binghamton**	**119.91**	**49**	P		**PKPdf**	**22 09 14.2**	**-2.0**
	baz=278								
DBG	**Daneborg**	**120.04**	**2**	*e*P		**PKiKP**	**22 09 17.4**	**+1.9**
KLMR	**Klimovskoe**	**120.10**	**333**	*e*PKIKP		**PKiKP**	**22 09 16.0**	**0.0**
KLMR				*e*PS		**PS**	**22 20 25.4**	**-5.5**
KLMR				*e*SS		SS	22 27 01.3	-5.3
KLMR				pmax	pmax			
	comp=Z,38nm,1.0s							
KLMR				MLR	MLR			
	comp=Z,4µm,18.0s							
KLMR	**Klimovskoe**	**120.10**	**333**	*e*PKPdf		**PKiKP**	**22 09 16.0**	**0.0**
KLMR				AMP			22 09 30.1	
	comp=Z,38nm,1.0s							
KLMR				*e*PPP	PPP		22 13 07.5	
KLMR				*e*PS		**PS**	**22 20 25.5**	**-5.5**
KLMR				*e*PS		**PS**	**22 20 25.5**	**-5.5**
KLMR				*e*SS		**SS**	**22 27 01.4**	**-5.2**
KLMR				*e*SS		**SS**	**22 27 01.4**	**-5.2**
KLMR				LQ	LQ		22 46 48.6	
KLMR				LQ	LQ		22 46 48.6	
KLMR				LR	LR		22 57 27.5	
KLMR				AMP			23 04 38.4	
	comp=Z,4µm,17.7s							
N59A	**State Game Lan**	**120.24**	**51**	P		**PKPdf**	**22 09 14.3**	**-2.5**
	baz=277								
J58A	**Remsen**	**120.26**	**48**	P		**PKPdf**	**22 09 15.8**	**-1.0**
	baz=279,SNR=5.7								
J58A				P		**PKPdf**	**22 09 15.8**	**-1.0**
	baz=279,SNR=5.7								
LONY	**Lake Ozonia**	**120.55**	**47**	IAMs_20	IAMs_20		23 02 44.6	
	comp=Z,6µm,18.0s								
LONY	**Lake Ozonia**	**120.55**	**47**	P		**PKPdf**	**22 09 14.5**	**-2.8**
	baz=280								
KTK1	**Kautokeino**	**120.74**	**345**	*e*Pdif		**Pdif**	**22 05 42.5**	**+0.1**
KTK1				*e*PKPdf		**PKPdf**	**22 09 16.7**	**-0.3**
KTK1				*e*PP		**PP**	**22 10 44.3**	**-0.4**
KTK1				*e*SP		SP	22 20 35.1	+1.9
KTK1				*e*SS		**SS**	**22 27 15.6**	**+1.3**
KTK1				IVMsBB			23 08 44.0	
	comp=Z,1µm,4.3s							
J59A	**Piesco**	**120.80**	**48**	P		**PKPdf**	**22 09 17.6**	**-0.3**
	baz=280,SNR=7.3								
J59A				P		**PKPdf**	**22 09 17.6**	**-0.3**
	baz=280,SNR=7.3								
MAK	**Makhachkala**	**120.87**	**312**	*e*P		**Pdif**	**22 05 41.0**	**-2.5**
MAK				*e*			22 16 18.4	
MAK				*e*PS		**PS**	**22 20 40.4**	**+1.8**
MAK				*e*SSS		SSS	22 31 38.1	
MAK				pmax	pmax			
	comp=Z,121nm,1.6s							
NCB	**Newcomb**	**120.92**	**47**	P		**PKPdf**	**22 09 16.7**	**-1.4**
	baz=280,SNR=6.1								
JETT	**Jettan, Norway**	**120.98**	**347**	*e*PKPdf		**PKiKP**	**22 09 17.9**	**+0.4**
HCNY	**Howe Caverns**	**121.00**	**49**	P		**PKPdf**	**22 09 16.9**	**-1.3**
	baz=279								
CPUP	**Villa Florida**	**121.19**	**133**	PKP		**PKPdf**	**22 09 17.7**	**-1.4**
	comp=Z,11nm,0.8s,baz=304,slow=0.7,SNR=12								
CPUP	**Villa Florida**	**121.19**	**133**	PKIKP		**PKPdf**	**22 09 19.0**	**-0.1**
CPUP	**Villa Florida**	**121.19**	**133**	PKPdf		**PKPdf**	**22 09 19.0**	**-0.1**
CPUP	**Villa Florida**	**121.19**	**133**	*e*P		**PKiKP**	**22 09 20.2**	**+0.9**
FRNY	**Flat Rock**	**121.21**	**46**	P		**PKPdf**	**22 09 17.9**	**-0.7**
	baz=281								
TRO	**Tromso**	**121.24**	**347**	*e*PKPdf		**PKPdf**	**22 09 16.2**	**-1.6**
TRO				*e*PS		**PS**	**22 20 42.4**	**+1.7**
TRO				*e*SS		SS	22 27 21.8	+1.2
TRO				IVMs_BB	IVMs_BB		22 59 31.9	
	comp=Z,3µm,4.0s							
PAL	**Palisades**	**121.62**	**51**	IAMs_20	IAMs_20		22 54 06.4	
	comp=Z,6µm,22.0s								
PAL	**Palisades**	**121.62**	**51**	P		**PKPdf**	**22 09 17.9**	**-1.5**
	baz=278								
GROC	**Groznyy**	**122.06**	**312**	*i* PKIKP		**PKPdf**	**22 09 19.1**	**-1.1**
GROC				*e*			22 16 15.3	
GROC				*e*SP		SP	22 20 48.4	+1.7
GROC				pmax	pmax			
	comp=Z,54nm,1.3s							
SFJD	**Kangerlussuaq**	**122.12**	**16**	IAMs_20	IAMs_20		23 06 57.5	
	comp=Z,5µm,18.0s								
SFJD	**Kangerlussuaq**	**122.12**	**16**	*e*P		**PKPdf**	**22 09 19.4**	**-0.2**
J61A	**Chester**	**122.22**	**48**	pPKPdf	pPKPdf		22 09 27.4	+2.7
L61B	**Northampton**	**122.30**	**49**	P		**PKPdf**	**22 09 18.4**	**-2.3**
	baz=280								
SCHQ	**Schefferville**	**122.49**	**33**	PKP		**PKPdf**	**22 09 18.0**	**-2.7**
	comp=Z,12nm,0.8s,baz=216,slow=0.4,SNR=18								
SCHQ	**Schefferville**	**122.49**	**33**	PKPdf		**PKPdf**	**22 09 19.9**	**-0.8**
LBNH	**Lisbon**	**122.49**	**47**	P		**PKPdf**	**22 09 19.2**	**-1.8**
	baz=282								
VRH	**Novokhopyorsk**	**122.71**	**322**	*e*PKIKP		**PKiKP**	**22 09 22.1**	**+0.7**
VRH				pmax	pmax			
	comp=Z,20nm,0.8s							
ICESG	**Greenland Ices**	**122.94**	**11**	*e*P		**PKPdf**	**22 09 21.4**	**-0.2**
H62A	**Milan**	**122.96**	**46**	P		**PKiKP**	**22 09 22.1**	**-0.1**
	baz=283								
H62A				P		**PKiKP**	**22 09 22.1**	**-0.1**
	baz=283								
SUR	**Sutherland**	**123.01**	**215**	IAMs_20	IAMs_20		23 04 18.4	
	comp=Z,6µm,19.0s								
BOSA	**Boshof**	**123.09**	**221**	PKP		**PKPdf**	**22 09 21.5**	**-1.4**
	comp=Z,16nm,0.8s,baz=125,slow=1.5,SNR=22								
BOSA	**Boshof**	**123.09**	**221**	PKIKP		**PKiKP**	**22 09 23.4**	**+0.3**
BOSA	**Boshof**	**123.09**	**221**	PKPdf		**PKiKP**	**22 09 23.4**	**+0.3**
HRV	**Adam Dziewonsk**	**123.10**	**49**	⇑PKIKP		**PKPdf**	**22 09 22.2**	**0.0**
HRV	**Adam Dziewonsk**	**123.10**	**49**	P		**PKPdf**	**22 09 20.7**	**-1.5**
	baz=281								
G62A	**West of Eustis**	**123.24**	**45**	P		**PKiKP**	**22 09 22.7**	**0.0**
	baz=284,SNR=5.3								
G62A				P		**PKiKP**	**22 09 22.7**	**0.0**
	baz=284,SNR=5.3								
MOS	**Moscow**	**123.26**	**328**	*i* PKIKP		**PKiKP**	**22 09 22.6**	**+0.3**
MOS				*e*			22 11 03.4	
MOS				*e*SS		SS	22 27 38.9	-8.3
MOS				pmax	pmax			
	comp=Z,55nm,0.9s							
GNI	**Garni**	**123.37**	**309**	PKP		**PKiKP**	**22 09 24.5**	**+1.2**
	comp=Z,16nm,0.8s,baz=4.4,slow=3.1,SNR=18								
GNI	**Garni**	**123.37**	**309**	*i* PKIKP		**PKiKP**	**22 09 24.9**	**+1.6**
GNI				MLR	MLR			
	comp=Z,2µm,22.0s							
GNI	**Garni**	**123.37**	**309**	PKPdf		**PKiKP**	**22 09 24.8**	**+1.6**
STEI	**Steigen**	**123.41**	**347**	*e*PKPdf		**PKPdf**	**22 09 21.6**	**-0.4**
STEI				*e*PP		**PP**	**22 11 04.2**	**+1.4**
STEI				*e*SP		SP	22 20 58.7	+1.9
STEI				IVMs_BB	IVMs_BB		23 06 49.9	
	comp=Z,3µm,4.1s							
JMIC	**Jan Mayen**	**123.41**	**358**	*e*PKPdf		**PKPdf**	**22 09 21.6**	**-0.4**
JMIC				*e*PP		**PP**	**22 11 03.2**	**+0.4**
F62A	**Pittston Farm,**	**123.46**	**44**	P		**PKPdf**	**22 09 21.2**	**-1.7**
	baz=285								
F62A				P		**PKPdf**	**22 09 21.2**	**-1.7**
	baz=285								
ZEI	**Tsey**	**123.50**	**312**	*i* PKIKP		**PKPdf**	**22 09 21.3**	**-2.0**
ZEI				pmax	pmax			
	comp=Z,25nm,1.0s							
NCK	**Nalchik**	**123.58**	**313**	*i* PKIKP		**PKiKP**	**22 09 25.2**	**+1.8**
NCK				MLR	MLR			
	comp=Z,2µm,17.0s							
LOF	**Lofoten**	**123.59**	**348**	*e*Pdif		**Pdif**	**22 05 54.3**	**-0.8**
LOF				*e*PKPdf		**PKPdf**	**22 09 21.9**	**-0.5**
LOF				*e*PP		**PP**	**22 11 04.1**	**+0.1**
LOF				IVMs_BB	IVMs_BB		23 03 38.6	
	comp=Z,3µm,4.4s							
DY2G	**Dye2**	**123.66**	**15**	*e*P		**PKiKP**	**22 09 23.4**	**+0.2**
SCO	**Scoresbysund**	**123.76**	**3**	IAMs_20	IAMs_20		23 00 33.9	
	comp=Z,5µm,20.0s								
SCO	**Scoresbysund**	**123.76**	**3**	*i* P		**PKPdf**	**22 09 21.0**	**-1.7**
D62A	**Allapoint, All**	**123.76**	**43**	P		**PKPdf**	**22 09 21.4**	**-1.9**
	baz=286								
D62A				P		**PKPdf**	**22 09 21.4**	**-1.9**
	baz=286								
NUUK	**Nuuk**	**123.80**	**19**	*e*P		**PKiKP**	**22 09 24.4**	**+1.2**
LPSR	**Galich'ya Gora**	**123.83**	**324**	*e*PKIKP		**PKiKP**	**22 09 25.1**	**+1.5**
LPSR				pmax	pmax			
	comp=Z,50nm,1.0s							
FAUS	**Fauske**	**123.86**	**347**	*e*PKPdf		**PKPdf**	**22 09 21.5**	**-1.5**
FAUS				*e*PP		**PP**	**22 11 06.9**	**+1.1**
FAUS				*e*SP		SP	22 21 01.8	+1.0
FAUS				IVMs_BB	IVMs_BB		22 59 38.8	
	comp=Z,2µm,4.0s							
SDV	**Santo Domingo**	**123.90**	**89**	PKPdf		**PKPdf**	**22 09 23.3**	**-1.6**
SDV	**Santo Domingo**	**123.90**	**89**	IAMs_20	IAMs_20		22 52 57.6	
	comp=Z,6µm,20.0s								
SDV	**Santo Domingo**	**123.90**	**89**	*e*P		**PKPdf**	**22 09 23.7**	**-1.1**
KBZ	**Khabaz**	**124.02**	**313**	PKP		**PKiKP**	**22 09 24.4**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=106,slow=3.6,SNR=13								
KBZ	**Khabaz**	**124.02**	**313**	*i* PKIKP		**PKiKP**	**22 09 25.7**	**+1.5**
VORR	**Voronezh**	**124.02**	**323**	*e*PKIKP		**PKiKP**	**22 09 24.9**	**+0.9**
VORR				pmax	pmax			
	comp=Z,128nm,1.8s							
OBN	**Obninsk**	**124.07**	**328**	PKP		**PKPdf**	**22 09 22.3**	**-1.3**
	comp=Z,6.4nm,0.8s,baz=203,slow=6.6,SNR=4.8								
OBN	**Obninsk**	**124.07**	**328**	*i* PKIKP		**PKPdf**	**22 09 23.2**	**-0.5**
OBN				*e*PPP	PPP		22 13 48.6	
OBN				*e*			22 16 37.0	
OBN				*i* SS	SS		22 28 00.1	+2.6
OBN				pmax	pmax			
	comp=Z,44nm,1.2s							
OBN	**Obninsk**	**124.07**	**328**			**PKiKP**	**22 09 25.6**	**+1.6**
OBN				IAMs_20	IAMs_20		23 07 22.2	
	comp=Z,5µm,19.0s								
AKH	**Akhalkalaki**	**124.08**	**310**	⇑P		**PKiKP**	**22 09 26.8**	**+2.1**
AKH	**Akhalkalaki**	**124.08**	**310**	PKIKP		**PKiKP**	**22 09 26.7**	**+2.1**
PKME	**Peaks-Kenny Pk**	**124.08**	**45**	IAMs_20	IAMs_20		23 03 19.9	
	comp=Z,7µm,19.0s								
PKME	**Peaks-Kenny Pk**	**124.08**	**45**	P		**PKPdf**	**22 09 23.9**	**-0.1**
	baz=285,SNR=6.7								
PKME	**Peaks-Kenny Pk**	**124.08**	**45**	P		**PKPdf**	**22 09 22.6**	**-1.4**
	baz=285								
F63A	**Nahmakanta, Br**	**124.10**	**44**	P		**PKPdf**	**22 09 24.2**	**+0.1**
	baz=285,SNR=6.3								
F63A				P		**PKPdf**	**22 09 24.2**	**+0.1**
	baz=285,SNR=6.3								
KVAR	**Kislovodsk Arr**	**124.11**	**314**	PKP		**PKPdf**	**22 09 23.8**	**-0.5**
	comp=Z,3.8nm,1.1s,baz=41,slow=11,SNR=3.2								
KIV	**Kislovodsk**	**124.11**	**314**	⇑P		**PKiKP**	**22 09 26.0**	**+1.4**
KIV	**Kislovodsk**	**124.11**	**314**	*e*P		**Pdif**	**22 05 55.0**	**-3.1**
KIV				*i*			22 09 23.3	
KIV				*e*			22 11 06.4	
KIV				*e*			22 16 24.8	
KIV				*e*PS		**PS**	**22 21 04.0**	**-3.6**
KIV				*e*SS		SS	22 27 57.0	-2.2
KIV				pmax	pmax			
	comp=Z,18nm,1.1s							
KIV				MLR	MLR			
	comp=Z,3µm,22.0s							
KIV	**Kislovodsk**	**124.11**	**314**	PKPdf		**PKPdf**	**22 09 23.8**	**-0.5**
VSR	**Storozhevoye**	**124.22**	**323**	*e*PKIKP		**PKiKP**	**22 09 25.0**	**+0.6**
VSR				pmax	pmax			
	comp=Z,20nm,0.9s							
VORD	**Divnogorie**	**124.23**	**322**	*e*PKIKP		**PKiKP**	**22 09 25.1**	**+0.7**
VORD				pmax	pmax			
	comp=Z,20nm,1.0s							
E63A	**Oxbow**	**124.36**	**43**	P		**PKPdf**	**22 09 23.3**	**-1.2**
	baz=286								
E63A				P		**PKPdf**	**22 09 23.3**	**-1.2**
	baz=286								
F64A	**Sherman**	**124.56**	**44**	P		**PKPdf**	**22 09 24.3**	**-0.6**
	baz=286,SNR=6.0								
F64A				P		**PKPdf**	**22 09 24.3**	**-0.6**
	baz=286,SNR=6.0								
SDDR	**Presa de Saban**	**124.68**	**77**	IAMs_20	IAMs_20		22 53 20.7	
	comp=Z,8µm,22.0s								
CHVG	**Ch'k'valeri**	**124.83**	**312**	⇓P		**PKiKP**	**22 09 28.6**	**+2.7**
CHVG	**Ch'k'valeri**	**124.83**	**312**	⇓PKIKP		**PKiKP**	**22 09 28.6**	**+2.7**
GRTK	**Grand Turk**	**124.99**	**74**	IAMs_20	IAMs_20		22 56 49.9	
	comp=Z,7µm,19.0s								
MOR8	**Moi Rana**	**125.06**	**347**	*e*PKPdf		**PKPdf**	**22 09 25.1**	**-0.2**
MOR8				*e*PP		**PP**	**22 11 11.2**	**-2.7**
MOR8				*e*SS		SS	22 28 08.9	-0.1
KONS	**Konsvik**	**125.07**	**347**	*e*PKPdf		**PKiKP**	**22 09 26.0**	**+0.4**
ATD	**Arta Tunnel**	**125.12**	**274**	IAMs_20	IAMs_20		23 08 00.0	
	comp=Z,3µm,18.0s								
FINES	**FINESS Array B**	**125.19**	**338**	PKP		**PKPdf**	**22 09 25.6**	**-0.1**
	comp=Z,11nm,0.8s,baz=111,slow=4.3,SNR=21								
G65A	**Princeton**	**125.28**	**45**	P		**PKPdf**	**22 09 25.9**	**-0.4**
	baz=286,SNR=7.1								
G65A				P		**PKPdf**	**22 09 25.9**	**-0.4**
	baz=286,SNR=7.1								
PTGB	**Pitanga**	**125.86**	**136**	*e*P		**PKPdf**	**22 09 28.1**	**-0.2**
HATO	**Hato, Curacao**	**126.10**	**85**	IAMs_20	IAMs_20		22 53 35.2	
	comp=Z,5µm,22.0s								
VILB	**Vilhena**	**126.34**	**118**	*e*P		**PKPdf**	**22 09 28.9**	**-0.4**
ANGG	**Ammassalik, Gr**	**126.35**	**12**	IAMs_20	IAMs_20		23 14 60.0	
	comp=Z,5µm,18.0s								
MEF	**Metsahovi**	**126.62**	**338**	*e*P		**PKiKP**	**22 09 30.6**	**+1.7**
MTSE	**Matsula**	**127.85**	**336**	*e*P		**PKiKP**	**22 09 32.8**	**+1.4**
NRS	**Narsarsuaq**	**128.00**	**19**	IAMs_20	IAMs_20		23 02 35.1	
	comp=Z,7µm,20.0s								
HAL	**Halifax**	**128.13**	**44**	pPKPdf	pPKPdf		22 09 38.8	+2.9
AAL	**Aland**	**128.22**	**339**	*e*P		**PKiKP**	**22 09 33.9**	**+1.9**
PP1B	**Ponte de Pedra**	**128.23**	**127**	*e*P		**PKPdf**	**22 09 32.7**	**-0.1**
BIRV	**Birongo**	**128.42**	**88**	pPKPdf	pPKPdf		22 09 39.4	+2.1
PCMB	**Pacaembu**	**128.46**	**133**	*e*P		**PKPdf**	**22 09 32.7**	**-0.5**
FRTB	**Fartura**	**128.47**	**136**	*e*P		**PKiKP**	**22 09 34.5**	**+0.7**
SALV	**Santo Antonio**	**128.55**	**124**	*e*P		**PKPdf**	**22 09 33.5**	**0.0**
FURI	**Furi**	**128.68**	**270**	IAMs_20	IAMs_20		23 01 09.6	
	comp=Z,6µm,22.0s								
MNK	**Minsk**	**128.71**	**330**	*i* PKIKP		**PKPdf**	**22 09 30.2**	**-2.4**
MNK				*i*			22 16 41.9	
MNK				*i* PS		**PS**	**22 21 42.5**	**-4.6**
MNK				*i* SS		SS	22 28 52.7	-2.6
MNK				*i* SSS		SSS	22 33 37.2	
MNK				pmax	pmax			
	comp=N,15nm,1.2s							
MNK				pmax	pmax			
	comp=E,2.0nm,1.0s							
MNK				pmax	pmax			
	comp=Z,24nm,0.9s							
MNK				MLR	MLR			
	comp=Z,4µm,21.0s							
MNK				MLR	MLR			
	comp=N,3µm,19.0s							
MNK				MLR	MLR			
	comp=E,487nm,21.0s							
MNK	**Minsk**	**128.71**	**330**	*i* PKP		**PKPdf**	**22 09 30.2**	**-2.4**
	comp=E,2.0nm,1.0s								
MNK				*i* PKP		**PKPdf**	**22 09 30.2**	**-2.4**
	comp=N,15nm,1.2s								
MNK				*i* PKP		**PKPdf**	**22 09 30.2**	**-2.4**
	comp=Z,24nm,0.9s,baz=236								
MNK				*i* PP		**PP**	**22 11 34.5**	**-4.0**
MNK				*i* SKP			22 13 02.9	
MNK				*i* PKS		**PKSdf**	**22 13 06.8**	**-2.1**
MNK				*i* PPP	PPP		22 14 20.2	
MNK				*i* SKS		**SKSdf**	**22 16 41.9**	**-1.8**
MNK				*i* PS		**PS**	**22 21 42.5**	**-4.6**
MNK				*i* SS		**SS**	**22 28 52.7**	**-2.6**
MNK				*i* SSS	SSS		22 33 37.2	
MNK				*i* LR	LR		23 01 46.1	
MNK				*i* LRM	MLR		23 04 25.9	
	comp=Z,4µm,20.6s								
MNK				*i* LRM	MLR		23 04 42.0	
	comp=N,3µm,19.4s								
MNK				*i* LRM	MLR		23 05 07.8	
	comp=E,487nm,20.6s								
IDID	**Didziasalis**	**128.77**	**332**	*e*P		**PKiKP**	**22 09 35.9**	**+2.5**
IIGN	**Ignalina**	**128.99**	**332**	*e*P		**PKiKP**	**22 09 36.5**	**+2.7**
NACGM	**Naroch**	**129.00**	**331**	*e*PKP		**PKiKP**	**22 09 35.8**	**+2.0**
PET01	**Itanhaem-SP**	**129.30**	**139**	*e*P		**PKiKP**	**22 09 37.3**	**+1.9**
SJG	**San Juan**	**129.47**	**78**	PKIKP		**PKPdf**	**22 09 35.0**	**-0.1**
SJG				MLR	MLR			
	comp=Z,4µm,22.0s							
SJG	**San Juan**	**129.47**	**78**			**PKPdf**	**22 09 35.0**	**-0.1**
SJG	**San Juan**	**129.47**	**78**	IAMs_20	IAMs_20		22 55 58.7	
	comp=Z,4µm,22.0s								
BORG	**Borgarnes**	**129.48**	**4**	IAMs_20	IAMs_20		23 10 31.1	
	comp=Z,3µm,20.0s								
SIM	**Simferopol'**	**129.67**	**317**	*i* PKHKP		PKPpre	22 09 20.0	
SIM				pmax	pmax			
	comp=Z,10.0nm,0.7s								
MOL	**Molde**	**129.68**	**348**	*e*PKPdf		**PKPdf**	**22 09 34.3**	**+0.1**
MOL				*e*PP		**PP**	**22 11 44.6**	**+0.3**
MOL				*e*SP		SP	22 21 53.6	+1.9
MOL				IVMs_BB	IVMs_BB		22 41 12.2	
	comp=Z,3µm,44.3s								
DOMB	**Dombas**	**129.82**	**346**	IVmBBB			22 06 22.4	
	comp=Z,573nm,2.6s								
DOMB				*e*Pdif		**Pdif**	**22 06 22.7**	**-0.3**
DOMB				*e*PKPdf		**PKPdf**	**22 09 32.8**	**-1.7**
DOMB				*e*PP		**PP**	**22 11 45.9**	**+0.6**
DOMB				IVMs_BB	IVMs_BB		23 10 02.2	
	comp=Z,1µm,23.6s								
PABE	**Paberze**	**129.90**	**333**	IAMs_20	IAMs_20		23 06 15.1	
	comp=Z,6µm,21.0s								
PABE	**Paberze**	**129.90**	**333**	*e*P		**PKiKP**	**22 09 38.6**	**+3.0**
PDRB	**Porto dos Gac**	**129.95**	**119**	*e*P		**PKPdf**	**22 09 35.8**	**-0.4**
AKASG	**Malin Array Be**	**130.09**	**326**	PKP		**PKPdf**	**22 09 34.8**	**-0.6**
	comp=Z,4.0nm,0.7s,baz=56,slow=2.3,SNR=8.8								
AKASG				SKPbc		**SKPbc**	**22 12 59.0**	**+1.3**
	comp=Z,3.8nm,0.7s,baz=47,slow=3.4,SNR=2.0								
AKN	**Aaknes**	**130.15**	**348**	*e*PKPdf		**PKPdf**	**22 09 34.7**	**-0.4**
AKN				IVmB_BB			22 09 43.7	
	comp=Z,1µm,2.6s								
AKN				*e*PP		**PP**	**22 11 46.4**	**-1.1**
AKN				*e*SKPdf		**SKPdf**	**22 13 04.4**	**-5.7**
AKN				*e*SS		**SS**	**22 29 17.0**	**+4.7**
AKN				IVMs_BB	IVMs_BB		22 58 29.7	
	comp=Z,1µm,14.6s								
NB2	**NORSAR Subarra1**	**130.16**	**345**	PKPdf		**PKPdf**	**22 09 34.1**	**-1.1**
	comp=Z,39nm,1.7s,baz=31,slow=1.9								
NB2	**NORSAR Subarra1**	**130.16**	**345**	PKPdf		**PKPdf**	**22 09 34.1**	**-1.1**
	baz=31,slow=1.9								
NOA	**NORSAR Array B**	**130.16**	**345**	PKP		**PKPdf**	**22 09 34.6**	**-0.6**
	comp=Z,4.3nm,0.8s,baz=32,slow=2.0,SNR=17								
NOA				SKPbc		**SKPbc**	**22 12 58.9**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=31,slow=3.1,SNR=5.8								
BBSR	**BB Station**	**130.24**	**60**	IAMs_20	IAMs_20		23 04 11.2	
	comp=Z,5µm,19.0s								
HFS	**Hagfors**	**130.24**	**343**	PKP		**PKPdf**	**22 09 34.3**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=134,slow=8.3,SNR=4.6								
HFS				SKPbc		**SKPbc**	**22 12 59.9**	**+1.9**
	comp=Z,2.1nm,0.7s,baz=11,slow=1.5,SNR=2.6								
NC602	**NORSAR Array S**	**130.34**	**344**	*e*PKPdf		**PKPdf**	**22 09 35.0**	**-0.5**
PBUR	**Paburge**	**130.42**	**335**	*e*P		**PKiKP**	**22 09 39.6**	**+3.0**
VIKU	**Vikbolandet**	**130.59**	**340**	*e*P		**PKPdf**	**22 09 35.9**	**-0.2**
LODK	**Lodwar**	**130.60**	**262**	IAMs_20	IAMs_20		23 03 58.5	
	comp=Z,4µm,19.0s								
PARB	**Paraibuna**	**131.03**	**140**	*e*P		**PKiKP**	**22 09 40.4**	**+1.3**
FOO	**Floro**	**131.07**	**348**	*e*PKPdf		**PKPdf**	**22 09 36.4**	**-0.5**
FOO				*e*PP		**PP**	**22 11 54.0**	**+0.7**
FOO				*e*SP		SP	22 22 04.2	+0.5
FOO				*e*SS		**SS**	**22 29 26.9**	**+3.5**
CLDB	**Colider**	**131.11**	**119**	*e*P		**PKPdf**	**22 09 37.8**	**-0.6**
SKAR	**Skarslia**	**131.19**	**346**	*e*Pdif		**Pdif**	**22 06 29.3**	**+0.1**
SKAR				*e*PKPdf		**PKPdf**	**22 09 36.4**	**-0.9**
SKAR				*e*PP		**PP**	**22 11 56.5**	**+2.2**
SKAR				*e*SS		SS	22 29 27.3	+2.0
SKAR				IVMs_BB	IVMs_BB		23 03 48.4	
	comp=Z,1µm,22.7s								
SUW	**Suwalki**	**131.20**	**332**	IAMs_20	IAMs_20		23 06 18.7	
	comp=Z,7µm,22.0s								
SUW	**Suwalki**	**131.20**	**332**	*e*P		**PKiKP**	**22 09 41.0**	**+2.7**
HYA	**Hoyanger**	**131.23**	**347**	*e*PP		PP	22 11 54.4	0.0
SUE	**Sulen**	**131.62**	**348**	*e*PKPdf		**PKPdf**	**22 09 38.3**	**+0.4**
SUE				IVmBBB			22 09 43.0	
	comp=Z,779nm,3.7s								
SUE				*e*PP		**PP**	**22 11 58.3**	**+1.4**
SUE				*e*SKPdf		**SKPdf**	**22 13 10.1**	**-2.7**
SUE				*e*SS		**SS**	**22 29 31.4**	**+1.2**
SUE				IVMs_BB	IVMs_BB		23 09 15.4	
	comp=Z,1µm,19.6s								
BRTR	**Keskin Array B**	**131.76**	**311**	PKP		**PKPdf**	**22 09 37.2**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=141,slow=2.8,SNR=3.8								
BRTR				SKP			22 13 12.8	
	comp=Z,2.3nm,0.7s,baz=110,slow=3.6,SNR=3.7								
KONO	**Kongsberg**	**131.77**	**344**	IAMs_20	IAMs_20		23 08 33.5	
	comp=Z,3µm,21.0s								
KONO	**Kongsberg**	**131.77**	**344**	*e*PKPdf		**PKPdf**	**22 09 38.5**	**+0.3**
SORM	**Soroca**	**131.87**	**323**	⇓P		**PKiKP**	**22 09 40.0**	**+0.2**
SORM	**Soroca**	**131.87**	**323**	⇓PKIKP		**PKiKP**	**22 09 40.0**	**+0.2**
ASK	**Askoy**	**132.06**	**348**	*e*PKPdf		**PKPdf**	**22 09 39.1**	**+0.3**
ASK				*e*PP		**PP**	**22 12 00.7**	**+1.0**
ASK				*e*SKPdf		**SKPdf**	**22 13 12.4

SVN	**Savane Anatole**	**133.96**	**83**	IAMs_20	IAMs_20	22 57 50.5		
	comp=Z,6µm,22.0s							
VRI	**Vrincioaia**	**133.96**	**321**	⇑P	**PKiKP**	**22 09 44.7**	**+0.5**	
VRI	**Vrincioaia**	**133.96**	**321**	⇑PKiKP	**PKiKP**	**22 09 44.7**	**+0.5**	
FDF	**Fort de France**	**133.97**	**83**	IAMs_20	IAMs_20	22 57 51.8		
	comp=Z,6µm,22.0s							
BIM	**Bigot**	**134.02**	**84**	IAMs_20	IAMs_20	22 57 54.2		
	comp=Z,6µm,22.0s							
PLOR	**Plostina**	**134.02**	**321**	⇓P	**PKiKP**	**22 09 45.8**	**+1.5**	
PLOR	**Plostina**	**134.02**	**321**	⇓PKiKP	**PKiKP**	**22 09 45.8**	**+1.5**	
PSN	**Preselentsi**	**134.07**	**318**	P	**PKPdf**	**22 09 43.0**	**-0.1**	
ITTB	**Itaituba**	**134.15**	**111**	*e*P	**PKPdf**	**22 09 44.7**	**+0.6**	
ILAM	**Ilet Lapin Mar**	**134.24**	**83**	IAMs_20	IAMs_20	22 57 47.8		
	comp=Z,6µm,22.0s							
SNDB	**Serra Nova Dou**	**134.27**	**123**	*e*P	**PKPdf**	**22 09 44.0**	**-0.4**	
COVR	**Voineasa-Covas**	**134.29**	**321**	⇓P	**PKiKP**	**22 09 44.6**	**-0.3**	
GKP	**Gorka Klasztor**	**134.30**	**335**	*e*PKP	**PKiKP**	**22 09 44.7**	**+0.2**	
GKP				*e*L	L	23 20 11.4		
	comp=Z,5µm,19.2s							
GKP	**Gorka Klasztor**	**134.30**	**335**	*e*P	**PKiKP**	**22 09 45.7**	**+1.1**	
OZUR		**134.42**	**322**	⇓P	**PKiKP**	**22 09 46.6**	**+1.5**	
MLR	**Muntele Rosu**	**134.63**	**321**	⇓P	**PKiKP**	**22 09 46.5**	**+0.8**	
MLR	**Muntele Rosu**	**134.63**	**321**	PKP	**PKPdf**	**22 09 44.1**	**-0.2**	
	comp=Z,12nm,0.9s,baz=4.8,slow=1.6,SNR=7.9							
MLR	**Muntele Rosu**	**134.63**	**321**	⇓PKiKP	**PKiKP**	**22 09 46.5**	**+0.8**	
MLR	**Muntele Rosu**	**134.63**	**321**	IAMs_20	IAMs_20	23 13 19.8		
	comp=Z,4µm,20.0s							
BDFB	**Brasilia**	**134.64**	**130**	PKP	**PKPdf**	**22 09 44.1**	**-1.0**	
	comp=Z,20nm,0.8s,baz=200,slow=2.1,SNR=19							
BDFB	**Brasilia**	**134.64**	**130**	*e*P	**PKPdf**	**22 09 45.5**	**+0.4**	
KOLS	**Kolonicke sedl**	**134.81**	**327**	*e*PKiKP	**PKiKP**	**22 09 47.1**	**+1.3**	
KOLS	**Kolonicke sedl**	**134.81**	**327**	*e*PKP	**PKiKP**	**22 09 47.1**	**+1.3**	
RGN	**Rugen**	**134.85**	**338**	IAMs_20	IAMs_20	23 12 51.9		
	comp=Z,4µm,19.0s							
BMR	**Baia Mare**	**134.88**	**325**	⇑P	**PKiKP**	**22 09 46.4**	**+0.5**	
BMR	**Baia Mare**	**134.88**	**325**	⇑PKiKP	**PKiKP**	**22 09 46.4**	**+0.5**	
UZH	**Uzhgorod**	**134.98**	**327**	*e*PKHKP	PKPpre	22 09 33.7		
UZH				*i*		22 09 44.6		
UZH				*i*		22 09 49.6		
UZH				*i*		22 10 00.0		
TRPA	**Tarpa**	**135.15**	**326**	PKP	**PKiKP**	**22 09 46.2**	**-0.2**	
VOIR		**135.20**	**321**	⇓P	**PKiKP**	**22 09 48.3**	**+1.5**	
VOIR		**135.20**	**321**	⇓PKiKP	**PKiKP**	**22 09 48.3**	**+1.5**	
OJC	**Ojcow**	**135.25**	**330**	IAMs_20	IAMs_20	23 09 04.6		
	comp=Z,6µm,21.0s							
CRVS	**Cervenica-Dubn**	**135.25**	**328**	*e*PKiKP	**PKiKP**	**22 09 47.3**	**+0.6**	
CRVS	**Cervenica-Dubn**	**135.25**	**328**	*e*PKP	**PKiKP**	**22 09 47.3**	**+0.6**	
CJR	**Cluj-Napoca**	**135.37**	**324**	⇑P	**PKiKP**	**22 09 48.3**	**+1.3**	
CJR	**Cluj-Napoca**	**135.37**	**324**	⇑PKiKP	**PKiKP**	**22 09 48.3**	**+1.3**	
ARR	**Arges**	**135.48**	**322**	⇑P	**PKiKP**	**22 09 47.8**	**+0.5**	
SZH	**Strazhica**	**135.72**	**318**	P	**PKPdf**	**22 09 45.4**	**-0.8**	
COPA	**Copaceanca**	**135.75**	**320**	⇑P	**PKiKP**	**22 09 48.8**	**+1.0**	
DRGR		**135.83**	**324**	⇑P	**PKiKP**	**22 09 48.3**	**+0.3**	
DRGR		**135.83**	**324**	⇑PKiKP	**PKiKP**	**22 09 48.3**	**+0.3**	
DIAM	**Diamantina, MG**	**135.92**	**137**	*e*P	**PKPdf**	**22 09 47.3**	**-0.2**	
LTVH	**Ltavrtes, Hu**	**135.93**	**326**	PKP	**PKiKP**	**22 09 50.9**	**+2.8**	
ALF01	**Guarapari-ES**	**136.07**	**142**	*e*P	**PKiKP**	**22 09 48.8**	**-0.3**	
LANS	**Liptovska Anna**	**136.11**	**329**	*e*PKiKP	**PKiKP**	**22 09 50.2**	**+1.7**	
LANS				*e*		22 12 26.0		
LANS	**Liptovska Anna**	**136.11**	**329**	*e*PKP	**PKiKP**	**22 09 50.2**	**+1.7**	
LANS				*e*PP	**PP**	**22 12 26.0**	**-0.1**	
LANS				*e*		22 13 26.6		
PVL	**Pavlikeni**	**136.13**	**319**	P	**PKPdf**	**22 09 45.4**	**-1.5**	
DEV	**Deva**	**136.23**	**323**	⇑P	**PKiKP**	**22 09 50.0**	**+1.3**	
DEV	**Deva**	**136.23**	**323**	⇑PKiKP	**PKiKP**	**22 09 50.0**	**+1.3**	
MCD	**Coleburn Disti**	**136.26**	**352**	*e*P	**PKPdf**	**22 09 45.3**	**-1.4**	
RUE	**Ruedersdorf**	**136.29**	**336**	*e*P	**PKiKP**	**22 09 51.1**	**+2.6**	
OKC	**Ostrava-Krasne**	**136.30**	**331**	*e*PP	PP	22 12 20.8	-6.4	
OKC				*e*SS	SS	22 30 23.0	-4.5	
OKC				AMS	AMS	23 10 50.0		
	comp=Z,4µm,19.0s							
KSP	**Ksiaz**	**136.45**	**333**	*e*PKP	**PKiKP**	**22 09 49.2**	**+0.2**	
KSP				*e*PP	**PP**	**22 12 30.3**	**+2.2**	
KSP				*e*L	L	23 17 08.4		
	comp=Z,6µm,18.0s							
MALB	**Monte Alegre**	**136.51**	**109**	*e*P	**PKPdf**	**22 09 48.3**	**-0.2**	
MDO	**Dochfour**	**136.54**	**353**	*e*P	**PKPdf**	**22 09 47.8**	**+0.5**	
GZR	**Gura Zlata**	**136.57**	**323**	⇓P	**PKiKP**	**22 09 50.4**	**+0.8**	
GZR	**Gura Zlata**	**136.57**	**323**	⇓PKiKP	**PKiKP**	**22 09 50.4**	**+0.8**	
PEXB	**Peixe**	**136.59**	**126**	*e*P	**PKPdf**	**22 09 48.0**	**-0.6**	
KAC	**Achmashellach**	**136.59**	**354**	*e*P	**PKPdf**	**22 09 48.0**	**-3.4**	
MORC	**Moravsky Berou**	**136.63**	**331**	⇓P	**PKiKP**	**22 09 49.0**	**-0.5**	
MORC	**Moravsky Berou**	**136.63**	**331**	⇓PKiKP	**PKiKP**	**22 09 49.0**	**-0.5**	
MORC	**Moravsky Berou**	**136.63**	**331**	*e*PKP	**PKPdf**	**22 09 48.4**	**+0.7**	
MORC				*e*PP	**PP**	**22 12 31.4**	**+2.1**	
PSZ	**Piszkesteto**	**136.68**	**327**	⇑P	**PKiKP**	**22 09 50.4**	**+0.7**	
PSZ	**Piszkesteto**	**136.68**	**327**	⇑PKiKP	**PKiKP**	**22 09 50.4**	**+0.7**	
PSZ	**Piszkesteto**	**136.68**	**327**	PKP	**PKiKP**	**22 09 51.3**	**+1.6**	
OSTC	**Ostas**	**136.69**	**333**	*e*PKP	**PKPdf**	**22 09 48.2**	**+0.4**	
OSTC				*ex*	x	22 12 24.8		
OSTC				*e*SS	SS	22 30 40.2	+8.0	
OSTC				AMS	AMS	23 16 10.0		
	comp=Z,6µm,19.9s							
CHVC	**Chvalec**	**136.74**	**333**	*e*PKPpre	PKPpre	22 09 49.8		
CHVC				*ex*	x	22 12 24.8		
CHVC				*e*SS	SS	22 30 37.7	+5.0	
CHVC				AMS	AMS	23 16 00.0		
	comp=Z,6µm,20.2s							
KRLC	**Kraliky**	**136.78**	**332**	*e*PKiKP	**PKPdf**	**22 09 47.8**	**-0.2**	
KRLC				*e*SS	SS	22 30 30.6	-2.7	
KRLC				MLR	MLR			
	comp=Z,4µm,19.7s							
KRLC	**Kraliky**	**136.78**	**332**	*e*PKPDF	**PKPdf**	**22 09 47.8**	**-0.2**	
KRLC				*ex*	x	22 12 18.8		
KRLC				*e*SS	SS	22 30 30.6	-2.7	
KRLC				AMS	AMS	23 09 40.0		
	comp=Z,4µm,19.7s							
KPL	**Plockton**	**136.79**	**354**	*e*P	**PKPdf**	**22 09 47.8**	**+0.1**	
DPC	**Dobruska-Polom**	**136.79**	**332**	*e*PKiKP	**PKPdf**	**22 09 44.5**	**-3.5**	
DPC				*e*		22 12 25.8		
DPC				*e*SS	SS	22 30 34.7	+1.3	
DPC				MLR	MLR			
	comp=Z,5µm,22.0s							
DPC	**Dobruska-Polom**	**136.79**	**332**	*e*PKPpre	PKPpre	22 09 44.5		
DPC				*e*PP	**PP**	**22 12 25.8**	**-4.4**	
DPC				*e*SS	SS	22 30 34.7	+1.3	
DPC				AMS	AMS	23 09 40.0		
	comp=Z,5µm,22.0s							
UPC	**Upice**	**136.82**	**333**	*e*PKiKP	**PKiKP**	**22 09 49.8**	**0.0**	
UPC				*e*SS	SS	22 30 34.7	+1.1	
UPC				MLR	MLR			
	comp=Z,7µm,19.7s							
UPC	**Upice**	**136.82**	**333**	*e*PKPDF	**PKiKP**	**22 09 49.8**	**0.0**	
UPC				*ex*	x	22 12 20.8		
UPC				*e*SS	SS	22 30 34.7	+1.1	
UPC				AMS	AMS	23 16 10.0		
	comp=Z,7µm,19.7s							
VYHS	**Vyhne**	**136.86**	**329**	*e*PKiKP	**PKiKP**	**22 09 51.0**	**+1.0**	
VYHS				*e*		22 12 31.2		
VYHS	**Vyhne**	**136.86**	**329**	*e*PKP	**PKiKP**	**22 09 51.0**	**+1.0**	
VYHS				*e*PP	**PP**	**22 12 31.2**	**+0.5**	
VYHS				*e*		22 13 26.6		
BSZH	**Besenyszg**	**136.87**	**326**	PKP	**PKiKP**	**22 09 56.2**	**+6.3**	
KOLL	**Kolacno**	**137.02**	**329**	*e*PP	PP	22 12 30.9	-0.8	
KOLL				*e*		22 13 26.5		
HERR	**Herculane**	**137.07**	**322**	⇑P	**PKiKP**	**22 09 50.9**	**+0.5**	
MPEP	**Malo Peshtene**	**137.07**	**320**	P	**PKiKP**	**22 09 50.2**	**-0.3**	
BZS	**Buzias**	**137.12**	**324**	⇓P	**PKPdf**	**22 09 49.6**	**+0.9**	
BZS	**Buzias**	**137.12**	**324**	⇓PKiKP	**PKPdf**	**22 09 49.6**	**+0.9**	
JAVC	**Velka Javorina**	**137.19**	**330**	*e*PKP	**PKiKP**	**22 09 50.7**	**0.0**	
PGB	**Panagyurishte**	**137.20**	**318**	P	**PKPdf**	**22 09 48.0**	**-1.0**	
SJMB	**Sao Joao De Ma**	**137.23**	**140**	*e*P	**PKPdf**	**22 09 50.1**	**+0.4**	
RZN	**Rozhen**	**137.25**	**317**	P	**PKPdf**	**22 09 48.8**	**-0.5**	
RIB01	**Linhares ES**	**137.26**	**141**	*e*P	**PKiKP**	**22 09 51.4**	**-0.3**	
VRAC	**Vranov**	**137.40**	**331**	*e*PKP	**PKiKP**	**22 09 50.1**	**-0.9**	
VRAC				*e*PP	**PP**	**22 12 34.9**	**+0.9**	
BUD	**Budapest**	**137.41**	**327**	PKP	**PKiKP**	**22 09 57.2**	**+6.2**	
PVCC	**Panska Ves**	**137.44**	**334**	*e*PKiKP	**PKiKP**	**22 09 50.8**	**-0.2**	
PVCC				MLR	MLR			
	comp=Z,3µm,18.1s							
PVCC	**Panska Ves**	**137.44**	**334**	*e*PKPDF	**PKiKP**	**22 09 50.8**	**-0.2**	
PVCC				*ex*	x	22 12 27.7		
PVCC				*e*SS	SS	22 30 49.3	+8.4	
PVCC				AMS	AMS	23 15 20.0		
	comp=Z,3µm,18.1s							
BRG	**Berggiesshubel**	**137.44**	**334**	*e*PKP	**PKPdf**	**22 09 49.7**	**+0.6**	
BRG				Amp		22 09 54.8		
	comp=Z,16nm,0.9s							
BRG				*ex*	x	22 12 35.1		
BRG	**Berggiesshubel**	**137.44**	**334**	PP	PP	22 12 38.0	+3.8	
BRG				Amp		22 12 39.1		
	comp=Z,15nm,1.5s							
BRG				*ex*	x	22 13 27.8		
BRG				Amp		22 13 48.2		
	comp=Z,25nm,1.2s							
BRG	**Berggiesshubel**	**137.44**	**334**	*e*PKiKP	**PKPdf**	**22 09 49.7**	**+0.6**	
BRG						22 12 38.0		
BRG						22 24 43.0		
BRG				SS	SS	22 30 44.0	+3.1	
BRG				pmax	pmax			
	comp=Z,16nm,1.0s							
BRG				pmax	pmax			
	comp=Z,15nm,1.5s							
BRG				pmax	pmax			
	comp=Z,25nm,1.2s							
BRG				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BRG				pmax	pmax			
	comp=Z,3.0nm,1.2s							
BRG				MLR	MLR			
	comp=N,4µm,17.5s							
BRG				MLR	MLR			
	comp=Z,5µm,17.4s							
BRG				MLR	MLR			
	comp=E,2µm,17.4s							
INVG	**Invergeldie, C**	**137.49**	**352**	*e*P	**PKPdf**	**22 09 45.8**	**-3.3**	
CLL	**Collm**	**137.50**	**335**	*i* PKiKP	**PKiKP**	**22 09 51.4**	**+0.3**	
CLL				MLR	MLR			
	comp=Z,6µm,18.5s							
CLL	**Collm**	**137.50**	**335**	IAMs_20	IAMs_20	23 16 59.0		
	comp=Z,6µm,18.0s							
CLL	**Collm**	**137.50**	**335**	*e*PKPpre	PKPpre	22 09 46.0		
CLL				*i* PKPdf	**PKiKP**	**22 09 51.4**	**+0.3**	
CLL				*i* PKiKP	pPKPdf	22 09 52.7	-0.7	
	comp=Z,18nm,0.9s							
CLL				*i* pPKiKP	pPKiKP	22 09 56.2	+0.9	
	comp=Z,42nm,1.4s							
CLL				*e*PP	**PP**	**22 12 37.0**	**+2.5**	
CLL				*e*sPP		22 12 49.0		
CLL				*e*SKPbc	**SKPbc**	**22 13 23.0**	**+0.6**	
	comp=Z,82nm,2.2s							
CLL				*i* PKSdf	**PKSdf**	**22 13 29.0**	**+3.8**	
CLL				*e*PPP	PPP	22 15 37.0		
CLL				*ex*	x	22 15 51.0		
CLL				*e*SKSac	**SKSdf**	**22 17 00.0**	**+0.5**	
CLL				*e*PPPP		22 17 30.0		
CLL				*ex*	x	22 20 12.0		
CLL				*e*Sdif	**Sdif**	**22 20 54.0**	**-3.6**	
CLL				*ex*	x	22 21 36.0		
CLL				*e*PSKS		22 22 48.0		
CLL				*e*PPS	PPS	22 24 41.0		
CLL				*ex*	x	22 26 18.0		
CLL				*e*SS	**SS**	**22 30 45.0**	**+3.5**	
CLL				*e*SKSSKSac	**S'S'ac**	**22 32 30.0**	**-3.6**	
CLL				*e*SSS	SSS	22 35 48.0		
CLL				*e*(SSSS)		22 39 12.0		
CLL				*ex*	x	22 40 36.0		
CLL				LmV		23 16 00.0		
	comp=N,4µm,19.0s							
CLL				LmV		23 16 00.0		
	comp=E,2µm,19.7s							
CLL				LmV		23 16 00.0		
	comp=Z,6µm,18.5s							
CLL				Lmax		23 17 00.0		
MDVR	**Moldovita**	**137.54**	**323**	⇑P	**PKiKP**	**22 09 50.9**	**-0.6**	
SMOL	**Smolenice**	**137.54**	**330**	*e*PKiKP	**PKiKP**	**22 09 52.9**	**+1.6**	
SMOL				*e*		22 12 32.3		
SMOL	**Smolenice**	**137.54**	**330**	*e*PKP	**PKiKP**	**22 09 52.9**	**+1.6**	
SMOL				*e*PP	**PP**	**22 12 32.3**	**-2.7**	
SRO	**Srobarova**	**137.57**	**328**	*e*PKiKP	**PKiKP**	**22 09 52.5**	**+1.1**	
SRO	**Srobarova**	**137.57**	**328**	*e*PKP	**PKiKP**	**22 09 52.5**	**+1.1**	
BLKB	**Belogradchik**	**137.59**	**321**	⇑P	**PKiKP**	**22 09 50.8**	**-0.9**	
KRUC	**Moravsky**	**137.66**	**331**	*e*PKP	**PKPdf**	**22 09 49.9**	**+0.3**	
KRUC				*e*PP	**PP**	**22 12 35.8**	**+0.1**	
MODS	**Modra-Piesok**	**137.71**	**330**	*e*PKiKP	**PKiKP**	**22 09 52.9**	**+1.2**	
MODS				*e*		22 12 33.7		
MODS				*e*SS	SS	22 30 49.1	+4.6	
MODS	**Modra-Piesok**	**137.71**	**330**	*e*PKP	**PKiKP**	**22 09 52.9**	**+1.2**	
MODS				*e*PP	**PP**	**22 12 33.7**	**-2.4**	
MODS				*e*		22 13 26.9		
MODS				*e*SS	SS	22 30 49.1	+4.6	
JANB	**Januaria**	**137.72**	**133**	*e*P	**PKPdf**	**22 09 51.1**	**+0.3**	
VTS	**Vitosha**	**137.76**	**319**	⇑P	**PKiKP**	**22 09 52.3**	**+0.1**	
VTS	**Vitosha**	**137.76**	**319**	⇑PKiKP	**PKiKP**	**22 09 52.3**	**+0.1**	
VTS	**Vitosha**	**137.76**	**319**	P	**PKPdf**	**22 09 49.8**	**-0.4**	
ESY	**Stoneypath**	**137.78**	**351**	*e*P	**PKiKP**	**22 09 51.2**	**-0.4**	
LAWE	**Loch Awe, Argy**	**137.82**	**353**	*e*P	**PKPdf**	**22 09 47.0**	**-2.7**	
PRU	**Pruhonice**	**137.84**	**333**	*e*PKiKP	**PKiKP**	**22 09 51.7**	**-0.2**	
PRU				*e*SS	SS	22 30 43.3	-2.4	
PRU				MLR	MLR			
	comp=Z,5µm,18.2s							
PRU	**Pruhonice**	**137.84**	**333**	*e*PKPDF	**PKiKP**	**22 09 51.7**	**-0.2**	
PRU				*ex*	x	22 12 28.7		
PRU				*e*SS	SS	22 30 43.3	-2.4	
PRU				AMS	AMS	23 18 20.0		
	comp=Z,5µm,18.2s							
ZST	**Bratislava**	**137.92**	**329**	*e*PKiKP	**PKiKP**	**22 09 53.0**	**+0.9**	
ZST				*e*		22 12 38.9		
ZST				*e*SS	SS	22 30 51.3	+4.5	
ZST	**Bratislava**	**137.92**	**329**	*e*PKP	**PKiKP**	**22 09 53.0**	**+0.9**	
ZST				*e*PP	**PP**	**22 12 38.9**	**+1.6**	
ZST				*e*		22 13 31.4		
ZST				*e*SS	SS	22 30 51.3	+4.5	
TREC	**Trest**	**137.92**	**332**	*e*PKiKP	**PKiKP**	**22 09 56.3**	**+4.2**	
TREC				MLR	MLR			
	comp=Z,6µm,19.2s							
TREC	**Trest**	**137.92**	**332**	*e*PKPDF	**PKiKP**	**22 09 56.3**	**+4.2**	
TREC				AMS	AMS	23 15 20.0		
	comp=Z,6µm,19.2s							
MMB	**Musomiste**	**137.95**	**317**	P	**PKPdf**	**22 09 49.3**	**-1.1**	
KKB	**Krupnik**	**138.24**	**318**	P	**PKPdf**	**22 09 50.3**	**-0.6**	
EGYH	**Egyhazaskeszo**	**138.33**	**328**	PKP	**PKiKP**	**22 09 56.0**	**+3.0**	
MPLH	**Magyarpolny**	**138.38**	**328**	PKP	**PKiKP**	**22 09 53.2**	**+0.2**	
FRGS	**Fruska Gora**	**138.42**	**324**	⇓P	**PKPdf**	**22 09 52.0**	**+0.9**	
FRGS	**Fruska Gora**	**138.42**	**324**	*e*P	**PKPdf**	**22 09 51.1**	**-0.1**	
EKA	**Eskdalemuir Ar**	**138.43**	**351**	PKhKP	PKPpre	22 09 41.1		
	comp=Z,0.3nm,0.4s,baz=360,slow=2.8,SNR=5.4							
EKA				PKP	**PKPdf**	**22 09 49.0**	**-1.9**	
	comp=Z,1.2nm,0.5s,baz=14,slow=2.6,SNR=9.6							
EKA				SKP		22 13 26.5		
	comp=Z,3.0nm,0.8s,baz=2.9,slow=2.8,SNR=4.3							
ESK	**Eskdalemuir**	**138.45**	**351**	IAMs_20	IAMs_20	23 18 39.9		
	comp=Z,4µm,18.0s							
NAN01	**Guarapari, ES**	**138.54**	**140**	*e*P	**PKPdf**	**22 09 52.9**	**+0.8**	
SOP	**Sopron**	**138.54**	**329**	PKP	PKiKP	22 10 04.6	+11	
NKC	**Novy Kostel**	**138.55**	**335**	*e*PKiKP	**PKPdf**	**22 09 47.8**	**-3.4**	
NKC				MLR	MLR			
	comp=Z,6µm,20.5s							
NKC	**Novy Kostel**	**138.55**	**335**	*e*PKPpre	PKPpre	22 09 47.8		
NKC				*ex*	x	22 12 23.8		
NKC				*e*SS	SS	22 31 00.0	+5.9	
NKC				AMS	AMS	23 12 30.0		
	comp=Z,6µm,20.5s							
PRPB	**Parauapebas**	**138.56**	**117**	*e*P	**PKPdf**	**22 09 52.4**	**0.0**	
RONA	**Rosalia, Austr**	**138.66**	**329**	*e*P	**PKPdf**	**22 09 46.1**	**-5.5**	
	comp=Z,1.6nm,0.5s							
RONA				*i* P	**pPKPdf**	**22 09 54.8**	**-0.9**	
	comp=Z,26nm,1.0s,SNR=8.8							
CONA	**Conrad Observa**	**138.71**	**330**	*e*P	**PKPdf**	**22 09 44.6**	**-7.1**	
	comp=Z,2.3nm,0.7s,SNR=7.1							
CONA				*e*P	**PKiKP**	**22 09 53.9**	**+0.1**	
	comp=Z,21nm,1.1s							
NEWG	**New Galloway**	**138.79**	**352**	*e*P	**PKPdf**	**22 09 51.6**	**+0.2**	
KOVH	**Kovagotottos**	**138.79**	**326**	PKP	**PKPdf**	**22 09 48.1**	**-3.7**	
CKRC	**Cesky Krumlov**	**138.80**	**332**	*e*PKPpre	PKPpre	22 09 44.3		
CKRC				*ex*	x	22 12 11.9		
CKRC				*e*SS	SS	22 31 03.1	+5.9	
KHC	**Kasperske Hory**	**138.90**	**333**	*e*PKHKP	PKPpre	22 09 46.3		
KHC				*e*		22 09 53.7		
KHC				*e*		22 10 03.5		
KHC				*e*		22 12 46.5		
KHC				*e*SS	SS	22 31 00.1	+1.8	
KHC				MLR	MLR			
	comp=Z,6µm,17.8s							
KHC	**Kasperske Hory**	**138.90**	**333**	*e*PKPpre	PKPpre	22 09 46.3		
KHC				*e*PKPDF	**PKiKP**	**22 09 53.7**	**-0.4**	
KHC				*ep*PKP	sPKPdf	22 10 03.5	+6.0	
KHC				*ex*	x	22 12 25.8		
KHC				*e*PP	**PP**	**22 12 46.5**	**+3.2**	
KHC				*e*PKS	**PKSdf**	**22 13 31.0**	**+3.1**	
KHC				*e*SS	SS	22 31 00.1	+1.8	
KHC				AMS	AMS	23 16 50.0		
	comp=Z,6µm,17.8s							
DIVS	**Divibare**	**138.94**	**323**	IAMs_20	IAMs_20	23 12 43.8		
	comp=Z,3µm,20.0s							
DIVS	**Divibare**	**138.94**	**323**	*e*P	**PKPdf**	**22 09 52.3**	**+0.1**	
SDBA	**SAO DESIDERIO**	**139.01**	**129**	*e*P	**PKPdf**	**22 09 52.6**	**-0.5**	
GERES	**GERESS Array B**	**139.06**	**333**	PKhKP	PKPpre	22 09 46.0		
	comp=Z,1.1nm,0.7s,baz=240,slow=1.1,SNR=11							
GERES				PKP	**PKPdf**	**22 09 51.7**	**-0.6**	
	comp=Z,4.1nm,0.8s,baz=63,slow=0.3,SNR=15							
GERES				SKPbc	**SKPbc**	**22 13 28.4**	**+1.3**	
	comp=Z,2.8nm,0.9s,baz=354,slow=1.3,SNR=4.3							
GAL1	**Galloway**	**139.10**	**352**	*e*P	**PKPdf**	**22 09 52.2**	**+0.2**	
MCPB	**Macapa, AP**	**139.12**	**108**	*e*P	**PKPdf**	**22 09 52.9**	**-0.4**	
ARSA	**Arzberg**	**139.34**	**330**	*e*P	**PKiKP**	**22 09 54.8**	**-0.3**	
	comp=Z,10nm,1.1s							
BBLS	**Lazići**	**139.42**	**323**	*e*P	**PKPdf**	**22 09 53.9**	**+0.8**	
GRA1	**Grafenberg Arr**	**139.47**	**335**	IAMs_20	IAMs_20	23 13 33.2		
	comp=Z,4µm,22.0s							
GRFO	**Grafenberg**	**139.47**	**335**	IAMs_20	IAMs_20	23 13 33.2		
	comp=Z,4µm,22.0s							
MOA	**Molln**	**139.53**	**331**	*e*P	PKPpre	22 09 46.3		
	comp=Z,2.8nm,0.9s							
MOA				*e*P	**PKPdf**	**22 09 53.4**	**+0.3**	
	comp=Z,15nm,1.3s							
RUDO	**Rudo**	**139.59**	**323**	*e*P	**PKPdf**	**22 09 51.3**	**-2.0**	
GUA01	**Guaratinga, BA**	**139.68**	**139**	*e*P	**PKiKP**	**22 09 56.8**	**+0.1**	
IDI	**Anoyia**	**139.80**	**308**	⇑P	**PKiKP**	**22 09 57.1**	**+0.7**	
BIOA	**Bad Ischl, Aus**	**139.93**	**331**	*e*P	**PKiKP**	**22 09 55.3**	**-1.0**	
	comp=Z,50nm,1.5s							
SOKA	**Soboth**	**139.98**	**329**	*e*P	**PKPdf**	**22 09 50.8**	**-3.3**	
	comp=Z,7.7nm,0.9s							
SOKA				*e*P	**PKiKP**	**22 09 54.7**	**-1.8**	
	comp=Z,41nm,1.2s							
LBWR	**Ladybower, Pea**	**140.04**	**349**	*e*P	**PKPdf**	**22 09 50.9**	**-2.9**	
BLY	**Banja Luka**	**140.14**	**325**	*e*P	**PKPdf**	**22 09 51.2**	**-3.1**	
PDG	**Podgorica**	**140.34**	**321**	*e*P	**PKiKP**	**22 09 56.8**	**-0.4**	
CRES	**Cresnjev**	**140.35**	**328**	*e*P	**PKPdf**	**22 09 52.7**	**-2.0**	
MGRS	**Mrkonjic Grad**	**140.41**	**325**	*e*P	**PKPdf**	**22 09 55.8**	**+1.0**	
BRY	**Bratogost**	**140.50**	**322**	*e*P	**PKPdf**	**22 09 55.1**	**-0.1**	
KBA	**Koelnbreinsper**	**140.51**	**331**	*e*P	**PKPdf**	**22 09 51.1**	**-4.0**	
	comp=Z,5.1nm,1.1s							
KBA				*e*P	**sPKPdf**	**22 10 02.1**	**+1.4**	
	comp=Z,23nm,1.1s							
KBA				*e*S	**SKiKP**	**22 13 35.8**	**+2.2**	
	comp=Z,5.2nm,0.8s							
TIR	**Tirane**	**140.57**	**319**	⇓P	**PKiKP**	**22 09 57.5**	**-0.2**	
TIR	**Tirane**	**140.57**	**319**	⇓PKiKP	**PKiKP**	**22 09 57.5**	**-0.2**	
TIR	**Tirane**	**140.57**	**319**	IAMs_20	IAMs_20	23 13 14.1		
	comp=Z,5µm,21.0s							
BTNL	**Ternell**	**140.60**	**340**	*d*PKP	**PKPdf**	**22 09 53.6**	**-1.3**	
BT

PCAB	**Cabril**	**152.43**	**351**	*e*PKPdf	**PKPdf**	**22**	**10**	**14.4 -0.7**
PCAB	**Cabril**	**152.43**	**351**	*e*PP	PP	22	14	08.6 +5.4
PCED	**Cedros**	**152.44**	**26**	*e*PKP	**PKPdf**	**22**	**10**	**14.6 -0.5**
CALA	**Caldeira**	**152.47**	**26**	*e*PKP	**PKPdf**	**22**	**10**	**13.8 -1.5**
ROSA	**Rosais**	**152.55**	**26**	*e*PKP	**PKiKP**	**22**	**10**	**23.9 +1.4**
ROSA	**Rosais**	**152.55**	**26**		**PKiKP**	**22**	**10**	**23.6 +1.1**
PMAN	**Manadas**	**152.69**	**25**	*e*PKP	**PKiKP**	**22**	**10**	**24.3 +1.5**
POLO	**Lamas de Olo**	**152.72**	**351**	*e*PKPdf	**PKPdf**	**22**	**10**	**14.7 -0.9**
POLO	**Lamas de Olo**	**152.72**	**351**	*e*PP	PP	22	14	06.3 +1.4
UCM	**Universidad Co**	**152.72**	**343**	PKP	**PKPdf**	**22**	**10**	**14.8 -0.8**
UCM	**Universidad Co**	**152.72**	**343**	PP	PP	22	14	12.5 +7.5
MVO	**Moncorvo**	**152.80**	**349**	*e*PKP	**PKPdf**	**22**	**10**	**15.8 +0.1**
MVO	**Moncorvo**	**152.80**	**349**	*e*SS	SS	22	33	47.7 +12
MVO	**Moncorvo**	**152.80**	**349**	*e*LR	LR	23	03	53.3
	comp=Z,4µm,20.0s							
PVRL	**Vila Real**	**152.81**	**350**	*e*PKPdf	**PKPbc**	**22**	**10**	**19.3 -3.5**
PVIS	**Viseu**	**153.38**	**350**	*e*PKPbc	**PKiKP**	**22**	**10**	**25.0 +0.8**
ESDC	**Sonseca Array**	**153.52**	**343**	PKP	**PKPdf**	**22**	**10**	**16.6 -0.1**
	comp=Z,2.0nm,0.9s,baz=356,slow=2.3,SNR=6.1							
ESDC				PKPbc	**PKPbc**	**22**	**10**	**24.0 -0.4**
	comp=Z,7.5nm,0.9s,baz=0.4,slow=2.5,SNR=14							
ESDC				PKPab	**PKPab**	**22**	**10**	**34.2 -2.4**
	comp=Z,12nm,1.0s,baz=358,slow=3.5,SNR=10							
ESDC				PP	**PP**	**22**	**14**	**09.5 0.0**
	comp=Z,1.0nm,1.1s,baz=15,slow=5.9,SNR=3.3							
MTE	**Manteigas**	**153.63**	**350**	*e*pPKPdf	pPKPdf	22	10	20.0 -1.1
MTE	**Manteigas**	**153.63**	**350**	*e*SS	SS	22	33	52.2 +7.3
MTE	**Manteigas**	**153.63**	**350**	*e*LR	LR	23	06	28.2
	comp=Z,4µm,20.0s							
MTE	**Manteigas**	**153.63**	**350**	IAMs_20	IAMs_20	23	25	39.6
	comp=Z,4µm,19.0s							
PAB	**San Pablo**	**153.74**	**344**	⇓PKIKP	**PKPdf**	**22**	**10**	**17.9 +0.8**
PAB	**San Pablo**	**153.74**	**344**		**PKPbc**	**22**	**10**	**23.9 -1.0**
PAB	**San Pablo**	**153.74**	**344**	IAMs_20	IAMs_20	23	22	08.6
	comp=Z,4µm,20.0s							
COI	**Coimbra**	**153.96**	**351**	*e*PKPbc	**PKiKP**	**22**	**10**	**25.9 +0.6**
COI	**Coimbra**	**153.96**	**351**	IAMs_20	IAMs_20	23	26	28.3
	comp=Z,5µm,19.0s							
PCAS	**Casmilo, Conde**	**154.13**	**351**	*e*PKPdf	**PKPdf**	**22**	**10**	**18.1 +0.6**
PCBR	**Castelo Branco**	**154.16**	**349**	*e*PKPdf	**PKPdf**	**22**	**10**	**18.1 +0.5**
PSET	**Sete Cidades**	**154.33**	**23**	*e*PKP	**PKPbc**	**22**	**10**	**25.1 -1.1**
CART	**Cartagena**	**154.42**	**337**	PKP	**PKPdf**	**22**	**10**	**14.1 -3.9**
CART	**Cartagena**	**154.42**	**337**	PP	PP	22	14	16.0 +1.3
CART	**Cartagena**	**154.42**	**337**	IAMs_20	IAMs_20	23	34	07.8
	comp=Z,3µm,19.0s							
PMRV	**Marv??o**	**154.55**	**349**	*e*PKPdf	**PKPdf**	**22**	**10**	**17.9 -0.3**
PMRV	**Marv??o**	**154.55**	**349**	*e*PP	PP	22	14	14.7 -0.4
PMRV	**Marv??o**	**154.55**	**349**	*e*SS	SS	22	34	01.2 +6.4
PMRV	**Marv??o**	**154.55**	**349**	*e*LR	LR	23	05	09.6
	comp=Z,4µm,20.0s							
PMTG	**Montargil**	**155.04**	**350**	*e*PKPdf	**PKPdf**	**22**	**10**	**18.4 -0.4**
PESTR	**Estremoz**	**155.13**	**349**	*e*PKPdf	**PKPdf**	**22**	**10**	**18.5 -0.5**
PESTR	**Estremoz**	**155.13**	**349**	*e*PKPab	**PKPab**	**22**	**10**	**47.2 +3.8**
PESTR	**Estremoz**	**155.13**	**349**	*e*PP	PP	22	14	20.9 +2.5
PSMA	**Santa Maria**	**155.28**	**23**	*e*PKP	**PKPdf**	**22**	**10**	**22.9 +3.7**
PSMN	**Pico do Norte,**	**155.29**	**23**	*e*PKP	**PKPdf**	**22**	**10**	**23.1 +3.9**
LIS	**Lisbon**	**155.53**	**352**	*e*PKPdf	**PKPdf**	**22**	**10**	**20.0 +0.5**
LIS				*e*PP	**PP**	**22**	**14**	**23.2 +2.7**
LIS				IAMs_20	IAMs_20	23	24	59.9
	comp=Z,7µm,19.7s							
LIS	**Lisbon**	**155.53**	**352**	*e*PKIKP	**PKPdf**	**22**	**10**	**19.9 +0.5**
LIS				*e*		22	14	23.2
EVO	**Evora**	**155.53**	**350**	PKP	**PKPdf**	**22**	**10**	**16.6 -2.9**
EVO	**Evora**	**155.53**	**350**	PP	PP	22	14	18.7 -1.9
PBAR	**Barrancos**	**155.69**	**348**	*e*PKPdf	**PKPdf**	**22**	**10**	**17.7 -2.0**
PBAR	**Barrancos**	**155.69**	**348**	*e*PP	PP	22	14	23.8 +2.3
PNCL	**Nicolau / Gran**	**156.03**	**350**	*e*PKPdf	**PKPdf**	**22**	**10**	**18.4 -1.8**
PNCL	**Nicolau / Gran**	**156.03**	**350**	*e*PP	PP	22	14	25.7 +2.4
EMAL	**Malaga-Limoner**	**156.35**	**342**	PKP	**PKPdf**	**22**	**10**	**15.5 -5.1**
EMAL	**Malaga-Limoner**	**156.35**	**342**	PP	PP	22	14	19.4 -5.9
PCVE	**Castro Verde**	**156.41**	**349**	*e*PKPdf	**PKPdf**	**22**	**10**	**21.6 +0.9**
PCVE	**Castro Verde**	**156.41**	**349**	*e*PKPab	**PKPab**	**22**	**10**	**49.5 +0.6**
PCVE	**Castro Verde**	**156.41**	**349**	*e*PP	PP	22	14	25.1 -0.4
PVAQ	**Vaqueiros**	**156.57**	**348**	*e*PKPdf	**PKPdf**	**22**	**10**	**19.8 -1.1**
PVAQ	**Vaqueiros**	**156.57**	**348**	*e*PP	PP	22	14	28.6 +2.2
PVAQ	**Vaqueiros**	**156.57**	**348**	*e*LR	LR	23	05	48.0
	comp=Z,3µm,20.0s							
PTEO	**Sao Teotonio**	**156.61**	**350**	*e*PKPab	**PKPab**	**22**	**10**	**50.8 +1.0**
ARNO	**Arenosillo**	**156.66**	**346**	PKP	**PKPdf**	**22**	**10**	**18.9 -2.1**
ARNO	**Arenosillo**	**156.66**	**346**	PP	PP	22	14	27.1 +0.3
PBDV	**Barranco-do-Ve**	**156.77**	**349**	*e*PKPdf	**PKPdf**	**22**	**10**	**20.6 -0.6**
PBDV	**Barranco-do-Ve**	**156.77**	**349**	*e*PP	PP	22	14	29.9 +2.4
MORF	**Marmelete**	**156.84**	**350**	*e*PKPdf	**PKPdf**	**22**	**10**	**21.6 +0.3**
MORF				*e*PP	**PP**	**22**	**14**	**30.5 +2.6**
MORF				IAMs_20	IAMs_20	23	31	25.0
	comp=Z,4µm,13.4s							
MORF	**Marmelete**	**156.84**	**350**	*e*pPKPdf	pPKPdf	22	10	23.6 -1.9
MORF	**Marmelete**	**156.84**	**350**	*e*PKPab	**PKPab**	**22**	**10**	**51.0 +0.2**
MORF	**Marmelete**	**156.84**	**350**	*e*PKIKP	**PKPdf**	**22**	**10**	**21.6 +0.3**
MORF				*e*		22	14	30.5
SFS	**San Fernando**	**157.13**	**345**	PKP	**PKPdf**	**22**	**10**	**21.3 -0.4**
SFS	**San Fernando**	**157.13**	**345**	PP	PP	22	14	29.9 +0.4
TAF	**Taforalt**	**157.40**	**336**	P	**PKPdf**	**22**	**10**	**27.2 +5.0**
CEU	**Ceuta**	**157.44**	**343**	PKP	**PKPdf**	**22**	**10**	**18.8 -3.3**
CEU	**Ceuta**	**157.44**	**343**	PP	PP	22	14	28.7 -2.5
PALE	**Palemas**	**157.60**	**339**	P	**PKPdf**	**22**	**10**	**24.0 +1.6**
PVLZ	**Peæn de**	**157.77**	**340**	PKP	**PKPdf**	**22**	**10**	**19.7 -2.8**
PVLZ	**Peæn de**	**157.77**	**340**	PP	PP	22	14	30.4 -2.8
JBK	**JBK**	**157.87**	**335**	P	**PKPdf**	**22**	**10**	**27.1 +4.2**
TDRA	**Tendrara**	**158.76**	**333**	P	**PKPdf**	**22**	**10**	**29.0 +4.9**
LCRM	**LCR**	**159.31**	**339**	P	**PKPdf**	**22**	**10**	**27.1 +2.5**
MDT	**Midelt**	**160.01**	**338**	PKP	**PKPdf**	**22**	**10**	**24.4 -1.0**
	comp=Z,5.0nm,1.0s,baz=202,slow=2.3,SNR=4.4							
MDT				PKPab	**PKPab**	**22**	**11**	**05.8 +1.0**
	comp=Z,11nm,1.0s,baz=56,slow=4.6,SNR=5.1							
AVE	**Averroes**	**160.44**	**345**	PKP	**PKPdf**	**22**	**10**	**23.8 -1.9**
AVE	**Averroes**	**160.44**	**345**	PP	PP	22	14	53.3 +5.7
GOLM	**Goulimine**	**161.13**	**337**	P	**PKPdf**	**22**	**10**	**31.3 +4.3**
PMOZ	**Porto Moniz, M**	**161.41**	**10**	*e*LR	LR	23	06	32.5
	comp=Z,6µm,18.0s							
TZRR	**Tazzarine**	**162.19**	**337**	P	**PKPdf**	**22**	**10**	**32.2 +4.5**
OUZM	**OUZ**	**162.49**	**340**	P	**PKPdf**	**22**	**10**	**32.0 +3.9**
ZGR	**Zagora**	**162.80**	**336**	P	**PKPdf**	**22**	**10**	**33.0 +4.6**
TOA0	**Torodi Ar. Sit**	**165.18**	**267**	PKPab	**PKPab**	**22**	**11**	**29.3 +1.3**
TORD	**Torodi Ar. Bea**	**165.18**	**267**	PKP	**PKPdf**	**22**	**10**	**29.0 -1.8**
	comp=Z,2.8nm,0.8s,baz=315,slow=0.8,SNR=14							
TORD				PKPab	**PKPab**	**22**	**11**	**29.0 +1.0**
	comp=Z,7.2nm,0.9s,baz=87,slow=4.4,SNR=5.6							
TORD				PP	**PP**	**22**	**15**	**16.7 +1.7**
	comp=Z,0.4nm,0.5s,baz=122,slow=6.7,SNR=1.4							
TORD	**Torodi Ar. Bea**	**165.18**	**267**	PKPab	**PKPab**	**22**	**11**	**29.6 +1.6**
DBIC	**Dimbokro**	**168.50**	**229**	PKP	**PKPdf**	**22**	**10**	**31.9 -1.4**
	comp=Z,6.8nm,0.8s,baz=191,slow=1.6,SNR=6.7							
DBIC				PKPab	**PKPab**	**22**	**11**	**42.7 +0.2**
	comp=Z,7.1nm,0.9s,baz=178,slow=4.2,SNR=3.2							
KOWA	**Kowa**	**170.81**	**271**		**PKPdf**	**22**	**10**	**34.5 -0.1**
KOWA					**PKPab**	**22**	**11**	**53.5 +0.6**

*IDC **14** 22:00:12.9±0.8, 14°.20S×166°.53E, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.1/39, mbtmp4.1/10, ML4.2/1, Error ellipse: s-maj=29.1km s-min=21.6km az=111.0*
*NEIC **14** 22:00:20.7±1.1, 14°.45S±0°.09×166°.76E±0°.07, h35km±2km, mb4.6/21, Error ellipse: s-maj=19.0km s-min=4.2km az=35.0*

ISC 14 22:00:18.1±0.6, 14°43S±0°.08×166°.7E±0°.1, h28km, n45, σ1°81/44, mb4.5/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SANVU	**Saraoutou**	**1.12**	**155**			**Pn**	**22 00 39.3**	**+1.3**
KOUNC	**Koumac, New Ca**	**6.51**	**200**			**Pn**	**22 01 53.8**	**+1.7**
DZM	**Mont Dzumac**	**7.60**	**182**	Pn		**Pn**	**22 02 08.2**	**+1.0**
	3.4nm,0.3s,baz=45,slow=13,SNR=5.7							
DZM				Sn		**Sn**	**22 03 29.5**	**-3.0**
	baz=330,slow=20,SNR=1.1							
DZM	**Mont Dzumac**	**7.60**	**182**			**Pn**	**22 02 08.4**	**+1.3**
OUENC	**Ouen Island, N**	**7.96**	**179**	Pn		**Pn**	**22 02 13.3**	**+1.5**
PINNC	**Pines Island,**	**8.17**	**175**	Pn		**Pn**	**22 02 16.9**	**+2.1**
EIDS	**Eidsvold**	**18.26**	**231**	P		**Pn**	**22 04 31.0**	**+1.4**
CTAO	**Charters Tower**	**20.32**	**251**	P		Pn	22 04 53.7	-0.6
COEN	**Coen**	**22.82**	**268**	P		**P**	**22 05 21.7**	**+2.7**
URZ	**Urewera**	**25.46**	**161**	P		**P**	**22 05 45.1**	**+1.3**
	6.0nm,0.8s,baz=50,slow=17,SNR=2.9							
STKA	**Stephens Creek**	**28.77**	**229**	P		**P**	**22 06 13.1**	**-0.6**
	1.9nm,0.6s,baz=34,slow=9.4,SNR=4.8							
STKA	**Stephens Creek**	**28.77**	**229**	P		**P**	**22 06 14.4**	**+0.7**
WRA	**Warramunga Arr**	**31.37**	**255**	P		**P**	**22 06 33.1**	**-3.7**
	0.9nm,0.8s,baz=82,slow=6.9,SNR=3.2							
ASAR	**Alice Springs**	**32.27**	**248**	P		**P**	**22 06 42.8**	**-1.9**
	0.9nm,0.6s,baz=73,slow=9.4,SNR=9.4							
BBOO	**Buckleboo**	**33.33**	**231**	P		**P**	**22 06 54.5**	**+0.7**
BBOO				IAmb		IAmb	22 06 59.5	
	comp=Z,8.8nm,0.9s							
FORT	**Forrest**	**38.98**	**239**	P		**P**	**22 07 43.2**	**+1.0**
FORT				IAmb		IAmb	22 07 47.5	
	comp=Z,14nm,0.8s							
VNDA	**Vanda**	**63.15**	**181**	P		**P**	**22 10 44.1**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=12,slow=8.0,SNR=2.0							
CMAR	**Chiang Mai Arr**	**74.33**	**294**	P		**P**	**22 11 52.5**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=112,slow=4.1,SNR=3.4							
CMAR	**Chiang Mai Arr**	**74.33**	**294**	P		**P**	**22 11 54.6**	**+1.0**
QSPA	**South Pole Qui**	**75.59**	**180**	P		**P**	**22 11 59.2**	**-1.1**
CNPM	**China Poot**	**81.17**	**20**	P		**P**	**22 12 33.1**	**+2.3**
L19K	**White Mountain**	**82.11**	**17**	P		**P**	**22 12 39.2**	**+3.4**
L19K				IAmb		IAmb	22 12 41.2	
	comp=Z,2.7nm,0.8s							
BILL	**Bilibino**	**82.25**	**360**	P		**P**	**22 12 38.4**	**+2.1**
BILL				IAmb		IAmb	22 12 48.9	
	comp=Z,4.7nm,1.1s							
TTA	**Tatalina**	**82.39**	**16**	P		**P**	**22 12 39.9**	**+2.5**
J20K	**Nowinta River**	**83.89**	**16**	P		**P**	**22 12 47.3**	**+2.4**
J20K				IAmb		IAmb	22 12 56.2	
	comp=Z,2.6nm,0.8s							
RND	**Reindeer**	**84.83**	**18**	P		**P**	**22 12 50.7**	**+0.9**
MCK	**McKinley**	**85.04**	**18**	P		**P**	**22 12 52.4**	**+1.6**
H21K	**Melozitna Rive**	**85.41**	**16**	P		**P**	**22 12 54.5**	**+1.9**
H21K				IAmb		IAmb	22 12 55.6	
	comp=Z,6.9nm,1.0s							
IMAR	**Indian Mountai**	**85.42**	**15**	P		**P**	**22 12 54.3**	**+1.7**
WRH	**Wood River Hil**	**85.84**	**18**	P		**P**	**22 12 55.7**	**+0.9**
WRH				IAmb		IAmb	22 12 57.0	
	comp=Z,6.6nm,0.9s							
IL31		**86.42**	**18**	P		**P**	**22 12 58.1**	**+0.6**
ILAR	**Eielson Array**	**86.42**	**18**	P		**P**	**22 12 56.6**	**-1.0**
	comp=Z,5.0nm,0.8s,baz=235,slow=5.4,SNR=26							
ILAR	**Eielson Array**	**86.42**	**18**	P		**P**	**22 12 58.1**	**+0.5**
H23K	**Yukon River**	**86.42**	**17**	P		**P**	**22 12 58.6**	**+1.1**
H23K				IAmb		IAmb	22 13 00.7	
	comp=Z,3.8nm,0.8s							
DOT	**Dot Lake**	**86.52**	**20**	P		**P**	**22 12 59.4**	**+1.2**
DOT				IAmb		IAmb	22 13 01.4	
	comp=Z,4.6nm,1.0s							
J25K	**Salcha River,**	**86.77**	**19**	P		**P**	**22 13 00.6**	**+1.2**
SCRK	**Sand Creek**	**86.77**	**20**	P		**P**	**22 13 01.0**	**+1.5**
SCRK				IAmb		IAmb	22 13 03.4	
	comp=Z,5.9nm,1.0s							
EGAK	**Eagle**	**88.22**	**20**	IAmb		IAmb	22 13 14.7	
	comp=Z,2.5nm,0.9s							
MKAR	**Makanchi Array**	**96.61**	**316**	P		**P**	**22 13 44.4**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=103,slow=3.9,SNR=3.7							
MKAR	**Makanchi Array**	**96.61**	**316**	P		**P**	**22 13 46.5**	**+0.9**
YKA	**Yellowknife Ar**	**97.53**	**27**	P		**P**	**22 13 46.2**	**-3.1**
	comp=Z,0.5nm,0.8s,baz=254,slow=4.7,SNR=4.9							
BELG	**Belogornoye**	**118.97**	**322**	PKP		**PKPdf**	**22 19 02.8**	**-1.2**
	comp=Z,12nm,0.4s							
ARCES	**ARCESS Array B**	**119.83**	**345**	PKP		**PKPdf**	**22 19 04.3**	**-0.9**
	comp=Z,5.5nm,0.9s,baz=46,slow=3.7,SNR=4.4							
SCHQ	**Schefferville**	**122.35**	**33**	PKP		**PKPdf**	**22 19 09.2**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=290,slow=8.6,SNR=2.2							
NOA	**NORSAR Array B**	**130.19**	**345**	PKP		**PKPdf**	**22 19 22.3**	**-3.0**
	comp=Z,0.5nm,0.9s,baz=332,slow=4.8,SNR=3.3							

TRN 14 22:04:18.5, 18°.80N×61°.94W, h49km, MD4.1, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
ANWB	**Willy Bob**	**1.13**	**173**	*e*P		Pn	22 04 39.2	+1.2
ANWB				*e*S		Sn	22 04 53.8	+1.3
SMRT	**St. Maarten**	**1.31**	**236**	*e*P		Pn	22 04 42.5	+2.1
SMRT				*e*S		Sn	22 04 59.6	+2.8
ANBD	**Bethesda, Anti**	**1.75**	**175**	*e*P		Pn	22 04 47.2	+0.8
ANBD				*e*S		Sn	22 05 09.6	+2.0
MBFL	**Flemmings, Mon**	**2.06**	**187**	*e*P		Pn	22 04 52.2	+1.5
MLYT	**Lee's Yard**	**2.08**	**187**	*e*P		Pn	22 04 53.6	+2.5
MLYT				*e*S		Sn	22 05 18.4	+2.6
ABD	**La Joyeuse, An**	**2.35**	**169**	*e*P		Pn	22 04 57.0	+2.3
ABD				*e*S		Sn	22 05 25.8	+3.4
TDBA	**Terre de Bas,**	**2.95**	**174**	*e*P		Pn	22 05 05.3	+2.4
TDBA				*e*S		Sn	22 05 38.6	+1.5
DSLB	**Salisbury**	**3.38**	**172**	*e*P		Pn	22 05 11.5	+2.6
AOPR	**Arecibo Observ**	**4.59**	**265**	*e*P		Pn	22 05 27.3	+1.8
AOPR	**Arecibo Observ**	**4.59**	**265**	*e*S		Sn	22 06 16.9	-0.7

*SOME **14** 22:07:23.3, 43°.23N×82°.65E, h0km*
*NNC **14** 22:07:28.4±4.4, 43°.40N×82°.83E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=45.5km s-min=20.3km az=134.0*

ISC 14 22:07:20.8±2.3, 43°24N±0°.09×82°.82E±0°.07, h5km±14km, n15, σ1°49/29, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
KTMS	**Ketmen**	**1.81**	**277**	*e*P		**Pb**	**22 07 54.6**	**+0.1**
KTMS				*e*S		**Sb**	**22 08 17.5**	**-0.1**
	12nm,0.3s							
PDGK	**Podgornoye**	**2.44**	**273**	⇑Pn		**Pg**	**22 08 09.9**	**+2.4**
	2.6nm,0.4s							
PDGK				⇓Lg		Lg	22 08 42.5	
	21nm,0.6s							
DJR	**Jarkent**	**2.45**	**297**	*e*P		**Pg**	**22 08 07.8**	**0.0**
	2.4nm,0.3s							
DJR				*e*S		**Sg**	**22 08 40.5**	**+0.9**
	12nm,0.3s							
SHLS	**Shalkode**	**2.46**	**269**	*e*P		**Pn**	**22 08 02.2**	**+0.6**
	2.6nm,0.4s							
SHLS				*e*S		**Sn**	**22 08 31.1**	**-1.1**
	44nm,0.3s							
UZB	**Uzynbulak**	**2.78**	**269**	*e*P		**Pb**	**22 08 13.4**	**+2.4**
	2.4nm,0.3s							
UZB				*e*S		**Sg**	**22 08 49.7**	**-0.4**
	8.9nm,0.5s							
KPKS	**Kokpek**	**3.03**	**276**	*e*P		**Pb**	**22 08 16.8**	**+1.6**
	2.8nm,0.5s							
KPKS				*e*S		**Sg**	**22 08 56.1**	**-2.0**
	9.4nm,0.5s							
KAPS	**Kapalarasan**	**3.22**	**311**	*e*P		**Pg**	**22 08 22.5**	**0.0**
	2.2nm,0.7s							
KAPS				*e*S		**Sg**	**22 09 05.3**	**+1.1**
	5.7nm,0.4s							
SATY	**Saty**	**3.24**	**268**	*e*P		**Pb**	**22 08 21.1**	**+2.2**
	5.9nm,0.5s							
SATY				*e*S		**Sg**	**22 09 02.8**	**-2.0**
	11nm,0.8s							
MK31	**Makanchi Array**	**3.57**	**354**	Pn		**Pb**	**22 08 23.8**	**-0.7**
	1.2nm,0.7s,baz=176,slow=16,SNR=8.0							
MK31				⇑Pg		**Pg**	**22 08 31.5**	**+2.3**
	0.5nm,0.5s,baz=234,slow=2.0,SNR=13							
MK31				⇓Lg		Lg	22 09 15.7	
	0.5nm,0.2s,baz=168,slow=28,SNR=5.9							
MAKZ	**Makanchi**	**3.62**	**351**	⇑Pn		**Pb**	**22 08 24.2**	**-1.0**
MAKZ				⇑Pg		**Pg**	**22 08 31.3**	**+1.3**
MAKZ				⇑Lg		Lg	22 09 16.5	
	0.5nm,0.3s							
ARXS	**Arharly**	**3.75**	**287**	*e*P		**Pg**	**22 08 31.1**	**-1.5**
	1.4nm,0.5s							
ARXS				*e*S		**Sg**	**22 09 20.0**	**-1.2**
	4.8nm,0.4s							
CHKK	**Chushkaly**	**4.29**	**280**	*e*P		**Pg**	**22 08 41.5**	**-1.4**
	1.2nm,0.1s							
CHKK				*e*S		**Sg**	**22 09 38.6**	**+0.2**
	3.7nm,0.2s							
ZSN	**Zaisan**	**4.45**	**18**	*e*P		**Pg**	**22 08 44.8**	**-1.1**
	4.0nm,0.7s							
ZSN				*e*S		**Sg**	**22 09 43.1**	**-0.5**
	4.3nm,0.6s							
KTBS	**Karatobe**	**4.50**	**278**	*e*P		**Pg**	**22 08 44.4**	**-2.4**
	1.1nm,0.4s							
KTBS				*e*S		**Sg**	**22 09 43.7**	**-1.4**
	5.2nm,0.6s							
DGS	**Degeres**	**5.15**	**272**	*e*P		**Pg**	**22 08 58.1**	**-1.4**
	1.9nm,0.6s							
DGS				*e*S		**Sg**	**22 10 06.2**	**0.0**
	3.2nm,0.8s							

IDC 14 22:16:52.6±1.9, 1°.74S×135°.13E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.4/49, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=86.8km s-min=26.7km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**18.11**	**182**	P		Pn	22 21 05.6	-0.2
	0.1nm,0.3s,baz=3.3,slow=12,SNR=10							
CTA	**Charters Tower**	**21.23**	**150**	P		P	22 21 40.8	+0.4
	12nm,1.1s,baz=315,slow=17,SNR=2.3							
ASAR	**Alice Springs**	**21.83**	**183**	P		P	22 21 47.1	+0.3
	1.0nm,0.8s,baz=7.0,slow=10,SNR=9.0							
SONM	**Songino Array**	**55.38**	**337**	P		P	22 26 28.2	-0.5
	0.5nm,0.3s,baz=157,slow=9.0,SNR=1.5							

*IDC **14** 22:16:58.7±0.9, 14°.09S×166°.52E, h0km, mb4.0/11, mb1 4.2/12, mb1mx3.9/57, mbtmp4.0/12, ML4.0/1, Error ellipse: s-maj=29.9km s-min=19.5km az=111.0*

ISC 14 22:17:04.6±0.8, 14°.25S±0°.1×166°.6E±0°.2, h43km, n14, σ0°98/14, mb3.9/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**7.81**	**181**	Pn		**Pn**	**22 18 55.0**	**-0.9**
	2.2nm,0.3s,baz=22,slow=19,SNR=14							
HNR	**Honiara**	**8.04**	**306**	Pn		**Pn**	**22 18 59.2**	**+0.3**
	38nm,0.3s,baz=188,slow=8.8,SNR=2.7							
STKA	**Stephens Creek**	**28.82**	**228**	P		**P**	**22 22 59.5**	**+0.7**
	1.0nm,0.5s,baz=34,slow=11,SNR=3.0							
WRA	**Warramunga Arr**	**31.30**	**255**	P		**P**	**22 23 19.7**	**-1.3**
	1.0nm,0.8s,baz=90,slow=8.0,SNR=4.7							
ASAR	**Alice Springs**	**32.23**	**248**	P		**P**	**22 23 28.3**	**-0.8**
	0.6nm,0.6s,baz=75,slow=9.6,SNR=6.3							
FITZ	**Fitzroy Crossi**	**39.45**	**259**	P		**P**	**22 24 31.8**	**+0.8**
	2.7nm,0.7s,baz=141,slow=9.1,SNR=3.7							
KSRS	**Korea Array**	**62.94**	**326**	P		**P**	**22 27 26.7**	**0.0**
	0.8nm,0.4s,baz=146,slow=9.2,SNR=2.2							
VNDA	**Vanda**	**63.36**	**181**	P		**P**	**22 27 30.1**	**+1.2**
	1.4nm,0.8s,baz=5.8,slow=5.9,SNR=8.3							
USRK	**Ussuriysk Ar.**	**66.12**	**333**	P		**P**	**22 27 45.5**	**-2.0**
	0.5nm,0.5s,baz=139,slow=6.8,SNR=1.7							
CMAR	**Chiang Mai Arr**	**74.12**	**294**	P		**P**	**22 28 37.2**	**+0.3**
	0.9nm,0.8s,baz=124,slow=5.2,SNR=7.5							
SEY	**Seymchan**	**77.69**	**353**	P		**P**	**22 28 56.6**	**+0.2**
	0.4nm,0.3s,baz=103,slow=9.5,SNR=4.9							
ILAR	**Eielson Array**	**86.25**	**18**	P		**P**	**22 29 41.0**	**-0.3**
	2.2nm,0.8s,baz=234,slow=5.7,SNR

ULN IAmb IAmb 22 32 56.6
comp=Z,2.7nm,0.7s
L19K White Mountain 81.99 17 P P 22 32 59.0 +1.2
L19K IAmb IAmb 22 33 02.2
comp=Z,3.3nm,0.9s
TTA Tatalina 82.27 16 P P 22 33 00.1 +0.7
J20K Nowinta River 83.77 16 P P 22 33 08.3 +1.3
J20K IAmb IAmb 22 33 10.7
comp=Z,4.5nm,0.9s
KTH Kantishna Hill 84.20 18 P P 22 33 08.9 -0.4
TRF Thorofare Moun 84.31 18 P P 22 33 09.6 -0.4
TRF IAmb IAmb 22 33 14.0
comp=Z,4.8nm,1.0s
RND Reindeer 84.71 19 P P 22 33 12.2 +0.3
WRH Wood River Hil 85.72 18 P P 22 33 16.9 +0.1
WRH IAmb IAmb 22 33 17.3
comp=Z,4.3nm,0.8s
ILAR Eielson Array 86.30 18 P P 22 33 18.9 -0.8
comp=Z,3.0nm,0.8s,baz=234,slow=5.5,SNR=19
J25K Salcha River, 86.66 19 P P 22 33 22.0 +0.5
SCRK Sand Creek 86.66 20 P P 22 33 21.6 -0.1
SCRK IAmb IAmb 22 33 23.7
comp=Z,4.1nm,0.8s
COLD Coldfoot 87.17 15 P P 22 33 24.9 +1.0
COLD IAmb IAmb 22 33 27.4
comp=Z,3.2nm,1.0s
TOLK Toolik Lake Re 88.38 15 P P 22 33 30.9 +1.2
MKAR Makanchi Array 96.36 317 P P 22 34 07.7 +0.5
comp=Z,1.0nm,0.7s,baz=103,slow=5.4,SNR=9.6
ZALV Zalesovo Beam 96.58 324 P P 22 34 07.4 -0.4
comp=Z,0.7nm,0.7s,baz=142,slow=4.9,SNR=2.3
YKA Yellowknife Ar 97.46 27 P P 22 34 10.6 -1.0
comp=Z,0.4nm,0.8s,baz=252,slow=4.6,SNR=6.3
ARCES ARCESS Array B 119.61 345 PKP PKPdf 22 39 26.9 -0.6
comp=Z,3.7nm,0.9s,baz=11,slow=1.9,SNR=4.3
FINES FINESS Array B 125.01 338 PKP PKiKP 22 39 39.4 +1.1
comp=Z,2.2nm,0.9s,baz=162,slow=19,SNR=2.2
NOA NORSAR Array B 129.97 345 PKP PKPdf 22 39 47.5 -0.1
comp=Z,0.8nm,0.9s,baz=107,slow=1.9,SNR=2.3
KEST Kesra 150.38 320 PKPbc **PKiKP 22 40 30.5 -0.4**
comp=Z,2.8nm,0.9s,baz=20,slow=3.0,SNR=2.3
ESDC Sonseca Array 153.33 343 PKPbc **PKiKP 22 40 38.4 +1.5**
comp=Z,0.4nm,0.9s,baz=1.9,slow=3.9,SNR=2.1
TORD Torodi Ar. Bea 165.21 268 PKP PKPdf 22 40 43.9 +0.3
comp=Z,0.1nm,0.4s,baz=85,slow=1.6,SNR=1.3

IDC ***14*** *22:22:32.9±0.8, 14°.20S×166°.61E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.1/58, mbtmp4.2/16, ML4.1/1, Error ellipse: s-maj=25.7km s-min=18.2km az=118.0*

ISC 14 22:22:38.3±0.7, 14°.2S±0°.1×166°.6E±0°.2, h35km, n17, σ0.9 96/17, mb4.2/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.80**	**181**		Pn		**Pn**	**22 24 29.4**	**-0.1**
	2.7nm,0.3s,baz=288,slow=16,SNR=2.4								
STKA	**Stephens Creek**	**28.82**	**228**		P		**P**	**22 28 32.8**	**-0.5**
	1.7nm,0.8s,baz=48,slow=7.1,SNR=3.2								
WRA	**Warramunga Arr**	**31.31**	**255**		P		**P**	**22 28 53.6**	**-1.9**
	2.4nm,1.1s,baz=85,slow=8.7,SNR=5.7								
ASAR	**Alice Springs**	**32.24**	**248**		P		**P**	**22 29 03.1**	**-0.5**
	0.9nm,0.7s,baz=73,slow=9.3,SNR=3.0								
FITZ	**Fitzroy Crossi**	**39.46**	**259**		P		**P**	**22 30 05.2**	**-0.3**
	3.2nm,0.8s,baz=104,slow=7.0,SNR=5.4								
KAPI	**Kappang**	**46.99**	**276**		P		**P**	**22 31 06.5**	**+0.1**
	12nm,0.4s,baz=106,slow=6.5,SNR=3.8								
VNDA	**Vanda**	**63.34**	**181**		P		**P**	**22 33 04.0**	**+0.6**
	1.6nm,0.8s,baz=18,slow=6.1,SNR=6.1								
PETK	**Petropavlovsk-**	**67.50**	**354**		P		**P**	**22 33 30.4**	**-0.1**
	6.1nm,1.0s,baz=175,slow=7.4,SNR=3.9								
CMAR	**Chiang Mai Arr**	**74.14**	**294**		P		**P**	**22 34 13.1**	**+1.5**
	1.8nm,0.9s,baz=131,slow=4.4,SNR=7.6								
QSPA	**South Pole Qui**	**75.80**	**180**		P		**P**	**22 34 21.5**	**+1.0**
	3.0nm,0.9s,baz=1.6,slow=3.2,SNR=3.8								
SEY	**Seymchan**	**77.71**	**353**		P		**P**	**22 34 31.9**	**+0.8**
	2.0nm,0.8s,baz=122,slow=7.6,SNR=5.4								
ILAR	**Eielson Array**	**86.26**	**18**		P		**P**	**22 35 14.6**	**-1.4**
	3.2nm,0.8s,baz=232,slow=5.7,SNR=14								
NVAR	**Mina Array Bea**	**87.45**	**49**		P		**P**	**22 35 21.3**	**-1.3**
	0.2nm,0.3s,baz=292,slow=24,SNR=3.1								
MKAR	**Makanchi Array**	**96.39**	**317**		P		**P**	**22 36 04.6**	**+0.9**
	1.2nm,0.8s,baz=101,slow=6.3,SNR=7.1								
ZALV	**Zalesovo Beam**	**96.60**	**324**		P		**P**	**22 36 04.8**	**+0.5**
	0.5nm,0.7s,baz=122,slow=7.2,SNR=3.8								
YKA	**Yellowknife Ar**	**97.41**	**27**		P		**P**	**22 36 08.1**	**+0.3**
	0.6nm,0.9s,baz=252,slow=4.4,SNR=6.3								
ARCES	**ARCESS Array B 119.60**	**345**		PKP			**PKPdf**	**22 41 23.8**	**0.0**
	1.5nm,0.7s,baz=327,slow=6.0,SNR=1.3								

BJI ***14*** *22:23:22.2±0.0, 14°.46S×166°.66E, h5km, mb4.9/52, mB5.6/6, Ms5.7/7, Ms7 5.5/7*

IDC ***14*** *22:23:25.0±0.4, 14°.31S×166°.58E, h0km, mb4.7/28, mb1 4.8/32, mb1mx4.6/55, mbtmp4.7/32, ML4.8/3, MS4.8/4, Ms1 4.9/4, ms1mx4.2/64, Error ellipse: s-maj=14.6km s-min=11.9km az=84.0*

MOS ***14*** *22:23:27.6±0.9, 14°.28S×166°.51E, h25km, mb5.3/15, Error ellipse: s-maj=9.7km s-min=7.7km az=129.0*

NEIC ***14*** *22:23:28.8±1.5, 14°.19S±0°.04×166°.54E±0°.08, h16km±3km, mb5.2/145, Error ellipse: s-maj=11.2km s-min=5.5km az=77.0*

NOU ***14*** *22:23:29.4, 14°.30S×166°.66E, h0km, mb5.1/6, Vanuatu Islands*

GCMT ***14*** *22:23:32.8±0.3, 14°.23S±0°.03×166°.41E±0°.02, h21km±1km, MW5.3/67, Moment Tensor Solution. s24,c27; s67,c94; Duration: 1ś1 Moment tensor: Scale 10^17 Nm; Mrr 1.16±.08; Mθθ -0.29±.05; Mϕϕ -0.86±.05; Mrθ 0.46±.09; Mθϕ 0.28±.03; Mrϕ 0.03±.07; Best double couple: Mo 1.14700×10^17 NP1:ϕs 352.00000°, δ 43.00000°, λ 114.00000°. NP2:ϕs 141.00000°, δ 52.00000°, λ 69.00000°. Principal axes: T 1.2990, Plg73.0000°, Azm350.0000°; N -0.3060, Plg16.0000°, Azm154.0000°; P -0.9950, Plg4.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 22:23:29.9±0.3, 14°.27S±0°.04×166°.53E±0°.05, h28km, n404, σ1.9 15/399, mb5.1/133, MS5.3/8, 13C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.34**	**151**		Pn		**Pb**	**22 23 54.3**	**-0.1**
DVP	**Devils Point**	**3.79**	**155**		P		**Pn**	**22 24 28.8**	**+2.4**
RTV	**Rentapao**	**3.95**	**153**		P		**Pn**	**22 24 29.2**	**+0.6**
LIFNC	**LIFOU**	**6.51**	**174**		Pn		**Pn**	**22 25 06.6**	**+2.8**
KOUNC	**Koumac, New Ca**	**6.61**	**199**				**Pn**	**22 25 05.9**	**+0.7**
MAUNC	**Mare, Loyalty**	**7.32**	**169**		Pn		**Pn**	**22 25 16.3**	**+1.4**
DZM	**Mont Dzumac**	**7.76**	**181**		Pn		**Pn**	**22 25 20.7**	**-0.4**
	3.8nm,0.3s,baz=10,slow=18,SNR=2.5								
DZM					Sn		**Sn**	**22 26 48.5**	**+0.2**
	5.8nm,0.3s,baz=325,slow=23,SNR=1.4								
DZM					LR		LR	22 27 55.9	
	comp=Z,2μm,18.4s,baz=28,slow=35								
DZM	**Mont Dzumac**	**7.76**	**181**				**Pn**	**22 25 21.5**	**+0.3**
DZM	**Mont Dzumac**	**7.76**	**181**				**Sn**	**22 26 48.5**	**+0.2**
NOUC	**Port Laguerre**	**7.80**	**182**	P			**Pn**	**22 25 22.6**	**+1.1**
ONTNC	**Ouen Toro**	**8.00**	**181**				**Pn**	**22 25 25.5**	**+1.3**
ONTNC	**Ouen Toro**	**8.00**	**181**	P			**Pn**	**22 25 27.4**	**+3.1**
HNR	**Honiara**	**8.04**	**306**		Pn		**Pn**	**22 25 24.3**	**-0.6**
	29nm,0.3s,baz=210,slow=14,SNR=4.8								
HNR	**Honiara**	**8.04**	**306**		Pn		**Pn**	**22 25 23.9**	**-0.9**
OUENC	**Ouen Island, N**	**8.11**	**178**				**Pn**	**22 25 27.3**	**+1.4**
OUENC	**Ouen Island, N**	**8.11**	**178**	P			**Pn**	**22 25 28.1**	**+2.2**
PINNC	**Pines Island,**	**8.35**	**174**				**Pn**	**22 25 31.4**	**+2.3**
MSVF	**Nonsavu**	**11.60**	**109**	P			**Pn**	**22 26 14.3**	**+0.6**
MSVF	**Nonsavu**	**11.60**	**109**	Pn			**Pn**	**22 26 14.3**	**+0.6**
KRVT	**Keravat (AS076**	**17.39**	**303**	P			**Pn**	**22 27 29.9**	**-0.7**
	5.7nm,0.3s,baz=128,slow=12,SNR=1.7								
EIDS	**Eidsvold**	**18.24**	**230**	P			**P**	**22 27 40.6**	**-0.4**
PMG	**Port Moresby**	**19.56**	**282**	P			**P**	**22 27 54.8**	**-0.9**
	baz=138,slow=17,SNR=1.8								
PMG					LR		LR	22 33 38.2	
	comp=Z,3μm,18.4s,baz=336,slow=31								
PMG	**Port Moresby**	**19.56**	**282**	*ce*P			**Pn**	**22 27 56.5**	**-0.6**
PMG					pmax		pmax		
	comp=Z,37nm,1.7s								
PMG	**Port Moresby**	**19.56**	**282**	P			**P**	**22 27 54.6**	**-1.1**
CTA	**Charters Tower**	**20.21**	**251**	P			**P**	**22 28 02.3**	**-0.5**
	comp=Z,19nm,1.0s,baz=67,slow=12,SNR=2.9								
RMQ	**Roma**	**20.59**	**231**	P			Pn	22 28 08.7	-0.6
	baz=21,SNR=6.5								
AFI	**Afiamalu**	**21.04**	**92**	P			**P**	**22 28 11.2**	**-0.7**
	comp=Z,7.1nm,0.3s,baz=3.2,slow=22,SNR=1.8								
AFI	**Afiamalu**	**21.04**	**92**	P			**P**	**22 28 11.5**	**-0.4**
AFI					pmax		pmax		
	comp=Z,91nm,1.2s								
AFI	**Afiamalu**	**21.04**	**92**	P			**P**	**22 28 11.4**	**-0.4**
AFI					IAmb		IAmb	22 28 22.2	
	comp=Z,90nm,1.1s								
ARMA	**Armidale**	**21.14**	**218**	P			**P**	**22 28 13.5**	**+0.7**
OUZ	**Omahuta**	**21.81**	**164**	P			**P**	**22 28 20.6**	**+0.7**
MANU	**Manus Island**	**22.50**	**301**	P			**P**	**22 28 26.8**	**-0.6**
PATS	**Pohnpei**	**22.50**	**338**	P			**P**	**22 28 27.0**	**-0.4**
COEN	**Coen**	**22.65**	**268**	P			**P**	**22 28 28.4**	**-0.7**
NIUE	**Niue**	**23.04**	**105**	P			**P**	**22 28 31.4**	**-1.7**
HIZ	**Hauiti**	**25.25**	**165**	P			**P**	**22 28 54.1**	**+0.5**
HIZ					IAmb		IAmb	22 29 06.2	
	comp=Z,90nm,1.1s								
URZ	**Urewera**	**25.67**	**161**	P			**P**	**22 28 55.6**	**-1.8**
	comp=Z,9.0nm,0.9s,baz=282,slow=9.9,SNR=2.5								
URZ	**Urewera**	**25.67**	**161**	P			**P**	**22 28 58.2**	**+0.8**
URZ					IAmb		IAmb	22 29 08.1	
	comp=Z,71nm,1.4s								
URZ	**Urewera**	**25.67**	**161**	P			**P**	**22 29 00.3**	**+2.9**
BKZ	**Black Stump Fm**	**26.31**	**162**	P			**P**	**22 29 04.1**	**+0.8**
BKZ					IAmb		IAmb	22 29 23.6	
	comp=Z,51nm,1.5s								
BFZ	**Birch Farm**	**27.65**	**164**	P			**P**	**22 29 16.0**	**+0.7**
TUWZ	**Tuamarina**	**27.82**	**168**	P			**P**	**22 29 17.3**	**+0.6**
MSWZ	**Moikau Station**	**28.09**	**166**	P			**P**	**22 29 17.8**	**-1.5**
KHZ	**Kahutara**	**28.70**	**169**	P			**P**	**22 29 24.6**	**0.0**
KHZ					IAmb		IAmb	22 29 27.4	
	comp=Z,34nm,1.3s								
STKA	**Stephens Creek**	**28.76**	**228**	P			**P**	**22 29 24.2**	**-1.0**
	comp=Z,3.5nm,0.6s,baz=36,slow=9.2,SNR=4.2								
STKA					PcP		**PcP**	**22 32 33.9**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=78,slow=8.0,SNR=2.8								
STKA	**Stephens Creek**	**28.76**	**228**	P			**P**	**22 29 26.3**	**+1.0**
	baz=29,SNR=3.8								
STKA	**Stephens Creek**	**28.76**	**228**	*i* P			**P**	**22 29 24.1**	**-1.2**
STKA	**Stephens Creek**	**28.76**	**228**	P			**P**	**22 29 25.3**	**0.0**
STKA	**Stephens Creek**	**28.76**	**228**				**PcP**	**22 32 33.9**	**-1.2**
LTZ	**Lake Taylor**	**28.84**	**171**	P			**P**	**22 29 26.4**	**+0.5**
LTZ					IAmb		IAmb	22 29 38.0	
	comp=Z,62nm,1.5s								
FOZ	**Fox Glacier**	**29.30**	**175**	P			**P**	**22 29 30.8**	**+0.9**
FOZ					IAmb		IAmb	22 29 53.5	
	comp=Z,36nm,1.2s								
OXZ	**Oxford**	**29.34**	**172**	P			**P**	**22 29 30.3**	**0.0**
OXZ					IAmb		IAmb	22 29 34.8	
	comp=Z,58nm,1.5s								
RPZ	**Rata Peaks**	**29.60**	**173**	P			**P**	**22 29 32.2**	**-0.3**
	comp=Z,9.9nm,0.9s,baz=27,slow=11,SNR=3.1								
RPZ	**Rata Peaks**	**29.60**	**173**	P			**P**	**22 29 32.3**	**-0.3**
RPZ					IAmb		IAmb	22 29 35.9	
	comp=Z,28nm,1.1s								
MQZ	**McQueen's Vall**	**29.80**	**171**	P			**P**	**22 29 35.0**	**+0.6**
MQZ					IAmb		IAmb	22 29 36.2	
	comp=Z,28nm,1.1s								
TOO	**Toolangi**	**29.81**	**215**	P			**P**	**22 29 35.0**	**+0.5**
TOO					pmax		pmax		
	comp=Z,18nm,1.4s								
TOO	**Toolangi**	**29.81**	**215**	P			**P**	**22 29 35.0**	**+0.5**
LBZ	**Lake Benmore**	**30.18**	**175**	P			**P**	**22 29 38.5**	**+0.8**
LBZ					IAmb		IAmb	22 29 53.8	
	comp=Z,32nm,1.3s								
WR0	**Warramunga Arr**	**31.06**	**255**	P			**P**	**22 29 44.3**	**-1.5**
WB0	**Warramunga Arr**	**31.18**	**255**	P			**P**	**22 29 45.5**	**-1.3**
WB2	**Warramunga Arr**	**31.24**	**255**	P			**P**	**22 29 45.7**	**-1.7**
WRAB	**Tennant Creek**	**31.24**	**255**	*i* P			**P**	**22 29 43.7**	**-3.7**
WRAB	**Tennant Creek**	**31.24**	**255**	P			**P**	**22 29 46.4**	**-0.9**
WRA	**Warramunga Arr**	**31.25**	**255**	P			**P**	**22 29 45.5**	**-2.0**
	comp=Z,4.0nm,0.9s,baz=85,slow=8.9,SNR=9.5								
WRA					PcP		**PcP**	**22 32 42.5**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=29,slow=1.9,SNR=3.7								
WRA					LR		LR	22 40 47.8	
	comp=Z,2μm,18.4s,baz=20,slow=33								
WRA	**Warramunga Arr**	**31.25**	**255**				**PcP**	**22 32 42.5**	**+0.7**
WRA	**Warramunga Arr**	**31.25**	**255**	P			**P**	**22 29 47.6**	**+0.1**
HTT	**Hallett**	**31.49**	**228**	P			**P**	**22 29 50.4**	**+1.0**
	baz=32,SNR=3.3								
AS31	**Alice Springs**	**32.17**	**248**	P			**P**	**22 29 54.4**	**-1.2**
ASAR	**Alice Springs**	**32.18**	**248**	P			**P**	**22 29 54.4**	**-1.3**
	comp=Z,3.1nm,0.7s,baz=74,slow=9.2,SNR=6.4								
ASAR					PcP		**PcP**	**22 32 43.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=68,slow=2.9,SNR=2.8								
ASAR	**Alice Springs**	**32.18**	**248**	P			**P**	**22 29 54.0**	**-1.6**
ASAR	**Alice Springs**	**32.18**	**248**	P			**P**	**22 29 54.0**	**-1.6**
BBOO	**Buckleboo**	**33.30**	**231**	P			**P**	**22 30 06.2**	**+0.9**
	baz=34,SNR=5.9								
BBOO	**Buckleboo**	**33.30**	**231**	P			**P**	**22 30 05.4**	**0.0**
BBOO					IAmb		IAmb	22 30 08.3	
	comp=Z,33nm,1.4s								
MTN	**Manton Dam**	**34.42**	**268**	P			**P**	**22 30 15.1**	**-0.2**
KNRA	**Kununurra**	**36.48**	**263**	P			**P**	**22 30 32.2**	**-0.8**
	baz=37,SNR=4.6								
KNRA	**Kununurra**	**36.48**	**263**	P			**P**	**22 30 31.2**	**-1.8**
KNRA					IAmb		IAmb	22 30 44.6	
	comp=Z,47nm,1.4s								
SIJI	**Sorong**	**37.32**	**288**	P			**P**	**22 30 38.2**	**-1.9**
	comp=Z,6.7nm,0.7s,baz=112,slow=2.6,SNR=4.7								
WRKA	**Nnarakinma**	**37.45**	**247**	P			**P**	**22 30 40.3**	**-0.9**
	baz=38,SNR=4.1								
FORT	**Forrest**	**38.92**	**238**	P			**P**	**22 30 53.1**	**-0.3**
FORT					IAmb		IAmb	22 31 04.7	
	comp=Z,34nm,0.9s								
FITZ	**Fitzroy Crossi**	**39.40**	**259**	P			**P**	**22 30 56.3**	**-1.3**
	comp=Z,8.5nm,0.9s,baz=101,slow=5.7,SNR=11								
MCQ	**Macquarie Isla**	**40.58**	**187**	P			**P**	**22 31 07.8**	**+1.0**
MCQ					pmax		pmax		
	comp=Z,112nm,1.2s								
MCQ	**Macquarie Isla**	**40.58**	**187**	P			**P**	**22 31 07.8**	**+1.0**
LBMI	**Labuha**	**40.90**	**286**	P			**P**	**22 31 13.0**	**+2.9**
	comp=Z,52nm,1.5s								
BATI	**Baumata**	**42.05**	**271**	P			**P**	**22 31 23.6**	**+4.1**
	comp=Z,32nm,1.6s								
MMRI	**Maumere**	**43.72**	**272**	P			**P**	**22 31 32.6**	**-0.5**
KMSI	**Cibinong**	**44.62**	**286**	P			**P**	**22 31 43.2**	**+2.9**
	comp=Z,144nm,0.6s								
PSA00	**Pilbara Seismi**	**44.88**	**254**	P			**P**	**22 31 41.7**	**-0.6**
LUWI	**Luwuk**	**45.21**	**283**	P			**P**	**22 31 44.4**	**-0.6**
MEEK	**Meekatharra**	**46.31**	**247**	P			**P**	**22 31 53.4**	**-0.2**
	baz=47,SNR=5.5								
APSI	**Ampana**	**46.31**	**283**	P			**P**	**22 31 54.1**	**+0.4**
	comp=Z,34nm,1.4s								
KAPI	**Kappang**	**46.95**	**277**	P			**P**	**22 31 59.2**	**+0.6**
	baz=99,slow=10								
KAPI	**Kappang**	**46.95**	**277**	P			**P**	**22 31 59.1**	**+0.5**
KAPI					pmax		pmax		
	comp=Z,38nm,1.2s								
KAPI	**Kappang**	**46.95**	**277**	P			**P**	**22 31 59.1**	**+0.5**
KAPI					IAmb		IAmb	22 32 11.2	
	comp=Z,38nm,1.1s								
JCJ	**Chichijima**	**47.43**	**330**	P			**P**	**22 32 01.5**	**-0.6**
TOLI2	**Tolitoli**	**47.80**	**285**	P			**P**	**22 32 04.4**	**-0.9**
TOLI2					IAmb		IAmb	22 32 15.8	
	comp=Z,29nm,1.3s								
MPSI	**Mapaga**	**48.37**	**283**	P			**P**	**22 32 10.9**	**+1.2**
	comp=Z,38nm,1.1s								
MORW	**Morawa**	**48.83**	**244**	P			**P**	**22 32 13.0**	**0.0**
	baz=49,SNR=4.8								
MORW	**Morawa**	**48.83**	**244**	P			**P**	**22 32 13.1**	**+0.1**
MORW					IAmb		IAmb	22 32 13.9	
	comp=Z,36nm,1.4s								
MUN	**Mundaring**	**49.07**	**240**	P			**P**	**22 32 14.8**	**-0.1**
	baz=49,SNR=3.9								
MYLDM	**Lahad Datu**	**51.41**	**289**	P			**P**	**22 32 33.1**	**+0.4**
JAGI	**Jajag, Banyuwa**	**51.59**	**270**	P			**P**	**22 32 33.6**	**-0.6**
KKM	**Kota Kinabalu**	**53.84**	**289**	P			**P**	**22 32 51.3**	**+0.4**
PCJI	**Pacitan**	**54.53**	**270**	P			**P**	**22 32 56.5**	**+0.7**
	comp=Z,104nm,1.3s								
SBUM	**Sibu**	**56.31**	**283**	P			**P**	**22 33 08.8**	**+0.2**
SBUM					IAmb		IAmb	22 33 20.3	
	comp=Z,16nm,1.1s								
INU	**Inuyama**	**56.72**	**331**	P			**P**	**22 33 08.5**	**-2.7**
JGF	**Kuroka**	**56.77**	**332**	P			**P**	22 33 05.9	-5.6
MJAR	**Matsushiro Arr**	**57.17**	**333**	P			**P**	**22 33 14.0**	**-0.3**
	comp=Z,3.1nm,0.4s,baz=188,slow=17,SNR=4.7								
MAJO	**Matsushiro**	**57.17**	**333**	P			**P**	**22 33 14.3**	**0.0**
MAJO					pmax		pmax		
	comp=Z,42nm,1.3s								
MAJO	**Matsushiro**	**57.17**	**333**	P			**P**	**22 33 14.3**	**0.0**
MAJO					IAmb		IAmb	22 33 28.8	
	comp=Z,42nm,1.2s								
JSU	**Suzuyama**	**57.18**	**323**	P			**P**	**22 33 14.7**	**+0.2**
JMM	**Marumori**	**57.21**	**336**	P			**P**	**22 33 14.3**	**-0.3**
TWG	**Pinlang**	**57.79**	**309**	P			**P**	**22 33 19.9**	**+1.0**
TWG					IAmb		IAmb	22 33 26.6	
	comp=Z,26nm,1.3s								
KSM	**Kuching**	**57.82**	**281**	P			**P**	**22 33 19.2**	**-0.2**
YULB	**Yu-li**	**57.95**	**310**	P			**P**	**22 33 19.5**	**-0.6**
YULB					IAmb		IAmb	22 33 42.2	
	comp=Z,35nm,1.3s								
LEM	**Lembang**	**58.26**	**271**	P			**P**	**22 33 23.4**	**+0.7**
	comp=Z,11nm,0.4s,baz=49,slow=7.5,SNR=4.8								
ASAJ	**Asahikawa**	**62.07**	**341**	P			**P**	**22 33 49.5**	**+1.6**
	comp=Z,14nm,0.9s,baz=90,slow=3.8,SNR=4.5								
DLV	**T Lat**	**63.14**	**291**	P			**P**	**22 33 55.2**	**-0.7**
DLV					IAmb		IAmb	22 34 08.2	
	comp=Z,37nm,1.4s								
VNDA	**Vanda**	**63.31**	**181**	P			**P**	**22 33 55.6**	**-0.2**
	comp=Z,7.2nm,0.8s,baz=356,slow=7.0,SNR=14								
VNDA	**Vanda**	**63.31**	**181**	P			**P**	**22 33 56.6**	**+0.9**
VNDA					IAmb		IAmb	22 34 08.7	
	comp=Z,32nm,1.4s								
MNAI	**Manna**	**63.34**	**272**	P			**P**	**22 33 56.7**	**-0.4**
SBA	**Scott Base**	**63.60**	**180**	P			**P**	**22 33 59.5**	**+1.8**
SBA					pmax		pmax		
	comp=Z,35nm,1.0s								
SBA	**Scott Base**	**63.60**	**180**	P			**P**	**22 33 59.5**	**+1.8**
CASY	**Casey**	**63.69**	**202**	P			**P**	**22 33 59.8**	**+1.3**
CASY					IAmb		IAmb	22 34 16.3	
	comp=Z,13nm,1.1s								
YSS	**Yuzh-Sakhalins**	**64.57**	**342**	*e*P			**P**	**22 34 04.9**	**+0.5**
YSS					pmax		pmax		
	comp=Z,5.0nm,1.4s								
YSS	**Yuzh-Sakhalins**	**64.57**	**342**	P			**P**	**22 34 04.8**	**+0.4**
NJ2	**Nanjing**	**64.85**	**316**	*e*P			**P**	**22 34 07.9**	**+1.3**
NJ2					pmax		pmax		
	comp=Z,8.0nm,0.5s								
USA0B	**Ussuriysk Arra**	**66.15**	**334**	P			**P**	**22 34 16.0**	**+1.3**
USA0B					pmax		pmax		
	comp=Z,20nm,1.0s								
USA0B	**Ussuriysk Arra**	**66.15**	**334**	P			**P**	**22 34 16.0**	**+1.3**
USA0B					IAmb		IAmb	22 34 28.9	
	comp=Z,20nm,0.9s								
USRK	**Ussuriysk Ar.**	**66.15**	**334**	P			**P**	**22 34 15.2**	**+0.5**
	comp=Z,13nm,0.9s,baz=148,slow=6.1,SNR=16								
USRK	**Ussuriysk Ar.**	**66.15**	**334**	P			**P**	**22 34 15.7**	**+1.0**
USRK	**Ussuriysk Ar.**	**66.15**	**334**	P			**P**	**22 34 15.7**	**+1.0**
BKNI	**Bangkinang**	**66.37**	**277**	P			**P**	**22 34 16.7**	**-0.2**
SMY	**Shemya**	**67.04**	**5**	P			**P**	**22 34 18.6**	**-1.6**
SMY					pmax		pmax		
	comp=Z,180nm,1.3s								
SMY	**Shemya**	**67.04**	**5**	P			**P**	**22 34 18.6**	**-1.6**
UBPT	**Khong Chiam**	**67.13**	**294**	P			**P**	**22 34 21.5**	**0.0**
PETK	**Petropavlovsk-**	**67.53**	**354**	P			**P**	**22 34 23.4**	**+0.1**
	comp=Z,14nm,1.0s,baz=161,slow=9.4,SNR=6.9								
PETK	**Petropavlovsk-**	**67.53**	**354**	P			**P**	**22 34 22.9**	**-0.4**
MDJ	**Mudanjiang**	**67.54**	**332**	P			**P**	**22 34 23.6**	**0.0**
MDJ					IAmb		IAmb	22 34 26.1	
	comp=Z,21nm,1.1s								
MDJ	**Mudanjiang**	**67.54**	**332**	P			**P**	**22 34 24.5**	**+0.9**
MDJ					S		**S**	**22 43 22.6**	**+4.2**
MDJ					SS		**SS**	**22 47 46.3**	**+6.6**
MDJ					pmax		pmax		
	comp=Z,22nm,1.1s								
MDJ					LR		LR		
	comp=Z,1μm,15.0s								
MDJ					LR		LR		
	comp=Z,2μm,15.7s								
MDJ					LR		LR		
	comp=Z,2μm,15.4s								
IPM	**Ipoh**	**67.56**	**281**	P			**P**	**22 34 24.5**	**+0.1**
KULM	**Kulim**

LZH pmax pmax
comp=Z,160nm,7.2s
SEY Seymchan 77.74 353 P **P** **22 35 24.2 +0.4**
comp=Z,7.3nm,1.0s,baz=142,slow=4.5,SNR=14
SEY Seymchan 77.74 353 *ce*P **P** **22 35 23.7 -0.1**
SEY pmax pmax
comp=Z,25nm,1.4s
SII Sitkinak Islan 77.79 21 P **P** **22 35 25.5 +1.3**
baz=219
OHAK Old Harbor 78.61 21 P **P** **22 35 29.8 +1.0**
baz=220
GAMB Gambell 79.59 10 P **P** **22 35 34.4 +0.4**
GAMB lAmb lAmb 22 36 03.2
comp=Z,26nm,1.1s
GAMB Gambell 79.59 10 P **P** **22 35 34.7 +0.7**
baz=201
P19K Oil Pt 80.51 19 P **P** **22 35 39.7 +0.6**
baz=219
SVW2 Sparrevohn 80.93 18 P **P** **22 35 41.9 +0.6**
N19K Bonanza Creek 81.03 18 P **P** **22 35 43.0 +1.1**
baz=218
ULN Ulaanbaatar 81.34 324 *ce*P **P** **22 35 44.5 +0.4**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 81.34 324 P **P** **22 35 44.4 +0.4**
BRLK Bradley Lake 81.37 20 P **P** **22 35 44.3 +0.6**
BRLK lAmb lAmb 22 35 46.1
comp=Z,32nm,1.4s
YAK Yakutsk 81.38 343 *eP* **P** **22 35 43.4 -0.2**
YAK pmax pmax
comp=Z,32nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK Yakutsk 81.38 343 P **P** **22 35 44.0 +0.4**
ANM Nome 81.46 12 P **P** **22 35 44.4 +0.4**
ANM pmax pmax
comp=Z,24nm,1.2s
ANM Nome 81.46 12 P **P** **22 35 44.4 +0.4**
ANM lAmb lAmb 22 35 46.0
comp=Z,24nm,1.2s
ANM Nome 81.46 12 P **P** **22 35 44.4 +0.4**
baz=208,SNR=5.0
SONM Songino Array 81.70 324 P **P** **22 35 45.6 -0.3**
comp=Z,2.6nm,0.7s,baz=156,slow=8.1,SNR=5.4
SONM Songino Array 81.70 324 P **P** **22 35 46.2 +0.3**
SONM pmax pmax
comp=Z,15nm,1.3s
SONM Songino Array 81.70 324 P **P** **22 35 46.2 +0.3**
GTA Gaotai 81.83 314 ⇑P **P** **22 35 48.0 +1.2**
GTA sP pP 22 35 55.3 +1.1
GTA pmax pmax
comp=Z,12nm,1.1s
TNA Tin City 81.88 10 P **P** **22 35 45.8 -0.4**
TNA lAmb lAmb 22 35 57.9
comp=Z,39nm,1.2s
M19K Big River Lodg 81.92 18 P **P** **22 35 47.1 +0.6**
M19K Big River Lodg 81.92 18 P **P** **22 35 46.8 +0.3**
baz=218
L19K White Mountain 82.00 17 P **P** **22 35 47.4 +0.4**
L19K White Mountain 82.00 17 P **P** **22 35 48.1 +1.1**
baz=218
MAW Mawson 82.04 202 P **P** **22 35 46.5 -0.7**
comp=Z,5.5nm,0.9s,baz=104,slow=15,SNR=3.3
BILL Bilibino 82.08 360 *de*P **P** **22 35 46.9 -0.3**
BILL *e**SP **PcP** **22 35 52.8 +0.2**
BILL *e* 22 38 53.9
BILL *e*PPP PPP 22 40 44.1
BILL *e*S **S** **22 46 01.8 +2.1**
BILL *e*SS **SS** **22 51 22.4 +2.7**
BILL *e*SSS SSS 22 54 49.4
BILL pmax pmax
comp=Z,45nm,1.7s
BILL MLR MLR
comp=Z,895nm,14.0s
BILL Bilibino 82.08 360 P **P** **22 35 47.5 +0.3**
BILL lAmb lAmb 22 35 48.7
comp=Z,41nm,1.3s
SEW Seward 82.11 21 P **P** **22 35 48.4 +0.9**
SEW lAmb lAmb 22 35 49.6
comp=Z,27nm,1.2s
SEW Seward 82.11 21 P **P** **22 35 48.4 +0.9**
baz=223
TTA Tatalina 82.28 16 P **P** **22 35 49.0 +0.5**
TTA pmax pmax
comp=Z,8.0nm,1.0s
TTA Tatalina 82.28 16 P **P** **22 35 49.0 +0.5**
TTA Tatalina 82.28 16 P **P** **22 35 49.0 +0.5**
baz=216
L20K Farewell, AK 82.52 17 P **P** **22 35 49.5 -0.2**
baz=218
SHL Shillong 82.72 299 P **P** **22 35 51.9 +0.1**
SHL pmax pmax
comp=Z,18nm,1.0s
SHL Shillong 82.72 299 P **P** **22 35 51.9 +0.1**
SHL lAmb lAmb 22 36 02.9
comp=Z,18nm,1.0s
RC01 Rabbit Creek A 82.74 20 P **P** **22 35 51.3 +0.4**
baz=222
PWL Port Wells 83.04 20 P **P** **22 35 52.6 +0.2**
PWL Port Wells 83.04 20 P **P** **22 35 53.0 +0.6**
baz=224
M22K Willow 83.11 19 P **P** **22 35 52.2 -0.4**
M22K Willow 83.11 19 P **P** **22 35 52.8 +0.2**
baz=222
K20K Telida 83.15 17 P **P** **22 35 53.6 +0.7**
baz=218
PMR Palmer 83.31 20 P **P** **22 35 54.0 +0.3**
PMR pmax pmax
comp=Z,20nm,1.2s
PMR Palmer 83.31 20 P **P** **22 35 54.0 +0.3**
PMR lAmb lAmb 22 35 54.7
comp=Z,20nm,1.2s
PMR Palmer 83.31 20 P **P** **22 35 54.1 +0.3**
baz=223
PPLA Purkeypile 83.33 18 P **P** **22 35 53.9 -0.2**
baz=220
KNK Knik Glacier 83.40 20 P **P** **22 35 53.5 -0.8**
KNK lAmb lAmb 22 35 55.4
comp=Z,29nm,1.2s
KNK Knik Glacier 83.40 20 P **P** **22 35 53.7 -0.5**
baz=224
GLI Glacier Island 83.47 21 P **P** **22 35 53.9 -0.8**
GLI Glacier Island 83.47 21 P **P** **22 35 53.1 -1.5**
baz=225,SNR=5.7
GHO Glory Hole Cre 83.50 20 P **P** **22 35 52.9 -2.0**
CUT Chulitna 83.55 19 P **P** **22 35 54.2 -0.7**
CUT Chulitna 83.55 19 P **P** **22 35 53.7 -1.2**
baz=222
FID Port Fidalgo 83.60 21 P **P** **22 35 54.6 -0.6**
FID lAmb lAmb 22 35 55.9
comp=Z,27nm,1.2s
SML Sawmill 83.72 20 P **P** **22 35 55.9 -0.1**
SML Sawmill 83.72 20 P **P** **22 35 55.7 -0.2**
baz=224
CAST Castle Rocks 83.77 17 lAmb lAmb 22 35 57.0
comp=Z,18nm,1.0s
CAST Castle Rocks 83.77 17 P **P** **22 35 55.6 -0.5**
baz=220,SNR=11
J20K Nowinta River 83.78 16 P **P** **22 35 55.3 -0.8**
J20K lAmb lAmb 22 35 59.8
comp=Z,8.9nm,0.7s
J20K Nowinta River 83.78 16 P **P** **22 35 55.8 -0.3**
baz=218,SNR=9.5
CHUM Lake Minchumin 84.06 17 P **P** **22 35 57.1 -0.4**
baz=220,SNR=7.2
SCM Sheep Creek Mo 84.08 20 P **P** **22 35 56.5 -1.3**
SCM pmax pmax
comp=Z,28nm,1.0s
SCM Sheep Creek Mo 84.08 20 P **P** **22 35 56.5 -1.3**
SCM Sheep Creek Mo 84.08 20 P **P** **22 35 56.7 -1.1**
baz=225,SNR=6.2
GOMU GeErMu 84.14 309 P **P** **22 36 00.1 +1.0**
GOMU pP PcP 22 36 03.6 +0.7
GOMU sP pP 22 36 07.8 +1.2
GOMU pmax pmax
comp=Z,4.0nm,0.9s
KTH Kantishna Hill 84.21 18 lAmb lAmb 22 35 58.5
comp=Z,23nm,1.0s
KLU Klutina 84.31 21 P **P** **22 35 58.1 -0.9**
baz=226
TRF Thorofare Moun 84.32 18 lAmb lAmb 22 36 21.6
comp=Z,22nm,1.1s
TRF Thorofare Moun 84.32 18 P **P** **22 35 58.5 -0.6**
baz=222,SNR=6.4

WAT1 Susitna Watana 84.40 19 P **P** **22 35 59.2 -0.2**
baz=223
WAT6 Susitna Watana 84.48 19 P **P** **22 35 59.0 -0.9**
baz=224,SNR=7.6
BPAW Bear Paw Mtn. 84.60 17 lAmb lAmb 22 36 00.5
comp=Z,13nm,1.1s
BPAW Bear Paw Mtn. 84.60 17 P **P** **22 35 59.4 -1.0**
baz=221,SNR=6.4
M24K Tolsona, Glenn 84.66 20 P **P** **22 36 01.4 +0.7**
WAX Waxell Ridge 84.70 23 P **P** **22 36 01.4 +0.4**
WAX lAmb lAmb 22 36 05.5
comp=Z,20nm,1.0s
LSA Lhasa 84.71 302 P **P** **22 36 02.7 +0.4**
LSA pmax pmax
comp=Z,6.0nm,1.0s
LSA Lhasa 84.71 302 P **P** **22 36 02.7 +0.4**
ZAK Zakamensk 84.76 325 *eP* **P** **22 36 01.6 0.0**
ZAK pmax pmax
comp=Z,23nm,1.5s
N25K Chitina, Valde 84.85 21 P **P** **22 36 02.6 +0.8**
N25K lAmb lAmb 22 36 04.9
comp=Z,12nm,1.1s
TGL Tana Glacier 84.92 22 P **P** **22 36 03.0 +0.9**
TGL lAmb lAmb 22 36 27.8
comp=Z,15nm,1.2s
MCK McKinley 84.94 18 P **P** **22 36 01.4 -0.6**
baz=223,SNR=11
DHY Denali Highway 84.95 19 lAmb lAmb 22 36 18.2
comp=Z,10nm,1.1s
DHY Denali Highway 84.95 19 P **P** **22 36 01.8 -0.5**
baz=224
ISLE Juniper Island 85.00 23 P **P** **22 36 02.9 +0.3**
ISLE lAmb lAmb 22 36 05.4
comp=Z,22nm,1.0s
VRDI Verde Repeater 85.00 22 P **P** **22 36 02.7 +0.1**
VRDI lAmb lAmb 22 36 14.8
comp=Z,13nm,1.3s
RDOG Red Dog Mine 85.01 11 P **P** **22 36 02.4 +0.1**
RDOG lAmb lAmb 22 36 03.8
comp=Z,28nm,1.2s
RDOG Red Dog Mine 85.01 11 P **P** **22 36 01.9 -0.4**
baz=210
GLB Gilahina Butte 85.02 22 P **P** **22 36 02.7 +0.2**
BWN Browne 85.10 18 P **P** **22 36 02.7 -0.1**
I21K Tanana 85.15 16 P **P** **22 36 03.6 +0.6**
I21K Tanana 85.15 16 P **P** **22 36 02.9 -0.1**
baz=220,SNR=12
HARP HAARP 85.20 20 P **P** **22 36 02.4 -1.0**
baz=227
H21K Melozitna Rive 85.30 16 P **P** **22 36 03.8 0.0**
H21K lAmb lAmb 22 36 05.7
comp=Z,26nm,1.1s
H21K Melozitna Rive 85.30 16 P **P** **22 36 03.7 -0.1**
baz=219,SNR=14
NEA2 Nenana 85.53 18 P **P** **22 36 03.6 -1.4**
NEA2 lAmb lAmb 22 36 05.3
comp=Z,30nm,1.4s
NEA2 Nenana 85.53 18 P **P** **22 36 04.3 -0.6**
baz=223,SNR=7.2
CTG Chitna Glacier 85.61 23 P **P** **22 36 05.8 +0.2**
baz=230
CTGM Chitina Glacie 85.61 23 P **P** **22 36 05.2 -0.4**
CTGM lAmb lAmb 22 36 07.2
comp=Z,8.9nm,0.9s
WRH Wood River Hil 85.73 18 lAmb lAmb 22 36 06.3
comp=Z,17nm,1.0s
I23K Minto, Yukon-K 85.86 17 P **P** **22 36 05.6 -0.9**
I23K Minto, Yukon-K 85.86 17 P **P** **22 36 06.6 +0.1**
baz=223
CCB Clear Creek Bu 85.94 18 lAmb lAmb 22 36 08.5
comp=Z,9.9nm,0.8s
M26K Nabesna, AK 85.95 21 P **P** **22 36 06.7 -0.4**
baz=229,SNR=6.2
MENT Mentasta 86.06 20 P **P** **22 36 07.9 +0.2**
COLA College 86.09 18 *i* P **P** **22 36 06.0 -1.7**
COLA pmax pmax
comp=Z,24nm,1.0s
RIDG Independent Ri 86.23 20 P **P** **22 36 08.2 -0.3**
RIDG lAmb lAmb 22 36 10.1
comp=Z,9.7nm,0.8s
RIDG Independent Ri 86.23 20 P **P** **22 36 08.0 -0.5**
baz=227,SNR=6.3
L26K Log Cabin Wild 86.24 21 P **P** **22 36 08.3 -0.3**
baz=228
H23K Yukon River 86.31 17 P **P** **22 36 08.7 -0.1**
H23K lAmb lAmb 22 36 10.1
comp=Z,28nm,1.2s
H23K Yukon River 86.31 17 P **P** **22 36 08.3 -0.5**
baz=222,SNR=8.2
IL31 86.31 18 lAmb lAmb 22 36 09.2
comp=Z,23nm,1.2s
ILAR Eielson Array 86.31 18 P **P** **22 36 07.4 -1.4**
comp=Z,8.7nm,0.7s,baz=235,slow=5.4,SNR=28
M27K Edge Creek, AK 86.31 21 P **P** **22 36 08.9 -0.2**
baz=230
POKR Poker Plat Res 86.39 18 P **P** **22 36 09.0 -0.2**
baz=224
YUK3 Moose Creek 86.45 22 P **P** **22 36 09.2 -0.7**
baz=231
K04D Chiloquin, OR 86.60 45 P **P** **22 36 08.9 -2.1**
baz=247
MOY Mondy 86.65 325 *eP* **P** **22 36 11.4 +0.5**
J25K Salcha River, 86.66 19 lAmb lAmb 22 36 12.6
comp=Z,11nm,0.7s
J25K Salcha River, 86.66 19 P **P** **22 36 10.1 -0.5**
baz=226,SNR=14
SCRK Sand Creek 86.67 20 P **P** **22 36 10.6 -0.2**
SCRK lAmb lAmb 22 36 13.2
comp=Z,11nm,0.9s
SCRK Sand Creek 86.67 20 P **P** **22 36 10.1 -0.6**
baz=228,SNR=15
L27K Beaver Creek, 86.79 21 P **P** **22 36 11.1 -0.2**
baz=230
YUK4 Talbot Arm 86.86 23 P **P** **22 36 12.7 +0.8**
baz=233
J26L Joseph Creek 87.16 19 P **P** **22 36 13.2 +0.1**
baz=228
COLD Coldfoot 87.17 15 P **P** **22 36 13.8 +0.8**
COLD lAmb lAmb 22 36 16.4
comp=Z,16nm,1.0s
COLD Coldfoot 87.17 15 P **P** **22 36 12.9 0.0**
baz=222,SNR=14
BELA Belgrano 2 87.24 176 P **P** **22 36 13.1 -0.2**
BELA lAmb lAmb 22 36 23.7
comp=Z,17nm,1.1s
NVAR Mina Array Bea 87.51 49 LR LR 23 08 34.6
comp=Z,1µm,19.7s,baz=278,slow=31
G05D Wamic, OR 87.90 42 P **P** **22 36 16.4 -0.6**
baz=247
EGAK Eagle 88.12 20 P **P** **22 36 17.2 -0.3**
EGAK lAmb lAmb 22 36 27.7
comp=Z,20nm,1.5s
EGAK Eagle 88.12 20 P **P** **22 36 17.3 -0.3**
baz=230
JIRN Jiri 88.21 299 *eP* **P** **22 36 19.4 0.0**
comp=Z,7.2nm,1.0s
DAWY Dawson 88.27 21 P **P** **22 36 18.8 +0.4**
baz=232
GMRC Granite Mounta 88.31 54 P **P** **22 36 19.0 -0.3**
baz=251
TOLK Toolik Lake Re 88.39 15 P **P** **22 36 19.7 +0.9**
TOLK lAmb lAmb 22 36 20.9
comp=Z,22nm,1.2s
TOLK Toolik Lake Re 88.39 15 P **P** **22 36 19.8 +1.0**
baz=222
GUN Gumba 88.55 299 *eP* **P** **22 36 21.1 +0.2**
BMAR Burnt Mountain 88.84 17 P **P** **22 36 21.6 +0.6**
PKI Pulchoki 88.85 299 *eP* **P** **22 36 22.2 -0.1**
PKIN Phulchoki 88.86 299 *eP* **P** **22 36 22.2 -0.1**
SYO Syowa Base 88.94 197‖ *eP* P 22 36 13.0 -8.5
SYO Syowa Base 88.94 197‖ *iP* **P** **22 36 22.5 +1.0**
KKN Kakani 89.02 299 *eP* **P** **22 36 22.9 -0.1**
comp=Z,24nm,0.9s
DMN Daman 89.12 299 *eP* **P** **22 36 23.8 +0.3**
TIXI Tiksi 89.38 349 *ce*P **P** **22 36 22.2 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 89.38 349 P **P** **22 36 22.7 -0.7**
I29M Ogilvie Camp, 89.43 20 P **P** **22 36 22.9 -0.9**
I29M Ogilvie Camp, 89.43 20 P **P** **22 36 23.4 -0.3**
baz=233
GKN Gorkha 89.63 299 *eP* **P** **22 36 25.4 -0.3**
comp=Z,32nm,1.0s
KOLN Koldanda 90.45 298 *eP* **P** **22 36 29.5 -0.1**
DANN Dangsing 90.47 299 *eP* **P** **22 36 29.2 -0.6**
PYUN Piuthan 91.05 299 *eP* **P** **22 36 31.7 -0.8**

comp=Z,18nm,1.1s
WMQ Urumqi 91.90 315 *e*P **P** **22 36 36.8 +1.0**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ LR LR
comp=Z,1µm,12.5s
WMQ LR LR
comp=Z,1µm,15.3s
WMQ LR LR
comp=Z,1µm,16.3s
HYBB Hyderabad (bro 92.31 287 *e*P **P** **22 36 38.3 +0.1**
TROLL Troll, Antarti 93.26 185 P **P** **22 36 41.9 +0.1**
SNAA Sanae 93.97 183 P **P** **22 36 43.9 -1.1**
SNAA Sanae 93.97 183 *ce*P **P** **22 36 43.3 -1.6**
SNAA pmax pmax
comp=Z,20nm,2.5s
VNA3 Neumayer Olymp 94.66 181 P **P** **22 36 47.4 -0.7**
VNA2 Neumayer--Watz 94.92 182 P **P** **22 36 48.8 -0.4**
VNA1 Neumayer--Stat 95.22 182 P **P** **22 36 49.6 -0.9**
C36M Paulatuk 96.19 20 P **P** **22 36 53.7 -1.2**
baz=246
MK31 Makanchi Array 96.38 317 *i* P **P** **22 36 54.8 -1.5**
MK31 Makanchi Array 96.38 317 P **P** **22 36 56.2 -0.1**
MK31 lAmb lAmb 22 37 07.5
comp=Z,5.4nm,0.8s
MKAR Makanchi Array 96.38 317 P **P** **22 36 56.8 +0.5**
comp=Z,3.7nm,0.9s,baz=103,slow=5.8,SNR=16
ZAA0 Zalesovo Array 96.60 324 P **P** **22 36 55.7 -1.3**
ZAA0 lAmb lAmb 22 37 07.2
comp=Z,7.4nm,1.1s
ZALV Zalesovo Beam 96.60 324 P **P** **22 36 56.5 -0.6**
comp=Z,2.5nm,0.8s,baz=108,slow=4.8,SNR=10
ZALV Zalesovo Beam 96.60 324 P **P** **22 36 55.9 -1.1**
A36M Sachs Harbour 96.94 17 P **P** **22 36 57.4 -0.8**
A36M lAmb lAmb 22 36 59.0
comp=Z,7.5nm,0.9s
A36M Sachs Harbour 96.94 17 P **P** **22 36 58.1 0.0**
baz=245
YKA Yellowknife Ar 97.47 27 P **P** **22 36 59.6 -1.1**
comp=Z,1.7nm,0.8s,baz=255,slow=4.7,SNR=18
NRIK Noril'sk 99.39 339 P **Pdif** **22 37 08.6 -0.7**
comp=Z,2.5nm,0.8s,baz=95,slow=4.5,SNR=4.2
NRIK Noril'sk 99.39 339 *ce*P **Pdif** **22 37 08.9 -0.3**
NRIK pmax pmax
comp=Z,11nm,1.7s
NRIK Noril'sk 99.39 339 lAmb lAmb 22 37 19.8
comp=Z,5.0nm,1.0s
KURK Kurchatov 99.59 320 *ce*P **Pdif** **22 37 06.9 -3.6**
KURK pmax pmax
comp=Z,6.0nm,1.6s
LPAZ La Paz 118.05 117 PKP **PKPdf** **22 42 15.3 -0.5**
comp=Z,1.4nm,1.0s,baz=272,slow=7.1,SNR=3.9
LPAZ La Paz 118.05 117 **PKPdf** **22 42 15.3 -0.5**
SSPA Standing Stone 118.52 51 P **PKPdf** **22 42 14.1 -1.2**
baz=276
BELG Belogornoye 118.73 322 PKP **PKPdf** **22 42 13.8 -1.4**
comp=Z,9.3nm,0.9s,baz=94,slow=1.7,SNR=2.9
BELG Belogornoye 118.73 322 **PKPdf** **22 42 13.8 -1.4**
ARCES ARCESS Array B 119.63 345 PKP **PKPdf** **22 42 15.6 -1.0**
comp=Z,2.2nm,0.7s,baz=35,slow=1.3,SNR=7.5
ARCES ARCESS Array B 119.63 345 **PKPdf** **22 42 15.6 -1.0**
N59A State Game Lan 120.08 51 P **PKPdf** **22 42 17.5 -0.8**
baz=277
CPUP Villa Florida 121.29 133 PKP **PKPdf** **22 42 19.1 -2.0**
comp=Z,2.1nm,0.9s,baz=190,slow=6.1,SNR=4.3
SCHQ Schefferville 122.31 33 PKP **PKPdf** **22 42 20.7 -1.4**
comp=Z,1.8nm,0.7s,baz=258,slow=2.8,SNR=4.1
SCHQ Schefferville 122.31 33 **PKPdf** **22 42 20.7 -1.4**
PKME Peaks-Kenny Pk 123.92 45 P **PKPdf** **22 42 25.0 -0.4**
baz=285
OBN Obninsk 123.93 328 *e*PKIKP **PKPdf** **22 42 23.6 -1.6**
OBN *e* 22 42 33.5
OBN *e* 22 44 08.1
OBN *e*PPP PPP 22 46 43.7
OBN *e* 22 49 36.7
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,656nm,17.0s
KIV Kislovodsk 124.01 314 *e*PKIKP **PKPdf** **22 42 24.7 -1.2**
KIV pmax pmax
comp=Z,4.0nm,1.1s
FINES FINESS Array B 125.03 338 PKP **PKPdf** **22 42 26.1 -1.0**
comp=Z,1.5nm,0.7s,baz=90,slow=1.9,SNR=4.4
AKASG Malin Array Be 129.95 326 PKP **PKPdf** **22 42 35.6 -1.2**
comp=Z,0.4nm,0.5s,baz=52,slow=1.6,SNR=4.2
NB2 NORSAR Subarra 129.99 345 PKPdf **PKPdf** **22 42 36.8 +0.1**
comp=Z,5.9nm,1.4s,baz=31,slow=1.9
NOA NORSAR Array B 129.99 345 PKP **PKPdf** **22 42 35.8 -0.9**
comp=Z,1.5nm,0.9s,baz=33,slow=2.0,SNR=4.4
BDFB Brasilia 134.73 130 PKP **PKPdf** **22 42 46.0 -1.0**
comp=Z,2.5nm,0.5s,baz=224,slow=4.7,SNR=5.1
BDFB Brasilia 134.73 130 **PKPdf** **22 42 46.0 -1.0**
OSTC Ostas 136.54 333 *e*SKP 22 46 37.4
CHVC Chvalec 136.59 333 *e*SKP 22 46 36.5
KRLC Kraliky 136.63 332 *e*PKP **PKiKP** **22 42 58.1 +6.8**
DPC Dobruska-Polom 136.64 332 *e*PKP PKiKP 22 42 59.8 +8.5
DPC *e*SKP 22 46 38.2
BRG Berggiesshubel 137.29 335 *e*PKP **PKiKP** **22 42 52.3 -0.2**
BRG Amp 22 42 56.2
comp=Z,1.7nm,0.8s
BRG *ex* x 22 46 37.9
BRG Amp 22 46 41.2
comp=Z,2.9nm,1.2s
BRG Amp 23 16 39.0
comp=N,3.6nm,17.5s
BRG Amp 23 16 45.0
comp=Z,4.7nm,17.4s
BRG Amp 23 16 51.0
comp=E,2.3nm,17.4s
BRG Berggiesshubel 137.29 335 *e*PKIKP **PKiKP** **22 42 52.3 -0.2**
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG pmax pmax
comp=Z,3.0nm,1.2s
BRG MLR MLR
comp=N,4µm,17.5s
BRG MLR MLR
comp=Z,5µm,17.4s
BRG MLR MLR
comp=E,2µm,17.4s
CLL Collm 137.34 336 *e*PKIKP **PKiKP** **22 42 52.0 -0.6**
CLL *e* 22 42 59.0
CLL Collm 137.34 336 *e*PKPdf **PKiKP** **22 42 52.0 -0.6**
CLL *e*PKiKP **PKPdf** **22 42 54.0 +3.3**
CLL *ep*PKiKP **pPKPdf** **22 42 59.0 +0.3**
comp=Z,5.0nm,0.9s
EKA Eskdalemuir Ar 138.25 351 PKP **PKPdf** **22 42 51.6 -0.7**
comp=Z,1.0nm,0.8s,baz=45,slow=1.3,SNR=3.7
RONA Rosalia, Austr 138.51 330 *e*P **PKiKP** **22 42 56.8 +1.6**
comp=Z,5.2nm,1.5s
CONA Conrad Observa 138.56 330 *e*P **PKiKP** **22 42 55.9 +0.5**
comp=Z,4.3nm,1.3s
CKRC Cesky Krumlov 138.65 332 *e*PKP **PKPdf** **22 42 53.3 0.0**
CKRC *e*SKP 22 46 42.7
KHC Kasperske Hory 138.75 333 *e*PKIKP **PKiKP** **22 42 56.7 +1.1**
KHC Kasperske Hory 138.75 333 *e*PKP **PKiKP** **22 42 56.7 +1.1**
KHC *e*SKP 22 46 39.3
GERES GERESS Array B 138.91 333 PKP **PKPdf** **22 42 54.0 +0.2**
comp=Z,0.5nm,0.7s,baz=339,slow=3.3,SNR=4.2
GERES GERESS Array B 138.91 333 PKIKP **PKPdf** **22 42 54.0 +0.2**
SQTA Sankt Quirin 141.23 333 *e*P **PKiKP** **22 43 00.3 -0.5**
comp=Z,7.5nm,1.3s
FETA Feichten 141.60 333 *e*P **PKPdf** **22 42 59.6 +0.8**
comp=Z,9.2nm,1.2s
DAVOX Davos/Dischmat 142.15 334 PKP **PKPdf** **22 42 56.9 -3.0**
comp=Z,2.3nm,0.5s,baz=132,slow=15,SNR=7.0
BNI Bardonecchia 144.88 335 PKIKP **PKPdf** **22 43 04.7 0.0**
KEST Kesra 150.40 320 PKPbc **PKiKP** **22 43 19.8 -0.3**
comp=Z,9.3nm,0.9s,baz=149,slow=5.9,SNR=4.9
KEST Kesra 150.40 320 **PKiKP** **22 43 20.2 +0.2**
PBRG Braganca 151.95 349 *e*PKP **PKPdf** **22 43 16.6 +0.5**
POLO Lamas de Olo 152.54 351 *e*PKP **PKiKP** **22 43 25.1 +0.8**
MVO Moncorvo 152.62 349 *e*PKP **PKiKP** **22 43 25.3 +0.9**
PVRL Vila Real 152.63 351 *e*PKP **PKiKP** **22 43 25.8 +1.4**
PVIS Viseu 153.20 351 *e*PKP **PKiKP** **22 43 25.8 +0.2**
ESDC Sonseca Array 153.35 343 PKPbc **PKPbc** **22 43 24.6 -1.2**
comp=Z,1.4nm,0.9s,baz=10,slow=2.1,SNR=7.0
MTE Manteigas 153.45 350 *e*PKP **PKiKP** **22 43 26.9 +0.7**
PCBR Castelo Branco 153.99 349 *e*PKP **PKPdf** **22 43 20.3 +1.2**
PMRV Marv??o 154.37 349 *e*PKP **PKPdf** **22 43 22.2 +2.5**
PACT Alcochete 155.25 351 *e*PKP **PKPdf** **22 43 20.7 -0.2**
PMST Lisbon--Monsan 155.33 352 *e*PKP **PKPdf** **22 43 23.1 +2.1**
TORD Torodi Ar. Bea 165.22 268 PKP **PKPdf** **22 43 31.0 -1.6**
comp=Z,1.1nm,1.0s,baz=212,slow=1.3,SNR=5.9

TORD			PKPab	**PKPab**	**22 44 29.8**	**-0.3**
	comp=Z,3.4nm,1.1s,baz=98,slow=2.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**165.22 268**		**PKPdf**	**22 43 31.0**	**-1.6**

IDC 14 22:27:23.9±1.6, 14°31S×166°77E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/42, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=65.4km s-min=34.2km az=120.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.72**	**182**	Pn	Pn	22 29 18.1	+0.4
	1.2nm,0.3s,baz=3.8,slow=20,SNR=1.2						
ASAR	**Alice Springs**	**32.38**	**248**	P	P	22 33 55.2	-0.3
	0.4nm,0.5s,baz=75,slow=9.1,SNR=1.2						
ILAR	**Eielson Array**	**86.28**	**18**	P	P	22 40 08.1	+0.9
	0.5nm,0.8s,baz=227,slow=6.0,SNR=4.0						
YKA	**Yellowknife Ar**	**97.40**	**27**	P	P	22 40 57.5	-1.4
	0.1nm,0.5s,baz=245,slow=5.4,SNR=1.8						

IDC 14 22:29:52.9±0.6, 32°81N×130°60E, h0km, mb3.9/21, mb1 4.0/27, mb1mx3.9/75, mbtmp3.9/27, ML2.9/5, Error ellipse: s-maj=13.8km s-min=6.3km az=132.0
JMA 14 22:29:55.9, 32°84N×130°89E, h12km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs312.00000°, δ75.00000°, λ-23.00000°. NP2: φs49.00000°, δ67.00000°, λ-164.00000°. Principal axes: T Plg5.0000°, Azm2.0000°; N Plg62.0000°, Azm102.0000°; P Plg27.0000°, Azm269.0000°;
JMA Felt IV J1.
NEIC 14 22:29:56.8±1.3, 32°85N±0°.02×130°78E±0°.06, h10km±1km, mb4.6/34 Error ellipse: s-maj=9.0km s-min=3.4km az=100.0

ISC 14 22:29:56.5±0.8, 32°84N±0°.02×130°81E±0°.04, h16km±5km, n91, σ1s39/100, mb4.3/41, 3C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.26**	**297**	⇓P	**Pg**	**22 30 02.4**	**+0.1**
JTA				S	**Sg**	**22 30 07.2**	**+1.0**
JNU	**Nakatsue**	**0.28**	**12**	Pg	**Pg**	**22 30 01.1**	**-1.6**
	6μm,0.3s,baz=203,slow=6.1						
JNU				Lg	Lg	22 30 05.6	
	6μm,0.3s,baz=335,slow=15,SNR=24						
JNU	**Nakatsue**	**0.28**	**12**	⇑P	**Pg**	**22 30 01.8**	**-0.8**
JNU				S	**Sg**	**22 30 06.1**	**-0.7**
JNU	**Nakatsue**	**0.28**	**12**	Pg	**Pg**	**22 30 01.9**	**-0.8**
JNU				Sg	**Sg**	**22 30 05.8**	**-1.0**
JIU3	**Izumi3**	**0.29**	**180**	⇑P	**Pg**	**22 30 01.9**	**-0.9**
JIU3				S	**Sg**	**22 30 06.3**	**-0.7**
JTZ	**Takazaki**	**0.97**	**166**	⇑P	**Pg**	**22 30 14.3**	**-1.0**
JTZ				S	**Sg**	**22 30 27.0**	**-1.0**
JSU	**Suzuyama**	**1.37**	**193**		**Pn**	**22 30 20.8**	**-0.2**
JSU				Sg	**Sn**	**22 30 39.0**	**+0.2**
JTU	**Tsushima**	**2.05**	**325**	Pn	**Pn**	**22 30 30.4**	**+0.1**
JTU				Sn	**Sb**	**22 30 59.8**	**+1.2**
JMN	**Monobe**	**2.72**	**70**	Pn	**Pn**	**22 30 40.9**	**+1.3**
JHS	**Saijyo**	**2.88**	**41**	Pn	**Pn**	**22 30 43.0**	**+1.2**
TJN	**Taejon**	**4.53**	**322**	Pn	**Pn**	**22 31 05.1**	**+0.7**
KSRS	**Korea Array**	**5.17**	**334**	Pn	**Pn**	**22 31 10.9**	**-2.3**
	1.6nm,0.3s,baz=150,slow=15,SNR=8.7						
KSRS				Pg	**Pb**	**22 31 29.4**	**+2.8**
	2.4nm,0.3s,baz=149,slow=15,SNR=8.4						
KSRS				Sn	**Sn**	**22 32 12.8**	**+0.2**
	4.8nm,0.3s,baz=153,slow=25,SNR=5.6						
KSRS				Lg	Lg	22 32 37.4	
	7.4nm,0.3s,baz=151,slow=28,SNR=7.6						
KSAR	**Wonju Array Be**	**5.18**	**333**		**Pg**	**22 31 32.1**	**-3.5**
KS19	**Wonju Array Si**	**5.24**	**333**	Pn	**Pn**	**22 31 14.5**	**+0.4**
INU	**Inuyama**	**5.72**	**62**	Pn	**Pn**	**22 31 22.5**	**+1.7**
JGF	**Kuroka**	**6.08**	**61**	Pn	**Pn**	**22 31 27.7**	**+1.9**
JOW	**Kunigami**	**6.38**	**201**	Pn	**Pn**	**22 31 27.4**	**-2.5**
	0.4nm,0.3s,baz=105,slow=10,SNR=1.5						
JOW	**Kunigami**	**6.38**	**201**	Pn	**Pn**	**22 31 32.0**	**+2.1**
MJAR	**Matsushiro Arr**	**7.12**	**57**	Pn	**Pn**	**22 31 40.9**	**+0.8**
	0.2nm,0.3s,baz=24,slow=15,SNR=2.9						
JHJ	**Hachijo jima 2**	**7.54**	**85**	Pn	**Pn**	**22 31 46.8**	**+0.9**
	13nm,0.3s,baz=256,slow=22,SNR=2.0						
JHJ2	**Mitsune**	**7.57**	**86**	Pn	**Pn**	**22 31 47.1**	**+0.9**
NJ2	**Nanjing**	**10.13**	**269**	*e*P	**Pn**	**22 32 22.0**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**11.38**	**4**	Pn	**Pn**	**22 32 36.1**	**-2.2**
	baz=195,slow=10,SNR=3.0						
USRK				Pg		22 33 24.1	
	baz=145,slow=5.9,SNR=5.6						
ERM	**Erimo**	**13.41**	**43**	Pn	**Pn**	**22 33 06.0**	**-0.1**
KLR	**Kul'dur**	**16.39**	**2**	Pn	**Pn**	**22 33 46.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=180,slow=16,SNR=4.7						
HHC	**Hu-ho-hao-te**	**17.33**	**303**	*e*P	**Pn**	**22 33 58.4**	**+0.6**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,1μm,5.6s						
LZH	**Lanzhou**	**22.44**	**286**	*e*P	**P**	**22 34 53.6**	**-1.3**
LZH				pP	sP	22 35 00.8	-0.8
LZH				sP	pP	22 35 03.8	+4.3
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
CD2	**Chengdu**	**23.03**	**273**	P	**P**	**22 35 02.1**	**+1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SONM	**Songino Array**	**23.75**	**316**	P	**P**	**22 35 07.4**	**-0.7**
	comp=Z,3.1nm,1.0s,baz=110,slow=7.8,SNR=2.8						
PZH	**PanZhiHua**	**25.98**	**264**	P	**P**	**22 35 29.0**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.95**	**251**	P	**P**	**22 36 20.1**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=48,slow=6.8,SNR=1.7						
WMQ	**Urumqi**	**35.19**	**301**	*e*P	**P**	**22 36 52.5**	**+2.6**
KULM	**Kulim**	**39.27**	**232**	P	**P**	**22 37 24.8**	**+0.2**
KULM				IAmb	IAmb	22 37 32.6	
	comp=Z,8.2nm,1.2s						
IPM	**Ipoh**	**39.62**	**231**		**P**	**22 37 27.9**	**+0.3**
KURK	**Kurchatov**	**41.86**	**311**	P	**P**	**22 37 45.8**	**+0.1**
KURBB	**Kurchatov Arra**	**41.91**	**311**	P	**P**	**22 37 44.6**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=97,slow=8.9,SNR=10						
ADK	**Adak**	**42.17**	**47**	P	**P**	**22 37 48.6**	**+0.5**
TARG	**Taragay, Kyrgy**	**42.52**	**298**	P	**P**	**22 37 50.7**	**-1.0**
NRIK	**Noril'sk**	**43.76**	**339**	P	**P**	**22 37 58.9**	**-1.9**
	comp=Z,1.0nm,0.4s,baz=124,slow=12,SNR=1.5						
KSH	**Kashi**	**44.19**	**295**	P	**P**	**22 38 09.1**	**+4.3**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	**Ala-Archa**	**44.86**	**299**	P	**P**	**22 38 08.5**	**-1.8**
	comp=Z,2.4nm,0.7s,baz=136,slow=6.5,SNR=11						
AAK	**Ala-Archa**	**44.86**	**299**	P	**P**	**22 38 10.3**	**+0.1**
BVAR	**Borovoye Array**	**47.06**	**314**	P	**P**	**22 38 25.4**	**-1.9**
	comp=Z,1.1nm,0.8s						
BRVK	**Borovoye**	**47.13**	**314**	P	**P**	**22 38 28.5**	**+0.7**
BRVK				IAmb	IAmb	22 38 29.9	
	comp=Z,2.9nm,1.0s						
DRK	**Karamyk**	**47.37**	**296**	P	**P**	**22 38 30.2**	**0.0**
DRK				IAmb	IAmb	22 38 38.4	
	comp=Z,5.7nm,1.4s						
KK31	**Karatay Array**	**47.70**	**301**	P	**P**	**22 38 33.1**	**+0.7**
KK31				IAmb	IAmb	22 38 34.5	
	comp=Z,7.2nm,0.7s						
KKAR	**Karatay Array**	**47.70**	**301**	P	**P**	**22 38 33.5**	**+1.1**
KKAR				IAmb	IAmb	22 38 34.5	
	comp=Z,7.2nm,0.7s						
KKAR	**Karatay Array**	**47.70**	**301**	P	**P**	**22 38 33.0**	**+0.6**
COEN	**Coen**	**48.01**	**164**	P	**P**	**22 38 35.3**	**+0.4**
GAR	**Garm**	**48.59**	**295**	P	**P**	**22 38 40.4**	**+0.9**
GAR				IAmb	IAmb	22 38 41.4	
	comp=Z,4.1nm,0.7s						
CHGR	**Chuyangaron**	**49.55**	**295**	P	**P**	**22 38 47.2**	**+0.4**
CHGR				IAmb	IAmb	22 38 52.9	
	comp=Z,9.0nm,0.8s						
SDPT	**Sand Point**	**51.86**	**43**	P	**P**	**22 39 05.2**	**+1.5**
WB0	**Warramunga Arr**	**52.42**	**176**	P	**P**	**22 39 08.9**	**+0.6**
WRA	**Warramunga Arr**	**52.60**	**176**	P	**P**	**22 39 08.8**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=357,slow=8.0,SNR=5.7						
WRA	**Warramunga Arr**	**52.60**	**176**	P	**P**	**22 39 10.4**	**+0.8**
WB2	**Warramunga Arr**	**52.60**	**176**	P	**P**	**22 39 10.3**	**+0.7**
WB2				IAmb	IAmb	22 39 22.7	
	comp=Z,7.2nm,1.2s						
WR0	**Warramunga Arr**	**52.63**	**176**	P	**P**	**22 39 10.2**	**+0.4**
WR0				IAmb	IAmb	22 39 19.9	
	comp=Z,6.2nm,1.3s						
PALK	**Pallekele**	**52.88**	**253**	P	**P**	**22 39 12.2**	**+0.2**
PALK				IAmb	IAmb	22 39 23.5	
	comp=Z,23nm,1.4s						
ABKAR	**Akbulak array**	**53.95**	**310**	P	**P**	**22 39 19.6**	**+0.4**
K20K	**Telida**	**54.60**	**32**	P	**P**	**22 39 25.4**	**+1.5**
K20K				IAmb	IAmb	22 39 33.0	
	comp=Z,5.4nm,1.4s						
AKTO	**Aktyubinsk**	**54.95**	**312**	P	**P**	**22 39 24.2**	**-2.4**
	comp=Z,1.0nm,0.6s,baz=72,slow=4.9,SNR=3.8						
PPLA	**Purkeypile**	**55.49**	**33**	P	**P**	**22 39 32.1**	**+1.6**
PPLA				IAmb	IAmb	22 39 38.2	
	comp=Z,16nm,1.4s						
HRA	**Herat**	**56.09**	**292**	P	**P**	**22 39 36.2**	**+0.9**
HRA				IAmb	IAmb	22 39 46.9	
	comp=Z,2.2nm,0.5s						
ASAR	**Alice Springs**	**56.27**	**177**	P	**P**	**22 39 35.1**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=6.0,slow=7.8,SNR=7.2						
ASAR	**Alice Springs**	**56.27**	**177**	P	**P**	**22 39 35.7**	**-0.6**
H23K	**Yukon River**	**56.34**	**29**	P	**P**	**22 39 37.8**	**+1.3**
H23K				IAmb	IAmb	22 39 55.9	
	comp=Z,8.9nm,1.5s						
RND	**Reindeer**	**56.93**	**32**	P	**P**	**22 39 42.2**	**+1.5**
RND				IAmb	IAmb	22 39 47.2	
	comp=Z,6.1nm,1.2s						
ILAR	**Eielson Array**	**57.59**	**30**	P	**P**	**22 39 44.3**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=291,slow=7.6,SNR=1.7						
L27K	**Beaver Creek,**	**60.12**	**32**	P	**P**	**22 40 04.3**	**+1.5**
BCAR	**Beaver Creek A**	**60.14**	**32**	P	**P**	**22 40 04.7**	**+1.7**
SPB2	**Spitsbergen Ar**	**62.85**	**348**	P	**P**	**22 40 22.7**	**+1.7**
SPITS	**Spitsbergen Ar**	**62.85**	**348**	P	**P**	**22 40 19.2**	**-1.9**
	comp=Z,11nm,1.1s,baz=171,slow=10,SNR=1.9						
C36M	**Paulatuk**	**64.74**	**22**	P	**P**	**22 40 34.2**	**+0.7**
C36M				IAmb	IAmb	22 40 42.8	
	comp=Z,5.3nm,1.4s						
STKA	**Stephens Creek**	**65.17**	**170**	P	**P**	**22 40 36.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=355,slow=9.2,SNR=2.9						
STKA	**Stephens Creek**	**65.17**	**170**	P	**P**	**22 40 37.6**	**+0.8**
BBOO	**Buckleboo**	**65.49**	**175**	P	**P**	**22 40 38.8**	**0.0**
BBOO				IAmb	IAmb	22 40 50.3	
	comp=Z,5.2nm,1.3s						
KBZ	**Khabaz**	**66.80**	**308**	P	**P**	**22 40 46.3**	**-1.0**
	comp=Z,2.3nm,0.8s,baz=91,slow=4.0,SNR=8.3						
FINES	**FINESS Array B**	**68.25**	**330**	P	**P**	**22 40 53.7**	**-2.4**
	comp=Z,0.9nm,0.6s,baz=67,slow=5.7,SNR=8.8						
FINES	**FINESS Array B**	**68.25**	**330**	P	**P**	**22 40 56.8**	**+0.7**
YKA	**Yellowknife Ar**	**71.61**	**26**	P	**P**	**22 41 15.6**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=305,slow=5.6,SNR=4.2						
AKASG	**Malin Array Be**	**72.00**	**319**	P	**P**	**22 41 17.6**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=53,slow=6.3,SNR=6.2						
NOA	**NORSAR Array B**	**74.38**	**334**	P	**P**	**22 41 32.2**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=51,slow=5.6,SNR=3.3						
BRTR	**Keskin Array B**	**74.78**	**308**	P	**P**	**22 41 34.4**	**-1.8**
	comp=Z,1.2nm,0.9s,baz=151,slow=2.8,SNR=5.1						
BURAR	**Bucovina Array**	**75.86**	**318**	P	**P**	**22 41 43.1**	**+1.0**
KWP	**Kalwaria Pacla**	**76.11**	**320**	P	**P**	**22 41 44.4**	**+1.0**
VRAC	**Vranov**	**79.51**	**323**	P	**P**	**22 42 00.2**	**-2.2**
	comp=Z,0.9nm,0.5s,baz=108,slow=3.2,SNR=1.9						
CLL	**Collm**	**80.00**	**326**	*e*P	**P**	**22 42 05.0**	**+0.1**
GERES	**GERESS Array B**	**81.27**	**323**	P	**P**	**22 42 09.1**	**-2.8**
	comp=Z,0.7nm,0.9s,baz=85,slow=1.5,SNR=3.9						
GERES	**GERESS Array B**	**81.27**	**323**	P	**P**	**22 42 10.9**	**-1.0**
KARP	**Karpathos**	**81.35**	**307**	P	**P**	**22 42 12.8**	**+0.3**
TXAR	**Lajitas Array**	**99.44**	**46**	P	**Pdif**	**22 43 37.2**	**-1.6**
	comp=Z,0.1nm,0.7s,baz=302,slow=5.2,SNR=2.1						

TUL 14 22:32:19.6±1.2, 36°623N±0°.009×97°70W±0°.02, h7km±6km, ML2.6, mb_Lg2.6/22(NEIC), Error ellipse: s-maj=1.9km s-min=1.3km az=83.0

NEIC 14 22:32:19.6±0.8, 36°60N±0°.01×97°68W±0°.01, h3km±6km, Error ellipse: s-maj=1.7km s-min=1.5km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.99**	**71**	Pg	Pg	22 32 38.4	-0.2
U32A	**Winter Ranch,**	**1.09**	**259**	Pg	Pg	22 32 40.1	-0.3
FNO	**Franklin**	**1.36**	**170**	Pn	Pn	22 32 44.5	-1.0
W35A	**Tecumseh**	**1.59**	**155**		Pn	22 32 48.9	+0.3
TUL1	**Leonard**	**1.67**	**114**		Pn	22 32 49.5	-0.3
R32A	**Long Quarter,**	**1.99**	**336**	Pn	Pn	22 32 54.5	+0.3
X34A	**Smith Ranch, M**	**2.00**	**184**		Pb	22 32 55.8	-0.8
X34A				IAmb_Lg		22 33 28.9	
	comp=Z,27nm,0.9s						
WMOK	**Wichita Mounta**	**2.06**	**206**		Pn	22 32 55.6	+0.4
WMOK				IAmb_Lg		22 33 26.6	
	comp=Z,34nm,0.8s						
KSU1	**Kansas State U**	**2.63**	**18**		Pb	22 33 08.3	+0.8
X37A	**Clayton**	**2.75**	**136**		Pn	22 33 05.5	+0.9
X37A				IAmb_Lg		22 33 54.2	
	comp=Z,15nm,0.8s						
HHAR	**Hobbs**	**3.03**	**95**		Pn	22 33 08.6	+0.1
W39A	**Magazine**	**3.46**	**113**		Pb	22 33 22.9	+1.4
S39A	**Bolivar**	**3.65**	**71**		Pb	22 33 26.6	+1.9
S39A				IAmb_Lg		22 34 21.8	
	comp=Z,12nm,1.1s						
MGMO	**Mountain Grove**	**4.37**	**81**	IAmb_Lg		22 34 39.0	
	comp=Z,12nm,0.8s						
P38A	**Dawn**	**4.45**	**46**	IAmb_Lg		22 34 40.4	
	comp=Z,9.0nm,0.8s						
N35A	**Tabor**	**4.54**	**20**	IAmb_Lg		22 34 55.5	
	comp=Z,14nm,0.8s						
P40A	**Paris**	**5.32**	**55**	IAmb_Lg		22 35 15.5	
	comp=Z,8.9nm,0.7s						
FVM	**French Village**	**5.95**	**74**	IAmb_Lg		22 35 28.0	
	comp=Z,10nm,0.9s						
S44A	**Carbondale**	**6.82**	**78**	IAmb_Lg		22 35 57.3	
	comp=Z,14nm,1.0s						
P43A	**Skaggs, Pawnee**	**7.11**	**62**	IAmb_Lg		22 36 11.1	
	comp=Z,14nm,0.7s						
K38A	**Parkersburg**	**7.13**	**31**	IAmb_Lg		22 36 14.4	
	comp=Z,11nm,0.8s						

IDC 14 22:39:13.3±1.8, 14°27S×166°40E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/41, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=52.1km s-min=31.3km az=124.0

ISC 14 22:39:18.4±1.6, 14°4S±0°.1×166°5E±0°.2, h35km, n5, σ0s73/6, mb3.5/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.61**	**180**	Pn	**Pn**	**22 41 07.7**	**+0.7**
	1.2nm,0.3s,baz=18,slow=20,SNR=12						
DZM				Sn	**Sn**	**22 42 31.2**	**-0.9**
	baz=328,slow=22,SNR=1.3						
STKA	**Stephens Creek**	**28.60**	**228**	P	**P**	**22 45 11.6**	**+0.1**
	0.6nm,0.5s,baz=55,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**31.14**	**255**	P	**P**	**22 45 33.8**	**-0.4**
	0.3nm,0.8s,baz=85,slow=8.3,SNR=1.4						
ASAR	**Alice Springs**	**32.05**	**248**	P	**P**	**22 45 42.3**	**+0.2**
	0.2nm,0.3s,baz=75,slow=9.4,SNR=5.1						
ILAR	**Eielson Array**	**86.48**	**18**	P	**P**	**22 51 57.0**	**-0.2**
	0.7nm,0.7s,baz=234,slow=5.3,SNR=5.9						

NOU 14 22:43:17.6, 39°28S×174°68E, h178km, ML4.1/8, North Island, New Zealand
NEIC 14 22:43:18.2±1.4, 39°37S±0°.06×174°8E±0°.1, h175km±7km, mb4.4/5, Error ellipse: s-maj=11.9km s-min=8.4km az=107.0
WEL 14 22:43:21.0±0.6, 39°S±3°×17°5E±°, h148km±5km, M3.5/73, ML3.5/6, MLv3.5/73, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1

ISC 14 22:43:18.1±0.7, 39°40S±0°.04×174°78E±0°.04, h175km±5km, n197, σ0s94/211, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.27**	**357**	P	**Pn**	**22 43 41.8**	**+0.2**
VRZ				S	**Sn**	**22 43 58.1**	**-1.4**
LREZ	**Lake Rotokare**	**0.30**	**257**	P	**Pn**	**22 43 42.6**	**+1.1**
LREZ				S	**Sn**	**22 43 59.4**	**-0.1**
WAZ	**Wanganui**	**0.39**	**156**	P	**Pn**	**22 43 43.1**	**+1.3**
WAZ				S	**Sn**	**22 43 59.9**	**-0.4**
PKVZ	**Pokaka**	**0.45**	**77**	P	**Pn**	**22 43 42.8**	**+0.7**
PKVZ				S	**Sn**	**22 43 59.2**	**-1.4**
MHEZ	**Mangahewa**	**0.47**	**312**	P	**Pn**	**22 43 43.0**	**+0.9**
MHEZ				S	**Sn**	**22 43 59.8**	**-0.8**
PREZ	**Palmer Road**	**0.48**	**276**	P	**Pn**	**22 43 43.2**	**+1.0**
DREZ	**Durham Road**	**0.49**	**295**	P	**Pn**	**22 43 43.0**	**+0.8**
DREZ				S	**Sn**	**22 43 59.9**	**-0.8**
MTVZ	**Mangateitei**	**0.54**	**89**	P	**Pn**	**22 43 43.4**	**+0.9**
MTVZ				S	**Sn**	**22 43 59.9**	**-1.4**
NEZ	**North Egmont**	**0.54**	**283**	P	**Pn**	**22 43 43.5**	**+0.9**
KHEZ	**Kahui Hut**	**0.60**	**279**	P	**Pn**	**22 43 43.7**	**+0.8**
KHEZ				S	**Sn**	**22 44 01.2**	**-0.6**
TRVZ	**Turoa**	**0.60**	**81**	P	**Pn**	**22 43 43.9**	**+0.8**
TRVZ				S	**Sn**	**22 44 00.3**	**-1.8**
FWVZ	**Far West T-bar**	**0.62**	**77**	P	**Pn**	**22 43 43.8**	**+0.7**
WHVZ	**Whangaehu Hut**	**0.64**	**80**	P	**Pn**	**22 43 44.1**	**+0.9**
WNVZ	**Wahianoa**	**0.64**	**84**	P	**Pn**	**22 43 43.9**	**+0.8**
PKE	**Pukeiti**	**0.65**	**288**	P	**Pn**	**22 43 43.7**	**+0.8**
NGZ	**Ngauruhoe**	**0.68**	**71**	P	**Pn**	**22 43 44.0**	**+0.7**
WTVZ	**West Tongariro**	**0.69**	**66**	P	**Pn**	**22 43 44.1**	**+0.7**
TUVZ	**Tukino**	**0.69**	**80**	P	**Pn**	**22 43 44.3**	**+1.0**
NMEZ	**Namu Road**	**0.70**	**268**	P	**Pn**	**22 43 44.2**	**+1.0**
NNVZ	**North Ngauruho**	**0.70**	**68**	P	**Pn**	**22 43 44.2**	**+0.7**
SNVZ	**South Ngauruho**	**0.70**	**73**	P	**Pn**	**22 43 44.3**	**+0.9**
NBEZ	**Newall Road No**	**0.72**	**280**	P	**Pn**	**22 43 44.3**	**+0.9**
OTVZ	**Oturere**	**0.73**	**72**	P	**Pn**	**22 43 44.3**	**+0.7**
KRVZ	**Karewarewa**	**0.73**	**66**	P	**Pn**	**22 43 44.2**	**+0.6**
MOVZ	**Moawhango**	**0.76**	**91**	P	**Pn**	**22 43 44.2**	**+0.6**
NTVZ	**North Tongarir**	**0.76**	**67**	P	**Pn**	**22 43 44.6**	**+0.8**
ETVZ	**East Tongariro**	**0.77**	**71**	P	**Pn**	**22 43 44.8**	**+1.0**
TMVZ	**Te Maari**	**0.77**	**69**	P	**Pn**	**22 43 44.5**	**+0.7**
KATZ	**Kakaramea**	**0.83**	**60**	P	**Pn**	**22 43 44.9**	**+0.7**
HIZ	**Hauiti**	**0.88**	**4**			**22 43 44.4**	**0.0**
HIZ					Sn	**Sn**	**22 44 03.8**	**-0.9**
HIZ	**Hauiti**	**0.88**	**4**	P	**Pn**	**22 43 44.4**	**0.0**
OHWZ	**Ohakea**	**0.91**	**153**	P	**Pn**	**22 43 46.3**	**+1.7**
RATZ	**Rangitukua**	**0.94**	**56**	P	**Pn**	**22 43 45.5**	**+0.6**
RITZ	**Rihia Road**	**0.94**	**64**	P	**Pn**	**22 43 45.7**	**+0.9**
BHHZ	**Black Hill Sta**	**1.00**	**96**	P	**Pn**	**22 43 45.8**	**+0.5**
WATZ	**Wairara**	**1.01**	**48**	P	**Pn**	**22 43 46.3**	**+0.9**
TSZ	**Takapari Road**	**1.13**	**126**	P	**Pn**	**22 43 47.5**	**+1.2**
HATZ	**Hinemaiaia**	**1.14**	**64**	P	**Pn**	**22 43 46.8**	**+0.4**
WHTZ	**Whakaora**	**1.17**	**52**	P	**Pn**	**22 43 48.0**	**+1.3**
PNHZ	**Pukenui**	**1.21**	**116**	P	**Pn**	**22 43 48.1**	**+1.1**
KUTZ	**Kaahu Road**	**1.22**	**42**	P	**Pn**	**22 43 48.0**	**+0.9**
TLZ	**Tolley Road**	**1.22**	**29**	P	**Pn**	**22 43 47.5**	**+0.4**
POWZ	**Post Office Ro**	**1.25**	**143**	P	**Pn**	**22 43 48.3**	**+1.1**
KRHZ	**Kereru**	**1.26**	**102**	P	**Pn**	**22 43 48.5**	**+1.1**
KWHZ	**Kaweka Forest**	**1.27**	**92**	P	**Pn**	**22 43 48.8**	**+1.3**
BKZ	**Black Stump Fm**	**1.35**	**81**	Pn	**Pn**	**22 43 48.8**	**+0.6**
BKZ	**Black Stump Fm**	**1.35**	**81**	P	**Pn**	**22 43 48.9**	**+0.6**
BKZ	**Black Stump Fm**	**1.35**	**81**	P	**Pn**	**22 43 48.9**	**+0.6**
MRHZ	**Matea Rd**	**1.39**	**67**	P	**Pn**	**22 43 48.6**	**0.0**
DVHZ	**Dannevirke**	**1.40**	**131**	P	**Pn**	**22 43 49.7**	**+1.1**
MRZ	**Mangatainoka R**	**1.41**	**154**	P	**Pn**	**22 43 49.7**	**+1.0**
WPHZ	**Waipukurau**	**1.45**	**118**	P	**Pn**	**22 43 50.4**	**+1.3**
OGWZ	**Otaki Gorge**	**1.45**	**168**	P	**Pn**	**22 43 50.4**	**+1.4**
KIW	**Kapiti Island**	**1.47**	**176**	P	**Pn**	**22 43 50.3**	**+1.1**
GRHZ	**Galatos Road**	**1.47**	**45**	P	**Pn**	**22 43 50.2**	**+0.8**
ALRZ	**Allen Road**	**1.48**	**56**	P	**Pn**	**22 43 49.3**	**+0.4**
PRWZ	**Pori Road**	**1.48**	**142**	P	**Pn**	**22 43 50.7**	**+1.4**
MCHZ	**McNeill Hill**	**1.49**	**93**	P	**Pn**	**22 43 51.2**	**+1.8**
PRRZ	**Plateau Road**	**1.54**	**55**	P	**Pn**	**22 43 50.5**	**+0.5**
HRRZ	**Handcock Road**	**1.55**	**50**	P	**Pn**	**22 43 50.5**	**+0.5**
DUWZ	**D'Urville Isla**	**1.55**	**205**	P	**Pn**	**22 43 51.0**	**+1.0**
HSRZ	**Hossack Road**	**1.58**	**47**	P	**Pn**	**22 43 51.2**	**+0.8**
HOWZ	**Holdsworth Sta**	**1.60**	**160**	P	**Pn**	**22 43 51.6**	**+1.0**
NMHZ	**Naumai**	**1.60**	**80**	P	**Pn**	**22 43 52.1**	**+1.4**
TIWZ	**Tintock**	**1.62**	**149**	P	**Pn**	**22 43 51.9**	**+1.2**
UTU	**Utuhina**	**1.65**	**43**	P	**Pn**	**22 43 52.2**	**+1.2**
KAHZ	**Kahuranaki**	**1.67**	**104**	P	**Pn**	**22 43 52.8**	**+1.5**
PRHZ	**Porangahau**	**1.68**	**122**	P	**Pn**	**22 43 52.7**	**+1.4**
HLRZ	**Highlands

OXZ	Oxford	4.43	207	Pn		Pn	22 44 23.6	-0.9
OXZ	Oxford	4.43	207	P		Pn	22 44 23.9	-0.6
OKCZ	Okains Bay	4.51	196	P		Pn	22 44 25.3	-0.2
MQZ	McQueen's Vall	4.59	200	Pn		Pn	22 44 25.7	-0.8
MQZ	McQueen's Vall	4.59	200	P		Pn	22 44 25.6	-0.9
AKCZ	Akaroa Harbour	4.69	197	P		Pn	22 44 27.3	-0.5
RACZ	Rakaia	4.76	204	P		Pn	22 44 28.0	-0.7
WVZ	Waitaha Valley	4.77	218	P		Pn	22 44 29.2	+0.3
WACZ	Wakanui South	5.05	205	P		Pn	22 44 32.7	+0.3
RPZ	Rata Peaks	5.14	212	Pn		Pn	22 44 33.9	+0.2
RPZ	Rata Peaks	5.14	212	P		Pn	22 44 34.1	+0.4
RPZ	Rata Peaks	5.14	212	P		Pn	22 44 34.0	+0.4
GCSZ	Gaunt Creek Bo	5.15	219	P		Pn	22 44 34.0	+0.2
ARCZ	Arundel	5.29	209	P		Pn	22 44 35.4	-0.2
FOZ	Fox Glacier	5.56	220	Pn		Pn	22 44 39.7	+0.6
FOZ	Fox Glacier	5.56	220	P		Pn	22 44 39.1	-0.1
TMZ	Timaru	5.72	208	P		Pn	22 44 40.9	-0.4
LBZ	Lake Benmore	6.05	213	Pn		Pn	22 44 44.8	-0.7
LBZ	Lake Benmore	6.05	213	P		Pn	22 44 45.3	-0.3
ODZ	Otahua Downs	6.42	207	Pn		Pn	22 44 50.5	+0.1
ODZ	Otahua Downs	6.42	207	P		Pn	22 44 50.4	-0.1
ODZ	Otahua Downs	6.42	207	P		Pn	22 44 50.9	+0.4
JCZ	Jackson Bay	6.47	222	P		Pn	22 44 50.8	-0.4
WKZ	Wanaka	6.91	216	Pn		Pn	22 44 56.6	-0.3
WKZ	Wanaka	6.91	216	P		Pn	22 44 55.8	-1.1
MLZ	Mavora Lakes	7.74	217	Pn		Pn	22 45 07.6	-0.2
MLZ	Mavora Lakes	7.74	217	P		Pn	22 45 07.7	-0.2
WHZ	Wether Hill Ro	8.21	216	Pn		Pn	22 45 12.6	-1.4
DCZ	Deep Cove	8.28	220	Pn		Pn	22 45 14.5	-0.4
PINNC	Pines Island,	17.86	337	P		P	22 47 12.5	-1.5
PINNC	comp=Z,22nm,1.0s			IAmb		IAmb	22 47 19.3	
OUENC	Ouen Island, N	18.23	336	P		P	22 47 15.7	-2.4
OUENC	comp=Z,9.1nm,1.1s			IAmb		IAmb	22 47 31.3	
KNTN	Kanton	38.47	22	P		P	22 50 21.2	-1.9
FORT	Forrest	38.82	268	P		P	22 50 28.3	+2.3
FORT	comp=Z,11nm,1.1s			IAmb		IAmb	22 50 31.5	
WB0	Warramunga Arr	39.79	288	P		P	22 50 34.2	+0.1
BELA	Belgrano 2	61.63	173	P		P	22 53 17.5	+0.9
PZH	PanZhiHua	94.47	301	P		P	22 56 19.8	+1.3
PZH	comp=Z,10.0nm,0.6s			pmax		pmax		

IDC ***14*** *22:46:49.3±0.6, 32°.74N×130°.52E, h0km, mb3.9/17, mb1 4.0/22, mb1mx4.0/40, mbtmp3.9/22, ML2.8/4, MS3.9/1, Ms1 3.9/1, ms1mx3.5/91, Error ellipse: s-maj=13.8km s-min=7.2km az=130.0*

MOS ***14*** *22:46:51.6±1.7, 32°.75N×130°.81E, h15km, mb4.5/15, Error ellipse: s-maj=9.6km s-min=5.7km az=101.9*

JMA ***14*** *22:46:52.0, 32°.73N×130°.80E, h11km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs113.00000°, δ82.00000°, λ21.00000°. NP2: φs20.00000°, δ69.00000°, λ172.00000°. Principal axes: T Plg20.0000°, Azm338.0000°; N Plg68.0000°, Azm132.0000°; P Plg9.0000°, Azm245.0000°;*

JMA Felt IV J1.

NIED ***14*** *22:46:52.0, 32°.73N×130°.80E, h11km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.64; Mθθ2.74; Mφφ-2.10; Mrθ-0.30; Mθφ2.91; Mφr-1.69; Fault plane solution: Mo4.19000×10^15 NP1: φs288.00000°, δ65.00000°, λ-8.00000°. NP2: φs22.00000°, δ82.00000°, λ-155.00000°.*

NEIC ***14*** *22:46:53.5±2.2, 32°.76N±0°.02×130°.71E±0°.06, h10km±1km, mb4.5/44 Error ellipse: s-maj=9.4km s-min=3.1km az=103.0*

ISC 14 22:46:52.3±1.0, 32°.75N±0°.02×130°.73E±0°.04, h7km±6km, n148, σ1§61/158, mb4.4/60, 11C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIU3	Izumi3	0.21	160	⇑P		Pg	22 46 56.0	-0.5
JIU3				S		Sg	22 46 59.0	-0.3
JTA	Tamana	0.27	323	⇑P		Pg	22 46 58.6	+0.9
JTA				S		Sg	22 47 03.1	+1.8
JNU	Nakatsue	0.40	19	Pg		Pg	22 46 59.3	-0.8
	796nm,0.3s,baz=189,slow=8.8,SNR=406							
JNU				Lg		Lg	22 47 05.2	
	9μm,0.3s,baz=278,slow=19,SNR=87							
JNU	Nakatsue	0.40	19	⇑P		Pg	22 47 00.0	-0.1
JNU				S		Sg	22 47 05.5	+0.2
JNU	Nakatsue	0.40	19	Pg		Pg	22 46 60.0	-0.1
JNU				Sg		Sg	22 47 05.1	-0.1
JTZ	Takazaki	0.90	160	⇑P		Pg	22 47 08.9	-0.7
JTZ				S		Sg	22 47 20.9	-0.3
JSU	Suzuyama	1.26	191			Pg	22 47 15.4	-1.1
JSU						Sg	22 47 32.0	-0.8
JTU	Tsushima	2.09	328	Pn		Pn	22 47 26.9	-0.9
JTU				Sn		Sb	22 47 56.3	-0.5
JMN	Monobe	2.82	69	Pn		Pn	22 47 38.3	+0.5
JHS	Saijyo	3.00	41	Pn		Pn	22 47 40.6	+0.2
TJN	Taejon	4.56	323	*i* P		Pn	22 48 02.1	+0.3
TJN	Taejon	4.56	323	Pn		Pn	22 48 01.7	-0.1
KSRS	Korea Array	5.23	335	Pn		Pn	22 48 08.9	-2.1
	0.7nm,0.3s,baz=152,slow=14,SNR=18							
KSRS				Pg		Pb	22 48 24.1	0.0
	1.3nm,0.3s,baz=150,slow=15,SNR=17							
KSRS				Sn		Sn	22 49 11.8	+0.3
	2.4nm,0.3s,baz=87,slow=25,SNR=2.4							
KSRS				Lg		Lg	22 49 36.4	
	5.5nm,0.3s,baz=156,slow=31,SNR=4.9							
KSAR	Wonju Array Be	5.23	334	P		Pn	22 48 11.6	+0.6
KSAR	Wonju Array Be	5.23	334			Pn	22 48 11.6	+0.6
KS19	Wonju Array Si	5.29	335			Pn	22 48 12.1	+0.3
INU	Inuyama	5.83	62	Pn		Pn	22 48 19.6	+0.4
JGF	Kuroka	6.19	61	Pn		Pn	22 48 25.2	+1.0
JOW	Kunigami	6.27	201	Pn		Pn	22 48 28.2	+2.9
	7.0nm,0.3s,baz=46,slow=8.2,SNR=15							
JOW				Sn		Sn	22 49 39.4	+2.2
	baz=66,slow=20,SNR=0.5							
JOW	Kunigami	6.27	201	Pn		Pn	22 48 27.0	+1.8
MJB9	Matsu-Tunnel	7.23	56	Pn		Pn	22 48 39.9	+1.4
MAJO	Matsushiro	7.23	56	*i* P		Pn	22 48 41.3	+2.8
MAJO	Matsushiro	7.23	56	Pn		Pn	22 48 40.4	+1.8
MJAR	Matsushiro Arr	7.23	56	Pn		Pn	22 48 38.7	+0.2
	0.4nm,0.3s,baz=284,slow=8.4,SNR=14							
MJAR				Lg		Lg	22 50 41.2	
	0.1nm,0.3s,baz=315,slow=23,SNR=2.4							
MJAR				LR		LR	22 51 08.2	
	comp=Z,853nm,18.2s,baz=179,slow=35							
JHJ	Hachijo jima 2	7.62	85	Pn		Pn	22 48 44.1	+0.3
	27nm,0.3s,baz=194,slow=6.2,SNR=6.0							
MSHR	Mys Shultsa	9.82	2	*i* P		Pn	22 49 20.0	+6.0
NJ2	Nanjing	10.06	269	*e*P		Pn	22 49 18.0	+0.7
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
VLA	Vladivostok	10.40	5	*i* P		Pn	22 49 24.4	+2.6
USA0B	Ussuriysk Arra	11.48	5	P		Pn	22 49 35.8	-0.8
USA0B	Ussuriysk Arra	11.48	5	Pn		Pn	22 49 35.8	-0.8
USRK	Ussuriysk Ar.	11.48	5	Pn		Pn	22 49 33.2	-3.4
	baz=174,slow=29,SNR=1.9							
USRK	Ussuriysk Ar.	11.48	5	P		Pn	22 49 35.9	-0.7
USRK	Ussuriysk Ar.	11.48	5	Pn		Pn	22 49 35.9	-0.7
CN2	Changchun	11.79	341	*e*P		Pn	22 49 44.5	+3.6
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KLR	Kul'dur	16.49	2	Pn		Pn	22 50 41.2	-2.8
	comp=Z,0.1nm,0.3s,baz=164,slow=14,SNR=3.0							
KLR	Kul'dur	16.49	2	*i* P		P	22 50 47.0	+0.3
HHC	Hu-ho-hao-te	17.32	303	*e*P		Pn	22 50 53.0	-1.8
HHC				pmax		pmax		
	comp=Z,14nm,0.9s							
HHC				pmax		pmax		
	comp=Z,410nm,7.1s							
HIA	Hailar	18.43	337	P		P	22 51 08.0	-0.3
HIA				pmax		pmax		
	comp=Z,10.0nm,1.1s							
HIA	Hailar	18.43	337	P		P	22 51 08.0	-0.3
ZEA	Zeya	21.13	354	*e*P		P	22 51 39.6	+2.0
ZEA				pmax		pmax		
	comp=N,30nm,1.0s							
ZEA				pmax		pmax		
	comp=Z,30nm,0.9s							
LZH	Lanzhou	22.40	286	*e*P		P	22 51 46.5	-5.1
LZH				pP		sP	22 51 55.4	+0.9
LZH				pmax		pmax		
	comp=Z,16nm,1.0s							
CD2	Chengdu	22.97	273	P		P	22 51 58.6	+1.0
ULN	Ulaanbaatar	23.41	317	*e*P		P	22 52 03.0	+1.0
ULN				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ULN	Ulaanbaatar	23.41	317	P		P	22 52 02.5	+0.5
SONM	Songino Array	23.77	316	P		P	22 52 01.1	+4.5
	comp=Z,1.3nm,0.6s,baz=261,slow=13,SNR=2.0							
SONM	Songino Array	23.77	316	P		P	22 52 05.4	-0.2
SONM				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SONM	Songino Array	23.77	316	P		P	22 52 05.3	-0.2
GTA	Gaotai	25.77	294	⇑P		P	22 52 28.0	+4.0
GTA				sP		sP	22 52 36.5	+10
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
PZH	PanZhiHua	25.91	264	P		P	22 52 26.4	+1.1
PZH				pmax		pmax		
	comp=Z,10.0nm,0.8s							
PETK	Petropavlovsk-	28.08	36	P		P	22 52 43.1	-1.3
	comp=Z,4.7nm,0.9s,baz=254,slow=7.2,SNR=2.1							
YAK	Yakutsk	29.31	359	*e*P		P	22 52 55.5	+0.3
YAK				pmax		pmax		
	comp=Z,9.0nm,0.7s							
GOMU	GeErMu	29.70	287	P		P	22 52 58.8	-0.7
GOMU				pP		sP	22 53 02.1	-0.3
GOMU				sP		pP	22 53 06.1	+4.5
GOMU				S		S	22 58 05.0	+9.0
GOMU				pmax		pmax		
	comp=Z,1.0nm,0.4s							
GOMU				LR		LR		
	comp=N,990nm,15.9s							
GOMU				LR		LR		
	comp=E,2μm,16.6s							
GOMU				LR		LR		
	comp=Z,1μm,16.3s							
CHTO	Chiang Mai	31.67	252	P		P	22 53 17.1	+0.6
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.9s							
CHTO	Chiang Mai	31.67	252	P		P	22 53 17.1	+0.6
CHTO				IAmb		IAmb	22 53 26.1	
	comp=Z,3.2nm,0.9s							
CMAR	Chiang Mai Arr	31.86	251	P		P	22 53 14.8	-3.5
	comp=Z,0.4nm,0.6s,baz=51,slow=7.1,SNR=1.6							
CMAR	Chiang Mai Arr	31.86	251	P		P	22 53 19.6	+1.4
CMAR	Chiang Mai Arr	31.86	251	P		P	22 53 19.6	+1.4
SHL	Shillong	34.52	268	P		P	22 53 40.8	-0.8
SHL				pmax		pmax		
	comp=Z,8.0nm,1.5s							
SHL	Shillong	34.52	268	P		P	22 53 40.8	-0.8
SHL				IAmb		IAmb	22 53 49.8	
	comp=Z,8.1nm,1.5s							
WMQ	Urumqi	35.18	301	*e*P		P	22 53 51.8	+4.8
WMQ				pmax		pmax		
	comp=Z,13nm,0.7s							
ZAA0	Zalesovo Array	38.66	317	P		P	22 54 14.4	-1.9
ZALV	Zalesovo Beam	38.66	317	P		P	22 54 12.8	-3.6
	comp=Z,0.3nm,0.4s,baz=128,slow=12,SNR=1.4							
ZALV	Zalesovo Beam	38.66	317	P		P	22 54 14.9	-1.5
ZALV	Zalesovo Beam	38.66	317	P		P	22 54 14.9	-1.5
TIXI	Tiksi	38.98	359	*ce*P		P	22 54 17.6	-1.2
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.7s							
TIXI	Tiksi	38.98	359	P		P	22 54 18.2	-0.6
MK31	Makanchi Array	39.17	306	P		P	22 54 21.2	+0.4
MK31				pmax		pmax		
	comp=Z,3.0nm,1.2s							
MK31	Makanchi Array	39.17	306	P		P	22 54 21.2	+0.4
MKAR	Makanchi Array	39.17	306	P		P	22 54 17.4	-3.3
	comp=Z,0.3nm,0.7s,baz=89,slow=12,SNR=2.7							
MKAR	Makanchi Array	39.17	306	P		P	22 54 21.7	+0.9
MKAR	Makanchi Array	39.17	306	P		P	22 54 21.7	+0.9
SAUI	Saumlaki	40.51	179	P		P	22 54 32.7	+0.7
PBA	Port Blair	40.65	248	P		P	22 54 33.5	+0.1
BILL	Bilibino	40.82	20	*e*P		P	22 54 36.3	+2.1
BILL				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KURK	Kurchatov	41.88	311	P		P	22 54 42.9	-0.2
KURK				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KURK	Kurchatov	41.88	311	P		P	22 54 42.9	-0.2
GSTR	Great Sitkin T	42.69	47	P		P	22 54 50.4	+0.6
NRIK	Noril'sk	43.83	339	P		P	22 54 57.1	-1.5
	comp=Z,3.8nm,0.9s,baz=124,slow=9.8,SNR=4.8							
NRIK	Noril'sk	43.83	339	*i* P		P	22 54 58.1	-0.5
NRIK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
NRIK	Noril'sk	43.83	339	P		P	22 54 58.3	-0.4
AAK	Ala-Archa	44.85	300	*i* P		P	22 55 10.8	+3.4
AAK				pmax		pmax		
	comp=Z,4.0nm,1.9s							
BRVK	Borovoye	47.15	314	*i* P		P	22 55 28.6	+3.4
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KK31	Karatay Array	47.69	301	P		P	22 55 30.5	+0.9
KK31				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KK31	Karatay Array	47.69	301	P		P	22 55 30.5	+0.9
KK31				IAmb		IAmb	22 55 33.7	
	comp=Z,3.8nm,0.8s							
KKAR	Karatay Array	47.69	301	P		P	22 55 30.5	+0.9
KKAR	Karatay Array	47.69	301	P		P	22 55 30.5	+0.9
CHGR	Chuyangaron	49.53	295	P		P	22 55 44.7	+0.8
CHGR				pmax		pmax		
	comp=Z,8.0nm,1.0s							
CHGR	Chuyangaron	49.53	295	P		P	22 55 44.7	+0.8
CHGR				IAmb		IAmb	22 55 49.0	
	comp=Z,7.8nm,1.0s							
WB0	Warramunga Arr	52.33	176	P		P	22 56 02.5	-2.5
WB0				IAmb		IAmb	22 56 15.3	
	comp=Z,6.8nm,1.4s							
WRA	Warramunga Arr	52.51	176	P		P	22 56 04.1	-2.1
	comp=Z,1.3nm,0.8s,baz=350,slow=8.0,SNR=9.4							
WRA	Warramunga Arr	52.51	176	P		P	22 56 06.8	+0.6
WRA	Warramunga Arr	52.51	176	P		P	22 56 06.8	+0.6
WB2	Warramunga Arr	52.51	176	P		P	22 56 06.9	+0.7
WB2				IAmb		IAmb	22 56 14.5	
	comp=Z,7.7nm,1.2s							
WR0	Warramunga Arr	52.53	175	P		P	22 56 05.2	-1.2
WR0				IAmb		IAmb	22 56 13.8	
	comp=Z,4.5nm,1.1s							
ARU	Arti	53.77	319	*c i*P		P	22 56 15.3	+0.1
ARU							22 58 17.2	
ARU				S		S	23 03 51.0	+1.2
ARU				SS		SS	23 07 31.5	+1.4
ARU				pmax		pmax		
	comp=Z,10.0nm,1.9s							
ABKAR	Akbulak array	53.95	310	P		P	22 56 16.9	+0.2
L19K	White Mountain	54.43	34	P		P	22 56 21.2	+1.2
L19K				IAmb		IAmb	22 56 28.6	
	comp=Z,6.1nm,1.4s							
J20K	Nowinta River	54.64	31	P		P	22 56 22.1	+0.7
J20K				IAmb		IAmb	22 56 36.8	
	comp=Z,7.1nm,1.4s							
K20K	Telida	54.72	32	P		P	22 56 22.3	+0.3
K20K				IAmb		IAmb	22 56 25.2	
	comp=Z,4.0nm,1.1s							
RSO	Redoubt South	55.60	36	P		P	22 56 28.6	-0.1
ASAR	Alice Springs	56.18	176	P		P	22 56 31.6	-1.4
	comp=Z,1.6nm,0.8s,baz=6.1,slow=6.3,SNR=19							
NEA2	Nenana	56.80	31	P		P	22 56 37.2	+0.3
NEA2				IAmb		IAmb	22 56 46.0	
	comp=Z,6.7nm,1.2s							
MCK	McKinley	56.97	32	P		P	22 56 38.0	-0.2
MCK				pmax		pmax		
	comp=Z,5.0nm,1.2s							
MCK	McKinley	56.97	32	P		P	22 56 38.0	-0.2
MCK				IAmb		IAmb	22 56 39.8	
	comp=Z,5.1nm,1.2s							
RND	Reindeer	57.05	32	P		P	22 56 39.7	+0.9
RND				pmax		pmax		
	comp=Z,8.0nm,1.3s							
RND	Reindeer	57.05	32	P		P	22 56 39.7	+0.9
RND				IAmb		IAmb	22 56 49.1	
	comp=Z,8.3nm,1.3s							
MDM	Murphy Dome	57.11	30	P		P	22 56 39.8	+0.6
MDM				IAmb		IAmb	22 56 43.4	
	comp=Z,4.3nm,0.9s							
PWL	Port Wells	57.70	35	P		P	22 56 45.7	+2.4
PWL				IAmb		IAmb	22 56 57.2	
	comp=Z,6.9nm,0.8s							
ILAR	Eielson Array	57.71	30	P		P	22 56 41.7	-1.6
	comp=Z,0.6nm,0.8s,baz=226,slow=16,SNR=5.9							
SCM	Sheep Creek Mo	58.00	34	P		P	22 56 44.5	-1.0
SCM				pmax		pmax		
	comp=Z,26nm,1.0s							
SCM	Sheep Creek Mo	58.00	34	P		P	22 56 44.5	-1.0
BMAR	Burnt Mountain	58.22	27	P		P	22 56 47.7	+0.7
J25K	Salcha River,	58.38	30	P		P	22 56 49.4	+1.2
MNCI	Minicoy	58.46	259	P		P	22 56 50.3	+1.0
M24K	Tolsona, Glenn	58.48	33	P		P	22 56 50.0	+1.1
SCRK	Sand Creek	59.09	31	P		P	22 56 54.3	+1.1
SCRK				IAmb		IAmb	22 56 55.8	
	comp=Z,3.5nm,1.0s							
N25K	Chitina, Valde	59.32	34	P		P	22 56 54.7	-0.1
N25K				IAmb		IAmb	22 57 05.2	
	comp=Z,11nm,1.2s							
MENT	Mentasta	59.43	32	P		P	22 56 56.0	+0.6
MENT				IAmb		IAmb	22 56 59.7	
	comp=Z,4.4nm,1.0s							
BMRM	Bremner River	59.46	34	P		P	22 56 55.1	-0.6
L26K	Log Cabin Wild	59.57	32	P		P	22 56 57.7	+1.3
L26K				IAmb		IAmb	22 57 03.5	
	comp=Z,2.0nm,0.8s							
HMT	Hamilton	59.77	35	P		P	22 56 57.4	-0.4
EGAK	Eagle	60.11	30	P		P	22 57 01.5	+1.5
EGAK				IAmb		IAmb	22 57 12.1	
	comp=Z,6.9nm,1.4s							
L27K	Beaver Creek,	60.24	32	P		P	22 57 01.9	+0.9
L27K				IAmb		IAmb	22 57 06.9	
	comp=Z,3.8nm,1.1s							
BCAR	Beaver Creek A	60.26	32	P		P	22 57 01.5	+0.4
CTGM	Chitina Glacie	61.01	34	P		P	22 57 06.6	+0.2
LOGN	Logan Glacier	61.20	34	P		P	22 57 07.7	0.0
INK	Inuvik	62.07	25	P		P	22 57 10.2	-3.0
	comp=Z,5.2nm,0.8s,baz=266,slow=12,SNR=12							
OPA	Opana	63.28	80	P		P	22 57 22.7	+0.6
OPA				pmax		pmax		
	comp=Z,122nm,1.2s							
OPA	Opana	63.28	80	P		P	22 57 22.7	+0.6
HON	Honolulu	63.45	81	P		P	22 57 24.4	+1.2
HON				pmax		pmax		
	comp=Z,166nm,1.1s							
HON	Honolulu	63.45	81	P		P	22 57 24.4	+1.2
C36M	Paulatuk	64.85	22	P		P	22 57 31.3	-0.3
C36M				IAmb		IAmb	22 57 34.6	
	comp=Z,3.1nm,0.8s							
STKA	Stephens Creek	65.09	170	P		P	22 57 32.6	-1.0
	comp=Z,1.2nm,0.5s,baz=352,slow=12,SNR=5.1							
STKA	Stephens Creek	65.09	170	P		P	22 57 32.6	-1.0
STKA				pmax		pmax		
	comp=Z,2.0nm,1.5s							
OBN	Obninsk	66.08	321	*e*P		P	22 57 41.9	+2.1
OBN				*e*			22 58 14.5	
OBN				*e*			23 00 05.4	
OBN				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KBZ	Khabaz	66.80	308	P		P	22 57 40.5	-4.2
	comp=Z,0.4nm,0.4s,baz=90,slow=2.0,SNR=2.9							
KBZ	Khabaz	66.80	308	*i* P		P	22 57 46.6	+2.0
KBZ				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KIV	Kislovodsk	66.85	308	*e*P		P	22 57 46.5	+1.4
KIV				pmax		pmax		
	comp=Z,4.0nm,1.1s							
FINES	FINESS Array B	68.30	330	P		P	22 57 51.5	-2.3
	comp=Z,1.0nm,0.4s,baz=70,slow=5.9,SNR=19							
YKA	Yellowknife Ar	71.73	26	P		P	22 58 13.0	-1.8
	comp=Z,0.4nm,0.8s,baz=302,slow=5.7,SNR=6.5							
YKA	Yellowknife Ar	71.73	26	*ce*P		P	22 58 21.5	+6.7
AKASG	Malin Array Be	72.02	319	P		P	22 58 13.6	-3.2
	comp=Z,0.4nm,0.3s,baz=56,slow=6.0,SNR=4.6							
BRTR	Keskin Array B	74.78	308	P		P	22 58 32.5	-1.0
	comp=Z,1.0nm,0.7s,baz=90,slow=3.7,SNR=4.5							
BRTR	Keskin Array B	74.78	308	*ce*P		P	22 58 36.4	+2.9
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
CLL	Collm	80.04	326	*e*P		P	22 59 02.0	-0.5
CLL				pmax		pmax		
	comp=Z,4.0nm,1.0s							
CLL	Collm	80.04	326	*e*P		P	22 59 02.0	-0.5
	comp=Z,4.0nm,1.0s							
GERES	GERESS Array B	81.30	323	P		P	22 59 07.5	-2.0
	comp=Z,0.4nm,0.6s,baz=356,slow=4.3,SNR=4.5							
LENM	Lemitar	94.15	45	P		P	23 00 11.2	-1.1

ARE ***14*** *22:50:44±3.4, 12°.49S±0°.07×76°.5W±0°.1, h99km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=155.0*

IDC ***14*** *22:50:46.0±1.3, 12°.39S×76°.43W, h88km±6km, mb3.3/4, mb1 3.5/6, mb1mx3.3/31, mbtmp3.6/6, Error ellipse: s-maj=41.3km s-min=15.1km az=32.0*

NEIC ***14*** *22:50:46.5±2.1, 12°.29S±0°.04×76°.28W±0°.07, h86km±7km, mb4.4/19, ML4.2(ARE), Error ellipse: s-maj=10.9km s-min=5.1km az=106.0*

VAO ***14*** *22:50:48.4±0.8, 12°.24S×76°.29W, h104km±7km, mb4.2*

ISC 14 22:50:46.3±0.5, 12°.27S±0°.07×76°.38W±0°.07, h100km, n67, σ1§36/67, mb4.1/13, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	Nana	0.53	302	P		Pn	22 51 01.9	-0.5
	3μm,0.3s,baz=121,slow=12,SNR=2861							
NNA				S		Sn	22 51 14.2	-0.3
	7μm,0.3s,baz=6.4,slow=17,SNR=126							
CZSB	Cruzeiro do Su	5.79	39	*e*P		Pn	22 52 09.7	0.0
PB12	IPOC Station P	8.59	138	Pn		Pn	22 52 46.7	-1.3
MCRA	Macar, Loja	8.61	335	Pn		Pn	22 52 46.6	-1.6
LPAZ	La Paz	8.94	117	P		Pn	22 52 51.7	-1.4
	0.3nm,0.3s,baz=300,slow=12,SNR=6.4							
LPAZ	La Paz	8.94	117	Pn		Pn	22 52 51.2	-1.9
LPAZ	La Paz	8.94	117	*e*P		Pn	22 52 52.0	-1.2
PB16	IPOC Station P	8.

CUPR				IAmb	IAmb	22 57 19.8		
	comp=Z,7.3nm,0.8s							
ROSB	**Rosrio**	**33.26**	**76**	*eP*	**P**	**22 57 14.2**	**-0.2**	
DUB01	**Friburgo-RJ**	**33.85**	**111**	*eP*	**P**	**22 57 19.1**	**-0.5**	
NBPS	**Pedro II - PI**	**35.41**	**80**	*eP*	**P**	**22 57 33.3**	**+0.3**	
NBLA	**Lagarto - SE**	**37.80**	**92**	*eP*	**P**	**22 57 54.5**	**+1.2**	
NBAN	**Anadia - AL**	**39.43**	**90**	*eP*	**P**	**22 58 06.7**	**-0.3**	
MG04	**Isla Riesco**	**40.66**	**176**	P	**P**	**22 58 17.7**	**+1.2**	
DSPA	**Despedida**	**42.07**	**173**	P	**P**	**22 58 29.0**	**+0.9**	
TXAR	**Lajitas Array**	**49.04**	**328**	P	**P**	**22 59 26.1**	**+2.6**	
	comp=Z,0.4nm,0.5s,baz=153,slow=8.8,SNR=9.4							
TXAR				pP	**pP**	**22 59 47.6**	**-0.5**	
	comp=Z,0.5nm,0.9s,baz=148,slow=8.1,SNR=2.7							
TXAR	**Lajitas Array**	**49.04**	**328**	P	**P**	**22 59 25.8**	**+2.3**	
SDCO	**Great Sand Dun**	**56.76**	**333**	P	**P**	**23 00 22.5**	**+2.2**	
SDCO				IAmb	IAmb	23 00 39.4		
	comp=Z,2.2nm,0.8s							
PDAR	**Pinedale Array**	**62.64**	**333**	pP	pP	23 01 24.6	-1.4	
	comp=Z,0.5nm,0.8s,baz=126,slow=9.3,SNR=3.4							
NVAR	**Mina Array Bea**	**63.87**	**324**	pP	pP	23 01 34.0	-0.5	
	comp=Z,0.7nm,0.6s,baz=151,slow=9.4,SNR=3.2							
YKA	**Yellowknife Ar**	**80.24**	**343**	P	**P**	**23 02 46.1**	**+0.5**	
	comp=Z,0.1nm,0.5s,baz=134,slow=5.3,SNR=1.2							
YKA				pP	**pP**	**23 03 10.4**	**-2.2**	
	comp=Z,0.6nm,0.9s,baz=142,slow=5.6,SNR=6.2							
YKA				sP	**sP**	**23 03 20.4**	**-3.4**	
	comp=Z,0.5nm,0.9s,baz=138,slow=5.6,SNR=3.9							
TORD	**Torodi Ar. Bea**	**81.43**	**75**	P	**P**	**23 02 53.5**	**+0.6**	
	comp=Z,1.6nm,0.8s,baz=250,slow=5.1,SNR=9.0							
TORD				pP	**pP**	**23 03 18.7**	**-1.7**	
	comp=Z,0.7nm,0.8s,baz=253,slow=4.1,SNR=2.9							
TORD	**Torodi Ar. Bea**	**81.43**	**75**	P	**P**	**23 02 53.7**	**+0.8**	
TORD				IAmb	IAmb	23 02 53.9		
	comp=Z,2.4nm,1.1s							
WRA	**Warramunga Arr**	**135.96**	**224**	PKP	**PKiKP**	**23 09 57.9**	**-0.3**	
	comp=Z,0.5nm,0.9s,baz=144,slow=2.2,SNR=1.8							
PZH	**PanZhiHua**	**165.73**	**7**	PKP	**PKPdf**	**23 10 41.0**	**+0.8**	

*IDC **14** 23:08:11.6±3.0, 8.49S×147.80E, h117km±15km, mb3.3/2, mb1 3.5/3, mb1mx2.9/40, mbtmp3.7/3, Error ellipse: s-maj=70.9km s-min=37.9km az=131.0*
ISC 14 23:08:09.5±3.6, 8.1S±0.2×147.5E±0.5, h100km, n5, σ0§72/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.33**	**197**	P		**Pn**	**23 08 34.1**	**+0.3**
	6.2nm,0.3s,baz=39,slow=8.6,SNR=6.1							
PMG				S		**Sn**	**23 08 52.2**	**0.0**
	12nm,0.3s,baz=59,slow=11,SNR=7.8							
WRA	**Warramunga Arr**	**17.37**	**226**	P		**Pn**	**23 12 05.4**	**-0.4**
	0.5nm,0.3s,baz=52,slow=11,SNR=14							
ASAR	**Alice Springs**	**20.25**	**219**	P		**P**	**23 12 36.5**	**-0.6**
	0.9nm,0.6s,baz=54,slow=9.0,SNR=8.8							
FITZ	**Fitzroy Crossi**	**23.50**	**243**	P		**P**	**23 13 11.6**	**+0.9**
	2.0nm,0.3s,baz=64,slow=9.2,SNR=17							
TORD	**Torodi Ar. Bea**	**146.09**	**281**	PKPbc		**PKPab**	**23 27 39.5**	**-0.3**
	0.2nm,0.5s,baz=65,slow=3.8,SNR=4.3							

*IDC **14** 23:08:49.0±1.3, 11.94N×143.83E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.6/41, mbtmp3.9/6, Error ellipse: s-maj=43.5km s-min=23.4km az=123.0*
ISC 14 23:08:54.3±1.1, 11.9N±0.2×143.8E±0.3, h35km, n8, σ0§89/9, mb3.7/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.93**	**31**	Pn		**Pn**	**23 09 25.1**	**+0.5**
	90nm,0.3s,baz=207,slow=9.0,SNR=16							
GUMO				Sn		**Sn**	**23 09 47.5**	**-0.1**
	79nm,0.3s,baz=31,slow=23,SNR=4.0							
WRA	**Warramunga Arr**	**33.03**	**197**	P		**P**	**23 15 26.6**	**+0.2**
	0.6nm,0.9s,baz=20,slow=9.7,SNR=1.7							
MKAR	**Makanchi Array**	**61.99**	**317**	P		**P**	**23 19 11.9**	**+0.8**
	0.2nm,0.5s,baz=111,slow=6.8,SNR=2.7							
KURBB	**Kurchatov Arra**	**65.25**	**320**	P		**P**	**23 19 32.7**	**+0.4**
	baz=101,slow=6.6							
ILAR	**Eielson Array**	**70.48**	**25**	P		**P**	**23 20 04.0**	**-1.1**
	0.3nm,0.5s,baz=243,slow=5.9,SNR=4.5							
YKA	**Yellowknife Ar**	**84.78**	**27**	P		**P**	**23 21 25.6**	**+0.8**
	0.4nm,0.5s,baz=285,slow=5.1,SNR=13							
ARCES	**ARCESS Array B**	**88.34**	**342**	P		**P**	**23 21 41.6**	**-0.5**
	4.3nm,1.1s,baz=65,slow=7.1,SNR=3.8							
FINES	**FINESS Array B**	**92.23**	**335**	P		**P**	**23 21 59.1**	**-1.2**
	3.2nm,1.0s,baz=38,slow=5.3,SNR=5.0							

*BJI **14** 23:15:03.2±0.0, 7.87S×128.45E, h157km, mb5.6/84, mB5.6/44*
*NEIC **14** 23:15:07.9±2.7, 7.46S±0.06×128.12E±0.04, h137km±3km, mb5.7/260, Mww5.6, Error ellipse: s-maj=8.7km s-min=5.3km az=155.0*
*GCMT **14** 23:15:08.9±0.2, 7.59S±0.01×128.15E±0.02, h161km±1km, MW5.6/144, Moment Tensor Solution. s94,c127; s144,c261; Duration: 1§6 Moment tensor: Scale 10¹⁷ Nm; Mrr3.41±.05; Mθθ-2.39±.07; Mφφ-1.02±.07; Mrθ0.28±.06; Mrφ1.34±.07; Mθφ0.06±.07; Best double couple: M₀3.32200×10¹⁷ NP1:φs305.00000°, δ43.00000°, λ94.00000°. NP2:φs118.00000°, δ47.00000°, λ86.00000°. Principal axes: T 3.4270, Plg86.0000°, Azm332.0000°; N -0.2110, Plg3.0000°, Azm121.0000°; P -3.2170, Plg2.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **14** 23:15:08.0±0.4, 7.45S×128.09E, h148km±3km, mb5.2/43, mb1 5.2/48, mb1mx5.1/53, mbtmp5.7/48, MS4.6/13, Ms1 4.6/13, ms1mx4.2/68 Error ellipse: s-maj=7.5km s-min=6.0km az=71.0*
*DJA **14** 23:15:09.2±0.2, 8.5±1×12.8E±.5°, h163km±2km, M5.4/124, mB5.8/93, mb5.6/124, MLv6.0/13, Mw(mB)5.4/93, MwMwp5.3/7, Mwp5.5/7*
*NEIC **14** 23:15:10, 7.68S×128.27E, h150km, Moment Tensor Solution. Duration: 6§0 Moment tensor: Scale 10¹⁷Nm; Mrr2.89; Mθθ-2.31; Mθφ-0.57; Mrθ0.23; Mrφ0.90; Mθr-0.16; Fault plane solution: M₀2.81000×10¹⁷ NP1: φs292.00000°, δ42.00000°, λ88.00000°. NP2: φs114.00000°, δ48.00000°, λ91.00000°. Principal axes: T 2.9027, Plg87.0000°, Azm44.0000°; N -0.1900, Plg1.0000°, Azm293.0000°; P -2.7127, Plg3.0000°, Azm203.0000°;*
*MOS **14** 23:15:10.8±1.1, 7.31S×128.05E, h142km, mb5.7/62 Error ellipse: s-maj=7.1km s-min=4.1km az=116.6*
ISC 14 23:15:08.9±0.2, 7.52S±0.03×128.08E±0.03, h162km±1km, h162km:pP-P, n1766, σ1§43/1918, mb5.7/308, 203C-72D, Fault plane solution: NP1:φs304.61932°, δ45.82098°, λ101.75464°. NP2:φs107.99449°, δ45.40216°, λ78.15974°.
Principal axes: T Plg81.5962°, Azm294.9042°; N Plg8.4011°, Azm116.3681°; P Plg0.2116°, Azm26.3369°;
Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.22**	**98**	Pn		**Pn**	**23 15 58.3**	**-1.2**
SAUI				Sn		**Sn**	**23 16 31.8**	**-7.0**
SAUI	**Saumlaki**	**3.22**	**98**	P		**Pn**	**23 15 58.6**	**-0.9**
SAUI	**Saumlaki**	**3.22**	**98**	P		**Pn**	**23 15 59.8**	**+0.3**
BNDI	**Bandanaira**	**3.48**	**31**	P		**Pn**	**23 16 03.6**	**+0.7**
AAI	**Ambon**	**3.81**	**2**	P		**Pn**	**23 16 08.8**	**+1.7**
AAI	**Ambon**	**3.81**	**2**	P		**Pn**	**23 16 08.6**	**+1.5**
MSAI	**Masohi**	**4.23**	**12**	P		**Pn**	**23 16 14.2**	**+1.7**
BATI	**Baumata**	**5.12**	**238**	P		**Pn**	**23 16 25.1**	**+1.0**
	3µm,0.3s,baz=129,slow=2.6,SNR=2187							
BATI				S		**Sn**	**23 17 21.4**	**-1.6**
	3µm,0.3s,baz=110,slow=23,SNR=20							
BATI	**Baumata**	**5.12**	**238**	P		**Pn**	**23 16 25.1**	**+1.0**
	55nm140µm14µm,0.6s							
SANI	**Sanana**	**5.82**	**339**	P		**Pn**	**23 16 35.8**	**+2.4**
	6.0nm21µm2µm,1.0s							
SANI	**Sanana**	**5.82**	**339**	P		**Pn**	**23 16 35.8**	**+2.4**
BBSI	**Bau Bau**	**5.84**	**290**	P		**Pn**	**23 16 36.5**	**+2.9**
	0.6nm1µm188nm,0.8s							
MMRI	**Maumere**	**5.89**	**259**	Pn		**Pn**	**23 16 34.5**	**+0.2**
MMRI	**Maumere**	**5.89**	**259**	P		**Pn**	**23 16 35.2**	**+0.9**
	17nm57µm6µm,0.9s							
MMRI	**Maumere**	**5.89**	**259**	P		**Pn**	**23 16 36.1**	**+1.8**
MTN	**Manton Dam**	**6.08**	**151**	P		**Pn**	**23 16 34.2**	**-2.6**
	baz=6.1,SNR=1000							
MTN				S		**Sn**	**23 17 39.8**	**-6.0**
	baz=6.1							
MTN	**Manton Dam**	**6.08**	**151**	Pn		**Pn**	**23 16 35.0**	**-1.8**
MTN	**Manton Dam**	**6.08**	**151**	P		**Pn**	**23 16 36.4**	**-0.4**
KDU	**Kakadu**	**6.71**	**140**	P		**Pn**	**23 16 43.1**	**-2.0**
	baz=6.8,SNR=1000							
KDU				S		**Sn**	**23 17 53.6**	**-7.2**
	baz=6.8							
KDU	**Kakadu**	**6.71**	**140**	P		**Pn**	**23 16 43.8**	**-1.3**
LBMI	**Labuha**	**6.86**	**355**	P		**Pn**	**23 16 49.7**	**+2.5**
	7.0nm8µm20µm2µm,1.9s							
SIJI	**Sorong**	**7.33**	**26**	P		**Pn**	**23 16 52.8**	**-0.7**
	223nm,0.3s,baz=190,slow=7.1,SNR=464							
SIJI				S		**Sn**	**23 18 12.9**	**-2.7**
	73nm,0.3s,baz=160,slow=21,SNR=9.2							
SIJI				ScP		**ScP**	**23 26 39.3**	**+0.3**
	1.7nm,0.3s,baz=10,slow=6.2,SNR=3.6							
SWI	**Sorong**	**7.33**	**26**	P		**Pn**	**23 16 52.9**	**-0.5**
SWI				pmax		pmax		
	comp=Z,5µm,0.8s							
SWI	**Sorong**	**7.33**	**26**	P		**Pn**	**23 16 52.6**	**-0.8**
	comp=Z,14nmcomp=Z,26µmcomp=Z,33µmcomp=Z,5µm,0.8s							
SWI				S		**Sn**	**23 18 11.1**	**-4.6**
	comp=Z,14nmcomp=Z,26µmcomp=Z,33µmcomp=Z,5µm,0.8s							
BSSI	**Bau Bau, Buton**	**7.66**	**280**	P		**Pn**	**23 16 59.6**	**+1.8**
	comp=Z,2.5nmcomp=Z,6µmcomp=Z,886nm,0.9s							
BASI	**Baing, Sumba**	**7.89**	**250**	P		**Pn**	**23 16 59.9**	**-0.9**
	comp=Z,25µmcomp=Z,3µm,1.0s							
KNRA	**Kununurra**	**8.13**	**175**	P		**Pn**	**23 17 01.6**	**-2.4**
	baz=8.2,SNR=1000							
KNRA				S		**Sn**	**23 18 26.3**	**-8.6**
	baz=8.2							
KNRA	**Kununurra**	**8.13**	**175**	Pn		**Pn**	**23 17 01.7**	**-2.4**
KNRA	**Kununurra**	**8.13**	**175**	P		**Pn**	**23 17 02.8**	**-1.2**
BKSI	**Bulukumba**	**8.21**	**285**	P		**Pn**	**23 17 06.6**	**+1.5**
	comp=Z,5µmcomp=Z,326nm,0.8s							
TNTI	**Ternate**	**8.27**	**355**	Pn		**Pn**	**23 17 07.1**	**+1.2**
TNTI	**Ternate**	**8.27**	**355**	P		**Pn**	**23 17 07.2**	**+1.3**
	comp=Z,7µmcomp=Z,12µmcomp=Z,1µm,1.2s							
TNTI	**Ternate**	**8.27**	**355**	P		**Pn**	**23 17 07.9**	**+2.0**
LUWI	**Luwuk**	**8.33**	**320**	Pn		**Pn**	**23 17 10.2**	**+3.5**
LUWI	**Luwuk**	**8.33**	**320**	P		**Pn**	**23 17 10.3**	**+3.6**
	comp=Z,10µmcomp=Z,945nm,1.3s							
LUWI	**Luwuk**	**8.33**	**320**	P		**Pn**	**23 17 10.0**	**+3.3**
BNSI	**Bone**	**8.52**	**291**	P		**Pn**	**23 17 11.1**	**+1.9**
	comp=Z,6µmcomp=Z,486nm,0.9s							
KAPI	**Kappang**	**8.65**	**286**	P		**Pn**	**23 17 11.6**	**+0.7**
	comp=Z,6.8nm,0.3s,baz=143,slow=7.7,SNR=31							
KAPI	**Kappang**	**8.65**	**286**	*i* P		**Pn**	**23 17 11.9**	**+1.0**
KAPI	**Kappang**	**8.65**	**286**	Pn		**Pn**	**23 17 12.5**	**+1.6**
KAPI	**Kappang**	**8.65**	**286**	P		**Pn**	**23 17 14.0**	**+3.1**
WBSI	**Waikabubak, Su**	**8.85**	**256**	P		**Pn**	**23 17 11.0**	**-2.6**
	comp=Z,26µmcomp=Z,3µm,0.7s							
SPSI	**Sidrap Palu**	**8.99**	**293**	P		**Pn**	**23 17 17.6**	**+2.1**
	comp=Z,3µmcomp=Z,210nm,1.0s							
KMSI	**Cibinong**	**9.02**	**333**	P		**Pn**	**23 17 20.1**	**+4.2**
	comp=Z,6µmcomp=Z,676nm,0.9s							
APSI	**Ampana**	**9.18**	**315**	P		**Pn**	**23 17 22.6**	**+4.7**
	comp=Z,3µmcomp=Z,299nm,1.1s							
TTSI	**Tana Toraja**	**9.35**	**298**	P		**Pn**	**23 17 23.9**	**+3.7**
	comp=Z,3µmcomp=Z,179nm,0.9s							
MNI	**Manado**	**9.47**	**340**	P		**Pn**	**23 17 25.5**	**+3.6**
MNI				pmax		pmax		
	comp=Z,3µm,1.0s							
GTOI	**Gorontalo**	**9.55**	**328**	P		Pn	23 17 29.2	+6.3
	comp=Z,1µmcomp=Z,128nm,1.0s							
SRPI	**Serui, Papua**	**9.88**	**56**	P		**Pn**	**23 17 25.3**	**-1.9**
	comp=Z,304nm,0.8s							
MRSI	**Marisa**	**10.03**	**322**	P		**Pn**	**23 17 33.6**	**+4.4**
	comp=Z,3µmcomp=Z,291nm,1.1s							
BAKI	**Biak**	**10.17**	**52**	P		**Pn**	**23 17 29.5**	**-1.6**
	comp=Z,16µmcomp=Z,1µm,0.8s							
PLAI	**Plampang**	**10.29**	**262**	P		**Pn**	**23 17 31.1**	**-1.5**
	comp=Z,11µmcomp=Z,2µm,0.7s							
PLAI	**Plampang**	**10.29**	**262**	P		**Pn**	**23 17 32.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**10.78**	**193**	P		**Pn**	**23 17 35.5**	**-3.5**
	comp=Z,58nm,0.3s,baz=25,slow=10,SNR=393							
FITZ				S		**Sn**	**23 19 29.8**	**-8.7**
	comp=Z,120nm,0.3s,baz=94,slow=19,SNR=12							
FITZ				LR		LR	23 23 01.4	
	comp=Z,6µm,18.4s,baz=357,slow=44							
WAMI	**Wamena**	**11.17**	**72**	Pn		**Pn**	**23 17 45.0**	**+0.8**
	comp=Z,24µmcomp=Z,2µm,0.7s							
TOLI2	**Tolitoli**	**11.25**	**319**	Pn		**Pn**	**23 17 48.3**	**+3.1**
TOLI2	**Tolitoli**	**11.25**	**319**	P		**Pn**	**23 17 47.6**	**+2.4**
MPSI	**Mapaga**	**11.29**	**313**	P		**Pn**	**23 17 47.2**	**+1.4**
	comp=Z,2µmcomp=Z,91nm,1.4s							
SGSI	**Sangihe**	**11.42**	**347**	P		**Pn**	**23 17 49.2**	**+1.8**
	comp=Z,751nm,0.7s							
SMPI	**Sarmi**	**11.93**	**63**	P		**Pn**	**23 17 52.0**	**-2.0**
	comp=Z,3µmcomp=Z,242nm,1.3s							
MMPI	**Merauke**	**12.22**	**95**	P		**Pn**	**23 17 54.9**	**-2.8**
	comp=Z,41µmcomp=Z,2µm,0.5s							
SRBI	**Singaraja**	**12.77**	**267**	P		**Pn**	**23 18 04.4**	**-0.4**
	comp=Z,2µmcomp=Z,140nm,0.7s							
BKB	**Balikpapan**	**12.77**	**299**	P		**P**	**23 18 11.8**	**+2.3**
IGBI	**Denpasar**	**12.87**	**263**	P		**Pn**	**23 18 08.1**	**+2.0**
	comp=Z,5µmcomp=Z,272nm,0.7s							
SMKI	**Samarinda**	**12.92**	**302**	P		**P**	**23 18 09.9**	**-1.4**
	comp=Z,9µmcomp=Z,511nm,1.2s							
GENI	**Genyem**	**12.99**	**68**	P		**Pn**	**23 18 06.0**	**-1.7**
	comp=Z,7µmcomp=Z,545nm,0.8s							
GENI	**Genyem**	**12.99**	**68**	P		**Pn**	**23 18 08.3**	**+0.6**
WB0	**Warramunga Arr**	**13.63**	**154**			**Pn**	**23 18 11.4**	**-4.3**
ABJI	**Asem Bagus**	**13.73**	**268**	P		**Pn**	**23 18 18.6**	**+1.6**
	comp=Z,4µmcomp=Z,212nm,1.1s							
DDMP	**Don Marcelino,**	**13.74**	**350**	*i* P		**Pn**	**23 18 17.7**	**+0.5**
WRAB	**Tennant Creek**	**13.75**	**154**	*i* P		**Pn**	**23 18 13.2**	**-4.1**
WRAB	**Tennant Creek**	**13.75**	**154**	Pn		**Pn**	**23 18 13.3**	**-4.0**
WRA	**Warramunga Arr**	**13.76**	**154**	P		**Pn**	**23 18 13.7**	**-3.7**
	comp=Z,21nm,0.3s,baz=329,slow=17,SNR=176							
WRA				S		Sn	23 20 36.9	-13
	comp=Z,127nm,0.3s,baz=332,slow=22,SNR=10							
WRA				LR		LR	23 24 13.6	
	comp=Z,2µm,19.8s,baz=356,slow=40							
WRA				P3KPbc			23 53 52.4	
	comp=Z,0.0nm,0.3s,baz=155,slow=4.5,SNR=2.1							
WRA	**Warramunga Arr**	**13.76**	**154**	P		**Pn**	**23 18 13.0**	**-4.3**
WRA	**Warramunga Arr**	**13.76**	**154**	Pn		**Pn**	**23 18 13.0**	**-4.3**
WB2	**Warramunga Arr**	**13.76**	**154**			**Pn**	**23 18 13.0**	**-4.5**
BBKI	**Banjar Baru**	**13.78**	**286**	P		**Pn**	**23 18 19.2**	**+1.5**
	comp=Z,6µmcomp=Z,512nm,1.1s							
JAGI	**Jajag, Banyuwa**	**13.83**	**265**	Pn		**Pn**	**23 18 18.3**	**0.0**
JAGI	**Jajag, Banyuwa**	**13.83**	**265**	P		**Pn**	**23 18 18.6**	**+0.3**
	comp=Z,3µmcomp=Z,119nm,0.5s							
JAGI	**Jajag, Banyuwa**	**13.83**	**265**	P		**P**	**23 18 21.1**	**-0.3**
WR0	**Warramunga Arr**	**13.86**	**154**	Pn		**Pn**	**23 18 14.1**	**-4.6**
GSPH	**General Santos**	**13.87**	**347**	*i* P		**P**	**23 18 23.1**	**+1.1**
KMMI	**Kalianget**	**14.01**	**271**	P		**P**	**23 18 22.8**	**-0.6**
	comp=Z,5µmcomp=Z,227nm,1.2s							
BLJI	**Banyuglugur**	**14.36**	**268**	P		**P**	**23 18 26.8**	**-0.5**
	comp=Z,3µmcomp=Z,281nm,0.9s							
MATI	**Mati**	**14.49**	**353**	*i* P		**P**	**23 18 30.9**	**+2.3**
GMJI	**Gumukmas**	**14.52**	**266**	P		**Pn**	**23 18 27.5**	**+0.6**
	comp=Z,2µmcomp=Z,130nm,0.9s							
MTKI	**Muara Teweh, K**	**14.68**	**296**	P		**P**	**23 18 31.7**	**+0.8**
	comp=Z,407nm,0.8s							
DAV	**Davao City (W)**	**14.71**	**350**	P		**Pn**	**23 18 29.5**	**+0.3**
	comp=Z,75nm,0.3s,baz=338,slow=1.2,SNR=2.5							
DAV	**Davao City (W)**	**14.71**	**350**	P		**P**	**23 18 31.2**	**+0.1**
DAV	**Davao City (W)**	**14.71**	**350**	P		**P**	**23 18 31.6**	**+0.5**
GRJI	**Gresik**	**15.49**	**271**	P		**P**	**23 18 40.5**	**+0.7**
	comp=Z,2µmcomp=Z,153nm,0.8s							
BIPH	**Bislig**	**15.70**	**354**	*e*P		**Pn**	**23 18 41.6**	**+0.2**
MYLDM	**Lahad Datu**	**15.83**	**323**	P		**P**	**23 18 44.4**	**+0.8**
MYLDM				IAmb		IAmb	23 19 15.1	
	comp=Z,387nm,1.2s							
PSA00	**Pilbara Seismi**	**16.08**	**209**			**Pn**	**23 18 44.5**	**-1.5**
PSA00	**Pilbara Seismi**	**16.08**	**209**			**Pn**	**23 18 44.3**	**-1.7**
PSA00				IAmb		IAmb	23 19 01.5	
	comp=Z,802nm,0.8s							
PSA00	**Pilbara Seismi**	**16.08**	**209**	P		**Pn**	**23 18 45.6**	**-0.4**
TBJI	**Tambak Boyo**	**16.12**	**271**	P		**P**	**23 18 48.6**	**+1.8**
	comp=Z,3µmcomp=Z,205nm,1.0s							
PWJI	**Pagerwojo**	**16.14**	**267**	P		**Pn**	**23 18 46.1**	**-0.8**
	comp=Z,2µmcomp=Z,164nm,0.7s							
COEN	**Coen**	**16.14**	**115**			**Pn**	**23 18 45.6**	**-1.3**
COEN				IAmb		IAmb	23 18 48.6	
	comp=Z,435nm,1.3s							
COEN	**Coen**	**16.14**	**115**	P		**P**	**23 18 47.8**	**+0.8**
BUTP	**Butuan**	**16.56**	**351**	*e*P		**Pn**	**23 18 55.0**	**+3.0**
PCJI	**Pacitan**	**16.76**	**267**	P		**P**	**23 18 52.4**	**-1.5**
	comp=Z,3µmcomp=Z,352nm,0.8s							
AS31	**Alice Springs**	**17.00**	**161**	P		**P**	**23 18 55.5**	**-1.0**
AS31				IAmb		IAmb	23 18 59.1	
	comp=Z,332nm,0.7s							
ASAR	**Alice Springs**	**17.00**	**161**	P		**P**	**23 18 56.2**	**-0.2**
	comp=Z,79nm,0.3s,baz=343,slow=13,SNR=696							
ASAR				S		**S**	**23 21 58.5**	**-7.0**
	comp=Z,53nm,0.3s,baz=260,slow=7.7,SNR=8.4							
ASAR				P3KPbc			23 53 39.6	
	comp=Z,0.0nm,0.3s,baz=159,slow=4.5,SNR=1.4							
ASAR	**Alice Springs**	**17.00**	**161**	P		**P**	**23 18 54.4**	**-2.0**
PBKI	**Pangkalan Bun**	**17.10**	**285**	P		**Pn**	**23 18 59.2**	**+1.6**
	comp=Z,14µmcomp=Z,1µm,1.1s							
QIS	**Mount Isa**	**17.10**	**140**	P		**P**	**23 18 56.7**	**-0.8**
	baz=17,SNR=537							
QIS	**Mount Isa**	**17.10**	**140**	P		**Pn**	**23 18 58.0**	**-0.4**
GLSP	**General Luna,**	**17.30**	**354**	*e*P		**Pn**	**23 19 01.6**	**+0.8**
UGM	**Wanagama**	**17.41**	**268**	P		**P**	**23 19 00.2**	**-0.8**
UGM	**Wanagama**	**17.41**	**268**	P		**P**	**23 19 01.5**	**+0.5**
	comp=Z,5µmcomp=Z,202nm,0.8s							
UGM	**Wanagama**	**17.41**	**268**	P		**Pn**	**23 19 02.9**	**+0.7**
WRKA	**Warakurna**	**17.42**	**179**	P		**P**	**23 19 00.8**	**-0.3**
	baz=18,SNR=1000							
WRKA	**Warakurna**	**17.42**	**179**	P		**Pn**	**23 19 02.1**	**-0.1**
SNPH	**Sibulan**	**17.43**	**344**	*e*P		**Pn**	**23 19 06.2**	**+3.8**
SMRI	**Semarang**	**17.51**	**270**	P		**P**	**23 19 02.0**	**-0.1**
SMRI	**Semarang**	**17.51**	**270**	P		**Pn**	**23 19 05.9**	**+2.6**
	comp=Z,134nm,0.7s							
SMRI	**Semarang**	**17.51**	**270**	P		**Pn**	**23 19 04.5**	**+1.2**
TBP	**Tagbilaran**	**17.61**	**346**	*i* P		**Pn**	**23 19 05.9**	**+1.5**
TBP				*i* S		**S**	**23 22 17.1**	**-0.8**
YOGI	**Yogyakarta**	**17.63**	**268**	P		**P**	**23 19 02.1**	**-1.4**
	comp=Z,187nm,1.3s							
MSLP	**Maasin**	**17.83**	**350**	*e*P		**Pn**	**23 19 08.5**	**+1.4**
KKM	**Kota Kinabalu**	**17.94**	**318**	Pn		**Pn**	**23 19 08.8**	**+0.3**
KKM				IAmb		IAmb	23 19 19.2	
	comp=Z,468nm,1.0s							
KKM	**Kota Kinabalu**	**17.94**	**318**	P		**Pn**	**23 19 08.8**	**+0.3**
CNOP	**Candoni, Negro**	**18.07**	**342**	*e*P		**Pn**	**23 19 10.5**	**+0.6**
STKI	**Sintang**	**18.19**	**294**	P		**Pn**	**23 19 11.1**	**-0.3**
	comp=Z,12µmcomp=Z,880nm,0.9s							
SBUM	**Sibu**	**18.67**	**301**	P		**Pn**	**23 19 16.8**	**-0.2**
PMG	**Port Moresby**	**18.96**	**97**	P		**P**	**23 19 17.9**	**0.0**
	comp=Z,9.2nm,0.3s,baz=333,slow=4.5,SNR=22							
PMG				S		**S**	**23 22 40.9**	**-4.0**
	comp=Z,2.1nm,0.3s,baz=206,slow=18,SNR=1.0							
PMG	**Port Moresby**	**18.96**	**97**	*ce*P		**P**	**23 19 17.6**	**-0.3**
PMG				pmax		pmax		
	comp=Z,264nm,0.7s							
PMG	**Port Moresby**	**18.96**	**97**	P		**P**	**23 19 17.1**	**-0.8**
PMG				IAmb		IAmb	23 19 23.4	
	comp=Z,448nm,0.8s							
PMG	**Port Moresby**	**18.96**	**97**	P		**P**	**23 19 18.7**	**+0.8**
PMG	**Port Moresby**	**18.96**	**97**	P		**P**	**23 19 18.9**	**+1.0**
KPJI	**Karang Pucung**	**18.99**	**269**	P		**P**	**23 19 17.9**	**-0.4**
	comp=Z,2µmcomp=Z,218nm,0.7s							
MTSU	**Mount Surprise**	**19.00**	**125**	P		**P**	**23 19 19.2**	**+0.9**
	baz=19,SNR=196							
MTSU	**Mount Surprise**	**19.00**	**125**	P		**P**	**23 19 19.5**	**+1.1**
**C

MUN **Mundaring** 26.73 203 P **P** **23 20 34.8 +1.4**
GUMO **Guam** 26.79 39 P **P** **23 20 32.9 -1.1**
comp=Z,312nm,0.9s,baz=209,slow=7.8,SNR=12
GUMO **Guam** 26.79 39 P **P** **23 20 32.8 -1.2**
GUMO IAmb IAmb 23 20 33.9
comp=Z,293nm,0.9s
GUMO **Guam** 26.79 39 P **P** **23 20 33.1 -0.9**
WHYH **Whyalla** 26.87 162 P **P** **23 20 35.7 +1.2**
KRJI **Kerinci** 27.06 280 P **P** **23 20 37.6 +1.0**
comp=Z,7µmcomp=Z,302nm,0.9s
PTPS **Port Pirie** 27.13 162 P **P** **23 20 38.1 +1.3**
NAPP **Napperby** 27.19 161 P **P** **23 20 38.5 +1.1**
RMQ **Roma** 27.24 136 P **P** **23 20 38.5 +0.5**
baz=27,SNR=26
RMQ **Roma** 27.24 136 P **P** **23 20 39.3 +1.3**
STKA **Stephens Creek** 27.31 154 P **P** **23 20 39.3 +0.7**
comp=Z,102nm,0.5s,baz=326,slow=9.3,SNR=355
STKA LR LR 23 33 49.0
comp=Z,1µm,20.7s,baz=319,slow=41
STKA **Stephens Creek** 27.31 154 P **P** **23 20 39.1 +0.5**
baz=27,SNR=75
STKA **Stephens Creek** 27.31 154 *c i* P **P** **23 20 39.4 +0.9**
STKA **Stephens Creek** 27.31 154 P **P** **23 20 39.2 +0.7**
STKA **Stephens Creek** 27.31 154 P **P** **23 20 39.5 +0.9**
HTT **Hallett** 27.67 160 P **P** **23 20 42.7 +0.9**
baz=28,SNR=116
HTT **Hallett** 27.67 160 P **P** **23 20 43.0 +1.3**
BKNI **Bangkinang** 28.07 285 IAmb IAmb 23 20 47.8
comp=Z,232nm,1.1s
BKNI **Bangkinang** 28.07 285 P **P** **23 20 46.0 +0.5**
comp=Z,2µmcomp=Z,206nm,1.0s
BKNI **Bangkinang** 28.07 285 P **P** **23 20 47.8 +2.3**
EIDS **Eidsvold** 28.22 132 P **P** **23 20 46.6 -0.1**
baz=28,SNR=11
EIDS **Eidsvold** 28.22 132 P **P** **23 20 46.2 -0.5**
EIDS **Eidsvold** 28.22 132 P **P** **23 20 46.9 +0.2**
RKGY **Rocky Gully** 28.84 199 P **P** **23 20 54.5 +2.5**
baz=29,SNR=21
RKGY **Rocky Gully** 28.84 199 P **P** **23 20 54.8 +2.8**
CMSA **Cobar Meteorol** 29.00 148 P **P** **23 20 54.7 +1.2**
baz=29,SNR=404
CMSA **Cobar Meteorol** 29.00 148 P **P** **23 20 54.8 +1.2**
TWOA **Tennyson Woods** 29.03 162 P **P** **23 20 55.5 +1.8**
IPM **Ipoh** 29.51 293 IAmb IAmb 23 21 02.3
comp=Z,84nm,0.7s
IPM **PcP** **PcP** **23 24 00.9 +1.1**
IPM **Ipoh** 29.51 293 P **P** **23 20 59.5 +1.2**
SISI **Saibi** 29.54 281 P **P** **23 20 55.0 -3.5**
comp=Z,29nm,0.6s
MNSI **Mandailing Nat** 29.61 285 P **P** **23 20 57.8 -1.3**
comp=Z,2µmcomp=Z,186nm,0.6s
KULM **Kulim** 30.18 294 P **P** **23 21 04.4 +0.2**
KULM IAmb IAmb 23 21 06.0
comp=Z,182nm,1.3s
PSI **Prapat** 30.85 288 P **P** **23 21 09.7 -0.5**
comp=Z,368nm,0.9s,baz=135,slow=5.9,SNR=182
PSI PcP **PcP** **23 24 03.6 +0.2**
comp=Z,31nm,0.9s,baz=193,slow=4.0,SNR=5.4
PSI S **S** **23 25 58.4 -4.0**
comp=Z,8.3nm,0.7s,baz=284,slow=23,SNR=10.0
TWG **Pinlang** 30.93 347 IAmb IAmb 23 21 30.1
comp=Z,172nm,1.7s
TSI **Tuntungan** 31.43 289 P **P** **23 21 15.9 +0.8**
comp=Z,5µmcomp=Z,328nm,1.1s
TPUB **Ta-pu** 31.49 347 P **P** **23 21 13.1 -2.4**
TPUB IAmb IAmb 23 21 16.2
comp=Z,121nm,0.8s
TPUB **Ta-pu** 31.49 347 P **P** **23 21 16.0 +0.5**
HNR **Honiara** 31.57 96 P **P** **23 21 15.6 -0.8**
comp=Z,92nm,0.5s,baz=172,slow=4.6,SNR=14
HNR LR LR 23 33 22.7
comp=Z,882nm,22.0s,baz=290,slow=35
HNR **Honiara** 31.57 96 P **P** **23 21 15.8 -0.6**
HNR pmax pmax
comp=Z,349nm,1.3s
HNR **Honiara** 31.57 96 P **P** **23 21 15.8 -0.6**
HNR **Honiara** 31.57 96 P **P** **23 21 17.9 +1.5**
GSI **Gunungsitoli** 31.67 285 IAmb IAmb 23 21 18.3
comp=Z,103nm,1.1s
GSI **Gunungsitoli** 31.67 285 P **P** **23 21 15.5 -1.8**
comp=Z,90nm,1.0s
GSI **Gunungsitoli** 31.67 285 P **P** **23 21 16.8 -0.5**
ARPS **Mount Arapiles** 31.70 159 P **P** **23 21 18.9 +1.7**
baz=32,SNR=69
ARPS **Mount Arapiles** 31.70 159 P **P** **23 21 19.1 +1.9**
ARMA **Armidale** 31.71 139 P **P** **23 21 18.4 +1.4**
baz=32,SNR=24
ARMA **Armidale** 31.71 139 P **P** **23 21 18.2 +0.6**
ARMA **Armidale** 31.71 139 P **P** **23 21 19.5 +1.9**
UBPT **Khong Chiam** 31.87 315 P **P** **23 21 19.5 +0.6**
SSLB **Suanglung** 31.89 348 P **P** **23 21 17.1 -1.9**
SSLB IAmb IAmb 23 21 19.3
comp=Z,67nm,0.8s
SSLB **Suanglung** 31.89 348 P **P** **23 21 19.2 +0.2**
QIZ **Qiongzhong** 31.93 326 P **P** **23 21 19.2 -0.2**
QIZ IAmb IAmb 23 21 21.6
comp=Z,186nm,1.5s
QIZ **Qiongzhong** 31.93 326 P **P** **23 21 20.3 +0.9**
QIZ pP **pP** **23 21 53.0 +0.8**
QIZ sP **sP** **23 22 10.5 +0.2**
QIZ S **S** **23 26 20.1 +1.4**
QIZ pmax pmax
comp=Z,73nm,1.0s
QIZ pmax pmax
comp=Z,880nm,4.5s
QIZ **Qiongzhong** 31.93 326 P **P** **23 21 20.4 +1.0**
YOJ **Yonaguni jima** 32.17 351 P **P** **23 21 20.6 -0.8**
YOJ pmax pmax
comp=Z,197nm,0.8s
YOJ **Yonaguni jima** 32.17 351 P **P** **23 21 20.6 -0.8**
YOJ **Yonaguni jima** 32.17 351 P **P** **23 21 21.4 0.0**
KCSI **Kotacane, Aceh** 32.17 289 P **P** **23 21 20.1 -1.6**
comp=Z,1µmcomp=Z,91nm,1.0s
HKPS **Hong Kong Po S** 32.61 336 P **P** **23 21 25.4 +0.1**
YHNB **Yeheng** 32.66 349 IAmb IAmb 23 21 25.8
comp=Z,93nm,0.8s
YHNB **Yeheng** 32.66 349 P **P** **23 21 26.7 +0.9**
KNMB **Chin-men Tao** 33.17 344 P **P** **23 21 29.9 -0.2**
BRAT **Ballarat** 33.17 157 P **P** **23 21 31.8 +1.8**
MGCD **Mangrove Creek** 33.29 143 P **P** **23 21 33.5 +2.3**
baz=33,SNR=7.5
MGCD **Mangrove Creek** 33.29 143 P **P** **23 21 33.2 +2.0**
PATS **Pohnpei** 33.35 65 P **P** **23 21 32.9 +1.0**
baz=33,SNR=5.0
PATS **Pohnpei** 33.35 65 P **P** **23 21 31.7 -0.2**
PATS IAmb IAmb 23 21 33.4
comp=Z,244nm,1.0s
PATS **Pohnpei** 33.35 65 P **P** **23 21 33.0 +1.1**
NTLH **Newcastle Hard** 33.43 142 P **P** **23 21 34.6 +2.3**
SYDH **Sydney Hard Ro** 33.47 144 P **P** **23 21 34.9 +2.2**
LHMI **Lhok Sumawe** 33.55 291 P **P** **23 21 33.2 -0.4**
comp=Z,5µmcomp=Z,518nm,0.6s
LHMI **Lhok Sumawe** 33.55 291 P **P** **23 21 35.1 +1.5**
QZH **Quanzhou** 33.57 344 ⇑ *i* P **P** **23 21 33.0 -0.6**
QZH pmax pmax
comp=Z,150nm,0.9s
CAN **Canberra** 33.67 148 P **P** **23 21 35.8 +1.3**
CAN pmax pmax
comp=Z,190nm,0.7s
CAN **Canberra** 33.67 148 P **P** **23 21 35.8 +1.3**
CAN **Canberra** 33.67 148 P **P** **23 21 36.5 +2.0**
CAN **Canberra** 33.67 148 ⇑P **P** **23 21 36.5 +2.0**
CAN X 23 21 43.2
TOO **Toolangi** 33.83 155 P **P** **23 21 38.4 +2.6**
baz=34,SNR=61
TOO **Toolangi** 33.83 155 P **P** **23 21 37.9 +2.1**
TOO pmax pmax
comp=Z,322nm,1.3s
TOO **Toolangi** 33.83 155 P **P** **23 21 37.9 +2.1**
TOO IAmb IAmb 23 21 39.6
comp=Z,322nm,1.3s
TOO **Toolangi** 33.83 155 P **P** **23 21 38.4 +2.6**
CNB **Canberra Magne** 33.86 148 P **P** **23 21 38.0 +1.8**
baz=34,SNR=36
CNB **Canberra Magne** 33.86 148 P **P** **23 21 37.9 +1.8**
GEXS **Deakin Univers** 33.88 157 P **P** **23 21 38.0 +1.8**
JOW **Kunigami** 34.15 0 P **P** **23 21 38.9 +0.3**
comp=Z,217nm,1.0s,baz=179,slow=7.0,SNR=23
JOW ScP **ScP** **23 27 42.2 +0.2**
comp=Z,20nm,0.8s,baz=178,slow=4.3,SNR=3.7
JOW **Kunigami** 34.15 0 P **P** **23 21 38.8 +0.3**
JOW **Kunigami** 34.15 0 P **P** **23 21 39.5 +0.9**
JCJ **Chichijima** 37.02 21 P **P** **23 22 03.3 +0.1**
KOUNC **Koumac, New Ca** 37.33 114 P **P** **23 22 06.1 +0.3**
KOUNC **Koumac, New Ca** 37.33 114 P **P** **23 22 07.2 +1.4**
comp=Z,105nm,1.2s
GLAD **Gladstone** 37.75 155 P **P** **23 22 10.7 +1.6**
CORO **Coronation Par** 37.80 156 P **P** **23 22 11.0 +1.6**
CNSH **ChangSha** 38.39 338 ⇑P **P** **23 22 15.0 +0.4**
CNSH pmax pmax
comp=Z,150nm,1.0s
CM31 **Chiang Mai Arr** 38.64 312 P **P** **23 22 17.5 +0.7**
CM31 IAmb IAmb 23 22 20.5
comp=Z,228nm,1.4s
CM31 **Chiang Mai Arr** 38.64 312 P **P** **23 22 17.9 +1.1**
SNR=52
CM31 P **P** **23 22 18.0 +1.1**
CMAR **Chiang Mai Arr** 38.64 312 P **P** **23 22 17.6 +0.8**
comp=Z,44nm,0.7s,baz=142,slow=6.8,SNR=313
CMAR PcP **PcP** **23 24 27.2 +1.4**
comp=Z,36nm,1.1s,baz=177,slow=2.2,SNR=7.5
CMAR ScP **S** **23 28 00.2 -1.2**
comp=Z,8.8nm,0.9s,baz=166,slow=3.1,SNR=7.6
CMAR PKiKP **PKiKP** **23 31 39.7 +0.1**
comp=Z,1.7nm,0.8s,baz=210,slow=1.3,SNR=6.3
CMAR **Chiang Mai Arr** 38.64 312 *i* P **P** **23 22 17.6 +0.8**
CMAR pmax pmax
comp=Z,49nm,0.7s
MOO **Moorlands** 38.66 157 P **P** **23 22 19.0 +2.4**
baz=39,SNR=8.1
MOO **Moorlands** 38.66 157 P **P** **23 22 17.5 +0.9**
CHTO **Chiang Mai** 38.86 313 P **P** **23 22 19.5 +0.8**
CHTO pmax pmax
comp=Z,236nm,1.4s
CHTO **Chiang Mai** 38.86 313 P **P** **23 22 19.5 +0.8**
CHTO IAmb IAmb 23 22 22.2
comp=Z,236nm,1.4s
CHTO **Chiang Mai** 38.86 313 P **P** **23 22 19.4 +0.7**
CHTO **Chiang Mai** 38.86 313 P **P** **23 22 19.8 +1.1**
JSU **Suzuyama** 38.87 3 P **P** **23 22 18.6 +0.1**
JSU IAmb IAmb 23 22 19.5
comp=Z,115nm,1.0s
SSE **Sheshan** 38.96 351 P **P** **23 22 19.6 +0.3**
SSE pmax pmax
comp=Z,94nm,0.9s
SSE pmax pmax
comp=Z,290nm,3.3s
SANVU **Saraoutou** 39.08 105 P **P** **23 22 21.6 +1.0**
SANVU **Saraoutou** 39.08 105 ⇑P **P** **23 22 21.2 +0.7**
TAU **Tasmania Unive** 39.10 157 P **P** **23 22 21.8 +1.4**
TAU pmax pmax
comp=Z,113nm,1.2s
TAU **Tasmania Unive** 39.10 157 P **P** **23 22 21.8 +1.4**
TAU IAmb IAmb 23 22 24.0
comp=Z,113nm,1.1s
TAU **Tasmania Unive** 39.10 157 P **P** **23 22 22.2 +1.9**
NOUC **Port Laguerre** 39.55 116 P **P** **23 22 25.3 +0.9**
NOUC **Port Laguerre** 39.55 116 ⇑P **P** **23 22 25.1 +0.7**
NOUC pP **pP** **23 23 01.9 +3.0**
NOUC pwP **pwP** **23 23 07.9 +6.2**
NOUC sP **sP** **23 23 16.8 -0.2**
GYA **Guiyang** 39.66 329 ⇑ *i* P **P** **23 22 25.9 +0.6**
GYA pP pP 23 23 01.4 +2.3
GYA sP sP 23 23 17.8 +0.9
GYA PcP **PcP** **23 24 30.3 +1.3**
GYA pmax pmax
comp=Z,130nm,1.3s
GYA pmax pmax
comp=Z,710nm,4.8s
DZM **Mont Dzumac** 39.67 116 P **P** **23 22 26.4 +0.9**
comp=Z,133nm,0.9s,baz=271,slow=8.3,SNR=41
DZM **Mont Dzumac** 39.67 116 *e* P **P** **23 22 26.3 +0.9**
comp=Z,366nm,1.2s
DZM **Mont Dzumac** 39.67 116 P **P** **23 22 26.0 +0.6**
DZM **Mont Dzumac** 39.67 116 P **P** **23 22 26.8 +1.3**
DZM **Mont Dzumac** 39.67 116 ⇑P **P** **23 22 26.5 +1.0**
DZM pP **pP** **23 23 06.5 +6.6**
DZM pwP pwP 23 23 15.0 +12
DZM sP **sP** **23 23 20.6 +2.5**
ONTNC **Ouen Toro** 39.74 116 P **P** **23 22 27.3 +1.4**
PBA **Port Blair** 39.98 298 P **P** **23 22 28.1 +0.1**
PBA IAmb IAmb 23 22 44.5
comp=Z,204nm,1.1s
PBA **Port Blair** 39.98 298 *e* P **P** **23 22 27.2 -0.8**
PBA IAmb IAmb 23 22 45.2
comp=Z,72nm,1.1s
PBA **Port Blair** 39.98 298 P **P** **23 22 27.7 -0.3**
SNR=6.7
YATNC **Mamie plateau,** 40.06 115 P **P** **23 22 30.1 +1.5**
comp=Z,485nm,1.4s
LIFNC **LIFOU** 40.07 113 P **P** **23 22 27.7 -0.9**
LIFNC **LIFOU** 40.07 113 P **P** **23 22 30.1 +1.5**
comp=Z,443nm,1.4s
WHN **Wuhan** 40.08 341 ⇑ *i* P **P** **23 22 29.4 +0.9**
WHN ScP **ScP** **23 28 05.3 +1.2**
WHN S **S** **23 28 27.8 +5.3**
WHN pmax pmax
comp=Z,940nm,1.0s
OUENC **Ouen Island, N** 40.12 116 P **P** **23 22 29.8 +0.8**
OUENC **Ouen Island, N** 40.12 116 P **P** **23 22 30.2 +1.2**
comp=Z,262nm,1.4s
NJ2 **Nanjing** 40.32 348 ⇑P **P** **23 22 31.0 +0.5**
NJ2 PcP **PcP** **23 24 31.6 +0.8**
NJ2 ScP **ScP** **23 28 05.5 +0.5**
NJ2 pmax pmax
comp=Z,220nm,1.0s
JNU **Nakatsue** 40.50 4 P **P** **23 22 30.9 -1.1**
comp=Z,57nm,1.1s,baz=163,slow=5.5,SNR=6.0
PINNC **Pines Island,** 40.71 116 P **P** **23 22 34.6 +0.8**
PINNC **Pines Island,** 40.71 116 P **P** **23 22 35.4 +1.5**
comp=Z,519nm,1.0s
KMI **Kunming** 40.77 324 ⇑P **P** **23 22 36.4 +1.9**
KMI pP pP 23 23 08.0 -0.5
KMI sP sP 23 23 30.0 +3.8
KMI PcP **PcP** **23 24 34.8 +2.0**
KMI S **S** **23 28 35.3 +1.9**
KMI pmax pmax
comp=Z,230nm,1.4s
KMI pmax pmax
comp=Z,880nm,3.9s
KMI LR LR
comp=Z,620nm,17.5s
KMI LR LR
comp=Z,760nm,15.8s
KMI LR LR
comp=Z,870nm,17.5s
KMI **Kunming** 40.77 324 ⇑P **P** **23 22 36.5 +1.9**
KMI X 23 22 52.1
MARNC **Mare, Loyalty** 40.95 114 P **P** **23 22 36.5 +0.6**
MARNC **Mare, Loyalty** 40.95 114 P **P** **23 22 37.2 +1.3**
comp=Z,6.8nm,1.1s
JMN **Monobe** 41.39 7 P **P** **23 22 38.1 -1.1**
JMN IAmb IAmb 23 22 40.7
comp=Z,130nm,1.2s
ENH **Enshi** 41.60 335 P **P** **23 22 40.2 -0.9**
ENH **Enshi** 41.60 335 ⇑P **P** **23 22 41.0 -0.1**
ENH X 23 22 49.0
ENH pP **pP** **23 23 17.2 +2.1**
ENH pwP **pwP** **23 23 28.4 +7.2**
ENH sP **sP** **23 23 39.6 +6.7**
JTU **Tsushima** 41.83 2 P **P** **23 22 42.8 0.0**
PZH **PanZhiHua** 42.39 324 ⇑P **P** **23 22 48.4 +0.7**
PZH pP **pwP** **23 23 27.8 +0.1**
PZH sP **sP** **23 23 40.5 +0.9**
PZH ScP **ScP** **23 28 15.8 +2.2**
PZH PcS **PcS** **23 28 30.5 +0.1**
PZH S **S** **23 28 56.0 -1.2**
PZH sS **sS** **23 29 59.8 +2.0**
PZH pmax pmax
comp=Z,140nm,1.2s
PZH pmax pmax
comp=Z,750nm,3.5s
JHS **Saijyo** 42.55 6 P **P** **23 22 48.7 0.0**
JHS IAmb IAmb 23 22 50.2
comp=Z,146nm,1.2s
KWAJ **Kwajalein Atol** 42.60 68 P **P** **23 22 48.9 -0.5**
KWAJ pmax pmax
comp=Z,347nm,1.1s
KWAJ **Kwajalein Atol** 42.60 68 P **P** **23 22 48.9 -0.5**
INU **Inuyama** 43.46 11 P **P** **23 22 55.7 -0.2**
INU **Inuyama** 43.46 11 P **P** **23 22 56.9 +1.0**
TJN **Taejon** 43.67 359 *c e* P **P** **23 22 57.8 +0.2**
TJN **Taejon** 43.67 359 P **P** **23 22 57.4 -0.2**
TJN **Taejon** 43.67 359 P **P** **23 22 58.6 +1.0**
LYN **LuoYang** 44.38 341 ⇑ *i* P **P** **23 23 03.3 +0.1**
LYN pP pwP 23 23 43.4 -0.6
LYN PcP **PcP** **23 24 45.4 +1.1**
LYN ScP **ScP** **23 28 22.1 +0.8**
LYN S **S** **23 29 24.6 -0.9**
LYN pmax pmax
comp=Z,140nm,1.5s
LYN pmax pmax
comp=Z,510nm,4.1s
TIA **Tai'an** 44.70 347 ⇑P **P** **23 23 05.3 -0.5**
TIA pmax pmax
comp=Z,130nm,1.0s
KSAR **Wonju Array Be** 44.73 360 P **P** **23 23 06.1 +0.1**
KSAR **Wonju Array Be** 44.73 360 P **P** **23 23 06.1 +0.1**
KSRS **Korea Array** 44.74 360 P **P** **23 23 06.5 +0.4**
comp=Z,58nm,1.0s,baz=178,slow=10,SNR=107
KSRS PcP **PcP** **23 24 46.3 +0.8**
comp=Z,16nm,0.8s,baz=185,slow=4.1,SNR=9.7
KSRS ScP **ScP** **23 28 22.6 -0.1**
comp=Z,4.9nm,0.9s,baz=175,slow=3.5,SNR=6.3
CD2 **Chengdu** 44.76 330 ⇑P **P** **23 23 06.3 -0.1**
CD2 pmax pmax
comp=Z,100nm,1.2s
CD2 pmax pmax
comp=Z,740nm,5.9s
KS19 **Wonju Array Si** 44.79 360 P **P** **23 23 06.1 -0.3**
INCN **Inchon** 44.79 358 P **P** **23 23 06.4 -0.1**
INCN pmax pmax
comp=Z,201nm,1.4s
INCN **Inchon** 44.79 358 P **P** **23 23 06.4 -0.1**
INCN IAmb IAmb 23 23 08.2
comp=Z,200nm,1.4s
INCN **Inchon** 44.79 358 P **P** **23 23 07.8 +1.3**
MAJO **Matsushiro** 44.85 12 P **P** **23 23 05.6 -1.4**
MAJO pmax pmax
comp=Z,80nm,1.0s
MAJO **Matsushiro** 44.85 12 P **P** **23 23 05.6 -1.4**
MAJO **Matsushiro** 44.85 12 P **P** **23 23 06.9 -0.1**
MJAR **Matsushiro Arr** 44.85 12 P **P** **23 23 05.3 -1.7**
comp=Z,49nm,1.1s,baz=68,slow=5.1,SNR=38
MJB9 **Matsu-Tunnel** 44.85 12 P **P** **23 23 06.0 -1.0**
JYT **Yasato** 44.98 14 P **P** **23 23 07.4 -0.5**
XAN **Xi'an** 45.15 337 P **P** **23 23 08.8 -0.7**
XAN pmax pmax
comp=Z,250nm,1.2s
XAN **Xi'an** 45.15 337 ⇑P **P** **23 23 08.8 -0.7**
XAN pP **pP** **23 23 46.2 +2.3**
XAN pwP **pwP** **23 23 49.9 -0.1**
LSD **Sado** 46.30 11 P **P** **23 23 18.0 -0.4**
HNS **HongShan** 46.40 345 ⇑P **P** **23 23 19.1 0.0**
HNS S **S** **23 29 50.9 -3.6**
HNS pmax pmax
comp=Z,180nm,1.2s
HNS LR LR
comp=Z,440nm,15.1s
HNS LR LR
comp=Z,250nm,16.3s
KOHI **KOHIMA** 46.72 316 *e* P **P** **23 23 21.8 -0.2**
KOHI IAmb IAmb 23 23 23.9
comp=Z,507nm,1.0s
MOKO **MOKOCHONG** 46.83 317 *e* P **P** **23 23 23.2 +0.4**
MOKO IAmb IAmb 23 23 25.5
comp=Z,597nm,0.9s
BELO **BELONIA** 47.10 311 *e* P **P** **23 23 26.5 +1.8**
TIY **Taiyuan** 47.31 343 ⇑P **P** **23 23 26.1 -0.2**
TIY pmax pmax
comp=Z,72nm,0.5s
AGT **Agartala** 47.62 312 *e* P **P** **23 23 30.1 +1.3**
ITAN **ITANAGAR** 47.91 317 *e* P **P** **23 23 31.9 +0.9**
ITAN IAmb IAmb 23 23 34.0
comp=Z,671nm,1.3s
SHL **Shillong** 48.17 314 P **P** **23 23 33.2 -0.1**
SHL pmax pmax
comp=Z,430nm,1.5s
SHL **Shillong** 48.17 314 P **P** **23 23 33.2 -0.1**
SHL **Shillong** 48.17 314 P **P** **23 23 33.4 +0.1**
SNR=50
TEZP **TEZPUR** 48.19 316 *e* P **P** **23 23 32.9 -0.2**
TEZP IAmb IAmb 23 23 35.1
comp=Z,83nm,0.8s
BJT **Baijiatuau** 48.57 348 ⇑P **P** **23 23 35.6 -0.2**
BJT pP **pwP** **23 24 15.9 -1.3**
BJT X 23 24 22.6
BJT pwP **sP** **23 24 22.6 -5.4**
BJI **Beijing** 48.59 348 P **P** **23 23 35.8 -0.1**
BJI PcP **PcP** **23 24 59.8 +0.7**
BJI ScP **ScP** **23 28 39.8 +1.1**
BJI pmax pmax
comp=Z,200nm,1.2s
GUWA **GUWAHATI** 48.70 315 *e* P **P** **23 23 37.1 0.0**
GUWA IAmb IAmb 23 23 39.1
comp=Z,418nm,0.9s
LZH **Lanzhou** 49.00 334 ⇑P **P** **23 23 40.3 +0.9**
LZH pP pP 23 24 13.6 -0.9
LZH ScP **ScP** **23 28 43.1 +2.2**
LZH PcS **PcS** **23 28 58.3 +0.7**
LZH S **S** **23 30 30.0 -1.5**
LZH SS **SS** **23 34 05.6 +0.7**
LZH pmax pmax
comp=Z,260nm,1.3s
LZH pmax pmax
comp=Z,1µm,5.6s
LZH LR LR
comp=Z,2µm,14.1s
LZH LR LR
comp=Z,2µm,14.2s
LZH LR LR
comp=Z,1µm,16.8s
TURI **Tura** 49.28 313 *e* P **P** **23 23 42.4 +0.9**
TURI IAmb IAmb 23 23 44.5
comp=Z,430nm,1.1s
SNY **Shenyang** 49.28 356 ⇑P **P** **23 23 40.3 -0.9**
SNY pmax pmax
comp=Z,100nm,1.7s
PALK **Pallekele** 49.48 286 *i* P **P** **23 23 41.3 -2.0**
PALK pmax pmax
comp=Z,32nm,1.0s
PALK **Pallekele** 49.48 286 P **P** **23 23 42.7 -0.6**
PALK **Pallekele** 49.48 286 P **P** **23 23 42.5 -0.8**
JTM **Tenmabayashi** 49.53 13 P **P** **23 23 42.3 -0.8**
MSVF **Nonsavu** 49.67 107 P **P** **23 23 45.6 +0.9**
comp=Z,40nm,0.8s,baz=255,slow=6.0,SNR=11
MSVF LR LR 23 42 39.6
comp=Z,403nm,19.9s,baz=205,slow=33
MSVF **Nonsavu** 49.67 107 P **P** **23 23 45.0 +0.3**
MSVF IAmb IAmb 23 23 47.6
comp=Z,111nm,1.1s
MSVF **Nonsavu** 49.67 107 P **P** **23 23 45.3 +0.6**
MSHR **Mys Shultsa** 49.94 3 *c e* P **P** **23 23 46.2 +0.1**
MSHR pmax pmax
comp=Z,59nm,1.7s
OUZ **Omahuta** 49.94 130 P **P** **23 23 47.5 +1.1**
OUZ IAmb IAmb 23 23 50.0
comp=Z,203nm,1.3s
OUZ **Omahuta** 49.94 130 P **P** **23 23 48.0 +1.6**
HHC **Hu-ho-hao-te** 50.48 344 ⇑ *i* P **P** **23 23 50.8 +0.4**
HHC pmax pmax
comp=Z,120nm,1.2s
HHC pmax pmax
comp=Z,380nm,7.9s
FUNA **Funafuti** 50.59 95 P **P** **23 23 51.9 +0.3**
FUNA IAmb IAmb 23 23 56.5
comp=Z,132nm,1.0s
DCZ **Deep Cove** 50.65 145 P **P** **23 23 52.5 +1.0**
DCZ IAmb IAmb 23 23 54.3
comp=Z,232nm,1.5s
CN2 **Changchun** 51.14 358 *e* P **P** **23 23 54.1 -1.0**
CN2 PcP **PcP** **23 25 05.5 -2.9**
FOZ **Fox Glacier** 51.14 142 IAmb IAmb 23 23 57.6
comp=Z,132nm,0.8s
MLZ **Mavora Lakes** 51.14 144 P **P** **23 23 56.0 +0.7**
MLZ IAmb IAmb 23 23 57.7
comp=Z,132nm,1.0s
LSA **Lhasa** 51.28 318 P **P** **23 23 58.0 +0.9**
LSA pmax pmax
comp=Z,260nm,1.1s
LSA **Lhasa** 51.28 318 P **P** **23 23 58.0 +0.9**
LSA **Lhasa** 51.28 318 P **P** **23 23 58.3 +1.2**
LSA **Lhasa** 51.28 318 P **P** **23 23 58.8 +1.7**
LSA pP **pwP** **23 24 38.4 +0.1**
GCSZ **Gaunt Creek Bo** 51.35 141 P **P** **23 23 58.7 +1.9**
WHZ **Wether Hill Ro** 51.35 145 P **P** **23 23 57.5 +0.8**
WKZ **Wanaka** 51.36 143 P **P** **23 23 57.8 +0.9**
WKZ IAmb IAmb 23 24 01.2
comp=Z,125nm,1.0s
WVZ **Waitaha Valley** 51.48 141 P **P** **23 23 59.3 +1.6**
DSZ **Denniston Nort** 51.50 139 P **P** **23 24 00.6 +2.6**
QRZ **Quartz Range** 51.55 137 P **P** **23 23 59.8 +1.5**
QRZ **Quartz Range** 51.55 137 P **P** **23 24 00.5 +2.2**

QRZ Quartz Range 51.55 137 P P 23 23 59.4 +1.1
GTK Tadong 51.57 314 eP P 23 23 59.1 +0.3
GTK lAmb lAmb 23 24 00.3
comp=Z,408nm,1.2s
USA0B Ussuriysk Arra 51.60 4 lAmb lAmb 23 24 00.0
comp=Z,212nm,1.8s
USRK Ussuriysk Ar. 51.60 4 P P 23 23 58.9 +0.3
comp=Z,8.7nm,0.4s,baz=193,slow=7.4,SNR=31
USRK pP **pP 23 24 32.6 -1.3**
comp=Z,20nm,1.0s,baz=195,slow=7.7,SNR=2.4
MDRS Chennai 51.73 293 eP P 23 23 59.9 -0.1
MDRS lAmb lAmb 23 24 02.5
comp=Z,193nm,1.0s
INZ Inchbonnie 51.75 140 P P 23 24 01.0 +1.2
LBZ Lake Benmore 51.82 142 P P 23 24 00.8 +0.4
MDJ Mudanjiang 51.91 1 lAmb lAmb 23 24 03.6
comp=Z,224nm,1.4s
MDJ Mudanjiang 51.91 1 P P 23 24 00.4 -0.5
MDJ pP pP 23 24 35.3 -1.0
MDJ sP sP 23 24 52.4 -1.2
MDJ ScP **ScP 23 28 51.5 -1.4**
MDJ PcS **PcS 23 29 08.3 -1.1**
MDJ S **S 23 31 15.3 +4.2**
MDJ sS sS 23 32 14.8 +1.0
MDJ pmax pmax
comp=Z,120nm,1.4s
MDJ pmax pmax
comp=Z,1μm,9.3s
MDJ LR LR
comp=Z,490nm,11.5s
MDJ LR LR
comp=Z,590nm,11.4s
MDJ LR LR
comp=Z,640nm,16.5s
MDJ Mudanjiang 51.91 1 P P 23 24 01.9 +1.0
NEZ North Egmont 51.94 135 P P 23 24 04.8 +3.5
MRNZ Matariki Terra 51.97 138 P P 23 24 03.0 +1.5
RPZ Rata Peaks 52.01 141 P P 23 24 03.1 +1.4
comp=Z,711nm,0.9s,baz=281,slow=3.1,SNR=161
RPZ LR LR 23 47 10.8
comp=Z,2μm,18.4s,baz=299,slow=37
RPZ Rata Peaks 52.01 141 P P 23 24 03.3 +1.6
RPZ Rata Peaks 52.01 141 P P 23 24 03.7 +1.9
RPZ Rata Peaks 52.01 141 P P 23 24 03.6 +1.9
HIZ Hauiti 52.17 134 P P 23 24 04.7 +1.8
HIZ lAmb lAmb 23 24 06.4
comp=Z,272nm,1.3s
ODAN Odare 52.18 312 eP P 23 24 03.8 +0.3
ARCZ Arundel 52.20 141 P P 23 24 04.5 +1.4
TAPN Taplejung 52.23 313 eP P 23 24 04.3 +0.4
JHSG JHARSUGUGA 52.29 305⇑eP P 23 24 04.4 +0.3
NNZ Nelson 52.30 137 P P 23 24 04.8 +1.0
NNZ lAmb lAmb 23 24 06.0
comp=Z,261nm,1.7s
NNZ Nelson 52.30 137 P P 23 24 05.5 +1.7
LTZ Lake Taylor 52.31 140 P P 23 24 05.3 +1.3
TMZ Timaru 52.32 142 P P 23 24 04.9 +0.9
XLT XiLinHaoTe 52.32 349⇑iP P 23 24 04.4 +0.4
XLT pP pP 23 24 40.5 +1.0
XLT sP sP 23 25 00.6 +3.8
XLT PP **PP 23 26 06.8 +2.3**
XLT pmax pmax
comp=Z,330nm,1.2s
XLT pmax pmax
comp=Z,2μm,4.6s
OXZ Oxford 52.43 140 lAmb lAmb 23 24 06.6
comp=Z,160nm,0.9s
ODZ Otahua Downs 52.45 143 P P 23 24 05.3 +0.4
ODZ lAmb lAmb 23 24 06.9
comp=Z,76nm,0.9s
ODZ Otahua Downs 52.45 143 P P 23 24 06.3 +1.4
VJD Vijayawada 52.65 297⇑eP P 23 24 06.7 -0.1
WAZ Wanganui 52.77 135 P P 23 24 10.2 +2.9
TUWZ Tuamarina 52.77 137 P P 23 24 08.3 +1.0
RAMN Ramite 52.81 312 eP P 23 24 08.8 +0.6
comp=Z,350nm,0.6s
BSWZ Blackbirch Sta 52.86 138 P P 23 24 08.8 +0.8
WTVZ West Tongariro 52.93 134 P P 23 24 11.6 +2.9
KHZ Kahutara 52.96 139 P P 23 24 09.3 +0.6
KHZ Kahutara 52.96 139 P P 23 24 10.0 +1.3
RATZ Rangitukua 52.97 134 P P 23 24 11.2 +2.4
RATZ S P **23 24 13.4 +4.5**
MCQ Macquarie Isla 52.98 158 P P 23 24 10.9 +2.3
baz=53,SNR=12
MCQ Macquarie Isla 52.98 158 P P 23 24 10.1 +1.5
MCQ pmax pmax
comp=Z,385nm,1.0s
MCQ Macquarie Isla 52.98 158 P P 23 24 10.1 +1.5
MCQ Macquarie Isla 52.98 158 P P 23 24 10.5 +1.9
NTVZ North Tongarir 52.99 134 P P 23 24 11.3 +2.2
MQZ McQueen's Vall 53.00 140 P P 23 24 10.3 +1.3
TMVZ Te Maari 53.02 134 P P 23 24 11.9 +2.6
BNX BinXian 53.02 359 ⇓P P 23 24 08.6 -0.4
BNX pmax pmax
comp=Z,320nm,1.8s
BNX pmax pmax
comp=Z,430nm,5.4s
ETVZ East Tongariro 53.03 134 P P 23 24 12.1 +2.7
ASAJ Asahikawa 53.05 13 P P 23 24 08.7 -0.5
comp=Z,29nm,0.8s,baz=218,slow=12,SNR=7.0
ASAJ LR LR 23 48 33.9
comp=Z,276nm,19.0s,baz=185,slow=38
ASAJ Asahikawa 53.05 13 P P 23 24 10.4 +1.2
ASAJ pmax pmax
comp=Z,76nm,1.3s
JKA Kamikawa-asahi 53.05 13 P P 23 24 10.4 +1.2
CMWZ Cape Campbell 53.10 138 P P 23 24 10.4 +0.7
KIW Kapiti Island 53.18 136 P P 23 24 11.3 +0.9
SNZO South Karori 53.24 137 P P 23 24 10.9 +0.2
SNZO South Karori 53.24 137 P P 23 24 13.4 +2.7
SNZO South Karori 53.24 137 ⇓P P 23 24 11.2 +0.5
SNZO pP **pP 23 24 49.1 +1.7**
OGWZ Otaki Gorge 53.34 136 P P 23 24 12.2 +0.7
TRD Trivandrum 53.39 286 eP P 23 24 13.0 +0.7
KOD Kodaikanal 53.40 289⇑eP P 23 24 11.7 -1.0
JIRN Jiri 53.52 313 eP P 23 24 13.7 +0.3
comp=Z,175nm,1.0s
GTA Gaotai 53.54 333 ⇑P P 23 24 13.8 +0.7
GTA PcP **PcP 23 25 19.3 +1.6**
GTA S **S 23 31 32.3 -1.4**
GTA ScS **ScS 23 33 45.0 -1.3**
GTA pmax pmax
comp=Z,110nm,1.5s
GTA pmax pmax
comp=Z,1μm,9.2s
GTA LR LR
comp=Z,910nm,17.5s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,960nm,17.1s
GOMU GeErMu 53.55 327 P P 23 24 14.3 +0.8
GOMU S **S 23 31 37.3 +2.8**
GOMU pmax pmax
comp=Z,41nm,1.6s
GOMU pmax pmax
comp=Z,170nm,6.8s
GOMU LR LR
comp=Z,600nm,17.5s
GOMU LR LR
comp=Z,470nm,17.5s
GOMU LR LR
comp=Z,340nm,17.6s
TSZ Takapari Road 53.58 135 P P 23 24 14.0 +0.7
BKZ Black Stump Fm 53.60 134 P P 23 24 13.5 0.0
BKZ lAmb lAmb 23 24 15.2
comp=Z,122nm,1.0s
BKZ Black Stump Fm 53.60 134 P P 23 24 14.8 +1.3
KWHZ Kaweka Forest 53.65 134 P P 23 24 15.2 +1.4
MSWZ Moikau Station 53.65 137 P P 23 24 13.2 -0.6
URZ Urewera 53.70 132 P P 23 24 14.5 +0.3
comp=Z,63nm,1.0s,baz=299,slow=2.9,SNR=24
URZ Urewera 53.70 132 P P 23 24 14.0 -0.2
URZ lAmb lAmb 23 24 15.7
comp=Z,179nm,1.5s
URZ Urewera 53.70 132 P P 23 24 14.8 +0.6
BLSP Bilaspur 53.81 304⇑eP P 23 24 13.2 -2.0
GUN Gumba 53.88 313 eP P 23 24 16.2 +0.1
comp=Z,1μm,1.2s
BFZ Birch Farm 54.03 136 lAmb lAmb 23 24 19.1
comp=Z,85nm,1.1s
BFZ Birch Farm 54.03 136 P P 23 24 17.1 +0.6
PKI Pulchoki 54.04 312 eP P 23 24 17.1 -0.1
PKIN Phulchoki 54.05 312 eP P 23 24 17.2 0.0
KKN Kakani 54.25 312 eP P 23 24 18.8 +0.2
comp=Z,802nm,1.2s
DMN Daman 54.28 312 eP P 23 24 19.0 +0.1
comp=Z,896nm,1.1s
MXZ Matakaoa Point 54.34 131 P P 23 24 19.3 +0.5
PCHI Peechi 54.54 289⇑eP P 23 24 20.1 -0.5
PCHI ex x 23 31 44.3
GKN Gorkha 54.85 312 eP P 23 24 22.9 +0.1
HYB Hyderabad 54.85 297 eP P 23 24 21.4 -1.4
HYBB Hyderabad (bro 54.85 297 eP P 23 24 21.8 -1.1
HYBB esP **sP 23 25 11.2 -4.7**
HYBB ePcP **PcP 23 25 24.3 +1.1**
HYBB ePP **PP 23 26 28.1 +0.5**
HYBB eScS ScS 23 33 58.7 +2.4
VLK Valmikinagar 55.05 311 eP P 23 24 24.0 0.0
H08S2 Diego Garcia H 55.07 266 P P 23 24 26.3 +2.2
baz=53,slow=10,SNR=5.8
RAO Raoul Island 55.07 120 LR LR 23 47 52.1
comp=Z,354nm,18.4s,baz=136,slow=36
H08S3 Diego Garcia H 55.08 266 P P 23 24 26.2 +2.0
baz=53,slow=10,SNR=5.5
H08S1 Diego Garcia H 55.09 266 P P 23 24 26.4 +2.1
baz=53,slow=10,SNR=8.2
DGAR Diego Garcia 55.13 266 P P 23 24 24.4 -0.5
DGAR pmax pmax
comp=Z,283nm,1.3s
DGAR Diego Garcia 55.13 266 P P 23 24 24.4 -0.5
KOLN Koldanda 55.49 311 eP P 23 24 27.8 +0.3
KAAM Kaadhehdhoo 55.51 276 P P 23 24 27.8 +0.2
KAAM lAmb lAmb 23 24 29.6
comp=Z,117nm,1.1s
DANN Dangsing 55.68 312 eP P 23 24 28.8 -0.1
comp=Z,1μm,1.3s
YSS Yuzh-Sakhalins 55.78 12 eP P 23 24 29.3 +0.4
YSS pmax pmax
comp=Z,40nm,0.7s
YSS Yuzh-Sakhalins 55.78 12 P P 23 24 29.7 +0.9
PYUN Piuthan 56.12 311 eP P 23 24 32.2 +0.2
comp=Z,2μm,1.1s
KLR Kul'dur 56.60 3 P P 23 24 34.5 -0.2
comp=Z,40nm,1.2s,baz=198,slow=5.9,SNR=40
KLR PcP **PcP 23 25 29.5 +0.4**
comp=Z,15nm,0.8s,baz=227,slow=4.6,SNR=5.7
KLR Kul'dur 56.60 3ceP P 23 24 34.2 -0.5
KLR pmax pmax
comp=Z,78nm,1.3s
LATR Latur 56.98 298⇑eP P 23 24 36.6 -1.3
HIA Hailar 57.02 353 P P 23 24 38.2 +0.5
HIA pmax pmax
comp=Z,98nm,1.4s
HIA Hailar 57.02 353 P P 23 24 38.2 +0.5
HIA lAmb lAmb 23 24 39.6
comp=Z,98nm,1.4s
BHPL Bhopal 58.19 303 eP P 23 24 45.6 -0.7
BHPL lAmb lAmb 23 24 46.9
comp=Z,75nm,0.7s
ULN Ulaanbaatar 58.19 343ceP P 23 24 46.8 +0.7
ULN pmax pmax
comp=Z,260nm,1.2s
ULN Ulaanbaatar 58.19 343 P P 23 24 46.7 +0.6
ULN Ulaanbaatar 58.19 343 P P 23 24 47.1 +1.0
ULN Ulaanbaatar 58.19 343 ⇑P P 23 24 47.0 +0.9
ULN pP **pwP 23 25 27.6 -0.8**
ULN pwP **PcP 23 25 33.9 -1.7**
JHNI Jhansi 58.27 306 eP P 23 24 44.3 -2.5
SONM Songino Array 58.35 343 P P 23 24 48.0 +0.9
comp=Z,95nm,1.0s,baz=165,slow=5.9,SNR=88
SONM PKP2bc 23 54 34.3
comp=Z,9.8nm,1.0s,baz=320,slow=2.2,SNR=8.7
SONM Songino Array 58.35 343 P P 23 24 47.8 +0.6
GOA Goa 58.41 293 eP P 23 24 47.9 -0.1
GOA lAmb lAmb 23 24 48.9
comp=Z,177nm,1.1s
GRNR Gornyy 58.50 6 ⇓iP P 23 24 48.6 +0.7
GRNR pmax pmax
comp=Z,20nm,0.7s
KAD Karad 58.69 295 eP P 23 24 48.3 -1.6
LGTI Lohaghat 58.88 311⇑eP P 23 24 49.6 -1.3
AFI Afiamalu 59.31 102 LR LR 23 47 54.6
comp=Z,397nm,20.7s,baz=322,slow=33
AFI Afiamalu 59.31 102 P P 23 24 55.2 +0.9
AFI pmax pmax
comp=Z,364nm,1.2s
AFI Afiamalu 59.31 102 P P 23 24 55.2 +0.9
AFI Afiamalu 59.31 102 P P 23 24 55.8 +1.6
AFI Afiamalu 59.31 102 ⇑P P 23 24 55.9 +1.6
AFI pP **pwP 23 25 37.4 +1.0**
POO Poona 59.42 297 eP P 23 24 54.2 -0.8
POO lAmb lAmb 23 24 54.9
comp=Z,115nm,1.0s
POO Poona 59.42 297 ex x 23 24 58.0
DRV Dumont d'Urvil 59.62 175 ⇑P P 23 24 56.2 +0.8
CASY Casey 59.91 188 P P 23 24 58.9 +1.5
CASY lAmb lAmb 23 25 00.0
comp=Z,65nm,1.0s
CASY Casey 59.91 188 P P 23 24 58.8 +1.4
CASY pP **PcP 23 25 43.7 +1.7**
KNTN Kanton 60.10 89 P P 23 25 00.5 +0.8
KNTN lAmb lAmb 23 25 01.4
comp=Z,108nm,0.8s
KNTN Kanton 60.10 89 P P 23 25 02.9 +3.3
KNTN Kanton 60.10 89 P P 23 25 01.1 +1.5
CIT Chita 60.60 350 eP P 23 25 03.4 +1.0
CIT e 23 26 05.3
CIT e 23 27 17.0
CIT pmax pmax
comp=Z,274nm,1.4s
SONA Sohna 60.71 308⇑eP P 23 25 01.7 -1.7
AYAN Aya Nagar 60.78 308⇑eP P 23 25 02.3 -1.7
NDI New Delhi 60.81 309⇑eP P 23 25 02.1 -2.1
NDI New Delhi 60.81 309 eP P 23 25 03.5 -0.7
NDI eS **S 23 33 03.0 -6.0**
ZEA Zeya 61.03 359 eP P 23 25 05.6 +0.5
ZEA e 23 25 42.9
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,50nm,1.1s
KUDL Kundal 61.12 308 eP P 23 25 04.2 -2.1
NIUE Niue 61.14 108 P P 23 25 06.1 -0.5
baz=61,SNR=4.7
NIUE Niue 61.14 108 P P 23 25 07.3 +0.7
NIUE Niue 61.14 108 P P 23 25 08.9 +2.3
ZAK Zakamensk 61.55 342 eP P 23 25 08.8 -0.1
ZAK pmax pmax
comp=Z,113nm,1.5s
SMLA Simla 62.02 311 eP P 23 25 12.6 +0.3
SMLA lAmb lAmb 23 25 13.5
comp=Z,392nm,0.9s
BHV Bhavnagar 62.07 299⇑eP P 23 25 11.3 -1.5
BHK Bhakra 62.72 311⇑eP P 23 25 16.7 -0.3
WMQ Urumqi 62.81 328⇑iP P 23 25 18.0 +0.7
WMQ pP PcP 23 25 55.3 +1.0
WMQ sP sP 23 26 11.8 +0.6
WMQ PP **PP 23 27 39.5 +1.8**
WMQ S **S 23 33 33.5 -0.3**
WMQ pmax pmax
comp=Z,210nm,0.9s
WMQ pmax pmax
comp=Z,1μm,7.1s
WMQ LR LR
comp=Z,2μm,17.3s
WMQ LR LR
comp=Z,460nm,18.7s
WMQ Urumqi 62.81 328 ⇑P P 23 25 18.1 +0.7
WMQ pP **PcP 23 25 55.4 +1.1**
WMQ sP **sP 23 26 15.1 +3.8**
MOY Mondy 63.38 342 eP P 23 25 22.2 +1.2
MOY pmax pmax
comp=Z,360nm,1.7s
KNGR Kungurtug. Tuv 63.65 339 iP P 23 25 22.8 0.0
PAF Port-aux-Franc 63.69 218 P P 23 25 23.6 +0.6
PAF pmax pmax
comp=Z,496nm,1.5s
PAF Port-aux-Franc 63.69 218 P 23 25 23.6 +0.6
THN Thein Dam 63.73 312⇑eP P 23 25 22.0 -1.5
JMU Jammu 64.47 312⇑eP P 23 25 28.5 +0.2
PEA0B Petropavlovsk- 65.42 19ceP P 23 25 33.8 -0.3
PEA0B Petropavlovsk- 65.42 19 P P 23 25 33.9 -0.1
PETK Petropavlovsk- 65.42 19 P P 23 25 34.3 +0.2
comp=Z,33nm,0.9s,baz=191,slow=6.8,SNR=18
PETK pP **pP 23 26 10.3 -1.1**
comp=Z,28nm,0.9s,baz=209,slow=8.5,SNR=4.3
PETK LR LR 23 50 15.2
comp=Z,196nm,21.5s,baz=288,slow=32
PETK PKP2bc 23 54 18.3
comp=Z,11nm,1.1s,baz=76,slow=12,SNR=6.6
PET Petropavlovsk 65.67 20 eP P 23 25 35.7 +0.1
PET e*PP **pP 23 26 11.8 -1.2**
PET eS **S 23 34 07.7 -0.6**
PET pmax pmax
comp=Z,76nm,1.4s
PET Petropavlovsk 65.67 20 P P 23 25 35.3 -0.3
PET lAmb lAmb 23 25 37.0
comp=Z,132nm,1.5s
PET Petropavlovsk 65.67 20 P P 23 25 36.1 +0.5
BOD Bodaibo 66.12 352 eP P 23 25 38.1 -0.3
BOD pmax pmax
comp=Z,152nm,1.2s
NIL Nilore 66.13 312 P P 23 25 39.0 -0.1
NIL pmax pmax
comp=Z,120nm,0.8s
NIL Nilore 66.13 312 P P 23 25 39.0 -0.1
NIL lAmb lAmb 23 25 40.0
comp=Z,120nm,0.8s
NIL Nilore 66.13 312 P P 23 25 39.0 -0.1
JOHN Johnston Islan 66.22 68 P P 23 25 38.8 -1.1
ZSN Zaisan 66.74 330c iP P 23 25 42.7 +0.1
ZSN pmax pmax
comp=Z,99nm,2.8s
ZSN Zaisan 66.74 330⇑iP P 23 25 42.7 +0.1
comp=Z,99nm,2.8s,baz=330
SHLS Shalkode 66.98 323c iP P 23 25 43.5 -0.9
SHLS pmax pmax
comp=Z,76nm,1.6s
SHLS Shalkode 66.98 323⇑iP P 23 25 43.6 -0.9
comp=Z,76nm,1.6s,baz=324
PDGK Podgornoye 67.07 324 iP P 23 25 45.0 +0.1
PDGK pmax pmax
comp=Z,103nm,1.0s
KSH Kashi 67.13 319 P P 23 25 46.4 +1.0
KSH PcP **PcP 23 26 13.8 +1.5**
KSH S **S 23 34 26.5 -0.3**
KSH pmax pmax
comp=Z,69nm,1.0s
KSH LR LR
comp=Z,820nm,16.2s
KSH LR LR
comp=Z,510nm,15.6s
KSH LR LR
comp=Z,930nm,14.8s
UZB Uzynbulak 67.24 323c iP P 23 25 46.7 +0.7
UZB pmax pmax
comp=Z,98nm,1.6s
UZB Uzynbulak 67.24 323⇑iP P 23 25 46.8 +0.7
comp=Z,98nm,1.6s,baz=323
SATY Saty 67.56 323c iP P 23 25 48.7 +0.7
SATY pmax pmax
comp=Z,113nm,1.7s
SATY Saty 67.56 323⇑iP P 23 25 48.8 +0.7
comp=Z,113nm,1.7s,baz=323
CCD Concordia, Ant 67.59 181 ⇑P P 23 25 50.1 +2.1
CCD ⇑X 23 26 16.4
KPKS Kokpek 67.62 323c iP P 23 25 48.9 +0.5
KPKS pmax pmax
comp=Z,119nm,1.5s
KPKS Kokpek 67.62 323⇑iP P 23 25 48.9 +0.5
comp=Z,119nm,1.5s,baz=323
MK31 Makanchi Array 67.63 328 iP P 23 25 48.5 +0.2
MK31 pmax pmax
comp=Z,107nm,0.8s
MK31 Makanchi Array 67.63 328 P P 23 25 48.8 +0.5
MK31 lAmb lAmb 23 25 50.4
comp=Z,102nm,1.0s
MKAR Makanchi Array 67.63 328 P P 23 25 48.6 +0.4
comp=Z,56nm,0.7s,baz=130,slow=7.2,SNR=360
MKAR pP **pP 23 26 25.9 +0.1**
comp=Z,23nm,0.7s,baz=120,slow=7.3,SNR=3.8
MKAR PKPPKP **P'P'df 23 54 02.0 -7.2**
comp=Z,2.2nm,0.9s,baz=300,slow=2.4,SNR=10
MKAR P4KPbc 00 02 37.1
comp=Z,1.1nm,0.8s,baz=115,slow=5.7,SNR=10
KDJ Kajisay 67.78 321 P P 23 25 49.8 +0.3
KDJ pmax pmax
comp=Z,112nm,1.5s
KDJ Kajisay 67.78 321 P P 23 25 49.8 +0.3
KDJ lAmb lAmb 23 25 52.1
comp=Z,112nm,1.4s
MAKZ Makanchi 67.81 328 P P 23 25 49.7 +0.3
MAKZ pmax pmax
comp=Z,106nm,1.1s
MAKZ Makanchi 67.81 328 P P 23 25 49.7 +0.3
MAKZ lAmb lAmb 23 25 51.3
comp=Z,106nm,1.1s
MAKZ Makanchi 67.81 328 ⇑P P 23 25 49.7 +0.3
MAKZ X 23 26 10.8
MAKZ pP **pP 23 26 31.6 +4.7**
MAKZ pwP **pwP 23 26 36.0 +3.9**
MAKZ sP **sP 23 26 46.1 +2.2**
ULHL Ulahol 68.42 321 P P 23 25 54.1 +0.6
SNR=30
ULHL Ulahol 68.42 321 P P'P'df 23 54 11.3 +2.8
SNR=11
TNSS Tian-Shan 68.42 322 iP P 23 25 54.7 +0.9
TNSS Tian-Shan 68.42 322 iP P 23 25 54.7 +0.9
baz=322
MDOK Medeo 68.43 322 iP P 23 25 54.2 +0.7
MDOK Medeo 68.43 322 iP P 23 25 54.3 +0.7
baz=322
AAA Alma-Ata 68.54 322 eP P 23 25 55.1 +1.1
AAA pmax pmax
comp=Z,248nm,1.6s
AAA Alma-Ata 68.54 322 eP P 23 25 55.2 +1.1
comp=Z,248nm,1.6s,baz=322
ARXS Arharly 68.56 324 P P 23 25 54.2 0.0
ARXS pmax pmax
comp=Z,251nm,1.0s
TDK Taldyqorghan 68.68 325c iP P 23 25 55.6 +0.8
TDK pmax pmax
comp=Z,430nm,2.2s
TDK Taldyqorghan 68.68 325⇑iP P 23 25 55.6 +0.8
comp=Z,430nm,2.2s,baz=324
BOOM Boomskoye usch 68.74 321 P P 23 25 55.9 +0.4
BOOM pmax pmax
comp=Z,173nm,1.4s
BOOM Boomskoye usch 68.74 321 P P 23 25 55.9 +0.4
BOOM lAmb lAmb 23 25 57.8
comp=Z,172nm,1.4s
CHKK Chushkaly 68.86 323 eP P 23 25 56.2 +0.3
CHKK Chushkaly 68.86 323 eP P 23 25 56.2 +0.3
baz=323
TKM2 Tokmak 2 69.19 321 P P 23 25 58.9 +0.6
SNR=57
TKM2 Tokmak 2 69.19 321 P P'P'df 23 54 08.5 +1.3
SNR=9.6
TKM2 Tokmak 2 69.19 321 iP P 23 25 58.7 +0.4
TKM2 pmax pmax
comp=Z,101nm,1.4s
KUU Kurty 69.27 323c iP P 23 25 59.0 +0.5
KUU pmax pmax
comp=Z,370nm,1.6s
KUU Kurty 69.27 323⇑iP P 23 25 59.0 +0.5
comp=Z,370nm,1.6s,baz=322
MA2 Magadan 69.29 12 P P 23 25 58.5 +0.3
comp=Z,61nm,0.9s,baz=192,slow=6.0,SNR=42
MA2 Magadan 69.29 12ceP P 23 25 58.4 +0.1
MA2 pmax pmax
comp=Z,68nm,0.9s
MA2 Magadan 69.29 12 P P 23 25 58.3 +0.1
MA2 Magadan 69.29 12 P P 23 25 59.3 +1.1
MA2 Magadan 69.29 12 ⇑P P 23 25 58.6 +0.3
MA2 pP **pwP 23 26 42.3 +1.5**
YAK Yakutsk 69.35 1 P P 23 25 58.1 -0.5
comp=Z,106nm,0.7s,baz=357,slow=4.9,SNR=48
YAK Yakutsk 69.35 1c iP P 23 25 58.3 -0.2
YAK e 23 26 19.6
YAK e*PP **pwP 23 26 40.7 -0.3**
YAK e 23 28 33.5
YAK eS **S 23 34 50.2 -1.7**
YAK e 23 35 41.2
YAK eSS **SS 23 39 20.4 -2.1**
YAK pmax pmax
comp=Z,296nm,0.9s
YAK pmax pmax
comp=N,87nm,1.1s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=Z,134nm,2.6s

YAK pmax pmax
comp=N,22nm,1.5s
YAK pmax pmax
comp=E,77nm,4.6s
YAK smax smax
comp=N,178nm,2.2s
YAK smax smax
comp=E,353nm,1.8s
YAK Yakutsk 69.35 1 P P 23 25 57.8 -0.8
YAK P P 23 25 58.0 -0.5
YAK Yakutsk 69.35 1 P P 23 25 58.6 +0.1
YAK pP pwP 23 26 39.8 -1.2
YAK sP sP 23 26 59.0 +5.7
KBK Karagaybulak 69.45 321 P P 23 26 00.8 +1.0
SNR=49
KBK Karagaybulak 69.45 321 P P'P'df 23 54 08.4 +1.7
SNR=11
UCH Uchtor 69.50 320 P P 23 26 01.4 +0.9
SNR=49
UCH Uchtor 69.50 320 P P'P'df 23 54 08.1 +1.1
SNR=8.9
KBL Kabul 69.66 311 P P 23 26 01.3 0.0
KBL pmax pmax
comp=Z,73nm,0.9s
KBL Kabul 69.66 311 P P 23 26 01.3 0.0
KBL lAmb lAmb 23 26 02.7
comp=Z,74nm,0.9s
KBL Kabul 69.66 311 P P 23 26 01.4 +0.1
SNR=39
AAK Ala-Archa 69.72 321 P P 23 26 02.6 +1.0
SNR=74
AAK Ala-Archa 69.72 321 P P'P'df 23 54 06.9 +0.6
SNR=15
AAK Ala-Archa 69.72 321 P P 23 26 02.6 +1.0
comp=Z,54nm,1.1s,baz=126,slow=4.7,SNR=106
AAK Ala-Archa 69.72 321*ce*P P 23 26 01.2 -0.3
AAK pmax pmax
comp=Z,164nm,1.7s
AAK Ala-Archa 69.72 321 P P 23 26 02.5 +1.0
AAK lAmb lAmb 23 26 04.0
comp=Z,177nm,1.4s
AAK Ala-Archa 69.72 321 P P 23 26 02.5 +1.0
AAK Ala-Archa 69.72 321 *i* P P 23 26 02.6 +1.0
SNR=110
AAK Ala-Archa 69.72 321 ⇑P P 23 26 02.5 +1.0
AAK X 23 26 26.5
AAK pP pwP 23 26 45.2 0.0
FRU1 Bishkek 69.73 321 P P 23 26 02.1 +0.7
FRU1 pmax pmax
comp=Z,156nm,1.7s
FRU1 Bishkek 69.73 321 P P 23 26 02.1 +0.7
FRU1 lAmb lAmb 23 26 03.9
comp=Z,156nm,1.7s
CHMS Chumysh 69.75 321 P P 23 26 01.9 +0.4
SNR=22
CHMS Chumysh 69.75 321 P P'P'df 23 54 07.0 +1.0
SNR=16
CHMS Chumysh 69.75 321 *i* P P 23 26 01.0 -0.5
CHMS pmax pmax
comp=Z,64nm,1.4s
DRK Karamyk 69.90 317 P P 23 26 03.2 +0.3
DRK lAmb lAmb 23 26 04.9
comp=Z,187nm,1.6s
AML Almayashu 69.97 320 P P 23 26 04.0 +0.7
SNR=102
AML Almayashu 69.97 320 P P'P'df 23 54 04.6 -1.6
SNR=8.0
AML Almayashu 69.97 320 P P 23 26 04.0 +0.7
AML Almayashu 69.97 320 *i* P P 23 26 04.0 +0.7
SNR=104
USP Ospenovka 70.05 321 P P 23 26 04.0 +0.7
SNR=40
USP Ospenovka 70.05 321 P P'P'df 23 54 05.6 +0.1
SNR=7.0
SGDS Sogindy 70.07 322*c i*P P 23 26 03.8 +0.3
SGDS pmax pmax
comp=Z,75nm,1.6s
SGDS Sogindy 70.07 322⇑ *i*P P 23 26 03.9 +0.3
comp=Z,75nm,1.6s,baz=321
EKS2 Erkin-Say 70.19 320 P P 23 26 05.4 +1.1
SNR=106
EKS2 Erkin-Say 70.19 320 P P'P'df 23 54 05.0 -0.4
SNR=14
GAR Garm 70.70 316 P P 23 26 07.4 -0.1
GAR lAmb lAmb 23 26 08.9
comp=Z,160nm,1.0s
RAR Rarotonga 70.70 110 P P 23 26 07.9 +0.2
RAR pmax pmax
comp=Z,394nm,1.8s
RAR Rarotonga 70.70 110 P P 23 26 07.9 +0.2
RAR Rarotonga 70.70 110 P P 23 26 09.2 +1.5
BTK Batken 70.84 317 lAmb lAmb 23 26 10.3
comp=Z,195nm,1.6s
RER Riviere de l'E 70.89 250 P P 23 26 09.6 +0.7
RER lAmb lAmb 23 26 12.4
comp=Z,195nm,0.9s
RER Riviere de l'E 70.89 250 P P 23 26 10.2 +1.3
SEM Semipalatinsk 70.98 330 *eP* P 23 26 08.7 -0.3
SEM pmax pmax
comp=Z,138nm,1.3s
SEM Semipalatinsk 70.98 330 *eP* P 23 26 08.7 -0.3
comp=Z,138nm,1.3s,baz=330
ZALV Zalesovo Beam 71.22 335 P P 23 26 09.7 -0.5
comp=Z,152nm,1.0s,baz=113,slow=3.9,SNR=395
ZALV pP pP 23 26 46.7 -1.2
comp=Z,37nm,0.9s,baz=125,slow=3.5,SNR=2.6
ZALV PKPPKP P'P'df 23 53 54.4 -8.1
comp=Z,3.1nm,0.9s,baz=316,slow=4.1,SNR=9.1
ZALV Zalesovo Beam 71.22 335 *i* P P 23 26 09.6 -0.5
ZALV pmax pmax
comp=Z,153nm,1.0s
BTLS Baital 71.27 323*c i*P P 23 26 10.9 +0.3
BTLS pmax pmax
comp=Z,75nm,1.5s
BTLS Baital 71.27 323⇑ *i*P P 23 26 11.0 +0.3
comp=Z,75nm,1.5s,baz=323
CHGR Chuyangaron 71.35 315 P P 23 26 11.2 -0.2
CHGR pmax pmax
comp=Z,325nm,1.1s
CHGR Chuyangaron 71.35 315 P P 23 26 11.2 -0.2
SHEM Shemya Is, Ala 71.61 27 P P 23 26 12.9 +0.5
comp=Z,110nm,0.9s,baz=110,slow=12,SNR=3.7
SMY Shemya 71.61 27 P P 23 26 12.2 -0.2
SMY pmax pmax
comp=Z,154nm,1.0s
SMY Shemya 71.61 27 P P 23 26 12.2 -0.2
SMY lAmb lAmb 23 26 13.9
comp=Z,154nm,1.0s
DZA Taraz 71.86 320 *eP* P 23 26 14.4 +0.2
DZA Taraz 71.86 320 *eP* P 23 26 14.4 +0.2
baz=320
KURBB Kurchatov Arra 71.97 329 P P 23 26 14.9 +0.2
comp=Z,195nm,1.0s,baz=129,slow=4.9,SNR=676
KURK Kurchatov 71.98 329 *i* P P 23 26 14.9 +0.2
KURK pmax pmax
comp=Z,413nm,1.0s
KURK Kurchatov 71.98 329 P P 23 26 15.1 +0.4
KURK Kurchatov 71.98 329 P P 23 26 15.1 +0.4
KURK Kurchatov 71.98 329 ⇑P P 23 26 15.1 +0.4
KURK pP pwP 23 26 56.7 -2.4
KURK pwP sP 23 27 08.0 -1.0
VNDA Vanda 72.17 173 P P 23 26 16.5 +1.0
comp=Z,34nm,0.8s,baz=320,slow=6.4,SNR=155
VNDA LR LR 23 59 01.6
comp=Z,536nm,18.1s,baz=192,slow=36
MSEY Mahe Island 72.18 268 P P 23 26 16.1 -0.7
MSEY pmax pmax
comp=Z,21nm,1.0s
MSEY Mahe Island 72.18 268 P P 23 26 16.1 -0.7
IUG luzhnay 72.35 319*c i*P P 23 26 17.9 +0.7
IUG luzhnay 72.35 319⇑ *i*P P 23 26 18.0 +0.7
baz=318
TAS Tashkent 72.46 318 P P 23 26 18.1 +0.3
TAS pmax pmax
comp=Z,295nm,1.1s
TAS Tashkent 72.46 318 P P 23 26 18.1 +0.3
KK31 Karatay Array 72.49 320 lAmb lAmb 23 26 19.8
comp=Z,123nm,1.4s
KKAR Karatay Array 72.49 320 P P 23 26 18.0 0.0
KKAR pmax pmax
comp=Z,123nm,1.4s
KKAR Karatay Array 72.49 320 P P 23 26 18.0 0.0
KKAR lAmb lAmb 23 26 19.8
comp=Z,123nm,1.4s
SEY Seymchan 72.67 11 P P 23 26 18.9 +0.4
comp=Z,94nm,0.8s,baz=210,slow=4.7,SNR=304

SEY PKPPKP **P'P'df 23 53 59.5 +0.1**
comp=Z,1.7nm,0.9s,baz=51,slow=8.2,SNR=4.3
SEY Seymchan 72.67 11*ce*P P 23 26 18.9 +0.4
SEY pmax pmax
comp=Z,106nm,0.9s
BRLS Boroldoy 72.89 319 *eP* P 23 26 20.8 +0.5
BRLS Boroldoy 72.89 319 *eP* P 23 26 20.9 +0.5
baz=319
SBA Scott Base 73.08 172 P P 23 26 22.8 +2.0
SBA Scott Base 73.08 172 P P 23 26 22.8 +2.0
MAW Mawson 73.78 201 P P 23 26 27.0 +2.0
comp=Z,97nm,0.9s,baz=70,slow=6.5,SNR=68
MAW Mawson 73.78 201 P P 23 26 26.9 +2.0
baz=74,SNR=46
MAW Mawson 73.78 201 P P 23 26 27.0 +2.0
MAW Mawson 73.78 201 P P 23 26 26.5 +1.5
WBK Wadi Bani Khal 73.92 296 P P 23 26 26.0 -0.8
SNR=12
OTUK Ortayu 73.96 325 *i* P P 23 26 27.2 +0.7
OTUK pmax pmax
comp=Z,291nm,1.2s
WSAR Wadi Sarin 74.39 297 P P 23 26 29.4 -0.1
SNR=19
MHTO MHTO 74.41 294 P P 23 26 29.2 -0.4
SNR=12
JMDO Jabal Madar 74.63 296 P P 23 26 30.5 -0.4
SNR=11
BRZS Berezniki 74.69 327*c i*P P 23 26 31.0 +0.4
BRZS pmax pmax
comp=Z,157nm,1.3s
BRZS Berezniki 74.69 327⇑ *i*P P 23 26 31.1 +0.4
comp=Z,157nm,1.3s,baz=326
HRA Herat 74.78 309 P P 23 26 31.8 0.0
HRA lAmb lAmb 23 26 33.4
comp=Z,148nm,1.1s
SMDO Samad 74.86 296 P P 23 26 32.3 0.0
SMDO P P 23 26 32.4 0.0
SNR=12
XMAS Kiritimati 74.89 86 P P 23 26 32.8 +0.3
XMAS lAmb lAmb 23 26 35.6
comp=Z,200nm,1.1s
BIDO Bidbid 74.91 297 P P 23 26 32.9 +0.4
SNR=28
CRZF Crozet Islands 75.09 224 P P 23 26 34.4 +1.4
CRZF lAmb lAmb 23 27 09.3
comp=Z,276nm,1.4s
KIWB Kanaga Island 75.36 32 P P 23 26 34.1 -0.2
BSY Bisya 75.54 296 P P 23 26 35.7 -0.4
SNR=12
ADK Adak 75.61 32 P P 23 26 35.9 +0.1
ADK pmax pmax
comp=Z,559nm,1.8s
ADK Adak 75.61 32 P P 23 26 35.9 +0.1
ADK Adak 75.61 32 P P 23 26 35.9 +0.1
HOQ Hoqain 75.65 297 P P 23 26 36.8 +0.1
SNR=30
SOCY Socotra 76.21 284 P P 23 26 39.8 -0.4
SNR=8.7
ARQ Araqi 76.29 296 P P 23 26 40.3 0.0
SNR=12
DMTO DMTO 76.42 290 P P 23 26 40.2 -0.9
UOSS Minazif 76.97 298 P P 23 26 43.5 -0.6
UOSS Minazif 76.97 298 *i* P P 23 26 43.5 -0.6
SNR=17
HATD Hatta, Dubai 77.01 298 P P 23 26 44.5 +0.1
SNR=34
HATD Hatta, Dubai 77.01 298 *i* P P 23 26 44.4 0.0
SNR=24
ASHO Ashiyiah 77.04 297 P P 23 26 44.3 -0.2
SNR=20
ASHO Ashiyiah 77.04 297 *i* P P 23 26 44.3 -0.2
SNR=20
ATKA Atka Island 77.09 32 P P 23 26 44.1 0.0
MSFE Esma-Masafi 77.12 298 *i* P P 23 26 45.0 0.0
SNR=32
MASF Masafi 77.12 298 P P 23 26 45.0 0.0
SNR=24
BANOM Banah 77.14 299 P P 23 26 45.6 +0.5
SNR=30
BANOM Banah 77.14 299 *i* P P 23 26 45.0 -0.1
SNR=58
ALNE Al Ain 77.15 297 P P 23 26 45.2 +0.1
SNR=19
ALNE Al Ain 77.15 297 *i* P P 23 26 45.0 -0.1
SNR=11
SHME Shamm 77.31 299 P P 23 26 46.3 +0.4
SNR=28
SHME Shamm 77.31 299 *i* P P 23 26 46.4 +0.4
SNR=57
FAQ Al Faqa, Dubai 77.46 297 P P 23 26 46.7 -0.2
SNR=17
FAQ Al Faqa, Dubai 77.46 297 *i* P P 23 26 47.0 +0.2
SNR=40
FAQ *i* P P 23 26 47.0 +0.2
SNR=17
NAZ Nazwa, Dubai 77.46 298 P P 23 26 46.6 -0.2
SNR=14
NAZ Nazwa, Dubai 77.46 298 *i* P P 23 26 46.2 -0.6
SNR=22
BRVK Borovoye 77.57 328 *i* P P 23 26 46.7 -0.1
BRVK pmax pmax
comp=Z,229nm,1.1s
BRVK Borovoye 77.57 328 P P 23 26 47.1 +0.3
BRVK lAmb lAmb 23 26 48.5
comp=Z,217nm,1.1s
UMQ Umm Al-Quwin 77.59 298 P P 23 26 48.5 +1.0
SNR=8.0
UMQ Umm Al-Quwin 77.59 298 *i* P P 23 26 48.4 +0.9
SNR=8.0
ASUD Al Ashush, Dub 77.66 297 P P 23 26 48.4 +0.5
SNR=5.9
ASUD Al Ashush, Dub 77.66 297 *i* P P 23 26 48.5 +0.5
SNR=8.7
ABTO Aybut 77.88 290 P P 23 26 48.9 -0.5
SNR=6.8
HON Honolulu 77.93 66 P P 23 26 48.8 -0.6
HON pmax pmax
comp=Z,735nm,1.7s
HON Honolulu 77.93 66 P P 23 26 48.8 -0.6
AJN Ajban 77.95 297 P P 23 26 48.8 -0.7
MZR Muzera 78.93 295 P P 23 26 55.2 +0.2
MZR Muzera 78.93 295 *i* P P 23 26 54.9 0.0
SNR=9.3
TIXI Tiksi 79.01 0 P P 23 26 53.9 -0.4
comp=Z,110nm,0.8s,baz=270,slow=19,SNR=98
TIXI Tiksi 79.01 0⇑ *eP* P 23 26 53.0 -1.3
TIXI pmax pmax
comp=Z,122nm,0.8s
TIXI Tiksi 79.01 0 P P 23 26 53.0 -1.3
TIXI lAmb lAmb 23 26 55.4
comp=Z,124nm,0.9s
GEYT Alibeck 79.11 311 P P 23 26 56.2 +0.6
comp=Z,20nm,0.7s,baz=181,slow=7.4,SNR=41
GEYT pP pP 23 27 33.1 -0.8
comp=Z,11nm,0.8s,baz=201,slow=7.8,SNR=2.5
GYA0B ALIBECK ARRAY 79.11 311 P P 23 26 55.8 +0.1
GYA0B lAmb lAmb 23 26 57.5
comp=Z,156nm,1.6s
VOI Vohitsoka 79.18 249 P P 23 26 57.0 +0.5
VOI Vohitsoka 79.18 249 P P 23 26 58.0 +1.5
KHLH Kahului Airpor 79.27 67 P P 23 26 57.1 +0.3
KHLH lAmb lAmb 23 26 59.5
comp=Z,108nm,1.0s
BILL Bilibino 80.06 14 *eP* P 23 26 59.3 -0.8
BILL *e* 23 29 59.7
BILL *e*PPP PPP 23 31 54.1
BILL pmax pmax
comp=Z,18nm,1.4s
NIKH Nikolski High 80.32 33 P P 23 27 01.5 -0.3
baz=244
PAE Paea 80.49 107 *eP* P 23 27 05.3 +1.9
comp=Z,38nm,1.2s
PPT2 Papeete2 80.50 107 *eP* P 23 27 05.6 +2.0
comp=Z,148nm,1.1s
PPT Papeete 80.50 107 P P 23 27 05.8 +2.2
comp=Z,123nm,0.9s,baz=342,slow=9.4,SNR=7.0
PPTF Pamatai, Papee 80.51 107 P P 23 27 04.9 +1.3
PPTF lAmb lAmb 23 27 09.2
comp=Z,170nm,1.0s
PPTF Pamatai, Papee 80.51 107 P P 23 27 05.4 +1.7
SLWR Sila 80.76 296 P P 23 27 04.8 0.0
TRNA Turayna 81.33 296 P P 23 27 08.0 +0.2
SPIA Saint Paul Isl 81.53 29 P P 23 27 07.2 -0.9
baz=242
NRIK Noril'sk 81.61 347 P P 23 27 08.7 +0.4
comp=Z,142nm,0.9s,baz=137,slow=5.5,SNR=130

NRIK pP **pP 23 27 45.2 -1.5**
comp=Z,18nm,0.9s,baz=146,slow=4.0,SNR=1.1
NRIK PKKPbc **PKKPbc 23 45 41.1 -2.6**
comp=Z,1.6nm,0.7s,baz=69,slow=5.9,SNR=3.8
NRIK Noril'sk 81.61 347*ce*P P 23 27 08.5 +0.2
NRIK pmax pmax
comp=Z,167nm,1.0s
NRIK Noril'sk 81.61 347 lAmb lAmb 23 27 10.0
comp=Z,178nm,1.1s
AB31 Akbulak array 81.74 322 *i* P P 23 27 08.8 -0.6
AB31 pmax pmax
comp=Z,43nm,0.8s
UNV Unalaska Valle 81.97 33 P P 23 27 10.0 -0.4
baz=246
SAKB Bahrain 82.19 297 P P 23 27 12.3 +0.1
PMOR Pomariorio Ree 82.34 104 *eP* P 23 27 15.0 +1.8
comp=Z,200nm,1.0s
QSPA South Pole Qui 82.46 180 P P 23 27 13.7 +0.7
comp=Z,75nm,0.9s,baz=315,slow=1.4,SNR=242
QSPA pP **pP 23 27 51.7 -1.3**
comp=Z,26nm,0.8s,baz=319,slow=5.2,SNR=2.4
QSPA PKKPbc **PKKPbc 23 45 38.2 -3.6**
comp=Z,5.1nm,1.1s,baz=154,slow=1.6,SNR=3.7
QSPA PKPPKP **P'P'df 23 53 39.0 -4.1**
comp=Z,5.3nm,1.1s,baz=263,slow=1.0,SNR=5.3
QSPA South Pole Qui 82.46 180 P P 23 27 13.7 +0.7
QSPA lAmb lAmb 23 27 14.4
comp=Z,90nm,0.8s
SYO Syowa Base 82.49 201⇑ *i*P P 23 27 14.4 +1.5
VAH Vaihoa 82.58 104 *eP* P 23 27 16.0 +1.6
comp=Z,115nm,1.1s
AKTO Aktyubinsk 83.33 323 P P 23 27 17.7 +0.1
comp=Z,107nm,1.1s,baz=104,slow=5.8,SNR=93
AKTO pP **pP 23 27 54.1 -2.0**
comp=Z,22nm,0.9s,baz=112,slow=19,SNR=1.1
FALS False Pass 84.03 33 lAmb lAmb 23 27 23.7
comp=Z,119nm,1.0s
FALS False Pass 84.03 33 P P 23 27 20.4 -0.6
baz=249
FALS False Pass 84.03 33 P P 23 27 21.6 +0.6
GAMB Gambell 84.12 23 P P 23 27 21.6 +0.3
baz=240,SNR=9.0
SVE Sverdlovsk 84.23 329*d i*P P 23 27 22.0 0.0
SVE *e*S **SKSac 23 37 25.8 -4.3**
SVE pmax pmax
comp=Z,339nm,1.4s
ARU Arti 85.15 329*c i*P P 23 27 25.8 -0.8
ARU *PP **pP 23 28 07.3 +2.0**
ARU PPP PPP 23 32 37.0
ARU S S 23 37 35.7 -6.9
ARU pmax pmax
comp=Z,242nm,1.1s
ARU Arti 85.15 329 P P 23 27 25.9 -0.8
ARU lAmb lAmb 23 27 27.8
comp=Z,194nm,1.0s
SDPT Sand Point 85.78 33 P P 23 27 29.1 -0.6
baz=250
LKRN Lenkeran, Azer 86.39 310 P P 23 27 33.3 +0.2
TNA Tin City 86.41 22 P P 23 27 32.3 -0.3
baz=243
ANM Nome 86.95 23 P P 23 27 35.3 0.0
baz=246
CHGN Chignik 87.19 32 P P 23 27 35.9 -0.7
baz=252
MNGR Mingechevir, A 88.10 311 P P 23 27 41.8 +0.5
SEKA Sheki 88.10 312 P P 23 27 41.3 -0.1
MAK Makhachkala 88.23 314 *eP* P 23 27 40.0 -1.8
MAK *e* 23 31 13.7
MAK *e* 23 37 52.5
MAK *e*SSS SSS 23 47 38.4
MAK pmax pmax
comp=Z,123nm,1.1s
CHIR Chirikof Islan 88.55 33 P P 23 27 41.2 -1.9
baz=254
ZKTA Zakatala 88.61 312 P P 23 27 44.1 +0.4
GANJ Ganja 88.64 311 P P 23 27 44.4 +0.5
LGD Lagodekhi 88.92 312 P P 23 27 45.8 +0.6
DDFL Dedoflistskaro 88.94 312 P P 23 27 48.7 +3.3
NAX Nakhchivan 88.99 310 P P 23 27 46.1 +0.5
RDOG Red Dog Mine 89.25 21 lAmb lAmb 23 27 46.5
comp=Z,55nm,1.2s
RDOG Red Dog Mine 89.25 21 P P 23 27 45.1 -1.0
baz=248
GROC Groznyy 89.51 314⇑ *i*P P 23 27 47.8 0.0
GROC *e**PP **pwP 23 28 30.9 -2.9**
GROC *e* 23 31 20.4
GROC *e*S **SKSac 23 38 00.3 -2.7**
GROC pmax pmax
comp=Z,147nm,1.5s
SII Sitkinak Islan 89.52 33 P P 23 27 47.9 +0.2
SII Sitkinak Islan 89.52 33 P P 23 27 47.4 -0.2
baz=256
SII Sitkinak Islan 89.52 33 P P 23 27 48.4 +0.8
N18K Kilae Creek 89.73 29 P P 23 27 48.7 +0.2
N18K Kilae Creek 89.73 29 P P 23 27 48.7 +0.2
baz=254
KIBK Kibwezi 89.73 268 P P 23 27 50.4 +0.7
SNR=5.9
GNI Garni 89.74 310*ce*P P 23 27 49.8 +0.6
GNI pmax pmax
comp=Z,47nm,1.6s
GNI Garni 89.74 310 P P 23 27 49.5 +0.3
GNI Garni 89.74 310 P P 23 27 50.0 +0.8
BELG Belogornoye 90.12 323*c i*P P 23 27 49.6 -0.8
BELG pmax pmax
comp=Z,18nm,1.1s
OHAK Old Harbor 90.16 32 lAmb lAmb 23 27 51.7
comp=Z,80nm,1.2s
OHAK Old Harbor 90.16 32 P P 23 27 50.2 -0.3
baz=256
TTA Tatalina 90.29 26 P P 23 27 50.7 -0.5
TTA pmax pmax
comp=Z,68nm,1.5s
TTA Tatalina 90.29 26 P P 23 27 50.7 -0.5
TTA lAmb lAmb 23 27 52.9
comp=Z,68nm,1.5s
TTA Tatalina 90.29 26 P P 23 27 50.7 -0.5
baz=254,SNR=23
O19K Port Alsworth 90.36 29 P P 23 27 50.5 -0.9
baz=256
Q19K Cape Douglas, 90.38 31 P P 23 27 50.7 -0.9
baz=256
N19K Bonanza Creek 90.43 29 P P 23 27 51.5 -0.4
N19K lAmb lAmb 23 27 53.1
comp=Z,57nm,1.2s
N19K Bonanza Creek 90.43 29 P P 23 27 51.5 -0.4
baz=255
GCSA Galena City Sc 90.44 24 P P 23 27 51.0 -0.7
baz=253
KIRV Kirov 90.50 329*ce*P P 23 27 50.7 -1.3
L19K White Mountain 90.61 27 P P 23 27 52.5 -0.1
L19K lAmb lAmb 23 27 53.9
comp=Z,52nm,1.2s
L19K White Mountain 90.61 27 P P 23 27 52.5 -0.1
baz=255,SNR=16
KDAK Kodiak Island 90.66 32 P P 23 27 53.9 +1.1
comp=Z,17nm,0.9s,baz=207,slow=2.3,SNR=5.0
KDAK Kodiak Island 90.66 32 P P 23 27 52.5 -0.3
baz=257
KMBO Kilima Mbogo 90.68 269 P P 23 27 55.2 +0.9
comp=Z,8.6nm,0.9s,baz=62,slow=7.4,SNR=19
KMBO Kilima Mbogo 90.68 269 *i* P P 23 27 55.2 +0.9
SNR=12
M19K Big River Lodg 90.75 28 P P 23 27 53.1 -0.2
baz=256,SNR=11
ZEI Tsey 90.80 313 *eP* P 23 27 52.0 -2.2
ZEI pmax pmax
comp=Z,55nm,1.3s
AKH Akhalkalaki 90.88 312⇑P P 23 27 55.9 +1.4
AKH Akhalkalaki 90.88 312 P P 23 27 55.9 +1.4
KARS Kars 91.07 311 P P 23 27 56.2 +0.8
KARS pmax pmax
comp=Z,153nm,1.0s
KARS Kars 91.07 311 P P 23 27 56.2 +0.8
ONI Oni 91.10 313 P P 23 27 55.9 +0.5
ONI pmax pmax
comp=Z,64nm,1.7s
ONI Oni 91.10 313 P P 23 27 55.9 +0.5
ONI lAmb lAmb 23 27 57.6
comp=Z,64nm,1.7s
L20K Farewell, AK 91.13 27 P P 23 27 54.5 -0.5
baz=256,SNR=14
NCK Nalchik 91.14 314⇑ *i*P P 23 27 55.7 +0.2
NCK pmax pmax
comp=Z,60nm,1.2s

O20K	**Slope Mountain**	**91.16**	**30**	P		**P**		**23 27 55.3**	**+0.1**	
	baz=257									
K20K	**Telida**	**91.26**	**26**	IAmb		IAmb		23 27 57.7		
	comp=Z,124nm,1.6s									
K20K	**Telida**	**91.26**	**26**	P		**P**		**23 27 55.3**	**-0.3**	
	baz=256,SNR=23									
J20K	**Nowinta River**	**91.43**	**25**	IAmb		IAmb		23 27 57.5		
	comp=Z,68nm,1.4s									
J20K	**Nowinta River**	**91.43**	**25**	P		**P**		**23 27 56.0**	**-0.3**	
	baz=256,SNR=21									
HOM	**Homer**	**91.55**	**30**	P		**P**		**23 27 56.7**	**-0.2**	
	baz=258									
GURO	**Guroymak-BITLI**	**91.56**	**309**	P		**P**		**23 27 58.0**	**+0.3**	
GURO				IAmb		IAmb		23 27 59.6		
	comp=Z,82nm,1.0s									
SPCR	**Spurr Chakacha**	**91.60**	**28**	P		**P**		**23 27 55.7**	**-1.5**	
	baz=257,SNR=6.8									
KBZ	**Khabaz**	**91.68**	**314**	P		**P**		**23 27 57.7**	**-0.1**	
	comp=Z,12nm,0.8s,baz=115,slow=2.2,SNR=43									
KBZ				PKKPbc		**PKKPbc**		**23 45 17.4**	**-0.7**	
	comp=Z,2.1nm,0.9s,baz=199,slow=3.2,SNR=5.3									
KBZ	**Khabaz**	**91.68**	**314**	*ce*P		**P**		**23 27 57.6**	**-0.3**	
KBZ				pmax		pmax				
	comp=Z,23nm,0.9s									
CNPM	**China Poot**	**91.72**	**30**	IAmb		IAmb		23 27 58.8		
	comp=Z,42nm,1.1s									
GOF	**Gofitskoye**	**91.78**	**315**⇑	*e*P		**P**		**23 27 56.8**	**-1.5**	
GOF				pmax		pmax				
	comp=Z,73nm,1.0s									
KVAR	**Kislovodsk Arr**	**91.86**	**314**	P		**P**		**23 27 58.3**	**-0.6**	
	comp=Z,2.1nm,0.8s,baz=279,slow=24,SNR=5.6									
KIV	**Kislovodsk**	**91.86**	**314**	*e*P		**P**		**23 27 58.9**	**0.0**	
KIV				pmax		pmax				
	comp=Z,10.0nm,1.0s									
KIV	**Kislovodsk**	**91.86**	**314**	P		**P**		**23 27 58.9**	**0.0**	
KIV	**Kislovodsk**	**91.86**	**314**	*i* P		**P**		**23 27 59.1**	**+0.2**	
	SNR=6.3									
BRLK	**Bradley Lake**	**91.94**	**30**	P		**P**		**23 27 58.5**	**-0.4**	
CNG	**Changalane**	**91.96**	**243**⇑	*i*P		**P**		**23 28 00.1**	**+0.5**	
CNG				IAmb		IAmb		23 28 01.4		
	comp=Z,21nm,1.1s									
PPLA	**Purkeypile**	**91.98**	**27**	IAmb		IAmb		23 27 59.5		
	comp=Z,63nm,1.3s									
PPLA	**Purkeypile**	**91.98**	**27**	P		**P**		**23 27 57.9**	**-1.1**	
	baz=258,SNR=9.1									
BRSE	**Bradley Lake S**	**92.01**	**30**	P		**P**		**23 27 58.2**	**-0.9**	
	baz=259									
CHVG	**Ch'k'valeri**	**92.11**	**313**	⇓P		**P**		**23 28 00.5**	**+0.5**	
CHVG	**Ch'k'valeri**	**92.11**	**313**	⇓P		**P**		**23 28 00.5**	**+0.5**	
CAST	**Castle Rocks**	**92.14**	**26**	P		**P**		**23 27 58.4**	**-1.2**	
	baz=258,SNR=8.9									
CHUM	**Lake Minchumin**	**92.14**	**26**	P		**P**		**23 27 59.4**	**-0.2**	
	baz=257,SNR=12									
POGA	**Pongola**	**92.21**	**242**⇑	*i*P		**P**		**23 28 01.6**	**+0.8**	
POGA				IAmb		IAmb		23 28 02.9		
	comp=Z,79nm,1.0s									
H21K	**Melozitna Rive**	**92.33**	**24**	P		**P**		**23 27 59.7**	**-0.8**	
	baz=257,SNR=16									
I21K	**Tanana**	**92.56**	**25**	P		**P**		**23 28 00.6**	**-0.9**	
I21K	**Tanana**	**92.56**	**25**	P		**P**		**23 28 00.6**	**-0.9**	
	baz=258,SNR=5.5									
O22K	**Cooper Landing**	**92.65**	**29**	P		**P**		**23 28 00.8**	**-1.2**	
	baz=260									
KTH	**Kantishna Hill**	**92.68**	**26**	IAmb		IAmb		23 28 02.1		
	comp=Z,58nm,1.2s									
M22K	**Willow**	**92.70**	**28**	P		**P**		**23 28 00.6**	**-1.5**	
	baz=259,SNR=11									
SEW	**Seward**	**92.72**	**30**	IAmb		IAmb		23 28 08.9		
	comp=Z,93nm,1.5s									
SEW	**Seward**	**92.72**	**30**	P		**P**		**23 28 01.1**	**-1.2**	
	baz=260									
CUT	**Chulitna**	**92.75**	**27**	IAmb		IAmb		23 28 02.1		
	comp=Z,66nm,1.2s									
CUT	**Chulitna**	**92.75**	**27**	P		**P**		**23 28 00.9**	**-1.5**	
	baz=259,SNR=6.3									
RC01	**Rabbit Creek A**	**92.75**	**29**	IAmb		IAmb		23 28 02.5		
	comp=Z,66nm,1.3s									
RC01	**Rabbit Creek A**	**92.75**	**29**	P		**P**		**23 28 01.4**	**-1.1**	
	baz=260,SNR=5.9									
BPAW	**Bear Paw Mtn.**	**92.76**	**26**	P		**P**		**23 28 01.2**	**-1.3**	
	baz=259,SNR=8.3									
TRF	**Thorofare Moun**	**92.94**	**26**	IAmb		IAmb		23 28 03.3		
	comp=Z,50nm,1.4s									
TRF	**Thorofare Moun**	**92.94**	**26**	P		**P**		**23 28 01.9**	**-1.7**	
	baz=259,SNR=11									
PRGR	**Permogore**	**92.98**	**332**	*e*P		**P**		**23 28 00.0**	**-3.5**	
PRGR				*e*				23 31 44.7		
PRGR				*e*S		**SKSac**		**23 38 16.5**	**-5.3**	
PRGR				pmax		pmax				
	comp=Z,32nm,0.9s									
MOPA	**Mopani**	**93.12**	**246**⇑	*i*P		**P**		**23 28 05.9**	**+0.8**	
MOPA				IAmb		IAmb		23 28 07.1		
	comp=Z,119nm,0.9s									
PMR	**Palmer**	**93.13**	**28**	IAmb		IAmb		23 28 04.1		
	comp=Z,43nm,1.2s									
PMR	**Palmer**	**93.13**	**28**	P		**P**		**23 28 02.6**	**-1.6**	
	baz=260									
TROLL	**Troll, Antarti**	**93.19**	**195**	P		**P**		**23 28 06.8**	**+2.2**	
PWL	**Port Wells**	**93.39**	**29**	IAmb		IAmb		23 28 05.8		
	comp=Z,51nm,1.2s									
PWL	**Port Wells**	**93.39**	**29**	P		**P**		**23 28 04.5**	**-1.0**	
	baz=261,SNR=8.0									
KNK	**Knik Glacier**	**93.42**	**29**	P		**P**		**23 28 04.8**	**-0.7**	
	baz=261,SNR=20									
BWN	**Browne**	**93.43**	**26**	IAmb		IAmb		23 28 05.9		
	comp=Z,80nm,1.2s									
VRH	**Novokhopyorsk**	**93.53**	**321**	*e*P		**P**		**23 28 04.7**	**-1.5**	
VRH				pmax		pmax				
	comp=Z,100nm,1.5s									
SML	**Sawmill**	**93.54**	**28**	P		**P**		**23 28 05.3**	**-0.9**	
	baz=261,SNR=24									
RND	**Reindeer**	**93.57**	**27**	IAmb		IAmb		23 28 05.8		
	comp=Z,84nm,1.2s									
MCK	**McKinley**	**93.58**	**26**	P		**P**		**23 28 04.8**	**-1.5**	
	baz=260,SNR=23									
WAT1	**Susitna Watana**	**93.61**	**27**	P		**P**		**23 28 05.0**	**-1.4**	
	baz=261									
I23K	**Minto, Yukon-K**	**93.64**	**25**	IAmb		IAmb		23 28 07.2		
	comp=Z,93nm,1.3s									
I23K	**Minto, Yukon-K**	**93.64**	**25**	P		**P**		**23 28 05.5**	**-0.9**	
	baz=260,SNR=34									
NEA2	**Nenana**	**93.67**	**25**	P		**P**		**23 28 06.8**	**+0.1**	
	baz=260,SNR=6.3									
COLD	**Coldfoot**	**93.68**	**23**	P		**P**		**23 28 06.2**	**-0.4**	
	baz=260,SNR=18									
H23K	**Yukon River**	**93.69**	**24**	P		**P**		**23 28 06.3**	**-0.4**	
	baz=260,SNR=14									
NWCL	**Newcastle**	**93.73**	**242**⇑	*i*P		**P**		**23 28 08.2**	**+0.2**	
NWCL				IAmb		IAmb		23 28 09.3		
	comp=Z,48nm,1.4s									
WAT6	**Susitna Watana**	**93.94**	**27**	P		**P**		**23 28 07.0**	**-1.2**	
	baz=261,SNR=16									
SOC	**Sochi**	**93.94**	**313**	*e*P		**P**		**23 28 06.6**	**-1.8**	
SOC				*e*				23 31 54.5		
SOC				*e*PPP		PPP		23 33 55.9		
SOC				*e*S		**SKSac**		**23 38 26.8**	**-1.1**	
SOC				pmax		pmax				
	comp=Z,10.0nm,0.7s									
GLI	**Glacier Island**	**93.99**	**29**	IAmb		IAmb		23 28 09.2		
	comp=Z,44nm,1.1s									
GLI	**Glacier Island**	**93.99**	**29**	P		**P**		**23 28 07.4**	**-0.8**	
	baz=262,SNR=9.3									
SCM	**Sheep Creek Mo**	**94.02**	**28**	P		**P**		**23 28 07.7**	**-0.7**	
	baz=262,SNR=12									
WRH	**Wood River Hil**	**94.07**	**26**	IAmb		IAmb		23 28 08.1		
	comp=Z,62nm,1.2s									
Q23K	**Middleton Isla**	**94.16**	**31**	P		**P**		**23 28 06.9**	**-2.1**	
	baz=262									
TOLK	**Toolik Lake Re**	**94.16**	**21**	P		**P**		**23 28 08.4**	**-0.4**	
	baz=260,SNR=16									
DHY	**Denali Highway**	**94.18**	**27**	IAmb		IAmb		23 28 09.6		
	comp=Z,65nm,1.2s									
DHY	**Denali Highway**	**94.18**	**27**	P		**P**		**23 28 08.3**	**-0.9**	
	baz=262,SNR=24									
CCB	**Clear Creek Bu**	**94.22**	**25**	IAmb		IAmb		23 28 08.5		
	comp=Z,55nm,1.2s									
TCOL	**CIGO, UAF Yank**	**94.23**	**25**	P		**P**		**23 28 07.4**	**-1.8**	
	baz=262									
COLA	**College**	**94.23**	**25**	*i* P		**P**		**23 28 07.2**	**-2.0**	
COLA				pmax		pmax				
	comp=Z,25nm,1.6s									
COLA	**College**	**94.23**	**25**	P		**P**		**23 28 07.4**	**-1.8**	
	baz=262									
FID	**Port Fidalgo**	**94.27**	**29**	IAmb		IAmb		23 28 09.9		
	comp=Z,40nm,1.1s									
H24K	**Noodor Dome**	**94.36**	**24**	IAmb		IAmb		23 28 10.7		
	comp=Z,56nm,1.2s									
H24K	**Noodor Dome**	**94.36**	**24**	P		**P**		**23 28 09.5**	**-0.4**	
	baz=262,SNR=29									
POKR	**Poker Flat Res**	**94.44**	**25**	P		**P**		**23 28 07.9**	**-2.3**	
	baz=262									
MSNA	**Messina**	**94.56**	**247**⇑	*i*P		**P**		**23 28 12.8**	**+1.0**	
MSNA				IAmb		IAmb		23 28 13.6		
	comp=Z,87nm,1.9s									
M24K	**Tolsona, Glenn**	**94.59**	**28**	P		**P**		**23 28 10.3**	**-0.7**	
	baz=263,SNR=15									
EYAK	**Cordova Ski Ar**	**94.60**	**30**	P		**P**		**23 28 10.4**	**-0.5**	
	baz=263									
ILAR	**Eielson Array**	**94.63**	**25**	P		**P**		**23 28 09.0**	**-2.0**	
	comp=Z,7.1nm,1.0s,baz=261,slow=4.9,SNR=44									
ILAR				pP		**pP**		**23 28 47.3**	**-3.7**	
	comp=Z,4.1nm,0.9s,baz=277,slow=4.5,SNR=2.1									
ILAR				PP		**PP**		**23 31 57.0**	**-4.3**	
	comp=Z,2.7nm,1.0s,baz=252,slow=7.3,SNR=5.0									
ILAR				PKKPbc		**PKKPdf**		**23 45 08.8**	**-1.6**	
	comp=Z,6.2nm,0.8s,baz=58,slow=1.5,SNR=31									
ILAR	**Eielson Array**	**94.63**	**25**	P		**P**		**23 28 08.8**	**-2.2**	
ILAR	**Eielson Array**	**94.63**	**25**	P		**P**		**23 28 08.8**	**-2.2**	
KLU	**Klutina**	**94.64**	**29**	P		**P**		**23 28 10.7**	**-0.5**	
	baz=263,SNR=6.4									
DIV	**Divide**	**94.66**	**29**	IAmb		IAmb		23 28 12.8		
	comp=Z,77nm,1.1s									
SNAA	**Sanae**	**94.71**	**194**	P		**P**		**23 28 13.2**	**+1.7**	
SNAA	**Sanae**	**94.71**	**194**⇑	*i*P		**P**		**23 28 13.1**	**+1.7**	
SNAA	**Sanae**	**94.71**	**194**	*ce*P		**P**		**23 28 13.1**	**+1.7**	
SNAA				pmax		pmax				
	comp=Z,194nm,1.3s									
VORD	**Divnogorie**	**95.02**	**321**	*e*P		**P**		**23 28 11.5**	**-1.6**	
VORD				pmax		pmax				
	comp=Z,70nm,1.4s									
PAX	**Paxson**	**95.02**	**27**	IAmb		IAmb		23 28 13.6		
	comp=Z,57nm,1.2s									
PAX	**Paxson**	**95.02**	**27**	P		**P**		**23 28 12.1**	**-0.9**	
	baz=263,SNR=23									
HARP	**HAARP**	**95.10**	**28**	P		**P**		**23 28 12.8**	**-0.5**	
	baz=264,SNR=7.3									
VSR	**Storozhevoye**	**95.12**	**321**	*e*P		**P**		**23 28 12.0**	**-1.6**	
VSR				pmax		pmax				
	comp=Z,60nm,1.3s									
VORR	**Voronezh**	**95.14**	**321**	*e*P		**P**		**23 28 12.5**	**-1.1**	
VORR				pmax		pmax				
	comp=Z,66nm,1.3s									
BMRM	**Bremner River**	**95.21**	**29**	IAmb		IAmb		23 28 14.5		
	comp=Z,58nm,1.2s									
BMRM	**Bremner River**	**95.21**	**29**	P		**P**		**23 28 13.3**	**-0.5**	
	baz=264,SNR=7.7									
J25K	**Salcha River,**	**95.25**	**26**	P		**P**		**23 28 12.2**	**-1.8**	
J25K	**Salcha River,**	**95.25**	**26**	P		**P**		**23 28 12.1**	**-1.8**	
	baz=264,SNR=11									
N25K	**Chitina, Valde**	**95.28**	**29**	P		**P**		**23 28 13.9**	**-0.3**	
N25K				IAmb		IAmb		23 28 15.1		
	comp=Z,49nm,1.2s									
N25K	**Chitina, Valde**	**95.28**	**29**	P		**P**		**23 28 13.4**	**-0.8**	
	baz=264,SNR=9.9									
RIDG	**Independent Ri**	**95.39**	**27**	IAmb		IAmb		23 28 14.8		
	comp=Z,48nm,1.2s									
RIDG	**Independent Ri**	**95.39**	**27**	P		**P**		**23 28 13.4**	**-1.2**	
	baz=264,SNR=15									
LPSR	**Galich'ya Gora**	**95.40**	**322**	*e*P		**P**		**23 28 13.7**	**-1.1**	
LPSR				pmax		pmax				
	comp=Z,70nm,1.2s									
SNKL	**Senekal, Frees**	**95.47**	**241**⇑	*i*P		**P**		**23 28 16.5**	**+0.5**	
SNKL				IAmb		IAmb		23 28 18.0		
	comp=Z,33nm,0.9s									
SLR	**Silverton**	**95.52**	**243**⇑	*i*P		**P**		**23 28 16.8**	**+0.6**	
SLR				IAmb		IAmb		23 28 17.9		
	comp=Z,62nm,1.3s									
BERG	**Berg Lake**	**95.60**	**30**	P		**P**		**23 28 15.2**	**-0.4**	
GLB	**Gilahina Butte**	**95.64**	**29**	IAmb		IAmb		23 28 16.5		
	comp=Z,49nm,1.2s									
DOT	**Dot Lake**	**95.73**	**27**	IAmb		IAmb		23 28 16.5		
	comp=Z,36nm,1.2s									
SCRK	**Sand Creek**	**95.79**	**26**	P		**P**		**23 28 15.4**	**-1.1**	
	baz=265,SNR=8.4									
VRDI	**Verde Repeater**	**95.79**	**29**	P		**P**		**23 28 16.1**	**-0.6**	
KLMR	**Klimovskoe**	**95.81**	**331**	*e*P		**P**		**23 28 12.0**	**-4.5**	
KLMR				pmax		pmax				
	comp=Z,47nm,0.9s									
KLMR	**Klimovskoe**	**95.81**	**331**	*e*P		**P**		**23 28 12.0**	**-4.5**	
KLMR				AMP				23 28 15.5		
	comp=Z,47nm,0.9s									
KLMR				*e*pP		**pP**		**23 28 52.8**	**-3.2**	
KLMR				*e*PP		**PP**		**23 32 04.3**	**-6.2**	
L26K	**Log Cabin Wild**	**95.99**	**27**	P		**P**		**23 28 16.8**	**-0.5**	
L26K				IAmb		IAmb		23 28 18.2		
	comp=Z,24nm,1.2s									
L26K	**Log Cabin Wild**	**95.99**	**27**	P		**P**		**23 28 17.0**	**-0.3**	
	baz=265,SNR=8.1									
GHAJ	**Ghor Haditha**	**96.00**	**301**	P		**P**		**23 28 17.4**	**-0.6**	
MCARA	**McCarthy VSAT**	**96.01**	**29**	IAmb		IAmb		23 28 18.5		
	comp=Z,43nm,1.4s									
MCARA	**McCarthy VSAT**	**96.01**	**29**	P		**P**		**23 28 16.7**	**-0.7**	
	baz=265,SNR=6.9									
J26L	**Joseph Creek**	**96.02**	**26**	P		**P**		**23 28 16.7**	**-0.8**	
	baz=265,SNR=22									
WAX	**Waxell Ridge**	**96.02**	**30**	P		**P**		**23 28 17.4**	**-0.2**	
WAX				IAmb		IAmb		23 28 18.8		
	comp=Z,40nm,1.2s									
TGL	**Tana Glacier**	**96.06**	**30**	P		**P**		**23 28 17.5**	**-0.2**	
TGL				IAmb		IAmb		23 28 19.3		
	comp=Z,52nm,1.2s									
PRYS	**Parys**	**96.09**	**242**⇑	*i*P		**P**		**23 28 19.3**	**+0.5**	
PRYS				IAmb		IAmb		23 28 20.1		
	comp=Z,44nm,0.8s									
M26K	**Nabesna, AK**	**96.11**	**28**	P		**P**		**23 28 17.3**	**-0.5**	
M26K				IAmb		IAmb		23 28 18.7		
	comp=Z,29nm,1.4s									
M26K	**Nabesna, AK**	**96.11**	**28**	P		**P**		**23 28 17.4**	**-0.5**	
	baz=266,SNR=7.2									
BLWY	**Bulawayo**	**96.25**	**249**⇑	*i*P		**P**		**23 28 20.0**	**+0.4**	
BLWY				IAmb		IAmb		23 28 21.1		
	comp=Z,277nm,1.2s									
VNA2	**Neumayer--Watz**	**96.29**	**193**	P		**P**		**23 28 20.2**	**+1.6**	
BNN	**Bunyan**	**96.40**	**308**	IAmb		IAmb		23 28 20.6		
	comp=Z,49nm,1.2s									
MOS	**Moscow**	**96.41**	**325**	*e*P		**P**		**23 28 15.5**	**-3.8**	
MOS				*e**PP		**pP**		**23 29 00.7**	**+2.1**	
MOS				*e*				23 32 09.8		
MOS				pmax		pmax				
	comp=Z,81nm,1.5s									
VNA3	**Neumayer Olymp**	**96.57**	**193**	P		**P**		**23 28 20.9**	**+1.1**	
GRNC	**Granite Creek**	**96.58**	**30**	IAmb		IAmb		23 28 25.4		
	comp=Z,36nm,1.2s									
M27K	**Edge Creek, AK**	**96.62**	**28**	IAmb		IAmb		23 28 21.4		
	comp=Z,29nm,1.3s									
M27K	**Edge Creek, AK**	**96.62**	**28**	P		**P**		**23 28 20.0**	**-0.4**	
	baz=267,SNR=7.9									
BARN	**Barnard Glacie**	**96.65**	**29**	P		**P**		**23 28 20.0**	**-0.6**	
BARN				IAmb		IAmb		23 28 21.9		
	comp=Z,42nm,1.2s									
L27K	**Beaver Creek,**	**96.69**	**27**	IAmb		IAmb		23 28 21.7		
	comp=Z,33nm,1.1s									
L27K	**Beaver Creek,**	**96.69**	**27**	P		**P**		**23 28 20.5**	**0.0**	
	baz=267,SNR=21									
VNA1	**Neumayer--Stat**	**96.69**	**193**	P		**P**		**23 28 22.0**	**+1.6**	
CTG	**Chitna Glacier**	**96.80**	**29**	P		**P**		**23 28 21.3**	**+0.2**	
	baz=267,SNR=10									
CTGM	**Chitina Glacie**	**96.80**	**29**	IAmb		IAmb		23 28 22.6		
	comp=Z,64nm,1.5s									
HVD	**Gariep Dam**	**96.92**	**238**⇑	*i*P		**P**		**23 28 23.8**	**+1.3**	
HVD				IAmb		IAmb		23 28 24.6		
	comp=Z,37nm,1.1s									
OBN	**Obninsk**	**96.98**	**325**	⇓P		**P**		**23 28 21.0**	**-0.9**	
OBN	**Obninsk**	**96.98**	**325**	*c*P		**P**		**23 28 20.2**	**-1.7**	
OBN				*e**PP		**pP**		**23 29 01.9**	**+0.7**	
OBN				*e*				23 32 21.5		
OBN				*e*PPP		PPP		23 34 29.7		
OBN				pmax		pmax				
	comp=Z,123nm,1.6s									
EGAK	**Eagle**	**97.07**	**26**	P		**P**		**23 28 21.1**	**-1.1**	
	baz=268,SNR=8.4									
MBAR	**Mbarara**	**97.20**	**268**	*ce*P		Pdif		23 28 24.4	+0.2	
MBAR				pmax		pmax				
	comp=Z,10.0nm,1.8s									
YUK3	**Moose Creek**	**97.26**	**29**	P		**P**		**23 28 22.9**	**-0.4**	
	baz=268,SNR=7.6									
PINM	**Pinnacle**	**97.29**	**30**	P		**P**		**23 28 22.5**	**-0.8**	
	baz=268									
BOSA	**Boshof**	**97.56**	**240**	P		Pdif		23 28 26.2	+0.7	
	comp=Z,17nm,0.9s,baz=112,slow=4.6,SNR=26									
BOSA				PKKP		**PKKPbc**		**23 45 02.5**	**+0.6**	
	comp=Z,4.8nm,1.0s,baz=110,slow=7.9,SNR=4.3									
BOSA	**Boshof**	**97.56**	**240**⇑	*i*P		Pdif		23 28 26.1	+0.7	
BOSA				IAmb		IAmb		23 28 27.1		
	comp=Z,27nm,1.0s									
BOSA	**Boshof**	**97.56**	**240**	P		Pdif		23 28 25.7	+0.3	
BOSA				IAmb		IAmb		23 28 27.3		
	comp=Z,28nm,1.0s									
PNL	**Peninsula**	**97.71**	**31**	P		**P**		**23 28 24.7**	**-0.5**	
	baz=268									
SWZ	**Schweizer**	**97.81**	**241**	*e*P		Pdif		23 28 27.1	+0.5	
SWZ				IAmb		IAmb		23 28 28.3		
	comp=Z,40nm,1.1s									
DAWY	**Dawson**	**97.81**	**26**	IAmb		IAmb		23 28 28.2		
	comp=Z,25nm,1.2s									
DAWY	**Dawson**	**97.81**	**26**	P		**P**		**23 28 25.3**	**-0.3**	
	baz=269,SNR=14									
LBTB	**Lobatse**	**98.04**	**243**⇑	*i*P		Pdif		23 28 28.2	+0.6	
LBTB				IAmb		IAmb		23 28 29.4		
	comp=Z,48nm,1.1s									
SIM	**Simferopol'**	**98.06**	**314**	*e*P		**P**		**23 28 25.5**	**-1.5**	
SIM				pmax		pmax				
	comp=Z,26nm,1.1s									
YUK4	**Talbot Arm**	**98.12**	**29**	P		**P**		**23 28 26.8**	**-0.4**	
	baz=269									
CSS	**Mathiatis**	**98.14**	**304**	P		**P**		**23 28 25.4**	**-2.3**	
BR131	**Keskin Array S**	**98.17**	**309**	P		**P**		**23 28 26.5**	**-1.3**	
BR131				pmax		pmax				
	comp=Z,13nm,1.0s									
BR131	**Keskin Array S**	**98.17**	**309**	P		**P**		**23 28 26.5**	**-1.3**	
BR131	**Keskin Array S**	**98.17**	**309**	P		**P**		**23 28 27.0**	**-0.8**	
BRTR	**Keskin Array B**	**98.17**	**309**	P		**P**		**23 28 26.9**	**-0.8**	
	comp=Z,4.6nm,0.9s,baz=112,slow=5.7,SNR=18									
BRTR				pP		**pP**		**23 29 04.9**	**-2.3**	
	comp=Z,0.4nm,0.4s,baz=306,slow=37,SNR=1.1									
BRTR				PP		**PP**		**23 32 25.9**	**-3.6**	
	comp=Z,2.8nm,0.9s,baz=132,slow=4.3,SNR=4.3									
BRTR				PKKPbc		**PKKPbc**		**23 44 59.5**	**-1.4**	
	comp=Z,1.6nm,0.8s,baz=210,slow=4.3,SNR=5.3									
BRTR	**Keskin Array B**	**98.17**	**309**	*i* P		**P**		**23 28 27.0**	**-0.8**	
BRTR				pmax		pmax				
	comp=Z,5.0nm,0.9s									
YUK6	**Outpost Mounta**	**98.25**	**29**	P		**P**		**23 28 27.1**	**-0.7**	
	baz=270									
I29M	**Ogilvie Camp,**	**98.29**	**25**	IAmb		IAmb		23 28 28.4		
	comp=Z,21nm,1.2s									
I29M	**Ogilvie Camp,**	**98.29**	**25**	P		**P**		**23 28 27.3**	**-0.4**	
	baz=270,SNR=13									
J29M	**Klondike Camp**	**98.33**	**26**	P		**P**		**23 28 27.9**	**0.0**	
	baz=270									
HYT	**Haines Junctio**	**98.67**	**30**	P		**P**		**23 28 29.3**	**-0.3**	
	baz=270									
APA	**Apatity**	**98.69**	**337**⇓	*i*P		**P**		**23 28 27.1**	**-2.2**	
APA				pmax		pmax				
	comp=Z,9.0nm,1.0s									
M30M	**Minto, Yukon**	**98.99**	**28**			Pdif		23 28 30.9	0.0	
M30M				IAmb		IAmb		23 28 32.4		
	comp=Z,40nm,1.8s									
M30M	**Minto, Yukon**	**98.99**	**28**	P		**P**		**23 28 30.4**	**-0.4**	
	baz=271,SNR=6.1									
N31M	**Braeburn, Yuko**	**99.49**	**29**	P		**Pdif**		**23 28 32.9**	**-0.2**	
	baz=272									
SKAG	**Skagway**	**99.78**	**31**	P		**Pdif**		**23 28 34.1**	**-0.3**	
	baz=272									
SIT	**Sitka**	**99.85**	**33**	P		**Pdif**		**23 28 34.0**	**-0.6**	
	baz=271									
WHY	**Whitehorse**	**99.96**	**30**	P		**Pdif**		**23 28 35.2**	**-0.1**	
	baz=272,SNR=5.2									
INK	**Inuvik**	**100.05**	**22**	P		**Pdif**		**23 28 34.4**	**-0.9**	
	comp=Z,4.9nm,1.0s,baz=262,slow=7.0,SNR=11									
INK				pP		**pPdif**		**23 29 11.7**

DOPR Dopca 104.19 315 ⇓P PKKPbc 23 44 43.6 0.0
RAF Rauma 104.43 331 eP Pdif 23 28 53.3 -1.7
ARR Arges 104.76 315 ⇓P Pdif 23 28 57.0 0.0
ARR Arges 104.76 315 ⇑P PKKPbc 23 44 41.5 -0.4
IDI Anoyia 105.06 304 ⇓P PKKPbc 23 44 42.0 +1.4
BMR Baia Mare 105.34 317 ⇑P Pdif 23 29 00.2 +0.8
BMR Baia Mare 105.34 317 ⇑P Pdif 23 29 00.2 +0.8
TRPA Tarpa 105.94 318 ⇓P PKKPbc 23 44 38.0 -0.3
DRGR 105.97 316 ⇓P PKKPbc 23 44 37.8 -0.5
DRGR 105.97 316 ⇓P Pdif 23 29 02.4 +0.1
VTS Vitosha 105.98 312 ⇑P PKKPbc 23 44 38.0 -0.2
UZH Uzhgorod 106.04 318 d iP Pdif 23 29 03.0 +0.6
UZH i 23 33 32.6
GZR Gura Zlata 106.06 315 ⇓P Pdif 23 29 03.0 +0.3
GZR Gura Zlata 106.06 315 ⇓P PKKPbc 23 44 38.3 +0.4
HERR Herculane 106.37 314 ⇑P PKKPbc 23 44 37.5 +0.7
CRVS Cervenica-Dubn 106.55 319 eP Pdif 23 29 05.2 +0.5
CRVS Cervenica-Dubn 106.55 319 ePDIFF Pdif 23 29 05.2 +0.5
BZS Buzias 106.85 315 ⇑P PKKPbc 23 44 35.6 +0.2
LANS Liptovska Anna 107.81 319 ePKP PKiKP 23 33 18.5 +1.4
A04D Lummi Island 108.27 41 P PKiKP 23 33 18.1 +0.2
baz=280
VYHS Vyhne 108.33 319 ePKP PKiKP 23 33 17.5 -0.5
K02D Willamette Mer 108.47 48 P PKiKP 23 33 18.1 -0.4
baz=277
DAG Danmarks Havn 108.51 352 iP Pdif 23 29 11.0 -1.8
RES Resolute Bay 108.55 11 Pdiff Pdif 23 29 13.3 +0.3
comp=Z,3.3nm,0.8s,baz=310,slow=6.5,SNR=16
RES PKiKP PKiKP 23 33 17.4 -0.2
comp=Z,6.0nm,0.9s,baz=273,slow=2.4,SNR=13
RES PKKPbc PKKPbc 23 44 28.2 -2.7
comp=Z,6.2nm,0.9s,baz=146,slow=4.4,SNR=15
RES PKKPab PKKPab 23 44 40.7 -0.8
comp=Z,2.5nm,1.0s,baz=115,slow=7.3,SNR=4.7
KOLL Kolacno 108.60 319 ePKP PKiKP 23 33 19.1 +0.6
B05A Bryant 108.75 42 P PKiKP 23 33 19.2 +0.4
baz=280
H04D Lebanon 108.90 46 P PKiKP 23 33 19.8 +0.6
baz=278
MORC Moravsky Berou 108.94 320 ⇓P PKKPbc 23 44 29.4 +0.3
MORC Moravsky Berou 108.94 320 ePKIKP PKiKP 23 33 19.7 +0.5
MORC ePP PP 23 33 51.3 +2.3
MORC ePKKP PKKPbc 23 44 28.9 -0.2
MORC e 23 44 42.3
JAVC Velka Javorina 109.03 319 ePKIKP PKiKP 23 33 20.4 +1.0
JAVC ePP PP 23 33 56.4 +6.7
JAVC ePKKP PKKPbc 23 44 29.3 +0.5
YKA Yellowknife Ar 109.05 26 Pdiff Pdif 23 29 15.7 +0.2
comp=Z,1.4nm,0.9s,baz=292,slow=4.8,SNR=14
YKA PKiKP PKiKP 23 33 18.7 -0.2
comp=Z,10nm,0.7s,baz=295,slow=1.5,SNR=112
YKA PP PP 23 33 49.7 +0.4
comp=Z,3.9nm,0.9s,baz=279,slow=7.2,SNR=4.0
YKA PKKPbc PKKPbc 23 44 26.8 -2.3
comp=Z,9.5nm,0.7s,baz=111,slow=3.2,SNR=80
YKA PKKPab PKKPab 23 44 39.1 -0.3
comp=Z,5.9nm,0.8s,baz=107,slow=5.3,SNR=19
YKA SKKPbc SKKPbc 23 48 03.0 +4.6
comp=Z,0.5nm,0.8s,baz=120,slow=3.9,SNR=1.9
M02C Callahan 109.23 49 P PKiKP 23 33 20.6 +0.5
baz=277
I04A Tendick Farm, 109.23 46 P PKiKP 23 33 20.8 +0.9
baz=278
KRLC Kraliky 109.36 320 ePKP PKiKP 23 33 20.2 +0.2
KRLC ePKKP PKKPbc 23 44 27.4 -0.3
KRLC ex x 23 44 40.2
NB2 NORSAR Subarra 109.37 333 PKPdf PKiKP 23 33 19.2 -0.4
comp=Z,11nm,1.7s,baz=68,slow=1.9
NB2 NORSAR Subarra 109.37 333 P Pdif 23 29 16.1 -0.9
NB2 NORSAR Subarra 109.37 333 PKPdf PKiKP 23 33 19.2 -0.4
baz=68,slow=1.9
NOA NORSAR Array B 109.37 333 Pdiff Pdif 23 29 15.7 -1.4
comp=Z,2.0nm,0.8s,baz=70,slow=4.5,SNR=12
NOA PKiKP PKiKP 23 33 19.5 -0.1
comp=Z,5.1nm,0.9s,baz=262,slow=3.2,SNR=11
NOA PP PP 23 33 52.0 +0.3
comp=Z,1.7nm,1.0s,baz=75,slow=6.9,SNR=3.3
NOA PKKPbc PKKPbc 23 44 26.7 -1.4
comp=Z,1.6nm,0.9s,baz=66,slow=3.2,SNR=6.1
NOA PKKPab PKKPab 23 44 39.5 +1.3
comp=Z,2.0nm,0.9s,baz=251,slow=4.2,SNR=4.7
MODS Modra-Piesok 109.37 319 ePKP PKiKP 23 33 21.0 +1.0
MODS e 23 44 27.2
MODS e 23 44 39.7
N02D Trinity Center 109.39 49 P PKiKP 23 33 21.0 +0.7
baz=277
O02D Mt. Diablo Mer 109.42 50 P PKiKP 23 33 21.1 +0.6
baz=277
L04D Klamath Falls 109.53 48 P PKiKP 23 33 21.0 +0.4
baz=278
J04D Umpqua Nationa 109.53 47 P PKiKP 23 33 20.9 +0.2
baz=278
DPC Dobruska-Polom 109.59 321 ePKP PKiKP 23 33 20.2 -0.2
DPC ePKKP PKKPbc 23 44 24.8 -2.2
DPC ex x 23 44 39.1
OSTC Ostas 109.61 321 ePKP PKiKP 23 33 20.0 -0.4
OSTC ePKKP PKKPbc 23 44 26.4 -0.5
OSTC ex x 23 44 38.8
VRAC Vranov 109.64 320 ePKIKP PKiKP 23 33 20.8 +0.3
VRAC ePP PP 23 33 57.7 +3.7
VRAC ePKKP PKKPbc 23 44 26.0 -0.8
VRAC e 23 44 38.6
CHVC Chvalec 109.71 321 ePKP PKiKP 23 33 20.9 +0.3
CHVC ePKKP PKKPbc 23 44 25.9 -0.7
UPC Upice 109.75 321 ePKP PKiKP 23 33 21.2 +0.6
KRUC Moravsky 109.81 319 ePKIKP PKiKP 23 33 20.9 +0.1
KRUC ePP PP 23 33 58.8 +3.5
KRUC ePKKP PKKPbc 23 44 25.3 -0.9
KRUC e 23 44 37.6
I05D Terrebonne, OR 109.91 46 P PKiKP 23 33 22.1 +0.9
baz=279
M04C Macdoel 109.93 48 P PKiKP 23 33 21.3 -0.1
baz=278
RONA Rosalia, Austr 110.15 318 eP PKiKP 23 33 22.2 +0.7
comp=Z,8.4nm,1.1s
RONA Rosalia, Austr 110.15 318 eP PKKPbc 23 44 24.3 -0.8
comp=Z,4.3nm,1.0s
RONA eP PKKPab 23 44 36.7 +1.8
comp=Z,8.0nm,1.0s
J05D Fort Rock, OR 110.15 47 P PKiKP 23 33 21.9 0.0
baz=279
O03E Paynes Creek 110.15 50 P PKiKP 23 33 22.2 +0.4
baz=277
RGN Rugen 110.34 326 ePKPdf PKiKP 23 33 22.3 +0.7
baz=75,slow=1.9
TREC Trest 110.35 320 ePKIKP PKiKP 23 33 22.2 +0.4
TREC Trest 110.35 320 ePKP PKiKP 23 33 22.2 +0.4
CONA Conrad Observa 110.39 318 eP PKiKP 23 33 21.6 -0.5
comp=Z,5.4nm,1.1s
CONA eP PP 23 33 57.6 -2.0
comp=Z,23nm,1.4s
CONA Conrad Observa 110.39 318 eP PKKPbc 23 44 23.8 -0.6
comp=Z,9.5nm,0.9s
CONA eP PKKPab 23 44 35.7 +1.8
comp=Z,12nm,1.9s
PVCC Panska Ves 110.64 321 ePKIKP PKiKP 23 33 22.9 +0.6
PVCC Panska Ves 110.64 321 ePKP PKiKP 23 33 22.9 +0.6
ARSA Arzberg 110.75 318 eP PKiKP 23 33 23.1 +0.4
ARSA Arzberg 110.75 318 eP PKKPbc 23 44 22.4 -0.7
comp=Z,6.8nm,0.9s
ARSA eP PKKPab 23 44 33.7 +1.5
comp=Z,6.9nm,1.1s
PRU Pruhonice 110.79 321 ePKIKP PKiKP 23 33 22.3 -0.3
PRU Pruhonice 110.79 321 ePKP PKiKP 23 33 22.3 -0.3
PRU ePKKP PKKPab 23 44 33.8 +1.9
BRG Berggiesshubel 110.95 322 ePKP PKiKP 23 33 23.2 +0.4
BRG Amp 23 33 24.3
comp=Z,9.7nm,0.9s
BRG ex x 23 34 06.1
BRG Amp 23 34 09.2
comp=Z,6.5nm,1.1s
BRG PKKP PKKPbc 23 44 22.8 +0.2
BRG Amp 23 44 23.5
comp=Z,6.1nm,1.0s
BRG Berggiesshubel 110.95 322 ePKIKP PKiKP 23 33 23.2 +0.4
BRG e 23 34 06.0
BRG 23 44 22.7
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 110.95 322 ePKPdf PKiKP 23 33 23.3 +0.4
baz=75,slow=1.9
SOKA Soboth 111.20 317 i P PKiKP 23 33 23.5 -0.1
comp=Z,12nm,1.0s,SNR=5.2
SOKA Soboth 111.20 317 i P PKKPbc 23 44 20.9 -0.8
comp=Z,5.1nm,1.0s,SNR=4.8
CKRC Cesky Krumlov 111.21 320 ePKP PKiKP 23 33 23.4 -0.1
CKRC ePKKP PKKPbc 23 44 21.3 -0.4
CKRC ex x 23 44 31.4
BOJS Bojanci 111.28 316 i PKiKP PKiKP 23 33 23.7 0.0
CLL Collm 111.41 322 i PKIKP PKiKP 23 33 23.5 -0.2
CLL e 23 34 08.0
CLL e 23 44 21.0
CLL pmax pmax
comp=Z,14nm,1.0s
CLL pmax pmax
comp=Z,48nm,2.1s
CLL pmax pmax
comp=Z,8.0nm,1.4s
CLL Collm 111.41 322 ePdif Pdif 23 29 26.0 -0.3
CLL i PKiKP PKiKP 23 33 23.5 -0.2
comp=Z,14nm,1.0s
CLL epPKiKP PP 23 34 00.0 -6.6
CLL ePP PP 23 34 08.0 +1.4
comp=Z,48nm,2.1s
CLL ex x 23 34 49.0
CLL e(PPP) 23 36 35.0
CLL eSKPdf SKiKP 23 36 45.0 +0.9
CLL ePKKPbc PKKPbc 23 44 21.0 -0.1
comp=Z,8.0nm,1.4s
CLL ePKKPab PKKPab 23 44 31.0 +1.9
CLL ePKKPdf PKKPdf 23 44 36.0 -3.0
CLL Collm 111.41 322 ePKPdf PKiKP 23 33 23.9 +0.2
baz=75,slow=1.9
MOA Molln 111.46 319 eP PKiKP 23 33 24.4 +0.5
comp=Z,4.8nm,0.9s
MOA Molln 111.46 319 eP PKKPbc 23 44 20.4 -0.4
comp=Z,7.6nm,0.9s
MOA eP PKKPab 23 44 30.6 +1.6
comp=Z,7.4nm,1.0s
OBKA Obir 111.56 317 eP PKiKP 23 33 24.5 +0.2
comp=Z,10nm,1.2s
OBKA ePP PP 23 34 10.2 +2.2
comp=Z,24nm,1.3s
OBKA Obir 111.56 317 i P PKKPbc 23 44 20.3 -0.2
comp=Z,6.3nm,1.0s,SNR=5.2
OBKA eP PKKPab 23 44 30.4 +1.7
comp=Z,8.7nm,0.8s
GEC2 GERESS Array S 111.59 320 ePKPdf PKiKP 23 33 24.6 +0.3
baz=75,slow=1.9
GERES GERESS Array B 111.59 320 Pdiff Pdif 23 29 26.7 -0.6
comp=Z,0.1nm,0.3s,baz=18,slow=4.6,SNR=4.7
GERES PKiKP PKiKP 23 33 24.4 +0.2
comp=Z,7.5nm,0.8s,baz=180,slow=0.9,SNR=42
GERES PP PP 23 34 08.6 +0.4
comp=Z,4.2nm,1.0s,baz=114,slow=4.4,SNR=5.8
GERES SKP 23 36 43.0
comp=Z,1.3nm,0.7s,baz=72,slow=3.2,SNR=4.5
GERES PKKPbc PKKPbc 23 44 20.1 -0.4
comp=Z,2.3nm,0.8s,baz=241,slow=4.4,SNR=15
KHC Kasperske Hory 111.60 320 ePKIKP PKiKP 23 33 24.1 -0.1
KHC e 23 34 06.0
KHC Kasperske Hory 111.60 320 ePKP PKiKP 23 33 24.1 -0.1
KHC ePP PP 23 34 06.0 -2.1
KHC ePKKP PKKPbc 23 44 19.3 -1.1
LJU Ljubljana 111.67 317 i PKiKP PKiKP 23 33 24.6 +0.2
LJU ePP PP 23 34 11.5 +2.8
BIOA Bad Ischl, Aus 111.91 318 eP PKiKP 23 33 24.2 -0.7
comp=Z,13nm,1.1s
BIOA Bad Ischl, Aus 111.91 318 eP PKKPbc 23 44 18.9 -0.4
comp=Z,11nm,1.1s
TANN Tannenbergstha 111.98 322 ePKPdf PKiKP 23 33 25.3 +0.4
baz=75,slow=1.9
NEW Newport 112.00 41 PKiKP PKiKP 23 33 25.6 +0.6
comp=Z,4.3nm,0.7s,baz=194,slow=2.7,SNR=8.9
NEW Newport 112.00 41 P PKiKP 23 33 25.4 +0.4
baz=284
NKC Novy Kostel 112.03 321 ePKIKP PKiKP 23 33 25.8 +0.8
NKC Novy Kostel 112.03 321 ePKP PKiKP 23 33 25.8 +0.8
WET Wettzell 112.05 320 ePKPdf PKiKP 23 33 25.4 +0.4
baz=75,slow=1.9
WERN Wernitzgruen 112.06 321 ePKPdf PKiKP 23 33 25.6 +0.6
baz=75,slow=1.9
GUNZ Gunzen 112.07 322 ePKPdf PKiKP 23 33 25.6 +0.5
baz=75,slow=1.9
MYKA Terra Mystica 112.14 317 eP PKKPbc 23 44 18.5 -0.1
comp=Z,7.7nm,0.9s
MYKA eP PKKPab 23 44 27.8 +1.7
comp=Z,8.5nm,1.0s
FLTG Flechtingen 112.17 324 ePKPdf PKiKP 23 33 25.6 +0.4
baz=75,slow=1.9
NEUB Neuenburg 112.18 322 ePKPdf PKiKP 23 33 25.8 +0.6
baz=75,slow=1.9
BSEG Bad Segeberg 112.21 326 ePKPdf PKiKP 23 33 25.9 +0.8
baz=75,slow=1.9
KBA Koelnbreinsper 112.24 318 eP PKiKP 23 33 24.7 -0.9
comp=Z,9.1nm,1.2s
KBA Koelnbreinsper 112.24 318 eP PKKPbc 23 44 17.8 -0.6
comp=Z,4.7nm,0.9s
KBA eP PKKPab 23 44 27.2 +1.4
comp=Z,9.2nm,1.0s
ROTZ Rotzenmuhle 112.31 321 ePKPdf PKiKP 23 33 25.5 0.0
baz=75,slow=1.9
ROTZ epPKPdf PP 23 34 17.8 +4.7
MANZ Manzenberg 112.31 321 ePKPdf PKiKP 23 33 26.1 +0.6
baz=75,slow=1.9
PKM Mcpherson Peak 112.38 55 P PKiKP 23 33 26.8 +0.4
baz=277
MOX Moxa 112.43 322 ePKPdf PKiKP 23 33 26.2 +0.5
baz=75,slow=1.9
RJOB Jochberg 112.45 319 ePKPdf PKiKP 23 33 25.9 0.0
baz=75,slow=1.9
NRDL Niedersach Rie 112.78 324 ePKPdf PKiKP 23 33 27.0 +0.8
baz=75,slow=1.9
NRDL epPKPdf PP 23 34 18.7 +2.5
CLZ Clausthal 112.83 323 ePKPdf PKiKP 23 33 27.0 +0.5
baz=75,slow=1.9
ABTA Abfaltersbach 112.87 318 i P PKiKP 23 33 26.5 -0.3
comp=Z,18nm,0.9s,SNR=9.1
ABTA ePP PP 23 34 18.5 +1.2
comp=Z,9.5nm,1.4s
ABTA Abfaltersbach 112.87 318 i P PKKPbc 23 44 16.2 +0.1
comp=Z,10nm,1.1s,SNR=5.6
ABTA eP PKKPab 23 44 24.4 +1.6
comp=Z,14nm,1.0s
GRF Grafenberg Arr 112.94 321 ePKPdf PKiKP 23 33 27.3 +0.6
baz=75,slow=1.9
NVAR Mina Array Bea 113.10 51 Pdiff Pdif 23 29 35.7 +1.3
comp=Z,0.2nm,0.3s,baz=271,slow=7.7,SNR=2.0
NVAR PKiKP PKiKP 23 33 28.8 +1.1
comp=Z,11nm,0.9s,baz=263,slow=2.4,SNR=31
NVAR PKKPbc PKKPbc 23 44 15.3 0.0
comp=Z,4.0nm,1.0s,baz=133,slow=3.5,SNR=8.3
NVAR SKKPbc SKKPbc 23 47 48.6 +3.1
comp=Z,0.3nm,0.3s,baz=113,slow=6.9,SNR=1.7
GTTG Gottingen 113.16 323 ePKPdf PKiKP 23 33 28.1 +1.0
baz=75,slow=1.9
FUR Furstenfeldbru 113.33 319 ePKPdf PKiKP 23 33 27.9 +0.3
baz=75,slow=1.9
WTTA Wattenberg 113.33 318 i P PKiKP 23 33 27.8 +0.1
comp=Z,41nm,0.8s,SNR=14
WTTA Wattenberg 113.33 318 eP PKKPbc 23 44 15.3 +0.5
comp=Z,14nm,1.0s
WTTA eP PKKPab 23 44 22.9 +2.0
comp=Z,18nm,0.9s
WATA Walderalm 113.35 318 i P PKiKP 23 33 27.5 -0.2
comp=Z,22nm,1.0s,SNR=8.0
WATA Walderalm 113.35 318 eP PKKPbc 23 44 15.0 +0.3
comp=Z,8.0nm,0.9s
ISA Isabella, Lake 113.37 54 P PKiKP 23 33 28.3 +0.3
baz=278
CWC Cottonwood Cre 113.58 54 P PKiKP 23 33 29.6 +1.1
baz=278
SQTA Sankt Quirin 113.62 318 i P PKiKP 23 33 28.3 +0.1
comp=Z,22nm,1.1s,SNR=6.1
SQTA Sankt Quirin 113.62 318 i P PKKPbc 23 44 14.0 +0.2
comp=Z,14nm,1.3s,SNR=4.7
SQTA eP PKKPab 23 44 20.9 +1.3
comp=Z,18nm,0.9s
MOTA Moosalm 113.66 319 i P PKiKP 23 33 28.1 -0.2
comp=Z,26nm,1.0s,SNR=7.4
MOTA Moosalm 113.66 319 i P PKKPbc 23 44 11.8 -1.9
comp=Z,15nm,1.1s,SNR=8.8
CIS Catalina Islan 113.70 57 P PKiKP 23 33 29.3 +0.6
baz=277
RETA Reutte 113.84 319 eP PKiKP 23 33 28.1 -0.5
comp=Z,11nm,1.3s
RETA Reutte 113.84 319 eP PKKPbc 23 44 13.1 +0.2
comp=Z,6.7nm,1.1s
RETA eP PKKPab 23 44 20.2 +1.7
comp=Z,9.9nm,1.0s
EDW2 Edwards Air Fo 113.86 55 P PKiKP 23 33 29.8 +0.8
baz=278
FETA Feichten 113.99 318 i P PKiKP 23 33 29.2 +0.2
comp=Z,26nm,1.2s,SNR=6.1
FETA eP PP 23 34 25.0 -0.3
comp=Z,13nm,1.4s
FETA Feichten 113.99 318 eP PKKPbc 23 44 12.4 -0.1
comp=Z,5.6nm,0.9s
FETA eP PKKPab 23 44 20.2 +2.2
comp=Z,13nm,1.5s
LRMC Laurel Mtn Rad 114.03 55 P PKiKP 23 33 30.6 +1.2
baz=278
GRAC Grapevine Rang 114.06 53 P PKiKP 23 33 30.0 +0.7
baz=279,SNR=11
MPMC Manual Prospec 114.11 54 P PKiKP 23 33 30.4 +0.8
baz=279,SNR=14
KASTN Kahler Asten 114.19 323 ePKPdf PKiKP 23 33 29.5 +0.4
baz=75,slow=1.9
UBR Ueberruh 114.21 319 ePKPdf PKPdf 23 33 29.2 -0.1
baz=75,slow=1.9
BFSC Mount Baldy Ra 114.22 56 P PKiKP 23 33 30.3 +0.5
baz=278
MSO Missoula 114.45 42 P PKiKP 23 33 30.0 +0.2
baz=286,SNR=13
DAVA Damuels 114.47 319 i P PKPdf 23 33 29.9 0.0
comp=Z,40nm,0.9s,SNR=9.9
DAVA Damuels 114.47 319 eP PKKPbc 23 44 11.0 +0.1
comp=Z,5.8nm,0.9s
DAVA eP PKKPab 23 44 18.2 +2.3
comp=Z,9.0nm,0.8s
TNS Taunus Mts 114.49 322 ePKPdf PKiKP 23 33 30.1 +0.4
baz=75,slow=1.9
FURC Furnace Creek, 114.54 53 P PKiKP 23 33 31.5 +1.3
baz=279,SNR=6.4
DAVOX Davos/Dischmat 114.61 318 PKKPbc PKKPbc 23 44 09.8 -0.6
comp=Z,6.0nm,0.8s,baz=322,slow=2.4,SNR=12
MURC Murrieta 114.69 57 P PKiKP 23 33 31.4 +0.8
baz=278
GSC Goldstone, Bar 114.77 55 P PKiKP 23 33 31.2 +0.5
baz=279
109C Camp Elliot, M 114.86 57 P PKPdf 23 33 32.1 +1.2
baz=277
TPNV Topopah Spring 114.95 53 P PKPdf 23 33 31.8 +0.6
baz=280,SNR=9.2
HLID Hailey 114.97 45 P PKPdf 23 33 32.1 +1.1
baz=284
SHOC Shoshone, Teco 115.10 54 P PKPdf 23 33 32.7 +1.4
baz=279
BFO Black Forest 115.16 320 ePKPdf PKiKP 23 33 30.6 -0.5
baz=75,slow=1.9
HEC Hector Ludlow 115.22 55 P PKPdf 23 33 32.2 +0.6
baz=279
R11A Troy Canyon, C 115.22 51 P PKPdf 23 33 32.8 +1.1
baz=281
LRW Lerwick 115.25 335 eP PKPdf 23 33 30.8 0.0
PFO Pinyon Flats O 115.30 56 PKIKP PKPdf 23 33 33.2 +1.3
PFO Pinyon Flats O 115.30 56 PKPdf 23 33 33.2 +1.3
PFO Pinyon Flats O 115.30 56 P PKPdf 23 33 32.9 +1.0
baz=278
TPFO Pinon Flats 115.30 56 P PKPdf 23 33 32.2 +1.3
baz=278,SNR=8.9
MONP2 Monument Peak 115.42 57 P PKiKP 23 33 33.1 +0.8
baz=278,SNR=7.2
TUQ Turquoise Moun 115.46 54 P PKiKP 23 33 33.3 +1.2
baz=279
BELC Belle Mtn. Jos 115.62 56 P PKiKP 23 33 33.4 +0.9
baz=279,SNR=27
IKP In-Ko-Pah, Jac 115.72 57 P PKiKP 23 33 33.7 +1.1
baz=278,SNR=7.7
BTNL Ternot 115.77 323 dPKPdf PKiKP 23 33 32.4 +0.3
GMRC Granite Mounta 115.78 55 P PKiKP 23 33 34.3 +1.5
baz=279,SNR=24
CDF Champ du Feu 115.80 321 ePKIKP PKPdf 23 33 31.3 -1.1
CDF pmax pmax
comp=Z,15nm,1.1s
MEM Membach 115.83 323 dPKPdf PKiKP 23 33 32.4 +0.2
BHOU Houvegnez 115.92 323 dPKPdf PKiKP 23 33 33.1 +0.7
SWSC Sam W. Stewart 115.94 57 P PKiKP 23 33 34.1 +1.2
baz=278,SNR=7.1
WLF Walferdange 116.08 322 dPKPdf PKiKP 23 33 33.0 +0.3
BC3 Big Chuckawall 116.12 56 P PKiKP 23 33 34.7 +1.3
baz=279,SNR=17
HINF Hinteralfeld 116.27 320 ePKIKP PKPdf 23 33 32.3 -0.9
HINF pmax pmax
comp=Z,21nm,0.9s
IRM Iron Mountain 116.30 56 P PKiKP 23 33 35.1 +1.4
baz=279,SNR=15
BCLA Clavier 116.32 323 dPKPdf PKiKP 23 33 33.1 0.0
BOZ Bozeman (W) 116.34 43 P PKiKP 23 33 34.3 +0.7
baz=287,SNR=15
PGF Pioggiola 116.34 314 ePKIKP PKPdf 23 33 33.2 -0.4
PGF pmax pmax
comp=Z,31nm,1.0s
USHA Ushuaia 116.36 169 PKP PKiKP 23 33 33.3 +0.2
comp=Z,16nm,0.8s,baz=155,slow=13,SNR=5.3
RCHB Rochefort 116.46 323 dPKPdf PKiKP 23 33 33.8 +0.4
HAU Haudompre 116.52 320 ePKIKP PKPdf 23 33 33.1 -0.6
HAU pmax pmax
comp=Z,38nm,1.1s
BMRD Maredsous 116.68 323 dPKPdf PKiKP 23 33 33.9 0.0
GIVF Givet 116.72 323 ePKIKP PKPdf 23 33 33.9 0.0
GIVF pmax pmax
comp=Z,27nm,1.1s
GLA Glamis 116.73 57 P PKiKP 23 33 35.7 +1.1
baz=279
EGMT Eagleton 116.79 40 P PKiKP 23 33 34.5 +0.2
baz=290
DOU Dourbes 116.86 323 dPKPdf PKiKP 23 33 34.6 +0.4
SNF Seneffe 116.89 323 dPKPdf PKiKP 23 33 34.8 +0.6
DUG Dugway, Tooele 116.94 49 P PKiKP 23 33 35.6 +0.7
baz=284,SNR=18
LPG La Plagne 117.07 318 ePKIKP PKPdf 23 33 34.8 -0.3
LPG pmax pmax
comp=Z,25nm,1.0s
LPL La Plagne 117.08 318 ePKIKP PKPdf 23 33 34.7 -0.4
LPL pmax pmax
comp=Z,26nm,1.0s
SBF Sospel 117.09 316 ePKIKP PKPdf 23 33 34.2 -0.7
SBF pmax pmax
comp=Z,43nm,1.0s
PDMCI Parker Dam,Lak 117.09 55 P PKiKP 23 33 36.2 +1.1
baz=280
BAIF Baives 117.11 323 ePKIKP PKiKP 23 33 34.7 0.0
BAIF pmax pmax
comp=Z,17nm,1.0s
CABF La Chapelle 117.15 319 ePKIKP PKPdf 23 33 34.8 -0.2
CABF pmax pmax
comp=Z,46nm,1.0s
MBDF Montbardon 117.29 317 ePKIKP PKPdf 23 33 35.4 0.0
MBDF pmax pmax
comp=Z,13nm,1.0s
H17A Grant Village 117.41 44 P PKiKP 23 33 37.4 +1.5
baz=288
TCRU Three Creeks R 117.58 50 PKiKP 23 33 37.8 +1.5
YMP Mirror Lake Pl 117.59 43 PKiKP 23 33 37.0 +0.8
KEST Kesra 117.61 306 PKP PKiKP 23 33 36.9 +0.6
comp=Z,23nm,0.9s,baz=277,slow=2.5,SNR=24
KEST PP PP 23 34 47.7 -3.3
comp=Z,55nm,1.1s,baz=141,slow=0.9,SNR=13
KEST PKKPbc PKKPbc 23 43 59.2 -0.2
comp=Z,4.6nm,0.8s,baz=266,slow=5.4,SNR=6.0
KEST Kesra 117.61 306 PKPdf PKiKP 23 33 37.0 +0.7
KEST PP PP 23 34 48.3 -2.7
ORIF Oris-en-Rattie 117.83 317 ePKIKP PKPdf 23 33 35.9 -0.5
ORIF pmax pmax
comp=Z,14nm,0.9s
ICESG Greenland Ices 117.98 355 eP PKPdf 23 33 32.5 -3.7
RLMT Red Lodge 118.07 42 P PKiKP 23 33 37.8 +0.8
baz=289,SNR=11
LINV Loch Inver, As 118.08 334 eP PKPdf 23 33 36.1 -0.1
ESY Stoneypath 118.13 331 eP PKPdf 23 33 36.2 -0.3
LOR Lormes 118.36 320 ePKIKP PKPdf 23 33 36.8 -0.4
LOR pmax pmax
comp=Z,21nm,1.0s
FFC Flin Flon 118.37 30 PKIKP PKPdf 23 33 36.9 -0.1
FFC Flin Flon 118.37 30 PKPdf PKPdf 23 33 36.9 -0.1
KAC Achnashellach 118.50 333 eP PKiKP 23 33 37.3 +0.1
INVG Invergeldie, C 118.53 332 eP PKPdf 23 33 37.1 -0.1
214A Organ Pipe Nat 118.58 58 P PKiKP 23 33 38.9 +0.7
baz=280,SNR=12
BW06 Boulder Array 118.60 45 P PKiKP 23 33 38.3 +0.1
baz=288,SNR=26
PDAR Pinedale Array 118.60 45 PKP PKiKP 23 33 38.4 +0.2

comp=Z,13nm,0.7s,baz=231,slow=1.1,SNR=110
PDAR PKKPbc **PKKPbc 23 43 56.0 -0.3**
comp=Z,11nm,0.9s,baz=116,slow=5.2,SNR=23
HPK Haverah Park 118.64 329 *e*P **PKPdf 23 33 37.4 -0.1**
VIVF Saint-Julien-l 118.67 317 *e*PKIKP **PKPdf 23 33 37.6 -0.3**
VIVF pmax pmax
comp=Z,22nm,1.0s
KPL Plockton 118.75 333 *e*P **PKPdf 23 33 37.4 -0.1**
LEWI Lewis, Hebride 118.80 335 *e*P **PKPdf 23 33 37.2 -0.5**
AVF Avril sur Loir 118.86 320 *e*PKIKP **PKPdf 23 33 37.5 -0.6**
AVF pmax pmax
comp=Z,20nm,0.9s
LBWR Ladybower, Pea 118.96 328 *e*P **PKPdf 23 33 38.1 -0.1**
KESW Keswick, Cumbr 119.06 330 *e*P **PKPdf 23 33 38.1 -0.2**
CWF Charnwood Fore 119.07 327 *e*P **PKPdf 23 33 38.2 -0.2**
WUAZ Wupatki 119.09 54 P **PKiKP 23 33 40.2 +0.9**
baz=282,SNR=14
LAWE Loch Awe, Argy 119.25 332 *e*P **PKPdf 23 33 38.3 -0.3**
NEWG New Galloway 119.33 331 *e*P **PKPdf 23 33 38.8 0.0**
NEWG IAmb IAmb 23 33 39.5
comp=Z,38nm,1.3s
STNC Stoke 119.37 328 *e*P **PKiKP 23 33 39.1 +0.1**
LAO LASA Array 119.51 40 P **PKiKP 23 33 40.7 +1.1**
baz=292
LAO LASA Array 119.51 40 P **PKiKP 23 33 40.6 +1.0**
baz=292,SNR=16
FCC Fort Churchill 119.60 24 PKIKP **PKPdf 23 33 38.6 -0.6**
FCC Fort Churchill 119.60 24 PKPdf **PKPdf 23 33 38.6 -0.6**
GAL1 Galloway 119.70 331 *e*P **PKPdf 23 33 39.3 -0.2**
TCF Toulx Ste Croi 119.78 320 *e*PKIKP **PKPdf 23 33 39.8 -0.2**
TCF pmax pmax
comp=Z,40nm,1.0s
SWN1 Swindon 119.92 326 *e*P **PKPdf 23 33 39.2 -0.8**
SWN1 IAmb IAmb 23 33 40.9
comp=Z,72nm,0.9s
STRD Stroud 119.99 327 *e*P **PKPdf 23 33 39.7 -0.4**
STRD IAmb IAmb 23 33 41.2
comp=Z,385nm,2.0s
HLM1 Long Mynd 120.01 328 *e*P **PKPdf 23 33 40.0 -0.2**
DGMT Dagmar 120.05 37 P **PKPdf 23 33 40.3 -0.1**
baz=295
DGMT Dagmar 120.05 37 P **PKPdf 23 33 40.4 0.0**
baz=295,SNR=6.0
TUC Tucson 120.21 57 PKIKP **PKiKP 23 33 42.5 +1.1**
TUC Tucson 120.21 57 PKPdf **PKiKP 23 33 42.5 +1.1**
TUC Tucson 120.21 57 P **PKiKP 23 33 42.2 +0.8**
baz=281
CLGH Cloghs, Cushen 120.25 331 *e*P **PKPdf 23 33 39.8 -0.8**
WME Myndd Eilian 120.29 329 *e*P **PKPdf 23 33 39.8 -0.8**
O20A White River Ci 120.33 48 P **PKiKP 23 33 42.5 +0.9**
baz=287
MCH1 Michaelchurch 120.33 327 *e*P **PKPdf 23 33 40.4 -0.4**
YLL Llanberis 120.36 329 *e*P **PKPdf 23 33 40.0 -0.8**
CAF Calviac 120.38 318 *e*PKIKP **PKiKP 23 33 41.4 +0.1**
CAF pmax pmax
comp=Z,38nm,1.0s
WLF1 Llynfaes 120.40 329 *e*P **PKPdf 23 33 40.2 -0.7**
WLF1 IAmb IAmb 23 33 41.8
comp=Z,90nm,1.0s
X18A Snowflake 120.45 54 **PKiKP 23 33 42.6 +0.7**
W18A Petrified Fore 120.49 54 P **PKiKP 23 33 42.9 +0.9**
baz=283,SNR=20
PV07 Paradox Valley 120.51 50 **PKiKP 23 33 42.9 +0.9**
YRC Rhoscolyn 120.51 329 *e*P **PKPdf 23 33 40.3 -0.8**
RJF Les Rejaudoux 120.60 319 *e*PKIKP **PKiKP 23 33 41.7 0.0**
RJF pmax pmax
comp=Z,52nm,1.4s
SFJD Kangerlussuaq 120.61 359 PKIKP **PKPdf 23 33 40.8 -0.1**
SFJD Kangerlussuaq 120.61 359 PKPdf **PKPdf 23 33 40.8 -0.1**
SFJD Kangerlussuaq 120.61 359 *e*P **PKPdf 23 33 38.5 -2.4**
K22A Casper 120.76 44 P **PKiKP 23 33 42.5 +0.2**
baz=290
K22A Casper 120.76 44 P **PKiKP 23 33 42.3 0.0**
baz=290,SNR=9.5
MTLF Montolieu 120.85 316 *e*PKIKP **PKPdf 23 33 41.8 -0.3**
MTLF pmax pmax
comp=Z,38nm,1.0s
MVCO Mesa Verde 120.95 51 P **PKiKP 23 33 44.2 +1.2**
baz=285
DY2G Dye2 121.01 357 *e*P **PKiKP 23 33 42.5 +0.4**
N23A Red Feather La 121.76 46 P **PKiKP 23 33 45.0 +0.5**
baz=289
LPIG La Paz 121.85 66 PKP **PKiKP 23 33 45.2 +0.5**
comp=Z,18nm,0.3s,baz=205,slow=6.1,SNR=4.6
RSSD Black Hills 121.92 42 PKIKP **PKPdf 23 33 44.3 -0.2**
RSSD Black Hills 121.92 42 PKPdf **PKPdf 23 33 44.3 -0.2**
RSSD Black Hills 121.92 42 P **PKiKP 23 33 44.6 0.0**
baz=293
RSSD Black Hills 121.92 42 P **PKPdf 23 33 44.1 -0.3**
baz=293
S22A 4UR Ranch, Cre 122.08 50 P **PKiKP 23 33 46.7 +1.5**
baz=287,SNR=54
ISCO Idaho Springs 122.35 47 P **PKiKP 23 33 46.3 +0.6**
baz=289
ISCO Idaho Springs 122.35 47 P **PKiKP 23 33 46.0 +0.3**
baz=289
121A Cookes Peak, D 122.65 56 P **PKiKP 23 33 47.5 +1.2**
baz=283
121A Cookes Peak, D 122.65 56 P **PKiKP 23 33 47.5 +1.2**
baz=283,SNR=28
ETSF Etsaut 122.90 317 *e*PKIKP **PKiKP 23 33 46.7 +0.3**
ETSF pmax pmax
comp=Z,37nm,1.2s
Q24A Divide 122.96 48 P **PKiKP 23 33 47.1 +0.1**
baz=289,SNR=8.8
Y22A Socorro 122.99 54 P **PKiKP 23 33 48.1 +1.1**
baz=284
Y22D IRIS PASSCAL I 122.99 54 P **PKiKP 23 33 47.9 +1.0**
baz=285
E28A Huff 123.02 38 P **PKiKP 23 33 46.8 +0.4**
baz=297
MDND Maddock 123.07 36 P **PKiKP 23 33 46.7 +0.2**
baz=299
MDND Maddock 123.07 36 P **PKPdf 23 33 46.0 -0.3**
baz=299
SDCO Great Sand Dun 123.08 50 P **PKPdf 23 33 46.4 -0.6**
baz=288
SDCO Great Sand Dun 123.08 50 P **PKiKP 23 33 48.1 +0.9**
baz=288,SNR=19
ANMO Albuquerque 123.14 53 PKKPbc PKKPbc 23 43 38.7 -0.4
comp=Z,1.5nm,0.8s,baz=154,slow=8.1,SNR=2.5
ANMO Albuquerque 123.14 53 PKIKP **PKiKP 23 33 48.2 +0.9**
ANMO Albuquerque 123.14 53 PKPdf **PKiKP 23 33 48.2 +0.9**
ANMO Albuquerque 123.14 53 P **PKiKP 23 33 48.3 +1.1**
baz=285
ANMO Albuquerque 123.14 53 P **PKiKP 23 33 48.1 +0.8**
baz=285
NUUK Nuuk 123.44 360 *e*P **PKiKP 23 33 47.5 +0.8**
KIDD KIDD Seismic O 123.88 57 P **PKiKP 23 33 49.5 +0.8**
baz=283
ULM Lac du Bonnet 123.91 32 PKP **PKPdf 23 33 47.1 -0.7**
comp=Z,30nm,0.8s,baz=318,slow=3.0,SNR=26
ULM PKKPbc **PKKPab 23 43 34.6 +0.3**
comp=Z,1.4nm,0.5s,baz=152,slow=3.9,SNR=5.9
T25A Trinidad 124.09 50 P **PKiKP 23 33 49.8 +0.7**
baz=288,SNR=30
COYC Coyhaique 124.14 163 PKPdf **PKiKP 23 33 49.8 +1.1**
OGNE Ogallala 124.51 45 P **PKiKP 23 33 49.9 +0.3**
baz=293
OGNE Ogallala 124.51 45 P **PKPdf 23 33 49.2 -0.2**
baz=293
KSCO Kaye Shedlock' 124.80 47 P **PKiKP 23 33 51.1 +0.8**
baz=291
KSCO Kaye Shedlock' 124.80 47 P **PKiKP 23 33 50.4 +0.1**
baz=291
MNTX Cornudas Mount 124.83 57 P **PKiKP 23 33 50.7 +0.3**
baz=284
MNTX Cornudas Mount 124.83 57 P **PKiKP 23 33 51.1 +0.6**
baz=284,SNR=73
AGMN Agassiz Nation 124.99 34 P **PKPdf 23 33 49.3 -0.6**
baz=303
AGMN Agassiz Nation 124.99 34 P **PKPdf 23 33 49.3 -0.6**
baz=303,SNR=9.9
SUSD Miller 125.08 40 P **PKPdf 23 33 49.8 -0.4**
baz=298
CART Cartagena 125.14 311 P **PKiKP 23 33 50.8 -0.1**
K31A O'Neill 126.04 42 P **PKPdf 23 33 52.2 +0.1**
baz=297
F33A 5 Mile Ranch, 126.04 37 P **PKPdf 23 33 51.7 -0.3**
baz=301
B35A Bob, Littlefor 126.14 33 P **PKPdf 23 33 50.3 -1.8**
baz=305
NRS Narsarsuaq 126.25 356 *e*P **PKPdf 23 33 51.5 -0.4**
MSTX Muleshoe 126.33 53 P **PKiKP 23 33 53.4 -0.1**
baz=288
MSTX Muleshoe 126.33 53 P **PKPdf 23 33 53.1 +0.1**
baz=288,SNR=30
IVI Ivigtut 126.36 358 *e*P **PKPdf 23 33 50.5 -1.6**
ESDC Sonseca Array 126.53 315 PKP **PKiKP 23 33 53.6 0.0**
comp=Z,17nm,1.1s,baz=23,slow=2.7,SNR=51
ESDC PP **PP 23 35 50.8 -0.2**
comp=Z,6.4nm,1.1s,baz=53,slow=7.4,SNR=6.9
TX31 Lajitas Ar. Si 126.82 59 P **PKPdf 23 33 53.6 -0.5**
baz=284
TXAR Lajitas Array 126.82 59 PKP **PKiKP 23 33 55.2 +0.6**
comp=Z,18nm,0.9s,baz=259,slow=1.3,SNR=50
TXAR PKKPbc **PKKPbc 23 43 26.9 +2.2**
comp=Z,1.1nm,0.9s,baz=101,slow=6.5,SNR=4.9
TXAR SKKPbc SKKPbc 23 47 05.5 +4.6
comp=Z,0.5nm,0.9s,baz=134,slow=6.4,SNR=1.8
PAB San Pablo 126.85 315 PKIKP **PKiKP 23 33 55.0 +0.6**
PAB San Pablo 126.85 315 PKPdf **PKiKP 23 33 55.0 +0.6**
PAB San Pablo 126.85 315 P **PKiKP 23 33 55.3 +1.0**
ECSD EROS Data Cent 126.90 40 P **PKPdf 23 33 53.8 +0.1**
baz=299
ECSD EROS Data Cent 126.90 40 P **PKPdf 23 33 53.4 -0.4**
baz=299,SNR=26
CBKS Cedar Bluff 126.96 46 P **PKiKP 23 33 55.2 +0.7**
baz=293
CBKS Cedar Bluff 126.96 46 P **PKPdf 23 33 54.1 0.0**
baz=293,SNR=5.9
BGNE Belgrade 126.98 43 P **PKiKP 23 33 54.4 -0.1**
baz=296
BGNE Belgrade 126.98 43 P **PKPdf 23 33 53.6 -0.3**
baz=296,SNR=10.0
FIGM Figuig 127.02 305 P **PKiKP 23 33 56.0 +1.1**
TORD Torodi Ar. Bea 127.04 281 PKP **PKiKP 23 33 55.1 -0.2**
comp=Z,49nm,0.9s,baz=47,slow=1.3,SNR=142
TORD pPKP **pPKPdf 23 34 34.4 -2.1**
comp=Z,5.0nm,0.9s,baz=43,slow=0.7,SNR=1.5
TORD PKKPbc PKKPdf 23 43 22.8 -46
comp=Z,2.0nm,1.0s,baz=280,slow=2.7,SNR=5.4
TORD Torodi Ar. Bea 127.04 281 PKPdf **PKPdf 23 33 55.0 +0.2**
TAF Taforalt 127.14 308 P **PKiKP 23 33 56.1 +1.0**
TDRA Tindrara 127.38 306 P **PKiKP 23 33 57.0 +1.2**
JBK JBK 127.41 308 P **PKiKP 23 33 57.0 +1.2**
GOG Mont Gurugu 127.45 309 P **PKiKP 23 33 57.0 +1.3**
PBRG Braganca 127.51 318 *e*PKP **PKPdf 23 33 55.1 +0.1**
EYMN Ely 127.59 33 P **PKiKP 23 33 54.4 -0.5**
baz=307
EYMN Ely 127.59 33 P **PKPdf 23 33 54.8 -0.1**
baz=307,SNR=7.1
F36A Milaca 127.67 36 P **PKPdf 23 33 54.7 -0.4**
baz=304
N33B J Bar K, Exete 127.75 43 P **PKiKP 23 33 56.2 +0.1**
baz=297
R32A Long Quarter, 127.85 46 P **PKiKP 23 33 56.2 -0.1**
baz=294
MVO Moncorvo 128.00 317 *e*PKP **PKiKP 23 33 56.7 +0.1**
PALE Palemas 128.18 309 P **PKiKP 23 33 57.0 -0.1**
E38A The Farm, Brul 128.36 34 P **PKiKP 23 33 56.8 -0.2**
baz=306
PCAB Cabril 128.40 319 *e*PKP **PKiKP 23 33 58.8 +1.5**
PVRL Vila Real 128.41 318 *e*PKP **PKiKP 23 33 58.3 +0.9**
POLO Lamas de Olo 128.41 318 *e*PKP **PKiKP 23 33 58.0 +0.6**
U32A Winter Ranch, 128.43 49 **PKiKP 23 33 57.9 +0.4**
U32A Winter Ranch, 128.43 49 P **PKiKP 23 33 58.2 +0.6**
baz=292
PGAV Gavieira, Arco 128.44 319 *e*PKP **PKiKP 23 33 57.3 -0.2**
SPMN Marine on St. 128.44 36 P **PKPdf 23 33 56.6 +0.1**
baz=304
SPMN Marine on St. 128.44 36 P **PKPdf 23 33 56.7 +0.1**
baz=304,SNR=7.6
MTE Manteigas 128.70 317 *e*PKP **PKiKP 23 33 59.0 +1.0**
I37B Waseca 128.75 38 P **PKiKP 23 33 58.4 +0.5**
baz=303
PVIS Viseu 128.79 317 *e*PKP **PKiKP 23 33 58.6 +0.5**
PCBR Castelo Branco 128.91 316 *e*PKP **PKiKP 23 33 58.2 -0.1**
PLCA Paso Flores 129.01 162 PKP **PKiKP 23 33 59.5 +0.8**
comp=Z,44nm,1.0s,baz=209,slow=3.9,SNR=32
PLCA SKPbc SKPbc 23 37 04.4 +0.2
comp=Z,6.0nm,0.9s,baz=202,slow=5.4,SNR=4.8
PMRV Marv??o 129.03 316 *e*PKP **PKiKP 23 33 58.7 +0.1**
PMRV eLQ LQ 23 37 01.1
KSU1 Kansas State U 129.06 45 P **PKiKP 23 33 58.5 -0.2**
baz=296
KSU1 Kansas State U 129.06 45 P **PKPdf 23 33 58.2 +0.3**
baz=296,SNR=12
SMIR Smir Dam 129.11 310 P **PKiKP 23 33 60.0 +1.1**
WMOK Wichita Mounta 129.20 51 P **PKiKP 23 33 58.9 -0.3**
baz=291
WMOK Wichita Mounta 129.20 51 P **PKPdf 23 33 58.7 +0.3**
baz=291,SNR=11
ABTX Abilene, Hawle 129.24 54 P **PKiKP 23 34 00.1 +0.8**
baz=289
ABTX Abilene, Hawle 129.24 54 P **PKiKP 23 33 59.1 -0.2**
baz=289,SNR=12
CHEFC Chefchaouen 129.29 310 P **PKiKP 23 33 60.0 +0.6**
PBAR Barrancos 129.33 314 *e*PKP **PKiKP 23 33 59.8 +0.6**
PESTR Estremoz 129.42 315 *e*PKP **PKiKP 23 33 59.6 +0.2**
PESTR Estremoz 129.42 315 P **PKiKP 23 33 59.7 +0.2**
LCRM LCR 129.42 308 P **PKiKP 23 34 01.0 +1.2**
PCAS Casmilo, Conde 129.50 317 *e*PKP **PKiKP 23 34 00.0 +0.5**
MDT Midelt 129.51 307 SKPbc SKPbc 23 37 06.1 -0.1
comp=Z,5.8nm,1.0s,baz=68,slow=5.9,SNR=5.5
MDT Midelt 129.51 307 P **PKiKP 23 34 00.7 +0.7**
JCT Junction City 129.76 56 P **PKiKP 23 34 00.4 0.0**
baz=287
JCT Junction City 129.76 56 P **PKiKP 23 34 00.1 -0.3**
baz=287,SNR=28
PMTG Montargil 129.77 316 *e*PKP **PKPdf 23 33 58.5 -0.8**
CZD Col de Zad 129.78 307 P **PKiKP 23 34 02.0 +1.3**
G40A Rib Lake 129.91 35 P **PKPdf 23 33 59.0 -0.4**
baz=307
X34A Smith Ranch, M 129.98 51 **PKiKP 23 34 01.1 +0.4**
SCIA State Center 129.98 40 P **PKiKP 23 34 00.4 -0.1**
baz=302
SCIA State Center 129.98 40 P **PKPdf 23 33 59.4 -0.2**
baz=302
COWI Conover 130.00 33 P **PKPdf 23 33 59.4 -0.1**
baz=309
T35B Scott Cattle 130.06 47 P **PKPdf 23 33 59.9 -0.1**
baz=295
PVAQ Vaqueiros 130.14 313 *e*PKP **PKiKP 23 34 00.6 -0.3**
PVAQ eLQ LQ 23 37 05.7
GOLM Goulmima 130.15 305 P **PKiKP 23 34 03.0 +1.7**
PCVE Castro Verde 130.28 314 *e*PKP **PKiKP 23 34 01.4 +0.2**
PBDV Barranco-do-Ve 130.37 313 *e*PKP **PKiKP 23 34 02.2 +0.8**
PNCL Nicolau / Gran 130.41 315 *e*PKP **PKPdf 23 34 00.1 -0.4**
833A Chaparral WMA, 130.71 59 P **PKiKP 23 34 02.2 -0.1**
baz=286
833A Chaparral WMA, 130.71 59 P **PKiKP 23 34 02.2 -0.1**
baz=286
F42A Maple Grove Fa 130.76 33 **PKPdf 23 34 01.3 +0.4**
PTEO Sao Teotonio 130.80 314 *e*PKP **PKiKP 23 34 02.5 +0.3**
MORF Marmelete 130.86 314 *e*P **PKiKP 23 34 02.7 +0.3**
P38A Dawn 130.93 43 PKPdf **PKPdf 23 34 01.7 +0.2**
P38A Dawn 130.93 43 P **PKPdf 23 34 00.3 -1.2**
baz=300
TZRR Tazzarine 130.94 304 P **PKiKP 23 34 04.0 +1.1**
E43A Lone Tree Farm 130.97 32 **PKiKP 23 34 02.1 -0.1**
TUL1 Leonard 131.01 48 P **PKiKP 23 34 02.3 -0.4**
baz=295,SNR=13
PFVI Vila Bisbo 131.06 314 *e*PKP **PKiKP 23 34 03.9 +1.2**
L40A Anamosa 131.15 39 P **PKPdf 23 34 01.2 -0.6**
baz=304
ZGR Zagora 131.18 304 P **PKiKP 23 34 05.0 +1.6**
WHTX Lake Whitney, 131.20 54 P **PKPdf 23 34 02.4 +0.2**
baz=290
WHTX Lake Whitney, 131.20 54 P **PKPdf 23 34 02.4 +0.2**
baz=290
JFWS Jewell Farm 131.27 37 P **PKPdf 23 34 01.7 -0.3**
baz=305
JFWS Jewell Farm 131.27 37 P **PKPdf 23 34 01.3 -0.7**
baz=305
SCHQ Schefferville 131.33 11 PKP **PKPdf 23 34 01.9 +0.1**
comp=Z,21nm,0.8s,baz=12,slow=2.2,SNR=23
SCHQ SKPbc **SKPbc 23 37 11.5 -0.3**
comp=Z,43nm,0.9s,baz=356,slow=4.4,SNR=23
I42A Draeger Farm, 131.48 36 P **PKPdf 23 34 02.2 -0.2**
baz=307
435B Jarrell 131.49 55 P **PKPdf 23 34 03.2 +0.4**
baz=289
H43A Windswept, Lux 131.77 34 **PKPdf 23 34 03.4 +0.5**
X37A Clayton 131.86 50 P **PKPdf 23 34 02.4 -1.0**
baz=294
OUZM OUZ 131.87 305 P **PKiKP 23 34 06.0 +1.2**
P40A Paris 131.97 42 P **PKPdf 23 34 02.2 -1.3**
baz=301
S39A Bolivar 132.00 45 P **PKPdf 23 34 03.0 -0.6**
baz=298
L42A Oliver, Polo 132.14 38 P **PKPdf 23 34 03.4 -0.3**
baz=305
HHAR Hobbs 132.20 47 P **PKPdf 23 34 02.4 -1.6**
baz=296
SRHM Skhour des Reh 132.24 308 P **PKiKP 23 34 07.0 +1.6**
E46A Sault Ste Mari 132.34 30 P **PKPdf 23 34 03.1 -0.9**
baz=314
R40A Maddies Statio 132.44 44 P **PKPdf 23 34 04.4 0.0**
baz=300
237A Washetta, Mont 132.50 53 P **PKPdf 23 34 04.4 -0.3**
baz=291
KOWA Kowa 132.55 283 PKPpre 23 33 58.2
KOWA PKPdf **PKiKP 23 34 05.8 -0.5**
G45A Suttons Bay 132.55 32 P **PKPdf 23 34 03.3 -1.1**
baz=312
G45A P **PKPdf 23 34 03.3 -1.1**
baz=312
OUK Oukaimeden 132.66 306 P **PKiKP 23 34 07.0 +0.4**
Z38A Mt. Pleasant 132.68 51 P **PKPdf 23 34 05.5 +0.5**
baz=293
W39A Magazine 132.79 48 P **PKPdf 23 34 05.6 +0.5**
baz=296
W39A Magazine 132.79 48 P **PKPdf 23 34 05.2 0.0**
baz=296,SNR=19
I45A Fountain 132.90 34 P **PKPdf 23 34 05.4 +0.4**
baz=310
I45A P **PKPdf 23 34 05.4 +0.4**
baz=310
U40A Yellville 132.95 46 PKPdf **PKPdf 23 34 05.3 -0.1**
U40A Yellville 132.95 46 P **PKPdf 23 34 05.3 -0.1**
baz=298
U40A P **PKPdf 23 34 05.3 -0.1**
baz=298
U40A Yellville 132.95 46 P **PKPdf 23 34 05.1 -0.3**
baz=298,SNR=25
MGMO Mountain Grove 132.99 45 PKPdf **PKPdf 23 34 06.0 +0.5**
L44A Lake County Fo 133.10 37 P **PKPdf 23 34 05.7 +0.2**
baz=307
L44A Lake County Fo 133.10 37 P **PKPdf 23 34 04.9 -0.6**
baz=307
KIC Kosan Boka 133.17 272 *e*PKP1 **PKPdf 23 34 06.6 +0.1**
comp=Z,51nm,0.9s
HDIL Hopedale 133.20 39 **PKiKP 23 34 06.7 -0.3**
HDIL Hopedale 133.20 39 P **PKPdf 23 34 06.2 +0.4**
baz=304
HDIL Hopedale 133.20 39 P **PKPdf 23 34 05.3 -0.5**
baz=304
GLMI Grayling 133.24 32 **PKPdf 23 34 05.9 +0.2**
GLMI Grayling 133.24 32 P **PKPdf 23 34 05.7 0.0**
baz=313
CCM Cathedral Cave 133.26 43 PKIKP **PKPdf 23 34 05.6 -0.3**
CCM Cathedral Cave 133.26 43 PKPdf **PKPdf 23 34 05.6 -0.3**
CCM Cathedral Cave 133.26 43 P **PKPdf 23 34 05.0 -0.9**
baz=300
CCM Cathedral Cave 133.26 43 P **PKPdf 23 34 05.8 -0.2**
baz=300
DBIC Dimbokro 133.31 272 PKP **PKPdf 23 34 06.8 +0.2**
comp=Z,31nm,0.8s,baz=115,slow=2.5,SNR=22
DBIC SKPbc **SKPbc 23 37 20.6 +0.5**
comp=Z,15nm,1.0s,baz=95,slow=8.4,SNR=4.2
TTIG Tnine Tigouga, 133.35 305 P **PKiKP 23 34 09.0 +1.2**
LIC Lamto 133.45 271 *e*PKP1 **PKiKP 23 34 07.6 -0.6**
comp=Z,69nm,0.9s
TIC Toumodi 133.47 272 *e*PKP1 **PKPdf 23 34 07.1 +0.1**
NATX Nacogdoches 133.50 53 P **PKPdf 23 34 07.2 +0.6**
baz=292
P43A Skaggs, Pawnee 133.56 41 P **PKPdf 23 34 06.9 +0.5**
baz=304
FCAR Ozark Folk Cen 133.69 46 PKPdf **PKPdf 23 34 06.9 +0.1**
X40A Basin Creek Fa 133.80 49 P **PKPdf 23 34 07.1 +0.1**
baz=296,SNR=7.9
WHAR Wooly Hollow 133.85 47 PKPdf **PKPdf 23 34 06.8 -0.4**
FVM French Village 133.85 43 PKIKP **PKPdf 23 34 07.6 +0.5**
FVM French Village 133.85 43 PKPdf **PKPdf 23 34 07.6 +0.5**
W41B Gary Mavity, V 133.93 47 PKPdf **PKPdf 23 34 06.1 -1.1**
W41B Gary Mavity, V 133.93 47 P **PKPdf 23 34 05.9 -1.4**
baz=297
W41B Gary Mavity, V 133.93 47 P **PKPdf 23 34 07.2 -0.1**
baz=297
WLAR White Oak Lake 133.94 50 PKPdf **PKiKP 23 34 08.7 0.0**
UALR University of 134.04 48 PKPpre PKPpre 23 33 58.0
UALR **PKPdf 23 34 07.5 0.0**
VLDQ Val d'Or 134.11 24 PKPpre PKPpre 23 33 56.6
VLDQ PKPdf **PKPdf 23 34 06.6 -0.6**
L46A Eue Claire 134.15 36 **PKiKP 23 34 08.3 -0.6**
J47A Sunmer 134.19 34 P **PKPdf 23 34 07.0 -0.5**
baz=311
J47A P **PKPdf 23 34 07.0 -0.5**
baz=311
LCAR Lake Charles 134.30 46 PKPdf **PKPdf 23 34 07.0 -1.0**
LCAR Lake Charles 134.30 46 P **PKPdf 23 34 06.7 -1.2**
baz=299
Z41A Richland Creek 134.35 50 P **PKPdf 23 34 07.3 -0.8**
baz=295
PBMO Poplar Bluff 134.46 44 P **PKPdf 23 34 07.6 -0.6**
baz=300
SFIN Lafayette 134.67 38 P **PKPdf 23 34 08.6 +0.1**
baz=307
S44A Carbondale 134.79 43 PKPdf **PKPdf 23 34 09.5 +0.7**
SIUC Southern Illin 134.80 43 PKPdf **PKPdf 23 34 09.1 +0.3**
OLIL Olney 134.99 41 P **PKiKP 23 34 10.2 -0.4**
baz=304
BO04 La Punta 135.07 158 PKPdf **PKiKP 23 34 10.8 -0.3**
MT09 Talagante 135.12 157 PKPpre 23 34 01.4
MT09 PKPdf **PKiKP 23 34 10.8 -0.6**
N47A Urbana 135.21 37 PKPpre PKPpre 23 33 58.1
L48A N Adams 135.26 35 PKPdf **PKPdf 23 34 09.9 +0.4**
L48A N Adams 135.26 35 P **PKPdf 23 34 09.5 -0.1**
baz=311
L48A P **PKPdf 23 34 09.5 -0.1**
baz=311
LMEL Las Melosas 135.35 158 PKPpre PKPpre 23 34 00.8
AAM Ann Arbor 135.46 34 PKHKP PKPpre 23 33 59.7
AAM Ann Arbor 135.46 34 PKPpre PKPpre 23 33 59.7
MT02 Curacav 135.52 157 PKPdf **PKiKP 23 34 12.1 +0.1**
143A Socs Landing, 135.65 50 **PKiKP 23 34 11.6 -0.6**
USIN University of 135.70 41 PKPpre PKPpre 23 34 02.6
PEL Peldehue 135.80 157 PKPpre PKiKP **23 34 12.3 -0.3**
PEL Peldehue 135.80 157 PKPdf **PKiKP 23 34 12.3 -0.3**
ROC1 El Roble 135.82 157 PKPpre PKPpre 23 34 03.0
O48B Farmland 135.92 37 P **PKPdf 23 34 10.3 -0.5**
baz=309,SNR=9.8
SADO Sadowa 135.99 28 SKPbc **SKPbc 23 37 27.2 -0.5**
comp=Z,23nm,0.9s,baz=300,slow=2.2,SNR=16
SADO Sadowa 135.99 28 PKPdf **PKPdf 23 34 11.4 +0.6**
N49A Columbus Grove 136.07 36 PKPdf **PKPdf 23 34 11.7 +0.6**
W45A Hickory Valley 136.14 46 PKPpre PKPpre 23 34 03.2
W45A **PKPdf 23 34 12.2 +0.7**
W45A Hickory Valley 136.14 46 P **PKPdf 23 34 11.9 +0.5**
baz=300
VA03 San Esteban 136.19 157 PKPdf **PKiKP 23 34 12.7 -0.7**
P48A Milroy 136.25 38 PKPdf **PKPdf 23 34 11.6 +0.1**
P48A Milroy 136.25 38 P **PKPdf 23 34 11.6 +0.1**
baz=308
P48A P **PKPdf 23 34 11.6 +0.1**
baz=308
OXF Oxford 136.30 47 P **PKPdf 23 34 11.5 -0.2**
baz=299
O49A Covington 136.45 37 PKPdf **PKPdf 23 34 12.0 +0.2**
LATQ La Tuque 136.47 21 PKPpre PKPpre 23 34 03.6
Y45A Yeager Farm, C 136.51 48 PKPpre PKPpre 23 34 04.2
VBMS Vicksburg 136.53 50 P **PKPdf 23 34 12.3 +0.1**
baz=296
WVT Waverly 136.59 44 PKHKP PKPpre 23 34 03.9
WVT 23 34 12.7
WVT Waverly 136.59 44 PKPpre 23 34 03.9
WVT PKPdf **PKPdf 23 34 12.7 +0.5**
WVT Waverly 136.59 44 P **PKPdf 23 34 11.8 -0.4**
baz=302
P49A Miami Univ. Ec 136.63 38 P **PKPdf 23 34 12.2 0.0**
baz=309
P49A Miami Univ. Ec 136.63 38 P **PKPdf 23 34 12.1 -0.1**
baz=309,SNR=6.4
344A Westbrook Farm 136.70 51 PKPdf **PKiKP 23 34 14.6 +0.2**
TRQ Mont Tremblant 136.80 23 PKPpre PKPpre 23 34 05.1
PLAL Pickwick Lake 137.02 45 **PKPdf 23 34 12.6 -0.4**
CMIG Matias Romero 137.04 73 PKP **PKPdf 23 34 13.6 +0.1**
comp=Z,43nm,1.0s,baz=321,slow=2.0,SNR=36
CMIG SKPbc **SKPbc 23 37 33.5 +1.9**
comp=Z,10nm,0.9s,baz=301,slow=1.3,SNR=10
N51A Ashland 137.10 34 PKPpre PKPpre 23 34 04.7
LMQ La Malbaie 137.13 18 PKPdf **PKPdf 23 34 13.0 +0.1**
ACSO Alum Creek Sta 137.21 36 PKPdf **PKiKP 23 34 14.4 -0.8**
ACSO Alum Creek Sta 137.21 36 P **PKPdf 23 34 13.0 -0.2**
baz=311
CO02 Combarbal 137.38 156 PKPdf **PKPdf 23 34 14.9 +0.9**

V48A	Smith Brothers	137.49	44	PKPdf	PKPdf	23 34 14.3	+0.4	
ERPA	Erie	137.54	31	P	PKPdf	23 34 13.3	-0.5	
	baz=316							
ERPA	Erie	137.54	31	P	PKPdf	23 34 13.3	-0.5	
	baz=316							
PECO	Prince Edward	137.62	27	PKPdf	PKPdf	23 34 13.9	0.0	
CLTN	Cedars of Leba	137.63	43	PKPdf	PKPdf	23 34 14.5	+0.3	
R50A	Paris	137.64	39	PKPdf	PKPdf	23 34 14.5	+0.4	
P51A	Williamsport	137.65	36	PKPdf	PKPdf	23 34 14.4	+0.3	
J55A	Hilton	137.76	28	PKPdf	PKPdf	23 34 14.3	+0.1	
J55A	Hilton	137.76	28	P	PKPdf	23 34 13.5	-0.6	
	baz=320							
J55A				P	PKPdf	23 34 13.5	-0.6	
	baz=320							
U49A	Red Boiling Sp	137.76	42	PKPdf	PKPdf	23 34 14.3	-0.1	
Q51A	Peebles	137.78	37	P	PKPdf	23 34 14.3	-0.1	
	baz=310							
Q51A				P	PKPdf	23 34 14.3	-0.1	
	baz=310							
D62A	Allapoint, All	137.94	17	PKPdf	PKPdf	23 34 14.6	+0.2	
O52A	Adamsville	137.94	35	PKPdf	PKPdf	23 34 14.6	0.0	
X48A	Hartselle	138.02	45	PKPdf	PKPdf	23 34 15.2	+0.3	
N53A	Lisbon	138.02	33	PKPdf	PKPdf	23 34 15.0	+0.3	
P52A	Corning	138.09	36	PKPdf	PKPdf	23 34 15.2	+0.3	
P52A	Corning	138.09	36	P	PKPdf	23 34 14.4	-0.5	
	baz=312,SNR=5.7							
LONY	Lake Ozonia	138.11	24	PKPdf	PKPdf	23 34 15.3	+0.5	
LONY	Lake Ozonia	138.11	24	P	PKPdf	23 34 14.6	-0.2	
	baz=325							
M54A	Oil Creek Stat	138.15	32	P	PKPdf	23 34 14.7	-0.3	
	baz=316,SNR=10							
J56A	Wolcott	138.20	28	PKPdf	PKPdf	23 34 14.4	-0.6	
O53A	New Philadelph	138.20	34	PKPpre	PKPpre	23 34 06.2		
O53A					PKPdf	23 34 14.4	-0.7	
O53A	New Philadelph	138.20	34	P	PKPdf	23 34 15.0	0.0	
	baz=313							
N54A	Moraine State	138.37	32	P	PKPdf	23 34 15.1	-0.3	
	baz=316							
SWET	Sewanee	138.38	44	PKPdf	PKPdf	23 34 15.7	+0.1	
P53A	Whipple	138.62	35	PKPdf	PKiKP	23 34 17.0	-1.1	
O54A	Avella	138.71	34	PKPdf	PKPdf	23 34 16.3	+0.3	
F62A	Pittston Farm,	138.71	19	PKPpre	PKPpre	23 34 08.5		
LRAL	Lakeview Retre	138.77	47	PKPdf	PKPdf	23 34 16.9	+0.6	
LRAL	Lakeview Retre	138.77	47	P	PKPdf	23 34 16.5	+0.2	
	baz=300,SNR=9.0							
CO01	Juntas del Tor	138.83	156	PKPdf	PKPdf	23 34 14.4	-2.5	
J58A	Remsen	138.83	26	PKPdf	PKPdf	23 34 16.8	+0.6	
FPAL	Fort Paine	138.97	44	PKPdf	PKPdf	23 34 16.2	-0.5	
R53A	Hurricane	139.06	37	PKPdf	PKiKP	23 34 18.2	-0.8	
J59A	Piesco	139.08	25	PKPdf	PKPdf	23 34 17.1	+0.5	
G62A	West of Eustis	139.12	20	PKPpre	PKPpre	23 34 10.2		
TZTN	Tazewell	139.19	40	P	PKPdf	23 34 17.0	0.0	
	baz=307							
CPCT	Cooper Cave	139.20	42	PKPdf	PKPdf	23 34 17.8	+0.7	
MCWV	Mont Chateau	139.37	34		PKPpre	23 34 11.4		
MCWV				PKPdf	PKPdf	23 34 18.4	+1.1	
MCWV	Mont Chateau	139.37	34	P	PKPdf	23 34 17.5	+0.3	
	baz=315							
LCO	Las Campanas	139.42	154	PKHKP	PKPpre	23 34 10.1		
LCO						23 34 19.5		
LCO	Las Campanas	139.42	154		PKPpre	23 34 10.1		
LCO				PKPdf	PKiKP	23 34 19.5	-0.9	
BINY	Binghamton	139.44	28	PKPpre	PKPpre	23 34 09.7		
BINY	Binghamton	139.44	28	P	PKPdf	23 34 17.4	0.0	
	baz=322							
LBNH	Lisbon	139.47	22	PKHKP	PKPpre	23 34 11.3		
LBNH	Lisbon	139.47	22	PKPpre	PKPpre	23 34 11.3		
LBNH	Lisbon	139.47	22	P	PKPdf	23 34 17.7	+0.5	
	baz=329							
X51A	Calhoun	139.47	44	PKPdf	PKPdf	23 34 18.7	+1.1	
PKME	Peaks-Kenny Pk	139.49	19	P	PKPdf	23 34 17.4	+0.2	
	baz=333							
ACCN	Adirondack Com	139.50	25	PKPdf	PKPdf	23 34 18.2	+0.8	
M57A	Sunshine Farm,	139.56	30	PKPdf	PKPdf	23 34 18.0	+0.5	
TKL	Tuckaleechee C	139.58	42	SKPbc	SKPbc	23 37 38.5	+0.2	
	comp=Z,16nm,0.9s,baz=244,slow=1.3,SNR=6.5							
TKL	Tuckaleechee C	139.58	42	PKIKP	PKPdf	23 34 18.7	+1.0	
TKL	Tuckaleechee C	139.58	42	PKPdf	PKPdf	23 34 18.7	+1.0	
V52A	Sevierville	139.58	41	PKPdf	PKPdf	23 34 18.6	+0.8	
BRAL	Brewton	139.64	50	PKPdf	PKiKP	23 34 19.4	-0.9	
SSPA	Standing Stone	139.70	31		PKPpre	23 34 09.9		
SSPA				PKPdf	PKPdf	23 34 18.5	+0.7	
SSPA	Standing Stone	139.70	31	P	PKPdf	23 34 18.0	+0.2	
	baz=318							
S54A	Dingess, Beckl	139.79	37	PKPdf	PKiKP	23 34 19.7	-0.9	
W52A	Murphy	139.80	42	PKPpre	PKPpre	23 34 11.8		
250A	Grady	139.84	48	PKPdf	PKPdf	23 34 19.3	+1.0	
L59A	Walton	139.87	27	PKPdf	PKPdf	23 34 18.6	+0.4	
Z51A	Franklin	139.94	46	PKPdf	PKPdf	23 34 18.8	+0.4	
N58A	Sunbury	140.14	30	PKPdf	PKPdf	23 34 19.0	+0.5	
Q56A	Snyder Ridge,	140.16	34	PKPdf	PKPdf	23 34 19.2	+0.5	
R55A	Marlinton	140.16	35	PKPdf	PKPdf	23 34 19.2	+0.4	
V53A	Saluda	140.20	41	PKPdf	PKPdf	23 34 19.4	+0.5	
Y52A	Lilburn	140.41	44	PKPdf	PKPdf	23 34 20.2	+0.9	
P57A	Homestead Farm	140.48	32	PKPpre	PKPpre	23 34 14.5		
BG3	Lake Jocassee	140.52	42	PKPdf	PKiKP	23 34 21.1	-1.0	
N59A	State Game Lan	140.54	29	PKPdf	PKPdf	23 34 19.8	+0.4	
PAGS	Pennsylvania G	140.60	30	PKPdf	PKPdf	23 34 19.0	-0.4	
152A	Waverly Hall	140.60	46	PKPdf	PKPdf	23 34 20.5	+0.8	
L61B	Northampton	140.68	24	PKPpre	PKPpre	23 34 14.6		
L61B	Northampton	140.68	24	P	PKPdf	23 34 19.7	+0.2	
	baz=326							
K62A	Royalston	140.68	24	PKPpre	PKPpre	23 34 13.1		
BLA	Blacksburg	140.71	37	PKIKP	PKPdf	23 34 19.7	-0.1	
BLA	Blacksburg	140.71	37	PKPdf	PKPdf	23 34 19.7	-0.1	
BLA	Blacksburg	140.71	37	P	PKPdf	23 34 19.6	-0.2	
	baz=312,SNR=8.9							
GO03	Copiap	140.85	154	PKPdf	PKPdf	23 34 21.7	+1.3	
PLTB	Pedras Altas	140.91	178	PKPdf	PKPdf	23 34 20.7	+0.3	
ODNJ	Ogdensburg	140.95	28	PKPdf	PKPdf	23 34 20.1	+0.1	
MVL	Millersville	140.96	30	PKPdf	PKPdf	23 34 20.8	+0.7	
352A	Blakely	141.07	48	PKPdf	PKPdf	23 34 21.2	+0.6	
GOGA	Godfrey	141.08	44	PKIKP	PKPdf	23 34 21.3	+0.8	
GOGA	Godfrey	141.08	44	PKPdf	PKPdf	23 34 21.3	+0.8	
GOGA	Godfrey	141.08	44	P	PKPdf	23 34 20.6	+0.1	
	baz=304							
HRV	Adam Dziewonsk	141.08	23	P	PKPdf	23 34 20.6	+0.4	
	baz=328							
V55A	Taylorsville	141.10	39	PKPdf	PKiKP	23 34 22.0	-1.2	
SDMD	Soldier's Deli	141.15	31	PKPdf	PKPdf	23 34 21.0	+0.6	
PAL	Palisades	141.33	27	PKHKP	PKPpre	23 34 14.4		
PAL	Palisades	141.33	27		PKPpre	23 34 14.4		
WUPA	West Chester U	141.38	30	PKPdf	PKPdf	23 34 21.1	+0.3	
HODGE	Hodges	141.42	42	PKPdf	PKPdf	23 34 21.9	+0.8	
KMSC	Kings Mountain	141.47	40	PKPdf	PKPdf	23 34 22.1	+1.0	
KMSC	Kings Mountain	141.47	40	P	PKPdf	23 34 21.3	+0.1	
	baz=309,SNR=8.8							
T57A	Hurt	141.54	36	PKPdf	PKPdf	23 34 22.0	+0.8	
R58B	Mineral	141.65	34	PKPdf	PKPdf	23 34 21.6	+0.3	
CBN	Corbin Frederi	141.75	33	P	PKPdf	23 34 21.9	+0.3	
	baz=317							
154A	Montrose	141.78	45	PKPdf	PKPdf	23 34 23.0	+1.2	
JSC	Jenkinsville	142.05	41	PKIKP	PKPdf	23 34 23.4	+1.2	
JSC	Jenkinsville	142.05	41		PKPpre	23 34 17.6		
JSC				PKPdf	PKPdf	23 34 23.4	+1.2	
TIGA	Tifton	142.07	47		PKPpre	23 34 19.2		
TIGA				PKPdf	PKiKP	23 34 23.9	-1.4	
TIGA	Tifton	142.07	47	P	PKPdf	23 34 22.4	+0.1	
	baz=302							
M65A	Busby, Falmout	142.24	23	P	PKPdf	23 34 22.8	+0.5	
	baz=329							
BIRD	Birdtown, Kers	142.34	40	PKPdf	PKiKP	23 34 25.2	-0.6	
T59A	Double "B" Far	142.54	35	PKPdf	PKPdf	23 34 23.6	+0.6	
MTO3	Montecristo	142.65	76		PKPpre	23 34 20.0		
MTO3				PKPdf	PKPdf	23 34 22.4	-1.6	
ITQB	Itaqui	142.75	173	PKPdf	PKPdf	23 34 21.0	-2.6	
Y57A	Sumter	142.78	41		PKPpre	23 34 20.1		
Y57A				PKPdf	PKPdf	23 34 24.9	+1.4	
Y60A	Bolivia	144.17	39	PKPdf	PKPbc	23 34 24.5	0.0	
TGUH	Tegucigalpa,Un	144.70	76	eP	PKPdf	23 34 27.3	-0.2	
DWPF	Disney Wildern	145.40	50		PKPab	23 34 28.9	+0.1	
DWPF	Disney Wildern	145.40	50	P	PKPab	23 34 29.0	+0.1	
	baz=301							
LVC	Limon Verde	145.74	151	PKPbc	PKPab	23 34 32.0	+1.4	
	comp=Z,143nm,0.8s,baz=245,slow=2.2,SNR=98							
LVC	Limon Verde	145.74	151		PKPab	23 34 31.9	+1.2	
CPUP	Villa Florida	145.94	171	PKPbc	PKPbc	23 34 30.2	+0.1	
	comp=Z,174nm,1.0s,baz=193,slow=2.0,SNR=191							
CAO2	Cobano, Puntar	147.12	84		PKPbc	23 34 33.4	-0.6	
CAO2				PKPab	PKiKP	23 34 36.4	+0.2	
JTS	Las Juntas de	147.25	83	PKPbc	PKPab	23 34 35.5	-1.0	
	comp=Z,249nm,0.8s,baz=16,slow=1.4,SNR=54							
JTS	Las Juntas de	147.25	83	PKIKP	PKPdf	23 34 32.4	+0.6	
JTS	Las Juntas de	147.25	83	eP	PKPdf	23 34 32.0	+0.2	
JACO	JACO, Garabito	147.56	84		PKPbc	23 34 34.6	-0.5	
JACO				PKPab	PKPab	23 34 38.2	+0.5	
PB11	IPOC Station P	147.75	147	PKPab	PKiKP	23 34 37.3	-0.3	
GO01	Chusmiza	148.07	148	PKPab	PKiKP	23 34 39.0	+0.4	
HDC	Heredia	148.09	83	PKPdf	PKPdf	23 34 34.3	+1.0	
HDC					PKiKP	23 34 39.0	+0.6	
PEZE	Perez Zeledon,	148.53	84	PKPab	PKPab	23 34 40.5	-1.2	
NNA	Nana	148.54	128	PKPbc	PKPdf	23 34 35.5	+1.6	
	comp=Z,263nm,0.9s,baz=260,slow=4.3,SNR=12							
NNA	Nana	148.54	128		PKPdf	23 34 35.5	+1.6	
NNA				PKPab	PKiKP	23 34 39.6	+0.4	
BATAN	Batan	148.81	83		PKPbc	23 34 36.6	-1.7	
DRK0	Durika	148.96	85	PKPab	PKiKP	23 34 41.2	+1.0	
PB16	IPOC Station P	148.99	146	PKPab	PKiKP	23 34 41.1	+0.5	
CDITO	Canoas	149.33	86	PKPab	PKiKP	23 34 42.5	+1.7	
BRU2	Volcan	149.51	85	PKPab	PKiKP	23 34 42.9	+1.6	
BRU2	Volcan	149.51	85	eP	PKPdf	23 34 36.7	+1.0	
RCLB	Rio Claro- Sao	149.94	188	eP	PKPdf	23 34 36.1	+0.1	
PRVC	Isla de Provid	150.48	76	eP	PKPdf	23 34 37.7	+0.8	
LPAZ	La Paz	151.41	146	PKP	PKPdf	23 34 40.5	+1.4	
	comp=Z,38nm,1.1s,baz=356,slow=0.6,SNR=53							
LPAZ				PKPbc	PKiKP	23 34 46.5	+0.7	
	comp=Z,136nm,0.9s,baz=86,slow=1.9,SNR=80							
LPAZ	La Paz	151.41	146	eP	PKPdf	23 34 40.6	+1.4	
PAC1	Pacto, Paraso	152.25	104	eP	PKPdf	23 34 40.6	+0.7	
OTAV	Otavalo	152.57	104	eP	PKPdf	23 34 41.6	+0.8	
UPA	Univ. de Panam	152.63	85	eP	PKPdf	23 34 39.7	-0.5	
MTDJ	Mount Denham	152.89	64	PKPdf	PKPdf	23 34 40.8	+0.2	
MTDJ				PKPbc	PKPbc	23 34 47.8	-0.1	
MTDJ	Mount Denham	152.89	64	eP	PKPdf	23 34 40.5	0.0	
GCUF	Volcan Galeras	153.90	103	eP	PKPdf	23 34 44.0	+1.3	
PTAC	Punta Ardita,	154.32	89	eP	PKPdf	23 34 43.2	+0.6	
SOTA	Rioblanco	154.83	101	eP	PKPdf	23 34 44.7	+0.7	
POPC	Popayan, Colom	154.85	100	eP	PKPdf	23 34 43.1	-0.6	
SIV	San Ignacio	154.94	159	PKP	PKPdf	23 34 44.5	+1.0	
	comp=Z,24nm,0.9s,baz=229,slow=1.2,SNR=32							
SIV				PKPbc	PKiKP	23 34 53.2	+0.9	
	comp=Z,28nm,0.9s,baz=220,slow=3.2,SNR=18							
SIV				PKPab	PKPab	23 35 09.6	+1.5	
	comp=Z,36nm,0.8s,baz=211,slow=3.9,SNR=14							
PCON	Cinco Dias	155.08	101	eP	PKPdf	23 34 44.9	+0.5	
YOTC	Yotoco, Valle	155.45	97	eP	PKPdf	23 34 44.0	-0.3	
MARP	Paez Belalcaza	155.62	100	eP	PKPdf	23 34 45.6	+0.8	
PLMC	San Jos del P	155.64	95	eP	PKPdf	23 34 44.6	+0.1	
DBBC	Dabeiba	155.90	90	eP	PKPdf	23 34 45.2	+0.3	
GARC	Garzon, Huila	155.93	102	eP	PKPdf	23 34 46.0	+0.8	
CBOC	Ciudad Bolivar	156.01	92	eP	PKPdf	23 34 45.4	+0.3	
PTLC	Puerto Leguiza	156.05	107	eP	PKPdf	23 34 44.7	-0.4	
BETC	Betania	156.09	100	eP	PKPab	23 35 16.3	+2.8	
ANIL	Santa Ana	156.45	96	eP	PKPdf	23 34 46.3	+0.4	
ORTC	Ortega, Tolima	156.51	97	eP	PKPdf	23 34 45.6	0.0	
HELC	Santa Helena	156.52	92	eP	PKPdf	23 34 46.1	+0.1	
GUY2C	Guyana, Caldas	156.59	94	eP	PKPdf	23 34 45.8	-0.5	
UREC	San Jos de Ur	156.59	88	eP	PKPdf	23 34 45.7	0.0	
BDFB	Brasilia	156.66	190	PKP	PKPdf	23 34 46.7	+0.8	
	comp=Z,21nm,1.0s,baz=73,slow=1.2,SNR=23							
BDFB				PKPab	PKPab	23 35 17.0	+1.5	
	comp=Z,36nm,0.9s,baz=113,slow=2.4,SNR=12							
GRTK	Grand Turk	156.81	51		PKPab	23 35 16.9	+0.8	
SJCC	San Jacinto, C	156.89	82	eP	PKPdf	23 34 47.1	+1.0	
NORC	Norcasia	157.12	93	eP	PKPdf	23 34 46.3	-0.2	
ZARC	Zaragoza, Cauc	157.25	89		PKPab	23 35 20.1	+1.7	
ZARC	Zaragoza, Cauc	157.25	89	eP	PKPdf	23 34 46.6	+0.1	
MACC	Macarena, Meta	157.51	103	eP	PKPdf	23 34 47.1	+0.2	
ROSC	El Rosal	157.57	96	PKP	PKPdf	23 34 48.5	+1.0	
	comp=Z,38nm,0.8s,baz=133,slow=3.3,SNR=22							
ROSC				PKPab	PKPab	23 35 21.9	+1.7	
	comp=Z,52nm,0.8s,baz=32,slow=4.4,SNR=11							
ROSC	El Rosal	157.57	96	eP	PKPdf	23 34 47.9	+0.5	
PTBC	PUERTO BERRIO	157.61	91	eP	PKPdf	23 34 46.2	-0.8	
SMRC	Santa Marta, M	157.69	79	eP	PKPdf	23 34 47.3	+0.2	
SPBC	San Pablo de B	157.91	93	eP	PKPdf	23 34 47.3	-0.2	
SDDR	Presa de Saban	158.00	57		PKPab	23 35 22.1	+0.7	
SDDR	Presa de Saban	158.00	57	eP	PKPdf	23 34 47.5	+0.1	
VILC	Villavicencio,	158.07	98	eP	PKPdf	23 34 47.7	0.0	
CHIC	Chingaza	158.12	96	eP	PKPdf	23 34 48.0	-0.2	
TBTG	Tabatinga, AM	158.61	122	eP	PKPdf	23 34 48.4	+0.2	
LL6C	La Loma 6 Bece	158.77	83	eP	PKPdf	23 34 48.6	+0.2	
OCAC	Ocana	158.79	87	eP	PKPdf	23 34 48.9	+0.3	
BARC	Barichara	158.88	91	eP	PKPdf	23 34 48.2	-0.6	
RUSC	La Rusia	158.92	93	eP	PKPdf	23 34 48.8	-0.4	
RCBR	Riachuelo	159.24	231	PKP	PKPdf	23 34 50.2	+1.2	
	comp=Z,14nm,0.9s,baz=54,slow=1.7,SNR=5.2							
RCBR				PKPab	pPKPdf	23 35 29.2	-1.8	
	comp=Z,58nm,1.0s,baz=284,slow=5.9,SNR=12							
PAMC	Pamplona, Colo	159.39	89	eP	PKPdf	23 34 49.9	+0.2	
PTGC	Puerto Gaitan,	159.62	98	eP	PKPdf	23 34 48.2	-1.2	
URIC	Uribia, Colomb	159.78	77	eP	PKPdf	23 34 49.5	0.0	
TAMC	Tame, Arauca	160.24	92	eP	PKPdf	23 34 50.0	-0.1	
DABV	Dabajuro	161.22	78	eP	PKPdf	23 34 49.6	-1.4	
SOCV	Socops	161.22	86	eP	PKPdf	23 34 51.0	-0.1	
SDV	Santo Domingo	161.42	85	PKP	PKPdf	23 34 51.6	0.0	
	comp=Z,65nm,0.9s,baz=191,slow=0.5,SNR=12							
SDV	Santo Domingo	161.42	85	eP	PKPdf	23 34 51.5	0.0	
CRPR	Cabo Rojo, PR	161.90	53		PKPab	23 35 38.4	+0.1	
MLPR	Magueyes Islan	161.97	53	PKPdf	PKPdf	23 34 51.3	-0.4	
MLPR				PKPab	PKPab	23 35 38.2	-0.4	
CELP	Cerrillos	162.28	52		PKPdf	23 34 52.2	+0.1	
CELP					PKPab	23 35 40.4	+0.3	
GCPR	Guaynabo City	162.53	51		PKPab	23 35 41.3	+0.2	
ELOV	Elorza	162.57	91	eP	PKPdf	23 34 53.2	+0.7	
SJG	San Juan	162.59	51	PKP	PKPdf	23 34 51.6	-0.8	
	comp=Z,51nm,0.9s,baz=14,slow=2.4,SNR=22							
SJG				PKPab	PKPab	23 35 41.7	+0.3	
	comp=Z,82nm,0.9s,baz=333,slow=4.1,SNR=12							
SJG	San Juan	162.59	51		PKPdf	23 34 52.1	-0.3	
SJG					PKPab	23 35 41.6	+0.3	
SJG	San Juan	162.59	51	eP	PKPdf	23 34 51.8	-0.5	
CBYP	Canovanas	162.73	50		PKPab	23 35 41.8	-0.2	
PDPR	Patillas Dam,	162.75	51		PKPdf	23 34 51.8	-0.7	
PDPR				PKPab	PKPab	23 35 41.8	-0.2	
MTP	Monte Pirata	163.06	50	PKPab	PKPab	23 35 43.5	+0.1	
CUPR	Culebra, Puert	163.14	49	PKPab	PKPab	23 35 42.6	-1.1	
STVI	Saint Thomas	163.36	48		PKPdf	23 34 51.7	-1.4	
STVI				PKPab	PKPab	23 35 44.2	-0.5	
CDVI	St. Croix	163.87	50		PKPab	23 35 47.2	+0.3	
CBE	Ff, Capester	167.27	47	PKPdf	PKPdf	23 34 55.8	-0.7	
GDSD	La Dsirade Is	167.50	45	PKPab	PKPab	23 36 02.2	-0.7	
MAGL	Barre de l'ile	167.58	47	pPKPdf	pPKPdf	23 35 28.2	-10	
MAGL				PKPab	PKPab	23 36 02.6	-0.8	
MPOM	Morne Pois Mar	168.85	51		PKPdf	23 34 56.7	-0.8	
SVB	Belmont	169.19	57		PKPab	23 36 10.6	0.0	
MCLT	Moule a Chique	169.21	55	PKPdf	PKPdf	23 34 57.4	-0.3	
MDP	Montagnes des	177.49	163	PKP	PKPdf	23 35 00.4	-0.6	
	comp=Z,48nm,1.0s,baz=182,slow=1.1,SNR=10							
MDP				PKPab	PKPab	23 36 47.7	+0.6	
	comp=Z,15nm,0.9s,baz=354,slow=19,SNR=4.4							

NEIC **14** *23:24:01.2*±*2.9, 2.°00*S±*0.°06*×*77.°70*W±*0.°08, h170*km±*7km, mb4.3/13 Error ellipse: s-maj=11.3km s-min=8.1km az=87.0*

VAO **14** *23:24:03.2*±*0.5, 1.°89*S×*77.°51*W*, h170*km*, *mb4.1*

IDC **14** *23:24:04.4*±*2.5, 1.°84*S×*77.°47*W, h184*km±*24*km, *mb3.7/11, mb1 3.8/15, mb1mx3.5/46, mbtmp4.2/15, Error ellipse: s-maj=24.9km s-min=12.5km az=89.0*

ISC 14 23:24:00.5±0.5, **1.°93**S±0.°05×**77.°62W**±0.°06, **h150**km, **n97,** σ1**°66**/96, **mb4.0**/17, **Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	San Juan Bosco	1.49	216	Pn	Pn	23 24 31.3	+1.1
BOSC				Sn	Sn	23 24 54.7	+1.7
OTAV	Otavalo	2.31	339		Pn	23 24 41.8	+2.0
OTAV				Sn	Sn	23 25 13.8	+3.8
OTAV	Otavalo	2.31	339	eP	Pn	23 24 42.2	+2.4
OTAV	Otavalo	2.31	339	eP	Pn	23 24 42.1	+2.2
PAC1	Pacto, Paraso	2.48	332	eP	Pn	23 24 44.3	+2.7
TULM	Tulcn-Chalpat	2.64	356		Pn	23 24 47.1	+3.3
TULM	Tulcn-Chalpat	2.64	356	eP	Pn	23 24 47.7	+3.9
ARNL	Arenillas	2.92	237		Pn	23 24 45.8	-1.1
ARNL				Sn	Sn	23 25 22.0	-0.8
GCUF	Volcan Galeras	3.15	5	eP	Pn	23 24 40.4	-10
MCRA	Macar, Loja	3.36	224	Pn	Pn	23 24 51.0	-1.6
PTLC	Puerto Leguiza	3.51	54	eP	Pn	23 24 52.9	-1.6
CRUC	La Cruz	3.54	11	eP	Pn	23 24 58.2	+3.0
SOTA	Rioblanco	4.17	14	eP	Pn	23 25 06.5	+3.0
PCON	Cinco Dias	4.41	16	eP	Pn	23 25 09.8	+3.1
POPC	Popayan, Colom	4.54	12	eP	Pn	23 25 10.8	+2.6
GARC	Garzon, Huila	4.61	28	eP	Pn	23 25 10.5	+1.4
MARP	Paez Belalcaza	5.03	19	eP	Pn	23 25 17.6	+2.9
MACC	Macarena, Meta	5.54	43	eP	Pn	23 25 21.9	+0.7
YOTC	Yotoco, Valle	6.01	12	eP	Pn	23 25 27.2	-0.4
ORTC	Ortega, Tolima	6.27	22	eP	Pn	23 25 33.1	+2.2
ANIL	Santa Ana	6.75	19	eP	Pn	23 25 38.2	+0.5
PLMC	San Jos del P	6.92	11	eP	Pn	23 25 38.6	-1.1
VILC	Villavicencio,	7.17	33	eP	Pn	23 25 45.9	+2.8
GUY2C	Guyana, Caldas	7.46	18	eP	Pn	23 25 46.8	-0.4
ROSC	El Rosal	7.49	26	P	Pn	23 25 50.9	+3.3
	2.0nm,0.3s,baz=133,slow=23,SNR=1.7						
ROSC	El Rosal	7.49	26	Pn	Pn	23 25 48.3	+0.7
CZSB	Cruzeiro do Su	7.56	140	eP	Pn	23 25 49.2	+1.0
CHIC	Chingaza	7.59	31	eP	Pn	23 25 51.9	+2.9
CBOC	Ciudad Bolivar	7.91	12	eP	Pn	23 25 52.6	-0.4
NORC	Norcasia	7.94	20	eP	Pn	23 25 52.9	-0.4
SPBC	San Pablo de B	8.33	25	eP	Pn	23 25 58.8	+0.4
RUSC	La Rusia	9.00	30	eP	Pn	23 26 09.6	+1.8
DBBC	Dabeiba	9.00	9	eP	Pn	23 26 10.4	+2.9
BARC	Barichara	9.56	28	eP	Pn	23 26 18.6	+3.7
ZARC	Zaragoza, Cauc	9.76	16	Pn	Pn	23 26 16.8	-0.7
ZARC	Zaragoza, Cauc	9.76	16	eP	Pn	23 26 18.3	+0.9
UREC	San Jos de Ur	9.84	12	eP	Pn	23 26 20.8	+2.2
NNA	Nana	10.02	176	P	Pn	23 26 24.4	+3.5
	3.8nm,0.3s,baz=340,slow=12,SNR=5.4						
NNA				S	Sn	23 28 01.9	-10
	4.8nm,0.3s,baz=271,slow=12,SNR=4.2						
NNA	Nana	10.02	176	Pn	Pn	23 26 21.0	+0.1
BCIP	Isla Barro Col	11.24	349	Pn	Pn	23 26 38.8	+1.7
SJCC	San Jacinto, C	12.00	12	Pn	Pn	23 26 44.9	-2.1
SJCC	San Jacinto, C	12.00	12	eP	Pn	23 26 41.1	-5.9
ELOV	Elorza	12.03	42	eP	Pn	23 26 47.6

*IDC **14** 23:28:24.5±1.2,41.01S×91.35W,h0km,mb4.2/6, mb1 4.3/7,mb1mx4.0/41,mbtmp4.1/7,ML3.6/1,Error ellipse: s-maj=40.7km s-min=28.9km az=91.0*

ISC 14 23:28:26.1±1.2,**41.0S**±0.2×**91.4W**±0.2,**h10**km,**n13**, σ0.88/7,**mb4.1/6,Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.23**	**58**	T	T	23 43 58.6	
	baz=233,SNR=476						
H03S1	**Juan Fernandez**	**12.24**	**58**	T	T	23 43 59.8	
	baz=233,SNR=395						
H03S3	**Juan Fernandez**	**12.25**	**58**	T	T	23 44 01.1	
	baz=233,SNR=327						
H03N3	**Juan Fernandez**	**12.48**	**57**	T	T	23 44 15.2	
	baz=230,slow=71,SNR=758						
H03N2	**Juan Fernandez**	**12.49**	**57**	T	T	23 44 14.4	
	baz=230,slow=71,SNR=3304						
H03N1	**Juan Fernandez**	**12.50**	**57**	T	T	23 44 15.1	
	baz=230,slow=71,SNR=2894						
PLCA	**Paso Flores**	**15.79**	**96**	Pn	**Pn**	**23 32 09.1**	**+0.6**
	0.1nm,0.3s,baz=265,slow=11,SNR=4.2						
LVC	**Limon Verde**	**26.38**	**53**	P	**P**	**23 34 01.7**	**-1.2**
	5.3nm,0.7s,baz=236,slow=7.6,SNR=6.0						
QSPA	**South Pole Qui**	**49.22**	**180**	P	**P**	**23 37 14.1**	**-0.3**
	2.7nm,0.9s,baz=121,slow=10,SNR=7.4						
TXAR	**Lajitas Array**	**70.90**	**349**	P	**P**	**23 39 43.2**	**-0.1**
	0.8nm,0.9s,baz=172,slow=8.2,SNR=2.5						
ANMO	**Albuquerque**	**76.84**	**347**	P	**P**	**23 40 18.9**	**+0.8**
	0.8nm,0.7s,baz=180,slow=3.0,SNR=1.6						
PDAR	**Pinedale Array**	**84.99**	**347**	P	**P**	**23 41 01.3**	**-0.1**
	0.6nm,0.7s,baz=145,slow=5.4,SNR=5.4						
SCHQ	**Schefferville**	**97.76**	**14**	P	**P**	**23 42 01.5**	**+0.8**
	1.1nm,0.7s,baz=245,slow=4.3,SNR=1.3						

*IDC **15** 00:02:36.2±1.1,32.84N×131.56E,h0km,mb3.6/6, mb1 3.7/7,mb1mx3.3/61,mbtmp3.6/7,ML3.2/1,Error ellipse: s-maj=28.3km s-min=10.7km az=28.0*
*JMA **15** 00:02:41.3,32.70N×130.74E,h13km±1km,M3.7*
JMA Felt III J1.

ISC 15 00:02:41.6±0.9,**32.71N**±0.05×**130.8E**±0.1,**h10**km,**n12**, σ0.76/12,**mb3.7/6,2C,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.17**	**171**	↑↑P	**Pg**	**00 02 45.2**	**0.0**
JIU3				S	**Sg**	**00 02 48.1**	**+0.4**
JTA	**Tamana**	**0.33**	**320**	↑↑P	**Pg**	**00 02 48.0**	**-0.2**
JTA				S	**Sg**	**00 02 52.7**	**+0.2**
JNU	**Nakatsue**	**0.42**	**11**	Pg	**Pg**	**00 02 49.8**	**0.0**
	250nm,0.3s,baz=283,slow=2.4,SNR=170						
JNU				Lg	Lg	00 02 56.0	
	1μm,0.3s,baz=38,slow=17,SNR=50						
KSRS	**Korea Array**	**5.28**	**334**	Pg	**Pb**	**00 04 14.9**	**+0.9**
	0.9nm,0.3s,baz=152,slow=16,SNR=11						
KSRS				Lg	Lg	00 05 26.6	
	1.7nm,0.3s,baz=153,slow=31,SNR=6.9						
JOW	**Kunigami**	**6.25**	**201**	Pn	**Pn**	**00 04 14.1**	**+0.1**
	1.2nm,0.3s,baz=64,slow=19,SNR=2.4						
KLR	**Kul'dur**	**16.52**	**2**	Pn	**Pn**	**00 06 33.7**	**+0.4**
	0.1nm,0.3s,baz=248,slow=22,SNR=1.4						
SONM	**Songino Array**	**23.83**	**316**	P	**P**	**00 07 54.1**	**-0.7**
	2.2nm,0.6s,baz=141,slow=9.3,SNR=2.4						
MKAR	**Makanchi Array**	**39.22**	**306**	P	**P**	**00 10 10.8**	**+0.7**
	0.3nm,0.6s,baz=88,slow=8.8,SNR=2.7						
BVAR	**Borovoye Array**	**47.14**	**314**	P	**P**	**00 11 13.9**	**0.0**
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**52.47**	**176**	P	P	00 11 50.5	-4.2
	0.5nm,1.0s,baz=356,slow=8.0,SNR=2.3						
FINES	**FINESS Array B**	**68.35**	**330**	P	**P**	**00 13 41.2**	**-1.7**
	0.6nm,0.4s,baz=74,slow=6.8,SNR=10						
YKA	**Yellowknife Ar**	**71.74**	**26**	P	P	00 13 55.5	-8.1
	0.1nm,0.5s,baz=300,slow=6.8,SNR=2.4						

*IDC **15** 00:03:43.4±0.8,14.28S×166.61E,h0km,mb4.2/10, mb1 4.4/12,mb1mx4.1/38,mbtmp4.2/12,ML4.5/2,Error ellipse: s-maj=25.9km s-min=18.7km az=109.0*
*NOU **15** 00:03:46.8,14.35S×166.46E,h0km,MLv4.9/11,Vanuatu Islands*
*NEIC **15** 00:03:47.3±2.0,14.26S±0.07×166.55E±0.09,h17km±4km, mb4.6/33,Error ellipse: s-maj=14.4km s-min=7.7km az=56.0*

ISC 15 00:03:45.4±0.5,**14.23S**±0.06×**166.57E**±0.08,**h10**km,**n65**, σ1.9/17/66,**mb4.5/26,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.36**	**153**	Pn	**Pn**	**00 04 10.2**	**-0.3**
SANVU				Sn	**Sb**	**00 04 28.9**	**+0.5**
SANVU	**Saraoutou**	**1.36**	**153**	P	**Pn**	**00 04 10.4**	**0.0**
DVP	**Devils Point**	**3.81**	**156**	P	**Pn**	**00 04 46.4**	**+2.2**
LIFNC	**LIFOU**	**6.55**	**174**	Pn	**Pn**	**00 05 21.4**	**-0.3**
KOUNC	**Koumac, New Ca**	**6.65**	**199**		**Pn**	**00 05 24.0**	**+0.7**
KOUNC				Sn	**Sn**	**00 06 37.5**	**-1.7**
KOUNC	**Koumac, New Ca**	**6.65**	**199**	P	**Pn**	**00 05 24.2**	**+1.0**
MARNC	**Mare, Loyalty**	**7.35**	**169**	Pn	**Pn**	**00 05 31.3**	**-1.5**
YATNC	**Mamie plateau,**	**7.80**	**178**	P	**Pn**	**00 05 39.3**	**+0.4**
DZM	**Mont Dzumac**	**7.80**	**181**	Pn	**Pn**	**00 05 39.0**	**-0.1**
	3.2nm,0.3s,baz=333,slow=10,SNR=30						
DZM				Sn	**Sn**	**00 07 06.1**	**-1.5**
	2.6nm,0.3s,baz=316,slow=22,SNR=4.5						
DZM	**Mont Dzumac**	**7.80**	**181**	P	**Pn**	**00 05 39.0**	**-0.1**
NOUC	**Port Laguerre**	**7.84**	**182**	P	**Pn**	**00 05 40.4**	**+0.9**
HNR	**Honiara**	**8.04**	**306**	Pn	**Pn**	**00 05 43.1**	**+0.8**
	11nm,0.3s,baz=191,slow=17,SNR=1.5						
OUENC	**Ouen Island, N**	**8.15**	**178**		**Pn**	**00 05 44.9**	**+1.1**
OUENC	**Ouen Island, N**	**8.15**	**178**	P	**Pn**	**00 05 44.4**	**+0.6**
PINNC	**Pines Island,**	**8.38**	**174**		**Pn**	**00 05 47.2**	**+0.3**
EIDS	**Eidsvold**	**18.29**	**230**	P	**P**	**00 08 00.1**	**+0.6**
ARMA	**Armidale**	**21.19**	**218**	P	**P**	**00 08 31.3**	**+0.1**
PATS	**Pohnpei**	**22.47**	**338**	P	**P**	**00 08 43.6**	**-1.3**
BKZ	**Black Stump Fm**	**26.34**	**162**	P	**P**	**00 09 22.0**	**+0.4**
QRZ	**Quartz Range**	**27.01**	**170**	P	**P**	**00 09 27.4**	**-0.2**
QRZ				IAmb	IAmb	00 09 45.6	
	comp=Z,21nm,1.2s						
BFZ	**Birch Farm**	**27.68**	**164**	P	**P**	**00 09 32.7**	**-0.9**
BFZ				IAmb	IAmb	00 09 33.7	
	comp=Z,18nm,1.1s						
MSWZ	**Moikau Station**	**28.12**	**166**	P	**P**	**00 09 36.8**	**-0.8**
KHZ	**Kahutara**	**28.73**	**169**	P	**P**	**00 09 46.1**	**+3.2**
KHZ				IAmb	IAmb	00 09 54.8	
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**28.81**	**228**	P	**P**	**00 09 43.2**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=44,slow=8.0,SNR=8.9						
STKA	**Stephens Creek**	**28.81**	**228**	P	**P**	**00 09 43.7**	**-0.1**
FOZ	**Fox Glacier**	**29.34**	**175**	P	**P**	**00 09 45.9**	**-2.3**
RPZ	**Rata Peaks**	**29.64**	**173**	P	**P**	**00 09 51.4**	**+0.4**
RPZ				IAmb	IAmb	00 09 59.7	
	comp=Z,11nm,0.9s						
LBZ	**Lake Benmore**	**30.22**	**175**	P	**P**	**00 09 56.7**	**+0.6**
LBZ				IAmb	IAmb	00 10 04.5	
	comp=Z,9.2nm,1.1s						
MLZ	**Mavora Lakes**	**31.07**	**178**	P	**P**	**00 10 05.6**	**+2.0**
WR0	**Warramunga Arr**	**31.10**	**255**	P	**P**	**00 10 02.4**	**-1.9**
WB0	**Warramunga Arr**	**31.22**	**255**	P	**P**	**00 10 04.1**	**-1.2**
WB0				IAmb	IAmb	00 10 04.6	
	comp=Z,7.3nm,0.9s						
WB2	**Warramunga Arr**	**31.28**	**255**	P	**P**	**00 10 05.3**	**-0.5**
WRA	**Warramunga Arr**	**31.29**	**255**	P	**P**	**00 10 04.0**	**-1.9**
	comp=Z,2.5nm,0.9s,baz=83,slow=8.9,SNR=13						
WRA	**Warramunga Arr**	**31.29**	**255**	P	**P**	**00 10 04.7**	**-1.2**
ASAR	**Alice Springs**	**32.22**	**248**	P	**P**	**00 10 12.7**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=74,slow=9.5,SNR=34						
BBOO	**Buckleboo**	**33.35**	**231**	P	**P**	**00 10 23.2**	**-0.7**
BBOO				IAmb	IAmb	00 10 26.9	
	comp=Z,9.3nm,1.1s						
KNRA	**Kununurra**	**36.52**	**263**	P	**P**	**00 10 50.6**	**-0.7**
KNRA				IAmb	IAmb	00 10 51.2	
	comp=Z,12nm,1.0s						
FORT	**Forrest**	**38.97**	**238**	P	**P**	**00 11 11.7**	**-0.3**
FORT				IAmb	IAmb	00 11 26.7	
	comp=Z,16nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.44**	**259**	P	**P**	**00 11 14.8**	**-1.2**
MORW	**Morawa**	**48.87**	**244**	P	**P**	**00 12 31.4**	**-0.2**
GIRL	**Giralia**	**50.14**	**252**	P	**P**	**00 12 40.0**	**-1.3**
KKM	**Kota Kinabalu**	**53.85**	**289**	P	**P**	**00 13 09.4**	**+0.1**
VNDA	**Vanda**	**63.35**	**181**	P	**P**	**00 14 14.8**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=3.2,slow=6.5,SNR=6.2						
VNDA	**Vanda**	**63.35**	**181**	P	**P**	**00 14 15.4**	**+1.2**
VNDA				IAmb	IAmb	00 14 28.7	
	comp=Z,4.0nm,1.1s						
SBA	**Scott Base**	**63.63**	**180**	P	**P**	**00 14 18.0**	**+1.8**
CASY	**Casey**	**63.73**	**202**	P	**P**	**00 14 17.8**	**+0.8**
KLR	**Kul'dur**	**70.28**	**337**	P	**P**	**00 14 59.6**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=120,slow=8.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**74.12**	**294**	P	**P**	**00 15 23.4**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=123,slow=4.5,SNR=9.6						
CMAR	**Chiang Mai Arr**	**74.12**	**294**	P	**P**	**00 15 23.1**	**+0.6**
QSPA	**South Pole Qui**	**75.80**	**180**	P	**P**	**00 15 32.4**	**+0.9**
QSPA				IAmb	IAmb	00 15 39.6	
	comp=Z,9.4nm,1.1s						
J20K	**Nowinta River**	**83.73**	**16**	P	**P**	**00 16 16.2**	**+2.0**
J20K				IAmb	IAmb	00 16 27.4	
	comp=Z,3.7nm,1.0s						
RND	**Reindeer**	**84.68**	**18**	P	**P**	**00 16 19.9**	**+0.8**
H21K	**Melozitna Rive**	**85.25**	**16**	P	**P**	**00 16 23.2**	**+1.3**
H21K				IAmb	IAmb	00 16 24.1	
	comp=Z,4.3nm,1.1s						
IL31		**86.26**	**18**	IAmb	IAmb	00 16 40.7	
	comp=Z,2.1nm,0.7s						
ILAR	**Eielson Array**	**86.26**	**18**	P	**P**	**00 16 26.4**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=236,slow=5.5,SNR=13						
ILAR	**Eielson Array**	**86.26**	**18**	P	**P**	**00 16 26.8**	**-0.1**
J25K	**Salcha River,**	**86.62**	**19**	IAmb	IAmb	00 16 41.8	
	comp=Z,2.3nm,0.8s						
COLD	**Coldfoot**	**87.13**	**15**	P	**P**	**00 16 32.0**	**+0.9**
COLD				IAmb	IAmb	00 16 35.5	
	comp=Z,5.0nm,1.2s						
BELA	**Belgrano 2**	**87.27**	**176**	IAmb	IAmb	00 16 49.0	
	comp=Z,3.1nm,1.1s						
MKAR	**Makanchi Array**	**96.37**	**317**	P	**P**	**00 17 15.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=92,slow=6.7,SNR=8.0						
MKAR	**Makanchi Array**	**96.37**	**317**	P	**P**	**00 17 14.6**	**0.0**
TXAR	**Lajitas Array**	**96.64**	**62**	P	**P**	**00 17 13.9**	**-2.4**
	comp=Z,0.1nm,0.7s,baz=270,slow=6.3,SNR=2.1						
YKA	**Yellowknife Ar**	**97.42**	**27**	P	**P**	**00 17 16.9**	**-1.9**
	comp=Z,0.4nm,0.9s,baz=263,slow=4.6,SNR=5.1						
ARCES	**ARCESS Array B**	**119.60**	**345**	PKP	**PKPdf**	**00 22 34.2**	**-0.7**
	comp=Z,2.7nm,1.0s,baz=48,slow=1.8,SNR=6.5						
KEST	**Kesra**	**150.39**	**320**	PKPbc	**PKPbc**	**00 23 38.3**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=70,slow=5.7,SNR=2.4						
KEST				PKPab	**PKPab**	**00 23 44.9**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=166,slow=1.5,SNR=6.9						

*OTT **15** 00:17:40.4±0.1,50.71N×63.27W,h1km,MN3.1/14, Possible Reservoir-Triggered earthquake, La Romaine 2, Qc 58km northwest from Baie-Johan-Beetz, Qc Eastern Background Seismic Zone. Induced.*
*IDC **15** 00:17:43.7±1.6,56.47N×59.47W,h0km,mb3.3/2, mb1 3.4/3,mb1mx3.1/41,mbtmp3.2/3,ML1.6/1,MS3.6/1, Ms1 3.6/1,ms1mx3.0/54,Error ellipse: s-maj=41.8km s-min=13.4km az=161.0*

ISC 15 00:17:39.9±0.9,**50.69N**±0.04×**63.27W**±0.04,**h10**km,**n20**, σ1.9/38/34,**Eastern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATG	**Natashquan Que**	**0.50**	**144**	PG	**Pg**	**00 17 49.8**	**+0.2**
NATG				SG	**Sg**	**00 17 56.0**	**-0.1**
NATG				Trac		00 17 56.8	
	comp=Z,130nm,0.1s						
PCAQ	**Pointe Carleto**	**0.98**	**168**	PG	**Pg**	**00 17 58.8**	**0.0**
PCAQ				SG	**Sg**	**00 18 11.6**	**+0.1**
PCAQ				Trac		00 18 19.7	
	comp=Z,57nm,0.2s						
PMAQ	**Port Menier**	**1.10**	**219**	PG	**Pb**	**00 18 00.4**	**-0.6**
PMAQ				SG	**Sg**	**00 18 15.1**	**-0.1**
PMAQ				Trac		00 18 21.9	
	comp=Z,54nm,0.1s						
GAAQ	**Galiote**	**1.41**	**179**	PG	**Pn**	**00 18 06.3**	**+0.7**
GAAQ				SG	**Sn**	**00 18 24.6**	**+0.5**
GAAQ				Trac		00 18 28.6	
	comp=Z,28nm,0.1s						
SMQ	**Clarke City**	**2.25**	**259**	PN	**Pn**	**00 18 18.2**	**+1.1**
SMQ				SN	**Sn**	**00 18 46.9**	**+2.0**
SMQ				Trac		00 18 55.6	
	comp=Z,56nm,0.1s						
ICQ	**Pointe Anglais**	**2.83**	**247**	PN	**Pn**	**00 18 26.2**	**+1.1**
ICQ				SN	**Sn**	**00 19 00.9**	**+1.6**
ICQ				LG	Lg	00 19 09.6	
ICQ				Trac		00 19 15.0	
	comp=Z,89nm,0.3s						
GSQ	**Grosses Roches**	**3.06**	**236**	PN	**Pn**	**00 18 29.7**	**+1.4**
GSQ				SN	**Sn**	**00 19 06.0**	**+1.0**
GSQ				Trac		00 19 23.5	
	comp=Z,26nm,0.2s						
CNQ	**Baie Comeau**	**3.40**	**248**	PN	**Pn**	**00 18 34.6**	**+1.6**
CNQ				SN	**Sn**	**00 19 13.9**	**+0.7**
CNQ				Trac		00 19 34.9	
	comp=Z,19nm,0.2s						
BATG	**Bathurst New B**	**3.88**	**209**	PN	**Pn**	**00 18 40.6**	**+1.1**
BATG				SN	**Sn**	**00 19 25.7**	**+0.5**
BATG				Trac		00 19 27.9	
	comp=Z,1.8nm,0.0s						
DRLN	**Deer Lake**	**3.99**	**109**	PN	**Pn**	**00 18 42.2**	**+1.2**
DRLN				SN	**Sn**	**00 19 28.1**	**+0.3**
DRLN				LG	Lg	00 19 45.8	
DRLN				Trac		00 19 49.0	
	comp=Z,30nm,0.3s						
FORQ	**Forestville**	**4.26**	**245**	PN	**Pn**	**00 18 45.1**	**+0.4**
FORQ				SN	**Sn**	**00 19 34.5**	**+0.1**
FORQ				LG	Lg	00 19 53.5	
FORQ				Trac		00 20 00.3	
	comp=Z,7.7nm,0.1s						
LESQ	**Les-Escoumins**	**4.65**	**242**	SN	**Sn**	**00 19 39.5**	**-4.7**
LESQ				SN	**Sn**	**00 19 43.0**	**-1.2**
LESQ				LG	Lg	00 20 06.2	
LESQ				Trac		00 20 17.1	
	comp=Z,9.0nm,0.3s						
SVNB	**Stilesville Qu**	**4.66**	**194**	SN	**Sn**	**00 19 43.2**	**-1.1**
SCHQ	**Schefferville**	**4.68**	**334**	Pn	**Pn**	**00 18 52.4**	**+1.8**
	0.3nm,0.3s,baz=155,slow=8.8,SNR=8.1						
SCHQ				Pg	**Pb**	**00 19 00.6**	**-1.4**
	1.0nm,0.3s,baz=152,slow=12,SNR=10.0						
SCHQ				Sn	**Sn**	**00 19 43.4**	**-1.5**
	2.2nm,0.3s,baz=128,slow=6.8,SNR=5.6						
SCHQ				Lg	Lg	00 20 01.1	
	4.8nm,0.3s,baz=233,slow=17,SNR=14						
SCHQ	**Schefferville**	**4.68**	**334**	PN	**Pn**	**00 18 52.0**	**+1.4**
SCHQ				SN	**Sn**	**00 19 43.4**	**-1.5**
SCHQ				LG	Lg	00 20 05.5	
SCHQ				Trac		00 20 06.0	
	comp=Z,20nm,0.3s						
HKNB	**Havelock Quarr**	**4.92**	**197**	SN	**Sn**	**00 19 49.6**	**-1.2**
LMN	**Caledonia Moun**	**4.95**	**193**	PN	**Pn**	**00 18 55.0**	**+0.7**
LMN				SN	**Sn**	**00 19 50.1**	**-1.4**
LMN				Trac		00 19 56.1	
	comp=Z,28nm,0.7s						
SJG	**San Juan**	**32.59**	**185**	LR	LR	00 41 47.1	
	comp=Z,94nm,20.1s,baz=325,slow=37						
ILAR	**Eielson Array**	**43.32**	**322**	P	P	00 25 22.0	-20
	0.4nm,0.4s,baz=40,slow=4.9,SNR=6.9						
TORD	**Torodi Ar. Bea**	**64.11**	**101**	P	**P**	**00 28 14.1**	**-0.2**
	0.2nm,0.7s,baz=316,slow=8.0,SNR=1.1						

*IDC **15** 00:20:21.9±1.0,38.85S×176.61E,h93km±8km,mb3.9/5, mb1 4.0/7,mb1mx3.8/36,mbtmp4.2/7,MS4.0/2,Ms1 4.0/2, ms1mx3.3/51,Error ellipse: s-maj=27.4km s-min=20.4km az=145.0*
*NEIC **15** 00:20:23.2±2.5,38.83S±0.03×176.35E±0.06,h86km±6km, mb4.3/17,Error ellipse: s-maj=8.2km s-min=1.8km az=124.0*
*WEL **15** 00:20:25.0±0.4,39°S±3°×17°6E±°,h72km±5km,M4.3/72, ML4.5/72,MLv4.3/72,Error ellipse: s-maj=0.0km s-min=0.0km az=128.6*

ISC 15 00:20:23.6±0.6,**38.79S**±0.03×**176.33E**±0.03,**h100**km±4km, **n208**,σ1.9/**40**/224,**mb4.2**/12,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRHZ	**Matea Rd**	**0.08**	**122**	P	**Pn**	**00 20 36.9**	**-0.7**
MRHZ				S	**Sn**	**00 20 45.9**	**-2.3**
HATZ	**Hinemaiaia**	**0.21**	**241**	P	**Pn**	**00 20 37.5**	**-0.4**
ALRZ	**Allen Road**	**0.23**	**3**	P	**Pn**	**00 20 36.7**	**-1.2**
ALRZ				S	**Sn**	**00 20 45.9**	**-2.7**
PRRZ	**Plateau Road**	**0.29**	**10**	P	**Pn**	**00 20 37.0**	**-1.2**
WPRZ	**Whakapapataurin**	**0.30**	**334**	P	**Pn**	**00 20 37.3**	**-1.0**
WHTZ	**Whakaora**	**0.31**	**293**	P	**Pn**	**00 20 38.1**	**-0.3**
BKZ	**Black Stump Fm**	**0.40**	**161**		**Pn**	**00 20 38.8**	**0.0**
BKZ				Sn	**Sn**	**00 20 49.7**	**-0.5**
BKZ	**Black Stump Fm**	**0.40**	**161**	P	**Pn**	**00 20 39.0**	**+0.2**
HRRZ	**Handcock Road**	**0.40**	**355**	P	**Pn**	**00 20 37.7**	**-1.1**
MTHZ	**Maungataniwha**	**0.41**	**99**	P	**Pn**	**00 20 38.5**	**-0.3**
MTHZ				S	**Sn**	**00 20 49.1**	**-1.1**
RITZ	**Rihia Road**	**0.41**	**243**	P	**Pn**	**00 20 39.2**	**+0.4**
RATZ	**Rangitukua**	**0.44**	**260**	P	**Pn**	**00 20 39.0**	**-0.1**
MUGZ	**Murupara**	**0.47**	**48**	P	**Pn**	**00 20 37.8**	**-1.3**
GRRZ	**Galatos Road**	**0.47**	**339**	P	**Pn**	**00 20 38.6**	**-0.7**
WATZ	**Wairara**	**0.47**	**280**	P	**Pn**	**00 20 39.0**	**-0.2**
RRRZ	**Republican Roa**	**0.47**	**18**	P	**Pn**	**00 20 37.9**	**-1.3**
HSRZ	**Hossack Road**	**0.48**	**352**	P	**Pn**	**00 20 38.3**	**-1.0**
NMHZ	**Naumai**	**0.48**	**130**	P	**Pn**	**00 20 40.2**	**+0.8**
KUTZ	**Kaahu Road**	**0.49**	**307**	P	**Pn**	**00 20 38.9**	**-0.5**
KATZ	**Kakaramea**	**0.53**	**249**	P	**Pn**	**00 20 39.9**	**+0.2**
HLRZ	**Highlands Stat**	**0.54**	**2**	P	**Pn**	**00 20 39.0**	**-0.7**
RTZ	**Ruatahuna**	**0.54**	**71**	P	**Pn**	**00 20 39.0**	**-0.8**
RTZ				S	**Sn**	**00 20 49.7**	**-2.2**
TARZ	**Mount Tarawera**	**0.57**	**14**	P	**Pn**	**00 20 38.8**	**-1.2**
TMVZ	**Te Maari**	**0.58**	**236**	P	**Pn**	**00 20 40.8**	**+0.6**
ETVZ	**East Tongariro**	**0.59**	**234**	P	**Pn**	**00 20 40.9**	**+0.6**
NTVZ	**North Tongarir**	**0.59**	**238**	P	**Pn**	**00 20 40.7**	**+0.4**
RAHZ	**Arahi**	**0.61**	**102**	P	**Pn**	**00 20 40.5**	**+0.2**
KRVZ	**Karewarewa**	**0.61**	**240**	P	**Pn**	**00 20 40.9**	**+0.4**
UTU	**Utuhina**	**0.62**	**350**	P	**Pn**	**00 20 39.6**	**-0.8**
OTVZ	**Oturere**	**0.64**	**234**	P	**Pn**	**00 20 41.4**	**+0.8**
KWHZ	**Kaweka Forest**	**0.64**	**173**	P	**Pn**	**00 20 41.5**	**+0.9**
NNVZ	**North Ngauruho**	**0.65**	**238**	P	**Pn**	**00 20 41.5**	**+0.7**
MKRZ	**Makatiti**	**0.66**	**10**	P	**Pn**	**00 20 39.9**	**-0.8**
WTVZ	**West Tongariro**	**0.66**	**240**	P	**Pn**	**00 20 41.3**	**+0.5**
SNVZ	**South Ngauruho**	**0.67**	**233**	P	**Pn**	**00 20 41.8**	**+0.8**
OMRZ	**Omania**	**0.68**	**3**	P	**Pn**	**00 20 39.6**	**-1.3**
NGZ	**Ngauruhoe**	**0.69**	**235**	P	**Pn**	**00 20 41.8**	**+0.7**
NGRZ	**Ngongotaha**	**0.69**	**351**	P	**Pn**	**00 20 40.2**	**-0.9**
ARHZ	**Aropaoanui**	**0.70**	**132**	P	**Pn**	**00 20 42.0**	**+0.9**
TUVZ	**Tukino**	**0.71**	**227**	P	**Pn**	**00 20 42.2**	**+0.9**
MCHZ	**McNeill Hill**	**0.71**	**156**	P	**Pn**	**00 20 42.6**	**+1.5**
BHHZ	**Black Hill Sta**	**0.73**	**196**	P	**Pn**	**00 20 42.3**	**+0.9**
EDRZ	**Edgecumbe**	**0.76**	**26**	P	**Pn**	**00 20 40.1**	**-1.6**
WHVZ	**Whangaehu Hut**	**0.76**	**229**	P	**Pn**	**00 20 42.7**	**+0.9**
FWVZ	**Far West T-bar**	**0.76**	**232**	P	**Pn**	**00 20 42.5**	**+0.7**
MOVZ	**Moawhango**	**0.76**	**216**	P	**Pn**	**00 20 42.3**	**+0.7**
WHHZ	**Waihua**	**0.76**	**112**	P	**Pn**	**00 20 39.4**	**-2.2**
DRZ	**Dome Shelter**	**0.77**	**231**	P	**Pn**	**00 20 42.9**	**+0.9**
KARZ	**Kaharoa**	**0.77**	**355**	P	**Pn**	**00 20 40.6**	**-1.1**
TLZ	**Tolley Road**	**0.77**	**306**	P	**Pn**	**00 20 41.4**	**-0.3**
WNVZ	**Wahianoa**	**0.78**	**226**	P	**Pn**	**00 20 42.8**	**+0.9**
LIRZ	**Lichensteins R**	**0.79**	**3**	P	**Pn**	**00 20 40.8**	**-1.1**
SNGZ	**Shannon Statio**	**0.79**	**90**	P	**Pn**	**00 20 42.0**	**+0.1**
TRVZ	**Turoa**	**0.79**	**230**	P	**Pn**	**00 20 43.0**	**+0.8**
URZ	**Urewera**	**0.81**	**50**	P	**Pn**	**00 20 40.6**	**-1.5**
	5μm,0.3s,baz=196,slow=2.4						
URZ				S	**Sn**	**00 20 52.4**	**-3.5**
	4μm,0.3s,baz=304,slow=22,SNR=91						
URZ				LR	LR	00 21 01.2	
	comp=Z,16μm,21.8s,baz=212,slow=56						
URZ	**Urewera**	**0.81**	**50**	Pn	**Pn**	**00 20 40.8**	**-1.2**
URZ				Sn	**Sn**	**00 20 52.9**	**-3.0**
URZ	**Urewera**	**0.81**	**50**	P	**Pn**	**00 20 40.8**	**-1.2**
MARZ	**Manawahe**	**0.85**	**19**	P	**Pn**	**00 20 41.0**	**-1.4**
KRHZ	**Kereru**	**0.85**	**178**	P	**Pn**	**00 20 43.6**	**+1.0**
MTVZ	**Mangateitei**	**0.89**	**228**	P	**Pn**	**00 20 44.2**	**+1.2**
RAGZ	**Rawiri**	**0.90**	**71**	P	**Pn**	**00 20 42.5**	**-0.6**
PKVZ	**Pokaka**	**0.91**	**236**	P	**Pn**	**00 20 44.1**	**+0.9**
OPUZ	**Ohinepanea**	**0.96**	**11**	P	**Pn**	**00 20 42.1**	**-1.5**
KMRZ	**Kaimai**	**0.99**	**342**	P	**Pn**	**00 20 43.2**	**-0.8**
CKHZ	**Cape Kidnapper**	**1.05**	**146**	P	**Pn**	**00 20 45.2**	**+0.7**
MWZ	**Matawai**	**1.05**	**65**	P	**Pn**	**00 20 43.7**	**-0.8**
TGRZ	**Tauranga**	**1.06**	**357**

OUZ	**Omahuta**	**4.18**	**328**	P	**Pn**	**00 21 24.9**	**-0.3**
KHZ	**Kahutara**	**4.20**	**209**	Pn	**Pn**	**00 21 23.4**	**-1.9**
KHZ				Sn	**Sn**	**00 22 11.8**	**-1.5**
KHZ	**Kahutara**	**4.20**	**209**	P	**Pn**	**00 21 23.5**	**-1.9**
DSZ	**Denniston Nort**	**4.55**	**228**	P	**Pn**	**00 21 28.1**	**-2.0**
LTZ	**Lake Taylor**	**5.04**	**216**	Pn	**Pn**	**00 21 33.9**	**-2.9**
LTZ				Sn	**Sn**	**00 22 31.7**	**-2.0**
OXZ	**Oxford**	**5.57**	**214**	Sn	**Sn**	**00 22 42.3**	**-4.3**
MQZ	**McQueen's Vall**	**5.64**	**208**	Pn	**Pn**	**00 21 41.2**	**-3.7**
MQZ				Sn	**Sn**	**00 22 42.6**	**-5.6**
RPZ	**Rata Peaks**	**6.32**	**217**	P	**Pn**	**00 21 51.8**	**-2.3**
	5.4nm,0.3s,baz=62,slow=1.3,SNR=24						
RPZ				S	**Sn**	**00 22 59.7**	**-5.2**
	63nm,0.3s,baz=350,slow=21,SNR=56						
RPZ	**Rata Peaks**	**6.32**	**217**	Pn	**Pn**	**00 21 52.1**	**-2.1**
RPZ					**Sn**	**00 23 00.3**	**-4.7**
FOZ	**Fox Glacier**	**6.82**	**224**	Pn	**Pn**	**00 22 01.4**	**+0.5**
LBZ	**Lake Benmore**	**7.24**	**217**	Pn	**Pn**	**00 22 08.2**	**+1.6**
CTZ	**Chatham Island**	**7.26**	**135**	P	**Pn**	**00 22 07.2**	**+0.4**
ODZ	**Otahua Downs**	**7.55**	**212**	Pn	**Pn**	**00 22 12.3**	**+1.5**
WKZ	**Wanaka**	**8.13**	**220**	Pn	**Pn**	**00 22 17.4**	**-1.4**
WKZ	**Wanaka**	**8.13**	**220**	P	**Pn**	**00 22 17.4**	**-1.4**
MLZ	**Mavora Lakes**	**8.96**	**220**	Pn	**Pn**	**00 22 28.5**	**-1.6**
WHZ	**Wether Hill Ro**	**9.42**	**218**	Pn	**Pn**	**00 22 33.2**	**-3.1**
WHZ	**Wether Hill Ro**	**9.42**	**218**	P	**Pn**	**00 22 35.0**	**-1.3**
DCZ	**Deep Cove**	**9.53**	**223**	Pn	**Pn**	**00 22 36.4**	**-1.4**
PINNC	**Pines Island,**	**17.82**	**332**	P	**P**	**00 24 21.9**	**-2.6**
PINNC				IAmb	IAmb	00 24 22.4	
	comp=Z,18nm,1.0s						
OUENC	**Ouen Island, N**	**18.23**	**331**	P	**P**	**00 24 28.7**	**-0.2**
OUENC				IAmb	IAmb	00 24 36.6	
	comp=Z,13nm,1.1s						
DZM	**Mont Dzumac**	**18.69**	**330**	P	**P**	**00 24 34.9**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=221,slow=16,SNR=2.1						
DZM	**Mont Dzumac**	**18.69**	**330**	P	**P**	**00 24 33.9**	**-0.2**
TOO	**Toolangi**	**24.22**	**263**	P	**P**	**00 25 34.0**	**+3.2**
TOO				IAmb	IAmb	00 25 34.5	
	comp=Z,8.0nm,0.7s						
STKA	**Stephens Creek**	**29.04**	**273**	P	**P**	**00 26 16.2**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=104,slow=12,SNR=4.7						
BBOO	**Buckleboo**	**33.00**	**268**	P	**Pn**	**00 26 50.6**	**+1.6**
BBOO				IAmb	IAmb	00 26 51.2	
	comp=Z,5.5nm,0.7s						
AS31	**Alice Springs**	**38.92**	**280**	P	**P**	**00 27 41.1**	**+1.5**
AS31				IAmb	IAmb	00 27 42.2	
	comp=Z,3.8nm,0.6s						
ASAR	**Alice Springs**	**38.92**	**280**	P	**P**	**00 27 41.2**	**+1.5**
	comp=Z,5.5nm,0.4s,baz=115,slow=6.6,SNR=77						
ASAR				PcP	**PcP**	**00 29 46.8**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=114,slow=4.4,SNR=1.6						
ASAR	**Alice Springs**	**38.92**	**280**	P	**P**	**00 27 40.9**	**+1.2**
FORT	**Forrest**	**40.06**	**266**	P	**P**	**00 27 48.6**	**-0.4**
WR0	**Warramunga Arr**	**40.55**	**285**	P	**P**	**00 27 54.0**	**+0.9**
WB2	**Warramunga Arr**	**40.70**	**285**	P	**P**	**00 27 55.3**	**+0.9**
WRA	**Warramunga Arr**	**40.71**	**285**	P	**P**	**00 27 55.0**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=127,slow=7.3,SNR=18						
WRA	**Warramunga Arr**	**40.71**	**285**	P	**P**	**00 27 55.0**	**+0.5**
WRA	**Warramunga Arr**	**40.71**	**285**	IAmb	IAmb	00 27 56.3	
	comp=Z,0.1nm,0.7s						
WB0	**Warramunga Arr**	**40.77**	**285**	P	**P**	**00 27 55.9**	**+0.9**
WB0				IAmb	IAmb	00 28 01.9	
	comp=Z,2.8nm,0.9s						
CASY	**Casey**	**45.56**	**211**	P	**P**	**00 28 34.7**	**+1.9**
CASY				IAmb	IAmb	00 28 35.5	
	comp=Z,5.4nm,0.6s						
KNRA	**Kununurra**	**47.51**	**285**	P	**P**	**00 28 49.4**	**+0.6**
KNRA				IAmb	IAmb	00 28 50.3	
	comp=Z,8.8nm,1.0s						
MORW	**Morawa**	**50.16**	**262**	P	**P**	**00 29 09.8**	**+0.9**
PSA00	**Pilbara Seismi**	**50.97**	**273**	P	**P**	**00 29 14.8**	**-0.3**
GIRL	**Giralia**	**54.78**	**268**	P	**P**	**00 29 43.4**	**+0.3**
GUMO	**Guam**	**59.83**	**324**	LR	LR	00 53 44.9	
	comp=Z,197nm,21.8s,baz=89,slow=33						
RPN	**Rapa Nui**	**61.90**	**103**	LR	LR	00 49 47.3	
	comp=Z,72nm,21.7s,baz=190,slow=29						
SNAA	**Sanae**	**69.84**	**180**	P	**P**	**00 31 26.4**	**+3.5**
SNAA				IAmb	IAmb	00 31 28.9	
	comp=Z,3.6nm,1.1s						
KSRS	**Korea Array**	**87.99**	**323**	P	**P**	**00 33 02.2**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=141,slow=7.3,SNR=7.2						
CMAR	**Chiang Mai Arr**	**91.97**	**292**	P	**P**	**00 33 22.2**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=123,slow=3.3,SNR=1.7						
YKA	**Yellowknife Ar**	**115.02**	**29**	PKP	**PKPdf**	**00 38 50.5**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=245,slow=1.8,SNR=2.1						
KBZ	**Khabaz**	**145.01**	**293**	PKPbc	**PKPbc**	**00 39 47.0**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=154,slow=4.7,SNR=5.8						
ARCES	**ARCESS Array B**	**145.49**	**342**	PKPbc	**PKPdf**	**00 39 48.5**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=46,slow=4.8,SNR=17						
FINES	**FINESS Array B**	**150.83**	**331**	PKPbc	**PKPbc**	**00 40 02.5**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=26,slow=3.2,SNR=10						
FINES				PKPab	**PKPab**	**00 40 09.0**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=66,slow=5.6,SNR=7.8						
BRTR	**Keskin Array B**	**151.22**	**284**	PKPbc	**PKPbc**	**00 40 04.3**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=132,slow=4.1,SNR=1.8						
TORD	**Torodi Ar. Bea**	**154.02**	**192**	PKPbc	**PKiKP**	**00 40 12.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=152,slow=2.6,SNR=9.2						
TORD				PKPab	**PKPab**	**00 40 24.1**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=174,slow=3.3,SNR=3.7						

*OMAN **15** 00:21:58.9±0.4,31°.55N×63°.73E,h183km±12km, mb4.2/8, Error ellipse: s-maj=95.1km s-min=1.3km az=322.0*
*TEH **15** 00:23:23.5,27°.19N×54°.53E,h6km, ML3.4*
*DSN **15** 00:23:29.8±2.7,26°.96N×54°.69E,h10km, ML2.8/9, Error ellipse: s-maj=31.1km s-min=11.3km az=123.0*

ISC 15 00:23:25.8±0.9,27.19N±0.05×54.51E±0.05,h10km,n45, σ1§28/46,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAR1	**LAR**	**0.49**	**346**	*e*Pg	**Pg**	**00 23 33.0**	**-2.4**
LAR1				*e*		00 23 51.9	
	comp=Z,76μm,0.4s						
LMD1	**Lamerd**	**1.20**	**277**	*e*Pg	**Pb**	**00 23 47.8**	**-0.9**
LMD1				*e*		00 24 16.0	
	comp=Z,17μm,0.8s						
GENO	**Geno**	**1.50**	**82**	*e*Pn	**Pn**	**00 23 52.1**	**-0.8**
GENO				*e*		00 24 29.6	
	comp=Z,4μm,0.5s						
JHRM	**Jahrom**	**1.55**	**328**	*e*Pg	**Pn**	**00 23 54.4**	**+0.9**
JHRM				*e*Sg	**Sb**	**00 24 16.2**	**+1.9**
QIR1	**Qir**	**1.82**	**315**	*e*Pn	**Pn**	**00 23 58.0**	**+0.8**
QIR1				*e*		00 24 31.1	
	comp=Z,4μm,0.9s						
IBND	**Bandar-abas**	**1.83**	**81**	*e*Pn	**Pn**	**00 23 58.3**	**+1.0**
IBND				*e*		00 24 45.4	
	comp=Z,5μm,0.8s						
SHME	**Shamm**	**1.85**	**127**	*e*Pn	**Pn**	**00 23 58.3**	**+0.7**
SHME	**Shamm**	**1.85**	**127**	P	**Pb**	**00 23 59.8**	**0.0**
	SNR=5.1						
SHME	**Shamm**	**1.85**	**127**	P	**Pn**	**00 23 57.6**	**-0.1**
BANOM	**Banah**	**2.04**	**128**	P	**Pn**	**00 24 00.7**	**+0.4**
	SNR=7.3						
BANOM	**Banah**	**2.04**	**128**	P	**Pn**	**00 24 00.5**	**+0.2**
MSFE	**Esma-Masafi**	**2.35**	**140**	*e*Pn	**Pn**	**00 24 04.1**	**-0.4**
MSFE	**Esma-Masafi**	**2.35**	**140**	P	**Pn**	**00 24 04.4**	**-0.1**
NAZ	**Nazwa, Dubai**	**2.43**	**154**	P	**Pg**	**00 24 13.6**	**+1.3**
	SNR=9.5						
NAZ	**Nazwa, Dubai**	**2.43**	**154**	P	**Pn**	**00 24 07.1**	**+1.5**
FAQ	**Al Faqa, Dubai**	**2.62**	**158**	P	**Pn**	**00 24 08.6**	**+0.3**
ASUD	**Al Ashush, Dub**	**2.66**	**164**	P	**Pn**	**00 24 09.4**	**+0.7**
UOSS	**Minazif**	**2.71**	**145**	P	**Pn**	**00 24 09.5**	**+0.1**
UOSS	**Minazif**	**2.71**	**145**	P	**Pn**	**00 24 08.2**	**-1.2**
HATD	**Hatta, Dubai**	**2.77**	**148**	*e*Pn	**Pn**	**00 24 10.9**	**+0.6**
HATD	**Hatta, Dubai**	**2.77**	**148**	P	**Pn**	**00 24 11.7**	**+1.4**
HATD	**Hatta, Dubai**	**2.77**	**148**	P	**Pn**	**00 24 12.0**	**+1.7**
ASHO	**Ashiyiah**	**2.86**	**150**	*e*Pn	**Pn**	**00 24 12.6**	**+1.0**
ASHO	**Ashiyiah**	**2.86**	**150**	P	**Pn**	**00 24 12.5**	**+1.0**
	SNR=5.7						
ASHO	**Ashiyiah**	**2.86**	**150**	P	**Pn**	**00 24 12.5**	**+1.0**
KHNJ	**Kahnooj**	**2.94**	**74**	*e*Pn	**Pn**	**00 24 12.9**	**+0.3**
AHBU	**AHRAM**	**3.29**	**301**	*e*Pn	**Pn**	**00 24 19.0**	**+1.6**
ALNE	**Al Ain**	**3.32**	**160**	P	**Pb**	**00 24 22.1**	**-2.7**
KRBR	**Kerman**	**3.42**	**35**	*e*Pn	**Pn**	**00 24 20.8**	**+1.4**
TVBK	**TV Kerman**	**3.42**	**35**	*e*Pn	**Pn**	**00 24 20.4**	**+0.9**
TVBK				*e*		00 25 28.8	
	comp=Z,599nm,0.6s						
KHGB	**Koh Gabri**	**3.61**	**28**	*e*Pn	**Pn**	**00 24 23.0**	**+0.9**
KHGB				*e*		00 31 45.1	
	comp=Z,437nm,0.4s						
CHMN	**Cheshme madani**	**3.77**	**44**	*e*Pn	**Pn**	**00 24 25.3**	**+1.0**
CHMN				*e*		00 25 17.2	
	comp=Z,381nm,0.8s						
KBAM	**BAM**	**3.99**	**60**	*e*Pn	**Pn**	**00 24 28.5**	**+1.4**
KBAM				*e*		00 24 33.8	
	comp=Z,335nm,0.7s						
UMZA	**Um Al Zommool**	**4.50**	**172**	P	**Pn**	**00 24 34.7**	**+0.7**
YZKH	**Yazd**	**5.18**	**1**	*e*Pn	**Pn**	**00 24 45.0**	**+1.5**
NASN	**Na'in**	**5.78**	**346**	*e*Pn	**Pn**	**00 24 53.1**	**+1.2**
TPRV	**Parvadeh(Tabas**	**6.12**	**17**	*e*Pn	**Pn**	**00 24 57.1**	**+0.8**
BSRN	**Basiran**	**6.23**	**39**	*e*Pn	**Pn**	**00 24 59.5**	**+1.5**
NHDN	**Nehbandan**	**6.40**	**48**	*e*Pn	**Pn**	**00 25 01.6**	**+1.3**
IKOO	**Kooshah**	**6.52**	**36**	*e*Pn	**Pn**	**00 25 03.0**	**+1.0**
TABS	**Tabas**	**6.82**	**19**	*e*Pn	**Pn**	**00 25 07.3**	**+1.3**
IMON	**Monand**	**7.46**	**36**	*e*Pn	**Pn**	**00 25 16.4**	**+1.4**
SHRT	**Shahrakht**	**8.14**	**36**	*e*Pn	**Pn**	**00 25 26.1**	**+2.0**
ASAO	**Ashtian**	**8.28**	**333**	*e*Pn	**Pn**	**00 25 28.2**	**+2.0**
WHFO	**Wadi Hawf**	**9.25**	**184**	P	**Pn**	**00 25 37.5**	**-1.9**
	SNR=16						

IDC 15 00:27:07.3±1.5,14.54S×166.65E,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.6/37,mbtmp3.8/3,ML3.1/1,Error ellipse: s-maj=58.7km s-min=30.0km az=107.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.50**	**181**	Pn	Pn	00 28 57.8	-0.3
	0.3nm,0.3s,baz=360,slow=19,SNR=1.8						
DZM				Sn	Sn	00 30 25.5	+1.6
	0.3nm,0.3s,baz=303,slow=20,SNR=1.2						
ASAR	**Alice Springs**	**32.18**	**249**	P	P	00 33 37.1	-0.2
	0.5nm,0.5s,baz=77,slow=8.2,SNR=3.3						
ILAR	**Eielson Array**	**86.53**	**18**	P	P	00 39 51.5	-0.4
	1.2nm,0.9s,baz=238,slow=4.6,SNR=8.2						
ARCES	**ARCESS Array B**	**119.92**	**345**	PKP	PKiKP	00 45 59.8	+0.5
	1.9nm,0.8s,baz=28,slow=2.9,SNR=3.6						

*DSN **15** 00:40:16.6±0.1,26°.93N×53°.18E,h10km, ML2.7/4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*TEH **15** 00:40:16.6,26°.73N×53°.14E,h8km, ML3.3*

ISC 15 00:40:17.3±1.8,26.70N±0.06×53.1E±0.1,h10km,n13, σ1§11/17,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**0.64**	**7**	*e*Pg	**Pg**	**00 40 28.2**	**-1.6**
LMD1				*e*Sg	**Sg**	**00 40 37.8**	**-0.4**
LMD1				*e*		00 40 40.8	
	comp=Z,26μm,0.3s						
LAR1	**LAR**	**1.50**	**50**	*e*Pg	**Pn**	**00 40 44.4**	**0.0**
LAR1				*e*Sg	**Sn**	**00 41 05.5**	**+1.3**
LAR1				*e*		00 41 11.2	
	comp=Z,9μm,0.4s						
QIR1	**Qir**	**1.77**	**359**	*e*Pn	**Pn**	**00 40 49.4**	**+1.3**
QIR1				*e*		00 40 51.9	
	comp=Z,3μm,0.3s						
JHRM	**Jahrom**	**1.85**	**14**	*e*Pg	**Pb**	**00 40 51.2**	**-0.1**
GENO	**Geno**	**2.85**	**75**	*e*Pn	**Pn**	**00 41 03.7**	**+0.7**
GENO				*e*		00 42 12.2	
	comp=N,732nm,0.5s						
NAZ	**Nazwa, Dubai**	**2.88**	**126**	P	**Pn**	**00 41 04.3**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.90**	**135**	P	**Pn**	**00 41 04.7**	**+1.2**
UOSS	**Minazif**	**3.31**	**121**	P	**Pn**	**00 41 07.6**	**-1.7**
HATD	**Hatta, Dubai**	**3.33**	**123**	P	**Pn**	**00 41 09.7**	**+0.2**
HATD				S	**Sn**	**00 41 48.6**	**-0.4**
ASHO	**Ashiyiah**	**3.35**	**126**	P	**Pn**	**00 41 10.4**	**+0.5**
ASHO				S	**Sn**	**00 41 51.2**	**+1.4**
TVBK	**TV Kerman**	**4.61**	**44**	*e*Pn	**Pn**	**00 41 27.9**	**+0.5**
TVBK				*e*		00 41 32.5	
	comp=Z,414nm,0.3s						
KHGB	**Koh Gabri**	**4.73**	**38**	*e*Pn	**Pn**	**00 41 29.6**	**+0.7**
KHGB				*e*		00 41 32.5	
	comp=Z,98nm,0.4s						
CHMN	**Cheshme madani**	**5.04**	**50**	*e*Pn	**Pn**	**00 41 34.8**	**+1.5**
CHMN				*e*		00 41 39.2	
	comp=Z,231nm,0.3s						

*IDC **15** 00:45:39.0±3.3, 14°.59N×92°.77W, h0km, mb3.7/6, mb1 4.1/8, mb1mx3.8/35, mbtmp3.8/8, ML3.8/2, Error ellipse: s-maj=121.2km s-min=25.3km az=36.0*
*MEX **15** 00:45:41.8±0.8, 14°.32N×93°.33W, h25km, MD4.2*
*GCG **15** 00:45:41.6±0.6, 14°.87N×93°.10W, h0km±13km, MD4.2*
*NEIC **15** 00:45:43.0±2.9, 14°.45N±0°.04×93°.18W±0°.04, h24km±6km, mb4.1/38, Md4.1/34(MEX), Error ellipse: s-maj=7.1km s-min=5.2km az=136.0*

ISC 15 00:45:38.4±1.7,14.40N±0.05×93.27W±0.04,h1km±10km, n101,σ1§78/122,mb4.1/14,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.09**	**62**		**Pn**	**00 46 00.5**	**-0.3**
THIG					**Sb**	**00 46 13.4**	**-1.4**
THIG		**1.09**	**62**	*e*P	**Pn**	**00 46 00.5**	**-0.3**
THIG				*i* S	**Sb**	**00 46 13.4**	**-1.4**
PATR	**El Naranjo**	**1.22**	**54**	*e*P	**Pg**	**00 46 01.7**	**-0.2**
PATR				*e*S	**Sb**	**00 46 17.9**	**-1.0**
PCIG		**1.29**	**2**		**Pb**	**00 46 03.1**	**-0.5**
PCIG					**Sg**	**00 46 18.6**	**-1.4**
PCIG		**1.29**	**2**	*e*P	**Pb**	**00 46 03.1**	**-0.5**
PCIG				*i* S	**Sg**	**00 46 18.6**	**-1.4**
CHUJ	**Union Juarez**	**1.31**	**58**	*e*P	**Pg**	**00 46 03.5**	**-0.1**
CHUJ				*e*S	**Sb**	**00 46 20.7**	**-0.8**
PAVE	**Pavencul**	**1.31**	**53**	*e*P	**Pg**	**00 46 03.4**	**-0.2**
PAVE				*e*S	**Sn**	**00 46 20.8**	**-1.5**
RTAL	**Retalhuleu**	**1.53**	**85**	Pn	**Pn**	**00 46 06.6**	**-0.2**
STG3	**Santiaguito 3,**	**1.67**	**79**	*e*P	**Pn**	**00 46 09.4**	**+0.4**
STG3				*e*S	**Sb**	**00 46 31.3**	**-0.3**
HUEH	**Huehuetenango**	**1.93**	**62**	Pn	**Pb**	**00 46 14.0**	**-0.5**
CARR	**Arriaga**	**1.94**	**341**	*e*P	**Pn**	**00 46 12.5**	**+0.1**
CARR				*i* S	**Sn**	**00 46 35.7**	**-1.7**
CCIG	**Comitan**	**2.16**	**30**		**Pb**	**00 46 18.1**	**-0.4**
CCIG					**Sb**	**00 46 44.9**	**-1.0**
CCIG	**Comitan**	**2.16**	**30**	*e*P	**Pb**	**00 46 18.1**	**-0.4**
CCIG				*e*S	**Sb**	**00 46 44.9**	**-1.0**
FUG	**Fuego 3**	**2.35**	**89**	*e*P	**Pn**	**00 46 18.8**	**+0.5**
FUG				*e*S	**Sn**	**00 46 45.8**	**-2.0**
TGIG		**2.37**	**3**		**Pb**	**00 46 20.3**	**-1.5**
TGIG					**Sb**	**00 46 49.1**	**-2.5**
TGIG		**2.37**	**3**	*e*P	**Pb**	**00 46 20.3**	**-1.5**
TGIG				*e*S	**Sb**	**00 46 49.1**	**-2.5**
TGBT	**Tuxtla Gutierr**	**2.37**	**4**	*i* P	**Pb**	**00 46 20.1**	**-1.7**
TGBT				*i* S	**Sn**	**00 46 46.5**	**-1.5**
NBG	**Las Nubes**	**2.83**	**86**	*e*P	**Pn**	**00 46 26.8**	**+1.8**
UXUV	**UXUV**	**3.02**	**344**	*e*P	**Pn**	**00 46 29.6**	**+2.2**
UXUV				*i* S	**Sn**	**00 47 05.1**	**+0.9**
HUIG	**Huatulco**	**3.06**	**297**		**Pn**	**00 47 27.3**	**-0.7**
HUIG					**Sn**	**00 47 02.9**	**-2.3**
HUIG	**Huatulco**	**3.06**	**297**	*e*P	**Pn**	**00 46 27.3**	**-0.7**
HUIG				*e*S	**Sn**	**00 47 02.9**	**-2.3**
CMIG	**Matias Romero**	**3.10**	**330**	Pn	**Pn**	**00 46 30.0**	**+1.6**
	12nm,0.3s,baz=139,slow=9.2,SNR=35						
CMIG				Sn	**Sn**	**00 47 05.1**	**-0.9**
	23nm,0.3s,baz=211,slow=22,SNR=7.6						
CMIG	**Matias Romero**	**3.10**	**330**		**Pn**	**00 46 29.4**	**+1.0**
CMIG					**Sn**	**00 47 04.2**	**-1.8**
CMIG	**Matias Romero**	**3.10**	**330**	*e*P	**Pn**	**00 46 29.4**	**+1.0**
CMIG				*e*S	**Sn**	**00 47 04.2**	**-1.8**
MRL	**Marmol**	**3.53**	**79**	*e*P	**Pn**	**00 46 35.8**	**+1.2**
MTO3	**Montecristo**	**3.78**	**90**	Pn	**Pn**	**00 46 39.4**	**+1.4**
ESQI	**Esquipulas**	**3.80**	**87**	Pn	**Pn**	**00 46 37.6**	**-0.7**
SNET	**Serv Nac Est T**	**3.98**	**100**	Pn	**Pn**	**00 46 40.2**	**-0.4**
PEIG	**Puerto Escondi**	**4.07**	**293**	*e*P	**Pn**	**00 46 41.7**	**-0.1**
PEIG				*e*S	**Sn**	**00 47 27.0**	**-3.1**
PETF	**Flores**	**4.12**	**52**	Pn	**Pn**	**00 46 44.6**	**+2.1**
VHO	**Vista Hermosa**	**4.27**	**309**	*e*	**Pn**	**00 46 48.0**	**+3.3**
VHO				*e*		00 47 35.9	
YOIG	**Yosondua**	**4.79**	**301**	*e*P	**Pn**	**00 46 53.6**	**+1.7**
YOIG				*e*S	**Sn**	**00 47 45.9**	**-2.5**
PNIG	**Pinotepa**	**5.09**	**294**		**Pn**	**00 46 57.1**	**+1.3**
PNIG					Sn	00 47 45.9	-9.4
PNIG	**Pinotepa**	**5.09**	**294**	*e*P	**Pn**	**00 46 57.1**	**+1.3**
PNIG				*e*S	Sn	00 47 45.9	-9.4
TXIG	**Tlaxiaco**	**5.18**	**304**	*e*P	**Pn**	**00 46 59.9**	**+2.6**
TXIG				*e*S	**Sn**	**00 47 49.5**	**-8.4**
TGUH	**Tegucigalpa,Un**	**5.82**	**93**	Pn	**Pn**	**00 47 06.0**	**0.0**
FTIG	**Fresnillo de T**	**5.83**	**307**	*e*P	**Pn**	**00 47 07.9**	**+1.8**
FTIG				*e*S	**Sn**	**00 48 10.8**	**-3.0**
CRIN	**San Cristobal**	**6.28**	**105**	Pn	**Pn**	**00 47 11.0**	**-1.2**
CNGN	**Cerro Negro**	**6.66**	**106**	Pn	**Pn**	**00 47 17.4**	**-0.1**
MATN	**Matagalpa**	**7.28**	**101**	Pn	**Pn**	**00 47 25.9**	**-0.2**
BOAB	**BOACO BROADBAN**	**7.64**	**104**	Pn	**Pn**	**00 47 31.7**	**+0.7**
HZTE	**Horizontes, Gu**	**8.34**	**115**	Pn	**Pn**	**00 47 41.0**	**+0.6**
ORTG	**Ortega, Santa**	**8.62**	**117**	Pn	**Pn**	**00 47 45.6**	**+1.2**
ESPN	**Las Esperanzas**	**9.00**	**103**	Pn	**Pn**	**00 47 51.9**	**+2.4**
JTS	**Las Juntas de**	**9.09**	**116**	Lg	Lg	00 50 03.7	
	0.2nm,0.3s,baz=18,slow=20,SNR=6.7						
JTS	**Las Juntas de**	**9.09**	**116**	P	**Pn**	**00 47 51.3**	**+0.4**
JACO	**JACO, Garabito**	**9.64**	**118**	Pn	**Pn**	**00 47 58.4**	**-0.1**
RIMA	**Rio Macho**	**10.28**	**116**		**Pn**	**00 48 10.1**	**+2.8**
SRBA	**San Rafael, Bu**	**10.97**	**117**	Pn	**Pn**	**00 48 17.5**	**+0.8**
RIOS	**Rincon, Osa**	**11.11**	**120**	Pn	**Pn**	**00 48 20.2**	**+1.8**
833A	**Chaparral WMA,**	**14.98**	**339**		**Pn**	**00 49 13.7**	**+2.4**
HKT	**Hockley**	**15.65**	**352**	Pn	**Pn**	**00 49 21.5**	**+1.4**
HKT				IAmb	IAmb	00 49 37.4	
	comp=Z,18nm,1.5s						
435B	**Jarrell**	**16.78**	**347**	Pn	**Pn**	**00 49 35.0**	**+0.3**
JCT	**Junction City**	**17.10**	**340**	Pn	**P**	**00 49 39.7**	**-0.9**
346A	**Big Creek Wild**	**17.26**	**11**	Pn	**Pn**	**00 49 41.1**	**+0.4**
TXAR	**Lajitas Array**	**17.70**	**329**	Pn	**P**	**00 49 48.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=16						
TXAR	**Lajitas Array**	**17.70**	**329**	P	**P**	**00 49 48.0**	**+0.7**
TX31	**Lajitas Ar. Si**	**17.70**	**329**	P	**P**	**00 49 48.0**	**+0.7**
TX31				IAmb	IAmb	00 49 57.1	
	comp=Z,12nm,1.1s						
TX32	**Lajitas Array**	**17.70**	**329**	P	**P**	**00 49 51.4**	**+4.1**
VBMS	**Vicksburg**	**17.91**	**8**	P	**P**	**00 49 49.3**	**-0.2**
VBMS				IAmb	IAmb	00 49 56.2	
	comp=Z,17nm,0.9s						
WHTX	**Lake Whitney,**	**17.92**	**348**		**Pn**	**00 49 47.3**	**-1.7**
143A	**Socs Landing,**	**18.30**	**5**	P	**P**	**00 49 53.9**	**+0.1**
143A				IAmb	IAmb	00 49 59.9	
	comp=Z,14nm,1.1s						
Z35A	**Perchaven, San**	**19.19**	**350**	P	**Pn**	**00 50 06.2**	**+1.8**
Z35A				IAmb	IAmb	00 50 21.3	
	comp=Z,12nm,0.7s						
WLAR	**White Oak Lake**	**19.20**	**0**	P	**Pn**	**00 50 04.4**	**-0.2**
WLAR				IAmb	IAmb	00 50 22.1	
	comp=Z,14nm,1.2s						
MIAR	**Mount Ida**	**20.06**	**359**	P	**Pn**	**00 50 14.4**	**-0.4**
MIAR				IAmb	IAmb	00 50 21.4	
	comp=Z,10nm,1.0s						
MNTX	**Cornudas Mount**	**20.48**	**329**	P	Pn	00 50 19.9	+0.1
X34A	**Smith Ranch, M**	**20.53**	**349**	P	Pn	00 50 19.8	-0.6
X34A				IAmb	IAmb	00 50 23.3	
	comp=Z,4.9nm,0.8s						
W41B	**Gary Mavity, V**	**20.70**	**2**	P	**P**	**00 50 20.8**	**+0.7**
W41B				IAmb	IAmb	00 50 26.7	
	comp=Z,14nm,1.4s						
GOGA	**Godfrey**	**20.91**	**24**	P	**P**	**00 50 20.7**	**-1.6**
GOGA				IAmb	IAmb	00 50 22.9	
	comp=Z,25nm,1.4s						
W35A	**Tecumseh**	**20.92**	**352**	P	Pn	00 50 23.9	-1.0
W35A				IAmb	IAmb	00 50 32.5	
	comp=Z,8.0nm,1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.05**	**256**	⇑*i*P	Pb	01 00 21.0	-1.0
CO06				*e*S	Sb	01 00 24.4	-0.9
CO06				IAML		01 00 24.9	
	comp=N,11μm,0.2s						
CO06	**Fray Jorge**	**0.05**	**256**	⇑*i*P	Pb	01 00 20.9	-1.0
CO06				*i* S	Sb	01 00 24.4	-0.9
CO06				IAML		01 00 24.9	
	comp=N,10μm,0.1s						
CO02	**Combarbal**	**0.73**	**138**	*e*P	Pb	01 00 30.8	-0.5
CO02				*i* S	Sb	01 00 41.2	+0.1
CO02				IAML		01 00 43.1	
	comp=N,3μm,0.2s						
CO02	**Combarbal**	**0.73**	**138**	⇑*i*P	Pb	01 00 30.7	-0.7
CO02				*e*S	Sb	01 00 40.8	-0.3
CO02				IAML		01 00 43.1	
	comp=N,3μm,0.1s						
CO05	**La Serena**	**0.80**	**22**	*e*P	Pn	01 00 31.1	-1.2
CO05				IAML		01 00 46.0	
	comp=N,1μm,0.5s						
CO05	**La Serena**	**0.80**	**22**	*e*P	Pn	01 00 31.0	-1.2
CO05				*e*S	Sb	01 00 42.7	-0.1
GO04	**Tololo Observa**	**0.83**	**54**	⇓*i*P	Pn	01 00 32.5	-0.4
GO04				*i* S	Sn	01 00 45.3	+0.9
GO04	**Tololo Observa**	**0.83**	**54**	⇓*i*P	Pn	01 00 32.6	-0.4
GO04				*e*S	Sb	01 00 43.7	-0.3
CO01	**Juntas del Tor**	**1.45**	**62**	*e*P	Pb	01 00 43.0	-0.6
CO01				*i* S	Sb	01 01 03.0	+1.3
CO01				IAML		01 01 04.9	
	comp=N,341nm,0.4s						
CO01	**Juntas del Tor**	**1.45**	**62**	*e*P	Pb	01 00 42.5	-1.0
CO01				*e*S	Sb	01 01 03.1	+1.3
LCO	**Las Campanas**	**1.81**	**25**	*e*P	Pn	01 00 46.3	-0.2
LCO				*i* S	Sn	01 01 09.9	+1.2
LCO	**Las Campanas**	**1.81**	**25**	*e*P	Pn	01 00 46.5	-0.1
VA06	**Catapilco**	**1.91**	**173**	*e*P	Pn	01 00 48.4	+0.8
VA06				*i* S	Sb	01 01 13.0	-1.6
VA06				IAML		01 01 17.3	
	comp=N,606nm,0.5s						
VA06	**Catapilco**	**1.91**	**173**	*e*P	Pn	01 00 46.8	-0.8
VA06				IAML		01 01 17.3	
	comp=N,612nm,0.4s						
VA03	**San Esteban**	**2.27**	**158**	*e*P	Pn	01 00 53.7	+1.0
VA03				*i* S	Sn	01 01 21.7	+1.9
VA03				IAML		01 01 28.1	
	comp=E,385nm,0.2s						
VA03	**San Esteban**	**2.27**	**158**	*e*P	Pn	01 00 53.7	+1.0
VA03				*e*S	Sb	01 01 23.2	-1.9
VA03				IAML		01 01 28.2	
	comp=E,393nm,0.3s						
ROCH	**El Roble**	**2.35**	**168**	*i* S	Sb	01 01 27.2	-0.4
ROCH				*e*P	Pn	01 00 55.4	+1.4
ROCH				*i* S	Sn	01 01 24.1	+2.1
ROCH				IAML		01 01 27.6	
	comp=N,218nm,0.3s						
ROCH				IAML		01 01 29.6	
	comp=N,294nm,0.4s						
ROCH	**El Roble**	**2.35**	**168**	*e*S	Sb	01 01 25.9	-1.7
ROCH				IAML		01 01 29.5	
	comp=N,298nm,0.4s						
AC04	**Llanos de Chal**	**2.49**	**10**	⇑*e*P	Pn	01 00 54.4	-1.2
AC04				IAML		01 01 43.0	
	comp=E,105nm,0.3s						
AC04	**Llanos de Chal**	**2.49**	**10**	*e*P	Pn	01 00 54.3	-1.2
AC04				IAML		01 01 43.1	
PEL	**Peldehue**	**2.59**	**163**	*e*P	Pn	01 00 57.5	+0.5
PEL				*i* S	Sn	01 01 29.9	+2.4
PEL				IAML		01 01 40.2	
	comp=N,168nm,0.5s						
PEL	**Peldehue**	**2.59**	**163**	*e*P	Pn	01 00 57.6	+0.6
PEL				*e*S	Sn	01 01 29.4	+1.9
PEL				IAML		01 01 39.0	
	comp=E,159nm,0.3s						
MT02	**Curacav**	**2.62**	**172**	*e*P	Pn	01 00 58.4	+1.1
MT02				IAML		01 01 42.0	
	comp=N,85nm,0.4s						
MT02	**Curacav**	**2.62**	**172**	*e*P	Pn	01 00 58.5	+1.2
MT05	**Renca**	**2.81**	**166**	*e*P	Pn	01 01 01.2	+1.1
MT05				IAML		01 01 48.9	
	comp=E,302nm,0.2s						
MT05	**Renca**	**2.81**	**166**	*e*P	Pn	01 01 02.0	+1.9
MT05				IAML		01 01 48.9	
	comp=E,303nm,0.4s						
FCH	**Farellones**	**2.88**	**158**	⇑*e*P	Pn	01 01 03.5	+2.3
FCH				*i* S	Sn	01 01 38.2	+3.2
FCH				IAML		01 01 50.7	
	comp=E,95nm,0.1s						
FCH	**Farellones**	**2.88**	**158**	*e*P	Pn	01 01 03.4	+2.2
FCH				IAML		01 01 50.7	
	comp=E,98nm,0.2s						
MT03	**Universidad Ad**	**2.97**	**163**	*e*P	Pn	01 01 03.2	+0.9
MT03				IAML		01 01 52.2	
	comp=E,302nm,0.4s						
MT03	**Universidad Ad**	**2.97**	**163**	*e*P	Pn	01 01 03.6	+1.4
MT03				IAML		01 01 52.2	
	comp=E,302nm,0.4s						
VA05	**Santo Domingo**	**2.99**	**181**	IAML		01 01 50.5	
	comp=N,198nm,0.2s						
VA05	**Santo Domingo**	**2.99**	**181**	IAML		01 01 50.5	
	comp=N,200nm,0.5s						
MT09	**Talagante**	**3.15**	**171**	*e*P	Pn	01 01 05.5	+0.8
MT09				IAML		01 01 57.0	
	comp=E,118nm,0.3s						
MT09	**Talagante**	**3.15**	**171**	*e*P	Pn	01 01 04.8	+0.1
MT09				IAML		01 01 57.0	
	comp=E,117nm,0.2s						
GO03	**Copiap**	**3.27**	**21**	*e*P	Pb	01 01 11.2	-3.3
GO03				IAML		01 02 02.2	
	comp=E,87nm,0.5s						
LMEL	**Las Melosas**	**3.38**	**160**	*e*P	Pn	01 01 09.6	+1.5
LMEL				*i* S	Sn	01 01 49.0	+1.6
LMEL				IAML		01 02 00.3	
	comp=N,96nm,0.4s						
LMEL	**Las Melosas**	**3.38**	**160**	*e*P	Pn	01 01 10.4	+2.4
LMEL				*e*S	Sn	01 01 49.9	+2.5
LMEL				IAML		01 02 00.3	
	comp=N,95nm,0.5s						
BO04	**La Punta**	**3.42**	**166**	*e*P	Pn	01 01 08.8	+0.4
BO04				IAML		01 02 03.5	
	comp=E,79nm,0.5s						
AC06	**Mina Casimiro**	**3.46**	**18**	IAML		01 02 09.4	
	comp=E,49nm,0.5s						
VCA	**Vinchina**	**3.50**	**58**	*e*P	Pb	01 01 14.5	-3.9
VCA				*i* S	Sb	01 01 59.0	-1.6
BO02	**Sierra Bellavi**	**4.17**	**171**	⇑*e*P	Pn	01 01 18.9	0.0

*IDC **15** 01:02:55.7±1.6, 14°.24S×166°.57E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/33, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=48.4km s-min=31.2km az=121.0*
*NEIC **15** 01:03:01.4±3.3, 14°.4S±0°.1×166°.64E±0°.07, h35km±2km, mb4.5/5, Error ellipse: s-maj=19.3km s-min=10.9km az=357.0*

ISC 15 01:03:00.1±0.9, 14°.35S±0°.09×166°.6E±0°.1, h28km, n13, σ1s25/14, mb4.2/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.23**	**152**	Pn	**Pn**	**01 03 20.1**	**-1.3**
KOUNC	**Koumac, New Ca**	**6.55**	**199**	Pn	**Pn**	**01 04 33.4**	**-1.1**
DZM	**Mont Dzumac**	**7.68**	**181**	Pn	**Pn**	**01 04 51.1**	**+0.9**
	0.9nm,0.3s,baz=1.7,slow=9.9,SNR=9.9						
DZM				Sn	**Sn**	**01 06 15.5**	**-0.8**
	baz=178,slow=19,SNR=0.9						
WRA	**Warramunga Arr**	**31.29**	**255**	P	**P**	**01 09 17.3**	**-0.8**
	0.6nm,0.9s,baz=85,slow=8.4,SNR=3.6						
AS31	**Alice Springs**	**32.20**	**248**	P	**P**	**01 09 26.9**	**+0.8**
ASAR	**Alice Springs**	**32.20**	**248**	P	**P**	**01 09 25.1**	**-1.0**
	0.5nm,0.6s,baz=76,slow=8.7,SNR=2.1						
BBOO	**Buckleboo**	**33.30**	**231**	P	**P**	**01 09 34.8**	**-0.7**
BBOO				IAmb	IAmb	01 09 48.5	
	comp=Z,8.5nm,1.1s						
SBA	**Scott Base**	**63.51**	**180**	P	**P**	**01 13 29.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**74.20**	**294**	P	**P**	**01 14 36.4**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=116,slow=5.1,SNR=4.1						
QSPA	**South Pole Qui**	**75.67**	**180**	P	**P**	**01 14 43.8**	**+1.2**
QSPA				IAmb	IAmb	01 16 37.3	
	comp=Z,8.5nm,1.4s						
ULN	**Ulaanbaatar**	**81.45**	**324**	P	**P**	**01 15 14.9**	**+0.2**
ULN				IAmb	IAmb	01 16 15.9	
	comp=Z,4.3nm,1.3s						
ILAR	**Eielson Array**	**86.37**	**18**	P	**P**	**01 15 38.8**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=232,slow=5.6,SNR=9.9						
MKAR	**Makanchi Array**	**96.48**	**317**	P	**P**	**01 16 25.3**	**-1.6**
	comp=Z,0.8nm,0.9s,baz=106,slow=3.1,SNR=4.3						

*ISU **15** 01:14:11,41°.12N×71°.12E, h0km, Hypocentre not reviewed by the ISC*
*KRNET **15** 01:14:12.3±0.1, 41°.04N×71°.07E, h14km, mb3.6*
*NNC **15** 01:14:13.4±1.5, 41°.10N×71°.12E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=12.6km s-min=4.2km az=11.0*
*SOME **15** 01:14:13.2, 41°.15N×71°.15E, h0km*

ISC 15 01:14:11.5±1.1, 41°.11N±0°.02×71°.18E±0°.02, h10km±10km, n54, σ1s66/84, 29C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.42**	**356**	⇑*e*P	**Pb**	**01 14 20.8**	**-0.3**
	baz=10.0						
TRKS				⇑*i*S	**Sb**	**01 14 26.9**	**-0.7**
	baz=10.0						
ARK	**Arkit**	**0.91**	**40**	⇓*i*P	**Pn**	**01 14 31.7**	**+1.3**
	baz=41						
ARK				⇓*i*S	**Sn**	**01 14 45.7**	**+2.1**
	baz=41						
CHMG	**Chimgan**	**0.98**	**297**	P		01 14 30.0	
CHMG				S		01 14 42.6	
CHRV	**Charvak**	**1.06**	**300**	P		01 14 31.4	
CHRV				S		01 14 45.1	
BTK	**Batken**	**1.09**	**195**	⇑*i*P	**Pg**	**01 14 30.9**	**-1.5**
	baz=91						
BTK				⇑*i*S	**Sg**	**01 14 44.8**	**-1.7**
	baz=91						
IUG	**Iuzhnay**	**1.34**	**321**	*e*P	**Pg**	**01 14 37.4**	**+0.1**
	5μm,0.4s						
IUG				*e*S	**Sg**	**01 14 54.9**	**+0.1**
	557nm,0.2s						
IUG	**Iuzhnay**	**1.34**	**321**	P	**Pg**	**01 14 37.5**	**+0.2**
	5μm,0.4s						
IUG				S	**Sg**	**01 14 57.1**	**+2.3**
	557nm,0.2s						
OHH	**Osh**	**1.35**	**115**	⇓*i*P	**Pg**	**01 14 38.4**	**+0.9**
	baz=11						
OHH				⇓*i*S	**Sg**	**01 14 57.2**	**+2.1**
	baz=11						
TAS	**Tashkent**	**1.44**	**279**	⇑*i*P	**Pn**	**01 14 38.0**	**+0.4**
	baz=83						
TAS				⇑*i*S	**Sb**	**01 14 56.7**	**0.0**
	baz=83						
TAS	**Tashkent**	**1.44**	**279**	P		01 14 38.1	
NZBK	**Nazarbek**	**1.56**	**275**	P		01 14 40.5	
CHM	**Chimkent**	**1.69**	**316**	*e*P	**Pg**	**01 14 44.8**	**+1.0**
	6.7nm,0.5s						
CHM				*e*S	**Sg**	**01 15 07.9**	**+2.2**
	917nm,0.2s						
DRK	**Karamyk**	**1.70**	**163**	⇑*i*P	**Pb**	**01 14 43.0**	**0.0**
	baz=60						
DRK				⇑*i*S	**Sb**	**01 15 05.1**	**+0.6**
	baz=60						
DZA	**Taraz**	**1.78**	**4**	*e*P	**Pg**	**01 14 47.3**	**+1.6**
	143nm,0.3s						
DZA				*e*S	**Sg**	**01 15 12.1**	**+3.2**
	969nm,0.2s						
KK31	**Karatay Array**	**2.05**	**346**	Pn	**Pg**	**01 14 49.9**	**-1.0**
	49nm,0.3s,baz=178,slow=11,SNR=586						
KK31				Lg	Lg	01 15 18.6	
	46nm,0.3s,baz=165,slow=25,SNR=12						
KKAR	**Karatay Array**	**2.05**	**346**	⇑*i*P	**Pb**	**01 14 49.7**	**+0.8**
	baz=49						
KKAR				⇑*i*S	**Sg**	**01 15 17.6**	**+0.2**
	baz=49						
BRLS	**Boroldday**	**2.16**	**333**	*e*P	**Pb**	**01 14 50.0**	**-0.8**
	22nm,0.2s						
BRLS				*e*S	**Sb**	**01 15 16.8**	**-0.8**
	21nm,0.3s						
BRLS	**Boroldday**	**2.16**	**333**	Pg	**Pb**	**01 14 50.0**	**-0.8**
	22nm,0.2s						
BRLS				Lg	Lg	01 15 16.8	
	21nm,0.3s						
GAR	**Garm**	**2.21**	**198**	⇑*i*P	**Pn**	**01 14 50.1**	**+1.8**
	baz=96						
GAR				⇑*i*S	**Sb**	**01 15 18.1**	**-0.9**
	baz=96						
MRKS	**Merke**	**2.24**	**42**	*e*P	**Pg**	**01 14 56.8**	**+2.4**
	19nm,0.5s						
MRKS				*e*S	**Sg**	**01 15 28.3**	**+4.9**
	180nm,0.3s						
MRKS	**Merke**	**2.24**	**42**	Pg	**Pg**	**01 14 56.8**	**+2.4**
	19nm,0.5s						
MRKS				Lg	Lg	01 15 28.3	
	180nm,0.3s						
EKS2	**Erkin-Say**	**2.48**	**51**	⇑*i*P	**Pb**	**01 14 56.7**	**+0.4**
	baz=50						
EKS2				⇑*i*S	**Sg**	**01 15 29.2**	**-2.1**
	baz=50						
UCH	**Uchtor**	**2.74**	**65**	⇑*i*P	**Pb**	**01 15 00.3**	**-0.5**
	baz=64						
UCH				⇑*i*S	**Sb**	**01 15 35.6**	**+1.0**
	baz=64						
CHGR	**Chuyangaron**	**2.90**	**213**	⇑*i*P	**Pn**	**01 14 59.5**	**+1.7**
	baz=12						
CHGR				⇑*i*S	**Sn**	**01 15 34.0**	**+1.2**
	baz=12						
AAK	**Ala-Archa**	**2.91**	**57**	⇑*i*P	**Pb**	**01 15 02.8**	**-0.8**
	baz=57						
AAK				⇑*i*S	**Sb**	**01 15 39.5**	**+0.3**
	baz=57						
KBK	**Karagaybulak**	**3.21**	**60**	⇑*i*P	**Pb**	**01 15 07.1**	**-1.6**
	baz=59						
KBK				⇑*i*S	**Sb**	**01 15 46.8**	**-1.2**
	baz=59						
CHMS	**Chumysh**	**3.26**	**53**	⇑*e*P	**Pb**	**01 15 07.7**	**-1.8**
	baz=53						
CHMS				⇑*e*S	**Sb**	**01 15 47.8**	**-1.5**
	baz=53						
SGDS	**Sogindy**	**3.47**	**46**	*e*P	**Pg**	**01 15 16.8**	**-1.2**
	3.1nm,0.2s						
SGDS				*e*S	**Sg**	**01 16 02.7**	**-0.3**
	28nm,0.4s						
SGDS	**Sogindy**	**3.47**	**46**	Pg	**Pg**	**01 15 16.8**	**-1.2**
	3.1nm,0.2s						
SGDS				Lg	Lg	01 16 02.7	
	28nm,0.4s						
TKM2	**Tokmak 2**	**3.76**	**60**	⇑Pg	**Pg**	**01 15 25.6**	**+2.1**
	3.9nm,0.6s						
TKM2				⇑Lg	Lg	01 16 14.6	
	11nm,0.5s						
DGS	**Degeres**	**4.03**	**57**	*e*P	**Pg**	**01 15 27.1**	**-1.5**
	6.0nm,0.2s						
DGS				*e*S	**Sg**	**01 16 20.4**	**-0.3**
	18nm,0.6s						
DGS	**Degeres**	**4.03**	**57**	Pg	**Pg**	**01 15 27.1**	**-1.5**
	6.0nm,0.2s						
DGS				Lg	Lg	01 16 20.4	
	18nm,0.6s						
KST	**Kastek**	**4.05**	**60**	*e*P	**Pg**	**01 15 28.1**	**-1.0**
	5.4nm,0.3s						
KST				*e*S	**Sg**	**01 16 22.2**	**+0.6**
	25nm,0.5s						
KST	**Kastek**	**4.05**	**60**	Pg	**Pg**	**01 15 28.2**	**-1.0**
	5.4nm,0.3s						
KST				Lg	Lg	01 16 22.2	
	25nm,0.5s						
KRBS	**Karabastau**	**4.21**	**51**	*e*P	**Pg**	**01 15 31.5**	**-0.7**
	2.5nm,0.3s						
KRBS				*e*S	**Sg**	**01 16 27.9**	**+1.1**
	11nm,0.5s						
KRBS	**Karabastau**	**4.21**	**51**	Pg	**Pg**	**01 15 31.5**	**-0.7**
	2.5nm,0.3s						
KRBS				Lg	Lg	01 16 27.9	
	11nm,0.5s						
MTBS	**Maitube**	**4.40**	**61**	*e*P	**Pg**	**01 15 34.4**	**-1.3**
	1.7nm,0.2s						
MTBS				*e*S	**Sg**	**01 16 32.8**	**+0.2**
	11nm,0.4s						
MTBS	**Maitube**	**4.40**	**61**	Pg	**Pg**	**01 15 34.4**	**-1.3**
	1.7nm,0.2s						
MTBS				Lg	Lg	01 16 32.8	
	11nm,0.4s						
BTLS	**Baital**	**4.46**	**27**	*e*P	**Pg**	**01 15 33.7**	**-3.1**
	3.5nm,0.4s						
BTLS				*e*S	**Sg**	**01 16 31.9**	**-2.6**
	5.8nm,0.8s						
BTLS	**Baital**	**4.46**	**27**	Pg	**Pg**	**01 15 33.7**	**-3.1**
	3.5nm,0.4s						
BTLS				Lg	Lg	01 16 31.9	
	5.8nm,0.8s						
TNSS	**Tian-Shan**	**4.71**	**64**	*e*P	**Pg**	**01 15 41.1**	**-0.6**
	2.2nm,0.4s						
TNSS				*e*S	**Sg**	**01 16 44.4**	**+1.7**
	2.6nm,0.5s						
TNSS	**Tian-Shan**	**4.71**	**64**	Pg	**Pg**	**01 15 41.1**	**-0.6**
	2.2nm,0.4s						
TNSS				Lg	Lg	01 16 44.4	
	2.6nm,0.5s						
KUU	**Kurty**	**4.72**	**52**	*e*P	**Pg**	**01 15 39.5**	**-2.4**
	2.8nm,0.4s						
KUU				*e*S	**Sg**	**01 16 41.7**	**-1.4**
	12nm,0.5s						
KUU	**Kurty**	**4.72**	**52**	Pg	**Pg**	**01 15 39.5**	**-2.4**
	2.8nm,0.4s						
KUU				Lg	Lg	01 16 41.7	
	12nm,0.5s						
MDOK	**Medeo**	**4.82**	**63**	*e*P	**Pg**	**01 15 43.7**	**-0.2**
	2.1nm,0.4s						
MDOK				*e*S	**Sg**	**01 16 48.8**	**+2.5**
	6.3nm,0.4s						
MDOK	**Medeo**	**4.82**	**63**	Pg	**Pg**	**01 15 43.7**	**-0.2**
	2.1nm,0.4s						
MDOK				Lg	Lg	01 16 48.8	
	6.3nm,0.4s						
KTBS	**Karatobe**	**4.83**	**56**	*e*P	**Pg**	**01 15 41.9**	**-2.2**
	1.7nm,0.5s						
KTBS				*e*S	**Sg**	**01 16 45.7**	**-1.0**
	18nm,0.3s						
KTBS	**Karatobe**	**4.83**	**56**	Pg	**Pg**	**01 15 41.9**	**-2.2**
	1.7nm,0.5s						
KTBS				Lg	Lg	01 16 45.7	
	18nm,0.3s						
CHKK	**Chushkaly**	**5.10**	**56**	*e*P	**Pg**	**01 15 47.0**	**-2.1**
	0.9nm,0.0s						
CHKK				*e*S	**Sg**	**01 16 54.6**	**-0.5**
	7.2nm,0.3s						
CHKK	**Chushkaly**	**5.10**	**56**	Pg	**Pg**	**01 15 47.0**	**-2.1**
	0.9nm,0.0s						
CHKK				Lg	Lg	01 16 54.6	
	7.2nm,0.3s						
ARXS	**Arharly**	**5.80**	**55**	*e*P	**Pg**	**01 16 01.5**	**-1.0**
	1.2nm,0.4s						
ARXS				*e*S	**Sg**	**01 17 18.8**	**+1.1**
	9.7nm,0.6s						
ARXS	**Arharly**	**5.80**	**55**	Pg	**Pg**	**01 15 58.6**	**-4.0**
	2.5nm,0.7s						
ARXS				Lg	Lg	01 17 14.5	
	8.4nm,0.5s						
UZB	**Uzynbulak**	**6.18**	**68**	*e*P	**Pg**	**01 16 09.2**	**-0.6**
	2.1nm,0.2s						
UZB				*e*S	**Sg**	**01 17 32.0**	**+2.3**
	2.6nm,0.3s						
MK31	**Makanchi Array**	**9.82**	**51**	⇓Lg	Lg	01 19 24.3	
	2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**10.80**	**26**	⇓Lg	Lg	01 19 54.4	
	10.0nm,0.7s						
KURK	**Kurchatov**	**10.91**	**26**	⇑Lg	Lg	01 20 01.2	
	4.4nm,0.7s						
AB31	**Akbulak array**	**11.35**	**320**	⇑P	**Pn**	**01 16 52.5**	**-1.1**
	0.2nm,0.3s,baz=129,slow=13,SNR=14						
AKTO	**Aktyubinsk**	**13.07**	**320**	⇑P	**Pn**	**01 17 15.3**	**-1.8**
	1.2nm,0.7s						

IDC 15 01:16:09.3±16.0, 22°.93S×68°.97E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/40, mbtmp3.8/4, Error ellipse: s-maj=539.3km s-min=35.2km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**15.57**	**13**	T	T	01 35 28.1	
	baz=192,slow=76,SNR=323						
H08S2	**Diego Garcia H**	**15.57**	**13**	T	T	01 35 31.7	
	baz=192,slow=76,SNR=298						
H08S3	**Diego Garcia H**	**15.59**	**13**	T	T	01 35 32.0	
	baz=192,slow=76,SNR=394						
H01W2	**Cape Leeuwin H**	**40.98**	**117**	T	T	02 07 13.2	
	baz=274,slow=75,SNR=8.0						
H01W3	**Cape Leeuwin H**	**40.98**	**117**	T	T	02 07 12.8	
	baz=274,slow=75,SNR=8.1						
H01W1	**Cape Leeuwin H**	**40.99**	**117**	T	T	02 07 14.0	
	baz=274,slow=75,SNR=9.4						
ASAR	**Alice Springs**	**59.15**	**105**	P	P	01 26 12.8	+0.5
	0.8nm,0.8s,baz=262,slow=7.0,SNR=5.7						
WRA	**Warramunga Arr**	**60.47**	**101**	P	P	01 26 20.9	-0.5
	1.3nm,0.9s,baz=256,slow=6.6,SNR=7.0						
MKAR	**Makanchi Array**	**70.44**	**10**	P	P	01 27 25.3	0.0
	0.7nm,0.8s,baz=202,slow=4.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**77.78**	**10**	P	P	01 28 08.1	+0.1
	0.4nm,0.4s,baz=199,slow=6.8,SNR=4.2						

*DNK **15** 01:21:57.7±4.7, 69°.22N×53°.79W, h1km±20km, ML2.6*
*OTT **15** 01:21:58.6±0.6, 69°.19N×53°.83W, h18km, MN2.8/2, Western Greenland. 458km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone.*

ISC 15 01:21:55.9±0.9, 69°.17N±0°.05×54°.05W±0°.05, h10km, n14, σ2s60/24, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILULI	**Ilulissat**	**1.05**	**86**	*i* P	**Pb**	**01 22 16.3**	**+0.1**
ILULI				*i* S	**Sg**	**01 22 28.9**	**-0.9**
ILULI				IAML		01 22 33.5	
	comp=Z,114nm,0.6s						
NUUG	**Nuugaatsiaq**	**2.40**	**7**	*i* P	**Pn**	**01 22 36.5**	**+1.4**
NUUG				*i* S	**Sn**	**01 23 05.3**	**+0.9**
NUUG				IAML		01 23 12.6	
	comp=Z,22nm,0.6s						
SFJD	**Kangerlussuaq**	**2.54**	**148**	*i* P	**Pn**	**01 22 38.1**	**+1.1**
SFJD				*i* S	**Sn**	**01 23 08.7**	**+0.7**
SFJD				IAML		01 23 16.5	
	comp=Z,110nm,0.5s						
SFJD	**Kangerlussuaq**	**2.54**	**148**	PN	**Pn**	**01 22 38.2**	**+1.1**
SFJD				SN	**Sn**	**01 23 08.0**	**+0.1**
SFJD				Trac		01 23 12.8	
	comp=Z,7.5nm,0.2s						
UPNV	**Upernavik**	**3.69**	**350**	*i* P	**Pn**	**01 22 53.6**	**+0.7**
UPNV				IAML		01 23 39.9	
	comp=Z,23nm,0.6s						
DY2G	**Dye2**	**4.01**	**129**	*i* P	**Pn**	**01 22 58.0**	**+0.5**
DY2G				*i* S	**Sn**	**01 23 44.3**	**-0.2**
DY2G				IAML		01 23 59.5	
	comp=Z,66nm,0.5s						
NUUK	**Nuuk**	**5.10**	**168**	*i* P	**Pn**	**01 23 13.1**	**+0.9**
NUUK				*i* S	**Sn**	**01 24 15.0**	**+4.0**
NUUK				IAML		01 24 37.9	
	comp=Z,18nm,0.7s						
ICESG	**Greenland Ices**	**5.15**	**84**	*i* P	**Pn**	**01 23 14.5**	**+1.2**
ICESG				*i* S	**Sn**	**01 24 10.6**	**-2.2**
ICESG				IAML		01 24 36.6	
	comp=Z,18nm,0.5s						
ANGG	**Ammassalik, Gr**	**7.25**	**112**	*i* P	**Pn**	**01 23 45.2**	**+3.5**
ANGG				*i* S	**Sn**	**01 24 57.4**	**-6.6**
ANGG				IAML		01 25 46.5	
	comp=Z,14nm,0.5s						
FRB	**Frobisher Bay**	**7.94**	**234**	PN	**Pn**	**01 23 53.3**	**+2.1**
FRB				SN	**Sn**	**01 25 17.2**	**-3.6**
FRB				Trac		01 25 24.9	
	comp=Z,19nm,1.0s						
IVI	**Ivigtut**	**8.37**	**160**	*i* P	**Pn**	**01 23 57.4**	**

H03N2	**Juan Fernandez**	**134.93**	**89**	H	H	04 16 43.2	
	baz=314,slow=77,SNR=47						
H03N1	**Juan Fernandez**	**134.94**	**89**	H	H	04 16 45.8	
	baz=314,slow=77,SNR=53						
H03N3	**Juan Fernandez**	**134.94**	**89**	H	H	04 16 46.9	
	baz=314,slow=77,SNR=59						

*IDC **15** 01:31:22.1±1.2,5˝.68N×77˚.78W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/29, mbtmp3.6/5, ML2.2/2, Error ellipse: s-maj=34.9km s-min=17.9km az=19.0*
*RSNC **15** 01:31:25.1±1.3,5˝.78N×77˚.70W, h24km±5km, ML3.0, Mw3.5*
*UPA **15** 01:31:27.5±1.3,6˝.07N×77˚.82W, h10km±46km, MW4.2*

ISC 15 01:31:24.4±1.7,**5˝.77N**±0˝.03×**77˚.73W**±0˝.04,**h17**km±11km, **n55**,σ1**s51**/72,**mb3.6**/3,**12C-7D**,**Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.55**	**35** ⇑*i*	*e*P	**Pb**	**01 31 34.9**	**-0.7**
SOLC				*e*S	**Sb**	**01 31 43.3**	**+0.1**
SOLC				*i*		01 31 49.2	
	comp=Z,2µm,0.2s						
PIZC	**Pizarro, Choco**	**0.88**	**156** ⇓*i*	P	**Pg**	**01 31 41.3**	**-0.3**
PIZC				*i*		01 32 04.1	
	comp=Z,474nm,0.6s						
PTAC	**Punta Ardita,**	**1.37**	**357**	*e*P	**Pn**	**01 31 47.0**	**-1.8**
PLMC	**San Jos del P**	**1.68**	**121** ⇑*i*	P	**Pn**	**01 31 51.0**	**-2.0**
PLMC				*i*		01 32 00.2	
	comp=Z,161nm,0.5s						
PLMC				*e*S	**Sn**	**01 32 10.7**	**-3.5**
CBOC	**Ciudad Bolivar**	**1.71**	**87** ⇑*i*	P	**Pn**	**01 31 51.2**	**-2.3**
CBOC				*e*S	**Sn**	**01 32 09.7**	**-5.4**
CBOC				*i*		01 32 16.6	
	comp=Z,108nm,0.5s						
DBBC	**Dabeiba**	**1.95**	**51**	*e*P	**Pn**	**01 31 56.0**	**-0.8**
HELC	**Santa Helena**	**2.22**	**79** ⇓*e*P		**Pn**	**01 31 60.0**	**-0.9**
HELC				*e*S	**Sn**	**01 32 26.7**	**-1.4**
HELC				*i*		01 32 30.9	
	comp=Z,44nm,0.5s						
YOTC	**Yotoco, Valle**	**2.25**	**142**	*e*P	**Pn**	**01 31 59.4**	**-1.5**
YOTC				*e*S	**Sn**	**01 32 26.5**	**-1.9**
GUY2C	**Guyana, Caldas**	**2.41**	**103**	*e*P	**Pn**	**01 32 02.9**	**-0.7**
GUY2C				*i*		01 32 38.4	
	comp=Z,51nm,0.6s						
ANIL	**Santa Ana**	**2.64**	**119**	*e*P	**Pn**	**01 32 07.3**	**+0.8**
ANIL				*i*		01 32 41.9	
	comp=Z,76nm,0.4s						
UPD2	**Meteti**	**2.77**	**354**	*i* P	**Pn**	**01 32 07.7**	**-0.3**
NORC	**Norcasia**	**2.85**	**94**	*e*P	**Pn**	**01 32 09.0**	**-0.2**
NORC				*e*S	**Sn**	**01 32 40.8**	**-2.4**
NORC				*i*		01 32 44.4	
	comp=Z,31nm,0.5s						
PEDA3	**Pedasi**	**2.87**	**307**	*e*P	**Pn**	**01 32 08.4**	**-1.0**
UREC	**San Jos de Ur**	**2.93**	**48**	*e*P	**Pn**	**01 32 11.3**	**+1.0**
UREC				*e*S	**Sn**	**01 32 45.5**	**+0.4**
UREC				*i*		01 32 60.0	
	comp=Z,33nm,0.7s						
PCRI3	**Pocri, Los San**	**3.03**	**308** ⇑*i*	P	**Pn**	**01 32 11.6**	**0.0**
ORTC	**Ortega, Tolima**	**3.09**	**127**	*e*P	**Pn**	**01 32 13.2**	**+0.8**
ORTC				*e*S	**Sn**	**01 32 48.5**	**-0.5**
ORTC				*i*		01 32 51.3	
	comp=Z,31nm,0.5s						
AZU	**Azuero**	**3.23**	**309** ⇓*i*	P	**Pn**	**01 32 14.4**	**0.0**
AZU				*e*S	**Sn**	**01 32 51.1**	**-1.4**
AZU				*i*		01 32 57.5	
	comp=Z,105nm,0.4s						
AZU	**Azuero**	**3.23**	**309** ⇓*i*	P	**Pn**	**01 32 14.3**	**0.0**
AZU				*i* S	**Sn**	**01 32 49.7**	**-2.8**
ZARC	**Zaragoza, Cauc**	**3.32**	**59**	*e*P	**Pn**	**01 32 16.3**	**+0.7**
ZARC				*e*S	**Sn**	**01 32 53.2**	**-1.6**
ZARC				*i*		01 33 08.7	
	comp=Z,49nm,0.8s						
PTBC	**PUERTO BERRIO,**	**3.34**	**77**	*e*P	**Pn**	**01 32 16.6**	**+0.7**
PTBC				*e*S	**Sn**	**01 32 56.8**	**+1.6**
POPC	**Popayan, Colom**	**3.38**	**162**	*e*P	**Pn**	**01 32 16.8**	**+0.1**
POPC				*e*S	**Sn**	**01 32 55.4**	**-1.0**
MARP	**Paez Belalcaza**	**3.40**	**149**	*e*P	**Pn**	**01 32 19.1**	**+2.1**
CHIT3	**Chitre**	**3.44**	**309** ⇑*e*P		**Pn**	**01 32 17.5**	**+0.3**
CACAO	**El Cacao, Vera**	**3.48**	**297**	*e*P	**Pn**	**01 32 17.8**	**0.0**
CACAO	**El Cacao, Vera**	**3.48**	**297** ⇓*i*	P	**Pn**	**01 32 17.9**	**0.0**
ROSC	**El Rosal**	**3.52**	**105**	Pn	**Pn**	**01 32 20.0**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=96,slow=22,SNR=2.2						
ROSC				Pg	**Pb**	**01 32 27.4**	**+1.0**
	comp=Z,4.2nm,0.3s,baz=299,slow=19,SNR=4.9						
ROSC				Lg	Lg	01 33 15.7	
	comp=Z,3.1nm,0.3s,baz=219,slow=22,SNR=5.9						
SPBC	**San Pablo de B**	**3.64**	**92**	*e*P	**Pn**	**01 32 21.2**	**+1.1**
CHPO	**Chepo, Panama**	**3.65**	**338**	*e*P	**Pn**	**01 32 19.6**	**-0.5**
UPA	**Univ. de Panam**	**3.66**	**331**	*e*P	**Pn**	**01 32 19.1**	**-1.2**
VTON	**El Valle, Cocl**	**3.68**	**320**	*e*P	**Pn**	**01 32 19.2**	**-1.4**
ARRA3	**Arraijan, Pana**	**3.71**	**329**	*i* P	**Pn**	**01 32 20.2**	**-0.7**
PML3	**Paraiso**	**3.73**	**330** ⇑*e*P		**Pn**	**01 32 20.2**	**-1.0**
PNME	**Penonome**	**3.73**	**316**	*e*P	Pn	01 32 06.4	-15
SOTA	**Rioblanco**	**3.78**	**163**	*e*P	**Pn**	**01 32 23.9**	**+1.5**
SOTA				*i*		01 33 17.4	
	comp=Z,40nm,0.9s						
ZANG	**Zanguenga, Cho**	**3.81**	**326** ⇓*i*	P	**Pn**	**01 32 22.2**	**-0.2**
BETC	**Betania**	**3.82**	**143**	*e*P	**Pn**	**01 32 25.1**	**+2.5**
GAMB1	**Gamboa**	**3.86**	**330** ⇓*i*	P	**Pn**	**01 32 23.0**	**-0.1**
FRIJ	**El Hiral**	**3.96**	**330** ⇓*e*P		**Pn**	**01 32 23.8**	**-0.6**
BCIP	**Isla Barro Col**	**3.97**	**328**	*e*P	**Pn**	**01 32 23.9**	**-0.7**
BCIP				*e*S	**Sn**	**01 33 11.6**	**+0.9**
BCIP	**Isla Barro Col**	**3.97**	**328** ⇑*i*	P	**Pn**	**01 32 23.8**	**-0.7**
GMAL	**Guarumal, Vera**	**4.00**	**300** ⇓*i*	P	**Pn**	**01 32 26.7**	**+1.7**
MLIR	**Monte Lirio**	**4.04**	**329** ⇑*e*P		**Pn**	**01 32 24.8**	**-0.7**
GARC	**Garzon, Huila**	**4.20**	**148**	*e*P	**Pn**	**01 32 30.0**	**+2.1**
GARC				*e*S	**Sn**	**01 33 15.8**	**-1.0**
BARC	**Barichara**	**4.59**	**80**	*e*P	**Pn**	**01 32 34.6**	**+1.3**
BARC				*i*		01 33 37.0	
	comp=Z,9.2nm,0.3s						
PAMC	**Pamplona, Colo**	**5.23**	**72**	*e*P	**Pn**	**01 32 43.6**	**+1.3**
PAMC				*e*S	**Sn**	**01 33 44.2**	**+1.7**
PAMC				*i*		01 34 02.3	
	comp=Z,10nm,0.7s						
LNBQ3	**Los Naranjos,**	**5.56**	**303**	*e*P	**Pn**	**01 32 46.3**	**-0.2**
BCO2	**Palmira**	**5.59**	**302** ⇑*e*P		**Pn**	**01 32 49.6**	**+2.6**
BRU2	**Volcan**	**5.77**	**302**	*e*P	**Pn**	**01 32 51.8**	**+2.4**
DRK0	**Durika**	**6.48**	**303** ⇑*e*P		**Pn**	**01 32 60.0**	**+0.7**
SDV	**Santo Domingo**	**7.68**	**66**	Pn	**Pn**	**01 33 16.5**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=252,slow=3.2,SNR=8.5						
SDV				Sn	**Sn**	**01 34 45.5**	**+2.9**
	baz=5.2,slow=21,SNR=1.0						
SIV	**San Ignacio**	**27.19**	**143**	P	**P**	**01 37 06.3**	**-1.2**
	comp=Z,0.6nm,0.2s,baz=157,slow=3.6,SNR=1.6						
YKA	**Yellowknife Ar**	**62.74**	**342**	P	**P**	**01 41 49.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=134,slow=6.3,SNR=8.9						
TORD	**Torodi Ar. Bea**	**78.43**	**78**	P	**P**	**01 43 25.3**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=266,slow=4.0,SNR=4.6						
ASAR	**Alice Springs**	**144.75**	**236**	PKP	**PKPab**	**01 51 00.7**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=130,slow=3.8,SNR=1.9						
WRA	**Warramunga Arr**	**145.81**	**243**	PKPbc	**PKPbc**	**01 51 04.3**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=106,slow=3.4,SNR=1.6						

*IDC **15** 02:02:04.4±2.8, 10˚.46S×161˚.69E, h98km±23km, mb3.3/4, mb1 3.6/5, mb1mx3.3/33, mbtmp3.7/5, Error ellipse: s-maj=31.8km s-min=24.2km az=60.0*

ISC 15 02:02:04.2±1.3,**10˚.6S**±0˚.1×**161˚.7E**±0˚.2,**h100**km,**n6**, σ2**s09**/8,**mb3.5**/4,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.10**	**303**	P	**Pn**	**02 02 38.0**	**-0.1**
	110nm,0.3s,baz=177,slow=6.8,SNR=11						
HNR				S	**Sn**	**02 03 01.8**	**-2.1**
	172nm,0.3s,baz=190,slow=15,SNR=5.8						
DZM	**Mont Dzumac**	**12.28**	**159**	P	**Pn**	**02 04 57.0**	**+1.3**
	1.0nm,0.3s,baz=307,slow=23,SNR=13						
DZM				S	**Sn**	**02 07 07.1**	**-3.6**
	0.3nm,0.3s,baz=117,slow=23,SNR=1.4						
WRA	**Warramunga Arr**	**27.98**	**247**	P	**P**	**02 07 46.2**	**+0.6**
	0.5nm,0.5s,baz=76,slow=9.0,SNR=7.6						
STKA	**Stephens Creek**	**28.20**	**218**	P	**P**	**02 07 48.8**	**+1.2**
	0.9nm,0.6s,baz=6.3,slow=18,SNR=2.9						
ASAR	**Alice Springs**	**29.53**	**240**	P	**P**	**02 08 00.1**	**+0.6**
	1.4nm,1.2s,baz=64,slow=10,SNR=2.4						
ILAR	**Eielson Array**	**84.37**	**20**	P	**P**	**02 14 24.8**	**-0.1**
	0.3nm,0.9s,baz=233,slow=5.5,SNR=1.9						

*NNC **15** 02:03:55.0±6.6, 38˚.74N×72˚.53E, h0km, mb3.7, mpv3.3,*

Error ellipse: s-maj=59.7km s-min=38.9km az=159.0
*KRNET **15** 02:04:09.3±0.1,39˚.56N×72˚.83E, h35km, mb3.0*

ISC 15 02:04:05.7±1.9,**39˚.61N**±0˚.07×**72˚.82E**±0˚.04,**h3**km±14km, **n23**,σ1**s73**/38,**18C-9D**,**Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.80**	**261** ⇓*i*	P	**Pn**	**02 04 25.1**	**+0.9**
	baz=65						
DRK				⇓*i* S	**Sn**	**02 04 36.6**	**-0.2**
	baz=65						
OHH	**Osh**	**0.92**	**358** ⇑*i*	P	**Pn**	**02 04 27.2**	**+1.6**
	baz=58						
OHH				⇑*i* S	**Sn**	**02 04 40.7**	**+1.3**
	baz=58						
BTK	**Batken**	**1.61**	**287** ⇑*i*	P	**Pg**	**02 04 36.8**	**+0.3**
	baz=88						
BTK				⇑*i* S	**Sg**	**02 04 57.2**	**-0.2**
	baz=88						
ARK	**Arkit**	**2.29**	**344** ⇑*i*	P	**Pb**	**02 04 47.0**	**-0.7**
	baz=44						
ARK				⇑*i* S	**Sb**	**02 05 14.7**	**-1.7**
	baz=44						
TRKS	**Terek-Say**	**2.31**	**327** ⇑*i*	P	**Pb**	**02 04 46.2**	**-1.9**
	baz=27						
TRKS				⇑*i* S	**Sn**	**02 05 13.2**	**-0.7**
	baz=27						
AML	**Almayashu**	**2.61**	**14**	P	**Pn**	**02 04 48.9**	**-0.3**
	SNR=53						
UCH	**Uchtor**	**2.92**	**25**	P	**Pn**	**02 04 52.8**	**-0.6**
	SNR=13						
EKS2	**Erkin-Say**	**3.14**	**13**	P	**Pn**	**02 04 56.3**	**+0.2**
	SNR=9.7						
AAK	**Ala-Archa**	**3.28**	**22**	P	**Pn**	**02 04 58.2**	**0.0**
	SNR=29						
KBK	**Karagaybulak**	**3.44**	**27**	P	**Pb**	**02 05 06.1**	**-1.4**
	SNR=5.4						
KBK	**Karagaybulak**	**3.44**	**27** ⇑*e*P		**Pn**	**02 05 02.7**	**+2.3**
	baz=27						
KBK				⇑*i* S	**Sn**	**02 05 41.7**	**-0.2**
	baz=27						
CHMS	**Chumysh**	**3.69**	**23**	P	**Pn**	**02 05 03.7**	**+0.1**
	SNR=9.5						
CHMS	**Chumysh**	**3.69**	**23** ⇑Pn		**Pn**	**02 05 03.6**	**-0.1**
	7.7nm,0.4s						
CHMS				⇑Sn	**Sb**	**02 05 57.8**	**+1.2**
	9.4nm,0.8s						
ULHL	**Ulahol**	**3.70**	**43**	P	**Pb**	**02 05 09.6**	**-2.2**
	SNR=6.5						
BOOM	**Boomskoye usch**	**3.72**	**38** ⇓*i*	P	**Pn**	**02 05 06.8**	**+2.6**
	baz=38						
BOOM				⇓*i* S	**Sn**	**02 05 48.3**	**-0.4**
	baz=38						
USP	**Ospenovka**	**3.87**	**18**	P	**Pn**	**02 05 06.3**	**+0.1**
	SNR=6.6						
KK31	**Karatay Array**	**3.90**	**334** ⇑Pn		**Pn**	**02 05 09.5**	**+2.9**
	0.4nm,0.2s,baz=154,slow=14,SNR=16						
KK31				⇓Pg	**Pb**	**02 05 18.4**	**+3.2**
	2.2nm,0.5s,baz=155,slow=14,SNR=8.4						
KK31				⇑Sn	**Sb**	**02 05 59.5**	**-3.4**
	6.0nm,0.5s,baz=151,slow=24,SNR=5.8						
TKM2	**Tokmak 2**	**3.92**	**31** ⇓Pn		**Pn**	**02 05 06.3**	**-0.6**
	1.5nm,0.5s						
TKM2				⇑Sn	**Sb**	**02 06 06.6**	**+3.2**
	7.6nm,0.6s						
KDJ	**Kajisay**	**4.16**	**51** ⇓*i*	P	**Pn**	**02 05 13.0**	**+2.8**
	baz=51						
KDJ				⇓*i* S	**Sn**	**02 05 58.9**	**-0.5**
	baz=51						
MDOK	**Medeo**	**4.77**	**40**	Pn	**Pn**	**02 05 19.0**	**+0.5**
	4.1nm,0.5s						
MDOK				Sn	**Sb**	**02 06 31.2**	**+3.4**
	11nm,0.8s						
ANVS	**Anan'yevo**	**4.84**	**47** ⇑*i*	P	**Pn**	**02 05 21.5**	**+1.9**
	baz=47						
ANVS				⇑*i* S	**Sn**	**02 06 15.4**	**-0.9**
	baz=47						
PDGK	**Podgornoye**	**6.24**	**51** ⇑Pn		**Pn**	**02 05 37.6**	**-1.1**
	0.9nm,0.5s						
PDGK				⇓Sn	**Sb**	**02 07 08.8**	**-1.3**
	6.6nm,0.9s						
AB31	**Akbulak array**	**13.32**	**321**	P	**Pn**	**02 07 14.8**	**-0.8**
	0.3nm,0.5s,baz=317,slow=5.8,SNR=11						

*NOU **15** 02:12:54.4, 38˚.29S×175˚.92E, h186km, mb3.9/7, North Island, New Zealand*
*WEL **15** 02:13:00.1, 38˚.5s6˚×17˚.6Es˚, h145km±12km, M2.8/62, ML2.3/8, MLv2.8/62, Error ellipse: s-maj=0.0km s-min=0.0km az=105.6*

ISC 15 02:12:56.1±1.6,**38˚.40S**±0˚.05×**175˚.96E**±0˚.05,**h177**km, **n115**,σ0**s89**/115,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.34**	**282**	P	**Pn**	**02 13 20.3**	**+0.3**
WATZ	**Wairara**	**0.35**	**210**	P	**Pn**	**02 13 20.3**	**+0.3**
RATZ	**Rangitukua**	**0.49**	**197**	P	**Pn**	**02 13 20.8**	**+0.3**
KMRZ	**Kaimai**	**0.56**	**359**	P	**Pn**	**02 13 20.8**	**0.0**
MRHZ	**Matea Rd**	**0.56**	**140**	P	**Pn**	**02 13 20.9**	**0.0**
RITZ	**Rihia Road**	**0.58**	**188**	P	**Pn**	**02 13 21.7**	**+0.8**
KATZ	**Kakaramea**	**0.61**	**200**	P	**Pn**	**02 13 21.9**	**+0.7**
NTVZ	**North Tongarir**	**0.73**	**197**	P	**Pn**	**02 13 22.5**	**+0.7**
OPRZ	**Ohinepanea**	**0.73**	**41**	P	**Pn**	**02 13 21.3**	**-0.3**
TMVZ	**Te Maari**	**0.74**	**195**	P	**Pn**	**02 13 22.6**	**+0.7**
ETVZ	**East Tongariro**	**0.76**	**195**	P	**Pn**	**02 13 22.8**	**+0.8**
TOZ	**Tahuroa Road**	**0.76**	**332**	P	**Pn**	**02 13 22.1**	**+0.3**
WTVZ	**West Tongariro**	**0.77**	**202**	P	**Pn**	**02 13 22.8**	**+0.8**
NNVZ	**North Ngauruho**	**0.78**	**200**	P	**Pn**	**02 13 23.1**	**+1.0**
TWVZ	**Taurewa**	**0.78**	**211**	P	**Pn**	**02 13 22.8**	**+0.7**
OTVZ	**Oturere**	**0.79**	**197**	P	**Pn**	**02 13 23.1**	**+0.9**
NGZ	**Ngauruhoe**	**0.82**	**200**	P	**Pn**	**02 13 23.3**	**+0.9**
SNVZ	**South Ngauruho**	**0.82**	**197**	P	**Pn**	**02 13 23.2**	**+0.7**
MTHZ	**Maungataniwha**	**0.83**	**123**	P	**Pn**	**02 13 22.7**	**+0.4**
RTZ	**Ruatahuna**	**0.83**	**105**	P	**Pn**	**02 13 22.3**	**0.0**
BKZ	**Black Stump Fm**	**0.87**	**151**	P	**Pn**	**02 13 23.0**	**+0.4**
BKZ	**Black Stump Fm**	**0.87**	**151**	P	**Pn**	**02 13 22.8**	**+0.2**
TUVZ	**Tukino**	**0.90**	**195**	P	**Pn**	**02 13 23.8**	**+0.9**
FWVZ	**Far West T-bar**	**0.91**	**200**	P	**Pn**	**02 13 23.9**	**+0.9**
URZ	**Urewera**	**0.92**	**81**	P	**Pn**	**02 13 22.3**	**-0.6**
URZ	**Urewera**	**0.92**	**81**	P	**Pn**	**02 13 22.3**	**-0.6**
WHVZ	**Whangaehu Hut**	**0.93**	**198**	P	**Pn**	**02 13 24.1**	**+1.0**
TRVZ	**Turoa**	**0.95**	**199**	P	**Pn**	**02 13 24.3**	**+1.0**
NMHZ	**Naumai**	**0.96**	**136**	P	**Pn**	**02 13 24.7**	**+1.4**
WNVZ	**Wahianoa**	**0.96**	**197**	P	**Pn**	**02 13 24.2**	**+0.8**
PKVZ	**Pokaka**	**1.01**	**208**	P	**Pn**	**02 13 24.5**	**+0.9**
MOVZ	**Moawhango**	**1.02**	**189**	P	**Pn**	**02 13 24.2**	**+0.6**
RAHZ	**Arahi**	**1.02**	**120**	P	**Pn**	**02 13 24.7**	**+1.1**
MTVZ	**Mangateitei**	**1.05**	**201**	P	**Pn**	**02 13 24.3**	**+0.4**
KWHZ	**Kaweka Forest**	**1.08**	**161**	P	**Pn**	**02 13 25.0**	**+0.8**
BHHZ	**Black Hill Sta**	**1.09**	**176**	P	**Pn**	**02 13 24.8**	**+0.6**
SNGZ	**Shannon Statio**	**1.15**	**110**	P	**Pn**	**02 13 25.5**	**+0.8**
VRZ	**Vera Road**	**1.18**	**232**	P	**Pn**	**02 13 26.4**	**+1.5**
ARHZ	**Aropaoanui**	**1.18**	**137**	P	**Pn**	**02 13 26.1**	**+1.3**
MCHZ	**McNeill Hill**	**1.19**	**151**	P	**Pn**	**02 13 26.5**	**+1.5**
MWZ	**Matawai**	**1.24**	**87**	P	**Pn**	**02 13 25.3**	**-0.1**
KRHZ	**Kereru**	**1.28**	**166**	P	**Pn**	**02 13 26.8**	**+1.0**
RUGZ	**Raukumara Rang**	**1.43**	**73**	P	**Pn**	**02 13 26.4**	**-0.8**
MKAZ	**Moumakai**	**1.44**	**334**	P	**Pn**	**02 13 27.9**	**+0.7**
RIGZ	**Rimuhau**	**1.45**	**103**	P	**Pn**	**02 13 28.0**	**+0.7**
TKGZ	**Te Karaka**	**1.49**	**92**	P	**Pn**	**02 13 28.6**	**+1.0**
PNHZ	**Pukenui**	**1.52**	**173**	P	**Pn**	**02 13 28.8**	**+0.8**
CKHZ	**Cape Kidnapper**	**1.53**	**145**	P	**Pn**	**02 13 29.4**	**+1.4**
WAZ	**Wanganui**	**1.55**	**209**	P	**Pn**	**02 13 29.7**	**+1.5**
KAHZ	**Kahuranaki**	**1.56**	**153**	P	**Pn**	**02 13 29.7**	**+1.3**
HAZ	**Te Kaha**	**1.58**	**66**	P	**Pn**	**02 13 27.9**	**-0.6**
PRGZ	**Paritu Road**	**1.60**	**110**	P	**Pn**	**02 13 29.7**	**+1.0**
LREZ	**Lake Rotokare**	**1.61**	**228**	P	**Pn**	**02 13 31.0**	**+2.2**
TWGZ	**Tauwhareparae**	**1.61**	**83**	P	**Pn**	**02 13 29.7**	**+0.8**
TSZ	**Takapari Road**	**1.66**	**180**	P	**Pn**	**02 13 30.2**	**+1.0**
KUZ	**Kuaotunu**	**1.66**	**353**	P	**Pn**	**02 13 29.9**	**+0.5**
PREZ	**Palmer Road**	**1.69**	**236**	P	**Pn**	**02 13 31.3**	**+1.7**
NEZ	**North Egmont**	**1.69**	**239**	P	**Pn**	**02 13 32.0**	**+2.3**
MHGZ	**Mahia Peninsul**	**1.70**	**117**	P	**Pn**	**02 13 30.8**	**+1.1**
WPHZ	**Waipukurau**	**1.70**	**167**	P	**Pn**	**02 13 30.8**	**+1.1**
PKE	**Pukeiti**	**1.73**	**242**	P	**Pn**	**02 13 31.8**	**+1.8**
WIAZ	**Waiheke Island**	**1.73**	**338**	P	**Pn**	**02 13 31.0**	**+0.9**
PKGZ	**Pakihiroa**	**1.75**	**74**	P	**Pn**	**02 13 30.5**	**+0.2**
KHEZ	**Kahui Hut**	**1.76**	**239**	P	**Pn**	**02 13 32.7**	**+2.3**
CNGZ	**Carnagh Statio**	**1.77**	**93**	P	**Pn**	**02 13 31.5**	**+1.1**
PXZ	**Pawanui**	**1.77**	**157**	P	**Pn**	**02 13 31.6**	**+1.1**
PUZ	**Puketiti**	**1.84**	**80**	P	**Pn**	**02 13 31.3**	**+0.1**
DVHZ	**Dannevirke**	**1.90**	**175**	P	**Pn**	**02 13 32.6**	**+0.7**
PRHZ	**Porangahau**	**1.94**	**164**	P	**Pn**	**02 13 33.2**	**+1.1**
POWZ	**Post Office Ro**	**1.99**	**184**	P	**Pn**	**02 13 33.6**	**+0.8**
WMGZ	**Waiomatatini S**	**2.02**	**74**	P	**Pn**	**02 13 33.4**	**+0.2**
MXZ	**Matakaoa Point**	**2.04**	**66**	P	**Pn**	**02 13 33.8**	**+0.5**
ANWZ	**Angora Road**	**2.10**	**169**	P	**Pn**	**02 13 35.0**	**+1.1**
PRWZ	**Pori Road**	**2.15**	**180**	P	**Pn**	**02 13 35.5**	**+1.0**
MRZ	**Mangatainoka R**	**2.27**	**187**	P	**Pn**	**02 13 36.5**	**+0.6**
BFZ	**Birch Farm**	**2.29**	**174**	P	**Pn**	**02 13 36.7**	**+0.6**
BFZ	**Birch Farm**	**2.29**	**174**	P	**Pn**	**02 13 36.5**	**+0.4**
TIWZ	**Tintock**	**2.37**	**181**	P	**Pn**	**02 13 37.7**	**+0.6**
OGWZ	**Otaki Gorge**	**2.49**	**194**	P	**Pn**	**02 13 39.1**	**+0.7**
CPWZ	**Castlepoint**	**2.51**	**176**	P	**Pn**	**02 13 39.8**	**+1.2**
HOWZ	**Holdsworth Sta**	**2.52**	**188**	P	**Pn**	**02 13 39.1**	**+0.3**
KIW	**Kapiti Island**	**2.59**	**198**	P	**Pn**	**02 13 39.8**	**+0.3**
TMWZ	**Te Maipa**	**2.70**	**181**	P	**Pn**	**02 13 41.3**	**+0.3**
MTW	**Mount Morrison**	**2.77**	**187**	P	**Pn**	**02 13 41.8**	**0.0**
CAW	**Cannon Point**	**2.79**	**194**	P	**Pn**	**02 13 42.3**	**+0.3**
DUWZ	**D'Urville Isla**	**2.87**	**213**	P	**Pn**	**02 13 43.2**	**+0.3**
TRWZ	**Traveller**	**3.00**	**184**	P	**Pn**	**02 13 44.7**	**+0.2**
PAWZ	**Paruwai Farm**	**3.00**	**188**	P	**Pn**	**02 13 44.6**	**0.0**
WEL	**Wellington**	**3.02**	**197**	P	**Pn**	**02 13 44.3**	**-0.4**
MSWZ	**Moikau Station**	**3.06**	**190**	P	**Pn**	**02 13 45.2**	**0.0**
SNZO	**South Karori**	**3.06**	**198**	P	**Pn**	**02 13 44.7**	**-0.5**
TCW	**Tory Channel**	**3.09**	**204**	P	**Pn**	**02 13 45.7**	**+0.1**
BHW	**Baring Head**	**3.12**	**195**	P	**Pn**	**02 13 45.9**	**0.0**
PLWZ	**Palliser**	**3.21**	**189**	P	**Pn**	**02 13 46.8**	**-0.3**
TUWZ	**Tuamarina**	**3.40**	**206**	P	**Pn**	**02 13 49.5**	**+0.1**
NNZ	**Nelson**	**3.44**	**214**	P	**Pn**	**02 13 50.1**	**+0.2**
TKNZ	**Takaka Hill**	**3.50**	**220**	P	**Pn**	**02 13 50.4**	**-0.3**
QRZ	**Quartz Range**	**3.59**	**226**	P	**Pn**	**02 13 51.5**	**-0.3**
BSWZ	**Blackbirch Sta**	**3.67**	**205**	P	**Pn**	**02 13 52.9**	**0.0**
MRNZ	**Matariki Terra**	**3.87**	**218**	P	**Pn**	**02 13 55.1**	**-0.4**
THZ	**Tophouse**	**4.09**	**214**	P	**Pn**	**02 13 58.0**	**-0.2**
KHZ	**Kahutara**	**4.41**	**204**	P	**Pn**	**02 14 02.1**	**-0.2**
KHZ	**Kahutara**	**4.41**	**204**	P	**Pn**	**02 14 02.1**	**-0.2**
DSZ	**Denniston Nort**	**4.61**	**222**	P	**Pn**	**02 14 03.9**	**-1.0**
GVZ	**Greta Valley S**	**5.07**	**205**	P	**Pn**	**02 14 10.3**	**-0.5**
LTZ	**Lake Taylor**	**5.20**	**211**	P	**Pn**	**02 14 11.6**	**-0.9**
INZ	**Inchbonnie**	**5.52**	**217**	P	**Pn**	**02 14 15.1**	**-1.5**
OKCZ	**Okains Bay**	**5.75**	**201**	P	**Pn**	**02 14 18.7**	**-1.0**
MQZ	**McQueen's Vall**	**5.86**	**204**	P	**Pn**	**02 14 19.2**	**-1.8**
RPZ	**Rata Peaks**	**6.47**	**213**	P	**Pn**	**02 14 29.0**	**-0.1**
ARCZ	**Arundel**	**6.61**	**212**	P	**Pn**	**02 14 30.1**	**-0.9**
FOZ	**Fox Glacier**	**6.92**	**220**	P	**Pn**	**02 14 34.1**	**-0.8**
TMZ	**Timaru**	**7.04**	**210**	P	**Pn**	**02 14 35.5**	**-1.1**
ODZ

IDC 15 03:25:46.5±1.7, 13°.89S×166°.51E, **h0**km, **mb3.5**/3, **mb1 3.8**/4, **mb1mx3.6**/26, **mbtmp3.6**/4, **ML3.5**/1, **MS3.2**/1, **Ms1 3.2**/1, **ms1mx2.6**/33, **Error ellipse: s-maj=54.2km s-min=34.3km az=125.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.14**	**180**	Pn		Pn	03 27 45.7	-0.4
	0.6nm,0.3s,baz=333,slow=18,SNR=6.8							
DZM				Sn		Sn	03 29 12.0	-7.0
	0.4nm,0.3s,baz=92,slow=21,SNR=1.9							
CTA	**Charters Tower**	**20.32**	**250**	LR		LR	03 37 20.9	
	comp=Z,67nm,18.3s,baz=79,slow=34							
WRA	**Warramunga Arr**	**31.32**	**254**	P		P	03 32 08.8	0.0
	0.8nm,1.1s,baz=82,slow=9.5,SNR=3.1							
ASAR	**Alice Springs**	**32.29**	**248**	P		P	03 32 17.5	+0.1
	0.3nm,0.6s,baz=70,slow=9.3,SNR=2.0							
ILAR	**Eielson Array**	**85.96**	**18**	P		P	03 38 28.5	+0.3
	0.4nm,0.8s,baz=224,slow=7.6,SNR=2.5							
ARCES	**ARCESS Array B**	**119.25**	**345**	PKP		PKPdf	03 44 36.6	-0.5
	3.5nm,1.1s,baz=35,slow=3.3,SNR=3.6							

TRN ***15*** *03:31:15.1, 18°.88N×61°.79W, h38km, MD4.6*

IDC ***15*** *03:31:16.8±12.0, 19°.15N×62°.18W, h0km, mb3.2/3, mb1 3.7/4, mb1mx3.4/44, mbtmp3.3/4, ML3.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/28, Error ellipse: s-maj=248.6km s-min=36.8km az=142.0*

ISC 15 03:31:15.4±2.6, **18°.82N**±0°.07×**61°.84W**±0°.07, **h16**km±15km, **n34**, σ0**°90**/47, **mb3.2**/3, **Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANWB	**Willy Bob**	**1.15**	**178**	*e*P		**Pb**	**03 31 36.0**	**-1.0**
ANWB				*e*S		**Sg**	**03 31 52.9**	**+0.2**
SMRT	**St. Maarten**	**1.41**	**237**	*e*P		**Pn**	**03 31 40.0**	**-0.5**
SMRT				*e*S		**Sn**	**03 31 59.4**	**+0.7**
ANDO	**Antigua, Disas**	**1.70**	**180**	*e*P		**Pn**	**03 31 45.2**	**+0.7**
ANDO				*e*S		**Sn**	**03 32 06.1**	**+0.1**
SEUS	**St. Eustatius**	**1.71**	**220**	*e*P		**Pn**	**03 31 45.1**	**+0.4**
SEUS	**St. Eustatius**	**1.71**	**220**	*e*		Pg	03 32 07.2	+19
ANBD	**Bethesda, Anti**	**1.77**	**178**	*e*P		**Pn**	**03 31 44.6**	**-0.9**
ANBD				*e*S		**Sn**	**03 32 07.6**	**0.0**
NVDO	**Nevis, Disaste**	**1.85**	**204**	*e*P		**Pn**	**03 31 47.8**	**+1.2**
NVDO				*e*S		**Sn**	**03 32 10.0**	**+0.3**
MBFL	**Flemmings, Mon**	**2.10**	**190**	*e*P		**Pn**	**03 31 50.4**	**+0.5**
MBFL				*e*S		**Sn**	**03 32 15.7**	**0.0**
MLYT	**Lee's Yard**	**2.12**	**189**	*e*P		**Pn**	**03 31 50.8**	**+0.5**
MLYT				*e*S		**Sn**	**03 32 16.9**	**+0.6**
ABD	**La Joyeuse, An**	**2.36**	**172**	*e*P		**Pn**	**03 31 54.5**	**+0.9**
ABD				*e*S		**Sn**	**03 32 21.9**	**-0.3**
CBE	**Ff, Capester**	**2.75**	**175**	*e*P		**Pn**	**03 31 59.5**	**+0.5**
CBE				*e*S		**Sn**	**03 32 32.7**	**+0.8**
MAGL	**Barre de l'ile**	**2.91**	**169**	*e*P		**Pn**	**03 32 01.8**	**+0.7**
MAGL				*e*S		**Sn**	**03 32 35.5**	**-0.2**
TBG	**Guadaloupe-3**	**2.96**	**176**	*e*P		**Pn**	**03 32 02.4**	**+0.6**
TBG				*e*S		**Sn**	**03 32 36.8**	**-0.3**
TDBA	**Terre de Bas,**	**2.96**	**176**	*e*P		**Pn**	**03 32 02.5**	**+0.6**
TDBA				*e*S		**Sn**	**03 32 36.7**	**-0.5**
CDVI	**St. Croix**	**2.98**	**250**	*e*P		**Pn**	**03 32 02.3**	**+0.2**
CDVI				*e*S		**Sn**	**03 32 37.8**	**+0.3**
DSLB	**Salisbury**	**3.39**	**173**	*e*P		**Pn**	**03 32 08.0**	**+0.2**
DSLB				*e*S		**Sn**	**03 32 47.5**	**-0.2**
FDF	**Fort de France**	**4.12**	**171**	*e*P		**Pn**	**03 32 18.3**	**+0.5**
FDF	**Fort de France**	**4.12**	**171**	*e*S		**Sn**	**03 33 04.3**	**-1.5**
ILAM	**Ilet Lapin Mar**	**4.13**	**167**	*e*P		**Pn**	**03 32 18.7**	**+0.8**
ILAM	**Ilet Lapin Mar**	**4.13**	**167**	*e*S		**Sn**	**03 33 04.2**	**-1.8**
SJG	**San Juan**	**4.16**	**261**	Pn		**Pn**	**03 32 17.8**	**-0.4**
	9.1nm,0.3s,baz=78,slow=9.3,SNR=20							
SJG				Sn		**Sn**	**03 33 05.0**	**-1.6**
	6.0nm,0.3s,baz=322,slow=19,SNR=7.5							
SJG				LR		LR	03 34 23.3	
	comp=Z,79nm,18.5s,baz=16,slow=48							
BIM	**Bigot**	**4.34**	**170**	*e*P		**Pn**	**03 32 21.1**	**+0.1**
BIM	**Bigot**	**4.34**	**170**	*e*S		**Sn**	**03 33 10.2**	**-1.1**
MPOM	**Morne Pois Mar**	**4.45**	**168**	*e*P		**Pn**	**03 32 22.1**	**-0.3**
MPOM	**Morne Pois Mar**	**4.45**	**168**	*e*S		**Sn**	**03 33 11.9**	**-2.1**
AOPR	**Arecibo Observ**	**4.69**	**265**	*e*P		**Pn**	**03 32 26.1**	**+0.5**
AOPR	**Arecibo Observ**	**4.69**	**265**	*e*S		**Sn**	**03 33 18.2**	**-1.6**
SLBI	**Saint Lucia, B**	**4.84**	**170**	*e*P		**Pn**	**03 32 27.9**	**+0.1**
SLBI	**Saint Lucia, B**	**4.84**	**170**	*e*S		**Sn**	**03 33 21.6**	**-2.0**
MCLT	**Moule a Chique**	**5.16**	**170**	*e*P		**Pn**	**03 32 33.2**	**+1.1**
SDDR	**Presa de Saban**	**8.95**	**273**	*e*S			03 33 22.7	
TXAR	**Lajitas Array**	**39.41**	**293**	P		**P**	**03 38 46.4**	**+1.4**
	0.1nm,0.5s,baz=113,slow=9.2,SNR=2.2							
PDAR	**Pinedale Array**	**46.67**	**311**	P		**P**	**03 39 42.8**	**-0.9**
	0.1nm,0.4s,baz=114,slow=8.4,SNR=1.9							
YKA	**Yellowknife Ar**	**56.62**	**334**	P		**P**	**03 40 58.2**	**+0.8**
	0.3nm,0.5s,baz=107,slow=7.5,SNR=14							

IDC ***15*** *03:42:58.5±0.4, 14°.54S×166°.66E, h0km, mb4.6/29, mb1 4.7/31, mb1mx4.5/49, mbtmp4.5/31, ML3.8/2, MS4.6/58, Ms1 4.6/58, ms1mx4.6/67, Error ellipse: s-maj=14.5km s-min=12.4km az=104.0*

BJI ***15*** *03:42:59.2±0.0, 14°.60S×166°.50E, h5km, mb4.9/56, mB5.5/54, Ms5.1/52, Ms7 4.7/48*

NEIC ***15*** *03:42:59.8, 14°.51S×166°.68E, h6km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr0.89; Mθθ-0.21; Mϕϕ-0.68; Mrθ0.55; Mrϕ-0.10; Mθr-1.20; Fault plane solution: M0 1.55000×10^17 NP1:ϕs161.78000°, δ75.25000°, λ80.46000°. NP2:ϕs15.22000°, δ17.51000°, λ122.20000°. Principal axes: T 1.6919, Plg59.0000°, Azm59.0000°; N -0.3339, Plg9.0000°, Azm164.0000°; P -1.3580, Plg30.0000°, Azm260.0000°;*

MOS ***15*** *03:43:02.7±1.1, 14°.42S×166°.47E, h30km, mb5.5/48, MS4.7/10 Error ellipse: s-maj=9.8km s-min=7.6km az=120.5*

GCMT ***15*** *03:43:03.5±0.1, 14°.46S±0°.01×166°.40E±0°.01, h12km, MW5.3/144, Moment Tensor Solution. s125,c192; s144,c250; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr1.17±.01; Mθθ-0.40±.01; Mϕϕ-0.76±.01; Mrθ0.28±.04; Mrϕ0.61±.01; Mθr-0.00±.04; Best double couple: M0 1.23200×10^17 NP1:ϕs334.00000°, δ42.00000°, λ106.00000°. NP2:ϕs133.00000°, δ50.00000°, λ76.00000°. Principal axes: T 1.2260, Plg78.0000°, Azm343.0000°; N 0.0110, Plg11.0000°, Azm142.0000°; P -1.2370, Plg4.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *03:43:04.5±2.4, 14°.55S±0°.06×166°.64E±0°.08, h35km±1km, mb5.3/128, Ms_20 5.1/148, Mwb5.4/13 Error ellipse: s-maj=13.8km s-min=9.7km az=58.0*

NOU ***15*** *03:43:10.3, 14°.92S×166°.33E, h45km, mb5.2/74, Vanuatu Islands*

BGR ***15*** *03:43:13.6±0.0, 14°.95S×166°.35E, h33km*

ISC 15 03:43:03.3±0.4, **14°.56S**±0°.04×**166°.63E**±0°.04, **h25**km±2km, **h25**km:**pP-P, n670**, σ1**°88**/604, **mb5.2**/142, **MS5.0**/160, **9C-5D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**1.04**	**148**			**Pn**	**03 43 19.7**	**-2.7**
SANVU	**Saraoutou**	**1.04**	**148**	P		**Pb**	**03 43 27.5**	**+4.8**
DVP	**Devils Point**	**3.49**	**155**	P		**Pn**	**03 43 59.3**	**+3.3**
RTV	**Rentapao**	**3.65**	**152**	P		**Pb**	**03 44 03.8**	**-3.3**
LIFNC	**LIFOU**	**6.21**	**175**	Pn		**Pn**	**03 44 33.2**	**-0.3**
LIFNC	**LIFOU**	**6.21**	**175**	P		**Pn**	**03 44 34.2**	**+0.7**
KOUNC	**Koumac, New Ca**	**6.36**	**200**			**Pn**	**03 44 34.8**	**-0.8**
KOUNC	**Koumac, New Ca**	**6.36**	**200**	P		**Pn**	**03 44 37.0**	**+1.4**
MARNC	**Mare, Loyalty**	**7.01**	**169**	P		**Pn**	**03 44 46.3**	**+1.8**
YATNC	**Mamie plateau,**	**7.46**	**178**	P		**Pn**	**03 44 50.5**	**-0.2**
DZM	**Mont Dzumac**	**7.47**	**181**	Pn		**Pn**	**03 44 51.3**	**+0.4**
	6.6nm,0.3s,baz=352,slow=15,SNR=51							
DZM				Sn		**Sn**	**03 46 15.2**	**+0.2**
	4.0nm,0.3s,baz=307,slow=23,SNR=7.6							
DZM				LR		LR	03 47 30.4	
	comp=Z,11μm,19.9s,baz=14,slow=36							
DZM	**Mont Dzumac**	**7.47**	**181**	*e*Pn		**Pn**	**03 44 51.1**	**+0.2**
	216nm,0.7s							
DZM				*e*Sn		**Sn**	**03 46 12.0**	**-3.0**
	228nm,0.8s							
DZM				*e*LR		LR	03 46 33.2	
	comp=Z,15μm,24.6s							
DZM	**Mont Dzumac**	**7.47**	**181**			**Pn**	**03 44 49.4**	**-1.5**
DZM	**Mont Dzumac**	**7.47**	**181**	P		**Pn**	**03 44 51.6**	**+0.7**
NOUC	**Port Laguerre**	**7.51**	**182**	P		**Pn**	**03 44 52.7**	**+1.4**
ONTNC	**Ouen Toro**	**7.71**	**181**	Pn		**Pn**	**03 44 52.5**	**-1.5**
ONTNC	**Ouen Toro**	**7.71**	**181**	P		**Pn**	**03 44 55.3**	**+1.3**
OUENC	**Ouen Island, N**	**7.82**	**179**	Pn		**Pn**	**03 44 54.2**	**-1.4**
OUENC	**Ouen Island, N**	**7.82**	**179**	P		**Pn**	**03 44 57.0**	**+1.4**
PINNC	**Pines Island,**	**8.05**	**175**			**Pn**	**03 44 58.1**	**-0.6**
PINNC	**Pines Island,**	**8.05**	**175**	P		**Pn**	**03 45 00.5**	**+1.8**
HNR	**Honiara**	**8.29**	**307**	Pn		**Pn**	**03 45 05.6**	**+3.6**
	28nm,0.3s,baz=204,slow=4.3,SNR=2.0							
HNR				LR		LR	03 47 44.2	
	comp=Z,3μm,20.7s,baz=128,slow=34							
HNR	**Honiara**	**8.29**	**307**	P		**Pn**	**03 44 59.4**	**-2.6**
HNR	**Honiara**	**8.29**	**307**	Pn		**Pn**	**03 44 59.4**	**-2.6**
MSVF	**Nonsavu**	**11.42**	**108**	Pn		**Pn**	**03 45 49.6**	**+4.6**
	baz=207,slow=20,SNR=6.2							
MSVF				LR		LR	03 49 18.0	
	comp=Z,5μm,19.4s,baz=292,slow=33							
MSVF	**Nonsavu**	**11.42**	**108**	P		**Pn**	**03 45 43.3**	**-1.7**
MSVF	**Nonsavu**	**11.42**	**108**	Pn		**Pn**	**03 45 43.3**	**-1.7**
MSVF	**Nonsavu**	**11.42**	**108**	P		Pn	03 45 53.8	+8.8
NFK	**Norfolk Island**	**14.47**	**175**	P		**Pn**	**03 46 27.9**	**+1.3**
	baz=15							
TARA	**Tarawa**	**17.00**	**22**	Pn		**Pn**	**03 46 56.1**	**-3.4**
TARA						IAmb	IAmb	03 47 09.6
	comp=Z,393nm,1.4s							
RK1H	**Rockhampton Ha**	**17.59**	**238**	P		**Pn**	**03 47 07.3**	**+0.4**
EIDS	**Eidsvold**	**18.12**	**231**	P		**Pn**	**03 47 13.9**	**+0.5**
	baz=18,SNR=4.7							
EIDS	**Eidsvold**	**18.12**	**231**			**Pn**	**03 47 12.3**	**-1.2**
EIDS	**Eidsvold**	**18.12**	**231**	P		**Pn**	**03 47 13.7**	**+0.2**
PMG	**Port Moresby**	**19.72**	**283**	P		**P**	**03 47 29.6**	**-1.7**
	comp=Z,2.5nm,0.3s,baz=279,slow=12,SNR=1.6							
PMG						LR	LR	03 54 19.1
	comp=Z,10μm,18.3s,baz=38,slow=34							
PMG	**Port Moresby**	**19.72**	**283**	*i* P		**P**		**03 47 31.7**	**+0.5**
PMG						pmax	pmax	
	comp=Z,110nm,1.0s							
PMG	**Port Moresby**	**19.72**	**283**	P		**P**	**03 47 29.5**	**-1.7**
PMG	**Port Moresby**	**19.72**	**283**	P		**Pn**	**03 47 33.1**	**+0.3**
CTA	**Charters Tower**	**20.20**	**251**	P		**P**	**03 47 37.1**	**+0.6**
	comp=Z,37nm,0.8s,baz=75,slow=12,SNR=18							
CTA						LR	LR	03 53 54.1
	comp=Z,4μm,21.4s,baz=76,slow=32							
CTA	**Charters Tower**	**20.20**	**251**	P		**P**	**03 47 37.5**	**+0.9**
CTAO	**Charters Tower**	**20.20**	**251**	P		**P**	**03 47 37.4**	**+0.9**
CTAO						pmax	pmax	
	comp=Z,90nm,1.0s							
CTAO						MLR	MLR	
	comp=Z,4μm,21.0s							
CTAO	**Charters Tower**	**20.20**	**251**	P		**P**	**03 47 37.4**	**+0.9**
CTAO						IAmb	IAmb	03 47 45.2
	comp=Z,90nm,1.0s							
RAO	**Raoul Island**	**20.44**	**138**	LR		LR	03 54 11.0	
	comp=Z,2μm,21.9s,baz=324,slow=33							
RMQ	**Roma**	**20.48**	**232**	P		**P**	**03 47 41.0**	**+1.4**
	baz=21,SNR=18							
RMQ	**Roma**	**20.48**	**232**	P		**P**	**03 47 40.7**	**+1.2**
AFI	**Afiamalu**	**20.94**	**91**	P		**P**	**03 47 44.3**	**-0.3**
	comp=Z,7.0nm,0.4s,baz=107,slow=23,SNR=2.1							
AFI						LR	LR	03 53 29.4
	comp=Z,1μm,21.4s,baz=270,slow=30							
AFI	**Afiamalu**	**20.94**	**91**	P		Pn		
AFI						pmax	pmax	03 47 46.9 -0.4
	comp=Z,150nm,1.1s							
AFI	**Afiamalu**	**20.94**	**91**	P		Pn	03 47 46.9	-0.3
AFI						IAmb	IAmb	03 47 57.1
	comp=Z,150nm,1.1s							
AFI	**Afiamalu**	**20.94**	**91**	P		Pn	03 47 50.9	+3.6
ARMA	**Armidale**	**20.97**	**219**	P		**P**	**03 47 46.2**	**+1.4**
	baz=21,SNR=5.5							
ARMA	**Armidale**	**20.97**	**219**	P		**P**	**03 47 43.2**	**-1.6**
ARMA	**Armidale**	**20.97**	**219**	P		**P**	**03 47 45.4**	**+0.6**
MTSU	**Mount Surprise**	**21.70**	**258**	P		**P**	**03 47 52.3**	**-0.5**
	baz=22,SNR=9.9							
MTSU	**Mount Surprise**	**21.70**	**258**	P		**P**	**03 47 52.2**	**-0.5**
MANU	**Manus Island**	**22.73**	**301**	P		**P**	**03 48 03.6**	**-0.1**
COEN	**Coen**	**22.74**	**269**	P		**P**	**03 48 02.0**	**-1.9**
COEN	**Coen**	**22.74**	**269**	P		**P**	**03 48 03.8**	**0.0**
MGCD	**Mangrove Creek**	**23.31**	**215**	P		**P**	**03 48 10.5**	**+0.9**
RIV	**Riverview**	**23.76**	**213**	P		**P**	**03 48 15.4**	**+1.6**
	baz=24							
RIV	**Riverview**	**23.76**	**213**	P		**P**	**03 48 15.7**	**+1.9**
RIV						pmax	pmax	
	comp=Z,117nm,1.3s							
SYDH	**Sydney Hard Ro**	**23.93**	**214**	P		**P**	**03 48 17.0**	**+1.5**
QLP	**Quilpie**	**24.09**	**237**	P		**P**	**03 48 17.5**	**+0.4**
	baz=24,SNR=5.8							
QLP	**Quilpie**	**24.09**	**237**	P		**P**	**03 48 17.1**	**0.0**
TOZ	**Tahuroa Road**	**24.39**	**163**	P		**P**	**03 48 20.3**	**+0.6**
HAZ	**Te Kaha**	**25.14**	**159**	P		**P**	**03 48 28.0**	**+1.6**
PKGZ	**Pakihiroa**	**25.36**	**158**	P		**P**	**03 48 34.8**	**+6.3**
URZ	**Urewera**	**25.36**	**160**	P		**P**	**03 48 28.9**	**+0.4**
	comp=Z,21nm,0.9s,baz=23,slow=5.3,SNR=10							
URZ						S	S	**03 52 58.2**	**+4.7**
	comp=Z,2.1nm,0.6s,baz=150,slow=22,SNR=1.3							
URZ						LR	LR	03 57 16.4	
	comp=Z,2μm,18.4s,baz=12,slow=34							
URZ	**Urewera**	**25.36**	**160**			**P**	**03 48 28.8**	**+0.2**
URZ						IAmb	IAmb	03 48 50.4
	comp=Z,66nm,0.9s							
URZ	**Urewera**	**25.36**	**160**	P		**P**	**03 48 30.1**	**+1.6**
CMSA	**Cobar Meteorol**	**25.55**	**225**	P		**P**	**03 48 30.5**	**+0.2**
	baz=26,SNR=7.6							
CMSA	**Cobar Meteorol**	**25.55**	**225**	P		**P**	**03 48 30.7**	**+0.4**
RTZ	**Ruatahuna**	**25.65**	**161**	P		**P**	**03 48 33.0**	**+1.8**
OTVZ	**Oturere**	**25.77**	**164**	P		**P**	**03 48 36.9**	**+4.5**
CNB	**Canberra Magne**	**25.85**	**214**	P		**P**	**03 48 34.3**	**+1.3**
	baz=26,SNR=5.7							
CNB	**Canberra Magne**	**25.85**	**214**	P		**P**	**03 48 34.4**	**+1.3**
SNGZ	**Shannon Statio**	**25.91**	**161**	P		**P**	**03 48 34.6**	**+1.0**
CNGZ	**Carnagh Statio**	**25.94**	**159**	P		**P**	**03 48 34.7**	**+1.0**
RAHZ	**Arahi**	**25.96**	**161**	P		**P**	**03 48 35.8**	**+1.8**
BKZ	**Black Stump Fm**	**26.01**	**162**	P		**P**	**03 48 35.5**	**+1.1**
BKZ	**Black Stump Fm**	**26.01**	**162**	P		**P**	**03 48 35.6**	**+1.1**
MOVZ	**Moawhango**	**26.02**	**164**	P		**P**	**03 48 36.1**	**+1.5**
NMHZ	**Naumai**	**26.04**	**162**	P		**P**	**03 48 37.2**	**+2.5**
CAN	**Canberra**	**26.05**	**214**	P		**P**	**03 48 36.1**	**+1.2**
BHHZ	**Black Hill Sta**	**26.18**	**163**	P		**P**	**03 48 37.4**	**+1.3**
KWHZ	**Kaweka Forest**	**26.23**	**163**	P		**P**	**03 48 37.9**	**+1.5**
KRHZ	**Kereru**	**26.41**	**163**	P		**P**	**03 48 39.4**	**+1.3**
QIS	**Mount Isa**	**26.43**	**253**	P		**P**	**03 48 38.0**	**-0.4**
	baz=27,SNR=4.4							
QIS	**Mount Isa**	**26.43**	**253**	P		**P**	**03 48 37.9**	**-0.4**
MHGZ	**Mahia Peninsul**	**26.44**	**160**	P		**P**	**03 48 37.5**	**-0.8**
PNHZ	**Pukenui**	**26.62**	**163**	P		**P**	**03 48 40.6**	**+0.7**
PXZ	**Pawanui**	**26.91**	**162**	P		**P**	**03 48 43.5**	**+1.0**
DVHZ	**Dannevirke**	**26.97**	**164**	P		**P**	**03 48 43.6**	**+0.6**
BFZ	**Birch Farm**	**27.35**	**164**	P		**P**	**03 48 47.0**	**+0.6**
INKA	**Innaminka**	**27.40**	**237**	P		**P**	**03 48 47.5**	**+0.5**
SNZO	**South Karori**	**27.56**	**167**	IAMs_20		IAMs_20	03 59 33.6	
	comp=Z,3μm,18.0s							
KHZ	**Kahutara**	**28.39**	**169**	IAMs_20		IAMs_20	04 00 02.6	
	comp=Z,3μm,19.0s							
STKA	**Stephens Creek**	**28.64**	**229**	P		**P**	**03 48 58.4**	**+0.4**
	comp=Z,9.9nm,1.0s,baz=56,slow=7.5,SNR=18							
STKA						PcP	**PcP**	**03 52 06.7**	**-2.0**
	comp=Z,1.7nm,0.6s,baz=338,slow=13,SNR=1.8							
STKA						LR	LR	04 00 06.7	
	comp=Z,4μm,19.0s,baz=57,slow=36							
STKA	**Stephens Creek**	**28.64**	**229**	P		**P**	**03 48 58.4**	**+0.4**
	baz=29,SNR=12							
STKA	**Stephens Creek**	**28.64**	**229**	*i* P		**P**	**03 48 57.6**	**-0.4**
STKA	**Stephens Creek**	**28.64**	**229**	P		**P**	**03 48 57.4**	**-0.7**
STKA	**Stephens Creek**	**28.64**	**229**	P		**P**	**03 48 58.5**	**+0.4**
RPZ	**Rata Peaks**	**29.30**	**173**	P		**P**	**03 49 03.3**	**-0.5**
	comp=Z,11nm,0.9s,baz=34,slow=14,SNR=2.9							
RPZ						LR	LR	04 00 08.6	
	comp=Z,2μm,18.2s,baz=347,slow=35							
TOO	**Toolangi**	**29.62**	**215**	P		**P**	**03 49 04.8**	**-2.0**
TOO						pmax	pmax	
	comp=Z,15nm,1.2s							
TOO	**Toolangi**	**29.62**	**215**	P		**P**	**03 49 04.8**	**-2.0**
TOO	**Toolangi**	**29.62**	**215**	P		**P**	**03 49 08.3**	**+1.5**
WKZ	**Wanaka**	**30.24**	**177**	IAMs_20		IAMs_20	03 59 53.4	
	comp=Z,3μm,21.0s							
SMPI	**Sarmi**	**30.26**	**292**	P		P	03 49 18.4	+5.8
	comp=Z,2μmcomp=Z,26nm,1.5s							
LCRK	**Leigh Creek**	**30.52**	**234**	P		**P**	**03 49 14.1**	**-0.7**
MLZ	**Mavora Lakes**	**30.73**	**178**	IAMs_20		IAMs_20	04 00 26.6	
	comp=Z,3μm,19.0s							
WR0	**Warramunga Arr**	**31.08**	**255**	P		**P**	**03 49 16.8**	**-3.0**
WB0	**Warramunga Arr**	**31.20**	**256**	P		**P**	**03 49 17.8**	**-3.1**
WC3	**Warramunga Arr**	**31.24**	**255**	P		**P**	**03 49 19.5**	**-1.7**
	baz=31							
WB2	**Warramunga Arr**	**31.25**	**256**	P		**P**	**03 49 18.2**	**-3.2**
WRAB	**Tennant Creek**	**31.25**	**256**	*i* P		**P**	**03 49 19.1**	**-2.3**
WRAB						pmax	pmax	
	comp=Z,22nm,1.3s							
WRAB	**Tennant Creek**	**31.25**	**256**	IAMs_20		IAMs_20	04 00 05.8	
	comp=Z,3μm,22.0s							
WRA	**Warramunga Arr**	**31.27**	**256**	P		**P**	**03 49 19.3**	**-2.2**
	comp=Z,5.3nm,0.9s,baz=85,slow=8.7,SNR=16							
WRA				PcP		**PcP**	**03 52 14.5**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=90,slow=3.2,SNR=4.8							
WRA				LR		LR	04 00 39.6	
	comp=Z,3μm,21.2s,baz=79,slow=34							
ARPS	**Mount Arapiles**	**31.27**	**220**	P		**P**	**03 49 22.8**	**+1.5**
HTT	**Hallett**	**31.36**	**228**	P		**P**	**03 49 23.0**	**+0.7**
	baz=32,SNR=10							
HTT	**Hallett**	**31.36**	**228**	P		**P**	**03 49 22.1**	**-0.2**
OOD	**Oodnadatta**	**31.61**	**240**	P		**P**	**03 49 24.7**	**+0.3**
NAPP	**Napperby**	**31.81**	**229**	P		**P**	**03 49 27.8**	**+1.7**
AS31	**Alice Springs**	**32.15**	**249**	P		**P**	**03 49 27.0**	**-2.3**
ASAR	**Alice Springs**	**32.16**	**249**	P		**P**	**03 49 27.7**	**-1.6**
	comp=Z,4.9nm,0.7s,baz=72,slow=9.6,SNR=48							
ASAR				PcP		**PcP**	**03 52 17.4**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=83,slow=2.3,SNR=3.0							
ASAR				LR		LR	04 00 48.4	
	comp=Z,3μm,21.9s,baz=91,slow=33							
ASAR				P4KPbc			04 28 03.6	
	comp=Z,0.6nm,0.6s,baz=86,slow=8.2,SNR=8.0							
WHYH	**Whyalla**	**32.16**	**230**	P		**P**	**03 49 29.6**	**+0.4**
MOO	**Moorlands**	**32.45**	**207**	P		**P**	**03 49 33.5**	**+1.9**
RAR	**Rarotonga**	**32.61**	**107**	LR		LR	04 02 12.4	
	comp=Z,242nm,18.0s,baz=277,slow=35							
RAR	**Rarotonga**	**32.61**	**107**	P		**P**	**03 49 37.0**	**+3.8**
RAR						pmax	pmax	
	comp=Z,89nm,1.4s							
RAR	**Rarotonga**	**32.61**	**107**	P		**P**	**03 49 37.0**	**+3.8**
RAR						IAmb	IAmb	03 49 53.0
	comp=Z,89nm,1.4s							
BBOO	**Buckleboo**	**33.20**	**231**	P		**P**	**03 49 38.1**	**-0.1**
	baz=33,SNR=26							
BBOO	**Buckleboo**	**33.20**	**231**	P		**P**	**03 49 37.6**	**-0.7**
BBOO						IAmb	IAmb	03 49 48.3
	comp=Z,29nm,0.9s							
BBOO	**Buckleboo**	**33.20**	**231**	P		**P**	**03 49 38.5**	**+0.2**
MULG	**Mulgathing**	**33.78**	**237**	P		**P**	**03 49 43.1**	**-0.3**
SAUI	**Saumlaki**	**35.23**	**277**	IAMs_20		IAMs_20	04 02 23.4	
	comp=Z,4μm,21.0s							
GUMO	**Guam**	**35.30**	**321**	LR		LR	04 03 12.3	
	comp=Z,991nm,19.4s,baz=122,slow=34							
KNRA	**Kununurra**	**36.54**	**263**	P		**P**	**03 50 05.5**	**-1.8**
	baz=37,SNR=5.9							
KNRA	**Kununurra**	**36.54**	**263**	P		**P**	**03 50 04.6**	**-2.7**
KNRA						IAmb	IAmb	03 50 13.1
	comp=Z,52nm,0.9s							
WRKA	**Warakurna**	**37.42**	**248**	P		**P**	**03 50 13.6**	**-1.2**
	baz=38,SNR=23							
WRKA	**Warakurna**	**37.42**	**248**	P		**P**	**03 50 13.8**	**-1.0**
SIJI	**Sorong**	**37.50**	**288**	P		**P**	**03 50 15.1**	**-0.4**
	comp=Z,3.1nm,0.4s,baz=118,slow=13,SNR=1.

BBKI	**Banjar Baru**	**52.20 277**	P	P	03 52 19.7	+7.0	
TAOE	**Nuku Hiva Isla**	**52.33 90**	*e*S	**S**	**03 59 40.9**	**+2.6**	
	comp=Z,526nm,27.2s						
TAOE			*e*LR	LR	04 07 14.6		
	comp=Z,2µm,29.4s						
JHJ	**Hachijo jima 2**	**53.90 332**	LR	LR	04 15 21.0		
	comp=Z,180nm,18.6s,baz=136,slow=36						
KKM	**Kota Kinabalu**	**54.02 289**	P	**P**	**03 52 25.4**	**-0.7**	
KKM	**Kota Kinabalu**	**54.02 289**	P	**P**	**03 52 28.2**	**+2.1**	
PCJI	**Pacitan**	**54.62 270**	P	**P**	**03 52 33.2**	**+2.8**	
	comp=Z,131nm,1.6s						
JOW	**Kunigami**	**55.50 318**	LR	LR	04 15 59.7		
	comp=Z,631nm,19.1s,baz=130,slow=36						
SMRI	**Semarang**	**55.58 271**	P	**P**	**03 52 35.4**	**-1.9**	
STKI	**Sintang**	**56.43 280**	P	**P**	**03 52 47.8**	**+4.4**	
SBUM	**Sibu**	**56.47 283**	IAmb	IAmb	03 52 52.2		
	comp=Z,33nm,1.0s						
KPJI	**Karang Pucung**	**56.98 271**	P	**P**	**03 52 51.4**	**+4.1**	
	comp=Z,48nm,1.6s						
MJAR	**Matsushiro Arr**	**57.47 333**	LR	LR	04 17 27.9		
	comp=Z,139nm,19.3s,baz=166,slow=36						
MJAR	**Matsushiro Arr**	**57.47 333**	P	**P**	**03 52 49.2**	**-1.2**	
MJAR			pmax	pmax			
	comp=Z,17nm,1.4s						
MJAR	**Matsushiro Arr**	**57.47 333**	P	**P**	**03 52 49.2**	**-1.2**	
MAJO	**Matsushiro**	**57.47 333**	*i* P	**P**	**03 52 48.4**	**-2.0**	
MAJO			pmax	pmax			
	comp=Z,17nm,1.0s						
MAJO	**Matsushiro**	**57.47 333**	P	P	03 52 57.3	+6.9	
MJB9	**Matsu-Tunnel**	**57.48 333**	P	**P**	**03 52 49.5**	**-0.9**	
MJB9			IAmb	IAmb	03 52 59.2		
	comp=Z,21nm,0.9s						
KSM	**Kuching**	**57.97 281**	P	**P**	**03 52 54.7**	**+0.4**	
KSM	**Kuching**	**57.97 281**	P	**P**	**03 52 58.9**	**+4.6**	
LEM	**Lembang**	**58.36 271**	LR	LR	04 17 43.8		
	comp=Z,362nm,21.8s,baz=144,slow=36						
CGJI	**Cibinong**	**60.27 271**	P	**P**	**03 53 09.9**	**-0.4**	
	comp=Z,5µmcomp=Z,56nm,1.1s						
QZH	**Quanzhou**	**61.12 310**	*e*P	**P**	**03 53 17.8**	**+2.0**	
QZH			S	**S**	**04 01 36.3**	**+2.5**	
KASI	**Kota Agung**	**61.68 272**	P	**P**	**03 53 21.5**	**+1.6**	
	comp=Z,72nm,1.3s						
ASAJ	**Asahikawa**	**62.38 341**	LR	LR	04 18 13.1		
	comp=Z,366nm,19.8s,baz=175,slow=34						
SSE	**Sheshan**	**62.97 317**	P	**P**	**03 53 31.3**	**+3.2**	
SSE			S	**S**	**04 02 02.4**	**+5.3**	
SSE			pmax	pmax			
	comp=Z,17nm,0.7s						
SSE			pmax	pmax			
	comp=Z,140nm,8.5s						
SSE			LR	LR			
	comp=Z,120nm,16.5s						
SSE			LR	LR			
	comp=Z,210nm,18.8s						
VNDA	**Vanda**	**63.02 181**	P	**P**	**03 53 25.9**	**-1.8**	
	comp=Z,5.1nm,0.9s,baz=4.5,slow=6.6,SNR=17						
VNDA			LR	LR	04 17 21.1		
	comp=Z,644nm,19.9s,baz=16,slow=33						
VNDA	**Vanda**	**63.02 181**	P	**P**	**03 53 28.3**	**+0.5**	
VNDA			pmax	pmax			
	comp=Z,37nm,1.4s						
VNDA	**Vanda**	**63.02 181**	P	**P**	**03 53 28.3**	**+0.5**	
VNDA			IAmb	IAmb	03 53 40.7		
	comp=Z,37nm,1.4s						
KSRS	**Korea Array**	**63.25 326**	P	**P**	**03 53 29.2**	**-0.6**	
	comp=Z,1.2nm,0.8s,baz=141,slow=9.5,SNR=2.5						
KSAR	**Wonju Array Be**	**63.26 326**	P	**P**	**03 53 29.9**	**0.0**	
KSAR	**Wonju Array Be**	**63.26 326**	P	**P**	**03 53 29.9**	**0.0**	
SBA	**Scott Base**	**63.30 180**	P	**P**	**03 53 30.2**	**+0.5**	
SBA			pmax	pmax			
	comp=Z,69nm,1.4s						
SBA	**Scott Base**	**63.30 180**	P	**P**	**03 53 30.2**	**+0.5**	
SBA	**Scott Base**	**63.30 180**	P	**P**	**03 53 32.5**	**+2.9**	
SBA			pP	**pP**	**03 53 38.0**	**+0.8**	
CASY	**Casey**	**63.45 202**	P	**P**	**03 53 30.7**	**-0.1**	
CASY	**Casey**	**63.45 202**	P	**P**	**03 53 31.9**	**+1.2**	
CASY			pP	**pP**	**03 53 37.2**	**-1.1**	
INCN	**Inchon**	**63.98 325**	P	**P**	**03 53 34.8**	**+0.1**	
INCN			pmax	pmax			
	comp=Z,69nm,1.5s						
INCN	**Inchon**	**63.98 325**	P	**P**	**03 53 34.8**	**+0.1**	
MASI	**Maura Aman, Be**	**64.44 274**	P	P	03 53 43.2	+5.0	
	comp=Z,106nm,0.9s						
YSS	**Yuzh-Sakhalins**	**64.88 342**	*ce*P	**P**	**03 53 40.0**	**-0.3**	
YSS			*e**SP	**pP**	**03 53 48.1**	**+0.7**	
YSS			*e*S	**S**	**04 02 20.0**	**-0.1**	
YSS			pmax	pmax			
	comp=Z,600nm,4.0s						
YSS			pmax	pmax			
	comp=Z,30nm,1.1s						
CCD	**Concordia, Ant**	**64.94 191**	P	**P**	**03 53 42.8**	**+1.8**	
CCD			pP	**sP**	**03 53 50.9**	**-0.5**	
QIZ	**Qiongzhong**	**65.11 299**	P	**P**	**03 53 45.3**	**+2.8**	
QIZ			S	**S**	**04 02 27.8**	**+3.7**	
QIZ			LR	LR			
	comp=Z,280nm,15.9s						
QIZ			LR	LR			
	comp=Z,350nm,16.7s						
QIZ			LR	LR			
	comp=Z,350nm,25.0s						
NJ2	**Nanjing**	**65.12 316**	*e*P	**P**	**03 53 43.1**	**+0.8**	
NJ2			pmax	pmax			
	comp=Z,8.0nm,0.6s						
USA0B	**Ussuriysk Arra**	**66.46 334**	*i* P	**P**	**03 53 51.4**	**+0.8**	
USA0B	**Ussuriysk Arra**	**66.46 334**	P	**P**	**03 53 50.1**	**-0.5**	
USA0B			IAmb	IAmb	03 54 15.7		
	comp=Z,30nm,1.1s						
USRK	**Ussuriysk Ar.**	**66.46 334**	P	**P**	**03 53 50.8**	**+0.2**	
	comp=Z,7.0nm,0.8s,baz=139,slow=5.5,SNR=12						
USRK	**Ussuriysk Ar.**	**66.46 334**	P	**P**	**03 53 50.1**	**-0.5**	
USRK	**Ussuriysk Ar.**	**66.46 334**	P	**P**	**03 53 50.1**	**-0.5**	
BKNI	**Bangkinang**	**66.50 277**	P	**P**	**03 53 50.7**	**-0.8**	
SHEM	**Shemya Is, Ala**	**67.32 5**	LR	LR	04 18 31.1		
	comp=Z,511nm,20.1s,baz=180,slow=32						
PET	**Petropavlovsk**	**67.66 355**	*e*P	**P**	**03 53 58.0**	**0.0**	
PET			*e*S	**S**	**04 02 52.8**	**-0.8**	
PET			pmax	pmax			
	comp=Z,400nm,13.6s						
PET			MLR	MLR			
	comp=Z,400nm,14.0s						
IPM	**Ipoh**	**67.70 281**	P	**P**	**03 53 58.6**	**-0.6**	
IPM	**Ipoh**	**67.70 281**	P	**P**	**03 54 02.4**	**+3.2**	
	comp=Z,46nm,1.0s						
PEA0B	**Petropavlovsk-**	**67.83 354**	P	**P**	**03 53 57.6**	**-1.5**	
PEA0B			pmax	pmax			
	comp=Z,66nm,1.3s						
PEA0B	**Petropavlovsk-**	**67.83 354**	P	**P**	**03 53 57.6**	**-1.5**	
PETK	**Petropavlovsk-**	**67.83 354**	P	**P**	**03 53 58.6**	**-0.5**	
	comp=Z,3.1nm,0.8s,baz=170,slow=8.8,SNR=2.4						
PETK			LR	LR	04 17 54.7		
	comp=Z,382nm,21.7s,baz=154,slow=31						
PETK	**Petropavlovsk-**	**67.83 354**	P	**P**	**03 53 58.4**	**-0.7**	
PETK	**Petropavlovsk-**	**67.83 354**	P	**P**	**03 53 58.4**	**-0.7**	
MDJ	**Mudanjiang**	**67.84 332**	P	**P**	**03 53 57.9**	**-1.5**	
MDJ			IAmb	IAmb	03 54 24.3		
	comp=Z,47nm,1.4s						
MDJ	**Mudanjiang**	**67.84 332**	P	**P**	**03 54 00.3**	**+0.9**	
MDJ			S	**S**	**04 03 04.5**	**+8.3**	
MDJ			pmax	pmax			
	comp=Z,11nm,0.8s						
MDJ			pmax	pmax			
	comp=Z,550nm,4.5s						
MDJ			LR	LR			
	comp=Z,320nm,12.5s						
MDJ			LR	LR			
	comp=Z,420nm,13.5s						
MDJ			LR	LR			
	comp=Z,430nm,13.9s						
SISI	**Saibi**	**67.94 275**	P	P	03 54 07.0	+6.3	
MNSI	**Mandaling Nat**	**68.03 277**	P	P	03 54 06.6	+5.3	
KULM	**Kulim**	**68.31 282**	P	**P**	**03 54 01.7**	**-1.3**	
KULM			IAmb	IAmb	03 54 11.0		
	comp=Z,35nm,1.2s						
TIA	**Tai'an**	**68.80 319**	⇑P	P	03 54 10.6	+5.0	
CN2	**Changchun**	**69.18 329**	*e*P	**P**	**03 54 07.3**	**-0.5**	
CN2			S	**S**	**04 03 15.3**	**+3.1**	
CN2			pmax	pmax			
	comp=Z,10.0nm,0.7s						
CN2			pmax	pmax			
	comp=Z,400nm,5.5s						
CN2			LR	LR			
	comp=Z,200nm,18.0s						
CN2			LR	LR			
	comp=Z,300nm,18.0s						
CN2			LR	LR			
	comp=Z,300nm,17.0s						
PSI	**Prapat**	**69.22 279**	P	**P**	**03 54 07.0**	**-1.8**	
	comp=Z,12nm,0.9s,baz=117,slow=4.9,SNR=7.8						
PSI			LR	LR	04 25 53.6		
	comp=Z,244nm,19.3s,baz=118,slow=37						
BNX	**BinXian**	**69.69 332**	⇓P	**P**	**03 54 10.8**	**-0.1**	
BNX			pmax	pmax			
	comp=Z,22nm,0.6s						
BNX			pmax	pmax			
	comp=Z,490nm,3.9s						
GSI	**Gunungsitoli**	**70.10 277**	P	**P**	**03 54 13.3**	**-0.8**	
GSI	**Gunungsitoli**	**70.10 277**	P	**P**	**03 54 16.5**	**+2.4**	
	comp=Z,2µmcomp=Z,62nm,1.0s						
GSI	**Gunungsitoli**	**70.10 277**	P	**P**	**03 54 17.2**	**+3.1**	
	comp=Z,63nm,1.1s						
GRNR	**Gornyy**	**70.22 340**	⇓*i* P	**P**	**03 54 14.8**	**+0.7**	
GRNR			pmax	pmax			
	comp=Z,10.0nm,0.9s						
SRIT	**Nakonsritamara**	**70.33 285**	P	**P**	**03 54 14.8**	**-0.6**	
KLR	**Kul'dur**	**70.60 337**	P	**P**	**03 54 16.5**	**+0.1**	
	comp=Z,3.1nm,0.9s,baz=137,slow=7.1,SNR=10						
KLR			LR	LR	04 24 52.9		
	comp=Z,157nm,18.9s,baz=151,slow=36						
KLR	**Kul'dur**	**70.60 337**	*i* P	**P**	**03 54 16.6**	**+0.1**	
KLR			pmax	pmax			
	comp=Z,32nm,1.8s						
ENH	**Enshi**	**70.78 310**	P	**P**	**03 54 17.7**	**-0.3**	
ENH			IAmb	IAmb	03 54 25.2		
	comp=Z,49nm,1.2s						
LYN	**LuoYang**	**70.92 315**	*e*P	**P**	**03 54 19.3**	**+0.6**	
LYN			sP	pP	03 54 24.6	-1.4	
LYN			S	**S**	**04 03 34.3**	**+1.4**	
LYN			pmax	pmax			
	comp=Z,370nm,6.3s						
LYN			LR	LR			
	comp=Z,480nm,16.5s						
LYN			LR	LR			
	comp=Z,270nm,17.7s						
LYN			LR	LR			
	comp=Z,440nm,16.7s						
NKL	**Nikolayevsk**	**71.03 344**	*e*P	**P**	**03 54 17.2**	**-1.7**	
NKL			*e*S	**S**	**04 03 33.2**	**-0.2**	
NKL			pmax	pmax			
	comp=E,3.0nm,0.7s						
NKL			pmax	pmax			
	comp=N,1.0nm,0.9s						
NKL			pmax	pmax			
	comp=Z,28nm,1.4s						
NKL			smax	smax			
	comp=E,17nm,1.3s						
NKL			smax	smax			
	comp=N,1.0nm,2.0s						
NKL			MLR	MLR			
	comp=N,1.0nm,13.0s						
NKL			MLR	MLR			
	comp=Z,141nm,12.0s						
HNS	**HongShan**	**71.06 318**	⇑P	**P**	**03 54 17.3**	**-2.2**	
HNS			PP	**PP**	**03 57 00.3**	**+2.9**	
HNS			S	**S**	**04 03 39.1**	**+4.6**	
HNS			SKS	**SKSac**	**04 04 18.8**	**-1.9**	
HNS			pmax	pmax			
	comp=Z,170nm,7.1s						
HNS			LR	LR			
	comp=Z,160nm,18.6s						
HNS			LR	LR			
	comp=Z,310nm,16.7s						
HNS			LR	LR			
	comp=Z,210nm,21.0s						
BJT	**Baijiatuao**	**71.74 321**	P	**P**	**03 54 23.2**	**-0.3**	
BJT			pmax	pmax			
	comp=Z,25nm,1.3s						
BJT	**Baijiatuao**	**71.74 321**	P	**P**	**03 54 23.2**	**-0.3**	
BJT			IAmb	IAmb	03 54 31.7		
	comp=Z,25nm,1.3s						
BJI	**Beijing**	**71.75 321**	P	**P**	**03 54 23.9**	**+0.4**	
BJI			S	**S**	**04 03 43.8**	**+1.6**	
BJI			pmax	pmax			
	comp=Z,10.0nm,1.9s						
BJI			pmax	pmax			
	comp=Z,380nm,4.6s						
BJI			LR	LR			
	comp=Z,240nm,19.3s						
BJI			LR	LR			
	comp=Z,270nm,15.8s						
BJI			LR	LR			
	comp=Z,280nm,21.9s						
TIY	**Taiyuan**	**72.72 318**	⇓P	**P**	**03 54 31.3**	**+1.8**	
TIY			S	**SKiKP**	**04 04 01.6**	**-0.8**	
TIY			pmax	pmax			
	comp=Z,220nm,5.9s						
TIY			LR	LR			
	comp=Z,290nm,13.7s						
TIY			LR	LR			
	comp=Z,330nm,14.2s						
TIY			LR	LR			
	comp=Z,350nm,17.9s						
XAN	**Xi'an**	**73.12 313**	P	**P**	**03 54 32.3**	**+0.3**	
XAN			S	**SKiKP**	**04 04 01.4**	**-1.6**	
XAN			pmax	pmax			
	comp=Z,20nm,1.0s						
XAN			pmax	pmax			
	comp=Z,400nm,5.1s						
XAN			LR	LR			
	comp=Z,310nm,19.2s						
XAN			LR	LR			
	comp=Z,400nm,22.2s						
XAN			LR	LR			
	comp=Z,580nm,20.2s						
KMI	**Kunming**	**73.69 302**	⇓P	**P**	**03 54 37.4**	**+1.7**	
KMI			pmax	pmax			
	comp=Z,11nm,1.2s						
KMI			pmax	pmax			
	comp=Z,420nm,7.1s						
SPIA	**Saint Paul Isl**	**74.01 13**	P	**P**	**03 54 35.9**	**-0.6**	
	baz=203						
XLT	**XiLinHaoTe**	**74.21 325**	⇑*i* P	P	03 54 44.5	+6.3	
XLT			S	**S**	**04 04 15.3**	**+5.0**	
XLT			pmax	pmax			
	comp=Z,35nm,1.8s						
XLT			pmax	pmax			
	comp=Z,360nm,3.5s						
XLT			LR	LR			
	comp=Z,540nm,15.6s						
XLT			LR	LR			
	comp=Z,260nm,18.1s						
CM31	**Chiang Mai Arr**	**74.31 294**	P	**P**	**03 54 38.7**	**-0.6**	
CMAR	**Chiang Mai Arr**	**74.31 294**	P	**P**	**03 54 39.5**	**+0.3**	
	comp=Z,5.0nm,0.9s,baz=132,slow=4.5,SNR=20						
CMAR			LR	LR	04 27 52.8		
	comp=Z,100nm,19.9s,baz=115,slow=36						
CHTO	**Chiang Mai**	**74.44 295**	P	**P**	**03 54 40.2**	**+0.2**	
CHTO			pmax	pmax			
	comp=Z,17nm,1.0s						
CHTO	**Chiang Mai**	**74.44 295**	P	**P**	**03 54 40.2**	**+0.2**	
MA2	**Magadan**	**74.99 352**	P	**P**	**03 54 39.6**	**-2.6**	
	comp=Z,4.9nm,0.4s,baz=162,slow=19,SNR=2.5						
MA2			LR	LR	04 21 54.7		
	comp=Z,175nm,21.7s,baz=156,slow=31						
MA2	**Magadan**	**74.99 352**	*i* P	**P**	**03 54 41.2**	**-1.0**	
MA2	**Magadan**	**74.99 352**	P	**P**	**03 54 42.0**	**-0.3**	
HHC	**Hu-ho-hao-te**	**75.06 320**	*e*P	**P**	**03 54 45.3**	**+2.1**	
HHC			S	**S**	**04 04 23.8**	**+3.8**	
HHC			SS	**SS**	**04 09 14.4**	**+4.8**	
HHC			pmax	pmax			
	comp=Z,30nm,0.9s						
HHC			pmax	pmax			
	comp=Z,330nm,5.8s						
HHC			LR	LR			
	comp=Z,470nm,17.8s						
HHC			LR	LR			
	comp=Z,210nm,16.5s						
HHC			LR	LR			
	comp=Z,440nm,17.1s						
PZH	**PanZhiHua**	**75.08 303**	P	**P**	**03 54 42.8**	**-0.9**	
PZH			sP	**pP**	**03 54 50.1**	**-1.0**	
PZH			S	**S**	**04 04 23.0**	**+2.1**	
PZH			pmax	pmax			
	comp=Z,10.0nm,0.9s						
PZH			pmax	pmax			
	comp=Z,130nm,5.7s						
PZH			LR	LR			
	comp=Z,2µm,22.4s						
PZH			LR	LR			
	comp=Z,2µm,21.6s						
PZH			LR	LR			
	comp=Z,1µm,21.7s						
CD2	**Chengdu**	**75.42 308**	P	**P**	**03 54 47.0**	**+1.6**	
CD2			S	**S**	**04 04 25.4**	**+1.1**	
CD2			pmax	pmax			
	comp=Z,10.0nm,0.6s						
CD2			pmax	pmax			
	comp=Z,400nm,9.4s						
CD2			LR	LR			
	comp=Z,460nm,17.0s						
CD2			LR	LR			
	comp=Z,280nm,14.0s						
QSPA	**South Pole Qui**	**75.47 180**	LR	LR	04 25 36.4		
	comp=Z,385nm,18.9s,baz=28,slow=34						
QSPA	**South Pole Qui**	**75.47 180**	P	**P**	**03 54 44.9**	**-0.4**	
HIA	**Hailar**	**75.83 330**	*i* P	**P**	**03 54 47.2**	**-0.2**	
HIA			pmax	pmax			
	comp=Z,32nm,1.7s						
HIA	**Hailar**	**75.83 330**	P	**P**	**03 54 46.9**	**-0.5**	
ZEA	**Zeya**	**75.89 337**	*e*P	**P**	**03 54 48.8**	**+1.2**	
ZEA			pmax	pmax			
	comp=Z,200nm,8.9s						
ZEA			pmax	pmax			
	comp=N,10.0nm,1.2s						
ZEA			pmax	pmax			
	comp=Z,20nm,0.7s						
LZH	**Lanzhou**	**77.75 313**	*e*P	**P**	**03 55 00.3**	**+1.6**	
LZH			pP	pP	03 55 03.4	-2.7	
LZH			sP	sP	03 55 05.8	-3.0	
LZH			S	**S**	**04 04 54.8**	**+4.9**	
LZH			pmax	pmax			
	comp=Z,35nm,1.3s						
LZH			pmax	pmax			
	comp=Z,460nm,6.5s						
LZH			LR	LR			
	comp=Z,340nm,16.3s						
LZH			LR	LR			
	comp=Z,350nm,16.8s						
LZH			LR	LR			
	comp=Z,530nm,18.4s						
SII	**Sitkinak Islan**	**78.02 21**	P	**P**	**03 54 59.2**	**-0.3**	
	baz=219						
SEY	**Seynchan**	**78.04 353**	P	**P**	**03 54 58.6**	**-0.8**	
	comp=Z,7.9nm,0.8s,baz=170,slow=23,SNR=14						
SEY			LR	LR	04 25 01.4		
	comp=Z,527nm,20.5s,baz=169,slow=32						
SEY	**Seymchan**	**78.04 353**	*ce*P	**P**	**03 54 58.9**	**-0.5**	
SEY			pmax	pmax			
	comp=Z,30nm,1.1s						
KDAK	**Kodiak Island**	**79.53 21**	LR	LR	04 24 26.5		
	comp=Z,823nm,20.5s,baz=235,slow=31						
GAMB	**Gambell**	**79.86 10**	IAMs_20	IAMs_20	04 23 56.1		
	comp=Z,598nm,20.0s						
GAMB	**Gambell**	**79.86 10**	P	**P**	**03 55 09.2**	**-0.1**	
	baz=201						
N18K	**Kilae Creek**	**80.75 18**	P	**P**	**03 55 13.6**	**-0.7**	
	baz=217						
O19K	**Port Alsworth**	**80.84 19**	IAmb	IAmb	03 55 18.4		
	comp=Z,34nm,1.4s						
O19K			IAMs_20	IAMs_20	04 24 08.9		
	comp=Z,832nm,22.0s						
SVW2	**Sparrevohn**	**81.18 18**	P	**P**	**03 55 17.6**	**+1.0**	
SVW2			IAmb	IAmb	03 55 20.4		
	comp=Z,33nm,1.4s						
N19K	**Bonanza Creek**	**81.28 18**	IAMs_20	IAMs_20	04 22 47.5		
	comp=Z,1µm,22.0s						
O20K	**Slope Mountain**	**81.28 19**	P	**P**	**03 55 15.8**	**-1.4**	
	baz=220						
ULN	**Ulaanbaatar**	**81.63 324**	*ce*P	**P**	**03 55 19.4**	**-0.1**	
ULN			pmax	pmax			
	comp=Z,38nm,1.2s						
ULN	**Ulaanbaatar**	**81.63 324**	P	**P**	**03 55 18.9**	**-0.5**	
ULN			IAmb	IAmb	03 55 27.7		
	comp=Z,31nm,1.1s						
BRSE	**Bradley Lake S**	**81.64 20**	P	**P**	**03 55 17.1**	**-2.0**	
	baz=221						
YAK	**Yakutsk**	**81.69 343**	LR	LR	04 31 27.2		
	comp=Z,268nm,18.5s,baz=98,slow=36						
YAK	**Yakutsk**	**81.69 343**	*e*P	**P**	**03 55 18.3**	**-0.9**	
YAK			*e**PP	**sP**	**03 55 31.2**	**+1.7**	
YAK			*e*		03 58 23.4		
YAK			*e*PPP	PPP	04 00 11.9		
YAK			*e*S	**S**	**04 05 28.9**	**-1.1**	
YAK			*e*SS	**SS**	**04 10 47.2**	**-1.1**	
YAK			pmax	pmax			
	comp=Z,33nm,1.2s						
YAK			pmax	pmax			
	comp=N,11nm,1.3s						
YAK			pmax	pmax			
	comp=E,11nm,1.1s						
YAK			pmax	pmax			
	comp=Z,306nm,4.9s						
YAK			pmax	pmax			
	comp=N,58nm,3.4s						
YAK			pmax	pmax			
	comp=E,89nm,4.9s						
YAK			smax	smax			
	comp=E,90nm,3.9s						
YAK			smax	smax			
	comp=N,41nm,2.7s						
YAK	**Yakutsk**	**81.69 343**	P	**P**	**03 55 19.1**	**-0.1**	
ANM	**Nome**	**81.73 12**	P	**P**	**03 55 19.4**	**0.0**	
ANM			pmax	pmax			
	comp=Z,24nm,1.1s						
ANM	**Nome**	**81.73 12**	P	**P**	**03 55 19.4**	**0.0**	
ANM			IAmb	IAmb	03 55 26.4		
	comp=Z,24nm,1.1s						
ANM			IAMs_20	IAMs_20	04 26 15.3		
	comp=Z,636nm,21.0s						
ANM	**Nome**	**81.73 12**	P	**P**	**03 55 19.0**	**-0.4**	
	baz=207						
MAW	**Mawson**	**81.81 202**	P	**P**	**03 55 18.6**	**-1.3**	
	comp=Z,3.5nm,0.9s,baz=121,slow=19,SNR=2.2						
MAW			LR	LR	04 25 18.9		
	comp=Z,581nm,21.9s,baz=94,slow=31						
SONM	**Songino Array**	**81.99 324**	P	**P**	**03 55 20.5**	**-0.8**	
	comp=Z,2.9nm,0.7s,baz=145,slow=5.4,SNR=4.0						
SONM			LR	LR	04 29 04.0		
	comp=Z,154nm,21.9s,baz=193,slow=34						
SONM	**Songino Array**	**81.99 324**	P	**P**	**03 55 20.4**	**-0.9**	
SONM			pmax	pmax			
	comp=Z,47nm,1.4s						
SONM	**Songino Array**	**81.99 324**	P	**P**	**03 55 20.4**	**-0.9**	
SONM			IAmb	IAmb	03 55 29.4		
	comp=Z,47nm,1.4s						
GTA	**Gaotai**	**82.10 314**	*e*P	**P**	**03 55 22.4**	**+0.3**	
GTA			sP	pP	03 55 28.5	-1.1	
GTA			SKS	**S**	**04 05 34.3**	**-1.3**	
GTA			pmax	pmax			
	comp=Z,10.0nm,1.8s						
GTA			pmax	pmax			
	comp=Z,230nm,6.0s						
GTA			LR	LR			
	comp=Z,230nm,14.7s						
GTA			LR	LR			
	comp=Z,260nm,17.9s						
GTA			LR	LR			
	comp=Z,240nm,21.5s						
TNA	**Tin City**	**82.15 10**	P	**P**	**03 55 21.0**	**-0.6**	
	baz=205						
M19K	**Big River Lodg**	**82.17 17**	IAmb	IAmb	03 55 30.0		
	comp=Z,19nm,0.9s						
M19K	**Big River Lodg**	**82.17 17**	P	**P**	**03 55 21.1**	**-0.7**	
	baz=218						
L19K	**White Mountain**	**82.25 17**	IAMs_20	IAMs_20	04 28 18.3		
	comp=Z,1µm,20.0s						
L19K	**White Mountain**	**82.25 17**	P	**P**	**03 55 21.2**	**-1.0**	
	baz=217						
SEW	**Seward**	**82.34 21**	P	**P**	**03 55 20.7**	**-1.9**	
	baz=223						
BILL	**Bilibino**	**82.37 360**	*de*P	**P**	**03 55 21.2**	**-1.5**	
BILL			*e*		03 58 34.4		
BILL			pmax	pmax			
	comp=Z,27nm,0.9s						
BILL	**Bilibino**	**82.37 360**	P	**P**	**03 55 22.2**	**-0.5**	
TTA	**Tatalina**	**82.53 16**	P	**P**	**03 55 23.0**	**-0.7**	
TTA			pmax	pmax			
	comp=Z,11nm,1.0s						
TTA	**Tatalina**	**82.53 16**	P	**P**	**03 55 23.0**	**-0.7**	
TTA	**Tatalina**	**82.53 16**	P	**P**	**03 55 23.0**	**-0.7**	
	baz=216						
O22K	**Cooper Landing**	**82.53 20**	IAMs_20	IAMs_20	04 24 44.8		
	comp=Z,944nm,22.0s						
O22K	**Cooper Landing**	**82.53 20**	P	**P**	**03 55 22.4**	**-1.3**	
	baz=222						
L20K	**Farewell, AK**	**82.77 17**	P	**P**	**03 55 24.3**	**-0.6**	
	baz=218,SNR=12						
SHL	**Shillong**	**82.94 299**	P	**P**	**03 55 25.7**	**-1.1**	

SHL pmax pmax
comp=Z,90nm,1.5s
SHL Shillong 82.94 299 P **P** **03 55 25.7 -1.1**
RC01 Rabbit Creek A 82.98 20 P **P** **03 55 25.7 -0.3**
RC01 IAmb IAmb 03 55 32.0
comp=Z,35nm,1.1s
RC01 Rabbit Creek A 82.98 20 P **P** **03 55 25.0 -1.0**
baz=222
PWL Port Wells 83.28 20 IAMs_20 IAMs_20 04 25 09.5
comp=Z,578nm,20.0s
PWL Port Wells 83.28 20 P **P** **03 55 25.3 -2.3**
baz=224,SNR=9.3
M22K Willow 83.35 19 P **P** **03 55 27.2 -0.6**
M22K IAMs_20 IAMs_20 04 26 31.4
comp=Z,910nm,20.0s
M22K Willow 83.35 19 P **P** **03 55 26.5 -1.3**
baz=222
K20K Telida 83.41 17 IAmb IAmb 03 55 31.5
comp=Z,22nm,1.3s
K20K IAMs_20 IAMs_20 04 29 40.8
comp=Z,806nm,18.0s
K20K Telida 83.41 17 P **P** **03 55 27.2 -1.0**
baz=218,SNR=8.5
PMR Palmer 83.55 20 P **P** **03 55 28.1 -0.8**
PMR pmax pmax
comp=Z,28nm,1.0s
PMR Palmer 83.55 20 P **P** **03 55 28.1 -0.8**
PMR IAmb IAmb 03 55 30.5
comp=Z,28nm,1.0s
PMR Palmer 83.55 20 P **P** **03 55 26.9 -1.9**
baz=223,SNR=8.3
PPLA Purkeypile 83.58 18 P **P** **03 55 27.5 -1.8**
baz=220
KNK Knik Glacier 83.64 20 IAmb IAmb 03 55 35.7
comp=Z,38nm,1.1s
KNK IAMs_20 IAMs_20 04 25 33.0
comp=Z,639nm,20.0s
KNK Knik Glacier 83.64 20 P **P** **03 55 28.0 -1.5**
baz=223,SNR=7.2
GLI Glacier Island 83.71 21 IAMs_20 IAMs_20 04 25 14.0
comp=Z,717nm,22.0s
GLI Glacier Island 83.71 21 P **P** **03 55 28.6 -1.2**
baz=225
GCSA Galena City Sc 83.78 15 P **P** **03 55 29.3 -0.7**
baz=215
CUT Chulitna 83.79 19 IAMs_20 IAMs_20 04 25 43.1
comp=Z,752nm,22.0s
CUT Chulitna 83.79 19 P **P** **03 55 28.2 -1.9**
baz=222
EYAK Cordova Ski Ar 83.95 22 P **P** **03 55 29.5 -1.4**
baz=226
SML Sawmill 83.97 20 P **P** **03 55 30.9 -0.2**
SML IAmb IAmb 03 55 44.7
comp=Z,31nm,1.0s
SML IAMs_20 IAMs_20 04 25 19.7
comp=Z,890nm,20.0s
SML Sawmill 83.97 20 P **P** **03 55 30.0 -1.2**
baz=224,SNR=6.4
CAST Castle Rocks 84.02 17 P **P** **03 55 30.3 -1.0**
CAST IAmb IAmb 03 55 37.3
comp=Z,30nm,0.9s
CAST IAMs_20 IAMs_20 04 26 44.0
comp=Z,684nm,20.0s
CAST Castle Rocks 84.02 17 P **P** **03 55 29.1 -2.2**
baz=220,SNR=30
J20K Nowinta River 84.03 16 P **P** **03 55 32.2 +0.9**
J20K IAmb IAmb 03 55 38.3
comp=Z,44nm,1.5s
J20K IAMs_20 IAMs_20 04 25 30.4
comp=Z,780nm,22.0s
J20K Nowinta River 84.03 16 P **P** **03 55 30.0 -1.3**
baz=218,SNR=9.9
BOD Bodaibo 84.06 335 *e*P **P** **03 55 31.3 -0.3**
BOD pmax pmax
comp=Z,20nm,1.8s
CHUM Lake Minchumin 84.31 17 P **P** **03 55 31.3 -1.5**
baz=220,SNR=7.1
SCM Sheep Creek Mo 84.32 20 P **P** **03 55 32.4 -0.6**
SCM pmax pmax
comp=Z,40nm,1.1s
SCM Sheep Creek Mo 84.32 20 P **P** **03 55 32.4 -0.6**
SCM Sheep Creek Mo 84.32 20 P **P** **03 55 31.6 -1.3**
baz=224
DIV Divide 84.35 21 IAmb IAmb 03 55 39.2
comp=Z,20nm,1.0s
GOMU GeErMu 84.40 309 P **P** **03 55 35.8 +1.4**
GOMU pP PcP 03 55 39.3 +1.3
GOMU sP pP 03 55 42.8 +1.0
GOMU S **S** **04 06 01.1 +1.6**
GOMU pmax pmax
comp=Z,4.0nm,0.4s
GOMU pmax pmax
comp=Z,290nm,7.1s
GOMU LR LR
comp=Z,140nm,15.4s
GOMU LR LR
comp=Z,180nm,15.6s
GOMU LR LR
comp=Z,170nm,14.9s
KTH Kantishna Hill 84.46 18 P **P** **03 55 31.9 -1.7**
KTH IAmb IAmb 03 55 33.4
comp=Z,27nm,0.9s
KTH IAMs_20 IAMs_20 04 27 28.6
comp=Z,988nm,21.0s
KLU Klutina 84.55 21 IAMs_20 IAMs_20 04 26 16.2
comp=Z,668nm,20.0s
KLU Klutina 84.55 21 P **P** **03 55 32.9 -1.2**
baz=226
TRF Thorofare Moun 84.57 18 IAmb IAmb 03 55 40.9
comp=Z,31nm,0.9s
TRF IAMs_20 IAMs_20 04 27 21.6
comp=Z,879nm,20.0s
TRF Thorofare Moun 84.57 18 P **P** **03 55 31.9 -2.4**
baz=222,SNR=14
BERG Berg Lake 84.59 22 P **P** **03 55 33.4 -0.8**
WAT1 Susitna Watana 84.64 19 P **P** **03 55 33.0 -1.5**
baz=223
BMRM Bremner River 84.65 22 IAMs_20 IAMs_20 04 25 24.8
comp=Z,773nm,22.0s
BMRM Bremner River 84.65 22 P **P** **03 55 32.9 -1.7**
baz=227
WAT6 Susitna Watana 84.72 19 P **P** **03 55 33.9 -1.2**
baz=224,SNR=15
BPAW Bear Paw Mtn. 84.85 17 P **P** **03 55 34.8 -0.8**
BPAW IAmb IAmb 03 55 40.6
comp=Z,20nm,1.2s
BPAW IAMs_20 IAMs_20 04 27 40.1
comp=Z,715nm,19.0s
BPAW Bear Paw Mtn. 84.85 17 P **P** **03 55 33.2 -2.3**
baz=221,SNR=9.3
SNCC San Nicolas Is 84.87 54 P **P** **03 55 33.1 -3.2**
baz=249
M24K Tolsona, Glenn 84.90 20 P **P** **03 55 33.9 -1.9**
baz=225
ZAK Zakamensk 85.06 325 *e*P **P** **03 55 35.9 -1.1**
ZAK pmax pmax
comp=Z,45nm,1.4s
O02D Mt. Diablo Mer 85.06 46 P **P** **03 55 34.2 -3.1**
baz=246
N25K Chitina, Valde 85.09 21 IAmb IAmb 03 55 50.8
comp=Z,30nm,1.4s
N25K Chitina, Valde 85.09 21 P **P** **03 55 35.0 -1.8**
baz=227
SBC Santa Barbara 85.15 53 P **P** **03 55 34.7 -2.9**
baz=249
MCK McKinley 85.19 18 P **P** **03 55 36.0 -1.2**
MCK pmax pmax
comp=Z,48nm,1.1s
MCK McKinley 85.19 18 P **P** **03 55 36.0 -1.2**
MCK IAMs_20 IAMs_20 04 28 51.9
comp=Z,772nm,20.0s
MCK McKinley 85.19 18 P **P** **03 55 35.0 -2.3**
baz=223,SNR=19
DHY Denali Highway 85.19 19 P **P** **03 55 35.9 -1.5**
baz=224,SNR=8.1
ISLE Juniper Island 85.23 23 IAMs_20 IAMs_20 04 25 59.2
comp=Z,602nm,21.0s
GLB Gilahina Butte 85.25 22 IAmb IAmb 03 55 49.0
comp=Z,15nm,1.1s
RDOG Red Dog Mine 85.28 11 P **P** **03 55 36.7 -0.9**
RDOG IAmb IAmb 03 55 40.6
comp=Z,38nm,1.3s
RDOG Red Dog Mine 85.28 11 P **P** **03 55 36.8 -0.9**
baz=210
L02E Cave Junction 85.30 44 P **P** **03 55 36.3 -2.0**
baz=246
BWN Browne 85.35 18 P **P** **03 55 36.8 -1.2**
BWN IAMs_20 IAMs_20 04 27 03.6
comp=Z,841nm,21.0s
I21K Tanana 85.40 16 IAMs_20 IAMs_20 04 26 32.6
comp=Z,806nm,22.0s
I21K Tanana 85.40 16 P **P** **03 55 37.3 -0.9**
baz=220
HARP HAARP 85.44 20 P **P** **03 55 37.7 -0.8**
baz=226
MCARA McCarthy VSAT 85.50 22 IAMs_20 IAMs_20 04 25 52.2
comp=Z,626nm,22.0s
H21K Melozitna Rive 85.55 16 P **P** **03 55 38.8 -0.2**
H21K IAmb IAmb 03 55 46.0
comp=Z,36nm,1.1s
H21K Melozitna Rive 85.55 16 P **P** **03 55 38.2 -0.8**
baz=219
IMAR Indian Mountai 85.56 15 P **P** **03 55 38.3 -0.7**
TABL Table Mountain 85.58 23 IAMs_20 IAMs_20 04 26 00.3
comp=Z,563nm,20.0s
PAX Paxson 85.73 20 P **P** **03 55 38.8 -1.3**
baz=226
YBH Yreka Blue Hor 85.74 45 LR LR 04 26 23.9
comp=Z,347nm,20.2s,baz=255,slow=30
NEA2 Nenana 85.78 18 P **P** **03 55 38.9 -1.3**
NEA2 IAMs_20 IAMs_20 04 28 17.6
comp=Z,712nm,19.0s
NEA2 Nenana 85.78 18 P **P** **03 55 38.0 -2.1**
baz=223,SNR=11
BARN Barnard Glacie 85.78 23 IAmb IAmb 03 55 55.0
comp=Z,18nm,1.0s
CTG Chitna Glacier 85.84 23 P **P** **03 55 39.2 -1.5**
baz=230
BCPM Bancas Point 85.85 24 IAMs_20 IAMs_20 04 25 21.6
comp=Z,674nm,20.0s
WRH Wood River Hil 85.98 18 IAMs_20 IAMs_20 04 27 23.9
comp=Z,746nm,20.0s
I03D Drain, OR 86.10 43 P **P** **03 55 40.7 -1.4**
baz=246
I23K Minto, Yukon-K 86.11 17 IAmb IAmb 03 55 47.4
comp=Z,19nm,1.4s
I23K IAMs_20 IAMs_20 04 28 17.2
comp=Z,611nm,18.0s
I23K Minto, Yukon-K 86.11 17 P **P** **03 55 40.1 -1.6**
baz=222
M26K Nabesna, AK 86.18 21 IAmb IAmb 03 55 49.0
comp=Z,12nm,0.9s
M26K IAMs_20 IAMs_20 04 27 10.4
comp=Z,692nm,20.0s
M26K Nabesna, AK 86.18 21 P **P** **03 55 41.2 -1.0**
baz=228
CCB Clear Creek Bu 86.19 18 P **P** **03 55 40.9 -1.2**
CCB IAmb IAmb 03 55 48.8
comp=Z,16nm,0.9s
CCB IAMs_20 IAMs_20 04 28 12.5
comp=Z,730nm,20.0s
MDM Murphy Dome 86.29 18 IAmb IAmb 03 55 48.8
comp=Z,23nm,0.9s
MDM IAMs_20 IAMs_20 04 29 23.2
comp=Z,626nm,20.0s
TCOL CIGO, UAF Yank 86.34 18 IAMs_20 IAMs_20 04 28 16.4
comp=Z,695nm,20.0s
TCOL CIGO, UAF Yank 86.34 18 P **P** **03 55 41.0 -1.9**
baz=224
COLA College 86.34 18 *i* P **P** **03 55 41.8 -1.1**
COLA pmax pmax
comp=Z,69nm,2.1s
COLA College 86.34 18 P **P** **03 55 41.3 -1.5**
COLA College 86.34 18 IAMs_20 IAMs_20 04 25 22.4
comp=Z,654nm,20.0s
COLA College 86.34 18 P **P** **03 55 41.2 -1.6**
baz=224
M04C Macdoel 86.36 45 P **P** **03 55 41.5 -2.2**
baz=247
RIDG Independent Ri 86.47 20 P **P** **03 55 42.6 -1.1**
RIDG IAmb IAmb 03 55 50.4
comp=Z,21nm,0.9s
RIDG IAMs_20 IAMs_20 04 27 12.9
comp=Z,891nm,21.0s
RIDG Independent Ri 86.47 20 P **P** **03 55 42.2 -1.5**
baz=227
L26K Log Cabin Wild 86.48 20 IAMs_20 IAMs_20 04 28 24.2
comp=Z,703nm,19.0s
L26K Log Cabin Wild 86.48 20 P **P** **03 55 42.1 -1.6**
baz=228
M27K Edge Creek, AK 86.55 21 IAMs_20 IAMs_20 04 26 47.0
comp=Z,648nm,21.0s
M27K Edge Creek, AK 86.55 21 P **P** **03 55 42.5 -1.6**
baz=229
H23K Yukon River 86.56 17 IAmb IAmb 03 55 51.7
comp=Z,21nm,1.0s
H23K IAMs_20 IAMs_20 04 30 22.1
comp=Z,559nm,19.0s
H23K Yukon River 86.56 17 P **P** **03 55 42.9 -1.1**
baz=222
IL31 86.56 18 IAmb IAmb 03 55 44.0
comp=Z,18nm,0.8s
ILAR Eielson Array 86.56 18 P **P** **03 55 42.4 -1.6**
comp=Z,14nm,0.7s,baz=236,slow=5.0,SNR=96
ILAR PKKPbc **PKKPbc** **04 13 42.5 -0.6**
comp=Z,0.3nm,0.7s,baz=20,slow=2.1,SNR=4.1
ILAR LR LR 04 29 06.0
comp=Z,795nm,20.1s,baz=202,slow=32
ILAR Eielson Array 86.56 18 P **P** **03 55 41.6 -2.4**
ILAR Eielson Array 86.56 18 P **P** **03 55 41.6 -2.4**
POKR Poker Plat Res 86.64 18 IAMs_20 IAMs_20 04 28 35.4
comp=Z,568nm,20.0s
POKR Poker Plat Res 86.64 18 P **P** **03 55 42.5 -1.9**
baz=224
109C Camp Elliot, M 86.65 55 P **P** **03 55 43.3 -1.9**
baz=250
DOT Dot Lake 86.66 20 IAmb IAmb 03 55 51.3
comp=Z,12nm,0.9s
YUK3 Moose Creek 86.69 22 P **P** **03 55 43.2 -1.7**
baz=231
J25K Salcha River, 86.91 19 IAmb IAmb 03 55 52.0
comp=Z,23nm,0.8s
J25K Salcha River, 86.91 19 P **P** **03 55 44.2 -1.6**
baz=226
SCRK Sand Creek 86.91 20 IAmb IAmb 03 55 53.6
comp=Z,16nm,0.9s
SCRK IAMs_20 IAMs_20 04 27 27.5
comp=Z,686nm,22.0s
SCRK Sand Creek 86.91 20 P **P** **03 55 44.5 -1.3**
baz=227
BELA Belgrano 2 86.94 176 P **P** **03 55 44.3 -1.5**
BELA IAmb IAmb 03 55 46.9
comp=Z,36nm,1.4s
MOY Mondy 86.94 325 *e*P **P** **03 55 47.1 +0.8**
BBB Bella Bella 86.98 34 LR LR 04 27 20.3
comp=Z,573nm,20.8s,baz=252,slow=31
L27K Beaver Creek, 87.03 21 IAMs_20 IAMs_20 04 29 01.6
comp=Z,682nm,21.0s
L27K Beaver Creek, 87.03 21 P **P** **03 55 45.1 -1.3**
baz=229
H24K Noodor Dome 87.03 17 IAMs_20 IAMs_20 04 28 47.7
comp=Z,629nm,20.0s
H24K Noodor Dome 87.03 17 P **P** **03 55 45.2 -1.2**
baz=224
PFO Pinyon Flats O 87.40 54 LR LR 04 30 30.5
comp=Z,905nm,18.1s,baz=250,slow=33
J26L Joseph Creek 87.40 19 P **P** **03 55 47.1 -1.1**
baz=228
COLD Coldfoot 87.43 15 P **P** **03 55 47.8 -0.3**
COLD IAmb IAmb 03 55 56.8
comp=Z,22nm,1.0s
COLD Coldfoot 87.43 15 P **P** **03 55 47.5 -0.6**
baz=222
NVAR Mina Array Bea 87.63 49 P **P** **03 55 48.6 -1.5**
comp=Z,0.2nm,0.3s,baz=213,slow=6.5,SNR=1.0
NVAR LR LR 04 26 15.1
comp=Z,807nm,21.9s,baz=268,slow=30
PALK Palekele 87.89 278 LR LR 04 35 31.6
comp=Z,109nm,19.2s,baz=226,slow=36
EGAK Eagle 88.37 20 IAmb IAmb 03 55 55.0
comp=Z,8.8nm,0.8s
EGAK IAMs_20 IAMs_20 04 24 35.0
comp=Z,621nm,22.0s
EGAK Eagle 88.37 20 P **P** **03 55 51.7 -1.0**
baz=230
DAWY Dawson 88.51 21 P **P** **03 55 53.1 -0.3**
baz=232
M30M Minto, Yukon 88.54 23 P **P** **03 55 52.4 -1.1**
baz=234
TOLK Toolik Lake Re 88.65 15 IAmb IAmb 03 56 01.2
comp=Z,17nm,1.1s
TOLK IAMs_20 IAMs_20 04 29 58.3
comp=Z,818nm,20.0s
TOLK Toolik Lake Re 88.65 15 P **P** **03 55 53.2 -0.8**
baz=222
WVOR Wild Horse Val 88.81 46 IAmb IAmb 03 56 09.8
comp=Z,13nm,1.4s
DLBC Dease Lake 89.08 28 LR LR 04 27 47.2
comp=Z,399nm,21.9s,baz=252,slow=30
BMAR Burnt Mountain 89.09 17 P **P** **03 55 55.8 -0.3**
TIXI Tiksi 89.68 349 LR LR 04 35 07.1
comp=Z,157nm,19.0s,baz=178,slow=35
TIXI Tiksi 89.68 349 *i* P **P** **03 56 00.1 +1.4**
TIXI pmax pmax
comp=Z,9.0nm,1.1s
TIXI Tiksi 89.68 349 P **P** **03 55 57.5 -1.2**
LPIG La Paz 89.69 65 LR LR 04 28 35.7
comp=Z,218nm,18.9s,baz=218,slow=30
214A Organ Pipe Nat 89.80 57 P **P** **03 55 58.1 -2.1**
ELK Elko 90.64 48 LR LR 04 28 28.3
comp=Z,516nm,21.8s,baz=248,slow=30
ELK Elko 90.64 48 P **P** **03 56 01.8 -2.4**
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 90.64 48 P **P** **03 56 01.8 -2.4**
F10A Beach Ranch, E 90.99 43 IAmb IAmb 03 56 11.7
comp=Z,7.3nm,0.8s
MFID Camas Ranch 91.08 45 P **P** **03 56 04.6 -1.4**
MFID IAMs_20 IAMs_20 04 29 46.9
comp=Z,558nm,19.0s
NEW Newport 91.84 40 LR LR 04 35 34.6
comp=Z,220nm,18.3s,baz=244,slow=34
WMQ Urumqi 92.17 315 *e*P **P** **03 56 12.0 +1.0**
WMQ sP pP 03 56 18.8 +0.2
WMQ S **S** **04 07 12.3 0.0**
WMQ pmax pmax
comp=Z,35nm,1.7s
WMQ pmax pmax
comp=Z,220nm,3.9s
WMQ LR LR
comp=Z,230nm,16.7s
WMQ LR LR
comp=Z,180nm,20.5s
HYBB Hyderabad (bro 92.48 287 *e*P **P** **03 56 11.5 -1.4**
HYBB *es*P **sP** **03 56 27.6 +4.5**
INK Inuvik 92.93 19 P **P** **03 56 12.1 -1.7**
comp=Z,0.6nm,0.7s,baz=239,slow=5.6,SNR=2.8
INK LR LR 04 33 14.1
comp=Z,602nm,20.4s,baz=214,slow=32
TROLL Troll, Antarti 92.98 185 P **P** **03 56 14.3 -0.1**
SNAA Sanae 93.68 183 P **P** **03 56 17.2 -0.4**
SNAA Sanae 93.68 183 *ce*P **P** **03 56 16.7 -0.8**
SNAA pmax pmax
comp=Z,11nm,0.9s
SNAA Sanae 93.68 183 P **P** **03 56 15.1 -2.4**
SNAA IAmb IAmb 03 56 28.8
comp=Z,10nm,1.0s
VNA3 Neumayer Olymp 94.37 181 P **P** **03 56 20.7 0.0**
VNA2 Neumayer--Watz 94.63 182 P **P** **03 56 21.5 -0.3**
baz=180,slow=4.0
VNA1 Neumayer--Stat 94.93 182 P **P** **03 56 23.5 +0.4**
PDAR Pinedale Array 95.29 47 P **P** **03 56 25.4 -0.2**
comp=Z,0.2nm,0.7s,baz=223,slow=7.8,SNR=2.3
PDAR PKKPbc **PKKPdf** **04 13 22.6 +1.8**
comp=Z,0.4nm,0.7s,baz=88,slow=4.8,SNR=5.1
PDAR LR LR 04 31 29.4
comp=Z,240nm,21.1s,baz=260,slow=31
ANMO Albuquerque 95.72 56 LR LR 04 31 24.7
comp=Z,557nm,20.8s,baz=242,slow=30
ANMO Albuquerque 95.72 56 *i* P **P** **03 56 24.6 -3.1**
RLMT Red Lodge 96.08 45 IAMs_20 IAMs_20 04 39 37.3
comp=Z,592nm,20.0s
C36M Paulatuk 96.44 20 P **P** **03 56 27.7 -2.2**
C36M Paulatuk 96.44 20 P **P** **03 56 27.4 -2.5**
baz=246
MK31 Makanchi Array 96.65 316 *i* P **P** **03 56 30.3 -1.1**
MK31 Makanchi Array 96.65 316 P **P** **03 56 29.4 -2.0**
MKAR Makanchi Array 96.65 316 P **P** **03 56 30.9 -0.6**
comp=Z,1.7nm,0.8s,baz=103,slow=5.3,SNR=14
MKAR PP **PP** **04 00 20.9 -5.5**
comp=Z,0.3nm,0.8s,baz=154,slow=2.0,SNR=1.9
MKAR PKKPbc **PKKPbc** **04 13 13.5 -2.9**
comp=Z,0.2nm,0.6s,baz=300,slow=2.7,SNR=3.5
TXAR Lajitas Array 96.74 62 P **P** **03 56 30.2 -2.1**
comp=Z,0.1nm,0.6s,baz=272,slow=5.3,SNR=1.9
TXAR LR LR 04 31 05.8
comp=Z,375nm,21.8s,baz=225,slow=30
MAKZ Makanchi 96.87 316 P **P** **03 56 32.4 0.0**
MAKZ pmax pmax
comp=Z,21nm,1.4s
MAKZ Makanchi 96.87 316 P **P** **03 56 32.4 0.0**
MAKZ IAmb IAmb 03 56 40.7
comp=Z,21nm,1.4s
ZAA0 Zalesovo Array 96.89 324 P **P** **03 56 31.6 -0.7**
ZAA0 IAmb IAmb 03 56 38.5
comp=Z,17nm,1.4s
ZALV Zalesovo Beam 96.89 324 P **P** **03 56 30.3 -1.9**
comp=Z,1.6nm,0.7s,baz=108,slow=4.8,SNR=8.6
ZALV LR LR 04 39 55.1
comp=Z,150nm,20.6s,baz=112,slow=35
ZALV Zalesovo Beam 96.89 324 P **P** **03 56 30.6 -1.7**
ZALV Zalesovo Beam 96.89 324 P **P** **03 56 30.6 -1.7**
A36M Sachs Harbour 97.19 17 P **P** **03 56 32.2 -1.0**
A36M IAmb IAmb 03 56 42.1
comp=Z,9.3nm,0.9s
A36M IAMs_20 IAMs_20 04 34 44.1
comp=Z,616nm,22.0s
A36M Sachs Harbour 97.19 17 P **P** **03 56 31.8 -1.4**
baz=245
YKA Yellowknife Ar 97.68 27 P **P** **03 56 33.7 -1.9**
comp=Z,1.2nm,0.7s,baz=253,slow=4.6,SNR=26
YKA PKiKP **PKiKP** **04 01 08.5 -1.2**
comp=Z,0.4nm,0.8s,baz=249,slow=1.2,SNR=6.9
YKA LR LR 04 38 53.8
comp=Z,123nm,18.2s,baz=284,slow=34
KSH Kashi 99.61 308 P **Pdif** **03 56 46.1 +1.1**
KSH PP **PP** **04 00 50.8 +1.5**
KSH LR LR
comp=Z,440nm,17.6s
KSH LR LR
comp=Z,300nm,15.5s
KSH LR LR
comp=Z,230nm,18.4s
NRIK Noril'sk 99.69 339 P **Pdif** **03 56 42.6 -1.9**
comp=Z,1.4nm,0.4s,baz=172,slow=1.3,SNR=4.6
NRIK LR LR 04 40 57.6
comp=Z,146nm,20.1s,baz=92,slow=35
NRIK Noril'sk 99.69 339 *ce*P **Pdif** **03 56 42.7 -1.9**
NRIK pmax pmax
comp=Z,13nm,1.4s
KURK Kurchatov 99.87 320 IAMs_20 IAMs_20 04 45 33.6
comp=Z,377nm,18.0s
KURBB Kurchatov Arra 99.91 320 PKKPbc PKKPbc 04 13 04.2 -3.1
comp=Z,0.2nm,0.2s,baz=288,slow=3.3,SNR=4.4
KURBB LR LR 04 44 37.9
comp=Z,214nm,18.1s,baz=85,slow=37
JCT Junction City 100.26 61 IAMs_20 IAMs_20 04 33 40.7
comp=Z,675nm,21.0s
435B Jarrell 102.19 61 IAMs_20 IAMs_20 04 32 43.9
comp=Z,659nm,19.0s
U40A Yellville 106.87 56 IAMs_20 IAMs_20 04 40 48.3
comp=Z,584nm,20.0s
JFWS Jewell Farm 109.33 49 IAMs_20 IAMs_20 04 41 48.0
comp=Z,630nm,20.0s
PLAL Pickwick Lake 110.63 58 IAMs_20 IAMs_20 04 38 06.0
comp=Z,487nm,21.0s
WVT Waverly 110.90 57 IAMs_20 IAMs_20 04 39 32.0
comp=Z,464nm,20.0s
LRAL Lakeview Retre 111.40 60 IAMs_20 IAMs_20 04 40 28.5
comp=Z,576nm,22.0s
AAM Ann Arbor 114.19 50 IAMs_20 IAMs_20 04 42 10.8
comp=Z,592nm,20.0s
PRGR Permogore 117.23 333 *e*PKIKP **PKiKP** **04 01 49.5 +3.4**
PRGR pmax pmax
comp=Z,12nm,0.9s
LPAZ La Paz 117.84 118 PKP **PKPdf** **04 01 47.1 -2.3**
comp=Z,1.2nm,0.8s,baz=282,slow=3.1,SNR=5.3
LPAZ La Paz 117.84 118 PKIKP **PKPdf** **04 01 48.1 -1.3**
LPAZ La Paz 117.84 118 **PKPdf** **04 01 48.1 -1.3**
CBN Corbin Frederi 119.22 54 IAMs_20 IAMs_20 04 46 23.3
comp=Z,541nm,20.0s
ARCES ARCESS Array B 119.93 345 PKP **PKPdf** **04 01 50.0 -1.1**
comp=Z,4.0nm,0.5s,baz=68,slow=1.9,SNR=35
ARCES ARCESS Array B 119.93 345 PKIKP **PKPdf** **04 01 50.0 -1.1**
ARCES ARCESS Array B 119.93 345 **PKPdf** **04 01 50.0 -1.1**
KLMR Klimovskoe 120.25 333 *e*PKIKP **PKPdf** **04 01 49.1 -2.8**
KLMR pmax pmax
comp=Z,22nm,1.3s
KLMR Klimovskoe 120.25 333 *e*PKPdf **PKPdf** **04 01 49.1 -2.8**
KLMR AMP 04 01 58.0
comp=Z,22nm,1.3s

CPUP	**Villa Florida**	**121.02**	**133**	PKP	**PKPdf**	**04 01 53.8**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=207,slow=4.5,SNR=4.5						
GROC	**Groznyy**	**122.23**	**312**	*i* PKIKP	**PKiKP**	**04 01 58.3**	**+1.9**
GROC				*e*		04 03 30.4	
GROC				pmax	pmax		
	comp=Z,21nm,0.9s						
SCHQ	**Schefferville**	**122.50**	**33**	PKP	**PKPdf**	**04 01 55.5**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=14,slow=2.0,SNR=4.6						
SCHQ	**Schefferville**	**122.50**	**33**		**PKPdf**	**04 01 55.2**	**-1.2**
VRH	**Novokhopyorsk**	**122.87**	**322**	*e*PKIKP	**PKPdf**	**04 01 56.1**	**-1.1**
VRH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BOSA	**Boshof**	**123.10**	**221**	PKP	**PKPdf**	**04 01 56.5**	**-2.1**
	comp=Z,1.8nm,0.7s,baz=177,slow=5.8,SNR=4.7						
GNI	**Garni**	**123.54**	**309**	PKIKP	**PKPdf**	**04 01 57.0**	**-2.1**
GNI	**Garni**	**123.54**	**309**		**PKPdf**	**04 01 57.0**	**-2.1**
ZEI	**Tsey**	**123.67**	**312**	*i* PKIKP	**PKiKP**	**04 02 00.9**	**+1.3**
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SDV	**Santo Domingo**	**123.77**	**89**	PKPdf	**PKPdf**	**04 01 58.1**	**-2.2**
LPSR	**Galich'ya Gora**	**124.00**	**324**	*e*PKIKP	**PKiKP**	**04 01 59.8**	**+0.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ONI	**Oni**	**124.04**	**312**	PKIKP	**PKPdf**	**04 01 59.0**	**-0.9**
ONI	**Oni**	**124.04**	**312**		**PKPdf**	**04 01 59.0**	**-0.9**
KBZ	**Khabaz**	**124.18**	**313**	PKP	**PKPdf**	**04 01 59.3**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=45,slow=4.3,SNR=3.6						
VORR	**Voronezh**	**124.18**	**323**	*e*PKIKP	**PKPdf**	**04 01 58.1**	**-1.6**
VORR				pmax	pmax		
	comp=Z,40nm,0.4s						
OBN	**Obninsk**	**124.23**	**328**⇑	*e*PKIKP	**PKiKP**	**04 02 01.2**	**+1.2**
OBN				*e*		04 03 43.7	
OBN				*e*SS	SS	04 20 27.3	-7.0
OBN				*e*SSS	SSS	04 25 10.2	
OBN				pmax	pmax		
	comp=Z,29nm,1.3s						
OBN	**Obninsk**	**124.23**	**328**	PKPdf	**PKPdf**	**04 01 59.3**	**-0.4**
OBN	**Obninsk**	**124.23**	**328**	IAMs_20	IAMs_20	04 53 08.1	
	comp=Z,324nm,22.0s						
KIV	**Kislovodsk**	**124.28**	**314**	*i* PKIKP	**PKPdf**	**04 01 58.3**	**-2.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,139nm,22.0s						
LBTB	**Lobatse**	**125.31**	**224**	PKIKP	**PKPdf**	**04 02 01.2**	**-1.7**
LBTB	**Lobatse**	**125.31**	**224**		**PKPdf**	**04 02 01.2**	**-1.7**
FINES	**FINESS Array B**	**125.33**	**338**	PKP	**PKPdf**	**04 02 00.4**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=36,slow=3.5,SNR=6.0						
FINES	**FINESS Array B**	**125.33**	**338**	PKIKP	**PKPdf**	**04 02 00.9**	**-0.7**
FINES	**FINESS Array B**	**125.33**	**338**	PKPdf	**PKPdf**	**04 02 00.9**	**-0.7**
SAML	**Samuel**	**125.36**	**112**	IAMs_20	IAMs_20	04 44 47.4	
	comp=Z,288nm,21.0s						
AQDB	**Aquidauana**	**125.75**	**129**		**PKPdf**	**04 02 01.7**	**-2.0**
GURO	**Guroymak-BITLI**	**125.88**	**307**	PKPdf	**PKPdf**	**04 02 01.3**	**-2.4**
SOC	**Sochi**	**126.46**	**314**	*i* PKIKP	**PKPdf**	**04 02 01.2**	**-3.2**
SOC				*e*		04 03 57.4	
SOC				*e*PPP	PPP	04 06 38.0	
SOC				*e*PS	PS	04 14 00.8	-3.1
SOC				*e*SS	SS	04 20 54.9	-8.4
SOC				*e*SSS	SSS	04 25 45.8	
KMBO	**Kilima Mbogo**	**127.54**	**257**	IAMs_20	IAMs_20	04 56 23.5	
	comp=Z,354nm,18.0s						
MNK	**Minsk**	**128.87**	**330**	*i* PKIKP	**PKPdf**	**04 02 06.9**	**-1.7**
MNK				*i*		04 04 13.2	
MNK				*i* PPP	PPP	04 06 58.3	
MNK				*i*		04 09 17.1	
MNK				*i* SS	SS	04 21 33.0	+0.9
MNK				*i* SSS	SSS	04 26 18.6	
MNK				pmax	pmax		
	comp=N,12nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,19nm,1.3s						
MNK	**Minsk**	**128.87**	**330**	*i* PKP	**PKPdf**	**04 02 06.9**	**-1.7**
	comp=E,2.0nm,0.8s						
MNK				*i* PKP	**PKPdf**	**04 02 06.9**	**-1.7**
	comp=N,12nm,0.9s						
MNK				*i* PKP	**PKPdf**	**04 02 06.9**	**-1.7**
	comp=Z,19nm,1.3s,baz=55						
MNK				*i* PP	**PP**	**04 04 13.2**	**-2.1**
MNK				*i* SKP		04 05 41.5	
MNK				*i* PKS	**PKSdf**	**04 05 41.9**	**-3.0**
MNK				*i* PPP	PPP	04 06 58.4	
MNK				*i* SKS	**SKSdf**	**04 09 17.2**	**-1.5**
MNK				*i* SKKS	**SKKSdf**	**04 19 25.0**	**-3.9**
MNK				*i* SS	**SS**	**04 21 33.1**	**+1.0**
MNK				*i* SSS	SSS	04 26 18.6	
MNK				*i* LR	LR	04 55 58.5	
MNK				*i* LRM	MLR	05 02 33.3	
	comp=N,331nm,14.5s						
MNK				*i* LRM	MLR	05 03 09.1	
	comp=E,61nm,14.1s						
MNK				*i* LRM	MLR	05 04 32.2	
	comp=Z,322nm,20.4s						
NACGM	**Naroch**	**129.15**	**331**	*e*PKP	**PKiKP**	**04 02 12.0**	**+2.2**
PABE	**Paberze**	**130.05**	**333**		**PKPdf**	**04 02 08.8**	**-2.0**
AKASG	**Malin Array Be**	**130.25**	**326**	PKP	**PKPdf**	**04 02 11.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=55,slow=2.4,SNR=9.6						
AKASG				SKP		04 05 45.7	
	comp=Z,0.9nm,0.6s,baz=38,slow=4.8,SNR=1.5						
NB2	**NORSAR Subarra**	**130.30**	**345**	PKPdf	**PKiKP**	**04 02 13.2**	**+1.1**
	comp=Z,13nm,1.4s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**130.30**	**345**	PKPdf	**PKiKP**	**04 02 13.2**	**+1.1**
	baz=31,slow=1.9						
NOA	**NORSAR Array B**	**130.30**	**345**	PKP	**PKPdf**	**04 02 10.9**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=33,slow=2.0,SNR=13						
NOA				SKPbc	**SKiKP**	**04 05 40.4**	**-6.3**
	comp=Z,1.5nm,0.9s,baz=32,slow=3.0,SNR=3.8						
HFS	**Hagfors**	**130.38**	**343**	SKP		04 05 47.9	
	comp=Z,3.2nm,1.0s,baz=349,slow=5.9,SNR=2.8						
BRTR	**Keskin Array B**	**131.93**	**311**	PKP	**PKPdf**	**04 02 14.3**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=60,slow=3.5,SNR=1.6						
BRTR				SKP		04 05 49.8	
	comp=Z,0.5nm,0.5s,baz=86,slow=2.3,SNR=1.8						
BRTR	**Keskin Array B**	**131.93**	**311**	PKIKP	**PKPdf**	**04 02 13.9**	**-1.2**
BRTR	**Keskin Array B**	**131.93**	**311**		**PKPdf**	**04 02 13.9**	**-1.2**
SMRT	**St. Maarten**	**132.28**	**79**	IAMs_20	IAMs_20	05 01 54.7	
	comp=Z,244nm,19.0s						
BR231	**Keskin MP Arra**	**132.52**	**311**	PKPdf	**PKPdf**	**04 02 15.8**	**-0.4**
BURAR	**Bucovina Array**	**134.11**	**324**	PKPdf	**PKPdf**	**04 02 17.9**	**-1.0**
BDFB	**Brasilia**	**134.47**	**130**	PKP	**PKPdf**	**04 02 19.4**	**-1.2**
	comp=Z,3.1nm,0.7s,baz=25,slow=0.6,SNR=7.1						
TSUM	**Tsumeb**	**134.67**	**223**	PKPdf	**PKPdf**	**04 02 18.7**	**-2.2**
UZH	**Uzhgorod**	**135.14**	**327**	*e*PKIKP	**PKiKP**	**04 02 27.7**	**+5.6**
UZH				*e*		04 02 35.3	
CRVS	**Cervenica-Dubn**	**135.41**	**328**	*e*PKIKP	**PKiKP**	**04 02 24.7**	**+2.0**
CRVS	**Cervenica-Dubn**	**135.41**	**328**	*e*PKP	**PKiKP**	**04 02 24.7**	**+2.0**
LANS	**Liptovska Anna**	**136.27**	**329**	*e*PKIKP	**PKiKP**	**04 02 27.4**	**+2.9**
LANS	**Liptovska Anna**	**136.27**	**329**	*e*PKP	**PKiKP**	**04 02 27.4**	**+2.9**
MORC	**Moravsky Berou**	**136.78**	**331**	PKIKP	**PKPdf**	**04 02 22.9**	**-0.9**
MORC	**Moravsky Berou**	**136.78**	**331**	PKPdf	**PKPdf**	**04 02 22.9**	**-0.9**
MORC	**Moravsky Berou**	**136.78**	**331**	*e*PKIKP	**PKiKP**	**04 02 25.4**	**-0.1**
PSZ	**Piszkesteto**	**136.84**	**327**	PKP	**PKiKP**	**04 02 29.0**	**+3.3**
OSTC	**Ostas**	**136.84**	**333**	AMS	AMS	05 01 50.0	
	comp=Z,400nm,20.6s						
CHVC	**Chvalec**	**136.89**	**333**	*e*PKPDF	**PKiKP**	**04 02 25.7**	**0.0**
CHVC				AMS	AMS	05 01 50.0	
	comp=Z,400nm,16.4s						
KRLC	**Kraliky**	**136.93**	**332**	*e*PKIKP	**PKiKP**	**04 02 26.0**	**+0.2**
KRLC				MLR	MLR		
	comp=Z,200nm,21.7s						
KRLC	**Kraliky**	**136.93**	**332**	*e*PKPDF	**PKiKP**	**04 02 26.0**	**+0.2**
KRLC				AMS	AMS	05 08 10.0	
	comp=Z,200nm,21.7s						
DPC	**Dobruska-Polom**	**136.94**	**332**	*e*PKIKP	**PKiKP**	**04 02 27.9**	**+2.0**
DPC				MLR	MLR		
	comp=Z,300nm,19.1s						
DPC	**Dobruska-Polom**	**136.94**	**332**	*e*PKPDF	**PKiKP**	**04 02 27.9**	**+2.0**
DPC				AMS	AMS	05 02 10.0	
	comp=Z,300nm,19.1s						
UPC	**Upice**	**136.97**	**333**	AMS	AMS	05 02 10.0	
	comp=Z,400nm,18.4s						
VYHS	**Vyhne**	**137.01**	**329**	*e*PKIKP	**PKiKP**	**04 02 29.9**	**+3.9**
VYHS	**Vyhne**	**137.01**	**329**	*e*PKP	**PKiKP**	**04 02 29.9**	**+3.9**
JAVC	**Velka Javorina**	**137.35**	**330**	*e*PKIKP	**PKiKP**	**04 02 27.3**	**+0.6**
VRAC	**Vranov**	**137.55**	**331**	*e*PKIKP	**PKiKP**	**04 02 28.2**	**+1.1**
BRG	**Berggiesshubel**	**137.59**	**334**	*e*PKP	**PKiKP**	**04 02 27.7**	**+0.6**
BRG				Amp		04 02 35.6	
	comp=Z,11nm,1.1s						
BRG				*ex*	x	04 02 46.3	
BRG				Amp		04 02 50.9	
	comp=Z,4.8nm,1.1s						
BRG				*ex*	x	04 06 02.6	
	comp=Z,40nm,2.1s						
BRG	**Berggiesshubel**	**137.59**	**334**	*e*PKIKP	**PKiKP**	**04 02 27.7**	**+0.6**
BRG				pmax	pmax		
	comp=Z,11nm,1.1s						
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,41nm,2.1s						
CLL	**Collm**	**137.65**	**336**	*e*PKIKP	**PKiKP**	**04 02 28.0**	**+0.8**
CLL				*e*		04 02 33.0	
CLL	**Collm**	**137.65**	**336**	*e*PKIKP	**PKiKP**	**04 02 28.0**	**+0.8**
CLL				*ex*	x	04 02 33.0	
CLL				*e*PP	**PP**	**04 05 16.0**	**+4.8**
CLL				*e*SKPdf	**SKiKP**	**04 06 01.0**	**-0.9**
CLL				*e*PKSdf	**PKSdf**	**04 06 04.0**	**+2.8**
CLL				*ex*	x	04 06 21.0	
CLL				*e*PPS	PPS	04 17 14.0	
CLL				*e*SS	**SS**	**04 23 18.0**	**-0.1**
CLL				*ex*	x	04 25 42.0	
CLL				*e*SSS	SSS	04 28 54.0	
CLL				LmV		05 09 00.0	
	comp=Z,200nm,19.8s						
KRUC	**Moravsky**	**137.82**	**331**	*e*PKIKP	**PKiKP**	**04 02 28.7**	**+1.1**
MODS	**Modra-Piesok**	**137.87**	**330**	*e*PKIKP	**PKiKP**	**04 02 30.1**	**+2.3**
MODS	**Modra-Piesok**	**137.87**	**330**	*e*PKP	**PKiKP**	**04 02 30.1**	**+2.3**
PRU	**Pruhonice**	**138.00**	**333**	AMS	AMS	05 01 50.0	
	comp=Z,400nm,20.8s						
TREC	**Trest**	**138.07**	**332**	AMS	AMS	05 02 30.0	
	comp=Z,300nm,22.8s						
MPLH	**Magyarpolny**	**138.54**	**328**	PKP	**PKiKP**	**04 02 33.7**	**+4.6**
NKC	**Novy Kostel**	**138.70**	**335**	AMS	AMS	05 11 10.0	
	comp=Z,300nm,18.2s						
RONA	**Rosalia, Austr**	**138.81**	**329**	*e*P	**PKPdf**	**04 02 28.5**	**+0.9**
	comp=Z,3.7nm,0.9s						
CONA	**Conrad Observa**	**138.86**	**330**	*e*P	**PKiKP**	**04 02 29.7**	**-0.2**
	comp=Z,4.2nm,1.1s						
KOVH	**Kovagotottos**	**138.95**	**326**	PKP	**PKiKP**	**04 02 30.3**	**+0.3**
CKRC	**Cesky Krumlov**	**138.96**	**332**	*e*PKPDF	**PKiKP**	**04 02 30.7**	**+0.7**
CKRC				AMS	AMS	04 58 00.0	
	comp=Z,200nm,18.0s						
KHC	**Kasperske Hory**	**139.05**	**333**	*e*PKIKP	**PKPdf**	**04 02 28.4**	**+0.4**
KHC				*e*		04 02 37.1	
KHC				MLR	MLR		
	comp=Z,300nm,23.0s						
KHC	**Kasperske Hory**	**139.05**	**333**	*e*PKPDF	**PKPdf**	**04 02 28.4**	**+0.4**
KHC				*ex*	x	04 02 37.1	
KHC				*e*SKP		04 06 03.5	
KHC				AMS	AMS	05 03 20.0	
	comp=Z,300nm,23.0s						
DIVS	**Divibare**	**139.10**	**323**	PKPdf	**PKPdf**	**04 02 28.5**	**+0.2**
GERES	**GERESS Array B**	**139.21**	**333**	PKP	**PKPdf**	**04 02 27.8**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=112,slow=1.4,SNR=13						
GERES				SKP		04 06 04.4	
	comp=Z,0.4nm,0.7s,baz=59,slow=5.1,SNR=3.6						
GERES	**GERESS Array B**	**139.21**	**333**	PKIKP	**PKPdf**	**04 02 27.4**	**-0.9**
GERES	**GERESS Array B**	**139.21**	**333**		**PKPdf**	**04 02 27.4**	**-0.9**
GRF	**Grafenberg Arr**	**139.62**	**335**	*e*PKPdf	**PKiKP**	**04 02 36.2**	**+4.9**
	baz=18,slow=1.1						
BIOA	**Bad Ischl, Aus**	**140.09**	**331**	*e*P	**PKiKP**	**04 02 32.1**	**-0.2**
	comp=Z,6.1nm,1.2s						
SOKA	**Soboth**	**140.14**	**329**	*e*P	**PKPdf**	**04 02 31.5**	**+1.5**
	comp=Z,8.1nm,1.8s						
OBKA	**Obir**	**140.50**	**329**	P	**PKPdf**	**04 02 31.6**	**+0.9**
	comp=Z,2.8nm,1.0s						
WATA	**Walderalm**	**141.28**	**333**	*e*P	**PKPdf**	**04 02 33.4**	**+1.2**
	comp=Z,3.6nm,0.7s						
ABTA	**Abfaltersbach**	**141.30**	**331**	*e*P	**PKPdf**	**04 02 32.9**	**+0.8**
	comp=Z,7.7nm,1.3s						
WTTA	**Wattenberg**	**141.31**	**333**	*e*P	**PKPdf**	**04 02 33.2**	**+0.9**
	comp=Z,7.9nm,1.1s						
MOTA	**Moosalm**	**141.49**	**333**	*e*P	**PKPdf**	**04 02 33.9**	**+1.3**
	comp=Z,2.9nm,0.8s						
SQTA	**Sankt Quirin**	**141.53**	**333**	*e*P	**PKPdf**	**04 02 34.2**	**+1.6**
	comp=Z,3.7nm,0.6s						
FETA	**Feichten**	**141.90**	**333**	*e*P	**PKPdf**	**04 02 32.7**	**-0.6**
	comp=Z,3.1nm,1.0s						
DAVA	**Damuels**	**142.06**	**334**	*e*P	**PKPdf**	**04 02 33.1**	**-0.5**
	comp=Z,5.6nm,1.3s						
DAVOX	**Davos/Dischmat**	**142.45**	**334**	SKP		04 06 12.3	
	comp=Z,2.1nm,0.7s,baz=335,slow=2.2,SNR=3.9						
TUE	**Stuetta**	**142.92**	**334**	PKPdf	**PKPdf**	**04 02 33.9**	**-1.4**
NRCA	**Norcia**	**143.78**	**326**	PKPdf	**PKPdf**	**04 02 36.0**	**-0.6**
TIP	**Timpagrande**	**143.91**	**319**	PKPdf	PKPbc	04 02 35.8	+1.0
AQU	**L'Aquila**	**143.95**	**325**	IAMs_20	IAMs_20	05 12 43.9	
	comp=Z,223nm,20.0s						
OSSC	**Osservatorio P**	**144.27**	**329**		**PKPab**	**04 02 34.0**	**-1.3**
CASP	**Castiglione de**	**144.99**	**328**		**PKPab**	**04 02 36.3**	**-1.7**
CEL	**Celeste**	**144.99**	**318**	PKPbc	**PKPab**	**04 02 36.8**	**-1.4**
BNI	**Bardonecchia**	**145.18**	**335**	PKIKP	**PKPdf**	**04 02 39.5**	**+0.3**
BNI	**Bardonecchia**	**145.18**	**335**		**PKPdf**	**04 02 39.5**	**+0.3**
RCBR	**Riachuelo**	**149.84**	**131**	PKIKP	**PKPdf**	**04 02 48.6**	**+0.9**
RCBR	**Riachuelo**	**149.84**	**131**	PKPbc	**PKPdf**	**04 02 48.6**	**+0.9**
KEST	**Kesra**	**150.68**	**320**	PKPbc	**PKPbc**	**04 02 54.0**	**+0.1**
	comp=Z,8.1nm,0.8s,baz=294,slow=2.9,SNR=8.8						
KEST	**Kesra**	**150.68**	**320**		**PKPbc**	**04 02 52.2**	**-1.7**
PBRG	**Braganca**	**152.25**	**349**	*e*PKP	**PKiKP**	**04 02 57.8**	**+0.2**
PGAV	**Gavieira, Arco**	**152.34**	**352**	*e*PKP	**PKPbc**	**04 02 57.5**	**0.0**
PGAV	**Gavieira, Arco**	**152.34**	**352**	*e*LR	LR	04 58 15.4	
	comp=Z,200nm,18.0s						
POLO	**Lamas de Olo**	**152.85**	**351**	*e*PKP	**PKiKP**	**04 03 00.0**	**+1.1**
MVO	**Moncorvo**	**152.92**	**349**	*e*PKP	**PKPbc**	**04 02 56.6**	**-2.2**
MVO	**Moncorvo**	**152.92**	**349**	*e*LR	LR	04 58 43.9	
	comp=Z,274nm,18.0s						
PVIS	**Viseu**	**153.50**	**351**	*e*PKP	**PKiKP**	**04 03 02.3**	**+2.1**
ESDC	**Sonseca Array**	**153.65**	**343**	PKPbc	**PKPbc**	**04 03 00.1**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=12,slow=3.0,SNR=15						
ESDC	**Sonseca Array**	**153.65**	**343**		**PKPbc**	**04 02 58.3**	**-2.2**
MTE	**Manteigas**	**153.76**	**350**	*e*PKP	**PKiKP**	**04 03 03.8**	**+3.1**
MTE	**Manteigas**	**153.76**	**350**	*e*LR	LR	04 58 47.2	
	comp=Z,263nm,20.0s						
PAB	**San Pablo**	**153.88**	**344**	PKIKP	**PKPbc**	**04 02 58.7**	**-2.3**
PAB	**San Pablo**	**153.88**	**344**		**PKPbc**	**04 02 58.7**	**-2.3**
PCBR	**Castelo Branco**	**154.29**	**349**	*e*PKP	**PKPbc**	**04 03 01.8**	**+0.1**
CART	**Cartagena**	**154.57**	**337**	IAMs_20	IAMs_20	05 27 04.8	
	comp=Z,254nm,19.0s						
PMRV	**Marv??o**	**154.67**	**349**	*e*PKP	**PKPbc**	**04 03 01.6**	**-1.0**
PMRV	**Marv??o**	**154.67**	**349**	*e*LR	LR	04 37 51.9	
	comp=Z,174nm,18.0s						
PSBE	**So Bento**	**154.82**	**352**	*e*PKP	**PKiKP**	**04 03 03.3**	**+0.4**
PESTR	**Estremoz**	**155.25**	**349**	*e*PKP	**PKPdf**	**04 02 56.2**	**+1.3**
PVAQ	**Vaqueiros**	**156.70**	**349**	*e*SS	SS	04 27 02.4	+10
PVAQ	**Vaqueiros**	**156.70**	**349**	*e*LR	LR	05 01 02.6	
	comp=Z,277nm,20.0s						
PFVI	**Vila Bisbo**	**157.16**	**351**	*e*PKP	**PKPdf**	**04 03 01.9**	**+4.5**
TORD	**Torodi Ar. Bea**	**165.30**	**266**	PKP	**PKPdf**	**04 03 05.8**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=132,slow=4.4,SNR=5.1						
TORD				PKPab	**PKPab**	**04 04 03.7**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=101,slow=3.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**165.30**	**266**		**PKPdf**	**04 03 02.5**	**-4.1**
TORD				PKPab	**PKPab**	**04 04 01.3**	**-3.1**

*NIED **15** 03:46:22.8, 32.78N×130.85E, h14km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-0.24; Mθθ2.35; Mφφ-2.11; Mrθ0.30; Mθφ-0.66; Mφr-0.71; Fault plane solution: M₀2.46000×10¹⁴ NP1:ϕs54.00000°, δ72.00000°, λ-174.00000°. NP2:ϕs322.00000°, δ84.00000°, λ-18.00000°.*

JMA 15 03:46:22.8, 32.78N×130.85E, h14km±1km, M3.6, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.23**	**188**	⇑P	Pg	03 46 27.9	0.0
JIU3				S	Sg	03 46 31.7	+0.4
JTA	**Tamana**	**0.32**	**305**	⇓P	Pg	03 46 29.4	-0.1

*IDC **15** 03:54:26.2±1.5, 14.45S×166.47E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.5/45, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=44.5km s-min=28.3km az=114.0*

ISC 15 03:54:31.4±1.4, 14.5S±0.1×166.5E±0.3, h35km, n5, σ0.89/6, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.54**	**180**	Pn	**Pn**	**03 56 18.5**	**-0.4**
	1.3nm,0.3s,baz=139,slow=23,SNR=12						
DZM				Sn	**Sn**	**03 57 43.6**	**+0.4**
	0.1nm,0.3s,baz=116,slow=17,SNR=1.1						
WRA	**Warramunga Arr**	**31.13**	**255**	P	**P**	**04 00 46.7**	**-0.3**
	0.9nm,1.1s,baz=86,slow=9.4,SNR=2.6						
ASAR	**Alice Springs**	**32.03**	**248**	P	**P**	**04 00 55.1**	**+0.2**
	0.9nm,0.8s,baz=72,slow=9.5,SNR=6.8						
ILAR	**Eielson Array**	**86.54**	**18**	P	**P**	**04 07 09.9**	**-0.5**
	0.9nm,0.7s,baz=240,slow=5.3,SNR=7.6						
ARCES	**ARCESS Array B**	**119.83**	**345**	PKP	**PKiKP**	**04 13 18.8**	**+1.3**
	1.9nm,0.8s,baz=52,slow=3.5,SNR=4.1						

*DJA **15** 04:00:08.9±0.4, 10.S±4.×11.7E±., h10km, M4.2/15, mb4.3/5, mB4.7/1, MLv4.1/15, Mbtmp3.5/6, ML3.6/4, Error ellipse: s-maj=54.7km s-min=23.7km az=53.0*

ISC 15 04:00:09.4±1.0, 9.62S±0.07×117.29E±0.05, h71km, n22, σ2.56/24, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.93**	**31**	P	**Pn**	**04 00 26.8**	**-0.3**
PLAI				S	**Sn**	**04 00 38.4**	**-1.8**
WBSI	**Waikabubak, Su**	**2.07**	**91**	P	**Pn**	**04 00 44.2**	**+2.0**
IGBI	**Denpasar**	**2.26**	**291**	P	**Pn**	**04 00 44.4**	**-0.2**
SRBI	**Singaraja**	**2.56**	**307**	P	**Pn**	**04 00 49.4**	**+0.8**
BASI	**Baing, Sumba**	**3.29**	**101**	P	**Pn**	**04 01 02.0**	**+3.3**
JAGI	**Jajag, Banyuwa**	**3.30**	**290**	P	**Pn**	**04 00 58.9**	**+0.1**
ABJI	**Asem Bagus**	**3.52**	**301**	P	**Pn**	**04 01 02.0**	**+0.2**
GMJI	**Gumukmas**	**4.03**	**289**	P	**Pn**	**04 01 09.0**	**+0.3**
BLJI	**Banyuglugur**	**4.10**	**297**	P	**Pn**	**04 01 10.8**	**+1.1**
KMMI	**Kaliangget**	**4.16**	**308**	P	**Pn**	**04 01 11.5**	**+1.0**
BSSI	**Bau Bau, Buton**	**4.69**	**43**	P	**Pn**	**04 01 20.3**	**+2.5**
BKSI	**Bulukumba**	**5.11**	**34**	P	**Pn**	**04 01 25.5**	**+2.0**
	0.1nm18nm,0.6s						
KAPI	**Kappang**	**5.19**	**28**	Pn	**Pn**	**04 01 27.6**	**+3.0**
	1.5nm,0.3s,baz=258,slow=13,SNR=2.2						
KAPI				Sn	**Sn**	**04 02 22.5**	**-0.6**
	4.7nm,0.3s,baz=347,slow=24,SNR=13						
PWJI	**Pagerwojo**	**5.65**	**286**	P	**Pn**	**04 01 31.8**	**+1.0**
	0.2nm62nm,0.8s						
PCJI	**Pacitan**	**6.20**	**283**	P	**Pn**	**04 01 38.8**	**+0.4**
	0.3nm36nm,1.5s						
BATI	**Baumata**	**6.31**	**96**	Pn	**Pn**	**04 01 39.2**	**-0.7**
	5.8nm,0.3s,baz=191,slow=5.3,SNR=2.0						
BATI				Sn	**Sn**	**04 02 47.6**	**-3.1**
	4.3nm,0.3s,baz=283,slow=16,SNR=1.7						
UGM	**Wanagama**	**6.90**	**284**	P	**Pn**	**04 01 48.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.69**	**137**	Pn	**Pn**	**04 02 53.5**	**+0.1**
	0.4nm,0.3s,baz=324,slow=9.3,SNR=14						
FITZ				Sn	Sn	04 04 54.4	-7.8
	0.3nm,0.3s,baz=68,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**19.40**	**124**	P	**Pn**	**04 04 34.1**	**+2.3**
	0.1nm,0.3s,baz=299,slow=13,SNR=6.3						
WRA				S	**S**	**04 07 57.6**	**-8.2**
	0.1nm,0.3s,baz=283,slow=22,SNR=1.8						
ASAR	**Alice Springs**	**21.14**	**133**	P	**P**	**04 04 52.2**	**+3.4**
	0.3nm,0.6s,baz=313,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**64.26**	**334**	P	P	04 10 52.4	+15
	0.4nm,0.7s,baz=149,slow=6.7,SNR=3.6						
YKA	**Yellowknife Ar**	**115.44**	**24**	PKP	PKPdf	04 18 57.9	+15
	0.2nm,0.8s,baz=302,slow=2.0,SNR=5.5						

IDC 15 04:06:52.2±315.0, 53.41N×33.79E, h0km, Error ellipse: s-maj=122.2km s-min=81.4km az=25.0, Baltic States-Belarus-Northwestern Russia

| Code | Station Name |

EIL	Elat	1.68	194	P		Pn	04 15 30.6	+0.5
EIL	Elat	1.68	194	Pn		Pn	04 15 30.3	+0.2
EIL				Sn		Sn	04 15 51.3	+0.8
MMA0B	Mount Meron ar	1.71	359	Pn		Pb	04 15 32.2	-1.6
MMA0B				Sn		Sb	04 15 54.5	-0.4
HNTI	Hanita	1.79	353	P		Pb	04 15 33.5	-1.6
HNTI	Hanita	1.79	353	Pn		Pn	04 15 33.3	+1.6
HNTI				Sn		Sb	04 15 56.8	-0.4
QREAT	Al Qurrayyat	1.84	83	P		Pn	04 15 33.1	+0.7
NATI	Neve Ativ	1.97	8	P		Pn	04 15 35.4	+1.2
NATI	Neve Ativ	1.97	8	Pn		Pn	04 15 35.4	+1.2
HQLS		2.02	189	P		Pn	04 15 34.8	0.0
SHBL	Chebaa	2.06	7	*eP*		Pn	04 15 36.7	+1.1
JMOS	Jabal al Moall	2.14	187	P		Pn	04 15 36.3	-0.2
HAQS	Haql	2.28	191	S		Sn	04 16 06.4	+0.8
HAQS	Haql	2.28	191	P		Pn	04 15 38.2	-0.3
DQRL	Deir Qamar	2.40	3	*eP*		Pn	04 15 41.8	+1.6
HANO	Al Hamad	2.49	87	P		Pn	04 15 41.5	+0.1
JLOS		2.56	179	P		Pn	04 15 42.3	-0.1
BHL	Bhannes	2.60	4	*eP*		Pb	04 15 46.1	-2.9
TAYS	Tayyib Ism	2.78	190	P		Pn	04 15 45.1	-0.2
BDAS	Al Bad`	2.87	186	P		Pn	04 15 46.4	-0.2
HWQ	Hawqa	3.00	8	*eP*		Pb	04 15 53.4	-2.3
AYUS	`Aynunah	3.10	183	P		Pn	04 15 49.7	0.0
KRABS	KRABS	3.19	183	P		Pn	04 15 50.7	-0.3
OSC2	CSNet OBS 4	3.21	304	P		Pn	04 15 50.3	-0.9
OSC2				S		Sn	04 16 29.0	+0.6
TBKS	Tabuk	3.22	162	P		Pn	04 15 52.1	+0.7
WSKAK	WSKAK	3.29	106	P		Pn	04 15 52.8	+0.4
JOFS	JOFS	3.33	124	P		Pn	04 15 53.2	+0.3
TRAF	Turaif	3.37	90	P		Pn	04 15 54.0	+0.6
URD10	Hayder	3.44	155	P		Pn	04 15 54.8	+0.3
MWLHS	Almuwaylih	3.54	179	P		Pn	04 15 55.9	+0.2
URD11	Tayma	3.79	152	P		Pn	04 15 59.5	+0.2
MVOU	Mavrovouni	4.00	338	P		Pn	04 16 02.7	+0.7
URD06	Shuwaq	4.01	163	P		Pn	04 16 03.2	+0.8
CSS	Mathiatis	4.05	335	P		Pn	04 16 04.3	+1.5
SZAC	Souni	4.05	329	P		Pn	04 16 04.5	+1.6
SZAC				AML	AML		04 16 53.1	
	0.4nm,0.2s							
SZAC				AML	AML		04 16 55.4	
	0.4nm,0.5s							
QLABS	Al Qalibar	4.07	147	P		Pn	04 16 03.2	+0.1
OSC1	CSNet OBS 1	4.14	303	P		Pn	04 16 03.7	-0.2
URD13	Abu Rakah	4.15	154	P		Pn	04 16 04.4	+0.1
NATA	Nata	4.22	326	P		Pn	04 16 07.1	+2.0
NTAIM	NTAIM	4.32	135	P		Pn	04 16 06.8	+0.4
URD14	Abu Rakah	4.34	152	P		Pn	04 16 07.1	+0.2
URD15	Abu Rakah	4.41	156	P		Pn	04 16 08.2	+0.3
URD04	Abu Rakah	4.50	159	P		Pn	04 16 09.7	+0.6
ALFC	Alefka	4.52	329	P		Pn	04 16 10.5	+1.3
AKMS	Akamas	4.53	326	P		Pn	04 16 10.4	+1.1
BIDS	Bi'r al Bayda'	4.62	163	P		Pn	04 16 10.8	+0.3

SJA ***15*** *04:27:51.1±0.7,32.2°S×72.2°W,h7km,ML4.8,MW4.4*
IDC ***15*** *04:27:52.8±0.6,32.2°S×71.7°W,h0km,mb4.3/11, mb1 4.4/16,mb1mx4.2/28,mbtmp4.2/16,ML4.1/5,MS4.2/13, Ms1 4.2/13,ms1mx3.9/53,Error ellipse: s-maj=23.6km s-min=16.2km az=93.0*
NEIC ***15*** *04:27:55.8,32.2°S×71.7°W,h25km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.31; Mθθ=0.05; Mφφ=0.36; Mrθ=0.25; Mrφ=0.22; Mθφ=1.20; Fault plane solution: M₀1.29000×10¹⁶ NP1:φs12.00000°, δ81.53000°,λ-95.08000°. NP2:φs223.13000°,δ9.87000°, λ-59.24000°. Principal axes: T 1.3460, Plg36.0000°, Azm106.0000°; N -0.1239, Plg5.0000°, Azm13.0000°; P -1.2222, Plg53.0000°, Azm276.0000°;*
GUC ***15*** *04:27:56.6±0.4,32.1°S×71.8°W,h32km±1km,ML4.6*
NEIC ***15*** *04:27:56.5±1.5,32.1°S±0.0°×71.8°W±0.0°,h20km±3km, mb4.6/36,Mwr4.7/77,Mwr4.8(GUC),Error ellipse: s-maj=10.1km s-min=4.9km az=82.0*
VAO ***15*** *04:27:57.6±0.5,32.2°S×71.8°W,h23km,mb4.5*
ISC 15 04:27:55.8±0.4,32.1°S±0.0°×71.9°W±0.0°,h20km±3km, n215,σ1§92/245,mb4.6/23,MS4.3/11,9C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.70**	**126**			Pg	**Pb**	**04 28 08.5**	**-0.9**
VA06							**Sb**	**04 28 15.5**	**-3.1**
VA06	**Catapilco**	**0.70**	**126**	*i*	P		**Pb**	**04 28 08.2**	**-1.2**
VA06				*i*	S		**Sb**	**04 28 16.7**	**-1.9**
VA06					IAML			04 28 19.8	
	comp=E,78μm,0.4s								
VA01	**Torpederas**	**0.91**	**163**				**Pn**	**04 28 12.3**	**-1.1**
VA01					Sn		**Sn**	**04 28 24.1**	**-1.9**
VA01	**Torpederas**	**0.91**	**163**	*eP*			**Pn**	**04 28 12.3**	**-1.1**
VA01				*i*	S		**Sb**	**04 28 25.3**	**+0.7**
VA01	**Torpederas**	**0.91**	**163**	*eP*			**Pn**	**04 28 12.0**	**-1.4**
VA01				*eP*			**Pb**	**04 28 14.9**	**+2.0**
ROC1	**El Roble**	**1.15**	**136**				**Pn**	**04 28 13.3**	**-3.7**
ROC1	**El Roble**	**1.15**	**136**	*eP*			**Pn**	**04 28 14.9**	**-2.1**
ROCH	**El Roble**	**1.15**	**136**	⇑*i*	P		**Pn**	**04 28 15.7**	**-1.3**
ROCH				*i*	S		**Sb**	**04 28 30.1**	**-1.7**
ROCH					IAML			04 28 32.6	
	comp=N,62μm,0.4s								
CO02	**Combarbal**	**1.26**	**41**	Pn			**Pn**	**04 28 17.7**	**-0.6**
CO02	**Combarbal**	**1.26**	**41**	⇓*i*	P		**Pn**	**04 28 17.8**	**-0.5**
CO02				*eS*			**Sb**	**04 28 33.8**	**-0.8**
CO02					IAML			04 28 38.1	
	comp=E,43μm,0.5s								
CO02	**Combarbal**	**1.26**	**41**	*eP*			**Pn**	**04 28 14.9**	**-3.4**
CO02				*eP*			**Pb**	**04 28 18.0**	**-0.9**
CO02					IAML			04 28 37.9	
	comp=Z,11μm,0.3s								
MT02	**Curacav**	**1.31**	**148**				**Pn**	**04 28 18.2**	**-0.7**
MT02	**Curacav**	**1.31**	**148**	⇑*i*	P		**Pn**	**04 28 18.1**	**-0.8**
MT02				*i*	S		**Sb**	**04 28 34.6**	**-1.5**
MT02					IAML			04 28 39.0	
	comp=E,13μm,0.5s								
MT02	**Curacav**	**1.31**	**148**	*eP*			**Pn**	**04 28 14.9**	**-4.0**
MT02				*eP*			**Pb**	**04 28 18.0**	**-1.7**
MT02					IAML			04 28 39.3	
	comp=Z,11μm,0.6s								
VA03	**San Esteban**	**1.35**	**117**				**Pn**	**04 28 18.4**	**-1.2**
VA03	**San Esteban**	**1.35**	**117**	⇑*i*	P		**Pn**	**04 28 18.4**	**-1.2**
VA03				*i*	S		**Sb**	**04 28 34.7**	**-2.6**
VA03					IAML			04 28 39.1	
	comp=E,45μm,0.3s								
PEL	**Peldehue**	**1.47**	**133**				**Pn**	**04 28 20.1**	**-1.1**
PEL	**Peldehue**	**1.47**	**133**	⇑*i*	P		**Pn**	**04 28 20.5**	**-0.6**
PEL				*i*	S		**Sb**	**04 28 38.5**	**-2.2**
PEL					IAML			04 28 41.5	
	comp=N,17μm,0.4s								
PEL	**Peldehue**	**1.47**	**133**	*eP*			Pn	04 28 14.9	-6.3
PEL				*eP*			**Pb**	**04 28 20.6**	**-0.6**
PEL				*eS*			**Sb**	**04 28 40.1**	**-0.6**
CO06	**Fray Jorge**	**1.50**	**11**				**Pn**	**04 28 21.3**	**-0.2**
CO06	**Fray Jorge**	**1.50**	**11**	⇓*i*	P		**Pn**	**04 28 21.4**	**-0.1**
VA05	**Santo Domingo**	**1.53**	**169**				**Pn**	**04 28 21.7**	**-0.3**
VA05	**Santo Domingo**	**1.53**	**169**	*eP*			**Pn**	**04 28 21.8**	**-0.2**
VA05					IAML			04 28 48.3	
	comp=E,32μm,0.4s								
MT05	**Renca**	**1.61**	**140**	Pn			**Pn**	**04 28 22.9**	**-0.4**
MT05	**Renca**	**1.61**	**140**	⇑*i*	P		**Pn**	**04 28 22.8**	**-0.4**
MT05				*i*	S		**Sb**	**04 28 43.1**	**-1.8**
MT05					IAML			04 28 49.0	
	comp=E,19μm,0.2s								
MT05	**Renca**	**1.61**	**140**	*eP*			**Pb**	**04 28 23.1**	**-1.8**
MT05					IAML			04 28 55.2	
	comp=Z,8μm,0.7s								
MT03	**Universidad Ad**	**1.82**	**138**				**Pn**	**04 28 26.0**	**0.0**
MT03	**Universidad Ad**	**1.82**	**138**	⇑*i*	P		**Pn**	**04 28 26.0**	**0.0**
MT03				*eS*			**Sb**	**04 28 48.7**	**-2.2**
MT03					IAML			04 28 54.4	
	comp=E,18μm,0.3s								
MT03	**Universidad Ad**	**1.82**	**138**	*eP*			**Pn**	**04 28 26.1**	**+0.1**
MT03					IAML			04 28 54.2	
	comp=Z,7μm,0.2s								
MT09	**Talagante**	**1.82**	**153**				**Pb**	**04 28 26.6**	**-2.0**
MT09	**Talagante**	**1.82**	**153**	*eP*			**Pb**	**04 28 26.5**	**-2.0**
MT09				*eS*			**Sb**	**04 28 49.2**	**-1.7**
MT09					IAML			04 28 52.9	
	comp=N,9μm,0.2s								
FCH	**Farellones**	**1.84**	**130**	⇑*i*	P		**Pn**	**04 28 26.2**	**-0.3**
FCH				*i*	S		**Sb**	**04 28 49.3**	**-2.4**
FCH					IAML			04 28 53.0	
	comp=E,6μm,0.2s								
BO04	**La Punta**	**2.16**	**148**	Pn			**Pn**	**04 28 31.4**	**+0.7**
BO04	**La Punta**	**2.16**	**148**	⇑*i*	P		**Pn**	**04 28 31.4**	**+0.7**
BO04				*eS*			**Sb**	**04 28 57.8**	**-2.9**
BO04					IAML			04 29 05.2	
	comp=E,8μm,0.4s								
AUSP	**Uspallata**	**2.19**	**93**	*eP*			**Pb**	**04 28 33.0**	**-1.9**
AUSP				*eP*			**Pn**	**04 28 33.8**	**+2.4**
AUSP				*eS*			**Sb**	**04 28 57.4**	**-4.4**
GO04	**Tololo Observa**	**2.21**	**27**				**Pn**	**04 28 31.9**	**+0.3**
LMEL	**Las Melosas**	**2.25**	**139**				**Pn**	**04 28 32.6**	**+0.6**
LMEL	**Las Melosas**	**2.25**	**139**	⇑*i*	P		**Pn**	**04 28 32.6**	**+0.6**
LMEL				*i*	S		**Sb**	**04 28 59.7**	**-3.7**
LMEL					IAML			04 29 07.9	
	comp=N,6μm,0.1s								
CO05	**La Serena**	**2.31**	**16**				**Pn**	**04 28 33.8**	**+1.1**
CO05	**La Serena**	**2.31**	**16**	*eP*			**Pn**	**04 28 33.3**	**+0.6**
CO05					IAML			04 29 17.2	
	comp=N,3μm,0.2s								
BO03	**Pichilemu**	**2.34**	**180**	⇓*i*	P		**Pn**	**04 28 32.5**	**-0.6**
BO03					IAML			04 29 18.0	
	comp=N,2μm,0.4s								
BO01	**Tunca**	**2.35**	**162**	Pn			**Pn**	**04 28 33.6**	**+0.3**
BO01	**Tunca**	**2.35**	**162**	*eP*			**Pn**	**04 28 33.4**	**+0.1**
BO01				*eS*			**Sb**	**04 29 02.7**	**-3.4**
BO01					IAML			04 29 13.9	
	comp=N,2μm,0.5s								
BO01	**Tunca**	**2.35**	**162**	*eP*			**Pn**	**04 28 33.0**	**-0.3**
BO01				*eP*			**Pn**	**04 28 33.6**	**+0.3**
BO01				*eS*			**Sb**	**04 29 03.4**	**-2.8**
BO01					IAML			04 29 09.5	
	comp=Z,5μm,1.5s								
ARCO	**CERRO ARCO**	**2.66**	**106**	*eP*			**Pb**	**04 28 39.8**	**-3.0**
ARCO				*eS*			**Sb**	**04 29 10.9**	**-4.2**
ARCO					IAML			04 29 18.2	
	comp=Z,3μm,1.5s								
ASAL	**Salagasta**	**2.69**	**100**	*eP*			**Pb**	**04 28 41.9**	**-1.4**
ASAL				*eS*			**Sb**	**04 29 16.4**	**+0.5**
ASAL				*eS*			Sg	04 29 24.1	
CO01	**Juntas del Tor**	**2.70**	**37**				**Pn**	**04 28 39.6**	**+1.4**
CO01	**Juntas del Tor**	**2.70**	**37**	*eP*			**Pn**	**04 28 39.7**	**+1.4**
CO01				*i*	S		**Sb**	**04 29 15.5**	**-0.8**
CO01					IAML			04 29 19.8	
	comp=E,3μm,0.3s								
CO01	**Juntas del Tor**	**2.70**	**37**	*eP*			**Pn**	**04 28 40.1**	**+1.8**
CO01				*eS*			**Sn**	**04 29 11.4**	**+0.9**
CO01				*eS*			**Sb**	**04 29 16.4**	**+0.1**
CO01					IAML			04 29 19.6	
	comp=Z,3μm,0.7s								
AAGR	**Agrelo**	**2.81**	**110**	*eP*			**Pb**	**04 28 41.9**	**-3.5**
AAGR				*eS*			**Sb**	**04 29 25.3**	**+5.9**
BO02	**Sierra Bellavi**	**2.82**	**160**				**Pn**	**04 28 40.3**	**+0.6**
BO02	**Sierra Bellavi**	**2.82**	**160**	*eP*			**Pn**	**04 28 40.2**	**+0.4**
BO02					IAML			04 29 31.3	
GO05	**Huala**	**2.85**	**179**				**Pn**	**04 28 39.5**	**-0.7**
GO05	**Huala**	**2.85**	**179**	*eP*			**Pn**	**04 28 39.4**	**-0.8**
GO05					IAML			04 29 33.1	
	comp=N,1μm,0.6s								
GO05	**Huala**	**2.85**	**179**	*eP*			**Pn**	**04 28 39.7**	**-0.5**
GO05				*eP*			Pb	04 28 41.9	-4.1
GO05				*eS*			**Sn**	**04 29 12.5**	**-1.4**
ZON	**Zonda**	**2.87**	**79**	*eP*			**Pb**	**04 28 43.9**	**-2.4**
ZON				*eS*			**Sb**	**04 29 21.9**	**+1.0**
ZON					IAML			04 29 31.6	
	comp=Z,2μm,0.6s								
AROD	**Rodeo**	**2.91**	**48**	*eP*			**Pb**	**04 28 46.0**	**-1.3**
AROD				*eS*			**Sb**	**04 29 26.1**	**+3.5**
RTCV	**Cerro Valdivia**	**2.93**	**85**	*eP*			**Pb**	**04 28 45.0**	**-2.4**
RTCV				*eS*			**Sb**	**04 29 22.9**	**+0.2**
ACCO	**Cerro Coronel**	**2.93**	**59**	*eP*			**Pb**	**04 28 45.0**	**-2.6**
ACCO				*eS*			**Sb**	**04 29 24.1**	**+1.0**
RTLL	**Cerro Villicun**	**3.09**	**76**	*eP*			Pb	04 28 46.0	-4.1
RTLL				*eS*			**Sb**	**04 29 22.9**	**-4.5**
RTLL				*eS*			**Sn**	**04 29 25.4**	**+5.6**
ACDV	**Cuesta del Vie**	**3.14**	**52**	*eP*			**Pb**	**04 28 48.0**	**-3.1**
ACDV				*eS*			**Sb**	**04 29 32.2**	**+3.2**
ACDV					IAML			04 29 41.6	
	comp=Z,1μm,0.6s								
LCO	**Las Campanas**	**3.32**	**20**	Pn			**Pn**	**04 28 46.8**	**0.0**
ML02	**Panimavida**	**3.63**	**173**				**Pn**	**04 28 51.2**	**+0.3**
ML02	**Panimavida**	**3.63**	**173**	*eP*			**Pn**	**04 28 50.7**	**-0.2**
ML02				*eS*			**Sn**	**04 29 32.5**	**-0.6**
RFA	**San Rafael**	**3.92**	**133**	*eP*			**Pn**	**04 28 56.9**	**+1.9**
RFA				*eP*			Pb	04 28 57.4	-6.9
RFA				*eS*			**Sb**	**04 29 58.4**	**+7.0**
RFA					IAML			04 29 60.0	
	comp=Z,2μm,1.5s								
AC04	**Llanos de Chal**	**4.01**	**11**	Pn			**Pn**	**04 28 55.5**	**-0.6**
ACHE	**Chepes**	**4.63**	**79**	*eP*			**Pn**	**04 29 07.0**	**+2.2**
ACHE				*eS*			**Sb**	**04 30 04.9**	**-7.0**
BI05	**Punta Hualpn**	**4.70**	**192**				**Pn**	**04 29 04.6**	**-0.8**
BI05							LR	04 30 27.4	
VCA	**Vinchina**	**4.71**	**45**	*eP*			Pn	04 28 56.9	-8.9
VCA				*eP*			**Pn**	**04 29 04.9**	**-0.9**
VCA				*eP*			**Pn**	**04 29 09.0**	**+3.2**
VCA				*eS*			**Sb**	**04 30 06.4**	**-7.6**
VCA					IAML			04 30 32.6	
	comp=Z,2μm,1.4s								
GO03	**Copiap**	**4.79**	**19**				**Pn**	**04 29 07.4**	**+0.6**
GO03	**Copiap**	**4.79**	**19**	*eP*			**Pn**	**04 29 03.4**	**-3.4**
GO03				*eP*			**Pn**	**04 29 08.6**	**+1.8**
GO03				*eP*			Pn	04 29 12.0	+5.2
GO03				*eS*			**Sn**	**04 30 06.4**	**+4.7**
AC06	**Mina Casimiro**	**4.98**	**17**	Pn			**Pn**	**04 29 09.0**	**-0.4**
ACLC	**CERRO LA CRUZ**	**5.10**	**59**	*eP*			**Pn**	**04 29 14.0**	**+2.7**
ACLC				*eS*			Sb	04 30 15.9	-10
ACLC					IAML			04 30 35.9	
	comp=Z,890nm,1.1s								
MRA	**San Martin**	**5.30**	**95**	*eP*			**Pn**	**04 29 15.3**	**+1.4**
MRA				*eS*			**Sn**	**04 30 15.4**	**+0.9**
AC02	**Maricunga**	**5.85**	**26**	Pn			**Pn**	**04 29 21.6**	**-0.2**
H03N1	**Juan Fernandez**	**5.99**	**256**	Pn			**Pn**	**04 29 24.6**	**+1.6**
H03N1				T			T	04 36 04.6	
	baz=85,slow=73,SNR=1183								
H03N3	**Juan Fernandez**	**6.00**	**256**	Pn			**Pn**	**04 29 24.4**	**+1.3**
H03N3				T			T	04 36 05.0	
	baz=85,slow=73,SNR=1087								
H03N2	**Juan Fernandez**	**6.00**	**256**	Pn			**Pn**	**04 29 24.7**	**+1.5**
H03N2				T			T	04 36 05.3	
	baz=85,slow=73,SNR=1182								
H03S3	**Juan Fernandez** SNR=5.4	**6.07**	**252**	Pn			**Pn**	**04 29 24.7**	**+0.6**
H03S3				T			T	04 36 10.9	
	baz=78								
H03S1	**Juan Fernandez** SNR=3.5	**6.07**	**252**	Pn			**Pn**	**04 29 24.5**	**+0.4**
H03S1				T			T	04 36 09.6	
	baz=78								
H03S2	**Juan Fernandez** SNR=6.7	**6.08**	**252**	Pn			**Pn**	**04 29 24.6**	**+0.3**
H03S2				T			T	04 36 08.4	
	baz=78								
LC01	**Cunco**	**6.73**	**179**	Pn			**Pn**	**04 29 33.2**	**-0.2**
LC01	**Cunco**	**6.73**	**179**	*eP*			**Pn**	**04 29 33.0**	**-0.5**
GO02	**Mina Guanaco**	**7.27**	**17**	Pn			**Pn**	**04 29 41.5**	**+0.3**
GO02	**Mina Guanaco**	**7.27**	**17**	*eP*			**Pn**	**04 29 45.0**	**+3.8**
LR03	**Panguipulli**	**7.47**	**182**				**Pn**	**04 29 44.2**	**+0.6**
PB14	**IPOC Station P**	**7.62**	**11**				**Pn**	**04 29 45.3**	**-0.7**
LR04	**Corral**	**7.80**	**188**	Pn			**Pn**	**04 29 48.3**	**+0.2**
PLCA	**Paso Flores**	**8.64**	**173**	Pn			**Pn**	**04 30 00.2**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=334,slow=11,SNR=65								
PLCA						Sn	**Sn**	**04 31 42.0**	**+5.4**
	comp=Z,0.3nm,0.3s,baz=358,slow=18,SNR=2.1								
PLCA						Lg	Lg	04 32 17.1	
	comp=Z,0.3nm,0.3s,baz=252,slow=22,SNR=1.5								
PLCA						LR	LR	04 33 52.8	
	comp=Z,422nm,20.4s,baz=359,slow=42								
PLCA	**Paso Flores**	**8.64**	**173**				**Pn**	**04 30 01.1**	**+1.4**
PLCA	**Paso Flores**	**8.64**	**173**	*eP*			**Pn**	**04 30 00.1**	**+0.3**
LVC	**Limon Verde**	**9.88**	**17**	Pn			**Pn**	**04 30 14.3**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=217,slow=10,SNR=1.6								
LVC						Sn	**Sn**	**04 32 11.0**	**+3.4**
	comp=Z,1.4nm,0.3s,baz=217,slow=19,SNR=1.7								
LVC	**Limon Verde**	**9.88**	**17**	Pn			**Pn**	**04 30 16.3**	**-0.8**
LVC	**Limon Verde**	**9.88**	**17**	*eP*			**Pn**	**04 30 17.1**	**0.0**
ITQB	**Itaqui**	**13.41**	**83**				**Pn**	**04 31 03.8**	**-1.1**
ITQB	**Itaqui**	**13.41**	**83**	*eP*			**Pn**	**04 31 04.0**	**-0.9**
PB12	**IPOC Station P**	**13.56**	**7**	Pn			**Pn**	**04 31 06.1**	**-1.1**
PB16	**IPOC Station P**	**13.94**	**10**				**Pn**	**04 31 10.2**	**-2.5**
CPUP	**Villa Florida**	**14.03**	**69**	Pn			**Pn**	**04 31 11.4**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=242,slow=8.7,SNR=5.3								
CPUP						Sn	**Sn**	**04 33 42.3**	**-6.3**
	comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=2.0								
CPUP						Lg	Lg	04 35 05.2	
	comp=Z,0.6nm,0.3s,baz=309,slow=14,SNR=3.4								
CPUP	**Villa Florida**	**14.03**	**69**				**Pn**	**04 31 11.3**	**-2.2**
CPUP	**Villa Florida**	**14.03**	**69**	*eP*			**Pn**	**04 31 12.8**	**-0.6**
PLTB	**Pedras Altas**	**15.60**	**93**	*eP*			**Pn**	**04 31 32.3**	**-2.2**
CPSB	**Cacapava Do Su**	**15.94**	**89**	*eP*			**Pn**	**04 31 37.3**	**-1.7**
LPAZ	**La Paz**	**16.17**	**13**	Pn			**Pn**	**04 31 43.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=180,slow=7.3,SNR=30								
LPAZ	**La Paz**	**16.17**	**13**	Pn			**Pn**	**04 31 41.8**	**-0.7**
LPAZ	**La Paz**	**16.17**	**13**	*eP*			**Pn**	**04 31 43.4**	**+0.8**
ITAB	**Concordia**	**17.91**	**79**	*eP*			**P**	**04 32 04.0**	**-0.3**
AQDB	**Aquidauana**	**18.63**	**55**	P			**P**	**04 32 10.5**	**-1.6**
AQDB	**Aquidauana**	**18.63**	**55**	*eP*			**Pn**	**04 32 12.8**	**+0.3**
SIV	**San Ignacio**	**18.89**	**34**	P			**Pn**	**04 32 14.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=213,slow=11,SNR=17								
SIV						LR	LR	04 40 10.6	
	comp=Z,541nm,19.5s,baz=229,slow=39								
PTGB	**Pitanga**	**18.99**	**72**	*eP*			**Pn**	**04 32 16.1**	**-0.9**
TER01	**Tubaro-SC**	**20.03**	**86**	*eP*			**Pn**	**04 32 26.7**	**-2.7**
PTLB	**Pontes e Lacer**	**20.32**	**38**	*eP*			Pn	04 32 30.9	-1.8
NNA	**Nana**	**20.56**	**346**	LR			LR	04 39 16.2	
	comp=Z,494nm,18.3s,baz=181,slow=33								
PP1B	**Ponte de Pedra**	**21.18**	**51**	*eP*			**P**	**04 32 40.6**	**+0.6**
PCMB	**Pacaembu**	**21.21**	**65**	*eP*			**P**	**04 32 41.0**	**+0.7**
TIJ01	**Guaruva-PR**	**21.23**	**77**	*eP*			**P**	**04 32 39.2**	**-1.4**
FRTB	**Fartura**	**21.65**	**72**	*eP*			**P**	**04 32 43.8**	**-1.3**
SALV	**Santo Antonio**	**21.92**	**46**	*eP*			**P**	**04 32 47.2**	**-0.8**
VILB	**Vilhena**	**21.95**	**32**	*eP*			**P**	**04 32 48.5**	**+0.2**
ETMB	**Extrema**	**22.86**	**15**	*eP*			**P**	**04 32 60.0**	**+2.1**
ITRB	**Iturama**	**23.00**	**63**	*eP*			**P**	**04 33 00.3**	**+0.8**
PET01	**Itanhaem-SP**	**23.09**	**76**	*eP*			**P**	**04 32 59.3**	**-1.0**
BB19B	**Bebedouro**	**23.64**	**68**	*eP*			**P**	**04 33 05.8**	**-0.1**
RCLB	**Rio Claro- Sao**	**23.74**	**72**	*eP*			**P**	**04 33 05.9**	**-0.9**
VAO	**Valinhos**	**23.92**	**74**	*eP*			**P**	**04 33 07.8**	**-0.8**
CZSB	**Cruzeiro do Su**	**24.31**	**358**	*eP*			**P**	**04 33 14.0**	**+1.9**
PDRB	**Porto dos Gac**	**24.80**	**38**	*eP*			**P**	**04 33 16.2**	**-0.3**
CLDB	**Colider**	**25.91**	**39**	*eP*			**P**	**04 33 27.0**	**+0.3**
BDFB	**Brasilia**	**27.29**	**59**	P			**P**	**04 33 37.3**	**-1.8**
	comp=Z,17nm,1.0s,baz=236,slow=7.8,SNR=17								
BDFB						LR	LR	04 45 28.4	
	comp=Z,1μm,18.9s,baz=217,slow=39								
BDFB	**Brasilia**	**27.29**	**59**	P			**P**	**04 33 38.0**	**-1.2**
BDFB	**Brasilia**	**27.29**	**59**	*eP*			**P**	**04 33 38.8**	**-0.4**
SNDB	**Serra Nova Dou**	**27.66**	**48**	*eP*			**P**	**04 33 42.2**	**-0.1**
TBTG	**Tabatinga, AM**	**27.89**	**4**	*eP*			**P**	**04 33 45.1**	**+0.7**
DIAM	**Diamantina, MG**	**28.97**	**68**	*eP*			**P**	**04 33 54.4**	**+0.1**
NPGB	**Novo Progresso**	**29.39**	**35**	*eP*			**P**	**04 33 56.9**	**-0.9**
SMTB	**Santa Maria do**	**32.38**	**50**	*eP*			**P**	**04 34 25.2**	**+1.1**
RPN	**Rapa Nui**	**32.75**	**269**

	baz=117,slow=75,SNR=44							
SEY	**Seymchan**	**138.45**	**331**	PKP	**PKiKP**	**04 47 20.4**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=50,slow=2.5,SNR=12							
TIXI	**Tiksi**	**138.89**	**350**	PKP	**PKiKP**	**04 47 20.0**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=275,slow=17,SNR=5.0							
BRVK	**Borovoye**	**145.80**	**41**		**PKPab**	**04 47 32.3**	**-1.1**
TOLI2	**Tolitoli**	**146.86**	**204**	PKPbc	**PKPbc**	**04 47 35.6**	**-1.7**
YAK	**Yakutsk**	**147.01**	**341**	PKPbc	**PKPab**	**04 47 36.8**	**-0.9**
CHGR	**Chuyangaron**	**147.84**	**67**	PKPbc	**PKPbc**	**04 47 37.3**	**-2.1**
KK31	**Karatay Array**	**148.58**	**59**	PKPbc	**PKPbc**	**04 47 39.6**	**-1.5**
KKAR	**Karatay Array**	**148.58**	**59**	PKPbc	**PKPbc**	**04 47 39.6**	**-1.5**
KKAR	**Karatay Array**	**148.58**	**59**	PKPbc	**PKPbc**	**04 47 38.7**	**-2.4**
GAR	**Garm**	**148.74**	**67**	PKPbc	**PKPbc**	**04 47 40.8**	**-1.1**
PSI	**Prapat**	**149.57**	**162**	PKPbc	**PKPbc**	**04 47 43.8**	**-0.8**
	comp=Z,2.7nm,0.4s,baz=357,slow=7.7,SNR=3.9							
DRK	**Karamyk**	**149.88**	**66**	PKPbc	**PKPbc**	**04 47 43.9**	**-0.9**
ZALV	**Zalesovo Beam**	**152.62**	**30**	PKPbc	**PKiKP**	**04 47 50.2**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=292,slow=3.4,SNR=11							
ZALV				PKPab	**pPKPbc**	**04 47 59.2**	**+2.7**
	comp=Z,5.8nm,0.6s,baz=306,slow=4.4,SNR=15							
ZALV	**Zalesovo Beam**	**152.62**	**30**		**PKiKP**	**04 47 50.5**	**-0.1**
MKAR	**Makanchi Array**	**155.47**	**46**	PKPbc	PKPdf	04 47 58.0	+10
	comp=Z,0.6nm,0.9s,baz=354,slow=2.4,SNR=4.8							
MKAR				PKPab	**PKPab**	**04 48 12.4**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=291,slow=3.2,SNR=7.2							
MKAR	**Makanchi Array**	**155.47**	**46**		PKPdf	04 47 54.3	+6.7
PZH	**PanZhiHua**	**172.14**	**134**	PKP	**PKPdf**	**04 48 02.8**	**-0.8**

NNC ***15*** *04:32:55.6±6.0, 37.36N×71.70E, h185km±75km, mb2.6, mpv3.7, Error ellipse: s-maj=62.2km s-min=36.5km az=176.0*

ISC 15 04:32:56.0±3.3, 37.4N±0.2×71.7E±0.1, h200km, n9, σ0.963/11, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.97**	**17**	P	**Pn**	**04 34 10.3**	**0.0**
	SNR=70						
UCH	**Uchtor**	**5.28**	**23**	P	**Pn**	**04 34 14.2**	**-0.2**
	SNR=8.0						
EKS2	**Erkin-Say**	**5.49**	**16**	P	**Pn**	**04 34 16.9**	**+0.1**
	SNR=6.4						
AAK	**Ala-Archa**	**5.65**	**21**	P	**Pn**	**04 34 19.1**	**+0.2**
	SNR=6.6						
KK31	**Karatay Array**	**5.77**	**351**	Pn	**Pn**	**04 34 20.8**	**+0.5**
	3.5nm,0.4s,baz=171,slow=12,SNR=48						
KK31				⇑Sn	**Sn**	**04 35 26.0**	**-1.0**
	1.4nm,0.3s,baz=182,slow=22,SNR=5.4						
TKM2	**Tokmak 2**	**6.27**	**27**	P	**Pn**	**04 34 26.4**	**-0.4**
	SNR=5.3						
TKM2	**Tokmak 2**	**6.27**	**27**	⇓Pn	**Pn**	**04 34 26.0**	**-0.8**
	3.5nm,0.5s						
TKM2				⇓Sn	**Sn**	**04 35 39.7**	**+1.0**
	2.6nm,0.7s						
AB31	**Akbulak array**	**14.60**	**328**	⇑P	**P**	**04 36 14.5**	**+0.2**
	0.3nm,0.5s,baz=150,slow=12,SNR=6.3						
AKTO	**Aktyubinsk**	**16.31**	**327**	⇑P	**Pn**	**04 36 33.6**	**-0.2**
	0.6nm,0.4s						

INET ***15*** *04:34:00.2±0.2, 13.48N×90.54W, h30km±4km, MW3.2*
GCG ***15*** *04:34:01.4±1.4, 13.46N×90.49W, h70km±52km, MD3.6*

ISC 15 04:33:59.3±2.0, 13.36N±0.0×90.52W±0.0, 7, h33km±4km, n28, σ0.966/38, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.90**	**53**	*e*P	**Pn**	**04 34 15.6**	**-0.2**
NUBE				*e*S	**Sb**	**04 34 26.6**	**-1.9**
SLOZ	**Alcaldia de Sa**	**0.97**	**47**	*e*P	**Pn**	**04 34 16.8**	**0.0**
SLOZ				*e*S	**Sn**	**04 34 28.9**	**-0.6**
CEVE	**Cerro Verde**	**0.99**	**62**	*e*P	**Pn**	**04 34 17.1**	**0.0**
CEVE				IAML		04 34 31.0	
	comp=Z,7μm,0.2s						
SBLS	**San Blas**	**1.00**	**62**	*i* P	**Pn**	**04 34 17.1**	**-0.1**
RTR	**El Retiro**	**1.00**	**58**	*e*P	**Pn**	**04 34 17.4**	**+0.1**
SNJE	**San Jose**	**1.02**	**61**	*e*P	**Pn**	**04 34 17.4**	**-0.1**
PCG	**Pacaya**	**1.02**	**355**	*e*P	**Pb**	**04 34 19.3**	**+0.5**
FUG	**Fuego 3**	**1.12**	**344**	*e*P	**Pb**	**04 34 20.4**	**0.0**
NBG	**Las Nubes**	**1.23**	**8**	*e*P	**Pb**	**04 34 22.8**	**+0.6**
NBG				*e*S	**Sb**	**04 34 39.6**	**+1.7**
BOQS	**Boqueron**	**1.27**	**73**	*e*P	**Pn**	**04 34 21.5**	**+0.6**
SNET	**Serv Nac Est T**	**1.30**	**76**	*e*P	**Pn**	**04 34 21.5**	**+0.3**
SNET				IAML		04 34 22.5	
	comp=Z,2μm,0.2s						
SNET				*e*S	**Sn**	**04 34 37.2**	**-0.3**
SNET	**Serv Nac Est T**	**1.30**	**76**	*e*P	**Pn**	**04 34 21.6**	**+0.3**
SNET				*e*S	**Sn**	**04 34 37.2**	**-0.3**
UEES	**Universidad Ev**	**1.30**	**74**	*e*P	**Pn**	**04 34 22.0**	**+0.8**
UEES				*e*S	**Sn**	**04 34 37.2**	**-0.3**
LFRS	**El Faro**	**1.45**	**80**	*e*P	**Pn**	**04 34 23.7**	**+0.4**
SJTE	**Alcalda de S**	**1.50**	**80**	*e*P	**Pn**	**04 34 24.4**	**+0.5**
MTO3	**Montecristo**	**1.53**	**48**	*e*P	**Pn**	**04 34 24.1**	**-0.4**
MTO3	**Montecristo**	**1.53**	**48**	*e*P	**Pn**	**04 34 24.3**	**-0.2**
MTO3				*e*S	**Sn**	**04 34 43.3**	**-0.1**
PAVA	**Las Pavas**	**1.58**	**77**	*e*P	**Pn**	**04 34 25.6**	**+0.5**
PAVA	**Las Pavas**	**1.58**	**77**	*e*P	**Pn**	**04 34 25.7**	**+0.5**
COEG	**Centro de Oper**	**1.62**	**81**	*e*P	**Pn**	**04 34 26.1**	**+0.5**
COEG				*e*S	**Sn**	**04 34 45.7**	**+0.3**
COEG				IAML		04 34 49.7	
	comp=Z,447nm,0.3s						
ESQI	**Esquipulas**	**1.65**	**44**	*e*P	**Pn**	**04 34 26.0**	**-0.1**
ESQI				*e*S	**Sn**	**04 34 45.8**	**-0.5**
ESQI				IAML		04 34 50.4	
	comp=Z,132nm,0.4s						
STG3	**Santiaguito 3,**	**1.68**	**323**	*e*P	**Pb**	**04 34 29.4**	**-0.5**
STG3				*e*S	**Sb**	**04 34 49.7**	**-1.0**
SCLA	**Alcaldia de Sa**	**1.78**	**79**	*e*P	**Pn**	**04 34 28.4**	**+0.6**
MRL	**Marmol**	**1.89**	**25**	*e*P	**Pn**	**04 34 30.9**	**+1.4**
PQSS	**Presa 15 de Se**	**1.93**	**82**	*e*P	**Pn**	**04 34 30.0**	**+0.2**
COEB	**Comit de Eme**	**1.94**	**86**	*e*P	**Pn**	**04 34 30.6**	**+0.5**
COEB				IAML		04 34 31.3	
	comp=Z,176nm,0.3s						
COEB	**Comit de Eme**	**1.94**	**86**	*e*P	**Pn**	**04 34 30.7**	**+0.5**
LCND	**La Caada**	**2.56**	**91**	*e*P	**Pn**	**04 34 39.0**	**+0.4**
LCND				IAML		04 35 14.9	
	comp=Z,168nm,0.3s						

IDC ***15*** *04:42:24.6±3.6, 13.81S×165.87E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/44, mbtmp3.7/5, Error ellipse: s-maj=166.9km s-min=29.8km az=143.0*

ISC 15 04:42:28.9±3.6, 14.0S±0.9×165.9E±0.7, h31km, n6, σ1947/6, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.75**	**254**	P	**P**	**04 48 41.7**	**0.0**
	0.6nm,1.1s,baz=85,slow=8.6,SNR=2.1						
ASAR	**Alice Springs**	**31.73**	**248**	P	**P**	**04 48 49.3**	**-1.0**
	0.4nm,0.8s,baz=74,slow=11,SNR=4.1						
FITZ	**Fitzroy Crossi**	**38.88**	**258**	P	**P**	**04 49 53.4**	**+1.6**
	1.4nm,0.8s,baz=74,slow=7.4,SNR=2.7						
ILAR	**Eielson Array**	**86.23**	**18**	P	**P**	**04 55 06.5**	**-0.5**
	0.9nm,0.6s,baz=240,slow=5.1,SNR=12						
MKAR	**Makanchi Array**	**95.77**	**317**	P	**P**	**04 55 51.6**	**-0.5**
	0.3nm,0.7s,baz=85,slow=6.5,SNR=3.9						
ARCES	**ARCESS Array B**	**119.21**	**345**	PKP	**PKiKP**	**05 01 15.9**	**+1.5**
	1.2nm,0.9s,baz=5.7,slow=3.7,SNR=1.1						

DJA ***15*** *04:43:25.5±0.5, 1.7S±4.7×107.0E±7.7, h46km±14km, M3.8/7, MLv3.8/7*
IDC ***15*** *04:43:26.1±4.6, 0.753S×100.89E, h44km±41km, mb3.5/5, mb1 3.5/6, mb1mx3.1/63, mbtmp3.6/6, ML2.8/1, MS4.4/3, Ms1 4.4/3, ms1mx3.4/54, Error ellipse: s-maj=161.9km s-min=20.1km az=53.0*

ISC 15 04:43:24.5±0.9, 1.20S±0.05×99.71E±0.05, h50km, n17, σ1995/18, mb3.8/5, MS4.4/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.64**	**258**	P	**Pn**	**04 43 39.3**	**+1.8**
SISI				S	**Sn**	**04 43 48.3**	**+1.4**
PPI	**Padang Panjang**	**1.00**	**43**	P	**Pn**	**04 43 43.2**	**+0.9**
PPSI	**Pulau Pagai**	**1.58**	**169**	P	**Pn**	**04 43 50.2**	**0.0**
KRJI	**Kerinci**	**1.96**	**117**	P	**Pn**	**04 43 57.0**	**+1.5**
KRJI				S	**Sn**	**04 44 21.6**	**+2.7**
MNSI	**Mandailing Nat**	**1.98**	**356**	P	**Pn**	**04 43 57.7**	**+2.0**
BKNI	**Bangkinang**	**2.01**	**41**	P	**Pn**	**04 43 58.1**	**+2.1**
GSI	**Gunungsitoli**	**3.28**	**319**	P	**Pn**	**04 44 14.6**	**+1.2**
PSI	**Prapat**	**4.05**	**349**	P	**Pn**	**04 44 21.6**	**-2.5**
	0.7nm,0.3s,baz=158,slow=11,SNR=1.8						
PSI				S	Sn	04 44 52.4	-18
	1.1nm,0.3s,baz=155,slow=16,SNR=3.8						
MNAI	**Manna**	**4.51**	**134**	P	**Pn**	**04 44 30.7**	**+0.3**
WRA	**Warramunga Arr**	**38.65**	**121**	P	**P**	**04 50 40.3**	**-3.3**
	0.3nm,0.5s,baz=305,slow=9.0,SNR=7.0						
WRA				LR	LR	05 08 24.0	
	comp=Z,592nm,20.1s,baz=357,slow=39						
ASAR	**Alice Springs**	**39.96**	**127**	P	**P**	**04 50 51.7**	**-2.7**
	0.1nm,0.3s,baz=304,slow=7.8,SNR=1.9						
ASAR				LR	LR	05 10 18.7	
	comp=Z,490nm,18.9s,baz=7.5,slow=41						
MKAR	**Makanchi Array**	**50.18**	**344**	P	**P**	**04 52 15.1**	**-0.2**
	0.3nm,0.3s,baz=155,slow=8.7,SNR=10						
JHJ	**Hachijo jima 2**	**50.89**	**44**	LR	LR	05 14 00.7	
	comp=Z,389nm,18.2s,baz=219,slow=37						
KURBB	**Kurchatov Arra**	**54.70**	**344**	P	**P**	**04 52 48.0**	**-0.6**
	0.5nm,0.3s,baz=158,slow=7.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**56.33**	**349**	P	**P**	**04 52 59.8**	**-0.4**
	0.7nm,0.3s,baz=184,slow=7.0,SNR=5.0						
PLCA	**Paso Flores**	**137.34**	**191**	PKP	**PKiKP**	**05 02 47.5**	**+2.5**
	3.2nm,1.0s,baz=180,slow=3.0,SNR=3.5						
TXAR	**Lajitas Array**	**144.23**	**36**	PKP	**PKPab**	**05 02 53.8**	**+0.1**
	0.2nm,0.6s,baz=356,slow=1.0,SNR=3.7						

IDC ***15*** *04:49:59.7±1.2, 32.87N×130.48E, h0km, mb3.6/7, mb1 3.8/11, mb1mx3.5/69, mbtmp3.7/11, ML3.5/4, MS3.8/2, Ms1 3.8/2, ms1mx2.9/80, Error ellipse: s-maj=21.3km s-min=7.6km az=156.0*
JMA ***15*** *04:50:00.5, 32.72N×130.76E, h12km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs305.00000°, δ83.00000°, λ-29.00000°. NP2: φs39.00000°, δ61.00000°, λ-172.00000°. Principal axes: T Plg15.0000°, Azm355.0000°; N Plg60.0000°, Azm113.0000°; P Plg25.0000°, Azm258.0000°;*
JMA Felt III J1.
NIED ***15*** *04:50:00.5, 32.72N×130.77E, h12km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr0.56; Mθθ6.93; Mφφ-7.49; Mrθ-1.11; Mφθ2.33; Mφr-3.85; Fault plane solution: M08.49000×10^14 NP1: φs304.00000°, δ64.00000°, λ-4.00000°. NP2: φs36.00000°, δ86.00000°, λ-154.00000°.*
NEIC ***15*** *04:50:01.9±1.8, 32.82N±0.0×130.68E±0.0, h10km±1km, mb4.2/3 Error ellipse: s-maj=9.8km s-min=4.6km az=116.0*

ISC 15 04:50:00.0±0.6, 32.70N±0.0×130.61E±0.0, 6, h11km, n34, σ1935/33, mb3.8/10, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.23**	**132**	⇑P	**Pg**	**04 50 04.5**	**-0.3**
JIU3				S	**Sg**	**04 50 07.6**	**-0.4**
JTA	**Tamana**	**0.27**	**345**	⇑P	**Pb**	**04 50 07.0**	**+0.1**
JTA				S	**Sb**	**04 50 11.2**	**-0.3**
JNU	**Nakatsue**	**0.47**	**28**	Pg	**Pg**	**04 50 08.1**	**-1.3**
	902nm,0.3s,baz=194,slow=8.5,SNR=1081						
JNU				Lg	Lg	04 50 13.7	
	5μm,0.3s,baz=348,slow=20,SNR=77						
JNU	**Nakatsue**	**0.47**	**28**		**Pg**	**04 50 08.7**	**-0.6**
JNU				Sg	**Sg**	**04 50 12.8**	**-2.8**
JTZ	**Takazaki**	**0.90**	**153**	⇑P	**Pn**	**04 50 17.4**	**-1.2**
JTZ				S	**Sn**	**04 50 29.0**	**-2.5**
JSU	**Suzuyama**	**1.20**	**186**	Pn	**Pn**	**04 50 23.7**	**+0.9**
JTU	**Tsushima**	**2.08**	**331**		**Pb**	**04 50 35.1**	**-2.7**
JMN	**Monobe**	**2.92**	**69**		**Pn**	**04 50 48.9**	**+2.4**
JHS	**Saijyo**	**3.10**	**42**		**Pn**	**04 50 49.6**	**+0.7**
TJN	**Taejon**	**4.54**	**325**	Pn	**Pn**	**04 51 09.6**	**+0.9**
KSRS	**Korea Array**	**5.23**	**336**	Pn	**Pn**	**04 51 17.2**	**-0.9**
	0.5nm,0.3s,baz=230,slow=10,SNR=2.4						
KSRS				Pg	**Pb**	**04 51 33.3**	**+1.9**
	2.9nm,0.3s,baz=151,slow=17,SNR=13						
KSRS				Lg	Lg	04 52 37.9	
	1.5nm,0.3s,baz=150,slow=28,SNR=5.4						
KSRS				LR	LR	04 53 25.0	
	comp=Z,71nm,19.0s,baz=185,slow=41						
KSAR	**Wonju Array Be**	**5.23**	**335**	Pn	**Pn**	**04 51 18.5**	**+0.4**
INCN	**Inchon**	**5.78**	**327**	Pn	**Pn**	**04 51 26.3**	**+0.6**
INU	**Inuyama**	**5.94**	**62**		**Pn**	**04 51 28.7**	**+0.8**
JOW	**Kunigami**	**6.19**	**200**	Pn	Pn	04 51 35.9	+4.4
	3.9nm,0.3s,baz=105,slow=22,SNR=8.3						
JOW	**Kunigami**	**6.19**	**200**		Pn	04 51 35.6	+4.2
MJAR	**Matsushiro Arr**	**7.34**	**56**	Pn	**Pn**	**04 51 46.6**	**-0.5**
	0.1nm,0.3s,baz=221,slow=21,SNR=1.9						
JHJ	**Hachijo jima 2**	**7.72**	**84**	Pn	**Pn**	**04 51 53.7**	**+1.3**
	13nm,0.3s,baz=65,slow=8.7,SNR=1.8						
BJT	**Baijiatuau**	**13.73**	**306**	Pn	**Pn**	**04 53 14.5**	**-0.1**
KLR	**Kul'dur**	**16.53**	**3**	LR	LR	04 59 19.8	
	comp=Z,156nm,19.3s,baz=48,slow=34						
MA2	**Magadan**	**30.04**	**21**	P	**P**	**04 56 10.2**	**+1.4**
MA2				IAmb	IAmb	04 56 16.7	
	comp=Z,4.7nm,0.9s						
MKAR	**Makanchi Array**	**39.11**	**306**	P	**P**	**04 57 26.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=89,slow=9.2,SNR=2.0						
KURK	**Kurchatov**	**41.83**	**311**	P	**P**	**04 57 50.6**	**+0.9**
KURK	**Kurchatov**	**41.83**	**311**	IAmb	IAmb	04 57 58.2	
	comp=Z,1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**41.88**	**311**	P	**P**	**04 57 50.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=98,slow=8.6,SNR=5.5						
BVAR	**Borovoye Array**	**47.04**	**314**	P	**P**	**04 58 33.0**	**+1.6**
	comp=Z,1.1nm,0.7s						
KK31	**Karatay Array**	**47.63**	**301**	P	**P**	**04 58 37.6**	**+1.4**
KK31				IAmb	IAmb	04 58 41.8	
	comp=Z,1.7nm,0.7s						
KKAR	**Karatay Array**	**47.63**	**301**	P	**P**	**04 58 37.8**	**+1.6**
ABKAR	**Akbulak array**	**53.91**	**310**	P	**P**	04 59 27.2	+3.9
ILAR	**Eielson Array**	**57.79**	**30**	P	**P**	**04 59 51.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=282,slow=6.4,SNR=1.6						
WSAR	**Wadi Sarin**	**63.20**	**281**	LR	LR	05 30 42.2	
	comp=Z,188nm,21.2s,baz=111,slow=39						
FINES	**FINESS Array B**	**68.29**	**330**	P	**P**	**05 00 59.7**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=64,slow=4.9,SNR=4.2						
YKA	**Yellowknife Ar**	**71.81**	**26**	P	**P**	**05 01 23.1**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=304,slow=6.6,SNR=3.7						
AKASG	**Malin Array Be**	**71.99**	**319**	P	**P**	**05 01 23.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=52,slow=6.7,SNR=5.4						

BJI ***15*** *04:50:08.6±0.0, 1.73N×126.85E, h95km, mb5.2/74, mB5.3/58*
IDC ***15*** *04:50:10.8±0.9, 2.01N×127.07E, h90km±7km, mb4.8/53, mb1 4.8/58, mb1mx4.8/64, mbtmp5.2/58, MS4.3/44, Ms1 4.3/44, ms1mx4.2/69, Error ellipse: s-maj=10.0km s-min=6.6km az=72.0*
MOS ***15*** *04:50:11.2±1.1, 2.03N×127.03E, h106km, mb5.5/71, MS4.5/7, Error ellipse: s-maj=6.9km s-min=3.8km az=117.3*
NEIC ***15*** *04:50:11.4±1.6, 2.01N±0.05×127.00E±0.06, h90km±4km, mb5.4/208, Mwc5.6(GCMT), Error ellipse: s-maj=8.8km s-min=6.9km az=60.0*
DJA ***15*** *04:50:12.0±0.2, 2.1N±2.2×127.7E±7.7, h96km±2km, M5.4/115, mB5.9/93, mb5.7/115, MLv5.9/18, Mw(mB)5.5/93, MwMwp5.2/30, Mwp5.4/30*
KLM ***15*** *04:50:12, 2.01N×127.16E, h105km, mb5.8*
GCMT ***15*** *04:50:12.4±0.1, 2.06N±0.01×126.98E±0.01, h109km±1km, MW5.6/155, Moment Tensor Solution. s135, c225; s155, c304; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr0.83±.03; Mθθ2.22±.03; Mφφ-3.04±.04; Mrθ-1.25±.02; Mφθ0.02±.04; Mφr-0.47±.03; Best double couple: M03.03300×10^17 NP1: φs319.00000°, δ63.00000°, λ18.00000°. NP2: φs220.00000°, δ74.00000°, λ152.00000°. Principal axes: T 2.9660, Plg31.0000°, Azm177.0000°; N 0.1420, Plg58.0000°, Azm13.0000°; P -3.1010, Plg7.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***15*** *04:50:13, 2.07N×126.99E, h109km, Moment Tensor Solution. Duration: 3s0 Moment tensor: Scale 10^17Nm; Mrr0.92; Mθθ2.26; Mφφ-3.19; Mrθ-1.25; Mφθ0.12; Mφr-0.44; Fault plane solution: M03.14000×10^17 NP1: φs318.00000°, δ64.00000°, λ19.00000°. NP2: φs219.00000°, δ73.00000°, λ153.00000°. Principal axes: T 3.0283, Plg31.0000°, Azm176.0000°; N 0.2055, Plg58.0000°, Azm10.0000°; P -3.2339, Plg6.0000°, Azm270.0000°;*

ISC 15 04:50:11.4±0.3, 1.99N±0.02×126.96E±0.03, h98km±1km, h98km: pP-P, n1249, σ1953/1393, mb5.3/237, 115C-100D,

Fault plane solution: NP1: φs325.26617°, δ74.48131°, λ9.45019°. NP2: φs232.71626°, δ80.89732°, λ164.27829°. Principal axes: T Plg17.5210°, Azm188.2585°; N Plg71.8910°, Azm23.3797°; P Plg4.4346°, Azm279.6615°;

Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**161**		**Pn**	**04 50 35.9**	**+1.1**
TNTI	**Ternate**	**1.28**	**161**	P	**Pn**	**04 50 36.1**	**+1.3**
TNTI	**Ternate**	**1.28**	**161**	P	**Pn**	**04 50 36.6**	**+1.8**
SGSI	**Sangihe**	**2.21**	**320**	P	**Pn**	**04 50 46.4**	**-0.2**
LBMI	**Labuha**	**2.67**	**168**	P	**Pn**	**04 50 54.1**	**+1.5**
KMSI	**Cibinong**	**3.29**	**245**	P	**Pn**	**04 51 03.3**	**+2.4**
SANI	**Sanana**	**4.13**	**194**	P	**Pn**	**04 51 12.1**	**-0.2**
SANI	**Sanana**	**4.13**	**194**	P	**Pn**	**04 51 12.5**	**+0.2**
GTOI	**Gorontalo**	**4.17**	**251**	P	**Pn**	**04 51 15.8**	**+3.0**
DDMP	**Don Marcelino,**	**4.27**	**343**	*e*P	**Pn**	**04 51 13.2**	**-1.1**
GSPH	**General Santos**	**4.54**	**334**	*i* P	**Pn**	**04 51 16.5**	**-1.4**
GSPH				*i* S	**Sn**	**04 52 06.7**	**-2.9**
MATI	**Mati**	**4.97**	**352**	*e*P	**Pn**	**04 51 23.9**	**+0.1**
SWI	**Sorong**	**5.15**	**123**	P	**Pn**	**04 51 26.9**	**+0.7**
SWI				pmax	pmax		
	comp=Z,812nm,1.1s						
SWI	**Sorong**	**5.15**	**123**	P	**Pn**	**04 51 26.6**	**+0.4**
	comp=Z,2.7nmcomp=Z,22μmcomp=Z,9μmcomp=Z,814nm,1.0s						
LUWI	**Luwuk**	**5.15**	**234**	Pn	**Pn**	**04 51 28.0**	**+1.8**
LUWI	**Luwuk**	**5.15**	**234**	P	**Pn**	**04 51 27.6**	**+1.4**
	comp=Z,66nmcomp=Z,11μmcomp=Z,40μmcomp=Z,4μm,0.9s						
LUWI	**Luwuk**	**5.15**	**234**	P	**Pn**	**04 51 27.8**	**+1.6**
SIJI	**Sorong**	**5.16**	**123**	P	**Pn**	**04 51 26.0**	**-0.3**
	comp=Z,28nm,0.3s,baz=319,slow=8.6,SNR=102						
SIJI				S	**Sn**	**04 52 22.5**	**-2.2**
	comp=Z,7.5nm,0.3s,baz=357,slow=20,SNR=6.2						
DAV	**Davao City (W)**	**5.23**	**345**	P	**Pn**	**04 51 27.5**	**+0.2**
	comp=Z,227nm,0.3s,baz=140,slow=1.7,SNR=53						
DAV				S	**Sn**	**04 52 27.7**	**+1.4**
	comp=Z,1μm,0.3s,baz=152,slow=22,SNR=9.1						
DAV	**Davao City (W)**	**5.23**	**345**	Pn	**Pn**	**04 51 26.8**	**-0.5**
DAV	**Davao City (W)**	**5.23**	**345**	P	**Pn**	**04 51 27.4**	**+0.1**
DAV				S	**Sn**	**04 52 30.4**	**+4.1**
DAV	**Davao City (W)**	**5.23**	**345**	P	**Pn**	**04 51 27.7**	**+0.4**
MRSI	**Marisa**	**5.23**	**253**	P	**Pn**	**04 51 29.9**	**+2.6**
	comp=Z,30nmcomp=Z,24μmcomp=Z,100μmcomp=Z,8μm,0.8s						
MSAI	**Masohi**	**5.65**	**160**	P	**Pn**	**04 51 35.0**	**+2.0**
	comp=Z,0.8nmcomp=Z,3μmcomp=Z,197nm,0.9s						
AAI	**Ambon**	**5.77**	**168**	P	**Pn**	**04 51 36.1**	**+1.5**
AAI				pmax	pmax		
	comp=Z,707nm,0.8s						
AAI	**Ambon**	**5.77**	**168**	P	**Pn**	**04 51 35.9**	**+1.3**
	comp=Z,3.3nmcomp=Z,12μmcomp=Z,14μmcomp=Z,686nm,0.6s						
APSI	**Ampana**	**6.04**	**242**	P	**Pn**	**04 51 39.8**	**+1.6**
	comp=Z,22nmcomp=Z,7μmcomp=Z,18μmcomp=Z,2μm,0.5s						
BUKP	**Musuan**	**6.15**	**342**	*e*P	**Pn**	**04 51 39.3**	**-0.4**
BUKP				*e*S	**Sn**	**04 52 48.9**	**+0.2**
BUKP	**Musuan**	**6.15**	**342**	*e*P	**Pn**	**04 51 40.1**	**+0.4**
BIPH	**Bislig**	**6.18**	**355**	⇑*i*P	**Pn**	**04 51 38.0**	**-2.2**
BIPH				*i* S	**Sn**	**04 52 48.7**	**-0.8**
TOLI2	**Tolitoli**	**6.23**	**262**	Pn	**Pn**	**04 51 42.3**	**+1.5**
TOLI2	**Tolitoli**	**6.23**	**262**	P	**Pn**	**04 51 42.6**	**+1.7**
CGP	**Cagayan de Oro**	**6.81**	**341**	⇑*e*P	**Pn**	**04 51 48.0**	**-0.6**
CGP				*e*S	**Sn**	**04 53 03.8**	**-0.9**
PAGZ	**Pagadian**	**6.82**	**329**	⇓*e*P	**Pn**	**04 51 48.6**	**-0.3**
PAGZ				*e*S	**Sn**	**04 53 04.2**	**-0.9**
ZCP	**Zamboanga City**	**6.91**	**315**	⇑*i*P	Pn	04 51 56.3	+6.2
ZCP				*i* S	**Sn**	**04 53 03.1**	**-4.2**
BUTP	**Butuan**	**7.06**	**349**	*e*P	**Pn**	**04 51 52.2**	**+0.1**
BNDI	**Bandanaira**	**7.11**	**156**	P	**Pn**	**04 51 54.2**	**+1.4**
MPSI	**Mapaga**	**7.24**	**257**	P	**Pn**	**04 51 56.7**	**+2.1**
	comp=Z,3.9nmcomp=Z,14μmcomp=Z,13μmcomp=Z,1μm,0.8s						
DCPH	**Dipolog City**	**7.47**	**331**	⇑*e*P	**Pn**	**04 51 59.3**	**+1.6**
GLSP	**General Luna,**	**7.79**	**354**	*e*P	**Pn**	**04 52 00.8**	**-1.3**
SCPH	**Surigao**	**7.88**	**349**	⇓*e*P	**Pn**	**04 52

comp=Z,9µmcomp=Z,232nm,1.9s
KMMI Kalianget 15.77 235 P **P** 04 53 50.4 +0.5
comp=Z,9µmcomp=Z,594nm,0.7s
DNP Denpasar 15.79 228 P **P** 04 53 54.2 +4.0
DNP pmax pmax
comp=Z,928nm,0.9s
DNP Denpasar 15.79 228 P **P** 04 53 50.3 +0.1
comp=Z,946nm,0.9s
IGBI Denpasar 15.93 227 P **P** 04 53 54.8 +3.1
comp=Z,4µmcomp=Z,287nm,1.0s
PBKI Pangkalan Bun 15.98 253 P **P** 04 53 52.4 +0.2
comp=Z,6µmcomp=Z,232nm,0.9s
ABJI Asem Bagus 15.98 232 P **P** 04 53 53.6 +1.3
comp=Z,4µmcomp=Z,5µmcomp=Z,214nm,1.1s
JAGI Jajag, Banyuwa 16.46 231 **P** 04 53 57.5 0.0
JAGI IAmb IAmb 04 54 04.1
comp=Z,279nm,0.9s
JAGI Jajag, Banyuwa 16.46 231 P **P** 04 53 59.8 +2.2
comp=Z,6µmcomp=Z,420nm,0.8s
JAGI Jajag, Banyuwa 16.46 231 P **P** 04 53 59.1 +1.5
BLJI Banyuglugur 16.46 234 P **P** 04 54 01.3 +3.7
comp=Z,3µmcomp=Z,273nm,0.7s
KSM Kuching 16.65 269 Pn **Pn** 04 53 58.6 -0.3
KSM IAmb IAmb 04 54 03.5
comp=Z,197nm,0.9s
KSM Kuching 16.65 269 P **P** 04 54 01.0 +1.3
KSM Kuching 16.65 269 P **P** 04 54 00.1 +0.4
APYP Conner 16.74 341 *eP* **P** 04 54 01.1 +0.5
GMJI Gumukmas 16.89 233 P **P** 04 54 03.1 +0.7
comp=Z,6µmcomp=Z,373nm,1.0s
GRJI Gresik 16.94 238 P **P** 04 54 07.2 +4.3
comp=Z,135nm,0.8s
MMPI Merauke 16.94 128 P **P** 04 54 05.1 +2.2
comp=Z,714nm,0.5s
KNRA Kununurra 17.64 174 P **P** 04 54 10.1 -0.4
baz=18,SNR=244
KNRA Kununurra 17.64 174 **P** 04 54 10.2 -0.4
KNRA Kununurra 17.64 174 P **P** 04 54 10.6 0.0
PWJI Pagerwojo 18.09 236 P **Pn** 04 54 18.0 +1.6
comp=Z,3µmcomp=Z,211nm,0.9s
PCJI Pacitan 18.71 237 P **Pn** 04 54 25.5 +1.7
comp=Z,5µmcomp=Z,472nm,0.5s
SMRI Semarang 18.77 241 P **P** 04 54 22.9 -0.1
SMRI IAmb IAmb 04 54 32.8
comp=Z,237nm,1.1s
SMRI Semarang 18.77 241 P **Pn** 04 54 25.0 +0.4
comp=Z,4µmcomp=Z,225nm,0.9s
SMRI Semarang 18.77 241 P **Pn** 04 54 24.4 -0.2
UGM Wanagama 19.11 239 IAmb IAmb 04 54 31.5
comp=Z,119nm,0.7s
UGM Wanagama 19.11 239 P **Pn** 04 54 28.9 +0.2
comp=Z,252nm,1.2s
UGM Wanagama 19.11 239 P **Pn** 04 54 29.5 +0.8
YOGI Yogyakarta 19.26 239 P **Pn** 04 54 30.3 -0.1
comp=Z,3µmcomp=Z,283nm,0.7s
FITZ Fitzroy Crossi 20.00 184 P **P** 04 54 35.9 -0.5
comp=Z,105nm,0.6s,baz=20,slow=8.6,SNR=241
FITZ S **S** 04 58 12.5 -3.5
comp=Z,18nm,0.8s,baz=142,slow=17,SNR=1.2
FITZ LR LR 05 02 00.9
comp=Z,423nm,21.9s,baz=10,slow=36
FITZ ScP **ScP** 05 02 16.1 -0.4
comp=Z,13nm,0.7s,baz=315,slow=1.4,SNR=3.3
KPJI Karang Pucung 20.23 243 P **P** 04 54 38.5 -0.4
comp=Z,2µmcomp=Z,276nm,0.9s
MANU Manus Island 20.80 101 P **P** 04 54 43.6 -1.4
CMJI Cimerak 20.86 242 P **P** 04 54 45.7 +0.1
comp=Z,1µmcomp=Z,119nm,1.3s
GUMO Guam 21.14 56 P **P** 04 54 46.7 -1.9
comp=Z,121nm,0.5s,baz=197,slow=8.5,SNR=9.9
GUMO Guam 21.14 56 P **P** 04 54 46.5 -2.1
GUMO IAmb IAmb 04 54 58.4
comp=Z,211nm,0.8s
GUMO Guam 21.14 56 P **P** 04 54 48.7 +0.1
LEM Lembang 21.20 245 P **P** 04 54 51.0 +1.6
comp=Z,85nm,0.8s,baz=61,slow=12,SNR=7.0
LEM S **S** 04 58 41.6 +1.7
comp=Z,12nm,0.4s,baz=336,slow=23,SNR=1.4
PPBI Pangkal Pinang 21.22 259 P **P** 04 54 49.3 -0.2
comp=Z,5µmcomp=Z,14µmcomp=Z,148nm,0.8s
TWG Pinlang 21.48 345 IAmb IAmb 04 55 03.7
comp=Z,144nm,0.9s
CBJI Citeko 21.74 247 P **P** 04 54 57.1 +2.0
comp=Z,4µmcomp=Z,16µmcomp=Z,291nm,0.6s
CNJI Cibinong 21.83 245 P **P** 04 54 58.0 +1.9
comp=Z,3µmcomp=Z,314nm,1.0s
DBJI Dramaga 21.88 247 P **P** 04 55 01.9 +5.3
comp=Z,191nm,1.6s
YULB Yu-li 21.97 346 P **P** 04 54 56.1 -1.4
TPUB Ta-pu 22.06 344 P **P** 04 54 57.4 -1.0
TPUB IAmb IAmb 04 55 08.1
comp=Z,218nm,1.0s
TPUB Ta-pu 22.06 344 P **P** 04 54 58.0 -0.3
SSLB Suanglung 22.44 345 P **P** 04 55 01.5 -0.9
SSLB IAmb IAmb 04 55 16.1
comp=Z,158nm,0.8s
SSLB Suanglung 22.44 345 P **P** 04 55 01.7 -0.7
TPRI Tanjung Pinang 22.45 268 P **P** 04 55 01.9 -0.7
comp=Z,63nm,0.8s
DSRI Dabo 22.51 264 P **P** 04 55 04.5 +1.3
comp=Z,1µmcomp=Z,1µmcomp=Z,58nm,1.2s
COEN Coen 22.57 135 P **P** 04 55 02.3 -1.5
baz=22
COEN Coen 22.57 135 P **P** 04 55 01.7 -2.1
COEN IAmb IAmb 04 55 04.0
comp=Z,107nm,0.9s
COEN Coen 22.57 135 P **P** 04 55 02.7 -1.1
YOJ Yonaguni jima 22.66 351 P **P** 04 55 07.0 +2.4
PMBI Palembang 22.71 258 P **P** 04 55 06.3 +1.1
WB0 Warramunga Arr 22.82 162 P **P** 04 55 05.0 -1.3
CGJI Cibinong 22.88 248 P **P** 04 55 08.3 +1.4
comp=Z,2µmcomp=Z,124nm,0.6s
BLSI Bandar Lampung 22.88 251 P **P** 04 55 07.8 +0.8
comp=Z,5µmcomp=Z,283nm,0.6s
WRAB Tennant Creek 22.96 162 P **P** 04 55 06.1 -1.6
WRAB pmax pmax
comp=Z,1µm,0.8s
WRAB Tennant Creek 22.96 162 P **P** 04 55 06.1 -1.6
WRAB Tennant Creek 22.96 162 P **P** 04 55 06.7 -1.0
WRA Warramunga Arr 22.97 162 P **P** 04 55 06.3 -1.5
comp=Z,292nm,0.8s,baz=339,slow=10,SNR=782
WRA PcP **PcP** 04 58 55.1 +0.3
comp=Z,34nm,0.7s,baz=321,slow=2.4,SNR=6.6
WRA S **S** 04 59 09.4 -1.2
comp=Z,46nm,1.1s,baz=338,slow=17,SNR=6.8
WRA ScP **ScP** 05 02 23.6 -0.4
comp=Z,20nm,0.9s,baz=332,slow=3.2,SNR=8.0
WRA ScS **ScS** 05 06 06.7 -3.4
comp=Z,3.8nm,0.7s,baz=322,slow=4.6,SNR=8.6
WRA Warramunga Arr 22.97 162 IAmb IAmb 04 55 14.4
comp=Z,147nm,0.8s
WB2 Warramunga Arr 22.97 162 P **P** 04 55 06.7 -1.1
baz=23
WB2 Warramunga Arr 22.97 162 P **P** 04 55 06.7 -1.1
PMG Port Moresby 23.09 120 P **P** 04 55 07.0 -1.9
comp=Z,92nm,0.9s,baz=288,slow=6.2,SNR=18
PMG S **S** 04 59 07.3 -5.4
comp=Z,19nm,0.9s,baz=277,slow=13,SNR=2.0
PMG LR LR 05 04 36.3
comp=Z,2µm,19.9s,baz=306,slow=38
PMG Port Moresby 23.09 120 *i* P **P** 04 55 07.1 -1.9
PMG pmax pmax
comp=Z,98nm,1.0s
PMG Port Moresby 23.09 120 P **P** 04 55 07.6 -1.3
PMG Port Moresby 23.09 120 P **P** 04 55 09.8 +0.8
PMG Port Moresby 23.09 120 P **P** 04 55 09.9 +0.9
MYKOM Kota Tinggi 23.09 270 P **P** 04 55 09.0 0.0
MYKOM IAmb IAmb 04 55 11.2
comp=Z,200nm,0.9s
MYKOM Kota Tinggi 23.09 270 P **P** 04 55 10.0 +1.0
KLI Kotabumi 23.10 253 P **P** 04 55 10.8 +1.7
KLI pmax pmax
comp=Z,567nm,0.9s
KLI Kotabumi 23.10 253 P **P** 04 55 09.8 +0.7
comp=Z,10µmcomp=Z,570nm,0.9s
YHNB Yeheng 23.18 347 P **P** 04 55 10.2 +0.4
JMBI JAMBI 23.59 261 P **P** 04 55 16.2 +2.7
comp=Z,5µmcomp=Z,158nm,0.8s
KASI Kota Agung 23.64 251 P **P** 04 55 15.1 +1.1
comp=Z,4µmcomp=Z,518nm,0.8s
MDSI Maura Dua 23.65 254 P **P** 04 55 13.8 -0.3
comp=Z,2µmcomp=Z,1µmcomp=Z,83nm,1.3s
QIZ Qiongzhong 23.83 316 IAmb IAmb 04 55 16.1
comp=Z,131nm,1.0s
QIZ Qiongzhong 23.83 316 P **P** 04 55 15.3 -0.3
QIZ pP **pP** 04 55 36.8 +0.8
QIZ PP **PnPn** 04 55 54.9 +5.2
QIZ S **S** 04 59 24.8 +0.3
QIZ SS **SnSn** 05 00 17.3 +2.8
QIZ pmax pmax
comp=Z,130nm,0.9s
QIZ Qiongzhong 23.83 316 P **P** 04 55 16.2 +0.6
KNMB Chin-men Tao 23.83 340 P **P** 04 55 15.6 0.0
KNMB IAmb IAmb 04 55 24.5
comp=Z,118nm,1.0s
LWLI Liwa 23.91 253 P **P** 04 55 18.9 +2.3
comp=Z,387nm,0.8s
MBWA Marble Bar 24.07 197 P **P** 04 55 18.2 +0.4
QZH Quanzhou 24.21 341 P **P** 04 55 22.0 +3.0
QZH S **S** 04 59 29.6 -0.9
QZH LR LR
comp=Z,1µm,19.9s
PSA00 Pilbara Seismi 24.43 196 P **P** 04 55 21.7 +0.7
PSA00 Pilbara Seismi 24.43 196 P **P** 04 55 21.7 +0.7
XMI Christmas Isla 24.51 239 P **P** 04 55 23.4 +1.5
JRMM Jerantut 24.52 275 P **P** 04 55 23.0 +1.0
XMIS Christmas Isla 24.56 239 P **P** 04 55 22.4 +0.1
XMIS IAmb IAmb 04 55 37.6
comp=Z,232nm,1.0s
XMIS Christmas Isla 24.56 239 P **P** 04 55 23.6 +1.3
JOW Kunigami 24.73 3 P **P** 04 55 24.6 +0.8
comp=Z,40nm,0.8s,baz=207,slow=10.0,SNR=8.5
JOW S **S** 04 59 41.5 +2.6
comp=Z,12nm,0.8s,baz=68,slow=25,SNR=1.7
JOW Kunigami 24.73 3 P **P** 04 55 24.1 +0.3
JOW IAmb IAmb 04 55 38.1
comp=Z,154nm,1.0s
JOW Kunigami 24.73 3 P **P** 04 55 25.7 +1.9
GZH Guangzhou 24.78 329 P **P** 04 55 28.3 +4.1
GZH S **S** 04 59 48.6 +8.9
MNAI Manna 24.80 255 IAmb IAmb 04 55 31.0
comp=Z,264nm,0.9s
MNAI Manna 24.80 255 P **P** 04 55 26.0 +1.5
comp=Z,311nm,1.0s
MNAI Manna 24.80 255 P **P** 04 55 27.0 +2.5
MASI Maura Aman, Be 25.23 258 P **P** 04 55 29.9 +1.4
comp=Z,4µmcomp=Z,360nm,0.8s
QIS Mount Isa 25.61 152 P **P** 04 55 31.6 -0.2
baz=26,SNR=321
QIS Mount Isa 25.61 152 P **P** 04 55 31.5 -0.3
KRJI Kerinci 25.81 261 P **P** 04 55 35.4 +1.6
RABL Rabaul 25.93 104 P **P** 04 55 34.3 -0.5
BKNI Bangkinang 25.96 267 P **P** 04 55 36.0 +1.0
BKNI IAmb IAmb 04 55 38.9
comp=Z,253nm,1.2s
BKNI Bangkinang 25.96 267 P **P** 04 55 36.7 +1.7
comp=Z,181nm,1.1s
BKNI Bangkinang 25.96 267 P **P** 04 55 36.8 +1.7
IPM Ipoh 26.00 276 P **P** 04 55 35.3 -0.2
IPM Ipoh 26.00 276 P **P** 04 55 36.0 +0.5
IPM Ipoh 26.00 276 P **P** 04 55 35.6 +0.1
MTSU Mount Surprise 26.31 140 P **P** 04 55 38.1 -0.1
baz=26,SNR=70
MTSU Mount Surprise 26.31 140 P **P** 04 55 39.0 +0.8
AS31 Alice Springs 26.38 166 P **P** 04 55 38.1 -0.6
AS31 IAmb IAmb 04 55 46.3
comp=Z,177nm,1.4s
ASPA Alice Springs 26.38 166 P **P** 04 55 38.1 -0.6
baz=26
ASAR Alice Springs 26.38 166 P **P** 04 55 38.1 -0.7
comp=Z,81nm,0.8s,baz=339,slow=6.6,SNR=696
ASAR PcP **PcP** 04 59 02.8 +0.5
comp=Z,59nm,0.7s,baz=348,slow=2.0,SNR=17
ASAR S **S** 05 00 03.7 -1.4
comp=Z,3.7nm,0.7s,baz=108,slow=20,SNR=2.8
ASAR ScP **ScP** 05 02 33.2 -0.3
comp=Z,25nm,0.8s,baz=343,slow=2.1,SNR=14
ASAR ScS **ScS** 05 06 21.6 -2.4
comp=Z,3.2nm,0.8s,baz=340,slow=5.2,SNR=7.0
KULM Kulim 26.45 278 P **P** 04 55 38.8 -0.7
KULM IAmb IAmb 04 55 40.7
comp=Z,102nm,1.4s
KULM Kulim 26.45 278 P **P** 04 55 40.0 +0.5
WRKA Warakurna 26.90 177 P **P** 04 55 43.2 -0.1
baz=27,SNR=211
WRKA Warakurna 26.90 177 P **P** 04 55 43.5 +0.1
MNSI Mandailing Nat 27.39 268 P **P** 04 55 47.9 0.0
comp=Z,11µmcomp=Z,71nm,1.1s
GIRL Giralia 27.45 206 P **P** 04 55 50.2 +2.0
baz=28,SNR=10
GIRL Giralia 27.45 206 P **P** 04 55 49.2 +1.0
GIRL Giralia 27.45 206 P **P** 04 55 50.7 +2.4
SRIT Nakonsritamara 28.00 285 P **P** 04 55 53.1 -0.2
SRIT IAmb IAmb 04 55 54.9
comp=Z,48nm,0.9s
PSI Prapat 28.02 272 P **P** 04 55 53.1 -0.6
comp=Z,34nm,0.8s,baz=110,slow=3.4,SNR=22
PSI S **S** 05 00 28.5 -2.8
comp=Z,2.4nm,0.3s,baz=263,slow=20,SNR=1.0
PSI ScP **ScP** 05 02 38.8 0.0
comp=Z,18nm,0.8s,baz=150,slow=3.8,SNR=8.7
PSI LR LR 05 09 28.0
comp=Z,575nm,19.8s,baz=96,slow=41
SISI Saibi 28.05 263 P **P** 04 55 54.0 +0.2
comp=Z,45nm,0.7s
JCJ Chichijima 28.92 29 P **P** 04 55 59.4 -2.0
comp=Z,124nm,0.6s,baz=285,slow=20,SNR=4.6
CTA Charters Tower 28.98 140 P **P** 04 56 01.6 -0.4
comp=Z,92nm,1.0s,baz=320,slow=10,SNR=28
CTA PcP **PcP** 04 59 09.4 +0.8
comp=Z,28nm,0.8s,baz=246,slow=4.3,SNR=4.0
CTA ScP **ScP** 05 02 42.5 +1.0
comp=Z,43nm,0.8s,baz=326,slow=3.4,SNR=13
CTA LR LR 05 08 44.6
comp=Z,1µm,18.3s,baz=306,slow=38
CTAO Charters Tower 28.98 140 P **P** 04 56 02.3 +0.3
CTAO pmax pmax
comp=Z,131nm,1.1s
CTAO Charters Tower 28.98 140 P **P** 04 56 02.3 +0.3
CTAO IAmb IAmb 04 56 03.7
comp=Z,130nm,1.1s
KCSI Kotacane, Aceh 29.19 274 P **P** 04 56 03.1 -0.8
comp=Z,913nmcomp=Z,66nm,1.2s
GSI Gunungsitoli 29.38 269 P **P** 04 56 04.0 -1.6
GSI IAmb IAmb 04 56 06.2
comp=Z,128nm,0.8s
GSI Gunungsitoli 29.38 269 P **P** 04 56 05.0 -0.6
comp=Z,206nm,0.8s
GSI Gunungsitoli 29.38 269 P **P** 04 56 05.3 -0.3
SSE Sheshan 29.46 350 P **P** 04 56 09.0 +2.9
SSE S **S** 05 00 56.1 +2.8
SSE pmax pmax
comp=Z,18nm,0.6s
SSE pmax pmax
comp=Z,160nm,4.0s
SSE LR LR
comp=Z,280nm,15.9s
SSE LR LR
comp=Z,580nm,19.2s
MEEK Meekatharra 29.58 195 P **P** 04 56 07.5 +0.3
baz=30,SNR=163
MEEK Meekatharra 29.58 195 P **P** 04 56 07.5 +0.3
LHMI Lhok Sumawe 30.12 277 P **P** 04 56 11.7 -0.5
LHMI IAmb IAmb 04 56 13.3
comp=Z,66nm,0.9s
OOD Oodnadatta 30.78 165 P **P** 04 56 17.4 -0.4
WHN Wuhan 30.81 338 ⇑P **P** 04 56 19.5 +1.5
WHN S **S** 05 01 14.5 0.0
WHN LR LR
comp=Z,1µm,4.5s
WHN LR LR
comp=Z,1µm,12.1s
WHN LR LR
comp=Z,3µm,24.8s
NJ2 Nanjing 30.86 347 *eP* **P** 04 56 20.8 +2.4
NJ2 pmax pmax
comp=Z,30nm,0.7s
GYA Guiyang 31.18 323 ⇑P **P** 04 56 22.3 +0.9
GYA sP sP 04 56 51.6 -2.5
GYA S **S** 05 01 20.4 -0.2
GYA pmax pmax
comp=Z,20nm,0.9s
GYA LR LR
comp=Z,1µm,18.8s
JNU Nakatsue 31.19 6 P **P** 04 56 21.4 0.0
comp=Z,20nm,0.9s,baz=218,slow=5.9,SNR=6.6
JNU Nakatsue 31.19 6 IAmb IAmb 04 56 38.7
comp=Z,122nm,1.0s
CM31 Chiang Mai Arr 31.97 303 P **P** 04 56 28.6 +0.2
CM31 IAmb IAmb 04 56 30.4
comp=Z,98nm,1.1s
CM31 Chiang Mai Arr 31.97 303 P **P** 04 56 29.0 +0.6
SNR=40
CM31 S **S** 05 01 28.0 -4.9
CMAR Chiang Mai Arr 31.97 303 P **P** 04 56 28.9 +0.5
comp=Z,42nm,0.9s,baz=116,slow=7.0,SNR=124
CMAR ScP **ScP** 05 02 53.1 +1.8
comp=Z,5.0nm,0.9s,baz=151,slow=2.4,SNR=12
CMAR Chiang Mai Arr 31.97 303 *i* P **P** 04 56 28.8 +0.4
CMAR pmax pmax
comp=Z,42nm,0.9s
CMAR Chiang Mai Arr 31.97 303 P **P** 04 56 28.7 +0.4
CMAR ScP **ScP** 05 02 51.7 +0.4
CHTO Chiang Mai 32.13 303 P **P** 04 56 29.7 -0.1
CHTO pmax pmax
comp=Z,125nm,1.0s
CHTO Chiang Mai 32.13 303 P **P** 04 56 29.7 -0.1
CHTO IAmb IAmb 04 56 31.6
comp=Z,125nm,1.0s
CHTO Chiang Mai 32.13 303 P **P** 04 56 30.3 +0.4
CHTO S **S** 05 01 33.5 -2.0
CHTO Chiang Mai 32.13 303 P **P** 04 56 30.5 +0.6
CHTO Chiang Mai 32.13 303 P **P** 04 56 30.4 +0.6
CHTO pP **sP** 04 56 58.8 -3.8
INKA Innaminka 32.40 157 P **P** 04 56 32.1 +0.1
FORT Forrest 32.60 178 P **P** 04 56 33.5 -0.1
baz=33,SNR=692
FORT Forrest 32.60 178 P **P** 04 56 33.6 -0.1
MORW Morawa 32.60 198 P **P** 04 56 34.4 +0.6
baz=33,SNR=135
MORW Morawa 32.60 198 P **P** 04 56 34.4 +0.6
ENH Enshi 32.65 331 IAmb IAmb 04 56 36.0
comp=Z,52nm,0.7s
KMI Kunming 32.78 317 ⇓P **P** 04 56 36.5 +0.9
KMI pP pP 04 56 56.3 -0.9
KMI sP sP 04 57 06.3 -1.9
KMI S **S** 05 01 43.0 -2.8
KMI pmax pmax
comp=Z,67nm,1.5s
KMI pmax pmax
comp=Z,330nm,4.7s
KMI LR LR
comp=Z,3µm,21.9s
KMI LR LR
comp=Z,2µm,21.9s
KMI LR LR
comp=Z,920nm,20.1s
MULG Mulgathing 32.80 169 P **P** 04 56 35.5 +0.1
QLP Quilpie 32.94 151 P **P** 04 56 36.2 -0.6
baz=33,SNR=61
QLP Quilpie 32.94 151 P **P** 04 56 36.6 -0.2
COCO West Island 33.07 244 P **P** 04 56 38.5 +0.5
COCO pmax pmax
comp=Z,460nm,0.5s
COCO West Island 33.07 244 P **P** 04 56 38.5 +0.5
JHS Saijyo 33.34 9 IAmb IAmb 04 56 58.4
comp=Z,107nm,1.2s
BLDU Ballidu 33.86 196 P **P** 04 56 45.2 +0.5
baz=34,SNR=238
BLDU Ballidu 33.86 196 P **P** 04 56 45.5 +0.8
LCRK Leigh Creek 34.00 162 P **P** 04 56 46.0 +0.1
RK1H Rockhampton Ha 34.08 139 P **P** 04 56 47.3 +0.6
TJN Taejon 34.22 1 *i* P **P** 04 56 46.2 -1.5
PZH PanZhiHua 34.36 317 ⇓P **P** 04 56 49.4 +0.2
PZH pP **pwP** 04 57 13.8 +0.4
PZH S **S** 05 02 13.5 +3.5
PZH SS **SnSn** 05 04 28.1 -2.1
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,130nm,6.8s
PZH LR LR
comp=Z,7µm,19.0s
PZH LR LR
comp=Z,5µm,19.6s
PZH LR LR
comp=Z,6µm,19.3s
INU Inuyama 34.48 15 P **P** 04 56 49.4 -0.6
INU IAmb IAmb 04 57 05.8
comp=Z,78nm,0.9s
INU Inuyama 34.48 15 P **P** 04 56 51.1 +1.1
KLBR Kellerberrin 34.52 194 P **P** 04 56 50.9 +0.5
baz=35,SNR=300
KLBR Kellerberrin 34.52 194 P **P** 04 56 51.0 +0.6
HNR Honiara 34.77 110 LR LR 05 10 26.9
comp=Z,504nm,21.5s,baz=286,slow=35
LYN LuoYang 35.10 339 *eP* **P** 04 56 56.3 +0.9
LYN sP sP 04 57 29.0 +0.9
LYN S **S** 05 02 18.3 -2.7
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,190nm,3.9s
LYN LR LR
comp=Z,980nm,19.8s
LYN LR LR
comp=Z,450nm,20.0s
LYN LR LR
comp=Z,1µm,21.0s
TIA Tai'an 35.25 346 ⇓P **P** 04 56 57.5 +0.9
TIA pP **pwP** 04 57 21.3 +0.3
TIA sP **sP** 04 57 30.4 +1.1
TIA S **S** 05 02 22.4 -0.8
TIA sS **ScP** 05 03 03.9 +1.4
TIA pmax pmax
comp=Z,29nm,0.8s
TIA LR LR
comp=Z,390nm,10.4s
TIA LR LR
comp=Z,630nm,13.7s
TIA LR LR
comp=Z,520nm,13.9s
PBA Port Blair 35.26 287 P **P** 04 56 55.9 -1.1
PBA IAmb IAmb 04 57 10.9
comp=Z,36nm,0.8s
RMQ Roma 35.28 145 P **P** 04 56 56.4 -0.6
baz=35,SNR=27
RMQ Roma 35.28 145 P **P** 04 56 56.4 -0.6
MUN Mundaring 35.29 196 P **P** 04 56 57.5 +0.5
baz=36,SNR=123
MUN Mundaring 35.29 196 P **P** 04 56 57.8 +0.8
KSRS Korea Array 35.30 1 P **P** 04 56 57.8 +0.8
comp=Z,19nm,1.0s,baz=178,slow=9.5,SNR=15
KSRS ScP **ScP** 05 03 02.6 0.0
comp=Z,6.8nm,0.8s,baz=191,slow=3.7,SNR=12
INCN Inchon 35.32 360 P **P** 04 56 57.7 +0.5
INCN pmax pmax
comp=Z,20nm,0.8s
INCN Inchon 35.32 360 P **P** 04 56 57.7 +0.5
MTKN Mount Kenneth 35.37 197 P **P** 04 57 00.1 +2.5
BBOO Buckleboo 35.66 167 P **P** 04 56 59.6 -0.6
baz=36,SNR=216
BBOO Buckleboo 35.66 167 P **P** 04 56 59.6 -0.6
BBOO PcP **PcP** 04 59 26.2 -0.6
BBOO Buckleboo 35.66 167 P **P** 04 57 00.0 -0.2
EIDS Eidsvold 35.86 141 P **P** 04 57 01.2 -0.8
baz=36,SNR=101
EIDS Eidsvold 35.86 141 P **P** 04 57 01.2 -0.8
EIDS Eidsvold 35.86 141 P **P** 04 57 01.8 -0.2
MAJO Matsushiro 35.92 16 *i* P **P** 04 57 00.5 -1.9
MAJO pmax pmax
comp=Z,103nm,0.9s
MAJO Matsushiro 35.92 16 P **P** 04 57 01.3 -1.1
MAJO IAmb IAmb 04 57 17.9
comp=Z,93nm,0.8s
MAJO Matsushiro 35.92 16 P **P** 04 57 03.0 +0.6
MAJO Matsushiro 35.92 16 P **P** 04 57 01.4 -1.1
MJAR Matsushiro Arr 35.92 16 P **P** 04 57 01.4 -1.0
comp=Z,9.4nm,0.6s,baz=266,slow=22,SNR=14
MJAR LR LR 05 09 32.0
comp=Z,436nm,20.8s,baz=208,slow=32
MJAR Matsushiro Arr 35.92 16 IAmb IAmb 04 57 17.7
comp=Z,45nm,0.9s
NWAO Narrogin (SRO) 35.92 194 P **P** 04 57 03.1 +0.7
NWAO pmax pmax
comp=Z,359nm,0.9s
NWAO Narrogin (SRO) 35.92 194 P **P** 04 57 03.1 +0.7
MJB9 Matsu-Tunnel 35.92 16 IAmb IAmb 04 57 17.9
comp=Z,92nm,0.8s
XAN Xi'an 36.07 334 P **P** 04 57 02.9 -0.8
XAN pP pP 04 57 23.8 -1.6
XAN sP sP 04 57 36.9 +0.5
XAN PcP **PcP** 04 59 24.3 -3.7
XAN S **S** 05 02 33.8 -2.1
XAN ScP **ScP** 05 03 05.3 -0.3
XAN sS sS 05 03 17.8 +4.3

XAN SS **SS** **05 05 08.3 -8.9**
XAN pmax pmax
comp=Z,84nm,0.8s
XAN pmax pmax
comp=Z,280nm,3.5s
XAN LR LR
comp=Z,450nm,15.2s
XAN LR LR
comp=Z,740nm,16.2s
XAN LR LR
comp=Z,890nm,15.1s
CD2 Chengdu 36.18 325 P **P** **04 57 04.4 -0.3**
CD2 S **S** **05 02 36.8 -0.9**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,250nm,4.7s
CD2 LR LR
comp=Z,2µm,17.9s
CD2 LR LR
comp=Z,1µm,23.5s
WHYH Whyalla 36.25 165 P **P** **04 57 05.1 0.0**
STKA Stephens Creek 36.43 159 P **P** **04 57 06.2 -0.5**
comp=Z,605nm,1.0s,baz=330,slow=9.0,SNR=314
STKA PP **PP** **04 58 28.6 -3.0**
comp=Z,143nm,1.1s,baz=321,slow=13,SNR=3.2
STKA PcP **PcP** **04 59 29.2 +0.1**
comp=Z,19nm,0.4s,baz=329,slow=5.0,SNR=3.8
STKA S **S** **05 02 36.8 -4.6**
comp=Z,21nm,1.0s,baz=178,slow=16,SNR=4.6
STKA LR LR 05 14 48.3
comp=Z,713nm,19.4s,baz=344,slow=41
STKA Stephens Creek 36.43 159 P **P** **04 57 06.6 -0.2**
baz=37,SNR=182
STKA Stephens Creek 36.43 159 P **P** **04 57 06.6 -0.2**
STKA Stephens Creek 36.43 159 P **P** **04 57 07.0 +0.2**
NAPP Napperby 36.54 164 P **P** **04 57 07.9 +0.2**
HTT Hallett 36.99 163 P **P** **04 57 11.4 -0.2**
baz=37,SNR=68
HTT Hallett 36.99 163 P **P** **04 57 11.8 +0.2**
HNS HongShan 37.00 344 ⇓P **P** **04 57 12.3 +0.8**
HNS sP **sP** **04 57 42.4 -1.9**
HNS S **S** **05 02 43.6 -6.2**
HNS pmax pmax
comp=Z,24nm,1.3s
HNS LR LR
comp=Z,280nm,16.3s
HNS LR LR
comp=Z,200nm,18.8s
HNS LR LR
comp=Z,300nm,19.8s
DL2 Dalian 37.06 353 P **P** **04 57 15.3 +3.3**
DL2 pP **pwP** **04 57 39.4 +2.7**
DL2 S **S** **05 02 55.1 +4.3**
DL2 pmax pmax
comp=Z,68nm,0.7s
DL2 pmax pmax
comp=Z,250nm,4.7s
DL2 LR LR
comp=Z,380nm,18.1s
DL2 LR LR
comp=Z,1µm,26.0s
DL2 LR LR
comp=Z,920nm,14.3s
RKGY Rocky Gully 37.59 194 P **P** **04 57 18.4 +1.9**
baz=38,SNR=173
RKGY Rocky Gully 37.59 194 P **P** **04 57 18.7 +2.2**
CMSA Cobar Meteorol 37.80 153 P **P** **04 57 18.3 0.0**
baz=38,SNR=131
CMSA Cobar Meteorol 37.80 153 P **P** **04 57 18.5 +0.2**
TWOA Tennyson Woods 38.41 165 P **P** **04 57 23.9 +0.5**
H01W3 Cape Leeuwin H 38.60 197 P **P** **04 57 27.2 +2.5**
baz=30,slow=5.9,SNR=15
H01W1 Cape Leeuwin H 38.60 197 P **P** **04 57 27.2 +2.5**
baz=30,slow=5.9,SNR=39
H01W2 Cape Leeuwin H 38.61 197 P **P** **04 57 27.3 +2.5**
baz=30,slow=5.9,SNR=20
BJT Baijiatuan 39.10 347 P **P** **04 57 29.7 +0.6**
BJT pmax pmax
comp=Z,40nm,0.7s
BJT Baijiatuan 39.10 347 P **P** **04 57 29.7 +0.6**
BJT lAmb lAmb 04 57 32.3
comp=Z,40nm,0.7s
BJI Beijing 39.12 347 P **P** **04 57 30.3 +1.0**
BJI pP **pP** **04 57 50.0 -1.3**
BJI PP **PP** **04 59 01.3 +0.4**
BJI PcP **PcP** **04 59 32.3 -4.8**
BJI ScP **ScP** **05 03 14.8 -2.1**
BJI S **S** **05 03 21.3 -0.5**
BJI PcS **PcS** **05 03 28.0 +1.2**
BJI SS **SS** **05 06 19.8 +1.4**
BJI ScS **ScS** **05 07 28.8 +0.4**
BJI pmax pmax
comp=Z,45nm,0.7s
SNY Shenyang 39.78 356 ⇓P **P** **04 57 35.5 +0.8**
SNY S **S** **05 03 38.3 +6.7**
SNY pmax pmax
comp=Z,22nm,0.8s
SNY pmax pmax
comp=Z,160nm,3.5s
SNY LR LR
comp=Z,470nm,14.7s
SNY LR LR
comp=Z,1µm,17.7s
SNY LR LR
comp=Z,670nm,21.1s
ARMA Armidale 39.90 146 P **P** **04 57 34.9 -1.1**
baz=40,SNR=287
ARMA Armidale 39.90 146 P **P** **04 57 35.6 -0.4**
ARMA Armidale 39.90 146 P **P** **04 57 36.9 +0.8**
LZH Lanzhou 40.11 330 ⇓P **P** **04 57 39.3 +1.5**
LZH pP pP 04 57 59.4 -0.5
LZH sP sP 04 58 14.4 +3.5
LZH PP **PnPn** **04 59 16.3 -0.1**
LZH S **S** **05 03 36.8 -0.4**
LZH sS sS 05 04 20.0 +4.8
LZH SS **SS** **05 06 33.6 -5.0**
LZH pmax pmax
comp=Z,99nm,1.3s
LZH pmax pmax
comp=Z,330nm,5.6s
LZH LR LR
comp=Z,2µm,14.2s
LZH LR LR
comp=Z,1µm,13.6s
LZH LR LR
comp=Z,2µm,16.4s
MSHR Mys Shultsa 40.59 5 *i*P **P** **04 57 41.9 +0.5**
ARPS Mount Arapiles 40.97 162 P **P** **04 57 45.0 +0.4**
baz=41,SNR=51
ARPS Mount Arapiles 40.97 162 P **P** **04 57 45.4 +0.8**
SHL Shillong 41.10 308 P **P** **04 57 45.7 -0.4**
SHL pmax pmax
comp=Z,160nm,0.7s
SHL Shillong 41.10 308 P **P** **04 57 45.7 -0.4**
SHL Shillong 41.10 308 P **P** **04 57 46.3 +0.2**
SNR=34
HHC Hu-ho-hao-te 41.11 342 *e*P **P** **04 57 46.8 +0.9**
HHC S **S** **05 03 51.3 -0.5**
HHC SS **SS** **05 06 56.5 -1.7**
HHC ScS **ScS** **05 07 39.0 -1.6**
HHC pmax pmax
comp=Z,41nm,0.9s
HHC pmax pmax
comp=Z,290nm,4.9s
HHC LR LR
comp=Z,730nm,17.1s
HHC LR LR
comp=Z,320nm,17.8s
HHC LR LR
comp=Z,560nm,16.5s
VLA Vladivostok 41.19 5 *i*P **P** **04 57 45.7 -0.6**
VLA pmax pmax
comp=Z,43nm,1.0s
BTO Baotou 41.39 340 *e*P **P** **04 57 47.8 -0.3**
BTO S **S** **05 03 55.3 -0.5**
BTO LR LR
comp=Z,2µm,15.7s
BTO LR LR
comp=Z,2µm,18.0s
CN2 Changchun 41.66 358 *e*P **P** **04 57 50.9 +0.8**
CN2 S **S** **05 04 01.0 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,400nm,20.0s
MGCD Mangrove Creek 41.78 149 P **P** **04 57 52.5 +1.2**
baz=42,SNR=32
MGCD Mangrove Creek 41.78 149 P **P** **04 57 52.8 +1.5**
NTLH Newcastle Hard 41.84 148 P **P** **04 57 53.8 +2.0**
SYDH Sydney Hard Ro 42.03 150 P **P** **04 57 54.6 +1.3**
H11S3 WAKE ISLAND Hy 42.25 64 T T 05 41 44.8
baz=249,slow=78
H11S1 WAKE ISLAND Hy 42.26 64 T T 05 41 52.3
baz=249,slow=78
H11S2 WAKE ISLAND Hy 42.26 64 T T 05 41 41.0
baz=249,slow=78
USA0B Ussuriysk Arra 42.27 5 P **P** **04 57 55.7 +0.6**
USA0B pmax pmax
comp=Z,34nm,0.8s
USA0B Ussuriysk Arra 42.27 5 P **P** **04 57 55.7 +0.6**
USA0B lAmb lAmb 04 58 10.2
comp=Z,34nm,0.8s
USRK Ussuriysk Ar. 42.27 5 P **P** **04 57 55.4 +0.3**
comp=Z,16nm,0.9s,baz=198,slow=10.0,SNR=14
USRK Ussuriysk Ar. 42.27 5 P **P** **04 57 54.9 -0.2**
RIV Riverview 42.29 150 P **P** **04 57 56.6 +1.2**
baz=42,SNR=3.2
BRAT Ballarat 42.37 160 P **P** **04 57 57.1 +1.1**
CAN Canberra 42.47 153 P **P** **04 57 57.6 +0.7**
CAN pmax pmax
comp=Z,471nm,1.0s
CAN Canberra 42.47 153 P **P** **04 57 57.6 +0.7**
CAN Canberra 42.47 153 P **P** **04 57 58.2 +1.3**
CAN Canberra 42.47 153 ⇑P **P** **04 57 57.8 +0.8**
CAN X 04 58 07.2
CAN pP **pP** **04 58 16.5 -2.5**
MDJ Mudanjiang 42.51 3 P **P** **04 57 57.7 +0.6**
MDJ lAmb lAmb 04 58 10.0
comp=Z,50nm,0.8s
MDJ Mudanjiang 42.51 3 P **P** **04 57 59.7 +2.6**
CNB Canberra Magne 42.63 153 P **P** **04 57 58.5 +0.2**
baz=43,SNR=53
CNB Canberra Magne 42.63 153 P **P** **04 57 59.2 +1.0**
H11N1 WAKE ISLAND Hy 42.82 63 T T 05 42 03.8
baz=251,slow=75,SNR=17
H11N2 WAKE ISLAND Hy 42.83 63 T T 05 42 04.5
baz=251,slow=75,SNR=8.4
H11N3 WAKE ISLAND Hy 42.84 63 T T 05 42 06.8
baz=251,slow=75,SNR=14
XLT XiLinHaoTe 42.84 348 *e*P **P** **04 58 01.0 +1.2**
XLT pP pP 04 58 22.3 +0.3
XLT sP sP 04 58 35.6 +2.8
XLT S **S** **05 04 16.9 -0.1**
XLT sS sS 05 04 55.3 -0.1
XLT pmax pmax
comp=Z,45nm,1.1s
XLT pmax pmax
comp=Z,320nm,3.7s
XLT LR LR
comp=Z,630nm,20.4s
XLT LR LR
comp=Z,380nm,20.6s
TOO Toolangi 42.95 158 P **P** **04 58 01.8 +1.1**
baz=43,SNR=26
TOO Toolangi 42.95 158 P **P** **04 58 01.5 +0.7**
TOO pmax pmax
comp=Z,128nm,1.3s
TOO Toolangi 42.95 158 P **P** **04 58 01.5 +0.7**
TOO lAmb lAmb 04 58 04.0
comp=Z,128nm,1.2s
TOO Toolangi 42.95 158 P **P** **04 58 01.4 +0.7**
GEXS Deakin Univers 43.08 160 P **P** **04 58 03.7 +2.0**
SANVU Saraoutou 43.41 115 P **P** **04 58 04.8 0.0**
SANVU Saraoutou 43.41 115 P **P** **04 58 05.5 +0.8**
BNX BinXian 43.57 0 ⇓P P 04 58 10.8 +5.2
BNX pmax pmax
comp=Z,130nm,0.9s
BNX pmax pmax
comp=Z,280nm,3.6s
TEY Ternei 43.71 10⇑ *e*P **P** **04 58 09.5 +2.8**
TEY pmax pmax
comp=Z,20nm,1.1s
LSA Lhasa 43.76 313 P **P** **04 58 08.7 +0.7**
LSA pmax pmax
comp=Z,44nm,0.8s
LSA Lhasa 43.76 313 P **P** **04 58 08.7 +0.7**
LSA lAmb lAmb 04 58 11.4
comp=Z,44nm,0.8s
LSA Lhasa 43.76 313 P **P** **04 58 09.1 +1.1**
LSA pmax pmax
comp=Z,60nm,0.8s
LSA Lhasa 43.76 313 P **P** **04 58 09.1 +1.1**
LSA Lhasa 43.76 313 P **P** **04 58 09.7 +1.7**
ASAJ Asahikawa 44.19 16 P **P** **04 58 09.8 -0.7**
comp=Z,10nm,0.8s,baz=165,slow=20,SNR=2.0
ASAJ LR LR 05 16 58.4
comp=Z,300nm,18.9s,baz=188,slow=36
ASAJ Asahikawa 44.19 16 P **P** **04 58 09.8 -0.7**
ASAJ pmax pmax
comp=Z,43nm,1.0s
JKA Kamikawa-asahi 44.19 16 P **P** **04 58 09.8 -0.7**
JKA Kamikawa-asahi 44.19 16 lAmb lAmb 04 58 28.8
comp=Z,43nm,1.0s
GTA Gaotai 44.70 330 ⇓P **P** **04 58 15.5 +0.6**
GTA pP pP 04 58 34.5 -2.8
GTA ScP **ScP** **05 03 39.9 +0.5**
GTA S **S** **05 04 41.4 -3.0**
GTA ScS **ScS** **05 08 02.0 -1.0**
GTA pmax pmax
comp=Z,22nm,1.0s
GTA pmax pmax
comp=Z,150nm,7.2s
GTA LR LR
comp=Z,950nm,23.9s
GTA LR LR
comp=Z,880nm,16.3s
GTA LR LR
comp=Z,520nm,16.3s
LHI Lord Howe Isla 45.17 140 P **P** **04 58 18.5 0.0**
baz=45
GOMU GeErMu 45.19 323 P **P** **04 58 20.3 +1.2**
GOMU S **S** **05 04 44.3 -7.8**
GOMU SS **ScS** **05 08 04.0 -2.8**
GOMU pmax pmax
comp=Z,20nm,1.3s
GOMU pmax pmax
comp=Z,93nm,4.1s
GOMU LR LR
comp=Z,360nm,17.4s
GOMU LR LR
comp=Z,320nm,16.7s
GOMU LR LR
comp=Z,430nm,16.4s
TAPN Taplejung 45.24 308 *e*P **P** **04 58 20.0 +0.4**
NOUC Port Laguerre 45.26 124 P **P** **04 58 19.6 +0.1**
ODAN Odare 45.27 307 *e*P **P** **04 58 20.1 +0.3**
comp=Z,150nm,0.7s
DZM Mont Dzumac 45.37 124 LR LR 05 18 35.4
comp=Z,379nm,18.5s,baz=308,slow=38
DZM Mont Dzumac 45.37 124 *e*P **P** **04 58 19.3 -1.1**
comp=Z,140nm,1.1s
DZM Mont Dzumac 45.37 124 *e*LR LR 05 11 10.5
comp=Z,1µm,31.2s
DZM Mont Dzumac 45.37 124 lAmb lAmb 04 58 21.6
comp=Z,72nm,1.1s
DZM Mont Dzumac 45.37 124 P **P** **04 58 21.0 +0.6**
LIFNC LIFOU 45.47 122 P **P** **04 58 20.7 -0.4**
LIFNC LIFOU 45.47 122 P **P** **04 58 22.3 +1.2**
YATNC Mamie plateau, 45.73 124 P **P** **04 58 24.0 +0.8**
OUENC Ouen Island, N 45.85 124 lAmb lAmb 04 58 25.6
comp=Z,39nm,1.0s
OUENC Ouen Island, N 45.85 124 P **P** **04 58 24.7 +0.6**
RAMN Ramite 45.95 306 *e*P **P** **04 58 25.6 +0.5**
comp=Z,103nm,0.6s
PALK Pallekele 46.38 278 P **P** **04 58 27.7 -0.7**
comp=Z,14nm,0.9s,baz=222,slow=6.9,SNR=7.7
PALK ScP **ScP** **05 03 48.1 +1.3**
comp=Z,8.5nm,0.9s,baz=160,slow=2.6,SNR=5.4
PALK Pallekele 46.38 278 P **P** **04 58 28.2 -0.2**
PALK pmax pmax
comp=Z,15nm,1.0s
PALK Pallekele 46.38 278 P **P** **04 58 28.2 -0.2**
PALK Pallekele 46.38 278 P **P** **04 58 27.7 -0.7**
PALK S **S** **05 05 03.3 -5.7**
MARNC Mare, Loyalty 46.44 122 P **P** **04 58 28.3 -0.4**
MARNC Mare, Loyalty 46.44 122 P **P** **04 58 29.6 +0.9**
comp=Z,3.3nm,1.0s
PINNC Pines Island, 46.44 124 lAmb lAmb 04 58 31.5
comp=Z,123nm,1.0s
PINNC Pines Island, 46.44 124 P **P** **04 58 29.7 +1.0**
JIRN Jiri 46.58 307 *e*P **P** **04 58 30.6 +0.4**
comp=Z,80nm,0.8s
YSS Yuzh-Sakhalins 46.85 15 *e*P **P** **04 58 33.3 +1.8**
YSS *e**SP **sP** **04 59 06.4 +1.7**
YSS *e* 05 00 21.3
YSS *e*S **S** **05 05 17.1 +2.4**
YSS pmax pmax
comp=Z,40nm,1.2s
YSS MLR MLR
comp=Z,500nm,14.0s
GUN Gumba 46.94 307 *e*P **P** **04 58 33.2 +0.2**
comp=Z,243nm,0.6s
CORO Coronation Par 46.97 159 P **P** **04 58 33.5 +1.0**
PKI Pulchoki 47.17 307 *e*P **P** **04 58 34.6 -0.1**
PKIN Phulchoki 47.18 307 *e*P **P** **04 58 34.4 -0.4**
KLR Kul'dur 47.24 4 P **P** **04 58 34.5 -0.1**
comp=Z,6.0nm,0.8s,baz=202,slow=6.6,SNR=11
KLR ScP **ScP** **05 03 49.1 -0.4**
baz=169,slow=2.2
KLR S **S** **05 05 16.8 -3.5**
KLR Kul'dur 47.24 4*c**e*P **P** **04 58 35.9 +1.4**
KLR pmax pmax
comp=Z,20nm,0.8s
KKN Kakani 47.37 307 *e*P **P** **04 58 36.2 +0.1**
DMN Daman 47.43 306 *e*P **P** **04 58 36.7 0.0**
comp=Z,100nm,0.8s
HIA Hailar 47.51 354 P **P** **04 58 36.5 -0.1**
HIA pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 47.51 354 P **P** **04 58 36.5 -0.1**
HIA Hailar 47.51 354 P **P** **04 58 39.2 +2.6**
HIA X 04 58 48.5
HIA pP **pwP** **04 59 03.0 +0.9**
GKN Gorkha 47.97 307 *e*P **P** **04 58 40.7 0.0**
TAU Tasmania Unive 48.32 160 P **P** **04 58 42.2 -0.7**
TAU pmax pmax
comp=Z,64nm,1.0s
TAU Tasmania Unive 48.32 160 P **P** **04 58 42.2 -0.7**
TAU lAmb lAmb 04 58 44.6
comp=Z,64nm,1.0s
TAU Tasmania Unive 48.32 160 P **P** **04 58 43.9 +1.0**
KOLN Koldanda 48.71 306 *e*P **P** **04 58 46.9 +0.4**
comp=Z,130nm,0.5s
DANN Dangsing 48.82 307 *e*P **P** **04 58 47.6 +0.2**
comp=Z,268nm,0.8s
ULN Ulaanbaatar 48.83 342*c**e*P **P** **04 58 48.4 +1.4**
ULN pmax pmax
comp=Z,58nm,1.3s
ULN Ulaanbaatar 48.83 342 P **P** **04 58 48.2 +1.2**
ULN lAmb lAmb 04 58 49.6
comp=Z,74nm,1.4s
ULN Ulaanbaatar 48.83 342 P **P** **04 58 48.3 +1.3**
ULN S **S** **05 05 43.7 +0.6**
SONM Songino Array 49.01 342 P **P** **04 58 49.7 +1.4**
comp=Z,15nm,0.6s,baz=163,slow=8.8,SNR=20
SONM LR LR 05 21 48.3
comp=Z,380nm,19.0s,baz=157,slow=39
SONM Songino Array 49.01 342 P **P** **04 58 49.0 +0.7**
SONM lAmb lAmb 04 58 50.9
comp=Z,41nm,1.4s
GRNR Gornyy 49.26 8⇓ *i*P **P** **04 58 51.4 +1.3**
GRNR pmax pmax
comp=Z,8.0nm,0.9s
GRNR MLR MLR
comp=E,660nm,16.0s
GRNR MLR MLR
comp=N,380nm,15.0s
GRNR MLR MLR
comp=Z,240nm,14.0s
PYUN Piuthan 49.34 306 *e*P **P** **04 58 51.8 +0.5**
comp=Z,146nm,0.7s
HYBB Hyderabad (bro 49.93 291 *e*P **P** **04 58 55.5 -0.2**
HYBB *e*pP **pP** **04 59 18.0 -0.7**
HYBB *e*ScP **ScP** **05 04 01.3 -0.5**
HYBB *e*S **S** **05 06 00.1 +1.0**
PCHI Peechi 50.95 282⇓ *e*P **P** **04 59 02.9 -0.6**
PCHI *e*S **S** **05 06 11.0 -2.3**
ZEA Zeya 51.58 0 *e*P **P** **04 59 08.3 +0.9**
ZEA *e* 04 59 37.6
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZAK Zakamensk 52.23 341 *e*P **P** **04 59 12.5 0.0**
ZAK pmax pmax
comp=Z,24nm,1.9s
FUNA Funafuti 53.11 102 P **P** **04 59 19.2 -0.2**
FUNA Funafuti 53.11 102 P **P** **04 59 20.4 +0.9**
IRK Irkutsk 53.55 343 *e*P P 04 59 31.9 +10
IRK pmax pmax
comp=Z,101nm,3.4s
MSVF Nonsavu 54.00 114 LR LR 05 20 48.2
comp=Z,554nm,21.3s,baz=298,slow=34
MSVF Nonsavu 54.00 114 P **P** **04 59 25.8 -0.2**
MSVF pmax pmax
comp=Z,121nm,1.0s
MSVF Nonsavu 54.00 114 P **P** **04 59 25.8 -0.2**
MSVF Nonsavu 54.00 114 P **P** **04 59 27.4 +1.4**
MSVF Nonsavu 54.00 114 ⇓P **P** **04 59 27.3 +1.4**
MSVF X 04 59 37.9
MOY Mondy 54.09 340 *e*P **P** **04 59 28.1 +2.0**
MOY pmax pmax
comp=Z,51nm,1.9s
WMQ Urumqi 54.28 326 *e*P **P** **04 59 29.4 +1.8**
WMQ sP sP 05 00 03.3 +2.0
WMQ S **S** **05 06 59.5 +1.7**
WMQ pmax pmax
comp=Z,82nm,1.5s
WMQ pmax pmax
comp=Z,380nm,4.3s
WMQ LR LR
comp=Z,1µm,16.7s
WMQ LR LR
comp=Z,720nm,15.7s
WMQ LR LR
comp=Z,810nm,20.9s
POO Poona 54.54 291 *ex* x 04 59 25.0
BOD Bodaibo 56.61 352 *e*P **P** **04 59 44.8 +0.9**
BOD pmax pmax
comp=Z,34nm,1.4s
PEA0B Petropavlovsk- 56.95 22 *i*P **P** **04 59 45.2 -1.2**
PETK Petropavlovsk- 56.95 22 P **P** **04 59 44.7 -1.7**
comp=Z,7.4nm,0.6s,baz=186,slow=5.5,SNR=7.5
PETK ScP **ScP** **05 04 31.2 -0.3**
comp=Z,5.5nm,0.8s,baz=206,slow=13,SNR=3.8
PETK LR LR 05 22 18.8
comp=Z,142nm,21.9s,baz=209,slow=34
PET Petropavlovsk 57.24 22 *e*P **P** **04 59 49.6 +1.2**
PET *e**PP **pP** **05 00 13.0 +1.4**
PET *e*S **S** **05 07 36.1 -0.6**
PET pmax pmax
comp=Z,47nm,1.2s
PET MLR MLR
comp=Z,400nm,21.0s
PET Petropavlovsk 57.24 22 P **P** **04 59 50.8 +2.4**
ZSN Zaisan 58.08 328*d* *i*P **P** **04 59 55.4 +0.9**
ZSN *e*S **S** **05 07 49.9 +1.9**
ZSN pmax pmax
comp=Z,27nm,1.0s
ZSN Zaisan 58.08 328⇓ *i*P **P** **04 59 55.4 +0.9**
comp=Z,27nm,1.0s,baz=328
ZSN *e*S **S** **05 07 50.0 +1.9**
baz=328
SHLS Shalkode 58.83 321 *e*P **P** **04 59 59.4 -0.5**
SHLS *e*S **S** **05 07 57.1 -1.0**
SHLS pmax pmax
comp=Z,34nm,0.9s
SHLS Shalkode 58.83 321 *e*P **P** **04 59 59.5 -0.5**
comp=Z,34nm,0.9s,baz=321
SHLS *e*S **S** **05 07 57.1 -1.0**
baz=321
PDGK Podgornoye 58.90 321 P **P** **05 00 01.6 +1.2**
UZB Uzynbulak 59.10 321*d* *i*P **P** **05 00 02.9 +1.1**
UZB *e*S **S** **05 08 03.6 +2.0**
UZB pmax pmax
comp=Z,62nm,1.0s
UZB Uzynbulak 59.10 321⇓ *i*P **P** **05 00 02.1 +0.3**
comp=Z,62nm,1.0s,baz=321
UZB *e*S **S** **05 08 03.6 +2.0**
baz=321

MK31 Makanchi Array 59.11 326 *i* P **P** **05 00 02.9 +1.2**
MK31 pmax pmax
comp=Z,141nm,1.0s
MK31 Makanchi Array 59.11 326 P **P** **05 00 02.5 +0.9**
MKAR Makanchi Array 59.11 326 P **P** **05 00 02.8 +1.2**
comp=Z,89nm,0.9s,baz=124,slow=8.3,SNR=494
MKAR ScP **ScP** **05 04 41.5 +0.3**
comp=Z,4.4nm,0.8s,baz=104,slow=5.8,SNR=5.3
MKAR S **S** **05 07 59.0 -2.4**
comp=Z,0.4nm,0.9s,baz=356,slow=28,SNR=1.6
MKAR LR LR 05 28 12.8
comp=Z,286nm,18.5s,baz=114,slow=39
MKAR PKPPKP P'P'df 05 29 22.7 -11
comp=Z,1.6nm,0.8s,baz=272,slow=3.0,SNR=13
MKAR PKP2bc 05 29 41.3
comp=Z,3.0nm,0.8s,baz=298,slow=2.6,SNR=10.0
MKAR Makanchi Array 59.11 326 *i* P **P** **05 00 02.7 +1.0**
MKAR pmax pmax
comp=Z,89nm,0.9s
MKAR Makanchi Array 59.11 326 P **P** **05 00 02.5 +0.9**
NIL Nilore 59.17 308 P **P** **05 00 02.6 +0.3**
NIL pmax pmax
comp=Z,47nm,0.9s
NIL Nilore 59.17 308 P **P** **05 00 02.6 +0.3**
NIL IAmb IAmb 05 00 18.9
comp=Z,48nm,0.9s
NIL Nilore 59.17 308 P **P** **05 00 02.6 +0.3**
TARG Taragay, Kyrgy 59.19 319 IAmb IAmb 05 00 16.0
comp=Z,50nm,0.9s
MKAZ Moumakai 59.22 136 P **P** **05 00 03.4 +0.9**
MAKZ Makanchi 59.29 326 P **P** **05 00 03.4 +0.5**
MAKZ Makanchi 59.29 326 P **P** **05 00 03.6 +0.6**
MAKZ Makanchi 59.29 326 ⇓P **P** **05 00 04.1 +1.2**
MAKZ pP **sP** **05 00 33.8 -3.1**
KSH Kashi 59.43 316 P **P** **05 00 06.5 +2.3**
KSH pP pwP 05 00 31.5 +1.2
KSH S **S** **05 08 10.8 +4.8**
KSH pmax pmax
comp=Z,63nm,1.3s
KSH LR LR
comp=Z,380nm,16.8s
KSH LR LR
comp=Z,500nm,17.3s
KSH LR LR
comp=Z,510nm,19.0s
SATY Saty 59.45 320*d* *i*P **P** **05 00 05.6 +1.4**
SATY pmax pmax
comp=Z,77nm,0.8s
SATY Saty 59.45 320 ⇓ *i*P **P** **05 00 05.6 +1.4**
comp=Z,77nm,0.8s,baz=320
KPKS Kokpek 59.47 321 *i* P **P** **05 00 05.6 +1.3**
KPKS *e*S **S** **05 08 08.9 +2.6**
KPKS Kokpek 59.47 321 *i* P **P** **05 00 05.6 +1.3**
baz=321
KPKS *e*S **S** **05 08 08.9 +2.6**
baz=321
KHEZ Kahui Hut 59.56 139 P **P** **05 00 08.9 +3.9**
NEZ North Egmont 59.60 139 P **P** **05 00 07.5 +2.2**
HIZ Hauiti 59.72 138 P **P** **05 00 06.1 +0.2**
TOZ Tahuroa Road 59.76 137 P **P** **05 00 07.0 +0.8**
KDJ Kajisay 59.79 319 P **P** **05 00 07.8 +1.1**
KDJ pmax pmax
comp=Z,100nm,0.8s
KDJ Kajisay 59.79 319 P **P** **05 00 07.8 +1.1**
YAK Yakutsk 59.93 1*c* *i*P **P** **05 00 07.7 +0.8**
YAK *e**PP **pP** **05 00 30.9 +0.6**
YAK *e* 05 00 52.5
YAK *e* 05 02 19.7
YAK *e*PPP PPP 05 03 43.8
YAK *e*S **S** **05 08 12.5 +1.2**
YAK *e* 05 09 44.9
YAK *e*SS **SS** **05 12 11.9 +2.5**
YAK pmax pmax
comp=Z,92nm,0.9s
YAK pmax pmax
comp=N,22nm,0.9s
YAK pmax pmax
comp=E,13nm,1.2s
YAK pmax pmax
comp=Z,172nm,3.9s
YAK pmax pmax
comp=N,90nm,4.3s
YAK pmax pmax
comp=E,116nm,3.6s
YAK smax smax
comp=E,294nm,2.5s
YAK smax smax
comp=N,330nm,2.8s
YAK Yakutsk 59.93 1 P **P** **05 00 07.1 +0.1**
VRZ Vera Road 59.97 138 P **P** **05 00 08.5 +0.9**
RPZ Rata Peaks 60.22 144 LR LR 05 27 03.1
comp=N,298nm,19.5s,baz=311,slow=37
RPZ Rata Peaks 60.22 144 P **P** **05 00 09.0 -0.3**
MA2 Magadan 60.33 14 P **P** **05 00 10.5 +0.8**
comp=N,14nm,0.7s,baz=184,slow=7.9,SNR=5.6
MA2 Magadan 60.33 14 ⇑ *e*P **P** **05 00 10.5 +0.8**
MA2 pmax pmax
comp=Z,16nm,0.7s
MA2 Magadan 60.33 14 P **P** **05 00 10.5 +0.8**
MA2 IAmb IAmb 05 00 29.1
comp=Z,43nm,0.9s
MA2 Magadan 60.33 14 P **P** **05 00 11.3 +1.6**
MA2 Magadan 60.33 14 P **P** **05 00 11.7 +2.0**
MA2 pP **pP** **05 00 28.7 -4.5**
MDOK Medeo 60.37 320 *i* P **P** **05 00 12.1 +1.6**
MDOK *e*S **S** **05 08 20.6 +2.7**
MDOK Medeo 60.37 320 *i* P **P** **05 00 12.1 +1.6**
baz=320
MDOK *e*S **S** **05 08 20.7 +2.7**
baz=320
TNSS Tian-Shan 60.37 320 *i* P **P** **05 00 12.6 +1.8**
TNSS Tian-Shan 60.37 320 *i* P **P** **05 00 12.7 +1.8**
baz=320
ARXS Arharly 60.38 321 *e*P **P** **05 00 11.1 +0.6**
WATZ Wairara 60.41 137 P **P** **05 00 11.7 +1.0**
TDK Taldyqorghan 60.42 322*d* *i*P **P** **05 00 12.2 +1.5**
TDK Taldyqorghan 60.42 322 ⇓ *i*P **P** **05 00 12.2 +1.5**
baz=322
ULHL Ulahoi 60.47 319 P **P** **05 00 12.7 +1.4**
SNR=69
AAA Alma-Ata 60.47 320 *e*P **P** **05 00 12.8 +1.7**
AAA Alma-Ata 60.47 320 *e*P **P** **05 00 12.8 +1.7**
baz=320
GRRZ Galatos Road 60.49 137 P **P** **05 00 11.1 -0.1**
RATZ Rangitukua 60.52 138 P **P** **05 00 12.5 +1.1**
WTVZ West Tongariro 60.52 138 P **P** **05 00 12.7 +1.1**
KRVZ Karewarewa 60.54 138 P **P** **05 00 11.5 -0.2**
NNVZ North Ngauruho 60.54 138 P **P** **05 00 12.7 +0.9**
NGZ Ngauruhoe 60.56 138 P **P** **05 00 12.4 +0.5**
FWVZ Far West T-bar 60.56 138 P **P** **05 00 12.3 +0.2**
NTVZ North Tongarir 60.57 138 P **P** **05 00 12.8 +0.9**
SNVZ South Ngauruho 60.59 138 P **P** **05 00 12.7 +0.6**
OTVZ Oturere 60.59 138 P **P** **05 00 12.8 +0.7**
TMVZ Te Maari 60.59 138 P **P** **05 00 12.9 +0.8**
ETVZ East Tongariro 60.61 138 P **P** **05 00 12.9 +0.7**
WNVZ Wahianoa 60.63 138 P **P** **05 00 12.8 +0.4**
CHKK Chushkaly 60.73 321 *i* P **P** **05 00 13.8 +1.0**
CHKK Chushkaly 60.73 321 *i* P **P** **05 00 13.8 +1.0**
baz=320
TCW Tory Channel 60.76 141 P **P** **05 00 11.9 -1.0**
MOVZ Moawhango 60.77 138 P **P** **05 00 12.7 -0.5**
BOOM Boomskoye usch 60.77 319 P **P** **05 00 14.0 +0.7**
BOOM pmax pmax
comp=Z,95nm,1.2s
BOOM Boomskoye usch 60.77 319 P **P** **05 00 14.0 +0.7**
BOOM IAmb IAmb 05 00 16.1
comp=Z,95nm,1.2s
MRHZ Matea Rd 60.94 137 P **P** **05 00 14.0 -0.3**
KHZ Kahutara 60.95 142 P **P** **05 00 13.4 -0.9**
KIW Kapiti Island 60.97 140 P **P** **05 00 14.0 -0.5**
BHHZ Black Hill Sta 61.02 138 P **P** **05 00 14.1 -0.8**
SNZO South Karori 61.08 140 P **P** **05 00 14.3 -0.8**
OGWZ Otaki Gorge 61.12 140 P **P** **05 00 14.5 -0.9**
URZ Urewera 61.13 136 P **P** **05 00 14.2 -1.4**
comp=Z,45nm,0.8s,baz=330,slow=2.8,SNR=35
URZ LR LR 05 27 48.7
comp=Z,497nm,18.2s,baz=2.0,slow=37
URZ Urewera 61.13 136 P **P** **05 00 14.5 -1.1**
RAO Raoul Island 61.15 125 LR LR 05 25 41.4
comp=Z,181nm,20.1s,baz=124,slow=35
BKZ Black Stump Fm 61.15 138 P **P** **05 00 15.1 -0.7**
BKZ Black Stump Fm 61.15 138 P **P** **05 00 14.9 -0.9**

KUU Kurty 61.17 320*d* *i*P **P** **05 00 17.0 +1.3**
KUU Kurty 61.17 320 ⇓ *i*P **P** **05 00 17.1 +1.3**
baz=320
TKM2 Tokmak 2 61.20 319 P **P** **05 00 17.7 +1.4**
SNR=67
TKM2 Tokmak 2 61.20 319 *i* P **P** **05 00 16.9 +0.7**
TKM2 pmax pmax
comp=Z,90nm,0.9s
CAW Cannon Point 61.20 140 P **P** **05 00 14.7 -1.3**
KWHZ Kaiweka Forest 61.23 138 P **P** **05 00 16.0 -0.3**
MTHZ Maungataniwha 61.23 137 P **P** **05 00 15.9 -0.4**
BHW Baring Head 61.24 140 P **P** **05 00 14.8 -1.5**
TSZ Takapari Road 61.24 139 P **P** **05 00 15.8 -0.5**
POWZ Post Office Ro 61.29 139 P **P** **05 00 15.2 -1.4**
MRZ Mangatainoka R 61.30 139 P **P** **05 00 15.3 -1.4**
PNHZ Pukenui 61.33 138 P **P** **05 00 16.1 -0.8**
NMHZ Naumai 61.33 137 P **P** **05 00 17.2 +0.2**
HOWZ Holdsworth Sta 61.38 140 P **P** **05 00 15.9 -1.4**
RAHZ Arahi 61.43 137 P **P** **05 00 17.7 +0.1**
RAGZ Rawiri 61.45 136 P **P** **05 00 17.5 -0.4**
MSWZ Moikau Station 61.48 140 P **P** **05 00 16.5 -1.5**
DVHZ Dannevirke 61.50 139 P **P** **05 00 17.3 -0.8**
KBK Karagaybulak 61.51 319 P **P** **05 00 20.0 +1.8**
SNR=43
ARHZ Aropaoanui 61.54 137 P **P** **05 00 18.2 -0.1**
SNGZ Shannon Statio 61.54 137 P **P** **05 00 18.2 -0.2**
WPHZ Waipukurau 61.56 138 P **P** **05 00 18.4 -0.1**
PLWZ Palliser 61.57 140 P **P** **05 00 17.2 -1.3**
PAWZ Paruwai Farm 61.58 140 P **P** **05 00 17.5 -1.1**
UCH Uchtor 61.60 318 P **P** **05 00 21.1 +1.8**
SNR=156
TKGZ Te Karaka 61.73 136 P **P** **05 00 19.9 +0.4**
TMWZ Te Maipa 61.73 140 P **P** **05 00 18.6 -1.0**
BFZ Birch Farm 61.75 139 P **P** **05 00 18.3 -1.4**
BFZ Birch Farm 61.75 139 P **P** **05 00 18.6 -1.1**
TRWZ Traveller 61.76 140 P **P** **05 00 18.9 -0.9**
FRU1 Bishkek 61.78 319 P **P** **05 00 20.1 +0.1**
FRU1 pmax pmax
comp=Z,43nm,0.9s
FRU1 Bishkek 61.78 319 P **P** **05 00 20.1 +0.1**
FRU1 IAmb IAmb 05 00 22.6
comp=Z,43nm,0.8s
CHMS Chumysh 61.79 319 P **P** **05 00 21.2 +1.2**
SNR=20
CHMS Chumysh 61.79 319 *i* P **P** **05 00 20.7 +0.7**
CHMS pmax pmax
comp=Z,113nm,1.5s
RIGZ Rimuhau 61.79 137 P **P** **05 00 19.7 -0.3**
PRHZ Porangahau 61.79 139 P **P** **05 00 19.4 -0.6**
AAK Ala-Archa 61.80 318 P **P** **05 00 21.9 +1.7**
SNR=36
AAK Ala-Archa 61.80 318 P **P** **05 00 20.9 +0.7**
comp=Z,30nm,0.9s,baz=128,slow=5.8,SNR=77
AAK S **S** **05 08 35.2 -0.9**
comp=Z,0.6nm,0.3s,baz=209,slow=17,SNR=1.2
AAK Ala-Archa 61.80 318*d* *i*P **P** **05 00 21.3 +1.1**
AAK pmax pmax
comp=Z,100nm,1.4s
AAK Ala-Archa 61.80 318 P **P** **05 00 20.9 +0.7**
AAK IAmb IAmb 05 00 23.3
comp=Z,100nm,1.3s
AAK Ala-Archa 61.80 318 P **P** **05 00 21.8 +1.6**
AAK S **S** **05 08 39.4 +3.3**
AAK Ala-Archa 61.80 318 *i* P **P** **05 00 21.8 +1.6**
SNR=42
PXZ Pawanui 61.83 138 P **P** **05 00 19.6 -0.6**
CNGZ Carnagh Statio 61.99 136 P **P** **05 00 21.0 -0.4**
SGDS Sogindy 62.07 319*d* *i*P **P** **05 00 22.8 +0.9**
SGDS pmax pmax
comp=Z,31nm,0.9s
SGDS Sogindy 62.07 319 ⇓ *i*P **P** **05 00 22.8 +0.9**
comp=Z,31nm,0.9s,baz=319
USP Osepenovka 62.07 319 P **P** **05 00 23.3 +1.4**
SNR=57
AML Almayashu 62.11 318 P **P** **05 00 24.5 +1.9**
SNR=195
AML Almayashu 62.11 318 P **P** **05 00 24.5 +1.9**
AML Almayashu 62.11 318 *i* P **P** **05 00 24.5 +1.9**
SNR=196
MCQ Macquarie Isla 62.20 160 P **P** **05 00 22.5 +0.2**
baz=62,SNR=4.4
MCQ Macquarie Isla 62.20 160 P **P** **05 00 23.0 +0.7**
MCQ pmax pmax
comp=Z,238nm,1.2s
MCQ Macquarie Isla 62.20 160 P **P** **05 00 23.0 +0.7**
MCQ Macquarie Isla 62.20 160 P **P** **05 00 23.1 +0.7**
ZALV Zalesovo Beam 62.23 333 P **P** **05 00 22.7 0.0**
comp=Z,3.6nm,0.3s,baz=118,slow=6.7,SNR=37
ZALV S **S** **05 08 40.4 -0.4**
comp=Z,1.1nm,0.6s,baz=109,slow=11,SNR=3.8
ZALV LR LR 05 28 55.1
comp=Z,154nm,21.4s,baz=132,slow=37
ZALV PKPPKP **P'P'df** **05 29 24.1 -4.5**
comp=Z,1.8nm,0.7s,baz=0.0,slow=2.2,SNR=7.2
ZALV PKP2bc 05 29 34.8
comp=Z,15nm,0.8s,baz=301,slow=2.7,SNR=11
ZALV Zalesovo Beam 62.23 333 *i* P **P** **05 00 22.7 0.0**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 62.23 333 P **P** **05 00 22.5 -0.1**
EKS2 Erkin-Say 62.28 318 P **P** **05 00 25.2 +1.8**
SNR=90
SEM Semipalatinsk 62.29 328 *e*P **P** **05 00 23.7 +0.3**
SEM pmax pmax
comp=Z,75nm,2.0s
SEM Semipalatinsk 62.29 328 *e*P **P** **05 00 23.7 +0.3**
comp=Z,75nm,2.0s,baz=328
AFI Afiamalu 62.72 107 LR LR 05 25 37.4
comp=Z,206nm,21.3s,baz=277,slow=34
KBL Kabul 62.76 308 P **P** **05 00 26.9 0.0**
KBL pmax pmax
comp=Z,64nm,0.7s
KBL Kabul 62.76 308 P **P** **05 00 26.9 0.0**
KBL Kabul 62.76 308 P **P** **05 00 27.7 +0.8**
SNR=37
KBL S **S** **05 08 47.2 -1.4**
BTLS Baital 63.15 321*d* *i*P **P** **05 00 29.9 +0.9**
BTLS pmax pmax
comp=Z,45nm,1.1s
BTLS Baital 63.15 321 ⇓ *i*P **P** **05 00 30.0 +0.9**
comp=Z,45nm,1.1s,baz=321
KURBB Kurchatov Arra 63.32 328 P **P** **05 00 30.9 +1.0**
comp=Z,50nm,0.6s,baz=129,slow=6.4,SNR=388
KURBB S **S** **05 08 50.2 -4.3**
comp=Z,1.3nm,0.2s,baz=124,slow=15,SNR=8.6
KURBB PKPPKP P'P'df 05 29 14.7 -13
comp=Z,1.8nm,0.8s,baz=277,slow=4.0,SNR=13
KURBB PKP2bc 05 29 28.2
comp=Z,4.2nm,0.9s,baz=293,slow=3.5,SNR=10
KURBB Kurchatov Arra 63.32 328 P **P** **05 00 30.8 +0.8**
KURK Kurchatov 63.32 328 P **P** **05 00 31.0 +1.0**
KURK Kurchatov 63.32 328 P **P** **05 00 30.4 +0.5**
KURK Kurchatov 63.32 328 P **P** **05 00 31.1 +1.1**
KURK S **S** **05 08 54.3 -0.2**
SEY Seymchan 63.67 13*ce*P **P** **05 00 32.0 0.0**
SEY pmax pmax
comp=Z,24nm,1.1s
SHEM Shemya Is, Ala 63.85 30 LR LR 05 26 58.6
comp=Z,104nm,19.3s,baz=248,slow=35
DZA Taraz 64.02 318 *e*P **P** **05 00 35.8 +1.0**
DZA pmax pmax
comp=Z,53nm,1.0s
DZA Taraz 64.02 318 *e*P **P** **05 00 35.9 +1.0**
comp=Z,53nm,1.0s,baz=318
IUG Iuzhnay 64.62 316*d* *i*P **P** **05 00 40.2 +1.4**
IUG Iuzhnay 64.62 316 ⇓ *i*P **P** **05 00 40.2 +1.4**
baz=316
KK31 Karatay Array 64.66 318 *i* P **P** **05 00 39.7 +0.8**
TAS Tashkent 64.83 315 P **P** **05 00 40.7 +0.6**
TAS pmax pmax
comp=Z,167nm,0.7s
TAS Tashkent 64.83 315 P **P** **05 00 40.7 +0.6**
BRLS Boroldav 65.08 317 *e*P **P** **05 00 43.0 +1.3**
BRLS *e*S **S** **05 09 19.3 +2.6**
BRLS Boroldav 65.08 317 *e*P **P** **05 00 43.0 +1.3**
baz=317
BRLS *e*S **S** **05 09 19.4 +2.6**
baz=317
OTUK Ortayu 65.64 323 P **P** **05 00 46.5 +1.3**
BRZS Berezniki 66.23 325 *i* P **P** **05 00 49.9 +1.0**
BRZS pmax pmax
comp=Z,35nm,0.8s
BRZS Berezniki 66.23 325 *i* P **P** **05 00 50.0 +1.0**
comp=Z,34nm,0.8s,baz=325
HRA Herat 68.13 306 IAmb IAmb 05 01 03.7
comp=Z,106nm,1.4s
BVAR Borovoye Array 68.89 327 P **P** **05 01 06.3 +0.7**
comp=Z,39nm,0.9s
BVAR S **S** **05 10 02.7 +0.6**
WBK Wadi Bani Khal 68.94 293 P **P** **05 01 06.8 +0.2**
BRVK Borovoye 68.97 327 *i* P **P** **05 01 06.7 +0.7**
BRVK pmax pmax
comp=Z,108nm,1.2s
BRVK Borovoye 68.97 327 P **P** **05 01 06.3 +0.2**
BRVK IAmb IAmb 05 01 08.9
comp=Z,96nm,1.1s
BRVK Borovoye 68.97 327 P **P** **05 01 07.9 +1.9**
BRVK S **S** **05 10 02.1 -0.9**
BRVK Borovoye 68.97 327 ⇑ P **P** **05 01 07.3 +1.3**
BRVK pP **pwP** **05 01 36.7 +3.8**
CASY Casey 69.13 187 P **P** **05 01 07.7 +1.0**
CASY Casey 69.13 187 ⇑ P **P** **05 01 07.7 +0.9**
CASY pP **PcP** **05 01 26.6 -3.4**
DRV Dumont d'Urvil 69.13 174 P **P** **05 01 06.6 -0.1**
WSAR Wadi Sarin 69.33 294 P **P** **05 01 09.0 +0.1**
comp=Z,7.3nm,0.9s,baz=98,slow=6.9,SNR=7.1
WSAR Wadi Sarin 69.33 294 P **P** **05 01 09.2 +0.3**
WSAR S **S** **05 10 03.6 -4.7**
TIXI Tiksi 69.57 1 P **P** **05 01 09.2 -0.3**
comp=Z,3.6nm,0.3s,baz=93,slow=24,SNR=20
TIXI PKPPKP P'P'df 05 29 07.3 -8.4
comp=Z,1.8nm,0.7s,baz=90,slow=20,SNR=4.9
TIXI LR LR 05 32 02.9
comp=Z,227nm,21.8s,baz=181,slow=36
TIXI Tiksi 69.57 1*ce*P **P** **05 01 09.0 -0.4**
TIXI pmax pmax
comp=Z,25nm,1.7s
TIXI Tiksi 69.57 1 P **P** **05 01 09.1 -0.3**
MHTO MHTO 69.69 292 P **P** **05 01 11.8 +0.7**
SNR=10
MHTO S **S** **05 10 09.1 -3.4**
JMDO Jabal Madar 69.71 293 P **P** **05 01 12.4 +1.2**
SNR=6.0
JMDO S **S** **05 10 07.7 -5.1**
BIDO Bidbid 69.82 294 P **P** **05 01 13.2 +1.3**
SNR=9.0
BIDO S **S** **05 10 08.6 -5.4**
SMDO Samad 69.84 294 P **P** **05 01 13.3 +1.1**
DQM DQM 69.98 290 P **P** **05 01 13.8 +0.8**
SNR=10
HOQ Hoqain 70.57 294 P **P** **05 01 17.1 +0.6**
SNR=11
HOQ S **S** **05 10 16.2 -6.6**
BSY Bisya 70.58 293 P **P** **05 01 17.5 +0.9**
SNR=7.6
BILL Bilibino 71.17 15*ce*P **P** **05 01 20.1 +0.9**
BILL *e* 05 01 37.1
BILL *e*S **SKiKP** **05 10 56.9 +6.3**
BILL pmax pmax
comp=Z,13nm,1.7s
BILL Bilibino 71.17 15 P **P** **05 01 20.5 +1.3**
ARQ Araqi 71.26 294 P **P** **05 01 21.8 +1.1**
SNR=8.0
ARQ S **S** **05 10 24.5 -6.3**
SOHO SOHO 71.34 295 P **P** **05 01 21.8 +0.7**
SOHO S **S** **05 10 30.0 -1.6**
SOHO SOHO 71.34 295 *i* P **P** **05 01 21.2 +0.1**
SNR=8.7
SHAO Shalim 71.64 288 P **P** **05 01 24.1 +1.1**
SHAO S **S** **05 10 33.9 -1.4**
SHAO Shalim 71.64 288 *i* P **P** **05 01 24.0 +1.1**
SNR=9.5
MSEY Mahe Island 71.72 264 P **P** **05 01 24.5 +0.8**
MSEY pmax pmax
comp=Z,44nm,1.0s
MSEY Mahe Island 71.72 264 P **P** **05 01 24.5 +0.8**
MSEY IAmb IAmb 05 01 25.9
comp=Z,44nm,1.0s
MSEY Mahe Island 71.72 264 *i* P **P** **05 01 24.9 +1.2**
SNR=7.7
UOSS Minazif 71.73 296 P **P** **05 01 24.1 +0.7**
UOSS IAmb IAmb 05 01 25.8
comp=Z,47nm,1.2s
UOSS Minazif 71.73 296 P **P** **05 01 23.6 +0.1**
UOSS Minazif 71.73 296 P **P** **05 01 23.6 +0.1**
UOSS Minazif 71.73 296 ⇓ P **P** **05 01 23.5 0.0**
BANOM Banah 71.75 297 P **P** **05 01 24.3 +0.6**
HATD Hatta, Dubai 71.78 295 P **P** **05 01 27.0 +3.2**
SNR=5.1
HATD Hatta, Dubai 71.78 295 *i* P **P** **05 01 24.4 +0.6**
SNR=11
ASHO Ashiyiah 71.83 295 P **P** **05 01 23.6 -0.5**
ASHO S **S** **05 10 35.5 -1.9**
ASHO Ashiyiah 71.83 295 *i* P **P** **05 01 24.8 +0.7**
SNR=7.4
ALNE Al Ain 72.04 295 P **P** **05 01 26.8 +1.4**
SNR=20
ALNE S **S** **05 10 39.3 -0.5**
ALNE Al Ain 72.04 295 *i* P **P** **05 01 26.3 +1.0**
SNR=30
GEYT Alibeck 72.16 309 P **P** **05 01 27.8 +2.0**
comp=Z,76nm,0.8s,baz=167,slow=7.2,SNR=84
GEYT S **S** **05 10 40.3 -0.4**
comp=Z,1.2nm,0.3s,baz=266,slow=40,SNR=1.6
GEYT LR LR 05 36 08.6
comp=Z,174nm,20.7s,baz=122,slow=38
GEYT Alibeck 72.16 309 P **P** **05 01 26.9 +1.1**
GEYT IAmb IAmb 05 01 28.9
comp=Z,96nm,0.8s
NRIK Noril'sk 72.16 346 P **P** **05 01 25.7 +0.6**
comp=Z,18nm,0.7s,baz=122,slow=5.8,SNR=20
NRIK S **S** **05 10 36.6 -2.9**
comp=Z,1.1nm,0.4s,baz=172,slow=22,SNR=1.3
NRIK LR LR 05 36 00.6
comp=Z,246nm,18.3s,baz=145,slow=38
NRIK Noril'sk 72.16 346*ce*P **P** **05 01 25.5 +0.4**
NRIK pmax pmax
comp=Z,51nm,1.6s
NAZ Nazwa, Dubai 72.22 295 P **P** **05 01 26.9 +0.5**
NAZ Nazwa, Dubai 72.22 295 *i* P **P** **05 01 27.0 +0.6**
SNR=5.9
FAQ Al Faqa, Dubai 72.26 295 P **P** **05 01 27.4 +0.8**
FAQ Al Faqa, Dubai 72.26 295 *i* P **P** **05 01 27.2 +0.5**
SNR=14
DMTO DMTO 72.26 288 P **P** **05 01 27.1 +0.4**
UMQ Umm Al-Quwin 72.28 296 P **P** **05 01 27.2 +0.5**
UMZA Um Al Zommool 72.45 293 P **P** **05 01 28.2 +0.5**
ASUD Al Ashush, Dub 72.48 295 P **P** **05 01 31.0 +3.0**
SNR=8.2
ASUD Al Ashush, Dub 72.48 295 *i* P **P** **05 01 29.3 +1.3**
SNR=20
AJN Ajban 72.79 295 P **P** **05 01 32.2 +2.5**
SNR=5.5
AJN Ajban 72.79 295 *i* P **P** **05 01 30.4 +0.7**
SNR=10
SOCY Socotra 72.94 282 P **P** **05 01 30.8 -0.1**
SOCY Socotra 72.94 282 P **P** **05 01 31.1 +0.2**
SNR=17
RBK Rabkut 72.96 288 P **P** **05 01 31.7 +0.7**
SNR=9.4
RBK S **S** **05 10 49.3 -1.1**
DOK Doka 73.10 289 P **P** **05 01 32.0 +0.4**
SNR=18
DOK S **S** **05 10 50.1 -1.8**
WHFO Wadi Hawf 73.39 288 P **P** **05 01 33.8 +0.3**
SNR=18
WHFO S **S** **05 10 51.2 -4.2**
AB31 Akbulak array 73.64 321 P **P** **05 01 35.0 +0.8**
ABKAR Akbulak array 73.64 321 P **P** **05 01 34.8 +0.6**
MZWR Madinat Zayed 73.72 294 P **P** **05 01 36.3 +1.0**
MZWR S **SKiKP** **05 10 56.7 +0.9**
ABTO Aybut 73.81 287 P **P** **05 01 36.5 +0.5**
SNR=17
ABTO S **SKiKP** **05 10 56.6 +0.5**
SPIA Saint Paul Isl 73.88 30 P **P** **05 01 36.4 +0.9**
baz=248
MZR Muzera 74.02 293 P **P** **05 01 38.4 +1.4**
SNR=11
MZR S **S** **05 11 03.4 +1.1**
MZR Muzera 74.02 293 *i* P **P** **05 01 38.1 +1.1**
SNR=11
UNV Unalaska Valle 74.72 34 IAmb IAmb 05 01 44.3
comp=Z,85nm,1.2s
UNV Unalaska Valle 74.72 34 P **P** **05 01 40.5 +0.1**
baz=252
JRN Qarnain Island 74.76 295 P **P** **05 01 42.1 +0.9**
SNR=5.6
AKTO Aktyubinsk 75.16 322 P **P** **05 01 43.9 +0.8**
comp=Z,58nm,0.7s,baz=104,slow=7.7,SNR=121
AKTO S **S** **05 11 14.3 +0.4**

comp=Z,1.5nm,0.8s,baz=328,slow=18,SNR=8.1
AKTO LR LR 05 38 16.1
comp=Z,304nm,21.0s,baz=106,slow=38
SVE Sverdlovsk 75.55 329⇓*eP* **P 05 01 46.2 +1.0**
SVE *eS* **S 05 11 19.0 +1.0**
SVE pmax pmax
comp=Z,57nm,0.9s
SLWR Sila 75.74 294 P **P 05 01 48.3 +1.4**
GAMB Gambell 75.89 24 P **P 05 01 47.8 +0.9**
baz=245
KHOR Al-Khor Airpor 76.02 296 P **P 05 01 49.8 +1.3**
TRNA Turayna 76.22 295 P **P 05 01 50.9 +1.2**
ARU Arti 76.52 328 P **P 05 01 50.5 -0.1**
comp=Z,5.5nm,0.3s,baz=224,slow=1.0,SNR=4.5
ARU LR LR 05 36 35.5
comp=Z,236nm,21.9s,baz=102,slow=36
ARU Arti 76.52 328*c iP* **P 05 01 50.8 +0.1**
ARU *PP **pP** 05 02 14.6 -0.5
ARU *SP **sP** 05 02 24.9 -0.5
ARU 05 04 39.9
ARU S **S** 05 11 29.3 +0.7
ARU pmax pmax
comp=Z,35nm,0.9s
ARU MLR MLR
comp=Z,273nm,22.0s
ARU Arti 76.52 328 IAmb IAmb 05 01 53.8
comp=Z,29nm,0.8s
SHMA Al-Shehemyia 76.53 296 P **P 05 01 52.6 +1.2**
FALS False Pass 76.75 34 P **P 05 01 52.8 +0.9**
baz=254
SAKB Bahrain 76.92 296 P **P 05 01 55.0 +1.4**
SDPT Sand Point 78.50 34 P **P 05 02 02.6 +0.8**
baz=257
ANM Nome 78.75 24 P **P 05 02 04.1 +1.2**
baz=250
LKRN Lenkeran, Azer 79.53 309 P **P 05 02 09.9 +2.2**
RDOG Red Dog Mine 80.82 21 P **P 05 02 15.0 +1.0**
baz=252
MAK Makhachkala 80.92 313 *eP* **P 05 02 11.8 -3.3**
MAK *e*PP **pP** 05 02 38.5 -1.3
MAK *e*SP **sP** 05 02 48.1 -1.9
MAK *eS* **S** 05 12 10.6 -5.4
MAK *e*SS **sS** 05 12 58.0 -0.8
MAK *eSS* **SS** 05 17 31.1 -1.0
MAK *eSSS SSS 05 21 00.3
MAK pmax pmax
comp=Z,27nm,0.3s
SEKA Sheki 80.98 311 P **P 05 02 17.1 +1.5**
MNGR Mingechevir, A 81.03 311 P **P 05 02 18.3 +2.6**
CHIR Chirikof Islan 81.30 34 P **P 05 02 17.6 +0.8**
baz=261
ZKTA Zakatala 81.45 312 P **P 05 02 18.8 +0.8**
GANJ Ganja 81.60 311 P **P 05 02 20.3 +1.5**
VOI Vohitsoka 81.62 248 P **P 05 02 19.9 +0.6**
VOI IAmb IAmb 05 02 25.6
comp=Z,30nm,0.8s
VOI Vohitsoka 81.62 248 P **P 05 02 23.8 +4.4**
VOI Vohitsoka 81.62 248 P P 05 02 24.8 +5.4
VNDA Vanda 81.68 173 P **P 05 02 18.7 +0.4**
comp=Z,112nm,0.8s,baz=318,slow=6.1,SNR=358
VNDA S **S** 05 12 25.9 +3.3
comp=Z,1.5nm,1.1s,baz=193,slow=21,SNR=1.7
VNDA LR LR 05 36 51.7
comp=Z,227nm,21.9s,baz=340,slow=34
VNDA Vanda 81.68 173 P **P 05 02 18.8 +0.4**
VNDA S **S** 05 12 26.0 +3.3
VNDA pmax pmax
comp=Z,127nm,0.9s
VNDA Vanda 81.68 173 P **P 05 02 18.8 +0.4**
KIRV Kirov 81.82 329 P **P 05 02 20.3 +0.9**
comp=Z,33nm,0.6s,baz=23,slow=0.9,SNR=6.9
KIRV Kirov 81.82 329*ce*P **P 05 02 20.1 +0.7**
BELG Belogornoye 81.92 323 P **P 05 02 20.4 +0.4**
comp=Z,46nm,0.7s,baz=329,slow=2.1,SNR=23
BELG LR LR 05 41 37.1
comp=Z,166nm,19.7s,baz=117,slow=38
N18K Kilae Creek 81.99 29 P **P 05 02 21.3 +0.9**
baz=260
P18K Big Mountain, 82.09 30 P **P 05 02 21.9 +0.9**
baz=260
NAX Nakhchivan 82.12 309 P **P 05 02 23.9 +2.3**
GROC Groznyy 82.19 313 *eP* **P 05 02 21.3 -0.5**
GROC *e*PP **pP** 05 02 44.2 -2.3
GROC *eS* **S** 05 12 30.7 +1.5
GROC pmax pmax
comp=Z,18nm,0.5s
SII Sitkinak Islan 82.21 33 P **P 05 02 22.1 +0.5**
baz=262
MAW Mawson 82.21 200 P **P 05 02 22.5 +1.2**
comp=Z,96nm,0.7s,baz=71,slow=5.8,SNR=84
MAW Mawson 82.21 200 P **P 05 02 22.5 +1.2**
baz=82,SNR=61
MAW Mawson 82.21 200 P **P 05 02 22.1 +0.9**
GCSA Galena City Sc 82.32 25 P **P 05 02 22.6 +0.7**
baz=258
TTA Tatalina 82.34 27 IAmb IAmb 05 02 25.2
comp=Z,35nm,1.2s
TTA Tatalina 82.34 27 P **P 05 02 23.1 +0.9**
baz=259,SNR=12
SBA Scott Base 82.59 172 P **P 05 02 23.9 +0.8**
SBA pmax pmax
comp=Z,75nm,1.0s
SBA Scott Base 82.59 172 P **P 05 02 23.9 +0.8**
SBA IAmb IAmb 05 02 25.7
comp=Z,75nm,1.0s
N19K Bonanza Creek 82.69 29 IAmb IAmb 05 02 28.1
comp=Z,40nm,1.0s
N19K Bonanza Creek 82.69 29 P **P 05 02 24.4 +0.3**
baz=261
L19K White Mountain 82.74 28 IAmb IAmb 05 02 28.1
comp=Z,38nm,1.1s
L19K White Mountain 82.74 28 P **P 05 02 25.2 +0.9**
baz=260,SNR=16
GNI Garni 82.77 310 P **P 05 02 26.4 +1.3**
comp=Z,13nm,0.9s,baz=257,slow=1.2,SNR=14
GNI LR LR 05 43 56.8
comp=Z,118nm,21.1s,baz=88,slow=39
GNI Garni 82.77 310 *i* P **P 05 02 26.8 +1.7**
GNI pmax pmax
comp=Z,52nm,1.7s
GNI Garni 82.77 310 P **P 05 02 28.9 +3.8**
GNI Garni 82.77 310 P **P 05 02 26.1 +1.0**
OHAK Old Harbor 82.78 33 IAmb IAmb 05 02 27.0
comp=Z,44nm,0.9s
OHAK Old Harbor 82.78 33 P **P 05 02 25.4 +0.9**
baz=262
M19K Big River Lodg 82.91 28 IAmb IAmb 05 02 28.5
comp=Z,28nm,1.0s
M19K Big River Lodg 82.91 28 P **P 05 02 26.3 +1.2**
baz=261
P19K Oil Pt 83.14 30 P **P 05 02 27.1 +0.8**
baz=262
KDAK Kodiak Island 83.23 32 P **P 05 02 28.1 +1.3**
comp=Z,27nm,0.7s,baz=280,slow=3.9,SNR=25
KDAK LR LR 05 34 43.8
comp=Z,188nm,21.2s,baz=268,slow=32
KDAK Kodiak Island 83.23 32 *eP* **P 05 02 26.8 0.0**
KDAK pmax pmax
comp=Z,131nm,1.9s
KDAK Kodiak Island 83.23 32 P **P 05 02 27.5 +0.7**
KDAK IAmb IAmb 05 02 29.3
comp=Z,39nm,0.9s
KDAK Kodiak Island 83.23 32 P **P 05 02 27.6 +0.8**
baz=263
L20K Farewell, AK 83.24 27 P **P 05 02 28.2 +1.3**
baz=261,SNR=16
K20K Telida 83.28 26 IAmb IAmb 05 02 30.4
comp=Z,34nm,1.0s
K20K Telida 83.28 26 P **P 05 02 28.3 +1.3**
baz=261,SNR=20
J20K Nowinta River 83.38 26 IAmb IAmb 05 02 30.8
comp=Z,30nm,0.8s
J20K Nowinta River 83.38 26 P **P 05 02 28.9 +1.4**
baz=261,SNR=24
ZEI Tsey 83.55 313 *eP* **P 05 02 29.3 +0.2**
ZEI pmax pmax
comp=Z,34nm,0.6s
AKH Akhalkalaki 83.78 311 ⇓P **P 05 02 32.5 +2.2**
ATD Arta Tunnel 83.83 281 P **P 05 02 33.0 +2.1**
comp=Z,47nm,0.8s,baz=84,slow=1.9,SNR=13
ATD Arta Tunnel 83.83 281 IAmb IAmb 05 02 35.8
comp=Z,64nm,0.9s
ATD Arta Tunnel 83.83 281 P **P 05 02 33.9 +2.9**
SNR=5.4
SPCR Spurr Chakacha 83.84 29 P **P 05 02 29.8 -0.2**
baz=263,SNR=7.3

HOM Homer 83.94 30 P **P 05 02 30.9 +0.4**
baz=264
KARS Kars 84.06 310 P **P 05 02 33.3 +1.6**
KARS pmax pmax
comp=Z,190nm,0.9s
KARS Kars 84.06 310 P **P 05 02 33.3 +1.6**
PPLA Purkeypile 84.07 27 IAmb IAmb 05 02 49.6
comp=Z,35nm,1.3s
PPLA Purkeypile 84.07 27 P **P 05 02 31.6 +0.4**
baz=263,SNR=5.2
PRGR Permogore 84.13 332 *eP* **P 05 02 30.5 -0.8**
PRGR *eS* **S** 05 12 41.5 -6.5
PRGR pmax pmax
comp=Z,34nm,0.8s
CNPM China Poot 84.13 30 IAmb IAmb 05 02 34.7
comp=Z,46nm,1.0s
CHUM Lake Minchumin 84.14 26 P **P 05 02 32.2 +0.9**
baz=262,SNR=12
H21K Melozitna Rive 84.17 24 IAmb IAmb 05 02 35.2
comp=Z,28nm,1.1s
H21K Melozitna Rive 84.17 24 P **P 05 02 32.6 +1.1**
baz=262,SNR=25
CAST Castle Rocks 84.18 27 P **P 05 02 31.6 -0.1**
baz=263,SNR=11
GOF Gofitskoye 84.29 315⇑*eP* P 05 02 45.9 +13
KBZ Khabaz 84.33 314 P **P 05 02 33.1 +0.4**
comp=Z,7.8nm,0.7s,baz=124,slow=2.5,SNR=22
KBZ S **S** 05 12 50.4 -0.3
comp=Z,0.6nm,0.4s,baz=350,slow=20,SNR=7.9
KBZ Khabaz 84.33 314*ce*P **P 05 02 33.6 +0.9**
KBZ pmax pmax
comp=Z,13nm,0.9s
BRLK Bradley Lake 84.33 30 IAmb IAmb 05 02 34.1
comp=Z,69nm,1.2s
PPT Papeete 84.37 108 LR LR 05 36 36.4
comp=Z,122nm,21.1s,baz=260,slow=33
PPT2 Papeete2 84.37 108 *eS* **S 05 12 49.0 -3.2**
comp=Z,306nm,27.2s
PPT2 Papeete2 84.37 108 *eLQ LQ 05 25 38.8
PPT2 comp=Z,1μm,39.2s *eLR LR 05 29 19.4
comp=Z,436nm,27.0s
BRSE Bradley Lake S 84.41 30 P **P 05 02 33.7 +0.8**
baz=264,SNR=6.1
I21K Tanana 84.45 25 P **P 05 02 33.9 +1.0**
baz=263,SNR=7.7
KVAR Kislovodsk Arr 84.49 314 P **P 05 02 34.9 +1.2**
comp=Z,3.8nm,0.5s,baz=269,slow=21,SNR=3.0
KIV Kislovodsk 84.50 314 *eP* **P 05 02 34.7 +1.0**
KIV *e* 05 12 49.4
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,124nm,20.0s
KIV Kislovodsk 84.50 314 P **P 05 02 35.3 +1.6**
SHA1 Shidzhatmaz 84.51 314 *i* P **P 05 02 33.7 -0.3**
BPAW Bear Paw Mtn. 84.74 26 P **P 05 02 35.2 +0.7**
baz=264,SNR=7.9
GURO Guroymak-BITLI 84.79 308 P **P 05 02 36.6 +1.1**
GURO IAmb IAmb 05 02 40.1
comp=Z,49nm,0.9s
CHVG Ch'k'valeri 84.89 313 ⇑P **P 05 02 36.1 +0.5**
CHVG Ch'k'valeri 84.89 313 ⇑P **P 05 02 36.1 +0.5**
M22K Willow 84.90 28 P **P 05 02 35.5 +0.3**
baz=265,SNR=13
O22K Cooper Landing 84.98 30 P **P 05 02 35.6 0.0**
baz=265
TRF Thorofare Moun 84.98 27 P **P 05 02 36.0 +0.1**
baz=264,SNR=6.5
RC01 Rabbit Creek A 85.03 29 IAmb IAmb 05 02 37.6
comp=Z,40nm,0.9s
RC01 Rabbit Creek A 85.03 29 P **P 05 02 35.7 -0.2**
baz=265,SNR=14
SEW Seward 85.08 30 IAmb IAmb 05 02 38.2
comp=Z,42nm,0.9s
SEW Seward 85.08 30 P **P 05 02 36.2 0.0**
baz=265
PMR Palmer 85.36 28 IAmb IAmb 05 02 39.3
comp=Z,28nm,0.8s
PMR Palmer 85.36 28 P **P 05 02 37.6 +0.1**
baz=266,SNR=15
COLD Coldfoot 85.40 23 P **P 05 02 38.7 +1.1**
baz=264,SNR=20
VRH Novokhopyorsk 85.47 321 *eP* **P 05 02 38.5 +0.2**
VRH pmax pmax
comp=Z,190nm,1.7s
GHO Glory Hole Cre 85.47 28 IAmb IAmb 05 02 55.4
comp=Z,39nm,0.8s
H23K Yukon River 85.53 24 P **P 05 02 38.8 +0.5**
baz=265,SNR=16
I23K Minto, Yukon-K 85.54 25 P **P 05 02 38.8 +0.5**
baz=265,SNR=9.1
MCK McKinley 85.61 26 P **P 05 02 39.4 +0.6**
MCK pmax pmax
comp=Z,14nm,0.7s
MCK McKinley 85.61 26 P **P 05 02 39.4 +0.6**
MCK McKinley 85.61 26 P **P 05 02 39.0 +0.2**
baz=266,SNR=9.9
NEA2 Nenana 85.62 25 P **P 05 02 39.4 +0.6**
baz=265
RND Reindeer 85.62 27 IAmb IAmb 05 02 40.4
comp=Z,16nm,0.7s
KNK Knik Glacier 85.67 29 P **P 05 02 39.7 +0.6**
baz=266,SNR=13
PWL Port Wells 85.69 29 IAmb IAmb 05 02 42.0
comp=Z,36nm,1.0s
PWL Port Wells 85.69 29 P **P 05 02 39.8 +0.6**
baz=266,SNR=7.8
WAT1 Susitna Watana 85.72 27 P **P 05 02 39.7 +0.3**
baz=266
SML Sawmill 85.75 28 IAmb IAmb 05 02 41.8
comp=Z,32nm,0.8s
SML Sawmill 85.75 28 P **P 05 02 40.2 +0.6**
baz=266,SNR=9.8
TOLK Toolik Lake Re 85.77 21 P **P 05 02 40.3 +0.8**
baz=265,SNR=16
WAT6 Susitna Watana 86.08 28 P **P 05 02 41.6 +0.3**
baz=267,SNR=12
TCOL CIGO, UAF Yank 86.16 25 P **P 05 02 41.7 +0.3**
baz=266
COLA College 86.16 25 *i* P **P 05 02 40.9 -0.5**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 86.16 25 P **P 05 02 41.6 +0.2**
baz=266
H24K Noodor Dome 86.21 24 P **P 05 02 42.3 +0.6**
baz=266,SNR=8.7
SCM Sheep Creek Mo 86.23 28 IAmb IAmb 05 02 52.3
comp=Z,28nm,0.9s
SCM Sheep Creek Mo 86.23 28 P **P 05 02 42.7 +0.8**
baz=267
DHY Denali Highway 86.27 27 P **P 05 02 42.8 +0.6**
baz=267
GLI Glacier Island 86.30 29 IAmb IAmb 05 02 50.7
comp=Z,25nm,0.8s
GLI Glacier Island 86.30 29 P **P 05 02 42.9 +0.7**
baz=267
ILAR Eielson Array 86.57 25 P **P 05 02 42.2 -1.3**
comp=Z,3.3nm,0.9s,baz=236,slow=5.3,SNR=18
ILAR S **S** 05 13 06.2 -5.7
comp=Z,0.1nm,0.5s,baz=320,slow=32,SNR=1.7
ILAR PKKP **PKKPdf** 05 20 36.8 +2.4
comp=Z,1.9nm,0.9s,baz=87,slow=1.3,SNR=10
ILAR Eielson Array 86.57 25 P **P 05 02 42.8 -0.6**
ILAR Eielson Array 86.57 25 P **P 05 02 42.8 -0.6**
KTUT Trabzon 86.58 311 ⇓P **P 05 02 45.6 +1.6**
FID Port Fidalgo 86.59 29 IAmb IAmb 05 02 45.3
comp=Z,16nm,0.8s
SOC Sochi 86.64 313 *eP* **P 05 02 45.1 +0.9**
SOC *e* 05 06 03.6
SOC *e*PPP PPP 05 08 02.6
SOC *eS* **SKSac 05 13 03.2 +1.0**
SOC *e*SS **SS 05 18 59.5 +3.0**
SOC *e*SSS SSS 05 22 23.3
SOC pmax pmax
comp=Z,42nm,0.9s
M24K Tolsona, Glenn 86.78 28 P **P 05 02 45.5 +0.9**
baz=268
DIV Divide 86.95 29 IAmb IAmb 05 02 57.9
comp=Z,19nm,0.8s
KLMR Klimovskoe 87.02 331 *eP* **P 05 02 44.4 -1.2**
KLMR *eS* **SKSac 05 13 03.0 -0.9**
KLMR pmax pmax
comp=Z,42nm,0.8s
KLMR Klimovskoe 87.02 331 *eP* **P 05 02 44.5 -1.2**
KLMR AMP 05 02 51.1
comp=Z,42nm,0.8s

KLMR *eS* **SKSac 05 13 03.0 -0.9**
KLMR *eS* **SKSac 05 13 03.0 -0.9**
VORR Voronezh 87.05 321⇓*iP* **P 05 02 48.5 +2.5**
VORR *eS* **S 05 13 18.9 +1.9**
VORR pmax pmax
comp=Z,64nm,1.6s
VSR Storozhevoye 87.07 321 *eP* **P 05 02 45.6 -0.6**
VSR pmax pmax
comp=Z,60nm,0.8s
PAX Paxson 87.14 27 P **P 05 02 46.9 +0.5**
baz=269
J25K Salcha River, 87.22 26 P **P 05 02 46.1 -0.5**
baz=269
LPSR Galich'ya Gora 87.23 322 *eP* **P 05 02 47.2 +0.3**
LPSR pmax pmax
comp=Z,70nm,0.8s
HARP HAARP 87.27 28 P **P 05 02 46.7 -0.2**
baz=269
RIDG Independent Ri 87.43 26 P **P 05 02 47.3 -0.4**
baz=269,SNR=7.0
BMRM Bremner River 87.52 29 P **P 05 02 47.9 -0.3**
baz=270
SCRK Sand Creek 87.81 26 P **P 05 02 50.1 +0.5**
baz=270
MOS Moscow 87.99 326 *eP* **P 05 02 49.1 -1.3**
MOS *e*PP **pWP 05 03 20.0 +1.5**
MOS *e* 05 06 21.4
MOS *e* 05 13 07.5
MOS *eS* **S 05 13 26.3 +0.5**
MOS pmax pmax
comp=Z,56nm,0.7s
J26L Joseph Creek 88.00 26 P **P 05 02 50.5 +0.1**
baz=270
L26K Log Cabin Wild 88.10 27 P **P 05 02 51.4 +0.5**
baz=271
ANN Anapa 88.27 315 *eP* **P 05 02 51.1 -0.9**
ANN *e*PP **pP 05 03 15.4 -1.7**
ANN *eS* **SKSac 05 13 10.7 -1.4**
ANN *eSS* **SS 05 19 22.0 +1.8**
ANN pmax pmax
comp=Z,62nm,0.8s
M26K Nabesna, AK 88.28 28 P **P 05 02 52.6 +0.9**
baz=271
MCARA McCarthy VSAT 88.28 29 P **P 05 02 51.7 0.0**
baz=271
OBN Obninsk 88.61 325 P **P 05 02 52.8 -0.5**
comp=Z,12nm,0.7s,baz=146,slow=21,SNR=2.2
OBN Obninsk 88.61 325⇓*eP* **P 05 02 52.7 -0.6**
OBN *e* 05 06 23.4
OBN *i* S **SKSac 05 13 14.1 +0.5**
OBN pmax pmax
comp=Z,47nm,0.8s
OBN MLR MLR
comp=Z,250nm,19.0s
OBN Obninsk 88.61 325 P **P 05 02 53.3 0.0**
OBN IAmb IAmb 05 02 57.8
comp=Z,40nm,0.7s
L27K Beaver Creek, 88.80 27 P **P 05 02 55.1 +0.9**
baz=272
M27K Edge Creek, AK 88.80 28 P **P 05 02 54.4 +0.1**
baz=272
KIBK Kibwezi 88.99 268 P **P 05 02 57.1 +0.9**
ASF Jabal al Asfar 89.00 302 P **P 05 02 57.7 +1.8**
comp=Z,25nm,0.8s,baz=34,slow=3.5,SNR=4.8
EGAK Eagle 89.02 25 P **P 05 02 55.3 +0.2**
baz=272
CTG Chitna Glacier 89.11 29 P **P 05 02 56.2 +0.4**
baz=272
CTGM Chitina Glacie 89.11 29 IAmb IAmb 05 02 58.4
comp=Z,20nm,1.2s
BVCY Beaver Creek 89.27 28 P **P 05 02 57.0 +0.6**
baz=273
APA Apatity 89.54 337⇓*iP* **P 05 03 00.7 +3.2**
APA pmax pmax
comp=Z,6.0nm,1.1s
BNN Bunyan 89.63 309 IAmb IAmb 05 03 04.0
comp=Z,74nm,1.5s
KMBO Kilima Mbogo 89.74 269 P **P 05 02 60.0 0.0**
comp=Z,5.3nm,1.0s,baz=17,slow=2.2,SNR=6.3
KMBO LR LR 05 44 00.1
comp=Z,95nm,18.8s,baz=59,slow=36
KMBO Kilima Mbogo 89.74 269 P **P 05 03 00.6 +0.7**
KMBO pmax pmax
comp=Z,27nm,1.4s
KMBO Kilima Mbogo 89.74 269 P **P 05 03 00.6 +0.7**
KMBO IAmb IAmb 05 03 07.0
comp=Z,27nm,1.4s
KMBO Kilima Mbogo 89.74 269 P **P 05 03 01.6 +1.7**
DAWY Dawson 89.83 26 P **P 05 02 59.5 +0.5**
baz=274
GHAJ Ghor Haditha 90.17 301 IAmb IAmb 05 03 15.2
comp=Z,32nm,0.9s
I29M Ogilvie Camp, 90.19 25 P **P 05 03 01.3 +0.7**
baz=275
MMAI Mount Meron Ar 90.23 303 P **P 05 03 01.0 -0.6**
comp=Z,0.4nm,0.2s,baz=81,slow=8.9,SNR=1.2
MMAI LR LR 05 46 27.6
comp=Z,106nm,21.6s,baz=260,slow=37
SIM Simferopol' 90.62 315 *eP* **P 05 03 02.1 -0.9**
SIM pmax pmax
comp=Z,19nm,0.8s
EIL Elat 90.77 300 P **P 05 03 04.3 +0.3**
comp=Z,5.2nm,0.8s,baz=97,slow=4.2,SNR=4.5
EIL LR LR 05 48 04.1
comp=Z,103nm,21.9s,baz=90,slow=38
SYO Syowa Base 90.89 201⇑*eP* **P 05 03 04.0 +0.3**
HYT Haines Junctio 90.99 29 P **P 05 03 04.9 +0.3**
baz=276
M30M Minto, Yukon 91.14 27 P **P 05 03 06.1 +1.0**
baz=276
BRTR Keskin Array B 91.30 310 P **P 05 03 06.8 +0.3**
comp=Z,3.1nm,0.8s,baz=95,slow=7.6,SNR=10.0
BRTR PKKPbc **PKKPbc 05 20 29.4 +0.1**
comp=Z,1.2nm,0.8s,baz=217,slow=5.7,SNR=4.0
BRTR LR LR 05 50 35.1
comp=Z,68nm,20.5s,baz=108,slow=40
BRTR Keskin Array B 91.30 310 P **P 05 03 06.4 -0.1**
MAYO Mayo, Yukon 91.42 26 P **P 05 03 07.0 +0.6**
baz=277
INK Inuvik 91.69 22 P **P 05 03 06.7 -0.7**
comp=Z,4.7nm,0.9s,baz=282,slow=2.2,SNR=17
INK S **SKSac 05 13 28.5 -2.4**
comp=Z,2.1nm,1.0s,baz=330,slow=31,SNR=39
INK PKKPbc **PKKPdf 05 20 26.2 +0.8**
comp=Z,4.8nm,0.8s,baz=64,slow=3.9,SNR=18
INK Inuvik 91.69 22 P **P 05 03 07.7 +0.2**
baz=280
N31M Braeburn, Yuko 91.74 28 P **P 05 03 07.9 0.0**
baz=277
CSS Mathiatis 91.85 305 IAmb IAmb 05 03 21.9
comp=Z,20nm,0.8s
QSPA South Pole Qui 91.91 180 LR LR 05 44 37.5
comp=Z,175nm,20.4s,baz=344,slow=36
QSPA South Pole Qui 91.91 180 P **P 05 03 08.8 +0.2**
ARA0 ARCESS Array S 92.15 340 *eP* **P 05 03 09.3 -0.3**
ARCES ARCESS Array B 92.15 340 P **P 05 03 08.8 -0.8**
comp=Z,9.4nm,0.7s,baz=82,slow=4.6,SNR=38
ARCES PKKP **PKKPdf 05 20 24.1 -0.6**
comp=Z,1.6nm,0.5s,baz=278,slow=2.2,SNR=14
ARCES LR LR 05 51 13.5
comp=Z,150nm,18.3s,baz=59,slow=40
ARCES ARCESS Array B 92.15 340 IAmb IAmb 05 03 09.9
comp=Z,14nm,0.8s
SPA0 Spitsbergen Ar 92.22 349 *eP* **P 05 03 09.6 -0.2**
SPITS Spitsbergen Ar 92.22 349 P **P 05 03 09.4 -0.4**
comp=Z,4.2nm,0.6s,baz=91,slow=6.7,SNR=10
SKAG Skagway 92.23 30 IAmb IAmb 05 03 12.8
comp=Z,15nm,0.9s
SKAG Skagway 92.23 30 P **P 05 03 10.7 +0.6**
baz=278,SNR=5.3
WHY Whitehorse 92.29 29 P **P 05 03 11.3 +0.7**
baz=278
M31M Drury Creek, Y 92.30 28 P **P 05 03 10.9 +0.4**
baz=279
HAMF Hammerfest 92.52 341 *eP* **P 05 03 11.1 -0.2**
BJO1 Bjornoya 92.85 345 *eP* **P 05 03 12.7 0.0**
JIS Juneau Island 92.88 32 IAmb IAmb 05 03 15.8
comp=Z,23nm,1.0s
KTK1 Kautokeino 93.05 339 *eP* **P 05 03 13.2 -0.6**
TAOE Nuku Hiva Isla 93.16 99 *eLR* LR 05 33 10.3
comp=Z,437nm,24.6s
AKASG Malin Array Be 93.38 321 P **P 05 03 14.4 -1.3**
comp=Z,0.5nm,0.3s,baz=64,slow=5.4,SNR=7.8
AKASG PKKP **PKKPdf 05 20 19.9 -2.3**
comp=Z,1.1nm,0.6s,baz=265,slow=3.4,SNR=6.7
AKASG LR LR 05 50 24.9
comp=Z,135nm,18.8s,baz=87,slow=39

FINES FINES Array B 93.46 332 P P 05 03 14.9 -0.9
comp=Z,2.6nm,0.6s,baz=56,slow=3.2,SNR=7.3
FINES LR LR 05 47 57.9
comp=Z,173nm,19.4s,baz=90,slow=37
A36M Sachs Harbour 93.57 17 P P 05 03 16.3 +0.3
A36M Sachs Harbour 93.57 17 P P 05 03 16.3 +0.3
baz=288,SNR=5.5
JETT Jettan, Norway 93.88 340 eP P 05 03 16.6 -1.1
NACGM Naroch 94.23 325 eP P 05 03 07.5 -12
WRAK Wrangell Islan 94.27 33 IAmb IAmb 05 03 22.0
comp=Z,21nm,0.8s
WRAK Wrangell Islan 94.27 33 P P 05 03 20.2 +0.7
baz=280
SORM Soroca 94.28 318 ⇑P P 05 03 23.3 +3.5
SORM Soroca 94.28 318 ⇑P P 05 03 23.3 +3.5
TRO Tromso 94.36 340 eP P 05 03 20.8 +1.1
ELL Elmali 94.47 307 P P 05 03 21.1 -0.1
ELL pmax pmax
comp=Z,24nm,0.7s
ELL Elmali 94.47 307 P P 05 03 21.1 -0.1
ELL IAmb IAmb 05 03 24.6
comp=Z,24nm,0.7s
C36M Paulatuk 94.77 20 IAmb IAmb 05 03 23.0
comp=Z,13nm,0.9s
C36M Paulatuk 94.77 20 P P 05 03 21.3 -0.2
baz=288,SNR=15
CFR Carcaliu 94.82 315 ⇓P P 05 03 19.4 -2.9
CFR Carcaliu 94.82 315 ⇓P P 05 03 19.4 -2.9
IAS Iasi 94.94 318 ⇓P P 05 03 19.1 -3.8
IAS Iasi 94.94 318 ⇓P P 05 03 19.1 -3.8
DLBC Dease Lake 95.11 31 LR LR 05 42 02.3
comp=Z,148nm,20.3s,baz=284,slow=33
DLBC Dease Lake 95.11 31 IAmb IAmb 05 03 26.1
comp=Z,11nm,1.1s
TGTN Hyland Airport 95.27 28 P P 05 03 25.0 +0.8
baz=284,SNR=14
TESR Tescani 95.66 317 ⇑P P 05 03 25.4 -0.8
VRI Vrincioaia 95.70 316 ⇑P P 05 03 27.1 +0.6
VRI Vrincioaia 95.70 316 ⇑P P 05 03 27.1 +0.6
PLOR Plostina 95.76 316 ⇑P P 05 03 27.4 +0.7
PLOR Plostina 95.76 316 ⇑P P 05 03 27.4 +0.7
MBAR Mbarara 96.23 270 LR LR 05 43 32.2
comp=Z,136nm,21.8s,baz=84,slow=33
MLR Muntele Rosu 96.30 316 ⇑P P 05 03 29.8 +0.5
MLR ⇓P P 05 03 29.9 +0.6
MLR Muntele Rosu 96.30 316 LR LR 05 53 53.7
comp=Z,94nm,18.7s,baz=76,slow=40
MLR Muntele Rosu 96.30 316 ⇓P P 05 03 29.9 +0.6
MLR Muntele Rosu 96.30 316 IAmb IAmb 05 03 44.6
comp=Z,20nm,1.4s
FAUS Fauske 96.37 339 eP P 05 03 29.6 +0.7
BURAR Bucovina Array 96.44 318 ⇓P P 05 03 30.1 +0.2
BURAR Bucovina Array 96.44 318 ⇓P P 05 03 30.1 +0.2
BURAR Bucovina Array 96.44 318 IAmb IAmb 05 03 39.4
comp=Z,13nm,0.8s
BUR08 Bucovina Ar. S 96.45 318 IAmb IAmb 05 03 39.1
comp=Z,9.6nm,0.8s
VOIR 96.93 316 ⇑P P 05 03 29.9 -2.2
VOIR 96.93 316 ⇑P P 05 03 29.9 -2.2
ARR Arges 97.23 316 ⇑P P 05 03 32.8 -0.6
MESR Meseseni 98.04 318 ⇑P Pdif 05 03 43.8 +6.8
UZH Uzhgorod 98.17 320 eP Pdif 05 03 37.7 +0.2
DRGR 98.28 318 ⇑P Pdif 05 03 38.5 +0.4
DRGR 98.28 318 ⇑P Pdif 05 03 38.5 +0.4
CRVS Cervenica-Dubn 98.64 320 eP Pdif 05 03 40.6 +1.0
CRVS Cervenica-Dubn 98.64 320 ePDIFF Pdif 05 03 40.6 +1.0
NSS Namsos 98.71 337 eP P 05 03 37.5 -2.0
LSZ Lusaka 98.98 255 LR LR 05 45 41.1
comp=Z,151nm,21.4s,baz=320,slow=34
DAG Danmarks Havn 99.00 352 i P P 05 03 39.0 -1.6
MDVR Moldovita 99.38 316 ⇑P Pdif 05 03 40.8 -2.3
RES Resolute Bay 99.47 10 P Pdif 05 03 42.8 +0.1
RES pmax pmax
comp=Z,4.0nm,1.0s
RES Resolute Bay 99.47 10 Pdif Pdif 05 03 42.8 +0.1
HFS Hagfors 99.65 332 LR LR 05 52 04.0
comp=Z,185nm,18.4s,baz=64,slow=37
PSZ Piszkesteto 99.89 319 P Pdif 05 03 48.3 +3.0
NB2 NORSAR Subarra 100.44 334 P Pdif 05 03 45.7 -1.7
comp=Z,1.8nm,0.7s,baz=67,slow=4.4
NB2 NORSAR Subarra 100.44 334 P Pdif 05 03 46.7 -0.7
NB2 NORSAR Subarra 100.44 334 P Pdif 05 03 45.7 -1.7
baz=67,slow=4.4
NOA NORSAR Array B 100.44 334 P Pdif 05 03 46.0 -1.3
comp=Z,2.3nm,0.7s,baz=67,slow=4.6,SNR=12
NOA PKKPbc PKKPbc 05 20 01.9 -3.4
comp=Z,2.6nm,0.9s,baz=193,slow=9.0,SNR=6.9
YKA Yellowknife Ar 100.98 25 P Pdif 05 03 49.9 +0.2
comp=Z,2.3nm,0.8s,baz=295,slow=4.7,SNR=27
YKA PKIKP PKiKP 05 08 14.8 +0.3
comp=Z,1.5nm,0.7s,baz=294,slow=1.7,SNR=18
YKA S SKSac 05 14 17.9 -1.8
comp=Z,1.0nm,1.1s,baz=297,slow=5.7,SNR=4.0
YKA PKKP PKKPbc 05 19 59.8 -4.0
comp=Z,3.0nm,0.8s,baz=122,slow=3.3,SNR=7.8
YKA SKKPbc SKKPbc 05 23 31.8 -4.3
comp=Z,0.4nm,0.7s,baz=112,slow=2.5,SNR=6.2
YKA PKPPKP 05 28 15.2
comp=Z,0.3nm,0.9s,baz=136,slow=2.7,SNR=3.7
DBG Daneborg 101.27 351 i P Pdif 05 03 50.0 -0.7
TROLL Troll, Antarti 102.03 195 Pdiff Pdif 05 03 55.9 +1.5
HOMB Hombersund 102.85 332 ePdif Pdif 05 03 58.6 +0.6
CLL Collm 103.17 324 eSS SS 05 23 06.0 +16
CLL eSSS SSS 05 26 54.0
CLL ex x 05 32 30.0
CLL Lm MLR 05 49 00.0
comp=Z,200nm,20.1s
GERES GERESS Array B 103.58 321 Pdiff Pdif 05 04 02.7 +1.0
comp=Z,0.3nm,0.5s,baz=101,slow=5.1,SNR=3.1
GERES PP PP 05 08 15.8 -2.9
comp=Z,0.2nm,0.3s,baz=83,slow=8.0,SNR=2.0
GERES PKKPbc PKKPbc 05 19 54.4 -1.5
comp=Z,0.4nm,0.6s,baz=276,slow=2.4,SNR=4.4
GERES PKPPKP P'P'df 05 28 16.2 +1.5
comp=Z,0.5nm,0.5s,baz=186,slow=1.3,SNR=4.1
SNAA Sanae 103.59 194 PKIKP PKiKP 05 08 17.9 -1.2
SNAA Sanae 103.59 194 Pdiff Pdif 05 04 02.7 +1.4
SNAA Sanae 103.59 194 P Pdif 05 04 02.4 +1.2
SNAA Sanae 103.59 194 Pdif Pdif 05 04 02.4 +1.2
J05D Fort Rock, OR 104.34 44 P Pdif 05 04 04.2 -1.0
baz=287
VNA2 Neumayer--Watz 105.20 194 PKIKP PKiKP 05 08 23.2 +1.2
VNA2 Neumayer--Watz 105.20 194 Pdiff Pdif 05 04 09.5 +1.2
baz=111,slow=6.0
VNA3 Neumayer Olymp 105.52 193 Pdiff Pdif 05 04 10.8 +1.1
NVAR Mina Array Bea 107.89 49 Pdiff Pdif 05 04 21.1 -0.2
comp=Z,0.3nm,0.4s,baz=352,slow=11,SNR=2.7
NVAR PKiKP PKiKP 05 08 29.1 +0.8
comp=Z,0.3nm,0.3s,baz=276,slow=8.1,SNR=3.0
NVAR PKKPbc PKKPbc 05 19 42.1 -0.3
comp=Z,1.7nm,0.8s,baz=124,slow=3.1,SNR=7.0
NVAR PKKPab PKKPab 05 19 56.5 +0.3
comp=Z,0.6nm,0.4s,baz=130,slow=4.9,SNR=6.9
MSO Missoula 107.98 39 P PKiKP 05 08 27.8 -0.2
baz=293
ISA Isabella, Lake 108.57 51 P PKiKP 05 08 28.8 -0.5
baz=287
HLID Hailey 108.93 42 P PKiKP 05 08 30.8 +0.8
baz=292
EGMT Eagleton 110.04 37 P PKiKP 05 08 32.2 +0.4
baz=297
KEST Kesra 110.90 309 PP PP 05 09 11.7 -1.0
comp=Z,4.9nm,1.0s,baz=43,slow=8.8,SNR=4.4
DUG Dugway, Tooele 111.30 45 P PKiKP 05 08 35.0 +0.5
baz=292
BW06 Boulder Array 112.50 42 P PKiKP 05 08 36.9 +0.1
baz=296
PDAR Pinedale Array 112.50 42 PKiKP PKiKP 05 08 37.0 +0.2
comp=Z,0.6nm,0.6s,baz=8.1,slow=1.3,SNR=7.9
PDAR PKKPbc PKKPbc 05 19 24.7 -3.1
comp=Z,2.1nm,0.6s,baz=104,slow=6.3,SNR=20
PDAR PKKPab PKKPab 05 19 34.8 -0.9
comp=Z,4.5nm,0.8s,baz=120,slow=6.2,SNR=22
LAO LASA Array 112.79 37 P PKiKP 05 08 37.7 +0.6
baz=300
WUAZ Wupatki 114.09 50 P PKiKP 05 08 40.3 +0.3
baz=291
O20A White River Ci 114.53 44 P PKPdf 05 08 41.2 +0.5
baz=296
RSSD Black Hills 115.41 38 PKIKP PKiKP 05 08 41.7 -0.7
RSSD Black Hills 115.41 38 PKiKP 05 08 41.6 -0.7
RSSD Black Hills 115.41 38 P PKiKP 05 08 41.9 -0.4
baz=301
RSSD Black Hills 115.41 38 P PKiKP 05 08 41.8 -0.7
baz=301
MVCO Mesa Verde 115.58 47 P PKPdf 05 08 43.6 +0.7
baz=294
TUC Tucson 115.68 53 PKIKP PKPdf 05 08 42.4 -0.6
TUC Tucson 115.68 53 PKPdf 05 08 42.4 -0.6
TUC Tucson 115.68 53 P PKiKP 05 08 44.2 +1.1
baz=290
ULM Lac du Bonnet 116.37 29 PKP PKPdf 05 08 43.3 -0.4
comp=Z,7.7nm,0.7s,baz=287,slow=3.2,SNR=10
ULM PKKPab PKKPab 05 19 16.7 -1.5
comp=Z,6.3nm,0.8s,baz=122,slow=4.4,SNR=6.7
ISCO Idaho Springs 116.49 43 PKIKP PKiKP 05 08 45.1 +0.4
ISCO Idaho Springs 116.49 43 PKiKP 05 08 45.1 +0.4
ISCO Idaho Springs 116.49 43 P PKiKP 05 08 45.3 +0.6
baz=298
S22A 4UR Ranch, Cre 116.56 46 P PKPdf 05 08 44.3 -0.5
baz=296
SDCO Great Sand Dun 117.50 45 P PKPdf 05 08 46.2 -0.4
baz=297
AGMN Agassiz Nation 117.64 31 P PKPdf 05 08 45.8 -0.4
baz=310
121A Cookes Peak, D 117.96 51 P PKiKP 05 08 48.2 +0.6
baz=293
ANMO Albuquerque 118.02 48 i PKIKP PKiKP 05 08 47.8 +0.2
ANMO Albuquerque 118.02 48 PKPdf PKiKP 05 08 49.1 +1.5
ANMO Albuquerque 118.02 48 P PKiKP 05 08 48.6 +0.9
baz=295
ANMO Albuquerque 118.02 48 P PKPdf 05 08 47.5 -0.1
baz=295
Y22A Socorro 118.05 50 P PKPdf 05 08 47.4 -0.2
baz=294
T25A Trinidad 118.55 45 P PKPdf 05 08 48.4 -0.2
baz=297
ESDC Sonseca Array 118.90 318 PKP PKiKP 05 08 51.2 +2.1
comp=Z,0.3nm,0.6s,baz=20,slow=4.1,SNR=1.4
ESDC PP PP 05 10 06.6 -2.0
comp=Z,2.2nm,1.0s,baz=42,slow=6.6,SNR=6.2
ESDC PKKPbc PKKPbc 05 19 04.5 -0.7
comp=Z,0.7nm,0.7s,baz=256,slow=4.8,SNR=5.0
F33A 5 Mile Ranch, 118.96 33 P PKPdf 05 08 48.6 -0.2
baz=309
EYMN Ely 120.05 29 P PKPdf 05 08 50.8 -0.1
baz=314
ECSD EROS Data Cent 120.08 35 P PKPdf 05 08 50.6 -0.5
baz=307
ECSD EROS Data Cent 120.08 35 P PKPdf 05 08 50.8 -0.3
baz=307
MNTX Cornudas Mount 120.17 51 PKPdf PKiKP 05 08 51.7 0.0
MNTX Cornudas Mount 120.17 51 P PKiKP 05 08 51.9 +0.2
baz=294
MNTX Cornudas Mount 120.17 51 P PKPdf 05 08 51.5 -0.1
baz=294,SNR=21
F36A Milaca 120.44 32 P PKPdf 05 08 51.2 -0.5
baz=311
BGNE Belgrade 120.52 38 P PKPdf 05 08 51.5 -0.6
baz=305
BGNE Belgrade 120.52 38 P PKPdf 05 08 51.2 -0.8
baz=305
E38A The Farm, Brul 120.94 30 P PKPdf 05 08 52.3 -0.3
baz=314
MSTX Muleshoe 121.18 48 P PKiKP 05 08 54.0 +0.3
baz=297
MSTX Muleshoe 121.18 48 P PKPdf 05 08 53.3 -0.3
baz=297,SNR=5.4
SPMN Marine on St. 121.24 32 P PKPdf 05 08 53.0 -0.2
baz=312
SPMN Marine on St. 121.24 32 P PKPdf 05 08 53.1 -0.2
baz=312
I37B Waseca 121.71 33 P PKiKP 05 08 54.3 -0.1
baz=310
R32A Long Quarter, 121.82 41 P PKPdf 05 08 53.5 -1.1
baz=303,SNR=7.9
SCHQ Schefferville 122.24 9 PKP PKPdf 05 08 55.0 +0.1
comp=Z,9.6nm,0.6s,baz=10,slow=2.3,SNR=34
SCHQ PKKPab PKKPab 05 18 49.2 -3.3
comp=Z,4.9nm,0.8s,baz=196,slow=3.2,SNR=8.9
SCHQ Schefferville 122.24 9 PKPdf PKPdf 05 08 54.5 -0.4
TX31 Lajitas Ar. Si 122.47 53 P PKiKP 05 08 56.8 +0.4
baz=294
TXAR Lajitas Array 122.47 53 PKP PKiKP 05 08 56.5 +0.2
comp=Z,4.3nm,0.7s,baz=223,slow=1.2,SNR=58
TXAR PKKPab PKKPab 05 18 52.2 +0.3
comp=Z,1.7nm,0.8s,baz=120,slow=5.6,SNR=15
COWI Conover 122.49 29 P PKPdf 05 08 54.8 -0.8
baz=316
G40A Bob Lake 122.55 30 P PKPdf 05 08 55.5 -0.3
baz=314
KSU1 Kansas State U 122.81 40 P PKiKP 05 08 57.0 +0.3
baz=305,SNR=11
KSU1 Kansas State U 122.81 40 P PKPdf 05 08 56.1 -0.3
baz=305
SCIA State Center 123.17 35 P PKiKP 05 08 57.5 +0.2
baz=310
SCIA State Center 123.17 35 P PKPdf 05 08 57.0 0.0
baz=310
F42A Maple Grove Fa 123.22 29 P PKPdf 05 08 57.1 +0.1
baz=317
TOA0 Torodi Ar. Sit 123.66 287 PKPdf PKPdf 05 08 57.9 -0.8
TORD Torodi Ar. Bea 123.66 287 PKP PKPdf 05 08 58.3 -0.4
comp=Z,8.0nm,0.8s,baz=64,slow=2.0,SNR=42
TORD SKP 05 12 25.3
comp=Z,2.3nm,0.7s,baz=32,slow=1.5,SNR=4.5
TORD PKKPab PKKPab 05 18 47.3 +0.5
comp=Z,2.2nm,0.9s,baz=267,slow=3.8,SNR=9.3
TORD Torodi Ar. Bea 123.66 287 PKPdf PKPdf 05 08 58.1 -0.6
WMOK Wichita Mounta 123.70 45 P PKPdf 05 08 58.1 -0.2
baz=301
T35B Sooner Cattle 124.11 42 P PKiKP 05 08 59.2 -0.1
baz=304
ABTX Abilene, Hawle 124.12 48 P PKiKP 05 08 59.6 +0.1
baz=299
JFWS Jewell Farm 124.15 32 P PKPdf 05 08 58.4 -0.5
baz=313
JFWS Jewell Farm 124.15 32 P PKPdf 05 08 58.2 -0.7
baz=313
I42A Draeger Farm, 124.17 31 P PKPdf 05 08 58.7 -0.2
baz=315
L40A Anamosa 124.19 34 P PKPdf 05 08 58.6 -0.4
baz=312
E46A Sault Ste Mari 124.52 26 P PKiKP 05 08 59.9 +0.1
baz=321
JCT Junction City 125.01 50 P PKiKP 05 09 01.6 +0.3
baz=297
JCT Junction City 125.01 50 P PKiKP 05 09 01.2 -0.2
baz=297
L42A Oliver, Polo 125.09 33 PKPdf 05 09 00.5 -0.3
L42A Oliver, Polo 125.09 33 P PKPdf 05 09 00.1 -0.7
baz=313
TUL1 Leonard 125.15 42 P PKiKP 05 09 01.5 +0.1
baz=304
K43A Burlington 125.31 31 P PKPdf 05 09 00.6 -0.5
baz=315
P40A Paris 125.37 37 P PKPdf 05 09 01.2 -0.1
baz=310,SNR=7.7
GLMI Grayling 125.57 27 P PKPdf 05 09 01.7 +0.1
baz=320
S39A Bolivar 125.72 39 P PKPdf 05 09 01.4 -0.7
baz=307,SNR=34
USHA Ushuaia 125.84 169 PKP PKiKP 05 09 02.8 +0.6
comp=Z,46nm,0.8s,baz=166,slow=1.6,SNR=12
L44A Lake County Fo 125.91 32 P PKPdf 05 09 01.8 -0.5
baz=315
L44A Lake County Fo 125.91 32 P PKPdf 05 09 02.3 +0.1
baz=315
R40A Maddies Statio 126.01 38 P PKPdf 05 09 02.5 -0.1
baz=309,SNR=21
WHTX Lake Whitney, 126.05 47 P PKiKP 05 09 03.2 0.0
baz=300
HHAR Hobbs 126.17 41 P PKPdf 05 09 02.5 -0.5
baz=306
HDIL Hopedale 126.28 34 PKPdf 05 09 02.7 -0.3
HDIL Hopedale 126.28 34 P PKPdf 05 09 03.0 -0.1
baz=313
HDIL Hopedale 126.28 34 P PKPdf 05 09 02.5 -0.6
baz=313
833A Chaparral WMA, 126.29 52 P PKiKP 05 09 04.2 +0.3
baz=296
833A Chaparral WMA, 126.29 52 P PKiKP 05 09 04.1 +0.2
baz=296
MG03 Isla Dawson 126.35 167 PKPdf PKiKP 05 09 03.3 +0.1
435B Jarrell 126.55 49 P PKiKP 05 09 04.1 -0.2
baz=299
J47A Sumner 126.68 29 P PKPdf 05 09 03.6 -0.1
baz=319
J47A P PKPdf 05 09 03.6 -0.1
baz=319
P43A Skaggs, Pawnee 126.77 35 P PKiKP 05 09 04.6 +0.1
baz=312,SNR=8.5
CCM Cathedral Cave 126.79 38 PKIKP PKPdf 05 09 04.1 0.0
CCM Cathedral Cave 126.79 38 PKPdf PKPdf 05 09 03.5 -0.6
CCM Cathedral Cave 126.79 38 P PKPdf 05 09 03.5 -0.6
baz=310,SNR=12
CCM Cathedral Cave 126.79 38 P PKPdf 05 09 04.1 0.0
baz=310
U40A Yellville 126.83 40 P PKPdf 05 09 04.3 +0.1
baz=307
U40A P PKPdf 05 09 04.3 +0.1
baz=307
U40A Yellville 126.83 40 P PKPdf 05 09 03.6 -0.7
baz=307,SNR=16
W39A Magazine 126.90 42 P PKPdf 05 09 04.6 -0.2
baz=305
W39A Magazine 126.90 42 P PKPdf 05 09 03.8 -0.6
baz=305,SNR=6.7
FVM French Village 127.33 37 P PKPdf 05 09 04.9 -0.3
baz=310,SNR=5.6
SFIN Lafayette 127.61 33 P PKPdf 05 09 05.7 +0.1
baz=315
L48A N Adams 127.84 29 P PKPdf 05 09 06.1 0.0
baz=319
L48A P PKPdf 05 09 06.1 0.0
baz=319
MG05 Puerto Natales 127.86 165 PKiKP 05 09 06.1 -0.2
LATQ La Tuque 127.88 17 PKPdf PKPdf 05 09 05.9 0.0
X40A Basin Creek Fa 127.95 42 P PKiKP 05 09 07.1 +0.2
baz=306
AAM Ann Arbor 127.95 29 P PKiKP 05 09 06.6 -0.1
baz=320
N47A Urbana 128.00 31 P PKPdf 05 09 05.3 -1.0
baz=317,SNR=5.4
N47A P PKPdf 05 09 05.3 -1.0
baz=317,SNR=5.4
PBMO Poplar Bluff 128.10 38 P PKPdf 05 09 06.7 0.0
baz=310
OLIL Olney 128.20 35 P PKiKP 05 09 07.1 -0.2
baz=313,SNR=6.4
GO09 Cerro Castillo 128.27 165 PKPdf PKiKP 05 09 07.4 +0.3
Z41A Richland Creek 128.68 43 P PKiKP 05 09 08.3 -0.2
baz=305
O48B Farmland 128.73 31 P PKiKP 05 09 08.2 -0.2
baz=317
O49A Covington 129.21 31 P PKPdf 05 09 07.5 -1.1
baz=318,SNR=9.3
O49A P PKPdf 05 09 07.5 -1.1
baz=318,SNR=9.3
P49A Miami Univ. Ec 129.49 32 P PKPdf 05 09 09.6 +0.4
baz=317
LONY Lake Ozonia 129.77 20 P PKiKP 05 09 10.4 0.0
baz=332
ERPA Erie 129.78 26 P PKPdf 05 09 09.9 +0.2
baz=324
ACSO Alum Creek Sta 129.86 30 P PKPdf 05 09 09.7 -0.2
baz=320,SNR=7.2
ACSO Alum Creek Sta 129.86 30 P PKPdf 05 09 09.5 -0.4
baz=320,SNR=7.2
M53A WI Miller and 130.02 27 P PKPdf 05 09 09.6 -0.6
baz=323,SNR=5.4
WVT Waverly 130.11 37 P PKPdf 05 09 10.2 -0.3
baz=312
OXF Oxford 130.18 40 P PKPdf 05 09 10.5 -0.1
baz=309
M54A Oil Creek Stat 130.41 26 P PKPdf 05 09 11.2 +0.3
baz=324,SNR=8.5
M54A Oil Creek Stat 130.41 26 P PKPdf 05 09 10.2 -0.7
baz=324,SNR=8.5
O52A Adamsville 130.51 29 P PKPdf 05 09 09.4 -1.7
baz=321,SNR=5.0
O52A P PKPdf 05 09 09.4 -1.7
baz=321,SNR=5.0
O53A New Philadelph 130.70 28 P PKPdf 05 09 10.9 -0.6
baz=322
N54A Moraine State 130.71 27 P PKPdf 05 09 11.5 0.0
baz=323
PLAL Pickwick Lake 130.72 38 PKPdf 05 09 10.8 -0.9
P52A Corning 130.73 30 P PKPdf 05 09 11.4 -0.1
baz=320,SNR=6.5
M55A Ridgway 130.84 26 P PKPdf 05 09 10.4 -1.4
baz=325,SNR=7.7
M55A P PKPdf 05 09 10.4 -1.4
baz=325,SNR=7.7
KIC Kosan Boka 131.07 280 ePKP1 PKiKP 05 09 14.3 +0.5
comp=Z,17nm,0.7s
DBIC Dimbokro 131.14 281 PKP PKiKP 05 09 14.2 +0.2
comp=Z,5.3nm,0.7s,baz=13,slow=2.0,SNR=6.2
DBIC SKPbc SKPab 05 12 29.8 +0.3
comp=Z,23nm,1.0s,baz=90,slow=4.4,SNR=12
O54A Avella 131.15 28 P PKPdf 05 09 10.9 -1.4
baz=322,SNR=9.5
O54A P PKPdf 05 09 10.9 -1.4
baz=322,SNR=9.5
Q52A Bidwell 131.18 30 P PKPdf 05 09 11.3 -1.1
baz=320,SNR=6.6
Q52A P PKPdf 05 09 11.3 -1.1
baz=320,SNR=6.6
P53A Whipple 131.21 29 P PKPdf 05 09 11.9 -0.5
baz=321,SNR=9.3
P53A P PKPdf 05 09 11.9 -0.5
baz=321,SNR=9.3
T50A Nancy 131.24 34 P PKPdf 05 09 12.0 -0.6
baz=316
T50A P PKPdf 05 09 12.0 -0.6
baz=316
TIC Toumodi 131.30 281 ePKP1 PKiKP 05 09 14.7 +0.4
BINY Binghamton 131.36 23 P PKPdf 05 09 12.9 +0.1
baz=329,SNR=5.2
BINY Binghamton 131.36 23 P PKPdf 05 09 12.4 -0.3
baz=329,SNR=5.2
LIC Lamto 131.37 280 ePKP1 PKiKP 05 09 15.4 +1.0
comp=Z,12nm,0.8s
SHEL Horse Pasture 131.41 250 PKIKP PKiKP 05 09 14.3 -0.2
SHEL Horse Pasture 131.41 250 PKPdf PKiKP 05 09 14.3 -0.2
S51A Beattyville 131.47 33 P PKPdf 05 09 12.3 -0.7
baz=317
S51A P PKPdf 05 09 12.3 -0.7
baz=317
M57A Sunshine Farm, 131.64 24 P PKPdf 05 09 11.9 -1.3
baz=327,SNR=5.5
M57A P PKPdf 05 09 11.9 -1.3
baz=327,SNR=5.5
MCWV Mont Chateau 131.81 28 P PKPdf 05 09 13.9 +0.3
baz=323
Q54A Coxs Mills 131.87 29 P PKPdf 05 09 13.2 -0.6
baz=321,SNR=6.0
Q54A P PKPdf 05 09 13.2 -0.6
baz=321,SNR=6.0
SSPA Standing Stone 131.90 25 PKPdf 05 09 13.1 -0.7
SSPA Standing Stone 131.90 25 P PKPdf 05 09 13.8 +0.1
baz=326,SNR=7.5
SSPA Standing Stone 131.90 25 P PKPdf 05 09 14.1 +0.3
baz=326
N58A Sunbury 132.22 24 P PKPdf 05 09 14.1 -0.2
baz=327,SNR=5.2
N58A P PKPdf 05 09 14.1 -0.2
baz=327,SNR=5.2
TZTN Tazewell 132.30 34 P PKPdf 05 09 14.8 +0.2
baz=317
L61B Northampton 132.34 20 P PKiKP 05 09 15.2 -0.4
baz=333
N59A State Game Lan 132.54 23 P PKPdf 05 09 15.1 +0.2
baz=328
LRAL Lakeview Retre 132.66 40 P PKPdf 05 09 15.8 +0.4
baz=311
PAL Palisades 133.18 22 P PKPdf 05 09 16.7 +0.6
baz=331
BLA Blacksburg 133.46 30 P PKPdf 05 09 17.2 +0.4
baz=321
BRAL Brewton 133.82 42 P PKiKP 05 09 18.5 -0.4
baz=309
CBN Corbin Frederi 134.12 27 P PKiKP 05 09 19.1 -0.2
baz=325
AY01 Puyuhuapi 134.32 160 PKPdf PKiKP 05 09 19.4 -0.1
KMSC Kings Mountain 134.55 33 P PKiKP 05 09 19.7 -0.6
baz=318
GOGA Godfrey 134.58 36 P PKPdf 05 09 19.6 +0.6
baz=315
TIGA Tifton 135.87 39 P PKPdf 05 09 22.1 +0.6
baz=313
CNNC Cliffs of the 136.27 30 P PKPdf 05 09 22.8 +0.7
baz=323
PLCA Paso Flores 138.31 160 PKhKP PKPpre 05 09 15.9
comp=Z,5.0nm,0.9s,baz=252,slow=5.0,SNR=6.1
PLCA PKP PKiKP 05 09 27.1 -0.8
comp=Z,37nm,0.8s,baz=221,slow=2.0,SNR=29
PLCA SKPbc SKPbc 05 12 52.0 +0.5
comp=Z,12nm,0.8s,baz=214,slow=3.9,SNR=13
PLCA Paso Flores 138.31 160 PKIKP PKPdf 05 09 26.5 +0.7
PLCA Paso Flores 138.31 160 PKPdf PKPdf 05 09 26.5 +0.7

PLCA	Paso Flores	138.31	160	eP		PKPdf	05 09 26.7 +0.9
TGUH	Tegucigalpa,Un	142.52	64		PKPdf	PKPdf	05 09 32.9 -1.3
BO02	Sierra Bellavi	143.42	155			PKPbc	05 09 33.0 +0.4
MATN	Matagalpa	144.16	65			PKPbc	05 09 35.3 0.0
MT09	Talagante	144.20	154			PKPbc	05 09 35.1 +0.1
VA06	Catapilco	145.08	152		PKPbc	PKPdf	05 09 38.2 +0.2
FSCY	Frank Sound, G	145.18	51		PKPbc	PKPbc	05 09 35.6 -2.7
HZTE	Horizontes, Gu	145.24	68	eP		PKPbc	05 09 38.2 -0.4
SAJU	San Juanillo,	145.34	69	eP		PKPab	05 09 39.1 0.0
VMAR	Armenia, Volca	145.65	68	eP		PKPdf	05 09 39.6 +0.1
JTS	Las Juntas de	145.98	68		PKP2	PKPbc	05 09 41.0 +0.1
JTS	Las Juntas de	145.98	68		PKPbc	PKPbc	05 09 41.0 +0.1
LCR2	La Lucha 2	147.04	69	eP		PKPab	05 09 45.4 -0.6
RIMA	Rio Macho	147.16	69	eP		PKPbc	05 09 43.9 -0.7
CDM	Cerro de Muert	147.32	69	eP		PKPbc	05 09 46.2 +0.8
PEZE	Perez Zeledon,	147.46	69	eP		PKiKP	05 09 46.7 -0.7
SRBA	San Rafael, Bu	147.80	69	eP		PKPdf	05 09 44.2 +0.9
DRK0	Durika	147.90	69			PKiKP	05 09 47.9 -0.5
PRVC	Isla de Provid	148.03	61	eP		PKPbc	05 09 46.9 +0.2
PIRO	Carate, Puerto	148.08	71	eP		PKiKP	05 09 48.8 +0.3
LCO	Las Campanas	148.30	150		PKiKP	PKPdf	05 09 45.3 +1.4
LCO	Las Campanas	148.30	150			PKPdf	05 09 45.3 +1.4
EDSV	San Vito	148.30	70	eP		PKiKP	05 09 49.8 +0.6
BRU2	Volcan	148.57	70		PKPdf	PKPdf	05 09 43.5 -1.1
BRU2						PKPbc	05 09 46.3 -2.0
BRU2						PKiKP	05 09 50.1 +0.3
AC06	Mina Casimiro	149.81	148		PKPdf	PKPdf	05 09 44.6 -1.4
AC06					PKPbc	PKPbc	05 09 51.0 +0.1
PLTB	Pedras Altas	150.38	179	eP		PKPdf	05 09 48.3 +1.5
BCIP	Isla Barro Col	151.09	67	eP		PKPbc	05 09 53.9 -0.3
ITQB	Itaqui	152.26	173	eP		PKiKP	05 09 57.4 +0.6
MCRA	Macar, Loja	153.03	96		PKPdf	PKPdf	05 09 49.7 -1.7
MCRA					PKPbc	PKPbc	05 09 57.9 -0.8
TER01	Tubaro-SC	153.34	188	eP		PKPdf	05 09 53.7 +2.4
LVC	Limon Verde	154.36	144		PKP	PKPdf	05 09 54.6 +1.2
	comp=Z,11nm,0.8s,baz=259,slow=3.1,SNR=10						
LVC					PKPbc	PKiKP	05 10 03.0 +1.2
	comp=Z,34nm,0.8s,baz=287,slow=1.9,SNR=23						
LVC	Limon Verde	154.36	144			PKPdf	05 09 55.0 +1.6
LVC	Limon Verde	154.36	144	eP		PKPdf	05 09 55.1 +1.8
NNA	Nana	154.40	114		PKP	PKPdf	05 09 53.5 +0.2
	comp=Z,19nm,0.8s,baz=301,slow=2.6,SNR=6.6						
NNA					PKPbc	PKiKP	05 10 02.4 +0.7
	comp=Z,42nm,0.9s,baz=264,slow=6.0,SNR=12						
NNA	Nana	154.40	114			PKPdf	05 09 54.3 +1.1
OTAV	Otavalo	154.50	85		PKiKP	PKPdf	05 09 55.9 +2.0
OTAV	Otavalo	154.50	85	eP		PKPdf	05 09 55.0 +1.1
ITAB	Concordia	154.88	182	eP		PKPdf	05 09 55.7 +2.2
TULM	Tulcn-Chalpat	155.12	84	eP		PKPdf	05 09 56.8 +1.9
CPUP	Villa Florida	155.45	171		PKP	PKPdf	05 09 55.2 +0.9
	comp=Z,9.1nm,1.1s,baz=266,slow=0.2,SNR=16						
CPUP					PKPbc	PKPdf	05 10 04.3 +10
	comp=Z,35nm,0.8s,baz=177,slow=1.2,SNR=42						
CPUP					PKPab	PKPab	05 10 20.4 +0.4
	comp=Z,38nm,0.9s,baz=204,slow=3.7,SNR=9.8						
CPUP	Villa Florida	155.45	171	eP		PKPdf	05 09 57.6 +3.3
YOTC	Yotoco, Valle	155.97	76	eP		PKPdf	05 09 55.6 +0.1
PCON	Cinco Dias	156.26	80	eP		PKPdf	05 09 57.0 +0.5
LL5C	La Loma 5 El P	156.34	60	eP		PKPdf	05 09 56.8 +1.0
TIJ01	Guaruva-PR	156.47	189	eP		PKPdf	05 09 57.6 +1.8
TIJ01	Guaruva-PR	156.47	189	eP		PKPab	05 10 22.9 -1.7
MTP	Monte Pirata	156.55	31			PKPdf	05 09 54.7 -1.3
GUY2C	Guyana, Caldas	156.58	72	eP		PKPdf	05 09 53.5 -3.2
ANIL	Santa Ana	156.75	74	eP		PKPdf	05 09 59.3 +2.6
ORTC	Ortega, Tolima	157.05	75	eP		PKPdf	05 09 55.2 -1.6
PET01	Itanhaem-SP	157.14	194	eP		PKPdf	05 09 58.4 +1.9
PTGB	Pitanga	157.38	182	eP		PKPdf	05 09 59.2 +2.2
PTGB	Pitanga	157.38	182	eP		PKPdf	05 09 58.1 +1.1
DUB01	Friburgo-RJ	157.49	207	eP		PKPdf	05 09 59.0 +1.8
PARB	Paraibuna	157.59	198	eP		PKPdf	05 10 00.4 +3.1
SPBC	San Pablo de B	157.67	70	eP		PKPdf	05 09 53.5 -4.1
ROSC	El Rosal	157.69	192		PKP	PKPdf	05 09 58.5 +0.4
	comp=Z,13nm,0.7s,baz=209,slow=22,SNR=9.3						
VAO	Valinhos	158.29	195	eP		PKPdf	05 10 00.6 +2.5
FRTB	Fartura	158.50	189	eP		PKPdf	05 09 60.0 +1.6
RUSC	La Rusia	158.51	69	eP		PKPdf	05 09 54.6 -4.5
RIB01	Linhares ES	158.79	215	eP		PKPdf	05 09 59.5 +0.8
MACC	Macarena, Meta	158.80	79‖	eP		PKPdf	05 09 58.1 -0.8
RCLB	Rio Claro- Sao	159.00	194	eP		PKPdf	05 10 01.3 +2.3
SDV	Santo Domingo	159.41	58		PKP	PKPdf	05 09 59.8 0.0
	comp=Z,19nm,0.8s,baz=24,slow=0.4,SNR=26						
SDV	Santo Domingo	159.41	58	eP		PKPdf	05 09 56.9 -3.0
SDV	Santo Domingo	159.41	58	eP		PKPdf	05 10 00.1 +0.3
LPAZ	La Paz	159.44	135		PKP	PKPdf	05 10 01.2 +0.9
	comp=Z,18nm,0.9s,baz=159,slow=0.1,SNR=79						
LPAZ	La Paz	159.44	135	eP		PKPdf	05 10 01.8 +1.5
BSCB	Bom Sucesso	159.46	203	eP		PKPdf	05 10 00.2 +0.7
CZSB	Cruzeiro do Su	159.60	107	eP		PKPdf	05 10 00.9 +1.1
SJMB	Sao Joao De Ma	159.72	214	eP		PKPdf	05 10 00.5 +0.7
NAN01	Guarapari, ES	159.77	218	eP		PKPdf	05 10 00.8 +0.9
PCMB	Pacaembu	160.42	185	eP		PKPdf	05 10 02.1 +1.5
BB19B	Bebedouro	160.53	193	eP		PKPdf	05 10 02.1 +1.4
CMC01	Camacan, BA	161.17	224	eP		PKPdf	05 10 03.2 +1.8
DIAM	Diamantina, MG	161.37	209	eP		PKPdf	05 10 03.0 +1.2
AQDB	Aquidauana	161.44	172	eP		PKPdf	05 10 02.6 +1.0
BAUV	El Baul	161.53	54		PKPdf	PKPdf	05 10 00.4 -1.5
BAUV						PKPab	05 10 45.0 -1.9
ITRB	Iturama	162.20	188	eP		PKPdf	05 10 03.6 +1.2
GDU01	Guandu, BA	162.30	228	eP		PKPdf	05 10 03.8 +1.1
NBLA	Lagarto - SE	162.41	239	eP		PKPdf	05 10 03.6 +0.8
TBTG	Tabatinga, AM	163.02	98	eP		PKPdf	05 10 03.9 +0.5
IPMB	Ipameri, GO	163.41	196	eP		PKPdf	05 10 04.0 +0.3
IPMB	Ipameri, GO	163.41	196	eP		PKPdf	05 10 04.3 +0.5
SIV	San Ignacio	164.00	151		PKP	PKPdf	05 10 05.1 +0.8
	comp=Z,13nm,0.8s,baz=189,slow=1.2,SNR=69						
SIV					PKPab	PKPbc	05 10 58.2 +0.7
	comp=Z,16nm,0.8s,baz=202,slow=4.6,SNR=16						
SIV					PP	PP	05 14 47.3 +5.1
	comp=Z,6.2nm,1.0s,baz=199,slow=6.9,SNR=6.3						
PP1B	Ponte de Pedra	164.38	173	eP		PKPdf	05 10 05.7 +1.2
JANB	Januaria	164.41	213	eP		PKPdf	05 10 04.9 +0.2
ETMB	Extrema	164.77	121	eP		PKPdf	05 10 05.3 +0.3
NBMA	Muriti-CE	164.80	249	eP		PKPdf	05 10 06.4 +1.3
NBCL	Cascavel-CE	165.10	261	eP		PKPdf	05 10 09.0 +3.7
PTLB	Pontes e Lacer	165.34	156	eP		PKPdf	05 10 08.2 +2.8
BDFB	Brasilia	165.56	200		PKP	PKPdf	05 10 05.8 +0.1
	comp=Z,12nm,0.9s,baz=172,slow=2.6,SNR=20						
BDFB					PKPab	PKPab	05 11 05.2 +0.8
	comp=Z,16nm,0.8s,baz=176,slow=3.4,SNR=13						
BDFB	Brasilia	165.56	200			PKPdf	05 10 06.3 +0.5
BDFB	Brasilia	165.56	200	eP		PKPdf	05 10 08.1 +2.3
SALV	Santo Antonio	165.93	169	eP		PKPdf	05 10 08.6 +2.7
NBMO	Morrinhos-CE	166.94	264	eP		PKPdf	05 10 09.9 +3.1
VILB	Vilhena	167.00	147	eP		PKPdf	05 10 07.9 +1.1
PEXB	Peixe	168.90	205	eP		PKPdf	05 10 11.6 +3.5
TMAB	Tom-Au,PA,Br	175.04	266	eP		PKPdf	05 10 13.7 +2.7
TMAB	Tom-Au,PA,Br	175.04	266	eP		PKPdf	05 10 11.3 +0.3
ITTB	Itaituba	176.42	131	eP		PKPdf	05 10 13.9 +2.6
MALB	Monte Alegre	178.77	84	eP		PKPdf	05 10 14.5 +2.9

NEIC **15** *05:09:16.9±2.4, 4°.72S±0°.07×153°.22E±0°.09, h10km±1km, mb4.8/24 Error ellipse: s-maj=15.8km s-min=11.6km az=76.0*

IDC **15** *05:09:23.8±3.4, 4°.66S×152°.93E, h60km±30km, mb4.1/20, mb1 4.2/23,mb1mx4.1/47,mbtmp4.4/23,ML3.1/2,MS3.3/2, Ms1 3.3/2,ms1mx2.9/64,Error ellipse: s-maj=19.2km s-min=12.6km az=79.0*

DJA **15** *05:09:24.2±1.6, 5°.5S×15°.3E±1°.5, h68km±9km, M4.7/11, mB4.9/1,mb4.6/11,MLv4.7/3,Mw(mB)4.2/1*

ISC 15 05:09:23.3±0.5, **4°.64S**±0°.06×**153°.04E**±0°.08, **h55**km, **n66,** σ1§**50**/69, **mb4.5**/30, **1C, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	0.98	297		Pn	05 09 40.7	-0.1
MANU	Manus Island	6.22	294	Pn	Pn	05 10 53.1	+0.6
PMG	Port Moresby	7.51	231	P	Pn	05 11 10.2	0.0
	4.8nm,0.3s,baz=28,slow=11,SNR=8.0						
PMG				S	Sn	05 12 31.7	-2.3
	8.6nm,0.3s,baz=94,slow=18,SNR=6.3						
PMG	Port Moresby	7.51	231		Pn	05 11 09.3	-0.9
PMG	Port Moresby	7.51	231	P	Pn	05 11 12.7	+2.5
PMG	Port Moresby	7.51	231	P	Pn	05 11 12.6	+2.4
MTSU	Mount Surprise	15.89	212	P	P	05 13 08.0	+1.7
CTA	Charters Tower	16.71	203	P	Pn	05 13 14.7	+0.8
	0.2nm,0.3s,baz=30,slow=14,SNR=3.0						
GUMO	Guam	19.84	336	P	P	05 13 51.4	+1.7
	4.4nm,0.3s,baz=173,slow=16,SNR=2.0						
GUMO				LR	LR	05 20 43.4	
	comp=Z,68nm,19.6s,baz=150,slow=34						
QIS	Mount Isa	20.52	218	P	P	05 13 57.8	+0.7
DZM	Mont Dzumac	21.66	144	P	P	05 14 09.9	+0.5
	12nm,0.8s,baz=297,slow=11,SNR=14						
DZM	Mont Dzumac	21.66	144	P	P	05 14 06.2	-3.3
DZM				IAmb	IAmb	05 14 13.0	
	comp=Z,30nm,1.2s						
KDU	Kakadu	21.83	247	P	P	05 14 11.1	-0.1
SIJI	Sorong	22.06	279	P	P	05 14 14.2	+0.5
	comp=Z,9.5nm,0.5s,baz=149,slow=19,SNR=4.5						
SIJI				LR	LR	05 23 15.1	
	comp=Z,102nm,19.6s,baz=194,slow=38						
RMQ	Roma	22.11	190	P	P	05 14 16.4	+2.3
MTN	Manton Dam	23.11	248	P	P	05 14 22.5	-2.3
MTN				IAmb	IAmb	05 14 43.7	
	comp=Z,28nm,1.2s						
WB0	Warramunga Arr	23.58	229	P	P	05 14 27.4	-1.8
WB0				IAmb	IAmb	05 14 29.9	
	comp=Z,21nm,0.8s						
WRAB	Tennant Creek	23.71	229	P	P	05 14 30.3	-0.1
WRA	Warramunga Arr	23.73	229	P	P	05 14 29.3	-1.3
	comp=Z,23nm,0.6s,baz=53,slow=10.0,SNR=271						
WRA	Warramunga Arr	23.73	229	P	P	05 14 27.9	-2.6
KNRA	Kununurra	26.25	244	P	P	05 14 52.9	-0.6
KNRA				IAmb	IAmb	05 14 56.6	
	comp=Z,24nm,0.6s						
KNRA	Kununurra	26.25	244	P	P	05 14 54.0	+0.5
FUNA	Funafuti	26.27	100	P	P	05 14 49.9	-3.8
AS31	Alice Springs	26.42	222		P	05 14 53.8	-1.3
ASAR	Alice Springs	26.43	222	P	P	05 14 53.9	-1.2
	comp=Z,3.1nm,0.6s,baz=55,slow=8.8,SNR=24						
ASAR				pP	pP	05 15 09.7	+1.2
	comp=Z,2.4nm,0.8s,baz=56,slow=9.2,SNR=3.8						
STKA	Stephens Creek	29.14	200	P	P	05 15 18.1	-1.2
	comp=Z,1.8nm,0.6s,baz=5.1,slow=7.6,SNR=8.2						
FITZ	Fitzroy Crossi	29.94	241	P	P	05 15 24.7	-1.7
	comp=Z,8.2nm,0.4s,baz=48,slow=7.1,SNR=103						
LUWI	Luwuk	30.43	276	P	P	05 15 30.3	-0.6
BBOO	Buckleboo	32.20	207	P	P	05 15 44.0	-2.3
BBOO				IAmb	IAmb	05 16 55.2	
	comp=Z,21nm,1.6s						
FORT	Forrest	35.06	219	P	P	05 16 09.3	-1.7
FORT				IAmb	IAmb	05 16 10.0	
	comp=Z,13nm,0.8s						
MYLDM	Lahad Datu	35.85	285	P	P	05 16 18.9	+0.9
MYLDM				IAmb	IAmb	05 16 38.9	
	comp=Z,23nm,1.5s						
MBWA	Marble Bar	36.25	240	P	P	05 16 19.6	-1.9
MBWA				IAmb	IAmb	05 16 20.6	
	comp=Z,9.7nm,0.6s						
PSA00	Pilbara Seismi	36.31	239	P	P	05 16 20.4	-1.5
KKM	Kota Kinabalu	38.27	286	P	P	05 16 37.5	-1.2
URZ	Urewera	40.01	150	P	P	05 16 53.6	+0.9
	comp=Z,1.5nm,0.3s,baz=348,slow=2.3,SNR=2.2						
GIRL	Giralia	41.55	241	P	P	05 17 04.8	-0.9
MORW	Morawa	42.63	231	P	P	05 17 13.2	-1.3
MORW				IAmb	IAmb	05 17 16.7	
	comp=Z,9.3nm,0.5s						
KSRS	Korea Array	47.97	333	P	P	05 17 56.5	0.0
	comp=Z,2.9nm,0.8s,baz=148,slow=9.2,SNR=9.9						
USRK	Ussuriysk Ar.	52.17	341	P	P	05 18 28.1	-0.2
	comp=Z,2.8nm,0.7s,baz=162,slow=8.1,SNR=7.6						
USRK	Ussuriysk Ar.	52.17	341	P	P	05 18 29.1	+0.8
KLR	Kul'dur	56.76	343	P	P	05 19 01.1	-0.5
	comp=Z,4.8nm,0.8s,baz=188,slow=4.5,SNR=17						
KLR				SP	SP	05 19 23.2	0.0
	comp=Z,2.1nm,0.8s,baz=206,slow=3.9,SNR=2.7						
PETK	Petropavlovsk-	57.67	3	P	P	05 19 07.3	-0.5
	comp=Z,5.5nm,1.0s,baz=163,slow=6.9,SNR=2.9						
CMAR	Chiang Mai Arr	58.02	295	P	P	05 19 10.9	-0.1
	comp=Z,3.5nm,0.9s,baz=109,slow=5.0,SNR=21						
CASY	Casey	68.23	197	P	P	05 20 17.6	-0.2
VNDA	Vanda	72.98	178	P	P	05 20 47.0	+0.4
	comp=Z,0.7nm,0.6s,baz=328,slow=6.6,SNR=4.1						
VNDA	Vanda	72.98	178	IAmb	IAmb	05 21 18.3	
	comp=Z,19nm,1.9s						
CNPM	China Poot	77.47	26	P	P	05 21 12.8	+0.2
L19K	White Mountain	77.51	22	P	P	05 21 13.3	+0.4
IMAR	Indian Mountai	80.16	19	P	P	05 21 27.5	+0.2
MK31	Makanchi Array	80.36	319	P	P	05 21 28.2	-0.6
MKAR	Makanchi Array	80.36	319	P	P	05 21 28.4	-0.4
	comp=Z,1.2nm,0.5s,baz=98,slow=7.1,SNR=17						
MKAR	Makanchi Array	80.36	319	P	P	05 21 28.1	-0.7
ZAA0	Zalesovo Array	81.15	326	P	P	05 21 31.6	-1.2
ZAA0				IAmb	IAmb	05 23 38.9	
	comp=Z,13nm,1.2s						
ZALV	Zalesovo Beam	81.15	326	P	P	05 21 31.9	-1.0
	comp=Z,0.9nm,0.5s,baz=109,slow=5.6,SNR=5.7						
ILAR	Eielson Array	81.92	22	P	P	05 21 35.0	-1.6
	comp=Z,2.0nm,1.0s,baz=245,slow=5.9,SNR=8.5						
J25K	Salcha River,	82.42	22	P	P	05 21 38.2	-1.2
J25K				IAmb	IAmb	05 21 39.5	
	comp=Z,3.1nm,0.8s						
AAK	Ala-Archa	84.73	313	P	P	05 21 52.1	+0.3
	comp=Z,2.3nm,0.5s,baz=141,slow=9.1,SNR=5.9						
MAW	Mawson	85.81	203	P	P	05 21 55.9	-0.5
	comp=Z,3.9nm,0.6s,baz=124,slow=3.6,SNR=2.7						
INK	Inuvik	88.22	21	P	P	05 22 08.2	+0.1
	comp=Z,1.3nm,1.0s,baz=264,slow=4.5,SNR=2.6						
SYO	Syowa Base	93.89	199‖	epP	P	05 22 38.2	+3.7
YKA	Yellowknife Ar	95.18	28	P	P	05 22 40.2	-0.3
	comp=Z,0.6nm,1.1s,baz=274,slow=4.7,SNR=3.2						
EKA	Eskdalemuir Ar	125.95	343	PKP	PKPdf	05 28 19.9	+0.8
	comp=Z,0.8nm,0.7s,baz=28,slow=3.2,SNR=3.8						
LPAZ	La Paz	134.28	118	PKP	PKPdf	05 28 38.0	+1.2
	comp=Z,0.6nm,0.7s,baz=251,slow=4.6,SNR=3.5						
SDV	Santo Domingo	136.45	82	PKP	PKPdf	05 28 40.9	+0.5
	comp=Z,2.6nm,0.8s,baz=221,slow=11,SNR=4.4						
TORD	Torodi Ar. Bea	150.48	289	PKPbc	PKPdf	05 29 08.8	+4.3
	comp=Z,3.9nm,0.4s,baz=79,slow=2.2,SNR=59						
TORD				pPKPbc	pPKPbc	05 29 27.4	+1.1
	comp=Z,3.4nm,0.8s,baz=82,slow=2.2,SNR=6.2						
BDFB	Brasilia	151.01	134	PKPbc	PKPbc	05 29 12.0	+0.7
	comp=Z,4.7nm,0.8s,baz=214,slow=2.8,SNR=9.8						

NEIC **15** *05:15:49.5±2.4, 1°.70S±0°.06×78°.12W±0°.05, h151km±9km, mb4.2/9, Error ellipse: s-maj=9.2km s-min=6.7km az=170.0*

IDC **15** *05:15:56.3±4.1, 1°.78S×78°.12W, h222km±49km, mb3.2/7, mb1 3.4/10,mb1mx3.2/39,mbtmp3.8/10, Error ellipse: s-maj=54.9km s-min=15.3km az=45.0*

ISC 15 05:15:48.7±0.6, **1°.74S**±0°.05×**78°.07W**±0°.09, **h150**km, **n33,** σ1§**99**/34, **mb3.7**/9, **Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSC	San Juan Bosco	1.46	197		Pn	05 16 21.8	+3.7
OTAV	Otavalo	2.00	349		Pn	05 16 24.9	+0.5
OTAV	Otavalo	2.00	349	eP	Pn	05 16 24.7	+0.3
OTAV				eS	Sn	05 16 53.4	+1.6
TULM	Tulcn-Chalpat	2.46	7		Pn	05 16 30.0	+0.1
CMBC	Cumbal	2.68	5	eP	Pn	05 16 33.7	+1.2
ARNL	Arenillas	2.68	228		Pn	05 16 31.2	-0.9
GCUF	Volcan Galeras	3.04	14	eP	Pn	05 16 38.2	+1.1
MCRA	Macar, Loja	3.22	216		Pn	05 16 38.5	-0.5
PCON	Cinco Dias	4.38	22	eP	Pn	05 16 55.9	+1.4
GARC	Garzon, Huila	4.68	33	eP	Pn	05 16 59.1	+0.9
GR1C	Gorgona, Isla	4.72	359	eP	Pn	05 16 57.2	-1.3
GR1C				eS	Sn	05 17 46.0	-6.8
GR1C				*i*		05 17 54.1	
	comp=Z,289nm,0.2s						
MACC	Macarena, Meta	5.72	48	eP	Pn	05 17 12.0	+0.3
ZARC	Zaragoza, Cauc	9.72	19	Pn	Pn	05 18 04.1	-1.0
NNA	Nana	10.25	173	P	Pn	05 18 17.2	+5.0
	comp=Z,1.5nm,0.3s,baz=299,slow=10,SNR=2.1						
NNA				S	Sn	05 20 00.0	-5.7
	comp=Z,2.2nm,0.3s,baz=280,slow=23,SNR=2.6						
SDV	Santo Domingo	12.90	35	Pn	Pn	05 18 46.3	-0.6
JTS	Las Juntas de	13.78	330	P	P	05 19 03.9	+2.4
	comp=Z,0.3nm,0.3s,baz=187,slow=5.6,SNR=3.7						
BIRV	Birongo	16.89	44	P	P	05 19 35.6	-0.3
BIRV				IAmb	IAmb	05 19 40.7	
	comp=Z,26nm,1.4s						
LPAZ	La Paz	17.45	146	P	Pn	05 19 46.0	+2.2
	comp=Z,0.1nm,0.3s,baz=323,slow=8.0,SNR=6.2						
MTO3	Montecristo	19.55	325	P	P	05 20 05.8	+0.6
MTO3				IAmb	IAmb	05 20 07.6	
	comp=Z,7.7nm,0.8s						
TA01	Diego Aracena	20.23	158	P	P	05 20 12.8	+0.6
TA01				IAmb	IAmb	05 20 29.6	
	comp=Z,12nm,1.1s						
TOSP	Speyside	21.72	53	P	P	05 20 27.3	-0.9
CMIG	Matías Romero	25.01	319	P	P	05 20 59.7	+0.8
	comp=Z,0.9nm,0.5s,baz=156,slow=10.0,SNR=3.9						
TXAR	Lajitas Array	39.43	324	P	P	05 23 05.5	+1.1
	comp=Z,0.3nm,0.6s,baz=143,slow=8.3,SNR=5.7						
TXAR	Lajitas Array	39.43	324	P	P	05 23 05.7	+1.3
TX31	Lajitas Ar. Si	39.43	324	P	P	05 23 05.6	+1.1
TX31				IAmb	IAmb	05 23 18.8	
	comp=Z,8.2nm,1.3s						
YKA	Yellowknife Ar	69.75	343	P	P	05 26 41.1	-1.1
	comp=Z,0.1nm,0.5s,baz=142,slow=6.4,SNR=4.8						
DBIC	Dimbokro	73.54	83	P	P	05 27 06.2	+0.3
	comp=Z,1.4nm,0.4s,baz=280,slow=6.1,SNR=7.3						
KOWA	Kowa	75.02	75	P	P	05 27 14.4	0.0
KOWA				IAmb	IAmb	05 27 18.7	
	comp=Z,6.4nm,1.4s						
TORD	Torodi Ar. Bea	80.43	76	P	P	05 27 44.1	-0.4
	comp=Z,0.7nm,0.4s,baz=277,slow=6.0,SNR=17						
TORD	Torodi Ar. Bea	80.43	76	IAmb	IAmb	05 27 46.2	
	comp=Z,2.7nm,1.4s						
ILAR	Eielson Array	82.68	336	P	P	05 27 55.4	+0.1
	comp=Z,0.3nm,0.5s,baz=152,slow=3.6,SNR=4.2						
EKA	Eskdalemuir Ar	82.88	34	P	P	05 27 56.5	+0.1
	comp=Z,1.2nm,0.9s,baz=252,slow=4.4,SNR=3.8						
WRA	Warramunga Arr	141.60	234	PKP	PKPdf	05 35 03.1	-0.1
	comp=Z,0.3nm,0.7s,baz=111,slow=2.0,SNR=1.9						

TRN **15** *05:36:25.7, 19°.36N×64°.91W, h21km, M3.7(RSPR)*
RSPR **15** *05:36:27.8, 19°.50N×64°.85W, h15km±10km, MD3.7/18*
NEIC **15** *05:36:28.3±0.7, 19°.36N±0°.02×64°.89W±0°.05, h30km±9km, Error ellipse: s-maj=6.9km s-min=2.2km az=110.0*

ISC 15 05:36:25.1±1.8, **19°.41N**±0°.06×**64°.90W**±0°.04, **h11**km±10km, **n84,** σ0§**96**/92, **30C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBVI	Tortola	1.02	165‖	eP	Pn	05 36 45.5	+0.2
TBVI	Tortola	1.02	165‖	eP	Pn	05 36 45.5	+0.2
TBVI				eS	Sn	05 37 00.1	+0.5
STVI	Saint Thomas	1.05	183‖	eP	Pn	05 36 45.7	0.0
STVI	Saint Thomas	1.05	183		Pn	05 36 45.7	0.0
STVI					Sg	05 36 59.6	+0.6
STVI	Saint Thomas	1.05	183‖	eP	Pn	05 36 45.7	0.0
STVI				eS	Sg	05 36 59.6	+0.6
CUPR	Culebra, Puert	1.15	199‖	eP	Pg	05 36 47.5	+0.2
CUPR	Culebra, Puert	1.15	199	eS	Sn	05 37 03.0	+0.1
CUPR	Culebra, Puert	1.15	199		Pg	05 36 47.5	+0.2
CUPR					Sn	05 37 03.0	+0.1
CUPR	Culebra, Puert	1.15	199	IAML		05 37 05.5	
	comp=N,687nm,0.5s						
MTP	Monte Pirata	1.44	206‖	eP	Pb	05 36 52.0	0.0
MTP	Monte Pirata	1.44	206		Pb	05 36 52.0	0.0
MTP					Sg	05 37 11.3	-0.3
MTP	Monte Pirata	1.44	206	IAML		05 37 12.8	
	comp=E

WUPA IAmb IAmb 05 41 29.8
comp=Z,12nm,1.5s

IEPN ***15*** *05:39:44.0,86.17N×73.16E,h10km*
ISC 15 05:39:51.2±3.7,86.1N±0.2×58.3E±0.2,h10km,n13,
σ0=80/21,North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.47**	**198**	*eP*	**Pn**	**05 41 12.2**	**-0.2**
ZFI2				*eS*	**Sn**	**05 42 15.9**	**+0.6**
	21nm,2.2s						
ZFI	**Zemlya Franca-**	**5.47**	**198**	*eP*	**Pn**	**05 41 12.3**	**-0.2**
ZFI				*eS*	**Sn**	**05 42 16.2**	**+0.8**
	22nm,2.2s						
NOR	**Nord**	**8.33**	**282**	*eS*	**Sn**	**05 43 26.0**	**+0.3**
KBS	**Kingsbay**	**8.91**	**245**	*eP*	**Pn**	**05 41 59.5**	**-0.1**
KBS				*eS*	**Sn**	**05 43 40.7**	**+1.0**
KBS				IAML		05 43 53.6	
	comp=Z,4.0nm,0.8s						
KBS	**Kingsbay**	**8.91**	**245**	*eP*	**Pn**	**05 41 59.3**	**-0.3**
KBS				*eS*	**Sn**	**05 43 40.4**	**+0.6**
SPA0	**Spitsbergen Ar**	**9.36**	**238**	*eP*	**Pn**	**05 42 05.5**	**-0.4**
SPA0				*eS*	**Sn**	**05 43 51.5**	**+0.6**
SPA0				IAML		05 44 01.1	
	comp=Z,3.6nm,0.8s						
SPA0	**Spitsbergen Ar**	**9.36**	**238**	*eP*	**Pn**	**05 42 06.3**	**+0.5**
SPA0				*i* S	**Sn**	**05 43 51.5**	**+0.6**
BRBB	**Barentsburg B**	**9.57**	**240**	*eP*	**Pn**	**05 42 08.3**	**-0.3**
BRBB				*eS*	**Sn**	**05 43 55.7**	**-0.3**
BRBA	**Barentsburg A**	**9.60**	**240**	*eP*	**Pn**	**05 42 09.2**	**+0.1**
HOPEN	**Hopen**	**10.53**	**225**	*eP*	**Pn**	**05 42 21.9**	**+0.1**
HOPEN				*eS*	**Sn**	**05 44 19.1**	**-0.5**
HOPEN				IAML		05 44 40.1	
	comp=Z,2.4nm,1.0s						
HOPEN	**Hopen**	**10.53**	**225**	P	**Pn**	**05 42 22.1**	**+0.2**
HOPEN				*eS*	**Sn**	**05 44 17.0**	**-2.6**
HSPB	**Hornsund (broa**	**10.55**	**237**	*eP*	**Pn**	**05 42 22.9**	**+0.8**
HSPB	**Hornsund (broa**	**10.55**	**237**	*eP*	Pn	05 42 24.7	+2.6

NEIC ***15*** *05:49:30.8±1.0,63.08N±0.04×150.90W±0.06,*
h130km±3km, Error ellipse: s-maj=5.4km s-min=3.6km
az=177.0
ANF ***15*** *05:49:30.7±0.2,63.07N×150.89W,h129km±3km,ML4.2/69,*
Error ellipse: s-maj=2.0km s-min=1.7km az=134.0
IDC ***15*** *05:49:31.6±1.0,63.23N×151.00W,h130km±9km,mb3.6/14,*
mb1 3.7/18,mb1mx3.5/52,mbtmp4.0/18,Error ellipse:
s-maj=19.4km s-min=13.4km az=16.0
AEIC ***15*** *05:49:31±1.1,63.07N±0.04×150.88W±0.05,h126km±4km,*
ML3.8,mb4.2/14(NEIC),ML4.0/166(NEIC), Error ellipse:
s-maj=5.6km s-min=3.1km az=192.0
ISC 15 05:49:30.9±0.5,63.07N±0.02×150.90W±0.03,
h130km±4km,n336,σ0=77/326,mb4.0/23,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.47**	**36**		**Pn**	**05 49 50.2**	**+0.3**
TRF	**Thorofare Moun**	**0.47**	**36**		**Sn**	**05 50 04.8**	**+0.5**
TRF	**Thorofare Moun**	**0.47**	**36**	P	**Pn**	**05 49 50.3**	**+0.4**
	baz=215,SNR=1000						
TRF				S	**Sn**	**05 50 04.6**	**+0.2**
	baz=215						
KTH	**Kantishna Hill**	**0.48**	**359**		**Pn**	**05 49 49.7**	**-0.2**
KTH	**Kantishna Hill**	**0.48**	**359**		**Sn**	**05 50 04.1**	**-0.2**
PPLA	**Purkeypile**	**0.62**	**254**		**Pn**	**05 49 51.2**	**+0.4**
PPLA	**Purkeypile**	**0.62**	**254**		**Sn**	**05 50 05.9**	**+0.1**
PPLA	**Purkeypile**	**0.62**	**254**	P	**Pn**	**05 49 51.3**	**+0.5**
	baz=74,SNR=285						
PPLA				S	**Sn**	**05 50 05.8**	**0.0**
	baz=74						
CAST	**Castle Rocks**	**0.64**	**304**		**Pn**	**05 49 50.7**	**-0.1**
CAST	**Castle Rocks**	**0.64**	**304**		**Sn**	**05 50 05.4**	**-0.5**
CAST	**Castle Rocks**	**0.64**	**304**	IAML		05 50 06.1	
	comp=N,2μm,0.7s						
CAST				IAML		05 50 06.5	
	comp=E,954nm,0.9s						
CAST	**Castle Rocks**	**0.64**	**304**	P	**Pn**	**05 49 50.8**	**0.0**
	baz=122,SNR=163						
CAST				S	**Sn**	**05 50 05.3**	**-0.6**
	baz=122						
CUT	**Chulitna**	**0.73**	**156**		**Pn**	**05 49 51.3**	**-0.1**
CUT	**Chulitna**	**0.73**	**156**		**Sn**	**05 50 07.6**	**+0.7**
CUT	**Chulitna**	**0.73**	**156**	IAML		05 50 08.2	
	comp=E,16μm,0.6s						
CUT				IAML		05 50 10.8	
	comp=N,7μm,0.6s						
CUT	**Chulitna**	**0.73**	**156**	P	**Pn**	**05 49 51.7**	**+0.3**
	baz=337,SNR=690						
CUT				S	**Sn**	**05 50 07.2**	**+0.3**
	baz=337						
RND	**Reindeer**	**0.98**	**69**		**Pn**	**05 49 53.4**	**-0.2**
RND	**Reindeer**	**0.98**	**69**		**Sn**	**05 50 10.6**	**-0.3**
RND	**Reindeer**	**0.98**	**69**	IAML		05 50 11.7	
	comp=E,3μm,0.6s						
RND				IAML		05 50 11.8	
	comp=N,3μm,0.7s						
BPAW	**Bear Paw Mtn.**	**1.03**	**358**	Pn	**Pn**	**05 49 53.8**	**-0.3**
BPAW	**Bear Paw Mtn.**	**1.03**	**358**		**Sn**	**05 50 10.8**	**-0.9**
BPAW	**Bear Paw Mtn.**	**1.03**	**358**	IAML		05 50 11.6	
	comp=E,933nm,0.8s						
BPAW				IAML		05 50 11.6	
	comp=N,951nm,0.9s						
BPAW	**Bear Paw Mtn.**	**1.03**	**358**	P	**Pn**	**05 49 54.1**	**+0.1**
	baz=177,SNR=102						
BPAW				S	**Sn**	**05 50 11.0**	**-0.7**
	baz=177						
CHUM	**Lake Minchumin**	**1.03**	**323**		**Pn**	**05 49 54.4**	**+0.4**
CHUM					**Sn**	**05 50 11.3**	**-0.3**
CHUM	**Lake Minchumin**	**1.03**	**323**	P	**Pn**	**05 49 54.3**	**+0.4**
	baz=141,SNR=85						
CHUM				S	**Sn**	**05 50 11.1**	**-0.5**
	baz=141						
WAT1	**Susitna Watana**	**1.10**	**102**		**Pn**	**05 49 54.8**	**+0.1**
WAT1					**Sn**	**05 50 12.7**	**-0.1**
WAT1	**Susitna Watana**	**1.10**	**102**	P	**Pn**	**05 49 54.9**	**+0.2**
	baz=284						
WAT1				S	**Sn**	**05 50 12.8**	**0.0**
	baz=284						
MCK	**McKinley**	**1.10**	**52**		**Pn**	**05 49 55.0**	**+0.3**
MCK	**McKinley**	**1.10**	**52**		**Sn**	**05 50 12.5**	**-0.4**
MCK	**McKinley**	**1.10**	**52**	IAML		05 50 13.1	
	comp=E,2μm,0.6s						
MCK				IAML		05 50 13.4	
	comp=N,3μm,0.5s						
MCK	**McKinley**	**1.10**	**52**	P	**Pn**	**05 49 55.1**	**+0.3**
	baz=233,SNR=165						
MCK				S	**Sn**	**05 50 12.5**	**-0.4**
	baz=233						
BWN	**Browne**	**1.28**	**29**		**Pn**	**05 49 57.2**	**+0.8**
BWN				IAML		05 50 17.6	
	comp=E,2μm,1.0s						
BWN				IAML		05 50 17.8	
	comp=N,2μm,0.8s						
M22K	**Willow**	**1.37**	**164**		**Pn**	**05 49 57.2**	**-0.2**
M22K	**Willow**	**1.37**	**164**	P	**Pn**	**05 49 57.7**	**+0.2**
	baz=345,SNR=152						
M22K				S	**Sn**	**05 50 17.6**	**0.0**
	baz=345						
K20K	**Telida**	**1.47**	**283**		**Pn**	**05 49 58.9**	**+0.4**
K20K	**Telida**	**1.47**	**283**	P	**Pn**	**05 49 58.7**	**+0.2**
	baz=100,SNR=320						
K20K				S	**Sn**	**05 50 18.7**	**-0.9**
	baz=100						
L20K	**Farewell, AK**	**1.50**	**248**		**Pn**	**05 49 58.9**	**0.0**
L20K	**Farewell, AK**	**1.50**	**248**	P	**Pn**	**05 49 59.0**	**+0.1**
	baz=66,SNR=692						
L20K				S	**Sn**	**05 50 19.8**	**-0.4**
	baz=66						
WAT6	**Susitna Watana**	**1.53**	**107**		**Pn**	**05 49 59.1**	**-0.3**
WAT6					**Sn**	**05 50 20.1**	**-1.0**
WAT6	**Susitna Watana**	**1.53**	**107**	P	**Pn**	**05 49 59.2**	**-0.3**
	baz=290,SNR=223						
WAT6				S	**Sn**	**05 50 20.3**	**-0.8**
	baz=290						
GHO	**Glory Hole Cre**	**1.59**	**144**		**Pn**	**05 50 00.5**	**+0.4**
GHO	**Glory Hole Cre**	**1.59**	**144**	IAML		05 50 27.7	
	comp=E,2μm,0.6s						
DHY	**Denali Highway**	**1.60**	**88**		**Pn**	**05 50 00.4**	**+0.2**
DHY	**Denali Highway**	**1.60**	**88**		**Sn**	**05 50 22.6**	**0.0**
DHY	**Denali Highway**	**1.60**	**88**	IAML		05 50 23.5	
	comp=E,5μm,0.8s						
DHY				IAML		05 50 23.9	
	comp=N,4μm,0.7s						
DHY	**Denali Highway**	**1.60**	**88**	P	**Pn**	**05 50 00.5**	**+0.2**
	baz=271,SNR=219						
DHY				S	**Sn**	**05 50 22.1**	**-0.5**
	baz=271						
STLK	**Strandline Lak**	**1.64**	**196**		**Pn**	**05 50 00.7**	**+0.2**
PMR	**Palmer**	**1.70**	**150**		**Pn**	**05 50 00.6**	**-0.5**
PMR	**Palmer**	**1.70**	**150**		**Sn**	**05 50 23.5**	**-0.6**
PMR	**Palmer**	**1.70**	**150**	IAML		05 50 25.2	
	comp=N,720nm,0.6s						
PMR				IAML		05 50 31.5	
	comp=E,1μm,0.4s						
PMR	**Palmer**	**1.70**	**150**	P	**Pn**	**05 50 00.9**	**-0.2**
	baz=332,SNR=164						
PMR				S	**Sn**	**05 50 23.6**	**-0.6**
	baz=332						
NEA2	**Nenana**	**1.73**	**27**		**Pn**	**05 50 01.1**	**-0.4**
NEA2				IAML		05 50 24.4	
	comp=E,1μm,0.7s						
NEA2	**Nenana**	**1.73**	**27**	P	**Pn**	**05 50 01.3**	**-0.2**
	baz=208,SNR=178						
NEA2				S	**Sn**	**05 50 23.6**	**-1.4**
	baz=208						
SML	**Sawmill**	**1.74**	**136**		**Pn**	**05 50 01.1**	**-0.7**
SML				IAML		05 50 26.2	
	comp=N,1μm,0.4s						
SML				IAML		05 50 26.5	
	comp=E,1μm,0.8s						
SML	**Sawmill**	**1.74**	**136**		**Sn**	**05 50 25.3**	**0.0**
SML	**Sawmill**	**1.74**	**136**	P	**Pn**	**05 50 01.5**	**-0.2**
	baz=318,SNR=129						
SML				S	**Sn**	**05 50 25.2**	**-0.1**
	baz=318						
J20K	**Nowinta River**	**1.83**	**309**	Pn	**Pn**	**05 50 02.9**	**+0.3**
J20K	**Nowinta River**	**1.83**	**309**	P	**Pn**	**05 50 03.0**	**+0.3**
	baz=126,SNR=141						
J20K				S	**Sn**	**05 50 26.2**	**-0.8**
	baz=126						
SPCG	**Spurr Capps Gl**	**1.86**	**197**		**Pn**	**05 50 03.4**	**+0.2**
WRH	**Wood River Hil**	**1.88**	**40**		**Pn**	**05 50 03.0**	**-0.3**
WRH				IAML		05 50 28.6	
	comp=E,618nm,0.9s						
WRH				IAML		05 50 28.8	
	comp=N,744nm,0.8s						
SPBG	**Spurr Blockage**	**1.94**	**201**		**Pn**	**05 50 04.6**	**+0.4**
CKN	**Chakachatna No**	**1.95**	**199**		**Pn**	**05 50 04.6**	**+0.4**
FIS	**Fire Island**	**1.96**	**170**		**Pn**	**05 50 05.3**	**+1.0**
SPWE	**Spurr West**	**1.96**	**204**		**Pn**	**05 50 04.8**	**+0.3**
SPCR	**Spurr Chakacha**	**1.98**	**199**		**Pn**	**05 50 04.6**	**0.0**
SPCR	**Spurr Chakacha**	**1.98**	**199**	P	**Pn**	**05 50 04.6**	**0.0**
	baz=18,SNR=73						
SPCR				S	**Sn**	**05 50 29.6**	**-0.7**
	baz=18						
M19K	**Big River Lodg**	**2.00**	**236**		**Pn**	**05 50 04.5**	**-0.2**
M19K	**Big River Lodg**	**2.00**	**236**	P	**Pn**	**05 50 04.5**	**-0.2**
	baz=53						
M19K				S	**Sn**	**05 50 30.5**	**-0.3**
	baz=53						
KNK	**Knik Glacier**	**2.02**	**144**		**Pn**	**05 50 04.7**	**-0.2**
KNK	**Knik Glacier**	**2.02**	**144**		**Sn**	**05 50 31.0**	**-0.1**
KNK	**Knik Glacier**	**2.02**	**144**	IAML		05 50 36.3	
	comp=N,765nm,0.6s						
KNK				IAML		05 50 40.4	
	comp=E,2μm,0.4s						
KNK	**Knik Glacier**	**2.02**	**144**	P	**Pn**	**05 50 04.8**	**-0.2**
	baz=327,SNR=147						
KNK				S	**Sn**	**05 50 31.2**	**+0.1**
	baz=327						
L19K	**White Mountain**	**2.04**	**246**		**Pn**	**05 50 05.1**	**-0.1**
L19K	**White Mountain**	**2.04**	**246**	P	**Pn**	**05 50 05.2**	**0.0**
	baz=62,SNR=365						
L19K				S	**Sn**	**05 50 31.4**	**-0.1**
	baz=62						
RC01	**Rabbit Creek A**	**2.06**	**164**		**Pn**	**05 50 05.1**	**-0.4**
RC01	**Rabbit Creek A**	**2.06**	**164**	IAML		05 50 33.5	
	comp=E,971nm,0.4s						
RC01				IAML		05 50 33.6	
	comp=N,1μm,0.3s						
RC01	**Rabbit Creek A**	**2.06**	**164**	P	**Pn**	**05 50 05.1**	**-0.4**
	baz=345,SNR=42						
RC01				S	**Sn**	**05 50 31.4**	**-0.7**
	baz=345						
SCM	**Sheep Creek Mo**	**2.07**	**125**		**Pn**	**05 50 05.2**	**-0.5**
SCM	**Sheep Creek Mo**	**2.07**	**125**	IAML		05 50 34.0	
	comp=E,1μm,0.6s						
SCM				IAML		05 50 43.3	
	comp=N,845nm,0.7s						
SCM	**Sheep Creek Mo**	**2.07**	**125**	P	**Pn**	**05 50 05.2**	**-0.5**
	baz=308,SNR=21						
SCM				S	**Sn**	**05 50 32.3**	**-0.1**
	baz=308						
CCB	**Clear Creek Bu**	**2.09**	**39**		**Pn**	**05 50 05.7**	**-0.1**
CCB	**Clear Creek Bu**	**2.09**	**39**	IAML		05 50 32.4	
	comp=E,616nm,0.7s						
CCB				IAML		05 50 33.3	
	comp=N,429nm,0.7s						
I21K	**Tanana**	**2.17**	**348**		**Pn**	**05 50 07.0**	**+0.2**
I21K	**Tanana**	**2.17**	**348**	IAML		05 50 35.7	
	comp=N,544nm,0.8s						
I21K	**Tanana**	**2.17**	**348**	P	**Pn**	**05 50 07.0**	**+0.2**
	baz=167,SNR=89						
I21K				S	**Sn**	**05 50 33.5**	**-1.0**
	baz=167						
I23K	**Minto, Yukon-K**	**2.19**	**17**		**Pn**	**05 50 07.2**	**+0.2**
I23K	**Minto, Yukon-K**	**2.19**	**17**	IAML		05 50 35.9	
	comp=E,394nm,0.7s						
I23K	**Minto, Yukon-K**	**2.19**	**17**	P	**Pn**	**05 50 07.3**	**+0.2**
	baz=198,SNR=696						
I23K				S	**Sn**	**05 50 34.1**	**-0.8**
	baz=198						
MDM	**Murphy Dome**	**2.23**	**31**		**Pn**	**05 50 07.6**	**0.0**
TCOL	**CIGO, UAF Yank**	**2.25**	**35**		**Pn**	**05 50 07.9**	**+0.1**
TCOL	**CIGO, UAF Yank**	**2.25**	**35**	IAML		05 50 46.0	
	comp=E,895nm,0.5s						
TCOL				IAML		05 50 54.4	
	comp=N,1μm,0.5s						
TCOL	**CIGO, UAF Yank**	**2.25**	**35**	P	**Pn**	**05 50 08.0**	**+0.1**
	baz=218,SNR=123						
TCOL				S	**Sn**	**05 50 36.0**	**-0.2**
	baz=218						
COLA	**College**	**2.25**	**35**		**Pn**	**05 50 07.9**	**+0.1**
COLA	**College**	**2.25**	**35**	IAML		05 50 46.0	
	comp=N,1μm,0.5s						
COLA	**College**	**2.25**	**35**	P	**Pn**	**05 50 08.0**	**+0.2**
	baz=218						
COLA				S	**Sn**	**05 50 36.2**	**0.0**
	baz=218						
CAPN	**Captain Cook N**	**2.31**	**183**		**Pn**	**05 50 10.6**	**+2.0**
CAPN	**Captain Cook N**	**2.31**	**183**	P	**Pn**	**05 50 10.6**	**+2.0**
	baz=3.1						
PS08	**TAPS Pump Stn8**	**2.34**	**49**		**Pn**	**05 50 08.7**	**-0.2**
TTA	**Tatalina**	**2.34**	**269**		**Pn**	**05 50 09.0**	**0.0**
TTA	**Tatalina**	**2.34**	**269**	P	**Pn**	**05 50 09.0**	**0.0**
	baz=84,SNR=312						
PS10	**TAPS Pump St10**	**2.35**	**79**		**Pn**	**05 50 10.2**	**+1.2**
M24K	**Tolsona, Glenn**	**2.39**	**112**		**Pn**	**05 50 10.0**	**+0.4**
M24K	**Tolsona, Glenn**	**2.39**	**112**	P	**Pn**	**05 50 10.0**	**+0.4**
	baz=296,SNR=36						
IL31		**2.46**	**44**		**Pn**	**05 50 10.2**	**-0.2**
ILAR	**Eielson Array**	**2.46**	**44**	P	**Pn**	**05 50 10.2**	**-0.3**
	comp=N,73nm,0.3s,baz=228,slow=12,SNR=2151						
ILAR				S	**Sn**	**05 50 37.6**	**-3.3**
	comp=N,36nm,0.3s,baz=221,slow=19,SNR=2.5						
ILAR	**Eielson Array**	**2.46**	**44**	Pn	**Pn**	**05 50 09.9**	**-0.5**
PAX	**Paxson**	**2.48**	**90**		**Pn**	**05 50 11.0**	**+0.3**
PAX	**Paxson**	**2.48**	**90**	P	**Pn**	**05 50 11.1**	**+0.3**
	baz=275,SNR=330						
PS07	**TAPS Pump Stn7**	**2.52**	**26**		**Pn**	**05 50 11.2**	**0.0**
PWL	**Port Wells**	**2.53**	**150**		**Pn**	**05 50 10.9**	**-0.4**
PWL	**Port Wells**	**2.53**	**150**	P	**Pn**	**05 50 11.0**	**-0.4**
	baz=333,SNR=51						
POKR	**Poker Plat Res**	**2.56**	**35**		**Pn**	**05 50 11.9**	**+0.2**
POKR	**Poker Plat Res**	**2.56**	**35**	P	**Pn**	**05 50 11.9**	**+0.2**
	baz=218,SNR=194						
SLKM	**Skilak Lake**	**2.59**	**173**		**Pn**	**05 50 12.2**	**0.0**
DFR	**Drift River**	**2.63**	**200**		**Pn**	**05 50 12.8**	**+0.1**
RDJH	**Redoubt Jeurge**	**2.65**	**201**		**Pn**	**05 50 13.3**	**+0.3**
O22K	**Cooper Landing**	**2.66**	**167**		**Pn**	**05 50 13.0**	**+0.1**
O22K	**Cooper Landing**	**2.66**	**167**	P	**Pn**	**05 50 13.0**	**+0.1**
	baz=349,SNR=11						
NCT	**North Crescent**	**2.70**	**202**		**Pn**	**05 50 13.7**	**+0.1**
PS11	**TAPS Pump St11**	**2.70**	**109**		**Pn**	**05 50 14.1**	**+0.6**
H21K	**Melozitna Rive**	**2.73**	**343**		**Pn**	**05 50 13.9**	**+0.1**
H21K	**Melozitna Rive**	**2.73**	**343**	P	**Pn**	**05 50 13.9**	**+0.1**
	baz=161,SNR=121						
HARP	**HAARP**	**2.73**	**102**		**Pn**	**05 50 14.3**	**+0.5**
	baz=287,SNR=110						
HARP	**HAARP**	**2.73**	**102**	P	**Pn**	**05 50 14.2**	**+0.3**
RDWB	**Redoubt West**	**2.75**	**200**		**Pn**	**05 50 14.6**	**+0.2**
RSO	**Redoubt South**	**2.76**	**199**		**Pn**	**05 50 14.4**	**-0.1**
RIDG	**Independent Ri**	**2.80**	**73**		**Pn**	**05 50 15.1**	**+0.2**
RIDG	**Independent Ri**	**2.80**	**73**	IAML		05 50 47.9	
	comp=N,504nm,0.8s						
RIDG				IAML		05 51 00.9	
	comp=E,561nm,0.8s						
RIDG	**Independent Ri**	**2.80**	**73**	P	**Pn**	**05 50 15.1**	**+0.2**
	baz=259,SNR=275						
RED	**Redoubt Volcan**	**2.81**	**199**		**Pn**	**05 50 15.1**	**+0.1**
KLU	**Klutina**	**2.81**	**122**		**Pn**	**05 50 14.2**	**-0.9**
KLU	**Klutina**	**2.81**	**122**	IAML		05 50 48.0	
	comp=E,655nm,0.6s						
KLU	**Klutina**	**2.81**	**122**	P	**Pn**	**05 50 14.1**	**-0.9**
	baz=306,SNR=23						
H23K	**Yukon River**	**2.83**	**11**		**Pn**	**05 50 15.4**	**+0.3**
H23K	**Yukon River**	**2.83**	**11**	IAML		05 50 49.5	
	comp=E,207nm,0.8s						
H23K	**Yukon River**	**2.83**	**11**	P	**Pn**	**05 50 15.6**	**+0.4**
	baz=192,SNR=518						
N19K	**Bonanza Creek**	**2.83**	**218**		**Pn**	**05 50 15.3**	**0.0**
N19K	**Bonanza Creek**	**2.83**	**218**	P	**Pn**	**05 50 15.5**	**+0.2**
	baz=35,SNR=122						
GLI	**Glacier Island**	**2.84**	**139**		**Pn**	**05 50 14.7**	**-0.7**
GLI	**Glacier Island**	**2.84**	**139**	P	**Pn**	**05 50 14.6**	**-0.7**
	baz=322,SNR=36						
PS06	**TAPS Pump Stn6**	**2.84**	**10**		**Pn**	**05 50 15.7**	**+0.4**
JPK	**Jack Peak**	**2.86**	**133**		**Pn**	**05 50 14.9**	**-0.7**
J25K	**Salcha River,**	**2.90**	**55**		**Pn**	**05 50 15.8**	**-0.3**
J25K	**Salcha River,**	**2.90**	**55**	IAML		05 50 53.3	
	comp=E,525nm,0.5s						
J25K				IAML		05 50 54.7	
	comp=N,420nm,0.4s						
J25K	**Salcha River,**	**2.90**	**55**	P	**Pn**	**05 50 15.9**	**-0.3**
	baz=240,SNR=269						
SVW2	**Sparrevohn**	**2.96**	**230**		**Pn**	**05 50 16.8**	**-0.1**
SEW	**Seward**	**3.06**	**166**		**Pn**	**05 50 17.9**	**-0.2**
SEW	**Seward**	**3.06**	**166**	P	**Pn**	**05 50 17.9**	**-0.2**
	baz=348,SNR=9.6						
H24K	**Noodor Dome**	**3.07**	**24**		**Pn**	**05 50 18.2**	**-0.1**
H24K	**Noodor Dome**	**3.07**	**24**	P	**Pn**	**05 50 18.3**	**-0.1**
	baz=206,SNR=157						
DIV	**Divide**	**3.10**	**127**		**Pn**	**05 50 17.5**	**-1.2**
O20K	**Slope Mountain**	**3.11**	**196**		**Pn**	**05 50 19.2**	**+0.3**
O20K	**Slope Mountain**	**3.11**	**196**	P	**Pn**	**05 50 19.2**	**+0.3**
	baz=15,SNR=7.5						
FID	**Port Fidalgo**	**3.13**	**136**		**Pn**	**05 50 18.2**	**-0.8**
GCSA	**Galena City Sc**	**3.13**	**305**		**Pn**	**05 50 19.4**	**+0.3**
GCSA	**Galena City Sc**	**3.13**	**305**	P	**Pn**	**05 50 19.3**	**+0.3**
	baz=120,SNR=13						
DOT	**Dot Lake**	**3.13**	**76**		**Pn**	**05 50 18.8**	**-0.3**
IM03		**3.17**	**338**		**Pn**	**05 50 19.7**	**+0.1**
IMAR	**Indian Mountai**	**3.17**	**338**	Pn	**Pn**	**05 50 19.8**	**+0.2**
SCRK	**Sand Creek**	**3.23**	**71**		**Pn**	**05 50 20.1**	**-0.3**
SCRK	**Sand Creek**	**3.23**	**71**	IAML		05 51 00.7	
	comp=N,321nm,0.9s						
SCRK				IAML		05 51 03.1	
	comp=E,290nm,0.7s						
SCRK	**Sand Creek**	**3.23**	**71**	P	**Pn**	**05 50 20.2**	**-0.3**
	baz=257,SNR=458						
IVE	**Iliamna Volcan**	**3.23**	**199**		**Pn**	**05 50 20.6**	**+0.1**
MENT	**Mentasta**	**3.28**	**89**		**Pn**	**05 50 20.6**	**-0.4**
MENT				IAML		05 51 13.3	
	comp=N,631nm,0.6s						
N25K	**Chitina, Valde**	**3.29**	**114**		**Pn**	**05 50 20.9**	**-0.3**
N25K	**Chitina, Valde**	**3.29**	**114**	IAML		05 51 01.4	
	comp=E,530nm,0.6s						
N25K				IAML		05 51 01.4	
	comp=N,571nm,0.5s						
N25K	**Chitina, Valde**	**3.29**	**114**	P	**Pn**	**05 50 20.9**	**-0.3**
	baz=299,SNR=20						
O19K	**Port Alsworth**	**3.32**	**211**		**Pn**	**05 50 21.6**	**+0.1**
O19K	**Port Alsworth**	**3.32**	**211**	IAML		05 51 28.4	
	comp=E,270nm,0.5s						
O19K				IAML		05 51 47.8	
	comp=N,300nm,0.5s						
O19K	**Port Alsworth**	**3.32**	**211**	P	**Pn**	**05 50 21.5**	**+0.1**
	baz=28,SNR=41						
BRLK	**Bradley Lake**	**3.32**	**180**		**Pn**	**05 50 21.6**	**+0.1**
BRLK	**Bradley Lake**	**3.32**	**180**	IAML		05 51 01.7	
	comp=E,522nm,0.5s						
BRLK				IAML		05 51 02.7	
	comp=N,456nm,0.4s						
BRSE	**Bradley Lake S**	**3.34**	**179**		**Pn**	**05 50 21.6**	**-0.3**
BRSE	**Bradley Lake S**	**3.34**	**179**	P	**Pn**	**05 50 21.7**	**-0.2**
	baz=359,SNR=8.6						
N18K	**Kilae Creek**	**3.37**	**227**		**Pn**	**05 50 21.9**	**-0.3**
N18K	**Kilae Creek**	**3.37**	**227**	P	**Pn**	**05 50 22.0**	**-0.3**
	baz=42,SNR=66						
L26K	**Log Cabin Wild**	**3.44**	**87**		**Pn**	**05 50 23.2**	**+0.1**
L26K	**Log Cabin Wild**	**3.44**	**87**	P	**Pn**	**05 50 23.2**	**+0.1**
	baz=274,SNR=102						
HOM	**Homer**	**3.44**	**186**		**Pn**	**05 50 23.9**	**+0.7**
HOM	**Homer**	**3.44**	**186**	P	**Pn**	**05 50 23.5**	**+0.4**
	baz=5.8,SNR=8.9						
EYAK	**Cordova Ski Ar**	**3.52**	**134**		**Pn**	**05 50 23.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.52**	**134**	P	**Pn**	**05 50 23.6**	**-0.5**
	baz=318,SNR=13						
J26L	**Joseph Creek**	**3.56**	**63**	P	**Pn**	**05 50 25.1**	**+0.3**
	baz=249,SNR=963						
CNPM	**China Poot**	**3.56**	**183**		**Pn**	**05 50 24.9**	**+0.1**
CNPM	**China Poot**	**3.56**	**183**	IAML		05 51 11.8	
	comp=E,420nm,0.

Q23K	**Middleton Isla**	**4.26**	**147**			**Pn**	**05 50 34.1**	**+0.1**
Q23K	**Middleton Isla**	**4.26**	**147**	IAML			05 52 18.4	
	comp=N,209nm,1.2s							
Q23K				IAML			05 53 15.5	
	comp=E,278nm,1.8s							
Q23K	**Middleton Isla**	**4.26**	**147**	P		**Pn**	**05 50 33.8**	**-0.2**
	baz=331							
MID	**Middleton Isla**	**4.27**	**147**			**Pn**	**05 50 34.0**	**0.0**
MID	**Middleton Isla**	**4.27**	**147**	IAML			05 52 20.0	
	comp=N,172nm,1.2s							
MID				IAML			05 53 15.5	
	comp=E,242nm,1.8s							
BERG	**Berg Lake**	**4.35**	**125**			**Pn**	**05 50 34.6**	**-0.6**
NICHA	**Nichawak Mount**	**4.36**	**128**			**Pn**	**05 50 34.6**	**-0.7**
Q19K	**Cape Douglas,**	**4.37**	**199**			**Pn**	**05 50 35.1**	**-0.4**
Q19K	**Cape Douglas,**	**4.37**	**199**	IAML			05 51 34.7	
	comp=N,226nm,0.6s							
Q19K	**Cape Douglas,**	**4.37**	**199**	P		**Pn**	**05 50 35.0**	**-0.4**
	baz=17,SNR=8.4							
PTPK	**Patty Peak**	**4.39**	**112**			**Pn**	**05 50 35.7**	**-0.1**
TGL	**Tana Glacier**	**4.46**	**118**			**Pn**	**05 50 36.0**	**-0.7**
TGL	**Tana Glacier**	**4.46**	**118**	IAML			05 51 27.2	
	comp=N,232nm,0.6s							
TGL				IAML			05 51 52.0	
	comp=E,233nm,0.7s							
KHIT	**Khitrov Hills**	**4.49**	**123**			**Pn**	**05 50 36.3**	**-0.8**
BALM	**Baldy**	**4.51**	**113**			**Pn**	**05 50 36.8**	**-0.7**
KIAG	**Kiagna River**	**4.56**	**114**			**Pn**	**05 50 37.2**	**-1.0**
GRIN	**Grindle Hills**	**4.57**	**124**			**Pn**	**05 50 37.8**	**-0.3**
EGAK	**Eagle**	**4.63**	**64**			**Pn**	**05 50 38.6**	**-0.2**
EGAK	**Eagle**	**4.63**	**64**	IAML			05 51 35.7	
	comp=E,120nm,0.6s							
EGAK	**Eagle**	**4.63**	**64**	P		**Pn**	**05 50 38.5**	**-0.3**
	baz=253							
WAX	**Waxell Ridge**	**4.64**	**121**			**Pn**	**05 50 38.5**	**-0.5**
BVCY	**Beaver Creek**	**4.66**	**94**			**Pn**	**05 50 39.0**	**-0.3**
BVCY	**Beaver Creek**	**4.66**	**94**	P		**Pn**	**05 50 39.1**	**-0.3**
	baz=282,SNR=10.0							
ISLE	**Juniper Island**	**4.75**	**118**			**Pn**	**05 50 39.5**	**-1.1**
ISLE	**Juniper Island**	**4.75**	**118**	IAML			05 51 56.8	
	comp=N,203nm,1.4s							
BARN	**Barnard Glacie**	**4.79**	**111**			**Pn**	**05 50 41.5**	**+0.4**
BARN	**Barnard Glacie**	**4.79**	**111**	IAML			05 51 37.3	
	comp=N,110nm,0.9s							
BARN				IAML			05 51 42.0	
	comp=E,139nm,0.6s							
SNH	**Sunshine Point**	**4.81**	**123**			**Pn**	**05 50 41.3**	**-0.1**
SNH	**Sunshine Point**	**4.81**	**123**	IAML			05 52 02.8	
	comp=N,173nm,1.6s							
SNH				IAML			05 52 12.8	
	comp=E,137nm,1.4s							
YUK2	**White River**	**4.85**	**101**			**Pn**	**05 50 42.1**	**+0.2**
BAGL	**Bagley Icefiel**	**4.92**	**118**			**Pn**	**05 50 42.1**	**-0.6**
GRNC	**Granite Creek**	**4.92**	**114**			**Pn**	**05 50 42.1**	**-0.9**
GRNC	**Granite Creek**	**4.92**	**114**	IAML			05 51 45.3	
	comp=N,103nm,0.7s							
GRNC				IAML			05 51 45.6	
	comp=E,63nm,0.5s							
CTG	**Chitna Glacier**	**4.97**	**111**	P		**Pn**	**05 50 42.9**	**-0.7**
	baz=299,SNR=8.6							
CTGM	**Chitina Glacie**	**4.97**	**111**			**Pn**	**05 50 43.6**	**0.0**
CTGM	**Chitina Glacie**	**4.97**	**111**	IAML			05 51 42.0	
	comp=E,57nm,0.8s							
CTGM				IAML			05 51 42.6	
	comp=N,70nm,0.8s							
YUK3	**Moose Creek**	**5.02**	**100**			**Pn**	**05 50 45.0**	**+0.7**
YUK3	**Moose Creek**	**5.02**	**100**	P		**Pn**	**05 50 44.7**	**+0.4**
	baz=290,SNR=22							
BM03	**Burnt Mountain**	**5.10**	**28**			**Pn**	**05 50 45.3**	**+0.1**
BMAR	**Burnt Mountain**	**5.12**	**28**	Pn		**Pn**	**05 50 45.3**	**-0.1**
LOGN	**Logan Glacier**	**5.18**	**111**			**Pn**	**05 50 46.5**	**+0.1**
LOGN	**Logan Glacier**	**5.18**	**111**	IAML			05 52 08.2	
	comp=E,70nm,1.0s							
LOGN				IAML			05 52 08.8	
	comp=N,64nm,1.2s							
DAWY	**Dawson**	**5.24**	**74**			**Pn**	**05 50 46.7**	**-0.3**
DAWY	**Dawson**	**5.24**	**74**	IAML			05 52 04.8	
	comp=N,97nm,0.7s							
DAWY				IAML			05 52 15.2	
	comp=E,84nm,1.0s							
DAWY	**Dawson**	**5.24**	**74**	P		**Pn**	**05 50 46.8**	**-0.2**
	baz=264,SNR=375							
TABL	**Table Mountain**	**5.33**	**115**			**Pn**	**05 50 47.5**	**-0.9**
TABL	**Table Mountain**	**5.33**	**115**	IAML			05 52 16.3	
	comp=E,66nm,1.0s							
TABL				IAML			05 52 17.2	
	comp=N,72nm,1.5s							
KDAK	**Kodiak Island**	**5.37**	**190**	P		**Pn**	**05 50 46.4**	**-2.4**
	comp=N,6.5nm,0.3s,baz=58,slow=6.3,SNR=104							
KDAK				S		**Sn**	**05 51 44.6**	**-4.9**
	comp=N,10nm,0.3s,baz=218,slow=16,SNR=11							
KDAK	**Kodiak Island**	**5.37**	**190**	IAML			05 51 48.1	
	comp=N,118nm,0.6s							
KDAK				IAML			05 51 49.5	
	comp=N,88nm,0.6s							
KDAK	**Kodiak Island**	**5.37**	**190**	P		**Pn**	**05 50 46.6**	**-2.2**
	baz=8.3							
ANCK	**Angle Creek**	**5.38**	**207**			**Pn**	**05 50 49.7**	**+0.6**
CAHL	**Cahill**	**5.48**	**205**			**Pn**	**05 50 50.8**	**+0.5**
TOLK	**Toolik Lake Re**	**5.62**	**5**			**Pn**	**05 50 53.4**	**+1.3**
TOLK	**Toolik Lake Re**	**5.62**	**5**	P		**Pn**	**05 50 53.3**	**+1.2**
	baz=186,SNR=37							
J29M	**Klondike Camp**	**5.79**	**71**	P		**Pn**	**05 50 54.3**	**-0.2**
	baz=262,SNR=62							
PCA	**Pinnacle**	**5.89**	**116**			**Pn**	**05 50 54.7**	**-1.1**
I29M	**Ogilvie Camp,**	**5.96**	**62**			**Pn**	**05 50 55.6**	**-1.0**
I29M	**Ogilvie Camp,**	**5.96**	**62**	P		**Pn**	**05 50 55.8**	**-0.8**
	baz=253,SNR=287							
OHAK	**Old Harbor**	**5.99**	**193**			**Pn**	**05 50 55.1**	**-2.0**
OHAK	**Old Harbor**	**5.99**	**193**	P		**Pn**	**05 50 55.0**	**-2.0**
	baz=11							
YUK4	**Talbot Arm**	**5.99**	**101**	P		**Pn**	**05 50 57.4**	**+0.2**
	baz=291							
BCPM	**Bancas Point**	**6.23**	**115**			**Pn**	**05 50 59.4**	**-0.9**
YUK6	**Outpost Mounta**	**6.28**	**104**	P		**Pn**	**05 51 00.4**	**-0.7**
	baz=295							
M30M	**Minto, Yukon**	**6.48**	**88**			**Pn**	**05 51 03.2**	**-0.5**
M30M	**Minto, Yukon**	**6.48**	**88**	P		**Pn**	**05 51 03.1**	**-0.6**
	baz=281,SNR=14							
PNL	**Peninsula**	**6.49**	**117**			**Pn**	**05 51 03.4**	**-0.5**
PNL	**Peninsula**	**6.49**	**117**	P		**Pn**	**05 51 03.5**	**-0.4**
	baz=307							
ANM	**Nome**	**6.58**	**290**	P		**Pn**	**05 51 05.5**	**+0.6**
	baz=97							
HYT	**Haines Junctio**	**6.71**	**104**			**Pn**	**05 51 06.1**	**-0.8**
HYT	**Haines Junctio**	**6.71**	**104**	P		**Pn**	**05 51 07.0**	**+0.1**
	baz=295							
SII	**Sitkinak Islan**	**6.74**	**196**	P		**Pn**	**05 51 06.0**	**-1.2**
	baz=13							
RDOG	**Red Dog Mine**	**7.05**	**320**			**Pn**	**05 51 11.2**	**-0.1**
RDOG	**Red Dog Mine**	**7.05**	**320**	P		**Pn**	**05 51 11.2**	**-0.1**
	baz=130,SNR=5.4							
M31M	**Drury Creek, Y**	**7.66**	**89**			**Pn**	**05 51 20.0**	**+0.5**
M31M	**Drury Creek, Y**	**7.66**	**89**	P		**Pn**	**05 51 19.8**	**+0.3**
	baz=284,SNR=7.2							
INK	**Inuvik**	**8.86**	**46**	P		**Pn**	**05 51 34.0**	**-1.5**
	comp=N,0.8nm,0.3s,baz=232,slow=16,SNR=43							
INK	**Inuvik**	**8.86**	**46**	P		**Pn**	**05 51 35.1**	**-0.5**
	baz=242,SNR=11							
BESE	**Bessie Mountai**	**9.03**	**113**			**Pn**	**05 51 36.9**	**-1.0**
JIS	**Juneau Island**	**9.41**	**113**			**Pn**	**05 51 41.9**	**-1.0**
SIT	**Sitka**	**9.83**	**121**			**Pn**	**05 51 48.0**	**-0.7**
SIT	**Sitka**	**9.83**	**121**	P		**Pn**	**05 51 48.8**	**+0.2**
	baz=314							
DLBC	**Dease Lake**	**11.19**	**105**	P		**Pn**	**05 52 07.7**	**+0.8**
	comp=N,0.1nm,0.3s,baz=280,slow=9.7,SNR=4.3							
C36M	**Paulatuk**	**12.43**	**48**	P		**Pn**	**05 52 18.9**	**-4.0**
	baz=253,SNR=21							
A36M	**Sachs Harbour**	**13.13**	**36**	P		**Pn**	**05 52 29.9**	**-2.2**
	baz=240,SNR=17							
YKA	**Yellowknife Ar**	**16.48**	**76**	P		**Pn**	**05 53 13.0**	**-1.0**
	comp=N,1.2nm,0.3s,baz=286,slow=9.8,SNR=100							
YKA				sP		**sP**	**05 53 50.6**	**-3.4**
	comp=N,0.1nm,0.3s,baz=289,slow=14,SNR=3.2							
YKA				PcP		**PcP**	**05 57 56.9**	**-0.1**
	comp=N,0.0nm,0.3s,baz=296,slow=1.2,SNR=2.7							
YKA				ScP		**ScP**	**06 01 18.5**	**-0.6**
	comp=N,0.0nm,0.3s,baz=294,slow=2.1,SNR=6.5							
YKA	**Yellowknife Ar**	**16.48**	**76**	P		**Pn**	**05 53 12.9**	**-1.1**
EDM	**Edmonton**	**21.80**	**99**	P		**P**	**05 54 13.3**	**+1.1**
RES	**Resolute Bay**	**22.18**	**36**	P		**P**	**05 54 16.6**	**+0.8**
	comp=N,1.8nm,0.4s,baz=248,slow=11,SNR=23							
RES	**Resolute Bay**	**22.18**	**36**	P		**P**	**05 54 16.0**	**+0.1**
EUNU	**Eureka**	**24.37**	**22**	P		**P**	**05 54 37.1**	**+0.8**
EUNU				IAmb		IAmb	05 54 40.0	
	comp=Z,2.5nm,0.6s							
SEY	**Seymchan**	**25.04**	**295**	P		**P**	**05 54 42.0**	**-0.4**
	comp=Z,2.3nm,0.4s,baz=78,slow=6.6,SNR=14							
PLID	**Pearl Lake**	**26.75**	**116**	P		**P**	**05 54 59.5**	**+1.2**
FCC	**Fort Churchill**	**27.16**	**73**	P		**P**	**05 55 02.2**	**+0.7**
PDAR	**Pinedale Array**	**31.34**	**111**	P		**P**	**05 55 40.8**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=336,slow=3.9,SNR=4.1							
PDAR				pP		**pP**	**05 56 09.0**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=336,slow=7.0,SNR=4.9							
PDAR	**Pinedale Array**	**31.34**	**111**	P		**P**	**05 55 40.5**	**+1.6**
NVAR	**Mina Array Bea**	**31.53**	**126**	pP		pP	05 56 10.5	+1.6
	comp=Z,2.8nm,0.9s,baz=318,slow=8.7,SNR=5.7							
RSSD	**Black Hills**	**32.66**	**103**	P		**P**	**05 55 52.1**	**+1.6**
RSSD				IAmb		IAmb	05 55 52.7	
	comp=Z,2.7nm,0.6s							
EYMN	**Ely**	**35.42**	**87**	P		**P**	**05 56 14.6**	**+0.6**
ECSD	**EROS Data Cent**	**36.29**	**96**	P		**P**	**05 56 22.1**	**+0.7**
ECSD				IAmb		IAmb	05 56 50.7	
	comp=Z,10nm,1.5s							
G40A	**Rib Lake**	**38.02**	**89**	P		**P**	**05 56 36.9**	**+0.8**
G40A				IAmb		IAmb	05 57 03.6	
	comp=Z,9.2nm,1.4s							
E46A	**Sault Ste Mari**	**39.86**	**83**	P		**P**	**05 56 51.9**	**+0.6**
L40A	**Anamosa**	**40.05**	**93**	P		**P**	**05 56 53.6**	**+0.7**
L40A				IAmb		IAmb	05 56 53.8	
	comp=Z,7.2nm,1.1s							
SCHQ	**Schefferville**	**41.11**	**61**	P		**P**	**05 57 01.7**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=319,slow=11,SNR=6.8							
NRIK	**Noril'sk**	**41.60**	**333**	P		**P**	**05 57 05.2**	**0.0**
	comp=Z,2.3nm,0.6s,baz=56,slow=7.3,SNR=2.3							
TXAR	**Lajitas Array**	**45.26**	**116**	P		**P**	**05 57 37.1**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=338,slow=7.1,SNR=3.7							
TXAR				pP		**pP**	**05 58 06.0**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=328,slow=5.9,SNR=3.9							
ARCES	**ARCESS Array B**	**47.65**	**2**	P		**P**	**05 57 52.6**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=1.9,slow=8.1,SNR=7.3							
KSRS	**Korea Array**	**53.51**	**282**	P		**P**	**05 58 38.2**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=32,slow=6.7,SNR=5.2							
NOA	**NORSAR Array B**	**55.47**	**10**	P		**P**	**05 58 51.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=352,slow=7.4,SNR=2.4							
ZALV	**Zalesovo Beam**	**55.49**	**324**	P		**P**	**05 58 50.9**	**-0.7**
	comp=Z,3.1nm,0.5s,baz=23,slow=7.6,SNR=17							
FINES	**FINESS Array B**	**55.78**	**2**	P		**P**	**05 58 53.3**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=16,slow=7.2,SNR=2.2							
MK31	**Makanchi Array**	**62.65**	**322**	P		**P**	**05 59 39.7**	**-1.3**
MK31				IAmb		IAmb	05 59 40.8	
	comp=Z,1.6nm,0.9s							
MKAR	**Makanchi Array**	**62.65**	**322**	P		**P**	**05 59 40.3**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=46,slow=7.1,SNR=24							
ABKAR	**Akbulak array**	**65.39**	**338**	P		**P**	**05 59 58.2**	**-0.6**
ABKAR				IAmb		IAmb	05 59 59.4	
	comp=Z,3.8nm,0.7s							
AKASG	**Malin Array Be**	**66.57**	**360**	P		**P**	**06 00 05.8**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=2.7,slow=6.4,SNR=13							
BOOM	**Boomskoye usch**	**68.36**	**325**	P		**P**	**06 00 17.7**	**-0.3**
BOOM				IAmb		IAmb	06 00 18.9	
	comp=Z,2.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**82.46**	**296**	P		**P**	**06 01 38.5**	**0.0**
	comp=Z,1.2nm,0.8s,baz=5.2,slow=6.3,SNR=8.5							
CMAR	**Chiang Mai Arr**	**82.46**	**296**	P		**P**	**06 01 38.3**	**-0.3**
BOSA	**Boshof**	**145.45**	**6**	PKPbc		**PKPab**	**06 08 54.4**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=3.1,slow=3.4,SNR=1.5							

*IDC **15** 05:57:29.2±0.9, 10.09N×125.45E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/42, mbtmp3.7/7, MS3.2/1, Ms1 3.2/1, ms1mx2.4/85, Error ellipse: s-maj=43.1km s-min=20.5km az=69.0*

*MAN **15** 05:57:31.9, 9.98N×125.17E, h9km, mb4.9, ML3.8, MS3.8, Hypocentre not reviewed by the ISC*

ISC 15 05:57:30.0±1.4, 10.06N±0.04×125.21E±0.04, h2km±9km, n30, σ1°28/37, mb3.6/7, 3C-7D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSLP	**Maasin**	**0.36**	**283**	*e*	P	**Pb**	**05 57 40.0**	**+1.0**
MSLP				*e*	S	**Sb**	**05 57 46.4**	**+1.2**
SCPH	**Surigao**	**0.38**	**135**	*i*	P	**Pb**	**05 57 40.4**	**+0.9**
SCPH				*i*	S	**Sb**	**05 57 47.2**	**+1.3**
GLSP	**General Luna,**	**0.94**	**107**	*e*	P	**Pn**	**05 57 50.3**	**+0.1**
BUTP	**Butuan**	**1.15**	**160**	*e*	P	**Pg**	**05 57 51.7**	**-0.4**
OCLP	**Ormoc**	**1.16**	**329**	*e*	P	**Pn**	**05 57 54.5**	**+1.3**
LLP	**Lapu-Lapu**	**1.26**	**282**	*i*	P	**Pg**	**05 57 53.7**	**-0.4**
LLP				*i*	S	**Sg**	**05 58 09.8**	**-0.6**
TBP	**Tagbilaran**	**1.38**	**255**	*i*	P	**Pn**	**05 57 56.5**	**+0.2**
TBP				*i*	S	**Sb**	**05 58 14.8**	**+0.1**
CGP	**Cagayan de Oro**	**1.67**	**198**	*e*	P	**Pn**	**05 57 59.5**	**-0.8**
CGP				*i*	S	**Sn**	**05 58 19.8**	**-2.5**
BUKP	**Musuan**	**2.17**	**184**	*i*	P	**Pn**	**05 58 08.2**	**+1.1**
BUKP				*i*	S	**Sn**	**05 58 35.8**	**+1.2**
BIPH	**Bislig**	**2.18**	**149**	*e*	P	**Pn**	**05 58 08.6**	**+1.4**
BIPH				*i*	S	**Sg**	**05 58 39.3**	**-0.7**
DCPH	**Dipolog City**	**2.35**	**232**	*e*	P	**Pn**	**05 58 08.9**	**-0.7**
DCPH				*e*	S	**Sn**	**05 58 37.0**	**-2.0**
CNOP	**Candoni, Negro**	**2.55**	**265**	*e*	P	**Pn**	**05 58 12.2**	**-0.1**
GUIM	**Jordan**	**2.65**	**263**	*e*	P	**Pn**	**05 58 15.3**	**+1.5**
PAGZ	**Pagadian**	**2.84**	**220**	*e*	P	**Pn**	**05 58 17.1**	**+0.7**
PAGZ	**Pagadian**	**2.84**	**220**	*e*	P	**Pn**	**05 58 18.4**	**+1.9**
PAGZ				*e*	S	**Sn**	**05 58 51.8**	**+0.5**
RCP	**Roxas**	**2.85**	**302**	*e*	P	**Pn**	**05 58 17.9**	**+1.4**
RCP				*e*	S	**Sn**	**05 58 51.6**	**+0.2**
CTBH	**Cotabato--PC H**	**2.98**	**199**	*e*	P	**Pn**	**05 58 20.0**	**+1.8**
CTBH				*i*	S	**Sn**	**05 58 57.5**	**+3.1**
DAV	**Davao City (W)**	**2.99**	**173**	LR		LR	05 59 55.8	
	comp=Z,357nm,19.4s,baz=244,slow=49							
PVCP	**Virac**	**3.67**	**344**	*e*	P	**Pb**	**05 58 35.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**26.77**	**291**	P		**P**	**06 03 13.3**	**+1.9**
	0.4nm,0.3s,baz=106,slow=6.7,SNR=4.9							
FITZ	**Fitzroy Crossi**	**27.98**	**179**	P		**P**	**06 03 21.5**	**-0.7**
	0.8nm,0.7s,baz=346,slow=8.3,SNR=1.4							
WRA	**Warramunga Arr**	**31.13**	**163**	P		**P**	**06 03 48.7**	**-1.6**
	0.4nm,0.8s,baz=350,slow=9.3,SNR=1.7							
ASAR	**Alice Springs**	**34.58**	**166**	P		**P**	**06 04 20.1**	**-0.3**
	0.4nm,0.6s,baz=344,slow=6.6,SNR=6.7							
H11N1	**WAKE ISLAND Hy**	**41.31**	**72**	T		T	06 48 43.4	
	baz=264,slow=74							
H11N2	**WAKE ISLAND Hy**	**41.32**	**72**	T		T	06 48 43.2	
	baz=264							
H11N3	**WAKE ISLAND Hy**	**41.33**	**72**	T		T	06 48 42.3	
	baz=264,slow=74							
MKAR	**Makanchi Array**	**51.57**	**323**	P		**P**	**06 06 37.4**	**-0.3**
	1.1nm,0.6s,baz=125,slow=7.8,SNR=9.1							
INK	**Inuvik**	**84.86**	**21**	P		**P**	**06 10 05.0**	**-1.0**
	0.9nm,0.8s,baz=302,slow=4.9,SNR=4.3							
YKA	**Yellowknife Ar**	**94.37**	**24**	P		**P**	**06 10 50.1**	**-1.1**
	0.3nm,0.7s,baz=300,slow=4.4,SNR=6.1							
PLCA	**Paso Flores**	**146.41**	**158**	PKPbc		**PKPbc**	**06 17 12.9**	**-0.1**
	3.2nm,1.1s,baz=236,slow=3.6,SNR=2.4							

IDC 15 06:16:05.3±2.6, 54.12N×86.41E, h0km, mb1 2.9/2, mb1mx2.8/43, mbtmp2.9/2, ML2.5/1, Error ellipse: s-maj=20.4km s-min=12.4km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**260**	*i*			06 22 33.5	
	baz=82,slow=335,SNR=1.5							
ZALV	**Zalesovo Beam**	**0.95**	**260**	Pg		Pg	06 16 22.1	-1.5
	0.8nm,0.3s,baz=80,slow=17,SNR=13							
ZALV				Lg		Lg	06 16 37.4	
	1.3nm,0.3s,baz=76,slow=30,SNR=11							
ZALV				Rg		Rg	06 16 41.4	
	1.1nm,0.3s,baz=75,slow=28,SNR=11							
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn		Pn	06 17 35.6	+0.9
	0.1nm,0.3s,baz=54,slow=13,SNR=13							
KURBB				Lg		Lg	06 19 15.2	
	baz=52,slow=33,SNR=2.7							
MKAR	**Makanchi Array**	**7.79**	**201**	Pn		Pn	06 18 01.2	+1.3
	baz=24,slow=13,SNR=1.9							
MKAR				Lg		Lg	06 20 11.1	
	0.0nm,0.3s,baz=21,slow=33,SNR=2.4							

IDC 15 06:16:39.1±3.8, 53.47N×90.71E, h0km, mb1 2.7/3, mb1mx2.6/44, mbtmp2.7/3, ML2.3/2, Error ellipse: s-maj=33.4km s-min=26.1km az=33.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.54**	**280**	*i*			06 40 46.6	
	baz=92,slow=333,SNR=1.0							
ZALV	**Zalesovo Beam**	**3.54**	**280**	Pn		Pn	06 17 37.0	+1.9
	baz=101,slow=15,SNR=1.7							
ZALV				Lg		Lg	06 18 29.0	
	0.6nm,0.3s,baz=96,slow=27,SNR=7.0							
KURBB	**Kurchatov Arra**	**8.04**	**254**	Pn		Pn	06 18 36.8	-0.2
	0.0nm,0.3s,baz=63,slow=15,SNR=3.3							
KURBB				Sn		Sn	06 20 07.9	-0.6
	0.0nm,0.3s,baz=70,slow=27,SNR=5.6							
KURBB				Lg		Lg	06 20 54.4	
	0.0nm,0.3s,baz=65,slow=31,SNR=3.7							
MKAR	**Makanchi Array**	**8.60**	**222**	Pn		Pn	06 18 45.0	+0.3
	0.1nm,0.3s,baz=42,slow=16,SNR=2.0							
MKAR				Lg		Lg	06 21 10.5	
	0.0nm,0.3s,baz=29,slow=27,SNR=1.5							

*IDC **15** 06:27:50.2±0.7, 32.79N×130.79E, h0km, mb3.9/14, mb1 4.0/16, mb1mx3.9/34, mbtmp3.9/16, ML3.2/2, MS3.2/12, Ms1 3.2/12, ms1mx2.9/97, Error ellipse: s-maj=17.5km s-min=6.1km az=107.0*

*NIED **15** 06:27:51.8, 32.84N×130.88E, h12km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr~0.61; Mθθ 1.81; Mφφ -1.20; Mrθ -0.71; Mrφ -0.36; Mθφ~0.73; Fault plane solution: M0 1.92000×10¹⁵ NP1: φs=317.00000°, δ54.00000°, λ-17.00000°. NP2: φs=58.00000°, δ76.00000°, λ-143.00000°.*

*JMA **15** 06:27:51.7, 32.84N×130.88E, h12km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs=66.00000°, δ69.00000°, λ-152.00000°. NP2: φs=326.00000°, δ64.00000°, λ-23.00000°. Principal axes: T Plg3.0000°, Azm195.0000°; N Plg56.0000°, Azm101.0000°; P Plg34.0000°, Azm287.0000°;*

JMA Felt IV J1.

*NEIC **15** 06:27:52.4±1.4, 32.87N±0.04×130.75E±0.07, h6km±3km, mb4.4/13 Error ellipse: s-maj=8.6km s-min=4.5km az=110.0*

ISC 15 06:27:52.5±0.5, 32.84N±0.03×130.76E±0.05, h12km, n55, σ1°08/49, mb4.2/20, MS3.3/7, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTA	**Tamana**	**0.23**	**302**	⇓P		**Pb**	**06 27 58.3**	**-0.3**
JTA				S		**Sg**	**06 28 03.1**	**+2.4**
JIU3	**Izumi3**	**0.29**	**172**	⇑P		**Pg**	**06 27 57.8**	**-0.7**
JIU3				S		**Sg**	**06 28 02.4**	**-0.1**
JNU	**Nakatsue**	**0.30**	**19**	Pg		**Pg**	**06 27 57.2**	**-1.4**
	4μm,0.3s,baz=185,slow=4.0,SNR=4413							
JNU				Lg		Lg	06 28 00.9	
	4μm,0.3s,baz=282,slow=19,SNR=25							
JNU	**Nakatsue**	**0.30**	**19**	Pg		**Pg**	**06 27 57.8**	**-0.8**
JSU	**Suzuyama**	**1.36**	**191**			**Pn**	**06 28 16.8**	**-0.5**
JTU	**Tsushima**	**2.03**	**326**	Pn		**Pn**	**06 28 25.9**	**-0.6**
JMN	**Monobe**	**2.76**	**70**	Pn		**Pn**	**06 28 37.7**	**+1.1**
JHS	**Saijyo**	**2.91**	**42**	Pn		**Pn**	**06 28 38.6**	**0.0**
TJN	**Taejon**	**4.51**	**322**			**Pn**	**06 29 01.1**	**+0.6**
KSRS	**Korea Array**	**5.16**	**334**	Pn		**Pn**	**06 29 10.2**	**+0.7**
	1.3nm,0.3s,baz=153,slow=14,SNR=6.4							
KSRS				Sn		**Sn**	**06 30 07.2**	**-1.7**
	4.5nm,0.3s,baz=153,slow=24,SNR=6.0							
KSRS				Lg		Lg	06 30 33.5	
	7.1nm,0.3s,baz=156,slow=30,SNR=8.9							
KSRS				LR		LR	06 31 13.4	
	comp=Z,192nm,18.1s,baz=150,slow=39							
INU	**Inuyama**	**5.76**	**63**	Pn		**Pn**	**06 29 18.0**	**+0.2**
JGF	**Kuroka**	**6.12**	**61**			**Pn**	**06 29 24.3**	**+1.6**
JOW	**Kunigami**	**6.37**	**200**	Pn		**Pn**	**06 29 29.0**	**+2.9**
	7.5nm,0.3s,baz=54

TZRR	**Tazzarine**	**1.27**	**145**	P	**Pn**	**06 56 41.1 +0.5**
TZRR	**Tazzarine**	**1.27**	**145**	P	**Pn**	**06 56 40.9 +0.3**
TZRR				S	**Sb**	**06 56 58.0 +0.8**
OUK	**Oukaimeden**	**1.39**	**244**	P	**Pg**	**06 56 44.0 -0.3**
OUK	**Oukaimeden**	**1.39**	**244**	P	**Pb**	**06 56 43.4 +0.2**
OUK				S	**Sg**	**06 57 02.2 -0.2**
SRHM	**Skhour des Reh**	**1.41**	**297**	P	**Pb**	**06 56 43.9 +0.5**
SRHM				S	**Sg**	**06 57 04.0 +1.0**
CZD	**Col de Zad**	**1.67**	**44**	P	**Pb**	**06 56 49.0 +1.1**
CZD	**Col de Zad**	**1.67**	**44**	P	**Pb**	**06 56 48.3 +0.4**
CZD				S	**Sg**	**06 57 12.8 +1.5**
MD31	**MD31**	**1.74**	**53**	P	**Pb**	**06 56 48.9 -0.1**
MD31				S	**Sg**	**06 57 13.4 -0.3**
MDT	**Midelt**	**1.82**	**57**	P	**Pb**	**06 56 50.7 +0.4**
MDT				S	**Sg**	**06 57 15.2 -0.9**
MDT	**Midelt**	**1.82**	**57**	P	**Pb**	**06 56 50.7 +0.4**
MDT				S	**Sg**	**06 57 15.2 -0.9**
ZGR	**Zagora**	**1.84**	**158**	P	**Pb**	**06 56 51.0 +0.2**
ZGR				S	**Sg**	**06 57 16.0 -1.0**
ZGR	**Zagora**	**1.84**	**158**	P	**Pn**	**06 56 50.1 +1.7**
ZGR				S	**Sb**	**06 57 14.2 +0.6**
TTIG	**Tnine Tigouga,**	**2.16**	**234**	P	**Pb**	**06 56 56.0 -0.2**
TTIG				S	**Sg**	**06 57 25.1 -1.9**
TTIG	**Tnine Tigouga,**	**2.16**	**234**	P	**Pn**	**06 56 54.4 +1.6**
TTIG				S	**Sb**	**06 57 23.9 +1.2**
JBK	**JBK**	**4.08**	**51**	P	**Pn**	**06 57 19.8 +0.6**
PBDV	**Barranco-do-Ve**	**5.54**	**347**	*e*Pn	**Pn**	**06 57 40.3 +1.2**
PVAQ	**Vaqueiros**	**5.66**	**349**	*e*Sn	**Sn**	**06 58 42.4 -2.9**
PCVE	**Castro Verde**	**5.93**	**347**	*e*Pn	**Pn**	**06 57 45.0 +0.4**
PCVE				*e*Sn	**Sn**	**06 58 50.4 -1.7**
PBAR	**Barrancos**	**6.34**	**356**	*e*Pn	**Pn**	**06 57 50.2 0.0**

IDC 15 07:22:19.8±2.5, 54°02N×86°42E, h0km, mb1 2.9/2, mb1mx2.8/48, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=20.1km s-min=11.9km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**267**	*i*		07 29 08.6	
	baz=84,slow=330,SNR=2.3						
ZALV	**Zalesovo Beam**	**0.95**	**267**	Pg	Pg	07 22 36.6	-1.4
	0.6nm,0.3s,baz=85,slow=18,SNR=11						
ZALV				Lg	Lg	07 22 51.3	
	1.3nm,0.3s,baz=90,slow=29,SNR=9.8						
ZALV				Rg	Rg	07 22 55.0	
	2.1nm,0.3s,baz=81,slow=34,SNR=7.1						
KURBB	**Kurchatov Arra**	**5.91**	**238**	Pn	Pn	07 23 49.9	+1.3
	0.1nm,0.3s,baz=55,slow=14,SNR=13						
KURBB				Lg	Lg	07 25 27.9	
	0.0nm,0.3s,baz=57,slow=31,SNR=1.7						
MKAR	**Makanchi Array**	**7.70**	**202**	Pn	Pn	07 24 13.7	+0.6
	0.1nm,0.3s,baz=22,slow=15,SNR=5.5						
MKAR				Sn	Sn	07 25 41.4	+0.4
	0.0nm,0.3s,baz=25,slow=22,SNR=4.0						
MKAR				Lg	Lg	07 26 22.5	
	0.0nm,0.3s,baz=21,slow=32,SNR=2.4						

*NNC **15** 07:25:40.8±0.4, 50°01N×78°75E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=7.3km s-min=2.1km az=76.0, Suspected Mining explosion.*

*IDC **15** 07:25:41.7±1.0, 50°06N×78°75E, h0km, mb1 2.9/2, mb1mx2.8/45, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=14.1km s-min=6.7km az=65.0*

ISC 15 07:25:39.7±1.0, 50°00N±0°05×78°62E±0°07, h0km, n18, σ1s11/27, 16C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**353**	⇓P	**Pb**	**07 25 52.7**	**-0.2**
KUR07				⇑S	**Sb**	**07 26 01.3**	**-0.4**
KUR06	**Kurchatov Arra**	**0.61**	**354**	⇑P	**Pb**	**07 25 53.0**	**-0.3**
KUR06				⇓S	**Sb**	**07 26 01.9**	**-0.5**
KUR14	**Kurchatov Arra**	**0.62**	**358**	⇑P	**Pb**	**07 25 52.8**	**-0.5**
KUR14				⇑S	**Sb**	**07 26 01.4**	**-1.2**
KUR15	**Kurchatov Arra**	**0.62**	**356**	⇑P	**Pb**	**07 25 53.1**	**-0.4**
KUR15				⇓S	**Sb**	**07 26 01.6**	**-1.1**
KURBB	**Kurchatov Arra**	**0.63**	**355**	Pg	**Pb**	**07 25 53.0**	**-0.6**
	2.9nm,0.3s,baz=166,slow=19,SNR=205						
KURBB				Lg	Lg	07 26 01.6	
	2.4nm,0.3s,baz=164,slow=40,SNR=9.1						
KURBB	**Kurchatov Arra**	**0.63**	**355**	⇑P	**Pb**	**07 25 53.2**	**-0.3**
	16nm,0.3s						
KURBB				⇑S	**Sb**	**07 26 02.4**	**-0.5**
	31nm,0.4s						
KUR16	**Kurchatov Arra**	**0.63**	**353**	⇓P	**Pb**	**07 25 53.4**	**-0.3**
KUR16				⇑S	**Sb**	**07 26 02.1**	**-1.0**
KUR17	**Kurchatov Arra**	**0.64**	**351**	⇓P	**Pb**	**07 25 53.7**	**-0.1**
KUR17				⇑S	**Sb**	**07 26 03.0**	**-0.3**
KUR05	**Kurchatov Arra**	**0.65**	**355**	⇑P	**Pb**	**07 25 53.6**	**-0.3**
KUR05				⇑S	**Sb**	**07 26 02.6**	**-0.8**
KUR04	**Kurchatov Arra**	**0.67**	**356**	⇓P	**Pb**	**07 25 53.8**	**-0.4**
KUR04				⇑S	**Sb**	**07 26 03.4**	**-0.6**
KURK	**Kurchatov**	**0.72**	**360**	⇑P	**Pb**	**07 25 54.5**	**-0.5**
	6.2nm,0.3s						
KURK				⇑S	**Sb**	**07 26 05.1**	**-0.4**
	5.8nm,0.3s						
MAKZ	**Makanchi**	**3.90**	**144**	⇑Pg	**Pg**	**07 26 52.8**	**-1.6**
	0.8nm,0.5s						
MAKZ				⇓Lg	Lg	07 27 40.7	
	8.3nm,0.8s						
MK31	**Makanchi Array**	**4.03**	**141**	⇓Pg	**Pg**	**07 26 54.8**	**-2.2**
	0.2nm,0.2s,baz=315,slow=12,SNR=8.0						
MK31				⇑Lg	Lg	07 27 46.3	
	7.4nm,0.6s,baz=330,slow=24,SNR=27						
MKAR	**Makanchi Array**	**4.03**	**141**	Pn	**Pn**	**07 26 45.3**	**+2.6**
	0.4nm,0.3s,baz=325,slow=10,SNR=45						
MKAR				Pg	**Pb**	**07 26 51.5**	**-0.1**
	0.9nm,0.3s,baz=327,slow=16,SNR=15						
MKAR				Lg	Lg	07 27 44.7	
	1.0nm,0.3s,baz=321,slow=27,SNR=19						
OTUK	**Ortayu**	**4.49**	**249**	⇓Pg	**Pg**	**07 27 04.7**	**-0.9**
	0.8nm,0.4s						
OTUK				⇓Lg	Lg	07 28 03.8	
	1.6nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.50**	**42**	*i*		07 59 50.0	
	baz=226,slow=322,SNR=1.4						
ZALV	**Zalesovo Beam**	**5.50**	**42**	Pn	**Pn**	**07 27 05.6**	**+2.8**
	0.8nm,0.3s,baz=230,slow=14,SNR=9.0						
ZALV				Lg	Lg	07 28 31.2	
	0.3nm,0.3s,baz=223,slow=30,SNR=2.3						
AAK	**Ala-Archa**	**7.90**	**203**	Lg	Lg	07 29 51.8	
	0.1nm,0.3s,baz=272,slow=18,SNR=2.5						

IDC 15 07:29:35.4±1.5, 53°16N×85°38E, h0km, mb1 2.6/2, mb1mx2.5/49, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=14.0km s-min=9.7km az=101.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.86**	**337**	*i*		07 35 50.0	
	baz=160,slow=320,SNR=2.4						
ZALV	**Zalesovo Beam**	**0.86**	**337**	Pg	Pg	07 29 51.2	-0.6
	0.1nm,0.3s,baz=153,slow=16,SNR=2.2						
ZALV				Lg	Lg	07 30 04.2	
	0.5nm,0.3s,baz=156,slow=29,SNR=8.1						
ZALV				Rg	Rg	07 30 09.2	
	2.0nm,0.7s,baz=152,slow=34,SNR=3.7						
KURBB	**Kurchatov Arra**	**4.94**	**242**	Pn	Pn	07 30 51.8	+1.0
	0.0nm,0.3s,baz=60,slow=13,SNR=5.5						
KURBB				Lg	Lg	07 32 07.2	
	0.0nm,0.3s,baz=60,slow=29,SNR=5.5						
MKAR	**Makanchi Array**	**6.67**	**199**	Pn	Pn	07 31 15.7	+1.1
	0.1nm,0.3s,baz=19,slow=12,SNR=5.0						
MKAR				Lg	Lg	07 33 01.1	
	0.0nm,0.3s,baz=21,slow=29,SNR=3.0						

*ANF **15** 07:57:12.0±0.3, 63°14N×151°49W, h11km±3km, ML3.5/55, Error ellipse: s-maj=2.1km s-min=1.9km az=22.0*

*NEIC **15** 07:57:12.5±1.9, 63°13N±0°02×151°45W±0°02, h14km±3km, Error ellipse: s-maj=3.3km s-min=1.3km az=181.0*

*AEIC **15** 07:57:12±1.8, 63°15N±0°02×151°46W±0°04, h13km±4km, ML3.1, ML3.3/108(NEIC), Error ellipse: s-maj=3.5km s-min=3.0km az=185.0*

*IDC **15** 07:57:14.0±1.8, 63°18N×150°90W, h0km, mb3.1/1, mb1 3.4/6, mb1mx3.3/41, mbtmp3.2/6, ML2.9/5, Error ellipse: s-maj=28.3km s-min=11.1km az=113.0*

ISC 15 07:57:11.9±1.0, 63°14N±0°02×151°46W±0°02, h11km±8km, n189, σ0s94/184, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.40**	**315**		**Pg**	**07 57 20.2**	**+0.4**
CAST					**Sg**	**07 57 25.5**	**+0.4**
CAST	**Castle Rocks**	**0.40**	**315**	IAML		07 57 25.6	
	comp=E,914nm,0.5s						
CAST				IAML		07 57 26.3	
	comp=N,856nm,0.4s						
CAST	**Castle Rocks**	**0.40**	**315**	P	**Pg**	**07 57 20.2**	**+0.4**
	baz=133,SNR=1000						
CAST				S	**Sg**	**07 57 25.1**	**-0.1**
	baz=133						
PPLA	**Purkeypile**	**0.41**	**234**		**Pg**	**07 57 19.7**	**-0.4**
PPLA					**Sg**	**07 57 25.3**	**-0.3**
PPLA	**Purkeypile**	**0.41**	**234**	P	**Pg**	**07 57 19.7**	**-0.4**
	baz=52,SNR=250						
PPLA				S	**Sg**	**07 57 25.1**	**-0.5**
	baz=52						
KTH	**Kantishna Hill**	**0.48**	**30**		**Pg**	**07 57 21.6**	**+0.2**
KTH					**Sg**	**07 57 28.5**	**+0.7**
KTH	**Kantishna Hill**	**0.48**	**30**	IAML		07 57 30.3	
	comp=E,716nm,0.6s						
KTH				IAML		07 57 31.4	
	comp=N,706nm,0.5s						
TRF	**Thorofare Moun**	**0.61**	**59**		**Pg**	**07 57 23.8**	**-0.1**
TRF					**Sg**	**07 57 32.5**	**+0.4**
TRF	**Thorofare Moun**	**0.61**	**59**	P	**Pg**	**07 57 23.7**	**-0.1**
	baz=241,SNR=76						
CHUM	**Lake Minchumin**	**0.84**	**333**		**Pb**	**07 57 28.6**	**+0.2**
CHUM					**Sb**	**07 57 39.8**	**0.0**
CHUM	**Lake Minchumin**	**0.84**	**333**	P	**Pb**	**07 57 28.7**	**+0.2**
	baz=152,SNR=300						
CHUM				S	**Sg**	**07 57 39.4**	**+0.3**
	baz=152						
CUT	**Chulitna**	**0.92**	**143**		**Pb**	**07 57 29.1**	**-0.7**
CUT	**Chulitna**	**0.92**	**143**	P	**Pb**	**07 57 29.1**	**-0.7**
	baz=324,SNR=75						
CUT				S	**Sg**	**07 57 40.7**	**-0.8**
	baz=324						
BPAW	**Bear Paw Mtn.**	**0.99**	**12**		**Pb**	**07 57 30.8**	**-0.2**
BPAW					**Sb**	**07 57 43.9**	**-0.2**
BPAW	**Bear Paw Mtn.**	**0.99**	**12**	IAML		07 57 46.6	
	comp=E,1μm,0.5s						
BPAW				IAML		07 57 47.0	
	comp=N,628nm,0.6s						
BPAW	**Bear Paw Mtn.**	**0.99**	**12**	P	**Pb**	**07 57 30.4**	**-0.6**
	baz=193,SNR=169						
K20K	**Telida**	**1.20**	**282**		**Pn**	**07 57 34.3**	**-0.3**
K20K					**Sb**	**07 57 50.2**	**0.0**
K20K	**Telida**	**1.20**	**282**	IAML		07 57 52.2	
	comp=N,936nm,0.5s						
K20K				IAML		07 57 52.7	
	comp=E,529nm,0.5s						
K20K	**Telida**	**1.20**	**282**	P	**Pn**	**07 57 34.4**	**-0.3**
	baz=99,SNR=269						
K20K				S	**Sb**	**07 57 50.2**	**0.0**
	baz=99						
RND	**Reindeer**	**1.21**	**76**		**Pn**	**07 57 34.1**	**-0.7**
MCK	**McKinley**	**1.28**	**61**		**Pn**	**07 57 35.5**	**-0.3**
MCK					**Sn**	**07 57 53.0**	**+0.1**
MCK	**McKinley**	**1.28**	**61**	IAML		07 57 55.4	
	comp=N,592nm,0.6s						
MCK				IAML		07 57 58.1	
	comp=E,682nm,0.5s						
MCK	**McKinley**	**1.28**	**61**	P	**Pn**	**07 57 35.5**	**-0.3**
	baz=244,SNR=86						
MCK				S	**Sb**	**07 57 52.5**	**0.0**
	baz=244						
L20K	**Farewell, AK**	**1.29**	**240**		**Pn**	**07 57 35.3**	**-0.7**
L20K	**Farewell, AK**	**1.29**	**240**	P	**Pn**	**07 57 35.3**	**-0.7**
	baz=58,SNR=96						
L20K				S	**Sb**	**07 57 52.7**	**-0.1**
	baz=58						
WAT1	**Susitna Watana**	**1.36**	**102**		**Pn**	**07 57 36.8**	**-0.1**
WAT1	**Susitna Watana**	**1.36**	**102**	P	**Pn**	**07 57 36.8**	**-0.1**
	baz=285						
WAT1				S	**Sn**	**07 57 54.4**	**-0.5**
	baz=285						
BWN	**Browne**	**1.37**	**40**		**Pn**	**07 57 37.1**	**+0.2**
BWN	**Browne**	**1.37**	**40**	IAML		07 58 06.1	
	comp=E,719nm,0.6s						
M22K	**Willow**	**1.52**	**155**		**Pn**	**07 57 38.5**	**-0.4**
M22K					**Sn**	**07 57 58.7**	**-0.1**
M22K	**Willow**	**1.52**	**155**	P	**Pn**	**07 57 38.6**	**-0.4**
	baz=337,SNR=22						
M22K				S	**Sn**	**07 57 58.4**	**-0.3**
	baz=337						
J20K	**Nowinta River**	**1.59**	**312**		**Pn**	**07 57 40.0**	**+0.1**
J20K	**Nowinta River**	**1.59**	**312**	IAML		07 58 04.2	
	comp=N,588nm,0.7s						
J20K				IAML		07 58 05.6	
	comp=E,578nm,0.4s						
J20K	**Nowinta River**	**1.59**	**312**	P	**Pn**	**07 57 39.7**	**-0.2**
	baz=129,SNR=127						
J20K				Sb	**Sg**	**07 58 02.5**	**-0.4**
	baz=129						
STLK	**Strandline Lak**	**1.66**	**186**		**Pn**	**07 57 40.9**	**0.0**
WAT6	**Susitna Watana**	**1.79**	**107**		**Pn**	**07 57 42.0**	**-0.9**
WAT6	**Susitna Watana**	**1.79**	**107**	P	**Pn**	**07 57 42.0**	**-0.9**
	baz=290,SNR=52						
WAT6				S	**Sn**	**07 58 05.4**	**-0.3**
	baz=290						
NEA2	**Nenana**	**1.80**	**35**		**Pn**	**07 57 41.9**	**-1.0**
NEA2	**Nenana**	**1.80**	**35**	P	**Pn**	**07 57 41.8**	**-1.0**
	baz=217,SNR=70						
NEA2				Sb	**Sb**	**07 58 08.2**	**+0.7**
	baz=217						
GHO	**Glory Hole Cre**	**1.81**	**138**		**Pn**	**07 57 43.0**	**0.0**
GHO				IAML		07 58 09.8	
	comp=E,351nm,0.4s						
L19K	**White Mountain**	**1.84**	**240**		**Pn**	**07 57 43.0**	**-0.4**
L19K					**Sb**	**07 58 09.1**	**+0.7**
L19K	**White Mountain**	**1.84**	**240**	IAML		07 58 10.3	
	comp=N,310nm,0.9s						
L19K				IAML		07 58 13.3	
	comp=E,202nm,0.7s						
L19K	**White Mountain**	**1.84**	**240**	P	**Pn**	**07 57 42.2**	**-1.2**
	baz=57,SNR=80						
L19K				Sb	**Sb**	**07 58 09.0**	**+0.5**
	baz=57						
M19K	**Big River Lodg**	**1.84**	**229**		**Pn**	**07 57 44.3**	**+0.9**
M19K				IAML		07 58 11.0	
	comp=E,251nm,0.5s						
M19K				IAML		07 58 11.0	
	comp=N,277nm,0.6s						
M19K	**Big River Lodg**	**1.84**	**229**	P	**Pn**	**07 57 42.5**	**-0.9**
	baz=46						
M19K				Sb	**Sb**	**07 58 09.0**	**+0.5**
	baz=46						
DHY	**Denali Highway**	**1.86**	**90**		**Pn**	**07 57 43.8**	**0.0**
DHY	**Denali Highway**	**1.86**	**90**	P	**Pn**	**07 57 43.7**	**0.0**
	baz=274,SNR=67						
DHY				Sb	**Sb**	**07 58 09.7**	**+0.5**
	baz=274						
SPCG	**Spurr Capps Gl**	**1.87**	**188**		**Pn**	**07 57 43.5**	**-0.5**
PMR	**Palmer**	**1.89**	**144**		**Pn**	**07 57 44.3**	**+0.2**
PMR	**Palmer**	**1.89**	**144**	IAML		07 58 10.3	
	comp=N,234nm,0.4s						
PMR				IAML		07 58 12.2	
	comp=E,260nm,0.8s						
PMR	**Palmer**	**1.89**	**144**	P	**Pn**	**07 57 44.2**	**+0.1**
	baz=326,SNR=47						
PMR				S	**Sn**	**07 58 07.9**	**0.0**
	baz=326						
SPBG	**Spurr Blockage**	**1.93**	**193**		**Pn**	**07 57 45.5**	**+0.7**
CKN	**Chakachatna No**	**1.95**	**190**		**Pn**	**07 57 46.1**	**+1.2**
SML	**Sawmill**	**1.97**	**131**		**Pn**	**07 57 45.0**	**-0.2**
SML	**Sawmill**	**1.97**	**131**	P	**Pn**	**07 57 45.1**	**-0.2**
	baz=314,SNR=30						
WRH	**Wood River Hil**	**2.01**	**47**		**Pn**	**07 57 44.8**	**-0.9**
I21K	**Tanana**	**2.06**	**354**		**Pn**	**07 57 46.7**	**+0.2**
I21K	**Tanana**	**2.06**	**354**	IAML		07 58 24.7	
	comp=N,151nm,0.7s						
I21K	**Tanana**	**2.06**	**354**	P	**Pn**	**07 57 46.5**	**+0.1**
	baz=173,SNR=26						
TTA	**Tatalina**	**2.08**	**266**		**Pn**	**07 57 46.1**	**-0.8**
TTA	**Tatalina**	**2.08**	**266**	IAML		07 58 25.3	
	comp=E,157nm,0.7s						
TTA	**Tatalina**	**2.08**	**266**	P	**Pn**	**07 57 46.0**	**-0.8**
	baz=82,SNR=67						
TT01	**Tatalina**	**2.09**	**266**		**Pn**	**07 57 46.3**	**-0.6**
RC01	**Rabbit Creek A**	**2.21**	**158**		**Pn**	**07 57 48.8**	**+0.3**
RC01	**Rabbit Creek A**	**2.21**	**158**	P	**Pn**	**07 57 48.7**	**+0.3**
	baz=340,SNR=5.8						
CCB	**Clear Creek Bu**	**2.21**	**45**		**Pn**	**07 57 47.7**	**-0.8**
CCB	**Clear Creek Bu**	**2.21**	**45**	IAML		07 58 22.1	
	comp=N,151nm,0.3s						
CCB				IAML		07 58 23.4	
	comp=E,176nm,0.3s						
I23K	**Minto, Yukon-K**	**2.22**	**24**		**Pn**	**07 57 48.3**	**-0.3**
I23K	**Minto, Yukon-K**	**2.22**	**24**	IAML		07 58 23.1	
	comp=E,129nm,0.4s						
I23K	**Minto, Yukon-K**	**2.22**	**24**	P	**Pn**	**07 57 48.3**	**-0.3**
	baz=206,SNR=9.5						
KNK	**Knik Glacier**	**2.23**	**140**		**Pn**	**07 57 49.6**	**+0.9**
KNK	**Knik Glacier**	**2.23**	**140**	IAML		07 58 24.0	
	comp=N,195nm,0.6s						
KNK	**Knik Glacier**	**2.23**	**140**	P	**Pn**	**07 57 49.1**	**+0.4**
	baz=323,SNR=42						
MDM	**Murphy Dome**	**2.31**	**36**		**Pn**	**07 57 49.3**	**-0.7**
MDM	**Murphy Dome**	**2.31**	**36**	IAML		07 58 25.9	
	comp=N,130nm,0.5s						
MDM				IAML		07 58 25.9	
	comp=E,149nm,0.6s						
SCM	**Sheep Creek Mo**	**2.32**	**122**		**Pn**	**07 57 50.4**	**+0.3**
SCM	**Sheep Creek Mo**	**2.32**	**122**	IAML		07 58 24.7	
	comp=E,276nm,0.9s						
SCM	**Sheep Creek Mo**	**2.32**	**122**	P	**Pn**	**07 57 50.4**	**+0.3**
	baz=306,SNR=14						
TCOL	**CIGO, UAF Yank**	**2.35**	**41**		**Pn**	**07 57 49.9**	**-0.5**
TCOL	**CIGO, UAF Yank**	**2.35**	**41**	P	**Pn**	**07 57 49.8**	**-0.7**
	baz=224						
COLA	**College**	**2.36**	**41**		**Pn**	**07 57 49.8**	**-0.7**
COLA	**College**	**2.36**	**41**	P	**Pn**	**07 57 49.9**	**-0.5**
	baz=224						
PS08	**TAPS Pump Stn8**	**2.49**	**53**		**Pn**	**07 57 51.8**	**-0.5**
PS10	**TAPS Pump St10**	**2.59**	**81**		**Pn**	**07 57 55.2**	**+1.5**
H21K	**Melozitna Rive**	**2.60**	**348**		**Pn**	**07 57 54.0**	**+0.2**
H21K	**Melozitna Rive**	**2.60**	**348**	P	**Pn**	**07 57 53.9**	**+0.2**
	baz=166,SNR=28						
IL31		**2.60**	**49**		**Pn**	**07 57 53.0**	**-0.7**
ILAR	**Eielson Array**	**2.60**	**49**	Pn	**Pn**	**07 57 53.1**	**-0.7**
	comp=E,1.1nm,0.3s,baz=234,slow=14,SNR=33						
ILAR				Pg	**Pb**	**07 57 56.5**	**-2.0**
	comp=E,1.2nm,0.3s,baz=227,slow=14,SNR=22						
ILAR				Lg	Lg	07 58 31.4	
	comp=E,22nm,0.3s,baz=231,slow=28,SNR=5.1						
RDJH	**Redoubt Jeurge**	**2.63**	**195**		**Pn**	**07 57 54.8**	**+0.4**
M24K	**Tolsona, Glenn**	**2.65**	**111**		**Pn**	**07 57 55.4**	**+0.7**
M24K	**Tolsona, Glenn**	**2.65**	**111**	IAML		07 58 35.9	
	comp=N,197nm,0.6s						
M24K	**Tolsona, Glenn**	**2.65**	**111**	P	**Pn**	**07 57 55.2**	**+0.6**
	baz=296,SNR=33						
POKR	**Poker Plat Res**	**2.66**	**40**		**Pn**	**07 57 54.3**	**-0.3**
POKR	**Poker Plat Res**	**2.66**	**40**	IAML		07 58 38.0	
	comp=E,104nm,0.5s						
POKR				IAML		07 58 45.9	
	comp=N,91nm,0.7s						
POKR	**Poker Plat Res**	**2.66**	**40**	P	**Pn**	**07 57 54.2**	**-0.5**
	baz=224						
SLKM	**Skilak Lake**	**2.71**	**167**		**Pn**	**07 57 55.6**	**+0.3**
PWL	**Port Wells**	**2.72**	**146**		**Pn**	**07 57 56.5**	**+1.0**
PWL	**Port Wells**	**2.72**	**146**	IAML		07 58 40.8	
	comp=N,125nm,0.7s						
PWL				IAML		07 58 42.7	
	comp=E,138nm,0.8s						
PWL	**Port Wells**	**2.72**	**146**	P	**Pn**	**07 57 56.2**	**+0.7**
	baz=329						
PAX	**Paxson**	**2.73**	**91**		**Pn**	**07 57 56.7**	**+1.0**
PAX	**Paxson**	**2.73**	**91**	P	**Pn**	**07 57 56.0**	**+0.2**
	baz=276,SNR=59						
N19K	**Bonanza Creek**	**2.74**	**213**	P	**Pn**	**07 57 55.9**	**+0.1**
	baz=30						
RDWB	**Redoubt West**	**2.74**	**194**		**Pn**	**07 57 56.8**	**+0.9**
O22K	**Cooper Landing**	**2.79**	**162**	P	**Pn**	**07 57 57.6**	**+1.2**
	baz=344						
H23K	**Yukon River**	**2.82**	**16**		**Pn**	**07 57 57.0**	**+0.1**
H23K	**Yukon River**	**2.82**	**16**	P	**Pn**	**07 57 57.0**	**+0.1**
	baz=198,SNR=12						
PS06	**TAPS Pump Stn6**	**2.83**	**15**		**Pn**	**07 57 57.4**	**+0.5**
GCSA	**Galena City Sc**	**2.89**	**306**		**Pn**	**07 57 58.6**	**+0.9**
GCSA	**Galena City Sc**	**2.89**	**306**	P	**Pn**	**07 57 59.3**	**+1.6**
	baz=121						
PS11	**TAPS Pump St11**	**2.96**	**108**		**Pn**	**07 58 01.2**	**+2.4**
HARP	**HAARP**	**2.99**	**102**		**Pn**	**07 58 00.3**	**+1.0**
HARP	**HAARP**	**2.99**	**102**	P	**Pn**	**07 58 00.2**	**+1.0**
	baz=288,SNR=16						
IM03		**3.02**	**342**		**Pn**	**07 58 00.3**	**+0.7**
IMAR	**Indian Mountai**	**3.02**	**342**	Pn	**Pn**	**07 58 00.1**	**+0.5**
RIDG	**Independent Ri**	**3.03**	**76**		**Pn**	**07 58 00.6**	**+0.8**
RIDG	**Independent Ri**	**3.03**	**76**	IAML		07 58 49.9	
	comp=N,113nm,0.7s						
RIDG	**Independent Ri**	**3.03**	**76**	P	**Pn**	**07 58 00.6**	**+0.8**
	baz=262,SNR=46						
GLI	**Glacier Island**	**3.06**	**136**		**Pn**	**07 58 01.1**	**+0.9**
GLI	**Glacier Island**	**3.06**	**136**	IAML		07 58 47.4	
	comp=N,108nm,0.6s						
GLI	**Glacier Island**	**3.06**	**136**	P	**Pn**	**07 58 00.9**	**+0.8**
	baz=329						
KLU	**Klutina**	**3.07**	**120**		**Pn**	**07 58 01.8**	**+1.4**
KLU	**Klutina**	**3.07**	**120**	IAML		07 58 43.7	
	comp=E,81nm,0.4s						
KLU				IAML		07 58 49.2	
	comp=N,88nm,1.0s						
KLU	**Klutina**	**3.07**	**120**	P	**Pn**	**07 58 01.8**	**+1.4**
	baz=305,SNR=11						
J25K	**Salcha River,**	**3.07**	**59**		**Pn**	**07 58 00.1**	**-0.4**
J25K	**Salcha River,**	**3.07**	**59**	IAML		07 58 51.4	
	comp=N,86nm,0.7s						
J25K				IAML		07 58 54.9	
	comp=E,77nm,0.7s						
J25K	**Salcha River,**	**3.07**	**59**

MCARA	**McCarthy VSAT** comp=E,46nm,0.7s	4.32	110	IAML			07 59 25.8	
MCARA	**McCarthy VSAT** baz=298	4.32	110	P		Pn	**07 58 19.0**	**+1.5**
L27K	**Beaver Creek,**	4.38	87			Pn	**07 58 19.9**	**+1.6**
L27K	**Beaver Creek,** comp=N,22nm,1.3s	4.38	87	IAML			07 59 38.0	
L27K	**Beaver Creek,** baz=276,SNR=11	4.38	87	P		Pn	**07 58 19.4**	**+1.1**
M27K	**Edge Creek, AK**	4.47	96			Pn	**07 58 20.0**	**+0.3**
M27K	**Edge Creek, AK** comp=N,31nm,1.0s	4.47	96	IAML			07 59 40.4	
M27K	comp=E,22nm,1.8s			IAML			07 59 58.2	
M27K	**Edge Creek, AK** baz=284,SNR=5.3	4.47	96	P		Pn	**07 58 22.0**	**+2.3**
PTPK	**Patty Peak**	4.65	111			Pn	**07 58 23.0**	**+0.8**
KIAG	**Kiagna River**	4.83	113			Pn	**07 58 25.1**	**+0.6**
EGAK	**Eagle**	4.83	66			Pn	**07 58 24.8**	**+0.4**
BVCY	**Beaver Creek**	4.92	94			Pn	**07 58 26.9**	**+1.2**
BVCY	**Beaver Creek** baz=283,SNR=5.3	4.92	94	P		Pn	**07 58 27.6**	**+1.9**
BARN	**Barnard Glacie**	5.05	110			Pn	**07 58 29.0**	**+1.3**
BARN	**Barnard Glacie** comp=N,20nm,0.9s	5.05	110	IAML			07 59 49.1	
BARN	comp=E,16nm,1.3s			IAML			07 59 54.7	
YUK2	**White River**	5.11	101			Pn	**07 58 30.4**	**+2.0**
CTG	**Chitna Glacier** baz=299	5.24	110	P		Pn	**07 58 32.1**	**+1.9**
YUK3	**Moose Creek**	5.29	100			Pn	**07 58 33.0**	**+2.1**
YUK3	**Moose Creek** baz=290,SNR=13	5.29	100	P		Pn	**07 58 33.0**	**+2.1**
KDAK	**Kodiak Island** comp=E,0.2nm,0.3s,baz=17,slow=11,SNR=1.7	5.40	186	Pn		Pn	**07 58 33.8**	**+1.6**
KDAK	comp=E,0.2nm,0.3s,baz=47,slow=18,SNR=1.5			Sn		Sn	**07 59 34.7**	**+0.3**
DAWY	**Dawson**	5.47	75			Pn	**07 58 33.5**	**+0.3**
DAWY	**Dawson** baz=266	5.47	75	P		Pn	**07 58 33.3**	**+0.1**
TOLK	**Toolik Lake Re**	5.58	7			Pn	**07 58 36.0**	**+1.2**
TOLK	**Toolik Lake Re** baz=189,SNR=9.3	5.58	7	P		Pn	**07 58 36.4**	**+1.7**
M30M	**Minto, Yukon** baz=281	6.74	88	P		Pn	**07 58 51.7**	**+1.0**
HYT	**Haines Junctio** baz=296	6.97	103	P		Pn	**07 58 55.5**	**+1.6**
INK	**Inuvik** comp=E,0.0nm,0.3s,baz=240,slow=9.7,SNR=2.7	9.00	47	Pn		Pn	**07 59 22.1**	**+0.6**
INK	comp=E,0.0nm,0.3s,baz=16,slow=20,SNR=1.5			Sn		Sn	**08 01 00.1**	**-2.6**
DLBC	**Dease Lake** comp=E,0.1nm,0.3s,baz=304,slow=7.3,SNR=1.7	11.45	105	Pn		Pn	**07 59 56.2**	**+1.0**
YKA	**Yellowknife Ar** comp=E,0.1nm,0.3s,baz=294,slow=12,SNR=11	16.71	76	Pn		Pn	**08 01 05.1**	**-0.5**
TXAR	**Lajitas Array** comp=E,0.1nm,0.4s,baz=336,slow=4.2,SNR=4.0	45.52	115	P		P	**08 05 32.6**	**+1.3**

NOU 15 08:22:40.7, 15°.19S×167°.55E, h14km, MLv4.3/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	6.27	176	P	Pn	08 24 12.9	0.0
YATNC	**Mamie plateau,**	6.86	185	P	Pn	08 24 20.8	-0.2
DZM	**Mont Dzumac**	6.92	189	P	Pn	08 24 21.5	-0.4
NOUC	**Port Laguerre**	6.97	190	P	Pn	08 24 22.6	+0.1
OUENC	**Ouen Island, N**	7.22	185	P	Pn	08 24 25.8	-0.1

*IDC **15** 08:27:43.2±2.6, 53°.55N×87°.83E, h0km, mb1 3.1/2, mb1mx2.9/36, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=22.8km s-min=15.5km az=62.0*
*NNC **15** 08:27:44.7±2.9, 53°.45N×87°.68E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=22.8km s-min=13.2km az=73.0, Suspected Mining explosion.*

ISC 15 08:27:44.4±3.5, 53°.6N±0°.1×87°.7E±0°.2, h0km, n8, σ0s91/13, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=99,slow=336	1.73	283	*i*		08 40 02.9	
ZAA0	**Zalesovo Array** 0.3nm,0.3s	1.73	283	⇓Pn	Pn	**08 28 15.5**	**-0.3**
ZAA0	2.5nm,0.3s			⇑Sn	Sg	**08 28 41.5**	**+1.5**
ZALV	**Zalesovo Beam** 2.1nm,0.3s,baz=107,slow=14,SNR=26	1.73	283	Pn	Pn	**08 28 15.4**	**-0.4**
ZALV	3.0nm,0.3s,baz=104,slow=28,SNR=4.5			Lg	Lg	08 28 41.3	
KURK	**Kurchatov** 0.6nm,0.6s	6.26	246	⇓Pn	Pn	**08 29 18.3**	**+0.3**
KURK	1.2nm,0.6s			⇑Sn	Sn	**08 30 28.2**	**-2.1**
KURK	5.0nm,1.0s			⇑Lg	Lg	08 31 04.3	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=60,slow=14,SNR=14	6.36	246	Pn	Pn	**08 29 19.9**	**+0.6**
KURBB	0.1nm,0.3s,baz=62,slow=26,SNR=4.2			Sn	Sn	**08 30 32.0**	**-0.6**
KURBB	0.1nm,0.3s,baz=62,slow=32,SNR=6.6			Lg	Lg	08 31 07.7	
KURBB	**Kurchatov Arra** 1.6nm,0.4s	6.36	246	⇓Pn	Pn	**08 29 19.5**	**+0.1**
KURBB	2.8nm,0.6s			⇑Sn	Sn	**08 30 32.1**	**-0.5**
KURBB	5.2nm,0.7s			⇓Lg	Lg	08 31 07.1	
MK31	**Makanchi Array** 0.1nm,0.3s,baz=29,slow=13,SNR=12	7.62	209	Pn	Pn	**08 29 37.1**	**+0.5**
MK31	0.2nm,0.3s			⇑Sn	Sn	**08 31 03.1**	**-0.5**
MK31	0.9nm,0.6s			⇑Lg	Lg	08 31 44.0	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=28,slow=13,SNR=12	7.62	209	Pn	Pn	**08 29 36.8**	**+0.1**
MKAR	0.1nm,0.3s,baz=32,slow=22,SNR=2.7			Sn	Sn	**08 31 03.3**	**-0.3**
MKAR	0.1nm,0.3s,baz=29,slow=33,SNR=5.3			Lg	Lg	08 31 42.7	

IDC 15 08:38:14.6±2.5, 53°.42N×87°.22E, h0km, mb1 2.9/2, mb1mx2.8/37, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=21.8km s-min=13.4km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=110,slow=328,SNR=7.2	1.52	292	*i*		08 48 36.1	
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=106,slow=17,SNR=12	1.52	291	Pg	Pn	08 38 41.9	-1.1
ZALV	0.8nm,0.3s,baz=112,slow=26,SNR=7.9			Lg	Lg	08 39 02.4	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=62,slow=14,SNR=3.8	6.05	246	Pn	Pn	08 39 46.1	+0.9
KURBB	baz=62,slow=25,SNR=1.1			Sn	Sn	08 40 54.8	-0.2
KURBB	baz=61,slow=34,SNR=5.1			Lg	Lg	08 41 26.3	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=26,slow=14,SNR=7.0	7.34	207	Pn	Pn	08 40 04.3	+1.3
MKAR	0.1nm,0.3s,baz=23,slow=29,SNR=2.5			Sn	Sn	08 41 26.2	-0.8
MKAR	0.1nm,0.3s,baz=29,slow=27,SNR=3.6			Lg	Lg	08 42 09.5	

*NIED **15** 08:39:01.4, 32°.84N×130°.88E, h12km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.52; $M_{\theta\theta}$=2.15; $M_{\phi\phi}$=-1.63; $M_{r\theta}$=-0.52; $M_{\theta\phi}$=0.10; $M_{r\theta}$=0.04; Fault plane solution: M_0=1.95000×10^{14} NP1: ϕ_s=223.00000°, δ=81.00000°, λ=174.00000°. NP2: ϕ_s=314.00000°, δ=85.00000°, λ=9.00000°.*

JMA 15 08:39:01.3, 32°.84N×130°.88E, h12km±1km, M3.5, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	0.30	191	⇑P	Pg	08 39 07.5	+0.1
JTA	**Tamana**	0.32	293	⇓P	Pg	08 39 07.9	+0.1

JMA 15 08:39:05.3, 32°.68N×130°.74E, h8km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	0.14	155	P	Pg	08 39 08.7	+0.3
JIU3				S	Sg	08 39 11.0	+0.5
JTA	**Tamana**	0.33	328	P	Pg	08 39 12.1	+0.2
JTA				*eS*	Sg	08 39 17.1	+0.8
JTA	**Tamana**	0.33	328	S	Pg	08 39 12.5	+0.6

*NOU **15** 08:39:35.7, 39°.11S×175°.23E, h4km, MLv3.5/8, North Island, New Zealand*
*WEL **15** 08:39:36.0, 39°.S±1°.×17°.5E±°, h14km±2km, M3.1/50, ML3.3/50, MLv3.1/50, Error ellipse: s-maj=0.0km s-min=0.0km az=94.0*

ISC 15 08:39:36.1±0.8, 39°.10S±0°.02×175°.28E±0°.02, h15km±6km, n132, σ0s64/159, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	0.20	166	P	Pg	08 39 40.6	-0.2
PKVZ				S	Sg	08 39 44.0	0.0
WTVZ	**West Tongariro**	0.24	94	P	Pg	08 39 41.4	-0.1
WTVZ				S	Sg	08 39 45.2	+0.1
NGZ	**Ngauruhoe**	0.26	107	P	Pg	08 39 41.7	-0.1
NGZ				S	Sb	08 39 46.1	-0.8
NNVZ	**North Ngauruho**	0.26	97	P	Pg	08 39 41.8	0.0
NNVZ				S	Sg	08 39 46.1	+0.3
FWVZ	**Far West T-bar**	0.26	127	P	Pg	08 39 41.7	-0.2
FWVZ				S	Sg	08 39 45.6	-0.2
KRVZ	**Karewarewa**	0.28	89	P	Pg	08 39 42.0	-0.1
KRVZ				S	Sg	08 39 46.2	0.0
DRZ	**Dome Shelter**	0.28	129	P	Pg	08 39 42.1	-0.2
DRZ				S	Sg	08 39 46.2	-0.3
TRVZ	**Turoa**	0.29	134	P	Pg	08 39 42.1	-0.2
TRVZ				S	Sg	08 39 46.1	-0.4
SNVZ	**South Ngauruho**	0.29	108	P	Pg	08 39 42.3	0.0
WHVZ	**Whangaehu Hut**	0.30	128	P	Pg	08 39 42.2	-0.4
WHVZ				S	Sg	08 39 46.2	-0.8
OTVZ	**Oturere**	0.30	102	P	Pg	08 39 42.5	0.0
OTVZ				S	Sg	08 39 47.2	+0.2
NTVZ	**North Tongarir**	0.31	90	P	Pg	08 39 42.5	-0.1
NTVZ				S	Sg	08 39 46.9	-0.1
MTVZ	**Mangateitei**	0.32	153	P	Pg	08 39 42.3	-0.5
MTVZ				S	Sg	08 39 47.0	-0.4
TMVZ	**Te Maari**	0.33	93	P	Pg	08 39 42.9	0.0
TMVZ				S	Sg	08 39 47.4	-0.3
ETVZ	**East Tongariro**	0.34	97	P	Pg	08 39 43.0	0.0
TUVZ	**Tukino**	0.34	121	P	Pg	08 39 43.1	0.0
TUVZ				S	Sg	08 39 47.9	+0.1
WNVZ	**Wahianoa**	0.34	133	P	Pg	08 39 42.9	-0.2
WNVZ				S	Sg	08 39 47.5	-0.4
KATZ	**Kakaramea**	0.34	69	P	Pg	08 39 43.2	0.0
KATZ				S	Sg	08 39 48.2	+0.1
VRZ	**Vera Road**	0.41	266	P	Pb	08 39 44.7	-0.3
VRZ				S	Sb	08 39 51.4	+0.4
RATZ	**Rangitukua**	0.45	59	P	Pg	08 39 45.0	0.0
RATZ				S	Sg	08 39 51.4	+0.4
RITZ	**Rihia Road**	0.46	75	P	Pg	08 39 45.5	+0.2
RITZ				S	Sg	08 39 51.3	-0.4
MOVZ	**Moawhango**	0.48	130	P	Pg	08 39 45.2	-0.4
MOVZ				S	Sg	08 39 51.0	-1.1
HATZ	**Hinemaiaia**	0.66	72	P	Pg	08 39 48.9	-0.2
HIZ	**Hauiti**	0.67	330	P	Pg	08 39 49.1	-0.1
HIZ				S	Sb	08 39 59.8	+1.1
HIZ	**Hauiti**	0.67	330	P	Pg	08 39 49.2	0.0
WHTZ	**Whakaora**	0.68	51	P	Pg	08 39 49.5	+0.1
WAZ	**Wanganui**	0.69	199	P	Pg	08 39 49.1	-0.6
WAZ				S	Sb	08 39 59.8	+0.4
BHTZ	**Black Hill Sta**	0.72	123	P	Pg	08 39 49.6	-0.6
KUTZ	**Kaahu Road**	0.74	35	P	Pg	08 39 49.9	-0.6
MHEZ	**Mangahewa**	0.75	271	P	Pb	08 39 51.4	+0.6
MHEZ				S	Sn	08 40 03.2	+0.1
LREZ	**Lake Rotokare**	0.77	242	P	Pb	08 39 51.2	0.0
LREZ				S	Sn	08 40 03.3	-0.5
TLZ	**Tolley Road**	0.79	15	P	Pg	08 39 50.2	-1.4
TLZ				S	Sg	08 40 01.2	-0.8
DREZ	**Durham Road**	0.85	264	P	Pb	08 39 52.7	+0.3
DREZ				S	Sn	08 40 06.0	+0.4
WPRZ	**Whakapapatarin**	0.90	50	P	Pg	08 39 53.1	-0.3
PREZ	**Palmer Road**	0.91	254	P	Pb	08 39 53.8	+0.3
PREZ				S	Sn	08 40 07.8	+0.7
MRHZ	**Matea Rd**	0.92	74	P	Pg	08 39 53.3	-0.6
NEZ	**North Egmont**	0.94	259	P	Pb	08 39 54.3	+0.2
BKZ	**Black Stump Fm**	0.94	94	P	Pg	08 39 53.4	-1.0
BKZ	**Black Stump Fm**	0.94	94	P	Pg	08 39 53.7	-0.7
KWHZ	**Kaweka Forest**	0.94	111	P	Pg	08 39 54.2	-0.2
ALRZ	**Allen Road**	0.99	57	P	Pg	08 39 54.6	-0.5
GRRZ	**Galatos Road**	0.99	41	P	Pg	08 39 54.3	-0.9
KRHZ	**Kereru**	1.00	123	P	Pg	08 39 55.1	-0.3
KHEZ	**Kahui Hut**	1.00	258	P	Pb	08 39 55.6	+0.4
PKE	**Pukeiti**	1.01	264	P	Pb	08 39 55.6	+0.3
PRRZ	**Plateau Road**	1.05	56	P	Pg	08 39 55.4	-1.0
HRRZ	**Handcock Road**	1.05	48	P	Pg	08 39 55.9	-0.5
PNHZ	**Pukenui**	1.08	139	P	Pg	08 39 56.2	-0.8
HSRZ	**Hossack Road**	1.09	44	P	Pg	08 39 56.7	-0.3
TSZ	**Takapari Road**	1.09	152	P	Pg	08 39 56.2	-1.0
OHWZ	**Ohakea**	1.11	179	P	Pg	08 39 56.6	-0.9
NBEZ	**Newall Road No**	1.11	261	P	Pb	08 39 57.3	+0.3
NMEZ	**Namu Road**	1.14	253	P	Pb	08 39 57.5	+0.2
MCHZ	**McNeill Hill**	1.15	108	P	Pn	08 39 58.5	+0.9
UTU	**Utuhina**	1.16	38	P	Pb	08 39 57.9	0.0
NMHZ	**Naumai**	1.19	90	P	Pb	08 39 58.6	+0.3
HLRZ	**Highlands Stat**	1.19	45	P	Pb	08 39 58.4	+0.1
NGRZ	**Ngongotaha**	1.22	36	P	Pb	08 39 58.5	-0.2
MTHZ	**Maungataniwha**	1.24	79	P	Pb	08 39 59.6	+0.4
TARZ	**Mount Tarawera**	1.29	48	P	Pg	08 40 01.2	+0.3
OMRZ	**Omania**	1.31	41	P	Pn	08 40 00.3	+0.4
KARZ	**Kaharoa**	1.31	35	P	Pn	08 40 00.5	+0.6
WPHZ	**Waipukurau**	1.32	138	P	Pg	08 40 00.8	-0.6
ARHZ	**Aropaoanui**	1.34	98	P	Pg	08 40 01.5	-0.4
POWZ	**Post Office Ro**	1.34	164	P	Pn	08 40 00.6	+0.2
KMRZ	**Kaimai**	1.35	23	P	Pn	08 40 00.6	+0.1
TOZ	**Tahuroa Road**	1.38	7	P	Pn	08 39 59.5	-1.2
DVHZ	**Dannevirke**	1.38	151	P	Pb	08 40 01.8	+0.2
RTZ	**Ruatahuna**	1.41	71	P	Pn	08 40 00.8	-0.5
KAHZ	**Kahuranaki**	1.42	120	P	Pg	08 40 02.7	-0.6
RAHZ	**Arahi**	1.42	83	P	Pg	08 40 03.7	+0.3
CKHZ	**Cape Kidnapper**	1.50	112	P	Pg	08 40 05.9	+1.0
PXZ	**Pawanui**	1.54	128	P	Pg	08 40 06.7	+1.1
PRWZ	**Pori Road**	1.55	160	P	Pg	08 40 05.1	-0.8
PRHZ	**Porangahau**	1.56	139	P	Pb	08 40 04.6	-0.1
TGRZ	**Tauranga**	1.57	50	P	Pb	08 40 03.7	+0.3
MRZ	**Mangatainoka R**	1.58	172	P	Pn	08 40 04.0	+0.5
OPRZ	**Ohinepanea**	1.60	39	P	Pn	08 40 05.0	+1.2
ANWZ	**Angora Road**	1.64	146	P	Pb	08 40 06.1	+0.1
URZ	**Urewera**	1.66	60	P	Pb	08 40 06.3	0.0
URZ	**Urewera**	1.66	60	P	Pb	08 40 06.3	0.0
OGWZ	**Otaki Gorge**	1.72	183	P	Pn	08 40 05.8	+0.4
TIWZ	**Tintock**	1.74	165	P	Pb	08 40 07.0	-0.7
BFZ	**Birch Farm**	1.75	155	P	Pb	08 40 07.3	-0.5
BFZ	**Birch Farm**	1.75	155	P	Pb	08 40 07.3	-0.5
KIW	**Kapiti Island**	1.78	189	P	Pn	08 40 06.4	+0.1
HOWZ	**Holdsworth Sta**	1.81	174	P	Pn	08 40 07.7	+1.0
MWZ	**Matawai**	1.92	67	P	Pn	08 40 08.2	+0.1
CPWZ	**Castlepoint**	1.94	159	P	Pg	08 40 14.0	+0.6
MYRZ	**Mayor Island**	1.97	23	P	Pb	08 40 11.5	0.0
RIGZ	**Rimuhau**	1.97	79	P	Pb	08 40 10.9	-0.9
MKAZ	**Moumakai**	1.99	357	P	Pn	08 40 08.2	-1.0
DUWZ	**D'Urville Isla**	2.00	211	P	Pn	08 40 09.4	0.0
CAW	**Cannon Point**	2.01	185	P	Pn	08 40 10.4	+0.7
TMWZ	**Te Maipa**	2.06	167	P	Pb	08 40 12.6	-0.6
MTW	**Mount Morrison**	2.06	175	P	Pn	08 40 10.7	+0.5
AWAZ	**Awhitu Peninsu**	2.09	346	P	Pn	08 40 10.7	+0.1
ETAZ	**East Tamaki Re**	2.16	352	P	Pn	08 40 11.1	-0.4
RUGZ	**Raukumara Rang**	2.19	60	P	Pn	08 40 13.7	+1.6
WEL	**Wellington**	2.22	190	P	Pn	08 40 13.9	+1.6
WTAZ	**Waiatarua**	2.23	345	P	Pn	08 40 13.1	+0.6
TCW	**Tory Channel**	2.25	200	P	Pn	08 40 13.1	+0.4
SNZO	**South Karori**	2.25	191	P	Pn	08 40 14.1	+1.3
PAWZ	**Paruwai Farm**	2.28	177	P	Pb	08 40 16.4	-0.6
HBAZ	**Herne Bay Bore**	2.29	349	P	Pb	08 40 17.6	+0.6
WIAZ	**Waiheke Island**	2.30	357	P	Pn	08 40 12.9	-0.6
MSWZ	**Moikau Station**	2.31	181	P	Pn	08 40 14.4	+0.7
TRWZ	**Traveller**	2.32	172	P	Pb	08 40 18.3	+0.8
BHW	**Baring Head**	2.33	188	P	Pb	08 40 16.4	-1.3
MBAZ	**Motutapu North**	2.34	352	P	Pn	08 40 13.3	-0.8
KUZ	**Kuaotunu**	2.37	9	P	Pn	08 40 13.2	-1.2
RVAZ	**Riverhead Bore**	2.39	346	P	Pn	08 40 14.5	-0.1
PLWZ	**Palliser**	2.47	180	P	Pn	08 40 16.1	+0.3
ABAZ	**Army Bay**	2.52	352	P	Pn	08 40 16.4	0.0
TUWZ	**Tuamarina**	2.54	203	P	Pn	08 40 18.1	+1.3
NNZ	**Nelson**	2.57	214	P	Pn	08 40 18.3	+1.1
TKNZ	**Takaka Hill**	2.63	222	P	Pn	08 40 18.7	+0.7
QRZ	**Quartz Range**	2.73	230	P	Pn	08 40 19.0	-0.3
QRZ	**Quartz Range**	2.73	230	P	Pn	08 40 19.3	-0.1
CMWZ	**Cape Campbell**	2.77	197	P	Pb	08 40 25.0	-0.3
BSWZ	**Blackbirch Sta**	2.83	202	P	Pb	08 40 24.4	-1.9
GRZ	**Great Barrier**	2.85	3	P	Pn	08 40 19.7	-1.3
MRNZ	**Matariki Terra**	3.00	219	P	Pn	08 40 24.4	+1.3
THZ	**Tophouse**	3.22	214	P	Pn	08 40 28.0	+1.8
KHZ	**Kahutara**	3.57	201	P	Pn	08 40 30.8	-0.1
KHZ	**Kahutara**	3.57	201	P	Pn	08 40 30.8	-0.1
DSZ	**Denniston Nort**	3.75	224	P	Pn	08 40 33.7	+0.4
OUZ	**Omahuta**	4.10	340	P	Pn	08 40 37.9	-0.2
OUZ	**Omahuta**	4.10	340	P	Pn	08 40 38.7	+0.5
GVZ	**Greta Valley S**	4.22	203	P	Pn	08 40 40.9	+1.0
LTZ	**Lake Taylor**	4.33	211	P	Pn	08 40 41.4	0.0
INZ	**Inchbonnie**	4.64	218	P	Pn	08 40 46.9	+1.2

*IDC **15** 08:51:49.0±4.7, 35°.61N×70°.44E, h66km±32km, mb3.8/10, mb1 3.9/14, mb1mx3.6/68, mbtmp4.1/14, ML4.0/4, MS2.8/3, Ms1 2.8/3, ms1mx2.4/84, Error ellipse: s-maj=49.2km s-min=20.0km az=152.0*
*NEIC **15** 08:51:56.4±2.7, 36°.18N±0°.07×70°.20E±0°.07, h110km±9km, mb4.4/12, Error ellipse: s-maj=10.6km s-min=7.3km az=154.0*
*NNC **15** 08:51:56.4±2.8, 36°.69N×70°.24E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=24.6km s-min=22.2km az=153.0*
*BJI **15** 08:51:56.7±0.0, 36°.38N×70°.31E, h108km, mb4.4/12, mB4.6/5*

ISC 15 08:51:55.1±0.5, 36°.14N±0°.05×70°.31E±0°.05, h100km, n98, σ2s21/108, mb4.1/12, 6C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	1.91	213		Pn	**08 52 29.4**	**+2.8**
CEP	**Cherat**	2.66	150	P	Pn	**08 52 39.2**	**+2.8**
CEP				S	Sn	**08 53 12.0**	**+3.8**
CHGR	**Chuyangaron**	2.67	340	Pn	Pn	**08 52 36.9**	**+0.3**
GAR	**Garm**	2.85	0		Pn	**08 52 40.1**	**+1.1**
NIL	**Nilore**	3.47	135	Pn	Pn	**08 52 49.8**	**+2.7**
CHCP	**Chirah Chowk**	3.47	135	P	Pn	**08 52 50.0**	**+2.9**
DRK	**Karamyk**	3.53	19		Pn	**08 52 49.6**	**+1.4**
THW	**Thamme Wali**	3.54	160	P	Pn	**08 52 50.2**	**+2.1**
BTK	**Batken**	3.93	6	Pn	Pn	**08 52 55.5**	**+2.1**
SARP	**Sargodha**	4.64	154	P	Pn	**08 53 03.9**	**+0.9**
JMU	**Jammu**	5.10	131	*eP*	Pn	**08 53 10.4**	**+1.2**
JMU				*eS*	Sn	**08 54 06.0**	**-0.9**
KSH	**Kashi**	5.61	51	P	Pn	**08 53 13.8**	**-2.3**
KSH				S	Sn	**08 54 10.9**	**-8.3**
KSH	comp=N,490nm,0.7s			smax	smax		
KSH	comp=E,340nm,0.8s			smax	smax		
THN	**Thein Dam**	5.80	128	*eP*	Pn	**08 53 19.9**	**+1.3**
THN				*eS*	Sn	**08 54 24.4**	**+0.6**
AML	**Almayashu** SNR=173	6.53	23	P	Pn	**08 53 29.2**	**+0.3**
HRA	**Herat**	6.83	257	Pn	Pn	**08 53 33.8**	**+1.0**
UCH	**Uchtor** SNR=41	6.90	27	P	Pn	**08 53 34.1**	**+0.2**
BHK	**Bhakra**	6.93	131	*eP*	Pn	**08 53 34.3**	**+0.3**
BHK				*eS*	Sn	**08 54 49.6**	**-1.8**
KK31	**Karatay Array**	6.95	1	Pn	Pn	**08 53 34.0**	**-0.3**
KK31	**Karatay Array** 9.9nm,0.5s,baz=183,slow=13,SNR=133	6.95	1	⇑P	Pn	**08 53 34.2**	**-0.1**
KK31	22nm,0.5s,baz=186,slow=26,SNR=7.5			⇑S	Sn	**08 54 47.3**	**-4.5**
KKAR	**Karatay Array**	6.95	1	Pn	Pn	**08 53 33.7**	**-0.6**
KKAR	**Karatay Array**	6.95	1		Pn	**08 53 34.0**	**-0.3**
EKS2	**Erkin-Say** SNR=26	7.04	21	P	Pn	**08 53 36.1**	**+0.6**
AAK	**Ala-Archa** SNR=30	7.25	25	P	Pn	**08 53 39.0**	**+0.6**
AAK	**Ala-Archa** 4.4nm,0.3s,baz=206,slow=9.3,SNR=59	7.25	25	P	Pn	**08 53 38.6**	**+0.2**
AAK	1.9nm,0.3s,baz=267,slow=17,SNR=8.4			S	Sn	**08 54 57.1**	**-2.1**
AAK	comp=Z,64nm,19.5s,baz=206,slow=41			LR	LR	08 57 07.1	
AAK	**Ala-Archa**	7.25	25	Pn	Pn	**08 53 38.8**	**+0.4**
KBK	**Karagaybulak** SNR=14	7.43	27	P	Pn	**08 53 41.7**	**+0.8**
FRU1	**Bishkek**	7.45	25	Pn	Pn	**08 53 41.9**	**+0.8**
SMLA	**Simla**	7.59	129	*eP*	Pn	**08 53 43.4**	**+0.5**
SMLA				*eS*	Sn	**08 55 04.0**	**-3.4**
SMLA	comp=E,116nm,0.3s			IAML		08 55 09.7	
SMLA	comp=N,88nm,0.2s			IAML		08 55 09.9	
ULHL	**Ulahol** SNR=6.7	7.64	35	P	Pn	**08 53 45.5**	**+1.8**
CHMS	**Chumysh** SNR=31	7.66	25	P	Pn	**08 53 43.7**	**-0.1**
CHMS	**Chumysh** comp=N,42nm,0.6s	7.66	25	⇓P	Pn	**08 53 44.0**	**+0.1**
CHMS	comp=N,88nm,1.0s			⇓S	Sn	**08 55 06.9**	**-2.1**
BOOM	**Boomskoye usch**	7.69	33	Pn	Pn	**08 53 46.2**	**+1.8**
USP	**Ospenovka** SNR=12	7.81	23	P	Pn	**08 53 46.5

	comp=Z,15nm,0.8s								
JIRN	**Jiri**	**15.90**	**118**	*e*P		**Pn**	**08 55 31.3**	**-2.2**
	comp=Z,25nm,0.9s								
RAMN	**Ramite**	**16.62**	**119**	*e*P		**Pn**	**08 55 40.8**	**-1.4**
AKTO	**Aktyubinsk**	**16.82**	**332**	P		**Pn**	**08 55 45.2**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=142,slow=15,SNR=15								
AKTO				S		Sn	08 58 38.2	-13	
	comp=Z,0.3nm,0.3s,baz=193,slow=19,SNR=2.9								
AKTO	**Aktyubinsk**	**16.82**	**332**	‖P		**Pn**	**08 55 45.1**	**+0.8**
	comp=Z,6.9nm,0.9s								
BRVK	**Borovoye**	**16.91**	**360**	P		**Pn**	**08 55 45.2**	**-0.2**
TAPN	**Taplejung**	**17.18**	**116**	*e*P		**Pn**	**08 55 48.2**	**-0.9**
LSA	**Lhasa**	**18.62**	**104**	P		**Pn**	**08 56 07.7**	**+1.1**
GOMU	**GeErMu**	**19.77**	**83**	P		**Pn**	**08 56 23.0**	**+3.0**
GOMU				pmax	pmax				
	comp=Z,4.0nm,1.1s								
GOMU				pmax	pmax				
	comp=Z,33nm,5.9s								
ZAA0	**Zalesovo Array**	**20.47**	**25**	P		**P**	**08 56 24.9**	**+0.4**
ZALV	**Zalesovo Beam**	**20.47**	**25**	P		**P**	**08 56 25.9**	**+1.3**
	comp=Z,59nm,0.6s,baz=220,slow=11,SNR=137								
GNI	**Garni**	**20.48**	**289**	P		**P**	**08 56 27.6**	**+2.6**
	comp=Z,9.7nm,0.6s,baz=72,slow=6.4,SNR=5.3								
GNI	**Garni**	**20.48**	**289**	P		**P**	**08 56 26.9**	**+1.9**
GNI				IAmb	IAmb		08 56 31.0		
	comp=Z,11nm,0.7s								
SHL	**Shillong**	**21.26**	**114**	P		**P**	**08 56 34.6**	**+1.0**
SHL				IAmb	IAmb		08 56 37.6		
	comp=Z,16nm,0.7s								
ARU	**Arti**	**21.80**	**342**	P		**P**	**08 56 40.8**	**+2.1**
	comp=Z,1.5nm,0.2s,baz=168,slow=16,SNR=5.1								
ARU				S		**S**	**09 00 36.5**	**+2.8**
	comp=Z,0.9nm,0.3s,baz=300,slow=20,SNR=1.6								
ARU				LR		LR	09 06 58.8		
	comp=Z,36nm,20.4s,baz=194,slow=41								
ARU	**Arti**	**21.80**	**342**	IAmb		IAmb	08 56 45.3		
	comp=Z,7.5nm,0.9s								
GTA	**Gaotai**	**23.50**	**73**	*e*P		**P**	**08 56 58.3**	**+2.2**
GTA				pmax	pmax				
	comp=Z,13nm,0.7s								
NRIK	**Noril'sk**	**34.58**	**11**	P		**P**	**08 58 36.4**	**+2.6**
	comp=Z,4.2nm,0.7s,baz=206,slow=5.2,SNR=8.4								
NRIK	**Noril'sk**	**34.58**	**11**	P		**P**	**08 58 35.4**	**+1.6**
NRIK				IAmb	IAmb		08 58 36.7		
	comp=Z,4.4nm,0.7s								
FINES	**FINESS Array B**	**37.47**	**327**	P		**P**	**08 59 00.2**	**+1.6**
	comp=Z,1.5nm,0.7s,baz=120,slow=8.2,SNR=2.0								
ARCES	**ARCESS Array B**	**41.27**	**338**	P		**P**	**08 59 31.4**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=114,slow=9.0,SNR=3.8								
ARCES	**ARCESS Array B**	**41.27**	**338**	IAmb		IAmb	08 59 33.0		
	comp=Z,91nm,1.9s								
NB2	**NORSAR Subarra**	**44.33**	**323**	P		**P**	**08 59 55.3**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=96,slow=8.6								
NOA	**NORSAR Array B**	**44.33**	**323**	P		**P**	**08 59 55.6**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=98,slow=7.9,SNR=6.3								
TIXI	**Tiksi**	**46.31**	**22**	P		**P**	**09 00 10.9**	**+0.6**
	comp=Z,6.2nm,0.7s,baz=270,slow=20,SNR=18								
TIXI	**Tiksi**	**46.31**	**22**	P		**P**	**09 00 10.6**	**+0.3**
TIXI				IAmb	IAmb		09 00 12.5		
	comp=Z,4.9nm,0.6s								
TORD	**Torodi Ar. Bea**	**65.15**	**268**	P		**P**	**09 02 23.9**	**-1.8**
	comp=Z,2.1nm,0.8s,baz=44,slow=6.0,SNR=12								
TORD	**Torodi Ar. Bea**	**65.15**	**268**	IAmb		IAmb	09 04 33.8		
	comp=Z,11nm,1.9s								
INK	**Inuvik**	**74.34**	**9**	P		**P**	**09 03 21.9**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=358,slow=7.1,SNR=1.1								
ILAR	**Eielson Array**	**75.27**	**16**	P		**P**	**09 03 26.7**	**0.0**
	comp=Z,0.4nm,0.7s,baz=322,slow=5.7,SNR=2.1								
YKA	**Yellowknife Ar**	**81.63**	**2**	P		**P**	**09 04 02.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=351,slow=5.6,SNR=3.2								

IDC 15 08:52:20.3±3.4, 54.26N×87.13E, h0km, mb1 2.6/2, mb1mx2.5/73, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=32.3km s-min=20.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**258**	*i*			09 01 12.4	
	baz=78,slow=329,SNR=2.2							
ZALV	**Zalesovo Beam**	**1.40**	**258**	Pg		Pn	08 52 44.9	-2.1
	0.9nm,0.3s,baz=76,slow=15,SNR=13							
ZALV				Lg		Lg	08 53 05.3	
	0.5nm,0.3s,baz=78,slow=27,SNR=2.9							
KURBB	**Kurchatov Arra**	**6.39**	**239**	Pn		Pn	08 53 56.0	+0.4
	0.1nm,0.3s,baz=56,slow=14,SNR=6.4							
MKAR	**Makanchi Array**	**8.08**	**204**	Pn		Pn	08 54 20.8	+2.0
	0.1nm,0.3s,baz=24,slow=13,SNR=2.0							

IDC 15 08:54:25.2±0.4, 63.24N×151.49W, h0km, mb4.2/27, mb1 4.4/33, mb1mx4.3/67, mbtmp4.2/33, ML3.9/6, MS3.5/26, Ms1 3.5/26, ms1mx3.2/99, Error ellipse: s-maj=9.4km s-min=8.3km az=165.0

AEIC 15 08:54:26±1.6, 63.15N±0.02×151.44W±0.05, h14km±3km, ML4.4, mb4.6/71(NEIC), ML4.6/150(NEIC), Mwr4.3/159(NEIC), Error ellipse: s-maj=3.7km s-min=2.6km az=63.0

ANF 15 08:54:26.3±0.3, 63.15N×151.48W, h10km±2km, ML4.9/66, Error ellipse: s-maj=1.6km s-min=1.5km az=162.0

NEIC 15 08:54:26, 63.15N×151.44W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr2.78; Mθθ0.23; Mφφ-3.01; Mrθ0.73; Mφθ-0.86; Mφr-1.60; Fault plane solution: M0 3.50000×10^15 NP1:φs175.24000°, δ60.31000°, λ68.83000°. NP2:φs33.26000°, δ35.90000°, λ122.35000°. Principal axes: T 3.4572, Plg67.0000°, Azm44.0000°; N 0.0818, Plg18.0000°, Azm186.0000°; P -3.5390, Plg13.0000°, Azm280.0000°;

NEIC 15 08:54:27.5±1.7, 63.14N±0.02×151.44W±0.03, h15km±3km Error ellipse: s-maj=2.5km s-min=2.0km az=134.0

ISC 15 08:54:25.6±1.0, 63.15N±0.02×151.47W±0.02, h6km±7km, n444, σθ84/413, mb4.5/61, MS3.5/21, 40C-27D, Fault plane solution: NP1:φs181.53143°, δ63.85955°, λ82.16036°. NP2:φs18.88651°, δ27.21127°, λ105.53233°. Principal axes: T Plg70.1156°, Azm75.0578°; N Plg7.0335°, Azm185.0028°; P Plg18.5007°, Azm277.3689°; **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAST	**Castle Rocks**	**0.38**	**314**	Pg		**Pb**	**08 54 34.7**	**-0.2**
CAST				Sg		**Sb**	**08 54 39.6**	**-1.4**
CAST	**Castle Rocks**	**0.38**	**314**	P		**Pb**	**08 54 34.6**	**-0.2**
	baz=132,SNR=1000							
CAST				S		**Sb**	**08 54 39.6**	**-1.4**
	baz=132							
PPLA	**Purkeypile**	**0.42**	**232**			**Pg**	**08 54 34.1**	**+0.4**
PPLA	**Purkeypile**	**0.42**	**232**	P		**Pg**	**08 54 34.1**	**+0.4**
	baz=52,SNR=1000							
PPLA				S		**Sg**	**08 54 39.6**	**+0.4**
	baz=52							
KTH	**Kantishna Hill**	**0.47**	**32**			**Pb**	**08 54 36.0**	**-0.4**
KTH						**Sb**	**08 54 42.9**	**-0.7**
TRF	**Thorofare Moun**	**0.61**	**60**			**Pg**	**08 54 38.1**	**+0.7**
TRF						**Sb**	**08 54 47.2**	**-0.5**
TRF	**Thorofare Moun**	**0.61**	**60**	P		**Pg**	**08 54 38.1**	**+0.7**
	baz=241,SNR=1000							
CHUM	**Lake Minchumin**	**0.82**	**333**			**Pn**	**08 54 43.0**	**-0.7**
CHUM						**Sb**	**08 54 54.1**	**+0.5**
CHUM	**Lake Minchumin**	**0.82**	**333**	P		**Pn**	**08 54 43.1**	**-0.7**
	baz=151,SNR=1000							
CHUM				S		**Sb**	**08 54 53.8**	**+0.2**
	baz=151							
CUT	**Chulitna**	**0.93**	**143**			**Pg**	**08 54 43.5**	**0.0**
CUT	**Chulitna**	**0.93**	**143**	Sg		**Sg**	**08 54 55.1**	**-0.5**
CUT	**Chulitna**	**0.93**	**143**	P		**Pg**	**08 54 43.5**	**0.0**
	baz=325,SNR=1000							
CUT				S		**Sg**	**08 54 55.1**	**-0.5**
	baz=325							
BPAW	**Bear Paw Mtn.**	**0.97**	**13**			**Pb**	**08 54 45.0**	**+0.1**
BPAW						**Sb**	**08 54 58.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**0.97**	**13**	P		**Pb**	**08 54 45.1**	**+0.3**
	baz=192,SNR=1000							
BPAW				S		**Sb**	**08 54 58.0**	**0.0**
	baz=192							
K20K	**Telida**	**1.19**	**281**			**Pn**	**08 54 48.7**	**-0.1**
K20K	**Telida**	**1.19**	**281**	IAML			08 55 06.7	
	comp=N,14μm,0.6s							
K20K				IAML			08 55 09.6	
	comp=E,12μm,0.7s							
K20K	**Telida**	**1.19**	**281**	P		**Pn**	**08 54 48.8**	**-0.1**
	baz=98,SNR=1000							
K20K				S		**Sn**	**08 55 04.5**	**-0.8**
	baz=98							
RND	**Reindeer**	**1.21**	**77**			**Pg**	**08 54 48.4**	**-0.4**
RND						**Sg**	**08 55 04.8**	**+0.3**
MCK	**McKinley**	**1.28**	**62**			**Pg**	**08 54 49.8**	**-0.3**
MCK	**McKinley**	**1.28**	**62**	IAML			08 55 09.4	
	comp=N,7μm,1.5s							
MCK	**McKinley**	**1.28**	**62**	P		**Pg**	**08 54 49.8**	**-0.3**
	baz=244,SNR=1000							
MCK				S		**Sg**	**08 55 06.8**	**+0.1**
	baz=244							
L20K	**Farewell, AK**	**1.30**	**240**			**Pg**	**08 54 49.5**	**-1.0**
L20K						**Sg**	**08 55 06.5**	**-0.7**
L20K	**Farewell, AK**	**1.30**	**240**	P		**Pg**	**08 54 49.2**	**-1.3**
	baz=58,SNR=1000							
L20K				S		**Sg**	**08 55 06.7**	**-0.5**
	baz=58							
BWN	**Browne**	**1.36**	**40**			**Pb**	**08 54 51.5**	**+0.1**
BWN						**Sn**	**08 55 11.2**	**+1.8**
BWN	**Browne**	**1.36**	**40**	IAML			08 55 19.4	
	comp=N,8μm,0.8s							
BWN				IAML			08 55 20.6	
	comp=E,7μm,1.0s							
WAT1	**Susitna Watana**	**1.37**	**102**			**Pn**	**08 54 51.0**	**-0.2**
WAT1	**Susitna Watana**	**1.37**	**102**	P		**Pn**	**08 54 51.1**	**-0.2**
	baz=285							
WAT1				S		**Sg**	**08 55 08.7**	**-1.0**
	baz=285							
M22K	**Willow**	**1.54**	**155**			**Pn**	**08 54 52.8**	**-0.7**
M22K						**Sn**	**08 55 13.0**	**-0.8**
M22K	**Willow**	**1.54**	**155**	P		**Pn**	**08 54 52.8**	**-0.7**
	baz=337,SNR=312							
M22K				S		**Sn**	**08 55 13.0**	**-0.8**
	baz=337							
J20K	**Nowinta River**	**1.57**	**312**			**Pb**	**08 54 54.4**	**-0.6**
J20K	**Nowinta River**	**1.57**	**312**	IAML			08 55 18.6	
	comp=E,6μm,0.7s							
J20K				IAML			08 55 24.5	
	comp=N,7μm,0.7s							
J20K	**Nowinta River**	**1.57**	**312**	P		**Pb**	**08 54 54.5**	**-0.6**
	baz=129,SNR=1000							
J20K				Sb		**Sg**	**08 55 16.9**	**+0.8**
	baz=129							
STLK	**Strandline Lak**	**1.67**	**186**			**Pn**	**08 54 55.1**	**-0.3**
NEA2	**Nenana**	**1.79**	**35**			**Pn**	**08 54 56.1**	**-0.9**
NEA2	**Nenana**	**1.79**	**35**	P		**Pn**	**08 54 56.1**	**-0.9**
	baz=217,SNR=362							
WAT6	**Susitna Watana**	**1.81**	**107**			**Pn**	**08 54 56.3**	**-1.1**
WAT6	**Susitna Watana**	**1.81**	**107**	P		**Pn**	**08 54 56.3**	**-1.1**
	baz=290,SNR=784							
WAT6				S		**Sn**	**08 55 19.6**	**-1.0**
	baz=290							
GHO	**Glory Hole Cre**	**1.82**	**138**			**Pn**	**08 54 56.5**	**-1.0**
GHO				IAML			08 55 26.3	
	comp=E,9μm,0.9s							
L19K	**White Mountain**	**1.84**	**239**			**Pn**	**08 54 57.5**	**-0.3**
L19K						**Sb**	**08 55 23.4**	**+0.5**
L19K	**White Mountain**	**1.84**	**239**	IAML			08 55 30.8	
	comp=E,9μm,0.9s							
L19K	**White Mountain**	**1.84**	**239**	P		**Pn**	**08 54 56.7**	**-1.0**
	baz=57,SNR=1000							
M19K	**Big River Lodg**	**1.85**	**228**	P		**Pn**	**08 54 57.2**	**-0.5**
	baz=46							
DHY	**Denali Highway**	**1.86**	**91**			**Pn**	**08 54 58.1**	**-0.1**
DHY	**Denali Highway**	**1.86**	**91**	IAML			08 55 26.0	
	comp=E,5μm,0.6s							
DHY	**Denali Highway**	**1.86**	**91**	P		**Pn**	**08 54 58.1**	**-0.1**
	baz=274,SNR=902							
SPCG	**Spurr Capps Gl**	**1.89**	**188**			**Pn**	**08 54 58.4**	**0.0**
SPCG						**Sn**	**08 55 22.8**	**+0.2**
PMR	**Palmer**	**1.91**	**144**			**Pn**	**08 54 58.5**	**-0.1**
PMR	**Palmer**	**1.91**	**144**	IAML			08 55 28.9	
	comp=N,7μm,0.8s							
PMR				IAML			08 55 30.2	
	comp=E,6μm,0.7s							
PMR	**Palmer**	**1.91**	**144**	P		**Pn**	**08 54 58.1**	**-0.5**
	baz=327,SNR=998							
SPBG	**Spurr Blockage**	**1.95**	**193**			**Pn**	**08 54 59.8**	**+0.6**
SPBG						**Sn**	**08 55 25.4**	**+1.4**
SPWE	**Spurr West**	**1.95**	**196**			**Pn**	**08 55 00.3**	**+1.0**
CKN	**Chakachatna No**	**1.97**	**190**			**Pn**	**08 55 00.1**	**+0.7**
SML	**Sawmill**	**1.99**	**131**			**Pn**	**08 54 59.3**	**-0.5**
SML	**Sawmill**	**1.99**	**131**	P		**Pn**	**08 54 59.3**	**-0.5**
	baz=315,SNR=686							
SPCR	**Spurr Chakacha**	**1.99**	**190**			**Pn**	**08 55 00.2**	**+0.4**
SPCR						**Sn**	**08 55 26.0**	**+0.9**
SPCR	**Spurr Chakacha**	**1.99**	**190**	P		**Pn**	**08 54 59.9**	**0.0**
	baz=10,SNR=186							
WRH	**Wood River Hil**	**2.00**	**47**			**Pn**	**08 54 59.1**	**-0.7**
I21K	**Tanana**	**2.05**	**354**			**Pn**	**08 55 01.0**	**+0.5**
I21K	**Tanana**	**2.05**	**354**	P		**Pn**	**08 55 01.0**	**+0.5**
	baz=173,SNR=167							
TTA	**Tatalina**	**2.08**	**266**			**Pn**	**08 55 00.4**	**-0.6**
TTA	**Tatalina**	**2.08**	**266**	IAML			08 55 35.0	
	comp=N,5μm,0.6s							
TTA				IAML			08 55 39.8	
	comp=E,6μm,0.7s							
TTA	**Tatalina**	**2.08**	**266**	P		**Pn**	**08 55 00.6**	**-0.5**
	baz=82,SNR=729							
FIS	**Fire Island**	**2.10**	**163**			**Pn**	**08 55 02.1**	**+0.8**
I23K	**Minto, Yukon-K**	**2.21**	**24**			**Pn**	**08 55 02.6**	**-0.1**
I23K	**Minto, Yukon-K**	**2.21**	**24**	IAML			08 55 42.2	
	comp=N,2μm,0.9s							
I23K	**Minto, Yukon-K**	**2.21**	**24**	P		**Pn**	**08 55 02.6**	**-0.1**
	baz=205,SNR=323							
CCB	**Clear Creek Bu**	**2.21**	**46**			**Pn**	**08 55 01.9**	**-0.8**
RC01	**Rabbit Creek A**	**2.23**	**158**			**Pn**	**08 55 02.8**	**-0.2**
RC01	**Rabbit Creek A**	**2.23**	**158**	IAML			08 55 42.9	
	comp=N,2μm,1.2s							
RC01	**Rabbit Creek A**	**2.23**	**158**	P		**Pn**	**08 55 02.3**	**-0.7**
	baz=340,SNR=109							
KNK	**Knik Glacier**	**2.25**	**140**			**Pn**	**08 55 03.8**	**+0.6**
KNK						**Sn**	**08 55 33.3**	**+2.0**
KNK	**Knik Glacier**	**2.25**	**140**	IAML			08 55 34.2	
	comp=E,6μm,0.6s							
KNK				IAML			08 55 36.8	
	comp=N,4μm,0.6s							
KNK	**Knik Glacier**	**2.25**	**140**	P		**Pn**	**08 55 03.2**	**0.0**
	baz=323,SNR=405							
MDM	**Murphy Dome**	**2.31**	**37**			**Pn**	**08 55 03.5**	**-0.6**
SCM	**Sheep Creek Mo**	**2.34**	**123**			**Pn**	**08 55 03.9**	**-0.7**
SCM	**Sheep Creek Mo**	**2.34**	**123**	IAML			08 55 39.1	
	comp=E,5μm,1.0s							
SCM	**Sheep Creek Mo**	**2.34**	**123**	P		**Pn**	**08 55 04.0**	**-0.5**
	baz=307,SNR=193							
TCOL	**CIGO, UAF Yank**	**2.35**	**41**			**Pn**	**08 55 04.0**	**-0.6**
TCOL	**CIGO, UAF Yank**	**2.35**	**41**	P		**Pn**	**08 55 04.1**	**-0.6**
	baz=224,SNR=123							
I53US	**FAIRBANKS INFR**	**2.35**	**41**	*i*			09 08 20.0	
	baz=222,slow=336,SNR=3.6							
COLA	**College**	**2.35**	**41**			**Pn**	**08 55 04.0**	**-0.6**
CAPN	**Captain Cook N**	**2.40**	**176**			**Pn**	**08 55 04.9**	**-0.4**
CAPN	**Captain Cook N**	**2.40**	**176**	Pb		**Pb**	**08 55 08.9**	**-0.2**
	baz=357,SNR=8.6							
PS08	**TAPS Pump Stn8**	**2.49**	**54**			**Pn**	**08 55 05.9**	**-0.7**
PS07	**TAPS Pump Stn7**	**2.58**	**31**			**Pn**	**08 55 07.5**	**-0.2**
H21K	**Melozitna Rive**	**2.58**	**348**			**Pn**	**08 55 08.2**	**+0.3**
H21K	**Melozitna Rive**	**2.58**	**348**	P		**Pn**	**08 55 08.2**	**+0.3**
	baz=166,SNR=258							
PS10	**TAPS Pump St10**	**2.59**	**81**			**Pn**	**08 55 07.7**	**-0.3**
IL31		**2.59**	**49**			**Pn**	**08 55 07.3**	**-0.7**
ILAR	**Eielson Array**	**2.59**	**49**	Pn		**Pn**	**08 55 07.2**	**-0.8**
	comp=E,7.1nm,0.3s,baz=234,slow=14,SNR=121							
ILAR				Pg		**Pb**	**08 55 10.8**	**-1.7**
	comp=E,14nm,0.3s,baz=230,slow=16,SNR=73							
ILAR				Lg		Lg	08 55 46.0	
	comp=E,94nm,0.3s,baz=230,slow=28,SNR=11							
DFR	**Drift River**	**2.63**	**193**			**Pn**	**08 55 09.8**	**+1.1**
RDJH	**Redoubt Jeurge**	**2.65**	**194**			**Pn**	**08 55 10.0**	**+1.1**
POKR	**Poker Plat Res**	**2.65**	**40**			**Pn**	**08 55 08.4**	**-0.4**
POKR	**Poker Plat Res**	**2.65**	**40**	P		**Pn**	**08 55 08.4**	**-0.4**
	baz=224,SNR=14							
M24K	**Tolsona, Glenn**	**2.66**	**111**			**Pn**	**08 55 09.7**	**+0.6**
M24K	**Tolsona, Glenn**	**2.66**	**111**	IAML			08 55 58.8	
	comp=N,4μm,1.4s							
M24K	**Tolsona, Glenn**	**2.66**	**111**	P		**Pn**	**08 55 09.6**	**+0.5**
	baz=296,SNR=649							
SLKM	**Skilak Lake**	**2.72**	**167**			**Pn**	**08 55 10.4**	**+0.6**
PWL	**Port Wells**	**2.74**	**146**			**Pn**	**08 55 10.9**	**+0.8**
PWL	**Port Wells**	**2.74**	**146**	IAML			08 55 53.9	
	comp=E,3μm,0.8s							
PWL				IAML			08 55 55.8	
	comp=N,3μm,1.2s							
PWL	**Port Wells**	**2.74**	**146**	P		**Pn**	**08 55 10.8**	**+0.8**
	baz=329,SNR=140							
PAX	**Paxson**	**2.74**	**91**			**Pn**	**08 55 10.6**	**+0.4**
PAX	**Paxson**	**2.74**	**91**	P		**Pn**	**08 55 10.5**	**+0.4**
	baz=277,SNR=426							
N19K	**Bonanza Creek**	**2.75**	**213**			**Pn**	**08 55 10.5**	**+0.2**
N19K	**Bonanza Creek**	**2.75**	**213**	IAML			08 55 52.8	
	comp=E,3μm,0.7s							
N19K				IAML			08 55 55.9	
	comp=N,3μm,0.6s							
N19K	**Bonanza Creek**	**2.75**	**213**	P		**Pn**	**08 55 10.4**	**+0.2**
	baz=30,SNR=115							
RDWB	**Redoubt West**	**2.75**	**194**			**Pn**	**08 55 11.3**	**+1.0**
O22K	**Cooper Landing**	**2.81**	**162**			**Pn**	**08 55 12.1**	**+1.2**
O22K	**Cooper Landing**	**2.81**	**162**	P		**Pn**	**08 55 12.2**	**+1.2**
	baz=344,SNR=85							
H23K	**Yukon River**	**2.81**	**16**			**Pn**	**08 55 11.3**	**+0.3**
H23K	**Yukon River**	**2.81**	**16**	P		**Pn**	**08 55 11.3**	**+0.3**
	baz=198,SNR=244							
PS06	**TAPS Pump Stn6**	**2.81**	**15**			**Pn**	**08 55 11.6**	**+0.6**
RED	**Redoubt Volcan**	**2.81**	**193**			**Pn**	**08 55 12.2**	**+1.0**
SVW2	**Sparrevohn**	**2.83**	**225**			**Pn**	**08 55 11.3**	**+0.1**
SVW2	**Sparrevohn**	**2.83**	**225**	IAML			08 56 04.5	
	comp=N,3μm,0.8s							
GCSA	**Galena City Sc**	**2.87**	**306**			**Pn**	**08 55 12.5**	**+0.7**
GCSA	**Galena City Sc**	**2.87**	**306**	P		**Pn**	**08 55 12.4**	**+0.6**
	baz=121,SNR=241							
PS11	**TAPS Pump St11**	**2.98**	**109**			**Pn**	**08 55 14.4**	**+1.2**
HARP	**HAARP**	**3.00**	**102**			**Pn**	**08 55 14.7**	**+1.1**
HARP	**HAARP**	**3.00**	**102**	P		**Pn**	**08 55 14.8**	**+1.1**
	baz=288,SNR=273							
IM03		**3.01**	**342**			**Pn**	**08 55 14.6**	**+0.9**
IMAR	**Indian Mountai**	**3.01**	**342**	Pn		**Pn**	**08 55 13.9**	**+0.2**
RIDG	**Independent Ri**	**3.03**	**76**			**Pn**	**08 55 14.7**	**+0.5**
RIDG	**Independent Ri**	**3.03**	**76**	IAML			08 56 09.7	
	comp=N,2μm,1.1s							
RIDG				IAML			08 56 13.1	
	comp=E,2μm,1.0s							
RIDG	**Independent Ri**	**3.03**	**76**	P		**Pn**	**08 55 14.4**	**+0.2**
	baz=262,SNR=170							
J25K	**Salcha River,**	**3.07**	**59**			**Pn**	**08 55 14.3**	**-0.4**
J25K	**Salcha River,**	**3.07**	**59**	IAML			08 56 09.2	
	comp=N,1μm,1.4s							
J25K	**Salcha River,**	**3.07**	**59**	P		**Pn**	**08 55 14.1**	**-0.6**
	baz=244,SNR=167							
GLI	**Glacier Island**	**3.08**	**136**			**Pn**	**08 55 15.7**	**+1.0**
GLI	**Glacier Island**	**3.08**	**136**	IAML			08 56 08.3	
	comp=N,2μm,0.9s							
GLI	**Glacier Island**	**3.08**	**136**	P		**Pn**	**08 55 15.7**	**+1.0**
	baz=320,SNR=99							
KLU	**Klutina**	**3.08**	**120**			**Pn**	**08 55 16.0**	**+1.2**
KLU	**Klutina**	**3.08**	**120**	IAML			08 56 02.6	
	comp=N,2μm,1.1s							
KLU				IAML			08 56 09.3	
	comp=E,1μm,0.8s							
KLU	**Klutina**	**3.08**	**120**	P		**Pn**	**08 55 15.8**	**+1.1**
	baz=305,SNR=162							
H24K	**Noodor Dome**	**3.11**	**28**			**Pn**	**08 55 14.7**	**-0.5**
H24K	**Noodor Dome**	**3.11**	**28**	P		**Pn**	**08 55 14.2**	**-1.0**
	baz=211,SNR=37							
JPK	**Jack Peak**	**3.11**	**130**			**Pn**	**08 55 15.4**	**+0.2**
O20K	**Slope Mountain**	**3.13**	**191**			**Pn**	**08 55 16.1**	**+0.6**
O20K	**Slope Mountain**	**3.13**	**191**	P		**Pn**	**08 55 17.2**	**+1.7**
	baz=9.9,SNR=18							
SEW	**Seward**	**3.21**	**162**			**Pn**	**08 55 17.5**	**+1.1**
SEW	**Seward**	**3.21**	**162**	P		**Pn**	**08 55 18.4**	**+1.9**
	baz=344,SNR=18							
IVE	**Iliamna Volcan**	**3.23**	**194**			**Pn**	**08 55 18.1**	**+1.2**
N18K	**Kilae Creek**	**3.24**	**222**			**Pn**	**08 55 17.1**	**+0.1**
N18K	**Kilae Creek**	**3.24**	**222**	IAML			08 56 10.8	
	comp=N,2μm,0.7s							
N18K	**Kilae Creek**	**3.24**	**222**	P		**Pn**	**08 55 17.0**	**0.0**
	baz=38,SNR=57							
O19K	**Port Alsworth**	**3.27**	**206**			**Pn**	**08 55 17.9**	**+0.7**
O19K	**Port Alsworth**	**3.27**	**206**	P		**Pn**	**08 55 17.7**	**+0.5**
	baz=24,SNR=37							
DIV	**Divide**	**3.36**	**125**			**Pn**	**08 55 19.5**	**+0.9**
DOT	**Dot Lake**	**3.37**	**78**			**Pn**	**08 55 19.5**	**+0.8**
FID	**Port Fidalgo**	**3.37**	**133**			**Pn**	**08 55 19.4**	**+0.7**
FID	**Port Fidalgo**	**3.37**	**133**	IAML			08 56 16.1	
	comp=N,1μm,0.7s							
PS12	**TAPS Pump St12**	**3.40**	**117**			**Pn**

MCARA **McCarthy VSAT** 4.33 110 Pn 08 55 32.9 +1.0
MCARA **McCarthy VSAT** 4.33 110 IAML 08 56 42.3
comp=E,1µm,0.8s
MCARA **McCarthy VSAT** 4.33 110 P Pn 08 55 33.1 +1.3
baz=298,SNR=29
Q19K **Cape Douglas,** 4.37 195 Pn 08 55 33.7 +1.2
Q19K **Cape Douglas,** 4.37 195 P Pn 08 55 33.3 +0.9
baz=13,SNR=8.7
L27K **Beaver Creek,** 4.38 87 Pn 08 55 33.6 +0.9
L27K **Beaver Creek,** 4.38 87 IAML 08 56 45.3
comp=N,616nm,1.6s
L27K IAML 08 56 57.2
comp=E,374nm,1.3s
L27K **Beaver Creek,** 4.38 87 P Pn 08 55 33.6 +0.9
baz=276,SNR=244
BC03 4.40 87 Pn 08 55 33.9 +1.1
Q23K **Middleton Isla** 4.48 144 P Pn 08 55 36.3 +2.4
baz=329
M27K **Edge Creek, AK** 4.48 96 Pn 08 55 35.1 +1.0
M27K **Edge Creek, AK** 4.48 96 IAML 08 56 54.8
comp=N,656nm,1.1s
M27K IAML 08 57 11.8
comp=E,480nm,1.8s
M27K **Edge Creek, AK** 4.48 96 P Pn 08 55 36.3 +2.2
baz=285,SNR=132
BERG **Berg Lake** 4.61 123 Pn 08 55 36.3 +0.5
PTPK **Patty Peak** 4.66 111 Pn 08 55 38.0 +1.4
TGL **Tana Glacier** 4.74 117 Pn 08 55 38.5 +0.9
TGL **Tana Glacier** 4.74 117 IAML 08 56 57.8
comp=N,586nm,1.0s
TGL IAML 08 57 05.4
comp=E,594nm,1.2s
KHIT **Khitrov Hills** 4.75 121 Pn 08 55 38.5 +0.7
BALM **Baldy** 4.79 112 Pn 08 55 38.9 +0.7
SUCK **Suckling Hills** 4.80 127 Pn 08 55 38.9 +0.6
SUCK **Suckling Hills** 4.80 127 IAML 08 57 01.0
comp=E,418nm,1.1s
SUCK IAML 08 57 04.0
comp=N,487nm,1.4s
EGAK **Eagle** 4.83 66 Pn 08 55 39.3 +0.6
EGAK **Eagle** 4.83 66 IAML 08 57 12.0
comp=N,753nm,1.0s
EGAK **Eagle** 4.83 66 P Pn 08 55 38.9 +0.2
baz=255,SNR=70
GRIN **Grindle Hills** 4.83 123 Pn 08 55 39.5 +0.7
KIAG **Kiagna River** 4.84 113 Pn 08 55 39.5 +0.5
WAX **Waxell Ridge** 4.91 120 Pn 08 55 40.8 +0.9
WAX **Waxell Ridge** 4.91 120 IAML 08 57 05.0
comp=E,742nm,1.7s
BVCY **Beaver Creek** 4.93 94 Pn 08 55 41.8 +1.7
BVCY **Beaver Creek** 4.93 94 P Pn 08 55 42.0 +1.8
baz=283,SNR=56
ISLE **Juniper Island** 5.02 117 Pn 08 55 41.9 +0.4
ISLE **Juniper Island** 5.02 117 IAML 08 57 08.8
comp=E,476nm,1.3s
BARN **Barnard Glacie** 5.06 110 Pn 08 55 43.6 +1.4
BARN **Barnard Glacie** 5.06 110 IAML 08 57 09.1
comp=N,377nm,1.9s
BARN IAML 08 57 09.2
comp=E,342nm,1.2s
SNH **Sunshine Point** 5.08 122 Pn 08 55 43.1 +0.8
SNH **Sunshine Point** 5.08 122 IAML 08 57 12.9
comp=N,324nm,2.6s
SNH IAML 08 57 16.8
comp=E,412nm,1.9s
BM03 **Burnt Mountain** 5.16 31 Pn 08 55 42.8 -0.5
BMAR **Burnt Mountain** 5.17 31 Pn Pn 08 55 42.6 -0.9
BAGL **Bagley Icefiel** 5.19 117 Pn 08 55 44.1 +0.5
GRNC **Granite Creek** 5.19 114 Pn 08 55 44.3 +0.4
GRNC **Granite Creek** 5.19 114 IAML 08 57 15.0
comp=N,304nm,1.7s
CTG **Chitna Glacier** 5.25 110 P Pn 08 55 45.8 +1.2
baz=299,SNR=41
CTGM **Chitina Glacie** 5.25 110 Pn 08 55 46.0 +1.3
CTGM **Chitina Glacie** 5.25 110 IAML 08 57 08.8
comp=N,326nm,2.1s
CTGM IAML 08 57 19.8
comp=E,191nm,1.3s
YUK3 **Moose Creek** 5.29 100 Pn 08 55 47.6 +2.4
YUK3 **Moose Creek** 5.29 100 P Pn 08 55 47.7 +2.4
baz=290,SNR=211
KDAK **Kodiak Island** 5.42 186 Pn Pn 08 55 46.6 -0.2
comp=E,3.6nm,0.3s,baz=70,slow=5.6,SNR=36
KDAK Sn Sn 08 56 47.6 -1.7
comp=E,5.2nm,0.3s,baz=15,slow=19,SNR=1.2
KDAK LR LR 08 57 23.9
comp=E,53nm,19.7s,baz=35,slow=32
KDAK **Kodiak Island** 5.42 186 Pn 08 55 47.4 +0.6
KDAK **Kodiak Island** 5.42 186 P Pn 08 55 47.6 +0.8
baz=5.5
LOGN **Logan Glacier** 5.46 111 Pn 08 55 47.9 +0.4
DAWY **Dawson** 5.47 75 Pn 08 55 47.7 +0.2
DAWY **Dawson** 5.47 75 P Pn 08 55 47.5 0.0
baz=266,SNR=66
TOLK **Toolik Lake Re** 5.57 7 Pn 08 55 50.8 +1.9
TOLK **Toolik Lake Re** 5.57 7 P Pn 08 55 51.0 +2.2
baz=189,SNR=142
TABL **Table Mountain** 5.60 114 Pn 08 55 49.9 +0.3
SAMH **Samovar Hills** 5.93 116 Pn 08 55 54.1 +0.2
J29M **Klondike Camp** 6.01 72 P Pn 08 55 55.6 +0.5
baz=264,SNR=10
OHAK **Old Harbor** 6.02 189 Pn 08 55 55.9 +0.9
OHAK **Old Harbor** 6.02 189 P Pn 08 55 55.7 +0.6
baz=8.0,SNR=5.8
I29M **Ogilvie Camp,** 6.15 63 Pn 08 55 57.9 +1.1
I29M **Ogilvie Camp,** 6.15 63 P Pn 08 55 57.0 +0.1
baz=255,SNR=191
PCA **Pinnacle** 6.16 115 Pn 08 55 58.3 +1.2
YUK4 **Talbot Arm** 6.26 101 P Pn 08 55 59.4 +0.8
baz=292,SNR=24
ANM **Nome** 6.30 289 Pn 08 55 59.9 +0.9
ANM **Nome** 6.30 289 P Pn 08 55 59.7 +0.7
baz=97,SNR=7.5
BCPM **Bancas Point** 6.50 114 Pn 08 56 03.0 +1.3
YUK6 **Outpost Mounta** 6.55 104 Pn 08 56 02.9 +0.4
YUK6 **Outpost Mounta** 6.55 104 P Pn 08 56 04.0 +1.5
baz=296,SNR=8.4
YUK5 **Granite Creek** 6.69 102 Pn 08 56 05.0 +0.6
M30M **Minto, Yukon** 6.74 88 Pn 08 56 06.0 +1.0
M30M **Minto, Yukon** 6.74 88 P Pn 08 56 05.6 +0.6
baz=282,SNR=26
SII **Sitkinak Islan** 6.75 193 Pn 08 56 05.6 +0.4
SII **Sitkinak Islan** 6.75 193 P Pn 08 56 06.2 +1.0
baz=11
PNL **Peninsula** 6.76 116 Pn 08 56 05.1 -0.2
PNL **Peninsula** 6.76 116 P Pn 08 56 06.2 +0.8
baz=306
RDOG **Red Dog Mine** 6.82 321 Pn 08 56 07.4 +1.4
RDOG **Red Dog Mine** 6.82 321 P Pn 08 56 07.4 +1.4
baz=131,SNR=35
YUK7 **Dusty Glacier** 6.83 107 Pn 08 56 07.6 +1.1
HYT **Haines Junctio** 6.98 103 Pn 08 56 09.4 +1.0
HYT **Haines Junctio** 6.98 103 P Pn 08 56 09.1 +0.8
baz=296,SNR=36
EPYK **Eagle Plains** 7.08 56 Pn 08 56 09.5 -0.1
EPYK **Eagle Plains** 7.08 56 P Pn 08 56 09.6 0.0
baz=250
N31M **Braeburn, Yuko** 7.50 96 Pn 08 56 16.9 +1.6
N31M **Braeburn, Yuko** 7.50 96 P Pn 08 56 16.6 +1.2
baz=290,SNR=12
TNA **Tin City** 7.53 296 Pn 08 56 16.7 +1.0
TNA **Tin City** 7.53 296 P Pn 08 56 16.0 +0.3
baz=101
CHIR **Chirikof Islan** 7.65 198 Pn 08 56 17.8 +0.4
M31M **Drury Creek, Y** 7.92 89 Pn 08 56 21.7 +0.6
M31M **Drury Creek, Y** 7.92 89 P Pn 08 56 21.7 +0.6
baz=284,SNR=19
VNFG **Fog Glacier, M** 8.00 214 Pn 08 56 23.4 +1.1
WHY **Whitehorse** 8.22 100 Pn 08 56 25.4 +0.1
WHY **Whitehorse** 8.22 100 P Pn 08 56 25.7 +0.5
baz=295,SNR=14
SKAG **Skagway** 8.60 108 P Pn 08 56 30.5 +0.1
baz=302,SNR=12
INK **Inuvik** 8.99 47 Pn Pn 08 56 35.9 +0.1
comp=E,1.1nm,0.3s,baz=239,slow=18,SNR=35
INK Lg Lg 08 59 09.7
comp=E,0.3nm,0.3s,baz=16,slow=9.5,SNR=1.9
INK LR LR 09 00 43.6
comp=E,341nm,20.0s,baz=206,slow=42
INK **Inuvik** 8.99 47 Pn 08 56 36.1 +0.4
INK **Inuvik** 8.99 47 P Pn 08 56 35.5 -0.2
baz=243,SNR=23
GAMB **Gambell** 9.07 283 Pn 08 56 37.1 +0.3
GAMB **Gambell** 9.07 283 P Pn 08 56 36.8 0.0
baz=85

SDPT **Sand Point** 9.07 215 Pn 08 56 36.2 -0.7
SDPT **Sand Point** 9.07 215 P Pn 08 56 38.2 +1.3
baz=27
BESE **Bessie Mountai** 9.30 112 Pn 08 56 39.8 -0.3
JIS **Juneau Island** 9.68 113 Pn 08 56 44.4 -0.8
SIT **Sitka** 10.10 120 Pn 08 56 50.8 -0.1
SIT **Sitka** 10.10 120 P Pn 08 56 49.9 -0.9
baz=314
DLBC **Dease Lake** 11.46 105 Pn Pn 08 57 10.7 +1.0
comp=E,0.8nm,0.3s,baz=283,slow=7.6,SNR=16
DLBC Lg Lg 09 00 26.1
comp=E,0.1nm,0.3s,baz=203,slow=24,SNR=1.5
DLBC LR LR 09 01 55.5
comp=E,320nm,20.9s,baz=288,slow=39
WRAK **Wrangell Islan** 11.73 116 P Pn 08 57 12.7 -0.5
baz=313
C36M **Paulatuk** 12.57 49 P Pn 08 57 23.0 -1.6
baz=254
A36M **Sachs Harbour** 13.22 37 P Pn 08 57 32.9 -0.6
baz=241,SNR=30
BBB **Bella Bella** 16.52 121 Pn P 08 58 22.4 +2.2
comp=E,0.3nm,0.3s,baz=307,slow=11,SNR=3.5
BBB LR LR 09 04 28.2
comp=E,204nm,18.4s,baz=312,slow=36
BBB **Bella Bella** 16.52 121 IAmb IAmb 08 59 01.8
comp=Z,97nm,1.5s
YKA **Yellowknife Ar** 16.71 76 Pn Pn 08 58 18.7 -1.2
comp=Z,0.3nm,0.3s,baz=287,slow=9.8,SNR=48
YKA PcP PcP 09 03 07.5 -0.9
comp=Z,0.1nm,0.3s,baz=282,slow=1.1,SNR=5.2
YKA LR LR 09 05 18.0
comp=Z,688nm,18.8s,baz=304,slow=39
BILL **Bilibino** 17.83 304 P Pn 08 58 33.3 -0.6
LLLB **Lillooet** 20.24 115 P Pn 08 59 02.8 -0.3
LLLB IAmb IAmb 08 59 09.6
comp=Z,28nm,1.2s
SHEM **Shemya Is, Ala** 20.77 256 LR LR 09 07 37.9
comp=Z,103nm,18.0s,baz=22,slow=38
PGC **Sidney** 21.14 120 P P 08 59 12.1 +1.1
PGC IAmb IAmb 08 59 13.8
comp=Z,30nm,0.8s
B05A **Bryant** 21.99 119 P P 08 59 20.5 +0.5
baz=324,SNR=5.5
B06A **Marblemount** 22.03 118 P P 08 59 21.3 +0.8
B06A IAmb IAmb 08 59 22.8
comp=Z,26nm,1.0s
EDM **Edmonton** 22.07 99 P P 08 59 20.9 0.0
RES **Resolute Bay** 22.27 36 P P 08 59 21.8 -1.0
comp=Z,1.2nm,0.5s,baz=266,slow=12,SNR=10
RES LR LR 09 08 54.1
comp=Z,75nm,18.6s,baz=46,slow=39
D05A **Enumclaw** 22.91 120 P P 08 59 30.5 +0.7
B08A **Colville Reser** 23.03 115 P P 08 59 31.4 +0.2
NEW **Newport** 24.03 112 P P 08 59 41.6 +0.7
comp=Z,11nm,1.1s,baz=307,slow=8.5,SNR=9.5
NEW LR LR 09 09 09.4
comp=Z,243nm,20.9s,baz=312,slow=37
NEW **Newport** 24.03 112 P P 08 59 41.7 +0.7
NEW IAmb IAmb 08 59 44.5
comp=Z,17nm,1.2s
NEW **Newport** 24.03 112 P P 08 59 41.7 +0.7
baz=321,SNR=8.8
EUNU **Eureka** 24.40 22 P P 08 59 44.0 -0.2
EUNU IAmb IAmb 08 59 46.7
comp=Z,37nm,1.9s
HAWA **Hanford** 24.53 118 P P 08 59 46.0 +0.5
SEY **Seymchan** 24.77 295 P P 08 59 48.6 +1.0
comp=Z,11nm,0.9s,baz=96,slow=10,SNR=5.2
WALA **Waterton Lakes** 24.79 107 P P 08 59 48.2 +0.2
JTMT **Jette** 25.63 109 P P 08 59 56.2 +0.5
JTMT IAmb IAmb 08 59 60.0
comp=Z,22nm,1.1s
MSO **Missoula** 26.49 110 P P 09 00 02.8 -0.7
baz=322
MA2 **Magadan** 27.10 289 P P 09 00 09.4 +0.7
comp=Z,1.0nm,0.3s,baz=61,slow=9.9,SNR=1.6
MA2 LR LR 09 11 05.2
comp=Z,34nm,18.8s,baz=134,slow=37
YBH **Yreka Blue Hor** 27.28 128 P P 09 00 11.4 +0.9
comp=Z,5.2nm,0.9s,baz=34,slow=2.5,SNR=5.7
YBH **Yreka Blue Hor** 27.28 128 IAmb IAmb 09 00 12.8
comp=Z,32nm,1.6s
FCC **Fort Churchill** 27.38 73 P P 09 00 10.6 -0.6
EGMT **Eagleton** 27.39 104 P P 09 00 10.9 -0.6
baz=319
HRY **Holter Researc** 27.49 108 P P 09 00 11.9 -0.6
PETK **Petropavlovsk-** 27.90 273 LR LR 09 12 21.2
comp=Z,77nm,18.1s,baz=60,slow=39
LRM **Limekiln Ridge** 27.92 110 P P 09 00 16.8 +0.3
DLMT **Dillon** 28.23 111 P P 09 00 20.1 +1.0
BOZ **Bozeman (W)** 28.45 109 P P 09 00 21.8 +0.7
BOZ **Bozeman (W)** 28.45 109 P P 09 00 21.1 0.0
baz=322,SNR=7.4
MCMT **McKenzie Canyo** 28.55 112 P P 09 00 21.4 -0.7
QLMT **Earthquake Lak** 29.15 110 P P 09 00 28.3 +0.9
YHL **Hebgen Lake** 29.24 110 P P 09 00 28.6 +0.4
YHL IAmb IAmb 09 00 30.8
comp=Z,7.8nm,1.0s
YHH **Holmes Hill** 29.43 109 P P 09 00 30.1 +0.2
YHH IAmb IAmb 09 00 32.4
comp=Z,10nm,1.0s
YMR **Madison River** 29.48 110 P P 09 00 31.3 +1.0
YMR IAmb IAmb 09 00 32.9
comp=Z,13nm,1.1s
YNR **Norris Junctio** 29.56 109 P P 09 00 32.2 +1.2
YNR IAmb IAmb 09 00 34.7
comp=Z,9.1nm,1.1s
YMP **Mirror Lake Pl** 29.77 109 P P 09 00 33.5 +0.5
YMP IAmb IAmb 09 00 35.7
comp=Z,9.6nm,1.1s
LKWY **Lake** 29.80 109 P P 09 00 34.9 +1.7
LKWY IAmb IAmb 09 00 36.8
comp=Z,8.1nm,1.0s
RLMT **Red Lodge** 29.85 107 P P 09 00 33.6 +0.1
baz=322,SNR=8.6
FLWY **Flagg Ranch** 30.06 110 P P 09 00 36.3 +0.9
FLWY IAmb IAmb 09 00 38.6
comp=Z,8.6nm,1.0s
MOOW **Moose Ponds** 30.31 110 P P 09 00 38.3 +0.6
TPAW **Teton Pass** 30.43 111 P P 09 00 39.8 +1.0
TPAW IAmb IAmb 09 00 41.6
comp=Z,11nm,1.2s
REDW **Red Top Meadow** 30.58 111 P P 09 00 41.1 +1.1
ELK **Elko** 30.96 119 P P 09 00 43.8 +0.4
AHID **Auburn Hatcher** 30.96 112 P P 09 00 43.6 +0.2
AHID IAmb IAmb 09 00 45.4
comp=Z,12nm,1.4s
KVN **Kaiserville** 31.32 125 P P 09 00 47.5 +1.0
BW06 **Boulder Array** 31.61 110 P P 09 00 49.5 +0.4
BW06 IAmb IAmb 09 00 51.9
comp=Z,10nm,1.1s
BW06 **Boulder Array** 31.61 110 P P 09 00 49.2 0.0
baz=325,SNR=10.0
PD31 **Pinedale Array** 31.61 110 P P 09 00 49.3 +0.1
PD31 IAmb IAmb 09 00 52.0
comp=Z,9.1nm,1.1s
PDAR **Pinedale Array** 31.61 110 P P 09 00 49.9 +0.7
comp=Z,7.6nm,1.1s,baz=317,slow=6.3,SNR=31
PDAR PcP PcP 09 03 40.0 -1.1
comp=Z,1.2nm,0.9s,baz=65,slow=1.2,SNR=4.5
PDAR LR LR 09 13 50.7
comp=Z,161nm,18.8s,baz=336,slow=37
PDAR **Pinedale Array** 31.61 110 P P 09 00 49.3 +0.1
NVAR **Mina Array Bea** 31.79 125 P P 09 00 52.1 +1.4
comp=Z,3.9nm,0.8s,baz=316,slow=8.8,SNR=18
NVAR PcP PcP 09 03 42.4 +0.7
comp=Z,1.9nm,0.7s,baz=289,slow=2.0,SNR=8.5
NVAR **Mina Array Bea** 31.79 125 P P 09 00 50.7 0.0
ULM **Lac du Bonnet** 32.02 87 P P 09 00 53.1 +0.7
comp=Z,4.8nm,0.7s,baz=292,slow=8.5,SNR=4.8
ULM PcP PcP 09 03 41.4 -0.4
comp=Z,2.9nm,0.7s,baz=256,slow=3.0,SNR=3.2
ULM LR LR 09 14 07.7
comp=Z,154nm,18.6s,baz=299,slow=37
CTU **Camp Tracy** 32.41 115 P P 09 00 56.3 +0.2
R11A **Troy Canyon, C** 32.89 122 P P 09 01 00.6 +0.3
baz=331,SNR=7.8
K22A **Casper** 33.01 107 P P 09 01 01.1 -0.3
K22A IAmb IAmb 09 01 02.9
comp=Z,6.1nm,0.9s
LCH **Last Change Ra** 33.09 126 P P 09 01 03.3 +1.3
LCH IAmb IAmb 09 02 01.2
comp=Z,5.7nm,1.0s
RDMU **Red Mountain** 33.42 113 P P 09 01 05.4 +0.4
RDMU IAmb IAmb 09 01 07.7
comp=Z,11nm,0.9s

TCRU **Three Creeks R** 33.90 118 P P 09 01 10.0 +0.9
TCRU IAmb IAmb 09 01 11.7
comp=Z,6.4nm,0.9s
P18A **Preston Nutter** 33.93 114 P P 09 01 10.3 +0.8
MSU **Marysvale** 34.09 118 P P 09 01 11.5 +0.6
YAK **Yakutsk** 34.19 305 LR LR 09 15 21.6
comp=Z,45nm,18.3s,baz=88,slow=37
SRU **San Rafael Swe** 34.25 115 P P 09 01 12.9 +0.7
SRU IAmb IAmb 09 01 14.4
comp=Z,10nm,0.9s
CCUT **Cedar City** 34.45 120 P P 09 01 14.8 +0.9
CCUT IAmb IAmb 09 01 16.1
comp=Z,5.9nm,1.0s
SZCU **Shurtz Canyon** 34.52 119 P P 09 01 15.0 +0.4
SZCU IAmb IAmb 09 01 16.6
comp=Z,9.4nm,1.1s
FRB **Frobisher Bay** 34.62 51 LR LR 09 16 10.8
comp=Z,91nm,19.0s,baz=274,slow=38
LCMT **Little Creek M** 34.96 120 P P 09 01 19.3 +1.0
LCMT IAmb IAmb 09 01 20.5
comp=Z,7.1nm,1.0s
KNB **Kanab** 35.12 120 P P 09 01 19.7 0.0
KNB IAmb IAmb 09 01 22.2
comp=Z,7.7nm,0.9s
PV13 **Radium Mtn., P** 35.76 114 P P 09 01 25.7 +0.4
PV13 IAmb IAmb 09 01 27.0
comp=Z,9.5nm,0.9s
S22A **4UR Ranch, Cre** 36.95 112 P P 09 01 35.7 +0.3
S22A **4UR Ranch, Cre** 36.95 112 P P 09 01 36.1 +0.7
baz=328,SNR=6.5
WUAZ **Wupatki** 37.00 119 P P 09 01 36.3 +0.5
WUAZ IAmb IAmb 09 01 38.0
comp=Z,16nm,1.0s
WUAZ **Wupatki** 37.00 119 P P 09 01 36.7 +0.9
baz=331,SNR=9.2
SDCO **Great Sand Dun** 37.51 111 P P 09 01 41.0 +0.7
SDCO IAmb IAmb 09 01 42.4
comp=Z,9.1nm,1.1s
SDCO **Great Sand Dun** 37.51 111 P P 09 01 40.9 +0.7
baz=328,SNR=7.3
KSCO **Kaye Shedlock'** 37.69 106 P P 09 01 41.5 0.0
Y14A **Wickenburg** 37.75 122 P P 09 01 42.7 +0.6
SFJD **Kangerlussuaq** 38.21 39 LR LR 09 18 06.4
comp=Z,42nm,18.4s,baz=312,slow=37
X18A **Snowflake** 38.43 118 P P 09 01 48.3 +0.4
X18A IAmb IAmb 09 01 50.2
comp=Z,11nm,1.0s
ANMO **Albuquerque** 39.49 114 LR LR 09 19 27.9
comp=Z,127nm,18.7s,baz=338,slow=38
ANMO **Albuquerque** 39.49 114 P P 09 01 57.7 +0.9
R32A **Long Quarter,** 39.89 103 P P 09 02 00.0 +0.1
TUC **Tucson** 40.05 121 P P 09 02 02.2 +0.8
BNM **Barren Site** 40.11 115 P P 09 02 02.4 +0.4
KSU1 **Kansas State U** 40.27 100 P P 09 02 02.7 -0.3
baz=325,SNR=5.6
SCHQ **Schefferville** 41.30 61 P P 09 02 11.4 +0.1
comp=Z,6.7nm,1.0s,baz=314,slow=7.5,SNR=6.8
NRIK **Noril'sk** 41.40 333 P P 09 02 12.7 +0.7
comp=Z,5.8nm,0.8s,baz=69,slow=5.0,SNR=9.6
NRIK **Noril'sk** 41.40 333 P P 09 02 12.3 +0.3
NRIK IAmb IAmb 09 02 18.9
comp=Z,15nm,0.9s
MSTX **Muleshoe** 41.88 111 P P 09 02 16.3 -0.1
baz=329,SNR=9.3
MNTX **Cornudas Mount** 42.75 115 P P 09 02 24.0 +0.6
MNTX **Cornudas Mount** 42.75 115 P P 09 02 23.6 +0.1
baz=331,SNR=6.5
HSIG 42.92 123 P P 09 02 25.2 +0.3
SADO **Sadowa** 43.65 79 LR LR 09 21 08.9
comp=Z,201nm,18.1s,baz=9.5,slow=37
TX31 **Lajitas Ar. Si** 45.53 115 P P 09 02 45.4 -0.4
TX32 **Lajitas Array** 45.53 115 P P 09 02 46.1 +0.3
TX32 IAmb IAmb 09 02 47.9
comp=Z,9.6nm,1.2s
TXAR **Lajitas Array** 45.53 115 P P 09 02 46.6 +0.8
comp=Z,4.7nm,0.9s,baz=330,slow=6.4,SNR=34
TXAR PcP PcP 09 04 24.3 -0.1
comp=Z,2.4nm,0.9s,baz=285,slow=2.8,SNR=6.5
TXAR LR LR 09 22 10.0
comp=Z,128nm,21.9s,baz=330,slow=36
TXAR **Lajitas Array** 45.53 115 P P 09 02 45.9 0.0
JCT **Junction City** 46.15 110 P P 09 02 50.7 +0.1
baz=330,SNR=6.8
BORG **Borgarnes** 47.21 27 LR LR 09 23 28.5
comp=Z,84nm,21.6s,baz=333,slow=37
ARCES **ARCESS Array B** 47.58 1 P P 09 03 02.9 +1.6
comp=Z,1.1nm,0.7s,baz=358,slow=7.7,SNR=1.1
143A **Socs Landing,** 47.92 100 P P 09 03 04.8 +0.4
TKL **Tuckaleechee C** 48.90 91 LR LR 09 24 32.5
comp=Z,277nm,18.7s,baz=342,slow=37
R58B **Mineral** 49.67 84 P P 09 03 17.8 +0.1
Y52A **Lilburn** 50.26 92 P P 09 03 22.6 +0.3
KSRS **Korea Array** 53.24 281 P P 09 03 45.5 +1.0
comp=Z,4.7nm,0.7s,baz=31,slow=6.8,SNR=15
KSRS LR LR 09 27 25.1
comp=Z,53nm,19.3s,baz=155,slow=37
SONM **Songino Array** 53.55 305 P P 09 03 47.2 +0.4
comp=Z,3.5nm,1.0s,baz=36,slow=7.9,SNR=5.1
SONM **Songino Array** 53.55 305 P P 09 03 47.2 +0.4
SONM IAmb IAmb 09 03 53.3
comp=Z,7.7nm,1.0s
ZAA0 **Zalesovo Array** 55.27 323 P P 09 03 58.8 -0.3
ZALV **Zalesovo Beam** 55.27 323 P P 09 03 58.6 -0.4
comp=Z,13nm,0.9s,baz=23,slow=8.0,SNR=21
ZALV **Zalesovo Beam** 55.27 323 P P 09 03 57.7 -1.3
NB2 **NORSAR Subarra** 55.43 10 P P 09 03 59.9 -0.3
comp=Z,0.6nm,0.7s,baz=351,slow=7.4
NOA **NORSAR Array B** 55.43 10 P P 09 04 00.1 -0.1
comp=Z,1.1nm,0.8s,baz=352,slow=7.0,SNR=4.9
NOA LR LR 09 28 46.2
comp=Z,14nm,18.9s,baz=355,slow=37
FINES **FINESS Array B** 55.71 1 P P 09 04 02.3 +0.3
comp=Z,1.1nm,0.6s,baz=28,slow=6.3,SNR=2.0
HHC **Hu-ho-hao-te** 57.40 297 eP P 09 04 13.3 -1.3
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,190nm,5.0s
ARU **Arti** 58.50 341 LR LR 09 31 10.3
comp=Z,38nm,19.3s,baz=154,slow=38
KURK **Kurchatov** 59.83 326 P P 09 04 31.2 0.0
KURK **Kurchatov** 59.83 326 IAmb IAmb 09 04 36.1
comp=Z,3.9nm,1.1s
KURBB **Kurchatov Arra** 59.94 326 P P 09 04 31.2 -0.7
comp=Z,2.0nm,0.8s,baz=24,slow=6.7,SNR=8.3
PETF **Flores** 62.33 108 P P 09 04 47.9 -0.7
MKAR **Makanchi Array** 62.42 321 P P 09 04 48.0 -0.8
comp=Z,1.3nm,0.6s,baz=44,slow=7.4,SNR=14
MKAR **Makanchi Array** 62.42 321 P P 09 04 47.8 -1.1
WMQ **Urumqi** 63.49 316 eP P 09 04 57.9 +1.8
WMQ pmax pmax
comp=Z,15nm,0.7s
ABKAR **Akbulak array** 65.21 338 P P 09 05 06.4 -0.8
ABKAR **Akbulak array** 65.21 338 P P 09 05 06.3 -0.8
ABKAR IAmb IAmb 09 05 10.0
comp=Z,7.7nm,1.6s
AKASG **Malin Array Be** 66.49 360 P P 09 05 15.2 -0.2
comp=Z,2.0nm,0.6s,baz=5.5,slow=6.8,SNR=6.8
GERES **GERESS Array B** 67.73 11 P P 09 05 23.7 +0.3
comp=Z,0.8nm,0.7s,baz=336,slow=2.9,SNR=4.0
GOMU **GeErMu** 67.90 307 P P 09 05 25.1 +0.1
GOMU pP sP 09 05 28.3 -0.3
GOMU sP pP 09 05 33.1 +5.6
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU pmax pmax
comp=Z,55nm,4.2s
DAVOX **Davos/Dischmat** 69.41 14 LR LR 09 37 54.5
comp=Z,23nm,19.5s,baz=275,slow=38
KBZ **Khabaz** 72.85 349 P P 09 05 55.4 +0.7
comp=Z,1.3nm,0.6s,baz=333,slow=6.8,SNR=2.3
PZH **PanZhiHua** 73.86 297 P P 09 06 01.3 +0.2
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
ESDC **Sonseca Array** 74.28 26 P P 09 06 02.9 -0.4
comp=Z,2.6nm,0.8s,baz=348,slow=5.9,SNR=16
ESDC LR LR 09 41 40.3
comp=Z,16nm,18.3s,baz=350,slow=38
BRTR **Keskin Array B** 77.38 356 P P 09 06 21.0 -0.1
comp=Z,1.5nm,0.9s,baz=20,slow=4.6,SNR=4.8
SDV **Santo Domingo** 77.99 94 P P 09 06 23.8 -1.0
comp=Z,2.0nm,0.7s,baz=329,slow=10.0,SNR=4.1
KEST **Kesra** 80.26 16 P P 09 06 36.9 -0.1
comp=Z,3.4nm,0.9s,baz=297,slow=2.3,SNR=3.6

KEST Kesra 80.26 16 IAmb IAmb 09 06 44.6
comp=Z,20nm,1.9s
CMAR Chiang Mai Arr 82.19 295 P **P** **09 06 47.3 0.0**
comp=Z,2.2nm,0.9s,baz=1.8,slow=5.9,SNR=4.9
NNA Nana 93.79 109 LR LR 09 52 43.2
comp=Z,33nm,18.6s,baz=248,slow=37
BOSA Boshof 145.39 5 PKPbc **PKPbc** **09 14 03.1 -0.7**
comp=Z,7.9nm,1.1s,baz=2.0,slow=4.5,SNR=5.6

NOU ***15*** *08:54:27.6, 13˚.10S×166˚.49E, h0km, MLv5.7/11, Vanuatu Islands*
IDC ***15*** *08:54:33.4±0.5, 13˚.79S×166˚.61E, h0km, mb4.7/24, mb1 4.8/27, mb1mx4.6/52, mbtmp4.7/27, ML3.2/2, MS4.1/45, Ms1 4.1/45, ms1mx4.0/63, Error ellipse: s-maj=17.6km s-min=12.5km az=93.0*
BJI ***15*** *08:54:38.4±0.0, 13˚.52S×166˚.83E, h40km, mb5.0/47, mB5.2/31, Ms4.9/8, Ms7 4.5/9*
NEIC ***15*** *08:54:40.2±1.5, 13˚.76S±0˚.03×166˚.62E±0˚.09, h41km±6km, mb5.1/56, Ms_20 4.7/26, Error ellipse: s-maj=13.1km s-min=4.7km az=91.0*
GCMT ***15*** *08:54:41.2±0.2, 13˚.79S±0˚.02×166˚.30E±0˚.01, h18km, MW5.1/94, Moment Tensor Solution. s68,c73; s94,c137; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.16±.17; Mθθ-0.21±.12; Mφφ-3.95±.11; Mrθ3.11±.35; Mrφ1.25±.07; Mθφ-1.06±.23; Best double couple: M=5.30300×10^16 NP1:φ=3.00000°, δ37.00000°, λ130.00000°. NP2: φ=137.00000°, δ63.00000°, λ64.00000°. Principal axes: T 5.7900, Plg63.0000°, Azm5.0000°; N -0.9720, Plg23.0000°, Azm149.0000°; P -4.8160, Plg14.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 08:54:40.2±0.5, 13.81S±0.05×166.54E±0.06, h44km±4km, h44km:pP-P, n229, σ1§10/208, mb5.0/61, MS4.4/60, 4C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.75**	**159**	Pn	**Pn**	**08 55 07.3**	**-0.9**
SANVU	**Saraoutou**	**1.75**	**159**	P	**Pn**	**08 55 08.0**	**-0.1**
DVP	**Devils Point**	**4.21**	**158**	P	**Pn**	**08 55 42.2**	**+0.4**
RTV	**Rentapao**	**4.36**	**156**	P	**Pn**	**08 55 44.1**	**+0.2**
LIFNC	**LIFOU**	**6.96**	**175**	Pn	**Pn**	**08 56 19.3**	**-0.5**
KOUNC	**Koumac, New Ca**	**7.04**	**197**	Pn	**Pn**	**08 56 20.6**	**-0.2**
KOUNC	**Koumac, New Ca**	**7.04**	**197**	P	**Pn**	**08 56 20.9**	**+0.1**
	367nm,1.0s						
MARNC	**Mare, Loyalty**	**7.76**	**170**		**Pn**	**08 56 30.6**	**-0.1**
HNR	**Honiara**	**7.79**	**303**	Pn	**Pn**	**08 56 30.2**	**-0.8**
	19nm,0.3s,baz=148,slow=7.6,SNR=4.2						
HNR				Sn	**Sn**	**08 57 53.3**	**-4.6**
	11nm,0.3s,baz=276,slow=19,SNR=1.1						
HNR				LR	LR	08 58 52.5	
	comp=Z,1μm,21.4s,baz=136,slow=33						
HNR	**Honiara**	**7.79**	**303**		**Pn**	**08 56 30.9**	**-0.1**
DZM	**Mont Dzumac**	**8.22**	**181**	Pn	**Pn**	**08 56 35.6**	**-1.5**
	2.0nm,0.3s,baz=20,slow=19,SNR=14						
DZM				Sn	**Sn**	**08 58 08.0**	**-0.7**
	baz=322,slow=21,SNR=0.7						
DZM	**Mont Dzumac**	**8.22**	**181**	*e*Pn	**Pn**	**08 56 36.4**	**-0.6**
	38nm,0.3s						
DZM				*e*Sn	**Sn**	**08 58 05.6**	**-3.1**
	31nm,0.6s						
DZM				*e*LR	LR	08 58 32.7	
	comp=Z,2μm,24.4s						
DZM	**Mont Dzumac**	**8.22**	**181**	Pn	**Pn**	**08 56 37.2**	**+0.2**
NOUC	**Port Laguerre**	**8.25**	**182**	P	**Pn**	**08 56 38.4**	**+1.0**
ONTNC	**Ouen Toro**	**8.45**	**181**	Pn	**Pn**	**08 56 40.9**	**+0.7**
ONTNC	**Ouen Toro**	**8.45**	**181**	P	**Pn**	**08 56 41.1**	**+0.9**
OUENC	**Ouen Island, N**	**8.57**	**178**	Pn	**Pn**	**08 56 42.2**	**+0.5**
PINNC	**Pines Island,**	**8.80**	**175**		**Pn**	**08 56 45.6**	**+0.7**
MSVF	**Nonsavu**	**11.75**	**111**	LR	LR	09 01 01.2	
	comp=Z,961nm,20.2s,baz=34,slow=33						
PMG	**Port Moresby**	**19.48**	**281**	P	**P**	**08 59 04.3**	**+0.7**
	0.5nm,0.3s,baz=92,slow=9.5,SNR=5.1						
PMG				LR	LR	09 05 37.9	
	comp=Z,793nm,19.2s,baz=95,slow=34						
PMG	**Port Moresby**	**19.48**	**281**	P	**P**	**08 59 04.1**	**+0.5**
CTA	**Charters Tower**	**20.38**	**249**	P	**P**	**08 59 14.3**	**+0.9**
	28nm,1.1s,baz=73,slow=12,SNR=6.8						
CTA				LR	LR	09 05 52.1	
	comp=Z,957nm,20.9s,baz=74,slow=33						
AFI	**Afiamalu**	**21.05**	**93**	LR	LR	09 05 30.8	
	comp=Z,708nm,20.6s,baz=274,slow=31						
RAO	**Raoul Island**	**21.06**	**139**	LR	LR	09 06 26.9	
	comp=Z,464nm,19.2s,baz=111,slow=34						
PATS	**Pohnpei**	**22.08**	**338**	P	**P**	**08 59 31.6**	**-0.1**
MANU	**Manus Island**	**22.27**	**300**	P	**P**	**08 59 34.4**	**+0.6**
HIZ	**Hauiti**	**25.69**	**165**	IAMs_20	IAMs_20	09 09 55.8	
	comp=Z,2μm,19.0s						
URZ	**Urewera**	**26.10**	**161**	P	**P**	**09 00 10.3**	**+0.4**
	comp=Z,16nm,1.1s,baz=260,slow=6.1,SNR=3.0						
STKA	**Stephens Creek**	**29.07**	**228**	P	**P**	**09 00 37.1**	**+0.6**
	comp=Z,22nm,1.0s,baz=38,slow=10,SNR=20						
STKA				LR	LR	09 12 00.5	
	comp=Z,759nm,18.4s,baz=53,slow=36						
STKA	**Stephens Creek**	**29.07**	**228**	P	**P**	**09 00 37.2**	**+0.6**
FOZ	**Fox Glacier**	**29.75**	**175**	P	**P**	**09 00 42.3**	**-0.1**
FOZ				IAmb	IAmb	09 00 44.2	
	comp=Z,34nm,0.9s						
RPZ	**Rata Peaks**	**30.05**	**173**	P	**P**	**09 00 44.8**	**-0.3**
	comp=Z,20nm,0.7s,baz=316,slow=2.1,SNR=12						
RPZ				LR	LR	09 12 59.0	
	comp=Z,986nm,18.1s,baz=349,slow=37						
RPZ	**Rata Peaks**	**30.05**	**173**	P	**P**	**09 00 45.4**	**+0.2**
RPZ				IAmb	IAmb	09 00 47.1	
	comp=Z,25nm,0.8s						
WB0	**Warramunga Arr**	**31.31**	**255**	P	**P**	**09 00 55.1**	**-1.5**
WRAB	**Tennant Creek**	**31.36**	**254**	P	**P**	**09 00 55.5**	**-1.6**
WRAB	**Tennant Creek**	**31.36**	**254**	IAMs_20	IAMs_20	09 13 59.5	
	comp=Z,975nm,18.0s						
WRA	**Warramunga Arr**	**31.38**	**254**	P	**P**	**09 00 55.1**	**-2.1**
	comp=Z,5.6nm,1.0s,baz=85,slow=9.0,SNR=17						
WRA				PcP	**PcP**	**09 03 50.1**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=73,slow=1.1,SNR=4.7						
WRA				LR	LR	09 12 22.4	
	comp=Z,814nm,21.5s,baz=48,slow=34						
WRA	**Warramunga Arr**	**31.38**	**254**	P	**P**	**09 00 55.2**	**-1.9**
WHZ	**Wether Hill Ro**	**32.00**	**178**	IAMs_20	IAMs_20	09 13 20.4	
	comp=Z,1μm,19.0s						
AS31	**Alice Springs**	**32.35**	**248**	P	**P**	**09 01 03.7**	**-2.0**
ASAR	**Alice Springs**	**32.35**	**248**	P	**P**	**09 01 03.8**	**-2.0**
	comp=Z,4.1nm,0.7s,baz=76,slow=9.1,SNR=29						
ASAR				PcP	**PcP**	**09 03 52.9**	**0.0**
	comp=Z,0.9nm,0.8s,baz=75,slow=3.9,SNR=2.8						
ASAR				ScP	**ScP**	**09 07 36.9**	**+3.6**
	comp=Z,0.8nm,1.0s,baz=76,slow=3.9,SNR=3.8						
ASAR				LR	LR	09 12 58.7	
	comp=Z,838nm,20.6s,baz=83,slow=34						
ASAR	**Alice Springs**	**32.35**	**248**	P	**P**	**09 01 04.4**	**-1.3**
RAR	**Rarotonga**	**32.91**	**108**	LR	LR	09 11 39.9	
	comp=Z,220nm,21.1s,baz=280,slow=31						
BBOO	**Buckleboo**	**33.60**	**231**	P	**P**	**09 01 16.1**	**-0.3**
MTN	**Manton Dam**	**34.45**	**267**	P	**P**	**09 01 23.7**	**-0.4**
MTN				IAmb	IAmb	09 01 33.6	
	comp=Z,18nm,0.8s						
GUMO	**Guam**	**34.66**	**321**	LR	LR	09 16 04.7	
	comp=Z,165nm,18.1s,baz=154,slow=37						
KNRA	**Kununurra**	**36.55**	**262**	P	**P**	**09 01 40.3**	**-1.8**
KNRA				IAmb	IAmb	09 01 51.3	
	comp=Z,24nm,1.1s						
SIJI	**Sorong**	**37.19**	**287**	LR	LR	09 17 34.7	
	comp=Z,519nm,20.0s,baz=110,slow=37						
FORT	**Forrest**	**39.17**	**238**	P	**P**	**09 02 03.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.50**	**258**	P	**P**	**09 02 05.2**	**-1.6**
	comp=Z,6.9nm,0.9s,baz=95,slow=7.8						
FITZ				LR	LR	09 18 51.4	
	comp=Z,538nm,18.8s,baz=86,slow=37						
BATI	**Baumata**	**42.05**	**270**	LR	LR	09 20 37.7	
	comp=Z,581nm,18.4s,baz=130,slow=37						
PPT2	**Papeete2**	**42.35**	**101**	*e*S	**S**	**09 08 48.3**	**-0.6**
	comp=Z,223nm,26.2s						
PPT2				*e*LQ	LQ	09 12 26.8	
	comp=Z,901nm,29.5s						
PPT2				*e*LR	LR	09 14 15.3	
	comp=Z,758nm,28.2s						
MBWA	**Marble Bar**	**45.11**	**254**	IAMs_20	IAMs_20	09 22 24.0	
	comp=Z,797nm,19.0s						
MBWA	**Marble Bar**	**45.11**	**254**	P	**P**	**09 02 52.3**	**-0.3**
MBWA				pP	**pP**	**09 03 01.0**	**-1.8**
MBWA				sP	**sP**	**09 03 06.2**	**-1.0**
DAV	**Davao City (W)**	**45.64**	**295**	LR	LR	09 22 21.0	
	comp=Z,90nm,18.5s,baz=152,slow=36						

KAPI	**Kappang**	**46.90**	**276**	P	**P**	**09 03 06.6**	**-0.2**
	comp=Z,11nm,1.0s,baz=111,slow=0.9,SNR=4.7						
KAPI	**Kappang**	**46.90**	**276**	P	**P**	**09 03 06.6**	**-0.2**
KAPI				IAmb	IAmb	09 03 20.2	
	comp=Z,20nm,1.1s						
JCJ	**Chichijima**	**47.04**	**330**		**P**	**09 03 07.4**	**-0.1**
NWAO	**Narrogin (SRO)**	**48.62**	**238**	P	**P**	**09 03 19.5**	**-0.4**
MORW	**Morawa**	**49.03**	**243**	P	**P**	**09 03 22.6**	**-0.6**
MORW				IAmb	IAmb	09 03 27.4	
	comp=Z,15nm,0.9s						
MYLDM	**Lahad Datu**	**51.27**	**288**	P	**P**	**09 03 40.3**	**+0.2**
MYLDM				IAmb	IAmb	09 03 53.2	
	comp=Z,31nm,1.2s						
TAOE	**Nuku Hiva Isla**	**52.42**	**91**	*e*S	**S**	**09 11 09.7**	**-2.7**
	comp=Z,220nm,27.3s						
TAOE				*e*LR	LR	09 18 52.5	
	comp=Z,659nm,27.0s						
JHJ	**Hachijo jima 2**	**53.20**	**332**	LR	LR	09 27 11.6	
	comp=Z,60nm,18.7s,baz=82,slow=37						
KKM	**Kota Kinabalu**	**53.70**	**288**	P	**P**	**09 03 57.6**	**-0.7**
DRV	**Dumont d'Urvil**	**55.68**	**192**	P	**P**	**09 04 12.6**	**+0.8**
DRV				pP	**pP**	**09 04 24.1**	**+1.6**
DRV				pwP	**pwP**	**09 04 27.3**	**-2.1**
DRV				X		09 04 27.4	
DRV				sP	**sP**	**09 04 30.9**	**+3.8**
SBUM	**Sibu**	**56.22**	**282**	P	**P**	**09 04 15.9**	**-0.6**
JMN	**Monobe**	**56.60**	**327**	P	**P**	**09 04 20.2**	**+1.5**
MJAR	**Matsushiro Arr**	**56.77**	**333**	P	**P**	**09 04 19.0**	**-0.9**
	comp=Z,5.5nm,0.7s,baz=172,slow=8.5,SNR=6.2						
YULB	**Yu-li**	**57.67**	**309**	P	**P**	**09 04 26.5**	**0.0**
KSM	**Kuching**	**57.74**	**281**	P	**P**	**09 04 27.1**	**-0.2**
KSM				IAmb	IAmb	09 04 28.2	
	comp=Z,18nm,1.1s						
LEM	**Lembang**	**58.27**	**270**	LR	LR	09 29 49.9	
	comp=Z,87nm,20.2s,baz=110,slow=36						
JKA	**Kamikawa-asahi**	**61.64**	**341**	P	**P**	**09 04 53.3**	**-0.1**
ASAJ	**Asahikawa**	**61.64**	**341**	P	**P**	**09 04 53.3**	**-0.1**
	comp=Z,15nm,0.7s,baz=203,slow=10,SNR=6.2						
ASAJ				LR	LR	09 28 29.4	
	comp=Z,117nm,20.8s,baz=170,slow=33						
KSRS	**Korea Array**	**62.58**	**326**	P	**P**	**09 04 59.8**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=148,slow=7.4,SNR=6.6						
KSAR	**Wonju Array Be**	**62.60**	**326**	P	**P**	**09 05 00.3**	**+0.3**
VNDA	**Vanda**	**63.76**	**181**	P	**P**	**09 05 07.1**	**-0.1**
	comp=Z,7.5nm,1.0s,baz=356,slow=7.5,SNR=19						
VNDA				LR	LR	09 29 17.4	
	comp=Z,110nm,20.6s,baz=3.5,slow=33						
VNDA	**Vanda**	**63.76**	**181**	P	**P**	**09 05 07.7**	**+0.6**
SBA	**Scott Base**	**64.05**	**180**	P	**P**	**09 05 10.5**	**+1.4**
SBA	**Scott Base**	**64.05**	**180**	P	**P**	**09 05 11.0**	**+1.9**
SBA				pP	**pP**	**09 05 21.6**	**+1.0**
SBA				sP	**pwP**	**09 05 27.3**	**+2.0**
CASY	**Casey**	**64.11**	**202**	P	**P**	**09 05 10.6**	**+1.0**
CASY				IAmb	IAmb	09 05 21.2	
	comp=Z,37nm,1.6s						
YSS	**Yuzh-Sakhalins**	**64.14**	**342**	P	**P**	**09 05 11.1**	**+1.1**
NJ2	**Nanjing**	**64.53**	**316**	*e*P	**P**	**09 05 14.3**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CCD	**Concordia, Ant**	**65.66**	**191**	P	**P**	**09 05 21.1**	**+1.0**
USRK	**Ussuriysk Ar.**	**65.75**	**333**	P	**P**	**09 05 21.1**	**+0.6**
	comp=Z,5.9nm,0.8s,baz=128,slow=6.5,SNR=11						
USRK	**Ussuriysk Ar.**	**65.75**	**333**	P	**P**	**09 05 21.4**	**+0.9**
SHEM	**Shemya Is, Ala**	**66.58**	**5**	LR	LR	09 27 42.4	
	comp=Z,149nm,20.0s,baz=196,slow=30						
UBPT	**Khong Chiam**	**66.96**	**293**	P	**P**	**09 05 28.9**	**+0.1**
PETK	**Petropavlovsk-**	**67.08**	**354**	P	**P**	**09 05 29.1**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=151,slow=6.6,SNR=2.6						
MDJ	**Mudanjiang**	**67.14**	**332**	P	**P**	**09 05 30.8**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,17nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,160nm,5.2s						
IPM	**Ipoh**	**67.48**	**281**	P	**P**	**09 05 31.9**	**-0.3**
IPM				IAmb	IAmb	09 05 33.6	
	comp=Z,25nm,1.3s						
CN2	**Changchun**	**68.50**	**329**	*e*P	**P**	**09 05 38.5**	**+0.5**
CN2				S	**S**	**09 14 37.4**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
BNX	**BinXian**	**69.00**	**332**	⇑P	**P**	**09 05 41.9**	**+0.9**
BNX				pmax	pmax		
	comp=Z,16nm,0.7s						
BNX				pmax	pmax		
	comp=Z,220nm,3.5s						
KLR	**Kul'dur**	**69.88**	**337**	P	**P**	**09 05 47.4**	**+1.0**
	comp=Z,7.9nm,1.0s,baz=132,slow=3.7,SNR=7.7						
KLR				LR	LR	09 32 38.4	
	comp=Z,59nm,21.3s,baz=145,slow=33						
ENH	**Enshi**	**70.24**	**310**	P	**P**	**09 05 48.7**	**-0.4**
ENH				IAmb	IAmb	09 05 50.0	
	comp=Z,26nm,1.0s						
ENH	**Enshi**	**70.24**	**310**	P	**P**	**09 05 50.1**	**+1.0**
LYN	**LuoYang**	**70.33**	**315**	*e*P	**P**	**09 05 50.3**	**+0.8**
LYN				S	**S**	**09 15 02.0**	**+3.3**
LYN				pmax	pmax		
	comp=Z,120nm,5.1s						
LYN				LR	LR		
	comp=Z,280nm,20.0s						
LYN				LR	LR		
	comp=Z,250nm,22.0s						
HNS	**HongShan**	**70.45**	**318**	⇑P	**P**	**09 05 50.9**	**+0.8**
BJT	**Baijiatuau**	**71.10**	**321**	P	**P**	**09 05 54.9**	**+0.9**
XAN	**Xi'an**	**72.55**	**313**	P	**P**	**09 06 03.4**	**+0.4**
XAN				pP	sP	09 06 16.8	-2.3
XAN				pmax	pmax		
	comp=Z,15nm,1.3s						
XAN				LR	LR		
	comp=Z,210nm,15.1s						
XAN				LR	LR		
	comp=Z,200nm,14.4s						
XAN				LR	LR		
	comp=Z,250nm,14.1s						
KMI	**Kunming**	**73.22**	**302**	⇓P	**P**	**09 06 09.3**	**+1.9**
KMI				pP	PcP	09 06 23.8	+0.1
KMI				pmax	pmax		
	comp=Z,31nm,1.3s						
XLT	**XiLinHaoTe**	**73.55**	**324**	⇑*i*P	**P**	**09 06 09.6**	**+0.9**
XLT				pP	pP	09 06 21.8	+1.5
XLT				sP	pwP	09 06 25.5	-0.4
XLT				pmax	pmax		
	comp=Z,14nm,1.4s						
XLT				pmax	pmax		
	comp=Z,160nm,5.1s						
CM31	**Chiang Mai Arr**	**73.93**	**294**	P	**P**	**09 06 12.0**	**+0.6**
CM31				IAmb	IAmb	09 06 13.7	
	comp=Z,20nm,1.1s						
CMAR	**Chiang Mai Arr**	**73.93**	**294**	P	**P**	**09 06 12.5**	**+1.1**
	comp=Z,9.9nm,1.0s,baz=118,slow=4.3,SNR=51						
CMAR				LR	LR	09 39 48.6	
	comp=Z,37nm,18.8s,baz=135,slow=37						
CMAR	**Chiang Mai Arr**	**73.93**	**294**	P	**P**	**09 06 12.1**	**+0.7**
CHTO	**Chiang Mai**	**74.06**	**294**	P	**P**	**09 06 12.3**	**+0.2**
MA2	**Magadan**	**74.24**	**352**	LR	LR	09 35 01.7	
	comp=Z,170nm,20.6s,baz=181,slow=33						
HHC	**Hu-ho-hao-te**	**74.43**	**320**	*e*P	**P**	**09 06 16.3**	**+2.3**
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,90nm,4.9s						
HHC				LR	LR		
	comp=Z,220nm,14.6s						
HHC				LR	LR		
	comp=Z,220nm,15.2s						
HHC				LR	LR		
	comp=Z,300nm,14.0s						
PZH	**PanZhiHua**	**74.61**	**303**	P	**P**	**09 06 17.1**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
CD2	**Chengdu**	**74.89**	**308**	P	**P**	**09 06 17.8**	**+1.0**
CD2				S	**S**	**09 15 55.5**	**+4.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
QSPA	**South Pole Qui**	**76.21**	**180**	LR	LR	09 38 45.6	
	comp=Z,201nm,18.2s,baz=28,slow=35						

QSPA	**South Pole Qui**	**76.21**	**180**	P	**P**	**09 06 24.3**	**+0.4**
QSPA				IAmb	IAmb	09 06 29.3	
	comp=Z,35nm,1.1s						
LZH	**Lanzhou**	**77.18**	**312**	*e*P	**P**	**09 06 29.5**	**-0.4**
LZH				pP	pP	09 06 41.6	0.0
LZH				sP	sP	09 06 45.8	-0.2
LZH				pmax	pmax		
	comp=Z,29nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,6.7s						
LZH				LR	LR		
	comp=Z,200nm,15.4s						
LZH				LR	LR		
	comp=Z,170nm,16.0s						
LZH				LR	LR		
	comp=Z,270nm,18.1s						
SEY	**Seymchan**	**77.29**	**353**	LR	LR	09 35 60.0	
	comp=Z,187nm,20.6s,baz=162,slow=32						
RPN	**Rapa Nui**	**78.69**	**115**	LR	LR	09 36 47.0	
	comp=Z,75nm,19.0s,baz=209,slow=32						
KDAK	**Kodiak Island**	**78.86**	**21**	LR	LR	09 36 09.3	
	comp=Z,327nm,19.2s,baz=233,slow=32						
YAK	**Yakutsk**	**80.95**	**343**	IAMs_20	IAMs_20	09 47 08.9	
	comp=Z,228nm,19.0s						
ULN	**Ulaanbaatar**	**80.98**	**324**	P	**P**	**09 06 50.5**	**+0.2**
SONM	**Songino Array**	**81.34**	**324**	P	**P**	**09 06 51.9**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=143,slow=5.2,SNR=5.7						
SONM	**Songino Array**	**81.34**	**324**	P	**P**	**09 06 52.3**	**+0.1**
M19K	**Big River Lodg**	**81.48**	**18**	P	**P**	**09 06 54.8**	**+2.3**
	baz=218						
GTA	**Gaotai**	**81.52**	**314**	⇑P	**P**	**09 06 54.8**	**+1.4**
GTA				pP	pP	09 07 06.4	+1.2
GTA				sP	pwP	09 07 10.9	+0.3
GTA				pmax	pmax		
	comp=Z,16nm,1.1s						
L19K	**White Mountain**	**81.56**	**17**	P	**P**	**09 06 54.2**	**+1.2**
	baz=218						
BILL	**Bilibino**	**81.62**	**360**	P	**P**	**09 06 52.9**	**-0.3**
BILL				IAmb	IAmb	09 06 54.3	
	comp=Z,14nm,0.8s						
L20K	**Farewell, AK**	**82.08**	**17**	P	**P**	**09 06 56.1**	**+0.4**
	baz=219						
MAW	**Mawson**	**82.47**	**202**	LR	LR	09 37 45.1	
	comp=Z,128nm,19.1s,baz=42,slow=31						
SHL	**Shillong**	**82.51**	**299**	P	**P**	**09 06 58.5**	**-0.4**
SHL				IAmb	IAmb	09 07 00.5	
	comp=Z,29nm,1.3s						
K20K	**Telida**	**82.72**	**17**	P	**P**	**09 06 59.9**	**+1.0**
	baz=218						
KNK	**Knik Glacier**	**82.97**	**20**	P	**P**	**09 07 00.6**	**+0.3**
	baz=224						
GLI	**Glacier Island**	**83.05**	**21**	IAMs_20	IAMs_20	09 40 34.4	
	comp=Z,297nm,21.0s						
GHO	**Glory Hole Cre**	**83.07**	**20**	IAMs_20	IAMs_20	09 38 22.1	
	comp=Z,369nm,18.0s						
CAST	**Castle Rocks**	**83.33**	**17**	P	**P**	**09 07 01.5**	**-0.7**
CAST	**Castle Rocks**	**83.33**	**17**	P	**P**	**09 07 02.0**	**-0.2**
	baz=220						
CHUM	**Lake Minchumin**	**83.62**	**17**	P	**P**	**09 07 03.6**	**0.0**
	baz=220						
SCM	**Sheep Creek Mo**	**83.64**	**20**	P	**P**	**09 07 03.7**	**-0.2**
	baz=225						
GOMU	**GeErMu**	**83.86**	**309**	P	**P**	**09 07 05.6**	**-0.3**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,42nm,5.5s						
KLU	**Klutina**	**83.88**	**21**	P	**P**	**09 07 05.4**	**+0.3**
	baz=226						
TRF	**Thorofare Moun**	**83.89**	**18**	P	**P**	**09 07 04.5**	**-0.7**
	baz=222						
BMRM	**Bremner River**	**83.99**	**22**	P	**P**	**09 07 07.0**	**+1.4**
	baz=227						
WAT6	**Susitna Watana**	**84.04**	**19**	P	**P**	**09 07 07.0**	**+1.0**
	baz=224						
M24K	**Tolsona, Glenn**	**84.22**	**20**	P	**P**	**09 07 07.5**	**+0.7**
	baz=226						
RND	**Reindeer**	**84.29**	**19**	P	**P**	**09 07 06.7**	**-0.5**
RND				IAmb	IAmb	09 07 07.8	
	comp=Z,28nm,1.4s						
N25K	**Chitina, Valde**	**84.42**	**21**	P	**P**	**09 07 08.1**	**+0.3**
	baz=227						
MCK	**McKinley**	**84.50**	**18**	P	**P**	**09 07 08.4**	**+0.3**
	baz=223						
DHY	**Denali Highway**	**84.52**	**19**	P	**P**	**09 07 08.8**	**+0.4**
DHY				IAmb	IAmb	09 07 51.0	
	comp=Z,26nm,1.6s						
DHY	**Denali Highway**	**84.52**	**19**	P	**P**	**09 07 09.4**	**+1.0**
	baz=225						
RDOG	**Red Dog Mine**	**84.56**	**11**	P	**P**	**09 07 08.4**	**0.0**
RDOG				IAmb	IAmb	09 09 32.0	
	comp=Z,5.7nm,0.6s						
BWN	**Browne**	**84.67**	**18**	P	**P**	**09 07 08.7**	**-0.2**
I21K	**Tanana**	**84.71**	**16**	P	**P**	**09 07 09.5**	**+0.4**
I21K				IAmb	IAmb	09 07 10.7	
	comp=Z,15nm,1.1s						
I21K	**Tanana**	**84.71**	**16**	P	**P**	**09 07 10.0**	**+0.9**
	baz=220						
H21K	**Melozitna Rive**	**84.86**	**16**	P	**P**	**09 07 10.6**	**+0.7**
	baz=219						
IMAR	**Indian Mountai**	**84.87**	**15**	P	**P**	**09 07 10.3**	**+0.4**
YBH	**Yreka Blue Hor**	**85.27**	**45**	LR	LR	09 36 10.2	
	comp=Z,42nm,20.5s,baz=248,slow=29						
WRH	**Wood River Hil**	**85.30**	**18**	P	**P**	**09 07 11.0**	**-1.0**
WRH				IAmb	IAmb	09 07 12.4	
	comp=Z,12nm,1.0s						
CCB	**Clear Creek Bu**	**85.51**	**18**	P	**P**	**09 07 12.6**	**-0.5**
M26K	**Nabesna, AK**	**85.52**	**21**	P	**P**	**09 07 13.2**	**-0.1**
	baz=229						
K24K	**Donnelly Dome**	**85.54**	**19**	P	**P**	**09 07 14.6**	**+1.3**
	baz=226						
MDM	**Mur

comp=Z,17nm,0.7s

WMQ				pmax	pmax		
comp=Z,110nm,6.9s							
HYBB	**Hyderabad (bro**	**92.18**	**287**	*e*P	**P**	**09 07 45.5**	**-0.4**
HYBB				*es*P	**pwP**	**09 08 03.2**	**0.0**
INK	**Inuvik**	**92.25**	**19**	LR	LR	09 45 54.6	
comp=Z,211nm,18.0s,baz=217,slow=33							
TROLL	**Troll, Antarti**	**93.72**	**185**	P	**P**	**09 07 52.4**	**+0.3**
SNAA	**Sanae**	**94.42**	**183**	P	**P**	**09 07 55.2**	**-0.1**
SNAA	**Sanae**	**94.42**	**183**	P	**P**	**09 07 55.1**	**-0.1**
PDAR	**Pinedale Array**	**94.84**	**47**	LR	LR	09 45 25.3	
comp=Z,77nm,18.1s,baz=273,slow=32							
VNA3	**Neumayer Olymp**	**95.12**	**181**	P	**P**	**09 07 58.0**	**-0.4**
ANMO	**Albuquerque**	**95.37**	**55**	LR	LR	09 43 29.9	
comp=Z,163nm,19.9s,baz=263,slow=31							
VNA2	**Neumayer--Watz**	**95.37**	**182**	P	**P**	**09 07 59.1**	**-0.4**
baz=126,slow=9.0							
VNA1	**Neumayer--Stat**	**95.67**	**182**	P	**P**	**09 08 00.8**	**0.0**
MK31	**Makanchi Array**	**96.05**	**317**	P	**P**	**09 08 02.7**	**-0.3**
MK31				IAmb	IAmb	09 08 04.3	
comp=Z,6.9nm,1.0s							
MKAR	**Makanchi Array**	**96.05**	**317**	P	**P**	**09 08 03.3**	**+0.3**
comp=Z,4.9nm,0.7s,baz=95,slow=6.3,SNR=30							
MKAR	**Makanchi Array**	**96.05**	**317**	P	**P**	**09 08 02.6**	**-0.4**
ZALV	**Zalesovo Beam**	**96.23**	**324**	P	**P**	**09 08 03.1**	**-0.5**
comp=Z,4.0nm,0.7s,baz=112,slow=4.3,SNR=12							
ZALV	**Zalesovo Beam**	**96.23**	**324**	P	**P**	**09 08 02.7**	**-0.9**
MAKZ	**Makanchi**	**96.26**	**317**	P	**P**	**09 08 03.6**	**-0.4**
MAKZ				IAmb	IAmb	09 08 05.2	
comp=Z,8.7nm,1.1s							
TXAR	**Lajitas Array**	**96.46**	**61**	LR	LR	09 42 30.5	
comp=Z,98nm,21.3s,baz=266,slow=30							
YKA	**Yellowknife Ar**	**97.06**	**27**	P	**P**	**09 08 05.4**	**-1.7**
comp=Z,1.1nm,1.0s,baz=258,slow=4.7,SNR=7.4							
YKA				LR	LR	09 53 11.5	
comp=Z,20nm,18.1s,baz=304,slow=36							
NRIK	**Noril'sk**	**98.97**	**339**	P	**P**	**09 08 15.2**	**-0.4**
comp=Z,2.6nm,0.7s,baz=111,slow=6.4,SNR=6.5							
NRIK				LR	LR	09 50 27.4	
comp=Z,57nm,21.3s,baz=114,slow=34							
KSH	**Kashi**	**99.08**	**308**	P	**Pdif**	**09 08 16.1**	**-0.9**
KSH				sP	pwP	09 08 39.8	+5.4
KURBB	**Kurchatov Arra**	**99.28**	**320**	P	**Pdif**	**09 08 16.8**	**-0.6**
comp=Z,0.7nm,0.8s,baz=100,slow=4.3,SNR=2.1							
OGNE	**Ogallala**	**99.97**	**50**	IAms_20	IAms_20	09 46 20.2	
comp=Z,375nm,19.0s							
BCIP	**Isla Barro Col**	**114.96**	**86**	IAms_20	IAms_20	09 52 25.8	
comp=Z,128nm,20.0s							
ARCES	**ARCESS Array B**	**119.19**	**345**	PKP	**PKPdf**	**09 13 23.2**	**-0.7**
comp=Z,3.2nm,0.7s,baz=29,slow=2.8,SNR=10							
ARCES				PKKPbc	**PKKPab**	**09 23 37.1**	**-1.7**
comp=Z,3.2nm,1.0s,baz=228,slow=2.3,SNR=6.3							
KLMR	**Klimovskoe**	**119.55**	**333**	*e*PKPdf	**PKPdf**	**09 13 23.0**	**-1.8**
KLMR				AMP		09 13 25.8	
comp=Z,14nm,1.4s							
SCHQ	**Schefferville**	**121.92**	**33**	PKP	**PKPdf**	**09 13 29.6**	**0.0**
comp=Z,1.3nm,0.8s,baz=249,slow=7.7,SNR=1.8							
BOSA	**Boshof**	**123.60**	**221**	PKP	**PKPdf**	**09 13 33.8**	**-0.1**
comp=Z,0.7nm,0.6s,baz=166,slow=4.2,SNR=3.0							
SDV	**Santo Domingo**	**123.83**	**88**	PKP	**PKPdf**	**09 13 33.4**	**-1.2**
comp=Z,2.6nm,0.7s,baz=270,slow=7.1,SNR=4.8							
FINES	**FINESS Array B**	**124.61**	**338**	PKP	**PKPdf**	**09 13 33.7**	**-0.8**
comp=Z,2.5nm,0.8s,baz=131,slow=5.3,SNR=4.7							
NB2	**NORSAR Subarra**	**129.55**	**345**	PKPdf	**PKPdf**	**09 13 43.9**	**-0.1**
comp=Z,2.5nm,0.9s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**129.55**	**345**	PKP	**PKPdf**	**09 13 43.9**	**-0.1**
comp=Z,1.5nm,0.8s,baz=32,slow=2.0,SNR=6.3							
AKASG	**Malin Array Be**	**129.58**	**326**	PKP	**PKPdf**	**09 13 43.2**	**-1.1**
comp=Z,0.4nm,0.2s,baz=47,slow=2.1,SNR=6.3							
SMRT	**St. Maarten**	**132.21**	**78**	IAMs_20	IAMs_20	10 23 25.9	
comp=Z,178nm,18.0s							
CLL	**Collm**	**136.93**	**336**	*e*PKPdf	**PKPdf**	**09 13 59.0**	**+0.9**
CLL				Lm	MLR	10 15 00.0	
comp=Z,100nm,21.2s							
GERES	**GERESS Array B**	**138.50**	**333**	PKP	**PKPdf**	**09 14 00.5**	**-0.8**
comp=Z,0.7nm,0.7s,baz=51,slow=0.6,SNR=6.0							
GERES				SKPbc	**SKiKP**	**09 17 35.9**	**-0.2**
comp=Z,0.2nm,0.3s,baz=17,slow=1.3,SNR=3.7							
KEST	**Kesra**	**150.05**	**321**	PKPbc	**PKiKP**	**09 14 27.2**	**-0.3**
comp=Z,9.3nm,0.8s,baz=111,slow=0.7,SNR=13							
PBRG	**Braganca**	**151.50**	**349**	*e*PKPbc	**PKPbc**	**09 14 29.0**	**-0.8**
PGAV	**Gavieira, Arco**	**151.59**	**352**	*e*PKPbc	**PKPbc**	**09 14 30.2**	**+0.2**
PCAB	**Cabril**	**151.80**	**351**	*e*PKPbc	**PKPbc**	**09 14 30.1**	**-0.4**
POLO	**Lamas de Olo**	**152.09**	**351**	*e*PKPbc	**PKPbc**	**09 14 30.8**	**-0.4**
MVO	**Moncorvo**	**152.17**	**350**	*e*PKPbc	**PKiKP**	**09 14 31.9**	**+0.2**
PVRL	**Vila Real**	**152.18**	**351**	*e*PKPbc	**PKiKP**	**09 14 32.0**	**+0.3**
ESDC	**Sonseca Array**	**152.91**	**344**	PKPbc	**PKiKP**	**09 14 33.3**	**0.0**
comp=Z,3.0nm,0.8s,baz=7.7,slow=1.9,SNR=16							
ESDC				PKPab	**PKPab**	**09 14 44.3**	**+0.1**
comp=Z,1.5nm,1.0s,baz=6.1,slow=3.3,SNR=8.2							
MTE	**Manteigas**	**153.00**	**350**	*e*PKPbc	**PKPbc**	**09 14 32.8**	**-0.4**
PCBR	**Castelo Branco**	**153.54**	**350**	*e*PKPbc	**PKiKP**	**09 14 34.6**	**+0.2**
CART	**Cartagena**	**153.85**	**337**	IAMs_20	IAMs_20	10 05 20.7	
comp=Z,109nm,18.0s							
PMRV	**Marv??o**	**153.92**	**349**	*e*PKPbc	**PKPbc**	**09 14 35.2**	**0.0**
PMST	**Lisbon--Monsan**	**154.88**	**352**	*e*PKPdf	**PKPdf**	**09 14 27.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**165.24**	**269**	PKP	**PKPdf**	**09 14 40.1**	**-0.7**
comp=Z,2.1nm,1.0s,baz=136,slow=0.5,SNR=8.6							

IDC 15 09:00:03.0±3.4, 54°20N×87°37E, h0km, mb1 2.6/2, mb1mx2.5/58, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=31.1km s-min=18.7km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**262**	*i*		09 09 30.0	
baz=82,slow=330,SNR=4.7							
ZALV	**Zalesovo Beam**	**1.52**	**262**	Pg	Pn	09 00 29.7	-1.8
1.0nm,0.3s,baz=79,slow=15,SNR=14							
ZALV				Lg	Lg	09 00 52.0	
2.7nm,0.3s,baz=78,slow=24,SNR=10							
KURBB	**Kurchatov Arra**	**6.48**	**240**	Pn	Pn	09 01 39.9	+0.3
0.0nm,0.3s,baz=56,slow=14,SNR=2.1							
MKAR	**Makanchi Array**	**8.09**	**206**	Pn	Pn	09 02 03.2	+1.6
0.1nm,0.3s,baz=24,slow=14,SNR=6.2							

GCG 15 09:06:31.3±0.5, 13°.14N×89°.80W, h40km±999km, MD3.7
INET 15 09:06:31.2±1.1, 13°.25N×89°.45W, h46km±7km, MW3.1

ISC 15 09:06:28.7±1.8, 13°.12N±0°.08×89°.60W±0°.04, h33km±6km, n67, σ0°65/82, 6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.46**	**36**	*e*P	**Pb**	**09 06 39.1**	**+0.4**
LALI	**Alcalda de L**	**0.46**	**36**	*e*P	**Pb**	**09 06 39.1**	**+0.4**
LALI	**Alcalda de L**	**0.46**	**36**	*e*P	**Pb**	**09 06 39.1**	**+0.4**
LALI				*e*S	**Sb**	**09 06 46.3**	**+0.8**
ITCA	**Escuela Especi**	**0.64**	**29**	*e*P	**Pb**	**09 06 41.4**	**-0.2**
ITCA	**Escuela Especi**	**0.64**	**29**	*e*P	**Pb**	**09 06 41.4**	**-0.2**
PMON	**Piamonte**	**0.65**	**25**	*e*P	**Pb**	**09 06 41.6**	**-0.3**
PMON	**Piamonte**	**0.65**	**25**	*e*P	**Pb**	**09 06 41.6**	**-0.3**
SNET	**Serv Nac Est T**	**0.67**	**32**	*e*P	**Pb**	**09 06 40.5**	**-1.7**
BOQS	**Boqueron**	**0.69**	**27**	*e*P	**Pb**	**09 06 42.2**	**-0.4**
BOQS	**Boqueron**	**0.69**	**27**	*e*P	**Pb**	**09 06 42.2**	**-0.4**
UEES	**Universidad Ev**	**0.69**	**30**	*e*P	**Pb**	**09 06 42.1**	**-0.4**
UEES	**Universidad Ev**	**0.69**	**30**	*e*P	**Pb**	**09 06 42.1**	**-0.4**
CEVE	**Cerro Verde**	**0.71**	**358**	*e*P	**Pb**	**09 06 42.4**	**-0.5**
CEVE				IAML		09 06 58.0	
comp=Z,3μm,0.4s							
CEVE	**Cerro Verde**	**0.71**	**358**	*e*P	**Pb**	**09 06 42.4**	**-0.5**
CEVE				IAML		09 06 58.0	
comp=Z,3μm,0.4s							
IGN	**Direccin Gen**	**0.73**	**35**	*e*P	**Pb**	**09 06 42.6**	**-0.5**
IGN	**Direccin Gen**	**0.73**	**35**	*e*P	**Pb**	**09 06 42.6**	**-0.5**
SNJE	**San Jose**	**0.75**	**360**	*e*P	**Pb**	**09 06 42.9**	**-0.6**
SNJE	**San Jose**	**0.75**	**360**	*e*P	**Pb**	**09 06 42.9**	**-0.6**
SJTE	**Alcalda de S**	**0.76**	**49**	*e*P	**Pn**	**09 06 43.2**	**-0.1**
SJTE				*e*S	**Sb**	**09 06 54.2**	**+0.5**
SJTE				IAML		09 06 55.0	
comp=Z,2μm,0.2s							
SJTE	**Alcalda de S**	**0.76**	**49**	*e*P	**Pn**	**09 06 43.2**	**-0.1**
SJTE				*e*S	**Sb**	**09 06 54.2**	**+0.5**
SJTE				IAML		09 06 55.0	
comp=Z,2μm,0.2s							
RTR	**El Retiro**	**0.78**	**357**	*e*P	**Pn**	**09 06 43.4**	**-0.2**
RTR	**El Retiro**	**0.78**	**357**	*e*P	**Pn**	**09 06 43.4**	**-0.2**
LFU	**La Fuente**	**0.79**	**37**	*e*P	**Pn**	**09 06 43.6**	**0.0**
LFU	**La Fuente**	**0.79**	**37**	*e*P	**Pn**	**09 06 43.6**	**0.0**
NUBE	**Las Nubes**	**0.80**	**347**	↓*i*P	**Pn**	**09 06 43.4**	**-0.5**
NUBE				*e*S	**Sb**	**09 06 54.1**	**-0.9**
NUBE	**Las Nubes**	**0.80**	**347**	↓*i*P	**Pn**	**09 06 43.4**	**-0.5**
NUBE				*e*S	**Sb**	**09 06 54.1**	**-0.9**
LBRS	**Las Brisas**	**0.82**	**41**	*e*P	**Pn**	**09 06 44.2**	**+0.1**
LBRS	**Las Brisas**	**0.82**	**41**	*e*P	**Pn**	**09 06 44.2**	**+0.1**
COEG	**Centro de Oper**	**0.86**	**54**	*i* P	**Pn**	**09 06 44.4**	**-0.2**
COEG				*e*S	**Sb**	**09 06 56.3**	**-0.3**
COEG				IAML		09 06 58.0	
comp=Z,1μm,0.2s							
COEG	**Centro de Oper**	**0.86**	**54**	*i* P	**Pn**	**09 06 44.4**	**-0.2**
COEG				*e*S	**Sb**	**09 06 56.3**	**-0.3**
COEG				IAML		09 06 58.0	
comp=Z,1μm,0.2s							
UNIC	**Universidad Ca**	**0.86**	**3**	*e*P	**Pn**	**09 06 44.4**	**-0.2**
UNIC	**Universidad Ca**	**0.86**	**3**	*e*P	**Pn**	**09 06 44.4**	**-0.2**
PAVA	**Las Pavas**	**0.88**	**47**	↓*i*P	**Pn**	**09 06 45.2**	**+0.3**
PAVA				IAML		09 06 46.7	
comp=Z,2μm,0.4s							
PAVA				*e*S	**Sn**	**09 06 57.7**	**+1.1**
PAVA	**Las Pavas**	**0.88**	**47**	↓*i*P	**Pn**	**09 06 45.2**	**+0.3**
PAVA				IAML		09 06 46.7	
comp=Z,2μm,0.4s							
PAVA				*e*S	**Sn**	**09 06 57.7**	**+1.1**
PAVA	**Las Pavas**	**0.88**	**47**	*i* P	**Pn**	**09 06 45.2**	**+0.3**
SNVI	**San Vicente**	**0.89**	**56**	*e*P	**Pn**	**09 06 45.1**	**0.0**
SNVI	**San Vicente**	**0.89**	**56**	*e*P	**Pn**	**09 06 45.1**	**0.0**
LOAL	**Lomas de Alarc**	**0.89**	**349**	*e*P	**Pn**	**09 06 45.2**	**+0.1**
LOAL	**Lomas de Alarc**	**0.89**	**349**	*e*P	**Pn**	**09 06 45.2**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.92**	**349**	*e*P	**Pn**	**09 06 45.3**	**-0.2**
SLOZ				*e*S	**Sn**	**09 06 58.3**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.03**	**55**	*e*P	**Pn**	**09 06 47.1**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.03**	**55**	*e*P	**Pn**	**09 06 47.1**	**+0.2**
COEB	**Comit de Eme**	**1.11**	**70**	*e*P	**Pn**	**09 06 47.8**	**-0.3**
COEB	**Comit de Eme**	**1.11**	**70**	*e*P	**Pn**	**09 06 47.8**	**-0.3**
COEB	**Comit de Eme**	**1.11**	**70**	*e*P	**Pn**	**09 06 47.7**	**-0.3**
COEB				*e*S	**Sn**	**09 07 00.5**	**-1.8**
PQSS	**Presa 15 de Se**	**1.13**	**63**	*e*P	**Pn**	**09 06 48.2**	**0.0**
PQSS	**Presa 15 de Se**	**1.13**	**63**	*e*P	**Pn**	**09 06 48.2**	**0.0**
MTO3	**Montecristo**	**1.29**	**10**	↓*e*P	**Pn**	**09 06 50.6**	**-0.2**
MTO3	**Montecristo**	**1.29**	**10**	↓*e*P	**Pn**	**09 06 50.6**	**-0.2**
MTO3	**Montecristo**	**1.29**	**10**	*i* P	**Pn**	**09 06 50.8**	**+0.1**
LCY	**Lacayo**	**1.31**	**76**	*e*P	**Pn**	**09 06 51.2**	**+0.4**
LCY	**Lacayo**	**1.31**	**76**	*e*P	**Pn**	**09 06 51.2**	**+0.4**
RANC	**El Ranchito**	**1.31**	**76**	*e*P	**Pn**	**09 06 51.3**	**+0.4**
RANC	**El Ranchito**	**1.31**	**76**	*e*P	**Pn**	**09 06 51.3**	**+0.4**
JUCU	**Jucuarn**	**1.32**	**84**	*e*P	**Pn**	**09 06 50.5**	**-0.4**
JUCU	**Jucuarn**	**1.32**	**84**	*e*P	**Pn**	**09 06 50.5**	**-0.4**
VSM	**San Miguel**	**1.33**	**76**	*e*P	**Pn**	**09 06 51.8**	**+0.6**
VSM	**San Miguel**	**1.33**	**76**	*e*P	**Pn**	**09 06 51.8**	**+0.6**
ESQI	**Esquipulas**	**1.46**	**10**	*e*P	**Pn**	**09 06 53.1**	**+0.2**
NBG	**Las Nubes**	**1.63**	**334**	*e*P	**Pn**	**09 06 56.9**	**+1.5**
LCND	**La Caada**	**1.68**	**83**	*e*P	**Pn**	**09 06 56.0**	**+0.2**
LCND				*e*S	**Sn**	**09 07 16.8**	**+0.6**
LCND	**La Caada**	**1.68**	**83**	*e*P	**Pn**	**09 06 56.0**	**+0.2**
LCND				*e*S	**Sn**	**09 07 16.8**	**+0.6**
LCND				*e*S		09 07 16.9	
FUG	**Fuego 3**	**1.79**	**318**	*e*P	**Pn**	**09 06 58.4**	**+0.9**
FUG				*e*S	**Sn**	**09 07 19.6**	**+0.3**
MRL	**Marmol**	**1.95**	**358**	*e*P	**Pn**	**09 07 02.7**	**+2.8**
CSGN	**Cosiguina Volc**	**1.99**	**94**	*e*P	**Pn**	**09 07 00.6**	**+0.3**
TGUH	**Tegucigalpa,Un**	**2.45**	**67**	*e*P	**Pn**	**09 07 06.4**	**-0.1**
STG3	**Santiaguito 3,**	**2.48**	**310**	*e*P	**Pn**	**09 07 08.0**	**+0.9**
STG3				*e*S	**Sn**	**09 07 35.0**	**-1.4**

NIED 15 09:14:01.2, 32°.83N×130°.88E, h13km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.27; $M_{\theta\theta}$=0.90; $M_{\phi\phi}$=-1.17; $M_{r\theta}$=0.22; $M_{\theta\phi}$=1.95; $M_{\phi r}$=-0.52; Fault plane solution: M_0=2.27000×10^{14} NP1: ϕ_s=283.00000°, δ80.00000°, λ=-6.00000°. NP2:ϕ_s=15.00000°, δ84.00000°, λ=-170.00000°.

JMA 15 09:14:01.2, 32°.83N×130°.88E, h13km±1km, M3.5, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.29**	**191**	P	Pg	09 14 07.1	0.0
JIU3				S	Sg	09 14 11.3	+0.2
JTA	**Tamana**	**0.32**	**295**	↑P	Pg	09 14 07.7	-0.1
JTA				S	Sg	09 14 12.1	-0.1

NNC 15 09:45:09.1±1.2, 51°.70N×75°.49E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=22.6km s-min=7.2km az=23.0, Suspected Mining explosion.
IDC 15 09:45:14.0±1.0, 51°.54N×75°.81E, h0km, mb1 3.0/3, mb1mx2.9/48, mbtmp3.0/3, ML2.4/2, Error ellipse: s-maj=21.4km s-min=7.6km az=29.0

ISC 15 09:45:10.8±1.1, 51°.59N±0°.09×75°.44E±0°.06, h0km, n10, σ0°92/11, 5C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.18**	**115**	Pg	**Pn**	**09 45 48.4**	**+0.1**
KURBB	0.5nm,0.3s,baz=300,slow=18,SNR=66			Lg	Lg	09 46 17.6	
	0.6nm,0.3s,baz=296,slow=18,SNR=12						
KURBB	**Kurchatov Arra**	**2.18**	**115**	↑Pg	**Pb**	**09 45 50.5**	**-0.6**
KURBB	3.2nm,0.4s			↑Lg	Lg	09 46 19.0	
	24nm,0.5s						
KURK	**Kurchatov**	**2.19**	**112**	↑Pg	**Pn**	**09 45 48.7**	**+0.3**
KURK	3.4nm,0.6s			↓Lg	Lg	09 46 17.6	
	13nm,0.7s						
BVA4	**Borovoye Array**	**3.41**	**297**	↑Pg	**Pb**	**09 46 11.3**	**-0.9**
BVA4	3.8nm,0.5s			↓Lg	Lg	09 46 55.2	
	13nm,0.6s						
BVAR	**Borovoye Array**	**3.42**	**297**	Pn	**Pb**	**09 46 11.1**	**-1.2**
BVAR				Sn	**Sb**	**09 46 56.0**	**+1.7**
OTUK	**Ortayu**	**3.90**	**212**	↓Lg	Lg	09 47 16.5	
	5.8nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.16**	**64**	*i*		10 24 00.0	
baz=251,slow=321,SNR=4.7							
ZALV	**Zalesovo Beam**	**6.16**	**64**	Pn	**Pn**	**09 46 43.2**	**+0.2**
0.5nm,0.3s,baz=256,slow=14,SNR=10							
ZALV				Sn	**Sn**	**09 47 54.1**	**-0.1**
0.2nm,0.3s,baz=247,slow=28,SNR=2.6							
ZALV				Lg	Lg	09 48 25.8	
0.1nm,0.3s,baz=250,slow=29,SNR=2.1							
MK31	**Makanchi Array**	**6.57**	**134**	↓Sn	**Sn**	**09 48 05.4**	**+1.0**
0.5nm,0.5s,baz=316,slow=19,SNR=4.9							
MK31				↑Lg	Lg	09 48 38.0	
2.2nm,0.6s,baz=328,slow=26,SNR=7.5							
MKAR	**Makanchi Array**	**6.57**	**134**	Pn	**Pn**	**09 46 48.5**	**-0.2**
0.1nm,0.3s,baz=319,slow=12,SNR=4.3							
MKAR				Sn	**Sn**	**09 48 03.9**	**-0.4**
0.2nm,0.3s,baz=316,slow=22,SNR=5.4							
MKAR				Lg	Lg	09 48 35.3	
0.4nm,0.3s,baz=314,slow=27,SNR=7.2							

IDC 15 09:48:10.5±1.1, 32°.67N×130°.63E, h0km, mb3.5/6, mb1 3.5/8, mb1mx3.4/58, mbtmp3.4/8, ML2.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/62, Error ellipse: s-maj=20.9km s-min=8.9km az=117.0
JMA 15 09:48:12.7, 32°.71N×130°.75E, h13km±1km, M3.9
JMA Felt III J1.
NIED 15 09:48:12.7, 32°.71N×130°.75E, h13km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.53; $M_{\theta\theta}$=4.27; $M_{\phi\phi}$=-3.74; $M_{r\theta}$=-0.71; $M_{\theta\phi}$=1.97; $M_{\phi r}$=-1.18; Fault plane solution: M_0=4.68000×10^{14} NP1: ϕ_s=302.00000°, δ72.00000°, λ=-3.00000°. NP2:ϕ_s=33.00000°, δ87.00000°, λ=-162.00000°.

ISC 15 09:48:12.8±0.8, 32°.69N±0°.05×130°.73E±0°.09, h10km, n12, σ1°70/15, mb3.3/6, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.16**	**155**	↑P	**Pg**	**09 48 16.7**	**+0.4**
JIU3				S	**Sg**	**09 48 19.7**	**+1.0**
JTA	**Tamana**	**0.32**	**328**	↑P	**Pg**	**09 48 19.2**	**0.0**
JTA				S	**Sg**	**09 48 23.7**	**+0.3**
JNU	**Nakatsue**	**0.45**	**16**	Pg	**Pg**	**09 48 20.8**	**-0.7**
JNU	536nm,0.3s,baz=205,slow=8.3,SNR=1515			Lg	Lg	09 48 26.2	
	2μm,0.3s,baz=18,slow=14,SNR=69						
KSRS	**Korea Array**	**5.28**	**335**	Pn	**Pn**	**09 49 32.7**	**+1.0**
KSRS	0.3nm,0.3s,baz=152,slow=15,SNR=3.1			Pg	**Pb**	**09 49 47.5**	**+2.4**
	0.9nm,0.3s,baz=150,slow=16,SNR=5.7						
KSRS				Lg	Lg	09 50 59.3	
	1.4nm,0.3s,baz=158,slow=30,SNR=6.4						

MJAR	**Matsushiro Arr**	**7.26**	**56**	Pn	**Pn**	**09 49 59.0**	**0.0**
0.0nm,0.3s,baz=237,slow=12,SNR=1.8							
MJAR				LR	LR	09 52 56.3	
comp=Z,71nm,21.3s,baz=214,slow=39							
KLR	**Kul'dur**	**16.54**	**2**	Pn	**P**	**09 52 10.6**	**+3.3**
0.1nm,0.3s,baz=193,slow=6.6,SNR=6.2							
MKAR	**Makanchi Array**	**39.20**	**306**	P	**P**	**09 55 39.7**	**-1.3**
0.1nm,0.3s,baz=88,slow=7.6,SNR=2.0							
KURBB	**Kurchatov Arra**	**41.96**	**311**	P	**P**	**09 56 00.7**	**-3.0**
0.4nm,0.7s,baz=96,slow=8.5,SNR=2.9							
BVAR	**Borovoye Array**	**47.12**	**314**	P	**P**	**09 56 44.4**	**-0.5**
0.8nm,0.6s							
WRA	**Warramunga Arr**	**52.45**	**176**	P	**P**	**09 57 24.7**	**-1.0**
0.3nm,0.7s,baz=356,slow=8.1,SNR=1.8							
ASAR	**Alice Springs**	**56.12**	**176**	P	**P**	**09 57 52.1**	**-0.4**
0.2nm,0.9s,baz=10,slow=12,SNR=2.0							
FINES	**FINESS Array B**	**68.35**	**330**	P	**P**	**09 59 12.2**	**-1.8**
0.9nm,0.5s,baz=70,slow=6.3,SNR=5.9							

IDC 15 09:54:55.6±3.4, 53°.49N×87°.52E, h0km, mb1 3.0/2, mb1mx2.9/57, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=33.0km s-min=16.3km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**287**	*i*		10 05 59.7	
baz=103,slow=332,SNR=9.0							
ZALV	**Zalesovo Beam**	**1.67**	**287**	Pg	Pn	09 55 25.3	-0.8
1.5nm,0.3s,baz=109,slow=16,SNR=13							
ZALV				Lg	Lg	09 55 48.5	
2.6nm,0.3s,baz=109,slow=22,SNR=7.8							
KURBB	**Kurchatov Arra**	**6.24**	**246**	Pn	Pn	09 56 29.9	+1.0
0.1nm,0.3s,baz=64,slow=14,SNR=4.9							
MKAR	**Makanchi Array**	**7.49**	**209**	Pn	Pn	09 56 47.1	+1.0
0.2nm,0.3s,baz=27,slow=12,SNR=5.1							

UPP 15 09:59:26.4±3.0, 64°.65N×30°.85E, h0km, ML1.9, Suspected explosion
HEL 15 09:59:26.6±0.3, 64°.74N×30°.74E, h0km, ML2.2, Explosion
KOLA 15 09:59:27.9, 64°.78N×30°.53E, h0km, ML2.4
IDC 15 09:59:28.0±1.9, 64°.78N×30°.96E, h0km, mb1 2.9/3, mb1mx2.8/48, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=25.2km s-min=10.3km az=114.0

ISC 15 09:59:28.1±1.2, 64°.90N±0°.04×30°.46E±0°.05, h0km, n38, σ1°64/55, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.15**	**348**	PG	**Pg**	**09 59 50.4**	**+0.3**
KU6				MSG		10 00 06.8	
comp=Z,11nm,0.2s							
KU6				SB	**Sn**	**10 00 07.8**	**-0.2**
MSF	**Maaselka**	**1.18**	**330**	SG	**Sn**	**10 00 09.4**	**+1.0**
OUL	**Oulu**	**1.95**	**278**	PG	**Pb**	**10 00 04.0**	**-0.4**
OUL				SG	**Sg**	**10 00 30.4**	**-0.1**
RNF	**Rovaniemi**	**2.51**	**315**	PB	**Pb**	**10 00 13.3**	**-0.7**
RNF				SG	**Sg**	**10 00 47.6**	**-1.0**
OUF	**Merijarvi**	**2.52**	**260**	PB	**Pn**	**10 00 12.4**	**+2.1**
baz=83							
OUF				MSG		10 00 43.8	
comp=Z,22nm,0.2s							
OUF				SG	**Sb**	**10 00 46.9**	**+1.2**
OBF0	**Syolatti, Pyha**	**2.70**	**264**	PB	**Pb**	**10 00 15.6**	**-1.6**
OBF0				SG	**

DZM				eLR	LR	10 09 12.5	
	comp=Z,346nm,24.9s						
DZM	**Mont Dzumac**	**7.54**	**181**		**Pn**	**10 07 12.2**	**+0.2**
ONTNC	**Ouen Toro**	**7.78**	**181**	Pn	**Pn**	**10 07 15.9**	**+0.7**
OUENC	**Ouen Island, N**	**7.89**	**178**		**Pn**	**10 07 18.4**	**+1.6**
OUENC	**Ouen Island, N**	**7.89**	**178**	P	**Pn**	**10 07 18.3**	**+1.6**
PINNC	**Pines Island,**	**8.12**	**174**	Pn	**Pn**	**10 07 21.0**	**+1.1**
HNR	**Honiara**	**8.19**	**307**	Pn	**Pn**	**10 07 20.9**	**0.0**
PMG	**Port Moresby**	**19.64**	**283**	P	**P**	**10 09 50.5**	**+0.1**
	0.6nm,0.3s,baz=270,slow=13,SNR=1.5						
PMG				LR	LR	10 16 29.9	
	comp=Z,207nm,18.5s,baz=55,slow=34						
PMG	**Port Moresby**	**19.64**	**283**	IAmb	IAmb	10 10 00.6	
	comp=Z,28nm,1.1s						
CTA	**Charters Tower**	**20.16**	**251**	P	**P**	**10 09 56.5**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=63,slow=11,SNR=2.6						
CTA				LR	LR	10 17 12.6	
	comp=Z,73nm,18.5s,baz=80,slow=35						
AFI	**Afiamalu**	**21.01**	**91**	LR	LR	10 16 13.1	
	comp=Z,66nm,18.2s,baz=274,slow=31						
URZ	**Urewera**	**25.45**	**160**	LR	LR	10 18 45.2	
	comp=Z,55nm,20.3s,baz=31,slow=32						
BKZ	**Black Stump Fm**	**26.09**	**162**	P	**P**	**10 10 57.2**	**+1.9**
BKZ				IAmb	IAmb	10 11 09.4	
	comp=Z,24nm,1.5s						
STKA	**Stephens Creek**	**28.63**	**229**	P	**P**	**10 11 17.4**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=35,slow=11,SNR=1.5						
STKA				LR	LR	10 21 45.1	
	comp=Z,80nm,18.3s,baz=37,slow=34						
STKA	**Stephens Creek**	**28.63**	**229**	P	**P**	**10 11 19.9**	**+1.9**
RPZ	**Rata Peaks**	**29.38**	**173**	LR	LR	10 21 02.9	
	comp=Z,79nm,20.4s,baz=0.5,slow=32						
WB0	**Warramunga Arr**	**31.15**	**256**	P	**P**	**10 11 40.1**	**-0.4**
WB8	**Warramunga Arr**	**31.17**	**256**	P	**P**	**10 11 40.2**	**-0.5**
WB8				IAmb	IAmb	10 11 58.8	
	comp=Z,5.1nm,1.2s						
WR3	**Warramunga Arr**	**31.17**	**255**	P	**P**	**10 11 39.5**	**-1.3**
WR3				IAmb	IAmb	10 11 51.4	
	comp=Z,4.4nm,1.1s						
WB6	**Warramunga Arr**	**31.18**	**256**	P	**P**	**10 11 40.6**	**-0.2**
WB6				IAmb	IAmb	10 11 50.1	
	comp=Z,9.9nm,1.5s						
WB2	**Warramunga Arr**	**31.21**	**255**	P	**P**	**10 11 41.2**	**+0.2**
WR1	**Warramunga Arr**	**31.22**	**255**	P	**P**	**10 11 40.2**	**-0.9**
WR1				IAmb	IAmb	10 11 46.8	
	comp=Z,3.3nm,0.9s						
WRA	**Warramunga Arr**	**31.22**	**255**	P	**P**	**10 11 40.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=86,slow=8.7,SNR=9.1						
WRA				LR	LR	10 22 37.8	
	comp=Z,57nm,21.7s,baz=32,slow=33						
AS17	**Alice Springs**	**32.04**	**248**	P	**P**	**10 11 46.7**	**-1.6**
AS18	**Alice Springs**	**32.05**	**248**	P	**P**	**10 11 46.9**	**-1.6**
AS07	**Alice Springs**	**32.06**	**249**	P	**P**	**10 11 48.2**	**-0.4**
AS19	**Alice Springs**	**32.07**	**248**	P	**P**	**10 11 48.4**	**-0.2**
AS01	**Alice Springs**	**32.08**	**249**	P	**P**	**10 11 48.2**	**-0.5**
AS09	**Alice Springs**	**32.09**	**248**	P	**P**	**10 11 48.0**	**-0.8**
AS04	**Alice Springs**	**32.09**	**249**	P	**P**	**10 11 48.5**	**-0.4**
AS03	**Alice Springs**	**32.10**	**249**	P	**P**	**10 11 48.2**	**-0.8**
AS14	**Alice Springs**	**32.11**	**249**	P	**P**	**10 11 48.9**	**-0.1**
AS31	**Alice Springs**	**32.12**	**249**	P	**P**	**10 11 48.8**	**-0.2**
AS12	**Alice Springs**	**32.12**	**249**	P	**P**	**10 11 48.8**	**-0.2**
ASAR	**Alice Springs**	**32.12**	**249**	P	**P**	**10 11 48.7**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=75,slow=9.0,SNR=20						
ASAR				PcP	**PcP**	**10 14 37.0**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=81,slow=2.9,SNR=4.2						
ASAR				LR	LR	10 23 08.3	
	comp=Z,87nm,19.6s,baz=122,slow=33						
ASAR	**Alice Springs**	**32.12**	**249**	P	**P**	**10 11 49.5**	**+0.5**
VNDA	**Vanda**	**63.08**	**181**	P	**P**	**10 15 49.0**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=90,slow=23,SNR=2.8						
VNDA	**Vanda**	**63.08**	**181**	P	**P**	**10 15 49.5**	**+1.2**
VNDA				IAmb	IAmb	10 15 53.1	
	comp=Z,2.2nm,1.2s						
KS18	**Wonju Array Si**	**63.23**	**326**	P	**P**	**10 15 48.8**	**-0.9**
SBA	**Scott Base**	**63.37**	**180**	P	**P**	**10 15 51.8**	**+1.7**
SBA				IAmb	IAmb	10 16 03.9	
	comp=Z,3.9nm,1.1s						
USA0B	**Ussuriysk Arra**	**66.37**	**334**	P	**P**	**10 16 09.1**	**-1.0**
CM09	**Chiang Mai Arr**	**74.18**	**294**	P	**P**	**10 16 57.8**	**-0.6**
CM11	**Chiang Mai Arr**	**74.18**	**294**	P	**P**	**10 16 56.9**	**-1.6**
CM03	**Chiang Mai Arr**	**74.19**	**294**	P	**P**	**10 16 56.6**	**-1.8**
CM06	**Chiang Mai Arr**	**74.21**	**294**	P	**P**	**10 16 57.1**	**-1.6**
CMAR	**Chiang Mai Arr**	**74.23**	**294**	P	**P**	**10 17 00.3**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=116,slow=6.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**74.23**	**294**	P	**P**	**10 16 56.9**	**-1.8**
CM07	**Chiang Mai Arr**	**74.23**	**294**	P	**P**	**10 16 56.3**	**-2.4**
BILL	**Bilibino**	**82.30**	**360**	P	**P**	**10 17 43.2**	**+0.8**
BILL				IAmb	IAmb	10 17 51.7	
	comp=Z,2.9nm,0.6s						
RND	**Reindeer**	**84.93**	**18**	P	**P**	**10 17 56.7**	**+0.7**
I21K	**Tanana**	**85.36**	**16**	P	**P**	**10 17 58.8**	**+0.8**
H21K	**Melozitna Rive**	**85.50**	**16**	P	**P**	**10 18 00.3**	**+1.6**
H21K				IAmb	IAmb	10 18 01.8	
	comp=Z,4.5nm,1.1s						
WRH	**Wood River Hil**	**85.94**	**18**	P	**P**	**10 18 00.6**	**-0.3**
WRH				IAmb	IAmb	10 18 08.0	
	comp=Z,3.9nm,0.9s						
MDM	**Murphy Dome**	**86.25**	**18**	P	**P**	**10 18 02.7**	**+0.2**
IL31		**86.51**	**18**	P	**P**	**10 18 03.3**	**-0.4**
ILAR	**Eielson Array**	**86.51**	**18**	P	**P**	**10 18 03.5**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=240,slow=5.1,SNR=19						
PDAR	**Pinedale Array**	**95.20**	**47**	P	**P**	**10 18 45.5**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=316,slow=3.8,SNR=2.1						
YKA	**Yellowknife Ar**	**97.65**	**27**	P	**P**	**10 18 55.2**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=251,slow=4.3,SNR=5.5						
ARCES	**ARCESS Array B**	**119.85**	**345**	PKP	**PKiKP**	**10 24 11.5**	**+0.5**
	comp=Z,2.7nm,1.0s,baz=32,slow=3.6,SNR=6.0						

*IDC **15** 10:18:15.2±1.2,7.35S×121.30E,h555km±11km,mb3.4/4, mb1 3.5/7,mb1mx2.9/49,mbtmp4.3/7,Error ellipse: s-maj=107.0km s-min=14.3km az=58.0*

*NEIC **15** 10:18:15.6±0.6,7.4S±0.1×121.1E±0.2,h557km±12km, mb4.2/15,Error ellipse: s-maj=28.1km s-min=12.0km az=57.0*

*DJA **15** 10:18:18.8±1.2,7.5S±8.3×12.1E±1.0,h508km±14km,M4.0/6, mb4.4/1,mB4.2/1,MLv3.8/6,Mw(mB)3.4/1*

ISC 15 10:18:14.9±0.6,7.46S±0.08×121.1E±0.1,h550km,n64, σ0s70/67,mb3.8/6,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.61**	**137**	P	**P**	**10 19 23.2**	**+0.2**
MMRI	**Maumere**	**1.61**	**137**	P	**P**	**10 19 22.9**	**-0.1**
WBSI	**Waikabubak, Su**	**2.76**	**218**	P	**P**	**10 19 29.3**	**+0.8**
WBSI				S	**S**	**10 20 27.9**	**-0.5**
KAPI	**Kappang**	**2.79**	**331**	P	**P**	**10 19 29.3**	**+0.6**
BASI	**Baing, Sumba**	**2.79**	**191**	P	**P**	**10 19 29.7**	**+1.1**
PLAI	**Plampang**	**3.58**	**248**	P	**P**	**10 19 34.8**	**+1.1**
BATI	**Baumata**	**3.71**	**138**	P	**P**	**10 19 36.2**	**+1.6**
	23nm,0.3s,baz=133,slow=0.6,SNR=11						
BATI				S	**S**	**10 20 40.1**	**+0.4**
	34nm,0.3s,baz=21,slow=22,SNR=15						
BATI	**Baumata**	**3.71**	**138**	P	**P**	**10 19 34.7**	**+0.1**
SPSI	**Sidrap Palu**	**3.73**	**339**	P	**P**	**10 19 36.8**	**+2.0**
LUWI	**Luwuk**	**6.59**	**15**	P	**P**	**10 19 59.3**	**+0.3**
JAGI	**Jajag, Banyuwa**	**6.97**	**261**	P	**P**	**10 20 01.9**	**-0.8**
MPSI	**Mapaga**	**7.84**	**351**	P	**P**	**10 20 12.4**	**+1.3**
MRSI	**Marisa**	**7.93**	**6**	P	**P**	**10 20 12.0**	**0.0**
GTOI	**Gorontalo**	**8.26**	**13**	P	**P**	**10 20 16.5**	**+1.2**
TOLI2	**Tolitoli**	**8.52**	**358**	P	**P**	**10 20 18.4**	**+0.5**
TOLI2	**Tolitoli**	**8.52**	**358**	P	**P**	**10 20 18.5**	**+0.6**
KNRA	**Kununurra**	**11.07**	**138**	P	**P**	**10 20 44.0**	**+0.2**
KNRA	**Kununurra**	**11.07**	**138**	P	**P**	**10 20 43.7**	**-0.1**
MTN	**Manton Dam**	**11.21**	**119**	P	**P**	**10 20 45.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.45**	**158**	P	**P**	**10 20 48.2**	**+0.5**
	0.8nm,0.3s,baz=334,slow=4.6,SNR=19						
MBWA	**Marble Bar**	**13.68**	**185**	P	**P**	**10 21 11.5**	**+0.7**
PSAD1	**Pilbara Seismi**	**13.97**	**185**	P	**P**	**10 21 14.4**	**+0.7**
PSA00	**Pilbara Seismi**	**14.08**	**185**	P	**P**	**10 21 15.6**	**+0.7**
PSA00	**Pilbara Seismi**	**14.08**	**185**	P	**P**	**10 21 15.4**	**+0.5**
PSAA3	**Pilbara Seismi**	**14.09**	**185**	P	**P**	**10 21 15.8**	**+0.8**
PSAB3	**Pilbara Seismi**	**14.10**	**185**	P	**P**	**10 21 15.8**	**+0.7**
PSAD3	**Pilbara Seismi**	**14.16**	**185**	P	**P**	**10 21 16.3**	**+0.6**
KKM	**Kota Kinabalu**	**14.28**	**340**	P	**P**	**10 21 17.0**	**-0.2**
KKM	**Kota Kinabalu**	**14.28**	**340**	P	**P**	**10 21 17.4**	**+0.2**
WB0	**Warramunga Arr**	**17.76**	**135**	P	**P**	**10 21 50.4**	**-0.2**
WB0				IAmb	IAmb	10 21 52.0	
	comp=Z,8.0nm,1.1s						
WB9	**Warramunga Arr**	**17.77**	**135**	P	**P**	**10 21 50.5**	**-0.1**
WB9				IAmb	IAmb	10 21 52.2	
	comp=Z,9.4nm,1.0s						
WB5	**Warramunga Arr**	**17.81**	**135**	P	**P**	**10 21 51.0**	**-0.1**
WB5				IAmb	IAmb	10 21 52.2	
	comp=Z,7.2nm,0.8s						
WR1	**Warramunga Arr**	**17.84**	**135**	P	**P**	**10 21 51.5**	**+0.2**
WR1				IAmb	IAmb	10 21 53.0	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**17.84**	**135**	P	**P**	**10 21 51.1**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=314,slow=11,SNR=38						
WRA				ScP	**ScP**	**10 28 39.5**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=310,slow=2.3,SNR=2.1						
WRA	**Warramunga Arr**	**17.84**	**135**	P	**P**	**10 21 50.8**	**-0.5**
WRAB	**Tennant Creek**	**17.84**	**135**	P	**P**	**10 21 51.4**	**+0.1**
WB2	**Warramunga Arr**	**17.84**	**135**	P	**P**	**10 21 51.5**	**+0.1**
WR3	**Warramunga Arr**	**17.87**	**135**	P	**P**	**10 21 51.3**	**-0.3**
WR0	**Warramunga Arr**	**17.99**	**135**	P	**P**	**10 21 52.6**	**-0.1**
WR0				IAmb	IAmb	10 21 54.1	
	comp=Z,9.0nm,0.7s						
WRKA	**Warakurna**	**18.77**	**159**	P	**P**	**10 22 00.4**	**+0.5**
MEEK	**Meekatharra**	**19.22**	**187**	P	**P**	**10 22 04.4**	**+0.5**
AS15	**Alice Springs**	**20.23**	**144**	P	**P**	**10 22 13.0**	**-0.1**
AS16	**Alice Springs**	**20.24**	**144**	P	**P**	**10 22 13.3**	**+0.1**
AS31	**Alice Springs**	**20.25**	**144**	P	**P**	**10 22 13.3**	**0.0**
ASAR	**Alice Springs**	**20.25**	**144**	P	**P**	**10 22 13.2**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=321,slow=8.4,SNR=44						
ASAR				ScP	**ScP**	**10 28 44.8**	**-1.9**
	comp=Z,0.2nm,0.7s,baz=316,slow=2.2,SNR=4.4						
ASAR	**Alice Springs**	**20.25**	**144**	P	**P**	**10 22 13.8**	**+0.5**
AS11	**Alice Springs**	**20.26**	**144**	P	**P**	**10 22 13.2**	**-0.1**
AS09	**Alice Springs**	**20.30**	**144**	P	**P**	**10 22 13.7**	**-0.1**
AS19	**Alice Springs**	**20.31**	**144**	P	**P**	**10 22 13.8**	**-0.1**
QIS	**Mount Isa**	**22.12**	**128**	P	**P**	**10 22 29.9**	**-0.3**
FORT	**Forrest**	**24.09**	**165**	P	**P**	**10 22 47.8**	**+0.3**
OOD	**Oodnadatta**	**24.48**	**147**	P	**P**	**10 22 50.8**	**-0.2**
BBOO	**Buckleboo**	**28.78**	**153**	P	**P**	**10 23 28.5**	**-0.3**
BBOO				IAmb	IAmb	10 23 57.3	
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**30.89**	**145**	P	**P**	**10 23 47.0**	**+0.1**
	comp=Z,4.2nm,0.4s,baz=321,slow=9.5,SNR=24						
STKA	**Stephens Creek**	**30.89**	**145**	IAmb	IAmb	10 23 48.0	
	comp=Z,0.9nm,0.6s						
CM07	**Chiang Mai Arr**	**33.79**	**320**	P	**P**	**10 24 12.3**	**+0.6**
MK02	**Makanchi Array**	**64.06**	**331**	P	**P**	**10 27 53.9**	**-1.1**
MK01	**Makanchi Array**	**64.07**	**331**	P	**P**	**10 27 55.2**	**+0.2**
MK31	**Makanchi Array**	**64.09**	**331**	P	**P**	**10 27 55.2**	**0.0**
MK31				IAmb	IAmb	10 28 06.8	
	comp=Z,1.8nm,0.8s						
MKAR	**Makanchi Array**	**64.09**	**331**	P	**P**	**10 27 55.4**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=142,slow=7.5,SNR=14						
ZAB3	**Zalesovo Array**	**68.37**	**338**	P	**P**	**10 28 20.6**	**-0.9**
ZAA0	**Zalesovo Array**	**68.39**	**338**	P	**P**	**10 28 20.7**	**-0.9**
ZAA0				IAmb	IAmb	10 28 20.8	
	comp=Z,5.3nm,1.5s						
ZALV	**Zalesovo Beam**	**68.39**	**338**	P	**P**	**10 28 20.4**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=127,slow=4.5,SNR=4.4						
KURK	**Kurchatov**	**68.58**	**333**	P	**P**	**10 28 22.7**	**-0.1**

*TAP **15** 10:20:29.8,23.17N×121.02E,h4km,ML4.0,B*

*IASPEI **15** 10:20:30.2±0.8,23.17N±0.01×121.03E±0.01,h5km±5km, Error ellipse: s-maj=2.1km s-min=1.9km az=130.0,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*JMA **15** 10:20:31.4±0.2,23.17N×121.28E,h0km,M3.3*

ISC 15 10:20:30.2±0.8,23.17N±0.01×121.04E±0.01,h5km±5km, n150,σ0s82/225,29C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.03**	**325**	*i* P	**Pg**	**10 20 31.1**	**-0.3**
	baz=22						
ELDTW				*i* S	**Sg**	**10 20 31.7**	**-0.5**
	baz=22						
ECS	**Chishang**	**0.18**	**112**	*i* P	**Pg**	**10 20 34.8**	**+1.0**
	baz=113						
ECS				S	**Sg**	**10 20 38.1**	**+1.9**
	baz=113						
STYH	**Taoyuan**	**0.24**	**271**	⇑*i* P	**Pg**	**10 20 34.8**	**-0.1**
	baz=269						
STYH				*i* S	**Sg**	**10 20 37.9**	**-0.1**
	baz=269						
FULB	**Fuli**	**0.24**	**82**	⇑*i* P	**Pg**	**10 20 36.2**	**+1.3**
	baz=74						
FULB				*e*S	**Sg**	**10 20 40.7**	**+2.6**
	baz=74						
STYT	**Tauyuan**	**0.26**	**270**	⇑*i* P	**Pg**	**10 20 35.1**	**-0.1**
	baz=267						
STYT				*i* S	**Sg**	**10 20 38.4**	**-0.2**
	baz=267						
LONT	**Longtian**	**0.27**	**161**	*i* P	**Pg**	**10 20 36.0**	**+0.6**
	baz=159						
LONT				*i* S	**Sg**	**10 20 40.1**	**+1.0**
	baz=159						
TWF1	**Yuli**	**0.30**	**52**	⇑*i* P	**Pg**	**10 20 36.5**	**+0.4**
	baz=56						
TWF1				*i* S	**Sg**	**10 20 40.6**	**+0.4**
	baz=56						
CHKT	**Chengkung**	**0.31**	**102**	*i* P	**Pb**	**10 20 37.9**	**-0.3**
	baz=103						
CHKT				S	**Sb**	**10 20 43.6**	**0.0**
	baz=103						
EDH	**Donghe**	**0.31**	**128**	*e*P	**Pg**	**10 20 37.6**	**+1.3**
	baz=141						
EYUL	**Yuli**	**0.32**	**55**	P	**Pg**	**10 20 36.8**	**+0.5**
	baz=58						
EYUL				*e*S	**Sg**	**10 20 41.1**	**+0.6**
	baz=58						
YULB	**Yu-li**	**0.33**	**47**	⇑*i* P	**Pg**	**10 20 36.7**	**+0.1**
	baz=49						
YULB				S	**Sg**	**10 20 40.4**	**-0.6**
	baz=49						
TWGBT	**Beinan**	**0.35**	**173**	⇑*i* P	**Pg**	**10 20 37.2**	**+0.3**
	baz=163						
TWGBT				*e*S	**Sg**	**10 20 41.6**	**+0.1**
	baz=163						
WTP	**Ta-pu**	**0.40**	**282**	⇑*i* P	**Pg**	**10 20 38.3**	**+0.5**
	baz=281						
WTP				*i* S	**Sg**	**10 20 44.1**	**+1.1**
	baz=281						
TPUB	**Ta-pu**	**0.40**	**290**	⇑*i* P	**Pg**	**10 20 38.4**	**+0.5**
	baz=301						
TPUB				S	**Sg**	**10 20 43.8**	**+0.8**
	baz=301						
SLGT	**Liugui**	**0.40**	**245**	⇑*e*P	**Pg**	**10 20 38.3**	**+0.5**
	baz=231						
ALS	**Alishan**	**0.40**	**328**	⇓*i* P	**Pg**	**10 20 38.3**	**+0.2**
	baz=330						
ALS				*i* S	**Sg**	**10 20 43.9**	**+0.5**
	baz=330						
ECBN	**Changbin**	**0.41**	**69**	P	**Pb**	**10 20 39.7**	**-0.2**
	baz=56						
ECBN				*e*S	**Sb**	**10 20 47.1**	**+0.6**
	baz=56						
TTN	**Taitung**	**0.42**	**166**	*e*P	**Pb**	**10 20 40.3**	**+0.2**
	baz=163						
SGST	**Jiashian**	**0.42**	**259**	⇑*i* P	**Pg**	**10 20 37.9**	**-0.4**
	baz=250						
SGST				*e*S	**Sg**	**10 20 43.8**	**-0.1**
	baz=250						
EHY	**Hungye**	**0.43**	**38**	⇑*i* P	**Pg**	**10 20 38.5**	**0.0**
	baz=40						
EHY				S	**Sg**	**10 20 43.8**	**-0.3**
	baz=40						
CHN4	**Tsaushan**	**0.45**	**295**	⇑*i* P	**Pg**	**10 20 39.6**	**+0.8**
	baz=304						
CHN4				*i* S	**Sg**	**10 20 46.0**	**+1.4**
	baz=304						
CHN1	**Nanshi**	**0.47**	**272**	⇑*i* P	**Pg**	**10 20 40.0**	**+0.8**
	baz=271						
CHN1				*i* S	**Sb**	**10 20 47.2**	**-1.0**
	baz=271						
HGSD	**Ruisui**	**0.48**	**48**	⇑*i* P	**Pg**	**10 20 40.4**	**+0.9**
	baz=37						
HGSD				*i* S	**Sg**	**10 20 46.9**	**+1.1**
	baz=37						
SNST	**Tainan City**	**0.50**	**276**	⇑*i* P	**Pg**	**10 20 40.7**	**+1.0**
	baz=275						
SNST				S	**Sb**	**10 20 48.5**	**-0.5**
	baz=275						
TWK	**Hsinying**	**0.51**	**281**	⇑*i* P	**Pg**	**10 20 40.9**	**+0.8**
	baz=281						
TWK				*i* S	**Sb**	**10 20 48.9**	**-0.7**
	baz=281						
CHN5	**Tsauling**	**0.54**	**323**	⇓*i* P	**Pg**	**10 20 41.3**	**+0.7**
	baz=323						
CHN5				S	**Sg**	**10 20 48.3**	**+0.6**
	baz=323						
SSD	**Sandimen**	**0.56**	**222**	⇑*i* P	**Pg**	**10 20 40.4**	**-0.5**
	baz=219						
ECL	**Taimali**	**0.57**	**188**	⇑*i* P	**Pg**	**10 20 40.9**	**-0.3**
	baz=185						
SCST	**Cishan**	**0.57**	**241**	*e*P	**Pg**	**10 20 42.0**	**+0.8**
	baz=239						
TSMG	**Majia**	**0.58**	**218**	⇑*e*P	**Pg**	**10 20 40.8**	**-0.6**
	baz=222						
VWDT	**VWDT**	**0.59**	**9**	⇑*i* P	**Pg**	**10 20 41.0**	**-0.6**
	baz=11						
VWDT				*e*S	**Sg**	**10 20 48.9**	**-0.4**
	baz=11						
EGFH	**Guangfu**	**0.62**	**36**	*e*P	**Pg**	**10 20 42.0**	**-0.1**
	baz=37						
EGFH				*e*S	**Sg**	**10 20 50.1**	**0.0**
	baz=37						
CHN3	**Shinhua**	**0.62**	**262**	P	**Pb**	**10 20 44.2**	**+0.6**
	baz=276						
SSLB	**Suanglung**	**0.62**	**353**	P	**Pg**	**10 20 41.6**	**-0.5**
	baz=355						
CHN2	**Minshiung**	**0.63**	**305**	*e*P	**Pg**	**10 20 43.5**	**+1.2**
	baz=306						
CHN2				*e*S	**Sb**	**10 20 53.4**	**+0.6**
	baz=306						
LDUT	**Ludao**	**0.63**	**141**	*e*P	**Pg**	**10 20 42.8**	**+0.5**
	baz=140						
SHHT	**Tainan City**	**0.65**	**257**	⇑*e*P	**Pb**	**10 20 45.0**	**+1.0**
	baz=254						
SHHT				*e*S	**Sn**	**10 20 56.8**	**+0.1**
	baz=254						
CHY	**Chiayi**	**0.65**	**301**	*e*P	**Pb**	**10 20 44.2**	**+0.1**
	baz=301						
CHY				*e*S	**Sb**	**10 20 54.1**	**+0.7**
	baz=301						
MASBT	**Mashibuluo**	**0.66**	**214**	P	**Pg**	**10 20 42.3**	**-0.7**
	baz=208						
MASBT				*e*S	**Sg**	**10 20 50.7**	**-0.8**
	baz=208						
SGLT	**Jiouru**	**0.67**	**229**	*e*P	**Pg**	**10 20 43.7**	**+0.7**
	baz=222						
WGK	**Gukeng**	**0.68**	**320**	⇓P	**Pb**	**10 20 44.6**	**+0.2**
	baz=328						
WGK				*e*S	**Sb**	**10 20 54.2**	**0.0**
	baz=328						
WDLH	**Douliu**	**0.69**	**319**	*e*P	**Pg**	**10 20 44.5**	**+1.0**
	baz=319						
WDLH				*e*S	**Sb**	**10 20 55.3**	**+0.7**
	baz=319						
WJS	**Zhushan**	**0.71**	**337**	*e*P	**Pb**	**10 20 45.2**	**+0.1**
	baz=344						
WJS				*e*S	**Sb**	**10 20 55.6**	**+0.4**
	baz=344						
TEGC	**Jichi Village**	**0.71**	**41**	*e*P	**Pg**	**10 20 44.7**	**+0.9**
	baz=34						
ICHU	**Yijhu**	**0.72**	**286**	*e*P	**Pb**	**10 20 45.3**	**+0.1**
	baz=286						
ICHU				*e*S	**Sb**	**10 20 56.6**	**+1.1**
	baz=286						
SMLT	**Sun Moon Lake**	**0.72**	**350**	*e*P	**Pg**	**10 20 44.1**	**-0.1**
	baz=352						
ESL	**Shilin**	**0.74**	**29**	⇑P	**Pg**	**10 20 44.0**	**-0.5**
	baz=39						
ESL				*e*S	**Sg**	**10 20 53.8**	**-0.3**
	baz=39						
TYC	**Yuchr**	**0.75**	**348**	*e*P	**Pg**	**10 20 45.4**	**+0.8**
	baz=355						
TYC				*e*S	**Sb**	**10 20 56.5**	**+0.1**
	baz=355						
SCLT	**Jiali**	**0.77**	**271**	*e*P	**Pb**	**10 20 46.5**	**+0.3**
	baz=270						
SCLT				S	**Sn**	**10 20 59.5**	**-0.3**
	baz=270						
CHN8	**Yiju**	**0.78**	**284**	P	**Pg**	**10 20 46.1**	**+1.0**
	baz=284						
CHN8				S	**Sn**	**10 20 58.7**	**-1.2**
	baz=284						
WTK	**Tuku**	**0.79**	**311**	*e*P	**Pg**	**10 20 46.4**	**+1.0**
	baz=312						
WTK				*e*S	**Sn**	**10 20 58.9**	**-1.3**
	baz=312						
OWD	**Renai**	**0.80**	**9**	*e*P	**Pg**	**10 20 44.3**	**-1.2**
	baz=1.0						
EAST	**Anshuo**	**0.80**	**193**	⇑*i* P	**Pg**	**10 20 45.3**	**-0.2**
	baz=191						
EAST				S	**Sg**	**10 20 56.3**	**+0.4**
	baz=191						
SSPT	**Xinbi**	**0.80**	**212**	*e*P	**Pg**	**10 20 45.3**	**-0.3**
	baz=203						
WNT1	**Nantou City**	**0.81**	**336**	*e*P	**Pb**	**10 20 47.4**	**+0.7**
	baz=320						
TAW	**Tawu**	**0.81**	**189**	*e*P	**Pg**	**10 20 45.6**	**-0.2**
	baz=197						
WSL	**Shuilin Townsh**	**0.82**	**296**	*e*P	**Pg**	**10 20 46.9**	**+0.9**
	baz=296						
WSL				S	**Sn**	**10 20 59.7**	**-1.2**
	baz=296						
WUSB	**Renai**	**0.83**	**5**	⇑*i* P	**Pg**	**10 20 44.9**	**-1.1**
	baz=355			

WHP				*e*S		**Sn**	**10 21 08.5**	**+0.3**
	baz=2.0								
ETLH	**Xiulin Townshi**	**1.11**	**21**	*e*P		**Pg**	**10 20 50.5**	**-1.1**
	baz=22								
ETLH				*e*S		**Sg**	**10 21 06.7**	**+0.6**
	baz=22								
ETL	**Fush Village**	**1.13**	**28**	*e*P		**Pb**	**10 20 52.1**	**-0.1**
	baz=45								
NACB	**Ninganchiao**	**1.13**	**27**	P		**Pb**	**10 20 51.2**	**-0.9**
	baz=27								
NACB				S		**Sg**	**10 21 06.0**	**-0.5**
	baz=27								
HEN	**Hengchun**	**1.19**	**193**	*e*P		**Pg**	**10 20 54.2**	**+1.3**
	baz=200								
TWQ1	**Liyutan**	**1.20**	**349**	*e*P		**Pg**	**10 20 53.9**	**+0.7**
	baz=350								
TWQ1				S		**Sn**	**10 21 10.8**	**+0.4**
	baz=350								
LAY	**Lan-yu**	**1.22**	**157**	*e*P		**Pb**	**10 20 52.0**	**-1.8**
	baz=156								
WDJ	**Dajia District**	**1.23**	**343**	*e*P		**Pg**	**10 20 54.6**	**+0.8**
	baz=331								
TWK1	**Hengchun**	**1.23**	**190**	*e*P		**Pg**	**10 20 54.6**	**+0.8**
	baz=177								
TWK1				*e*S		**Sn**	**10 21 13.3**	**+2.1**
	baz=177								
TWKBT	**Hengchun**	**1.24**	**190**	*e*P		**Pg**	**10 20 54.8**	**+0.9**
	baz=177								
TWKBT				*e*S		**Sn**	**10 21 12.9**	**+1.7**
	baz=177								
LYUB	**Lan-yu**	**1.27**	**156**	*e*P		**Pn**	**10 20 52.7**	**-1.8**
	baz=156								
TSEB	**Hengchuen, Pin**	**1.27**	**186**	*e*P		**Pg**	**10 20 55.8**	**+1.3**
	baz=175								
WDGT	**Dungji**	**1.27**	**275**	⇑*i*P		**Pn**	**10 20 53.5**	**-1.1**
	baz=275								
WDGT				*i*S		**Sb**	**10 21 10.4**	**-0.8**
	baz=275								
NSY	**Sanyi**	**1.27**	**349**	⇓*i*P		**Pg**	**10 20 55.6**	**+1.0**
	baz=350								
NSY				*e*S		**Sn**	**10 21 13.3**	**+1.3**
	baz=350								
NNSB	**Datong**	**1.30**	**14**	*e*P		**Pn**	**10 20 53.8**	**-1.3**
	baz=24								
NNSB				*e*S		**Sb**	**10 21 11.3**	**-0.8**
	baz=24								
NNS	**Nan Shan**	**1.31**	**14**	*e*P		**Pn**	**10 20 54.8**	**-0.5**
	baz=24								
NNS				*e*S		**Sb**	**10 21 12.3**	**-0.1**
	baz=24								
NMLH	**Miaoli**	**1.38**	**351**	*e*P		**Pg**	**10 20 57.3**	**+0.6**
	baz=352								
PHUB	**P'eng-hu**	**1.39**	**285**	P		**Pn**	**10 20 55.3**	**-1.0**
	baz=285								
PHUB				S		**Sb**	**10 21 13.4**	**-1.2**
	baz=285								
ENA	**Nanau**	**1.41**	**27**	*e*P		**Pn**	**10 20 56.9**	**+0.3**
	baz=41								
PNG	**Penghu**	**1.42**	**287**	*e*P		**Pn**	**10 20 55.6**	**-1.1**
	baz=287								
PNG				*e*S		**Sn**	**10 21 14.4**	**-1.3**
	baz=287								
LATG	**Datong**	**1.44**	**18**	⇑*i*P		**Pn**	**10 20 56.9**	**-0.1**
	baz=32								
LATG				*e*S		**Sn**	**10 21 14.8**	**-1.5**
	baz=32								
EWUT	**Wuta**	**1.45**	**28**	*e*P		**Pn**	**10 20 57.0**	**+0.1**
	baz=41								
NSTT	**Nanjuang**	**1.46**	**359**	*e*P		**Pb**	**10 20 58.4**	**+0.5**
	baz=344								
NSTT				*e*S		**Sg**	**10 21 18.8**	**+1.6**
	baz=344								
NFF	**Wufeng Townshi**	**1.46**	**3**	*e*P		**Pb**	**10 20 58.1**	**+0.2**
	baz=344								
LIOB	**Emei**	**1.47**	**359**	*e*P		**Pb**	**10 20 58.4**	**+0.3**
	baz=347								
LIOB				*e*S		**Sg**	**10 21 19.6**	**+2.1**
	baz=347								
VCHM	**Qimei**	**1.48**	**272**	*e*P		**Pn**	**10 20 56.5**	**-0.9**
	baz=273								
VCHM				*e*S		**Sn**	**10 21 15.2**	**-1.9**
	baz=273								
NDT	**Datong Townshi**	**1.50**	**17**	*e*P		**Pn**	**10 20 58.3**	**+0.6**
	baz=27								
YHNB	**Yeheng**	**1.53**	**12**	*e*P		**Pn**	**10 20 57.9**	**-0.4**
	baz=12								
YHNB				*e*S		**Sn**	**10 21 17.8**	**-0.8**
	baz=12								
NSK	**Sanguang**	**1.53**	**11**	*e*P		**Pn**	**10 20 58.8**	**+0.6**
	baz=12								
NSK				*e*S		**Sn**	**10 21 18.3**	**-0.3**
	baz=12								
ENTT	**Nioudou**	**1.55**	**18**	*e*P		**Pn**	**10 20 59.1**	**+0.7**
	baz=33								
ENTT				*e*S		**Sn**	**10 21 18.3**	**-0.6**
	baz=33								
NDS	**Dongshan**	**1.59**	**23**	*e*P		**Pb**	**10 20 59.9**	**-0.1**
	baz=41								
NDS				*e*S		**Sb**	**10 21 20.7**	**+0.2**
	baz=41								
HSN1	**Hsinchu**	**1.60**	**359**	*e*P		**Pb**	**10 21 00.2**	**-0.1**
	baz=344								
TWC	**Suao**	**1.62**	**27**	*e*P		**Pb**	**10 21 00.3**	**-0.2**
	baz=28								
TWC				*e*S		**Sn**	**10 21 20.5**	**-0.1**
	baz=28								
SBCB	**Hsinchu**	**1.62**	**358**	*e*P		**Pb**	**10 21 01.3**	**+0.7**
	baz=1.0								
TWE	**Neicheng**	**1.65**	**20**	*e*P		**Pn**	**10 21 00.3**	**+0.4**
	baz=36								
TWE				*e*S		**Sb**	**10 21 22.5**	**+0.2**
	baz=36								
NWLT	**Wulai**	**1.66**	**15**	*e*P		**Pb**	**10 21 01.2**	**0.0**
	baz=2.0								
FUSB	**Fushanzhiwuyua**	**1.67**	**18**	⇑P		**Pn**	**10 21 00.6**	**+0.5**
	baz=32								
FUSB				*e*S		**Sn**	**10 21 22.0**	**+0.1**
	baz=32								
NCUH	**Zhongli**	**1.80**	**4**	*e*P		**Pb**	**10 21 04.0**	**+0.3**
	baz=8.0								
NTC	**Toucheng**	**1.83**	**23**	*e*P		**Pb**	**10 21 03.5**	**-0.7**
	baz=41								
NHDH	**Xindian Distri**	**1.84**	**14**	*e*P		**Pb**	**10 21 04.0**	**-0.4**
	baz=25								
TWA	**Mucha**	**1.88**	**15**	*e*P		**Pb**	**10 21 05.7**	**+0.7**
	baz=39								
TIPB	**Shuangxi**	**1.94**	**22**	*e*P		**Pb**	**10 21 06.3**	**+0.2**
	baz=40								
TWS1	**Kuangyinshan**	**1.96**	**10**	*e*P		**Pb**	**10 21 06.8**	**+0.5**
	baz=23								
NWF	**Wu-fen Shan**	**2.02**	**20**	*e*P		**Pb**	**10 21 06.9**	**-0.5**
	baz=40								
WFSB	**Wu-fen Shan**	**2.02**	**20**	*e*P		**Pb**	**10 21 06.4**	**-0.9**
	baz=40								
NTST	**Danshui**	**2.03**	**11**	*e*P		**Pg**	**10 21 09.4**	**+0.4**
	baz=14								
TWB1	**Santiao Chiao**	**2.03**	**25**	*e*P		**Pb**	**10 21 07.8**	**+0.2**
	baz=41								
YM01	**YM01**	**2.03**	**14**	*e*P		**Pb**	**10 21 07.5**	**-0.2**
	baz=39								
ANP	**Anpu**	**2.06**	**12**	*e*P		**Pb**	**10 21 08.8**	**+0.7**
	baz=37								
SXI1	**Grass Mountain**	**2.07**	**22**	*e*P		**Pb**	**10 21 08.8**	**+0.5**
	baz=36								
SXI1				*e*S		**Sb**	**10 21 34.7**	**+0.4**
	baz=36								
YM08	**YM08**	**2.08**	**14**	*e*P		**Pb**	**10 21 09.1**	**+0.7**
	baz=38								
JYNG	**Yonaguni jima**	**2.17**	**53**	P		**Pn**	**10 21 06.8**	**-0.1**
JYNG				*e*S		**Sn**	**10 21 34.0**	**-0.2**
YOJ	**Yonaguni jima**	**2.22**	**54**	*e*S		**Sn**	**10 21 33.7**	**-1.8**
VWUC	**VWUC**	**2.33**	**322**	*e*P		**Pn**	**10 21 08.7**	**-0.4**
	baz=321								
PTMZ	**Houxiangcun**	**2.56**	**317**	*e*P		**Pn**	**10 21 11.0**	**-1.3**
	baz=316								
KNM	**Kinmen**	**2.69**	**298**	*e*P		**Pn**	**10 21 14.9**	**+0.8**
	baz=295								
HATJ	**Hateruma jima**	**2.69**	**70**	*e*S		**Sn**	**10 21 45.3**	**-1.8**
IRIF	**Iriomote-Funau**	**2.73**	**64**	*e*S		**Sn**	**10 21 48.0**	**-0.1**
KNMB	**Chin-men Tao**	**2.75**	**299**	*e*P		**Pn**	**10 21 13.9**	**-1.0**
	baz=297								
JKRS	**Kuro-shima**	**2.93**	**68**	*e*S		**Sn**	**10 21 51.8**	**-1.2**
JIJ	**Ishigaki jima**	**3.09**	**67**	S		**Sn**	**10 21 54.2**	**-2.7**
ZPLA	**Ao Xicun**	**3.11**	**285**	*e*P		**Pn**	**10 21 18.9**	**-1.0**
	baz=283								
MATB	**Ma-tsu**	**3.13**	**342**	*e*P		**Pn**	**10 21 20.4**	**+0.1**
	baz=340								
AXDP	**Jialang**	**3.29**	**302**	*e*P		**Pn**	**10 21 21.9**	**-0.5**
	baz=301								
JISG	**Ishigakijimahi**	**3.32**	**64**	P		**Pn**	**10 21 23.6**	**+0.9**
JISG				S		**Sn**	**10 22 01.3**	**-1.2**
MHZQ	**Yeshan**	**3.44**	**328**	*e*P		**Pn**	**10 21 24.4**	**0.0**
	baz=327								
LYJJ	**Jianjiangzhen**	**3.56**	**341**	*e*P		**Pn**	**10 21 26.5**	**+0.4**
	baz=339								
XPSS	**Dashiqiu**	**3.83**	**349**	*e*P		**Pn**	**10 21 29.5**	**-0.2**
	baz=346								

IDC ***15*** *10:24:25.2±0.6, 3.°56S×100.°44E, h0km, mb4.3/22, mb1 4.5/25, mb1mx4.2/48, mbtmp4.4/25, ML4.3/3, MS4.5/51, Ms1 4.5/51, ms1mx4.4/83, Error ellipse: s-maj=21.5km s-min=11.6km az=51.0*

DJA ***15*** *10:24:29.5±0.4, 4.°S±3.°×10.°0E±.°, h39km±5km, M4.8/26, mb4.8/26, mB5.2/19, MLv5.2/25, Mw(mB)4.6/19, MwMwp4.8/10, Mwp5.2/10*

NEIC ***15*** *10:24:31.1±1.6, 3.°62S±0.°07×100.°49E±0.°07, h38km±5km, mb4.8/51, Error ellipse: s-maj=10.5km s-min=8.7km az=224.0*

KLM ***15*** *10:24:32, 3.°60S×100.°50E, h42km, mb5.0*

GCMT ***15*** *10:24:32.1±0.3, 3.°89S±0.°02×100.°15E±0.°02, h32km±1km, MW5.1/66, Moment Tensor Solution. s61,c76; s66,c90; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.62±.23; Mθθ-2.00±.15; Mφφ-1.62±.18; Mrθ3.28±.28; Mφθ2.68±.11; Mφr-2.43±.31; Best double couple: Ms5.76000×10^16 NP1:φs320.00000°, δ23.00000°, λ102.00000°. NP2: φs128.00000°, δ68.00000°, λ85.00000°. Principal axes: T 5.3400, Plg67.0000°, Azm29.0000°; N 0.8410, Plg4.0000°, Azm130.0000°; P -6.1810, Plg23.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 10:24:30.1±0.6, 3.°71S±0.°05×100.°45E±0.°06, h34km±1km, h36km:pP-P, n222, σ1§90/202, mb4.8/65, MS4.7/65, 5C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PPSI	**Pulau Pagai**	**1.03**	**335**	P		**Pn**	**10 24 46.9**	**-1.3**
MASI	**Maura Aman, Be**	**1.87**	**73**	P		**Pn**	**10 24 58.4**	**-1.4**
KRJI	**Kerinci**	**1.90**	**32**	P		**Pn**	**10 24 58.3**	**-1.9**
KSI	**Kapahiang**	**2.14**	**89**	P		**Pn**	**10 25 02.8**	**-0.7**
MNAI	**Manna**	**2.58**	**105**			**Pn**	**10 25 09.1**	**-0.5**
MNAI	**Manna**	**2.58**	**105**	P		**Pn**	**10 25 09.5**	**0.0**
SISI	**Saibi**	**2.73**	**330**	P		**Pn**	**10 25 09.6**	**-1.9**
PPI	**Padang Panjang**	**3.23**	**359**	P		**Pn**	**10 25 16.6**	**-1.8**
JMBI	**JAMBI**	**3.79**	**57**	P		**Pn**	**10 25 25.4**	**-0.8**
MDSI	**Maura Dua**	**3.80**	**102**	P		**Pn**	**10 25 26.6**	**+0.3**
LWLI	**Liwa**	**3.83**	**110**	P		**Pn**	**10 25 27.4**	**+0.6**
RGRI	**Rengat**	**3.83**	**29**	P		**Pn**	**10 25 24.0**	**-2.7**
BKNI	**Bangkinang**	**4.05**	**8**	Pn		**Pn**	**10 25 29.4**	**-0.4**
BKNI	**Bangkinang**	**4.05**	**8**	P		**Pn**	**10 25 27.6**	**-2.1**
PMBI	**Palembang**	**4.38**	**80**	Pn		**Pn**	**10 25 33.2**	**-1.1**
PMBI	**Palembang**	**4.38**	**80**	P		**Pn**	**10 25 32.7**	**-1.6**
KASI	**Kota Agung**	**4.42**	**114**	P		**Pn**	**10 25 34.7**	**-0.1**
KLI	**Kotabumi**	**4.54**	**105**	P		**Pn**	**10 25 36.1**	**-0.4**
MNSI	**Mandailing Nat**	**4.56**	**349**	P		**Pn**	**10 25 34.3**	**-2.4**
BLSI	**Bandar Lampung** 2.6nm274nm,1.0s	**5.06**	**109**	P		**Pn**	**10 25 43.3**	**-0.3**
DSRI	**Dabo** 0.8nm6µm100nm,1.0s	**5.22**	**52**	P		**Pn**	**10 25 44.4**	**-1.5**
GSI	**Gunungsitoli**	**5.75**	**330**	Pn		**Pn**	**10 25 52.2**	**-0.9**
GSI	**Gunungsitoli** 0.6nm8µm78nm,0.9s	**5.75**	**330**	P		**Pn**	**10 25 51.3**	**-1.8**
PPBI	**Pangkal Pinang** 1.6nm7µm6µm82nm,0.8s	**5.88**	**75**	P		**Pn**	**10 25 54.1**	**-0.8**
CGJI	**Cibinong** 1.2nm3µm190nm,0.5s	**5.97**	**119**	P		**Pn**	**10 25 54.9**	**-1.2**
TPRI	**Tanjung Pinang**	**6.14**	**42**	P		**Pn**	**10 25 57.6**	**-0.9**
MYKOM	**Kota Tinggi**	**6.43**	**32**			**Pn**	**10 26 01.6**	**-0.9**
MYKOM	**Kota Tinggi**	**6.43**	**32**	P		**Pn**	**10 26 02.0**	**-0.5**
RPSI	**Rantau Prapat**	**6.54**	**346**			**Pn**	**10 26 01.1**	**-2.9**
PSI	**Prapat** 1.8nm,0.3s,baz=176,slow=9.0,SNR=6.5	**6.64**	**347**	Pn		**Pn**	**10 26 01.1**	**-4.4**
DBJI	**Dramaga** 1.4nm41µm125nm,1.3s	**6.88**	**115**	P		**Pn**	**10 26 09.3**	**+0.6**
SKJI	**Sukabumi** 1.0nm150nm,0.4s	**6.91**	**119**	P		**Pn**	**10 26 08.6**	**-0.4**
CNJI	**Cibinong** 1.3nm3µm210nm,0.7s	**7.55**	**119**	P		**Pn**	**10 26 16.7**	**-1.1**
LEM	**Lembang** 14nm,0.3s,baz=194,slow=19,SNR=6.7	**7.78**	**114**	Pn		**Pn**	**10 26 21.9**	**+0.8**
LEM	**Lembang** 0.6nm1µm2µm69nm,1.0s	**7.78**	**114**	P		**Pn**	**10 26 21.2**	**0.0**
JRMM	**Jerantut**	**7.81**	**15**	P		**Pn**	**10 26 21.0**	**-0.4**
KULM	**Kulim**	**8.94**	**1**			**Pn**	**10 26 36.5**	**-0.4**
KULM	**Kulim**	**8.94**	**1**	P		Pn	10 26 47.0	+10
KPJI	**Karang Pucung** 2µm110nm,1.1s	**9.18**	**113**	P		**Pn**	**10 26 40.2**	**0.0**
SMRI	**Semarang** 143nm,0.9s	**10.48**	**109**	P		**Pn**	**10 26 57.9**	**-0.2**
UGM	**Wanagama**	**10.86**	**113**	Pn		**Pn**	**10 27 03.3**	**0.0**
KSM	**Kuching**	**11.11**	**63**	Pn		**Pn**	**10 27 06.8**	**0.0**
STKI	**Sintang**	**11.64**	**71**	P		Pn	10 27 28.0	+14
SBUM	**Sibu**	**13.26**	**63**	Pn		**Pn**	**10 27 36.3**	**+0.2**
SBUM	**Sibu**	**13.26**	**63**	P		**Pn**	**10 27 38.0**	**+1.9**
BBKI	**Banjar Baru**	**14.36**	**89**	P		**P**	**10 27 57.5**	**-0.2**
JAGI	**Jajag, Banyuwa**	**14.42**	**110**	Pn		**Pn**	**10 27 50.6**	**-1.3**
PBA	**Port Blair**	**17.08**	**333**	Pn		**Pn**	**10 28 25.2**	**-1.1**
PBA					IAmb	IAmb	10 28 50.1	
	comp=Z,37nm,0.8s							
SPMM	**Sapulut**	**18.05**	**63**	P		**P**	**10 28 39.0**	**+0.3**
KKM	**Kota Kinabalu**	**18.48**	**58**	P		**P**	**10 28 41.7**	**-1.8**
SPSI	**Sidrap Palu** comp=Z,1µmcomp=Z,66nm,1.1s	**19.28**	**91**	P		**P**	**10 28 50.0**	**-2.1**
KAPI	**Kappang** comp=Z,0.9nm,0.3s,baz=258,slow=9.2,SNR=18	**19.29**	**95**	P		**P**	**10 28 51.8**	**-0.4**
KAPI	**Kappang**	**19.29**	**95**			**P**	**10 28 50.5**	**-1.7**
UBPT	**Khong Chiam**	**19.51**	**15**			**P**	**10 28 52.6**	**-2.0**
BNSI	**Bone** comp=Z,1µmcomp=Z,42nm,1.1s	**19.62**	**93**	P		**P**	**10 28 53.9**	**-2.0**
BKSI	**Bulukumba** comp=Z,2µmcomp=Z,121nm,1.5s	**19.68**	**95**	P		**P**	**10 28 55.9**	**-0.6**
MPSI	**Mapaga** comp=Z,3µmcomp=Z,1µmcomp=Z,81nm,1.3s	**19.84**	**79**	P		**P**	**10 28 57.7**	**-0.6**
MYLDM	**Lahad Datu**	**20.07**	**64**	P		**P**	**10 28 59.0**	**-1.8**
MYLDM					IAmb	IAmb	10 29 24.5	
	comp=Z,96nm,1.2s							
TOLI2	**Tolitoli**	**20.88**	**77**			**P**	**10 29 07.9**	**-1.7**
TOLI2					IAmb	IAmb	10 29 12.6	
	comp=Z,73nm,1.1s							
APSI	**Ampana** comp=Z,992nmcomp=Z,68nm,1.2s	**21.36**	**83**	P		**P**	**10 29 13.5**	**-1.2**
MRSI	**Marisa** comp=Z,2µmcomp=Z,811nmcomp=Z,34nm,1.0s	**21.87**	**79**	P		**P**	**10 29 19.4**	**-0.9**
CM31	**Chiang Mai Arr**	**22.07**	**356**	P		**P**	**10 29 20.2**	**-2.2**
CMAR	**Chiang Mai Arr** comp=Z,6.6nm,0.8s,baz=186,slow=9.6,SNR=19	**22.07**	**356**	P		**P**	**10 29 19.6**	**-2.8**
CMAR					LR	LR	10 39 07.8	
	comp=Z,837nm,19.6s,baz=180,slow=40							
MMRI	**Maumere**	**22.20**	**104**	P		**P**	**10 29 21.1**	**-2.7**
MMRI					IAmb	IAmb	10 29 49.8	
	comp=Z,25nm,0.8s							
CHTO	**Chiang Mai**	**22.43**	**356**	P		**P**	**10 29 24.2**	**-2.0**
LUWI	**Luwuk**	**22.46**	**84**	P		**P**	**10 29 23.6**	**-2.9**
LUWI	**Luwuk** comp=Z,105nm,1.1s	**22.46**	**84**	P		**P**	**10 29 26.6**	**+0.1**
PALK	**Pallekele** comp=Z,2µm,20.7s,baz=225,slow=34	**22.53**	**299**	LR		LR	10 37 08.7	
PALK	**Pallekele**	**22.53**	**299**	P		**P**	**10 29 26.0**	**-1.4**
GTOI	**Gorontalo**	**22.95**	**80**	P		**P**	**10 29 29.2**	**-2.6**
QIZ	**Qiongzhong**	**24.41**	**22**	P		**P**	**10 29 44.4**	**-1.2**
QIZ				pP		**pP**	**10 29 55.0**	**-0.5**
QIZ				S		**S**	**10 34 07.8**	**+4.5**
QIZ				sS		**sS**	**10 34 25.0**	**+6.0**
QIZ				pmax	pmax			
	comp=Z,300nm,2.4s							
QIZ				LR	LR			
	comp=N,2µm,14.3s							
QIZ				LR	LR			
	comp=E,2µm,12.7s							
QIZ				LR	LR			
	comp=Z,1µm,12.8s							
PSA00	**Pilbara Seismi**	**25.89**	**135**	P		**P**	**10 29 58.3**	**-0.8**
H08S2	**Diego Garcia H** baz=83,slow=75,SNR=7936	**28.09**	**261**	T		T	10 59 48.1	
H08S3	**Diego Garcia H** baz=83,slow=75,SNR=6013	**28.10**	**261**	T		T	10 59 48.6	
H08S1	**Diego Carcia H**	**28.11**	**261**	T		T	10 59 47.1	
	baz=83,slow=75,SNR=1467							
FITZ	**Fitzroy Crossi** comp=Z,3.9nm,0.9s,baz=298,slow=7.7,SNR=3.9	**28.51**	**122**	P		**P**	**10 30 23.1**	**+0.5**
FITZ				LR		LR	10 43 09.6	
	comp=Z,852nm,20.7s,baz=310,slow=39							
FITZ	**Fitzroy Crossi**	**28.51**	**122**	P		**P**	**10 30 23.6**	**+1.0**
FITZ				lAmb		lAmb	10 30 45.0	
	comp=Z,17nm,1.1s							
PZH	**PanZhiHua**	**30.06**	**2**	P		**P**	**10 30 39.0**	**+2.6**
PZH				pmax		pmax		
	comp=Z,7.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,100nm,5.3s							
SHL	**Shillong**	**30.26**	**345**	P		**P**	**10 30 38.0**	**-0.3**
SHL				lAmb		lAmb	10 30 49.0	
	comp=Z,14nm,0.6s							
KNRA	**Kununurra**	**30.28**	**115**	P		**P**	**10 30 36.0**	**-2.4**
KNRA				lAmb		lAmb	10 31 03.9	
	comp=Z,12nm,0.7s							
ODAN	**Odare** comp=Z,49nm,0.7s	**32.91**	**338**	*e*P		**P**	**10 31 02.8**	**+1.2**
TAPN	**Taplejung**	**33.23**	**339**	*e*P		**P**	**10 31 05.9**	**+1.4**
RAMN	**Ramite** comp=Z,11nm,0.3s	**33.29**	**337**	*e*P		**P**	**10 31 05.5**	**+0.6**
H01W3	**Cape Leeuwin H** baz=336,slow=76,SNR=58	**33.52**	**159**	T		T	11 06 36.5	
H01W2	**Cape Leeuwin H** baz=336,slow=76,SNR=51	**33.53**	**159**	T		T	11 06 46.2	
H01W1	**Cape Leeuwin H** baz=336,slow=76,SNR=36	**33.54**	**159**	T		T	11 06 45.9	
JIRN	**Jiri**	**34.08**	**337**	*e*P		**P**	**10 31 13.1**	**+1.1**
PKI	**Pulchoki**	**34.31**	**336**	*e*P		**P**	**10 31 15.0**	**+1.0**
LSA	**Lhasa**	**34.39**	**346**	P		**P**	**10 31 15.6**	**+0.8**
LSA				lAmb		lAmb	10 31 37.0	
	comp=Z,25nm,1.2s							
GUN	**Gumba**	**34.43**	**337**	*e*P		**P**	**10 31 15.8**	**+0.8**
KKN	**Kakani**	**34.56**	**336**	*e*P		**P**	**10 31 16.6**	**+0.6**
CD2	**Chengdu**	**34.57**	**5**	P		**P**	**10 31 15.8**	**0.0**
CD2				pmax		pmax		
	comp=Z,170nm,8.1s							
CD2				LR		LR		
	comp=N,180nm,13.7s							
CD2				LR		LR		
	comp=E,3µm,16.7s							
CD2				LR		LR		
	comp=Z,2µm,15.1s							
GKN	**Gorkha**	**35.01**	**335**	*e*P		**P**	**10 31 20.6**	**+0.8**
KOLN	**Koldanda** comp=Z,32nm,0.8s	**35.26**	**334**	*e*P		**P**	**10 31 23.0**	**+1.0**
DANN	**Dangsing**	**35.69**	**334**	*e*P		**P**	**10 31 26.8**	**+1.0**
PYUN	**Piuthan**	**35.82**	**333**	*e*P		**P**	**10 31 27.7**	**+0.9**
WB0	**Warramunga Arr**	**36.75**	**118**	P		**P**	**10 31 34.5**	**-0.2**
WB0				lAmb		lAmb	10 31 53.4	
	comp=Z,24nm,1.4s							
WRA	**Warramunga Arr** comp=Z,1.8nm,0.4s,baz=308,slow=8.6,SNR=36	**36.76**	**119**	P		**P**	**10 31 34.6**	**-0.2**
WRA				PcP		**PcP**	**10 33 57.2**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=311,slow=2.2,SNR=1.2							
WRA				LR		LR	10 48 45.6	
	comp=Z,905nm,20.7s,baz=294,slow=40							
WRA	**Warramunga Arr**	**36.76**	**119**	P		**P**	**10 31 34.9**	**+0.1**
WRAB	**Tennant Creek**	**36.77**	**119**	P		**P**	**10 31 35.0**	**+0.2**
WRAB				lAmb		lAmb	10 31 52.7	
	comp=Z,32nm,1.4s							
WRAB	**Tennant Creek**	**36.77**	**119**	P		**P**	**10 31 34.6**	**-0.2**
WRAB				pP		**pwP**	**10 31 45.2**	**-1.7**
WB2	**Warramunga Arr**	**36.77**	**119**	P		**P**	**10 31 34.2**	**-0.7**
WB2				lAmb		lAmb	10 31 52.2	
	comp=Z,12nm,0.8s							
WR0	**Warramunga Arr**	**36.95**	**119**	P		**P**	**10 31 36.0**	**-0.3**
WR0				lAmb		lAmb	10 31 52.1	
	comp=Z,22nm,1.2s							
AS31	**Alice Springs**	**37.90**	**125**	P		**P**	**10 31 44.3**	**-0.2**
ASAR	**Alice Springs** comp=Z,3.7nm,0.8s,baz=300,slow=8.0,SNR=34	**37.90**	**125**	P		**P**	**10 31 45.1**	**+0.6**
ASAR				PcP		**PcP**	**10 34 01.5**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=306,slow=2.5,SNR=2.1							
ASAR	**Alice Springs**	**37.90**	**125**	P		**P**	**10 31 43.3**	**-1.1**
XAN	**Xi'an**	**38.38**	**11**	P		**P**	**10 31 46.8**	**-1.5**
XAN				pP		pP	10 31 53.4	-4.6
XAN				PP		**PP**	**10 33 16.5**	**-0.1**
XAN				S		**S**	**10 37 39.6**	**-1.4**
XAN				SS		**SnSn**	**10 40 20.6**	**-7.9**
XAN				pmax		pmax		
	comp=Z,46nm,0.7s							
XAN				pmax		pmax		
	comp=Z,250nm,5.0s							
XAN				AMB		AMB		
	comp=Z,220nm,14.7s							
XAN				LR		LR		
	comp=N,2µm,14.7s							
XAN				LR		LR		
	comp=E,1µm,14.7s							
XAN				LR		LR		
	comp=Z,3µm,14.3s							
XAN	**Xi'an**	**38.38**	**11**	P		**P**	**10 31 46.8**	**-1.5**
XAN				pP		**pP**	**10 31 57.9**	**-0.1**
NJ2	**Nanjing**	**39.63**	**25**	*e*P		**P**	**10 32 01.3**	**+2.6**
NJ2				pmax		pmax		
	comp=Z,12nm,0.6s							
NJ2				LR		LR		
	comp=N,3µm,18.1s							
NJ2				LR		LR		
	comp=E,3µm,17.7s							
NJ2				LR		LR		
	comp=Z,3µm,15.7s							
**

HNS					sS	**sS**	**10 39 04.9**	**-0.7**		
HNS					SS	**SS**	**10 42 02.5**	**+0.2**		
HNS					pmax	pmax				
	comp=Z,6.0nm,1.3s									
HNS					LR	LR				
	comp=N,1μm,17.0s									
HNS					LR	LR				
	comp=Z,1μm,17.3s									
BTO	**Baotou**	**44.96**	**10**	*eP*	**P**	**10 32 42.3**	**+0.2**			
BTO					S	**S**	**10 39 19.3**	**+1.0**		
BTO					LR	LR				
	comp=N,1μm,6.6s									
BTO					LR	LR				
	comp=E,5μm,22.7s									
NIL	**Nilore**	**45.17**	**327**		P	**P**	**10 32 43.8**	**0.0**		
NIL					IAmb	IAmb	10 32 53.9			
	comp=Z,15nm,0.7s									
HHC	**Hu-ho-hao-te**	**45.49**	**12**	*eP*	**P**	**10 32 46.5**	**+0.2**			
HHC					S	**S**	**10 39 24.8**	**-1.1**		
HHC					sS	sS	10 39 41.3	-1.0		
HHC	**Hu-ho-hao-te**	**45.49**	**12**		SS	SS	10 42 47.3	-3.0		
HHC					pmax	pmax				
	comp=Z,23nm,0.9s									
HHC					pmax	pmax				
	comp=Z,200nm,5.9s									
HHC					LR	LR				
	comp=N,2μm,12.1s									
HHC					LR	LR				
	comp=E,2μm,13.7s									
HHC					LR	LR				
	comp=Z,2μm,13.3s									
BJI	**Beijing**	**45.87**	**17**	P	**P**	**10 32 48.3**	**-0.8**			
BJI					S	**S**	**10 39 40.0**	**+8.9**		
BJI	**Beijing**	**45.87**	**17**	SS	SS	10 43 00.1	+3.8			
BJI					pmax	pmax				
	comp=Z,10.0nm,1.1s									
BJI					LR	LR				
	comp=N,2μm,15.7s									
BJI					LR	LR				
	comp=E,380nm,13.6s									
BJI					LR	LR				
	comp=Z,3μm,15.9s									
CTA	**Charters Tower**	**47.48**	**114**	P	**P**	**10 33 02.6**	**+0.4**			
	comp=Z,5.0nm,0.8s,baz=292,slow=10,SNR=2.4									
CTA					LR	LR	10 55 20.4			
	comp=Z,673nm,20.6s,baz=282,slow=39									
STKA	**Stephens Creek**	**47.69**	**131**	P	**P**	**10 33 05.5**	**+1.8**			
	comp=Z,3.5nm,0.6s,baz=305,slow=8.7,SNR=16									
STKA					LR	LR	10 54 31.1			
	comp=Z,1μm,21.4s,baz=301,slow=38									
STKA	**Stephens Creek**	**47.69**	**131**	P	**P**	**10 33 03.6**	**-0.1**			
KSAR	**Wonju Array Be**	**48.23**	**29**	P	**P**	**10 33 06.8**	**-0.8**			
KSRS	**Korea Array**	**48.26**	**29**	P	**P**	**10 33 06.8**	**-1.1**			
	comp=Z,8.3nm,1.0s,baz=216,slow=8.7,SNR=21									
KSRS					LR	LR	10 55 40.9			
	comp=Z,500nm,18.1s,baz=210,slow=39									
KS19	**Wonju Array Si**	**48.27**	**29**	P	**P**	**10 33 06.5**	**-1.5**			
KSH	**Kashi**	**48.56**	**335**	P	**P**	**10 33 09.5**	**-0.8**			
KSH				pP	pP	10 33 19.1	-0.8			
KSH				sP	sP	10 33 24.9	+1.1			
KSH				PcP	**PcP**	**10 34 36.8**	**+1.0**			
KSH				pmax	pmax					
	comp=Z,8.0nm,0.8s									
KSH				LR	LR					
	comp=N,670nm,18.1s									
KSH				LR	LR					
	comp=E,650nm,18.6s									
KSH				LR	LR					
	comp=Z,530nm,19.7s									
WMQ	**Urumqi**	**48.69**	**348**	*eP*	**P**	**10 33 12.5**	**+1.3**			
WMQ				pP	sP	10 33 23.9	-0.5			
WMQ				sP	pP	10 33 33.1	+12			
WMQ				pmax	pmax					
	comp=Z,22nm,1.3s									
WMQ				pmax	pmax					
	comp=Z,280nm,3.9s									
WMQ				LR	LR					
	comp=N,630nm,15.3s									
WMQ				LR	LR					
	comp=E,680nm,21.5s									
WMQ				LR	LR					
	comp=Z,540nm,21.5s									
WSAR	**Wadi Sarin**	**48.78**	**305**	LR	LR	10 52 12.7				
	comp=Z,842nm,19.5s,baz=141,slow=34									
XLT	**XiLinHaoTe**	**49.43**	**15**	*iP*	**P**	**10 33 16.5**	**-0.4**			
XLT				S	**S**	**10 40 28.4**	**+6.6**			
XLT				pmax	pmax					
	comp=Z,30nm,1.0s									
XLT				pmax	pmax					
	comp=Z,260nm,5.9s									
XLT				LR	LR					
	comp=N,82nm,18.1s									
XLT				LR	LR					
	comp=E,670nm,15.8s									
XLT				LR	LR					
	comp=Z,960nm,18.5s									
TARG	**Taragay, Kyrgy**	**49.70**	**338**	P	**P**	**10 33 19.3**	**-0.1**			
TARG				IAmb	IAmb	10 33 45.9				
	comp=Z,11nm,1.0s									
KDJ	**Kajisay**	**50.28**	**338**	P	**P**	**10 33 24.6**	**+1.1**			
DRK	**Karamyk**	**50.42**	**331**	P	**P**	**10 33 26.0**	**+1.3**			
JCJ	**Chichijima**	**50.59**	**50**	LR	LR	10 56 10.4				
	comp=Z,150nm,18.4s,baz=62,slow=38									
GAR	**Garm**	**50.78**	**330**	P	**P**	**10 33 26.0**	**-1.3**			
BOOM	**Boomskoye usch**	**51.07**	**337**	P	**P**	**10 33 29.7**	**+0.2**			
BOOM				IAmb	IAmb	10 33 33.3				
	comp=Z,7.3nm,0.8s									
CHGR	**Chuyangaron**	**51.12**	**329**	P	**P**	**10 33 28.9**	**-0.8**			
CHGR				IAmb	IAmb	10 33 40.2				
	comp=Z,12nm,0.8s									
BTK	**Batken**	**51.35**	**331**	P	**P**	**10 33 32.2**	**+0.7**			
BTK				IAmb	IAmb	10 33 42.9				
	comp=Z,9.0nm,0.9s									
SONM	**Songino Array**	**51.59**	**5**	P	**P**	**10 33 32.1**	**-1.0**			
	comp=Z,13nm,0.7s,baz=184,slow=8.7,SNR=23									
SONM	**Songino Array**	**51.59**	**5**	P	**P**	**10 33 32.8**	**-0.4**			
ULN	**Ulaanbaatar**	**51.68**	**6**	P	**P**	**10 33 33.9**	**0.0**			
ULN				IAmb	IAmb	10 33 34.9				
	comp=Z,15nm,0.9s									
ULN	**Ulaanbaatar**	**51.68**	**6**	P	**P**	**10 33 34.4**	**+0.5**			
AAK	**Ala-Archa**	**51.77**	**336**	LR	LR	10 58 08.6				
	comp=Z,727nm,20.3s,baz=156,slow=39									
AAK	**Ala-Archa**	**51.77**	**336**	P	**P**	**10 33 34.6**	**0.0**			
CN2	**Changchun**	**52.37**	**23**	*eP*	**P**	**10 33 37.6**	**-1.3**			
CN2				*eS*	**S**	**10 40 59.0**	**-3.3**			
MK31	**Makanchi Array**	**52.78**	**344**	P	**P**	**10 33 41.7**	**-0.2**			
MK31				IAmb	IAmb	10 33 42.7				
	comp=Z,7.9nm,0.9s									
MKAR	**Makanchi Array**	**52.78**	**344**	P	**P**	**10 33 41.7**	**-0.3**			
	comp=Z,4.8nm,0.3s,baz=148,slow=8.1,SNR=68									
MKAR	**Makanchi Array**	**52.78**	**344**	P	**P**	**10 33 41.9**	**-0.1**			
MAKZ	**Makanchi**	**52.88**	**344**	P	**P**	**10 33 42.3**	**-0.3**			
MAKZ				IAmb	IAmb	10 33 43.3				
	comp=Z,8.6nm,1.1s									
MAKZ	**Makanchi**	**52.88**	**344**	P	**P**	**10 33 42.8**	**+0.2**			
MAKZ				pP	**pP**	**10 33 51.8**	**-0.7**			
EIDS	**Eidsvold**	**53.13**	**119**	P	**P**	**10 33 43.4**	**-1.5**			
EIDS				IAmb	IAmb	10 33 48.3				
	comp=Z,23nm,1.4s									
MJAR	**Matsushiro Arr**	**53.32**	**38**	P	**P**	**10 33 45.5**	**-0.6**			
	comp=Z,3.3nm,0.8s,baz=226,slow=8.3,SNR=5.5									
KK31	**Karatay Array**	**53.87**	**333**	P	**P**	**10 33 49.7**	**-0.3**			
KKAR	**Karatay Array**	**53.87**	**333**	P	**P**	**10 33 49.2**	**-0.8**			
OPO	**Ambohidratompo**	**54.09**	**250**	LR	LR	10 52 38.9				
	comp=Z,154nm,20.4s,baz=220,slow=31									
BNX	**BinXian**	**54.75**	**23**	*jP*	**P**	**10 33 55.8**	**-0.5**			
BNX				pmax	pmax					
	comp=Z,24nm,0.5s									
BNX				pmax	pmax					
	comp=Z,370nm,4.1s									
HIA	**Hailar**	**55.35**	**15**	P	**P**	**10 34 00.1**	**-0.6**			
HIA				IAmb	IAmb	10 34 28.1				
	comp=Z,6.7nm,0.9s									
USA0B	**Ussuriysk Arra**	**55.45**	**27**	P	**P**	**10 34 00.5**	**-0.9**			
USRK	**Ussuriysk Ar.**	**55.45**	**27**	P	**P**	**10 34 00.6**	**-0.8**			
	comp=Z,5.1nm,0.6s,baz=224,slow=6.2,SNR=16									
USRK				LR	LR	10 59 38.8				
	comp=Z,509nm,18.2s,baz=223,slow=38									
USRK	**Ussuriysk Ar.**	**55.45**	**27**	P	**P**	**10 34 00.4**	**-1.0**			
GEYT	**Alibeck**	**57.04**	**321**	P	**P**	**10 34 12.9**	**-0.1**			
	comp=Z,2.0nm,0.5s,baz=193,slow=12,SNR=2.2									
KURK	**Kurchatov**	**57.36**	**344**	P	**P**	**10 34 14.9**	**+0.1**			
KURK				IAmb	IAmb	10 34 15.5				
	comp=Z,13nm,1.0s									
KURK	**Kurchatov**	**57.36**	**344**	P	**P**	**10 34 15.1**	**+0.2**			

ZAA0	**Zalesovo Array**	**58.92**	**349**	P	**P**	**10 34 25.5**	**-0.2**			
ZALV	**Zalesovo Beam**	**58.92**	**349**	P	**P**	**10 34 25.4**	**-0.3**			
	comp=Z,3.8nm,0.3s,baz=160,slow=4.7,SNR=34									
ZALV				LR	LR	11 04 06.0				
	comp=Z,334nm,18.1s,baz=166,slow=40									
HNR	**Honiara**	**59.32**	**99**	LR	LR	11 02 36.5				
	comp=Z,177nm,19.5s,baz=246,slow=39									
BRVK	**Borovoye**	**61.99**	**340**	P	**P**	**10 34 46.1**	**-0.7**			
BRVK				IAmb	IAmb	10 34 55.4				
	comp=Z,4.5nm,0.6s									
BRVK	**Borovoye**	**61.99**	**340**	P	**P**	**10 34 45.7**	**-1.0**			
BRVK				pP	**pP**	**10 34 54.8**	**-1.7**			
KMBO	**Kilima Mbogo**	**63.18**	**271**	LR	LR	10 56 58.6				
	comp=Z,243nm,21.6s,baz=94,slow=31									
ABKAR	**Akbulak array**	**63.34**	**332**	P	**P**	**10 34 55.5**	**-0.3**			
ABKAR	**Akbulak array**	**63.34**	**332**	P	**P**	**10 34 55.5**	**-0.3**			
ABKAR				IAmb	IAmb	10 35 05.3				
	comp=Z,9.8nm,0.7s									
AKTO	**Aktyubinsk**	**65.06**	**332**	LR	LR	11 06 02.2				
	comp=Z,218nm,21.7s,baz=137,slow=38									
DZM	**Mont Dzumac**	**66.38**	**112**	LR	LR	11 06 54.3				
	comp=Z,340nm,18.2s,baz=291,slow=38									
MAW	**Mawson**	**68.75**	**195**	LR	LR	10 58 37.9				
	comp=Z,714nm,21.1s,baz=12,slow=30									
ARU	**Arti**	**68.94**	**337**	LR	LR	11 08 25.8				
	comp=Z,495nm,21.2s,baz=120,slow=38									
YAK	**Yakutsk**	**69.27**	**14**	LR	LR	11 10 02.9				
	comp=Z,1μm,18.5s,baz=232,slow=40									
MBAR	**Mbarara**	**69.72**	**271**	LR	LR	11 02 50.5				
	comp=Z,208nm,19.6s,baz=59,slow=33									
KBZ	**Khabaz**	**69.89**	**319**	P	**P**	**10 35 37.6**	**-0.1**			
	comp=Z,2.2nm,0.8s,baz=166,slow=5.5,SNR=4.7									
EIL	**Elat**	**70.82**	**303**	LR	LR	11 05 43.7				
	comp=Z,650nm,20.2s,baz=94,slow=35									
MMAI	**Mount Meron Ar**	**71.40**	**307**	LR	LR	11 07 13.3				
	comp=Z,650nm,20.1s,baz=270,slow=36									
BELG	**Belogornoye**	**71.41**	**329**	LR	LR	11 11 28.1				
	comp=Z,173nm,19.9s,baz=138,slow=40									
MATP	**Matopo**	**71.81**	**250**	P	**P**	**10 35 50.3**	**+0.2**			
	comp=Z,1.1nm,0.4s,baz=67,slow=12,SNR=4.3									
LSZ	**Lusaka**	**71.93**	**255**	LR	LR	11 04 25.0				
	comp=Z,337nm,18.2s,baz=114,slow=33									
NRIK	**Noril'sk**	**73.43**	**355**	P	**P**	**10 35 58.5**	**-0.1**			
	comp=Z,3.1nm,0.7s,baz=164,slow=6.6,SNR=7.0									
NRIK				LR	LR	11 11 05.2				
	comp=Z,281nm,20.2s,baz=166,slow=38									
PETK	**Petropavlovsk-**	**74.08**	**32**	LR	LR	11 10 39.6				
	comp=Z,140nm,18.3s,baz=247,slow=38									
KIRV	**Kirov**	**74.10**	**335**	LR	LR	11 12 01.6				
	comp=Z,242nm,19.1s,baz=119,slow=39									
MA2	**Magadan**	**74.39**	**24**	LR	LR	11 11 13.6				
	comp=Z,343nm,18.6s,baz=233,slow=38									
MA2	**Magadan**	**74.39**	**24**	P	**P**	**10 36 03.6**	**-0.8**			
MA2				IAmb	IAmb	10 36 04.8				
	comp=Z,12nm,1.2s									
LBTB	**Lobatse**	**74.72**	**245**	LR	LR	11 02 49.3				
	comp=Z,345nm,21.2s,baz=87,slow=31									
BRTR	**Keskin Array B**	**74.80**	**313**	P	**P**	**10 36 06.5**	**-0.8**			
	comp=Z,1.6nm,0.7s,baz=140,slow=9.7,SNR=5.9									
BRTR	**Keskin Array B**	**74.80**	**313**	P	**P**	**10 36 06.7**	**-0.7**			
BOSA	**Boshof**	**75.24**	**242**	LR	LR	11 03 04.0				
	comp=Z,273nm,21.7s,baz=100,slow=31									
SYO	**Syowa Base**	**76.41**	**199**	*eP*	**P**	**10 36 17.0**	**+1.2**			
SEY	**Seymchan**	**77.03**	**22**	LR	LR	11 12 12.6				
	comp=Z,448nm,18.9s,baz=223,slow=37									
TIXI	**Tiksi**	**77.46**	**9**	LR	LR	11 14 10.8				
	comp=Z,2μm,18.8s,baz=182,slow=39									
TIXI	**Tiksi**	**77.46**	**9**	P	**P**	**10 36 20.4**	**-1.2**			
TIXI				IAmb	IAmb	10 36 42.9				
	comp=Z,16nm,1.5s									
SUR	**Sutherland**	**79.28**	**238**	LR	LR	11 07 01.9				
	comp=Z,424nm,18.3s,baz=134,slow=32									
KLMR	**Klimovskoe**	**79.55**	**334**	*eP*	**P**	**10 36 34.8**	**+1.5**			
KLMR				AMP		10 36 49.1				
	comp=Z,11nm,1.3s									
VNDA	**Vanda**	**80.41**	**169**	P	**P**	**10 36 39.3**	**+1.5**			
	comp=Z,0.5nm,1.0s,baz=5.1,slow=9.0,SNR=1.5									
VNDA				LR	LR	11 12 18.0				
	comp=Z,177nm,18.1s,baz=318,slow=36									
RAO	**Raoul Island**	**80.90**	**119**	LR	LR	11 12 59.1				
	comp=Z,350nm,21.2s,baz=132,slow=36									
AKASG	**Malin Array Be**	**81.10**	**322**	P	**P**	**10 36 41.5**	**-0.4**			
	comp=Z,0.7nm,0.5s,baz=96,slow=4.9,SNR=1.8									
MLR	**Muntele Rosu**	**81.84**	**317**	LR	LR	11 18 22.9				
	comp=Z,142nm,18.1s,baz=84,slow=40									
TSUM	**Tsumeb**	**82.06**	**251**	LR	LR	11 08 24.4				
	comp=Z,383nm,21.2s,baz=149,slow=32									
NACGM	**Naroch**	**83.70**	**326**	*eP*	**P**	**10 36 55.8**	**+0.4**			
FINES	**FINESS Array B**	**85.82**	**332**	P	**P**	**10 37 05.5**	**-0.4**			
	comp=Z,1.6nm,0.8s,baz=56,slow=3.5,SNR=2.1									
FINES				LR	LR	11 19 48.1				
	comp=Z,242nm,20.6s,baz=110,slow=39									
QSPA	**South Pole Qui**	**86.27**	**180**	LR	LR	11 13 09.1				
	comp=Z,446nm,18.4s,baz=319,slow=34									
ARCES	**ARCESS Array B**	**88.22**	**340**	P	**P**	**10 37 16.7**	**-0.7**			
	comp=Z,3.0nm,1.0s,baz=95,slow=5.4,SNR=1.9									
ARCES				LR	LR	11 21 08.6				
	comp=Z,513nm,20.6s,baz=105,slow=39									
VRAC	**Vranov**	**88.78**	**319**	LR	LR	11 22 30.1				
	comp=Z,60nm,18.7s,baz=82,slow=39									
GERES	**GERESS Array B**	**90.62**	**319**	P	**P**	**10 37 29.8**	**+0.5**			
	comp=Z,0.2nm,0.3s,baz=86,slow=1.7,SNR=3.6									
SNAA	**Sanae**	**90.67**	**198**	LR	LR	11 09 54.2				
	comp=Z,284nm,21.7s,baz=104,slow=30									
CLL	**Collm**	**91.27**	**321**	*eS*	**SKSac**	**10 48 06.0**	**+4.2**			
CLL				*eS*	**S**	**10 48 30.0**	**+1.7**			
CLL				LmV		11 28 00.0				
	comp=Z,200nm,20.3s									
HFS	**Hagfors**	**91.57**	**330**	LR	LR	11 23 54.5				
	comp=Z,249nm,18.8s,baz=90,slow=39									
SPITS	**Spitsbergen Ar**	**92.39**	**348**	LR	LR	11 26 47.2				
	comp=Z,314nm,18.6s,baz=198,slow=41									
NOA	**NORSAR Array B**	**92.84**	**331**	LR	LR	11 22 03.4				
	comp=Z,74nm,20.8s,baz=75,slow=37									
DAVOX	**Davos/Dischmat**	**93.07**	**317**	LR	LR	11 23 01.5				
	comp=Z,132nm,21.4s,baz=80,slow=38									
RAR	**Rarotonga**	**97.76**	**112**	LR	LR	11 23 28.4				
	comp=Z,105nm,19.7s,baz=266,slow=36									
TORD	**Torodi Ar. Bea**	**99.35**	**283**	LR	LR	11 19 30.5				
	comp=Z,196nm,21.8s,baz=8.5,slow=33									
JMIC	**Jan Mayen**	**99.61**	**342**	LR	LR	11 26 51.0				
	comp=Z,174nm,21.8s,baz=52,slow=38									
YKA	**Yellowknife Ar**	**115.86**	**17**	PKP	**PKiKP**	**10 43 08.5**	**-0.4**			
	comp=Z,0.3nm,0.9s,baz=309,slow=1.9,SNR=4.0									
CPUP	**Villa Florida**	**143.20**	**215**	PKP	**PKPdf**	**10 44 01.8**	**+0.2**			
	comp=Z,0.9nm,0.8s,baz=153,slow=6.7,SNR=1.6									
TXAR	**Lajitas Array**	**145.75**	**39**	PKPbc	**PKPab**	**10 44 07.3**	**+0.5**			
	comp=Z,10nm,0.9s,baz=286,slow=1.5,SNR=103									
TXAR	**Lajitas Array**	**145.75**	**39**		**PKPab**	**10 44 07.5**	**+0.7**			

*NOU **15** 10:41:48.9,24°.79S×179°.90W,h525km,mb4.8/51,South of Fiji Islands*
*IDC **15** 10:41:48.7±0.5,24°.73S×179°.89E,h510km±4km, mb4.1/23, mb1 4.2/26,mb1mx3.9/47,mbtmp4.9/26,Error ellipse: s-maj=10.1km s-min=9.3km az=111.0*
*BGR **15** 10:41:50.5±0.0,24°.60S×179°.96E,h547km*
*NEIC **15** 10:41:50.4±1.9,24°.69S±0°.10×179°.9E±0°.1,h519km±6km, mb4.7/153,Error ellipse: s-maj=15.3km s-min=14.0km az=112.0*

ISC 15 10:41:47.8±0.3,**24°.73S**±0°.05×**179°.89E**±0°.06,**h500**km, **n551**,σ1**35**/553,**mb4.7**/106,**5C-1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.90**	**157**	P	P	**P**	**10 43 16.1**	**+2.3**
RIZ				S	S	**S**	**10 44 24.6**	**+0.6**
RAO	**Raoul Island**	**4.91**	**157**	P	P	**P**	**10 43 16.1**	**+2.2**
	142nm,0.3s,baz=92,slow=23,SNR=8.4							
RAO				S		**S**	**10 44 24.9**	**+0.7**
	73nm,0.3s,baz=92,slow=24,SNR=1.9							
RAO	**Raoul Island**	**4.91**	**157**	P	P	**P**	**10 43 17.1**	**+3.2**
GLKZ	**Green Lake**	**4.92**	**157**	P	P	**P**	**10 43 15.7**	**+1.8**
GLKZ				S	S	**S**	**10 44 21.5**	**-2.8**
MSVF	**Nonsavu**	**7.17**	**346**	P	P	**P**	**10 43 37.6**	**+1.7**
	17nm,0.3s,baz=143,slow=11,SNR=27							
MSVF	**Nonsavu**	**7.17**	**346**		P	**P**	**10 43 37.4**	**+1.5**
MSVF	**Nonsavu**	**7.17**	**346**	P	P	**P**	**10 43 38.1**	**+2.2**
NIUE	**Niue**	**10.99**	**61**		P	**P**	**10 44 16.7**	**+1.0**
NIUE	**Niue**	**10.99**	**61**	P	P	**P**	**10 44 16.8**	**+1.0**
MARNC	**Mare, Loyalty**	**11.39**	**284**	P	P	**P**	**10 44 22.1**	**+2.2**
MARNC	**Mare, Loyalty**	**11.39**	**284**	P	P	**P**	**10 44 22.1**	**+2.2**
PINNC	**Pines Island,**	**11.60**	**278**	P	P	**P**	**10 44 25.3**	**+3.1**
PINNC	**Pines Island,**	**11.60**	**278**	P	P	**P**	**10 44 25.7**	**+3.5**
OUZ	**Omahuta**	**11.79**	**206**	P	P	**P**	**10 44 26.8**	**+2.8**

OUZ	**Omahuta**	**11.79**	**206**	P	**P**	**10 44 26.8**	**+2.8**			
GRZ	**Great Barrier**	**12.10**	**197**	P	**P**	**10 44 29.0**	**+1.7**			
WCZ	**Waipu Caves**	**12.15**	**202**	P	**P**	**10 44 30.5**	**+2.7**			
OUENC	**Ouen Island, N**	**12.19**	**278**		**P**	**10 44 31.5**	**+3.0**			
OUENC	**Ouen Island, N**	**12.19**	**278**	P	**P**	**10 44 31.4**	**+3.0**			
YATNC	**Mamie plateau,**	**12.23**	**280**	P	**P**	**10 44 32.2**	**+3.3**			
KUZ	**Kuaotunu**	**12.50**	**196**	P	**P**	**10 44 32.8**	**+1.3**			
ONTNC	**Ouen Toro**	**12.56**	**278**		**P**	**10 44 34.7**	**+2.3**			
ONTNC	**Ouen Toro**	**12.56**	**278**	P	**P**	**10 44 36.1**	**+3.7**			
DZM	**Mont Dzumac**	**12.63**	**279**	P	**P**	**10 44 35.6**	**+2.4**			
	2.2nm,0.3s,baz=89,slow=16,SNR=28									
DZM	**Mont Dzumac**	**12.63**	**279**	*eP*	**P**	**10 44 36.0**	**+2.8**			
	259nm,1.1s									
DZM				*eLR*	LR	10 46 55.9				
	comp=Z,354nm,23.1s									
DZM	**Mont Dzumac**	**12.63**	**279**	P	**P**	**10 44 36.1**	**+2.8**			
NOUC	**Port Laguerre**	**12.75**	**279**	P	**P**	**10 44 37.4**	**+3.0**			
MXZ	**Matakaoa Point**	**12.87**	**186**	P	**P**	**10 44 35.7**	**+0.4**			
WMGZ	**Waiomatatini S**	**13.11**	**185**	P	**P**	**10 44 37.9**	**-0.1**			
AFI	**Afiamalu**	**13.32**	**38**	P	**P**	**10 44 37.5**	**-3.1**			
	3.1nm,0.3s,baz=28,slow=5.5,SNR=5.7									
AFI				S	S	10 46 54.7	-8.3			
	6.7nm,0.3s,baz=59,slow=21,SNR=6.2									
OPRZ	**Ohinepanea**	**13.38**	**191**	P	**P**	**10 44 43.0**	**+2.2**			
KMRZ	**Kaimai**	**13.51**	**194**	P	**P**	**10 44 43.1**	**+1.0**			
KARZ	**Kaharoa**	**13.61**	**192**	P	**P**	**10 44 45.3**	**+2.0**			
OMRZ	**Omania**	**13.67**	**192**	P	**P**	**10 44 47.1**	**+3.2**			
URZ	**Urewera**	**13.70**	**189**	P	**P**	**10 44 41.7**	**-2.4**			
	10nm,0.3s,baz=303,slow=2.1,SNR=63									
URZ				S	**S**	**10 47 08.0**	**-1.5**			
	5.0nm,0.3s,baz=54,slow=22,SNR=23									
URZ	**Urewera**	**13.70**	**189**	P	**P**	**10 44 43.8**	**-0.3**			
TKGZ	**Te Karaka**	**13.78**	**187**	P	**P**	**10 44 43.7**	**-1.3**			
CNGZ	**Carnagh Statio**	**13.79**	**186**	P	**P**	**10 44 46.4**	**+1.3**			
HRRZ	**Handcock Road**	**13.96**	**192**	P	**P**	**10 44 48.7**	**+1.7**			
PRRZ	**Plateau Road**	**14.05**	**191**	P	**P**	**10 44 47.5**	**-0.4**			
RIGZ	**Rimuhau**	**14.05**	**187**	P	**P**	**10 44 47.3**	**-0.6**			
RIGZ				S	**S**	**10 47 15.5**	**-1.0**			
RTZ	**Ruatahuna**	**14.06**	**189**	P	**P**	**10 44 47.4**	**-0.7**			
RTZ				S	**S**	**10 47 19.0**	**+2.2**			
KUTZ	**Kaahu Road**	**14.15**	**193**	P	**P**	**10 44 51.7**	**+2.8**			
SNGZ	**Shannon Statio**	**14.18**	**188**	P	**P**	**10 44 49.1**	**-0.1**			
SNGZ				S	**S**	**10 47 19.3**	**+0.5**			
MTHZ	**Maungataniwha**	**14.32**	**190**	P	**P**	**10 44 50.4**	**-0.3**			
MTHZ				S	**S**	**10 47 19.5**	**-2.0**			
MRHZ	**Matea Rd**	**14.37**	**191**	P	**P**	**10 44 52.0**	**+0.7**			
WATZ	**Wairara**	**14.38**	**193**	P	**P**	**10 44 53.0**	**+1.7**			
HIZ	**Hauiti**	**14.39**	**196**	P	**P**	**10 44 54.6**	**+3.1**			
RATZ	**Rangitukua**	**14.52**	**193**	P	**P**	**10 44 55.0**	**+2.2**			
NMHZ	**Naumai**	**14.56**	**190**	P	**P**	**10 44 52.5**	**-0.8**			
NMHZ				S	**S**	**10 47 25.5**	**-0.8**			
BKZ	**Black Stump Fm**	**14.68**	**190**	P	**P**	**10 44 54.0**	**-0.5**			
ARHZ	**Aropaoanui**	**14.70**	**189**	P	**P**	**10 44 55.7**	**+1.0**			
ARHZ				S	**S**	**10 47 27.9**	**-0.8**			
TMVZ	**Te Maari**	**14.78**	**193**	P	**P**	**10 44 56.2**	**+0.6**

MTSU **Mount Surprise** 33.69 274 P **P** 10 47 48.2 +1.3
STKA **Stephens Creek** 34.33 249 P **P** 10 47 52.9 +0.7
comp=Z,14nm,0.3s,baz=93,slow=10,SNR=114
STKA **Stephens Creek** 34.33 249 P **P** 10 47 52.8 +0.7
baz=34,SNR=87
STKA **Stephens Creek** 34.33 249 P **P** 10 47 53.0 +0.8
STKA **Stephens Creek** 34.33 249 P **P** 10 47 52.9 +0.7
ARPS **Mount Arapiles** 34.62 241 P **P** 10 47 55.1 +0.6
baz=35,SNR=16
ARPS **Mount Arapiles** 34.62 241 P **P** 10 47 55.1 +0.6
PMG **Port Moresby** 34.68 290 P **P** 10 47 55.7 +0.4
comp=Z,48nm,0.9s,baz=102,slow=4.9,SNR=8.5
PMG **Port Moresby** 34.68 290 P **P** 10 47 55.6 +0.4
PMG **Port Moresby** 34.68 290 P **P** 10 47 56.2 +1.0
INKA **Innaminka** 35.15 256 P **P** 10 48 00.5 +1.5
COEN **Coen** 36.16 280 P **P** 10 48 08.7 +1.0
COEN **Coen** 36.16 280 P **P** 10 48 08.6 +1.0
HTT **Hallett** 36.65 247 P **P** 10 48 11.7 +0.3
baz=37,SNR=43
HTT **Hallett** 36.65 247 P **P** 10 48 11.8 +0.3
TWOA **Tennyson Woods** 37.04 244 P **P** 10 48 14.8 +0.2
LCRK **Leigh Creek** 37.22 252 P **P** 10 48 16.6 +0.4
NAPP **Napperby** 37.29 247 P **P** 10 48 17.3 +0.6
QIS **Mount Isa** 37.32 268 P **P** 10 48 17.4 +0.3
baz=37,SNR=13
QIS **Mount Isa** 37.32 268 P **P** 10 48 17.7 +0.5
WHYH **Whyalla** 37.77 247 P **P** 10 48 21.6 +1.0
BBOO **Buckleboo** 39.04 248 P **P** 10 48 30.5 -0.4
baz=39,SNR=101
BBOO **Buckleboo** 39.04 248 P **P** 10 48 30.6 -0.4
BBOO **Buckleboo** 39.04 248 P **P** 10 48 30.7 -0.3
OOD **Oodnadatta** 39.60 256 P **P** 10 48 36.7 +1.1
MULG **Mulgathing** 40.82 252 P **P** 10 48 45.2 -0.1
AS18 **Alice Springs** 41.74 262 P **P** 10 48 53.2 +0.4
AS06 **Alice Springs** 41.75 262 P **P** 10 48 52.9 0.0
AS03 **Alice Springs** 41.80 262 P **P** 10 48 53.7 +0.4
AS31 **Alice Springs** 41.81 262 P **P** 10 48 53.6 +0.2
AS31 IAmb IAmb 10 48 54.9
comp=Z,24nm,1.3s
ASAR **Alice Springs** 41.81 262 P **P** 10 48 53.5 +0.1
comp=Z,15nm,0.3s,baz=96,slow=7.4,SNR=674
ASAR ScP **ScP** 10 53 40.1 -0.4
comp=Z,2.0nm,0.9s,baz=112,slow=4.0,SNR=7.6
ASAR S **S** 10 54 27.6 -6.9
comp=Z,1.4nm,1.0s,baz=95,slow=16,SNR=2.9
ASAR **Alice Springs** 41.81 262 LR **P** 10 48 53.2 -0.1
comp=Z,1um,21.5s,baz=306,slow=39
WR0 **Warramunga Arr** 42.07 267 P **P** 10 48 55.1 -0.4
WR8 **Warramunga Arr** 42.11 267 P **P** 10 48 55.5 -0.2
WR8 IAmb IAmb 10 48 56.4
comp=Z,28nm,0.8s
WR7 **Warramunga Arr** 42.13 267 P **P** 10 48 55.4 -0.5
WR4 **Warramunga Arr** 42.20 267 P **P** 10 48 56.1 -0.3
WR3 **Warramunga Arr** 42.22 267 P **P** 10 48 56.1 -0.4
WB2 **Warramunga Arr** 42.25 267 P **P** 10 48 56.6 -0.3
WB4 **Warramunga Arr** 42.25 267 P **P** 10 48 56.7 -0.2
WRAB **Tennant Creek** 42.25 267 P **P** 10 48 56.5 -0.4
WRAB **Tennant Creek** 42.25 267 P **P** 10 48 56.7 -0.2
WB0 **Warramunga Arr** 42.26 267 P **P** 10 48 56.5 -0.3
WRA **Warramunga Arr** 42.26 267 P **P** 10 48 56.4 -0.6
comp=Z,36nm,0.3s,baz=100,slow=6.9,SNR=1647
WRA ScP **ScP** 10 53 41.7 -0.6
comp=Z,13nm,1.0s,baz=101,slow=4.4,SNR=20
WRA S **S** 10 54 35.9 -5.1
comp=Z,4.7nm,0.9s,baz=103,slow=14,SNR=8.1
WRA **Warramunga Arr** 42.26 267 P **P** 10 48 56.3 -0.6
WC1 **Warramunga Arr** 42.27 267 P **P** 10 48 57.6 +0.6
JAY **Jayapura** 43.76 294 P **P** 10 49 08.6 -0.1
comp=Z,27nm,0.8s,baz=156,slow=3.6,SNR=12
SMPI **Sarmi** 45.71 293 P **P** 10 49 23.8 +0.1
comp=Z,17nm,1.0s
FORT **Forrest** 45.94 250 P **P** 10 49 24.6 -0.7
baz=46,SNR=60
FORT **Forrest** 45.94 250 P **P** 10 49 24.6 -0.7
FORT **Forrest** 45.94 250 P **P** 10 49 24.6 -0.7
KDU **Kakadu** 46.27 276 P **P** 10 49 27.3 -0.7
baz=46,SNR=45
KDU **Kakadu** 46.27 276 P **P** 10 49 27.8 -0.2
WRKA **Warakurna** 46.57 258 P **P** 10 49 29.6 -0.6
baz=47,SNR=515
WRKA **Warakurna** 46.57 258 P **P** 10 49 30.1 -0.1
MTN **Manton Dam** 47.43 275 P **P** 10 49 36.2 -0.5
baz=48,SNR=12
MTN **Manton Dam** 47.43 275 P **P** 10 49 35.8 -1.0
MTN IAmb IAmb 10 49 38.9
comp=Z,11nm,0.5s
BAKI **Biak** 48.32 292 P **P** 10 49 44.0 +0.5
KNRA **Kununurra** 48.59 271 P **P** 10 49 45.5 0.0
baz=49,SNR=126
KNRA **Kununurra** 48.59 271 P **P** 10 49 45.7 +0.2
KNRA **Kununurra** 48.59 271 P **P** 10 49 45.7 +0.2
FITZ **Fitzroy Crossi** 50.67 266 P **P** 10 50 00.9 +0.1
comp=Z,29nm,0.8s,baz=101,slow=5.3,SNR=77
FITZ **Fitzroy Crossi** 50.67 266 P **P** 10 50 01.0 +0.1
FITZ IAmb IAmb 10 50 02.8
comp=Z,36nm,0.8s
SWI **Sorong** 52.62 289 P **P** 10 50 14.7 -0.2
comp=Z,2µmcomp=Z,103nm,0.9s
VNDA **Vanda** 53.55 185 P **P** 10 50 21.4 +0.7
comp=Z,1.1nm,0.5s,baz=34,slow=5.9,SNR=7.7
KLBR **Kellerberrin** 54.58 248 P **P** 10 50 28.2 -0.5
baz=55,SNR=40
KLBR **Kellerberrin** 54.58 248 P **P** 10 50 28.3 -0.4
RKGY **Rocky Gully** 54.78 244 P **P** 10 50 29.9 -0.1
baz=55,SNR=9.0
MEEK **Meekatharra** 54.79 254 P **P** 10 50 29.8 -0.4
baz=55,SNR=8.2
PSAC2 **Pilbara Seismi** 54.88 260 P **P** 10 50 30.2 -0.7
PSA00 **Pilbara Seismi** 54.92 260 P **P** 10 50 30.0 -1.3
PSAC1 **Pilbara Seismi** 54.97 260 P **P** 10 50 31.1 -0.4
MBWA **Marble Bar** 55.14 261 P **P** 10 50 32.4 -0.3
MBWA IAmb IAmb 10 50 33.1
comp=Z,34nm,1.1s
BLDU **Balldu** 55.63 249 P **P** 10 50 35.4 -0.6
baz=56,SNR=44
MUN **Mundaring** 55.82 247 P **P** 10 50 37.0 -0.3
baz=56,SNR=4.7
MORW **Morawa** 56.50 250 P **P** 10 50 41.6 -0.5
baz=56,SNR=34
MORW **Morawa** 56.50 250 P **P** 10 50 42.0 -0.1
SANI **Sanana** 56.62 285 P **P** 10 50 43.5 +0.4
BASI **Baing, Sumba** 57.99 273 P **P** 10 50 52.0 -0.5
comp=Z,65nm,1.6s
WBSI **Waikabubak, Su** 59.29 273 P **P** 10 51 00.3 -1.0
comp=Z,42nm,0.7s
GIRL **Giralia** 59.64 257 P **P** 10 51 04.9 +1.4
baz=60,SNR=4.9
LUWI **Luwuk** 59.93 284 P **P** 10 51 05.3 -0.2
LUWI IAmb IAmb 10 51 06.7
comp=Z,27nm,0.7s
BKSI **Bulukumba** 60.38 278 P **P** 10 51 07.9 -0.7
comp=Z,40nm,0.9s
KAPI **Kappang** 60.85 278 P **P** 10 51 10.8 -0.8
KAPI IAmb IAmb 10 51 12.8
comp=Z,32nm,1.4s
PLAI **Plampang** 61.07 274 P **P** 10 51 12.9 -0.2
comp=Z,1µmcomp=Z,102nm,0.9s
PLAI **Plampang** 61.07 274 P **P** 10 51 12.9 -0.2
TOLI2 **Tolitoli** 62.69 285 P **P** 10 51 23.2 -0.5
TOLI2 IAmb IAmb 10 51 25.5
comp=Z,21nm,0.9s
TOLI2 **Tolitoli** 62.69 285 P **P** 10 51 23.7 0.0
MPSI **Mapaga** 63.11 284 P **P** 10 51 25.8 -0.6
comp=Z,12nm,0.8s
JAGI **Jajag, Banyuwa** 64.50 272 P **P** 10 51 34.4 -0.9
comp=Z,54nm,1.2s
GMJI **Gumukmas** 65.22 272 P **P** 10 51 39.0 -0.9
comp=Z,30nm,1.1s
QSPA **South Pole Qui** 65.36 180 P **P** 10 51 41.1 +1.1
comp=Z,9.3nm,0.7s,baz=249,slow=0.4,SNR=65
QSPA **South Pole Qui** 65.36 180 P **P** 10 51 41.1 +1.1
QSPA IAmb IAmb 10 51 42.5
comp=Z,14nm,0.8s
PCJI **Pacitan** 67.31 271 P **P** 10 51 52.2 -0.7
comp=Z,69nm,0.8s
STKI **Sintang** 70.48 279 P **P** 10 52 13.5 +1.4
KSM **Kuching** 72.15 280 P **P** 10 52 21.7 -0.1
KSM IAmb IAmb 10 52 23.0
comp=Z,16nm,0.9s
CGJI **Cibinong** 72.93 271 P **P** 10 52 25.1 -1.2
comp=Z,29nm,1.0s
TPUB **Ta-pu** 74.71 305 P **P** 10 52 34.8 -1.4
TPUB IAmb IAmb 10 52 36.3
comp=Z,40nm,1.2s
SSLB **Suanglung** 74.75 306 P **P** 10 52 35.1 -1.4

MDSI **Maura Dua** 75.17 272 P **P** 10 52 37.8 -1.2
BELA **Belgrano 2** 75.63 173 P **P** 10 52 40.7 +0.2
MAW **Mawson** 76.94 201 P **P** 10 52 48.3 +0.4
comp=Z,2.4nm,0.6s,baz=108,slow=22,SNR=2.0
SHEM **Shemya Is, Ala** 77.29 356 P **P** 10 52 49.5 -0.3
comp=Z,25nm,0.7s,baz=191,slow=13,SNR=3.8
PETK **Petropavlovsk-** 79.88 347 P **P** 10 53 04.3 +0.7
comp=Z,7.2nm,0.9s,baz=108,slow=8.0,SNR=4.0
NJ2 **Nanjing** 81.13 311 eP **P** 10 53 13.4 +2.7
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
CHIR **Chirikof Islan** 82.90 14 P **P** 10 53 20.7 +1.6
baz=202
ARVC **Arvin** 83.11 46 P **P** 10 53 21.6 +0.9
baz=233
TKX **Tecate** 83.12 50 P **P** 10 53 22.6 +1.7
TKX IAmb IAmb 10 53 24.3
comp=Z,43nm,1.5s
MURC **Murrieta** 83.31 48 P **P** 10 53 22.7 +0.9
baz=234
BFSC **Mount Baldy Ra** 83.37 48 P **P** 10 53 23.1 +0.9
baz=234
VES **Vestal, Richgr** 83.37 46 P **P** 10 53 22.6 +0.6
baz=233,SNR=5.3
MONP2 **Monument Peak** 83.43 49 P **P** 10 53 23.7 +1.1
baz=235,SNR=8.6
TROLL **Troll, Antarti** 83.51 181 P **P** 10 53 22.6 +0.3
TROLL **Troll, Antarti** 83.51 181 pP pP 10 55 17.9 +7.1
IKP **In-Ko-Pah, Jac** 83.51 50 P **P** 10 53 24.0 +1.1
baz=235
EDW2 **Edwards Air Fo** 83.52 47 P **P** 10 53 23.8 +0.9
baz=234,SNR=5.3
ISA **Isabella, Lake** 83.66 46 P **P** 10 53 25.3 +1.7
ISA IAmb IAmb 10 53 26.3
comp=Z,21nm,0.9s
ISA **Isabella, Lake** 83.66 46 P **P** 10 53 24.4 +0.8
baz=234,SNR=12
O02D **Mt. Diablo Mer** 83.75 40 P **P** 10 53 25.4 +1.6
O02D IAmb IAmb 10 53 27.4
comp=Z,28nm,0.9s
O02D **Mt. Diablo Mer** 83.75 40 P **P** 10 53 25.7 +1.8
baz=230,SNR=9.2
PFO **Pinyon Flats O** 83.82 49 P **P** 10 53 25.7 +1.2
baz=235
TPFO **Pinon Flats** 83.82 49 P **P** 10 53 25.4 +1.0
baz=235
SNAA **Sanae** 83.84 179 P **P** 10 53 23.5 -0.4
SNAA **Sanae** 83.84 179 P **P** 10 53 23.7 -0.2
CMB **Columbia Colle** 83.87 43 P **P** 10 53 26.1 +1.6
CMB IAmb IAmb 10 53 26.9
comp=Z,13nm,0.9s
SWSC **Sam W. Stewart** 83.89 50 P **P** 10 53 26.2 +1.6
baz=235
VNA3 **Neumayer Olymp** 84.06 177 P **P** 10 53 24.6 -0.3
VNA3 **Neumayer Olymp** 84.06 177 pP pP 10 55 18.9 +5.2
LRMC **Laurel Mtn Rad** 84.08 47 P **P** 10 53 26.6 +0.9
baz=234,SNR=6.8
ORV **Oroville** 84.12 42 P **P** 10 53 26.9 +1.2
ORV IAmb IAmb 10 53 28.2
comp=Z,16nm,1.0s
N02D **Trinity Center** 84.30 40 P **P** 10 53 28.1 +1.5
baz=230
BELC **Belle Mtn. Jos** 84.36 49 P **P** 10 53 28.4 +1.3
baz=235
CWC **Cottonwood Cre** 84.38 46 P **P** 10 53 28.1 +0.9
baz=234
O03E **Paynes Creek** 84.41 41 P **P** 10 53 28.3 +1.1
O03E IAmb IAmb 10 53 30.2
comp=Z,40nm,1.4s
O03E **Paynes Creek** 84.41 41 P **P** 10 53 28.5 +1.3
baz=231,SNR=6.4
MDPB **Devils Postpil** 84.44 44 P **P** 10 53 28.0 +0.4
VNA2 **Neumayer--Watz** 84.47 178 P **P** 10 53 26.7 -0.2
baz=182,slow=4.0
VNA2 **Neumayer--Watz** 84.47 178 pP pP 10 55 21.2 +5.4
OMMB **Old Mammoth Mi** 84.48 44 P **P** 10 53 29.2 +1.3
M02C **Callahan** 84.48 39 P **P** 10 53 29.2 +1.7
baz=230,SNR=5.4
BC3 **Big Chuckawall** 84.53 49 P **P** 10 53 29.4 +1.4
baz=236,SNR=6.4
MPMC **Manual Prospec** 84.54 46 P **P** 10 53 28.9 +0.9
baz=234,SNR=5.1
GSC **Goldstone, Bar** 84.56 47 P **P** 10 53 28.6 +0.6
GSC IAmb IAmb 10 53 30.6
comp=Z,20nm,1.1s
GSC **Goldstone, Bar** 84.56 47 P **P** 10 53 29.3 +1.3
baz=235,SNR=7.2
MLAC **Mammoth, Mammo** 84.60 44 P **P** 10 53 29.5 +1.1
baz=233
HEC **Hector,Ludlow** 84.60 48 P **P** 10 53 29.5 +1.3
baz=235,SNR=7.9
GLA **Glamis** 84.63 50 P **P** 10 53 30.3 +2.0
GLA **Glamis** 84.63 50 P **P** 10 53 29.9 +1.6
baz=236,SNR=8.5
OHAK **Old Harbor** 84.70 14 P **P** 10 53 30.4 +2.4
baz=204
VNA1 **Neumayer--Stat** 84.71 177 P **P** 10 53 28.0 -0.1
YBH **Yreka Blue Hor** 84.78 39 P **P** 10 53 29.4 +0.4
comp=Z,6.3nm,1.0s,baz=146,slow=11,SNR=5.5
MPK **Martis Peak** 84.86 42 P **P** 10 53 30.8 +1.2
MPK IAmb IAmb 10 53 32.4
comp=Z,20nm,1.1s
PNTR **Pine Nut** 85.00 43 P **P** 10 53 31.4 +1.2
PNTR IAmb IAmb 10 53 32.8
comp=Z,14nm,0.9s
IRM **Iron Mountain** 85.03 49 P **P** 10 53 31.0 +0.7
baz=236
GMRC **Granite Mounta** 85.03 48 P **P** 10 53 31.8 +1.4
baz=235,SNR=5.7
GWY **Greenwater Val** 85.16 47 P **P** 10 53 32.4 +1.4
YERR **Yerington** 85.16 43 P **P** 10 53 32.0 +1.0
GRAC **Grapevine Rang** 85.17 46 P **P** 10 53 32.3 +1.4
baz=234
FURC **Furnace Creek,** 85.19 46 P **P** 10 53 32.0 +1.1
baz=234
KLR **Kul'dur** 85.20 331 P **P** 10 53 31.1 +0.4
comp=Z,1.1nm,0.7s,baz=227,slow=2.6,SNR=4.3
113A **Mohawk Valley,** 85.22 51 P **P** 10 53 32.7 +1.6
113A IAmb IAmb 10 53 34.3
comp=Z,19nm,1.2s
TUQ **Turquoise Moun** 85.22 48 P **P** 10 53 32.3 +1.0
baz=235
BLYC **Blythe** 85.23 50 P **P** 10 53 33.1 +1.9
BLYC IAmb IAmb 10 53 34.3
comp=Z,14nm,1.1s
HSIG 85.26 55 P **P** 10 53 33.0 +1.5
HSIG IAmb IAmb 10 53 34.2
comp=Z,18nm,0.8s
L04D **Klamath Falls** 85.33 39 P **P** 10 53 32.9 +1.3
baz=230
NVAR **Mina Array Bea** 85.41 44 P **P** 10 53 33.6 +1.3
comp=Z,5.5nm,0.8s,baz=223,slow=8.7,SNR=31
NVAR **Mina Array Bea** 85.41 44 P **P** 10 53 33.3 +1.0
214A **Organ Pipe Nat** 85.45 52 P **P** 10 53 34.6 +2.2
214A **Organ Pipe Nat** 85.45 52 P **P** 10 53 33.8 +1.4
baz=237,SNR=5.8
PAHR **Pah Rah Range** 85.50 42 P **P** 10 53 33.7 +1.1
NV11 **Mina Array Sit** 85.51 44 P **P** 10 53 33.5 +0.8
LL02 **Futaleuf** 85.68 136 P **P** 10 53 33.9 +0.6
PDMCI **Parker Dam,Lak** 85.80 49 P **P** 10 53 35.2 +1.3
baz=236,SNR=5.2
TPNV **Topopah Spring** 85.87 46 P **P** 10 53 34.0 -0.5
TPNV IAmb IAmb 10 53 36.9
comp=Z,11nm,0.7s
TPNV **Topopah Spring** 85.87 46 P **P** 10 53 35.4 +1.0
baz=235,SNR=7.6
TPH **Tonopah** 85.89 45 P **P** 10 53 36.1 +1.5
K04D **Chiloquin, OR** 85.90 39 P **P** 10 53 35.7 +1.3
baz=231
KVN **Kaiserville** 85.91 44 P **P** 10 53 35.8 +1.2
J04D **Umpqua Nationa** 86.09 38 P **P** 10 53 36.9 +1.5
baz=230
I04A **Tendick Farm,** 86.27 38 P **P** 10 53 37.2 +1.2
baz=230
P18K **Big Mountain,** 86.29 12 P **P** 10 53 37.0 +1.3
baz=202
MOD **Modoc Plateau** 86.29 40 P **P** 10 53 37.5 +1.2
MOD IAmb IAmb 10 53 38.9
comp=Z,20nm,1.2s
SHPR **Sheep Range** 86.34 47 P **P** 10 53 37.5 +0.9
Q09A **Carvers** 86.36 44 P **P** 10 53 37.8 +1.0
Q09A IAmb IAmb 10 53 39.0
comp=Z,13nm,1.0s
S11A **Rachel** 86.60 46 P **P** 10 53 39.0 +1.2
S11A IAmb IAmb 10 53 41.8
comp=Z,24nm,1.3s

J05D **Fort Rock, OR** 86.61 39 P **P** 10 53 38.7 +0.9
baz=231
O18K **Koktuh Hills** 86.72 12 P **P** 10 53 37.9 +0.2
baz=202
PRN **Pahroc Range** 86.92 46 IAmb IAmb 10 53 42.3
comp=Z,15nm,1.0s
PINE **Pine Mountain** 87.09 39 P **P** 10 53 41.3 +1.2
TUC **Tucson** 87.10 52 P **P** 10 53 41.5 +1.2
baz=238
R11A **Troy Canyon, C** 87.10 45 P **P** 10 53 41.5 +1.3
baz=235
O19K **Port Alsworth** 87.21 13 P **P** 10 53 40.2 +0.2
baz=203
I05D **Terrebonne, OR** 87.21 38 P **P** 10 53 41.6 +1.1
baz=231
BMN **Battle Mountai** 87.27 43 IAmb IAmb 10 53 43.4
comp=Z,9.6nm,0.9s
MA2 **Magadan** 87.35 346 P **P** 10 53 39.5 -1.1
N18K **Kilae Creek** 87.36 12 P **P** 10 53 41.2 +0.5
baz=202
O20K **Slope Mountain** 87.45 13 P **P** 10 53 41.1 -0.1
baz=205
BRSE **Bradley Lake S** 87.56 14 P **P** 10 53 42.4 +0.8
baz=206
WVOR **Wild Horse Val** 87.60 41 P **P** 10 53 44.0 +1.6
WVOR IAmb IAmb 10 53 45.1
comp=Z,20nm,1.1s
F04A **Amboy** 87.63 36 P **P** 10 53 44.2 +1.9
X16A **Lo Mia Camp, P** 87.74 50 IAmb IAmb 10 53 46.6
comp=Z,12nm,1.0s
N19K **Bonanza Creek** 87.75 12 P **P** 10 53 43.7 +1.1
baz=203
PLCA **Paso Flores** 87.76 134 P **P** 10 53 43.2 -0.1
comp=Z,3.7nm,0.9s,baz=241,slow=2.4,SNR=5.1
PLCA **Paso Flores** 87.76 134 IAmb IAmb 10 53 46.1
comp=Z,18nm,1.3s
LCMT **Little Creek M** 87.90 47 IAmb IAmb 10 53 46.8
comp=Z,8.3nm,1.0s
E04D **Cinebar** 87.95 36 P **P** 10 53 45.4 +1.7
baz=230
I07A **Izee** 88.09 39 P **P** 10 53 45.1 +0.5
F05D **White Salmon** 88.12 37 P **P** 10 53 45.3 +0.7
baz=231
SEW **Seward** 88.17 15 P **P** 10 53 45.4 +1.0
baz=208
KNB **Kanab** 88.18 48 P **P** 10 53 46.5 +1.2
KNB IAmb IAmb 10 53 48.4
comp=Z,16nm,1.2s
U15A **North Rim** 88.22 48 IAmb IAmb 10 53 48.8
comp=Z,16nm,1.0s
D04E **Lakebay** 88.24 35 P **P** 10 53 46.2 +1.1
baz=230
D03D **Eldon** 88.31 35 P **P** 10 53 46.3 +0.9
baz=230
SZCU **Shurtz Canyon** 88.32 47 P **P** 10 53 47.0 +1.0
SZCU IAmb IAmb 10 53 49.0
comp=Z,9.3nm,1.1s
WUAZ **Wupatki** 88.37 50 IAmb IAmb 10 53 49.8
comp=Z,10nm,1.1s
WUAZ **Wupatki** 88.37 50 P **P** 10 53 46.6 +0.3
baz=238
GAMB **Gambell** 88.45 4 P **P** 10 53 46.7 +1.0
baz=188
SPCR **Spurr Chakacha** 88.56 13 P **P** 10 53 46.7 +0.4
baz=205
ELK **Elko** 88.68 43 P **P** 10 53 49.0 +1.3
ELK IAmb IAmb 10 53 50.0
comp=Z,9.1nm,1.2s
M19K **Big River Lodg** 88.77 12 P **P** 10 53 48.3 +1.1
baz=203
X18A **Snowflake** 88.85 51 IAmb IAmb 10 53 51.4
comp=Z,8.1nm,0.8s
L19K **White Mountain** 88.94 12 P **P** 10 53 48.7 +0.6
baz=203
RC01 **Rabbit Creek A** 88.99 14 P **P** 10 53 48.8 +0.6
baz=207
PWL **Port Wells** 89.10 15 P **P** 10 53 49.9 +1.1
baz=209
MTPU **Mount Pierson** 89.16 47 IAmb IAmb 10 53 53.6
comp=Z,13nm,0.8s
XAN **Xi'an** 89.17 308 P **P** 10 53 52.4 +2.5
XAN pP pwP 10 55 47.4 +2.2
XAN pmax pmax
comp=Z,7.0nm,1.8s
A04D **Lummi Island** 89.27 34 P **P** 10 53 50.4 +0.6
baz=230
B05A **Bryant** 89.29 35 P **P** 10 53 50.7 +0.8
baz=230
121A **Cookes Peak, D** 89.39 54 IAmb IAmb 10 53 54.3
comp=Z,6.0nm,0.8s
121A **Cookes Peak, D** 89.39 54 P **P** 10 53 52.3 +1.2
baz=240
L20K **Farewell, AK** 89.39 12 P **P** 10 53 51.3 +1.1
baz=204
GLI **Glacier Island** 89.42 15 P **P** 10 53 50.8 +0.5
baz=210
MSU **Marysvale** 89.42 47 P **P** 10 53 50.3 -0.8
TTA **Tatalina** 89.43 11 P **P** 10 53 51.4 +1.0
baz=202
EYAK **Cordova Ski Ar** 89.46 16 P **P** 10 53 51.1 +0.7
baz=211
M22K **Willow** 89.49 14 P **P** 10 53 51.1 +0.5
baz=207
KNK **Knik Glacier** 89.56 15 P **P** 10 53 51.4 +0.4
baz=208
PMR **Palmer** 89.57 14 P **P** 10 53 51.5 +0.6
baz=208
CMAR **Chiang Mai Arr** 89.72 290 P **P** 10 53 53.2 +0.5
comp=Z,2.0nm,0.9s,baz=144,slow=3.5,SNR=13
CMAR pP **pwP** 10 55 46.4 -1.9
comp=Z,0.3nm,0.6s,baz=130,slow=4.0,SNR=2.0
TLIG **Tlapa** 89.83 71 IAmb IAmb 10 53 56.4
comp=Z,11nm,1.1s
MFID **Camas Ranch** 89.84 41 P **P** 10 53 53.2 +0.4
DUG **Dugway, Tooele** 89.92 45 P **P** 10 53 53.2 -0.1
DUG **Dugway, Tooele** 89.92 45 P **P** 10 53 53.3 +0.1
baz=237
CUT **Chulitna** 90.05 13 P **P** 10 53 53.3 +0.2
baz=207
SEY **Seymchan** 90.05 348 P **P** 10 53 53.2 +0.1
comp=Z,5.0nm,0.8s,baz=149,slow=4.8,SNR=22
SEY pP **pwP** 10 55 46.4 -1.6
comp=Z,0.3nm,0.3s,baz=153,slow=24,SNR=1.5
PPLA **Purkeypile** 90.10 12 P **P** 10 53 53.7 +0.2
baz=205
BMRM **Bremner River** 90.11 16 P **P** 10 53 53.7 +0.1
baz=212
K20K **Telida** 90.17 11 P **P** 10 53 53.8 +0.1
baz=204
SCM **Sheep Creek Mo** 90.19 15 P **P** 10 53 54.6 +0.7
baz=209
KLU **Klutina** 90.23 16 P **P** 10 53 54.7 +0.5
baz=211
NLU **North Lily Min** 90.26 45 IAmb IAmb 10 53 57.6
comp=Z,6.3nm,1.0s
Q16A **Castle Valley** 90.30 47 IAmb IAmb 10 53 59.0
comp=Z,9.9nm,0.9s
TMUT **Trail Mountain** 90.48 46 P **P** 10 53 57.3 +1.2
F10A **Beach Ranch, E** 90.52 38 IAmb IAmb 10 53 57.5
comp=Z,7.7nm,0.8s
CAST **Castle Rocks** 90.59 12 IAmb IAmb 10 53 55.7
comp=Z,11nm,1.1s
CAST **Castle Rocks** 90.59 12 P **P** 10 53 55.5 -0.3
baz=205
N25K **Chitina, Valde** 90.66 16 P **P** 10 53 56.6 +0.5
baz=212
WAT6 **Susitna Watana** 90.75 14 P **P** 10 53 57.3 +0.7
baz=209
MNTX **Cornudas Mount** 90.76 55 P **P** 10 53 57.7 +0.5
MNTX IAmb IAmb 10 53 59.9
comp=Z,6.1nm,0.9s
MNTX **Cornudas Mount** 90.76 55 P **P** 10 53 58.0 +0.7
baz=241
HLID **Hailey** 90.78 41 P **P** 10 53 57.9 +0.7
baz=236
WAT1 **Susitna Watana** 90.79 14 P **P** 10 53 57.3 +0.6
baz=208
HVU **Hansel Valley** 90.80 44 P **P** 10 53 58.2 +0.8
CTU **Camp Tracy** 90.87 45 P **P** 10 53 57.5 -0.2
CTU IAmb IAmb 10 53 60.0
comp=Z,9.3nm,0.8s
MCARA **McCarthy VSAT** 90.88 17 P **P** 10 53 57.5 +0.5
baz=213
P17A **Butcher Ranch,** 90.88 46 IAmb IAmb 10 54 00.6
comp=Z,14nm,1.1s
J20K **Nowinta River** 90.91 11 P **P** 10 53 57.5 +0.4
baz=203

HHC	**Hu-ho-hao-te**	**90.93**	**315**	*e*P		**P**		**10 53 57.9**	**0.0**
HHC					pmax	pmax			
	comp=Z,16nm,1.0s								
HHC					pmax	pmax			
	comp=Z,550nm,8.0s								
TX31	**Lajitas Ar. Si**	**90.95**	**58**	P		**P**		**10 53 59.2**	**+1.0**
TX32	**Lajitas Array**	**90.95**	**58**	P		**P**		**10 53 58.8**	**+0.6**
TX32					IAmb	IAmb		10 54 01.1	
	comp=Z,9.4nm,0.9s								
TXAR	**Lajitas Array**	**90.95**	**58**	P		**P**		**10 53 59.5**	**+1.2**
	comp=Z,5.9nm,0.8s,baz=213,slow=6.2,SNR=83								
TXAR					pP	**pwP**		**10 55 52.0**	**+0.1**
	comp=Z,0.7nm,1.0s,baz=235,slow=3.2,SNR=2.8								
TXAR	**Lajitas Array**	**90.95**	**58**	P		**P**		**10 53 59.0**	**+0.7**
CHUM	**Lake Minchumin**	**90.97**	**12**	P		**P**		**10 53 57.1**	**-0.3**
	baz=205								
TRF	**Thorofare Moun**	**90.98**	**13**	P		**P**		**10 53 57.7**	**+0.1**
TRF					IAmb	IAmb		10 53 58.2	
	comp=Z,6.1nm,0.8s								
TRF	**Thorofare Moun**	**90.98**	**13**	P		**P**		**10 53 57.2**	**-0.5**
	baz=207								
CTG	**Chitna Glacier**	**90.99**	**18**	P		**P**		**10 53 58.2**	**+0.5**
	baz=215								
GCSA	**Galena City Sc**	**90.99**	**10**	P		**P**		**10 53 58.5**	**+1.1**
	baz=201								
PZH	**PanZhiHua**	**90.99**	**299**	P		**P**		**10 53 59.8**	**+1.2**
PZH					pmax	pmax			
	comp=Z,8.0nm,0.7s								
PZH					pmax	pmax			
	comp=Z,90nm,4.9s								
HARP	**HAARP**	**91.20**	**15**	P		**P**		**10 54 00.9**	**+2.4**
	baz=211								
RND	**Reindeer**	**91.24**	**14**	P		**P**		**10 53 59.2**	**+0.5**
RND					IAmb	IAmb		10 53 59.8	
	comp=Z,11nm,0.9s								
DHY	**Denali Highway**	**91.27**	**14**	P		**P**		**10 53 59.4**	**+0.4**
	baz=209								
P18A	**Preston Nutter**	**91.29**	**46**	IAmb		IAmb		10 54 02.1	
	comp=Z,4.9nm,0.9s								
HWUT	**Hardware Ranch**	**91.47**	**44**	P		**P**		**10 54 00.6**	**0.0**
HWUT					IAmb	IAmb		10 54 02.3	
	comp=Z,5.3nm,0.8s								
PV23	**Carpenter Ridg**	**91.51**	**48**	IAmb		IAmb		10 54 05.6	
	comp=Z,7.7nm,0.9s								
MCK	**McKinley**	**91.51**	**13**	P		**P**		**10 54 00.5**	**+0.6**
MCK					IAmb	IAmb		10 54 03.6	
	comp=Z,13nm,1.4s								
MCK	**McKinley**	**91.51**	**13**	P		**P**		**10 54 00.5**	**+0.6**
	baz=208								
ANMO	**Albuquerque**	**91.54**	**52**	P		**P**		**10 54 02.1**	**+1.1**
ANMO	**Albuquerque**	**91.54**	**52**	P		**P**		**10 54 02.1**	**+1.1**
	baz=241								
PAX	**Paxson**	**91.61**	**15**	P		**P**		**10 54 00.3**	**-0.2**
	baz=211								
M26K	**Nabesna, AK**	**91.74**	**16**	P		**P**		**10 54 01.7**	**+0.6**
	baz=213								
YUK6	**Outpost Mounta**	**91.82**	**19**	P		**P**		**10 54 03.3**	**+1.6**
	baz=217								
YUK3	**Moose Creek**	**91.90**	**18**	P		**P**		**10 54 03.0**	**+1.0**
	baz=215								
M27K	**Edge Creek, AK**	**91.99**	**17**	IAmb		IAmb		10 54 04.3	
	comp=Z,7.5nm,0.8s								
M27K	**Edge Creek, AK**	**91.99**	**17**	P		**P**		**10 54 03.5**	**+1.2**
	baz=214								
L26K	**Log Cabin Wild**	**92.18**	**16**	P		**P**		**10 54 03.8**	**+0.8**
	baz=213								
I21K	**Tanana**	**92.21**	**11**	P		**P**		**10 54 04.0**	**+0.9**
	baz=205								
RDMU	**Red Mountain**	**92.22**	**46**	P		**P**		**10 54 04.5**	**+0.4**
RDMU					IAmb	IAmb		10 54 05.5	
	comp=Z,4.4nm,0.8s								
BVCY	**Beaver Creek**	**92.31**	**17**	P		**P**		**10 54 05.0**	**+1.3**
	baz=215								
AHID	**Auburn Hatcher**	**92.38**	**43**	P		**P**		**10 54 04.6**	**0.0**
AHID					IAmb	IAmb		10 54 07.7	
	comp=Z,7.0nm,1.1s								
RIDG	**Independent Ri**	**92.42**	**15**	P		**P**		**10 54 05.4**	**+1.2**
	baz=212								
DOT	**Dot Lake**	**92.53**	**15**	P		**P**		**10 54 05.2**	**+0.5**
DOT					IAmb	IAmb		10 54 06.4	
	comp=Z,5.6nm,1.0s								
L27K	**Beaver Creek,**	**92.59**	**16**	P		**P**		**10 54 05.6**	**+0.6**
L27K	**Beaver Creek,**	**92.59**	**16**	P		**P**		**10 54 05.2**	**+0.3**
	baz=214								
S22A	**4UR Ranch, Cre**	**92.64**	**49**	IAmb		IAmb		10 54 08.7	
	comp=Z,11nm,1.1s								
S22A	**4UR Ranch, Cre**	**92.64**	**49**	P		**P**		**10 54 06.3**	**+0.2**
	baz=241								
I23K	**Minto, Yukon-K**	**92.68**	**12**	P		**P**		**10 54 06.9**	**+1.7**
	baz=208								
TCOL	**CIGO, UAF Yank**	**92.74**	**13**	P		**P**		**10 54 05.7**	**+0.2**
	baz=209								
COLA	**College**	**92.74**	**13**	P		**P**		**10 54 05.8**	**+0.3**
	baz=209								
SCRK	**Sand Creek**	**92.83**	**15**	P		**P**		**10 54 07.0**	**+0.9**
	baz=212								
REDW	**Red Top Meadow**	**92.85**	**43**	IAmb		IAmb		10 54 10.0	
	comp=Z,3.3nm,1.1s								
ILAR	**Eielson Array**	**92.85**	**14**	P		**P**		**10 54 05.5**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=224,slow=5.9,SNR=9.1								
ILAR					pP	**pwP**		**10 55 59.5**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=223,slow=3.7,SNR=3.1								
O20A	**White River Ci**	**92.87**	**47**	P		**P**		**10 54 07.0**	**0.0**
	baz=240								
MSO	**Missoula**	**92.87**	**39**	P		**P**		**10 54 07.1**	**+0.4**
	baz=236								
SNOW	**Snow King Moun**	**92.96**	**43**	IAmb		IAmb		10 54 10.7	
	comp=Z,4.2nm,0.8s								
J25K	**Salcha River,**	**93.05**	**14**	P		**P**		**10 54 07.3**	**+0.3**
	baz=211								
H23K	**Yukon River**	**93.25**	**12**	P		**P**		**10 54 08.5**	**+0.7**
	baz=208								
FLWY	**Flagg Ranch**	**93.32**	**43**	IAmb		IAmb		10 54 12.2	
	comp=Z,4.6nm,0.8s								
BW06	**Boulder Array**	**93.35**	**44**	P		**P**		**10 54 09.3**	**+0.1**
BW06	**Boulder Array**	**93.35**	**44**	P		**P**		**10 54 09.1**	**-0.1**
	baz=239								
PDAR	**Pinedale Array**	**93.35**	**44**	P		**P**		**10 54 09.0**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=220,slow=2.8,SNR=14								
J26L	**Joseph Creek**	**93.37**	**15**	P		**P**		**10 54 09.2**	**+0.7**
	baz=213								
YHL	**Hebgen Lake**	**93.43**	**42**	P		**P**		**10 54 10.7**	**+1.1**
BOZ	**Bozeman (W)**	**93.55**	**41**	P		**P**		**10 54 10.9**	**+1.0**
BOZ	**Bozeman (W)**	**93.55**	**41**	P		**P**		**10 54 10.1**	**+0.2**
	baz=238								
SDCO	**Great Sand Dun**	**93.57**	**50**	P		**P**		**10 54 09.0**	**-1.4**
SDCO					IAmb	IAmb		10 54 12.3	
	comp=Z,5.0nm,1.1s								
SDCO	**Great Sand Dun**	**93.57**	**50**	P		**P**		**10 54 09.9**	**-0.4**
	baz=241								
M30M	**Minto, Yukon**	**93.58**	**19**	P		**P**		**10 54 10.6**	**+1.1**
	baz=219								
LKWY	**Lake**	**93.75**	**42**	IAmb		IAmb		10 54 15.7	
	comp=Z,8.7nm,1.4s								
LZH	**Lanzhou**	**93.81**	**308**	*e*P		P		10 54 02.8	-8.5
LZH					pP	PcP		10 54 15.9	+4.3
LZH					pmax	pmax			
	comp=Z,22nm,1.4s								
833A	**Chaparral WMA,**	**93.84**	**61**	P		**P**		**10 54 12.1**	**+0.7**
	baz=244								
M31M	**Drury Creek, Y**	**94.00**	**20**	P		**P**		**10 54 12.0**	**+0.6**
	baz=221								
DAWY	**Dawson**	**94.04**	**17**	P		**P**		**10 54 12.1**	**+0.5**
DAWY					IAmb	IAmb		10 54 13.6	
	comp=Z,5.1nm,0.9s								
DAWY	**Dawson**	**94.04**	**17**	P		**P**		**10 54 12.5**	**+0.9**
	baz=216								
T25A	**Trinidad**	**94.04**	**51**	P		**P**		**10 54 12.2**	**-0.3**
	baz=242								
EGAK	**Eagle**	**94.18**	**16**	P		**P**		**10 54 12.1**	**+0.1**
EGAK					IAmb	IAmb		10 54 13.5	
	comp=Z,4.7nm,0.9s								
EGAK	**Eagle**	**94.18**	**16**	P		**P**		**10 54 12.9**	**+0.9**
	baz=215								
COLD	**Coldfoot**	**94.38**	**11**	P		**P**		**10 54 13.8**	**+0.9**
	baz=207								
Q24A	**Divide**	**94.39**	**49**	P		**P**		**10 54 15.0**	**+0.9**
	baz=242								
JCT	**Junction City**	**94.46**	**59**	P		**P**		**10 54 13.9**	**-0.3**
	baz=244								
ISCO	**Idaho Springs**	**94.47**	**48**	P		**P**		**10 54 14.7**	**+0.3**
	baz=241								
RLMT	**Red Lodge**	**94.73**	**42**	P		**P**		**10 54 16.7**	**+1.3**
	baz=239								
N23A	**Red Feather La**	**94.77**	**47**	P		**P**		**10 54 16.9**	**+1.1**
	baz=241								
I29M	**Ogilvie Camp,**	**95.36**	**16**	P		**P**		**10 54 17.7**	**+0.2**
	baz=218								
TOLK	**Toolik Lake Re**	**95.75**	**11**	P		**P**		**10 54 20.3**	**+1.1**
	baz=208								
EPYK	**Eagle Plains**	**96.56**	**16**	P		**P**		**10 54 23.2**	**+0.3**
	baz=219								
INK	**Inuvik**	**98.85**	**16**	P		Pdif		10 54 32.1	-0.8
	comp=Z,2.0nm,1.2s,baz=213,slow=2.6,SNR=4.5								
YKA	**Yellowknife Ar**	**101.15**	**26**	P		**Pdif**		**10 54 43.0**	**-0.3**
	comp=Z,0.1nm,0.7s,baz=236,slow=4.6,SNR=2.0								
YKA					PKiKP	**PKiKP**		**10 59 04.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=248,slow=1.9,SNR=4.9								
YKA					PKKPbc	**PKKPbc**		**11 10 51.2**	**-2.5**
	comp=Z,0.1nm,0.5s,baz=33,slow=2.7,SNR=8.3								
A36M	**Sachs Harbour**	**103.44**	**15**	P		**Pdif**		**10 54 53.9**	**+0.6**
	baz=230								
GOGA	**Godfrey**	**108.42**	**61**	P		**PKiKP**		**10 59 18.3**	**-1.0**
	baz=252								
RES	**Resolute Bay**	**112.39**	**17**	PKiKP		**PKiKP**		**10 59 24.9**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=100,slow=6.9,SNR=2.6								
ZALV	**Zalesovo Beam**	**112.53**	**320**	PKiKP		**PKiKP**		**10 59 25.2**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=336,slow=1.7,SNR=2.8								
MKAR	**Makanchi Array**	**112.64**	**312**	PKiKP		**PKiKP**		**10 59 25.8**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=56,slow=4.5,SNR=5.2								
MKAR					SKP			11 02 14.1	
	comp=Z,0.3nm,0.4s,baz=70,slow=0.5,SNR=4.2								
MKAR					PKKPbc	**PKKPbc**		**11 10 17.2**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=285,slow=4.8,SNR=5.3								
KURK	**Kurchatov**	**115.73**	**316**			**PKPdf**		**10 59 31.9**	**-0.8**
KURBB	**Kurchatov Arra**	**115.77**	**316**	PKP		**PKPdf**		**10 59 31.8**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=116,slow=1.7,SNR=10								
KURBB					SKP			11 02 19.5	
	comp=Z,0.6nm,0.7s,baz=97,slow=2.4,SNR=4.5								
BOSA	**Boshof**	**121.62**	**206**	PKP		**PKPdf**		**10 59 45.2**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=71,slow=11,SNR=1.6								
SPITS	**Spitsbergen Ar**	**125.93**	**356**	PKP		**PKPdf**		**10 59 51.4**	**-0.2**
	comp=Z,7.7nm,0.8s								
ARU	**Arti**	**127.49**	**323**	PKP		**PKPdf**		**10 59 54.7**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=315,slow=1.1,SNR=4.2								
ARU					SKP			11 02 41.2	
	comp=Z,1.0nm,0.3s,baz=296,slow=18,SNR=1.7								
ABKAR	**Akbulak array**	**127.71**	**314**			**PKPdf**		**10 59 54.5**	**-1.2**
ABKAR	**Akbulak array**	**127.71**	**314**			**PKPdf**		**10 59 55.3**	**-0.4**
KIRV	**Kirov**	**131.57**	**328**	SKPab		**SKPbc**		**11 02 40.5**	**-0.7**
	comp=Z,16nm,0.7s,baz=116,slow=1.6,SNR=8.3								
ARCES	**ARCESS Array B**	**132.67**	**348**	PKhKP		PKPpre		10 59 55.7	
	comp=Z,2.5nm,0.9s,baz=325,slow=1.5,SNR=3.9								
ARCES					PKP	**PKPdf**		**11 00 03.3**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=67,slow=1.9,SNR=22								
ARCES					SKPab	**SKPbc**		**11 02 45.1**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=46,slow=3.9,SNR=6.0								
KLMR	**Klimovskoe**	**134.88**	**334**	*e*PKPdf		**PKPdf**		**11 00 05.9**	**-3.0**
KLMR					AMP			11 00 17.0	
	comp=Z,9.0nm,1.4s								
KLMR				*e*PP		**PP**		**11 02 46.0**	**-4.3**
FINES	**FINESS Array B**	**139.19**	**341**	PKhKP		PKPpre		11 00 07.5	
	comp=Z,0.6nm,0.3s,baz=51,slow=4.0,SNR=6.9								
FINES					PKP	**PKPdf**		**11 00 17.1**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=91,slow=2.1,SNR=6.1								
NB201	**NORSAR Array S**	**142.86**	**351**			**PKPdf**		**11 00 20.9**	**-2.6**
NB2	**NORSAR Subarra**	**142.88**	**351**	PKP		**PKPdf**		**11 00 20.5**	**-3.0**
	comp=Z,14nm,1.2s,baz=10,slow=3.2								
NOA	**NORSAR Array B**	**142.88**	**351**	PKP		**PKPdf**		**11 00 20.7**	**-2.8**
	comp=Z,7.9nm,1.0s,baz=15,slow=2.4,SNR=17								
NAO01	**NORSAR Array S**	**143.11**	**351**			PKPab		11 00 21.2	-0.2
NC602	**NORSAR Array S**	**143.12**	**350**			PKPab		11 00 21.2	-0.2
HFS	**Hagfors**	**143.33**	**348**	PKP		PKPab		11 00 21.9	-0.3
	comp=Z,19nm,0.9s,baz=266,slow=38,SNR=20								
MNK	**Minsk**	**143.73**	**332**	*i* PKP		PKPab		11 00 23.7	-0.3
	comp=E,1.0nm,0.7s								
MNK				*i* PKP		PKPab		11 00 23.7	-0.3
	comp=N,19nm,0.7s								
MNK				*i* PKP		PKPab		11 00 23.7	-0.3
	comp=Z,45nm,1.0s,baz=46								
MNK				*i* PP		**PP**		**11 03 43.4**	**-0.7**
MNK				*i* PPP		PPP		11 06 59.3	
MNK				*i* SKKS				11 15 59.5	
MNK				*i* SS		SS		11 21 45.9	-0.2
MNK				*i* SSS		SSS		11 27 17.7	
MNK				*i* LRM		MLR		12 05 03.9	
	comp=E,7.0nm,10.6s								
MNK				*i* LRM		MLR		12 05 03.9	
	comp=N,152nm,20.0s								
MNK				*i* LRM		MLR		12 05 14.9	
	comp=Z,105nm,21.9s								
NACGM	**Naroch**	**143.90**	**334**	*e*PKP		PKPab		11 00 25.1	+0.6
AKASG	**Malin Array Be**	**145.61**	**327**	PKPbc		**PKPdf**		**11 00 28.3**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=43,slow=4.3,SNR=19								
AKASG					pPKP	**pPKPdf**		**11 02 27.4**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=36,slow=4.5,SNR=1.4								
AKASG					SKPbc	**SKPbc**		**11 03 19.5**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=38,slow=3.2,SNR=4.6								
AKBB	**Malin Array Si**	**145.61**	**327**			**PKPbc**		**11 00 29.7**	**-0.1**
BNN	**Bunyan**	**146.58**	**304**	PKPbc		**PKPbc**		**11 00 32.9**	**-0.2**
MMAI	**Mount Meron Ar**	**147.94**	**293**	PKPbc		**PKPbc**		**11 00 35.9**	**-0.9**
	baz=122,slow=5.2								
BRTR	**Keskin Array B**	**147.99**	**306**	PKPbc		**PKPbc**		**11 00 35.8**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=107,slow=4.1,SNR=8.2								
BRTR					pPKPbc	**pPKPab**		**11 02 34.7**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=116,slow=3.4,SNR=2.6								
BRTR	**Keskin Array B**	**147.99**	**306**			**PKPbc**		**11 00 36.0**	**-0.9**
EKA	**Eskdalemuir Ar**	**149.34**	**3**	PKPbc		**PKPbc**		**11 00 38.8**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=349,slow=2.9,SNR=18								
BSEG	**Bad Segeberg**	**149.80**	**348**	*e*PKPdf		**PKiKP**		**11 00 41.8**	**+0.5**
	baz=12,slow=1.7								
HLG	**Helgoland**	**149.98**	**351**	*e*PKPdf		**PKiKP**		**11 00 41.9**	**+0.3**
	baz=12,slow=1.7								
KOLS	**Kolonicke sedl**	**150.14**	**330**	*e*PKP		**PKiKP**		**11 00 43.0**	**+0.8**
OJC	**Ojcow**	**150.24**	**334**			**PKPbc**		**11 00 41.9**	**+0.1**
RUE	**Ruedersdorf**	**150.35**	**343**	*e*PKPdf		**PKiKP**		**11 00 43.5**	**+1.1**
	baz=12,slow=1.7								
MLR	**Muntele Rosu**	**150.50**	**321**	PKPbc		**PKPbc**		**11 00 42.2**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=186,slow=18,SNR=3.4								
CRVS	**Cervenica-Dubn**	**150.53**	**330**	*e*PKP		**PKiKP**		**11 00 43.7**	**+0.7**
FLTG	**Flechtingen**	**151.12**	**346**	*e*PKPdf		**PKPbc**		**11 00 44.2**	**+0.6**
	baz=12,slow=1.7								
NRDL	**Niedersach Rie**	**151.21**	**347**	*e*PKPdf		**PKiKP**		**11 00 44.6**	**+0.5**
	baz=12,slow=1.7								
OSTC	**Ostas**	**151.29**	**338**	*e*PKP		**PKiKP**		**11 00 45.0**	**+0.5**
CHVC	**Chvalec**	**151.31**	**338**	*e*PKP		**PKPbc**		**11 00 44.9**	**+0.6**
DPC	**Dobruska-Polom**	**151.43**	**338**	*e*PKP		**PKiKP**		**11 00 45.3**	**+0.5**
KRLC	**Kraliky**	**151.50**	**337**	*e*PKP		**PKPbc**		**11 00 45.0**	**+0.3**
CLL	**Collm**	**151.61**	**343**			**PKPbc**		**11 00 44.5**	**-0.3**
CLL	**Collm**	**151.61**	**343**	*i* PKPbc		**PKPbc**		**11 00 45.3**	**+0.5**
	comp=Z,21nm,0.9s								
CLL				*i* PKPab		**PKPab**		**11 00 56.3**	**+0.5**
	comp=Z,9.0nm,1.2s								
CLL	**Collm**	**151.61**	**343**	*e*PKPdf		**PKiKP**		**11 00 45.7**	**+0.5**
	baz=12,slow=1.7								
BRG	**Berggiesshubel**	**151.74**	**341**	*i* PKP		**PKPbc**		**11 00 45.7**	**+0.5**
BRG					Amp			11 00 46.7	
	comp=Z,12nm,0.9s								
BRG				*ex*		x		11 00 57.5	
BRG					Amp			11 00 58.2	
	comp=Z,8.4nm,1.1s								
BRG				*ex*		x		11 02 46.9	
BRG					Amp			11 02 48.0	
	comp=Z,3.2nm,0.8s								
BRG	**Berggiesshubel**	**151.74**	**341**	*e*PKPdf		**PKiKP**		**11 00 46.1**	**+0.7**
	baz=12,slow=1.7								
CLZ	**Clausthal**	**151.76**	**346**	*e*PKPdf		**PKPbc**		**11 00 45.4**	**+0.2**
	baz=12,slow=1.7								
FBE	**Freiberg**	**151.86**	**342**	*e*PKPdf		**PKiKP**		**11 00 46.5**	**+0.8**
	baz=12,slow=1.7								
KOLL	**Kolacno**	**152.09**	**333**	*e*PKP		**PKiKP**		**11 00 47.2**	**+1.0**
GTTG	**Gottingen**	**152.13**	**346**	*e*PKPdf		**PKPbc**		**11 00 46.2**	**+0.3**
	baz=12,slow=1.7								
TANN	**Tannenbergstha**	**152.57**	**342**	*e*PKPdf		**PKPbc**		**11 00 47.6**	**+0.5**
	baz=12,slow=1.7								
WERD	**Werda**	**152.58**	**343**	*e*PKPdf		**PKiKP**		**11 00 47.8**	**+0.6**
	baz=12,slow=1.7								
MOX	**Moxa**	**152.58**	**344**	*e*PKPdf		**PKPbc**		**11 00 47.6**	**+0.6**
	baz=12,slow=1.7								
GUNZ	**Gunzen**	**152.65**	**343**	*e*PKPdf		**PKiKP**		**11 00 48.0**	**+0.7**
	baz=12,slow=1.7								
MANZ	**Manzenberg**	**153.05**	**342**	*e*PKPdf		**PKiKP**		**11 00 48.8**	**+0.6**
	baz=12,slow=1.7								
ROTZ	**Rotzenmuhle**	**153.22**	**342**	*e*PKPdf		**PKiKP**		**11 00 49.2**	**+0.7**
	baz=12,slow=1.7								
KHC	**Kasperske Hory**	**153.38**	**340**	*e*PKP		**PKiKP**		**11 00 49.7**	**+0.8**
KHC				*e*PKPAB		**PKPab**		**11 01 04.5**	**+1.0**
GERES	**GERESS Array B**	**153.59**	**339**	PKP		**PKPdf**		**11 00 40.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=280,slow=7.5,SNR=4.6								
GERES					PKPbc	**PKPbc**		**11 00 48.9**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=264,slow=2.7,SNR=7.4								
GERES					PKPab	**PKPab**		**11 01 04.3**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=43,slow=6.0,SNR=5.3								
GERES					pPKPbc	**pPKPbc**		**11 02 50.2**	**+3.7**
	comp=Z,1.0nm,0.7s,baz=343,slow=3.1,SNR=3.3								
RJOB	**Jochberg**	**154.86**	**339**	*e*PKPdf		**PKiKP**		**11 00 52.4**	**+0.4**
	baz=12,slow=1.7								
BFO	**Black Forest**	**155.52**	**346**	*e*PKPdf		PKPdf		11 00 52.5	+8.8
	baz=12,slow=1.7								
DAVOX	**Davos/Dischmat**	**156.59**	**343**	PKPab		**PKPab**		**11 01 17.2**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=144,slow=8.4,SNR=4.4								
DBIC	**Dimbokro**	**161.48**	**165**	PKPab		**PKPab**		**11 01 38.3**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=102,slow=1.0,SNR=3.3								
ESDC	**Sonseca Array**	**164.75**	**11**	PKPab		**PKPab**		**11 01 53.2**	**+0.1**
	comp=Z,3.8nm,1.0s,baz=349,slow=4.0,SNR=13								
ESDC	**Sonseca Array**	**164.75**	**11**	PKPdf		**PKPdf**		**11 00 53.3**	**-0.9**
ESDC						**PKPab**		**11 01 53.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**168.36**	**189**	PKP		**PKPdf**		**11 00 56.5**	**-1.0**
	comp=Z,3.8nm,1.1s,baz=338,slow=1.3,SNR=10								
TORD					PKPab	**PKPab**		**11 02 09.0**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=203,slow=3.4,SNR=13								
TORD	**Torodi Ar. Bea**	**168.36**	**189**	PKPdf		**PKPdf**		**11 00 56.3**	**-1.2**
TORD						**PKPab**		**11 02 09.6**	**0.0**

TRN ***15*** *10:45:13.2, 18°.50N×67°.98W, h177km, M3.5(RSPR)*
NEIC ***15*** *10:45:13.9±1.4, 18°.4N±0°.1×67°.95W×0°.07, h178km±6km,*
Error ellipse: s-maj=16.0km s-min=9.2km az=189.0
RSPR ***15*** *10:45:14.0, 18°.58N×67°.92W, h176km±1km, MD3.5/13*
OSPL ***15*** *10:45:14.3±2.1, 18°.38N×68°.01W, h189km±12km, ML2.7*
ISC 15 10:45:11.9±1.4, 18°.4N±0°.1×68°.02W±0°.03, h189km±8km,
n75, σ1°17/98, 27C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.38**	**293**	*e*P			**Pn**	**10 45 38.0**	**+0.8**
PCDR	**Punta Cana, DR**	**0.38**	**293**				**Pn**	**10 45 38.0**	**+0.8**
PCDR							**Sn**	**10 45 56.6**	**-0.2**
PCDR	**Punta Cana, DR**	**0.38**	**293**	*e*P			**Pn**	**10 45 38.2**	**+0.8**
PCDR					*e*S		**Sn**	**10 45 56.6**	**-0.2**
PCDR	**Punta Cana, DR**	**0.38**	**293**	*i* P			**Pn**	**10 45 37.9**	**+0.6**
PCDR					*e*S		**Sn**	**10 45 56.3**	**-0.6**
PCDR					IAML			10 45 59.8	
	comp=Z,133nm,0.3s								
IDE	**Isla Desecheo**	**0.52**	**88**	*e*P			**Pn**	**10 45 38.8**	**+0.9**
IDE	**Isla Desecheo**	**0.52**	**88**	*e*P			**Pn**	**10 45 38.8**	**+0.9**
IDE					*e*S		**Sn**	**10 45 57.6**	**-0.2**
PRSN	**Puerto Rico Se**	**0.84**	**100**	Pn			**Pn**	**10 45 40.4**	**+0.9**
AGPR	**Aguadilla, PR**	**0.86**	**83**	*e*P			**Pn**	**10 45 40.2**	**+0.6**
AGPR	**Aguadilla, PR**	**0.86**	**83**				**Sn**	**10 45 59.6**	**-1.5**
AGPR	**Aguadilla, PR**	**0.86**	**83**				**Pn**	**10 45 40.2**	**+0.6**
**A

comp=Z,15nm,0.4s
LONE2 Loma La Sidra 3.29 274 *i* P **Pn 10 46 06.0 +1.5**
LONE2 IAML 10 46 52.1
comp=Z,14nm,3.3s
GRTK Grand Turk 4.29 317 Pn **Pn 10 46 18.6 +1.7**
SMRT St. Maarten 4.71 93 *e*P **Pn 10 46 23.8 +1.4**
SMRT St. Maarten 4.71 93 *e*S **Sn 10 47 15.8 -1.9**
ANWB Willy Bob 5.97 96 *e*P **Pn 10 46 40.3 +1.7**
ANWB Willy Bob 5.97 96 *e*S **Sn 10 47 44.3 -2.7**
ANBD Bethesda, Anti 6.10 101 *e*P **Pn 10 46 40.8 +0.5**
ANBD Bethesda, Anti 6.10 101 *e*S **Sn 10 47 47.9 -2.3**

IDC ***15*** *10:56:49.2± 1.2, 3˚.61S× 100˚.55E, h0km, mb4.3/14, mb1 4.3/17, mb1mx3.9/83, mbtmp4.3/17, ML4.0/3, MS3.7/3, Ms1 3.7/3, ms1mx3.1/80, Error ellipse: s-maj=41.5km s-min=13.2km az=51.0*
DJA ***15*** *10:56:52.7± 0.4, 4˚S± 3˚× 10˚.1E± ˚, h10km, M4.4/18, mb4.4/6, mB5.0/3, MLv4.5/18, Mw(mB)4.3/3*
NEIC ***15*** *10:56:54.4± 2.0, 3˚.81S± 0˚.04× 100˚.46E± 0˚.10, h35km± 8km, mb4.4/26, Error ellipse: s-maj=15.0km s-min=4.5km az=71.0*
ISC 15 10:56:53.2±0.7,**3˚.67S**±0˚.08×**100˚.47E**±0˚.08,**h29**km,**n86**,
σ1§**00**/74,**mb4.5**/30,**MS4.0**/3,**1D**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.01**	**333**	P	**Pn**	**10 57 11.0**	**-0.4**
MASI	**Maura Aman, Be**	**1.84**	**74**	P	**Pn**	**10 57 23.1**	**+0.2**
KRJI	**Kerinci**	**1.85**	**32**	P	**Pn**	**10 57 24.4**	**+0.3**
KSI	**Kapahiang**	**2.12**	**90**	P	**Pn**	**10 57 27.5**	**+0.8**
MNAI	**Manna**	**2.57**	**106**	Pn	**Pn**	**10 57 33.5**	**+0.6**
MNAI	**Manna**	**2.57**	**106**	P	**Pn**	**10 57 34.2**	**+1.3**
SISI	**Saibi**	**2.71**	**329**	P	**Pn**	**10 57 35.1**	**+0.4**
PPI	**Padang Panjang**	**3.19**	**359**	P	**Pn**	**10 57 41.8**	**+0.4**
JMBI	**JAMBI**	**3.76**	**58**	P	**Pn**	**10 57 48.6**	**-0.6**
MDSI	**Maura Dua**	**3.79**	**102**	P	**Pn**	**10 57 50.6**	**+1.0**
RGRI	**Rengat**	**3.79**	**30**	P	**Pn**	**10 57 50.3**	**+0.7**
LWLI	**Liwa**	**3.82**	**111**	P	**Pn**	**10 57 52.0**	**+1.8**
BKNI	**Bangkinang**	**4.01**	**8**	P	**Pn**	**10 57 52.5**	**-0.2**
KASI	**Kota Agung**	**4.42**	**115**	P	**Pn**	**10 57 59.4**	**+1.1**
MNSI	**Mandailing Nat**	**4.52**	**349**	P	**Pn**	**10 58 00.9**	**+1.1**
KLI	**Kotabumi**	**4.53**	**105**	P	**Pn**	**10 58 01.9**	**+2.0**
BLSI	**Bandar Lampung** 0.9nm170nm,0.4s	**5.05**	**110**	P	**Pn**	**10 58 08.7**	**+1.7**
DSRI	**Dabo** 0.1nm2µm22nm,0.8s	**5.19**	**52**	P	**Pn**	**10 58 08.7**	**-0.2**
GSI	**Gunungsitoli**	**5.72**	**330**	Pn	**Pn**	**10 58 17.2**	**+1.0**
GSI	**Gunungsitoli** 0.2nm17nm,0.7s	**5.72**	**330**	P	**Pn**	**10 58 17.3**	**+1.0**
PPBI	**Pangkal Pinang**	**5.86**	**75**	P	**Pn**	**10 58 19.4**	**+1.3**
CGJI	**Cibinong** 0.3nm1µm50nm,0.7s	**5.97**	**120**	P	**Pn**	**10 58 19.6**	**0.0**
MYKOM	**Kota Tinggi**	**6.39**	**32**	Pn	**Pn**	**10 58 26.8**	**+1.3**
PSI	**Prapat** 1.0nm,0.3s,baz=184,slow=18,SNR=3.3	**6.61**	**346**	Pn	**Pn**	**10 58 25.9**	**-2.6**
LEM	**Lembang** 4.3nm,0.3s,baz=325,slow=23,SNR=1.5	**7.78**	**114**	Pn	**Pn**	**10 58 42.4**	**-2.2**
JAGI	**Jajag, Banyuwa**	**14.41**	**110**	Pn	**Pn**	**11 00 13.5**	**-1.9**
KAPI	**Kappang** 1.0nm,0.3s,baz=241,slow=12,SNR=5.2	**19.27**	**95**	P	**P**	**11 01 15.4**	**-0.3**
KAPI KAPI	**Kappang** comp=Z,14nm,0.8s	**19.27**	**95**	P IAmb	P IAmb	**11 01 15.4** 11 01 17.9	**-0.3**
MYLDM	**Lahad Datu**	**20.04**	**64**		**P**	**11 01 24.9**	**+0.8**
MYLDM	comp=Z,13nm,0.8s			IAmb	IAmb	11 01 37.0	
TOLI2	**Tolitoli**	**20.85**	**77**	P	**P**	**11 01 32.3**	**-0.6**
TOLI2	comp=Z,14nm,1.0s			IAmb	IAmb	11 01 37.4	
CM31	**Chiang Mai Arr**	**22.04**	**356**	P	**P**	**11 01 45.9**	**+0.2**
CMAR	**Chiang Mai Arr** comp=Z,5.0nm,0.7s,baz=188,slow=9.0,SNR=13	**22.04**	**356**	P	**P**	**11 01 44.1**	**-1.6**
CHTO	**Chiang Mai**	**22.39**	**356**	P	**P**	**11 01 48.2**	**-1.2**
H08S2	**Diego Garcia H** baz=83,slow=76,SNR=696	**28.11**	**261**	T	T	11 32 14.3	
H08S3	**Diego Garcia H** baz=83,slow=76,SNR=615	**28.12**	**261**	T	T	11 32 15.3	
H08S1	**Diego Carcia H** baz=83,slow=76,SNR=653	**28.13**	**261**	T	T	11 32 16.5	
FITZ	**Fitzroy Crossi** comp=Z,1.1nm,0.9s,baz=311,slow=9.1,SNR=1.6	**28.51**	**122**	P	**P**	**11 02 45.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**28.51**	**122**	P	**P**	**11 02 45.2**	**-1.2**
KMI KMI	**Kunming** comp=Z,19nm,1.5s	**28.71**	**4**	ǁP pmax	P pmax	11 02 55.6	+7.4
PZH PZH	**PanZhiHua** comp=Z,10.0nm,0.6s	**30.02**	**2**	P pmax	P pmax	11 03 05.3	+5.5
PZH	comp=Z,100nm,5.1s			pmax	pmax		
KNRA KNRA	**Kunungurra** comp=Z,16nm,1.4s	**30.28**	**115**	P IAmb	**P** IAmb	**11 03 01.6** 11 03 22.8	**-0.5**
H01W3	**Cape Leeuwin H** baz=336,slow=76,SNR=8.4	**33.55**	**159**	T	T	11 38 51.8	
H01W2	**Cape Leeuwin H** baz=336,slow=76,SNR=11	**33.56**	**159**	T	T	11 38 54.0	
H01W1	**Cape Leeuwin H** baz=336,slow=76,SNR=7.4	**33.56**	**159**	T	T	11 38 56.1	
WB0 WB0	**Warramunga Arr** comp=Z,3.2nm,0.7s	**36.75**	**119**	P IAmb	**P** IAmb	**11 03 58.0** 11 04 09.5	**-0.4**
WRA	**Warramunga Arr** comp=Z,1.8nm,0.5s,baz=306,slow=9.1,SNR=31	**36.77**	**119**	P	**P**	**11 03 58.7**	**+0.1**
WRA	**Warramunga Arr**	**36.77**	**119**	P	**P**	**11 03 58.0**	**-0.5**
WRAB WRAB	**Tennant Creek** comp=Z,4.1nm,0.6s	**36.77**	**119**	P IAmb	**P** IAmb	**11 03 58.5** 11 04 11.7	**-0.1**
WB2	**Warramunga Arr**	**36.77**	**119**	P	**P**	**11 03 58.3**	**-0.3**
WR0 WR0	**Warramunga Arr** comp=Z,5.7nm,0.8s	**36.95**	**119**	P IAmb	**P** IAmb	**11 03 60.0** 11 04 11.1	**-0.1**
FORT	**Forrest**	**37.48**	**139**	P	**P**	**11 04 01.9**	**-2.4**
AS31	**Alice Springs**	**37.91**	**125**	P	**P**	**11 04 07.2**	**-1.0**
ASAR	**Alice Springs** comp=Z,0.6nm,0.5s,baz=299,slow=7.9,SNR=9.4	**37.91**	**125**	P	**P**	**11 04 07.8**	**-0.4**
ASAR	**Alice Springs**	**37.91**	**125**	P	**P**	**11 04 08.7**	**+0.4**
XAN XAN	**Xi'an** comp=Z,19nm,0.6s	**38.35**	**11**	P pP pmax	**P** pP pmax	**11 04 10.9** 11 04 16.1	**-0.8** -3.7
JOW	**Kunigami** comp=Z,223nm,21.2s,baz=169,slow=34	**40.52**	**40**	LR	LR	11 19 53.6	
HHC HHC	**Hu-ho-hao-te** comp=Z,12nm,0.8s	**45.45**	**12**	*e*P pmax	P pmax	11 05 15.4	+5.6
HHC	comp=Z,130nm,5.7s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,1.0nm,0.3s,baz=332,slow=6.3,SNR=3.3	**47.70**	**131**	P	**P**	**11 05 27.4**	**-0.1**
KSAR	**Wonju Array Be**	**48.19**	**29**	P	**P**	**11 05 32.1**	**+1.0**
KSRS KSRS	**Korea Array** comp=Z,4.3nm,1.0s,baz=220,slow=7.9,SNR=9.9	**48.22**	**29**	P LR	**P** LR	**11 05 30.6** 11 26 57.5	**-0.7**
KSH	**Kashi** comp=Z,163nm,18.8s,baz=190,slow=38	**48.53**	**335**	P	**P**	**11 05 34.0**	**+0.1**
WMQ WMQ	**Urumqi** comp=Z,28nm,0.7s	**48.65**	**348**	*e*P sP pmax	P sP pmax	11 05 40.0 11 05 52.1	+5.3 +5.6
KDJ	**Kajisay**	**50.26**	**338**	P	**P**	**11 05 48.5**	**+1.5**
BOOM BOOM	**Boomskoye usch** comp=Z,6.8nm,1.2s	**51.04**	**337**	P IAmb	**P** IAmb	**11 05 53.7** 11 05 59.5	**+0.7**
CHGR CHGR	**Chuyangaron** comp=Z,7.4nm,1.0s	**51.10**	**328**	P IAmb	**P** IAmb	**11 05 53.9** 11 05 54.9	**+0.5**
SONM	**Songino Array** comp=Z,8.4nm,0.9s,baz=190,slow=8.2,SNR=14	**51.55**	**5**	P	**P**	**11 05 57.3**	**+0.6**
SONM	**Songino Array**	**51.55**	**5**	P	**P**	**11 05 58.0**	**+1.3**
ULN ULN	**Ulaanbaatar** comp=Z,6.6nm,1.0s	**51.64**	**6**	P IAmb	**P** IAmb	**11 05 58.0** 11 06 00.1	**+0.7**
MK31 MK31	**Makanchi Array** comp=Z,3.5nm,0.9s	**52.75**	**344**	P IAmb	**P** IAmb	**11 06 06.3** 11 06 08.5	**+0.9**
MKAR	**Makanchi Array** comp=Z,3.9nm,0.7s,baz=148,slow=7.2,SNR=32	**52.75**	**344**	P	**P**	**11 06 05.7**	**+0.2**
MAKZ MAKZ	**Makanchi** comp=Z,3.7nm,1.1s	**52.85**	**344**	P IAmb	**P** IAmb	**11 06 06.8** 11 06 08.7	**+0.6**
MJAR MJAR	**Matsushiro Arr**	**53.28**	**38**	P IAmb	**P** IAmb	**11 06 10.3** 11 06 22.7	**+0.8**
	comp=Z,6.0nm,1.2s						
KK31	**Karatay Array**	**53.84**	**333**	P	**P**	**11 06 13.5**	**-0.1**
KKAR	**Karatay Array**	**53.84**	**333**	P	**P**	**11 06 13.2**	**-0.4**
USRK	**Ussuriysk Ar.** comp=Z,2.7nm,0.5s,baz=215,slow=6.3,SNR=5.5	**55.41**	**27**	P	**P**	**11 06 24.6**	**-0.2**
GEYT	**Alibeck** comp=Z,2.0nm,0.4s,baz=60,slow=33,SNR=1.9	**57.02**	**321**	P	**P**	**11 06 37.5**	**+0.9**
KURBB	**Kurchatov Arra** comp=Z,3.0nm,0.9s,baz=160,slow=6.7,SNR=9.2	**57.27**	**344**	P	**P**	**11 06 37.9**	**-0.1**
KURK KURK	**Kurchatov** comp=Z,5.0nm,0.9s	**57.33**	**344**	P IAmb	**P** IAmb	**11 06 39.6** 11 06 40.9	**+1.2**
ZAA0	**Zalesovo Array**	**58.88**	**349**	P	**P**	**11 06 50.1**	**+0.8**
ZALV	**Zalesovo Beam** comp=Z,8.5nm,0.9s,baz=158,slow=4.8,SNR=24	**58.88**	**349**	P	**P**	**11 06 49.7**	**+0.5**
BVAR	**Borovoye Array** comp=Z,2.2nm,0.7s	**61.90**	**340**	P	**P**	**11 07 09.0**	**-0.9**
KMBO	**Kilima Mbogo** comp=Z,14nm,20.1s,baz=91,slow=33	**63.20**	**271**	LR	LR	11 31 27.0	
ABKAR	**Akbulak array**	**63.32**	**332**	P	**P**	**11 07 20.0**	**+0.5**
FINES	**FINESS Array B** comp=Z,1.6nm,0.9s,baz=100,slow=1.7,SNR=1.7	**85.80**	**332**	P	**P**	**11 09 31.0**	**+1.4**
TXAR	**Lajitas Array** comp=Z,5.0nm,0.7s,baz=301,slow=1.2,SNR=60	**145.71**	**39**	PKPbc	**PKPab**	**11 16 31.6**	**+1.1**
TXAR	**Lajitas Array**	**145.71**	**39**		**PKPab**	**11 16 31.3**	**+0.8**

NOU ***15*** *10:57:24.8, 22˚.47S× 177˚.27W, h361km, mb4.6/7, South of Fiji Islands*
NEIC ***15*** *10:57:29.9± 0.8, 22˚.7S± 0˚.1× 178˚.58W± 0˚.09, h327km± 7km, mb4.1/38, Error ellipse: s-maj=20.2km s-min=11.8km az=163.0*
IDC ***15*** *10:57:30.7± 2.7, 22˚.89S× 178˚.44W, h347km± 24km, mb3.6/13, mb1 3.8/15, mb1mx3.5/50, mbtmp4.4/15, Error ellipse: s-maj=24.2km s-min=15.7km az=147.0*
ISC 15 10:57:30.9±0.6,**22˚.8S**±0˚.1×**178˚.51W**±0˚.09,**h350**km,**n76**,
σ0§**85**/73,**mb4.0**/31,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 1.6nm,0.3s,baz=163,slow=11,SNR=6.7	**6.00**	**327**	P	**Pn**	**10 59 02.8**	**+0.9**
NIUE	**Niue**	**8.84**	**67**	Pn	**Pn**	**10 59 33.9**	**-1.1**
MARNC	**Mare, Loyalty**	**12.55**	**273**		**P**	**11 00 16.1**	**-2.5**
PINNC	**Pines Island,**	**12.97**	**268**	P	**P**	**11 00 21.3**	**-1.9**
OUENC	**Ouen Island, N**	**13.54**	**269**	P	**P**	**11 00 28.0**	**-1.6**
OUENC	**Ouen Island, N**	**13.54**	**269**	P	Pn	11 00 35.3	+4.4
DZM	**Mont Dzumac** 2.7nm,0.3s,baz=102,slow=12,SNR=38	**13.94**	**270**	P	Pn	11 00 39.9	+4.3
DZM	**Mont Dzumac**	**13.94**	**270**	P	Pn	11 00 40.2	+4.6
SANVU	**Saraoutou**	**15.35**	**296**	P	**P**	**11 00 46.6**	**-2.9**
URZ	**Urewera** 4.5nm,0.3s,baz=266,slow=4.2,SNR=54	**15.85**	**193**	P	**P**	**11 00 53.8**	**-0.9**
URZ	**Urewera**	**15.85**	**193**	P	**P**	**11 00 54.1**	**-0.6**
URZ	**Urewera**	**15.85**	**193**	P	**P**	**11 00 53.9**	**-0.8**
NNZ	**Nelson**	**19.58**	**199**	P	**P**	**11 01 35.6**	**+1.1**
KHZ KHZ	**Kahutara** comp=Z,25nm,1.3s	**20.65**	**197**	P IAmb	**P** IAmb	**11 01 45.2** 11 02 04.8	**+0.5**
KHZ	**Kahutara**	**20.65**	**197**	P	**P**	**11 01 44.8**	**+0.1**
CTA	**Charters Tower** comp=Z,14nm,0.6s,baz=94,slow=9.4,SNR=25	**32.87**	**268**	P	**P**	**11 03 34.4**	**+0.9**
CTAO CTAO	**Charters Tower** comp=Z,18nm,0.7s	**32.87**	**268**	P IAmb	**P** IAmb	**11 03 34.6** 11 03 35.2	**+1.1**
PMG	**Port Moresby** comp=Z,35nm,0.8s,baz=115,slow=5.2,SNR=9.6	**35.47**	**286**	P	**P**	**11 03 56.3**	**+0.6**
PMG	**Port Moresby**	**35.47**	**286**	P	**P**	**11 03 56.4**	**+0.7**
PMG	**Port Moresby**	**35.47**	**286**	P	**P**	**11 03 56.4**	**+0.7**
STKA	**Stephens Creek** comp=Z,3.6nm,0.5s,baz=90,slow=10,SNR=9.4	**36.41**	**247**	P	**P**	**11 04 04.3**	**+0.9**
STKA	**Stephens Creek** comp=Z,0.9nm,0.6s	**36.41**	**247**	IAmb	IAmb	11 04 05.0	
COEN COEN	**Coen** comp=Z,14nm,1.2s	**37.32**	**277**	P IAmb	**P** IAmb	**11 04 10.4** 11 04 24.7	**-0.8**
BBOO BBOO	**Buckleboo** comp=Z,11nm,1.1s	**41.14**	**246**	P IAmb	**P** IAmb	**11 04 42.1** 11 04 43.7	**-0.2**
AS17	**Alice Springs**	**43.50**	**259**	P	**P**	**11 05 02.0**	**+0.7**
AS18	**Alice Springs**	**43.50**	**259**	P	**P**	**11 05 00.7**	**-0.7**
AS07	**Alice Springs**	**43.52**	**259**	P	**P**	**11 05 01.6**	**+0.1**
AS19	**Alice Springs**	**43.52**	**259**	P	**P**	**11 05 01.2**	**-0.2**
AS06	**Alice Springs**	**43.52**	**259**	P	**P**	**11 05 01.5**	**0.0**
AS04	**Alice Springs**	**43.55**	**259**	P	**P**	**11 05 01.7**	**-0.1**
AS15	**Alice Springs**	**43.57**	**259**	P	**P**	**11 05 01.9**	**0.0**
ASAR	**Alice Springs** comp=Z,5.4nm,0.8s,baz=89,slow=8.3,SNR=30	**43.58**	**259**	P	**P**	**11 05 02.0**	**+0.1**
ASAR	comp=Z,0.8nm,0.9s,baz=85,slow=4.9,SNR=2.8			PcP	**PcP**	**11 06 42.7**	**+0.1**
ASAR	**Alice Springs**	**43.58**	**259**	P	**P**	**11 05 01.4**	**-0.5**
AS13	**Alice Springs**	**43.59**	**259**	P	**P**	**11 05 01.9**	**-0.1**
WR0	**Warramunga Arr**	**43.67**	**265**	P	**P**	**11 05 01.9**	**-0.8**
WR8	**Warramunga Arr**	**43.71**	**265**	P	**P**	**11 05 02.6**	**-0.4**
WR7	**Warramunga Arr**	**43.73**	**265**	P	**P**	**11 05 02.5**	**-0.6**
WR5	**Warramunga Arr**	**43.78**	**265**	P	**P**	**11 05 03.3**	**-0.2**
WR4	**Warramunga Arr**	**43.80**	**265**	P	**P**	**11 05 03.3**	**-0.4**
WR3	**Warramunga Arr**	**43.82**	**265**	P	**P**	**11 05 03.1**	**-0.8**
WR2 WR2	**Warramunga Arr** comp=Z,14nm,1.1s	**43.84**	**265**	P IAmb	**P** IAmb	**11 05 03.5** 11 05 29.2	**-0.5**
WC2 WC2	**Warramunga Arr** comp=Z,13nm,1.3s	**43.84**	**265**	P IAmb	**P** IAmb	**11 05 03.8** 11 05 04.8	**-0.2**
WB0 WB0	**Warramunga Arr** comp=Z,7.5nm,0.7s	**43.85**	**265**	P IAmb	**P** IAmb	**11 05 03.8** 11 05 04.4	**-0.3**
WB2 WB2	**Warramunga Arr** comp=Z,7.0nm,0.7s	**43.85**	**265**	P IAmb	**P** IAmb	**11 05 03.6** 11 05 04.4	**-0.5**
WB5 WB5	**Warramunga Arr** comp=Z,6.5nm,0.7s	**43.85**	**265**	P IAmb	**P** IAmb	**11 05 03.6** 11 05 04.3	**-0.5**
WB1 WB1	**Warramunga Ar.** comp=Z,9.0nm,0.6s	**43.85**	**264**	P IAmb	**P** IAmb	**11 05 03.3** 11 05 04.4	**-0.8**
WB8 WB8	**Warramunga Arr** comp=Z,6.8nm,0.7s	**43.85**	**265**	P IAmb	**P** IAmb	**11 05 03.5** 11 05 04.3	**-0.6**
WRAB WRAB	**Tennant Creek** comp=Z,6.0nm,0.7s	**43.85**	**265**	P IAmb	**P** IAmb	**11 05 03.6** 11 05 04.3	**-0.5**
WR1 WR1	**Warramunga Arr** comp=Z,7.7nm,0.7s	**43.86**	**265**	P IAmb	**P** IAmb	**11 05 03.7** 11 05 04.5	**-0.5**
WRA	**Warramunga Arr** comp=Z,5.2nm,0.6s,baz=102,slow=8.5,SNR=25	**43.86**	**265**	P	**P**	**11 05 03.6**	**-0.6**
WRA	**Warramunga Arr**	**43.86**	**265**	P	**P**	**11 05 03.3**	**-0.9**
WC1 WC1	**Warramunga Arr** comp=Z,7.6nm,0.7s	**43.87**	**265**	P IAmb	**P** IAmb	**11 05 04.3** 11 05 05.5	**0.0**
FORT	**Forrest**	**47.98**	**249**	P	**P**	**11 05 35.9**	**0.0**
MTN MTN	**Manton Dam** comp=Z,5.6nm,0.7s	**48.76**	**273**	P IAmb	**P** IAmb	**11 05 41.6** 11 05 42.0	**-0.3**
KNRA KNRA	**Kununurra** comp=Z,8.9nm,0.6s	**50.08**	**268**	P IAmb	**P** IAmb	**11 05 51.7** 11 05 52.4	**-0.1**
FITZ	**Fitzroy Crossi** comp=Z,1.9nm,0.7s,baz=106,slow=7.0,SNR=9.6	**52.29**	**264**	P	**P**	**11 06 08.5**	**+0.4**
SIJI	**Sorong** comp=Z,9.0nm,0.6s,baz=113,slow=6.6,SNR=6.3	**53.41**	**287**	P	**P**	**11 06 15.8**	**-0.4**
PSAB3	**Pilbara Seismi**	**56.70**	**258**	P	**P**	**11 06 40.1**	**+0.6**
PSAA1 PSAA1	**Pilbara Seismi** comp=Z,16nm,1.4s	**56.73**	**258**	P IAmb	**P** IAmb	**11 06 39.5** 11 06 56.8	**-0.1**
PSAB1 PSAB1	**Pilbara Seismi** comp=Z,5.4nm,0.7s	**56.74**	**258**	P IAmb	**P** IAmb	**11 06 38.8** 11 06 41.0	**-0.9**
MORW MORW	**Morawa** comp=Z,7.1nm,0.7s	**58.54**	**249**	P IAmb	**P** IAmb	**11 06 52.2** 11 06 53.0	**+0.2**
QSPA QSPA	**South Pole Qui** comp=Z,7.9nm,1.2s	**67.27**	**180**	P IAmb	**P** IAmb	**11 07 50.0** 11 07 54.7	**+1.5**
KKM	**Kota Kinabalu**	**69.91**	**286**	P	**P**	**11 08 04.6**	**-1.0**
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.6s,baz=220,slow=8.2,SNR=4.1	**83.02**	**43**	P	**P**	**11 09 17.9**	**-0.2**
KLR	**Kul'dur** comp=Z,0.7nm,0.6s,baz=294,slow=6.9,SNR=2.2	**84.27**	**330**	P	**P**	**11 09 25.2**	**+1.4**
SEY	**Seymchan** comp=Z,1.0nm,0.5s,baz=133,slow=10,SNR=3.5	**88.51**	**347**	P	**P**	**11 09 45.1**	**+1.3**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.8s,baz=206,slow=6.0,SNR=1.6	**88.69**	**57**	P	**P**	**11 09 44.9**	**-0.8**

CMAR	**Chiang Mai Arr** comp=Z,2.0nm,0.9s,baz=138,slow=3.1,SNR=14	**90.44**	**290**	P	**P**	**11 09 55.3**	**+1.3**
PDAR	**Pinedale Array** comp=Z,0.3nm,0.6s,baz=254,slow=1.1,SNR=4.0	**90.96**	**43**	P	**P**	**11 09 56.2**	**+0.1**
ARCES	**ARCESS Array B**	**131.09**	**349**	PKP	**PKiKP**	**11 16 02.1**	**+0.4**
AKASG	comp=Z,0.9nm,0.5s,baz=40,slow=2.1,SNR=7.1 **Malin Array Be** comp=Z,2.8nm,0.5s,baz=36,slow=3.6,SNR=17	**144.77**	**329**	PKP	PKPbc	11 16 25.2	-0.9
EKA	**Eskdalemuir Ar** comp=Z,3.1nm,0.8s,baz=4.6,slow=2.1,SNR=6.7	**147.33**	**5**	PKPbc	**PKPbc**	**11 16 33.5**	**+0.2**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.5s,baz=17,slow=5.3,SNR=3.1	**147.98**	**309**	PKPbc	**PKPbc**	**11 16 34.9**	**-0.9**
CLL CLL	**Collm** comp=Z,4.0nm,0.6s	**150.18**	**345**	*i* PKPbc *i* PKPbc(2)	**PKPbc**	**11 16 40.6** 11 16 42.9	**0.0**
GERES	**GERESS Array B** comp=Z,0.4nm,0.4s,baz=276,slow=1.2,SNR=5.9	**152.27**	**343**	PKPbc	**PKPbc**	**11 16 45.2**	**-0.4**
TORD TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.5s,baz=122,slow=34,SNR=3.4	**170.39**	**181**	PKP PKPab	**PKPdf** **PKPab**	**11 16 57.5** 11 18 15.7	**-0.5** **-0.8**
	comp=Z,0.6nm,0.7s,baz=154,slow=2.3,SNR=4.0						

NEIC ***15*** *10:59:30.4± 1.9, 18˚.53N± 0˚.09× 145˚.7E± 0˚.1, h114km± 7km, mb4.6/96, ML4.1/6, Error ellipse: s-maj=18.5km s-min=12.5km az=96.0*
IDC ***15*** *10:59:33.4± 2.8, 18˚.53N× 145˚.75E, h151km± 26km, mb3.8/22, mb1 3.9/23, mb1mx3.7/68, mbtmp4.2/23, MS4.0/1, Ms1 4.0/1, ms1mx2.8/84, Error ellipse: s-maj=16.5km s-min=10.7km az=93.0*
ISC 15 10:59:28.4±0.5,**18˚.58N**±0˚.06×**145˚.8E**±0˚.1,**h100**km,**n172**,
σ1§**26**/163,**mb4.5**/67,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 8.7nm,0.3s,baz=326,slow=7.9,SNR=9.3	**5.04**	**191**	P	**Pn**	**11 00 45.3**	**+3.5**
GUMO	4.6nm,0.3s,baz=346,slow=18,SNR=0.8			S	**Sn**	**11 01 41.4**	**+2.6**
GUMO	**Guam**	**5.04**	**191**		**Pn**	**11 00 42.4**	**+0.6**
GUMO	138nm,0.9s			IAML		11 01 57.8	
JOW	**Kunigami** 7.1nm,0.3s,baz=132,slow=14,SNR=7.3	**18.14**	**300**	P	**Pn**	**11 03 36.8**	**+2.8**
JOW	**Kunigami** comp=Z,60nm,1.4s	**18.14**	**300**	IAmb	IAmb	11 04 02.6	
MJB3	**Matsu-Daira**	**19.04**	**341**	P	**P**	**11 03 42.0**	**-0.7**
JWT	**Wachi**	**19.04**	**333**	P	**P**	**11 03 42.7**	**+0.1**
MJB5	**Matsu-Yatsubo**	**19.05**	**341**	P	**P**	**11 03 42.9**	**+0.1**
MJA3	**Matsu-Soehiyam**	**19.06**	**341**	P	**P**	**11 03 44.0**	**+1.1**
MJB2	**Matsu-Sugadair**	**19.08**	**341**	P	**P**	**11 03 42.1**	**-1.1**
MJAR	**Matsushiro Arr**	**19.11**	**341**	P	**P**	**11 03 42.7**	**-0.8**
MAJO	**Matsushiro**	**19.12**	**341**	P	**P**	**11 03 42.0**	**-1.4**
MJB1	**Matsu-Takimoto**	**19.12**	**341**	P	**P**	**11 03 44.7**	**+1.1**
H11S3	**WAKE ISLAND Hy** baz=274,slow=74,SNR=6.2	**19.78**	**87**	T	T	11 24 54.2	
H11S1	**WAKE ISLAND Hy** baz=274,slow=74,SNR=6.9	**19.80**	**87**	T	T	11 24 43.0	
H11S2	**WAKE ISLAND Hy** baz=274,slow=74,SNR=8.5	**19.80**	**87**	T	T	11 24 41.6	
H11N1	**WAKE ISLAND Hy** baz=267,slow=74,SNR=3.7	**19.93**	**83**	T	T	11 25 04.3	
H11N2	**WAKE ISLAND Hy** baz=267,slow=74,SNR=3.5	**19.94**	**83**	T	T	11 24 59.7	
H11N3	**WAKE ISLAND Hy** baz=267,slow=74,SNR=3.7	**19.95**	**83**	T	T	11 25 07.5	
MANU	**Manus Island**	**20.55**	**176**	P	**P**	**11 04 00.3**	**+1.2**
YHNB YHNB	**Yeheng** comp=Z,53nm,1.3s	**23.51**	**289**	P IAmb	**P** IAmb	**11 04 30.8** 11 04 55.2	**+1.1**
SSLB SSLB	**Suanglung** comp=Z,12nm,0.6s	**23.75**	**287**	P IAmb	**P** IAmb	**11 04 34.9** 11 04 37.2	**+3.2**
SIJI	**Sorong** comp=Z,4.4nm,0.6s,baz=354,slow=23,SNR=2.2	**24.05**	**218**	P	**P**	**11 04 34.4**	**0.0**
KSRS	**Korea Array** comp=Z,1.2nm,0.8s,baz=147,slow=10,SNR=2.9	**24.49**	**324**	P	**P**	**11 04 38.9**	**+0.7**
KLR	**Kul'dur** comp=Z,1.6nm,0.4s,baz=124,slow=4.0,SNR=7.7	**32.62**	**343**	P	**P**	**11 05 50.8**	**+0.3**
PETK	**Petropavlovsk-** comp=Z,3.6nm,0.9s,baz=195,slow=9.4,SNR=5.1	**35.68**	**12**	P	**P**	**11 06 17.9**	**+1.0**
SBUM	**Sibu**	**36.61**	**248**	P	**P**	**11 06 26.1**	**+0.9**
KNRA KNRA	**Kununurra** comp=Z,9.1nm,0.6s	**37.96**	**207**	P IAmb	**P** IAmb	**11 06 36.5** 11 06 37.2	**-0.1**
WB0 WB0	**Warramunga Arr** comp=Z,9.4nm,1.1s	**39.72**	**197**	P IAmb	**P** IAmb	**11 06 50.0** 11 06 52.1	**-1.3**
WB9	**Warramunga Arr**	**39.75**	**197**	P	**P**	**11 06 51.6**	**+0.1**
WB7	**Warramunga Arr**	**39.79**	**197**	P	**P**	**11 06 51.7**	**-0.2**
SANVU	**Saraoutou**	**39.83**	**147**	P	**P**	**11 06 49.4**	**-2.8**
WB5	**Warramunga Arr**	**39.83**	**197**	P	**P**	**11 06 52.4**	**+0.2**
WR8	**Warramunga Arr**	**39.87**	**197**	P	**P**	**11 06 51.4**	**-1.1**
WB3 WB3	**Warramunga Arr** comp=Z,4.7nm,0.7s	**39.88**	**197**	P IAmb	**P** IAmb	**11 06 52.8** 11 06 54.3	**+0.2**
WC2 WC2	**Warramunga Arr** comp=Z,8.6nm,1.4s	**39.88**	**197**	P IAmb	**P** IAmb	**11 06 52.3** 11 06 54.3	**-0.2**
WRAB	**Tennant Creek**	**39.89**	**197**	P	**P**	**11

IM02	Indian Mountai	61.27	24	P	P	11 09 34.1	+1.3
IMAR	Indian Mountai	61.28	24	P	P	11 09 34.1	+1.2
IM05	Indian Mountai	61.29	24	P	P	11 09 34.2	+1.3
KURK	Kurchatov	61.44	318	P	P	11 09 33.2	-1.0
KURK	Kurchatov	61.44	318	IAmb	IAmb	11 09 33.4	
	comp=Z,1.8nnm,1.0s						
O22K	Cooper Landing	61.47	31	P	P	11 09 35.2	+1.0
KURBB	Kurchatov Arra	61.49	318	P	P	11 09 33.2	-1.3
	comp=Z,1.4nm,0.7s,baz=100,slow=7.0,SNR=12						
H21K	Melozitna Rive	61.54	24	P	P	11 09 35.8	+1.2
H21K				IAmb	IAmb	11 09 36.8	
	comp=Z,5.1nm,0.5s						
M22K	Willow	61.58	29	P	P	11 09 35.3	+0.4
RC01	Rabbit Creek A	61.60	30	P	P	11 09 35.8	+0.7
KTH	Kantishna Hill	61.69	27	P	P	11 09 37.0	+1.2
I21K	Tanana	61.72	25	P	P	11 09 37.7	+1.9
I21K				IAmb	IAmb	11 09 38.3	
	comp=Z,4.7nm,0.7s						
BPAW	Bear Paw Mtn.	61.81	26	P	P	11 09 38.2	+1.7
TRF	Thorofare Moun	61.94	27	P	P	11 09 37.8	+0.3
TRF				IAmb	IAmb	11 09 39.4	
	comp=Z,13nm,1.1s						
PMR	Palmer	62.00	29	P	P	11 09 38.0	+0.2
PMR				IAmb	IAmb	11 09 39.5	
	comp=Z,9.9nm,1.1s						
GHO	Glory Hole Cre	62.14	29	P	P	11 09 39.5	+0.7
GHO				IAmb	IAmb	11 09 54.2	
	comp=Z,13nm,1.1s						
PWL	Port Wells	62.22	30	P	P	11 09 38.4	-0.8
KNK	Knik Glacier	62.28	30	P	P	11 09 40.6	+0.9
KNK				IAmb	IAmb	11 09 41.8	
	comp=Z,11nm,0.7s						
KNK	Knik Glacier	62.28	30	P	P	11 09 40.8	+1.1
SML	Sawmill	62.42	29	P	P	11 09 41.6	+0.9
SML				IAmb	IAmb	11 09 42.5	
	comp=Z,16nm,0.7s						
SML	Sawmill	62.42	29	P	P	11 09 41.7	+1.0
BWN	Browne	62.48	27	P	P	11 09 42.3	+1.3
BWN				IAmb	IAmb	11 09 43.6	
	comp=Z,11nm,0.9s						
RND	Reindeer	62.55	27	P	P	11 09 41.5	-0.1
RND				IAmb	IAmb	11 09 43.7	
	comp=Z,5.8nm,0.9s						
I23K	Minto, Yukon-K	62.77	25	P	P	11 09 44.3	+1.5
GLI	Glacier Island	62.81	30	P	P	11 09 44.0	+0.8
H23K	Yukon River	62.88	25	P	P	11 09 45.2	+1.5
H23K				IAmb	IAmb	11 09 46.0	
	comp=Z,5.2nm,0.8s						
SCM	Sheep Creek Mo	62.89	29	P	P	11 09 45.2	+1.4
COLD	Coldfoot	63.02	23	P	P	11 09 46.2	+1.7
FID	Port Fidalgo	63.09	31	P	P	11 09 45.5	+0.4
DHY	Denali Highway	63.13	28	P	P	11 09 46.0	+0.5
DHY				IAmb	IAmb	11 09 47.2	
	comp=Z,7.7nm,1.3s						
WRH	Wood River Hil	63.13	26	P	P	11 09 45.9	+0.6
WRH				IAmb	IAmb	11 09 46.3	
	comp=Z,5.4nm,0.6s						
MDM	Murphy Dome	63.19	26	P	P	11 09 46.8	+1.1
CCB	Clear Creek Bu	63.29	26	P	P	11 09 46.7	+0.4
CCB				IAmb	IAmb	11 09 47.5	
	comp=Z,3.1nm,0.4s						
TCOL	CIGO, UAF Yank	63.32	26	P	P	11 09 47.2	+0.8
TCOL				IAmb	IAmb	11 09 49.8	
	comp=Z,4.2nm,0.8s						
COLA	College	63.32	26	P	P	11 09 47.2	+0.8
COLA				IAmb	IAmb	11 09 49.8	
	comp=Z,4.3nm,0.8s						
EYAK	Cordova Ski Ar	63.41	31	P	P	11 09 47.5	+0.4
EYAK				IAmb	IAmb	11 09 54.3	
	comp=Z,13nm,1.1s						
KLU	Klutina	63.49	30	P	P	11 09 49.2	+1.4
KLU				IAmb	IAmb	11 09 49.6	
	comp=Z,6.6nm,0.7s						
DIV	Divide	63.49	30	P	P	11 09 49.6	+1.8
DIV				IAmb	IAmb	11 09 55.8	
	comp=Z,11nm,1.2s						
H24K	Noodor Dome	63.54	25	P	P	11 09 49.4	+1.4
H24K				IAmb	IAmb	11 09 50.1	
	comp=Z,4.5nm,0.6s						
IL13	Eielson Array	63.66	26	P	P	11 09 48.8	0.0
TOLK	Toolik Lake Re	63.66	22		P	11 09 50.8	+2.0
IL14	Eielson Array	63.66	26	P	P	11 09 48.4	-0.4
IL12	Eielson Array	63.67	26	P	P	11 09 48.5	-0.4
IL15	Eielson Array	63.68	26	P	P	11 09 48.7	-0.2
IL11	Eielson Array	63.69	26	P	P	11 09 48.8	-0.1
IL16	Eielson Array	63.69	26	P	P	11 09 48.5	-0.5
IL31		63.70	26	P	P	11 09 48.7	-0.3
IL31				IAmb	IAmb	11 09 49.4	
	comp=Z,6.0nm,1.1s						
ILAR	Eielson Array	63.70	26	P	P	11 09 48.6	-0.4
	comp=Z,2.9nm,0.4s,baz=251,slow=6.2,SNR=94						
IL04	Eielson Array	63.70	26	P	P	11 09 48.7	-0.4
IL02	Eielson Array	63.72	26	P	P	11 09 49.0	-0.1
IL07	Eielson Array	63.73	26	P	P	11 09 49.0	-0.2
IL09	Eielson Array	63.74	26	P	P	11 09 49.2	-0.2
PAX	Paxson	63.96	28	P	P	11 09 51.9	+1.0
PAX				IAmb	IAmb	11 09 52.3	
	comp=Z,6.4nm,0.5s						
J25K	Salcha River,	64.31	26	P	P	11 09 52.9	-0.2
J25K				IAmb	IAmb	11 09 53.5	
	comp=Z,3.4nm,0.5s						
RIDG	Independent Ri	64.37	27	P	P	11 09 54.1	+0.6
RIDG				IAmb	IAmb	11 09 55.1	
	comp=Z,8.1nm,0.8s						
DOT	Dot Lake	64.70	28	P	P	11 09 56.0	+0.4
DOT				IAmb	IAmb	11 09 57.1	
	comp=Z,6.7nm,0.8s						
MENT	Mentasta	64.74	28	P	P	11 09 57.2	+1.3
MENT				IAmb	IAmb	11 10 09.9	
	comp=Z,6.1nm,1.3s						
SCRK	Sand Creek	64.79	27	P	P	11 09 57.2	+0.9
SCRK				IAmb	IAmb	11 09 58.0	
	comp=Z,7.4nm,1.1s						
L26K	Log Cabin Wild	64.92	28	P	P	11 09 58.1	+1.1
L26K				IAmb	IAmb	11 09 59.2	
	comp=Z,7.3nm,1.2s						
BM03	Burnt Mountain	65.17	24	P	P	11 10 00.4	+1.8
BM05	Burnt Mountain	65.18	23	P	P	11 10 00.9	+2.2
BMAR	Burnt Mountain	65.18	23	P	P	11 10 00.8	+2.1
BM01	Burnt Mountain	65.21	23	P	P	11 10 00.7	+1.9
BM02	Burnt Mountain	65.22	23	P	P	11 10 00.4	+1.5
BC01	Beaver Creek A	65.61	28	P	P	11 10 02.3	+0.8
L27K	Beaver Creek,	65.61	28	P	P	11 10 02.8	+1.3
L27K				IAmb	IAmb	11 10 03.5	
	comp=Z,3.1nm,0.7s						
BC02	Beaver Creek A	65.62	28	P	P	11 10 02.8	+1.2
BC03		65.63	28	P	P	11 10 02.9	+1.4
BCAR	Beaver Creek A	65.63	28	P	P	11 10 03.1	+1.4
BC04	Beaver Creek A	65.64	28	P	P	11 10 03.3	+1.5
BC05	Beaver Creek A	65.65	28	P	P	11 10 03.1	+1.3
TABL	Table Mountain	65.66	31	P	P	11 10 03.9	+1.8
EGAK	Eagle	66.12	27	P	P	11 10 05.3	+0.6
EGAK				IAmb	IAmb	11 10 07.0	
	comp=Z,2.8nm,0.5s						
BVAR	Borovoye Array	66.65	320	P	P	11 10 07.2	-1.1
	comp=Z,1.3nm,0.4s						
KKAR	Karatay Array	66.94	310	P	P	11 10 09.2	-1.2
KK04	Karatay Array	66.94	310	P	P	11 10 09.7	-0.7
KK08	Karatay Array	66.96	310	P	P	11 10 09.3	-1.2
HYT	Haines Junctio	67.47	31	P	P	11 10 15.6	+2.1
HYT				IAmb	IAmb	11 10 16.4	
	comp=Z,8.1nm,0.7s						
M30M	Minto, Yukon	67.88	29	P	P	11 10 15.4	-0.5
EPYK	Eagle Plains	68.11	25	P	P	11 10 17.8	+0.5
EPYK				IAmb	IAmb	11 10 19.2	
	comp=Z,4.3nm,0.7s						
N31M	Braeburn, Yuko	68.33	30	P	P	11 10 19.4	+0.7
N31M				IAmb	IAmb	11 10 21.1	
	comp=Z,6.8nm,0.8s						
SKAG	Skagway	68.53	33	P	P	11 10 20.7	+0.7
SKAG				IAmb	IAmb	11 10 22.2	
	comp=Z,5.9nm,0.7s						
INK	Inuvik	69.44	23		P	11 10 25.8	+0.4
A36M	Sachs Harbour	72.16	19	P	P	11 10 42.5	+0.7
C36M	Paulatuk	72.82	22	P	P	11 10 45.9	+0.1
C36M				IAmb	IAmb	11 10 47.0	
	comp=Z,7.1nm,1.1s						
ARU	Arti	73.24	325	P	P	11 10 46.9	-1.6
	comp=Z,1.5nm,0.2s,baz=83,slow=22,SNR=3.4						
ARU	Arti	73.24	325	IAmb	IAmb	11 10 48.4	
	comp=Z,2.7nm,0.6s						
AB07	Akbulak array	73.50	317	P	P	11 10 49.6	-0.6
AB02	Akbulak array	73.51	317	P	P	11 10 49.2	-1.0
AB31	Akbulak array	73.51	317	P	P	11 10 48.8	-1.5
ABKAR	Akbulak array	73.51	317	P	P	11 10 49.2	-1.1
YKA	Yellowknife Ar	78.04	28	P	P	11 11 15.9	+0.1
	comp=Z,2.6nm,0.6s,baz=289,slow=5.4,SNR=58						
SPITS	Spitsbergen Ar	79.31	351	P	P	11 11 21.7	-0.8
	comp=Z,7.7nm,0.9s,baz=74,slow=5.1,SNR=2.0						
ARCES	ARCESS Array B	82.65	342	P	P	11 11 40.0	-0.4
	comp=Z,1.5nm,0.7s,baz=72,slow=7.8,SNR=5.8						
ARCES	ARCESS Array B	82.65	342	IAmb	IAmb	11 12 01.1	
	comp=Z,17nm,1.4s						
NVAR	Mina Array Bea	83.12	52	P	P	11 11 44.2	+0.5
	comp=Z,2.9nm,0.6s,baz=268,slow=6.0,SNR=18						
FINES	FINESS Array B	87.05	335	P	P	11 11 59.8	-2.8
	comp=Z,1.1nm,0.4s,baz=64,slow=4.8,SNR=6.5						
PDAR	Pinedale Array	87.83	45	P	P	11 12 06.7	-0.4
	comp=Z,0.4nm,0.4s,baz=191,slow=1.1,SNR=12						
LPAZ	La Paz	147.55	91	PKPbc	PKPdf	11 19 00.2	+0.2
	comp=Z,1.9nm,0.7s,baz=260,slow=3.4,SNR=5.9						
MDP	Montagnes des	150.25	39	PKPbc	PKPdf	11 19 06.4	+2.7
	comp=Z,9.4nm,0.9s,baz=11,slow=5.5,SNR=2.5						

IDC ***15*** *11:05:25.7±0.3, 4.7°N×126.5°E, h0km, mb4.9/40, mb1 4.9/41, mb1mx4.8/62, mbtmp4.9/41, ML4.9/1, MS4.0/32, Ms1 4.0/32, ms1mx3.8/68, Error ellipse: s-maj=14.5km s-min=9.9km az=77.0*

BJI ***15*** *11:05:27.0±0.0, 3.58N×126.79E, h60km, mb4.9/70, mB5.1/37, Ms4.5/34, Ms7 4.3/37*

DJA ***15*** *11:05:28.1±0.5, 4.7°N±3.3°×12.7°E±°, h15km±3km, M4.9/58, mB5.4/34, mb5.2/58, MLv5.3/18, Mw(mB)4.8/34, MwMwp4.6/2, Mwp5.0/2*

MOS ***15*** *11:05:29.0±1.2, 4.18N×126.52E, h33km, mb5.1/56, Error ellipse: s-maj=7.7km s-min=4.3km az=113.5*

KLM ***15*** *11:05:30, 4.21N×126.97E, h36km, mb5.2*

NEIC ***15*** *11:05:31.2±1.7, 4.08N±0.06×126.63E±0.07, h35km±1km, mb5.1/181, Error ellipse: s-maj=12.4km s-min=8.9km az=247.0*

GCMT ***15*** *11:05:31.2±0.3, 4.23N±0.02×126.57E±0.03, h30km±1km, MW4.9/67, Moment Tensor Solution. s30,c34; s67,c81; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.40±.20; Mθθ -0.53±.13; Mϕϕ -0.87±.18; Mrθ 0.15±.17; Mrϕ -2.41±.11; Mθϕ 1.65±.22; Best double couple: Ms3.14200×10^16 NP1:ϕ81.00000°, δ49.00000°, λ155.00000°. NP2: ϕ188.00000°, δ72.00000°, λ44.00000°. Principal axes: T 2.8940, Plg43.0000°, Azm53.0000°; N 0.4940, Plg43.0000°, Azm206.0000°; P -3.3900, Plg14.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 11:05:31.2±0.3, 4.09N±0.03×126.66E±0.04, h41km±3km, h40km:pP-P, n798, σ1.31/822, mb5.0/205, MS4.2/45, 16C-35D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.20	251	P		Pn	Pn	11 05 51.2	-0.3
SGSI				S		Sn	Sn	11 06 08.6	+2.1
DDMP	Don Marcelino,	2.22	335	*e*P		Pn	Pn	11 06 03.5	-2.0
GSPH	General Santos	2.62	319	*i*P		Pn	Pn	11 06 10.3	-0.8
MATI	Mati	2.87	352	*e*P		Pn	Pn	11 06 14.8	+0.3
DAV	Davao City (W)	3.15	340	Pn		Pn	Pn	11 06 17.6	-0.8
MNI	Manado	3.19	215	P		Pn	Pn	11 06 20.8	+1.9
KCP	Kidapawan	3.30	332	*i*P		Pn	Pn	11 06 20.7	+0.3
KCP				*i* S		Sn	Sn	11 07 09.5	+11
TNTI	Ternate	3.37	168	Pn		Pn	Pn	11 06 20.7	-0.6
TNTI	Ternate	3.37	168	P		Pn	Pn	11 06 21.3	0.0
TNTI	Ternate	3.37	168	P		Pn	Pn	11 06 21.7	+0.4
CTBH	Cotabato--PC H	3.93	322	*e*P		Pn	Pn	11 06 29.4	+0.3
CTBH				*i* S		Sn	Sn	11 07 22.8	+8.8
BIPH	Bislig	4.08	356	*e*P		Pn	Pn	11 06 32.1	+0.9
BIPH				*e*S		Sn	Sn	11 07 34.4	+17
KMSI	Cibinong	4.40	218	P		Pn	Pn	11 06 37.1	+1.6
CGP	Cagayan de Oro	4.76	336	*e*P		Pn	Pn	11 06 41.8	+1.4
LBMI	Labuha	4.77	170	P		Pn	Pn	11 06 41.6	+1.0
BUTP	Butuan	4.96	348	*e*P		Pn	Pn	11 06 51.6	+8.4
PAGZ	Pagadian	4.96	319	*e*P		Pn	Pn	11 06 44.0	+0.8
GTOI	Gorontalo	5.00	227	P		Pn	Pn	11 06 44.9	+1.1
	0.7nm2μm217nm,0.8s								
ZCP	Zamboanga City	5.37	302	*e*P		Pn	Pn	11 06 49.2	+0.4
ZCP				*e*S		Sn	Sn	11 07 52.0	+2.5
GLSP	General Luna,	5.69	355	*e*P		Pn	Pn	11 06 56.7	+3.6
MRSI	Marisa	5.92	233	P		Pn	Pn	11 06 58.1	+1.7
	2.7nm7μm677nm,0.5s								
SANI	Sanana	6.13	186	P		Pn	Pn	11 06 57.5	-1.8
	0.6nm2μm99nm,0.8s								
SANI	Sanana	6.13	186	P		Pn	Pn	11 06 59.3	0.0
TBP	Tagbilaran	6.22	334	*e*P		Pn	Pn	11 07 00.3	-0.2
TBP				*i* S		Sn	Sn	11 08 26.2	+16
SNPH	Sibulan	6.23	327	*e*P		Pn	Pn	11 07 03.2	+2.5
MSLP	Maasin	6.27	344	*e*P		Pn	Pn	11 07 05.6	+4.4
LUWI	Luwuk	6.41	217	P		Pn	Pn	11 07 04.4	+1.3
	4.5nm12μm1μm,0.8s								
LUWI	Luwuk	6.41	217	P		Pn	Pn	11 07 05.3	+2.2
TOLI2	Tolitoli	6.58	243	Pn		Pn	Pn	11 07 04.5	-0.9
SWI	Sorong	6.73	137	P		Pn	Pn	11 07 07.8	+0.3
SWI				pmax		pmax			
	comp=Z,173nm,0.7s								
SWI	Sorong	6.73	137	P		Pn	Pn	11 07 07.2	-0.3
	comp=Z,0.6nmcomp=Z,3μmcomp=Z,2μmcomp=Z,175nm,0.7s								
SIJI	Sorong	6.74	137	Pn		Pn	Pn	11 07 08.0	+0.4
	comp=Z,21nm,0.3s,baz=325,slow=14,SNR=45								
SIJI				Sn		Sn	Sn	11 08 24.9	+1.7
	comp=Z,5.6nm,0.3s,baz=197,slow=23,SNR=6.5								
SIJI				LR		LR		11 10 06.9	
	comp=Z,2μm,19.0s,baz=320,slow=41								
LLP	Lapu-Lapu	6.74	337	*e*P		Pn		11 07 12.0	+4.3
LLP				*e*S		Sn		11 08 41.0	+18
APSI	Ampana	7.05	225	P		Pn		11 07 15.8	+3.9
	comp=Z,1.8nmcomp=Z,5μmcomp=Z,533nm,0.9s								
OCLP	Ormoc	7.21	344	*e*P		Pn		11 07 20.5	+6.4
MPSI	Mapaga	7.71	241	P		Pn	Pn	11 07 21.4	+0.4
	comp=Z,0.8nmcomp=Z,1μmcomp=Z,112nm,1.0s								
MSAI	Masohi	7.72	163	P		Pn	Pn	11 07 22.3	+1.1
	comp=Z,0.1nmcomp=Z,18nm,0.6s								
AAI	Ambon	7.87	169	P		Pn	Pn	11 07 23.1	-0.1
	comp=Z,0.5nmcomp=Z,126nm,0.8s								
MYLDM	Lahad Datu	8.21	278	Pn		Pn		11 07 27.1	-0.7
RCP	Roxas	8.38	333	*e*P		Pn	Pn	11 07 32.0	+1.9
I39PW	PALAU INFRASON	8.56	66	*i*				11 57 40.0	
	baz=241,slow=290,SNR=0.3								
PVCP	Virac	9.77	345	*e*P		Pn		11 07 55.0	+5.8
TTSI	Tana Toraja	9.85	224	P		Pn	Pn	11 07 51.1	+0.8
	comp=Z,2μmcomp=Z,179nm,1.2s								
SJMP	San Jose	9.96	327	*e*P		Pn	Pn	11 07 55.9	+4.1
BATP	Bataraza	9.97	298	*e*P		Pn	Pn	11 07 52.6	+0.7
SPMM	Sapulut	10.19	274	P		Pn	Pn	11 07 58.0	+3.0
KMPI	Kaimana, Papua	10.43	137	P		Pn	Pn	11 07 57.5	-0.8
	comp=Z,3μm,0.6s								
SPSI	Sidrap Palu	10.55	221	P		Pn	Pn	11 08 01.3	+1.3
	comp=Z,701nmcomp=Z,71nm,0.9s								
KKM	Kota Kinabalu	10.59	281	P		Pn	Pn	11 08 03.7	+3.2
BNSI	Bone	10.68	218	P		Pn	Pn	11 08 03.1	+1.5
	comp=Z,790nmcomp=Z,78nm,0.9s								
BAKI	Biak	10.80	119	P		Pn	Pn	11 08 04.6	+1.3
	comp=Z,180nm,0.9s								
LQP	Lukban	11.17	333	*e*P		Pn		11 08 13.7	+5.1
KAPI	Kappang	11.37	217	Pn		Pn	Pn	11 08 14.2	+3.1
	comp=Z,3.3nm,0.3s,baz=33,slow=8.3,SNR=6.2								
KAPI				LR		LR		11 13 08.5	
	comp=Z,784nm,19.2s,baz=42,slow=41								
KAPI	Kappang	11.37	217	*e*P		Pn	Pn	11 08 11.9	+0.7
KAPI	Kappang	11.37	217	P		Pn	Pn	11 08 12.4	+1.2
BKSI	Bukumbma	11.40	215	P		Pn	Pn	11 08 13.3	+1.7
	comp=Z,471nmcomp=Z,37nm,0.9s								
LUBP	Lubang	11.49	327	*e*P		Pn	Pn	11 08 16.0	+3.3
BSSI	Bau Bau, Buton	11.88	211	P		Pn	Pn	11 08 20.6	+2.4
	comp=Z,564nmcomp=Z,63nm,0.8s								
MTKI	Muara Teweh, K	12.77	247	P		Pn	Pn	11 08 31.6	+1.2
	comp=Z,61nm,0.9s								
SMPP	San Manuel, Pa	13.35	334	*e*P		P	Pn	11 08 45.6	-1.4
MMRI	Maumere	13.39	199	Pn		Pn	Pn	11 08 37.5	-1.2
MMRI	Maumere	13.39	199	P		Pn	Pn	11 08 40.2	+1.5
	comp=Z,3μmcomp=Z,290nm,0.8s								
MMRI	Maumere	13.39	199	P		Pn	Pn	11 08 40.0	+1.3
BBKI	Banjar Baru	13.39	238	P		P	Pn	11 08 53.3	-0.8
	comp=Z,4μmcomp=Z,129nm,0.8s								
BATI	Baumata	14.51	192	Pn		Pn	Pn	11 08 56.7	+2.7
	comp=Z,4.5nm,0.3s,baz=294,slow=3.0,SNR=5.9								
BATI	Baumata	14.51	192	P		P	Pn	11 08 57.5	-2.4
	comp=Z,66nm,0.6s								
WBSI	Waikabubak, Su	15.44	208	P		Pn	Pn	11 09 07.7	+1.4
	comp=Z,4μmcomp=Z,576nm,0.8s								
JAY	Jayapura	15.49	115	Pn		P	Pn	11 09 10.4	-0.5
	comp=Z,1.0nm,0.3s,baz=303,slow=6.4,SNR=4.4								
JAY				LR		LR		11 14 11.3	
	comp=Z,672nm,18.7s,baz=295,slow=34								
JAY	Jayapura	15.49	115	P		Pn	Pn	11 09 06.4	-0.6
	comp=Z,27nm,1.1s								
PLAI	Plampang	15.59	215	P		Pn	Pn	11 09 10.0	+1.8
	comp=Z,2μmcomp=Z,305nm,0.8s								
PLAI	Plampang	15.59	215	P		P	P	11 09 11.1	-0.8
PBKI	Pangkalan Bun	16.43	246	P		P	P	11 09 22.9	+1.7
	comp=Z,3μmcomp=Z,355nm,1.0s								
KSM	Kuching	16.54	261				P	11 09 22.9	+0.4
KSM				IAmb		IAmb	IAmb	11 09 26.7	
	comp=Z,104nm,0.7s								
KSM	Kuching	16.54	261	P		P	P	11 09 25.0	+2.6
KSM	Kuching	16.54	261	P		P	P	11 09 24.0	+1.6
IGBI	Denpasar	17.21	222	P		P	P	11 09 30.6	+0.8
	comp=Z,2μmcomp=Z,141nm,0.5s								
MTN	Manton Dam	17.40	165	P		Pn	P	11 09 28.4	-2.5
	baz=17,SNR=41								
MTN	Manton Dam	17.40	165	Pn		Pn	Pn	11 09 28.6	-2.4
MTN	Manton Dam	17.40	165	P		P	Pn	11 09 28.6	-2.4
KDU	Kakadu	17.64	161	P		Pn	Pn	11 09 31.6	-2.3
	baz=18,SNR=42								
KDU	Kakadu	17.64	161	P		Pn	Pn	11 09 31.7	-2.2
JAGI	Jajag, Banyuwa	17.64	225				P	11 09 35.5	+0.8
JAGI				IAmb		IAmb	IAmb	11 09 39.7	
	comp=Z,100nm,0.6s								
JAGI	Jajag, Banyuwa	17.64	225	P		P	Pn	11 09 35.6	+1.0
	comp=Z,2μmcomp=Z,140nm,0.7s								
JAGI	Jajag, Banyuwa	17.64	225	P		P	P	11 09 36.4	+1.8
GRJI	Gresik	17.88	232	P		P	P	11 09 38.6	+1.3
	comp=Z,77nm,0.7s								
GMJI	Gumukmas	18.02	227	P		P	P	11 09 39.6	+0.9
	comp=Z,1μmcomp=Z,130nm,1.1s								
PWJI	Pagerwojo	19.09	231	P		P	P	11 09 48.8	-1.7
	comp=Z,94nm,0.7s								
TWG	Pinlang	19.39	344	P		P	P	11 09 52.2	-1.7
PCJI	Pacitan	19.68	232	P		P	P	11 09 57.8	+0.8
	comp=Z,103nm,0.6s								
KNRA	Kununurra	19.75	174	P		P	P	11 09 57.1	-0.6
	baz=20,SNR=60								
KNRA	Kununurra	19.75	174	P		P	P	11 09 56.6	-1.1
KNRA				IAmb		IAmb	IAmb	11 10 14.5	
	comp=Z,110nm,0.8s								
KNRA	Kununurra	19.75	174	P		P	P	11 09 58.0	+0.3
YULB	Yu-li	19.88	345	P		P	P	11 09 58.5	-0.6
TPUB	Ta-pu	19.97	344	P		P	P	11 10 00.1	-0.1
TPUB				IAmb		IAmb	IAmb	11 10 11.8	
	comp=Z,77nm,0.9s								
TPUB	Ta-pu	19.97	344	P		P	Pn	11 10 02.5	+0.4
YOGI	Yogyakarta	20.16	234	P		P	P	11 10 03.3	+1.0
	comp=Z,259nm,0.7s								
GUMO	Guam	20.30	61	P		Pn		11 10 06.7	+0.7
	comp=Z,96nm,0.8s,baz=181,slow=16,SNR=3.6								
GUMO				LR		LR	LR	11 17 30.2	
	comp=Z,243nm,19.4s,baz=226,slow=36								
SSLB	Suanglung	20.35	345	P		P	P	11 10 03.6	-0.6
NACB	Ninganchiao	20.56	347	P		P	P	11 10 05.9	-0.6
KPJI	Karang Pucung	21.02	237	P		P	P	11 10 12.6	+1.1
	comp=Z,227nm,0.8s								
JCJI	Jatiwangi	21.16	240	P		P	P	11 10 15.3	+2.3
	comp=Z,253nm,0.4s								
PPBI	Pangkal Pinang	21.43	254	P		P	P	11 10 16.3	+0.3
	comp=Z,10μmcomp=Z,18nm,0.7s								
CMJI	Cimerak	21.66	237	P		P	P	11 10 17.3	-1.1
	comp=Z,112nm,0.9s								
LEM	Lembang	21.88	240	P		P	P	11 10 21.7	+0.7
	comp=Z,123nm,0.8s,baz=13,slow=7.6,SNR=16								
LEM				LR		LR		11 19 36.8	
	comp=Z,253nm,20.4s,baz=54,slow=39								
LEM	Lembang	21.88	240	P		P	P	11 10 21.8	+0.7
	comp=Z,83nm,0.8s								
FITZ	Fitzroy Crossi	22.07	183	P		P	P	11 10 22.0	-0.7
	comp=Z,15nm,0.5s,baz=18,slow=9.5,SNR=36								
FITZ				S		S	S	11 14 22.4	-1.5
	comp=Z,12

PSAD1 IAmb IAmb 11 11 04.7
comp=Z,75nm,1.1s
PSAA2 Pilbara Seismi 26.35 194 P **P** **11 11 03.5 -0.1**
PSAA2 IAmb IAmb 11 11 05.6
comp=Z,111nm,1.2s
PSA00 Pilbara Seismi 26.36 194 P **P** **11 11 03.5 -0.1**
PSA00 Pilbara Seismi 26.36 194 P **P** **11 11 05.5 +1.8**
PSAA1 Pilbara Seismi 26.37 194 P **P** **11 11 03.3 -0.4**
PSAA1 IAmb IAmb 11 11 05.8
comp=Z,119nm,1.2s
PPI Padang Panjang 26.63 261 P **P** **11 11 06.4 +0.2**
MNSI Mandailing Nat 27.25 264 P **P** **11 11 11.3 -0.5**
comp=Z,42nm,1.0s
SRIT Nakonsritamara 27.26 281 P **P** **11 11 11.6 -0.3**
JCJ Chichijima 27.27 31 LR LR 11 21 07.1
comp=Z,199nm,20.6s,baz=134,slow=34
QIS Mount Isa 27.59 153 P **P** **11 11 14.7 -0.1**
baz=28,SNR=50
QIS Mount Isa 27.59 153 P **P** **11 11 15.3 +0.5**
PSI Prapat 27.72 268 P **P** **11 11 15.7 -0.4**
comp=Z,28nm,0.9s,baz=65,slow=2.0,SNR=17
PSI LR LR 11 24 25.7
comp=Z,184nm,19.8s,baz=92,slow=41
RPSI Rantau Prapat 27.72 268 P **P** **11 11 15.7 -0.3**
MTSU Mount Surprise 28.12 142 P **P** **11 11 19.4 -0.2**
baz=28,SNR=7.3
MTSU Mount Surprise 28.12 142 P **P** **11 11 22.2 +2.7**
AS16 Alice Springs 28.45 166 P **P** **11 11 22.0 -0.5**
AS31 Alice Springs 28.47 166 P **P** **11 11 22.4 -0.3**
ASAR Alice Springs 28.47 166 P **P** **11 11 22.1 -0.5**
comp=Z,6.6nm,0.5s,baz=343,slow=6.9,SNR=56
ASAR PcP **PcP** **11 14 35.1 +1.0**
comp=Z,2.1nm,0.8s,baz=18,slow=3.9,SNR=2.9
ASAR S S 11 16 26.5 +19
comp=Z,3.8nm,0.8s,baz=346,slow=20,SNR=4.7
ASAR Alice Springs 28.47 166 P **P** **11 11 21.7 -0.9**
AS03 Alice Springs 28.49 166 P **P** **11 11 21.4 -1.4**
AS10 Alice Springs 28.51 166 P **P** **11 11 22.6 -0.3**
NJ2 Nanjing 28.77 346 *eP* **P** **11 11 27.3 +2.2**
NJ2 pmax pmax
comp=Z,13nm,0.6s
WHN Wuhan 28.77 338 ⇓P **P** **11 11 24.9 -0.2**
WHN S **S** **11 16 04.4 -7.6**
WHN LR LR
comp=Z,2µm,18.8s
WRKA Warakurna 28.99 177 P **P** **11 11 26.9 -0.4**
baz=29,SNR=30
WRKA Warakurna 28.99 177 P **P** **11 11 27.1 -0.1**
GSI Gunungsitoli 29.18 265 P **P** **11 11 27.5 -1.5**
GSI IAmb IAmb 11 11 30.0
comp=Z,51nm,0.9s
CM10 Chiang Mai Arr 30.57 300 P **P** **11 11 41.0 -0.3**
CM06 Chiang Mai Arr 30.62 300 P **P** **11 11 41.4 -0.3**
CM31 Chiang Mai Arr 30.63 300 P **P** **11 11 40.9 -1.0**
CMAR Chiang Mai Arr 30.63 300 P **P** **11 11 42.2 +0.3**
comp=Z,9.7nm,0.9s,baz=115,slow=7.2,SNR=56
CMAR ScP **ScP** **11 18 23.9 +4.6**
comp=Z,2.0nm,0.9s,baz=128,slow=1.3,SNR=12
CMAR Chiang Mai Arr 30.63 300 *i*P **P** **11 11 42.5 +0.6**
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 30.63 300 P **P** **11 11 41.1 -0.7**
ENH Enshi 30.69 330 P **P** **11 11 41.7 -0.5**
ENH IAmb IAmb 11 11 42.6
comp=Z,26nm,0.7s
CHTO Chiang Mai 30.78 301 P **P** **11 11 43.0 -0.2**
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 30.78 301 P **P** **11 11 43.0 -0.2**
CHTO Chiang Mai 30.78 301 P **P** **11 11 45.0 +1.8**
CHTO Chiang Mai 30.78 301 P **P** **11 11 43.9 +0.8**
CTAO Charters Tower 30.79 142 P **P** **11 11 44.8 +1.6**
CTAO pP **pP** **11 11 53.6 -0.7**
KMI Kunming 31.08 315 ⇓P **P** **11 11 47.5 +1.5**
KMI pmax pmax
comp=Z,12nm,1.1s
JHJ Hachijo jima 2 31.38 21 LR LR 11 23 58.0
comp=Z,249nm,20.3s,baz=261,slow=36
MEEK Meekatharra 31.52 194 P **P** **11 11 49.9 +0.3**
baz=32,SNR=9.4
MEEK Meekatharra 31.52 194 P **P** **11 11 49.8 +0.3**
TJN Taejon 32.14 1 ⇓*eP* **P** **11 11 53.8 -1.1**
INU Inuyama 32.55 16 P **P** **11 11 57.1 -1.4**
INU IAmb IAmb 11 11 58.1
comp=Z,20nm,0.8s
INU Inuyama 32.55 16 P **P** **11 11 57.4 -1.1**
INU pP **pP** **11 12 06.8 -2.8**
PZH PanZhiHua 32.64 316 P **P** **11 12 02.3 +2.7**
PZH pP **pwP** **11 12 14.9 +4.5**
PZH PcP **PcP** **11 14 46.5 +1.4**
PZH S **S** **11 17 13.8 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,130nm,5.6s
PZH LR LR
comp=Z,740nm,20.8s
PZH LR LR
comp=Z,620nm,19.8s
PZH LR LR
comp=Z,770nm,21.0s
OOD Oodnadatta 32.87 165 P **P** **11 12 01.8 +0.5**
LYN LuoYang 33.05 338 ⇓P **P** **11 12 02.6 -0.3**
LYN pmax pmax
comp=Z,20nm,0.9s
LYN LR LR
comp=Z,430nm,20.0s
LYN LR LR
comp=Z,450nm,16.9s
LYN LR LR
comp=Z,580nm,20.4s
TIA Tai'an 33.16 346 ⇑P **P** **11 12 04.1 +0.3**
TIA pmax pmax
comp=Z,15nm,1.1s
KS15 Wonju Array Si 33.22 2 P **P** **11 12 04.3 0.0**
KS13 Wonju Array Si 33.22 2 P **P** **11 12 04.5 +0.2**
KSRS Korea Array 33.23 2 P **P** **11 12 03.8 -0.6**
comp=Z,7.0nm,0.8s,baz=177,slow=9.7,SNR=20
KSRS PcP **PcP** **11 14 47.5 +1.2**
comp=Z,2.8nm,0.7s,baz=186,slow=2.3,SNR=7.5
KS11 Wonju Array Si 33.26 2 P **P** **11 12 04.3 -0.4**
KS19 Wonju Array Si 33.27 2 P **P** **11 12 04.3 -0.5**
KS19 Wonju Array Si 33.27 2 P **P** **11 12 04.7 -0.1**
MJAR Matsushiro Arr 34.00 17 LR LR 11 25 58.8
comp=Z,306nm,20.2s,baz=212,slow=36
MAJO Matsushiro 34.00 17 P **P** **11 12 10.5 -0.7**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 34.00 17 P **P** **11 12 10.5 -0.7**
XAN Xi'an 34.07 333 P **P** **11 12 10.8 -1.0**
XAN pP pP 11 12 22.8 +0.4
XAN S **S** **11 17 31.0 -3.9**
XAN pmax pmax
comp=Z,68nm,0.8s
XAN LR LR
comp=Z,440nm,15.8s
XAN LR LR
comp=Z,350nm,14.1s
XAN LR LR
comp=Z,720nm,18.6s
XAN Xi'an 34.07 333 P **P** **11 12 10.6 -1.2**
XAN pP **pP** **11 12 17.7 -4.7**
CD2 Chengdu 34.32 324 P **P** **11 12 13.8 -0.2**
CD2 S **S** **11 17 39.5 +0.7**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,630nm,14.5s
CD2 LR LR
comp=Z,530nm,18.7s
INKA Innaminka 34.44 158 P **P** **11 12 15.7 +0.7**
MORW Morawa 34.51 197 P **P** **11 12 15.7 +0.1**
baz=35,SNR=7.8
MORW Morawa 34.51 197 P **P** **11 12 15.9 +0.3**
MORW IAmb IAmb 11 12 39.5
comp=Z,21nm,1.1s
MORW Morawa 34.51 197 P **P** **11 12 16.9 +1.3**
FORT Forrest 34.70 178 P **P** **11 12 16.9 -0.3**
baz=35,SNR=19
FORT Forrest 34.70 178 P **P** **11 12 16.7 -0.5**
FORT Forrest 34.70 178 P **P** **11 12 17.4 +0.2**
MULG Mulgathing 34.90 169 P **P** **11 12 19.1 +0.1**
QLP Quilpie 34.91 152 P **P** **11 12 18.8 -0.3**
baz=35,SNR=11
QLP Quilpie 34.91 152 P **P** **11 12 19.4 +0.3**

HNS HongShan 34.92 343 ⇓P **P** **11 12 19.1 +0.1**
HNS *eS* **S** **11 17 49.9 +2.2**
HNS pmax pmax
comp=Z,13nm,1.0s
HNS LR LR
comp=Z,200nm,15.9s
HNS LR LR
comp=Z,260nm,19.2s
DL2 Dalian 34.96 353 P **P** **11 12 20.4 +1.0**
DL2 pmax pmax
comp=Z,50nm,1.2s
JSD Sado 35.41 16 P **P** **11 12 22.2 -1.1**
BLDU Ballidu 35.79 195 P **P** **11 12 26.2 -0.5**
baz=36,SNR=16
BLDU Ballidu 35.79 195 P **P** **11 12 26.5 -0.2**
RK1H Rockhampton Ha 35.86 141 P **P** **11 12 28.5 +1.2**
comp=Z,93nm,0.9s
JMM Marumori 36.02 19 P **P** **11 12 27.5 -1.0**
JMM IAmb IAmb 11 12 28.3
comp=Z,33nm,0.8s
LCRK Leigh Creek 36.07 163 P **P** **11 12 29.9 +0.9**
KLBR Kellerberrin 36.48 193 P **P** **11 12 32.4 -0.1**
baz=37,SNR=16
KLBR Kellerberrin 36.48 193 P **P** **11 12 33.3 +0.8**
BJT Baijiatuan 37.01 347 P **P** **11 12 35.8 -1.1**
BJT pmax pmax
comp=Z,23nm,0.8s
BJT Baijiatuan 37.01 347 P **P** **11 12 35.8 -1.1**
BJT IAmb IAmb 11 12 38.6
comp=Z,22nm,0.8s
BJT Baijiatuan 37.01 347 P **P** **11 12 37.8 +0.9**
BJI Beijing 37.03 347 P **P** **11 12 36.6 -0.4**
BJI pmax pmax
comp=Z,28nm,0.8s
RMQ Roma 37.16 146 P **P** **11 12 38.8 +0.4**
baz=37,SNR=6.6
RMQ Roma 37.16 146 P **P** **11 12 39.0 +0.6**
comp=Z,21nm,1.1s
MUN Mundaring 37.22 195 P **P** **11 12 38.8 +0.1**
baz=37,SNR=9.7
EIDS Eidsvold 37.67 142 P **P** **11 12 42.9 +0.2**
baz=38,SNR=12
EIDS Eidsvold 37.67 142 P **P** **11 12 43.1 +0.3**
EIDS Eidsvold 37.67 142 P **P** **11 12 43.3 +0.6**
SNY Shenyang 37.68 356 ⇓P **P** **11 12 43.3 +0.8**
SNY pmax pmax
comp=Z,32nm,0.7s
BBOO Buckleboo 37.76 167 P **P** **11 12 43.3 -0.1**
baz=38,SNR=88
BBOO Buckleboo 37.76 167 P **P** **11 12 43.2 -0.1**
BBOO IAmb IAmb 11 12 44.2
comp=Z,50nm,1.0s
BBOO Buckleboo 37.76 167 P **P** **11 12 43.5 +0.1**
NWAO Narrogin (SRO) 37.88 193 P **P** **11 12 44.6 +0.2**
LZH Lanzhou 38.16 329 ⇓P **P** **11 12 47.3 +0.3**
LZH pP pP 11 12 59.3 +1.7
LZH sP sP 11 13 04.1 +1.9
LZH pmax pmax
comp=Z,67nm,1.1s
LZH pmax pmax
comp=Z,180nm,5.2s
LZH LR LR
comp=Z,590nm,13.2s
LZH LR LR
comp=Z,440nm,13.5s
LZH LR LR
comp=Z,590nm,15.0s
WHYH Whyalla 38.34 165 P **P** **11 12 48.6 +0.4**
comp=Z,43nm,0.9s
STKA Stephens Creek 38.48 159 P **P** **11 12 50.0 +0.5**
comp=Z,79nm,0.8s,baz=332,slow=8.7,SNR=111
STKA Stephens Creek 38.48 159 P **P** **11 12 50.0 +0.5**
baz=39,SNR=82
STKA Stephens Creek 38.48 159*c iP* **P** **11 12 49.5 0.0**
STKA Stephens Creek 38.48 159 P **P** **11 12 49.7 +0.2**
STKA IAmb IAmb 11 12 51.2
comp=Z,22nm,0.9s
STKA Stephens Creek 38.48 159 P **P** **11 12 50.5 +1.0**
MSHR Mys Shultsa 38.54 5 ⇓*iP* **P** **11 12 50.6 +0.8**
MSHR pmax pmax
comp=Z,16nm,1.1s
NAPP Napperby 38.63 164 P **P** **11 12 51.7 +1.0**
comp=Z,29nm,0.8s
HHC Hu-ho-hao-te 39.04 342 *eP* **P** **11 12 56.0 +1.8**
HHC S **S** **11 18 51.8 +1.1**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,170nm,4.7s
HHC LR LR
comp=Z,230nm,14.6s
HHC LR LR
comp=Z,160nm,14.0s
HHC LR LR
comp=Z,340nm,14.0s
HTT Hallett 39.08 164 P **P** **11 12 55.0 +0.6**
baz=39,SNR=14
HTT Hallett 39.08 164 P **P** **11 12 55.4 +0.9**
BTO Baotou 39.33 340 *eP* P 11 13 00.8 +4.2
BTO S **S** **11 19 03.3 +8.3**
BTO LR LR
comp=Z,960nm,16.7s
BTO LR LR
comp=Z,830nm,9.8s
CN2 Changchun 39.56 359 *eP* **P** **11 12 58.8 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
SHL Shillong 39.61 306 P **P** **11 12 58.6 -0.7**
SHL pmax pmax
comp=Z,75nm,0.8s
SHL Shillong 39.61 306 P **P** **11 12 58.6 -0.7**
CMSA Cobar Meteorol 39.80 154 P **P** **11 13 00.9 +0.5**
baz=40,SNR=28
CMSA Cobar Meteorol 39.80 154 P **P** **11 13 01.1 +0.6**
USB3 Ussuriysk Arra 40.21 6 P **P** **11 13 03.4 -0.2**
USA3 Ussuriysk Arra 40.22 6 P **P** **11 13 04.5 +0.7**
USA0B Ussuriysk Arra 40.22 6 P **P** **11 13 04.0 +0.2**
USA0B pmax pmax
comp=Z,35nm,1.4s
USA0B Ussuriysk Arra 40.22 6 P **P** **11 13 04.0 +0.2**
USA0B IAmb IAmb 11 13 18.6
comp=Z,35nm,1.4s
USRK Ussuriysk Ar. 40.22 6 P **P** **11 13 03.7 -0.1**
comp=Z,6.9nm,0.8s,baz=201,slow=6.3,SNR=15
USRK LR LR 11 32 51.5
comp=Z,100nm,18.0s,baz=170,slow=41
USRK Ussuriysk Ar. 40.22 6 P **P** **11 13 04.3 +0.5**
USRK Ussuriysk Ar. 40.22 6 P **P** **11 13 04.2 +0.5**
MDJ Mudanjiang 40.45 3 P **P** **11 13 05.9 +0.2**
MDJ Mudanjiang 40.45 3 P **P** **11 13 05.8 +0.2**
MDJ pmax pmax
comp=Z,15nm,1.3s
MDJ pmax pmax
comp=Z,150nm,3.5s
MDJ Mudanjiang 40.45 3 P **P** **11 13 09.6 +3.9**
comp=Z,24nm,0.9s
MDJ Mudanjiang 40.45 3 P P 11 13 12.2 +6.5
TWOA Tennyson Woods 40.49 165 P **P** **11 13 07.1 +0.9**
comp=Z,68nm,0.8s
XLT XiLinHaoTe 40.74 348 ⇓*iP* **P** **11 13 08.8 +0.6**
XLT sP sP 11 13 27.1 +3.1
XLT pmax pmax
comp=Z,35nm,0.9s
XLT pmax pmax
comp=Z,140nm,3.5s
BNX BinXian 41.49 1 ⇓P **P** **11 13 15.1 +0.8**
BNX pmax pmax
comp=Z,13nm,0.7s
BNX pmax pmax
comp=Z,210nm,3.5s
H11S3 WAKE ISLAND Hy 41.65 67 T T 11 57 37.7
baz=252,slow=74,SNR=17
H11S1 WAKE ISLAND Hy 41.67 67 T T 11 57 44.1
baz=252,slow=74,SNR=8.9
H11S2 WAKE ISLAND Hy 41.67 67 T T 11 57 42.7
baz=252,slow=74,SNR=12
ARMA Armidale 41.80 147 P **P** **11 13 18.0 +0.9**
baz=42,SNR=36
ARMA Armidale 41.80 147 P **P** **11 13 18.0 +0.9**
ARMA Armidale 41.80 147 P **P** **11 13 18.0 +0.9**
H11N1 WAKE ISLAND Hy 42.17 65 T T 11 58 34.0
baz=248,slow=75,SNR=6.0
H11N2 WAKE ISLAND Hy 42.18 65 T T 11 58 34.2
baz=248,slow=75,SNR=5.4
H11N3 WAKE ISLAND Hy 42.19 65 T T 11 58 35.6
baz=248,slow=75,SNR=5.6

ASAJ Asahikawa 42.27 17 P **P** **11 13 20.7 0.0**
comp=Z,24nm,1.0s,baz=238,slow=7.9,SNR=6.0
ASAJ LR LR 11 31 01.9
comp=Z,248nm,20.8s,baz=200,slow=36
ASAJ Asahikawa 42.27 17 P **P** **11 13 20.7 0.0**
ASAJ pmax pmax
comp=Z,309nm,1.9s
JKA Kamikawa-asahi 42.27 17 P **P** **11 13 20.7 0.0**
GTA Gaotai 42.76 329 ⇓P **P** **11 13 24.4 -0.5**
GTA pP pP 11 13 37.5 +1.9
GTA sP sP 11 13 44.6 +4.4
GTA pmax pmax
comp=Z,11nm,0.9s
GTA pmax pmax
comp=Z,120nm,4.4s
GTA LR LR
comp=Z,270nm,18.3s
GTA LR LR
comp=Z,360nm,21.5s
GTA LR LR
comp=Z,430nm,17.9s
ARPS Mount Arapiles 43.04 162 P **P** **11 13 28.1 +1.2**
baz=43,SNR=49
ARPS Mount Arapiles 43.04 162 P **P** **11 13 28.2 +1.2**
GOMU GeErMu 43.37 322 P **P** **11 13 30.9 +0.8**
GOMU pmax pmax
comp=Z,10.0nm,1.2s
GOMU pmax pmax
comp=Z,93nm,6.7s
GOMU LR LR
comp=Z,220nm,16.7s
GOMU LR LR
comp=Z,230nm,17.3s
GOMU LR LR
comp=Z,190nm,16.9s
TAPN Taplejung 43.75 306 *eP* **P** **11 13 33.2 -0.1**
ODAN Odare 43.81 305 *eP* **P** **11 13 33.6 -0.1**
comp=Z,53nm,0.7s
SYDH Sydney Hard Ro 43.99 151 P **P** **11 13 37.0 +2.4**
comp=Z,31nm,0.9s
BRAT Ballarat 44.43 160 P **P** **11 13 40.0 +1.9**
comp=Z,16nm,0.9s
CAN Canberra 44.46 154 P **P** **11 13 39.5 +1.0**
CAN pmax pmax
comp=Z,121nm,1.1s
CAN Canberra 44.46 154 P **P** **11 13 39.5 +1.0**
CAN Canberra 44.46 154 P **P** **11 13 39.2 +0.7**
CAN Canberra 44.46 154 ⇓P **P** **11 13 40.2 +1.7**
RAMN Ramite 44.49 305 *eP* **P** **11 13 39.3 +0.1**
comp=Z,19nm,0.6s
CNB Canberra Magne 44.62 153 P **P** **11 13 39.9 +0.1**
baz=45,SNR=14
CNB Canberra Magne 44.62 153 P **P** **11 13 41.8 +2.0**
comp=Z,64nm,1.1s
YSS Yuzh-Sakhalins 44.92 16 P **P** **11 13 42.5 +0.6**
TOO Toolangi 44.99 159 P **P** **11 13 42.7 0.0**
baz=45,SNR=8.2
TOO Toolangi 44.99 159 P **P** **11 13 43.8 +1.1**
TOO pmax pmax
comp=Z,52nm,1.3s
TOO Toolangi 44.99 159 P **P** **11 13 43.8 +1.1**
TOO IAmb IAmb 11 13 46.0
comp=Z,52nm,1.2s
TOO Toolangi 44.99 159 P **P** **11 13 44.0 +1.3**
JIRN Jiri 45.11 306 *eP* **P** **11 13 44.0 -0.2**
comp=Z,12nm,0.9s
KLR Kul'dur 45.19 5 P **P** **11 13 43.1 -0.9**
comp=Z,7.7nm,0.9s,baz=200,slow=4.7,SNR=8.6
KLR Kul'dur 45.19 5 ⇓*eP* **P** **11 13 43.6 -0.4**
KLR pmax pmax
comp=Z,10.0nm,1.0s
HIA Hailar 45.40 354*d iP* **P** **11 13 46.9 +1.1**
HIA pmax pmax
comp=Z,18nm,1.0s
HIA Hailar 45.40 354 P **P** **11 13 46.1 +0.3**
HIA IAmb IAmb 11 13 55.3
comp=Z,30nm,1.0s
GUN Gumba 45.46 306 *eP* **P** **11 13 46.8 -0.2**
comp=Z,32nm,0.6s
PALK Pallekele 45.83 276 ⇓*eP* **P** **11 13 49.9 +0.2**
PALK pmax pmax
comp=Z,10.0nm,0.9s
PALK Pallekele 45.83 276 P **P** **11 13 50.1 +0.4**
KKN Kakani 45.90 305 *eP* **P** **11 13 49.9 -0.4**
DMN Daman 45.97 305 *eP* **P** **11 13 50.2 -0.7**
GKN Gorkha 46.51 305 *eP* **P** **11 13 54.2 -0.8**
ULN Ulaanbaatar 46.76 342*ceP* **P** **11 13 56.4 -0.2**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 46.76 342 P **P** **11 13 56.9 +0.2**
ULN Ulaanbaatar 46.76 342 P **P** **11 13 57.2 +0.6**
ULN pP **pP** **11 14 06.4 -1.6**
DZM Mont Dzumac 46.80 125 LR LR 11 33 28.4
comp=Z,142nm,18.8s,baz=204,slow=36
DZM Mont Dzumac 46.80 125 P **P** **11 13 58.0 +0.8**
DZM IAmb IAmb 11 14 07.9
comp=Z,20nm,0.9s
LIFNC LIFOU 46.84 123 P **P** **11 13 58.1 +0.6**
SONB3 Songino Array 46.93 341 P **P** **11 13 57.3 -0.7**
SONM Songino Array 46.94 341 P **P** **11 13 57.6 -0.4**
comp=Z,6.3nm,0.9s,baz=159,slow=9.5,SNR=13
SONM LR LR 11 34 47.3
comp=Z,169nm,20.0s,baz=300,slow=38
SONM Songino Array 46.94 341 P **P** **11 13 58.0 0.0**
SONM pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 46.94 341 P **P** **11 13 58.0 0.0**
SONA4 Songino Array 46.94 341 P **P** **11 13 58.3 +0.3**
SONB4 Songino Array 46.95 341 P **P** **11 13 58.2 +0.1**
SONB5 Songino Array 46.97 341 P **P** **11 13 57.7 -0.5**
YATNC Mamie plateau, 47.15 125 P **P** **11 14 02.5 +2.6**
comp=Z,30nm,1.2s
KOLN Koldanda 47.27 305 *eP* **P** **11 14 00.3 -0.7**
comp=Z,62nm,0.7s
DANN Dangsing 47.35 305 *eP* **P** **11 14 01.5 -0.3**
comp=Z,82nm,0.7s
PYUN Piuhan 47.89 305 *eP* **P** **11 14 05.5 -0.3**
comp=Z,65nm,0.9s
HYBB Hyderabad (bro 48.93 289 *eP* **P** **11 14 13.4 -0.4**
HYBB *eS* **S** **11 21 14.0 -1.4**
ZEA Zeya 49.50 0 *eP* **P** **11 14 17.3 -0.2**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZAK Zakamensk 50.17 341 *eP* **P** **11 14 22.1 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
PCHI Peechi 50.27 280 *eP* **P** **11 14 23.0 -1.0**
MOY Mondy 52.02 340 *eP* **P** **11 14 37.2 +0.5**
MOY pmax pmax
comp=Z,19nm,1.4s
WMQ Urumqi 52.40 325 *eP* **P** **11 14 39.8 +0.2**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,170nm,5.7s
WMQ LR LR
comp=Z,500nm,19.9s
WMQ LR LR
comp=Z,300nm,21.5s
WMQ LR LR
comp=Z,170nm,19.9s
BOD Bodaibo 54.50 352 *eP* **P** **11 14 55.2 +0.5**
BOD pmax pmax
comp=Z,22nm,1.1s
MSVF Nonsavu 55.12 115 P **P** **11 14 58.4 -1.5**
MSVF pmax pmax
comp=Z,48nm,1.1s
MSVF Nonsavu 55.12 115 P **P** **11 14 58.4 -1.5**
PEA3 Petropavlovsk- 55.12 22 P **P** **11 14 57.7 -1.5**
PEA0 Petropavlovsk- 55.13 22 P **P** **11 14 59.4 +0.1**
PEA0B Petropavlovsk- 55.13 22 P **P** **11 14 59.9 +0.6**
PEA0B pmax pmax
comp=Z,142nm,1.7s
PEA0B Petropavlovsk- 55.13 22 P **P** **11 14 59.9 +0.6**
PETK Petropavlovsk- 55.13 22 P **P** **11 14 59.3 0.0**
comp=Z,9.5nm,0.7s,baz=172,slow=4.2,SNR=6.7
PETK Petropavlovsk- 55.13 22 P **P** **11 14 59.7 +0.4**
PETK Petropavlovsk- 55.13 22 P **P** **11 14 59.6 +0.4**
PEA1 Petropavlovsk- 55.13 22 P **P** **11 14 59.6 +0.3**
PET Petropavlovsk 55.43 23*de*P **P** **11 15 01.7 +0.3**
PET pmax pmax
comp=Z,85nm,2.5s
SHLS Shalkode 57.03 320 *eP* **P** **11 15 10.3 -2.9**
SHLS Shalkode 57.03 320 *eP* **P** **11 15 10.4 -2.9**
baz=320

PDGK Podgornoye 57.10 320 P **P** **11 15 11.3 -2.4**
MK07 Makanchi Array 57.19 325 P **P** **11 15 13.5 -0.7**
MK03 Makanchi Array 57.20 325 P **P** **11 15 13.6 -0.7**
MK04 Makanchi Array 57.21 325 P **P** **11 15 13.5 -0.8**
MK31 Makanchi Array 57.23 325*d i*P **P** **11 15 13.9 -0.5**
MK31 Makanchi Array 57.23 325 P **P** **11 15 13.3 -1.1**
MKAR Makanchi Array 57.23 325 P **P** **11 15 13.8 -0.6**
comp=Z,6.9nm,0.7s,baz=125,slow=8.0,SNR=70
MKAR PcP **PcP** **11 16 08.5 0.0**
comp=Z,6.5nm,0.7s,baz=120,slow=4.8,SNR=5.4
MKAR ScP **ScP** **11 20 09.8 +4.5**
comp=Z,1.6nm,0.8s,baz=104,slow=5.1,SNR=5.4
MKAR Makanchi Array 57.23 325 P **P** **11 15 13.7 -0.7**
UZB Uzynbulak 57.31 320*e*P **P** **11 15 14.2 -1.0**
UZB Uzynbulak 57.31 320*e*P **P** **11 15 14.3 -1.0**
baz=320
MAKZ Makanchi 57.41 325 P **P** **11 15 14.9 -0.8**
MAKZ pmax pmax
comp=Z,10.0nm,0.9s
MAKZ Makanchi 57.41 325 P **P** **11 15 14.9 -0.8**
NIL Nilore 57.66 308 P **P** **11 15 17.0 -0.7**
NIL pmax pmax
comp=Z,34nm,1.1s
NIL Nilore 57.66 308 P **P** **11 15 17.0 -0.7**
NIL IAmb IAmb 11 15 18.6
comp=Z,34nm,1.1s
SATY Saty 57.66 320*e*P **P** **11 15 16.8 -0.9**
SATY pmax pmax
comp=Z,6.0nm,0.6s
SATY Saty 57.66 320*e*P **P** **11 15 16.9 -0.8**
comp=Z,6.3nm,0.6s,baz=320
KPKS Kokpek 57.68 320*e*P **P** **11 15 16.4 -1.3**
KPKS Kokpek 57.68 320*e*P **P** **11 15 16.5 -1.3**
baz=320
KSH Kashi 57.74 315 P **P** **11 15 19.3 +1.0**
KSH pP sP 11 15 35.4 +1.2
KSH sP pwP 11 15 41.1 +9.1
KSH pmax pmax
comp=Z,7.0nm,0.9s
YAK Yakutsk 57.86 2*c i*P **P** **11 15 17.9 -0.6**
YAK *e**PP **pP** **11 15 24.5 -5.2**
YAK *e* 11 16 07.9
YAK *e* 11 17 25.1
YAK *e*S **S** **11 23 17.0 +2.0**
YAK *e**SS **sS** **11 23 36.6 +2.4**
YAK *e* 11 25 00.3
YAK *e*SS **SS** **11 27 05.4 -0.9**
YAK pmax pmax
comp=Z,78nm,0.9s
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,177nm,5.1s
YAK pmax pmax
comp=N,88nm,4.7s
YAK pmax pmax
comp=E,70nm,4.0s
YAK smax smax
comp=E,88nm,4.7s
YAK smax smax
comp=N,72nm,3.5s
YAK Yakutsk 57.86 2 P **P** **11 15 18.0 -0.5**
YAK Yakutsk 57.86 2 P **P** **11 15 19.0 +0.5**
YAK pP **pP** **11 15 25.9 -3.8**
KDJ Kajisay 58.04 318 P **P** **11 15 20.2 -0.2**
KDJ pmax pmax
comp=Z,12nm,1.0s
KDJ Kajisay 58.04 318 P **P** **11 15 20.2 -0.2**
KDJ IAmb IAmb 11 15 24.5
comp=Z,12nm,1.0s
MA2 Magadan 58.38 14⇓*i*P **P** **11 15 22.6 +0.4**
MA2 pmax pmax
comp=Z,16nm,1.7s
MA2 Magadan 58.38 14 P **P** **11 15 22.2 0.0**
MA2 IAmb IAmb 11 16 14.5
comp=Z,13nm,1.0s
MA2 Magadan 58.38 14 P **P** **11 15 22.3 +0.1**
MA2 X 11 15 27.7
MA2 pP **pP** **11 15 32.8 -1.3**
MDOK Medeo 58.59 319*e*P **P** **11 15 23.1 -1.1**
MDOK Medeo 58.59 319*e*P **P** **11 15 23.2 -1.1**
baz=319
TDK Taldyqorghan 58.60 322*e*P **P** **11 15 23.1 -0.9**
TDK Taldyqorghan 58.60 322*e*P **P** **11 15 23.1 -0.9**
baz=322
TNSS Tian-Shan 58.60 319*e*P **P** **11 15 23.6 -1.0**
TNSS Tian-Shan 58.60 319*e*P **P** **11 15 23.7 -1.0**
baz=319
CHKK Chushkaly 58.95 320*e*P **P** **11 15 25.1 -1.4**
CHKK Chushkaly 58.95 320*e*P **P** **11 15 25.2 -1.4**
baz=320
BOOM Boomskoye usch 59.02 318 P **P** **11 15 27.5 +0.2**
BOOM pmax pmax
comp=Z,6.0nm,1.0s
BOOM Boomskoye usch 59.02 318 P **P** **11 15 27.5 +0.2**
AAK Ala-Archa 60.05 318*de*P **P** **11 15 34.3 0.0**
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 60.05 318 P **P** **11 15 35.2 +0.8**
ZAB3 Zalesovo Array 60.23 333 P **P** **11 15 33.9 -1.2**
ZAA0 Zalesovo Array 60.24 333 P **P** **11 15 34.0 -1.2**
ZAA0 Zalesovo Array 60.24 333 P **P** **11 15 34.4 -0.8**
ZALV Zalesovo Beam 60.24 333 P **P** **11 15 33.9 -1.3**
comp=Z,3.8nm,0.6s,baz=120,slow=6.6,SNR=16
ZALV LR LR 11 43 23.9
comp=Z,174nm,19.8s,baz=112,slow=38
ZALV Zalesovo Beam 60.24 333 P **P** **11 15 33.7 -1.5**
ZAB1 Zalesovo Array 60.25 333 P **P** **11 15 33.7 -1.5**
SGDS Sogindy 60.30 319*e*P **P** **11 15 34.4 -1.5**
SGDS Sogindy 60.30 319*e*P **P** **11 15 34.5 -1.5**
baz=319
SEM Semipalatinsk 60.37 328*e*P **P** **11 15 34.4 -2.0**
SEM Semipalatinsk 60.37 328*e*P **P** **11 15 34.5 -2.0**
baz=328
DCZ Deep Cove 61.08 149 P **P** **11 15 42.2 +1.2**
KBL Kabul 61.25 307 P **P** **11 15 42.2 -0.6**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 61.25 307 P **P** **11 15 42.2 -0.6**
KBL IAmb IAmb 11 15 43.9
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 61.40 327 P **P** **11 15 41.8 -1.4**
comp=Z,15nm,0.7s,baz=125,slow=6.2,SNR=121
KURBB PP **PP** **11 17 52.4 -6.3**
comp=Z,0.5nm,0.2s,baz=121,slow=7.4,SNR=4.1
KURBB Kurchatov Arra 61.40 327 P **P** **11 15 41.9 -1.3**
KURK Kurchatov 61.41 327*c i*P **P** **11 15 41.9 -1.3**
KURK pmax pmax
comp=Z,18nm,0.7s
KURK Kurchatov 61.41 327 P **P** **11 15 42.4 -0.7**
KURK IAmb IAmb 11 15 43.6
comp=Z,19nm,0.7s
KURK Kurchatov 61.41 327⇓P **P** **11 15 42.4 -0.7**
BTK Batken 61.63 314 P **P** **11 15 45.5 +0.5**
BTK pmax pmax
comp=Z,13nm,1.1s
BTK Batken 61.63 314 P **P** **11 15 45.5 +0.5**
BTK IAmb IAmb 11 15 59.8
comp=Z,13nm,1.1s
GAR Garm 61.63 313 P **P** **11 15 44.7 -0.4**
SEY Seymchan 61.70 13⇑*e*P **P** **11 15 45.6 +0.7**
SEY pmax pmax
comp=Z,12nm,1.0s
LBZ Lake Benmore 62.02 146 P **P** **11 15 47.7 +0.3**
LTZ Lake Taylor 62.24 144 P **P** **11 15 49.5 +0.5**
DZA Taraz 62.29 317*e*P **P** **11 15 48.4 -0.9**
DZA Taraz 62.29 317*e*P **P** **11 15 48.5 -0.9**
baz=317
CHGR Chuyangaron 62.38 312 P **P** **11 15 50.1 0.0**
CHGR pmax pmax
comp=Z,21nm,1.1s
CHGR Chuyangaron 62.38 312 P **P** **11 15 50.1 0.0**
CHGR IAmb IAmb 11 16 07.7
comp=Z,21nm,1.1s
TUWZ Tuamarina 62.47 141 P **P** **11 15 49.4 -1.1**
BSWZ Blackbirch Sta 62.59 142 P **P** **11 15 51.5 +0.2**
BKZ Black Stump Fm 62.89 138 P **P** **11 15 53.2 -0.2**
IUG Iuzhnay 62.91 316*e*P **P** **11 15 53.0 -0.6**
IUG Iuzhnay 62.91 316*e*P **P** **11 15 53.0 -0.6**
baz=316
KK31 Karatay Array 62.93 317*i*P **P** **11 15 53.5 -0.1**
KK31 Karatay Array 62.93 317 P **P** **11 15 53.3 -0.3**
KK31 IAmb IAmb 11 15 55.6
comp=Z,11nm,0.9s
KKAR Karatay Array 62.93 317 P **P** **11 15 52.7 -0.9**
KKAR pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 62.93 317 P **P** **11 15 52.7 -0.9**
KKAR Karatay Array 62.93 317 P **P** **11 15 53.2 -0.4**
KKAR IAmb IAmb 11 15 55.6
comp=Z,11nm,0.9s
KK07 Karatay Array 62.93 317 P **P** **11 15 54.8 +1.2**
AFI Afiamalu 63.62 108 LR LR 11 40 49.1
comp=Z,90nm,18.2s,baz=336,slow=33
OTUK Ortayu 63.80 323 P **P** **11 15 58.5 -0.8**
BRZS Berezniki 64.36 325*e*P **P** **11 16 02.4 -0.5**
BRZS pmax pmax
comp=Z,6.0nm,0.8s
BRZS Berezniki 64.36 325*e*P **P** **11 16 02.4 -0.5**
comp=Z,5.6nm,0.8s,baz=325
HRA Herat 66.67 306 P **P** **11 16 17.9 -0.5**
BRVK Borovoye 67.06 327 P **P** **11 16 20.2 0.0**
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 67.06 327 P **P** **11 16 20.2 0.0**
BRVK IAmb IAmb 11 16 41.0
comp=Z,12nm,0.8s
BRVK Borovoye 67.06 327 P **P** **11 16 20.0 -0.2**
BRVK pP **pP** **11 16 29.4 -2.3**
TIXI Tiksi 67.49 1⇓*i*P **P** **11 16 21.9 -0.6**
TIXI pmax pmax
comp=Z,17nm,0.8s
TIXI Tiksi 67.49 1 P **P** **11 16 21.6 -0.9**
TIXI IAmb IAmb 11 16 27.1
comp=Z,20nm,1.0s
TIXI Tiksi 67.49 1 P **P** **11 16 22.2 -0.3**
TIXI sP **sP** **11 16 39.3 +0.6**
BILL Bilibino 69.23 15⇑*e*P **P** **11 16 33.1 -0.4**
BILL *e* 11 17 00.4
BILL *e* 11 19 05.7
BILL *e*S **S** **11 25 32.4 -4.1**
BILL pmax pmax
comp=Z,7.0nm,1.7s
BILL MLR MLR
comp=Z,81nm,19.0s
BILL Bilibino 69.23 15 P **P** **11 16 33.8 +0.3**
NRIK Noril'sk 70.07 346 P **P** **11 16 39.9 +1.2**
comp=Z,16nm,0.7s,baz=134,slow=6.2,SNR=16
NRIK LR LR 11 50 24.0
comp=Z,187nm,18.5s,baz=148,slow=39
NRIK Noril'sk 70.07 346*c i*P **P** **11 16 38.4 -0.3**
NRIK pmax pmax
comp=Z,26nm,0.9s
NRIK Noril'sk 70.07 346 P **P** **11 16 38.8 +0.1**
NRIK IAmb IAmb 11 16 47.4
comp=Z,22nm,0.8s
GYB1 ALIBECK ARRAY 70.61 309 P **P** **11 16 42.7 +0.1**
GYA1 ALIBECK ARRAY 70.62 309 P **P** **11 16 43.3 +0.6**
GEYT Alibeck 70.62 309 P **P** **11 16 43.5 +0.8**
comp=Z,7.3nm,0.9s,baz=91,slow=10,SNR=5.5
GEYT Alibeck 70.62 309 P **P** **11 16 43.5 +0.8**
GYA0B ALIBECK ARRAY 70.62 309 P **P** **11 16 42.4 -0.3**
GYA0B IAmb IAmb 11 16 51.8
comp=Z,9.9nm,0.7s
GYA3 ALIBECK ARRAY 70.62 309 P **P** **11 16 43.5 +0.7**
GYA3 IAmb IAmb 11 16 44.5
comp=Z,16nm,1.1s
CASY Casey 71.16 187 P **P** **11 16 46.3 +1.0**
MSEY Mahe Island 71.64 264 P **P** **11 16 47.1 -2.2**
MSEY pmax pmax
comp=Z,23nm,1.2s
MSEY Mahe Island 71.64 264 P **P** **11 16 47.1 -2.2**
MSEY IAmb IAmb 11 17 57.8
comp=Z,23nm,1.2s
AB06 Akbulak array 71.82 321 P **P** **11 16 48.9 -0.8**
AB31 Akbulak array 71.83 321*i* P **P** **11 16 48.6 -1.2**
AB31 Akbulak array 71.83 321 P **P** **11 16 48.5 -1.2**
ABKAR Akbulak array 71.83 321 P **P** **11 16 48.3 -1.5**
SOCY Socotra 72.22 281 P **P** **11 16 51.1 -1.8**
SOCY IAmb IAmb 11 16 51.8
comp=Z,16nm,0.9s
AKTO Aktyubinsk 73.34 322 P **P** **11 16 58.2 -0.5**
comp=Z,6.0nm,0.8s,baz=103,slow=7.6,SNR=11
AKTO LR LR 11 50 45.8
comp=Z,173nm,21.7s,baz=103,slow=37
SVE Sverdlovsk 73.62 328*e*P **P** **11 17 01.8 +1.6**
SVE pmax pmax
comp=Z,19nm,0.9s
GAMB Gambell 74.10 24 P **P** **11 17 03.0 +0.2**
baz=246
ARU Arti 74.60 328 LR LR 11 52 05.3
comp=Z,139nm,20.6s,baz=102,slow=38
ARU Arti 74.60 328*c i*P **P** **11 17 06.4 +0.5**
ARU 11 19 50.0
ARU S **S** **11 26 42.8 +4.2**
ARU SS **SS** **11 31 25.9 -0.2**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 74.60 328 P **P** **11 17 05.3 -0.6**
ARU IAmb IAmb 11 17 18.8
comp=Z,14nm,0.9s
SDPT Sand Point 76.94 34 P **P** **11 17 18.4 -0.9**
SDPT Sand Point 76.94 34 P **P** **11 17 18.9 -0.4**
baz=258
ANM Nome 76.97 24 P **P** **11 17 18.8 -0.5**
baz=252
RDOG Red Dog Mine 78.98 21 P **P** **11 17 30.2 -0.3**
baz=253
KIRV Kirov 79.88 329 P **P** **11 17 35.3 -0.2**
comp=Z,19nm,0.7s,baz=172,slow=3.4,SNR=6.4
KIRV LR LR 11 56 42.7
comp=Z,133nm,19.4s,baz=98,slow=39
KIRV Kirov 79.88 329⇓*e*P **P** **11 17 35.6 +0.1**
BELG Belogornoye 80.08 322 P **P** **11 17 36.2 -0.5**
comp=Z,30nm,0.8s,baz=123,slow=4.3,SNR=6.0
BELG Belogornoye 80.08 322*ce*P **P** **11 17 36.2 -0.5**
BELG pmax pmax
comp=Z,6.0nm,0.9s
N18K Kilae Creek 80.31 29 P **P** **11 17 38.2 +0.4**
baz=261
P18K Big Mountain, 80.45 31 P **P** **11 17 38.1 -0.5**
baz=262
O18K Koktuh Hills 80.52 30 P **P** **11 17 39.2 +0.3**
baz=262
SVW2 Sparrevohn 80.52 29 P **P** **11 17 40.1 +1.1**
GCSA Galena City Sc 80.55 25 P **P** **11 17 39.4 +0.5**
baz=259
TTA Tatalina 80.61 27 P **P** **11 17 39.4 -0.1**
TTA pmax pmax
comp=Z,53nm,1.9s
TTA Tatalina 80.61 27 P **P** **11 17 39.4 -0.1**
TTA IAmb IAmb 11 17 42.0
comp=Z,53nm,1.9s
TTA Tatalina 80.61 27 P **P** **11 17 40.0 +0.5**
baz=260
O19K Port Alsworth 81.01 30 P **P** **11 17 41.6 +0.1**
baz=262
N19K Bonanza Creek 81.01 29 P **P** **11 17 42.7 +1.0**
N19K IAmb IAmb 11 17 44.5
comp=Z,16nm,0.8s
N19K Bonanza Creek 81.01 29 P **P** **11 17 42.1 +0.4**
baz=262,SNR=6.5
L19K White Mountain 81.03 28 P **P** **11 17 42.5 +0.8**
L19K IAmb IAmb 11 17 43.6
comp=Z,16nm,0.9s
L19K White Mountain 81.03 28 P **P** **11 17 41.8 +0.2**
baz=262,SNR=8.6
OHAK Old Harbor 81.19 33 P **P** **11 17 42.8 +0.2**
baz=264
Q19K Cape Douglas, 81.19 31 P **P** **11 17 42.5 -0.1**
baz=263
M19K Big River Lodg 81.21 28 P **P** **11 17 43.8 +1.3**
M19K IAmb IAmb 11 17 48.4
comp=Z,16nm,1.1s
M19K Big River Lodg 81.21 28 P **P** **11 17 43.0 +0.4**
baz=262,SNR=8.4
OPO Ambohidratompo 81.35 251 P **P** **11 17 44.2 -0.2**
comp=Z,8.0nm,0.7s,baz=64,slow=7.2,SNR=7.0
L20K Farewell, AK 81.52 27 P **P** **11 17 44.6 +0.4**
baz=262,SNR=6.0
K20K Telida 81.55 27 P **P** **11 17 45.1 +0.8**
baz=262
KDAK Kodiak Island 81.63 32 P **P** **11 17 44.2 -0.6**
comp=Z,15nm,0.6s,baz=286,slow=3.6,SNR=19
KDAK Kodiak Island 81.63 32 P **P** **11 17 45.1 +0.2**
baz=264
J20K Nowinta River 81.63 26 P **P** **11 17 45.7 +0.9**
J20K IAmb IAmb 11 17 47.0
comp=Z,14nm,0.8s
J20K Nowinta River 81.63 26 P **P** **11 17 45.9 +1.2**
baz=262
ZEI Tsey 81.93 312*e*P **P** **11 17 46.1 -0.9**
ZEI pmax pmax
comp=Z,5.0nm,0.7s
IMAR Indian Mountai 82.05 24 P **P** **11 17 47.7 +0.8**
VOI Vohitsoka 82.14 247 P **P** **11 17 48.7 +0.2**
VOI IAmb IAmb 11 17 51.3
comp=Z,21nm,0.8s
VOI Vohitsoka 82.14 247 P **P** **11 17 51.1 +2.6**
PRGR Permogore 82.16 332*e*P **P** **11 17 46.7 -0.8**
PRGR pmax pmax
comp=Z,7.0nm,0.9s
SPCR Spurr Chakacha 82.16 29 P **P** **11 17 47.9 +0.2**
baz=264
PPLA Purkeypile 82.34 27 P **P** **11 17 49.1 +0.4**
PPLA IAmb IAmb 11 17 51.1
comp=Z,11nm,0.7s
PPLA Purkeypile 82.34 27 P **P** **11 17 49.2 +0.4**
baz=264,SNR=6.2
H21K Melozitna Rive 82.39 24 P **P** **11 17 50.0 +1.2**
H21K IAmb IAmb 11 17 50.9
comp=Z,13nm,0.8s
H21K Melozitna Rive 82.39 24 P **P** **11 17 49.5 +0.8**
baz=263
CHUM Lake Minchumin 82.39 26 P **P** **11 17 49.5 +0.8**
baz=264,SNR=15
CAST Castle Rocks 82.45 27 P **P** **11 17 49.6 +0.5**
CAST IAmb IAmb 11 17 50.6
comp=Z,16nm,0.8s
CAST Castle Rocks 82.45 27 P **P** **11 17 49.4 +0.3**
baz=264,SNR=16
I21K Tanana 82.68 25 P **P** **11 17 51.5 +1.3**
I21K IAmb IAmb 11 17 52.4
comp=Z,22nm,0.9s
I21K Tanana 82.68 25 P **P** **11 17 51.1 +0.9**
baz=264
KBZ Khabaz 82.69 313 P **P** **11 17 51.4 +0.7**
comp=Z,3.1nm,1.1s,baz=189,slow=6.2,SNR=5.4
BRSE Bradley Lake S 82.75 30 P **P** **11 17 50.4 -0.4**
baz=266
KIV Kislovodsk 82.84 314*e*P **P** **11 17 52.8 +1.1**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KTH Kantishna Hill 82.98 27 P **P** **11 17 52.6 +0.7**
KTH IAmb IAmb 11 17 54.5
comp=Z,28nm,1.2s
BPAW Bear Paw Mtn. 83.00 26 P **P** **11 17 52.8 +0.8**
BPAW IAmb IAmb 11 17 53.6
comp=Z,25nm,1.0s
BPAW Bear Paw Mtn. 83.00 26 P **P** **11 17 52.0 0.0**
baz=265,SNR=12
CUT Chulitna 83.18 28 P **P** **11 17 53.2 +0.4**
CUT Chulitna 83.18 28 P **P** **11 17 52.1 -0.7**
baz=266
M22K Willow 83.21 28 P **P** **11 17 52.9 -0.1**
M22K Willow 83.21 28 P **P** **11 17 52.5 -0.5**
baz=266,SNR=9.8
TRF Thorofare Moun 83.25 27 P **P** **11 17 53.3 -0.1**
TRF IAmb IAmb 11 17 54.4
comp=Z,21nm,1.0s
TRF Thorofare Moun 83.25 27 P **P** **11 17 53.2 -0.3**
baz=266,SNR=8.5
RC01 Rabbit Creek A 83.35 29 P **P** **11 17 53.4 -0.4**
RC01 Rabbit Creek A 83.35 29 P **P** **11 17 53.7 0.0**
baz=266
SEW Seward 83.43 30 P **P** **11 17 54.2 +0.1**
SEW Seward 83.43 30 P **P** **11 17 54.1 -0.1**
baz=267
COLD Coldfoot 83.59 23 P **P** **11 17 56.3 +1.4**
COLD IAmb IAmb 11 17 57.3
comp=Z,21nm,1.0s
COLD Coldfoot 83.59 23 P **P** **11 17 55.5 +0.6**
baz=265
VRH Novokhopyorsk 83.66 321*e*P **P** **11 17 55.3 -0.3**
VRH pmax pmax
comp=Z,20nm,1.1s
PMR Palmer 83.67 29 P **P** **11 17 55.5 +0.1**
PMR pmax pmax
comp=Z,20nm,0.8s
PMR Palmer 83.67 29 P **P** **11 17 55.5 +0.1**
PMR IAmb IAmb 11 17 56.1
comp=Z,20nm,0.8s
PMR Palmer 83.67 29 P **P** **11 17 54.9 -0.4**
baz=267,SNR=7.7
BWN Browne 83.67 26 P **P** **11 17 56.1 +0.8**
BWN IAmb IAmb 11 18 00.1
comp=Z,24nm,1.0s
H23K Yukon River 83.75 24 P **P** **11 17 57.0 +1.2**
H23K IAmb IAmb 11 17 58.0
comp=Z,22nm,0.8s
H23K Yukon River 83.75 24 P **P** **11 17 56.8 +1.1**
baz=266
I23K Minto, Yukon-K 83.78 25 P **P** **11 17 56.8 +0.9**
I23K IAmb IAmb 11 17 57.8
comp=Z,29nm,1.0s
I23K Minto, Yukon-K 83.78 25 P **P** **11 17 56.8 +0.9**
baz=266
VNDA Vanda 83.79 173 P **P** **11 17 56.0 +0.3**
comp=Z,6.9nm,0.8s,baz=324,slow=5.5,SNR=4.0
VNDA LR LR 11 55 27.9
comp=Z,68nm,19.7s,baz=315,slow=36
VNDA Vanda 83.79 173 P **P** **11 17 56.3 +0.7**
VNDA pmax pmax
comp=Z,20nm,1.3s
VNDA Vanda 83.79 173 P **P** **11 17 56.3 +0.7**
VNDA IAmb IAmb 11 17 57.5
comp=Z,20nm,1.2s
NEA2 Nenana 83.87 26 P **P** **11 17 56.9 +0.5**
NEA2 IAmb IAmb 11 17 58.6
comp=Z,17nm,0.9s
NEA2 Nenana 83.87 26 P **P** **11 17 56.8 +0.4**
baz=267,SNR=8.0
MCK McKinley 83.88 26 P **P** **11 17 56.6 +0.1**
MCK pmax pmax
comp=Z,25nm,0.9s
MCK McKinley 83.88 26 P **P** **11 17 56.6 +0.1**
MCK IAmb IAmb 11 17 57.4
comp=Z,25nm,0.9s
MCK McKinley 83.88 26 P **P** **11 17 56.3 -0.1**
baz=267,SNR=18
RND Reindeer 83.89 27 P **P** **11 17 56.6 0.0**
RND pmax pmax
comp=Z,17nm,0.8s
RND Reindeer 83.89 27 P **P** **11 17 56.6 0.0**
RND IAmb IAmb 11 17 57.2
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 83.94 21 P **P** **11 17 57.8 +1.1**
TOLK IAmb IAmb 11 17 59.1
comp=Z,19nm,0.9s
TOLK Toolik Lake Re 83.94 21 P **P** **11 17 57.5 +0.7**
baz=266
KNK Knik Glacier 83.98 29 P **P** **11 17 57.3 +0.3**
KNK Knik Glacier 83.98 29 P **P** **11 17 57.2 +0.2**
baz=267,SNR=11
WAT1 Susitna Watana 84.00 27 P **P** **11 17 57.0 -0.2**
baz=267
PWL Port Wells 84.02 29 P **P** **11 17 57.5 +0.3**
PWL Port Wells 84.02 29 P **P** **11 17 57.4 +0.2**
baz=268,SNR=9.8
SML Sawmill 84.06 28 P **P** **11 17 57.7 +0.3**
SML Sawmill 84.06 28 P **P** **11 17 57.4 -0.1**
baz=268,SNR=10.0
MDM Murphy Dome 84.25 25 P **P** **11 17 58.0 -0.3**
WRH Wood River Hil 84.28 26 P **P** **11 17 58.5 0.0**
WRH IAmb IAmb 11 17 59.8
comp=Z,20nm,1.2s
WAT6 Susitna Watana 84.37 28 P **P** **11 17 58.8 -0.3**
baz=268,SNR=12
TCOL CIGO, UAF Yank 84.40 25 P **P** **11 17 59.4 +0.4**
TCOL CIGO, UAF Yank 84.40 25 P **P** **11 17 59.1 +0.1**
baz=268
COLA College 84.40 25*de*P **P** **11 17 58.6 -0.4**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 84.40 25 P **P** **11 17 59.0 0.0**
COLA College 84.40 25 P **P** **11 17 59.1 0.0**
baz=268
CCB Clear Creek Bu 84.41 26 P **P** **11 17 57.9 -1.3**
CCB IAmb IAmb 11 17 59.7
comp=Z,11nm,1.0s
H24K Noodor Dome 84.43 24 P **P** **11 18 00.2 +0.9**
H24K IAmb IAmb 11 18 02.2
comp=Z,14nm,1.0s

H24K Noodor Dome 84.43 24 P P 11 18 00.1 +0.8
baz=268
SCM Sheep Creek Mo 84.53 28 P P 11 18 00.3 +0.4
SCM Sheep Creek Mo 84.53 28 P P 11 18 00.3 +0.4
SCM Sheep Creek Mo 84.53 28 P P 11 18 00.0 +0.1
baz=268,SNR=7.0
DHY Denali Highway 84.55 27 P P 11 18 00.2 +0.1
baz=268
POKR Poker Plat Res 84.59 25 P P 11 18 00.5 +0.5
baz=268
GLI Glacier Island 84.62 29 P P 11 18 00.7 +0.5
GLI Glacier Island 84.62 29 P P 11 18 00.3 +0.1
baz=269,SNR=6.6
IL31 84.81 25 P P 11 18 00.7 -0.4
IL31 IAmb IAmb 11 18 01.1
comp=Z,14nm,1.4s
ILAR Eielson Array 84.81 25 P P 11 18 00.6 -0.6
comp=Z,2.9nm,0.7s,baz=246,slow=5.1,SNR=49
ILAR LR LR 11 57 32.7
comp=Z,30nm,19.1s,baz=356,slow=37
ILAR Eielson Array 84.81 25 P P 11 18 00.4 -0.8
FID Port Fidalgo 84.92 29 P P 11 18 02.1 +0.3
KLMR Klimovskoe 85.06 331 eP P 11 17 59.3 -3.2
KLMR e 11 21 16.4
KLMR pmax pmax
comp=Z,47nm,0.9s
KLMR Klimovskoe 85.06 331 eP P 11 17 59.3 -3.2
KLMR AMP 11 18 03.6
comp=Z,47nm,0.9s
KLMR ePP PP 11 21 16.5 -3.2
M24K Tolsona, Glenn 85.08 28 P P 11 18 03.6 +0.9
baz=269
KLU Klutina 85.20 29 P P 11 18 04.1 +0.8
KLU IAmb IAmb 11 18 04.8
comp=Z,14nm,0.7s
KLU Klutina 85.20 29 P P 11 18 03.7 +0.4
baz=270,SNR=5.5
VORR Voronezh 85.24 321 eP P 11 18 03.7 +0.2
VORR pmax pmax
comp=Z,100nm,0.4s
VSR Storozhevoye 85.27 321 eP P 11 18 02.6 -1.1
VSR pmax pmax
comp=Z,9.0nm,1.0s
DIV Divide 85.27 29 P P 11 18 04.0 +0.4
EYAK Cordova Ski Ar 85.28 30 P P 11 18 04.4 +0.9
baz=270
LPSR Galich'ya Gora 85.40 322 eP P 11 18 03.8 -0.5
LPSR pmax pmax
comp=Z,10.0nm,0.8s
PAX Paxson 85.42 27 P P 11 18 04.7 +0.4
PAX pmax pmax
comp=Z,12nm,1.2s
PAX Paxson 85.42 27 P P 11 18 04.7 +0.4
PAX IAmb IAmb 11 18 06.5
comp=Z,12nm,1.2s
PAX Paxson 85.42 27 P P 11 18 04.5 +0.2
baz=270
J25K Salcha River, 85.46 26 P P 11 18 04.4 -0.1
J25K Salcha River, 85.46 26 P P 11 18 04.6 +0.1
baz=270
HARP HAARP 85.56 28 P P 11 18 05.6 +0.6
baz=270
RIDG Independent Ri 85.69 26 P P 11 18 06.1 +0.5
RIDG IAmb IAmb 11 18 10.8
comp=Z,12nm,1.0s
RIDG Independent Ri 85.69 26 P P 11 18 05.7 0.0
baz=270
BMAR Burnt Mountain 85.78 23 P P 11 18 07.0 +1.0
N25K Chitina, Valde 85.83 29 P P 11 18 07.5 +1.1
N25K IAmb IAmb 11 18 09.6
comp=Z,13nm,1.1s
N25K Chitina, Valde 85.83 29 P P 11 18 06.8 +0.4
baz=271
BMRM Bremner River 85.84 29 P P 11 18 06.8 +0.4
BMRM Bremner River 85.84 29 P P 11 18 06.7 +0.3
baz=271
DOT Dot Lake 86.05 27 P P 11 18 07.8 +0.5
SCRK Sand Creek 86.07 26 P P 11 18 08.7 +1.1
SCRK Sand Creek 86.07 26 P P 11 18 07.5 -0.1
baz=271
MOS Moscow 86.11 325 eP P 11 18 07.1 -0.7
MOS pmax pmax
comp=Z,46nm,0.7s
MOS pmax pmax
comp=Z,61nm,1.1s
GLB Gilahina Butte 86.22 29 P P 11 18 09.4 +1.1
GLB IAmb IAmb 11 18 10.6
comp=Z,17nm,1.0s
MENT Mentasta 86.22 27 P P 11 18 09.0 +0.7
J26L Joseph Creek 86.24 26 P P 11 18 08.7 +0.3
baz=272
L26K Log Cabin Wild 86.38 27 P P 11 18 09.8 +0.8
baz=272
M26K Nabesna, AK 86.57 28 P P 11 18 10.5 +0.5
baz=272
ANN Anapa 86.60 315 eP P 11 18 07.4 -3.0
ANN e*PP PcP 11 18 17.9 +5.1
ANN eS SKSac 11 28 30.2 -3.8
ANN pmax pmax
comp=Z,64nm,1.0s
OBN Obninsk 86.73 325 P P 11 18 10.3 -0.5
comp=Z,4.2nm,0.3s,baz=352,slow=5.1,SNR=6.2
OBN Obninsk 86.73 325 deP P 11 18 10.4 -0.4
OBN e 11 21 32.4
OBN ePPP PPP 11 23 27.9
OBN pmax pmax
comp=Z,33nm,1.0s
OBN MLR MLR
comp=Z,130nm,21.0s
OBN Obninsk 86.73 325 P P 11 18 10.6 -0.2
L27K Beaver Creek, 87.08 27 P P 11 18 12.9 +0.5
L27K IAmb IAmb 11 18 46.8
comp=Z,16nm,1.8s
L27K Beaver Creek, 87.08 27 P P 11 18 13.1 +0.6
baz=273
M27K Edge Creek, AK 87.09 28 P P 11 18 13.0 +0.4
baz=273
BCAR Beaver Creek A 87.09 27 P P 11 18 13.3 +0.7
EGAK Eagle 87.27 25 P P 11 18 13.7 +0.4
baz=274
BARN Barnard Glacier 87.27 29 P P 11 18 14.4 +0.8
CTG Chitna Glacier 87.43 29 P P 11 18 15.0 +0.7
baz=274
CTGM Chitina Glacier 87.44 29 P P 11 18 15.7 +1.4
CTGM IAmb IAmb 11 18 17.8
comp=Z,12nm,0.9s
APA Apatity 87.50 337 ⇓ iP P 11 18 12.4 -1.9
APA pmax pmax
comp=Z,8.0nm,0.9s
DAWY Dawson 88.09 26 P P 11 18 18.1 +0.8
DAWY IAmb IAmb 11 19 08.1
comp=Z,20nm,1.9s
DAWY Dawson 88.09 26 P P 11 18 16.9 -0.4
baz=275
KIBK Kibwezi 88.78 268 P P 11 18 21.5 -0.2
KIBK IAmb IAmb 11 18 23.3
comp=Z,11nm,0.9s
EPYK Eagle Plains 88.94 24 P P 11 18 21.7 +0.4
baz=278
VALR Valaam 89.22 331 ⇓ eP P 11 18 21.9 -0.6
VALR pmax pmax
comp=Z,56nm,1.0s
HYT Haines Junctio 89.31 29 P P 11 18 23.3 +0.1
HYT IAmb IAmb 11 21 04.2
comp=Z,11nm,1.4s
HYT Haines Junctio 89.31 29 P P 11 18 23.4 +0.2
baz=277
M30M Minto, Yukon 89.42 27 P P 11 18 24.1 +0.5
M30M Minto, Yukon 89.42 27 P P 11 18 23.3 -0.2
baz=278
EIL Elat 89.49 300 LR LR 12 05 39.5
comp=Z,41nm,19.0s,baz=54,slow=40
KMBO Kilima Mbogo 89.49 269 P P 11 18 25.7 +0.5
comp=Z,7.7nm,0.9s,baz=54,slow=8.7,SNR=12
KMBO LR LR 11 55 30.8
comp=Z,36nm,20.1s,baz=91,slow=34
KMBO Kilima Mbogo 89.49 269 P P 11 18 24.6 -0.5
KMBO IAmb IAmb 11 18 27.2
comp=Z,8.0nm,0.9s
PUL Pulkovo 89.69 330 ⇓ eP P 11 18 25.5 +0.7
BR131 Keskin Array S 89.74 310 P P 11 18 25.3 -0.4
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BR131 Keskin Array S 89.74 310 P P 11 18 25.3 -0.4
BR131 IAmb IAmb 11 18 27.8
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 89.74 310 P P 11 18 25.6 -0.2
comp=Z,3.8nm,0.8s,baz=101,slow=6.4,SNR=10
BRTR LR LR 12 05 11.1
comp=Z,38nm,19.2s,baz=70,slow=40
BRTR Keskin Array B 89.74 310 P P 11 18 24.7 -1.0
INK Inuvik 89.86 21 P P 11 18 25.3 -0.1
comp=Z,5.4nm,1.1s,baz=267,slow=6.0,SNR=13
INK Inuvik 89.86 21 P P 11 18 25.3 -0.1
INK pmax pmax
comp=Z,17nm,1.6s
INK Inuvik 89.86 21 P P 11 18 25.3 -0.1
INK IAmb IAmb 11 18 27.2
comp=Z,17nm,1.6s
INK Inuvik 89.86 21 P P 11 18 25.3 -0.1
baz=281
N31M Braeburn, Yuko 90.05 28 P P 11 18 26.8 +0.3
baz=279
ARCES ARCESS Array B 90.09 340 P P 11 18 25.5 -1.0
comp=Z,5.5nm,0.8s,baz=74,slow=5.4,SNR=9.1
ARCES ARCESS Array B 90.09 340 P P 11 18 28.0 +1.5
ARCES pmax pmax
comp=Z,118nm,2.0s
ARCES ARCESS Array B 90.09 340 P P 11 18 28.0 +1.5
SPITS Spitsbergen Ar 90.12 349 P P 11 18 27.1 +0.6
comp=Z,11nm,1.0s,baz=112,slow=9.1,SNR=6.9
SPITS LR LR 12 02 53.2
comp=Z,112nm,21.5s,baz=224,slow=38
M31M Drury Creek, Y 90.58 28 P P 11 18 29.2 +0.2
baz=280
WHY Whitehorse 90.61 29 P P 11 18 29.0 -0.3
baz=279
FINES FINESS Array B 91.49 332 P P 11 18 32.8 -0.3
comp=Z,7.6nm,0.9s,baz=119,slow=6.7,SNR=10
FINES LR LR 12 05 15.7
comp=Z,98nm,18.4s,baz=88,slow=39
AKASG Malin Array Be 91.57 321 P P 11 18 32.7 -1.1
comp=Z,4.4nm,0.8s,baz=63,slow=5.2,SNR=13
AKASG LR LR 12 03 26.0
comp=Z,90nm,19.3s,baz=58,slow=38
A36M Sachs Harbour 91.67 17 P P 11 18 34.3 +0.5
A36M Sachs Harbour 91.67 17 P P 11 18 34.0 +0.2
baz=288
NACGM Naroch 92.35 325 eP P 11 18 36.9 -0.4
WRAK Wrangell Islan 92.69 33 P P 11 18 39.3 +0.6
baz=281
NOR Nord 92.73 355 iP P 11 18 39.3 +0.8
NOR IAmb IAmb 11 18 54.6
comp=Z,3.0nm,0.7s
SYO Syowa Base 92.73 201 ⇑ eP P 11 18 40.6 +1.9
SYO Syowa Base 92.73 201 ⇑ epP pP 11 18 49.2 -1.7
C36M Paulatuk 92.90 20 P P 11 18 39.2 -0.3
C36M IAmb IAmb 11 18 56.5
comp=Z,21nm,1.9s
C36M Paulatuk 92.90 20 P P 11 18 39.3 -0.3
baz=290
DLBC Dease Lake 93.47 31 P P 11 18 43.0 +0.5
comp=Z,2.0nm,0.9s,baz=349,slow=9.9,SNR=4.0
DLBC LR LR 11 56 12.2
comp=Z,107nm,20.7s,baz=281,slow=33
QSPA South Pole Qui 93.99 180 P P 11 18 44.9 +0.2
comp=Z,7.2nm,1.0s,baz=332,slow=3.1,SNR=8.1
QSPA South Pole Qui 93.99 180 P P 11 18 45.5 +0.8
QSPA IAmb IAmb 11 18 47.5
comp=Z,8.9nm,1.1s
SUW Suwalki 94.59 325 P P 11 18 47.4 -0.2
SUW pmax pmax
comp=Z,46nm,1.0s
SUW Suwalki 94.59 325 P P 11 18 47.4 -0.2
MLR Muntele Rosu 94.60 316 P P 11 18 47.5 -0.5
comp=Z,6.3nm,0.9s,baz=137,slow=1.9,SNR=4.4
MLR LR LR 12 05 31.5
comp=Z,131nm,21.9s,baz=30,slow=38
MLR Muntele Rosu 94.60 316 IAmb IAmb 11 18 58.4
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 94.69 318 P P 11 18 47.8 -0.6
BURAR pmax pmax
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 94.69 318 P P 11 18 47.8 -0.6
BURAR IAmb IAmb 11 18 49.8
comp=Z,6.3nm,0.8s
BUR08 Bucovina Ar. S 94.70 318 P P 11 18 48.2 -0.2
BUR08 IAmb IAmb 11 18 52.0
comp=Z,7.2nm,1.0s
UZH Uzhgorod 96.39 320 eP P 11 18 54.0 -1.9
UZH e 11 19 06.3
CRVS Cervenica-Dubn 96.86 320 eP P 11 18 58.5 +0.4
CRVS Cervenica-Dubn 96.86 320 ePDIFF P 11 18 58.5 +0.4
DAG Danmarks Havn 96.89 352 iP P 11 18 56.0 -1.6
DAG IAmb IAmb 11 19 12.8
comp=Z,2.8nm,0.8s
RES Resolute Bay 97.48 10 P P 11 19 00.3 0.0
comp=Z,1.3nm,0.9s,baz=280,slow=9.3,SNR=5.2
RES Resolute Bay 97.48 10 P P 11 19 00.1 -0.2
RES IAmb IAmb 11 19 14.1
comp=Z,8.0nm,1.6s
HFS Hagfors 97.67 332 LR LR 12 07 53.2
comp=Z,97nm,18.9s,baz=57,slow=38
NB2 NORSAR Subarra 98.44 334 P Pdif 11 19 05.7 +0.7
comp=Z,5.3nm,1.0s,baz=66,slow=4.6
NOA NORSAR Array B 98.44 334 P Pdif 11 19 05.2 +0.2
comp=Z,1.6nm,0.8s,baz=65,slow=4.7,SNR=7.8
NOA LR LR 12 09 02.6
comp=Z,124nm,18.4s,baz=50,slow=39
TULEG Thule 99.00 4 iP Pdif 11 19 27.8 +21
TULEG IAmb IAmb 11 19 29.4
comp=Z,4.3nm,0.8s
DBG Daneborg 99.16 351 iP Pdif 11 19 08.4 +0.5
DBG IAmb IAmb 11 19 10.3
comp=Z,1.6nm,0.8s
YKA Yellowknife Ar 99.20 24 P Pdif 11 19 08.3 +0.1
comp=Z,0.9nm,0.7s,baz=297,slow=4.4,SNR=24
YKA PKiKP PKiKP 11 23 40.3 +2.2
comp=Z,0.4nm,0.7s,baz=295,slow=1.7,SNR=6.1
YKA PKKPbc PKKPbc 11 35 33.9 -1.5
comp=Z,0.3nm,0.8s,baz=123,slow=3.0,SNR=4.5
BRG Berggiesshubel 100.91 323 eP Pdif 11 19 16.9 +0.6
BRG Amp 11 19 19.0
comp=Z,6.0nm,1.0s
BRG ex x 11 40 55.9
BRG Amp 11 40 57.2
comp=Z,4.7nm,0.9s
BRG Berggiesshubel 100.91 323 eP Pdif 11 19 16.8 +0.6
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 101.31 324 eP Pdif 11 19 17.0 -0.9
CLL Collm 101.31 324 ePdif Pdif 11 19 17.0 -0.9
CLL ePKiKP PKiKP 11 23 42.0 -0.3
CLL LmV 12 10 00.0
comp=Z,100nm,20.2s
KHC Kasperske Hory 101.74 322 ⇓ eP Pdif 11 19 21.1 +1.1
KHC pmax pmax
comp=Z,16nm,1.8s
GERES GERESS Array B 101.77 322 P Pdif 11 19 19.8 -0.4
comp=Z,0.4nm,0.4s,baz=77,slow=6.0,SNR=6.0
NVAR Mina Array Bea 106.72 48 Pdiff Pdif 11 19 43.0 +0.4
comp=Z,0.5nm,0.8s,baz=265,slow=3.3,SNR=2.4
NVAR PKiKP PKiKP 11 23 54.8 +1.9
comp=Z,0.4nm,0.6s,baz=251,slow=2.8,SNR=3.0
NVAR PKKP PKKPab 11 35 26.4 -1.6
comp=Z,0.8nm,0.6s,baz=130,slow=4.0,SNR=6.8
NVAR Mina Array Bea 106.72 48 Pdif 11 19 42.1 -0.5
BOZ Bozeman (W) 108.52 39 P PKiKP 11 23 56.0 0.0
baz=297
EGMT Eagleton 108.54 36 P PKiKP 11 23 55.4 -0.4
baz=299
R11A Troy Canyon, C 108.75 47 P PKiKP 11 23 56.2 -0.4
baz=291
PDAR Pinedale Array 111.13 41 PKiKP PKiKP 11 24 01.9 +0.8
comp=Z,0.5nm,0.7s,baz=29,slow=3.4,SNR=4.2
PDAR PKKPbc PKKPab 11 35 07.0 -1.4
comp=Z,2.9nm,0.8s,baz=120,slow=5.4,SNR=22
FRB Frobisher Bay 111.39 7 PKiKP PKiKP 11 24 01.2 +0.7
comp=Z,0.5nm,0.4s,baz=50,slow=6.7,SNR=3.1
O20A White River Ci 113.22 43 P PKiKP 11 24 04.1 -1.0
baz=298,SNR=5.1
RSSD Black Hills 113.95 38 P PKiKP 11 24 05.6 -0.7
baz=302
ULM Lac du Bonnet 114.68 29 PKP PKPdf 11 24 08.1 +0.8
comp=Z,2.2nm,0.6s,baz=24,slow=1.3,SNR=3.1
ISCO Idaho Springs 115.16 42 P PKiKP 11 24 08.0 -1.0
baz=299
S22A 4UR Ranch, Cre 115.30 45 P PKiKP 11 24 08.3 -1.0
baz=298
ANMO Albuquerque 116.83 47 PKP PKiKP 11 24 13.8 +1.6
comp=Z,1.7nm,0.9s,baz=233,slow=2.7,SNR=8.8
ANMO Albuquerque 116.83 47 PKPdf PKiKP 11 24 12.4 +0.2
ANMO Albuquerque 116.83 47 P PKPdf 11 24 11.4 -0.7
baz=297
121A Cookes Peak, D 116.88 50 P PKiKP 11 24 12.5 +0.2
baz=295
T25A Trinidad 117.28 44 P PKPdf 11 24 12.3 -0.7
baz=299
ECSD EROS Data Cent 118.53 34 PKiKP 11 24 15.2 +0.3
ECSD EROS Data Cent 118.53 34 P PKiKP 11 24 15.1 +0.1
baz=309,SNR=5.9
F36A Milaca 118.81 31 PKiKP 11 24 15.3 -0.1
BGNE Belgrade 119.06 37 P PKiKP 11 24 16.2 +0.1
baz=307
MNTX Cornudas Mount 119.08 50 PKPdf PKiKP 11 24 17.1 +0.7
MNTX Cornudas Mount 119.08 50 P PKiKP 11 24 16.7 +0.3
baz=296
SPMN Marine on St. 119.61 31 P PKiKP 11 24 17.5 +0.5
baz=313
MSTX Muleshoe 119.98 47 PKPdf PKiKP 11 24 19.0 +0.8
MSTX Muleshoe 119.98 47 P PKPdf 11 24 17.3 -0.8
baz=299
SCHQ Schefferville 120.23 9 PKP PKPdf 11 24 17.7 -0.1
comp=Z,3.1nm,0.8s,baz=15,slow=5.6,SNR=8.5
KSU1 Kansas State U 121.38 39 P PKPdf 11 24 20.3 -0.2
baz=307
TX32 Lajitas Array 121.43 52 PKPdf PKiKP 11 24 22.2 +1.0
TXAR Lajitas Array 121.44 52 PKP PKiKP 11 24 22.3 +1.2
comp=Z,1.8nm,0.7s,baz=213,slow=1.0,SNR=24
TXAR Lajitas Array 121.44 52 PKPdf PKiKP 11 24 21.9 +0.8
WMOK Wichita Mounta 122.43 44 P PKPdf 11 24 22.4 -0.2
baz=303
JFWS Jewell Farm 122.54 32 PKiKP PKPdf 11 24 22.1 -0.5
JFWS Jewell Farm 122.54 32 PKPdf 11 24 22.1 -0.5
JFWS Jewell Farm 122.54 32 P PKPdf 11 24 22.6 0.0
baz=315
TOA0 Torodi Ar. Sit 122.74 288 PKPdf 11 24 23.5 -0.2
TORD Torodi Ar. Bea 122.74 288 PKP PKPdf 11 24 23.8 0.0
comp=Z,2.1nm,0.8s,baz=64,slow=2.0,SNR=15
P38A Dawn 122.92 36 PKPdf PKiKP 11 24 23.7 0.0
TUL1 Leonard 123.79 41 P PKPdf 11 24 25.1 -0.1
baz=306
JCT Junction City 123.88 49 PKiKP PKiKP 11 24 26.5 +0.6
JCT Junction City 123.88 49 PKPdf PKiKP 11 24 26.5 +0.6
JCT Junction City 123.88 49 P PKPdf 11 24 25.6 0.0
baz=300
S39A Bolivar 124.28 38 PKPdf PKiKP 11 24 26.4 0.0
HDIL Hopedale 124.71 33 P PKiKP 11 24 26.9 -0.2
baz=315
HHAR Hobbs 124.77 40 PKPdf 11 24 27.2 +0.1
WHTX Lake Whitney, 124.83 46 PKPdf PKiKP 11 24 28.4 +0.7
WHTX Lake Whitney, 124.83 46 P PKPdf 11 24 27.0 -0.3
baz=302
833A Chaparral WMA, 125.23 51 PKPdf PKiKP 11 24 29.7 +1.2
833A Chaparral WMA, 125.23 51 P PKiKP 11 24 28.4 -0.2
baz=299
MGMO Mountain Grove 125.27 38 PKPdf 11 24 27.9 -0.2
CCM Cathedral Cave 125.30 36 PKiKP PKiKP 11 24 28.5 +0.1
CCM Cathedral Cave 125.30 36 PKPdf PKiKP 11 24 28.5 +0.1
CCM Cathedral Cave 125.30 36 P PKPdf 11 24 28.0 -0.1
baz=311
U40A Yellville 125.41 39 PKPdf PKiKP 11 24 29.0 +0.3
U40A Yellville 125.41 39 P PKiKP 11 24 28.8 +0.1
baz=309
W39A Magazine 125.53 41 P PKiKP 11 24 29.0 +0.1
baz=307
SFIN Lafayette 126.00 32 P PKiKP 11 24 29.5 -0.2
baz=317
W41B Gary Mavity, V 126.53 40 P PKiKP 11 24 30.8 -0.1
baz=309
O48B Farmland 127.09 30 P PKiKP 11 24 31.7 -0.3
baz=319
P49A Miami Univ. Ec 127.86 31 P PKiKP 11 24 33.6 +0.1
baz=319
LONY Lake Ozonia 127.91 19 P PKiKP 11 24 33.6 +0.2
baz=333
ACSO Alum Creek Sta 128.18 29 P PKiKP 11 24 34.3 +0.2
baz=321
M53A WI Miller and 128.28 26 P PKiKP 11 24 34.0 -0.3
baz=324
WVT Waverly 128.61 36 P PKPdf 11 24 34.4 -0.1
baz=314
OXF Oxford 128.75 39 P PKPdf 11 24 34.3 -0.4
baz=311
PKME Peaks-Kenny Pk 128.84 14 P PKPdf 11 24 34.6 0.0
baz=339
O53A New Philadelph 129.00 27 P PKPdf 11 24 35.2 +0.1
baz=323
P52A Corning 129.06 29 P PKPdf 11 24 35.2 0.0
baz=322
VBMS Vicksburg 129.50 42 P PKPdf 11 24 36.1 -0.1
baz=309
BINY Binghamton 129.54 22 P PKPdf 11 24 35.6 -0.5
baz=330
SSPA Standing Stone 130.13 24 P PKPdf 11 24 37.1 -0.1
baz=327
L61B Northampton 130.47 19 P PKPdf 11 24 37.8 0.0
baz=334
LRAL Lakeview Retre 131.22 38 P PKPdf 11 24 39.6 +0.2
baz=313
TKL Tuckaleechee C 131.25 33 PKP PKiKP 11 24 40.4 -0.1
comp=Z,8.8nm,0.8s,baz=147,slow=3.7,SNR=6.8
PAL Palisades 131.34 21 P PKPdf 11 24 39.7 +0.2
baz=332
KMSC Kings Mountain 132.94 32 P PKiKP 11 24 44.0 +0.1
baz=320
GOGA Godfrey 133.06 35 P PKiKP 11 24 44.0 -0.1
baz=317
CMIG Matias Romero 133.89 62 PKP PKiKP 11 24 46.0 -0.2
comp=Z,3.5nm,0.7s,baz=352,slow=1.6,SNR=7.5
PLCA Paso Flores 140.36 159 PKP PKiKP 11 24 57.5 -1.3
comp=Z,2.5nm,0.8s,baz=24,slow=8.2,SNR=3.6
ORTG Ortega, Santa 144.94 66 PKPdf PKPbc 11 25 04.5 +0.1
JTS Las Juntas de 145.43 65 PKPbc PKPab 11 25 07.2 +1.1
comp=Z,29nm,0.8s,baz=26,slow=3.0,SNR=25
SRBA San Rafael, Bu 147.28 66 PKPab 11 25 12.7 -0.7
CO02 Combarbal 148.31 150 PKPbc PKPbc 11 25 13.4 -0.5
GO02 Mina Guanaco 153.86 145 PKPbc PKiKP 11 25 28.0 +0.5
GO02 PKPab sPKPdf 11 25 39.0 +2.1
SJG San Juan 154.58 29 PKP PKPdf 11 25 20.7 +0.6
comp=Z,4.1nm,0.3s,baz=329,slow=7.8,SNR=3.1
PDPR Patillas Dam, 154.72 29 PKPdf PKPdf 11 25 18.3 -2.1
PDPR PKPab pPKPbc 11 25 42.4 +0.6
ZARC Zaragoza, Cauc 155.64 62 PKPdf PKPdf 11 25 20.2 -1.5
LVC Limon Verde 156.20 142 PKPab PKPab 11 25 53.5 +3.0
comp=Z,2.3nm,0.7s,baz=155,slow=4.9,SNR=3.1
LVC Limon Verde 156.20 142 PKiKP PKPdf 11 25 21.4 -1.3
LVC 11 25 49.5
LVC Limon Verde 156.20 142 PKPdf PKPdf 11 25 21.4 -1.3
LVC PKPab 11 25 49.5 -1.0
ROSC El Rosal 157.24 67 PKPab PKPab 11 25 57.6 +2.3
comp=Z,7.6nm,0.3s,baz=69,slow=23,SNR=3.7
CPUP Villa Florida 157.55 171 PKP PKPdf 11 25 26.2 +2.4
comp=Z,0.7nm,0.3s,baz=168,slow=1.3,SNR=3.0
CPUP PKPab PKPab 11 25 56.9 +1.3
comp=Z,3.6nm,0.7s,baz=181,slow=3.9,SNR=8.3
SDV Santo Domingo 158.47 53 PKP PKPdf 11 25 26.2 +0.6
comp=Z,14nm,1.0s,baz=65,slow=2.2,SNR=9.8
SDV PKPab PKPab 11 26 01.8 +1.5
comp=Z,4.7nm,0.8s,baz=314,slow=5.3,SNR=4.7
SDV Santo Domingo 158.47 53 PKPdf PKPdf 11 25 24.8 -0.8
SDV PKPab PKPab 11 26 00.1 -0.2
LPAZ La Paz 161.07 131 PKP PKPdf 11 25 31.2 +2.2
comp=Z,1.5nm,0.7s,baz=188,slow=7.5,SNR=4.6
LPAZ PKPab PKPab 11 26 13.2 +1.1
comp=Z,2.0nm,0.8s,baz=230,slow=8.4,SNR=3.6
SIV San Ignacio 165.94 148 PKP PKPdf 11 25 34.7 +1.9
comp=Z,2.2nm,0.8s,baz=58,slow=1.8,SNR=7.9
SIV PKPab PKPab 11 26 33.7 +1.2
comp=Z,0.5nm,0.4s,baz=2.8,slow=24,SNR=20
BDFB Brasilia 167.38 204 PKPab PKPab 11 26 40.7 +1.7
comp=Z,3.0nm,0.9s,baz=208,slow=5.2,SNR=4.0
BDFB Brasilia 167.38 204 PKiKP PKPdf 11 25 30.9 -3.1
BDFB 11 26 39.1
BDFB Brasilia 167.38 204 PKPdf PKPdf 11 25 30.9 -3.1
BDFB PKPab 11 26 39.1 +0.1

*IDC **15** 11:15:11.3±1.4, 32.°64N×130.°65E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/67, mbtmp3.4/5, ML2.7/2, Error ellipse: s-maj=22.6km s-min=10.7km az=112.0*
*JMA **15** 11:15:13.5, 32.°70N×130.°74E, h12km±1km, M3.8*
Broadband fault plane solution: P waves. NP1: ϕs294.00000°, δ88.00000°, λ21.00000°. NP2: ϕs204.00000°, δ69.00000°, λ178.00000°. Principal axes:

T Plg16.0000°, Azm161.0000°; N Plg69.0000°, Azm300.0000°; P Plg13.0000°, Azm67.0000°;
JMA Felt IV J1.
NIED ***15*** *11:15:13.5, 32.70N×130.74E, h12km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr=0.41; Mθθ3.45; Mφφ-3.04; Mrθ-1.34; Mθφ2.33; Mφr0.58;*
Fault plane solution: M04.25000×10^{14} NP1: φs=207.00000°,δ70.00000°,λ-178.00000°. NP2: φs=117.00000°,δ88.00000°,λ-20.00000°.

ISC 15 11:15:14.3±0.9, 32°67N±0.05×130°75E±0.08, h12km±6km, n11, σ1s71/14, mb3.5/4, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.13**	**155**	⇑P	**Pg**	**11 15 17.2**	**-0.3**
JIU3				eS	**Sg**	**11 15 20.2**	**+0.3**
JTA	**Tamana**	**0.35**	**329**	⇑P	**Pg**	**11 15 20.1**	**-1.2**
JTA				eS	**Sg**	**11 15 24.8**	**-1.2**
JNU	**Nakatsue**	**0.47**	**14**	Pg	**Pg**	**11 15 21.6**	**-1.9**
	384nm,0.3s,baz=197,slow=8.7,SNR=354						
JNU				Lg	Lg	11 15 27.7	
	2μm,0.3s,baz=72,slow=20,SNR=52						
JTZ	**Takazaki**	**0.82**	**159**	⇑P	**Pn**	**11 15 30.4**	**-1.1**
KSRS	**Korea Array**	**5.31**	**335**	Pn	**Pn**	**11 16 33.4**	**+0.1**
	0.3nm,0.3s,baz=152,slow=14,SNR=2.9						
KSRS				Pg	**Pb**	**11 16 49.5**	**+2.6**
	1.4nm,0.3s,baz=152,slow=16,SNR=14						
KSRS				Lg	Lg	11 17 57.5	
	1.9nm,0.3s,baz=161,slow=30,SNR=7.0						
MJAR	**Matsushiro Arr**	**7.26**	**56**	Pn	**Pn**	**11 17 01.6**	**+1.4**
	0.1nm,0.3s,baz=226,slow=16,SNR=3.0						
KLR	**Kul'dur**	**16.57**	**2**	Pn	**P**	**11 19 10.2**	**+1.5**
	0.1nm,0.3s,baz=150,slow=8.0,SNR=5.6						
CMAR	**Chiang Mai Arr**	**31.85**	**251**	P	**P**	**11 21 41.3**	**+2.1**
	0.3nm,0.5s,baz=66,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**52.42**	**176**	P	**P**	**11 24 24.7**	**-1.9**
	0.4nm,0.9s,baz=354,slow=7.9,SNR=1.7						
ILAR	**Eielson Array**	**57.77**	**30**	P	**P**	**11 25 04.0**	**-0.8**
	0.4nm,0.9s,baz=270,slow=5.4,SNR=2.4						
FINES	**FINESS Array B**	**68.38**	**330**	P	**P**	**11 26 14.0**	**-1.3**
	0.6nm,0.4s,baz=81,slow=6.0,SNR=4.8						

IDC ***15*** *11:17:32.5±0.8, 6.62N×72.81W, h171km±9km, mb3.3/1, mb1 3.8/3, mb1mx3.0/50, mbtmp4.1/3, Error ellipse: s-maj=49.8km s-min=8.0km az=131.0*
RSNC ***15*** *11:17:33.8±1.1, 6.82N×73.12W, h148km±4km, ML3.5, Mw3.8*

ISC 15 11:17:32.2±0.9, 6°83N±0.03×73°12W±0.04, h158km±6km, n41, σ1s65/78, 4C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**195**	⇓iP	**Pn**	**11 17 54.1**	**+0.2**
BARC				eS	**Sn**	**11 18 08.8**	**-1.6**
BARC				i		11 18 11.9	
	comp=Z,1μm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**40**	⇑iP	**Pn**	**11 17 57.0**	**+1.1**
PAMC				eS	**Sn**	**11 18 14.0**	**0.0**
PAMC				i		11 18 17.4	
	comp=Z,402nm,0.4s						
RUSC	**La Rusia**	**0.94**	**178**	⇓iP	**Pn**	**11 17 58.1**	**+0.3**
RUSC				eS	**Sn**	**11 18 16.7**	**-0.7**
RUSC				i		11 18 18.0	
	comp=Z,478nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	eP	**Pn**	**11 18 00.6**	**-0.4**
PTBC				eS	**Sn**	**11 18 21.9**	**-1.2**
PTBC				i		11 18 29.1	
	comp=Z,330nm,0.5s						
TAMC	**Tame, Arauca**	**1.38**	**107**	⇑iP	**Pn**	**11 18 02.6**	**+1.4**
TAMC				eS	**Sn**	**11 18 22.4**	**-1.0**
TAMC				i		11 18 23.6	
	comp=Z,228nm,0.4s						
OCAC	**Ocana**	**1.41**	**352**	⇑iP	**Pn**	**11 18 02.2**	**+0.6**
OCAC				eS	**Sn**	**11 18 24.9**	**+0.6**
OCAC				i		11 18 27.9	
	comp=Z,992nm,0.2s						
SPBC	**San Pablo de B**	**1.51**	**219**	eP	**Pn**	**11 18 02.9**	**+0.2**
SPBC				eS	**Sn**	**11 18 25.0**	**-0.9**
SPBC				i		11 18 27.6	
	comp=Z,610nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	eP	**Pn**	**11 18 06.7**	**+0.5**
ZARC				eS	**Sn**	**11 18 31.7**	**-0.5**
ZARC				i		11 18 37.3	
	comp=Z,429nm,0.3s						
NORC	**Norcasia**	**2.15**	**234**	eP	**Pn**	**11 18 10.2**	**+0.5**
NORC				eS	**Sn**	**11 18 37.8**	**-0.7**
NORC				i		11 18 43.6	
	comp=Z,227nm,0.2s						
CHIC	**Chingaza**	**2.27**	**196**	⇓iP	**Pn**	**11 18 12.0**	**+0.5**
CHIC				eS	**Sn**	**11 18 41.8**	**0.0**
CHIC				i		11 18 46.9	
	comp=Z,215nm,0.3s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**11 18 13.8**	**+1.9**
	comp=Z,80nm,0.3s,baz=310,slow=20,SNR=192						
ROSC				S	**Sn**	**11 18 44.5**	**+1.9**
	comp=Z,46nm,0.3s,baz=124,slow=20,SNR=7.3						
ROSC	**El Rosal**	**2.31**	**211**	iP	**Pn**	**11 18 13.8**	**+1.9**
ROSC				eS	**Sn**	**11 18 44.1**	**+1.6**
HELC	**Santa Helena**	**2.48**	**255**	eP	**Pn**	**11 18 15.5**	**+1.7**
HELC				eS	**Sn**	**11 18 47.7**	**+1.8**
HELC				i		11 18 54.3	
	comp=Z,172nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	eP	**Pn**	**11 18 14.7**	**+0.2**
UREC				eS	**Sn**	**11 18 45.2**	**-2.0**
UREC				i		11 18 57.8	
	comp=Z,229nm,0.3s						
LL1C	**La Loma 1 Cana**	**2.73**	**351**	eP	**Pn**	**11 18 19.2**	**+2.7**
LL1C				eS	**Sn**	**11 18 54.2**	**+3.3**
GUY2C	**Guyana, Caldas**	**2.75**	**235**	eP	**Pn**	**11 18 18.1**	**+0.8**
GUY2C				eS	**Sn**	**11 18 52.2**	**+0.2**
GUY2C				i		11 19 00.5	
	comp=Z,209nm,0.6s						
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇓iP	**Pn**	**11 18 17.3**	**-0.1**
PTGC				eS	**Sn**	**11 18 50.9**	**-1.5**
PTGC				i		11 18 56.1	
	comp=Z,116nm,0.5s						
LL6C	**La Loma 6 Bece**	**2.89**	**357**	eP	**Pn**	**11 18 18.4**	**-0.1**
CBOC	**Ciudad Bolivar**	**3.03**	**252**	eP	**Pn**	**11 18 21.7**	**+1.2**
CBOC				eS	**Sn**	**11 18 59.1**	**+1.2**
CBOC				i		11 19 04.0	
	comp=Z,42nm,0.3s						
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**11 18 23.6**	**+1.0**
	comp=Z,45nm,0.3s,baz=176,slow=2.7,SNR=188						
SDV				S	**Sn**	**11 19 01.2**	**-0.4**
	comp=Z,17nm,0.3s,baz=259,slow=21,SNR=14						
SDV	**Santo Domingo**	**3.20**	**50**	⇑iP	**Pn**	**11 18 23.6**	**+1.0**
SDV				eS	**Sn**	**11 19 01.6**	**-0.1**
SDV				i		11 19 06.3	
	comp=Z,49nm,0.6s						
ANIL	**Santa Ana**	**3.25**	**224**	eP	**Pn**	**11 18 25.1**	**+1.6**
ANIL				eS	**Sn**	**11 19 05.1**	**+2.0**
ORTC	**Ortega, Tolima**	**3.60**	**216**	eP	**Pn**	**11 18 28.4**	**+0.8**
ORTC				eS	**Sn**	**11 19 11.7**	**+1.1**
ORTC				i		11 19 15.6	
	comp=Z,125nm,0.2s						
CVALL	**Valledupar, Ce**	**3.65**	**358**	eP	**Pn**	**11 18 28.1**	**-0.2**
CVALL				eS	**Sn**	**11 19 11.9**	**0.0**
CVALL				i		11 19 16.7	
	comp=Z,109nm,0.6s						
SJCC	**San Jacinto, C**	**3.66**	**326**	eP	**Pn**	**11 18 27.7**	**-0.7**
SJCC				eS	**Sn**	**11 19 09.3**	**-2.8**
SJCC				i		11 19 24.1	
	comp=Z,69nm,0.3s						
PLMC	**San Jos del P**	**3.69**	**239**	eP	**Pn**	**11 18 29.5**	**+0.8**
PLMC				eS	**Sn**	**11 19 10.4**	**-2.2**
PLMC				i		11 19 19.4	
	comp=Z,63nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	eP	**Pn**	**11 18 34.4**	**-0.6**
CRJC				i		11 19 23.9	
	comp=Z,100nm,0.5s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	eP	**Pn**	**11 18 36.8**	**+0.3**
YOTC				eS	**Sn**	**11 19 27.8**	**+1.1**
GUVC	**San Jose del G**	**4.29**	**173**	eP	**Pn**	**11 18 36.8**	**+0.2**
GUVC				eS	**Sn**	**11 19 25.0**	**-1.7**
GUVC				i		11 19 31.8	
	comp=Z,173nm,0.2s						
SMRC	**Santa Marta, M**	**4.44**	**346**	eP	**Pn**	**11 18 39.4**	**+1.0**
SMRC				eS	**Sn**	**11 19 26.6**	**-3.5**
SMRC				i		11 19 31.5	
	comp=Z,43nm,0.4s						
MACC	**Macarena, Meta**	**4.71**	**189**	eP	**Pn**	**11 18 41.2**	**-0.9**
MACC				i		11 19 09.7	
	comp=Z,20nm,0.7s						
MACC				eS	**Sn**	**11 19 32.4**	**-4.2**
BETC	**Betania**	**4.73**	**209**	eP	**Pn**	**11 18 41.2**	**-1.1**
BETC				eS	**Sn**	**11 19 32.9**	**-4.2**
BETC				i		11 19 33.1	
	comp=Z,26nm,0.3s						
DABV	**Dabajuro**	**4.74**	**31**	eP	**Pn**	**11 18 43.1**	**+0.6**
DABV				eS	**Sn**	**11 19 36.3**	**-1.0**
MARP	**Paez Belalcaza**	**4.87**	**216**	eP	**Pn**	**11 18 45.4**	**+1.0**
MARP				eS	**Sn**	**11 19 37.9**	**-2.8**
URIC	**Uribia, Colomb**	**4.96**	**13**	eP	**Pn**	**11 18 44.8**	**-0.6**
URIC				eS	**Sn**	**11 19 37.7**	**-4.7**
URIC				i		11 19 47.1	
	comp=Z,22nm,0.5s						
GARC	**Garzon, Huila**	**5.19**	**207**	eP	**Pn**	**11 18 48.1**	**-0.4**
GARC				i		11 19 45.0	
	comp=Z,37nm,0.3s						
GARC				eS	**Sn**	**11 19 45.2**	**-2.9**
PCON	**Cinco Dias**	**5.54**	**216**	eP	**Pn**	**11 18 54.6**	**+1.1**
PCON				eS	**Sn**	**11 19 56.4**	**-0.6**
PCON				i		11 20 04.1	
	comp=Z,14nm,0.6s						
POPC	**Popayan, Colom**	**5.55**	**220**	eP	**Pn**	**11 18 53.4**	**+0.1**
POPC				eS	**Sn**	**11 19 53.5**	**-3.1**
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**11 27 44.6**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=133,slow=6.7,SNR=21						
YKA				pP	**pP**	**11 28 22.7**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=128,slow=7.5,SNR=1.9						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**11 37 01.8**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=118,slow=3.3,SNR=8.2						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**11 37 04.0**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=106,slow=2.9,SNR=11						

UPA ***15*** *11:28:36.2±1.9, 8.31N×83.84W, h0km±7km, MW3.8*
UCR ***15*** *11:28:36.7±2.1, 8.39N×83.87W, h1km±4km, MW4.3*
INET ***15*** *11:28:39.3±1.9, 8.53N×83.76W, h3km±11km, MW3.4*

ISC 15 11:28:36.1±1.5, 8°35N±0.04×83°86W±0.04, h9km±10km, n69, σ1s26/98, 2C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOS	**Rincon, Osa**	**0.49**	**44**	eP	**Pb**	**11 28 46.8**	**0.0**
PIRO	**Carate, Puerto**	**0.52**	**84**	eP	**Pb**	**11 28 47.9**	**+0.5**
PIRO				eS	**Sb**	**11 28 56.6**	**+1.6**
PIRO	**Carate, Puerto**	**0.52**	**84**	eP	**Pb**	**11 28 48.0**	**+0.7**
PTJ1	**Puerto Jimnez**	**0.58**	**71**	eP	**Pb**	**11 29 49.0**	**+0.6**
PTJ1				eS	**Sn**	**11 28 58.9**	**-1.3**
EDPN	**Palmar Norte**	**0.73**	**33**	eP	**Pb**	**11 28 51.2**	**+0.3**
EDPN				eS	**Sn**	**11 29 02.5**	**-1.3**
CCOL	**Caracol de Cor**	**0.88**	**86**	eP	**Pb**	**11 28 54.0**	**+0.5**
EDDO	**Dominical**	**0.90**	**360**	eP	**Pg**	**11 28 53.6**	**+0.3**
EDDO				eS	**Sb**	**11 29 06.4**	**+0.5**
PTPM	**Petroterminale**	**0.98**	**98**	iP	**Pg**	**11 28 55.1**	**+0.2**
PTPM				eS	**Sn**	**11 29 09.6**	**-0.4**
EDBA	**Buenos Aires**	**0.99**	**35**	eP	**Pg**	**11 28 55.3**	**+0.1**
EDBA				eS	**Sn**	**11 29 09.9**	**-0.5**
EDSV	**San Vito**	**0.99**	**62**	eP	**Pb**	**11 28 56.0**	**+0.4**
EDSV				eS	**Sn**	**11 29 11.1**	**+0.6**
CDITO	**Canoas**	**1.00**	**77**	⇓iP	**Pg**	**11 28 55.5**	**+0.2**
CDITO				eS	**Sb**	**11 29 08.3**	**-0.5**
CDITO	**Canoas**	**1.00**	**77**	eP	**Pg**	**11 28 55.6**	**+0.2**
SRBA	**San Rafael, Bu**	**1.01**	**29**	eP	**Pg**	**11 28 55.7**	**+0.3**
POTG	**Potrero Grande**	**1.01**	**46**	eP	**Pb**	**11 28 56.0**	**+0.2**
PEZE	**Perez Zeledon,**	**1.04**	**10**	eP	**Pg**	**11 28 56.4**	**+0.2**
DRK0	**Durika**	**1.09**	**34**	eP	**Pg**	**11 28 57.2**	**+0.1**
DRK0	**Durika**	**1.09**	**34**	⇓iP	**Pg**	**11 28 57.2**	**+0.1**
DRK0				eS	**Sb**	**11 29 11.2**	**-0.5**
MLIR3	**Monte Lirio, C**	**1.11**	**67**	eP	**Pb**	**11 28 57.8**	**+0.2**
MLIR3				eS	**Sn**	**11 29 14.1**	**+0.6**
BRU2	**Volcan**	**1.24**	**69**	eP	**Pb**	**11 28 59.7**	**0.0**
BRU2	**Volcan**	**1.24**	**69**	⇓iP	**Pb**	**11 28 59.6**	**0.0**
BRU2				eS	**Sn**	**11 29 16.9**	**+0.4**
BRU2	**Volcan**	**1.24**	**69**	⇓iP	**Pb**	**11 28 59.5**	**-0.1**
BRU2				eS	**Sn**	**11 29 17.4**	**+0.9**
BAGA3	**Bagala, Chiriq**	**1.32**	**85**	eP	**Pn**	**11 29 01.2**	**+0.5**
BAGA3				eS	**Sg**	**11 29 18.8**	**+0.1**
BCO2	**Palmira**	**1.36**	**74**	⇓iP	**Pn**	**11 29 01.7**	**+0.2**
BCO2				eS	**Sg**	**11 29 20.3**	**+0.2**
LCR2	**La Lucha 2**	**1.39**	**354**	eP	**Pn**	**11 29 01.1**	**-0.8**
DVD	**David**	**1.40**	**86**	eP	**Pn**	**11 29 01.5**	**-0.2**
DVD				eS	**Sg**	**11 29 20.9**	**-0.1**
RIMA	**Rio Macho**	**1.41**	**360**	eP	**Pn**	**11 29 01.3**	**-0.8**
RIMA	**Rio Macho**	**1.41**	**360**	eP	**Pn**	**11 29 01.7**	**-0.4**
RIMA				eS	**Sb**	**11 29 20.6**	**-0.2**
PEDE3	**Pedregal, Chir**	**1.42**	**88**	eP	**Pn**	**11 29 01.5**	**-0.5**
PEDE3				eS	**Sg**	**11 29 22.0**	**+0.2**
LNBQ3	**Los Naranjos,**	**1.47**	**72**	eP	**Pn**	**11 28 59.3**	**-3.6**
LNBQ3				eS	**Sg**	**11 29 23.1**	**-0.3**
CHIR3	**Chiriqui UPA,**	**1.51**	**88**	eP	**Pn**	**11 29 03.1**	**-0.3**
CHIR3				eS	**Sg**	**11 29 24.6**	**-0.2**
JACO	**JACO, Garabito**	**1.53**	**329**	eP	**Pn**	**11 29 02.0**	**-1.5**
PSOM3	**Paja de Sombre**	**1.56**	**77**	eP	**Pn**	**11 29 04.1**	**+0.2**
PSOM3				eS	**Sg**	**11 29 25.0**	**-1.2**
HDC	**Heredia**	**1.66**	**351**	eP	**Pn**	**11 29 05.4**	**-0.1**
HDC	**Heredia**	**1.66**	**351**	eP	**Pn**	**11 29 05.0**	**-0.6**
HDC				eS	**Sg**	**11 29 29.4**	**-0.2**
HDC3	**Heredia 3**	**1.66**	**351**	eP	**Pn**	**11 29 05.4**	**-0.1**
HDC3	**Heredia 3**	**1.66**	**351**	eP	**Pn**	**11 29 05.4**	**-0.1**
CVTR	**Volcan Turrial**	**1.66**	**0**	eP	**Pn**	**11 29 05.8**	**0.0**
CNI2	**El Empalme, Bo**	**1.74**	**52**	eP	**Pn**	**11 29 06.6**	**+0.2**
CNI2				eS	**Sg**	**11 29 30.2**	**-1.8**
CHGR2	**Aguacate**	**1.79**	**71**	eP	**Pn**	**11 29 08.1**	**+0.8**
CHGR2				eS	**Sb**	**11 29 31.5**	**-0.2**
BATAN	**Batan**	**1.80**	**15**	eP	**Pb**	**11 29 09.2**	**-0.1**
BATAN				eS	**Sg**	**11 29 33.5**	**-0.5**
JTS	**Las Juntas de**	**2.21**	**331**	eP	**Pn**	**11 29 14.6**	**+1.5**
JTS	**Las Juntas de**	**2.21**	**331**	⇑iP	**Pn**	**11 29 14.8**	**+1.8**
JTS				eP	**Pb**	**11 29 15.1**	**-1.2**
INDI	**Punta indio, G**	**2.22**	**313**	eP	**Pn**	**11 29 12.6**	**-0.5**
GRZA	**Playa Garza**	**2.35**	**312**	eP	**Pn**	**11 29 14.2**	**-0.6**
COVE	**Coope Vega, Sa**	**2.42**	**347**	eP	**Pn**	**11 29 17.6**	**+1.8**
PLVR	**Palo Verde**	**2.47**	**324**	eP	**Pn**	**11 29 16.9**	**+0.2**
SAJU	**San Juanillo,**	**2.50**	**313**	eP	**Pn**	**11 29 16.4**	**-0.5**
ORTG	**Ortega, Santa**	**2.55**	**322**	eP	**Pn**	**11 29 18.8**	**+1.1**
COLC	**Colonia**	**2.66**	**330**	eP	**Pn**	**11 29 21.1**	**+2.0**
GMAL	**Guarumal, Vera**	**2.66**	**102**	eP	**Pn**	**11 29 20.2**	**+1.0**
GMAL				eS	**Sb**	**11 29 54.8**	**-2.0**
HORNC	**Hornillas**	**2.69**	**331**	eP	**Pn**	**11 29 21.7**	**+2.1**
GPS2	**Hotel Rincn d**	**2.81**	**328**	iP	**Pn**	**11 29 23.4**	**+2.2**
BUEV	**Buena Vista**	**2.87**	**328**	eP	**Pn**	**11 29 24.4**	**+2.2**
GB1A	**Borinquen Arri**	**2.89**	**328**	iP	**Pn**	**11 29 24.3**	**+1.9**
BUAI	**Buenos Aires**	**2.90**	**330**	iP	**Pn**	**11 29 24.4**	**+1.9**
HZTE	**Horizontes, Gu**	**2.91**	**324**	eP	**Pn**	**11 29 24.0**	**+1.4**
HZTE	**Horizontes, Gu**	**2.91**	**324**	eP	**Pn**	**11 29 23.9**	**+1.4**
CALO3	**Calobre, Verag**	**2.98**	**90**	eP	**Pb**	**11 29 30.8**	**+1.3**
CALO3				eS	**Sb**	**11 30 05.2**	**-0.8**
CACAO	**El Cacao, Vera**	**3.13**	**108**	eP	**Pn**	**11 29 25.1**	**-0.5**
CACAO				eS	**Sn**	**11 30 01.5**	**-1.7**
CRIS3	**El Cristo, Coc**	**3.21**	**91**	eS	**Sb**	**11 30 10.1**	**-2.4**
CHIT3	**Chitre**	**3.43**	**96**	eS	**Sb**	**11 30 21.1**	**+2.3**
PNME	**Penonome**	**3.50**	**88**	eP	**Pn**	**11 29 33.9**	**+3.3**
AZU	**Azuero**	**3.59**	**99**	eP	**Pb**	**11 29 36.7**	**-3.1**
AZU				eS	**Sg**	**11 30 34.3**	**+2.8**
ACON	**Acoyapa**	**3.82**	**340**	eP	**Pn**	**11 29 37.2**	**+2.1**
ACON	**Acoyapa**	**3.82**	**340**	⇑iP	**Pn**	**11 29 37.2**	**+2.1**
BCIP	**Isla Barro Col**	**4.06**	**78**	eS	**Sg**	**11 30 43.7**	**-2.8**
BCIP	**Isla Barro Col**	**4.06**	**78**	eP	**Pn**	**11 29 39.9**	**+1.5**
BOAB	**BOACO BROADBAN**	**4.45**	**337**	eP	**Pn**	**11 29 45.3**	**+1.6**
MOMN	**Momotombo**	**4.82**	**327**	eP	**Pn**	**11 29 50.5**	**+1.6**

IDC 15 12:13:14.1±1.6, 34.14N×26.36E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.4/41, mbtmp3.6/6, ML3.9/2, MS3.4/2, Ms1 3.4/2, ms1mx2.4/92, Error ellipse: s-maj=41.9km s-min=24.0km az=153.0. Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**16.68**	**6**	Pn	**Pn**	**12 17 10.1**	**+0.9**
	1.0nm,0.3s,baz=185,slow=8.6,SNR=4.9						
GERES	**GERESS Array B**	**17.45**	**331**	P	**Pn**	**12 17 18.9**	**0.0**
	0.1nm,0.3s,baz=150,slow=8.0,SNR=1.8						
OBN	**Obninsk**	**22.15**	**16**	LR	**LR**	**12 28 31.0**	
	comp=Z,14nm,19.9s,baz=202,slow=41						
ESDC	**Sonseca Array**	**24.80**	**292**	P	**P**	**12 18 37.2**	**-0.6**
	0.7nm,0.8s,baz=74,slow=8.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**30.63**	**233**	P	**P**	**12 19 30.7**	**+0.6**
	0.4nm,0.7s,baz=30,slow=8.6,SNR=2.4						
MKAR	**Makanchi Array**	**43.52**	**56**	P	**P**	**12 21 19.4**	**+0.1**
	0.9nm,0.7s,baz=282,slow=6.1,SNR=10						
ZALV	**Zalesovo Beam**	**45.00**	**45**	P	**P**	**12 21 30.2**	**-0.8**
	1.2nm,0.4s,baz=268,slow=7.7,SNR=7.1						
DAV	**Davao City (W)**	**93.65**	**79**	LR	**LR**	**13 15 35.1**	
	comp=Z,128nm,19.1s,baz=295,slow=40						

NOU 15 12:22:12.1, 18.45S×170.16E, h3km, MLv4.1/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.77**	**291**	P	**Pn**	**12 22 43.6**	**-0.1**
DVP	**Devils Point**	**2.01**	**291**	P	**Pn**	**12 22 47.0**	**+0.1**
MARNC	**Mare, Loyalty**	**3.62**	**213**	P	**Pn**	**12 23 08.5**	**-0.6**
YATNC	**Mamie plateau,**	**4.72**	**220**	P	**Pn**	**12 23 24.6**	**+0.3**
DZM	**Mont Dzumac**	**5.01**	**223**	P	**Pn**	**12 23 27.6**	**-0.8**
OUENC	**Ouen Island, N**	**5.03**	**218**	P	**Pn**	**12 23 29.4**	**+0.9**

BJI ***15*** *12:51:23.1±0.0, 36.51N×71.28E, h97km, mb4.4/14, mB4.8/5*
IDC ***15*** *12:51:24.1±3.4, 36.26N×71.41E, h104km±30km, mb3.6/14, mb1 3.8/18, mb1mx3.5/64, mbtmp4.0/18, MS2.6/3, Ms1 2.6/3, ms1mx2.3/82, Error ellipse: s-maj=19.0km s-min=14.0km az=28.0*
NEIC ***15*** *12:51:25.1±1.9, 36.42N±0.06×71.29E±0.07, h104km±6km, mb4.4/18, Error ellipse: s-maj=8.4km s-min=8.1km az=104.0*
NNC ***15*** *12:51:27.5±2.5, 36.70N×71.30E, h142km±37km, mb3.8, mpv4.6, Error ellipse: s-maj=20.9km s-min=15.7km az=8.0*

ISC 15 12:51:24.7±0.5, 36°38N±0.05×71°35E±0.05, h114km, n98, σ2s17/103, mb4.1/25, 5C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.59**	**170**	P	**Pn**	**12 52 06.9**	**+1.3**
CEP				S	**Sn**	**12 52 39.0**	**+2.1**
KBL	**Kabul**	**2.63**	**226**	Pn	**Pn**	**12 52 07.1**	**+1.0**
GAR	**Garm**	**2.75**	**343**		**Pn**	**12 52 06.9**	**-0.7**
CHGR	**Chuyangaron**	**2.87**	**323**	Pn	**Pn**	**12 52 07.9**	**-1.2**
DRK	**Karamyk**	**3.12**	**6**		**Pn**	**12 52 13.3**	**+0.7**
CHCP	**Chirah Chowk**	**3.13**	**149**	P	**Pn**	**12 52 14.1**	**+1.5**
NIL	**Nilore**	**3.13**	**150**		**Pn**	**12 52 14.0**	**+1.3**
THW	**Thamme Wali**	**3.59**	**175**	P	**Pn**	**12 52 19.6**	**+0.9**
BTK	**Batken**	**3.70**	**354**	Pn	**Pn**	**12 52 20.7**	**+0.5**
KSH	**Kashi**	**4.81**	**48**	P	Pn	12 52 30.6	-4.6
KSH				S	Sn	12 53 16.8	-13
KSH				smax	smax		
	comp=N,780nm,0.7s						
KSH				smax	smax		
	comp=E,350nm,0.5s						
AML	**Almayashu**	**6.03**	**17**	P	**Pn**	**12 52 51.3**	**-0.4**
	SNR=285						
UCH	**Uchtor**	**6.34**	**22**	P	**Pn**	**12 52 55.6**	**-0.4**
	SNR=64						
EKS2	**Erkin-Say**	**6.55**	**16**	P	**Pn**	**12 52 58.2**	**-0.4**
	SNR=38						
AAK	**Ala-Archa**	**6.71**	**20**	P	**Pn**	**12 53 00.8**	**0.0**
	SNR=57						
AAK	**Ala-Archa**	**6.71**	**20**	P	**Pn**	**12 53 01.1**	**+0.4**
	11nm,0.3s,baz=203,slow=7.7,SNR=119						
AAK				S	**Sn**	**12 54 12.7**	**-3.0**
	3.6nm,0.3s,baz=320,slow=18,SNR=6.4						
AAK				LR	LR	12 55 27.5	
	comp=Z,27nm,18.7s,baz=234,slow=36						
AAK	**Ala-Archa**	**6.71**	**20**	Pn	**Pn**	**12 53 00.7**	**0.0**
KK31	**Karatay Array**	**6.75**	**355**	Pn	**Pn**	**12 53 00.2**	**-1.0**
KK31	**Karatay Array**	**6.75**	**355**	P	**Pn**	**12 53 00.6**	**-0.6**
	67nm,0.3s,baz=177,slow=13,SNR=749						
KK31				⇓S	**Sn**	**12 54 12.2**	**-4.4**
	9.7nm,0.3s,baz=186,slow=24,SNR=8.0						
KKAR	**Karatay Array**	**6.75**	**355**	Pn	**Pn**	**12 53 00.2**	**-1.0**
KBK	**Karagaybulak**	**6.86**	**23**	P	**Pn**	**12 53 02.5**	**-0.3**
	SNR=12						
FRU1	**Bishkek**	**6.91**	**20**	Pn	**Pn**	**12 53 03.4**	**+0.1**
BOOM	**Boomskoye usch**	**7.06**	**29**	Pn	**Pn**	**12 53 04.7**	**-0.9**
CHMS	**Chumysh**	**7.12**	**21**	P	**Pn

comp=Z,8.8nm,0.7s
ZALV Zalesovo Beam 19.91 24 P P 12 55 47.3 +0.2
comp=Z,3.4nm,0.3s,baz=208,slow=10,SNR=55
ZALV Zalesovo Beam 19.91 24 P P 12 55 47.1 0.0
SHL Shillong 20.60 116 P P 12 55 55.3 +0.4
GNI Garni 21.20 288 LR LR 13 07 29.6
comp=Z,24nm,18.2s,baz=344,slow=45
ARU Arti 21.84 341 P P 12 56 09.9 +2.1
ARU IAmb IAmb 12 56 12.9
comp=Z,9.9nm,1.0s
GTA Gaotai 22.63 74 *e*P **P 12 56 19.1 +2.9**
GTA pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 22.91 297 P P 12 56 21.4 +2.7
comp=Z,1.0nm,0.7s,baz=120,slow=5.2,SNR=3.9
LZH Lanzhou 26.15 81 *e*P **P 12 56 51.3 +2.8**
LZH pmax pmax
comp=Z,15nm,1.1s
PZH PanZhiHua 27.64 102 P P 12 57 06.1 +4.3
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
CMAR Chiang Mai Arr 30.15 119 P P 12 57 24.5 +0.6
comp=Z,0.2nm,0.5s,baz=301,slow=7.4,SNR=4.8
HHC Hu-ho-hao-te 31.54 69 *e*P **P 12 57 38.1 +1.9**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,190nm,5.5s
AKASG Malin Array Be 33.24 309 P P 12 57 52.9 +2.2
comp=Z,0.4nm,0.3s,baz=85,slow=6.4,SNR=5.3
AKASG Malin Array Be 33.24 309 IAmb IAmb 12 57 53.8
comp=Z,51nm,0.8s
UBPT Khong Chiam 36.92 116 P P 12 58 23.6 +0.9
UBPT IAmb IAmb 12 58 42.9
comp=Z,6.7nm,1.3s
FIA1 FINESS Array S 37.74 326 P P 12 58 31.9 +2.8
FIA1 IAmb IAmb 12 58 52.0
comp=Z,18nm,1.5s
FINES FINESS Array B 37.74 326 P P 12 58 31.4 +2.3
comp=Z,1.5nm,0.4s,baz=118,slow=9.1,SNR=14
NJ2 Nanjing 39.21 82 *e*P **P 12 58 43.3 +1.5**
NJ2 pmax pmax
comp=Z,12nm,0.5s
ARCES ARCESS Array B 41.37 338 P P 12 59 01.0 +2.0
comp=Z,2.0nm,0.7s,baz=111,slow=6.8,SNR=11
ARCES ARCESS Array B 41.37 338 IAmb IAmb 12 59 20.6
comp=Z,11nm,1.4s
NC405 NORSAR Array S 44.41 323 P P 12 59 25.0 +1.2
NC602 NORSAR Array S 44.46 323 P P 12 59 26.3 +2.2
NC602 IAmb IAmb 12 59 35.9
comp=Z,26nm,1.5s
NC303 NORSAR Array S 44.59 323 P P 12 59 27.1 +2.0
NB201 NORSAR Array S 44.61 323 P P 12 59 27.2 +1.9
NB201 IAmb IAmb 12 59 49.0
comp=Z,2.2nm,0.7s
NB2 NORSAR Subarra 44.65 323 P P 12 59 27.1 +1.5
comp=Z,3.0nm,0.6s,baz=95,slow=7.9
NOA NORSAR Array B 44.65 323 P P 12 59 27.3 +1.7
comp=Z,1.5nm,0.4s,baz=96,slow=7.7,SNR=19
KSRS Korea Array 44.65 71 P P 12 59 26.9 +0.9
comp=Z,0.8nm,0.6s,baz=268,slow=6.6,SNR=4.1
NBO00 NORSAR Array S 44.86 323 P P 12 59 28.5 +1.2
NC204 NORSAR Array S 44.89 323 P P 12 59 28.9 +1.3
NC204 IAmb IAmb 12 59 56.5
comp=Z,28nm,1.4s
TORD Torodi Ar. Bea 66.00 269 P P 13 01 58.5 -0.8
comp=Z,0.8nm,0.4s,baz=46,slow=6.0,SNR=13
MATP Matopo 69.51 223 P P 13 02 21.9 +0.7
comp=Z,2.3nm,0.5s,baz=24,slow=5.7,SNR=9.1
INK Inuvik 73.98 9 P P 13 02 48.5 +1.4
comp=Z,0.8nm,0.4s,baz=339,slow=6.7,SNR=9.7
ILAR Eielson Array 74.82 16 P P 13 02 52.5 +0.3
comp=Z,0.5nm,0.8s,baz=337,slow=6.3,SNR=5.4
YKA Yellowknife Ar 81.36 3 P P 13 03 29.2 +1.0
comp=Z,0.9nm,0.7s,baz=349,slow=5.3,SNR=23
WRA Warramunga Arr 81.69 122 P P 13 03 30.3 -0.3
comp=Z,0.4nm,0.6s,baz=326,slow=4.9,SNR=9.7
ASAR Alice Springs P P 13 03 42.5 +0.3
comp=Z,0.3nm,0.5s,baz=309,slow=5.3,SNR=8.6

IDC ***15*** *13:01:28.0±2.0, 7.°79S×118.°80E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.1/52, mbtmp3.3/5, ML3.1/3, Error ellipse: s-maj=53.5km s-min=21.8km az=72.0*
ISC 15 13:01:33.0±1.6, 7.°87S±0.°09×119.°0E±0.°2, h35km, n5, σ2s64/7, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.93**	**14**	Pn	**Pn**	**13 02 15.7**	**-1.4**
	3.8nm,0.3s,baz=178,slow=8.5,SNR=6.6						
KAPI				Sn	**Sn**	**13 02 52.6**	**+1.6**
	8.5nm,0.3s,baz=142,slow=20,SNR=4.0						
FITZ	**Fitzroy Crossi**	**12.04**	**148**	Pn	**Pn**	**13 04 24.3**	**+2.1**
	0.0nm,0.3s,baz=320,slow=7.9,SNR=1.9						
FITZ				Sn	**Sn**	**13 06 31.9**	**-3.4**
	0.1nm,0.3s,baz=191,slow=22,SNR=2.3						
WRA	**Warramunga Arr**	**19.09**	**131**	P	**Pn**	**13 05 53.4**	**-0.5**
	0.1nm,0.3s,baz=303,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**21.23**	**139**	P	**P**	**13 06 18.6**	**+2.5**
	0.8nm,0.3s,baz=315,slow=9.0,SNR=18						
MKAR	**Makanchi Array**	**63.46**	**333**	P	**P**	**13 11 58.6**	**-0.8**
	0.1nm,0.4s,baz=148,slow=8.4,SNR=2.3						

VIE ***15*** *13:04:16.7±0.3, 48.°90N×10.°96E, h0km, mb2.1/8, ml2.5/10, Error ellipse: s-maj=2.9km s-min=1.5km az=134.0 27 km NE of Donauwoerth Suspected Mining explosion.*
PRU ***15*** *13:04:18.4±0.0, 48.°99N×11.°01E, h0km, Donnauwoerth*
ISC 15 13:04:16.0±1.7, 48.°98N±0.°06×10.°91E±0.°06, h4km±12km, n13, σ0s51/26, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RETA	**Reutte**	**1.50**	**184**	*e*Pg	**Pg**	**13 04 45.2**	**+0.4**
	2.8nm,0.2s						
RETA				*e*Sg	**Sg**	**13 05 03.4**	**-0.8**
	7.1nm,0.2s						
NKC	**Novy Kostel**	**1.60**	**38**	*e*SG	**Sg**	**13 05 08.1**	**+0.6**
	comp=Z,24nm,0.2s						
MOTA	**Moosalm**	**1.65**	**175**	*e*Pn	**Pn**	**13 04 45.4**	**-0.4**
	1.6nm,0.1s						
MOTA				*e*Sn	**Sn**	**13 05 06.8**	**-0.6**
	6.7nm,0.2s						
WATA	**Walderalm**	**1.71**	**165**	*e*Pn	**Pn**	**13 04 46.6**	**0.0**
	2.0nm,0.1s						
WATA				*i* Sn	**Sn**	**13 05 09.0**	**0.0**
	4.8nm,0.2s						
KHC	**Kasperske Hory**	**1.76**	**84**	*e*PG	**Pg**	**13 04 49.9**	**+0.1**
KHC				*e*SG	**Sg**	**13 05 12.6**	**-0.1**
	comp=Z,9.5nm,0.2s						
SQTA	**Sankt Quirin**	**1.78**	**173**	*e*Pn	**Pn**	**13 04 47.7**	**+0.1**
	0.9nm,0.1s						
SQTA				*e*Pg	**Pg**	**13 04 50.1**	**+0.1**
	4.6nm,0.2s						
SQTA				*e*Sn	**Sn**	**13 05 11.2**	**+0.7**
	1.6nm,0.2s						
SQTA				*e*Sg	**Sg**	**13 05 13.7**	**+0.7**
	8.0nm,0.2s						
WTTA	**Wattenberg**	**1.79**	**164**	*e*Pn	**Pn**	**13 04 48.1**	**+0.3**
	0.7nm,0.1s						
WTTA				*e*Sn	**Sn**	**13 05 11.3**	**+0.3**
	14nm,0.3s,SNR=5.6						
DAVA	**Damuels**	**1.83**	**202**	*e*Pn	**Pn**	**13 04 47.7**	**-0.7**
	1.6nm,0.1s						
DAVA				*e*Sg	**Sg**	**13 05 15.3**	**+0.5**
	13nm,0.4s						
FETA	**Feichten**	**1.97**	**184**	*i* Pn	**Pn**	**13 04 50.1**	**-0.1**
	0.2nm,0.1s						
FETA				*e*Sg	**Sg**	**13 05 18.9**	**-0.3**
	2.4nm,0.3s,SNR=5.4						
CKRC	**Cesky Krumlov**	**2.25**	**93**	*e*PG	**Pg**	**13 04 59.1**	**0.0**
CKRC				*e*SG	**Sg**	**13 05 28.0**	**-0.3**
	comp=Z,9.4nm,0.2s						
MOA	**Molln**	**2.51**	**116**	*e*Pg	**Pg**	**13 05 03.7**	**-0.4**
	0.6nm,0.1s						
MOA				*e*Sg	**Sg**	**13 05 36.9**	**+0.3**
	3.2nm,0.2s						
KBA	**Koelnbreinsper**	**2.51**	**138**	*e*Sn	**Sn**	**13 05 29.3**	**+0.4**
	0.7nm,0.2s						
CONA	**Conrad Observa**	**3.46**	**106**	*e*Pg	**Pg**	**13 05 21.4**	**-0.9**
	1.1nm,0.2s						
CONA				*e*Sg	**Sg**	**13 06 08.2**	**+0.9**
	5.1nm,0.3s						

IDC ***15*** *13:10:29.9±0.7, 14.°05S×166.°87E, h0km, mb4.3/15, mb1 4.4/17, mb1mx4.1/56, mbtmp4.3/17, ML4.5/2, MS3.7/13, Ms1 3.7/13, ms1mx3.3/62, Error ellipse: s-maj=23.0km s-min=15.9km az=106.0*
NEIC ***15*** *13:10:37.3±1.6, 13.°97S±0.°07×166.°8E±0.°1, h46km±4km, mb4.5/27, Error ellipse: s-maj=15.5km s-min=9.1km az=68.0*
ISC 15 13:10:35.3±0.5, 13.°99S±0.°06×166.°80E±0.°08, h35km, n80, σ1s09/78, mb4.5/24, MS3.7/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.50**	**165**	Pn	**Pn**	**13 10 58.6**	**-1.1**
LIFNC	**LIFOU**	**6.76**	**176**	Pn	**Pn**	**13 12 13.7**	**+1.6**
KOUNC	**Koumac, New Ca**	**6.95**	**200**	Pn	**Pn**	**13 12 15.6**	**+1.0**
MARNC	**Mare, Loyalty**	**7.54**	**171**		**Pn**	**13 12 25.1**	**+2.3**
DZM	**Mont Dzumac**	**8.04**	**182**	Pn	**Pn**	**13 12 29.0**	**-0.8**
	2.6nm,0.3s,baz=127,slow=23,SNR=26						
DZM				Sn	**Sn**	**13 13 57.6**	**-1.9**
	0.3nm,0.3s,baz=193,slow=24,SNR=1.3						
DZM				LR	LR	13 15 15.3	
	comp=Z,312nm,20.6s,baz=18,slow=36						
DZM	**Mont Dzumac**	**8.04**	**182**	*e*Pn	**Pn**	**13 12 30.9**	**+1.1**
	42nm,0.3s						
DZM				*e*Sn	**Sn**	**13 13 56.6**	**-3.0**
	55nm,0.7s						
DZM				*e*LR	LR	13 14 21.3	
	comp=Z,383nm,23.6s						
DZM	**Mont Dzumac**	**8.04**	**182**	Pn	**Pn**	**13 12 31.5**	**+1.7**
HNR	**Honiara**	**8.10**	**303**	Pn	**Pn**	**13 12 29.6**	**-0.9**
	15nm,0.3s,baz=206,slow=2.8,SNR=9.5						
HNR				Sn	**Sn**	**13 13 58.9**	**-2.0**
	25nm,0.3s,baz=95,slow=19,SNR=4.0						
HNR	**Honiara**	**8.10**	**303**	Pn	**Pn**	**13 12 30.6**	**+0.1**
OUENC	**Ouen Island, N**	**8.38**	**180**	Pn	**Pn**	**13 12 36.8**	**+2.4**
PINNC	**Pines Island,**	**8.60**	**176**	Pn		13 12 43.2	+6.0
MSVF	**Isla Isabel**	**11.45**	**110**	LR	LR	13 16 45.7	
	comp=Z,471nm,19.2s,baz=175,slow=33						
EIDS	**Eidsvold**	**18.61**	**230**	P	**Pn**	**13 14 50.4**	**+0.1**
EIDS				IAmb	IAmb	13 15 16.2	
	comp=Z,37nm,1.5s						
PMG	**Port Moresby**	**19.76**	**281**	LR	LR	13 22 07.1	
	comp=Z,128nm,19.1s,baz=92,slow=35						
CTA	**Charters Tower**	**20.55**	**250**	P	**P**	**13 15 12.1**	**+1.1**
	comp=Z,19nm,1.2s,baz=52,slow=6.8,SNR=4.3						
CTA				LR	LR	13 22 35.8	
	comp=Z,191nm,18.2s,baz=83,slow=35						
CTAO	**Charters Tower**	**20.55**	**250**	P	**P**	**13 15 12.2**	**+1.1**
CTAO				IAmb	IAmb	13 15 13.2	
	comp=Z,53nm,1.4s						
AFI	**Afiamalu**	**20.79**	**92**	LR	LR	13 21 18.0	
	comp=Z,139nm,19.2s,baz=282,slow=31						
ARMA	**Armidale**	**21.51**	**218**	P	**P**	**13 15 23.3**	**+1.9**
NIUE	**Niue**	**22.87**	**106**	P	**P**	**13 15 36.2**	**+0.3**
HIZ	**Hauiti**	**25.44**	**165**	P	**P**	**13 16 01.1**	**+1.2**
BKZ	**Black Stump Fm**	**26.49**	**163**	P	**P**	**13 16 09.9**	**+0.4**
BKZ	**Black Stump Fm**	**26.49**	**163**	P	**P**	**13 16 10.1**	**+0.6**
STKA	**Stephens Creek**	**29.13**	**228**	P	**P**	**13 16 33.4**	**+0.3**
	comp=Z,6.4nm,0.7s,baz=37,slow=8.7,SNR=21						
STKA				LR	LR	13 28 18.8	
	comp=Z,299nm,18.2s,baz=46,slow=37						
STKA	**Stephens Creek**	**29.13**	**228**	P	**P**	**13 16 34.2**	**+1.0**
RPZ	**Rata Peaks**	**29.84**	**174**	LR	LR	13 27 25.5	
	comp=Z,90nm,18.3s,baz=339,slow=34						
WR0	**Warramunga Arr**	**31.38**	**255**	P	**P**	**13 16 53.3**	**+0.1**
WR0				IAmb	IAmb	13 17 03.8	
	comp=Z,7.9nm,1.4s						
WB0	**Warramunga Arr**	**31.50**	**255**	P	**P**	**13 16 53.8**	**-0.4**
WB0				IAmb	IAmb	13 17 04.3	
	comp=Z,5.9nm,0.8s						
WB2	**Warramunga Arr**	**31.56**	**255**	P	**P**	**13 16 54.2**	**-0.5**
WRAB	**Tennant Creek**	**31.56**	**255**	P	**P**	**13 16 54.2**	**-0.5**
WRAB				IAmb	IAmb	13 16 57.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**31.57**	**255**	P	**P**	**13 16 53.1**	**-1.7**
	comp=Z,2.9nm,0.9s,baz=86,slow=9.2,SNR=16						
WRA				LR	LR	13 28 50.1	
	comp=Z,160nm,19.7s,baz=26,slow=35						
WRA	**Warramunga Arr**	**31.57**	**255**	P	**P**	**13 16 53.9**	**-1.0**
AS31	**Alice Springs**	**32.52**	**248**	P	**P**	**13 17 02.5**	**-0.7**
ASAR	**Alice Springs**	**32.52**	**248**	P	**P**	**13 17 02.4**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=73,slow=9.6,SNR=44						
ASAR				LR	LR	13 29 53.3	
	comp=Z,145nm,18.3s,baz=86,slow=36						
ASAR	**Alice Springs**	**32.52**	**248**	P	**P**	**13 17 02.1**	**-1.0**
RAR	**Rarotonga**	**32.61**	**108**	LR	LR	13 27 47.1	
	comp=Z,76nm,20.9s,baz=278,slow=32						
BBOO	**Buckleboo**	**33.68**	**231**	P	**P**	**13 17 13.8**	**+0.6**
BBOO				IAmb	IAmb	13 17 17.4	
	comp=Z,11nm,0.8s						
MTN	**Manton Dam**	**34.69**	**268**	P	**P**	**13 17 22.4**	**+0.3**
MTN				IAmb	IAmb	13 17 38.5	
	comp=Z,6.0nm,0.8s						
KNRA	**Kununurra**	**36.78**	**262**	P	**P**	**13 17 38.9**	**-1.1**
KNRA				IAmb	IAmb	13 17 51.9	
	comp=Z,12nm,1.1s						
FORT	**Forrest**	**39.29**	**238**	P	**P**	**13 18 01.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.71**	**258**	P	**P**	**13 18 04.5**	**-0.1**
	comp=Z,2.0nm,1.0s,baz=113,slow=11,SNR=2.4						
FITZ				LR	LR	13 34 28.3	
	comp=Z,184nm,18.3s,baz=92,slow=36						
FITZ	**Fitzroy Crossi**	**39.71**	**258**	P	**P**	**13 18 04.9**	**+0.3**
FITZ				IAmb	IAmb	13 18 11.5	
	comp=Z,5.0nm,0.9s						
PPT2	**Papeete2**	**42.06**	**101**	*e*LR	LR	13 30 10.0	
	comp=Z,83nm,25.8s						
PPT	**Papeete**	**42.06**	**101**	LR	LR	13 33 03.2	
	comp=Z,98nm,19.8s,baz=248,slow=32						
NWAO	**Narrogin (SRO)**	**48.74**	**238**	P	**P**	**13 19 16.2**	**-0.6**
MORW	**Morawa**	**49.18**	**244**	P	**P**	**13 19 20.8**	**+0.6**
VNDA	**Vanda**	**63.58**	**181**	P	**P**	**13 21 02.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=0.4,slow=6.1,SNR=3.7						
VNDA	**Vanda**	**63.58**	**181**	P	**P**	**13 21 03.2**	**+1.2**
VNDA				IAmb	IAmb	13 21 23.2	
	comp=Z,5.5nm,1.3s						
SBA	**Scott Base**	**63.87**	**180**	P	**P**	**13 21 05.3**	**+1.4**
SBA				IAmb	IAmb	13 21 06.2	
	comp=Z,8.1nm,1.1s						
CASY	**Casey**	**64.03**	**202**	P	**P**	**13 21 05.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**66.03**	**333**	P	**P**	**13 21 20.2**	**+1.8**
	comp=Z,4.9nm,1.0s,baz=159,slow=5.9,SNR=5.5						
USRK	**Ussuriysk Ar.**	**66.03**	**333**	P	**P**	**13 21 18.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**74.24**	**294**	P	**P**	**13 22 10.9**	**+1.7**
	comp=Z,0.9nm,0.9s,baz=127,slow=4.3,SNR=7.0						
CMAR	**Chiang Mai Arr**	**74.24**	**294**	P	**P**	**13 22 09.4**	**+0.2**
MA2	**Magadan**	**74.46**	**352**	LR	LR	13 51 08.9	
	comp=Z,40nm,20.0s,baz=184,slow=33						
QSPA	**South Pole Qui**	**76.03**	**180**	P	**P**	**13 22 18.5**	**-0.4**
	comp=Z,8.8nm,0.9s,baz=326,slow=0.7,SNR=22						
QSPA	**South Pole Qui**	**76.03**	**180**	P	**P**	**13 22 19.4**	**+0.5**
SEY	**Seymchan**	**77.50**	**353**	P	**P**	**13 22 27.4**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=173,slow=4.8,SNR=8.2						
SONM	**Songino Array**	**81.64**	**324**	P	**P**	**13 22 51.2**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=131,slow=8.1,SNR=5.0						
SONM	**Songino Array**	**81.64**	**324**	P	**P**	**13 22 51.2**	**+1.3**
SONM				IAmb	IAmb	13 22 52.3	
	comp=Z,6.3nm,1.4s						
IL31		**85.97**	**18**	P	**P**	**13 23 11.5**	**0.0**
IL31				IAmb	IAmb	13 23 37.5	
	comp=Z,1.9nm,0.7s						
ILAR	**Eielson Array**	**85.97**	**18**	P	**P**	**13 23 11.6**	**0.0**
	comp=Z,1.1nm,0.6s,baz=244,slow=5.0,SNR=14						
ILAR	**Eielson Array**	**85.97**	**18**	P	**P**	**13 23 12.1**	**+0.6**
BELA	**Belgrano 2**	**87.49**	**176**	P	**P**	**13 23 17.0**	**-1.9**
BELA				IAmb	IAmb	13 23 19.8	
	comp=Z,4.9nm,0.9s						
TOLK	**Toolik Lake Re**	**88.06**	**15**	P	**P**	**13 23 22.5**	**+0.8**
TOLK				IAmb	IAmb	13 23 32.6	
	comp=Z,6.3nm,1.5s						
TROLL	**Troll, Antarti**	**93.55**	**185**	P	**P**	**13 23 47.4**	**-0.2**
SNAA	**Sanae**	**94.25**	**183**	P	**P**	**13 23 49.5**	**-1.2**
VNA3	**Neumayer Olymp**	**94.94**	**181**	P	**P**	**13 23 52.6**	**-1.1**
VNA2	**Neumayer--Watz**	**95.20**	**182**	P	**P**	**13 23 54.0**	**-0.9**
	baz=181,slow=2.0						
MKAR	**Makanchi Array**	**96.36**	**317**	P	**P**	**13 24 01.4**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=100,slow=6.3,SNR=8.6						
MKAR	**Makanchi Array**	**96.36**	**317**	P	**P**	**13 24 01.0**	**+0.4**
ZALV	**Zalesovo Beam**	**96.53**	**324**	P	**P**	**13 24 00.5**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=114,slow=5.4,SNR=5.8						
YKA	**Yellowknife Ar**	**97.11**	**27**	P	**P**	**13 24 02.8**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=260,slow=4.9,SNR=2.2						
ARCES	**ARCESS Array B**	**119.43**	**345**	PKP	**PKPdf**	**13 29 20.5**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=86,slow=1.2,SNR=14						
ARCES	**ARCESS Array B**	**119.43**	**345**		**PKPdf**	**13 29 20.1**	**-0.5**
FINES	**FINESS Array B**	**124.87**	**338**	PKP	**PKPdf**	**13 29 30.7**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=117,slow=0.4,SNR=4.3						
KEST	**Kesra**	**150.36**	**321**	PKPbc	**PKiKP**	**13 30 24.2**	**-0.2**
	comp=Z,12nm,1.0s,baz=332,slow=2.6,SNR=8.0						
KEST	**Kesra**	**150.36**	**321**	PKPdf	**PKPdf**	**13 30 16.2**	**-2.1**
KEST					**PKiKP**	**13 30 24.5**	**+0.2**
ESDC	**Sonseca Array**	**153.16**	**344**	PKPbc	**PKPbc**	**13 30 29.4**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=0.6,slow=1.5,SNR=4.9						
ESDC	**Sonseca Array**	**153.16**	**344**	PKPdf	**PKPdf**	**13 30 21.7**	**-0.7**
ESDC					**PKPbc**	**13 30 28.9**	**-0.9**
ESDC				PKPab	**pPKPbc**	**13 30 39.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**165.49**	**268**	PKP	**PKPdf**	**13 30 36.7**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=16,slow=2.3,SNR=4.2						
TORD				PKPab	**PKPab**	**13 31 34.4**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=134,slow=4.2,SNR=2.6						

WEL 15 13:15:36.5, 38.°S±3.°×17.°7E±.°, h5km±1km, M1.8/7, ML2.1/8, MLv1.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=149.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.04**	**332**	P	Pg	13 15 38.0	+0.3
WIZ				S	Sg	13 15 39.1	+0.6
WSRZ	**White Island S**	**0.05**	**327**	P	Pg	13 15 38.5	+0.7
WSRZ				S	Sg	13 15 39.8	+1.0
HAZ	**Te Kaha**	**0.49**	**113**	P	Pb	13 15 47.0	-0.7
HAZ				S	Sb	13 15 54.6	-0.6
RUGZ	**Raukumara Rang**	**0.55**	**138**	P	Pb	13 15 47.9	-0.8
RUGZ				S	Sb	13 15 56.5	-0.4
URZ	**Urewera**	**0.70**	**187**	P	Pb	13 15 51.4	+0.2
URZ				S	Sb	13 16 02.3	+1.0
PKGZ	**Pakihiroa**	**0.76**	**116**	P	Pb	13 15 52.0	-0.3
PKGZ				S	Sb	13 16 03.7	+0.8
MWZ	**Matawai**	**0.81**	**162**	P	Pb	13 15 53.2	0.0
MWZ				S	Sb	13 16 05.4	+0.9
TWGZ	**Tauwhareparae**	**0.86**	**136**	P	Pn	13 15 55.1	-0.3
RAGZ	**Rawiri**	**0.95**	**170**	P	Pb	13 15 55.8	+0.3
PUZ	**Puketiti**	**0.97**	**122**	P	Pn	13 15 56.8	-0.1

NNC ***15*** *13:18:35.8±0.5, 50.°02N×78.°82E, h0km, mb2.4, mpv2.3, Error ellipse: s-maj=17.0km s-min=2.6km az=69.0, Suspected Mining explosion.*
IDC ***15*** *13:18:37.2±1.0, 50.°07N×78.°73E, h0km, mb1 2.3/2, mb1mx2.3/52, mbtmp2.3/2, ML1.8/2, Error ellipse: s-maj=14.7km s-min=6.7km az=66.0*
ISC 15 13:18:36.7±1.8, 50.°01N±0.°08×78.°8E±0.°2, h0km, n16, σ0s59/26, 13C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.58**	**355**	⇓P	**Pg**	**13 18 47.2**	**-0.6**
KUR07				⇓S	**Sg**	**13 18 55.8**	**+0.6**
KUR06	**Kurchatov Arra**	**0.60**	**355**	⇑P	**Pg**	**13 18 47.6**	**-0.6**
KUR06				⇓S	**Sg**	**13 18 56.6**	**+0.7**
KUR14	**Kurchatov Arra**	**0.61**	**359**	⇑P	**Pg**	**13 18 47.5**	**-0.8**
KUR14				⇑S	**Sg**	**13 18 56.1**	**-0.1**
KUR15	**Kurchatov Arra**	**0.61**	**358**	⇑P	**Pg**	**13 18 47.7**	**-0.7**
KUR15				⇑S	**Sg**	**13 18 56.8**	**+0.4**
KURBB	**Kurchatov Arra**	**0.62**	**356**	Pg	**Pg**	**13 18 47.8**	**-0.7**
	0.7nm,0.3s,baz=164,slow=17,SNR=89						
KURBB				Lg	Lg	13 18 57.0	
	0.8nm,0.3s,baz=166,slow=32,SNR=16						
KURBB	**Kurchatov Arra**	**0.62**	**356**	⇑P	**Pg**	**13 18 47.9**	**-0.6**
	7.2nm,0.4s						
KURBB				⇑S	**Sg**	**13 18 57.1**	**+0.5**
	2.7nm,0.3s						
KUR16	**Kurchatov Arra**	**0.62**	**354**	⇓P	**Pg**	**13 18 48.1**	**-0.5**
KUR16				⇓S	**Sg**	**13 18 57.3**	**+0.5**
KUR17	**Kurchatov Arra**	**0.63**	**352**	⇓P	**Pg**	**13 18 48.4**	**-0.4**
KUR17				⇓S	**Sg**	**13 18 57.7**	**+0.7**
KUR05	**Kurchatov Arra**	**0.64**	**356**	⇑P	**Pg**	**13 18 48.2**	**-0.7**
KUR05				⇑S	**Sg**	**13 18 57.2**	**0.0**
KUR04	**Kurchatov Arra**	**0.66**	**357**	⇑P	**Pg**	**13 18 48.6**	**-0.7**
KUR04				⇑S	**Sg**	**13 18 58.0**	**+0.2**
KURK	**Kurchatov**	**0.71**	**1**	⇑P	**Pg**	**13 18 49.3**	**-1.0**
	2.7nm,0.4s						
KURK				⇓S	**Sg**	**13 18 59.3**	**-0.1**
	2.1nm,0.4s						
MAKZ	**Makanchi**	**3.91**	**144**	⇓Lg	Lg	13 20 34.6	
	0.2nm,0.3s						
MK31	**Makanchi Array**	**4.05**	**141**	⇑Pn	**Pn**	**13 19 39.9**	**0.0**
	baz=105,slow=54,SNR=14						
MK31				⇓Pg	**Pb**	**13 19 49.3**	**+0.5**
	0.1nm,0.2s,baz=324,slow=15,SNR=9.1						
MKAR	**Makanchi Array**	**4.05**	**141**	Pn	**Pn**	**13 19 40.1**	**+0.2**
	0.1nm,0.3s,baz=322,slow=10,SNR=17						
MKAR				Pg	**Pb**	**13 19 48.7**	**-0.2**
	0.3nm,0.3s,baz=320,slow=15,SNR=11						
MKAR				Lg	Lg	13 20 40.2	
	0.4nm,0.3s,baz=332,slow=27,SNR=8.0						
ZALV	**Zalesovo Beam**	**5.50**	**42**	Pn	**Pn**	**13 20 00.4**	**+0.5**
	0.2nm,0.3s,baz=226,slow=13,SNR=1.8						
I46RU	**ZALESOVO INFRA**	**5.51**	**42**	*i*		13 52 30.0	
	baz=225,slow=317,SNR=1.9						

IDC ***15*** *13:23

	baz=270							
P18K	**Big Mountain,**	**2.64**	**29**			**Pn**	**13 24 28.1**	**0.0**
P18K	**Big Mountain,**	**2.64**	**29**	IAML			13 25 12.4	
	comp=E,342nm,0.8s							
P18K	**Big Mountain,**	**2.64**	**29**	P		**Pn**	**13 24 28.1**	**0.0**
	baz=211							
BLHA	**Black Hill**	**2.80**	**241**			**Pn**	**13 24 30.4**	**+0.2**
BLHA	**Black Hill**	**2.80**	**241**	P		**Pn**	**13 24 30.4**	**+0.2**
	baz=57							
Q19K	**Cape Douglas,**	**2.83**	**48**			**Pn**	**13 24 31.0**	**+0.3**
Q19K	**Cape Douglas,**	**2.83**	**48**	IAML			13 25 31.4	
	comp=N,584nm,1.4s							
Q19K	**Cape Douglas,**	**2.83**	**48**	P		**Pn**	**13 24 31.0**	**+0.3**
	baz=232							
KDAK	**Kodiak Island**	**2.86**	**74**	Pn		**Pn**	**13 24 32.1**	**+1.1**
	comp=N,20nm,0.3s,baz=245,slow=5.8,SNR=219							
KDAK				Sn		**Sn**	**13 25 07.5**	**+2.3**
	comp=N,6.4nm,0.3s,baz=342,slow=12,SNR=4.8							
KDAK	**Kodiak Island**	**2.86**	**74**			**Pn**	**13 24 31.5**	**+0.5**
O18K	**Koktuh Hills**	**3.05**	**25**			**Pn**	**13 24 34.0**	**+0.3**
O18K	**Koktuh Hills**	**3.05**	**25**	IAML			13 25 26.5	
	comp=E,299nm,0.9s							
O18K				IAML			13 25 27.5	
	comp=N,340nm,0.8s							
O18K	**Koktuh Hills**	**3.05**	**25**	P		**Pn**	**13 24 34.0**	**+0.3**
	baz=207							
AUQ	**Augustine Qik'**	**3.20**	**44**			**Pn**	**13 24 36.5**	**+0.7**
P19K	**Oil Pt**	**3.48**	**41**			**Pn**	**13 24 39.6**	**0.0**
P19K	**Oil Pt**	**3.48**	**41**	IAML			13 25 40.8	
	comp=N,322nm,0.7s							
P19K	**Oil Pt**	**3.48**	**41**	P		**Pn**	**13 24 39.6**	**0.0**
	baz=225							
O19K	**Port Alsworth**	**3.57**	**28**			**Pn**	**13 24 41.0**	**+0.3**
O19K	**Port Alsworth**	**3.57**	**28**	P		**Pn**	**13 24 41.0**	**+0.3**
	baz=212							
N18K	**Kilae Creek**	**3.70**	**14**			**Pn**	**13 24 43.4**	**+0.7**
N18K	**Kilae Creek**	**3.70**	**14**	IAML			13 25 53.7	
	comp=N,134nm,0.7s							
N18K				IAML			13 25 57.8	
	comp=E,162nm,0.9s							
N18K	**Kilae Creek**	**3.70**	**14**	P		**Pn**	**13 24 43.4**	**+0.7**
	baz=196							
IVE	**Iliamna Volcan**	**3.82**	**38**			**Pn**	**13 24 44.5**	**+0.3**
FALS	**False Pass**	**3.92**	**237**	Pn		**Pn**	**13 24 44.7**	**-0.8**
O20K	**Slope Mountain**	**4.00**	**40**			**Pn**	**13 24 47.5**	**+0.7**
O20K	**Slope Mountain**	**4.00**	**40**	P		**Pn**	**13 24 47.5**	**+0.7**
	baz=224							
N19K	**Bonanza Creek**	**4.07**	**23**			**Pn**	**13 24 48.5**	**+0.7**
N19K	**Bonanza Creek**	**4.07**	**23**	IAML			13 25 56.8	
	comp=N,157nm,0.6s							
N19K				IAML			13 26 04.0	
	comp=E,177nm,0.6s							
N19K	**Bonanza Creek**	**4.07**	**23**	P		**Pn**	**13 24 48.5**	**+0.7**
	baz=206							
HOM	**Homer**	**4.09**	**49**	Pn		**Pn**	**13 24 46.3**	**-1.7**
HOM				IAML			13 26 12.5	
	comp=E,218nm,1.8s							
ISLZ	**Isanotski Laza**	**4.13**	**237**			**Pn**	**13 24 49.6**	**+1.1**
SVW2	**Sparrevohn**	**4.15**	**15**			**Pn**	**13 24 50.0**	**+1.3**
SVW2	**Sparrevohn**	**4.15**	**15**	IAML			13 26 00.4	
	comp=E,129nm,0.8s							
SVW2				IAML			13 26 01.5	
	comp=N,89nm,1.0s							
CNPM	**China Poot**	**4.19**	**52**			**Pn**	**13 24 50.1**	**+0.7**
RED	**Redoubt Volcan**	**4.20**	**36**			**Pn**	**13 24 50.3**	**+0.8**
RDWB	**Redoubt West**	**4.23**	**35**			**Pn**	**13 24 50.7**	**+0.7**
RSO	**Redoubt South**	**4.24**	**36**			**Pn**	**13 24 49.8**	**-0.3**
NCT	**North Crescent**	**4.26**	**34**			**Pn**	**13 24 51.2**	**+0.8**
SSLS	**Shishaldin Sou**	**4.27**	**238**			**Pn**	**13 24 51.3**	**+0.8**
RDJH	**Redoubt Jeurge**	**4.32**	**34**			**Pn**	**13 24 52.2**	**+0.9**
DFR	**Drift River**	**4.36**	**35**			**Pn**	**13 24 52.6**	**+0.8**
BRLK	**Bradley Lake**	**4.47**	**51**			**Pn**	**13 24 53.8**	**+0.6**
BRSE	**Bradley Lake S**	**4.52**	**51**			**Pn**	**13 24 54.5**	**+0.6**
BRSE	**Bradley Lake S**	**4.52**	**51**	P		**Pn**	**13 24 54.5**	**+0.6**
	baz=236							
M19K	**Big River Lodg**	**5.10**	**18**			**Pn**	**13 25 02.4**	**+0.6**
M19K	**Big River Lodg**	**5.10**	**18**	IAML			13 26 35.0	
	comp=N,66nm,1.1s							
M19K	**Big River Lodg**	**5.10**	**18**	P		**Pn**	**13 25 02.4**	**+0.6**
	baz=201							
SLKM	**Skilak Lake**	**5.18**	**46**			**Pn**	**13 25 03.6**	**+0.7**
SEW	**Seward**	**5.26**	**52**	Pn		**Pn**	**13 25 04.8**	**+0.8**
L19K	**White Mountain**	**5.29**	**15**			**Pn**	**13 25 04.6**	**+0.2**
L19K	**White Mountain**	**5.29**	**15**	IAML			13 26 40.0	
	comp=E,86nm,1.3s							
L19K	**White Mountain**	**5.29**	**15**	P		**Pn**	**13 25 04.6**	**+0.2**
	baz=197							
STLK	**Strandline Lak**	**5.33**	**32**			**Pn**	**13 25 06.3**	**+1.2**
O22K	**Cooper Landing**	**5.36**	**48**	Pn		**Pn**	**13 25 04.1**	**-1.2**
L20K	**Farewell, AK**	**5.72**	**18**			**Pn**	**13 25 11.4**	**+1.0**
L20K	**Farewell, AK**	**5.72**	**18**	P		**Pn**	**13 25 11.4**	**+1.0**
	baz=202							
RC01	**Rabbit Creek A**	**5.73**	**43**	Pn		**Pn**	**13 25 09.4**	**-1.0**
TT01	**Tatalina**	**5.88**	**8**			**Pn**	**13 25 12.2**	**-0.2**
TTA	**Tatalina**	**5.90**	**8**			**Pn**	**13 25 12.8**	**0.0**
TTA	**Tatalina**	**5.90**	**8**	P		**Pn**	**13 25 12.8**	**0.0**
	baz=189							
UNV	**Unalaska Valle**	**5.97**	**240**	Pn		**Pn**	**13 25 12.2**	**-1.5**
M22K	**Willow**	**6.06**	**37**			**Pn**	**13 25 15.4**	**+0.6**
PWL	**Port Wells**	**6.14**	**48**	Pn		**Pn**	**13 25 15.5**	**-0.6**
PMR	**Palmer**	**6.28**	**41**			**Pn**	**13 25 18.1**	**+0.1**
KNK	**Knik Glacier**	**6.41**	**44**	Pn		**Pn**	**13 25 17.1**	**-2.7**
PPLA	**Purkeypile**	**6.43**	**23**			**Pn**	**13 25 21.2**	**+1.0**
PPLA	**Purkeypile**	**6.43**	**23**	P		**Pn**	**13 25 21.2**	**+1.0**
	baz=208							
GHO	**Glory Hole Cre**	**6.48**	**40**	Pn		**Pn**	**13 25 21.2**	**+0.4**
K20K	**Telida**	**6.52**	**15**			**Pn**	**13 25 22.0**	**+0.6**
K20K	**Telida**	**6.52**	**15**	P		**Pn**	**13 25 22.0**	**+0.6**
	baz=198							
SML	**Sawmill**	**6.71**	**42**	Pn		**Pn**	**13 25 23.8**	**-0.2**
SPIA	**Saint Paul Isl**	**6.82**	**276**	Pn		**Pn**	**13 25 25.5**	**+0.2**
FID	**Port Fidalgo**	**6.87**	**53**	Pn		**Pn**	**13 25 25.7**	**-0.3**
CAST	**Castle Rocks**	**6.92**	**22**	Pn		**Pn**	**13 25 28.1**	**+1.4**
SCM	**Sheep Creek Mo**	**7.10**	**44**	Pn		**Pn**	**13 25 30.2**	**+0.9**
KTH	**Kantishna Hill**	**7.29**	**25**	Pn		**Pn**	**13 25 33.6**	**+1.8**
CHUM	**Lake Minchumin**	**7.30**	**19**			**Pn**	**13 25 32.0**	**+0.1**
CHUM	**Lake Minchumin**	**7.30**	**19**	P		**Pn**	**13 25 32.0**	**+0.1**
	baz=204							
J20K	**Nowinta River**	**7.30**	**12**			**Pn**	**13 25 31.9**	**-0.1**
J20K	**Nowinta River**	**7.30**	**12**	P		**Pn**	**13 25 31.9**	**-0.1**
	baz=196							
TRF	**Thorofare Moun**	**7.35**	**27**			**Pn**	**13 25 33.4**	**+0.6**
WAT6	**Susitna Watana**	**7.43**	**38**			**Pn**	**13 25 33.3**	**-0.7**
WAT6	**Susitna Watana**	**7.43**	**38**	P		**Pn**	**13 25 33.3**	**-0.7**
	baz=227							
KLU	**Klutina**	**7.46**	**49**			**Pn**	**13 25 33.6**	**-0.7**
KLU	**Klutina**	**7.46**	**49**	P		**Pn**	**13 25 33.6**	**-0.7**
	baz=239							
RND	**Reindeer**	**7.70**	**31**	Pn		**Pn**	**13 25 38.1**	**+0.7**
M24K	**Tolsona, Glenn**	**7.70**	**45**	Pn		**Pn**	**13 25 38.6**	**+1.1**
BPAW	**Bear Paw Mtn.**	**7.75**	**22**	Pn		**Pn**	**13 25 39.1**	**+1.0**
BMRM	**Bremner River**	**7.79**	**55**	Pn		**Pn**	**13 25 37.7**	**-1.0**
DHY	**Denali Highway**	**7.90**	**37**	Pn		**Pn**	**13 25 39.5**	**-0.9**
MCK	**McKinley**	**7.93**	**30**			**Pn**	**13 25 42.0**	**+1.4**
N25K	**Chitina, Valde**	**8.07**	**51**	Pn		**Pn**	**13 25 42.3**	**-0.4**
GLB	**Gilahina Butte**	**8.34**	**53**	Pn		**Pn**	**13 25 46.5**	**+0.3**
ANM	**Nome**	**8.35**	**337**			**Pn**	**13 25 46.4**	**0.0**
ANM	**Nome**	**8.35**	**337**	P		**Pn**	**13 25 46.4**	**0.0**
	baz=150							
VRDI	**Verde Repeater**	**8.41**	**55**	Pn		**Pn**	**13 25 47.5**	**+0.2**
WAX	**Waxell Ridge**	**8.41**	**60**	Pn		**Pn**	**13 25 47.8**	**+0.5**
PAX	**Paxson**	**8.48**	**41**	Pn		**Pn**	**13 25 48.9**	**+0.7**
TGL	**Tana Glacier**	**8.52**	**58**	Pn		**Pn**	**13 25 48.8**	**0.0**
I21K	**Tanana**	**8.55**	**16**			**Pn**	**13 25 48.0**	**-1.1**
NEA2	**Nenana**	**8.60**	**26**	Pn		**Pn**	**13 25 49.8**	**-0.1**
ISLE	**Juniper Island**	**8.70**	**60**	Pn		**Pn**	**13 25 52.0**	**+0.7**
WRH	**Wood River Hil**	**8.75**	**28**	Pn		**Pn**	**13 25 52.6**	**+0.8**
BALM	**Baldy**	**8.84**	**57**			**Pn**	**13 25 53.5**	**+0.4**
H21K	**Melozitna Rive**	**8.89**	**13**			**Pn**	**13 25 53.9**	**+0.2**
H21K	**Melozitna Rive**	**8.89**	**13**	P		**Pn**	**13 25 53.9**	**+0.2**
	baz=198							
CCB	**Clear Creek Bu**	**8.96**	**28**			**Pn**	**13 25 55.1**	**+0.4**
I23K	**Minto, Yukon-K**	**9.01**	**23**	Pn		**Pn**	**13 25 54.5**	**-0.9**
GRNC	**Granite Creek**	**9.02**	**60**	Pn		**Pn**	**13 25 56.3**	**+0.6**
IMAR	**Indian Mountai**	**9.10**	**10**	Pn		**Pn**	**13 25 57.0**	**+0.3**
MDM	**Murphy Dome**	**9.11**	**26**			**Pn**	**13 25 58.4**	**+1.6**
MENT	**Mentasta**	**9.11**	**44**	Pn		**Pn**	**13 25 56.7**	**-0.1**
M26K	**Nabesna, AK**	**9.12**	**48**	Pn		**Pn**	**13 25 57.0**	**+0.1**
TABL	**Table Mountain**	**9.23**	**62**	Pn		**Pn**	**13 25 58.4**	**-0.3**
CTGM	**Chitina Glacie**	**9.28**	**59**	Pn		**Pn**	**13 26 00.1**	**+0.8**
IL31		**9.30**	**30**			**Pn**	**13 26 00.2**	**+0.8**
ILAR	**Eielson Array**	**9.30**	**30**	Pn		**Pn**	**13 25 59.8**	**+0.4**
	comp=E,0.2nm,0.3s,baz=218,slow=13,SNR=14							
ILAR				Lg		Lg	13 28 48.6	
	comp=E,0.1nm,0.3s,baz=227,slow=27,SNR=4.6							
ILAR	**Eielson Array**	**9.30**	**30**	Pn		**Pn**	**13 26 00.6**	**+1.2**
LOGN	**Logan Glacier**	**9.40**	**60**	Pn		**Pn**	**13 26 02.1**	**+1.3**
H23K	**Yukon River**	**9.57**	**21**			**Pn**	**13 26 04.0**	**+1.0**
J25K	**Salcha River,**	**9.62**	**34**			**Pn**	**13 26 03.9**	**+0.1**
SCRK	**Sand Creek**	**9.63**	**39**	Pn		**Pn**	**13 26 03.9**	**-0.2**
H24K	**Noodor Dome**	**9.92**	**24**	Pn		**Pn**	**13 26 08.5**	**+0.6**
INK	**Inuvik**	**15.63**	**34**	Pn		**P**	**13 27 28.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=197,slow=8.2,SNR=2.3							
YKA	**Yellowknife Ar**	**22.00**	**58**	P		**P**	**13 28 39.3**	**0.0**
	comp=E,1.3nm,0.8s,baz=272,slow=10,SNR=20							
YKA				PcP		**PcP**	**13 32 36.8**	**-0.1**
	comp=E,0.1nm,0.3s,baz=272,slow=1.3,SNR=5.7							
SEY	**Seymchan**	**25.04**	**304**	P		**P**	**13 29 09.3**	**+0.1**
	comp=E,1.2nm,0.8s,baz=84,slow=14,SNR=5.7							
TIXI	**Tiksi**	**32.41**	**325**	P		**P**	**13 30 15.2**	**+0.5**
	comp=E,0.5nm,0.2s,baz=90,slow=23,SNR=3.2							
BORG	**Borgarnes**	**54.01**	**21**	LR		LR	13 59 10.6	
	comp=E,22nm,18.4s,baz=176,slow=39							
CMAR	**Chiang Mai Arr**	**81.70**	**291**	P		**P**	**13 36 03.3**	**-0.6**
	comp=E,0.3nm,0.4s,baz=6.1,slow=5.7,SNR=5.3							

*TUL **15** 13:29:35.7±1.5,36°47N±0°02×98°851W±0°009,h6km±3km, ML3.0,mb_Lg2.9/53(NEIC),Error ellipse: s-maj=2.4km s-min=1.0km az=175.0*

NEIC 15 13:29:36.3±1.2,36°48N±0°02×98°84W±0°02,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.7km az=141.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.17**	**234**	Pg		Pg	13 29 39.2	-0.4
U32A				Sg		Sg	13 29 41.8	0.0
FNO	**Franklin**	**1.69**	**136**	Pn		Pn	13 30 06.8	+0.3
WMOK	**Wichita Mounta**	**1.73**	**179**			Pn	13 30 07.0	-0.1
T35A	**Sooner Cattle**	**1.92**	**76**	Pn		Pn	13 30 10.1	+0.5
T35A				IAmb_Lg			13 30 40.9	
	comp=Z,53nm,0.8s							
R32A	**Long Quarter,**	**1.94**	**3**			Pn	13 30 10.8	+0.8
X34A	**Smith Ranch, M**	**2.04**	**156**	Pn		Pb	13 30 12.8	-1.1
X34A				IAmb_Lg			13 30 45.3	
	comp=Z,77nm,0.8s							
W35A	**Tecumseh**	**2.07**	**129**	Pn		Pn	13 30 12.0	+0.3
CBKS	**Cedar Bluff**	**2.44**	**343**	IAmb_Lg			13 30 58.2	
	comp=Z,50nm,0.8s							
KSU1	**Kansas State U**	**3.16**	**33**	Pn		Pn	13 30 27.6	+0.9
KSU1				IAmb_Lg			13 31 16.7	
	comp=Z,24nm,0.9s							
X37A	**Clayton**	**3.40**	**123**	Pn		Pn	13 30 30.4	+0.4
X37A				IAmb_Lg			13 31 29.6	
	comp=Z,38nm,0.8s							
ABTX	**Abilene, Hawle**	**3.90**	**190**			Pn	13 30 37.4	+0.5
KSCO	**Kaye Shedlock'**	**3.93**	**311**	Pn		Pn	13 30 38.8	+1.5
KSCO				IAmb_Lg			13 31 47.7	
	comp=Z,26nm,0.7s							
HHAR	**Hobbs**	**3.96**	**91**			Pn	13 30 35.9	-1.8
HHAR				IAmb_Lg			13 31 42.9	
	comp=Z,30nm,0.9s							
MSTX	**Muleshoe**	**4.08**	**233**			Pn	13 30 40.4	+0.9
W39A	**Magazine**	**4.30**	**106**			Pn	13 30 41.9	-0.5
W39A				IAmb_Lg			13 31 58.7	
	comp=Z,23nm,0.9s							
Z38A	**Mt. Pleasant**	**4.51**	**134**	IAmb_Lg			13 32 03.9	
	comp=Z,19nm,0.9s							
T25A	**Trinidad**	**4.52**	**280**	IAmb_Lg			13 31 57.9	
	comp=Z,19nm,0.8s							
S39A	**Bolivar**	**4.57**	**73**			Pn	13 30 45.1	-1.0
S39A				IAmb_Lg			13 32 01.5	
	comp=Z,23nm,0.8s							
WHTX	**Lake Whitney,**	**4.62**	**165**			Pn	13 30 46.8	0.0
MIAR	**Mount Ida**	**4.70**	**113**			Pn	13 30 48.1	+0.2
MIAR				IAmb_Lg			13 32 13.8	
	comp=Z,17nm,0.8s							
OGNE	**Ogallala**	**5.11**	**332**			Pn	13 30 56.0	+2.3
237A	**Washetta, Mont**	**5.12**	**150**	IAmb_Lg			13 32 31.4	
	comp=Z,17nm,0.8s							
P38A	**Dawn**	**5.23**	**52**			Pn	13 30 54.9	-0.3
P38A				IAmb_Lg			13 32 36.6	
	comp=Z,15nm,0.7s							
X40A	**Basin Creek Fa**	**5.28**	**110**			Pn	13 30 55.2	-0.7
MGMO	**Mountain Grove**	**5.31**	**81**	IAmb_Lg			13 32 37.3	
	comp=Z,24nm,1.1s							
WHAR	**Wooly Hollow**	**5.45**	**101**	IAmb_Lg			13 32 33.2	
	comp=Z,15nm,0.8s							
W41B	**Gary Mavity, V**	**5.51**	**102**	IAmb_Lg			13 32 35.4	
	comp=Z,15nm,0.8s							
R40A	**Maddies Statio**	**5.54**	**69**	IAmb_Lg			13 32 38.9	
	comp=Z,16nm,0.9s							
Q24A	**Divide**	**5.59**	**298**	IAmb_Lg			13 32 32.0	
	comp=Z,16nm,1.1s							
435B	**Jarrell**	**5.77**	**169**	IAmb_Lg			13 32 48.0	
	comp=Z,23nm,0.7s							
CCM	**Cathedral Cave**	**6.26**	**73**	IAmb_Lg			13 32 58.8	
	comp=Z,13nm,0.7s							
PBMO	**Poplar Bluff**	**6.77**	**85**	IAmb_Lg			13 33 23.6	
	comp=Z,14nm,0.8s							
FVM	**French Village**	**6.88**	**75**	IAmb_Lg			13 33 28.1	
	comp=Z,16nm,0.9s							
PHWY	**Pilot Hill**	**7.06**	**315**	IAmb_Lg			13 33 22.8	
	comp=Z,14nm,1.0s							
N23A	**Red Feather La**	**7.10**	**311**	IAmb_Lg			13 33 27.2	
	comp=Z,19nm,0.7s							
N41A	**Harden Midland**	**7.54**	**54**	IAmb_Lg			13 33 45.8	
	comp=Z,18nm,0.7s							
RSSD	**Black Hills**	**8.61**	**334**	IAmb_Lg			13 34 16.5	
	comp=Z,11nm,1.1s							

*IDC **15** 14:03:43.8±1.0,2°64S×137°19E,h0km,mb4.1/5, mb1 4.3/9,mb1mx4.0/32,mbtmp4.1/9,ML3.8/4,MS3.2/7, Ms1 3.2/7,ms1mx3.0/64,Error ellipse: s-maj=23.4km s-min=20.7km az=52.0*

*DJA **15** 14:03:47.2±0.3,3°S±3°×13°7E±°,h10km,M4.2/7,mB4.8/2, mb4.3/7,MLv4.1/7,Mw(mB)4.1/2*

*NEIC **15** 14:03:49.0±1.7,2°70S±0°05×137°21E±0°10,h40km±8km, mb4.2/21,Error ellipse: s-maj=14.5km s-min=7.0km az=106.0*

ISC 15 14:03:48.5±0.5,2°87S±0°06×137°16E±0°05,h35km,n57, σ1s84/60,mb4.3/9,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.35**	**317**	P		**Pn**	**14 04 10.0**	**-0.9**
SRPI				S		**Sn**	**14 04 27.1**	**-0.6**
SMPI	**Sarmi**	**1.77**	**61**	P		**Pn**	**14 04 15.5**	**-1.2**
BAKI	**Biak**	**1.97**	**328**	P		**Pn**	**14 04 18.9**	**-0.5**
JAY	**Jayapura**	**3.56**	**84**	Pn		**Pn**	**14 04 41.2**	**-0.1**
	1.3nm,0.3s,baz=233,slow=6.8,SNR=11							
JAY				Sn		**Sn**	**14 05 21.0**	**-1.2**
	2.5nm,0.3s,baz=110,slow=5.4,SNR=2.6							
JAY				LR		LR	14 06 00.7	
	comp=Z,160nm,20.7s,baz=196,slow=39							
JAY	**Jayapura**	**3.56**	**84**	P		**Pn**	**14 04 41.2**	**-0.1**
SIJI	**Sorong**	**6.22**	**289**	Pn		**Pn**	**14 05 15.9**	**-1.9**
	1.0nm,0.3s,baz=71,slow=13,SNR=6.7							
SIJI				Sn		**Sn**	**14 06 27.9**	**+0.1**
	0.1nm,0.3s,baz=74,slow=23,SNR=1.1							
SIJI				LR		LR	14 08 14.3	
	comp=Z,274nm,20.3s,baz=60,slow=44							
SWI	**Sorong**	**6.23**	**289**	P		**Pn**	**14 05 19.5**	**+1.6**
	0.1nm15nm,0.7s							
SAUI	**Saumlaki**	**7.74**	**229**	Pn		**Pn**	**14 05 40.2**	**+1.4**
MANU	**Manus Island**	**10.23**	**86**	Pn		**Pn**	**14 06 11.9**	**-1.1**
KDU	**Kakadu**	**10.80**	**205**	P		**Pn**	**14 06 21.9**	**+1.1**
MTN	**Manton Dam**	**11.57**	**211**			**Pn**	**14 06 34.2**	**+2.9**
MTN	**Manton Dam**	**11.57**	**211**	P		**Pn**	**14 06 34.0**	**+2.7**
PMG	**Port Moresby**	**11.87**	**124**	LR		LR	14 13 18.3	
	comp=Z,136nm,18.4s,baz=237,slow=48							
COEN	**Coen**	**12.52**	**152**			**Pn**	**14 06 45.5**	**+1.3**
COEN	**Coen**	**12.52**	**152**	P		**Pn**	**14 06 45.3**	**+1.0**
KNRA	**Kununurra**	**15.18**	**213**			**Pn**	**14 07 21.0**	**+0.6**
KNRA	**Kununurra**	**15.18**	**213**	P		**Pn**	**14 07 21.8**	**+1.4**
MRSI	**Marisa**	**15.57**	**282**	P		**P**	**14 07 29.6**	**+0.1**
	27nm,1.0s							
APSI	**Ampana**	**15.62**	**277**	P		**P**	**14 07 30.9**	**+0.9**
	19nm,1.0s							
MTSU	**Mount Surprise**	**16.71**	**156**	P		**P**	**14 07 43.5**	**+1.4**
TOLI2	**Tolitoli**	**16.84**	**283**	P		**Pn**	**14 07 41.9**	**+0.1**
TOLI2				IAmb		IAmb	14 07 46.6	
	comp=Z,23nm,1.3s							
WB0	**Warramunga Arr**	**17.01**	**189**	P		**Pn**	**14 07 45.5**	**+1.6**
WR0	**Warramunga Arr**	**17.18**	**188**	P		**Pn**	**14 07 47.1**	**+1.2**
WRAB	**Tennant Creek**	**17.18**	**189**	P		**Pn**	**14 07 47.4**	**+1.4**
WRAB				IAmb		IAmb	14 07 53.7	
	comp=Z,13nm,0.8s							
WRAB	**Tennant Creek**	**17.18**	**189**	P		**Pn**	**14 07 47.5**	**+1.5**
WB2	**Warramunga Arr**	**17.19**	**189**	P		**P**	**14 07 48.5**	**+1.1**
WB2				IAmb		IAmb	14 07 53.5	
	comp=Z,9.9nm,0.7s							
WRA	**Warramunga Arr**	**17.19**	**189**	P		**Pn**	**14 07 48.0**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=8.8,slow=12,SNR=24							
WRA				S		**Sn**	**14 10 48.6**	**-7.8**
	comp=Z,0.4nm,0.3s,baz=4.3,slow=22,SNR=6.7							
WRA				LR		LR	14 15 14.4	
	comp=Z,98nm,21.2s,baz=172,slow=40							
WRA	**Warramunga Arr**	**17.19**	**189**	P		**Pn**	**14 07 47.1**	**+0.9**
KAPI	**Kappang**	**17.50**	**262**	LR		LR	14 14 48.2	
	comp=Z,62nm,20.5s,baz=106,slow=38							
QIS	**Mount Isa**	**17.74**	**172**	P		**P**	**14 07 55.1**	**+1.6**
FITZ	**Fitzroy Crossi**	**18.89**	**216**	P		**Pn**	**14 08 09.7**	**+2.8**
	comp=Z,0.6nm,0.3s,baz=43,slow=10.0,SNR=33							
FITZ				S		**Sn**	**14 11 31.6**	**-5.7**
	comp=Z,0.4nm,0.3s,baz=170,slow=14,SNR=8.3							
FITZ				LR		LR	14 16 37.9	
	comp=Z,90nm,18.7s,baz=38,slow=40							
FITZ	**Fitzroy Crossi**	**18.89**	**216**	P		**Pn**	**14 08 09.1**	**+2.2**
FITZ				IAmb		IAmb	14 08 12.8	
	comp=Z,9.0nm,0.8s							
CTA	**Charters Tower**	**19.28**	**153**	LR		LR	14 16 07.4	
	comp=Z,126nm,20.1s,baz=334,slow=38							
CTAO	**Charters Tower**	**19.28**	**153**	P		**P**	**14 08 11.3**	**+0.9**
CTAO				IAmb		IAmb	14 08 34.7	
	comp=Z,23nm,1.4s							
AS31	**Alice Springs**	**20.91**	**188**	P		**P**	**14 08 29.8**	**+1.6**
ASAR	**Alice Springs**	**20.92**	**188**	P		**P**	**14 08 29.5**	**+1.3**
	comp=Z,12nm,0.7s,baz=14,slow=11,SNR=87							
ASAR				S		**S**	**14 12 16.7**	**-2.9**
	comp=Z,1.1nm,0.9s,baz=10,slow=26,SNR=4.2							
ASAR	**Alice Springs**	**20.92**	**188**	P		**P**	**14 08 29.2**	**+1.0**
PSA00	**Pilbara Seismi**	**25.09**	**221**	P		**P**	**14 09 10.6**	**+0.6**
PSA00				IAmb		IAmb	14 09 17.2	
	comp=Z,6.5nm,1.1s							
BBOO	**Buckleboo**	**29.80**	**182**	P		**P**	**14 09 53.3**	**+1.0**
BBOO				IAmb		IAmb	14 10 20.8	
	comp=Z,14nm,1.4s							
MORW	**Morawa**	**32.90**	**216**	P		**P**	**14 10 19.3**	**-0.3**
TOO	**Toolangi**	**35.37**	**169**	P		**P**	**14 10 40.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**43.18**	**301**	P		**P**	**14 11 46.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=120,slow=6.7,SNR=11							
CMAR	**Chiang Mai Arr**	**43.18**	**301**	P		**P**	**14 11 45.4**	**-0.9**
CM31	**Chiang Mai Arr**	**43.18**	**301**	P		**P**	**14 11 45.6**	**-0.7**
CASY	**Casey**	**66.01**	**191**	P		**P**	**14 14 32.5**	**+1.4**
MKAR	**Makanchi Array**	**68.98**	**323**	P		**P**	**14 14 50.1**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=110,slow=7.9,SNR=16							
MKAR	**Makanchi Array**	**68.98**	**323**	P		**P**	**14 14 49.8**	**-0.6**
MAKZ	**Makanchi**	**69.17**	**323**	P		**P**	**14 14 51.1**	**-0.4**
MAKZ				IAmb		IAmb	14 14 52.0	
	comp=Z,2.0nm,0.7s							
ZALV	**Zalesovo Beam**	**71.30**	**330**	P		**P**	**14 15 03.0**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=116,slow=3.4,SNR=4.6							
ZALV	**Zalesovo Beam**	**71.30**	**330**	P		**P**	**14 15 02.6**	**-1.8**
KURK	**Kurchatov**	**72.96**	**325**	P		**P**	**14 15 14.1**	**-0.3**
KURK				IAmb		IAmb	14 15 14.6	
	comp=Z,3.4nm,1.1s				

PHWY	**Pilot Hill** comp=Z,17nm,0.9s	**7.07**	**315**	IAmb_Lg	14 08 16.2
N41A	**Harden Midland** comp=Z,18nm,0.8s	**7.55**	**53**	IAmb_Lg	14 08 46.8
S44A	**Carbondale** comp=Z,18nm,0.9s	**7.76**	**78**	IAmb_Lg	14 08 34.1
SIUC	**Southern Illin** comp=Z,19nm,0.8s	**7.79**	**78**	IAmb_Lg	14 08 41.0
L42A	**Oliver, Polo** comp=Z,14nm,0.7s	**9.01**	**49**	IAmb_Lg	14 09 15.8
JFWS	**Jewell Farm** comp=Z,13nm,0.7s	**9.23**	**43**	IAmb_Lg	14 09 30.1

*GCG **15** 14:11:18.1±1.1, 13˚.15N×92˚.91W, h23km±999km, MD5.4*
*IDC **15** 14:11:22.4±0.3, 13˚.42N×92˚.26W, h0km, mb5.4/43, mb1 5.5/45, mb1mx5.5/47, mbtmp5.4/45, ML5.1/2, MS5.5/59, Ms1 5.5/59, ms1mx5.5/69, Error ellipse: s-maj=12.2km s-min=7.8km az=59.0*
*MEX **15** 14:11:24.8±2.4, 13˚.25N×92˚.46W, h12km, MD6.1*
*MOS **15** 14:11:25.5±1.1, 13˚.43N×92˚.30W, h28km, mb6.0/93, MS5.6/38, Error ellipse: s-maj=6.2km s-min=4.2km az=90.9*
*NEIC **15** 14:11:26.4±2.8, 13˚.40N±0˚.05×92˚.37W±0˚.05, h22km±3km, mb6.0/217, Ms_20 5.7/341, Mwb5.8/54, Mww6.1, Md6.1/91(MEX), Md6.2(SNET), Error ellipse: s-maj=7.6km s-min=6.4km az=45.0*
*GCMT **15** 14:11:27.9±0.1, 13˚.49N×92˚.67W, h12km, MW6.0/164, Moment Tensor Solution. s164,c365; s160,c593; Duration: 2e5 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.29±.01; $M_{\theta\theta}$0.81±.01; $M_{\phi\phi}$0.48±.01; $M_{r\theta}$-0.14±.02; $M_{\theta\phi}$-0.70±.01; $M_{\phi r}$0.17±.02; Best double couple: $M_0$1.34600×10^{18} NP1:ϕ_s306.00000°,δ40.00000°, λ-94.00000°. NP2:ϕ_s131.00000°,δ50.00000°, λ-87.00000°. Principal axes: T 1.3830, Plg5.0000°, Azm219.0000°; N -0.0740, Plg2.0000°, Azm309.0000°; P -1.3090, Plg85.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **15** 14:11:27.2, 13˚.44N×92˚.29W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-5.64; $M_{\theta\theta}$6.01; $M_{\phi\phi}$-0.38; $M_{r\theta}$1.17; $M_{\theta\phi}$-2.60; $M_{\phi r}$-1.91; Fault plane solution: $M_0$6.77000×10^{17} NP1:ϕ_s304.29000°, δ54.68000°, λ-71.02000°. NP2:ϕ_s93.54000°, δ39.50000°, λ-114.66000°. Principal axes: T 7.1750, Plg8.0000°, Azm21.0000°; N -0.9078, Plg15.0000°, Azm113.0000°; P -6.2672, Plg73.0000°, Azm265.0000°;*
*BGR **15** 14:11:32.0±0.0, 13˚.49N×92˚.14W, h33km, mb6.0, mB_BB6.4, Ms5.7*
*UPA **15** 14:11:33.3±2.8, 14˚.12N×91˚.60W, h0km±276km, MW5.8*
*NEIC **15** 14:11:34, 13˚.38N×92˚.27W, h26km, Moment Tensor Solution. Duration: 10e0 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.19; $M_{\theta\theta}$0.68; $M_{\phi\phi}$0.51; $M_{r\theta}$0.50; $M_{\theta\phi}$-0.53; $M_{\phi r}$-0.80; Fault plane solution: $M_0$1.50000×10^{18} NP1: ϕ_s122.00000°,δ27.00000°,λ-107.00000°. NP2: ϕ_s321.00000°,δ65.00000°,λ-81.00000°. Principal axes: T 1.4502, Plg19.0000°, Azm45.0000°; N 0.0971, Plg8.0000°, Azm137.0000°; P -1.5473, Plg69.0000°, Azm248.0000°;*
*INET **15** 14:11:34.8±2.1, 13˚.76N×91˚.74W, h21km±40km, ML5.6, MW4.6*

ISC 15 14:11:26.4±0.4, 13˚.37N±0˚.02×92˚.35W±0˚.03, h27km±2km, h27km:pP-P,n1957,σ1s94/2334, mb5.8/295, MS5.7/279, 114C-101D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.31**	**29**		**Pn**	**14 11 48.2**	**-0.8**
RTAL				Sn	**Sb**	**14 12 08.3**	**+1.4**
RTAL	**Retalhuleu**	**1.31**	**29**	*eS*	**Sb**	**14 12 07.3**	**+0.5**
THIG		**1.53**	**3**		**Pn**	**14 11 50.3**	**-1.7**
THIG					**Sn**	**14 12 09.4**	**-1.7**
THIG		**1.53**	**3**	↑*eP*	**Pn**	**14 11 50.3**	**-1.7**
THIG				*eS*	**Sn**	**14 12 09.4**	**-1.7**
STG3	**Santiaguito 3,**	**1.53**	**29**	↑*iP*	**Pn**	**14 11 51.3**	**-0.9**
CHUJ	**Union Juarez**	**1.73**	**8**	*eP*	**Pn**	**14 11 52.8**	**-2.2**
PATR	**El Naranjo**	**1.74**	**4**	*eP*	**Pn**	**14 11 52.9**	**-2.2**
FUG	**Fuego 3**	**1.81**	**54**	↑*iP*	**Pn**	**14 11 55.9**	**-0.2**
FUG				*eS*	**Sb**	**14 12 26.3**	**+4.9**
PAVE	**Pavencul**	**1.82**	**5**	*eP*	**Pn**	**14 11 54.2**	**-2.0**
PCG	**Pacaya**	**1.97**	**59**	*eP*	**Pn**	**14 11 58.4**	**+0.1**
HUEH	**Huehuetenango**	**2.10**	**23**		**Pn**	**14 12 00.1**	**0.0**
HUEH	**Huehuetenango**	**2.10**	**23**	*eS*	**Sb**	**14 12 32.5**	**+2.6**
HUEH	**Huehuetenango**	**2.10**	**23**	*eP*	**Pn**	**14 12 00.3**	**+0.2**
NBG	**Las Nubes**	**2.29**	**58**	*eP*	**Pn**	**14 12 04.1**	**+1.4**
PCIG		**2.47**	**340**		**Pn**	**14 12 02.5**	**-2.4**
PCIG		**2.47**	**340**	↑*eP*	**Pn**	**14 12 02.5**	**-2.4**
CEVE	**Cerro Verde**	**2.69**	**80**	*eP*	**Pn**	**14 12 07.7**	**-0.4**
SBLS	**San Blas**	**2.69**	**80**	*eP*	**Pn**	**14 12 07.5**	**-0.7**
CCIG	**Comitan**	**2.90**	**4**		**Pn**	**14 12 11.7**	**+0.6**
CCIG				Sn	**Sn**	**14 12 48.2**	**+3.0**
CCIG	**Comitan**	**2.90**	**4**	||*eP*	**Pn**	**14 12 11.5**	**+0.4**
LALI	**Alcalda de L**	**2.95**	**87**	*eP*	**Pn**	**14 12 11.2**	**-0.2**
LALI	**Alcalda de L**	**2.95**	**87**	*eP*	**Pn**	**14 12 11.6**	**+0.1**
PMON	**Piamonte**	**2.97**	**83**	*eP*	**Pn**	**14 12 12.6**	**+0.7**
ITCA	**Escuela Especi**	**3.00**	**84**	*eP*	**Pn**	**14 12 13.3**	**+1.0**
ITCA				*eS*	**Sn**	**14 12 47.8**	**+0.3**
BOQS	**Boqueron**	**3.01**	**83**	*eP*	**Pn**	**14 12 12.8**	**+0.3**
SNET	**Serv Nac Est T**	**3.05**	**84**		**Pn**	**14 12 12.8**	**-0.1**
MTO3	**Montecristo**	**3.08**	**70**		**Pn**	**14 12 13.1**	**-0.4**
MTO3				Sn	**Sn**	**14 12 52.2**	**+2.7**
MTO3	**Montecristo**	**3.08**	**70**	*eP*	**Pn**	**14 12 13.9**	**+0.4**
MTO3	**Montecristo**	**3.08**	**70**	*eP*	**Pn**	**14 12 13.4**	**-0.1**
MRL	**Marmol**	**3.10**	**56**	||*eP*	**Pn**	**14 12 14.8**	**+1.1**
ESQI	**Esquipulas**	**3.15**	**68**		**Pn**	**14 12 14.4**	**0.0**
ESQI				Sn	**Sn**	**14 12 54.2**	**+3.1**
AEIL	**Aeropuerto Ilo**	**3.16**	**84**	*eP*	**Pn**	**14 12 15.6**	**+1.1**
AEIL				*eS*	**Sn**	**14 12 53.3**	**+2.0**
LFRS	**El Faro**	**3.21**	**85**	*eP*	**Pn**	**14 12 15.3**	**+0.2**
LBRS	**Las Brisas**	**3.23**	**83**	*eP*	**Pn**	**14 12 16.6**	**+1.1**
CARR	**Arriaga**	**3.24**	**332**	*eP*	**Pn**	**14 12 14.0**	**-1.5**
CARR				*iS*	**Sn**	**14 12 51.2**	**-1.9**
SJTE	**Alcalda de S**	**3.26**	**85**	*eP*	**Pn**	**14 12 17.2**	**+1.4**
PAVA	**Las Pavas**	**3.33**	**84**	*eP*	**Pn**	**14 12 17.3**	**+0.4**
COEG	**Centro de Oper**	**3.38**	**85**	*eP*	**Pn**	**14 12 18.5**	**+1.0**
COEG	**Centro de Oper**	**3.38**	**85**	*eP*	**Pn**	**14 12 18.6**	**+1.1**
COEG	comp=Z,7μm,0.5s			IAML		14 13 08.7	
TGIG		**3.47**	**348**		**Pn**	**14 12 17.9**	**-0.8**
TGIG		**3.47**	**348**	↑*eP*	**Pn**	**14 12 17.9**	**-0.8**
SCLA	**Alcaldia de Sa**	**3.54**	**84**	*eP*	**Pn**	**14 12 20.4**	**+0.8**
COEB	**Comit de Eme**	**3.72**	**88**	*eP*	**Pn**	**14 12 23.2**	**+1.1**
COEB				*eS*	**Sn**	**14 13 05.2**	**0.0**
COEB	**Comit de Eme**	**3.72**	**88**	*eP*	**Pn**	**14 12 23.2**	**+1.1**
JUCU	**Jucuar¡n**	**3.99**	**91**	*eP*	**Pn**	**14 12 26.2**	**+0.2**
JUCU	comp=Z,5μm,0.5s			IAML		14 13 20.9	
CNRM	**Centro Naciona**	**4.07**	**88**	*eP*	**Pn**	**14 12 26.8**	**-0.1**
CNRM				*eS*	**Sn**	**14 13 14.6**	**+1.0**
PETF	**Flores**	**4.26**	**34**		**Pn**	**14 12 30.3**	**+0.7**
UXUV	**UXUV**	**4.29**	**336**	*eP*	**Pn**	**14 12 29.4**	**-0.5**
HUIG	**Huatulco**	**4.35**	**304**		**Pn**	**14 12 27.2**	**-3.6**
HUIG					**Sn**	**14 13 17.3**	**-3.3**
HUIG	**Huatulco**	**4.35**	**304**	*eP*	**Pn**	**14 12 27.2**	**-3.6**
HUIG				*eS*	**Sn**	**14 13 17.3**	**-3.3**
CMIG	**Matias Romero** comp=Z,102nm,0.3s,baz=169,slow=16,SNR=245	**4.44**	**327**	Pn	**Pn**	**14 12 30.3**	**-1.6**
CMIG				Sn	**Sn**	**14 13 19.6**	**-3.2**
CMIG	**Matias Romero**	**4.44**	**327**	*eP*	**Pn**	**14 12 30.4**	**-1.6**
CSGN	**Cosiguina Volc**	**4.68**	**94**	*eP*	**Pn**	**14 12 35.7**	**+0.3**
TGUH	**Tegucigalpa,Un**	**4.98**	**82**		**Pn**	**14 12 38.8**	**-0.7**
TGUH	**Tegucigalpa,Un**	**4.98**	**82**	||*eP*	**Pn**	**14 12 39.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**4.98**	**82**	↑↑*P*	**Pn**	**14 12 38.8**	**-0.7**
TUIG	**Tuzandepetl**	**5.05**	**337**		**Pn**	**14 12 39.5**	**-0.9**
TUIG	**Tuzandepetl**	**5.05**	**337**	↑*eP*	**Pn**	**14 12 39.5**	**-0.9**
CRIN	**San Cristobal**	**5.21**	**97**		**Pn**	**14 12 42.7**	**+0.1**
CRIN	**San Cristobal**	**5.21**	**97**	*eP*	**Pn**	**14 12 43.1**	**+0.5**
CRIN	comp=Z,18μm,0.6s			IAML		14 13 49.6	
PEIG	**Puerto Escondi**	**5.33**	**300**	↑*eP*	**Pn**	**14 12 41.8**	**-2.4**
TELN	**Telica**	**5.43**	**97**	*eP*	**Pn**	**14 12 46.4**	**+0.7**
TELN				*eP*	**Pn**	**14 12 48.4**	**+2.7**
NEUV	**Arroyo Zacate**	**5.45**	**323**	*eP*	**Pn**	**14 12 43.5**	**-2.4**
NEUV				*eS*	**Sn**	**14 13 42.4**	**-5.4**
CNGN	**Cerro Negro**	**5.58**	**98**		**Pn**	**14 12 46.5**	**-1.1**
CNGN	**Cerro Negro** comp=Z,8μm,0.6s	**5.58**	**98**	*eP*	**Pn**	**14 12 46.7**	**-0.9**
CNGN				IAML		14 14 06.0	
VHO	**Vista Hermosa**	**5.61**	**312**	*eP*	**Pn**	**14 12 48.0**	**-0.2**
SCIG	**Sabancuy**	**5.68**	**11**		**Pn**	**14 12 47.7**	**-1.3**
SCIG	**Sabancuy**	**5.68**	**11**	↑*eP*	**Pn**	**14 12 47.7**	**-1.3**
COPN	**Copaltepe**	**5.74**	**101**	*eP*	**Pn**	**14 12 50.4**	**+0.5**
COPN	comp=Z,5μm,0.6s			IAML		14 14 02.2	
MOMN	**Momotombo**	**5.74**	**99**	*eP*	**Pn**	**14 12 50.1**	**+0.1**
APYN	**Apoyeque**	**5.96**	**100**	*eP*	**Pn**	**14 12 53.3**	**+0.4**
APYN				*eS*	**Sn**	**14 13 54.7**	**-5.6**
TISN	**Laguna Tiscapa**	**6.05**	**101**	*eP*	**Pn**	**14 12 54.9**	**+0.7**
MGAN	**Managua**	**6.08**	**101**	*eP*	**Pn**	**14 12 54.8**	**+0.4**
YOIG	**Yosondua**	**6.10**	**305**	||*eP*	**Pn**	**14 12 54.5**	**-0.6**
HUEN		**6.11**	**99**	*eP*	**Pn**	**14 12 55.1**	**+0.2**
MASN	**Masaya** comp=Z,2μm,0.4s	**6.20**	**102**	*eP*	**Pn**	**14 12 56.9**	**+0.6**
MASN				IAML		14 14 19.0	
MATN	**Matagalpa**	**6.27**	**93**		**Pn**	**14 12 56.8**	**-0.5**
MATN	**Matagalpa**	**6.27**	**93**	*eP*	**Pn**	**14 12 57.2**	**0.0**
MATN	comp=Z,745nm,0.5s			IAML		14 14 14.2	
PNIG	**Pinotepa**	**6.34**	**299**		**Pn**	**14 12 56.2**	**-2.0**
PNIG	**Pinotepa**	**6.34**	**299**	↑*eP*	**Pn**	**14 12 56.2**	**-2.0**
TXIG	**Tlaxiaco**	**6.50**	**307**	||*eP*	**Pn**	**14 13 00.9**	**+0.3**
TOIG	**Toxpalan**	**6.54**	**317**	||*eP*	**Pn**	**14 13 01.3**	**+0.4**
BOAB	**BOACO BROADBAN**	**6.58**	**97**		**Pn**	**14 13 00.4**	**-1.0**
BOAB	**BOACO BROADBAN**	**6.58**	**97**	↑↑*P*	**Pn**	**14 13 00.6**	**-0.9**
BOAB	**BOACO BROADBAN**	**6.58**	**97**	*eP*	**Pn**	**14 13 00.8**	**-0.6**
CONN	**Concepcion** comp=Z,2μm,0.7s	**6.81**	**105**	*eP*	**Pn**	**14 13 05.3**	**+0.8**
CONN				IAML		14 14 29.8	
HLIG	**Huajuapan de L**	**6.88**	**311**	*eP*	**Pn**	**14 13 06.5**	**+0.8**
HLIG				*eS*	**Sn**	**14 14 22.4**	**-0.9**
TPIG	**Tehuac#an**	**6.96**	**317**		**Pn**	**14 13 08.8**	**+1.9**
TPIG	**Tehuac#an**	**6.96**	**317**	||*eP*	**Pn**	**14 13 08.8**	**+1.9**
HZTE	**Horizontes, Gu**	**7.11**	**111**		**Pn**	**14 13 11.1**	**+2.3**
HZTE	**Horizontes, Gu** comp=Z,2μm,2.1s	**7.11**	**111**	*eP*	**Pn**	**14 13 11.5**	**+2.7**
HZTE				IAML		14 14 50.7	
ACON	**Acoyapa**	**7.14**	**100**		**Pn**	**14 13 09.0**	**-0.1**
FTIG	**Fresnillo de T**	**7.17**	**310**	*eP*	**Pn**	**14 13 10.6**	**+0.9**
MGIG	**Malinaltepec**	**7.18**	**303**	||*eP*	**Pn**	**14 13 09.9**	**+0.1**
TLIG	**Tlapa**	**7.30**	**306**	Pn	**Pn**	**14 13 11.8**	**+0.4**
TLIG	**Tlapa**	**7.30**	**306**	||*eP*	**Pn**	**14 13 12.2**	**+0.7**
JAUV	**Jalcomulco**	**7.34**	**325**	*eP*	**Pn**	**14 13 08.7**	**-3.2**
JAUV				*eS*	**Sn**	**14 14 29.3**	**-5.0**
CRIG	**Cruz Grande**	**7.36**	**298**		**Pn**	**14 13 10.9**	**-1.2**
CRIG	**Cruz Grande**	**7.36**	**298**	||*eP*	**Pn**	**14 13 10.9**	**-1.2**
ORTG	**Ortega, Santa**	**7.38**	**113**		**Pn**	**14 13 14.5**	**+2.0**
ORTG	**Ortega, Santa** comp=Z,500nm,1.6s	**7.38**	**113**	*eP*	**Pn**	**14 13 14.9**	**+2.5**
ORTG				IAML		14 14 49.9	
LVIG	**Laguna Verde**	**7.43**	**329**		**Pn**	**14 13 10.0**	**-3.0**
LVIG	**Laguna Verde**	**7.43**	**329**	*eP*	**Pn**	**14 13 10.0**	**-3.0**
DUNO	**Dulce Nombre,**	**7.47**	**115**		**Pn**	**14 13 15.9**	**+2.3**
DUNO	**Dulce Nombre,** comp=Z,576nm,0.7s	**7.47**	**115**	*eP*	**Pn**	**14 13 16.7**	**+3.0**
DUNO				IAML		14 15 01.4	
JTS	**Las Juntas de** comp=Z,108nm,0.3s,baz=340,slow=9.1,SNR=191	**7.86**	**112**	Pn	**Pn**	**14 13 21.6**	**+2.6**
JTS				Sn	**Sn**	**14 14 48.0**	**+0.8**
JTS	comp=Z,55nm,0.3s,baz=39,slow=19,SNR=1.9			LR	LR	14 15 55.9	
JTS	comp=Z,12μm,18.7s,baz=2.5,slow=35 **Las Juntas de**	**7.86**	**112**	P	**Pn**	**14 13 22.0**	**+2.9**
JTS	**Las Juntas de**	**7.86**	**112**		**Pn**	**14 13 22.0**	**+2.9**
JTS	**Las Juntas de**	**7.86**	**112**	||*eP*	**Pn**	**14 13 21.7**	**+2.6**
JTS	**Las Juntas de**	**7.86**	**112**	↑↑*P*	**Pn**	**14 13 21.4**	**+2.4**
DAIG	**Los Arroyos**	**7.93**	**298**		**Pn**	**14 13 19.4**	**-0.6**
DAIG	**Los Arroyos**	**7.93**	**298**	||*eP*	**Pn**	**14 13 19.4**	**-0.6**
ESPN	**Las Esperanzas**	**7.94**	**98**		**Pn**	**14 13 20.6**	**+0.6**
ESPN	**Las Esperanzas**	**7.94**	**98**	*eP*	**Pn**	**14 13 20.4**	**+0.3**
CAO2	**Cobano, Puntar**	**7.98**	**117**	Pn	**Pn**	**14 13 23.4**	**+2.6**
LAFE	**Finca La Fe, P**	**8.10**	**115**	*eP*	**Pn**	**14 13 24.4**	**+2.1**
COVE	**Coope Vega, Sa**	**8.21**	**108**		**Pn**	**14 13 25.3**	**+1.5**
PPM	**Popocatepetl**	**8.27**	**314**	||*eP*	**Pn**	**14 13 28.2**	**+3.1**
MEIG	**Mezcala**	**8.34**	**304**		**Pn**	**14 13 26.8**	**+1.1**
MEIG					**Sn**	**14 14 54.7**	**-4.4**
MEIG	**Mezcala**	**8.34**	**304**	*eP*	**Pn**	**14 13 26.8**	**+1.1**
MEIG				*eS*	**Sn**	**14 14 54.7**	**-4.4**
JACO	**JACO, Garabito**	**8.39**	**115**		**Pn**	**14 13 29.1**	**+2.9**
AMVM	**AMECAMECA**	**8.43**	**314**		**Pn**	**14 13 29.1**	**+2.0**
AMVM	**AMECAMECA**	**8.43**	**314**	*e*	**Pn**	**14 13 29.1**	**+2.0**
YAIG	**Yautepec**	**8.46**	**311**		**Pn**	**14 13 28.8**	**+1.5**
YAIG	**Yautepec**	**8.46**	**311**	||*eP*	**Pn**	**14 13 28.8**	**+1.5**
CAIG	**El Cayaco**	**8.47**	**297**		**Pn**	**14 13 27.0**	**-0.4**
CAIG	**El Cayaco**	**8.47**	**297**	||*eP*	**Pn**	**14 13 27.0**	**-0.4**
PLIG	**Platanillo**	**8.50**	**307**		**Pn**	**14 13 29.6**	**+1.7**
PLIG	**Platanillo**	**8.50**	**307**	||*eP*	**Pn**	**14 13 29.6**	**+1.7**
HDC	**Heredia**	**8.73**	**112**		**Pn**	**14 13 32.7**	**+1.6**
HDC	**Heredia**	**8.73**	**112**	↑↑*P*	**Pn**	**14 13 34.3**	**+3.2**
HDC3	**Heredia 3**	**8.73**	**112**	*eP*	**Pn**	**14 13 35.0**	**+3.9**
TLVM	**San Miguel Top**	**8.74**	**313**	||*e*	**Pn**	**14 13 34.1**	**+2.7**
XCVM	**Xochimilco**	**8.74**	**313**	||*e*	**Pn**	**14 13 33.8**	**+2.4**
MAVM	**Malinalco, Edo**	**8.83**	**310**		**Pn**	**14 13 34.8**	**+2.2**
MAVM	**Malinalco, Edo**	**8.83**	**310**	||*e*	**Pn**	**14 13 34.8**	**+2.2**
UNM	**Universidad Na**	**8.84**	**313**	P	**Pn**	**14 13 35.6**	**+2.9**
UNM	**Universidad Na**	**8.84**	**313**		**Pn**	**14 13 35.6**	**+2.9**
UNM	**Universidad Na**	**8.84**	**313**	↑↑*P*	**Pn**	**14 13 36.4**	**+3.7**
UNM	**Universidad Na**	**8.84**	**313**	||*eP*	**Pn**	**14 13 36.2**	**+3.6**
PBVM	**Pinon**	**8.84**	**314**		**Pn**	**14 13 33.5**	**+1.0**
PBVM	**Pinon**	**8.84**	**314**	||*e*	**Pn**	**14 13 33.5**	**+1.0**
VTVM	**Tizayuca**	**8.86**	**317**		**Pn**	**14 13 35.6**	**+2.7**
VTVM	**Tizayuca**	**8.86**	**317**	||*e*	**Pn**	**14 13 35.6**	**+2.7**
BJVM	**Benito Juarez**	**8.86**	**313**	*e*	**Pn**	**14 13 36.9**	**+4.0**
GMVM	**Gustavo A Made**	**8.90**	**314**	||*e*	**Pn**	**14 13 35.4**	**+1.9**
AOVM	**Tlapan**	**8.90**	**312**	*e*	**Pn**	**14 13 35.6**	**+1.9**
CJVM	**Cuajimalpa**	**8.93**	**313**	||*e*	**Pn**	**14 13 37.8**	**+3.8**
INVM	**La Marquesa**	**8.96**	**312**	||*e*	**Pn**	**14 13 36.4**	**+2.0**
PTVM	**Pico Tres Padr**	**8.97**	**315**		**Pn**	**14 13 34.1**	**-0.3**
PTVM	**Pico Tres Padr**	**8.97**	**315**	||*e*	**Pn**	**14 13 34.1**	**-0.3**
CVTR	**Volcan Turrial**	**9.05**	**111**		**Pn**	**14 13 38.9**	**+3.2**
RIMA	**Rio Macho**	**9.05**	**112**		**Pn**	**14 13 39.1**	**+3.5**
RIMA	**Rio Macho**	**9.05**	**112**	*eP*	**Pn**	**14 13 39.5**	**+3.9**
AZVM	**Cuida Lopez Ma**	**9.08**	**314**		**Pn**	**14 13 39.5**	**+3.5**
AZVM	**Cuida Lopez Ma**	**9.08**	**314**	*e*	**Pn**	**14 13 39.5**	**+3.5**
ZUVM	**ZUMPANGO**	**9.10**	**316**		**Pn**	**14 13 38.0**	**+1.8**
ZUVM	**ZUMPANGO**	**9.10**	**316**	||*e*	**Pn**	**14 13 38.0**	**+1.8**
ARIG	**Puente Sto Nin**	**9.12**	**303**		**Pn**	**14 13 37.6**	**+1.4**
ARIG	**Puente Sto Nin**	**9.12**	**303**	*eP*	**Pn**	**14 13 37.6**	**+1.4**
BATAN	**Batan**	**9.37**	**109**		**Pn**	**14 13 43.3**	**+3.6**
BATAN	**Batan**	**9.37**	**109**	*eP*	**Pn**	**14 13 51.0**	**+11**
PEZE	**Perez Zeledon,**	**9.38**	**114**		**Pn**	**14 13 43.9**	**+4.0**
DEIG	**Demacu**	**9.41**	**318**	||*eP*	**Pn**	**14 13 43.6**	**+3.2**
ATVM	**ATLACOMULCO**	**9.59**	**313**		**Pn**	**14 13 46.5**	**+3.4**
ATVM	**ATLACOMULCO**	**9.59**	**313**	*e*	**Pn**	**14 13 46.5**	**+3.4**
SRBA	**San Rafael, Bu**	**9.72**	**114**	Pn	**Pn**	**14 13 47.9**	**+3.1**
ZIIG	**Zihuatanejo**	**9.74**	**297**		**Pn**	**14 13 44.9**	**+0.1**
ZIIG	**Zihuatanejo**	**9.74**	**297**	*eP*	**Pn**	**14 13 44.9**	**+0.1**
ACIG	**Acambay**	**9.76**	**313**	*e*	**Pn**	**14 13 47.6**	**+2.4**
DRK0	**Durika**	**9.81**	**114**		**Pn**	**14 13 48.9**	**+2.9**
DRK0	**Durika**	**9.81**	**114**	*eP*	**Pn**	**14 13 50.6**	**+4.6**
DRK0				*eS*	**Sn**	**14 15 21.0**	**-14**
DRK0	**Durika**	**9.81**	**114**	*eP*	**Pn**	**14 13 49.2**	**+3.2**
RIOS	**Rincon, Osa**	**9.83**	**117**		**Pn**	**14 13 49.2**	**+3.1**
RIOS	**Rincon, Osa**	**9.83**	**117**	*eP*	**Pn**	**14 13 49.6**	**+3.5**
PIRO	**Carate, Puerto**	**10.13**	**118**	*eP*	**Pn**	**14 13 55.6**	**+5.5**
MLIR3	**Monte Lirio, C**	**10.39**	**115**	*iP*	**Pn**	**14 13 56.9**	**+3.0**
CNI2	**El Empalme, Bo**	**10.45**	**111**	↑*iP*	**Pn**	**14 13 58.3**	**+3.8**
CDITO	**Canoas**	**10.45**	**116**		**Pn**	**14 13 57.9**	**+3.3**
CDITO	**Canoas**	**10.45**	**116**	↑*iP*	**Pn**	**14 13 57.7**	**+3.2**
CDITO	**Canoas**	**10.45**	**116**	*eP*	**Pn**	**14 13 57.9**	**+3.3**
BRU2	**Volcan**	**10.51**	**115**		**Pn**	**14 13 58.9**	**+3.4**
BRU2	**Volcan**	**10.51**	**115**	*iP*	**Pn**	**14 13 59.7**	**+4.1**
BRU2				*eS*	**Sn**	**14 15 58.2**	**+5.6**
BRU2	**Volcan**	**10.51**	**115**	*eP*	**Pn**	**14 13 58.8**	**+3.2**
MOIG	**Morelia**	**10.54**	**308**		**Pn**	**14 13 58.1**	**+2.1**
MOIG	**Morelia**	**10.54**	**308**	*eP*	**Pn**	**14 13 58.1**	**+2.1**
LESP3	**La Esperanza,**	**10.60**	**117**	*eP*	**Pn**	**14 14 01.2**	**+4.6**
PTPM	**Petroterminale**	**10.62**	**118**	||*iP*	**Pn**	**14 14 02.6**	**+5.7**
PTPM				*iS*	**Sn**	**14 15 53.8**	**-1.2**
BCO2	**Palmira**	**10.69**	**115**	↑↑*iP*	**Pn**	**14 14 03.5**	**+5.5**
PRVC	**Isla de Provid**	**10.69**	**89**	Pn	**Pn**	**14 13 57.0**	**-0.9**
PRVC	**Isla de Provid**	**10.69**	**89**	*eP*	**Pn**	**14 13 57.0**	**-0.9**
PRVC	**Isla de Provid**	**10.69**	**89**	*eP*	**Pn**	**14 13 57.3**	**-0.5**
LNBQ3	**Los Naranjos,**	**10.73**	**114**	*eP*	**Pn**	**14 14 02.6**	**+4.0**
BAGA3	**Bagala, Chiriq**	**10.80**	**116**	*eP*	**Pn**	**14 14 05.7**	**+6.3**
DVD	**David**	**10.88**	**116**	*eP*	**Pn**	**14 14 06.2**	**+5.7**
PSOM3	**Paja de Sombre**	**10.88**	**114**	*iP*	**Pn**	**14 14 04.8**	**+4.3**
CHGR2	**Aguacate**	**10.94**	**113**	↑*iP*	**Pn**	**14 14 05.0**	**+3.8**
CHIR3	**Chiriqui UPA,**	**11.01**	**116**	*iP*	**Pn**	**14 14 05.8**	**+3.6**
RPIG	**Rio Verde**	**11.16**	**320**	↑||*eP*	**Pn**	**14 14 07.1**	**+2.7**
IGIG	**Irapuato, Guan**	**11.29**	**312**		**Pn**	**14 14 09.7**	**+3.4**
IGIG	**Irapuato, Guan**	**11.29**	**312**	||*eP*	**Pn**	**14 14 09.7**	**+3.4**
REME3	**Remedios, Chir**	**11.52**	**115**	*eP*	**Pn**	**14 14 13.0**	**+3.8**
GTIG	**Gomez Farias**	**11.62**	**327**	↑||*eP*	**Pn**	**14 14 11.8**	**+1.3**
MMIG	**Aquila**	**11.66**	**296**		**Pn**	**14 14 12.1**	**+1.0**
MMIG	**Aquila**	**11.66**	**296**	||*eP*	**Pn**	**14 14 12.1**	**+1.0**
GMAL	**Guarumal, Vera**	**12.26**	**116**	*eP*	**Pn**	**14 14 25.2**	**+5.8**
COIG	**Colima**	**12.32**	**299**	||*iP*	**Pn**	**14 14 22.8**	**+2.6**
CALO3	**Calobre, Verag**	**12.36**	**113**	*eP*	**Pn**	**14 14 23.3**	**+2.5**
JUBC	**Volcan de Coli**	**12.38**	**301**	||*e*	**Pn**	**14 14 22.9**	**+1.8**
EZ5V		**12.39**	**301**		**Pn**	**14 14 24.3**	**+3.0**
EZ5V		**12.39**	**301**	||*iP*	**Pn**	**14 14 24.2**	**+3.0**
MNGA	**Volcan de Coli**	**12.39**	**301**	||*e*	**Pn**	**14 14 24.4**	**+3.0**
INCO	**Volcan de Coli**	**12.41**	**301**	||*e*	**Pn**	**14 14 23.7**	**+2.0**
CDAR	**Ciudad de Arme**	**12.50**	**298**	||*iP*	**Pn**	**14 14 24.1**	**+1.6**
MARI3	**Mariato, Verag**	**12.53**	**116**	*eP*	P	14 14 29.1	-5.3
R15V		**12.57**	**299**		**Pn**	**14 14 25.4**	**+1.8**
R15V		**12.57**	**299**	||*e*	**Pn**	**14 14 25.4**	**+1.8**
PNME	**Penonome**	**12.76**	**111**	*eP*	**Pn**	**14 14 29.5**	**+3.3**

JCT pmax pmax
comp=Z,555nm,1.2s
JCT Junction City 18.37 339 P **Pn 14 15 39.8 +0.5**
JCT Junction City 18.37 339 ⇑P **P 14 15 39.0 -0.1**
JCT Junction City 18.37 339 P **P 14 15 38.9 -0.3**
baz=156,SNR=165
JCT Junction City 18.37 339 P **P 14 15 39.1 -0.1**
JCT baz=156,SNR=165 S **Sn 14 19 03.7 -0.1**
baz=156
HPIG 18.38 319 ⇓*i*P **Pn 14 15 41.5 +2.0**
BRAL Brewton 18.38 15 P **Pn 14 15 40.0 +0.7**
BRAL baz=196,SNR=8.5 S **S 14 19 10.5 +2.8**
baz=196
BRAL Brewton 18.38 15 P **P 14 15 37.8 -1.4**
BRAL baz=196,SNR=8.5 S **Sn 14 19 01.9 -1.9**
baz=196
NATX Nacogdoches 18.43 354 P **Pn 14 15 40.1 +0.1**
NATX Nacogdoches 18.43 354 P **P 14 15 39.8 +0.1**
NATX baz=173,SNR=31 S **S 14 19 07.6 -1.2**
baz=173
NATX Nacogdoches 18.43 354 P **P 14 15 39.6 -0.2**
NATX baz=173,SNR=31 S **Sn 14 19 03.2 -1.9**
baz=173
GUY2C Guyana, Caldas 18.60 114 *e*P **Pn 14 15 45.3 +2.6**
PAC1 Pacto, Paraso 18.70 133 *e*P **Pn 14 15 44.4 +0.8**
LL1C La Loma 1 Cana 18.80 100⇑*e*P **Pn 14 15 45.5 +0.9**
237A Washetta, Mont 18.82 351 P **P 14 15 44.2 +0.2**
237A comp=Z,483nm,0.9s IAmb IAmb 14 15 49.1
237A Washetta, Mont 18.82 351 P **Pn 14 15 44.4 -0.3**
baz=169,SNR=54
VBMS Vicksburg 18.84 5 P **P 14 15 44.5 +0.3**
VBMS baz=185,SNR=49 S **Sn 14 19 15.4 +0.4**
baz=185
VBMS Vicksburg 18.84 5 P **Pn 14 15 44.7 -0.2**
VBMS baz=185,SNR=49 S **Sn 14 19 14.7 -0.3**
baz=185
POPC Popayan, Colom 18.87 123 *e*P **Pn 14 15 47.4 +1.8**
PTBC PUERTO BERRIO, 18.88 109⇑*e*P **Pn 14 15 47.4 +1.9**
CNOCA NORCASIA, CALD 18.89 113 *e*P **Pn 14 15 47.0 +1.2**
NORC Norcasia 18.89 113 *e*P **Pn 14 15 49.0 +3.2**
ANIL Santa Ana 18.91 116 *e*P **Pn 14 15 48.4 +2.2**
OTAV Otavalo 18.97 132 P **Pn 14 15 47.4 +0.3**
OTAV pmax pmax
comp=Z,89nm,0.9s
OTAV Otavalo 18.97 132 P **Pn 14 15 47.4 +0.3**
OTAV Otavalo 18.97 132 *e*P **Pn 14 15 48.6 +1.6**
OTAV Otavalo 18.97 132 ⇓P **Pn 14 15 48.5 +1.4**
LL6C La Loma 6 Bece 19.04 99⇑*e*P **P 14 15 46.7 +0.1**
TXAR Lajitas Array 19.04 328 P **Pn 14 15 48.3 +0.8**
comp=Z,1.3nm,0.3s,baz=158,slow=9.9,SNR=242
TXAR PcP **PcP 14 20 11.4 +0.2**
comp=Z,0.2nm,0.3s,baz=176,slow=3.6,SNR=3.8
TXAR LR LR 14 24 20.1
comp=Z,6μm,18.1s,baz=126,slow=41
TXAR P3KPbc 14 50 20.0
comp=Z,0.0nm,0.3s,baz=308,slow=3.3,SNR=8.1
TXAR Lajitas Array 19.04 328 P **Pn 14 15 49.2 +1.7**
TX31 Lajitas Ar. Si 19.04 328 P **Pn 14 15 48.9 +1.4**
TX31 IAmb IAmb 14 15 52.6
comp=Z,2μm,1.5s
TX31 Lajitas Ar. Si 19.04 328 ⇓P **Pn 14 15 48.0 +0.5**
TX31 Lajitas Ar. Si 19.04 328 P **Pn 14 15 48.2 +0.6**
TX31 baz=144,SNR=342 S **S 14 19 26.3 +5.0**
baz=144
TX32 Lajitas Array 19.04 328 P **Pn 14 15 48.9 +1.4**
WHTX Lake Whitney, 19.12 347 P **Pn 14 15 48.6 +0.3**
WHTX Lake Whitney, 19.12 347 P **Pn 14 15 48.2 -0.1**
baz=164,SNR=77
WHTX Lake Whitney, 19.12 347 P **Pn 14 15 47.8 -0.5**
WHTX baz=164,SNR=77 S **S 14 19 24.4 +1.8**
baz=164
TULM Tulcn-Chalpat 19.13 130⇓*e*P **Pn 14 15 51.4 +2.3**
CCUFI Cufio, Nario 19.13 128 *e*P **Pn 14 15 49.2 +0.1**
GCUF Volcan Galeras 19.14 128 *e*P **Pn 14 15 51.2 +2.1**
CRJC Cerrejon, Guaj 19.17 95⇑*i*P **P 14 15 45.8 -2.3**
CRUC La Cruz 19.23 126 *e*P Pn 14 15 60.0 +10
143A Socs Landing, 19.27 2 P **P 14 15 48.4 -0.5**
143A baz=182,SNR=61 S **Sn 14 19 24.2 -1.1**
baz=182
352A Blakely 19.27 20 P **P 14 15 48.7 -0.3**
352A Blakely 19.27 20 P **P 14 15 49.4 +0.4**
352A baz=202,SNR=30 S **Sn 14 19 22.3 -3.2**
baz=202
ORTC Ortega, Tolima 19.33 118 *e*P **Pn 14 15 52.4 +1.4**
250A Grady 19.34 16 P **P 14 15 49.6 -0.2**
250A baz=198,SNR=27 S **S 14 19 26.6 -0.6**
baz=198
OCAC Ocana 19.37 103⇑*e*P **P 14 15 50.9 +0.5**
146A Union 19.41 8 P **P 14 15 50.5 -0.1**
146A baz=189,SNR=58 S **Sn 14 19 29.0 0.0**
baz=189
SLBS Sierra La Lagu 19.57 304 ⇓P **Pn 14 15 54.7 +0.9**
SPBC San Pablo de B 19.58 111 *e*P **Pn 14 15 55.5 +1.5**
JAKH Jacmel 19.68 73 P **P 14 15 52.2 -1.4**
JAKH comp=Z,717nm,1.6s IAmb IAmb 14 16 00.3
ROSC El Rosal 19.70 114 P **Pn 14 15 58.6 +2.8**
comp=Z,3.6nm,0.3s,baz=168,slow=0.9,SNR=26
ROSC El Rosal 19.70 114 *e*P **Pn 14 15 58.5 +2.7**
TIGA Tifton 19.71 23 P **P 14 15 53.9 +0.2**
TIGA baz=206,SNR=75 S **Sn 14 19 37.9 +2.0**
baz=206
TIGA Tifton 19.71 23 P **P 14 15 53.7 -0.1**
TIGA baz=206,SNR=75 S **Sn 14 19 35.5 -0.4**
baz=206
456A Hilliard 19.73 27 P **P 14 15 53.8 -0.2**
456A baz=211 S **Sn 14 19 36.6 +0.2**
baz=211
Z41A Richland Creek 19.80 359 P **P 14 15 54.9 +0.1**
Z41A baz=178,SNR=68 P **P 14 15 54.9 +0.1**
baz=178,SNR=68
Z41A Richland Creek 19.80 359 P **P 14 15 54.8 +0.1**
Z41A baz=178,SNR=68 S **S 14 19 33.5 -3.0**
baz=178
TSIG Topolobambo 19.86 310⇓*i*P **Pn 14 15 57.1 -0.1**
URIC Uribia, Colomb 19.94 92 P **P 14 15 55.7 -0.7**
URIC Uribia, Colomb 19.94 92⇑*e*P **P 14 15 55.3 -1.1**
Z38A Mt. Pleasant 19.95 354 P **P 14 15 56.5 +0.1**
baz=172,SNR=56
BARC Barichara 20.03 108 *e*P Pn 14 16 01.0 +1.5
GARC Garzon, Huila 20.04 122 *e*P Pn 14 16 00.1 +0.5
LPIG La Paz 20.06 305 P Pn 14 15 59.5 0.0
comp=Z,195nm,1.1s,baz=185,slow=5.4,SNR=11
CSIG Choix 20.11 314⇓*i*P Pn 14 16 00.3 +0.2
Z47A Carrollton 20.12 10 P **P 14 15 58.0 -0.2**
Z47A baz=192,SNR=326 S **S 14 19 44.4 +1.4**
baz=192
LRAL Lakeview Retre 20.18 13 P **P 14 15 59.0 +0.1**
LRAL comp=Z,376nm,0.9s IAmb IAmb 14 16 00.7
LRAL Lakeview Retre 20.18 13 P **P 14 15 59.1 +0.1**
LRAL baz=195,SNR=142 S **S 14 19 44.0 -0.2**
baz=195
LRAL Lakeview Retre 20.18 13 P **P 14 15 58.8 -0.1**
LRAL baz=195,SNR=142 S **S 14 19 42.4 -1.7**
baz=195
PAMC Pamplona, Colo 20.23 105 *e*P Pn 14 16 02.2 +0.1
WLAR White Oak Lake 20.24 358 P **P 14 15 59.0 -0.5**
WLAR comp=Z,899nm,1.0s IAmb IAmb 14 16 05.5
ABTX Abilene, Hawle 20.30 342 P **P 14 16 00.5 +0.3**
ABTX Abilene, Hawle 20.30 342 P **P 14 16 00.9 +0.7**
ABTX baz=159,SNR=318 S **S 14 19 45.6 -0.9**
baz=159
ABTX S Sn 14 19 48.6 -1.6
baz=159
ABTX Abilene, Hawle 20.30 342 P **P 14 16 00.8 +0.6**
ABTX baz=159,SNR=318 S **S 14 19 46.0 -0.5**
baz=159
Z35A Perchaven, San 20.37 348 P **P 14 16 01.4 +0.4**
baz=166,SNR=86
RUSC La Rusia 20.38 110 *e*P Pn 14 16 04.2 +0.3
152A Waverly Hall 20.44 19 P **P 14 16 01.9 +0.1**
baz=202,SNR=181
CCAR Cane Creek 20.46 1 P **P 14 16 01.6 -0.3**
CCAR Cane Creek 20.46 1 S Sn 14 19 52.1 -2.1
baz=181
Y45A Yeager Farm, C 20.57 7 P **P 14 16 02.9 -0.2**
baz=188,SNR=86
Y45A S **S 14 19 52.7 +0.9**
baz=188
255A Hazlehurst 20.57 25 P **P 14 16 02.9 -0.2**
baz=208,SNR=23
255A S Sn 14 19 54.4 -2.4
baz=208
VILC Villavicencio, 20.59 115 *e*P Pn 14 16 07.6 +1.6
Z51A Franklin 20.91 17 P **P 14 16 06.9 +0.1**
Z51A comp=Z,402nm,0.8s IAmb IAmb 14 16 10.9
Z51A Franklin 20.91 17 P **P 14 16 06.4 -0.4**
Z51A baz=200,SNR=64 S **S 14 19 58.2 -0.3**
baz=200
154A Montrose 20.94 22 P **P 14 16 07.0 -0.1**
154A Montrose 20.94 22 P **P 14 16 06.8 -0.3**
baz=206,SNR=99
154A S **S 14 20 00.9 +1.7**
baz=206
SDDR Presa de Saban 20.98 72 P **P 14 16 07.6 -0.1**
SDDR IAMs_20 IAMs_20 14 25 18.4
comp=Z,29μm,19.0s
SDDR Presa de Saban 20.98 72 *e*P **P 14 16 07.2 -0.5**
SDDR Presa de Saban 20.98 72 ⇑P **P 14 16 07.3 -0.5**
X40A Basin Creek Fa 21.03 359 P **P 14 16 08.5 +0.4**
X40A Basin Creek Fa 21.03 359 P **P 14 16 07.1 -1.0**
baz=178,SNR=55
X40A P **P 14 16 07.1 -1.0**
baz=178,SNR=55
X40A Basin Creek Fa 21.03 359 P **P 14 16 06.9 -1.2**
baz=178,SNR=55
X40A S **S 14 19 59.5 -1.5**
baz=178
Y49A Blount Mountai 21.10 14 P **P 14 16 08.6 -0.3**
Y49A comp=Z,1μm,1.4s IAmb IAmb 14 16 11.1
Y49A Blount Mountai 21.10 14 P **P 14 16 08.6 -0.3**
baz=196,SNR=135
Y49A S **S 14 20 00.8 -1.6**
baz=196
MIAR Mount Ida 21.11 357 P **P 14 16 08.2 -0.8**
baz=176
MIAR S **S 14 19 59.8 -2.8**
baz=176
MIAR Mount Ida 21.11 357 P **P 14 16 08.2 -0.8**
baz=176
MIAR S **S 14 20 00.7 -2.0**
baz=176
OXF Oxford 21.22 7 P **P 14 16 09.4 -0.7**
OXF pmax pmax
comp=Z,874nm,1.0s
OXF MLR MLR
comp=Z,8μm,22.0s
OXF Oxford 21.22 7 P **P 14 16 09.4 -0.7**
OXF comp=Z,874nm,1.0s IAmb IAmb 14 16 28.7
OXF Oxford 21.22 7 P **P 14 16 08.7 -1.4**
baz=188,SNR=46
OXF Oxford 21.22 7 P **P 14 16 08.9 -1.3**
baz=188,SNR=46
OXF S **S 14 20 00.5 -4.1**
baz=188
257A Skidaway Islan 21.23 27 P **P 14 16 09.8 -0.5**
baz=212
X37A Clayton 21.30 353 P **P 14 16 11.2 +0.2**
baz=172,SNR=111
UALR University of 21.31 0 P **P 14 16 11.2 0.0**
UALR comp=Z,450nm,0.9s IAmb IAmb 14 16 15.7
DABV Dabajuro 21.36 94 *e*P **P 14 16 10.3 -1.6**
TAMC Tame, Arauca 21.38 107 *e*P **P 14 16 13.8 +1.7**
MACC Macarena, Meta 21.43 120 *e*P **P 14 16 14.7 +2.1**
MCRA Macar, Loja 21.49 144 P **P 14 16 14.2 +0.9**
GOGA Godfrey 21.53 21 P **P 14 16 12.3 -1.2**
GOGA comp=Z,328nm,0.8s pmax pmax
GOGA comp=Z,30μm,20.0s MLR MLR
GOGA Godfrey 21.53 21 P **P 14 16 12.3 -1.2**
GOGA comp=Z,328nm,0.8s IAmb IAmb 14 16 16.0
GOGA Godfrey 21.53 21 IAMs_20 IAMs_20 14 25 00.3
comp=Z,30μm,20.0s
GOGA Godfrey 21.53 21 P **P 14 16 12.4 -1.2**
GOGA baz=204,SNR=84 S **S 14 20 10.6 -0.3**
baz=204
GOGA Godfrey 21.53 21 P **P 14 16 12.2 -1.3**
GOGA baz=204,SNR=84 S **S 14 20 13.4 +2.5**
baz=204
X48A Hartselle 21.54 12 P **P 14 16 12.6 -0.9**
baz=194,SNR=225
X48A S **S 14 20 03.3 -7.7**
baz=194
W41B Gary Mavity, V 21.71 0 P **P 14 16 14.1 -1.3**
baz=180,SNR=71
W41B S **S 14 20 12.7 -1.7**
baz=180
W41B Gary Mavity, V 21.71 0 P **P 14 16 14.0 -1.3**
baz=180,SNR=71
W41B S **S 14 20 14.1 -0.3**
baz=180
X34A Smith Ranch, M 21.72 348 P **P 14 16 15.7 +0.2**
Y52A Lilburn 21.75 19 P **P 14 16 15.8 -0.1**
baz=202,SNR=90
Y52A P **P 14 16 15.8 -0.1**
baz=202,SNR=90
Y52A S **S 14 20 10.1 -5.1**
baz=202
Y52A S **S 14 20 10.1 -5.1**
baz=202
SDV Santo Domingo 21.76 100 P **P 14 16 16.6 +0.2**
comp=Z,501nm,0.7s,baz=278,slow=3.5,SNR=170
SDV PcP **PcP 14 20 18.0 +1.4**
comp=Z,27nm,0.7s,baz=5.1,slow=6.6,SNR=4.1
SDV LR LR 14 25 14.9
comp=Z,9μm,20.8s,baz=290,slow=38
SDV Santo Domingo 21.76 100 *e*P **P 14 16 16.1 -0.2**
SDV Santo Domingo 21.76 100 *e*P **P 14 16 16.4 +0.1**
W39A Magazine 21.77 357 P **P 14 16 15.0 -1.1**
baz=176,SNR=88
W39A S **S 14 20 15.8 +0.3**
baz=176
W39A Magazine 21.77 357 P **P 14 16 14.5 -1.6**
baz=176,SNR=88
W39A S **S 14 20 14.8 -0.7**
baz=176
PTLC Puerto Leguiza 21.78 126 *e*P **P 14 16 20.1 +3.7**
GRTK Grand Turk 21.78 65 P **P 14 16 15.7 -0.6**
GRTK comp=Z,428nm,0.9s IAmb IAmb 14 16 33.7
GRTK Grand Turk 21.78 65 ⇑P **P 14 16 15.7 -0.6**
MNTX Cornudas Mount 21.82 329 P **P 14 16 16.8 +0.1**
MNTX comp=Z,660nm,1.2s IAmb IAmb 14 16 19.9
MNTX Cornudas Mount 21.82 329 P **P 14 16 17.0 +0.3**
baz=144,SNR=509
MNTX S **S 14 20 17.7 +1.1**
baz=144
MNTX Cornudas Mount 21.82 329 P **P 14 16 16.5 -0.2**
baz=144,SNR=509
MNTX S **S 14 20 20.7 +4.1**
baz=144
WHAR Wooly Hollow 21.83 0 P **P 14 16 16.1 -0.5**
PLAL Pickwick Lake 21.86 9 P **P 14 16 16.1 -1.0**
W45A Hickory Valley 21.88 7 P **P 14 16 15.2 -2.1**
baz=188,SNR=22
W45A S **S 14 20 17.7 0.0**
baz=188
PTGC Puerto Gaitan, 21.94 113 *e*P **P 14 16 19.5 +1.5**
FPAL Fort Paine 21.95 15 P **P 14 16 17.1 -0.9**
FPAL IAmb IAmb 14 16 20.8
comp=Z,730nm,0.9s
WMOK Wichita Mounta 22.06 346 P **P 14 16 18.3 -0.9**
WMOK pmax pmax
comp=Z,1μm,1.3s
WMOK Wichita Mounta 22.06 346 P **P 14 16 18.3 -0.9**
WMOK Wichita Mounta 22.06 346 ⇑P **P 14 16 18.4 -0.8**
WMOK Wichita Mounta 22.06 346 P **P 14 16 18.0 -1.2**
baz=163,SNR=401
WMOK S **S 14 20 23.3 +2.1**
baz=163
WMOK Wichita Mounta 22.06 346 P **P 14 16 18.1 -1.1**
baz=163,SNR=401
WMOK S **S 14 20 18.9 -2.3**
baz=163
W35A Tecumseh 22.07 350 **P 14 16 18.0 -1.3**
HBAR Harrisburg 22.14 4 S **S 14 20 23.0 +0.3**
baz=184
X51A Calhoun 22.17 17 P **P 14 16 19.2 -1.2**
baz=199,SNR=30
X51A P **P 14 16 19.2 -1.2**
baz=199,SNR=30
X51A S **S 14 20 18.7 -4.5**
baz=199
X51A S **S 14 20 18.7 -4.5**
baz=199
HAW Hawthorne Fire 22.18 24 P **P 14 16 19.1 -1.4**
baz=208
HAW S **S 14 20 25.3 +2.0**
baz=208
FNO Franklin 22.27 349 **P 14 16 20.4 -1.0**
GUVC San Jose del G 22.27 117 *e*P **P 14 16 28.4 +6.7**
FCAR Ozark Folk Cen 22.43 0 P **P 14 16 21.8 -1.3**
KIDD KIDD Seismic O 22.46 327 P **P 14 16 23.6 -0.1**
baz=141
KIDD S **S 14 20 32.5 +3.6**
baz=141
SWET Sewanee 22.51 14 P **P 14 16 23.1 -1.0**
NHSC New Hope 22.57 27 P **P 14 16 24.0 -0.6**
NHSC New Hope 22.57 27 P **P 14 16 23.8 -0.9**
baz=212,SNR=15
NHSC S **S 14 20 33.1 +2.6**
baz=212
NHSC New Hope 22.57 27 P **P 14 16 22.7 -1.9**
baz=212,SNR=15
NHSC S **S 14 20 27.5 -3.0**
baz=212
MSTX Muleshoe 22.59 337 P **P 14 16 24.9 -0.1**
MSTX comp=Z,993nm,1.4s IAmb IAmb 14 16 28.4
MSTX Muleshoe 22.59 337 P **P 14 16 25.5 +0.5**
baz=153,SNR=155
MSTX S **S 14 20 31.6 +0.5**
baz=153
MSTX Muleshoe 22.59 337 P **P 14 16 25.6 +0.5**
baz=153,SNR=155
MSTX S **S 14 20 32.8 +1.6**
baz=153
LCAR Lake Charles 22.63 3 P **P 14 16 23.6 -1.6**
LCAR comp=Z,191nm,0.7s IAmb IAmb 14 16 27.9
LCAR Lake Charles 22.63 3 S **S 14 20 25.1 -6.4**
baz=183
W50A Signal Mountai 22.65 15 P **P 14 16 24.0 -1.5**
baz=198,SNR=62
W50A S **S 14 20 32.4 +0.4**
baz=198
TUL1 Leonard 22.66 353 P **P 14 16 23.4 -2.1**
TUL1 comp=Z,254nm,0.8s IAmb IAmb 14 16 44.3
TUL1 Leonard 22.66 353 P **P 14 16 23.9 -1.7**
baz=171,SNR=26
TUL1 S **S 14 20 28.2 -3.9**
baz=171
TUL1 Leonard 22.66 353 P **P 14 16 23.7 -1.9**
baz=171,SNR=26
TUL1 S **S 14 20 29.1 -3.0**
baz=171
HODGE Hodges 22.70 22 P **P 14 16 25.1 -1.0**
HODGE comp=Z,596nm,0.9s IAmb IAmb 14 16 26.9
HODGE Hodges 22.70 22 P **P 14 16 24.1 -1.9**
baz=206
HODGE S **S 14 20 33.2 +0.3**
baz=206
DR12 Loma Pena Alta 22.71 73 P **P 14 16 24.6 -1.7**
LNXT Lenox 22.78 6 P **P 14 16 25.6 -1.3**
baz=187
LNXT S **S 14 20 38.0 +3.8**
baz=187
V48A Smith Brothers 22.83 12 P **P 14 16 25.7 -1.6**
baz=194,SNR=309
V48A S **S 14 20 31.9 -3.1**
baz=194
HHAR Hobbs 22.86 357 P **P 14 16 26.1 -1.6**
baz=176
HHAR S **S 14 20 31.7 -3.9**
baz=176
U40A Yellville 22.89 359 P **P 14 16 25.9 -2.1**
U40A Yellville 22.89 359 P **P 14 16 26.2 -1.9**
baz=178,SNR=82
U40A P **P 14 16 26.2 -1.9**
baz=178,SNR=82
U40A S **S 14 20 36.1 -0.1**
baz=178
U40A S **S 14 20 36.1 -0.1**
baz=178
U40A Yellville 22.89 359 P **P 14 16 26.2 -1.9**
baz=178,SNR=82
U40A S **S 14 20 32.7 -3.5**
baz=178
W52A Murphy 22.93 18 P **P 14 16 27.5 -1.0**
baz=201,SNR=43
W52A S **S 14 20 35.3 -1.6**
baz=201
WVT Waverly 23.03 9 P **P 14 16 26.9 -2.5**
WVT comp=Z,255nm,0.8s pmax pmax
WVT Waverly 23.03 9 P **P 14 16 26.9 -2.5**
WVT comp=Z,255nm,0.8s IAmb IAmb 14 16 29.0
WVT Waverly 23.03 9 ⇑P **P 14 16 26.8 -2.5**
WVT Waverly 23.03 9 P **P 14 16 27.2 -2.2**
baz=191,SNR=163
WVT S **S 14 20 34.7 -3.7**
baz=191
WVT Waverly 23.03 9 P **P 14 16 27.0 -2.4**
baz=191
WVT S **S 14 20 35.7 -2.7**
baz=191
CPCT Cooper Cave 23.09 16 P **P 14 16 28.7 -1.4**
CPCT comp=Z,374nm,1.0s IAmb IAmb 14 16 30.9
JSC Jenkinsville 23.12 24 P **P 14 16 29.6 -0.8**
baz=208
CASEE Lake Jocassee 23.15 20 P **P 14 16 29.8 -0.9**
baz=204
CASEE S **S 14 20 39.4 -1.2**
baz=204
Y57A Sumter 23.25 26 P **P 14 16 30.7 -1.0**
baz=210,SNR=20
Y57A P **P 14 16 30.7 -1.0**
baz=210,SNR=20
Y57A S **S 14 20 41.5 -0.7**
baz=210
Y57A S **S 14 20 41.5 -0.7**
baz=210
HSIG 23.25 315 P **P 14 16 31.8 0.0**
HSIG comp=Z,421nm,1.7s IAmb IAmb 14 16 54.2
ELOV Elorza 23.37 103⇑*e*P **P 14 16 33.5 +0.5**
PBMO Poplar Bluff 23.38 4 P **P 14 16 30.8 -2.1**
baz=184,SNR=51
PAULI Pauline 23.39 22 S **S 14 20 43.9 -0.6**
baz=206
V51A Loudon 23.47 16 P **P 14 16 32.8 -1.1**
baz=200,SNR=91
V51A S **S 14 20 45.3 -0.5**
baz=200
Y58A Scranton 23.47 27 P **P 14 16 33.1 -0.7**
baz=212,SNR=8.1
Y58A P **P 14 16 33.1 -0.7**
baz=212,SNR=8.1
Y58A S **S 14 20 45.9 +0.1**
baz=212

Y58A S **S** **14 20 45.9 +0.1**
baz=212
TKL **Tuckaleechee C** **23.50 18** P **P** **14 16 33.5 -0.7**
comp=Z,529nm,1.1s,baz=195,slow=8.5,SNR=86
TKL S **S** **14 20 48.2 +1.9**
comp=Z,11nm,0.7s,baz=228,slow=22,SNR=6.9
TKL LR LR 14 27 22.8
comp=Z,23µm,18.1s,baz=208,slow=41
TKL **Tuckaleechee C** **23.50 18** P **P** **14 16 33.4 -0.7**
baz=201,SNR=150
TKL S **S** **14 20 46.3 0.0**
baz=201
U32A **Winter Ranch,** **23.68 347** **P** **14 16 35.0 -0.9**
U32A IAmb IAmb 14 16 40.1
comp=Z,528nm,0.9s
U32A **Winter Ranch,** **23.68 347** P **P** **14 16 35.0 -0.9**
baz=164,SNR=48
U32A S **S** **14 20 48.6 -0.6**
baz=164
V52A **Sevierville** **23.73 18** P **P** **14 16 35.2 -1.1**
V52A IAmb IAmb 14 16 37.1
comp=Z,870nm,1.3s
V52A **Sevierville** **23.73 18** P **P** **14 16 35.3 -1.0**
baz=201,SNR=104
V52A S **S** **14 20 49.6 -0.3**
baz=201
121A **Cookes Peak, D** **23.73 326** P **P** **14 16 37.5 +0.9**
121A **Cookes Peak, D** **23.73 326** P **P** **14 16 38.3 +1.7**
baz=140,SNR=224
121A S **S** **14 20 54.0 +3.5**
baz=140
121A **Cookes Peak, D** **23.73 326** P **P** **14 16 38.8 +2.1**
baz=140,SNR=224
121A S **S** **14 20 56.3 +5.8**
baz=140
T35A **Sooner Cattle** **23.74 352** P **P** **14 16 35.0 -1.5**
T35A IAmb IAmb 14 16 38.0
comp=Z,525nm,1.0s
T35B **Sooner Cattle** **23.74 352** P **P** **14 16 34.6 -1.9**
baz=170,SNR=127
T35B S **S** **14 20 46.9 -3.3**
baz=170
BIRD **Birdtown, Kers** **23.76 25** P **P** **14 16 35.5 -1.2**
baz=210
T45B **Paducah** **23.78 7** P **P** **14 16 35.2 -1.6**
baz=189,SNR=89
T45B S **S** **14 20 49.3 -1.4**
baz=189
U49A **Red Boiling Sp** **23.79 13** P **P** **14 16 35.3 -1.6**
baz=196,SNR=401
U49A S **S** **14 20 45.2 -5.7**
baz=196
V53A **Saluda** **23.81 20** P **P** **14 16 36.7 -0.5**
baz=203,SNR=90
V53A P **P** **14 16 36.7 -0.5**
baz=203,SNR=90
V53A S **S** **14 20 49.5 -1.8**
baz=203
V53A S **S** **14 20 49.5 -1.8**
baz=203
KMSC **Kings Mountain** **23.86 23** P **P** **14 16 36.9 -0.7**
baz=207,SNR=139
KMSC S **S** **14 20 50.9 -1.1**
baz=207
KMSC **Kings Mountain** **23.86 23** P **P** **14 16 37.1 -0.4**
baz=207,SNR=139
KMSC S **S** **14 20 49.2 -2.7**
baz=207
Y59A **Loris** **23.90 29** P **P** **14 16 36.8 -1.2**
baz=214,SNR=16
Y59A P **P** **14 16 36.8 -1.2**
baz=214,SNR=16
T47A **Sharon Grove** **23.98 10** P **P** **14 16 37.0 -1.7**
baz=192,SNR=387
T47A S **S** **14 20 55.0 +1.0**
baz=192
X58A **Rowland** **24.16 27** P **P** **14 16 39.5 -0.9**
baz=212,SNR=21
X58A P **P** **14 16 39.5 -0.9**
baz=212,SNR=21
X58A S **S** **14 20 57.9 +1.0**
baz=212
X58A S **S** **14 20 57.9 +1.0**
baz=212
Y60A **Bolivia** **24.23 30** P **P** **14 16 39.9 -1.1**
Y60A IAmb IAmb 14 16 41.3
comp=Z,389nm,0.8s
Y60A **Bolivia** **24.23 30** P **P** **14 16 39.5 -1.4**
baz=215,SNR=8.0
Y60A P **P** **14 16 39.5 -1.4**
baz=215,SNR=8.0
Y60A S **S** **14 20 58.8 +0.9**
baz=215
Y60A S **S** **14 20 58.8 +0.9**
baz=215
S39A **Bolivar** **24.24 358** P **P** **14 16 39.6 -1.5**
baz=178,SNR=92
S39A S **S** **14 20 57.1 -1.0**
baz=178
BAUV **El Baul** **24.24 98** P **P** **14 16 40.1 -1.2**
S44A **Carbondale** **24.38 6** P **P** **14 16 41.1 -1.2**
baz=187,SNR=459
S44A S **S** **14 21 01.5 +1.2**
baz=187
TZTN **Tazewell** **24.39 17** P **P** **14 16 40.9 -1.6**
TZTN IAmb IAmb 14 16 46.1
comp=Z,509nm,0.9s
TZTN **Tazewell** **24.39 17** P **P** **14 16 41.9 -0.6**
baz=201,SNR=71
TZTN S **S** **14 20 60.0 -0.6**
baz=201
TZTN **Tazewell** **24.39 17** P **P** **14 16 41.7 -0.8**
baz=201,SNR=71
TZTN S **S** **14 21 01.0 +0.4**
baz=201
W57A **Gilead** **24.39 25** P **P** **14 16 41.3 -1.2**
baz=210,SNR=44
W57A P **P** **14 16 41.3 -1.2**
baz=210,SNR=44
W57A S **S** **14 20 59.6 -1.0**
baz=210
W57A S **S** **14 20 59.6 -1.0**
baz=210
Y22A **Socorro** **24.41 329** P **P** **14 16 44.6 +1.7**
baz=143,SNR=126
Y22A S **S** **14 21 01.8 +0.5**
baz=143
BNM **Barren Site** **24.42 330** P **P** **14 16 43.9 +0.9**
T50A **Nancy** **24.49 15** P **P** **14 16 41.9 -1.5**
baz=198
T50A P **P** **14 16 41.9 -1.5**
baz=198
T50A S **S** **14 20 59.9 -2.3**
baz=198
T50A S **S** **14 20 59.9 -2.3**
baz=198
Y22D **IRIS PASSCAL I** **24.50 330** P **P** **14 16 45.8 +2.2**
baz=144,SNR=8.5
Y22D S **S** **14 21 10.9 +8.3**
baz=144
Y22D **IRIS PASSCAL I** **24.50 330** P **P** **14 16 45.6 +1.9**
baz=144
Y22D S **S** **14 21 09.2 +6.6**
baz=144
V55A **Taylorsville** **24.53 22** P **P** **14 16 42.6 -1.1**
baz=207,SNR=99
V55A P **P** **14 16 42.6 -1.1**
baz=207,SNR=99
V55A S **S** **14 21 03.2 +0.4**
baz=207
V55A S **S** **14 21 03.2 +0.4**
baz=207
FVM **French Village** **24.57 4** P **P** **14 16 42.8 -1.4**
baz=184,SNR=32
FVM S **S** **14 21 01.7 -1.8**
baz=184
CCM **Cathedral Cave** **24.61 2** P **P** **14 16 42.9 -1.5**
CCM pmax pmax
comp=Z,511nm,1.1s
CCM **Cathedral Cave** **24.61 2** P **P** **14 16 42.9 -1.5**
CCM IAmb IAmb 14 16 45.6
comp=Z,511nm,1.1s
CCM **Cathedral Cave** **24.61 2** ⇑P **P** **14 16 42.5 -1.9**
CCM **Cathedral Cave** **24.61 2** P **P** **14 16 42.8 -1.5**
baz=182,SNR=143
CCM S **S** **14 20 59.3 -4.6**
baz=182
CCM **Cathedral Cave** **24.61 2** P **P** **14 16 43.0 -1.5**
baz=182
CCM S **S** **14 21 02.1 -1.9**
baz=182
R40A **Maddies Statio** **24.82 0** P **P** **14 16 44.8 -1.6**
baz=180,SNR=51
R40A S **S** **14 21 05.6 -1.8**
baz=180
USIN **University of** **24.85 9** P **P** **14 16 45.6 -1.0**
U54A **Nelsons Funny** **24.92 20** P **P** **14 16 46.2 -1.2**
baz=205,SNR=112
U54A P **P** **14 16 46.2 -1.2**
baz=205,SNR=112
U54A S **S** **14 21 07.5 -1.6**
baz=205
U54A S **S** **14 21 07.5 -1.6**
baz=205
ANMO **Albuquerque** **24.99 332** P **P** **14 16 48.9 +0.8**
comp=Z,121nm,1.0s,baz=145,slow=11,SNR=70
ANMO **Albuquerque** **24.99 332** P **P** **14 16 48.9 +0.8**
ANMO pmax pmax
comp=Z,169nm,1.1s
ANMO **Albuquerque** **24.99 332** P **P** **14 16 48.9 +0.8**
ANMO **Albuquerque** **24.99 332** P **P** **14 16 48.8 +0.7**
baz=146
ANMO S **S** **14 21 18.2 +7.6**
baz=146
ANMO **Albuquerque** **24.99 332** P **P** **14 16 50.2 +2.1**
baz=146
SLM **Saint Louis** **25.24 4** P **P** **14 16 49.8 -0.3**
baz=185,SNR=30
ICMP **Isla Caja de M** **25.26 76** P **P** **14 16 48.6 -1.9**
U56A **King** **25.28 23** P **P** **14 16 49.8 -0.7**
baz=208,SNR=72
U56A P **P** **14 16 49.8 -0.7**
baz=208,SNR=72
U56A S **S** **14 21 12.2 -2.6**
baz=208
U56A S **S** **14 21 12.2 -2.6**
baz=208
TUC **Tucson** **25.30 321** P **P** **14 16 51.3 +0.4**
TUC pmax pmax
comp=Z,151nm,1.2s
TUC MLR MLR
comp=Z,43µm,18.0s
TUC **Tucson** **25.30 321** P **P** **14 16 51.3 +0.4**
TUC **Tucson** **25.30 321** ⇑P **P** **14 16 52.2 +1.3**
TUC **Tucson** **25.30 321** P **P** **14 16 52.9 +2.0**
baz=134
TUC S **S** **14 21 21.6 +6.1**
baz=134
V58A **Windy Hill, Pi** **25.31 26** P **P** **14 16 49.7 -1.2**
baz=211,SNR=82
V58A P **P** **14 16 49.7 -1.2**
baz=211,SNR=82
V58A S **S** **14 21 12.2 -3.1**
baz=211
V58A S **S** **14 21 12.2 -3.1**
baz=211
CNNC **Cliffs of the** **25.39 28** IAMs_20 IAMs_20 14 27 12.6
comp=Z,27µm,20.0s
CNNC **Cliffs of the** **25.39 28** ⇑P **P** **14 16 50.7 -0.8**
CNNC **Cliffs of the** **25.39 28** P **P** **14 16 50.6 -0.9**
baz=214,SNR=16
CNNC **Cliffs of the** **25.39 28** P **P** **14 16 50.4 -1.1**
baz=214,SNR=16
S51A **Beattyville** **25.40 16** P **P** **14 16 50.7 -1.0**
baz=200,SNR=88
S51A P **P** **14 16 50.7 -1.0**
baz=200,SNR=88
S51A S **S** **14 21 15.1 -1.6**
baz=200
S51A S **S** **14 21 15.1 -1.6**
baz=200
OLIL **Olney** **25.54 8** P **P** **14 16 51.7 -1.2**
baz=189,SNR=193
R32A **Long Quarter,** **25.59 348** P **P** **14 16 53.1 -0.2**
baz=165,SNR=21
R32A S **S** **14 21 21.6 +1.9**
baz=165
Q44A **Meyer Farm, Va** **25.60 6** P **P** **14 16 52.5 -0.9**
baz=187,SNR=134
R49A **Shelbyville** **25.63 13** P **P** **14 16 52.4 -1.3**
baz=196,SNR=137
R49A P **P** **14 16 52.4 -1.3**
baz=196,SNR=137
SJG **San Juan** **25.64 76** P **P** **14 16 51.3 -2.7**
comp=Z,32nm,0.7s,baz=264,slow=4.2,SNR=15
SJG PcP **PcP** **14 20 24.8 +0.4**
comp=Z,37nm,0.7s,baz=20,slow=3.3,SNR=8.6
SJG LR LR 14 28 13.4
comp=Z,22µm,18.8s,baz=276,slow=40
SJG **San Juan** **25.64 76** IAMs_20 IAMs_20 14 28 11.1
comp=Z,21µm,19.0s
SJG **San Juan** **25.64 76** eP **P** **14 16 48.0 -6.0**
BIRV **Birongo** **25.67 94** P **P** **14 16 54.6 +0.3**
R50A **Paris** **25.82 15** P **P** **14 16 54.0 -1.3**
baz=198,SNR=124
R50A P **P** **14 16 54.0 -1.3**
baz=198,SNR=124
R50A S **S** **14 21 21.1 -2.2**
baz=198
R50A S **S** **14 21 21.1 -2.2**
baz=198
KSU1 **Kansas State U** **25.91 352** P **P** **14 16 55.7 -0.5**
KSU1 IAmb IAmb 14 16 59.2
comp=Z,354nm,0.8s
KSU1 **Kansas State U** **25.91 352** ⇑P **P** **14 16 55.0 -1.2**
KSU1 **Kansas State U** **25.91 352** P **P** **14 16 55.0 -1.2**
baz=170,SNR=50
KSU1 S **S** **14 21 22.6 -2.0**
baz=170
KSU1 **Kansas State U** **25.91 352** P **P** **14 16 55.1 -1.2**
baz=170,SNR=50
KSU1 S **S** **14 21 24.8 +0.2**
baz=170
T25A **Trinidad** **26.01 338** P **P** **14 16 59.4 +2.0**
T25A **Trinidad** **26.01 338** P **P** **14 16 59.2 +1.7**
baz=152,SNR=315
T25A S **S** **14 21 33.4 +6.5**
baz=152
BLA **Blacksburg** **26.03 22** IAMs_20 IAMs_20 14 27 38.3
comp=Z,28µm,20.0s
BLA **Blacksburg** **26.03 22** P **P** **14 16 57.1 -0.3**
baz=207,SNR=24
BLA **Blacksburg** **26.03 22** P **P** **14 16 56.3 -1.1**
baz=207,SNR=24
BLA S **S** **14 21 24.4 -2.4**
baz=207
P40A **Paris** **26.06 1** P **P** **14 16 55.5 -2.1**
baz=180,SNR=49
P38A **Dawn** **26.18 358** P **P** **14 16 57.2 -1.4**
baz=177,SNR=36
P38A S **S** **14 21 27.9 -1.0**
baz=177
CBKS **Cedar Bluff** **26.18 347** P **P** **14 16 58.7 0.0**
CBKS pmax pmax
comp=Z,1µm,1.6s
CBKS **Cedar Bluff** **26.18 347** P **P** **14 16 58.7 0.0**
CBKS **Cedar Bluff** **26.18 347** ⇑P **P** **14 16 58.8 0.0**
CBKS **Cedar Bluff** **26.18 347** P **P** **14 16 58.9 +0.2**
baz=163,SNR=25
CBKS S **S** **14 21 29.4 +0.3**
baz=163
CBKS **Cedar Bluff** **26.18 347** P **P** **14 16 59.0 +0.3**
baz=163,SNR=25
CBKS S **S** **14 21 30.7 +1.6**
baz=163
MTP **Monte Pirata** **26.20 76** P **P** **14 16 56.7 -2.4**
S54A **Dingess, Beckl** **26.24 20** P **P** **14 16 58.0 -1.4**
baz=205,SNR=40
S54A P **P** **14 16 58.0 -1.4**
baz=205,SNR=40
S54A S **S** **14 21 29.3 -0.8**
baz=205
S54A S **S** **14 21 29.3 -0.8**
baz=205
T57A **Hurt** **26.29 24** P **P** **14 16 59.0 -0.7**
baz=210,SNR=51
T57A P **P** **14 16 59.0 -0.7**
baz=210,SNR=51
T57A S **S** **14 21 32.3 +1.5**
baz=210
T57A S **S** **14 21 32.3 +1.5**
baz=210
P43A **Skaggs, Pawnee** **26.29 5** P **P** **14 16 58.9 -0.7**
baz=186,SNR=19
214A **Organ Pipe Nat** **26.35 318** P **P** **14 17 01.2 +0.8**
baz=130,SNR=31
214A S **S** **14 21 39.5 +7.5**
baz=130
U59A **Littleton** **26.36 27** P **P** **14 16 59.0 -1.3**
baz=213,SNR=27
U59A P **P** **14 16 59.0 -1.3**
baz=213,SNR=27
V61A **Roper** **26.46 30** P **P** **14 17 00.4 -0.8**
baz=216,SNR=9.3
V61A P **P** **14 17 00.4 -0.8**
baz=216,SNR=9.3
R53A **Hurricane** **26.52 19** P **P** **14 17 00.6 -1.1**
baz=203,SNR=40
R53A P **P** **14 17 00.6 -1.1**
baz=203,SNR=40
R53A S **S** **14 21 33.7 -0.7**
baz=203
R53A S **S** **14 21 33.7 -0.7**
baz=203
P46A **Rosedale** **26.54 9** P **P** **14 17 00.5 -1.4**
baz=191,SNR=99
P46A S **S** **14 21 32.2 -2.4**
baz=191
P48A **Milroy** **26.70 12** P **P** **14 17 01.4 -2.0**
baz=195,SNR=114
P48A P **P** **14 17 01.4 -2.0**
baz=195,SNR=114
P48A S **S** **14 21 33.8 -3.4**
baz=195
P48A S **S** **14 21 33.8 -3.4**
baz=195
W18A **Petrified Fore** **26.75 327** P **P** **14 17 05.7 +1.6**
baz=140,SNR=55
W18A S **S** **14 21 45.0 +6.5**
baz=140
Q51A **Peebles** **26.77 16** P **P** **14 17 02.9 -1.1**
baz=200,SNR=59
Q51A P **P** **14 17 02.9 -1.1**
baz=200,SNR=59
Q51A S **S** **14 21 36.2 -2.1**
baz=200
Q51A S **S** **14 21 36.2 -2.1**
baz=200
O44A **Mansfield** **26.90 7** P **P** **14 17 04.1 -1.0**
baz=188,SNR=7.1
O44A S **S** **14 21 37.3 -3.0**
baz=188
P49A **Miami Univ. Ec** **26.92 13** P **P** **14 17 03.9 -1.5**
P49A IAmb IAmb 14 17 06.6
comp=Z,264nm,0.9s
P49A **Miami Univ. Ec** **26.92 13** P **P** **14 17 03.2 -2.1**
baz=196,SNR=47
P49A S **S** **14 21 37.4 -3.3**
baz=196
P49A **Miami Univ. Ec** **26.92 13** P **P** **14 17 03.4 -2.0**
baz=196,SNR=47
P49A S **S** **14 21 36.7 -4.0**
baz=196
SDCO **Great Sand Dun** **26.96 337** P **P** **14 17 07.8 +1.7**
baz=151,SNR=128
SDCO S **S** **14 21 48.1 +6.1**
baz=151
SDCO **Great Sand Dun** **26.96 337** P **P** **14 17 07.6 +1.5**
baz=151,SNR=128
SDCO S **S** **14 21 45.3 +3.4**
baz=151
T59A **Double "B" Far** **26.98 27** P **P** **14 17 04.8 -1.0**
baz=213,SNR=76
T59A P **P** **14 17 04.8 -1.0**
baz=213,SNR=76
T59A S **S** **14 21 40.5 -1.1**
baz=213
T59A S **S** **14 21 40.5 -1.1**
baz=213
Q52A **Bidwell** **27.01 17** P **P** **14 17 05.1 -1.1**
baz=202,SNR=89
Q52A P **P** **14 17 05.1 -1.1**
baz=202,SNR=89
Q52A S **S** **14 21 39.8 -2.3**
baz=202
Q52A S **S** **14 21 39.8 -2.3**
baz=202
S57A **Dark Hollow, R** **27.07 24** P **P** **14 17 05.7 -1.0**
baz=210,SNR=16
S57A P **P** **14 17 05.7 -1.0**
baz=210,SNR=16
S57A S **S** **14 21 42.2 -0.9**
baz=210
S57A S **S** **14 21 42.2 -0.9**
baz=210
R55A **Marlinton** **27.09 21** P **P** **14 17 06.2 -0.7**
baz=207,SNR=85
R55A P **P** **14 17 06.2 -0.7**
baz=207,SNR=85
KSCO **Kaye Shedlock'** **27.11 342** P **P** **14 17 08.6 +1.4**
baz=158,SNR=46
KSCO **Kaye Shedlock'** **27.11 342** P **P** **14 17 08.7 +1.4**
baz=158,SNR=46
SFX **San Felipe** **27.17 314** P **P** **14 17 09.2 +1.6**
HDIL **Hopedale** **27.22 5** P **P** **14 17 06.0 -2.0**
baz=186,SNR=15
HDIL **Hopedale** **27.22 5** P **P** **14 17 06.1 -2.0**
baz=186,SNR=15
HDIL S **S** **14 21 43.0 -2.3**
baz=186
N41A **Harden Midland** **27.27 2** P **P** **14 17 06.5 -2.0**
baz=183,SNR=13
N41A S **S** **14 21 44.6 -1.5**
baz=183
P51A **Williamsport** **27.27 16** P **P** **14 17 07.0 -1.5**
baz=200,SNR=41
P51A P **P** **14 17 07.0 -1.5**
baz=200,SNR=41
SFIN **Lafayette** **27.30 9** P **P** **14 17 07.5 -1.2**
SFIN IAmb IAmb 14 17 09.0
comp=Z,292nm,0.9s
SFIN **Lafayette** **27.30 9** P **P** **14 17 06.8 -1.9**
baz=191,SNR=48
SFIN S **S** **14 21 44.2 -2.5**
baz=191
SFIN **Lafayette** **27.30 9** P **P** **14 17 07.2 -1.6**
baz=191,SNR=48
SFIN S **S** **14 21 42.3 -4.4**
baz=191
N38A **Joes South For** **27.33 359** P **P** **14 17 07.5 -1.5**
baz=178,SNR=36
Q54A **Coxs Mills** **27.48 20** P **P** **14 17 09.5 -0.9**
baz=205,SNR=70
Q54A P **P** **14 17 09.5 -0.9**
baz=205,SNR=70
T60A **Surry** **27.48 28** P **P** **14 17 09.5 -0.9**
baz=214,SNR=8.3
T60A P **P** **14 17 09.5 -0.9**
baz=214,SNR=8.3
T60A S **S** **14 21 50.3 +0.7**
baz=214
T60A S **S** **14 21 50.3 +0.7**
baz=214
113A **Mohawk Valley,** **27.49 318** P **P** **14 17 11.6 +1.1**
113A IAmb IAmb 14 17 14.5
comp=Z,566nm,1.9s
S22A **4UR Ranch, Cre** **27.50 335** P **P** **14 17 12.6 +1.7**
baz=148,SNR=300
S22A S **S** **14 21 50.2 -0.2**
baz=148
O48B **Farmland** **27.52 12** P **P** **14 17 08.6 -2.1**
baz=195,SNR=111
O48B **Farmland** **27.52 12** P **P** **14 17 08.7 -2.1**
baz=195,SNR=111
O48B S **S** **14 21 45.5 -4.7**
baz=195
N35A **Tabor** **27.54 355** P **P** **14 17 10.6 -0.3**
baz=173
N33B **J Bar K, Exete** **27.63 352** P **P** **14 17 11.9 +0.2**
baz=169
O49A **Covington** **27.63 13** P **P** **14 17 10.0 -1.7**
baz=197,SNR=60
O49A P **P** **14 17 10.0 -1.7**
baz=197,SNR=60
P52A **Corning** **27.67 17** IAMs_20 IAMs_20 14 29 24.3
comp=Z,21µm,19.0s
P52A **Corning** **27.67 17** P **P** **14 17 10.4 -1.7**
baz=202,SNR=20
P52A S **S** **14 21 48.6 -3.9**
baz=202
R58B **Mineral** **27.68 25** P **P** **14 17 11.3 -0.8**
baz=211,SNR=24

R58B P P 14 17 11.3 -0.8
baz=211,SNR=24
R58B S S 14 21 50.2 -2.4
baz=211
R58B S S 14 21 50.2 -2.4
baz=211
P53A Whipple 27.76 18 P P 14 17 11.9 -1.0
baz=203,SNR=46
P53A P P 14 17 11.9 -1.0
baz=203,SNR=46
MVCO Mesa Verde 27.79 332 P P 14 17 14.7 +1.2
baz=144,SNR=151
MVCO S S 14 21 59.4 +4.5
baz=144
Q24A Divide 27.90 338 P P 14 17 15.9 +1.4
baz=152,SNR=24
Q24A S S 14 21 58.4 +1.6
baz=152
WUAZ Wupatki 27.94 325 IAMs_20 IAMs_20 14 30 18.5
comp=Z,15µm,21.0s
WUAZ Wupatki 27.94 325 ⇓P P 14 17 16.1 +1.3
WUAZ Wupatki 27.94 325 P P 14 17 15.5 +0.8
baz=137,SNR=82
WUAZ S S 14 22 00.9 +3.8
baz=137
ACSO Alum Creek Sta 28.00 15 P P 14 17 13.8 -1.2
baz=200,SNR=22
ACSO Alum Creek Sta 28.00 15 P P 14 17 13.1 -1.9
baz=200,SNR=22
N47A Urbana 28.02 11 P P 14 17 12.7 -2.5
baz=194,SNR=66
N47A P P 14 17 12.7 -2.5
baz=194,SNR=66
CBN Corbin Frederi 28.09 26 P P 14 17 15.4 -0.4
baz=212,SNR=6.5
CBN S S 14 21 59.8 +0.7
baz=212
CBN Corbin Frederi 28.09 26 P P 14 17 15.0 -0.8
baz=212,SNR=6.5
CBN S S 14 21 56.8 -2.3
baz=212
Q56A Snyder Ridge, 28.10 22 P P 14 17 15.4 -0.5
baz=208,SNR=25
Q56A P P 14 17 15.4 -0.5
baz=208,SNR=25
M44A Midewin, Midew 28.17 7 P P 14 17 15.7 -0.7
baz=189,SNR=37
O52A Adamsville 28.20 17 P P 14 17 15.3 -1.5
baz=202,SNR=82
O52A P P 14 17 15.3 -1.5
baz=202,SNR=82
TBTG Tabatinga, AM 28.29 127 *e*P P 14 17 18.7 +0.8
TBTG Tabatinga, AM 28.29 127 *e*P P 14 17 17.7 -0.2
GLA Glamis 28.36 317 P P 14 17 18.8 +0.4
baz=128,SNR=37
GLA S S 14 22 03.5 -0.2
baz=128
N49A Columbus Grove 28.36 13 P P 14 17 16.0 -2.2
baz=197,SNR=20
N49A P P 14 17 16.0 -2.2
baz=197,SNR=20
BGNE Belgrade 28.39 351 P P 14 17 18.4 -0.1
baz=168,SNR=5.5
BGNE Belgrade 28.39 351 P P 14 17 17.9 -0.7
baz=168,SNR=5.5
BGNE S S 14 22 03.8 0.0
baz=168
S61A Accomac 28.41 29 P P 14 17 18.6 -0.1
baz=216
S61A P P 14 17 18.6 -0.1
baz=216
MCWV Mont Chateau 28.41 21 IAMs_20 IAMs_20 14 29 15.5
comp=Z,21µm,20.0s
MCWV Mont Chateau 28.41 21 P P 14 17 17.7 -1.0
baz=206,SNR=14
MCWV Mont Chateau 28.41 21 P P 14 17 17.3 -1.4
baz=206,SNR=14
MCWV S S 14 22 02.5 -1.7
baz=206
SCIA State Center 28.44 359 P P 14 17 18.0 -0.9
baz=178
SCIA State Center 28.44 359 P P 14 17 17.8 -1.2
baz=178
O53A New Philadelph 28.51 18 P P 14 17 18.0 -1.6
baz=203,SNR=30
O53A S S 14 22 04.1 -1.6
baz=203
BLYC Blythe 28.60 319 P P 14 17 21.3 +0.8
L40A Anamosa 28.61 2 P P 14 17 19.3 -1.1
baz=182,SNR=56
L42A Oliver, Polo 28.63 4 P P 14 17 19.2 -1.4
baz=185,SNR=58
CZSB Cruzeiro do Su 28.64 136 *e*P P 14 17 22.6 +1.7
L34A Svendsen Farm, 28.71 354 P P 14 17 20.7 -0.6
baz=172
O54A Avella 28.71 19 P P 14 17 20.1 -1.3
baz=205,SNR=19
O54A P P 14 17 20.1 -1.3
baz=205,SNR=19
PDMCI Parker Dam,Lak 28.72 320 P P 14 17 22.3 +0.8
baz=131,SNR=45
OGNE Ogallala 28.75 345 P P 14 17 22.9 +1.1
baz=160,SNR=14
OGNE S S 14 22 15.2 +5.5
baz=160
OGNE Ogallala 28.75 345 P P 14 17 22.4 +0.6
baz=160,SNR=14
OGNE S S 14 22 11.8 +2.2
baz=160
SMCO Snowmass 28.78 336 P P 14 17 23.6 +1.1
SMCO IAmb IAmb 14 17 30.6
comp=Z,190nm,1.2s
SMCO Snowmass 28.78 336 ⇑P P 14 17 24.0 +1.6
N51A Ashland 28.80 16 P P 14 17 20.9 -1.2
baz=200,SNR=9.1
N51A P P 14 17 20.9 -1.2
baz=200,SNR=9.1
ISCO Idaho Springs 28.81 338 P P 14 17 24.0 +1.4
ISCO pmax pmax
comp=Z,490nm,1.9s
ISCO Idaho Springs 28.81 338 P P 14 17 24.0 +1.4
ISCO IAmb IAmb 14 17 26.9
comp=Z,490nm,1.9s
ISCO Idaho Springs 28.81 338 P P 14 17 23.6 +1.0
baz=152,SNR=83
ISCO Idaho Springs 28.81 338 P P 14 17 23.8 +1.3
baz=152,SNR=83
ISCO S S 14 22 12.4 +1.4
baz=152
P57A Homestead Farm 28.93 23 P P 14 17 22.1 -1.1
P57A IAmb IAmb 14 17 24.2
comp=Z,278nm,0.9s
P57A Homestead Farm 28.93 23 P P 14 17 23.3 0.0
baz=210,SNR=81
P57A P P 14 17 23.3 0.0
baz=210,SNR=81
SWSC Sam W. Stewart 28.94 316 P P 14 17 24.5 +1.0
baz=127,SNR=23
SWSC S S 14 22 16.6 +4.0
baz=127
L44A Lake County Fo 28.96 7 P P 14 17 22.1 -1.4
baz=189,SNR=13
L44A Lake County Fo 28.96 7 P P 14 17 20.9 -2.6
baz=189,SNR=13
IKP In-Ko-Pah, Jac 28.98 315 P P 14 17 24.7 +0.7
baz=126,SNR=18
IKP S S 14 22 18.9 +5.5
baz=126
L46A Eue Claire 29.02 9 P P 14 17 22.6 -1.4
baz=192,SNR=12
L46A P P 14 17 22.6 -1.4
baz=192,SNR=12
PV23 Carpenter Ridg 29.03 332 P P 14 17 25.7 +1.1
PV23 IAmb IAmb 14 17 29.0
comp=Z,364nm,1.0s
M50A Fremont 29.09 14 P P 14 17 22.7 -2.0
baz=199,SNR=17
M50A P P 14 17 22.7 -2.0
baz=199,SNR=17
R61A Willards 29.09 28 P P 14 17 24.8 +0.1
baz=216
R61A P P 14 17 24.8 +0.1
baz=216
U15A North Rim 29.11 326 P P 14 17 26.4 +1.1
U15A IAmb IAmb 14 17 30.0
comp=Z,295nm,1.5s
N53A Lisbon 29.13 18 P P 14 17 24.2 -0.9
baz=203,SNR=46
N53A P P 14 17 24.2 -0.9
baz=203,SNR=46
BC3 Big Chuckawall 29.14 318 P P 14 17 26.4 +0.9
baz=128,SNR=77
IRM Iron Mountain 29.26 319 P P 14 17 28.0 +1.7
baz=129,SNR=7.3
IRM S S 14 22 22.8 +5.0
baz=129
L48A N Adams 29.29 12 P P 14 17 24.5 -1.9
baz=196,SNR=57
L48A P P 14 17 24.5 -1.9
baz=196,SNR=57
NEE2 Needles Airpor 29.32 320 P P 14 17 28.5 +1.6
baz=131,SNR=6.0
NEE2 S S 14 22 23.3 +4.7
baz=131
SDMD Soldier's Deli 29.33 25 P P 14 17 26.4 -0.5
baz=212
MONP2 Monument Peak 29.33 316 P P 14 17 28.2 +0.9
baz=126,SNR=14
MONP2 S S 14 22 22.6 +3.3
baz=126
BAR Barrett 29.38 315 P P 14 17 28.9 +1.5
K43A Burlington 29.44 6 P P 14 17 26.6 -1.2
baz=188,SNR=19
JFWS Jewell Farm 29.50 3 P P 14 17 27.3 -1.0
JFWS pmax pmax
comp=Z,89nm,0.8s
JFWS MLR MLR
comp=Z,9µm,20.0s
JFWS Jewell Farm 29.50 3 P P 14 17 27.3 -1.0
JFWS Jewell Farm 29.50 3 P P 14 17 27.5 -0.8
baz=184,SNR=17
JFWS Jewell Farm 29.50 3 P P 14 17 26.9 -1.4
baz=184,SNR=17
JFWS S S 14 22 15.9 -5.3
baz=184
NNA Nana 29.52 148 P P 14 17 29.2 +0.4
comp=Z,12nm,0.5s,baz=302,slow=6.8,SNR=5.5
NNA PcP PcP 14 20 34.6 +0.7
comp=Z,42nm,0.8s,baz=325,slow=5.5,SNR=12
NNA LR LR 14 27 24.5
comp=Z,8µm,18.0s,baz=317,slow=33
NNA Nana 29.52 148 *d* P P 14 17 29.7 +0.9
NNA pmax pmax
comp=Z,196nm,2.5s
NNA MLR MLR
comp=Z,3µm,17.0s
N54A Moraine State 29.54 19 P P 14 17 27.8 -0.9
N54A IAmb IAmb 14 17 30.2
comp=Z,334nm,1.1s
N54A IAMs_20 IAMs_20 14 30 11.3
comp=Z,16µm,18.0s
N54A Moraine State 29.54 19 P P 14 17 27.6 -1.1
baz=205,SNR=53
N54A Moraine State 29.54 19 P P 14 17 27.3 -1.4
baz=205,SNR=53
MIDE Milford 29.54 28 P P 14 17 29.0 +0.2
baz=215
M52A Chesterland 29.66 17 P P 14 17 28.3 -1.5
baz=202,SNR=28
M52A P P 14 17 28.3 -1.5
baz=202,SNR=28
K31A O'Neill 29.67 350 P P 14 17 29.1 -0.8
baz=167
BELC Belle Mtn. Jos 29.71 318 P P 14 17 31.5 +1.0
baz=128,SNR=7.0
M53A WI Miller and 29.76 18 P P 14 17 29.4 -1.3
M53A IAmb IAmb 14 18 17.9
comp=Z,160nm,0.8s
M53A IAMs_20 IAMs_20 14 30 20.2
comp=Z,18µm,20.0s
M53A WI Miller and 29.76 18 P P 14 17 29.0 -1.7
baz=203,SNR=32
M53A S S 14 22 20.7 -4.7
baz=203
TPFO Pinon Flats 29.78 317 P P 14 17 32.1 +1.0
baz=127,SNR=21
TPFO S S 14 22 27.5 +1.4
baz=127
PFO Pinyon Flats O 29.78 317 P P 14 17 33.2 +2.1
comp=Z,50nm,0.9s,baz=123,slow=7.5,SNR=35
PFO PcP PcP 14 20 35.4 +0.9
comp=Z,10.0nm,0.8s,baz=72,slow=1.2,SNR=4.3
PFO LR LR 14 31 09.1
comp=Z,6µm,18.8s,baz=129,slow=40
PFO Pinyon Flats O 29.78 317 *ce* P P 14 17 32.7 +1.6
PFO pmax pmax
comp=Z,230nm,1.5s
PFO MLR MLR
comp=Z,20µm,15.0s
PFO Pinyon Flats O 29.78 317 P P 14 17 31.6 +0.5
PFO Pinyon Flats O 29.78 317 P P 14 17 32.7 +1.6
baz=127,SNR=23
PFO S S 14 22 26.5 +0.4
baz=127
109C Camp Elliot, M 29.80 315 P P 14 17 32.2 +1.1
baz=125
109C S S 14 22 34.2 +8.1
baz=125
AAM Ann Arbor 29.80 13 P P 14 17 29.0 -1.9
baz=197
TDBA Terre de Bas, 29.81 81 IAMs_20 IAMs_20 14 31 36.7
comp=Z,15µm,18.0s
KNB Kanab 29.83 326 P P 14 17 32.9 +1.4
KNB pmax pmax
comp=Z,497nm,1.5s
KNB Kanab 29.83 326 P P 14 17 32.9 +1.4
KNB IAmb IAmb 14 17 36.2
comp=Z,497nm,1.5s
CBE Ff, Capester 29.84 81 IAMs_20 IAMs_20 14 31 42.4
comp=Z,14µm,18.0s
N23A Red Feather La 29.89 339 P P 14 17 33.5 +1.3
baz=153,SNR=35
N23A S S 14 22 30.6 +2.6
baz=153
SSPA Standing Stone 29.98 22 P P 14 17 31.8 -0.8
SSPA IAmb IAmb 14 17 32.9
comp=Z,221nm,1.0s
SSPA Standing Stone 29.98 22 P P 14 17 31.4 -1.2
baz=209,SNR=52
SSPA Standing Stone 29.98 22 P P 14 17 31.3 -1.2
baz=209
SSPA S S 14 22 27.7 -1.0
baz=209
GMRC Granite Mounta 29.98 319 P P 14 17 34.0 +1.1
baz=130,SNR=16
MVL Millersville 30.03 25 P P 14 17 32.1 -1.0
MVL IAmb IAmb 14 17 33.5
comp=Z,118nm,0.8s
O20A White River Ci 30.10 335 P P 14 17 34.9 +1.0
baz=148,SNR=40
O20A S S 14 22 35.0 +3.9
baz=148
ALLY Alegheny Colle 30.12 18 P P 14 17 32.4 -1.4
baz=204,SNR=14
MAGL Barre de l'ile 30.15 81 IAMs_20 IAMs_20 14 30 08.7
comp=Z,13µm,18.0s
GEDE Greenville 30.17 26 P P 14 17 33.0 -1.3
baz=214,SNR=23
MURC Murrieta 30.27 316 P P 14 17 36.6 +1.2
baz=126,SNR=9.9
FDF Fort de France 30.28 84 P P 14 17 38.2 +2.6
FDF pmax pmax
comp=Z,64nm,1.3s
WUPA West Chester U 30.29 26 P P 14 17 33.2 -2.1
M55A Ridgway 30.40 20 P P 14 17 34.9 -1.5
baz=207,SNR=41
M55A P P 14 17 34.9 -1.5
baz=207,SNR=41
P61A Hammonton 30.43 27 P P 14 17 35.7 -0.9
baz=215
P61A P P 14 17 35.7 -0.9
baz=215
HEC Hector,Ludlow 30.44 319 P P 14 17 38.4 +1.5
baz=129,SNR=24
ELS Elsinore Mount 30.45 316 P P 14 17 39.1 +2.1
ELS IAmb IAmb 14 17 41.3
comp=Z,417nm,2.0s
J47A Sunmer 30.46 11 P P 14 17 34.7 -2.2
baz=194
J47A P P 14 17 34.7 -2.2
baz=194
BBRC Big Bear Solar 30.48 317 P P 14 17 38.7 +1.3
baz=127
ECSD EROS Data Cent 30.48 354 P P 14 17 36.3 -0.7
ECSD EROS Data Cent 30.48 354 P P 14 17 36.2 -0.8
baz=172,SNR=70
ECSD EROS Data Cent 30.48 354 P P 14 17 35.6 -1.4
baz=172,SNR=70
ECSD S S 14 22 37.6 +0.9
baz=172
K50A Casco 30.48 14 P P 14 17 35.1 -2.0
baz=199
K50A P P 14 17 35.1 -2.0
baz=199
I37B Waseca 30.55 359 P P 14 17 38.3 +0.6
baz=178,SNR=6.6
I42A Draeger Farm, 30.56 5 P P 14 17 36.3 -1.4
baz=186,SNR=40
TUQ Turquoise Moun 30.57 320 P P 14 17 39.1 +1.1
baz=130
ERPA Erie 30.59 18 P P 14 17 36.3 -1.6
baz=204,SNR=12
ERPA Erie 30.59 18 P P 14 17 36.4 -1.6
baz=204,SNR=12
N58A Sunbury 30.60 24 P P 14 17 36.6 -1.5
baz=211,SNR=16
N58A P P 14 17 36.6 -1.5
baz=211,SNR=16
TUPA Temple Univers 30.66 26 P P 14 17 37.1 -1.5
baz=214
SCI2 San Clemente I 30.86 314 P P 14 17 41.0 +0.6
baz=123
M57A Sunshine Farm, 30.87 23 P P 14 17 39.2 -1.2
M57A IAmb IAmb 14 17 40.9
comp=Z,234nm,0.8s
M57A Sunshine Farm, 30.87 23 P P 14 17 39.4 -1.1
baz=210,SNR=55
M57A P P 14 17 39.4 -1.1
baz=210,SNR=55
RRX Edison Barstow 30.90 318 P P 14 17 41.4 +0.5
baz=128
BFSC Mount Baldy Ra 30.96 316 P P 14 17 42.0 +0.5
baz=126,SNR=16
CIS Catalina Islan 30.99 314 P P 14 17 42.0 +0.3
baz=124
CIS S S 14 22 50.0 +5.0
baz=124
I45A Fountain 31.01 9 P P 14 17 39.6 -2.0
baz=191,SNR=8.2
I45A P P 14 17 39.6 -2.0
baz=191,SNR=8.2
GSC Goldstone, Bar 31.04 319 P P 14 17 42.5 +0.3
baz=129,SNR=14
N59A State Game Lan 31.04 25 P P 14 17 41.1 -0.9
baz=212,SNR=26
N59A State Game Lan 31.04 25 P P 14 17 40.7 -1.3
baz=212,SNR=26
N59A S S 14 22 44.9 -0.6
baz=212
PANJ Princeton 31.04 27 P P 14 17 41.1 -0.9
baz=215,SNR=34
FMP Fort Macarthur 31.09 315 P P 14 17 43.1 +0.6
baz=124
SHOC Shoshone, Teco 31.09 320 P P 14 17 43.4 +1.0
baz=130
WVNY West Valley, N 31.29 20 P P 14 17 43.2 -1.0
WVNY IAmb IAmb 14 17 45.7
comp=Z,373nm,1.3s
WVNY West Valley, N 31.29 20 P P 14 17 42.7 -1.4
baz=206,SNR=44
BRNJ Basking Ridge 31.35 27 P P 14 17 43.3 -1.4
BRNJ IAmb IAmb 14 17 46.4
comp=Z,229nm,0.8s
BRNJ Basking Ridge 31.35 27 P P 14 17 43.9 -0.8
baz=215,SNR=30
PRN Pahroc Range 31.36 324 ⇓P P 14 17 47.5 +2.5
L56A Greenwood 31.41 21 P P 14 17 43.9 -1.4
baz=208,SNR=50
L56A P P 14 17 43.9 -1.4
baz=208,SNR=50
DECC Green Verdugo 31.42 316 P P 14 17 46.4 +1.0
baz=125
SUSD Miller 31.48 351 P P 14 17 46.1 +0.3
baz=168,SNR=6.3
SUSD Miller 31.48 351 P P 14 17 44.9 -0.9
baz=168,SNR=6.3
I49A Point Hope 31.54 13 P P 14 17 44.1 -2.2
baz=198,SNR=19
I49A P P 14 17 44.1 -2.2
baz=198,SNR=19
EDW2 Edwards Air Fo 31.56 317 P P 14 17 47.5 +0.8
baz=126,SNR=18
EDW2 S S 14 22 58.7 +4.9
baz=126
BBSR BB Station 31.58 49 ⇑P P 14 17 45.5 -1.3
BBSR BB Station 31.58 49 P P 14 17 45.2 -1.6
baz=240,SNR=11
KSPA Keystone Colle 31.58 24 P P 14 17 45.6 -1.1
baz=212,SNR=18
K22A Casper 31.65 340 P P 14 17 48.6 +1.0
baz=153,SNR=105
K22A Casper 31.65 340 P P 14 17 48.4 +0.8
baz=153,SNR=105
K22A S S 14 22 57.9 +2.6
baz=153
ODNJ Ogdensburg 31.67 26 P P 14 17 46.2 -1.3
baz=214,SNR=26
SNCC San Nicolas Is 31.69 313 P P 14 17 49.1 +1.3
baz=122
SNCC S S 14 23 00.3 +4.5
baz=122
LRMC Laurel Mtn Rad 31.71 318 P P 14 17 49.8 +1.6
baz=128
SPMN Marine on St. 31.75 359 P P 14 17 48.5 +0.3
baz=179,SNR=6.8
SPMN Marine on St. 31.75 359 P P 14 17 47.3 -0.8
baz=179,SNR=6.8
TPNV Topopah Spring 31.75 322 ⇑P P 14 17 50.9 +2.4
TPNV Topopah Spring 31.75 322 P P 14 17 50.3 +1.8
baz=131,SNR=37
FOR Fordham 31.80 27 P P 14 17 46.8 -1.9
baz=216,SNR=9.6
FURC Furnace Creek, 31.81 321 P P 14 17 50.1 +1.3
baz=130,SNR=16
G40A Rib Lake 31.85 3 P P 14 17 48.3 -0.7
baz=184
OSI Osito Audit: C 31.89 316 P P 14 17 51.0 +1.4
baz=125
PAL Palisades 31.91 27 P P 14 17 48.1 -1.4
baz=215,SNR=21
PAL Palisades 31.91 27 P P 14 17 48.3 -1.3
baz=215,SNR=21
PAL S S 14 22 58.0 -0.9
baz=215
MPMC Manual Prospec 31.95 319 P P 14 17 51.2 +1.0
baz=129,SNR=85
GLMI Grayling 32.04 10 P P 14 17 49.3 -1.4
baz=194,SNR=12
GLMI Grayling 32.04 10 P P 14 17 48.5 -2.2
baz=194,SNR=12
N62A Caumsett State 32.04 28 P P 14 17 48.9 -1.9
baz=216
N62A P P 14 17 48.9 -1.9
baz=216
BINY Binghamton 32.04 23 P P 14 17 49.5 -1.3
baz=211,SNR=50
BINY Binghamton 32.04 23 P P 14 17 49.6 -1.3
baz=211,SNR=50
BINY S S 14 23 00.6 -0.5
baz=211
J54A Appleton 32.06 19 P P 14 17 50.0 -0.8
baz=206,SNR=13
J54A P P 14 17 50.0 -0.8
baz=206,SNR=13
G45A Suttons Bay 32.08 9 P P 14 17 49.9 -1.1
G45A IAmb IAmb 14 17 53.2
comp=Z,242nm,0.9s
G45A Suttons Bay 32.08 9 P P 14 17 49.0 -2.0
baz=192,SNR=27
G45A P P 14 17 49.0 -2.0
baz=192,SNR=27
BRNY Black Rk. Fore 32.19 26 P P 14 17 51.1 -1.0
baz=215,SNR=24
DUG Dugway, Tooele 32.21 330 P P 14 17 54.0 +1.6
DUG pmax pmax
comp=Z,253nm,1.6s
DUG MLR MLR
comp=Z,21µm,18.0s
DUG Dugway, Tooele 32.21 330 P P 14 17 54.0 +1.6
DUG IAmb IAmb 14 17 57.2
comp=Z,253nm,1.6s
DUG Dugway, Tooele 32.21 330 P P 14 17 54.3 +1.9
baz=140,SNR=70
DUG S S 14 23 09.8 +5.8

baz=140
RSSD Black Hills 32.24 344 P **P** **14 17 54.0 +1.2**
RSSD pmax pmax
comp=Z,107nm,1.4s
RSSD Black Hills 32.24 344 ⇑P **P** **14 17 53.9 +1.1**
RSSD Black Hills 32.24 344 P **P** **14 17 53.6 +0.8**
baz=158,SNR=46
RSSD Black Hills 32.24 344 P **P** **14 17 53.6 +0.8**
baz=158
RSSD S **S** **14 23 09.4 +4.8**
baz=158
ARVC Arvin 32.26 317 P **P** **14 17 54.8 +2.0**
baz=126,SNR=16
K57A Scipio Center 32.30 22 P **P** **14 17 51.9 -1.2**
K57A Scipio Center 32.30 22 P **P** **14 17 51.6 -1.5**
baz=210,SNR=52
R11A Troy Canyon, C 32.32 325 P **P** **14 17 54.9 +1.4**
baz=134,SNR=105
J55A Hilton 32.32 20 P **P** **14 17 52.1 -1.1**
baz=207,SNR=21
J55A P **P** **14 17 52.1 -1.1**
baz=207,SNR=21
ISA Isabella, Lake 32.34 318 P **P** **14 17 54.6 +1.0**
baz=127,SNR=17
F36A Milaca 32.40 358 P **P** **14 17 52.8 -1.1**
baz=178,SNR=16
L59A Walton 32.41 24 P **P** **14 17 52.7 -1.3**
baz=212,SNR=48
L59A P **P** **14 17 52.7 -1.3**
baz=212,SNR=48
NPNY Mohonk Preserv 32.42 26 P **P** **14 17 52.6 -1.5**
baz=214
GRAC Grapevine Rang 32.46 321 P **P** **14 17 56.5 +1.9**
baz=130,SNR=21
SBC Santa Barbara 32.47 315 P **P** **14 17 56.3 +1.7**
baz=124
F42A Maple Grove Fa 32.48 5 P **P** **14 17 52.7 -1.8**
baz=188
F33A 5 Mile Ranch, 32.54 355 P **P** **14 17 54.6 -0.5**
baz=173
CWC Cottonwood Cre 32.56 319 P **P** **14 17 57.0 +1.4**
baz=128
CWC S **S** **14 23 11.3 +1.7**
baz=128
YLE Yale 32.59 28 IAMs_20 IAMs_20 14 31 42.3
comp=Z,17µm,20.0s
J56A Wolcott 32.66 21 P **P** **14 17 55.1 -1.0**
baz=209,SNR=107
J56A P **P** **14 17 55.1 -1.0**
baz=209,SNR=107
COWI Conover 32.74 4 IAMs_20 IAMs_20 14 33 37.4
comp=Z,10µm,19.0s
COWI Conover 32.74 4 P **P** **14 17 55.1 -1.7**
baz=186
PKM Mcpherson Peak 32.78 316 P **P** **14 17 58.7 +1.1**
baz=124,SNR=13
VES Vestal, Richgr 32.84 318 P **P** **14 17 59.4 +1.6**
baz=126,SNR=20
PD31 Pinedale Array 32.85 336 P **P** **14 17 58.2 0.0**
PD31 IAmb IAmb 14 18 02.4
comp=Z,106nm,1.1s
PD31 pP **pwP** **14 18 15.3 +3.5**
PD31 Pinedale Array 32.85 336 ⇓P **P** **14 17 58.4 +0.2**
PDAR Pinedale Array 32.85 336 P **P** **14 17 58.9 +0.7**
comp=Z,69nm,0.9s,baz=136,slow=7.9,SNR=177
PDAR PcP **PcP** **14 20 42.6 0.0**
comp=Z,7.5nm,0.9s,baz=123,slow=5.5,SNR=4.4
PDAR PKiKP **PKiKP** **14 28 09.5 +0.3**
comp=Z,0.8nm,0.7s,baz=91,slow=7.4,SNR=4.3
PDAR LR LR 14 34 35.6
comp=Z,5µm,18.7s,baz=145,slow=42
PDAR P3KPbc 14 49 16.4
comp=Z,0.2nm,0.5s,baz=112,slow=1.0,SNR=2.3
PDAR Pinedale Array 32.85 336 P **P** **14 17 58.2 0.0**
BW06 Boulder Array 32.86 336 P **P** **14 17 59.4 +1.2**
baz=148,SNR=145
BW06 S **S** **14 23 18.3 +4.1**
baz=148
TIN Tinemaha, Big 33.03 320 P **P** **14 18 01.5 +1.8**
baz=129
M63A Gales Ferry 33.07 29 P **P** **14 17 59.1 -0.6**
baz=218,SNR=54
M63A P **P** **14 17 59.1 -0.6**
baz=218,SNR=54
HCNY Howe Caverns 33.09 25 P **P** **14 17 58.8 -1.1**
baz=213,SNR=28
E38A The Farm, Brul 33.14 1 P **P** **14 17 59.2 -1.1**
baz=181,SNR=5.3
SMMC Simmler 33.15 316 P **P** **14 18 02.0 +1.4**
baz=124,SNR=17
E43A Lone Tree Farm 33.21 7 P **P** **14 17 59.2 -1.7**
baz=189,SNR=12
SADO Sadowa 33.26 17 P **P** **14 17 59.7 -1.7**
comp=Z,225nm,1.2s,baz=252,slow=7.8,SNR=37
SADO LR LR 14 33 04.8
comp=Z,21µm,18.1s,baz=190,slow=39
SADO Sadowa 33.26 17 P **P** **14 18 00.7 -0.7**
SADO IAmb IAmb 14 18 01.5
comp=Z,177nm,1.1s
UCCT U. Connecticut 33.29 28 P **P** **14 17 59.7 -2.1**
J58A Remsen 33.30 23 P **P** **14 18 00.4 -1.4**
baz=211,SNR=35
J58A P **P** **14 18 00.4 -1.4**
baz=211,SNR=35
BOAV Boa Vista 33.31 106 *e*P **P** **14 18 02.3 +0.1**
VOG Valley Oaks Go 33.32 318 P **P** **14 18 02.7 +0.6**
baz=126
DELO Deloro Mine 33.50 19 P **P** **14 18 01.5 -2.0**
E46A Sault Ste Mari 33.59 10 P **P** **14 18 02.3 -1.9**
baz=194,SNR=17
L61B Northampton 33.61 27 P **P** **14 18 02.3 -2.2**
baz=216,SNR=8.6
L61B Northampton 33.61 27 P **P** **14 18 02.6 -1.9**
baz=216,SNR=8.6
L61B S **S** **14 23 24.4 -1.1**
baz=216
QUA2 Belchertown 33.62 27 IAMs_20 IAMs_20 14 32 22.3
comp=Z,13µm,19.0s
J59A Piesco 33.69 24 P **P** **14 18 03.5 -1.7**
baz=212,SNR=18
J59A P **P** **14 18 03.5 -1.7**
baz=212,SNR=18
WCNY West Carthage 33.70 22 P **P** **14 18 03.9 -1.4**
baz=210,SNR=26
D41A Chassel 33.74 5 P **P** **14 18 04.2 -1.3**
baz=186
MLAC Mammoth, Mammo 33.77 320 P **P** **14 18 07.4 +1.2**
baz=129,SNR=6.8
E28A Huff 33.84 350 P **P** **14 18 06.8 +0.3**
baz=165,SNR=32
ELK Elko 33.84 328 LR LR 14 33 55.3
comp=Z,8µm,18.7s,baz=138,slow=40
M65A Busby, Falmout 33.85 30 P **P** **14 18 04.0 -2.6**
baz=220
NVAR Mina Array Bea 33.95 322 P **P** **14 18 09.6 +1.8**
comp=Z,145nm,0.8s,baz=138,slow=7.0,SNR=259
NVAR PcP **PcP** **14 20 47.5 +1.8**
comp=Z,28nm,0.8s,baz=136,slow=3.9,SNR=13
NVAR LR LR 14 33 39.5
comp=Z,19µm,18.7s,baz=132,slow=40
NVAR P3KPbc 14 49 13.2
comp=Z,0.6nm,0.6s,baz=300,slow=2.5,SNR=4.2
NVAR Mina Array Bea 33.95 322 P **P** **14 18 09.4 +1.6**
ACCN Adirondack Com 33.96 25 P **P** **14 18 06.5 -1.0**
baz=214,SNR=15
K62A Royalston 33.98 27 P **P** **14 18 06.1 -1.6**
baz=217,SNR=5.6
K62A P **P** **14 18 06.1 -1.6**
baz=217,SNR=5.6
L64A Middleborough 34.05 29 P **P** **14 18 07.5 -0.8**
baz=219,SNR=39
L64A P **P** **14 18 07.5 -0.8**
baz=219,SNR=39
HRV Adam Dziewonsk 34.16 28 P **P** **14 18 08.5 -0.8**
HRV pmax pmax
comp=Z,386nm,1.3s
HRV Adam Dziewonsk 34.16 28 ⇑P **P** **14 18 08.3 -1.0**
HRV Adam Dziewonsk 34.16 28 P **P** **14 18 08.1 -1.2**
baz=218,SNR=24
HRV Adam Dziewonsk 34.16 28 P **P** **14 18 07.4 -1.9**
baz=218
NCB Newcomb 34.23 24 P **P** **14 18 08.8 -1.1**
NCB IAmb IAmb 14 18 09.6
comp=Z,105nm,0.8s
NCB Newcomb 34.23 24 P **P** **14 18 07.9 -2.0**
baz=212,SNR=32
J61A Chester 34.39 26 P **P** **14 18 10.1 -1.2**
baz=216,SNR=10
J61A P **P** **14 18 10.1 -1.2**
baz=216,SNR=10
EYMN Ely 34.48 1 P **P** **14 18 09.7 -2.3**
baz=181
EYMN Ely 34.48 1 P **P** **14 18 10.2 -1.8**
baz=181
EYMN S **S** **14 23 32.7 -6.1**
baz=181
H17A Grant Village 34.63 337 P **P** **14 18 15.5 +1.9**
baz=148,SNR=118
H17A S **S** **14 23 46.4 +4.8**
baz=148
LONY Lake Ozonia 34.64 23 P **P** **14 18 11.9 -1.6**
baz=211,SNR=50
LONY S **S** **14 23 39.8 -1.6**
baz=211
ETMB Extrema 34.69 130 *e*P **P** **14 18 13.9 -0.3**
LKWY Lake 34.70 337 IAMs_20 IAMs_20 14 34 54.5
comp=Z,11µm,19.0s
MCVT Middlebury Col 34.71 25 P **P** **14 18 12.4 -1.6**
baz=214
RLMT Red Lodge 34.77 339 P **P** **14 18 15.5 +0.7**
baz=150,SNR=111
RLMT S **S** **14 23 45.9 +2.2**
baz=150
BMNY Brushton-Moira 34.86 22 P **P** **14 18 13.5 -1.8**
baz=211,SNR=21
MDND Maddock 34.90 351 P **P** **14 18 15.5 -0.1**
baz=168,SNR=44
MDND Maddock 34.90 351 P **P** **14 18 15.0 -0.6**
baz=168,SNR=44
MDND S **S** **14 23 43.8 -1.5**
baz=168
B35A Bob, Littlefor 34.91 358 P **P** **14 18 14.1 -1.5**
baz=178,SNR=25
UNH University of 34.94 28 P **P** **14 18 14.1 -1.8**
baz=218,SNR=16
AGMN Agassiz Nation 34.95 356 P **P** **14 18 14.9 -1.1**
baz=174,SNR=35
AGMN Agassiz Nation 34.95 356 P **P** **14 18 14.5 -1.5**
baz=174,SNR=35
AGMN S **S** **14 23 42.4 -3.6**
baz=174
CMB Columbia Colle 34.99 320 IAMs_20 IAMs_20 14 32 22.6
comp=Z,10µm,19.0s
VT1 Waterbury 35.12 25 P **P** **14 18 16.3 -1.2**
baz=214
FRNY Flat Rock 35.20 23 P **P** **14 18 16.7 -1.5**
baz=213,SNR=16
LAO LASA Array 35.21 343 P **P** **14 18 19.4 +1.1**
baz=156,SNR=13
LAO LASA Array 35.21 343 P **P** **14 18 19.4 +1.1**
baz=156,SNR=13
LAO S **S** **14 23 52.1 +2.0**
baz=156
I62A Tamworth 35.34 27 P **P** **14 18 18.5 -0.9**
baz=217,SNR=22
I62A P **P** **14 18 18.5 -0.9**
baz=217,SNR=22
LBNH Lisbon 35.38 26 P **P** **14 18 18.9 -0.9**
baz=216,SNR=8.4
LBNH Lisbon 35.38 26 P **P** **14 18 18.9 -0.9**
baz=216,SNR=8.4
LBNH S **S** **14 23 52.5 -0.3**
baz=216
MACA Manacapuru-AM 35.46 115 *e*P **P** **14 18 21.2 +0.4**
HLID Hailey 35.57 332 IAMs_20 IAMs_20 14 34 38.6
comp=Z,15µm,18.0s
HLID Hailey 35.57 332 P **P** **14 18 23.1 +1.5**
baz=141,SNR=140
HLID S **S** **14 23 57.5 +1.5**
baz=141
MNTQ Montreal, Queb 35.75 23 ⇑P **P** **14 18 21.6 -1.3**
I63A Otisfield 35.81 27 P **P** **14 18 22.4 -1.1**
baz=218,SNR=20
I63A P **P** **14 18 22.4 -1.1**
baz=218,SNR=20
H62A Milan 35.98 26 P **P** **14 18 23.3 -1.7**
baz=217,SNR=6.6
H62A P **P** **14 18 23.3 -1.7**
baz=217,SNR=6.6
TRQ Mont Tremblant 36.03 21 P **P** **14 18 24.2 -1.2**
TRQ IAmb IAmb 14 18 27.1
comp=Z,273nm,1.4s
BOZ Bozeman (W) 36.04 337 P **P** **14 18 27.2 +1.6**
baz=147,SNR=103
BOZ S **S** **14 24 04.9 +1.8**
baz=147
MFID Camas Ranch 36.12 330 IAMs_20 IAMs_20 14 34 20.2
comp=Z,12µm,21.0s
DGMT Dagmar 36.35 347 P **P** **14 18 28.5 +0.4**
baz=160,SNR=37
DGMT Dagmar 36.35 347 P **P** **14 18 28.8 +0.7**
baz=160,SNR=37
DGMT S **S** **14 24 13.3 +5.8**
baz=160
SAML Samuel 36.47 126 IAMs_20 IAMs_20 14 32 38.3
comp=Z,9µm,18.0s
ORV Oroville 36.60 321 IAMs_20 IAMs_20 14 34 31.8
comp=Z,8µm,18.0s
G62A West of Eustis 36.76 26 P **P** **14 18 30.4 -1.2**
baz=217,SNR=22
G62A P **P** **14 18 30.4 -1.2**
baz=217,SNR=22
VLDQ Val d'Or 36.79 17 P **P** **14 18 30.2 -1.5**
VLDQ IAmb IAmb 14 18 33.2
comp=Z,167nm,1.2s
WVOR Wild Horse Val 36.83 327 IAMs_20 IAMs_20 14 35 55.8
comp=Z,9µm,18.0s
WVOR Wild Horse Val 36.83 327 ⇑P **P** **14 18 33.7 +1.3**
ULM Lac du Bonnet 36.89 356 P **P** **14 18 30.9 -1.7**
comp=Z,52nm,0.9s,baz=178,slow=9.5,SNR=17
ULM PcP **PcP** **14 20 54.1 +0.3**
comp=Z,59nm,0.8s,baz=195,slow=1.6,SNR=10
ULM LR LR 14 37 00.9
comp=Z,4µm,18.1s,baz=175,slow=42
O03E Paynes Creek 37.23 322 IAMs_20 IAMs_20 14 34 55.5
comp=Z,14µm,19.0s
O03E Paynes Creek 37.23 322 P **P** **14 18 35.9 +0.1**
baz=128,SNR=38
O03E S **S** **14 24 25.4 +4.1**
baz=128
HOPS Hopland Field 37.26 319 IAMs_20 IAMs_20 14 33 39.6
comp=Z,14µm,20.0s
PKME Peaks-Kenny Pk 37.34 27 P **P** **14 18 35.2 -1.2**
baz=219,SNR=22
PKME Peaks-Kenny Pk 37.34 27 P **P** **14 18 34.9 -1.5**
baz=219,SNR=22
EGMT Eagleton 37.47 341 P **P** **14 18 38.5 +0.9**
baz=151,SNR=265
EGMT S **S** **14 24 27.6 +2.9**
baz=151
F63A Nahmakanta, Br 37.76 27 P **P** **14 18 38.5 -1.6**
baz=219,SNR=21
F63A P **P** **14 18 38.5 -1.6**
baz=219,SNR=21
O02D Mt. Diablo Mer 37.76 321 P **P** **14 18 40.6 +0.4**
baz=126
BMO Blue Mountains 37.90 331 IAMs_20 IAMs_20 14 37 05.4
comp=Z,11µm,18.0s
LPAZ La Paz 37.97 140 P **P** **14 18 42.9 +0.1**
comp=Z,24nm,0.7s,baz=334,slow=7.8,SNR=86
LPAZ PcP **PcP** **14 20 58.8 +0.3**
comp=Z,12nm,0.9s,baz=11,slow=9.4,SNR=3.6
LPAZ LR LR 14 34 04.3
comp=Z,6µm,18.0s,baz=317,slow=36
LPAZ La Paz 37.97 140 P **P** **14 18 42.8 +0.1**
LPAZ La Paz 37.97 140 *e*P **P** **14 18 42.3 -0.5**
LPAZ La Paz 37.97 140 ⇑P **P** **14 18 42.4 -0.4**
LPAZ La Paz 37.97 140 *e*P **P** **14 18 42.6 -0.2**
MSO Missoula 37.97 336 P **P** **14 18 42.5 +0.6**
baz=144
G65A Princeton 38.08 29 P **P** **14 18 42.0 -0.7**
baz=221,SNR=34
G65A P **P** **14 18 42.0 -0.7**
baz=221,SNR=34
M04C Macdoel 38.18 323 P **P** **14 18 43.9 0.0**
baz=129,SNR=27
N02D Trinity Center 38.19 322 IAMs_20 IAMs_20 14 35 05.9
comp=Z,10µm,20.0s
N02D Trinity Center 38.19 322 P **P** **14 18 43.1 -0.8**
baz=127,SNR=7.5
F64A Sherman 38.22 27 P **P** **14 18 42.5 -1.4**
baz=220,SNR=23
F64A P **P** **14 18 42.5 -1.4**
baz=220,SNR=23
K05A Summer Lake 38.25 325 P **P** **14 18 45.9 +1.4**
K05A IAmb IAmb 14 18 49.9
comp=Z,188nm,1.3s
M02C Callahan 38.53 322 IAMs_20 IAMs_20 14 35 40.0
comp=Z,9µm,20.0s
M02C Callahan 38.53 322 P **P** **14 18 45.9 -0.8**
baz=128,SNR=7.7
E63A Oxbow 38.62 27 P **P** **14 18 46.0 -1.3**
baz=219,SNR=36
E63A P **P** **14 18 46.0 -1.3**
baz=219,SNR=36
YBH Yreka Blue Hor 38.66 323 P **P** **14 18 47.0 -0.8**
comp=Z,20nm,0.6s,baz=130,slow=3.8,SNR=40
YBH LR LR 14 36 46.1
comp=Z,14µm,18.1s,baz=146,slow=39
K04D Chiloquin, OR 38.67 325 P **P** **14 18 47.8 -0.1**
baz=130,SNR=13
K04D S **S** **14 24 46.8 +3.7**
baz=130
F10A Beach Ranch, E 38.70 332 P **P** **14 18 48.6 +0.5**
F10A IAmb IAmb 14 18 55.9
comp=Z,187nm,0.8s
F10A Beach Ranch, E 38.70 332 ⇑P **P** **14 18 48.6 +0.5**
L04D Klamath Falls 38.72 324 P **P** **14 18 49.0 +0.6**
baz=129,SNR=22
L04D S **S** **14 24 47.3 +3.3**
baz=129
J05D Fort Rock, OR 38.81 326 P **P** **14 18 48.9 -0.2**
baz=131,SNR=34
D62A Allapoint, All 38.87 26 P **P** **14 18 48.5 -0.8**
baz=218,SNR=55
D62A P **P** **14 18 48.5 -0.8**
baz=218,SNR=55
JCC Jacoby Creek, 38.91 321 IAMs_20 IAMs_20 14 34 27.8
comp=Z,8µm,19.0s
J04D Umpqua Nationa 39.26 325 P **P** **14 18 52.8 -0.2**
baz=130,SNR=37
J04D S **S** **14 24 54.3 +2.1**
baz=130
HUMO Hull Mountain 39.34 324 ⇑P **P** **14 18 54.5 +1.0**
L02E Cave Junction 39.44 323 IAMs_20 IAMs_20 14 37 02.1
comp=Z,13µm,19.0s
L02E Cave Junction 39.44 323 P **P** **14 18 55.1 +0.8**
baz=127
I05D Terrebonne, OR 39.57 327 P **P** **14 18 55.8 +0.4**
baz=132,SNR=16
WALA Waterton Lakes 39.79 338 ⇑P **P** **14 18 58.3 +1.1**
I04A Tendick Farm, 39.79 325 P **P** **14 18 58.2 +1.0**
baz=130,SNR=22
K02D Willamette Mer 39.81 323 P **P** **14 18 57.9 +0.5**
baz=128
MDP Montagnes des 39.99 98 P **P** **14 19 00.5 +1.3**
comp=Z,63nm,1.0s,baz=291,slow=7.5,SNR=9.5
MDP PcP **PcP** **14 21 04.8 +0.5**
comp=Z,38nm,0.8s,baz=271,slow=5.8,SNR=8.0
HAWA Hanford 40.09 331 ⇓P **P** **14 19 00.9 +1.3**
G05D Wamic, OR 40.17 328 P **P** **14 19 02.2 +1.9**
baz=133,SNR=21
J01E Myrtle Point 40.25 324 P **P** **14 19 02.0 +1.1**
baz=128,SNR=14
J01E S **S** **14 25 11.0 +4.5**
baz=128
I03D Drain, OR 40.25 325 P **P** **14 19 01.8 +0.9**
baz=129,SNR=29
ITTB Itaituba 40.40 113 *e*P **P** **14 19 01.8 -0.7**
NEW Newport 40.41 334 P **P** **14 19 03.4 +1.1**
comp=Z,21nm,0.7s,baz=142,slow=8.7,SNR=42
NEW PcP **PcP** **14 21 04.9 -0.1**
baz=125,slow=9.0
NEW LR LR 14 37 52.0
comp=Z,7µm,18.7s,baz=134,slow=39
NEW Newport 40.41 334 IAMs_20 IAMs_20 14 38 35.7
comp=Z,9µm,20.0s
NEW Newport 40.41 334 P **P** **14 19 03.1 +0.8**
baz=141,SNR=40
NEW S **S** **14 25 11.8 +2.8**
baz=141
H04D Lebanon 40.44 326 IAMs_20 IAMs_20 14 37 34.4
comp=Z,9µm,19.0s
H04D Lebanon 40.44 326 P **P** **14 19 02.6 +0.1**
baz=131,SNR=18
F05D White Salmon 40.68 329 IAMs_20 IAMs_20 14 38 32.1
comp=Z,9µm,20.0s
F05D White Salmon 40.68 329 P **P** **14 19 06.1 +1.6**
baz=133,SNR=35
MALB Monte Alegre 40.69 109 *e*P **P** **14 19 04.6 -0.3**
COR Corvallis 40.79 326 P **P** **14 19 09.8 +4.4**
COR pmax pmax
comp=Z,202nm,1.7s
COR Corvallis 40.79 326 IAMs_20 IAMs_20 14 37 33.6
comp=Z,9µm,19.0s
COR Corvallis 40.79 326 ⇑P **P** **14 19 07.4 +2.0**
G03D McMinnville, O 41.17 327 P **P** **14 19 09.1 +0.6**
baz=130,SNR=15
VILB Vilhena 41.22 128 *e*P **P** **14 19 09.1 -0.2**
ICQ Pointe Anglais 41.52 25 ⇑P **P** **14 19 09.3 -2.0**
F04D Rainier, OR 41.61 328 P **P** **14 19 12.8 +0.7**
baz=132,SNR=9.9
E04D Cinebar 41.70 329 IAMs_20 IAMs_20 14 38 33.1
comp=Z,10µm,19.0s
E04D Cinebar 41.70 329 P **P** **14 19 13.6 +0.8**
baz=132,SNR=12
C06D Leavenworth 41.84 331 P **P** **14 19 14.8 +0.8**
baz=136
C06D S **S** **14 25 33.3 +3.2**
baz=136
FFC Flin Flon 41.95 352 P **P** **14 19 15.4 +0.7**
FFC pmax pmax
comp=Z,111nm,1.3s
FFC Flin Flon 41.95 352 ⇑P **P** **14 19 13.9 -0.9**
NPGB Novo Progresso 41.96 117 *e*P **P** **14 19 14.2 -1.2**
MCPB Macapa, AP 42.19 106 *e*P **P** **14 19 16.7 -0.6**
D04E Lakebay 42.23 329 P **P** **14 19 17.9 +0.8**
baz=133,SNR=9.1
D04E S **S** **14 25 33.5 -2.2**
baz=133
PNT Penticton 42.28 334 ⇓P **P** **14 19 18.4 +0.8**
LVC Limon Verde 42.50 147 P **P** **14 19 21.2 +1.2**
comp=Z,22nm,0.8s,baz=324,slow=4.9,SNR=16
LVC PcP **PcP** **14 21 13.1 +0.5**
comp=Z,13nm,0.9s,baz=349,slow=3.4,SNR=4.1
LVC LR LR 14 36 34.5
comp=Z,6µm,18.3s,baz=319,slow=36
LVC Limon Verde 42.50 147 ⇓P **P** **14 19 21.3 +1.2**
LVC Limon Verde 42.50 147 *e*P **P** **14 19 21.3 +1.2**
SIV San Ignacio 42.51 132 P **P** **14 19 19.9 0.0**
comp=Z,58nm,0.9s,baz=298,slow=8.0,SNR=148
SIV PcP **PcP** **14 21 13.0 +0.7**
comp=Z,39nm,0.8s,baz=358,slow=1.9,SNR=6.4
SIV LR LR 14 36 14.3
comp=Z,8µm,18.6s,baz=333,slow=35
D03D Eldon 42.63 329 P **P** **14 19 20.5 +0.1**
baz=133,SNR=30
B05A Bryant 42.65 331 P **P** **14 19 20.4 -0.1**
baz=134,SNR=27
B05A S **S** **14 25 45.0 +3.1**
baz=134
NLWA Neilton Lookou 42.92 329 ⇑P **P** **14 19 24.1 +1.3**
EDM Edmonton 43.12 342 P **P** **14 19 25.0 +0.6**
EDM pmax pmax
comp=Z,2µm,1.3s
EDM Edmonton 43.12 342 P **P** **14 19 25.0 +0.6**
PDRB Porto dos Gac 43.18 123 *e*P **P** **14 19 24.4 -0.9**
A04D Lummi Island 43.26 331 P **P** **14 19 25.9 +0.4**
baz=134,SNR=24
RPN Rapa Nui 43.50 202 P **P** **14 19 27.6 0.0**
comp=Z,123nm,0.8s,baz=355,slow=8.1,SNR=4.9
RPN LR LR 14 33 17.6
comp=Z,4µm,18.8s,baz=330,slow=30
CLDB Colider 43.54 122 *e*P **P** **14 19 26.8 -1.4**
PTLB Pontes e Lacer 43.58 130 *e*P **P** **14 19 27.8 -0.7**
CLRS Cowichan Lake 44.01 330 P **P** **14 19 33.2 +1.7**
CLRS IAmb IAmb 14 19 38.2
comp=Z,322nm,1.3s
LLLB Lillooet 44.23 333 P **P** **14 19 35.4 +2.1**
LLLB IAmb IAmb 14 19 40.9
comp=Z,304nm,1.2s
GO02 Mina Guanaco 44.26 150 P **P** **14 19 35.0 +0.8**
FCC Fort Churchill 45.33 359 P **P** **14 19 41.9 +0.1**
FCC pmax pmax
comp=Z,103nm,1.1s
FCC Fort Churchill 45.33 359 P **P** **14 19 41.9 +0.1**
CBB Campbell River 45.42 330 P **P** **14 19 44.0 +1.2**
DRLN Deer Lake 45.82 31 P **P** **14 19 44.0 -2.0**
DRLN IAmb IAmb 14 19 47.5
comp=Z,215nm,0.9s
DRLN Deer Lake 45.82 31 ⇑P **P** **14 19 43.9 -2.0**
AC02 Maricunga 45.89 151 P **P** **14 19 48.2 +0.9**
SCHQ Schefferville 45.93 20 P **P** **14 19 44.8 -2.0**

comp=Z,30nm,0.6s,baz=224,slow=7.7,SNR=36
SCHQ PcP **PcP** **14 21 25.3 +1.9**
comp=Z,30nm,0.7s,baz=240,slow=3.4,SNR=4.8
SCHQ LR LR 14 39 52.8
comp=Z,33µm,20.0s,baz=218,slow=37
SCHQ Schefferville 45.93 20 P **P** **14 19 45.2 -1.5**
SCHQ **PcP** **14 21 25.6 +2.3**
SCHQ Schefferville 45.93 20 ⇑P **P** **14 19 44.7 -2.0**
SALV Santo Antonio 46.47 128 *e*P **P** **14 19 50.6 -0.9**
PRPB Parauapebas 46.49 112 *e*P **P** **14 19 51.0 -0.7**
TMAB Tom-Au,PA,Br 46.60 106 *e*P **P** **14 19 53.3 +0.7**
LCO Las Campanas 47.04 154 P **P** **14 19 56.1 +0.1**
LCO pmax pmax
comp=Z,62nm,1.0s
LCO Las Campanas 47.04 154 P **P** **14 19 56.1 +0.1**
LCO Las Campanas 47.04 154 ⇑P **P** **14 19 56.2 +0.1**
SNDB Serra Nova Dou 47.87 120 *e*P **P** **14 20 01.9 -0.6**
PP1B Ponte de Pedra 48.11 129 *e*P **P** **14 20 03.6 -0.7**
BBB Bella Bella 48.14 331 P **P** **14 20 04.2 +0.2**
comp=Z,34nm,0.9s,baz=135,slow=9.8,SNR=5.9
BBB LR LR 14 42 41.3
comp=Z,4µm,18.6s,baz=131,slow=39
BBB Bella Bella 48.14 331 ⇓P **P** **14 20 06.4 +2.4**
H03N2 Juan Fernandez 48.27 165 T T 15 12 46.1
baz=350
H03N1 Juan Fernandez 48.28 165 T T 15 12 51.1
baz=350,slow=74
H03N3 Juan Fernandez 48.29 165 T T 15 12 40.7
baz=350,slow=74
CO02 Combarbal 48.83 156 P **P** **14 20 09.8 +0.1**
AQDB Aquidauana 49.29 132 *e*P **P** **14 20 12.5 -0.8**
SMTB Santa Maria do 49.63 114 *e*P **P** **14 20 15.7 -0.3**
VA06 Catapilco 49.91 157 P **P** **14 20 18.1 +0.4**
PEXB Peixe 50.48 118 *e*P **P** **14 20 22.0 -0.4**
ROSB Rosrio 50.50 105 *e*P **P** **14 20 22.3 -0.3**
PEL Peldehue 50.66 156 P **P** **14 20 23.8 +0.2**
PEL Peldehue 50.66 156 IAMs_20 IAMs_20 14 36 48.1
comp=Z,6µm,19.0s
DIB Dawson Inlet, 50.86 330 P **P** **14 20 26.6 +1.9**
DIB IAmb IAmb 14 20 29.1
comp=Z,217nm,1.2s
YKA Yellowknife Ar 51.56 347 P **P** **14 20 29.6 -0.2**
comp=Z,345nm,1.1s,baz=147,slow=7.4,SNR=418
YKA PcP **PcP** **14 21 43.7 +0.2**
comp=Z,25nm,0.8s,baz=150,slow=3.7,SNR=9.8
YKA LR LR 14 47 31.1
comp=Z,5µm,18.7s,baz=152,slow=42
YKA PKPPKP P'P'df 14 50 54.2 -17
comp=Z,1.1nm,0.9s,baz=358,slow=2.9,SNR=8.7
YKA Yellowknife Ar 51.56 347 P **P** **14 20 30.4 +0.6**
YKA Yellowknife Ar 51.56 347 P **P** **14 20 30.4 +0.6**
CPUP Villa Florida 52.12 139 P **P** **14 20 33.2 -1.3**
comp=Z,17nm,0.8s,baz=326,slow=8.0,SNR=43
CPUP PcP **PcP** **14 21 46.0 -0.2**
comp=Z,12nm,0.7s,baz=326,slow=3.1,SNR=6.1
CPUP LR LR 14 44 20.6
comp=Z,5µm,18.2s,baz=330,slow=38
CPUP Villa Florida 52.12 139 P **P** **14 20 33.2 -1.3**
CPUP Villa Florida 52.12 139 ⇓P **P** **14 20 33.2 -1.3**
CPUP Villa Florida 52.12 139 *e*P **P** **14 20 33.4 -1.1**
TAOE Nuku Hiva Isla 52.34 248 *e*P **P** **14 20 35.6 -0.9**
comp=Z,306nm,1.0s
TAOE *e*S **S** **14 27 57.4 -3.5**
comp=Z,8µm,25.1s
TAOE *e*LQ LQ 14 33 28.5
comp=Z,6µm,29.7s
TAOE *e*LR LR 14 35 11.8
comp=Z,6µm,31.9s,baz=60
TAOE Nuku Hiva Isla 52.34 248 *e*T T 15 17 11.7
comp=Z,36nm,0.2s
BDFB Brasilia 52.47 122 P **P** **14 20 37.4 -0.1**
comp=Z,52nm,0.7s,baz=291,slow=8.9,SNR=73
BDFB LR LR 14 43 43.5
comp=Z,5µm,18.6s,baz=317,slow=37
BDFB Brasilia 52.47 122 P **P** **14 20 36.6 -0.9**
BDFB Brasilia 52.47 122 *e*P **P** **14 20 36.8 -0.6**
CRAG Craig 52.52 332 P **P** **14 20 38.7 +1.7**
baz=127,SNR=10.0
CRAG S **S** **14 28 10.2 +8.4**
baz=127
WRAK Wrangell Islan 52.75 333 IAMs_20 IAMs_20 14 47 06.1
comp=Z,6µm,18.0s
WRAK Wrangell Islan 52.75 333 P **P** **14 20 40.3 +1.6**
baz=128,SNR=5.6
WRAK S S 14 28 14.5 +9.4
baz=128
ITRB Iturama 52.80 128 *e*P **P** **14 20 38.9 -0.8**
FRB Frobisher Bay 53.00 13 LR LR 14 45 13.9
comp=Z,9µm,19.3s,baz=202,slow=38
FRB Frobisher Bay 53.00 13 ⇑P **P** **14 20 38.4 -2.1**
DLBC Dease Lake 53.09 336 LR LR 14 46 21.6
comp=Z,6µm,18.7s,baz=120,slow=40
DLBC Dease Lake 53.09 336 P **P** **14 20 43.2 +1.8**
PCMB Pacaembu 53.24 130 *e*P **P** **14 20 41.5 -1.4**
NBPS Pedro II - PI 53.52 106 *e*P **P** **14 20 45.3 +0.1**
IPMB Ipameri, GO 53.54 125 *e*P **P** **14 20 45.7 -1.4**
SDBA SAO DESIDERIO 53.56 117 *e*P **P** **14 20 45.0 -0.4**
WTLY Watson Lake, Y 53.78 338 P **P** **14 20 46.9 +0.6**
baz=134
WTLY S **S** **14 28 19.8 +0.7**
baz=134
WRGLY Wrigley 54.40 343 P **P** **14 20 50.8 +0.1**
baz=142,SNR=94
WRGLY S **S** **14 28 29.7 +2.6**
baz=142
SIT Sitka 54.45 333 P **P** **14 20 51.9 +0.7**
baz=125
SIT S S 14 28 37.1 +9.1
baz=125
NBMO Morrinhos-CE 54.48 104 *e*P **P** **14 20 52.7 +0.5**
PTGB Pitanga 54.57 134 *e*P **P** **14 20 51.0 -1.7**
TGTN Hyland Airport 54.60 340 P **P** **14 20 53.3 +1.0**
baz=136,SNR=146
TGTN S **S** **14 28 35.5 +5.4**
baz=136
JIS Juneau Island 54.76 334 IAMs_20 IAMs_20 14 47 16.2
comp=Z,5µm,20.0s
ITQB Itaqui 54.94 142 P **P** **14 20 54.1 -1.0**
ITQB IAmb IAmb 14 20 55.0
comp=Z,77nm,0.9s
ITQB Itaqui 54.94 142 *e*P **P** **14 20 54.4 -0.7**
BB19B Bebedouro 54.99 128 *e*P **P** **14 20 54.7 -1.0**
RKT Rikitea 55.28 229 *e*T T 15 20 58.4
comp=Z,11nm,0.3s
JANB Januaria 55.29 119 *e*P **P** **14 20 57.5 -0.5**
LC01 Cunco 55.40 161 P **P** **14 20 57.6 -0.7**
FRTB Fartura 55.53 131 *e*P **P** **14 20 58.3 -1.3**
NBPB Pedra_Branca-C 55.66 106 *e*P **P** **14 21 00.8 +0.1**
SKAG Skagway 55.87 335 P **P** **14 21 03.4 +1.9**
SKAG IAmb IAmb 14 21 05.5
comp=Z,252nm,1.6s
SKAG Skagway 55.87 335 ⇓P **P** **14 21 03.3 +1.9**
SKAG Skagway 55.87 335 P **P** **14 21 03.1 +1.7**
baz=127,SNR=18
SKAG S **S** **14 28 54.9 +7.9**
baz=127
ITAB Concordia 56.14 136 *e*P **P** **14 21 02.4 -1.5**
MMPY Sheldon Lake, 56.37 340 P **P** **14 21 05.9 +0.9**
baz=133
WHY Whitehorse 56.42 336 P **P** **14 21 05.7 +0.2**
WHY IAmb IAmb 14 21 08.9
comp=Z,362nm,2.0s
WHY Whitehorse 56.42 336 ⇑P **P** **14 21 06.3 +0.8**
WHY Whitehorse 56.42 336 P **P** **14 21 05.9 +0.5**
baz=128,SNR=21
WHY S **S** **14 29 00.5 +5.9**
baz=128
NBCL Cascavel-CE 56.43 104 *e*P **P** **14 21 06.8 +0.6**
RCLB Rio Claro- Sao 56.52 129 *e*P **P** **14 21 05.8 -0.8**
FARO Faro, Yukon 56.84 338 P **P** **14 21 08.4 +0.1**
baz=130
NBMA Muriti-CE 57.06 108 *e*P **P** **14 21 11.2 +0.6**
NBPN Ponto Novo - B 57.06 112 *e*P **P** **14 21 10.5 -0.1**
TIJ01 Guaruva-PR 57.12 132 *e*P **P** **14 21 12.0 +1.0**
M31M Drury Creek, Y 57.20 338 IAMs_20 IAMs_20 14 49 15.3
comp=Z,5µm,18.0s
M31M Drury Creek, Y 57.20 338 P **P** **14 21 11.1 +0.2**
baz=129,SNR=40
M31M S **S** **14 29 09.0 +4.3**
baz=129
N31M Braeburn, Yuko 57.27 337 P **P** **14 21 12.1 +0.7**
baz=127,SNR=27
N31M S **S** **14 29 10.3 +4.7**
baz=127
VAO Valinhos 57.27 129 *e*P **P** **14 21 11.2 -0.8**

IVI Ivigtut 57.39 24 *i* P **P** **14 21 11.1 -1.0**
IVI IVmB_BB 14 22 13.3
comp=Z,932nm,7.2s
IVI Ivigtut 57.39 24 ⇑P **P** **14 21 11.4 -0.7**
DIAM Diamantina, MG 57.39 122 *e*P **P** **14 21 12.6 -0.4**
CPSB Cacapava Do Su 57.41 140 *e*P **P** **14 21 11.6 -1.2**
PLCA Paso Flores 57.49 160 P **P** **14 21 13.3 0.0**
comp=Z,20nm,1.0s,baz=335,slow=8.9,SNR=13
PLCA LR LR 14 41 10.6
comp=Z,7µm,18.4s,baz=354,slow=31
PLCA Paso Flores 57.49 160 P **P** **14 21 12.7 -0.5**
PLCA Paso Flores 57.49 160 ⇓P **P** **14 21 13.1 -0.2**
PLCA Paso Flores 57.49 160 *e*P **P** **14 21 13.3 0.0**
HYT Haines Junctio 57.55 336 P **P** **14 21 14.0 +0.4**
baz=125,SNR=36
HYT S **S** **14 29 16.2 +6.6**
baz=125
PNL Peninsula 57.69 334 P **P** **14 21 14.4 0.0**
baz=122,SNR=13
PNL S **S** **14 29 17.2 +6.0**
baz=122
PET01 Itanhaem-SP 57.78 130 *e*P **P** **14 21 14.3 -1.2**
BCPM Bancas Point 57.94 334 IAMs_20 IAMs_20 14 47 47.4
comp=Z,4µm,20.0s
YUK6 Outpost Mounta 57.96 336 P **P** **14 21 17.5 +1.0**
baz=124,SNR=30
YUK6 S **S** **14 29 22.5 +7.3**
baz=124
NUUK Nuuk 57.99 20 *i* P **P** **14 21 15.5 -0.9**
NUUK IVmB_BB 14 21 30.2
comp=Z,1µm,3.4s
LPA La Plata 58.06 147 *ce*P **P** **14 21 13.9 -3.4**
LPA PCP **PcP** **14 22 03.9 -5.0**
LPA PPP PPP 14 25 04.9
LPA PKIKP **PKiKP** **14 28 38.5 +5.1**
LPA S **S** **14 29 17.6 +1.0**
LPA SSS SSS 14 35 44.8
PLTB Pedras Altas 58.25 141 P **P** **14 21 17.6 -1.0**
PLTB Pedras Altas 58.25 141 *e*P **P** **14 21 17.5 -1.2**
PINM Pinnacle 58.28 334 P **P** **14 21 19.2 +0.6**
baz=122
YUK4 Talbot Arm 58.30 336 P **P** **14 21 19.7 +0.8**
baz=124,SNR=27
YUK4 S **S** **14 29 25.8 +6.2**
baz=124
M30M Minto, Yukon 58.31 338 IAMs_20 IAMs_20 14 50 23.8
comp=Z,4µm,19.0s
M30M Minto, Yukon 58.31 338 P **P** **14 21 19.9 +1.2**
baz=127
M30M S **S** **14 29 22.3 +3.0**
baz=127
NRS Narsarsuaq 58.45 25 *i* P **P** **14 21 18.0 -1.6**
NRS IVmB_BB 14 21 29.5
comp=Z,784nm,1.0s
NRS Narsarsuaq 58.45 25 ⇓P **P** **14 21 18.0 -1.6**
PARB Paraibuna 58.49 128 *e*P **P** **14 21 20.1 -0.5**
MAYO Mayo, Yukon 58.61 339 P **P** **14 21 21.8 +1.1**
baz=128,SNR=12
MAYO S **S** **14 29 27.7 +4.7**
baz=128
GDU01 Guandu, BA 58.80 115 *e*P **P** **14 21 23.0 +0.2**
TABL Table Mountain 58.84 334 IAMs_20 IAMs_20 14 47 42.1
comp=Z,5µm,18.0s
LOGN Logan Glacier 58.98 335 P **P** **14 21 25.2 +1.7**
LOGN IAmb IAmb 14 21 27.9
comp=Z,266nm,1.5s
TER01 Tubaro-SC 59.01 135 *e*P **P** **14 21 23.2 -0.8**
CTGM Chitina Glacie 59.19 335 IAMs_20 IAMs_20 14 47 46.4
comp=Z,4µm,20.0s
CTG Chitna Glacier 59.20 335 P **P** **14 21 25.9 +0.8**
baz=121,SNR=25
CTG S **S** **14 29 38.3 +7.2**
baz=121
RCBR Riachuelo 59.20 105 P **P** **14 21 26.9 +1.1**
comp=Z,51nm,0.4s,baz=72,slow=5.5,SNR=43
RCBR LR LR 14 51 05.2
comp=Z,6µm,18.1s,baz=83,slow=40
RCBR Riachuelo 59.20 105 IAMs_20 IAMs_20 14 50 46.3
comp=Z,5µm,18.0s
RCBR Riachuelo 59.20 105 ⇓P **P** **14 21 26.8 +1.1**
RCBR ⇓P **P** **14 21 26.9 +1.1**
RCBR ⇓P **sP** **14 21 29.5 -5.5**
RCBR Riachuelo 59.20 105 *e*P **P** **14 21 26.5 +0.8**
ESAR Angra dos Reis 59.22 127 *e*P **P** **14 21 25.6 0.0**
GRNC Granite Creek 59.25 334 IAMs_20 IAMs_20 14 47 54.9
comp=Z,6µm,18.0s
YUK3 Moose Creek 59.27 336 P **P** **14 21 25.6 0.0**
baz=122,SNR=30
YUK3 S **S** **14 29 35.3 +3.3**
baz=122
NBLA Lagarto - SE 59.30 112 *e*P **P** **14 21 26.0 -0.3**
BARN Barnard Glacie 59.38 335 P **P** **14 21 27.6 +1.2**
BARN IAMs_20 IAMs_20 14 48 13.3
comp=Z,4µm,21.0s
H07S1 FLORES T-PHASE 59.39 52 *e*P P 14 21 34.4 +7.8
ISLE Juniper Island 59.43 334 IAMs_20 IAMs_20 14 47 55.7
comp=Z,5µm,20.0s
C36M Paulatuk 59.44 347 P **P** **14 21 26.9 +0.6**
C36M IAmb IAmb 14 21 28.9
comp=Z,180nm,1.4s
C36M IAMs_20 IAMs_20 14 50 10.0
comp=Z,4µm,21.0s
C36M Paulatuk 59.44 347 P **P** **14 21 26.7 +0.4**
baz=144,SNR=68
C36M S **S** **14 29 34.6 +1.1**
baz=144
SNH Sunshine Point 59.44 333 IAMs_20 IAMs_20 14 50 32.9
comp=Z,6µm,19.0s
MAN01 Angra dos Reis 59.51 127 *e*P **P** **14 21 27.7 +0.1**
CMC01 Camacan, BA 59.55 117 *e*P **P** **14 21 28.2 +0.2**
WAX Waxell Ridge 59.58 334 IAMs_20 IAMs_20 14 51 39.6
comp=Z,6µm,18.0s
BGLC Bering Glacier 59.60 333 P **P** **14 21 27.9 +0.3**
baz=119
VAS01 Vassouras-RJ 59.61 126 *e*P **P** **14 21 28.1 -0.2**
SJMB Sao Joao De Ma 59.65 121 *e*P **P** **14 21 28.7 +0.1**
TGL Tana Glacier 59.72 334 IAMs_20 IAMs_20 14 50 15.3
comp=Z,5µm,21.0s
BVCY Beaver Creek 59.77 336 P **P** **14 21 29.6 +0.7**
baz=122,SNR=54
BVCY S **S** **14 29 43.9 +5.7**
baz=122
GUA01 Guaratinga, BA 59.84 118 *e*P **P** **14 21 30.4 +0.4**
BERG Berg Lake 59.92 333 IAMs_20 IAMs_20 14 48 24.6
comp=Z,5µm,19.0s
J29M Klondike Camp 59.94 339 P **P** **14 21 30.1 +0.1**
baz=126,SNR=27
J29M S **S** **14 29 42.5 +2.0**
baz=126
NBPV Pedro Velho 59.97 106 *e*P **P** **14 21 31.7 +0.8**
KAIM Kayak Island 60.02 333 P **P** **14 21 31.3 +0.8**
baz=118
MCARA McCarthy VSAT 60.11 335 IAMs_20 IAMs_20 14 48 22.7
comp=Z,6µm,20.0s
MCARA McCarthy VSAT 60.11 335 P **P** **14 21 32.0 +0.9**
baz=120,SNR=32
MCARA S **S** **14 29 48.8 +6.2**
baz=120
DAWY Dawson 60.13 338 P **P** **14 21 31.5 +0.2**
DAWY IAmb IAmb 14 21 33.9
comp=Z,230nm,1.8s
DAWY Dawson 60.13 338 ⇑P **P** **14 21 31.2 -0.2**
DAWY Dawson 60.13 338 P **P** **14 21 31.1 -0.2**
baz=125,SNR=32
DAWY S **S** **14 29 43.8 +0.9**
baz=125
HMT Hamilton 60.14 333 IAMs_20 IAMs_20 14 49 21.4
comp=Z,5µm,18.0s
M27K Edge Creek, AK 60.14 336 P **P** **14 21 32.3 +0.8**
baz=121,SNR=36
M27K S **S** **14 29 46.9 +3.7**
baz=121
NBAN Anadia - AL 60.18 109 *e*P **P** **14 21 33.0 +0.6**
SFJD Kangerlussuaq 60.22 18 LR LR 14 48 12.5
comp=Z,18µm,19.9s,baz=221,slow=37
VRDI Verde Repeater 60.22 334 P **P** **14 21 33.3 +1.2**
VRDI IAMs_20 IAMs_20 14 50 40.4
comp=Z,4µm,22.0s
DUB01 Friburgo-RJ 60.35 125 *e*P **P** **14 21 33.6 +0.1**
GLB Gilahina Butte 60.47 334 IAMs_20 IAMs_20 14 50 47.2
comp=Z,4µm,20.0s
BCAR Beaver Creek A 60.48 337 P **P** **14 21 34.4 +0.7**
L27K Beaver Creek, 60.49 337 P **P** **14 21 34.4 +0.6**
L27K IAmb IAmb 14 21 37.4
comp=Z,168nm,1.1s
L27K IAMs_20 IAMs_20 14 50 07.6

comp=Z,4µm,19.0s
L27K Beaver Creek, 60.49 337 P **P** **14 21 34.4 +0.6**
baz=122,SNR=99
L27K S **S** **14 29 51.8 +4.3**
baz=122
I29M Ogilvie Camp, 60.51 340 P **P** **14 21 33.9 +0.1**
I29M IAmb IAmb 14 21 36.5
comp=Z,141nm,1.1s
I29M Ogilvie Camp, 60.51 340 P **P** **14 21 34.2 +0.3**
baz=126,SNR=117
BMRM Bremner River 60.58 334 P **P** **14 21 35.8 +1.3**
BMRM IAMs_20 IAMs_20 14 52 11.1
comp=Z,6µm,18.0s
BMRM Bremner River 60.58 334 P **P** **14 21 35.0 +0.6**
baz=118,SNR=26
BMRM S **S** **14 29 55.0 +6.3**
baz=118
RIB01 Linhares ES 60.60 121 *e*P **P** **14 21 34.8 -0.3**
M26K Nabesna, AK 60.61 336 IAMs_20 IAMs_20 14 48 31.8
comp=Z,4µm,20.0s
M26K Nabesna, AK 60.61 336 P **P** **14 21 34.5 -0.1**
baz=120
M26K S **S** **14 29 55.2 +6.1**
baz=120
EPYK Eagle Plains 60.61 341 P **P** **14 21 35.0 +0.4**
EPYK IAmb IAmb 14 21 37.6
comp=Z,143nm,1.4s
EPYK IAMs_20 IAMs_20 14 52 45.5
comp=Z,5µm,18.0s
EPYK Eagle Plains 60.61 341 P **P** **14 21 34.4 -0.1**
baz=129,SNR=36
EPYK S **S** **14 29 53.0 +4.0**
baz=129
Q23K Middleton Isla 60.67 332 IAMs_20 IAMs_20 14 50 13.4
comp=Z,3µm,18.0s
Q23K Middleton Isla 60.67 332 P **P** **14 21 35.4 +0.4**
baz=115
CAM01 Campos-RJ 60.79 125 *e*P **P** **14 21 36.6 +0.2**
N25K Chitina, Valde 60.88 334 IAMs_20 IAMs_20 14 51 01.0
comp=Z,5µm,18.0s
N25K Chitina, Valde 60.88 334 P **P** **14 21 37.3 +0.7**
baz=118,SNR=51
N25K S **S** **14 29 56.2 +3.6**
baz=118
NBRF Rio Formoso - 60.89 108 *e*P **P** **14 21 37.8 +0.6**
EYAK Cordova Ski Ar 60.89 333 P **P** **14 21 36.9 +0.4**
baz=116,SNR=13
EYAK S **S** **14 29 58.8 +6.3**
baz=116
INK Inuvik 60.95 344 LR LR 14 52 38.1
comp=Z,4µm,20.1s,baz=127,slow=41
INK Inuvik 60.95 344 P **P** **14 21 37.2 +0.5**
INK pmax pmax
comp=Z,195nm,1.2s
INK Inuvik 60.95 344 P **P** **14 21 37.2 +0.5**
INK IAmb IAmb 14 21 43.6
comp=Z,195nm,1.2s
INK Inuvik 60.95 344 ⇓P **P** **14 21 36.6 0.0**
INK Inuvik 60.95 344 P **P** **14 21 36.4 -0.3**
baz=133,SNR=110
INK S **S** **14 29 54.7 +1.8**
baz=133
ALF01 Guarapari-ES 60.95 123 *e*P **P** **14 21 37.8 +0.3**
L26K Log Cabin Wild 61.07 336 P **P** **14 21 37.9 +0.2**
baz=120,SNR=41
L26K S **S** **14 30 00.4 +5.6**
baz=120
EGAK Eagle 61.17 338 IAMs_20 IAMs_20 14 51 06.3
comp=Z,6µm,19.0s
EGAK Eagle 61.17 338 P **P** **14 21 37.9 -0.4**
baz=123,SNR=90
EGAK S **S** **14 29 58.0 +2.1**
baz=123
DY2G Dye2 61.22 19 *i* P **S** **14 21 38.0 -1.0**
DY2G IVmB_BB 14 22 17.9
comp=Z,895nm,12.6s
CALA Caldeira 61.23 53 *e*P P 14 21 46.4 +7.1
PCED Cedros 61.23 53 *e*P P 14 21 53.7 +14
FID Port Fidalgo 61.30 333 IAMs_20 IAMs_20 14 53 01.3
comp=Z,5µm,18.0s
RES Resolute Bay 61.32 359 LR LR 14 52 05.6
comp=Z,7µm,18.1s,baz=172,slow=40
RES Resolute Bay 61.32 359 P **P** **14 21 38.6 -0.5**
RES pmax pmax
comp=Z,99nm,0.9s
RES Resolute Bay 61.32 359 P **P** **14 21 38.6 -0.5**
RES IAmb IAmb 14 21 41.7
comp=Z,99nm,0.8s
RES Resolute Bay 61.32 359 ⇑P **P** **14 21 38.5 -0.7**
PCAN Candelaria 61.39 53 *e*P P 14 21 54.7 +14
KLU Klutina 61.39 334 IAMs_20 IAMs_20 14 51 15.5
comp=Z,4µm,19.0s
KLU Klutina 61.39 334 P **P** **14 21 39.7 -0.3**
baz=117,SNR=55
KLU S **S** **14 30 04.3 +5.2**
baz=117
PICO Pico 61.44 53 *e*P P 14 21 48.5 +7.8
COYC Coyhaique 61.46 164 IAMs_20 IAMs_20 14 42 22.0
comp=Z,5µm,19.0s
HARP HAARP 61.49 335 P **P** **14 21 40.4 -0.1**
baz=118,SNR=47
HARP S **S** **14 30 05.4 +5.2**
baz=118
ROSA Rosais 61.60 53 *e*P P 14 21 49.5 +7.8
GLI Glacier Island 61.63 333 IAMs_20 IAMs_20 14 51 15.9
comp=Z,4µm,18.0s
GLI Glacier Island 61.63 333 P **P** **14 21 40.9 -0.6**
baz=115
GLI S **S** **14 30 06.8 +4.8**
baz=115
VAH Vaihoa 61.63 244 *e*P **P** **14 21 41.4 -0.8**
comp=Z,127nm,1.1s
PMOR Pomariorio Ree 61.77 245 *e*P **P** **14 21 42.3 -0.8**
comp=Z,100nm,1.1s
M24K Tolsona, Glenn 61.78 334 IAMs_20 IAMs_20 14 51 30.7
comp=Z,4µm,19.0s
M24K Tolsona, Glenn 61.78 334 P **P** **14 21 43.9 +1.3**
baz=117,SNR=31
M24K S **S** **14 30 09.0 +5.1**
baz=117
SCRK Sand Creek 61.80 337 IAMs_20 IAMs_20 14 51 08.0
comp=Z,5µm,19.0s
SCRK Sand Creek 61.80 337 P **P** **14 21 42.9 +0.2**
baz=120,SNR=80
SCRK S **S** **14 30 09.9 +5.8**
baz=120
A36M Sachs Harbour 61.80 349 P **P** **14 21 42.2 -0.2**
A36M IAMs_20 IAMs_20 14 53 20.3
comp=Z,6µm,18.0s
A36M Sachs Harbour 61.80 349 P **P** **14 21 42.4 0.0**
baz=143,SNR=238
A36M S **S** **14 30 05.9 +2.2**
baz=143
PGRA Graciosa 61.83 53 *e*P P 14 21 50.5 +7.2
PAX Paxson 61.89 336 P **P** **14 21 43.3 0.0**
baz=118,SNR=69
PAX S **S** **14 30 09.7 +4.4**
baz=118
J26L Joseph Creek 61.90 338 P **P** **14 21 43.7 +0.4**
baz=121,SNR=156
J26L S **S** **14 30 09.4 +3.9**
baz=121
RIDG Independent Ri 62.01 336 P **P** **14 21 44.5 +0.4**
baz=119,SNR=94
RIDG S **S** **14 30 09.2 +2.5**
baz=119
RIDG S S 14 30 11.8 +5.0
baz=119
SCM Sheep Creek Mo 62.14 334 P **P** **14 21 45.4 +0.4**
baz=116,SNR=22
SCM S **S** **14 30 11.5 +2.9**
baz=116
PWL Port Wells 62.17 333 IAMs_20 IAMs_20 14 51 27.2
comp=Z,4µm,18.0s
PWL Port Wells 62.17 333 P **P** **14 21 45.7 +0.6**
baz=114,SNR=13
PWL S **S** **14 30 12.5 +3.7**
baz=114
M23K Glacier View 62.30 334 P **P** **14 21 46.6 +0.6**
baz=115
SEW Seward 62.38 332 P **P** **14 21 46.9 +0.4**
SEW Seward 62.38 332 P **P** **14 21 46.2 -0.3**
baz=113,SNR=9.7
SEW S **S** **14 30 14.4 +3.0**
baz=113
ADH Angra Heroismo 62.38 53 *e*P **P** **14 21 50.5 +3.6**
K24K Donnelly Dome 62.40 336 P **P** **14 21 46.4 -0.3**

baz=118
PAGU Agualva, Azore 62.43 53 *e*P P 14 21 55.8 +8.5
KNK Knik Glacier 62.45 333 IAMs_20 IAMs_20 14 51 51.7
comp=Z,5µm,21.0s
KNK Knik Glacier 62.45 333 P **P** **14 21 46.6 -0.5**
KNK baz=114,SNR=33
S **S** **14 30 14.0 +1.6**
SML Sawmill 62.56 334 P **P** **14 21 48.2 +0.4**
SML Sawmill 62.56 334 P **P** **14 21 48.2 +0.4**
SML IAMs_20 IAMs_20 14 49 27.5
comp=Z,4µm,21.0s
SML Sawmill 62.56 334 P **P** **14 21 47.5 -0.3**
SML baz=115,SNR=48
S **S** **14 30 16.0 +2.2**
baz=115
J25K Salcha River, 62.63 337 IAMs_20 IAMs_20 14 51 45.1
comp=Z,5µm,18.0s
J25K Salcha River, 62.63 337 P **P** **14 21 48.5 +0.3**
J25K baz=119,SNR=85
S **S** **14 30 19.4 +4.7**
baz=119
WAT6 Susitna Watana 62.64 335 P **P** **14 21 48.6 +0.2**
WAT6 baz=116,SNR=156
S **S** **14 30 16.9 +1.9**
baz=116
O22K Cooper Landing 62.65 332 IAMs_20 IAMs_20 14 51 18.9
comp=Z,6µm,18.0s
O22K Cooper Landing 62.65 332 P **P** **14 21 48.2 0.0**
O22K baz=113
S **S** **14 30 17.0 +2.3**
baz=113
DHY Denali Highway 62.71 335 P **P** **14 21 48.8 -0.1**
DHY baz=116,SNR=23
S **S** **14 30 18.2 +2.4**
baz=116
NUUG Nuugaatsiaq 62.73 13 *i*P **P** **14 21 49.6 +1.0**
NUUG IVmB_BB 14 21 52.7
comp=Z,1µm,2.9s
KIP Kipapa 62.80 287 *de*P **P** **14 21 50.8 +0.8**
KIP pmax pmax
comp=Z,176nm,1.7s
KIP MLR MLR
comp=Z,386nm,8.0s
PMR Palmer 62.82 333 P **P** **14 21 49.9 +0.5**
PMR pmax pmax
comp=Z,364nm,1.7s
PMR Palmer 62.82 333 P **P** **14 21 49.9 +0.5**
PMR Palmer 62.82 333 P **P** **14 21 49.6 +0.2**
baz=114,SNR=30
PMR S **S** **14 30 19.0 +2.1**
baz=114
BRSE Bradley Lake S 62.84 331 P **P** **14 21 50.0 +0.3**
baz=111,SNR=16
BRSE S **S** **14 30 20.9 +3.6**
baz=111
RC01 Rabbit Creek A 62.89 333 IAMs_20 IAMs_20 14 51 00.3
comp=Z,4µm,20.0s
RC01 Rabbit Creek A 62.89 333 P **P** **14 21 50.4 +0.5**
baz=113,SNR=24
RC01 S **S** **14 30 21.6 +3.8**
baz=113
BRLK Bradley Lake 62.92 331 P **P** **14 21 50.3 +0.1**
CNPM China Poot 63.00 331 IAMs_20 IAMs_20 14 50 23.3
comp=Z,5µm,18.0s
KDAK Kodiak Island 63.08 329 P **P** **14 21 51.6 +0.4**
KDAK pmax pmax
comp=Z,331nm,1.7s
KDAK MLR MLR
comp=Z,3µm,19.0s
KDAK Kodiak Island 63.08 329 P **P** **14 21 51.6 +0.4**
KDAK Kodiak Island 63.08 329 P **P** **14 21 51.4 +0.2**
baz=109
KDAK S **S** **14 30 23.7 +3.6**
baz=109
WAT1 Susitna Watana 63.09 335 P **P** **14 21 51.3 +0.1**
baz=115
WAT1 S **S** **14 30 22.0 +1.7**
baz=115
FIS Fire Island 63.13 333 IAMs_20 IAMs_20 14 51 48.5
comp=Z,4µm,19.0s
HOM Homer 63.24 331 IAMs_20 IAMs_20 14 47 39.7
comp=Z,4µm,22.0s
HOM Homer 63.24 331 P **P** **14 21 52.1 -0.2**
baz=110
OHAK Old Harbor 63.26 328 P **P** **14 21 53.6 +1.2**
baz=108,SNR=9.3
OHAK S **S** **14 30 26.2 +3.8**
baz=108
ILAR Eielson Array 63.28 337 P **P** **14 21 52.0 -0.4**
comp=Z,130nm,1.0s,baz=128,slow=4.2,SNR=208
ILAR PP **PP** **14 24 13.8 +2.1**
comp=Z,13nm,1.0s,baz=122,slow=6.5,SNR=4.5
ILAR PKP2bc 14 50 51.4
comp=Z,1.3nm,0.9s,baz=288,slow=4.1,SNR=7.3
ILAR LR LR 14 52 31.2
comp=Z,4µm,18.7s,baz=128,slow=39
ILAR Eielson Array 63.28 337 P **P** **14 21 51.9 -0.6**
ILAR **pwP** **14 22 04.9 -1.3**
M22K Willow 63.32 333 P **P** **14 21 53.7 +1.0**
baz=113
M22K S **S** **14 30 25.7 +2.6**
baz=113
CAPN Captain Cook N 63.41 332 P **P** **14 21 53.3 0.0**
baz=111
PSET Sete Cidades 63.51 54 *e*P P 14 22 00.0 +5.5
SII Sitkinak Islan 63.53 327 IAMs_20 IAMs_20 14 51 22.7
comp=Z,4µm,18.0s
SII Sitkinak Islan 63.53 327 P **P** **14 21 54.2 -0.1**
baz=106,SNR=8.0
CCB Clear Creek Bu 63.58 337 IAMs_20 IAMs_20 14 53 30.1
comp=Z,4µm,18.0s
WRH Wood River Hil 63.61 336 IAMs_20 IAMs_20 14 52 11.0
comp=Z,5µm,18.0s
MCK McKinley 63.63 336 IAMs_20 IAMs_20 14 53 15.5
comp=Z,5µm,19.0s
MCK McKinley 63.63 336 P **P** **14 21 55.0 +0.2**
MCK baz=115,SNR=93
S **S** **14 30 28.5 +1.5**
baz=115
CUT Chulitna 63.64 334 IAMs_20 IAMs_20 14 52 40.9
comp=Z,4µm,19.0s
CUT Chulitna 63.64 334 P **P** **14 21 55.1 +0.2**
baz=113,SNR=51
CUT S **S** **14 30 27.3 +0.3**
baz=113
POKR Poker Plat Res 63.65 337 IAMs_20 IAMs_20 14 51 26.0
comp=Z,5µm,19.0s
POKR Poker Plat Res 63.65 337 P **P** **14 21 54.9 0.0**
baz=117,SNR=37
POKR S **S** **14 30 27.3 +0.2**
baz=117
POKR S S 14 30 29.5 +2.3
baz=117
COLA College 63.70 337 *d*P **P** **14 21 54.4 -0.8**
COLA pmax pmax
comp=Z,135nm,1.0s
COLA MLR MLR
comp=Z,5µm,16.0s
COLA College 63.70 337 IAMs_20 IAMs_20 14 52 12.4
comp=Z,4µm,20.0s
COLA College 63.70 337 P **P** **14 21 55.1 0.0**
baz=116
COLA S **S** **14 30 28.5 +0.9**
baz=116
TCOL CIGO, UAF Yank 63.70 337 IAMs_20 IAMs_20 14 52 12.4
comp=Z,4µm,20.0s
TCOL CIGO, UAF Yank 63.70 337 P **P** **14 21 54.8 -0.4**
baz=116,SNR=28
TCOL S **S** **14 30 29.0 +1.2**
baz=116
ANGG Ammassalik, Gr 63.74 22 *i*P **P** **14 21 52.3 -3.1**
ANGG IVmB_BB 14 21 54.7
comp=Z,1µm,4.3s
BMAR Burnt Mountain 63.77 340 P **P** **14 21 55.8 +0.1**
O20K Slope Mountain 63.85 331 P **P** **14 21 56.4 0.0**
baz=110,SNR=11
O20K S **S** **14 30 30.9 +0.9**
baz=110
Q19K Cape Douglas, 63.97 330 P **P** **14 21 57.3 +0.2**
baz=108,SNR=7.4
PSMN Pico do Norte, 63.99 55 *e*P P 14 22 04.1 +6.5
P19K Oil Pt 64.00 330 IAMs_20 IAMs_20 14 50 54.7
comp=Z,4µm,18.0s
P19K Oil Pt 64.00 330 P **P** **14 21 57.5 +0.2**
baz=109
BWN Browne 64.02 336 IAMs_20 IAMs_20 14 52 13.2
comp=Z,5µm,20.0s

NEA2 Nenana 64.05 336 IAMs_20 IAMs_20 14 52 25.5
comp=Z,4µm,19.0s
NEA2 Nenana 64.05 336 P **P** **14 21 57.6 +0.1**
NEA2 baz=115,SNR=43
S **S** **14 30 32.1 0.0**
baz=115
SPCR Spurr Chakacha 64.05 332 P **P** **14 21 57.5 -0.2**
SPCR baz=110,SNR=18
S **S** **14 30 32.2 -0.2**
baz=110
TRF Thorofare Moun 64.06 335 IAMs_20 IAMs_20 14 51 22.0
comp=Z,4µm,20.0s
TRF Thorofare Moun 64.06 335 P **P** **14 21 57.4 -0.5**
TRF baz=113,SNR=105
S **S** **14 30 34.8 +2.1**
baz=113
CHIR Chirikof Islan 64.11 326 P **P** **14 21 57.4 -0.6**
baz=105
H24K Noodor Dome 64.14 338 P **P** **14 21 58.5 +0.3**
H24K Noodor Dome 64.14 338 P **P** **14 21 57.8 -0.4**
H24K baz=117,SNR=211
S **S** **14 30 33.5 +0.2**
baz=117
PPTF Pamatai, Papee 64.30 243 IAMs_20 IAMs_20 14 43 10.4
comp=Z,5µm,18.0s
PPT Papeete 64.30 243 LR LR 14 42 38.6
comp=Z,2µm,20.6s,baz=69,slow=29
PPT2 Papeete2 64.31 243 *e*S **S** **14 30 33.5 -3.4**
PPT2 comp=Z,5µm,27.2s
*e*LQ LQ 14 38 31.7
PPT2 comp=Z,8µm,31.8s
*e*LR LR 14 40 45.6
comp=Z,8µm,33.2s,baz=54
PAE Paea 64.34 243 *e*P **P** **14 21 59.2 -1.0**
comp=Z,37nm,1.1s
KTH Kantishna Hill 64.36 335 P **P** **14 21 59.4 -0.3**
KTH IAMs_20 IAMs_20 14 53 09.0
comp=Z,4µm,19.0s
TULEG Thule 64.38 6 *i*P **P** **14 21 58.0 -1.5**
TULEG IVmB_BB 14 22 02.7
comp=Z,2µm,7.5s
TULEG Thule 64.38 6 ⇑P **P** **14 21 59.2 -0.2**
I23K Minto, Yukon-K 64.39 337 IAMs_20 IAMs_20 14 55 02.7
comp=Z,4µm,20.0s
I23K Minto, Yukon-K 64.39 337 P **P** **14 21 59.6 -0.1**
I23K baz=115,SNR=187
S **S** **14 30 38.2 +1.8**
baz=115
BPAW Bear Paw Mtn. 64.61 335 P **P** **14 22 01.5 +0.3**
BPAW IAMs_20 IAMs_20 14 52 34.4
comp=Z,4µm,19.0s
BPAW Bear Paw Mtn. 64.61 335 P **P** **14 22 00.9 -0.3**
BPAW baz=113,SNR=61
S **S** **14 30 40.4 +1.3**
baz=113
PPLA Purkeypile 64.65 334 P **P** **14 22 01.9 +0.2**
PPLA Purkeypile 64.65 334 P **P** **14 22 01.7 0.0**
PPLA baz=111,SNR=33
S **S** **14 30 40.3 +0.4**
baz=111
O19K Port Alsworth 64.69 331 IAMs_20 IAMs_20 14 54 53.0
comp=Z,4µm,18.0s
O19K Port Alsworth 64.69 331 P **P** **14 22 00.8 -1.0**
O19K baz=108,SNR=21
S **S** **14 30 40.2 +0.1**
baz=108
H23K Yukon River 64.75 338 IAMs_20 IAMs_20 14 51 32.1
comp=Z,5µm,21.0s
H23K Yukon River 64.75 338 P **P** **14 22 02.4 +0.3**
H23K baz=115
S **S** **14 30 41.4 +0.5**
baz=115
ICESG Greenland Ices 64.78 18 *i*P **P** **14 22 00.9 -1.7**
ICESG IVmB_BB 14 22 05.5
comp=Z,2µm,2.9s
CAST Castle Rocks 64.80 335 IAMs_20 IAMs_20 14 51 10.5
comp=Z,4µm,20.0s
CAST Castle Rocks 64.80 335 P **P** **14 22 01.9 -0.5**
CAST baz=112,SNR=120
S **S** **14 30 41.7 +0.2**
baz=112
P18K Big Mountain, 64.89 330 P **P** **14 22 02.3 -0.9**
P18K Big Mountain, 64.89 330 P **P** **14 22 02.4 -0.7**
P18K baz=107,SNR=30
S **S** **14 30 43.2 +0.5**
baz=107
N19K Bonanza Creek 64.96 331 IAMs_20 IAMs_20 14 51 40.1
comp=Z,4µm,18.0s
N19K Bonanza Creek 64.96 331 P **P** **14 22 03.5 -0.1**
N19K baz=108
S **S** **14 30 43.7 -0.1**
baz=108
O18K Koktuh Hills 65.01 330 IAMs_20 IAMs_20 14 51 33.5
comp=Z,3µm,19.0s
O18K Koktuh Hills 65.01 330 P **P** **14 22 03.2 -0.7**
O18K baz=107,SNR=30
S **S** **14 30 46.6 +2.4**
baz=107
CHUM Lake Minchumin 65.06 335 P **P** **14 22 03.6 -0.6**
CHUM baz=112,SNR=31
S **S** **14 30 46.0 +1.3**
baz=112
L20K Farewell, AK 65.23 333 P **P** **14 22 04.7 -0.6**
L20K baz=110,SNR=76
S **S** **14 30 47.9 +1.1**
baz=110
M19K Big River Lodg 65.27 333 P **P** **14 22 05.9 +0.4**
M19K IAMs_20 IAMs_20 14 53 05.1
comp=Z,5µm,18.0s
M19K Big River Lodg 65.27 333 P **P** **14 22 05.6 +0.1**
M19K baz=109
S **S** **14 30 49.0 +1.8**
baz=109
I21K Tanana 65.42 336 IAMs_20 IAMs_20 14 52 30.8
comp=Z,4µm,18.0s
I21K Tanana 65.42 336 P **P** **14 22 06.3 -0.1**
I21K baz=112,SNR=48
S **S** **14 30 50.8 +1.8**
baz=112
L19K White Mountain 65.56 333 IAMs_20 IAMs_20 14 55 21.9
comp=Z,5µm,18.0s
L19K White Mountain 65.56 333 P **P** **14 22 07.2 -0.3**
L19K baz=108
S **S** **14 30 52.2 +1.3**
baz=108
N18K Kilae Creek 65.58 331 IAMs_20 IAMs_20 14 51 48.5
comp=Z,4µm,18.0s
N18K Kilae Creek 65.58 331 P **P** **14 22 07.2 -0.4**
N18K baz=107
S **S** **14 30 52.8 +1.6**
baz=107
COLD Coldfoot 65.59 339 P **P** **14 22 07.9 +0.4**
COLD baz=115,SNR=143
S **S** **14 30 52.3 +1.2**
baz=115
K20K Telida 65.61 334 IAMs_20 IAMs_20 14 51 02.0
comp=Z,4µm,20.0s
K20K Telida 65.61 334 P **P** **14 22 07.6 -0.2**
K20K baz=110,SNR=76
S **S** **14 30 51.6 +0.2**
baz=110
H21K Melozitna Rive 65.92 337 IAMs_20 IAMs_20 14 55 21.0
comp=Z,4µm,19.0s
H21K Melozitna Rive 65.92 337 P **P** **14 22 09.2 -0.5**
H21K baz=112,SNR=61
S **S** **14 30 54.4 -0.7**
baz=112
J20K Nowinta River 65.92 335 P **P** **14 22 09.3 -0.4**
J20K baz=110,SNR=70
S **S** **14 30 54.9 -0.3**
baz=110
TOLK Toolik Lake Re 66.00 340 P **P** **14 22 10.1 0.0**
TOLK baz=116,SNR=142
S **S** **14 30 59.1 +3.0**
baz=116
TTA Tatalina 66.31 333 ⇑P **P** **14 22 11.2 -1.1**
TTA Tatalina 66.31 333 P **P** **14 22 11.3 -1.0**
TTA baz=108,SNR=65
S **S** **14 31 01.2 +1.2**
baz=108
IMAR Indian Mountai 66.40 337 P **P** **14 22 11.8 -0.9**
SDPT Sand Point 66.69 325 P **P** **14 22 14.3 -0.5**
SDPT baz=100,SNR=6.0
S **S** **14 31 09.3 +4.6**
baz=100
EUNU Eureka 66.76 1 P **P** **14 22 15.7 +0.8**
SOEG Soedalen 67.08 21 *i*P **P** **14 22 16.0 -0.9**
SOEG IAmb IAmb 14 22 28.8

comp=Z,37nm,1.0s
GCSA Galena City Sc 67.23 335 P **P** **14 22 17.5 -0.5**
baz=108,SNR=27
GCSA S **S** **14 31 13.4 +2.5**
baz=108
FALS False Pass 68.28 324 P **P** **14 22 23.9 -1.0**
baz=98,SNR=5.5
FALS S **S** **14 31 24.1 +0.2**
baz=98
A21K Barrow 69.29 342 IAMs_20 IAMs_20 14 56 51.7
comp=Z,4µm,18.0s
A21K Barrow 69.29 342 P **P** **14 22 31.5 +0.7**
baz=110
A21K S **S** **14 31 37.6 +2.3**
baz=110
BORG Borgarnes 69.92 26 LR LR 14 53 54.7
comp=Z,5µm,18.0s,baz=271,slow=36
BORG Borgarnes 69.92 26 IAMs_20 IAMs_20 14 54 02.4
comp=Z,5µm,19.0s
UNV Unalaska Valle 69.97 323 P **P** **14 22 34.1 -1.2**
baz=95,SNR=7.1
UNV S **S** **14 31 45.6 +1.7**
baz=95
RDOG Red Dog Mine 70.45 338 IAMs_20 IAMs_20 14 57 40.6
comp=Z,5µm,18.0s
RDOG Red Dog Mine 70.45 338 P **P** **14 22 37.2 -0.9**
baz=103,SNR=17
RDOG S **S** **14 31 51.2 +2.1**
baz=103
PMOZ Porto Moniz, M 70.49 60 *e*LQ LQ 14 40 44.6
PMOZ *e*LR LR 14 44 00.9
comp=Z,2µm,20.0s
ANM Nome 70.74 334 P **P** **14 22 39.8 -0.1**
baz=100,SNR=7.9
ANM S **S** **14 31 56.0 +3.5**
baz=100
SCO Scoresbysund 70.97 20 *i*P **P** **14 22 40.3 -0.8**
SCO IVmB_BB 14 22 44.6
comp=Z,1µm,6.9s
EFI East Falkland 71.28 158 ‖*e*P **P** **14 22 43.0 -0.2**
EFI pmax pmax
comp=Z,58nm,1.1s
EFI MLR MLR
comp=Z,4µm,15.0s
EFI East Falkland 71.28 158 IAMs_20 IAMs_20 14 50 37.6
comp=Z,4µm,18.0s
NIKH Nikolski High 71.32 322 P **P** **14 22 43.4 -0.1**
baz=92
TNA Tin City 71.95 335 P **P** **14 22 47.0 -0.2**
baz=98,SNR=6.7
TNA S **S** **14 32 10.5 +4.0**
baz=98
SPIA Saint Paul Isl 72.31 326 P **P** **14 22 50.5 +1.1**
baz=93
DBG Daneborg 72.40 16 *i*P **P** **14 22 49.1 -0.6**
DBG IVmB_BB 14 22 54.0
comp=Z,1µm,5.1s
MBO M'Bour 72.87 79 IAMs_20 IAMs_20 14 55 43.5
comp=Z,3µm,20.0s
DAG Danmarks Havn 73.35 13 P **P** **14 22 54.6 -0.7**
DAG pmax pmax
comp=Z,107nm,1.4s
DAG Danmarks Havn 73.35 13 *i*P **P** **14 22 53.1 -2.2**
DAG IVmB_BB 14 22 58.1
comp=Z,2µm,7.1s
GAMB Gambell 73.40 333 IAMs_20 IAMs_20 14 56 58.0
comp=Z,3µm,19.0s
GAMB Gambell 73.40 333 P **P** **14 22 56.0 +0.3**
baz=93,SNR=10.0
GAMB S **SKiKP** **14 32 26.7 +1.7**
baz=93
RAR Rarotonga 74.58 243 P **P** **14 23 03.4 +0.1**
comp=Z,13nm,0.8s,baz=144,slow=9.3,SNR=3.6
RAR LR LR 14 49 30.2
comp=Z,1µm,18.2s,baz=63,slow=31
NOR Nord 74.77 8 *i*P **P** **14 23 04.2 +0.6**
NOR IVmB_BB 14 23 07.1
comp=Z,2µm,7.0s
JMIC Jan Mayen 75.45 20 LR LR 14 56 39.8
comp=Z,10µm,20.2s,baz=262,slow=36
JMIC Jan Mayen 75.45 20 *e*P **P** **14 23 11.5 +4.0**
JMIC *e*S S 14 33 01.2 +15
JMIC IVMs_BB IVMs_BB 14 56 35.0
comp=Z,4µm,23.9s
ADK Adak 76.12 321 P **P** **14 23 12.0 +0.2**
ADK pmax pmax
comp=Z,142nm,0.9s
ADK Adak 76.12 321 P **P** **14 23 12.0 +0.2**
ADK IAmb IAmb 14 23 26.4
comp=Z,142nm,0.8s
LIS Lisbon 76.51 53 *e*P **P** **14 23 14.6 +0.3**
LIS IAmb IAmb 14 23 25.2
comp=Z,116nm,1.0s
LIS *e*S **S** **14 32 59.3 +0.6**
LIS Lisbon 76.51 53 *e*P **P** **14 23 14.5 +0.3**
LIS *e*S **S** **14 32 59.2 +0.6**
PSBE So Bento 76.69 52 *e*P **P** **14 23 15.1 -0.3**
comp=Z,85nm,1.9s
PACT Alcochete 76.75 53 *e*P **P** **14 23 15.1 -0.5**
comp=Z,318nm,1.6s
PGAV Gavieira, Arco 76.83 50 *e*LR LR 14 46 45.5
comp=Z,2µm,16.0s
PCAS Casmilo, Conde 76.86 52 *e*P **P** **14 23 16.4 +0.1**
comp=Z,145nm,1.4s
PFVI Vila Bisbo 76.95 55 *e*P **P** **14 23 19.5 +2.7**
comp=Z,90nm,1.1s
ILTH Belurgan, Co L 76.97 37 *e*P **P** **14 23 15.6 -0.9**
PCAB Cabril 77.03 50 *e*P **P** **14 23 15.3 -1.9**
comp=Z,16nm,0.8s
PNCL Nicolau / Gran 77.06 54 *e*P **P** **14 23 18.9 +1.5**
comp=Z,64nm,1.5s
MORF Marmelete 77.07 54 *e*P **P** **14 23 17.8 +0.3**
MORF IAmb IAmb 14 23 26.1
comp=Z,39nm,1.1s
MORF *e*S **S** **14 33 05.5 +0.6**
MORF Marmelete 77.07 54 *e*P **P** **14 23 19.0 +1.5**
comp=Z,95nm,1.6s
MORF Marmelete 77.07 54 *e*P **P** **14 23 17.8 +0.3**
MORF *e*S **S** **14 33 05.4 +0.6**
KPL Plockton 77.09 34 *e*P **P** **14 23 16.4 -0.7**
KPL IAmb IAmb 14 23 19.8
comp=Z,141nm,1.1s
PMTG Montargil 77.19 53 *e*P **P** **14 23 17.2 -0.9**
comp=Z,85nm,1.4s
POLO Lamas de Olo 77.25 50 *e*P **P** **14 23 18.9 +0.4**
comp=Z,22nm,1.7s
PVIS Viseu 77.25 51 *e*P **P** **14 23 19.7 +1.2**
comp=Z,30nm,1.9s
KAC Achnashellach 77.27 34 *e*P **P** **14 23 17.3 -0.8**
LAWE Loch Awe, Argy 77.32 35 *e*P **P** **14 23 17.2 -1.3**
LAWE IAmb IAmb 14 23 20.3
comp=Z,188nm,1.6s
EVO Evora 77.42 53 P **P** **14 23 18.3 -1.1**
EVO Evora 77.42 53 *e*P **P** **14 23 18.9 -0.5**
comp=Z,51nm,1.8s
PCVE Castro Verde 77.51 54 *e*P **P** **14 23 20.2 +0.3**
comp=Z,80nm,1.6s
MTE Manteigas 77.55 51 *e*P **P** **14 23 21.6 +1.4**
comp=Z,61nm,1.8s
MTE Manteigas 77.55 51 *e*LQ LQ 14 44 14.2
MTE *e*LR LR 14 47 44.7
comp=Z,4µm,18.0s
MTE Manteigas 77.55 51 IAMs_20 IAMs_20 14 55 18.6
comp=Z,4µm,20.0s
PBDV Barranco-do-Ve 77.64 54 *e*P **P** **14 23 20.7 0.0**
comp=Z,70nm,1.5s
PCBR Castelo Branco 77.67 52 *e*P **P** **14 23 19.8 -1.0**
comp=Z,47nm,1.5s
PESTR Estremoz 77.70 53 *e*P **P** **14 23 20.1 -0.9**
comp=Z,56nm,1.5s
PESTR Estremoz 77.70 53 P **P** **14 23 20.0 -0.9**
MDO Dochfour 77.78 34 *e*P **P** **14 23 20.2 -0.8**
PMRV Marv??o 77.78 52 *e*P **P** **14 23 20.6 -0.9**
comp=Z,59nm,1.5s
PMRV Marv??o 77.78 52 *e*LR LR 14 47 33.1
comp=Z,2µm,18.0s
PVAQ Vaqueiros 77.79 54 *e*P **P** **14 23 21.8 +0.3**
comp=Z,78nm,2.2s
PVAQ Vaqueiros 77.79 54 *e*LR LR 14 47 54.9
comp=Z,2µm,18.0s
MVO Moncorvo 77.84 50 *e*P **P** **14 23 22.4 +0.6**
comp=Z,54nm,1.6s
MVO Moncorvo 77.84 50 *e*LR LR 14 47 58.8
comp=Z,2µm,20.0s
PGBU Glenifferbraes 77.87 35 *e*P **P** **14 23 20.6 -0.9**
PGBU IAmb IAmb 14 23 24.3
comp=Z,149nm,1.2s

PBRG Braganca 77.98 50 *e*P P 14 23 22.3 -0.2
comp=Z,63nm,1.4s
INVG Invergeldie, C 78.05 35 *e*P P 14 23 21.1 -1.4
INVG IAmb IAmb 14 23 25.3
comp=Z,56nm,0.8s
NEWG New Galloway 78.09 36 *e*P P 14 23 22.1 -0.7
NEWG IAmb IAmb 14 23 25.5
comp=Z,70nm,0.9s
RSBS Rosebush, Pemb 78.13 39 *e*P P 14 23 22.0 -1.1
RSBS IAmb IAmb 14 23 22.3
comp=Z,62nm,1.2s
PBAR Barrancos 78.22 53 *e*P P 14 23 22.3 -1.6
comp=Z,54nm,1.9s
WME Myndd Eilian 78.24 38 *e*P P 14 23 23.0 -0.6
MCD Coleburn Disti 78.36 33 *e*P P 14 23 23.8 -0.4
EDI Edinburgh 78.59 35 *e*P P 14 23 24.9 -0.6
EDU Dundee 78.61 34 *e*P P 14 23 25.3 -0.3
AVE Averroes 78.61 58 P P 14 23 19.3 -6.8
AVE S **S** **14 33 19.3 -2.3**
ARNO Arenosillo 78.61 54 P P 14 23 26.7 +0.7
ARNO S **S** **14 33 26.5 +5.1**
ESK Eskdalemuir 78.65 36 P P 14 23 24.7 -1.2
ESK pmax pmax
comp=Z,103nm,0.9s
ESK MLR MLR
comp=Z,5µm,20.0s
ESK Eskdalemuir 78.65 36 P P 14 23 24.7 -1.2
ESK IAmb IAmb 14 23 28.8
comp=Z,103nm,0.8s
EKA Eskdalemuir Ar 78.67 36 LR LR 14 57 20.4
comp=Z,4µm,20.3s,baz=290,slow=35
EKA Eskdalemuir Ar 78.67 36 P P 14 23 24.8 -1.2
EBL Broad Law 78.68 35 *e*P P 14 23 25.9 -0.2
DRUM Mains of Drumt 78.85 34 *e*P P 14 23 26.4 -0.5
DRUM IAmb IAmb 14 23 30.2
comp=Z,117nm,0.9s
SFS San Fernando 79.12 55 P P 14 23 28.7 -0.2
SFS S **S** **14 33 25.3 -1.6**
HLM1 Long Mynd 79.20 38 *e*P P 14 23 27.9 -1.1
HLM1 IAmb IAmb 14 23 31.4
comp=Z,46nm,0.9s
EDMD Edmundbyers 79.42 36 *e*P P 14 23 29.3 -0.8
EDMD IAmb IAmb 14 23 33.0
comp=Z,110nm,1.1s
ROSF Rostrenen 79.54 43 *e*P P 14 23 33.3 +2.4
ROSF pmax pmax
comp=Z,212nm,1.8s
QUIF Quistinic 79.67 43 *e*P P 14 23 32.8 +1.2
QUIF pmax pmax
comp=Z,83nm,1.3s
KBS Kingsbay 79.69 11 *d i*P P 14 23 33.5 +2.3
KBS pmax pmax
comp=Z,201nm,1.7s
KBS MLR MLR
comp=Z,11µm,18.0s
KBS Kingsbay 79.69 11 *i*P P 14 23 32.6 +1.5
KBS IVmB_BB 14 23 35.5
comp=Z,6µm,8.8s
KBS Kingsbay 79.69 11 *e*P P 14 23 33.1 +1.9
KBS IVmBBB 14 23 35.8
comp=Z,2µm,2.1s
KBS *e*S **SKSac** **14 33 44.4 -1.4**
KBS IVMs_BB IVMs_BB 15 01 33.4
comp=Z,4µm,20.3s
STRD Stroud 79.74 39 *e*P P 14 23 30.6 -1.3
STRD IAmb IAmb 14 23 34.5
comp=Z,74nm,0.9s
LBWR Ladybower, Pea 79.77 37 *e*P P 14 23 30.8 -1.2
LBWR IAmb IAmb 14 23 35.0
comp=Z,83nm,1.1s
CEU Ceuta 79.87 55 P P 14 23 31.5 -1.4
CEU S **S** **14 33 35.1 +0.3**
SGMF Saint Gilles 80.02 43 *e*P P 14 23 34.3 +0.8
SGMF pmax pmax
comp=Z,61nm,1.4s
PAB San Pablo 80.10 52 P P 14 23 33.3 -0.9
PAB pmax pmax
comp=Z,65nm,1.6s
PAB MLR MLR
comp=Z,4µm,19.0s
PAB San Pablo 80.10 52 P P 14 23 33.3 -0.9
PAB San Pablo 80.10 52 IAMs_20 IAMs_20 14 58 52.1
comp=Z,4µm,19.0s
GDLE Glaisdale, N Y 80.14 36 *e*P P 14 23 33.9 -0.1
GDLE IAmb IAmb 14 23 37.2
comp=Z,93nm,0.9s
ESDC Sonseca Array 80.37 51 P P 14 23 35.3 -0.4
comp=Z,19nm,0.9s,baz=288,slow=6.0,SNR=43
ESDC PKKPbc **PKKPbc** **14 42 18.6 +0.2**
comp=Z,0.9nm,0.7s,baz=62,slow=1.7,SNR=8.0
ESDC LR LR 14 52 54.4
comp=Z,2µm,21.2s,baz=283,slow=31
ESDC Sonseca Array 80.37 51 P P 14 23 34.9 -0.8
EMAL Malaga-Limoner 80.49 54 P P 14 23 35.2 -1.0
EMAL S **S** **14 33 38.5 -2.8**
SPA0 Spitsbergen Ar 80.77 11 *e*P P 14 23 39.1 +2.1
SPA0 *e*S S 14 33 52.9 +10
SPITS Spitsbergen Ar 80.77 11 PKKPbc PKKPbc 14 42 15.3 -3.3
comp=Z,8.7nm,0.9s,baz=79,slow=4.3,SNR=6.6
SPITS Spitsbergen Ar 80.77 11 P P 14 23 35.9 -1.1
SPITS pmax pmax
comp=Z,107nm,1.4s
UCM Universidad Co 80.81 51 P P 14 23 35.0 -3.0
UCM S S 14 33 54.5 +10
PMSA Palmer Station 80.81 168 LR LR 14 50 57.8
comp=Z,1µm,18.1s,baz=318,slow=29
PVLZ Pæen de 80.86 56 P P 14 23 34.9 -3.4
PVLZ S **S** **14 33 50.3 +5.1**
MDT Midelt 81.01 58 LR LR 14 55 23.1
comp=Z,2µm,20.1s,baz=306,slow=33
GRR Gorron 81.12 42 *e*P P 14 23 37.9 -1.5
GRR pmax pmax
comp=Z,54nm,0.8s
FLN La Foliniere 81.30 42 *e*P P 14 23 39.0 -1.3
FLN pmax pmax
comp=Z,162nm,1.4s
LDF La Druitiere 81.56 42 *e*P P 14 23 40.4 -1.4
LDF pmax pmax
comp=Z,36nm,0.9s
SHEM Shemya Is, Ala 81.62 322 P P 14 23 41.8 -0.1
comp=Z,71nm,1.0s,baz=353,slow=9.5,SNR=5.9
SHEM LR LR 14 56 41.9
comp=Z,704nm,21.6s,baz=60,slow=33
SJPF Ste Jean 81.81 48 *e*P P 14 23 42.2 -1.0
SJPF pmax pmax
comp=Z,69nm,1.2s
BILL Bilibino 81.92 338 *c i*P P 14 23 42.9 -0.3
BILL *e* 14 23 49.5
BILL *i* 14 26 51.5
BILL *e*PPP PPP 14 28 41.8
BILL *i*S **S** **14 33 51.5 -3.5**
BILL *e*SS **SS** **14 39 20.5 +7.3**
BILL pmax pmax
comp=Z,374nm,1.7s
BER Bergen 82.25 30 *e*P P 14 23 48.0 +2.9
BER *e*SKSac **SKSac** **14 34 07.5 +3.6**
HOPE Hope Point 82.29 151 P P 14 23 45.2 -0.1
HOPE pmax pmax
comp=Z,98nm,0.8s
HOPE Hope Point 82.29 151 P P 14 23 45.2 -0.1
HOPE IAmb IAmb 14 23 46.7
comp=Z,98nm,0.8s
ETSF Etsaut 82.33 48 *e*P P 14 23 45.0 -1.0
ETSF pmax pmax
comp=Z,16nm,0.8s
AKN Aaknes 82.60 28 *e*P P 14 23 48.1 +1.1
AKN *e*SKSac **SKSac** **14 34 07.8 +1.5**
AKN *i* 14 40 30.0
LFF La Frestale 82.85 46 *e*P P 14 23 47.2 -1.4
LFF pmax pmax
comp=Z,25nm,0.9s
EPF Esparros 82.95 48 *e*P P 14 23 48.0 -1.2
EPF pmax pmax
comp=Z,14nm,0.8s
CART Cartagena 83.03 53 P P 14 23 44.0 -5.6
CART S **S** **14 33 59.7 -7.8**
BLS5 Blasjo 83.03 31 *e*P P 14 23 51.0 +1.8
BLS5 IVmB_BB 14 23 53.8
comp=Z,2µm,2.3s
BLS5 *e*SKSac **SKSac** **14 34 11.3 +2.1**
BLS5 IVMs_BB IVMs_BB 14 51 49.6
comp=Z,2µm,5.6s
AFI Afiamalu 83.19 254 P P 14 23 51.6 +0.7
comp=Z,70nm,0.8s,baz=225,slow=4.2,SNR=5.7
AFI LR LR 14 52 11.9
comp=Z,1µm,20.1s,baz=67,slow=29
HOPEN Hopen 83.20 12 *e*P P 14 23 51.0 +1.3
HOPEN IVmB_BB 14 23 53.3
comp=Z,3µm,1.6s
HOPEN *e*SKSac **SKSac** **14 34 12.8 +3.1**
HOPEN IVMs_BB IVMs_BB 15 05 15.6
comp=Z,3µm,16.7s
RJF Les Rejaudoux 83.31 45 *e*P P 14 23 49.5 -1.5
RJF pmax pmax
comp=Z,95nm,1.6s
LOF Lofoten 83.50 21 *e*P P 14 23 53.9 +2.5
TCF Toulx Ste Croi 83.58 44 *e*P P 14 23 50.7 -1.6
TCF pmax pmax
comp=Z,45nm,1.3s
DOMB Dombas 83.58 28 *e*P P 14 23 54.9 +2.9
DOMB IVmBBB 14 23 56.6
comp=Z,2µm,2.6s
DOMB *e*SKSac **SKSac** **14 34 17.8 +5.0**
DOMB IVMs_BB IVMs_BB 14 52 20.8
comp=Z,2µm,4.7s
SKAR Skarslia 83.60 29 *e*P P 14 23 56.8 +4.6
SKAR *e*SKSac **SKSac** **14 34 16.7 +3.7**
SKAR IVMs_BB IVMs_BB 14 51 36.4
comp=Z,1µm,5.8s
SNART Snartemo 83.69 32 *e*P P 14 23 55.1 +2.5
BGF Bois d'Agland 83.95 44 *e*P P 14 23 52.7 -1.5
BGF pmax pmax
comp=Z,33nm,0.8s
BAIF Baives 84.03 40 *e*P P 14 23 53.5 -1.0
BAIF pmax pmax
comp=Z,125nm,1.8s
NSS Namsos 84.08 25 *e*P P 14 23 57.9 +3.5
NSS *e*SKSac **S** **14 34 16.5 -0.6**
STEI Steigen 84.17 21 *e*P P 14 23 56.6 +1.8
STEI *e*SKSac **S** **14 34 20.3 +2.4**
MTLF Montolieu 84.23 47 *e*P P 14 23 54.4 -1.3
MTLF pmax pmax
comp=Z,148nm,1.6s
AVF Avril sur Loir 84.23 43 *e*P P 14 23 53.8 -1.8
AVF pmax pmax
comp=Z,20nm,1.0s
DOU Dourbes 84.26 40 *d*P P 14 23 55.5 -0.2
comp=Z,14nm,1.1s
SSF Saint Saulge 84.27 43 *e*P P 14 23 54.2 -1.6
SSF pmax pmax
comp=Z,55nm,1.2s
BMRD Maredsous 84.32 40 *d*P P 14 23 55.7 -0.3
comp=Z,12nm,1.0s
HOMB Homborsund 84.36 31 *e*P P 14 23 59.9 +3.8
HOMB IVmBBB 14 24 00.5
comp=Z,2µm,4.1s
HOMB *e*SKSac **S** **14 34 19.7 -0.5**
HOMB IVMs_BB IVMs_BB 14 56 15.8
comp=Z,982nm,5.0s
FAUS Fauske 84.39 22 *e*P P 14 23 57.7 +1.7
FAUS IVmBBB 14 24 00.0
comp=Z,2µm,2.8s
FAUS *e*SKSac **S** **14 34 21.1 +1.0**
FAUS IVMs_BB IVMs_BB 14 54 45.3
comp=Z,2µm,34.3s
GIVF Givet 84.40 40 *e*P P 14 23 55.9 -0.5
GIVF pmax pmax
comp=Z,197nm,1.8s
LOR Lormes 84.46 43 *e*P P 14 23 55.4 -1.4
LOR pmax pmax
comp=Z,79nm,1.3s
BGES Gesves 84.50 40 *d*P P 14 23 57.1 +0.2
comp=Z,29nm,0.9s
KONO Kongsberg 84.51 30 *c e*P P 14 23 57.4 +0.6
KONO pmax pmax
comp=Z,83nm,1.7s
KONO MLR MLR
comp=Z,1µm,20.0s
KONO Kongsberg 84.51 30 IAMs_20 IAMs_20 15 04 29.4
comp=Z,3µm,19.0s
KONO Kongsberg 84.51 30 *e*P P 14 24 00.4 +3.6
KONO IVmB_BB 14 24 01.1
comp=Z,2µm,2.7s
KONO *e*SKSac **S** **14 34 21.7 +0.1**
KONO IVMs_BB IVMs_BB 14 53 02.0
comp=Z,1µm,4.8s
SMF Signal de Mont 84.59 43 *e*P P 14 23 55.7 -1.8
SMF pmax pmax
comp=Z,31nm,1.2s
BCLA Clavier 84.62 40 *d*P P 14 23 57.4 -0.2
comp=Z,22nm,0.8s
RCHB Rochefort 84.64 40 *d*P P 14 23 57.7 +0.1
comp=Z,15nm,1.0s
NBO00 NORSAR Array S 84.66 28 P P 14 23 58.0 +0.5
NBO00 IAmb IAmb 14 24 13.9
comp=Z,206nm,1.5s
TRO Tromso 84.75 19 *e*P P 14 23 59.0 +1.3
TRO IVmB_BB 14 24 00.4
comp=Z,3µm,2.1s
TRO *e*SKSac **S** **14 34 22.1 -1.4**
TRO IVMs_BB IVMs_BB 15 01 04.0
comp=Z,3µm,12.8s
NB2 NORSAR Subarra 84.86 28 P P 14 23 59.5 +0.9
comp=Z,159nm,1.2s,baz=288,slow=4.8
NB2 NORSAR Subarra 84.86 28 P P 14 24 02.4 +3.8
NB2 NORSAR Subarra 84.86 28 P P 14 23 59.5 +0.9
baz=288,slow=4.8
NOA NORSAR Array B 84.86 28 P P 14 23 59.5 +0.9
comp=Z,28nm,0.9s,baz=290,slow=4.8,SNR=68
NOA PP **PP** **14 27 12.3 -2.4**
comp=Z,9.9nm,1.2s,baz=289,slow=7.8,SNR=11
NOA PKKPbc **PKKPbc** **14 42 06.0 -2.9**
comp=Z,1.1nm,0.8s,baz=94,slow=3.7,SNR=4.2
NOA LR LR 14 59 50.1
comp=Z,4µm,21.9s,baz=285,slow=34
HGN Heimansgroeve 84.92 39 *e*P P 14 23 58.5 -0.5
MEM Membach 85.01 39 *d*P P 14 23 59.6 +0.2
comp=Z,19nm,1.0s
BHOU Houvegnez 85.08 40 *d*P P 14 23 59.5 -0.3
comp=Z,17nm,1.8s
BTNL Ternell 85.09 39 *d*P P 14 23 59.9 0.0
NORES NORESS Array B 85.11 29 P P 14 24 01.4 +1.7
NORES pmax pmax
comp=Z,10.0nm,1.0s
KOWA Kowa 85.15 76 P P 14 24 01.1 +0.2
KOWA IAmb IAmb 14 24 03.5
comp=Z,61nm,1.1s
KOWA IAMs_20 IAMs_20 15 00 46.9
comp=Z,3µm,20.0s
HLG Helgoland 85.17 35 *e*P P 14 24 00.8 +0.7
comp=Z,295nm,1.5s,baz=288,slow=4.8
MUD Monsted U'grnd 85.23 33 *i*P P 14 24 02.0 +1.6
MUD IVmB_BB 14 24 05.0
comp=Z,3µm,6.4s
JETT Jettan, Norway 85.25 19 *e*P P 14 24 01.7 +1.3
WLF Walferdange 85.35 40 P P 14 24 01.0 -0.2
WLF pmax pmax
comp=Z,283nm,2.0s
WLF MLR MLR
comp=Z,4µm,21.0s
WLF Walferdange 85.35 40 P P 14 24 00.9 -0.2
WLF IAMs_20 IAMs_20 15 01 53.0
comp=Z,4µm,21.0s
WLF Walferdange 85.35 40 *e*P P 14 24 01.4 +0.2
comp=Z,41nm,1.1s,baz=288,slow=4.8
WLF Walferdange 85.35 40 *d*P P 14 24 01.4 +0.2
comp=Z,24nm,1.0s
SSB Saint Sauveur 85.40 45 IAMs_20 IAMs_20 15 02 08.7
comp=Z,2µm,19.0s
BUG Bochum-Univer 85.56 38 *e*P P 14 24 02.6 +0.5
comp=Z,104nm,1.7s,baz=288,slow=4.8
VIVF Saint-Julien-l 85.59 45 *e*P P 14 24 02.1 -0.5
VIVF pmax pmax
comp=Z,199nm,1.8s
IBBN Ibbenburen 85.61 37 *e*P P 14 24 03.0 +0.6
comp=Z,133nm,1.5s,baz=288,slow=4.8
AHRW Bad Neuenahr-A 85.69 39 *e*P P 14 24 03.3 +0.4
comp=Z,249nm,2.1s,baz=288,slow=4.8
HAMF Hammerfest 85.75 17 *e*P P 14 24 03.6 +0.9
HAMF IVmBBB 14 24 05.9
comp=Z,2µm,2.5s
HAMF *e*SKSac **SKSac** **14 34 28.1 +1.9**
HAMF IVMs_BB IVMs_BB 15 01 53.5
comp=Z,4µm,17.3s
TIC Toumodi 85.90 84 *e*P P 14 24 04.6 -0.1
HAU Haudompre 85.91 42 *e*P P 14 24 03.0 -1.0
HAU pmax pmax
comp=Z,45nm,0.7s
LIC Lamto 85.99 85 *e*P P 14 24 08.6 +3.5
comp=Z,106nm,1.4s
DBIC Dimbokro 86.05 84 P P 14 24 06.1 +0.7
comp=Z,14nm,0.7s,baz=293,slow=4.3,SNR=12
DBIC LR LR 15 00 08.8
comp=Z,2µm,20.0s,baz=292,slow=34
DBIC Dimbokro 86.05 84 P P 14 24 05.6 +0.2
DBIC pmax pmax
comp=Z,137nm,1.7s
DBIC Dimbokro 86.05 84 P P 14 24 05.6 +0.2
DBIC IAmb IAmb 14 24 13.8
comp=Z,137nm,1.7s
CABF La Chapelle 86.10 43 *e*P P 14 24 05.8 +0.7
CABF pmax pmax
comp=Z,232nm,1.9s
KIC Kosan Boka 86.23 84 *e*P P 14 24 07.2 +0.9
comp=Z,61nm,1.0s
HINF Hinteralfeld 86.28 42 *e*P P 14 24 04.8 -1.1
HINF pmax pmax
comp=Z,23nm,0.7s
HFS Hagfors 86.31 29 LR LR 15 00 32.9
comp=Z,3µm,21.5s,baz=282,slow=34
KASTN Kahler Asten 86.32 38 *e*P P 14 24 06.4 +0.3
comp=Z,91nm,1.4s,baz=288,slow=4.8
ECH Echery 86.37 41 P P 14 24 06.3 -0.1
ECH pmax pmax
comp=Z,63nm,1.2s
ECH MLR MLR
comp=Z,4µm,21.0s
ECH Echery 86.37 41 P P 14 24 06.3 -0.1
ECH IAmb IAmb 14 24 13.3
comp=Z,63nm,1.2s
ECH IAMs_20 IAMs_20 15 01 39.2
comp=Z,4µm,21.0s
CDF Champ du Feu 86.39 41 *e*P P 14 24 05.7 -0.8
CDF pmax pmax
comp=Z,28nm,0.9s
KTK1 Kautokeino 86.39 19 *e*P P 14 24 06.1 +0.1
KTK1 IVmBBB 14 24 09.2
comp=Z,2µm,2.4s
KTK1 *e*SKSac **SKSac** **14 34 31.8 +1.5**
KTK1 IVMs_BB IVMs_BB 15 02 11.6
comp=Z,3µm,22.2s
ORIF Oris-en-Rattie 86.41 45 *e*P P 14 24 08.4 +1.7
ORIF pmax pmax
comp=Z,36nm,0.9s
RETH Rethem/Aller, 86.43 37 *e*P P 14 24 07.0 +0.6
comp=Z,303nm,1.8s,baz=288,slow=4.8
MAHO Mahon 86.53 50 P P 14 24 04.2 -3.0
MAHO S **SKSac** **14 34 33.7 +1.5**
BSEG Bad Segeberg 86.61 35 *e*P P 14 24 07.8 +0.5
comp=Z,192nm,1.4s,baz=288,slow=4.8
TNS Taunus Mts 86.62 39 *e*P P 14 24 07.7 +0.2
comp=Z,154nm,1.4s,baz=288,slow=4.8
LPL La Plagne 86.83 44 *e*P P 14 24 10.0 +1.1
LPL pmax pmax
comp=Z,364nm,2.4s
ARA0 ARCESS Array S 86.84 18 *e*P P 14 24 09.6 +1.4
ARA0 *e*SKSac **SKSac** **14 34 34.9 +1.8**
ARCES ARCESS Array B 86.84 18 P P 14 24 07.3 -0.9
comp=Z,15nm,0.7s,baz=282,slow=2.8,SNR=25
ARCES PP **PP** **14 27 29.4 -1.1**
comp=Z,3.7nm,0.9s,baz=294,slow=6.8,SNR=3.7
ARCES PKKPbc **PKKPdf** **14 41 59.6 +2.8**
comp=Z,2.3nm,0.9s,baz=57,slow=3.3,SNR=4.3
ARCES LR LR 15 02 52.7
comp=Z,6µm,19.9s,baz=301,slow=36
ARCES ARCESS Array B 86.84 18 P P 14 24 08.2 0.0
ARCES pmax pmax
comp=Z,192nm,1.6s
ARCES ARCESS Array B 86.84 18 P P 14 24 08.2 0.0
ARCES IAmb IAmb 14 24 10.9
comp=Z,192nm,1.6s
LPG La Plagne 86.84 44 *e*P P 14 24 09.0 -0.1
LPG pmax pmax
comp=Z,221nm,2.2s
BNI Bardonecchia 86.92 45 P P 14 24 11.2 +2.0
BNI pmax pmax
comp=Z,28nm,2.1s
BNI Bardonecchia 86.92 45 IAMs_20 IAMs_20 15 05 10.9
comp=Z,3µm,19.0s
NRDL Niedersach Rie 86.94 37 *e*P P 14 24 09.3 +0.5
comp=Z,248nm,1.8s,baz=288,slow=4.8
SENIN Lac Senin/Sane 86.97 43 P P 14 24 09.8 +0.3
SENIN IAmb IAmb 14 24 11.7
comp=Z,248nm,1.8s
SENIN IAMs_20 IAMs_20 15 04 52.3
comp=Z,3µm,18.0s
MBDF Montbardon 87.07 45 *e*P P 14 24 10.9 +0.9
MBDF pmax pmax
comp=Z,25nm,0.7s
BFO Black Forest 87.09 41 P P 14 24 09.1 -0.7
BFO Black Forest 87.09 41 P P 14 24 09.1 -0.7
BFO Black Forest 87.09 41 *e*P P 14 24 09.8 -0.1
comp=Z,49nm,1.2s,baz=288,slow=4.8
GTTG Gottingen 87.14 38 *e*P P 14 24 10.3 +0.3
comp=Z,132nm,1.3s,baz=288,slow=4.8
KEV Kevo 87.17 18 P P 14 24 09.5 -0.2
KEV pmax pmax
comp=Z,298nm,2.0s
KEV MLR MLR
comp=Z,6µm,20.0s
KEV Kevo 87.17 18 P P 14 24 09.5 -0.2
COP Copenhagen 87.21 33 *i*P P 14 24 11.8 +1.7
LMR La Mourre 87.26 46 *e*P P 14 24 11.3 +0.6
LMR pmax pmax
comp=Z,59nm,1.1s
CLZ Clausthal 87.29 37 *e*P P 14 24 11.2 +0.5
comp=Z,416nm,2.3s,baz=288,slow=4.8
FRF La Foret Royal 87.30 46 *e*P P 14 24 10.7 -0.2
FRF pmax pmax
comp=Z,39nm,0.9s
ASSE Asse, Remlinge 87.38 37 *e*P P 14 24 11.6 +0.6
comp=Z,224nm,1.8s,baz=288,slow=4.8
UBBA Unterbreizbach 87.39 38 *e*P P 14 24 11.6 +0.6
comp=Z,257nm,2.1s,baz=288,slow=4.8
STU Stuttgart 87.51 40 IAMs_20 IAMs_20 15 03 23.3
comp=Z,3µm,19.0s
STU Stuttgart 87.51 40 *e*P P 14 24 12.0 +0.1
comp=Z,917nm,2.3s,baz=288,slow=4.8
FLTG Flechtingen 87.64 37 *e*P P 14 24 13.0 +0.6
comp=Z,248nm,1.8s,baz=288,slow=4.8
DEL Delary 87.69 32 *e*P P 14 24 12.2 -0.3
RGN Rugen 88.08 34 IAMs_20 IAMs_20 15 03 12.7
comp=Z,3µm,20.0s
RGN Rugen 88.08 34 *e*P P 14 24 15.2 +0.8
comp=Z,289nm,1.4s,baz=288,slow=4.8
UPP Uppsala 88.25 28 *e*P P 14 24 15.8 +0.7
TUE Stuetta 88.30 43 P P 14 24 15.6 -0.3
TUE IAmb IAmb 14 24 18.1
comp=Z,141nm,1.4s
NEUB Neuenburg 88.33 38 *e*P P 14 24 16.2 +0.5
comp=Z,70nm,1.5s,baz=288,slow=4.8
VIKU Vikbolandet 88.35 30 *e*P P 14 24 15.8 +0.2
DAVA Damuels 88.40 42 *i*P P 14 24 17.0 +0.7
comp=Z,66nm,1.1s,SNR=26
DAVA *e*P **PP** **14 27 44.8 +0.9**
comp=Z,14nm,1.6s
MOX Moxa 88.42 38 *e*P P 14 24 16.5 +0.4
comp=Z,56nm,1.4s,baz=288,slow=4.8
MOX *e*L L 15 06 41.2
comp=Z,4µm,18.9s
UBR Ueberruh 88.42 41 *e*P P 14 24 16.4 +0.1
comp=Z,249nm,2.1s,baz=288,slow=4.8
CKHR Kef el Ahmar 88.48 53 P P 14 24 19.6 +2.7
GRA1 Grafenberg Arr 88.49 39 IAMs_20 IAMs_20 15 01 03.0
comp=Z,3µm,21.0s
GRF Grafenberg Arr 88.49 39 *e*P P 14 24 17.1 +0.6
comp=Z,51nm,0.8s,baz=288,slow=4.8
GRF *e*L L 15 01 03.3
comp=Z,3µm,21.8s
GRFO Grafenberg 88.49 39 P P 14 24 16.9 +0.4
GRFO pmax pmax
comp=Z,182nm,1.6s
GRFO Grafenberg 88.49 39 P P 14 24 16.9 +0.4
GRFO IAMs_20 IAMs_20 15 01 03.0
comp=Z,3µm,22.0s
DAVOX Davos/Dischmat 88.55 42 LR LR 14 59 02.1
comp=Z,2µm,21.1s,baz=266,slow=32
DFRA Djebel Bou Aff 88.62 53 P P 14 24 20.0 +2.5
BSD Bornholm Skovb 88.73 33 *i*P P 14 24 18.8 +1.3
BSD IVmB_BB 14 24 20.4
comp=Z,963nm,8.1s
PLN Plauen 88.80 38 *e*P P 14 24 18.5 +0.6
comp=Z,180nm,1.8s,baz=288,slow=4.8
WERD Werda 88.90 38 *e*P P 14 24 19.1 +0.7
comp=Z,186nm,1.8s,baz=288,slow=4.8
RETA Reutte 88.91 41 *i*P P 14 24 19.2 +0.6

comp=Z,54nm,1.1s,SNR=22
RETA eP PP 14 27 49.6 +1.8
comp=Z,7.4nm,1.2s
MANZ Manzenberg 88.93 39 eP P 14 24 19.2 +0.6
comp=Z,36nm,1.9s,baz=288,slow=4.8
GUNZ Gunzen 88.94 38 eP P 14 24 19.2 +0.5
comp=Z,210nm,1.9s,baz=288,slow=4.8
WERN Wernitzgruen 88.99 38 eP P 14 24 19.3 +0.4
comp=Z,219nm,1.8s,baz=288,slow=4.8
TANN Tannenbergstha 89.00 38 eP P 14 24 19.5 +0.5
comp=Z,226nm,2.0s,baz=288,slow=4.8
FUR Furstenfeldbru 89.02 41 eP P 14 24 19.4 +0.4
baz=288,slow=4.8
CLL Collm 89.02 37 P P 14 24 19.0 +0.1
CLL pmax pmax
comp=Z,169nm,2.0s
CLL MLR MLR
comp=Z,2µm,19.0s
CLL Collm 89.02 37 P P 14 24 19.0 +0.1
CLL IAmb IAmb 14 24 21.1
comp=Z,169nm,2.0s
CLL IAMs_20 IAMs_20 15 07 13.9
comp=Z,2µm,19.0s
CLL Collm 89.02 37 i P P 14 24 19.1 +0.1
comp=Z,136nm,1.8s
CLL eSP SP 14 24 28.0 -0.4
CLL ex x 14 24 40.0
CLL ePP PP 14 27 47.0 -1.5
CLL ex x 14 28 28.0
CLL eS S 14 35 10.0 +4.4
comp=N,300nm,25.4s
CLL eS S 14 35 10.0 +4.4
comp=E,2µm,24.4s
CLL eSP SPn 14 36 06.0 -2.1
CLL ePS PnS 14 36 11.0 -1.0
CLL e(sPPS) 14 36 54.0
CLL eSS SS 14 40 48.0 -10
CLL eSSS SSS 14 44 31.0
CLL eSSSS 14 47 48.0
CLL LmV 15 07 00.0
comp=Z,2µm,19.8s
CLL Collm 89.02 37 eP P 14 24 19.7 +0.8
comp=Z,136nm,1.8s,baz=288,slow=4.8
FETA Feichten 89.03 42 i P P 14 24 19.9 +0.6
comp=Z,32nm,1.1s,SNR=14
FETA eP PP 14 27 51.7 +2.8
comp=Z,10nm,1.2s
NKC Novy Kostel 89.06 38 eP P 14 24 20.0 +0.8
NKC MLR MLR
comp=Z,3µm,16.4s
NKC Novy Kostel 89.06 38 eP P 14 24 20.0 +0.8
NKC AMS AMS 15 10 10.0
comp=Z,3µm,16.4s
RUE Ruedersdorf 89.06 36 eP P 14 24 20.0 +1.0
baz=288,slow=4.8
ROTZ Rotzenmuhle 89.07 39 eP P 14 24 20.2 +0.9
comp=Z,44nm,1.9s,baz=288,slow=4.8
CTEI Djebel Teioual 89.16 53 P P 14 24 21.3 +1.2
MOTA Moosalm 89.17 41 i P P 14 24 20.4 +0.4
comp=Z,40nm,1.1s,SNR=17
MOTA eP PP 14 27 50.5 +0.5
comp=Z,12nm,1.3s
SEY Seymchan 89.18 336 P P 14 24 20.4 +0.9
comp=Z,60nm,0.8s,baz=83,slow=4.6,SNR=162
SEY PP PP 14 27 53.0 +3.6
comp=Z,24nm,1.1s,baz=67,slow=7.1,SNR=7.0
SEY Seymchan 89.18 336 d iP P 14 24 20.7 +1.3
SEY pmax pmax
comp=Z,142nm,1.6s
SEY MLR MLR
comp=Z,1µm,24.0s
PGF Pioggiola 89.24 46 eP P 14 24 19.6 -0.7
PGF pmax pmax
comp=Z,88nm,1.3s
SQTA Sankt Quirin 89.28 42 i P P 14 24 21.0 +0.6
comp=Z,57nm,1.6s,SNR=12
SQTA eP PP 14 27 49.0 -1.9
comp=Z,14nm,1.4s
CKFL Kef-Lekhel 89.31 53 P P 14 24 21.8 +1.0
SALO Salr 89.34 43 P P 14 24 20.5 -0.1
SALO IAmb IAmb 14 24 21.5
comp=Z,86nm,1.2s
FBE Freiberg 89.36 38 eP P 14 24 21.5 +1.0
comp=Z,202nm,1.8s,baz=288,slow=4.8
WATA Walderalm 89.48 41 i P P 14 24 21.9 +0.5
comp=Z,32nm,1.2s,SNR=5.6
WTTA Wattenberg 89.54 41 i P P 14 24 22.3 +0.6
comp=Z,36nm,1.6s,SNR=7.6
WTTA eP PP 14 27 48.3 -4.8
comp=Z,14nm,1.3s
RAF Rauma 89.60 26 eP P 14 24 22.6 +1.2
WET Wettzell 89.69 39 eP P 14 24 22.9 +0.7
comp=Z,245nm,1.9s,baz=288,slow=4.8
BRG Berggiesshubel 89.73 37 eP P 14 24 22.9 +0.6
BRG Amp 14 24 25.4
comp=Z,143nm,2.1s
BRG Berggiesshubel 89.73 37 P P 14 24 28.0 +5.7
BRG Berggiesshubel 89.73 37 eP P 14 24 22.9 +0.6
BRG 14 24 28.0
BRG S SKSac 14 34 55.0 +3.9
BRG e 14 41 03.0
BRG pmax pmax
comp=Z,143nm,2.1s
BRG Berggiesshubel 89.73 37 eP P 14 24 22.8 +0.6
comp=Z,174nm,2.1s,baz=288,slow=4.8
CMAH Djebel Manchou 89.79 52 P P 14 24 22.8 -0.2
ABSA Djebel Ababsia 89.94 53 P P 14 24 24.7 +1.0
RJOB Jochberg 90.12 41 eP P 14 24 24.5 +0.3
comp=Z,183nm,2.1s,baz=288,slow=4.8
KHC Kasperske Hory 90.13 39 c iP P 14 24 24.8 +0.5
KHC pmax pmax
comp=Z,137nm,2.1s
KHC MLR MLR
comp=Z,4µm,19.0s
KHC Kasperske Hory 90.13 39 eP P 14 24 24.7 +0.5
KHC epP sP 14 24 33.0 -0.7
KHC eSKS SKSac 14 34 57.7 +4.1
KHC AMS AMS 15 09 10.0
comp=Z,3µm,16.5s
PVCC Panska Ves 90.22 38 AMS AMS 15 06 10.0
comp=Z,3µm,19.1s
ABTA Abfaltersbach 90.28 42 i P P 14 24 25.6 +0.6
comp=Z,68nm,1.7s,SNR=20
ABTA eP PP 14 27 55.4 -3.3
comp=Z,12nm,1.4s
GEC2 GERESS Array S 90.30 39 P P 14 24 25.2 +0.1
GEC2 GERESS Array S 90.30 39 eP P 14 24 25.6 +0.5
comp=Z,198nm,2.2s,baz=288,slow=4.8
GERES GERESS Array B 90.30 39 P P 14 24 25.5 +0.4
comp=Z,7.2nm,1.0s,baz=260,slow=4.7,SNR=37
GERES PP PP 14 27 56.3 -2.6
comp=Z,2.7nm,1.0s,baz=284,slow=5.4,SNR=3.8
GERES PKKPbc PKKPbc 14 41 53.3 -2.1
comp=Z,0.9nm,0.7s,baz=134,slow=2.8,SNR=4.0
GERES LR LR 15 05 10.8
comp=Z,2µm,19.4s,baz=296,slow=36
GERES GERESS Array B 90.30 39 P P 14 24 24.9 -0.2
APA Apatity 90.35 18 ⇓i P 14 24 18.0 -6.8
APA i 14 27 56.0
APA i PS PnS 14 36 22.0 -5.0
APA pmax pmax
comp=Z,9.0nm,1.0s
PRU Pruhonice 90.40 38 eP P 14 24 26.2 +0.8
PRU e 14 34 58.2
PRU MLR MLR
comp=Z,3µm,18.6s
PRU Pruhonice 90.40 38 eP P 14 24 26.2 +0.8
PRU eSKS SKSac 14 34 58.2 +3.1
PRU AMS AMS 15 11 10.0
comp=Z,3µm,18.6s
VSL Villasalto 90.43 49 IAMs_20 IAMs_20 15 02 50.4
comp=Z,2µm,20.0s
PET Petropavlovsk 90.47 325 eP P 14 24 29.9 +4.2
PET e 14 35 19.8
PET eSS SS 14 41 27.7 +8.5
PET pmax pmax
comp=Z,1µm,10.8s
LVZ Lovozero 90.52 18 d iP P 14 24 26.1 +0.5
LVZ pmax pmax
comp=Z,113nm,1.9s
LVZ MLR MLR
comp=Z,2µm,18.0s
LVZ Lovozero 90.52 18 P P 14 24 26.4 +0.8
LVZ IAmb IAmb 14 24 28.0
comp=Z,225nm,1.9s
LVZ pwP 14 24 40.7 +1.9

BIOA Bad Ischl, Aus 90.67 41 i P P 14 24 27.1 +0.3
comp=Z,47nm,1.7s,SNR=9.4
CKRC Cesky Krumlov 90.69 39 eSKS SKSac 14 34 59.8 +3.0
CKRC AMS AMS 15 10 30.0
comp=Z,2µm,15.5s
KBA Koelnbreinsper 90.70 41 i P P 14 24 27.6 +0.5
comp=Z,59nm,1.6s,SNR=19
KBA eP PP 14 27 58.6 -3.6
comp=Z,16nm,1.2s
TIXI Tiksi 90.80 348 LR LR 15 12 29.6
comp=Z,3µm,18.2s,baz=1.0,slow=40
TIXI Tiksi 90.80 348 ⇓eP P 14 24 25.8 -1.0
TIXI pmax pmax
comp=Z,223nm,1.8s
TIXI MLR MLR
comp=Z,3µm,22.0s
TIXI Tiksi 90.80 348 P P 14 24 26.4 -0.5
TOA0 Torodi Ar. Sit 90.86 76 P P 14 24 27.4 -0.8
TORD Torodi Ar. Bea 90.86 76 P P 14 24 27.7 -0.5
comp=Z,6.5nm,0.9s,baz=299,slow=4.5,SNR=32
TORD PKKPbc PKKPbc 14 41 53.6 +0.8
comp=Z,0.9nm,0.7s,baz=66,slow=2.3,SNR=5.6
TORD PKPPKP P'P'df 14 50 00.2 -4.8
comp=Z,0.9nm,0.9s,baz=163,slow=3.7,SNR=4.1
TORD LR LR 15 04 19.5
comp=Z,1µm,18.9s,baz=289,slow=35
TORD Torodi Ar. Bea 90.86 76 P P 14 24 27.1 -1.2
PEA0B Petropavlovsk- 90.97 325 c eP P 14 24 30.2 +2.2
PETK Petropavlovsk- 90.97 325 P P 14 24 29.1 +1.1
comp=Z,7.4nm,0.8s,baz=67,slow=8.7,SNR=3.9
MOA Molln 91.01 40 eP P 14 24 28.8 +0.4
comp=Z,11nm,1.0s
MOA eP PP 14 28 03.6 -0.9
comp=Z,16nm,1.4s
MYKA Terra Mystica 91.05 41 i P P 14 24 29.0 +0.4
comp=Z,28nm,1.0s,SNR=15
CHVC Chvalec 91.08 37 eP P 14 24 28.8 +0.2
CHVC ex x 14 24 38.4
CHVC AMS AMS 15 05 50.0
comp=Z,4µm,20.3s
UPC Upice 91.08 37 eP P 14 24 29.6 +1.0
UPC e 14 35 01.7
UPC MLR MLR
comp=Z,4µm,20.0s
UPC Upice 91.08 37 eP P 14 24 29.6 +1.0
UPC eSKS SKSac 14 35 01.7 +2.7
UPC AMS AMS 15 06 00.0
comp=Z,4µm,20.0s
KSP Ksiaz 91.12 37 P P 14 24 29.9 +1.1
KSP pmax pmax
comp=Z,22nm,1.1s
MEF Metsahovi 91.12 26 eP P 14 24 27.5 -1.0
OSTC Ostas 91.19 37 eP P 14 24 29.9 +0.8
OSTC eSKS SKSac 14 35 04.2 +4.6
OSTC AMS AMS 15 08 00.0
comp=Z,4µm,17.9s
FIA1 FINESS Array S 91.21 25 P P 14 24 28.6 -0.3
FIA1 IAmb IAmb 14 24 31.3
comp=Z,81nm,1.2s
FINES FINESS Array B 91.21 25 P P 14 24 29.2 +0.3
comp=Z,29nm,1.1s,baz=270,slow=1.9,SNR=17
FINES PKKPbc PKKPdf 14 41 50.8 +1.6
comp=Z,3.3nm,0.7s,baz=85,slow=4.6,SNR=10
FINES FINESS Array B 91.21 25 P P 14 24 28.7 -0.2
TREC Trest 91.23 39 AMS AMS 15 11 30.0
comp=Z,3µm,16.5s
CADS Cadrg 91.25 42 i P P 14 24 29.9 +0.4
CADS eSKSac SKSac 14 35 03.4 +3.2
DPC Dobruska-Polom 91.33 37 eP P 14 24 30.9 +1.1
DPC e 14 24 39.5
DPC e 14 35 04.0
DPC MLR MLR
comp=Z,3µm,19.6s
DPC Dobruska-Polom 91.33 37 eP P 14 24 30.9 +1.1
DPC epP sP 14 24 39.5 +0.2
DPC eSKS SKSac 14 35 04.0 +3.5
DPC AMS AMS 15 05 50.0
comp=Z,3µm,19.6s
MA2 Magadan 91.50 333 P P 14 24 30.7 +0.3
comp=Z,18nm,0.8s,baz=73,slow=5.2,SNR=38
MA2 PP PP 14 28 08.7 +0.8
comp=Z,8.9nm,1.0s,baz=87,slow=12,SNR=2.9
MA2 Magadan 91.50 333 d iP P 14 24 31.1 +0.8
MA2 pmax pmax
comp=Z,98nm,1.7s
KEST Kesra 91.54 53 P P 14 24 31.9 +0.7
comp=Z,22nm,0.9s,baz=206,slow=1.4,SNR=20
KEST LR LR 15 00 54.9
comp=Z,806nm,21.5s,baz=230,slow=32
OBKA Obir 91.67 41 i P P 14 24 31.7 +0.2
comp=Z,26nm,1.4s,SNR=8.0
OBKA eP PP 14 28 07.3 -2.5
comp=Z,8.7nm,0.9s
KRLC Kraliky 91.71 38 eP P 14 24 32.6 +1.0
KRLC MLR MLR
comp=Z,3µm,16.1s
KRLC Kraliky 91.71 38 eP P 14 24 32.6 +1.0
KRLC eSKS SKSac 14 35 07.8 +5.2
KRLC AMS AMS 15 12 00.0
comp=Z,3µm,16.1s
KLNR Kaliningrad 91.74 33 d iP P 14 24 32.2 +0.7
KLNR pmax pmax
comp=Z,210nm,1.7s
LJU Ljubljana 91.83 42 i P P 14 24 33.0 +0.8
LJU eSKSac SKSac 14 35 05.9 +2.5
LJU eS S 14 35 31.6 -0.2
KRUC Moravsky 91.87 39 eP P 14 24 32.8 +0.5
VRAC Vranov 91.90 38 ⇑P P 14 24 33.3 +0.9
VRAC Vranov 91.90 38 LR LR 15 04 49.6
comp=Z,1µm,19.0s,baz=294,slow=35
VRAC Vranov 91.90 38 eP P 14 24 33.0 +0.6
SOKA Soboth 91.92 41 i P P 14 24 32.7 0.0
comp=Z,28nm,1.3s,SNR=16
SOKA eP PP 14 28 10.2 -1.6
comp=Z,6.7nm,1.1s
CONA Conrad Observa 91.98 40 i P P 14 24 33.7 +0.8
comp=Z,57nm,1.9s,SNR=18
CONA eP PP 14 28 13.5 +1.3
comp=Z,11nm,1.5s
ARSA Arzberg 92.02 40 i P P 14 24 33.4 +0.4
comp=Z,14nm,1.2s,SNR=5.7
ARSA eP PP 14 28 12.2 -0.2
comp=Z,9.9nm,1.6s
MORC Moravsky Berou 92.28 38 ⇓P P 14 24 34.3 +0.1
MORC Moravsky Berou 92.28 38 P P 14 24 35.3 +1.1
MORC pmax pmax
comp=Z,27nm,1.7s
MORC Moravsky Berou 92.28 38 eP P 14 24 34.9 +0.7
RONA Rosalia, Austr 92.34 40 i P P 14 24 35.2 +0.7
comp=Z,44nm,1.8s,SNR=11
RONA eP PP 14 28 14.9 -0.1
comp=Z,17nm,1.7s
AQU L'Aquila 92.39 46 IAMs_20 IAMs_20 15 06 25.8
comp=Z,3µm,21.0s
SOP Sopron 92.51 40 P P 14 24 36.4 +1.2
OKC Ostrava-Krasne 92.61 37 AMS AMS 15 05 50.0
RAO Raoul Island 92.64 241 LR LR 14 59 25.2
comp=Z,470nm,18.3s,baz=92,slow=31
ZST Bratislava 92.64 39 eP P 14 24 36.6 +0.8
ZST pmax pmax
comp=Z,438nm,1.8s
ZST Bratislava 92.64 39 eP P 14 24 36.6 +0.8
MODS Modra-Piesok 92.68 39 eP P 14 24 37.2 +1.1
MODS pmax pmax
comp=Z,369nm,1.9s
MODS Modra-Piesok 92.68 39 eP P 14 24 37.2 +1.1
SMOL Smolenice 92.72 39 eP P 14 24 37.6 +1.4
SMOL pmax pmax
comp=Z,66nm,1.9s
SMOL Smolenice 92.72 39 eP P 14 24 37.6 +1.4
JAVC Velka Javorina 92.72 38 eP P 14 24 38.1 +1.8
KOGS Kog 92.79 41 i P P 14 24 37.0 +0.4
VSU Vasula 93.05 27 c iP P 14 24 37.0 -0.5
VSU pmax pmax
comp=Z,120nm,1.6s
VSU MLR MLR
comp=Z,4µm,19.0s
VSU Vasula 93.05 27 eP P 14 24 37.6 +0.1
EGYH Egyhazaskeszo 93.09 40 P P 14 24 38.3 +0.3
BEHE Becsehely 93.11 41 P P 14 24 38.7 +0.6
VALR Valaam 93.19 24 ⇓eP P 14 24 36.9 -1.1
VALR pmax pmax
comp=Z,43nm,1.0s
PABE Paberze 93.24 31 eP P 14 24 38.6 +0.2

KOLL Kolacno 93.28 38 eP P 14 24 40.8 +2.0
MPLH Magyarpolny 93.32 40 P P 14 24 38.7 -0.3
OJC Ojcow 93.42 37 P P 14 24 40.7 +1.3
OJC pmax pmax
comp=Z,37nm,1.6s
SRO Srobarova 93.54 39 eP P 14 24 41.5 +1.5
SRO pmax pmax
comp=Z,196nm,2.3s
SRO Srobarova 93.54 39 eP P 14 24 41.5 +1.5
SUW Suwalki 93.56 32 IAMs_20 IAMs_20 15 09 04.6
comp=Z,2µm,19.0s
SUW Suwalki 93.56 32 eP P 14 24 39.9 0.0
VYHS Vyhne 93.58 38 eP P 14 24 41.1 +0.9
VYHS pmax pmax
comp=Z,35nm,1.8s
VYHS Vyhne 93.58 38 eP P 14 24 41.1 +0.9
MSVF Nonsavu 93.62 253 P P 14 24 42.9 +1.9
comp=Z,38nm,0.9s,baz=90,slow=3.3,SNR=9.2
MSVF LR LR 14 59 32.6
comp=Z,2µm,18.2s,baz=130,slow=31
TIH Tihany 93.65 40 P P 14 24 34.4 -6.1
LANS Liptovska Anna 93.68 38 eP P 14 24 42.2 +1.5
LANS pmax pmax
comp=Z,39nm,1.9s
LANS Liptovska Anna 93.68 38 eP P 14 24 42.2 +1.5
CSKK Cskako 93.69 40 P P 14 24 43.1 +2.4
NIE Niedzica 94.06 37 P P 14 24 44.6 +2.2
BUD Budapest 94.11 39 P P 14 24 43.3 +0.7
ISAL Salakas 94.27 30 eP P 14 24 44.1 +1.0
TARA Tarawa 94.29 272 IAMs_20 IAMs_20 15 02 16.6
comp=Z,3µm,20.0s
MORH Mrgy, Hungar 94.40 41 ⇑P P 14 24 44.1 0.0
MORH Mrgy, Hungar 94.40 41 P P 14 24 44.0 0.0
IIGN Ignalina 94.43 30 eP P 14 24 43.8 -0.1
PSZ Piszkesteto 94.46 39 ⇓P P 14 24 45.3 +1.0
PSZ Piszkesteto 94.46 39 P P 14 24 45.2 +0.9
PSZ pmax pmax
comp=Z,237nm,1.7s
PSZ Piszkesteto 94.46 39 P P 14 24 45.2 +0.9
PSZ Piszkesteto 94.46 39 P P 14 24 46.3 +2.0
IDID Didziasalis 94.70 30 eP P 14 24 45.4 +0.3
VAE Valguarnera 94.82 50 LR LR 15 06 00.1
comp=Z,2µm,18.4s,baz=324,slow=35
NACGM Naroch 94.94 30 eP P 14 24 46.7 +0.4
BSZH Besenyszg 94.96 39 P P 14 24 48.0 +1.5
CRVS Cervenica-Dubn 94.97 37 eP P 14 24 47.8 +1.2
CRVS pmax pmax
comp=Z,160nm,1.9s
CRVS Cervenica-Dubn 94.97 37 eP P 14 24 47.8 +1.2
UZH Uzhgorod 95.58 37 eP P 14 24 49.5 +0.2
UZH e 14 24 55.5
UZH e 14 25 03.3
UZH e 14 35 27.7
UZH eS S 14 35 59.5 -5.1
UZH ePS PS 14 37 33.3 +7.7
FRGS Fruska Gora 95.59 41 ⇓P P 14 24 49.6 +0.1
AMBH Ambrzfalva 95.65 40 P P 14 24 50.6 +0.9
MNK Minsk 95.69 30 i P P 14 24 47.8 -1.9
MNK i *PP pwP 14 25 02.5 -0.3
MNK i 14 28 39.7
MNK i PPP PPP 14 30 42.2
MNK i S SKSac 14 35 19.2 -4.8
MNK i SS SS 14 42 31.6 -2.1
MNK i SSS SSS 14 46 14.4
MNK pmax pmax
comp=Z,60nm,1.3s
MNK pmax pmax
comp=E,5.0nm,1.1s
MNK pmax pmax
comp=N,46nm,1.3s
MNK MLR MLR
comp=N,1µm,17.0s
MNK MLR MLR
comp=E,264nm,20.0s
MNK MLR MLR
comp=Z,3µm,25.0s
MNK Minsk 95.69 30 i P P 14 24 47.8 -1.9
comp=E,5.0nm,1.1s,baz=122
MNK i P P 14 24 47.8 -1.9
comp=N,46nm,1.3s
MNK i P P 14 24 47.8 -1.9
comp=Z,60nm,1.3s
MNK i pP pwP 14 25 02.5 -0.3
MNK i PP PP 14 28 39.7 -1.1
MNK i PPP PPP 14 30 42.2
MNK i S SKSac 14 35 19.3 -4.8
MNK i sS SKKSac 14 35 45.4 -2.6
MNK i SS SS 14 42 31.6 -2.1
MNK i SSS SSS 14 46 14.5
MNK i LQ LQ 15 02 05.7
MNK i LR LR 15 06 11.3
MNK i LRM MLR 15 09 29.8
MNK i LRM MLR 15 09 29.8
comp=E,264nm,20.4s
MNK i LRM MLR 15 09 35.7
comp=N,1µm,17.0s
MNK i LRM MLR 15 09 35.7
comp=Z,3µm,24.6s
LTVH Ltavrtes, Hu 95.92 39 P P 14 24 51.8 +0.9
TIP Timpagrande 95.92 48 ⇓P P 14 24 50.7 -0.5
TIP Timpagrande 95.92 48 IAMs_20 IAMs_20 15 08 28.4
comp=Z,3µm,20.0s
TRPA Tarpa 95.96 38 P P 14 24 52.0 +0.9
LVV L'vov 96.03 36 eP P 14 24 51.8 +0.4
LVV e 14 28 51.7
LVV eS S 14 36 07.2 -1.3
LVV pmax pmax
comp=Z,100nm,1.6s
LVV MLR MLR
comp=E,2µm,18.0s
LVV MLR MLR
comp=N,1µm,20.0s
LVV MLR MLR
comp=Z,2µm,19.0s
DIVS Divibare 96.16 42 IAMs_20 IAMs_20 15 10 18.2
comp=Z,2µm,20.0s
PDG Podgorica 96.36 44 IAMs_20 IAMs_20 15 12 34.0
comp=Z,2µm,21.0s
BZS Buzias 96.53 40 ⇓P P 14 24 54.8 +1.0
BELA Belgrano 2 96.58 170 P P 14 24 52.2 -1.0
KLMR Klimovskoe 96.76 22 eP P 14 24 52.1 -2.3
KLMR eS SKSac 14 35 24.0 -5.4
KLMR pmax pmax
comp=Z,83nm,1.2s
KLMR MLR MLR
comp=Z,3µm,19.0s
KLMR Klimovskoe 96.76 22 eP P 14 24 52.1 -2.3
KLMR AMP 14 24 56.6
comp=Z,83nm,1.2s
KLMR ePP PP 14 28 44.0 -4.7
KLMR eS SKSac 14 35 24.0 -5.4
KLMR eS SKSac 14 35 24.0 -5.4
KLMR ePKKP PKKPbc 14 41 35.1 -3.7
KLMR eSSS SSS 14 46 45.4
KLMR eSSS SSS 14 46 45.4
KLMR LQ LQ 15 00 54.7
KLMR LQ LQ 15 00 54.7
KLMR LR LR 15 05 02.2
KLMR AMP 15 07 50.1
comp=Z,3µm,19.0s
MDVR Moldovita 96.97 41 ⇑P P 14 24 55.6 -0.2
TIR Tirane 97.23 45 IAMs_20 IAMs_20 15 12 01.8
comp=Z,2µm,20.0s
GZR Gura Zlata 97.36 40 ⇑P Pdif 14 24 58.7 +1.1
NRIK Noril'sk 97.51 0 P Pdif 14 24 57.8 +0.1
comp=Z,5.2nm,0.7s,baz=18,slow=4.3,SNR=13
NRIK PP PP 14 28 53.9 -0.4
comp=Z,7.7nm,1.1s,baz=8.1,slow=8.5,SNR=4.5
NRIK LR LR 15 13 19.5
comp=Z,10µm,18.8s,baz=12,slow=38
NRIK Noril'sk 97.51 0 d iP Pdif 14 24 57.9 +0.2
NRIK pmax pmax
comp=Z,50nm,1.5s
YAK Yakutsk 97.94 341 P P 14 24 59.0 -0.7
comp=Z,3.0nm,0.4s,baz=5.1,slow=0.4,SNR=4.3
YAK PP PP 14 28 57.7 -0.1
comp=Z,9.1nm,0.6s,baz=276,slow=2.2,SNR=2.3
YAK LR LR 15 17 06.9
comp=Z,2µm,18.1s,baz=22,slow=40
YAK Yakutsk 97.94 341 d iP P 14 24 58.7 -1.0
YAK e*PP pwP 14 25 12.5 -1.0
YAK ePPP PPP 14 31 02.8
YAK eS SKSac 14 35 32.2 -3.2
YAK e 14 36 20.0
YAK eSS SS 14 42 59.3 -5.5

YAK eSSS SSS 14 46 55.3
YAK pmax pmax
comp=Z,19nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,593nm,3.3s
YAK pmax pmax
comp=N,230nm,3.3s
YAK pmax pmax
comp=E,159nm,3.1s
YAK smax smax
comp=E,188nm,4.6s
YAK smax smax
comp=N,115nm,2.8s
YAK Yakutsk 97.94 341 IAMs_20 IAMs_20 15 13 22.0
comp=Z,2µm,19.0s
PRGR Permogore 98.25 19 eP P **14 24 57.3 -3.8**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 98.44 33 P P **14 25 01.9 -0.2**
comp=Z,2.2nm,0.7s,baz=302,slow=3.8,SNR=18
AKASG PP PP **14 28 56.2 -5.8**
comp=Z,2.2nm,0.6s,baz=307,slow=6.6,SNR=6.5
AKASG Malin Array Be 98.44 33 P P **14 25 02.0 -0.2**
ARR Arges 98.53 39 ⇓P Pdif 14 25 03.8 +0.9
URZ Urewera 98.56 233 LR LR 15 01 17.7
comp=Z,604nm,18.4s,baz=37,slow=30
VOIR 98.75 39 ⇓P Pdif 14 25 04.5 +0.6
MPEP Malo Peshtene 98.92 42 P Pdif 14 25 06.5 +2.0
VTS Vitosha 98.93 42 P Pdif 14 25 06.2 +1.4
KKB Krupnik 99.17 43 P **Pdif 14 25 07.3 +1.6**
MLR Muntele Rosu 99.28 39 ⇓P **Pdif 14 25 06.8 +0.5**
MLR Muntele Rosu 99.28 39 LR LR 15 10 49.0
comp=Z,2µm,19.8s,baz=302,slow=36
OBN Obninsk 99.39 27 *d* P **Pdif 14 25 06.9 +0.6**
OBN e 14 29 06.5
OBN eSSS SSS 14 47 21.9
OBN pmax pmax
comp=Z,114nm,1.4s
OBN MLR MLR
comp=Z,3µm,19.0s
MOS Moscow 99.45 26 eP **Pdif 14 25 06.0 -0.6**
MOS e 14 35 40.9
MOS pmax pmax
comp=Z,134nm,1.5s
MOS MLR MLR
comp=E,2µm,20.0s
PGB Panagyurishte 99.57 42 P **Pdif 14 25 09.3 +1.8**
BFZ Birch Farm 99.63 230 IAMs_20 IAMs_20 15 10 33.9
comp=Z,3µm,18.0s
MMB Musomiste 99.73 43 P **Pdif 14 25 09.6 +1.4**
NKL Nikolayevsk 99.74 331 eP **Pdif 14 25 06.8 -1.1**
NKL eS **SKSac 14 35 40.8 -4.0**
NKL pmax pmax
comp=E,3.0nm,1.2s
NKL pmax pmax
comp=N,1.0nm,0.5s
NKL pmax pmax
comp=Z,12nm,1.6s
NKL smax smax
comp=E,4.0nm,0.7s
NKL smax smax
comp=N,1.0nm,1.1s
NKL MLR MLR
comp=E,25nm,20.0s
NKL MLR MLR
comp=N,1.0nm,19.0s
NKL MLR MLR
comp=Z,719nm,23.0s
KIS Kishinev 100.21 37 ⇓ *i* P **Pdif 14 25 10.6 +0.4**
KIS eSKS 14 35 50.0
KIS eLR LR 15 01 18.0
comp=Z,600nm,20.0s
KIS Kishinev 100.21 37 *d i* P **Pdif 14 25 10.6 +0.4**
KIS e 14 35 50.0
VNA3 Neumayer Olymp 100.21 161 PKKPbc PKKPbc 14 41 24.8 -5.1
VNA3 Neumayer Olymp 100.21 161 Pdiff **Pdif 14 25 09.2 -0.4**
MILM Milestii Mici 100.25 37 ⇓ *i* P **Pdif 14 25 11.0 +0.7**
comp=Z,260nm,2.1s
MILM eSKS 14 35 46.0
MILM eL L 14 58 10.0
MILM LRM MLR 15 13 46.0
comp=Z,1µm,18.0s
MILM Milestii Mici 100.25 37 *d i* P **Pdif 14 25 11.0 +0.7**
MILM e 14 35 46.0
MILM pmax pmax
comp=Z,260nm,2.1s
RZN Rozhen 100.34 43 P **Pdif 14 25 12.2 +1.1**
VNA1 Neumayer--Stat 100.56 160 Pdiff **Pdif 14 25 10.4 -0.7**
CFR Carcaliu 100.77 38 ⇓P **Pdif 14 25 12.0 -0.7**
KDZ Kurdzhali 100.82 42 P **Pdif 14 25 14.2 +1.2**
OUZ Omahuta 100.85 236 IAMs_20 IAMs_20 15 07 23.4
comp=Z,2µm,18.0s
VNA2 Neumayer--Watz 100.89 161 PKKPbc PKKPbc 14 41 22.3 -5.6
VNA2 Neumayer--Watz 100.89 161 Pdiff **Pdif 14 25 12.0 -0.5**
baz=289,slow=5.0
KIRV Kirov 101.81 19 *d i* P **Pdif 14 25 17.4 +0.4**
THZ Tophouse 102.28 230 IAMs_20 IAMs_20 15 03 29.9
comp=Z,2µm,19.0s
YSS Yuzh-Sakhalins 102.36 325 eP **Pdif 14 25 18.3 -1.4**
YSS e 14 29 29.4
YSS eS SKKSac 14 36 49.3 +13
YSS ePS **PS 14 38 36.0 -2.6**
YSS eSS **SS 14 44 03.0 -4.3**
YSS pmax pmax
comp=Z,700nm,5.2s
YSS pmax pmax
comp=Z,2µm,5.2s
YSS pmax pmax
comp=N,600nm,7.6s
SNAA Sanae 102.43 161 PKKPbc PKKPbc 14 41 19.6 -3.8
SNAA Sanae 102.43 161 Pdiff **Pdif 14 25 18.4 -1.1**
SNAA Sanae 102.43 161 P **Pdif 14 25 18.7 -0.8**
comp=N,3.6nm,0.8s,baz=281,slow=2.4,SNR=8.6
SNAA Sanae 102.43 161 ⇓ eP **Pdif 14 25 18.6 -0.9**
SNAA pmax pmax
comp=Z,18nm,2.5s
SNAA MLR MLR
comp=Z,671nm,16.0s
MQZ McQueen's Vall 102.69 228 IAMs_20 IAMs_20 15 15 40.7
comp=Z,2µm,18.0s
OXZ Oxford 103.09 228 IAMs_20 IAMs_20 15 11 01.4
comp=Z,2µm,18.0s
GRNR Gornyy 103.29 331 eP **Pdif 14 25 17.3 -6.5**
QSPA South Pole Qui 103.32 180 Pdiff **Pdif 14 25 24.7 +1.0**
comp=Z,2.8nm,0.9s,baz=185,slow=0.8,SNR=6.6
QSPA PKKPbc **PKKPbc 14 41 18.4 -2.9**
comp=Z,1.5nm,0.8s,baz=306,slow=1.5,SNR=4.0
QSPA South Pole Qui 103.32 180 IAMs_20 IAMs_20 15 18 45.9
comp=Z,2µm,18.0s
TROLL Troll, Antarti 104.13 161 PKKPbc PKKPbc 14 41 14.4 -4.1
TROLL Troll, Antarti 104.13 161 Pdiff **Pdif 14 25 26.5 -0.6**
SIM Simferopol' 104.42 36 P **Pdif 14 25 31.9 +2.9**
SIM e 14 36 08.0
SIM eS **SKKSac 14 36 52.0 +0.8**
SIM ePPS PPS 14 39 55.0
LBZ Lake Benmore 104.53 227 IAMs_20 IAMs_20 15 11 39.2
comp=Z,2µm,18.0s
FOZ Fox Glacier 104.72 228 IAMs_20 IAMs_20 15 02 06.5
comp=Z,2µm,20.0s
ZEA Zeya 105.11 337 eP **Pdif 14 25 35.9 +4.1**
ZEA e 14 29 56.2
ZEA e 14 39 10.4
ZEA e 14 44 59.4
ZEA pmax pmax
comp=Z,10.0nm,7.3s
ZEA pmax pmax
comp=E,100nm,5.8s
ZEA pmax pmax
comp=N,300nm,7.8s
ZEA pmax pmax
comp=Z,600nm,8.8s
DZM Mont Dzumac 105.15 251 ePP **PKiKP 14 29 50.9 +3.7**
comp=Z,370nm,26.6s
DZM eSKSac **SKSac 14 36 05.6 -6.0**
comp=Z,476nm,28.9s
DZM Mont Dzumac 105.15 251 ePS PS 14 39 04.2 -5.4
comp=Z,1µm,29.7s
DZM eSS SS 14 44 44.2 -4.1
comp=Z,7µm,28.1s

DZM Mont Dzumac 105.15 251 eLQ LQ 14 55 36.5
comp=Z,2µm,37.9s
DZM eLR LR 15 00 10.2
comp=Z,2µm,27.6s
BOD Bodaibo 105.82 346 eP **Pdif 14 25 33.2 -1.7**
BOD pmax pmax
comp=Z,10.0nm,1.9s
BELG Belogornoye 105.97 24 ⇑ *i* P **Pdif 14 25 36.6 +1.0**
BELG MLR MLR
comp=Z,682nm,19.0s
ISP Isparta 106.14 44 IAMs_20 IAMs_20 15 16 36.1
comp=Z,2µm,20.0s
ARU Arti 106.35 16 *d i* P **Pdif 14 25 37.3 0.0**
ARU S **SKSac 14 36 12.4 -3.2**
ARU pmax pmax
comp=Z,22nm,1.8s
ARU MLR MLR
comp=Z,6µm,20.0s
KLR Kul'dur 106.54 332 PP **PP 14 30 03.6 +1.0**
comp=Z,4.4nm,1.0s,baz=23,slow=7.5,SNR=6.7
KLR PKKPbc **PKKPbc 14 41 08.3 -1.8**
comp=Z,1.8nm,0.9s,baz=245,slow=7.1,SNR=5.4
BRTR Keskin Array B 107.15 41 PKiKP **PKiKP 14 29 50.1 -0.5**
comp=Z,1.5nm,0.8s,baz=230,slow=3.2,SNR=3.7
BRTR PKKPbc **PKKPbc 14 41 07.0 -1.2**
comp=Z,3.0nm,0.8s,baz=164,slow=5.8,SNR=8.3
HNR Honiara 109.23 265 IAMs_20 IAMs_20 15 17 39.9
comp=Z,2µm,18.0s
KIV Kislovodsk 109.78 33 eP **Pdif 14 25 51.6 -1.4**
KIV e 14 30 25.6
KIV e 14 36 26.1
KIV ePS **PS 14 39 54.7 -1.0**
KIV eSS SS 14 45 46.8 -1.7
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,1µm,21.0s
KIV Kislovodsk 109.78 33 IAMs_20 IAMs_20 15 16 51.7
comp=Z,2µm,20.0s
KBZ Khabaz 110.05 33 PKiKP **PKiKP 14 29 56.0 +0.4**
comp=Z,2.6nm,0.9s,baz=160,slow=0.5,SNR=4.4
KBZ PKKPbc **PKKPbc 14 40 57.9 -1.0**
comp=Z,3.9nm,0.8s,baz=147,slow=3.0,SNR=12
HIA Hailar 111.50 338 IAMs_20 IAMs_20 15 25 37.8
comp=Z,2µm,19.0s
ZAA0 Zalesovo Array 112.91 2 Pdif **Pdif 14 26 05.1 -1.4**
ZAA0 pPdif **sPdif 14 26 28.9 +13**
ZALV Zalesovo Beam 112.91 2 Pdiff **Pdif 14 26 08.3 +1.7**
comp=Z,0.4nm,0.4s,baz=341,slow=40,SNR=1.9
ZALV PKIKP **PKiKP 14 30 00.3 -0.5**
comp=Z,3.6nm,0.7s,baz=338,slow=1.7,SNR=10
ZALV PP PP **14 30 47.0 -1.3**
comp=Z,30nm,1.2s,baz=345,slow=4.6,SNR=16
ZALV PKKPbc **PKKPbc 14 40 47.4 -2.4**
comp=Z,0.6nm,0.6s,baz=165,slow=7.4,SNR=3.0
MAK Makhachkala 112.96 31 *i* P **Pdif 14 26 06.6 -0.4**
MAK *i* 14 30 01.1
MAK e 14 30 46.4
MAK ePPP PPP 14 33 15.7
MAK e 14 36 39.6
MAK ePS **PS 14 40 25.7 +0.8**
MAK eSS SS 14 46 29.1 -1.4
MAK eSSS SSS 14 50 43.0
MAK pmax pmax
comp=Z,36nm,0.5s
MAK pmax pmax
comp=Z,38nm,0.4s
AB31 Akbulak array 113.02 19 *i* PKIKP **PKiKP 14 30 00.9 -0.3**
CN2 Changchun 113.48 331 ePKP **PKiKP 14 30 08.5 +6.3**
CN2 PP **PP 14 30 54.8 +2.0**
CN2 SS SS 14 46 41.3 +4.0
CN2 AMB AMB
comp=Z,600nm,9.0s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,1µm,18.0s
GNI Garni 113.50 35 IAMs_20 IAMs_20 15 25 08.5
comp=Z,1µm,18.0s
BRZS Berezniki 115.56 11 ePKIKP **PKiKP 14 30 05.4 -0.7**
BRZS Berezniki 115.56 11 ePKP **PKiKP 14 30 05.4 -0.7**
baz=11
KURK Kurchatov 115.70 6 *d i* PKIKP **PKPdf 14 30 06.4 +0.1**
KURK MLR MLR
comp=Z,2µm,24.0s
KURBB Kurchatov Arra 115.78 6 PKIKP **PKiKP 14 30 06.2 -0.3**
SEM Semipalatinsk 116.17 5 ePKIKP **PKiKP 14 30 06.7 -0.8**
SEM e 14 31 11.8
SEM Semipalatinsk 116.17 5 ePKP **PKiKP 14 30 06.8 -0.8**
baz=5.3
SEM PP **PP 14 31 11.8 +0.2**
baz=5.3
SEM LR LR 15 20 48.2
comp=Z,786nm,18.4s,baz=5.3
SUR Sutherland 116.51 120 PKP **PKPdf 14 30 07.9 -0.7**
comp=Z,6.1nm,0.8s,baz=95,slow=1.5,SNR=5.4
SUR Sutherland 116.51 120 **PKPdf 14 30 08.3 -0.3**
ULN Ulaanbaatar 116.63 346 *d i* PKIKP **PKiKP 14 30 08.5 +0.1**
ULN MLR MLR
comp=Z,1µm,25.0s
ULN Ulaanbaatar 116.63 346 IAMs_20 IAMs_20 15 28 43.8
comp=Z,2µm,20.0s
SYO Syowa Base 116.66 163 ⇓ ePdiff **Pdif 14 26 23.4 +0.7**
SONM Songino Array 116.82 346 PKP **PKiKP 14 30 09.1 +0.4**
comp=Z,6.5nm,0.8s,baz=353,slow=0.4,SNR=18
SONM PP **PP 14 31 11.3 -4.9**
comp=Z,6.5nm,1.1s,baz=45,slow=2.2,SNR=7.2
SONM PKKPbc **PKKPbc 14 40 34.2 -2.3**
comp=Z,3.2nm,0.8s,baz=198,slow=3.1,SNR=8.4
SONM Songino Array 116.82 346 PKIKP **PKPdf 14 30 08.2 -0.6**
SONM Songino Array 116.82 346 PKPdf **PKPdf 14 30 08.2 -0.6**
KSRS Korea Array 116.86 325 PKP **PKiKP 14 30 09.2 +0.3**
comp=Z,7.0nm,0.8s,baz=15,slow=1.4,SNR=25
KSRS PP **PP 14 31 17.1 +0.2**
comp=Z,0.6nm,0.8s,baz=53,slow=6.4,SNR=1.1
KSAR Wonju Array Be 116.89 325 PKIKP **PKPdf 14 30 08.2 -0.8**
KSAR Wonju Array Be 116.89 325 PKPdf **PKPdf 14 30 08.2 -0.8**
OTUK Ortayu 117.17 11 PKIKP **PKPdf 14 30 08.3 -1.0**
XLT XiLinHaoTe 117.38 337 ePKP **PKPdf 14 30 09.6 -0.3**
XLT PP **PP 14 31 21.5 +1.3**
XLT AMB AMB
comp=Z,1µm,9.5s
XLT LR LR
comp=Z,2µm,22.4s
XLT LR LR
comp=Z,2µm,22.7s
ZSN Zaisan 119.41 2 ePKIKP **PKPdf 14 30 13.1 -0.5**
ZSN e 14 31 34.4
ZSN Zaisan 119.41 2 ePKP **PKPdf 14 30 13.1 -0.5**
baz=2.2
ZSN PP **PP 14 31 34.5 +0.6**
baz=2.2
MAKZ Makanchi 119.89 4 PKIKP **PKPdf 14 30 12.5 -2.0**
MK31 Makanchi Array 119.92 4 *d i* PKIKP **PKPdf 14 30 14.1 -0.5**
MKAR Makanchi Array 119.92 4 PKP **PKPdf 14 30 13.6 -1.1**
comp=Z,6.3nm,0.7s,baz=356,slow=1.7,SNR=55
MKAR PP **PP 14 31 38.4 +1.0**
comp=Z,4.8nm,0.9s,baz=25,slow=3.8,SNR=4.8
MKAR PKKPbc **PKKPbc 14 40 21.6 -3.6**
comp=Z,1.6nm,0.8s,baz=141,slow=3.9,SNR=9.8
MKAR Makanchi Array 119.92 4 PKIKP **PKPdf 14 30 13.4 -1.2**
MKAR Makanchi Array 119.92 4 PKPdf **PKPdf 14 30 13.4 -1.2**
BOSA Boshof 120.39 115 PKP **PKPdf 14 30 15.5 -0.6**
comp=Z,24nm,0.8s,baz=259,slow=1.4,SNR=43
BOSA PKKPbc **PKKPbc 14 40 23.0 +0.2**
comp=Z,4.9nm,0.8s,baz=77,slow=4.7,SNR=8.3
BOSA Boshof 120.39 115 PKPdf **PKiKP 14 30 16.1 0.0**
BJI Beijing 120.61 335 PKP **PKPdf 14 30 16.0 -0.1**
BJI PP **PP 14 31 43.6 +1.1**
BJI SS SS 14 48 11.0 +1.0
BJI AMB AMB
comp=Z,2µm,7.4s
BJI LR LR
comp=Z,710nm,19.2s
BJI LR LR
comp=Z,2µm,17.3s
BJI LR LR
comp=Z,3µm,17.9s
BJT Baijiatuau 120.64 335 IAMs_20 IAMs_20 15 27 58.0
comp=Z,2µm,22.0s
CAN Canberra 120.92 237 IAMs_20 IAMs_20 15 14 32.8
comp=Z,2µm,18.0s
TDK Taldyqorghan 121.31 8 ePKIKP **PKPdf 14 30 16.5 -0.8**
TDK MLR MLR
comp=Z,1µm,20.0s
TDK Taldyqorghan 121.31 8 ePKP **PKPdf 14 30 16.6 -0.8**
baz=7.7
TDK LR LR 15 20 55.7
comp=Z,1µm,19.6s,baz=7.7
PMG Port Moresby 121.64 267 ⇑ *i* PKIKP **PKPdf 14 30 16.1 -2.6**
PMG MLR MLR
comp=Z,2µm,17.0s
PMG Port Moresby 121.64 267 IAMs_20 IAMs_20 15 22 36.6
comp=Z,2µm,18.0s
KK31 Karatay Array 121.65 15 *i* PKIKP **PKPdf 14 30 17.2 -0.8**
KKAR Karatay Array 121.65 15 PKIKP **PKPdf 14 30 17.3 -0.7**
KKAR Karatay Array 121.65 15 PKPdf **PKPdf 14 30 17.3 -0.7**
HHC Hu-ho-hao-te 121.69 339 ePKP **PKiKP 14 30 18.4 0.0**
HHC SKKS 14 38 41.9
HHC SS **SS 14 48 24.0 +0.2**
HHC LR LR
comp=Z,2µm,16.5s
HHC LR LR
comp=Z,2µm,16.5s
HHC LR LR
comp=Z,3µm,17.5s
GEYT Alibeck 121.94 27 PKP **PKPdf 14 30 18.7 -0.1**
comp=Z,13nm,0.8s,baz=237,slow=4.9,SNR=16
GEYT Alibeck 121.94 27 PKPdf **PKPdf 14 30 18.8 +0.1**
DZA Taraz 122.05 14 ePKIKP **PKPdf 14 30 18.8 0.0**
DZA Taraz 122.05 14 ePKP **PKPdf 14 30 18.8 0.0**
baz=14
KUU Kurty 122.09 10 ePKIKP **PKPdf 14 30 17.8 -1.1**
KUU Kurty 122.09 10 ePKP **PKPdf 14 30 17.8 -1.1**
baz=9.6
SGDS Sogindy 122.22 11 ePKIKP **PKPdf 14 30 18.3 -0.9**
SGDS Sogindy 122.22 11 ePKP **PKPdf 14 30 18.3 -0.9**
baz=11
CHKK Chushkaly 122.23 9 ePKIKP **PKPdf 14 30 17.9 -1.2**
CHKK Chushkaly 122.23 9 ePKP **PKPdf 14 30 17.9 -1.2**
baz=9.1
MBAR Mbarara 122.25 82 IAMs_20 IAMs_20 15 22 45.6
comp=Z,2µm,20.0s
USP Ospenovka 122.37 11 P **PKiKP 14 30 20.9 +1.3**
SNR=22
IUG Iuzhnay 122.43 15 ePKIKP **PKPdf 14 30 18.4 -1.3**
IUG Iuzhnay 122.43 15 ePKP **PKPdf 14 30 18.4 -1.3**
baz=16
BTO Baotou 122.43 340 ePKP **PKPdf 14 30 19.0 -0.7**
BTO LR LR
comp=Z,2µm,17.7s
BTO LR LR
comp=Z,3µm,19.2s
LSZ Lusaka 122.51 100 IAMs_20 IAMs_20 15 27 28.9
comp=Z,1µm,18.0s
EKS2 Erkin-Say 122.81 12 P **PKiKP 14 30 21.2 +0.6**
SNR=12
AAA Alma-Ata 122.85 9 ePKIKP **PKPdf 14 30 20.4 0.0**
AAA Alma-Ata 122.85 9 ePKP **PKPdf 14 30 20.4 0.0**
baz=9.3
AAA LR LR 15 21 16.2
comp=Z,10µm,37.1s,baz=9.3
KPKS Kokpek 122.85 8 ePKIKP **PKPdf 14 30 20.1 -0.3**
KPKS Kokpek 122.85 8 ePKP **PKPdf 14 30 20.2 -0.3**
baz=7.8
TKM2 Tokmak 2 122.91 11 P **PKiKP 14 30 21.5 +0.5**
SNR=13
TKM2 Tokmak 2 122.91 11 PKIKP **PKPdf 14 30 20.7 0.0**
MDOK Medeo 122.91 9 ePKIKP **PKPdf 14 30 20.0 -0.6**
MDOK MLR MLR
comp=Z,1µm,22.0s
MDOK Medeo 122.91 9 ePKP **PKPdf 14 30 20.0 -0.6**
baz=9.2
MDOK LR LR 15 20 12.7
comp=Z,1µm,22.4s,baz=9.2
AAK Ala-Archa 122.97 12 P **PKiKP 14 30 21.0 0.0**
SNR=11
AAK Ala-Archa 122.97 12 *c i* PKIKP **PKiKP 14 30 21.2 +0.2**
AAK MLR MLR
comp=Z,3µm,21.0s
AAK Ala-Archa 122.97 12 *i* P **PKiKP 14 30 21.6 +0.6**
SNR=14
TNSS Tian-Shan 123.02 9 ePKIKP **PKPdf 14 30 20.4 -0.8**
TNSS Tian-Shan 123.02 9 ePKP **PKPdf 14 30 20.4 -0.8**
baz=9.4
KBK Karagaybulak 123.04 11 P **PKiKP 14 30 21.8 +0.6**
SNR=5.6
PDGK Podgornoye 123.09 7 PKIKP **PKPdf 14 30 20.2 -0.7**
WMQ Urumqi 123.09 360 PKP **PKiKP 14 30 21.8 +0.7**
WMQ PP **PP 14 32 00.9 +1.9**
WMQ AMB AMB
comp=Z,2µm,7.1s
WMQ LR LR
comp=Z,1µm,22.9s
WMQ LR LR
comp=Z,2µm,22.9s
WMQ LR LR
comp=Z,3µm,20.5s
ZHN Zhinishke 123.11 8 ePKIKP **PKPdf 14 30 20.2 -0.7**
ZHN Zhinishke 123.11 8 ePKP **PKPdf 14 30 20.3 -0.7**
baz=8.1
UZB Uzynbulak 123.21 8 ePKIKP **PKPdf 14 30 20.4 -0.8**
UZB Uzynbulak 123.21 8 ePKP **PKPdf 14 30 20.4 -0.8**
baz=7.6
MATP Matopo 123.21 106 PKKPbc PKKPbc 14 40 12.4 +0.6
comp=Z,3.5nm,0.9s,baz=42,slow=5.7,SNR=5.8
SATY Saty 123.21 8 ePKIKP **PKPdf 14 30 20.3 -0.9**
SATY Saty 123.21 8 ePKP **PKPdf 14 30 20.3 -0.9**
baz=8.1
SHLS Shalkode 123.25 7 ePKIKP **PKPdf 14 30 20.6 -0.6**
SHLS Shalkode 123.25 7 ePKP **PKPdf 14 30 20.6 -0.6**
baz=6.8
AML Almayashu 123.30 12 P **PKiKP 14 30 23.4 +1.5**
SNR=25
AML Almayashu 123.30 12 *i* P **PKiKP 14 30 22.4 +0.5**
SNR=25
UCH Uchtor 123.37 12 P **PKiKP 14 30 22.8 +0.6**
SNR=36
TIA Tai'an 123.38 332 ⇓PKP **PKPdf 14 30 21.4 -0.1**
MAW Mawson 123.42 169 PKP **PKPdf 14 30 20.0 -0.5**
comp=Z,8.4nm,0.8s,baz=164,slow=6.9,SNR=6.4
MAW Mawson 123.42 169 PKIKP **PKPdf 14 30 20.0 -0.5**
HNS HongShan 123.46 334 ⇓PKP **PKiKP 14 30 21.9 +0.1**
HNS LR LR
comp=Z,960nm,17.6s
HNS LR LR
comp=Z,830nm,17.6s
HNS LR LR
comp=Z,1µm,17.5s
ULHL Ulahol 123.67 10 P **PKiKP 14 30 22.7 +0.2**
SNR=30
CTA Charters Tower 123.71 255 PKP **PKPdf 14 30 21.5 -1.1**
comp=Z,9.3nm,0.9s,baz=47,slow=2.9,SNR=5.2
TIY Taiyuan 124.11 336 ePKP **PKiKP 14 30 23.6 +0.3**
TIY PP **PP 14 32 07.5 +1.2**
TIY AMB AMB
comp=Z,860nm,9.4s
TIY LR LR
comp=Z,1µm,21.3s
TIY LR LR
comp=Z,1µm,19.9s
TIY LR LR
comp=Z,1µm,24.0s
SSE Sheshan 125.30 325 PKP **PKPdf 14 30 23.5 -1.8**
SSE SS SS 14 49 07.3 -2.9
SSE AMB AMB
comp=Z,310nm,7.7s
SSE LR LR
comp=Z,780nm,18.1s
SSE LR LR
comp=Z,640nm,16.2s
LODK Lodwar 125.50 76 IAMs_20 IAMs_20 15 30 20.1
comp=Z,1µm,19.0s
NJ2 Nanjing 125.84 327 ePKP **PKiKP 14 30 26.6 -0.1**
NJ2 SS SS 14 49 23.1 +6.3
NJ2 AMB AMB
comp=Z,680nm,4.9s
NJ2 LR LR
comp=Z,1µm,15.7s
NJ2 LR LR
comp=Z,1µm,16.2s
NJ2 LR LR
comp=Z,2µm,17.2s
KSH Kashi 126.28 11 PKP **PKiKP 14 30 28.4 +0.8**
KSH sPKP 14 30 42.8
KSH PP **PP 14 32 24.1 +3.6**
KSH SKKS 14 39 19.1
KSH AMB AMB
comp=Z,710nm,8.8s
KSH LR LR

	comp=Z,2μm,20.4s							
KSH				LR	LR			
	comp=Z,2μm,19.0s							
KSH				LR	LR			
	comp=Z,3μm,21.1s							
GTA	**Gaotai**	**126.28**	**348**	⇑PKP	**PKPdf**	14 30 27.0	**-0.2**	
GTA				AMB	AMB			
	comp=Z,470nm,6.4s							
GTA				LR	LR			
	comp=Z,2μm,17.9s							
GTA				LR	LR			
	comp=Z,2μm,18.3s							
GTA				LR	LR			
	comp=Z,2μm,16.7s							
JAY	**Jayapura**	**126.47**	**277**	PKP	**PKPdf**	14 30 26.7	**-1.4**	
	comp=Z,11nm,0.9s,baz=48,slow=10,SNR=4.1							
FURI	**Furi**	**126.58**	**68**	IAMs_20	IAMs_20	15 24 02.1		
	comp=Z,1μm,19.0s							
LYN	**LuoYang**	**126.83**	**334**	*e*PKP	**PKiKP**	14 30 28.8	**+0.1**	
LYN				PP	**PP**	14 32 26.3	**+2.0**	
LYN				SKKS		14 39 13.9		
LYN				SS	**SS**	14 49 35.6	**+6.9**	
LYN				AMB	AMB			
	comp=Z,2μm,8.3s							
LYN				LR	LR			
	comp=Z,2μm,18.2s							
LYN				LR	LR			
	comp=Z,890nm,15.9s							
LYN				LR	LR			
	comp=Z,2μm,18.0s							
STKA	**Stephens Creek**	**127.45**	**240**	PKP	**PKPdf**	14 30 29.4	**0.0**	
	comp=Z,29nm,0.8s,baz=63,slow=2.0,SNR=65							
STKA	**Stephens Creek**	**127.45**	**240**⇑	*e*PKIKP	**PKPdf**	14 30 28.6	**-0.8**	
LZH	**Lanzhou**	**128.49**	**343**	PKP	**PKiKP**	14 30 32.0	**-0.2**	
LZH				PP	**PP**	14 32 37.8	**+2.6**	
LZH				SKS	**SKSdf**	14 37 40.3	**-1.5**	
LZH				SS	**SS**	14 49 48.5	**-0.8**	
LZH				AMB	AMB			
	comp=Z,760nm,9.3s							
LZH				LR	LR			
	comp=Z,3μm,17.8s							
LZH				LR	LR			
	comp=Z,3μm,18.2s							
LZH				LR	LR			
	comp=Z,4μm,20.1s							
KMBO	**Kilima Mbogo**	**128.66**	**81**	P	**PKiKP**	14 30 34.4	**+1.3**	
XAN	**Xi'an**	**128.69**	**337**	PKP	**PKPdf**	14 30 31.5	**-0.3**	
XAN				PP	**PP**	14 32 38.3	**+1.7**	
XAN				SKKS		14 39 25.6		
XAN				SS	**SS**	14 49 51.6	**-0.2**	
XAN				AMB	AMB			
	comp=Z,1μm,7.5s							
XAN				LR	LR			
	comp=Z,3μm,18.6s							
XAN				LR	LR			
	comp=Z,2μm,17.3s							
XAN				LR	LR			
	comp=Z,5μm,19.9s							
ATD	**Arta Tunnel**	**129.14**	**63**	IAMs_20	IAMs_20	15 29 43.1		
	comp=Z,1μm,18.0s							
WHN	**Wuhan**	**129.34**	**330**	⇑PKP	**PKiKP**	14 30 34.9	**+1.1**	
WHN				SS	SS	14 50 03.8	+3.6	
WHN				AMB	AMB			
	comp=Z,3μm,8.4s							
WHN				LR	LR			
	comp=Z,6μm,17.8s							
WHN				LR	LR			
	comp=Z,2μm,16.7s							
WHN				LR	LR			
	comp=Z,5μm,16.6s							
KIBK	**Kibwezi**	**129.75**	**82**	IAMs_20	IAMs_20	15 33 39.5		
	comp=Z,1μm,20.0s							
GOMU	**GeErMu**	**130.24**	**352**	PKP	**PKiKP**	14 30 36.8	**+0.9**	
GOMU				LR	LR			
	comp=Z,1μm,19.1s							
GOMU				LR	LR			
	comp=Z,860nm,19.3s							
GOMU				LR	LR			
	comp=Z,1μm,19.3s							
SHME	**Shamm**	**130.25**	**38**	P	**PKPdf**	14 30 34.7	**-0.2**	
NAZ	**Nazwa, Dubai**	**130.74**	**39**	P	**PKPdf**	14 30 35.7	**-0.1**	
MZR	**Muzera**	**130.75**	**43**	*i* P	**PKPdf**	14 30 36.1	**+0.1**	
	SNR=6.3							
SSLB	**Suanglung**	**130.77**	**318**	IAMs_20	IAMs_20	15 40 58.3		
	comp=Z,1μm,18.0s							
MSFE	**Esma-Masafi**	**130.77**	**39**	*i* P	**PKPdf**	14 30 36.1	**+0.1**	
	SNR=5.2							
ASUD	**Al Ashush, Dub**	**130.79**	**40**	P	**PKPdf**	14 30 35.9	**-0.1**	
YULB	**Yu-li**	**130.82**	**318**	IAMs_20	IAMs_20	15 41 00.9		
	comp=Z,2μm,20.0s							
UOSS	**Minazif**	**131.10**	**39**	P	**PKPdf**	14 30 35.3	**-1.3**	
HATD	**Hatta, Dubai**	**131.14**	**39**	*i* P	**PKPdf**	14 30 36.5	**-0.2**	
	SNR=6.7							
TWG	**Pinlang**	**131.37**	**317**	IAMs_20	IAMs_20	15 41 19.3		
	comp=Z,1μm,20.0s							
ALNE	**Al Ain**	**131.47**	**40**	P	**PKPdf**	14 30 37.1	**-0.2**	
CD2	**Chengdu**	**133.33**	**341**	PKP	**PKiKP**	14 30 42.8	**+0.9**	
CD2				PP	**PP**	14 33 08.8	**+2.3**	
CD2				SS	SS	14 50 50.8	+2.3	
CD2				AMB	AMB			
	comp=Z,960nm,8.0s							
CD2				LR	LR			
	comp=Z,2μm,15.7s							
CD2				LR	LR			
	comp=Z,3μm,18.8s							
WRAB	**Tennant Creek**	**134.90**	**255***d*	*i* PKIKP	**PKPdf**	14 30 44.2	**+0.4**	
WRA	**Warramunga Arr**	**134.91**	**255**	PKhKP	PKPpre	14 30 27.2		
	comp=Z,1.4nm,0.8s,baz=95,slow=2.2,SNR=13							
WRA				PKP	**PKPdf**	14 30 43.6	**-0.2**	
	comp=Z,16nm,0.8s,baz=74,slow=1.6,SNR=40							
WRA				PP	**PP**	14 33 16.6	**-2.0**	
	comp=Z,2.1nm,0.9s,baz=95,slow=7.1,SNR=4.8							
ASAR	**Alice Springs**	**135.13**	**250**	PKhKP	PKPpre	14 30 27.0		
	comp=Z,1.3nm,0.8s,baz=102,slow=3.0,SNR=9.8							
ASAR				PKP	**PKPdf**	14 30 44.6	**+0.4**	
	comp=Z,17nm,0.8s,baz=94,slow=2.0,SNR=36							
ASAR				SKPbc	**SKPbc**	14 34 14.4	**+1.2**	
	comp=Z,2.3nm,0.8s,baz=67,slow=3.1,SNR=7.6							
ASAR				PKKP	**PKKPdf**	14 40 27.4	**-0.2**	
	comp=Z,0.9nm,0.7s,baz=304,slow=1.8,SNR=11							
ASAR	**Alice Springs**	**135.13**	**250**	PKIKP	**PKiKP**	14 30 45.4	**-0.3**	
ASAR	**Alice Springs**	**135.13**	**250**		**PKiKP**	14 30 45.4	**-0.3**	
GYA	**Guiyang**	**136.31**	**335**	⇓PKP	**PKPdf**	14 30 45.8	**-0.7**	
GYA				PP	**PP**	14 33 26.4	**+0.8**	
GYA				SS	SS	14 51 25.8	+1.1	
GYA				AMB	AMB			
	comp=Z,2μm,9.0s							
GYA				LR	LR			
	comp=Z,1μm,31.3s							
LSA	**Lhasa**	**137.05**	**356**	IAMs_20	IAMs_20	15 38 00.4		
	comp=Z,1μm,20.0s							
LSA	**Lhasa**	**137.05**	**356**	PKP	**PKPdf**	14 30 49.1	**+0.9**	
LSA	**Lhasa**	**137.05**	**356**	P	**PKPdf**	14 30 49.1	**+0.9**	
PZH	**PanZhiHua**	**138.07**	**341**	PKP	**PKPdf**	14 30 49.6	**-0.1**	
PZH				PP	**PP**	14 33 38.4	**+1.9**	
PZH				PKS	**PKSdf**	14 34 23.8	**-2.4**	
PZH				SKKS		14 40 29.3		
PZH				AMB	AMB			
	comp=Z,1μm,8.0s							
PZH				LR	LR			
	comp=Z,1μm,15.7s							
PZH				LR	LR			
	comp=Z,650nm,16.3s							
PZH				LR	LR			
	comp=Z,920nm,16.1s							
KMI	**Kunming**	**139.01**	**339**	⇓PKP	**PKPdf**	14 30 48.3	**-3.3**	
KMI				PP	**PP**	14 33 43.6	**+1.1**	
KMI				PKS	**PKSdf**	14 34 21.3	**-6.8**	
KMI				AMB	AMB			
	comp=Z,1μm,8.4s							
KMI				LR	LR			
	comp=Z,2μm,18.7s							
KMI				LR	LR			
	comp=Z,1μm,21.0s							
KMI				LR	LR			
	comp=Z,2μm,18.7s							
VOI	**Vohitsoka**	**140.25**	**108**	IAMs_20	IAMs_20	15 30 45.2		
	comp=Z,1μm,22.0s							
VOI	**Vohitsoka**	**140.25**	**108**	PKP	**PKiKP**	14 30 55.0	**-1.2**	
ABPO	**Ambohimpanom**	**140.84**	**104**	IAMs_20	IAMs_20	15 35 39.6		
	comp=Z,1μm,19.0s							
QIZ	**Qiongzhong**	**141.08**	**325**	PKP	**PKPdf**	14 30 50.3	**-4.9**	
QIZ				PP	**PP**	14 33 56.8	**+1.4**	
QIZ				SS	SS	14 52 24.1	+2.6	
QIZ				LR	LR			
	comp=Z,2μm,19.2s							
QIZ				LR	LR			
	comp=Z,850nm,21.8s							
QIZ				LR	LR			
	comp=Z,2μm,17.6s							
FITZ	**Fitzroy Crossi**	**143.18**	**258**	PKhKP	PKPpre	14 30 55.0		
	comp=Z,15nm,0.8s,baz=98,slow=2.7,SNR=42							
FITZ	**Fitzroy Crossi**	**143.18**	**258**		PKPbc	14 30 56.8	+0.9	
TOLI2	**Tolitoli**	**144.14**	**291**	PKPdf	PKPbc	14 30 59.4	+0.6	
MYLDM	**Lahad Datu**	**144.25**	**299**	PKPdf	**PKPdf**	**14 31 01.2**	**+0.2**	
BATI	**Baumata**	**144.63**	**271**	PKP	PKPbc	14 31 00.9	+0.5	
	comp=Z,56nm,0.8s,baz=285,slow=1.8,SNR=13							
CHTO	**Chiang Mai**	**146.14**	**341**		pPKPdf	14 31 26.2	+15	
CHTO				IAMs_20	IAMs_20	15 45 35.6		
	comp=Z,2μm,20.0s							
CM31	**Chiang Mai Arr**	**146.47**	**340**	PKPbc	**PKPab**	**14 31 06.8**	**-0.1**	
CMAR	**Chiang Mai Arr**	**146.47**	**340**	PKPbc	**PKPbc**	**14 31 06.4**	**+0.4**	
	comp=Z,93nm,0.7s,baz=343,slow=3.4,SNR=192							
UBPT	**Khong Chiam**	**146.52**	**328**	PKPbc	**PKPab**	**14 31 06.7**	**-0.4**	
MSEY	**Mahe Island**	**147.11**	**78**	*i* P	**PKPbc**	**14 31 08.8**	**+0.8**	
	SNR=17							
HYBB	**Hyderabad (bro**	**148.12**	**17**	*e*PKPbc	**PKPbc**	**14 31 10.2**	**-0.4**	
HYBB				*e*PKiKP	**PKiKP**	**14 31 12.5**	**+0.1**	
HYBB				*e*PP	**PP**	**14 34 39.8**	**+2.9**	
HYBB				*e*SKSdf	**SKSdf**	**14 38 15.9**	**+1.2**	
PSA00	**Pilbara Seismi**	**148.28**	**251**	PKPbc	**PKPbc**	**14 31 10.2**	**-0.8**	
MBWA	**Marble Bar**	**148.45**	**251**	IAMs_20	IAMs_20	15 51 56.7		
	comp=Z,1μm,20.0s							
MORW	**Morawa**	**149.38**	**235**	PKPbc	**PKPbc**	**14 31 13.1**	**-0.4**	
SBUM	**Sibu**	**151.00**	**301**	IAMs_20	IAMs_20	15 52 53.9		
	comp=Z,1μm,22.0s							
IPM	**Ipoh**	**157.85**	**322**	IAMs_20	IAMs_20	15 57 01.9		
	comp=Z,1μm,19.0s							
PALK	**Pallekele**	**158.36**	**19**	PKP	**PKPdf**	**14 31 22.7**	**+0.4**	
	comp=Z,9.7nm,0.9s,baz=6.1,slow=6.0,SNR=4.2							

*IDC **15** 14:17:29.9±1.3, 32.8°80N×130.9°91E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/54, mbtmp3.2/4, ML2.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/40, Error ellipse: s-maj=46.4km s-min=7.4km az=88.0*

*NIED **15** 14:17:31.6, 32.8°86N×130.7°87E, h7km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.21; $M_{\theta\theta}$=6.00; $M_{\phi\phi}$=-1.79; $M_{r\theta}$=0.42; $M_{r\phi}$=1.56; $M_{\theta\phi}$=-1.10; Fault plane solution: M_0=5.52000×10^{14} NP1:ϕ_s57.00000°, δ49.00000°,λ-122.00000°. NP2:ϕ_s281.00000°, δ51.00000°,λ-59.00000°.*

*JMA **15** 14:17:31.6, 32.8°86N×130.7°87E, h7km±1km, M3.6 Broadband fault plane solution: P waves. NP1: ϕ_s302.00000°,δ66.00000°,λ-37.00000°. NP2:ϕ_s48.00000°, δ57.00000°,λ-151.00000°. Principal axes: T Plg6.0000°, Azm357.0000°; N Plg47.0000°, Azm94.0000°; P Plg42.0000°, Azm262.0000°;*

JMA Felt IV J1.

ISC 15 14:17:32.1±0.9, 32.8°86N±0.0°04×130.8°82E±0.0°06, h12km, n9, σ1ᵍ96/13, mb3.4/3, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.26**	**294**	⇓P		**Pg**	**14 17 37.8**	**+0.2**
JTA				S		**Sg**	**14 17 42.4**	**+1.2**
JNU	**Nakatsue**	**0.27**	**11**	Pg		**Pg**	**14 17 36.5**	**-1.2**
	2μm,0.3s,baz=203,slow=6.4,SNR=3063							
JNU				Lg		Lg	14 17 40.3	
	3μm,0.3s,baz=352,slow=16,SNR=44							
JIU3	**Izumi3**	**0.31**	**180**	⇑P		**Pg**	**14 17 37.9**	**-0.6**
JIU3				S		**Sb**	**14 17 42.7**	**-1.9**
KSRS	**Korea Array**	**5.16**	**333**	Pn		**Pn**	**14 18 50.1**	**+0.9**
	0.4nm,0.3s,baz=153,slow=15,SNR=5.2							
KSRS				Pg		**Pg**	**14 19 07.2**	**-3.7**
	1.1nm,0.3s,baz=156,slow=16,SNR=5.2							
KSRS				Sn		**Sn**	**14 19 49.0**	**+0.4**
	1.6nm,0.3s,baz=153,slow=26,SNR=4.9							
KSRS				Lg		Lg	14 20 13.5	
	3.6nm,0.3s,baz=153,slow=30,SNR=5.8							
KSRS				LR		LR	14 20 58.7	
	comp=Z,85nm,21.6s,baz=165,slow=40							
MJAR	**Matsushiro Arr**	**7.11**	**57**	Pn		**Pn**	**14 19 18.0**	**+2.0**
	0.2nm,0.3s,baz=225,slow=17,SNR=7.4							
KLR	**Kul'dur**	**16.37**	**2**	Pn		**P**	**14 21 27.7**	**+3.1**
	0.1nm,0.3s,baz=195,slow=11,SNR=6.7							
CMAR	**Chiang Mai Arr**	**31.96**	**251**	P		**P**	**14 23 58.1**	**-0.1**
	0.2nm,0.4s,baz=40,slow=7.1,SNR=1.8							
WRA	**Warramunga Arr**	**52.61**	**176**	P		**P**	**14 26 44.8**	**-1.1**
	0.4nm,1.0s,baz=355,slow=8.0,SNR=1.8							
ASAR	**Alice Springs**	**56.29**	**177**	P		**P**	**14 27 11.5**	**-1.2**
	0.4nm,0.9s,baz=8.5,slow=14,SNR=6.7							

*STR **15** 14:26:48.7±0.4, 47°N±2°×°±°, h16km±4km, MLv1.1/6, preliminary*

ZUR 15 14:26:49.0, 47°41N×7°46E, h15km±5km, MLh0.7/5, 2D, Error ellipse: s-maj=10.6km s-min=1.2km az=187.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BOURR	**Bourrignon**	**0.15**	**265**	Pg		Pg	14 26 53.1	0.0
BOURR				Sg		Sg	14 26 56.0	+0.3
BOURR	**Bourrignon**	**0.15**	**265**	Pg		Pg	14 26 53.1	0.0
BOURR	**Bourrignon**	**0.15**	**265**	Sg		Sg	14 26 55.9	+0.2
BALST	**Balsthal**	**0.18**	**114**	⇓Pg		Pg	14 26 53.3	0.0
BALST	**Balsthal**	**0.18**	**114**	Pg		Pg	14 26 53.3	0.0
BALST	**Balsthal**	**0.18**	**114**	Sg		Sg	14 26 56.5	+0.2
OTER2	**Otterbach 2 (B**	**0.20**	**30**	Pg		Pg	14 26 53.4	-0.3
OTER2				Sg		Sg	14 26 56.5	-0.3
ROTHE	**Rothenfluh**	**0.32**	**77**	⇓Pg		Pg	14 26 55.9	+0.2
ROTHE				Sg		Sb	14 27 00.9	-0.5
CHMF	**Charmoille**	**0.57**	**254**	Pg		Pg	14 26 59.9	-0.3
CHMF				Sg		Sg	14 27 07.5	-0.3
KIZ	**Kirchzarten**	**0.63**	**29**	Pg		Pg	14 27 00.7	-0.7
KIZ	**Kirchzarten**	**0.63**	**29**	Sg		Sg	14 27 09.2	-0.6
BRANT	**Les Verrieres**	**0.82**	**235**	Sg		Sg	14 27 15.3	-0.4
BRANT	**Les Verrieres**	**0.82**	**235**	Pg		Pg	14 27 04.5	-0.4
BOUC	**Bouclans**	**0.83**	**259**	Pg		Pb	14 27 04.5	-0.5
BOUC				Sg		Sg	14 27 15.6	-0.5
ECH	**Echery**	**0.83**	**346**	Pg		Pb	14 27 04.7	-0.4
ECH				Sg		Sg	14 27 15.1	-1.1

ROM 15 14:28:24.8±0.1, 42.9°31N±0.0°02×13.0°01E±0.0°04, h10km, ML0.7/2, 1C, Error ellipse: s-maj=0.3km s-min=0.1km az=64.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.10**	**316**	P		Pg	14 28 27.8	+0.4
CESI				S		Sg	14 28 29.9	+0.5
CESI				AML		AML		
	comp=N,98μm,0.5s							
CESI				AML		AML		
	comp=E,59μm,1.3s							
FDMO	**Fiordimonte**	**0.12**	**31**	P		Pg	14 28 28.2	+0.5
FDMO				S		Sg	14 28 30.6	+0.9
FDMO				AML		AML		
	comp=N,43μm,1.4s							
FDMO				AML		AML		
	comp=E,54μm,0.3s							
NRCA	**Norcia**	**0.13**	**140**	P		Pg	14 28 28.3	+0.4
NRCA				S		Sg	14 28 30.7	+0.8
CSP1	**Cessapalombo**	**0.22**	**43**	P		Pg	14 28 29.9	+0.5
CSP1				S		Sg	14 28 33.8	+1.3
SNTG	**Esanatoglia**	**0.33**	**352**	⇑P		Pg	14 28 31.6	+0.3

*IDC **15** 14:36:41.0±1.5, 13.9°54N×92.2°21W, h0km, mb4.0/12, mb1 4.3/15, mb1mx4.1/42, mbtmp4.0/15, ML3.9/3, Error ellipse: s-maj=41.0km s-min=17.4km az=34.0*

*NEIC **15** 14:36:42.6±4.0, 13.4°49N±0.0°06×92.4°46W±0.0°04, h10km±1km, mb4.6/65, Md4.3/21(MEX), Error ellipse: s-maj=10.2km s-min=6.1km az=164.0*

*MEX **15** 14:36:43.6±0.6, 13.4°45N×92.4°48W, h10km, MD4.4*

*UCR **15** 14:36:45.2±1.3, 13.4°49N×92.3°18W, h86km±47km, ML3.8, mb4.6(NEIC)*

*SNET **15** 14:36:45.0±1.3, 13.4°47N×92.3°18W, h84km±49km, ML4.1*

*GCG **15** 14:37:00.7±0.7, 14.0°40N×91.7°47W, h23km±8km, MD3.9*

ISC 15 14:36:45.3±1.9, 13.6°66N±0.0°07×92.2°28W±0.0°06, h24km±12km, n164, σ2ᵍ56/171, mb4.5/38, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.03**	**33**			**Pb**	**14 37 04.9**	**+0.3**
RTAL	**Retalhuleu**	**1.03**	**33**	*e*S		**Sn**	**14 37 23.0**	**+4.9**
THIG		**1.24**	**1**			**Pn**	**14 37 07.6**	**+0.3**
THIG						**Sb**	**14 37 26.2**	**+2.5**
THIG		**1.24**	**1**	*e*P		**Pn**	**14 37 05.9**	**-1.4**
THIG				*i* S		**Sn**	**14 37 23.8**	**+0.5**
STG3	**Santiaguito 3,**	**1.25**	**33**	*e*P		**Pb**	**14 37 08.5**	**0.0**
CHUJ	**Union Juarez**	**1.44**	**6**	*e*P		**Pn**	**14 37 09.7**	**-0.5**
CHUJ				*e*S		**Sb**	**14 37 30.0**	**+0.4**
PATR	**El Naranjo**	**1.45**	**2**	*e*P		**Pn**	**14 37 09.8**	**-0.6**
PATR				*e*S		**Sb**	**14 37 30.7**	**+0.7**
PAVE	**Pavencul**	**1.53**	**4**	*e*P		**Pn**	**14 37 11.1**	**-0.3**
PAVE				*e*S		**Sb**	**14 37 32.3**	**0.0**
FUG	**Fuego 3**	**1.60**	**60**	*e*P		**Pn**	**14 37 12.9**	**+0.5**
PCG	**Pacaya**	**1.78**	**66**	*e*P		**Pn**	**14 37 16.2**	**+1.3**
HUEH	**Huehuetenango**	**1.81**	**24**			**Pn**	**14 37 17.1**	**+1.7**
HUEH	**Huehuetenango**	**1.81**	**24**	*e*P		**Pb**	**14 37 17.2**	**-0.8**
HUEH	**Huehuetenango**	**1.81**	**24**	*e*P		**Pb**	**14 37 17.2**	**-0.8**
NBG	**Las Nubes**	**2.09**	**63**	*e*P		**Pb**	**14 37 21.8**	**-0.9**
PCIG		**2.23**	**336**			**Pn**	**14 37 19.8**	**-1.0**
PCIG						**Sn**	**14 37 47.0**	**-0.7**
PCIG		**2.23**	**336**	*e*P		**Pn**	**14 37 19.8**	**-1.0**
PCIG				*e*S		**Sn**	**14 37 47.0**	**-0.7**
NUBE	**Las Nubes**	**2.44**	**84**	*e*P		**Pn**	**14 37 22.1**	**-1.7**
NUBE	**Las Nubes**	**2.44**	**84**	*e*P		**Pn**	**14 37 22.1**	**-1.7**
SLOZ	**Alcaldia de Sa**	**2.45**	**81**	*e*P		**Pn**	**14 37 22.9**	**-1.0**
CEVE	**Cerro Verde**	**2.58**	**86**	*e*P		**Pn**	**14 37 24.2**	**-1.8**
CEVE				IAML			14 38 02.1	
	comp=Z,710nm,0.3s							
CEVE	**Cerro Verde**	**2.58**	**86**	*e*P		**Pn**	**14 37 24.2**	**-1.8**
CEVE				IAML			14 38 02.1	
	comp=Z,710nm,0.3s							
SBLS	**San Blas**	**2.58**	**86**	*e*P		**Pn**	**14 37 24.5**	**-1.4**
SBLS	**San Blas**	**2.58**	**86**	*e*P		**Pn**	**14 37 24.5**	**-1.4**
SNJE	**San Jose**	**2.60**	**85**	*e*P		**Pn**	**14 37 24.9**	**-1.3**
SNJE	**San Jose**	**2.60**	**85**	*e*P		**Pn**	**14 37 24.9**	**-1.3**
CCIG	**Comitan**	**2.61**	**3**			**Pn**	**14 37 29.0**	**+2.7**
CCIG	**Comitan**	**2.61**	**3**			**Sb**	**14 38 01.3**	**-2.0**
CCIG	**Comitan**	**2.61**	**3**	*e*P		**Pn**	**14 37 29.2**	**+2.9**
CCIG				*e*S		**Sb**	**14 38 01.9**	**-1.5**
PMON	**Piamonte**	**2.88**	**89**	*e*P		**Pn**	**14 37 29.3**	**-0.6**
PMON	**Piamonte**	**2.88**	**89**	*e*P		**Pn**	**14 37 29.3**	**-0.6**
MRL	**Marmol**	**2.88**	**60**	*e*P		**Pn**	**14 37 31.8**	**+1.7**
MTO3	**Montecristo**	**2.92**	**75**	*e*P		**Pn**	**14 37 30.1**	**-0.5**
MTO3	**Montecristo**	**2.92**	**75**	*e*P		**Pn**	**14 37 30.1**	**-0.5**
ESQI	**Esquipulas**	**2.99**	**72**			**Pn**	**14 37 30.7**	**-0.6**
ESQI	**Esquipulas**	**2.99**	**72**	*e*P		**Pn**	**14 37 31.0**	**-0.3**
LFRS	**El Faro**	**3.12**	**90**	*e*P		**Pn**	**14 37 32.6**	**-0.6**
LFRS	**El Faro**	**3.12**	**90**	*e*P		**Pn**	**14 37 32.6**	**-0.6**
TGIG		**3.21**	**345**			**Pn**	**14 37 35.1**	**+0.8**
TGIG						**Sn**	**14 38 11.8**	**-0.1**
TGIG		**3.21**	**345**	*e*P		**Pn**	**14 37 35.1**	**+0.8**
TGIG				*e*S		**Sn**	**14 38 11.1**	**-0.8**
SCLA	**Alcaldia de Sa**	**3.45**	**89**	*e*P		**Pn**	**14 37 36.9**	**-0.8**
SCLA	**Alcaldia de Sa**	**3.45**	**89**	*e*P		**Pn**	**14 37 36.9**	**-0.8**
UXUV	**UXUV**	**4.06**	**334**	*e*P		**Pn**	**14 37 47.6**	**+1.5**
UXUV				*e*S		**Sn**	**14 38 29.6**	**-3.3**
CMIG	**Matias Romero**	**4.24**	**324**	Pn		**Pn**	**14 37 47.9**	**-0.7**
	comp=Z,2.8nm,0.3s,baz=150,slow=7.5,SNR=15							
CMIG				Sn		**Sn**	**14 38 40.7**	**+3.4**
	comp=Z,5.5nm,0.3s,baz=60,slow=16,SNR=6.0							
CMIG	**Matias Romero**	**4.24**	**324**			**Pn**	**14 37 47.7**	**-0.9**
CMIG						**Sn**	**14 38 35.4**	**-1.9**
CMIG	**Matias Romero**	**4.24**	**324**	*e*P		**Pn**	**14 37 47.7**	**-0.9**
CMIG				*e*S		**Sn**	**14 38 35.4**	**-1.9**
HUIG	**Huatulco**	**4.26**	**300**			**Pn**	**14 37 44.9**	**-3.9**
HUIG						Sn	14 38 27.9	-10
HUIG	**Huatulco**	**4.26**	**300**	*i* P		**Pn**	**14 37 46.1**	**-2.6**
HUIG				*i* S		**Sn**	**14 38 35.1**	**-2.7**
LCND	**La Caada**	**4.28**	**94**	*e*P		**Pn**	**14 37 47.9**	**-1.2**
LCND	**La Caada**	**4.28**	**94**	*e*P		**Pn**	**14 37 47.9**	**-1.2**
CRIN	**San Cristobal**	**5.18**	**100**			**Pn**	**14 38 00.6**	**-0.9**
PEIG	**Puerto Escondi**	**5.25**	**297**	*e*P		**Pn**	**14 37 59.7**	**-2.7**
PEIG				*e*S		Sn	14 38 51.3	-11
CNGN	**Cerro Negro**	**5.55**	**101**			**Pn**	**14 38 05.3**	**-1.4**
HZTE	**Horizontes, Gu**	**7.16**	**113**	Pn		**Pn**	**14 38 27.2**	**-1.4**
TLIG	**Tlapa**	**7.20**	**303**	Pn		**Pn**	**14 38 31.0**	**+1.7**
ORTG	**Ortega, Santa**	**7.43**	**115**	Pn		**Pn**	**14 38 32.5**	**+0.1**
JTS	**Las Juntas de**	**7.91**	**114**	Pn		**Pn**	**14 38 38.0**	**-1.0**
	comp=Z,2.8nm,0.3s,baz=27,slow=20,SNR=6.7							
JTS				Sn		**Sn**	**14 40 06.6**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=12,slow=21,SNR=1.4							
JTS	**Las Juntas de**	**7.91**	**114**			**Pn**	**14 38 39.5**	**+0.5**
RIMA	**Rio Macho**	**9.10**	**114**			**Pn**	**14 38 56.2**	**+0.7**
DRK0	**Durika**	**9.87**	**115**			**Pn**	**14 39 07.0**	**+1.0**
ZARC	**Zaragoza, Cauc**	**18.18**	**108**			**Pn**	**14 40 56.2**	**-0.2**
**TX31

comp=Z,8.5nm,1.2s
PV13 Radium Mtn., P 28.48 332 P P 14 42 39.8 +0.7
PV11 David Mesa, Pa 28.62 332 P P 14 42 40.0 -0.3
PV11 IAmb IAmb 14 42 44.2
comp=Z,11nm,1.0s
P17A Butcher Ranch, 30.43 331 P P 14 42 57.9 +1.6
P17A IAmb IAmb 14 42 58.5
comp=Z,4.0nm,0.8s
RWWY Rawlins 30.80 338 P P 14 43 01.1 +1.5
RWWY IAmb IAmb 14 43 05.3
comp=Z,10nm,1.3s
J56A Wolcott 32.36 21 P P 14 43 11.9 -1.1
PDAR Pinedale Array 32.62 336 P P 14 43 16.6 +1.0
comp=Z,1.1nm,0.8s,baz=148,slow=9.4,SNR=7.7
ELK Elko 33.63 328 P P 14 43 25.2 +0.7
comp=Z,1.1nm,0.6s,baz=60,slow=7.7,SNR=2.7
REDW Red Top Meadow 33.64 335 P P 14 43 25.7 +1.3
REDW IAmb IAmb 14 43 27.3
comp=Z,14nm,1.1s
NV11 Mina Array Sit 33.68 322 P P 14 43 27.0 +2.3
SNOW Snow King Moun 33.68 335 P P 14 43 25.7 +0.8
NVAR Mina Array Bea 33.77 322 P P 14 43 26.9 +1.3
comp=Z,2.0nm,0.8s,baz=144,slow=9.9,SNR=12
NVAR Mina Array Bea 33.77 322 P P 14 43 26.6 +0.9
TPAW Teton Pass 33.78 335 P P 14 43 26.4 +0.6
TPAW IAmb IAmb 14 43 32.5
comp=Z,7.5nm,1.1s
MOOW Moose Ponds 33.92 336 P P 14 43 27.4 +0.5
MOOW IAmb IAmb 14 43 30.9
comp=Z,7.6nm,1.5s
YHH Holmes Hill 34.83 337 P P 14 43 34.9 +0.1
MCMT McKenzie Canyo 35.66 335 P P 14 43 44.4 +2.5
J08A Circle Bar Ran 37.19 328 P P 14 43 55.5 +0.7
J08A IAmb IAmb 14 44 00.4
comp=Z,8.8nm,0.6s
PLID Pearl Lake 37.25 332 P P 14 43 56.3 +0.8
EDM Edmonton 42.87 341 P P 14 44 41.5 -0.3
EDM IAmb IAmb 14 44 42.9
comp=Z,12nm,0.6s
SCHQ Schefferville 45.63 20 P P 14 45 02.1 -1.7
comp=Z,1.1nm,0.4s,baz=231,slow=8.0,SNR=7.9
YKA Yellowknife Ar 51.30 347 P P 14 45 47.3 0.0
comp=Z,5.3nm,0.8s,baz=149,slow=7.6,SNR=76
YKA PcP **PcP 14 47 01.1 -0.9**
comp=Z,0.7nm,0.7s,baz=151,slow=3.8,SNR=6.9
FRB Frobisher Bay 52.70 13 P P 14 45 59.7 +2.0
comp=Z,1.3nm,0.7s,baz=240,slow=4.1,SNR=3.5
INK Inuvik 60.69 344 P P 14 46 54.4 0.0
comp=Z,1.1nm,0.5s,baz=109,slow=7.0,SNR=5.4
INK Inuvik 60.69 344 P P 14 46 54.8 +0.4
INK IAmb IAmb 14 46 58.2
comp=Z,7.4nm,1.4s
A36M Sachs Harbour 61.53 349 P P 14 46 59.6 -0.4
A36M IAmb IAmb 14 47 00.4
comp=Z,3.7nm,0.8s
IL31 63.05 337 P P 14 47 10.4 +0.1
IL31 IAmb IAmb 14 47 11.5
comp=Z,7.8nm,1.2s
ILAR Eielson Array 63.05 337 P P 14 47 09.8 -0.5
comp=Z,2.2nm,0.9s,baz=137,slow=3.8,SNR=13
ILAR Eielson Array 63.05 337 P P 14 47 09.9 -0.4
RND Reindeer 63.22 335 P P 14 47 12.2 +0.6
H24K Noodor Dome 63.90 338 P P 14 47 15.1 -1.0
H24K IAmb IAmb 14 47 16.8
comp=Z,5.8nm,1.1s
BILL Bilibino 81.67 338 P P 14 48 59.6 -1.8
BILL IAmb IAmb 14 49 02.9
comp=Z,6.5nm,1.4s
NOA NORSAR Array B 84.57 28 P P 14 49 17.4 +0.8
comp=Z,0.9nm,0.9s,baz=291,slow=4.5,SNR=3.5
TORD Torodi Ar. Bea 90.72 76 P P 14 49 44.4 -2.7
WMGZ Waiomatatini S 97.70 233 P P 14 50 17.0 -1.5
MXZ Matakaoa Point 97.73 233 P P 14 50 14.2 -4.5
PUZ Puketiti 97.87 233 P Pdif 14 50 20.8 +1.4
PKGZ Pakihiroa 97.97 233 P P 14 50 19.2 -0.6
CNGZ Carnagh Statio 97.99 232 P Pdif 14 50 25.9 +6.0
TWGZ Tauwhareparae 98.11 233 P Pdif 14 50 22.1 +1.7
HAZ Te Kaha 98.18 233 P P 14 50 17.6 -3.1
TKGZ Te Karaka 98.26 233 P Pdif 14 50 21.3 +0.3
RUGZ Raukumara Rang 98.30 233 P P 14 50 20.4 -1.0
RIGZ Rimuhau 98.37 232 P Pdif 14 50 27.9 +6.3
MWZ Matawai 98.48 233 P Pdif 14 50 24.6 +2.5
RAGZ Rawiri 98.60 233 P Pdif 14 50 25.5 +2.8
SNGZ Shannon Statio 98.71 232 P Pdif 14 50 30.3 +7.2
URZ Urewera 98.79 233 P Pdif 14 50 23.8 +0.4
RTZ Ruatahuna 98.96 232 P Pdif 14 50 28.6 +4.3
MTHZ Maungataniwha 99.11 232 P Pdif 14 50 32.1 +7.2
NMHZ Naumai 99.18 232 P Pdif 14 50 34.8 +10
MCHZ McNeill Hill 99.32 232 P Pdif 14 50 37.5 +12
BKZ Black Stump Fm 99.43 232 P Pdif 14 50 35.0 +8.6
KWHZ Kaweka Forest 99.53 232 P Pdif 14 50 36.1 +9.3
BHHZ Black Hill Sta 99.81 232 P Pdif 14 50 38.8 +11
OTVZ Oturere 100.06 232 P Pdif 14 50 38.1 +8.8
SNVZ South Ngauruho 100.08 232 P Pdif 14 50 38.0 +8.6
HIZ Hauiti 100.58 233 P Pdif 14 50 38.7 +7.3
ASAR Alice Springs 135.30 250 PKP PKPdf 14 56 01.6 -2.4
comp=Z,0.2nm,0.8s,baz=166,slow=0.9,SNR=2.3
ASAR Alice Springs 135.30 250 PKPdf 14 56 04.2 +0.3
CMAR Chiang Mai Arr 146.22 341 PKPbc PKPdf 14 56 23.8 +0.1
comp=Z,2.2nm,0.7s,baz=345,slow=3.5,SNR=18

*IDC **15** 14:44:04.6±1.0,22.2°14N×121.6°40E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.6/42,mbtmp3.7/7,Error ellipse: s-maj=50.7km s-min=17.1km az=61.0*
*JMA **15** 14:44:07.6±0.4,22.3°31N×121.7°17E,h0km,M4.0*
*TAP **15** 14:44:08.0,22.3°19N×121.7°04E,h9km,ML4.1,C*
ISC 15 14:44:08.3±0.8,22°21N±0°02×121°09E±0°02,h17km±5km, n137,σ1s30/181,mb3.6/7,9C-10D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAWH	**Dawu Township**	**0.23**	**305**	**⇓*i*P**	**Pg**	**14 44 13.7**	**+0.1**
	baz=318						
TAWH				S	**Sg**	**14 44 17.3**	**+0.2**
	baz=318						
TAW	**Tawu**	**0.23**	**310**	**⇓*i*P**	**Pg**	**14 44 13.8**	**+0.1**
	baz=325						
TAW				*i* S	**Sg**	**14 44 17.4**	**+0.2**
	baz=325						
SLIU	**Shizi**	**0.27**	**271**	**⇓*i*P**	**Pg**	**14 44 13.5**	**-0.7**
	baz=275						
SLIU				S	**Sg**	**14 44 17.2**	**-1.1**
	baz=275						
EAST	**Anshuo**	**0.28**	**308**	**⇓*i*P**	**Pg**	**14 44 14.6**	**+0.1**
	baz=325						
EAST				S	**Sg**	**14 44 18.4**	**-0.3**
	baz=325						
SMST	**Manzhou Townsh**	**0.30**	**231**	P	**Pg**	**14 44 13.9**	**-0.9**
	baz=219						
SMST				S	**Sg**	**14 44 17.7**	**-1.4**
	baz=219						
TSEB	**Hengchuen, Pin**	**0.35**	**209**	**⇑*i*P**	**Pg**	**14 44 15.6**	**-0.2**
	baz=208						
TSEB				*e*S	**Sg**	**14 44 21.5**	**+0.8**
	baz=208						
TWKBT	**Hengchun**	**0.37**	**224**	**⇑*i*P**	**Pg**	**14 44 15.2**	**-0.8**
	baz=217						
TWKBT				S	**Sg**	**14 44 20.4**	**-0.8**
	baz=217						
TWK1	**Hengchun**	**0.37**	**225**	**⇑*i*P**	**Pg**	**14 44 15.3**	**-0.8**
	baz=217						
TWK1				*e*S	**Sg**	**14 44 19.9**	**-1.4**
	baz=217						
HEN	**Hengchun**	**0.38**	**238**	P	**Pg**	**14 44 16.0**	**-0.3**
	baz=229						
HEN				*i* S	**Sg**	**14 44 20.8**	**-0.8**
	baz=229						
ECL	**Taimali**	**0.41**	**342**	**⇓*i*P**	**Pb**	**14 44 17.0**	**0.0**
	baz=352						
ECL				*i* S	**Sb**	**14 44 23.5**	**+0.5**
	baz=352						
SCZT	**Fangliau**	**0.46**	**291**	**⇓*i*P**	**Pg**	**14 44 17.3**	**-0.4**
	baz=295						
SCZT				S	**Sg**	**14 44 23.1**	**-0.8**
	baz=295						
LAY	**Lan-yu**	**0.46**	**112**	**⇓*i*P**	**Pg**	**14 44 18.2**	**+0.5**
	baz=108						
LAY				*e*S	**Sg**	**14 44 25.2**	**+1.3**
	baz=108						
LYUB	**Lan-yu**	**0.51**	**114**	***e*P**	**Pg**	**14 44 17.5**	**-0.9**
	baz=100						
TTN	**Taitung**	**0.55**	**6**	***e*P**	**Pb**	**14 44 20.6**	**+1.2**
	baz=13						
TTN				*e*S	**Sb**	**14 44 29.0**	**+2.0**
	baz=13						
SSPT	**Xinbi**	**0.55**	**300**	**⇓*i*P**	**Pb**	**14 44 20.0**	**+0.5**
	baz=305						
SSPT				S	**Sb**	**14 44 28.0**	**+0.8**
	baz=305						
LDUT	**Ludao**	**0.58**	**37**	P	**Pb**	**14 44 20.7**	**+0.6**
	baz=26						
LDUT				*e*S	**Sb**	**14 44 29.8**	**+1.7**
	baz=26						
MASBT	**Mashibuluo**	**0.58**	**314**	**⇓*i*P**	**Pb**	**14 44 19.9**	**-0.1**
	baz=320						
MASBT				S	**Sg**	**14 44 27.0**	**-0.7**
	baz=320						
TWGBT	**Beinan**	**0.60**	**359**	**⇑*i*P**	**Pb**	**14 44 20.1**	**-0.4**
	baz=5.0						
TWGBT				S	**Sb**	**14 44 28.3**	**-0.5**
	baz=5.0						
TSMG	**Majia**	**0.64**	**320**	P	**Pb**	**14 44 21.0**	**-0.1**
	baz=326						
TSMG				S	**Sb**	**14 44 29.2**	**-0.6**
	baz=326						
WLCH	**Liuqiu**	**0.67**	**282**	***e*P**	**Pn**	**14 44 24.1**	**+1.0**
	baz=284						
WLCH				*e*S	**Sn**	**14 44 34.6**	**+1.4**
	baz=284						
SSD	**Sandimen**	**0.68**	**322**	**⇓*i*P**	**Pb**	**14 44 21.6**	**-0.1**
	baz=327						
SSD				S	**Sb**	**14 44 30.8**	**-0.1**
	baz=327						
LONT	**Longtian**	**0.69**	**3**	**⇑*i*P**	**Pb**	**14 44 21.5**	**-0.5**
	baz=9.0						
LONT				S	**Sb**	**14 44 31.5**	**+0.1**
	baz=9.0						
SGLT	**Jiouru**	**0.75**	**313**	***e*P**	**Pb**	**14 44 23.9**	**+0.9**
	baz=318						
SGLT				*e*S	**Sb**	**14 44 34.8**	**+1.8**
	baz=318						
EDH	**Donghe**	**0.79**	**15**	P	**Pb**	**14 44 23.4**	**-0.2**
	baz=20						
EDH				*e*S	**Sb**	**14 44 34.5**	**+0.6**
	baz=20						
KAU	**Kaohsiung**	**0.80**	**296**	***e*P**	**Pn**	**14 44 26.4**	**+1.4**
	baz=299						
KAU				*e*S	**Sn**	**14 44 38.6**	**+2.1**
	baz=299						
SCST	**Cishan**	**0.87**	**321**	***e*P**	**Pn**	**14 44 26.3**	**+0.5**
	baz=335						
SCST				*e*S	**Sn**	**14 44 39.2**	**+1.1**
	baz=335						
CHKT	**Chengkung**	**0.92**	**16**	P	**Pg**	**14 44 25.3**	**-1.0**
	baz=21						
CHKT				S	**Sb**	**14 44 38.1**	**+0.2**
	baz=21						
ELDTW	**Lidau**	**0.98**	**356**	***e*P**	**Pg**	**14 44 25.8**	**-1.5**
	baz=15						
SGST	**Jiashian**	**0.98**	**332**	**⇑P**	**Pb**	**14 44 26.9**	**-0.1**
	baz=344						
STYH	**Taoyuan**	**1.00**	**343**	***e*P**	**Pn**	**14 44 28.0**	**+0.4**
	baz=356						
FULB	**Fuli**	**1.00**	**11**	***e*P**	**Pg**	**14 44 26.4**	**-1.4**
	baz=15						
FULB				*e*S	**Sb**	**14 44 41.1**	**+0.9**
	baz=15						
SHHT	**Tainan City**	**1.06**	**320**	***e*P**	**Pn**	**14 44 30.4**	**+2.0**
	baz=325						
SHHT				*e*S	**Sn**	**14 44 45.2**	**+2.4**
	baz=325						
CHN3	**Shinhua**	**1.09**	**322**	***e*P**	**Pn**	**14 44 30.7**	**+1.8**
	baz=329						
CHN1	**Nanshi**	**1.10**	**332**	**⇑*i*P**	**Pn**	**14 44 30.2**	**+1.2**
	baz=350						
CHN1				*e*S	**Sn**	**14 44 47.2**	**+3.4**
	baz=350						
WTP	**Ta-pu**	**1.12**	**337**	**⇑*i*P**	**Pn**	**14 44 30.5**	**+1.2**
	baz=355						
WTP				*e*S	**Sn**	**14 44 47.5**	**+3.1**
	baz=355						
SNST	**Tainan City**	**1.14**	**332**	***e*P**	**Pn**	**14 44 30.6**	**+1.1**
	baz=349						
SNST				*e*S	**Sn**	**14 44 47.5**	**+2.6**
	baz=349						
EYUL	**Yuli**	**1.15**	**11**	***e*P**	**Pg**	**14 44 29.8**	**-0.9**
	baz=15						
TPUB	**Ta-pu**	**1.17**	**339**	***e*P**	**Pn**	**14 44 31.1**	**+1.2**
	baz=356						
TPUB				*e*S	**Sn**	**14 44 46.8**	**+1.3**
	baz=356						
TWK	**Hsinying**	**1.19**	**332**	P	**Pn**	**14 44 31.1**	**+0.8**
	baz=337						
TWK				*e*S	**Sn**	**14 44 50.2**	**+4.1**
	baz=337						
YULB	**Yu-li**	**1.19**	**9**	***e*P**	**Pg**	**14 44 28.5**	**-2.9**
	baz=13						
CHN4	**Tsaushan**	**1.22**	**338**	***e*P**	**Pn**	**14 44 31.8**	**+1.0**
	baz=355						
CHN4				*e*S	**Sn**	**14 44 50.6**	**+3.7**
	baz=355						
SCLT	**Jiali**	**1.27**	**320**	***e*P**	**Pg**	**14 44 31.8**	**-1.0**
	baz=326						
EHY	**Hungye**	**1.31**	**9**	***e*P**	**Pg**	**14 44 30.2**	**-3.4**
	baz=13						
HGSD	**Ruisui**	**1.31**	**14**	***e*P**	**Pg**	**14 44 31.1**	**-2.6**
	baz=17						
ALS	**Alishan**	**1.32**	**349**	***e*P**	**Pb**	**14 44 33.0**	**+0.1**
	baz=4.0						
ICHU	**Yijhu**	**1.37**	**327**	***e*P**	**Pn**	**14 44 33.2**	**+0.5**
	baz=334						
CHN8	**Yiju**	**1.39**	**325**	***e*P**	**Pn**	**14 44 33.4**	**+0.4**
	baz=332						
CHY	**Chiayi**	**1.42**	**335**	***e*P**	**Pn**	**14 44 34.0**	**+0.6**
	baz=339						
CHY				*e*S	**Sn**	**14 44 55.5**	**+3.8**
	baz=339						
CHN5	**Tsauling**	**1.43**	**345**	P	**Pb**	**14 44 34.8**	**+0.1**
	baz=2.0						
CHN2	**Minshiung**	**1.43**	**337**	***e*P**	**Pg**	**14 44 34.9**	**-1.1**
	baz=341						
CHN2				*e*S	**Sn**	**14 44 55.8**	**+3.8**
	baz=341						
EGFH	**Guangfu**	**1.49**	**12**	***e*P**	**Pb**	**14 44 35.7**	**+0.2**
	baz=15						
WSL	**Shuilin Townsh**	**1.53**	**329**	***e*P**	**Pn**	**14 44 34.6**	**-0.3**
	baz=334						
WSL				*e*S	**Sg**	**14 44 56.2**	**-1.5**
	baz=334						
VWDT	**VWDT**	**1.54**	**2**	***e*P**	**Pn**	**14 44 35.5**	**+0.5**
	baz=15						
WDLH	**Douliu**	**1.56**	**341**	***e*P**	**Pn**	**14 44 36.2**	**+1.0**
	baz=345						
WDLH				*e*S	**Sg**	**14 44 58.6**	**0.0**
	baz=345						
SSLB	**Suanglung**	**1.57**	**356**	***e*P**	**Pn**	**14 44 36.2**	**+0.7**
	baz=9.0						
WTK	**Tuku**	**1.61**	**336**	***e*P**	**Pn**	**14 44 36.4**	**+0.5**
	baz=341						
WTK				*e*S	**Sg**	**14 44 59.7**	**-0.4**
	baz=341						
ESL	**Shilin**	**1.63**	**11**	***e*P**	**Pn**	**14 44 36.4**	**+0.1**
	baz=14						
WSF	**Szhu**	**1.63**	**331**	***e*P**	**Pn**	**14 44 36.2**	**-0.1**
	baz=339						
WJS	**Zhushan**	**1.64**	**348**	***e*P**	**Pn**	**14 44 38.4**	**+0.3**
	baz=355						
SMLT	**Sun Moon Lake**	**1.67**	**354**	***e*P**	**Pb**	**14 44 39.2**	**+0.4**
	baz=6.0						
WDGT	**Dungji**	**1.68**	**309**	***e*P**	**Pn**	**14 44 35.7**	**-1.2**
	baz=315						
TYC	**Yuchr**	**1.70**	**353**	***e*P**	**Pb**	**14 44 39.3**	**+0.2**
	baz=5.0						
OWD	**Renai**	**1.74**	**3**	***e*P**	**Pg**	**14 44 40.9**	**-0.9**
	baz=17						
WUSB	**Renai**	**1.77**	**1**	***e*P**	**Pn**	**14 44 39.0**	**+0.6**
	baz=14						
WRL	**Guolierlin Hig**	**1.81**	**339**	***e*P**	**Pn**	**14 44 39.2**	**+0.5**
	baz=343						
WRL				*e*S	**Sb**	**14 45 02.8**	**-0.6**
	baz=343						
WTCT	**Ta-ch'eng**	**1.81**	**336**	***e*P**	**Pn**	**14 44 38.9**	**+0.1**
	baz=343						
VCHM	**Qimei**	**1.82**	**303**	***e*P**	**Pn**	**14 44 37.5**	**-1.4**
	baz=310						
CHGB	**Renai**	**1.84**	**2**	***e*P**	**Pn**	**14 44 39.8**	**+0.4**
	baz=15						
WCS	**Beigang Elemen**	**1.85**	**355**	***e*P**	**Pb**	**14 44 41.1**	**-0.5**
	baz=9.0						
WCS				*e*S	**Sg**	**14 45 06.0**	**-1.9**
	baz=9.0						
PHUB	**P'eng-hu**	**1.91**	**313**	***e*P**	**Pn**	**14 44 38.4**	**-1.7**
	baz=320						
TWD	**Chiawan**	**1.92**	**14**	***e*P**	**Pn**	**14 44 41.0**	**+0.7**
	baz=16						
WCHH	**Zhanghua**	**1.92**	**345**	***e*P**	**Pn**	**14 44 42.0**	**+1.7**
	baz=352						
WHF	**Hehuan Shan**	**1.93**	**5**	***e*P**	**Pn**	**14 44 40.9**	**+0.1**
	baz=18						
PNG	**Penghu**	**1.96**	**314**	***e*P**	**Pn**	**14 44 39.9**	**-0.9**
	baz=322						
TCU	**Taichung**	**1.97**	**349**	***e*P**	**Pb**	**14 44 42.8**	**-0.9**
	baz=356						
NACB	**Ninganchiao**	**2.01**	**13**	***e*P**	**Pn**	**14 44 41.0**	**-0.6**
	baz=15						
ETLH	**Xiulin Townshi**	**2.02**	**10**	***e*P**	**Pn**	**14 44 41.8**	**0.0**
	baz=26						
FUSS	**Fushou**	**2.03**	**4**	***e*P**	**Pn**	**14 44 42.7**	**+0.6**
	baz=18						
WHP	**Taichung City**	**2.06**	**356**	***e*P**	**Pb**	**14 44 44.5**	**-0.9**
	baz=7.0						
TWQ1	**Liyutan**	**2.15**	**352**	***e*P**	**Pn**	**14 44 44.9**	**+1.4**
	baz=358						
WDJ	**Dajia District**	**2.17**	**349**	***e*P**	**Pn**	**14 44 45.3**	**+1.6**
	baz=355						
NNSB	**Datong**	**2.23**	**7**	***e*P**	**Pn**	**14 44 45.2**	**+0.6**
	baz=25						
NNS	**Nan Shan**	**2.23**	**7**	***e*P**	**Pb**	**14 44 48.0**	**-0.4**
	baz=25						
ENA	**Nanau**	**2.29**	**15**	***e*P**	**Pn**	**14 44 45.5**	**+0.2**
	baz=16						
EWUT	**Wuta**	**2.31**	**16**	***e*P**	**Pn**	**14 44 46.2**	**+0.5**
	baz=17						
NMLH	**Miaoli**	**2.33**	**353**	***e*P**	**Pb**	**14 44 49.0**	**-0.9**
	baz=344						
LATG	**Datong**	**2.35**	**10**	***e*P**	**Pn**	**14 44 47.2**	**+0.9**
	baz=24						
NFF	**Wufeng Townshi**	**2.41**	**1**	***e*P**	**Pn**	**14 44 49.0**	**+1.9**
	baz=7.0						
NSTT	**Nanjuang**	**2.41**	**358**	***e*P**	**Pb**	**14 44 50.4**	**-0.9**
	baz=348						
NDT	**Datong Townshi**	**2.41**	**9**	***e*P**	**Pn**	**14 44 48.0**	**+0.9**
	baz=23						
LIOB	**Emei**	**2.43**	**358**	***e*P**	**Pn**	**14 44 48.8**	**+1.5**
	baz=4.0						
ENTT	**Nioudou**	**2.46**	**10**	***e*P**	**Pn**	**14 44 48.7**	**+1.0**
	baz=23						
YHNB	**Yeheng**	**2.46**	**6**	***e*P**	**Pn**	**14 44 48.7**	**+0.8**
	baz=24						
NSK	**Sanguang**	**2.47**	**6**	***e*P**	**Pn**	**14 44 50.1**	**+2.2**
	baz=25						
NDS	**Dongshan**	**2.48**	**13**	***e*P**	**Pn**	**14 44 49.3**	**+1.3**
	baz=25						
TWC	**Suao**	**2.49**	**16**	***e*P**	**Pn**	**14 44 49.8**	**+1.7**
	baz=17						
TWE	**Neicheng**	**2.56**	**12**	***e*P**	**Pn**	**14 44 50.4**	**+1.3**
	baz=25						
FUSB	**Fushanzhiwuyua**	**2.58**	**10**	***e*P**	**Pn**	**14 44 49.9**	**+0.5**
	baz=22						
NWLT	**Wulai**	**2.58**	**8**	***e*P**	**Pn**	**14 44 51.1**	**+1.6**
	baz=21						
JYNG	**Yonaguni jima**	**2.81**	**37**	P	**Pn**	**14 44 53.4**	**+0.9**
JYNG				S	**Sn**	**14 45 27.6**	**+1.6**
TIPB	**Shuangxi**	**2.83**	**14**	***e*P**	**Pn**	**14 44 54.6**	**+1.7**
	baz=14						
YOJ	**Yonaguni jima**	**2.85**	**38**	P	**Pn**	**14 44 54.4**	**+1.3**
YOJ				S	**Sn**	**14 45 28.3**	**+1.2**
TWB1	**Santiao Chiao**	**2.91**	**16**	***e*P**	**Pn**	**14 44 54.6**	**+0.8**
	baz=16						
NWF	**Wu-fen Shan**	**2.92**	**12**	***e*P**	**Pn**	**14 44 54.8**	**+0.7**
	baz=23						
YM01	**YM01**	**2.96**	**9**	***e*P**	**Pn**	**14 44 55.7**	**+1.1**
	baz=27						
SXI1	**Grass Mountain**	**2.96**	**14**	***e*P**	**Pn**	**14 44 56.5**	**+1.8**
	baz=14						
ANP	**Anpu**	**2.99**	**8**	***e*P**	**Pn**	**14 44 57.0**	**+1.9**
	baz=358						
HATJ	**Hateruma jima**	**3.10**	**53**	P	**Pn**	**14 44 57.6**	**+1.0**
HATJ				*e*S	**Sn**	**14 45 33.0**	**-0.3**
VWUC	**VWUC**	**3.15**	**332**	***e*P**	**Pn**	**14 44 56.8**	**-0.3**
	baz=342						
IRIF	**Iriomote-Funau**	**3.22**	**48**	P	**Pn**	**14 44 59.5**	**+1.3**
IRIF				S	**Sn**	**14 45 38.3**	**+2.1**
KNM	**Kinmen**	**3.28**	**313**	***e*P**	**Pn**	**14 44 59.8**	**+0.8**
	baz=322						
KNMB	**Chin-men Tao**	**3.34**	**313**	***e*P**	**Pn**	**14 44 58.7**	**-1.2**
	baz=324						
JKRS	**Kuro-shima**	**3.36**	**53**	P	**Pn**	**14 45 01.3**	**+1.2**
ZPLA	**Ao Xicun**	**3.52**	**300**	***e*P**	**Pn**	**14 45 01.1**	**-1.1**
	baz=310						
JIJ	**Ishigaki jima**	**3.53**	**52**	P	**Pn**	**14 45 03.0**	**+0.5**
JIJ				*e*S	**Sn**	**14 45 44.6**	**+0.7**
JISG	**Ishigakijimahi**	**3.79**	**51**	P	**Pn**	**14 45 06.8**	**+0.8**
JISG				S	**Sn**	**14 45 50.3**	**+0.1**
AXDP	**Jialang**	**3.92**	**314**	***e*P**	**Pn**	**14 45 07.0**	**-0.7**
	baz=327						
MATB	**Ma-tsu**	**4.06**	**345**	***e*P**	**Pn**	**14 45 09.4**	**-0.3**
	baz=354						
MHZQ	**Yeshan**	**4.30**	**335**	***e*P**	**Pn**	**14 45 13.3**	**+0.3**
	baz=347						
APYP	**Conner**	**4.33**	**178**	**⇑*i*P**	**Pn**	**14 45 12.5**	**-0.9**
LYJJ	**Jianjiangzhen**	**4.49**	**345**	***e*P**	**Pn**	**14 45 15.6**	**0.0**
	baz=354						
JIRB	**Irabujima**	**4.57**	**54**	P	**Pn**	**14 45 18.1**	**+1.4**
JIRB				*e*S	**Sn**	**14 46 08.7**	**-0.7**
JMJ2	**Miyako jima3**	**4.64**	**56**	P	**Pn**	**14 45 19.4**	**+1.8**
JMJ2				S	**Sn**	**14 46 11.9**	**+0.8**
XPSS	**Dashiqiu**	**4.77**	**350**	***e*P**	**Pn**	**14 45 19.2**	**-0.2**
	baz=358						
CMAR	**Chiang Mai Arr**	**21.09**	**264**	P	**P**	**14 48 53.6**	**+1.5**
	0.8nm,0.8s,baz=68,slow=7.7,SNR=6.2						
SONM	**Songino Array**	**28.16**	**339**	P	**P**	**14 50 00.4**	**+0.6**
	0.7nm,0.6s,baz=165,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**39.71**	**318**	P	**P**	**14 51 40.9**	**+1.1**
	0.8nm,0.6s,baz=107,slow=9.7,SNR=11						
ZALV	**Zalesovo Beam**	**41.86**	**328**	P	**P**	**14 51 57.8**	**+0.4**
	1.1nm,0.7s,baz=103,slow=6.4,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**42.72**	**85**	T	T	15 37 40.6	
	baz=282,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**42.73**	**85**	T	T	15 37 56.4	
	baz=282,slow=74,SNR=18						
H11N3	**WAKE ISLAND Hy**	**42.74**	**85**	T	T	15 37 42.0	
	baz=282,slow=74,SNR=17						
H11S3	**WAKE ISLAND Hy**	**42.79**	**86**	T	T	15 37 43.2	
	baz=283,slow=74,SNR=19						
H11S1	**WAKE ISLAND Hy**	**42.80**	**86**	T	T	15 37 46.7	
	baz=283,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**42.81**	**86**	T	T	15 37 49.5	
	baz=283,slow=74,SNR=13						
WRA	**Warramunga Arr**	**43.85**	**162**	P	P	14 52 11.2	-2.7
	0.6nm,0.6s,baz=347,slow=8.8,SNR=10						
WRA				PcP	**PP**	**14 53 57.6**	**+1.4**
	0.3nm,0.7s,baz=345,slow=3.5,SNR=1.6						
ASAR	**Alice Springs**	**47.27**	**164**	P	**P**	**14 52 39.4**	**-1.6**
	0.2nm,0.3s,baz=341,slow=7.0,SNR=16						
ASAR				PcP	**PcP**	**14 54 09.8**	**-2.2**
	0.2nm,0.5s,baz=330,slow=2.9,SNR=4.6						
STKA	**Stephens Creek**	**57.25**	**159**	P	**P**	**14 53 52.7**	**-2.3**
	1.3nm,0.6s,baz=326,slow=9.3,SNR=4.2						

**WEL 15 14:50

EDRZ	**Edgecumbe**	**3.70 215**	P	Pn	14 51 25.7	+0.7
RAGZ	**Rawiri**	**3.75 205**	P	Pn	14 51 26.1	+0.3
RAGZ			S	Sn	14 52 09.6	+0.2
RIGZ	**Rimuhau**	**3.84 200**	P	Pn	14 51 26.5	-0.4
RIGZ			S	Sn	14 52 10.0	-1.4
WIAZ	**Waiheke Island**	**3.87 243**	P	Pn	14 51 26.5	-0.7
OMRZ	**Omania**	**3.88 218**	P	Pn	14 51 28.7	+1.3
KARZ	**Kaharoa**	**3.88 220**	P	Pn	14 51 27.9	+0.6
TARZ	**Mount Tarawera**	**3.91 216**	P	Pn	14 51 29.4	+1.5
KMRZ	**Kaimai**	**3.92 225**	P	Pn	14 51 29.4	+1.5
MUGZ	**Murupara**	**3.99 211**	P	Pn	14 51 29.4	+0.6
MUGZ			S	Sn	14 52 14.1	-0.8
RRRZ	**Republican Roa**	**3.99 215**	P	Pn	14 51 30.1	+1.3
HLRZ	**Highlands Stat**	**4.00 217**	P	Pn	14 51 29.4	+0.4
PRGZ	**Paritu Road**	**4.01 197**	P	Pn	14 51 28.3	-0.8
PRGZ			S	Sn	14 52 11.5	-4.0
RTZ	**Ruatahuna**	**4.02 208**	P	Pn	14 51 29.0	-0.2
RTZ			S	Sn	14 52 13.0	-2.8
SNGZ	**Shannon Statio**	**4.04 204**	P	Pn	14 51 29.8	+0.3
SNGZ			S	Sn	14 52 14.8	-1.3
PRRZ	**Plateau Road**	**4.17 215**	P	Pn	14 51 31.6	+0.3
MHGZ	**Mahia Peninsul**	**4.22 196**	P	Pn	14 51 32.0	0.0
RAHZ	**Arahi**	**4.25 205**	P	Pn	14 51 32.0	-0.2
RAHZ			S	Sn	14 52 18.9	-2.2
ALRZ	**Allen Road**	**4.25 215**	P	Pn	14 51 32.9	+0.7
ALRZ			S	Sn	14 52 20.2	-1.0
MTHZ	**Maungataniwha**	**4.28 208**	P	Pn	14 51 32.7	0.0
WHHZ	**Waihua**	**4.34 203**	P	Pn	14 51 30.9	-2.6
WHHZ			S	Sn	14 52 18.9	-4.4
KUTZ	**Kaahu Road**	**4.45 219**	P	Pn	14 51 36.4	+1.5
TLZ	**Tolley Road**	**4.49 223**	P	Pn	14 51 36.5	+1.1
HATZ	**Hinemaiaia**	**4.63 214**	P	Pn	14 51 36.9	-0.5
WATZ	**Wairara**	**4.66 218**	P	Pn	14 51 38.4	+0.6
BKZ	**Black Stump Fm**	**4.69 209**	P	Pn	14 51 37.0	-1.1
BKZ			S	Sn	14 52 28.0	-3.7
CKHZ	**Cape Kidnapper**	**4.92 202**	P	Pn	14 51 40.2	-1.0
CKHZ			S	Sn	14 52 34.1	-3.1
KWHZ	**Kaweka Forest**	**4.94 208**	P	Pn	14 51 40.3	-1.2
KWHZ			S	Sn	14 52 34.9	-2.8
NTVZ	**North Tongarir**	**4.99 216**	P	Pn	14 51 41.9	-0.4
TMVZ	**Te Maari**	**4.99 215**	P	Pn	14 51 41.7	-0.6
HIZ	**Hauiti**	**5.00 226**	P	Pn	14 51 44.0	+1.6
ETVZ	**East Tongariro**	**5.00 215**	P	Pn	14 51 41.8	-0.7
KRVZ	**Karewarewa**	**5.00 216**	P	Pn	14 51 43.3	+0.8
WTVZ	**West Tongariro**	**5.04 216**	P	Pn	14 51 42.7	-0.3
NNVZ	**North Ngauruho**	**5.05 216**	P	Pn	14 51 43.5	+0.4
OTVZ	**Oturere**	**5.05 215**	P	Pn	14 51 42.4	-0.7
SNVZ	**South Ngauruho**	**5.08 215**	P	Pn	14 51 42.9	-0.6
NGZ	**Ngauruhoe**	**5.09 216**	P	Pn	14 51 43.5	-0.1
KAHZ	**Kahuranaki**	**5.11 203**	P	Pn	14 51 42.7	-1.6
KAHZ			S	Sn	14 52 39.8	-1.9
BHHZ	**Black Hill Sta**	**5.14 210**	P	Pn	14 51 42.9	-1.3
BHHZ			S	Sn	14 52 38.3	-4.2
KRHZ	**Kereru**	**5.15 207**	P	Pn	14 51 42.3	-2.0
KRHZ			S	Sn	14 52 38.4	-4.3
FWVZ	**Far West T-bar**	**5.17 216**	P	Pn	14 51 44.3	-0.6
MOVZ	**Moawhango**	**5.20 213**	P	Pn	14 51 44.0	-1.1
MOVZ			S	Sn	14 52 40.1	-4.0
WNVZ	**Wahianoa**	**5.21 215**	P	Pn	14 51 44.4	-0.9
PKVZ	**Pokaka**	**5.30 217**	P	Pn	14 51 46.3	-0.1
MTVZ	**Mangateitei**	**5.31 215**	P	Pn	14 51 45.8	-0.8
MTVZ			S	Sn	14 52 44.1	-2.7
PXZ	**Pawanui**	**5.33 202**	P	Pn	14 51 44.0	-2.6
PXZ			S	Sn	14 52 43.8	-3.1
PNHZ	**Pukenui**	**5.45 207**	P	Pn	14 51 45.6	-2.7
PNHZ			S	Sn	14 52 45.4	-4.5
VRZ	**Vera Road**	**5.48 221**	P	Pn	14 51 49.6	+0.8
WPHZ	**Waipukurau**	**5.49 205**	P	Pn	14 51 46.5	-2.5
WPHZ			S	Sn	14 52 47.0	-4.0
TSZ	**Takapari Road**	**5.66 208**	P	Pn	14 51 48.3	-3.0
TSZ			S	Sn	14 52 49.5	-5.6
DVHZ	**Dannevirke**	**5.80 205**	P	Pn	14 51 50.4	-2.7
DVHZ			S	Sn	14 52 50.2	-8.2
WAZ	**Wanganui**	**5.84 216**	P	Pn	14 51 52.2	-1.4
WAZ			S	Sn	14 52 55.7	-3.6
LREZ	**Lake Rotokare**	**5.91 221**	P	Pn	14 51 56.6	+2.0
NEZ	**North Egmont**	**5.95 224**	P	Pn	14 51 56.6	+1.5
BFZ	**Birch Farm**	**6.11 203**	P	Pn	14 51 54.0	-3.3
BFZ			S	Sn	14 52 58.2	-7.7
GLKZ	**Green Lake**	**6.24 22**	S	Sn	14 53 04.4	-4.7
TIWZ	**Tintock**	**6.32 205**	P	Pn	14 51 56.9	-3.2
TIWZ			S	Sn	14 53 03.3	-7.7
MRZ	**Mangatainoka R**	**6.33 208**	P	Pn	14 51 55.9	-4.3
MRZ			S	Sn	14 53 02.4	-8.8
HOWZ	**Holdsworth Sta**	**6.56 207**	P	Pn	14 51 59.2	-4.1
HOWZ			S	Sn	14 53 05.6	-11
TMWZ	**Te Maipa**	**6.61 204**	P	Pn	14 52 00.4	-3.6
TMWZ			S	Sn	14 53 08.3	-10
OGWZ	**Otaki Gorge**	**6.62 209**	P	Pn	14 52 00.4	-3.8
OGWZ			S	Sn	14 53 08.3	-10
KIW	**Kapiti Island**	**6.77 210**	P	Pn	14 52 01.9	-4.2
KIW			S	Sn	14 53 14.9	-6.8
MTW	**Mount Morrison**	**6.79 206**	P	Pn	14 52 02.2	-4.2
MTW			S	Sn	14 53 14.6	-7.8
CAW	**Cannon Point**	**6.91 208**	P	Pn	14 52 03.6	-4.4
CAW			S	Sn	14 53 16.7	-8.5
DUWZ	**D'Urville Isla**	**7.16 216**	P	Pn	14 52 07.6	-3.8
DUWZ			S	Sn	14 53 25.8	-5.5
PLWZ	**Palliser**	**7.24 206**	P	Pn	14 52 08.0	-4.5
PLWZ			S	Sn	14 53 24.0	-9.3
TCW	**Tory Channel**	**7.33 212**	P	Pn	14 52 08.3	-5.3
TCW			S	Sn	14 53 26.6	-8.6
TUWZ	**Tuamarina**	**7.65 213**	P	Pn	14 52 12.7	-5.3
TUWZ			S	Sn	14 53 33.9	-9.2
NNZ	**Nelson**	**7.74 216**	P	Pn	14 52 14.3	-4.9
NNZ			S	Sn	14 53 35.5	-10
TKNZ	**Takaka Hill**	**7.81 219**	P	Pn	14 52 14.8	-5.4
QRZ	**Quartz Range**	**7.89 222**	P	Pn	14 52 16.0	-5.3
QRZ			S	Sn	14 53 40.9	-8.1
MRNZ	**Matariki Terra**	**8.19 218**	P	Pn	14 52 19.7	-5.6
THZ	**Tophouse**	**8.39 216**	P	Pn	14 52 22.9	-5.1
THZ			S	Sn	14 53 52.3	-8.8
KHZ	**Kahutara**	**8.63 210**	P	Pn	14 52 26.0	-5.2
KHZ			S	Sn	14 53 56.0	-11
LTZ	**Lake Taylor**	**9.48 214**	P	Pn	14 52 36.2	-6.5
LTZ			S	Sn	14 54 15.8	-12

*IDC **15** 14:52:40.5±1.3, 13°.94S×166°.44E, h0km, mb4.2/6, mb1 4.4/8, mb1mx4.0/49, mbtmp4.3/8, ML4.3/2, Error ellipse: s-maj=30.9km s-min=20.9km az=107.0*
*NEIC **15** 14:52:45±1.7, 14°.11S±0°.09×166°.6E±0°.1, h28km±6km, mb4.6/19, Error ellipse: s-maj=16.5km s-min=9.6km az=51.0*

ISC 15 14:52:45.8±0.7, **13°.98S**±0°.07×**166°.52E**±0°.08, **h43**km, **n39, σ1s46/41, mb4.4/15, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.60**	**156**	Pn	**Pn**	**14 53 07.7**	**-4.0**
DVP	**Devils Point**	**4.05**	**157**	P	**Pn**	**14 53 49.5**	**+4.2**
KOUNC	**Koumac, New Ca**	**6.87**	**198**	Pn	**Pn**	**14 54 23.9**	**-0.1**
HNR	**Honiara**	**7.87**	**304**	Pn	**Pn**	**14 54 36.9**	**-0.8**
	11nm,0.3s,baz=215,slow=7.3,SNR=5.7						
HNR				Sn	**Sn**	**14 56 05.2**	**-0.3**
	2.9nm,0.3s,baz=190,slow=9.9,SNR=1.0						
HNR	**Honiara**		**7.87 304**		**Pn**	**14 54 39.2**	**+1.5**
DZM	**Mont Dzumac**	**8.05**	**180**	Pn	**Pn**	**14 54 39.1**	**-1.1**
	1.7nm,0.3s,baz=191,slow=24,SNR=14						
DZM				Sn	**Sn**	**14 56 12.8**	**+2.8**
	0.5nm,0.3s,baz=325,slow=23,SNR=1.1						
DZM	**Mont Dzumac**	**8.05**	**180**		**Pn**	**14 54 39.3**	**-1.0**
ONTNC	**Ouen Toro**	**8.28**	**180**	Pn	**Pn**	**14 54 42.9**	**-0.5**
OUENC	**Ouen Island, N**	**8.40**	**178**	Pn	**Pn**	**14 54 44.5**	**-0.5**
PINNC	**Pines Island,**	**8.63**	**174**	Pn	**Pn**	**14 54 46.4**	**-1.8**
PMG	**Port Moresby**	**19.49**	**281**	P	**P**	**14 57 06.5**	**-2.9**
PMG				IAmb	IAmb	14 57 06.6	
	comp=Z,31nm,1.2s						
CTAO	**Charters Tower**	**20.30**	**250**	P	**P**	**14 57 17.6**	**-0.6**
CTAO				IAmb	IAmb	14 57 45.7	
	comp=Z,46nm,1.4s						
BKZ	**Black Stump Fm**	**26.59**	**162**	P	**P**	**14 58 18.0**	**-2.0**
BKZ				IAmb	IAmb	14 58 20.3	
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**28.94**	**228**	P	**P**	**14 58 42.1**	**+1.0**
	comp=Z,11nm,0.5s,baz=45,slow=8.6,SNR=40						
STKA	**Stephens Creek**	**28.94**	**228**	P	**P**	**14 58 42.2**	**+1.1**
WB0	**Warramunga Arr**	**31.24**	**255**	P	**P**	**14 59 01.6**	**-0.1**
WB0				IAmb	IAmb	14 59 02.2	
	comp=Z,7.1nm,0.8s						
WB2	**Warramunga Arr**	**31.30**	**255**	P	**P**	**14 59 02.3**	**+0.1**
WB2				IAmb	IAmb	14 59 22.3	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**31.31**	**255**	P	**P**	**14 59 01.3**	**-1.0**
	comp=Z,3.3nm,0.9s,baz=84,slow=9.0,SNR=15						
WRA	**Warramunga Arr**	**31.31**	**255**	P	**P**	**14 59 02.2**	**-0.1**
AS31	**Alice Springs**	**32.27**	**248**	P	**P**	**14 59 10.3**	**-0.3**
ASAR	**Alice Springs**	**32.27**	**248**	P	**P**	**14 59 10.2**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=74,slow=9.4,SNR=76						
ASAR	**Alice Springs**	**32.27**	**248**	P	**P**	**14 59 10.6**	**-0.1**
BBOO	**Buckleboo**	**33.47**	**231**	P	**P**	**14 59 21.2**	**+0.1**
KNRA	**Kununurra**	**36.51**	**262**	P	**P**	**14 59 47.5**	**+0.1**
KNRA				IAmb	IAmb	14 59 49.0	
	comp=Z,17nm,1.1s						
FORT	**Forrest**	**39.06**	**238**	P	**P**	**15 00 09.4**	**+0.6**
FORT				IAmb	IAmb	15 00 10.1	
	comp=Z,16nm,0.7s						
XMAS	**Kiritimati**	**39.10**	**69**	P	**P**	**15 00 08.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**39.44**	**258**	P	**P**	**15 00 12.9**	**+0.8**
NWAO	**Narrogin (SRO)**	**48.51**	**238**	P	**P**	**15 01 25.1**	**+0.4**
MORW	**Morawa**	**48.94**	**244**	P	**P**	**15 01 28.4**	**+0.3**
MORW				IAmb	IAmb	15 01 38.9	
	comp=Z,13nm,1.2s						
VNDA	**Vanda**	**63.59**	**181**	P	**P**	**15 03 10.9**	**-0.8**
CASY	**Casey**	**63.94**	**202**	P	**P**	**15 03 14.4**	**+0.3**
CM31	**Chiang Mai Arr**	**73.98**	**294**	P	**P**	**15 04 18.1**	**+0.7**
CM31				IAmb	IAmb	15 04 23.6	
	comp=Z,3.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**73.98**	**294**	P	**P**	**15 04 18.2**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=130,slow=4.4,SNR=8.7						
CMAR	**Chiang Mai Arr**	**73.98**	**294**	P	**P**	**15 04 17.7**	**+0.3**
QSPA	**South Pole Qui**	**76.04**	**180**	P	**P**	**15 04 28.4**	**-0.2**
QSPA				IAmb	IAmb	15 04 56.6	
	comp=Z,12nm,1.5s						
SEY	**Seymchan**	**77.46**	**353**	P	**P**	**15 04 36.2**	**0.0**
	comp=Z,0.5nm,0.4s,baz=262,slow=24,SNR=8.4						
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**	**15 05 23.4**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=236,slow=5.0,SNR=8.3						
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**	**15 05 23.8**	**+2.4**
SNAA	**Sanae**	**94.25**	**183**	P	**P**	**15 05 59.0**	**-1.2**
SNAA				IAmb	IAmb	15 06 03.4	
	comp=Z,5.3nm,1.2s						

*SOME **15** 14:58:28.3, 40°.85N×71°.25E, h15km*
*KRNET **15** 14:58:28.6±0.1, 40°.87N×71°.19E, h10km, mb3.0*
*ISU **15** 14:58:29, 40°.81N×71°.13E, h20km, Hypocentre not reviewed by the ISC*
*NNC **15** 14:58:33.0±3.6, 41°.01N×71°.20E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=28.2km s-min=11.1km az=6.0*

ISC 15 14:58:28.1±1.1, **40°.88N**±0°.02×**71°.22E**±0°.03, **h11**km±11km, **n24, σ1s22/43, 13C-7D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MINT	**Mingtut**	**0.46**	**204**	P		14 58 38.0	
MINT				S		14 58 43.5	
TRKS	**Terek-Say**	**0.65**	**355**	⇑*i*	P	**Pg**	**14 58 40.0**	**-0.7**
	baz=59						
TRKS				⇑*i*	S	**Sg**	**14 58 48.4**	**-0.9**
	baz=59						
CHMI	**Chimion**	**0.66**	**159**	P			14 58 42.1	
CHMI				S			14 58 52.2	
FRG	**Fergana**	**0.67**	**139**	P			14 58 42.6	
FRG				S			14 58 52.7	
BTK	**Batken**	**0.88**	**200**	⇑*i*	P	**Pb**	**14 58 44.6**	**-0.8**
	baz=99						
BTK				⇑*i*	S	**Sb**	**14 58 56.7**	**-0.5**
	baz=99						
BTK	**Batken**	**0.88**	**200**	P			14 58 44.5	
BTK				S			14 58 56.2	
TSTA	**Tashata**	**1.01**	**107**	P			14 58 49.5	
TSTA				S			14 59 04.0	
SHAK	**Shakhimardan**	**1.01**	**157**	P			14 58 49.2	
SHAK				S			14 59 01.7	
ARK	**Arkit**	**1.07**	**31**	⇑*i*	P	**Pn**	**14 58 49.6**	**+0.4**
	baz=32						
ARK				⇑*i*	S	**Sn**	**14 59 04.9**	**+0.8**
	baz=32						
CHMG	**Chimgan**	**1.13**	**307**	S			14 59 04.4	
CHRV	**Charvak**	**1.22**	**309**	P			14 58 53.9	
OHH	**Osh**	**1.25**	**106**	⇑*i*	P	**Pg**	**14 58 52.4**	**+0.4**
	baz=5.0						
OHH				⇑*i*	S	**Sn**	**14 59 09.9**	**+1.6**
	baz=5.0						
TGS	**TashGRES**	**1.39**	**293**	P			14 58 56.9	
TGS				S			14 59 17.4	
DRK	**Karamyk**	**1.47**	**162**	⇑*i*	P	**Pg**	**14 58 56.2**	**-0.2**
	baz=61						
DRK				⇑*i*	S	**Sg**	**14 59 16.2**	**+0.7**
	baz=61						
TAS	**Tashkent**	**1.52**	**288**	⇓*i*	P	**Pg**	**14 58 56.7**	**-0.5**
	baz=89						
TAS				⇓*i*	S	**Sg**	**14 59 17.4**	**+0.5**
	baz=89						
TAS	**Tashkent**	**1.52**	**288**	S			14 59 18.0	
IUG	**Iuzhnay**	**1.54**	**325**	*e*P		**Pg**	**14 58 58.6**	**+0.9**
	3μm,0.4s						
IUG				*e*S		**Sg**	**14 59 20.4**	**+2.6**
	256nm,0.4s						
IUG	**Iuzhnay**	**1.54**	**325**	P		**Pg**	**14 58 58.6**	**+0.9**
	3μm,0.4s						
IUG				S		**Sg**	**14 59 18.3**	**+0.5**
	256nm,0.4s						
NZBK	**Nazarbek**	**1.62**	**283**	P			14 58 59.3	
NZBK				S			14 59 21.9	
CHM	**Chimkent**	**1.88**	**320**	*e*P		**Pg**	**14 59 04.0**	**-0.1**
	4.0nm,0.3s						
CHM				*e*S		**Sg**	**14 59 30.4**	**+2.0**
	631nm,0.2s						
DZA	**Taraz**	**2.01**	**2**	*e*P		**Pg**	**14 59 06.1**	**-0.5**
	44nm,0.2s						
DZA				*e*S		**Sg**	**14 59 33.9**	**+1.2**
	248nm,0.5s						
KK31	**Karatay Array**	**2.28**	**347**	⇑Pn		**Pb**	**14 59 09.4**	**+0.1**
	9.2nm,0.4s,baz=158,slow=16,SNR=68						
KK31				⇓Sn		**Sg**	**14 59 40.7**	**-0.6**
	40nm,0.4s,baz=161,slow=27,SNR=17						
BRLS	**Borolday**	**2.38**	**335**	*e*P		**Pb**	**14 59 09.5**	**-1.4**
	4.1nm,0.4s						
BRLS				*e*S		**Sb**	**14 59 39.0**	**-1.3**
	87nm,0.3s						
BRLS	**Borolday**	**2.38**	**335**	Pg		**Pb**	**14 59 10.9**	**-0.1**
	4.1nm,0.4s						
BRLS				Lg		Lg	14 59 39.1	
	87nm,0.3s						
MRKS	**Merke**	**2.39**	**38**	*e*P		**Pg**	**14 59 15.0**	**+1.1**
	2.5nm,0.5s						
MRKS				*e*S		**Sg**	**14 59 47.9**	**+3.0**
	22nm,0.6s						
MRKS	**Merke**	**2.39**	**38**	Pg		**Pg**	**14 59 16.6**	**+2.7**
	2.5nm,0.5s						
MRKS				Lg		Lg	14 59 48.9	
	22nm,0.6s						
EKS2	**Erkin-Say**	**2.61**	**46**	⇓*i*	P	**Pb**	**14 59 14.3**	**-0.7**
	baz=46						
EKS2				⇓*i*	S	**Sb**	**14 59 47.4**	**+0.3**
	baz=46						
UCH	**Uchtor**	**2.81**	**60**	⇑*i*	P	**Pb**	**14 59 17.4**	**-1.2**
	baz=60						
UCH				⇑*i*	S	**Sb**	**14 59 52.7**	**-0.6**
	baz=60						
AAK	**Ala-Archa**	**3.01**	**53**	⇓*e*P		**Pb**	**14 59 20.1**	**-1.8**
	baz=53						
AAK				⇓*i*	S	**Sb**	**14 59 57.4**	**-1.3**
	baz=53						
DGS	**Degeres**	**4.13**	**54**	*e*P		**Pg**	**14 59 45.9**	**-1.3**
	2.1nm,0.3s						
DGS				*e*S		**Sg**	**15 00 41.5**	**+0.8**
	8.7nm,0.7s						
DGS	**Degeres**	**4.13**	**54**	Pg		**Pg**	**14 59 47.4**	**+0.2**
DGS				Lg		Lg	15 00 41.5	
KST	**Kastek**	**4.14**	**57**	*e*P		**Pg**	**14 59 46.1**	**-1.4**
	0.5nm,0.2s						
KST				*e*S		**Sg**	**15 00 41.5**	**+0.4**
	8.8nm,0.3s						
KST	**Kastek**	**4.14**	**57**	Pg		**Pg**	**14 59 47.5**	**0.0**
KST				Lg		Lg	15 00 41.6	
BTLS	**Baital**	**4.64**	**26**	*e*P		**Pg**	**14 59 55.0**	**-2.0**
	0.9nm,0.5s						
BTLS				*e*S		**Sg**	**15 00 56.9**	**-0.3**
	9.3nm,0.6s						
BTLS	**Baital**	**4.64**	**26**	Pg		**Pg**	**14 59 56.5**	**-0.6**
	0.9nm,0.5s						
BTLS				Lg		Lg	15 00 56.9	
	9.3nm,0.6s						

IDC 15 15:01:52.4±1.4, **42°.68N**×**107°.75E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.2/52, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=59.9km s-min=20.7km az=70.0, Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**5.24**	**350**	Pn	Pn	15 03 11.2	-0.9
	0.6nm,0.3s,baz=192,slow=15,SNR=4.0						
SONM				Lg	Lg	15 04 40.5	
	6.8nm,0.3s,baz=199,slow=32,SNR=24						
MKAR	**Makanchi Array**	**18.52**	**292**	P	P	15 06 09.4	-0.8
	0.1nm,0.3s,baz=84,slow=12,SNR=5.5						
WRA	**Warramunga Arr**	**66.96**	**153**	P	P	15 12 46.8	0.0
	0.3nm,0.9s,baz=354,slow=7.5,SNR=1.6						
ASAR	**Alice Springs**	**70.29**	**155**	P	P	15 13 07.8	+0.2
	0.2nm,0.6s,baz=340,slow=6.1,SNR=5.8						

*IDC **15** 15:07:24.3±1.6, 14°.38S×166°.37E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/40, mbtmp3.8/5, ML4.2/2, Error ellipse: s-maj=39.5km s-min=31.9km az=116.0*
*NOU **15** 15:07:26.5, 14°.56S×166°.58E, h0km, MLv4.7/14, Vanuatu Islands*

ISC 15 15:07:28.2±1.2, **14°.6S**±0°.1×**166°.6E**±0°.1, **h28**km, **n15, σ1s98/15, mb3.6/3, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.05**	**143**	P	**Pb**	**15 07 46.0**	**-1.7**
DVP	**Devils Point**	**3.48**	**153**	P	**Pn**	**15 08 23.3**	**+2.9**
KOUNC	**Koumac, New Ca**	**6.29**	**200**	P	**Pn**	**15 09 01.5**	**+2.3**
YATNC	**Mamie plateau,**	**7.42**	**178**	P	**Pn**	**15 09 15.8**	**+1.1**
DZM	**Mont Dzumac**	**7.43**	**181**	Pn	**Pn**	**15 09 15.4**	**+0.6**
	2.6nm,0.3s,baz=139,slow=22,SNR=50						
DZM				Sn	**Sn**	**15 10 36.5**	**-1.7**
	baz=129,slow=22,SNR=1.3						
DZM	**Mont Dzumac**	**7.43**	**181**	P	**Pn**	**15 09 15.4**	**+0.6**
NOUC	**Port Laguerre**	**7.46**	**182**	P	**Pn**	**15 09 16.7**	**+1.5**
ONTNC	**Ouen Toro**	**7.66**	**181**	P	**Pn**	**15 09 20.2**	**+2.2**
OUENC	**Ouen Island, N**	**7.78**	**178**	P	**Pn**	**15 09 21.0**	**+1.5**
PINNC	**Pines Island,**	**8.01**	**174**	P	**Pn**	**15 09 26.0**	**+3.3**
HNR	**Honiara**	**8.26**	**308**	Pn	Pn	15 09 20.5	-5.7
	4.8nm,0.3s,baz=237,slow=8.7,SNR=2.2						
WRA	**Warramunga Arr**	**31.18**	**256**	P	**P**	**15 13 44.0**	**-1.2**
	0.3nm,1.0s,baz=87,slow=10.0,SNR=1.6						
ASAR	**Alice Springs**	**32.07**	**249**	P	**P**	**15 13 53.1**	**+0.1**
	0.6nm,0.7s,baz=71,slow=9.7,SNR=11						
ILAR	**Eielson Array**	**86.62**	**18**	P	**P**	**15 20 07.5**	**-1.2**
	0.4nm,0.6s,baz=238,slow=5.3,SNR=3.6						
ARCES	**ARCESS Array B**	**119.96**	**345**	PKP	**PKiKP**	**15 26 17.2**	**+1.6**
	3.2nm,1.0s,baz=50,slow=2.8,SNR=4.9						

*IDC **15** 15:13:14.1±1.6, 14°.52S×166°.55E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/46, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=40.1km s-min=31.7km az=119.0*
*NOU **15** 15:13:16.4, 14°.59S×166°.61E, h0km, MLv4.8/11, Vanuatu Islands*

ISC 15 15:13:17.8±1.1, **14°.62S**±0°.09×**166°.6E**±0°.1, **h28**km, **n14, σ2s05/15, mb3.5/3, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.00**	**146**	P	**Pn**	**15 13 35.6**	**-0.3**
DVP	**Devils Point**	**3.44**	**154**	P	**Pn**	**15 14 11.9**	**+2.4**
KOUNC	**Koumac, New Ca**	**6.31**	**200**	P	**Pn**	**15 14 51.0**	**+2.0**
YATNC	**Mamie plateau,**	**7.41**	**178**	P	**Pn**	**15 15 05.7**	**+1.6**
DZM	**Mont Dzumac**	**7.42**	**181**	Pn	**Pn**	**15 15 05.0**	**+0.7**
	1.3nm,0.3s,baz=312,slow=21,SNR=32						
DZM				Sn	**Sn**	**15 16 23.9**	**-3.7**
	baz=129,slow=20,SNR=1.1						
DZM	**Mont Dzumac**	**7.42**	**181**	P	**Pn**	**15 15 05.2**	**+0.9**
NOUC	**Port Laguerre**	**7.45**	**182**	P	**Pn**	**15 15 07.0**	**+2.3**
ONTNC	**Ouen Toro**	**7.65**	**181**	P	**Pn**	**15 15 09.7**	**+2.3**
OUENC	**Ouen Island, N**	**7.76**	**179**	P	**Pn**	**15 15 11.5**	**+2.5**
HNR	**Honiara**	**8.32**	**308**	Pn	**Pn**	**15 15 15.5**	**-1.1**
	4.2nm,0.3s,baz=185,slow=10,SNR=1.5						
WRA	**Warramunga Arr**	**31.25**	**256**	P	**P**	**15 19 34.9**	**-0.5**
	0.6nm,1.0s,baz=85,slow=9.3,SNR=3.1						
ASAR	**Alice Springs**	**32.13**	**249**	P	**P**	**15 19 43.1**	**0.0**
	0.4nm,0.6s,baz=72,slow=9.5,SNR=10.0						
ILAR	**Eielson Array**	**86.61**	**18**	P	**P**	**15 25 57.8**	**-0.5**
	0.3nm,0.6s,baz=237,slow=5.0,SNR=4.5						
ARCES	**ARCESS Array B**	**119.98**	**345**	PKP	**PKiKP**	**15 32 07.

MORW					IAmb	IAmb	15 29 25.3		
	comp=Z,14nm,1.1s								
POHA	**Pohakuloa**	**50.48**	**49**	P	P	P	15 29 15.8	-4.9	
POHA				pP	pP		15 29 25.6	-2.2	
KKM	**Kota Kinabalu**	**53.69**	**289**	P	P	**P**	**15 29 44.5**	**0.0**	
KKM				IAmb	IAmb		15 29 55.3		
	comp=Z,24nm,1.1s								
MAJO	**Matsushiro**	**57.11**	**333**	P	P	**P**	**15 30 10.3**	**+1.8**	
MAJO				pP	**sP**		**15 30 18.7**	**+0.3**	
KSRS	**Korea Array**	**62.88**	**326**	P	P	**P**	**15 30 46.8**	**-1.3**	
	comp=Z,0.6nm,0.8s,baz=126,slow=6.2,SNR=2.0								
VNDA	**Vanda**	**63.30**	**181**	P	P	**P**	**15 30 51.3**	**+0.9**	
	comp=Z,1.5nm,0.7s,baz=359,slow=7.8,SNR=7.4								
VNDA	**Vanda**	**63.30**	**181**	P	P	**P**	**15 30 50.7**	**+0.4**	
VNDA				IAmb	IAmb		15 31 14.6		
	comp=Z,3.7nm,1.1s								
SBA	**Scott Base**	**63.59**	**180**	P	P	**P**	**15 30 54.0**	**+1.8**	
SBA				IAmb	IAmb		15 31 14.5		
	comp=Z,6.4nm,1.0s								
SBA	**Scott Base**	**63.59**	**180**	P	P	**P**	**15 30 54.1**	**+1.8**	
SBA				pP	**sP**		**15 31 03.1**	**+0.4**	
NJ2	**Nanjing**	**64.75**	**316**	*e*P	P	**P**	**15 31 03.1**	**+2.6**	
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CCD	**Concordia, Ant**	**65.17**	**191**	P	P	**P**	**15 31 04.2**	**+1.0**	
CCD				pP	**sP**		**15 31 12.7**	**-1.0**	
KLR	**Kul'dur**	**70.25**	**337**	P	P	**P**	**15 31 35.6**	**+0.6**	
	comp=Z,0.8nm,0.4s,baz=98,slow=6.5,SNR=4.8								
XAN	**Xi'an**	**72.74**	**313**	P	P	**P**	**15 31 51.5**	**+1.0**	
XAN				pP	pP		15 31 56.0	-1.6	
XAN				pmax	pmax				
	comp=Z,7.0nm,2.3s								
KMI	**Kunming**	**73.33**	**302**	⇓P	P		15 31 43.4	-11	
KMI				pmax	pmax				
	comp=Z,15nm,1.0s								
CMAR	**Chiang Mai Arr**	**73.97**	**294**	P	P	**P**	**15 31 58.8**	**+0.8**	
	comp=Z,1.7nm,0.9s,baz=119,slow=4.2,SNR=11								
HHC	**Hu-ho-hao-te**	**74.68**	**320**	*e*P	P	**P**	**15 32 02.3**	**+0.6**	
HHC				pmax	pmax				
	comp=Z,20nm,0.9s								
HHC				pmax	pmax				
	comp=Z,980nm,5.7s								
PZH	**PanZhiHua**	**74.72**	**303**	P	P	**P**	**15 32 03.6**	**+1.3**	
PZH				pmax	pmax				
	comp=Z,10.0nm,0.8s								
PZH				pmax	pmax				
	comp=Z,100nm,4.8s								
LZH	**Lanzhou**	**77.37**	**313**	*e*P	P		15 32 12.3	-5.0	
LZH				pP	pP		15 32 20.0	-4.5	
LZH				pmax	pmax				
	comp=Z,18nm,1.3s								
SEY	**Seymchan**	**77.73**	**354**	P	P	**P**	**15 32 18.5**	**+0.1**	
	comp=Z,2.7nm,1.0s,baz=144,slow=6.4,SNR=5.1								
RPN	**Rapa Nui**	**78.64**	**115**	P	P	**P**	**15 32 24.1**	**-0.3**	
	comp=Z,62nm,0.8s,baz=225,slow=1.4,SNR=3.6								
CAST	**Castle Rocks**	**83.82**	**17**	P	P	**P**	**15 32 49.2**	**-1.8**	
CAST				IAmb	IAmb		15 33 00.3		
	comp=Z,6.3nm,0.8s								
RND	**Reindeer**	**84.78**	**19**	P	P	**P**	**15 32 54.1**	**-1.9**	
H21K	**Melozitna Rive**	**85.35**	**16**	P	P	**P**	**15 32 58.2**	**-0.5**	
H21K				IAmb	IAmb		15 33 00.3		
	comp=Z,9.4nm,1.1s								
IMAR	**Indian Mountai**	**85.36**	**15**	P	P	**P**	**15 32 58.2**	**-0.5**	
WRH	**Wood River Hil**	**85.79**	**18**	P	P	**P**	**15 32 59.7**	**-1.2**	
WRH				IAmb	IAmb		15 33 04.4		
	comp=Z,11nm,1.1s								
CCB	**Clear Creek Bu**	**86.00**	**18**	P	P	**P**	**15 33 00.5**	**-1.5**	
CCB				IAmb	IAmb		15 33 10.5		
	comp=Z,5.1nm,0.8s								
MDM	**Murphy Dome**	**86.10**	**18**	P	P	**P**	**15 33 01.4**	**-1.1**	
IL31		**86.37**	**18**	P	P	**P**	**15 33 02.0**	**-1.6**	
IL31				IAmb	IAmb		15 33 03.8		
	comp=Z,6.9nm,0.8s								
ILAR	**Eielson Array**	**86.37**	**18**	P	P	**P**	**15 33 02.5**	**-1.2**	
	comp=Z,4.2nm,0.7s,baz=242,slow=5.1,SNR=44								
J25K	**Salcha River,**	**86.72**	**19**	P	P	**P**	**15 33 04.7**	**-0.9**	
J25K				IAmb	IAmb		15 33 06.2		
	comp=Z,6.7nm,0.8s								
SYO	**Syowa Base**	**88.89**	**197**	⇑*e*X	P		15 33 23.6	+7.7	
WMQ	**Urumqi**	**91.79**	**315**	*e*P	**P**	**P**	**15 33 30.4**	**+0.4**	
MKAR	**Makanchi Array**	**96.28**	**317**	P	P	**P**	**15 33 50.6**	**+0.2**	
	comp=Z,1.7nm,1.0s,baz=95,slow=6.5,SNR=2.2								
ZALV	**Zalesovo Beam**	**96.51**	**324**	P	P	**P**	**15 33 51.4**	**+0.1**	
	comp=Z,0.7nm,0.6s,baz=151,slow=3.3,SNR=1.8								
YKA	**Yellowknife Ar**	**97.55**	**27**	P	P	**P**	**15 33 54.3**	**-1.5**	
	comp=Z,1.0nm,0.9s,baz=258,slow=4.5,SNR=6.4								
ARCES	**ARCESS Array B**	**119.59**	**345**	PKP	**PKiKP**		**15 39 11.4**	**+0.2**	
	comp=Z,3.0nm,1.0s,baz=76,slow=1.5,SNR=5.5								
GERES	**GERESS Array B**	**138.84**	**333**	PKP	**PKPdf**		**15 39 49.3**	**+1.0**	
	comp=Z,0.4nm,0.4s,baz=204,slow=2.9,SNR=4.4								
KEST	**Kesra**	**150.31**	**320**	PKPbc	**PKiKP**		**15 40 14.6**	**+0.1**	
	comp=Z,2.2nm,0.7s,baz=359,slow=8.7,SNR=2.6								
TORD	**Torodi Ar. Bea**	**165.07**	**268**	PKPab	**PKPab**		**15 41 23.1**	**-0.9**	
	comp=Z,0.5nm,1.0s,baz=189,slow=8.6,SNR=2.0								

BJI ***15*** *15:21:22.8±0.0, 51°.40N×89°.85E, h10km, mb4.3/42, mB4.9/12, ML4.8/4, Ms4.6/15, Ms7 4.6/12*

MOS ***15*** *15:21:23.9±1.3, 51°.18N×89°.91E, h10km, mb4.8/31, Error ellipse: s-maj=5.1km s-min=3.7km az=62.6*

ASRS ***15*** *15:21:23.2±0.2, 51°.N±1°×9°.0E±°, h10km, MLh5.1/14, Error ellipse: s-maj=2.9km s-min=2.0km az=146.3, confirmed*

IDC ***15*** *15:21:23.5±0.4, 51°.28N×90°.04E, h0km, mb4.3/31, mb1 4.4/39, mb1mx4.3/58, mbtmp4.3/39, ML3.4/5, MS4.1/1, Ms1 4.2/1, ms1mx3.3/100, Error ellipse: s-maj=10.7km s-min=7.3km az=158.0*

NEIC ***15*** *15:21:24.9±1.7, 51°.32N±0°.08×90°.01E±0°.05, h10km±1km, mb4.8/28, Error ellipse: s-maj=13.7km s-min=4.5km az=170.0*

NNC ***15*** *15:21:27.1±1.8, 51°.31N×89°.47E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=18.2km s-min=8.1km az=91.0*

ISC 15 15:21:25.5±0.8, 51°.30N±0°.02×89°.86E±0°.02, h9km±5km, n278, σ1s87/355, mb4.6/73, MS4.1/5, 24C-23D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h	m	s	Res ISC
CUR	**Chagan-Uzun**	**1.54**	**219**		Op PG	**Pn**	**15 21 52.0**			**-1.1**
CUR					S	**Sg**	**15 22 15.6**			**+0.8**
CUR	**Chagan-Uzun**	**1.54**	**219**		Pn	**Pn**	**15 21 52.1**			**-1.1**
CUR					Pg	**Pg**	**15 21 55.2**			**+0.3**
CUR					Sg	**Sg**	**15 22 15.6**			**+0.8**
DJO	**Djoy, Khakassi**	**1.71**	**29**		PN	**Pn**	**15 21 53.9**			**-1.5**
DJO					S	**Sn**	**15 22 15.6**			**-1.8**
DJO	**Djoy, Khakassi**	**1.71**	**29**		Pg	**Pn**	**15 21 54.0**			**-1.5**
DJO					Sg	**Sn**	**15 22 15.7**			**-1.8**
AKAR	**Aktash**	**1.72**	**236**		PN	**Pn**	**15 21 56.5**			**+0.8**
AKAR					PG	**Pb**	**15 21 57.9**			**+0.6**
AKAR					S	**Sg**	**15 22 23.3**			**+2.4**
AKAR	**Aktash**	**1.72**	**236**		Pn	**Pn**	**15 21 56.5**			**+0.8**
AKAR					Pg	**Pb**	**15 21 57.9**			**+0.6**
AKAR					Sg	**Sg**	**15 22 23.3**			**+2.4**
DJOS	**Djoyskaya Sosn**	**1.78**	**32**		PN	**Pn**	**15 21 56.1**			**-0.3**
DJOS					S	**Sn**	**15 22 18.6**			**-0.4**
DJOS	**Djoyskaya Sosn**	**1.78**	**32**		Pg	**Pn**	**15 21 56.1**			**-0.3**
DJOS					Sg	**Sn**	**15 22 18.7**			**-0.4**
CHBI	**Chibit, Altay**	**1.79**	**238**		PN	**Pb**	**15 21 58.9**			**+0.5**
CHBI					PG	**Pg**	**15 22 00.0**			**+0.3**
CHBI					S	**Sg**	**15 22 26.0**			**+3.1**
CHBI	**Chibit, Altay**	**1.79**	**238**		Pn	**Pb**	**15 21 58.9**			**+0.5**
CHBI					Pg	**Pg**	**15 22 00.1**			**+0.3**
CHBI					Sg	**Sg**	**15 22 26.1**			**+3.1**
CERR	**Cheremushki**	**1.83**	**31**		PN	**Pn**	**15 21 57.3**			**+0.2**
CERR					S	**Sn**	**15 22 20.4**			**0.0**
CERR	**Cheremushki**	**1.83**	**31**		Pg	**Pn**	**15 21 57.4**			**+0.2**
CERR					Sg	**Sn**	**15 22 20.5**			**0.0**
TASR	**Tashtagol**	**1.91**	**321**		PN	**Pn**	**15 21 59.8**			**+1.6**
TASR					S	**Sg**	**15 22 27.6**			**+0.8**
TASR	**Tashtagol**	**1.91**	**321**		Pn	**Pn**	**15 21 59.9**			**+1.6**
TASR					Pg	**Pb**	**15 22 01.6**			**+1.2**
TASR					Sg	**Sg**	**15 22 27.7**			**+0.8**
HVS	**Khovu-Aksy**	**2.42**	**92**		PN	**Pn**	**15 22 04.9**			**-0.4**
HVS					S	**Sn**	**15 22 35.8**			**+0.7**
HVS					pmax	pmax				
	comp=Z,738nm,0.8s									
LUZB	**Luzhba, Kemero**	**2.44**	**346**		PN	**Pn**	**15 22 08.1**			**+2.6**
LUZB					S	**Sg**	**15 22 43.0**			**-0.8**
LUZB	**Luzhba, Kemero**	**2.44**	**346**		Pg	**Pn**	**15 22 08.1**			**+2.6**
LUZB					Sg	**Sg**	**15 22 43.0**			**-0.8**
GALT	**Gorno-Altaysk,**	**2.53**	**287**		PN	**Pn**	**15 22 09.0**			**+2.4**
GALT					PG	**Pg**	**15 22 14.4**			**+0.6**
GALT					S	**Sg**	**15 22 45.6**			**-1.0**
GALT	**Gorno-Altaysk,**	**2.53**	**287**		Pn	**Pn**	**15 22 09.1**			**+2.4**
GALT					Pg	**Pg**	**15 22 14.5**			**+0.6**
GALT					Sg	**Sg**	**15 22 45.6**			**-1.0**
ABNR	**Abakan**	**2.62**	**21**		PN	**Pb**	**15 22 11.4**			**-1.1**
ABNR					S	**Sb**	**15 22 46.1**			**+1.4**
ABNR	**Abakan**	**2.62**	**21**		Pg	**Pb**	**15 22 11.4**			**-1.1**
ABNR					Sg	**Sb**	**15 22 46.2**			**+1.4**
KZLR	**Kyzyl**	**2.90**	**80**		PN	**Pn**	**15 22 13.1**			**+1.3**
KZLR					S	**Sn**	**15 22 50.2**			**+3.4**
KZLR					pmax	pmax				
	comp=Z,915nm,0.6s									
KZLR	**Kyzyl**	**2.90**	**80**		Pn	**Pn**	**15 22 11.5**			**-0.3**
KZLR					Pg	**Pb**	**15 22 16.4**			**-1.0**
KZLR					Sg	**Sn**	**15 22 50.6**			**+3.9**
ELT	**Eltsovka**	**2.97**	**313**		PN	**Pn**	**15 22 14.4**			**+1.7**
ELT					S	**Sb**	**15 22 57.8**			**+3.0**
ELT	**Eltsovka**	**2.97**	**313**		Pn	**Pn**	**15 22 14.5**			**+1.7**
ELT					Pg	**Pb**	**15 22 18.3**			**-0.2**
ELT					Sg	**Sb**	**15 22 57.8**			**+3.0**
UKR	**Ust'-Kan**	**3.23**	**266**		PN	**Pn**	**15 22 18.9**			**+2.6**
UKR					PG	**Pb**	**15 22 25.2**			**+2.3**
UKR					S	**Sg**	**15 23 10.1**			**+1.1**
UKR	**Ust'-Kan**	**3.23**	**266**		Pn	**Pn**	**15 22 19.0**			**+2.6**
UKR					Pg	**Pb**	**15 22 25.2**			**+2.3**
UKR					Sg	**Sg**	**15 23 10.1**			**+1.1**
ERNS	**Erzin**	**3.52**	**105**		PN	**Pn**	**15 22 20.3**			**0.0**
ERNS					PG	**Pb**	**15 22 27.0**			**-0.8**
ERNS					S	**Sb**	**15 23 10.2**			**-0.5**
ERNS	**Erzin**	**3.52**	**105**		Pn	**Pn**	**15 22 20.4**			**0.0**
ERNS					Pg	**Pb**	**15 22 27.1**			**-0.8**
ERNS					Sg	**Sb**	**15 23 10.2**			**-0.5**
BJR1	**Bachatsky 1, K**	**3.75**	**323**		PN	**Pn**	**15 22 26.5**			**+3.1**
BJR1	**Bachatsky 1, K**	**3.75**	**323**		Pn	**Pn**	**15 22 26.5**			**+3.1**
SALR	**Pechorkino, Sa**	**4.01**	**323**		PN	**Pn**	**15 22 30.1**			**+3.0**
SALR					PG	**Pg**	**15 22 41.2**			**-1.1**
SALR	**Pechorkino, Sa**	**4.01**	**323**		Pn	**Pn**	**15 22 30.1**			**+3.0**
SALR					Pg	**Pg**	**15 22 41.3**			**-1.1**
ZAA0	**Zalesovo Array**	**4.06**	**313**			**Pn**	**15 22 28.9**			**+1.2**
ZAA0	**Zalesovo Array**	**4.06**	**313**		⇑Pn	**Pn**	**15 22 28.5**			**+0.8**
	comp=Z,3.7nm,0.4s									
ZAA0					⇑Pg	**Pb**	**15 22 38.4**			**+1.3**
	comp=Z,32nm,0.6s									
ZAA0					⇑Lg	Lg	15 23 29.9			
	comp=Z,355nm,0.9s									
ZALV	**Zalesovo Beam**	**4.06**	**313**		Pn	**Pn**	**15 22 28.8**			**+1.1**
	comp=Z,20nm,0.3s,baz=132,slow=14,SNR=132									
ZALV					Pg	**Pb**	**15 22 39.0**			**+2.0**
	comp=Z,41nm,0.3s,baz=130,slow=16,SNR=22									
ZALV					Sn	**Sn**	**15 23 16.2**			**+0.9**
	comp=Z,45nm,0.3s,baz=120,slow=23,SNR=6.7									
ZALV					Lg	Lg	15 23 30.8			
	comp=Z,62nm,0.3s,baz=126,slow=18,SNR=6.5									
ZALV	**Zalesovo Beam**	**4.06**	**313**			**Pn**	**15 22 28.6**			**+0.9**
BRCR	**Berchikul'**	**4.45**	**349**		PN	**Pn**	**15 22 35.2**			**+2.2**
BRCR					S	**Sb**	**15 23 41.3**			**+4.0**
BRCR	**Berchikul'**	**4.45**	**349**		Pn	**Pn**	**15 22 35.3**			**+2.2**
BRCR					Pg	**Pb**	**15 22 43.5**			**-0.2**
BRCR					Sg	**Sb**	**15 23 41.4**			**+4.0**
MINR	**Mina**	**4.46**	**34**		PN	**Pn**	**15 22 34.2**			**+1.0**
MINR					PG	**Pb**	**15 22 44.8**			**+0.9**
MINR					S	**Sb**	**15 23 41.7**			**+4.1**
MINR	**Mina**	**4.46**	**34**		Pn	**Pn**	**15 22 34.2**			**+1.0**
MINR					Pg	**Pb**	**15 22 44.8**			**+0.9**
MINR					Sg	**Sb**	**15 23 41.8**			**+4.1**
KNGR	**Kungurtug, Tuv**	**4.89**	**95**		PN	**Pn**	**15 22 38.5**			**-0.7**
KNGR					PG	**Pb**	**15 22 54.3**			**+3.0**
KNGR					S	**Sb**	**15 23 53.6**			**+3.4**
KNGR	**Kungurtug, Tuv**	**4.89**	**95**		Pn	**Pn**	**15 22 38.6**			**-0.7**
KNGR					Pg	**Pb**	**15 22 54.4**			**+3.0**
KNGR					Sg	**Sb**	**15 23 53.6**			**+3.4**
ZSN	**Zaisan**	**5.04**	**222**		*e*PN	**Pn**	**15 22 40.0**			**-1.2**
ZSN					*e*		15 23 37.6			
ZSN	**Zaisan**	**5.04**	**222**		*e*Pn	**Pn**	**15 22 40.1**			**-1.2**
	baz=223									
ZSN					*e*Sn	**Sn**	**15 23 37.6**			**-2.0**
	baz=223									
ZSN					*e*Lg	Lg	15 24 02.9			
	baz=223									
NVSII	**Novosibirsk**	**5.34**	**314**		PN	**Pn**	**15 22 46.3**			**+1.0**
NVSII					PG	**Pg**	**15 23 04.0**			**-3.7**
NVSII	**Novosibirsk**	**5.34**	**314**		Pn	**Pn**	**15 22 46.4**			**+1.0**
NVSII					Pg	**Pg**	**15 23 04.0**			**-3.7**
NVSII					Sg	**Sg**	**15 24 15.5**			**-1.3**
SEM	**Semipalatinsk**	**6.15**	**265**		*e*PN	**Pn**	**15 22 56.0**			**-0.6**
SEM					*e*		15 24 07.1			
SEM	**Semipalatinsk**	**6.15**	**265**		*e*Pn	**Pn**	**15 22 56.0**			**-0.6**
	baz=266									
SEM					*e*Sn	**Sn**	**15 24 07.1**			**0.0**
	baz=266									
SEM					*e*Lg	Lg	15 24 39.7			
	baz=266									
MK31	**Makanchi Array**	**6.71**	**231**		*e*PN	**Pn**	**15 23 04.9**			**+0.8**
MK31	**Makanchi Array**	**6.71**	**231**			**Pn**	**15 23 05.5**			**+1.3**
MK31	**Makanchi Array**	**6.71**	**231**		⇑Pn	**Pn**	**15 23 05.0**			**+0.8**
	comp=Z,154nm,0.7s,baz=61,slow=12,SNR=1588									
MK31					⇓Lg	Lg	15 24 55.2			
	comp=Z,496nm,1.1s,baz=55,slow=31,SNR=4.2									
MKAR	**Makanchi Array**	**6.71**	**231**		Pn	**Pn**	**15 23 05.5**			**+1.4**
	comp=Z,17nm,0.3s,baz=58,slow=12,SNR=550									
MKAR					Pg	**Pb**	**15 23 22.1**			**-0.2**
	comp=Z,13nm,0.3s,baz=46,slow=13,SNR=4.3									
MKAR					Sn	**Sn**	**15 24 22.1**			**+1.4**
	comp=Z,5.8nm,0.3s,baz=56,slow=26,SNR=2.1									
MKAR					Lg	Lg	15 24 58.8			
	comp=Z,16nm,0.3s,baz=46,slow=30,SNR=6.3									
MKAR	**Makanchi Array**	**6.71**	**231**			**Pn**	**15 23 05.4**			**+1.2**
MAKZ	**Makanchi**	**6.85**	**232**		PN	**Pn**	**15 23 06.9**			**+0.8**
MAKZ	**Makanchi**	**6.85**	**232**			**Pn**	**15 23 06.9**			**+0.8**
MAKZ	**Makanchi**	**6.85**	**232**		⇑Pn	**Pn**	**15 23 06.6**			**+0.5**
	comp=Z,77nm,0.8s									
MAKZ					⇓Lg	Lg	15 24 57.7			
	comp=Z,409nm,1.5s									
MOY	**Mondy**	**6.96**	**83**		*e*PN	Pb	15 23 18.3			-8.3
MOY					*e*		15 24 54.9			
KURK	**Kurchatov**	**7.12**	**270**		*e*PN	**Pn**	**15 23 10.7**			**+1.0**
KURK	**Kurchatov**	**7.12**	**270**			**Pn**	**15 23 10.4**			**+0.7**
KURBB	**Kurchatov Arra**	**7.19**	**269**		Pn	**Pn**	**15 23 12.0**			**+1.3**
	comp=Z,1.2nm,0.3s,baz=82,slow=15,SNR=84									
KURBB					Sn	**Sn**	**15 24 34.0**			**+1.6**
	comp=Z,1.5nm,0.3s,baz=81,slow=26,SNR=4.0									
KURBB					Lg	Lg	15 25 10.6			
	comp=Z,2.4nm,0.3s,baz=81,slow=32,SNR=4.5									
KURBB	**Kurchatov Arra**	**7.19**	**269**		P	**Pn**	**15 23 11.2**			**+0.6**
KURBB	**Kurchatov Arra**	**7.19**	**269**		⇓Pn	**Pn**	**15 23 11.2**			**+0.6**
	comp=Z,40nm,0.7s									
KURBB					⇓Lg	Lg	15 25 11.6			
	comp=Z,1μm,0.9s									
WMQ	**Urumqi**	**7.62**	**192**		*e*Pn	**Pn**	**15 23 20.3**			**+3.6**
WMQ					Sg	**Sg**	**15 25 24.6**			**-5.3**
WMQ					smax	smax				
	comp=Z,380nm,1.3s									
WMQ					smax	smax				
	comp=Z,310nm,1.3s									
ZAK	**Zakamensk**	**8.55**	**91**		*e*P	**Pn**	**15 23 30.4**			**+1.0**
ZAK					pmax	pmax				
	comp=Z,79nm,1.4s									
TDK	**Taldyqorghan**	**9.90**	**235**		*e*P	**Pn**	**15 23 47.1**			**-0.8**
TDK	**Taldyqorghan**	**9.90**	**235**		*e*Pn	**Pn**	**15 23 47.2**			**-0.8**
	baz=235									
TDK					*e*Pg		15 24 24.6			
	baz=235									
TDK					*e*Lg	Lg	15 26 38.6			
	baz=235									
PDGK	**Podgornoye**	**10.62**	**225**		P	**Pn**	**15 23 58.6**			**+0.7**
PDGK					S	**Sn**	**15 25 56.7**			**-0.3**
PDGK	**Podgornoye**	**10.62**	**225**		⇑Pn	**Pn**	**15 23 58.1**			**+0.2**
PDGK					⇓Sn	**Sn**	**15 25 56.8**			**-0.3**
	comp=Z,47nm,0.9s									
PDGK					⇑Lg	Lg	15 27 01.3			
	comp=Z,130nm,1.2s									
ARXS	**Arharly**	**10.75**	**233**		*e*P	**Pn**	**15 23 59.9**			**+0.3**
SHLS	**Shalkode**	**10.77**	**225**		*e*P	**Pn**	**15 23 56.5**			**-3.4**
SHLS	**Shalkode**	**10.77**	**225**		*e*Pn	**Pn**	**15 23 56.6**			**-3.4**
	baz=224									
SHLS					*e*Pg		15 24 36.1			
	baz=224									
SHLS					*e*Lg	Lg	15 27 00.6			
	baz=224									
KPKS	**Kokpek**	**10.89**	**228**		*e*P	**Pn**	**15 24 01.2**			**-0.3**
KPKS	**Kokpek**	**10.89**	**228**		*e*Pn	**Pn**	**15 24 00.1**			**-1.3**
	baz=228									
UZB	**Uzynbulak**	**10.98**	**226**		*e*P	**Pn**	**15 24 01.7**			**-1.0**
UZB					pmax	pmax				
	comp=Z,3.0nm,0.5s									
UZB	**Uzynbulak**	**10.98**	**226**		*e*Pn	**Pn**	**15 24 01.8**			**-1.0**
	comp=Z,3.4nm,0.5s,baz=226									
BRZS	**Berezniki**	**10.99**	**270**		*e*P	**Pn**	**15 24 02.1**			**-0.7**
BRZS					pmax	pmax				
	comp=Z,5.0nm,0.7s									
BRZS	**Berezniki**	**10.99**	**270**		*e*Pn	**Pn**	**15 24 02.1**			**-0.7**
	comp=Z,5.1nm,0.7s,baz=270									
ZHN	**Zhinishke**	**11.23**	**228**		*e*P	**Pn**	**15 24 05.3**			**-0.9**
ZHN	**Zhinishke**	**11.23**	**228**		*e*Pn	**Pn**	**15 24 05.4**			**-0.9**
	baz=228									
SONM	**Songino Array**	**11.28**	**101**		Pn	**Pn**	**15 24 05.6**			**-1.2**
	comp=Z,0.2nm,0.3s,baz=289,slow=14,SNR=7.6									
SONM					Pg		15 24 45.8			
	comp=Z,0.6nm,0.3s,baz=296,slow=17,SNR=8.6									
SONM					Sn	Sn	15 26 04.4			-8.6
	comp=Z,0.5nm,0.3s,baz=304,slow=14,SNR=3.6									
SONM					Lg	Lg	15 27 14.5			
	comp=Z,1.1nm,0.3s,baz=286,slow=31,SNR=8.2									
SATY	**Saty**	**11.33**	**228**		*e*P	**Pn**	**15 24 06.6**			**-0.9**
SATY					pmax	pmax				
	comp=Z,2.0nm,0.5s									
SATY	**Saty**	**11.33**	**228**		*e*Pn	**Pn**	**15 24 06.7**			**-0.9**
	comp=Z,2.1nm,0.5s,baz=228									
CHKK	**Chushkaly**	**11.43**	**234**		*e*P	**Pn**	**15 24 06.7**			**-2.1**
CHKK	**Chushkaly**	**11.43**	**234**		*e*Pn	**Pn**	**15 24 06.8**			**-2.1**
	baz=235									
ULN	**Ulaanbaatar**	**11.68**	**100**		⇓*e*P	**Pn**	**15 24 13.4**			**+1.1**
OTUK	**Ortayu**	**11.73**	**262**		P	**Pn**	**15 24 11.5**			**-1.4**
OTUK	**Ortayu**	**11.73**	**262**		⇑Pn	**Pn**	**15 24 11.5**			**-1.4**
OTUK					⇑Lg	Lg	15 27 33.7			
	comp=Z,124nm,1.2s									
MDOK	**Medeo**	**11.90**	**232**		P	**Pn**	**15 24 15.6**			**+0.2**
MDOK	**Medeo**	**11.90**	**232**		*e*Pn	**Pn**	**15 24 14.6**			**-0.8**
	baz=232									
MDOK					*e*Lg	Lg	15 27 41.9			
	baz=232									
MDOK	**Medeo**	**11.90**	**232**		⇑Pn	**Pn**	**15 24 15.7**			**+0.2**
	comp=Z,10nm,1.4s									
MDOK					⇑Lg	Lg	15 27 40.7			
	comp=Z,98nm,1.2s									
AAA	**Alma-Ata**	**11.94**	**232**		*e*P	**Pn**	**15 24 14.9**			**-0.8**
AAA	**Alma-Ata**	**11.94**	**232**		*e*Pn	**Pn**	**15 24 15.0**			**-0.8**
	baz=233									
TNSS	**Tian-Shan**	**12.05**	**232**		*e*P	**Pn**	**15 24 16.8**			**-0.8**
TNSS	**Tian-Shan**	**12.05**	**232**		*e*Pn	**Pn**	**15 24 16.8**			**-0.8**
	baz=232									
TNSS					*e*Lg	Lg	15 27 46.9			
	baz=232									
BVAR	**Borovoye Array**	**12.08**	**286**		Pn	**Pn**	**15 24 17.6**			**-0.1**
BVAR					Sn	**Sn**	**15 26 29.1**			**-3.2**
BRVK	**Borovoye**	**12

AKTO	**Aktyubinsk**	**20.04**	**280**	P		**P**		**15 25 58.9**	**+0.3**
	comp=Z,12nm,0.5s,baz=89,slow=13,SNR=18								
AKTO				S		**S**		**15 29 38.1**	**-5.5**
	comp=Z,2.1nm,0.8s,baz=41,slow=21,SNR=1.1								
AKTO				Lg		Lg		15 32 01.4	
	comp=Z,6.1nm,1.0s,baz=184,slow=22,SNR=1.9								
AKTO	**Aktyubinsk**	**20.04**	**280**	*i* P		**P**		**15 25 58.7**	**+0.2**
AKTO				pmax	pmax				
	comp=Z,20nm,0.9s								
AKTO	**Aktyubinsk**	**20.04**	**280**	⇑Pn		**P**		**15 25 58.7**	**+0.2**
	comp=Z,20nm,0.9s								
BJI	**Beijing**	**21.44**	**111**	P		**P**		**15 26 12.9**	**-0.8**
BJI				pmax	pmax				
	comp=Z,9.0nm,0.7s								
LSA	**Lhasa**	**21.59**	**177**	P		**P**		**15 26 19.1**	**+3.1**
LSA				pmax	pmax				
	comp=Z,41nm,0.7s								
XAN	**Xi'an**	**22.11**	**134**	P		**P**		**15 26 20.5**	**-0.5**
XAN				pmax	pmax				
	comp=Z,12nm,1.4s								
KBL	**Kabul**	**22.52**	**230**	P		**P**		**15 26 26.3**	**+0.7**
KBL				pmax	pmax				
	comp=Z,18nm,0.7s								
ZEA	**Zeya**	**22.71**	**69**	*e*P		**P**		**15 26 28.1**	**+0.8**
ZEA				pmax	pmax				
	comp=Z,100nm,1.1s								
ZEA				pmax	pmax				
	comp=E,10.0nm,0.9s								
CD2	**Chengdu**	**22.83**	**148**	P		**P**		**15 26 29.8**	**+1.1**
CD2				pmax	pmax				
	comp=E,20nm,1.2s								
DANN	**Dangsing**	**23.38**	**194**	*e*P		**P**		**15 26 34.6**	**0.0**
	comp=E,54nm,0.8s								
GUN	**Gumba**	**23.55**	**189**	*e*P		**P**		**15 26 35.5**	**-0.9**
GKN	**Gorkha**	**23.60**	**192**	*e*P		**P**		**15 26 35.7**	**-0.9**
PYUN	**Piuthan**	**23.74**	**195**	*e*P		**P**		**15 26 38.3**	**+0.2**
JIRN	**Jiri**	**23.77**	**188**	*e*P		**P**		**15 26 38.0**	**-0.6**
PKIN	**Phulchoki**	**23.93**	**190**	*e*P		**P**		**15 26 39.6**	**-0.4**
	comp=E,32nm,0.6s								
DMN	**Daman**	**23.93**	**190**	*e*P		**P**		**15 26 39.5**	**-0.5**
	comp=E,18nm,0.7s								
PKI	**Pulchoki**	**23.93**	**190**	*e*P		**P**		**15 26 39.5**	**-0.6**
KOLN	**Koldanda**	**23.97**	**194**	*e*P		**P**		**15 26 39.7**	**-0.6**
YAK	**Yakutsk**	**23.97**	**48**	P		**P**		**15 26 37.6**	**-2.1**
	comp=E,30nm,0.9s,baz=72,slow=4.5,SNR=19								
YAK				Lg		Lg		15 33 52.2	
	comp=E,1.4nm,0.3s,baz=133,slow=9.1,SNR=0.9								
YAK	**Yakutsk**	**23.97**	**48**	*de*P		**P**		**15 26 37.7**	**-2.1**
YAK				pmax	pmax				
	comp=Z,46nm,0.8s								
KIRV	**Kirov**	**24.04**	**303**	P		**P**		**15 26 39.8**	**-0.6**
	comp=Z,14nm,0.5s,baz=53,slow=6.7,SNR=7.1								
KIRV	**Kirov**	**24.04**	**303**	*d* iP		**P**		**15 26 40.3**	**-0.1**
RAMN	**Ramite**	**24.44**	**187**	*e*P		**P**		**15 26 43.8**	**-0.9**
ODAN	**Odare**	**24.48**	**185**	*e*P		**P**		**15 26 44.2**	**-0.8**
SHL	**Shillong**	**25.74**	**176**	P		**P**		**15 26 55.5**	**-0.9**
SHL				pmax	pmax				
	comp=Z,45nm,1.1s								
BELG	**Belogornoye**	**25.85**	**289**	P		**P**		**15 26 56.0**	**-0.9**
	comp=Z,15nm,0.7s,baz=84,slow=4.1,SNR=4.9								
BELG	**Belogornoye**	**25.85**	**289**	*ce*P		**P**		**15 26 58.6**	**+1.7**
BELG				pmax	pmax				
	comp=Z,8.0nm,0.9s								
PRGR	**Permogore**	**26.02**	**311**	*e*P		**P**		**15 26 57.3**	**-1.1**
PRGR				*e*S		**S**		**15 31 32.3**	**+3.4**
PRGR				pmax	pmax				
	comp=Z,21nm,1.0s								
GEYT	**Alibeck**	**26.02**	**252**	P		**P**		**15 26 59.6**	**+0.9**
	comp=Z,8.0nm,0.9s,baz=50,slow=16,SNR=8.6								
PZH	**PanZhiHua**	**26.36**	**155**	P		**P**		**15 27 03.1**	**+1.2**
PZH				pmax	pmax				
	comp=Z,8.0nm,0.7s								
PZH				pmax	pmax				
	comp=Z,110nm,5.3s								
KLR	**Kul'dur**	**26.60**	**78**	P		**P**		**15 27 04.0**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=288,slow=9.8,SNR=11								
KLR				Lg		Lg		15 35 18.0	
	comp=Z,0.4nm,0.4s,baz=223,slow=13,SNR=1.8								
TIXI	**Tiksi**	**26.77**	**26**	P		**P**		**15 27 06.0**	**+0.9**
	comp=Z,11nm,0.8s,baz=269,slow=22,SNR=17								
TIXI				Lg		Lg		15 35 24.9	
	comp=Z,3.3nm,0.9s,baz=271,slow=23,SNR=4.4								
TIXI	**Tiksi**	**26.77**	**26**	⇓*e*P		**P**		**15 27 06.5**	**+1.4**
TIXI				pmax	pmax				
	comp=Z,12nm,1.0s								
TIXI				MLR	MLR				
	comp=Z,243nm,16.0s								
TIXI	**Tiksi**	**26.77**	**26**	P		**P**		**15 27 06.2**	**+1.1**
TIXI				IAmb	IAmb			15 27 11.5	
	comp=Z,10nm,0.9s								
GYA	**Guiyang**	**27.91**	**146**	⇑P		**P**		**15 27 20.8**	**+5.0**
GYA				pmax	pmax				
	comp=Z,17nm,1.5s								
GYA				LR	LR				
	comp=Z,3μm,19.2s								
NJ2	**Nanjing**	**28.67**	**121**	*e*P		**P**		**15 27 22.3**	**-0.2**
NJ2				pmax	pmax				
	comp=Z,4.0nm,0.5s								
KLMR	**Klimovskoe**	**28.97**	**309**	*e*P		**P**		**15 27 23.9**	**-0.9**
KLMR				*e*				15 34 12.9	
KLMR				pmax	pmax				
	comp=Z,15nm,1.1s								
KLMR	**Klimovskoe**	**28.97**	**309**	*e*P		**P**		**15 27 24.0**	**-0.9**
KLMR				AMP				15 27 28.4	
	comp=Z,15nm,1.1s								
KLMR				*e*ScP		**ScP**		**15 34 13.0**	**-1.6**
KSRS	**Korea Array**	**30.15**	**102**	P		**P**		**15 27 33.5**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=316,slow=7.8,SNR=4.1								
SEKA	**Sheki**	**30.78**	**268**	P		**P**		**15 27 44.9**	**+3.8**
ZKTA	**Zakatala**	**30.90**	**269**	P		**P**		**15 27 45.7**	**+3.5**
MNGR	**Mingechevir, A**	**31.09**	**267**	P		**P**		**15 27 48.0**	**+4.2**
LKRN	**Lenkeran, Azer**	**31.24**	**262**	P		**P**		15 27 50.2	+5.1
OBN	**Obninsk**	**31.50**	**298**	⇑*e*P		**P**		**15 27 49.0**	**+1.8**
OBN				*e*				15 28 53.2	
OBN				*e*S		**S**		**15 33 00.9**	**+5.8**
OBN				*e*SS		**SS**		**15 35 05.6**	**-3.9**
OBN				pmax	pmax				
	comp=Z,13nm,0.7s								
OBN				MLR	MLR				
	comp=Z,345nm,16.0s								
GANJ	**Ganja**	**31.64**	**268**	P		**P**		**15 27 53.1**	**+4.4**
NCK	**Nalchik**	**31.82**	**274**	⇓*e*P		**P**		**15 27 52.4**	**+2.1**
NCK				pmax	pmax				
	comp=Z,16nm,0.3s								
ZEI	**Tsey**	**31.99**	**273**	*e*P		**P**		**15 27 53.9**	**+1.9**
ZEI				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KBZ	**Khabaz**	**32.14**	**275**	P		**P**		**15 27 53.8**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=119,slow=9.9,SNR=2.8								
KBZ	**Khabaz**	**32.14**	**275**	⇓*e*P		**P**		**15 27 55.1**	**+2.1**
KBZ				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KIV	**Kislovodsk**	**32.16**	**276**	*e*P		**P**		**15 27 54.7**	**+1.4**
KIV				pmax	pmax				
	comp=Z,15nm,1.0s								
NEY	**Neytrino**	**32.49**	**274**	⇓*e*P		**P**		**15 27 58.4**	**+2.0**
NEY				pmax	pmax				
	comp=Z,7.0nm,0.9s								
GNI	**Garni**	**32.91**	**268**	⇓*e*P		**P**		**15 28 04.6**	**+4.5**
GNI				pmax	pmax				
	comp=Z,18nm,1.2s								
NAX	**Nakhchivan**	**33.01**	**266**	P		**P**		**15 28 04.9**	**+4.1**
CMAR	**Chiang Mai Arr**	**33.55**	**164**	P		**P**		**15 28 04.7**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=350,slow=9.0,SNR=15								
CMAR				PcP		**PcP**		**15 30 44.6**	**-1.5**
	comp=Z,3.5nm,1.1s,baz=308,slow=3.3,SNR=7.4								
CMAR	**Chiang Mai Arr**	**33.55**	**164**	*i* P		**P**		**15 28 07.9**	**+2.4**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
YSS	**Yuzh-Sakhalins**	**34.26**	**76**	*e*P		**P**		**15 28 12.9**	**+1.4**
YSS				pmax	pmax				
	comp=Z,30nm,1.1s								
MA2	**Magadan**	**34.38**	**52**	⇓*e*P		**P**		**15 28 10.9**	**-1.5**
MA2				pmax	pmax				
	comp=Z,11nm,1.0s								
MA2	**Magadan**	**34.38**	**52**	P		**P**		**15 28 13.7**	**+1.4**
MA2				IAmb	IAmb			15 28 14.2	
	comp=Z,7.6nm,0.8s								
SEY	**Seymchan**	**34.45**	**46**	P		**P**		**15 28 13.3**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=287,slow=11,SNR=7.9								
SEY	**Seymchan**	**34.45**	**46**	⇓*i* P		**P**		**15 28 13.6**	**+0.7**
SEY				pmax	pmax				
	comp=Z,6.0nm,1.9s								
ARCES	**ARCESS Array B**	**34.49**	**326**	P		**P**		**15 28 13.8**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=64,slow=2.8,SNR=6.3								

ANN	**Anapa**	**35.00**	**280**	*e*P		**P**		**15 28 14.9**	**-3.0**
ANN				*e**PP		**pP**		**15 28 18.2**	**-3.0**
ANN				*e*S		**S**		**15 33 45.9**	**-3.8**
ANN				pmax	pmax				
	comp=Z,44nm,1.0s								
FINES	**FINESS Array B**	**35.33**	**312**	P		**P**		**15 28 20.7**	**+0.2**
	comp=Z,7.8nm,0.9s,baz=69,slow=10,SNR=11								
FINES	**FINESS Array B**	**35.33**	**312**	*i* P		**P**		**15 28 22.3**	**+1.8**
FINES				pmax	pmax				
	comp=Z,8.0nm,1.0s								
VSU	**Vasula**	**35.77**	**307**	⇓*i* P		**P**		**15 28 26.9**	**+2.5**
VSU				pmax	pmax				
	comp=Z,30nm,0.8s								
AKASG	**Malin Array Be**	**37.21**	**294**	P		**P**		**15 28 35.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=52,slow=8.1,SNR=10.0								
AKASG	**Malin Array Be**	**37.21**	**294**	*i* P		**P**		**15 28 38.4**	**+1.7**
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KIEV	**Kiev**	**37.22**	**294**	P		**P**		**15 28 36.0**	**-0.8**
BILL	**Bilibino**	**39.04**	**35**	⇑*e*P		**P**		**15 28 53.6**	**+1.6**
BILL				*e*				15 30 24.1	
BILL				pmax	pmax				
	comp=Z,9.0nm,2.7s								
BILL				MLR	MLR				
	comp=Z,154nm,16.0s								
KMPD	**K-Podol'skiy**	**39.78**	**292**	P		**P**		**15 28 59.0**	**+0.7**
BR131	**Keskin Array S**	**40.12**	**276**	⇓*e*P		**P**		**15 29 02.4**	**+0.9**
BRTR	**Keskin Array B**	**40.12**	**276**	P		**P**		**15 29 02.6**	**+1.1**
	comp=Z,14nm,1.0s,baz=79,slow=6.7,SNR=14								
PETK	**Petropavlovsk-**	**40.20**	**60**	P		**P**		**15 29 01.7**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=319,slow=4.2,SNR=4.2								
BUR08	**Bucovina Ar. S**	**40.96**	**291**	P		**P**		**15 29 10.1**	**+1.7**
NB2	**NORSAR Subarra**	**42.26**	**315**	P		**P**		**15 29 18.6**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=83,slow=7.9								
NOA	**NORSAR Array B**	**42.26**	**315**	P		**P**		**15 29 17.9**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=82,slow=7.4,SNR=6.6								
NOA				LR		LR		15 48 18.0	
	comp=Z,251nm,20.8s,baz=135,slow=38								
NIE	**Niedzica**	**42.89**	**296**	P		**P**		**15 29 28.0**	**+4.0**
NIE				pmax	pmax				
	comp=Z,6.0nm,1.1s								
LANS	**Liptovska Anna**	**43.50**	**296**	*e*P		P		15 29 35.5	+6.6
LANS	**Liptovska Anna**	**43.50**	**296**	*e*P		P		15 29 35.5	+6.6
VYHS	**Vyhne**	**44.20**	**296**	*e*P		**P**		**15 29 36.5**	**+2.0**
VYHS	**Vyhne**	**44.20**	**296**	*e*P		**P**		**15 29 36.5**	**+2.0**
ELL	**Elmali**	**44.26**	**275**	P		P		15 29 40.5	+5.3
ELL				pmax	pmax				
	comp=Z,60nm,1.1s								
KRLC	**Kraliky**	**44.52**	**298**	P		**P**		**15 29 37.3**	**+0.2**
KRLC				pmax	pmax				
	comp=Z,4.0nm,1.4s								
DAG	**Danmarks Havn**	**44.64**	**342**	P		**P**		**15 29 40.4**	**+2.8**
DAG				pmax	pmax				
	comp=Z,6.0nm,1.1s								
VTS	**Vitosha**	**44.85**	**286**	P		**P**		**15 29 40.5**	**+0.6**
VTS				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KRUC	**Moravsky**	**45.27**	**297**	P		**P**		**15 29 43.8**	**+0.8**
KRUC				pmax	pmax				
	comp=Z,5.0nm,1.7s								
CLL	**Collm**	**45.93**	**302**	*e*P		**P**		**15 29 50.0**	**+1.8**
CLL				pmax	pmax				
	comp=Z,5.0nm,1.0s								
CLL	**Collm**	**45.93**	**302**	*e*P		**P**		**15 29 50.0**	**+1.8**
	comp=Z,5.0nm,1.0s								
KULM	**Kulim**	**46.73**	**165**	P		**P**		**15 29 53.4**	**-1.3**
GERES	**GERESS Array B**	**46.88**	**299**	P		**P**		**15 29 56.9**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=74,slow=12,SNR=2.5								
IDI	**Anoyia**	**48.32**	**277**	P		**P**		**15 30 05.6**	**-1.5**
EUNU	**Eureka**	**48.89**	**359**	P		**P**		**15 30 11.2**	**+0.2**
GSI	**Gunungsitoli**	**50.24**	**170**	P		**P**		**15 30 22.6**	**+0.8**
GSI	**Gunungsitoli**	**50.24**	**170**	P		**P**		**15 30 22.8**	**+1.0**
IMAR	**Indian Mountai**	**53.42**	**27**	P		**P**		**15 30 43.1**	**-1.9**
COLD	**Coldfoot**	**53.49**	**25**	P		**P**		**15 30 43.9**	**-1.6**
H21K	**Melozitna Rive**	**53.93**	**27**	P		**P**		**15 30 47.2**	**-1.5**
J20K	**Nowinta River**	**54.61**	**29**	P		**P**		**15 30 51.7**	**-2.0**
J20K				IAmb	IAmb			15 30 56.6	
	comp=Z,5.0nm,0.8s								
BMAR	**Burnt Mountain**	**54.76**	**23**	P		**P**		**15 30 53.9**	**-0.9**
CAST	**Castle Rocks**	**55.79**	**29**	P		**P**		**15 31 00.1**	**-2.1**
COLA	**College**	**55.90**	**26**	⇓*e*P		**P**		**15 31 06.1**	**+3.1**
COLA				pmax	pmax				
	comp=Z,26nm,4.0s								
ILAR	**Eielson Array**	**56.24**	**26**	P		**P**		**15 31 03.7**	**-1.8**
	comp=Z,2.6nm,0.8s,baz=316,slow=4.2,SNR=27								
ILAR	**Eielson Array**	**56.24**	**26**	P		**P**		**15 31 03.9**	**-1.6**
ILAR	**Eielson Array**	**56.24**	**26**	P		**P**		**15 31 03.9**	**-1.6**
TOLI2	**Tolitoli**	**56.39**	**142**	P		**P**		**15 31 05.5**	**-1.6**
TOLI2				IAmb	IAmb			15 31 08.7	
	comp=Z,10nm,0.8s								
INK	**Inuvik**	**56.43**	**18**	P		**P**		**15 31 04.7**	**-2.0**
	comp=Z,3.9nm,0.9s,baz=333,slow=8.3,SNR=13								
INK	**Inuvik**	**56.43**	**18**	P		**P**		**15 31 05.0**	**-1.7**
INK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
INK	**Inuvik**	**56.43**	**18**	P		**P**		**15 31 05.0**	**-1.7**
DHY	**Denali Highway**	**57.43**	**27**	P		**P**		**15 31 12.0**	**-2.2**
DHY				IAmb	IAmb			15 31 15.7	
	comp=Z,5.6nm,0.8s								
KEST	**Kesra**	**57.54**	**288**	P		**P**		**15 31 15.3**	**+0.1**
	comp=Z,7.8nm,0.8s,baz=37,slow=8.8,SNR=6.5								
BARN	**Barnard Glacie**	**60.66**	**26**	P		**P**		**15 31 35.1**	**-1.5**
BARN				IAmb	IAmb			15 31 40.4	
	comp=Z,10nm,0.8s								
CTGM	**Chitina Glacie**	**60.83**	**26**	P		**P**		**15 31 36.4**	**-1.3**
M31M	**Drury Creek, Y**	**61.53**	**22**	P		**P**		**15 31 40.8**	**-1.5**
M31M				IAmb	IAmb			15 31 46.0	
	comp=Z,9.6nm,1.1s								
HYT	**Haines Junctio**	**61.96**	**24**	P		**P**		**15 31 44.4**	**-0.9**
HYT				IAmb	IAmb			15 31 47.7	
	comp=Z,8.6nm,0.8s								
ESDC	**Sonseca Array**	**62.44**	**300**	P		**P**		**15 31 48.7**	**-0.1**
	comp=Z,7.0nm,1.0s,baz=44,slow=6.8,SNR=19								
ESDC	**Sonseca Array**	**62.44**	**300**	P		**P**		**15 31 48.0**	**-0.8**
ESDC				IAmb	IAmb			15 31 53.1	
	comp=Z,5.0nm,1.0s								
YKA	**Yellowknife Ar**	**64.91**	**12**	P		**P**		**15 32 03.1**	**-1.5**
	comp=Z,5.4nm,0.8s,baz=340,slow=7.0,SNR=27								
YKA	**Yellowknife Ar**	**64.91**	**12**	*i* P		**P**		**15 32 05.6**	**+1.0**
YKA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
FCC	**Fort Churchill**	**70.25**	**2**	P		**P**		**15 32 36.5**	**-1.9**
FCC				pmax	pmax				
	comp=Z,7.0nm,0.9s								
FCC	**Fort Churchill**	**70.25**	**2**	P		**P**		**15 32 36.5**	**-1.9**
FCC				IAmb	IAmb			15 32 40.6	
	comp=Z,7.4nm,0.8s								
SCHQ	**Schefferville**	**72.47**	**346**	P		**P**		**15 32 52.6**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=359,slow=6.2,SNR=4.9								
FFC	**Flin Flon**	**73.89**	**7**	P		**P**		**15 33 01.4**	**+1.2**
FFC				pmax	pmax				
	comp=Z,15nm,1.1s								
ULM	**Lac du Bonnet**	**78.71**	**4**	P		**P**		**15 33 26.7**	**-1.0**
	comp=Z,6.4nm,0.8s,baz=7.9,slow=6.7,SNR=6.5								
TORD	**Torodi Ar. Bea**	**78.73**	**277**	P		**P**		**15 33 27.1**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=17,slow=6.3,SNR=4.8								
JTMT	**Jette**	**79.18**	**16**	P		**P**		**15 33 29.0**	**-1.5**
JTMT				IAmb	IAmb			15 33 34.3	
	comp=Z,16nm,1.2s								
WRAB	**Tennant Creek**	**80.93**	**138**	⇑*e*P		**P**		**15 33 38.9**	**-1.1**
WRAB				pmax	pmax				
	comp=Z,13nm,1.4s								
WRA	**Warramunga Arr**	**80.94**	**138**	P		**P**		**15 33 38.1**	**-2.0**
	comp=Z,5.0nm,1.1s,baz=342,slow=5.8,SNR=12								
WRA	**Warramunga Arr**	**80.94**	**138**	*i* P		**P**		**15 33 40.7**	**+0.7**
WRA				pmax	pmax				
	comp=Z,5.0nm,1.1s								
WB2	**Warramunga Arr**	**80.94**	**138**	P		**P**		**15 33 38.8**	**-1.2**
WB2				IAmb	IAmb			15 33 41.5	
	comp=Z,9.8nm,1.1s								
ASAR	**Alice Springs**	**84.08**	**140**	P		**P**		**15 33 54.2**	**-2.2**
	comp=Z,2.2nm,1.1s,baz=336,slow=4.0,SNR=9.4								
ASAR	**Alice Springs**	**84.08**	**140**	P		**P**		**15 33 55.0**	**-1.4**
ASAR	**Alice Springs**	**84.08**	**140**	P		**P**		**15 33 55.0**	**-1.4**
PDAR	**Pinedale Array**	**84.81**	**14**	P		**P**		**15 33 59.4**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=58,slow=1.4,SNR=6.1								
NVAR	**Mina Array Bea**	**87.30**	**22**	P		**P**		**15 34 12.6**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=1.1,slow=4.5,SNR=3.6								
TXAR	**Lajitas Array**	**98.84**	**12**	P		**P**		**15 35 05.5**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=339,slow=2.3,SNR=1.5								
VNDA	**Vanda**	**135.85**	**163**	PKP		**PKPdf**		**15 40 44.4**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=266,slow=5.4,SNR=4.6								
CPUP	**Villa Florida**	**144.78**	**303**	PKP		**PKPab**		**15 41 02.1**	**+0.8**
	comp=Z,4.8nm,0.9s,baz=41,slow=5.9,SNR=6.5								

IDC ***15*** *15:28:28.8±1.0,21°.69S×68°.71W,h100km±12km,mb3.5/2, mb1 3.4/4,mb1mx3.2/25,mbtmp3.6/4,Error ellipse: s-maj=38.3km s-min=21.1km az=113.0*

GUC ***15*** *15:28:29.3±0.7,21°.78S×68°.81W,h113km±4km,ML3.7*

ISC 15 15:28:29.2±0.9, 21°.74S±0°.04×68°.80W±0°.08, h111km±8km, n19, σ0°89/31, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.41**	**263**	*e*P		**Pn**	**15 28 46.2**	**+0.3**
PB09				*i* S		**Sn**	**15 28 58.9**	**+0.6**
PB09				IAML			15 28 59.5	
	comp=N,4μm,0.4s							
LVC	**Limon Verde**	**0.87**	**187**	P		**Pn**	**15 28 49.4**	**-0.3**
	comp=N,49nm,0.3s,baz=29,slow=9.9,SNR=416							
LVC				S		**Sn**	**15 29 04.4**	**-0.5**
	comp=N,153nm,0.3s,baz=104,slow=23,SNR=168							
LVC	**Limon Verde**	**0.87**	**187**	*e*P		**Pn**	**15 28 49.3**	**-0.3**
LVC				*i* S		**Sn**	**15 29 04.5**	**-0.5**
PB07	**IPOC Station P**	**1.01**	**271**	*e*P		**Pn**	**15 28 50.7**	**-0.1**
PB07				*i* S		**Sn**	**15 29 06.9**	**-0.1**
PB07				IAML			15 29 08.3	
	comp=E,2μm,0.1s							
PB02	**IPOC Station P**	**1.10**	**292**	*e*P		**Pn**	**15 28 51.6**	**-0.1**
PB02				*i* S		**Sn**	**15 29 08.6**	**-0.1**
PB02				IAML			15 29 10.1	
	comp=N,2μm,0.2s							
PB06	**IPOC Station P**	**1.20**	**217**	*e*P		**Pn**	**15 28 52.5**	**-0.2**
PB06				*i* S		**Sn**	**15 29 10.2**	**-0.3**
PB06				IAML			15 29 10.8	
	comp=E,2μm,0.3s							
PATCX	**Punta Patache**	**1.56**	**306**	*e*P		**Pn**	**15 28 56.5**	**-0.4**
PATCX				*i* S		**Sn**	**15 29 17.7**	**-0.2**
PATCX				IAML			15 29 22.4	
	comp=N,872nm,0.3s							
PB15	**IPOC Station P**	**1.58**	**203**	*i* S		**Sn**	**15 29 18.5**	**-0.1**
PB08	**IPOC Station P**	**1.63**	**348**	*e*P		**Pn**	**15 28 58.8**	**+0.8**
PB08				*i* S		**Sn**	**15 29 21.1**	**+1.3**
PB08				IAML			15 29 23.6	
	comp=E,766nm,0.7s							
TA01	**Diego Aracena**	**1.74**	**312**	*e*P		**Pn**	**15 28 58.4**	**-0.6**
TA01				*i* S		**Sn**	**15 29 21.0**	**-0.7**
TA01				IAML			15 29 24.2	
	comp=N,610nm,0.2s							
HMBC	**Humberstone**	**1.78**	**325**	*e*P		**Pn**	**15 28 59.1**	**-0.5**
HMBC				*i* S		**Sn**	**15 29 22.4**	**-0.3**
HMBC				IAML			15 29 24.6	
	comp=E,973nm,0.3s							
TA02	**Huaiquique**	**1.92**	**319**	*e*P		**Pn**	**15 29 00.7**	**-0.6**
TA02				*i* S		**Sn**	**15 29 25.1**	**-0.6**
GO01	**Chusmiza**	**2.10**	**350**	*e*P		**Pn**	**15 29 04.4**	**+0.4**
GO01				*i* S		**Sn**	**15 29 31.4**	**+0.9**
GO01				IAML			15 29 33.3	
	comp=N,958nm,0.3s							
LPAZ	**La Paz**	**5.46**	**7**	P		**Pn**	**15 29 48.0**	**-0.9**
	comp=N,0.1nm,0.3s,baz=277,slow=6.5,SNR=1.8							
LPAZ				S		Sn	15 30 40.7	-10
	comp=N,0.2nm,0.3s,baz=142,slow=9.0,SNR=4.9							
SIV	**San Ignacio**	**9.28**	**53**	P		**Pn**	**15 30 37.2**	**-3.0**
	comp=N,0.4nm,0.3s,baz=239,slow=14,SNR=11							
TORD	**Torodi Ar. Bea**	**77.34**	**70**	P		**P**	**15 40 14.1**	**+1.8**
	comp=N,0.6nm,0.5s,baz=256,slow=4.1,SNR=4.1							
YKA	**Yellowknife Ar**	**91.45**	**341**	P		**P**	**15 41 22.5**	**0.0**
	comp=N,0.3nm,0.6s,baz=136,slow=4.4,SNR=8.4							
ASAR	**Alice Springs**	**129.75**	**207**	PKP		**PKPdf**	**15 47 25.3**	**-0.9**
	comp=N,0.3nm,0.9s,baz

δ74.89000°,λ-172.11000°. NP2:φs123.04000°, δ82.38000°,λ-15.24000°. Principal axes: T 3.4876, Plg5.0000°, Azm170.0000°; N -0.5387, Plg73.0000°, Azm277.0000°; P -2.9489, Plg16.0000°, Azm78.0000°;
KEA **15** 16:25:07.0,32.75N×130.78E,h10km,MS7.2/3
GCMT **15** 16:25:15.2±0.1,32.84N×130.77E,h13km,MW7.0/167, Moment Tensor Solution. s167,c433; s166,c776; Duration: 8s1 Moment tensor: Scale 10^{19}Nm; Mrr-1.66±.02; Mθθ5.06±.02; Mφφ-3.40±.01; Mrθ0.38±.07; Mθφ0.82±.01; Mφr0.94±.08; Best double couple: Mo4.51200×10^{19} NP1:φs128.00000°,δ71.00000°, λ-14.00000°. NP2:φs222.00000°,δ77.00000°, λ-161.00000°. Principal axes: T 5.1710, Plg4.0000°, Azm354.0000°; N -1.3190, Plg67.0000°, Azm255.0000°; P -3.8530, Plg23.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
NEIC **15** 16:25:16,32.88N×130.96E,h18km,Moment Tensor Solution. Duration: 20s0 Moment tensor: Scale 10^{19}Nm; Mrr-1.61; Mθθ4.54; Mφφ-2.92; Mrθ-0.15; Mθφ0.91; Mφr2.23; Fault plane solution: Mo4.65000×10^{19} NP1: φs122.00000°,δ64.00000°,λ-26.00000°. NP2: φs224.00000°,δ66.00000°,λ-151.00000°. Principal axes: T 4.6481, Plg1.0000°, Azm353.0000°; N 0.0132, Plg54.0000°, Azm261.0000°; P -4.6613, Plg36.0000°, Azm84.0000°;
ISC 15 16:25:06.0±0.3,**32.72N**±0.02×**130.74E**±0.02,**h7**km±1km, **h7km:pP-P,n2795,**σ2s**34**/3201,**mb6.2**/443,**MS7.3**/398, **225C-411D,Fault plane solution: NP1:**φs124.30997°, δ46.76763°,λ-46.83383°. **NP2:**φs250.44952°,δ57.89939°, λ-126.04285°. **Principal axes:** T Plg6.2333°, Azm5.1913°; N Plg29.8965°, Azm271.5909°; P Plg59.3279°, Azm105.8032°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.18**	**161**	⇑P	**Pg**	**16 25 10.1**	**+0.4**
JTA	**Tamana**	**0.30**	**324**	⇑P	**Pg**	**16 25 11.4**	**-0.5**
JNU	**Nakatsue**	**0.42**	**16**	⇓P	**Pg**	**16 25 13.3**	**-0.8**
JNU	**Nakatsue**	**0.42**	**16**	Pg	**Pg**	**16 25 13.4**	**-0.8**
JNU				Sg	**Sg**	**16 25 17.5**	**-2.1**
JNU	**Nakatsue**	**0.42**	**16**	⇓P	**Pg**	**16 25 13.3**	**-0.8**
JTZ	**Takazaki**	**0.87**	**160**	⇑P	**Pg**	**16 25 22.6**	**-0.1**
JSU	**Suzuyama**	**1.24**	**192**	Pn	**Pb**	**16 25 28.6**	**-1.2**
JSU				Sn	**Sn**	**16 25 47.3**	**+0.6**
JSU	**Suzuyama**	**1.24**	**192**	⇑P	**Pb**	**16 25 28.5**	**-1.2**
JSJ	**Shimokoshiki**	**1.36**	**220**	⇓P	**Pn**	**16 25 29.2**	**-2.2**
JII	**Iki**	**1.37**	**322**	⇑P	**Pn**	**16 25 29.1**	**-2.4**
UWA2	**Uwa jima 2**	**1.66**	**72**	⇓P	**Pn**	**16 25 33.5**	**-2.0**
JNA	**Nagahama**	**1.68**	**60**	⇓P	**Pn**	**16 25 33.5**	**-2.3**
JTO	**Tosashimizu**	**1.74**	**85**	⇓P	**Pn**	**16 25 35.4**	**-1.2**
JTSM	**Tsushimamitsus**	**1.97**	**325**	⇑P	**Pn**	**16 25 37.3**	**-2.5**
JKU	**Kubokawa**	**2.04**	**73**	⇓P	**Pn**	**16 25 39.4**	**-1.3**
JHM	**Kurahashi**	**2.06**	**46**	⇓P	**Pn**	**16 25 39.4**	**-1.6**
JTN	**Tanegashima 3**	**2.07**	**174**	⇑P	**Pn**	**16 25 40.7**	**-0.5**
JHGM	**Hagimishima**	**2.08**	**9**	⇓P	**Pn**	**16 25 39.9**	**-1.5**
JTU	**Tsushima**	**2.12**	**328**		**Pn**	**16 25 39.6**	**-2.3**
JTU	**Tsushima**	**2.12**	**328**	⇑P	**Pn**	**16 25 39.2**	**-2.6**
JET	**Tanbara**	**2.20**	**61**	⇓P	**Pn**	**16 25 41.5**	**-1.5**
JMTN	**Minamitane**	**2.32**	**177**	⇑P	**Pn**	**16 25 44.2**	**-0.4**
JHT	**Toyohira**	**2.39**	**35**	P	**Pn**	**16 25 44.5**	**-1.1**
JYAK	**Yakushimahirau**	**2.48**	**185**	P	**Pn**	**16 25 46.8**	**-0.1**
JGT2	**ShimaneMisato**	**2.76**	**32**	⇓P	**Pn**	**16 25 49.8**	**-0.9**
JMN	**Monobe**	**2.81**	**68**	⇓P	**Pn**	**16 25 50.0**	**-1.5**
JMN	**Monobe**	**2.81**	**68**		**Pn**	**16 25 49.4**	**-2.0**
JMN	**Monobe**	**2.81**	**68**	⇓P	**Pn**	**16 25 49.9**	**-1.5**
JHS	**Saijyo**	**3.01**	**40**	⇓P	**Pn**	**16 25 53.3**	**-0.9**
JHS	**Saijyo**	**3.01**	**40**		**Pn**	**16 25 52.8**	**-1.3**
JHS	**Saijyo**	**3.01**	**40**	⇓P	**Pn**	**16 25 53.3**	**-0.9**
JJS	**Sakaide**	**3.13**	**57**	⇓P	**Pn**	**16 25 54.3**	**-1.5**
JISK	**Izumosakaura**	**3.28**	**32**	⇓P	**Pn**	**16 25 56.8**	**-1.0**
JAI	**Aioi**	**3.29**	**70**	⇓P	**Pn**	**16 25 56.0**	**-1.9**
JWM	**Minabe**	**4.02**	**73**	P	**Pn**	**16 26 06.0**	**-2.0**
JKS	**Kasai**	**4.09**	**55**	P	**Pn**	**16 26 08.1**	**-0.9**
JOI	**OKI**	**4.12**	**29**	⇓P	**Pn**	**16 26 08.2**	**-1.1**
JTNC	**Tanabenakahech**	**4.22**	**74**	⇓P	**Pn**	**16 26 08.4**	**-2.4**
JKSM	**Kasumi**	**4.33**	**48**	⇓P	**Pn**	**16 26 11.7**	**-0.5**
TJN	**Taejon**	**4.59**	**324**	*c iP*	**Pn**	**16 26 14.7**	**-1.1**
TJN	**Taejon**	**4.59**	**324**		**Pn**	**16 26 14.4**	**-1.4**
TJN	**Taejon**	**4.59**	**324**	P	**Pn**	**16 26 17.9**	**+2.1**
JKY	**Yasaka**	**4.63**	**50**	P	**Pn**	**16 26 15.6**	**-0.9**
JWT	**Wachi**	**4.64**	**55**	P	**Pn**	**16 26 16.0**	**-0.5**
TSUJ	**Tsu 2**	**5.13**	**66**	P	**Pn**	**16 26 21.9**	**-1.3**
KSRS	**Korea Array**	**5.26**	**335**	Pn	**Pn**	**16 26 23.6**	**-1.4**
	9.4nm,0.3s,baz=153,slow=14,SNR=93						
KSRS				Pg	**Pb**	**16 26 40.7**	**+2.5**
	120nm,0.3s,baz=155,slow=15,SNR=19						
KSRS				Lg	Lg	16 27 51.1	
	255nm,0.3s,baz=150,slow=28,SNR=6.4						
KSAR	**Wonju Array Be**	**5.26**	**334**	P	**Pn**	**16 26 23.6**	**-1.4**
KSAR	**Wonju Array Be**	**5.26**	**334**	Pn	**Pn**	**16 26 23.6**	**-1.4**
KS19	**Wonju Array Si**	**5.32**	**335**		**Pn**	**16 26 23.7**	**-2.2**
JOKE	**Okinoerabujima**	**5.66**	**200**	⇓P	**Pn**	**16 26 33.4**	**+2.8**
JYTA	**Yamagatataniai**	**5.73**	**58**	P	**Pn**	**16 26 31.4**	**-0.2**
JKG	**Kaga**	**5.82**	**51**	P	**Pn**	**16 26 32.5**	**-0.2**
INCN	**Inchon**	**5.82**	**326**	P	**Pn**	**16 26 31.3**	**-1.5**
INCN	**Inchon**	**5.82**	**326**	Pn	**Pn**	**16 26 31.3**	**-1.5**
INCN	**Inchon**	**5.82**	**326**	P	**Pn**	**16 26 31.5**	**-1.4**
INCN	**Inchon**	**5.82**	**326**	⇑P	**Pn**	**16 26 31.2**	**-1.5**
INCN	**Inchon**	**5.82**	**326**	P	**Pn**	**16 26 32.0**	**-0.8**
INU	**Inuyama**	**5.83**	**62**	Pn	**Pn**	**16 26 32.6**	**-0.3**
INU	**Inuyama**	**5.83**	**62**	⇓P	**Pn**	**16 26 32.3**	**-0.6**
JYRO	**Yoronjima**	**6.01**	**200**	P	**Pn**	**16 26 37.1**	**+1.7**
JIH	**Iheya**	**6.16**	**204**	⇓P	**Pn**	**16 26 40.1**	**+2.7**
TK04	**Tokai 4**	**6.18**	**72**	P	**Pn**	**16 26 37.7**	**+0.1**
JGF	**Kuroka**	**6.19**	**61**		**Pn**	**16 26 36.8**	**-1.1**
JGF	**Kuroka**	**6.19**	**61**	⇓P	**Pn**	**16 26 37.0**	**-0.9**
JOW	**Kunigami**	**6.25**	**201**	Pn	**Pn**	**16 26 40.6**	**+1.9**
	81nm,0.3s,baz=88,slow=13,SNR=81						
JOW	**Kunigami**	**6.25**	**201**	P	**Pn**	**16 26 40.4**	**+1.7**
JOW	**Kunigami**	**6.25**	**201**	Pn	**Pn**	**16 26 40.9**	**+2.2**
JOW	**Kunigami**	**6.25**	**201**	P	**Pn**	**16 26 42.1**	**+3.4**
JTT	**Ttatey**	**6.67**	**53**	P	**Pn**	**16 26 44.9**	**+0.5**
HJU	**Haeju**	**6.71**	**324**	P	**Pn**	**16 26 45.0**	**+0.1**
HJU				pP	**Pn**	**16 26 47.2**	**+2.3**
HJU				S	**Sn**	**16 28 03.6**	**+2.1**
HJU				AMS	AMS		
HJU				AMS	AMS		
HJU				AMS	AMS		
JAGN	**Aguni-jima**	**6.83**	**207**	⇓P	**Pn**	**16 26 49.5**	**+2.9**
JYN	**Shimob**	**7.04**	**65**	P	**Pn**	**16 26 49.0**	**-0.5**
JJ	**Tamagusuku3**	**7.04**	**202**	P	**Pn**	**16 26 51.6**	**+2.0**
JSZ	**Suzu**	**7.19**	**47**	P	**Pn**	**16 26 51.8**	**+0.3**
MJB9	**Matsu-Tunnel**	**7.24**	**56**		**Pn**	**16 26 52.4**	**+0.2**
MAJO	**Matsushiro**	**7.24**	**56**	*d iP*	**Pn**	**16 26 53.8**	**+1.6**
MAJO	**Matsushiro**	**7.24**	**56**	Pn	**Pn**	**16 26 52.4**	**+0.2**
MAJO	**Matsushiro**	**7.24**	**56**	⇓P	**Pn**	**16 26 52.3**	**+0.1**
MAT	**Matsushiro**	**7.24**	**56**	P	**Pn**	**16 26 52.2**	**0.0**
MJAR	**Matsushiro Arr**	**7.24**	**56**	Pn	**Pn**	**16 26 54.8**	**+2.5**
	4.2nm,0.3s,baz=66,slow=15,SNR=85						
MJAR				LR	LR	16 30 07.5	
	comp=Z,856μm,20.9s,baz=226,slow=42						
MJAR	**Matsushiro Arr**	**7.24**	**56**	P	**Pn**	**16 26 52.8**	**+0.6**
MJAR	**Matsushiro Arr**	**7.24**	**56**		**Pn**	**16 26 52.8**	**+0.6**
JKE	**Kume jima 2**	**7.25**	**209**	P	**Pn**	**16 26 55.0**	**+2.7**
JOD2	**Odawara 2**	**7.38**	**68**	P	**Pn**	**16 26 53.6**	**-0.6**
JMKN	**Mikurajimanish**	**7.50**	**79**	P	**Pn**	**16 26 54.7**	**-1.1**
PYAG	**Pyongyang**	**7.50**	**329**	P	**Pn**	**16 26 57.2**	**+1.4**
JRY	**Ryogami san**	**7.50**	**62**	P	**Pn**	**16 26 56.0**	**+0.1**
JIM2	**Oshima 2**	**7.51**	**72**	P	**Pn**	**16 26 55.6**	**-0.3**
JHJ	**Hachijo jima 2**	**7.61**	**85**	Pn	**Pn**	**16 26 57.0**	**-0.4**
	988nm,0.3s,baz=227,slow=12,SNR=40						
JHJ				LR	LR	16 29 58.7	
	comp=Z,2377μm,19.3s,baz=274,slow=39						
JHJ2	**Mitsune**	**7.64**	**85**	P	**Pn**	**16 26 56.8**	**-0.9**
JHJ2	**Mitsune**	**7.64**	**85**		**Pn**	**16 26 56.5**	**-1.2**
JHJ2	**Mitsune**	**7.64**	**85**	⇑P	**Pn**	**16 26 56.9**	**-0.8**
JHJ2	**Mitsune**	**7.64**	**85**	P	**Pn**	**16 27 01.8**	**+4.1**
HHU	**Hamhung**	**7.64**	**341**	P	**Pn**	**16 26 56.5**	**-1.3**
HHU				sP	**Pn**	**16 27 00.7**	**+3.0**
HHU				S	**Sn**	**16 28 23.0**	**-1.6**
HHU				AMS	AMS		
HHU				AMS	AMS		
HHU				AMS	AMS		
JAG	**Ashikaga**	**8.08**	**60**	⇓P	**Pn**	**16 27 03.5**	**-0.2**
JKT	**Katashina**	**8.08**	**58**	P	**Pn**	**16 27 04.5**	**+0.7**
JSD	**Sado**	**8.11**	**47**	⇓P	**Pn**	**16 27 04.0**	**-0.2**
JSD	**Sado**	**8.11**	**47**	⇓P	**Pn**	**16 27 04.6**	**+0.4**
JSD	**Sado**	**8.11**	**47**	⇓P	**Pn**	**16 27 04.2**	**+0.1**
SSE	**Sheshan**	**8.29**	**261**	P	**Pn**	**16 27 08.4**	**+1.8**
SSE				S	**Sn**	**16 28 43.2**	**+2.8**
SSE				LR	LR		
	comp=N,1403μm,16.5s						
SSE				LR	LR		
	comp=E,623μm,16.2s						
SSE				LR	LR		
	comp=Z,787μm,14.1s						
I30JP	**ISUMI INFRASON**	**8.35**	**69**	Pn	**Pn**	**16 27 09.2**	**+1.7**
	baz=271,slow=26,SNR=15						
I30JP				*i*		17 10 00.0	
	baz=254,slow=315,SNR=1.7						
BSO3	**Boso 3**	**8.39**	**73**	P	**Pn**	**16 27 07.2**	**-0.6**
JYT	**Yasato**	**8.55**	**63**	Pn	**Pn**	**16 27 10.3**	**+0.1**
JYT	**Yasato**	**8.55**	**63**	⇑P	**Pn**	**16 27 10.3**	**+0.1**
JNS	**Sasagawa**	**8.66**	**52**	P	**Pn**	**16 27 12.8**	**+1.1**
JFY	**Yanaizu**	**8.71**	**55**	P	**Pn**	**16 27 13.1**	**+0.7**
SUJ	**Sinuiju**	**8.92**	**327**	P	**Pn**	**16 27 18.2**	**+2.9**
SUJ				pP	Pn	16 27 20.5	+5.2
SUJ				S	**Sn**	**16 29 00.8**	**+4.7**
SUJ				AMS	AMS		
	comp=N,770μm,3.4s						
SUJ				AMS	AMS		
SUJ				AMS	AMS		
JFT	**Otama**	**9.20**	**56**	P	**Pn**	**16 27 20.2**	**+1.1**
JMJ	**Miyako jima 2**	**9.21**	**213**	P	**Pn**	**16 27 20.3**	**+1.0**
JYA	**Atsumi**	**9.36**	**49**	P	**Pn**	**16 27 22.1**	**+0.8**
JYS	**Shirataka**	**9.37**	**52**	P	**Pn**	**16 27 22.6**	**+1.1**
DL2	**Dalian**	**9.63**	**312**	⇑*i*P	**Pn**	**16 27 27.2**	**+2.1**
DL2				S	**Sn**	**16 29 17.3**	**+3.8**
DL2				pmax	pmax		
	comp=N,35μm,10.3s						
DL2				LR	LR		
	comp=N,3454μm,14.7s						
DL2				LR	LR		
	comp=N,1244μm,8.7s						
JMM	**Marumori**	**9.68**	**55**	P	**Pn**	**16 27 26.1**	**+0.4**
JMM	**Marumori**	**9.68**	**55**		**Pn**	**16 27 27.1**	**+1.3**
JMM	**Marumori**	**9.68**	**55**	⇑P	**Pn**	**16 27 27.2**	**+1.5**
MSHR	**Mys Shultsa**	**9.85**	**2***c iP*		**Pn**	**16 27 29.9**	**+1.9**
MSHR				pmax	pmax		
	comp=Z,2μm,1.7s						
JISG	**Ishigakijimahi**	**9.88**	**216**	P	**Pn**	**16 27 28.8**	**+0.4**
JYK	**Kaneyama**	**9.96**	**49**	P	**Pn**	**16 27 29.6**	**+0.1**
NJ2	**Nanjing**	**10.08**	**269**	⇓*i*P	**Pn**	**16 27 33.3**	**+2.1**
NJ2				pP		16 27 36.8	
NJ2				sP		16 27 38.3	
NJ2				PP	**PnPn**	**16 27 40.3**	**+1.6**
NJ2				S	**Sn**	**16 29 23.8**	**-0.6**
NJ2				SS		16 29 35.8	
NJ2				pmax	pmax		
	comp=Z,180nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,30μm,4.3s						
NJ2				LR	LR		
	comp=N,1319μm,9.0s						
NJ2				LR	LR		
	comp=E,1290μm,10.4s						
NJ2				LR	LR		
	comp=Z,1211μm,9.4s						
JRG	**Rokugo**	**10.41**	**47**	P	**Pn**	**16 27 37.0**	**+1.3**
VLA	**Vladivostok**	**10.42**	**5***c iP*		**Pn**	**16 27 38.1**	**+2.3**
JMK	**Ichinoseki**	**10.53**	**51**	P	**Pn**	**16 27 39.1**	**+1.8**
YOJ	**Yonaguni jima**	**10.67**	**221**	P	**Pn**	**16 27 42.6**	**+3.3**
YOJ	**Yonaguni jima**	**10.67**	**221**	Pn	**Pn**	**16 27 42.6**	**+3.3**
SNY	**Shenyang**	**10.73**	**330**	⇓P	Pn	16 27 47.1	+7.1
SNY				S	Sn	16 29 50.0	+10
SNY				pmax	pmax		
	comp=Z,70μm,12.0s						
SNY				LR	LR		
	comp=Z,4293μm,16.0s						
SNY				LR	LR		
	comp=Z,2902μm,11.3s						
JOM	**Ohasama**	**10.87**	**49**	P	**Pn**	**16 27 44.0**	**+2.0**
JAH	**Hinai**	**10.90**	**44**	P	**Pn**	**16 27 43.4**	**+1.0**
TATO	**Taipei**	**11.19**	**229**	P	Pn	16 27 53.1	+6.7
TATO				P	Pn	16 27 53.1	+6.7
TATO				P	Pn	16 27 53.1	+6.7
JCJ	**Chichijima**	**11.40**	**116**	Pn	**Pn**	**16 27 50.6**	**+1.4**
	comp=Z,24nm,0.3s,baz=27,slow=2.5,SNR=8.0						
JCJ				Sn	**Sn**	**16 29 57.9**	**+1.0**
	comp=Z,12nm,0.3s,baz=288,slow=20,SNR=1.5						
JCJ				LR	LR	16 31 48.9	
	comp=Z,1077μm,18.2s,baz=314,slow=36						
JCJ	**Chichijima**	**11.40**	**116**		**Pn**	**16 27 52.4**	**+3.1**
JCJ	**Chichijima**	**11.40**	**116**	P	Pn	16 27 55.8	+6.5
YHNB	**Yeheng**	**11.48**	**228**		**Pn**	**16 27 54.8**	**+4.2**
USA0B	**Ussuriysk Arra**	**11.50**	**4**	P	**Pn**	**16 27 53.8**	**+3.2**
USA0B	**Ussuriysk Arra**	**11.50**	**4**		**Pn**	**16 27 53.8**	**+3.2**
USRK	**Ussuriysk Ar.**	**11.50**	**4**	Pn	**Pn**	**16 27 53.2**	**+2.6**
	baz=188,slow=12,SNR=47						
USRK				LR	LR	16 32 03.0	
	comp=Z,905μm,19.5s,baz=170,slow=36						
JANG	**Nango**	**11.54**	**46**	P	**Pn**	**16 27 52.6**	**+1.4**
JTM	**Tenmabayashi**	**11.54**	**43**	⇑P	**Pn**	**16 27 53.2**	**+2.0**
JOSM	**Okushiri--Mats**	**11.63**	**34**	P	**Pn**	**16 27 53.8**	**+1.4**
NACB	**Ninganchiao**	**11.71**	**226**	Pn	**Pn**	**16 27 57.2**	**+3.7**
TIA	**Tai'an**	**11.77**	**291**	⇓P	**Pn**	**16 27 57.4**	**+3.1**
TIA				S	**Sn**	**16 30 11.2**	**+5.3**
TIA				pmax	pmax		
	comp=Z,21μm,6.2s						
TIA				LR	LR		
	comp=Z,4049μm,15.9s						
TIA				LR	LR		
	comp=Z,1308μm,14.9s						
TIA				LR	LR		
	comp=Z,1195μm,11.6s						
CN2	**Changchun**	**11.82**	**341**	*e*P	**Pn**	**16 27 56.8**	**+1.9**
CN2				*e*S	**Sn**	**16 30 07.1**	**+0.1**
CN2				pmax	pmax		
	comp=Z,40nm,1.1s						
CN2				pmax	pmax		
	comp=Z,26μm,10.0s						
CN2				LR	LR		
	comp=N,2756μm,16.0s						
CN2				LR	LR		
	comp=E,6775μm,16.0s						
CN2				LR	LR		
	comp=Z,2848μm,15.1s						
MDJ	**Mudanjiang**	**11.91**	**356**	Pn	**Pn**	**16 27 58.6**	**+2.4**
MDJ	**Mudanjiang**	**11.91**	**356**	P	**Pn**	**16 27 58.6**	**+2.4**
MDJ				S	**Sn**	**16 30 12.0**	**+2.6**
MDJ				pmax	pmax		
	comp=Z,211μm,8.9s						
MDJ				LR	LR		
	comp=Z,1867μm,21.1s						
MDJ				LR	LR		
	comp=Z,2064μm,12.3s						
MDJ				LR	LR		
	comp=Z,2440μm,24.0s						
MDJ	**Mudanjiang**	**11.91**	**356**	P	**Pn**	**16 27 59.0**	**+2.8**
JHST	**Hiyamasetana**	**12.09**	**34**	P	**Pn**	**16 28 01.5**	**+2.9**
JYM2	**Yakumo 2**	**12.10**	**36**	P	**Pn**	**16 28 01.4**	**+2.7**
SSLB	**Suanglung**	**12.39**	**227**		**Pn**	**16 28 06.0**	**+3.1**
SSLB	**Suanglung**	**12.39**	**227**	P	**Pn**	**16 28 05.8**	**+2.9**
YULB	**Yu-li**	**12.48**	**224**		**Pn**	**16 28 04.8**	**+0.7**
JNB	**Noboribetsu**	**12.69**	**37**	P	**Pn**	**16 28 10.6**	**+3.7**
TPUB	**Ta-pu**	**12.95**	**226**	P	**Pn**	**16 28 13.6**	**+3.1**
TWG	**Pinlang**	**13.05**	**223**		**Pn**	**16 28 12.0**	**+0.1**
TEY	**Ternei**	**13.11**	**19**	⇑*e*P	**Pn**	**16 28 15.4**	**+2.8**
TEY				pmax	pmax		
	comp=E,20nm,2.0s						
TEY				pmax	pmax		
	comp=Z,60nm,1.8s						
TEY				pmax	pmax		
	comp=N,70nm,1.7s						
TEY				pmax	pmax		
	comp=E,6μm,7.3s						
TEY				pmax	pmax		
	comp=N,17μm,7.8s						
TEY				pmax	pmax		
	comp=Z,16μm,8.3s						
QZH	**Quanzhou**	**13.16**	**237**	⇓*i*P	**Pn**	**16 28 14.7**	**+1.3**
QZH				S	**Sn**	**16 30 44.1**	**+4.0**
QZH				pmax	pmax		
	comp=Z,710nm,2.9s						
QZH				pmax	pmax		
	comp=Z,26μm,7.5s						
QZH				LR	LR		
	comp=Z,651μm,16.8s						
QZH				LR	LR		
	comp=Z,665μm,14.5s						
QZH				LR	LR		
	comp=Z,705μm,15.7s						
JEW	**Eniwo**	**13.17**	**37**	P	**Pn**	**16 28 15.6**	**+2.2**
JEW	**Eniwo**	**13.17**	**37**		**Pn**	**16 28 15.9**	**+2.5**
JEW	**Eniwo**	**13.17**	**37**	⇓P	**Pn**	**16 28 15.7**	**+2.2**
BNX	**BinXian**	**13.25**	**350**	⇑P	**Pn**	**16 28 17.2**	**+2.6**
BNX				pP	**P**	**16 28 20.2**	**-4.3**
BNX				sP		16 28 23.5	
BNX				PP	**PnPn**	**16 28 27.4**	**+4.9**
BNX				S	**Sn**	**16 30 43.8**	**+1.6**
BNX				sS	**Sn**	**16 30 49.2**	**+7.0**
BNX				pmax	pmax		
	comp=Z,3μm,1.3s						
BNX				pmax	pmax		
	comp=Z,268μm,11.3s						
BNX				LR	LR		
	comp=Z,2230μm,14.6s						
JNBK	**Urakawa-nobuka**	**13.47**	**42**	P	**Pn**	**16 28 18.5**	**+0.9**
ERM	**Erimo**	**13.53**	**43**	*d iP*	**Pn**	**16 28 18.8**	**+0.4**
ERM	**Erimo**	**13.53**	**43**		**Pn**	**16 28 19.2**	**+0.9**
ERM	**Erimo**	**13.53**	**43**	⇓P	**Pn**	**16 28 19.0**	**+0.7**
ERM	**Erimo**	**13.53**	**43**	P	**Pn**	**16 28 21.6**	**+3.2**
JBT2	**Biratori 2**	**13.60**	**39**	P	**Pn**	**16 28 19.5**	**+0.2**
BJT	**Baijiatuau**	**13.81**	**306**	P	**Pn**	**16 28 22.7**	**+0.5**
BJT	**Baijiatuau**	**13.81**	**306**	Pn	**Pn**	**16 28 22.7**	**+0.5**
BJI	**Beijing**	**13.81**	**306**	P	**Pn**	**16 28 22.8**	**+0.6**
BJI				S	**Sn**	**16 30 58.1**	**+2.2**
BJI				pmax	pmax		
	comp=Z,72μm,8.9s						
BJI				LR	LR		
	comp=Z,1447μm,19.3s						
BJI				LR	LR		
	comp=Z,1785μm,14.9s						
HNS	**HongShan**	**13.94**	**294**	⇑P	**Pn**	**16 28 25.3**	**+1.4**
HNS				S	**Sn**	**16 31 05.2**	**+6.3**
HNS				pmax	pmax		
	comp=Z,14μm,7.0s						
HNS				LR	LR		
	comp=Z,581μm,16.1s						
HNS				LR	LR		
	comp=Z,734μm,16.9s						
JCH	**Churui**	**14.04**	**42**	P	**Pn**	**16 28 23.5**	**-1.7**
JAB	**Ashibetsu**	**14.04**	**37**	P	**Pn**	**16 28 25.6**	**+0.3**
WHN	**Wuhan**	**14.14**	**266**	⇓P	**Pn**	**16 28 28.4**	**+1.7**
WHN				S	S	16 31 15.6	-9.5
WHN				pmax	pmax		
	comp=Z,7μm,2.3s						
WHN				LR	LR		
	comp=Z,1840μm,16.0s						
WHN				LR	LR		
	comp=Z,2783μm,13.9s						
JOB	**Onbets**	**14.49**	**42**	P	**Pn**	**16 28 29.7**	**-1.7**
JKK2	**Kamakawa 2**	**14.57**	**37**	P	**Pn**	**16 28 30.8**	**-1.8**
ASAJ	**Asahikawa**	**14.67**	**36**	Pn	**Pn**	**16 28 33.2**	**-0.7**
	comp=Z,32nm,0.3s,baz=220,slow=9.8,SNR=41						
ASAJ				LR	LR	16 33 51.8	
	comp=Z,1014μm,19.6s,baz=236,slow=36						
ASAJ	**Asahikawa**	**14.67**	**36**	P	**Pn**	**16 28 32.7**	**-1.2**
ASAJ	**Asahikawa**	**14.67**	**36**	P	**Pn**	**16 28 31.7**	**-2.2**
JKA	**Kamikawa-asahi**	**14.67**	**36**		**Pn**	**16 28 31.7**	**-2.2**
JAR	**Ashorobuto**	**14.71**	**40**	P	**Pn**	**16 28 31.6**	**-2.8**
JRBN	**Rebuntou**	**14.99**	**29**	P	**Pn**	**16 28 38.5**	**+0.3**
JAK	**Akkeshi**	**15.04**	**43**	P	**Pn**	**16 28 37.7**	**-1.1**
JWK2	**Keihoku**	**15.25**	**31**	P	**Pn**	**16 28 42.8**	**+1.1**
LYN	**LuoYang**	**15.34**	**282**	⇓P	**Pn**	**16 28 44.0**	**+1.1**
LYN				sP	P	16 28 48.1	+0.4
LYN				pmax	pmax		
	comp=Z,93μm,6.9s						
LYN				LR	LR		
	comp=Z,623μm,17.5s						
LYN				LR	LR		
	comp=Z,1826μm,12.5s						
TIY	**Taiyuan**	**15.77**	**294**	⇑P	**Pn**	**16 28 49.8**	**+1.2**
TIY				S	**Sn**	**16 31 49.6**	**+6.0**
TIY				pmax	pmax		
	comp=Z,73μm,7.2s						
TIY				LR	LR		
	comp=Z,511μm,9.6s						
TIY				LR	LR		
	comp=Z,990μm,15.2s						
XLT	**XiLinHaoTe**	**16.00**	**318**	⇑*i*P	**Pn**	**16 28 52.5**	**+0.8**
XLT				pP	P	16 28 55.7	+0.5
XLT				sP	sP	16 28 59.0	+0.9
XLT				PP	pP	16 29 06.4	+9.2
XLT				S	**Sn**	**16 31 53.7**	**+4.4**
XLT				SS	**S**	**16 32 06.7**	**+3.3**
XLT				PcP	**PcP**	**16 33 49.3**	**+0.6**
XLT				pmax	pmax		
	comp=Z,39μm,5.6s						
XLT				LR	LR		
	comp=Z,1149μm,13.1s						
XLT				LR	LR		
	comp=Z,1814μm,12.6s						
CNSH	**ChangSha**	**16.01**	**258**	⇓P	**Pn**	**16 28 52.6**	**+0.9**

GZH LR LR
comp=Z,599μm,9.3s
GZH LR LR
comp=Z,565μm,11.3s
KUR Kuril'sk 18.21 42 *c iP* **Pn 16 29 17.4 -1.8**
KUR *eS* **Sn 16 32 38.7 -3.9**
KUR pmax pmax
comp=Z,181μm,12.5s
KUR pmax pmax
comp=E,157μm,10.7s
KUR pmax pmax
comp=N,83μm,16.0s
KUR pmax pmax
comp=Z,2μm,0.9s
KUR pmax pmax
comp=N,412nm,1.4s
KUR pmax pmax
comp=E,380nm,0.8s
KUR smax smax
comp=N,205μm,12.8s
KUR MLR MLR
comp=E,1933μm,14.0s
KUR MLR MLR
comp=Z,1237μm,14.0s
KUR MLR MLR
comp=N,294μm,12.0s
XAN Xi'an 18.27 280 P **Pn 16 29 19.9 -0.2**
XAN pP sP 16 29 24.3 +1.1
XAN S **Sn 16 32 45.5 +1.1**
XAN SS **SnSn 16 33 10.2 +12**
XAN pmax pmax
comp=N,128μm,8.5s
XAN LR LR
comp=N,891μm,12.0s
XAN LR LR
comp=N,956μm,12.8s
ENH Enshi 18.29 268 P **P 16 29 20.5 0.0**
ENH IAmb IAmb 16 29 38.1
comp=Z,3μm,1.3s
BTO Baotou 18.37 301 *eP* **P 16 29 26.0 +4.6**
BTO LR LR
comp=Z,3907μm,22.4s
UGL Uglegorsk 18.41 24 *eP* **Pn 16 29 20.0 -1.6**
UGL *eS* **Sn 16 32 39.8 -7.6**
UGL pmax pmax
comp=Z,1μm,1.6s
UGL pmax pmax
comp=Z,229μm,9.5s
UGL smax smax
comp=E,260μm,12.4s
UGL smax smax
comp=N,217μm,10.2s
UGL MLR MLR
comp=Z,944μm,13.0s
UGL MLR MLR
comp=N,1271μm,14.0s
UGL MLR MLR
comp=E,217μm,10.0s
GRNR Gornyy 18.51 11⇓ *iP* **P 16 29 22.6 -0.2**
GRNR pmax pmax
comp=E,6.0nm,0.5s
GRNR pmax pmax
comp=N,30nm,0.8s
GRNR pmax pmax
comp=Z,50nm,0.9s
GRNR MLR MLR
comp=E,304μm,11.0s
GRNR MLR MLR
comp=N,650μm,13.0s
GRNR MLR MLR
comp=Z,848μm,12.0s
MCO Taipa Grande 18.53 240 P **Pn 16 29 26.0 +2.7**
BALP Baler 18.84 208 *eP* **P 16 29 26.2 -0.4**
SMPP San Manuel, Pa 18.85 211 *eP* **Pn 16 29 27.4 +0.2**
BOLP Bolinao 19.00 214 *eP* **Pn 16 29 28.8 -0.1**
PCPH Palayan 19.20 209⇓ *eP* **P 16 29 30.3 -0.2**
GULI GuiLin 19.28 253 ⇓P **Pn 16 29 32.4 0.0**
GULI S **S 16 33 14.8 +4.8**
GULI LR LR
comp=Z,819μm,17.4s
GULI LR LR
comp=Z,545μm,18.4s
GULI LR LR
comp=Z,980μm,13.0s
SCZP Santa Cruz 19.52 213 *eP* **P 16 29 33.0 -1.1**
JCNP Jose Panganiba 19.76 204⇓ *eP* **Pn 16 29 38.0 -0.1**
JCNP *eS* Sn 16 33 35.8 +15
PVCP Virac 19.97 199 *eP* **Pn 16 29 40.0 -0.6**
SCSP San Jose Seism 20.09 201 *eP* Pn 16 29 42.5 +0.4
TYV Tymovskoe 20.14 22 *eP* Pn 16 29 44.5 +2.1
TYV pmax pmax
comp=Z,114nm,1.4s
TYV pmax pmax
comp=Z,8μm,2.3s
TYV MLR MLR
comp=E,1358μm,15.0s
TYV MLR MLR
comp=Z,1247μm,15.0s
GQP Guinayangan 20.20 204⇓ *eP* **P 16 29 41.4 -0.1**
LQP Lukban 20.34 207⇑ *eP* **P 16 29 43.0 -0.2**
MACP Maragondon, Ca 20.52 209 *eP* **P 16 29 44.0 -0.9**
TGY Tagaytay City 20.58 208 P **P 16 29 45.9 +0.3**
comp=Z,642nm,1.1s,baz=349,slow=4.0,SNR=21
TGY Tagaytay City 20.58 208⇓ *eP* Pn 16 29 46.7 -1.1
BOAC Boac 20.83 205 *eP* **P 16 29 47.6 -0.7**
PGP Puerto Galera 21.12 207⇓ *eP* **P 16 29 50.6 -0.9**
ZEA Zeya 21.16 354 *eP* **P 16 29 53.2 +1.6**
ZEA *eS* **S 16 33 42.2 -4.8**
ZEA pmax pmax
comp=E,230nm,0.9s
ZEA pmax pmax
comp=N,2μm,1.2s
ZEA pmax pmax
comp=Z,4μm,1.1s
ZEA pmax pmax
comp=E,13μm,3.4s
ZEA pmax pmax
comp=N,61μm,4.4s
ZEA pmax pmax
comp=Z,80μm,4.7s
ZEA smax smax
comp=E,201μm,9.9s
ZEA smax smax
comp=N,514μm,12.8s
ZEA MLR MLR
comp=E,590μm,12.0s
ZEA MLR MLR
comp=N,430μm,10.0s
ZEA MLR MLR
comp=Z,540μm,10.0s
LUBP Lubang 21.19 209⇓ *eP* **P 16 29 51.4 -0.8**
GYA Guiyang 21.83 260⇓ *iP* **P 16 29 58.2 -0.9**
GYA sP sP 16 30 04.9 +2.8
GYA S **S 16 33 53.1 -7.7**
GYA pmax pmax
comp=Z,61μm,7.1s
GYA LR LR
comp=Z,552μm,10.8s
GYA LR LR
comp=Z,247μm,10.0s
GYA LR LR
comp=Z,993μm,11.8s
SJMP San Jose 22.01 206 *eP* **P 16 29 59.7 -1.3**
RCP Roxas 22.31 201⇑ *eP* **P 16 30 03.5 -0.7**
LZH Lanzhou 22.42 286 ⇓P **P 16 30 04.6 -0.9**
LZH pP sP 16 30 08.1 -0.3
LZH PP **PnPn 16 30 33.8 +5.5**
LZH S **S 16 34 09.8 -2.4**
LZH sS pS 16 34 15.2 -0.1
LZH SS **SnSn 16 34 46.6 +6.6**
LZH pmax pmax
comp=Z,2μm,1.1s
LZH pmax pmax
comp=Z,74μm,5.4s
LZH LR LR
comp=Z,810μm,13.0s
LZH LR LR
comp=Z,934μm,15.2s
CD2 Chengdu 22.98 273 ⇓P **P 16 30 09.7 -1.7**
CD2 pP pP 16 30 12.6 -0.8
CD2 S **S 16 34 18.5 -3.7**
CD2 pmax pmax
comp=Z,1μm,1.4s
CD2 pmax pmax
comp=Z,25μm,7.3s
CD2 LR LR
comp=Z,318μm,13.7s
CD2 LR LR
comp=Z,1071μm,15.3s
CIT Chita 22.99 332 *eP* **P 16 30 14.7 +3.5**
CIT *e* 16 30 43.2
CIT *e* 16 41 21.7
CIT pmax pmax
comp=Z,6μm,4.0s
GUMO Guam 23.00 143 P **P 16 30 11.7 +0.2**
comp=Z,472nm,1.0s,baz=295,slow=1.5,SNR=14
GUMO LR LR 16 37 35.7
comp=Z,260μm,21.7s,baz=304,slow=33
GUMO Guam 23.00 143 P **P 16 30 13.1 +1.5**
GUMO Guam 23.00 143 ⇓P **P 16 30 10.9 -0.7**
GUMO Guam 23.00 143 P **P 16 30 14.5 +3.0**
MSLP Maasin 23.12 195 *eP* **P 16 30 10.9 -1.9**
QIZ Qiongzhong 23.17 239 P **P 16 30 12.7 -0.6**
QIZ IAmb IAmb 16 30 50.8
comp=Z,2μm,1.9s
QIZ Qiongzhong 23.17 239 P **P 16 30 14.0 +0.7**
QIZ S **S 16 34 26.7 +1.3**
QIZ pmax pmax
comp=Z,320nm,2.8s
QIZ pmax pmax
comp=Z,33μm,6.9s
QIZ LR LR
comp=Z,626μm,14.5s
QIZ LR LR
comp=Z,548μm,18.8s
QIZ LR LR
comp=Z,526μm,20.8s
GLSP General Luna, 23.22 192 *eP* **P 16 30 11.0 -2.8**
GUIM Jordan 23.24 201 *eP* **P 16 30 13.1 -0.8**
ULN Ulaanbaatar 23.43 317 *c iP* **P 16 30 14.8 -1.1**
ULN pmax pmax
comp=Z,1μm,1.2s
ULN MLR MLR
comp=Z,990μm,17.0s
ULN Ulaanbaatar 23.43 317 P **P 16 30 14.7 -1.3**
ULN IAmb IAmb 16 30 39.5
comp=Z,1μm,1.2s
ULN Ulaanbaatar 23.43 317 IAMs_20 IAMs_20 16 40 26.0
comp=Z,1288μm,18.0s
ULN Ulaanbaatar 23.43 317 P **P 16 30 14.9 -1.1**
ULN P **P 16 30 14.9 -1.1**
ULN Ulaanbaatar 23.43 317 ⇓P **P 16 30 14.5 -1.4**
CUYO Cuyo Island 23.54 205 *eP* **P 16 30 15.2 -1.7**
TBP Tagbilaran 23.78 197⇓ *eP* **P 16 30 16.9 -2.5**
TBP *i* S **S 16 34 43.6 +8.4**
SONM Songino Array 23.80 316 P **P 16 30 18.5 -0.9**
comp=Z,103nm,0.9s,baz=131,slow=9.2,SNR=93
SONM Lg Lg 16 37 40.0
comp=Z,27nm,1.1s,baz=121,slow=22,SNR=3.6
SONM LR LR 16 40 40.5
comp=Z,901μm,19.6s,baz=115,slow=39
SONM Songino Array 23.80 316 P **P 16 30 17.6 -1.9**
SONM Songino Array 23.80 316 P **P 16 30 17.6 -1.9**
CNOP Candoni, Negro 23.98 200⇓ *iP* **P 16 30 18.8 -2.4**
CNOP *i* S Sn 16 34 50.4 -11
BUTP Butuan 24.11 192 *eP* **P 16 30 19.6 -2.8**
SNPH Sibulan 24.28 198 *eP* **P 16 30 21.7 -2.4**
BIPH Bislig 24.75 190⇓ *iP* **P 16 30 24.7 -3.6**
CGP Cagayan de Oro 24.79 194⇓ *eP* **P 16 30 30.4 +1.8**
I39PW PALAU INFRASON 25.31 171 *i* 19 04 00.0
baz=353,slow=307,SNR=2.4
PPR Puerto Princes 25.39 209⇓ *iP* **P 16 30 33.7 -0.3**
KMI Kunming 25.60 260 ⇓P **P 16 30 33.7 -2.6**
KMI pP sP 16 30 39.7 +0.4
KMI sP pP 16 30 42.3 +3.9
KMI PP 16 31 13.1
KMI S **S 16 35 00.1 -4.7**
KMI sS sS 16 35 10.2 +1.8
KMI SS **SnSn 16 36 04.2 +6.1**
KMI ScS **ScS 16 41 35.5 -1.1**
KMI pmax pmax
comp=Z,17μm,7.4s
KMI LR LR
comp=Z,584μm,12.9s
KMI LR LR
comp=Z,435μm,12.6s
KMI LR LR
comp=Z,511μm,12.0s
PAGZ Pagadian 25.68 197⇓ *eP* **P 16 30 35.7 -1.0**
GTA Gaotai 25.80 294 ⇓P **P 16 30 36.4 -1.4**
GTA pP sP 16 30 41.4 +0.6
GTA sP pP 16 30 44.8 +4.9
GTA S **S 16 35 07.8 +0.3**
GTA sS sS 16 35 21.7 +11
GTA LR LR
comp=Z,2041μm,18.7s
GTA LR LR
comp=Z,362μm,15.9s
GTA LR LR
comp=Z,477μm,21.9s
SKR Severo-Kuril's 25.89 39 *eP* **P 16 30 40.3 +1.9**
SKR pmax pmax
comp=Z,50μm,8.1s
SKR pmax pmax
comp=Z,1μm,2.8s
SKR MLR MLR
comp=Z,348μm,17.0s
PZH PanZhiHua 25.91 264 ⇓P **P 16 30 37.4 -1.6**
PZH pP **sP 16 30 43.5 +1.5**
PZH sP pP 16 30 53.8 +13
PZH S **S 16 35 05.9 -3.7**
PZH sS **sS 16 35 13.5 +0.4**
PZH SS **SnSn 16 36 12.4 +6.8**
PZH pmax pmax
comp=Z,2μm,1.9s
PZH pmax pmax
comp=Z,13μm,4.2s
PZH LR LR
comp=Z,551μm,13.9s
PZH LR LR
comp=Z,245μm,13.1s
PZH LR LR
comp=Z,362μm,13.6s
DAV Davao City (W) 25.97 192 P **P 16 30 43.8 +4.4**
comp=Z,65nm,0.3s,baz=61,slow=7.5,SNR=1.5
BATP Bataraza 26.65 210 *eP* **P 16 30 46.1 +0.6**
ZAK Zakamensk 26.86 319 *eP* **P 16 30 45.9 -1.4**
ZAK pmax pmax
comp=Z,626nm,1.5s
DDMP Don Marcelino, 26.89 191 *eP* **P 16 30 44.7 -3.0**
GSPH General Santos 27.04 193 *eP* P 16 31 05.7 +17
IRK Irkutsk 27.35 323 *eP* **P 16 30 54.8 +3.3**
IRK pmax pmax
comp=Z,2μm,2.6s
BOD Bodaibo 27.57 341 *eP* **P 16 30 51.8 -1.6**
BOD pmax pmax
comp=Z,793nm,2.4s
PEA0B Petropavlovsk- 28.09 35 *d iP* **P 16 30 59.2 +1.0**
PETK Petropavlovsk- 28.09 35 P **P 16 30 59.0 +0.8**
comp=Z,80nm,0.9s,baz=210,slow=8.6,SNR=29
PETK LR LR 16 42 51.5
comp=Z,581μm,19.2s,baz=184,slow=38
PETK Petropavlovsk- 28.09 35 P **P 16 30 59.0 +0.8**
PETK Petropavlovsk- 28.09 35 P **P 16 30 58.3 +0.2**
PETK PcP **PcP 16 34 12.1 -0.2**
PET Petropavlovsk 28.51 36 *d iP* **P 16 31 03.3 +1.4**
PET *e* 16 32 09.6
PET *eS* **S 16 35 48.6 -1.2**
PET pmax pmax
comp=Z,79μm,10.5s
PET pmax pmax
comp=Z,77μm,14.8s
PET pmax pmax
comp=Z,964nm,1.7s
PET smax smax
comp=N,278μm,20.0s
PET Petropavlovsk 28.51 36 P **P 16 31 02.1 +0.1**
PET Petropavlovsk 28.51 36 ⇓P **P 16 31 02.0 +0.1**
PET Petropavlovsk 28.51 36 P **P 16 31 05.1 +3.2**
comp=N,2μm,1.9s
MOY Mondy 28.75 320 *eP* **P 16 31 03.5 -0.7**
MOY pmax pmax
comp=Z,919nm,2.6s
UBPT Khong Chiam 28.77 239 ⇑P **P 16 31 04.4 -0.1**
SGSI Sangihe 29.30 191 P **P 16 31 07.0 -2.2**
comp=Z,5μmcomp=Z,416nm,0.9s
YAK Yakutsk 29.33 359 P **P 16 31 08.1 -0.9**
comp=Z,68nm,0.6s,baz=185,slow=2.2,SNR=27
YAK LR LR 16 43 04.1
comp=Z,838μm,18.9s,baz=172,slow=37
YAK Yakutsk 29.33 359 *eP* **P 16 31 07.4 -1.7**
YAK *e* 16 32 03.3
YAK *e* 16 34 10.4
YAK *eS* **S 16 36 01.0 -1.5**
YAK *eSS* ScP 16 37 46.2 -11
YAK *e* 16 41 52.5
YAK pmax pmax
comp=Z,353nm,1.0s
YAK pmax pmax
comp=N,282nm,0.9s
YAK pmax pmax
comp=E,113nm,1.1s
YAK smax smax
comp=E,48μm,10.4s
YAK MLR MLR
comp=Z,807μm,17.0s
YAK MLR MLR
comp=N,262μm,14.0s
YAK Yakutsk 29.33 359 P **P 16 31 06.5 -2.6**
YAK IAMs_20 IAMs_20 16 42 43.2
comp=Z,793μm,20.0s
YAK Yakutsk 29.33 359⇓ P **P 16 31 05.9 -3.1**
MYLDM Lahad Datu 29.69 205 P **P 16 31 12.8 +0.1**
MYLDM IAmb IAmb 16 32 13.7
comp=Z,808nm,1.3s
GOMU GeErMu 29.72 287 P **P 16 31 13.5 +0.2**
GOMU pP sP 16 31 17.2 +0.9
GOMU sP pP 16 31 20.5 +5.0
GOMU S **S 16 36 10.1 +0.2**
GOMU pmax pmax
comp=Z,7μm,3.6s
GOMU LR LR
comp=Z,351μm,19.6s
GOMU LR LR
comp=Z,252μm,19.4s
GOMU LR LR
comp=Z,369μm,20.2s
KKM Kota Kinabalu 29.80 210⇓ P **P 16 31 12.9 -0.8**
KKM Kota Kinabalu 29.80 210 P **P 16 31 12.8 -0.9**
MA2 Magadan 29.98 20 LR LR 16 43 11.6
comp=Z,369μm,18.4s,baz=204,slow=36
MA2 Magadan 29.98 20 *de* P **P 16 31 12.6 -2.3**
MA2 pmax pmax
comp=Z,916nm,2.5s
MA2 MLR MLR
comp=Z,789μm,16.0s
MA2 Magadan 29.98 20 IAMs_20 IAMs_20 16 44 10.9
comp=Z,474μm,18.0s
MA2 Magadan 29.98 20⇓ P **P 16 31 12.7 -2.2**
MA2 Magadan 29.98 20 P **P 16 31 16.6 +1.7**
LKP Lekhapani 30.60 269 *eP* **P 16 31 20.3 -0.4**
LKP IAmb IAmb 16 31 38.6
comp=Z,774nm,1.2s
SPMM Sapulut 30.90 209 P **P 16 31 23.0 -0.4**
CHTO Chiang Mai 31.67 252 P **P 16 31 29.7 -0.5**
CHTO pmax pmax
comp=Z,916nm,1.4s
CHTO Chiang Mai 31.67 252 P **P 16 31 29.6 -0.5**
CHTO IAmb IAmb 16 31 40.1
comp=Z,916nm,1.4s
CHTO Chiang Mai 31.67 252 P **P 16 31 30.3 +0.1**
CHTO P **P 16 31 30.3 +0.1**
CHTO Chiang Mai 31.67 252⇓ P **P 16 31 29.7 -0.5**
CHTO Chiang Mai 31.67 252 P **P 16 31 30.7 +0.5**
CM31 Chiang Mai Arr 31.86 251 P **P 16 31 31.5 -0.4**
CM31 IAmb IAmb 16 31 41.4
comp=Z,303nm,0.9s
CM31 Chiang Mai Arr 31.86 251 P **P 16 31 32.2 +0.3**
SNR=169
CM31 P **P 16 31 32.2 +0.3**
SNR=169
CMAR Chiang Mai Arr 31.86 251 P **P 16 31 31.5 -0.4**
comp=Z,16nm,0.8s,baz=48,slow=8.0,SNR=93
CMAR PcP **PcP 16 34 22.4 -0.3**
comp=Z,13nm,1.0s,baz=15,slow=2.2,SNR=2.5
CMAR LR LR 16 46 04.6
comp=Z,282μm,20.0s,baz=60,slow=40
CMAR PKPPKP P'P'df 17 05 04.2 -10
comp=Z,3.7nm,1.1s,baz=290,slow=3.8,SNR=5.2
TNTI Ternate 31.94 186 P **P 16 31 30.4 -2.1**
TNTI Ternate 31.94 186⇓ P **P 16 31 30.6 -1.9**
TNTI Ternate 31.94 186 P **P 16 31 30.6 -1.9**
comp=Z,91μmcomp=Z,12μmcomp=Z,623nm,1.7s
TNTI Ternate 31.94 186 P **P 16 31 33.0 +0.5**
MOKO MOKOCHONG 32.05 268 *eP* **P 16 31 33.9 +0.2**
MOKO IAmb IAmb 16 31 55.6
comp=Z,3μm,3.0s
ITAN ITANAGAR 32.45 270 *eP* **P 16 31 37.0 0.0**
ITAN IAmb IAmb 16 31 57.6
comp=Z,845nm,1.0s
KMSI Cibinong 32.60 193 P **P 16 31 38.3 0.0**
comp=Z,1μmcomp=Z,5μmcomp=Z,222nm,0.8s
KOHI KOHIMA 32.61 267 *eP* **P 16 31 38.9 +0.3**
GTOI Gorontalo 32.74 194 P **P 16 31 35.4 -4.1**
comp=Z,52μmcomp=Z,5μmcomp=Z,50nm,1.8s
TOLI2 Tolitoli 32.81 199 P **P 16 31 38.0 -2.2**
TOLI2 Tolitoli 32.81 199 P **P 16 31 38.8 -1.4**
MRSI Marisa 33.13 196 P **P 16 31 40.5 -2.4**
comp=Z,126μmcomp=Z,13μmcomp=Z,239nm,1.5s
SEY Seymchan 33.19 18 LR LR 16 44 60.0
comp=Z,758μm,19.2s,baz=213,slow=36
SEY Seymchan 33.19 18⇓ *iP* **P 16 31 41.4 -1.7**
SEY pmax pmax
comp=Z,280nm,1.1s
SEY MLR MLR
comp=Z,560μm,16.0s
LBMI Labuha 33.32 186 P **P 16 31 42.1 -2.5**
comp=Z,102μmcomp=Z,12μmcomp=Z,390nm,2.2s
TEZP TEZPUR 33.40 270 *eP* **P 16 31 43.9 -1.4**
TEZP IAmb IAmb 16 31 54.1
comp=Z,2μm,1.4s
SWI Sorong 33.41 179 P **P 16 31 43.3 -2.1**
comp=Z,148μmcomp=Z,16μmcomp=Z,204nm,1.9s
SIJI Sorong 33.41 179 P **P 16 31 43.0 -2.4**
comp=Z,37nm,0.8s,baz=347,slow=12,SNR=11
SIJI LR LR 16 45 31.2
comp=Z,212μm,19.2s,baz=12,slow=37
MPSI Mapaga 33.80 200 P **P 16 31 47.0 -1.7**
comp=Z,141μmcomp=Z,246nm,1.6s
LSA Lhasa 33.86 276 IAMs_20 IAMs_20 16 46 33.9
comp=Z,401μm,20.0s
LSA Lhasa 33.86 276 P **P 16 31 49.0 -0.9**
LSA S **S 16 37 17.4 +2.5**
LSA LR LR
comp=N,188μm,16.4s
LSA LR LR
comp=E,299μm,20.6s
LSA LR LR
comp=Z,228μm,19.2s
BAKI Biak 34.11 170 P **P 16 31 49.8 -1.7**
comp=Z,743nm,1.4s
LUWI Luwuk 34.41 194 P **P 16 31 50.4 -3.7**
comp=Z,114μmcomp=Z,8μmcomp=Z,185nm,1.0s
LUWI Luwuk 34.41 194 P **P 16 31 54.3 +0.2**
GUWA GUWAHATI 34.48 269 *eP* **P 16 31 53.0 -1.7**
GUWA IAmb IAmb 16 32 05.2
comp=Z,412nm,1.1s
APSI Ampana 34.54 196 P **P 16 31 52.1 -3.1**
comp=Z,61μmcomp=Z,5μmcomp=Z,176nm,1.3s
SHL Shillong 34.54 268 *eP* **P 16 31 54.8 -0.7**
SHL IAmb IAmb 16 32 08.7
comp=Z,278nm,1.0s
H11N2 WAKE ISLAND Hy 34.74 103 P **P 16 32 00.2 +3.4**
baz=272,slow=9.8,SNR=4.1
H11N2 T T 17 08 09.1
baz=297,slow=74,SNR=147
H11N1 WAKE ISLAND Hy 34.75 103 P **P 16 32 00.1 +3.3**
baz=272,slow=9.8,SNR=4.9
H11N1 T T 17 08 09.4
baz=297,slow=74,SNR=134
H11N3 WAKE ISLAND Hy 34.76 103 P **P 16 32 00.3 +3.4**
baz=272,slow=9.8,SNR=6.8
H11N3 T T 17 08 10.4
baz=297,slow=74,SNR=181
WAKE Wake Island 34.76 104 P **P 16 31 59.3 +2.1**
SBUM Sibu 34.77 214 P **P 16 31 56.4 -0.9**
SBUM Sibu 34.77 214⇓ P **P 16 31 56.6 -0.6**
SBUM Sibu 34.77 214 P **P 16 31 57.0 -0.3**
SRPI Serui, Papua 34.79 170 P **P 16 31 55.5 -1.9**
comp=Z,74μmcomp=Z,12μmcomp=Z,363nm,1.3s
SANI Sanana 34.87 188⇑ P **P 16 31 54.6 -3.5**
SANI Sanana 34.87 188 P **P 16 31 54.6 -3.5**
comp=Z,130μmcomp=Z,15μmcomp=Z,324nm,1.2s
H11S3 WAKE ISLAND Hy 35.19 105 T T 17 08 40.3
baz=301,slow=75,SNR=77
H11S1 WAKE ISLAND Hy 35.19 105 T T 17 08 36.5
baz=301,slow=75,SNR=46

H11S2 WAKE ISLAND Hy 35.20 105 T T 17 08 47.8
baz=301,slow=75,SNR=24
WMQ Urumqi 35.21 301 P **P** **16 32 00.3 -0.6**
WMQ pP sP 16 32 03.7 -0.2
WMQ sP pP 16 32 08.4 +5.3
WMQ PP **PP** **16 33 22.7 +2.1**
WMQ PcP **PcP** **16 34 36.3 +4.5**
WMQ S **S** **16 37 37.2 +2.6**
WMQ ScP **ScP** **16 38 13.9 -4.1**
WMQ PcS **PcS** **16 38 17.8 -0.9**
WMQ SS **SnSn** **16 39 50.8 -0.5**
WMQ ScS **ScS** **16 42 19.7 -2.3**
WMQ pmax pmax
comp=Z,450nm,1.5s
WMQ pmax pmax
comp=Z,2μm,4.1s
WMQ LR LR
comp=Z,805μm,18.5s
WMQ LR LR
comp=Z,375μm,16.5s
WMQ LR LR
comp=Z,262μm,18.5s
SMPI Sarmi 35.34 166 P **P** **16 32 01.5 -0.6**
comp=Z,90μmcomp=Z,21μmcomp=Z,409nm,1.3s
SMKI Samarinda 35.38 204 P **P** **16 32 03.5 +1.0**
comp=Z,154μmcomp=Z,20μmcomp=Z,596nm,1.7s
BELO BELONIA 35.79 265 *eP* **P** **16 32 07.3 +1.3**
DHUB DHUBRI 35.97 270 *eP* **P** **16 32 08.7 +1.2**
DHUB IAmb IAmb 16 32 16.0
comp=Z,464nm,1.2s
AAI Ambon 36.29 184 P **P** **16 32 08.7 -1.6**
comp=Z,165μmcomp=Z,25μmcomp=Z,910nm,1.7s
JAY Jayapura 36.29 163 P **P** **16 32 09.1 -1.3**
baz=326,slow=11
JAY LR LR 16 44 41.4
comp=Z,137μm,21.6s,baz=339,slow=32
JAY Jayapura 36.29 163 P **P** **16 32 09.0 -1.3**
comp=Z,81μmcomp=Z,10μmcomp=Z,141nm,1.5s
KSM Kuching 36.55 216 P **P** **16 32 12.2 -0.3**
KSM IAmb IAmb 16 32 24.7
comp=Z,567nm,1.2s
KSM Kuching 36.55 216 ⇓P **P** **16 32 12.0 -0.5**
KSM Kuching 36.55 216 P **P** **16 32 13.0 +0.5**
KSM Kuching 36.55 216 P **P** **16 32 11.7 -0.8**
MTKI Muara Teweh, K 36.68 207 P **P** **16 32 12.7 -0.9**
comp=Z,56μmcomp=Z,10μmcomp=Z,257nm,1.4s
GTK Tadong 36.71 273 *eP* **P** **16 32 14.0 0.0**
GTK IAmb IAmb 16 32 39.6
comp=Z,294nm,1.3s
SHEM Shemya Is, Ala 36.89 44 P **P** **16 32 14.7 -0.3**
comp=Z,204nm,0.9s,baz=30,slow=8.1,SNR=16
SHEM LR LR 16 46 29.9
comp=Z,199μm,21.4s,baz=254,slow=35
SMY Shemya 36.89 44 ⇓P **P** **16 32 16.8 +1.8**
BNDI Bandanaira 37.05 181 ⇓P **P** **16 32 14.9 -1.8**
BNDI Bandanaira 37.05 181 P **P** **16 32 17.4 +0.7**
TTSI Tana Toraja 37.05 198 P **P** **16 32 13.7 -3.0**
comp=Z,98μmcomp=Z,8μmcomp=Z,164nm,1.3s
STKI Sintang 37.22 213 P **P** **16 32 17.4 -0.8**
comp=Z,45μmcomp=Z,10μmcomp=Z,89nm,1.5s
TAPN Taplejung 37.45 273 *eP* **P** **16 32 19.4 -1.1**
comp=Z,1μm,1.3s
ZSN Zaisan 37.50 307 *eP* **P** **16 32 17.5 -2.8**
ZSN pmax pmax
comp=Z,641nm,2.7s
ZSN Zaisan 37.50 307 *eP* **P** **16 32 17.6 -2.8**
comp=Z,641nm,2.7s,baz=307
ODAN Odare 37.88 273 *eP* **P** **16 32 22.7 -1.4**
SPSI Sidrap Palu 37.94 198 P **P** **16 32 20.6 -3.7**
comp=Z,96μmcomp=Z,8μmcomp=Z,90nm,1.2s
BNSI Bone 38.27 197 P **P** **16 32 25.0 -2.1**
comp=Z,92μmcomp=Z,10μmcomp=Z,129nm,1.1s
RAMN Ramite 38.51 273 *eP* **P** **16 32 28.8 -0.6**
comp=Z,133nm,0.7s
JIRN Jiri 38.63 275 *eP* **P** **16 32 29.9 -0.6**
comp=Z,187nm,1.0s
ZAA0 Zalesovo Array 38.69 317 P **P** **16 32 29.0 -1.2**
ZALV Zalesovo Beam 38.69 317 P **P** **16 32 28.8 -1.5**
comp=Z,5.0nm,0.6s,baz=95,slow=7.4,SNR=32
ZALV PcP **PcP** **16 34 41.4 -0.7**
comp=Z,22nm,0.7s,baz=150,slow=4.4,SNR=3.3
ZALV ScP **ScP** **16 38 30.0 -0.6**
comp=Z,38nm,1.1s,baz=94,slow=4.3,SNR=5.3
ZALV LR LR 16 49 08.1
comp=Z,343μm,19.5s,baz=110,slow=37
ZALV PKPPKP P'P'df 17 05 06.6 -7.9
comp=Z,1.8nm,0.9s,baz=277,slow=2.5,SNR=3.8
ZALV Zalesovo Beam 38.69 317 *i* P **P** **16 32 29.1 -1.2**
ZALV Zalesovo Beam 38.69 317 P **P** **16 32 29.8 -0.5**
BBSI Bau Bau 38.78 193 P **P** **16 32 30.3 -1.1**
comp=Z,540nmcomp=Z,46nm,1.1s
GUN Gumba 38.81 275 *eP* **P** **16 32 31.5 -0.5**
KAPI Kappang 38.95 198 LR LR 16 48 09.4
comp=Z,167μm,21.7s,baz=6.5,slow=36
KAPI Kappang 38.95 198 *d iP* **P** **16 32 29.6 -3.2**
KAPI pmax pmax
comp=Z,489nm,1.7s
KAPI Kappang 38.95 198 ⇓P **P** **16 32 29.9 -2.9**
KAPI Kappang 38.95 198 P **P** **16 32 30.8 -2.0**
TIXI Tiksi 39.00 359 P **P** **16 32 29.9 -2.7**
comp=Z,36nm,0.8s,baz=90,slow=23,SNR=32
TIXI LR LR 16 49 29.0
comp=Z,811μm,18.2s,baz=180,slow=38
TIXI Tiksi 39.00 359 *c iP* **P** **16 32 30.1 -2.5**
TIXI pmax pmax
comp=Z,418nm,1.4s
TIXI MLR MLR
comp=Z,917μm,21.0s
TIXI Tiksi 39.00 359 P **P** **16 32 30.8 -1.8**
TIXI Tiksi 39.00 359 ⇑P **P** **16 32 29.9 -2.7**
JRMM Jerantut 39.02 229 P **P** **16 32 33.0 -0.4**
BBKI Banjar Baru 39.02 206 P **P** **16 32 32.0 -1.4**
comp=Z,53μmcomp=Z,20μmcomp=Z,931nm,1.6s
KULM Kulim 39.15 232 P **P** **16 32 34.2 -0.3**
KULM IAMs_20 IAMs_20 16 49 06.6
comp=Z,342μm,22.0s
KULM Kulim 39.15 232 ⇓P **P** **16 32 33.9 -0.6**
KULM Kulim 39.15 232 P **P** **16 32 34.0 -0.5**
BKSI Bulukumba 39.16 197 P **P** **16 32 31.4 -3.1**
comp=Z,93μmcomp=Z,11μmcomp=Z,146nm,1.9s
MK31 Makanchi Array 39.19 306 *c iP* **P** **16 32 32.6 -2.0**
MK31 Makanchi Array 39.19 306 P **P** **16 32 32.7 -2.0**
MKAR Makanchi Array 39.19 306 P **P** **16 32 32.9 -1.7**
comp=Z,31nm,0.9s,baz=92,slow=6.8,SNR=78
MKAR PcP **PcP** **16 34 44.6 +0.8**
comp=Z,44nm,1.1s,baz=72,slow=4.8,SNR=2.3
MKAR LR LR 16 50 05.2
comp=Z,282μm,19.4s,baz=92,slow=38
MKAR P3KPbc 17 02 31.8
comp=Z,0.3nm,0.6s,baz=259,slow=3.9,SNR=1.3
MKAR Makanchi Array 39.19 306 P **P** **16 32 32.8 -1.9**
MKAR PcP **PcP** **16 34 44.0 +0.2**
PKI Pulchoki 39.31 275 *eP* **P** **16 32 35.0 -1.2**
comp=Z,1μm,1.1s
PKIN Phulchoki 39.32 275 *eP* **P** **16 32 34.9 -1.3**
KKN Kakani 39.35 275 *eP* **P** **16 32 35.5 -0.9**
MAKZ Makanchi 39.41 306 P **P** **16 32 34.8 -1.6**
MAKZ Makanchi 39.41 306 P **P** **16 32 34.9 -1.5**
MAKZ IAMs_20 IAMs_20 16 50 01.0
comp=Z,351μm,21.0s
MAKZ Makanchi 39.41 306 ⇓P **P** **16 32 34.9 -1.5**
IPM Ipoh 39.50 231 P **P** **16 32 35.8 -1.7**
IPM Ipoh 39.50 231 P **P** **16 32 37.0 -0.5**
IPM Ipoh 39.50 231 P **P** **16 32 36.2 -1.3**
DMN Daman 39.55 275 *eP* **P** **16 32 37.1 -1.1**
PBKI Pangkalan Bun 39.59 211 P **P** **16 32 36.8 -1.4**
comp=Z,11μmcomp=Z,529nm,1.2s
DGPR DIGLIPUR 39.60 250 *eP* **P** **16 32 38.0 -0.3**
DGPR IAmb IAmb 16 32 50.3
comp=Z,1μm,1.1s
MYKOM Kota Tinggi 39.81 225 P **P** **16 32 39.5 -0.5**
MYKOM IAmb IAmb 16 32 50.8
comp=Z,766nm,1.3s
MYKOM Kota Tinggi 39.81 225 ⇓P **P** **16 32 39.7 -0.3**
MYKOM Kota Tinggi 39.81 225 P **P** **16 32 40.0 -0.1**
GKN Gorkha 39.82 276 *eP* **P** **16 32 39.2 -1.1**
BSSI Bau Bau, Buton 39.86 196 P **P** **16 32 37.6 -2.8**
comp=Z,55μmcomp=Z,10μmcomp=Z,222nm,1.1s
TPRI Tanjung Pinang 40.12 223 P **P** **16 32 42.2 -0.4**
comp=Z,135μmcomp=Z,14μmcomp=Z,927nm,1.5s
DANN Dangsing 40.45 277 *eP* **P** **16 32 44.9 -0.7**
comp=Z,1μm,1.0s
SAUI Saumlaki 40.48 179 P **P** **16 32 44.2 -1.3**
SAUI IAmb IAmb 16 33 14.7
comp=Z,1μm,1.3s
SAUI Saumlaki 40.48 179 ⇓P **P** **16 32 44.1 -1.4**
SAUI Saumlaki 40.48 179 P **P** **16 32 44.9 -0.6**
comp=Z,148μmcomp=Z,36μmcomp=Z,574nm,2.0s
SAUI Saumlaki 40.48 179 P **P** **16 32 45.0 -0.6**
PBA Port Blair 40.65 248 *eP* **P** **16 32 46.2 -0.8**
PBA IAmb IAmb 16 33 02.9
comp=Z,301nm,0.5s
PBA Port Blair 40.65 248 P **P** **16 32 46.6 -0.4**
SNR=30
PBA Port Blair 40.65 248 ⇑P **P** **16 32 45.8 -1.2**
KOLN Koldanda 40.77 276 *eP* **P** **16 32 47.3 -0.9**
comp=Z,2μm,1.2s
SEM Semipalatinsk 40.84 311 *eP* **P** **16 32 45.7 -2.8**
SEM *eS* **S** **16 38 57.6 -2.3**
SEM pmax pmax
comp=Z,1μm,3.1s
SEM MLR MLR
comp=Z,129μm,15.0s
SEM Semipalatinsk 40.84 311 *eP* **P** **16 32 45.8 -2.8**
comp=Z,1μm,3.1s,baz=311
SEM *eS* **S** **16 38 57.7 -2.3**
baz=311
SEM LR LR 16 49 57.7
comp=Z,129μm,15.0s,baz=311
BILL Bilibino 40.84 20 *deP* **P** **16 32 46.4 -1.6**
BILL *e* 16 34 18.0
BILL *i S* **S** **16 38 57.7 -1.4**
BILL pmax pmax
comp=Z,975nm,1.3s
BILL MLR MLR
comp=Z,672μm,15.0s
BILL Bilibino 40.84 20 IAMs_20 IAMs_20 16 50 57.7
comp=Z,456μm,18.0s
PDGK Podgornoye 41.16 300 P P 16 32 44.3 -6.9
PYUN Piuthan 41.17 277 *eP* **P** **16 32 50.6 -0.9**
comp=Z,3μm,1.1s
SHLS Shalkode 41.19 300 *eP* P 16 32 45.9 -5.5
SHLS *i S* **S** **16 38 58.3 -6.9**
SHLS pmax pmax
comp=Z,485nm,2.9s
SHLS Shalkode 41.19 300 *eP* P 16 32 46.0 -5.5
comp=Z,485nm,2.9s,baz=300
SHLS *i S* **S** **16 38 58.4 -6.9**
baz=300
DSRI Dabo 41.23 222 P **P** **16 32 51.2 -0.6**
comp=Z,29μmcomp=Z,6μmcomp=Z,248nm,1.5s
UZB Uzynbulak 41.52 300 *eP* **P** **16 32 50.7 -3.4**
UZB *eS* **S** **16 39 07.6 -2.5**
UZB pmax pmax
comp=Z,757nm,2.5s
UZB Uzynbulak 41.52 300 *eP* **P** **16 32 50.7 -3.4**
comp=Z,757nm,2.5s,baz=300
UZB *eS* **S** **16 39 07.7 -2.5**
baz=300
KWAJ Kwajalein Atol 41.55 117 P **P** **16 32 57.2 +2.7**
LHMI Lhok Sumawe 41.73 236 P **P** **16 32 53.3 -2.6**
LHMI Lhok Sumawe 41.73 236 ⇓P **P** **16 32 56.2 +0.4**
LHMI Lhok Sumawe 41.73 236 P **P** **16 32 55.8 -0.1**
comp=Z,55μmcomp=Z,17μmcomp=Z,341nm,1.0s
LHMI Lhok Sumawe 41.73 236 P **P** **16 32 55.6 -0.3**
KPKS Kokpek 41.74 300 *eP* **P** **16 32 53.0 -2.8**
KPKS *eS* **S** **16 39 10.5 -2.9**
KPKS pmax pmax
comp=Z,747nm,2.7s
KPKS Kokpek 41.74 300 *eP* **P** **16 32 53.1 -2.8**
comp=Z,747nm,2.7s,baz=300
KPKS *eS* **S** **16 39 10.5 -2.9**
baz=300
PPBI Pangkal Pinang 41.78 219 P **P** **16 32 56.0 -0.3**
comp=Z,56μmcomp=Z,17μmcomp=Z,739nm,1.7s
TSI Tuntungan 41.86 233 P **P** **16 32 56.2 -0.7**
comp=Z,57μmcomp=Z,18μmcomp=Z,298nm,2.6s
TDK Taldyqorghan 41.88 303 *eP* **P** **16 32 54.2 -2.6**
TDK *eS* **S** **16 39 13.2 -2.0**
TDK pmax pmax
comp=Z,2μm,3.4s
TDK MLR MLR
comp=Z,196μm,14.0s
TDK Taldyqorghan 41.88 303 *eP* **P** **16 32 54.3 -2.6**
comp=Z,2μm,3.4s,baz=303
TDK *eS* **S** **16 39 13.2 -2.0**
baz=303
TDK LR LR 16 50 15.5
comp=Z,196μm,13.5s,baz=303
KURK Kurchatov 41.90 311 *c iP* **P** **16 32 54.9 -2.0**
KURK pmax pmax
comp=Z,609nm,1.1s
KURK MLR MLR
comp=Z,635μm,19.0s
KURK Kurchatov 41.90 311 P **P** **16 32 54.4 -2.5**
KURK IAmb IAmb 16 33 04.8
comp=Z,546nm,1.1s
KURK Kurchatov 41.90 311 P **P** **16 32 55.4 -1.5**
KURK P **P** **16 32 55.4 -1.5**
KURK S **S** **16 39 09.5 -5.8**
KURK S **S** **16 39 09.5 -5.8**
KURK Kurchatov 41.90 311 ⇑P **P** **16 32 55.1 -1.9**
MMRI Maumere 41.92 193 ⇓P **P** **16 32 54.0 -3.3**
MMRI Maumere 41.92 193 P **P** **16 32 54.0 -3.3**
comp=Z,101μmcomp=Z,13μmcomp=Z,335nm,1.0s
MMRI Maumere 41.92 193 P **P** **16 32 58.9 +1.6**
ZHN Zhinishke 41.94 300 *eP* **P** **16 32 54.6 -2.9**
ZHN *eS* **S** **16 39 13.8 -2.6**
ZHN Zhinishke 41.94 300 *eP* **P** **16 32 54.6 -2.9**
baz=300
ZHN *eS* **S** **16 39 13.8 -2.6**
baz=300
KURBB Kurchatov Arra 41.95 311 P **P** **16 32 55.6 -1.8**
comp=Z,53nm,0.8s,baz=97,slow=9.0,SNR=91
KURBB PcP **PcP** **16 34 52.7 +0.1**
comp=Z,40nm,0.9s,baz=101,slow=3.2,SNR=2.6
KURBB ScP **ScP** **16 38 43.0 -0.5**
comp=Z,2.8nm,0.3s,baz=96,slow=8.3,SNR=1.9
KURBB LR LR 16 51 22.1
comp=Z,690μm,20.8s,baz=70,slow=38
KURBB PKPPKP P'P'df 17 04 58.8 -12
comp=Z,0.4nm,0.4s,baz=289,slow=2.8,SNR=4.1
KURBB Kurchatov Arra 41.95 311 P **P** **16 32 54.6 -2.7**
RABL Rabaul 41.96 147 P **P** **16 32 56.8 -1.0**
RABL PcP **PcP** **16 34 50.6 -2.6**
RABL Rabaul 41.96 147 ⇑P **P** **16 32 57.0 -0.7**
RABL Rabaul 41.96 147 P **P** **16 32 59.6 +1.8**
SATY Saty 41.97 300 *eP* **P** **16 32 54.9 -2.9**
SATY *eS* **S** **16 39 14.1 -2.7**
SATY pmax pmax
comp=Z,777nm,2.6s
SATY Saty 41.97 300 *eP* **P** **16 32 54.9 -2.9**
comp=Z,777nm,2.6s,baz=300
SATY *eS* **S** **16 39 14.2 -2.7**
baz=300
MMPI Merauke 41.98 166 P **P** **16 32 57.0 -0.8**
comp=Z,122μmcomp=Z,26μmcomp=Z,631nm,2.3s
BWJI Bawean 42.04 207 P **P** **16 32 56.9 -1.4**
comp=Z,51μmcomp=Z,14μmcomp=Z,825nm,1.5s
PSI Prapat 42.14 232 P **P** **16 32 58.4 -0.9**
comp=Z,19nm,0.7s,baz=14,slow=5.4,SNR=19
PSI LR LR 16 51 25.3
comp=Z,260μm,21.7s,baz=40,slow=38
ADK Adak 42.29 47 P **P** **16 32 59.5 -0.6**
ADK pmax pmax
comp=Z,719nm,1.1s
ADK MLR MLR
comp=Z,224μm,21.0s
ADK Adak 42.29 47 P **P** **16 32 59.5 -0.6**
ADK IAmb IAmb 16 33 07.5
comp=Z,719nm,1.1s
ADK Adak 42.29 47 ⇓P **P** **16 33 00.4 +0.3**
KCSI Kotacane, Aceh 42.38 234 P **P** **16 32 58.5 -2.7**
comp=Z,42μmcomp=Z,5μmcomp=Z,169nm,1.5s
RGRI Rengat 42.42 225 P **P** **16 33 02.4 +0.9**
comp=Z,371nm,1.0s
KMMI Kalianget 42.65 205 P **P** **16 33 02.1 -1.2**
comp=Z,97μmcomp=Z,20μmcomp=Z,898nm,1.2s
BKNI Bangkinang 42.67 227 ⇓P **P** **16 33 03.3 -0.3**
BKNI Bangkinang 42.67 227 P **P** **16 33 02.9 -0.7**
comp=Z,66μmcomp=Z,18μmcomp=Z,1μm,1.1s
BKNI Bangkinang 42.67 227 P **P** **16 33 05.2 +1.6**
JMBI JAMBI 42.70 222 P **P** **16 33 04.8 +1.0**
comp=Z,14μmcomp=Z,703nm,1.3s
CHKK Chushkaly 42.95 301 *eP* **P** **16 33 02.6 -3.0**
CHKK Chushkaly 42.95 301 *eP* **P** **16 33 02.7 -3.0**
baz=301
KDJ Kajisay 42.95 299 P **P** **16 33 04.9 -0.9**
KDJ pmax pmax
comp=Z,617nm,1.6s
KDJ Kajisay 42.95 299 P **P** **16 33 04.9 -0.9**
MDOK Medeo 42.95 300 *eP* **P** **16 33 02.7 -3.1**
MDOK *eS* **S** **16 39 28.3 -3.0**
MDOK MLR MLR
comp=Z,336μm,16.0s
MDOK Medeo 42.95 300 *eP* **P** **16 33 02.8 -3.1**
baz=300
MDOK *eS* **S** **16 39 28.3 -3.0**
baz=300
MDOK LR LR 16 50 37.1
comp=Z,336μm,15.7s,baz=300
KNDC Almaty 43.01 300 P **P** **16 33 05.9 -0.3**
PTH Pithoragarh 43.04 280 *eP* **P** **16 33 06.6 -0.1**
TNSS Tian-Shan 43.04 300 *eP* **P** **16 33 03.6 -3.2**
TNSS *eS* **S** **16 39 29.7 -3.3**
TNSS Tian-Shan 43.04 300 *eP* **P** **16 33 03.7 -3.2**
baz=300
TNSS *eS* **S** **16 39 29.8 -3.3**
baz=300
AAA Alma-Ata 43.05 300 *eP* **P** **16 33 03.2 -3.3**
AAA *eS* **S** **16 39 30.4 -2.1**
AAA pmax pmax
comp=Z,2μm,2.4s
AAA MLR MLR
comp=Z,395μm,15.0s
AAA Alma-Ata 43.05 300 *eP* **P** **16 33 03.2 -3.3**
comp=Z,2μm,2.4s,baz=300
AAA *eS* **S** **16 39 30.4 -2.1**
baz=300
AAA LR LR 16 50 38.1
comp=Z,395μm,14.9s,baz=300
GRJI Gresik 43.08 207 P **P** **16 33 06.2 -0.6**
comp=Z,2μmcomp=Z,7μmcomp=Z,668nm,1.1s
ALBI Allahabad 43.12 273 *eP* **P** **16 33 07.6 +0.4**
PLAI Plampang 43.13 199 P **P** **16 33 04.2 -3.0**
comp=Z,89μmcomp=Z,17μmcomp=Z,555nm,1.4s
PLAI Plampang 43.13 199 P **P** **16 33 06.7 -0.5**
PMBI Palembang 43.15 220 P **P** **16 33 07.5 +0.1**
comp=Z,53μmcomp=Z,30μmcomp=Z,2μm,1.2s
PMBI Palembang 43.15 220 P **P** **16 33 08.5 +1.1**
SRBI Singaraja 43.19 203 P **P** **16 33 05.5 -2.2**
comp=Z,64μmcomp=Z,18μmcomp=Z,451nm,1.8s
BATI Baumata 43.22 190 LR LR 16 50 21.0
comp=Z,98μm,21.9s,baz=26,slow=35
BATI Baumata 43.22 190 P **P** **16 33 04.3 -3.6**
comp=Z,52μmcomp=Z,9μmcomp=Z,292nm,1.1s
MNSI Mandailing Nat 43.23 229 P **P** **16 33 05.8 -2.3**
comp=Z,47μmcomp=Z,11μmcomp=Z,494nm,1.3s
TBJI Tambak Boyo 43.24 208 P **P** **16 33 07.4 -0.7**
comp=Z,55μmcomp=Z,21μmcomp=Z,965nm,1.1s
UWJI Ujung Watu 43.24 209 P **P** **16 33 07.0 -1.1**
comp=Z,22μmcomp=Z,1μm,1.3s
ABJI Asem Bagus 43.25 204 P **P** **16 33 06.3 -1.9**
comp=Z,90μmcomp=Z,17μmcomp=Z,635nm,1.6s
KUU Kurty 43.41 301 *eP* **P** **16 33 06.7 -2.6**
KUU *eS* **S** **16 39 35.4 -2.4**
KUU pmax pmax
comp=Z,2μm,2.4s
KUU MLR MLR
comp=Z,63μm,9.0s
KUU Kurty 43.41 301 *eP* **P** **16 33 06.8 -2.6**
comp=Z,2μm,2.4s,baz=301
KUU *eS* **S** **16 39 35.5 -2.4**
baz=301
KUU LR LR 16 50 54.0
comp=Z,63μm,8.5s,baz=301
BLJI Banyuglugur 43.43 205 P **P** **16 33 07.4 -2.2**
comp=Z,54μmcomp=Z,8μmcomp=Z,99nm,2.8s
WBSI Waikabubak, Su 43.49 196 P P 16 33 05.3 -4.9
comp=Z,6μmcomp=Z,168nm,1.0s
ULHL Ulahol 43.63 299 P **P** **16 33 10.4 -1.0**
SNR=35
PPI Padang Panjang 43.68 227 P **P** **16 33 10.6 -1.1**
BASI Baing, Sumba 43.79 195 P **P** **16 33 10.5 -2.0**
comp=Z,52μmcomp=Z,4μmcomp=Z,148nm,1.5s
BOOM Boomskoye usch 43.83 299 P **P** **16 33 12.1 -0.8**
BOOM pmax pmax
comp=Z,269nm,1.3s
BOOM Boomskoye usch 43.83 299 P **P** **16 33 12.1 -0.8**
ATKA Atka Island 43.85 47 ⇓P **P** **16 33 12.9 +0.2**
ATKA Atka Island 43.85 47 P **P** **16 33 15.1 +2.4**
NRIK Noril'sk 43.86 339 P **P** **16 33 11.0 -1.6**
comp=Z,124nm,0.9s,baz=114,slow=9.0,SNR=60
NRIK LR LR 16 52 22.1
comp=Z,896μm,20.1s,baz=131,slow=37
NRIK Noril'sk 43.86 339 *d iP* **P** **16 33 10.9 -1.6**
NRIK pmax pmax
comp=Z,639nm,1.1s
NRIK MLR MLR
comp=Z,1105μm,14.0s
NRIK Noril'sk 43.86 339 P **P** **16 33 11.4 -1.1**
NRIK IAmb IAmb 16 33 27.5
comp=Z,597nm,1.1s
IGBI Denpasar 43.90 203 P **P** **16 33 10.1 -3.3**
comp=Z,47μmcomp=Z,9μmcomp=Z,248nm,1.5s
JAGI Jajag, Banyuwa 43.91 204 ⇓P **P** **16 33 10.4 -3.1**
JAGI Jajag, Banyuwa 43.91 204 P **P** **16 33 09.5 -4.0**
comp=Z,72μmcomp=Z,12μmcomp=Z,278nm,1.1s
JAGI Jajag, Banyuwa 43.91 204 P **P** **16 33 15.2 +1.7**
GMJI Gumukmas 43.97 205 P **P** **16 33 11.2 -2.8**
comp=Z,66μmcomp=Z,11μmcomp=Z,275nm,1.4s
SMRI Semarang 44.02 210 ⇓P **P** **16 33 13.8 -0.7**
SMRI Semarang 44.02 210 P **P** **16 33 13.7 -0.7**
comp=Z,95μmcomp=Z,35μmcomp=Z,824nm,1.5s
SMRI Semarang 44.02 210 P **P** **16 33 14.4 0.0**
TKM2 Tokmak 2 44.04 300 P **P** **16 33 13.8 -0.9**
SNR=78
BLSP Bilaspur 44.09 269 *eP* **P** **16 33 17.1 +2.1**
GSI Gunungsitoli 44.14 232 P **P** **16 33 15.0 -0.5**
GSI IAMs_20 IAMs_20 16 52 37.1
comp=Z,302μm,21.0s
GSI Gunungsitoli 44.14 232 ⇓P **P** **16 33 13.8 -1.7**
GSI Gunungsitoli 44.14 232 P **P** **16 33 13.6 -1.9**
comp=Z,48μmcomp=Z,18μmcomp=Z,604nm,1.2s
GSI Gunungsitoli 44.14 232 P **P** **16 33 13.9 -1.6**
KSH Kashi 44.19 295 P **P** **16 33 18.4 +2.6**
KSH pP sP 16 33 22.1 +3.3
KSH sP pP 16 33 24.9 +6.9
KSH PP **PcP** **16 35 07.4 +6.9**
KSH S S 16 40 02.8 +13
KSH SS **ScS** **16 43 12.0 -3.1**
KSH LR LR
comp=Z,515μm,17.6s
KSH LR LR
comp=Z,292μm,25.1s
KRJI Kerinci 44.34 224 P **P** **16 33 16.4 -0.7**
comp=Z,48μmcomp=Z,93μmcomp=Z,4μm,1.6s
PWJI Pagerwojo 44.35 207 P **P** **16 33 15.7 -1.4**
comp=Z,65μmcomp=Z,16μmcomp=Z,745nm,1.1s
KBK Karagaybulak 44.54 300 P **P** **16 33 18.0 -0.6**
SNR=36
MIDW Midway 44.59 82 P P **16 33 21.1 +2.2**
DDI Dehra Dun 44.60 282 *eP* **P** **16 33 20.1 +1.0**
DDI IAmb IAmb 16 33 28.7
comp=Z,180nm,0.8s
CHMS Chumysh 44.65 300 P **P** **16 33 18.5 -0.8**
SNR=26
SGDS Sogindy 44.69 301 *eP* **P** **16 33 16.3 -3.3**
SGDS *eS* **S** **16 39 53.3 -3.1**
SGDS pmax pmax
comp=Z,377nm,2.3s
SGDS Sogindy 44.69 301 *eP* **P** **16 33 16.3 -3.3**
comp=Z,377nm,2.3s,baz=301
SGDS *eS* **S** **16 39 53.4 -3.1**
baz=301
PMG Port Moresby 44.72 157 P **P** **16 33 19.3 -0.7**
comp=Z,11nm,0.9s,baz=0.8,slow=8.4,SNR=4.3
PMG LR LR 16 52 07.2
comp=Z,175μm,19.3s,baz=342,slow=36
PMG Port Moresby 44.72 157 *d iP* **P** **16 33 17.6 -2.4**
PMG pmax pmax
comp=Z,214nm,1.2s
PMG MLR MLR
comp=Z,200μm,19.0s
PMG Port Moresby 44.72 157 ⇓P **P** **16 33 18.4 -1.6**
PMG Port Moresby 44.72 157 P **P** **16 33 22.0 +2.0**
PMG Port Moresby 44.72 157 P **P** **16 33 21.4 +1.4**
MASI Maura Aman, Be 44.73 223 P **P** **16 33 19.5 -0.7**
comp=Z,42μmcomp=Z,38μmcomp=Z,2μm,1.8s
KLI Kotabumi 44.73 218 P **P** **16 33 19.2 -0.9**
comp=Z,60μmcomp=Z,27μmcomp=Z,1μm,1.5s
PCJI Pacitan 44.76 208 P **P** **16 33 17.2 -3.1**
comp=Z,69μmcomp=Z,12μmcomp=Z,230nm,1.3s
UGM Wanagama 44.77 209 P **P** **16 33 18.7 -1.7**
comp=Z,72μmcomp=Z,25μmcomp=Z,1μm,1.1s
UGM Wanagama 44.77 209 P **P** **16 33 19.2 -1.2**
YOGI Yogyakarta 44.77 209 P **P** **16 33 18.7 -1.7**

comp=Z,45µmcomp=Z,18µmcomp=Z,831nm,1.4s
USP Ospenovka 44.80 300 P **P** **16 33 19.2 -1.3**
SNR=27
AAK Ala-Archa 44.87 300 P **P** **16 33 20.4 -1.0**
SNR=30
AAK Ala-Archa 44.87 300 P **P** **16 33 20.3 -1.0**
comp=Z,56nm,1.1s,baz=110,slow=6.2,SNR=46
AAK LR LR 16 52 59.6
comp=Z,526µm,18.3s,baz=76,slow=37
AAK Ala-Archa 44.87 300 *d* iP **P** **16 33 20.2 -1.0**
AAK pmax pmax
comp=Z,258nm,1.3s
AAK MLR MLR
comp=Z,416µm,16.0s
AAK Ala-Archa 44.87 300 P **P** **16 33 20.5 -0.8**
AAK Ala-Archa 44.87 300 IAMs_20 IAMs_20 16 51 17.7
comp=Z,273µm,20.0s
AAK Ala-Archa 44.87 300 P **P** **16 33 20.2 -1.0**
AAK P **P** **16 33 20.2 -1.0**
AAK Ala-Archa 44.87 300 ⇓P **P** **16 33 20.3 -1.0**
UCH Uchtor 44.91 299 P **P** **16 33 21.1 -0.8**
SNR=84
KPJI Karang Pucung 44.92 211 P **P** **16 33 20.1 -1.5**
comp=Z,132µmcomp=Z,20µmcomp=Z,793nm,1.3s
TNG Tangerang 44.96 215 P **P** **16 33 21.2 -0.7**
comp=Z,74µmcomp=Z,64µmcomp=Z,2µm,1.6s
TNG P **pP** **16 33 23.7 -0.4**
comp=Z,43µmcomp=Z,43µmcomp=Z,1µm,1.6s
BLSI Bandar Lampung 44.96 217 P **P** **16 33 20.2 -1.8**
comp=Z,51µmcomp=Z,15µmcomp=Z,636nm,1.3s
BTLS Baital 44.97 303 *e*P **P** **16 33 18.5 -3.2**
BTLS *e*S **S** **16 39 57.3 -3.0**
BTLS pmax pmax
comp=Z,658nm,2.3s
BTLS Baital 44.97 303 *e*P **P** **16 33 18.6 -3.2**
comp=Z,658nm,2.3s,baz=303
BTLS *e*S **S** **16 39 57.4 -3.0**
baz=303
LEM Lembang 45.07 213 P **P** **16 33 22.3 -0.7**
comp=Z,41µmcomp=Z,21µmcomp=Z,848nm,1.3s
CBJI Citeko 45.07 215 P **P** **16 33 22.8 0.0**
comp=Z,63µmcomp=Z,27µmcomp=Z,634nm,1.1s
SMLA Simla 45.09 283 *e*P **P** **16 33 21.2 -1.7**
SMLA IAmb IAmb 16 33 38.0
comp=Z,934nm,1.5s
SISI Saibi 45.17 228 P **P** **16 33 21.4 -2.3**
comp=Z,28µmcomp=Z,12µmcomp=Z,741nm,1.0s
KDU Kakadu 45.18 178 ⇓P **P** **16 33 21.0 -2.6**
KDU Kakadu 45.18 178 P **P** **16 33 21.5 -2.1**
DBJI Dramaga 45.24 215 P **P** **16 33 22.8 -1.4**
comp=Z,17µmcomp=Z,830nm,1.3s
LWLI Liwa 45.28 219 P **P** **16 33 22.8 -1.9**
comp=Z,11µmcomp=Z,437nm,0.8s
MTN Manton Dam 45.31 179 P **P** **16 33 22.0 -2.6**
MTN IAmb IAmb 16 33 39.3
comp=Z,716nm,1.2s
MTN Manton Dam 45.31 179 ⇓P **P** **16 33 21.8 -2.8**
MTN Manton Dam 45.31 179 P **P** **16 33 22.5 -2.1**
MNAI Manna 45.33 221 P **P** **16 33 22.4 -2.5**
comp=Z,47µmcomp=Z,17µmcomp=Z,490nm,1.1s
MNAI Manna 45.33 221 P **P** **16 33 24.7 -0.2**
EKS2 Erkin-Say 45.40 300 P **P** **16 33 24.4 -1.0**
SNR=22
KASI Kota Agung 45.48 218 P **P** **16 33 23.6 -2.5**
comp=Z,45µmcomp=Z,8µmcomp=Z,270nm,1.0s
AML Almayashu 45.52 299 P **P** **16 33 26.1 -0.6**
SNR=58
AML Almayashu 45.52 299 P **P** **16 33 26.3 -0.4**
CMJI Cimerak 45.53 212 P **P** **16 33 23.1 -3.4**
comp=Z,35µmcomp=Z,6µmcomp=Z,101nm,1.3s
BHK Bhakra 45.63 284 *e*P **P** **16 33 29.1 +1.9**
BRZS Berezniki 45.68 310 *e*P **P** **16 33 24.9 -2.5**
BRZS *e*S **S** **16 40 07.6 -2.9**
BRZS pmax pmax
comp=Z,1µm,3.2s
BRZS Berezniki 45.68 310 *e*P **P** **16 33 24.9 -2.5**
comp=Z,1µm,3.2s,baz=310
BRZS *e*S **S** **16 40 07.6 -2.9**
baz=310
CNJI Cibinong 45.72 214 P **P** **16 33 24.2 -3.7**
comp=Z,53µmcomp=Z,10µmcomp=Z,310nm,1.3s
SKJI Sukabumi 45.72 215 P **P** **16 33 29.0 +1.0**
comp=Z,3µmcomp=Z,158nm,0.9s
PPSI Pulau Pagai 45.73 225 P **P** **16 33 26.4 -1.7**
comp=Z,37µmcomp=Z,26µmcomp=Z,1µm,1.5s
NDI New Delhi 45.80 280 *e*P **P** **16 33 27.9 -0.7**
NDI *e*P **pP** **16 33 28.0 -2.8**
CGJI Cibinong 45.80 216 P **P** **16 33 25.1 -3.5**
comp=Z,49µmcomp=Z,9µmcomp=Z,418nm,1.1s
JHNI Jhansi 45.81 275 *e*P **P** **16 33 25.8 -3.0**
OTUK Ortayu 45.95 308 P **P** **16 33 28.8 -1.7**
SPIA Saint Paul Isl 46.56 40 P **P** **16 33 34.3 +0.2**
baz=264
SPIA S **S** **16 40 23.6 +0.7**
baz=264
KUDL Kundal 46.58 279 *e*P **P** **16 33 33.2 -1.5**
GAMB Gambell 46.93 31 P **P** **16 33 37.1 +0.1**
GAMB IAmb IAmb 16 33 51.2
comp=Z,440nm,1.4s
GAMB IAMs_20 IAMs_20 16 55 02.3
comp=Z,294µm,18.0s
GAMB Gambell 46.93 31 P **P** **16 33 37.0 +0.1**
baz=257,SNR=42
GAMB S **S** **16 40 29.5 +1.6**
baz=257
BVAR Borovoye Array 47.11 314 P **P** **16 33 37.3 -1.3**
comp=Z,46nm,0.7s
NIKH Nikolski High 47.14 46 P **P** **16 33 37.5 -1.2**
baz=270
NIKH S **S** **16 40 29.1 -2.2**
baz=270
DZA Taraz 47.15 300 *e*P **P** **16 33 36.3 -2.8**
DZA *e*S **S** **16 40 29.4 -2.5**
DZA pmax pmax
comp=Z,507nm,2.2s
DZA Taraz 47.15 300 *e*P **P** **16 33 36.3 -2.8**
comp=Z,507nm,2.2s,baz=300
DZA *e*S **S** **16 40 29.4 -2.5**
baz=300
BRVK Borovoye 47.17 314 *c i* P **P** **16 33 37.2 -1.8**
BRVK pmax pmax
comp=Z,788nm,1.1s
BRVK MLR MLR
comp=Z,463µm,21.0s
BRVK Borovoye 47.17 314 P **P** **16 33 37.9 -1.1**
BRVK Borovoye 47.17 314 P **P** **16 33 38.0 -1.1**
BRVK P **P** **16 33 38.0 -1.1**
BRVK P **P** **16 33 38.0 -1.1**
BRVK Borovoye 47.17 314 ⇑P **P** **16 33 37.5 -1.6**
NIL Nilore 47.58 288 P **P** **16 33 42.6 +0.1**
NIL pmax pmax
comp=Z,2µm,1.9s
NIL MLR MLR
comp=Z,184µm,19.0s
NIL Nilore 47.58 288 P **P** **16 33 42.6 +0.1**
NIL Nilore 47.58 288 P **P** **16 33 42.9 +0.4**
NIL P **P** **16 33 42.9 +0.4**
BHPL Bhopal 47.60 273 *e*P **P** **16 33 41.0 -1.9**
BHPL IAmb IAmb 16 33 54.0
comp=Z,46nm,1.0s
KK31 Karatay Array 47.72 301 *i* P **P** **16 33 42.5 -0.9**
KK31 Karatay Array 47.72 301 P **P** **16 33 42.4 -1.1**
KKAR Karatay Array 47.72 301 P **P** **16 33 42.6 -0.8**
KKAR Karatay Array 47.72 301 P **P** **16 33 42.6 -0.8**
KKAR Karatay Array 47.72 301 ⇑P **P** **16 33 42.2 -1.3**
COEN Coen 47.91 164 P **P** **16 33 43.8 -1.3**
COEN IAmb IAmb 16 34 02.2
comp=Z,605nm,1.8s
COEN Coen 47.91 164 ⇓P **P** **16 33 44.1 -1.1**
COEN Coen 47.91 164 P **P** **16 33 44.0 -1.1**
KNRA Kununurra 48.16 183 P **P** **16 33 45.2 -1.8**
KNRA IAmb IAmb 16 33 55.8
comp=Z,556nm,1.1s
KNRA Kununurra 48.16 183 P **P** **16 33 45.2 -1.8**
BRLS Borolday 48.22 301 *e*P **P** **16 33 45.6 -1.7**
BRLS *e*S **S** **16 40 46.3 -0.6**
BRLS Borolday 48.22 301 *e*P **P** **16 33 45.7 -1.7**
baz=300
BRLS *e*S **S** **16 40 46.4 -0.6**
baz=300
IUG Iuzhnay 48.22 300 *e*P **P** **16 33 44.2 -3.2**
IUG *e*S **S** **16 40 44.0 -3.1**
IUG Iuzhnay 48.22 300 *e*P **P** **16 33 44.2 -3.2**
baz=300
IUG *e*S **S** **16 40 44.1 -3.1**
baz=300

CHM Chimkent 48.50 300 *e*S **S** **16 40 48.1 -2.9**
baz=300
UNV Unalaska Valle 48.54 45 P **P** **16 33 48.1 -1.5**
baz=271
UNV S **S** **16 40 49.2 -2.0**
baz=271
GAR Garm 48.60 295 P **P** **16 33 49.6 -0.8**
AJM Ajmer 48.70 278 *e*P **P** **16 33 54.1 +2.8**
TNA Tin City 48.89 29 ⇑P **P** **16 33 51.7 -0.4**
TNA Tin City 48.89 29 P **P** **16 33 51.0 -1.1**
baz=259,SNR=24
TNA S **S** **16 40 59.0 +3.2**
baz=259
AKL Akola 49.01 270 *e*P **P** **16 33 53.4 -0.3**
XMI Christmas Isla 49.14 213 P **P** **16 33 54.2 -0.4**
XMIS Christmas Isla 49.19 213 P **P** **16 33 54.9 0.0**
HYB Hyderabad 49.20 265 *e*P **P** **16 33 53.9 -1.3**
HYB IAmb IAmb 16 34 04.3
comp=Z,352nm,1.3s
CHGR Chuyangaron 49.55 295 P **P** **16 33 57.4 -0.3**
ANM Nome 49.80 31 P **P** **16 33 56.9 -2.2**
ANM pmax pmax
comp=Z,675nm,1.3s
ANM MLR MLR
comp=Z,340µm,18.0s
ANM Nome 49.80 31 P **P** **16 33 56.9 -2.2**
ANM IAmb IAmb 16 34 14.0
comp=Z,675nm,1.3s
ANM IAMs_20 IAMs_20 16 56 30.2
comp=Z,340µm,18.0s
ANM Nome 49.80 31 P **P** **16 33 59.8 +0.7**
baz=262,SNR=37
ANM S **S** **16 41 13.1 +4.6**
baz=262
MDRS Chennai 49.96 259 *e*P **P** **16 34 03.9 +3.0**
MDRS IAmb IAmb 16 34 09.6
comp=Z,76nm,1.0s
FALS False Pass 50.33 43 P **P** **16 34 01.4 -1.8**
baz=272
FALS S **S** **16 41 14.0 -2.1**
baz=272
FALS False Pass 50.33 43 P **P** **16 34 05.4 +2.2**
HNR Honiara 50.33 141 LR LR 16 53 08.8
comp=Z,111µm,21.8s,baz=322,slow=34
HNR Honiara 50.33 141 ⇓P **P** **16 34 01.9 -1.7**
HNR Honiara 50.33 141 P **P** **16 34 06.8 +3.2**
LATR Latur 50.41 267 *e*P **P** **16 34 03.6 -0.8**
TARA Tarawa 50.42 119 P **P** **16 34 08.0 +3.6**
KBL Kabul 50.69 290 P **P** **16 34 05.5 -1.1**
KBL pmax pmax
comp=Z,1µm,1.9s
KBL Kabul 50.69 290 P **P** **16 34 05.5 -1.1**
KBL Kabul 50.69 290 P **P** **16 34 07.3 +0.8**
SNR=320
KBL P **P** **16 34 07.3 +0.8**
SNR=320
KBL P **P** **16 34 07.3 +0.8**
SNR=320
KBL S **S** **16 41 14.0 -8.2**
KBL S **S** **16 41 14.0 -8.2**
KBL S **S** **16 41 14.0 -8.2**
FITZ Fitzroy Crossi 50.77 186 LR LR 16 56 22.2
comp=Z,53µm,21.0s,baz=24,slow=37
RDOG Red Dog Mine 51.27 26 IAMs_20 IAMs_20 16 56 42.9
comp=Z,262µm,18.0s
RDOG Red Dog Mine 51.27 26 P **P** **16 34 09.4 -0.8**
baz=262,SNR=11
RDOG S **S** **16 41 29.3 +0.4**
baz=262
SDPT Sand Point 51.98 43 P **P** **16 34 14.6 -1.0**
SDPT Sand Point 51.98 43 P **P** **16 34 13.8 -1.8**
baz=274
SDPT S **S** **16 41 33.7 -5.4**
baz=274
MTSU Mount Surprise 52.21 164 P **P** **16 34 16.4 -1.3**
WB0 Warramunga Arr 52.31 176 P **P** **16 34 16.4 -2.0**
WB0 IAmb IAmb 16 34 35.7
comp=Z,1µm,1.7s
SALM Salem 52.40 259 *e*P **P** **16 34 19.5 +0.2**
WRAB Tennant Creek 52.47 176 *d i* P **P** **16 34 17.2 -2.4**
WRAB pmax pmax
comp=Z,556nm,1.6s
WRAB MLR MLR
comp=Z,124µm,20.0s
WRAB Tennant Creek 52.47 176 P **P** **16 34 17.4 -2.2**
WRAB IAmb IAmb 16 34 36.9
comp=Z,1µm,1.8s
WRAB Tennant Creek 52.47 176 ⇓P **P** **16 34 17.1 -2.5**
WRAB Tennant Creek 52.47 176 P **P** **16 34 17.8 -1.8**
WRA Warramunga Arr 52.48 176 P **P** **16 34 17.6 -2.0**
comp=Z,25nm,0.9s,baz=352,slow=7.5,SNR=13
WRA S **S** **16 41 42.6 -3.8**
comp=Z,3.5nm,1.1s,baz=357,slow=12,SNR=1.8
WRA LR LR 16 56 18.0
comp=Z,71µm,21.8s,baz=327,slow=36
WRA PKPPKP 17 04 36.2
comp=Z,2.7nm,1.0s,baz=137,slow=2.3,SNR=5.5
WRA P4KPbc 17 11 41.7
comp=Z,0.5nm,0.9s,baz=349,slow=5.2,SNR=2.6
WRA Warramunga Arr 52.48 176 *i* P **P** **16 34 15.8 -3.9**
WRA pmax pmax
comp=Z,25nm,0.9s
WRA Warramunga Arr 52.48 176 P **P** **16 34 16.7 -2.9**
WB2 Warramunga Arr 52.48 176 P **P** **16 34 17.7 -1.9**
WB2 IAmb IAmb 16 34 37.0
comp=Z,1µm,1.8s
WR0 Warramunga Arr 52.51 175 P **P** **16 34 18.2 -1.7**
WR0 IAmb IAmb 16 34 37.3
comp=Z,1µm,1.6s
SVE Sverdlovsk 52.62 319 *c e* P **P** **16 34 19.4 -1.0**
SVE *e*S **S** **16 41 56.0 +8.2**
SVE *e* 16 44 08.2
SVE *e*SS **SS** **16 45 24.0 -1.6**
SVE pmax pmax
comp=Z,852nm,1.4s
SVE pmax pmax
comp=Z,11µm,12.1s
SVE MLR MLR
comp=E,299µm,17.0s
SVE MLR MLR
comp=Z,406µm,17.0s
POO Poona 52.64 269 ⇑ *i* P P 16 34 15.0 -6.1
comp=Z,310nm,1.0s
POO *e*P pP 16 34 21.3 -2.1
POO IAmb IAmb 16 34 36.5
comp=Z,451nm,1.4s
BHV Bhavnagar 52.66 274 *e*P **P** **16 34 21.1 -0.1**
PALK Pallekele 52.79 253 LR LR 16 59 44.5
comp=Z,182µm,20.3s,baz=157,slow=39
PALK Pallekele 52.79 253 P **P** **16 34 22.0 -0.2**
PALK P **P** **16 34 22.0 -0.2**
PALK Pallekele 52.79 253 ⇓P **P** **16 34 21.7 -0.6**
KAD Karad 52.93 268 *e*P **P** **16 34 22.7 -0.6**
CHGN Chignik 53.07 41 P **P** **16 34 22.8 -0.8**
baz=275
BOM Bombay 53.35 270 *e*P **P** **16 34 29.7 +3.5**
BOM *e*S S 16 42 11.2 +13
BOM Bombay 53.35 270 *e*P **P** **16 34 29.1 +2.8**
GCSA Galena City Sc 53.46 31 P **P** **16 34 26.0 -0.4**
baz=270,SNR=15
GCSA S **S** **16 41 59.9 +1.0**
baz=270
QIS Mount Isa 53.65 170 P **P** **16 34 27.0 -1.3**
KOD Kodaikanal 53.77 258 *e*P **P** **16 34 29.0 -0.7**
ARU Arti 53.80 319 P **P** **16 34 27.4 -1.6**
comp=Z,39nm,1.1s,baz=87,slow=4.8,SNR=45
ARU LR LR 16 58 30.6
comp=Z,248µm,18.1s,baz=82,slow=37
ARU Arti 53.80 319 *d i* P **P** **16 34 27.3 -1.8**
ARU pmax pmax
comp=Z,1µm,1.4s
ARU Arti 53.80 319 IAMs_20 IAMs_20 17 00 11.9
comp=Z,284µm,20.0s
ARU Arti 53.80 319 ⇓P **P** **16 34 27.4 -1.6**
ARU ⇓P **P** **16 34 27.4 -1.6**
ARU ⇑P **sP** **16 34 30.8 -1.3**
A21K Barrow 53.82 22 IAMs_20 IAMs_20 16 56 29.1
comp=Z,336µm,22.0s
A21K Barrow 53.82 22 P **P** **16 34 28.6 -0.3**
baz=265,SNR=11
A21K S **S** **16 42 02.5 -1.1**
baz=265
TTA Tatalina 53.88 33 P **P** **16 34 29.0 -0.6**
TTA pmax pmax
comp=Z,412nm,1.5s

TTA Tatalina 53.88 33 P **P** **16 34 29.0 -0.6**
TTA IAmb IAmb 16 34 44.0
comp=Z,412nm,1.5s
TTA Tatalina 53.88 33 ⇓P **P** **16 34 30.2 +0.6**
TTA Tatalina 53.88 33 P **P** **16 34 29.0 -0.6**
baz=272,SNR=107
TTA S **S** **16 42 10.1 +5.3**
baz=272
AB31 Akbulak array 53.98 310 *i* P **P** **16 34 28.9 -1.6**
ABKAR Akbulak array 53.98 310 P **P** **16 34 29.3 -1.2**
ABKAR Akbulak array 53.98 310 ⇑P **P** **16 34 28.8 -1.7**
N18K Kilae Creek 54.05 36 IAMs_20 IAMs_20 16 56 31.9
comp=Z,208µm,20.0s
N18K Kilae Creek 54.05 36 P **P** **16 34 31.5 +0.6**
baz=274,SNR=46
N18K S **S** **16 42 10.4 +3.2**
baz=274
GOA Goa 54.10 266 *e*P **P** **16 34 31.8 +0.1**
GOA IAmb IAmb 16 34 41.7
comp=Z,60nm,0.7s
L19K White Mountain 54.45 34 P **P** **16 34 33.2 -0.6**
L19K IAmb IAmb 16 34 42.6
comp=Z,378nm,1.2s
L19K IAMs_20 IAMs_20 16 59 35.3
comp=Z,294µm,18.0s
L19K White Mountain 54.45 34 P **P** **16 34 33.2 -0.6**
baz=274,SNR=38
L19K S **S** **16 42 12.2 -0.3**
baz=274
O18K Koktuh Hills 54.45 37 IAMs_20 IAMs_20 16 55 14.9
comp=Z,249µm,21.0s
O18K Koktuh Hills 54.45 37 P **P** **16 34 33.5 -0.4**
baz=275
O18K S **S** **16 42 14.7 +2.1**
baz=275
P18K Big Mountain, 54.49 37 IAMs_20 IAMs_20 16 55 52.3
comp=Z,276µm,19.0s
P18K Big Mountain, 54.49 37 P **P** **16 34 34.3 +0.2**
baz=275
P18K S **S** **16 42 15.4 +2.3**
baz=275
PCHI Peechi 54.53 259 ⇓ *e* P **P** **16 34 34.2 -0.7**
CTA Charters Tower 54.57 162 P **P** **16 34 33.6 -1.4**
comp=Z,76nm,0.9s,baz=341,slow=7.4,SNR=47
CTA Charters Tower 54.57 162 P **P** **16 34 34.6 -0.4**
J20K Nowinta River 54.65 31 IAMs_20 IAMs_20 16 57 05.6
comp=Z,289µm,22.0s
J20K Nowinta River 54.65 31 P **P** **16 34 35.1 -0.1**
baz=273,SNR=156
J20K S **S** **16 42 15.8 +0.6**
baz=273
CHIR Chirikof Islan 54.68 42 IAMs_20 IAMs_20 16 55 48.8
comp=Z,300µm,22.0s
CHIR Chirikof Islan 54.68 42 P **P** **16 34 35.5 +0.1**
baz=278
CHIR S **S** **16 42 16.0 +0.3**
baz=278
M19K Big River Lodg 54.69 34 S **S** **16 42 19.7 +4.0**
baz=274
N19K Bonanza Creek 54.73 35 IAMs_20 IAMs_20 16 57 04.8
comp=Z,175µm,19.0s
N19K Bonanza Creek 54.73 35 P **P** **16 34 35.2 -0.7**
baz=275,SNR=46
N19K S **S** **16 42 19.4 +2.9**
baz=275
K20K Telida 54.73 32 P **P** **16 34 35.3 -0.5**
K20K IAmb IAmb 16 34 50.7
comp=Z,821nm,1.5s
K20K IAMs_20 IAMs_20 16 55 59.8
comp=Z,346µm,22.0s
K20K Telida 54.73 32 P **P** **16 34 36.0 +0.2**
baz=274,SNR=63
K20K S **S** **16 42 19.4 +3.1**
baz=274
IMAR Indian Mountai 54.75 29 P **P** **16 34 34.7 -1.1**
O19K Port Alsworth 54.87 36 IAMs_20 IAMs_20 16 56 02.5
comp=Z,249µm,21.0s
O19K Port Alsworth 54.87 36 P **P** **16 34 36.6 -0.1**
baz=276,SNR=41
O19K S **S** **16 42 21.4 +3.4**
baz=276
L20K Farewell, AK 54.88 33 P **P** **16 34 36.3 -0.6**
baz=274,SNR=52
L20K S **S** **16 42 20.5 +2.2**
baz=274
PSA00 Pilbara Seismi 54.98 192 P **P** **16 34 35.8 -2.2**
PSA00 IAmb IAmb 16 34 45.8
comp=Z,289nm,1.1s
PSA00 Pilbara Seismi 54.98 192 P **P** **16 34 36.0 -1.9**
PSA00 IAmb IAmb 16 34 45.8
comp=Z,171nm,1.1s
PSA00 Pilbara Seismi 54.98 192 P **P** **16 34 36.5 -1.5**
AKTO Aktyubinsk 54.99 312 P **P** **16 34 36.3 -1.6**
comp=Z,35nm,1.0s,baz=85,slow=6.8,SNR=36
AKTO LR LR 16 57 30.3
comp=Z,367µm,19.1s,baz=82,slow=35
TRD Trivandrum 55.13 257 *e*P **P** **16 34 38.2 -1.1**
TRD IAmb IAmb 16 34 50.9
comp=Z,561nm,1.1s
H21K Melozitna Rive 55.15 29 IAMs_20 IAMs_20 16 56 26.6
comp=Z,241µm,22.0s
H21K Melozitna Rive 55.15 29 P **P** **16 34 39.0 +0.3**
baz=273,SNR=45
H21K S **S** **16 42 24.5 +2.7**
baz=273
Q19K Cape Douglas, 55.35 38 IAMs_20 IAMs_20 16 55 30.3
comp=Z,240µm,19.0s
Q19K Cape Douglas, 55.35 38 P **P** **16 34 39.7 -0.6**
baz=277
Q19K S **S** **16 42 20.8 -3.9**
baz=277
SII Sitkinak Islan 55.37 41 P **P** **16 34 40.1 -0.4**
baz=278,SNR=14
SII S **S** **16 42 27.1 +2.1**
baz=278
SII Sitkinak Islan 55.37 41 P **P** **16 34 43.1 +2.6**
P19K Oil Pt 55.47 37 IAMs_20 IAMs_20 16 56 43.3
comp=Z,244µm,20.0s
P19K Oil Pt 55.47 37 P **P** **16 34 41.7 +0.6**
baz=277
P19K S **S** **16 42 26.3 0.0**
baz=277
CHUM Lake Minchumin 55.48 32 P **P** **16 34 41.0 -0.1**
baz=275,SNR=62
CHUM S **S** **16 42 28.9 +2.7**
baz=275
I21K Tanana 55.52 30 IAMs_20 IAMs_20 16 56 14.5
comp=Z,245µm,22.0s
I21K Tanana 55.52 30 P **P** **16 34 41.6 +0.1**
baz=274,SNR=51
I21K S **S** **16 42 32.3 +5.5**
baz=274
CAST Castle Rocks 55.62 32 P **P** **16 34 41.0 -1.2**
CAST IAmb IAmb 16 34 54.6
comp=Z,537nm,1.3s
CAST IAMs_20 IAMs_20 16 57 47.2
comp=Z,266µm,20.0s
CAST Castle Rocks 55.62 32 P **P** **16 34 40.9 -1.3**
baz=275,SNR=136
CAST S **S** **16 42 30.9 +2.8**
baz=275
PPLA Purkeypile 55.62 33 P **P** **16 34 41.7 -0.7**
baz=276,SNR=49
PPLA S **S** **16 42 32.0 +3.5**
baz=276
O20K Slope Mountain 55.72 36 P **P** **16 34 42.1 -1.0**
baz=277
O20K S **S** **16 42 30.7 +0.9**
baz=277
OHAK Old Harbor 55.76 40 P **P** **16 34 42.1 -1.1**
OHAK IAmb IAmb 16 34 50.9
comp=Z,529nm,1.1s
OHAK Old Harbor 55.76 40 P **P** **16 34 42.3 -1.0**
baz=278,SNR=38
OHAK S **S** **16 42 28.9 -1.2**
baz=278
SPCR Spurr Chakacha 55.79 35 P **P** **16 34 42.1 -1.4**
baz=277,SNR=47
SPCR S **S** **16 42 34.2 +3.6**
baz=277
JOHN Johnston Islan 55.87 91 P **P** **16 34 46.2 +1.6**
BPAW Bear Paw Mtn. 56.04 31 IAMs_20 IAMs_20 16 57 47.3
comp=Z,286µm,20.0s
BPAW Bear Paw Mtn. 56.04 31 P **P** **16 34 44.7 -0.6**
baz=276,SNR=32
BPAW S **S** **16 42 37.0 +3.2**
baz=276

KDAK Kodiak Island 56.06 39*d* iP P 16 34 46.2 +0.8**
KDAK pmax pmax
comp=Z,999nm,1.1s
KDAK MLR MLR
comp=Z,420µm,20.0s
KDAK Kodiak Island 56.06 39 P P 16 34 44.1 -1.2
KDAK IAmb IAmb 16 34 53.1
comp=Z,599nm,1.0s
KDAK Kodiak Island 56.06 39 ⇓P P 16 34 44.2 -1.2
KDAK ⇑P P 16 34 45.8 +0.4
KDAK Kodiak Island 56.06 39 P P 16 34 45.7 +0.4
baz=279
KDAK S S 16 42 33.1 -1.0
baz=279
COLD Coldfoot 56.09 27 P P 16 34 45.0 -0.5
baz=274,SNR=74
COLD S S 16 42 36.4 +2.0
baz=274
KTH Kantishna Hill 56.13 32 P P 16 34 45.0 -0.8
KTH IAMs_20 IAMs_20 16 58 13.5
comp=Z,321µm,20.0s
AS31 Alice Springs 56.15 177 P P 16 34 45.2 -1.2
ASAR Alice Springs 56.15 177 P P 16 34 44.6 -1.8
comp=Z,50nm,0.9s,baz=3.1,slow=7.1,SNR=146
ASAR LR LR 16 58 55.4
comp=Z,57µm,20.4s,baz=30,slow=36
ASAR PKPPKP P'P'df 17 04 34.4 -2.4
comp=Z,5.6nm,1.1s,baz=182,slow=2.6,SNR=7.2
ASAR PKP2bc 17 04 56.8
comp=Z,2.8nm,0.8s,baz=193,slow=1.6,SNR=7.3
ASAR P4KPbc 17 11 55.9
comp=Z,0.7nm,1.0s,baz=357,slow=5.0,SNR=2.4
ASAR Alice Springs 56.15 177 P P 16 34 44.5 -2.0
TOLK Toolik Lake Re 56.23 26 IAMs_20 IAMs_20 16 58 12.9
comp=Z,327µm,21.0s
TOLK Toolik Lake Re 56.23 26 P P 16 34 46.0 -0.5
baz=274,SNR=40
TOLK S S 16 42 36.3 +0.1
baz=274
HOM Homer 56.27 37 IAMs_20 IAMs_20 16 56 58.5
comp=Z,214µm,21.0s
HOM Homer 56.27 37 P P 16 34 45.1 -1.7
baz=278,SNR=6.0
HOM S S 16 42 36.6 -0.2
baz=278
CAPN Captain Cook N 56.36 35 IAMs_20 IAMs_20 16 56 40.8
comp=Z,339µm,20.0s
CAPN Captain Cook N 56.36 35 P P 16 34 47.5 +0.1
baz=278
CAPN S S 16 42 41.3 +3.4
baz=278
TRF Thorofare Moun 56.42 32 IAMs_20 IAMs_20 16 58 11.3
comp=Z,283µm,22.0s
TRF Thorofare Moun 56.42 32 P P 16 34 48.1 0.0
baz=277,SNR=28
TRF S S 16 42 38.7 -0.4
baz=277
H23K Yukon River 56.48 29 IAMs_20 IAMs_20 16 59 25.7
comp=Z,191µm,19.0s
H23K Yukon River 56.48 29 P P 16 34 48.6 +0.2
baz=276,SNR=109
H23K S S 16 42 42.2 +2.6
baz=276
CNPM China Poot 56.49 37 IAMs_20 IAMs_20 16 56 53.5
comp=Z,243µm,21.0s
CUT Chulitna 56.56 33 IAMs_20 IAMs_20 16 57 31.1
comp=Z,255µm,20.0s
CUT Chulitna 56.56 33 P P 16 34 48.8 -0.1
baz=278,SNR=26
CUT S S 16 42 40.7 +0.2
baz=278
I23K Minto, Yukon-K 56.63 30 IAMs_20 IAMs_20 16 58 19.7
comp=Z,202µm,20.0s
I23K Minto, Yukon-K 56.63 30 P P 16 34 49.2 -0.1
baz=276,SNR=39
I23K S S 16 42 43.2 +1.8
baz=276
BRLK Bradley Lake 56.63 36 P P 16 34 49.4 -0.2
BRLK IAmb IAmb 16 35 01.7
comp=Z,470nm,1.1s
BRLK IAMs_20 IAMs_20 16 57 09.0
comp=Z,280µm,22.0s
BWN Browne 56.70 31 IAMs_20 IAMs_20 16 58 54.5
comp=Z,249µm,19.0s
BRSE Bradley Lake S 56.71 36 P P 16 34 48.7 -1.4
baz=279,SNR=24
BRSE S S 16 42 40.8 -2.0
baz=279
M22K Willow 56.72 34 P P 16 34 48.4 -1.6
baz=278,SNR=24
M22K S S 16 42 42.9 +0.2
baz=278
FIS Fire Island 56.76 35 IAMs_20 IAMs_20 16 58 11.4
comp=Z,223µm,21.0s
NEA2 Nenana 56.82 31 IAMs_20 IAMs_20 17 01 43.7
comp=Z,215µm,18.0s
NEA2 Nenana 56.82 31 P P 16 34 49.4 -1.3
baz=277,SNR=123
NEA2 S S 16 42 46.6 +2.6
baz=277
MCK McKinley 56.99 32 IAMs_20 IAMs_20 16 58 29.2
comp=Z,235µm,22.0s
MCK McKinley 56.99 32 P P 16 34 51.0 -1.0
baz=278,SNR=65
MCK S S 16 42 46.8 +0.5
baz=278
RC01 Rabbit Creek A 57.00 35 IAMs_20 IAMs_20 16 57 46.7
comp=Z,219µm,20.0s
RC01 Rabbit Creek A 57.00 35 P P 16 34 50.7 -1.3
baz=279,SNR=53
RC01 S S 16 42 42.8 -3.7
baz=279
RND Reindeer 57.07 32 P P 16 34 51.2 -1.4
RND pmax pmax
comp=Z,563nm,1.0s
RND MLR MLR
comp=Z,436nm,20.0s
RND Reindeer 57.07 32 P P 16 34 51.2 -1.4
RND IAmb IAmb 16 34 59.8
comp=Z,563nm,1.0s
O22K Cooper Landing 57.10 35 IAMs_20 IAMs_20 16 59 48.4
comp=Z,257µm,20.0s
O22K Cooper Landing 57.10 35 P P 16 34 51.8 -0.9
baz=279,SNR=11
O22K S S 16 42 46.6 -1.1
baz=279
H24K Noodor Dome 57.16 29 P P 16 34 52.9 -0.2
H24K IAmb IAmb 16 35 08.4
comp=Z,810nm,1.4s
H24K IAMs_20 IAMs_20 16 57 38.7
comp=Z,265µm,22.0s
H24K Noodor Dome 57.16 29 P P 16 34 53.4 +0.2
baz=277,SNR=56
H24K S S 16 42 50.1 +1.5
baz=277
PMR Palmer 57.21 34 P P 16 34 52.6 -0.9
baz=279,SNR=25
PMR S S 16 42 47.4 -1.8
baz=279
WRH Wood River Hil 57.25 31 IAMs_20 IAMs_20 16 59 50.2
comp=Z,185µm,20.0s
GIRL Giralia 57.27 198 P P 16 34 53.7 -0.6
GIRL IAmb IAmb 16 35 04.1
comp=Z,468nm,1.1s
GIRL Giralia 57.27 198 ⇑P P 16 34 55.1 +0.9
GIRL Giralia 57.27 198 P P 16 34 52.6 -1.7
GHO Glory Hole Cre 57.28 34 IAMs_20 IAMs_20 17 01 04.9
comp=Z,263µm,20.0s
WAT1 Susitna Watana 57.29 33 P P 16 34 53.8 -0.3
baz=279
WAT1 S S 16 42 47.9 -2.4
baz=279
SEW Seward 57.29 36 P P 16 34 52.6 -1.5
SEW IAmb IAmb 16 35 01.1
comp=Z,497nm,1.0s
SEW Seward 57.29 36 P P 16 34 52.4 -1.7
baz=280,SNR=35
SEW S S 16 42 49.0 -1.3
baz=280
TCOL CIGO, UAF Yank 57.29 30 IAMs_20 IAMs_20 17 01 32.3
comp=Z,214µm,18.0s
TCOL CIGO, UAF Yank 57.29 30 P P 16 34 53.9 -0.1
baz=278,SNR=21
TCOL S S 16 42 48.0 -2.2
baz=278
COLA College 57.30 30*d* iP P 16 34 52.7 -1.4
COLA pmax pmax
comp=Z,525nm,1.5s

COLA College 57.30 30 IAMs_20 IAMs_20 17 01 32.3
comp=Z,202µm,18.0s
COLA College 57.30 30 ⇓P P 16 34 54.8 +0.8
COLA College 57.30 30 P P 16 34 53.9 -0.2
baz=278
COLA S S 16 42 49.0 -1.3
baz=278
CCB Clear Creek Bu 57.35 30 IAMs_20 IAMs_20 17 01 40.8
comp=Z,184µm,18.0s
POKR Poker Plat Res 57.44 30 IAMs_20 IAMs_20 16 58 43.1
comp=Z,189µm,20.0s
POKR Poker Plat Res 57.44 30 P P 16 34 54.6 -0.5
baz=278,SNR=58
POKR S S 16 42 54.1 +1.9
baz=278
WRKA Warakurna 57.48 183 ⇓P P 16 34 53.6 -2.2
WRKA Warakurna 57.48 183 P P 16 34 54.4 -1.4
SML Sawmill 57.55 34 IAMs_20 IAMs_20 17 01 23.1
comp=Z,298µm,19.0s
SML Sawmill 57.55 34 P P 16 34 54.6 -1.4
baz=280,SNR=40
SML S S 16 42 51.8 -2.0
baz=280
KNK Knik Glacier 57.55 34 IAMs_20 IAMs_20 17 00 03.4
comp=Z,292µm,20.0s
KNK Knik Glacier 57.55 34 P P 16 34 55.0 -1.0
baz=280,SNR=36
KNK S S 16 42 54.9 +1.1
baz=280
WAT6 Susitna Watana 57.70 33 P P 16 34 56.8 -0.4
baz=280,SNR=39
WAT6 S S 16 42 55.9 0.0
baz=280
PWL Port Wells 57.71 35 IAMs_20 IAMs_20 17 03 54.5
comp=Z,273µm,18.0s
PWL Port Wells 57.71 35 P P 16 34 56.5 -0.6
baz=280,SNR=32
PWL S S 16 42 56.0 +0.2
baz=280
ILAR Eielson Array 57.72 30 P P 16 34 55.4 -1.7
comp=Z,18nm,0.7s,baz=268,slow=5.1,SNR=27
ILAR LR LR 17 02 05.2
comp=Z,117µm,18.5s,baz=285,slow=38
ILAR PKPPKP P'P'df 17 04 38.6 -11
comp=Z,2.8nm,1.1s,baz=105,slow=0.5,SNR=5.4
ILAR Eielson Array 57.72 30 P P 16 34 55.2 -1.9
ILAR Eielson Array 57.72 30 P P 16 34 55.2 -1.9
DHY Denali Highway 57.78 32 IAMs_20 IAMs_20 16 58 54.2
comp=Z,288µm,22.0s
DHY Denali Highway 57.78 32 P P 16 34 57.0 -0.7
baz=280,SNR=37
DHY S S 16 42 56.5 -0.5
baz=280
M23K Glacier View 57.84 34 P P 16 34 58.5 +0.6
baz=280
M23K S S 16 42 59.2 +1.7
baz=280
SCM Sheep Creek Mo 58.01 34 IAMs_20 IAMs_20 16 58 29.5
comp=Z,257µm,21.0s
SCM Sheep Creek Mo 58.01 34 P P 16 34 59.4 +0.1
baz=280,SNR=34
SCM S S 16 43 02.2 +2.3
baz=280
GEYT Alibeck 58.11 297 P P 16 35 00.2 -0.1
comp=Z,14nm,0.8s,baz=232,slow=8.9,SNR=13
GEYT LR LR 17 01 34.0
comp=Z,274µm,19.2s,baz=74,slow=38
GEYT Alibeck 58.11 297 P P 16 34 59.9 -0.3
BMAR Burnt Mountain 58.23 27 P P 16 35 00.3 -0.4
GLI Glacier Island 58.30 35 IAMs_20 IAMs_20 17 01 50.2
comp=Z,154µm,19.0s
GLI Glacier Island 58.30 35 P P 16 35 01.0 -0.2
baz=281,SNR=53
GLI S S 16 43 04.3 +0.7
baz=281
KIRV Kirov 58.34 323 P P 16 35 00.9 -0.6
comp=Z,69nm,0.8s,baz=82,slow=9.0,SNR=13
KIRV LR LR 17 03 47.3
comp=Z,442µm,18.7s,baz=81,slow=40
KIRV Kirov 58.34 323*c* iP P 16 35 00.4 -1.1
K24K Donnelly Dome 58.36 31 P P 16 35 01.8 +0.2
baz=280
K24K S S 16 43 03.8 -0.5
baz=280
J25K Salcha River, 58.39 30 IAMs_20 IAMs_20 17 01 08.3
comp=Z,182µm,19.0s
J25K Salcha River, 58.39 30 P P 16 35 00.5 -1.4
baz=280,SNR=71
J25K S S 16 43 02.8 -2.0
baz=280
M24K Tolsona, Glenn 58.50 33 P P 16 35 02.4 -0.3
baz=281,SNR=41
M24K S S 16 43 09.7 +3.5
baz=281
MNCY Minicoy 58.50 259 *e*P P 16 35 18.3 +15
MNCY IAmb IAmb 16 35 28.3
comp=Z,1µm,1.3s
FID Port Fidalgo 58.62 35 IAMs_20 IAMs_20 17 01 50.3
comp=Z,269µm,19.0s
PAX Paxson 58.65 32 P P 16 35 03.5 -0.3
baz=281,SNR=32
PAX S S 16 43 07.7 -0.6
baz=281
KLU Klutina 58.74 34 IAMs_20 IAMs_20 16 58 27.7
comp=Z,210µm,22.0s
KLU Klutina 58.74 34 P P 16 35 04.4 +0.1
baz=282,SNR=30
KLU S S 16 43 11.4 +2.0
baz=282
RIDG Independent Ri 58.78 31 IAMs_20 IAMs_20 17 01 28.6
comp=Z,260µm,19.0s
RIDG Independent Ri 58.78 31 P P 16 35 04.0 -0.6
baz=281,SNR=44
RIDG S S 16 43 07.6 -2.3
baz=281
RK1H Rockhampton Ha 58.90 159 P P 16 35 04.5 -1.2
HARP HAARP 58.91 33 P P 16 35 05.2 -0.2
baz=282,SNR=48
HARP S S 16 43 14.6 +3.2
baz=282
Q23K Middleton Isla 58.96 36 IAMs_20 IAMs_20 16 59 04.9
comp=Z,185µm,21.0s
Q23K Middleton Isla 58.96 36 P P 16 35 05.6 -0.2
baz=283
Q23K S S 16 43 15.1 +2.9
baz=283
EYAK Cordova Ski Ar 59.02 35 P P 16 35 05.9 -0.3
EYAK Cordova Ski Ar 59.02 35 P P 16 35 04.8 -1.3
baz=282,SNR=24
EYAK S S 16 43 15.4 +2.6
baz=282
SCRK Sand Creek 59.10 31 P P 16 35 05.2 -1.7
SCRK Sand Creek 59.10 31 P P 16 35 05.1 -1.9
baz=282,SNR=153
SCRK S S 16 43 13.9 -0.3
baz=282
J26L Joseph Creek 59.18 30 P P 16 35 06.0 -1.4
baz=282,SNR=94
J26L S S 16 43 14.4 -0.6
baz=282
HMDM Hanimaadhoo 59.20 257 P P 16 35 08.0 -0.1
HMDM IAmb IAmb 16 35 18.0
comp=Z,659nm,1.4s
HMDM Hanimaadhoo 59.20 257 P P 16 35 07.7 -0.4
SNR=28
HMDM Hanimaadhoo 59.20 257 ⇓P P 16 35 07.5 -0.6
SANVU Saraoutou 59.24 138 IAMs_20 IAMs_20 16 56 49.4
comp=Z,223µm,22.0s
SANVU Saraoutou 59.24 138 P P 16 35 10.4 +2.2
N25K Chitina, Valde 59.33 34 IAMs_20 IAMs_20 16 58 57.4
comp=Z,308µm,22.0s
N25K Chitina, Valde 59.33 34 P P 16 35 07.8 -0.7
baz=283,SNR=63
N25K S S 16 43 17.6 +0.4
baz=283
BMRM Bremner River 59.47 34 P P 16 35 08.3 -1.1
BMRM Bremner River 59.47 34 P P 16 35 08.8 -0.7
baz=283,SNR=47
BMRM S S 16 43 20.6 +1.7
baz=283
PRGR Permogore 59.54 326 *e*P P 16 35 07.6 -2.2
PRGR pmax pmax
comp=Z,49nm,1.0s
L26K Log Cabin Wild 59.59 32 P P 16 35 09.6 -0.6
baz=283,SNR=83
L26K S S 16 43 24.5 +4.2
baz=283

GLB Gilahina Butte 59.74 34 IAMs_20 IAMs_20 16 59 09.1
comp=Z,249µm,22.0s
HMT Hamilton 59.78 35 IAMs_20 IAMs_20 17 03 54.4
comp=Z,209µm,18.0s
KAIM Kayak Island 59.80 35 IAMs_20 IAMs_20 16 59 02.8
comp=Z,301µm,21.0s
KAIM Kayak Island 59.80 35 P P 16 35 12.6 +1.0
baz=284
KAIM S S 16 43 28.1 +5.0
baz=284
M26K Nabesna, AK 59.89 32 P P 16 35 11.6 -0.7
baz=284,SNR=192
M26K S S 16 43 28.6 +4.3
baz=284
VRDI Verde Repeater 59.96 34 P P 16 35 11.8 -1.1
BERG Berg Lake 60.04 35 IAMs_20 IAMs_20 17 03 07.0
comp=Z,194µm,18.0s
MCARA McCarthy VSAT 60.12 34 IAMs_20 IAMs_20 16 59 32.2
comp=Z,238µm,22.0s
MCARA McCarthy VSAT 60.12 34 P P 16 35 13.2 -0.6
baz=284,SNR=33
MCARA S S 16 43 28.1 +1.0
baz=284
EGAK Eagle 60.13 30 P P 16 35 13.2 -0.5
baz=284,SNR=79
EGAK S S 16 43 29.2 +2.1
baz=284
MEEK Meekatharra 60.15 193 P P 16 35 11.7 -2.6
L27K Beaver Creek, 60.25 32 P P 16 35 14.0 -0.8
L27K IAmb IAmb 16 35 23.5
comp=Z,408nm,0.9s
L27K Beaver Creek, 60.25 32 P P 16 35 14.5 -0.2
baz=284,SNR=316
L27K S S 16 43 33.1 +4.3
baz=284
BCAR Beaver Creek A 60.27 32 P P 16 35 14.0 -0.9
BGLC Bering Glacier 60.31 35 P P 16 35 14.2 -0.9
baz=285
BGLC S S 16 43 34.5 +5.1
baz=285
QLP Quilpie 60.36 166 P P 16 35 14.9 -0.8
OOD Oodnadatta 60.37 175 P P 16 35 14.0 -1.7
M27K Edge Creek, AK 60.41 32 IAMs_20 IAMs_20 16 59 17.7
comp=Z,320µm,22.0s
M27K Edge Creek, AK 60.41 32 P P 16 35 15.5 -0.4
baz=284,SNR=99
M27K S S 16 43 32.1 +1.1
baz=284
WAX Waxell Ridge 60.43 35 IAMs_20 IAMs_20 17 03 08.6
comp=Z,247µm,19.0s
SNH Sunshine Point 60.51 35 IAMs_20 IAMs_20 17 03 13.6
comp=Z,265µm,18.0s
ISLE Juniper Island 60.64 34 IAMs_20 IAMs_20 17 00 55.0
comp=Z,256µm,21.0s
BARN Barnard Glacie 60.84 34 IAMs_20 IAMs_20 17 00 57.3
comp=Z,189µm,21.0s
BVCY Beaver Creek 60.85 32 P P 16 35 18.6 -0.2
baz=285,SNR=43
BVCY S S 16 43 40.3 +3.8
baz=285
BELG Belogornoye 60.86 316 P P 16 35 17.7 -1.2
comp=Z,414nm,0.9s,baz=262,slow=2.3,SNR=32
BELG LR LR 17 04 52.3
comp=Z,332µm,18.0s,baz=67,slow=39
BELG Belogornoye 60.86 316*d* iP P 16 35 17.1 -1.8
BELG pmax pmax
comp=Z,274nm,1.4s
BELG MLR MLR
comp=Z,51µm,17.0s
INKA Innaminka 60.88 170 P P 16 35 19.8 +0.6
GRNC Granite Creek 60.88 34 IAMs_20 IAMs_20 17 01 05.5
comp=Z,271µm,22.0s
EIDS Eidsvold 60.93 159 P P 16 35 18.8 -0.9
EIDS IAmb IAmb 16 35 37.5
comp=Z,637nm,1.9s
EIDS Eidsvold 60.93 159 P P 16 35 19.8 +0.1
CTG Chitna Glacier 61.02 34 P P 16 35 19.3 -0.8
baz=286,SNR=151
CTG S S 16 43 40.4 +1.5
baz=286
CTGM Chitina Glacie 61.02 34 P P 16 35 19.3 -0.8
CTGM IAmb IAmb 16 35 28.5
comp=Z,395nm,1.0s
CTGM IAMs_20 IAMs_20 17 01 11.9
comp=Z,240µm,21.0s
DAWY Dawson 61.05 30 P P 16 35 19.5 -0.7
DAWY Dawson 61.05 30 ⇑P P 16 35 19.1 -1.1
DAWY ⇓P **pP** 16 35 20.4 -2.0
DAWY ⇓p **sP** 16 35 21.4 -1.9
DAWY Dawson 61.05 30 P P 16 35 19.5 -0.7
baz=286,SNR=41
DAWY S S 16 43 40.6 +1.6
baz=286
I29M Ogilvie Camp, 61.15 29 IAMs_20 IAMs_20 17 00 25.1
comp=Z,271µm,22.0s
I29M Ogilvie Camp, 61.15 29 P P 16 35 19.8 -1.0
baz=286,SNR=103
I29M S S 16 43 41.2 +1.1
baz=286
YUK3 Moose Creek 61.20 33 P P 16 35 21.0 -0.5
baz=286,SNR=49
YUK3 S S 16 43 43.7 +2.3
baz=286
LOGN Logan Glacier 61.21 34 IAMs_20 IAMs_20 17 01 15.1
comp=Z,242µm,21.0s
TABL Table Mountain 61.25 34 IAMs_20 IAMs_20 16 59 23.2
comp=Z,223µm,22.0s
RMQ Roma 61.33 162 P P 16 35 23.8 +1.5
J29M Klondike Camp 61.44 30 P P 16 35 22.2 -0.7
baz=286,SNR=15
J29M S S 16 43 44.2 +0.2
baz=286
EPYK Eagle Plains 61.49 27 IAMs_20 IAMs_20 17 02 38.1
comp=Z,161µm,18.0s
EPYK Eagle Plains 61.49 27 P P 16 35 22.5 -0.6
baz=287,SNR=415
EPYK S S 16 43 47.7 +3.1
baz=287
FUNA Funafuti 61.72 123 IAMs_20 IAMs_20 16 58 56.6
comp=Z,139µm,19.0s
FUNA Funafuti 61.72 123 P P 16 35 26.6 +1.3
PINM Pinnacle 61.78 35 P P 16 35 24.9 -0.3
baz=287
PINM S S 16 43 49.1 +0.6
baz=287
KOUNC Koumac, New Ca 61.92 144 P P 16 35 26.1 -0.3
KOUNC IAmb IAmb 16 35 51.2
comp=Z,355nm,1.2s
KOUNC Koumac, New Ca 61.92 144 P P 16 35 26.1 -0.3
HOPEN Hopen 62.01 345 *e*P P 16 35 27.2 +0.8
HOPEN IVmBBB 16 35 34.8
comp=Z,14µm,3.1s
HOPEN *e*S S 16 43 52.5 +1.7
HOPEN *e*SS SS 16 47 56.5 +4.1
HOPEN IVMs_BB IVMs_BB 17 05 17.6
comp=Z,145µm,17.0s
INK Inuvik 62.09 25 PKPPKP 17 04 30.9
comp=Z,7.2nm,1.1s,baz=173,slow=2.0,SNR=4.6
INK LR LR 17 05 37.5
comp=Z,261µm,18.1s,baz=278,slow=39
INK Inuvik 62.09 25 P P 16 35 26.1 -0.9
INK pmax pmax
comp=Z,372nm,1.1s
INK Inuvik 62.09 25 P P 16 35 26.1 -0.9
INK IAmb IAmb 16 35 35.0
comp=Z,372nm,1.1s
INK Inuvik 62.09 25 P P 16 35 26.5 -0.5
baz=288,SNR=70
INK S S 16 43 51.7 -0.2
baz=288
YUK4 Talbot Arm 62.16 33 P P 16 35 27.5 -0.3
baz=288,SNR=80
YUK4 S S 16 43 58.5 +5.0
baz=288
PNL Peninsula 62.32 35 P P 16 35 28.1 -0.7
baz=288,SNR=39
PNL S S 16 43 58.4 +3.2
baz=288
LVZ Lovozero 62.35 335 ⇓*e*P P 16 35 27.9 -0.9
LVZ pmax pmax
comp=Z,418nm,1.5s
LVZ MLR MLR
comp=Z,419µm,20.0s
LVZ Lovozero 62.35 335 P P 16 35 28.0 -0.8
LVZ IAmb IAmb 16 35 50.1
comp=Z,507nm,1.4s
YUK6 Outpost Mounta 62.41 33 P P 16 35 28.4 -1.3

	baz=288,SNR=70									
YUK6					S	**S**	**16 43 59.0**	**+2.2**		
	baz=288									
KLMR	**Klimovskoe**	**62.59**	**327**	*e*P	**P**	**16 35 28.0**	**-2.5**			
KLMR				*e*S	**S**	**16 43 56.4**	**-2.1**			
KLMR				*e*SS	**SS**	**16 48 02.0**	**0.0**			
KLMR				pmax	pmax					
	comp=Z,444nm,1.2s									
KLMR	**Klimovskoe**	**62.59**	**327**	*e*P	**P**	**16 35 28.0**	**-2.5**			
KLMR				AMP		16 35 43.1				
	comp=Z,444nm,1.2s									
KLMR				*e*S	**S**	**16 43 56.4**	**-2.1**			
KLMR				*e*S	**S**	**16 43 56.4**	**-2.1**			
KLMR				*e*SS	**SS**	**16 48 02.0**	**0.0**			
KLMR				*e*SS	**SS**	**16 48 02.0**	**0.0**			
KLMR				*e*SSS	SSS	16 50 55.3				
KLMR				*e*SSS	SSS	16 50 55.3				
KLMR				LQ	LQ	16 57 04.5				
KLMR				LQ	LQ	16 57 04.5				
KLMR				LR	LR	17 01 40.7				
M30M	**Minto, Yukon**	**62.61**	**31**	P	**P**	**16 35 30.3**	**-0.3**			
M30M				IAMs_20	IAMs_20	17 01 18.9				
	comp=Z,254µm,21.0s									
M30M	**Minto, Yukon**	**62.61**	**31**	P	**P**	**16 35 29.3**	**-1.4**			
	baz=288,SNR=77									
M30M				S	**S**	**16 44 04.4**	**+5.6**			
	baz=288									
MAYO	**Mayo, Yukon**	**62.67**	**30**	P	**P**	**16 35 29.7**	**-1.4**			
	baz=289,SNR=16									
MAYO				S	**S**	**16 44 02.8**	**+3.3**			
	baz=289									
MULG	**Mulgathing**	**62.74**	**177**	P	**P**	**16 35 30.2**	**-1.5**			
HYT	**Haines Junctio**	**62.85**	**33**	P	**P**	**16 35 32.1**	**-0.3**			
HYT	**Haines Junctio**	**62.85**	**33**	P	**P**	**16 35 30.5**	**-1.9**			
	baz=289,SNR=109									
HYT				S	**S**	**16 44 05.0**	**+3.0**			
	baz=289									
APA	**Apatity**	**62.91**	**335**	⇓*i*P	**P**	**16 35 29.3**	**-3.2**			
APA				*i*		16 36 05.1				
APA				*i*		16 37 56.0				
APA				*i* PPP	PPP	16 39 25.0				
APA				*i* PS		16 44 08.0				
APA				*i* SSS	SSS	16 50 57.0				
APA				pmax	pmax					
	comp=Z,148nm,1.1s									
SPA0	**Spitsbergen Ar**	**62.96**	**348**	*e*P	**P**	**16 35 32.4**	**-0.3**			
SPA0				*e*S	**S**	**16 44 03.4**	**+0.7**			
SPA0				*e*SS	**SS**	**16 48 09.3**	**+2.2**			
SPA0				IVMs_BB	IVMs_BB	17 03 54.5				
	comp=Z,128µm,17.2s									
SPITS	**Spitsbergen Ar**	**62.96**	**348**	LR	LR	17 04 17.7				
	comp=Z,334µm,19.9s,baz=249,slow=37									
SPITS	**Spitsbergen Ar**	**62.96**	**348**	P	**P**	**16 35 32.0**	**-0.7**			
SPITS				pmax	pmax					
	comp=Z,737nm,1.1s									
KAAM	**Kaadhehdhoo**	**62.97**	**252**	P	**P**	**16 35 37.6**	**+3.9**			
	SNR=5.1									
MORW	**Morawa**	**63.02**	**194**	P	**P**	**16 35 31.5**	**-2.2**			
MORW				IAmb	IAmb	16 35 41.2				
	comp=Z,309nm,1.3s									
MORW	**Morawa**	**63.02**	**194**	P	**P**	**16 35 32.1**	**-1.5**			
JLN	**Jalan Bani Buh**	**63.14**	**280**	P	**P**	**16 35 34.5**	**-0.3**			
	SNR=13									
JLN				P	**P**	**16 35 34.5**	**-0.3**			
	SNR=13									
JLN				P	**P**	**16 35 34.5**	**-0.3**			
	SNR=13									
FORT	**Forrest**	**63.21**	**183**	P	**P**	**16 35 33.2**	**-1.6**			
FORT	**Forrest**	**63.21**	**183**	P	**P**	**16 35 33.2**	**-1.6**			
LCRK	**Leigh Creek**	**63.22**	**173**	P	**P**	**16 35 34.2**	**-0.7**			
KBS	**Kingsbay**	**63.30**	**349**	IAMs_20	IAMs_20	17 03 14.1				
	comp=Z,239µm,22.0s									
KBS	**Kingsbay**	**63.30**	**349**	*i* P	**P**	**16 35 38.3**	**+3.4**			
KBS				IAmb	IAmb	16 35 46.5				
	comp=Z,1µm,1.4s									
KBS	**Kingsbay**	**63.30**	**349**	⇓P	**P**	**16 35 35.7**	**+0.8**			
KBS				⇓P	**P**	**16 35 35.8**	**+0.8**			
KBS	**Kingsbay**	**63.30**	**349**	*e*P	**P**	**16 35 35.0**	**0.0**			
WBK	**Wadi Bani Khal**	**63.30**	**281**	P	**P**	**16 35 37.6**	**+1.7**			
	SNR=26									
WBK				P	**P**	**16 35 37.6**	**+1.7**			
	SNR=26									
WSAR	**Wadi Sarin**	**63.31**	**282**	P	**P**	**16 35 35.8**	**-0.1**			
	comp=Z,29nm,1.0s,baz=70,slow=7.9,SNR=7.3									
WSAR				LR	LR	17 06 56.7				
	comp=Z,108µm,20.0s,baz=90,slow=40									
WSAR	**Wadi Sarin**	**63.31**	**282**	P	**P**	**16 35 36.6**	**+0.7**			
	SNR=13									
KIP	**Kipapa**	**63.39**	**81**	P	**P**	**16 35 38.1**	**+1.7**			
KIP	**Kipapa**	**63.39**	**81**	P	**P**	**16 35 38.2**	**+1.8**			
A36M	**Sachs Harbour**	**63.40**	**20**	IAMs_20	IAMs_20	17 08 20.1				
	comp=Z,157µm,19.0s									
A36M	**Sachs Harbour**	**63.40**	**20**	P	**P**	**16 35 34.9**	**-0.8**			
	baz=294,SNR=69									
A36M				S	**S**	**16 44 10.6**	**+2.4**			
	baz=294									
N31M	**Braeburn, Yuko**	**63.42**	**32**	P	**P**	**16 35 36.0**	**0.0**			
N31M				IAMs_20	IAMs_20	17 02 10.4				
	comp=Z,246µm,21.0s									
N31M	**Braeburn, Yuko**	**63.42**	**32**	P	**P**	**16 35 35.0**	**-1.0**			
	baz=290,SNR=55									
N31M				S	**S**	**16 44 14.9**	**+6.0**			
	baz=290									
BIDO	**Bidbid**	**63.60**	**282**	P	**P**	**16 35 40.1**	**+2.3**			
	SNR=21									
BIDO				P	**P**	**16 35 40.1**	**+2.3**			
	SNR=21									
BIDO				P	**P**	**16 35 40.1**	**+2.3**			
	SNR=21									
BIDO				S	**S**	**16 44 05.9**	**-6.3**			
BIDO				S	**S**	**16 44 05.9**	**-6.3**			
BIDO				S	**S**	**16 44 05.9**	**-6.3**			
LIFNC	**LIFOU**	**63.62**	**142**	P	**P**	**16 35 39.2**	**+1.5**			
HSPB	**Hornsund (broa**	**63.72**	**347**	*e*P	**P**	**16 35 37.2**	**-0.5**			
HSPB				IVmBBB		16 35 45.5				
	comp=Z,12µm,3.5s									
HSPB				*e*S	**S**	**16 44 13.9**	**+1.7**			
HSPB				*e*SS	**SS**	**16 48 22.2**	**+3.1**			
HSPB				IVMs_BB	IVMs_BB	17 05 50.4				
	comp=Z,130µm,17.4s									
M31M	**Drury Creek, Y**	**63.79**	**31**	IAMs_20	IAMs_20	17 04 37.1				
	comp=Z,220µm,19.0s									
M31M	**Drury Creek, Y**	**63.79**	**31**	P	**P**	**16 35 37.9**	**-0.6**			
	baz=291,SNR=58									
M31M				S	**S**	**16 44 18.4**	**+4.9**			
	baz=291									
SMDO	**Samad**	**63.87**	**282**	P	**P**	**16 35 41.8**	**+2.1**			
	SNR=42									
SMDO				P	**P**	**16 35 41.8**	**+2.1**			
	SNR=42									
SMDO				P	**P**	**16 35 41.8**	**+2.1**			
	SNR=42									
MAK	**Makhachkala**	**64.01**	**306**	*d i*P	**P**	**16 35 40.4**	**+0.2**			
MAK				*e*S	**S**	**16 44 18.0**	**+1.2**			
MAK				pmax	pmax					
	comp=Z,854nm,1.7s									
MAK				pmax	pmax					
	comp=Z,16µm,7.4s									
MAK				MLR	MLR					
	comp=E,707µm,16.0s									
MAK				MLR	MLR					
	comp=Z,311µm,16.0s									
MAK				MLR	MLR					
	comp=N,354µm,18.0s									
BANOM	**Banah**	**64.06**	**285**	P	**P**	**16 35 41.5**	**+0.7**			
	SNR=34									
BANOM				P	**P**	**16 35 41.5**	**+0.7**			
	SNR=34									
WHY	**Whitehorse**	**64.12**	**33**	P	**P**	**16 35 40.7**	**0.0**			
WHY	**Whitehorse**	**64.12**	**33**	P	**P**	**16 35 40.0**	**-0.8**			
	baz=291,SNR=58									
WHY				S	**S**	**16 44 23.6**	**+5.8**			
	baz=291									
JMDO	**Jabal Madar**	**64.13**	**281**	P	**P**	**16 35 41.8**	**+0.4**			
	SNR=25									
JMDO				P	**P**	**16 35 41.8**	**+0.4**			
	SNR=25									
JMDO				P	**P**	**16 35 41.8**	**+0.4**			
	SNR=25									
SHME	**Shamm**	**64.13**	**285**	P	**P**	**16 35 42.3**	**+1.0**			
	SNR=72									
SHME				P	**P**	**16 35 42.3**	**+1.0**			
	SNR=72									
NOUC	**Port Laguerre**	**64.23**	**143**	P	**P**	**16 35 43.5**	**+1.7**			
FARO	**Faro, Yukon**	**64.23**	**31**	P	**P**	**16 35 42.3**	**+0.9**			
	baz=292									
FARO				S	**S**	**16 44 19.6**	**+0.5**			
	baz=292									
KEV	**Kevo**	**64.24**	**338**	P	**P**	**16 35 40.0**	**-1.2**			
KEV				pmax	pmax					
	comp=Z,234nm,0.9s									
KEV	**Kevo**	**64.24**	**338**	P	**P**	**16 35 40.0**	**-1.2**			
KEV				IAmb	IAmb	16 35 54.7				
	comp=Z,234nm,0.9s									
KEV	**Kevo**	**64.24**	**338**	⇑P	**P**	**16 35 39.7**	**-1.5**			
KEV				⇓P	**pP**	**16 35 40.4**	**-3.1**			
HOQ	**Hoqain**	**64.24**	**282**	P	**P**	**16 35 44.6**	**+2.5**			
	SNR=26									
HOQ				P	**P**	**16 35 44.6**	**+2.5**			
	SNR=26									
HOQ				P	**P**	**16 35 44.6**	**+2.5**			
	SNR=26									
BJO1	**Bjornoya**	**64.27**	**344**	*e*P	**P**	**16 35 41.8**	**+0.5**			
BJO1				*e*S	**S**	**16 44 21.3**	**+2.3**			
BJO1				*e*SS	**SS**	**16 48 30.5**	**+2.9**			
DZM	**Mont Dzumac**	**64.28**	**143**	LR	LR	17 01 36.4				
	comp=Z,67µm,20.6s,baz=345,slow=34									
DZM	**Mont Dzumac**	**64.28**	**143**	*e*P	**P**	**16 35 43.7**	**+1.5**			
	comp=Z,677nm,1.4s									
DZM				*e*S	**S**	**16 44 23.9**	**+3.4**			
	comp=Z,266µm,32.9s									
DZM				*e*LQ	LQ	16 52 15.6				
	comp=Z,410µm,34.9s									
DZM				*e*LR	LR	16 54 57.9				
	comp=Z,351µm,25.0s									
DZM	**Mont Dzumac**	**64.28**	**143**	P	**P**	**16 35 42.1**	**-0.1**			
DZM	**Mont Dzumac**	**64.28**	**143**	P	**P**	**16 35 42.9**	**+0.7**			
SKAG	**Skagway**	**64.34**	**34**	P	**P**	**16 35 41.3**	**-0.8**			
	baz=291,SNR=55									
SKAG				S	**S**	**16 44 26.1**	**+5.8**			
	baz=291									
BLDU	**Ballidu**	**64.38**	**193**	P	**P**	**16 35 40.3**	**-2.3**			
MASF	**Masafi**	**64.41**	**285**	P	**P**	**16 35 46.5**	**+3.3**			
	SNR=42									
MASF				P	**P**	**16 35 46.5**	**+3.3**			
	SNR=42									
MASF				P	**P**	**16 35 46.5**	**+3.3**			
	SNR=42									
YATNC	**Mamie plateau,**	**64.50**	**143**	P	**P**	**16 35 44.1**	**+0.6**			
UOSS	**Minazif**	**64.56**	**284**	P	**P**	**16 35 42.6**	**-1.5**			
UOSS				IAmb	IAmb	16 35 54.9				
	comp=Z,260nm,1.4s									
UOSS	**Minazif**	**64.56**	**284**	P	**P**	**16 35 46.2**	**+2.1**			
UOSS				P	**P**	**16 35 46.2**	**+2.1**			
UOSS				P	**P**	**16 35 46.2**	**+2.1**			
MARNC	**Mare, Loyalty**	**64.61**	**141**	P	**P**	**16 35 44.8**	**+0.5**			
HATD	**Hatta, Dubai**	**64.67**	**284**	P	**P**	**16 35 47.9**	**+3.1**			
	SNR=66									
HATD				P	**P**	**16 35 47.9**	**+3.1**			
	SNR=66									
HATD				P	**P**	**16 35 47.9**	**+3.1**			
	SNR=66									
NOR	**Nord**	**64.68**	**355**	*i* P	**P**	**16 35 43.1**	**-0.9**			
NOR				IVmB_BB		16 35 54.2				
	comp=Z,15µm,15.3s									
BSY	**Bisya**	**64.71**	**282**	P	**P**	**16 35 46.0**	**+0.8**			
	SNR=45									
BSY				P	**P**	**16 35 46.0**	**+0.8**			
	SNR=45									
BSY				S	S	16 44 16.8	-9.2			
BSY				S	S	16 44 16.8	-9.2			
VRH	**Novokhopyorsk**	**64.71**	**316**	*e*P	**P**	**16 35 44.9**	**+0.3**			
VRH				*e*S	**S**	**16 44 27.7**	**+2.6**			
VRH				pmax	pmax					
	comp=Z,330nm,0.8s									
VRH				smax	smax					
	comp=N,32µm,10.4s									
VRH				MLR	MLR					
	comp=Z,329µm,15.0s									
UMQ	**Umm Al-Quwin**	**64.75**	**285**	P	P	16 35 50.7	+5.4			
	SNR=11									
UMQ				P	P	16 35 50.7	+5.4			
	SNR=11									
UMQ				P	P	16 35 50.7	+5.4			
	SNR=11									
OUENC	**Ouen Island, N**	**64.77**	**143**	P	**P**	**16 35 44.8**	**-0.5**			
KNTN	**Kanton**	**64.78**	**111**	P	**P**	**16 35 48.4**	**+2.8**			
ASHO	**Ashiyiah**	**64.79**	**284**	P	**P**	**16 35 47.0**	**+1.3**			
	SNR=63									
ASHO				P	**P**	**16 35 47.0**	**+1.3**			
	SNR=63									
ASHO				S	**S**	**16 44 20.3**	**-6.7**			
ASHO				S	**S**	**16 44 20.3**	**-6.7**			
ARA0	**ARCESS Array S**	**64.81**	**338**	*e*P	**P**	**16 35 43.8**	**-1.2**			
ARA0				IVmBBB		16 35 52.0				
	comp=Z,8µm,4.3s									
ARA0				*e*S	**S**	**16 44 27.6**	**+1.8**			
ARA0				*e*SS	**SS**	**16 48 37.3**	**+1.1**			
ARA0				IVMs_BB	IVMs_BB	17 05 32.0				
	comp=Z,174µm,19.0s									
ARCES	**ARCESS Array B**	**64.81**	**338**	P	**P**	**16 35 43.3**	**-1.7**			
	comp=Z,26nm,0.8s,baz=63,slow=7.0,SNR=42									
ARCES				PKP2ab		17 04 39.2				
	comp=Z,8.0nm,1.0s,baz=321,slow=1.2,SNR=4.3									
ARCES				LR	LR	17 08 06.3				
	comp=Z,438µm,20.3s,baz=61,slow=40									
ARCES	**ARCESS Array B**	**64.81**	**338**	P	**P**	**16 35 43.5**	**-1.6**			
ARCES				IAmb	IAmb	16 35 56.5				
	comp=Z,239nm,1.1s									
ALE	**Alert**	**64.82**	**2**	IAMs_20	IAMs_20	17 05 56.2				
	comp=Z,214µm,20.0s									
MHTO	**MHTO**	**64.86**	**280**	P	**P**	**16 35 46.0**	**-0.1**			
	SNR=85									
MHTO				P	**P**	**16 35 46.0**	**-0.1**			
	SNR=85									
MHTO				P	**P**	**16 35 46.0**	**-0.1**			
	SNR=85									
MHTO				S	S	16 44 18.2	-10			
MHTO				S	S	16 44 18.2	-10			
MHTO				S	S	16 44 18.2	-10			
HAMF	**Hammerfest**	**64.87**	**339**	*e*P	**P**	**16 35 43.5**	**-1.8**			
HAMF				IVmB_BB		16 35 52.1				
	comp=Z,8µm,3.2s									
HAMF				*e*S	**S**	**16 44 27.2**	**+0.7**			
HAMF				*e*SS	**SS**	**16 48 41.2**	**+4.1**			
HAMF				IVMs_BB	IVMs_BB	17 08 47.1				
	comp=Z,175µm,15.8s									
C36M	**Paulatuk**	**64.87**	**22**	P	**P**	**16 35 44.4**	**-1.0**			
C36M	**Paulatuk**	**64.87**	**22**	P	**P**	**16 35 45.3**	**-0.1**			
	baz=296,SNR=257									
C36M				S	**S**	**16 44 28.5**	**+2.0**			
	baz=296									
NAZ	**Nazwa, Dubai**	**64.98**	**285**	P	**P**	**16 35 49.0**	**+2.1**			
	SNR=59									
NAZ				P	**P**	**16 35 49.0**	**+2.1**			
	SNR=59									
NAZ				P	**P**	**16 35 49.0**	**+2.1**			
	SNR=59									
MMPY	**Sheldon Lake,**	**64.99**	**30**	P	**P**	**16 35 46.0**	**-0.3**			
	baz=293									
MMPY				S	**S**	**16 44 35.4**	**+7.1**			
	baz=293									
ARQ	**Araqi**	**65.00**	**283**	P	**P**	**16 35 50.0**	**+2.9**			
	SNR=44									
ARQ				P	**P**	**16 35 50.0**	**+2.9**			
	SNR=44									
ARQ				P	**P**	**16 35 50.0**	**+2.9**			
	SNR=44									
STKA	**Stephens Creek**	**65.06**	**170**	P	**P**	**16 35 45.8**	**-1.3**			
	comp=Z,47nm,0.7s,baz=342,slow=7.4,SNR=49									
STKA				LR	LR	17 02 34.1				
	comp=Z,91µm,22.0s,baz=358,slow=35									
STKA	**Stephens Creek**	**65.06**	**170**	*d i*P	**P**	**16 35 45.4**	**-1.6**			
STKA	**Stephens Creek**	**65.06**	**170**	P	**P**	**16 35 45.7**	**-1.3**			
STKA	**Stephens Creek**	**65.06**	**170**	P	**P**	**16 35 45.3**	**-1.7**			
GROC	**Groznyy**	**65.09**	**307**	*e*P	**P**	**16 35 46.2**	**-1.1**			
GROC				*e*		16 36 21.0				
GROC				*e*		16 38 12.0				
GROC				*e*S	**S**	**16 44 31.5**	**+1.4**			
GROC				*e*		16 45 41.3				
GROC				pmax	pmax					
	comp=Z,341nm,1.0s									
GROC				MLR	MLR					
	comp=Z,127µm,12.0s									
KLBR	**Kellerberrin**	**65.13**	**192**	P	**P**	**16 35 47.4**	**-0.1**			
FAQ	**Al Faqa, Dubai**	**65.14**	**284**	P	**P**	**16 35 49.0**	**+1.0**			
	SNR=56									
FAQ				P	**P**	**16 35 49.0**	**+1.0**			
	SNR=56									
FAQ				P	**P**	**16 35 49.0**	**+1.0**			
	SNR=56									
SIT	**Sitka**	**65.23**	**37**	P	**P**	**16 35 47.7**	**-0.2**			
	baz=292,SNR=22									
SIT				S	**S**	**16 44 36.0**	**+4.8**			
	baz=292									
JIS	**Juneau Island**	**65.23**	**35**	IAMs_20	IAMs_20	17 03 36.6				
	comp=Z,200µm,20.0s									
PINNC	**Pines Island,**	**65.24**	**143**	P	**P**	**16 35 49.7**	**+1.4**			
MOS	**Moscow**	**65.31**	**322**	*e*P	**P**	**16 35 45.7**	**-2.7**			
MOS				*e*		16 36 17.0				
MOS				*e*		16 38 11.7				
MOS				*e*PPP	PPP	16 39 45.5				
MOS				*e*S	**S**	**16 44 31.5**	**-0.8**			
MOS				*e*		16 45 38.3				
MOS				*e*SS	**SS**	**16 48 47.3**	**+2.8**			
MOS				pmax	pmax					
	comp=Z,3µm,1.8s									
MOS				pmax	pmax					
	comp=Z,1µm,1.6s									
MOS				pmax	pmax					
	comp=N,422nm,1.3s									
MOS				pmax	pmax					
	comp=E,467nm,1.3s									
MOS				smax	smax					
	comp=N,44µm,12.1s									
MOS				smax	smax					
	comp=E,14µm,9.1s									
MOS				MLR	MLR					
	comp=Z,579µm,16.0s									
MOS				MLR	MLR					
	comp=E,546µm,15.0s									
ALNE	**Al Ain**	**65.32**	**284**	P	**P**	**16 35 48.1**	**-0.9**			
	SNR=129									
ALNE				P	**P**	**16 35 48.1**	**-0.9**			
	SNR=129									
ALNE				P	**P**	**16 35 48.1**	**-0.9**			
	SNR=129									
BBOO	**Buckleboo**	**65.37**	**175**	P	**P**	**16 35 47.2**	**-1.9**			
BBOO				IAmb	IAmb	16 35 57.4				
	comp=Z,305nm,1.1s									
BBOO	**Buckleboo**	**65.37**	**175**	P	**P**	**16 35 47.6**	**-1.4**			
ASUD	**Al Ashush, Dub**	**65.41**	**284**	P	**P**	**16 35 51.3**	**+1.7**			
	SNR=33									
ASUD				P	**P**	**16 35 51.3**	**+1.7**			
	SNR=33									
ASUD				P	**P**	**16 35 51.3**	**+1.7**			
	SNR=33									
CMSA	**Cobar Meteorol**	**65.46**	**166**	P	**P**	**16 35 49.7**	**+0.1**			
EUNU	**Eureka**	**65.61**	**7**	P	**P**	**16 35 48.7**	**-1.4**			
EUNU				IAmb	IAmb	16 36 19.9				
	comp=Z,464nm,1.2s									
DQM	**DQM**	**65.70**	**279**	P	**P**	**16 35 50.9**	**-0.7**			
	SNR=22									
DQM				P	**P**	**16 35 50.9**	**-0.7**			
	SNR=22									
AJN	**Ajban**	**65.72**	**284**	P	**P**	**16 35 53.0**	**+1.4**			
	SNR=39									
AJN				P	**P**	**16 35 53.0**	**+1.4**			
	SNR=39									
AJN				P	**P**	**16 35 53.0**	**+1.4**			
	SNR=39									
WHYH	**Whyalla**	**65.72**	**174**	P	**P**	**16 35 49.7**	**-1.5**			
KTK1	**Kautokeino**	**65.76**	**338**	*e*P	**P**	**16 35 49.7**	**-1.5**			
KTK1				IVmB_BB		16 35 58.8				
	comp=Z,7µm,3.3s									
KTK1				*e*S	**S**	**16 44 40.4**	**+2.8**			
KTK1				*e*SS	**SS**	**16 48 54.7**	**+3.6**			
KTK1				IVMs_BB	IVMs_BB	17 11 40.2				
	comp=Z,189µm,13.8s									
LPSR	**Galich'ya Gora**	**65.79**	**318**	*e*P	**P**	**16 35 49.4**	**-2.2**			
LPSR				*e*		16 35 51.0				
LPSR				*e*S	**S**	**16 44 39.1**	**+0.7**			
LPSR				*e*SS	**SS**	**16 48 54.0**	**+1.8**			
LPSR				pmax	pmax					
	comp=Z,200nm,0.9s									
LPSR				smax	smax					
	comp=N,25µm,10.3s									
LPSR				MLR	MLR					
	comp=Z,190µm,16.0s									
MUN	**Mundaring**	**65.80**	**194**	P	**P**	**16 35 53.5**	**+1.7**			
ARMA	**Armidale**	**65.84**	**160**	P	**P**	**16 35 51.5**	**-0.7**			
ARMA				IAmb	IAmb	16 36 01.2				
	comp=Z,250nm,1.1s									
ARMA	**Armidale**	**65.84**	**160**	P	**P**	**16 35 51.6**	**-0.7**			
MTKN	**Mount Kenneth**	**65.84**	**194**	P	**P**	**16 35 52.1**	**+0.1**			
PTPS	**Port Pirie**	**65.90**	**173**	P	**P**	**16 35 54.2**	**+1.8**			
NAPP	**Napperby**	**65.92**	**173**	P	**P**	**16 35 51.4**	**-1.1**			
	comp=Z,625nm,1.0s									
VORR	**Voronezh**	**65.99**	**317**	*e*P	**P**	**16 35 51.2**	**-1.7**			
VORR				*e**PP	**sP**	**16 36 00.4**	**+4.3**			
VORR				*e*		16 36 16.5				
VORR				*e*S	**S**	**16 44 44.7**	**+3.9**			
VORR				pmax	pmax					
	comp=Z,478nm,1.5s									
VORR				MLR	MLR					
	comp=Z,388µm,18.0s									
OBN	**Obninsk**	**66.11**	**321**	⇑P	**P**	**16 35 53.0**	**-0.6**			
OBN	**Obninsk**	**66.11**	**321**	P	**P**	**16 35 52.7**	**-0.9**			
	comp=Z,20nm,0.7s,baz=51,slow=6.5,SNR=18									
OBN				LR	LR	17 08 12.7				
	comp=Z,112µm,18.3s,baz=65,slow=39									
OBN	**Obninsk**	**66.11**	**321**	*c i*P	**P**	**16 35 52.0**	**-1.6**			
OBN				*e*		16 36 23.9				
OBN				*e*		16 38 24.0				
OBN				*i* S	**S**	**16 44 37.9**	**-4.2**			
OBN				*e*SS	**SS**	**16 48 49.6**	**-7.3**			
OBN				pmax	pmax					
	comp=Z,949nm,1.4s									
OBN				MLR	MLR					
	comp=Z,394µm,17.0s									
VSR	**Storozhevoye**	**66.19**	**317**	*e*P	**P**	**16 35 54.5**	**+0.2**			
VSR				*e*		16 35 56.1				
VSR				*e*S	**S**	**16 44 39.1**	**-4.2**			
VSR				*e*SS	**SS**	**16 48 55.9**	**-2.6**			
VSR				pmax	pmax					
	comp=Z,170nm,1.1s									
VSR				smax	smax					
	comp=N,23µm,10.5s									
VSR				MLR	MLR					
	comp=Z,354µm,16.0s									
GOF	**Gofitskoye**	**66.20**	**309**	⇑*e*P	**P**	**16 35 57.9**	**+3.4**			

KBZ PKP2bc 17 04 27.6
comp=Z,2.9nm,1.0s,baz=194,slow=3.4,SNR=2.7
KBZ LR LR 17 08 29.4
comp=Z,348μm,19.8s,baz=80,slow=39
KBZ Khabaz 66.83 308*d* iP **P 16 35 56.9 -1.5**
KBZ pmax pmax
comp=Z,667nm,1.0s
KBZ MLR MLR
comp=Z,329μm,17.0s
KVAR Kislovodsk Arr 66.87 308 P **P 16 35 58.2 -0.6**
comp=Z,52nm,1.1s,baz=255,slow=20,SNR=10
KIV Kislovodsk 66.88 308 ⇓P **P 16 35 58.3 -0.6**
KIV Kislovodsk 66.88 308 *e*P **P 16 35 57.9 -1.0**
KIV *e*S **S 16 44 51.5 -0.6**
KIV pmax pmax
comp=Z,535nm,4.6s
KIV pmax pmax
comp=Z,487nm,1.0s
KIV Kislovodsk 66.88 308 P **P 16 35 58.5 -0.4**
KIV Kislovodsk 66.88 308 P **P 16 35 59.5 +0.6**
KIV P **P 16 35 59.5 +0.6**
KIV P **P 16 35 59.5 +0.6**
MZWR Madinat Zayed 66.98 284 P **P 16 35 60.0 +0.2**
MZWR P **P 16 35 60.0 +0.2**
MZWR P **P 16 35 60.0 +0.2**
CRAG Craig 66.99 38 P **P 16 35 58.8 -0.4**
baz=294
CRAG S **S 16 44 57.6 +4.9**
baz=294
WRAK Wrangell Islan 66.99 37 IAMs_20 IAMs_20 17 03 36.0
comp=Z,205μm,20.0s
WRAK Wrangell Islan 66.99 37 P **P 16 35 58.3 -0.9**
baz=295
WRAK S **S 16 44 58.6 +5.9**
baz=295
GNI Garni 67.01 304 P **P 16 36 00.0 +0.1**
comp=Z,53nm,1.1s,baz=176,slow=2.6,SNR=13
GNI LR LR 17 08 38.0
comp=Z,136μm,18.5s,baz=82,slow=39
GNI Garni 67.01 304 *i* P P 16 36 05.1 +5.2
GNI Garni 67.01 304*ce*P **P 16 35 58.2 -1.7**
GNI pmax pmax
comp=Z,1μm,1.4s
GNI MLR MLR
comp=Z,125μm,16.0s
GNI Garni 67.01 304 IAMs_20 IAMs_20 17 05 51.3
comp=Z,137μm,21.0s
GNI Garni 67.01 304 P P 16 36 04.8 +4.9
GNI P P 16 36 04.8 +4.9
GNI P P 16 36 04.8 +4.9
WTLY Watson Lake, Y 67.11 32 P **P 16 35 58.9 -1.1**
baz=296,SNR=7.5
WTLY S **S 16 44 57.3 +3.1**
baz=296
NEY Neytrino 67.14 308*de*P **P 16 35 59.8 -0.9**
NEY pmax pmax
comp=Z,183nm,1.3s
NEY MLR MLR
comp=Z,135μm,16.0s
PUL Pulkovo 67.24 327⇓*e*P **P 16 35 59.1 -1.7**
PUL pmax pmax
comp=Z,617nm,1.0s
PUL MLR MLR
comp=Z,430μm,18.0s
DLBC Dease Lake 67.27 34 LR LR 17 08 21.1
comp=Z,156μm,18.1s,baz=300,slow=39
JRN Qarnain Island 67.29 286 P **P 16 36 04.3 +2.6**
SNR=26
JRN P **P 16 36 04.3 +2.6**
SNR=26
JRN P **P 16 36 04.3 +2.6**
SNR=26
AKH Akhalkalaki 67.36 306 ⇓P P 16 36 07.2 +5.0
AKH Akhalkalaki 67.36 306 P P 16 36 07.4 +5.3
MSVF Nonsavu 67.55 131 LR LR 17 01 54.5
comp=Z,114μm,21.0s,baz=318,slow=33
MSVF Nonsavu 67.55 131 IAMs_20 IAMs_20 17 01 33.3
comp=Z,131μm,20.0s
MZR Muzera 67.65 284 P **P 16 36 03.6 -0.4**
SNR=78
MZR P **P 16 36 03.6 -0.4**
SNR=78
GHSS Government Hou 67.69 173 P **P 16 36 04.2 +0.5**
GHWR Ruwais 67.71 285 P **P 16 36 07.9 +3.6**
GHWR P **P 16 36 07.9 +3.6**
GHWR P **P 16 36 07.9 +3.6**
CHVG Ch'k'valeri 67.78 307 ⇓P **P 16 36 09.1 +4.6**
CHVG Ch'k'valeri 67.78 307 ⇓P **P 16 36 09.1 +4.6**
TWOA Tennyson Woods 67.80 173 P **P 16 36 03.3 -1.1**
comp=Z,250nm,1.1s
WRGLY Wrigley 67.93 28 P **P 16 36 04.5 -0.6**
baz=299,SNR=41
WRGLY S **S 16 45 04.5 +0.6**
baz=299
KARS Kars 67.97 305 P P 16 36 11.4 +5.4
CLDR Caldiran 68.01 303 P **P 16 36 10.9 +4.6**
KHOR Al-Khor Airpor 68.06 287 P **P 16 36 10.4 +3.8**
NTLH Newcastle Hard 68.20 161 P **P 16 36 07.7 +0.7**
SHAO Shalim 68.20 278 P **P 16 36 09.5 +1.9**
SNR=11
RKGY Rocky Gully 68.21 192 P **P 16 36 07.3 +0.2**
DIB Dawson Inlet, 68.29 40 P **P 16 36 06.5 -1.0**
FIA1 FINESS Array S 68.33 330 P **P 16 36 06.0 -1.6**
FIA1 IAmb IAmb 16 36 17.4
comp=Z,429nm,1.1s
MGCD Mangrove Creek 68.33 162 P **P 16 36 06.8 -1.1**
FINES FINESS Array B 68.33 330 P **P 16 36 06.2 -1.5**
comp=Z,36nm,0.4s,baz=72,slow=5.6,SNR=162
FINES PKP2bc 17 04 24.7
comp=Z,7.1nm,1.0s,baz=305,slow=4.9,SNR=5.5
FINES LR LR 17 09 38.5
comp=Z,330μm,18.2s,baz=66,slow=39
FINES FINESS Array B 68.33 330 P **P 16 36 05.8 -1.8**
FINES FINESS Array B 68.33 330 P **P 16 36 05.8 -1.8**
H08S3 Diego Garcia H 68.37 245 P P 16 36 15.2 +7.0
baz=21,slow=14,SNR=5.2
H08S2 Diego Garcia H 68.37 245 P P 16 36 14.9 +6.7
baz=21,slow=14,SNR=8.6
H08S1 Diego Carcia H 68.39 245 P P 16 36 15.5 +7.2
baz=21,slow=14,SNR=6.1
SHMA Al-Shehemyia 68.40 288 P **P 16 36 10.4 +1.7**
AGRB Hanur-Agry 68.47 304 P P 16 36 14.4 +5.2
SENK Senkaya-Erzuru 68.50 305 P P 16 36 15.0 +5.6
VANB Van 68.61 303 P P 16 36 16.2 +6.2
SAKB Bahrain 68.69 288 P **P 16 36 14.2 +3.7**
SYDH Sydney Hard Ro 68.76 162 P **P 16 36 11.4 +0.9**
RES Resolute Bay 68.78 12 LR LR 17 08 26.2
comp=Z,157μm,19.5s,baz=320,slow=38
RES Resolute Bay 68.78 12 P **P 16 36 08.8 -1.4**
RES pmax pmax
comp=Z,318nm,1.0s
RES Resolute Bay 68.78 12 P **P 16 36 08.8 -1.4**
RES IAmb IAmb 16 36 18.2
comp=Z,318nm,1.0s
STEI Steigen 68.84 339 *e*P **P 16 36 09.5 -1.2**
STEI IVmB_BB 16 36 15.2
comp=Z,2μm,1.9s
STEI *e*S **S 16 45 15.0 +0.4**
STEI *e*SS **SS 16 49 40.5 +1.8**
STEI IVMs_BB IVMs_BB 17 11 17.4
comp=Z,181μm,15.8s
DMTO DMTO 68.91 278 P **P 16 36 13.7 +1.7**
SNR=11
DMTO P **P 16 36 13.7 +1.7**
SNR=11
MLAZ Malazgirt-MUS 68.97 304 P P 16 36 18.2 +5.9
SOC Sochi 68.99 309 *e*P **P 16 36 12.3 +0.3**
SOC *e*S **S 16 45 22.1 +5.0**
SOC *e*SS **SS 16 49 37.8 -4.3**
SOC pmax pmax
comp=Z,692nm,1.3s
SOC MLR MLR
comp=Z,282μm,18.0s
AKDM Akdamar-Van 69.02 303 P P 16 36 17.5 +4.9
CUKT Cukurca 69.03 301 P **P 16 36 16.9 +4.3**
KOPR Koprukoy-ERZUR 69.09 305 P P 16 36 18.2 +5.2
DAG Danmarks Havn 69.12 353 *i* P **P 16 36 10.0 -2.3**
DAG IVmB_BB 16 36 19.1
comp=Z,14μm,5.6s
FAUS Fauske 69.15 338 *e*P **P 16 36 12.3 -0.3**
FAUS IVmB_BB 16 36 19.8
comp=Z,6μm,2.6s
FAUS *e*S **S 16 45 18.8 +0.6**
FAUS *e*SS **SS 16 49 45.8 +2.4**
FAUS IVMs_BB IVMs_BB 17 09 44.0
comp=Z,166μm,18.3s
DOK Doka 69.16 279 P **P 16 36 12.4 -1.1**
SNR=55
DOK P **P 16 36 12.4 -1.1**
SNR=55
DOK P **P 16 36 12.4 -1.1**
SNR=55
LOF Lofoten 69.24 339 *e*P **P 16 36 13.8 +0.6**
LOF IVmB_BB 16 36 27.3
comp=Z,7μm,7.4s
LOF *e*S **S 16 45 22.9 +3.6**
LOF *e*SS **SS 16 49 48.0 +3.2**
LOF IVMs_BB IVMs_BB 17 07 13.6
comp=Z,115μm,20.3s
LHI Lord Howe Isla 69.28 154 P **P 16 36 15.6 +1.8**
CHOM Cayeli-Rize 69.36 306 P P 16 36 19.6 +5.1
ERZM Erzurum 69.46 305 P P 16 36 20.4 +5.0
VSU Vasula 69.49 327*de*P **P 16 36 12.8 -2.1**
VSU pmax pmax
comp=Z,1μm,1.0s
VSU MLR MLR
comp=Z,875μm,18.0s
VSU Vasula 69.49 327 *e*P **P 16 36 13.7 -1.2**
EJDE Erzurum, Palan 69.54 305 P **P 16 36 18.2 +2.2**
GURO Guroymak-BITLI 69.59 303 P P 16 36 21.2 +5.1
RBK Rabkut 69.63 278 P **P 16 36 15.8 -0.7**
SNR=41
RBK P **P 16 36 15.8 -0.7**
SNR=41
MEF Metsahovi 69.65 329 *e*P **P 16 36 15.3 -0.5**
VRTB Varto-Mus 69.73 304 P P 16 36 22.4 +5.5
WHFO Wadi Hawf 69.79 279 P **P 16 36 16.5 -0.9**
SNR=42
WHFO P **P 16 36 16.5 -0.9**
SNR=42
WHFO P **P 16 36 16.5 -0.9**
SNR=42
CAN Canberra 69.82 164 P **P 16 36 16.6 -0.5**
CAN pmax pmax
comp=Z,205nm,1.1s
CAN MLR MLR
comp=Z,106μm,22.0s
CAN Canberra 69.82 164 P **P 16 36 16.6 -0.5**
CAN Canberra 69.82 164 P **P 16 36 16.8 -0.3**
CNB Canberra Magne 69.90 164 P **P 16 36 17.4 -0.2**
ARPS Mount Arapiles 69.91 171 P **P 16 36 16.5 -1.0**
ANN Anapa 69.93 311 *e*P **P 16 36 18.9 +1.1**
ANN *e**PP **sP 16 36 25.3 +4.3**
ANN *i* S **S 16 45 33.8 +5.6**
ANN pmax pmax
comp=Z,607nm,1.2s
ANN pmax pmax
comp=N,171nm,1.5s
ANN pmax pmax
comp=E,144nm,1.3s
ANN pmax pmax
comp=E,967nm,2.9s
ANN pmax pmax
comp=Z,5μm,3.0s
ANN pmax pmax
comp=N,2μm,2.7s
ANN MLR MLR
comp=N,276μm,20.0s
ANN MLR MLR
comp=E,57μm,13.0s
ANN MLR MLR
comp=Z,352μm,20.0s
KTUT Trabzon 70.09 306 ⇑P **P 16 36 23.0 +4.1**
KTUT Trabzon 70.09 306 P **P 16 36 23.0 +4.1**
BAYT Aydıntepe-Bayb 70.09 306 P P 16 36 27.6 +8.4
MOR8 Moi Rana 70.13 337 *e*P **P 16 36 16.9 -1.8**
MOR8 *e*S **S 16 45 28.9 -1.0**
MOR8 *e*SS **SS 16 49 58.4 -0.3**
MOR8 IVMs_BB IVMs_BB 17 14 04.3
comp=Z,127μm,13.9s
TULEG Thule 70.31 5 *i* P **P 16 36 18.0 -1.7**
TULEG IVmB_BB 16 36 26.9
comp=Z,17μm,6.3s
BNGB Bingl 70.34 304 P P 16 36 25.7 +5.0
RAF Rauma 70.34 331 *e*P **P 16 36 18.6 -1.5**
SVAN Silvan-Diyarba 70.35 303 P P 16 36 25.7 +5.0
KONS Konsvik 70.36 338 *e*P **P 16 36 20.3 +0.2**
KONS *e*S **S 16 45 33.2 +0.7**
ABTO Aybut 70.46 278 P **P 16 36 20.7 -0.9**
SNR=68
ABTO P **P 16 36 20.7 -0.9**
SNR=68
ABTO P **P 16 36 20.7 -0.9**
SNR=68
STOK Stokkvaagen 70.50 338 *e*P **P 16 36 19.0 -1.9**
STOK *e*P **pP 16 36 21.0 -2.3**
STOK *e*S **S 16 45 36.4 +2.4**
MTSE Matsula 70.68 328 *e*P **P 16 36 21.2 -0.9**
ERZN Erzincan 70.74 305 P P 16 36 27.9 +4.8
ESPY Espiye-Giresun 70.82 307 P P 16 36 28.8 +5.4
MNK Minsk 70.88 323 *i* P **P 16 36 23.0 -0.4**
MNK *i* 16 38 59.2
MNK *i* PPP PPP 16 40 43.9
MNK *i* S **S 16 45 39.6 +0.7**
MNK *i* SS **SS 16 50 13.0 +2.4**
MNK pmax pmax
comp=Z,231nm,0.8s
MNK pmax pmax
comp=E,52nm,1.5s
MNK pmax pmax
comp=N,183nm,1.3s
MNK MLR MLR
comp=Z,119μm,14.0s
MNK MLR MLR
comp=N,141μm,17.0s
MNK MLR MLR
comp=E,76μm,15.0s
MNK Minsk 70.88 323 *i* P **P 16 36 23.1 -0.4**
comp=E,52nm,1.5s
MNK *i* P **P 16 36 23.1 -0.4**
comp=N,183nm,1.3s
MNK *i* P **P 16 36 23.1 -0.4**
comp=Z,231nm,0.8s,baz=60
MNK *i* PP **PP 16 38 59.2 -0.8**
MNK *i* PPP PPP 16 40 44.0
MNK *i* S **S 16 45 39.6 +0.7**
MNK *i* SS **SS 16 50 13.1 +2.4**
MNK *i* SSS SSS 16 53 33.0
MNK *i* LQ LQ 17 02 39.4
MNK *i* LR LR 17 07 11.4
MNK *i* LRM MLR 17 11 39.5
MNK *i* LRM MLR 17 11 43.4
MNK *i* LRM MLR 17 11 53.1
comp=E,76μm,15.5s
BRAT Ballarat 70.98 169 P **P 16 36 23.8 -0.3**
comp=E,143nm,1.0s
IDID Didziasalis 71.05 324 *e*P **P 16 36 24.5 0.0**
BBB Bella Bella 71.12 40 LR LR 17 06 23.8
comp=E,153μm,20.8s,baz=304,slow=35
DYBB Diyarbakir 71.19 303 P **P 16 36 25.3 -0.5**
MAZI Mazidag 71.20 303 P **P 16 36 25.2 -0.7**
ISAL Salakas 71.22 325 *e*P **P 16 36 26.3 +0.8**
NACGM Naroch 71.23 324 *e*P **P 16 36 24.2 -1.4**
TOO Toolangi 71.27 168 P **P 16 36 25.5 -0.5**
TOO pmax pmax
comp=Z,224nm,1.2s
TOO Toolangi 71.27 168 P **P 16 36 25.5 -0.5**
TOO Toolangi 71.27 168 P **P 16 36 25.4 -0.5**
IIGN Ignalina 71.28 324 *e*P **P 16 36 26.1 +0.2**
DBG Daneborg 71.51 352 *i* P **P 16 36 24.3 -2.7**
DBG IAmb IAmb 16 36 56.3
comp=Z,761nm,1.8s
SVRC Sivrice-ELAZID 71.58 304 P **P 16 36 27.9 -0.4**
GEXS Deakin Univers 71.68 169 P **P 16 36 29.7 +1.4**
YKA Yellowknife Ar 71.75 26 P **P 16 36 27.2 -1.4**
comp=Z,26nm,0.8s,baz=302,slow=5.7,SNR=53
YKA PKPPKP 17 04 17.0
comp=Z,1.5nm,1.0s,baz=128,slow=2.2,SNR=5.5
YKA LR LR 17 09 32.9
comp=Z,89μm,20.1s,baz=306,slow=37
YKA P4KPbc 17 12 59.2
comp=Z,0.1nm,0.3s,baz=295,slow=4.9,SNR=1.2
YKA Yellowknife Ar 71.75 26 *i* P **P 16 36 26.8 -1.7**
YKA pmax pmax
comp=Z,27nm,0.8s
YKA Yellowknife Ar 71.75 26 P **P 16 36 26.9 -1.7**
AFI Afiamalu 71.85 120 LR LR 17 04 02.5
comp=Z,57μm,19.7s,baz=314,slow=32
AFI Afiamalu 71.85 120 P **P 16 36 33.1 +3.2**
AFI pmax pmax
comp=Z,255nm,1.1s
AFI Afiamalu 71.85 120 P **P 16 36 31.9 +2.0**
ARPR Arapgir-MALATY 71.92 305 P P 16 36 35.6 +5.3
SLIT Slitere, Latvi 71.94 328 *e*P **P 16 36 29.1 -0.7**
SIM Simferopol' 71.96 312 *e*P **P 16 36 30.8 +0.6**
SIM *e**PP **sP 16 36 33.0 -0.4**
SIM *e*S **S 16 45 53.0 +1.2**
SIM *e*PS **SKSac 16 46 36.0 +1.3**
SIM pmax pmax
comp=Z,973nm,0.9s
NSS Namsos 71.96 337 *e*P **P 16 36 28.9 -1.0**
NSS *e*S **S 16 45 50.0 -1.1**
NSS *e*SS **SS 16 50 28.9 +2.2**
NSS IVMs_BB IVMs_BB 17 14 44.1
comp=Z,150μm,12.8s
RSDY Resadiye-TOKAT 72.00 307 P **P 16 36 31.5 +0.9**
AKASG Malin Array Be 72.05 319 P **P 16 36 29.0 -1.6**
comp=Z,74nm,0.5s,baz=53,slow=5.7,SNR=36
AKASG Malin Array Be 72.05 319 P **P 16 36 29.0 -1.6**
AKBB Malin Array Si 72.05 319*d* iP **P 16 36 28.2 -2.4**
AKBB pmax pmax
comp=Z,930nm,1.5s
AKBB MLR MLR
comp=Z,448μm,18.0s
AKBB Malin Array Si 72.05 319 P **P 16 36 28.8 -1.8**
PABE Paberze 72.30 325 *e*P **P 16 36 31.3 -0.7**
SOCY Socotra 72.44 273 P **P 16 36 31.5 -2.2**
SOCY Socotra 72.44 273 P **P 16 36 31.3 -2.3**
SNR=76
SVSK Karacayir 72.45 306 P P 16 36 38.1 +4.9
KVT Kavak 72.54 308 P **P 16 36 38.5 +4.7**
KVT Kavak 72.54 308 P **P 16 36 34.1 +0.3**
TOKT Tokat 72.57 307 P **P 16 36 38.4 +4.4**
JMIC Jan Mayen 72.61 347 LR LR 17 10 23.2
comp=Z,132μm,18.9s,baz=47,slow=38
JMIC Jan Mayen 72.61 347 *e*P **P 16 36 36.6 +3.0**
JMIC *e*S **S 16 45 59.3 +1.0**
JMIC IVMs_BB IVMs_BB 17 04 43.9
comp=Z,49μm,24.6s
DARE Darende-Malaty 72.75 305 P **P 16 36 35.0 -0.2**
DIKM Dikmen 72.80 309 ⇑P **P 16 36 39.4 +4.2**
DIKM Dikmen 72.80 309 P **P 16 36 39.5 +4.2**
PBUR Paburge 72.99 326 *e*P **P 16 36 35.2 -0.8**
TBLU Trondheim 73.37 336 *e*P **P 16 36 37.4 -0.8**
TBLU IVmB_BB 16 36 42.0
comp=Z,2μm,2.4s
TBLU *e*S **S 16 46 07.1 -0.1**
TBLU *e*SS **SS 16 50 48.1 -0.1**
TBLU IVMs_BB IVMs_BB 17 10 13.5
comp=Z,120μm,19.5s
BZK Bozkurt 73.47 309 ⇑P **P 16 36 43.1 +3.9**
BZK Bozkurt 73.47 309 P **P 16 36 43.2 +4.0**
SUW Suwalki 73.49 324 P **P 16 36 37.6 -1.5**
SUW pmax pmax
comp=Z,463nm,0.9s
SUW Suwalki 73.49 324 *e*P **P 16 36 38.5 -0.6**
SARI SarD1z-Kayseri 73.57 305 P **P 16 36 42.7 +2.6**
XMAS Kiritimati 73.62 98 P **P 16 36 40.9 +0.4**
YOZ Yozgat 73.72 307 P **P 16 36 44.7 +3.7**
BNN Bunyan 73.75 306 P **P 16 36 40.2 -0.9**
SORM Soroca 73.84 317 ⇑P **P 16 36 41.6 +0.3**
SORM Soroca 73.84 317 ⇑P **P 16 36 41.6 +0.3**
VIKJ Vikbolandet 73.89 330 *e*P **P 16 36 41.0 -0.3**
CORM Corum 73.92 308 P **P 16 36 46.6 +4.5**
HFS Hagfors 74.11 332 P **P 16 36 41.2 -1.4**
comp=Z,14nm,0.7s,baz=79,slow=3.2,SNR=24
HFS LR LR 17 11 18.1
comp=Z,295μm,21.6s,baz=48,slow=37
KIS Kishinev 74.16 316 *e*P **P 16 36 44.0 +0.8**
comp=Z,1μm,2.4s
KIS Kishinev 74.16 316 *i* PP PP 16 39 46.0 +18
KIS Kishinev 74.16 316 *e*PPP PPP 16 41 18.0
KIS *e*S **S 16 46 17.0 +0.3**
KIS Kishinev 74.16 316 *e*P **P 16 36 44.0 +0.8**
KIS *e* 16 37 00.0
KIS *e*PPP PPP 16 41 18.0
KIS *e*S **S 16 46 17.0 +0.3**
KIS *e*PS 16 46 52.0
KIS pmax pmax
comp=Z,1μm,2.4s
KIS MLR MLR
comp=Z,151μm,16.0s
MILM Milestii Mici 74.20 316 *e*P **P 16 36 40.7 -2.7**
comp=Z,5μm,4.8s
MILM Milestii Mici 74.20 316 *i* PP PP 16 39 48.0 +19
MILM Milestii Mici 74.20 316 *i* PPP PPP 16 41 18.0
MILM *i* S **SKiKP 16 46 13.0 +1.6**
comp=Z,29μm,13.0s
MILM *e*LQ LQ 16 55 33.0
comp=Z,404μm,23.0s
MILM LRM MLR 17 12 53.0
comp=Z,337μm,16.4s
MILM Milestii Mici 74.20 316 ⇑P **P 16 36 46.8 +3.4**
MILM Milestii Mici 74.20 316 *e*P **P 16 36 41.0 -2.4**
MILM *i* 16 36 46.0
MILM *i* PPP PPP 16 41 18.0
MILM *i* S **SKiKP 16 46 13.0 +1.6**
MILM pmax pmax
comp=N,29μm,13.0s
MILM pmax pmax
comp=E,16μm,10.5s
MILM MLR MLR
comp=Z,337μm,16.5s
KOZK Kozakli-Nevseh 74.24 307 P **P 16 36 48.3 +4.4**
NC303 NORSAR Array S 74.29 334 P **P 16 36 42.4 -1.3**
KURC Kurucasile-Bar 74.34 310 P **P 16 36 43.2 -1.1**
CANT Cankiri 74.38 308 P **P 16 36 49.1 +4.4**
KOZT Kozan 74.43 305 P P 16 36 50.2 +5.3
NB2 NORSAR Subarra 74.47 334 P **P 16 36 42.0 -2.8**
comp=Z,359nm,1.1s,baz=50,slow=6.2
NB2 NORSAR Subarra 74.47 334 P **P 16 36 42.0 -2.8**
baz=50,slow=6.2
NOA NORSAR Array B 74.47 334 P **P 16 36 43.5 -1.3**
comp=Z,36nm,0.8s,baz=49,slow=5.8,SNR=76
NOA LR LR 17 12 49.0
comp=Z,256μm,18.3s,baz=70,slow=38
NC204 NORSAR Array S 74.48 334 P **P 16 36 43.7 -1.2**
NC204 IAmb IAmb 16 36 51.1
comp=Z,412nm,1.1s
NC602 NORSAR Array S 74.55 334 *e*P **P 16 36 43.0 -2.2**
DOMB Dombas 74.58 335 *e*P **P 16 36 44.3 -1.1**
DOMB IVmB_BB 16 36 52.9
comp=Z,6μm,2.7s
DOMB *e*S **S 16 46 21.7 +0.6**
DOMB *e*SS **SS 16 51 07.6 +0.8**
DOMB IVMs_BB IVMs_BB 17 16 40.9
comp=Z,143μm,13.9s
KLNR Kaliningrad 74.60 326*ce*P **P 16 36 44.4 -1.2**
KLNR pmax pmax
comp=Z,780nm,2.1s
KLNR MLR MLR
comp=Z,278μm,20.0s
CEYT Ceyhan 74.71 304 P P 16 36 51.4 +4.8
TAHT Tahtakopru-Hat 74.72 303 P **P 16 36 51.2 +4.6**
MOL Molde 74.75 336 *e*P **P 16 36 45.8 -0.5**
MOL IVmBBB 16 36 53.8
comp=Z,6μm,2.7s
MOL *e*S **S 16 46 25.0 +2.3**
MOL *e*SS **SS 16 51 11.6 +2.4**
MOL IVMs_BB IVMs_BB 17 11 33.1
comp=Z,152μm,24.3s
LEOM Leova 74.77 316 ⇑P **P 16 36 50.8 +4.1**
LEOM Leova 74.77 316 ⇑P **P 16 36 50.8 +4.1**
IAS Iasi 74.79 317 ⇓P **P 16 36 50.5 +3.7**
IAS Iasi 74.79 317 P **P 16 36 50.1 +3.3**
IAS pmax pmax
comp=Z,2μm,1.3s
BR131 Keskin Array S 74.81 308 P **P 16 36 47.3 0.0**
BR131 pmax pmax
comp=Z,834nm,1.2s
BR131 Keskin Array S 74.81 308 P **P 16 36 47.3 0.0**
BR131 Keskin Array S 74.81 308 P **P 16 36 47.2 -0.1**
SNR=168
BR131 P **P 16 36 47.2 -0.1**
SNR=168
BRTR Keskin Array B 74.81 308 P **P 16 36 46.2 -1.1**
comp=Z,45nm,1.1s,baz=96,slow=5.0,SNR=58
BRTR LR LR 17 14 31.8
comp=Z,193μm,18.7s,baz=56,slow=40
BRTR Keskin Array B 74.81 308 P **P 16 36 45.8 -1.5**
BRTR Keskin Array B 74.81 308 *i* P **P 16 36 46.0 -1.3**
BRTR pmax pmax
comp=Z,46nm,1.1s
BRTR Keskin Array B 74.81 308 P **P 16 36 46.5 -0.8**

CMRD Camardi-Nigde 74.92 305 P P 16 36 53.1 +5.2
KAMT Kaman 74.94 307 P P 16 36 53.6 +5.6
VASR Vaslui 74.95 316 ⇓P **P** **16 36 51.4 +3.7**
GLAD Gladstone 75.05 167 P **P** **16 36 48.3 +0.2**
KARA Karaisali 75.07 305 P **P** **16 36 53.1 +4.4**
YAYX Yaylak 75.08 307 P **P** **16 36 50.7 +1.8**
GULA Gulagac 75.09 306 P **P** 16 36 54.1 +5.2
TLCR 75.10 314 ⇓P **P** **16 36 50.7 +2.1**
TLCR 75.10 314 ⇓P **P** **16 36 50.7 +2.1**
KRTS Karatas 75.19 304 P **P** **16 36 53.0 +3.7**
VLDR Vladesti 75.19 315 ⇑P **P** **16 36 51.1 +1.9**
AKN Aaknes 75.20 336 *e*P **P** **16 36 49.1 +0.2**
AKN IVmB_BB 16 36 57.0
comp=Z,7µm,2.8s
AKN *e*S **S** **16 46 27.7 -0.2**
AKN *e*SS **SS** **16 51 19.0 +2.8**
AKN IVMs_BB IVMs_BB 17 11 09.7
comp=Z,172µm,17.4s
SCO Scoresbysund 75.23 351 P **P** **16 36 47.8 -1.1**
SCO pmax pmax
comp=Z,212nm,1.3s
SCO Scoresbysund 75.23 351 IAMs_20 IAMs_20 17 11 34.2
comp=Z,183µm,21.0s
SCO Scoresbysund 75.23 351 *i* P P 16 36 54.6 +5.7
SCO IVmB_BB 16 36 56.6
comp=Z,11µm,6.8s
BIR Birlad 75.24 316 ⇓P **P** **16 36 53.0 +3.5**
BIR Birlad 75.24 316 ⇓P **P** **16 36 53.0 +3.5**
SERE Sereflikochisa 75.25 307 P **P** **16 36 52.9 +3.1**
JURR Jurilovca 75.28 314 ⇑P **P** **16 36 52.8 +3.2**
ANTO Ankara 75.30 308 P **P** **16 36 54.3 +4.3**
ANTO Ankara 75.30 308 IAMs_20 IAMs_20 17 08 25.4
comp=Z,157µm,22.0s
VARL Varlezi 75.30 315 ⇓P **P** **16 36 52.5 +2.7**
GIUM Giurgiulesti 75.31 315 ⇑P **P** **16 36 52.8 +3.0**
LOD Lodumlu 75.31 308 P **P** **16 36 54.2 +4.1**
AFSR Afar-Bala (An 75.33 308 P **P** **16 36 49.1 -1.1**
SCTR Scanteiesti 75.33 315 ⇓P **P** **16 36 50.0 0.0**
CORO Coronation Par 75.34 167 P **P** **16 36 50.5 +0.7**
TATR Tatarca 75.34 315 ⇓P **P** **16 36 50.9 +0.9**
LVV L'vov 75.35 320 *e*P **P** **16 36 49.0 -1.1**
LVV *e* 16 37 02.0
LVV *e*S **S** **16 46 25.8 -4.2**
LVV *e* 16 47 06.8
LVV MLR MLR
comp=N,171µm,16.0s
LVV MLR MLR
comp=E,269µm,16.0s
LVV MLR MLR
comp=Z,270µm,16.0s
OSL Oslo 75.38 333 *e*P **P** **16 36 48.6 -1.3**
OSL IVmB_BB 16 36 54.6
comp=Z,3µm,2.4s
OSL *e*S **S** **16 46 29.8 0.0**
OSL *e*SS **SS** **16 51 19.5 +0.7**
OSL IVMs_BB IVMs_BB 17 13 17.1
comp=Z,139µm,16.5s
GHRR 75.48 316 ⇓P **P** **16 36 53.0 +2.2**
TPGR Topolog 75.51 314 ⇑P **P** **16 36 50.1 -1.0**
CFR Carcaliu 75.51 315 ⇑P **P** **16 36 50.5 -0.5**
CFR Carcaliu 75.51 315 ⇑P **P** **16 36 50.5 -0.5**
SLCR Slobozia Conac 75.51 315 ⇓P **P** **16 36 53.2 +2.2**
SCHL Schela 75.53 315 ⇓P **P** **16 36 54.1 +3.1**
IZVR Izvoarele 75.54 315 ⇑P **P** **16 36 53.7 +2.5**
KULU Kulu 75.58 307 P **P** **16 36 56.3 +4.6**
MERS Mersin 75.63 305 P **P** **16 36 50.8 -1.2**
TESR Tescani 75.68 316 ⇓P **P** **16 36 50.3 -1.7**
TIRR Tirgusor 75.72 314 ⇓P **P** **16 36 55.4 +3.1**
TIRR Tirgusor 75.72 314 ⇓P **P** **16 36 55.4 +3.1**
PANC Panciu 75.73 316 ⇑P **P** **16 36 55.6 +3.3**
YUVA Yuva-Kibriscik 75.77 309 P **P** **16 36 57.2 +4.5**
SKAR Skarslia 75.77 335 *e*P **P** **16 36 52.3 0.0**
SKAR IVmB_BB 16 36 57.4
comp=Z,2µm,2.0s
SKAR *e*S **S** **16 46 33.9 -0.5**
SKAR *e*SS **SS** **16 51 26.1 +1.2**
SKAR IVMs_BB IVMs_BB 17 13 06.8
comp=Z,136µm,17.6s
EFOR EFORIE 75.79 313 ⇓P **P** **16 36 55.5 +2.9**
ODBI Odobesti 75.84 315 ⇑P **P** **16 36 55.7 +2.8**
MFTR Murfatlar 75.87 314 ⇓P **P** **16 36 55.8 +2.7**
A04D Lummi Island 75.87 41 P **P** **16 36 52.0 -1.0**
baz=304
A04D S **S** **16 46 35.4 -0.2**
baz=304
CHBY Cihanbeyli 75.89 307 P **P** **16 36 56.0 +2.5**
HARR Harsova 75.89 314 ⇓P **P** **16 36 53.4 +0.2**
HARR Harsova 75.89 314 ⇓P **P** **16 36 53.4 +0.2**
TLBR Topalu 75.90 314 ⇑P **P** **16 36 56.5 +3.3**
BUR08 Bucovina Ar. S 75.90 318 P **P** **16 36 52.6 -0.7**
BURAR Bucovina Array 75.91 318 ⇑P **P** **16 36 52.2 -1.2**
BURAR Bucovina Array 75.91 318 ⇑P **P** **16 36 52.2 -1.2**
BURAR Bucovina Array 75.91 318 P **P** **16 36 52.0 -1.5**
BEL Belsk 75.91 323 P **P** **16 36 53.2 0.0**
BEL pmax pmax
comp=Z,1µm,1.4s
HWQ Hawqa 75.92 302 *e*P **P** **16 36 51.2 -2.6**
NLWA Neilton Lookou 75.95 42 IAMs_20 IAMs_20 17 11 55.6
comp=Z,123µm,20.0s
VRI Vrincioaia 75.98 316 ⇑P **P** **16 36 53.2 -0.6**
VRI Vrincioaia 75.98 316 P **P** **16 36 53.0 -0.8**
VRI Vrincioaia 75.98 316 ⇑P **P** **16 36 53.2 -0.6**
KONO Kongsberg 75.99 333 *de*P **P** **16 36 53.5 0.0**
KONO pmax pmax
comp=Z,232nm,2.1s
KONO MLR MLR
comp=Z,305µm,21.0s
KONO Kongsberg 75.99 333 *e*P **P** **16 36 50.7 -2.8**
NUUG Nuugaatsiaq 75.99 1 *i* P **P** **16 36 56.6 +3.3**
NUUG IVmB_BB 16 37 04.1
comp=Z,7µm,13.6s
CVDA Cernavoda 76.02 314 ⇑P **P** **16 36 58.1 +4.2**
PLOR Plostina 76.04 316 ⇑P **P** **16 36 53.1 -1.0**
PLOR Plostina 76.04 316 ⇑P **P** **16 36 53.1 -1.0**
MDUB Mudurnu 76.04 309 P **P** **16 36 53.9 -0.4**
GRER 76.10 315 ⇑P **P** **16 36 58.0 +3.6**
BISRR Bisoca 76.17 315 ⇓P **P** **16 36 55.1 +0.2**
KWP Kalwaria Pacla 76.17 320 P **P** **16 36 53.9 -0.9**
KWP pmax pmax
comp=Z,1µm,1.4s
HYA Hoyanger 76.19 336 *e*P **P** **16 36 54.1 -0.5**
HYA *e*S **S** **16 46 41.0 +2.3**
FOO Floro 76.27 336 *e*P **P** **16 36 54.3 -0.7**
FOO IVmB_BB 16 37 02.3
comp=Z,6µm,3.1s
FOO *e*S **S** **16 46 39.8 +0.2**
FOO *e*SS **SS** **16 51 34.7 +2.4**
FOO IVMs_BB IVMs_BB 17 14 37.8
comp=Z,149µm,18.9s
PSN Preselentsi 76.28 313 P P 16 37 02.3 +6.9
ICOR Ion Corvin 76.28 314 ⇓P **P** **16 36 55.6 +0.2**
ASF Jabal al Asfar 76.28 299 P **P** **16 36 55.5 -0.3**
comp=Z,104nm,1.1s,baz=5.0,slow=5.4,SNR=4.2
ASF LR LR 17 13 18.6
comp=Z,114µm,20.8s,baz=39,slow=38
AMRR Amara 76.30 314 ⇓P **P** **16 36 58.3 +2.8**
AMRR Amara 76.30 314 ⇓P **P** **16 36 58.3 +2.8**
SILI Silifke-Mersin 76.30 304 P **P** **16 36 59.3 +3.6**
COVR Voineasa-Covas 76.30 316 ⇓P **P** **16 36 58.7 +3.1**
MOO Moorlands 76.31 168 P **P** **16 36 54.9 -0.4**
D03D Eldon 76.31 42 P **P** **16 36 54.9 -0.7**
baz=304,SNR=21
D03D S **S** **16 46 46.2 +5.5**
baz=304
BHL Bhannes 76.32 302 *e*P **P** **16 36 55.0 -1.0**
DEL Delary 76.34 329 *e*P **P** **16 36 53.7 -1.8**
PGOR Pogoanele 76.35 315 ⇓P P 16 37 01.2 +5.4
KRMN Karaman 76.35 305 P **P** **16 36 59.5 +3.4**
SVRH Sivrihisar-ESK 76.36 308 P **P** **16 36 55.5 -0.6**
KEBE Keben-Mersin 76.41 305 P **P** **16 37 00.9 +4.5**
OZUR 76.41 316 ⇑P **P** **16 36 55.8 -0.4**
KIZT Kizilcal 76.41 307 P **P** **16 37 00.2 +3.7**
LADK Ladik-KONYA 76.44 307 P **P** **16 36 54.8 -1.8**
B05A Bryant 76.46 41 P **P** **16 36 55.7 -0.7**
baz=304,SNR=17
B05A S **S** **16 46 47.0 +4.8**
baz=304
SAUV Serdivan-Sakar 76.47 310 P **P** **16 37 00.2 +3.6**
NEHR Nehoiu 76.48 315 ⇑P **P** **16 37 00.3 +3.7**
ISR Istrita 76.50 315 ⇓P **P** **16 36 56.8 0.0**
ISR Istrita 76.50 315 ⇓P **P** **16 36 56.8 0.0**
GULT Gulveren 76.51 309 P **P** **16 37 00.9 +4.0**

IKL Isikli 76.53 304 P **P** **16 37 00.2 +3.2**
SHBL Chebaa 76.53 301 *e*P **P** **16 36 55.6 -1.7**
EREN Erenkoy 76.55 304 P P 16 37 03.1 +6.0
KONT Konya--Tatoy 76.57 306 P **P** **16 36 58.9 +1.6**
TEVE Tevekalti-Mers 76.60 305 P **P** **16 37 02.1 +4.6**
MLR Muntele Rosu 76.65 316 ⇓P **P** **16 36 57.1 -0.6**
MLR Muntele Rosu 76.65 316 P **P** **16 36 57.0 -0.6**
comp=Z,31nm,1.1s,baz=24,slow=4.3,SNR=14
MLR LR LR 17 13 38.1
comp=Z,210µm,20.1s,baz=52,slow=38
AKKU Akkuyu-Mersin 76.67 304 P **P** **16 37 01.4 +3.6**
LEHL Lehliu 76.68 314 ⇓P **P** **16 37 01.6 +3.9**
ARCR ARCALIA 76.69 318 ⇑P **P** **16 36 57.4 -0.4**
D04E Lakebay 76.69 42 P **P** **16 36 56.9 -0.8**
baz=304
D04E S **S** **16 46 47.3 +2.5**
baz=304
SILT Sile 76.70 310 P **P** **16 37 01.8 +4.0**
CIFT Cifteler, Eski 76.71 308 P **P** **16 37 01.3 +3.2**
DOPR Dopca 76.71 316 ⇑P **P** **16 36 57.5 -0.4**
BSD Bornholm Skovb 76.74 328 P **P** **16 36 56.1 -1.7**
BSD pmax pmax
comp=Z,351nm,1.0s
BSD Bornholm Skovb 76.74 328 *e*P **P** **16 36 56.4 -1.4**
BSD Bornholm Skovb 76.74 328 *i* P **P** **16 37 00.6 +2.7**
BSD IVmB_BB 16 37 04.3
comp=Z,6µm,6.9s
SUE Sulen 76.75 336 *e*P **P** **16 36 57.1 -0.7**
SUE IVmB_BB 16 37 02.7
comp=Z,3µm,1.9s
SUE *e*S **S** **16 46 45.7 +0.8**
SUE *e*SS **SS** **16 51 41.7 +2.1**
SUE IVMs_BB IVMs_BB 17 12 32.3
comp=Z,143µm,17.1s
TAU Tasmania Unive 76.78 168 P **P** **16 36 58.1 +0.1**
TAU pmax pmax
comp=Z,275nm,1.1s
TAU Tasmania Unive 76.78 168 IAMs_20 IAMs_20 17 10 37.0
comp=Z,143µm,21.0s
TAU Tasmania Unive 76.78 168 P **P** **16 36 58.4 +0.4**
BERE Bereket-Mersin 76.80 305 P **P** **16 37 02.7 +4.0**
GKP Gorka Klasztor 76.81 326 *e*P **P** **16 36 57.9 -0.4**
BMR Baia Mare 76.84 318 ⇓P **P** **16 37 01.3 +2.7**
BMR Baia Mare 76.84 318 P **P** **16 36 58.4 -0.2**
BMR pmax pmax
comp=Z,566nm,1.2s
HRT Hereke 76.85 310 P **P** **16 36 57.2 -1.6**
TGMR Targu Mures 76.90 317 ⇓P P 16 37 04.5 +5.6
SULR 76.91 315 ⇑P **P** **16 37 02.6 +3.7**
ODD1 Odda 76.91 335 *e*P **P** **16 36 58.3 -0.4**
ODD1 *e*S **S** **16 46 46.9 0.0**
ODD1 *e*SS **SS** **16 51 43.4 +1.2**
ODD1 IVMs_BB IVMs_BB 17 14 02.0
comp=Z,157µm,18.0s
PLAR PLOIESTI 76.92 315 ⇓P **P** **16 37 00.3 +1.3**
MMAI Mount Meron Ar 76.95 301 P **P** **16 36 59.1 -0.4**
comp=Z,13nm,0.8s,baz=21,slow=40,SNR=7.8
MMAI LR LR 17 14 43.0
comp=Z,148µm,20.2s,baz=200,slow=39
UZH Uzhgorod 76.96 320 *e*P **P** **16 36 57.7 -1.5**
UZH *e* 16 37 09.1
UZH *e* 16 39 46.9
UZH *e*S **S** **16 46 42.7 -5.0**
UZH *e*PS 16 47 30.5
UZH MLR MLR
comp=N,75µm,16.0s
UZH MLR MLR
comp=E,94µm,16.0s
UZH MLR MLR
comp=Z,36µm,16.0s
TEKE Tekeli-Mersin 76.98 305 P **P** **16 36 57.7 -1.9**
HDMB Hadim 76.99 306 P P 16 37 05.0 +5.1
ADVT Abdulvahap 77.01 310 P **P** **16 36 58.4 -1.3**
ASK Askoy 77.02 336 *e*P **P** **16 36 58.3 -1.0**
ASK *e*S **S** **16 46 51.1 +3.3**
ASK *e*SS **SS** **16 51 47.4 +3.8**
PRD Provadia 77.02 313 P P 16 37 06.7 +7.1
KLYT Kilyos 77.03 311 P P 16 37 19.6 +20
BER Bergen 77.04 335 P **P** **16 36 59.3 -0.1**
BER pmax pmax
comp=Z,201nm,1.0s
BER Bergen 77.04 335 *e*P **P** **16 36 58.6 -0.8**
BER IVmB_BB 16 37 07.1
comp=Z,5µm,3.1s
BER *e*S **S** **16 46 47.8 -0.3**
BER *e*SS **SS** **16 51 47.9 +4.0**
BER IVMs_BB IVMs_BB 17 16 50.9
comp=Z,137µm,15.2s
ISK Istanbul-Kandi 77.12 311 P **P** **16 37 04.0 +3.8**
ISK Istanbul-Kandi 77.12 311 P **P** **16 37 03.0 +2.8**
KAVV Kandilli-Istan 77.12 311 P **P** **16 37 04.1 +3.9**
LFK Lefkose 77.13 304 P **P** **16 36 59.0 -1.5**
E04D Cinebar 77.16 43 P **P** **16 36 59.7 -0.6**
baz=304,SNR=8.7
E04D S **S** **16 46 50.9 +1.1**
baz=304
F04D Rainier, OR 77.17 43 P **P** **16 37 01.1 +0.7**
baz=304
F04D S **S** **16 46 50.0 0.0**
baz=304
YLV Yalova 77.18 310 P **P** **16 37 04.5 +3.8**
MDB Medias 77.20 317 ⇑P **P** **16 37 03.9 +3.3**
MDB Medias 77.20 317 ⇑P **P** **16 37 03.9 +3.3**
SEYD Seydisehir-KON 77.20 306 P **P** **16 37 00.2 -0.8**
VOIR 77.20 316 ⇑P **P** **16 37 03.5 +2.7**
VOIR 77.20 316 ⇑P **P** **16 37 03.5 +2.7**
MMLI Mount Malkishu 77.23 300 P **P** **16 37 04.3 +3.2**
BGKT Bogazkoy 77.24 311 P P 16 37 06.2 +5.3
CRVS Cervenica-Dubn 77.26 320 *e*P **P** **16 36 59.9 -1.0**
CRVS pmax pmax
comp=Z,971nm,1.4s
CRVS Cervenica-Dubn 77.26 320 *e*P **P** **16 36 59.9 -1.0**
CRVS *e*S **S** **16 46 48.6 -2.4**
TRML Termal-Yalova 77.29 310 P **P** **16 37 01.6 +0.4**
MTUR Matau 77.31 316 ⇑P **P** **16 37 02.9 +1.5**
MTUR Matau 77.31 316 ⇑P **P** **16 37 02.9 +1.5**
BLS5 Blasjo 77.31 334 *e*P **P** **16 37 00.6 -0.5**
BLS5 IVmB_BB 16 37 08.3
comp=Z,7µm,4.1s
BLS5 IVMs_BB IVMs_BB 17 14 15.0
comp=Z,132µm,17.4s
OVD Ostervraa, Den 77.32 331 *i* P **P** **16 37 02.0 +1.0**
OVD IVmB_BB 16 37 17.3
comp=Z,7µm,4.7s
C06D Leavenworth 77.32 41 P **P** **16 37 01.8 +0.5**
baz=305
C06D S **S** **16 46 51.8 +0.1**
baz=305
CBBR Cluj-Babes-Bol 77.32 318 ⇓P **P** **16 37 04.0 +2.6**
CJR Cluj-Napoca 77.33 318 ⇑P **P** **16 37 03.3 +1.9**
CJR Cluj-Napoca 77.33 318 ⇑P **P** **16 37 03.3 +1.9**
HOMB Homborsund 77.34 333 *e*P **P** **16 37 00.1 -1.1**
HOMB IVmB_BB 16 37 08.0
comp=Z,5µm,4.0s
HOMB *e*S **S** **16 46 53.2 +1.8**
HOMB *e*SS **SS** **16 51 51.6 +3.0**
HOMB IVMs_BB IVMs_BB 17 14 50.5
comp=Z,145µm,13.4s
RAZG Razgrad 77.36 314 ⇑P **P** **16 37 04.7 +3.1**
OJC Ojcow 77.37 322 P **P** **16 37 00.4 -1.1**
OJC pmax pmax
comp=Z,2µm,1.4s
OJC MLR MLR
comp=Z,579µm,18.0s
OJC Ojcow 77.37 322 P **P** **16 37 00.4 -1.1**
CTKS Kestanelik-??a 77.38 311 P **P** **16 37 03.1 +1.4**
CSS Mathiatis 77.43 303 P **P** **16 37 04.0 +1.8**
CSS Mathiatis 77.43 303 P **P** **16 37 01.5 -0.7**
CSS IAmb IAmb 16 37 13.7
comp=Z,295nm,0.8s
CSS IAMs_20 IAMs_20 17 10 46.3
comp=Z,178µm,22.0s
UJAP Al Uja 77.44 300 P **P** **16 37 06.5 +4.3**
MESR Meseseni 77.45 318 ⇑P **P** **16 37 03.0 +1.0**
COP Copenhagen 77.47 329 *i* P **P** **16 37 02.4 +0.5**
COP IVmB_BB 16 37 08.9
comp=Z,50µm,2.8s
SHUT Suhut-Afyon 77.47 308 P **P** **16 37 01.4 -1.0**
ARR Arges 77.49 316 ⇑P **P** **16 37 06.2 +3.8**
G03D McMinnville, O 77.50 44 P **P** **16 37 02.9 +0.6**
baz=304
G03D S **S** **16 46 57.0 +3.3**
baz=304

SLVT Silivri 77.57 311 P **P** **16 37 06.7 +3.9**
STFAR Stefanesti-Arg 77.58 316 ⇑P **P** **16 37 04.9 +2.1**
NIE Niedzica 77.58 321 P **P** **16 37 02.7 0.0**
NIE pmax pmax
comp=Z,322nm,1.4s
MDNY Mudanya-Bursa 77.60 310 P **P** **16 37 03.4 +0.5**
GHAJ Ghor Haditha 77.70 299 P **P** **16 37 03.5 -0.1**
GHAJ IAmb IAmb 16 37 19.2
comp=Z,516nm,1.0s
GHAJ IAMs_20 IAMs_20 17 12 38.2
comp=Z,126µm,22.0s
TVSB Tavsanli 77.72 309 P **P** **16 37 02.1 -1.7**
SUTC Sutluce-Ispart 77.73 307 P **P** **16 37 05.9 +1.9**
HUMR Humele 77.75 315 ⇑P **P** **16 37 04.2 +0.5**
I02E Swisshome, OR 77.77 45 P **P** **16 37 03.6 -0.3**
baz=304
I02E S **S** **16 46 58.8 +2.2**
baz=304
DRGR 77.78 318 ⇓P **P** **16 37 04.0 0.0**
DRGR 77.78 318 ⇓P **P** **16 37 04.0 0.0**
PHSR Pinarhisar 77.79 312 P **P** **16 37 08.7 +4.7**
LLD Lille Linde 77.79 329 *i* P **P** **16 37 05.7 +2.0**
LLD IAmb IAmb 16 37 15.0
comp=Z,468nm,1.7s
SNART Snartemo 77.79 333 *e*P **P** **16 37 01.6 -2.1**
SNART *e*S **S** **16 46 56.0 -0.4**
SNART *e*SS **SS** **16 51 56.6 +1.3**
RGN Rugen 77.82 328 *e*P **P** **16 37 04.1 +0.3**
comp=Z,104nm,1.2s,baz=48,slow=5.2
COPA Copaceanca 77.83 315 ⇑P **P** **16 37 06.0 +1.9**
COR Corvallis 77.83 45 P **P** **16 37 08.3 +4.2**
COR pmax pmax
comp=Z,450nm,2.3s
ISP Isparta 77.88 307 P **P** **16 37 03.1 -1.6**
ISP Isparta 77.88 307 P **P** **16 37 08.4 +3.7**
ISP pmax pmax
comp=Z,242nm,1.4s
ISP Isparta 77.88 307 IAMs_20 IAMs_20 17 12 25.5
comp=Z,152µm,22.0s
SZH Strazhica 77.88 314 P P 16 37 11.4 +6.9
LTVH Ltavrtes, Hu 77.90 319 ⇑P **P** **16 37 09.1 +4.7**
LTVH Ltavrtes, Hu 77.90 319 P **P** **16 37 04.9 +0.4**
KMY Karmoy 77.90 335 *e*P **P** **16 37 02.3 -2.0**
KMY *e*S **S** **16 46 57.1 -0.4**
GOET G??ttrup 77.91 332 *i* P **P** **16 37 06.8 +2.5**
GOET IAmb IAmb 16 37 11.2
comp=Z,624nm,1.0s
JMB Yambol 77.92 313 P P 16 37 11.9 +7.2
B08A Colville Reser 77.92 40 P **P** **16 37 03.9 -0.7**
B08A IAmb IAmb 16 37 42.5
comp=Z,377nm,1.4s
LOT Lotru 77.94 316 ⇑P **P** **16 37 06.0 +1.0**
LOT Lotru 77.94 316 P **P** **16 37 09.4 +4.5**
GEDZ Gediz 77.97 309 P **P** **16 37 08.2 +3.1**
BCK Bucak 78.02 307 P P 16 37 11.5 +6.0
KECS Kecovo 78.03 320 *e*P **P** **16 37 07.2 +2.0**
KECS pmax pmax
comp=Z,314nm,1.3s
KECS Kecovo 78.03 320 *e*P **P** **16 37 07.2 +2.0**
BORR Bors 78.13 319 ⇑P **P** **16 37 10.2 +4.4**
BASM Basmaki-Afyon 78.14 307 P **P** **16 37 09.9 +3.8**
EDRB Edirne 78.16 312 P **P** **16 37 04.7 -1.3**
EDRB Edirne 78.16 312 P **P** **16 37 03.6 -2.4**
F05D White Salmon 78.17 43 P **P** **16 37 06.4 +0.3**
baz=305
F05D S **S** **16 46 59.7 -1.3**
baz=305
LANS Liptovska Anna 78.17 321 *e*P **P** **16 37 06.1 0.0**
LANS pmax pmax
comp=Z,399nm,1.5s
LANS Liptovska Anna 78.17 321 *e*P **P** **16 37 06.1 0.0**
DEV Deva 78.20 317 ⇑P **P** **16 37 09.1 +2.9**
DEV Deva 78.20 317 ⇑P **P** **16 37 09.1 +2.9**
H04D Lebanon 78.20 44 P **P** **16 37 06.0 -0.2**
baz=304
H04D S **S** **16 47 04.0 +2.7**
baz=304
SIMA Simav-Kutahya 78.22 309 P **P** **16 37 08.9 +2.3**
ICESG Greenland Ices 78.25 356 *i* P **P** **16 37 04.3 -2.1**
ICESG IVmB_BB 16 37 24.8
comp=Z,12µm,3.4s
J01E Myrtle Point 78.25 46 IAMs_20 IAMs_20 17 07 26.7
comp=Z,107µm,22.0s
J01E Myrtle Point 78.25 46 P **P** **16 37 06.5 0.0**
baz=304
J01E S **S** **16 47 04.3 +2.5**
baz=304
EDC Edincik 78.27 310 P **P** **16 37 09.9 +3.2**
PVL Pavlikeni 78.27 314 P P 16 37 14.2 +7.6
ANTB Antalya 78.27 306 P P 16 37 12.1 +5.4
RAC Raciborz 78.27 323 *e*P **P** **16 37 05.6 -0.9**
RAC *e*S **S** **16 47 01.0 -0.8**
RAC LMZ LR 17 15 31.8
comp=Z,434nm,18.9s
RAC Raciborz 78.27 323 *e*P **P** **16 37 05.6 -0.9**
RAC *e*S **S** **16 47 01.0 -0.8**
RAC MLR MLR
comp=Z,434µm,18.9s
I03D Drain, OR 78.30 45 P **P** **16 37 06.5 -0.3**
baz=304,SNR=9.7
I03D S **S** **16 47 02.5 +0.2**
baz=304
MUD Monsted U'grnd 78.32 331 P **P** **16 37 05.9 -0.7**
MUD pmax pmax
comp=Z,345nm,1.3s
MUD Monsted U'grnd 78.32 331 *i* P **P** **16 37 05.6 -1.0**
MUD IVmB_BB 16 37 25.4
comp=Z,5µm,4.8s
VLAD Vladila 78.39 315 ⇑P **P** **16 37 10.0 +2.7**
GZKV Gazikoy-Tekird 78.39 311 P **P** **16 37 11.7 +4.4**
MAR3 Marsite Statio 78.42 311 P **P** **16 37 11.1 +3.6**
OKC Ostrava-Krasne 78.45 322 *e*S **S** **16 47 07.7 +4.0**
OKC AMS AMS 17 16 20.0
comp=Z,669µm,15.6s
MAR6 Marsite Statio 78.46 311 P P 16 37 13.0 +5.3
SOEG Soedalen 78.50 353 *i* P **P** **16 37 06.7 -0.7**
SOEG IVmB_BB 16 37 14.7
comp=Z,9µm,7.2s
RKY Sarkoy-Tekirda 78.52 311 P **P** **16 37 12.1 +4.0**
RAO Raoul Island 78.54 136 LR LR 17 07 41.5
comp=Z,19µm,20.7s,baz=312,slow=33
GZR Gura Zlata 78.55 317 ⇑P **P** **16 37 07.5 -0.8**
GZR Gura Zlata 78.55 317 ⇑P **P** **16 37 07.5 -0.8**
KRBG Karabiga-Canak 78.61 311 P **P** **16 37 11.1 +2.6**
G05D Wamic, OR 78.62 43 P **P** **16 37 07.9 -0.7**
baz=305,SNR=11
G05D S **S** **16 47 07.3 +1.5**
baz=305
K02D Willamette Mer 78.67 46 P **P** **16 37 08.5 -0.5**
baz=304,SNR=6.0
K02D S **S** **16 47 10.7 +4.1**
baz=304
SIRR Siria 78.68 318 ⇓P **P** **16 37 07.8 -1.1**
PSZ Piszkesteto 78.68 320 ⇑P **P** **16 37 07.4 -1.5**
PSZ Piszkesteto 78.68 320 ⇑P **P** **16 37 07.4 -1.5**
PSZ Piszkesteto 78.68 320 P **P** **16 37 08.2 -0.7**
SRE Strehaia 78.72 316 ⇑P **P** **16 37 10.5 +1.4**
SRE Strehaia 78.72 316 ⇑P **P** **16 37 10.5 +1.4**
KULA Kula-Manisa 78.74 309 P **P** **16 37 07.9 -1.6**
KULA Kula-Manisa 78.74 309 P **P** **16 37 08.7 -0.8**
KSP Ksiaz 78.77 324 P **P** **16 37 08.1 -1.1**
KSP pmax pmax
comp=Z,508nm,1.4s
MORC Moravsky Berou 78.80 323 ⇑P **P** **16 37 08.5 -1.0**
MORC Moravsky Berou 78.80 323 ⇑P **P** **16 37 08.5 -1.0**
MORC Moravsky Berou 78.80 323 P **P** **16 37 09.4 -0.1**
MORC IAmb IAmb 16 37 22.4
comp=Z,509nm,1.2s
MORC Moravsky Berou 78.80 323 ⇓*i*P **P** **16 37 07.9 -1.6**
MORC *e*pP **sP** **16 37 13.4 +0.7**
MORC *e*PP PP 16 40 15.9 +8.7
MORC *e*S **S** **16 47 14.0 +6.4**
I04A Tendick Farm, 78.81 45 P **P** **16 37 09.9 +0.3**
baz=305
I04A S **S** **16 47 08.6 +0.7**
baz=305
BSZH Besenyszg 78.85 319 ⇓P **P** **16 37 11.2 +1.5**
BSZH Besenyszg 78.85 319 P **P** **16 37 09.3 -0.4**
ELL Elmali 78.86 306 P **P** **16 37 13.5 +3.3**
ELL Elmali 78.86 306 P **P** **16 37 08.8 -1.4**
VYHS Vyhne 78.90 321 *e*P **P** **16 37 09.5 -0.6**
VYHS pmax pmax
comp=Z,435nm,1.5s
VYHS Vyhne 78.90 321 *e*P **P** **16 37 09.5 -0.6**

RUE Ruedersdorf 78.94 326 *e*P **P 16 37 09.6 -0.5**
RUE Ruedersdorf 78.94 326 *e*P **P 16 37 09.1 -1.0**
comp=Z,155nm,1.3s,baz=48,slow=5.2
ERIK Erikli-Kesan 78.95 311 P **P 16 37 13.9 +3.5**
LPK Lapseki 78.96 311 P **P 16 37 14.7 +4.2**
OSTC Ostas 78.98 324 *e*P **P 16 37 09.3 -1.2**
OSTC AMS AMS 17 16 10.0
comp=Z,564µm,17.7s
EIL Elat 78.99 298 P **P 16 37 09.9 -1.0**
comp=Z,66nm,1.2s,baz=104,slow=4.9,SNR=17
EIL LR LR 17 14 15.2
comp=Z,132µm,21.5s,baz=42,slow=37
EIL Elat 78.99 298 P **P 16 37 09.7 -1.2**
KRLC Kraliky 79.00 323 *e*P **P 16 37 09.3 -1.3**
KRLC *e* 16 37 14.8
KRLC *e*S **S 16 47 15.3 +5.6**
KRLC MLR MLR
comp=Z,568µm,18.2s
KRLC Kraliky 79.00 323 *e*P **P 16 37 09.3 -1.3**
KRLC *ex* x 16 37 14.8
KRLC *e*S **S 16 47 15.3 +5.6**
KRLC AMS AMS 17 16 20.0
comp=Z,568µm,18.2s
BAIL Bailesti 79.01 315 ⇑P **P 16 37 12.8 +2.1**
L02E Cave Junction 79.01 47 IAMs_20 IAMs_20 17 07 39.0
comp=Z,112µm,21.0s
L02E Cave Junction 79.01 47 P **P 16 37 11.0 +0.2**
baz=304
L02E S **S 16 47 12.6 +2.5**
baz=304
RMGR Halanga-Turnu 79.02 316 ⇑P **P 16 37 12.2 +1.5**
CHVC Chvalec 79.04 324 *e*P **P 16 37 09.7 -1.1**
CHVC *e*pP **sP 16 37 15.2 +1.2**
CHVC AMS AMS 17 16 20.0
comp=Z,531µm,17.9s
HERR Herculane 79.05 317 ⇓P **P 16 37 08.4 -2.5**
DPC Dobruska-Polom 79.06 324 *e*P **P 16 37 09.8 -1.1**
DPC *e* 16 37 15.4
DPC *e*S **S 16 47 17.0 +6.6**
DPC MLR MLR
comp=Z,500µm,16.8s
DPC Dobruska-Polom 79.06 324 *e*P **P 16 37 09.8 -1.1**
DPC *e*pP **sP 16 37 15.4 +1.3**
DPC *e*S **S 16 47 17.0 +6.6**
DPC AMS AMS 17 16 10.0
comp=Z,500µm,16.8s
KOLL Kolacno 79.08 321 *e*P **P 16 37 10.4 -0.6**
BZS Buzias 79.08 318 ⇑P **P 16 37 09.6 -1.5**
BZS Buzias 79.08 318 ⇑P **P 16 37 09.6 -1.5**
KDZ Kurdzhali 79.09 313 P P 16 37 18.9 +7.7
PUNG Punghina 79.10 316 ⇑P **P 16 37 11.5 +0.3**
UPC Upice 79.11 324 *e*P **P 16 37 10.0 -1.2**
UPC *e*S **S 16 47 18.2 +7.3**
UPC MLR MLR
comp=Z,601µm,17.4s
UPC Upice 79.11 324 *e*P **P 16 37 10.0 -1.2**
UPC *e*S **S 16 47 18.2 +7.3**
UPC AMS AMS 17 16 20.0
comp=Z,601µm,17.4s
DJES Djerdap 79.12 316 ⇑P **P 16 37 10.8 -0.5**
ALN Alexandroupoli 79.12 312 P **P 16 37 15.2 +3.8**
ALN Alexandroupoli 79.12 312 P **P 16 37 10.2 -1.2**
ALN Alexandroupoli 79.12 312 P **P 16 37 10.4 -1.0**
ALN pmax pmax
comp=Z,408nm,1.5s
GELI Tayfur-Gelibol 79.13 311 P **P 16 37 15.4 +4.0**
I05D Terrebonne, OR 79.13 44 P **P 16 37 11.0 -0.4**
baz=305,SNR=16
I05D S **S 16 47 13.2 +1.8**
baz=305
ENEZ Enez 79.14 312 P **P 16 37 12.5 +1.0**
ENEZ Enez 79.14 312 P **P 16 37 14.1 +2.6**
HUMO Hull Mountain 79.15 46 P **P 16 37 10.9 -0.7**
AMBH Ambrzfalva 79.16 318 P **P 16 37 11.6 +0.2**
NEW Newport 79.16 39 LR LR 17 11 18.0
comp=Z,99µm,21.6s,baz=318,slow=35
NEW Newport 79.16 39 P **P 16 37 09.8 -1.7**
NEW pmax pmax
comp=Z,99nm,2.1s
NEW Newport 79.16 39 IAMs_20 IAMs_20 17 10 34.3
comp=Z,111µm,22.0s
NEW Newport 79.16 39 P **P 16 37 10.0 -1.5**
baz=308,SNR=35
NEW S **S 16 47 11.2 -0.3**
baz=308
CAME Cameli-Denizli 79.17 307 P **P 16 37 13.3 +1.4**
TIM Timisoara 79.24 318 ⇑P P 16 37 22.6 +11
PLD Plovdiv 79.28 313 P P 16 37 15.5 +3.3
PLD Plovdiv 79.28 313 P P 16 37 19.4 +7.2
JAVC Velka Javorina 79.29 322 ⇓*i*P **P 16 37 12.0 -0.2**
JAVC *e*pP **sP 16 37 17.1 +1.7**
JAVC *e*PP **PP 16 40 13.9 +2.5**
JAVC *e*S **S 16 47 20.8 +7.9**
RDO Rodhopi 79.30 312 P **P 16 37 10.9 -1.4**
RDO Rodhopi 79.30 312 P **P 16 37 15.4 +3.1**
J04D Umpqua Nationa 79.30 45 IAMs_20 IAMs_20 17 09 29.6
comp=Z,101µm,21.0s
J04D Umpqua Nationa 79.30 45 P **P 16 37 12.0 -0.6**
baz=305,SNR=18
J04D S **S 16 47 16.2 +2.7**
baz=305
PGB Panagyurishte 79.35 314 P P 16 37 19.6 +6.9
KSL Kastellorizon 79.40 306 P **P 16 37 11.4 -1.6**
LRW Lerwick 79.40 338 *e*P **P 16 37 14.7 +2.2**
LRW IAmb IAmb 16 37 19.4
comp=Z,362nm,1.0s
LRW IAMs_20 IAMs_20 17 16 39.7
comp=Z,392µm,19.9s
BUD Budapest 79.41 320 P **P 16 37 12.3 -0.5**
BUD pmax pmax
comp=Z,384nm,1.6s
BUD Budapest 79.41 320 P **P 16 37 12.5 -0.3**
FETY Fethiye 79.48 307 P **P 16 37 13.8 +0.4**
FETY Fethiye 79.48 307 P **P 16 37 12.2 -1.2**
BANR Banloc 79.50 318 ⇑P **P 16 37 14.7 +1.4**
RZN Rozhen 79.51 313 P P 16 37 20.4 +6.7
MDVR Moldovita 79.52 317 ⇓P **P 16 37 11.8 -1.7**
EZN Ezine 79.54 311 P **P 16 37 16.7 +3.0**
EZN Ezine 79.54 311 P **P 16 37 16.5 +2.8**
BSEG Bad Segeberg 79.55 329 *e*P **P 16 37 13.3 -0.1**
comp=Z,77nm,1.4s,baz=48,slow=5.2
VRAC Vranov 79.57 323 ⇑P **P 16 37 12.9 -0.8**
VRAC Vranov 79.57 323 P **P 16 37 13.1 -0.6**
comp=Z,168nm,1.2s,baz=60,slow=5.8,SNR=36
VRAC LR LR 17 13 26.1
comp=Z,335µm,20.1s,baz=56,slow=36
VRAC Vranov 79.57 323 ⇑P **P 16 37 12.9 -0.8**
VRAC Vranov 79.57 323 ⇓*i*P **P 16 37 12.3 -1.4**
VRAC *e*pP **sP 16 37 17.6 +0.7**
VRAC *e*PP **PP 16 40 20.8 +7.2**
VRAC *e*S **S 16 47 20.0 +4.2**
DKL Dikili 79.59 310 P **P 16 37 17.6 +3.7**
SRO Srobarova 79.59 321 *e*P **P 16 37 12.9 -0.9**
SRO pmax pmax
comp=Z,2µm,2.5s
SRO Srobarova 79.59 321 *e*P **P 16 37 12.9 -0.9**
BLKB Belogradchik 79.63 315 ⇑P **P 16 37 13.3 -0.8**
SMOL Smolenice 79.63 322 *e*P **P 16 37 13.7 -0.3**
SMOL pmax pmax
comp=Z,594nm,1.6s
SMOL Smolenice 79.63 322 *e*P **P 16 37 13.7 -0.3**
SMOL Smolenice 79.63 322 *e*S **S 16 47 19.6 +3.2**
DALY Dalyan (Mula) 79.67 307 P **P 16 37 12.6 -1.8**
PINE Pine Mountain 79.68 44 IAmb IAmb 16 37 29.4
comp=Z,351nm,1.2s
SMTH Samothraki Isl 79.69 312 P **P 16 37 17.1 +2.6**
YER Yerkesik 79.75 308 P **P 16 37 14.7 -0.2**
YER Yerkesik 79.75 308 P **P 16 37 13.0 -1.9**
YER Yerkesik 79.75 308 P **P 16 37 14.2 -0.7**
L04D Klamath Falls 79.77 46 P **P 16 37 13.4 -1.6**
L04D IAmb IAmb 16 37 29.5
comp=Z,590nm,1.4s
L04D Klamath Falls 79.77 46 P **P 16 37 14.3 -0.8**
baz=305,SNR=19
L04D S **S 16 47 19.8 +1.4**
baz=305
MODS Modra-Piesok 79.80 322 *e*P **P 16 37 14.3 -0.7**
MODS pmax pmax
comp=Z,3µm,1.5s
MODS Modra-Piesok 79.80 322 *e*P **P 16 37 14.3 -0.7**
MODS Modra-Piesok 79.80 322 *e*S **S 16 47 20.0 +1.8**
J05D Fort Rock, OR 79.80 45 P **P 16 37 14.4 -0.8**
baz=306,SNR=36
J05D S **S 16 47 23.0 +4.3**
baz=306
YBH Yreka Blue Hor 79.80 47 LR LR 17 08 27.9
comp=Z,71µm,21.9s,baz=304,slow=33
YBH Yreka Blue Hor 79.80 47 IAMs_20 IAMs_20 17 08 04.9
comp=Z,103µm,21.0s
PVCC Panska Ves 79.81 324 P **P 16 37 14.4 -0.6**
PVCC pmax pmax
comp=Z,300nm,1.5s
PVCC Panska Ves 79.81 324 *e*P **P 16 37 14.4 -0.6**
PVCC *e*pP **sP 16 37 19.4 +1.3**
PVCC *e*S **S 16 47 25.1 +6.8**
PVCC AMS AMS 17 16 40.0
comp=Z,663µm,16.3s
KRUC Moravsky 79.83 322 P **P 16 37 13.9 -1.2**
KRUC pmax pmax
comp=Z,300nm,1.5s
KRUC Moravsky 79.83 322 ⇓*i*P **P 16 37 13.6 -1.5**
KRUC *e*pP **sP 16 37 18.9 +0.7**
KRUC *e*PP **PP 16 40 17.2 +1.5**
KRUC *e*S **S 16 47 20.0 +1.6**
K04D Chiloquin, OR 79.87 46 P **P 16 37 15.1 -0.5**
K04D S **S 16 47 21.4 +1.9**
baz=305
BLCB Balcova 79.88 309 P **P 16 37 19.2 +3.7**
BLCB Balcova 79.88 309 P **P 16 37 18.6 +3.1**
VTS Vitosha 79.88 314 ⇓P **P 16 37 13.8 -1.9**
VTS Vitosha 79.88 314 ⇓P **P 16 37 13.8 -1.9**
VTS Vitosha 79.88 314 P P 16 37 22.7 +7.0
BRG Berggiesshubel 79.90 325 *e*P **P 16 37 14.2 -1.3**
BRG Amp 16 37 17.7
comp=Z,34nm,0.9s
BRG *ex* x 16 37 19.8
BRG Amp 16 37 21.6
comp=Z,181nm,1.3s
BRG *ex* x 16 37 27.1
BRG Amp 16 37 28.8
comp=Z,505nm,1.4s
BRG PP **PP 16 40 11.0 -5.3**
BRG Amp 16 40 51.3
comp=Z,211nm,1.7s
BRG Berggiesshubel 79.90 325 SS SS 16 52 39.0 +12
BRG Berggiesshubel 79.90 325 *e*P **P 16 37 14.1 -1.3**
BRG *e* 16 37 19.8
BRG *e* 16 37 27.1
BRG 16 40 10.9
BRG S **S 16 47 24.0 +4.9**
BRG pmax pmax
comp=Z,34nm,0.9s
BRG pmax pmax
comp=Z,211nm,1.7s
BRG Berggiesshubel 79.90 325 *e*P **P 16 37 14.9 -0.5**
comp=Z,55nm,1.4s,baz=48,slow=5.2
CSKK Cskako 79.90 320 P **P 16 37 14.6 -0.9**
PRK Paraskevi 79.90 310 P **P 16 37 19.6 +4.0**
M02C Callahan 79.91 47 IAMs_20 IAMs_20 17 08 07.7
comp=Z,113µm,21.0s
M02C Callahan 79.91 47 P **P 16 37 15.4 -0.3**
baz=305,SNR=12
M02C S **S 16 47 24.7 +4.9**
baz=305
MLSB Milas 80.00 308 P P 16 37 21.0 +4.8
ZST Bratislava 80.00 322 *e*P **P 16 37 15.9 -0.1**
ZST pmax pmax
comp=Z,3µm,1.6s
ZST Bratislava 80.00 322 *e*P **P 16 37 15.8 -0.2**
ZST Bratislava 80.00 322 *e*S **S 16 47 22.8 +2.5**
KAVA Kavala 80.02 312 P **P 16 37 19.0 +2.7**
CLL Collm 80.07 326 *e*P **P 16 37 15.0 -1.3**
CLL *i* 16 37 19.6
CLL *e*S **S 16 47 22.0 +1.1**
CLL pmax pmax
comp=Z,699nm,1.2s
CLL MLR MLR
comp=Z,588µm,17.6s
CLL Collm 80.07 326 P **P 16 37 16.1 -0.2**
CLL IAmb IAmb 16 37 29.3
comp=Z,672nm,1.2s
CLL Collm 80.07 326 *e*P **P 16 37 15.0 -1.3**
comp=Z,152nm,1.4s
CLL *i* x x 16 37 18.2
CLL *i* (sP) **sP 16 37 19.6 +0.1**
comp=Z,365nm,1.0s
CLL *i* Pmax 16 37 27.4
comp=Z,699nm,1.2s
CLL *e*Pmax 16 37 41.0
CLL *e*PP **PP 16 40 18.0 +0.4**
CLL *ex* x 16 40 25.0
CLL *ex* x 16 40 40.0
CLL *e*PPP PPP 16 42 12.0
CLL *e*PPPP 16 43 18.0
CLL *e*S **S 16 47 22.0 +1.1**
comp=N,61µm,25.0s
CLL *e*S **S 16 47 22.0 +1.1**
comp=E,22µm,22.7s
CLL *e*S **S 16 47 22.0 +1.1**
comp=Z,21µm,28.9s
CLL *e*PPS PPS 16 48 18.0
CLL *ex* x 16 49 06.0
CLL *e*SS **SS 16 52 27.0 -2.8**
CLL *e*SSmax 16 52 53.0
CLL *e*SSS SSS 16 56 00.0
CLL *e*SSSmax 16 56 36.0
CLL *e*SSSS 16 58 24.0
CLL Lm MLR 17 16 00.0
comp=N,486µm,20.2s
CLL Lm MLR 17 16 00.0
comp=E,196µm,21.6s
CLL Lmax 17 17 00.0
CLL Collm 80.07 326 *e*P **P 16 37 15.4 -0.9**
comp=E,152nm,1.4s,baz=48,slow=5.2
THAS Thassos island 80.12 312 P **P 16 37 18.4 +1.6**
TREC Trest 80.14 323 *e*P **P 16 37 21.5 +4.7**
TREC *e*S **S 16 47 28.3 +6.5**
TREC MLR MLR
comp=Z,659µm,16.3s
TREC Trest 80.14 323 *ex* x 16 37 21.5
TREC *e*S **S 16 47 28.3 +6.5**
TREC AMS AMS 17 17 00.0
comp=Z,659µm,16.3s
FBE Freiberg 80.15 325 *e*P **P 16 37 15.8 -0.9**
comp=Z,142nm,1.5s,baz=48,slow=5.2
MMB Musomiste 80.17 313 P P 16 37 23.8 +6.7
PRU Pruhonice 80.17 324 *e*P **P 16 37 15.8 -1.1**
PRU *e* 16 37 21.4
PRU *e*S **S 16 47 29.7 +7.6**
PRU MLR MLR
comp=Z,395µm,17.2s
PRU Pruhonice 80.17 324 *e*P **P 16 37 15.8 -1.1**
PRU *e*pP **sP 16 37 21.4 +1.3**
PRU *e*PP PP 16 40 37.8 +19
PRU *e*S **S 16 47 29.7 +7.6**
PRU AMS AMS 17 17 40.0
comp=Z,395µm,17.2s
MSEY Mahe Island 80.20 258 IAMs_20 IAMs_20 17 12 55.7
comp=Z,99µm,22.0s
MSEY Mahe Island 80.20 258 P **P 16 37 19.3 +1.6**
MSEY P **P 16 37 19.3 +1.6**
FLTG Flechtingen 80.21 327 *e*P **P 16 37 15.6 -1.4**
comp=Z,108nm,1.4s,baz=48,slow=5.2
NVR Nevrokopi 80.23 313 P **P 16 37 20.3 +2.9**
LIA Limnos Island 80.23 311 P **P 16 37 20.2 +2.8**
N02D Trinity Center 80.24 47 P **P 16 37 16.8 -0.8**
baz=305,SNR=17
N02D S **S 16 47 25.4 +2.2**
baz=305
M04C Macdoel 80.31 46 P **P 16 37 17.3 -0.7**
baz=306,SNR=26
M04C S **S 16 47 25.8 +1.7**
baz=306
WALA Waterton Lakes 80.34 37 P **P 16 37 16.9 -1.1**
ARG Arkhangelos 80.35 307 P **P 16 37 21.5 +3.4**
ARG Arkhangelos 80.35 307 P **P 16 37 20.3 +2.2**
EGYH Egyhazaskeszo 80.36 321 P **P 16 37 17.7 -0.2**
TIH Tihany 80.38 320 P P 16 37 11.5 -6.5
FRGS Fruska Gora 80.38 318 ⇑P **P 16 37 16.2 -2.0**
FRGS Fruska Gora 80.38 318 ⇓*i*P **P 16 37 15.4 -2.8**
SMG Samos 80.39 309 P P 16 37 15.8 -2.5
MORH Mrgy, Hungar 80.39 319 ⇑P **P 16 37 17.1 -1.0**
MORH Mrgy, Hungar 80.39 319 ⇓*i*P **P 16 37 16.3 -1.8**
MORH Mrgy, Hungar 80.39 319 P **P 16 37 17.2 -1.0**
MPLH Magyarpolny 80.40 321 P **P 16 37 17.4 -0.8**
KKB Krupnik 80.41 314 P P 16 37 25.1 +6.8
BORG Borgarnes 80.42 348 P **P 16 37 18.8 +0.9**
baz=11,slow=3.1
BORG LR LR 17 12 27.1
comp=Z,110µm,21.4s,baz=24,slow=35
BORG Borgarnes 80.42 348 IAMs_20 IAMs_20 17 12 17.2
comp=Z,125µm,22.0s
HLG Helgoland 80.42 330 *e*P **P 16 37 17.1 -1.0**
comp=Z,115nm,1.3s,baz=48,slow=5.2
BODT Bodrum 80.43 308 P **P 16 37 22.4 +3.8**
BODT Bodrum 80.43 308 P **P 16 37 19.6 +1.0**
DAT Datca 80.44 308 P P 16 37 30.0 +11
DAT Datca 80.44 308 P **P 16 37 20.2 +1.4**
KOKK Kokkinochori, 80.45 313 P **P 16 37 18.1 -0.5**
CHOS Chios island 80.52 310 P **P 16 37 22.7 +3.6**
CHOS Chios island 80.52 310 P **P 16 37 20.3 +1.2**
SRS Serrai 80.53 313 P **P 16 37 17.9 -1.1**
SRS Serrai 80.53 313 P **P 16 37 17.4 -1.6**
SRS pmax pmax
comp=Z,452nm,1.1s
SFJD Kangerlussuaq 80.59 1 LR LR 17 12 47.0
comp=Z,166µm,21.6s,baz=341,slow=36
SFJD Kangerlussuaq 80.59 1 P **P 16 37 18.4 -0.4**
SFJD pmax pmax
comp=Z,429nm,1.4s
SFJD MLR MLR
comp=Z,186µm,20.0s
SFJD Kangerlussuaq 80.59 1 P **P 16 37 18.4 -0.4**
SFJD IAmb IAmb 16 37 39.2
comp=Z,429nm,1.4s
SFJD Kangerlussuaq 80.59 1 IAMs_20 IAMs_20 17 15 23.9
comp=Z,185µm,20.0s
SFJD Kangerlussuaq 80.59 1 *i*P **P 16 37 18.0 -0.8**
SFJD IVmB_BB 16 37 28.9
comp=Z,7µm,14.1s
ASSE Asse, Remlinge 80.61 327 *e*P **P 16 37 18.9 -0.2**
comp=Z,48nm,1.4s,baz=48,slow=5.2
SOP Sopron 80.61 321 P **P 16 37 18.9 -0.4**
SOP pmax pmax
comp=Z,481nm,1.4s
SOP Sopron 80.61 321 P **P 16 37 19.1 -0.1**
NRDL Niedersach Rie 80.61 328 *e*P **P 16 37 18.7 -0.4**
comp=Z,53nm,1.4s,baz=48,slow=5.2
O02D Mt. Diablo Mer 80.64 48 IAMs_20 IAMs_20 17 10 29.3
comp=Z,108µm,19.0s
O02D Mt. Diablo Mer 80.64 48 P **P 16 37 19.3 -0.4**
baz=305,SNR=17
O02D S **S 16 47 31.7 +4.2**
baz=305
NEUB Neuenburg 80.71 326 *e*P **P 16 37 19.6 -0.2**
comp=Z,178nm,1.4s,baz=48,slow=5.2
RONA Rosalia, Austr 80.73 321 *i*P **P 16 37 19.1 -1.0**
comp=Z,697nm,1.4s,SNR=91
OUR Ouranopolis 80.73 312 P **P 16 37 22.9 +2.8**
OUR Ouranopolis 80.73 312 P **P 16 37 21.9 +1.8**
KOVH Kovagotottos 80.77 319 P **P 16 37 19.6 -0.6**
RETH Rethem/Aller, 80.78 328 *e*P **P 16 37 19.2 -0.9**
comp=Z,71nm,1.3s,baz=48,slow=5.2
NISR Nisiros 80.81 308 P **P 16 37 23.2 +2.7**
CONA Conrad Observa 80.82 322 *i*P **P 16 37 19.7 -0.8**
comp=Z,698nm,1.5s,SNR=98
KOSK Kos Island 80.83 308 P **P 16 37 24.9 +4.3**
KOSK Kos Island 80.83 308 P **P 16 37 25.2 +4.6**
SOH Sokhos 80.84 313 P **P 16 37 23.3 +2.5**
TEKS Tekeris 80.91 318 *e*P **P 16 37 19.8 -1.2**
TANN Tannenbergstha 80.91 325 *e*P **P 16 37 19.6 -1.3**
comp=Z,36nm,1.6s,baz=48,slow=5.2
DIVS Divibare 80.92 317 ⇓*i*P **P 16 37 18.8 -2.3**
CLZ Clausthal 80.94 327 *e*P **P 16 37 19.6 -1.5**
comp=Z,149nm,1.4s,baz=48,slow=5.2
WERD Werda 80.97 325 *e*P **P 16 37 20.7 -0.5**
comp=Z,62nm,1.3s,baz=48,slow=5.2
GUNZ Gunzen 81.01 325 *e*P **P 16 37 21.1 -0.3**
comp=Z,84nm,1.4s,baz=48,slow=5.2
PLN Plauen 81.01 325 *e*P **P 16 37 20.1 -1.4**
comp=Z,50nm,1.4s,baz=48,slow=5.2
VAY Valandovo 81.03 314 *i*P **P 16 37 19.4 -2.2**
WERN Wernitzgruen 81.04 325 *e*P **P 16 37 20.4 -1.2**
comp=Z,81nm,1.4s,baz=48,slow=5.2
NKC Novy Kostel 81.04 325 *e*P **P 16 37 19.3 -2.3**
NKC *e* 16 37 25.7
NKC *e*S **S 16 47 39.3 +8.1**
NKC MLR MLR
comp=Z,637µm,17.6s
NKC Novy Kostel 81.04 325 *e*P **P 16 37 19.3 -2.3**
NKC *e*pP **sP 16 37 25.7 +0.9**
NKC *e*SKS **S 16 47 39.3 +8.1**
NKC AMS AMS 17 17 30.0
comp=Z,637µm,17.6s
CKRC Cesky Krumlov 81.04 323 *e*P **P 16 37 20.2 -1.4**
CKRC *ex* x 16 37 26.0
CKRC *e*PP PP 16 40 43.5 +18
CKRC *e*S **S 16 47 37.8 +6.5**
CKRC AMS AMS 17 17 40.0
comp=Z,607µm,16.5s
PLG Polygyros 81.05 312 P **P 16 37 21.7 -0.1**
STIP Stip 81.05 314 *i*P **P 16 37 19.6 -2.2**
DY2G Dye2 81.09 359 *i*P **P 16 37 21.2 -0.6**
DY2G IVmB_BB 16 37 32.2
comp=Z,14µm,14.0s
HORT Hortiatis 81.13 313 P **P 16 37 25.6 +3.3**
HORT Hortiatis 81.13 313 P **P 16 37 24.3 +2.0**
HOPS Hopland Field 81.14 49 IAMs_20 IAMs_20 17 09 45.6
comp=Z,162µm,20.0s
BMO Blue Mountains 81.14 42 IAMs_20 IAMs_20 17 15 01.9
comp=Z,110µm,20.0s
PAIG Paliouri 81.16 312 P **P 16 37 24.3 +1.9**
MOX Moxa 81.16 326 P **P 16 37 21.1 -1.1**
MOX pmax pmax
comp=Z,201nm,1.3s
MOX Moxa 81.16 326 *e*P **P 16 37 21.0 -1.3**
comp=Z,51nm,1.4s,baz=48,slow=5.2
MOX *e*L L 17 17 10.6
comp=Z,560µm,20.7s
MOD Modoc Plateau 81.17 46 P **P 16 37 21.8 -0.8**
O03E Paynes Creek 81.19 48 P **P 16 37 21.8 -0.9**
baz=306,SNR=15
O03E S **S 16 47 34.6 +1.4**
baz=306
THE Thessaloniki 81.19 313 P **P 16 37 25.2 +2.7**
THE Thessaloniki 81.19 313 P **P 16 37 25.6 +3.1**
THE pmax pmax
comp=Z,299nm,1.7s
KHC Kasperske Hory 81.21 324 *d*/*i*P **P 16 37 20.7 -1.8**
KHC pmax pmax
comp=Z,830nm,1.5s
KHC MLR MLR
comp=Z,977µm,17.0s
KHC Kasperske Hory 81.21 324 *e*P **P 16 37 21.2 -1.3**
KHC *ex* x 16 37 26.7
KHC *e*S **S 16 47 38.0 +5.0**
KHC AMS AMS 17 17 20.0
comp=Z,581µm,16.9s
SKY Skiros Island 81.21 311 P **P 16 37 25.8 +3.1**
BEHE Becsehely 81.25 320 ⇓*i*P **P 16 37 26.3 +3.5**
BEHE Becsehely 81.25 320 P **P 16 37 21.3 -1.5**
GTTG Gottingen 81.33 327 *e*P **P 16 37 22.5 -0.5**
comp=Z,70nm,1.1s,baz=48,slow=5.2
GEC2 GERESS Array S 81.33 323 *e*P **P 16 37 21.7 -1.6**
comp=Z,42nm,1.7s,baz=48,slow=5.2
GERES GERESS Array B 81.33 323 P **P 16 37 22.6 -0.7**
comp=Z,21nm,0.9s,baz=48,slow=2.0,SNR=45
GERES PKKP **PKKPdf 16 55 45.3 -0.9**
comp=Z,0.4nm,0.4s,baz=94,slow=5.6,SNR=4.3
GERES PKKPbc **PKKPbc 16 55 58.5 +0.7**
comp=Z,8.3nm,1.0s,baz=224,slow=3.7,SNR=17
GERES PKPPKP **P'P'df 17 04 01.4 -6.9**
comp=Z,3.0nm,1.0s,baz=197,slow=4.2,SNR=5.4
GERES LR LR 17 18 23.2
comp=Z,620µm,18.1s,baz=43,slow=39
SKO Skopje 81.34 315 *i*P **P 16 37 22.8 -0.6**
GRG Griva 81.35 313 P **P 16 37 26.4 +3.0**
MANZ Manzenberg 81.37 325 *e*P **P 16 37 23.1 -0.3**
comp=Z,111nm,1.3s,baz=48,slow=5.2
KARP Karpathos 81.38 307 P **P 16 37 22.0 -1.7**
KARP Karpathos 81.38 307 P **P 16 37 25.6 +1.9**
KARP Karpathos 81.38 307 IAMs_20 IAMs_20 17 16 44.4
comp=Z,162µm,22.0s
BBLS Lazići 81.39 317 ⇓*i*P **P 16 37 22.0 -1.7**
ARSA Arzberg 81.42 321 *i*P **P 16 37 22.3 -1.4**
comp=Z,492nm,1.3s,SNR=64
ARSA *e*P **PKKPbc 16 56 00.6 +3.2**
comp=Z,12nm,1.1s
ROTZ Rotzenmuhle 81.46 325 *e*P **P 16 37 22.5 -1.4**
comp=Z,24nm,1.4s,baz=48,slow=5.2
FCC Fort Churchill 81.51 22 P **P 16 37 22.3 -1.5**

FCC pmax pmax
comp=Z,288nm,1.1s
FCC Fort Churchill 81.51 22 P **P** **16 37 22.3 -1.5**
FCC IAmb IAmb 16 37 31.4
comp=Z,288nm,1.1s
KOGS Kog 81.55 320 *e*P **P** **16 37 22.1 -2.2**
KOGS *i* 16 37 27.5
KOGS *e* 16 40 26.6
KOGS IAMs_20 IAMs_20 16 40 38.1
KOGS *i* 17 10 54.0
comp=Z,179µm,19.4s
WET Wettzell 81.55 324 P **P** **16 37 23.4 -0.9**
WET pmax pmax
comp=Z,157nm,1.9s
WET Wettzell 81.55 324 *e*P **P** **16 37 24.4 0.0**
comp=Z,35nm,1.4s,baz=48,slow=5.2
RUDO Rudo 81.56 317 *e*P **P** **16 37 25.8 +1.3**
ANGG Ammassalik, Gr 81.57 355 IAMs_20 IAMs_20 17 16 08.7
comp=Z,164µm,18.0s
ANGG Ammassalik, Gr 81.57 355 *i*P **P** **16 37 23.0 -1.0**
ANGG IVmB_BB 16 37 34.3
comp=Z,8µm,14.9s
APE Apeiranthos 81.61 309 ⇓P **P** **16 37 26.8 +1.9**
APE Apeiranthos 81.61 309 P **P** **16 37 26.4 +1.5**
APE Apeiranthos 81.61 309 P **P** **16 37 27.0 +2.1**
APE Apeiranthos 81.61 309 ⇓P **P** **16 37 26.8 +1.9**
MOA Molln 81.69 322 *i*P **P** **16 37 23.9 -1.2**
comp=Z,281nm,1.2s,SNR=65
MOA *e*P **PKKPbc** **16 55 59.4 +2.7**
comp=Z,15nm,1.1s
IVA Berane 81.71 316 *e*P **P** **16 37 24.5 -0.9**
PLID Pearl Lake 81.72 41 IAMs_20 IAMs_20 17 10 06.3
comp=Z,128µm,22.0s
PLE Pljevlja 81.73 317 *e*P **P** **16 37 24.3 -1.2**
MSO Missoula 81.74 39 IAMs_20 IAMs_20 17 18 30.5
comp=Z,106µm,20.0s
MSO Missoula 81.74 39 P **P** **16 37 24.6 -0.9**
baz=310,SNR=5.9
MSO S **S** **16 47 38.4 -0.4**
baz=310
KARY Karystos 81.77 310 P **P** **16 37 26.2 +0.5**
IBBN Ibbenburen 81.79 329 *e*P **P** **16 37 24.7 -0.7**
comp=Z,98nm,1.3s,baz=48,slow=5.2
XOR Xorichti 81.79 312 P **P** **16 37 27.1 +1.3**
LIT Litokhoron 81.80 313 P **P** **16 37 27.5 +1.7**
LIT Litokhoron 81.80 313 P **P** **16 37 25.0 -0.8**
LIT pmax pmax
comp=Z,521nm,1.1s
LIT Litokhoron 81.80 313 P **P** **16 37 25.0 -0.8**
LIT IAmb IAmb 16 37 37.7
comp=Z,521nm,1.1s
UBBA Unterbreizbach 81.80 327 *e*P **P** **16 37 24.9 -0.6**
comp=Z,101nm,1.7s,baz=48,slow=5.2
NEO Neokhori 81.81 312 P **P** **16 37 27.9 +2.0**
FFC Flin Flon 81.83 28 P **P** **16 37 25.0 -0.7**
FFC pmax pmax
comp=Z,257nm,1.2s
FFC MLR MLR
comp=Z,130µm,19.0s
FFC Flin Flon 81.83 28 P **P** **16 37 25.0 -0.7**
FFC Flin Flon 81.83 28 IAMs_20 IAMs_20 17 16 49.7
comp=Z,130µm,19.0s
WVOR Wild Horse Val 81.84 44 P **P** **16 37 24.4 -1.7**
WVOR pmax pmax
comp=Z,171nm,2.4s
BCI Bajram Curri 81.92 316 *i*P **P** **16 37 29.6 +3.2**
KOME Kolasin 81.95 316 *e*P **P** **16 37 25.9 -0.7**
GRB1 Grafenberg Arr 81.98 325 P **P** **16 37 25.8 -0.8**
GRB1 pmax pmax
comp=Z,325nm,1.1s
GRF Grafenberg Arr 81.99 325 *e*P **P** **16 37 25.7 -1.0**
comp=Z,126nm,1.6s,baz=48,slow=5.2
GRF *e*L L 17 18 00.3
comp=Z,614µm,19.5s
GRFO Grafenberg 81.99 325 P **P** **16 37 26.3 -0.3**
GRFO pmax pmax
comp=Z,2µm,1.4s
GRFO MLR MLR
comp=Z,615µm,19.0s
GRFO Grafenberg 81.99 325 P **P** **16 37 26.3 -0.3**
THR8 Santorini-Mono 82.02 308 P **P** **16 37 28.8 +1.8**
PERS Pernice 82.03 321 *i*P **P** **16 37 25.3 -1.7**
PERS *i* 16 37 30.6
PERS *e*S **S** **16 47 41.0 -0.6**
PERS IAMs_20 IAMs_20 17 12 01.0
comp=Z,232µm,18.9s
SOKA Soboth 82.05 321 *i*P **P** **16 37 25.6 -1.5**
comp=Z,660nm,1.3s,SNR=122
SOKA *i*P **PKKPbc** **16 55 59.5 +3.4**
comp=Z,12nm,1.3s
DION Dionisos Attik 82.07 310 P **P** **16 37 29.0 +1.7**
FNA Florina 82.08 314 P **P** **16 37 30.2 +2.9**
FNA Florina 82.08 314 P **P** **16 37 29.4 +2.1**
FNA Florina 82.08 314 *i*P **P** **16 37 30.9 +3.6**
ZAG Zagreb 82.08 320 ⇓*i*P **P** **16 37 30.9 +3.8**
UPM Unac-Piva 82.09 317 *e*P **P** **16 37 27.5 0.0**
UPM Unac-Piva 82.09 317 *e*P **P** **16 37 25.7 -1.8**
BLY Banja Luka 82.11 319 ⇓*i*P **P** **16 37 30.9 +3.6**
ATD Arta Tunnel 82.12 279 LR LR 17 16 41.9
comp=Z,38µm,18.6s,baz=28,slow=38
ATD Arta Tunnel 82.12 279 P **P** **16 37 30.8 +2.8**
SNR=25
ATD Arta Tunnel 82.12 279 *e*P **P** **16 37 27.6 -0.3**
ATD *e*S **SKSac** **16 47 53.6 +4.2**
ATD Arta Tunnel 82.12 279 *e*P P 16 37 34.8 +6.9
ATD *e*S **SKSac** **16 47 59.8 +10**
ATD Arta Tunnel 82.12 279 *e*P **P** **16 37 27.6 -0.3**
ATD *e*S **SKSac** **16 47 53.6 +4.2**
ATD IAMs_20 IAMs_20 16 48 11.2
comp=E,75µm,8.3s
BIOA Bad Ischl, Aus 82.12 323 *i*P **P** **16 37 26.0 -1.4**
comp=E,386nm,1.4s,SNR=37
BIOA *e*P **PKKPbc** **16 55 56.5 +0.7**
comp=E,14nm,1.1s
KZN Kozani 82.12 313 P **P** **16 37 28.0 +0.4**
PTL Penteli 82.13 310 P **P** **16 37 30.6 +3.0**
ATHU Athens Univers 82.23 310 P **P** **16 37 30.6 +2.5**
OHR Ohrid 82.23 314 *i*P **P** **16 37 31.1 +3.0**
ZKR Zakros 82.26 307 P **P** **16 37 31.9 +3.6**
ZKR Zakros 82.26 307 P **P** **16 37 31.6 +3.3**
KASTN Kahler Asten 82.27 328 *e*P **P** **16 37 26.6 -1.5**
comp=E,35nm,1.1s,baz=48,slow=5.2
ATH Athens Observa 82.27 310 P **P** **16 37 32.9 +4.6**
NKY Niksic 82.27 316 *e*P **P** **16 37 27.3 -1.1**
VLY Voula,Athens 82.29 310 P **P** **16 37 29.6 +1.2**
ATAL Atalanti 82.29 311 P **P** **16 37 26.1 -2.3**
NKME Niksic 82.33 316 *e*P **P** **16 37 27.8 -0.8**
LKR Lokris 82.33 311 P **P** **16 37 28.7 +0.1**
DRUM Mains of Drumt 82.35 336 *e*P **P** **16 37 29.5 +1.2**
DRUM IAmb IAmb 16 37 34.1
comp=Z,174nm,1.0s
DRUM IAMs_20 IAMs_20 17 14 53.9
comp=Z,433µm,20.4s
PDG Podgorica 82.36 316 ⇓P **P** **16 37 28.0 -0.6**
PDG Podgorica 82.36 316 *e*P **P** **16 37 26.8 -1.8**
TTG Podgorica 82.36 316 *e*P **P** **16 37 28.4 -0.2**
CRES Cresnjev 82.37 320 ⇓*i*P **P** **16 37 26.5 -2.2**
MGRS Mrkonjic Grad 82.37 319 *e*P **P** **16 37 28.5 -0.2**
THL Klokotos Trika 82.41 312 P **P** **16 37 29.8 +0.8**
OBKA Obir 82.41 321 *i*P **P** **16 37 27.2 -1.8**
comp=Z,428nm,1.5s,SNR=51
OBKA *e*P **PKKPbc** **16 55 58.7 +3.4**
comp=Z,14nm,1.0s
VILL Villia 82.42 311 P **P** **16 37 30.2 +1.1**
CEME Cevo 82.48 316 *e*P **P** **16 37 27.6 -1.8**
BRY Bratogost 82.48 317 *e*P **P** **16 37 26.8 -2.7**
BRY Bratogost 82.48 317 *e*P **P** **16 37 28.6 -0.9**
NEST Nestorio 82.50 314 P **P** **16 37 31.6 +2.0**
RJOB Jochberg 82.52 323 *e*P **P** **16 37 28.2 -1.3**
comp=Z,111nm,1.6s,baz=48,slow=5.2
AGG Agios Georgios 82.53 312 P **P** **16 37 31.9 +2.2**
AGG Agios Georgios 82.53 312 P **P** **16 37 30.6 +0.9**
KBN Korca 82.53 314 *i*P **P** **16 37 32.6 +2.9**
KBN Korca 82.53 314 *i*P **P** **16 37 30.6 +0.9**
SRKY Kupres RS 82.54 318 *e*P **P** **16 37 34.0 +4.3**
DRME Dracevica, Mon 82.55 316 ⇓*i*P **P** **16 37 26.5 -3.2**
DRME Dracevica, Mon 82.55 316 *e*P **P** **16 37 29.0 -0.7**
KPRO Kipourio 82.58 313 P **P** **16 37 31.3 +1.3**
BUG Bochum--Univer 82.61 328 P **P** **16 37 29.1 -0.7**
BUG pmax pmax
comp=Z,269nm,1.4s
BUG Bochum--Univer 82.61 328 *e*P **P** **16 37 28.7 -1.1**
comp=Z,96nm,1.5s,baz=48,slow=5.2
FRMA Ierapetra Chan 82.64 307 P **P** **16 37 34.0 +3.7**

FRB Frobisher Bay 82.65 9 LR LR 17 15 40.8
comp=Z,306µm,20.2s,baz=344,slow=37
FRB Frobisher Bay 82.65 9 P **P** **16 37 27.2 -2.5**
FRB pmax pmax
comp=Z,225nm,1.3s
BUM Brajici-Budva 82.65 316 *e*P **P** **16 37 28.8 -1.5**
ULC Ulcinj 82.65 316 *e*P **P** **16 37 29.3 -0.9**
TIR Tirane 82.65 315 ⇑P **P** **16 37 31.0 +0.8**
TIR Tirane 82.65 315 P **P** **16 37 34.7 +4.5**
TIR Tirane 82.65 315 ⇑P **P** **16 37 31.0 +0.8**
TIR Tirane 82.65 315 *i*P **P** **16 37 35.0 +4.7**
MAKR Makrakomi, Fth 82.66 312 P **P** **16 37 32.4 +2.0**
KBA Koelnbreinsper 82.67 322 *i*P **P** **16 37 28.7 -1.8**
comp=Z,151nm,1.0s,SNR=62
KBA *e*P **PKKPbc** **16 55 57.5 +2.7**
comp=Z,8.3nm,1.1s
KBA Koelnbreinsper 82.67 322 P **P** **16 37 28.8 -1.6**
KBA pmax pmax
comp=Z,280nm,1.5s
TREB Trebinje 82.71 317 *e*P **P** **16 37 28.6 -1.9**
LTK Loutraki 82.72 311 P P 16 37 36.3 +5.6
LJU Ljubljana 82.72 321 ⇓*i*P **P** **16 37 28.3 -2.2**
LJU Ljubljana 82.72 321 *i*P **P** **16 37 28.7 -1.8**
LJU *i* 16 37 33.9
LJU *i* 16 37 37.2
LJU *e*S **S** **16 47 48.0 -0.7**
LJU *e* 16 47 55.0
LJU *e* 16 48 35.1
LJU *e*SS **SS** **16 53 11.3 +1.6**
LJU *e* 16 59 13.9
QRZ Quartz Range 82.72 149 P **P** **16 37 28.3 -2.0**
URZ Urewera 82.75 145 LR LR 17 10 25.0
comp=Z,49µm,20.3s,baz=326,slow=33
URZ Urewera 82.75 145 IAmb IAmb 16 37 42.7
comp=Z,298nm,1.2s
LEWI Lewis, Hebride 82.77 339 *e*P **P** **16 37 31.0 +0.5**
LEWI IAMs_20 IAMs_20 17 10 40.0
comp=Z,300µm,30.2s
HCY Herceg Novi 82.79 316 *e*P **P** **16 37 29.4 -1.5**
HCY Herceg Novi 82.79 316 *e*P **P** **16 37 30.1 -0.8**
MYKA Terra Mystica 82.81 322 *i*P **P** **16 37 29.1 -1.9**
comp=Z,628nm,1.3s,SNR=42
MYKA *e*P **PKKPbc** **16 55 57.3 +3.0**
comp=Z,10.0nm,1.2s
EDU Dundee 82.82 336 *e*P **P** **16 37 29.4 -1.4**
DID Didima 82.85 310 P **P** **16 37 31.9 +0.5**
KSTL Kastelli Herak 82.92 307 P P 16 37 37.2 +5.5
EVR Evrytania 82.92 312 P **P** **16 37 33.6 +1.8**
LSK Leskovik 82.93 314 P **P** **16 37 33.6 +1.8**
LSK Leskovik 82.93 314 *i*P **P** **16 37 35.9 +4.1**
TNS Taunus Mts 82.93 327 P **P** **16 37 30.4 -1.2**
TNS pmax pmax
comp=Z,263nm,1.5s
TNS Taunus Mts 82.93 327 *e*P **P** **16 37 30.8 -0.8**
baz=48,slow=5.2
CEY Cerknica 82.98 321 ⇓*i*P **P** **16 37 29.6 -2.3**
KRND KRANIDI 82.98 310 P **P** **16 37 33.9 +1.9**
STON Ston 82.99 317 ⇓*i*P **P** **16 37 29.0 -2.9**
FUR Furstenfeldbru 82.99 324 P **P** **16 37 31.3 -0.6**
FUR pmax pmax
comp=Z,945nm,1.4s
FUR Furstenfeldbru 82.99 324 *e*P **P** **16 37 30.6 -1.3**
comp=Z,370nm,1.8s,baz=48,slow=5.2
ANX Ano Chora 83.05 312 P **P** **16 37 30.4 -2.1**
KPL Plockton 83.05 338 *e*P **P** **16 37 33.1 +1.2**
KPL IAmb IAmb 16 37 38.5
comp=Z,283nm,1.1s
KPL IAMs_20 IAMs_20 17 21 05.9
comp=Z,267µm,16.7s
IDI Anoyia 83.05 308 ⇑P **P** **16 37 33.9 +1.4**
IDI Anoyia 83.05 308 P **P** **16 37 34.6 +2.1**
IDI Anoyia 83.05 308 P **P** **16 37 30.9 -1.6**
IDI Anoyia 83.05 308 P **P** **16 37 31.1 -1.4**
IDI IAmb IAmb 16 37 46.7
comp=Z,432nm,1.2s
IDI IAMs_20 IAMs_20 17 19 53.6
comp=Z,118µm,19.0s
JAN Janina 83.08 313 P **P** **16 37 35.5 +3.0**
EGMT Eagleton 83.10 36 IAMs_20 IAMs_20 17 13 05.3
comp=Z,132µm,21.0s
EGMT Eagleton 83.10 36 P **P** **16 37 31.3 -1.2**
baz=312,SNR=12
EGMT S **S** **16 47 51.7 -1.0**
baz=312
EFP Efpalio 83.15 312 P **P** **16 37 35.1 +2.2**
BKZ Black Stump Fm 83.17 146 P **P** **16 37 30.8 -2.0**
BKZ IAmb IAmb 16 37 46.3
comp=Z,334nm,1.1s
BKZ Black Stump Fm 83.17 146 P **P** **16 37 33.0 +0.3**
ESY Stoneypath 83.18 336 *e*P **P** **16 37 33.5 +0.8**
DSZ Denniston Nort 83.18 150 P **P** **16 37 31.2 -1.5**
RIY Rijeka 83.21 320 ⇓*i*P **P** **16 37 30.8 -2.2**
LAKA Lakka 83.22 311 P **P** **16 37 34.3 +1.0**
KLV Kalavryta, Ach 83.23 311 P **P** **16 37 34.1 +0.7**
TMBK Timbaki Herakl 83.26 307 P P 16 37 39.3 +5.8
INVG Invergeldie, C 83.26 337 *e*P **P** **16 37 33.9 +0.8**
INVG IAmb IAmb 16 37 39.7
comp=Z,84nm,1.1s
INVG IAMs_20 IAMs_20 17 16 12.9
comp=Z,498µm,20.7s
MRNZ Matariki Terra 83.29 150 P **P** **16 37 33.9 +0.6**
DUWZ D'Urville Isla 83.31 148 P **P** **16 37 31.1 -2.2**
ABTA Abfaltersbach 83.32 322 *i*P **P** **16 37 30.9 -2.8**
comp=Z,500nm,1.4s,SNR=72
ABTA *e*P **PKKPbc** **16 55 56.2 +3.0**
comp=Z,15nm,1.4s
SKDS Skadanscina 83.32 321 ⇓*i*P **P** **16 37 31.2 -2.5**
AHRW Bad Neuenahr-A 83.34 328 *e*P **P** **16 37 33.2 -0.4**
comp=Z,101nm,1.2s,baz=48,slow=5.2
TRI Trieste 83.35 321 P **P** **16 37 32.7 -1.0**
TRI pmax pmax
comp=Z,618nm,1.4s
EDI Edinburgh 83.37 336 *e*P **P** **16 37 34.4 +0.8**
EDI IAMs_20 IAMs_20 17 16 54.1
comp=Z,337µm,19.5s
WATA Walderalm 83.40 323 *i*P **P** **16 37 32.0 -2.2**
comp=Z,318nm,1.2s,SNR=39
WATA *e*P **PKKPbc** **16 55 54.4 +1.3**
comp=Z,12nm,1.2s
NUUK Nuuk 83.41 1 *i*P **P** **16 37 34.2 +0.6**
NUUK IVmB_BB 16 37 44.0
comp=Z,9µm,16.1s
CMB Columbia Colle 83.41 49 IAMs_20 IAMs_20 17 10 47.6
comp=Z,101µm,20.0s
VLO Vlora 83.41 314 *i*P P 16 37 41.1 +7.0
NNZ Nelson 83.41 149 IAmb IAmb 16 37 43.7
comp=Z,312nm,1.1s
NNZ Nelson 83.41 149 P **P** **16 37 31.9 -2.0**
WTTA Wattenberg 83.42 323 *i*P **P** **16 37 32.4 -1.9**
comp=Z,383nm,1.2s,SNR=58
WTTA *e*P **PKKPbc** **16 55 53.3 +0.2**
comp=Z,17nm,1.3s
WTTA Wattenberg 83.42 323 P **P** **16 37 32.6 -1.7**
WTTA pmax pmax
comp=Z,344nm,1.6s
EBL Broad Law 83.44 336 *e*P **P** **16 37 32.1 -1.9**
SRN Sarande 83.46 314 P **P** **16 37 38.1 +3.7**
SRN Sarande 83.46 314 *i*P **P** **16 37 38.4 +4.0**
IGT Igoumenitsa 83.47 313 P **P** **16 37 36.7 +2.2**
VLI Velia 83.50 310 P **P** **16 37 34.5 -0.2**
IMMV Iera Moni Meta 83.56 308 P **P** **16 37 33.9 -1.1**
DRO Drossia 83.56 311 P **P** **16 37 37.4 +2.4**
HLID Hailey 83.57 42 IAMs_20 IAMs_20 17 11 14.1
comp=Z,91µm,21.0s
HLID Hailey 83.57 42 P **P** **16 37 34.2 -1.0**
baz=310,SNR=20
HLID S **S** **16 48 00.3 +2.6**
baz=310
STU Stuttgart 83.59 325 P **P** **16 37 33.4 -1.5**
STU pmax pmax
comp=Z,442nm,1.4s
STU Stuttgart 83.59 325 *e*P **P** **16 37 34.8 -0.1**
comp=Z,280nm,1.2s,baz=48,slow=5.2
MOTA Moosalm 83.63 324 *i*P **P** **16 37 33.3 -2.1**
comp=Z,369nm,1.1s,SNR=34
MOTA *i*P **PKKPbc** **16 55 55.8 +3.3**
comp=Z,15nm,1.5s
RODP Rodopos 83.64 308 P **P** **16 37 38.0 +2.5**
RODP Rodopos 83.64 308 P **P** **16 37 38.8 +3.3**
RLS Riolos of Patr 83.65 311 P **P** **16 37 38.4 +3.0**
THZ Tophouse 83.66 150 P **P** **16 37 33.1 -2.1**
SQTA Sankt Quirin 83.66 323 *i*P **P** **16 37 33.6 -1.9**
comp=Z,234nm,1.2s,SNR=49
SQTA *e*P **PKKPbc** **16 55 53.9 +1.5**

comp=Z,13nm,1.1s
KEK Kerkira 83.69 314 P **P** **16 37 38.7 +3.1**
KTHA Kythira Island 83.69 309 P **P** **16 37 37.8 +2.1**
RETA Reutte 83.70 324 *i*P **P** **16 37 33.9 -1.7**
comp=Z,429nm,1.3s,SNR=61
RETA *e*P **PKKPbc** **16 55 55.6 +3.3**
comp=Z,12nm,1.3s
LKD2 Lefkada island 83.72 312 P **P** **16 37 38.2 +2.4**
BTNL Ternell 83.73 328 *d*P **P** **16 37 34.5 -1.1**
comp=Z,149nm,1.0s
KTHR Kythira 83.73 309 P **P** **16 37 38.4 +2.5**
NYDR Nydri-Lefkada 83.74 312 P **P** **16 37 38.1 +2.2**
BOZ Bozeman (W) 83.76 39 IAMs_20 IAMs_20 17 15 48.0
comp=Z,122µm,21.0s
BOZ Bozeman (W) 83.76 39 P **P** **16 37 35.5 -0.6**
baz=311,SNR=26
BOZ S **S** **16 47 59.2 -0.3**
baz=311
MEM Membach 83.77 328 P **P** **16 37 34.8 -1.0**
MEM pmax pmax
comp=Z,348nm,1.1s
MEM Membach 83.77 328 *d*P **P** **16 37 34.0 -1.8**
comp=Z,151nm,1.1s
MEM *d*PP PP 16 40 57.7 +10
ANKY Antikythira Is 83.77 309 P **P** **16 37 39.4 +3.3**
BEBN Eben Emael 83.78 328 *d*P **P** **16 37 34.6 -1.2**
comp=Z,278nm,1.0s
TCW Tory Channel 83.80 148 P **P** **16 37 33.6 -2.2**
EVGI Lefkada island 83.82 312 P **P** **16 37 38.6 +2.3**
EKA Eskdalemuir Ar 83.83 336 PP PP 16 40 48.7 +0.3
comp=Z,6.9nm,0.9s,baz=45,slow=8.1,SNR=2.0
EKA LR LR 17 17 38.1
comp=Z,440µm,20.0s,baz=39,slow=38
TUWZ Tuamarina 83.83 149 P **P** **16 37 33.8 -2.2**
GVDS Gavdos 83.84 308 P **P** **16 37 36.5 0.0**
INZ Inchbonnie 83.84 151 P **P** **16 37 33.7 -2.3**
LAWE Loch Awe, Argy 83.84 337 *e*P **P** **16 37 37.0 +1.0**
LAWE IAmb IAmb 16 37 42.3
comp=Z,213nm,1.3s
LAWE IAMs_20 IAMs_20 17 17 53.0
comp=Z,307µm,18.5s
GVD Gavdhos 83.85 308 P **P** **16 37 39.7 +3.2**
GVD Gavdhos 83.85 308 P **P** **16 37 35.1 -1.4**
WVZ Waitaha Valley 83.85 152 P **P** **16 37 33.3 -2.7**
ESK Eskdalemuir 83.86 336 P **P** **16 37 35.3 -0.9**
ESK pmax pmax
comp=Z,154nm,1.2s
ESK MLR MLR
comp=Z,427µm,19.0s
ESK Eskdalemuir 83.86 336 P **P** **16 37 35.2 -0.9**
FOZ Fox Glacier 83.87 153 P **P** **16 37 34.8 -1.3**
ITM Ithomi 83.88 311 P **P** **16 37 32.4 -4.3**
ITM Ithomi 83.88 311 P **P** **16 37 38.9 +2.2**
ITM Ithomi 83.88 311 P **P** **16 37 35.0 -1.6**
KNDR Palaiochora Ch 83.88 308 P **P** **16 37 38.5 +1.8**
KNDR Palaiochora Ch 83.88 308 P **P** **16 37 41.0 +4.3**
UBR Ueberruh 83.90 324 *e*P **P** **16 37 35.5 -1.1**
comp=Z,92nm,1.2s,baz=48,slow=5.2
PGBU Glenifferbraes 83.90 336 *e*P **P** **16 37 37.4 +1.0**
PGBU IAmb IAmb 16 37 41.4
comp=Z,214nm,1.0s
PGBU IAMs_20 IAMs_20 17 16 31.4
comp=Z,382µm,20.3s
BHOU Houvegnez 83.95 328 *d*P **P** **16 37 35.0 -1.8**
comp=Z,94nm,1.1s
BSTI Sart Tilman 83.98 328 *d*P **P** **16 37 36.0 -0.9**
comp=Z,39nm,0.9s
BSWZ Blackbirch Sta 84.03 149 P **P** **16 37 34.4 -2.6**
FETA Feichten 84.04 323 *i*P **P** **16 37 35.4 -2.1**
comp=Z,497nm,1.3s,SNR=44
FETA *e*P **PKKPbc** **16 55 55.0 +3.4**
comp=Z,17nm,1.1s
SNZO South Karori 84.07 148 P **P** **16 37 38.4 +1.2**
VLS Valsamata 84.13 312 P **P** **16 37 40.9 +3.0**
PYL PYLOS 84.17 310 P **P** **16 37 39.2 +1.1**
PSDA Pessada-Kefalo 84.17 312 P **P** **16 37 40.8 +2.7**
KEF4 Livadi, Kephal 84.19 312 P **P** **16 37 41.5 +3.3**
CMWZ Cape Campbell 84.21 149 P **P** **16 37 39.9 +1.9**
BCLA Clavier 84.21 328 *d*P **P** **16 37 36.2 -1.9**
comp=Z,92nm,1.3s
BCLA *d*PP PP 16 41 03.3 +12
KVN Kaiserville 84.22 47 IAmb IAmb 16 37 46.7
comp=Z,259nm,1.2s
DMLN Damoulianata-K 84.23 312 P **P** **16 37 40.3 +1.9**
LTZ Lake Taylor 84.23 151 IAMs_20 IAMs_20 17 11 10.9
comp=Z,91µm,22.0s
LTZ Lake Taylor 84.23 151 P **P** **16 37 37.3 -0.7**
BFZ Birch Farm 84.26 147 IAMs_20 IAMs_20 17 09 45.8
comp=Z,98µm,22.0s
BFZ Birch Farm 84.26 147 P **P** **16 37 38.8 +0.6**
LMK Market Rasen 84.26 333 *e*P **P** **16 37 37.8 -0.5**
LMK IAmb IAmb 16 37 43.5
comp=Z,346nm,1.0s
LMK IAMs_20 IAMs_20 17 14 55.6
comp=Z,330µm,23.3s
KEF3 Kipouria, Keph 84.27 312 P **P** **16 37 41.6 +3.0**
SCTE Santa Cesarea 84.28 314 *i*P **P** **16 37 37.0 -1.6**
DAVA Damuels 84.28 324 *i*P **P** **16 37 36.9 -1.9**
comp=Z,599nm,1.1s,SNR=78
DAVA *e*P **PKKPbc** **16 55 54.5 +3.4**
comp=Z,18nm,1.5s
BFO Black Forest 84.31 326 P **P** **16 37 37.5 -1.2**
BFO pmax pmax
comp=Z,986nm,1.3s
BFO MLR MLR
comp=Z,328µm,19.0s
BFO Black Forest 84.31 326 P **P** **16 37 37.5 -1.2**
BFO Black Forest 84.31 326 *e*P **P** **16 37 37.8 -0.9**
comp=Z,196nm,1.4s,baz=48,slow=5.2
BGES Gesves 84.33 328 *d*P **P** **16 37 36.6 -2.1**
comp=Z,99nm,1.2s
BGES *d*PP **PP** **16 40 59.6 +6.9**
UCC Uccle 84.35 329 *d*P **P** **16 37 37.4 -1.3**
comp=Z,34nm,1.0s
HPK Haverah Park 84.36 334 *e*P **P** **16 37 37.4 -1.3**
HPK IAMs_20 IAMs_20 17 19 32.8
comp=Z,306µm,18.2s
NEWG New Galloway 84.37 336 *e*P **P** **16 37 38.6 -0.2**
NEWG IAmb IAmb 16 37 45.1
comp=Z,185nm,1.2s
NEWG IAMs_20 IAMs_20 17 17 23.3
comp=Z,345µm,22.5s
WLF Walferdange 84.38 327 *e*P **P** **16 37 38.7 -0.2**
comp=Z,178nm,1.3s,baz=48,slow=5.2
WLF Walferdange 84.38 327 *d*P **P** **16 37 37.0 -1.9**
comp=Z,252nm,1.1s
KESW Keswick, Cumbr 84.40 335 *e*P **P** **16 37 40.8 +1.9**
KESW IAmb IAmb 16 37 45.6
comp=Z,432nm,1.2s
KESW IAMs_20 IAMs_20 17 16 14.2
comp=Z,440µm,21.5s
RCHB Rochefort 84.44 328 *d*P **P** **16 37 37.1 -2.1**
comp=Z,140nm,1.0s
RCHB *d*PP PP 16 41 03.3 +10
TMWZ Te Maipa 84.44 147 P **P** **16 37 37.1 -2.0**
WACR West Acre 84.45 332 *e*P **P** **16 37 39.8 +0.6**
WACR IAmb IAmb 16 37 44.8
comp=Z,414nm,1.0s
WACR IAMs_20 IAMs_20 17 20 25.0
comp=Z,408µm,19.0s
KHZ Kahutara 84.46 150 P **P** **16 37 35.9 -3.2**
NVAR Mina Array Bea 84.48 47 P **P** **16 37 38.9 -1.0**
comp=Z,28nm,0.8s,baz=294,slow=4.9,SNR=38
NVAR PP **PP** **16 40 52.6 -2.0**
comp=Z,4.4nm,0.9s,baz=310,slow=7.0,SNR=1.7
NVAR LR LR 17 13 37.5
comp=Z,36µm,19.0s,baz=302,slow=34
NVAR Mina Array Bea 84.48 47 P **P** **16 37 38.4 -1.6**
RPZ Rata Peaks 84.51 152 LR LR 17 12 46.6
comp=Z,50µm,20.2s,baz=334,slow=34
RPZ Rata Peaks 84.51 152 IAmb IAmb 16 37 42.8
comp=Z,132nm,0.8s
RPZ Rata Peaks 84.51 152 P **P** **16 37 38.1 -1.4**
BMRD Maredsous 84.53 329 *d*P **P** **16 37 37.4 -2.3**
comp=Z,193nm,1.0s
BMRD *d*PP PP 16 41 02.9 +8.5
TRWZ Traveller 84.58 148 P **P** **16 37 38.4 -1.4**
OXZ Oxford 84.58 151 IAMs_20 IAMs_20 17 09 04.3
comp=Z,106µm,22.0s
OXZ Oxford 84.58 151 P **P** **16 37 36.7 -3.1**
SNF Seneffe 84.60 329 *d*P **P** **16 37 38.5 -1.5**
comp=Z,177nm,1.0s
DAVOX Davos/Dischmat 84.63 324 P **P** **16 37 39.2 -1.3**
comp=Z,101nm,0.9s,baz=25,slow=6.2
DAVOX LR LR 17 20 11.9

comp=Z,554µm,18.6s,baz=42,slow=39
SLE Schleitheim 84.63 325 P **P** **16 37 38.5 -1.8**
SLE pmax pmax

comp=Z,533nm,1.3s
MLAC Mammoth, Mammo 84.63 48 P **P** **16 37 40.0 -0.8**
baz=308,SNR=13
MLAC S **S** **16 48 08.9 +0.2**

baz=308
NOCI Noci 84.66 316 *i* P P 16 37 29.3 -11
WKZ Wanaka 84.67 154 IAMs_20 IAMs_20 17 15 32.5

comp=Z,86µm,20.0s
AMCZ Amberley 84.71 151 P **P** **16 37 38.5 -1.9**
LBZ Lake Benmore 84.73 153 P **P** **16 37 39.3 -1.2**
GAL1 Galloway 84.74 336 *e*P **P** **16 37 42.0 +1.4**
GAL1 IAmb IAmb 16 37 46.7

comp=Z,287nm,1.0s
GAL1 IAMs_20 IAMs_20 17 17 09.5

comp=Z,312µm,21.6s
DOU Dourbes 84.76 329 *d*P **P** **16 37 38.0 -2.8**
DOU *d*PP **PP** **16 41 03.0 +6.8**
ELMS Elmsett, Ipswi 84.79 332 *e*P **P** **16 37 42.4 +1.5**
ELMS IAmb IAmb 16 37 44.8

comp=Z,1µm,1.9s
ELMS IAMs_20 IAMs_20 17 17 18.8

comp=Z,423µm,21.3s
LBWR Ladybower, Pea 84.83 334 *e*P **P** **16 37 38.8 -2.4**
LBWR IAmb IAmb 16 37 47.1

comp=Z,921nm,0.9s
LBWR IAMs_20 IAMs_20 17 19 47.4

comp=Z,322µm,19.8s
MATE Matera 84.96 316 ⇑P **P** **16 37 42.1 +0.1**
MRVN Minervino Murg 85.00 316 *i* P **P** **16 37 44.1 +1.8**
CLGH Cloghs, Cushen 85.04 337 *e*P **P** **16 37 42.7 +0.5**
CLGH IAMs_20 IAMs_20 17 18 38.8

comp=Z,386µm,19.1s
VOG Valley Oaks Go 85.08 50 P **P** **16 37 42.0 -0.7**
baz=308
VOG S **S** **16 48 11.2 -1.4**

baz=308
SALO Salr 85.10 323 P **P** **16 37 41.8 -0.9**
TUE Stuetta 85.11 324 P **P** **16 37 42.3 -0.6**
H17A Grant Village 85.12 39 P **P** **16 37 42.4 -0.8**
baz=312,SNR=45
H17A S **S** **16 48 16.3 +3.0**

baz=312
MQZ McQueen's Vall 85.15 151 P **P** **16 37 41.4 -1.2**
IOMK Kirk Michael 85.18 336 *e*P **P** **16 37 43.7 +0.9**
IOMK IAmb IAmb 16 37 49.3

comp=Z,787nm,1.3s
IOMK IAMs_20 IAMs_20 17 17 58.4

comp=Z,917µm,20.0s
CWF Charnwood Fore 85.19 333 *e*P **P** **16 37 44.2 +1.3**
CWF IAMs_20 IAMs_20 17 20 37.5

comp=Z,286µm,18.2s
STNC Stoke 85.26 334 *e*P **P** **16 37 44.4 +1.2**
STNC IAmb IAmb 16 37 47.8

comp=Z,2µm,2.1s
STNC IAMs_20 IAMs_20 17 19 59.8

comp=Z,271µm,19.3s
FLWY Flagg Ranch 85.26 39 IAMs_20 IAMs_20 17 18 11.5
comp=Z,82µm,20.0s
SMMC Simmler 85.29 51 P **P** **16 37 43.2 -0.7**
baz=307,SNR=9.3
SMMC S **S** **16 48 09.2 -5.6**

baz=307
RAR Rarotonga 85.29 119 LR LR 17 09 39.4
comp=Z,72µm,20.5s,baz=308,slow=31
RAR Rarotonga 85.29 119 IAMs_20 IAMs_20 17 06 43.8
comp=Z,101µm,22.0s
WIM Isle of Man 85.31 336 *e*P **P** **16 37 43.2 -0.3**
RLMT Red Lodge 85.32 38 IAMs_20 IAMs_20 17 16 27.0
comp=Z,94µm,20.0s
RLMT Red Lodge 85.32 38 P **P** **16 37 43.2 -0.8**
baz=313,SNR=20
RLMT S **S** **16 48 08.1 -7.1**

baz=313
TIN Tinemaha, Big 85.36 49 P **P** **16 37 43.8 -0.5**
baz=308
TIN S **S** **16 48 10.6 -5.2**

baz=308
DGMT Dagmar 85.45 33 IAMs_20 IAMs_20 17 19 28.1
comp=Z,126µm,18.0s
DGMT Dagmar 85.45 33 P **P** **16 37 42.2 -2.2**
baz=316
DGMT S **S** **16 48 15.1 -0.9**

baz=316
DGMT Dagmar 85.45 33 P **P** **16 37 43.6 -0.8**
baz=316,SNR=16
DGMT S **S** **16 48 12.8 -3.2**

baz=316
TPAW Teton Pass 85.52 40 P **P** **16 37 44.5 -0.7**
TPAW IAMs_20 IAMs_20 17 18 12.4

comp=Z,97µm,21.0s
VES Vestal, Richgr 85.56 50 P **P** **16 37 43.8 -1.3**
baz=308
VES S **S** **16 48 12.6 -4.8**

baz=308
LCH Last Change Ra 85.62 48 P **P** **16 37 44.5 -1.1**
LCH IAmb IAmb 16 38 15.9

comp=Z,404nm,1.8s
LOHW Long Hollow 85.63 40 IAMs_20 IAMs_20 17 18 24.2
comp=Z,84µm,20.0s
PKM Mcpherson Peak 85.66 51 P **P** **16 37 45.0 -0.9**
baz=307,SNR=13
PKM S **S** **16 48 18.3 -0.6**

baz=307
ANKE Ethiopia-Afar 85.73 279 *e*P **P** **16 37 47.0 +0.2**
ANKE *e*S **S** **16 48 27.4 +6.8**
ANKE Ethiopia-Afar 85.73 279 *e*P P 16 37 54.3 +7.5
ANKE *e*S **S** **16 48 26.5 +5.9**
ANKE Ethiopia-Afar 85.73 279 *e*P **P** **16 37 47.0 +0.2**
ANKE *e*S **S** **16 48 27.4 +6.8**
ANKE IAMs_20 IAMs_20 16 48 31.1

comp=E,6µm,13.7s
AQU L'Aquila 85.75 319 P **P** **16 37 45.7 -0.3**
AQU pmax pmax

comp=Z,2µm,1.2s
AQU L'Aquila 85.75 319 ⇓ *i* P **P** **16 37 44.2 -1.8**
LAO LASA Array 85.76 35 IAMs_20 IAMs_20 17 15 44.6
comp=Z,137µm,20.0s
LAO LASA Array 85.76 35 P **P** **16 37 44.3 -1.7**
baz=315
LAO S **S** **16 48 12.8 -6.4**

baz=315
LAO LASA Array 85.76 35 P **P** **16 37 45.5 -0.6**
baz=315
LAO S **S** **16 48 17.4 -1.8**

baz=315
WME Myndd Eilian 85.78 335 *e*P **P** **16 37 44.8 -1.1**
FOEL Foel Wylfa 85.78 334 *e*P **P** **16 37 44.3 -1.7**
FOEL IAMs_20 IAMs_20 17 17 58.5

comp=Z,372µm,21.9s
CWC Cottonwood Cre 85.84 49 P **P** **16 37 46.4 -0.3**
baz=308
CWC S **S** **16 48 16.0 -4.5**

baz=308
WPS Cemaes, Angles 85.85 335 *e*P **P** **16 37 47.0 +0.9**
WPS IAmb IAmb 16 37 52.5

comp=Z,277nm,1.3s
WPS IAMs_20 IAMs_20 17 17 07.1

comp=Z,361µm,19.9s
TIP Timpagrande 85.86 315 ⇓P **P** **16 37 45.9 -0.7**
WLF1 Llynfaes 85.90 335 *e*P **P** **16 37 47.2 +0.7**
WLF1 IAmb IAmb 16 37 51.8

comp=Z,554nm,1.0s
WLF1 IAMs_20 IAMs_20 17 17 09.3

comp=Z,813µm,20.3s
AHID Auburn Hatcher 85.93 41 IAMs_20 IAMs_20 17 18 35.4
comp=Z,107µm,20.0s
YLL Llanberis 85.94 335 ⇑ *e*P **P** **16 37 45.6 -1.0**
GRAC Grapevine Rang 85.94 48 P **P** **16 37 46.7 -0.4**
baz=308
GRAC S **S** **16 48 17.6 -3.7**

baz=308
HLM1 Long Mynd 85.96 334 *e*P **P** **16 37 47.6 +0.8**
HLM1 IAmb IAmb 16 37 52.9

comp=Z,160nm,1.1s
HLM1 IAMs_20 IAMs_20 17 20 20.6

comp=Z,308µm,20.5s
HMNX Herstmonceux 85.99 331 *e*P **P** **16 37 48.8 +1.9**
HMNX IAMs_20 IAMs_20 17 18 09.0

comp=Z,437µm,19.7s
YRC Rhoscolyn 85.99 335 *e*P **P** **16 37 45.4 -1.5**
SBC Santa Barbara 86.00 51 P **P** **16 37 46.9 -0.4**
baz=307
SBC S **S** **16 48 15.8 -5.9**

baz=307
ISA Isabella, Lake 86.06 50 P **P** **16 37 46.6 -1.2**
baz=308,SNR=12
ISA S **S** **16 48 16.1 -6.4**

baz=308
ARVC Arvin 86.16 50 P **P** **16 37 47.1 -1.0**
baz=308
ARVC S **S** **16 48 19.7 -3.6**

baz=308
SENIN Lac Senin/Sane 86.19 325 P **P** **16 37 47.1 -1.3**
SENIN IAmb IAmb 16 38 00.2

comp=Z,470nm,1.3s
R11A Troy Canyon, C 86.20 46 P **P** **16 37 47.6 -0.9**
baz=310,SNR=43
R11A S **S** **16 48 20.8 -3.2**

baz=310
STRD Stroud 86.27 333 *e*P **P** **16 37 49.1 +0.7**
STRD IAmb IAmb 16 37 53.9

comp=Z,447nm,0.8s
STRD IAMs_20 IAMs_20 17 21 19.8

comp=Z,332µm,18.1s
SWN1 Swindon 86.34 333 *e*P **P** **16 37 49.6 +0.9**
SWN1 IAmb IAmb 16 37 55.0

comp=Z,496nm,1.3s
SWN1 IAMs_20 IAMs_20 17 19 07.2

comp=Z,328µm,19.1s
NRS Narsarsuaq 86.41 358 IAMs_20 IAMs_20 17 16 58.5
comp=Z,149µm,22.0s
NRS Narsarsuaq 86.41 358 *i* P **P** **16 37 45.7 -3.1**
NRS IAmb IAmb 16 38 17.5

comp=Z,816nm,2.1s
IVI Ivigtut 86.41 359 *i* P **P** **16 37 46.6 -2.2**
IVI IVmB_BB 16 38 08.3

comp=Z,7µm,10.5s
MCH1 Michaelchurch 86.42 333 *e*P **P** **16 37 47.5 -1.5**
MCH1 IAmb IAmb 16 37 55.3

comp=Z,548nm,1.2s
MCH1 IAMs_20 IAMs_20 17 18 43.3

comp=Z,272µm,19.4s
HWUT Hardware Ranch 86.44 42 IAMs_20 IAMs_20 17 18 16.1
comp=Z,96µm,21.0s
MPMC Manual Prospec 86.45 49 P **P** **16 37 49.2 -0.6**
baz=308,SNR=22
MPMC S **S** **16 48 23.1 -3.4**

baz=308
MSSA Maissana 86.51 322 P **P** **16 37 48.2 -1.6**
MSSA IAmb IAmb 16 38 01.6

comp=Z,257nm,1.2s
OSI Osito Audit: C 86.54 51 P **P** **16 37 49.4 -0.7**
baz=308
OSI S **S** **16 48 21.6 -5.6**

baz=308
FURC Furnace Creek, 86.59 48 P **P** **16 37 50.2 0.0**
baz=309
FURC S **S** **16 48 25.9 -1.5**

baz=309
DUG Dugway, Tooele 86.66 43 P **P** **16 37 49.7 -1.0**
DUG pmax pmax

comp=Z,82nm,1.6s
DUG Dugway, Tooele 86.66 43 IAMs_20 IAMs_20 17 20 32.0
comp=Z,87µm,19.0s
DUG Dugway, Tooele 86.66 43 P **P** **16 37 50.1 -0.6**
baz=311,SNR=25
DUG S **S** **16 48 22.0 -6.4**

baz=311
TPNV Topopah Spring 86.67 48 P **P** **16 37 50.7 -0.2**
baz=309,SNR=16
TPNV S **S** **16 48 23.2 -5.5**

baz=309
LRMC Laurel Mtn Rad 86.68 49 P **P** **16 37 49.7 -1.2**
baz=308
LRMC S **S** **16 48 23.3 -5.4**

baz=308
BW06 Boulder Array 86.77 40 IAMs_20 IAMs_20 17 17 42.5
comp=Z,154µm,21.0s
BW06 Boulder Array 86.77 40 P **P** **16 37 50.6 -0.7**
baz=313,SNR=45
BW06 S **S** **16 48 24.5 -5.0**

baz=313
PDAR Pinedale Array 86.77 40 P **P** **16 37 49.4 -1.9**
comp=Z,27nm,0.8s,baz=318,slow=0.9,SNR=28
PDAR PP **PP** **16 41 11.9 -1.0**
comp=Z,4.6nm,0.9s,baz=328,slow=3.2,SNR=2.3
PDAR LR LR 17 18 13.4

comp=Z,102µm,19.7s,baz=338,slow=37
PDAR Pinedale Array 86.77 40 P **P** **16 37 49.0 -2.3**
AAE Adis Abeba 86.84 279 *e*P **P** **16 37 53.0 +0.9**
AAE *e*S **S** **16 48 26.2 -4.9**
AAE Adis Abeba 86.84 279 *e*P P 16 37 59.5 +7.3
AAE *e*S **S** **16 48 36.7 +5.5**
AAE Adis Abeba 86.84 279 *e*P **P** **16 37 53.0 +0.9**
AAE *e*S **S** **16 48 26.2 -4.9**
AAE IAMs_20 IAMs_20 16 48 53.0

comp=E,33µm,13.4s
SNCC San Nicolas Is 86.84 52 P **P** **16 37 51.2 -0.3**
baz=308
SNCC S **S** **16 48 32.3 +2.3**

baz=308
EDW2 Edwards Air Fo 86.85 50 P **P** **16 37 50.8 -0.8**
baz=308
EDW2 S **S** **16 48 27.2 -3.0**

baz=308
GWY Greenwater Val 86.89 48 P **P** **16 37 50.7 -1.2**
GWY IAmb IAmb 16 38 04.7

comp=Z,419nm,1.7s
FURI Furi 86.98 279 IAMs_20 IAMs_20 17 24 13.0
comp=Z,104µm,18.0s
FURI Furi 86.98 279 *e*P **P** **16 37 53.3 +0.4**
FURI *e*S **S** **16 48 29.4 -3.2**
FURI Furi 86.98 279 *e*P P 16 38 01.5 +8.6
FURI *e*S **S** **16 48 33.6 +1.0**
FURI Furi 86.98 279 *e*P **P** **16 37 53.3 +0.4**
FURI *e*S **S** **16 48 29.4 -3.2**
FURI IAMs_20 IAMs_20 16 48 54.2

comp=Z,40µm,14.2s
DECC Green Verdugo 87.02 51 P **P** **16 37 52.0 -0.4**
baz=308
DECC S **S** **16 48 32.1 +0.3**

baz=308
RSBS Rosebush, Pemb 87.10 334 *e*P **P** **16 37 53.0 +0.6**
RSBS IAmb IAmb 16 37 58.4

comp=Z,274nm,1.4s
RSBS IAMs_20 IAMs_20 17 17 58.8

comp=Z,450µm,20.0s
PASC Pasadena Art C 87.16 51 IAMs_20 IAMs_20 17 10 49.2
comp=Z,112µm,20.0s
LOR Lormes 87.17 327 P **P** **16 37 51.6 -1.3**
LOR pmax pmax

comp=Z,195nm,1.5s
SHOC Shoshone, Teco 87.31 48 P **P** **16 37 53.4 -0.4**
baz=309
SHOC S **S** **16 48 35.6 +1.0**

baz=309
GSC Goldstone, Bar 87.35 49 P **P** **16 37 53.8 -0.3**
baz=309,SNR=12
GSC S **S** **16 48 33.7 -1.4**

baz=309
FMP Fort Macarthur 87.37 51 P **P** **16 37 53.9 -0.2**
baz=308
FMP S **S** **16 48 34.9 -0.2**

baz=308
BNI Bardonecchia 87.43 324 P **P** **16 37 52.8 -1.6**
BNI pmax pmax

comp=Z,168nm,1.1s
BNI MLR MLR

comp=Z,710µm,20.0s
BNI Bardonecchia 87.43 324 P **P** **16 37 52.8 -1.6**
BNI IAmb IAmb 16 38 09.1

comp=Z,168nm,1.1s
BFSC Mount Baldy Ra 87.46 50 P **P** **16 37 55.1 +0.4**
baz=308
BFSC S **S** **16 48 35.3 -1.0**

baz=308
CIS Catalina Islan 87.48 51 P **P** **16 37 54.7 0.0**
baz=308
CIS S **S** **16 48 36.5 +0.2**

baz=308
RRX Edison Barstow 87.50 50 P **P** **16 37 54.7 0.0**
baz=309
RRX S **S** **16 48 36.5 +0.1**

baz=309
SCI2 San Clemente I 87.66 52 P **P** **16 37 55.8 +0.3**
baz=308
SCI2 S **S** **16 48 35.3 -2.6**

baz=308
ULM Lac du Bonnet 87.66 28 P **P** **16 37 53.6 -1.6**
comp=Z,99nm,0.9s,baz=331,slow=4.6,SNR=18
ULM LR LR 17 18 41.9

comp=Z,182µm,20.7s,baz=329,slow=37
ULM Lac du Bonnet 87.66 28 *d* *i* P **P** **16 37 53.0 -2.2**
ULM Lac du Bonnet 87.66 28 IAmb IAmb 16 38 02.4
comp=Z,311nm,1.1s
SAOF Saorge 87.75 323 P **P** **16 37 58.5 +2.7**
SAOF pmax pmax

comp=Z,161nm,1.6s
HTL Hartland 87.78 334 *e*P **P** **16 37 57.1 +1.4**
HTL IAMs_20 IAMs_20 17 20 09.8

comp=Z,239µm,20.5s
TUQ Turquoise Moun 87.83 49 P **P** **16 37 56.8 +0.4**
baz=309
TUQ S **S** **16 48 38.1 -1.7**

baz=309
ISO Isola 87.87 323 P **P** **16 37 58.6 +2.2**
ISO pmax pmax

comp=Z,97nm,1.2s
BBRC Big Bear Solar 87.93 50 P **P** **16 37 57.0 0.0**
baz=309
BBRC S **S** **16 48 37.5 -3.4**

baz=309
HEC Hector,Ludlow 87.95 49 P **P** **16 37 55.2 -1.8**
baz=309
HEC S **S** **16 48 39.7 -1.2**

baz=309
MDND Maddock 87.98 31 P **P** **16 37 55.3 -1.5**
baz=320
MDND S **S** **16 48 36.5 -3.9**

baz=320
MDND Maddock 87.98 31 P **P** **16 37 55.6 -1.2**
baz=320,SNR=13
MDND S **S** **16 48 38.4 -2.0**

baz=320
PGF Pioggiola 88.01 321 P **P** **16 37 56.0 -1.1**
PGF pmax pmax

comp=Z,137nm,1.4s
MURC Murrieta 88.16 51 P **P** **16 37 57.2 -0.7**
baz=309
MURC S **S** **16 48 43.8 +1.0**

baz=309
JSA Saint Aubin 88.31 331 *e*P **P** **16 37 59.5 +1.2**
JSA IAmb IAmb 16 38 04.5

comp=Z,125nm,1.0s
JSA IAMs_20 IAMs_20 17 23 21.6

comp=Z,313µm,17.1s
VAE Valguarnera 88.37 314 LR LR 17 21 56.0
comp=Z,110µm,18.3s,baz=37,slow=39
GMRC Granite Mounta 88.41 49 P **P** **16 37 58.3 -0.9**
baz=310
GMRC S **S** **16 48 47.0 +1.7**

baz=310
E28A Huff 88.45 33 P **P** **16 37 57.6 -1.5**
baz=319
K22A Casper 88.46 38 P **P** **16 37 57.3 -2.0**
baz=315
K22A Casper 88.46 38 P **P** **16 37 58.3 -1.0**
baz=315,SNR=14
K22A S **S** **16 48 43.9 -1.7**

baz=315
DILA Dilla 88.63 277 *e*P **P** **16 37 59.6 -0.9**
DILA *e*S S 16 48 37.2 -11
DILA Dilla 88.63 277 *e*P P 16 38 08.7 +8.1
DILA *e*S **S** **16 48 42.9 -5.2**
DILA Dilla 88.63 277 *e*P **P** **16 37 59.6 -0.9**
DILA *e*S S 16 48 37.2 -11
DILA IAMs_20 IAMs_20 16 49 08.2

comp=E,31µm,15.6s
PFO Pinyon Flats O 88.63 50 LR LR 17 11 26.5
comp=E,116µm,21.4s,baz=297,slow=31
PFO Pinyon Flats O 88.63 50 *d* *i* P **P** **16 37 59.7 -0.6**
PFO pmax pmax

comp=Z,310nm,2.2s
PFO MLR MLR

comp=Z,68µm,18.0s
PFO Pinyon Flats O 88.63 50 IAMs_20 IAMs_20 17 11 45.4
comp=Z,119µm,20.0s
PFO Pinyon Flats O 88.63 50 P **P** **16 37 59.1 -1.2**
baz=309
PFO S **S** **16 48 48.1 +0.6**

baz=309
TPFO Pinon Flats 88.64 50 P **P** **16 37 58.8 -1.5**
baz=309
TPFO S **S** **16 48 48.1 +0.6**

baz=309
109C Camp Elliot, M 88.66 51 IAMs_20 IAMs_20 17 10 00.7
comp=Z,87µm,22.0s
109C Camp Elliot, M 88.66 51 P **P** **16 37 59.6 -0.7**
baz=309
109C S **S** **16 48 48.2 +0.8**

baz=309
RSSD Black Hills 88.68 36 P **P** **16 37 59.1 -1.3**
RSSD pmax pmax

comp=Z,360nm,1.5s
RSSD MLR MLR

comp=Z,117µm,20.0s
RSSD Black Hills 88.68 36 P **P** **16 37 59.1 -1.3**
RSSD IAmb IAmb 16 38 13.3

comp=Z,360nm,1.4s
RSSD Black Hills 88.68 36 IAMs_20 IAMs_20 17 16 49.7
comp=Z,117µm,20.0s
RSSD Black Hills 88.68 36 P **P** **16 37 58.9 -1.5**
baz=317
RSSD Black Hills 88.68 36 P **P** **16 37 59.3 -1.1**
baz=317
RSSD S **S** **16 48 45.9 -1.8**

baz=317
BELC Belle Mtn. Jos 88.69 50 P **P** **16 37 59.3 -1.2**
baz=309
BELC S **S** **16 48 48.3 +0.3**

baz=309
CCA1 Carnmenellis 88.71 333 *e*P **P** **16 38 00.7 +0.6**
CCA1 IAMs_20 IAMs_20 17 20 35.6

comp=Z,216µm,16.9s
RWWY Rawlins 88.77 39 IAMs_20 IAMs_20 17 17 28.5
comp=Z,132µm,22.0s
NEE2 Needles Airpor 89.08 48 P **P** **16 38 01.5 -0.7**
baz=310
NEE2 S **S** **16 48 55.2 +3.9**

baz=310
MONP2 Monument Peak 89.11 51 P **P** **16 38 01.0 -1.6**
baz=309
MONP2 S **S** **16 48 52.4 +0.2**

baz=309
IRM Iron Mountain 89.13 49 P **P** **16 38 02.1 -0.5**
baz=310
AGMN Agassiz Nation 89.21 29 IAMs_20 IAMs_20 17 17 58.0
comp=Z,137µm,22.0s
AGMN Agassiz Nation 89.21 29 P **P** **16 38 00.8 -1.7**
baz=322
AGMN S **S** **16 48 51.9 -0.2**

baz=322
AGMN Agassiz Nation 89.21 29 P **P** **16 38 01.4 -1.1**
baz=322
AGMN S **S** **16 48 51.4 -0.7**

baz=322
BC3 Big Chuckawall 89.26 50 P **P** **16 38 02.5 -0.6**
baz=310
BC3 S **S** **16 48 52.0 -1.3**

baz=310
O20A White River Ci 89.29 41 P **P** **16 38 02.7 -0.7**
baz=314,SNR=25
O20A S **S** **16 48 54.0 +0.4**

baz=314
ROSF Rostrenen 89.44 331 *e*P **P** **16 38 02.8 -0.8**
IKP In-Ko-Pah, Jac 89.47 51 P **P** **16 38 03.3 -0.8**
baz=309
IKP S **S** **16 48 57.1 +1.9**

baz=309
MFF Saint Martin d 89.47 329 P **P** **16 38 02.9 -0.9**
SWSC Sam W. Stewart 89.48 50 P **P** **16 38 02.8 -1.3**
baz=310
SWSC S **S** **16 48 58.2 +3.0**

baz=310
SBV Sambava 89.63 254 P P 16 38 16.0 +11
D32B Dogwood Acres, 89.64 30 P **P** **16 38 02.9 -1.7**
baz=322
PDMCI Parker Dam,Lak 89.68 49 P **P** **16 38 04.0 -1.0**
baz=310
PDMCI S **S** **16 49 02.2 +5.2**

baz=310
VSL Villasalto 89.93 319 P **P** **16 38 05.5 -0.6**
VSL IAmb IAmb 16 38 19.3

comp=Z,254nm,1.4s
N23A Red Feather La 90.01 39 P **P** **16 38 06.0 -0.8**
baz=315,SNR=44

N23A					S	**S**	**16 49 07.6**	**+7.2**
	baz=315							
PV23	**Carpenter Ridg**	**90.01**	**43**		IAmb	IAmb	16 38 15.2	
	comp=Z,226nm,1.0s							
B35A	**Bob, Littlefor**	**90.02**	**28**		P	**P**	**16 38 04.3**	**-2.0**
	baz=324							
GLA	**Glamis**	**90.04**	**50**		P	**P**	**16 38 06.5**	**-0.3**
	baz=310							
GLA					S	**S**	**16 49 03.9**	**+3.4**
	baz=310							
MCQ	**Macquarie Isla**	**90.21**	**164**		P	**P**	**16 38 06.9**	**+0.3**
WUAZ	**Wupatki**	**90.60**	**46**		IAMs_20	IAMs_20	17 15 53.7	
	comp=Z,108µm,22.0s							
WUAZ	**Wupatki**	**90.60**	**46**		P	**P**	**16 38 08.7**	**-0.8**
	baz=312,SNR=15							
WUAZ					S	**S**	**16 49 08.5**	**+2.6**
	baz=312							
SMCO	**Snowmass**	**90.66**	**41**		IAMs_20	IAMs_20	17 20 29.4	
	comp=Z,91µm,19.0s							
SUSD	**Miller**	**90.87**	**33**		P	**P**	**16 38 08.3**	**-2.1**
	baz=320							
SUSD					S	**S**	**16 49 06.2**	**-1.5**
	baz=320							
SUSD	**Miller**	**90.87**	**33**		P	**P**	**16 38 10.1**	**-0.2**
	baz=320							
SUSD					S	**S**	**16 49 08.4**	**+0.8**
	baz=320							
PMOR	**Pomariorio Ree**	**90.92**	**107**	*e*	P	**P**	**16 38 14.6**	**+3.7**
	comp=Z,214nm,1.2s							
PMOR	**Pomariorio Ree**	**90.92**	**107**	*e*	T	T	18 18 07.2	
	comp=Z,79nm,0.2s							
ISCO	**Idaho Springs**	**90.96**	**40**		P	**P**	**16 38 10.1**	**-1.2**
ISCO	**Idaho Springs**	**90.96**	**40**		IAMs_20	IAMs_20	17 18 16.6	
	comp=Z,135µm,21.0s							
ISCO	**Idaho Springs**	**90.96**	**40**		P	**P**	**16 38 09.9**	**-1.4**
	baz=316							
ISCO					S	**S**	**16 49 09.4**	**+0.1**
	baz=316							
ISCO	**Idaho Springs**	**90.96**	**40**		P	**P**	**16 38 10.2**	**-1.2**
	baz=316,SNR=20							
ISCO					S	**S**	**16 49 09.0**	**-0.3**
	baz=316							
F33A	**5 Mile Ranch,**	**90.97**	**31**		P	**P**	**16 38 08.9**	**-1.9**
	baz=322							
F33A					S	**S**	**16 49 04.0**	**-4.5**
	baz=322							
PPT	**Papeete**	**90.99**	**110**		LR	LR	17 11 11.9	
	comp=Z,71µm,21.7s,baz=296,slow=30							
PPT2	**Papeete2**	**91.00**	**110**	*e*	P	**P**	**16 38 15.4**	**+4.0**
	comp=Z,193nm,1.3s							
PPT2	**Papeete2**	**91.00**	**110**	*e*	PP	PP	16 41 50.4	+2.4
	comp=Z,5µm,23.5s							
PPT2				*e*	SKSac	**SKSac**	**16 48 44.8**	**+0.6**
	comp=Z,15µm,23.4s							
PPT2				*e*	S	**S**	**16 49 10.3**	**+0.7**
	comp=Z,32µm,27.0s							
PPT2	**Papeete2**	**91.00**	**110**	*e*	PS	PS	16 50 20.6	+2.4
	comp=Z,24µm,27.0s							
PPT2				*e*	SS	SS	16 55 16.7	+3.2
	comp=Z,65µm,28.8s							
PPT2				*e*	LQ	LQ	17 03 30.3	
	comp=Z,236µm,29.0s							
PPT2				*e*	LR	LR	17 07 15.6	
	comp=Z,183µm,22.8s,baz=302							
PPTF	**Pamatai, Papee**	**91.01**	**110**		IAMs_20	IAMs_20	17 10 27.2	
	comp=Z,84µm,21.0s							
PAE	**Paea**	**91.04**	**110**	*e*	P	**P**	**16 38 15.3**	**+3.9**
	comp=Z,71nm,1.5s							
MVCO	**Mesa Verde**	**91.16**	**43**		IAMs_20	IAMs_20	17 21 26.2	
	comp=Z,112µm,20.0s							
MVCO	**Mesa Verde**	**91.16**	**43**		P	**P**	**16 38 11.6**	**-0.6**
	baz=314,SNR=40							
MVCO					S	**S**	**16 49 13.1**	**+2.1**
	baz=314							
EYMN	**Ely**	**91.22**	**27**		IAmb	IAmb	16 38 19.5	
	comp=Z,238nm,1.0s							
EYMN	**Ely**	**91.22**	**27**		IAMs_20	IAMs_20	17 24 48.2	
	comp=Z,120µm,19.0s							
EYMN	**Ely**	**91.22**	**27**		P	**P**	**16 38 10.4**	**-1.6**
	baz=326							
EYMN					S	**S**	**16 49 05.5**	**-5.2**
	baz=326							
EYMN	**Ely**	**91.22**	**27**		P	**P**	**16 38 11.5**	**-0.5**
	baz=326,SNR=76							
EYMN					S	**S**	**16 49 05.9**	**-4.8**
	baz=326							
VAH	**Vaihoa**	**91.26**	**107**	*e*	P	**P**	**16 38 16.0**	**+3.5**
	comp=Z,108nm,1.2s							
SCHQ	**Schefferville**	**91.50**	**10**		P	**P**	**16 38 12.8**	**-0.3**
	comp=Z,77nm,1.2s,baz=357,slow=5.0,SNR=19							
SCHQ					PKKPbc	**PKKPbc**	**16 55 32.5**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=180,slow=2.3,SNR=5.5							
SCHQ					LR	LR	17 19 49.6	
	comp=Z,249µm,21.7s,baz=342,slow=36							
SCHQ	**Schefferville**	**91.50**	**10**		IAmb	IAmb	16 38 24.4	
	comp=Z,159nm,1.3s							
S22A	**4UR Ranch, Cre**	**91.74**	**42**		P	**P**	**16 38 14.1**	**-0.8**
	baz=315,SNR=40							
S22A					S	**S**	**16 49 21.9**	**+5.4**
	baz=315							
Q24A	**Divide**	**91.81**	**40**		P	**P**	**16 38 14.4**	**-0.8**
	baz=316,SNR=17							
Q24A					S	**S**	**16 49 21.1**	**+4.1**
	baz=316							
W18A	**Petrified Fore**	**91.86**	**46**		P	**P**	**16 38 14.3**	**-1.1**
	baz=313							
W18A					S	**S**	**16 49 22.5**	**+5.1**
	baz=313							
OGNE	**Ogallala**	**92.01**	**37**		IAMs_20	IAMs_20	17 26 34.8	
	comp=Z,109µm,18.0s							
OGNE	**Ogallala**	**92.01**	**37**		P	**P**	**16 38 14.2**	**-1.6**
	baz=318							
OGNE	**Ogallala**	**92.01**	**37**		P	**P**	**16 38 15.2**	**-0.7**
	baz=318							
OGNE					S	**S**	**16 49 14.8**	**-3.5**
	baz=318							
214A	**Organ Pipe Nat**	**92.05**	**50**		P	**P**	**16 38 15.7**	**-0.4**
	baz=311,SNR=6.7							
214A					S	**S**	**16 49 24.5**	**+5.6**
	baz=311							
F36A	**Milaca**	**92.12**	**29**		P	**P**	**16 38 18.5**	**+2.4**
	baz=324							
F36A					S	**S**	**16 49 14.5**	**-4.4**
	baz=324							
E38A	**The Farm, Brul**	**92.30**	**28**		P	**P**	**16 38 14.8**	**-2.1**
	baz=326							
E38A					S	**S**	**16 49 19.7**	**-0.8**
	baz=326							
K31A	**O'Neill**	**92.36**	**34**		P	**P**	**16 38 16.7**	**-0.6**
	baz=320							
MAHO	**Mahon**	**92.40**	**322**		Pdif	**P**	**16 38 14.9**	**-2.6**
MAHO					S	**SKSac**	**16 48 44.6**	**-6.9**
ECSD	**EROS Data Cent**	**92.48**	**32**		P	**P**	**16 38 16.0**	**-1.9**
	baz=322							
ECSD					S	**S**	**16 49 21.0**	**-1.3**
	baz=322							
ECSD	**EROS Data Cent**	**92.48**	**32**		P	**P**	**16 38 17.1**	**-0.7**
	baz=322,SNR=16							
ECSD					S	**S**	**16 49 20.0**	**-2.3**
	baz=322							
SDCO	**Great Sand Dun**	**92.48**	**41**		IAMs_20	IAMs_20	17 19 56.8	
	comp=Z,121µm,22.0s							
SDCO	**Great Sand Dun**	**92.48**	**41**		P	**P**	**16 38 16.2**	**-2.2**
	baz=316							
SDCO					S	**S**	**16 49 25.5**	**+2.5**
	baz=316							
SDCO	**Great Sand Dun**	**92.48**	**41**		P	**P**	**16 38 17.8**	**-0.6**
	baz=316,SNR=12							
SDCO					S	**S**	**16 49 25.3**	**+2.2**
	baz=316							
KEST	**Kesra**	**92.55**	**316**		P	**P**	**16 38 17.3**	**-1.2**
	comp=Z,10nm,1.1s,baz=193,slow=2.8,SNR=2.8							
KEST					PKKPbc	**PKKPbc**	**16 55 32.5**	**+1.9**
	comp=Z,4.8nm,0.9s,baz=236,slow=6.4,SNR=3.6							
KEST	**Kesra**	**92.55**	**316**		P	**P**	**16 38 17.4**	**-1.0**
KEST	**Kesra**	**92.55**	**316**		P	**P**	**16 38 21.8**	**+3.4**
	SNR=24							
LODK	**Lodwar**	**92.70**	**276**		P	**P**	**16 38 18.8**	**-0.7**
	SNR=13							
LODK	**Lodwar**	**92.70**	**276**	*e*	P	**P**	**16 38 20.8**	**+1.4**
LODK				*e*	S	**SKSac**	**16 48 53.0**	**-1.1**
LODK	**Lodwar**	**92.70**	**276**	*e*	P	P	16 38 30.2	+11
LODK				*e*	S	**SKSac**	**16 48 56.2**	**+2.1**
LODK	**Lodwar**	**92.70**	**276**	*e*	P	**P**	**16 38 20.8**	**+1.4**
LODK				*e*	S	**SKSac**	**16 48 53.0**	**-1.1**
LODK					IAMs_20	IAMs_20	16 50 55.0	
	comp=E,22µm,22.9s							
SPMN	**Marine on St.**	**92.93**	**29**		P	**P**	**16 38 18.9**	**-1.0**
	baz=325							
SPMN					S	**S**	**16 49 23.9**	**-2.3**
	baz=325							
SPMN	**Marine on St.**	**92.93**	**29**		P	**P**	**16 38 19.6**	**-0.3**
	baz=325							
SPMN					S	**S**	**16 49 25.1**	**-1.1**
	baz=325							
D41A	**Chassel**	**93.06**	**26**		P	**P**	**16 38 21.1**	**+0.7**
	baz=328							
D41A					S	**S**	**16 49 24.8**	**-2.3**
	baz=328							
TUC	**Tucson**	**93.10**	**48**		P	**P**	**16 38 20.6**	**-0.4**
TUC					pmax	pmax		
	comp=Z,42nm,1.2s							
TUC					MLR	MLR		
	comp=Z,117µm,20.0s							
TUC	**Tucson**	**93.10**	**48**		P	**P**	**16 38 20.6**	**-0.4**
TUC	**Tucson**	**93.10**	**48**		IAMs_20	IAMs_20	17 19 48.9	
	comp=Z,117µm,20.0s							
TUC	**Tucson**	**93.10**	**48**		P	**P**	**16 38 20.1**	**-0.9**
	baz=312							
TUC					S	**S**	**16 49 32.4**	**+4.1**
	baz=312							
KSCO	**Kaye Shedlock'**	**93.13**	**39**		P	**P**	**16 38 20.5**	**-0.6**
	baz=318							
KSCO					S	**S**	**16 49 29.8**	**+1.3**
	baz=318							
KSCO	**Kaye Shedlock'**	**93.13**	**39**		P	**P**	**16 38 19.9**	**-1.2**
	baz=318							
KSCO					S	**S**	**16 49 27.2**	**-1.3**
	baz=318							
KIBK	**Kibwezi**	**93.52**	**269**		P	**P**	**16 38 24.4**	**+1.1**
	SNR=14							
T25A	**Trinidad**	**93.52**	**41**		P	**P**	**16 38 21.9**	**-1.2**
	baz=316,SNR=16							
T25A					S	**S**	**16 49 32.1**	**-0.1**
	baz=316							
KMBO	**Kilima Mbogo**	**93.55**	**271**		P	**P**	**16 38 22.3**	**-1.2**
	comp=Z,10nm,1.0s,baz=18,slow=6.8,SNR=11							
KMBO	**Kilima Mbogo**	**93.55**	**271**	*e*	P	**P**	**16 38 23.3**	**-0.2**
KMBO				*e*	S	**SKSac**	**16 48 60.0**	**+0.8**
KMBO	**Kilima Mbogo**	**93.55**	**271**	*e*	P	P	16 38 30.2	+6.7
KMBO				*e*	S	**SKSac**	**16 49 05.5**	**+6.3**
KMBO	**Kilima Mbogo**	**93.55**	**271**	*e*	P	**P**	**16 38 23.3**	**-0.2**
KMBO				*e*	S	**SKSac**	**16 48 60.0**	**+0.8**
KMBO					IAMs_20	IAMs_20	16 49 16.5	
	comp=Z,16µm,11.3s							
BGNE	**Belgrade**	**93.58**	**35**		P	**P**	**16 38 20.2**	**-2.8**
	baz=321							
BGNE					S	**S**	**16 49 29.6**	**-2.5**
	baz=321							
BGNE	**Belgrade**	**93.58**	**35**		P	**P**	**16 38 22.0**	**-0.9**
	baz=321							
BGNE					S	**S**	**16 49 28.1**	**-3.9**
	baz=321							
COWI	**Conover**	**93.65**	**27**		IAMs_20	IAMs_20	17 20 18.3	
	comp=Z,147µm,22.0s							
COWI	**Conover**	**93.65**	**27**		P	**P**	**16 38 20.9**	**-2.3**
	baz=327							
COWI					S	**S**	**16 49 31.1**	**-1.5**
	baz=327							
I37B	**Waseca**	**93.67**	**30**		P	**P**	**16 38 22.2**	**-1.1**
	baz=324							
I37B					S	**S**	**16 49 31.6**	**-1.1**
	baz=324							
ANMO	**Albuquerque**	**93.92**	**44**		IAMs_20	IAMs_20	17 23 07.9	
	comp=Z,96µm,19.0s							
ANMO	**Albuquerque**	**93.92**	**44**		P	**P**	**16 38 24.9**	**0.0**
	baz=315							
ANMO					S	**S**	**16 49 33.5**	**-2.2**
	baz=315							
ANMO	**Albuquerque**	**93.92**	**44**		P	**P**	**16 38 25.0**	**+0.1**
	baz=315							
G40A	**Rib Lake**	**93.94**	**28**		IAmb	IAmb	16 38 32.1	
	comp=Z,122nm,0.9s							
G40A	**Rib Lake**	**93.94**	**28**		P	**P**	**16 38 23.3**	**-1.3**
	baz=326							
G40A					S	**S**	**16 49 31.1**	**-4.0**
	baz=326							
TAOE	**Nuku Hiva Isla**	**93.97**	**98**	*e*	S	**S**	**16 49 36.6**	**+0.2**
	comp=Z,24µm,25.6s							
TAOE	**Nuku Hiva Isla**	**93.97**	**98**	*e*	LQ	LQ	17 04 29.9	
	comp=Z,126µm,29.7s							
TAOE				*e*	LR	LR	17 08 42.7	
	comp=Z,186µm,23.8s,baz=304							
L34A	**Svendsen Farm,**	**93.98**	**33**		P	**P**	**16 38 23.1**	**-1.7**
	baz=322							
L34A					S	**S**	**16 49 33.5**	**-2.0**
	baz=322							
E43A	**Lone Tree Farm**	**94.21**	**25**		P	**P**	**16 38 26.8**	**+1.1**
	baz=329							
E43A					S	**S**	**16 49 31.8**	**-5.5**
	baz=329							
Y22D	**IRIS PASSCAL I**	**94.26**	**45**		IAMs_20	IAMs_20	17 23 24.1	
	comp=Z,104µm,19.0s							
Y22D	**IRIS PASSCAL I**	**94.26**	**45**		P	**P**	**16 38 26.4**	**0.0**
	baz=315							
Y22D	**IRIS PASSCAL I**	**94.26**	**45**		P	**P**	**16 38 25.6**	**-0.8**
	baz=315							
Y22D					S	**S**	**16 49 39.6**	**+1.1**
	baz=315							
F42A	**Maple Grove Fa**	**94.32**	**26**		P	**P**	**16 38 24.3**	**-2.0**
	baz=328							
F42A					S	**S**	**16 49 35.0**	**-3.4**
	baz=328							
Y22A	**Socorro**	**94.33**	**45**		P	**P**	**16 38 27.1**	**+0.3**
	baz=315							
N33B	**J Bar K, Exete**	**94.43**	**35**		P	**P**	**16 38 27.4**	**+0.5**
	baz=321							
N33B					S	**S**	**16 49 33.9**	**-5.6**
	baz=321							
OPO	**Ambhidratompo**	**94.62**	**251**		LR	LR	17 16 58.3	
	comp=Z,18µm,21.9s,baz=184,slow=33							
CBKS	**Cedar Bluff**	**94.77**	**37**		IAMs_20	IAMs_20	17 23 49.9	
	comp=Z,101µm,20.0s							
CBKS	**Cedar Bluff**	**94.77**	**37**		P	**P**	**16 38 28.4**	**-0.1**
	baz=319							
CBKS					S	**S**	**16 49 37.3**	**-5.4**
	baz=319							
CBKS	**Cedar Bluff**	**94.77**	**37**		P	**P**	**16 38 28.2**	**-0.3**
	baz=319							
CBKS					S	**S**	**16 49 39.8**	**-2.9**
	baz=319							
121A	**Cookes Peak, D**	**94.81**	**46**		P	**P**	**16 38 28.0**	**-1.0**
	baz=314							
121A	**Cookes Peak, D**	**94.81**	**46**		P	**P**	**16 38 28.0**	**-1.0**
	baz=314,SNR=8.2							
121A					S	**S**	**16 49 47.3**	**+3.9**
	baz=314							
K38A	**Parkersburg**	**95.04**	**31**		P	**P**	**16 38 29.9**	**+0.3**
	baz=324							
K38A					S	**S**	**16 49 37.9**	**-6.8**
	baz=324							
E46A	**Sault Ste Mari**	**95.15**	**24**		P	**P**	**16 38 28.1**	**-1.9**
	baz=331							
N35A	**Tabor**	**95.19**	**33**		P	**P**	**16 38 30.1**	**-0.2**
	baz=322							
N35A					S	**S**	**16 49 38.6**	**-7.5**
	baz=322							
SCIA	**State Center**	**95.45**	**31**		IAMs_20	IAMs_20	17 21 14.2	
	comp=Z,146µm,22.0s							
SCIA	**State Center**	**95.45**	**31**		P	**P**	**16 38 31.2**	**-0.3**
	baz=324							
SCIA	**State Center**	**95.45**	**31**		P	**P**	**16 38 29.8**	**-1.7**
	baz=324							
SCIA					S	**S**	**16 49 43.8**	**-4.5**
	baz=324							
H43A	**Windswept, Lux**	**95.55**	**27**		P	**P**	**16 38 31.3**	**-0.6**
	baz=328							
H43A					S	**S**	**16 49 45.8**	**-3.3**
	baz=328							
R32A	**Long Quarter,**	**95.59**	**37**		P	**P**	**16 38 29.9**	**-2.4**
	baz=320							
R32A					S	**S**	**16 49 49.7**	**-0.1**
	baz=320							
I42A	**Draeger Farm,**	**95.60**	**28**		P	**P**	**16 38 30.7**	**-1.4**
	baz=327							
I42A					S	**S**	**16 49 47.3**	**-2.2**
	baz=327							
UCM	**Universidad Co**	**95.80**	**326**		Pdif	**P**	**16 38 34.9**	**+1.7**
UCM					S	**SKSac**	**16 49 09.6**	**-0.5**
G45A	**Suttons Bay**	**95.83**	**25**		P	**P**	**16 38 31.7**	**-1.4**
	baz=330							
G45A					P	**P**	**16 38 31.7**	**-1.4**
	baz=330							
G45A					S	**S**	**16 49 46.2**	**-5.3**
	baz=330							
G45A					S	**S**	**16 49 46.2**	**-5.3**
	baz=330							
JFWS	**Jewell Farm**	**95.88**	**29**		P	**P**	**16 38 30.8**	**-2.6**
	baz=326							
JFWS					S	**S**	**16 49 49.1**	**-3.0**
	baz=326							
JFWS	**Jewell Farm**	**95.88**	**29**		P	**P**	**16 38 31.8**	**-1.7**
	baz=326							
JFWS					S	**S**	**16 49 48.8**	**-3.2**
	baz=326							
KSU1	**Kansas State U**	**96.11**	**35**		P	**P**	**16 38 33.2**	**-1.4**
	baz=322							
KSU1					S	**S**	**16 49 51.5**	**-2.6**
	baz=322							
KSU1	**Kansas State U**	**96.11**	**35**		P	**P**	**16 38 33.4**	**-1.2**
	baz=322							
KSU1					S	**S**	**16 49 52.0**	**-2.2**
	baz=322							
KIDD	**KIDD Seismic O**	**96.11**	**46**		P	**P**	**16 38 35.8**	**+0.9**
	baz=315							
PBRG	**Braganca**	**96.16**	**329**	*e*	P	**P**	**16 38 39.0**	**+4.2**
PBRG	**Braganca**	**96.16**	**329**	*e*	PP	**PP**	**16 42 32.0**	**+5.2**
L40A	**Anamosa**	**96.18**	**30**		P	**P**	**16 38 34.1**	**-0.7**
	baz=326							
L40A					S	**S**	**16 49 56.1**	**+1.5**
	baz=326							
N38A	**Joes South For**	**96.34**	**32**		P	**P**	**16 38 36.6**	**+1.0**
	baz=324							
N38A					S	**S**	**16 49 53.8**	**-2.3**
	baz=324							
GLMI	**Grayling**	**96.39**	**24**		IAMs_20	IAMs_20	17 25 33.5	
	comp=Z,125µm,19.0s							
GLMI	**Grayling**	**96.39**	**24**		P	**P**	**16 38 36.4**	**+0.6**
	baz=331							
GLMI	**Grayling**	**96.39**	**24**		P	**P**	**16 38 34.5**	**-1.2**
	baz=331							
GLMI					S	**S**	**16 49 53.1**	**-3.3**
	baz=331							
I45A	**Fountain**	**96.49**	**26**		P	**P**	**16 38 35.7**	**-0.5**
	baz=329							
I45A					P	**P**	**16 38 35.7**	**-0.5**
	baz=329							
I45A					S	**S**	**16 49 56.5**	**-0.7**
	baz=329							
I45A					S	**S**	**16 49 56.5**	**-0.7**
	baz=329							
ESDC	**Sonseca Array**	**96.64**	**326**		P	**P**	**16 38 35.3**	**-1.7**
	comp=Z,7.1nm,0.8s,baz=27,slow=4.1,SNR=11							
ESDC					PP	PP	16 42 22.2	-8.4
	comp=Z,6.8nm,1.0s,baz=27,slow=6.7,SNR=4.8							
ESDC					PKKPbc	**PKKPbc**	**16 55 18.9**	**-1.2**
	comp=Z,2.9nm,1.1s,baz=250,slow=2.6,SNR=4.3							
ESDC					LR	LR	17 27 50.0	
	comp=Z,349µm,18.9s,baz=33,slow=39							
ESDC	**Sonseca Array**	**96.64**	**326**		P	**P**	**16 38 33.9**	**-3.2**
PGAV	**Gavieira, Arco**	**96.67**	**330**	*e*	P	**P**	**16 38 41.1**	**+3.9**
PGAV	**Gavieira, Arco**	**96.67**	**330**	*e*	PP	**PP**	**16 42 34.4**	**+3.6**
PGAV				*e*	S	**SKSac**	**16 49 13.2**	**-1.5**
PGAV	**Gavieira, Arco**	**96.67**	**330**	*e*	LR	LR	17 13 40.1	
	comp=Z,271µm,18.0s							
VOI	**Vohitsoka**	**96.72**	**248**		IAMs_20	IAMs_20	17 24 22.4	
	comp=Z,72µm,20.0s							
VOI	**Vohitsoka**	**96.72**	**248**		P	P	16 38 45.1	+7.5
MSTX	**Muleshoe**	**96.74**	**42**		P	**P**	**16 38 36.7**	**-1.0**
	baz=317							
MSTX					S	**S**	**16 50 01.0**	**+1.0**
	baz=317							
MSTX	**Muleshoe**	**96.74**	**42**		P	**P**	**16 38 35.6**	**-2.1**
	baz=317							
MSTX					S	**S**	**16 50 03.2**	**+3.2**
	baz=317							
PCAB	**Cabril**	**96.78**	**330**	*e*	P	**P**	**16 38 39.0**	**+1.4**
PCAB	**Cabril**	**96.78**	**330**	*e*	PP	PP	16 42 42.1	+11
MVO	**Moncorvo**	**96.81**	**329**	*e*	P	**P**	**16 38 39.3**	**+1.5**
MVO	**Moncorvo**	**96.81**	**329**	*e*	PP	**PP**	**16 42 37.8**	**+6.0**
MVO				*e*	S	**SKSac**	**16 49 19.8**	**+4.4**
MVO	**Moncorvo**	**96.81**	**329**	*e*	LR	LR	17 12 06.6	
	comp=Z,275µm,20.0s							
K43A	**Burlington**	**96.83**	**28**		P	**P**	**16 38 37.8**	**+0.1**
	baz=328							
K43A					S	**S**	**16 49 56.3**	**-3.8**
	baz=328							
CART	**Cartagena**	**96.84**	**323**		Pdif	**P**	**16 38 34.1**	**-3.8**
CART					S	**SKSac**	**16 49 09.7**	**-5.8**
MNTX	**Cornudas Mount**	**96.84**	**45**		IAMs_20	IAMs_20	17 22 16.7	
	comp=Z,84µm,22.0s							
MNTX	**Cornudas Mount**	**96.84**	**45**		P	**P**	**16 38 37.3**	**-0.8**
	baz=315							
MNTX					S	**S**	**16 49 56.8**	**-4.0**
	baz=315							
MNTX	**Cornudas Mount**	**96.84**	**45**		P	**P**	**16 38 36.3**	**-1.8**
	baz=315,SNR=10							
L42A	**Oliver, Polo**	**96.88**	**29**		P	**P**	**16 38 36.9**	**-1.1**
	baz=327							
L42A					S	**S**	**16 49 56.2**	**-4.5**
	baz=327							
POLO	**Lamas de Olo**	**96.96**	**330**	*e*	P	**P**	**16 38 41.3**	**+2.8**
POLO	**Lamas de Olo**	**96.96**	**330**	*e*	PP	**PP**	**16 42 39.4**	**+6.4**
U32A	**Winter Ranch,**	**97.00**	**38**		P	**P**	**16 38 37.3**	**-1.4**
	baz=320							
U32A					S	**S**	**16 49 60.0**	**-2.0**
	baz=320							
PVRL	**Vila Real**	**97.01**	**330**	*e*	P	Pdif	16 38 45.9	+7.1
PVRL	**Vila Real**	**97.01**	**330**	*e*	PP	**PP**	**16 42 34.5**	**+1.2**
P38A	**Dawn**	**97.15**	**33**		P	**P**	**16 38 37.1**	**-2.2**
	baz=324							
L44A	**Lake County Fo**	**97.44**	**28**		P	**P**	**16 38 39.0**	**-1.5**
	baz=328							
L44A	**Lake County Fo**	**97.44**	**28**		P	**P**	**16 38 38.9**	**-1.6**
	baz=328							
L44A					S	**S**	**16 50 00.9**	**-4.5**
	baz=328							
N41A	**Harden Midland**	**97.45**	**31**		P	**P**	**16 38 38.9**	**-1.7**
	baz=326							
PVIS	**Viseu**	**97.55**	**330**	*e*	P	Pdif	16 38 46.7	+5.5
MTE	**Manteigas**	**97.66**	**329**	*e*	P	Pdif	16 38 44.4	+2.7
MTE	**Manteigas**	**97.66**	**329**	*e*	PP	**PP**	**16 42 44.0**	**+5.6**
MTE				*e*	S	**SKSac**	**16 49 18.7**	**-1.1**
MTE	**Manteigas**	**97.66**	**329**	*e*	LR	LR	17 11 45.2	
	comp=Z,338µm,20.0s							
J47A	**Sunmer**	**97.69**	**25**		P	**P**	**16 38 39.9**	**-1.8**
	baz=330							
J47A					P	**P**	**16 38 39.9**	**-1.8**
	baz=330							
I49A	**Point Hope**	**97.78**	**24**		P	**P**	**16 38 40.2**	**-1.8**
	baz=332							
I49A					P	**P**	**16 38 40.2**	**-1.8**
	baz=332							
T35B	**Sooner Cattle**	**97.86**	**36**		P	**P**	**16 38 42.0**	**-0.5**
	baz=322							
P40A	**Paris**	**97.89**	**32**		P	Pdif	16 38 44.1	+1.4
	baz=325							
M44A	**Midewin, Midew**	**98.05**	**28**		P	**P**	**16 38 42.6**	**-0.7**
	baz=328							
PCBR	**Castelo Branco**	**98.09**	**329**	*e*	P	Pdif	16 38 49.3	+5.8

PMRV	**Marv??o**	**98.39**	**329**	*e*P		Pdif	16 38 47.7	+2.8	
PMRV	**Marv??o**	**98.39**	**329**	*e*PP		**PP**	**16 42 47.4**	**+3.4**	
PMRV				*e*S		**SKSac**	**16 49 29.9**	**+6.4**	
PMRV	**Marv??o**	**98.39**	**329**	*e*LR		LR	17 14 34.1		
	comp=Z,307µm,18.0s								
D62A	**Allapoint, All**	**98.59**	**14**	P		**P**	**16 38 44.5**	**-1.0**	
	baz=343								
D62A				P		**P**	**16 38 44.5**	**-1.0**	
	baz=343								
MBAR	**Mbarara**	**98.75**	**275**	LR		LR	17 26 14.5		
	comp=Z,58µm,19.8s,baz=24,slow=37								
MBAR	**Mbarara**	**98.75**	**275**	P		Pdif	16 38 47.1	0.0	
MBAR				pmax		pmax			
	comp=Z,25nm,2.0s								
MBAR	**Mbarara**	**98.75**	**275**	IAMs_20		IAMs_20	17 28 12.1		
	comp=Z,78µm,19.0s								
MBAR	**Mbarara**	**98.75**	**275**	*e*P		**P**	**16 38 46.7**	**-0.4**	
MBAR				*e*S		**SKSac**	**16 49 28.4**	**+2.1**	
MBAR	**Mbarara**	**98.75**	**275**	*e*P		Pdif	16 38 54.9	+7.8	
MBAR				*e*S		**SKSac**	**16 49 27.0**	**+0.7**	
MBAR	**Mbarara**	**98.75**	**275**	*e*P		**P**	**16 38 46.7**	**-0.4**	
MBAR				*e*S		**SKSac**	**16 49 28.4**	**+2.1**	
MBAR				IAMs_20		IAMs_20	16 52 04.6		
	comp=Z,15µm,30.0s								
S39A	**Bolivar**	**98.80**	**34**	P		Pdif	16 38 47.6	+0.8	
	baz=324								
R40A	**Maddies Statio**	**98.80**	**33**	P		**P**	**16 38 46.6**	**-0.1**	
	baz=325								
R40A				S		**S**	**16 50 13.5**	**-3.6**	
	baz=325								
K50A	**Casco**	**98.88**	**24**	P		**P**	**16 38 44.9**	**-2.1**	
	baz=332								
K50A				P		**P**	**16 38 44.9**	**-2.1**	
	baz=332								
K50A				S		**S**	**16 50 12.8**	**-4.8**	
	baz=332								
K50A				S		**S**	**16 50 12.8**	**-4.8**	
	baz=332								
LPIG	**La Paz**	**98.88**	**54**	LR		LR	17 17 45.4		
	comp=Z,49µm,20.1s,baz=310,slow=32								
P43A	**Skaggs, Pawnee**	**98.91**	**30**	P		Pdif	16 38 47.7	+0.6	
	baz=327								
O44A	**Mansfield**	**98.92**	**29**	P		Pdif	16 38 48.0	+0.8	
	baz=328								
PSBE	**So Bento**	**98.93**	**329**	*e*Pdif		Pdif	16 38 50.0	+2.7	
PSBE	**So Bento**	**98.93**	**329**	*e*PP		**PP**	**16 42 51.7**	**+3.6**	
AAM	**Ann Arbor**	**98.93**	**25**	IAMs_20		IAMs_20	17 32 06.8		
	comp=Z,115µm,19.0s								
AAM	**Ann Arbor**	**98.93**	**25**	P		**P**	**16 38 45.6**	**-1.6**	
	baz=331								
AAM				S		**S**	**16 50 12.6**	**-5.4**	
	baz=331								
AAM	**Ann Arbor**	**98.93**	**25**	Pdiff		**P**	**16 38 45.4**	**-1.8**	
	baz=331								
AAM				S		**S**	**16 50 16.8**	**-1.3**	
	baz=331								
PESTR	**Estremoz**	**98.94**	**328**	*e*Pdif		Pdif	16 38 51.3	+3.9	
PESTR	**Estremoz**	**98.94**	**328**	*e*PP		**PP**	**16 42 51.0**	**+2.8**	
L48A	**N Adams**	**98.96**	**26**	P		**P**	**16 38 47.3**	**-0.1**	
	baz=331								
L48A				P		**P**	**16 38 47.3**	**-0.1**	
	baz=331								
L48A				S		**S**	**16 50 17.1**	**-1.3**	
	baz=331								
L48A				S		**S**	**16 50 17.1**	**-1.3**	
	baz=331								
TUL1	**Leonard**	**99.01**	**37**	P		**Pdif**	**16 38 47.4**	**-0.3**	
	baz=322								
TUL1				S		**S**	**16 50 17.1**	**-1.9**	
	baz=322								
TUL1	**Leonard**	**99.01**	**37**	Pdiff		**Pdif**	**16 38 45.7**	**-2.1**	
	baz=322								
TUL1				S		**S**	**16 50 19.4**	**+0.3**	
	baz=322								
PMTG	**Montargil**	**99.05**	**329**	*e*Pdif		**Pdif**	**16 38 52.1**	**+4.3**	
PMTG	**Montargil**	**99.05**	**329**	*e*PP		**PP**	**16 42 53.3**	**+4.3**	
EMAL	**Malaga-Limoner**	**99.18**	**325**	Pdif		**Pdif**	**16 38 51.5**	**+3.1**	
EMAL				S		**SKSac**	**16 49 27.6**	**+0.2**	
PBAR	**Barrancos**	**99.26**	**328**	*e*Pdif		**Pdif**	**16 38 53.6**	**+4.8**	
PBAR	**Barrancos**	**99.26**	**328**	*e*PP		**PP**	**16 42 55.6**	**+5.0**	
SFIN	**Lafayette**	**99.29**	**28**	P		**Pdif**	**16 38 50.7**	**+1.8**	
	baz=328								
SFIN				S		**S**	**16 50 18.6**	**-2.5**	
	baz=328								
SFIN	**Lafayette**	**99.29**	**28**	Pdiff		**Pdif**	**16 38 47.4**	**-1.4**	
	baz=328								
SFIN				S		**S**	**16 50 19.4**	**-1.7**	
	baz=328								
E63A	**Oxbow**	**99.34**	**13**	P		**Pdif**	**16 38 47.6**	**-1.4**	
	baz=344								
E63A				P		**Pdif**	**16 38 47.6**	**-1.4**	
	baz=344								
E63A				S		**S**	**16 50 18.6**	**-2.8**	
	baz=344								
E63A				S		**S**	**16 50 18.6**	**-2.8**	
	baz=344								
EVO	**Evora**	**99.40**	**328**	Pdif		**Pdif**	**16 38 48.3**	**-1.1**	
EVO				S		**SKSac**	**16 49 28.5**	**0.0**	
EVO	**Evora**	**99.40**	**328**	*e*Pdif		**Pdif**	**16 38 53.5**	**+4.1**	
EVO	**Evora**	**99.40**	**328**	*e*PP		**PP**	**16 42 55.6**	**+3.9**	
N47A	**Urbana**	**99.41**	**27**	P		**Pdif**	**16 38 49.0**	**-0.4**	
	baz=330								
N47A				P		**Pdif**	**16 38 49.0**	**-0.4**	
	baz=330								
N47A				S		**S**	**16 50 20.0**	**-2.2**	
	baz=330								
N47A				S		**S**	**16 50 20.0**	**-2.2**	
	baz=330								
SLM	**Saint Louis**	**99.43**	**31**	P		**Pdif**	**16 38 49.4**	**-0.1**	
	baz=326								
SLM				S		**S**	**16 50 18.5**	**-4.0**	
	baz=326								
BMNY	**Brushton-Moira**	**99.46**	**18**	P		**Pdif**	**16 38 49.4**	**-0.1**	
	baz=339								
BMNY				S		**S**	**16 50 17.1**	**-5.3**	
	baz=339								
CCM	**Cathedral Cave**	**99.46**	**32**	P		**Pdif**	**16 38 51.3**	**+1.6**	
CCM				pmax		pmax			
	comp=Z,28nm,2.6s								
CCM	**Cathedral Cave**	**99.46**	**32**	IAMs_20		IAMs_20	17 23 01.0		
	comp=Z,131µm,22.0s								
CCM	**Cathedral Cave**	**99.46**	**32**	P		**Pdif**	**16 38 50.2**	**+0.6**	
	baz=325								
CCM	**Cathedral Cave**	**99.46**	**32**	Pdiff		**Pdif**	**16 38 47.6**	**-2.1**	
	baz=325								
CCM				S		**S**	**16 50 21.3**	**-1.4**	
	baz=325								
ABTX	**Abilene, Hawle**	**99.49**	**41**	P		**Pdif**	**16 38 49.3**	**-0.7**	
	baz=319								
ABTX	**Abilene, Hawle**	**99.49**	**41**	Pdiff		**Pdif**	**16 38 48.5**	**-1.4**	
	baz=319								
TX31	**Lajitas Ar. Si**	**99.56**	**46**	P		**Pdif**	**16 38 51.0**	**+0.6**	
	baz=316								
TXAR	**Lajitas Array**	**99.56**	**46**	P		**Pdif**	**16 38 49.5**	**-0.9**	
	comp=Z,3.2nm,0.8s,baz=297,slow=2.6,SNR=25								
TXAR				PP		**PP**	**16 42 53.5**	**+0.1**	
	comp=Z,2.7nm,0.8s,baz=289,slow=2.8,SNR=2.1								
TXAR				PKKPbc		**PKKPbc**	**16 55 11.1**	**-0.7**	
	comp=Z,0.8nm,0.7s,baz=149,slow=5.4,SNR=3.2								
TXAR				LR		LR	17 21 19.6		
	comp=Z,65µm,20.7s,baz=332,slow=34								
TXAR	**Lajitas Array**	**99.56**	**46**			**Pdif**	**16 38 49.7**	**-0.8**	
PACT	**Alcochete**	**99.57**	**329**	*e*Pdif		**Pdif**	**16 38 55.4**	**+5.3**	
PACT	**Alcochete**	**99.57**	**329**	*e*PP		**PP**	**16 42 58.4**	**+5.5**	
PMAFR	**Mafra**	**99.60**	**329**	*e*Pdif		**Pdif**	**16 38 55.5**	**+5.2**	
PMAFR	**Mafra**	**99.60**	**329**	*e*PP		PP	16 43 01.1	+7.9	
HHAR	**Hobbs**	**99.63**	**35**	P		**Pdif**	**16 38 49.3**	**-1.2**	
	baz=323								
LONY	**Lake Ozonia**	**99.64**	**18**	Pdiff		**Pdif**	**16 38 47.4**	**-3.0**	
	baz=339								
FRNY	**Flat Rock**	**99.70**	**17**	P		**Pdif**	**16 38 51.0**	**+0.5**	
	baz=340								
J54A	**Appleton**	**99.73**	**21**	P		**Pdif**	**16 38 52.2**	**+1.4**	
	baz=335								
J54A				P		**Pdif**	**16 38 52.2**	**+1.4**	
	baz=335								
Q44A	**Meyer Farm, Va**	**99.74**	**30**	P		**Pdif**	**16 38 47.5**	**-3.4**	
	baz=327								
PMST	**Lisbon--Monsan**	**99.74**	**329**	*e*Pdif		**Pdif**	**16 38 51.0**	**+0.1**	
PMST	**Lisbon--Monsan**	**99.74**	**329**	*e*PP		**PP**	**16 43 01.6**	**+7.4**	
LIS	**Lisbon**	**99.75**	**329**	*e*Pdif		**Pdif**	**16 38 50.0**	**-0.9**	
LIS				*e*PP		**PP**	**16 42 54.0**	**-0.2**	
LIS				*e*SKSac		**SKSac**	**16 49 28.6**	**-1.5**	
LIS				*e*SS		**SS**	**16 57 16.4**	**+1.7**	
LIS				IAMs_20		IAMs_20	17 30 42.5		
	comp=Z,295µm,16.9s								
LIS	**Lisbon**	**99.75**	**329**	*e*P		**Pdif**	**16 38 50.0**	**-0.9**	
LIS				*e*			16 42 54.0		
LIS				*e*			16 49 28.6		
LIS				*e*SS		SS	16 57 16.4	+1.7	
PBEJ	**Beja**	**99.75**	**328**	*e*PP		PP	16 43 02.9	+8.5	
FVM	**French Village**	**99.89**	**32**	P		**Pdif**	**16 38 50.1**	**-1.5**	
	baz=326								
P46A	**Rosedale**	**99.89**	**29**	P		**Pdif**	**16 38 49.7**	**-1.8**	
	baz=328								
F64A	**Sherman**	**99.89**	**13**	P		**Pdif**	**16 38 51.0**	**-0.4**	
	baz=344								
F64A				P		**Pdif**	**16 38 51.0**	**-0.4**	
	baz=344								
F63A	**Nahmakanta, Br**	**99.90**	**14**	P		**Pdif**	**16 38 50.9**	**-0.5**	
	baz=343								
F63A				P		**Pdif**	**16 38 50.9**	**-0.5**	
	baz=343								
M50A	**Fremont**	**99.94**	**25**	P		**Pdif**	**16 38 53.4**	**+1.7**	
	baz=332								
M50A				P		**Pdif**	**16 38 53.4**	**+1.7**	
	baz=332								
N49A	**Columbus Grove**	**99.94**	**26**	P		**Pdif**	**16 38 51.1**	**-0.7**	
	baz=331								
N49A				P		**Pdif**	**16 38 51.1**	**-0.7**	
	baz=331								
WCNY	**West Carthage**	**99.95**	**19**	P		**Pdif**	**16 38 51.7**	**0.0**	
	baz=338								
PNCL	**Nicolau / Gran**	**99.98**	**328**	*e*Pdif		**Pdif**	**16 38 54.8**	**+2.9**	
PNCL	**Nicolau / Gran**	**99.98**	**328**	*e*PP		**PP**	**16 43 02.6**	**+6.6**	
J55A	**Hilton**	**99.99**	**21**	P		**Pdif**	**16 38 54.0**	**+2.1**	
	baz=336								
J55A				P		**Pdif**	**16 38 54.0**	**+2.1**	
	baz=336								
ARNO	**Arenosillo**	**100.00**	**327**	Pdif		**Pdif**	**16 38 51.8**	**-0.3**	
ARNO				S		**SKSac**	**16 49 31.6**	**+0.2**	
G62A	**West of Eustis**	**100.06**	**15**	P		**Pdif**	**16 38 51.0**	**-1.2**	
	baz=342								
G62A				P		**Pdif**	**16 38 51.0**	**-1.2**	
	baz=342								
U40A	**Yellville**	**100.09**	**34**	IAMs_20		IAMs_20	17 29 26.0		
	comp=Z,103µm,19.0s								
U40A	**Yellville**	**100.09**	**34**	P		**Pdif**	**16 38 52.3**	**-0.3**	
	baz=324								
U40A				P		**Pdif**	**16 38 52.3**	**-0.3**	
	baz=324								
U40A	**Yellville**	**100.09**	**34**	Pdiff		**Pdif**	**16 38 50.1**	**-2.4**	
	baz=324								
O48B	**Farmland**	**100.15**	**27**	P		**Pdif**	**16 38 53.8**	**+1.1**	
	baz=330								
O48B	**Farmland**	**100.15**	**27**	Pdiff		**Pdif**	**16 38 50.8**	**-1.9**	
	baz=330								
PCVE	**Castro Verde**	**100.16**	**328**	*e*Pdif		**Pdif**	**16 38 56.0**	**+3.2**	
PCVE	**Castro Verde**	**100.16**	**328**	*e*PP		**PP**	**16 42 57.5**	**+0.1**	
PVAQ	**Vaqueiros**	**100.20**	**328**	*e*Pdif		**Pdif**	**16 38 57.0**	**+4.0**	
PVAQ	**Vaqueiros**	**100.20**	**328**	*e*PP		**PP**	**16 43 00.0**	**+2.3**	
PVAQ				*e*S		**SKSac**	**16 49 30.1**	**-2.4**	
PVAQ	**Vaqueiros**	**100.20**	**328**	*e*LR		LR	17 15 44.5		
	comp=Z,319µm,18.0s								
Z35A	**Perchaven, San**	**100.25**	**39**	P		**Pdif**	**16 38 53.5**	**+0.2**	
	baz=321								
X37A	**Clayton**	**100.26**	**37**	P		**Pdif**	**16 38 53.3**	**0.0**	
	baz=322								
J56A	**Wolcott**	**100.26**	**20**	P		**Pdif**	**16 38 54.9**	**+1.8**	
	baz=337								
J56A				P		**Pdif**	**16 38 54.9**	**+1.8**	
	baz=337								
SFS	**San Fernando**	**100.27**	**326**	Pdif		**Pdif**	**16 38 54.8**	**+1.6**	
SFS				S		**SKSac**	**16 49 35.9**	**+3.1**	
OLIL	**Olney**	**100.27**	**30**	P		**Pdif**	**16 38 53.4**	**+0.2**	
	baz=328								
PKME	**Peaks-Kenny Pk**	**100.28**	**14**	P		**Pdif**	**16 38 55.6**	**+2.4**	
	baz=343								
PKME	**Peaks-Kenny Pk**	**100.28**	**14**	Pdiff		**Pdif**	**16 38 51.0**	**-2.1**	
	baz=343								
CEU	**Ceuta**	**100.33**	**325**	Pdif		**Pdif**	**16 38 51.7**	**-1.8**	
CEU				S		**SKSac**	**16 49 25.1**	**-8.0**	
NCB	**Newcomb**	**100.34**	**18**	P		**Pdif**	**16 38 52.9**	**-0.6**	
	baz=339								
ERPA	**Erie**	**100.35**	**23**	P		**Pdif**	**16 38 53.6**	**+0.1**	
	baz=334								
ERPA	**Erie**	**100.35**	**23**	Pdiff		**Pdif**	**16 38 51.6**	**-1.9**	
	baz=334								
VT1	**Waterbury**	**100.38**	**17**	IAMs_20		IAMs_20	17 31 36.7		
	comp=Z,116µm,19.0s								
PVLZ	**Peæn de**	**100.38**	**324**	Pdif		**Pdif**	**16 38 55.1**	**+1.4**	
PVLZ				S		**SKSac**	**16 49 27.4**	**-6.0**	
J57A	**Williamstown**	**100.38**	**19**	P		**Pdif**	**16 38 51.2**	**-2.5**	
	baz=337								
J57A				P		**Pdif**	**16 38 51.2**	**-2.5**	
	baz=337								
M52A	**Chesterland**	**100.41**	**24**	P		**Pdif**	**16 38 53.5**	**-0.4**	
	baz=333								
M52A				P		**Pdif**	**16 38 53.5**	**-0.4**	
	baz=333								
PBDV	**Barranco-do-Ve**	**100.43**	**328**	*e*Pdif		**Pdif**	**16 38 59.3**	**+5.3**	
PBDV	**Barranco-do-Ve**	**100.43**	**328**	*e*PP		**PP**	**16 42 59.2**	**-0.3**	
O49A	**Covington**	**100.53**	**27**	P		**Pdif**	**16 38 52.5**	**-1.9**	
	baz=331								
O49A				P		**Pdif**	**16 38 52.5**	**-1.9**	
	baz=331								
H62A	**Milan**	**100.53**	**16**	P		**Pdif**	**16 38 54.6**	**+0.3**	
	baz=341								
H62A				P		**Pdif**	**16 38 54.6**	**+0.3**	
	baz=341								
WVNY	**West Valley, N**	**100.53**	**22**	P		**Pdif**	**16 38 54.2**	**-0.2**	
	baz=335								
PTEO	**Sao Teotonio**	**100.53**	**328**	*e*Pdif		**Pdif**	**16 39 00.8**	**+6.4**	
PTEO	**Sao Teotonio**	**100.53**	**328**	*e*PP		PP	16 43 10.2	+10	
W39A	**Magazine**	**100.57**	**36**	P		**Pdif**	**16 38 53.8**	**-0.8**	
	baz=323								
W39A	**Magazine**	**100.57**	**36**	Pdiff		**Pdif**	**16 38 52.6**	**-2.1**	
	baz=323								
N51A	**Ashland**	**100.60**	**25**	P		**Pdif**	**16 38 53.9**	**-0.8**	
	baz=332								
N51A				P		**Pdif**	**16 38 53.9**	**-0.8**	
	baz=332								
J58A	**Remsen**	**100.63**	**19**	P		**Pdif**	**16 38 53.6**	**-1.1**	
	baz=338								
J58A				P		**Pdif**	**16 38 53.6**	**-1.1**	
	baz=338								
S44A	**Carbondale**	**100.64**	**31**	P		**Pdif**	**16 38 55.7**	**+0.8**	
	baz=327								
LBNH	**Lisbon**	**100.66**	**16**	IAMs_20		IAMs_20	17 26 30.0		
	comp=Z,108µm,20.0s								
LBNH	**Lisbon**	**100.66**	**16**	P		**Pdif**	**16 38 49.9**	**-5.0**	
	baz=341								
LBNH	**Lisbon**	**100.66**	**16**	Pdiff		**Pdif**	**16 38 52.7**	**-2.2**	
	baz=341								
MCVT	**Middlebury Col**	**100.67**	**17**	P		**Pdif**	**16 38 53.3**	**-1.7**	
	baz=340								
G65A	**Princeton**	**100.68**	**13**	P		**Pdif**	**16 38 57.2**	**+2.3**	
	baz=344								
G65A				P		**Pdif**	**16 38 57.2**	**+2.3**	
	baz=344								
MORF	**Marmelete**	**100.70**	**328**	*e*Pdif		**Pdif**	**16 38 54.3**	**-1.0**	
MORF				*e*PP		**PP**	**16 43 01.5**	**-0.1**	
MORF				*e*SKSac		**SKSac**	**16 49 33.6**	**-1.5**	
MORF				*e*SS		**SS**	**16 57 29.6**	**+1.4**	
MORF				IAMs_20		IAMs_20	17 29 05.6		
	comp=Z,319µm,19.5s								
MORF	**Marmelete**	**100.70**	**328**	*e*Pdif		**Pdif**	**16 38 56.9**	**+1.6**	
MORF	**Marmelete**	**100.70**	**328**	*e*PP		**PP**	**16 43 08.2**	**+6.6**	
MORF	**Marmelete**	**100.70**	**328**	*e*P		**Pdif**	**16 38 54.2**	**-1.0**	
MORF				*e*			16 43 01.5		
MORF				*e*			16 49 33.5		
MORF				*e*SS		SS	16 57 29.6	+1.4	
ALLY	**Alegheny Colle**	**100.72**	**23**	P		**Pdif**	**16 38 56.7**	**+1.5**	
	baz=334								
M53A	**WI Miller and**	**100.73**	**24**	Pdiff		**Pdif**	**16 38 53.1**	**-2.2**	
	baz=334								
P48A	**Milroy**	**100.73**	**28**	P		**Pdif**	**16 38 54.4**	**-0.9**	
	baz=330								
P48A				P		**Pdif**	**16 38 54.4**	**-0.9**	
	baz=330								
J59A	**Piesco**	**100.74**	**18**	P		**Pdif**	**16 38 55.3**	**0.0**	
	baz=339								
J59A				P		**Pdif**	**16 38 55.3**	**0.0**	
	baz=339								
K57A	**Scipio Center**	**100.86**	**20**	P		**Pdif**	**16 38 54.9**	**-0.9**	
	baz=337								
WVL	**Waterville**	**100.87**	**15**	P		**Pdif**	**16 38 54.7**	**-1.1**	
	baz=343								
PBMO	**Poplar Bluff**	**100.88**	**33**	P		**Pdif**	**16 38 55.3**	**-0.7**	
	baz=326								
PFVI	**Vila Bisbo**	**100.92**	**328**	*e*Pdif		**Pdif**	**16 39 01.4**	**+5.2**	
PFVI	**Vila Bisbo**	**100.92**	**328**	*e*PP		PP	16 43 11.0	+7.8	
P49A	**Miami Univ. Ec**	**100.95**	**27**	P		**Pdif**	**16 38 55.2**	**-1.0**	
	baz=330								
P49A	**Miami Univ. Ec**	**100.95**	**27**	Pdiff		**Pdif**	**16 38 53.8**	**-2.4**	
	baz=330								
ACSO	**Alum Creek Sta**	**100.99**	**26**	IAMs_20		IAMs_20	17 27 56.3		
	comp=Z,129µm,20.0s								
ACSO	**Alum Creek Sta**	**100.99**	**26**	P		**Pdif**	**16 38 56.7**	**+0.2**	
	baz=332								
ACSO	**Alum Creek Sta**	**100.99**	**26**	Pdiff		**Pdif**	**16 38 54.3**	**-2.2**	
	baz=332								
JCT	**Junction City**	**101.01**	**43**	IAMs_20		IAMs_20	17 22 11.6		
	comp=Z,79µm,22.0s								
JCT	**Junction City**	**101.01**	**43**	P		**Pdif**	**16 38 53.9**	**-2.9**	
	baz=319								
JCT	**Junction City**	**101.01**	**43**	Pdiff		**Pdif**	**16 38 54.3**	**-2.4**	
	baz=319								
ACCN	**Adirondack Com**	**101.03**	**18**	P		**Pdif**	**16 38 53.8**	**-2.8**	
	baz=339								
HNH	**Hanover**	**101.08**	**17**	IAMs_20		IAMs_20	17 25 49.0		
	comp=Z,105µm,21.0s								
L56A	**Greenwood**	**101.09**	**21**	P		**Pdif**	**16 38 57.5**	**+0.6**	
	baz=336								
L56A				P		**Pdif**	**16 38 57.5**	**+0.6**	
	baz=336								
LCAR	**Lake Charles**	**101.13**	**33**	P		**Pdif**	**16 38 54.7**	**-2.4**	
	baz=325								
I62A	**Tamworth**	**101.15**	**16**	P		**Pdif**	**16 38 54.3**	**-2.8**	
	baz=341								
I62A				P		**Pdif**	**16 38 54.3**	**-2.8**	
	baz=341								
I63A	**Otisfield**	**101.16**	**16**	P		**Pdif**	**16 38 54.3**	**-2.8**	
	baz=342								
I63A				P		**Pdif**	**16 38 54.3**	**-2.8**	
	baz=342								
WHTX	**Lake Whitney,**	**101.17**	**40**	P		**Pdif**	**16 38 57.0**	**-0.5**	
	baz=320								
WHTX	**Lake Whitney,**	**101.17**	**40**	Pdiff		**Pdif**	**16 38 55.4**	**-2.1**	
	baz=320								
MIAR	**Mount Ida**	**101.19**	**36**	IAMs_20		IAMs_20	17 28 08.3		
	comp=Z,109µm,19.0s								
MIAR	**Mount Ida**	**101.19**	**36**	P		**Pdif**	**16 38 55.9**	**-1.5**	
	baz=323								
MIAR	**Mount Ida**	**101.19**	**36**	Pdiff		**Pdif**	**16 38 56.0**	**-1.5**	
	baz=323								
N53A	**Lisbon**	**101.24**	**24**	P		**Pdif**	**16 38 57.8**	**+0.3**	
	baz=333								
N53A				P		**Pdif**	**16 38 57.8**	**+0.3**	
	baz=333								
M55A	**Ridgway**	**101.33**	**22**	P		**Pdif**	**16 38 59.7**	**+1.8**	
	baz=335								
M55A				P		**Pdif**	**16 38 59.7**	**+1.8**	
	baz=335								
W41B	**Gary Mavity, V**	**101.34**	**35**	P		**Pdif**	**16 38 59.0**	**+0.9**	
	baz=324								
W41B	**Gary Mavity, V**	**101.34**	**35**	Pdiff		**Pdif**	**16 38 55.7**	**-2.4**	
	baz=324								
J61A	**Chester**	**101.35**	**17**	P		**Pdif**	**16 38 57.7**	**-0.3**	
	baz=340								
J61A				P		**Pdif**	**16 38 57.7**	**-0.3**	
	baz=340								
N54A	**Moraine State**	**101.39**	**23**	P		**Pdif**	**16 38 54.8**	**-3.4**	
	baz=334								
N54A	**Moraine State**	**101.39**	**23**	Pdiff		**Pdif**	**16 38 56.3**	**-1.9**	
	baz=334								
FFD	**Franklin Falls**	**101.46**	**16**	IAMs_20		IAMs_20	17 26 11.9		
	comp=Z,124µm,20.0s								
T45B	**Paducah**	**101.48**	**31**	P		**Pdif**	**16 38 56.5**	**-2.1**	
	baz=327								
HCNY	**Howe Caverns**	**101.48**	**19**	P		**Pdif**	**16 38 59.6**	**+1.0**	
	baz=339								
Z38A	**Mt. Pleasant**	**101.50**	**38**	P		**Pdif**	**16 38 56.2**	**-2.6**	
	baz=322								
BINY	**Binghamton**	**101.50**	**20**	P		**Pdif**	**16 38 59.3**	**+0.6**	
	baz=337								
BINY	**Binghamton**	**101.50**	**20**	Pdiff		**Pdif**	**16 38 56.5**	**-2.2**	
	baz=337								
O52A	**Adamsville**	**101.50**	**25**	P		**Pdif**	**16 38 58.5**	**-0.2**	
	baz=332								
O52A				P		**Pdif**	**16 38 58.5**	**-0.2**	
	baz=332								
O53A	**New Philadelph**	**101.61**	**24**	Pdiff		**Pdif**	**16 38 57.3**	**-1.9**	
	baz=333								
X40A	**Basin Creek Fa**	**101.61**	**36**	P		**Pdif**	**16 38 59.7**	**+0.4**	
	baz=324								
X40A				P		**Pdif**	**16 38 59.7**	**+0.4**	
	baz=324								
X40A	**Basin Creek Fa**	**101.61**	**36**	Pdiff		**Pdif**	**16 38 57.7**	**-1.6**	
	baz=324								
P51A	**Williamsport**	**101.62**	**26**	P		**Pdif**	**16 38 58.5**	**-0.8**	
	baz=332								
P51A				P		**Pdif**	**16 38 58.5**	**-0.8**	
	baz=332								
L59A	**Walton**	**101.78**	**19**	P		**Pdif**	**16 38 57.6**	**-2.3**	
	baz=338								
L59A				P		**Pdif**	**16 38 57.6**	**-2.3**	
	baz=338								
P52A	**Corning**	**101.83**	**25**	IAMs_20		IAMs_20	17 30 37.8		
	comp=Z,91µm,19.0s								
P52A	**Corning**	**101.83**	**25**	Pdiff		**Pdif**	**16 38 58.4**	**-1.8**	
	baz=332			

WES	Weston	102.56	17	P	Pdif	16 38 60.0	-3.4	R58B	Mineral	104.79	23
	baz=341								baz=335		
WVT	Waverly	102.58	31	P	Pdif	16 39 05.1	+1.5	R58B			
	baz=328								baz=335		
WVT	Waverly	102.58	31	Pdiff	Pdif	16 39 02.4	-1.2	Z47A	Carrollton	104.92	33
	baz=328								baz=327		
CCAR	Cane Creek	102.58	35	P	Pdif	16 39 06.8	+3.1	146A	Union	104.93	34
	baz=324								baz=326		
MCWV	Mont Chateau	102.60	24	P	Pdif	16 39 01.4	-2.2	V53A	Saluda	105.05	28
	baz=334								baz=331		
MCWV	Mont Chateau	102.60	24	Pdiff	Pdif	16 39 02.7	-0.9	V53A			
	baz=334								baz=331		
Z41A	Richland Creek	102.61	36	P	Pdif	16 39 06.8	+3.0	344A	Westbrook Farm	105.09	36
	baz=324								baz=325		
Z41A				P	Pdif	16 39 06.8	+3.0	W52A	Murphy	105.11	29
	baz=324								baz=330		
Z41A	Richland Creek	102.61	36	Pdiff	Pdif	16 39 03.0	-0.8	Y49A	Blount Mountai	105.11	31
	baz=324								baz=328		
N59A	State Game Lan	102.75	20	P	Pdif	16 39 07.1	+2.8	X51A	Calhoun	105.18	30
	baz=337								baz=330		
N59A	State Game Lan	102.75	20	Pdiff	Pdif	16 39 02.9	-1.3	X51A			
	baz=337								baz=330		
BRNY	Black Rk. Fore	102.78	19	P	Pdif	16 39 06.9	+2.5	T57A	Hurt	105.19	25
	baz=339								baz=334		
W45A	Hickory Valley	102.78	33	P	Pdif	16 39 07.2	+2.7	T57A			
	baz=326								baz=334		
NATX	Nacogdoches	102.85	38	IAMs_20	IAMs_20	17 31 14.8		R61A	Willards	105.26	21
	comp=Z,98µm,20.0s								baz=338		
NATX	Nacogdoches	102.85	38	P	Pdif	16 39 03.9	-1.0	R61A			
	baz=322								baz=338		
NATX	Nacogdoches	102.85	38	Pdiff	Pdif	16 39 03.8	-1.0	U56A	King	105.37	26
	baz=322								baz=333		
833A	Chaparral WMA,	102.85	44	P	Pdif	16 39 07.8	+2.9	U56A			
	baz=319								baz=333		
833A	Chaparral WMA,	102.85	44	Pdiff	Pdif	16 39 04.5	-0.5	V55A	Taylorsville	105.50	27
	baz=319								baz=333		
Q54A	Coxs Mills	102.86	25	P	Pdif	16 39 01.7	-3.1	V55A			
	baz=333								baz=333		
Q54A				P	Pdif	16 39 01.7	-3.1	RKT	Rikitea	105.55	108
	baz=333								comp=Z,40µm,33.0s		
ODNJ	Ogdensburg	102.93	19	P	Pdif	16 39 01.9	-3.1	RKT	Rikitea	105.55	108
	baz=338								comp=Z,177µm,26.0s		
S51A	Beattyville	103.03	27	P	Pdif	16 39 08.0	+2.4	LRAL	Lakeview Retre	105.55	32
	baz=331								baz=328		
S51A				P	Pdif	16 39 08.0	+2.4	LRAL	Lakeview Retre	105.55	32
	baz=331								baz=328		
R53A	Hurricane	103.04	26	P	Pdif	16 39 07.9	+2.3	LRAL			
	baz=332								baz=328		
R53A				P	Pdif	16 39 07.9	+2.3	CASEE	Lake Jocassee	105.59	28
	baz=332								baz=331		
T50A	Nancy	103.07	29	P	Pdif	16 39 08.0	+2.2	S61A	Accomac	105.75	22
	baz=330								baz=337		
T50A				P	Pdif	16 39 08.0	+2.2	S61A			
	baz=330								baz=337		
U49A	Red Boiling Sp	103.12	29	P	Pdif	16 39 05.8	-0.2	346A	Big Creek Wild	105.77	35
	baz=329								baz=326		
PAL	Palisades	103.19	19	P	Pdif	16 39 02.0	-4.2	T59A	Double "B" Far	105.80	23
	baz=339								baz=336		
PAL	Palisades	103.19	19	Pdiff	Pdif	16 39 04.3	-1.9	T59A			
	baz=339								baz=336		
OXF	Oxford	103.22	33	IAMs_20	IAMs_20	17 31 07.0		T60A	Surry	105.91	23
	comp=Z,93µm,19.0s								baz=336		
OXF	Oxford	103.22	33	P	Pdif	16 39 05.3	-1.1	T60A			
	baz=326								baz=336		
OXF	Oxford	103.22	33	Pdiff	Pdif	16 39 05.6	-0.9	PGRA	Graciosa	105.93	343
	baz=326							SRBC	Serra Branca	105.94	343
M63A	Gales Ferry	103.31	17	P	Pdif	16 39 08.1	+1.4	PAGU	Agualva, Azore	105.97	342
	baz=340							KMSC	Kings Mountain	106.09	27
M63A				P	Pdif	16 39 08.1	+1.4		baz=332		
	baz=340							KMSC	Kings Mountain	106.09	27
BRNJ	Basking Ridge	103.31	20	P	Pdif	16 39 06.4	-0.3		baz=332		
	baz=338							KMSC			
FOR	Fordham	103.33	19	P	Pdif	16 39 00.9	-5.9		baz=332		
	baz=339							ADH	Angra Heroismo	106.09	342
V48A	Smith Brothers	103.34	31	P	Pdif	16 39 07.3	+0.3	Z51A	Franklin	106.11	31
	baz=328								baz=329		
735A	Kenedy	103.37	43	P	Pdif	16 39 04.3	-2.9	Y52A	Lilburn	106.11	30
	baz=320								baz=330		
P57A	Homestead Farm	103.37	22	P	Pdif	16 39 05.5	-1.5	Y52A			
	baz=336								baz=330		
P57A				P	Pdif	16 39 05.5	-1.5	PAULI	Pauline	106.19	27
	baz=336								baz=332		
N62A	Caumsett State	103.38	19	P	Pdif	16 39 06.9	-0.1	U59A	Littleton	106.28	24
	baz=339								baz=335		
N62A				P	Pdif	16 39 06.9	-0.1	U59A			
	baz=339								baz=335		
Q56A	Snyder Ridge,	103.38	24	P	Pdif	16 39 08.9	+1.8	ROSA	Rosais	106.29	343
	baz=334							V58A	Windy Hill, Pi	106.33	25
Q56A				P	Pdif	16 39 08.9	+1.8		baz=334		
	baz=334							V58A			
AVE	Averroes	103.41	325	Pdif	Pdif	16 39 04.5	-2.9		baz=334		
AVE				S	SKSac	16 49 48.2	+0.3	PMAN	Manadas	106.33	343
M65A	Busby, Falmout	103.50	16	Pdiff	Pdif	16 39 06.6	-0.9	H07S1	FLORES T-PHASB	106.33	346
	baz=342							BART	Pico Bartolome	106.36	340
PANJ	Princeton	103.55	20	P	Pdif	16 39 10.7	+2.8	545B	Wilberts Farm,	106.36	37
	baz=338								baz=325		
TUPA	Temple Univers	103.61	20	P	Pdif	16 39 05.5	-2.5	PSET	Sete Cidades	106.47	341
	baz=338							PCED	Cedros	106.48	343
HKT	Hockley	103.63	40	IAMs_20	IAMs_20	17 26 14.0		PDA	Ponta Delgada	106.52	341
	comp=Z,117µm,20.0s							HODGE	Hodges	106.53	28
HKT	Hockley	103.63	40	P	Pdif	16 39 09.5	+1.2		baz=332		
	baz=321							CALA	Caldeira	106.53	343
Y45A	Yeager Farm, C	103.69	34	P	Pdif	16 39 09.3	+0.7	PICO	Pico	106.54	343
	baz=326							HOR	Horta	106.56	343
R55A	Marlinton	103.74	25	P	Pdif	16 39 10.1	+1.3	W57A	Gilead	106.58	26
	baz=334								baz=333		
R55A				P	Pdif	16 39 10.1	+1.3	W57A			
	baz=334								baz=333		
S54A	Dingess, Beckl	103.75	26	P	Pdif	16 39 10.5	+1.7	PCAN	Candelaria	106.59	343
	baz=333							GOGA	Godfrey	106.75	29
S54A				P	Pdif	16 39 10.5	+1.7		comp=Z,108µm,19.0s		
	baz=333							GOGA	Godfrey	106.75	29
143A	Socs Landing,	103.75	36	P	Pdif	16 39 11.6	+2.8		baz=330		
	baz=325							GOGA	Godfrey	106.75	29
GEDE	Greenville	103.81	21	P	Pdif	16 39 11.0	+2.0		baz=330		
	baz=337							GOGA			
SDMD	Soldier's Deli	103.81	22	P	Pdif	16 39 09.5	+0.5		baz=330		
	baz=336							250A	Grady	106.77	32
TZTN	Tazewell	104.00	28	P	Pdif	16 39 09.7	-0.2		baz=328		
	baz=331							BIRD	Birdtown, Kers	106.86	27
TZTN	Tazewell	104.00	28	Pdiff	Pdif	16 39 07.8	-2.1		baz=333		
	baz=331							152A	Waverly Hall	106.86	31
P61A	Hammonton	104.18	20	P	Pdif	16 39 10.0	-0.6		baz=329		
	baz=338							JSC	Jenkinsville	106.88	27
P61A				P	Pdif	16 39 10.0	-0.6		baz=332		
	baz=338							PSMN	Pico do Norte,	107.05	340
KVTX	Kingsville	104.31	43	IAMs_20	IAMs_20	17 32 25.6		PSMA	Santa Maria	107.07	340
	comp=Z,75µm,19.0s							BRAL	Brewton	107.09	33
KVTX	Kingsville	104.31	43	P	Pdif	16 39 13.6	+2.2		comp=Z,98µm,19.0s		
	baz=319							BRAL	Brewton	107.09	33
V51A	Loudon	104.32	29	P	Pdif	16 39 12.4	+1.1		baz=328		
	baz=330							BRAL	Brewton	107.09	33
X48A	Hartselle	104.33	32	P	Pdif	16 39 13.3	+1.9		baz=328		
	baz=328							V61A	Roper	107.20	23
342B	Flagon Creek P	104.36	37	P	Pdif	16 39 12.7	+1.1		baz=336		
	baz=324							V61A			
441A	DeRidder	104.41	38	P	Pdif	16 39 14.0	+2.2		baz=336		
	baz=323							CNNC	Cliffs of the	107.25	24
W50A	Signal Mountai	104.44	30	P	Pdif	16 39 13.7	+1.8		baz=335		
	baz=329							CNNC	Cliffs of the	107.25	24
VBMS	Vicksburg	104.58	35	IAMs_20	IAMs_20	17 27 40.7			baz=335		
	comp=Z,101µm,20.0s							X58A	Rowland	107.36	26
VBMS	Vicksburg	104.58	35	P	Pdif	16 39 15.8	+3.3		baz=334		
	baz=325							X58A			
VBMS	Vicksburg	104.58	35	Pdiff	Pdif	16 39 10.9	-1.6		baz=334		
	baz=325							Y57A	Sumter	107.44	27
BLA	Blacksburg	104.59	25	P	Pdif	16 39 15.0	+2.4		baz=333		
	baz=333							Y57A			
BLA	Blacksburg	104.59	25	Pdiff	Pdif	16 39 10.4	-2.2		baz=333		
	baz=333							HAW	Hawthorne Fire	107.55	28
V52A	Sevierville	104.59	28	P	Pdif	16 39 11.1	-1.4		baz=332		
	baz=331							PMPST	Porto Santo, M	107.57	331
S57A	Dark Hollow, R	104.61	24	P	Pdif	16 39 14.8	+2.2	PMPST	Porto Santo, M	107.57	331
	baz=335							PMPS	Porto Santo	107.59	331
S57A				P	Pdif	16 39 14.8	+2.2	PMPS	Porto Santo	107.59	331
	baz=335							154A	Montrose	107.59	30
TKL	Tuckaleechee C	104.68	28	P	Pdif	16 39 14.9	+2.0		baz=331		
	baz=331							352A	Blakely	107.79	32
U54A	Nelsons Funny	104.69	27	P	Pdif	16 39 15.0	+1.9		baz=329		
	baz=332							Y58A	Scranton	107.81	26
U54A				P	Pdif	16 39 15.0	+1.9		baz=334		
	baz=332							Y58A			
CBN	Corbin Frederi	104.74	23	P	Pdif	16 39 12.5	-0.6		baz=334		
	baz=336							Y59A	Loris	108.03	26
CBN	Corbin Frederi	104.74	23	Pdiff	Pdif	16 39 12.2	-1.0		baz=334		
	baz=336							Y59A			
MIDE	Milford	104.76	21	P	Pdif	16 39 10.9	-2.3		baz=334		
	baz=338										

R58B	Mineral	104.79	23	P	Pdif	16 39 12.2	-1.2
	baz=335						
R58B				P	Pdif	16 39 12.2	-1.2
	baz=335						
Z47A	Carrollton	104.92	33	P	Pdif	16 39 13.9	-0.1
	baz=327						
146A	Union	104.93	34	P	Pdif	16 39 13.7	-0.4
	baz=326						
V53A	Saluda	105.05	28	P	Pdif	16 39 13.5	-1.2
	baz=331						
V53A				P	Pdif	16 39 13.5	-1.2
	baz=331						
344A	Westbrook Farm	105.09	36	P	Pdif	16 39 16.8	+1.9
	baz=325						
W52A	Murphy	105.11	29	P	Pdif	16 39 17.1	+2.2
	baz=330						
Y49A	Blount Mountai	105.11	31	P	Pdif	16 39 16.0	+1.1
	baz=328						
X51A	Calhoun	105.18	30	P	Pdif	16 39 14.9	-0.3
	baz=330						
X51A				P	Pdif	16 39 14.9	-0.3
	baz=330						
T57A	Hurt	105.19	25	P	Pdif	16 39 13.8	-1.4
	baz=334						
T57A				P	Pdif	16 39 13.8	-1.4
	baz=334						
R61A	Willards	105.26	21	P	Pdif	16 39 14.8	-0.6
	baz=338						
R61A				P	Pdif	16 39 14.8	-0.6
	baz=338						
U56A	King	105.37	26	P	Pdif	16 39 18.7	+2.6
	baz=333						
U56A				P	Pdif	16 39 18.7	+2.6
	baz=333						
V55A	Taylorsville	105.50	27	P	Pdif	16 39 15.3	-1.4
	baz=333						
V55A				P	Pdif	16 39 15.3	-1.4
	baz=333						
RKT	Rikitea	105.55	108	eSS	SS	16 58 39.9	+2.2
	comp=Z,40µm,33.0s						
RKT	Rikitea	105.55	108	eLR	LR	17 13 49.3	
	comp=Z,177µm,26.0s						
LRAL	Lakeview Retre	105.55	32	P	Pdif	16 39 17.6	+0.8
	baz=328						
LRAL	Lakeview Retre	105.55	32	Pdiff	Pdif	16 39 18.9	+2.1
	baz=328						
LRAL				PKiKP	PKiKP	16 43 31.4	+1.2
	baz=328						
CASEE	Lake Jocassee	105.59	28	P	Pdif	16 39 19.1	+2.1
	baz=331						
S61A	Accomac	105.75	22	P	Pdif	16 39 19.4	+1.7
	baz=337						
S61A				P	Pdif	16 39 19.4	+1.7
	baz=337						
346A	Big Creek Wild	105.77	35	P	Pdif	16 39 18.6	+0.8
	baz=326						
T59A	Double "B" Far	105.80	23	P	Pdif	16 39 21.1	+3.3
	baz=336						
T59A				P	Pdif	16 39 21.1	+3.3
	baz=336						
T60A	Surry	105.91	23	P	Pdif	16 39 18.8	+0.4
	baz=336						
T60A				P	Pdif	16 39 18.8	+0.4
	baz=336						
PGRA	Graciosa	105.93	343	ePP	PP	16 43 51.4	+11
SRBC	Serra Branca	105.94	343	ePP	PP	16 43 49.0	+8.6
PAGU	Agualva, Azore	105.97	342	ePP	PP	16 43 47.8	+7.1
KMSC	Kings Mountain	106.09	27	P	Pdif	16 39 15.8	-3.4
	baz=332						
KMSC	Kings Mountain	106.09	27	Pdiff	Pdif	16 39 19.1	-0.1
	baz=332						
KMSC				PKiKP	PKiKP	16 43 32.3	+1.2
	baz=332						
ADH	Angra Heroismo	106.09	342	ePP	PP	16 43 50.8	+9.3
Z51A	Franklin	106.11	31	P	Pdif	16 39 06.0	-13
	baz=329						
Y52A	Lilburn	106.11	30	P	Pdif	16 39 14.2	-5.2
	baz=330						
Y52A				P	Pdif	16 39 14.2	-5.2
	baz=330						
PAULI	Pauline	106.19	27	P	Pdif	16 39 19.9	+0.3
	baz=332						
U59A	Littleton	106.28	24	P	Pdif	16 39 19.8	-0.2
	baz=335						
U59A				P	Pdif	16 39 19.8	-0.2
	baz=335						
ROSA	Rosais	106.29	343	ePP	PP	16 43 48.8	+5.8
V58A	Windy Hill, Pi	106.33	25	P	Pdif	16 39 17.1	-3.2
	baz=334						
V58A				P	Pdif	16 39 17.1	-3.2
	baz=334						
PMAN	Manadas	106.33	343	ePP	PP	16 43 51.6	+8.3
H07S1	FLORES T-PHASB	106.33	346	ePP	PP	16 43 52.8	+9.5
BART	Pico Bartolome	106.36	340	ePP	PP	16 43 48.2	+4.6
545B	Wilberts Farm,	106.36	37	P	Pdif	16 39 24.8	+4.3
	baz=325						
PSET	Sete Cidades	106.47	341	ePP	PP	16 43 53.0	+8.6
PCED	Cedros	106.48	343	ePP	PP	16 43 52.9	+8.5
PDA	Ponta Delgada	106.52	341	ePP	PP	16 43 54.6	+10
HODGE	Hodges	106.53	28	P	Pdif	16 39 20.3	-0.9
	baz=332						
CALA	Caldeira	106.53	343	ePP	PP	16 43 48.4	+3.6
PICO	Pico	106.54	343	ePP	PP	16 43 56.2	+11
HOR	Horta	106.56	343	ePP	PP	16 43 50.7	+5.7
W57A	Gilead	106.58	26	P	Pdif	16 39 21.8	+0.4
	baz=333						
W57A				P	Pdif	16 39 21.8	+0.4
	baz=333						
PCAN	Candelaria	106.59	343	ePP	PP	16 43 50.7	+5.5
GOGA	Godfrey	106.75	29	IAMs_20	IAMs_20	17 34 58.7	
	comp=Z,108µm,19.0s						
GOGA	Godfrey	106.75	29	P	Pdif	16 39 20.7	-1.5
	baz=330						
GOGA	Godfrey	106.75	29	Pdiff	Pdif	16 39 22.3	+0.1
	baz=330						
GOGA				PKiKP	PKiKP	16 43 32.5	+0.1
	baz=330						
250A	Grady	106.77	32	P	Pdif	16 39 17.7	-4.6
	baz=328						
BIRD	Birdtown, Kers	106.86	27	P	Pdif	16 39 21.7	-0.9
	baz=333						
152A	Waverly Hall	106.86	31	P	Pdif	16 39 22.6	-0.1
	baz=329						
JSC	Jenkinsville	106.88	27	P	Pdif	16 39 24.6	+1.8
	baz=332						
PSMN	Pico do Norte,	107.05	340	ePP	PP	16 43 57.3	+8.7
PSMA	Santa Maria	107.07	340	ePP	PP	16 43 58.2	+9.4
BRAL	Brewton	107.09	33	IAMs_20	IAMs_20	17 32 16.1	
	comp=Z,98µm,19.0s						
BRAL	Brewton	107.09	33	P	Pdif	16 39 23.9	+0.2
	baz=328						
BRAL	Brewton	107.09	33	PKiKP	PKiKP	16 43 34.2	+1.1
	baz=328						
V61A	Roper	107.20	23	P	Pdif	16 39 24.8	+0.8
	baz=336						
V61A				P	Pdif	16 39 24.8	+0.8
	baz=336						
CNNC	Cliffs of the	107.25	24	P	Pdif	16 39 23.6	-0.8
	baz=335						
CNNC	Cliffs of the	107.25	24	Pdiff	Pdif	16 39 28.9	+4.6
	baz=335						
X58A	Rowland	107.36	26	P	Pdif	16 39 24.0	-0.8
	baz=334						
X58A				P	Pdif	16 39 24.0	-0.8
	baz=334						
Y57A	Sumter	107.44	27	P	Pdif	16 39 23.1	-2.1
	baz=333						
Y57A				P	Pdif	16 39 23.1	-2.1
	baz=333						
HAW	Hawthorne Fire	107.55	28	P	Pdif	16 39 24.7	-1.0
	baz=332						
PMPST	Porto Santo, M	107.57	331	ePdif	Pdif	16 39 32.3	+6.5
PMPST	Porto Santo, M	107.57	331	ePP	PP	16 43 57.6	+5.0
PMPS	Porto Santo	107.59	331	ePdif	Pdif	16 39 30.5	+4.6
PMPS	Porto Santo	107.59	331	ePP	PP	16 43 57.6	+4.9
154A	Montrose	107.59	30	P	Pdif	16 39 25.4	-0.6
	baz=331						
352A	Blakely	107.79	32	P	Pdif	16 39 27.7	+0.9
	baz=329						
Y58A	Scranton	107.81	26	P	Pdif	16 39 26.0	-0.9
	baz=334						
Y58A				P	Pdif	16 39 26.0	-0.9
	baz=334						
Y59A	Loris	108.03	26	P	Pdif	16 39 27.0	-0.9
	baz=334						
Y59A				P	Pdif	16 39 27.0	-0.9
	baz=334						

PMAR	Madeira	108.11	332	ePdif	Pdif	16 39 35.6	+7.1
PMAR	Madeira	108.11	332	ePP	PP	16 44 01.6	+4.8
PMOZ	Porto Moniz, M	108.14	332	ePdif	Pdif	16 39 35.7	+7.2
PMOZ	Porto Moniz, M	108.14	332	ePP	PP	16 44 02.2	+5.3
PMOZ	Porto Moniz, M	108.14	332	eLR	LR	17 16 38.3	
	comp=Z,135µm,20.0s						
451A	Vernon	108.16	33	P	Pdif	16 39 28.1	-0.3
	baz=328						
FUL	Funchal	108.17	332	ePP	PP	16 44 05.5	+8.5
Y60A	Bolivia	108.25	25	P	Pdif	16 39 27.1	-1.7
	baz=335						
Y60A				P	Pdif	16 39 27.1	-1.7
	baz=335						
NHSC	New Hope	108.33	27	P	Pdif	16 39 31.2	+2.0
	baz=333						
NHSC	New Hope	108.33	27	Pdiff	Pdif	16 39 30.2	+1.0
	baz=333						
TIGA	Tifton	108.41	31	P	Pdif	16 39 28.6	-1.0
	baz=330						
TIGA	Tifton	108.41	31	Pdiff	Pdif	16 39 34.4	+4.8
	baz=330						
255A	Hazlehurst	108.45	29	P	Pdif	16 39 30.1	+0.3
	baz=331						
LSZ	Lusaka	108.53	263	IAMs_20	IAMs_20	17 27 01.1	
	comp=Z,119µm,22.0s						
257A	Skidaway Islan	109.00	28	P	Pdif	16 39 33.9	+1.7
	baz=332						
553A	Crawfordville	109.11	32	P	Pdif	16 39 32.7	0.0
	baz=329						
UNM	Universidad Na	109.60	50	IAMs_20	IAMs_20	17 24 14.7	
	comp=Z,89µm,22.0s						
456A	Hilliard	109.69	30	P	Pdif	16 39 38.0	+2.7
	baz=331						
656A	Willston	110.65	31	P	Pdif	16 39 32.5	-7.1
	baz=331						
VNDA	Vanda	111.60	173	PKiKP	PKiKP	16 43 40.2	+0.2
	comp=Z,1.9nm,0.9s,baz=323,slow=4.7,SNR=4.3						
VNDA				PKKPbc	PKKPbc	16 54 35.3	-1.0
	comp=Z,2.2nm,1.1s,baz=204,slow=4.6,SNR=1.8						
VNDA	Vanda	111.60	173		PKiKP	16 43 41.8	+1.8
MAW	Mawson	112.04	203	PKKPbc	PKKPbc	16 54 33.3	-1.3
	comp=Z,3.7nm,0.9s,baz=236,slow=6.4,SNR=1.2						
DWPF	Disney Wildern	112.22	31	P	Pdif	16 39 45.9	-0.7
	baz=331						
DWPF	Disney Wildern	112.22	31	Pdiff	Pdif	16 39 48.5	+1.9
	baz=331						
SBA	Scott Base	112.42	172	IAMs_20	IAMs_20	17 27 32.9	
	comp=Z,54µm,21.0s						
TORD	Torodi Ar. Bea	113.31	305	Pdiff	Pdif	16 39 49.9	-1.8
	comp=Z,0.3nm,0.8s,baz=66,slow=7.1,SNR=2.2						
TORD				PKiKP	PKiKP	16 43 44.7	-0.6
	comp=Z,6.5nm,0.8s,baz=77,slow=1.4,SNR=13						
TORD				PP	PP	16 44 33.5	-1.5
	comp=Z,26nm,1.1s,baz=48,slow=4.7,SNR=7.9						
TORD				PKKPbc	PKKPbc	16 54 27.4	-1.7
	comp=Z,2.9nm,0.9s,baz=228,slow=3.0,SNR=4.5						
TORD	Torodi Ar. Bea	113.31	305		PKiKP	16 43 44.4	-0.8
060A	Indiantown	113.61	30	P	Pdif	16 39 53.9	+1.1
	baz=332						
BBSR	BB Station	113.64	14	IAMs_20	IAMs_20	17 33 31.6	
	comp=Z,86µm,21.0s						
BBSR	BB Station	113.64	14	P	Pdif	16 39 54.7	+1.9
	baz=346						
061Z	Ochoppi	114.40	31	P	Pdif	16 39 58.8	+2.5
	baz=331						
BOSA	Boshof	117.01	252	PKP	PKiKP	16 43 52.9	+0.8
	comp=Z,14nm,1.3s,baz=106,slow=4.3,SNR=5.2						
BOSA				PKKPab	PKKPab	16 54 18.9	-1.1
	comp=Z,8.2nm,1.1s,baz=235,slow=7.1,SNR=6.1						
TSUM	Tsumeb	119.29	265	PKKPab	PKKPab	16 54 10.6	-0.2
	comp=Z,9.9nm,1.0s,baz=250,slow=1.1,SNR=9.3						
TSUM	Tsumeb	119.29	265	IAMs_20	IAMs_20	17 36 42.2	
	comp=Z,81µm,21.0s						
MTO3	Montecristo	119.46	46	IAMs_20	IAMs_20	17 36 11.4	
	comp=Z,63µm,22.0s						
SYO	Syowa Base	120.53	205	ePdiff	Pdif	16 40 24.6	+2.3
TGUH	Tegucigalpa,Un	120.97	44	IAMs_20	IAMs_20	17 46 37.2	
	comp=Z,63µm,20.0s						
SUR	Sutherland	122.00	250	IAMs_20	IAMs_20	17 40 03.3	
	comp=Z,62µm,19.0s						
GTBY	Guantanamo Bay	122.10	29	IAMs_20	IAMs_20	17 41 05.5	
	comp=Z,43µm,19.0s						
CRIN	San Cristobal	122.18	45	IAMs_20	IAMs_20	17 44 21.3	
	comp=Z,53µm,22.0s						
DBIC	Dimbokro	122.42	305	PKP	PKiKP	16 44 03.2	+

BBGH	**Gun Hill**	**133.34**	**14**	*eP*	PKPpre	16 44 16.5		
GCMP	**Grenada, Carri**	**133.57**	**17**	*eP*	**PKiKP**	**16 44 26.1**	**+0.9**
GRGR	**Grenville**	**133.85**	**17**	IAMs_20	IAMs_20	17 43 18.4		
	comp=Z,82μm,22.0s							
GRGR	**Grenville**	**133.85**	**17**	*eP*	**PKPdf**	**16 44 23.1**	**-1.5**
SDV	**Santo Domingo**	**133.88**	**30**	*eP*	**PKPdf**	**16 44 24.9**	**+0.1**
HELC	**Santa Helena**	**133.94**	**38**	*eP*	**PKiKP**	**16 44 27.1**	**+0.6**
SNAA	**Sanae**	**133.96**	**199**	IAMs_20	IAMs_20	17 46 53.0		
	comp=Z,46μm,21.0s							
PIZC	**Pizarro, Choco**	**133.99**	**41**	*eP*	**PKiKP**	**16 44 30.1**	**+4.0**
PTBC	**PUERTO BERRIO**	**134.19**	**36**	*eP*	**PKPdf**	**16 44 22.5**	**-2.7**
SOCV	**Socops**	**134.32**	**31**	*eP*	**PKiKP**	**16 44 26.1**	**-0.7**
PAMC	**Pamplona, Colo**	**134.34**	**33**	*eP*	**PKiKP**	**16 44 30.9**	**+3.5**
PLMC	**San Jos del P**	**134.63**	**40**	*eP*	PKPpre	16 44 15.6		
BARC	**Barichara**	**134.76**	**35**	*eP*	**PKiKP**	**16 44 31.9**	**+3.9**
NORC	**Norcasia**	**134.81**	**37**	*eP*	**PKiKP**	**16 44 29.4**	**+1.5**
GUY2C	**Guyana, Caldas**	**134.84**	**38**	*eP*	**PKiKP**	**16 44 30.1**	**+1.6**
TOSP	**Speyside**	**134.92**	**16**	*eP*	**PKiKP**	**16 44 31.7**	**+3.7**
SPBC	**San Pablo de B**	**135.14**	**36**	*eP*	**PKiKP**	**16 44 31.2**	**+2.6**
GR1C	**Gorgona, Isla**	**135.15**	**43**	*eP*	**PKPdf**	**16 44 25.5**	**-1.5**
TRN	**Trinidad (W)**	**135.34**	**17**	*eP*	**PKiKP**	**16 44 30.2**	**+1.4**
YOTC	**Yotoco, Valle**	**135.36**	**40**	*eP*	PKPpre	16 44 18.1		
RUSC	**La Rusia**	**135.42**	**35**	*eP*	PKPpre	16 44 19.7		
TAMC	**Tame, Arauca**	**135.55**	**33**	*eP*	**PKiKP**	**16 44 29.2**	**-0.1**
ROSC	**El Rosal**	**135.71**	**37**	PKP	**PKPdf**	**16 44 28.9**	**+0.4**
	comp=Z,30nm,0.9s,baz=108,slow=8.4,SNR=5.6							
ORTC	**Ortega, Tolima**	**136.02**	**39**	*eP*	**PKPdf**	**16 44 24.8**	**-3.9**
ELOV	**Elorza**	**136.06**	**30**	*eP*	**PKPdf**	**16 44 23.7**	**-4.9**
CHIC	**Chingaza**	**136.19**	**37**	*eP*	**PKiKP**	**16 44 33.6**	**+2.5**
MARP	**Paez Belalcaza**	**136.52**	**41**	*eP*	PKPpre	16 44 20.3		
BETC	**Betania**	**136.94**	**40**	*eP*	**PKiKP**	**16 44 36.5**	**+4.3**
PAC1	**Pacto, Paraso**	**136.96**	**46**	*eP*	PKPpre	16 44 15.5		
GCUF	**Volcan Galeras**	**137.06**	**44**	*eP*	PKPpre	16 44 17.2		
CUSE	**Cuicocha Este**	**137.17**	**46**	*eP*	**PKPdf**	**16 44 28.9**	**-2.4**
OTAV	**Otavalo**	**137.19**	**46**	IAMs_20	IAMs_20	17 34 10.3		
	comp=Z,56μm,22.0s							
OTAV	**Otavalo**	**137.19**	**46**	*eP*	**PKPdf**	**16 44 30.3**	**-1.1**
TULM	**Tulcn-Chalpat**	**137.21**	**45**	*eP*	PKPpre	16 44 16.8		
SHEL	**Horse Pasture**	**137.31**	**282**	IAMs_20	IAMs_20	17 48 06.6		
	comp=Z,53μm,22.0s							
GARC	**Garzon, Huila**	**137.32**	**41**	*eP*	PKPpre	16 44 16.7		
ASCN	**Ascension**	**139.34**	**300**	IAMs_20	IAMs_20	17 53 32.5		
	comp=Z,52μm,20.0s							
PTLC	**Puerto Leguiza**	**139.38**	**41**	*eP*	PKPpre	16 44 23.9		
MDP	**Montagnes des**	**142.25**	**6**	PKP	**PKPdf**	**16 44 38.2**	**-1.8**
	comp=Z,9.3nm,0.6s,baz=354,slow=4.0,SNR=6.6							
BOAV	**Boa Vista**	**143.48**	**19**	*eP*	**PKPdf**	**16 44 41.2**	**-0.9**
TBTG	**Tabatinga, AM**	**145.66**	**39**	*eP*	**PKPdf**	**16 44 41.1**	**-4.8**
CZSB	**Cruzeiro do Su**	**146.96**	**46**	*eP*	**PKPdf**	**16 44 46.1**	**-2.0**
NNA	**Nana**	**147.36**	**57**	PKPbc	**PKPdf**	**16 44 49.8**	**+1.0**
	comp=Z,81nm,0.9s,baz=304,slow=5.5,SNR=16							
NNA	**Nana**	**147.36**	**57**	IAMs_20	IAMs_20	17 39 52.0		
	comp=Z,53μm,22.0s							
MCPB	**Macapa, AP**	**147.70**	**5**	*eP*	**PKPdf**	**16 44 49.7**	**+0.3**
MACA	**Manacapuru-AM**	**148.70**	**22**	*eP*	**PKPdf**	**16 44 51.8**	**+0.8**
TRIS	**Tristan da Cun**	**149.52**	**251**	IAMs_20	IAMs_20	18 03 04.9		
	comp=Z,43μm,20.0s							
RCBR	**Riachuelo**	**150.49**	**332**	PKPbc	**PKPbc**	**16 44 58.2**	**-1.0**
	comp=Z,103nm,1.0s,baz=162,slow=2.5,SNR=20							
RCBR	**Riachuelo**	**150.49**	**332**	IAMs_20	IAMs_20	17 53 50.6		
	comp=Z,58μm,20.0s							
ETMB	**Extrema**	**152.35**	**38**	*eP*	**PKPdf**	**16 44 54.5**	**-2.2**
USHA	**Ushuaia**	**154.08**	**154**	PKPbc	**PKPbc**	**16 45 04.8**	**-1.2**
	comp=Z,30nm,1.0s,baz=249,slow=1.7,SNR=2.3							
MG05	**Puerto Natales**	**154.58**	**145**	PKPdf	**PKPdf**	**16 45 02.1**	**+3.5**
H03N2	**Juan Fernandez**	**155.16**	**100**	T	T	19 38 38.2		
	baz=280,slow=75,SNR=34							
H03N3	**Juan Fernandez**	**155.17**	**100**	T	T	19 38 41.7		
	baz=280,slow=75,SNR=35							
H03N1	**Juan Fernandez**	**155.18**	**100**	T	T	19 38 41.1		
	baz=280,slow=75,SNR=38							
LPAZ	**La Paz**	**156.34**	**51**	PKP	**PKPdf**	**16 45 05.2**	**+2.3**
	comp=Z,23nm,1.3s,baz=12,slow=4.1,SNR=19							
LPAZ	**La Paz**	**156.34**	**51**	*eP*	**PKPdf**	**16 45 02.4**	**-0.5**
COYC	**Coyhaique**	**158.23**	**133**	IAMs_20	IAMs_20	17 51 40.8		
	comp=Z,33μm,20.0s							
LVC	**Limon Verde**	**159.92**	**65**	PKP	**PKPdf**	**16 45 05.4**	**-1.4**
	comp=Z,2.2nm,0.5s,baz=286,slow=3.2,SNR=1.5							
EFI	**East Falkland**	**159.99**	**164**	IAMs_20	IAMs_20	18 05 44.9		
	comp=Z,44μm,21.0s							
SIV	**San Ignacio**	**160.20**	**36**	PKP	**PKPdf**	**16 45 05.6**	**-1.2**
	comp=Z,10nm,1.0s,baz=323,slow=1.3,SNR=14							
SIV				PKPab	**PKPab**	**16 45 45.1**	**-1.8**
	comp=Z,28nm,0.9s,baz=340,slow=0.9,SNR=3.6							
SIV				PP	**PP**	**16 49 27.2**	**-0.9**
	comp=Z,6.0nm,0.9s,baz=33,slow=2.5,SNR=2.2							
PLCA	**Paso Flores**	**161.18**	**121**	PKP	**PKPdf**	**16 45 07.2**	**-0.1**
	comp=Z,16nm,1.2s,baz=259,slow=4.1,SNR=6.1							
BDFB	**Brasilia**	**162.96**	**356**	PKP	**PKPdf**	**16 45 11.3**	**+1.5**
	comp=Z,14nm,1.0s,baz=14,slow=6.3,SNR=14							
CPUP	**Villa Florida**	**170.52**	**50**	PKP	**PKPdf**	**16 45 16.0**	**+0.8**
	comp=Z,6.0nm,1.0s,baz=121,slow=1.5,SNR=6.3							
CPUP				PKPab	**PKPab**	**16 46 31.6**	**-0.5**
	comp=Z,22nm,1.1s,baz=293,slow=3.6,SNR=2.2							
CPUP				PP	**PP**	**16 50 22.9**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=348,slow=9.1,SNR=1.4							
LPA	**La Plata**	**172.46**	**109**	*de*PKIKP	**PKPdf**	**16 45 12.8**	**-3.0**

JMA 15 16:25:37.7±0.1, 33°27N×131°35E, h12km±1km, M5.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.08**	**36**	P	Pg	16 25 40.6	+0.2
JUS	**Usuki**	**0.39**	**121**	S	Sg	16 25 50.9	+0.1

JMA 15 16:26:52.9, 32°67N×130°72E, h10km±1km, M4.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**147**	P	Pg	16 26 56.1	-0.1
JIU3				S	Sg	16 26 58.5	+0.1
JTA	**Tamana**	**0.33**	**332**	P	Pg	16 26 59.8	+0.2
JTA				S	Sg	16 27 04.9	+0.9
JZO	**Okuchi**	**0.54**	**191**	S	Sg	16 27 10.4	-0.1

JMA 15 16:27:02.5, 32°85N×130°90E, h7km±1km, M4.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.27**	**356**	P	Pg	16 27 08.0	+0.1
JNU				*e*S	Sg	16 27 11.9	+0.4
JTA	**Tamana**	**0.33**	**290**	P	Pg	16 27 08.0	0.0
JTA				S	Sg	16 27 13.8	+0.5

JMA 15 16:27:37.7±0.1, 32°76N×130°81E, h10km±2km, M3.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.21**	**179**	*e*S	Sg	16 27 45.6	+0.5
JTA	**Tamana**	**0.31**	**311**	P	Pg	16 27 44.2	+0.3
JTA				*e*S	Sg	16 27 48.8	+0.7

JMA 15 16:27:59.9, 32°67N×130°72E, h13km, M4.4, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**147**	P	Pg	16 28 03.6	+0.1
JIU3				S	Sg	16 28 06.1	+0.1
JZO	**Okuchi**	**0.54**	**191**	S	Sg	16 28 17.8	+0.2
JTZ	**Takazaki**	**0.83**	**158**	P	Pb	16 28 16.4	+0.3
JTZ				*e*S	Sb	16 28 27.1	-0.1

JMA 15 16:28:21.9, 32°70N×130°72E, h13km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.17**	**153**	S	Sg	16 28 28.4	-0.2

JMA 15 16:28:54.7±0.1, 32°90N×130°92E, h10km±1km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.22**	**351**	P	Pg	16 28 59.5	+0.1
JNU				S	Sg	16 29 03.0	+0.5

NEIC ***15*** *16:28:58.0±1.1, 62°89N±0°03×148°19W±0°07, h57km±4km, Error ellipse: s-maj=4.4km s-min=3.7km az=66.0*
AEIC ***15*** *16:28:57±1.3, 62°88N±0°02×148°24W±0°07, h66km±3km, ML3.3, ML3.4/144(NEIC), Error ellipse: s-maj=4.5km s-min=3.6km az=84.0*
ANF ***15*** *16:28:58.0±0.1, 62°90N×148°15W, h58km±1km, ML3.6/53, Error ellipse: s-maj=1.3km s-min=1.2km az=65.0*

ISC 15 16:28:58.1±1.2, 62°89N±0°02×148°16W±0°02, h60km±6km, n218, σ0560/208, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAT1	**Susitna Watana**	**0.19**	**251**		**Pn**	**16 29 07.5**	**-0.1**
WAT1					**Sn**	**16 29 15.2**	**+0.8**
WAT1	**Susitna Watana**	**0.19**	**251**	P	**Pn**	**16 29 07.5**	**-0.1**
	baz=72						
WAT1				S	**Sn**	**16 29 14.6**	**+0.2**
	baz=72						
WAT6	**Susitna Watana**	**0.37**	**148**		**Pn**	**16 29 08.3**	**-0.7**
WAT6					**Sn**	**16 29 16.3**	**-0.5**
WAT6	**Susitna Watana**	**0.37**	**148**	P	**Pn**	**16 29 08.3**	**-0.7**
	baz=322,SNR=90						
WAT6				S	**Sn**	**16 29 16.1**	**-0.8**
	baz=322						
DHY	**Denali Highway**	**0.41**	**62**		**Pn**	**16 29 08.8**	**-0.5**
DHY					**Sn**	**16 29 17.9**	**+0.4**
DHY	**Denali Highway**	**0.41**	**62**	IAML		16 29 18.6	
	comp=E,4μm,0.7s						
DHY	**Denali Highway**	**0.41**	**62**	P	**Pn**	**16 29 09.0**	**-0.2**
	baz=243,SNR=270						
DHY				S	**Sn**	**16 29 17.7**	**+0.3**
	baz=243						
RND	**Reindeer**	**0.60**	**329**		**Pn**	**16 29 11.4**	**+0.1**
RND					**Sn**	**16 29 21.4**	**+0.5**
RND	**Reindeer**	**0.60**	**329**	IAML		16 29 22.0	
	comp=E,2μm,0.6s						
RND				IAML		16 29 22.1	
	comp=N,4μm,0.6s						
MCK	**McKinley**	**0.91**	**338**		**Pn**	**16 29 15.3**	**+0.3**
MCK					**Sn**	**16 29 28.7**	**+1.1**
MCK	**McKinley**	**0.91**	**338**	IAML		16 29 29.9	
	comp=E,855nm,0.6s						
MCK	**McKinley**	**0.91**	**338**	P	**Pn**	**16 29 15.3**	**+0.3**
	baz=160,SNR=169						
MCK				S	**Sn**	**16 29 28.1**	**+0.6**
	baz=160						
CUT	**Chulitna**	**1.09**	**244**		**Pn**	**16 29 17.1**	**0.0**
CUT					**Sn**	**16 29 32.2**	**+0.8**
CUT	**Chulitna**	**1.09**	**244**	P	**Pn**	**16 29 17.2**	**0.0**
	baz=62,SNR=148						
CUT				S	**Sn**	**16 29 31.7**	**+0.3**
	baz=62						
SML	**Sawmill**	**1.09**	**184**		**Pn**	**16 29 16.8**	**-0.5**
SML					**Sn**	**16 29 31.8**	**+0.2**
SML	**Sawmill**	**1.09**	**184**	IAML		16 29 32.5	
	comp=E,1μm,0.7s						
SML				IAML		16 29 38.1	
	comp=N,786nm,0.5s						
SML	**Sawmill**	**1.09**	**184**	P	**Pn**	**16 29 16.9**	**-0.5**
	baz=2.3,SNR=57						
SML				S	**Sn**	**16 29 31.3**	**-0.3**
	baz=2.3						
TRF	**Thorofare Moun**	**1.12**	**301**		**Pn**	**16 29 17.9**	**+0.1**
TRF	**Thorofare Moun**	**1.12**	**301**	IAML		16 29 34.1	
	comp=N,1μm,0.6s						
TRF	**Thorofare Moun**	**1.12**	**301**	P	**Pn**	**16 29 17.9**	**+0.1**
	baz=121,SNR=278						
TRF				S	**Sn**	**16 29 33.0**	**+0.5**
	baz=121						
SCM	**Sheep Creek Mo**	**1.13**	**159**		**Pn**	**16 29 17.5**	**-0.4**
SCM	**Sheep Creek Mo**	**1.13**	**159**	P	**Pn**	**16 29 17.4**	**-0.5**
	baz=338,SNR=31						
SCM				S	**Sn**	**16 29 32.8**	**+0.2**
	baz=338						
GHO	**Glory Hole Cre**	**1.18**	**198**		**Pn**	**16 29 18.2**	**-0.3**
GHO	**Glory Hole Cre**	**1.18**	**198**	IAML		16 29 35.6	
	comp=E,723nm,0.8s						
GHO				IAML		16 29 38.7	
	comp=N,847nm,0.4s						
PS10	**TAPS Pump St10**	**1.21**	**63**		**Pn**	**16 29 19.4**	**+0.5**
PS10					**Sn**	**16 29 37.3**	**+2.9**
M24K	**Tolsona, Glenn**	**1.21**	**130**		**Pn**	**16 29 19.1**	**+0.1**
M24K					**Sn**	**16 29 37.0**	**+2.5**
M24K	**Tolsona, Glenn**	**1.21**	**130**	IAML		16 29 37.3	
	comp=N,1μm,0.6s						
M24K	**Tolsona, Glenn**	**1.21**	**130**	P	**Pn**	**16 29 19.2**	**+0.2**
	baz=310,SNR=138						
PAX	**Paxson**	**1.23**	**85**		**Pn**	**16 29 19.0**	**-0.2**
PAX	**Paxson**	**1.23**	**85**	P	**Pn**	**16 29 19.1**	**-0.2**
	baz=267,SNR=203						
PAX				S	**Sn**	**16 29 34.7**	**-0.4**
	baz=267						
PMR	**Palmer**	**1.38**	**200**		**Pn**	**16 29 21.2**	**+0.2**
PMR	**Palmer**	**1.38**	**200**	IAML		16 29 41.6	
	comp=E,845nm,0.7s						
PMR				IAML		16 29 42.1	
	comp=N,454nm,0.3s						
PMR	**Palmer**	**1.38**	**200**	P	**Pn**	**16 29 21.0**	**0.0**
	baz=18,SNR=76						
PMR				S	**Sn**	**16 29 38.9**	**+0.6**
	baz=18						
BWN	**Browne**	**1.41**	**336**		**Pn**	**16 29 21.2**	**-0.3**
KTH	**Kantishna Hill**	**1.42**	**299**		**Pn**	**16 29 22.1**	**+0.5**
KTH					**Sn**	**16 29 40.8**	**+1.4**
M22K	**Willow**	**1.46**	**220**		**Pn**	**16 29 22.4**	**+0.2**
M22K	**Willow**	**1.46**	**220**	IAML		16 29 59.0	
	comp=N,1μm,0.6s						
M22K	**Willow**	**1.46**	**220**	P	**Pn**	**16 29 22.1**	**-0.1**
	baz=37,SNR=19						
M22K				S	**Sn**	**16 29 41.2**	**+0.9**
	baz=37						
HARP	**HAARP**	**1.47**	**108**		**Pn**	**16 29 22.7**	**+0.3**
HARP	**HAARP**	**1.47**	**108**	P	**Pn**	**16 29 22.9**	**+0.5**
	baz=290,SNR=130						
KNK	**Knik Glacier**	**1.49**	**185**		**Pn**	**16 29 23.1**	**+0.5**
KNK	**Knik Glacier**	**1.49**	**185**	P	**Pn**	**16 29 22.9**	**+0.3**
	baz=3.9,SNR=29						
KNK				S	**Sn**	**16 29 42.0**	**+0.9**
	baz=3.9						
PS11	**TAPS Pump St11**	**1.49**	**122**		**Pn**	**16 29 23.1**	**+0.5**
WRH	**Wood River Hil**	**1.59**	**1**		**Pn**	**16 29 23.5**	**-0.4**
RIDG	**Independent Ri**	**1.72**	**59**		**Pn**	**16 29 26.6**	**+0.8**
RIDG	**Independent Ri**	**1.72**	**59**	IAML		16 29 49.4	
	comp=N,586nm,1.0s						
RIDG				IAML		16 29 58.4	
	comp=E,303nm,1.0s						
RIDG	**Independent Ri**	**1.72**	**59**	P	**Pn**	**16 29 26.5**	**+0.8**
	baz=242,SNR=35						
KLU	**Klutina**	**1.75**	**142**		**Pn**	**16 29 26.1**	**-0.1**
KLU	**Klutina**	**1.75**	**142**	IAML		16 29 51.0	
	comp=E,559nm,0.3s						
KLU	**Klutina**	**1.75**	**142**	P	**Pn**	**16 29 26.1**	**-0.1**
	baz=323,SNR=34						
BPAW	**Bear Paw Mtn.**	**1.75**	**315**		**Pn**	**16 29 25.9**	**-0.3**
BPAW	**Bear Paw Mtn.**	**1.75**	**315**	P	**Pn**	**16 29 25.9**	**-0.3**
	baz=134,SNR=30						
NEA2	**Nenana**	**1.76**	**347**		**Pn**	**16 29 25.5**	**-0.7**
NEA2	**Nenana**	**1.76**	**347**	P	**Pn**	**16 29 25.5**	**-0.7**
	baz=168,SNR=23						
PS08	**TAPS Pump Stn8**	**1.76**	**19**		**Pn**	**16 29 26.1**	**-0.1**
PS08					**Sn**	**16 29 49.7**	**+2.1**
CCB	**Clear Creek Bu**	**1.77**	**5**		**Pn**	**16 29 25.9**	**-0.5**
PPLA	**Purkeypile**	**1.84**	**272**		**Pn**	**16 29 27.8**	**+0.3**
PPLA	**Purkeypile**	**1.84**	**272**	P	**Pn**	**16 29 27.7**	**+0.2**
	baz=89,SNR=27						
CAST	**Castle Rocks**	**1.86**	**288**		**Pn**	**16 29 27.5**	**0.0**
CAST	**Castle Rocks**	**1.86**	**288**	IAML		16 29 52.2	
	comp=E,448nm,0.7s						
CAST				IAML		16 29 53.4	
	comp=N,300nm,0.5s						
CAST	**Castle Rocks**	**1.86**	**288**	P	**Pn**	**16 29 27.4**	**-0.2**
	baz=106,SNR=103						
RC01	**Rabbit Creek A**	**1.95**	**203**		**Pn**	**16 29 29.1**	**+0.2**
RC01	**Rabbit Creek A**	**1.95**	**203**	P	**Pn**	**16 29 29.0**	**+0.2**
	baz=21,SNR=69						
IL31		**1.97**	**16**		**Pn**	**16 29 28.8**	**-0.3**
ILAR	**Eielson Array**	**1.97**	**16**		**Pn**	**16 29 28.7**	**-0.4**
JPK	**Jack Peak**	**1.98**	**157**		**Pn**	**16 29 29.1**	**-0.2**
TCOL	**CIGO, UAF Yank**	**2.00**	**4**		**Pn**	**16 29 29.2**	**-0.2**
TCOL	**CIGO, UAF Yank**	**2.00**	**4**	P	**Pn**	**16 29 29.1**	**-0.2**
	baz=185,SNR=68						
TCOL				S	**Sn**	**16 29 51.6**	**-1.7**
	baz=185						
COLA	**College**	**2.00**	**4**		**Pn**	**16 29 29.1**	**-0.3**
COLA	**College**	**2.00**	**4**	P	**Pn**	**16 29 29.1**	**-0.3**
	baz=185						
COLA				S	**Sn**	**16 29 51.7**	**-1.5**
	baz=185						
DOT	**Dot Lake**	**2.00**	**66**		**Pn**	**16 29 29.5**	**0.0**
PS12	**TAPS Pump St12**	**2.01**	**134**		**Pn**	**16 29 29.3**	**-0.2**
MENT	**Mentasta**	**2.04**	**87**		**Pn**	**16 29 30.1**	**+0.1**
PWL	**Port Wells**	**2.04**	**182**		**Pn**	**16 29 29.9**	**-0.2**
PWL	**Port Wells**	**2.04**	**182**	P	**Pn**	**16 29 30.1**	**+0.1**
	baz=1.2,SNR=6.5						
MDM	**Murphy Dome**	**2.08**	**359**		**Pn**	**16 29 30.3**	**-0.3**
GLI	**Glacier Island**	**2.08**	**165**		**Pn**	**16 29 30.4**	**-0.2**
GLI	**Glacier Island**	**2.08**	**165**	P	**Pn**	**16 29 30.3**	**-0.3**
	baz=345,SNR=7.5						
DIV	**Divide**	**2.10**	**146**		**Pn**	**16 29 30.1**	**-0.8**
N25K	**Chitina, Valde**	**2.11**	**126**		**Pn**	**16 29 31.1**	**0.0**
N25K	**Chitina, Valde**	**2.11**	**126**	IAML		16 30 09.2	
	comp=E,251nm,0.8s						
N25K				IAML		16 30 09.2	
	comp=N,230nm,0.5s						
N25K	**Chitina, Valde**	**2.11**	**126**	P	**Pn**	**16 29 31.1**	**0.0**
	baz=308,SNR=41						
N25K				S	**Sn**	**16 29 56.6**	**+0.5**
	baz=308						
CHUM	**Lake Minchumin**	**2.12**	**300**		**Pn**	**16 29 31.1**	**0.0**
CHUM	**Lake Minchumin**	**2.12**	**300**	P	**Pn**	**16 29 31.0**	**0.0**
	baz=117,SNR=72						
J25K	**Salcha River,**	**2.13**	**34**		**Pn**	**16 29 31.3**	**0.0**
J25K	**Salcha River,**	**2.13**	**34**	P	**Pn**	**16 29 31.2**	**0.0**
	baz=217,SNR=76						
SCRK	**Sand Creek**	**2.17**	**58**		**Pn**	**16 29 31.8**	**-0.1**
SCRK	**Sand Creek**	**2.17**	**58**	P	**Pn**	**16 29 31.8**	**-0.1**
	baz=242,SNR=28						
SCRK				S	**Sn**	**16 29 57.1**	**-0.6**
	baz=242						
L26K	**Log Cabin Wild**	**2.21**	**84**		**Pn**	**16 29 32.8**	**+0.5**
L26K	**Log Cabin Wild**	**2.21**	**84**	IAML		16 30 15.0	
	comp=N,412nm,0.5s						
L26K	**Log Cabin Wild**	**2.21**	**84**	P	**Pn**	**16 29 32.0**	**-0.3**
	baz=268						
STLK	**Strandline Lak**	**2.21**	**233**		**Pn**	**16 29 32.1**	**-0.3**
POKR	**Poker Plat Res**	**2.26**	**8**		**Pn**	**16 29 32.8**	**-0.3**
POKR	**Poker Plat Res**	**2.26**	**8**	P	**Pn**	**16 29 32.9**	**-0.1**
	baz=189,SNR=22						
POKR				S	**Sn**	**16 29 57.9**	**-1.8**
	baz=189						
FID	**Port Fidalgo**	**2.29**	**159**		**Pn**	**16 29 33.4**	**-0.1**
I23K	**Minto, Yukon-K**	**2.33**	**347**		**Pn**	**16 29 33.4**	**-0.5**
I23K	**Minto, Yukon-K**	**2.33**	**347**	IAML		16 30 17.9	
	comp=N,149nm,0.8s						
I23K	**Minto, Yukon-K**	**2.33**	**347**	P	**Pn**	**16 29 33.7**	**-0.2**
	baz=167,SNR=24						
SPCG	**Spurr Capps Gl**	**2.42**	**230**		**Pn**	**16 29 36.1**	**+0.8**
PS07	**TAPS Pump Stn7**	**2.43**	**359**		**Pn**	**16 29 35.4**	**+0.1**
M26K	**Nabesna, AK**	**2.44**	**99**		**Pn**	**16 29 35.0**	**-0.5**
M26K	**Nabesna, AK**	**2.44**	**99**	IAML		16 30 09.1	
	comp=N,211nm,0.7s						
M26K	**Nabesna, AK**	**2.44**	**99**	P	**Pn**	**16 29 35.2**	**-0.3**
	baz=283,SNR=19						
GLB	**Gilahina Butte**	**2.51**	**123**		**Pn**	**16 29 36.5**	**+0.1**
GLB	**Gilahina Butte**	**2.51**	**123**	IAML		16 30 08.2	
	comp=E,128nm,0.4s						
GLB				IAML		16 30 08.3	
	comp=N,137nm,0.5s						
CAPN	**Captain Cook N**	**2.56**	**215**		**Pn**	**16 29 35.8**	**-1.2**
BMRM	**Bremner River**	**2.56**	**137**		**Pn**	**16 29 36.5**	**-0.6**
BMRM	**Bremner River**	**2.56**	**137**	P	**Pn**	**16 29 36.5**	**-0.6**
	baz=320,SNR=52						
J26L	**Joseph Creek**	**2.61**	**50**	P	**Pn**	**16 29 38.2**	**+0.3**
	baz=234,SNR=56						
J26L				S	**Sn**	**16 30 07.8**	**-0.6**
	baz=234						
EYAK	**Cordova Ski Ar**	**2.62**	**153**		**Pn**	**16 29 37.5**	**-0.3**
EYAK	**Cordova Ski Ar**	**2.62**	**153**	P	**Pn**	**16 29 37.5**	**-0.3**
	baz=334,SNR=13						
L20K	**Farewell, AK**	**2.67**	**264**		**Pn**	**16 29 38.5**	**-0.1**
L20K	**Farewell, AK**	**2.67**	**264**	P	**Pn**	**16 29 38.6**	**0.0**
	baz=79,SNR=29						
K20K	**Telida**	**2.72**	**283**		**Pn**	**16 29 39.3**	**0.0**
K20K	**Telida**	**2.72**	**283**	IAML		16 30 21.5	
	comp=N,107nm,0.6s						
K20K				IAML		16 30 31.8	
	comp=E,131nm,0.8s						
K20K	**Telida**	**2.72**	**283**	P	**Pn**	**16 29 39.3**	**0.0**
	baz=98,SNR=29						
K20K				S	**Sn**	**16 30 09.6**	**-1.4**
	baz=98						
VRDI	**Verde Repeater**	**2.77**	**125**		**Pn**	**16 29 39.9**	**-0.4**
I21K	**Tanana**	**2.85**	**326**		**Pn**	**16 29 41.0**	**+0.1**
I21K

TTA	**Tatalina**	**3.59**	**274**	IAML			16 30 35.0	
	comp=N,107nm,0.7s							
TTA				IAML			16 30 36.2	
	comp=E,100nm,0.7s							
TTA	**Tatalina**	**3.59**	**274**	P		**Pn**	**16 29 50.9**	**-0.3**
	baz=87,SNR=47							
TT01	**Tatalina**	**3.60**	**274**			**Pn**	**16 29 51.1**	**-0.2**
ISLE	**Juniper Island**	**3.60**	**127**			**Pn**	**16 29 50.5**	**-0.8**
ISLE	**Juniper Island**	**3.60**	**127**	IAML			16 30 56.3	
	comp=N,138nm,0.9s							
ISLE				IAML			16 30 58.8	
	comp=E,100nm,1.0s							
EGAK	**Eagle**	**3.64**	**56**			**Pn**	**16 29 51.8**	**0.0**
EGAK	**Eagle**	**3.64**	**56**	IAML			16 31 09.7	
	comp=E,68nm,0.8s							
EGAK				IAML			16 31 12.1	
	comp=E,59nm,0.7s							
EGAK	**Eagle**	**3.64**	**56**	P		**Pn**	**16 29 51.5**	**-0.3**
	baz=242,SNR=13							
N19K	**Bonanza Creek**	**3.65**	**238**			**Pn**	**16 29 51.9**	**-0.1**
N19K	**Bonanza Creek**	**3.65**	**238**	IAML			16 30 55.0	
	comp=N,60nm,0.8s							
N19K				IAML			16 30 56.7	
	comp=E,56nm,1.2s							
CNPM	**China Poot**	**3.69**	**205**			**Pn**	**16 29 51.6**	**-0.9**
CNPM	**China Poot**	**3.69**	**205**	IAML			16 30 47.9	
	comp=E,99nm,0.5s							
CNPM				IAML			16 30 52.0	
	comp=N,90nm,0.8s							
SNH	**Sunshine Point**	**3.73**	**134**			**Pn**	**16 29 52.8**	**-0.3**
SNH	**Sunshine Point**	**3.73**	**134**	IAML			16 30 52.5	
	comp=E,102nm,2.5s							
SNH				IAML			16 31 08.7	
	comp=N,119nm,2.0s							
GRNC	**Granite Creek**	**3.73**	**123**			**Pn**	**16 29 52.5**	**-0.9**
GRNC	**Granite Creek**	**3.73**	**123**	IAML			16 30 52.1	
	comp=N,62nm,0.7s							
CTG	**Chitna Glacier**	**3.76**	**118**	P		**Pn**	**16 29 54.0**	**+0.4**
	baz=304,SNR=11							
CTGM	**Chitina Glacie**	**3.76**	**118**			**Pn**	**16 29 54.1**	**+0.4**
CTGM	**Chitina Glacie**	**3.76**	**118**	IAML			16 31 00.0	
	comp=N,47nm,1.3s							
BAGL	**Bagley Icefiel**	**3.76**	**127**			**Pn**	**16 29 52.6**	**-0.9**
YUK3	**Moose Creek**	**3.76**	**104**			**Pn**	**16 29 54.7**	**+1.0**
YUK3	**Moose Creek**	**3.76**	**104**	P		**Pn**	**16 29 54.3**	**+0.5**
	baz=290,SNR=22							
SVW2	**Sparrevohn**	**3.93**	**246**			**Pn**	**16 29 55.8**	**-0.1**
SVW2	**Sparrevohn**	**3.93**	**246**	IAML			16 30 45.0	
	comp=E,59nm,0.5s							
SVW2				IAML			16 31 10.2	
	comp=N,63nm,0.9s							
IM03		**3.94**	**325**			**Pn**	**16 29 55.6**	**-0.2**
IMAR	**Indian Mountai**	**3.94**	**325**	Pn		**Pn**	**16 29 54.8**	**-1.1**
LOGN	**Logan Glacier**	**3.98**	**118**			**Pn**	**16 29 56.4**	**-0.2**
LOGN	**Logan Glacier**	**3.98**	**118**	IAML			16 31 06.7	
	comp=N,37nm,1.2s							
DAWY	**Dawson**	**4.11**	**69**			**Pn**	**16 29 58.0**	**-0.3**
DAWY	**Dawson**	**4.11**	**69**	IAML			16 31 11.0	
	comp=E,41nm,1.1s							
DAWY				IAML			16 31 11.2	
	comp=N,64nm,1.5s							
DAWY	**Dawson**	**4.11**	**69**	P		**Pn**	**16 29 58.2**	**-0.1**
	baz=257,SNR=10							
TABL	**Table Mountain**	**4.15**	**123**			**Pn**	**16 29 57.9**	**-1.2**
TABL	**Table Mountain**	**4.15**	**123**	IAML			16 31 07.5	
	comp=N,33nm,0.9s							
TABL				IAML			16 31 15.4	
	comp=E,34nm,1.7s							
N18K	**Kilae Creek**	**4.29**	**242**			**Pn**	**16 30 00.6**	**-0.1**
N18K	**Kilae Creek**	**4.29**	**242**	IAML			16 31 21.3	
	comp=E,42nm,1.5s							
N18K				IAML			16 31 29.1	
	comp=N,41nm,0.8s							
N18K	**Kilae Creek**	**4.29**	**242**	P		**Pn**	**16 30 01.0**	**+0.3**
	baz=55							
GCSA	**Galena City Sc**	**4.29**	**300**			**Pn**	**16 30 00.6**	**0.0**
GCSA	**Galena City Sc**	**4.29**	**300**	P		**Pn**	**16 30 00.9**	**+0.3**
	baz=112,SNR=13							
COLD	**Coldfoot**	**4.44**	**350**			**Pn**	**16 30 03.4**	**+0.6**
COLD	**Coldfoot**	**4.44**	**350**	P		**Pn**	**16 30 03.1**	**+0.3**
	baz=168,SNR=17							
SAMH	**Samovar Hills**	**4.49**	**125**			**Pn**	**16 30 03.6**	**0.0**
PCA	**Pinnacle**	**4.71**	**123**			**Pn**	**16 30 05.7**	**-0.9**
YUK4	**Talbot Arm**	**4.73**	**105**	P		**Pn**	**16 30 06.9**	**-0.1**
	baz=292							
BM03	**Burnt Mountain**	**4.79**	**17**			**Pn**	**16 30 07.7**	**+0.1**
Q19K	**Cape Douglas,**	**4.79**	**216**	P		**Pn**	**16 30 07.6**	**0.0**
	baz=31							
BMAR	**Burnt Mountain**	**4.80**	**17**	Pn		**Pn**	**16 30 07.7**	**0.0**
I29M	**Ogilvie Camp,**	**4.98**	**56**			**Pn**	**16 30 10.0**	**-0.1**
I29M				IAML			16 31 24.4	
	comp=E,25nm,0.5s							
I29M				IAML			16 31 24.5	
	comp=N,22nm,0.6s							
BCPM	**Bancas Point**	**5.04**	**122**			**Pn**	**16 30 10.0**	**-1.0**
BCPM	**Bancas Point**	**5.04**	**122**	IAML			16 32 50.2	
	comp=N,35nm,1.1s							
PNL	**Peninsula**	**5.32**	**123**			**Pn**	**16 30 13.8**	**-1.1**
PNL	**Peninsula**	**5.32**	**123**	P		**Pn**	**16 30 14.8**	**-0.1**
	baz=311							
KDAK	**Kodiak Island**	**5.57**	**205**			**Pn**	**16 30 17.3**	**-1.0**
TOLK	**Toolik Lake Re**	**5.80**	**355**			**Pn**	**16 30 21.3**	**-0.2**

JMA 15 16:29:11.0, 32.74N×130.77E, h10km±1km, M4.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.19**	**169**	P	Pg	16 29 15.3	+0.2
JIU3				S	Sg	16 29 18.3	+0.4
JTA	**Tamana**	**0.30**	**318**	*eS*	Sg	16 29 21.6	+0.5
JNU	**Nakatsue**	**0.39**	**13**	*eS*	Sg	16 29 24.4	+0.4
JKIT	**Kitakata**	**0.59**	**101**	*eS*	Sg	16 29 30.7	+0.6
JZO	**Okuchi**	**0.62**	**194**	*eS*	Sg	16 29 31.1	+0.1
JFI	**Itaya**	**0.76**	**335**	P	Pg	16 29 25.5	-0.1
JFI				*eS*	Sg	16 29 35.6	+0.1
JHHC	**Hyugahichiya**	**0.79**	**112**	P	Pg	16 29 26.4	+0.2
JHHC				*eS*	Sg	16 29 36.9	+0.4

JMA 15 16:29:54.9, 32.74N×130.75E, h14km±1km, M3.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.20**	**164**	*eS*	Sg	16 30 02.6	+0.1
JTA	**Tamana**	**0.29**	**321**	P	Pg	16 30 01.1	+0.1
JTA				*eS*	Sg	16 30 05.2	+0.1

JMA 15 16:30:07.5, 32.84N×130.80E, h13km±1km, M4.4, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.26**	**299**	P	Pg	16 30 13.1	+0.2
JTA				*eS*	Sg	16 30 16.9	+0.3
JNU	**Nakatsue**	**0.29**	**13**	S	Sg	16 30 17.7	+0.1
JIU3	**Izumi3**	**0.29**	**178**	S	Sg	16 30 17.9	+0.3

JMA 15 16:30:27.0, 32.86N×130.90E, h8km±1km, M4.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.26**	**356**	S	Sg	16 30 36.7	+0.9
JIU3	**Izumi3**	**0.32**	**193**	S	Sg	16 30 38.0	+0.5
JTA	**Tamana**	**0.33**	**289**	P	Pg	16 30 33.7	+0.3
JTA				S	Sg	16 30 38.2	+0.4
JBEP	**Beppuamama**	**0.64**	**42**	P	Pn	16 30 43.0	+0.6

*JMA **15** 16:30:40.8, 33.25N×131.38E, h5km±2km, M3.8*
*NEIC **15** 16:30:46.5±1.9, 32.86N±0.05×131.80E±0.07, h10km±1km, mb5.1/7, Error ellipse: s-maj=10.3km s-min=8.7km az=235.0*
*IDC **15** 16:30:48.2±1.0, 32.95N×131.68E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.1/77, mbtmp4.4/12, ML4.1/1, Error ellipse: s-maj=35.3km s-min=17.0km az=69.0*
ISC 15 16:30:48.4±0.8, 32.66N±0.05×131.5E±0.1, h10km, n37, σ2s00/31, mb4.6/15, 1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.67**	**313**	Pg	**Pb**	**16 31 02.1**	**-0.1**
JSU	**Suzuyama**	**1.43**	**217**	Pn	**Pb**	**16 31 14.0**	**-1.2**
JTU	**Tsushima**	**2.53**	**318**	Pn	**Pn**	**16 31 28.5**	**-1.0**
JHS	**Saijyo**	**2.71**	**30**	Pn	Pn	16 31 25.2	-6.8

KSRS	**Korea Array**		**5.59**	**330**	Pn	**Pn**	**16 32 11.4**	**-0.1**
	6.6nm,0.3s,baz=148,slow=15,SNR=1.7							
KSRS					Pg	**Pb**	**16 32 28.2**	**+2.2**
	11nm,0.3s,baz=152,slow=16,SNR=4.6							
KSRS					Lg	Lg	16 33 38.0	
	42nm,0.3s,baz=154,slow=30,SNR=5.9							
INCN	**Inchon**		**6.23**	**322**	Pn	Pn	16 32 15.0	-5.3
JOW	**Kunigami**		**6.43**	**206**	Pn	**Pn**	**16 32 25.2**	**+2.0**
MJB9	**Matsu-Tunnel**		**6.78**	**53**	Pn	Pn	16 32 22.1	-5.8
SONM	**Songino Array**		**24.26**	**316**	P	**P**	**16 36 06.7**	**+1.0**
	7.5nm,0.9s,baz=134,slow=8.9,SNR=1.7							
SONM	**Songino Array**		**24.26**	**316**	P	**P**	**16 36 03.0**	**-2.6**
SONM					IAmb	IAmb	16 36 15.3	
	comp=Z,43nm,1.4s							
PETK	**Petropavlovsk-**		**27.79**	**35**	P	**P**	**16 36 32.8**	**-4.6**
CHTO	**Chiang Mai**		**32.23**	**253**	P	**P**	**16 37 15.9**	**-1.1**
CM31	**Chiang Mai Arr**		**32.41**	**252**	P	**P**	**16 37 17.8**	**-0.9**
CM31					IAmb	IAmb	16 37 39.1	
	comp=Z,20nm,1.1s							
CMAR	**Chiang Mai Arr**		**32.41**	**252**	P	P	16 37 23.6	+4.9
	comp=Z,23nm,0.7s,baz=46,slow=8.8,SNR=2.3							
CMAR	**Chiang Mai Arr**		**32.41**	**252**	P	**P**	**16 37 15.9**	**-2.7**
H11N2	**WAKE ISLAND Hy**		**34.15**	**103**	T	T	17 13 49.1	
	baz=296							
H11N1	**WAKE ISLAND Hy**		**34.15**	**103**	T	T	17 13 46.6	
	baz=296							
H11N3	**WAKE ISLAND Hy**		**34.16**	**103**	T	T	17 13 50.4	
	baz=296							
ZALV	**Zalesovo Beam**		**39.14**	**317**	P	**P**	**16 38 17.6**	**+1.7**
	comp=Z,5.1nm,0.9s,baz=100,slow=9.2,SNR=2.1							
BVAR	**Borovoye Array**		**47.58**	**314**	P	**P**	**16 39 24.8**	**+0.7**
	comp=Z,6.2nm,0.7s							
KNRA	**Kununurra**		**48.13**	**183**	P	**P**	**16 39 27.8**	**-0.9**
KK31	**Karatay Array**		**48.26**	**301**	P	**P**	**16 39 28.4**	**-1.1**
KK31					IAmb	IAmb	16 39 42.9	
	comp=Z,27nm,1.0s							
KKAR	**Karatay Array**		**48.26**	**301**	P	**P**	**16 39 28.5**	**-1.0**
KKAR	**Karatay Array**		**48.26**	**301**	P	**P**	**16 39 28.4**	**-1.1**
KKAR					IAmb	IAmb	16 39 42.9	
	comp=Z,27nm,1.0s							
HYBB	**Hyderabad (bro**		**49.80**	**266**	*eP*	**P**	**16 39 41.3**	**-0.3**
HYBB					*es*P	**sP**	**16 39 46.1**	**-0.2**
WRA	**Warramunga Arr**		**52.38**	**177**	P	**P**	**16 40 02.9**	**+2.1**
	comp=Z,7.4nm,1.1s,baz=358,slow=7.9,SNR=5.0							
WB2	**Warramunga Arr**		**52.38**	**177**	P	**P**	**16 39 59.6**	**-1.2**
WB2					IAmb	IAmb	16 40 26.7	
	comp=Z,38nm,1.2s							
ASAR	**Alice Springs**		**56.06**	**177**	P	**P**	**16 40 31.4**	**+3.7**
	comp=Z,2.6nm,0.8s,baz=2.6,slow=6.8,SNR=2.0							
ASAR	**Alice Springs**		**56.06**	**177**	P	**P**	**16 40 29.7**	**+2.1**
ILAR	**Eielson Array**		**57.47**	**30**	P	**P**	**16 40 36.7**	**-0.5**
	comp=Z,1.6nm,1.1s,baz=270,slow=6.4,SNR=0.9							
SPITS	**Spitsbergen Ar**		**63.14**	**348**	P	**P**	**16 41 16.2**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=35,slow=7.8,SNR=1.5							
FINES	**FINESS Array B**		**68.68**	**330**	P	**P**	**16 41 51.9**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=70,slow=5.8,SNR=9.9							
AKASG	**Malin Array Be**		**72.49**	**319**	P	**P**	**16 42 15.7**	**+0.6**
	comp=Z,3.6nm,0.5s,baz=53,slow=6.0,SNR=3.2							
BRTR	**Keskin Array B**		**75.32**	**308**	P	**P**	**16 42 32.8**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=102,slow=4.2,SNR=2.4							
SYO	**Syowa Base**		**120.72**	**205**	*ji*Pdiff	**Pdif**	**16 46 04.0**	**-1.0**
SYO	**Syowa Base**		**120.72**	**205**	*ep*Pdiff	pPdif	16 46 08.1	-0.4
SYO	**Syowa Base**		**120.72**	**205**	*es*Pdiff	**Pdif**	**16 46 10.4**	**+5.4**

JMA 15 16:30:51.9, 32.65N×130.71E, h11km±1km, M5.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.13**	**139**	P	Pg	16 30 55.1	0.0
JIU3				*eS*	Sg	16 30 57.3	-0.1
JTA	**Tamana**	**0.35**	**335**	P	Pg	16 30 59.0	+0.1
JTA				*eS*	Sg	16 31 04.0	+0.5
JZO	**Okuchi**	**0.52**	**191**	P	Pg	16 31 01.9	-0.1
JZO				*eS*	Sg	16 31 09.2	+0.3

JMA 15 16:31:46.9, 33.25N×131.38E, h11km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.09**	**15**	S	Sg	16 31 51.6	+0.1

JMA 15 16:32:04.3, 32.94N×131.00E, h12km±1km, M3.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.21**	**331**	P	Pg	16 32 08.9	+0.1
JNU				S	Sg	16 32 12.1	+0.1
JIU3	**Izumi3**	**0.42**	**202**	S	Sg	16 32 18.5	+0.3

JMA 15 16:32:41.8, 32.85N×130.89E, h7km±1km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.32**	**291**	P	Pg	16 32 48.3	+0.2

JMA 15 16:32:46.3, 32.86N×130.87E, h8km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.30**	**290**	P	Pg	16 32 52.5	+0.2
JTA				S	Sg	16 32 56.9	+0.6
JIU3	**Izumi3**	**0.31**	**189**	P	Pg	16 32 52.5	0.0

JMA 15 16:32:59.3, 32.93N×131.06E, h10km±1km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.24**	**321**	P	Pg	16 33 04.6	+0.3
JNU				S	Sg	16 33 08.2	+0.5

JMA 15 16:33:04.8, 32.68N×130.70E, h13km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.16**	**144**	P	Pg	16 33 08.7	+0.1
JIU3				S	Sg	16 33 11.4	+0.1
JTA	**Tamana**	**0.32**	**334**	P	Pg	16 33 11.3	0.0
JZO	**Okuchi**	**0.55**	**189**	S	Sg	16 33 22.6	-0.2

*IDC **15** 16:33:18.2±0.6, 32.84N×130.91E, h0km, mb4.5/25, mb1 4.7/25, mb1mx4.3/79, mbtmp4.5/25, Error ellipse: s-maj=22.0km s-min=15.3km az=71.0*
*NEIC **15** 16:33:20.4±1.8, 32.77N±0.05×130.8E±0.1, h10km±1km, mb5.3/51, Error ellipse: s-maj=17.1km s-min=8.1km az=84.0*
*JMA **15** 16:33:20.9, 32.83N×130.82E, h12km±1km, M4.6*
JMA Felt IV J1.
ISC 15 16:33:20.3±0.4, 32.85N±0.03×130.86E±0.06, h12km, n106, σ1s06/108, mb5.1/64, 1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.27**	**3**	P	**Pb**	**16 33 27.2**	**+0.1**
JNU				S	**Sb**	**16 33 31.4**	**-0.3**
JNU	**Nakatsue**	**0.27**	**3**		**Pg**	**16 33 26.2**	**+0.2**
JTA	**Tamana**	**0.30**	**292**	P	**Pg**	**16 33 26.6**	**+0.2**
JTA				S	**Sg**	**16 33 30.8**	**+0.3**
JIU3	**Izumi3**	**0.30**	**188**	P	**Pg**	**16 33 26.6**	**+0.1**
JIU3				S	**Sg**	**16 33 31.0**	**+0.4**
JSU	**Suzuyama**	**1.38**	**195**	Pn	**Pb**	**16 33 45.9**	**-0.2**
JTU	**Tsushima**	**2.07**	**324**	Pn	**Pb**	**16 33 57.2**	**-0.5**
KSRS	**Korea Array**	**5.18**	**333**	Lg	Lg	16 36 03.9	
	12nm,0.3s,baz=158,slow=30,SNR=6.3						
JOW	**Kunigami**	**6.40**	**201**	Pn	**Pn**	**16 34 57.6**	**+3.1**
	12nm,0.3s,baz=111,slow=24,SNR=6.6						
JOW	**Kunigami**	**6.40**	**201**		**Pn**	**16 34 57.3**	**+2.9**
JKA	**Kamikawa-asahi**	**14.51**	**36**	Pn	**Pn**	**16 36 46.3**	**+1.0**
YSS	**Yuzh-Sakhalins**	**16.75**	**29**	Pn	**P**	**16 37 16.1**	**-0.8**
QIZ	**Qiongzhong**	**23.32**	**239**	P	**P**	**16 38 28.0**	**-0.3**
CM31	**Chiang Mai Arr**	**32.00**	**251**	P	**P**	**16 39 46.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**32.00**	**251**	P	**P**	**16 39 47.1**	**+0.5**
	1.3nm,0.6s,baz=55,slow=6.9,SNR=6.4						
CMAR	**Chiang Mai Arr**	**32.00**	**251**	P	**P**	**16 39 42.1**	**-4.5**
WAKE	**Wake Island**	**34.70**	**104**	P	**P**	**16 40 09.0**	**-1.1**
TIXI	**Tiksi**	**38.87**	**359**	P	**P**	**16 40 44.5**	**-0.6**
MK31	**Makanchi Array**	**39.20**	**305**	P	**P**	**16 40 49.1**	**+0.9**
MKAR	**Makanchi Array**	**39.20**	**305**	P	**P**	**16 40 48.5**	**+0.4**
	2.1nm,0.6s,baz=90,slow=10,SNR=7.2						

BILL	**Bilibino**	**40.69**	**20**	P		**P**	**16 41 01.5**	**+1.3**
BILL				IAmb		IAmb	16 41 06.6	
	comp=Z,105nm,1.8s							
KURK	**Kurchatov**	**41.89**	**311**	P		**P**	**16 41 10.2**	**-0.1**
KURBB	**Kurchatov Arra**	**41.94**	**311**	P		**P**	**16 41 10.9**	**+0.2**
	comp=Z,7.0nm,0.7s,baz=98,slow=8.9,SNR=5.5							
NRIK	**Noril'sk**	**43.77**	**339**	P		**P**	**16 41 25.4**	**+0.1**
	comp=Z,11nm,0.8s,baz=118,slow=14,SNR=5.1							
NRIK	**Noril'sk**	**43.77**	**339**	P		**P**	**16 41 25.8**	**+0.5**
AAK	**Ala-Archa**	**44.90**	**299**	P		**P**	**16 41 35.5**	**+0.6**
	comp=Z,5.4nm,0.7s,baz=148,slow=7.1,SNR=4.8							
AAK	**Ala-Archa**	**44.90**	**299**	P		**P**	**16 41 34.7**	**-0.2**
BVAR	**Borovoye Array**	**47.09**	**314**	P		**P**	**16 41 52.8**	**+0.9**
	comp=Z,7.2nm,0.6s							
BRVK	**Borovoye**	**47.15**	**314**	P		**P**	**16 41 53.2**	**+0.8**
BRVK				IAmb		IAmb	16 41 53.9	
	comp=Z,42nm,1.3s							
KK31	**Karatay Array**	**47.73**	**301**	P		**P**	**16 41 58.0**	**+1.0**
KK31				IAmb		IAmb	16 41 58.9	
	comp=Z,31nm,1.1s							
KKAR	**Karatay Array**	**47.73**	**301**	P		**P**	**16 41 58.0**	**+0.9**
KKAR				IAmb		IAmb	16 41 58.9	
	comp=Z,31nm,1.1s							
KKAR	**Karatay Array**	**47.73**	**301**	P		**P**	**16 41 57.9**	**+0.9**
KNRA	**Kununurra**	**48.29**	**183**	P		**P**	**16 41 59.8**	**-1.6**
GAR	**Garm**	**48.63**	**295**	P		**P**	**16 42 04.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**50.91**	**186**	P		**P**	**16 42 20.0**	**-1.3**
FITZ				IAmb		IAmb	16 42 26.5	
	comp=Z,70nm,1.9s							
WB0	**Warramunga Arr**	**52.43**	**176**	P		**P**	**16 42 31.7**	**-1.0**
WB0				IAmb		IAmb	16 42 42.7	
	comp=Z,82nm,1.6s							
WRA	**Warramunga Arr**	**52.60**	**176**	P		**P**	**16 42 33.3**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=356,slow=7.9,SNR=6.2							
WB2	**Warramunga Arr**	**52.60**	**176**	P		**P**	**16 42 32.8**	**-1.2**
WB2				IAmb		IAmb	16 42 33.7	
	comp=Z,44nm,1.3s							
ABKAR	**Akbulak array**	**53.97**	**310**	P		**P**	**16 42 43.4**	**-0.5**
ABKAR				IAmb		IAmb	16 42 45.8	
	comp=Z,68nm,1.7s							
ABKAR	**Akbulak array**	**53.97**	**310**	P		**P**	**16 42 44.4**	**+0.4**
L19K	**White Mountain**	**54.29**	**34**	P		**P**	**16 42 47.7**	**+1.7**
J20K	**Nowinta River**	**54.49**	**31**	P		**P**	**16 42 48.0**	**+0.6**
J20K				IAmb		IAmb	16 43 14.2	
	comp=Z,61nm,1.8s							
M19K	**Big River Lodg**	**54.52**	**34**	P		**P**	**16 42 49.2**	**+1.5**
M19K				IAmb		IAmb	16 43 37.8	
	comp=Z,60nm,1.9s							
K20K	**Telida**	**54.57**	**32**	P		**P**	**16 42 49.4**	**+1.4**
I21K	**Tanana**	**55.36**	**30**	P		**P**	**16 42 54.8**	**+1.1**
I21K				IAmb		IAmb	16 43 29.6	
	comp=Z,33nm,1.4s							
PPLA	**Purkeypile**	**55.46**	**33**	P		**P**	**16 42 55.4**	**+0.7**
AS31	**Alice Springs**	**56.27**	**177**	P		**P**	**16 42 58.7**	**-2.0**
ASAR	**Alice Springs**	**56.28**	**177**	P		**P**	**16 43 00.4**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=9.0,slow=13,SNR=5.7							
H23K	**Yukon River**	**56.32**	**29**	P		**P**	**16 43 02.0**	**+1.4**
H23K				IAmb		IAmb	16 43 32.0	
	comp=Z,47nm,1.6s							
RND	**Reindeer**	**56.91**	**32**	P		**P**	**16 43 05.0**	**+0.1**
RND				IAmb		IAmb	16 43 08.6	
	comp=Z,91nm,2.0s							
H24K	**Noodor Dome**	**57.00**	**29**	P		**P**	**16 43 06.8**	**+1.3**
H24K				IAmb		IAmb	16 44 32.2	
	comp=Z,48nm,2.0s							
KNK	**Knik Glacier**	**57.39**	**34**	P		**P**	**16 43 09.3**	**+1.0**
KNK				IAmb		IAmb	16 43 19.1	
	comp=Z,36nm,1.3s							
ILAR	**Eielson Array**	**57.56**	**30**	P		**P**	**16 43 09.3**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=298,slow=7.7,SNR=4.3							
ILAR	**Eielson Array**	**57.56**	**30**	P		**P**	**16 43 08.3**	**-1.1**
SCM	**Sheep Creek Mo**	**57.85**	**34**	P		**P**	**16 43 12.8**	**+1.2**
FID	**Port Fidalgo**	**58.46**	**35**	P		**P**	**16 43 15.1**	**-0.7**
SCRK	**Sand Creek**	**58.94**	**31**	P		**P**	**16 43 19.5**	**+0.2**
SCRK				IAmb		IAmb	16 43 57.4	
	comp=Z,40nm,1.7s							
DOT	**Dot Lake**	**58.98**	**31**	P		**P**	**16 43 18.9**	**-0.4**
DOT				IAmb		IAmb	16 44 47.3	
	comp=Z,37nm,1.7s							
MENT	**Mentasta**	**59.28**	**32**	P		**P**	**16 43 22.4**	**+0.9**
M26K	**Nabesna, AK**	**59.73**	**33**	P		**P**	**16 43 25.9**	**+1.3**
M26K				IAmb		IAmb	16 44 56.8	
	comp=Z,37nm,1.6s							
MCARA	**McCarthy VSAT**	**59.96**	**34**	P		**P**	**16 43 26.4**	**+0.3**
MCARA				IAmb		IAmb	16 44 26.2	
	comp=Z,35nm,1.3s							
L27K	**Beaver Creek,**	**60.09**	**32**	P		**P**	**16 43 28.7**	**+1.6**
L27K				IAmb		IAmb	16 44 13.4	
	comp=Z,65nm,1.9s							
BCAR	**Beaver Creek A**	**60.11**	**32**	P		**P**	**16 43 28.2**	**+1.0**
TGL	**Tana Glacier**	**60.20**	**34**	P		**P**	**16 43 28.7**	**+0.8**
M27K	**Edge Creek, AK**	**60.24**	**32**	P		**P**	**16 43 29.4**	**+1.2**
M27K				IAmb

comp=Z,7.3nm,0.9s
DAVA **Damuels** 84.23 324 *i* P P 16 45 52.3 +0.4
comp=Z,26nm,1.0s
NVAR **Mina Array Bea** 84.32 48 P P 16 45 53.5 +1.0
comp=Z,0.3nm,0.4s,baz=226,slow=38,SNR=2.1
DAVOX **Davos/Dischmat** 84.58 324 P P 16 45 54.1 +0.4
comp=Z,17nm,0.8s,baz=43,slow=3.6,SNR=12
PDAR **Pinedale Array** 86.60 40 P P 16 46 03.9 0.0
comp=Z,0.7nm,0.7s,baz=252,slow=2.8,SNR=1.8
SYO **Syowa Base** 120.69 205 *e*Pdiff Pdif 16 48 36.8 +0.4

JMA 15 16:33:38.1±0.1, 32.67N×130.73E, h13km±1km, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**150**	S	Sg	16 33 44.4	+0.3
JTA	**Tamana**	**0.34**	**331**	P	Pg	16 33 44.9	-0.1
JTA				S	Sg	16 33 49.6	0.0

JMA 15 16:34:08.9, 32.78N×130.78E, h14km±1km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.23**	**173**	S	Sg	16 34 17.4	0.0
JNU	**Nakatsue**	**0.35**	**14**	P	Pg	16 34 16.2	+0.1
JNU				S	Sg	16 34 20.2	-0.8

JMA 15 16:34:21.0, 32.74N×130.79E, h9km±1km, M4.2, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.19**	**174**	P	Pg	16 34 25.1	+0.1
JIU3				*e*S	Sg	16 34 28.4	+0.7
JTA	**Tamana**	**0.31**	**316**	P	Pg	16 34 27.2	0.0
JTA				S	Sg	16 34 31.6	+0.2

JMA 15 16:34:25.3, 32.87N×130.88E, h9km±1km, M4.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.25**	**360**	P	Pg	16 34 30.6	+0.2
JNU				S	Sg	16 34 34.2	+0.4
JTA	**Tamana**	**0.31**	**288**	S	Sg	16 34 36.1	+0.6
JIU3	**Izumi3**	**0.33**	**190**	S	Sg	16 34 36.3	+0.2
JZO	**Okuchi**	**0.77**	**198**	S	Sg	16 34 49.8	-0.2

JMA 15 16:34:50.0, 32.77N×130.76E, h12km±1km, M4.1, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.23**	**169**	P	Pg	16 34 55.0	+0.2
JIU3				S	Sg	16 34 58.5	+0.5
JTA	**Tamana**	**0.27**	**315**	P	Pg	16 34 55.7	+0.1
JTA				S	Sg	16 34 59.8	+0.4
JNU	**Nakatsue**	**0.36**	**16**	P	Pg	16 34 57.6	+0.2
JNU				S	Sg	16 35 02.5	+0.2

JMA 15 16:35:21.4±0.1, 32.77N×130.78E, h14km±2km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.22**	**173**	S	Sg	16 35 29.8	+0.2
JTA	**Tamana**	**0.28**	**313**	P	Pg	16 35 27.3	-0.1
JTA				S	Sg	16 35 31.5	+0.1

JMA 15 16:35:36.4, 32.78N×130.76E, h12km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.23**	**169**	S	Sg	16 35 45.0	+0.3
JTA	**Tamana**	**0.27**	**314**	P	Pg	16 35 42.0	+0.1
JTA				S	Sg	16 35 45.7	+0.1

JMA 15 16:35:47.8±0.1, 32.99N×131.11E, h9km±2km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.23**	**304**	*e*S	Sg	16 35 56.5	+0.7

JMA 15 16:35:54.8, 33.27N×131.35E, h9km±1km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.08**	**36**	S	Sg	16 35 58.9	+0.2
JUS	**Usuki**	**0.39**	**121**	*e*S	Sg	16 36 07.5	-0.2

JMA 15 16:36:46.4, 32.97N×131.08E, h9km±1km, M3.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.23**	**312**	P	Pg	16 36 51.4	+0.3
JNU				S	Sg	16 36 54.6	+0.4
JTA	**Tamana**	**0.46**	**269**	P	Pg	16 36 55.4	0.0
JTA				S	Sg	16 37 01.3	-0.1

JMA 15 16:36:49.9, 32.67N×130.72E, h13km±1km, M4.1, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**147**	P	Pg	16 36 53.6	+0.1
JIU3				S	Sg	16 36 56.0	0.0
JTA	**Tamana**	**0.33**	**332**	P	Pg	16 36 56.7	0.0

JMA 15 16:37:04.4, 32.76N×130.76E, h14km±1km, M3.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.21**	**168**	S	Sg	16 37 12.6	+0.2

JMA 15 16:37:21.3, 32.73N×130.67E, h12km±1km, M3.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.22**	**146**	P	Pg	16 37 25.9	-0.1
JIU3				S	Sg	16 37 29.3	+0.2
JTA	**Tamana**	**0.26**	**334**	S	Sg	16 37 30.5	+0.1

JMA 15 16:37:36.9, 32.73N×130.67E, h14km±1km, M3.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.22**	**146**	P	Pg	16 37 41.8	+0.1
JIU3				S	Sg	16 37 45.1	+0.1
JTA	**Tamana**	**0.26**	**334**	P	Pg	16 37 42.7	+0.2
JTA				S	Sg	16 37 46.3	+0.1

*IDC **15** 16:38:19.3±0.5, 32.71N×130.75E, h0km, mb4.4/33, mb1 4.5/35, mb1mx4.3/81, mbtmp4.4/35, ML3.6/2, Error ellipse: s-maj=15.7km s-min=11.4km az=77.0*
*NEIC **15** 16:38:21.4±1.8, 32.67N±0.05×130.79E±0.10, h10km±1km, mb4.8/47, Error ellipse: s-maj=13.7km s-min=7.8km az=89.0*
*JMA **15** 16:38:21.7, 32.74N×130.75E, h13km±1km, M4.5*
JMA Felt IV J1.

ISC 15 16:38:22.2±0.7, 32.73N±0.03×130.70E±0.06, h15km±4km, n121, σ1§02/126, mb4.7/72, 2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.20**	**151**	*i*P	**Pg**	**16 38 26.3**	**-0.5**
JIU3				*i*S	**Sg**	**16 38 29.5**	**-0.4**
JTA	**Tamana**	**0.27**	**330**	*i*P	**Pg**	**16 38 27.8**	**-0.2**
JTA				S	**Sg**	**16 38 31.9**	**-0.1**
JNU	**Nakatsue**	**0.42**	**21**	P	**Pg**	**16 38 30.3**	**-0.4**
JTZ	**Takazaki**	**0.89**	**158**	S	**Sb**	**16 38 50.4**	**-0.5**
JSU	**Suzuyama**	**1.23**	**190**	Pn	**Pb**	**16 38 44.9**	**-0.3**
JTU	**Tsushima**	**2.10**	**329**	Pn	**Pn**	**16 38 57.3**	**+0.6**
KSRS	**Korea Array**	**5.24**	**335**	Pg	**Pb**	**16 39 55.0**	**+1.6**
	4.2nm,0.3s,baz=150,slow=16,SNR=5.0						
KSRS				Lg	Lg	16 41 06.9	
	5.8nm,0.3s,baz=154,slow=29,SNR=4.9						
INCN	**Inchon**	**5.80**	**326**	Pn	**Pn**	**16 39 47.3**	**-0.4**
INU	**Inuyama**	**5.86**	**62**	Pn	**Pn**	**16 39 50.2**	**+1.6**
JOW	**Kunigami**	**6.24**	**200**	Pn	**Pn**	**16 39 56.8**	**+3.0**
	11nm,0.3s,baz=72,slow=10,SNR=8.8						
JOW				Sn	**Sn**	**16 41 06.2**	**+1.3**
	baz=209,slow=17,SNR=0.9						
JOW	**Kunigami**	**6.24**	**200**	Pn	**Pn**	**16 39 57.5**	**+3.7**
MAJO	**Matsushiro**	**7.27**	**56**	Pn	**Pn**	**16 40 09.9**	**+2.0**
MJAR	**Matsushiro Arr**	**7.27**	**56**	Pn	**Pn**	**16 40 08.0**	**+0.1**
	0.6nm,0.3s,baz=229,slow=14,SNR=5.3						
USRK	**Ussuriysk Ar.**	**11.50**	**5**	Pn	**Pn**	**16 41 07.6**	**+1.8**
	baz=190,slow=13,SNR=3.6						
ASAJ	**Asahikawa**	**14.69**	**36**	Pn	**Pn**	**16 41 48.5**	**-0.9**
	0.5nm,0.3s,baz=240,slow=14,SNR=4.1						
KLR	**Kul'dur**	**16.51**	**2**	Pn	**P**	**16 42 18.1**	**+2.4**
	0.6nm,0.3s,baz=160,slow=8.2,SNR=6.5						
YSS	**Yuzh-Sakhalins**	**16.93**	**29**	Pn	**Pn**	**16 42 18.6**	**+0.2**
SONM	**Songino Array**	**23.77**	**317**	P	**P**	**16 43 35.3**	**+1.1**
	3.4nm,0.7s,baz=120,slow=8.5,SNR=1.5						
CMAR	**Chiang Mai Arr**	**31.83**	**251**	P	**P**	**16 44 46.3**	**-0.2**
	0.8nm,0.7s,baz=55,slow=7.2,SNR=8.4						
KSM	**Kuching**	**36.53**	**216**	P	**P**	**16 45 26.3**	**-1.0**
ZALV	**Zalesovo Beam**	**38.66**	**317**	P	**P**	**16 45 45.6**	**+0.6**
	0.5nm,0.5s,baz=92,slow=9.8,SNR=1.8						
ZALV				PcP	**PcP**	**16 47 55.8**	**-1.0**
	0.8nm,0.6s,baz=88,slow=3.5,SNR=1.7						
MK31	**Makanchi Array**	**39.16**	**306**	P	**P**	**16 45 50.9**	**+1.6**
MKAR	**Makanchi Array**	**39.16**	**306**	P	**P**	**16 45 48.4**	**-0.9**
	1.3nm,0.9s,baz=93,slow=8.6,SNR=2.5						
MKAR	**Makanchi Array**	**39.16**	**306**	P	**P**	**16 45 50.8**	**+1.5**
SAUI	**Sauniaki**	**40.48**	**179**	P	**P**	**16 46 01.1**	**+0.6**
BILL	**Bilibino**	**40.85**	**20**	P	**P**	**16 46 02.7**	**-0.3**
KURBB	**Kurchatov Arra**	**41.92**	**311**	P	**P**	**16 46 11.7**	**-0.3**
	1.2nm,0.3s,baz=95,slow=8.9,SNR=4.1						
NRIK	**Noril'sk**	**43.84**	**339**	P	**P**	**16 46 26.9**	**-0.4**
	4.4nm,0.7s,baz=118,slow=10.0,SNR=5.2						
AAK	**Ala-Archa**	**44.84**	**300**	P	**P**	**16 46 36.2**	**+0.3**
	3.6nm,0.8s,baz=88,slow=16,SNR=4.0						
LEM	**Lembang**	**45.05**	**213**	P	**P**	**16 46 38.1**	**+0.3**
	16nm,0.7s,baz=343,slow=19,SNR=4.4						
MTN	**Manton Dam**	**45.31**	**179**	P	**P**	**16 46 37.9**	**-1.7**
MTN				IAmb	IAmb	16 46 45.7	
	comp=Z,13nm,1.3s						
BVAR	**Borovoye Array**	**47.08**	**314**	P	**P**	**16 46 53.6**	**+0.4**
	comp=Z,5.2nm,0.6s						
BRVK	**Borovoye**	**47.14**	**314**	P	**P**	**16 46 54.4**	**+0.7**
KK31	**Karatay Array**	**47.68**	**301**	P	**P**	**16 46 59.3**	**+1.2**
KKAR	**Karatay Array**	**47.68**	**301**	P	**P**	**16 46 58.8**	**+0.7**
KNRA	**Kununurra**	**48.16**	**182**	P	**P**	**16 47 00.7**	**-1.2**
KNRA				IAmb	IAmb	16 47 14.8	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.77**	**186**	P	**P**	**16 47 21.0**	**-0.7**
	comp=Z,5.5nm,1.0s,baz=12,slow=7.7,SNR=7.5						
FITZ	**Fitzroy Crossi**	**50.77**	**186**	P	**P**	**16 47 21.1**	**-0.7**
FITZ				IAmb	IAmb	16 47 24.3	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**52.32**	**176**	P	**P**	**16 47 31.1**	**-2.3**
WB0				IAmb	IAmb	16 47 31.4	
	comp=Z,10.0nm,1.3s						
WRAB	**Tennant Creek**	**52.48**	**176**	P	**P**	**16 47 32.7**	**-1.8**
WRAB				IAmb	IAmb	16 47 43.9	
	comp=Z,17nm,1.3s						
WRA	**Warramunga Arr**	**52.49**	**176**	P	**P**	**16 47 33.4**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=359,slow=8.1,SNR=6.3						
WRA	**Warramunga Arr**	**52.49**	**176**	P	**P**	**16 47 33.1**	**-1.5**
WB2	**Warramunga Arr**	**52.49**	**176**	P	**P**	**16 47 32.9**	**-1.7**
WB2				IAmb	IAmb	16 47 43.9	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**52.52**	**175**	P	**P**	**16 47 33.2**	**-1.7**
WR0				IAmb	IAmb	16 47 40.3	
	comp=Z,9.4nm,1.1s						
ARU	**Arti**	**53.77**	**319**	P	**P**	**16 47 43.6**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=107,slow=11,SNR=3.3						
ABKAR	**Akbulak array**	**53.95**	**310**	P	**P**	**16 47 45.5**	**+0.3**
ABKAR				IAmb	IAmb	16 47 52.2	
	comp=Z,4.8nm,0.7s						
ABKAR	**Akbulak array**	**53.95**	**310**	P	**P**	**16 47 45.3**	**+0.2**
L19K	**White Mountain**	**54.47**	**34**	P	**P**	**16 47 49.2**	**+0.4**
L19K				IAmb	IAmb	16 48 00.4	
	comp=Z,7.7nm,1.2s						
J20K	**Nowinta River**	**54.67**	**31**	P	**P**	**16 47 49.4**	**-0.8**
K20K	**Telida**	**54.75**	**32**	P	**P**	**16 47 51.2**	**+0.4**
IMAR	**Indian Mountai**	**54.76**	**29**	P	**P**	**16 47 49.6**	**-1.2**
AKTO	**Aktyubinsk**	**54.96**	**312**	P	**P**	**16 47 52.8**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=48,slow=16,SNR=3.8						
CAST	**Castle Rocks**	**55.64**	**32**	P	**P**	**16 47 56.0**	**-1.2**
PPLA	**Purkeypile**	**55.64**	**33**	P	**P**	**16 47 57.5**	**+0.1**
PPLA				IAmb	IAmb	16 47 59.2	
	comp=Z,14nm,1.3s						
OHAK	**Old Harbor**	**55.79**	**40**	P	**P**	**16 47 57.6**	**-0.7**
BPAW	**Bear Paw Mtn.**	**56.06**	**31**	P	**P**	**16 47 59.7**	**-0.5**
BPAW				IAmb	IAmb	16 48 02.3	
	comp=Z,9.5nm,1.2s						
AS31	**Alice Springs**	**56.16**	**176**	P	**P**	**16 48 00.4**	**-0.9**
ASAR	**Alice Springs**	**56.16**	**176**	P	**P**	**16 48 00.8**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=9.2,slow=14,SNR=15						
ASAR	**Alice Springs**	**56.16**	**176**	P	**P**	**16 47 59.3**	**-2.1**
H23K	**Yukon River**	**56.49**	**29**	P	**P**	**16 48 03.9**	**+0.6**
H23K				IAmb	IAmb	16 48 05.3	
	comp=Z,7.4nm,0.9s						
RND	**Reindeer**	**57.08**	**32**	P	**P**	**16 48 07.4**	**-0.2**
RND				IAmb	IAmb	16 48 08.3	
	comp=Z,15nm,1.0s						
MDM	**Murphy Dome**	**57.14**	**30**	P	**P**	**16 48 08.6**	**+0.7**
MDM				IAmb	IAmb	16 48 09.5	
	comp=Z,12nm,0.9s						
WRH	**Wood River Hil**	**57.27**	**31**	P	**P**	**16 48 09.5**	**+0.7**
WRH				IAmb	IAmb	16 48 11.6	
	comp=Z,6.0nm,1.1s						
SML	**Sawmill**	**57.57**	**34**	P	**P**	**16 48 10.7**	**-0.4**
SML				IAmb	IAmb	16 48 11.9	
	comp=Z,15nm,1.1s						
ILAR	**Eielson Array**	**57.74**	**30**	P	**P**	**16 48 11.4**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=267,slow=5.4,SNR=11						
SCRK	**Sand Creek**	**59.12**	**31**	P	**P**	**16 48 19.8**	**-2.2**
SCRK				IAmb	IAmb	16 48 22.4	
	comp=Z,9.3nm,0.9s						
SANVU	**Saraoutou**	**59.27**	**138**	P	**P**	**16 48 22.1**	**-1.3**
N25K	**Chitina, Valde**	**59.35**	**34**	P	**P**	**16 48 22.9**	**-0.6**
N25K				IAmb	IAmb	16 48 26.2	
	comp=Z,7.3nm,0.8s						
MENT	**Mentasta**	**59.46**	**32**	P	**P**	**16 48 23.8**	**-0.4**
M26K	**Nabesna, AK**	**59.91**	**32**	P	**P**	**16 48 27.8**	**+0.5**
VRDI	**Verde Repeater**	**59.97**	**34**	P	**P**	**16 48 28.1**	**+0.2**
VRDI				IAmb	IAmb	16 48 29.1	
	comp=Z,9.2nm,0.8s						
L27K	**Beaver Creek,**	**60.27**	**32**	P	**P**	**16 48 30.5**	**+0.7**
L27K				IAmb	IAmb	16 48 31.5	
	comp=Z,6.4nm,0.8s						
BCAR	**Beaver Creek A**	**60.29**	**32**	P	**P**	**16 48 30.6**	**+0.7**
M27K	**Edge Creek, AK**	**60.42**	**32**	P	**P**	**16 48 30.0**	**-1.0**
M27K				IAmb	IAmb	16 48 32.6	
	comp=Z,7.7nm,0.8s						
BELG	**Belogornoye**	**60.82**	**316**	P	**P**	**16 48 33.8**	**+0.2**
	comp=Z,13nm,0.7s,baz=344,slow=20,SNR=3.9						
BARN	**Barnard Glacie**	**60.86**	**34**	P	**P**	**16 48 34.0**	**0.0**
BARN				IAmb	IAmb	16 48 35.4	
	comp=Z,7.9nm,0.8s						
CTGM	**Chitina Glacie**	**61.04**	**34**	P	**P**	**16 48 34.7**	**-0.5**
DAWY	**Dawson**	**61.06**	**30**	P	**P**	**16 48 34.7**	**-0.4**
EPYK	**Eagle Plains**	**61.51**	**27**	P	**P**	**16 48 38.4**	**+0.3**
INK	**Inuvik**	**62.10**	**25**	P	**P**	**16 48 42.0**	**0.0**
	comp=Z,4.9nm,0.9s,baz=297,slow=5.1,SNR=6.9						
M30M	**Minto, Yukon**	**62.62**	**31**	P	**P**	**16 48 46.4**	**+0.8**
M30M				IAmb	IAmb	16 48 47.0	
	comp=Z,3.7nm,0.8s						
HYT	**Haines Junctio**	**62.87**	**33**	P	**P**	**16 48 48.1**	**+0.7**
N31M	**Braeburn, Yuko**	**63.44**	**32**	P	**P**	**16 48 51.3**	**+0.2**
ARCES	**ARCESS Array B**	**64.79**	**338**	P	**P**	**16 48 58.9**	**-0.8**
	comp=Z,4.2nm,0.9s,baz=52,slow=7.9,SNR=6.2						
C36M	**Paulatuk**	**64.88**	**22**	P	**P**	**16 48 60.0**	**-0.3**
C36M				IAmb	IAmb	16 49 19.6	
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**65.08**	**170**	P	**P**	**16 49 01.4**	**-0.6**
	comp=Z,3.6nm,0.7s,baz=352,slow=7.3,SNR=9.3						
STKA	**Stephens Creek**	**65.08**	**170**	P	**P**	**16 49 00.1**	**-1.9**
EUNU	**Eureka**	**65.61**	**7**	P	**P**	**16 49 04.8**	**-0.3**
KBZ	**Khabaz**	**66.79**	**308**	P	**P**	**16 49 12.9**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=92,slow=4.1,SNR=3.2						
FINES	**FINESS Array B**	**68.31**	**330**	P	**P**	**16 49 21.4**	**-1.0**
	comp=Z,5.9nm,0.5s,baz=71,slow=5.8,SNR=20						
RES	**Resolute Bay**	**68.78**	**12**	P	**P**	**16 49 25.0**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=317,slow=6.4,SNR=9.4						
RES	**Resolute Bay**	**68.78**	**12**	P	**P**	**16 49 24.6**	**-0.5**
RES				IAmb	IAmb	16 49 25.9	
	comp=Z,5.7nm,0.8s						
YKA	**Yellowknife Ar**	**71.76**	**26**	P	**P**	**16 49 43.1**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=306,slow=5.9,SNR=6.5						
AKASG	**Malin Array Be**	**72.02**	**319**	P	**P**	**16 49 44.7**	**-0.6**
	comp=Z,3.6nm,0.6s,baz=53,slow=6.5,SNR=7.2						
HFS	**Hagfors**	**74.08**	**332**	P	**P**	**16 49 56.3**	**-1.1**
	comp=Z,5.2nm,1.1s,baz=270,slow=5.8,SNR=3.8						
NB2	**NORSAR Subarra**	**74.45**	**334**	P	**P**	**16 49 58.0**	**-1.5**
	comp=Z,2.0nm,0.7s,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**74.45**	**334**	P	**P**	**16 49 58.2**	**-1.3**
	comp=Z,2.0nm,0.9s,baz=49,slow=5.6,SNR=7.1						
BRTR	**Keskin Array B**	**74.77**	**308**	P	**P**	**16 50 01.8**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=86,slow=6.9,SNR=9.7						
VRAC	**Vranov**	**79.54**	**323**	P	**P**	**16 50 28.7**	**+0.3**
	comp=Z,4.9nm,0.7s,baz=55,slow=6.6,SNR=3.9						
CLL	**Collm**	**80.04**	**326**	*i* P	**P**	**16 50 31.0**	**0.0**
	comp=Z,12nm,0.9s						
CLL				*e*(sP)	**pP**	**16 50 35.0**	**-0.9**
RONA	**Rosalia, Austr**	**80.70**	**321**	*i* P	**P**	**16 50 36.1**	**+1.4**
	comp=Z,8.4nm,1.1s						
CONA	**Conrad Observa**	**80.79**	**322**	*e*P	**P**	**16 50 36.7**	**+1.4**
	comp=Z,9.6nm,1.1s						
KHC	**Kasperske Hory**	**81.18**	**324**	*e*P	**P**	**16 50 37.0**	**-0.3**
GERES	**GERESS Array B**	**81.30**	**323**	P	**P**	**16 50 37.7**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=31,slow=3.1,SNR=9.6						
ARSA	**Arzberg**	**81.39**	**321**	*i* P	**P**	**16 50 39.2**	**+0.8**
	comp=Z,8.3nm,1.4s						
SOKA	**Soboth**	**82.02**	**321**	*e*P	**P**	**16 50 42.6**	**+0.8**
	comp=Z,14nm,1.0s						
BIOA	**Bad Ischl, Aus**	**82.09**	**323**	*i* P	**P**	**16 50 43.0**	**+0.9**
	comp=Z,10.0nm,1.5s						
OBKA	**Obir**	**82.38**	**321**	*i* P	**P**	**16 50 44.3**	**+0.6**
	comp=Z,3.3nm,0.8s						
KBA	**Koelnbreinsper**	**82.64**	**322**	*i* P	**P**	**16 50 44.8**	**-0.4**
	comp=Z,4.5nm,0.8s						
ABTA	**Abfaltersbach**	**83.29**	**322**	*e*P	**P**	**16 50 48.1**	**-0.3**
	comp=Z,8.1nm,1.0s						
WATA	**Walderalm**	**83.37**	**323**	*e*P	**P**	**16 50 49.1**	**+0.2**
	comp=Z,7.8nm,0.8s						
WTTA	**Wattenberg**	**83.39**	**323**	*e*P	**P**	**16 50 49.3**	**+0.3**
	comp=Z,9.2nm,1.1s						
MOTA	**Moosalm**	**83.60**	**323**	*e*P	**P**	**16 50 50.2**	**+0.1**
	comp=Z,14nm,1.0s						
SQTA	**Sankt Quirin**	**83.63**	**323**	*e*P	**P**	**16 50 50.4**	**+0.2**
	comp=Z,9.8nm,0.9s						
RETA	**Reutte**	**83.68**	**324**	*e*P	**P**	**16 50 50.9**	**+0.5**
	comp=Z,9.4nm,0.9s						
FETA	**Feichten**	**84.01**	**323**	*e*P	**P**	**16 50 51.4**	**-0.8**
	comp=Z,5.8nm,0.9s						
DAVA	**Damuels**	**84.25**	**324**	*i* P	**P**	**16 50 52.9**	**-0.6**
	comp=Z,15nm,0.9s						
NVAR	**Mina Array Bea**	**84.50**	**47**	P	**P**	**16 50 54.6**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=303,slow=5.0,SNR=7.7						
DAVOX	**Davos/Dischmat**	**84.60**	**324**	P	**P**	**16 50 54.7**	**-0.5**
	comp=Z,13nm,0.8s,baz=64,slow=5.2,SNR=15						
PDAR	**Pinedale Array**	**86.79**	**40**	P	**P**	**16 51 05.5**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=311,slow=0.9,SNR=8.1						
ULM	**Lac du Bonnet**	**87.68**	**28**	P	**P**	**16 51 09.6**	**-0.5**
	comp=Z,6.8nm,0.9s,baz=336,slow=4.5,SNR=5.5						

JMA 15 16:39:35.2, 33.27N×131.37E, h12km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.07**	**25**	P	Pg	16 39 37.5	-0.3

JMA 15 16:39:36.1, 32.70N×130.77E, h8km±1km, M3.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**167**	P	Pg	16 39 39.5	+0.1
JIU3				*e*S	Sg	16 39 42.1	+0.5
JTZ	**Takazaki**	**0.84**	**161**	P	Pb	16 39 52.9	-0.1
JTZ				S	Sb	16 40 04.3	-0.1

JMA 15 16:39:43.3, 32.96N×131.11E, h8km±1km, M4.0, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.25**	**310**	P	Pg	16 39 48.7	+0.3
JNU				S	Sg	16 39 52.2	+0.4
JIU3	**Izumi3**	**0.48**	**212**	S	Sg	16 39 58.6	-0.3
JUS	**Usuki**	**0.55**	**79**	P	Pg	16 39 53.7	-0.2
JUS				S	Sg	16 40 01.6	+0.5

JMA 15 16:40:30.3, 32.85N×130.83E, h14km±2km, M3.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.27**	**9**	P	Pg	16 40 36.2	+0.1
JNU				S	Sg	16 40 40.0	-0.1
JTA	**Tamana**	**0.28**	**294**	P	Pg	16 40 36.1	0.0
JTA				S	Sg	16 40 40.2	+0.2
JIU3	**Izumi3**	**0.30**	**183**	P	Pg	16 40 36.6	0.0
JIU3				S	Sg	16 40 41.1	+0.3

JMA 15 16:41:17.8, 32.67N×130.72E, h12km±1km, M3.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**147**	P	Pg	16 41 21.2	-0.1
JIU3				S	Sg	16 41 23.8	+0.1
JTA	**Tamana**	**0.33**	**332**	P	Pg	16 41 24.8	+0.2

JMA 15 16:41:57.0, 32.91N×131.01E, h8km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.24**	**332**	P

KNRA	**Kununurra**	**48.23**	**183**	P		**P**		**16 51 48.7**	**-0.6**
HYBB	**Hyderabad (bro**	**49.23**	**265**	*e*P		**P**		**16 51 57.6**	**+0.3**
WB0	**Warramunga Arr**	**52.38**	**176**	P		**P**		**16 52 19.0**	**-1.8**
WRA	**Warramunga Arr**	**52.55**	**176**	P		**P**		**16 52 21.8**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=358,slow=8.1,SNR=5.4								
WRA	**Warramunga Arr**	**52.55**	**176**	P		**P**		**16 52 18.7**	**-3.3**
WB2	**Warramunga Arr**	**52.55**	**176**	P		**P**		**16 52 21.2**	**-0.9**
ASAR	**Alice Springs**	**56.22**	**177**	P		**P**		**16 52 48.9**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=9.9,slow=11,SNR=13								
ASAR	**Alice Springs**	**56.22**	**177**	P		**P**		**16 52 45.7**	**-3.0**
ARCES	**ARCESS Array B**	**64.75**	**338**	P		**P**		**16 53 46.9**	**+0.4**
	comp=Z,1.8nm,1.0s,baz=31,slow=5.5,SNR=0.9								
ARCES	**ARCESS Array B**	**64.75**	**338**	P		**P**		**16 53 46.3**	**-0.2**
ARCES				IAmb		IAmb		16 54 10.7	
	comp=Z,11nm,1.5s								
STKA	**Stephens Creek**	**65.13**	**170**	P		**P**		**16 53 49.8**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=337,slow=9.7,SNR=3.9								
STKA	**Stephens Creek**	**65.13**	**170**	P		**P**		**16 53 48.4**	**-0.9**
FINES	**FINESS Array B**	**68.28**	**330**	P		**P**		**16 54 10.4**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=50,slow=6.0,SNR=6.0								
FINES	**FINESS Array B**	**68.28**	**330**	P		**P**		**16 54 09.4**	**+0.3**
NOA	**NORSAR Array B**	**74.42**	**334**	P		**P**		**16 54 47.0**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=48,slow=5.7,SNR=3.8								
NOA	**NORSAR Array B**	**74.42**	**334**	P		**P**		**16 54 47.0**	**+0.7**
TPAW	**Teton Pass**	**85.45**	**40**			**P**		**16 55 47.6**	**+0.9**
HVU	**Hansel Valley**	**85.57**	**42**	IAmb		IAmb		16 55 46.1	
	comp=Z,31nm,0.7s								
HVU	**Hansel Valley**	**85.57**	**42**	P		**P**		**16 55 44.9**	**-2.2**
REDW	**Red Top Meadow**	**85.59**	**40**	IAmb		IAmb		16 55 48.6	
	comp=Z,33nm,0.9s								
REDW	**Red Top Meadow**	**85.59**	**40**	P		**P**		**16 55 46.0**	**-1.3**
AHID	**Auburn Hatcher**	**85.86**	**41**	P		P		16 55 36.6	-12
ISCO	**Idaho Springs**	**90.89**	**40**	IAmb		IAmb		16 56 20.5	
	comp=Z,9.1nm,0.5s								
ISCO	**Idaho Springs**	**90.89**	**40**	P		**P**		**16 56 10.7**	**-2.1**
SYO	**Syowa Base**	**120.60**	**205**	⇑*i*Pdiff		**Pdif**		**16 58 24.2**	**-0.3**

MOS ***15*** *16:44:04.6± 1.1, 32.˚63N× 130.˚61E, h12km, mb5.5/65, Error ellipse: s-maj=7.3km s-min=4.5km az=107.0*
IDC ***15*** *16:44:04.8± 0.4, 32.˚70N× 130.˚70E, h0km, mb4.8/37, mb1 4.9/41, mb1mx4.7/73, mbtmp4.8/41, ML4.3/4, Error ellipse: s-maj=12.3km s-min=9.0km az=71.0*
BJI ***15*** *16:44:06.2± 0.0, 32.˚74N× 130.˚59E, h7km, mb5.1/10*
NEIC ***15*** *16:44:06.9± 1.8, 32.˚71N± 0.˚03× 130.˚72E± 0.˚07, h10km± 1km, mb5.3/85, Error ellipse: s-maj=9.7km s-min=5.5km az=101.0*
JMA ***15*** *16:44:07.4, 32.˚75N× 130.˚76E, h15km± 1km, M5.4*

ISC 15 16:44:06.9± 0.5, 32.˚71N± 0.˚02× 130.˚77E± 0.˚04, h11km± 3km, h11km:pP-P, n591, σ1§45/585, mb5.3/207, MS6.5/3, 65C-41D, Plate phase solution: NP1: ϕ≈184.09503°, δ49.69429°, λ61.14614°. **NP2:** ϕ≈44.51832°, δ48.09256°, λ119.63644°. **Principal axes:** T Plg68.3882°, Azm26.2042°; N Plg21.5933°, Azm203.7116°; P Plg0.8534°, Azm294.0494°; **Fault plane solution: NP1:** ϕ≈112.76154°, δ57.08558°, λ49.21242°. **NP2:** ϕ≈350.55905°, δ50.53524°, λ135.26303°. **Principal axes:** T Plg56.4777°, Azm325.9976°; N Plg33.2572°, Azm137.8802°; P Plg3.7388°, Azm230.3364°; **Fault plane solution: NP1:** ϕ≈357.77200°, δ63.09399°, λ45.53496°. **NP2:** ϕ≈243.01953°, δ50.47444°, λ144.07842°. **Principal axes:** T Plg50.3543°, Azm216.8489°; N Plg38.6563°, Azm21.7207°; P Plg7.4715°, Azm117.7423°;

Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.16**	**167**	P		**Pb**	**16 44 12.2**	**+0.3**
JIU3				*e*S		**Sg**	**16 44 16.0**	**+3.1**
JTA	**Tamana**	**0.33**	**322**	P		**Pg**	**16 44 13.6**	**+0.2**
JTA				*e*S		**Sg**	**16 44 18.0**	**+0.2**
JNU	**Nakatsue**	**0.42**	**12**	P		**Pg**	**16 44 15.4**	**+0.1**
JNU				S		**Sg**	**16 44 20.7**	**-0.2**
JNU	**Nakatsue**	**0.42**	**12**	Pg		**Pg**	**16 44 14.8**	**-0.5**
JNU				Sg		**Sg**	**16 44 19.9**	**-1.0**
JSU	**Suzuyama**	**1.23**	**193**	Pn		**Pg**	**16 44 30.6**	**+0.1**
JSU				Sn		**Sn**	**16 44 47.9**	**+1.2**
JTU	**Tsushima**	**2.15**	**328**	Pn		**Pb**	**16 44 44.7**	**-1.1**
JMN	**Monobe**	**2.80**	**68**			**Pn**	**16 44 53.7**	**+2.0**
TJN	**Taejon**	**4.62**	**323**	*e*P		**Pn**	**16 45 17.1**	**+0.5**
TJN	**Taejon**	**4.62**	**323**	Pn		**Pn**	**16 45 20.6**	**+4.0**
KSRS	**Korea Array**	**5.28**	**335**	Pn		**Pn**	**16 45 24.8**	**-0.9**
	2.3nm,0.3s,baz=150,slow=14,SNR=1.8							
KSRS				Pg		**Pb**	**16 45 41.7**	**+2.5**
	10nm,0.3s,baz=148,slow=17,SNR=9.9							
KSRS				Lg		Lg	16 46 50.1	
	20nm,0.3s,baz=153,slow=31,SNR=4.8							
KSAR	**Wonju Array Be**	**5.29**	**334**	P		**Pn**	**16 45 30.3**	**+4.5**
KSAR	**Wonju Array Be**	**5.29**	**334**	Pn		**Pn**	**16 45 30.3**	**+4.5**
INU	**Inuyama**	**5.82**	**61**	Pn		**Pn**	**16 45 33.8**	**+0.7**
INCN	**Inchon**	**5.85**	**326**	P		**Pn**	**16 45 32.3**	**-1.3**
INCN	**Inchon**	**5.85**	**326**	Pn		**Pn**	**16 45 32.3**	**-1.3**
JGF	**Kuroka**	**6.18**	**60**	Pn		**Pn**	**16 45 39.5**	**+1.4**
JOW	**Kunigami**	**6.24**	**201**	Pn		**Pn**	**16 45 42.1**	**+3.1**
	36nm,0.3s,baz=24,slow=10,SNR=38							
JOW	**Kunigami**	**6.24**	**201**	Pn		**Pn**	**16 45 42.2**	**+3.2**
MJB9	**Matsu-Tunnel**	**7.22**	**56**			**Pn**	**16 45 53.6**	**+1.1**
MAJO	**Matsushiro**	**7.23**	**56**	⇑*e*P		**Pn**	**16 45 55.9**	**+3.4**
MAJO	**Matsushiro**	**7.23**	**56**	Pn		**Pn**	**16 45 56.9**	**+4.4**
MJAR	**Matsushiro Arr**	**7.23**	**56**	Pn		**Pn**	**16 45 54.1**	**+1.6**
	2.3nm,0.3s,baz=284,slow=9.3,SNR=34							
MJAR	**Matsushiro Arr**	**7.23**	**56**	Pn		**Pn**	**16 45 56.0**	**+3.5**
JHJ	**Hachijo jima 2**	**7.59**	**84**	Pn		**Pn**	**16 45 58.4**	**+0.9**
	103nm,0.3s,baz=110,slow=9.4,SNR=19							
JSD	**Sado**	**8.10**	**47**			**Pn**	**16 46 08.0**	**+3.5**
JMM	**Marumori**	**9.67**	**55**	Pn		**Pn**	**16 46 30.5**	**+4.5**
MSHR	**Mys Shultsa**	**9.86**	**2**	⇓*e*P		**Pn**	**16 46 32.4**	**+3.8**
NJ2	**Nanjing**	**10.10**	**269**	*e*P		**Pn**	**16 46 30.5**	**-1.4**
NJ2					pmax	pmax		
	comp=Z,31nm,0.5s							
VLA	**Vladivostok**	**10.43**	**5**	⇓*e*P		**Pn**	**16 46 39.5**	**+3.1**
USA0B	**Ussuriysk Arra**	**11.52**	**4**	P		Pn	16 46 56.8	+5.6
USA0B	**Ussuriysk Arra**	**11.52**	**4**	Pn		Pn	16 46 56.8	+5.6
USRK	**Ussuriysk Ar.**	**11.52**	**4**	Pn		**Pn**	**16 46 53.5**	**+2.2**
	baz=186,slow=12,SNR=7.9							
SSLB	**Suanglung**	**12.39**	**227**	Pn		**Pn**	**16 47 01.2**	**-2.1**
TWG	**Pinlang**	**13.06**	**223**	Pn		**Pn**	**16 47 13.2**	**+0.9**
JEW	**Eniwo**	**13.17**	**37**	Pn		**Pn**	**16 47 15.1**	**+1.3**
QZH	**Quanzhou**	**13.18**	**237**	*e*P		**P**	**16 47 22.0**	**-2.1**
BJT	**Baijiatuan**	**13.84**	**306**	P		**Pn**	**16 47 24.0**	**+1.0**
BJT	**Baijiatuan**	**13.84**	**306**	Pn		**Pn**	**16 47 24.0**	**+1.0**
HNS	**HongShan**	**13.96**	**294**	⇓P		**P**	**16 47 32.3**	**-0.5**
HNS					pmax	pmax		
	comp=Z,30nm,1.7s							
ASAJ	**Asahikawa**	**14.67**	**36**	Pn		**Pn**	**16 47 34.8**	**+0.5**
	comp=Z,2.1nm,0.3s,baz=220,slow=11,SNR=17							
JKA	**Kamikawa-asahi**	**14.67**	**36**	Pn		**Pn**	**16 47 34.7**	**+0.3**
KLR	**Kul'dur**	**16.52**	**2**	⇓*e*P		**P**	**16 48 01.5**	**+0.3**
YSS	**Yuzh-Sakhalins**	**16.92**	**29**	⇓*e*P		**P**	**16 48 04.8**	**-0.7**
YSS	**Yuzh-Sakhalins**	**16.92**	**29**			**P**	**16 48 05.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**17.38**	**303**	*e*P		**Pn**	**16 48 09.8**	**+0.3**
XAN	**Xi'an**	**18.30**	**280**	P		**Pn**	**16 48 20.8**	**0.0**
XAN					pmax	pmax		
	comp=Z,130nm,3.3s							
HIA	**Hailar**	**18.49**	**337**	⇑*e*P		**P**	**16 48 22.3**	**-0.6**
HIA					pmax	pmax		
	comp=Z,420nm,3.6s							
ZEA	**Zeya**	**21.17**	**354**	*e*P		**P**	**16 48 54.2**	**+2.1**
GYA	**Guiyang**	**21.85**	**260**	⇓P		**P**	**16 49 06.5**	**+6.8**
GYA					pmax	pmax		
	comp=Z,44nm,1.0s							
GUMO	**Guam**	**22.98**	**143**	P		**P**	**16 49 12.3**	**+0.7**
	comp=Z,157nm,1.1s,baz=356,slow=13,SNR=3.8							
GUMO	**Guam**	**22.98**	**143**	P		**P**	**16 49 10.3**	**-1.3**
GUMO					pmax	pmax		
	comp=Z,317nm,1.4s							
GUMO	**Guam**	**22.98**	**143**	P		**P**	**16 49 10.3**	**-1.3**
ULN	**Ulaanbaatar**	**23.46**	**317**	⇑*e*P		**P**	**16 49 17.1**	**+0.6**
ULN					pmax	pmax		
	comp=Z,46nm,0.9s							
ULN	**Ulaanbaatar**	**23.46**	**317**	P		**P**	**16 49 16.2**	**-0.3**
SONM	**Songino Array**	**23.82**	**316**	P		**P**	**16 49 19.7**	**-0.3**
	comp=Z,17nm,0.8s,baz=134,slow=9.1,SNR=9.4							
SONM	**Songino Array**	**23.82**	**316**	P		**P**	**16 49 17.6**	**-2.4**
SONM	**Songino Array**	**23.82**	**316**	P		**P**	**16 49 17.6**	**-2.4**
KMI	**Kunming**	**25.62**	**260**	⇓P		**P**	**16 49 35.8**	**-1.0**
PZH	**PanZhiHua**	**25.94**	**264**	P		**P**	**16 49 39.3**	**-0.2**
PETK	**Petropavlovsk-**	**28.09**	**35**	P		**P**	**16 49 57.4**	**-1.1**
	comp=Z,6.2nm,0.9s,baz=202,slow=7.5,SNR=3.6							
PET	**Petropavlovsk**	**28.51**	**36**	⇑*e*P		**P**	**16 50 04.7**	**+2.5**
PET					pmax	pmax		
	comp=Z,37nm,1.2s							
YAK	**Yakutsk**	**29.35**	**359**	⇑*e*P		**P**	**16 50 10.4**	**+0.9**
YAK					pmax	pmax		
	comp=Z,28nm,1.0s							
GOMU	**GeErMu**	**29.75**	**287**	P		P	16 50 20.8	+7.0
GOMU				pP		sP	16 50 24.6	+6.2
GOMU				sP		pP	16 50 28.3	+11
GOMU				S		**S**	**16 55 14.6**	**+4.3**
GOMU					pmax	pmax		
	comp=Z,11nm,1.1s							
GOMU					LR	LR		
	comp=N,71μm,13.5s							
GOMU					LR	LR		
	comp=E,55μm,12.9s							
GOMU					LR	LR		
	comp=Z,28μm,12.4s							
MA2	**Magadan**	**29.99**	**20**	⇓*e*P		**P**	**16 50 17.9**	**+2.7**
MA2					pmax	pmax		
	comp=Z,12nm,1.1s							
MNI	**Manado**	**31.59**	**191**	P		**P**	**16 50 29.1**	**-0.7**
MNI					pmax	pmax		
	comp=Z,80nm,0.9s							
CHTO	**Chiang Mai**	**31.69**	**252**	P		**P**	**16 50 30.1**	**-0.6**
CHTO					pmax	pmax		
	comp=Z,22nm,0.9s							
CHTO	**Chiang Mai**	**31.69**	**252**	P		**P**	**16 50 30.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**31.88**	**251**	P		**P**	**16 50 32.9**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=52,slow=6.1,SNR=19							
SEY	**Seymchan**	**33.20**	**18**	⇑*e*P		**P**	**16 50 46.1**	**+2.7**
SEY					pmax	pmax		
	comp=Z,14nm,1.3s							
H11N2	**WAKE ISLAND Hy**	**34.72**	**103**	T		T	17 27 13.8	
	baz=297,slow=74,SNR=17							
H11N1	**WAKE ISLAND Hy**	**34.72**	**103**	T		T	17 27 05.3	
	baz=297,slow=74,SNR=12							
H11N3	**WAKE ISLAND Hy**	**34.73**	**103**	T		T	17 27 13.5	
	baz=297,slow=74,SNR=20							
H11S3	**WAKE ISLAND Hy**	**35.16**	**105**	T		T	17 27 32.8	
	baz=301,slow=75,SNR=4.5							
H11S1	**WAKE ISLAND Hy**	**35.17**	**105**	T		T	17 27 34.2	
	baz=301,slow=75,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**35.18**	**105**	T		T	17 27 35.0	
	baz=301,slow=75,SNR=3.8							
WMQ	**Urumqi**	**35.23**	**301**	*e*P		**P**	**16 51 03.3**	**+1.9**
JAY	**Jayapura**	**36.27**	**163**	P		P	**16 51 10.8**	**+0.3**
JAY					pmax	pmax		
	comp=Z,38nm,2.1s							
AAI	**Ambon**	**36.28**	**184**	P		**P**	**16 51 10.4**	**0.0**
AAI					pmax	pmax		
	comp=Z,48nm,1.0s							
KSM	**Kuching**	**36.55**	**216**	P		**P**	**16 51 13.1**	**+0.3**
TAPN	**Taplejung**	**37.47**	**273**	*e*P		**P**	**16 51 20.7**	**-0.3**
	comp=Z,48nm,1.0s							
ODAN	**Odare**	**37.90**	**273**	*e*P		**P**	**16 51 24.0**	**-0.5**
	comp=Z,66nm,1.0s							
RAMN	**Ramite**	**38.54**	**273**	*e*P		**P**	**16 51 29.7**	**-0.2**
	comp=Z,15nm,0.6s							
JIRN	**Jiri**	**38.65**	**275**	*e*P		**P**	**16 51 30.7**	**-0.3**
ZALV	**Zalesovo Beam**	**38.72**	**317**	P		**P**	**16 51 30.3**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=108,slow=9.3,SNR=3.1							
GUN	**Gumba**	**38.83**	**275**	*e*P		**P**	**16 51 32.7**	**+0.2**
	comp=Z,247nm,0.8s							
TIXI	**Tiksi**	**39.02**	**359**	⇓*e*P		**P**	**16 51 31.9**	**-1.1**
MK31	**Makanchi Array**	**39.22**	**306**	⇑*e*P		**P**	**16 51 34.9**	**-0.3**
MK31	**Makanchi Array**	**39.22**	**306**	P		**P**	**16 51 34.5**	**-0.7**
MKAR	**Makanchi Array**	**39.22**	**306**	P		**P**	**16 51 34.2**	**-0.9**
	comp=Z,6.4nm,0.9s,baz=91,slow=9.4,SNR=11							
MKAR	**Makanchi Array**	**39.22**	**306**	P		**P**	**16 51 34.8**	**-0.4**
MKAR	**Makanchi Array**	**39.22**	**306**	P		**P**	**16 51 34.8**	**-0.4**
PKI	**Pulchoki**	**39.34**	**275**	*e*P		**P**	**16 51 36.2**	**-0.5**
	comp=Z,71nm,1.0s							
PKIN	**Phulchoki**	**39.34**	**275**	*e*P		**P**	**16 51 36.2**	**-0.5**
	comp=Z,52nm,0.9s							
KKN	**Kakani**	**39.37**	**275**	*e*P		**P**	**16 51 36.6**	**-0.3**
	comp=Z,75nm,1.0s							
MAKZ	**Makanchi**	**39.44**	**306**	P		**P**	**16 51 34.8**	**-2.1**
MAKZ					pmax	pmax		
	comp=Z,6.0nm,0.8s							
MAKZ	**Makanchi**	**39.44**	**306**	P		**P**	**16 51 34.8**	**-2.1**
DMN	**Daman**	**39.58**	**275**	*e*P		**P**	**16 51 38.2**	**-0.4**
DGPR	**DIGLIPUR**	**39.62**	**250**	*e*P		**P**	**16 51 38.4**	**-0.4**
DGPR					IAML		16 53 36.7	
	comp=E,838nm,0.9s							
DGPR					IAML		16 53 39.7	
	comp=N,359nm,0.7s							
GKN	**Gorkha**	**39.84**	**276**	*e*P		**P**	**16 51 40.2**	**-0.6**
	comp=N,75nm,1.0s							
DANN	**Dangsing**	**40.47**	**277**	*e*P		**P**	**16 51 46.1**	**0.0**
	comp=N,129nm,0.8s							
PBA	**Port Blair**	**40.66**	**248**	*e*P		**P**	**16 51 47.4**	**0.0**
PBA					IAML		16 53 43.9	
	comp=N,285nm,0.7s							
PBA					IAML		16 53 46.1	
	comp=E,645nm,0.9s							
KOLN	**Koldanda**	**40.79**	**276**	*e*P		**P**	**16 51 48.5**	**-0.1**
	comp=E,53nm,0.9s							
BILL	**Bilibino**	**40.85**	**20**	⇑*e*P		**P**	**16 51 48.2**	**-0.1**
BILL				*e*S		**S**	**16 57 55.1**	**-4.1**
BILL				*e*SS		**SS**	**17 01 01.7**	**+1.6**
BILL					pmax	pmax		
	comp=Z,30nm,1.4s							
BILL					MLR	MLR		
	comp=Z,53μm,16.0s							
BILL	**Bilibino**	**40.85**	**20**	P		**P**	**16 51 48.9**	**+0.6**
PYUN	**Piuthan**	**41.20**	**277**	*e*P		**P**	**16 51 51.9**	**-0.1**
	comp=Z,212nm,0.9s							
SHLS	**Shalkode**	**41.22**	**300**	*e*P		P	16 51 46.4	-5.5
SHLS	**Shalkode**	**41.22**	**300**	*e*P		P	16 51 46.5	-5.4
	baz=300							
UZB	**Uzynbulak**	**41.54**	**300**	*e*P		**P**	**16 51 51.9**	**-2.7**
UZB	**Uzynbulak**	**41.54**	**300**	*e*P		**P**	**16 51 51.9**	**-2.7**
	baz=300							
KPKS	**Kokpek**	**41.77**	**300**	*e*P		**P**	**16 51 53.5**	**-2.9**
KPKS	**Kokpek**	**41.77**	**300**	*e*P		**P**	**16 51 53.5**	**-2.9**
	baz=300							
TDK	**Taldyqorghan**	**41.91**	**303**	*e*P		**P**	**16 51 54.8**	**-2.6**
TDK	**Taldyqorghan**	**41.91**	**303**	*e*P		**P**	**16 51 54.8**	**-2.6**
	baz=303							
KURK	**Kurchatov**	**41.93**	**311**	P		**P**	**16 51 56.9**	**-0.5**
KURK	**Kurchatov**	**41.93**	**311**	P		**P**	**16 51 56.8**	**-0.6**
ZHN	**Zhinishke**	**41.97**	**300**	*e*P		**P**	**16 51 55.1**	**-2.9**
ZHN	**Zhinishke**	**41.97**	**300**	*e*P		**P**	**16 51 55.2**	**-2.9**
	baz=300							
KURBB	**Kurchatov Arra**	**41.98**	**311**	P		**P**	**16 51 56.9**	**-0.9**
	comp=Z,7.7nm,0.6s,baz=98,slow=9.1,SNR=18							
PSI	**Prapat**	**42.15**	**232**	P		**P**	**16 51 58.2**	**-1.5**
	comp=Z,7.9nm,0.4s,baz=144,slow=2.2,SNR=6.0							
CHKK	**Chushkaly**	**42.98**	**301**	*e*P		**P**	**16 52 03.1**	**-3.0**
CHKK	**Chushkaly**	**42.98**	**301**	*e*P		**P**	**16 52 03.2**	**-3.0**
	baz=301							
MDOK	**Medeo**	**42.98**	**300**	*e*P		**P**	**16 52 03.8**	**-2.5**
MDOK	**Medeo**	**42.98**	**300**	*e*P		**P**	**16 52 03.9**	**-2.5**
	baz=300							
TNSS	**Tian-Shan**	**43.07**	**300**	*e*P		**P**	**16 52 04.5**	**-2.8**
TNSS	**Tian-Shan**	**43.07**	**300**	*e*P		**P**	**16 52 04.5**	**-2.8**
	baz=300							
BATI	**Baumata**	**43.21**	**190**	P		**P**	**16 52 06.2**	**-1.9**
	comp=Z,22nm,0.8s,baz=137,slow=6.7,SNR=4.4							
KUU	**Kurty**	**43.44**	**301**	*e*P		**P**	**16 52 07.4**	**-2.4**
KUU	**Kurty**	**43.44**	**301**	*e*P		**P**	**16 52 07.5**	**-2.4**
	baz=301							
NRIK	**Noril'sk**	**43.88**	**339**	P		**P**	**16 52 12.5**	**-0.5**
	comp=Z,10nm,0.7s,baz=116,slow=10,SNR=4.5							
NRIK	**Noril'sk**	**43.88**	**339**	⇑*e*P		**P**	**16 52 12.8**	**-0.2**
NRIK					pmax	pmax		
	comp=Z,20nm,1.0s							
PMG	**Port Moresby**	**44.70**	**157**	*de*P		**P**	**16 52 19.5**	**-0.6**
PMG					pmax	pmax		
	comp=Z,28nm,1.3s							
SGDS	**Sogindy**	**44.72**	**301**	*e*P		**P**	**16 52 17.2**	**-2.9**
SGDS	**Sogindy**	**44.72**	**301**	*e*P		**P**	**16 52 17.3**	**-2.9**
	baz=301							
AAK	**Ala-Archa**	**44.90**	**300**	P		**P**	**16 52 21.4**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=128,slow=5.4,SNR=6.3							
AAK	**Ala-Archa**	**44.90**	**300**	⇑*e*P		**P**	**16 52 22.1**	**+0.3**
AAK					pmax	pmax		
	comp=Z,45nm,3.7s							
AAK	**Ala-Archa**	**44.90**	**300**	P		**P**	**16 52 20.8**	**-1.0**
BTLS	**Baital**	**44.99**	**303**	*e*P		**P**	**16 52 19.7**	**-2.5**
BTLS	**Baital**	**44.99**	**303**	*e*P		**P**	**16 52 19.8**	**-2.5**
	baz=303							
MTN	**Manton Dam**	**45.29**	**180**	P		**P**	**16 52 23.6**	**-1.2**
MTN					IAmb	IAmb	16 52 24.4	
	comp=Z,50nm,0.8s							
BRZS	**Berezniki**	**45.70**	**310**	*e*P		**P**	**16 52 25.9**	**-1.9**
BRZS	**Berezniki**	**45.70**	**310**	*e*P		**P**	**16 52 25.9**	**-1.9**
	baz=310							
BRVK	**Borovoye**	**47.20**	**314**	⇑*i*P		**P**	**16 52 39.7**	**+0.2**
BRVK	**Borovoye**	**47.20**	**314**	P		**P**	**16 52 39.4**	**-0.1**
NIL	**Nilore**	**47.60**	**288**	P		**P**	**16 52 42.1**	**-0.9**
NIL					pmax	pmax		
	comp=Z,17nm,0.9s							
NIL	**Nilore**	**47.60**	**288**	P		**P**	**16 52 42.0**	**-0.9**
KK31	**Karatay Array**	**47.74**	**301**	P		**P**	**16 52 43.6**	**-0.3**
KK31					pmax	pmax		
	comp=Z,38nm,1.0s							
KK31	**Karatay Array**	**47.74**	**301**	P		**P**	**16 52 43.6**	**-0.3**
KK31					IAmb	IAmb	16 52 53.7	
	comp=Z,38nm,1.0s							
KKAR	**Karatay Array**	**47.74**	**301**	P		**P**	**16 52 44.0**	**+0.1**
KKAR					pmax	pmax		
	comp=Z,38nm,1.0s							
KKAR	**Karatay Array**	**47.74**	**301**	P		**P**	**16 52 44.0**	**+0.1**
KKAR					IAmb	IAmb	16 52 53.7	
	comp=Z,38nm,1.0s							
KKAR	**Karatay Array**	**47.74**	**301**	P		**P**	**16 52 43.9**	**-0.1**
COEN	**Coen**	**47.89**	**164**	P		**P**	**16 52 44.5**	**-0.7**
KNRA	**Kununurra**	**48.15**	**183**	P		**P**	**16 52 46.7**	**-0.5**
KNRA					IAmb	IAmb	16 52 47.5	
	comp=Z,33nm,0.8s							
IUG	**Iuzhnay**	**48.24**	**300**	*e*P		**P**	**16 52 44.8**	**-3.1**
IUG	**Iuzhnay**	**48.24**	**300**	*e*P		**P**	**16 52 44.9**	**-3.1**
	baz=300							
GAR	**Garm**	**48.62**	**295**	P		**P**	**16 52 50.6**	**-0.3**
TNA	**Tin City**	**48.90**	**29**	P		**P**	**16 52 51.1**	**-1.3**
TNA					IAmb	IAmb	16 52 58.5	
	comp=Z,38nm,1.1s							
TNA	**Tin City**	**48.90**	**29**	P		**P**	**16 52 52.4**	**0.0**
	baz=259							
ANM	**Nome**	**49.80**	**31**	P		**P**	**16 52 57.9**	**-1.5**
ANM					pmax	pmax		
	comp=Z,36nm,1.4s							
ANM	**Nome**	**49.80**	**31**	P		**P**	**16 52 57.9**	**-1.5**
ANM	**Nome**	**49.80**	**31**	P		**P**	**16 52 58.9**	**-0.4**
	baz=262							
TARA	**Tarawa**	**50.39**	**119**	P		**P**	**16 53 05.4**	**+0.9**
KBL	**Kabul**	**50.72**	**290**	P		**P**	**16 53 07.5**	**+0.5**
KBL					pmax	pmax		
	comp=Z,23nm,1.2s							
FITZ	**Fitzroy Crossi**	**50.75**	**186**	P		**P**	**16 53 06.5**	**-0.5**
	comp=Z,12nm,0.7s,baz=13,slow=7.4,SNR=41							
WB0	**Warramunga Arr**	**52.29**	**176**	P		**P**	**16 53 17.6**	**-1.0**
WRAB	**Tennant Creek**	**52.45**	**176**	⇓*e*P		**P**	**16 53 18.8**	**-0.9**
WRAB					pmax	pmax		
	comp=Z,36nm,1.1s							
WB2	**Warramunga Arr**	**52.46**	**176**	P		**P**	**16 53 18.7**	**-1.1**
WB2					IAmb	IAmb	16 53 20.0	
	comp=Z,30nm,0.9s							
WRA	**Warramunga Arr**	**52.46**	**176**	P		**P**	**16 53 19.0**	**-0.8**
	comp=Z,15nm,0.8s,baz=352,slow=8.1,SNR=54							
WRA	**Warramunga Arr**	**52.46**	**176**	P		**P**	**16 53 17.9**	**-1.9**
WR0	**Warramunga Arr**	**52.49**	**176**	P		**P**	**16 53 19.2**	**-0.8**
WR0					IAmb	IAmb	16 53 20.2	
	comp=Z,39nm,0.9s							
PALK	**Pallekele**	**52.81**	**253**	P		**P**	**16 53 21.9**	**-0.8**
	comp=Z,12nm,0.9s,baz=151,slow=4.3,SNR=5.7							
PALK	**Pallekele**	**52.81**	**253**	*i*P		**P**	**16 53 21.3**	**-1.4**
ARU	**Arti**	**53.83**	**319**	*d*P		**P**	**16 53 28.9**	**-0.6**
ARU							16 55 29.0	
ARU				S		**S**	**17 01 06.4**	**+2.3**
ARU				SS		**SS**	**17 04 46.2**	**+1.7**
ARU					pmax	pmax		
	comp=Z,100nm,2.4s							
ARU	**Arti**	**53.83**	**319**	P		**P**	**16 53 28.4**	**-1.2**
ARU					IAmb	IAmb	16 53 36.8	
	comp=Z,30nm,0.9s							
TTA	**Tatalina**	**53

NEA2	**Nenana**	**56.82**	**31**	P	**P**	**16 53 51.7**	**+0.7**
NEA2				IAmb	IAmb	16 53 57.1	
	comp=Z,46nm,1.1s						
NEA2	**Nenana**	**56.82**	**31**	P	**P**	**16 53 50.9**	**-0.1**
	baz=277,SNR=23						
MCK	**McKinley**	**56.99**	**32**	P	**P**	**16 53 52.1**	**-0.1**
	baz=278						
RC01	**Rabbit Creek A**	**57.00**	**35**	P	**P**	**16 53 51.9**	**-0.4**
	baz=279,SNR=5.5						
RND	**Reindeer**	**57.07**	**32**	P	**P**	**16 53 52.7**	**-0.2**
RND				pmax	pmax		
	comp=Z,37nm,1.0s						
RND	**Reindeer**	**57.07**	**32**	P	**P**	**16 53 52.7**	**-0.2**
RND				IAmb	IAmb	16 53 58.1	
	comp=Z,37nm,1.0s						
O22K	**Cooper Landing**	**57.10**	**35**	P	**P**	**16 53 52.7**	**-0.3**
	baz=279						
MDM	**Murphy Dome**	**57.13**	**30**	P	**P**	**16 53 52.8**	**-0.4**
H24K	**Noodor Dome**	**57.16**	**29**	P	**P**	**16 53 53.3**	**-0.1**
	baz=277,SNR=18						
PMR	**Palmer**	**57.21**	**34**	P	**P**	**16 53 53.6**	**-0.2**
	baz=279,SNR=5.3						
WRH	**Wood River Hil**	**57.25**	**31**	P	**P**	**16 53 54.9**	**+0.8**
WAT1	**Susitna Watana**	**57.29**	**33**	P	**P**	**16 53 54.2**	**-0.2**
	baz=279						
COLA	**College**	**57.30**	**30**	⇑ *i*P	**P**	**16 53 56.1**	**+1.8**
POKR	**Poker Plat Res**	**57.44**	**30**	P	**P**	**16 53 55.3**	**-0.1**
	baz=278						
SML	**Sawmill**	**57.55**	**34**	P	**P**	**16 53 56.6**	**+0.4**
SML				pmax	pmax		
	comp=Z,52nm,1.4s						
SML	**Sawmill**	**57.55**	**34**	P	**P**	**16 53 56.6**	**+0.4**
SML				IAmb	IAmb	16 54 03.6	
	comp=Z,52nm,1.4s						
SML	**Sawmill**	**57.55**	**34**	P	**P**	**16 53 56.0**	**-0.2**
	baz=279						
KNK	**Knik Glacier**	**57.55**	**34**	P	**P**	**16 53 56.0**	**-0.2**
	baz=280,SNR=6.3						
WAT6	**Susitna Watana**	**57.70**	**33**	P	**P**	**16 53 57.2**	**-0.2**
	baz=280						
PWL	**Port Wells**	**57.71**	**35**	P	**P**	**16 53 57.3**	**0.0**
	baz=280						
ILAR	**Eielson Array**	**57.72**	**30**	P	**P**	**16 53 57.3**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=289,slow=9.1,SNR=20						
DHY	**Denali Highway**	**57.78**	**32**	P	**P**	**16 53 57.7**	**-0.3**
	baz=279,SNR=5.3						
M23K	**Glacier View**	**57.84**	**34**	P	**P**	**16 53 57.3**	**-0.9**
	baz=280						
SCM	**Sheep Creek Mo**	**58.01**	**34**	P	**P**	**16 54 00.1**	**+0.5**
SCM				pmax	pmax		
	comp=Z,50nm,1.2s						
SCM	**Sheep Creek Mo**	**58.01**	**34**	P	**P**	**16 54 00.1**	**+0.5**
SCM				IAmb	IAmb	16 54 05.3	
	comp=Z,50nm,1.2s						
SCM	**Sheep Creek Mo**	**58.01**	**34**	P	**P**	**16 53 59.3**	**-0.3**
	baz=280						
GEYT	**Alibeck**	**58.13**	**297**	P	**P**	**16 54 00.4**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=111,slow=3.3,SNR=4.1						
GEYT	**Alibeck**	**58.13**	**297**	IAmb	IAmb	16 54 03.8	
	comp=Z,52nm,2.0s						
BMAR	**Burnt Mountain**	**58.24**	**27**	P	**P**	**16 54 02.0**	**+1.0**
GLI	**Glacier Island**	**58.30**	**35**	P	**P**	**16 54 01.5**	**0.0**
	baz=281						
K24K	**Donnelly Dome**	**58.36**	**31**	P	**P**	**16 54 01.5**	**-0.4**
	baz=280						
KIRV	**Kirov**	**58.37**	**323**	⇑ *i*P	**P**	**16 54 01.4**	**-0.5**
J25K	**Salcha River,**	**58.39**	**30**	P	**P**	**16 54 02.6**	**+0.4**
	baz=280						
M24K	**Tolsona, Glenn**	**58.50**	**33**	P	**P**	**16 54 03.5**	**+0.6**
M24K				IAmb	IAmb	16 54 24.0	
	comp=Z,42nm,1.1s						
M24K	**Tolsona, Glenn**	**58.50**	**33**	P	**P**	**16 54 02.7**	**-0.2**
	baz=281						
PAX	**Paxson**	**58.65**	**32**	P	**P**	**16 54 03.7**	**-0.3**
	baz=281						
KLU	**Klutina**	**58.74**	**34**	P	**P**	**16 54 04.3**	**-0.4**
KLU				IAmb	IAmb	16 54 10.4	
	comp=Z,31nm,1.2s						
KLU	**Klutina**	**58.74**	**34**	P	**P**	**16 54 04.4**	**-0.2**
	baz=282,SNR=7.3						
RIDG	**Independent Ri**	**58.78**	**31**	P	**P**	**16 54 04.0**	**-0.9**
	baz=281						
HARP	**HAARP**	**58.91**	**33**	P	**P**	**16 54 05.2**	**-0.5**
	baz=282						
SCRK	**Sand Creek**	**59.11**	**31**	P	**P**	**16 54 06.6**	**-0.6**
SCRK				IAmb	IAmb	16 54 12.4	
	comp=Z,36nm,1.0s						
SCRK	**Sand Creek**	**59.11**	**31**	P	**P**	**16 54 06.2**	**-1.0**
	baz=282,SNR=26						
DOT	**Dot Lake**	**59.14**	**31**	P	**P**	**16 54 07.0**	**-0.3**
DOT				IAmb	IAmb	16 54 12.4	
	comp=Z,20nm,0.9s						
J26L	**Joseph Creek**	**59.18**	**30**	P	**P**	**16 54 06.6**	**-1.0**
	baz=282,SNR=5.2						
N25K	**Chitina, Valde**	**59.33**	**34**	P	**P**	**16 54 08.9**	**+0.2**
N25K				IAmb	IAmb	16 54 15.7	
	comp=Z,16nm,0.8s						
N25K	**Chitina, Valde**	**59.33**	**34**	P	**P**	**16 54 08.5**	**-0.3**
	baz=283						
MENT	**Mentasta**	**59.44**	**32**	P	**P**	**16 54 10.3**	**+0.9**
MENT				IAmb	IAmb	16 54 15.7	
	comp=Z,32nm,1.0s						
BMRM	**Bremner River**	**59.47**	**34**	P	**P**	**16 54 09.7**	**0.0**
	baz=283,SNR=5.9						
PRGR	**Permogore**	**59.56**	**327**	*e*P	**P**	**16 54 07.7**	**-2.5**
PRGR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
L26K	**Log Cabin Wild**	**59.59**	**32**	P	**P**	**16 54 09.9**	**-0.5**
	baz=283						
M26K	**Nabesna, AK**	**59.89**	**32**	P	**P**	**16 54 13.0**	**+0.5**
M26K	**Nabesna, AK**	**59.89**	**32**	P	**P**	**16 54 12.3**	**-0.2**
	baz=284,SNR=34						
VRDI	**Verde Repeater**	**59.96**	**34**	P	**P**	**16 54 13.2**	**0.0**
VRDI				IAmb	IAmb	16 54 19.0	
	comp=Z,35nm,1.0s						
MCARA	**McCarthy VSAT**	**60.12**	**34**	P	**P**	**16 54 13.8**	**-0.3**
MCARA	**McCarthy VSAT**	**60.12**	**34**	P	**P**	**16 54 13.9**	**-0.1**
	baz=284,SNR=7.4						
EGAK	**Eagle**	**60.13**	**30**	P	**P**	**16 54 14.1**	**0.0**
EGAK	**Eagle**	**60.13**	**30**	P	**P**	**16 54 13.9**	**-0.2**
	baz=294						
L27K	**Beaver Creek,**	**60.26**	**32**	P	**P**	**16 54 15.3**	**+0.3**
	baz=284,SNR=32						
BCAR	**Beaver Creek A**	**60.27**	**32**	P	**P**	**16 54 15.9**	**+0.8**
TGL	**Tana Glacier**	**60.37**	**34**	P	**P**	**16 54 15.9**	**0.0**
M27K	**Edge Creek, AK**	**60.41**	**32**	P	**P**	**16 54 16.3**	**+0.1**
	baz=284,SNR=13						
ISLE	**Juniper Island**	**60.64**	**34**	P	**P**	**16 54 17.2**	**-0.6**
BARN	**Barnard Glacie**	**60.84**	**34**	P	**P**	**16 54 18.8**	**-0.4**
BARN				IAmb	IAmb	16 54 25.1	
	comp=Z,19nm,0.8s						
BVCY	**Beaver Creek**	**60.85**	**32**	P	**P**	**16 54 19.4**	**+0.4**
	baz=285,SNR=5.6						
BELG	**Belogornoye**	**60.88**	**316**	⇑ *i*P	**P**	**16 54 18.7**	**-0.7**
BELG				pmax	pmax		
	comp=Z,11nm,1.1s						
CTG	**Chitna Glacier**	**61.02**	**34**	P	**P**	**16 54 20.3**	**-0.1**
	baz=286,SNR=5.8						
DAWY	**Dawson**	**61.05**	**30**	P	**P**	**16 54 20.0**	**-0.4**
	baz=286,SNR=6.7						
I29M	**Ogilvie Camp,**	**61.15**	**29**	P	**P**	**16 54 21.0**	**-0.1**
	baz=286						
YUK3	**Moose Creek**	**61.20**	**33**	P	**P**	**16 54 21.3**	**-0.4**
	baz=286						
J29M	**Klondike Camp**	**61.44**	**30**	P	**P**	**16 54 22.6**	**-0.5**
	baz=286						
EPYK	**Eagle Plains**	**61.49**	**27**	P	**P**	**16 54 23.2**	**-0.2**
	baz=287,SNR=5.7						
INK	**Inuvik**	**62.09**	**25**	P	**P**	**16 54 27.5**	**+0.2**
	comp=Z,2.3nm,0.2s,baz=274,slow=6.9,SNR=12						
INK	**Inuvik**	**62.09**	**25**	IAmb	IAmb	16 54 32.9	
	comp=Z,17nm,1.0s						
INK	**Inuvik**	**62.09**	**25**	P	**P**	**16 54 26.7**	**-0.6**
	baz=288,SNR=5.6						
YUK4	**Talbot Arm**	**62.16**	**33**	P	**P**	**16 54 28.3**	**+0.1**
	baz=288,SNR=5.3						
PNL	**Peninsula**	**62.32**	**35**	P	**P**	**16 54 29.4**	**+0.4**
	baz=288						
YUK6	**Outpost Mounta**	**62.41**	**33**	P	**P**	**16 54 29.6**	**-0.3**
	baz=288,SNR=5.1						
M30M	**Minto, Yukon**	**62.61**	**31**	IAmb	IAmb	16 54 37.5	
	comp=Z,51nm,1.6s						
M30M	**Minto, Yukon**	**62.61**	**31**	P	**P**	**16 54 31.1**	**+0.1**
	baz=288,SNR=14						
KLMR	**Klimovskoe**	**62.62**	**327**	*e*P	**P**	**16 54 27.6**	**-3.3**
KLMR				pmax	pmax		
	comp=Z,12nm,0.7s						
KLMR	**Klimovskoe**	**62.62**	**327**	*e*P	**P**	**16 54 27.7**	**-3.2**
KLMR				AMP		16 54 31.5	
	comp=Z,12nm,0.7s						
HYT	**Haines Junctio**	**62.85**	**33**	P	**P**	**16 54 32.9**	**+0.2**
	baz=289,SNR=19						
APA	**Apatity**	**62.93**	**335**	⇓ *i*P	**P**	**16 54 32.3**	**-0.6**
APA				pmax	pmax		
	comp=Z,13nm,1.1s						
SPITS	**Spitsbergen Ar**	**62.98**	**348**	P	**P**	**16 54 32.6**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=118,slow=12,SNR=2.7						
A36M	**Sachs Harbour**	**63.41**	**20**	P	**P**	**16 54 36.1**	**+0.2**
	baz=294						
N31M	**Braeburn, Yuko**	**63.42**	**32**	P	**P**	**16 54 36.4**	**+0.1**
	baz=290,SNR=16						
M31M	**Drury Creek, Y**	**63.79**	**31**	P	**P**	**16 54 38.6**	**-0.1**
	baz=291,SNR=6.0						
WHY	**Whitehorse**	**64.12**	**33**	IAmb	IAmb	16 54 47.5	
	comp=Z,34nm,1.1s						
WHY	**Whitehorse**	**64.12**	**33**	P	**P**	**16 54 41.3**	**+0.2**
	baz=291,SNR=7.0						
FARO	**Faro, Yukon**	**64.24**	**31**	P	**P**	**16 54 41.7**	**0.0**
	baz=291						
SKAG	**Skagway**	**64.34**	**34**	P	**P**	**16 54 43.2**	**+0.9**
	baz=291,SNR=5.4						
NOR	**Nord**	**64.70**	**355**	P	**P**	**16 54 43.2**	**-1.2**
NOR				pmax	pmax		
	comp=Z,7.0nm,2.0s						
ARCES	**ARCESS Array B**	**64.83**	**338**	P	**P**	**16 54 45.0**	**-0.4**
	comp=Z,4.5nm,0.7s,baz=67,slow=9.3,SNR=7.1						
ARCES	**ARCESS Array B**	**64.83**	**338**	P	**P**	**16 54 45.0**	**-0.4**
ARCES	**ARCESS Array B**	**64.83**	**338**	IAmb	IAmb	16 55 13.9	
	comp=Z,66nm,1.9s						
C36M	**Paulatuk**	**64.88**	**22**	P	**P**	**16 54 45.6**	**0.0**
	baz=296						
MMPY	**Sheldon Lake,**	**64.99**	**30**	P	**P**	**16 54 46.8**	**+0.1**
	baz=293						
STKA	**Stephens Creek**	**65.05**	**170**	P	**P**	**16 54 47.1**	**-0.1**
	comp=Z,17nm,0.7s,baz=345,slow=6.2,SNR=30						
STKA	**Stephens Creek**	**65.05**	**170**	⇑ *i*P	**P**	**16 54 47.4**	**+0.2**
STKA	**Stephens Creek**	**65.05**	**170**	P	**P**	**16 54 47.1**	**-0.1**
GROC	**Groznyy**	**65.11**	**307**	*e*P	**P**	**16 54 45.7**	**-2.0**
GROC				*e*		16 55 21.3	
GROC				pmax	pmax		
	comp=Z,19nm,0.6s						
MSF	**Maaselka**	**65.16**	**334**	P	**P**	**16 54 47.4**	**-0.2**
MOS	**Moscow**	**65.33**	**322**	*e*P	**P**	**16 54 46.9**	**-2.0**
MOS				pmax	pmax		
	comp=Z,66nm,0.8s						
BBOO	**Buckleboo**	**65.36**	**175**	P	**P**	**16 54 48.1**	**-1.1**
BBOO				IAmb	IAmb	16 54 49.3	
	comp=Z,31nm,1.1s						
EUNU	**Eureka**	**65.62**	**7**	P	**P**	**16 54 50.1**	**-0.4**
EUNU				IAmb	IAmb	16 55 01.3	
	comp=Z,43nm,1.6s						
ARMA	**Armidale**	**65.82**	**160**	P	**P**	**16 54 51.2**	**-1.1**
ARMA				IAmb	IAmb	16 54 53.7	
	comp=Z,30nm,1.1s						
VORR	**Voronezh**	**66.02**	**317**	*e*P	**P**	**16 54 52.9**	**-0.5**
VORR				pmax	pmax		
	comp=Z,30nm,0.3s						
OBN	**Obninsk**	**66.13**	**321**	⇑ *e*P	**P**	**16 54 53.1**	**-0.9**
OBN				*e*		16 57 18.8	
OBN				*e*S	**S**	**17 03 47.7**	**+5.4**
OBN				*e*SS	**SS**	**17 08 02.6**	**+5.4**
OBN				pmax	pmax		
	comp=Z,40nm,1.1s						
OBN				MLR	MLR		
	comp=Z,80μm,16.0s						
VALR	**Valaam**	**66.33**	**329**	⇓ *i*P	**P**	**16 54 55.1**	**-0.1**
VALR				pmax	pmax		
	comp=Z,35nm,0.8s						
ZEI	**Tsey**	**66.56**	**307**	*e*P	**P**	**16 54 55.2**	**-2.1**
ZEI				pmax	pmax		
	comp=Z,21nm,1.4s						
OUL	**Oulu**	**66.71**	**334**	P	**P**	**16 54 56.6**	**-0.9**
OUL				pmax	pmax		
	comp=Z,25nm,2.3s						
TGTN	**Hyland Airport**	**66.72**	**31**	P	**P**	**16 54 58.0**	**+0.1**
	baz=296,SNR=6.5						
KBZ	**Khabaz**	**66.85**	**308**	P	**P**	**16 54 58.9**	**0.0**
	comp=Z,12nm,0.9s,baz=84,slow=3.9,SNR=18						
KBZ	**Khabaz**	**66.85**	**308**	⇑ *i*P	**P**	**16 54 59.0**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,35nm,1.0s						
KIV	**Kislovodsk**	**66.90**	**308**	*e*P	**P**	**16 54 59.5**	**+0.2**
KIV				pmax	pmax		
	comp=Z,51nm,1.1s						
GNI	**Garni**	**67.04**	**304**	P	**P**	**16 55 01.1**	**+0.7**
	comp=Z,5.8nm,0.6s,baz=207,slow=1.8,SNR=9.3						
GNI	**Garni**	**67.04**	**304**	⇑ *i*P	**P**	**16 55 01.5**	**+1.2**
GNI				pmax	pmax		
	comp=Z,72nm,1.4s						
NEY	**Neytrino**	**67.16**	**308**	⇑ *e*P	**P**	**16 55 01.5**	**+0.4**
NEY				pmax	pmax		
	comp=Z,9.0nm,1.3s						
FIA1	**FINESS Array S**	**68.35**	**330**	P	**P**	**16 55 06.6**	**-1.4**
FIA1				IAmb	IAmb	16 55 13.4	
	comp=Z,20nm,0.7s						
FINES	**FINESS Array B**	**68.36**	**330**	P	**P**	**16 55 06.8**	**-1.2**
	comp=Z,6.5nm,0.5s,baz=65,slow=5.8,SNR=25						
RES	**Resolute Bay**	**68.79**	**12**	P	**P**	**16 55 10.7**	**+0.2**
RES				pmax	pmax		
	comp=Z,21nm,1.0s						
RES	**Resolute Bay**	**68.79**	**12**	IAmb	IAmb	16 55 21.9	
	comp=Z,15nm,0.9s						
DAG	**Danmarks Havn**	**69.14**	**353**	P	**P**	**16 55 11.9**	**-0.8**
DAG				pmax	pmax		
	comp=Z,25nm,1.3s						
VSU	**Vasula**	**69.51**	**327**	⇑ *i*P	**P**	**16 55 15.0**	**-0.3**
VSU				pmax	pmax		
	comp=Z,61nm,0.9s						
CAN	**Canberra**	**69.80**	**164**	P	**P**	**16 55 16.2**	**-1.1**
TOO	**Toolangi**	**71.25**	**168**	P	**P**	**16 55 25.8**	**-0.3**
TOO				pmax	pmax		
	comp=Z,28nm,1.2s						
TOO	**Toolangi**	**71.25**	**168**	P	**P**	**16 55 25.8**	**-0.3**
TOO				IAmb	IAmb	16 55 27.6	
	comp=Z,28nm,1.2s						
NACGM	**Naroch**	**71.26**	**324**	*e*P	**P**	**16 55 25.7**	**-0.3**
YKA	**Yellowknife Ar**	**71.75**	**26**	P	**P**	**16 55 28.8**	**-0.1**
	comp=Z,5.5nm,1.0s,baz=297,slow=5.9,SNR=16						
AKASG	**Malin Array Be**	**72.08**	**319**	P	**P**	**16 55 30.0**	**-1.0**
	comp=Z,11nm,0.6s,baz=49,slow=5.6,SNR=19						
AKBB	**Malin Array Si**	**72.08**	**319**	⇓ *i*P	**P**	**16 55 29.8**	**-1.2**
AKBB				pmax	pmax		
	comp=Z,79nm,2.1s						
AKBB	**Malin Array Si**	**72.08**	**319**	IAmb	IAmb	16 55 31.8	
	comp=Z,21nm,0.7s						
SOCY	**Socotra**	**72.47**	**273**	P	**P**	**16 55 31.0**	**-3.1**
SOCY				IAmb	IAmb	16 55 38.5	
	comp=Z,28nm,0.9s						
SUW	**Suwalki**	**73.52**	**324**	P	**P**	**16 55 39.3**	**-0.2**
SUW				pmax	pmax		
	comp=Z,68nm,1.1s						
NB2	**NORSAR Subarra**	**74.49**	**334**	P	**P**	**16 55 42.9**	**-2.3**
	comp=Z,26nm,1.0s,baz=50,slow=5.9						
NB2	**NORSAR Subarra**	**74.49**	**334**	P	**P**	**16 55 42.9**	**-2.3**
	baz=50,slow=5.9						
NOA	**NORSAR Array B**	**74.49**	**334**	P	**P**	**16 55 43.5**	**-1.7**
	comp=Z,5.4nm,1.1s,baz=49,slow=5.6,SNR=10.0						
BR131	**Keskin Array S**	**74.83**	**308**	⇑ *i*P	**P**	**16 55 47.2**	**-0.5**
BRTR	**Keskin Array B**	**74.83**	**308**	P	**P**	**16 55 47.1**	**-0.6**
	comp=Z,10.0nm,0.9s,baz=95,slow=6.0,SNR=37						
BRTR	**Keskin Array B**	**74.83**	**308**	P	**P**	**16 55 46.8**	**-0.9**
BRTR	**Keskin Array B**	**74.83**	**308**	P	**P**	**16 55 46.8**	**-0.9**
LVV	**L'vov**	**75.38**	**320**	*e*P	**P**	**16 55 48.6**	**-1.9**
BUR08	**Bucovina Ar. S**	**75.93**	**318**	P	**P**	**16 55 53.5**	**-0.3**
BUR08				IAmb	IAmb	16 56 03.2	
	comp=Z,28nm,1.0s						
BURAR	**Bucovina Array**	**75.93**	**318**	P	**P**	**16 55 53.1**	**-0.7**
BURAR				pmax	pmax		
	comp=Z,32nm,0.9s						
BURAR	**Bucovina Array**	**75.93**	**318**	P	**P**	**16 55 53.4**	**-0.4**
BURAR				IAmb	IAmb	16 56 01.0	
	comp=Z,32nm,0.9s						
BEL	**Belsk**	**75.94**	**323**	P	**P**	**16 55 55.0**	**+1.4**
BEL				pmax	pmax		
	comp=Z,141nm,1.1s						
VRI	**Vrincioaia**	**76.01**	**316**	P	**P**	**16 55 54.5**	**+0.3**
KWP	**Kalwaria Pacla**	**76.20**	**320**	P	**P**	**16 55 55.2**	**0.0**
KWP				pmax	pmax		
	comp=Z,121nm,1.1s						
D03D	**Eldon**	**76.31**	**42**	P	**P**	**16 55 55.1**	**-0.7**
	baz=304						
MLR	**Muntele Rosu**	**76.67**	**316**	P	**P**	**16 55 57.2**	**-0.9**
MLR				pmax	pmax		
	comp=Z,26nm,2.9s						
BMR	**Baia Mare**	**76.87**	**318**	P	**P**	**16 55 59.6**	**+0.6**
BMR				pmax	pmax		
	comp=Z,56nm,1.1s						
UZH	**Uzhgorod**	**76.99**	**320**	*d i*P	**P**	**16 55 58.7**	**-0.9**
UZH				*i*		16 56 04.3	
UZH				*i*		16 56 11.0	
VOIR		**77.23**	**316**	P	**P**	**16 56 00.1**	**-1.1**
VOIR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
CRVS	**Cervenica-Dubn**	**77.28**	**320**	*e*P	**P**	**16 56 01.2**	**-0.1**
CRVS	**Cervenica-Dubn**	**77.28**	**320**	*e*P	**P**	**16 56 01.2**	**-0.1**
OJC	**Ojcow**	**77.39**	**322**	P	**P**	**16 56 01.7**	**-0.2**
OJC				pmax	pmax		
	comp=Z,79nm,1.0s						
NIE	**Niedzica**	**77.60**	**321**	P	**P**	**16 56 04.0**	**+0.9**
NIE				pmax	pmax		
	comp=Z,38nm,1.1s						
DRGR		**77.81**	**318**	P	**P**	**16 56 04.0**	**-0.4**
DRGR				pmax	pmax		
	comp=Z,27nm,1.2s						
LANS	**Liptovska Anna**	**78.20**	**321**	*e*P	**P**	**16 56 06.9**	**+0.4**
LANS				pmax	pmax		
	comp=Z,22nm,1.4s						
LANS	**Liptovska Anna**	**78.20**	**321**	*e*P	**P**	**16 56 06.9**	**+0.4**
MUD	**Monsted U'grnd**	**78.34**	**331**	P	**P**	**16 56 06.3**	**-0.7**
MUD				pmax	pmax		
	comp=Z,39nm,1.1s						
PSZ	**Piszkesteto**	**78.71**	**320**	P	**P**	**16 56 09.6**	**+0.3**
PSZ				pmax	pmax		
	comp=Z,46nm,1.5s						
KSP	**Ksiaz**	**78.79**	**324**	P	**P**	**16 56 09.5**	**-0.1**
KSP				pmax	pmax		
	comp=Z,60nm,1.1s						
I04A	**Tendick Farm,**	**78.80**	**45**	P	**P**	**16 56 09.3**	**-0.6**
	baz=305						
MORC	**Moravsky Berou**	**78.82**	**323**	P	**P**	**16 56 09.7**	**-0.2**
MORC				pmax	pmax		
	comp=Z,35nm,1.1s						
MORC	**Moravsky Berou**	**78.82**	**323**	*e*P	**P**	**16 56 09.2**	**-0.7**
ELL	**Elmali**	**78.89**	**306**	P	**P**	**16 56 08.8**	**-1.8**
ELL				pmax	pmax		
	comp=Z,89nm,1.0s						
ELL	**Elmali**	**78.89**	**306**	P	**P**	**16 56 08.8**	**-1.8**
VYHS	**Vyhne**	**78.93**	**321**	*e*P	**P**	**16 56 09.2**	**-1.3**
VYHS				pmax	pmax		
	comp=Z,25nm,1.0s						
VYHS	**Vyhne**	**78.93**	**321**	*e*P	**P**	**16 56 09.2**	**-1.3**
RUE	**Ruedersdorf**	**78.96**	**326**	*e*pP	pP	16 56 16.0	+2.0
RUE	**Ruedersdorf**	**78.96**	**326**	*e*P	**P**	**16 56 10.1**	**-0.4**
	comp=Z,47nm,1.2s,baz=48,slow=5.3						
L02E	**Cave Junction**	**79.00**	**47**	P	**P**	**16 56 11.0**	**0.0**
	baz=304						
OSTC	**Ostas**	**79.01**	**324**	*e*P	**P**	**16 56 11.8**	**+0.9**
OSTC				*e*pP	**sP**	**16 56 16.3**	**+0.6**
KRLC	**Kraliky**	**79.02**	**323**	*e*P	**P**	**16 56 10.5**	**-0.5**
KRLC				*e**PP	**sP**	**16 56 16.2**	**+0.4**
KRLC	**Kraliky**	**79.02**	**323**	*e*P	**P**	**16 56 10.5**	**-0.5**
KRLC				*e*pP	**sP**	**16 56 16.2**	**+0.4**
CHVC	**Chvalec**	**79.07**	**324**	*e*P	**P**	**16 56 10.5**	**-0.7**
CHVC				*e*pP	**sP**	**16 56 16.5**	**+0.5**
DPC	**Dobruska-Polom**	**79.08**	**324**	*e*P	**P**	**16 56 11.2**	**-0.1**
DPC				*e**PP	**sP**	**16 56 16.8**	**+0.6**
DPC	**Dobruska-Polom**	**79.08**	**324**	*e*P	**P**	**16 56 11.2**	**-0.1**
DPC				*e*pP	**sP**	**16 56 16.8**	**+0.6**
KOLL	**Kolacno**	**79.11**	**321**	*e*P	**P**	**16 56 09.7**	**-1.7**
I05D	**Terrebonne, OR**	**79.12**	**44**	P	**P**	**16 56 10.8**	**-0.8**
	baz=305						
NEW	**Newport**	**79.16**	**39**	P	**P**	**16 56 11.8**	**0.0**
NEW	**Newport**	**79.16**	**39**	P	**P**	**16 56 11.4**	**-0.4**
	baz=307						
JAVC	**Velka Javorina**	**79.32**	**322**	*e*P	**P**	**16 56 12.9**	**+0.3**
BSEG	**Bad Segeberg**	**79.57**	**329**	P	**P**	**16 56 13.6**	**-0.2**
BSEG				pmax	pmax		
	comp=Z,40nm,1.1s						
BSEG	**Bad Segeberg**	**79.57**	**329**	*e*pP	pP	16 56 18.8	+1.5
BSEG	**Bad Segeberg**	**79.57**	**329**	*e*P	**P**	**16 56 12.9**	**-0.8**
	comp=Z,34nm,1.6s,baz=48,slow=5.3						
VRAC	**Vranov**	**79.60**	**323**	*e*P	**P**	**16 56 13.3**	**-0.8**
SRO	**Srobarova**	**79.62**	**321**	*e*P	**P**	**16 56 14.0**	**-0.2**
SRO				pmax	pmax		
	comp=Z,25nm,0.9s						
SRO	**Srobarova**	**79.62**	**321**	*e*P	**P**	**16 56 14.0**	**-0.2**
SMOL	**Smolenice**	**79.66**	**322**	*e*P	**P**	**16 56 14.9**	**+0.5**
SMOL				pmax	pmax		
	comp=Z,28nm,1.0s						
SMOL	**Smolenice**	**79.66**	**322**	*e*P	**P**	**16 56 14.9**	**+0.5**
L04D	**Klamath Falls**	**79.77**	**46**	P	**P**	**16 56 14.8**	**-0.5**
	baz=305						
J05D	**Fort Rock, OR**	**79.80**	**45**	P	**P**	**16 56 15.0**	**-0.5**
	baz=306						
MODS	**Modra-Piesok**	**79.82**	**322**	*e*P	**P**	**16 56 15.6**	**+0.3**
MODS				pmax	pmax		
	comp=Z,107nm,1.2s						
MODS	**Modra-Piesok**	**79.82**	**322**	*e*P	**P**	**16 56 15.6**	**+0.3**
PVCC	**Panska Ves**	**79.84**	**324**	*e*P	**P**	**16 56 15.2**	**-0.2**
PVCC	**Panska Ves**	**79.84**	**324**	*e*P	**P**	**16 56 15.2**	**-0.2**
KRUC	**Moravsky**	**79.85**	**323**	*e*P	**P**	**16 56 15.0**	**-0.5**
M02C	**Callahan**	**79.90**	**47**	P	**P**	**16 56 15.3**	**-0.6**
	baz=305						
BRG	**Berggiesshubel**	**79.92

GUNZ	**Gunzen**	**81.03 325**	*eP*		**P**	**16 56 21.4**	**-0.4**
	comp=Z,50nm,1.4s,baz=48,slow=5.3							
PLN	**Plauen**	**81.04 325**	*eP*		**P**	**16 56 21.4**	**-0.4**
	comp=Z,31nm,1.3s,baz=48,slow=5.3							
WERN	**Wernitzgruen**	**81.06 325**	*eP*		**P**	**16 56 21.5**	**-0.5**
	comp=Z,35nm,1.3s,baz=48,slow=5.3							
NKC	**Novy Kostel**	**81.06 325**	*eP*		**P**	**16 56 21.8**	**-0.2**
NKC			*e**PP		**sP**	**16 56 27.1**	**+0.3**
NKC	**Novy Kostel**	**81.06 325**	*eP*		**P**	**16 56 21.8**	**-0.2**
NKC			*ep*P		**sP**	**16 56 27.1**	**+0.3**
CKRC	**Cesky Krumlov**	**81.07 323**	*eP*		**P**	**16 56 21.6**	**-0.4**
CKRC			*ep*P		**sP**	**16 56 26.8**	**-0.1**
MOX	**Moxa**	**81.19 326**	P		**P**	**16 56 21.9**	**-0.7**
MOX			pmax	pmax				
	comp=Z,26nm,1.2s							
MOX	**Moxa**	**81.19 326**	*eP*		**P**	**16 56 22.2**	**-0.5**
	comp=Z,15nm,1.6s,baz=48,slow=5.3							
KHC	**Kasperske Hory**	**81.23 324**‖	*eP*		**P**	**16 56 22.7**	**-0.2**
KHC			pmax	pmax				
	comp=Z,69nm,1.1s							
KHC	**Kasperske Hory**	**81.23 324**	*eP*		**P**	**16 56 22.3**	**-0.6**
KHC			*ep*P		**sP**	**16 56 28.0**	**+0.2**
GTTG	**Gottingen**	**81.35 327**	*ep*P		pP	16 56 28.6	+1.6
GTTG	**Gottingen**	**81.35 327**	*eP*		**P**	**16 56 22.9**	**-0.6**
	comp=Z,35nm,1.1s,baz=48,slow=5.3							
GEC2	**GERESS Array S**	**81.36 323**	*eP*		**P**	**16 56 23.1**	**-0.6**
	baz=48,slow=5.3							
GERES	**GERESS Array B**	**81.36 323**	P		**P**	**16 56 23.0**	**-0.7**
	comp=Z,4.6nm,0.9s,baz=31,slow=0.8,SNR=6.8							
GERES			PKKPbc		**PKKPbc**	**17 15 00.4**	**+2.5**
	comp=Z,0.3nm,0.4s,baz=224,slow=5.6,SNR=3.8							
GERES	**GERESS Array B**	**81.36 323**	P		**P**	**16 56 23.0**	**-0.7**
GERES	**GERESS Array B**	**81.36 323**	P		**P**	**16 56 23.3**	**-0.4**
MANZ	**Manzenberg**	**81.39 325**	*eP*		**P**	**16 56 23.1**	**-0.7**
	comp=Z,4.2nm,1.2s,baz=48,slow=5.3							
ARSA	**Arzberg**	**81.45 321**	*eP*		**P**	**16 56 23.7**	**-0.4**
	comp=Z,35nm,1.1s							
ROTZ	**Rotzenmuhle**	**81.49 325**	*eP*		**P**	**16 56 23.7**	**-0.6**
	comp=Z,8.4nm,1.2s,baz=48,slow=5.3							
FCC	**Fort Churchill**	**81.52 22**	P		**P**	**16 56 23.1**	**-1.0**
FCC			pmax	pmax				
	comp=Z,33nm,1.2s							
FCC	**Fort Churchill**	**81.52 22**	P		**P**	**16 56 23.1**	**-1.0**
FCC			IAmb	IAmb		16 56 29.4		
	comp=Z,33nm,1.1s							
WET	**Wettzell**	**81.57 324**	P		**P**	**16 56 24.7**	**0.0**
WET			pmax	pmax				
	comp=Z,18nm,1.2s							
WET	**Wettzell**	**81.57 324**	*eP*		**P**	**16 56 24.1**	**-0.6**
	comp=Z,24nm,1.3s,baz=48,slow=5.3							
MOA	**Molln**	**81.72 322**	*i P*		**P**	**16 56 25.5**	**0.0**
	comp=Z,44nm,1.3s							
UBBA	**Unterbreizbach**	**81.83 327**	*ep*P		pP	16 56 30.9	+1.5
UBBA	**Unterbreizbach**	**81.83 327**	*eP*		**P**	**16 56 25.3**	**-0.6**
	comp=Z,51nm,1.6s,baz=48,slow=5.3							
GRB1	**Grafenberg Arr**	**82.01 325**	P		**P**	**16 56 27.1**	**+0.1**
GRB1			pmax	pmax				
	comp=Z,61nm,1.1s							
GRF	**Grafenberg Arr**	**82.02 325**	P		**P**	**16 56 27.4**	**+0.4**
GRF			pmax	pmax				
	comp=Z,118nm,1.1s							
GRF	**Grafenberg Arr**	**82.02 325**	*eP*		**P**	**16 56 26.3**	**-0.7**
	comp=Z,97nm,1.4s,baz=48,slow=5.3							
SOKA	**Soboth**	**82.07 321**	*eP*		**P**	**16 56 27.4**	**-0.1**
	comp=Z,62nm,1.1s,SNR=11							
BIOA	**Bad Ischl, Aus**	**82.14 323**	*eP*		**P**	**16 56 27.7**	**-0.1**
	comp=Z,43nm,1.3s							
KASTN	**Kahler Asten**	**82.29 328**	*eP*		**P**	**16 56 27.8**	**-0.7**
	comp=Z,18nm,1.2s,baz=48,slow=5.3							
OBKA	**Obir**	**82.44 321**	*eP*		**P**	**16 56 29.1**	**-0.3**
	comp=Z,44nm,1.6s							
RJOB	**Jochberg**	**82.54 323**	*eP*		**P**	**16 56 29.2**	**-0.6**
	comp=Z,34nm,1.3s,baz=48,slow=5.3							
BUG	**Bochum--Univer**	**82.64 328**	P		**P**	**16 56 29.6**	**-0.6**
BUG			pmax	pmax				
	comp=Z,38nm,1.6s							
BUG	**Bochum--Univer**	**82.64 328**	*ep*P		pP	16 56 34.8	+1.0
BUG	**Bochum--Univer**	**82.64 328**	*eP*		**P**	**16 56 29.5**	**-0.7**
	comp=Z,32nm,1.2s,baz=48,slow=5.3							
KBA	**Koelnbreinsper**	**82.69 322**	*eP*		**P**	**16 56 30.0**	**-0.8**
	comp=Z,46nm,1.5s							
KBA	**Koelnbreinsper**	**82.69 322**	P		**P**	**16 56 30.4**	**-0.4**
KBA			pmax	pmax				
	comp=Z,35nm,1.2s							
MYKA	**Terra Mystica**	**82.83 322**	*eP*		**P**	**16 56 30.6**	**-0.8**
	comp=Z,34nm,1.6s							
TNS	**Taunus Mts**	**82.96 327**	P		**P**	**16 56 31.3**	**-0.7**
TNS			pmax	pmax				
	comp=Z,43nm,1.2s							
TNS	**Taunus Mts**	**82.96 327**	*ep*P		pP	16 56 36.8	+1.3
TNS	**Taunus Mts**	**82.96 327**	*eP*		**P**	**16 56 31.3**	**-0.7**
	comp=Z,33nm,1.3s,baz=48,slow=5.3							
FUR	**Furstenfeldbru**	**83.02 324**	P		**P**	**16 56 32.6**	**+0.3**
FUR			pmax	pmax				
	comp=Z,140nm,1.1s							
FUR	**Furstenfeldbru**	**83.02 324**	*ep*P		pP	16 56 37.2	+1.3
FUR	**Furstenfeldbru**	**83.02 324**	*eP*		**P**	**16 56 31.6**	**-0.7**
	comp=Z,111nm,1.3s,baz=48,slow=5.3							
EGMT	**Eagleton**	**83.10 36**	P		**P**	**16 56 32.3**	**-0.5**
	baz=312							
ABTA	**Abfaltersbach**	**83.34 322**	*eP*		**P**	**16 56 32.7**	**-1.4**
	comp=Z,53nm,1.1s,SNR=10.0							
AHRW	**Bad Neuenahr-A**	**83.36 328**	*ep*P		pP	16 56 38.8	+1.3
AHRW	**Bad Neuenahr-A**	**83.36 328**	*eP*		**P**	**16 56 33.5**	**-0.5**
	comp=Z,48nm,1.1s,baz=48,slow=5.3							
TRI	**Trieste**	**83.37 321**	P		**P**	**16 56 33.8**	**-0.3**
TRI			pmax	pmax				
	comp=Z,68nm,1.1s							
WATA	**Walderalm**	**83.42 323**	*eP*		**P**	**16 56 34.0**	**-0.5**
	comp=Z,33nm,1.0s							
WTTA	**Wattenberg**	**83.44 323**	*eP*		**P**	**16 56 34.2**	**-0.6**
	comp=Z,48nm,1.1s							
WTTA	**Wattenberg**	**83.44 323**	P		**P**	**16 56 34.3**	**-0.4**
WTTA			pmax	pmax				
	comp=Z,53nm,1.2s							
STU	**Stuttgart**	**83.61 325**	P		**P**	**16 56 35.1**	**-0.2**
STU			pmax	pmax				
	comp=Z,80nm,1.1s							
STU	**Stuttgart**	**83.61 325**	*eP*		**P**	**16 56 34.5**	**-0.8**
	comp=Z,145nm,1.1s,baz=48,slow=5.3							
THZ	**Tophouse**	**83.63 150**	P		**P**	**16 56 33.3**	**-2.0**
THZ			IAmb	IAmb		16 56 35.3		
	comp=Z,27nm,0.9s							
MOTA	**Moosalm**	**83.66 324**	*eP*		**P**	**16 56 35.1**	**-0.6**
	comp=Z,36nm,0.9s							
SQTA	**Sankt Quirin**	**83.69 323**	*eP*		**P**	**16 56 35.2**	**-0.6**
	comp=Z,27nm,0.9s							
RETA	**Reutte**	**83.73 324**	*eP*		**P**	**16 56 35.7**	**-0.3**
	comp=Z,41nm,1.3s,SNR=9.1							
BTNL	**Ternell**	**83.75 328**	*dP*		**P**	**16 56 34.1**	**-2.0**
	comp=Z,21nm,1.1s							
MEM	**Membach**	**83.79 328**	P		**P**	**16 56 35.3**	**-0.9**
MEM			pmax	pmax				
	comp=Z,39nm,1.2s							
MEM	**Membach**	**83.79 328**	*dP*		**P**	**16 56 34.9**	**-1.2**
	comp=Z,21nm,1.0s							
ITM	**Ithomi**	**83.91 311**	P		**P**	**16 56 35.4**	**-1.7**
UBR	**Ueberruh**	**83.92 324**	*ep*P		pP	16 56 41.5	+0.9
UBR	**Ueberruh**	**83.92 324**	*eP*		**P**	**16 56 35.9**	**-1.1**
	comp=Z,41nm,1.2s,baz=48,slow=5.3							
BHOU	**Houvegnez**	**83.97 328**	*dP*		**P**	**16 56 36.7**	**-0.4**
	comp=Z,13nm,1.2s							
BSTI	**Sart Tilman**	**84.00 328**	*dP*		**P**	**16 56 36.5**	**-0.7**
FETA	**Feichten**	**84.06 323**	*eP*		**P**	**16 56 37.2**	**-0.7**
	comp=Z,33nm,0.9s,SNR=8.0							
BCLA	**Clavier**	**84.24 328**	*dP*		**P**	**16 56 37.2**	**-1.3**
	comp=Z,16nm,1.2s							
CTI	**Castel Tesino**	**84.25 322**	P		**P**	**16 56 37.5**	**-1.3**
CTI			pmax	pmax				
	comp=Z,44nm,0.9s							
CTI	**Castel Tesino**	**84.25 322**	P		**P**	**16 56 37.5**	**-1.3**
DAVA	**Damuels**	**84.31 324**	*eP*		**P**	**16 56 38.7**	**-0.4**
	comp=Z,80nm,0.9s,SNR=17							
BFO	**Black Forest**	**84.34 326**	P		**P**	**16 56 37.6**	**-1.4**
BFO			pmax	pmax				
	comp=Z,88nm,1.0s							
BFO	**Black Forest**	**84.34 326**	P		**P**	**16 56 37.6**	**-1.4**
BFO	**Black Forest**	**84.34 326**	*ep*P		pP	16 56 43.7	+1.1
BFO	**Black Forest**	**84.34 326**	*eP*		**P**	**16 56 38.3**	**-0.7**
	comp=Z,69nm,1.1s,baz=48,slow=5.3							
BGES	**Gesves**	**84.36 328**	*dP*		**P**	**16 56 37.0**	**-2.1**
	comp=Z,13nm,1.1s							
WLF	**Walferdange**	**84.40 327**	P		**P**	**16 56 39.3**	**0.0**
WLF			pmax	pmax				
	comp=Z,88nm,1.2s							
WLF	**Walferdange**	**84.40 327**	*ep*P		pP	16 56 44.2	+1.3
WLF	**Walferdange**	**84.40 327**	*dP*		**P**	**16 56 39.1**	**-0.3**
	comp=Z,47nm,1.1s							
WLF	**Walferdange**	**84.40 327**	*eP*		**P**	**16 56 39.0**	**-0.3**
	comp=Z,56nm,1.1s,baz=48,slow=5.3							
RCHB	**Rochefort**	**84.46 328**	*dP*		**P**	**16 56 37.8**	**-1.8**
	comp=Z,22nm,1.0s							
NVAR	**Mina Array Bea**	**84.47 47**	P		**P**	**16 56 40.2**	**0.0**
	comp=Z,3.6nm,0.8s,baz=304,slow=5.0,SNR=11							
RPZ	**Rata Peaks**	**84.49 152**	P		**P**	**16 56 38.9**	**-0.6**
	comp=Z,24nm,0.7s,baz=277,slow=0.9,SNR=14							
RPZ	**Rata Peaks**	**84.49 152**	P		**P**	**16 56 38.8**	**-0.8**
BMRD	**Maredsous**	**84.56 329**	*dP*		**P**	**16 56 39.0**	**-1.1**
	comp=Z,30nm,1.1s							
SLE	**Schleitheim**	**84.65 325**	P		**P**	**16 56 39.8**	**-0.9**
SLE			pmax	pmax				
	comp=Z,62nm,1.1s							
DOU	**Dourbes**	**84.79 329**	*dP*		**P**	**16 56 40.1**	**-1.1**
	comp=Z,16nm,1.2s							
TUE	**Stuetta**	**85.13 324**	P		**P**	**16 56 42.8**	**-0.6**
RLMT	**Red Lodge**	**85.31 38**	P		**P**	**16 56 43.5**	**-0.8**
	baz=313							
PKM	**Mcpherson Peak**	**85.65 51**	P		**P**	**16 56 44.7**	**-1.4**
	baz=307							
LAO	**LASA Array**	**85.76 35**	P		**P**	**16 56 45.2**	**-1.1**
	baz=315							
AQU	**L'Aquila**	**85.78 319**	P		**P**	**16 56 47.0**	**+0.6**
AQU			pmax	pmax				
	comp=Z,22nm,1.1s							
MPMC	**Manual Prospec**	**86.44 49**	P		**P**	**16 56 49.0**	**-1.0**
	baz=308							
TPNV	**Topopah Spring**	**86.67 48**	P		**P**	**16 56 50.3**	**-0.8**
	baz=309							
EDW2	**Edwards Air Fo**	**86.84 50**	P		**P**	**16 56 51.0**	**-0.8**
	baz=308							
LOR	**Lormes**	**87.19 327**	P		**P**	**16 56 51.8**	**-1.5**
LOR			pmax	pmax				
	comp=Z,22nm,1.4s							
BNI	**Bardonecchia**	**87.46 324**	P		**P**	**16 56 53.2**	**-1.5**
BNI			pmax	pmax				
	comp=Z,9.0nm,0.7s							
BNI	**Bardonecchia**	**87.46 324**	P		**P**	**16 56 53.2**	**-1.5**
ULM	**Lac du Bonnet**	**87.67 28**	P		**P**	**16 56 54.6**	**-0.8**
	comp=Z,20nm,1.0s,baz=313,slow=4.2,SNR=6.2							
ORIF	**Oris-en-Rattie**	**87.95 324**	P		**P**	**16 56 57.3**	**+0.3**
ORIF			pmax	pmax				
	comp=Z,15nm,1.1s							
EYMN	**Ely**	**91.22 27**	P		**P**	**16 57 11.2**	**-1.0**
	baz=326							
ESDC	**Sonseca Array**	**96.66 326**	P		**P**	**16 57 36.1**	**-1.3**
	comp=Z,3.2nm,1.0s,baz=36,slow=3.3,SNR=5.0							
TXAR	**Lajitas Array**	**99.56 46**	P		**Pdif**	**16 57 51.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=310,slow=4.2,SNR=2.7							
TORD	**Torodi Ar. Bea**	**113.34 305**	PKKPbc		PKKPbc	17 13 30.0	+0.7
	comp=Z,1.2nm,1.0s,baz=242,slow=3.9,SNR=2.7							
QSPA	**South Pole Qui**	**122.46 180**	PKP		**PKPdf**	**17 03 01.1**	**-0.4**
	comp=Z,5.6nm,0.8s,baz=196,slow=1.6,SNR=9.5							
SDV	**Santo Domingo**	**133.88 30**	PKP		**PKPdf**	**17 03 22.5**	**-2.5**
	comp=Z,4.6nm,0.7s,baz=267,slow=2.6,SNR=6.8							
BOSC	**San Juan Bosco**	**139.80 49**	PKPdf		**PKPdf**	**17 03 36.8**	**+0.8**
BOAV	**Boa Vista**	**143.49 19**	*eP*		**PKiKP**	**17 03 46.4**	**+0.7**
TBTG	**Tabatinga, AM**	**145.66 39**	*eP*		**PKiKP**	**17 03 49.7**	**-0.5**
MCPB	**Macapa, AP**	**147.72 5**	*eP*		**PKPbc**	**17 03 51.1**	**-1.3**
MACA	**Manacapuru-AM**	**148.71 22**	*eP*		**PKPbc**	**17 03 55.6**	**+0.7**
MALB	**Monte Alegre**	**148.95 10**	*eP*		**PKPdf**	**17 03 53.2**	**+1.6**
NBCL	**Cascavel-CE**	**149.87 338**	*eP*		**PKPbc**	**17 03 57.0**	**-0.9**
ROSB	**Rosrio**	**149.96 350**	*eP*		**PKPbc**	**17 03 56.3**	**-1.9**
RCBR	**Riachuelo**	**150.51 332**	PKPab		**PKiKP**	**17 04 02.7**	**+2.5**
RCBR	**Riachuelo**	**150.51 332**	*eP*		**PKPbc**	**17 03 58.7**	**-0.8**
NBPV	**Pedro Velho**	**150.80 331**	*eP*		**PKPbc**	**17 03 59.2**	**-0.9**
NBPS	**Pedro II - PI**	**150.91 344**	*eP*		**PKPbc**	**17 03 58.8**	**-1.7**
ITTB	**Itaituba**	**151.16 14**	*eP*		**PKPbc**	**17 03 59.8**	**-1.2**
NBPB	**Pedra_Branca-C**	**151.52 340**	*eP*		**PKPbc**	**17 04 00.2**	**-1.6**
ETMB	**Extrema**	**152.35 38**	*eP*		**PKPbc**	**17 04 00.8**	**-2.2**
PRPB	**Parauapebas**	**153.59 1**	*eP*		**PKPbc**	**17 04 03.3**	**-3.1**
NPGB	**Novo Progresso**	**153.84 14**	*eP*		**PKPbc**	**17 04 03.1**	**-3.9**
NBAN	**Anadia - AL**	**154.14 330**	*eP*		**PKPbc**	**17 04 04.1**	**-3.5**
SMTB	**Santa Maria do**	**156.22 356**	*eP*		**PKPdf**	**17 04 07.3**	**+4.9**
LPAZ	**La Paz**	**156.34 51**	*eP*		**PKPdf**	**17 04 07.1**	**+4.0**
NBPN	**Ponto Novo - B**	**156.71 337**	*eP*		**PKPdf**	**17 04 07.8**	**+4.8**
PEXB	**Peixe**	**159.48 357**	*eP*		**PKPdf**	**17 04 10.9**	**+4.6**
PTLB	**Pontes e Lacer**	**160.61 30**	*eP*		**PKPdf**	**17 04 12.4**	**+5.0**
PLCA	**Paso Flores**	**161.15 121**	PKPab		**PKPab**	**17 04 51.1**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=269,slow=5.1,SNR=5.2							
SALV	**Santo Antonio**	**162.27 21**	*eP*		**PKPdf**	**17 04 14.0**	**+4.7**
BDFB	**Brasilia**	**162.97 356**	*eP*		**PKPdf**	**17 04 15.0**	**+4.9**
NAN01	**Guarapari, ES**	**163.08 329**	*eP*		**PKPdf**	**17 04 14.5**	**+4.5**
PP1B	**Ponte de Pedra**	**164.12 20**	*eP*		**PKPdf**	**17 04 15.3**	**+4.4**
SJMB	**Sao Joao De Ma**	**164.29 331**	*eP*		**PKPdf**	**17 04 15.1**	**+4.0**
AQDB	**Aquidauana**	**166.52 27**	*eP*		**PKPdf**	**17 04 17.1**	**+4.2**
CPUP	**Villa Florida**	**170.51 50**	*eP*		**PKPdf**	**17 04 20.3**	**+4.9**

JMA 15 16:44:49.2,32.66N×130.71E,h13km±1km,M4.3,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**142**	P	Pg	16 44 52.8	+0.1
JIU3				S	Sg	16 44 55.3	+0.1
JTA	**Tamana**	**0.34**	**334**	P	Pg	16 44 56.1	0.0

*IDC **15** 16:44:58.9±1.9,23.68N×93.34E,h0km,mb4.1/2, mb1 3.9/3,mb1mx3.3/71,mbtmp3.8/3,ML3.4/1,Error ellipse: s-maj=39.0km s-min=28.9km az=93.0*

ISC 15 16:45:02.9±1.1,23.6N±0.1×93.26E±0.08,h35km,n18, σ1s38/23,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**1.76**	**238**	Pn	**Pn**	**16 45 31.6**	**+0.7**
	0.3nm,0.3s,baz=360,slow=24,SNR=1.3						
ODAN	**Odare**	**6.21**	**302**	*e*Pn	**Pn**	**16 46 34.0**	**+1.7**
ODAN				*e*Sn	**Sn**	**16 47 40.8**	**-1.5**
	128nm,0.3s						
TAPN	**Taplejung**	**6.24**	**308**	*e*Pn	**Pn**	**16 46 35.3**	**+2.6**
TAPN				*e*Sn	**Sn**	**16 47 42.6**	**-0.3**
	161nm,0.6s						
RAMN	**Ramite**	**6.87**	**300**	*e*Pn	**Pn**	**16 46 43.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**7.39**	**133**	Pn	**Pn**	**16 46 48.0**	**-0.4**
	0.2nm,0.3s,baz=312,slow=13,SNR=4.2						
JIRN	**Jiri**	**7.54**	**304**	*e*Pn	**Pn**	**16 46 52.0**	**+1.3**
JIRN				*e*Sn	**Sn**	**16 48 13.9**	**-1.2**
	24nm,0.5s						
GUN	**Gumba**	**7.90**	**304**	*e*Pn	**Pn**	**16 46 57.0**	**+1.4**
GUN				*e*Sn	**Sn**	**16 48 22.1**	**-1.9**
	288nm,0.9s						
PKI	**Pulchoki**	**8.10**	**301**	*e*Pn	**Pn**	**16 46 59.2**	**+0.8**
PKI				*e*Sn	**Sn**	**16 48 25.8**	**-3.1**
PKIN	**Phulchoki**	**8.11**	**301**	*e*Pn	**Pn**	**16 46 59.1**	**+0.6**
KKN	**Kakani**	**8.30**	**302**	*e*Pn	**Pn**	**16 47 01.8**	**+0.8**
DMN	**Daman**	**8.36**	**300**	*e*Pn	**Pn**	**16 47 02.1**	**+0.3**
GKN	**Gorkha**	**8.90**	**301**	*e*Pn	**Pn**	**16 47 09.9**	**+0.7**
KOLN	**Koldanda**	**9.64**	**297**	*e*Pn	**Pn**	**16 47 19.2**	**-0.1**
DANN	**Dangsing**	**9.75**	**301**	*e*Pn	**Pn**	**16 47 20.6**	**-0.4**
PYUN	**Piuthan**	**10.26**	**298**	*e*Pn	**Pn**	**16 47 27.1**	**-0.8**
WHN	**Wuhan**	**19.99**	**65**	P	**P**	**16 49 31.5**	**-0.9**
MKAR	**Makanchi Array**	**24.75**	**342**	P	**P**	**16 50 21.9**	**+0.8**
	1.4nm,0.4s,baz=160,slow=8.6,SNR=30						
ZALV	**Zalesovo Beam**	**30.94**	**350**	P	**P**	**16 51 17.2**	**+0.8**
	1.3nm,0.4s,baz=174,slow=8.6,SNR=6.1						

JMA 15 16:45:28.3,32.94N×131.09E,h9km±1km,M3.9,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.25**	**316**	P	Pg	16 45 33.6	+0.1
JNU				S	Sg	16 45 37.2	+0.3
JUS	**Usuki**	**0.57**	**77**	S	Sg	16 45 47.0	+0.2

*KEA **15** 16:45:52.2,32.77N×130.79E,h16km,MS5.3/3*
*IDC **15** 16:45:54.0±0.3,32.83N×130.85E,h0km,mb5.3/52, mb1 5.4/56,mb1mx5.3/72,mbtmp5.3/56,ML4.7/4,MS5.6/1, Ms1 5.6/1,ms1mx5.3/95,Error ellipse: s-maj=9.3km s-min=6.6km az=90.0*
*BJI **15** 16:45:54.7±0.0,32.77N×130.91E,h10km,mb5.3/56, Ms6.1/6,Ms7 6.1/6*
*MOS **15** 16:45:54.7±1.0,32.86N×130.84E,h14km,mb6.0/141, Error ellipse: s-maj=6.6km s-min=4.5km az=102.9*
*JMA **15** 16:45:55.4,32.86N×130.90E,h11km±1km,MS5.9*
*NIED **15** 16:45:55.5,32.86N×130.90E,h11km,MW5.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^17^Nm;*
Mrr~3.80; Mθθ4.04; Mφφ~0.24; Mrθ-1.63; Mθφ~0.26; Mφr~0.80; Fault plane solution: Mo4.33000×10^17^ NP1: φs286.00000°,δ35.00000°,λ-70.00000°. NP2:φs81.00000°, δ57.00000°,λ-104.00000°.
*NEIC **15** 16:45:56.7±2.5,32.92N±0.05×130.81E±0.06,h10km, mb5.8/183,Mww5.7 Error ellipse: s-maj=8.9km s-min=7.7km az=95.0*
*NEIC **15** 16:45:58,32.78N×130.85E,h12km,Moment Tensor Solution. Duration: 5s6 Moment tensor: Scale 10^17^Nm; Mrr~4.75; Mθθ4.19; Mφφ0.56; Mrθ-2.32; Mθφ-0.81; Mφr-0.35; Fault plane solution: Mo5.13000×10^17^ NP1: φs289.00000°,δ33.00000°,λ-76.00000°. NP2:φs93.00000°, δ58.00000°,λ-98.00000°. Principal axes: T 4.8692, Plg13.0000°, Azm190.0000°; N 0.4895, Plg7.0000°, Azm98.0000°; P -5.3587, Plg75.0000°, Azm340.0000°;*
*BGR **15** 16:45:59.8±0.0,32.96N×130.94E,h20km±1km,mb5.3*

ISC 15 16:45:56.5±0.6,32.88N±0.03×130.88E±0.03,h14km±3km, n1142,σ1s28/1132,mb5.7/356,MS6.3/4,69C-93D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.24**	**0**	Pg	**Pg**	**16 46 00.5**	**-1.3**
	14μm,0.3s,baz=221,slow=20,SNR=6.3						
JNU	**Nakatsue**	**0.24**	**0**	P	**Pg**	**16 46 00.9**	**-0.9**
JNU				*e*S	**Sg**	**16 46 04.9**	**-0.5**
JNU	**Nakatsue**	**0.24**	**0**	Pg	**Pg**	**16 46 00.9**	**-0.9**
JTA	**Tamana**	**0.30**	**286**	P	**Pg**	**16 46 01.8**	**-1.0**
JTZ	**Takazaki**	**0.99**	**170**	P	**Pb**	**16 46 14.2**	**-1.3**
JII	**Iki**	**1.32**	**314**	P	**Pn**	**16 46 20.5**	**-0.1**
JSU	**Suzuyama**	**1.42**	**195**	Pn	**Pn**	**16 46 21.2**	**-0.7**
JNA	**Nagahama**	**1.50**	**63**	P	**Pn**	**16 46 23.3**	**+0.2**
JTSM	**Tsushimamitsus**	**1.91**	**320**	P	**Pn**	**16 46 28.0**	**-0.7**
JTU	**Tsushima**	**2.05**	**323**	Pn	**Pn**	**16 46 29.9**	**-0.7**
JMTN	**Minamitane**	**2.48**	**180**	P	**Pn**	**16 46 37.2**	**+0.7**
JMN	**Monobe**	**2.65**	**71**	Pn	**Pb**	**16 46 43.6**	**-0.3**
JYAK	**Yakushimahirau**	**2.65**	**187**	P	**Pn**	**16 46 39.7**	**+0.8**
JHS	**Saijyo**	**2.81**	**41**	Pn	**Pn**	**16 46 42.8**	**+1.7**
TJN	**Taejon**	**4.53**	**321**	P	**Pn**	**16 47 05.3**	**+0.6**
TJN	**Taejon**	**4.53**	**321**	Pn	**Pn**	**16 47 05.3**	**+0.6**
JAM	**Amami Oshima**	**4.59**	**194**	P	**Pn**	**16 47 07.8**	**+2.3**
KSRS	**Korea Array**	**5.16**	**333**	Pn	**Pn**	**16 47 13.6**	**+0.2**
	20nm,0.3s,baz=152,slow=14,SNR=5.7						
KSRS				Pg	**Pb**	**16 47 28.6**	**+2.0**
	42nm,0.3s,baz=151,slow=16,SNR=4.8						
KSRS				Sn	**Sn**	**16 48 15.2**	**+2.4**
	52nm,0.3s,baz=144,slow=23,SNR=5.1						
KSRS				Lg	Lg	16 48 38.2	
	70nm,0.3s,baz=151,slow=29,SNR=6.1						
KSRS				LR	LR	16 48 42.3	
	comp=Z,55μm,18.1s,baz=165,slow=32						
INU	**Inuyama**	**5.66**	**63**	Pn	**Pn**	**16 47 22.8**	**+2.7**
INCN	**Inchon**	**5.76**	**324**	P	**Pn**	**16 47 21.9**	**+0.3**
INCN	**Inchon**	**5.76**	**324**	Pn	**Pn**	**16 47 21.9**	**+0.3**
JOW	**Kunigami**	**6.44**	**201**	Pn	**Pn**	**16 47 33.1**	**+2.2**
	88nm,0.3s,baz=53,slow=12,SNR=19						
JOW				Sn	**Sn**	**16 48 45.1**	**+0.9**
	baz=119,slow=19,SNR=0.8						
JOW	**Kunigami**	**6.44**	**201**	P	**Pn**	**16 47 33.3**	**+2.4**
JOW	**Kunigami**	**6.44**	**201**	Pn	**Pn**	**16 47 33.4**	**+2.5**
JTT	**Ttatey**	**6.48**	**53**	P	**Pn**	**16 47 34.0**	**+2.5**
HJU	**Haeju**	**6.65**	**322**	P	Pn	16 47 27.9	-5.8
HJU				pP	**Pn**

XLT S **Sn** **16 52 37.8 +0.3**
XLT SS **S** **16 52 55.9 +4.5**
XLT pmax pmax
comp=Z,160nm,1.4s
XLT LR LR
comp=Z,10µm,14.7s
KLR Kul'dur **16.35 2** Pn **P** **16 49 50.9 +2.5**
comp=Z,4.9nm,0.3s,baz=164,slow=9.1,SNR=52
KLR Kul'dur **16.35 2**⇓*eP* **Pn** **16 49 46.3 +0.8**
KLR pmax pmax
comp=Z,816nm,1.1s
YSS Yuzh-Sakhalins **16.72 29**⇑*iP* **Pn** **16 49 50.7 +0.5**
YSS pmax pmax
comp=Z,470nm,1.1s
YSS Yuzh-Sakhalins **16.72 29** **Pn** 16 49 51.3 +1.0
YSS IAmb IAmb 16 49 53.7
comp=Z,733nm,1.2s
HHC Hu-ho-hao-te **17.36 303** *eP* **P** **16 49 59.6 -0.2**
UGL Uglegorsk **18.22 24** *eP* **P** **16 50 09.3 +0.3**
XAN Xi'an **18.36 280** P **P** **16 50 15.9 +5.1**
XAN pP sP 16 50 20.0 +3.4
XAN pmax pmax
comp=Z,180nm,1.3s
XAN Xi'an **18.36 280** P **Pn** **16 50 10.8 +0.1**
XAN pP pP 16 50 14.1 -0.7
XAN pmax pmax
comp=Z,190nm,1.3s
HIA Hailar **18.36 336**⇓*eP* **P** **16 50 12.8 +2.1**
ZEA Zeya **21.01 354** *eP* **P** **16 50 42.1 +2.6**
ZEA pmax pmax
comp=E,80nm,0.7s
ZEA pmax pmax
comp=N,710nm,1.1s
ZEA pmax pmax
comp=Z,1µm,1.0s
GYA Guiyang **21.97 259**⇑P **P** **16 50 51.5 +1.4**
GYA pmax pmax
comp=Z,140nm,1.0s
LZH Lanzhou **22.49 286**⇓P **P** **16 50 56.5 +0.8**
LZH pP pP 16 50 59.8 +0.1
LZH pmax pmax
comp=Z,250nm,1.3s
CD2 Chengdu **23.09 272** P **P** **16 51 02.3 +0.4**
CD2 pP pP 16 51 04.3 -1.7
CD2 pmax pmax
comp=Z,100nm,0.8s
QIZ Qiongzhong **23.35 239** P **P** **16 51 05.6 +1.1**
QIZ IAmb IAmb 16 51 52.0
comp=Z,312nm,1.7s
QIZ Qiongzhong **23.35 239** P **P** **16 51 06.8 +2.2**
QIZ S **S** **16 55 17.0 -0.1**
QIZ pmax pmax
comp=Z,98nm,0.9s
ULN Ulaanbaatar **23.39 317**⇑*iP* **P** **16 51 05.6 +0.6**
ULN pmax pmax
comp=Z,456nm,1.3s
ULN Ulaanbaatar **23.39 317** P **P** **16 51 05.7 +0.6**
ULN IAmb IAmb 16 51 07.7
comp=Z,413nm,1.1s
SONM Songino Array **23.76 316** P **P** **16 51 08.8 +0.2**
comp=Z,129nm,1.1s,baz=130,slow=8.3,SNR=27
SONM PcP **PcP** **16 54 52.1 0.0**
comp=Z,4.0nm,0.6s,baz=142,slow=1.0,SNR=4.5
SONM Songino Array **23.76 316** P **P** **16 51 09.7 +1.2**
SONM **PcP** **16 54 51.5 -0.5**
SKR Severo-Kuril's **25.70 39**⇓*iP* **P** **16 51 27.1 +1.1**
KMI Kunming **25.74 260**⇑P **P** **16 51 28.8 +1.8**
KMI pP pP 16 51 30.3 -1.0
KMI sP sP 16 51 33.6 +0.5
KMI pmax pmax
comp=Z,82nm,1.7s
GTA Gaotai **25.83 293** *eP* **P** **16 51 30.3 +2.7**
GTA sP sP 16 51 36.4 +2.7
GTA pmax pmax
comp=Z,52nm,1.2s
PZH PanZhiHua **26.05 264** P **P** **16 51 29.9 +0.3**
PZH pmax pmax
comp=Z,190nm,1.8s
ZAK Zakamensk **26.81 319** *eP* **P** **16 51 36.6 +0.3**
ZAK pmax pmax
comp=Z,167nm,1.5s
BOD Bodaibo **27.46 340** *eP* **P** **16 51 41.3 -0.5**
BOD pmax pmax
comp=Z,150nm,1.6s
PETK Petropavlovsk- **27.89 36** P **P** **16 51 45.9 +0.1**
comp=Z,19nm,1.0s,baz=224,slow=4.1,SNR=7.3
PET Petropavlovsk **28.32 36**⇑*iP* **P** **16 51 50.2 +0.6**
PET pmax pmax
comp=Z,407nm,3.7s
PET Petropavlovsk **28.32 36** P **P** **16 51 50.0 +0.4**
PET IAmb IAmb 16 51 51.0
comp=Z,140nm,1.3s
MOY Mondy **28.70 320** *eP* **P** **16 51 53.8 +0.6**
MOY pmax pmax
comp=Z,853nm,2.9s
UBPT Khong Chiam **28.95 239** P **P** **16 51 56.4 +0.9**
YAK Yakutsk **29.18 359** *eP* **P** **16 51 55.9 -1.2**
YAK *e* 16 52 45.1
YAK *e* 16 55 02.2
YAK *eS* **S** **16 56 43.5 -5.2**
YAK pmax pmax
comp=Z,155nm,1.0s
YAK pmax pmax
comp=N,258nm,1.4s
YAK pmax pmax
comp=E,28nm,1.1s
YAK pmax pmax
comp=Z,151µm,10.4s
YAK pmax pmax
comp=N,108µm,10.9s
YAK pmax pmax
comp=E,73µm,9.9s
YAK smax smax
comp=N,71µm,16.0s
YAK smax smax
comp=E,36µm,10.4s
GOMU GeErMu **29.78 287** P **P** **16 52 04.6 +1.3**
GOMU sP sP 16 52 12.4 +3.0
GOMU S **S** **16 56 59.8 +0.2**
GOMU pmax pmax
comp=E,62nm,1.3s
GOMU LR LR
comp=E,25µm,14.1s
GOMU LR LR
comp=E,30µm,14.6s
MA2 Magadan **29.79 20** P **P** **16 52 02.3 -0.3**
comp=E,28nm,0.9s,baz=217,slow=10,SNR=14
MA2 Magadan **29.79 20** P **P** **16 52 03.2 +0.5**
KKM Kota Kinabalu **29.99 210** P **P** **16 52 04.7 -0.2**
KNGR Kungurtug, Tuv **30.20 316**⇓*eP* **P** **16 52 07.8 +1.3**
MNI Manado **31.78 192** P **P** **16 52 20.1 -0.5**
MNI pmax pmax
comp=Z,209nm,1.0s
CHTO Chiang Mai **31.83 252** P **P** **16 52 22.8 +1.8**
CHTO pmax pmax
comp=Z,93nm,1.0s
CHTO Chiang Mai **31.83 252** P **P** **16 52 22.8 +1.8**
CHTO IAmb IAmb 16 52 25.7
comp=Z,93nm,1.0s
CM31 Chiang Mai Arr **32.02 251** P **P** **16 52 24.0 +1.3**
CMAR Chiang Mai Arr **32.02 251** P **P** **16 52 23.8 +1.1**
comp=Z,10nm,0.7s,baz=58,slow=6.6,SNR=37
TNTI Ternate **32.11 187** P **P** **16 52 24.8 +1.3**
TNTI IAmb IAmb 16 53 39.0
comp=Z,148nm,1.2s
TOLI2 Tolitoli **33.00 199** P **P** **16 52 30.2 -1.0**
SEY Seymchan **33.01 18** P **P** **16 52 31.5 +0.6**
comp=Z,49nm,1.1s,baz=212,slow=6.4,SNR=17
SEY Seymchan **33.01 18**⇑*iP* **P** **16 52 31.4 +0.6**
SEY pmax pmax
comp=Z,69nm,1.0s
SWI Sorong **33.56 179** P **P** **16 52 35.7 -0.5**
SIJI Sorong **33.57 179** P **P** **16 52 35.8 -0.5**
comp=Z,33nm,0.9s,baz=334,slow=3.6,SNR=8.1
LSA Lhasa **33.96 275** P **P** **16 52 42.4 +2.3**
SHL Shillong **34.66 268** P **P** **16 52 46.7 +0.8**
H11N2 WAKE ISLAND Hy **34.67 103** T T 17 28 56.0
baz=296,slow=74,SNR=10
H11N1 WAKE ISLAND Hy **34.67 103** T T 17 28 54.6
baz=296,slow=74,SNR=11
H11N3 WAKE ISLAND Hy **34.69 103** T T 17 28 57.1
baz=296,slow=74,SNR=10.0
H11S3 WAKE ISLAND Hy **35.12 105** T T 17 29 24.6
baz=301,slow=75,SNR=7.8
H11S1 WAKE ISLAND Hy **35.12 105** T T 17 29 26.2
baz=301,slow=75,SNR=5.6
H11S2 WAKE ISLAND Hy **35.14 105** T T 17 29 22.6
baz=301,slow=75,SNR=5.8
WMQ Urumqi **35.22 301** *eP* **P** **16 52 51.8 +1.4**
WMQ sP sP 16 53 00.0 +3.5
WMQ pmax pmax
comp=Z,290nm,1.5s
WMQ LR LR
comp=Z,44µm,17.7s
JAY Jayapura **36.41 163** P **P** **16 53 00.6 -0.2**
comp=Z,24nm,0.9s,baz=343,slow=5.9,SNR=8.1
AAI Ambon **36.46 185** P **P** **16 53 01.2 +0.1**
AAI pmax pmax
comp=Z,145nm,1.1s
SHEM Shemya Is, Ala **36.70 44** P **P** **16 53 04.0 +1.2**
comp=Z,134nm,0.9s,baz=345,slow=7.8,SNR=7.2
KSM Kuching **36.74 216** P **P** **16 53 04.5 +1.0**
ZSN Zaisan **37.49 307** *eP* **P** **16 53 08.6 -1.1**
ZSN Zaisan **37.49 307** *eP* **P** **16 53 08.6 -1.1**
baz=307
TAPN Taplejung **37.55 273** *eP* **P** **16 53 12.3 +1.5**
comp=Z,107nm,0.9s
ODAN Odare **37.98 273** *eP* **P** **16 53 15.0 +0.6**
comp=Z,153nm,1.0s
RAMN Ramite **38.62 273** *eP* **P** **16 53 20.2 +0.5**
comp=Z,44nm,0.7s
ZAA0 Zalesovo Array **38.65 317** P **P** **16 53 19.3 -0.1**
ZAA0 **PcP** **16 55 31.3 +0.1**
ZALV Zalesovo Beam **38.65 317** P **PcP** **16 53 19.2 -0.1**
comp=Z,18nm,0.8s,baz=93,slow=7.4,SNR=19
ZALV PcP **PcP** **16 55 30.0 -1.2**
comp=Z,26nm,0.8s,baz=119,slow=3.8,SNR=14
ZALV ScP **ScP** **16 59 17.8 -1.1**
comp=Z,2.8nm,0.8s,baz=111,slow=3.6,SNR=4.3
ZALV Zalesovo Beam **38.65 317** P **P** **16 53 20.1 +0.7**
ZALV Zalesovo Beam **38.65 317** P **P** **16 53 20.1 +0.7**
JIRN Jiri **38.73 274** *eP* **P** **16 53 21.8 +1.0**
comp=Z,22nm,1.0s
TIXI Tiksi **38.84 359** P **P** **16 53 20.2 -0.5**
comp=Z,35nm,0.9s,baz=90,slow=20,SNR=19
TIXI Tiksi **38.84 359**⇓*iP* **P** **16 53 20.3 -0.4**
TIXI pmax pmax
comp=Z,86nm,1.3s
TIXI Tiksi **38.84 359** P **P** **16 53 19.7 -1.1**
GUN Gumba **38.91 275** *eP* **P** **16 53 23.0 +0.7**
comp=Z,1µm,0.9s
KAPI Kappang **39.14 198** P **P** **16 53 22.4 -1.4**
comp=Z,5.6nm,0.4s,baz=15,slow=10,SNR=5.4
MK31 Makanchi Array **39.19 305**⇓*eP* **P** **16 53 23.8 -0.3**
MK31 Makanchi Array **39.19 305** P **P** **16 53 24.5 +0.4**
MKAR Makanchi Array **39.19 305** P **P** **16 53 24.0 -0.1**
comp=Z,74nm,1.1s,baz=91,slow=9.7,SNR=31
MKAR PcP **PcP** **16 55 31.9 -1.2**
comp=Z,18nm,1.1s,baz=91,slow=2.8,SNR=8.0
MKAR Makanchi Array **39.19 305** P **P** **16 53 24.3 +0.2**
MKAR Makanchi Array **39.19 305** P **P** **16 53 24.3 +0.2**
MAKZ Makanchi **39.41 305** P **P** **16 53 25.0 -0.9**
MAKZ Makanchi **39.41 305** P **P** **16 53 25.8 -0.1**
MAKZ IAmb IAmb 16 53 29.3
comp=Z,178nm,1.3s
PKI Pulchoki **39.41 275** *eP* **P** **16 53 26.9 +0.4**
comp=Z,268nm,1.0s
PKIN Phulchoki **39.42 275** *eP* **P** **16 53 27.0 +0.5**
comp=Z,209nm,1.0s
KKN Kakani **39.45 275** *eP* **P** **16 53 27.3 +0.7**
comp=Z,287nm,0.9s
DMN Daman **39.65 275** *eP* **P** **16 53 28.5 +0.1**
GKN Gorkha **39.92 276** *eP* **P** **16 53 31.4 +0.9**
comp=Z,183nm,0.9s
DANN Dangsing **40.54 276** *eP* **P** **16 53 36.1 +0.3**
comp=Z,515nm,0.8s
BILL Bilibino **40.65 20**⇑*eP* **P** **16 53 35.6 -0.3**
BILL *e* 16 55 07.9
BILL *eS* **S** **16 59 48.4 +3.4**
BILL pmax pmax
comp=Z,198nm,1.3s
BILL MLR MLR
comp=Z,38µm,16.0s
BILL Bilibino **40.65 20** P **P** **16 53 36.2 +0.4**
BILL IAmb IAmb 16 53 38.2
comp=Z,145nm,1.0s
SEM Semipalatinsk **40.82 311** *eP* **P** **16 53 35.5 -2.2**
SEM Semipalatinsk **40.82 311** *eP* **P** **16 53 35.5 -2.2**
baz=311
KOLN Koldanda **40.86 276** *eP* **P** **16 53 38.5 +0.1**
comp=Z,339nm,1.1s
PDGK Podgornoye **41.18 300** P **P** **16 53 40.4 -0.3**
SHLS Shalkode **41.21 300** *eP* **P** **16 53 36.9 -4.1**
SHLS Shalkode **41.21 300** *eP* **P** **16 53 36.9 -4.1**
baz=300
PYUN Piuthan **41.27 276** *eP* **P** **16 53 41.9 +0.2**
comp=Z,812nm,1.1s
UZB Uzynbulak **41.53 300** *eP* **P** **16 53 42.1 -1.5**
UZB Uzynbulak **41.53 300** *eP* **P** **16 53 42.1 -1.5**
baz=300
KPKS Kokpek **41.76 300** *eP* **P** **16 53 43.7 -1.7**
KPKS Kokpek **41.76 300** *eP* **P** **16 53 43.7 -1.7**
baz=300
KIWB Kanaga Island **41.81 47** P **P** **16 53 44.9 -0.7**
KURK Kurchatov **41.88 311**⇓*iP* **P** **16 53 45.6 -0.6**
KURK pmax pmax
comp=Z,345nm,1.3s
KURK Kurchatov **41.88 311** P **P** **16 53 46.6 +0.4**
TDK Taldyqorghan **41.89 303** *eP* **P** **16 53 45.7 -0.6**
TDK pmax pmax
comp=Z,87nm,1.2s
TDK Taldyqorghan **41.89 303** *eP* **P** **16 53 45.8 -0.6**
comp=Z,87nm,1.2s,baz=303
KURBB Kurchatov Arra **41.93 311** P **P** **16 53 46.6 +0.1**
comp=Z,135nm,1.1s,baz=96,slow=8.9,SNR=39
KURBB PcP **PcP** **16 55 40.2 -1.7**
comp=Z,19nm,0.9s,baz=96,slow=3.7,SNR=6.7
ZHN Zhinishke **41.96 300** *eP* **P** **16 53 45.5 -1.6**
ZHN Zhinishke **41.96 300** *eP* **P** **16 53 45.6 -1.6**
baz=300
SATY Saty **41.99 300** *eP* **P** **16 53 45.6 -1.7**
SATY Saty **41.99 300** *eP* **P** **16 53 45.6 -1.7**
baz=300
RABL Rabaul **42.03 147** P **P** **16 53 48.4 +0.7**
ADK Adak **42.10 47** P **P** **16 53 48.2 +0.2**
ADK pmax pmax
comp=Z,314nm,1.4s
ADK Adak **42.10 47** P **P** **16 53 48.1 +0.2**
ADK IAmb IAmb 16 53 54.1
comp=Z,314nm,1.4s
PSI Prapat **42.33 232** P **P** **16 53 50.9 +0.5**
comp=Z,16nm,0.8s,baz=20,slow=14,SNR=4.8
CHKK Chushkaly **42.96 301** *eP* **P** **16 53 53.7 -1.4**
CHKK Chushkaly **42.96 301** *eP* **P** **16 53 53.7 -1.4**
baz=301
MDOK Medeo **42.97 300** *eP* **P** **16 53 53.8 -1.6**
MDOK Medeo **42.97 300** *eP* **P** **16 53 53.9 -1.6**
baz=300
TNSS Tian-Shan **43.06 300** *eP* **P** **16 53 54.7 -1.7**
TNSS Tian-Shan **43.06 300** *eP* **P** **16 53 54.7 -1.7**
baz=300
AAA Alma-Ata **43.07 300** *eP* **P** **16 53 54.7 -1.3**
AAA pmax pmax
comp=Z,143nm,1.1s
AAA Alma-Ata **43.07 300** *eP* **P** **16 53 54.7 -1.3**
comp=Z,143nm,1.1s,baz=300
BATI Baumata **43.40 190** P **P** **16 53 57.0 -1.8**
comp=Z,160nm,1.1s,baz=96,slow=3.4,SNR=9.7
ULHL Ulahol **43.65 299** P **P** **16 54 01.7 +0.8**
SNR=8.7
NRIK Noril'sk **43.75 339** P **P** **16 54 00.7 -0.4**
comp=Z,130nm,1.0s,baz=113,slow=7.2,SNR=12
NRIK Noril'sk **43.75 339**⇑*eP* **P** **16 54 01.4 +0.4**
NRIK pmax pmax
comp=Z,165nm,1.1s
TKM2 Tokmak 2 **44.05 300** P **P** **16 54 04.8 +0.7**
SNR=36
TKM2 Tokmak 2 **44.05 300** P **P** **16 54 04.6 +0.4**
KSH Kashi **44.22 295** P **P** **16 54 09.8 +4.4**
KSH pmax pmax
comp=Z,120nm,1.8s
KBK Karagaybulak **44.56 299** P **P** **16 54 09.4 +1.2**
SNR=25
CHMS Chumysh **44.66 300** P **P** **16 54 09.8 +1.0**
SNR=17
SGDS Sogindy **44.70 301** *eP* **P** **16 54 07.6 -1.6**
SGDS Sogindy **44.70 301** *eP* **P** **16 54 07.6 -1.6**
baz=301
USP Ospenovka **44.82 300** P **P** **16 54 10.3 +0.3**
SNR=14
AAK Ala-Archa **44.89 299** P **P** **16 54 11.1 +0.2**
SNR=10
AAK Ala-Archa **44.89 299** P **P** **16 54 10.6 -0.2**
comp=Z,41nm,0.9s,baz=118,slow=5.8,SNR=19
AAK PcP **PcP** **16 55 51.7 -0.6**
comp=Z,6.5nm,0.7s,baz=56,slow=3.6,SNR=1.6
AAK Ala-Archa **44.89 299**⇑*eP* **P** **16 54 11.6 +0.8**
AAK pmax pmax
comp=Z,119nm,1.3s
AAK Ala-Archa **44.89 299** P **P** **16 54 11.0 +0.2**
AAK Ala-Archa **44.89 299** *i*P **P** **16 54 11.5 +0.6**
SNR=13
UCH Uchtor **44.93 299** P **P** **16 54 12.6 +1.1**
SNR=36
UGM Wanagama **44.96 209** P **P** **16 54 10.8 -0.6**
BTLS Baital **44.97 303** *eP* **P** **16 54 09.7 -1.5**
BTLS Baital **44.97 303** *eP* **P** **16 54 09.7 -1.5**
baz=303
LEM Lembang **45.26 214** P **P** **16 54 14.3 +0.4**
comp=Z,156nm,0.9s,baz=47,slow=6.0,SNR=12
EKS2 Erkin-Say **45.41 300** P **P** **16 54 16.3 +1.4**
SNR=6.4
MTN Manton Dam **45.47 180** P **P** **16 54 14.5 -0.8**
MTN IAmb IAmb 16 54 18.3
comp=Z,104nm,0.9s
AML Almayashu **45.55 299** P **P** **16 54 17.5 +1.2**
SNR=27
AML Almayashu **45.55 299** P **P** **16 54 17.4 +1.1**
BRZS Berezniki **45.66 310** *eP* **P** **16 54 15.0 -1.6**
BRZS Berezniki **45.66 310** *eP* **P** **16 54 15.1 -1.6**
baz=310
GAMB Gambell **46.73 31** P **P** **16 54 25.3 +0.5**
baz=257,SNR=11
NIKH Nikolski High **46.95 46** P **P** **16 54 27.7 +1.1**
baz=270
BRVK Borovoye **47.14 314**⇑*iP* **P** **16 54 28.9 +0.7**
BRVK pmax pmax
comp=Z,289nm,1.3s
BRVK Borovoye **47.14 314** P **P** **16 54 28.4 +0.2**
DZA Taraz **47.17 300** *eP* **P** **16 54 27.3 -1.3**
DZA pmax pmax
comp=Z,49nm,1.3s
DZA Taraz **47.17 300** *eP* **P** **16 54 27.4 -1.3**
comp=Z,49nm,1.3s,baz=300
NIL Nilore **47.64 288** P **P** **16 54 33.2 +0.8**
NIL pmax pmax
comp=Z,125nm,2.4s
KK31 Karatay Array **47.73 301** *i*P **P** **16 54 33.3 +0.3**
BRLS Borolday **48.23 301** *eP* **P** **16 54 36.6 -0.2**
BRLS Borolday **48.23 301** *eP* **P** **16 54 36.6 -0.2**
baz=300
IUG Iuzhnay **48.23 299** *eP* **P** **16 54 35.7 -1.3**
IUG Iuzhnay **48.23 299** *eP* **P** **16 54 35.7 -1.3**
baz=300
KNRA Kununurra **48.33 183** P **P** **16 54 36.7 -0.9**
KNRA IAmb IAmb 16 54 41.4
comp=Z,104nm,0.8s
TNA Tin City **48.70 29** P **P** **16 54 40.6 +0.6**
baz=259,SNR=6.1
TAS Tashkent **48.92 299** P **P** **16 54 43.5 +1.3**
ANM Nome **49.60 31** P **P** **16 54 47.3 +0.3**
baz=262,SNR=11
KBL Kabul **50.74 290** P **P** **16 54 57.0 +0.6**
KBL pmax pmax
comp=Z,54nm,1.0s
KBL Kabul **50.74 290** P **P** **16 54 57.0 +0.6**
FITZ Fitzroy Crossi **50.94 186** P **P** **16 54 56.5 -1.1**
comp=Z,46nm,1.0s,baz=17,slow=6.2,SNR=16
FITZ Fitzroy Crossi **50.94 186** P **P** **16 54 56.8 -0.8**
RDOG Red Dog Mine **51.08 26** P **P** **16 54 57.9 -0.2**
baz=262,SNR=8.7
SDPT Sand Point **51.79 43** P **P** **16 55 02.8 -0.8**
baz=274
WB0 Warramunga Arr **52.46 176** P **P** **16 55 08.4 -0.5**
SVE Sverdlovsk **52.57 319** *eP* **P** **16 55 10.1 +0.7**
SVE pmax pmax
comp=Z,173nm,1.1s
WRAB Tennant Creek **52.62 176** P **P** **16 55 08.8 -1.3**
WRAB pmax pmax
comp=Z,59nm,0.9s
WRAB Tennant Creek **52.62 176** P **P** **16 55 08.8 -1.3**
WRA Warramunga Arr **52.63 176** P **P** **16 55 08.9 -1.3**
comp=Z,44nm,0.9s,baz=352,slow=8.1,SNR=22
WRA Warramunga Arr **52.63 176***ceP* **P** **16 55 08.8 -1.3**
WRA pmax pmax
comp=Z,46nm,0.9s
WRA Warramunga Arr **52.63 176** P **P** **16 55 09.0 -1.1**
WB2 Warramunga Arr **52.63 176** P **P** **16 55 09.6 -0.6**
WB2 IAmb IAmb 16 55 12.3
comp=Z,68nm,0.8s
WR0 Warramunga Arr **52.66 176** P **P** **16 55 09.8 -0.6**
WR0 IAmb IAmb 16 55 14.0
comp=Z,103nm,0.9s
PALK Pallekele **52.95 253** P **P** **16 55 14.3 +1.5**
PALK pmax pmax
comp=Z,59nm,1.1s
GCSA Galena City Sc **53.26 31** P **P** **16 55 13.9 -0.5**
baz=270
A21K Barrow **53.63 22** P **P** **16 55 16.8 -0.2**
baz=265
TTA Tatalina **53.68 33** P **P** **16 55 18.0 +0.4**
baz=272,SNR=13
ARU Arti **53.75 319***c iP* **P** **16 55 18.4 +0.3**
ARU S **S** **17 02 57.0 +5.2**
ARU SS **SS** **17 06 35.6 +3.4**
ARU pmax pmax
comp=Z,293nm,1.4s
ARU Arti **53.75 319** P **P** **16 55 18.4 +0.3**
N18K Kilae Creek **53.85 36** P **P** **16 55 18.9 +0.1**
N18K IAmb IAmb 16 55 21.4
comp=Z,118nm,1.4s
N18K Kilae Creek **53.85 36** P **P** **16 55 19.6 +0.8**
baz=274,SNR=12
AB31 Akbulak array **53.97 310** *i*P **P** **16 55 19.4 -0.4**
ABKAR Akbulak array **53.97 310** P **P** **16 55 20.1 +0.3**
ABKAR Akbulak array **53.97 310** P **P** **16 55 20.1 +0.3**
ABKAR IAmb IAmb 16 55 25.9
comp=Z,589nm,1.9s
L19K White Mountain **54.25 34** P **P** **16 55 22.5 +0.8**
L19K IAmb IAmb 16 55 28.0
comp=Z,101nm,1.4s
L19K White Mountain **54.25 34** P **P** **16 55 22.3 +0.5**
baz=274,SNR=18
O18K Koktuh Hills **54.26 37** P **P** **16 55 23.1 +1.3**
O18K IAmb IAmb 16 55 24.1
comp=Z,95nm,1.2s
O18K Koktuh Hills **54.26 37** P **P** **16 55 22.5 +0.8**
baz=275
P18K Big Mountain, **54.29 37** P **P** **16 55 22.8 +0.8**
P18K IAmb IAmb 16 55 23.8
comp=Z,57nm,1.1s
P18K Big Mountain, **54.29 37** P **P** **16 55 22.0 -0.1**
baz=275
J20K Nowinta River **54.46 31** P **P** **16 55 24.2 +1.1**
J20K IAmb IAmb 16 55 25.5
comp=Z,84nm,1.0s
J20K Nowinta River **54.46 31** P **P** **16 55 23.6 +0.5**
baz=273,SNR=29
CHIR Chirikof Islan **54.48 42** P **P** **16 55 23.9 +0.5**
CHIR Chirikof Islan **54.48 42** P **P** **16 55 23.3 -0.1**
baz=278
M19K Big River Lodg **54.49 34** P **P** **16 55 24.5 +1.1**
M19K Big River Lodg **54.49 34** P **P** **16 55 23.5 +0.1**
baz=274
N19K Bonanza Creek **54.53 35** P **P** **16 55 24.8 +0.9**
N19K Bonanza Creek **54.53 35** P **P** **16 55 24.6 +0.8**
baz=275,SNR=7.6
K20K Telida **54.54 32** IAmb IAmb 16 55 26.2
comp=Z,75nm,0.9s
K20K Telida **54.54 32** P **P** **16 55 24.6 +0.8**
baz=274,SNR=28
IMAR Indian Mountai **54.55 29** P **P** **16 55 24.1 +0.3**
O19K Port Alsworth **54.67 36** P **P** **16 55 25.2 +0.5**
baz=276,SNR=11
CTA Charters Tower **54.68 162** P **P** **16 55 24.8 -0.5**
comp=Z,38nm,1.0s,baz=331,slow=9.7,SNR=10.0
CTAO Charters Tower **54.68 162** P **P** **16 55 24.5 -0.8**
CTAO pmax pmax
comp=Z,89nm,1.2s
CTAO Charters Tower **54.68 162** P **P** **16 55 24.5 -0.8**
CTAO IAmb IAmb 16 55 28.4
comp=Z,89nm,1.1s
L20K Farewell, AK **54.69 33** P **P** **16 55 25.5 +0.6**
baz=274,SNR=19
MBWA Marble Bar **54.78 193** P **P** **16 55 25.1 -0.8**
H21K Melozitna Rive **54.95 29** P **P** **16 55 27.3 +0.6**
H21K Melozitna Rive **54.95 29** P **P** **16 55 27.7 +0.9**

baz=273,SNR=16
AKTO Aktyubinsk 54.97 312 P P 16 55 26.5 -0.6
baz=83,slow=7.9
Q19K Cape Douglas, 55.15 38 P P 16 55 28.0 -0.3
Q19K IAmb IAmb 16 56 49.5
comp=Z,90nm,1.1s
Q19K Cape Douglas, 55.15 38 P P 16 55 28.4 +0.1
baz=277
PSA00 Pilbara Seismi 55.16 193 P P 16 55 27.4 -1.3
PSA00 IAmb IAmb 16 55 30.5
comp=Z,77nm,1.0s
PSA00 Pilbara Seismi 55.16 193 P P 16 55 26.9 -1.8
PSA00 IAmb IAmb 16 55 30.5
comp=Z,42nm,0.9s
SII Sitkinak Islan 55.18 41 P P 16 55 28.9 +0.4
baz=278
P19K Oil Pt 55.27 37 P P 16 55 29.9 +0.7
baz=277
CHUM Lake Minchumin 55.28 32 P P 16 55 30.0 +0.9
baz=275,SNR=21
I21K Tanana 55.33 30 IAmb IAmb 16 55 31.8
comp=Z,74nm,1.0s
I21K Tanana 55.33 30 P P 16 55 30.3 +0.9
baz=274,SNR=26
CAST Castle Rocks 55.43 32 IAmb IAmb 16 55 32.5
comp=Z,71nm,1.0s
CAST Castle Rocks 55.43 32 P P 16 55 31.1 +0.9
baz=275,SNR=26
PPLA Purkeypile 55.43 33 IAmb IAmb 16 55 32.8
comp=Z,166nm,1.3s
PPLA Purkeypile 55.43 33 P P 16 55 31.4 +1.1
baz=276,SNR=17
OHAK Old Harbor 55.57 40 IAmb IAmb 16 55 32.4
comp=Z,126nm,1.2s
OHAK Old Harbor 55.57 40 P P 16 55 31.3 +0.1
baz=278,SNR=8.7
SPCR Spurr Chakacha 55.60 35 P P 16 55 31.8 +0.3
baz=277,SNR=17
BPAW Bear Paw Mtn. 55.85 31 IAmb IAmb 16 55 35.4
comp=Z,71nm,1.2s
BPAW Bear Paw Mtn. 55.85 31 P P 16 55 34.0 +0.8
baz=276,SNR=20
KDAK Kodiak Island 55.86 39 P P 16 55 33.2 -0.1
comp=Z,104nm,1.2s,baz=316,slow=4.3,SNR=13
KDAK Kodiak Island 55.86 39 P P 16 55 33.2 -0.1
KDAK pmax pmax
comp=Z,157nm,1.3s
KDAK Kodiak Island 55.86 39 P P 16 55 33.2 -0.1
KDAK IAmb IAmb 16 55 34.5
comp=Z,157nm,1.2s
KDAK Kodiak Island 55.86 39 P P 16 55 33.7 +0.3
baz=279
COLD Coldfoot 55.90 27 P P 16 55 34.2 +0.7
baz=274,SNR=12
TOLK Toolik Lake Re 56.03 26 P P 16 55 35.1 +0.5
baz=274,SNR=11
HOM Homer 56.07 37 P P 16 55 35.2 +0.4
baz=278
TRF Thorofare Moun 56.23 32 P P 16 55 36.2 +0.1
baz=277,SNR=9.3
H23K Yukon River 56.28 29 IAmb IAmb 16 55 39.0
comp=Z,118nm,0.9s
H23K Yukon River 56.28 29 P P 16 55 37.2 +0.9
baz=276,SNR=40
ASAR Alice Springs 56.30 177 P P 16 55 36.0 -0.9
comp=Z,71nm,1.0s,baz=7.0,slow=7.8,SNR=33
ASAR PKP2bc
comp=Z,5.5nm,1.2s,baz=160,slow=2.5,SNR=7.8 17 25 46.6
ASAR P4KPbc
comp=Z,0.9nm,1.2s,baz=353,slow=3.7,SNR=2.0 17 32 46.3
ASAR Alice Springs 56.30 177 P P 16 55 36.0 -0.9
CUT Chulitna 56.36 33 P P 16 55 36.5 -0.3
baz=278,SNR=7.5
I23K Minto, Yukon-K 56.43 30 P P 16 55 37.7 +0.4
baz=276,SNR=9.5
BRLK Bradley Lake 56.44 36 P P 16 55 38.1 +0.6
BRLK IAmb IAmb 16 55 39.5
comp=Z,67nm,1.0s
BRSE Bradley Lake S 56.51 36 P P 16 55 38.3 +0.3
baz=279,SNR=7.4
M22K Willow 56.52 34 P P 16 55 38.1 +0.1
baz=278,SNR=18
NEA2 Nenana 56.62 31 IAmb IAmb 16 55 40.7
comp=Z,114nm,1.0s
NEA2 Nenana 56.62 31 P P 16 55 39.6 +0.9
baz=277,SNR=41
MCK McKinley 56.79 32 IAmb IAmb 16 55 41.3
comp=Z,79nm,1.2s
MCK McKinley 56.79 32 P P 16 55 39.9 -0.1
baz=278,SNR=17
RC01 Rabbit Creek A 56.80 35 IAmb IAmb 16 55 41.1
comp=Z,107nm,1.2s
RC01 Rabbit Creek A 56.80 35 P P 16 55 40.0 -0.1
baz=279,SNR=16
RND Reindeer 56.87 32 IAmb IAmb 16 55 41.7
comp=Z,136nm,1.1s
O22K Cooper Landing 56.90 36 P P 16 55 40.5 -0.2
baz=279
H24K Noodor Dome 56.97 29 IAmb IAmb 16 55 43.7
comp=Z,94nm,1.1s
H24K Noodor Dome 56.97 29 P P 16 55 42.1 +0.9
baz=277,SNR=23
PMR Palmer 57.01 34 P P 16 55 41.5 0.0
baz=279,SNR=15
WAT1 Susitna Watana 57.09 33 P P 16 55 42.0 -0.1
baz=279
SEW Seward 57.10 36 IAmb IAmb 16 55 43.0
comp=Z,83nm,1.0s
SEW Seward 57.10 36 P P 16 55 42.0 -0.1
baz=280,SNR=8.3
TCOL CIGO, UAF Yank 57.10 30 P P 16 55 42.5 +0.5
baz=278
COLA College 57.10 30⇓ *eP* P 16 55 42.7 +0.6
COLA pmax pmax
comp=Z,91nm,1.5s
COLA College 57.10 30 P P 16 55 42.6 +0.6
baz=278
POKR Poker Plat Res 57.24 30 P P 16 55 44.0 +0.9
baz=278,SNR=26
SML Sawmill 57.35 34 IAmb IAmb 16 55 45.4
comp=Z,115nm,1.2s
SML Sawmill 57.35 34 P P 16 55 44.2 +0.2
baz=280,SNR=15
KNK Knik Glacier 57.36 34 IAmb IAmb 16 55 46.0
comp=Z,144nm,1.1s
KNK Knik Glacier 57.36 34 P P 16 55 44.0 0.0
baz=280,SNR=26
WAT6 Susitna Watana 57.50 33 P P 16 55 45.0 -0.1
baz=280,SNR=19
PWL Port Wells 57.51 35 IAmb IAmb 16 55 46.1
comp=Z,87nm,1.0s
PWL Port Wells 57.51 35 P P 16 55 45.1 0.0
baz=280,SNR=13
ILAR Eielson Array 57.53 30 P P 16 55 44.8 -0.3
comp=Z,16nm,1.0s,baz=280,slow=5.2,SNR=18
DHY Denali Highway 57.58 32 P P 16 55 45.5 -0.2
baz=280,SNR=14
M23K Glacier View 57.64 34 P P 16 55 46.0 0.0
baz=280
SCM Sheep Creek Mo 57.82 34 IAmb IAmb 16 55 48.9
comp=Z,158nm,1.2s
SCM Sheep Creek Mo 57.82 34 P P 16 55 47.1 -0.2
baz=280,SNR=20
GLI Glacier Island 58.10 35 P P 16 55 48.6 -0.6
baz=281,SNR=14
GEYT Alibeck 58.13 297 P P 16 55 50.2 +0.3
comp=Z,29nm,1.1s,baz=38,slow=2.6,SNR=13
K24K Donnelly Dome 58.16 31 P P 16 55 49.3 -0.3
baz=280
J25K Salcha River, 58.20 30 P P 16 55 49.2 -0.7
baz=280,SNR=10
KIRV Kirov 58.28 322⇑ *i* P P 16 55 50.5 +0.1
M24K Tolsona, Glenn 58.30 33 IAmb IAmb 16 55 54.6
comp=Z,101nm,1.1s
M24K Tolsona, Glenn 58.30 33 P P 16 55 51.1 +0.4
baz=281,SNR=8.6
FID Port Fidalgo 58.43 35 IAmb IAmb 16 55 52.8
comp=Z,116nm,1.1s
PAX Paxson 58.46 32 P P 16 55 52.0 +0.3
baz=281,SNR=17
KLU Klutina 58.54 34 IAmb IAmb 16 55 54.0
comp=Z,69nm,1.1s
KLU Klutina 58.54 34 P P 16 55 52.2 -0.2
baz=282,SNR=20
RIDG Independent Ri 58.58 31 P P 16 55 52.1 -0.5
baz=281,SNR=6.4
HARP HAARP 58.71 33 P P 16 55 54.2 +0.7
baz=282,SNR=11

EYAK Cordova Ski Ar 58.82 35 P P 16 55 54.7 +0.5
baz=282
SCRK Sand Creek 58.91 31 IAmb IAmb 16 55 56.0
comp=Z,107nm,1.0s
SCRK Sand Creek 58.91 31 P P 16 55 54.9 0.0
baz=282,SNR=34
DOT Dot Lake 58.94 31 IAmb IAmb 16 55 56.0
comp=Z,67nm,1.0s
J26L Joseph Creek 58.98 30 P P 16 55 54.9 -0.5
baz=282,SNR=14
N25K Chitina, Valde 59.14 34 IAmb IAmb 16 55 59.4
comp=Z,68nm,1.1s
N25K Chitina, Valde 59.14 34 P P 16 55 56.8 +0.3
baz=283,SNR=16
MENT Mentasta 59.25 32 IAmb IAmb 16 55 59.3
comp=Z,102nm,1.0s
BMRM Bremner River 59.28 34 P P 16 55 57.8 +0.4
baz=283,SNR=26
L26K Log Cabin Wild 59.39 32 P P 16 55 59.0 +0.8
baz=283,SNR=13
PRGR Permogore 59.47 326 *e*P P 16 55 54.1 -4.5
PRGR pmax pmax
comp=Z,69nm,0.9s
GLB Gilahina Butte 59.54 34 IAmb IAmb 16 56 01.2
comp=Z,88nm,1.1s
KAIM Kayak Island 59.61 36 P P 16 56 00.7 +1.1
baz=284
M26K Nabesna, AK 59.69 33 P P 16 56 00.9 +0.6
baz=284,SNR=38
VRDI Verde Repeater 59.76 34 IAmb IAmb 16 56 02.7
comp=Z,88nm,1.0s
MCARA McCarthy VSAT 59.92 34 P P 16 56 02.5 +0.7
baz=284,SNR=25
EGAK Eagle 59.93 30 P P 16 56 01.8 -0.1
baz=284,SNR=14
L27K Beaver Creek, 60.06 32 IAmb IAmb 16 56 05.0
comp=Z,93nm,1.0s
L27K Beaver Creek, 60.06 32 P P 16 56 03.5 +0.8
baz=284,SNR=39
M27K Edge Creek, AK 60.21 32 IAmb IAmb 16 56 05.9
comp=Z,60nm,0.8s
M27K Edge Creek, AK 60.21 32 P P 16 56 04.6 +0.6
baz=284,SNR=23
WAX Waxell Ridge 60.24 35 IAmb IAmb 16 56 06.0
comp=Z,114nm,1.1s
ISLE Juniper Island 60.44 34 IAmb IAmb 16 56 07.0
comp=Z,73nm,1.0s
BARN Barnard Glacie 60.64 34 IAmb IAmb 16 56 08.8
comp=Z,54nm,0.9s
BVCY Beaver Creek 60.65 32 P P 16 56 07.4 +0.5
baz=285,SNR=8.7
BELG Belogornoye 60.82 316⇓ *eP* P 16 56 07.5 -0.5
BELG pmax pmax
comp=Z,67nm,1.1s
CTG Chitna Glacier 60.82 34 P P 16 56 08.9 +0.7
baz=286,SNR=20
CTGM Chitina Glacie 60.82 34 IAmb IAmb 16 56 10.0
comp=Z,86nm,1.0s
DAWY Dawson 60.85 30 P P 16 56 08.2 0.0
baz=286,SNR=16
I29M Ogilvie Camp, 60.95 29 P P 16 56 09.4 +0.6
baz=286,SNR=26
YUK3 Moose Creek 61.01 33 P P 16 56 09.8 +0.3
baz=286,SNR=22
J29M Klondike Camp 61.24 30 P P 16 56 11.9 +1.1
baz=286,SNR=19
EPYK Eagle Plains 61.30 27 P P 16 56 11.6 +0.4
baz=287,SNR=49
PINM Pinnacle 61.58 35 P P 16 56 13.7 +0.5
baz=287
INK Inuvik 61.90 25 P P 16 56 15.1 0.0
comp=Z,55nm,1.0s,baz=288,slow=7.8,SNR=30
INK Inuvik 61.90 25 P P 16 56 15.1 0.0
INK pmax pmax
comp=Z,71nm,1.1s
INK Inuvik 61.90 25 P P 16 56 15.1 0.0
INK IAmb IAmb 16 56 16.5
comp=Z,71nm,1.1s
INK Inuvik 61.90 25 P P 16 56 15.6 +0.6
baz=288,SNR=39
YUK4 Talbot Arm 61.96 33 P P 16 56 16.6 +0.7
baz=288,SNR=28
PNL Peninsula 62.12 35 P P 16 56 17.6 +0.8
baz=288,SNR=18
YUK6 Outpost Mounta 62.22 33 P P 16 56 18.7 +1.1
baz=288,SNR=20
LVZ Lovozero 62.25 335⇓ *eP* P 16 56 16.1 -1.4
LVZ pmax pmax
comp=Z,88nm,1.3s
LVZ Lovozero 62.25 335 P P 16 56 17.2 -0.3
LVZ IAmb IAmb 16 56 19.1
comp=Z,133nm,1.5s
M30M Minto, Yukon 62.41 31 IAmb IAmb 16 56 22.7
comp=Z,61nm,1.1s
M30M Minto, Yukon 62.41 31 P P 16 56 19.9 +1.2
baz=288,SNR=32
MAYO Mayo, Yukon 62.48 30 P P 16 56 19.8 +0.7
baz=289
KLMR Klimovskoe 62.52 327 *eP* P 16 56 16.7 -2.7
KLMR pmax pmax
comp=Z,102nm,0.8s
KLMR Klimovskoe 62.52 327 *eP* P 16 56 16.8 -2.7
KLMR AMP 16 56 21.1
comp=Z,102nm,0.8s
HYT Haines Junctio 62.65 33 P P 16 56 21.5 +1.1
baz=289,SNR=40
APA Apatity 62.81 335⇓ *i* P P 16 56 19.4 -1.8
APA pmax pmax
comp=Z,64nm,1.1s
SPB2 Spitsbergen Ar 62.82 348 IAmb IAmb 16 56 33.1
comp=Z,98nm,1.0s
KBS Kingsbay 63.16 349 *c i* P P 16 56 23.9 +0.5
KBS pmax pmax
comp=Z,44nm,0.8s
KBS Kingsbay 63.16 349 *i* P P 16 56 22.7 -0.8
KBS IAmb IAmb 16 56 24.2
comp=Z,70nm,0.8s
A36M Sachs Harbour 63.21 20 P P 16 56 24.2 +0.4
baz=294,SNR=24
N31M Braeburn, Yuko 63.22 32 P P 16 56 25.4 +1.2
N31M Braeburn, Yuko 63.22 32 P P 16 56 25.3 +1.2
baz=290,SNR=41
FORT Forrest 63.37 183 P P 16 56 24.3 -1.0
WSAR Wadi Sirin 63.38 282 P P 16 56 25.7 -0.1
comp=Z,57nm,1.2s,baz=103,slow=6.0,SNR=7.0
M31M Drury Creek, Y 63.59 31 IAmb IAmb 16 56 28.6
comp=Z,51nm,1.1s
M31M Drury Creek, Y 63.59 31 P P 16 56 27.2 +0.6
baz=291,SNR=24
WHY Whitehorse 63.92 33 P P 16 56 29.8 +1.0
baz=291,SNR=39
MAK Makhachkala 64.01 306 *eP* P 16 56 25.1 -4.5
MAK *e* 16 58 49.5
MAK *e*PPP PPP 17 00 19.1
MAK *e*S S 17 05 00.0 -5.4
MAK pmax pmax
comp=Z,204nm,1.6s
FARO Faro, Yukon 64.04 31 P P 16 56 30.4 +0.8
baz=291
BANOM Banah 64.12 285 *i* P P 16 56 32.0 +1.4
SNR=14
KEV Kevo 64.13 338 P P 16 56 29.1 -0.8
KEV pmax pmax
comp=Z,117nm,1.1s
KEV Kevo 64.13 338 P P 16 56 29.1 -0.8
SKAG Skagway 64.14 34 P P 16 56 31.4 +1.3
baz=291,SNR=24
SHME Shamm 64.20 285 *i* P P 16 56 32.9 +1.9
SNR=16
MSFE Esma-Masafi 64.48 285 *i* P P 16 56 35.6 +2.6
SNR=13
NOR Nord 64.53 355 P P 16 56 32.1 -0.3
NOR pmax pmax
comp=Z,33nm,1.4s
NOR Nord 64.53 355 *i* P P 16 56 31.1 -1.3
NOR IAmb IAmb 16 56 36.2
comp=Z,12nm,0.7s
NOR Nord 64.53 355 *i* P P 16 56 30.4 -2.0
NOR IAmb IAmb 16 56 36.2
comp=Z,12nm,0.7s
UOSS Minazif 64.63 284 *i* P P 16 56 35.7 +1.8
SNR=8.5
VRH Novokhopyorsk 64.67 316 *eP* P 16 56 31.2 -2.6
VRH pmax pmax
comp=Z,80nm,1.1s
C36M Paulatuk 64.68 22 P P 16 56 33.6 +0.1
baz=296,SNR=58

ARCES ARCESS Array B 64.70 338 P P 16 56 33.1 -0.6
comp=Z,35nm,1.0s,baz=61,slow=8.3,SNR=23
ARCES ARCESS Array B 64.70 338 IAmb IAmb 16 56 36.8
comp=Z,90nm,1.2s
LKRN Lenkeran, Azer 64.72 301 P P 16 56 33.7 -0.6
HATD Hatta, Dubai 64.74 284 *i* P P 16 56 36.3 +1.6
SNR=13
MMPY Sheldon Lake, 64.79 30 P P 16 56 35.0 +0.6
baz=293
ASHO Ashiyiah 64.86 284 *i* P P 16 56 36.1 +0.6
SNR=25
SEKA Sheki 64.88 304 P P 16 56 35.1 -0.3
SIT Sitka 65.03 37 P P 16 56 35.8 -0.2
baz=292,SNR=9.5
MSF Maaselka 65.05 334 P P 16 56 35.5 -0.5
MSF pmax pmax
comp=Z,83nm,1.1s
NAZ Nazwa, Dubai 65.05 285 *i* P P 16 56 39.0 +2.3
SNR=6.5
GROC Groznyy 65.08 307 *eP* P 16 56 36.6 0.0
GROC *e* 16 57 09.9
GROC *e* 16 58 57.6
GROC pmax pmax
comp=Z,86nm,1.0s
ZKTA Zakatala 65.12 305 P P 16 56 36.8 -0.1
MNGR Mingechevir, A 65.13 304 P P 16 56 36.8 -0.1
STKA Stephens Creek 65.20 170 P P 16 56 37.0 -0.4
comp=Z,58nm,0.9s,baz=350,slow=6.5,SNR=20
STKA Stephens Creek 65.20 170 P P 16 56 36.9 -0.4
STKA pmax pmax
comp=Z,14nm,0.9s
STKA Stephens Creek 65.20 170 P P 16 56 36.9 -0.4
FAQ Al Faqa, Dubai 65.21 284 *i* P P 16 56 39.0 +1.2
SNR=27
MOS Moscow 65.25 322 *eP* P 16 56 33.5 -4.0
MOS pmax pmax
comp=Z,440nm,1.6s
MOS pmax pmax
comp=N,182nm,1.3s
MOS pmax pmax
comp=E,197nm,1.3s
LGD Lagodekhi 65.30 305 P P 16 56 38.4 +0.3
ALNE Al Ain 65.39 284 *i* P P 16 56 39.6 +0.7
SNR=10
EUNU Eureka 65.44 7 P P 16 56 38.5 +0.1
EUNU IAmb IAmb 16 56 39.7
comp=Z,42nm,0.9s
ASUD Al Ashush, Dub 65.48 284 *i* P P 16 56 44.0 +4.5
SNR=5.4
DDFL Dedoflistskaro 65.54 305 P P 16 56 42.8 +3.1
GANJ Ganja 65.71 304 P P 16 56 40.6 -0.2
LPSR Galich'ya Gora 65.75 318 *eP* P 16 56 37.8 -2.9
LPSR pmax pmax
comp=Z,190nm,1.1s
AJN Ajban 65.79 284 *i* P P 16 56 42.2 +0.8
SNR=6.8
VORR Voronezh 65.95 317 *eP* P 16 56 41.6 -0.4
VORR pmax pmax
comp=Z,211nm,1.3s
OBN Obninsk 66.05 321 ⇑ P P 16 56 42.2 -0.4
OBN Obninsk 66.05 321⇓ *eP* P 16 56 41.9 -0.7
OBN *e* 16 57 12.2
OBN *e* 16 59 07.6
OBN pmax pmax
comp=Z,274nm,1.3s
OBN MLR MLR
comp=Z,80μm,16.0s
VSR Storozhevoye 66.15 317 *eP* P 16 56 39.7 -3.7
VSR pmax pmax
comp=Z,190nm,1.1s
VORD Divnogorie 66.18 316 *eP* P 16 56 41.6 -1.9
VORD pmax pmax
comp=Z,80nm,1.1s
GOF Gofitskoye 66.19 309⇑ *eP* P 16 56 43.6 -0.1
GOF pmax pmax
comp=Z,204nm,0.9s
VALR Valaam 66.23 329 *d i* P P 16 56 42.6 -1.0
VALR pmax pmax
comp=Z,175nm,0.9s
NCK Nalchik 66.44 308⇑ *eP* P 16 56 45.7 +0.3
NCK pmax pmax
comp=Z,86nm,1.2s
ZEI Tsey 66.52 307 *eP* P 16 56 42.1 -4.1
ZEI pmax pmax
comp=Z,143nm,1.4s
TGTN Hyland Airport 66.53 31 P P 16 56 46.4 +0.8
baz=296,SNR=29
OUL Oulu 66.59 334 P P 16 56 45.2 -0.7
OUL pmax pmax
comp=Z,83nm,1.4s
CRAG Craig 66.79 38 P P 16 56 48.0 +0.7
baz=294
WRAK Wrangell Islan 66.79 37 P P 16 56 47.6 +0.3
baz=295
KBZ Khabaz 66.82 308 P P 16 56 47.9 +0.1
comp=Z,100nm,0.9s,baz=67,slow=4.8,SNR=33
KBZ Khabaz 66.82 308⇓ *i* P P 16 56 47.8 +0.1
KBZ pmax pmax
comp=Z,186nm,1.0s
KIV Kislovodsk 66.86 308 *eP* P 16 56 48.0 -0.2
KIV pmax pmax
comp=Z,306nm,1.1s
KIV Kislovodsk 66.86 308 P P 16 56 48.2 0.0
KIV Kislovodsk 66.86 308 *i* P P 16 56 49.0 +0.8
SNR=23
NAX Nakhchivan 66.89 303 P P 16 56 46.9 -1.5
WTLY Watson Lake, Y 66.91 32 P P 16 56 48.7 +0.6
baz=296
GNI Garni 67.02 304 P P 16 56 50.3 +1.0
comp=Z,297nm,1.4s,baz=47,slow=1.5,SNR=12
GNI Garni 67.02 304⇓ *eP* P 16 56 49.7 +0.4
GNI pmax pmax
comp=Z,225nm,1.3s
GNI Garni 67.02 304 P P 16 56 50.5 +1.2
NEY Neytrino 67.13 308 *c i* P P 16 56 51.2 +1.2
NEY pmax pmax
comp=Z,66nm,1.3s
PUL Pulkovo 67.17 327⇓ *i* P P 16 56 49.8 +0.2
PUL pmax pmax
comp=Z,281nm,1.7s
AKH Akhalkalaki 67.36 305 ⇑ P P 16 56 52.7 +1.2
AKH Akhalkalaki 67.36 305 P P 16 56 52.6 +1.2
MSVF Nonsavu 67.57 131 P P 16 56 53.8 +1.0
comp=Z,15nm,0.8s,baz=220,slow=9.1,SNR=4.2
MZR Muzera 67.72 284 *i* P P 16 56 53.5 -0.4
SNR=22
WRGLY Wrigley 67.74 28 P P 16 56 54.0 +0.8
baz=299,SNR=12
CHVG Ch'k'valeri 67.77 307 ⇓ P P 16 56 55.4 +1.5
DIB Dawson Inlet, 68.10 40 P P 16 56 55.8 +0.1
DIB IAmb IAmb 16 57 52.5
comp=Z,126nm,1.6s
FIA1 FINESS Array S 68.25 330 P P 16 56 55.2 -1.2
FIA1 IAmb IAmb 16 56 56.7
comp=Z,92nm,1.0s
FINES FINESS Array B 68.25 330 P P 16 56 55.6 -0.8
comp=Z,35nm,0.7s,baz=72,slow=8.2,SNR=29
FINES FINESS Array B 68.25 330 P P 16 56 55.4 -1.0
SHAO Shalim 68.29 278 P P 16 56 57.3 -0.1
RES Resolute Bay 68.60 12 P P 16 56 58.5 +0.1
RES pmax pmax
comp=Z,74nm,1.0s
RES Resolute Bay 68.60 12 P P 16 56 58.5 +0.1
RES IAmb IAmb 16 56 59.7
comp=Z,74nm,1.0s
SOC Sochi 68.97 309 *eP* P 16 56 59.3 -2.0
SOC *e* 16 59 35.6
SOC *e*PPP PPP 17 01 15.6
SOC *e*S S 17 06 04.3 -1.3
SOC *e*SS SS 17 10 28.2 -2.4
SOC pmax pmax
comp=Z,131nm,1.1s
DAG Danmarks Havn 68.97 353 P P 16 57 00.0 -0.8
DAG pmax pmax
comp=Z,171nm,1.2s
DAG Danmarks Havn 68.97 353 *i* P P 16 56 59.0 -1.8
DAG IAmb IAmb 16 57 02.2
comp=Z,34nm,0.8s
DAG Danmarks Havn 68.97 353 *i* P P 16 56 58.5 -2.2
DAG IAmb IAmb 16 57 02.4
comp=Z,34nm,0.8s
VSU Vasula 69.42 327⇓ *eP* P 16 57 03.1 -0.7
VSU pmax pmax
comp=Z,309nm,0.9s
VSU Vasula 69.42 327 *eP* P 16 57 03.5 -0.3

MEF Metsahovi 69.57 329 *e*P P **16 57 04.2 -0.5**
ANN Anapa 69.91 311 *e*P P **16 57 06.6 -0.5**
ANN *e*S **S 17 06 18.8 +2.2**
ANN pmax pmax
comp=Z,377nm,1.3s
CAN Canberra 69.94 164 P P **16 57 07.5 +0.3**
CAN pmax pmax
comp=Z,69nm,1.2s
CAN Canberra 69.94 164 P P **16 57 07.5 +0.3**
CAN IAmb IAmb 16 57 13.2
comp=Z,69nm,1.2s
TULEG Thule 70.14 5 *i* P P **16 57 06.0 -2.0**
TULEG IAmb IAmb 16 57 08.2
comp=Z,27nm,0.9s
TULEG Thule 70.14 5 *i* P P **16 57 05.5 -2.5**
TULEG IAmb IAmb 16 57 08.3
comp=Z,27nm,0.9s
RAF Rauma 70.26 331 *e*P P **16 57 08.5 -0.4**
MTSE Matsula 70.61 328 *e*P P **16 57 10.6 -0.5**
IDID Didziasalis 70.98 324 *e*P P **16 57 13.7 +0.2**
ISAL Salakas 71.15 325 *e*P P **16 57 15.0 +0.5**
NACGM Naroch 71.17 324 *e*P P **16 57 14.6 0.0**
IIGN Ignalina 71.22 324 *e*P P **16 57 15.4 +0.6**
DBG Daneborg 71.37 352 *i* P P **16 57 12.4 -3.1**
DBG IAmb IAmb 16 57 39.4
comp=Z,8.1nm,0.8s
DBG Daneborg 71.37 352 *i* P P **16 57 11.8 -3.6**
DBG IAmb IAmb 16 57 39.4
comp=Z,8.1nm,0.8s
TOO Toolangi 71.40 168 P P **16 57 16.6 +0.5**
TOO pmax pmax
comp=Z,89nm,1.3s
TOO Toolangi 71.40 168 P P **16 57 16.6 +0.5**
TOO IAmb IAmb 16 57 19.8
comp=Z,89nm,1.3s
AAL Aland 71.45 330 *e*P P **16 57 15.3 -0.9**
YKA Yellowknife Ar 71.55 26 P P **16 57 17.0 +0.2**
comp=Z,17nm,0.8s,baz=301,slow=5.9,SNR=30
YKA Yellowknife Ar 71.55 26 *ce*P P **16 57 16.7 0.0**
YKA pmax pmax
comp=Z,17nm,0.8s
YKA Yellowknife Ar 71.55 26 P P **16 57 16.8 0.0**
SLIT Slitere, Latvi 71.87 328 *e*P P **16 57 18.1 -0.6**
SIM Simferopol' 71.94 312 *e*P P **16 57 18.1 -1.3**
SIM *e**PP **pP 16 57 23.0 -1.1**
SIM pmax pmax
comp=Z,208nm,1.2s
AKASG Malin Array Be 72.01 319 P P **16 57 19.1 -0.7**
comp=Z,65nm,0.7s,baz=48,slow=5.8,SNR=56
AKBB Malin Array Si 72.01 319 *d* iP P **16 57 18.6 -1.1**
AKBB pmax pmax
comp=Z,171nm,0.9s
AKBB Malin Array Si 72.01 319 P P **16 57 18.6 -1.1**
PABE Paberze 72.23 325 *e*P P **16 57 20.8 -0.2**
KVT Kavak 72.53 308 P P **16 57 24.2 +1.1**
SOCY Socotra 72.55 273 P P **16 57 22.3 -1.4**
UPP Uppsala 72.61 331 *e*P P **16 57 22.4 -0.7**
DIKM Dikmen 72.78 309 ⇓P P **16 57 24.8 +0.3**
PBUR Paburge 72.92 326 *e*P P **16 57 25.2 +0.2**
SUW Suwalki 73.43 324 P P **16 57 27.7 -0.4**
SUW pmax pmax
comp=Z,169nm,1.2s
SUW Suwalki 73.43 324 *e*P P **16 57 28.0 -0.1**
SORM Soroca 73.80 317 ⇑P P **16 57 29.7 -0.7**
SORM Soroca 73.80 317 P P **16 57 29.7 -0.7**
VIKU Vikbolandet 73.80 330 *e*P P **16 57 29.7 -0.5**
NC405 NORSAR Array S 74.14 334 IAmb IAmb 16 57 32.1
comp=Z,116nm,0.9s
MILM Milestii Mici 74.17 316 ⇑P P **16 57 32.7 +0.1**
MILM Milestii Mici 74.17 316 *e*P P **16 57 31.0 -1.6**
MILM pmax pmax
comp=Z,160nm,1.0s
NC303 NORSAR Array S 74.20 334 IAmb IAmb 16 57 35.2
comp=Z,105nm,1.5s
NB201 NORSAR Array S 74.34 334 IAmb IAmb 16 57 33.2
comp=Z,79nm,0.9s
NB2 NORSAR Subarra 74.38 334 P P **16 57 31.9 -1.7**
comp=Z,44nm,1.1s,baz=50,slow=6.2
NB2 NORSAR Subarra 74.38 334 P P **16 57 31.9 -1.7**
baz=50,slow=6.2
NOA NORSAR Array B 74.38 334 P P **16 57 32.1 -1.5**
comp=Z,17nm,0.8s,baz=49,slow=5.7,SNR=27
NOA PP **PP 17 00 17.9 -1.2**
comp=Z,12nm,1.1s,baz=47,slow=8.8,SNR=4.1
NC204 NORSAR Array S 74.39 334 IAmb IAmb 16 57 33.5
comp=Z,61nm,0.9s
NC602 NORSAR Array S 74.45 334 IAmb IAmb 16 57 35.5
comp=Z,214nm,1.8s
NORES NORESS Array B 74.45 334 P P **16 57 32.7 -1.3**
KLNR Kaliningrad 74.53 326 ⇓*e*P P **16 57 33.5 -1.0**
KLNR pmax pmax
comp=Z,108nm,1.2s
NBO00 NORSAR Array S 74.54 334 IAmb IAmb 16 57 36.3
comp=Z,178nm,1.6s
IAS Iasi 74.75 317 ⇑P P **16 57 35.8 -0.2**
IAS Iasi 74.75 317 P P **16 57 35.9 -0.1**
IAS pmax pmax
comp=Z,541nm,1.3s
BR131 Keskin Array S 74.80 308 P P **16 57 37.2 +0.6**
BR131 pmax pmax
comp=Z,221nm,1.1s
BR131 Keskin Array S 74.80 308 P P **16 57 37.2 +0.6**
BRTR Keskin Array B 74.80 308 P P **16 57 36.6 +0.1**
comp=Z,140nm,1.1s,baz=96,slow=3.7,SNR=58
BRTR PP **PP 17 00 20.2 -3.3**
comp=Z,5.0nm,1.1s,baz=66,slow=7.9,SNR=2.5
BRTR Keskin Array B 74.80 308 P P **16 57 36.9 +0.3**
BRTR Keskin Array B 74.80 308 P P **16 57 36.9 +0.3**
VASR Vaslui 74.91 316 ⇓P P **16 57 37.0 +0.1**
TLCR 75.07 314 ⇓P P **16 57 38.0 +0.2**
TLCR 75.07 314 P P **16 57 38.0 +0.2**
SCO Scoresbysund 75.09 351 P P **16 57 37.9 +0.4**
SCO pmax pmax
comp=Z,50nm,1.4s
SCO Scoresbysund 75.09 351 *i* P P **16 57 35.5 -2.0**
SCO IAmb IAmb 16 57 43.6
comp=Z,7.1nm,0.7s
VLDR Vladesti 75.16 315 ⇓P P **16 57 38.2 -0.2**
BIR Birlad 75.20 316 ⇑P P **16 57 38.7 0.0**
BIR Birlad 75.20 316 P P **16 57 38.6 0.0**
VARL Varlezi 75.27 315 ⇑P P **16 57 40.3 +1.3**
ANTO Ankara 75.29 308 P P **16 57 39.9 +0.6**
SCTR Scanteiesti 75.30 315 ⇓P P **16 57 39.4 +0.3**
LVV L'vov 75.30 320 *e*P P **16 57 39.4 +0.3**
GHRR 75.44 316 ⇑P P **16 57 40.6 +0.7**
CFR Carcaliu 75.48 315 ⇑P P **16 57 40.3 +0.1**
CFR Carcaliu 75.48 315 P P **16 57 40.2 +0.1**
SLCR Slobozia Conac 75.48 315 ⇓P P **16 57 41.1 +0.9**
TPGR Topolog 75.48 314 ⇑P P **16 57 40.5 +0.2**
SCHL Schela 75.49 315 ⇓P P **16 57 41.1 +0.9**
IZVR Izvoarele 75.51 315 ⇑P P **16 57 40.6 +0.3**
TESR Tescani 75.64 316 ⇓P P **16 57 41.0 -0.2**
TIRR Tirgusor 75.69 314 ⇓P P **16 57 41.2 -0.3**
TIRR Tirgusor 75.69 314 P P **16 57 41.1 -0.3**
TIRR pmax pmax
comp=Z,222nm,1.2s
PANC Panciu 75.70 316 ⇓P P **16 57 42.2 +0.7**
EFOR EFORIE 75.76 313 ⇓P P **16 57 42.0 +0.2**
ODBI Odobesti 75.81 315 ⇓P P **16 57 42.5 +0.4**
MFTR Murfatlar 75.84 314 ⇑P P **16 57 42.4 +0.2**
BEL Belsk 75.85 323 P P **16 57 42.9 +0.7**
BEL pmax pmax
comp=Z,279nm,1.2s
BUR08 Bucovina Ar. S 75.86 318 P P **16 57 42.7 +0.2**
HARR Harsova 75.86 314 ⇓P P **16 57 42.3 -0.1**
HARR Harsova 75.86 314 P P **16 57 42.2 -0.1**
BURAR Bucovina Array 75.86 318 ⇑P P **16 57 42.9 +0.4**
BURAR Bucovina Array 75.86 318 P P **16 57 42.2 -0.3**
BURAR pmax pmax
comp=Z,135nm,0.9s
BURAR Bucovina Array 75.86 318 P P **16 57 42.9 +0.4**
TLBR Topalu 75.87 314 ⇓P P **16 57 43.0 +0.5**
MANR Mangalia 75.93 313 ⇓P P **16 57 43.3 +0.5**
VRI Vrincioaia 75.95 316 ⇓P P **16 57 43.0 +0.1**
VRI Vrincioaia 75.95 316 P P **16 57 43.1 +0.1**
VRI pmax pmax
comp=Z,378nm,1.3s
PLOR Plostina 76.00 316 ⇑P P **16 57 43.6 +0.3**
PLOR Plostina 76.00 316 P P **16 57 43.5 +0.3**
GRER 76.06 315 ⇓P P **16 57 44.4 +0.9**
D03D Eldon 76.12 42 P P **16 57 43.9 +0.1**
baz=304,SNR=6.6
KWP Kalwaria Pacla 76.12 320 P P **16 57 44.3 +0.5**
KWP pmax pmax
comp=Z,326nm,1.2s
BISRR Bisoca 76.13 315 ⇑P P **16 57 45.3 +1.2**
ICOR Ion Corvin 76.25 314 ⇑P P **16 57 45.4 +0.8**
AMRR Amara 76.27 314 ⇓P P **16 57 46.1 +1.4**
DEL Delary 76.27 329 *e*P P **16 57 43.3 -1.2**
COVR Voineasa-Covas 76.27 316 ⇓P P **16 57 45.3 +0.6**
B05A Bryant 76.27 41 P P **16 57 44.8 +0.2**
baz=304,SNR=5.8
ASF Jabal al Asfar 76.30 299 P P **16 57 45.4 +0.2**
comp=Z,130nm,1.1s,baz=27,slow=1.1,SNR=11
PGOR Pogoanele 76.31 315 ⇓P P **16 57 45.9 +1.0**
OZUR 76.37 316 ⇓P P **16 57 46.1 +0.7**
NEHR Nehoiu 76.44 315 ⇓P P **16 57 46.1 +0.4**
ISR Istrita 76.46 315 ⇑P P **16 57 46.9 +0.9**
ISR Istrita 76.46 315 P P **16 57 46.8 +0.9**
MLR Muntele Rosu 76.61 316 ⇓P P **16 57 46.9 0.0**
MLR Muntele Rosu 76.61 316 P P **16 57 46.8 0.0**
MLR pmax pmax
comp=Z,272nm,1.4s
MLR Muntele Rosu 76.61 316 P P **16 57 46.8 0.0**
ARCR ARCALIA 76.65 318 ⇑P P **16 57 47.9 +1.0**
LEHL Lehliu 76.65 314 ⇑P P **16 57 47.8 +0.9**
BSD Bornholm Skovb 76.67 328 P P **16 57 45.8 -0.9**
BSD pmax pmax
comp=Z,76nm,1.3s
BSD Bornholm Skovb 76.67 328 *e*P P **16 57 46.7 -0.1**
BSD Bornholm Skovb 76.67 328 *i* P P 16 57 40.3 -6.5
BSD IAmb IAmb 16 57 52.2
comp=Z,26nm,0.7s
BSD Bornholm Skovb 76.67 328 *i* P P **16 57 45.0 -1.7**
BSD IAmb IAmb 16 57 52.4
comp=Z,26nm,0.7s
DOPR Dopca 76.67 316 ⇓P P **16 57 47.5 +0.4**
GKP Gorka Klasztor 76.74 326 P P **16 57 47.4 +0.2**
GKP pmax pmax
comp=Z,117nm,1.3s
GKP Gorka Klasztor 76.74 326 *e*P P **16 57 47.6 +0.4**
SECR 76.79 315 ⇓P P **16 57 48.4 +0.7**
BMR Baia Mare 76.80 319 ⇑P P **16 57 48.5 +0.8**
BMR Baia Mare 76.80 319 P P **16 57 48.3 +0.6**
BMR pmax pmax
comp=Z,155nm,1.4s
SULR 76.88 315 ⇑P P **16 57 48.7 +0.6**
UZH Uzhgorod 76.92 320 *d* iP P **16 57 47.7 -0.6**
UZH *i* 16 57 55.0
TAU Tasmania Unive 76.92 168 P P **16 57 48.1 0.0**
TAU pmax pmax
comp=Z,88nm,1.1s
TAU Tasmania Unive 76.92 168 P P **16 57 48.1 0.0**
TAU IAmb IAmb 16 57 53.3
comp=Z,88nm,1.1s
E04D Cinebar 76.96 43 P P **16 57 48.9 +0.3**
baz=304
TRPA Tarpa 77.07 319 P P **16 57 52.2 +3.0**
VOIR 77.17 316 P P **16 57 50.5 +0.6**
VOIR pmax pmax
comp=Z,29nm,1.1s
CRVS Cervenica-Dubn 77.21 320 *e*P P **16 57 50.4 +0.4**
CRVS pmax pmax
comp=Z,238nm,1.4s
CRVS Cervenica-Dubn 77.21 320 *e*P P **16 57 50.4 +0.4**
CJR Cluj-Napoca 77.28 318 ⇑P P **16 57 51.2 +0.7**
CJR Cluj-Napoca 77.28 318 P P **16 57 51.2 +0.7**
OJC Ojcow 77.31 322 P P **16 57 50.6 +0.1**
OJC pmax pmax
comp=Z,210nm,1.3s
G03D McMinnville, O 77.31 44 P P **16 57 51.2 +0.6**
baz=304
RAZG Razgrad 77.33 314 ⇑P P **16 57 51.0 +0.2**
MESR Meseseni 77.40 318 ⇑P P **16 57 51.5 +0.5**
ARR Arges 77.45 316 ⇓P P **16 57 52.2 +0.7**
NIE Niedzica 77.52 321 P P **16 57 52.9 +1.1**
NIE pmax pmax
comp=Z,96nm,1.2s
HUMR Humele 77.72 315 ⇑P P **16 57 52.5 -0.4**
DRGR 77.74 318 ⇓P P **16 57 53.2 +0.1**
DRGR 77.74 318 P P **16 57 53.4 +0.3**
DRGR pmax pmax
comp=Z,109nm,1.4s
COPA Copaceanca 77.80 315 ⇓P P **16 57 54.0 +0.7**
GOET G??ttrup 77.82 332 *i* P P **16 57 51.0 -2.2**
GOET IAmb IAmb 16 57 59.3
comp=Z,41nm,0.8s
LTVH Ltavrtes, Hu 77.85 319 P P **16 57 53.8 +0.2**
ISP Isparta 77.87 307 P P **16 57 53.8 -0.2**
ISP pmax pmax
comp=Z,81nm,1.8s
LOT Lotru 77.91 317 ⇓P P **16 57 54.6 +0.6**
F05D White Salmon 77.97 43 P P **16 57 54.8 +0.5**
baz=305
KECS Kecovo 77.98 320 *e*P P **16 57 55.1 +0.8**
KECS pmax pmax
comp=Z,51nm,0.9s
KECS Kecovo 77.98 320 *e*P P **16 57 55.1 +0.8**
H04D Lebanon 78.01 45 P P **16 57 55.0 +0.5**
baz=304
ICESG Greenland Ices 78.09 357 *i* P P **16 57 52.5 -2.5**
ICESG IAmb IAmb 16 58 01.1
comp=Z,26nm,0.8s
ICESG Greenland Ices 78.09 357 *i* P P **16 57 53.8 -1.1**
ICESG IAmb IAmb 16 58 01.2
comp=Z,26nm,0.8s
I03D Drain, OR 78.11 46 P P **16 57 55.6 +0.5**
baz=304
LANS Liptovska Anna 78.12 321 *e*P P **16 57 56.1 +0.9**
LANS pmax pmax
comp=Z,66nm,1.1s
LANS Liptovska Anna 78.12 321 *e*P P **16 57 56.0 +0.9**
DEV Deva 78.16 317 ⇑P P **16 57 56.1 +0.9**
DEV Deva 78.16 317 P P **16 57 56.2 +0.9**
DEV pmax pmax
comp=Z,144nm,1.2s
MUD Monsted U'grnd 78.23 331 P P **16 57 55.1 -0.4**
MUD Monsted U'grnd 78.23 331 *i* P P **16 57 52.8 -2.7**
MUD IAmb IAmb 16 58 13.2
comp=Z,17nm,0.8s
MUD Monsted U'grnd 78.23 331 *i* P P **16 57 53.0 -2.5**
MUD IAmb IAmb 16 58 13.3
comp=Z,17nm,0.8s
SOEG Soedalen 78.35 353 *i* P P **16 57 54.6 -1.3**
SOEG IAmb IAmb 16 58 00.9
comp=Z,11nm,0.6s
VLAD Vladila 78.36 315 ⇓P P **16 57 56.5 +0.1**
OKC Ostrava-Krasne 78.39 322 *e*P P **16 57 57.0 +0.5**
OKC Ostrava-Krasne 78.39 322 *e*P P **16 57 57.0 +0.5**
G05D Wamic, OR 78.43 43 P P **16 57 57.3 +0.4**
baz=305
K02D Willamette Mer 78.48 46 P P **16 57 57.3 0.0**
baz=304
GZR Gura Zlata 78.51 317 ⇓P P **16 57 57.4 0.0**
I04A Tendick Farm, 78.61 45 P P **16 57 58.1 +0.2**
baz=305
PSZ Piszkesteto 78.63 320 ⇓P P **16 57 58.5 +0.5**
PSZ Piszkesteto 78.63 320 P P **16 57 58.3 +0.3**
PSZ pmax pmax
comp=Z,218nm,1.4s
PSZ Piszkesteto 78.63 320 P P **16 57 58.5 +0.5**
SIRR Siria 78.64 318 ⇑P P **16 57 58.2 +0.2**
SRE Strehaia 78.68 316 ⇑P P **16 57 58.8 +0.5**
SRE Strehaia 78.68 316 P P **16 57 58.7 +0.5**
KSP Ksiaz 78.70 324 P P **16 57 58.4 +0.2**
KSP pmax pmax
comp=Z,139nm,1.3s
MORC Moravsky Berou 78.74 323 ⇑P P **16 57 58.9 +0.4**
MORC Moravsky Berou 78.74 323 P P **16 57 58.5 0.0**
MORC pmax pmax
comp=Z,99nm,1.2s
MORC Moravsky Berou 78.74 323 *e*P P **16 57 58.2 -0.3**
BSZH Besenyszg 78.80 320 P P **16 57 59.3 +0.5**
L02E Cave Junction 78.82 47 P P **16 57 59.3 +0.2**
baz=304
VYHS Vyhne 78.85 321 *e*P P **16 57 59.7 +0.6**
VYHS pmax pmax
comp=Z,91nm,1.2s
VYHS Vyhne 78.85 321 *e*P P **16 57 59.7 +0.6**
ELL Elmali 78.86 307 P P **16 57 59.4 -0.1**
RUE Ruedersdorf 78.87 326 *e*P P **16 57 59.7 +0.7**
RUE Ruedersdorf 78.87 326 *e*P P **16 57 58.8 -0.2**
baz=46,slow=5.2
OSTC Ostas 78.92 324 *e*P P **16 57 59.6 +0.1**
KRLC Kraliky 78.94 323 *e*P P **16 57 59.4 -0.2**
KRLC Kraliky 78.94 323 *e*P P **16 57 59.4 -0.2**
NEW Newport 78.97 39 P P **16 57 59.7 -0.1**
NEW pmax pmax
comp=Z,32nm,2.1s
NEW Newport 78.97 39 P P **16 57 59.6 -0.1**
baz=308,SNR=10
CHVC Chvalec 78.98 324 *e*P P **16 57 59.5 -0.3**
CHVC *ex* x 16 58 06.3
DPC Dobruska-Polom 79.00 324 *e*P P **16 58 00.0 +0.1**
DPC Dobruska-Polom 79.00 324 *e*P P **16 58 00.0 +0.1**
HERR Herculane 79.02 317 ⇑P P **16 58 00.0 0.0**
KOLL Kolacno 79.03 321 *e*P P **16 58 00.8 +0.8**
BZS Buzias 79.04 318 ⇑P P **16 57 59.9 -0.2**
BZS Buzias 79.04 318 P P **16 57 59.8 -0.4**
BZS pmax pmax
comp=Z,89nm,1.3s
UPC Upice 79.05 324 P P **16 58 00.1 -0.1**
UPC pmax pmax
comp=Z,71nm,1.3s
PUNG Punghina 79.06 316 ⇓P P **16 58 00.7 +0.4**
DJES Djerdap 79.08 316 ⇑P P **16 58 01.0 +0.5**
ALN Alexandroupoli 79.10 312 P P **16 58 00.8 +0.2**
ALN pmax pmax
comp=Z,123nm,1.3s
J04D Umpqua Nationa 79.11 45 P P **16 58 00.9 0.0**
baz=305
AMBH Ambrzfalva 79.11 319 P P **16 58 01.4 +0.8**
JAVC Velka Javorina 79.24 322 *e*P P **16 58 02.0 +0.7**
BUD Budapest 79.36 320 P P **16 58 02.6 +0.7**
BUD pmax pmax
comp=Z,93nm,1.2s
BUD Budapest 79.36 320 P P **16 58 02.4 +0.5**
BANR Banloc 79.45 318 ⇑P P **16 58 03.2 +0.8**
BSEG Bad Segeberg 79.47 329 P P **16 58 02.3 0.0**
BSEG pmax pmax
comp=Z,59nm,1.3s
BSEG Bad Segeberg 79.47 329 *e*P P **16 58 01.1 -1.2**
comp=Z,62nm,1.1s,baz=46,slow=5.2
MDVR Moldovita 79.48 317 ⇑P P **16 58 02.5 -0.2**
PINE Pine Mountain 79.48 44 IAmb IAmb 16 58 38.7
comp=Z,68nm,1.0s
VRAC Vranov 79.51 323 ⇓P P **16 58 03.2 +0.5**
VRAC Vranov 79.51 323 P P **16 58 03.1 +0.4**
VRAC pmax pmax
comp=Z,113nm,1.2s
VRAC Vranov 79.51 323 *e*P P **16 58 02.5 -0.2**
SRO Srobarova 79.54 321 *e*P P **16 58 03.8 +0.9**
SRO pmax pmax
comp=Z,230nm,1.7s
SRO Srobarova 79.54 321 *e*P P **16 58 03.8 +0.9**
SMOL Smolenice 79.58 322 *e*P P **16 58 04.1 +1.0**
SMOL pmax pmax
comp=Z,81nm,1.1s
SMOL Smolenice 79.58 322 *e*P P **16 58 04.0 +1.0**
L04D Klamath Falls 79.58 46 P P **16 58 03.5 +0.1**
baz=305,SNR=5.8
BLKB Belogradchik 79.60 315 ⇑P P **16 58 03.2 -0.1**
J05D Fort Rock, OR 79.61 45 P P **16 58 03.9 +0.4**
baz=306,SNR=9.9
YBH Yreka Blue Hor 79.61 47 P P **16 58 03.4 -0.1**
comp=Z,7.9nm,0.9s,baz=262,slow=4.4,SNR=6.4
K04D Chiloquin, OR 79.68 46 P P **16 58 03.9 0.0**
baz=305
M02C Callahan 79.71 47 P P **16 58 04.4 +0.4**
baz=305
YER Yerkesik 79.74 308 P P **16 58 04.8 +0.6**
MODS Modra-Piesok 79.74 322 *e*P P **16 58 04.8 +0.8**
MODS pmax pmax
comp=Z,527nm,1.5s
MODS Modra-Piesok 79.74 322 *e*P P **16 58 04.8 +0.8**
PVCC Panska Ves 79.75 324 *e*P P **16 58 03.8 -0.2**
PVCC Panska Ves 79.75 324 *e*P P **16 58 03.8 -0.2**
KRUC Moravsky 79.77 323 P P **16 58 04.3 +0.2**
KRUC pmax pmax
comp=Z,72nm,1.4s
KRUC Moravsky 79.77 323 *e*P P **16 58 03.6 -0.5**
BRG Berggiesshubel 79.83 325 ⇑*i*P P **16 58 04.5 +0.1**
BRG Amp 16 58 09.0
comp=Z,116nm,1.4s
BRG *ex* x 16 58 25.1
BRG Amp 16 58 26.2
comp=Z,49nm,1.3s
BRG *ex* x 16 58 38.4
BRG Amp 16 58 39.5
comp=Z,30nm,1.2s
BRG Amp 17 16 48.0
comp=Z,541nm,17.4s
BRG Amp 17 16 53.0
comp=N,447nm,18.0s
BRG Amp 17 16 53.0
comp=E,205nm,20.0s
BRG Berggiesshubel 79.83 325 ⇑*i*P P **16 58 04.5 +0.1**
BRG pmax pmax
comp=Z,116nm,1.5s
BRG Berggiesshubel 79.83 325 *e*P P **16 58 03.7 -0.7**
comp=Z,78nm,1.3s,baz=46,slow=5.2
CSKK Cskako 79.85 320 P P **16 58 04.8 +0.2**
VTS Vitosha 79.85 314 ⇑P P **16 58 05.0 +0.2**
ZST Bratislava 79.94 322 *e*P P **16 58 06.3 +1.3**
ZST pmax pmax
comp=Z,533nm,1.5s
ZST Bratislava 79.94 322 *e*P P **16 58 06.3 +1.3**
CLL Collm 80.00 326 *i* P P **16 58 04.6 -0.7**
CLL pmax pmax
comp=Z,173nm,1.2s
CLL Collm 80.00 326 *i* P P **16 58 04.6 -0.7**
comp=Z,173nm,1.2s
CLL *e*PP **PP 17 01 13.0 +6.5**
CLL Collm 80.00 326 *e*P P **16 58 04.6 -0.7**
comp=Z,173nm,1.2s,baz=46,slow=5.2
N02D Trinity Center 80.05 48 P P **16 58 06.2 +0.4**
baz=305,SNR=5.2
TREC Trest 80.08 323 P P **16 58 05.7 -0.1**
TREC pmax pmax
comp=Z,73nm,1.2s
FBE Freiberg 80.08 325 *e*P P **16 58 05.5 -0.3**
comp=Z,244nm,1.4s,baz=46,slow=5.2
PRU Pruhonice 80.11 324 *e*P P **16 58 06.0 +0.1**
PRU *e* 16 58 12.7
PRU Pruhonice 80.11 324 *e*P P **16 58 06.0 +0.1**
PRU *e*pP **sP 16 58 12.7 +0.3**
M04C Macdoel 80.11 46 P P **16 58 06.4 +0.1**
baz=306,SNR=10.0
K05A Summer Lake 80.14 45 P P **16 58 07.2 +0.8**
FLTG Flechtingen 80.14 327 *e*P P **16 58 05.0 -1.0**
comp=Z,127nm,1.3s,baz=46,slow=5.2
WALA Waterton Lakes 80.14 37 P P **16 58 06.5 +0.2**
EGYH Egyhazaskeszo 80.31 321 P P **16 58 08.1 +1.1**
FRGS Fruska Gora 80.34 318 ⇓P P **16 58 06.4 -0.8**
FRGS Fruska Gora 80.34 318 ⇓*i*P P **16 58 06.1 -1.2**
MORH Mrgy, Hungar 80.34 319 ⇓P P **16 58 07.1 -0.1**
MORH Mrgy, Hungar 80.34 319 ⇓*i*P P **16 58 06.7 -0.5**
MORH Mrgy, Hungar 80.34 319 P P **16 58 06.4 -0.8**
MSEY Mahe Island 80.35 258 P P **16 58 07.0 -0.8**
MPLH Magyarpolny 80.35 321 P P **16 58 08.0 +0.7**
O02D Mt. Diablo Mer 80.45 48 P P **16 58 08.1 0.0**
baz=305,SNR=6.7
SRS Serrai 80.50 313 P P **16 58 08.0 -0.2**
SRS pmax pmax
comp=Z,140nm,1.2s
ASSE Asse, Remlinge 80.53 327 *e*P P **16 58 07.1 -0.9**
baz=46,slow=5.2
NRDL Niedersach Rie 80.54 328 *e*P P **16 58 07.5 -0.6**
comp=Z,105nm,1.8s,baz=46,slow=5.2
SOP Sopron 80.55 321 P P **16 58 09.3 +1.0**
SOP pmax pmax
comp=Z,144nm,1.3s
SOP Sopron 80.55 321 P P **16 58 09.2 +0.8**
NEUB Neuenburg 80.64 326 *e*P P **16 58 08.3 -0.5**
baz=46,slow=5.2
RONA Rosalia, Austr 80.68 322 *i* P P **16 58 09.1 0.0**
comp=Z,170nm,1.3s,SNR=42
RETH Rethem/Aller, 80.70 328 *e*P P **16 58 08.3 -0.7**
baz=46,slow=5.2
KOVH Kovagotottos 80.72 319 P P **16 58 10.0 +0.8**
CONA Conrad Observa 80.76 322 *i* P P **16 58 09.8 +0.2**
comp=Z,212nm,1.3s,SNR=64
CONA *e*P **PP 17 01 16.4 +3.4**
comp=Z,26nm,1.4s
SOH Sokhos 80.82 313 P P **16 58 09.6 -0.4**
SOH pmax pmax
comp=Z,41nm,1.3s
TANN Tannenbergstha 80.84 325 *e*P P **16 58 09.7 -0.3**
comp=Z,69nm,1.3s,baz=46,slow=5.2
CLZ Clausthal 80.86 327 *e*P P **16 58 09.5 -0.5**
comp=Z,138nm,1.2s,baz=46,slow=5.2
TEKS Tekeris 80.87 318 ⇓*i*P P **16 58 08.5 -1.6**

DIVS **Divibare** 80.88 317 ⇓*i*P P 16 58 09.7 -0.6
WERD **Werda** 80.90 325 *e*P P 16 58 10.0 -0.2
baz=46,slow=5.2
DY2G **Dye2** 80.94 359 *i* P P 16 58 08.6 -1.8
DY2G IAmb IAmb 16 58 10.3
comp=Z,25nm,0.8s
DY2G **Dye2** 80.94 359 *i* P P 16 58 07.7 -2.7
DY2G IAmb IAmb 16 58 10.4
comp=Z,25nm,0.8s
GUNZ **Gunzen** 80.94 325 *e*P P 16 58 10.2 -0.2
comp=Z,105nm,1.3s,baz=46,slow=5.2
PLN **Plauen** 80.94 325 *e*P P 16 58 10.5 +0.1
comp=Z,77nm,1.3s,baz=46,slow=5.2
WERN **Wernitzgruen** 80.97 325 *e*P P 16 58 10.6 0.0
comp=Z,130nm,1.3s,baz=46,slow=5.2
NKC **Novy Kostel** 80.97 325 *e*P P 16 58 10.6 0.0
NKC **Novy Kostel** 80.97 325 *e*P P 16 58 10.6 0.0
CKRC **Cesky Krumlov** 80.98 323 *e*P P 16 58 10.5 -0.2
O03E **Paynes Creek** 81.00 48 P P 16 58 10.6 -0.4
baz=306,SNR=6.7
VAY **Valandovo** 81.01 314 *i* P P 16 58 10.8 -0.1
STIP **Stip** 81.02 314 *i* P P 16 58 09.8 -1.2
MOX **Moxa** 81.09 326 P P 16 58 11.0 -0.2
MOX pmax pmax
comp=Z,56nm,1.9s
MOX **Moxa** 81.09 326 *e*P P 16 58 11.0 -0.2
comp=Z,82nm,1.4s,baz=46,slow=5.2
PAIG **Paliouri** 81.14 312 P P 16 58 11.2 -0.4
PAIG pmax pmax
comp=Z,103nm,1.2s
KHC **Kasperske Hory** 81.14 324 ⇓*i*P P 16 58 10.8 -0.7
KHC pmax pmax
comp=Z,238nm,1.3s
KHC **Kasperske Hory** 81.14 324 *e*P P 16 58 11.4 -0.1
THE **Thessaloniki** 81.17 313 P P 16 58 11.3 -0.4
THE pmax pmax
comp=Z,65nm,1.1s
BEHE **Becsehely** 81.20 320 *e*P P 16 58 06.2 -5.6
BEHE **Becsehely** 81.20 320 P P 16 58 11.4 -0.4
GTTG **Gottingen** 81.25 327 *e*P P 16 58 11.5 -0.5
baz=46,slow=5.2
GEC2 **GERESS Array S** 81.27 324 *e*P P 16 58 12.2 -0.1
comp=Z,59nm,1.2s,baz=46,slow=5.2
GERES **GERESS Array B** 81.27 324 P P 16 58 12.0 -0.3
comp=Z,49nm,1.2s,baz=48,slow=2.0,SNR=26
GERES PKKPbc **PKKPbc** 17 16 46.4 -0.7
comp=Z,1.0nm,0.7s,baz=197,slow=4.2,SNR=5.2
GERES **GERESS Array B** 81.27 324 P P 16 58 12.0 -0.3
MANZ **Manzenberg** 81.30 325 *e*P P 16 58 12.3 0.0
comp=Z,20nm,1.3s,baz=46,slow=5.2
SKO **Skopje** 81.30 315 *i* P P 16 58 13.2 +0.7
FCC **Fort Churchill** 81.32 22 P P 16 58 12.1 -0.1
FCC pmax pmax
comp=Z,56nm,1.0s
FCC **Fort Churchill** 81.32 22 P P 16 58 12.1 -0.1
FCC IAmb IAmb 16 58 19.1
comp=Z,56nm,1.0s
BBLS **Lazići** 81.35 317 ⇓*i*P P 16 58 12.6 -0.2
ARSA **Arzberg** 81.37 321 *i* P P 16 58 12.4 -0.3
comp=Z,154nm,1.2s,SNR=55
ARSA *e*P **PP** 17 01 18.4 +0.4
comp=Z,10nm,1.2s
ROTZ **Rotzenmuhle** 81.40 325 *e*P P 16 58 12.8 0.0
comp=Z,36nm,1.3s,baz=46,slow=5.2
ANGG **Ammassalik, Gr** 81.42 355 *i* P P 16 58 05.2 -7.4
ANGG IAmb IAmb 16 58 26.0
comp=Z,16nm,0.3s
WET **Wettzell** 81.48 324 P P 16 58 13.7 +0.4
WET pmax pmax
comp=Z,43nm,1.6s
WET **Wettzell** 81.48 324 *e*P P 16 58 13.3 0.0
comp=Z,200nm,2.3s,baz=46,slow=5.2
RUDO **Rudo** 81.53 317 ⇓*i*P P 16 58 12.8 -0.8
MSO **Missoula** 81.55 39 P P 16 58 13.4 -0.4
baz=310,SNR=8.3
MOA **Molln** 81.63 323 *e*P P 16 58 14.2 +0.1
comp=Z,145nm,1.4s,SNR=28
FFC **Flin Flon** 81.64 28 P P 16 58 13.8 -0.2
FFC pmax pmax
comp=Z,39nm,1.1s
FFC **Flin Flon** 81.64 28 P P 16 58 13.8 -0.2
IVA **Berane** 81.68 316 *e*P P 16 58 14.1 -0.4
PLE **Pljevlja** 81.69 317 *e*P P 16 58 14.4 -0.2
IBBN **Ibbenburen** 81.71 329 *e*P P 16 58 13.6 -0.8
comp=Z,66nm,1.1s,baz=46,slow=5.2
UBBA **Unterbreizbach** 81.73 327 *e*P P 16 58 13.9 -0.5
comp=Z,96nm,1.5s,baz=46,slow=5.2
LIT **Litokhoron** 81.77 313 P P 16 58 14.6 -0.4
LIT pmax pmax
comp=Z,141nm,1.0s
LIT **Litokhoron** 81.77 313 P P 16 58 14.6 -0.4
KOME **Kolasin** 81.91 316 *e*P P 16 58 15.2 -0.6
GRB1 **Grafenberg Arr** 81.92 325 P P 16 58 15.5 -0.1
GRB1 pmax pmax
comp=Z,104nm,1.4s
GRF **Grafenberg Arr** 81.92 325 P P 16 58 15.9 +0.3
GRF pmax pmax
comp=Z,190nm,1.4s
GRF **Grafenberg Arr** 81.92 325 *e*P P 16 58 15.2 -0.4
comp=Z,316nm,1.3s,baz=46,slow=5.2
GRFO **Grafenberg** 81.92 325 P P 16 58 16.6 +1.0
GRFO pmax pmax
comp=Z,241nm,1.2s
GRFO **Grafenberg** 81.92 325 P P 16 58 16.6 +1.0
SOKA **Soboth** 81.99 321 *i* P P 16 58 15.7 -0.4
comp=Z,169nm,1.1s,SNR=40
FNA **Florina** 82.05 314 P P 16 58 15.8 -0.7
FNA pmax pmax
comp=Z,51nm,1.3s
BIOA **Bad Ischl, Aus** 82.06 323 *e*P P 16 58 16.1 -0.3
comp=Z,102nm,1.4s,SNR=24
BLY **Banja Luka** 82.06 319 ⇓*i*P P 16 58 16.1 -0.3
KASTN **Kahler Asten** 82.19 328 *e*P P 16 58 16.3 -0.8
baz=46,slow=5.2
ATD **Arta Tunnel** 82.20 279 P P 16 58 18.6 +0.8
comp=Z,40nm,1.0s,baz=32,slow=4.2,SNR=8.4
OHR **Ohrid** 82.20 314 *i* P P 16 58 17.2 -0.1
NKME **Niksic** 82.29 316 *e*P P 16 58 17.4 -0.3
CRES **Cresnjev** 82.32 320 ⇑*i*P P 16 58 17.4 -0.4
PDG **Podgorica** 82.32 316 ⇑P P 16 58 17.7 -0.1
PDG **Podgorica** 82.32 316 ⇑*i*P P 16 58 17.7 -0.1
TTG **Podgorica** 82.32 316 *e*P P 16 58 17.6 -0.2
MGRS **Mrkonjic Grad** 82.32 319 *e*P P 16 58 16.5 -1.3
OBKA **Obir** 82.36 321 *e*P P 16 58 17.8 -0.2
comp=Z,59nm,1.0s,SNR=29
OBKA *e*P **PP** 17 01 28.1 +1.9
comp=Z,28nm,1.4s
BRY **Bratogost** 82.44 317 *e*P P 16 58 17.9 -0.7
BRY **Bratogost** 82.44 317 *e*P P 16 58 17.6 -1.0
CEME **Cevo** 82.44 316 *e*P P 16 58 18.2 -0.3
RJOB **Jochberg** 82.46 323 *e*P P 16 58 18.6 +0.1
comp=Z,118nm,1.3s,baz=46,slow=5.2
FRB **Frobisher Bay** 82.47 9 P P 16 58 17.3 -0.8
FRB pmax pmax
comp=Z,58nm,1.1s
SRKY **Kupres RS** 82.50 318 *e*P P 16 58 18.7 -0.1
DRME **Dracevica, Mon** 82.51 316 ⇓*i*P P 16 58 18.4 -0.4
DRME **Dracevica, Mon** 82.51 316 *e*P P 16 58 18.2 -0.6
BUG **Bochum--Univer** 82.54 328 P P 16 58 18.1 -0.6
BUG pmax pmax
comp=Z,49nm,1.3s
BUG **Bochum--Univer** 82.54 328 *e*P P 16 58 18.0 -0.8
baz=46,slow=5.2
BUM **Brajici-Budva** 82.61 316 *e*P P 16 58 18.9 -0.5
KBA **Koelnbreinsper** 82.61 322 *i* P P 16 58 19.0 -0.5
comp=Z,80nm,1.1s,SNR=23
KBA *e*P **PP** 17 01 32.2 +3.8
comp=Z,64nm,1.6s
KBA **Koelnbreinsper** 82.61 322 P P 16 58 19.6 +0.1
KBA pmax pmax
comp=Z,80nm,1.1s
ULC **Ulcinj** 82.61 316 *e*P P 16 58 18.9 -0.5
TIR **Tirane** 82.62 315 ⇑P P 16 58 19.5 +0.1
TIR **Tirane** 82.62 315 P P 16 58 19.7 +0.3
TIR pmax pmax
comp=Z,189nm,1.2s
TREB **Trebinje** 82.67 317 ⇓*i*P P 16 58 18.6 -1.0
LJU **Ljubljana** 82.67 321 ⇓*i*P P 16 58 19.3 -0.3
HCY **Herceg Novi** 82.75 316 *e*P P 16 58 19.4 -0.7
HCY **Herceg Novi** 82.75 316 *e*P P 16 58 19.6 -0.5
MYKA **Terra Mystica** 82.75 322 *i* P P 16 58 18.9 -1.1
comp=Z,136nm,1.6s,SNR=23
MYKA *i* P **PP** 17 01 29.6 +0.2
comp=Z,56nm,1.6s
URZ **Urewera** 82.82 145 P P 16 58 20.0 -0.1
comp=Z,17nm,1.0s,baz=300,slow=5.2,SNR=4.7
TNS **Taunus Mts** 82.86 327 P P 16 58 20.3 -0.3
TNS pmax pmax
comp=Z,83nm,1.5s
TNS **Taunus Mts** 82.86 327 *e*P P 16 58 19.9 -0.6
baz=46,slow=5.2
EGMT **Eagleton** 82.91 36 P P 16 58 20.3 -0.6
baz=312,SNR=8.3
CEY **Cerknica** 82.92 321 ⇑*i*P P 16 58 20.6 -0.3
FUR **Furstenfeldbru** 82.93 324 P P 16 58 21.6 +0.7
FUR pmax pmax
comp=Z,272nm,1.4s
FUR **Furstenfeldbru** 82.93 324 *e*P P 16 58 20.8 -0.1
comp=Z,363nm,1.4s,baz=46,slow=5.2
STON **Ston** 82.94 317 ⇓*i*P P 16 58 19.3 -1.7
IDI **Anoyia** 83.04 308 ⇑P P 16 58 21.4 -0.4
IDI **Anoyia** 83.04 308 IAmb IAmb 16 58 23.3
comp=Z,89nm,1.2s
RIY **Rijeka** 83.16 320 ⇓*i*P P 16 58 20.3 -1.8
CMB **Columbia Colle** 83.22 49 P P 16 58 22.8 +0.2
CMB pmax pmax
comp=Z,49nm,1.4s
CMB **Columbia Colle** 83.22 49 P P 16 58 22.8 +0.2
NUUK **Nuuk** 83.24 1 *i* P P 16 58 20.3 -1.8
NUUK IAmb IAmb 16 58 27.6
comp=Z,11nm,0.7s
ABTA **Abfaltersbach** 83.26 322 *i* P P 16 58 20.8 -1.9
comp=Z,132nm,1.2s,SNR=31
AHRW **Bad Neuenahr-A** 83.26 328 *e*P P 16 58 21.9 -0.6
comp=Z,87nm,1.2s,baz=46,slow=5.2
SKDS **Skadlanscina** 83.27 321 *e*P P 16 58 21.5 -1.2
TRI **Trieste** 83.29 321 P P 16 58 22.3 -0.5
TRI pmax pmax
comp=Z,168nm,1.3s
WATA **Walderalm** 83.34 323 *i* P P 16 58 22.4 -0.8
comp=Z,84nm,1.1s,SNR=23
WTTA **Wattenberg** 83.36 323 *i* P P 16 58 23.0 -0.4
comp=Z,178nm,1.4s,SNR=33
WTTA **Wattenberg** 83.36 323 P P 16 58 23.3 0.0
WTTA pmax pmax
comp=Z,122nm,1.4s
HLID **Hailey** 83.38 42 P P 16 58 23.8 +0.3
baz=310,SNR=8.5
STAL **STALIGIAL** 83.48 322 P P 16 58 22.6 -1.2
STU **Stuttgart** 83.52 325 P P 16 58 24.0 +0.1
STU pmax pmax
comp=Z,156nm,1.3s
STU **Stuttgart** 83.52 325 *e*P P 16 58 23.4 -0.5
baz=46,slow=5.2
BOZ **Bozeman (W)** 83.57 39 P P 16 58 24.8 +0.4
BOZ pmax pmax
comp=Z,66nm,1.0s
BOZ **Bozeman (W)** 83.57 39 P P 16 58 24.8 +0.4
BOZ IAmb IAmb 16 59 40.2
comp=Z,66nm,0.9s
BOZ **Bozeman (W)** 83.57 39 P P 16 58 24.5 +0.1
baz=311,SNR=10.0
BOZ **Bozeman (W)** 83.57 39 IAML 16 59 40.0
comp=Z,148nm,0.6s
MOTA **Moosalm** 83.57 324 *i* P P 16 58 23.9 -0.5
comp=Z,104nm,1.2s,SNR=22
SQTA **Sankt Quirin** 83.60 323 *i* P P 16 58 23.9 -0.6
comp=Z,97nm,1.2s,SNR=19
RETA **Reutte** 83.64 324 *i* P P 16 58 24.5 -0.2
comp=Z,189nm,1.3s,SNR=32
BTNL **Ternell** 83.65 328 *d*P P 16 58 23.5 -1.1
comp=Z,38nm,1.2s
BTNL *d*PP **PP** 17 01 38.6 +2.0
MEM **Membach** 83.69 328 P P 16 58 24.2 -0.5
MEM pmax pmax
comp=Z,79nm,1.1s
MEM **Membach** 83.69 328 *d*P P 16 58 23.6 -1.1
comp=Z,38nm,1.0s
BEBN **Eben Emael** 83.70 329 *d*P P 16 58 24.0 -0.8
comp=Z,69nm,0.9s
EKA **Eskdalemuir Ar** 83.73 336 P P 16 58 22.3 -2.5
THZ **Tophouse** 83.74 150 P P 16 58 24.0 -0.9
ESK **Eskdalemuir** 83.76 336 P P 16 58 23.7 -1.3
ESK pmax pmax
comp=Z,35nm,1.1s
ESK **Eskdalemuir** 83.76 336 P P 16 58 23.7 -1.3
UBR **Ueberruh** 83.83 324 *e*P P 16 58 25.1 -0.5
comp=Z,198nm,1.4s,baz=46,slow=5.2
ITM **Ithomi** 83.86 311 P P 16 58 25.0 -1.0
BHOU **Houvegnez** 83.87 328 *d*P P 16 58 25.3 -0.4
comp=Z,28nm,1.3s
BHOU *d*pPKiKP **PP** 17 01 40.8 +2.4
TUWZ **Tuamarina** 83.91 149 P P 16 58 24.1 -1.6
FETA **Feichten** 83.98 323 *i* P P 16 58 25.5 -1.0
comp=Z,128nm,1.2s,SNR=26
KVN **Kaiserville** 84.03 47 P P 16 58 26.5 -0.5
KVN pmax pmax
comp=Z,67nm,1.2s
KVN **Kaiserville** 84.03 47 P P 16 58 26.5 -0.5
KVN IAmb IAmb 16 58 28.5
comp=Z,67nm,1.2s
BCLA **Clavier** 84.14 328 *d*P P 16 58 25.9 -1.1
comp=Z,28nm,1.3s
BCLA *d*PP **PP** 17 01 42.7 +2.2
DAVA **Damuels** 84.22 324 *i* P P 16 58 26.9 -0.9
comp=Z,281nm,1.2s,SNR=52
BFO **Black Forest** 84.24 326 P P 16 58 27.3 -0.3
BFO pmax pmax
comp=Z,307nm,1.2s
BFO **Black Forest** 84.24 326 P P 16 58 27.3 -0.3
BFO **Black Forest** 84.24 326 *e*P P 16 58 27.4 -0.3
comp=Z,233nm,1.2s,baz=46,slow=5.2
BGES **Gesves** 84.26 329 *d*P P 16 58 26.6 -1.1
comp=Z,25nm,1.3s
NVAR **Mina Array Bea** 84.28 48 P P 16 58 28.7 +0.4
comp=Z,18nm,1.0s,baz=284,slow=4.7,SNR=21
NVAR **Mina Array Bea** 84.28 48 P P 16 58 27.6 -0.7
WLF **Walferdange** 84.30 328 P P 16 58 28.1 +0.2
WLF pmax pmax
comp=Z,179nm,1.4s
WLF **Walferdange** 84.30 328 *e*P P 16 58 27.6 -0.3
comp=Z,187nm,1.6s,baz=46,slow=5.2
WLF **Walferdange** 84.30 328 *d*P P 16 58 27.7 -0.2
comp=Z,76nm,1.2s
RCHB **Rochefort** 84.36 328 *d*P P 16 58 27.0 -1.2
comp=Z,40nm,1.3s
RCHB *d*PP **PP** 17 01 44.4 +2.1
NV11 **Mina Array Sit** 84.38 47 P P 16 58 28.6 -0.1
BMRD **Maredsous** 84.46 329 *d*P P 16 58 27.7 -0.9
comp=Z,46nm,1.2s
BMRD *d*PP **PP** 17 01 42.8 -0.3
SNF **Seneffe** 84.52 329 *d*P P 16 58 28.5 -0.4
comp=Z,49nm,1.1s
SLE **Schleitheim** 84.56 325 P P 16 58 28.8 -0.5
SLE pmax pmax
comp=Z,189nm,1.3s
GIVF **Givet** 84.58 328 *e*P P 16 58 28.0 -1.3
GIVF pmax pmax
comp=Z,106nm,1.3s
RPZ **Rata Peaks** 84.60 152 P P 16 58 28.8 -0.4
comp=Z,35nm,0.9s,baz=136,slow=8.5,SNR=10
RPZ **Rata Peaks** 84.60 152 P P 16 58 28.8 -0.4
RPZ IAmb IAmb 16 58 31.5
comp=Z,50nm,1.1s
CDF **Champ du Feu** 84.68 326 *e*P P 16 58 28.4 -1.6
CDF pmax pmax
comp=Z,211nm,1.4s
DOU **Dourbes** 84.68 329 *d*P P 16 58 28.9 -0.9
comp=Z,27nm,1.3s
SGRT **San Giovanni R** 84.78 317 P P 16 58 31.0 +0.4
LBZ **Lake Benmore** 84.83 153 P P 16 58 30.1 -0.3
LBZ IAmb IAmb 16 58 34.8
comp=Z,58nm,1.2s
ECH **Echery** 84.88 326 P P 16 58 29.7 -1.2
BAIF **Baives** 84.88 329 *e*P P 16 58 31.4 +0.6
BAIF pmax pmax
comp=Z,34nm,1.3s
H17A **Grant Village** 84.92 39 P P 16 58 32.7 +1.2
baz=312,SNR=16
MATE **Matera** 84.93 316 ⇑P P 16 58 31.1 -0.1
TUE **Stuetta** 85.04 324 P P 16 58 32.1 +0.1
RLMT **Red Lodge** 85.12 38 IAmb IAmb 17 00 20.9
comp=Z,36nm,0.4s
RLMT **Red Lodge** 85.12 38 P P 16 58 32.5 +0.1
baz=313,SNR=6.0
DGMT **Dagmar** 85.26 33 P P 16 58 32.2 -0.6
baz=316
HINF **Hinteralfeld** 85.31 326 *e*P P 16 58 32.3 -0.8
HINF pmax pmax
comp=Z,130nm,1.3s
VES **Vestal, Richgr** 85.37 50 P P 16 58 33.3 -0.2
baz=308
PKM **Mcpherson Peak** 85.47 51 P P 16 58 34.4 +0.1
baz=307
CWC **Cottonwood Cre** 85.65 49 P P 16 58 35.1 0.0
baz=308
AQU **L'Aquila** 85.70 319 P P 16 58 36.0 +0.8
AQU pmax pmax
comp=Z,475nm,1.1s
AQU **L'Aquila** 85.70 319 ⇓*i*P P 16 58 34.4 -0.8
TIP **Timpagrande** 85.83 315 ⇑P P 16 58 36.1 +0.2
ISA **Isabella, Lake** 85.87 50 P P 16 58 35.7 -0.5
baz=308
R11A **Troy Canyon, C** 86.01 46 P P 16 58 36.6 -0.3
baz=310,SNR=12
OSSC **Osservatorio P** 86.09 321 IAmb IAmb 16 58 57.4
comp=Z,123nm,1.2s
SENIN **Lac Senin/Sane** 86.13 325 IAmb IAmb 16 58 40.1
comp=Z,100nm,1.2s
MPMC **Manual Prospec** 86.26 49 P P 16 58 37.7 -0.5
baz=308,SNR=5.4
MSSA **Maissana** 86.45 322 IAmb IAmb 16 58 40.9
comp=Z,94nm,1.3s
DUG **Dugway, Tooele** 86.46 43 P P 16 58 39.5 +0.4
DUG pmax pmax
comp=Z,23nm,1.3s
DUG **Dugway, Tooele** 86.46 43 P P 16 58 38.9 -0.1
baz=311,SNR=9.4
TPNV **Topoah Spring** 86.48 48 P P 16 58 39.0 -0.3
baz=309,SNR=5.1
LRMC **Laurel Mtn Rad** 86.49 50 P P 16 58 39.4 +0.1
baz=308
CABF **La Chapelle** 86.53 325 *e*P P 16 58 38.5 -0.7
CABF pmax pmax
comp=Z,119nm,1.3s
BW06 **Boulder Array** 86.57 40 P P 16 58 40.1 +0.4
BW06 **Boulder Array** 86.57 40 P P 16 58 38.7 -1.0
baz=313,SNR=9.8
PDAR **Pinedale Array** 86.57 40 P P 16 58 39.5 -0.2
comp=Z,8.5nm,0.9s,baz=318,slow=2.0,SNR=11
PDAR **Pinedale Array** 86.57 40 P P 16 58 39.8 +0.2
EDW2 **Edwards Air Fo** 86.66 50 P P 16 58 39.9 -0.1
baz=308
LPL **La Plagne** 87.01 324 *e*P P 16 58 41.0 -0.7
LPL pmax pmax
comp=Z,72nm,1.2s
LPG **La Plagne** 87.02 324 *e*P P 16 58 41.1 -0.7
LPG pmax pmax
comp=Z,61nm,1.0s
LOR **Lormes** 87.10 327 P P 16 58 41.1 -0.8
LOR pmax pmax
comp=Z,68nm,1.4s
GSC **Goldstone, Bar** 87.16 49 P P 16 58 42.7 +0.2
baz=309
BNI **Bardonecchia** 87.37 324 P P 16 58 42.8 -0.6
BNI pmax pmax
comp=Z,53nm,1.2s
SSF **Saint Saulge** 87.41 327 *e*P P 16 58 43.6 +0.2
SSF pmax pmax
comp=Z,91nm,1.4s
ULM **Lac du Bonnet** 87.47 28 P P 16 58 43.6 0.0
comp=Z,48nm,1.1s,baz=326,slow=5.9,SNR=16
ULM **Lac du Bonnet** 87.47 28 *i* P P 16 58 43.2 -0.4
MBDF **Montbardon** 87.56 324 *e*P P 16 58 42.7 -1.6
MBDF pmax pmax
comp=Z,30nm,0.9s
SMF **Signal de Mont** 87.57 327 *e*P P 16 58 43.2 -0.9
SMF pmax pmax
comp=Z,134nm,1.3s
AVF **Avril sur Loir** 87.68 327 *e*P P 16 58 42.7 -2.0
AVF pmax pmax
comp=Z,109nm,1.2s
HEC **Hector,Ludlow** 87.76 49 P P 16 58 45.5 +0.1
baz=309,SNR=5.7
MDND **Maddock** 87.78 31 P P 16 58 45.9 +0.8
baz=320
MDND **Maddock** 87.78 31 P P 16 58 45.5 +0.3
baz=320
ISO **Isola** 87.81 323 P P 16 58 45.0 -0.4
ISO pmax pmax
comp=Z,25nm,1.4s
SBF **Sospel** 87.84 323 *e*P P 16 58 43.9 -1.7
SBF pmax pmax
comp=Z,54nm,1.0s
LDF **La Druitiere** 87.85 330 *e*P P 16 58 45.6 +0.2
LDF pmax pmax
comp=Z,82nm,1.6s
ORIF **Oris-en-Rattie** 87.86 324 *e*P P 16 58 45.1 -0.6
ORIF pmax pmax
comp=Z,30nm,1.1s
PGF **Pioggiola** 87.96 321 *e*P P 16 58 45.7 -0.5
PGF pmax pmax
comp=Z,57nm,1.3s
MURC **Murrieta** 87.97 51 P P 16 58 46.3 -0.1
baz=309
BGF **Bois d'Agland** 88.09 327 *e*P P 16 58 45.7 -0.9
BGF pmax pmax
comp=Z,74nm,1.3s
GMRC **Granite Mounta** 88.22 49 P P 16 58 47.8 +0.1
baz=310
SSB **Saint Sauveur** 88.24 325 IAmb IAmb 16 58 51.7
comp=Z,45nm,1.1s
K22A **Casper** 88.26 38 P P 16 58 48.2 +0.4
baz=315
K22A **Casper** 88.26 38 P P 16 58 47.7 0.0
baz=315
P18A **Preston Nutter** 88.31 43 P P 16 58 49.0 +0.8
P18A IAmb IAmb 16 58 49.9
comp=Z,44nm,1.1s
GRR **Gorron** 88.31 330 *e*P P 16 58 48.1 +0.5
GRR pmax pmax
comp=Z,51nm,1.4s
PFO **Pinyon Flats O** 88.44 50 P P 16 58 48.5 -0.2
comp=Z,9.5nm,1.1s,baz=268,slow=5.4,SNR=3.5
PFO **Pinyon Flats O** 88.44 50 P P 16 58 49.0 +0.3
baz=309
TPFO **Pinon Flats** 88.45 50 P P 16 58 49.1 +0.4
baz=309
FRF **La Foret Royal** 88.46 323 *e*P P 16 58 46.9 -1.5
FRF pmax pmax
comp=Z,50nm,1.2s
RSSD **Black Hills** 88.48 36 P P 16 58 49.3 +0.5
RSSD pmax pmax
comp=Z,33nm,1.4s
RSSD **Black Hills** 88.48 36 P P 16 58 49.0 +0.2
baz=317
RSSD **Black Hills** 88.48 36 P P 16 58 49.0 +0.2
baz=317
VIVF **Saint-Julien-l** 88.49 325 *e*P P 16 58 47.5 -1.1
VIVF pmax pmax
comp=Z,81nm,1.2s
TCF **Toulx Ste Croi** 88.58 327 *e*P P 16 58 49.5 +0.5
TCF pmax pmax
comp=Z,89nm,1.4s
LMR **La Mourre** 88.69 323 *e*P P 16 58 48.3 -1.2
LMR pmax pmax
comp=Z,71nm,1.2s
AGMN **Agassiz Nation** 89.02 29 P P 16 58 50.9 0.0
baz=322
BC3 **Big Chuckawall** 89.07 50 P P 16 58 52.0 +0.4
baz=310
O20A **White River Ci** 89.09 41 P P 16 58 51.7 0.0
baz=314
RJF **Les Rejaudoux** 89.64 327 *e*P P 16 58 52.2 -1.8
RJF pmax pmax
comp=Z,129nm,1.3s
CAF **Calviac** 89.68 326 *e*P P 16 58 52.5 -1.7
CAF pmax pmax
comp=Z,118nm,1.2s
N23A **Red Feather La** 89.81 39 P P 16 58 55.3 +0.1
baz=315,SNR=12
B35A **Bob, Littlefor** 89.83 28 P P 16 58 54.8 0.0
baz=324
LFF **La Frestale** 90.28 327 *e*P P 16 58 56.4 -0.5
LFF pmax pmax
comp=Z,90nm,1.2s
WUAZ **Wupatki** 90.41 46 P P 16 58 58.0 0.0
baz=312
SMCO **Snowmass** 90.46 41 P P 16 58 57.9 -0.5
SMCO IAmb IAmb 16 59 05.2
comp=Z,69nm,1.8s
SUSD **Miller** 90.67 33 P P 16 58 58.9 +0.1
baz=320
SUSD **Miller** 90.67 33 P P 16 58 58.6 -0.2
baz=320
ISCO **Idaho Springs** 90.77 40 P P 16 59 00.0 +0.3
baz=316
ISCO **Idaho Springs** 90.77 40 P P 16 58 59.6 -0.1

baz=316
MTLF Montolieu 90.80 325 P P 16 58 58.9 -0.5
MTLF pmax pmax
comp=Z,43nm,1.3s
MVCO Mesa Verde 90.97 43 P P 16 59 00.5 -0.1
baz=314,SNR=6.7
EYMN Ely 91.03 27 P P 16 59 00.2 -0.2
EYMN IAmb IAmb 16 59 01.3
comp=Z,46nm,1.0s
EYMN Ely 91.03 27 P P 16 59 00.4 0.0
baz=326
EYMN Ely 91.03 27 P P 16 58 59.8 -0.6
baz=326,SNR=12
SCHQ Schefferville 91.32 10 P P 16 59 01.1 -0.5
comp=Z,16nm,1.1s,baz=355,slow=5.8,SNR=8.7
S22A 4UR Ranch, Cre 91.55 42 P P 16 59 03.3 -0.1
baz=315,SNR=13
Q24A Divide 91.61 40 P P 16 59 03.3 -0.3
baz=316,SNR=5.3
214A Organ Pipe Nat 91.86 50 P P 16 59 04.3 -0.3
baz=311
F36A Milaca 91.92 29 P P 16 59 04.5 0.0
baz=324
E38A The Farm, Brul 92.11 28 P P 16 59 05.8 +0.4
baz=326
ECSD EROS Data Cent 92.29 32 P P 16 59 06.2 -0.1
baz=322
ECSD EROS Data Cent 92.29 32 P P 16 59 06.5 +0.2
baz=322
SDCO Great Sand Dun 92.29 41 P P 16 59 06.9 +0.1
baz=316
ETSF Etsaut 92.45 327 *e*P P 16 59 09.2 +2.1
ETSF pmax pmax
comp=Z,47nm,1.4s
KEST Kesra 92.52 316 P P 16 59 06.8 -0.8
comp=Z,18nm,1.0s,baz=275,slow=3.0,SNR=11
SJPF Ste Jean 92.59 327 *e*P P 16 59 09.9 +2.2
SJPF pmax pmax
comp=Z,46nm,1.6s
SPMN Marine on St. 92.74 29 P P 16 59 08.8 +0.5
baz=324
SPMN Marine on St. 92.74 29 P P 16 59 08.6 +0.3
baz=324
TUC Tucson 92.91 48 P P 16 59 10.2 +0.7
TUC pmax pmax
comp=Z,18nm,1.4s
TUC Tucson 92.91 48 P P 16 59 09.8 +0.3
baz=312
KSCO Kaye Shedlock' 92.93 39 P P 16 59 09.8 +0.3
baz=318
CMAH Djebel Manchou 93.00 318 P P 16 59 08.0 -1.8
ABSA Djebel Ababsia 93.21 317 P P 16 59 09.8 -1.0
T25A Trinidad 93.33 41 P P 16 59 11.7 +0.2
baz=316
I37B Waseca 93.47 30 P P 16 59 11.9 +0.2
baz=324
CKFL Kef-Lekhel 93.55 318 P P 16 59 11.0 -1.4
KMBO Kilima Mbogo 93.66 271 P P 16 59 12.2 -1.2
comp=Z,7.8nm,1.1s,baz=38,slow=8.3,SNR=7.9
KMBO Kilima Mbogo 93.66 271 P P 16 59 12.9 -0.5
ANMO Albuquerque 93.73 44 P P 16 59 14.1 +0.7
baz=315
ANMO Albuquerque 93.73 44 P P 16 59 13.3 0.0
baz=315
G40A Rib Lake 93.75 28 P P 16 59 12.8 -0.2
baz=326
CASM Ain Smara 93.78 318 P P 16 59 14.2 +0.8
DFRA Djebel Bou Aff 93.92 319 P P 16 59 13.4 -0.7
CTEI Djebel Teioual 93.97 318 P P 16 59 14.0 -0.3
121A Cookes Peak, D 94.62 46 P P 16 59 17.7 +0.3
baz=314
I42A Draeger Farm, 95.40 28 P P 16 59 20.4 -0.2
baz=327
JFWS Jewell Farm 95.69 29 P P 16 59 21.8 -0.1
baz=326
L40A Anamosa 95.98 30 P P 16 59 23.0 -0.2
baz=326
MSTX Muleshoe 96.54 42 P P 16 59 25.5 -0.7
baz=317
ESDC Sonseca Array 96.57 327 P P 16 59 25.1 -0.9
comp=Z,9.2nm,1.1s,baz=24,slow=3.6,SNR=15
ESDC PP PP 17 03 17.8 -1.6
comp=Z,12nm,1.3s,baz=38,slow=7.5,SNR=7.5
MNTX Cornudas Mount 96.65 46 P P 16 59 27.0 +0.5
baz=315
PAB San Pablo 96.85 327 P P 16 59 27.6 +0.3
PAB pmax pmax
comp=Z,10.0nm,1.1s
I49A Point Hope 97.59 24 P P 16 59 28.0 -2.5
baz=332
I49A P P 16 59 28.0 -2.5
baz=332
WMOK Wichita Mounta 98.17 39 P P 16 59 33.1 -0.2
baz=320
S39A Bolivar 98.60 34 P P 16 59 34.7 -0.5
baz=324
U38A Gravette 99.09 35 IAmb IAmb 16 59 45.3
comp=Z,15nm,0.8s
TXAR Lajitas Array 99.37 46 P Pdif 16 59 38.5 -0.5
comp=Z,1.2nm,0.9s,baz=291,slow=3.5,SNR=4.9
TXAR PP PP 17 03 42.1 +0.7
comp=Z,2.9nm,1.1s,baz=311,slow=4.2,SNR=5.2
TXAR Lajitas Array 99.37 46 P Pdif 16 59 39.3 +0.4
U40A Yellville 99.90 35 P Pdif 16 59 39.9 -1.1
baz=324
MIAR Mount Ida 101.00 36 P Pdif 16 59 45.4 -0.5
baz=323
TORD Torodi Ar. Bea 113.31 305 PKiKP PKiKP 17 04 32.6 -1.9
comp=Z,0.8nm,0.4s,baz=60,slow=1.0,SNR=12
TORD PP PP 17 05 22.8 -1.5
comp=Z,12nm,1.0s,baz=38,slow=6.4,SNR=9.6
TORD PKKPbc PKKPbc 17 15 16.6 -1.8
comp=Z,2.6nm,1.0s,baz=242,slow=3.2,SNR=5.0
SYO Syowa Base 120.72 205 ∥*i*X Pdif 17 01 10.8 -1.7
SYO Syowa Base 120.72 205 ∥*i*X PKPdf 17 04 45.2 -1.8
DBIC Dimbokro 122.42 305 PKP PKPdf 17 04 50.8 -1.3
comp=Z,10nm,0.8s,baz=92,slow=0.7,SNR=8.6
TIC Toumodi 122.56 305 *e*PKP1 PKPdf 17 04 50.9 -1.4
KIC Kosan Boka 122.57 304 *e*PKP1 PKPdf 17 04 51.1 -1.3
comp=Z,14nm,0.8s
QSPA South Pole Qui 122.64 180 PKP PKPdf 17 04 49.9 -1.0
comp=Z,6.1nm,0.8s,baz=237,slow=0.8,SNR=13
QSPA South Pole Qui 122.64 180 PKPdf 17 04 50.8 -0.1
LIC Lamto 122.86 305 *e*PKP1 PKPdf 17 04 52.1 -0.8
comp=Z,23nm,1.0s
TROLL Troll, Antarti 132.52 199 PKPdf PKPdf 17 05 08.9 -0.9
SNAA Sanae 134.15 199 PKPdf PKPdf 17 05 11.8 -0.9
VNA2 Neumayer--Watz 135.79 198 PKPdf PKPdf 17 05 14.8 -0.9
baz=35,slow=1.0
VNA3 Neumayer Olymp 136.18 197 PKPdf PKPdf 17 05 15.3 -1.1
OTAV Otavalo 137.00 46 *e*P PKiKP 17 05 21.5 -0.6
CZSB Cruzeiro do Su 146.77 46 *e*P PKPdf 17 05 37.0 0.0
PMSA Palmer Station 146.78 168 *e*P PKPab 17 05 38.8 +0.3
MACA Manacapuru-AM 148.51 23 *e*P PKPbc 17 05 42.4 -1.2
MALB Monte Alegre 148.76 10 *e*P PKPbc 17 05 43.4 -0.8
NBMO Morrinhos-CE 149.38 342 *e*P PKPbc 17 05 44.2 -1.5
TMAB Tom-Au,PA,Br 149.63 358 *e*P PKPbc 17 05 44.8 -1.6
NBCL Cascavel-CE 149.74 338 *e*P PKPbc 17 05 44.8 -1.8
ROSB Rosrio 149.81 350 *e*P PKPbc 17 05 44.5 -2.3
RCBR Riachuelo 150.40 333 *e*P PKPbc 17 05 46.0 -2.3
NBPV Pedro Velho 150.69 331 *e*P PKPbc 17 05 46.4 -2.5
ITTB Itaituba 150.97 14 *e*P PKPdf 17 05 46.2 +2.4
NBPB Pedra_Branca-C 151.38 340 *e*P PKPbc 17 05 47.7 -2.9
ETMB Extrema 152.15 38 *e*P PKPdf 17 05 47.7 +2.1
NBRF Rio Formoso - 152.66 329 *e*P PKPdf 17 05 49.5 +3.2
NBMA Muriti-CE 152.85 337 *e*P PKPdf 17 05 49.1 +2.4
NPGB Novo Progresso 153.65 14 *e*P PKPdf 17 05 49.8 +1.9
NBAN Anadia - AL 154.03 330 *e*P PKPdf 17 05 50.2 +1.8
NBLA Lagarto - SE 155.85 332 *e*P PKPdf 17 05 54.0 +3.2
LPAZ La Paz 156.16 51 PKP PKPdf 17 05 51.0 -1.0
comp=Z,3.4nm,1.0s,baz=325,slow=1.4,SNR=6.2
LPAZ La Paz 156.16 51 PKiKP PKPdf 17 05 51.0 -1.0
LPAZ La Paz 156.16 51 *e*P PKPdf 17 05 52.0 +0.1
PDRB Porto dos Gac 157.71 20 *e*P PKPdf 17 05 55.5 +2.2
VILB Vilhena 157.72 30 *e*P PKPdf 17 05 56.6 +3.4
GDU01 Guandu, BA 159.03 333 *e*P PKPdf 17 05 58.2 +3.4
SDBA SAO DESIDERIO 159.26 348 *e*P PKPdf 17 05 58.2 +3.1
CMC01 Camacan, BA 160.50 331 *e*P PKPdf 17 05 59.8 +3.4
PLCA Paso Flores 161.17 121 PKPab PKPab 17 06 40.3 +0.2
comp=Z,18nm,1.2s,baz=215,slow=7.1,SNR=6.3
JANB Januaria 161.72 345 *e*P PKPdf 17 06 01.4 +3.5
BDFB Brasilia 162.81 356 PKP PKPdf 17 05 58.2 -0.8
comp=Z,13nm,1.1s,baz=72,slow=2.8,SNR=9.1
SJMB Sao Joao De Ma 164.19 331 *e*P PKPdf 17 06 03.9 +3.8
RIB01 Linhares ES 164.39 328 *e*P PKPdf 17 06 03.2 +3.0
ALF01 Guarapari-ES 165.68 326 *e*P PKPdf 17 06 04.8 +3.5
AQDB Aquidauana 166.32 27 *e*P PKPdf 17 06 04.7 +2.9
ITRB Iturama 166.83 5 *e*P PKPdf 17 06 05.8 +3.6
CAM01 Campos-RJ 167.15 327 *e*P PKPdf 17 06 06.6 +4.3
DUB01 Friburgo-RJ 167.69 329 *e*P PKPdf 17 06 07.0 +4.2
BB19B Bebedouro 168.22 357 *e*P PKPdf 17 06 06.6 +3.4
VAS01 Vassouras-RJ 168.30 333 *e*P PKPdf 17 06 07.8 +4.6
PCMB Pacaembu 168.61 10 *e*P PKPdf 17 06 06.9 +3.4
RCLB Rio Claro- Sao 169.48 352 *e*P PKPdf 17 06 07.9 +3.9
VAO Valinhos 169.98 349 *e*P PKPdf 17 06 08.9 +4.5
CPUP Villa Florida 170.33 50 PKP PKPdf 17 06 03.6 -0.7
comp=Z,2.3nm,1.0s,baz=90,slow=1.0,SNR=2.8
CPUP PKPab PKPab 17 07 20.1 -0.5
comp=Z,2.7nm,0.9s,baz=333,slow=4.5,SNR=3.1

JMA 15 16:47:24.9, 32.95N×131.10E, h9km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.25**	**313**	P	Pg	16 47 30.2	+0.2
JNU				S	Sg	16 47 33.9	+0.4

JMA 15 16:47:27.5, 32.80N×130.79E, h12km±1km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.25**	**176**	S	Sg	16 47 36.7	+0.4
JTA	**Tamana**	**0.27**	**307**	P	Pg	16 47 33.1	0.0
JTA				S	Sg	16 47 37.3	+0.4

JMA 15 16:48:44.1, 32.69N×130.74E, h13km±1km, M3.6, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**156**	↑↑P	Pg	16 48 47.9	+0.1
JIU3				S	Sg	16 48 50.8	+0.4
JTA	**Tamana**	**0.32**	**327**	P	Pg	16 48 50.8	+0.1
JTA				S	Sg	16 48 55.3	+0.1

JMA 15 16:49:27.0, 32.88N×130.91E, h14km±1km, M3.5, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.24**	**354**	↑↑P	Pg	16 49 32.4	+0.1
JNU				S	Sg	16 49 36.1	+0.2
JTA	**Tamana**	**0.33**	**285**	P	Pg	16 49 33.8	+0.1
JTA				S	Sg	16 49 38.5	+0.2
JIU3	**Izumi3**	**0.34**	**194**	S	Sg	16 49 38.8	+0.1

*DJA **15** 16:50:02.3±1.8, 4°S±4°×10°0E±°, h19km±19km, M4.7/12, mb4.5/1, MLv4.8/12*
*NEIC **15** 16:50:07.9±1.9, 3.21S±0.10°×100.78E±0.05, h41km±8km, mb4.4/14, Error ellipse: s-maj=15.6km s-min=4.9km az=205.0*
*IDC **15** 16:50:11.8±3.6, 3.15S×100.77E, h71km±27km, mb4.1/12, mb1 4.2/14, mb1mx3.8/65, mbtmp4.4/14, Error ellipse: s-maj=57.0km s-min=16.3km az=54.0*

ISC 15 16:50:05.6±0.6, 3.47S±0.07°×100.51E±0.07, h35km, n60, σ1§46/52, mb4.5/18, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.86**	**325**	P	**Pn**	**16 50 20.0**	**-1.3**
KRJI	**Kerinci**	**1.67**	**35**	P	**Pn**	**16 50 32.9**	**+0.4**
MASI	**Maura Aman, Be**	**1.76**	**79**	P	**Pn**	**16 50 32.9**	**-0.8**
SISI	**Saibi**	**2.56**	**326**	P	**Pn**	**16 50 44.3**	**-0.3**
MNAI	**Manna**	**2.60**	**110**	Pn	**Pn**	**16 50 43.8**	**-1.5**
MNAI	**Manna**	**2.60**	**110**	P	**Pn**	**16 50 43.7**	**-1.5**
PPI	**Padang Panjang**	**3.00**	**358**	P	**Pn**	**16 50 51.1**	**+0.4**
JMBI	**JAMBI**	**3.63**	**60**	P	**Pn**	**16 50 59.5**	**+0.2**
BKNI	**Bangkinang**	**3.81**	**8**	P	**Pn**	**16 51 01.8**	**-0.1**
LWLI	**Liwa**	**3.86**	**114**	P	**Pn**	**16 51 01.7**	**-1.0**
MNSI	**Mandailing Nat**	**4.34**	**348**	P	**Pn**	**16 51 08.9**	**-0.2**
KASI	**Kota Agung**	**4.47**	**117**	P	**Pn**	**16 51 09.3**	**-1.7**
DSRI	**Dabo**	**5.04**	**54**	P	**Pn**	**16 51 19.2**	**+0.4**
	1.3nm36nm,0.7s						
GSI	**Gunungsitoli**	**5.57**	**328**	Pn	**Pn**	**16 51 24.4**	**-1.7**
GSI	**Gunungsitoli**	**5.57**	**328**	P	**Pn**	**16 51 24.6**	**-1.6**
MYKOM	**Kota Tinggi**	**6.20**	**33**	Pn	**Pn**	**16 51 35.6**	**+0.8**
RPSI	**Rantau Prapat**	**6.33**	**346**		**Pn**	**16 51 39.9**	**+3.4**
PSI	**Prapat**	**6.43**	**346**	P	**Pn**	**16 51 39.9**	**+1.9**
	1.8nm,0.3s,baz=154,slow=8.1,SNR=4.4						
LEM	**Lembang**	**7.83**	**115**	P	Pn	16 52 02.4	+5.1
	3.3nm,0.3s,baz=332,slow=23,SNR=2.8						
UBPT	**Khong Chiam**	**19.27**	**15**	P	**P**	**16 54 24.9**	**-2.5**
UBPT				IAmb	IAmb	16 54 39.0	
	comp=Z,30nm,1.4s						
TOLI2	**Tolitoli**	**20.77**	**78**	P	**P**	**16 54 40.1**	**-3.8**
TOLI2				IAmb	IAmb	16 54 46.7	
	comp=Z,19nm,0.9s						
CM31	**Chiang Mai Arr**	**21.84**	**356**	P	**P**	**16 54 52.8**	**-2.5**
CMAR	**Chiang Mai Arr**	**21.84**	**356**	P	**P**	**16 54 54.2**	**-1.1**
	comp=Z,11nm,1.0s,baz=182,slow=8.4,SNR=18						
CMAR	**Chiang Mai Arr**	**21.84**	**356**	P	**P**	**16 54 52.5**	**-2.8**
CHTO	**Chiang Mai**	**22.20**	**356**	P	**P**	**16 54 57.1**	**-2.0**
PALK	**Pallekele**	**22.46**	**298**	P	P	16 55 12.2	+10
	comp=Z,30nm,0.9s,baz=154,slow=7.3,SNR=12						
H08S2	**Diego Garcia H**	**28.18**	**260**	T	T	17 25 14.3	
	baz=82,slow=76,SNR=903						
H08S3	**Diego Garcia H**	**28.19**	**260**	T	T	17 25 13.9	
	baz=82,slow=76,SNR=1094						
H08S1	**Diego Carcia H**	**28.20**	**260**	T	T	17 25 16.6	
	baz=82,slow=76,SNR=1339						
NWAO	**Narrogin (SRO)**	**33.23**	**154**	P	**P**	**16 56 43.1**	**+3.6**
H01W3	**Cape Leeuwin H**	**33.72**	**160**	T	T	17 32 28.5	
	baz=336,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**33.73**	**160**	T	T	17 32 24.9	
	baz=336,slow=76,SNR=23						
H01W1	**Cape Leeuwin H**	**33.74**	**160**	T	T	17 32 24.6	
	baz=336,slow=76,SNR=14						
WRA	**Warramunga Ar**	**36.83**	**119**	P	**P**	**16 57 12.2**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=310,slow=8.8,SNR=1.2						
ASAR	**Alice Springs**	**37.99**	**125**	P	**P**	**16 57 22.8**	**+2.2**
	comp=Z,2.4nm,0.7s,baz=298,slow=7.7,SNR=4.7						
KDJ	**Kajisay**	**50.09**	**337**	P	**P**	**16 58 58.3**	**+0.8**
KDJ				IAmb	IAmb	16 59 21.8	
	comp=Z,15nm,1.4s						
BOOM	**Boomskoye usch**	**50.88**	**337**	P	**P**	**16 59 04.0**	**+0.6**
SONM	**Songino Array**	**51.35**	**5**	P	**P**	**16 59 07.5**	**+0.7**
	comp=Z,17nm,0.7s,baz=185,slow=9.2,SNR=15						
SONM	**Songino Array**	**51.35**	**5**	P	**P**	**16 59 06.6**	**-0.2**
MK31	**Makanchi Array**	**52.57**	**344**	P	**P**	**16 59 16.2**	**+0.4**
MK31				IAmb	IAmb	16 59 33.0	
	comp=Z,2.7nm,0.9s						
MKAR	**Makanchi Array**	**52.57**	**344**	P	**P**	**16 59 16.6**	**+0.8**
	comp=Z,9.7nm,0.9s,baz=155,slow=8.4,SNR=20						
MKAR	**Makanchi Array**	**52.57**	**344**	P	**P**	**16 59 16.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**55.22**	**27**	P	**P**	**16 59 34.4**	**-0.8**
	comp=Z,4.3nm,0.6s,baz=223,slow=6.2,SNR=5.4						
USRK	**Ussuriysk Ar.**	**55.22**	**27**	P	**P**	**16 59 34.0**	**-1.1**
KURBB	**Kurchatov Arra**	**57.09**	**344**	P	**P**	**16 59 49.0**	**+0.7**
	comp=Z,5.5nm,0.9s,baz=162,slow=6.5,SNR=9.9						
KURK	**Kurchatov**	**57.15**	**344**	P	**P**	**16 59 49.0**	**+0.2**
KURK				IAmb	IAmb	17 00 10.5	
	comp=Z,2.0nm,0.8s						
ZAA0	**Zalesovo Array**	**58.70**	**349**	P	**P**	**16 59 59.3**	**-0.3**
ZALV	**Zalesovo Beam**	**58.70**	**349**	P	**P**	**16 59 59.9**	**+0.3**
	comp=Z,13nm,0.9s,baz=180,slow=5.1,SNR=15						
ZALV	**Zalesovo Beam**	**58.70**	**349**	P	**P**	**16 59 59.0**	**-0.6**
KLR	**Kul'dur**	**59.07**	**23**	P	**P**	**17 00 01.7**	**-0.6**
	comp=Z,8.9nm,1.0s,baz=224,slow=4.5,SNR=4.6						
BRVK	**Borovoye**	**61.79**	**340**	P	**P**	**17 00 20.4**	**-0.4**
ABKAR	**Akbulak array**	**63.16**	**331**	P	**P**	**17 00 30.1**	**+0.1**
SYO	**Syowa Base**	**76.65**	**199**	↑eX	**P**	**17 01 52.9**	**+0.4**
SEY	**Seymchan**	**76.80**	**22**	P	**P**	**17 01 53.2**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=252,slow=21,SNR=4.5						
TIXI	**Tiksi**	**77.22**	**9**	P	**P**	**17 01 54.4**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=270,slow=20,SNR=3.1						
TIXI	**Tiksi**	**77.22**	**9**	P	**P**	**17 01 54.0**	**-1.7**
BURAR	**Bucovina Array**	**82.69**	**319**	P	**P**	**17 02 26.9**	**+1.0**
BURAR				IAmb	IAmb	17 02 29.2	
	comp=Z,3.0nm,1.1s						
BUR08	**Bucovina Ar. S**	**82.71**	**319**	P	**P**	**17 02 27.0**	**+1.0**
BUR08				IAmb	IAmb	17 02 47.9	
	comp=Z,10nm,1.5s						
FINES	**FINESS Array B**	**85.64**	**332**	P	**P**	**17 02 40.9**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=90,slow=4.2,SNR=1.6						
TXAR	**Lajitas Array**	**145.54**	**39**	PKPbc	**PKPab**	**17 09 41.7**	**+0.3**
	comp=Z,8.2nm,0.8s,baz=288,slow=1.4,SNR=65						

JMA 15 16:50:51.6, 32.70N×130.74E, h10km±1km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.16**	**158**	P	Pg	16 50 55.1	-0.1
JIU3				S	Sg	16 50 57.8	+0.2
JTA	**Tamana**	**0.32**	**326**	P	Pg	16 50 58.2	+0.3
JZO	**Okuchi**	**0.57**	**192**	S	Sg	16 51 10.1	-0.1

JMA 15 16:51:35.5, 32.96N×131.11E, h9km±1km, M3.5, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.25**	**310**	↑↑P	Pg	16 51 40.8	+0.2
JNU				S	Sg	16 51 44.4	+0.3
JIU3	**Izumi3**	**0.48**	**212**	P	Pg	16 51 44.8	0.0

JMA 15 16:51:39.2, 32.82N×130.87E, h9km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.32**	**297**	P	Pg	16 51 45.7	+0.2

JMA 15 16:51:48.1, 32.81N×130.85E, h4km±2km, M3.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.26**	**187**	S	Sg	16 51 57.4	+0.8
JTA	**Tamana**	**0.31**	**300**	P	Pg	16 51 54.4	+0.3
JZO	**Okuchi**	**0.70**	**198**	*e*S	Sg	16 52 11.4	+0.8

JMA 15 16:53:35.8, 32.73N×130.75E, h16km±1km, M3.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.19**	**164**	S	Sg	16 53 43.4	0.0
JTA	**Tamana**	**0.30**	**322**	P	Pg	16 53 42.2	+0.1
JZO	**Okuchi**	**0.60**	**192**	P	Pg	16 53 47.3	-0.4
JZO				S	Sg	16 53 55.4	-0.3

JMA 15 16:56:09.9, 32.84N×130.79E, h14km±1km, M3.2, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.25**	**300**	P	Pg	16 56 15.3	0.0
JIU3	**Izumi3**	**0.29**	**176**	P	Pg	16 56 15.7	-0.3
JNU	**Nakatsue**	**0.29**	**15**	P	Pg	16 56 16.0	0.0

*IDC **15** 16:56:12.5±0.8, 32.74N×131.02E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.8/60, mbtmp3.9/11, ML2.8/2, Error ellipse: s-maj=27.9km s-min=6.8km az=75.0*
*NEIC **15** 16:56:13.9±1.9, 32.76N±0.02°×130.78E±0.08, h10km±1km, mb4.1/2, Error ellipse: s-maj=12.2km s-min=3.1km az=99.0*
*JMA **15** 16:56:14.3, 32.79N×130.80E, h12km±1km, M4.6*
JMA Felt IV J1.

ISC 15 16:56:14.9±0.6, 32.78N±0.03°×130.83E±0.07, h12km, n41, σ1§56/40, mb3.9/9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.23**	**184**	P	**Pg**	**16 56 19.4**	**-0.3**
JIU3				S	**Sg**	**16 56 23.2**	**+0.3**
JTA	**Tamana**	**0.31**	**307**	*e*S	**Sg**	**16 56 24.4**	**-1.1**
JNU	**Nakatsue**	**0.35**	**7**	Pg	**Pg**	**16 56 20.3**	**-1.6**
	4μm,0.3s,baz=355,slow=8.6,SNR=29						
JNU				Lg	Lg	16 56 25.6	
	7μm,0.3s,baz=71,slow=23,SNR=31						
JNU	**Nakatsue**	**0.35**	**7**	*e*S	**Sg**	**16 56 25.9**	**-0.8**
JNU	**Nakatsue**	**0.35**	**7**	Pg	**Pg**	**16 56 20.7**	**-1.2**
JSU	**Suzuyama**	**1.30**	**194**	Pn	**Pn**	**16 56 36.8**	**-2.2**
JTU	**Tsushima**	**2.11**	**326**		**Pn**	**16 56 48.8**	**-1.3**
JHS	**Saijyo**	**2.92**	**40**		**Pn**	**16 57 00.7**	**-0.5**
TJN	**Taejon**	**4.59**	**322**	Pn	**Pn**	**16 57 23.8**	**-0.3**
KSRS	**Korea Array**	**5.24**	**334**	Pn	**Pn**	**16 57 34.1**	**+1.0**
	0.8nm,0.3s,baz=144,slow=15,SNR=2.3						
KSRS				Pg	**Pb**	**16 57 48.9**	**+2.4**
	3.1nm,0.3s,baz=150,slow=17,SNR=13						
KSRS				Lg	Lg	16 58 58.6	
	6.6nm,0.3s,baz=160,slow=30,SNR=6.2						
KS19	**Wonju Array Si**	**5.30**	**334**	Pn	**Pn**	**16 57 35.0**	**+1.0**
INU	**Inuyama**	**5.74**	**62**	Pn	**Pn**	**16 57 39.2**	**-0.7**
JGF	**Kuroka**	**6.10**	**61**	Pn	**Pn**	**16 57 45.9**	**+1.0**
JOW	**Kunigami**	**6.32**	**201**	Pn	**Pn**	**16 57 50.5**	**+2.5**
	15nm,0.3s,baz=86,slow=19,SNR=33						
JOW	**Kunigami**	**6.32**	**201**		**Pn**	**16 57 50.1**	**+2.1**
MAJO	**Matsushiro**	**7.15**	**56**	Pn	**Pn**	**16 58 00.6**	**+1.3**
MJB9	**Matsu-Tunnel**	**7.15**	**56**	Pn	**Pn**	**16 58 00.5**	**+1.3**
MJAR	**Matsushiro Arr**	**7.15**	**56**	Pn	**Pn**	**16 57 57.5**	**-1.7**
	0.1nm,0.3s,baz=248,slow=12,SNR=2.1						
JHJ	**Hachijo jima 2**	**7.53**	**85**	Pn	**Pn**	**16 58 04.9**	**+0.3**
	47nm,0.3s,baz=26,slow=9,SNR=9.5						
JHJ	**Hachijo jima 2**	**7.53**	**85**		**Pn**	**16 58 04.9**	**+0.3**
JHJ2	**Mitsune**	**7.56**	**85**	Pn	**Pn**	**16 58 04.8**	**-0.2**
USRK	**Ussuriysk Ar.**	**11.44**	**4**	Pn	**Pn**	**16 59 02.3**	**+4.2**
	baz=187,slow=14,SNR=3.5						
KLR	**Kul'dur**	**16.45**	**2**	Pn	**P**	**17 00 08.5**	**+0.3**
	0.5nm,0.3s,baz=215,slow=4.6,SNR=8.2						
CMAR	**Chiang Mai Arr**	**31.95**	**251**	P	**P**	**17 02 41.6**	**+0.9**
	0.6nm,0.7s,baz=57,slow=7.2,SNR=6.2						
CMAR	**Chiang Mai Arr**	**31.95**	**251**	P	**P**	**17 02 37.2**	**-3.6**
H11N2	**WAKE ISLAND Hy**	**34.69**	**103**	T	T	17 39 13.0	
	baz=297,slow=74						
H11N1	**WAKE ISLAND Hy**	**34.69**	**103**	T	T	17 39 15.8	
	baz=297						
H11N3	**WAKE ISLAND Hy**	**34.70**	**103**	T	T	17 39 14.5	
	baz=297,slow=74						
MKAR	**Makanchi Array**	**39.22**	**305**	P	**P**	**17 03 43.0**	**+0.1**
	0.7nm,0.7s,baz=86,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**39.22**	**305**	P	**P**	**17 03 41.7**	**-1.3**
KURBB	**Kurchatov Arra**	**41.97**	**311**	P	**P**	**17 04 07.3**	**+1.7**
	1.1nm,0.5s,baz=97,slow=9.3,SNR=5.2						
WRA	**Warramunga Ar**	**52.53**	**176**	P	**P**	**17 05 26.9**	**-1.2**
	2.0nm,0.8s,baz=359,slow=7.8,SNR=7.5						
WRA	**Warramunga Ar**	**52.53**	**176**	P	**P**	**17 05 26.1**	**-1.9**
WRA				IAmb	IAmb	17 05 38.9	
	comp=Z,1.5nm,1.3s						
ASAR	**Alice Springs**	**56.20**	**177**	P	**P**	**17 05 53.8**	**-1.1**
	comp=Z,3.3nm,0.9s,baz=9.8,slow=14,SNR=14						
ASAR	**Alice Springs**	**56.20**	**177**	P	**P**	**17 05 53.4**	**-1.4**
ARCES	**ARCESS Array B**	**64.78**	**338**	P	**P**	**17 06 53.8**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=42,slow=0.7,SNR=4.

JIU3	**Izumi3**	**0.14**	**155**	S	Pg	16 58 19.4	-0.4	-0.1
JTA	**Tamana**	**0.33**	**328**	P	Pg	16 58 23.0	+0.1	
JTA				*e*S	Sg	16 58 27.7	+0.4	
JZO	**Okuchi**	**0.55**	**193**	P	Pg	16 58 27.4	+0.5	
JZO				S	Sg	16 58 34.7	+0.5	
JHD	**Hondo**	**0.55**	**247**	P	Pg	16 58 26.8	-0.1	
JHD				*e*S	Sg	16 58 34.5	+0.3	
JTSN	**Tsuno**	**0.78**	**124**	P	Pg	16 58 31.5	+0.3	
JTSN				*e*S	Sg	16 58 41.4	0.0	

JMA 15 16:59:08.8, 32.67N×130.70E, h14km±1km, M3.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**142**	P	Pg	16 59 12.7	+0.1
JIU3				S	Sg	16 59 15.4	+0.2

*BUT **15** 16:59:20.6±1.2, 45.04N±0.02×111.87W±0.03, h9km±7km, ML2.5/16, ML2.2/28(NEIC), Error ellipse: s-maj=3.5km s-min=1.3km az=133.0*

NEIC 15 16:59:20.4±0.9, 45.03N±0.01×111.89W±0.03, h3km±10km, Error ellipse: s-maj=3.0km s-min=1.9km az=101.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QLMT	**Earthquake Lak**	**0.38**	**121**		Pg	16 59 27.8	0.0
CMI	**Centennial Mou**	**0.54**	**159**		Pg	16 59 30.8	+0.1
YPDC	**Denny Creek**	**0.56**	**124**		Pg	16 59 31.5	+0.3
YHB	**Horse Butte**	**0.57**	**119**		Pg	16 59 31.5	+0.2
BOZ	**Bozeman (W)**	**0.60**	**18**		Pg	16 59 31.6	-0.3
BOZ	**Bozeman (W)**	**0.60**	**18**	IAML		16 59 46.5	
	101nm,0.4s						
YMC	**Maple Creek**	**0.68**	**113**		Pg	16 59 33.7	+0.1
YPWB	**West Boundary**	**0.70**	**127**		Pg	16 59 34.3	+0.4
MCMT	**McKenzie Canyo**	**0.71**	**254**	Pg	Pg	16 59 34.2	+0.1
YMR	**Madison River**	**0.75**	**118**		Pg	16 59 34.8	0.0
YMR	**Madison River**	**0.75**	**118**	IAML		16 59 47.1	
	comp=N,162nm,0.2s						
PZCI	**Patelzick Cree**	**0.75**	**204**		Pg	16 59 35.1	+0.3
YHH	**Holmes Hill**	**0.78**	**108**		Pg	16 59 34.9	-0.4
YHH	**Holmes Hill**	**0.78**	**108**	IAML		16 59 45.3	
	comp=N,66nm,0.7s						
YPM	**Purple Mountai**	**0.82**	**117**		Pg	16 59 36.5	+0.5
YMV	**Mammoth Vault**	**0.85**	**93**		Pg	16 59 36.6	-0.2
YNR	**Norris Junctio**	**0.92**	**110**		Pg	16 59 37.7	-0.3
YNR	**Norris Junctio**	**0.92**	**110**	IAML		16 59 47.1	
	comp=E,53nm,2.6s						
YFT	**Old Faithful**	**0.95**	**127**	Pg	Pg	16 59 38.2	-0.4
MCID	**Moose Creek**	**0.98**	**149**		Pg	16 59 39.2	0.0
ICI	**Italian Canyon**	**1.03**	**227**		Pg	16 59 39.9	-0.2
YPP	**Pitchstone Pla**	**1.08**	**134**		Pg	16 59 41.4	+0.2
EMI	**Eightmile Cany**	**1.21**	**218**		Pg	16 59 43.7	+0.1
YPSB	**Soda Butte**	**1.24**	**96**		Pg	16 59 43.5	-0.7
YMP	**Mirror Lake Pl**	**1.27**	**103**		Pb	16 59 45.2	+0.1
YMP				IAML		17 00 08.2	
	comp=N,54nm,1.0s						
YMP				IAML		17 00 12.9	
	comp=E,39nm,1.6s						
FLWY	**Flagg Ranch**	**1.27**	**138**		Pg	16 59 44.2	-0.6
FLWY	**Flagg Ranch**	**1.27**	**138**	IAML		17 00 03.0	
	comp=E,30nm,0.4s						
BCYI	**Bear Canyon**	**1.30**	**237**		Pg	16 59 44.7	-0.6
MOOW	**Moose Ponds**	**1.52**	**147**		Pn	16 59 48.1	-0.6
TPAW	**Teton Pass**	**1.68**	**156**		Pn	16 59 51.4	+0.4
TPAW	**Teton Pass**	**1.68**	**156**	IAML		17 00 26.1	
	comp=E,29nm,4.9s						
HRY	**Holter Researc**	**1.68**	**1**		Pb	16 59 51.7	-0.5
SNOW	**Snow King Moun**	**1.77**	**152**		Pb	16 59 52.9	-0.7
SNOW	**Snow King Moun**	**1.77**	**152**	IAML		17 00 20.4	
	comp=E,32nm,0.6s						
SNOW				IAML		17 00 35.3	
	comp=E,20nm,2.6s						
REDW	**Red Top Meadow**	**1.83**	**156**		Pb	16 59 53.8	-0.8
REDW	**Red Top Meadow**	**1.83**	**156**	IAML		17 00 23.1	
	comp=E,31nm,3.9s						
REDW				IAML		17 00 24.2	
	comp=E,34nm,1.1s						
RLMT	**Red Lodge**	**1.86**	**86**		Pn	16 59 53.8	+0.3
RLMT	**Red Lodge**	**1.86**	**86**	IAML		17 00 23.3	
	comp=E,65nm,0.6s						
RLMT				IAML		17 00 23.5	
	comp=E,52nm,0.5s						
MSO	**Missoula**	**2.30**	**322**		Pn	16 59 59.6	+0.2
PLID	**Pearl Lake**	**2.91**	**273**		Pn	17 00 08.8	+0.9
PLID	**Pearl Lake**	**2.91**	**273**	IAML		17 00 26.9	
	comp=E,7.0nm,2.7s						

*IDC **15** 16:59:33.8±1.6, 32.86N×130.98E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/60, mbtmp3.7/7, ML3.4/2, Error ellipse: s-maj=46.5km s-min=26.6km az=75.0*

*JMA **15** 16:59:37.1, 32.75N×130.66E, h14km±1km, M3.7*

ISC 15 16:59:36.0±1.0, 32.81N±0.07×130.8E±0.2, h12km, n9, σ1§02/10, mb3.5/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.26**	**185**	P	**Pb**	**16 59 42.2**	**-0.4**
JIU3				S	**Sb**	**16 59 46.0**	**-1.1**
JTA	**Tamana**	**0.30**	**301**	P	**Pb**	**16 59 42.5**	**-0.8**
KSRS	**Korea Array**	**5.21**	**334**	Pn	**Pn**	**17 00 55.1**	**+1.3**
	1.4nm,0.3s,baz=116,slow=9.7,SNR=1.5						
KSRS				Lg	Lg	17 02 19.9	
	3.4nm,0.3s,baz=164,slow=32,SNR=4.5						
JOW	**Kunigami**	**6.36**	**201**	Pn	**Pn**	**17 01 11.0**	**+1.4**
	1.7nm,0.3s,baz=95,slow=26,SNR=2.2						
MKAR	**Makanchi Array**	**39.21**	**305**	P	**P**	**17 07 04.3**	**+0.3**
	0.5nm,0.9s,baz=103,slow=11,SNR=1.4						
FINES	**FINESS Array B**	**68.29**	**330**	P	**P**	**17 10 36.5**	**-0.1**
	1.2nm,0.6s,baz=72,slow=6.2,SNR=4.9						
YKA	**Yellowknife Ar**	**71.63**	**26**	P	**P**	**17 10 56.7**	**-0.4**
	0.2nm,0.7s,baz=307,slow=6.1,SNR=2.1						
AKASG	**Malin Array Be**	**72.04**	**319**	P	**P**	**17 10 58.7**	**-1.0**
	0.6nm,0.4s,baz=52,slow=7.5,SNR=3.4						
NOA	**NORSAR Array B**	**74.42**	**334**	P	**P**	**17 11 13.2**	**-0.5**
	0.3nm,0.6s,baz=49,slow=5.6,SNR=2.1						

JMA 15 17:02:48.4, 32.73N×130.73E, h16km±1km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.19**	**159**	P	Pg	17 02 53.1	+0.1
JIU3				S	Sg	17 02 56.1	-0.1
JTA	**Tamana**	**0.29**	**325**	S	Sg	17 02 59.0	+0.2

*IDC **15** 17:04:09.3±0.6, 32.68N×130.75E, h0km, mb4.0/25, mb1 4.2/30, mb1mx4.1/63, mbtmp4.1/30, ML3.8/5, MS5.2/1, Ms1 5.2/1, ms1mx4.9/96, Error ellipse: s-maj=14.4km s-min=6.8km az=105.0*

*MOS **15** 17:04:10.9±1.7, 32.75N×130.81E, h19km, mb4.8/11, Error ellipse: s-maj=9.3km s-min=5.6km az=104.3*

*NEIC **15** 17:04:11.2±1.9, 32.74N±0.04×130.73E±0.07, h9km±4km, mb4.6/63, Error ellipse: s-maj=8.4km s-min=5.0km az=105.0*

*JMA **15** 17:04:11.0, 32.75N×130.74E, h12km±1km, M4.9*

JMA Felt IV J1.

ISC 15 17:04:11.4±0.9, 32.77N±0.03×130.74E±0.04, h9km±5km, n184, σ1§68/187, mb4.5/65, MS6.0/3, 14C-7D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.22**	**164**	⇑P	**Pg**	**17 04 15.6**	**-0.4**
JIU3				S	**Sg**	**17 04 19.2**	**+0.1**
JTA	**Tamana**	**0.26**	**319**	⇑P	**Pg**	**17 04 16.9**	**+0.1**
JTA				S	**Sg**	**17 04 20.8**	**+0.5**
JNU	**Nakatsue**	**0.37**	**18**	Pg	**Pg**	**17 04 18.2**	**-0.7**
	993nm,0.3s,baz=184,slow=12,SNR=17						
JNU				Lg	Lg	17 04 24.4	
	5μm,0.3s,baz=93,slow=22,SNR=24						
JNU	**Nakatsue**	**0.37**	**18**	P	**Pg**	**17 04 19.0**	**+0.2**
JNU				*e*S	**Sg**	**17 04 24.4**	**+0.6**
JNU	**Nakatsue**	**0.37**	**18**	Pg	**Pg**	**17 04 18.8**	**0.0**
JNU				Sg	**Sg**	**17 04 24.3**	**+0.5**
JTZ	**Takazaki**	**0.91**	**161**	⇑P	**Pb**	**17 04 28.7**	**-0.7**
JSU	**Suzuyama**	**1.28**	**191**		**Pn**	**17 04 34.5**	**-1.0**
JSU				Sn	**Sb**	**17 04 51.1**	**-1.1**
JTU	**Tsushima**	**2.08**	**328**	Pn	**Pb**	**17 04 48.3**	**-1.1**
JMN	**Monobe**	**2.80**	**69**		**Pn**	**17 04 56.0**	**-0.5**
JHS	**Saijyo**	**2.98**	**41**	Pn	**Pn**	**17 04 59.2**	**+0.3**
TJN	**Taejon**	**4.55**	**323**	P	**Pn**	**17 05 16.7**	**-3.8**
TJN	**Taejon**	**4.55**	**323**	Pn	**Pn**	**17 05 16.7**	**-3.8**
KSRS	**Korea Array**	**5.22**	**335**	Pn	**Pn**	**17 05 30.2**	**+0.5**
	2.2nm,0.3s,baz=149,slow=14,SNR=5.1						
KSRS				Pg	**Pg**	**17 05 47.2**	**-4.1**
	3.9nm,0.3s,baz=153,slow=17,SNR=11						
KSRS				Lg	Lg	17 06 55.8	
	13nm,0.3s,baz=155,slow=31,SNR=10						
KSAR	**Wonju Array Be**	**5.22**	**334**	P	**Pn**	**17 05 28.9**	**-0.8**
KSAR	**Wonju Array Be**	**5.22**	**334**	Pn	**Pn**	**17 05 28.9**	**-0.8**
KS19	**Wonju Array Si**	**5.28**	**334**		**Pn**	**17 05 29.0**	**-1.5**
INCN	**Inchon**	**5.79**	**326**	P	**Pn**	**17 05 37.2**	**-0.3**
INCN	**Inchon**	**5.79**	**326**	Pn	**Pn**	**17 05 37.2**	**-0.3**
INU	**Inuyama**	**5.81**	**62**	Pn	**Pn**	**17 05 37.5**	**-0.3**
JGF	**Kuroka**	**6.17**	**61**	Pn	**Pn**	**17 05 41.0**	**-1.7**
JOW	**Kunigami**	**6.29**	**201**	Pn	**Pn**	**17 05 44.0**	**-0.4**
	7.7nm,0.3s,baz=41,slow=12,SNR=23						
JOW				Sn	**Sn**	**17 07 01.2**	**+4.8**
	baz=186,slow=24,SNR=0.9						
JOW	**Kunigami**	**6.29**	**201**	Pn	**Pn**	**17 05 44.3**	**-0.1**
MJB9	**Matsu-Tunnel**	**7.21**	**56**		**Pn**	**17 05 57.0**	**-0.1**
MAJO	**Matsushiro**	**7.21**	**56**	⇑*e*P	**Pn**	**17 05 58.4**	**+1.3**
MAJO	**Matsushiro**	**7.21**	**56**	Pn	**Pn**	**17 05 56.1**	**-1.0**
MJAR	**Matsushiro Arr**	**7.21**	**56**	Pn	**Pn**	**17 05 57.4**	**+0.3**
	0.4nm,0.3s,baz=236,slow=13,SNR=12						
MJAR	**Matsushiro Arr**	**7.21**	**56**	P	**Pn**	**17 05 56.4**	**-0.7**
MJAR	**Matsushiro Arr**	**7.21**	**56**	Pn	**Pn**	**17 05 56.4**	**-0.7**
JHJ	**Hachijo jima 2**	**7.61**	**85**	Pn	**Pn**	**17 06 03.1**	**+0.6**
	36nm,0.3s,baz=222,slow=16,SNR=9.6						
JHJ2	**Mitsune**	**7.64**	**85**	Pn	**Pn**	**17 06 02.7**	**-0.2**
JSD	**Sado**	**8.08**	**47**	Pn	**Pn**	**17 06 09.5**	**+0.6**
JMM	**Marumori**	**9.66**	**55**	Pn	**Pn**	**17 06 30.8**	**+0.2**
NJ2	**Nanjing**	**10.07**	**269**	*e*P	**Pn**	**17 06 36.9**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
YOJ	**Yonaguni jima**	**10.70**	**221**	P	**Pn**	**17 06 44.2**	**-0.7**
YOJ	**Yonaguni jima**	**10.70**	**221**	Pn	**Pn**	**17 06 44.2**	**-0.7**
USRK	**Ussuriysk Ar.**	**11.46**	**5**	Pn	**Pn**	**17 06 59.4**	**+4.2**
	baz=188,slow=15,SNR=11						
USRK	**Ussuriysk Ar.**	**11.46**	**5**	P	**Pn**	**17 06 55.2**	**0.0**
USRK	**Ussuriysk Ar.**	**11.46**	**5**	Pn	**Pn**	**17 06 55.2**	**0.0**
ASAJ	**Asahikawa**	**14.64**	**36**	Pn	**Pn**	**17 07 39.0**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=221,slow=9.3,SNR=1.8						
JKA	**Kamikawa-asahi**	**14.64**	**36**		**Pn**	**17 07 39.0**	**+0.3**
KLR	**Kul'dur**	**16.47**	**2**	Pn	**P**	**17 08 08.1**	**+2.8**
	comp=Z,0.5nm,0.3s,baz=160,slow=8.5,SNR=22						
KLR	**Kul'dur**	**16.47**	**2**	⇓*e*P	**P**	**17 08 03.7**	**-1.6**
HHC	**Hu-ho-hao-te**	**17.32**	**303**	*e*P	**P**	**17 08 15.6**	**+0.6**
XAN	**Xi'an**	**18.26**	**280**	P	**P**	**17 08 27.0**	**+1.7**
XAN				pmax	pmax		
	comp=Z,26nm,1.7s						
ENH	**Enshi**	**18.29**	**268**	P	**P**	**17 08 25.9**	**+0.2**
ENH				IAmb	IAmb	17 08 46.3	
	comp=Z,56nm,1.4s						
HIA	**Hailar**	**18.42**	**337**	P	**P**	**17 08 25.3**	**-1.7**
HIA				pmax	pmax		
	comp=Z,16nm,1.0s						
HIA	**Hailar**	**18.42**	**337**		**P**	**17 08 25.3**	**-1.7**
ZEA	**Zeya**	**21.11**	**354**	*e*P	**P**	**17 08 58.5**	**+2.3**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.9s						
GYA	**Guiyang**	**21.83**	**260**	⇑P	**P**	**17 09 09.3**	**+5.0**
GYA				pmax	pmax		
	comp=Z,13nm,0.8s						
LZH	**Lanzhou**	**22.41**	**286**	*e*P	**P**	**17 09 15.3**	**+4.8**
LZH				pP	sP	17 09 20.8	+6.6
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
CD2	**Chengdu**	**22.98**	**273**	P	**P**	**17 09 18.8**	**+2.4**
CD2				pP	sP	17 09 20.5	+0.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GUMO	**Guam**	**23.04**	**143**	LR	LR	17 15 30.6	
	comp=Z,7μm,21.5s,baz=345,slow=30						
ULN	**Ulaanbaatar**	**23.40**	**317**	⇑*e*P	**P**	**17 09 20.5**	**-0.2**
ULN	**Ulaanbaatar**	**23.40**	**317**	P	**P**	**17 09 20.3**	**-0.4**
ULN				IAmb	IAmb	17 09 50.7	
	comp=Z,18nm,1.4s						
SONM	**Songino Array**	**23.77**	**316**	P	**P**	**17 09 23.1**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=117,slow=12,SNR=3.0						
SONM	**Songino Array**	**23.77**	**316**	P	**P**	**17 09 22.1**	**-2.2**
SONM				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SONM	**Songino Array**	**23.77**	**316**	P	**P**	**17 09 22.1**	**-2.2**
KMI	**Kunming**	**25.61**	**260**	⇑P	**P**	**17 09 45.0**	**+3.6**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GTA	**Gaotai**	**25.77**	**294**	*e*P	**P**	**17 09 44.4**	**+1.7**
GTA				sP	sP	17 09 50.9	+4.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PZH	**PanZhiHua**	**25.92**	**264**	P	**P**	**17 09 46.8**	**+2.7**
PZH				pmax	pmax		
	comp=Z,20nm,1.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
GOMU	**GeErMu**	**29.71**	**287**	P	**P**	**17 10 18.1**	**-0.2**
GOMU				S	**S**	**17 15 08.5**	**-6.1**
GOMU				pmax	pmax		
	comp=Z,49μm,11.3s						
GOMU				LR	LR		
	comp=N,17μm,14.3s						
GOMU				LR	LR		
	comp=E,25μm,14.1s						
GOMU				LR	LR		
	comp=Z,18μm,14.0s						
MYLDM	**Lahad Datu**	**29.73**	**205**	P	**P**	**17 10 18.1**	**-0.1**
MYLDM				IAmb	IAmb	17 10 38.5	
	comp=Z,9.6nm,1.3s						
CHTO	**Chiang Mai**	**31.68**	**252**	P	**P**	**17 10 36.0**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,12nm,1.1s						
CHTO	**Chiang Mai**	**31.68**	**252**	P	**P**	**17 10 36.0**	**+0.5**
CHTO				IAmb	IAmb	17 10 40.5	
	comp=Z,12nm,1.1s						
CM31	**Chiang Mai Arr**	**31.87**	**251**	P	**P**	**17 10 38.4**	**+1.3**
CM31				IAmb	IAmb	17 10 56.9	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**31.87**	**251**	P	**P**	**17 10 35.9**	**-1.3**
	comp=Z,0.4nm,0.9s,baz=50,slow=6.3,SNR=2.4						
CMAR	**Chiang Mai Arr**	**31.87**	**251**	*i*P	**P**	**17 10 40.9**	**+3.8**
CMAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**31.87**	**251**	P	**P**	**17 10 37.9**	**+0.8**
TNTI	**Ternate**	**31.98**	**186**	P	**P**	**17 10 36.9**	**-1.1**
SEY	**Seymchan**	**33.15**	**18**	P	**P**	**17 10 48.1**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=191,slow=9.5,SNR=3.9						
SEY	**Seymchan**	**33.15**	**18**	⇓*e*P	**P**	**17 10 48.8**	**+1.0**
SEY				pmax	pmax		
	comp=Z,2.0nm,1.6s						
H11N2	**WAKE ISLAND Hy**	**34.76**	**103**	T	T	17 47 08.7	
	baz=297,slow=74,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**34.76**	**103**	T	T	17 47 11.3	
	baz=297,slow=74,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**34.77**	**103**	T	T	17 47 14.8	
	baz=297,slow=74,SNR=5.6						
WMQ	**Urumqi**	**35.18**	**301**	*e*P	**P**	**17 11 08.3**	**+2.5**
ZALV	**Zalesovo Beam**	**38.66**	**317**	P	**P**	**17 11 36.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=134,slow=6.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**38.66**	**317**	P	**P**	**17 11 37.4**	**+2.3**
TIXI	**Tiksi**	**38.96**	**359**	P	**P**	**17 11 36.3**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=90,slow=23,SNR=4.1						
TIXI	**Tiksi**	**38.96**	**359**	P	**P**	**17 11 36.3**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIXI	**Tiksi**	**38.96**	**359**	IAmb	IAmb	17 11 38.6	
	comp=Z,3.5nm,1.1s						
MK31	**Makanchi Array**	**39.17**	**305**	⇑*e*P	**P**	**17 11 41.5**	**+2.0**
MK31	**Makanchi Array**	**39.17**	**305**	P	**P**	**17 11 39.7**	**+0.2**
MKAR	**Makanchi Array**	**39.17**	**305**	P	**P**	**17 11 37.9**	**-1.7**
	comp=Z,1.8nm,0.9s,baz=99,slow=9.9,SNR=3.9						
MKAR	**Makanchi Array**	**39.17**	**305**	P	**P**	**17 11 38.0**	**-1.5**
MKAR	**Makanchi Array**	**39.17**	**305**	P	**P**	**17 11 38.0**	**-1.5**
BILL	**Bilibino**	**40.80**	**20**	⇑*e*P	**P**	**17 11 53.8**	**+1.0**
BILL				*e*		17 13 27.1	
BILL				MLR	MLR		
	comp=Z,17μm,16.0s						
BILL	**Bilibino**	**40.80**	**20**	P	**P**	**17 11 52.9**	**+0.2**
KURK	**Kurchatov**	**41.87**	**311**	⇓*e*P	**P**	**17 12 03.7**	**+1.9**
KURK	**Kurchatov**	**41.87**	**311**	P	**P**	**17 12 01.2**	**-0.6**
KURBB	**Kurchatov Arra**	**41.92**	**311**	P	**P**	**17 12 01.2**	**-1.0**
	comp=Z,4.7nm,0.8s,baz=97,slow=8.9,SNR=12						
NRIK	**Noril'sk**	**43.81**	**339**	P	**P**	**17 12 16.9**	**-0.3**
	comp=Z,4.6nm,0.8s,baz=114,slow=11,SNR=6.8						
NRIK	**Noril'sk**	**43.81**	**339**	⇑*e*P	**P**	**17 12 18.8**	**+1.5**
NRIK				pmax	pmax		
	comp=Z,57nm,3.2s						
NRIK	**Noril'sk**	**43.81**	**339**	IAmb	IAmb	17 12 20.2	
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**44.85**	**300**	⇓*e*P	**P**	**17 12 29.5**	**+3.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MTN	**Manton Dam**	**45.35**	**179**	P	**P**	**17 12 28.1**	**-2.0**
MTN				IAmb	IAmb	17 12 40.9	
	comp=Z,12nm,1.1s						
BVAR	**Borovoye Array**	**47.08**	**314**	P	**P**	**17 12 43.6**	**+0.2**
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**47.14**	**314**	⇑*e*P	**P**	**17 12 44.9**	**+1.0**
BRVK	**Borovoye**	**47.14**	**314**	P	**P**	**17 12 43.0**	**-0.9**
NIL	**Nilore**	**47.56**	**288**	P	**P**	**17 12 46.6**	**-0.9**
NIL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NIL	**Nilore**	**47.56**	**288**	P	**P**	**17 12 46.5**	**-0.9**
KK31	**Karatay Array**	**47.69**	**301**	P	**P**	**17 12 48.2**	**-0.1**
KK31				pmax	pmax		
	comp=Z,24nm,1.3s						
KK31	**Karatay Array**	**47.69**	**301**	P	**P**	**17 12 48.2**	**-0.1**
KKAR	**Karatay Array**	**47.69**	**301**	P	**P**	**17 12 48.1**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,24nm,1.3s						
KKAR	**Karatay Array**	**47.69**	**301**	P	**P**	**17 12 48.1**	**-0.3**
KNRA	**Kununurra**	**48.20**	**183**	P	**P**	**17 12 50.9**	**-1.5**
KNRA				IAmb	IAmb	17 13 03.6	
	comp=Z,10.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**50.81**	**186**	P	**P**	**17 13 10.9**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=14,slow=8.6,SNR=2.8						
FITZ	**Fitzroy Crossi**	**50.81**	**186**	P	**P**	**17 13 09.9**	**-2.4**
FITZ				IAmb	IAmb	17 13 22.6	
	comp=Z,5.1nm,1.1s						
WB0	**Warramunga Arr**	**52.35**	**176**	P	**P**	**17 13 20.9**	**-3.0**
WRAB	**Tennant Creek**	**52.51**	**176**	P	**P**	**17 13 23.6**	**-1.4**
WRA	**Warramunga Arr**	**52.52**	**176**	P	**P**	**17 13 23.8**	**-1.3**
	comp=Z,2.7nm,0.9s,baz=351,slow=8.1,SNR=7.1						
WRA	**Warramunga Arr**	**52.52**	**176**	P	**P**	**17 13 23.2**	**-1.8**
WB2	**Warramunga Arr**	**52.52**	**176**	P	**P**	**17 13 23.5**	**-1.6**
WB2				IAmb	IAmb	17 13 40.4	
	comp=Z,9.8nm,1.3s						
WR0	**Warramunga Arr**	**52.55**	**175**	P	**P**	**17 13 23.5**	**-1.8**
WR0				IAmb	IAmb	17 13 27.2	
	comp=Z,10nm,1.2s						
ARU	**Arti**	**53.76**	**319**	P	**P**	**17 13 35.4**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=91,slow=2.9,SNR=5.1						
ARU	**Arti**	**53.76**	**319**	*d*/P	**P**	**17 13 37.3**	**+3.4**
ARU						17 15 36.2	
ARU				S	**S**	**17 21 16.2**	**+8.0**
ARU				SS	**SKiKP**	**17 24 44.6**	**-3.6**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ABKAR	**Akbulak array**	**53.95**	**310**	P	**P**	**17 13 34.7**	**-0.7**
ABKAR	**Akbulak array**	**53.95**	**310**	P	**P**	**17 13 35.7**	**+0.4**
O18K	**Koktuh Hills**	**54.42**	**37**	P	**P**	**17 13 38.2**	**-0.5**
O18K				IAmb	IAmb	17 14 10.8	
	comp=Z,14nm,1.3s						
J20K	**Nowinta River**	**54.62**	**31**	P	**P**	**17 13 39.5**	**-0.5**
J20K				IAmb	IAmb	17 14 10.7	
	comp=Z,9.5nm,1.2s						
K20K	**Telida**	**54.70**	**32**	P	**P**	**17 13 39.9**	**-0.8**
K20K				IAmb	IAmb	17 14 07.8	
	comp=Z,3.5nm,0.8s						
IMAR	**Indian Mountai**	**54.71**	**29**	P	**P**	**17 13 40.0**	**-0.7**
O19K	**Port Alsworth**	**54.83**	**36**	P	**P**	**17 13 41.8**	**+0.2**
O19K				IAmb	IAmb	17 13 52.3	
	comp=Z,11nm,1.1s						
AKTO	**Aktyubinsk**	**54.96**	**312**	P	**P**	**17 13 44.2**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=78,slow=20,SNR=2.7						
Q19K	**Cape Douglas,**	**55.31**	**38**	P	**P**	**17 13 44.8**	**-0.4**
CAST	**Castle Rocks**	**55.59**	**32**	P	**P**	**17 13 47.5**	**+0.4**
PPLA	**Purkeypile**	**55.59**	**33**	P	**P**	**17 13 47.6**	**+0.4**
PPLA				IAmb	IAmb	17 13 55.3	
	comp=Z,17nm,1.5s						
AS31	**Alice Springs**	**56.20**	**177**	P	**P**	**17 13 51.4**	**-0.4**
ASAR	**Alice Springs**	**56.20**	**177**	P	**P**	**17 13 50.6**	**-1.2**
	comp=Z,3.1nm,1.0s,baz=359,slow=6.0,SNR=6.7						
H23K	**Yukon River**	**56.44**	**29**	P	**P**	**17 13 53.4**	**+0.2**
H23K				IAmb	IAmb	17 13 55.0	
	comp=Z,4.3nm,0.8s						
NEA2	**Nenana**	**56.78**	**31**

YKA	**Yellowknife Ar**	**71.71**	**26**	*i* P		**P**	**17 15 33.5**	**+0.1**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**72.02**	**319**	P		**P**	**17 15 35.0**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=53,slow=6.7,SNR=6.6							
AKBB	**Malin Array Si**	**72.02**	**319**⇑	*eP*		**P**	**17 15 35.5**	**-0.1**
AKBB				pmax	pmax			
	comp=Z,4.0nm,0.9s							
AKBB	**Malin Array Si**	**72.02**	**319**	P		**P**	**17 15 35.4**	**-0.1**
NB2	**NORSAR Subarra**	**74.43**	**334**	P		**P**	**17 15 51.4**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=50,slow=5.9							
NOA	**NORSAR Array B**	**74.43**	**334**	P		**P**	**17 15 48.2**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=48,slow=5.7,SNR=2.6							
BR131	**Keskin Array S**	**74.78**	**308**⇓	*eP*		**P**	**17 15 54.8**	**+2.6**
BR131	**Keskin Array S**	**74.78**	**308**	P		**P**	**17 15 53.0**	**+0.8**
BR131				IAmb	IAmb		17 15 57.0	
	comp=Z,4.0nm,0.9s							
BRTR	**Keskin Array B**	**74.78**	**308**	P		**P**	**17 15 52.4**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=106,slow=6.2,SNR=11							
BRTR	**Keskin Array B**	**74.78**	**308**	*i* P		**P**	**17 15 53.2**	**+1.0**
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
CLL	**Collm**	**80.03**	**326**	*eP*		**P**	**17 16 22.0**	**+0.8**
CLL	**Collm**	**80.03**	**326**	*eP*		**P**	**17 16 22.0**	**+0.8**
GERES	**GERESS Array B**	**81.30**	**323**	P		**P**	**17 16 26.9**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=69,slow=3.3,SNR=4.7							
GERES	**GERESS Array B**	**81.30**	**323**	P		**P**	**17 16 27.0**	**-1.2**
NVAR	**Mina Array Bea**	**84.45**	**47**	P		**P**	**17 16 44.0**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=302,slow=4.5,SNR=4.4							

IDC ***15*** *17:05:49.7±2.3, 10°.20N×126°.35E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.6/54, mbtmp4.0/5, Error ellipse: s-maj=78.7km s-min=29.7km az=74.0*
MAN ***15*** *17:06:15.9, 11°.50N×125°.05E, h97km, mb4.2, ML3.0, MS2.7, Hypocentre not reviewed by the ISC*

ISC 15 17:05:53.9±1.5, 10°.3N±0°.2×126°.6E±0°.1, h35km, n10, σ0s88/7, mb3.9/5, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**2.58**	**271**⇑	*eP*	Pn	17 06 43.6	+10
LLP				*i* S	**Sn**	**17 07 04.2**	**+0.8**
RCP	**Roxas**	**3.99**	**289**⇑	*eP*	**Pn**	**17 06 52.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**27.96**	**290**	P	**P**	**17 11 40.4**	**-1.1**
	1.8nm,0.8s,baz=92,slow=8.3,SNR=9.1						
FITZ	**Fitzroy Crossi**	**28.20**	**182**	P	**P**	**17 11 43.5**	**+0.1**
	2.2nm,0.9s,baz=0.0,slow=10,SNR=3.0						
H11N1	**WAKE ISLAND Hy**	**39.96**	**72**	T	T	17 57 21.5	
	baz=265,slow=74,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**39.97**	**72**	T	T	17 57 20.0	
	baz=265,slow=74,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**39.98**	**72**	T	T	17 57 20.4	
	baz=265,slow=74,SNR=4.4						
MKAR	**Makanchi Array**	**52.22**	**323**	P	**P**	**17 15 01.8**	**+0.3**
	0.4nm,0.3s,baz=112,slow=7.1,SNR=11						
ZALV	**Zalesovo Beam**	**54.78**	**331**	P	**P**	**17 15 20.8**	**+0.7**
	0.5nm,0.3s,baz=114,slow=6.8,SNR=2.6						
KURBB	**Kurchatov Arra**	**56.25**	**325**	P	**P**	**17 15 31.4**	**+0.6**
	1.0nm,0.4s,baz=124,slow=6.9,SNR=13						

JMA 15 17:06:22.8, 33°.11N×131°.20E, h4km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.27**	**273**	P	Pg	17 06 28.4	+0.4
JNU				S	Sg	17 06 32.4	+0.8

JMA 15 17:07:10.4, 32°.93N×131°.06E, h7km±1km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.24**	**321**	P	Pg	17 07 15.2	-0.1
JNU				S	Sg	17 07 18.8	+0.2

IDC ***15*** *17:07:37.8±5.7, 36°.22N×71°.44E, h89km±48km, mb3.2/5, mb1 3.3/8, mb1mx3.1/59, mbtmp3.6/8, Error ellipse: s-maj=38.8km s-min=30.4km az=16.0*
NNC ***15*** *17:07:43.2±10.0, 37°.02N×70°.94E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=116.6km s-min=65.1km az=145.0*

ISC 15 17:07:41.6±1.6, 36°.6N±0°.1×71°.1E±0°.1, h100km, n18, σ1s05/20, mb3.3/4, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.91**	**19**	P	**Pn**	**17 09 07.5**	**+0.5**
	SNR=41						
UCH	**Uchtor**	**6.24**	**24**	P	**Pn**	**17 09 12.5**	**+0.9**
	SNR=12						
EKS2	**Erkin-Say**	**6.43**	**18**	P	**Pn**	**17 09 15.2**	**+1.4**
	SNR=13						
KK31	**Karatay Array**	**6.53**	**356**	P	**Pn**	**17 09 16.0**	**+0.8**
	4.4nm,0.3s,baz=171,slow=11,SNR=73						
KK31				⇑S	**Sn**	**17 10 26.8**	**-1.3**
	4.1nm,0.7s,baz=137,slow=31,SNR=4.2						
AAK	**Ala-Archa**	**6.61**	**23**	P	**Pn**	**17 09 17.6**	**+1.4**
	SNR=18						
AAK	**Ala-Archa**	**6.61**	**23**	P	**Pn**	**17 09 17.4**	**+1.2**
	4.3nm,0.3s,baz=193,slow=6.2,SNR=76						
AAK				S	**Sn**	**17 10 29.1**	**-1.0**
	0.8nm,0.3s,baz=16,slow=20,SNR=2.1						
CHMS	**Chumysh**	**7.01**	**23**	P	**Pn**	**17 09 22.9**	**+1.2**
	SNR=13						
CHMS	**Chumysh**	**7.01**	**23**	⇓P	**Pn**	**17 09 22.3**	**+0.6**
	5.1nm,0.3s						
CHMS				⇑S	**Sn**	**17 10 39.4**	**-0.5**
	5.2nm,0.7s						
USP	**Ospenovka**	**7.18**	**20**	P	**Pn**	**17 09 24.6**	**+0.6**
	SNR=5.8						
MKAR	**Makanchi Array**	**13.20**	**36**	P	**Pn**	**17 10 44.4**	**-0.7**
	0.1nm,0.3s,baz=223,slow=17,SNR=2.2						
AB31	**Akbulak array**	**15.04**	**331**	⇓P	**Pn**	**17 11 07.8**	**-0.9**
	1.2nm,0.5s,baz=147,slow=12,SNR=39						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**P**	**17 11 31.2**	**+0.8**
	0.2nm,0.3s,baz=144,slow=14,SNR=4.0						
ZALV	**Zalesovo Beam**	**19.82**	**24**	P	**P**	**17 12 03.8**	**-0.4**
	1.3nm,0.3s,baz=214,slow=11,SNR=8.0						
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**17 15 42.8**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**17 15 42.7**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=96,slow=7.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**17 18 14.9**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=35,slow=4.9,SNR=1.6						
YKA	**Yellowknife Ar**	**81.17**	**3**	P	**P**	**17 19 45.8**	**0.0**
	comp=Z,0.2nm,0.5s,baz=353,slow=5.3,SNR=4.8						
ASAR	**Alice Springs**	**84.25**	**125**	P	P	17 19 56.8	-5.5
	comp=Z,0.1nm,0.4s,baz=311,slow=6.9,SNR=5.6						

IDC ***15*** *17:09:33.8±0.9, 33°.00N×131°.19E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/56, mbtmp3.6/9, ML3.3/1, Error ellipse: s-maj=24.5km s-min=7.3km az=28.0*
JMA ***15*** *17:09:35.5, 32°.95N×131°.07E, h10km±1km, M3.8*
JMA Felt III J1.

ISC 15 17:09:36.3±0.9, 32°.95N±0°.08×131°.01E±0°.08, h12km, n14, σ1s13/16, mb3.6/8, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.20**	**326**	Pg	**Pg**	**17 09 38.8**	**-2.0**
	1μm,0.3s,baz=125,slow=6.2,SNR=15						
JNU				Lg	Lg	17 09 43.7	
	2μm,0.3s,baz=218,slow=20,SNR=9.7						
JNU	**Nakatsue**	**0.20**	**326**	P	**Pg**	**17 09 40.5**	**-0.3**
JNU				S	**Sg**	**17 09 43.9**	**0.0**
JTA	**Tamana**	**0.41**	**272**	P	**Pg**	**17 09 44.5**	**+0.1**
KSRS	**Korea Array**	**5.16**	**331**	Pn	**Pn**	**17 10 53.5**	**+0.2**
	1.0nm,0.3s,baz=146,slow=14,SNR=1.3						
KSRS				Sn	**Sn**	**17 11 54.7**	**+2.0**
	0.9nm,0.3s,baz=150,slow=25,SNR=4.0						
KSRS				Lg	Lg	17 12 19.1	
	1.5nm,0.3s,baz=153,slow=30,SNR=5.7						
MJAR	**Matsushiro Arr**	**6.92**	**57**	Pn	**Pn**	**17 11 18.6**	**+1.0**
	0.2nm,0.3s,baz=237,slow=12,SNR=6.0						
KLR	**Kul'dur**	**16.27**	**2**	Pn	**P**	**17 13 29.6**	**+2.0**
	0.1nm,0.3s,baz=230,slow=7.6,SNR=4.7						
MKAR	**Makanchi Array**	**39.25**	**305**	P	**P**	**17 17 04.2**	**-0.4**
	0.3nm,0.8s,baz=104,slow=9.1,SNR=2.3						
KURBB	**Kurchatov Arra**	**41.97**	**311**	P	**P**	**17 17 27.1**	**+0.1**
	0.7nm,0.7s,baz=97,slow=8.9,SNR=4.2						
WRA	**Warramunga Arr**	**52.69**	**176**	P	**P**	**17 18 50.0**	**-0.8**
	0.4nm,0.8s,baz=357,slow=8.0,SNR=2.0						
ASAR	**Alice Springs**	**56.37**	**177**	P	**P**	**17 19 17.9**	**+0.4**
	0.3nm,0.6s,baz=9.8,slow=13,SNR=5.0						
KBZ	**Khabaz**	**66.86**	**308**	P	**P**	**17 20 27.4**	**-0.8**
	1.8nm,0.7s,baz=68,slow=5.4,SNR=4.1						
FINES	**FINESS Array B**	**68.25**	**330**	P	**P**	**17 20 35.6**	**-0.9**
	1.3nm,0.9s,baz=64,slow=6.8,SNR=1.5						
YKA	**Yellowknife Ar**	**71.44**	**26**	P	**P**	**17 20 55.5**	**-0.8**
	0.4nm,0.7s,baz=304,slow=6.1,SNR=7.2						
BRTR	**Keskin Array B**	**74.85**	**308**	P	**P**	**17 21 17.7**	**+0.6**
	0.7nm,0.8s,baz=97,slow=6.2,SNR=3.4						

JMA 15 17:12:38.4, 32°.67N×130°.72E, h13km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**147**	P	Pg	17 12 42.1	+0.1
JIU3				S	Sg	17 12 44.7	+0.2
JTA	**Tamana**	**0.33**	**332**	P	Pg	17 12 45.3	+0.1
JTA				S	Sg	17 12 50.1	+0.3

JMA ***15*** *17:12:59.5, 32°.96N×131°.11E, h10km±1km, M3.3*
IDC ***15*** *17:13:02.0±0.6, 33°.02N×131°.23E, h0km, mb4.1/18, mb1 4.2/21, mb1mx4.0/59, mbtmp4.0/21, ML2.6/2, Error ellipse: s-maj=14.1km s-min=5.9km az=18.0*
NEIC ***15*** *17:13:03.5±1.6, 33°.06N±0°.05×131°.18E±0°.05, h7km±5km, mb4.2/10, Error ellipse: s-maj=6.7km s-min=5.5km az=183.0*

ISC 15 17:13:03.7±0.6, 32°.97N±0°.06×131°.12E±0°.05, h12km, n50, σ1s43/52, mb4.1/20, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.26**	**307**	Pg	**Pg**	**17 13 07.5**	**-1.6**
	2μm,0.3s,baz=49,slow=3.1,SNR=20						
JNU				Lg	Lg	17 13 12.3	
	2μm,0.3s,baz=2.1,slow=18,SNR=16						
JNU	**Nakatsue**	**0.26**	**307**	P	**Pg**	**17 13 04.8**	**-4.2**
JNU				*eS*	**Sg**	**17 13 08.5**	**-4.2**
JNU	**Nakatsue**	**0.26**	**307**		**Pg**	**17 13 08.3**	**-0.7**
JNU				Sg	**Sg**	**17 13 12.0**	**-0.7**
JSU	**Suzuyama**	**1.56**	**201**	Pn	**Pb**	**17 13 32.1**	**-0.5**
JTU	**Tsushima**	**2.11**	**318**		**Pn**	**17 13 38.3**	**-0.6**
JMN	**Monobe**	**2.43**	**71**		**Pn**	**17 13 41.7**	**-1.5**
JHS	**Saijyo**	**2.62**	**39**		**Pn**	**17 13 45.0**	**-0.8**
TJN	**Taejon**	**4.60**	**319**	Pn	**Pn**	**17 14 14.3**	**+1.3**
KSRS	**Korea Array**	**5.18**	**331**	Pn	**Pn**	**17 14 18.8**	**-2.2**
	baz=150,slow=16,SNR=2.6						
KSRS				Pg	**Pb**	**17 14 35.9**	**+1.6**
	0.8nm,0.3s,baz=144,slow=17,SNR=3.9						
KSRS				Sn	**Sn**	**17 15 23.8**	**+3.0**
	1.1nm,0.3s,baz=152,slow=29,SNR=3.4						
KSRS				Lg	Lg	17 15 48.0	
	2.2nm,0.3s,baz=152,slow=29,SNR=5.6						
KSAR	**Wonju Array Be**	**5.19**	**330**	Pn	**Pn**	**17 14 18.6**	**-2.5**
KS19	**Wonju Array Si**	**5.25**	**330**	Pn	**Pn**	**17 14 19.7**	**-2.3**
INU	**Inuyama**	**5.43**	**62**		**Pn**	**17 14 23.2**	**-1.2**
JGF	**Kuroka**	**5.79**	**61**	Pn	**Pn**	**17 14 28.0**	**-1.4**
MJB9	**Matsu-Tunnel**	**6.83**	**57**		**Pn**	**17 14 43.3**	**-0.4**
MAJO	**Matsushiro**	**6.83**	**57**		**Pn**	**17 14 43.3**	**-0.4**
MJAR	**Matsushiro Arr**	**6.83**	**57**	Pn	**Pn**	**17 14 44.2**	**+0.5**
	0.3nm,0.3s,baz=285,slow=9.4,SNR=16						
MJAR	**Matsushiro Arr**	**6.83**	**57**		**Pn**	**17 14 43.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**11.23**	**3**	Pn	**Pn**	**17 15 44.8**	**+0.8**
	baz=182,slow=13,SNR=2.8						
KLR	**Kul'dur**	**16.25**	**1**	Pn	**P**	**17 16 53.9**	**-0.9**
	0.2nm,0.3s,baz=172,slow=11,SNR=13						
ULN	**Ulaanbaatar**	**23.47**	**316**	P	**P**	**17 18 13.1**	**-0.1**
ULN				IAmb	IAmb	17 18 17.1	
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**23.84**	**316**	P	**P**	**17 18 17.7**	**+1.0**
	comp=Z,4.9nm,0.8s,baz=132,slow=9.8,SNR=11						
SONM	**Songino Array**	**23.84**	**316**	IAmb	IAmb	17 18 21.0	
	comp=Z,5.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**32.24**	**251**	P	**P**	**17 19 35.0**	**+2.9**
	comp=Z,0.7nm,0.8s,baz=53,slow=5.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**38.73**	**317**	P	**P**	**17 20 26.8**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=307,slow=9.5,SNR=5.1						
MKAR	**Makanchi Array**	**39.31**	**305**	P	**P**	**17 20 34.1**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=106,slow=8.9,SNR=7.2						
MKAR	**Makanchi Array**	**39.31**	**305**	P	**P**	**17 20 32.7**	**+0.2**
KURK	**Kurchatov**	**41.98**	**311**	P	**P**	**17 20 54.9**	**+0.5**
KURBB	**Kurchatov Arra**	**42.03**	**311**	P	**P**	**17 20 55.7**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=97,slow=9.1,SNR=17						
NRIK	**Noril'sk**	**43.74**	**339**	P	**P**	**17 21 08.4**	**0.0**
	comp=Z,8.2nm,0.8s,baz=118,slow=9.3,SNR=18						
NRIK	**Noril'sk**	**43.74**	**339**		**P**	**17 21 08.7**	**+0.3**
NRIK				IAmb	IAmb	17 21 09.9	
	comp=Z,9.1nm,0.9s						
BRVK	**Borovoye**	**47.23**	**314**	P	**P**	**17 21 36.8**	**+0.5**
KK31	**Karatay Array**	**47.86**	**301**	P	**P**	**17 21 42.0**	**+0.6**
KK31				IAmb	IAmb	17 21 54.5	
	comp=Z,0.8nm,0.8s						
GAR	**Garm**	**48.78**	**295**	P	**P**	**17 21 48.5**	**-0.2**
CHGR	**Chuyangaron**	**49.74**	**295**	P	**P**	**17 21 56.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**51.05**	**187**	P	**P**	**17 22 06.5**	**+0.7**
	comp=Z,4.2nm,0.9s,baz=12,slow=6.9,SNR=13						
WRA	**Warramunga Arr**	**52.70**	**176**	P	**P**	**17 22 18.2**	**0.0**
	comp=Z,1.6nm,0.9s,baz=353,slow=7.8,SNR=7.1						
ARU	**Arti**	**53.82**	**319**	P	**P**	**17 22 25.9**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=135,slow=4.3,SNR=6.3						
ABKAR	**Akbulak array**	**54.07**	**310**	P	**P**	**17 22 28.4**	**+0.4**
AKTO	**Aktyubinsk**	**55.07**	**312**	P	**P**	**17 22 34.0**	**-1.2**
	comp=Z,2.4nm,0.9s,baz=75,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**56.38**	**177**	P	**P**	**17 22 45.2**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=358,slow=7.1,SNR=11						
ILAR	**Eielson Array**	**57.35**	**30**	P	**P**	**17 22 50.1**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=275,slow=6.9,SNR=8.4						
C36M	**Paulatuk**	**64.52**	**22**		**P**	**17 23 39.4**	**-0.5**
ARCES	**ARCESS Array B**	**64.70**	**338**	P	**P**	**17 23 41.3**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=57,slow=4.5,SNR=4.9						
ARCES	**ARCESS Array B**	**64.70**	**338**	IAmb	IAmb	17 23 47.8	
	comp=Z,25nm,1.6s						
KBZ	**Khabaz**	**66.92**	**308**	P	**P**	**17 23 57.0**	**+1.2**
	comp=Z,6.7nm,0.8s,baz=90,slow=2.2,SNR=15						
FINES	**FINESS Array B**	**68.28**	**330**	P	**P**	**17 24 04.7**	**+0.6**
	comp=Z,3.3nm,1.0s,baz=58,slow=7.2,SNR=3.6						
YKA	**Yellowknife Ar**	**71.38**	**27**	P	**P**	**17 24 23.6**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=305,slow=6.1,SNR=21						
YKA	**Yellowknife Ar**	**71.38**	**27**	P	**P**	**17 24 23.3**	**+0.1**
NOA	**NORSAR Array B**	**74.39**	**334**	P	**P**	**17 24 40.0**	**-1.2**
	comp=Z,1.4nm,1.1s,baz=44,slow=5.8,SNR=3.4						
BRTR	**Keskin Array B**	**74.91**	**308**	P	**P**	**17 24 44.9**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=95,slow=6.3,SNR=11						

IDC ***15*** *17:14:16.8±1.1, 32°.93N×130°.46E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/55, mbtmp3.6/7, ML2.9/1, Error ellipse: s-maj=26.9km s-min=7.7km az=158.0*
JMA ***15*** *17:14:17.2, 32°.75N×130°.77E, h14km±1km, M4.0*
JMA Felt III J1.

ISC 15 17:14:17.4±0.8, 32°.78N±0°.06×130°.75E±0°.08, h12km, n10, σ1s76/12, mb3.5/6, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.23**	**167**	⇓P	**Pg**	**17 14 21.8**	**-0.5**
JIU3				S	**Sg**	**17 14 25.0**	**-0.6**
JTA	**Tamana**	**0.26**	**316**	⇑P	**Pb**	**17 14 23.5**	**-0.6**
JTA				S	**Sg**	**17 14 27.9**	**+1.4**
JNU	**Nakatsue**	**0.36**	**17**	Pg	**Pb**	**17 14 24.3**	**-1.5**
	3μm,0.3s,baz=23,slow=23,SNR=21						
JNU				Lg	Lg	17 14 30.5	
	3μm,0.3s,baz=34,slow=18,SNR=9.1						
MJAR	**Matsushiro Arr**	**7.20**	**57**	Pn	**Pn**	**17 16 04.7**	**+2.2**
	0.2nm,0.3s,baz=229,slow=13,SNR=1.5						
SONM	**Songino Array**	**23.76**	**316**	P	**P**	**17 19 26.3**	**-3.4**
	1.0nm,0.6s,baz=105,slow=11,SNR=2.0						
CMAR	**Chiang Mai Arr**	**31.89**	**251**	P	**P**	**17 20 43.6**	**+0.9**
	0.3nm,0.7s,baz=46,slow=7.7,SNR=2.4						
MKAR	**Makanchi Array**	**39.17**	**305**	P	**P**	**17 21 44.4**	**-0.6**
	0.5nm,0.9s,baz=94,slow=11,SNR=2.3						
KURBB	**Kurchatov Arra**	**41.92**	**311**	P	**P**	**17 22 07.9**	**+0.3**
	1.0nm,0.7s,baz=97,slow=8.7,SNR=3.5						
ASAR	**Alice Springs**	**56.27**	**177**	P	**P**	**17 23 59.4**	**+2.0**
	0.2nm,0.7s,baz=9.6,slow=13,SNR=5.1						
FINES	**FINESS Array B**	**68.29**	**330**	P	**P**	**17 25 16.9**	**-1.0**
	1.3nm,0.6s,baz=70,slow=7.0,SNR=5.1						

DNK ***15*** *17:15:15.8±0.3, 58°.48N×11°.63E, h0km, ML3.5(UPP), Explosion*

UPP 15 17:15:15.5±0.1, 58°.49N×11°.63E, h0km, ML3.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANU	**Vaenersborg**	**0.23**	**88**	P	Pg	17 15 20.1	+0.2
VANU				S	Sg	17 15 23.1	+0.2
VANU	**Vaenersborg**	**0.23**	**88**	P	Pg	17 15 20.1	+0.2
VANU				S	Sg	17 15 23.1	+0.2
TJOU	**Tjoern**	**0.45**	**180**	P	Pg	17 15 24.2	0.0
TJOU	**Tjoern**	**0.45**	**180**	P	Pg	17 15 24.2	0.0
STRU	**Stroemstad**	**0.60**	**337**	P	Pg	17 15 26.8	-0.2
STRU	**Stroemstad**	**0.60**	**337**	P	Pg	17 15 26.8	-0.2
NASU	**Vaermlandsnaes**	**0.93**	**61**	P	Pg	17 15 32.8	-0.4
NASU	**Vaermlandsnaes**	**0.93**	**61**	P	Pg	17 15 32.8	-0.4
FINU	**Finntorp**	**1.02**	**25**	P	Pg	17 15 34.5	-0.6
FINU	**Finntorp**	**1.02**	**25**	P	Pg	17 15 34.5	-0.6
ONAU	**Onsala**	**1.10**	**172**	P	Pg	17 15 35.8	-0.8
ONAU	**Onsala**	**1.10**	**172**	P	Pg	17 15 35.8	-0.8
FKPU	**Falk**	**1.15**	**106**	P	Pg	17 15 36.5	-1.0
FKPU	**Falk**	**1.15**	**106**	P	Pg	17 15 36.5	-1.0

JMA 15 17:17:12.8, 32°.76N×130°.77E, h13km±1km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.21**	**170**	P	Pg	17 17 17.6	+0.1
JIU3				S	Sg	17 17 21.0	+0.3
JTA	**Tamana**	**0.28**	**316**	P	Pg	17 17 18.7	0.0
JTA				S	Sg	17 17 22.7	0.0

IDC ***15*** *17:17:14.5±1.5, 33°.69N×131°.03E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/50, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=39.9km s-min=14.6km az=95.0*
JMA ***15*** *17:17:14.5, 33°.29N×131°.37E, h7km±1km, M3.4*

ISC 15 17:17:13.5±1.3, 33°.35N±0°.10×131°.30E±0°.09, h9km±10km, n8, σ2s05/10, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.09**	**99**	P	**Pg**	**17 17 16.1**	**+0.2**
JBEP				*eS*	**Sg**	**17 17 17.7**	**+0.1**
JKI	**Kunimi**	**0.36**	**38**	P	**Pn**	**17 17 22.1**	**-2.8**
JKI				*eS*	**Sb**	**17 17 27.4**	**-0.5**
JNU	**Nakatsue**	**0.42**	**237**	Pg	**Pn**	**17 17 25.6**	**-0.2**
	2μm,0.3s,baz=314,slow=12,SNR=10						
JUS	**Usuki**	**0.47**	**127**	S	**Sg**	**17 17 27.1**	**-1.8**
MJAR	**Matsushiro Arr**	**6.50**	**59**	Pn	**Pn**	**17 18 52.7**	**+3.3**
	0.3nm,0.3s,baz=245,slow=14,SNR=8.1						
KLR	**Kul'dur**	**15.87**	**1**	Pn	**P**	**17 21 02.4**	**+1.6**
	0.1nm,0.3s,baz=147,slow=9.4,SNR=6.3						
MKAR	**Makanchi Array**	**39.22**	**305**	P	**P**	**17 24 41.7**	**-0.3**
	0.2nm,0.4s,baz=89,slow=9.2,SNR=2.4						
FINES	**FINESS Array B**	**68.02**	**330**	P	**P**	**17 28 12.4**	**-0.5**
	1.4nm,0.8s,baz=59,slow=5.4,SNR=7.2						

JMA 15 17:17:51.0, 33°.00N×131°.11E, h0km, M2.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.23**	**302**	P	Pg	17 17 56.3	+0.9

IDC ***15*** *17:17:53.7±0.9, 32°.82N×130°.77E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.6/53, mbtmp3.6/10, ML3.1/2, Error ellipse: s-maj=20.8km s-min=6.6km az=109.0*
JMA ***15*** *17:17:55.1, 32°.86N×130°.86E, h11km±1km, M3.8*
JMA Felt IV J1.

ISC 15 17:17:56.3±0.7, 32°.86N±0°.03×130°.84E±0°.06, h12km, n18, σ1s62/21, mb3.7/8, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.26**	**7**	Lg	Lg	17 18 03.9	
	5μm,0.3s,baz=68,slow=12,SNR=18						
JNU	**Nakatsue**	**0.26**	**7**	P	**Pg**	**17 18 00.7**	**-1.0**
JNU				S	**Sg**	**17 18 04.5**	**-0.9**
JNU	**Nakatsue**	**0.26**	**7**	Pg	**Pg**	**17 17 59.5**	**-2.2**
	589nm,0.3s,baz=152,slow=1.8,SNR=2.1			

Islands

ISC 15 17:23:46.1±3.0, **20.8S**±0.1×**169.4E**±0.2, **h30**km, **n11**, σ0**62**/**11**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.46**	**244**	P	**Pn**	**17 24 09.9**	**-0.6**
LIFNC	**LIFOU**	**2.06**	**271**	P	**Pn**	**17 24 17.6**	**-1.0**
PINNC	**Pines Island,**	**2.56**	**226**	P	**Pn**	**17 24 25.2**	**-0.4**
YATNC	**Mamie plateau,**	**2.67**	**242**	P	**Pn**	**17 24 26.8**	**-0.3**
OUENC	**Ouen Island, N**	**2.88**	**236**	P	**Pn**	**17 24 30.6**	**+0.5**
DZM	**Mont Dzumac**	**3.05**	**246**	P	**Pn**	**17 24 33.0**	**+0.6**
ONTNC	**Ouen Toro**	**3.14**	**242**	P	**Pn**	**17 24 33.9**	**+0.3**
RTV	**Rentapao**	**3.17**	**342**	P	**Pn**	**17 24 34.0**	**0.0**
NOUC	**Port Laguerre**	**3.18**	**246**	P	**Pn**	**17 24 34.4**	**+0.3**
DVP	**Devils Point**	**3.31**	**339**	P	**Pn**	**17 24 35.8**	**-0.1**
KOUNC	**Koumac, New Ca**	**4.83**	**272**	P	**Pn**	**17 24 57.6**	**+0.8**

*JMA **15** 17:26:52.0, 33˚.27N×131˚.38E, h8km±1km, M3.3*
*IDC **15** 17:26:52.2±1.0, 33˚.18N×131˚.19E, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.4/60, mbtmp3.4/7, ML2.8/1, Error ellipse: s-maj=18.8km s-min=14.6km az=163.0*

ISC 15 17:26:53.4±0.8, **33.18N**±0.06×**131.29E**±0.05, **h10**km, **n13**, σ2**25**/**14**, **mb3.4/6**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBEP	**Beppuamama**	**0.19**	**31**	P	**Pg**	**17 26 54.1**	**-3.3**
JNU	**Nakatsue**	**0.35**	**261**	Pg	**Pg**	**17 26 56.5**	**-3.9**
	94nm,0.3s,baz=320,slow=6.2,SNR=1.8						
JUS	**Usuki**	**0.40**	**106**	P	**Pg**	**17 26 59.2**	**-2.1**
JUS				S	**Sg**	**17 27 04.6**	**-2.0**
JKI	**Kunimi**	**0.51**	**27**	P	**Pg**	**17 27 00.1**	**-3.3**
KSRS	**Korea Array**	**5.08**	**328**	Pg	**Pb**	**17 28 23.5**	**+1.2**
	0.8nm,0.3s,baz=145,slow=17,SNR=6.2						
KSRS				Lg	Lg	17 29 33.3	
	1.0nm,0.3s,baz=152,slow=28,SNR=4.3						
MJAR	**Matsushiro Arr**	**6.60**	**58**	Pn	**Pn**	**17 28 31.3**	**+0.7**
	0.2nm,0.3s,baz=239,slow=13,SNR=9.0						
KLR	**Kul'dur**	**16.04**	**1**	Pn	**P**	**17 30 44.2**	**+1.8**
	0.2nm,0.3s,baz=170,slow=11,SNR=9.7						
SONM	**Songino Array**	**23.79**	**315**	P	**P**	**17 32 07.8**	**+1.4**
	1.3nm,1.1s,baz=119,slow=8.4,SNR=2.0						
MKAR	**Makanchi Array**	**39.31**	**305**	P	**P**	**17 34 23.1**	**+0.6**
	0.4nm,0.8s,baz=93,slow=8.7,SNR=4.1						
WRA	**Warramunga Arr**	**52.90**	**176**	P	**P**	**17 36 09.8**	**+0.1**
	0.5nm,0.9s,baz=2.2,slow=7.7,SNR=2.2						
ASAR	**Alice Springs**	**56.58**	**177**	P	**P**	**17 36 38.1**	**+1.7**
	0.4nm,0.8s,baz=8.6,slow=8.7,SNR=3.3						
ILAR	**Eielson Array**	**57.10**	**30**	P	**P**	**17 36 39.4**	**-0.1**
	0.3nm,0.7s,baz=247,slow=6.7,SNR=2.4						
YKA	**Yellowknife Ar**	**71.13**	**27**	P	**P**	**17 38 11.7**	**-0.1**
	0.3nm,0.8s,baz=306,slow=6.3,SNR=5.1						

JMA 15 17:27:02.3, 33˚.25N×131˚.38E, **h7**km, **M3.7**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBEP	**Beppuamama**	**0.09**	**15**	P	Pg	17 27 04.4	-0.1
JBEP				S	Sg	17 27 05.9	-0.1
JUS	**Usuki**	**0.36**	**120**	P	Pg	17 27 09.4	+0.1
JKI	**Kunimi**	**0.41**	**22**	P	Pg	17 27 10.5	+0.2
JKI				S	Sg	17 27 16.2	+0.4

*IDC **15** 17:29:02.2±2.7, 32˚.76N×131˚.35E, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.4/68, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=57.5km s-min=21.9km az=16.0*
*JMA **15** 17:29:03.8, 33˚.26N×131˚.37E, h8km±1km, M3.7*
JMA Felt III J1.

ISC 15 17:29:05.8±0.9, **33.24N**±0.05×**131.38E**±0.05, **h10**km, **n10**, σ1**88**/**12**, **mb3.2/4**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBEP	**Beppuamama**	**0.10**	**16**	P	**Pg**	**17 29 06.0**	**-2.4**
JUS	**Usuki**	**0.36**	**119**	P	**Pg**	**17 29 11.2**	**-1.8**
JUS				S	**Sg**	**17 29 16.2**	**-1.6**
JKI	**Kunimi**	**0.42**	**23**	P	**Pg**	**17 29 12.1**	**-2.0**
JKI				S	**Sg**	**17 29 17.8**	**-1.8**
JNU	**Nakatsue**	**0.43**	**254**	Pg	**Pg**	**17 29 12.1**	**-2.3**
	251nm,0.3s,baz=57,slow=6.3,SNR=2.6						
MJAR	**Matsushiro Arr**	**6.51**	**58**	Pn	**Pn**	**17 30 43.1**	**+1.5**
	0.4nm,0.3s,baz=238,slow=13,SNR=13						
KLR	**Kul'dur**	**15.97**	**1**	Pn	**P**	**17 32 56.3**	**+2.2**
	0.2nm,0.3s,baz=162,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**39.33**	**305**	P	**P**	**17 36 35.5**	**+0.4**
	0.4nm,0.8s,baz=83,slow=9.5,SNR=3.1						
KURBB	**Kurchatov Arra**	**42.01**	**311**	P	**P**	**17 36 57.1**	**0.0**
	0.3nm,0.6s,baz=96,slow=9.9,SNR=3.3						
FINES	**FINESS Array B**	**68.14**	**330**	P	**P**	**17 40 06.6**	**+0.8**
	1.6nm,0.8s,baz=44,slow=8.3,SNR=3.7						
YKA	**Yellowknife Ar**	**71.04**	**27**	P	**P**	**17 40 24.0**	**+0.4**
	0.1nm,0.5s,baz=300,slow=6.1,SNR=5.4						

JMA 15 17:30:49.4, 32˚.87N×130˚.84E, **h14**km±1km, **M3.5**, **1C**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.28**	**290**	P	Pg	17 30 55.3	+0.1
JTA				S	Sg	17 30 59.4	+0.2
JIU3	**Izumi3**	**0.32**	**184**	⇑P	Pg	17 30 56.0	0.0
JIU3				S	Sg	17 31 00.7	+0.2

JMA 15 17:31:14.6, 32˚.76N×130˚.75E, **h17**km±1km, **M3.6**, **1C**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.22**	**166**	P	Pg	17 31 19.6	-0.1
JIU3				S	Sg	17 31 23.1	-0.1
JTA	**Tamana**	**0.27**	**318**	⇑P	Pg	17 31 20.6	0.0
JTA				S	Sg	17 31 24.7	0.0

*IDC **15** 17:33:50.8±5.7, 33˚.07N×131˚.59E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.3/60, mbtmp3.6/7, ML2.9/1, Error ellipse: s-maj=138.3km s-min=10.8km az=174.0*
*JMA **15** 17:33:55.0, 32˚.95N×131˚.09E, h12km±1km, M2.1*

ISC 15 17:33:52.5±3.0, **33.1N**±0.4×**131.37E**±0.09, **h10**km, **n10**, σ1**66**/**11**, **mb3.5/6**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.42**	**279**	Pg	**Pb**	**17 34 02.7**	**+0.7**
	210nm,0.3s,baz=1.0,slow=4.6,SNR=3.0						
JNU				Lg	Lg	17 34 10.2	
	440nm,0.3s,baz=198,slow=9.9,SNR=7.4						
JNU	**Nakatsue**	**0.42**	**279**	P	**Pg**	**17 34 00.2**	**-0.6**
JNU				S	**Sg**	**17 34 04.0**	**-2.3**
MJAR	**Matsushiro Arr**	**6.61**	**56**	Pn	**Pn**	**17 35 28.7**	**-1.0**
	0.3nm,0.3s,baz=242,slow=14,SNR=8.0						
KLR	**Kul'dur**	**16.16**	**1**	Pn	**P**	**17 37 43.2**	**+0.4**
	0.2nm,0.3s,baz=174,slow=11,SNR=2.3						
SONM	**Songino Array**	**23.93**	**315**	P	**P**	**17 39 09.6**	**+2.9**
	0.5nm,0.5s,baz=116,slow=9.8,SNR=2.6						
MKAR	**Makanchi Array**	**39.43**	**305**	P	**P**	**17 41 24.8**	**+2.2**
	0.5nm,0.8s,baz=90,slow=12,SNR=3.7						
KURBB	**Kurchatov Arra**	**42.13**	**311**	P	**P**	**17 41 44.9**	**+0.1**
	0.3nm,0.7s,baz=93,slow=8.9,SNR=2.5						
ILAR	**Eielson Array**	**57.17**	**30**	P	**P**	**17 43 38.1**	**-1.0**
	0.3nm,0.6s,baz=286,slow=7.4,SNR=2.8						
ARCES	**ARCESS Array B**	**64.69**	**338**	P	**P**	**17 44 29.6**	**-0.6**
	2.2nm,0.9s,baz=60,slow=9.4,SNR=5.0						
FINES	**FINESS Array B**	**68.31**	**330**	P	**P**	**17 44 53.0**	**-0.4**
	1.0nm,0.6s,baz=46,slow=5.5,SNR=6.4						

*IDC **15** 17:34:51.1±1.2, 32˚.93N×131˚.43E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.3/58, mbtmp3.6/6, Error ellipse: s-maj=28.2km s-min=10.2km az=30.0*
*JMA **15** 17:34:53.9, 32˚.74N×130˚.76E, h13km±1km, M3.9*
JMA Felt III J1.

ISC 15 17:34:54.2±1.0, **32.77N**±0.06×**130.9E**±0.1, **h12**km, **n10**, σ1**57**/**12**, **mb3.4/6**, **1C**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.23**	**195**	P	**Pg**	**17 34 58.4**	**-0.6**
JIU3				S	**Sg**	**17 35 01.6**	**-0.7**

JNU	**Nakatsue**	**0.35**	**360**	Pg	**Pb**	**17 35 01.7**	**-0.7**
	270nm,0.3s,baz=220,slow=20,SNR=1.2						
JNU				Lg	Lg	17 35 07.0	
	2μm,0.3s,baz=36,slow=15,SNR=17						
JTA	**Tamana**	**0.35**	**303**	⇑P	**Pg**	**17 35 00.0**	**-1.2**
JTA				S	**Sg**	**17 35 04.2**	**-1.8**
KSRS	**Korea Array**	**5.26**	**333**	Pg	**Pb**	**17 36 28.9**	**+2.8**
	1.1nm,0.3s,baz=156,slow=15,SNR=3.6						
KSRS				Lg	Lg	17 37 40.1	
	2.8nm,0.3s,baz=159,slow=28,SNR=5.5						
SONM	**Songino Array**	**23.84**	**316**	P	**P**	**17 40 09.0**	**+1.7**
	0.7nm,0.6s,baz=120,slow=8.5,SNR=2.1						
MKAR	**Makanchi Array**	**39.26**	**305**	P	**P**	**17 42 24.4**	**+1.9**
	0.2nm,0.4s,baz=104,slow=8.7,SNR=2.9						
KURBB	**Kurchatov Arra**	**42.01**	**311**	P	**P**	**17 42 44.8**	**-0.3**
	0.7nm,0.7s,baz=97,slow=9.0,SNR=4.6						
WRA	**Warramunga Arr**	**52.52**	**176**	P	**P**	**17 44 07.3**	**0.0**
	0.7nm,1.1s,baz=355,slow=8.1,SNR=2.6						
ASAR	**Alice Springs**	**56.19**	**177**	P	**P**	**17 44 33.0**	**-1.0**
	0.3nm,0.8s,baz=13,slow=13,SNR=2.2						
FINES	**FINESS Array B**	**68.35**	**330**	P	**P**	**17 45 54.2**	**-0.9**
	1.0nm,0.5s,baz=72,slow=6.0,SNR=12						

JMA 15 17:35:36.2, 32˚.79N×130˚.78E, **h14**km±1km, **M3.5**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.24**	**173**	P	Pg	17 35 41.5	+0.1
JIU3				S	Sg	17 35 45.1	+0.1
JTA	**Tamana**	**0.27**	**310**	P	Pg	17 35 42.0	+0.1
JTA				S	Sg	17 35 45.9	+0.1

JMA 15 17:36:49.3, 32˚.83N×130˚.84E, **h13**km±1km, **M3.8**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.28**	**185**	*e*S	Sg	17 36 59.6	+0.5
JTA	**Tamana**	**0.29**	**297**	S	Sg	17 36 59.7	+0.3

JMA 15 17:41:18.6, 32˚.68N×130˚.76E, **h11**km±1km, **M3.6**, **1C**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.14**	**161**	P	Pg	17 41 22.0	+0.1
JIU3				*e*S	Sg	17 41 24.6	+0.4
JTA	**Tamana**	**0.34**	**326**	⇑P	Pg	17 41 25.5	0.0

*IDC **15** 17:45:24.3±0.8, 32˚.97N×131˚.14E, h0km, mb3.8/10, mb1 4.0/13, mb1mx3.7/74, mbtmp3.8/13, ML3.4/3, Error ellipse: s-maj=19.4km s-min=6.0km az=34.0*
*JMA **15** 17:45:24.6, 33˚.13N×131˚.18E, h7km±1km, M3.7*
JMA Felt II J1.

ISC 15 17:45:26.3±0.7, **33.04N**±0.06×**131.19E**±0.03, **h12**km, **n18**, σ1**70**/**24**, **mb3.8/10**, **1D**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.28**	**288**	⇓P	**Pg**	**17 45 29.7**	**-2.4**
JNU				*e*S	**Sg**	**17 45 33.4**	**-2.5**
JBEP	**Beppuamama**	**0.35**	**31**	P	**Pg**	**17 45 30.6**	**-2.8**
JBEP				S	**Sg**	**17 45 35.1**	**-3.0**
JUS	**Usuki**	**0.47**	**86**	P	**Pg**	**17 45 33.8**	**-1.8**
JUS				S	**Sg**	**17 45 40.6**	**-1.2**
JTA	**Tamana**	**0.56**	**263**	P	**Pg**	**17 45 35.5**	**-1.8**
JTA				S	**Sg**	**17 45 44.0**	**-0.7**
KSRS	**Korea Array**	**5.16**	**330**	Pn	**Pn**	**17 46 43.4**	**+0.1**
	0.2nm,0.3s,baz=146,slow=15,SNR=3.7						
KSRS				Pg	**Pb**	**17 46 58.9**	**+2.5**
	0.9nm,0.3s,baz=149,slow=18,SNR=8.8						
KSRS				Sn	**Sn**	**17 47 43.8**	**+1.1**
	0.5nm,0.3s,baz=154,slow=28,SNR=4.0						
KSRS				Lg	Lg	17 48 05.1	
	1.2nm,0.3s,baz=152,slow=29,SNR=4.5						
MJAR	**Matsushiro Arr**	**6.75**	**57**	Pn	**Pn**	**17 47 06.3**	**+1.1**
	0.2nm,0.3s,baz=225,slow=15,SNR=5.8						
KLR	**Kul'dur**	**16.18**	**1**	Pn	**P**	**17 49 17.7**	**+1.1**
	0.2nm,0.3s,baz=159,slow=10,SNR=15						
SONM	**Songino Array**	**23.83**	**316**	P	**P**	**17 50 39.3**	**-0.1**
	2.1nm,0.8s,baz=110,slow=8.1,SNR=8.0						
MKAR	**Makanchi Array**	**39.32**	**305**	P	**P**	**17 52 56.1**	**+0.8**
	0.4nm,0.8s,baz=99,slow=8.9,SNR=3.4						
KURBB	**Kurchatov Arra**	**42.03**	**311**	P	**P**	**17 53 18.0**	**+0.5**
	1.0nm,0.9s,baz=97,slow=9.6,SNR=5.2						
NRIK	**Noril'sk**	**43.69**	**339**	P	**P**	**17 53 31.4**	**+0.6**
	1.5nm,0.3s,baz=123,slow=13,SNR=5.8						
WRA	**Warramunga Arr**	**52.77**	**176**	P	**P**	**17 54 39.3**	**-2.0**
	0.9nm,1.0s,baz=344,slow=7.9,SNR=4.4						
ASAR	**Alice Springs**	**56.45**	**177**	P	**P**	**17 55 07.4**	**-0.6**
	1.3nm,0.9s,baz=17,slow=8.4,SNR=5.0						
ILAR	**Eielson Array**	**57.26**	**30**	P	**P**	**17 55 13.8**	**+0.5**
	0.3nm,0.6s,baz=276,slow=6.9,SNR=2.4						
KBZ	**Khabaz**	**66.93**	**308**	P	**P**	**17 56 19.2**	**+0.6**
	3.5nm,0.9s,baz=102,slow=4.5,SNR=8.7						
YKA	**Yellowknife Ar**	**71.29**	**27**	P	**P**	**17 56 45.4**	**+0.1**
	0.6nm,0.7s,baz=305,slow=5.8,SNR=12						
BRTR	**Keskin Array B**	**74.92**	**308**	P	**P**	**17 57 07.5**	**+0.1**
	1.9nm,1.0s,baz=103,slow=4.6,SNR=5.7						

JMA 15 17:46:38.5±0.3, **28.15N**×**128.07E**, **h17**km, **M2.4**, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.86**	**115**	P	Pb	17 46 54.2	-0.8
JTK				S	Sb	17 47 06.0	-0.2
JOKE	**Okinoerabujima**	**0.90**	**150**	P	Pb	17 46 55.8	+0.1
JAMN	**Amaminishikomi**	**0.98**	**84**	P	Pb	17 46 56.9	-0.1
JAMN				S	Sb	17 47 10.0	+0.3
JIH	**Iheya**	**1.11**	**185**	P	Pb	17 46 58.6	-0.7
JIH				S	Sb	17 47 13.1	-0.4
JYRO	**Yoronjima**	**1.17**	**163**	P	Pb	17 47 00.2	-0.1
JYRO				*e*S	Sb	17 47 15.3	+0.1
JOW	**Kunigami**	**1.32**	**172**	Pn	Pn	17 47 02.4	+0.2
	6.1nm,0.3s,baz=69,slow=16,SNR=7.9						
JOW	**Kunigami**	**1.32**	**172**	P	Pn	17 47 02.3	+0.1
JOW				S	Sn	17 47 19.1	-0.4

*IDC **15** 17:49:16.2±0.8, 33˚.25N×131˚.49E, h0km, mb3.8/16, mb1 3.9/18, mb1mx3.7/72, mbtmp3.8/18, ML3.1/2, Error ellipse: s-maj=14.9km s-min=8.5km az=157.0*
*JMA **15** 17:49:16.6, 33˚.30N×131˚.45E, h3km±1km, M3.9*
JMA Felt IV J1.
*NEIC **15** 17:49:18.1±1.4, 33˚.21N±0.04×131˚.33E±0.05, h10km±1km, mb4.5/26, Error ellipse: s-maj=8.4km s-min=7.0km az=54.0*

ISC 15 17:49:16.8±1.1, **33.26N**±0.03×**131.44E**±0.03, **h2**km±7km, **n70**, σ1**25**/**75**, **mb4.3**/31, **1C**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBEP	**Beppuamama**	**0.08**	**341**	P	**Pg**	**17 49 17.8**	**-0.6**
JBEP				S	**Sg**	**17 49 19.0**	**-0.5**
JUS	**Usuki**	**0.33**	**127**	P	**Pg**	**17 49 23.3**	**+0.2**
JUS				*e*S	**Sg**	**17 49 28.1**	**+0.8**
JKI	**Kunimi**	**0.39**	**17**	P	**Pg**	**17 49 23.7**	**-0.5**
JKI				*e*S	**Sg**	**17 49 28.7**	**-0.5**
JNU	**Nakatsue**	**0.49**	**254**	Pg	**Pg**	**17 49 26.1**	**0.0**
	213nm,0.3s,baz=69,slow=13,SNR=11						
JNU				Lg	Lg	17 49 33.8	
	304nm,0.3s,baz=86,slow=9.4,SNR=7.1						
JNU	**Nakatsue**	**0.49**	**254**	Pg	**Pg**	**17 49 25.8**	**-0.4**
JSU	**Suzuyama**	**1.94**	**206**		**Pn**	**17 49 49.8**	**-1.0**
JMN	**Monobe**	**2.09**	**76**		**Pb**	**17 49 55.5**	**0.0**
JTU	**Tsushima**	**2.11**	**307**	Pn	**Pn**	**17 49 53.5**	**+0.4**
JHS	**Saijyo**	**2.22**	**38**	Pn	**Pn**	**17 49 55.5**	**+0.9**
TJN	**Taejon**	**4.57**	**314**		**Pn**	**17 50 25.6**	**-1.3**
INU	**Inuyama**	**5.07**	**64**	Pn	**Pn**	**17 50 34.5**	**+0.7**
KSRS	**Korea Array**	**5.07**	**327**	Pn	**Pn**	**17 50 34.3**	**+0.5**
	0.3nm,0.3s,baz=144,slow=14,SNR=1.9						
KSRS				Pg	**Pb**	**17 50 49.0**	**+2.8**
	0.7nm,0.3s,baz=140,slow=17,SNR=4.1						
KSRS				Sn	**Sn**	**17 51 37.1**	**+4.1**
	1.1nm,0.3s,baz=149,slow=28,SNR=3.8						
KSRS				Lg	Lg	17 51 57.5	

	3.7nm,0.3s,baz=144,slow=31,SNR=8.2						
KSAR	**Wonju Array Be**	**5.08**	**326**	Pn	**Pn**	**17 50 32.1**	**-1.8**
KS19	**Wonju Array Si**	**5.14**	**326**		**Pn**	**17 50 33.4**	**-1.4**
JGF	**Kuroka**	**5.42**	**63**	Pn	**Pn**	**17 50 38.1**	**-0.6**
MAJO	**Matsushiro**	**6.45**	**58**	Pn	**Pn**	**17 50 54.8**	**+1.9**
MJB9	**Matsu-Tunnel**	**6.45**	**58**		**Pn**	**17 50 54.1**	**+1.3**
MJAR	**Matsushiro Arr**	**6.45**	**58**	Pn	**Pn**	**17 50 54.4**	**+1.5**
	1.1nm,0.3s,baz=241,slow=13,SNR=15						
JOW	**Kunigami**	**6.97**	**204**	Pn	**Pn**	**17 51 01.6**	**+1.7**
NJ2	**Nanjing**	**10.68**	**267**	*e*P	**Pn**	**17 51 51.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
KLR	**Kul'dur**	**15.96**	**1**	Pn	**P**	**17 53 05.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=186,slow=10,SNR=11						
HHC	**Hu-ho-hao-te**	**17.56**	**301**	*e*P	**Pn**	**17 53 21.8**	**-0.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,4μm,4.6s						
ULN	**Ulaanbaatar**	**23.45**	**316**	P	**P**	**17 54 27.0**	**-0.5**
ULN				IAmb	IAmb	17 54 31.8	
	comp=Z,10nm,1.1s						
SONM	**Songino Array**	**23.82**	**315**	P	**P**	**17 54 31.8**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=128,slow=12,SNR=7.1						
SONM	**Songino Array**	**23.82**	**315**	P	**P**	**17 54 29.5**	**-1.7**
KMI	**Kunming**	**26.27**	**260**	⇑P	**P**	**17 54 54.5**	**+0.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH	**PanZhiHua**	**26.56**	**263**	P	**P**	**17 54 59.9**	**+3.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
SEY	**Seymchan**	**32.50**	**18**	P	**P**	**17 55 49.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=187,slow=7.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**32.59**	**251**	P	**P**	**17 55 51.5**	**+1.8**
	comp=Z,0.4nm,0.9s,baz=51,slow=4.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**32.59**	**251**	P	**P**	**17 55 49.5**	**-0.3**
WMQ	**Urumqi**	**35.43**	**300**	*e*P	**P**	**17 56 16.6**	**+2.3**
SMY	**Shemya**	**36.09**	**44**	P	**P**	**17 56 18.5**	**-1.3**
ZALV	**Zalesovo Beam**	**38.70**	**317**	P	**P**	**17 56 41.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=108,slow=7.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**38.70**	**317**	P	**P**	**17 56 40.2**	**-1.6**
MKAR	**Makanchi Array**	**39.36**	**305**	P	**P**	**17 56 47.6**	**0.0**
	comp=Z,1.2nm,0.8s,baz=89,slow=11,SNR=11						
MKAR	**Makanchi Array**	**39.36**	**305**	P	**P**	**17 56 46.7**	**-0.8**
KURK	**Kurchatov**	**41.99**	**311**	P	**P**	**17 57 09.3**	**+0.2**
BRVK	**Borovoye**	**47.22**	**314**	P	**P**	**17 57 50.7**	**-0.2**
BRVK				IAmb	IAmb	17 57 53.9	
	comp=Z,2.1nm,0.7s						
KK31	**Karatay Array**	**47.94**	**300**	P	**P**	**17 57 55.7**	**-1.0**
KK31				IAmb	IAmb	17 57 59.8	
	comp=Z,7.8nm,1.2s						
KKAR	**Karatay Array**	**47.94**	**300**	P	**P**	**17 57 55.8**	**-0.9**
KKAR	**Karatay Array**	**47.94**	**300**	P	**P**	**17 57 55.5**	**-1.2**
KKAR				IAmb	IAmb	17 57 59.8	
	comp=Z,7.8nm,1.2s						
NIL	**Nilore**	**47.97**	**287**	P	**P**	**17 57 55.3**	**-1.8**
NIL				IAmb	IAmb	17 58 16.1	
	comp=Z,6.2nm,1.2s						
KNRA	**Kununurra**	**48.73**	**183**	P	**P**	**17 58 01.5**	**-1.3**
KNRA				IAmb	IAmb	17 58 16.7	
	comp=Z,6.8nm,1.1s						
GAR	**Garm**	**48.89**	**295**	P	**P**	**17 58 03.7**	**-0.6**
CHGR	**Chuyangaron**	**49.85**	**295**	P	**P**	**17 58 10.7**	**-0.8**
WRA	**Warramunga Arr**	**52.98**	**177**	P	**P**	**17 58 33.4**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=352,slow=7.8,SNR=6.0						
WRA	**Warramunga Arr**	**52.98**	**177**	P	**P**	**17 58 33.9**	**-1.0**
WB2	**Warramunga Arr**	**52.98**	**177**	P	**P**	**17 58 33.8**	**-1.1**
WB2				IAmb	IAmb	17 59 11.3	
	comp=Z,18nm,1.7s						
ARU	**Arti**	**53.77**	**319**	P	**P**	**17 58 41.1**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=143,slow=5.1,SNR=2.2						
J20K	**Nowinta River**	**53.89**	**31**	P	**P**	**17 58 42.6**	**+1.5**
J20K				IAmb	IAmb	17 59 01.8	
	comp=Z,16nm,1.8s						
K20K	**Telida**	**53.97**	**32**	P	**P**	**17 58 44.0**	**+2.3**
K20K				IAmb	IAmb	17 59 04.7	
	comp=Z,14nm,1.6s						
ABKAR	**Akbulak array**	**54.08**	**310**	P	**P**	**17 58 42.1**	**-0.6**
ABKAR	**Akbulak array**	**54.08**	**310**	P	**P**	**17 58 42.1**	**-0.6**
ABKAR				IAmb	IAmb	17 58 47.0	
	comp=Z,1.7nm,0.8s						
H21K	**Melozitna River**	**54.39**	**30**	P	**P**	**17 58 46.2**	**+1.4**
H21K				IAmb	IAmb	17 59 17.5	
	comp=Z,8.3nm,1.5s						
PPLA	**Purkeypile**	**54.85**	**33**	P	**P**	**17 58 49.2**	**+0.9**
AKTO	**Aktyubinsk**	**55.07**	**312**	P	**P**	**17 58 50.8**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=72,slow=13,SNR=4.0						
TRF	**Thorofare Moun**	**55.65**	**32**	P	**P**	**17 58 53.4**	**-0.8**
H23K	**Yukon River**	**55.72**	**29**	P	**P**	**17 58 55.7**	**+1.2**
H23K				IAmb	IAmb	17 59 01.2	
	comp=Z,3.4nm,0.8s						
MDM	**Murphy Dome**	**56.37**	**30**	P	**P**	**17 58 59.3**	**+0.2**
MDM				IAmb	IAmb	17 59 01.0	
	comp=Z,3.1nm,0.9s						
ASAR	**Alice Springs**	**56.66**	**177**	P	**P**	**17 59 01.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=8.6,slow=8.6,SNR=8.5						
ILAR	**Eielson Array**	**56.96**	**30**	P	**P**	**17 59 02.9**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=272,slow=5.6,SNR=2.8						
DHY	**Denali Highway**	**57.01**	**32**	P	**P**	**17 59 02.8**	**-1.0**
DHY				IAmb

XOR S Sb 17 54 58.6 -0.9
comp=N,12µm,0.4s
AGG Agios Georgios 0.55 279 P Pg 17 54 53.3 -0.5
AGG S Sg 17 55 01.7 +0.7
AGG AML AML 17 55 04.7
comp=N,15427µm,0.7s
AGG AML AML 17 55 05.5
comp=E,10796µm,0.4s
AGG Agios Georgios 0.55 279 P Pg 17 54 53.3 -0.5
AGG S Sg 17 55 01.1 +0.1
AGG Agios Georgios 0.55 279 PG Sg 17 54 53.3 -0.5
AGG SG Sg 17 55 01.4 +0.4
DLFA Delphi 0.62 222 P Pg 17 54 54.5 -0.6
DLFA S Sg 17 55 03.0 -0.2
DLFA AML AML 17 55 04.3
comp=E,58717µm,0.5s
DLFA AML AML 17 55 05.5
comp=N,37668µm,0.6s
ALNA Alonissos 0.69 72 P Pg 17 54 56.4 -0.1
ALNA S Sb 17 55 06.0 -0.4
ALNA AML AML 17 55 09.1
comp=E,40934µm,0.7s
ALNA AML AML 17 55 09.1
comp=N,37495µm,0.7s
MAKR Makrakomi, Fth 0.70 277 P Pg 17 54 56.5 -0.2
MAKR S Sb 17 55 07.0 +0.3
MAKR AML AML 17 55 10.1
comp=E,23905µm,0.4s
MAKR AML AML 17 55 12.1
comp=N,23486µm,0.4s
MAKR Makrakomi, Fth 0.70 277 P Pg 17 54 56.3 -0.3
MAKR S Sb 17 55 06.5 -0.2
comp=N,22µm,0.4s
VIL2 Platees 0.75 165 P Pg 17 54 57.7 +0.1
VIL2 S Sb 17 55 09.5 +1.3
VIL2 AML AML 17 55 11.1
comp=N,43352µm,0.5s
VIL2 AML AML 17 55 12.4
comp=E,80715µm,0.6s
VILL Villia 0.81 163 P Pg 17 54 57.8 -0.9
VILL S Sb 17 55 10.0 +0.2
ANX Ano Chora 0.93 249 P Pg 17 55 00.1 -0.8
ANX S Sg 17 55 12.9 -0.2
ANX AML AML 17 55 17.5
comp=E,20701µm,1.1s
ANX AML AML 17 55 18.7
comp=N,15898µm,0.5s
ANX Ano Chora 0.93 249 P Pg 17 55 00.2 -0.8
ANX S Sb 17 55 13.4 +0.1
comp=N,8µm,0.5s
THAL Thalero 0.94 197 P Pg 17 55 00.6 -0.7
THAL S Sb 17 55 14.1 +0.4
THAL AML AML 17 55 20.9
comp=E,29950µm,0.5s
THAL AML AML 17 55 21.9
comp=N,26613µm,0.4s
THAL Thalero 0.94 197 P Pg 17 55 00.6 -0.7
THAL S Sb 17 55 14.6 +0.9
comp=N,16µm,0.3s
EVR Evrytania 0.95 269 P Pg 17 55 01.2 -0.1
EVR S Sb 17 55 14.2 +0.2
EVR AML AML 17 55 22.8
comp=N,5082µm,1.1s
EVR AML AML 17 55 24.7
comp=E,4432µm,0.8s
EVR Evrytania 0.95 269 P Pg 17 55 00.5 -0.9
EVR S Sb 17 55 14.1 +0.2
ALIK Aliki, Aigiali 0.98 227 P Pg 17 55 01.7 -0.3
ALIK S Sb 17 55 15.8 +1.0
THL Klokotos Trika 1.00 309 P Pg 17 55 01.3 -1.1
THL S Sb 17 55 15.8 +0.4
THL AML AML 17 55 18.2
comp=N,2251µm,0.8s
THL AML AML 17 55 19.6
comp=E,3382µm,0.8s
THL Klokotos Trika 1.00 309 P Pg 17 55 01.3 -1.1
THL S Sb 17 55 16.1 +0.7
EFP Efpalio 1.01 240 P Pb 17 55 02.5 0.0
EFP S Sg 17 55 15.5 -0.3
EFP AML AML 17 55 21.9
comp=N,12265µm,0.7s
EFP AML AML 17 55 23.6
comp=E,16755µm,0.9s
EFP Efpalio 1.01 240 P Pb 17 55 02.0 -0.5
EFP S Sb 17 55 16.0 +0.3
LAKA Lakka 1.07 230 P Pb 17 55 03.2 -0.3
LAKA S Sb 17 55 17.6 +0.1
LAKA AML AML 17 55 23.2
comp=N,3725µm,0.6s
LAKA AML AML 17 55 25.2
comp=E,4057µm,0.7s
LAKA Lakka 1.07 230 P Pb 17 55 02.9 -0.6
LAKA S Sg 17 55 17.9 +0.1
PTL Penteli 1.11 143 P Pb 17 55 03.9 -0.2
PTL S Sb 17 55 17.8 -0.7
PTL AML AML 17 55 19.8
comp=N,15780µm,0.6s
PTL AML AML 17 55 21.9
comp=E,8889µm,0.4s
PTL Penteli 1.11 143 P Pb 17 55 03.7 -0.4
ATH Athens Observa 1.11 150 P Pb 17 55 03.9 -0.2
ATH S Sb 17 55 18.4 0.0
ATH AML AML 17 55 19.9
comp=E,28248µm,0.4s
ATH AML AML 17 55 22.7
comp=N,23458µm,0.3s
ATH Athens Observa 1.11 150 P Pb 17 55 03.9 -0.2
PAIG Paliouri 1.11 27 P Pb 17 55 03.4 -0.8
PAIG S Sg 17 55 18.8 -0.2
PAIG AML AML 17 55 21.6
comp=E,3401µm,0.6s
PAIG AML AML 17 55 22.5
comp=N,2195µm,0.4s
DION Dionisos Attik 1.12 140 P Pb 17 55 04.2 -0.1
DION S Sb 17 55 18.1 -0.6
DION AML AML 17 55 20.3
comp=N,20792µm,0.5s
DION AML AML 17 55 22.5
comp=E,22615µm,0.3s
DION Dionisos Attik 1.12 140 P Pb 17 55 03.9 -0.4
KLV Kalavryta, Ach 1.12 218 P Pb 17 55 04.0 -0.5
KLV S Sg 17 55 19.4 +0.1
KLV AML AML 17 55 23.2
comp=N,5191µm,0.5s
KLV AML AML 17 55 23.9
comp=E,4404µm,0.7s
KLV Kalavryta, Ach 1.12 218 P Pb 17 55 03.5 -0.9
ATHU Athens Univers 1.14 148 P Pb 17 55 04.4 -0.2
ATHU Athens Univers 1.14 148 P Pb 17 55 04.2 -0.5
SKY Skiros Island 1.19 92 P Pn 17 55 04.8 -0.7
SKY S Sb 17 55 20.0 -0.9
SKY AML AML 17 55 25.0
comp=E,5991µm,0.3s
SKY AML AML 17 55 25.6
comp=N,6689µm,0.2s
SKY Skiros Island 1.19 92 P Pn 17 55 04.5 -1.0
LIT Litokhoron 1.23 341 P Pn 17 55 05.6 -0.5
LIT Litokhoron 1.23 341 P Pn 17 55 05.3 -0.8
VLY Voula,Athens 1.24 150 P Pn 17 55 05.9 -0.3
VLY S Sb 17 55 21.4 -0.9
VLY AML AML 17 55 26.1
comp=N,33384µm,0.7s
VLY AML AML 17 55 29.3
comp=E,12422µm,0.5s
VLY Voula,Athens 1.24 150 P Pn 17 55 05.7 -0.5
EPID Epidavros 1.32 177 P Pn 17 55 07.4 0.0
EPID Epidavros 1.32 177 P Pn 17 55 06.5 -0.8
DRO Drossia 1.42 227 P Pb 17 55 09.3 -0.2
DRO S Sn 17 55 27.6 +0.2
DRO AML AML 17 55 35.3
comp=N,5550µm,0.4s
DRO AML AML 17 55 38.0
comp=E,2588µm,0.6s
KARY Karystos 1.43 129 P Pn 17 55 08.5 -0.2
KARY Karystos 1.43 129 P Pn 17 55 08.3 -0.5
PLG Polygyros 1.47 13 P Pn 17 55 08.6 -0.8
RLS Riolos of Patr 1.50 235 P Pb 17 55 10.8 -0.1
RLS S Sn 17 55 29.5 +0.3
RLS AML AML 17 55 39.4
comp=E,2819µm,0.6s
RLS AML AML 17 55 39.5
comp=N,2197µm,0.5s
OUR Ouranopolis 1.58 28 PN Pn 17 55 10.7 -0.1
OUR SN Sb 17 55 31.9 -0.2

KPRO Kipourio 1.64 309 P Pn 17 55 12.4 +0.7
HORT Hortiatis 1.66 2 PN Pn 17 55 11.5 -0.5
KZN Kozani 1.67 325 P Pn 17 55 12.9 +0.7
ITM Ithomi 1.96 207 P Pb 17 55 17.6 -1.0
ITM Ithomi 1.96 207 PN Pn 17 55 15.9 -0.1
GRG Griva 2.07 347 PN Pn 17 55 17.8 +0.2
FNA Florina 2.24 326 PN Pn 17 55 20.1 +0.2
VAY Valandovo 2.41 352 *i* Pn Pn 17 55 22.6 +0.4
CHOS Chios island 2.44 102 PN Pn 17 55 22.6 -0.1
MMB Musomiste 2.70 11 P Pn 17 55 25.0 -1.3
EZN Ezine 2.71 70 PN Pn 17 55 27.0 +0.7
APE Apeiranthos 2.72 132 ⇑P Pb 17 55 31.6 -0.1
APE Apeiranthos 2.72 132 PN Pn 17 55 26.6 0.0
KKB Krupnik 2.93 1 P Pn 17 55 29.4 0.0
RDO Rodhopi 2.93 40 PN Pn 17 55 29.4 0.0
ENEZ Enez 3.01 52 PN Pn 17 55 31.1 +0.7
DKL Dikili 3.03 86 PN Pn 17 55 31.7 +1.0
GELI Tayfur-Gelibol 3.04 60 PN Pn 17 55 30.8 -0.1
RZN Rozhen 3.04 25 P Pn 17 55 30.0 -1.0
ALN Alexandroupoli 3.04 49 PN Pn 17 55 30.8 -0.1
ERIK Erikli-Kesan 3.20 56 PN Pn 17 55 33.4 +0.3
LPK Lapseki 3.22 62 PN Pn 17 55 33.4 0.0
PLD Plovdiv 3.41 22 PN Pn 17 55 36.9 +0.9
IMMV Iera Moni Meta 3.55 167 PN Pn 17 55 39.2 +1.2
KRBG Karabiga-Canak 3.61 65 PN Pn 17 55 39.6 +0.9
VTS Vitosha 3.68 2 ⇑P Pn 17 55 40.3 +0.4
VTS Vitosha 3.68 2 P Pn 17 55 40.1 +0.2
MAR6 Marsite Statio 3.71 60 PN Pn 17 55 41.1 +0.9
KNDR Palaiochora Ch 3.73 172 PN Pn 17 55 41.3 +0.9
MAR3 Marsite Statio 3.75 60 PN Pn 17 55 41.3 +0.6
GZKV Gazikoy-Tekird 3.78 60 PN Pn 17 55 41.9 +0.9
KOSK Kos Island 3.82 124 PN Pn 17 55 42.7 +1.1
BODT Bodrum 3.87 118 PN Pn 17 55 43.4 +1.1
MRMT Marmara Adasi 3.90 63 PN Pn 17 55 43.4 +0.6
IDI Anoyia 3.94 157 ⇓P Pn 17 55 44.7 +1.4
IDI Anoyia 3.94 157 PN Pn 17 55 43.8 +0.5
HRKL Herakleio 3.98 155 PN Pn 17 55 44.8 +1.0
EDC Edincik 3.99 68 PN Pn 17 55 44.9 +0.9
EDRB Edirne 4.07 43 PN Pn 17 55 46.5 +1.5
MLSB Milas 4.09 112 PN Pn 17 55 46.5 +1.1
GVD Gavdhos 4.18 168 PN Pn 17 55 47.9 +1.3
KULA Kula-Manisa 4.43 94 PN Pn 17 55 50.9 +0.8
ZKR Zakros 4.59 145 PN Pn 17 55 53.6 +1.3
BLKB Belogradchik 4.69 357 ⇑P Pn 17 55 53.4 -0.2
KARP Karpathos 4.73 134 PN Pn 17 55 55.6 +1.5
TIP Timpagrande 4.88 275 ⇓P Pn 17 55 55.0 -1.3
TRML Termal-Yalova 5.03 69 PN Pn 17 55 59.8 +1.6
TVSB Tavsanli 5.03 82 PN Pn 17 55 59.8 +1.5
YLV Yalova 5.16 70 PN Pn 17 56 00.9 +0.8
MDVR Moldovita 5.92 351 ⇑P Pn 17 56 10.5 0.0
HERR Herculane 5.96 356 ⇓P Pn 17 56 10.6 -0.4
LOT Lotru 6.53 5 ⇑P Pn 17 56 06.1 -13
ARR Arges 6.54 10 ⇓P Pn 17 56 19.2 +0.2
VOIR 6.67 12 ⇓P Pn 17 56 21.5 +0.7
BZS Buzias 6.76 352 ⇑P Pn 17 56 22.7 +0.8
MLR Muntele Rosu 6.90 17 ⇓P Pn 17 56 25.0 +1.0
MLR Muntele Rosu 6.90 17 Pn Pn 17 56 24.7 +0.7
comp=N,0.6nm,0.3s,baz=195,slow=10.0,SNR=11
NEHR Nehoiu 6.92 19 ⇑P Pn 17 56 26.7 +2.4
BISRR Bisoca 7.15 21 ⇑P Pn 17 56 25.0 -2.4
DOPR Dopca 7.24 13 ⇑P Pn 17 56 29.7 +1.1
COVR Voineasa-Covas 7.29 18 ⇑P Pn 17 56 31.7 +2.3
PLOR Plostina 7.41 20 ⇑P Pn 17 56 31.4 +0.4
OZUR 7.44 15 ⇓P Pn 17 56 32.3 +1.0
VRI Vrincioaia 7.45 25 ⇓P Pn 17 56 32.6 +1.2
MORH Mrgy, Hungar 7.96 337 ⇓P Pn 17 56 40.2 +1.8
MORH Mrgy, Hungar 7.96 337 P Pn 17 56 39.2 +0.8
KOVH Kovagotottos 8.02 335 P Pn 17 56 39.8 +0.5
BRTR Keskin Array B 8.27 81 Pn Pn 17 56 44.0 +1.2
comp=N,0.4nm,0.3s,baz=262,slow=12,SNR=15
BURAR Bucovina Array 8.82 10 ⇓P Pn 17 56 51.6 +1.3
EIL Elat 13.51 130 Pn Pn 17 57 53.5 -0.9
comp=N,0.2nm,0.3s,baz=92,slow=4.1,SNR=4.1
ESDC Sonseca Array 20.87 281 P Pn 17 59 26.2 -1.1
comp=N,1.0nm,0.8s,baz=85,slow=11,SNR=5.1
FINES FINESS Array B 22.61 4 P **P** 17 59 43.3 0.0
comp=N,1.5nm,0.8s,baz=165,slow=12,SNR=3.8
NB2 NORSAR Subarra 23.32 345 P **P** 17 59 55.9 +5.2
comp=Z,3.5nm,0.8s,baz=156,slow=11
NOA NORSAR Array B 23.32 345 P **P** 17 59 51.6 +1.0
comp=Z,1.4nm,1.0s,baz=156,slow=12,SNR=5.0
EKA Eskdalemuir Ar 24.00 322 P **P** 17 59 56.4 -0.9
comp=Z,1.5nm,0.7s,baz=121,slow=9.8,SNR=4.9
TORD Torodi Ar. Bea 31.88 222 P **P** 18 01 07.5 -0.7
comp=Z,0.5nm,0.4s,baz=36,slow=9.3,SNR=11
MKAR Makanchi Array 43.23 60 P **P** 18 02 44.0 +0.1
comp=Z,0.2nm,0.5s,baz=271,slow=7.3,SNR=3.0
ZALV Zalesovo Beam 43.72 49 P **P** 18 02 47.2 -0.5
comp=Z,0.3nm,0.3s,baz=280,slow=8.6,SNR=2.5
BOSA Boshof 67.23 178 P **P** 18 05 37.5 +0.3
comp=Z,2.1nm,0.6s,baz=342,slow=8.5,SNR=6.1
YKA Yellowknife Ar 73.33 341 P **P** 18 06 13.8 -0.3
comp=Z,0.4nm,0.8s,baz=36,slow=5.3,SNR=6.9

*SFS **15** 18:00:22.0, 35°.52N×3°.59W, ML2.0, ALBORAN SUR*
*MDD **15** 18:00:22.4±1.4, 35°.53N×3°.60W, h50km±43km, Mb2.9/3, M_mb2.0/4, Error ellipse: s-maj=10.4km s-min=7.5km az=84.0*
ISC 15 18:00:19.7±2.2, 35°.52N±0°.07×3°.71W±0°.06, h8km±21km, n8, σ1°55/15, 3C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.60**	**234**	P	Pg	18 00 30.0	-1.2
PVLZ				S	**Sg**	**18 00 37.0**	**-2.0**
EMEL	**Melilla**	**0.66**	**110**	Pg	**Pb**	**18 00 34.9**	**+1.6**
EMEL				Sg	**Sn**	**18 00 44.7**	**-1.0**
EALB	**Alboran**	**0.69**	**53**	Pg	**Pb**	**18 00 35.1**	**+1.1**
EALB				⇑*i*Vmb_V		18 00 36.3	
	980nm,SNR=3.1						
EALB				Sg	**Sn**	**18 00 45.6**	**-0.9**
ELGU	**Los Guajares,**	**1.34**	**3**	Pn	**Pn**	**18 00 45.5**	**+0.7**
ELGU				⇑*i*Vmb_V		18 00 49.4	
	170nm,SNR=1.4						
ELGU				Sn	**Sb**	**18 01 02.7**	**+0.2**
EMIJ	**Mijas**	**1.35**	**321**	Pn	**Pn**	**18 00 44.6**	**-0.1**
EMIJ				⇑*i*Vmb_V		18 00 50.7	
	53nm,SNR=0.5						
EMIJ				Sn	**Sn**	**18 01 03.4**	**+0.5**
EMAL	**Malaga-Limoner**	**1.36**	**335**	P	**Pn**	**18 00 46.4**	**+1.5**
EMAL				S	**Sn**	**18 01 01.8**	**-1.4**
EBER	**Berja**	**1.52**	**26**	Pn	**Pn**	**18 00 46.4**	**-1.0**
EBER				Sn	**Sn**	**18 01 04.5**	**-2.9**
EGOR	**Sierra Gorda,**	**1.61**	**349**	Pn	**Pn**	**18 00 49.8**	**+1.3**
EGOR				Sn	**Sn**	**18 01 08.5**	**-1.1**

*MOS **15** 18:01:02.7±0.9, 39°.76N×141°.73E, h17km, mb4.7/15, Error ellipse: s-maj=10.3km s-min=6.4km az=105.7*
*JMA **15** 18:01:04.5, 39°.76N×141°.83E, h59km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φ±20.00000°, δ65.00000°, λ98.00000°. NP2:φ±182.00000°, δ26.00000°, λ73.00000°. Principal axes: T Plg69.0000°, Azm306.0000°; N Plg7.0000°, Azm197.0000°; P Plg20.0000°, Azm104.0000°;*
JMA Felt II J1.
*NEIC **15** 18:01:04.3±1.4, 39°.78N±0°.04×141°.80E±0°.09, h58km±7km, mb4.7/51 Error ellipse: s-maj=10.5km s-min=6.2km az=90.0*
*IDC **15** 18:01:04.1±0.9, 39°.70N×141°.77E, h58km±5km, mb3.9/22, mb1 4.0/26, mb1mx3.9/44, mbtmp4.2/26, Error ellipse: s-maj=16.9km s-min=13.2km az=105.0*
ISC 15 18:01:04.2±0.5, 39°.73N±0°.03×141°.82E±0°.05, h60km±4km, h60km:pP-P, n163, σ1°10/174, mb4.5/56, 8C-8D, Fault plane solution: NP1:φ148.10622°, δ26.74667°, λ24.60559°. **NP2:**φ35.86387°, δ79.19975°, λ114.61754°. **Principal axes:** T Plg49.8138°, Azm333.0238°; N Plg24.1534°, Azm210.9564°; P Plg29.9304°, Azm105.9942°; **Fault plane solution: NP1:**φ1.07306°, δ75.07706°, λ63.90834°. **NP2:**φ243.33511°, δ29.79582°, λ148.78563°. **Principal axes:** T Plg52.7235°, Azm240.1775°; N Plg25.1491°, Azm8.2608°; P Plg25.5650°, Azm111.2392°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.15**	**181**	⇑P	**Pn**	**18 01 13.9**	**+0.5**
MIYJ				S	**Sn**	**18 01 20.4**	**+0.4**

JTH Tanohata 0.21 9 ⇑P Pn 18 01 13.9 +0.2
JTH S Sn 18 01 20.3 -0.3
JKZ Kuzumaki 0.46 304 ⇓P Pn 18 01 16.1 +0.3
JKZ S Sn 18 01 24.3 +0.1
JOM Ohasama 0.48 238 ⇓P Pn 18 01 16.4 +0.5
JOM S Sn 18 01 25.1 +0.6
JKEN Kujiedanarisaw 0.49 350 ⇓P Pn 18 01 16.0 0.0
JKEN S Sn 18 01 24.2 -0.4
JANG Nango 0.69 340 ⇓P Pn 18 01 18.0 -0.3
JANG S Sn 18 01 27.7 -0.9
JMK Ichinoseki 0.90 211 P Pn 18 01 21.5 +0.5
JMK S Sn 18 01 33.9 +0.6
JRG Rokugo 0.98 251 ⇓P Pn 18 01 22.3 +0.4
JRG eS Sn 18 01 35.5 +0.5
JAH Hinai 1.02 297 ⇓P Pn 18 01 22.8 +0.3
JTM Tenmabayashi 1.21 332 ⇓P Pn 18 01 24.9 0.0
JTM S Sn 18 01 40.2 -0.2
JTM Tenmabayashi 1.21 332 Pn Pn 18 01 24.8 -0.1
JTM Sn Sn 18 01 38.6 -1.8
JIO Ouri 1.32 196 ⇑P Pn 18 01 27.1 +0.6
JIO eS Sn 18 01 43.9 +0.8
JYK Kaneyama 1.39 235 ⇓P Pn 18 01 28.1 +0.7
JMM Marumori 2.02 204 Pn 18 01 36.5 +0.5
JMM Sn Sn 18 01 53.7 -6.4
ERM Erimo 2.50 23 P Pn 18 01 42.9 +0.5
ERM Erimo 2.50 23 Pn Pn 18 01 42.9 +0.5
JEW Eniwo 3.12 355 Pn Pn 18 01 51.0 0.0
JSD Sado 3.25 240 Pn Pn 18 01 53.6 +0.8
JYT Yasato 3.72 201 Pn 18 02 00.1 +0.9
MJAR Matsushiro Arr 4.27 223 P Pn 18 02 08.8 +2.1
1.2nm,0.3s,baz=41,slow=11,SNR=29
MJAR Matsushiro Arr 4.27 223 P Pn 18 02 07.2 +0.5
MJAR Matsushiro Arr 4.27 223 Pn 18 02 07.2 +0.5
MJB9 Matsu-Tunnel 4.27 223 Pn 18 02 07.0 +0.3
MAJO Matsushiro 4.27 223 P Pn 18 02 07.6 +0.9
MAJO Matsushiro 4.27 223 Pn 18 02 07.6 +0.9
ASAJ Asahikawa 4.42 7 P Pn 18 02 09.2 +0.4
6.2nm,0.3s,baz=223,slow=10,SNR=26
ASAJ S Sn 18 03 00.4 +1.4
5.6nm,0.3s,baz=144,slow=31,SNR=1.5
JKA Kamikawa-asahi 4.42 7 Pn Pn 18 02 07.2 -1.6
JGF Kuroka 5.43 222 Pn 18 02 23.6 +0.9
INU Inuyama 5.80 223 Pn 18 02 28.8 +1.1
JHJ Hachijo jima 2 6.79 195 P Pn 18 02 41.8 +0.5
4.7nm,0.3s,baz=327,slow=12,SNR=1.7
JHJ S Sn 18 03 54.6 -2.6
11nm,0.3s,baz=56,slow=21,SNR=1.8
JHJ2 Mitsune 6.80 194 Pn Pn 18 02 41.3 0.0
YSS Yuzh-Sakhalins 7.26 5 Pn Pn 18 02 45.9 -1.6
JHS Saijyo 8.38 238 Pn Pn 18 03 02.9 -0.2
USA0B Ussuriysk Arra 8.58 305 P Pn 18 03 05.4 -0.3
USA0B Ussuriysk Arra 8.58 305 Pn 18 03 05.3 -0.3
USRK Ussuriysk Ar. 8.58 305 P Pn 18 03 06.8 +1.1
baz=99,slow=14,SNR=12
USRK Ussuriysk Ar. 8.58 305 Pn 18 03 05.2 -0.5
MDJ Mudanjiang 10.31 302 P Pn 18 03 33.3 +4.1
MDJ pmax pmax
comp=Z,28nm,0.7s
MDJ pmax pmax
comp=Z,13µm,11.7s
KSRS Korea Array 11.11 263 P Pn 18 03 46.0 +5.7
comp=Z,0.8nm,0.3s,baz=78,slow=14,SNR=4.7
KS19 Wonju Array Si 11.14 263 Pn **Pn** **18 03 40.0 -0.7**
KSAR Wonju Array Be 11.15 263 P **Pn** **18 03 39.7 -1.0**
KSAR Wonju Array Be 11.15 263 Pn **Pn** **18 03 39.7 -1.0**
KLR Kul'dur 11.91 326 P **Pn** **18 03 52.9 +1.8**
baz=126,slow=19
BNX BinXian 12.18 304 ⇑P **Pn** **18 03 57.8 +3.0**
BNX pmax pmax
comp=Z,14nm,0.9s
NJ2 Nanjing 20.09 255 *e*P Pn 18 05 34.6 -0.5
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
MA2 Magadan 20.66 13 P **P** **18 05 38.2 -0.6**
MA2 pmax pmax
comp=Z,11nm,0.7s
MA2 Magadan 20.66 13 P **P** **18 05 38.2 -0.6**
TATO Taipei 22.54 235 P **P** **18 05 58.2 -1.1**
YHNB Yeheng 22.83 235 P **P** **18 06 01.0 -1.4**
YHNB Yeheng 22.83 235 P **P** **18 06 06.7 +4.3**
HHC Hu-ho-hao-te 23.06 283 *e*P **P** **18 06 03.6 -1.0**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,830nm,5.3s
HHC LR LR
comp=N,12µm,12.1s
HHC LR LR
comp=E,20µm,13.3s
HHC LR LR
comp=Z,22µm,13.3s
YAK Yakutsk 23.53 346 P **P** **18 06 07.5 -1.2**
comp=Z,3.3nm,0.3s,baz=347,slow=4.1,SNR=11
YAK Yakutsk 23.53 346 *e*P **P** **18 06 07.4 -1.3**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK Yakutsk 23.53 346 P **P** **18 06 07.0 -1.7**
YAK IAmb IAmb 18 06 09.1
comp=Z,18nm,0.9s
SSLB Suanglung 23.73 234 P **P** **18 06 09.8 -1.1**
YULB Yu-li 23.81 233 P **P** **18 06 10.5 -1.1**
SEY Seymchan 24.09 12 P **P** **18 06 14.4 +0.6**
comp=Z,6.8nm,0.6s,baz=198,slow=8.7,SNR=29
TPUB Ta-pu 24.29 234 P **P** **18 06 15.8 -0.3**
TWG Pinlang 24.37 232 P **P** **18 06 16.1 -0.7**
KNMB Chin-men Tao 24.91 239 P **P** **18 06 22.8 +1.2**
BOD Bodaibo 25.48 325 *e*P **P** **18 06 25.0 -1.4**
BOD pmax pmax
comp=Z,14nm,1.3s
ULN Ulaanbaatar 26.21 300 P **P** **18 06 33.5 +0.1**
ULN pmax pmax
comp=Z,4.0nm,1.3s
ULN Ulaanbaatar 26.21 300 P **P** **18 06 33.5 +0.1**
SONM Songino Array 26.64 299 P **P** **18 06 36.6 -0.6**
comp=Z,1.1nm,0.6s,baz=93,slow=9.5,SNR=6.0
SONM Songino Array 26.64 299 P **P** **18 06 36.7 -0.6**
SONM pmax pmax
comp=Z,3.0nm,1.4s
SONM Songino Array 26.64 299 P **P** **18 06 36.7 -0.6**
ENH Enshi 27.99 260 P **P** **18 06 48.6 -0.8**
ENH IAmb IAmb 18 06 49.8
comp=Z,12nm,0.9s
H11N2 WAKE ISLAND Hy 29.35 125 T T 18 37 40.9
baz=318,slow=75,SNR=237
H11N1 WAKE ISLAND Hy 29.36 125 T T 18 37 43.1
baz=318,slow=75,SNR=212
H11N3 WAKE ISLAND Hy 29.37 125 T T 18 37 41.6
baz=318,slow=75,SNR=608
H11S1 WAKE ISLAND Hy 30.14 127 T T 18 38 37.8
baz=320,slow=76,SNR=36
H11S3 WAKE ISLAND Hy 30.15 127 T T 18 38 46.8
baz=320,slow=76,SNR=57
H11S2 WAKE ISLAND Hy 30.16 127 T T 18 38 45.7
baz=320,slow=76,SNR=38
TIXI Tiksi 32.66 352 P **P** **18 07 29.9 -0.2**
comp=Z,0.8nm,0.4s,baz=90,slow=20,SNR=9.0
TIXI Tiksi 32.66 352 P **P** **18 07 29.9 -0.2**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
PZH PanZhiHua 35.77 261 P **P** **18 07 57.4 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.3s
WMQ Urumqi 39.97 294 *e*P **P** **18 08 35.5 +2.6**
ZAA0 Zalesovo Array 40.38 310 **P** **18 08 35.9 -0.1**
ZAA0 IAmb IAmb 18 08 36.6
comp=Z,9.4nm,0.6s
ZALV Zalesovo Beam 40.38 310 P **P** **18 08 36.1 +0.1**
comp=Z,10nm,0.5s,baz=92,slow=8.0,SNR=66
ZALV pP **pP** **18 08 50.4 -0.9**
comp=Z,2.2nm,0.5s,baz=91,slow=10.0,SNR=3.5
ZALV Zalesovo Beam 40.38 310 **P** **18 08 35.7 -0.4**
KKM Kota Kinabalu 40.69 221 P **P** **18 08 39.6 +0.5**
TNTI Ternate 40.95 202 P **P** **18 08 40.3 -0.8**
TNTI IAmb IAmb 18 08 42.7
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 42.55 253 P **P** **18 08 54.6 +0.5**
comp=Z,0.5nm,0.5s,baz=38,slow=5.8,SNR=9.8
MK31 Makanchi Array 43.01 300 P **P** **18 08 57.5 -0.2**

MK31 pmax pmax
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 43.01 300 P **P** **18 08 57.5 -0.2**
MK31 IAmb IAmb 18 08 58.4
comp=Z,4.6nm,0.7s
MKAR Makanchi Array 43.01 300 P **P** **18 08 57.6 -0.1**
comp=Z,5.0nm,0.6s,baz=85,slow=9.9,SNR=55
MKAR sP **sP** **18 09 19.2 -1.0**
comp=Z,1.2nm,0.6s,baz=82,slow=11,SNR=2.9
MKAR Makanchi Array 43.01 300 P **P** **18 08 57.5 -0.2**
MAKZ Makanchi 43.22 300 P **P** **18 08 59.2 -0.1**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 43.22 300 P **P** **18 08 59.2 -0.1**
KURK Kurchatov 44.57 306 P **P** **18 09 10.3 +0.3**
KURK *SP **sP** **18 09 32.2 -0.4**
KURK Kurchatov 44.57 306 P **P** **18 09 09.8 -0.2**
KURK IAmb IAmb 18 09 10.6
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 44.64 306 P **P** **18 09 10.3 -0.3**
comp=Z,12nm,0.7s,baz=82,slow=8.5,SNR=93
KURBB sP **sP** **18 09 32.2 -0.9**
comp=Z,5.1nm,0.6s,baz=78,slow=8.6,SNR=4.9
MDM Murphy Dome 46.48 33 P **P** **18 09 26.3 +1.3**
ILAR Eielson Array 47.06 34 P **P** **18 09 30.5 +1.0**
comp=Z,1.1nm,0.6s,baz=262,slow=6.0,SNR=2.0
KDJ Kajisay 47.84 295 P **P** **18 09 36.4 +0.3**
KDJ pmax pmax
comp=Z,2.0nm,0.6s
KDJ Kajisay 47.84 295 P **P** **18 09 36.4 +0.3**
SCRK Sand Creek 48.40 35 P **P** **18 09 41.0 +1.0**
SCRK IAmb IAmb 18 09 41.1
comp=Z,3.1nm,0.8s
DOT Dot Lake 48.40 35 P **P** **18 09 40.6 +0.6**
DOT IAmb IAmb 18 09 42.8
comp=Z,6.1nm,1.5s
BOOM Boomskoye usch 48.59 296 P **P** **18 09 41.8 0.0**
BOOM pmax pmax
comp=Z,2.0nm,0.7s
BOOM Boomskoye usch 48.59 296 P **P** **18 09 41.8 0.0**
MENT Mentasta 48.65 36 P **P** **18 09 41.0 -0.8**
MENT IAmb IAmb 18 10 07.3
comp=Z,4.0nm,0.6s
BRVK Borovoye 49.09 311 P **P** **18 09 45.5 +0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 49.09 311 P **P** **18 09 45.5 +0.3**
SUCK Suckling Hills 49.10 40 P **P** **18 09 44.7 -0.6**
AAK Ala-Archa 49.53 296 P **P** **18 09 48.3 -0.7**
AAK pmax pmax
comp=Z,8.0nm,0.6s
AAK Ala-Archa 49.53 296 P **P** **18 09 48.3 -0.7**
AAK IAmb IAmb 18 10 24.4
comp=Z,7.9nm,0.6s
KSH Kashi 49.65 292 P **P** **18 09 54.3 +4.4**
KSH pP sP 18 10 09.8 -2.8
KSH pmax pmax
comp=Z,5.0nm,0.5s
EPYK Eagle Plains 51.04 31 P **P** **18 10 01.6 +1.7**
EPYK IAmb IAmb 18 10 14.2
comp=Z,20nm,1.6s
INK Inuvik 51.85 28 P **P** **18 10 07.0 +1.2**
comp=Z,1.2nm,0.6s,baz=302,slow=5.8,SNR=5.6
INK Inuvik 51.85 28 P **P** **18 10 07.1 +1.2**
INK pmax pmax
comp=Z,7.0nm,1.4s
INK Inuvik 51.85 28 P **P** **18 10 07.1 +1.2**
INK IAmb IAmb 18 10 20.1
comp=Z,6.7nm,1.4s
KKAR Karatay Array 52.09 298 P **P** **18 10 07.5 -0.6**
KKAR pmax pmax
comp=Z,6.0nm,1.2s
KKAR Karatay Array 52.09 298 P **P** **18 10 07.5 -0.6**
KKAR IAmb IAmb 18 10 46.7
comp=Z,5.9nm,1.1s
KNRA Kununurra 56.45 195 P **P** **18 10 40.1 +0.2**
KNRA IAmb IAmb 18 10 57.6
comp=Z,20nm,1.6s
ABKAR Akbulak array 56.48 309 P **P** **18 10 39.2 -0.6**
ABKAR Akbulak array 56.48 309 P **P** **18 10 39.7 -0.1**
ABKAR IAmb IAmb 18 10 40.3
comp=Z,6.5nm,0.6s
EUNU Eureka 57.48 9 P **P** **18 10 46.6 0.0**
EUNU IAmb IAmb 18 11 14.9
comp=Z,7.0nm,1.4s
RUBB Prince Rupert 57.84 44 P **P** **18 10 48.3 -1.0**
SPITS Spitsbergen Ar 57.95 349 P **P** **18 10 49.2 -0.6**
SPITS pmax pmax
comp=Z,23nm,1.3s
WB0 Warramunga Arr 59.59 188 P **P** **18 11 01.3 -0.5**
WB0 IAmb IAmb 18 11 02.1
comp=Z,4.5nm,0.9s
WRAB Tennant Creek 59.76 188 P **P** **18 11 02.0 -1.0**
WRAB pmax pmax
comp=Z,4.0nm,1.2s
WRAB Tennant Creek 59.76 188 P **P** **18 11 02.0 -1.0**
WRAB IAmb IAmb 18 11 34.5
comp=Z,4.4nm,1.1s
WR0 Warramunga Arr 59.76 188 P **P** **18 11 02.7 -0.3**
WR0 IAmb IAmb 18 11 14.4
comp=Z,7.9nm,1.4s
WB2 Warramunga Arr 59.77 188 P **P** **18 11 02.8 -0.3**
WB2 IAmb IAmb 18 11 25.6
comp=Z,4.3nm,1.0s
WRA Warramunga Arr 59.77 188 P **P** **18 11 02.4 -0.7**
comp=Z,1.1nm,0.8s,baz=3.7,slow=7.0,SNR=9.8
WRA Warramunga Arr 59.77 188 P **P** **18 11 02.3 -0.7**
SANVU Saraoutou 59.77 151 P **P** **18 11 04.0 +0.9**
RES Resolute Bay 59.92 15 P **P** **18 11 03.0 -0.4**
RES pmax pmax
comp=Z,2.0nm,0.9s
RES Resolute Bay 59.92 15 P **P** **18 11 03.0 -0.4**
KEV Kevo 61.05 339 P **P** **18 11 11.1 -0.1**
KEV pmax pmax
comp=Z,32nm,1.6s
KEV Kevo 61.05 339 P **P** **18 11 11.1 -0.1**
YKA Yellowknife Ar 61.33 31 P **P** **18 11 13.4 +0.2**
comp=Z,0.4nm,0.6s,baz=297,slow=6.4,SNR=7.8
ARCES ARCESS Array B 61.60 339 P **P** **18 11 15.0 0.0**
comp=Z,1.0nm,0.6s,baz=59,slow=7.0,SNR=12
ARCES ARCESS Array B 61.60 339 P **P** **18 11 15.0 0.0**
ARCES ARCESS Array B 61.60 339 P **P** **18 11 14.7 -0.2**
ARCES IAmb IAmb 18 11 49.1
comp=Z,18nm,1.5s
GEYT Alibeck 62.84 298 P **P** **18 11 23.4 -0.4**
comp=Z,3.6nm,0.8s,baz=46,slow=11,SNR=4.1
ASAR Alice Springs 63.49 188 P **P** **18 11 27.6 -0.5**
comp=Z,0.7nm,0.6s,baz=4.6,slow=7.1,SNR=6.6
FIA1 FINESS Array S 66.59 332 P **P** **18 11 47.2 -0.5**
FIA1 IAmb IAmb 18 11 48.8
comp=Z,6.7nm,0.8s
FINES FINESS Array B 66.59 332 P **P** **18 11 47.3 -0.4**
comp=Z,6.1nm,0.7s,baz=54,slow=9.7,SNR=19
FINES pP **pP** **18 12 03.2 -0.9**
comp=Z,2.8nm,0.8s,baz=27,slow=9.4,SNR=3.3
FINES FINESS Array B 66.59 332 P **P** **18 11 47.6 -0.1**
FINES FINESS Array B 66.59 332 P **P** **18 11 47.6 -0.1**
KIV Kislovodsk 69.40 310 *eP* **P** **18 12 06.2 +0.4**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 69.40 310 P **P** **18 12 06.2 +0.4**
KIV IAmb IAmb 18 12 07.9
comp=Z,10nm,0.8s
KBZ Khabaz 69.41 310 P **P** **18 12 06.4 +0.7**
comp=Z,3.4nm,0.7s,baz=53,slow=4.6,SNR=8.3
NC405 NORSAR Array S 71.62 337 P **P** **18 12 19.1 +0.2**
NC405 IAmb IAmb 18 12 49.6
comp=Z,18nm,1.2s
NC204 NORSAR Array S 71.78 337 P **P** **18 12 20.0 0.0**
NB201 NORSAR Array S 71.80 337 P **P** **18 12 20.2 +0.1**
NB201 IAmb IAmb 18 12 43.4
comp=Z,26nm,1.1s
NB2 NORSAR Subarra 71.83 337 P **P** **18 12 20.3 0.0**
comp=Z,1.3nm,0.6s,baz=37,slow=6.2
NOA NORSAR Array B 71.83 337 P **P** **18 12 20.1 -0.2**
comp=Z,1.7nm,0.6s,baz=38,slow=6.1,SNR=12
NBO00 NORSAR Array S 71.97 337 P **P** **18 12 20.6 -0.4**
NORES NORESS Array B 71.97 337 P **P** **18 12 21.5 +0.5**
AKASG Malin Array Be 72.37 322 P **P** **18 12 23.1 -0.4**
comp=Z,2.4nm,0.5s,baz=46,slow=6.3,SNR=6.6
AKBB Malin Array Si 72.37 322 P **P** **18 12 23.5 -0.1**
AKBB pmax pmax
comp=Z,10.0nm,1.3s
AKBB Malin Array Si 72.37 322 P **P** **18 12 23.5 -0.1**
AKBB IAmb IAmb 18 12 24.5
comp=Z,10.0nm,1.2s
PDAR Pinedale Array 75.56 46 P **P** **18 12 43.4 +0.7**
comp=Z,0.5nm,0.5s,baz=241,slow=1.7,SNR=6.5
BRTR Keskin Array B 77.31 311 P **P** **18 12 52.5 0.0**
comp=Z,0.6nm,0.6s,baz=116,slow=4.0,SNR=5.0
DPC Dobruska-Polom 78.35 328 *eP* **P** **18 12 59.1 +1.1**
DPC Dobruska-Polom 78.35 328 *eP* **P** **18 12 59.1 +1.1**
KRLC Kraliky 78.37 327 *eP* **P** **18 12 58.7 +0.6**
KRLC Kraliky 78.37 327 *eP* **P** **18 12 58.7 +0.6**
KHC Kasperske Hory 80.42 328 *eP* **P** **18 13 10.0 +0.8**
KHC Kasperske Hory 80.42 328 *eP* **P** **18 13 10.0 +0.8**
GERES GERESS Array B 80.60 328 P **P** **18 13 09.6 -0.6**
comp=Z,0.4nm,0.5s,baz=54,slow=6.8,SNR=4.4

*MOS **15** 18:03:09.9±1.0,32.°90N×131.°03E,h11km,mb5.3/64, MS5.7/11 Error ellipse: s-maj=6.0km s-min=3.6km az=114.9*
*NIED **15** 18:03:10.8,32.°96N×131.°09E,h7km,MW5.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.13; $M_{\theta\theta}$1.40; $M_{\phi\phi}$-1.27; $M_{r\theta}$-0.77; $M_{\theta\phi}$0.97; $M_{\phi r}$0.60; Fault plane solution: $M_0$1.92000×10^{17} NP1: ϕ_s209.00000°,δ60.00000°,λ-174.00000°. NP2: ϕ_s116.00000°,δ85.00000°,λ-30.00000°.*
*BJI **15** 18:03:10.1±0.0,32.°82N×131.°13E,h13km,mb5.0/78, mB5.9/18,Ms5.7/59,Ms7 5.7/56*
*JMA **15** 18:03:10.7,32.°96N×131.°09E,h7km±1km,M5.9 Broadband fault plane solution: P waves. NP1: ϕ_s30.00000°,δ80.00000°,λ-158.00000°. NP2: ϕ_s297.00000°,δ69.00000°,λ-10.00000°. Principal axes: T Plg8.0000°, Azm162.0000°; N Plg66.0000°, Azm53.0000°; P Plg22.0000°, Azm255.0000°;*
*IDC **15** 18:03:10.2±0.4,32.°91N×131.°03E,h0km,mb4.7/31, mb1 4.8/37,mb1mx4.8/49,mbtmp4.8/37,ML3.9/5,MS5.5/8, Ms1 5.5/8,ms1mx5.0/96 Error ellipse: s-maj=13.1km s-min=7.0km az=58.0*
*NEIC **15** 18:03:10.9±1.2,32.°92N±0.°04×131.°02E±0.°06,h4km±3km, mb5.3/284,Mwr5.4/12,Error ellipse: s-maj=7.8km s-min=5.4km az=57.0*
*NEIC **15** 18:03:12,32.°96N×131.°03E,h8km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.41; $M_{\theta\theta}$1.40; $M_{\phi\phi}$-0.99; $M_{r\theta}$-0.17; $M_{\theta\phi}$0.83; $M_{\phi r}$-0.54; Fault plane solution: $M_0$1.60000×10^{17} NP1:ϕ_s295.79000°, δ66.18000°,λ-11.49000°. NP2:ϕ_s30.48000°,δ79.50000°, λ-155.75000°. Principal axes: T 1.7066, Plg9.0000°, Azm161.0000°; N -0.2473, Plg64.0000°, Azm53.0000°; P -1.4593, Plg24.0000°, Azm255.0000°;*
*BGR **15** 18:03:14.1±0.0,33.°00N×131.°03E,h10km,mb5.0*
ISC 15 18:03:11.8±0.5,**32.°94N**±0.°03×**131.°07E**±0.°03,**h9**km±2km, **n968,**σ1$**40**/932,**mb5.3**/301,**MS5.8**/34,**101C-106D,Fault plane solution: NP1:**ϕ_s287.83569°,δ62.56420°, λ19.64274°. **NP2:**ϕ_s188.49672°,δ72.64171°,λ151.13553°. **Principal axes:** T Plg32.4637°, Azm145.7155°; N Plg56.7076°, Azm340.0724°; P Plg6.5944°, Azm239.9331°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
JNU	**Nakatsue**	**0.24**	**320**	Pg	**Pg**	**18 03 15.4**	**-1.4**
	13μm,0.3s,baz=127,slow=10,SNR=489						
JNU	**Nakatsue**	**0.24**	**320**	P	**Pg**	**18 03 15.6**	**-1.2**
JNU	**Nakatsue**	**0.24**	**320**	Pg	**Pg**	**18 03 15.5**	**-1.4**
JNU				Sg	**Sg**	**18 03 19.2**	**-1.0**
JIU3	**Izumi3**	**0.44**	**209**	P	**Pg**	**18 03 20.5**	**+0.1**
JTA	**Tamana**	**0.45**	**274**	⇓P	**Pg**	**18 03 19.7**	**-0.9**
JUS	**Usuki**	**0.59**	**77**	⇓P	**Pg**	**18 03 21.4**	**-1.8**
JUS				S	**Sg**	**18 03 29.9**	**-1.1**
JSU	**Suzuyama**	**1.52**	**200**		**Pn**	**18 03 37.7**	**-1.4**
JTU	**Tsushima**	**2.11**	**319**	Pn	**Pn**	**18 03 45.7**	**-1.5**
JMN	**Monobe**	**2.48**	**71**	Pn	**Pn**	**18 03 52.8**	**+0.4**
JHS	**Saijyo**	**2.67**	**39**	Pn	**Pn**	**18 03 55.6**	**+0.6**
TJN	**Taejon**	**4.59**	**319**	*c iP*	**Pn**	**18 04 21.3**	**-0.1**
TJN	**Taejon**	**4.59**	**319**	Pn	**Pn**	**18 04 20.8**	**-0.6**
KSRS	**Korea Array**	**5.19**	**331**	Pn	**Pn**	**18 04 29.6**	**+0.1**
	5.0nm,0.3s,baz=150,slow=13,SNR=32						
KSRS				Sn	**Sn**	**18 05 28.4**	**-1.1**
	34nm,0.3s,baz=149,slow=24,SNR=6.9						
KSRS				Lg	Lg	18 05 54.7	
	49nm,0.3s,baz=157,slow=35,SNR=8.3						
KSRS				LR	LR	18 06 36.9	
	comp=Z,33μm,19.0s,baz=145,slow=40						
KSAR	**Wonju Array Be**	**5.20**	**331**	P	**Pn**	**18 04 29.4**	**-0.2**
KSAR	**Wonju Array Be**	**5.20**	**331**		**Pn**	**18 04 29.4**	**-0.2**
KS19	**Wonju Array Si**	**5.25**	**331**		**Pn**	**18 04 29.5**	**-1.0**
INU	**Inuyama**	**5.49**	**62**	Pn	**Pn**	**18 04 34.4**	**+0.7**
INCN	**Inchon**	**5.81**	**323**	P	**Pn**	**18 04 37.5**	**-0.6**
INCN	**Inchon**	**5.81**	**323**	Pn	**Pn**	**18 04 37.5**	**-0.6**
INCN	**Inchon**	**5.81**	**323**	P	**Pn**	**18 04 38.0**	**-0.1**
JGF	**Kuroka**	**5.85**	**61**	Pn	**Pn**	**18 04 39.4**	**+0.8**
JOW	**Kunigami**	**6.55**	**202**	Pn	**Pn**	**18 04 51.8**	**+3.5**
	13nm,0.3s,baz=34,slow=10,SNR=27						
JOW	**Kunigami**	**6.55**	**202**		**Pn**	**18 04 49.6**	**+1.3**
MJB9	**Mau-Tunnel**	**6.89**	**57**		**Pn**	**18 04 55.0**	**+2.0**
MAJO	**Matsushiro**	**6.89**	**57**	*de*P	**Pn**	**18 04 55.1**	**+2.1**
MAJO	**Matsushiro**	**6.89**	**57**		**Pn**	**18 04 54.7**	**+1.7**
MAJO	**Matsushiro**	**6.89**	**57**	P	**Pn**	**18 04 55.6**	**+2.6**
MJAR	**Matsushiro Arr**	**6.89**	**57**	Pn	**Pn**	**18 04 54.8**	**+1.8**
	2.4nm,0.3s,baz=294,slow=8.2,SNR=19						
MJAR				Lg	Lg	18 06 47.8	
	0.1nm,0.3s,baz=236,slow=28,SNR=4.2						
MJAR	**Matsushiro Arr**	**6.89**	**57**		**Pn**	**18 04 54.6**	**+1.6**
JMZ	**Minamidaito 2**	**7.09**	**179**	Pn	**Pn**	**18 04 55.0**	**-0.7**
JHJ	**Hachijo jima 2**	**7.32**	**86**	Pn	**Pn**	**18 05 00.6**	**+1.7**
	150nm,0.3s,baz=228,slow=15,SNR=22						
JHJ				LR	LR	18 07 38.6	
	comp=Z,19μm,20.0s,baz=7.0,slow=36						
JHJ2	**Mitsune**	**7.35**	**86**		**Pn**	**18 04 59.6**	**+0.4**
JSD	**Sado**	**7.77**	**47**		**Pn**	**18 05 05.4**	**+0.4**
JYT	**Yasato**	**8.21**	**64**	Pn	**Pn**	**18 05 11.2**	**+0.1**
SSE	**Sheshan**	**8.59**	**260**	P	**Pn**	**18 05 14.8**	**-1.4**
SSE				S	**Sn**	**18 06 50.5**	**-2.7**
SSE				pmax	pmax		
	comp=Z,28nm,0.7s						
SSE				pmax	pmax		
	comp=Z,3μm,10.4s						
JMM	**Marumori**	**9.34**	**55**		**Pn**	**18 05 26.8**	**+0.3**
MSHR	**Mys Shultsa**	**9.63**	**0**	⇓*eP*	**Pn**	**18 05 32.8**	**+2.3**
VLA	**Vladivostok**	**10.19**	**3**	⇓*eP*	**Pn**	**18 05 40.9**	**+2.8**
NJ2	**Nanjing**	**10.35**	**268**	*eP*	**Pn**	**18 05 43.5**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,110nm,1.1s						
NJ2				LR	LR		
	comp=N,38μm,11.0s						
NJ2				LR	LR		
	comp=Z,35μm,12.3s						
SNY	**Shenyang**	**10.68**	**328**	⇓P	Pn	18 05 51.0	+6.1
SNY				pmax	pmax		
	comp=Z,87nm,1.3s						
SNY				LR	LR		
	comp=N,54μm,9.2s						
SNY				LR	LR		
	comp=Z,44μm,15.1s						
JCJ	**Chichijima**	**11.25**	**118**	Pn	**Pn**	**18 05 53.0**	**+0.2**
	3.6nm,0.3s,baz=279,slow=19,SNR=1.3						
JCJ	**Chichijima**	**11.25**	**118**	Pn	**Pn**	**18 05 53.4**	**+0.6**
USA0B	**Ussuriysk Arra**	**11.27**	**3**	P	**Pn**	**18 05 53.3**	**+0.3**
USA0B	**Ussuriysk Arra**	**11.27**	**3**		**Pn**	**18 05 53.3**	**+0.3**
USRK	**Ussuriysk Ar.**	**11.27**	**3**	Pn	**Pn**	**18 05 55.8**	**+2.8**
	baz=195,slow=13,SNR=22						
USRK	**Ussuriysk Ar.**	**11.27**	**3**	P	**Pn**	**18 05 53.1**	**+0.2**
USRK	**Ussuriysk Ar.**	**11.27**	**3**		**Pn**	**18 05 53.1**	**+0.2**
CN2	**Changchun**	**11.71**	**340**	*eP*	**Pn**	**18 06 02.8**	**+3.9**
CN2				*eS*	**Sn**	**18 08 12.9**	**+3.3**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,28μm,15.0s						
CN2				LR	LR		
	comp=Z,36μm,14.0s						
MDJ	**Mudanjiang**	**11.72**	**355**	Pn	**Pn**	**18 06 01.0**	**+1.9**
MDJ	**Mudanjiang**	**11.72**	**355**	P	**Pn**	**18 06 00.3**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,46nm,1.4s						
MDJ				LR	LR		
	comp=N,18μm,10.2s						
MDJ				LR	LR		
	comp=Z,19μm,11.8s						
TIA	**Tai'an**	**11.95**	**290**	⇑P	**Pn**	**18 06 06.1**	**+3.8**
TIA				pmax	pmax		
	comp=Z,53nm,1.1s						
TIA				LR	LR		
	comp=E,20μm,14.7s						
TIA				LR	LR		
	comp=Z,33μm,10.4s						
NACB	**Ninganchiao**	**12.06**	**226**		**Pn**	**18 06 03.2**	**-0.5**
SSLB	**Suanglung**	**12.73**	**227**	Pn	**Pn**	**18 06 16.1**	**+3.0**
SSLB	**Suanglung**	**12.73**	**227**	P	Pn	18 06 19.0	+5.9
JEW	**Eniwo**	**12.83**	**37**		Pn	18 06 19.4	+5.1
BNX	**BinXian**	**13.09**	**349**	⇓P	**Pn**	**18 06 21.0**	**+3.1**
BNX				pmax	pmax		
	comp=Z,150nm,1.3s						
QZH	**Quanzhou**	**13.51**	**237**	*e*P	**Pn**	**18 06 24.8**	**+1.2**
QZH				S	**Sn**	**18 08 55.6**	**+1.7**
QZH				LR	LR		
	comp=E,16μm,12.8s						
QZH				LR	LR		
	comp=Z,20μm,15.8s						
BJT	**Baijiatuan**	**13.91**	**305**	P	**Pn**	**18 06 25.6**	**-3.4**
BJT	**Baijiatuan**	**13.91**	**305**		**Pn**	**18 06 25.6**	**-3.4**
BJI	**Beijing**	**13.91**	**305**	P	**Pn**	**18 06 30.3**	**+1.3**
BJI				pmax	pmax		
	comp=Z,30nm,1.1s						
HNS	**HongShan**	**14.10**	**293**	⇑P	**Pn**	**18 06 32.6**	**+1.0**
HNS				*e*S	**Sn**	**18 09 10.0**	**+1.8**
HNS				pmax	pmax		
	comp=Z,60nm,1.4s						
HNS				LR	LR		
	comp=N,25μm,16.5s						
HNS				LR	LR		
	comp=E,12μm,16.7s						
HNS				LR	LR		
	comp=Z,12μm,16.1s						
ASAJ	**Asahikawa**	**14.34**	**36**	Pn	**Pn**	**18 06 35.5**	**+0.7**
	0.3nm,0.3s,baz=216,slow=8.3,SNR=2.0						
WHN	**Wuhan**	**14.43**	**265**	⇓P	**Pn**	**18 06 38.3**	**+2.2**
WHN				S	**Sn**	**18 09 23.0**	**+6.8**
WHN				LR	LR		
	comp=E,22μm,10.8s						
LYN	**LuoYang**	**15.56**	**281**	⇓P	**Pn**	**18 06 52.6**	**+1.3**
LYN				sP	pP	18 06 57.8	-0.7
LYN				pmax	pmax		
	comp=Z,130nm,1.3s						
LYN				LR	LR		
	comp=N,36μm,15.7s						
LYN				LR	LR		
	comp=E,12μm,16.5s						
LYN				LR	LR		
	comp=Z,27μm,11.0s						
TIY	**Taiyuan**	**15.93**	**293**	*e*P	**P**	**18 06 59.1**	**-0.8**
TIY				pmax	pmax		
	comp=Z,30nm,1.3s						
TIY				LR	LR		
	comp=E,13μm,14.0s						
TIY				LR	LR		
	comp=Z,13μm,12.8s						
XLT	**XiLinHaoTe**	**16.03**	**317**	*i*P	**P**	**18 06 59.4**	**-1.5**
XLT				S	**Sn**	**18 10 01.0**	**+5.8**
XLT				pmax	pmax		
	comp=Z,94nm,1.5s						
XLT				LR	LR		
	comp=E,26μm,11.0s						
XLT				LR	LR		
	comp=Z,30μm,12.2s						
KLR	**Kul'dur**	**16.29**	**2**	Pn	**P**	**18 07 02.2**	**-1.4**
	1.4nm,0.3s,baz=161,slow=9.4,SNR=65						
KLR	**Kul'dur**	**16.29**	**2**	⇓*eP*	**P**	**18 07 02.6**	**-1.0**
YSS	**Yuzh-Sakhalins**	**16.60**	**29**	*ce*P	**Pn**	**18 07 05.5**	**+1.0**
YSS				pmax	pmax		
	comp=Z,85nm,1.0s						
YSS	**Yuzh-Sakhalins**	**16.60**	**29**		**Pn**	**18 07 04.6**	**+0.1**
YSS				IAmb	IAmb	18 07 14.6	
	comp=Z,323nm,1.3s						
YSS	**Yuzh-Sakhalins**	**16.60**	**29**	P	**P**	**18 07 06.3**	**-0.7**
HHC	**Hu-ho-hao-te**	**17.46**	**302**	*eP*	**P**	**18 07 16.6**	**-0.2**
HHC				pmax	pmax		
	comp=Z,28nm,1.3s						
HHC				pmax	pmax		
	comp=Z,6μm,7.2s						
HKPS	**Hong Kong Po S**	**18.35**	**239**	P	**Pn**	**18 07 24.5**	**-2.1**
HKPS				IAmb	IAmb	18 07 31.7	
	comp=Z,391nm,1.2s						
HIA	**Hailar**	**18.38**	**336**	⇓*eP*	**P**	**18 07 28.3**	**+1.5**
HIA	**Hailar**	**18.38**	**336**	P	**P**	**18 07 27.2**	**+0.5**
HIA				IAmb	IAmb	18 07 48.1	
	comp=Z,182nm,1.3s						
XAN	**Xi'an**	**18.50**	**279**	P	**Pn**	**18 07 28.5**	**+0.1**
XAN				pP	sP	18 07 32.6	+0.2
XAN				pmax	pmax		
	comp=Z,80nm,1.2s						
XAN				LR	LR		
	comp=Z,19μm,12.4s						
XAN				LR	LR		
	comp=Z,23μm,14.9s						
ENH	**Enshi**	**18.57**	**268**	P	**P**	**18 07 28.0**	**-1.0**
ENH				IAmb	IAmb	18 07 33.8	
	comp=Z,230nm,1.2s						
BALP	**Baler**	**19.16**	**209**	*eP*	**Pn**	**18 07 40.7**	**+4.4**
PCPH	**Palayan**	**19.52**	**210**	⇓*eP*	**Pn**	**18 07 40.9**	**+0.2**
TYV	**Tymovskoe**	**19.84**	**22**	*eP*	**Pn**	**18 07 45.6**	**+1.3**
TYV				pmax	pmax		
	comp=Z,43nm,1.3s						
TYV				pmax	pmax		
	comp=Z,5μm,7.7s						
LQP	**Lukban**	**20.65**	**207**	⇑*eP*	**P**	**18 07 52.4**	**+0.4**
ZEA	**Zeya**	**20.97**	**354**	*eP*	Pn	18 07 57.0	-0.6
ZEA				pmax	pmax		
	comp=N,140nm,1.1s						
ZEA				pmax	pmax		
	comp=E,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,230nm,1.0s						
GYA	**Guiyang**	**22.13**	**259**	⇑*iP*	**P**	**18 08 08.1**	**+0.2**
GYA				pP	sP	18 08 11.4	-0.7
GYA				S	**S**	**18 12 04.5**	**-7.4**
GYA				pmax	pmax		
	comp=Z,35nm,1.2s						
GYA				LR	LR		
	comp=Z,21μm,13.3s						
LZH	**Lanzhou**	**22.62**	**286**	*eP*	**P**	**18 08 13.8**	**+0.7**
LZH				pP	pP	18 08 16.4	+0.5
LZH				pmax	pmax		
	comp=Z,140nm,1.2s						
LZH				LR	LR		
	comp=Z,18μm,13.1s						
LZH				LR	LR		
	comp=Z,26μm,15.3s						
CIT	**Chita**	**22.93**	**331**	*eP*	**P**	**18 08 17.0**	**+1.0**
CIT				*e*		18 08 46.9	
CIT				*e*		18 08 54.0	
CIT				pmax	pmax		
	comp=Z,246nm,3.2s						
GUMO	**Guam**	**23.01**	**144**	LR	LR	18 15 51.0	
	comp=Z,5μm,18.4s,baz=334,slow=33						
CD2	**Chengdu**	**23.25**	**272**	P	**P**	**18 08 18.8**	**-0.7**
CD2				pmax	pmax		
	comp=Z,120nm,0.9s						
CD2				LR	LR		
	comp=Z,8μm,15.7s						
CD2				LR	LR		
	comp=Z,37μm,11.6s						
MSLP	**Maasin**	**23.40**	**196**	*eP*	**P**	**18 08 23.7**	**+2.7**
ULN	**Ulaanbaatar**	**23.46**	**317**	*de*P	**P**	**18 08 21.2**	**-0.5**
ULN				pmax	pmax		
	comp=Z,187nm,1.0s						
ULN	**Ulaanbaatar**	**23.46**	**317**	P	**P**	**18 08 20.7**	**-0.9**
ULN					**pP**	**18 08 20.9**	**-3.7**
ULN	**Ulaanbaatar**	**23.46**	**317**	P	**P**	**18 08 22.4**	**+0.7**
QIZ	**Qiongzhong**	**23.51**	**239**	P	**P**	**18 08 25.1**	**+3.0**
QIZ				IAmb	IAmb	18 09 04.1	
	comp=Z,144nm,1.7s						
QIZ	**Qiongzhong**	**23.51**	**239**	P	**P**	**18 08 23.6**	**+1.4**
QIZ				S	**S**	**18 12 39.8**	**+3.7**
QIZ				LR	LR		
	comp=Z,16μm,12.9s						
QIZ				LR	LR		
	comp=Z,11μm,15.9s						
QIZ				LR	LR		
	comp=Z,13μm,11.6s						
SONM	**Songino Array**	**23.83**	**316**	P	**P**	**18 08 25.4**	**+0.2**
	comp=Z,53nm,0.9s,baz=134,slow=8.4,SNR=109						
SONM				PcP	**PcP**	**18 12 10.0**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=85,slow=2.3,SNR=2.4						

SONM Songino Array 23.83 316 P P 18 08 24.5 -0.7
SONM pmax pmax
comp=Z,151nm,1.2s
SONM Songino Array 23.83 316 P P 18 08 24.5 -0.7
SONM lAmb lAmb 18 08 28.7
comp=Z,151nm,1.2s
CUYO Cuyo Island 23.85 205 *eP* **P 18 08 31.4 +6.0**
CNOP Candoni, Negro 24.28 201 *eP* **P 18 08 29.3 -0.1**
PPR Puerto Princes 25.70 209⇑*iP* **P 18 08 41.9 -0.4**
KMI Kunming 25.91 260⇓**P P 18 08 45.1 +0.6**
KMI pP pP 18 08 47.6 +0.1
KMI pmax pmax
comp=Z,24nm,0.9s
KMI LR LR
comp=Z,12μm,19.0s
KMI LR LR
comp=Z,18μm,13.1s
KMI LR LR
comp=Z,22μm,15.0s
GTA Gaotai 25.96 293⇓P **P 18 08 44.4 -0.3**
GTA pP sP 18 08 51.4 +2.3
GTA sP pP 18 08 55.0 +7.2
GTA pmax pmax
comp=Z,21nm,1.0s
GTA pmax pmax
comp=Z,3μm,6.4s
GTA LR LR
comp=Z,9μm,17.9s
GTA LR LR
comp=Z,13μm,15.9s
PZH PanZhiHua 26.21 264 P P **18 08 46.5 -0.6**
PZH pP **pP 18 08 49.5 -0.7**
PZH sP **sP 18 08 53.0 +1.5**
PZH S **S 18 13 16.8 -2.6**
PZH pmax pmax
comp=Z,70nm,1.3s
PZH LR LR
comp=Z,11μm,13.1s
PZH LR LR
comp=Z,14μm,13.6s
ZAK Zakamensk 26.88 319 *eP* **P 18 08 53.0 +0.2**
ZAK pmax pmax
comp=Z,114nm,1.2s
IRK Irkutsk 27.34 323 *eP* **P 18 08 57.7 +0.8**
IRK pmax pmax
comp=Z,228nm,1.9s
BOD Bodaibo 27.46 340 *eP* **P 18 08 58.1 +0.3**
BOD pmax pmax
comp=Z,59nm,1.8s
PEA0B Petropavlovsk- 27.76 35 P **P 18 09 00.3 -0.3**
PEA0B pmax pmax
comp=Z,77nm,1.3s
PEA0B Petropavlovsk- 27.76 35 P **P 18 09 00.2 -0.3**
PEA0B lAmb lAmb 18 09 23.0
comp=Z,77nm,1.2s
PETK Petropavlovsk- 27.76 35 P **P 18 08 59.3 -1.3**
PETK Petropavlovsk- 27.76 35 P **P 18 08 59.3 -1.3**
PET Petropavlovsk 28.18 36 P **P 18 09 04.0 -0.3**
MOY Mondy 28.77 320 *eP* **P 18 09 09.8 +0.1**
MOY pmax pmax
comp=Z,69nm,2.4s
UBPT Khong Chiam 29.11 239 P **P 18 09 12.3 -0.7**
YAK Yakutsk 29.12 359 P **P 18 09 11.6 -1.1**
comp=Z,10nm,0.8s,baz=163,slow=6.2,SNR=16
YAK Yakutsk 29.12 359 *eP* **P 18 09 11.1 -1.5**
YAK *e**PP **sP 18 09 19.8 +2.8**
YAK *e* 18 10 04.2
YAK *eS* **S 18 14 05.0 +0.7**
YAK *eSS* **SnSn 18 15 35.6 +7.3**
YAK *e* 18 19 55.4
YAK pmax pmax
comp=Z,47nm,1.3s
YAK pmax pmax
comp=N,27nm,1.2s
YAK pmax pmax
comp=Z,3μm,11.6s
YAK pmax pmax
comp=N,4μm,15.5s
YAK pmax pmax
comp=E,5μm,12.7s
YAK smax smax
comp=N,6μm,15.5s
YAK smax smax
comp=E,7μm,14.4s
YAK MLR MLR
comp=Z,8μm,21.0s
YAK MLR MLR
comp=N,5μm,19.0s
YAK Yakutsk 29.12 359 P **P 18 09 10.8 -1.8**
YAK lAmb lAmb 18 09 31.3
comp=Z,53nm,1.1s
MA2 Magadan 29.69 20⇑*eP* **P 18 09 17.9 +0.2**
MA2 pmax pmax
comp=Z,29nm,1.7s
MA2 Magadan 29.69 20 P **P 18 09 16.5 -1.2**
GOMU GeErMu 29.92 286 P **P 18 09 21.8 +1.3**
GOMU pP sP 18 09 25.8 +0.9
GOMU sP pP 18 09 29.4 +5.8
GOMU S **S 18 14 14.1 -4.1**
GOMU pmax pmax
comp=Z,47nm,0.9s
GOMU pmax pmax
comp=Z,2μm,11.0s
GOMU LR LR
comp=Z,10μm,14.9s
GOMU LR LR
comp=Z,8μm,14.1s
GOMU LR LR
comp=Z,7μm,14.4s
MYLDM Lahad Datu 30.00 206 P **P 18 09 18.6 -2.2**
MYLDM lAmb lAmb 18 10 02.4
comp=Z,42nm,1.3s
KKM Kota Kinabalu 30.12 211 P **P 18 09 20.6 -1.4**
KNGR Kungurtug, Tuv 30.27 316⇓*eP* **P 18 09 23.3 +0.2**
MNI Manado 31.87 192 P **P 18 09 37.6 +0.3**
MNI pmax pmax
comp=Z,83nm,0.8s
CHTO Chiang Mai 32.00 252 P **P 18 09 38.9 +0.4**
CHTO pmax pmax
comp=Z,18nm,1.1s
CHTO Chiang Mai 32.00 252 P **P 18 09 39.0 +0.6**
TNTI Ternate 32.18 187 P **P 18 09 37.8 -2.2**
TNTI lAmb lAmb 18 09 58.5
comp=Z,130nm,1.8s
CM31 Chiang Mai Arr 32.19 251 P **P 18 09 37.8 -2.3**
CM31 Chiang Mai Arr 32.19 251 P **P 18 09 42.4 +2.2**
SNR=12
CMAR Chiang Mai Arr 32.19 251 P **P 18 09 40.9 +0.7**
comp=Z,10nm,1.0s,baz=46,slow=7.1,SNR=40
CMAR PcP **PcP 18 12 30.4 +1.4**
comp=Z,1.1nm,1.0s,baz=30,slow=2.3,SNR=4.4
CMAR Chiang Mai Arr 32.19 251 *ce*P **P 18 09 41.0 +0.8**
CMAR pmax pmax
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 32.19 251 P **P 18 09 39.2 -0.9**
SEY Seymchan 32.91 18 P **P 18 09 46.0 0.0**
comp=Z,4.2nm,0.8s,baz=211,slow=7.1,SNR=14
SEY Seymchan 32.91 18⇓*eP* **P 18 09 46.5 +0.5**
SEY pmax pmax
comp=Z,21nm,1.7s
TOLI2 Tolitoli 33.10 199 P **P 18 09 46.4 -1.7**
MRSI Marisa 33.41 197 P P 18 09 56.8 +6.0
comp=Z,15nm,1.2s
LSA Lhasa 34.11 275 P **P 18 09 56.4 -1.1**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA Lhasa 34.11 275 P **P 18 09 56.4 -1.1**
LSA Lhasa 34.11 275 P **P 18 09 58.0 +0.5**
LSA pmax pmax
comp=Z,13nm,1.0s
LSA Lhasa 34.11 275 *i* P **P 18 09 58.3 +0.8**
SNR=11
LUWI Luwuk 34.69 195 P **P 18 10 02.2 +0.3**
LUWI lAmb lAmb 18 10 35.5
comp=Z,57nm,1.1s
SHL Shillong 34.81 268 P **P 18 10 01.9 -1.3**
SHL pmax pmax
comp=Z,49nm,1.2s
SHL Shillong 34.81 268 P **P 18 10 01.9 -1.3**
SHL lAmb lAmb 18 10 04.5
comp=Z,49nm,1.2s
SHL Shillong 34.81 268 P **P 18 10 02.8 -0.4**
SNR=10
SBUM Sibu 35.10 214 P **P 18 10 04.9 -0.6**
SANI Sanana 35.13 189 P **P 18 10 06.1 +0.4**
comp=Z,27nm,0.8s
WMQ Urumqi 35.33 301 *eP* **P 18 10 08.0 +0.6**
WMQ sP sP 18 10 17.5 +5.7
WMQ S **S 18 15 40.3 -1.3**
WMQ pmax pmax
comp=Z,89nm,1.3s
WMQ LR LR
comp=Z,7μm,15.3s
WMQ LR LR
comp=Z,3μm,13.5s
MSAI Masohi 36.14 184 P P 18 10 23.9 +10
AAI Ambon 36.52 185 P **P 18 10 19.2 +1.5**
AAI pmax pmax
comp=Z,35nm,0.9s
AAI Ambon 36.52 185 P **P 18 10 20.5 +2.8**
comp=Z,35nm,0.9s
KSM Kuching 36.88 216 P **P 18 10 19.4 -1.3**
KSM lAmb lAmb 18 10 24.1
comp=Z,63nm,1.8s
MTKI Muara Teweh, K 36.99 208 P **P 18 10 25.0 +3.3**
comp=Z,16nm,0.5s
ZSN Zaisan 37.59 307 *eP* **P 18 10 26.3 -0.2**
ZSN Zaisan 37.59 307 *eP* **P 18 10 26.4 -0.2**
baz=307
TAPN Taplejung 37.71 273 *eP* **P 18 10 28.0 -0.1**
SRIT Nakonsritamara 37.84 237 P P 18 10 23.3 -5.7
MANU Manus Island 38.05 153 P **P 18 10 26.3 -4.3**
ODAN Odare 38.14 273 *eP* **P 18 10 31.7 0.0**
comp=Z,62nm,0.9s
ZAA0 Zalesovo Array 38.72 317 P **P 18 10 34.4 -1.6**
ZALV Zalesovo Beam 38.72 317 P **P 18 10 35.5 -0.4**
comp=Z,8.2nm,1.0s,baz=100,slow=6.2,SNR=15
ZALV PcP **PcP 18 12 47.2 -0.3**
comp=Z,5.9nm,0.8s,baz=104,slow=3.2,SNR=8.0
ZALV Zalesovo Beam 38.72 317 P **P 18 10 34.8 -1.1**
ZALV Zalesovo Beam 38.72 317 P **P 18 10 34.8 -1.1**
RAMN Ramite 38.77 273 *eP* **P 18 10 36.8 -0.2**
comp=Z,21nm,0.5s
TIXI Tiksi 38.79 359 P **P 18 10 35.3 -1.0**
comp=Z,5.1nm,0.9s,baz=267,slow=22,SNR=19
TIXI LR LR 18 25 22.9
comp=Z,8μm,20.8s,baz=0,slow=34
TIXI Tiksi 38.79 359⇑*iP* **P 18 10 35.6 -0.7**
TIXI pmax pmax
comp=Z,46nm,2.5s
TIXI Tiksi 38.79 359 P **P 18 10 34.4 -1.9**
JIRN Jiri 38.88 274 *eP* **P 18 10 38.7 +0.6**
comp=Z,6.0nm,0.9s
GUN Gumba 39.06 275 *eP* **P 18 10 40.2 +0.7**
comp=Z,326nm,0.9s
KAPI Kappang 39.24 198 P **P 18 10 40.0 -0.6**
KAPI pmax pmax
comp=Z,41nm,1.6s
KAPI Kappang 39.24 198 P **P 18 10 40.0 -0.6**
MK31 Makanchi Array 39.29 305*d iP* **P 18 10 40.2 -0.7**
MK31 Makanchi Array 39.29 305 P **P 18 10 40.1 -0.8**
MKAR Makanchi Array 39.29 305 P **P 18 10 40.7 -0.2**
comp=Z,14nm,0.9s,baz=93,slow=10.0,SNR=36
MKAR PcP **PcP 18 12 48.5 -1.1**
comp=Z,6.7nm,0.9s,baz=90,slow=4.9,SNR=5.1
MKAR ScP **ScP 18 16 37.2 -1.0**
comp=Z,0.8nm,0.8s,baz=72,slow=4.7,SNR=4.4
MKAR Makanchi Array 39.29 305 P **P 18 10 40.2 -0.7**
MKAR 18 12 48.5
MKAR Makanchi Array 39.29 305 P **P 18 10 40.2 -0.7**
BBKI Banjar Baru 39.33 206 P **P 18 10 42.8 +1.4**
comp=Z,5μmcomp=Z,58nm,1.2s
KULM Kulim 39.49 232 P **P 18 10 41.5 -1.3**
MAKZ Makanchi 39.51 305 P **P 18 10 42.4 -0.2**
MAKZ pmax pmax
comp=Z,26nm,1.1s
MAKZ Makanchi 39.51 305 P **P 18 10 42.4 -0.2**
PKI Pulchoki 39.56 275 *eP* **P 18 10 43.7 0.0**
comp=Z,153nm,1.2s
PKIN Phulchoki 39.57 275 *eP* **P 18 10 43.4 -0.3**
comp=Z,126nm,1.3s
KKN Kakani 39.60 275 *eP* **P 18 10 43.9 0.0**
comp=Z,39nm,0.8s
DMN Daman 39.81 275 *eP* **P 18 10 45.7 0.0**
IPM Ipoh 39.85 231 P **P 18 10 44.1 -1.6**
GKN Gorkha 40.07 276 *eP* **P 18 10 47.6 -0.1**
comp=Z,53nm,0.9s
MYKOM Kota Tinggi 40.16 225 P **P 18 10 46.4 -1.9**
BILL Bilibino 40.55 19⇑*eP* **P 18 10 51.4 +0.4**
BILL *e* 18 12 21.0
BILL pmax pmax
comp=Z,65nm,1.7s
BILL MLR MLR
comp=Z,4μm,14.0s
BILL Bilibino 40.55 19 P **P 18 10 50.7 -0.3**
DANN Dangsing 40.69 277 *eP* **P 18 10 53.5 +0.4**
comp=Z,113nm,0.8s
SEM Semipalatinsk 40.90 311 *eP* **P 18 10 53.6 -0.8**
SEM pmax pmax
comp=Z,87nm,2.4s
SEM Semipalatinsk 40.90 311 *eP* **P 18 10 53.7 -0.7**
comp=Z,86nm,2.4s,baz=311
PBA Port Blair 40.98 248 P **P 18 10 52.8 -2.4**
KOLN Koldanda 41.01 276 *eP* **P 18 10 55.7 +0.1**
comp=Z,169nm,1.3s
SHLS Shalkode 41.32 300 *eP* **P 18 10 54.3 -3.5**
SHLS Shalkode 41.32 300 *eP* **P 18 10 54.4 -3.5**
baz=300
PYUN Piuthan 41.42 276 *eP* **P 18 10 59.1 +0.2**
comp=Z,435nm,1.3s
UZB Uzynbulak 41.64 300 *eP* **P 18 10 59.6 -0.9**
UZB pmax pmax
comp=Z,75nm,1.9s
UZB Uzynbulak 41.64 300 *eP* **P 18 10 59.7 -0.9**
comp=Z,75nm,1.9s,baz=300
KIWB Kanaga Island 41.66 47 P **P 18 10 59.6 -0.7**
KPKS Kokpek 41.87 300 *eP* **P 18 11 01.2 -1.1**
KPKS pmax pmax
comp=Z,72nm,1.7s
KPKS Kokpek 41.87 300 *eP* **P 18 11 01.2 -1.1**
comp=Z,72nm,1.7s,baz=300
ADK Adak 41.95 47 P **P 18 11 01.9 -0.8**
ADK pmax pmax
comp=Z,133nm,1.3s
ADK Adak 41.95 47 P **P 18 11 01.9 -0.8**
ADK lAmb lAmb 18 11 13.1
comp=Z,133nm,1.2s
KURK Kurchatov 41.97 311 P **P 18 11 02.4 -0.4**
KURK pmax pmax
comp=Z,94nm,1.1s
KURK Kurchatov 41.97 311 P **P 18 11 02.4 -0.4**
KURK lAmb lAmb 18 11 04.8
comp=Z,94nm,1.1s
KURK Kurchatov 41.97 311 P **P 18 11 02.7 -0.2**
RABL Rabaul 41.99 148 P **P 18 11 02.8 -0.7**
RABL lAmb lAmb 18 11 14.1
comp=Z,51nm,0.9s
TDK Taldyqorghan 41.99 303 *eP* **P 18 11 01.9 -1.3**
TDK Taldyqorghan 41.99 303 *eP* **P 18 11 01.9 -1.3**
baz=303
KURBB Kurchatov Arra 42.02 311 P **P 18 11 03.2 -0.1**
comp=Z,45nm,0.9s,baz=97,slow=9.1,SNR=82
ZHN Zhinishke 42.07 300 *eP* **P 18 11 03.3 -0.7**
ZHN Zhinishke 42.07 300 *eP* **P 18 11 03.3 -0.7**
baz=300
SATY Saty 42.10 300 *eP* **P 18 11 03.7 -0.5**
SATY Saty 42.10 300 *eP* **P 18 11 03.7 -0.5**
baz=300
PPBI Pangkal Pinang 42.12 219 P **P 18 11 06.9 +2.5**
GSTR Great Sitkin T 42.35 47 P **P 18 11 05.6 -0.5**
TARG Taragay, Kyrgy 42.66 298 P **P 18 11 08.7 -0.5**
TARG lAmb lAmb 18 11 12.2
comp=Z,84nm,1.1s
CHKK Chushkaly 43.07 301 *eP* **P 18 11 11.5 -0.5**
CHKK Chushkaly 43.07 301 *eP* **P 18 11 11.6 -0.5**
baz=301
MDOK Medeo 43.08 300 *eP* **P 18 11 11.4 -0.9**
MDOK Medeo 43.08 300 *eP* **P 18 11 11.4 -0.9**
baz=300
KDJ Kajisay 43.09 298 P **P 18 11 11.6 -0.7**
KDJ pmax pmax
comp=Z,52nm,1.3s
KDJ Kajisay 43.09 298 P **P 18 11 11.6 -0.7**
KDJ lAmb lAmb 18 11 18.6
comp=Z,52nm,1.2s
TNSS Tian-Shan 43.17 300 *eP* **P 18 11 12.7 -0.5**
TNSS Tian-Shan 43.17 300 *eP* **P 18 11 12.8 -0.5**
baz=300
AAA Alma-Ata 43.18 300 *eP* **P 18 11 12.5 -0.4**
AAA pmax pmax
comp=Z,75nm,1.0s
AAA Alma-Ata 43.18 300 *eP* **P 18 11 12.5 -0.4**
comp=Z,75nm,1.0s,baz=300
KUU Kurty 43.54 301 *eP* **P 18 11 15.3 -0.4**
KUU pmax pmax
comp=Z,141nm,1.9s
KUU Kurty 43.54 301 *eP* **P 18 11 15.3 -0.4**
comp=Z,141nm,1.9s,baz=301
MNSI Mandailing Nat 43.57 229 P **P 18 11 17.3 +1.0**
comp=Z,20nm,0.9s
NRIK Noril'sk 43.75 339 P **P 18 11 16.7 -0.3**
comp=Z,35nm,0.9s,baz=119,slow=9.3,SNR=30
NRIK LR LR 18 30 57.0
comp=Z,10μm,18.8s,baz=338,slow=38
NRIK Noril'sk 43.75 339⇓*eP* **P 18 11 17.0 -0.1**
NRIK pmax pmax
comp=Z,46nm,0.9s
NRIK Noril'sk 43.75 339 P **P 18 11 16.4 -0.7**
NRIK lAmb lAmb 18 11 19.6
comp=Z,42nm,0.9s
ULHL Ulahol 43.77 299 P **P 18 11 18.6 +0.8**
SNR=13
BOOM Boomskoye usch 43.96 299 P **P 18 11 17.9 -1.5**
BOOM pmax pmax
comp=Z,48nm,1.4s
BOOM Boomskoye usch 43.96 299 P **P 18 11 17.9 -1.5**
BOOM lAmb lAmb 18 11 47.2
comp=Z,48nm,1.4s
TKM2 Tokmak 2 44.17 300 P **P 18 11 22.1 +1.0**
SNR=30
KSH Kashi 44.34 295 P **P 18 11 26.5 +4.1**
KSH pP sP 18 11 29.4 +2.5
KSH PP **PcP 18 13 11.1 +4.7**
KSH pmax pmax
comp=Z,29nm,0.9s
GSI Gunungsitoli 44.49 232 P **P 18 11 21.9 -1.7**
GSI Gunungsitoli 44.49 232 P **P 18 11 24.2 +0.5**
comp=Z,4μmcomp=Z,65nm,1.8s
PWJI Pagerwojo 44.67 208 P **P 18 11 28.2 +3.2**
comp=Z,26nm,1.0s
KBK Karagaybulak 44.67 299 P **P 18 11 26.2 +1.2**
SNR=14
KRJI Kerinci 44.68 225 P P 18 11 31.7 +6.5
comp=Z,106nm,1.3s
CHMS Chumysh 44.77 300 P **P 18 11 26.3 +0.6**
SNR=17
SGDS Sogindy 44.81 301 *eP* **P 18 11 25.7 -0.3**
SGDS Sogindy 44.81 301 *eP* **P 18 11 25.8 -0.3**
baz=301
FRU1 Bishkek 44.88 300 P **P 18 11 25.2 -1.4**
FRU1 pmax pmax
comp=Z,82nm,1.1s
FRU1 Bishkek 44.88 300 P **P 18 11 25.2 -1.4**
USP Ospenovka 44.93 300 P **P 18 11 27.2 +0.2**
SNR=15
USP Ospenovka 44.93 300 P **P 18 11 27.4 +0.5**
USP pmax pmax
comp=Z,37nm,1.1s
AAK Ala-Archa 45.01 299 P **P 18 11 28.6 +0.9**
SNR=9.6
AAK Ala-Archa 45.01 299*de*P **P 18 11 27.8 +0.1**
AAK pmax pmax
comp=Z,55nm,1.7s
AAK Ala-Archa 45.01 299 P **P 18 11 25.3 -2.4**
AAK lAmb lAmb 18 11 35.4
comp=Z,55nm,1.2s
AAK Ala-Archa 45.01 299 P **P 18 11 28.2 +0.4**
AAK Ala-Archa 45.01 299 *i* P **P 18 11 28.2 +0.4**
SNR=8.1
UCH Uchtor 45.04 299 P **P 18 11 30.1 +1.7**
SNR=22
UCH Uchtor 45.04 299 P **P 18 11 30.0 +1.7**
UCH pmax pmax
comp=Z,84nm,1.9s
MASI Maura Aman, Be 45.08 223 P **P 18 11 31.7 +3.4**
comp=Z,103nm,0.9s
BTLS Baital 45.08 303 *eP* **P 18 11 27.5 -0.5**
BTLS pmax pmax
comp=Z,87nm,2.6s
BTLS Baital 45.08 303 *eP* **P 18 11 27.6 -0.5**
comp=Z,87nm,2.6s,baz=303
KPJI Karang Pucung 45.25 212 P P 18 11 36.5 +6.9
MTN Manton Dam 45.52 180 P **P 18 11 29.7 -2.0**
MTN lAmb lAmb 18 11 37.7
comp=Z,55nm,1.1s
EKS2 Erkin-Say 45.53 300 P **P 18 11 32.0 +0.2**
SNR=6.0
AML Almayashu 45.66 299 P **P 18 11 34.6 +1.4**
AML pmax pmax
comp=Z,96nm,1.0s
AML Almayashu 45.66 299 *i* P **P 18 11 34.3 +1.1**
SNR=6.5
BRZS Berezniki 45.75 310 *eP* **P 18 11 33.0 -0.3**
BRZS Berezniki 45.75 310 *eP* **P 18 11 33.1 -0.3**
baz=310
NDI New Delhi 46.03 280 *eP* **P 18 11 35.0 -0.8**
SPIA Saint Paul Isl 46.22 40 P **P 18 11 37.5 +0.6**
baz=264
GAMB Gambell 46.61 31 P **P 18 11 39.8 0.0**
GAMB Gambell 46.61 31 P **P 18 11 40.6 +0.8**
baz=257
BRVK Borovoye 47.22 314⇓*iP* **P 18 11 44.8 0.0**
BRVK pmax pmax
comp=Z,86nm,1.7s
BRVK Borovoye 47.22 314 P **P 18 11 45.0 +0.2**
BRVK Borovoye 47.22 314 P **P 18 11 45.0 +0.2**
DZA Taraz 47.28 300 *eP* **P 18 11 44.8 -0.6**
DZA Taraz 47.28 300 *eP* **P 18 11 44.9 -0.6**
baz=300
DRK Karamyk 47.52 296 P **P 18 11 47.2 -0.6**
NIL Nilore 47.77 288 P **P 18 11 48.6 -0.8**
NIL pmax pmax
comp=Z,54nm,1.0s
NIL Nilore 47.77 288 P **P 18 11 48.6 -0.8**
KK31 Karatay Array 47.84 301 P **P 18 11 49.9 +0.1**
KK31 pmax pmax
comp=Z,53nm,0.8s
KK31 Karatay Array 47.84 301 P **P 18 11 49.9 +0.1**
KKAR Karatay Array 47.84 301 P **P 18 11 50.0 +0.2**
KKAR Karatay Array 47.84 301 P **P 18 11 50.0 +0.2**
KKAR Karatay Array 47.84 301 P **P 18 11 49.9 +0.2**
KKAR lAmb lAmb 18 11 51.2
comp=Z,53nm,0.8s
COEN Coen 48.04 164 P **P 18 11 51.5 0.0**
COEN lAmb lAmb 18 12 00.6
comp=Z,28nm,1.2s
BTK Batken 48.15 297 P **P 18 11 51.5 -0.8**
BTK pmax pmax
comp=Z,45nm,0.9s
BTK Batken 48.15 297 P **P 18 11 51.5 -0.8**
IUG Iuzhnay 48.35 299 *eP* **P 18 11 53.3 -0.5**
IUG Iuzhnay 48.35 299 *eP* **P 18 11 53.3 -0.5**
baz=300
KNRA Kununurra 48.39 183 P **P 18 11 53.6 -0.5**
KNRA lAmb lAmb 18 12 00.9
comp=Z,46nm,1.1s
GAR Garm 48.75 295 P **P 18 11 56.1 -0.9**
TAS Tashkent 49.04 299 P **P 18 11 59.0 0.0**
TAS pmax pmax
comp=Z,86nm,0.9s
TAS Tashkent 49.04 299 P **P 18 11 59.0 0.0**
ANM Nome 49.48 31 P **P 18 12 01.6 -0.4**
ANM pmax pmax
comp=Z,44nm,1.4s
ANM Nome 49.48 31 P **P 18 12 01.6 -0.4**
ANM lAmb lAmb 18 12 05.2
comp=Z,44nm,1.4s
ANM Nome 49.48 31 P **P 18 12 02.5 +0.4**
baz=262
CHGR Chuyangaron 49.71 295 P **P 18 12 03.3 -1.0**
KBL Kabul 50.87 290 P **P 18 12 12.4 -0.9**
KBL pmax pmax
comp=Z,77nm,1.6s
KBL Kabul 50.87 290 P **P 18 12 12.4 -0.9**
KBL lAmb lAmb 18 12 17.6
comp=Z,78nm,1.6s
KBL Kabul 50.87 290 P **P 18 12 16.0 +2.6**
SNR=5.2
RDOG Red Dog Mine 50.96 26 P **P 18 12 13.2 0.0**
RDOG lAmb lAmb 18 12 24.3
comp=Z,26nm,1.1s
RDOG Red Dog Mine 50.96 26 P **P 18 12 14.3 +1.1**
baz=262
FITZ Fitzroy Crossi 51.01 187 P **P 18 12 13.2 -0.9**
FITZ lAmb lAmb 18 12 16.5
comp=Z,40nm,1.6s

SDPT **Sand Point** 51.64 43 P P 18 12 18.2 -0.3
WB0 **Warramunga Arr** 52.50 176 P P 18 12 24.7 -0.6
SVE **Sverdlovsk** 52.64 319↓ *e*P P 18 12 26.5 +0.6
SVE pmax pmax
comp=Z,80nm,1.1s
WRAB **Tennant Creek** 52.66 176↓ *e*P P 18 12 26.1 -0.3
WRAB pmax pmax
comp=Z,22nm,1.3s
WRAB **Tennant Creek** 52.66 176 P P 18 12 25.3 -1.1
WRA **Warramunga Arr** 52.67 176 P P 18 12 25.4 -1.1
comp=Z,11nm,0.8s,baz=352,slow=8.0,SNR=21
WRA **Warramunga Arr** 52.67 176 *ce*P P 18 12 26.0 -0.5
WRA pmax pmax
comp=Z,11nm,0.8s
WRA **Warramunga Arr** 52.67 176 P P 18 12 25.4 -1.1
WB2 **Warramunga Arr** 52.67 176 P P 18 12 26.1 -0.4
WR0 **Warramunga Arr** 52.70 176 P P 18 12 26.0 -0.7
WR0 IAmb IAmb 18 12 33.4
comp=Z,28nm,0.9s
PALK **Pallekele** 53.11 253 P P 18 12 29.5 -0.5
PALK pmax pmax
comp=Z,25nm,1.4s
PALK **Pallekele** 53.11 253 P P 18 12 29.5 -0.5
TTA **Tatalina** 53.55 33 P P 18 12 32.1 -0.5
TTA pmax pmax
comp=Z,25nm,1.5s
TTA **Tatalina** 53.55 33 P P 18 12 32.1 -0.5
TTA **Tatalina** 53.55 33 P P 18 12 33.3 +0.7
baz=272
N18K **Kilae Creek** 53.72 36 P P 18 12 33.9 +0.1
N18K IAmb IAmb 18 12 45.0
comp=Z,104nm,1.8s
N18K **Kilae Creek** 53.72 36 P P 18 12 35.1 +1.2
baz=274
ARU **Arti** 53.82 319 *c i*P P 18 12 34.8 +0.2
ARU 18 14 34.2
ARU S S 18 20 12.6 +3.4
ARU SS SKiKP 18 23 41.9 -6.6
ARU pmax pmax
comp=Z,97nm,1.1s
SVW2 **Sparrevohn** 53.84 35 P P 18 12 34.6 -0.1
SVW2 IAmb IAmb 18 12 45.9
comp=Z,61nm,1.7s
ABKAR **Akbulak array** 54.05 310 P P 18 12 36.1 -0.3
ABKAR **Akbulak array** 54.05 310 P P 18 12 35.9 -0.5
ABKAR IAmb IAmb 18 12 38.3
comp=Z,61nm,0.9s
L19K **White Mountain** 54.12 34 P P 18 12 36.8 +0.1
L19K IAmb IAmb 18 12 47.0
comp=Z,46nm,1.6s
L19K **White Mountain** 54.12 34 P P 18 12 38.1 +1.3
baz=274
O18K **Koktuh Hills** 54.12 37 P P 18 12 36.4 -0.4
O18K IAmb IAmb 18 12 47.7
comp=Z,92nm,1.7s
O18K **Koktuh Hills** 54.12 37 P P 18 12 36.7 -0.1
baz=275
P18K **Big Mountain,** 54.15 37 P P 18 12 37.1 0.0
P18K IAmb IAmb 18 12 47.6
comp=Z,102nm,1.8s
J20K **Nowinta River** 54.33 31 P P 18 12 38.6 +0.4
J20K IAmb IAmb 18 12 48.3
comp=Z,57nm,1.4s
J20K **Nowinta River** 54.33 31 P P 18 12 39.3 +1.1
baz=273,SNR=13
CHIR **Chirikof Islan** 54.34 42 P P 18 12 38.2 -0.2
M19K **Big River Lodg** 54.36 34 P P 18 12 38.8 +0.4
M19K IAmb IAmb 18 12 48.8
comp=Z,42nm,1.6s
M19K **Big River Lodg** 54.36 34 P P 18 12 39.9 +1.4
baz=274
N19K **Bonanza Creek** 54.40 36 P P 18 12 39.5 +0.7
baz=275
K20K **Telida** 54.41 32 IAmb IAmb 18 12 49.0
comp=Z,94nm,1.8s
K20K **Telida** 54.41 32 P P 18 12 40.3 +1.5
baz=273,SNR=16
O19K **Port Alsworth** 54.53 36 P P 18 12 40.0 +0.3
baz=275
L20K **Farewell, AK** 54.55 33 P P 18 12 41.6 +1.7
baz=274,SNR=8.0
H21K **Melozitna Rive** 54.83 29 P P 18 12 42.5 +0.7
H21K IAmb IAmb 18 12 53.7
comp=Z,48nm,1.8s
H21K **Melozitna Rive** 54.83 29 P P 18 12 43.1 +1.2
baz=273,SNR=6.5
PCHI **Peechi** 54.84 259 *e*P P 18 12 43.2 +0.7
CHUM **Lake Minchumin** 55.15 32 P P 18 12 45.8 +1.6
baz=275
I21K **Tanana** 55.20 30 IAmb IAmb 18 12 56.8
comp=Z,95nm,1.6s
I21K **Tanana** 55.20 30 P P 18 12 45.7 +1.2
baz=274,SNR=8.9
PSA00 **Pilbara Seismi** 55.25 193 P P 18 12 44.5 -0.8
PSA00 IAmb IAmb 18 12 47.1
comp=Z,38nm,1.6s
PSA00 **Pilbara Seismi** 55.25 193 IAmb IAmb 18 12 52.7
comp=Z,24nm,1.1s
CAST **Castle Rocks** 55.30 32 P P 18 12 44.9 -0.4
CAST IAmb IAmb 18 12 57.2
comp=Z,96nm,1.8s
CAST **Castle Rocks** 55.30 32 P P 18 12 46.9 +1.6
baz=275,SNR=7.5
PPLA **Purkeypile** 55.30 33 P P 18 12 46.3 +0.9
baz=275,SNR=5.4
O20K **Slope Mountain** 55.39 36 P P 18 12 47.8 +1.8
baz=277
OHAK **Old Harbor** 55.43 40 P P 18 12 48.0 +1.8
baz=278
SPCR **Spurr Chakacha** 55.46 35 P P 18 12 47.4 +0.9
baz=276
BPAW **Bear Paw Mtn.** 55.72 31 P P 18 12 47.7 -0.6
BPAW IAmb IAmb 18 12 58.2
comp=Z,51nm,1.5s
BPAW **Bear Paw Mtn.** 55.72 31 P P 18 12 49.8 +1.5
baz=276,SNR=7.7
KDAK **Kodiak Island** 55.72 39 P P 18 12 49.9 +1.6
comp=Z,14nm,1.0s,baz=306,slow=5.4,SNR=11
KDAK **Kodiak Island** 55.72 39 P P 18 12 49.9 +1.6
KDAK pmax pmax
comp=Z,198nm,2.0s
KDAK **Kodiak Island** 55.72 39 P P 18 12 49.3 +1.0
baz=278
COLD **Coldfoot** 55.78 27 P P 18 12 48.3 -0.4
COLD IAmb IAmb 18 13 00.4
comp=Z,39nm,1.8s
COLD **Coldfoot** 55.78 27 P P 18 12 49.5 +0.8
baz=274,SNR=5.7
KTH **Kantishna Hill** 55.80 32 P P 18 12 49.2 +0.2
TOLK **Toolik Lake Re** 55.92 26 P P 18 12 49.7 0.0
TOLK **Toolik Lake Re** 55.92 26 P P 18 12 50.4 +0.7
baz=274,SNR=8.7
TRF **Thorofare Moun** 56.09 32 P P 18 12 52.7 +1.5
baz=277
H23K **Yukon River** 56.16 29 IAmb IAmb 18 13 01.8
comp=Z,78nm,1.4s
H23K **Yukon River** 56.16 29 P P 18 12 53.0 +1.6
baz=276,SNR=30
CUT **Chulitna** 56.23 33 P P 18 12 53.0 +1.0
baz=277
HRA **Herat** 56.26 292 P P 18 12 51.8 -1.0
I23K **Minto, Yukon-K** 56.31 30 IAmb IAmb 18 13 05.3
comp=Z,60nm,1.6s
I23K **Minto, Yukon-K** 56.31 30 P P 18 12 53.2 +0.7
baz=276
AS31 **Alice Springs** 56.35 177 P P 18 12 52.7 -0.5
ASAR **Alice Springs** 56.35 177 P P 18 12 53.1 -0.1
comp=Z,9.4nm,0.9s,baz=360,slow=6.1,SNR=38
ASAR **Alice Springs** 56.35 177 P P 18 12 52.9 -0.3
ASAR **Alice Springs** 56.35 177 P P 18 12 52.9 -0.3
BRSE **Bradley Lake S** 56.38 37 P P 18 12 54.8 +1.7
baz=279
M22K **Willow** 56.39 34 P P 18 12 54.2 +1.2
baz=278
NEA2 **Nenana** 56.49 31 P P 18 12 55.3 +1.5
baz=277,SNR=9.5
MCK **McKinley** 56.66 32 IAmb IAmb 18 13 05.1
comp=Z,58nm,1.6s
MCK **McKinley** 56.66 32 P P 18 12 56.4 +1.4
baz=278
RC01 **Rabbit Creek A** 56.66 35 IAmb IAmb 18 13 05.7
comp=Z,90nm,1.6s
RC01 **Rabbit Creek A** 56.66 35 P P 18 12 55.9 +0.8
baz=279
RND **Reindeer** 56.74 32 P P 18 12 55.0 -0.7
RND pmax pmax
comp=Z,50nm,1.3s
RND **Reindeer** 56.74 32 P P 18 12 55.0 -0.7
RND IAmb IAmb 18 13 05.5
comp=Z,50nm,1.3s
MDM **Murphy Dome** 56.80 30 P P 18 12 56.1 +0.1
H24K **Noodor Dome** 56.84 29 IAmb IAmb 18 13 09.6
comp=Z,68nm,1.6s
H24K **Noodor Dome** 56.84 29 P P 18 12 57.3 +1.0
baz=277,SNR=9.6
PMR **Palmer** 56.88 34 P P 18 12 56.8 +0.3
PMR pmax pmax
comp=Z,106nm,1.7s
PMR **Palmer** 56.88 34 P P 18 12 56.8 +0.3
PMR **Palmer** 56.88 34 P P 18 12 57.7 +1.2
baz=279
WAT1 **Susitna Watana** 56.96 33 P P 18 12 58.1 +0.9
baz=278
COLA **College** 56.98 30↑ *i*P P 18 12 59.0 +1.8
COLA pmax pmax
comp=Z,57nm,1.6s
POKR **Poker Plat Res** 57.12 30 P P 18 12 59.2 +0.9
POKR **Poker Plat Res** 57.12 30 P P 18 12 59.7 +1.5
baz=278,SNR=7.7
SML **Sawmill** 57.22 34 P P 18 13 00.5 +1.4
baz=279
KNK **Knik Glacier** 57.22 34 P P 18 12 59.3 +0.3
KNK IAmb IAmb 18 13 07.7
comp=Z,31nm,1.2s
KNK **Knik Glacier** 57.22 34 P P 18 13 00.5 +1.4
baz=280
WAT6 **Susitna Watana** 57.37 33 P P 18 13 01.4 +1.2
baz=279
IL31 57.40 30 P P 18 12 59.6 -0.5
IL31 IAmb IAmb 18 13 09.8
comp=Z,34nm,1.6s
ILAR **Eielson Array** 57.40 30 P P 18 13 00.2 0.0
comp=Z,2.3nm,0.6s,baz=269,slow=6.4,SNR=19
DHY **Denali Highway** 57.45 32 IAmb IAmb 18 13 10.8
comp=Z,66nm,1.7s
DHY **Denali Highway** 57.45 32 P P 18 13 01.8 +1.0
baz=279
SCM **Sheep Creek Mo** 57.69 34 P P 18 13 03.4 +1.1
baz=280
BMAR **Burnt Mountain** 57.92 27 P P 18 13 03.7 -0.2
GLI **Glacier Island** 57.97 35 P P 18 13 04.9 +0.6
baz=281
J25K **Salcha River,** 58.07 30 P P 18 13 05.4 +0.4
baz=280
M24K **Tolsona, Glenn** 58.17 33 P P 18 13 06.7 +1.0
baz=281
GEYT **Alibeck** 58.25 297 P P 18 13 07.4 +0.7
comp=Z,2.3nm,0.6s,baz=129,slow=12,SNR=2.6
PAX **Paxson** 58.33 32 P P 18 13 06.6 -0.3
PAX pmax pmax
comp=Z,19nm,1.3s
PAX **Paxson** 58.33 32 P P 18 13 06.6 -0.3
PAX **Paxson** 58.33 32 P P 18 13 07.7 +0.8
baz=281
KIRV **Kirov** 58.34 322↑ *e*P P 18 13 06.6 -0.2
KLU **Klutina** 58.41 34 P P 18 13 08.2 +0.7
baz=282
RIDG **Independent Ri** 58.45 31 P P 18 13 07.8 0.0
RIDG IAmb IAmb 18 13 46.5
comp=Z,42nm,1.4s
RIDG **Independent Ri** 58.45 31 P P 18 13 08.7 +0.9
baz=281
DIV **Divide** 58.55 34 IAmb IAmb 18 13 18.9
comp=Z,52nm,1.4s
SCRK **Sand Creek** 58.78 31 P P 18 13 09.7 -0.3
SCRK **Sand Creek** 58.78 31 P P 18 13 10.6 +0.6
baz=282,SNR=18
DOT **Dot Lake** 58.81 31 IAmb IAmb 18 13 19.9
comp=Z,59nm,1.7s
J26L **Joseph Creek** 58.86 30 P P 18 13 11.2 +0.6
baz=282,SNR=6.7
N25K **Chitina, Valde** 59.00 34 P P 18 13 12.0 +0.4
N25K IAmb IAmb 18 13 22.6
comp=Z,54nm,1.4s
N25K **Chitina, Valde** 59.00 34 P P 18 13 12.8 +1.2
baz=283
MENT **Mentasta** 59.12 32 IAmb IAmb 18 13 41.2
comp=Z,23nm,1.0s
BMRM **Bremner River** 59.14 34 IAmb IAmb 18 13 28.6
comp=Z,51nm,1.2s
BMRM **Bremner River** 59.14 34 P P 18 13 14.1 +1.5
baz=283
GLB **Gilahina Butte** 59.41 34 IAmb IAmb 18 13 25.9
comp=Z,59nm,1.5s
PRGR **Permogore** 59.51 326 *e*P P 18 13 13.9 -1.0
PRGR pmax pmax
comp=Z,6.0nm,0.5s
M26K **Nabesna, AK** 59.56 33 IAmb IAmb 18 13 26.0
comp=Z,61nm,1.4s
M26K **Nabesna, AK** 59.56 33 P P 18 13 16.0 +0.6
baz=283,SNR=19
VRDI **Verde Repeater** 59.63 34 P P 18 13 16.6 +0.5
MCARA **McCarthy VSAT** 59.79 34 IAmb IAmb 18 13 34.0
comp=Z,38nm,1.2s
MCARA **McCarthy VSAT** 59.79 34 P P 18 13 18.1 +1.1
baz=284,SNR=7.0
EGAK **Eagle** 59.81 30 IAmb IAmb 18 13 27.2
comp=Z,27nm,1.4s
EGAK **Eagle** 59.81 30 P P 18 13 18.0 +1.0
baz=284
L27K **Beaver Creek,** 59.93 32 IAmb IAmb 18 13 28.9
comp=Z,71nm,1.6s
L27K **Beaver Creek,** 59.93 32 P P 18 13 19.7 +1.8
baz=284,SNR=11
BCAR **Beaver Creek A** 59.95 32 P P 18 13 18.2 +0.1
TGL **Tana Glacier** 60.04 34 IAmb IAmb 18 13 34.1
comp=Z,43nm,1.2s
M27K **Edge Creek, AK** 60.08 33 IAmb IAmb 18 13 29.6
comp=Z,83nm,1.9s
M27K **Edge Creek, AK** 60.08 33 P P 18 13 20.8 +1.7
baz=284,SNR=5.9
BARN **Barnard Glacie** 60.51 34 IAmb IAmb 18 13 38.2
comp=Z,38nm,1.4s
BVCY **Beaver Creek** 60.52 32 P P 18 13 23.4 +1.4
baz=285
CTG **Chitna Glacier** 60.69 34 P P 18 13 24.4 +1.1
baz=286
CTGM **Chitina Glacie** 60.69 34 P P 18 13 23.4 +0.2
CTGM IAmb IAmb 18 13 33.8
comp=Z,67nm,1.8s
DAWY **Dawson** 60.73 30 P P 18 13 24.1 +0.7
baz=285
I29M **Ogilvie Camp,** 60.83 29 IAmb IAmb 18 13 34.8
comp=Z,70nm,1.9s
I29M **Ogilvie Camp,** 60.83 29 P P 18 13 24.8 +0.8
baz=286,SNR=6.5
YUK3 **Moose Creek** 60.88 33 P P 18 13 25.4 +0.7
baz=286,SNR=5.6
BELG **Belogornoye** 60.89 316 *ce*P P 18 13 24.4 -0.1
BELG pmax pmax
comp=Z,19nm,1.1s
EPYK **Eagle Plains** 61.18 27 P P 18 13 27.3 +0.9
baz=286,SNR=19
INK **Inuvik** 61.78 25 P P 18 13 30.4 +0.1
comp=Z,3.1nm,0.6s,baz=285,slow=7.8,SNR=13
INK **Inuvik** 61.78 25 P P 18 13 30.4 +0.1
INK IAmb IAmb 18 13 41.4
comp=Z,66nm,1.9s
INK **Inuvik** 61.78 25 P P 18 13 31.1 +0.7
baz=288,SNR=8.0
YUK4 **Talbot Arm** 61.83 33 P P 18 13 33.0 +1.9
baz=288,SNR=7.4
PNL **Peninsula** 61.98 35 P P 18 13 33.7 +1.8
baz=288
YUK6 **Outpost Mounta** 62.08 34 P P 18 13 34.5 +1.7
baz=288,SNR=5.5
M30M **Minto, Yukon** 62.28 32 P P 18 13 34.2 +0.3
M30M IAmb IAmb 18 13 45.2
comp=Z,46nm,1.4s
M30M **Minto, Yukon** 62.28 32 P P 18 13 35.8 +1.9
baz=288,SNR=7.7
HYT **Haines Junctio** 62.52 34 IAmb IAmb 18 13 38.9
comp=Z,43nm,1.2s
HYT **Haines Junctio** 62.52 34 P P 18 13 37.5 +1.9
baz=289,SNR=14
KLMR **Klimovskoe** 62.57 327 *e*P P 18 13 34.0 -1.7
KLMR *e* 18 14 12.7
KLMR *e* 18 15 51.6
KLMR pmax pmax
comp=Z,64nm,1.3s
KLMR **Klimovskoe** 62.57 327 *e*P P 18 13 34.1 -1.7
KLMR AMP 18 13 39.6
comp=Z,64nm,1.3s
KLMR *e*PcP PcP 18 14 12.7 -2.0
KLMR *e*PP PP 18 15 51.7 -1.2
SPB2 **Spitsbergen Ar** 62.80 348 P P 18 13 37.0 -0.1
APA **Apatity** 62.83 335↓ *i*P P 18 13 36.4 -1.0
APA pmax pmax
comp=Z,16nm,1.1s
APA MLR MLR
comp=Z,6μm,16.0s
N31M **Braeburn, Yuko** 63.09 32 P P 18 13 39.2 -0.1
N31M IAmb IAmb 18 13 46.6
comp=Z,27nm,1.1s
N31M **Braeburn, Yuko** 63.09 32 P P 18 13 41.0 +1.7
baz=290,SNR=11
A36M **Sachs Harbour** 63.10 20 IAmb IAmb 18 13 48.1
comp=Z,33nm,0.9s
A36M **Sachs Harbour** 63.10 20 P P 18 13 39.6 +0.5
baz=294,SNR=30
JLN **Jalan Bani Buh** 63.37 280 P P 18 13 42.6 +0.9
FORT **Forrest** 63.43 183 P P 18 13 40.8 -1.0
M31M **Drury Creek, Y** 63.47 31 IAmb IAmb 18 13 54.4
comp=Z,36nm,1.5s
M31M **Drury Creek, Y** 63.47 31 P P 18 13 43.4 +1.7
baz=290,SNR=9.6
WBK **Wadi Bani Khal** 63.53 281 P P 18 13 44.1 +1.3
WSAR **Wadi Sarin** 63.53 282 P P 18 13 43.9 +1.1
WHY **Whitehorse** 63.79 33 IAmb IAmb 18 13 47.1
comp=Z,47nm,1.3s
WHY **Whitehorse** 63.79 33 P P 18 13 45.2 +1.2
baz=291,SNR=13
BIDO **Bidbid** 63.82 282 P P 18 13 45.9 +1.2
SKAG **Skagway** 64.01 35 P P 18 13 45.8 +0.5
SKAG **Skagway** 64.01 35 P P 18 13 46.3 +1.0
baz=291,SNR=9.7
SMDO **Samad** 64.09 282 P P 18 13 47.5 +0.9
KEV **Kevo** 64.14 338 P P 18 13 48.1 +2.1
BANOM **Banah** 64.26 285 P P 18 13 53.0 +5.4
SNR=5.2
BANOM **Banah** 64.26 285 *i* P P 18 13 48.5 +1.0
SNR=8.2
DZM **Mont Dzumac** 64.29 143 P P 18 13 48.2 +0.6
comp=Z,8.8nm,1.1s,baz=352,slow=14,SNR=2.4
SHME **Shamm** 64.34 285 P P 18 13 49.8 +1.7
SNR=12
SHME **Shamm** 64.34 285 *i* P P 18 13 49.0 +1.0
SNR=17
JMDO **Jabal Madar** 64.35 281 P P 18 13 48.5 +0.3
NOR **Nord** 64.49 355 *i* P P 18 13 47.8 -0.4
NOR IAmb IAmb 18 13 53.0
comp=Z,5.0nm,0.6s
C36M **Paulatuk** 64.57 22 P P 18 13 49.5 +0.7
baz=296,SNR=26
MASF **Masafi** 64.62 285 P P 18 13 52.7 +2.7
SNR=5.9
MSFE **Esma-Masafi** 64.62 285 *i* P P 18 13 50.9 +1.0
SNR=10
MMPY **Sheldon Lake,** 64.67 30 P P 18 13 51.4 +1.7
baz=293,SNR=11
ARCES **ARCESS Array B** 64.71 338 P P 18 13 48.7 -1.1
comp=Z,11nm,0.9s,baz=56,slow=4.0,SNR=9.6
ARCES **ARCESS Array B** 64.71 338 P P 18 13 49.5 -0.3
ARCES IAmb IAmb 18 15 57.7
comp=Z,63nm,1.8s
VRH **Novokhopyorsk** 64.74 316 *e*P P 18 13 48.5 -1.7
VRH pmax pmax
comp=Z,50nm,0.6s
UOSS **Minazif** 64.77 284 P P 18 13 49.4 -1.4
UOSS IAmb IAmb 18 13 56.6
comp=Z,26nm,1.1s
UOSS **Minazif** 64.77 284 P P 18 13 51.4 +0.6
LKRN **Lenkeran, Azer** 64.83 301 P P 18 13 53.1 +2.1
HATD **Hatta, Dubai** 64.88 284 P P 18 13 54.0 +2.4
SNR=9.9
HATD **Hatta, Dubai** 64.88 284 *i* P P 18 13 52.6 +1.0
SNR=13
JIS **Juneau Island** 64.90 36 IAmb IAmb 18 13 54.4
comp=Z,38nm,1.2s
SEKA **Sheki** 64.98 304 P P 18 13 50.1 -2.0
ASHO **Ashiyiah** 65.00 284 P P 18 13 55.0 +2.5
SNR=13
ASHO **Ashiyiah** 65.00 284 *i* P P 18 13 53.3 +0.8
SNR=22
MHTO **MHTO** 65.09 280 P P 18 13 55.0 +2.0
SNR=13
GROC **Groznyy** 65.18 307 *e*P P 18 13 51.3 -1.9
GROC *e* 18 14 22.9
GROC pmax pmax
comp=Z,78nm,1.4s
NAZ **Nazwa, Dubai** 65.19 285 P P 18 13 58.0 +4.4
SNR=8.1
NAZ **Nazwa, Dubai** 65.19 285 *i* P P 18 13 54.1 +0.5
SNR=8.1
ZKTA **Zakatala** 65.22 305 P P 18 13 51.2 -2.4
ARQ **Araqi** 65.22 283 P P 18 13 59.0 +5.1
SNR=5.3
STKA **Stephens Creek** 65.23 170 P P 18 13 54.5 +1.0
comp=Z,6.5nm,0.8s,baz=334,slow=5.8,SNR=7.8
STKA **Stephens Creek** 65.23 170 P P 18 13 53.4 -0.1
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA **Stephens Creek** 65.23 170 P P 18 13 53.4 -0.1
MNGR **Mingechevir, A** 65.23 304 P P 18 13 52.6 -1.0
MOS **Moscow** 65.31 322 *e*P P 18 13 51.8 -2.0
MOS *e* 18 14 32.1
MOS pmax pmax
comp=Z,87nm,1.3s
FAQ **Al Faqa, Dubai** 65.35 284 P P 18 13 56.0 +1.3
SNR=9.1
FAQ **Al Faqa, Dubai** 65.35 284 *i* P P 18 13 55.2 +0.5
SNR=9.7
EUNU **Eureka** 65.36 7 P P 18 13 54.5 +0.5
EUNU IAmb IAmb 18 13 57.1
comp=Z,21nm,0.9s
LGD **Lagodekhi** 65.40 305 P P 18 13 55.0 +0.3
ALNE **Al Ain** 65.53 284 P P 18 13 56.7 +0.9
SNR=20
ALNE **Al Ain** 65.53 284 *i* P P 18 13 56.5 +0.7
SNR=29
ASUD **Al Ashush, Dub** 65.62 284 *i* P P 18 13 57.3 +0.9
SNR=6.6
DDFL **Dedoflistskaro** 65.64 305 P P 18 13 59.7 +3.3
GANJ **Ganja** 65.81 304 P P 18 13 55.7 -1.8
LPSR **Galich'ya Gora** 65.81 318 *e*P P 18 13 56.3 -0.9
LPSR pmax pmax
comp=Z,60nm,1.1s
AJN **Ajban** 65.93 285 P P 18 13 59.7 +1.3
SNR=5.1
AJN **Ajban** 65.93 285 *i* P P 18 13 58.6 +0.2
SNR=5.1
VORR **Voronezh** 66.02 317 *e*P P 18 13 58.0 -0.5
VORR pmax pmax
comp=Z,85nm,1.8s
OBN **Obninsk** 66.11 321↑ *e*P P 18 13 59.1 +0.1
OBN *e* 18 14 26.1
OBN *e* 18 16 28.4
OBN *e*SS SS 18 27 01.1 -1.0
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,6μm,16.0s
VSR **Storozhevoye** 66.22 317 *e*P P 18 13 58.9 -0.9
VSR pmax pmax
comp=Z,80nm,1.1s
VORD **Divnogorie** 66.25 316 *e*P P 18 13 59.1 -0.9
VORD pmax pmax
comp=Z,20nm,0.8s
VALR **Valaam** 66.26 329 *d i*P P 18 13 59.5 -0.4
VALR pmax pmax
comp=Z,52nm,1.2s
GOF **Gofitskoye** 66.28 309↑ *i*P P 18 14 00.6 +0.3
GOF pmax pmax
comp=Z,104nm,0.9s
TGTN **Hyland Airport** 66.40 31 P P 18 14 02.0 +1.1
baz=296,SNR=17
NCK **Nalchik** 66.54 308↓ *e*P P 18 14 02.7 +0.7
NCK pmax pmax
comp=Z,43nm,1.0s
ZEI **Tsey** 66.62 307 *e*P P 18 14 01.7 -1.1
ZEI pmax pmax
comp=Z,48nm,1.0s
UMZA **Um Al Zommool** 66.62 283 P P 18 14 02.6 -0.2
CRAG **Craig** 66.65 38 P P 18 14 03.6 +1.2
baz=294
WRAK **Wrangell Islan** 66.65 37 P P 18 14 03.2 +0.8
baz=295
WTLY **Watson Lake, Y** 66.78 32 P P 18 14 03.7 +0.3
baz=296

KBZ Khabaz 66.91 308 P P 18 14 04.7 +0.3
comp=Z,88nm,0.9s,baz=83,slow=3.1,SNR=110
KBZ Khabaz 66.91 308⇓ eP P 18 14 04.2 -0.1
KBZ pmax pmax
comp=Z,121nm,0.9s
DLBC Dease Lake 66.94 34 IAmb IAmb 18 14 16.7
comp=Z,51nm,1.7s
KIV Kislovodsk 66.95 308 eP P 18 14 04.9 +0.1
KIV pmax pmax
comp=Z,159nm,1.1s
KIV Kislovodsk 66.95 308 P P 18 14 04.7 -0.1
KIV Kislovodsk 66.95 308 P P 18 14 05.6 +0.8
KIV Kislovodsk 66.95 308 i P P 18 14 05.6 +0.8
SNR=42
NAX Nakhchivan 66.99 303 P P 18 14 05.7 +0.6
ONI Oni 67.00 307 P P 18 14 05.0 -0.1
ONI pmax pmax
comp=Z,56nm,1.0s
ONI Oni 67.00 307 P P 18 14 05.0 -0.1
GNI Garni 67.12 304 deP P 18 14 06.7 +0.7
GNI pmax pmax
comp=Z,85nm,1.7s
GNI Garni 67.12 304 P P 18 14 05.5 -0.5
GNI Garni 67.12 304 P P 18 14 07.1 +1.1
MZWR Madinat Zayed 67.19 284 P P 18 14 06.4 0.0
NEY Neytrino 67.22 308 ceP P 18 14 08.7 +2.1
NEY pmax pmax
comp=Z,19nm,1.2s
JRN Qarnain Island 67.49 286 P P 18 14 08.1 -0.2
WRGLY Wrigley 67.61 28 P P 18 14 10.0 +1.6
baz=299,SNR=8.3
MZR Muzera 67.86 284 P P 18 14 11.4 +0.7
SNR=12
MZR Muzera 67.86 284 i P P 18 14 10.3 -0.4
SNR=20
KARS Kars 68.07 305 P P 18 14 14.0 +2.0
KARS pmax pmax
comp=Z,153nm,2.1s
FIA1 FINESS Array S 68.28 330 P P 18 14 11.6 -1.1
FIA1 IAmb IAmb 18 14 16.3
comp=Z,25nm,1.1s
FINES FINESS Array B 68.28 330 P P 18 14 11.5 -1.2
comp=Z,14nm,0.8s,baz=71,slow=5.8,SNR=21
SHAO Shalim 68.44 278 P P 18 14 14.7 +0.3
RES Resolute Bay 68.51 12 P P 18 14 14.2 +0.3
RES pmax pmax
comp=Z,28nm,1.2s
RES Resolute Bay 68.51 12 P P 18 14 14.2 +0.3
RES IAmb IAmb 18 14 15.7
comp=Z,28nm,1.1s
SAKB Bahrain 68.88 288 P P 18 14 16.7 -0.3
DAG Danmarks Havn 68.94 353 P P 18 14 16.9 +0.3
DAG pmax pmax
comp=Z,48nm,1.6s
DAG Danmarks Havn 68.94 353 i P P 18 14 16.0 -0.6
DAG IAmb IAmb 18 14 20.2
comp=Z,11nm,0.8s
SOC Sochi 69.06 309 eP P 18 14 17.1 -0.8
SOC e 18 16 47.9
SOC eS S 18 23 23.1 0.0
SOC eSS SS 18 27 48.6 +0.2
SOC pmax pmax
comp=Z,47nm,0.9s
SOC MLR MLR
comp=Z,4μm,18.0s
DMTO DMTO 69.15 278 P P 18 14 18.8 0.0
DOK Doka 69.39 279 P P 18 14 24.0 +3.7
SNR=5.5
VSU Vasula 69.46 327⇓ eP P 18 14 19.7 -0.3
VSU pmax pmax
comp=Z,71nm,1.1s
VSU Vasula 69.46 327 eP P 18 14 20.4 +0.3
RBK Rabkut 69.87 278 P P 18 14 27.0 +3.6
SNR=7.3
TULEG Thule 70.08 5 P P 18 14 23.6 0.0
TULEG Thule 70.08 5 i P P 18 14 21.4 -2.2
TULEG IAmb IAmb 18 14 28.4
comp=Z,8.1nm,0.8s
RAF Rauma 70.29 331 eP P 18 14 27.5 +2.4
MTSE Matsula 70.64 328 eP P 18 14 27.0 -0.3
ABTO Aybut 70.70 279 P P 18 14 32.0 +3.6
SNR=11
MNK Minsk 70.87 323 i P P 18 14 27.8 -1.0
MNK i 18 17 01.5
MNK i PPP PPP 18 18 48.9
MNK i S S 18 23 43.8 -0.2
MNK i SS SS 18 28 18.7 +3.1
MNK pmax pmax
comp=N,9.0nm,0.7s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,27nm,0.9s
MNK MLR MLR
comp=Z,10μm,21.0s
MNK MLR MLR
comp=E,853nm,14.0s
MNK MLR MLR
comp=N,4μm,20.0s
MNK Minsk 70.87 323 i P P 18 14 27.9 -1.0
comp=E,6.0nm,0.9s
MNK i P P 18 14 27.9 -1.0
comp=N,9.0nm,0.7s
MNK i P P 18 14 27.9 -1.0
comp=Z,27nm,0.9s,baz=60
MNK i PP PP 18 17 01.6 -3.8
MNK i PPP PPP 18 18 48.9
MNK i S S 18 23 43.8 -0.2
MNK i SS SS 18 28 18.8 +3.1
MNK i SSS SSS 18 31 34.3
MNK i LQ LQ 18 40 42.9
MNK i LR LR 18 45 37.6
MNK i LRM MLR 18 49 37.5
comp=Z,10μm,21.1s
MNK i LRM MLR 18 49 49.6
comp=E,853nm,14.1s
MNK i LRM MLR 18 50 03.0
comp=N,4μm,19.8s
IDID Didziasalis 71.03 324 eP P 18 14 30.0 +0.2
ISAL Salakas 71.20 325 eP P 18 14 31.7 +0.9
NACGM Naroch 71.22 324 eP P 18 14 31.1 +0.2
IGN Ignalina 71.27 324 eP P 18 14 31.7 +0.5
DBG Daneborg 71.34 352 i P P 18 14 27.4 -4.0
DBG IAmb IAmb 18 14 45.1
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 71.43 27 P P 18 14 32.4 +0.3
comp=Z,6.7nm,0.8s,baz=298,slow=5.9,SNR=74
YKA Yellowknife Ar 71.43 27⇑ eP P 18 14 32.4 +0.3
YKA pmax pmax
comp=Z,6.0nm,0.8s
SIM Simferopol' 72.02 312 deP P 18 14 34.7 -1.2
SIM pmax pmax
comp=Z,75nm,1.1s
AKASG Malin Array Be 72.07 319 P P 18 14 35.1 -1.0
comp=Z,14nm,0.7s,baz=52,slow=5.6,SNR=21
AKBB Malin Array Si 72.07 319 ceP P 18 14 35.4 -0.7
AKBB Malin Array Si 72.07 319 P P 18 14 34.9 -1.2
AKBB IAmb IAmb 18 14 39.8
comp=Z,38nm,0.9s
PABE Paberze 72.28 325 IAmb IAmb 18 14 38.8
comp=Z,33nm,0.8s
PABE Paberze 72.28 325 eP P 18 14 37.2 -0.1
KVT Kavak 72.63 308 P P 18 14 41.0 +1.3
SOCY Socotra 72.70 273 P P 18 14 37.9 -2.7
SUW Suwalki 73.48 324 IAmb IAmb 18 14 45.1
comp=Z,32nm,1.0s
SUW Suwalki 73.48 324 eP P 18 14 43.5 -0.9
BNN Bunyan 73.84 306 P P 18 14 46.5 -0.5
NC405 NORSAR Array S 74.16 334 IAmb IAmb 18 14 48.8
comp=Z,48nm,1.1s
MILM Milestii Mici 74.24 316 ⇓P P 18 14 48.4 -0.7
MILM Milestii Mici 74.24 316 P P 18 14 48.3 -0.7
NB201 NORSAR Array S 74.36 334 IAmb IAmb 18 15 08.8
comp=Z,48nm,1.1s
NB2 NORSAR Subarra 74.40 334 P P 18 14 48.0 -1.7
comp=Z,2.2nm,0.6s,baz=47,slow=5.9
NOA NORSAR Array B 74.40 334 P P 18 14 48.6 -1.2
comp=Z,7.1nm,0.9s,baz=48,slow=5.7,SNR=18
NOA LR LR 18 50 22.3
comp=Z,4μm,19.4s,baz=235,slow=38
BR131 Keskin Array S 74.89 308 ci P P 18 14 53.1 -0.1
BR131 Keskin Array S 74.89 308 P P 18 14 52.5 -0.7
BRTR Keskin Array B 74.89 308 P P 18 14 53.2 0.0
comp=Z,38nm,0.9s,baz=95,slow=4.4,SNR=108
BRTR Keskin Array B 74.89 308 P P 18 14 52.1 -1.1
BRTR Keskin Array B 74.89 308 P P 18 14 52.1 -1.1
VASR Vaslui 74.98 316 ⇑P P 18 14 53.2 -0.1
VLDR Vladesti 75.23 315 ⇑P P 18 14 54.9 +0.1
BIR Birlad 75.28 316 ⇓P P 18 14 55.8 +0.8
BIR Birlad 75.28 316 P P 18 14 55.8 +0.8
JURR Jurilovca 75.33 314 ⇓P P 18 14 55.7 +0.4
VARL Varlezi 75.34 315 ⇓P P 18 14 55.7 +0.3
LVV L'vov 75.36 320 eP P 18 14 55.5 0.0
SCTR Scanteiesti 75.38 315 ⇑P P 18 14 55.8 +0.2
ANTO Ankara 75.38 308 P P 18 14 55.2 -0.7
ANTO pmax pmax
comp=Z,66nm,1.2s
ANTO Ankara 75.38 308 P P 18 14 55.1 -0.7
BR231 Keskin MP Arra 75.41 308 P P 18 14 55.2 -0.9
GHRR 75.52 316 ⇓P P 18 14 57.2 +0.8
A04D Lummi Island 75.53 41 P P 18 14 57.7 +1.2
baz=304
CFR Carcaliu 75.56 315 ⇑P P 18 14 56.3 -0.4
CFR Carcaliu 75.56 315 P P 18 14 56.2 -0.4
TPGR Topolog 75.56 314 ⇓P P 18 14 56.5 -0.2
TESR Tescani 75.72 316 ⇑P P 18 14 57.4 -0.2
PANC Panciu 75.77 316 ⇑P P 18 14 58.9 +1.1
TIRR Tirgusor 75.77 314 ⇑P P 18 14 57.7 -0.2
TIRR Tirgusor 75.77 314 P P 18 14 57.7 -0.2
ODBI Odobesti 75.88 316 ⇑P P 18 14 58.6 +0.1
MFTR Murfatlar 75.92 314 ⇓P P 18 14 59.0 +0.3
BUR08 Bucovina Ar. S 75.92 318 IAmb IAmb 18 15 00.6
comp=Z,37nm,1.1s
BURAR Bucovina Array 75.93 318 ⇓P P 18 14 58.9 -0.1
BURAR Bucovina Array 75.93 318 P P 18 14 58.3 -0.6
BURAR pmax pmax
comp=Z,41nm,1.1s
BURAR Bucovina Array 75.93 318 P P 18 14 58.4 -0.6
BURAR IAmb IAmb 18 15 00.9
comp=Z,41nm,1.1s
HARR Harsova 75.94 314 ⇓P P 18 14 59.1 +0.3
HARR Harsova 75.94 314 P P 18 14 59.1 +0.3
TLBR Topalu 75.95 314 ⇑P P 18 14 58.9 0.0
D03D Eldon 75.97 42 P P 18 15 00.6 +1.6
baz=304
VRI Vrincioaia 76.02 316 ⇓P P 18 14 59.6 +0.2
VRI Vrincioaia 76.02 316 P P 18 14 59.5 +0.2
PLOR Plostina 76.07 316 ⇓P P 18 14 59.8 0.0
PLOR Plostina 76.07 316 P P 18 14 59.7 0.0
B05A Bryant 76.12 41 P P 18 15 01.6 +1.7
baz=304
KWP Kalwaria Pacla 76.18 321 P P 18 15 00.2 0.0
KWP pmax pmax
comp=Z,924nm,1.4s
KWP Kalwaria Pacla 76.18 321 P P 18 15 00.2 0.0
BISRR Bisoca 76.20 315 ⇓P P 18 15 01.7 +1.2
ICOR Ion Corvin 76.33 314 ⇑P P 18 15 01.5 +0.5
COVR Voineasa-Covas 76.34 316 ⇓P P 18 15 01.4 +0.2
OZUR 76.44 316 ⇓P P 18 15 02.4 +0.6
MLR Muntele Rosu 76.69 316 ⇑P P 18 15 04.0 +0.7
MLR Muntele Rosu 76.69 316 IAmb IAmb 18 15 05.6
comp=Z,36nm,1.3s
ARCR ARCALIA 76.71 318 ⇑P P 18 15 04.0 +0.8
DOPR Dopca 76.75 316 ⇑P P 18 15 04.2 +0.7
E04D Cinebar 76.81 43 P P 18 15 05.3 +1.5
baz=304
BMR Baia Mare 76.86 319 P P 18 15 08.2 +4.1
SECR 76.86 315 ⇓P P 18 15 04.7 +0.5
UZH Uzhgorod 76.98 320 eP P 18 15 03.4 -1.3
UZH i 18 15 07.8
UZH i 18 15 16.4
VOIR 77.24 316 ⇓P P 18 15 06.6 +0.2
CRVS Cervenica-Dubn 77.27 320 eP P 18 15 07.3 +1.0
CRVS pmax pmax
comp=Z,117nm,2.0s
CRVS Cervenica-Dubn 77.27 320 eP P 18 15 07.3 +1.0
CJR Cluj-Napoca 77.35 318 ⇑P P 18 15 07.5 +0.5
CJR Cluj-Napoca 77.35 318 P P 18 15 07.4 +0.5
OJC Ojcow 77.36 322 P P 18 15 07.8 +0.9
OJC Ojcow 77.36 322 IAmb IAmb 18 15 08.5
comp=Z,26nm,1.0s
RAZG Razgrad 77.41 314 ⇑P P 18 15 07.4 +0.2
ARR Arges 77.52 316 ⇓P P 18 15 08.5 +0.6
EDM Edmonton 77.64 34 P P 18 15 08.0 -0.4
EDM pmax pmax
comp=Z,35nm,1.3s
EDM Edmonton 77.64 34 P P 18 15 08.0 -0.4
EDM IAmb IAmb 18 15 10.6
comp=Z,35nm,1.3s
DRGR 77.81 318 P P 18 15 11.1 +1.6
I03D Drain, OR 77.96 46 P P 18 15 10.3 0.0
baz=304
ICESG Greenland Ices 78.05 357 i P P 18 15 07.2 -3.5
LANS Liptovska Anna 78.18 321 eP P 18 15 13.7 +2.2
LANS pmax pmax
comp=Z,10.0nm,1.4s
LANS Liptovska Anna 78.18 321 eP P 18 15 13.7 +2.2
K02D Willamette Mer 78.33 47 P P 18 15 14.3 +1.9
baz=304
VLAD Vladila 78.43 315 ⇑P P 18 15 13.0 +0.1
I04A Tendick Farm, 78.46 45 P P 18 15 14.5 +1.4
baz=305
GZR Gura Zlata 78.58 317 ⇓P P 18 15 14.2 +0.4
GZR Gura Zlata 78.58 317 P P 18 15 14.1 +0.4
PSZ Piszkesteto 78.69 320 ⇓P P 18 15 15.2 +0.8
PSZ Piszkesteto 78.69 320 P P 18 15 15.6 +1.2
PSZ pmax pmax
comp=Z,28nm,1.9s
PSZ Piszkesteto 78.69 320 IAmb IAmb 18 15 19.4
comp=Z,40nm,1.2s
PSZ Piszkesteto 78.69 320 P P 18 15 15.4 +1.0
KSP Ksiaz 78.75 324 P P 18 15 16.6 +2.1
KSP pmax pmax
comp=Z,16nm,1.2s
I05D Terrebonne, OR 78.78 44 P P 18 15 16.2 +1.3
baz=305
MORC Moravsky Berou 78.79 323 ⇓P P 18 15 16.3 +1.5
MORC Moravsky Berou 78.79 323 P P 18 15 16.3 +1.5
MORC pmax pmax
comp=Z,12nm,2.3s
MORC Moravsky Berou 78.79 323 eP P 18 15 15.8 +1.0
NEW Newport 78.82 39 P P 18 15 13.9 -1.2
NEW pmax pmax
comp=Z,13nm,1.3s
NEW Newport 78.82 39 P P 18 15 13.9 -1.2
NEW Newport 78.82 39 P P 18 15 16.0 +1.0
baz=307
VYHS Vyhne 78.91 321 eP P 18 15 16.7 +1.2
VYHS pmax pmax
comp=Z,9.0nm,1.0s
VYHS Vyhne 78.91 321 eP P 18 15 16.7 +1.2
ELL Elmali 78.95 307 P P 18 15 16.6 +0.5
ELL pmax pmax
comp=Z,271nm,1.5s
J04D Umpqua Nationa 78.96 45 P P 18 15 17.3 +1.2
baz=305
OSTC Ostas 78.97 324 eP P 18 15 17.9 +2.1
OSTC AMS AMS 18 53 10.0
comp=Z,8μm,17.7s
KRLC Kraliky 78.99 323 eP P 18 15 16.9 +1.0
KRLC MLR MLR
comp=Z,9μm,16.0s
KRLC Kraliky 78.99 323 eP P 18 15 16.9 +1.0
KRLC AMS AMS 18 54 10.0
comp=Z,9μm,16.0s
CHVC Chvalec 79.03 324 AMS AMS 18 54 00.0
comp=Z,8μm,16.9s
DPC Dobruska-Polom 79.05 324 eP P 18 15 17.8 +1.6
DPC MLR MLR
comp=Z,8μm,17.3s
DPC Dobruska-Polom 79.05 324 eP P 18 15 17.8 +1.6
DPC AMS AMS 18 54 10.0
comp=Z,8μm,17.3s
KOLL Kolacno 79.08 321 eP P 18 15 15.8 -0.6
HERR Herculane 79.08 317 ⇓P P 18 15 16.6 +0.1
UPC Upice 79.10 324 AMS AMS 18 54 10.0
comp=Z,9μm,17.2s
BZS Buzias 79.11 318 ⇓P P 18 15 16.4 -0.2
BZS Buzias 79.11 318 P P 18 15 16.4 -0.2
PUNG Punghina 79.14 316 ⇓P P 18 15 17.5 +0.7
AMBH Ambrzfalva 79.17 319 P P 18 15 18.0 +1.1
ALN Alexandroupoli 79.18 312 IAmb IAmb 18 15 18.4
comp=Z,34nm,1.2s
JAVC Velka Javorina 79.29 322 eP P 18 15 19.8 +2.2
L04D Klamath Falls 79.43 46 P P 18 15 19.5 +0.9
baz=305
J05D Fort Rock, OR 79.46 45 P P 18 15 20.4 +1.6
baz=306
BSEG Bad Segeberg 79.50 329 eP P 18 15 18.4 -0.1
comp=Z,14nm,1.0s,baz=46,slow=5.3
MDVR Moldovita 79.55 317 ⇑P P 18 15 18.8 -0.2
VRAC Vranov 79.57 323 ⇓P P 18 15 20.8 +1.8
VRAC Vranov 79.57 323 P P 18 15 20.8 +1.8
VRAC Vranov 79.57 323 eP P 18 15 19.7 +0.7
SRO Sobarova 79.60 321 eP P 18 15 19.3 +0.1
SRO pmax pmax
comp=Z,56nm,1.7s
SRO Sobarova 79.60 321 eP P 18 15 19.3 +0.1
G08A Pilot Rock 79.60 42 P P 18 15 19.4 -0.1
SMOL Smolenice 79.63 322 eP P 18 15 21.0 +1.6
SMOL pmax pmax
comp=Z,28nm,1.9s
SMOL Smolenice 79.63 322 eP P 18 15 21.0 +1.6
MODS Modra-Piesok 79.80 322 eP P 18 15 21.0 +0.7
MODS pmax pmax
comp=Z,195nm,2.1s
MODS Modra-Piesok 79.80 322 eP P 18 15 21.0 +0.7
PVCC Panska Ves 79.80 325 eP P 18 15 20.7 +0.4
PVCC MLR MLR
comp=Z,6μm,17.1s
PVCC Panska Ves 79.80 325 eP P 18 15 20.7 +0.4
PVCC AMS AMS 18 58 30.0
comp=Z,6μm,17.1s
KRUC Moravsky 79.82 323 eP P 18 15 21.4 +1.0
YER Yerkesik 79.83 308 P P 18 15 21.1 +0.3
BRG Berggiesshubel 79.88 325 eP P 18 15 20.8 +0.1
BRG Amp 18 15 25.1
comp=Z,16nm,1.5s
BRG ex x 18 15 42.2
BRG Amp 18 15 45.0
comp=Z,20nm,1.8s
BRG Berggiesshubel 79.88 325 eP P 18 15 20.7 +0.1
BRG pmax pmax
comp=Z,17nm,1.5s
BRG MLR MLR
comp=Z,8μm,15.0s
BRG MLR MLR
comp=N,5μm,13.7s
BRG MLR MLR
comp=E,2μm,14.3s
BRG Berggiesshubel 79.88 325 eP P 18 15 20.7 +0.1
baz=46,slow=5.3
CSKK Cskako 79.91 320 P P 18 15 21.5 +0.6
VTS Vitosha 79.92 314 ⇓P P 18 15 21.8 +0.5
VTS Vitosha 79.92 314 P P 18 15 21.8 +0.5
VTS pmax pmax
comp=Z,36nm,1.4s
VTS Vitosha 79.92 314 IAmb IAmb 18 15 26.3
comp=Z,63nm,1.3s
M04C Macdoel 79.96 47 IAmb IAmb 18 15 31.8
comp=Z,46nm,1.5s
M04C Macdoel 79.96 47 P P 18 15 23.0 +1.5
baz=305
ZST Bratislava 80.00 322 eP P 18 15 23.2 +1.8
ZST pmax pmax
comp=Z,290nm,2.2s
ZST Bratislava 80.00 322 eP P 18 15 23.2 +1.8
CLL Collm 80.04 326 ⇓ iP P 18 15 21.6 0.0
CLL eS S 18 25 28.0 +2.3
CLL pmax pmax
comp=Z,14nm,1.0s
CLL MLR MLR
comp=Z,7μm,18.7s
CLL Collm 80.04 326 ⇓ iP P 18 15 21.6 0.0
comp=Z,14nm,1.0s
CLL i x x 18 15 24.5
CLL i x x 18 15 33.8
CLL ex x 18 18 10.0
CLL ePP PP 18 18 20.0 -2.8
CLL ex x 18 18 34.0
CLL eS S 18 25 28.0 +2.3
CLL Lm MLR 18 54 00.0
comp=N,5μm,21.0s
CLL Lm MLR 18 54 00.0
comp=E,6μm,19.1s
CLL Lm MLR 18 54 00.0
comp=Z,7μm,18.7s
CLL Collm 80.04 326 eP P 18 15 21.5 0.0
baz=46,slow=5.3
FBE Freiberg 80.13 325 eP P 18 15 22.1 +0.1
baz=46,slow=5.3
TREC Trest 80.14 323 AMS AMS 18 54 20.0
comp=Z,9μm,17.5s
PRU Pruhonice 80.16 324 eP P 18 15 23.7 +1.5
PRU MLR MLR
comp=Z,7μm,18.6s
PRU Pruhonice 80.16 324 eP P 18 15 23.7 +1.5
PRU AMS AMS 18 46 40.0
comp=Z,7μm,18.6s
FLTG Flechtingen 80.18 327 eP P 18 15 22.3 +0.1
comp=Z,20nm,1.1s,baz=46,slow=5.3
BORG Borgarnes 80.26 348 LR LR 18 51 50.7
comp=Z,5μm,21.0s,baz=208,slow=36
O02D Mt. Diablo Mer 80.30 48 P P 18 15 25.0 +1.7
baz=305
SFJD Kangerlussuaq 80.37 1 LR LR 18 52 56.0
comp=Z,2μm,18.0s,baz=174,slow=37
FRGS Fruska Gora 80.41 318 ⇓P P 18 15 23.2 -0.5
FRGS Fruska Gora 80.41 318 eP P 18 15 22.5 -1.2
MORH Mrgy, Hungar 80.41 319 ⇑P P 18 15 23.6 0.0
MORH Mrgy, Hungar 80.41 319 eP P 18 15 23.4 -0.2
MORH Mrgy, Hungar 80.41 319 P P 18 15 23.2 -0.4
MPLH Magyarpolny 80.41 321 P P 18 15 23.9 +0.2
NRDL Niedersach Rie 80.58 328 eP P 18 15 24.4 +0.1
baz=46,slow=5.3
SOP Sopron 80.61 321 P P 18 15 25.8 +1.1
JTMT Jette 80.64 38 P P 18 15 24.9 -0.2
NEUB Neuenburg 80.69 326 eP P 18 15 25.1 +0.1
baz=46,slow=5.3
RONA Rosalia, Austr 80.73 322 eP P 18 15 26.7 +1.3
comp=Z,21nm,1.6s,SNR=7.6
RETH Rethem/Aller, 80.74 328 eP P 18 15 25.2 -0.1
comp=Z,10.0nm,1.1s,baz=46,slow=5.3
KOVH Kovagotottos 80.78 320 P P 18 15 26.2 +0.6
CONA Conrad Observa 80.81 322 eP P 18 15 27.1 +1.2
comp=Z,18nm,1.2s,SNR=13
CONA eP PP 18 18 32.7 +3.2
comp=Z,12nm,1.8s
O03E Paynes Creek 80.84 48 P P 18 15 27.5 +1.3
baz=306
DY2G Dye2 80.89 359 i P P 18 15 23.2 -2.9
DY2G IAmb IAmb 18 15 29.0
comp=Z,14nm,0.7s
TANN Tannenbergstha 80.89 325 eP P 18 15 26.1 -0.1
baz=46,slow=5.3
CLZ Clausthal 80.91 327 eP P 18 15 26.0 -0.3
comp=Z,20nm,1.1s,baz=46,slow=5.3
WERD Werda 80.94 325 eP P 18 15 26.6 +0.2
baz=46,slow=5.3
DIVS Divibare 80.94 317 IAmb IAmb 18 15 27.9
comp=Z,32nm,1.1s
DIVS Divibare 80.94 317 eP P 18 15 26.2 -0.5
GUNZ Gunzen 80.99 325 eP P 18 15 26.8 +0.1
baz=46,slow=5.3
PLN Plauen 80.99 326 eP P 18 15 26.7 0.0
baz=46,slow=5.3
WERN Wernitzgruen 81.02 325 eP P 18 15 27.1 +0.2
baz=46,slow=5.3
NKC Novy Kostel 81.02 325 eP P 18 15 27.3 +0.4
NKC MLR MLR
comp=Z,8μm,17.8s
NKC Novy Kostel 81.02 325 eP P 18 15 27.3 +0.4
NKC AMS AMS 18 54 50.0
comp=Z,8μm,17.8s
CKRC Cesky Krumlov 81.03 323 AMS AMS 18 55 10.0
comp=Z,12μm,18.7s
VAY Valandovo 81.08 314 i P P 18 15 27.1 -0.3
STIP Stip 81.10 314 i P P 18 15 25.8 -1.6
MOX Moxa 81.14 326 eP P 18 15 27.5 0.0
baz=46,slow=5.3
KHC Kasperske Hory 81.19 324⇑ eP P 18 15 28.1 +0.2
KHC pmax pmax
comp=Z,35nm,2.1s
KHC Kasperske Hory 81.19 324 eP P 18 15 29.6 +1.7
KHC ex x 18 15 37.6
KHC AMS AMS 18 55 00.0
comp=Z,9μm,17.6s
FCC Fort Churchill 81.21 22 IAmb IAmb 18 15 31.4
comp=Z,28nm,1.2s
GTTG Gottingen 81.29 327 eP P 18 15 28.1 -0.2
comp=Z,10nm,0.8s,baz=46,slow=5.3
GEC2 GERESS Array S 81.32 324 eP P 18 15 28.7 +0.1
baz=46,slow=5.3

GERES	**GERESS Array B**	81.32	324	P		**P**	18 15 27.8	-0.8
	comp=Z,1.6nm,0.7s,baz=35,slow=4.9,SNR=11							
GERES				PP		**PP**	18 18 37.0	+3.4
	comp=Z,1.7nm,0.9s,baz=18,slow=8.8,SNR=4.6							
MANZ	**Manzenberg**	81.35	325	*eP*		**P**	18 15 28.7	+0.1
	baz=46,slow=5.3							
SKO	**Skopje**	81.38	315	*i* P		**P**	18 15 29.6	+0.7
MSO	**Missoula**	81.41	39	P		**P**	18 15 29.5	+0.4
	baz=310							
BBLS	**Lazići**	81.42	317	*eP*		**P**	18 15 29.9	+0.7
ARSA	**Arzberg**	81.42	322	*eP*		**P**	18 15 29.2	+0.1
	comp=Z,9.5nm,1.2s							
ROTZ	**Rotzenmuhle**	81.44	325	*eP*		**P**	18 15 29.1	0.0
	baz=46,slow=5.3							
FFC	**Flin Flon**	81.52	28	P		**P**	18 15 28.2	-1.2
FFC				pmax	pmax			
	comp=Z,13nm,1.1s							
FFC	**Flin Flon**	81.52	28	P		**P**	18 15 28.2	-1.2
WET	**Wettzell**	81.53	324	*eP*		**P**	18 15 29.8	+0.2
	baz=46,slow=5.3							
RUDO	**Rudo**	81.59	317	*eP*		**P**	18 15 26.2	-3.8
MOA	**Molln**	81.69	323	*eP*		**P**	18 15 29.9	-0.5
	comp=Z,8.5nm,1.1s							
IBBN	**Ibbenburen**	81.75	329	*eP*		**P**	18 15 30.5	-0.1
	comp=Z,22nm,1.1s,baz=46,slow=5.3							
UBBA	**Unterbreizbach**	81.78	327	*eP*		**P**	18 15 30.7	+0.1
	baz=46,slow=5.3							
LIT	**Litokhoron**	81.85	313	P		**P**	18 15 30.1	-1.4
LIT				pmax	pmax			
	comp=Z,42nm,1.0s							
LIT	**Litokhoron**	81.85	313	P		**P**	18 15 30.1	-1.4
LIT				IAmb	IAmb		18 15 32.0	
	comp=Z,42nm,1.0s							
GRF	**Grafenberg Arr**	81.97	325	*eP*		**P**	18 15 32.1	+0.2
	comp=Z,24nm,1.1s,baz=46,slow=5.3							
SOKA	**Soboth**	82.05	321	*eP*		**P**	18 15 33.4	+0.9
	comp=Z,29nm,1.0s,SNR=20							
SOKA				*eP*		**PP**	18 18 42.4	+2.7
	comp=Z,7.8nm,1.2s							
BIOA	**Bad Ischl, Aus**	82.11	323	*eP*		**P**	18 15 33.4	+0.7
	comp=Z,9.2nm,1.1s							
BLY	**Banja Luka**	82.12	319	*eP*		**P**	18 15 33.7	+0.9
FNA	**Florina**	82.13	314	P		**P**	18 15 31.2	-1.8
FNA				pmax	pmax			
	comp=Z,17nm,1.3s							
FNA	**Florina**	82.13	314	P		**P**	18 15 31.2	-1.8
KASTN	**Kahler Asten**	82.23	328	*eP*		**P**	18 15 33.1	-0.2
	baz=46,slow=5.3							
CRES	**Cresnjev**	82.38	320	*eP*		**P**	18 15 33.6	-0.5
MGRS	**Mrkonjic Grad**	82.39	319	*eP*		**P**	18 15 34.7	+0.5
PDG	**Podgorica**	82.39	316	⇓P		**P**	18 15 34.0	-0.1
PDG	**Podgorica**	82.39	316	*eP*		**P**	18 15 33.3	-0.9
OBKA	**Obir**	82.41	321	*eP*		**P**	18 15 34.6	+0.2
	comp=Z,5.6nm,0.8s							
OBKA				*eP*		**PP**	18 18 43.0	+0.3
	comp=Z,5.3nm,1.2s							
RJOB	**Jochberg**	82.51	323	*eP*		**P**	18 15 35.0	+0.1
	baz=46,slow=5.3							
BRY	**Bratogost**	82.51	317	*eP*		**P**	18 15 34.0	-1.0
DRME	**Dracevica, Mon**	82.58	316	*eP*		**P**	18 15 35.0	-0.2
KBN	**Korca**	82.58	314	IAmb	IAmb		18 15 36.0	
	comp=Z,56nm,1.3s							
AGG	**Agios Georgios**	82.59	312	P		**P**	18 15 32.8	-2.6
AGG				pmax	pmax			
	comp=Z,21nm,1.1s							
AGG	**Agios Georgios**	82.59	312	P		**P**	18 15 32.8	-2.6
AGG				IAmb	IAmb		18 15 38.7	
	comp=Z,21nm,1.1s							
KBA	**Koelnbreinsper**	82.67	322	*eP*		**P**	18 15 36.9	+1.1
	comp=Z,18nm,1.2s,SNR=10.0							
KBA				*eP*		**PP**	18 18 46.4	+1.6
	comp=Z,14nm,1.5s							
PAHR	**Pah Rah Range**	82.69	47	IAmb	IAmb		18 15 40.2	
	comp=Z,24nm,1.6s							
TREB	**Trebinje**	82.74	317	*eP*		**P**	18 15 35.4	-0.6
URZ	**Urewera**	82.77	145	P		**P**	18 15 36.0	0.0
	comp=Z,6.5nm,1.0s,baz=292,slow=19,SNR=1.3							
MYKA	**Terra Mystica**	82.81	322	*eP*		**P**	18 15 36.2	-0.2
	comp=Z,14nm,1.6s,SNR=6.5							
MYKA				*i* P		**PP**	18 18 48.0	+2.1
	comp=Z,24nm,1.6s							
HCY	**Herceg Novi**	82.82	316	*eP*		**P**	18 15 35.6	-0.9
TNS	**Taunus Mts**	82.90	327	*eP*		**P**	18 15 36.6	-0.2
	comp=Z,7.2nm,0.9s,baz=46,slow=5.3							
FUR	**Furstenfeldbru**	82.98	324	*eP*		**P**	18 15 37.7	+0.5
	baz=46,slow=5.3							
CEY	**Cerknica**	82.98	321	*eP*		**P**	18 15 37.5	+0.2
DLMT	**Dillon**	83.06	40	P		**P**	18 15 37.1	-0.8
DLMT				IAmb	IAmb		18 15 47.8	
	comp=Z,22nm,1.2s							
IDI	**Anoyia**	83.14	308	⇓P		**P**	18 15 38.6	+0.3
YERR	**Yerington**	83.21	48	IAmb	IAmb		18 15 48.9	
	comp=Z,31nm,1.5s							
HLID	**Hailey**	83.23	42	P		**P**	18 15 39.9	+1.1
	baz=310							
AHRW	**Bad Neuenahr-A**	83.30	328	*eP*		**P**	18 15 38.7	-0.1
	comp=Z,14nm,0.8s,baz=46,slow=5.3							
ABTA	**Abfaltersbach**	83.31	323	*eP*		**P**	18 15 38.2	-0.8
	comp=Z,13nm,1.5s							
SKDS	**Skadanscina**	83.33	321	*eP*		**P**	18 15 37.8	-1.3
WATA	**Walderalm**	83.39	323	*eP*		**P**	18 15 39.6	+0.1
	comp=Z,7.6nm,1.2s							
WTTA	**Wattenberg**	83.41	323	*eP*		**P**	18 15 39.7	0.0
	comp=Z,16nm,2.0s							
BOZ	**Bozeman (W)**	83.43	39	P		**P**	18 15 39.3	-0.4
BOZ				pmax	pmax			
	comp=Z,8.0nm,1.1s							
BOZ	**Bozeman (W)**	83.43	39	P		**P**	18 15 39.3	-0.4
BOZ	**Bozeman (W)**	83.43	39	P		**P**	18 15 40.8	+1.1
	baz=311							
STAL	**STALIGIAL**	83.54	322	IAmb	IAmb		18 15 56.2	
	comp=Z,13nm,1.0s							
BMN	**Battle Mountai**	83.56	46	IAmb	IAmb		18 15 51.0	
	comp=Z,33nm,1.6s							
MOTA	**Moosalm**	83.62	324	*eP*		**P**	18 15 40.6	-0.1
	comp=Z,8.1nm,1.0s							
SQTA	**Sankt Quirin**	83.65	324	*eP*		**P**	18 15 40.8	-0.1
	comp=Z,5.2nm,0.7s							
BTNL	**Ternell**	83.69	328	*dP*		**P**	18 15 40.9	+0.1
	comp=Z,8.0nm,1.0s							
RETA	**Reutte**	83.69	324	*eP*		**P**	18 15 41.4	+0.5
	comp=Z,8.5nm,1.0s							
MEM	**Membach**	83.73	328	*dP*		**P**	18 15 40.1	-0.8
	comp=Z,10nm,0.9s							
KVN	**Kaiserville**	83.88	47	P		**P**	18 15 41.6	-0.6
KVN				pmax	pmax			
	comp=Z,38nm,1.4s							
KVN	**Kaiserville**	83.88	47	P		**P**	18 15 41.6	-0.6
KVN				IAmb	IAmb		18 15 52.4	
	comp=Z,38nm,1.4s							
UBR	**Ueberruh**	83.88	324	*eP*		**P**	18 15 42.0	+0.1
	baz=46,slow=5.3							
ITM	**Ithomi**	83.95	311	P		**P**	18 15 40.8	-1.7
FETA	**Feichten**	84.03	324	*i* P		**P**	18 15 42.1	-0.7
	comp=Z,6.8nm,1.1s							
LHV	**Little Huntoon**	84.12	48	IAmb	IAmb		18 15 54.0	
	comp=Z,42nm,1.3s							
NVAR	**Mina Array Bea**	84.13	48	P		**P**	18 15 44.5	+0.9
	comp=Z,2.4nm,0.7s,baz=283,slow=4.5,SNR=16							
NV11	**Mina Array Sit**	84.22	48	IAmb	IAmb		18 15 54.2	
	comp=Z,23nm,1.6s							
CTI	**Castel Tesino**	84.22	322	P		**P**	18 15 41.8	-2.0
CTI				pmax	pmax			
	comp=Z,28nm,1.4s							
CTI	**Castel Tesino**	84.22	322	P		**P**	18 15 41.8	-2.0
CTI				IAmb	IAmb		18 15 54.6	
	comp=Z,28nm,1.4s							
DAVA	**Damuels**	84.27	324	*eP*		**P**	18 15 43.7	-0.4
	comp=Z,17nm,0.9s,SNR=6.5							
BFO	**Black Forest**	84.29	326	P		**P**	18 15 42.0	-1.9
BFO				pmax	pmax			
	comp=Z,13nm,0.7s							
BFO	**Black Forest**	84.29	326	P		**P**	18 15 42.0	-1.9
BFO				IAmb	IAmb		18 15 47.0	
	comp=Z,13nm,0.7s							
BFO	**Black Forest**	84.29	326	*eP*		**P**	18 15 43.9	0.0
	baz=46,slow=5.3							
BGES	**Gesves**	84.29	329	*dP*		**P**	18 15 43.6	-0.3
	comp=Z,7.6nm,1.0s							
WLF	**Walferdange**	84.34	328	*eP*		**P**	18 15 44.5	+0.3
	baz=46,slow=5.3							
WLF	**Walferdange**	84.34	328	*dP*		**P**	18 15 44.6	+0.5
	comp=Z,9.5nm,1.0s							
YHH	**Holmes Hill**	84.37	39	P		**P**	18 15 44.0	-0.8
BMRD	**Maredsous**	84.49	329	*dP*		**P**	18 15 43.9	-0.9
	comp=Z,8.6nm,0.9s							

H17A	**Grant Village**	84.78	39	P		**P**	18 15 49.5	+2.6
	baz=312							
ECH	**Echery**	84.92	326	P		**P**	18 15 45.4	-1.7
ECH				pmax	pmax			
	comp=Z,23nm,1.4s							
ECH	**Echery**	84.92	326	P		**P**	18 15 45.4	-1.7
ECH				IAmb	IAmb		18 15 52.9	
	comp=Z,23nm,1.4s							
FLWY	**Flagg Ranch**	84.93	40	IAmb	IAmb		18 15 58.6	
	comp=Z,48nm,1.6s							
RLMT	**Red Lodge**	84.98	38	IAmb	IAmb		18 15 57.9	
	comp=Z,22nm,1.5s							
RLMT	**Red Lodge**	84.98	38	P		**P**	18 15 48.7	+0.9
	baz=313							
TUE	**Stuetta**	85.09	324	P		**P**	18 15 46.4	-1.8
LCH	**Last Change Ra**	85.28	48	P		**P**	18 15 48.2	-1.1
LCH				IAmb	IAmb		18 15 59.3	
	comp=Z,30nm,1.6s							
AQU	**L'Aquila**	85.77	319	P		**P**	18 15 50.9	-0.6
AQU				pmax	pmax			
	comp=Z,84nm,1.0s							
AQU	**L'Aquila**	85.77	319	P		**P**	18 15 50.9	-0.6
AQU	**L'Aquila**	85.77	319	*eP*		**P**	18 15 52.3	+0.8
ARVC	**Arvin**	85.81	51	P		**P**	18 15 53.0	+1.2
	baz=308							
R11A	**Troy Canyon, C**	85.85	46	P		**P**	18 15 53.5	+1.3
	baz=309							
TIP	**Timpagrande**	85.91	315	⇓P		**P**	18 15 52.5	+0.2
TIP	**Timpagrande**	85.91	315	IAmb	IAmb		18 15 53.9	
	comp=Z,34nm,1.2s							
HWUT	**Hardware Ranch**	86.10	42	IAmb	IAmb		18 16 03.6	
	comp=Z,22nm,1.4s							
MPMC	**Manual Prospec**	86.10	49	P		**P**	18 15 54.8	+1.4
	baz=308							
DUG	**Dugway, Tooele**	86.31	44	P		**P**	18 15 54.0	-0.4
DUG				pmax	pmax			
	comp=Z,14nm,1.3s							
DUG	**Dugway, Tooele**	86.31	44	P		**P**	18 15 54.0	-0.4
DUG	**Dugway, Tooele**	86.31	44	P		**P**	18 15 55.7	+1.3
	baz=311							
BW06	**Boulder Array**	86.43	40	P		**P**	18 15 53.9	-1.1
BW06	**Boulder Array**	86.43	40	P		**P**	18 15 55.5	+0.5
	baz=313							
PDAR	**Pinedale Array**	86.43	40	P		**P**	18 15 55.5	+0.5
	comp=Z,3.7nm,0.9s,baz=318,slow=2.0,SNR=21							
SNCC	**San Nicolas Is**	86.50	52	P		**P**	18 15 56.6	+1.4
	baz=308							
EDW2	**Edwards Air Fo**	86.50	50	P		**P**	18 15 57.2	+1.8
	baz=308							
PSUT	**Pine Spring**	86.78	45	P		**P**	18 15 57.4	+0.6
GSC	**Goldstone, Bar**	87.01	49	P		**P**	18 15 59.3	+1.5
	baz=309							
CIS	**Catalina Islan**	87.14	52	P		**P**	18 15 59.3	+0.9
	baz=308							
SHPR	**Sheep Range**	87.28	48	IAmb	IAmb		18 16 09.4	
	comp=Z,19nm,1.5s							
ULM	**Lac du Bonnet**	87.35	28	P		**P**	18 15 59.1	+0.1
	comp=Z,8.9nm,0.9s,baz=318,slow=8.2,SNR=7.7							
ULM	**Lac du Bonnet**	87.35	28	*i* P		**P**	18 15 59.6	+0.6
ULM	**Lac du Bonnet**	87.35	28	IAmb	IAmb		18 16 00.3	
	comp=Z,14nm,1.0s							
HEC	**Hector,Ludlow**	87.60	49	P		**P**	18 16 01.8	+1.1
	baz=309							
MURC	**Murrieta**	87.82	51	P		**P**	18 16 02.6	+0.9
	baz=309							
RDMU	**Red Mountain**	87.91	42	IAmb	IAmb		18 16 12.3	
	comp=Z,40nm,1.8s							
P17A	**Butcher Ranch,**	87.99	43	P		**P**	18 16 02.3	-0.3
P17A				IAmb	IAmb		18 16 05.0	
	comp=Z,20nm,1.2s							
MTPU	**Mount Pierson**	88.10	45	IAmb	IAmb		18 16 14.3	
	comp=Z,23nm,1.5s							
K22A	**Casper**	88.12	39	P		**P**	18 16 03.5	+0.3
	baz=315							
P18A	**Preston Nutter**	88.17	43	IAmb	IAmb		18 16 06.0	
	comp=Z,20nm,1.2s							
PFO	**Pinyon Flats O**	88.29	50	P		**P**	18 16 05.3	+1.3
	baz=309							
TPFO	**Pinon Flats**	88.29	50	P		**P**	18 16 05.2	+1.1
	baz=309							
RSSD	**Black Hills**	88.34	36	P		**P**	18 16 03.8	-0.4
RSSD				pmax	pmax			
	comp=Z,26nm,1.4s							
RSSD	**Black Hills**	88.34	36	P		**P**	18 16 03.8	-0.4
RSSD				IAmb	IAmb		18 16 14.0	
	comp=Z,26nm,1.4s							
RSSD	**Black Hills**	88.34	36	P		**P**	18 16 05.0	+0.8
	baz=316							
KNB	**Kanab**	88.39	46	IAmb	IAmb		18 16 08.7	
	comp=Z,33nm,1.6s							
RWWY	**Rawlins**	88.43	40	P		**P**	18 16 04.1	-0.6
RWWY				IAmb	IAmb		18 16 08.7	
	comp=Z,12nm,1.1s							
MONP2	**Monument Peak**	88.76	51	P		**P**	18 16 07.6	+1.2
	baz=309							
O20A	**White River Ci**	88.95	41	P		**P**	18 16 07.9	+0.8
	baz=314							
U15A	**North Rim**	89.09	46	IAmb	IAmb		18 16 50.0	
	comp=Z,21nm,1.6s							
IKP	**In-Ko-Pah, Jac**	89.12	51	P		**P**	18 16 09.4	+1.5
	baz=309							
PHWY	**Pilot Hill**	89.64	39	IAmb	IAmb		18 16 20.4	
	comp=Z,17nm,1.3s							
N23A	**Red Feather La**	89.67	39	IAmb	IAmb		18 16 15.2	
	comp=Z,22nm,1.2s							
N23A	**Red Feather La**	89.67	39	P		**P**	18 16 11.7	+1.1
	baz=315							
PV23	**Carpenter Ridg**	89.67	43	P		**P**	18 16 10.2	-0.4
PV23				IAmb	IAmb		18 16 21.0	
	comp=Z,47nm,1.3s							
PV11	**David Mesa, Pa**	89.85	43	P		**P**	18 16 10.5	-0.9
PV07	**Paradox Valley**	89.89	43	IAmb	IAmb		18 16 21.8	
	comp=Z,21nm,1.5s							
PV13	**Radium Mtn., P**	89.98	43	IAmb	IAmb		18 16 14.5	
	comp=Z,20nm,1.2s							
WUAZ	**Wupatki**	90.25	46	P		**P**	18 16 14.6	+1.3
	baz=312							
ISCO	**Idaho Springs**	90.62	40	P		**P**	18 16 16.2	+1.1
	baz=316							
MVCO	**Mesa Verde**	90.82	44	P		**P**	18 16 15.5	-0.4
MVCO				IAmb	IAmb		18 16 20.7	
	comp=Z,29nm,1.5s							
MVCO	**Mesa Verde**	90.82	44	P		**P**	18 16 17.4	+1.5
	baz=314							
EYMN	**Ely**	90.91	27	IAmb	IAmb		18 16 17.4	
	comp=Z,15nm,1.1s							
EYMN	**Ely**	90.91	27	P		**P**	18 16 16.5	+0.6
	baz=325							
SCHQ	**Schefferville**	91.24	10	P		**P**	18 16 16.4	-0.9
	comp=Z,4.5nm,0.8s,baz=5.4,slow=5.2,SNR=6.9							
SCHQ	**Schefferville**	91.24	10	IAmb	IAmb		18 16 21.7	
	comp=Z,26nm,1.4s							
S22A	**4UR Ranch, Cre**	91.40	42	IAmb	IAmb		18 17 42.3	
	comp=Z,15nm,1.4s							
S22A	**4UR Ranch, Cre**	91.40	42	P		**P**	18 16 20.0	+1.3
	baz=315							
Q24A	**Dix**	91.47	40	P		**P**	18 16 19.7	+0.6
	baz=316							
ECSD	**EROS Data Cent**	92.16	32	P		**P**	18 16 22.2	+0.4
	baz=322							
KEST	**Kesra**	92.59	316	P		**P**	18 16 24.1	+0.2
	comp=Z,7.5nm,0.9s,baz=293,slow=2.4,SNR=7.8							
KEST	**Kesra**	92.59	316	IAmb	IAmb		18 16 26.1	
	comp=Z,8.6nm,0.9s							
TUC	**Tucson**	92.76	48	P		**P**	18 16 25.9	+1.1
	baz=312							
T25A	**Trinidad**	93.18	41	P		**P**	18 16 26.0	-0.8
	baz=316							
ANMO	**Albuquerque**	93.58	44	P		**P**	18 16 28.9	+0.2
ANMO				pmax	pmax			
	comp=Z,11nm,1.5s							
ANMO	**Albuquerque**	93.58	44	P		**P**	18 16 28.9	+0.2
ESDC	**Sonseca Array**	96.61	327	PP		**PP**	18 20 38.2	+2.5
	comp=Z,3.3nm,1.1s,baz=36,slow=5.7,SNR=9.6							
TXAR	**Lajitas Array**	99.22	46	P		**Pdif**	18 16 53.9	-0.4
	comp=Z,0.3nm,0.7s,baz=190,slow=6.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	113.41	305	PKiKP		**PKiKP**	18 21 49.9	-0.8
	comp=Z,0.3nm,0.5s,baz=24,slow=1.8,SNR=4.0							
TORD				PP		**PP**	18 22 40.1	-1.0
	comp=Z,2.0nm,1.0s,baz=45,slow=7.6,SNR=5.7							
SYO	**Syowa Base**	120.83	205	⇓*e*Pdiff		**Pdif**	18 18 30.7	+1.6
DBIC	**Dimbokro**	122.53	305	PKP		**PKPdf**	18 22 06.6	-1.7
	comp=Z,2.6nm,0.7s,baz=106,slow=6.1,SNR=2.2							
QSPA	**South Pole Qui**	122.69	180	PKPpre		PKPpre	18 21 59.6	
QSPA						**PKPdf**	18 22 07.0	0.0
SDV	**Santo Domingo**	133.56	30			**PKPdf**	18 22 27.8	-1.8
SDV	**Santo Domingo**	133.56	30	*eP*		**PKPdf**	18 22 29.8	+0.2

OTAV	**Otavalo**	136.85	46	*eP*		**PKPdf**	18 22 36.8	+0.7
BOAV	**Boa Vista**	143.19	20	*eP*		**PKiKP**	18 22 49.5	-0.8
CZSB	**Cruzeiro do Su**	146.62	47	*eP*		**PKPdf**	18 22 53.1	+0.2
MCPB	**Macapa, AP**	147.46	6	*eP*		**PKPab**	18 22 57.8	-1.0
MACA	**Manacapuru-AM**	148.40	23	*eP*		**PKPbc**	18 22 58.5	-0.8
NBMO	**Morrinhos-CE**	149.37	342	*eP*		**PKPdf**	18 22 59.3	+1.9
TMAB	**Tom-Au,PA,Br**	149.58	358	*eP*		**PKPbc**	18 23 00.1	-2.2
NBCL	**Cascavel-CE**	149.75	339	*eP*		**PKPbc**	18 23 00.3	-2.4
ROSB	**Rosrio**	149.78	350	*eP*		**PKPbc**	18 23 00.8	-1.9
RCBR	**Riachuelo**	150.42	333	*eP*		**PKPbc**	18 23 01.9	-2.5
NBPS	**Pedro II - PI**	150.75	345	*eP*		**PKPdf**	18 23 02.4	+2.7
ITTB	**Itaituba**	150.88	14	*eP*		**PKPbc**	18 23 02.7	-2.8
NBPB	**Pedra_Branca-C**	151.39	340	*eP*		**PKPdf**	18 23 03.4	+2.8
ETMB	**Extrema**	152.01	39	*eP*		**PKPdf**	18 23 04.0	+2.5
NBRF	**Rio Formoso -**	152.69	329	*eP*		**PKPbc**	18 23 06.0	-3.5
PRPB	**Parauapebas**	153.36	2	*eP*		**PKPdf**	18 23 04.7	+1.2
NBAN	**Anadia - AL**	154.06	330	*eP*		**PKPdf**	18 23 07.1	+2.6
LPAZ	**La Paz**	156.00	51	*eP*		**PKPdf**	18 23 08.3	+0.5
SMTB	**Santa Maria do**	156.01	357	*eP*		**PKPdf**	18 23 10.7	+3.5
VILB	**Vilhena**	157.60	30	*eP*		**PKPdf**	18 23 13.5	+4.4
CMC01	**Camacan, BA**	160.53	332	*eP*		**PKPdf**	18 23 13.5	+1.0

*IDC **15** 18:04:13.9±1.9, 1.17N×126.92E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/44, mbtmp3.7/4 Error ellipse: s-maj=182.7km s-min=22.6km az=67.0*
*DJA **15** 18:04:22.1±0.8, 1.1N±3×12.7E±°, h30km±9km, M3.6/10, mb3.7/3, MLv3.5/10*

ISC 15 18:04:21.4±1.1, 0.93N±0.09×**126.52E**±0.06, **h39**km, **n11**, σ1°**73**/13, **mb3.8/4, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.86**	**100**	P	**Pn**	**18 04 38.3**	**+1.2**
TNTI				S	**Sn**	**18 04 50.2**	**+1.7**
LBMI	**Labuha**	**1.84**	**148**	P	**Pn**	**18 04 51.8**	**+1.3**
LBMI				S	**Sn**	**18 05 13.9**	**+1.3**
KMSI	**Cibinong**	**2.56**	**262**	P	**Pn**	**18 05 01.1**	**+0.7**
SANI	**Sanana**	**3.00**	**190**	P	**Pn**	**18 05 06.8**	**+0.3**
GTOI	**Gorontalo**	**3.52**	**265**	P	**Pn**	**18 05 16.8**	**+3.3**
APSI	**Ampana**	**5.20**	**249**	P	**Pn**	**18 05 37.9**	**+1.2**
	0.1nm9.1nm,0.5s						
SPSI	**Sidrap Palu**	**8.31**	**234**	P	**Pn**	**18 06 20.2**	**+0.8**
WRA	**Warramunga Arr**	**22.11**	**160**	P	**P**	**18 09 12.3**	**-1.3**
	1.4nm,0.4s,baz=340,slow=11,SNR=32						
ASAR	**Alice Springs**	**25.48**	**164**	P	**P**	**18 09 45.0**	**-1.2**
	0.8nm,0.3s,baz=345,slow=12,SNR=28						
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**18 14 20.2**	**-2.1**
	0.5nm,0.7s,baz=121,slow=8.3,SNR=1.0						
KURBB	**Kurchatov Arra**	**63.98**	**328**	P	**P**	**18 14 49.7**	**-1.0**
	0.5nm,0.7s,baz=134,slow=6.4,SNR=1.7						

JMA 15 18:04:33.2, 32.97N×131.07E, h10km±1km, **M3.7, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.22**	**313**	P	Pg	18 04 37.9	+0.1
JNU				*e*S	Sg	18 04 41.2	+0.3

JMA 15 18:04:48.8, 32.99N×131.06E, h9km±1km, **M3.6, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.20**	**311**	P	Pg	18 04 53.2	+0.2
JNU				*e*S	Sg	18 04 56.2	+0.4

JMA 15 18:06:53.0, 33.30N×131.42E, h4km, **M3.5, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.04**	**344**	P

JTU	**Tsushima**	**2.11 319**	Pn	**Pb**	**18 10 08.0**	**-1.0**
JMN	**Monobe**	**2.47 71**	Pn	**Pn**	**18 10 12.2**	**+1.3**
JHS	**Saijyo**	**2.66 39**	Pn	**Pn**	**18 10 14.3**	**+0.8**
TJN	**Taejon**	**4.60 319**	Pn	**Pn**	**18 10 39.8**	**-0.3**
KSRS	**Korea Array**	**5.19 331**	Pn	**Pn**	**18 10 48.4**	**+0.2**
	baz=152,slow=14,SNR=1.4					
KSRS			Lg	Lg	18 12 10.3	
	2.7nm,0.3s,baz=151,slow=29,SNR=4.0					
KSAR	**Wonju Array Be**	**5.20 331**	Pn	**Pn**	**18 10 48.5**	**+0.1**
KS19	**Wonju Array Si**	**5.26 331**	Pn	**Pn**	**18 10 46.2**	**-2.9**
INU	**Inuyama**	**5.48 62**	Pn	**Pn**	**18 10 51.6**	**-0.6**
INCN	**Inchon**	**5.81 322**	Pn	**Pn**	**18 10 56.3**	**-0.5**
JGF	**Kuroka**	**5.83 61**	Pn	**Pn**	**18 10 55.9**	**-1.3**
JOW	**Kunigami**	**6.56 203**	Pn	**Pn**	**18 11 10.3**	**+3.2**
	2.8nm,0.3s,baz=27,slow=17,SNR=4.5					
JOW	**Kunigami**	**6.56 203**		**Pn**	**18 11 06.3**	**-0.8**
MJB9	**Matsu-Tunnel**	**6.88 56**	Pn	**Pn**	**18 11 07.8**	**-3.7**
MAJO	**Matsushiro**	**6.88 57**	Pn	**Pn**	**18 11 07.8**	**-3.7**
MJAR	**Matsushiro Arr**	**6.88 57**	Pn	**Pn**	**18 11 13.8**	**+2.3**
	0.4nm,0.3s,baz=230,slow=12,SNR=6.5					
MJAR	**Matsushiro Arr**	**6.88 57**		**Pn**	**18 11 07.8**	**-3.7**
SONM	**Songino Array**	**23.84 316**	P	**P**	**18 14 44.2**	**+0.4**
	2.4nm,1.1s,baz=132,slow=11,SNR=3.4					
SONM	**Songino Array**			**P**	**18 14 44.2**	**+0.4**
SONM	**Songino Array**	**23.84 316**	IAmb	IAmb	18 14 50.4	
	comp=Z,5.4nm,1.4s					
CMAR	**Chiang Mai Arr**	**32.20 251**	P	**P**	**18 15 59.2**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=57,slow=6.6,SNR=2.9					
MKAR	**Makanchi Array**	**39.30 305**	P	**P**	**18 17 01.4**	**+1.9**
	comp=Z,1.2nm,1.0s,baz=99,slow=8.9,SNR=2.4					
MKAR	**Makanchi Array**	**39.30 305**	P	**P**	**18 17 01.4**	**+1.9**
KURBB	**Kurchatov Arra**	**42.02 311**	P	**P**	**18 17 23.6**	**+1.7**
	comp=Z,2.0nm,1.0s,baz=97,slow=9.0,SNR=4.8					
BRVK	**Borovoye**	**47.23 314**	P	**P**	**18 18 03.0**	**-0.5**
BRVK			IAmb	IAmb	18 18 14.4	
	comp=Z,1.6nm,0.7s					
KKAR	**Karatay Array**	**47.85 301**	P	**P**	**18 18 08.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**51.02 187**	P	**P**	**18 18 31.1**	**-1.6**
WB0	**Warramunga Arr**	**52.51 176**	P	**P**	**18 18 43.1**	**-0.7**
WB0			IAmb	IAmb	18 19 02.7	
	comp=Z,9.0nm,1.5s					
WRA	**Warramunga Arr**	**52.68 176**	P	**P**	**18 18 43.5**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=354,slow=8.1,SNR=4.9					
WRA	**Warramunga Arr**	**52.68 176**	P	**P**	**18 18 43.5**	**-1.6**
WRA	**Warramunga Arr**	**52.68 176**	IAmb	IAmb	18 18 45.8	
	comp=Z,0.4nm,1.4s					
WB2	**Warramunga Arr**	**52.68 176**	P	**P**	**18 18 45.1**	**0.0**
WR0	**Warramunga Arr**	**52.71 176**	P	**P**	**18 18 44.1**	**-1.2**
WR0			IAmb	IAmb	18 18 56.7	
	comp=Z,10nm,1.4s					
ABKAR	**Akbulak array**	**54.06 310**	P	**P**	**18 18 55.5**	**+0.5**
ABKAR			IAmb	IAmb	18 19 04.0	
	comp=Z,3.5nm,0.9s					
ABKAR	**Akbulak array**	**54.06 310**	P	**P**	**18 18 55.2**	**+0.1**
ASAR	**Alice Springs**	**56.35 177**	P	**P**	**18 19 11.5**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=56,slow=14,SNR=8.9					
ASAR	**Alice Springs**	**56.35 177**	P	**P**	**18 19 11.5**	**-0.3**
ILAR	**Eielson Array**	**57.39 30**	P	**P**	**18 19 19.6**	**+0.9**
KBZ	**Khabaz**	**66.92 308**	P	**P**	**18 20 24.4**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=18,slow=3.2,SNR=3.1					
FINES	**FINESS Array B**	**68.28 330**	P	**P**	**18 20 32.0**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=81,slow=7.4,SNR=1.9					
YKA	**Yellowknife Ar**	**71.42 27**	P	**P**	**18 20 50.8**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=298,slow=5.3,SNR=3.9					
BRTR	**Keskin Array B**	**74.90 308**	P	**P**	**18 21 11.8**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=151,slow=5.4,SNR=3.8					
BRTR	**Keskin Array B**	**74.90 308**	P	**P**	**18 21 11.8**	**+0.1**

*JMA **15** 18:10:19.2, 32.96N×131.10E, h9km±1km, M4.1*
JMA Felt IV J1.
*IDC **15** 18:10:19.1±0.8, 32.98N×131.12E, h0km, mb3.7/13, mb1 4.0/14, mb1mx3.8/52, mbtmp3.8/14, ML3.2/1, Error ellipse: s-maj=22.9km s-min=6.0km az=33.0*
*NEIC **15** 18:10:20.9±1.8, 32.99N±0.03×130.98E±0.08, h10km±1km, mb4.2/5, Error ellipse: s-maj=11.0km s-min=4.7km az=253.0*

ISC 15 18:10:20.8±0.6, 32.96N±0.05×131.04E±0.08, h12km, n33, σ1s9.04/31, mb3.7/15, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.21**	**320**	Pg	**Pg**	**18 10 24.0**	**-1.4**
	baz=198,slow=18						
JNU				Lg	Lg	18 10 27.4	
	4μm,0.3s,baz=19,slow=20,SNR=16						
JNU	**Nakatsue**	**0.21**	**320**	P	**Pg**	**18 10 24.3**	**-1.1**
JNU				*eS*	**Sg**	**18 10 27.9**	**-0.7**
JTA	**Tamana**	**0.43**	**271**	P	**Pg**	**18 10 28.6**	**-0.7**
JIU3	**Izumi3**	**0.45**	**206**	⇑P	**Pg**	**18 10 28.2**	**-1.5**
JSU	**Suzuyama**	**1.53**	**199**	Pn	**Pn**	**18 10 47.6**	**-0.3**
JTU	**Tsushima**	**2.08**	**319**	Pn	**Pb**	**18 10 58.1**	**-0.3**
KSRS	**Korea Array**	**5.16**	**331**	Lg	Lg	18 13 04.5	
	4.3nm,0.3s,baz=156,slow=28,SNR=4.1						
INU	**Inuyama**	**5.50**	**63**		**Pn**	**18 11 40.5**	**-2.0**
MAJO	**Matsushiro**	**6.89**	**57**	Pn	**Pn**	**18 12 02.2**	**+0.5**
MJB9	**Matsu-Tunnel**	**6.89**	**57**	Pn	**Pn**	**18 12 02.2**	**+0.5**
MJAR	**Matsushiro Arr**	**6.90**	**57**	Pn	**Pn**	**18 12 00.5**	**-1.2**
	0.5nm,0.3s,baz=228,slow=14,SNR=14						
MJAR	**Matsushiro Arr**	**6.90**	**57**		**Pn**	**18 12 01.2**	**-0.5**
JMZ	**Minamidaito 2**	**7.12**	**179**	Pn	**Pn**	**18 12 05.2**	**+0.5**
SONM	**Songino Array**	**23.80**	**316**	P	**P**	**18 15 35.6**	**+2.1**
	2.3nm,1.0s,baz=122,slow=10.0,SNR=3.7						
SONM	**Songino Array**	**23.80**	**316**	IAmb	IAmb	18 15 38.5	
	comp=Z,2.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**32.18**	**251**	P	**P**	**18 16 50.0**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=70,slow=5.8,SNR=2.3						
MKAR	**Makanchi Array**	**39.26**	**305**	P	**P**	**18 17 49.1**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=93,slow=7.2,SNR=2.0						
KURBB	**Kurchatov Arra**	**41.99**	**311**	P	**P**	**18 18 11.2**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=97,slow=9.1,SNR=3.0						
BRVK	**Borovoye**	**47.19**	**314**	P	**P**	**18 18 51.9**	**-1.3**
BRVK				IAmb	IAmb	18 18 57.4	
	comp=Z,1.8nm,0.8s						
KKAR	**Karatay Array**	**47.81**	**301**	P	**P**	**18 18 57.9**	**-0.2**
KNRA	**Kununurra**	**48.41**	**183**	P	**P**	**18 19 00.8**	**-2.0**
WRA	**Warramunga Arr**	**52.70**	**176**	P	**P**	**18 19 35.0**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=353,slow=8.6,SNR=1.5						
ABKAR	**Akbulak array**	**54.02**	**310**	P	**P**	**18 19 44.5**	**-0.2**
ABKAR	**Akbulak array**	**54.02**	**310**	P	**P**	**18 19 44.6**	**-0.2**
ABKAR				IAmb	IAmb	18 19 51.8	
	comp=Z,2.5nm,0.9s						
ASAR	**Alice Springs**	**56.37**	**177**	P	**P**	**18 20 03.3**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=8.5,slow=13,SNR=2.2						
ILAR	**Eielson Array**	**57.39**	**30**	P	**P**	**18 20 10.3**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=286,slow=6.5,SNR=2.1						
ARCES	**ARCESS Array B**	**64.68**	**338**	P	**P**	**18 20 58.5**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=54,slow=6.2,SNR=7.5						
ARCES	**ARCESS Array B**	**64.68**	**338**	IAmb	IAmb	18 20 59.4	
	comp=Z,19nm,1.4s						
KBZ	**Khabaz**	**66.88**	**308**	P	**P**	**18 21 12.8**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=135,slow=4.3,SNR=2.4						
FINES	**FINESS Array B**	**68.25**	**330**	P	**P**	**18 21 21.4**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=72,slow=6.2,SNR=5.6						
YKA	**Yellowknife Ar**	**71.42**	**27**	P	**P**	**18 21 40.0**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=298,slow=6.1,SNR=4.0						
BRTR	**Keskin Array B**	**74.86**	**308**	P	**P**	**18 22 01.3**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=110,slow=5.8,SNR=4.9						
GERES	**GERESS Array B**	**81.29**	**324**	P	**P**	**18 22 37.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=54,slow=6.8,SNR=3.4						

JMA 15 18:10:21.5, 33.27N×131.38E, h5km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.07**	**19**	P	Pg	18 10 23.2	0.0
JUS	**Usuki**	**0.37**	**123**	P	Pg	18 10 29.0	+0.3
JUS				*eS*	Sg	18 10 33.9	+0.3
JKI	**Kunimi**	**0.39**	**24**	P	Pg	18 10 29.5	+0.4

*IDC **15** 18:12:27.9±1.3, 32.83N×130.94E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/54, mbtmp3.5/6, Error ellipse: s-maj=43.6km s-min=7.7km az=84.0*
*JMA **15** 18:12:29.1, 32.90N×130.99E, h8km±1km, M3.5*
JMA Felt III J1.

ISC 15 18:12:30.2±0.9, 32.87N±0.08×130.97E±0.05, h12km, n12, σ1s7.2/14, mb3.3/6, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.26**	**344**	Pg	**Pg**	**18 12 34.0**	**-1.7**
	2μm,0.3s,baz=200,slow=18,SNR=13						
JNU				Lg	Lg	18 12 37.3	
	2μm,0.3s,baz=360,slow=19,SNR=16						
JNU	**Nakatsue**	**0.26**	**344**	⇑P	**Pg**	**18 12 34.2**	**-1.5**
JNU				*eS*	**Sg**	**18 12 37.8**	**-1.6**
JTA	**Tamana**	**0.38**	**285**	P	**Pg**	**18 12 36.9**	**-0.9**
JTA				*eS*	**Sg**	**18 12 42.5**	**-0.3**
JUS	**Usuki**	**0.69**	**73**	*eS*	**Sg**	**18 12 50.8**	**-1.8**
KSRS	**Korea Array**	**5.21**	**332**	Pg	**Pb**	**18 14 03.8**	**+2.6**
	baz=152,slow=17,SNR=1.2						
KSRS				Lg	Lg	18 15 09.9	
	0.8nm,0.3s,baz=159,slow=29,SNR=2.1						
MJAR	**Matsushiro Arr**	**7.00**	**56**	Pn	**Pn**	**18 14 15.9**	**+3.4**
	0.2nm,0.3s,baz=245,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**39.26**	**305**	P	**P**	**18 19 58.3**	**-0.3**
	0.5nm,0.8s,baz=87,slow=10,SNR=3.4						
KURBB	**Kurchatov Arra**	**42.00**	**311**	P	**P**	**18 20 20.7**	**-0.4**
	0.4nm,0.8s,baz=96,slow=8.8,SNR=4.9						
WRA	**Warramunga Arr**	**52.61**	**176**	P	**P**	**18 21 43.0**	**-1.0**
	0.3nm,0.8s,baz=356,slow=7.7,SNR=2.0						
FINES	**FINESS Array B**	**68.30**	**330**	P	**P**	**18 23 29.7**	**-1.1**
	0.7nm,0.8s,baz=33,slow=8.3,SNR=0.8						
YKA	**Yellowknife Ar**	**71.53**	**26**	P	**P**	**18 23 50.6**	**-0.1**
	0.2nm,0.7s,baz=301,slow=5.5,SNR=2.7						
BRTR	**Keskin Array B**	**74.87**	**308**	P	**P**	**18 24 10.8**	**-0.2**
	0.8nm,0.9s,baz=355,slow=7.4,SNR=3.6						

JMA 15 18:13:10.7, 32.83N×130.88E, h12km±2km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.29**	**191**	P	Pg	18 13 16.5	-0.1
JIU3				*eS*	Sg	18 13 20.7	+0.2
JNU	**Nakatsue**	**0.29**	**360**	P	Pg	18 13 16.9	+0.2
JNU				*eS*	Sg	18 13 21.1	+0.4
JTA	**Tamana**	**0.32**	**295**	P	Pg	18 13 17.3	+0.1
JTA				*eS*	Sg	18 13 22.1	+0.5

ATH 15 18:13:11.8, 38.91N×23.04E, h16km±2km, ML1.8/4, Error ellipse: s-maj=2.4km s-min=0.9km az=104.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAL	**Atalanti**	**0.22**	**184**	P	Pg	18 13 16.7	-0.1
ATAL				S	Sg	18 13 20.3	+0.1
ATAL				AML	AML	18 13 20.9	
	comp=E,685μm,0.3s						
ATAL				AML	AML	18 13 21.2	
	comp=N,601μm,0.3s						
LKR	**Lokris**	**0.26**	**187**	P	Pg	18 13 17.4	-0.2
LKR				S	Sg	18 13 21.7	+0.3
LKR				AML	AML	18 13 22.3	
	comp=E,520μm,0.1s						
LKR				AML	AML	18 13 22.7	
	comp=N,643μm,0.1s						
NEO	**Neokhori**	**0.42**	**20**	P	Pg	18 13 20.2	-0.1
NEO				S	Sg	18 13 26.2	0.0
NEO				AML	AML	18 13 29.7	
	comp=N,378μm,0.2s						
NEO				AML	AML	18 13 31.3	
	comp=E,362μm,0.2s						
XOR	**Xorichti**	**0.47**	**15**	P	Pg	18 13 21.3	0.0
XOR				S	Sg	18 13 27.5	-0.1
XOR				AML	AML	18 13 28.6	
	comp=N,188μm,0.2s						
XOR				AML	AML	18 13 30.0	
	comp=E,104μm,0.3s						
AGG	**Agios Georgios**	**0.56**	**282**	P	Pg	18 13 22.2	-0.8
AGG				S	Sg	18 13 30.6	+0.1
MAKR	**Makrakomi, Fth**	**0.71**	**279**	P	Pg	18 13 25.5	-0.3
VIL2	**Platees**	**0.72**	**166**	P	Pb	18 13 26.0	+0.1
ANX	**Ano Chora**	**0.93**	**250**	P	Pb	18 13 29.1	-0.5
KLV	**Kalavryta, Ach**	**1.11**	**219**	P	Pb	18 13 32.4	-0.3

JMA 15 18:13:37.3, 32.96N×131.07E, h8km±1km, M3.5, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.23**	**315**	⇑P	Pg	18 13 42.1	+0.2
JNU				*eS*	Sg	18 13 45.8	+0.8
JTA	**Tamana**	**0.45**	**271**	P	Pg	18 13 46.2	+0.1
JUS	**Usuki**	**0.58**	**79**	*eS*	Sg	18 13 56.4	+0.2

*JMA **15** 18:14:13.2, 32.98N×131.06E, h11km±1km, M3.6*
JMA Felt IV J1.
*IDC **15** 18:14:13.6±1.0, 32.93N×130.98E, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.6/57, mbtmp3.6/9, ML2.7/1, Error ellipse: s-maj=26.9km s-min=5.8km az=69.0*

ISC 15 18:14:15.2±0.8, 33.01N±0.06×131.01E±0.06, h12km, n15, σ2s9.04/16, mb3.6/8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.16**	**316**	Pg	**Pg**	**18 14 17.4**	**-1.5**
	2μm,0.3s,baz=159,slow=7.0,SNR=5.6						
JNU				Lg	Lg	18 14 20.5	
	2μm,0.3s,baz=163,slow=22,SNR=16						
JNU	**Nakatsue**	**0.16**	**316**	P	**Pg**	**18 14 17.7**	**-1.2**
JNU				*eS*	**Sg**	**18 14 21.0**	**-0.5**
JTA	**Tamana**	**0.40**	**264**	P	**Pg**	**18 14 22.1**	**-1.1**
JIU3	**Izumi3**	**0.49**	**200**	*eS*	**Sg**	**18 14 29.1**	**-2.1**
JUS	**Usuki**	**0.62**	**84**	*eS*	**Sg**	**18 14 32.8**	**-2.8**
KSRS	**Korea Array**	**5.11**	**331**	Pg	**Pg**	**18 15 48.8**	**-4.1**
	baz=143,slow=17,SNR=3.4						
KSRS				Lg	Lg	18 16 55.5	
	0.2nm,0.3s,baz=153,slow=29,SNR=1.5						
MJAR	**Matsushiro Arr**	**6.89**	**57**	Pn	**Pn**	**18 15 59.1**	**+3.0**
	0.1nm,0.3s,baz=239,slow=13,SNR=5.1						
CMAR	**Chiang Mai Arr**	**32.17**	**251**	P	**P**	**18 20 42.8**	**-0.1**
	0.9nm,1.0s,baz=53,slow=4.6,SNR=4.2						
MKAR	**Makanchi Array**	**39.21**	**305**	P	**P**	**18 21 45.4**	**+2.2**
	0.5nm,0.8s,baz=93,slow=8.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**41.93**	**311**	P	**P**	**18 22 07.2**	**+1.7**
	0.8nm,0.8s,baz=97,slow=9.2,SNR=5.5						
WRA	**Warramunga Arr**	**52.75**	**176**	P	**P**	**18 23 28.4**	**-1.6**
	0.7nm,1.0s,baz=353,slow=7.8,SNR=2.8						
ASAR	**Alice Springs**	**56.42**	**177**	P	**P**	**18 23 56.5**	**-0.2**
	0.4nm,0.9s,baz=11,slow=12,SNR=2.0						
KBZ	**Khabaz**	**66.83**	**308**	P	**P**	**18 25 07.3**	**+0.6**
	1.5nm,0.9s,baz=45,slow=2.9,SNR=2.5						
YKA	**Yellowknife Ar**	**71.39**	**27**	P	**P**	**18 25 35.2**	**+0.5**
	0.5nm,0.7s,baz=302,slow=6.3,SNR=6.6						
BRTR	**Keskin Array B**	**74.81**	**308**	P	**P**	**18 25 55.5**	**-0.1**
	0.6nm,0.8s,baz=116,slow=7.0,SNR=3.9						

*IDC **15** 18:16:38.3±0.7, 32.92N×131.13E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.8/56, mbtmp3.8/13, ML3.2/1, Error ellipse: s-maj=20.7km s-min=6.3km az=45.0*
*JMA **15** 18:16:39.7, 32.98N×131.10E, h10km±1km, M4.2*
JMA Felt IV J1.
*NEIC **15** 18:16:42.6±2.0, 33.09N±0.03×130.86E±0.05, h19km±3km, mb4.5/47, Error ellipse: s-maj=6.8km s-min=3.6km az=53.0*

ISC 15 18:16:40.7±0.4, 33.05N±0.05×131.05E±0.03, h12km, n93, σ1s44/100, mb4.5/36, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.16**	**296**	Pg	**Pg**	**18 16 44.5**	**+0.1**
	2μm,0.3s,baz=134,slow=5.5,SNR=38						
JNU				Lg	Lg	18 16 47.7	
	2μm,0.3s,baz=216,slow=23,SNR=14						
JNU	**Nakatsue**	**0.16**	**296**	P	**Pg**	**18 16 44.7**	**+0.3**
JNU				S	**Sg**	**18 16 48.4**	**+1.4**
JNU	**Nakatsue**	**0.16**	**296**	Pg	**Pg**	**18 16 44.6**	**+0.3**
JNU				Sg	**Sg**	**18 16 48.4**	**+1.4**
JTA	**Tamana**	**0.44**	**259**	P	**Pg**	**18 16 49.1**	**-0.3**
JTA				S	**Sg**	**18 16 55.6**	**+0.4**
JUS	**Usuki**	**0.59**	**89**	P	**Pg**	**18 16 50.6**	**-1.6**
JUS				S	**Sg**	**18 16 57.8**	**-2.3**
JSU	**Suzuyama**	**1.62**	**198**		**Pb**	**18 17 08.3**	**-2.3**
JTU	**Tsushima**	**2.01**	**317**		**Pn**	**18 17 11.8**	**-2.6**
JMN	**Monobe**	**2.46**	**73**	Pn	**Pn**	**18 17 22.0**	**-2.9**
JHS	**Saijyo**	**2.59**	**41**	Pn	**Pn**	**18 17 22.6**	**+0.1**
JHS				Sn	**Sb**	**18 17 57.0**	**-2.0**
TJN	**Taejon**	**4.49**	**319**	Pn	**Pn**	**18 17 46.2**	**-2.4**
KSRS	**Korea Array**	**5.08**	**331**	Pn	**Pn**	**18 17 58.0**	**+1.4**
	baz=149,slow=15,SNR=1.5						
KSRS				Sn	**Sn**	**18 18 57.0**	**+1.8**
	2.6nm,0.3s,baz=152,slow=24,SNR=6.0						
KSRS				Lg	Lg	18 19 21.2	
	1.9nm,0.3s,baz=147,slow=29,SNR=4.7						
KSAR	**Wonju Array Be**	**5.09**	**330**	Pn	**Pn**	**18 17 54.3**	**-2.4**
KS19	**Wonju Array Si**	**5.14**	**331**	Pn	**Pn**	**18 17 56.6**	**-0.9**
INU	**Inuyama**	**5.45**	**64**	Pn	**Pn**	**18 18 03.1**	**+1.4**
JGF	**Kuroka**	**5.81**	**62**	Pn	**Pn**	**18 18 09.1**	**+2.4**
JOW	**Kunigami**	**6.65**	**202**	Pn	**Pn**	**18 18 20.2**	**+2.0**
	2.4nm,0.3s,baz=83,slow=16,SNR=2.4						
JOW	**Kunigami**	**6.65**	**202**	Pn	**Pn**	**18 18 18.1**	**-0.1**
MJB9	**Matsu-Tunnel**	**6.84**	**57**		**Pn**	**18 18 23.2**	**+2.3**
MAJO	**Matsushiro**	**6.84**	**57**	Pn	**Pn**	**18 18 23.0**	**+2.2**
MJAR	**Matsushiro Arr**	**6.84**	**57**	Pn	**Pn**	**18 18 22.6**	**+1.8**
	0.4nm,0.3s,baz=224,slow=14,SNR=9.5						
MJAR				Lg	Lg	18 20 12.5	
	baz=234,slow=31,SNR=2.3						
MJAR	**Matsushiro Arr**	**6.84**	**57**	Pn	**Pn**	**18 18 22.9**	**+2.0**
NJ2	**Nanjing**	**10.34**	**268**	*eP*	**Pn**	**18 19 08.3**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
CN2	**Changchun**	**11.59**	**339**	*eP*	**Pn**	**18 19 27.9**	**+2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**17.39**	**302**	*eP*	**Pn**	**18 20 42.9**	**-0.3**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,5μm,7.0s						
ULN	**Ulaanbaatar**	**23.37**	**316**	P	**P**	**18 21 48.7**	**-0.5**
ULN				IAmb	IAmb	18 21 54.9	
	comp=Z,9.2nm,1.1s						
SONM	**Songino Array**	**23.74**	**316**	P	**P**	**18 21 54.0**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=124,slow=9.0,SNR=4.4						
SONM	**Songino Array**	**23.74**	**316**		**P**	**18 21 50.4**	**-2.4**
KMI	**Kunming**	**25.91**	**260**	⇑P	**P**	**18 22 14.3**	**+1.3**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH	**PanZhiHua**	**26.20**	**263**	P	**P**	**18 22 15.6**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
CMAR	**Chiang Mai Arr**	**32.21**	**251**	P	**P**	**18 23 09.8**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=57,slow=5.4,SNR=8.8						
CMAR	**Chiang Mai Arr**	**32.21**	**251**	P	**P**	**18 23 07.8**	**-1.0**
WMQ	**Urumqi**	**35.26**	**301**	*eP*	**P**	**18 23 37.3**	**+2.1**
ZALV	**Zalesovo Beam**	**38.62**	**317**	PcP	**PcP**	**18 26 14.5**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=117,slow=1.6,SNR=3.8						
MKAR	**Makanchi Array**	**39.21**	**305**	P	**P**	**18 24 08.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=92,slow=7.9,SNR=4.5						
MKAR				PcP	**PcP**	**18 26 16.5**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=80,slow=4.7,SNR=4.7						
MKAR	**Makanchi Array**	**39.21**	**305**	P	**P**	**18 24 07.7**	**-0.9**
KURK	**Kurchatov**	**41.88**	**311**		**P**	**18 24 29.1**	**-1.5**
KDJ	**Kajisay**	**43.02**	**298**	P	**P**	**18 24 40.3**	**0.0**
NRIK	**Noril'sk**	**43.64**	**339**	P	**P**	**18 24 46.1**	**+1.5**
	comp=Z,2.8nm,0.7s,baz=110,slow=10,SNR=4.4						
NRIK	**Noril'sk**	**43.64**	**339**	P	**P**	**18 24 45.8**	**+1.2**
BOOM	**Boomskoye usch**	**43.89**	**299**	P	**P**	**18 24 47.2**	**0.0**
AAK	**Ala-Archa**	**44.93**	**299**	P	**P**	**18 24 53.7**	**-1.9**
MTN	**Manton Dam**	**45.64**	**180**	P	**P**	**18 25 01.3**	**+0.2**
MTN				IAmb	IAmb	18 25 10.9	
	comp=Z,12nm,1.4s						
MNAI	**Manna**	**45.75**	**221**	P	**P**	**18 25 03.0**	**+0.9**
GAMB	**Gambell**	**46.52**	**31**	P	**P**	**18 25 08.8**	**+1.3**
GAMB				IAmb	IAmb	18 25 30.0	
	comp=Z,18nm,1.4s						
BRVK	**Borovoye**	**47.13**	**314**		**P**	**18 25 12.5**	**0.0**
BRVK				IAmb	IAmb	18 25 20.5	
	comp=Z,2.6nm,0.7s						
DRK	**Karamyk**	**47.46**	**295**	P	**P**	**18 25 15.3**	**-0.3**
DRK				IAmb	IAmb	18 25 23.7	
	comp=Z,2.5nm,0.7s						
NIL	**Nilore**	**47.72**	**287**	P	**P**	**18 25 16.6**	**-0.8**
NIL				IAmb	IAmb	18 25 36.1	
	comp=Z,6.7nm,1.1s						
KK31	**Karatay Array**	**47.77**	**301**	P	**P**	**18 25 17.3**	**-0.4**
KK31				IAmb	IAmb	18 25 19.4	
	comp=

*IDC **15** 18:20:47.3±0.7,33°07'N×131°21'E,h0km,mb4.0/14, mb1 4.1/16,mb1mx4.0/52,mbtmp4.0/16,ML3.0/2,Error ellipse: s-maj=15.0km s-min=5.6km az=9.0*
*JMA **15** 18:20:47.7,33°12'N×131°18'E,h8km±1km,M3.8*
JMA Felt II J1.
*NEIC **15** 18:20:49.9±1.5,33°09'N±0°05'×131°01'E±0°06,h20km±4km, mb4.5/18, Error ellipse: s-maj=7.2km s-min=6.8km az=92.0*

ISC 15 18:20:48.3±0.5,**33°05N**±0°04'×**131°16E**±0°04,**h12**km,**n56,** σ1§**66**/61,**mb4.4**/**22,Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**0.24**	**287**	Pg		**Pg**	**18 20 52.9**	**-0.5**
	1µm,0.3s,baz=87,slow=13,SNR=16							
JNU				Lg		Lg	18 20 56.4	
	3µm,0.3s,baz=354,slow=18,SNR=25							
JNU	**Nakatsue**	**0.24**	**287**	P		**Pg**	**18 20 53.1**	**-0.3**
JNU				S		**Sg**	**18 20 57.0**	**+0.1**
JNU	**Nakatsue**	**0.24**	**287**	Pg		**Pg**	**18 20 53.1**	**-0.3**
JNU				Sg		**Sg**	**18 20 57.0**	**+0.1**
JTA	**Tamana**	**0.53**	**261**	P		**Pg**	**18 20 58.9**	**+0.2**
JIU3	**Izumi3**	**0.58**	**210**	P		**Pg**	**18 21 00.5**	**+0.9**
JIU3				S		**Sb**	**18 21 09.5**	**+1.0**
JSU	**Suzuyama**	**1.65**	**201**			**Pn**	**18 21 17.2**	**+0.1**
JTU	**Tsushima**	**2.07**	**316**			**Pn**	**18 21 22.2**	**-0.6**
JMN	**Monobe**	**2.38**	**73**	Pn		**Pb**	**18 21 29.0**	**-2.0**
JHS	**Saijyo**	**2.53**	**39**	Pn		**Pn**	**18 21 29.3**	**0.0**
TJN	**Taejon**	**4.56**	**318**			**Pn**	**18 21 56.4**	**-0.6**
KSRS	**Korea Array**	**5.13**	**330**	Pn		**Pn**	**18 22 05.8**	**+0.9**
	0.7nm,0.3s,baz=149,slow=15,SNR=3.6							
KSRS				Pg		**Pb**	**18 22 20.3**	**+2.4**
	1.2nm,0.3s,baz=148,slow=17,SNR=5.7							
KSRS				Lg		Lg	18 23 26.6	
	1.3nm,0.3s,baz=153,slow=30,SNR=6.0							
KSAR	**Wonju Array Be**	**5.13**	**329**	Pn		**Pn**	**18 22 06.2**	**+1.3**
KS19	**Wonju Array Si**	**5.19**	**330**			**Pn**	**18 22 06.2**	**+0.5**
INU	**Inuyama**	**5.37**	**63**			**Pn**	**18 22 10.6**	**+2.5**
JGF	**Kuroka**	**5.72**	**62**	Pn		**Pn**	**18 22 14.4**	**+1.3**
JOW	**Kunigami**	**6.68**	**203**	Pn		**Pn**	**18 22 25.3**	**-1.0**
MJB9	**Matsu-Tunnel**	**6.76**	**57**			**Pn**	**18 22 29.0**	**+1.6**
MAJO	**Matsushiro**	**6.76**	**57**			**Pn**	**18 22 29.1**	**+1.7**
MJAR	**Matsushiro Arr**	**6.76**	**57**	Pn		**Pn**	**18 22 29.6**	**+2.2**
	0.2nm,0.3s,baz=230,slow=14,SNR=15							
MJAR	**Matsushiro Arr**	**6.76**	**57**			**Pn**	**18 22 29.3**	**+1.9**
JMZ	**Minamidaito 2**	**7.21**	**180**	Pn		**Pn**	**18 22 30.5**	**-3.0**
ULN	**Ulaanbaatar**	**23.43**	**316**	P		**P**	**18 25 55.2**	**-2.2**
ULN				IAmb		IAmb	18 26 01.0	
	comp=Z,15nm,1.4s							
QIZ	**Qiongzhong**	**23.64**	**239**	P		**P**	**18 25 57.6**	**-1.9**
SONM	**Songino Array**	**23.80**	**316**	P		**P**	**18 26 01.9**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=129,slow=8.9,SNR=9.6							
SONM	**Songino Array**	**23.80**	**316**	P		**P**	**18 25 59.0**	**-2.0**
CMAR	**Chiang Mai Arr**	**32.30**	**251**	P		**P**	**18 27 20.1**	**+3.0**
	comp=Z,0.7nm,0.8s,baz=65,slow=4.8,SNR=6.3							
ZALV	**Zalesovo Beam**	**38.69**	**317**	P		**P**	**18 28 13.3**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=112,slow=8.5,SNR=2.3							
MK31	**Makanchi Array**	**39.29**	**305**	P		**P**	**18 28 13.4**	**-3.4**
MKAR	**Makanchi Array**	**39.29**	**305**	P		**P**	**18 28 17.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=96,slow=8.7,SNR=4.5							
MKAR	**Makanchi Array**	**39.29**	**305**	P		**P**	**18 28 13.0**	**-3.9**
NRIK	**Noril'sk**	**43.67**	**339**	P		**P**	**18 28 53.8**	**+1.3**
	comp=Z,2.5nm,0.6s,baz=108,slow=8.9,SNR=3.8							
NRIK	**Noril'sk**	**43.67**	**339**	P		**P**	**18 28 51.8**	**-0.7**
KK31	**Karatay Array**	**47.85**	**301**	P		**P**	**18 29 23.2**	**-2.7**
KK31				IAmb		IAmb	18 29 31.1	
	comp=Z,3.8nm,1.1s							
KK31				PcP		**PcP**	**18 30 49.9**	**-4.7**
KKAR	**Karatay Array**	**47.85**	**301**	P		**P**	**18 29 24.0**	**-1.9**
KKAR				PcP		**PcP**	**18 30 50.6**	**-4.0**
KKAR	**Karatay Array**	**47.85**	**301**	P		**P**	**18 29 25.0**	**-0.9**
KKAR				IAmb		IAmb	18 29 31.1	
	comp=Z,3.8nm,1.1s							
KNRA	**Kununurra**	**48.51**	**183**	P		**P**	**18 29 31.0**	**-0.1**
GAR	**Garm**	**48.77**	**295**	P		**P**	**18 29 33.4**	**+0.2**
GAR				IAmb		IAmb	18 29 36.5	
	comp=Z,6.6nm,1.3s							
FITZ	**Fitzroy Crossi**	**51.13**	**187**	P		**P**	**18 29 52.0**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=19,slow=7.1,SNR=14							
FITZ	**Fitzroy Crossi**	**51.13**	**187**	IAmb		IAmb	18 29 52.7	
	comp=Z,3.3nm,0.8s							
WB0	**Warramunga Arr**	**52.61**	**176**	P		**P**	**18 30 02.5**	**+0.4**
WB0				IAmb		IAmb	18 30 03.3	
	comp=Z,8.7nm,1.4s							
WRA	**Warramunga Arr**	**52.78**	**176**	P		**P**	**18 30 03.1**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=354,slow=8.3,SNR=8.4							
WRA	**Warramunga Arr**	**52.78**	**176**	P		**P**	**18 30 03.5**	**+0.1**
WR0	**Warramunga Arr**	**52.81**	**176**	P		**P**	**18 30 03.7**	**+0.2**
WR0				IAmb		IAmb	18 30 05.1	
	comp=Z,7.7nm,1.2s							
ABKAR	**Akbulak array**	**54.04**	**310**	P		**P**	**18 30 12.7**	**+0.4**
PSA00	**Pilbara Seismi**	**55.38**	**193**	P		**P**	**18 30 22.4**	**+0.1**
PSA00				IAmb		IAmb	18 30 23.1	
	comp=Z,7.1nm,1.4s							
ASAR	**Alice Springs**	**56.46**	**177**	P		**P**	**18 30 31.4**	**+1.4**
	comp=Z,1.4nm,0.9s,baz=4.9,slow=6.5,SNR=11							
ILAR	**Eielson Array**	**57.26**	**30**	P		**P**	**18 30 35.8**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=269,slow=6.6,SNR=6.4							
SPITS	**Spitsbergen Ar**	**62.71**	**348**	P		**P**	**18 31 13.2**	**+0.7**
	comp=Z,9.4nm,1.1s,baz=18,slow=11,SNR=4.6							
A36M	**Sachs Harbour**	**62.97**	**20**	P		**P**	**18 31 14.9**	**+0.7**
C36M	**Paulatuk**	**64.44**	**22**	P		**P**	**18 31 24.3**	**+0.3**
C36M				IAmb		IAmb	18 31 25.3	
	comp=Z,4.0nm,0.7s							
ARCES	**ARCESS Array B**	**64.63**	**338**	P		**P**	**18 31 25.6**	**+0.3**
KBZ	**Khabaz**	**66.90**	**308**	P		**P**	**18 31 41.8**	**+1.5**
	comp=Z,5.6nm,0.8s,baz=92,slow=2.3,SNR=17							
YKA	**Yellowknife Ar**	**71.30**	**27**	P		**P**	**18 32 08.2**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=303,slow=6.0,SNR=27							
NOA	**NORSAR Array B**	**74.33**	**334**	P		**P**	**18 32 25.8**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=49,slow=6.0,SNR=2.6							
BR131	**Keskin Array S**	**74.88**	**308**	P		**P**	**18 32 28.1**	**-1.1**
BR131				IAmb		IAmb	18 32 30.6	
	comp=Z,6.6nm,1.0s							
BRTR	**Keskin Array B**	**74.88**	**308**	P		**P**	**18 32 29.4**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=67,slow=5.3,SNR=12							

*AEIC **15** 18:25:15±2.1,51°18N±0°06×177°57W±0°05,h26km±5km, Error ellipse: s-maj=9.1km s-min=4.3km az=192.0*
*NEIC **15** 18:25:17.9±2.4,51°39N±0°08×177°60W±0°02,h45km±7km, mb3.9/61,ML4.2/6,ML3.8(AEIC),Error ellipse: s-maj=11.6km s-min=1.2km az=175.0*
*IDC **15** 18:25:18.1±3.9,51°41N×177°61W,h48km±34km,mb3.5/14, mb1 3.7/15,mb1mx3.5/60,mbtmp3.8/15,ML3.5/1,Error ellipse: s-maj=33.3km s-min=16.0km az=168.0*

ISC 15 18:25:17.2±0.6,**51°30N**±0°09'×**177°55W**±0°04,**h45**km, **n124,**σ1§**08**/119,**mb3.9**/20,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KIMD	**Kanaga Island**	**0.50**	**23**			**Pn**	**18 25 27.5**	**-0.6**
TAFL	**Tanaga Flats**	**0.51**	**334**			**Pn**	**18 25 27.5**	**-0.8**
TAPA	**Tanaga Point A**	**0.54**	**342**			**Pn**	**18 25 28.2**	**-0.6**
KIWB	**Kanaga Island**	**0.61**	**24**			**Pn**	**18 25 29.1**	**-0.4**
TASE	**Tanaga Southea**	**0.62**	**330**			**Pn**	**18 25 29.3**	**-0.4**
KIKV	**Kanaga Island**	**0.63**	**22**			**Pn**	**18 25 29.6**	**-0.2**
KICM	**Kanaga Island**	**0.66**	**19**			**Pn**	**18 25 30.3**	**+0.1**
KICM						**Sn**	**18 25 41.2**	**+1.7**
TAFP	**Tanaga Falls P**	**0.66**	**336**			**Pn**	**18 25 29.7**	**-0.5**
TAFP						**Sn**	**18 25 40.2**	**+0.6**
KINC	**Kanaga Island**	**0.68**	**22**			**Pn**	**18 25 30.4**	**-0.1**
ADK	**Adak**	**0.80**	**42**			**Pn**	**18 25 31.3**	**-0.7**
ADK				Sn		**Sn**	**18 25 40.4**	**-2.4**
ADK				IAML			18 25 44.4	
	6µm,0.4s							
GAEA	**Gareloi East**	**0.89**	**303**			**Pn**	**18 25 32.6**	**-0.8**
GALAA	**Gareloi Lava P**	**0.90**	**302**			**Pn**	**18 25 32.6**	**-0.8**
GANO	**Gareloi North**	**0.94**	**304**			**Pn**	**18 25 33.1**	**-0.9**
GASW	**Gareloi Southw**	**0.95**	**301**			**Pn**	**18 25 33.0**	**-1.0**
GSCK	**Great Sitkin C**	**1.12**	**50**			**Pn**	**18 25 36.3**	**-0.1**
GSTD	**Great Sitkin T**	**1.16**	**48**			**Pn**	**18 25 36.9**	**0.0**
GSTD						**Sn**	**18 25 53.2**	**+1.5**
GSMY	**Great Sitkin M**	**1.19**	**51**			**Pn**	**18 25 37.3**	**-0.1**
GSTR	**Great Sitkin T**	**1.22**	**49**			**Pn**	**18 25 37.9**	**+0.1**
ATKA	**Atka Island**	**2.27**	**65**			**Pn**	**18 25 51.4**	**-0.7**
KOKL	**Mount Kliuchef**	**2.32**	**62**			**Pn**	**18 25 53.5**	**+0.6**
KOFP	**Korovin Flat P**	**2.35**	**64**			**Pn**	**18 25 54.0**	**+0.6**
SHEM	**Shemya Is, Ala**	**5.36**	**289**	P		**Pn**	**18 26 34.7**	**+0.2**
	1.7nm,0.3s,baz=90,slow=6.1,SNR=2.4							
SHEM				S		**Sn**	**18 27 39.2**	**+4.4**
	2.3nm,0.3s,baz=278,slow=22,SNR=0.9							
SMY	**Shemya**	**5.36**	**289**	Pn		**Pn**	**18 26 33.9**	**-0.5**
SMY				IAML			18 28 00.9	
	comp=N,89nm,2.0s							
SMY				IAML			18 28 43.1	
	comp=E,110nm,3.1s							
NIKH	**Nikolski High**	**5.61**	**69**	Pn		**Pn**	**18 26 40.2**	**+2.3**
UNV	**Unalaska Valle**	**7.20**	**65**	Pn		**Pn**	**18 27 01.6**	**+1.9**
SDPT	**Sand Point**	**10.98**	**62**	Pn		**Pn**	**18 27 53.4**	**+1.9**
GAMB	**Gambell**	**12.89**	**12**	Pn		**Pn**	**18 28 20.0**	**+2.5**
CHIR	**Chirikof Islan**	**13.77**	**62**	Pn		**Pn**	**18 28 30.8**	**+1.3**
SII	**Sitkinak Islan**	**14.70**	**60**	Pn		**Pn**	**18 28 43.2**	**+1.3**
P18K	**Big Mountain,**	**15.00**	**49**	Pn		**Pn**	**18 28 45.8**	**-0.1**
O18K	**Koktuh Hills**	**15.19**	**47**	Pn		**Pn**	**18 28 49.7**	**+1.3**
O18K				IAmb		IAmb	18 29 36.9	
	comp=Z,20nm,1.6s							
N18K	**Kilae Creek**	**15.26**	**44**	Pn		**Pn**	**18 28 49.1**	**-0.2**
N18K				IAmb		IAmb	18 28 56.4	
	comp=Z,5.9nm,0.8s							
OHAK	**Old Harbor**	**15.31**	**58**	Pn		**Pn**	**18 28 48.1**	**-1.9**
OHAK				IAmb		IAmb	18 29 07.2	
	comp=Z,3.2nm,0.5s							
SVW2	**Sparrevohn**	**15.59**	**43**	Pn		**Pn**	**18 28 55.0**	**+1.4**
SVW2				IAmb		IAmb	18 29 23.5	
	comp=Z,8.3nm,1.2s							
Q19K	**Cape Douglas,**	**15.60**	**51**	Pn		**Pn**	**18 28 53.9**	**+0.3**
KDAK	**Kodiak Island**	**15.81**	**56**	P		**Pn**	**18 28 53.1**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=270,slow=10,SNR=1.9							
KDAK	**Kodiak Island**	**15.81**	**56**	Pn		**Pn**	**18 28 54.0**	**-2.4**
N19K	**Bonanza Creek**	**15.93**	**44**	Pn		**Pn**	**18 28 59.4**	**+1.3**
TTA	**Tatalina**	**16.40**	**36**	Pn		**Pn**	**18 29 03.9**	**-0.1**
L19K	**White Mountain**	**16.44**	**40**	Pn		**Pn**	**18 29 04.8**	**+0.4**
M19K	**Big River Lodg**	**16.48**	**41**	Pn		**Pn**	**18 29 05.2**	**+0.3**
M19K				IAmb		IAmb	18 29 11.0	
	comp=Z,14nm,1.6s							
RSO	**Redoubt South**	**16.56**	**47**			**P**	**18 29 07.7**	**-0.4**
CNPM	**China Poot**	**16.96**	**51**			**Pn**	**18 29 11.3**	**+0.4**
BRLK	**Bradley Lake**	**17.20**	**50**	P		**Pn**	**18 29 14.1**	**+0.2**
K20K	**Telida**	**17.37**	**37**	P		**P**	**18 29 17.8**	**+1.0**
J20K	**Nowinta River**	**17.81**	**35**	P		**P**	**18 29 22.6**	**+1.0**
PPLA	**Purkeypile**	**17.87**	**40**	P		**P**	**18 29 23.2**	**+0.7**
SEW	**Seward**	**17.99**	**50**	P		**Pn**	**18 29 22.8**	**-0.7**
CAST	**Castle Rocks**	**18.17**	**38**	P		**Pn**	**18 29 27.4**	**+1.7**
KTH	**Kantishna Hill**	**18.69**	**39**	P		**Pn**	**18 29 32.6**	**+0.5**
KTH				IAmb		IAmb	18 29 33.5	
	comp=Z,6.0nm,0.7s							
PWL	**Port Wells**	**18.74**	**48**	P		**Pn**	**18 29 32.8**	**+0.1**
GHO	**Glory Hole Cre**	**18.78**	**45**	P		**P**	**18 29 31.9**	**-0.4**
GHO				IAmb		IAmb	18 29 51.5	
	comp=Z,12nm,1.4s							
KNK	**Knik Glacier**	**18.86**	**46**	P		**Pn**	**18 29 34.5**	**+0.3**
KNK				IAmb		IAmb	18 30 05.9	
	comp=Z,22nm,1.5s							
TRF	**Thorofare Moun**	**18.89**	**39**	P		**Pn**	**18 29 34.5**	**-0.1**
TRF				IAmb		IAmb	18 29 40.6	
	comp=Z,7.6nm,0.9s							
BPAW	**Bear Paw Mtn.**	**18.93**	**37**	P		**Pn**	**18 29 35.4**	**+0.4**
IMAR	**Indian Mountai**	**19.04**	**30**	P		**Pn**	**18 29 36.8**	**+0.6**
SML	**Sawmill**	**19.05**	**45**	P		**P**	**18 29 36.1**	**+0.8**
SML				IAmb		IAmb	18 30 24.1	
	comp=Z,22nm,1.6s							
H21K	**Melozitna Rive**	**19.14**	**32**	P		**Pn**	**18 29 38.5**	**+1.0**
I21K	**Tanana**	**19.15**	**34**	P		**Pn**	**18 29 38.6**	**+1.1**
I21K				IAmb		IAmb	18 29 55.8	
	comp=Z,7.9nm,1.3s							
RND	**Reindeer**	**19.45**	**40**	P		**P**	**18 29 39.4**	**-0.3**
RND				IAmb		IAmb	18 30 04.3	
	comp=Z,10nm,1.4s							
SCM	**Sheep Creek Mo**	**19.51**	**46**	P		**P**	**18 29 39.9**	**-0.5**
MCK	**McKinley**	**19.56**	**40**	P		**P**	**18 29 39.6**	**-1.2**
MCK				IAmb		IAmb	18 30 01.1	
	comp=Z,14nm,1.6s							
FID	**Port Fidalgo**	**19.59**	**49**	P		**P**	**18 29 40.2**	**-1.0**
DHY	**Denali Highway**	**19.93**	**42**	P		**P**	**18 29 44.9**	**-0.1**
DHY				IAmb		IAmb	18 29 49.2	
	comp=Z,6.1nm,0.6s							
KLU	**Klutina**	**20.05**	**47**	P		**P**	**18 29 47.3**	**+1.0**
KLU				IAmb		IAmb	18 29 57.6	
	comp=Z,4.1nm,0.8s							
M24K	**Tolsona, Glenn**	**20.11**	**45**	P		**P**	**18 29 47.1**	**+0.1**
WRH	**Wood River Hil**	**20.22**	**38**	P		**P**	**18 29 46.8**	**-1.1**
WRH				IAmb		IAmb	18 30 01.6	
	comp=Z,7.9nm,1.6s							
H23K	**Yukon River**	**20.35**	**34**	P		**P**	**18 29 48.3**	**-1.2**
H23K				IAmb		IAmb	18 30 32.0	
	comp=Z,15nm,1.6s							
RAGM	**Ragged Mountai**	**20.37**	**51**	P		**P**	**18 29 48.8**	**-0.9**
MDM	**Murphy Dome**	**20.39**	**37**	P		**P**	**18 29 48.3**	**-1.6**
MDM				IAmb		IAmb	18 30 08.0	
	comp=Z,6.5nm,1.2s							
CCB	**Clear Creek Bu**	**20.41**	**38**	P		**P**	**18 29 50.0**	**0.0**
BMRM	**Bremner River**	**20.53**	**49**	P		**P**	**18 29 52.2**	**+0.7**
N25K	**Chitina, Valde**	**20.69**	**47**	P		**P**	**18 29 54.4**	**+1.3**
N25K				IAmb		IAmb	18 29 57.7	
	comp=Z,4.8nm,0.7s							
PAX	**Paxson**	**20.70**	**43**	P		**P**	**18 29 53.9**	**+0.5**
PAX				IAmb		IAmb	18 29 58.8	
	comp=Z,3.7nm,0.6s							
IL31		**20.82**	**38**	P		**P**	**18 29 55.6**	**+1.2**
ILAR	**Eielson Array**	**20.82**	**38**	P		**P**	**18 29 54.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=226,slow=9.6,SNR=6.0							
ILAR	**Eielson Array**	**20.82**	**38**	P		**P**	**18 29 54.3**	**-0.1**
H24K	**Noodor Dome**	**20.95**	**35**	P		**P**	**18 29 56.7**	**+0.8**
H24K				IAmb		IAmb	18 30 04.4	
	comp=Z,4.4nm,1.0s							
GLB	**Gilahina Butte**	**21.01**	**48**	P		**P**	**18 29 55.0**	**-1.7**
GLB				IAmb		IAmb	18 30 38.7	
	comp=Z,6.3nm,1.1s							
RIDG	**Independent Ri**	**21.23**	**42**	P		**P**	**18 29 58.2**	**-0.7**
RIDG				IAmb		IAmb	18 30 31.8	
	comp=Z,3.7nm,0.8s							
J25K	**Salcha River,**	**21.34**	**39**	P		**P**	**18 29 59.5**	**-0.7**
J25K				IAmb		IAmb	18 30 05.4	
	comp=Z,7.9nm,1.6s							
DOT	**Dot Lake**	**21.53**	**42**	P		**P**	**18 30 02.1**	**0.0**
DOT				IAmb		IAmb	18 30 04.8	
	comp=Z,3.4nm,0.6s							
SCRK	**Sand Creek**	**21.67**	**41**	P		**P**	**18 30 02.4**	**-1.3**
TOLK	**Toolik Lake Re**	**21.97**	**27**	P		**P**	**18 30 07.1**	**+0.3**
TOLK				IAmb		IAmb	18 30 16.3	
	comp=Z,3.5nm,0.8s							
M27K	**Edge Creek, AK**	**22.12**	**46**	P		**P**	**18 30 08.8**	**+0.2**
M27K				IAmb		IAmb	18 30 28.7	
	comp=Z,4.3nm,1.1s							
L27K	**Beaver Creek,**	**22.32**	**44**	P		**P**	**18 30 10.1**	**-0.5**
BCAR	**Beaver Creek A**	**22.34**	**44**	P		**P**	**18 30 10.4**	**-0.4**
BMAR	**Burnt Mountain**	**22.87**	**33**	P		**P**	**18 30 16.6**	**+0.1**
EGAK	**Eagle**	**23.10**	**40**	P		**P**	**18 30 16.7**	**-1.9**
INK	**Inuvik**	**27.07**	**35**	P		**P**	**18 30 55.2**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=229,slow=11,SNR=2.5							
INK	**Inuvik**	**27.07**	**35**	IAmb		IAmb	18 31 33.0	
	comp=Z,6.5nm,1.6s							
KLR	**Kul'dur**	**31.96**	**287**	P		**P**	**18 31 38.0**	**-0.5**
	comp=Z,4.6nm,0.5s,baz=74,slow=7.6,SNR=20							
H11N2	**WAKE ISLAND Hy**	**33.80**	**207**	T		T	19 08 25.3	
	baz=18,slow=76,SNR=33							
H11N3	**WAKE ISLAND Hy**	**33.81**	**207**	T		T	19 08 26.0	
	baz=18,slow=76,SNR=34							
H11N1	**WAKE ISLAND Hy**	**33.82**	**207**	T		T	19 08 26.7	
	baz=17,slow=76,SNR=32							
YKA	**Yellowknife Ar**	**34.72**	**47**	P		**P**	**18 32 01.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=287,slow=8.5,SNR=11							
YKA				PcP		**PcP**	**18 34 36.0**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=284,slow=3.1,SNR=4.3							
YKA	**Yellowknife Ar**	**34.72**	**47**	P		**P**	**18 32 00.9**	**-1.4**
H11S1	**WAKE ISLAND Hy**	**35.02**	**207**	T		T	19 10 09.2	
	baz=17,slow=76,SNR=22							
H11S2	**WAKE ISLAND Hy**	**35.03**	**207**	T		T	19 09 50.4	
	baz=17,slow=76,SNR=6.1							
H11S3	**WAKE ISLAND Hy**	**35.04**	**207**	T		T	19 09 59.5	
	baz=17,slow=76,SNR=5.5							
EDM	**Edmonton**	**38.16**	**61**	P		**P**	**18 32 29.8**	**-2.1**
YHH	**Holmes Hill**	**43.67**	**71**	P		**P**	**18 33 18.6**	**+1.0**
YHH				IAmb		IAmb	18 33 36.1	
	comp=Z,2.9nm,0.8s							
PD31	**Pinedale Array**	**45.58**	**73**	P		**P**	**18 33 32.4**	**-0.4**
PD31				IAmb		IAmb	18 33 51.6	
	comp=Z,2.7nm,1.0s							
PDAR	**Pinedale Array**	**45.58**	**73**	P		**P**	**18 33 33.8**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=316,slow=2.5,SNR=4.5							
PDAR	**Pinedale Array**	**45.58**	**73**	P		**P**	**18 33 32.0**	**-0.8**
SONM	**Songino Array**	**47.38**	**297**	P		**P**	**18 33 47.3**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=55,slow=11,SNR=2.0							
SONM	**Songino Array**	**47.38**	**297**	IAmb		IAmb	18 34 13.2	
	comp=Z,2.8nm,1.6s							
O20A	**White River Ci**	**47.94**	**75**	P		**P**	**18 33 52.2**	**+0.9**
PV13	**Radium Mtn., P**	**48.82**	**77**	P		**P**	**18 33 59.1**	**+1.1**
SPITS	**Spitsbergen Ar**	**50.51**	**356**	P		**P**	**18 34 09.3**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=0.0,slow=11,SNR=1.4							
ZALV	**Zalesovo Beam**	**54.65**	**314**	PcP		**PcP**	**18 35 43.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=62,slow=3.4,SNR=3.5							
TXAR	**Lajitas Array**	**57.89**	**82**	P		**P**	**18 35 05.0**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=295,slow=4.9,SNR=2.2							
TXAR	**Lajitas Array**	**57.89**	**82**	P		**P**	**18 35 04.3**	**-0.2**
ARCES	**ARCESS Array B**	**58.30**	**351**	P		**P**	**18 35 06.2**	**-0.6**
	comp=Z,2.5nm,1.0s,baz=30,slow=7.4,SNR=5.3							
MKAR	**Makanchi Array**	**60.70**	**309**	P		**P**	**18 35 24.1**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=53,slow=7.4,SNR=2.3							
NOA	**NORSAR Array B**	**67.79**	**355**	P		**P**	**18 36 09.2**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=7.4,slow=6.8,SNR=4.5							
CMAR	**Chiang Mai Arr**	**71.80**	**277**	P		**P**	**18 36 35.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=36,slow=7.8,SNR=3.5							
BRTR	**Keskin Array B**	**85.34**	**336**	P		**P**	**18 37 49.0**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=26,slow=2.6,SNR=5.6							
ASAR	**Alice Springs**	**85.97**	**224**	P		**P**	**18 37 52.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=32,slow=5.5,SNR=3.0							
H03N2	**Juan Fernandez**	**120.38**	**107**	T		T	20 56 04.2	
	baz=317,slow=77,SNR=6.3							
H03N1	**Juan Fernandez**	**120.38**	**107**	T		T	20 56 05.7	
	baz=317,slow=77,SNR=8.1							
H03N3	**Juan Fernandez**	**120.38**	**107**	T		T	20 56 05.0	
	baz=317,slow=77,SNR=7.3							
BOSA	**Boshof**	**151.60**	**314**	PKPbc		**PKiKP**	**18 45 06.7**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=9.9,slow=3.4,SNR=4.4							
BOSA	**Boshof**	**151.60**	**314**			**PKPbc**	**18 45 05.6**	**-0.7**

*NAO **15** 18:26:14.7±4.5,62°06N×2°27E,h5km±28km,ML2.1*
*BER **15** 18:26:16.9±2.5,62°12N×2°20E,h15km±9km,ML2.3, MW2.5,ML2.1(NAO),Confirmed Earthquake*
*BGS **15** 18:26:17.0±0.6,62°05N×2°19E,h10km,ML2.8*
*IDC **15** 18:26:18.5±4.7,62°35N×3°18E,h0km,mb1 3.8/2, mb1mx3.1/50,mbtmp3.7/2,ML2.2/3,Error ellipse: s-maj=45.0km s-min=23.6km az=48.0*

ISC 15 18:26:12.7±0.9,**62°07N**±0°04'×**2°18E**±0°04,**h10**km,**n72,** σ2§**80**/125,**Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FOO	**Floro**	**1.44**	**108**	*eP*		**Pg**	**18 26 41.2**	**+1.0**
FOO				*eS*		**Sg**	**18 26 58.4**	**-0.4**
FOO				IAML			18 26 59.8

	baz=299,slow=22							
NRA0					Lg	Lg	18 28 36.3	
	baz=297,slow=37							
NRA0	**NORESS Array S**	**4.69**	**102**		Pn	**Pn**	**18 27 25.5**	**+2.0**
	baz=283,slow=12							
NRA0					Sn	**Sn**	**18 28 14.5**	**-3.4**
	baz=299,slow=22							
NRA0					Sg	**Sb**	**18 28 36.3**	**+4.9**
	baz=297,slow=37							
BIGH	**Upper Bighouse**	**4.70**	**223**	*eS*		**Sn**	**18 28 16.0**	**-2.0**
BIGH					IAML		18 28 16.9	
	comp=N,22nm,0.1s							
BIGH					IAML		18 28 17.1	
	comp=E,25nm,0.2s							
BIGH	**Upper Bighouse**	**4.70**	**223**	*eP*		**Pn**	**18 27 25.3**	**+1.8**
BIGH				*eS*		**Sn**	**18 28 16.0**	**-2.0**
BIGH					IAML		18 28 17.1	
	comp=E,25nm,0.2s							
MCD	**Coleburn Disti**	**5.27**	**214**	*eP*		**Pn**	**18 27 33.6**	**+2.1**
MCD				*eS*		**Sn**	**18 28 30.5**	**-1.7**
MCD	**Coleburn Disti**	**5.27**	**214**	*eP*		**Pn**	**18 27 33.6**	**+2.1**
MCD				*eS*		**Sn**	**18 28 30.5**	**-1.7**
STRU	**Stroemstad**	**5.38**	**120**	*i* P		**Pn**	**18 27 33.9**	**+1.0**
STRU				*i* S		**Sn**	**18 28 31.4**	**-3.4**
STRU					IAML		18 28 34.3	
	comp=Z,0.9nm,0.1s							
STRU	**Stroemstad**	**5.38**	**120**	*eP*		**Pn**	**18 27 34.5**	**+1.6**
STRU				*eS*		**Sn**	**18 28 31.2**	**-3.6**
DRUM	**Mains of Drumt**	**5.70**	**207**	*eP*		**Pn**	**18 27 39.6**	**+2.4**
DRUM				*eS*		**Sn**	**18 28 39.8**	**-2.8**
DRUM					IAML		18 28 42.2	
	comp=E,30nm,0.2s							
DRUM					IAML		18 28 43.3	
	comp=N,49nm,0.2s							
DRUM	**Mains of Drumt**	**5.70**	**207**	*eP*		**Pn**	**18 27 39.6**	**+2.4**
DRUM				*eS*		**Sn**	**18 28 39.8**	**-2.8**
DRUM					IAML		18 28 42.2	
	comp=E,30nm,0.2s							
KPL	**Plockton**	**6.18**	**223**	*eS*		**Sn**	**18 28 51.2**	**-3.3**
KPL					IAML		18 28 53.3	
	comp=E,3.7nm,0.1s							
KPL					IAML		18 28 53.4	
	comp=N,4.1nm,0.1s							
KPL	**Plockton**	**6.18**	**223**	*eP*		**Pn**	**18 27 45.5**	**+1.6**
KPL				*eS*		**Sn**	**18 28 50.9**	**-3.6**
KPL					IAML		18 28 53.4	
	comp=N,4.1nm,0.1s							
TJOU	**Tjoern**	**6.22**	**126**	*i* P		**Pn**	**18 27 46.4**	**+2.0**
TJOU				*i* S		**Sn**	**18 28 51.2**	**-4.3**
STOK	**Stokkvaagen**	**6.37**	**43**	*eP*		**Pn**	**18 27 47.4**	**+1.0**
STOK				*eS*		**Sn**	**18 28 52.0**	**-7.0**
STOK					IAML		18 29 01.9	
	comp=Z,0.3nm,0.5s							
NBB40	**Tonnes**	**6.48**	**42**	*eP*		**Pn**	**18 27 49.9**	**+2.0**
NBB40				*eS*		**Sn**	**18 28 54.4**	**-7.3**
NBB40					IAML		18 29 01.1	
	comp=Z,4.8nm,0.3s							
INVG	**Invergeldie, C**	**6.50**	**212**	*eP*		**Pn**	**18 27 49.8**	**+1.5**
INVG	**Invergeldie, C**	**6.50**	**212**	*eP*		**Pn**	**18 27 49.8**	**+1.5**
KONS	**Konsvik**	**6.50**	**42**	*eP*		**Pn**	**18 27 49.8**	**+1.5**
KONS				*eS*		**Sn**	**18 28 55.1**	**-7.2**
KONS					IAML		18 29 04.9	
	comp=Z,3.8nm,0.3s							
ESY	**Stoneypath**	**6.65**	**204**	*eP*		**Pn**	**18 27 52.8**	**+2.4**
ESY	**Stoneypath**	**6.65**	**204**	*eP*		**Pn**	**18 27 52.8**	**+2.4**
MOR8	**Moi Rana**	**6.75**	**47**	*eP*		**Pn**	**18 27 55.8**	**+4.1**
MOR8				*eS*		**Sn**	**18 29 06.1**	**-2.5**
MOR8					IAML		18 29 15.1	
	comp=Z,5.0nm,0.3s							
EDI	**Edinburgh**	**6.76**	**207**	*eP*		**Pn**	**18 27 55.2**	**+3.4**
EDI				*eS*		**Sn**	**18 29 05.6**	**-3.2**
ONAU	**Onsala**	**6.79**	**129**	*i* P		**Pn**	**18 27 54.5**	**+2.2**
ONAU				*i* S		**Sn**	**18 29 05.0**	**-4.5**
EBL	**Broad Law**	**6.87**	**205**	*eP*		**Pn**	**18 27 56.2**	**+2.8**
EBL	**Broad Law**	**6.87**	**205**	*eP*		**Pn**	**18 27 56.2**	**+2.8**
BORU	**Boraas**	**6.94**	**125**	*i* P		**Pn**	**18 27 54.8**	**+0.5**
BORU				*i* S		**Sn**	**18 29 08.1**	**-5.1**
LAWE	**Loch Awe, Argy**	**7.01**	**217**	*eS*		**Sn**	**18 29 11.3**	**-3.6**
LAWE	**Loch Awe, Argy**	**7.01**	**217**	*eS*		**Sn**	**18 29 11.3**	**-3.6**
EKA	**Eskdalemuir Ar**	**7.31**	**205**	Pn		**Pn**	**18 28 01.7**	**+2.4**
EKA				Sn		**Sn**	**18 29 20.1**	**-2.2**
EKA	**Eskdalemuir Ar**	**7.31**	**205**	Pn		**Pn**	**18 28 01.7**	**+2.4**
EKA				Sn		**Sn**	**18 29 20.1**	**-2.2**
EDMD	**Edmundbyers**	**7.58**	**198**	*eP*		**Pn**	**18 28 04.2**	**+1.1**
EDMD				*eS*		**Sn**	**18 29 24.5**	**-4.5**
FAUS	**Fauske**	**7.72**	**41**	*eP*		**Pn**	**18 28 05.6**	**+0.6**
FAUS				*eS*		Sn	18 29 23.8	-8.5
FAUS					IAML		18 29 33.0	
	comp=Z,13nm,1.0s							
LOF	**Lofoten**	**7.73**	**33**	*eP*		**Pn**	**18 28 05.7**	**+0.6**
LOF				*eS*		**Sn**	**18 29 25.8**	**-6.7**
LOF					IAML		18 29 34.1	
	comp=Z,5.6nm,0.7s							
GDLE	**Glaisdale, N Y**	**7.83**	**193**	*eP*		**Pn**	**18 28 09.5**	**+3.0**
STEI	**Steigen**	**8.05**	**38**	*eP*		**Pn**	**18 28 10.2**	**+0.7**
STEI				*eS*		Sn	18 29 31.4	-9.1
STEI					IAML		18 29 40.8	
	comp=Z,2.7nm,0.7s							
BJUU	**Bjuv**	**8.20**	**132**	*i* P		Pn	18 28 20.6	+9.1
BJUU				*i* S		Sn	18 29 33.9	-10
DEL	**Delary**	**8.20**	**128**	*i* P		**Pn**	**18 28 16.4**	**+4.8**
DEL				*i* S		**Sn**	**18 29 40.1**	**-4.1**
DEL					IAML		18 29 44.6	
	comp=Z,0.2nm,0.2s							
LUNU	**Lund**	**8.70**	**133**	*i* S		**Sn**	**18 29 51.5**	**-4.8**
BLEU	**Blekinge**	**9.06**	**124**	*i* P		**Pn**	**18 28 26.4**	**+3.1**
BLEU				*i* S		**Sn**	**18 29 57.6**	**-7.7**
FINES	**FINESS Array B**	**11.32**	**83**	Pn		**Pn**	**18 28 52.3**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=286,slow=11,SNR=1.8							
FINES				Sn		**Sn**	**18 30 54.1**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=286,slow=23,SNR=1.7							
ARA0	**ARCESS Array S**	**12.06**	**42**	Pn		**Pn**	**18 29 05.0**	**+0.6**
	baz=230,slow=14							
ARA0				Sn		Sn	18 31 08.2	-10
	baz=242,slow=22							
ARA0	**ARCESS Array S**	**12.06**	**42**	Pn		**Pn**	**18 29 05.0**	**+0.6**
	baz=230,slow=14							
ARA0				Sn		Sn	18 31 08.2	-10
	baz=242,slow=22							
ARCES	**ARCESS Array B**	**12.06**	**42**	Pn		**Pn**	**18 29 04.6**	**+0.2**
	baz=235,slow=13,SNR=7.1							
ARCES				Sn		Sn	18 31 08.3	-10
	baz=238,slow=24,SNR=1.1							

JMA 15 18:26:49.2, 33°.29N×131°.48E, h8km±1km, M2.4, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JBEP	**Beppuamama**	**0.08**	**307**	P	Pg	18 26 51.2		-0.1
JUS	**Usuki**	**0.32**	**135**	P	Pg	18 26 55.5		0.0
JKI	**Kunimi**	**0.35**	**12**	P	Pg	18 26 56.3		+0.2
JKI				*eS*	Sg	18 27 01.1		+0.4

*IDC **15** 18:26:51.8±0.7, 32°.96N×131°.12E, h0km, mb3.8/13, mb1 3.9/16, mb1mx3.8/58, mbtmp3.8/16, ML3.2/3, Error ellipse: s-maj=17.0km s-min=5.5km az=39.0*
*JMA **15** 18:26:52.2, 32°.95N×131°.08E, h10km±1km, M4.0*
JMA Felt IV J1.
*NEIC **15** 18:26:52.9±2.0, 32°.86N±0°.03×130°.92E±0°.05, h10km±1km, mb4.4/20, Error ellipse: s-maj=7.5km s-min=5.4km az=251.0*

ISC 15 18:26:53.2±0.5, 32°.91N±0°.04×130°.96E±0°.05, h12km, n59, σ1§61/63, mb4.2/25, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JNU	**Nakatsue**	**0.23**	**342**	Pg	**Pg**	**18 26 57.0**		**-1.1**
	4μm,0.3s,baz=140,slow=9.1,SNR=100							
JNU				Lg	Lg	18 27 00.3		
	7μm,0.3s,baz=270,slow=20,SNR=36							
JNU	**Nakatsue**	**0.23**	**342**	⇑P	**Pg**	**18 26 57.2**		**-0.9**
JNU				*eS*	**Sg**	**18 27 00.8**		**-0.6**
JNU	**Nakatsue**	**0.23**	**342**	Pg	**Pg**	**18 26 57.1**		**-0.9**
JNU				Sg	**Sg**	**18 27 00.9**		**-0.5**
JSU	**Suzuyama**	**1.46**	**197**		**Pn**	**18 27 15.1**		**-4.3**
JSU					**Pg**	**18 27 21.6**		**+0.4**
JTU	**Tsushima**	**2.08**	**321**		**Pn**	**18 27 27.0**		**-0.8**
JTU					**Sb**	**18 27 56.8**		**+0.2**
JMN	**Monobe**	**2.58**	**71**	Pn	**Pn**	**18 27 35.7**		**+1.0**
JMN				Sn	**Sn**	**18 28 00.3**		**-5.7**
JHS	**Saijyo**	**2.75**	**40**	Pn	**Pn**	**18 27 39.2**		**+2.1**
TJN	**Taejon**	**4.56**	**320**		**Pn**	**18 28 02.3**		**+0.3**
KSRS	**Korea Array**	**5.18**	**332**	Pn	**Pn**	**18 28 10.4**		**-0.1**
	0.8nm,0.3s,baz=147,slow=14,SNR=7.8							
KSRS				Sn	**Sn**	**18 29 06.8**		**-3.2**
	2.6nm,0.3s,baz=148,slow=25,SNR=7.1							
KSRS				Lg	Lg	18 29 33.4		
	4.0nm,0.3s,baz=152,slow=29,SNR=5.7							
KSAR	**Wonju Array Be**	**5.18**	**332**		**Pn**	**18 28 08.1**		**-2.4**
KS19	**Wonju Array Si**	**5.24**	**332**		**Pn**	**18 28 11.4**		**+0.1**
INU	**Inuyama**	**5.58**	**62**	Pn	**Pn**	**18 28 16.8**		**+0.8**
INCN	**Inchon**	**5.78**	**323**	Pn	**Pn**	**18 28 17.9**		**-0.9**
JGF	**Kuroka**	**5.94**	**61**	Pn	**Pn**	**18 28 21.9**		**+1.0**
JOW	**Kunigami**	**6.49**	**202**	Pn	**Pn**	**18 28 31.9**		**+3.4**
	1.5nm,0.3s,baz=57,slow=23,SNR=1.9							
MJB9	**Matsu-Tunnel**	**6.98**	**57**		**Pn**	**18 28 34.5**		**-0.7**
MAJO	**Matsushiro**	**6.98**	**57**		**Pn**	**18 28 34.1**		**-1.1**
MJAR	**Matsushiro Arr**	**6.98**	**57**	Pn	**Pn**	**18 28 35.3**		**0.0**
	0.3nm,0.3s,baz=228,slow=13,SNR=16							
MJAR	**Matsushiro Arr**	**6.98**	**57**	Pn	**Pn**	**18 28 34.3**		**-1.0**
CN2	**Changchun**	**11.70**	**340**	*eP*	**Pn**	**18 29 42.8**		**+2.8**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.3s							
KLR	**Kul'dur**	**16.32**	**2**	Pn	**P**	**18 30 47.5**		**+2.5**
	comp=Z,0.1nm,0.3s,baz=154,slow=7.5,SNR=15							
HHC	**Hu-ho-hao-te**	**17.41**	**303**	*eP*	**Pn**	**18 30 55.5**		**-0.5**
HHC				pmax	pmax			
	comp=Z,13nm,0.7s							
HHC				pmax	pmax			
	comp=Z,6μm,5.7s							
SONM	**Songino Array**	**23.79**	**316**	P	**P**	**18 32 06.6**		**+0.7**
	comp=Z,1.5nm,0.8s,baz=132,slow=11,SNR=7.8							
GTA	**Gaotai**	**25.89**	**293**	*eP*	**P**	**18 32 26.8**		**+1.7**
GTA				sP	sP	18 32 33.0		+2.5
GTA				pmax	pmax			
	comp=Z,3.0nm,1.4s							
PZH	**PanZhiHua**	**26.12**	**264**	P	P	18 32 41.3		+14
PZH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,100nm,4.8s							
CMAR	**Chiang Mai Arr**	**32.10**	**251**	P	**P**	**18 33 22.9**		**+2.6**
	comp=Z,0.8nm,1.0s,baz=63,slow=5.7,SNR=5.0							
WMQ	**Urumqi**	**35.27**	**301**	*eP*	**P**	**18 33 50.3**		**+2.5**
SMY	**Shemya**	**36.63**	**44**	P	**P**	**18 33 58.5**		**-0.7**
TIXI	**Tiksi**	**38.82**	**359**	P	**P**	**18 34 18.3**		**+0.8**
	comp=Z,1.0nm,0.2s,baz=88,slow=23,SNR=3.9							
MKAR	**Makanchi Array**	**39.24**	**305**	P	**P**	**18 34 22.1**		**+0.6**
	comp=Z,0.4nm,0.6s,baz=97,slow=10.0,SNR=5.1							
MKAR	**Makanchi Array**	**39.24**	**305**	P	**P**	**18 34 20.9**		**-0.5**
KURK	**Kurchatov**	**41.92**	**311**	P	**P**	**18 34 42.7**		**-0.8**
MTN	**Manton Dam**	**45.49**	**180**	P	**P**	**18 35 11.7**		**-0.8**
MTN				lAmb	lAmb	18 35 48.1		
	comp=Z,7.2nm,1.2s							
BRVK	**Borovoye**	**47.18**	**314**	P	**P**	**18 35 25.4**		**0.0**
BRVK				lAmb	lAmb	18 35 32.8		
	comp=Z,6.4nm,1.4s							
KK31	**Karatay Array**	**47.78**	**301**	P	**P**	**18 35 30.2**		**-0.1**
KK31				lAmb	lAmb	18 35 33.3		
	comp=Z,2.7nm,0.8s							
KKAR	**Karatay Array**	**47.78**	**301**	P	**P**	**18 35 29.8**		**-0.5**
KKAR	**Karatay Array**	**47.78**	**301**	P	**P**	**18 35 30.0**		**-0.4**
KKAR				lAmb	lAmb	18 35 33.3		
	comp=Z,2.7nm,0.8s							
COEN	**Coen**	**48.04**	**164**	P	**P**	**18 35 31.1**		**-1.4**
KNRA	**Kununurra**	**48.35**	**183**	P	**P**	**18 35 34.1**		**-0.8**
ANM	**Nome**	**49.55**	**31**	P	**P**	**18 35 44.0**		**+0.5**
CHGR	**Chuyangaron**	**49.64**	**295**	P	**P**	**18 35 43.9**		**-0.9**
CHGR				lAmb	lAmb	18 35 48.8		
	comp=Z,12nm,1.0s							
FITZ	**Fitzroy Crossi**	**50.97**	**187**	P	**P**	**18 35 56.8**		**+2.0**
	comp=Z,0.9nm,0.7s,baz=24,slow=10.0,SNR=1.8							
WB0	**Warramunga Arr**	**52.48**	**176**	P	**P**	**18 36 05.8**		**-0.3**
WB0				lAmb	lAmb	18 36 12.8		
	comp=Z,8.7nm,1.4s							
WRA	**Warramunga Arr**	**52.65**	**176**	P	**P**	**18 36 06.8**		**-0.5**
	comp=Z,0.4nm,0.7s,baz=354,slow=7.8,SNR=5.8							
WRA	**Warramunga Arr**	**52.65**	**176**	P	**P**	**18 36 07.6**		**+0.3**
ABKAR	**Akbulak array**	**54.01**	**310**	P	**P**	**18 36 13.7**		**-3.3**
ABKAR				lAmb	lAmb	18 36 22.3		
	comp=Z,2.3nm,0.7s							
J20K	**Nowinta River**	**54.40**	**31**	P	**P**	**18 36 20.0**		**+0.3**
J20K				lAmb	lAmb	18 36 24.5		
	comp=Z,3.6nm,1.2s							
H23K	**Yukon River**	**56.23**	**29**	P	**P**	**18 36 32.7**		**-0.2**
H23K				lAmb	lAmb	18 37 02.6		
	comp=Z,5.3nm,1.4s							
ASAR	**Alice Springs**	**56.33**	**177**	P	**P**	**18 36 35.0**		**+0.9**
	comp=Z,0.8nm,0.9s,baz=9,4,slow=13,SNR=12							
ASAR	**Alice Springs**	**56.33**	**177**	P	**P**	**18 36 32.0**		**-2.0**
ILAR	**Eielson Array**	**57.47**	**30**	P	**P**	**18 36 42.0**		**+0.4**
	comp=Z,0.4nm,0.8s,baz=277,slow=7.2,SNR=2.6							
BCAR	**Beaver Creek A**	**60.02**	**32**	P	**P**	**18 37 00.5**		**+1.0**
C36M	**Paulatuk**	**64.63**	**22**	P	**P**	**18 37 30.7**		**+0.5**
C36M				lAmb	lAmb	18 37 33.1		
	comp=Z,3.0nm,0.9s							
KBZ	**Khabaz**	**66.86**	**308**	P	**P**	**18 37 45.6**		**+0.6**
	comp=Z,4.1nm,0.9s,baz=120,slow=2.7,SNR=8.3							
FINES	**FINESS Array B**	**68.20**	**330**	P	**P**	**18 37 52.4**		**-1.1**
	comp=Z,0.5nm,0.4s,baz=72,slow=6.2,SNR=7.8							
RES	**Resolute Bay**	**68.56**	**12**	P	**P**	**18 37 55.2**		**+0.1**
	comp=Z,1.7nm,1.2s,baz=291,slow=5.4,SNR=3.6							
RES	**Resolute Bay**	**68.56**	**12**	lAmb	lAmb	18 38 01.3		
	comp=Z,3.7nm,1.6s							
YKA	**Yellowknife Ar**	**71.50**	**26**	P	**P**	**18 38 13.7**		**+0.2**
	comp=Z,0.7nm,0.9s,baz=301,slow=5.9,SNR=10							
BRTR	**Keskin Array B**	**74.84**	**308**	P	**P**	**18 38 34.8**		**+1.0**
	comp=Z,2.3nm,0.9s,baz=49,slow=4.4,SNR=7.7							

JMA 15 18:32:13.1, 32°.78N×130°.77E, h14km±1km, M2.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JIU3	**Izumi3**	**0.23**	**171**	P	Pg	18 32 18.3		+0.1
JIU3				S	Sg	18 32 21.9		+0.3
JTA	**Tamana**	**0.27**	**313**	P	Pg	18 32 18.9		0.0
JTA				*eS*	Sg	18 32 22.8		0.0
JZO	**Okuchi**	**0.65**	**193**	P	Pg	18 32 25.7		-0.2
JZO				S	Sg	18 32 34.5		-0.1

*IDC **15** 18:32:41.0±0.9, 32°.87N×130°.90E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.4/62, mbtmp3.5/9, ML2.9/2, Error ellipse: s-maj=28.3km s-min=6.1km az=88.0*
*JMA **15** 18:32:41.1, 32°.98N×131°.09E, h11km±1km, M3.8*
JMA Felt III J1.

ISC 15 18:32:42.4±1.2, 32°.95N±0°.05×131°.03E±0°.05, h6km±9km, n15, σ1§69/18, mb3.4/7, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JNU	**Nakatsue**	**0.21**	**324**	Pg	**Pg**	**18 32 45.8**		**-0.7**
	3μm,0.3s,baz=143,slow=20,SNR=107							
JNU				Lg	Lg	18 32 49.0		
	3μm,0.3s,baz=138,slow=6.9,SNR=20							
JNU	**Nakatsue**	**0.21**	**324**	⇑P	**Pg**	**18 32 46.1**		**-0.5**
JNU				S	**Sg**	**18 32 49.5**		**+0.1**
JTA	**Tamana**	**0.42**	**272**	P	**Pg**	**18 32 50.4**		**0.0**
JTA				S	**Sb**	**18 32 56.6**		**-2.2**
JIU3	**Izumi3**	**0.44**	**204**	P	**Pg**	**18 32 50.8**		**0.0**
JUS	**Usuki**	**0.62**	**79**	P	Pg	18 32 51.7		-2.6
JUS				S	**Sg**	**18 32 59.6**		**-2.7**
KSRS	**Korea Array**	**5.16**	**331**	Pn	**Pn**	**18 33 59.0**		**-1.1**
	0.3nm,0.3s,baz=148,slow=14,SNR=3.8							
KSRS				Pg	**Pb**	**18 34 15.7**		**+2.6**
	2.0nm,0.3s,baz=144,slow=17,SNR=8.2							
KSRS				Lg	Lg	18 35 23.4		
	2.0nm,0.3s,baz=150,slow=30,SNR=6.2							
JOW	**Kunigami**	**6.55**	**202**	Pn	**Pn**	**18 34 21.2**		**+1.9**
	1.4nm,0.3s,baz=94,slow=13,SNR=2.7							
MJAR	**Matsushiro Arr**	**6.91**	**57**	Pn	**Pn**	**18 34 26.1**		**+1.8**
	0.3nm,0.3s,baz=246,slow=14,SNR=9.8							
SONM	**Songino Array**	**23.80**	**316**	P	**P**	**18 37 56.5**		**+0.5**
	0.5nm,0.6s,baz=133,slow=10,SNR=3.9							
MKAR	**Makanchi Array**	**39.26**	**305**	P	**P**	**18 40 12.2**		**+0.5**
	0.2nm,0.5s,baz=89,slow=9.1,SNR=2.2							
WRA	**Warramunga Arr**	**52.69**	**176**	P	**P**	**18 41 55.9**		**-1.9**
	0.3nm,0.6s,baz=355,slow=8.0,SNR=2.0							
ASAR	**Alice Springs**	**56.37**	**177**	P	**P**	**18 42 23.2**		**-1.3**
	0.4nm,0.6s,baz=5.2,slow=11,SNR=8.9							
KBZ	**Khabaz**	**66.87**	**308**	P	**P**	**18 43 34.6**		**-0.6**
	2.0nm,0.9s,baz=42,slow=12,SNR=4.6							
YKA	**Yellowknife Ar**	**71.43**	**26**	P	**P**	**18 44 04.3**		**+1.0**
	0.2nm,0.7s,baz=302,slow=5.9,SNR=4.9							
BRTR	**Keskin Array B**	**74.86**	**308**	P	**P**	**18 44 21.9**		**-2.2**
	0.9nm,0.9s,baz=38,slow=5.9,SNR=3.1							

*IDC **15** 18:34:24.9±1.5, 32°.79N×130°.28E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.2/60, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=51.9km s-min=31.9km az=90.0*
*JMA **15** 18:34:27.7, 32°.70N×130°.77E, h9km±1km, M3.7*

ISC 15 18:34:27.2±1.0, 32°.66N±0°.06×130°.6E±0°.1, h11km, n7, σ1§29/10, mb3.4/3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JIU3	**Izumi3**	**0.20**	**121**	P	**Pg**	**18 34 31.1**		**-0.5**
JIU3				S	**Sg**	**18 34 33.6**		**-0.9**
JTA	**Tamana**	**0.31**	**349**	P	**Pb**	**18 34 34.4**		**-0.5**
JTA				*eS*	**Sg**	**18 34 39.2**		**+1.4**
JTZ	**Takazaki**	**0.85**	**151**	P	**Pg**	**18 34 44.3**		**+0.6**
JTZ				S	**Sg**	**18 34 55.9**		**+1.0**
MJAR	**Matsushiro Arr**	**7.37**	**56**	Pn	**Pn**	**18 36 16.1**		**+1.4**
	0.1nm,0.3s,baz=242,slow=14,SNR=2.1							
WRA	**Warramunga Arr**	**52.42**	**176**	P	**P**	**18 43 39.8**		**0.0**
	0.5nm,1.0s,baz=354,slow=8.1,SNR=1.8							
ASAR	**Alice Springs**	**56.09**	**176**	P	**P**	**18 44 07.4**		**+0.9**
	0.2nm,0.7s,baz=6.9,slow=8.5,SNR=2.9							
FINES	**FINESS Array B**	**68.33**	**330**	P	**P**	**18 45 26.1**		**-2.1**
	3.4nm,1.1s,baz=69,slow=7.6,SNR=3.3							

*NAO **15** 18:34:52.5±2.0, 79°.58N×3°.99E, ML3.4*
*IDC **15** 18:34:54.4±0.8, 79°.53N×4°.07E, h0km, mb3.6/7, mb1 3.7/12, mb1mx3.5/56, mbtmp3.6/12, ML2.9/4, Error ellipse: s-maj=26.3km s-min=13.4km az=31.0*
*BER **15** 18:34:55.3±2.6, 79°.36N×3°.92E, h10km, ML2.9, MW3.0, ML3.4(NAO), Confirmed Earthquake*
*DNK **15** 18:34:56.2±2.1, 79°.53N×4°.23E, h36km±26km, ML2.4*
*IEPN **15** 18:34:57.0, 79°.30N×4°.91E, h10km*
*KOLA **15** 18:35:02.3, 79°.52N×7°.73E, h0km, ML2.6*

ISC 15 18:34:54.4±0.6, 79°.34N±0°.06×4°.17E±0°.04, h10km, n51, σ3§26/77, mb3.6/7, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KBS	**Kingsbay**	**1.53**	**102**	Pn	**Pn**	**18 35 21.2**		**-0.5**
KBS				Sn	**Sn**	**18 35 38.4**		**-3.2**
KBS	**Kingsbay**	**1.53**	**102**	*i* P	**Pn**	**18 35 20.2**		**-1.5**
KBS				*i* S	**Sn**	**18 35 38.9**		**-2.7**
KBS	**Kingsbay**	**1.53**	**102**	⇑*i*P	**Pn**	**18 35 21.2**		**-0.5**
KBS				*eS*	**Sn**	**18 35 38.8**		**-2.8**
KBS				IAML		18 35 49.4		
	comp=Z,213nm,0.3s							
KBS	**Kingsbay**	**1.53**	**102**	⇑*i*P	**Pn**	**18 35 21.2**		**-0.5**
KBS				*eS*	**Sn**	**18 35 38.9**		**-2.7**
BRBB	**Barentsburg B**	**2.33**	**117**	Pn	**Pn**	**18 35 32.9**		**+0.1**
BRBB				Sn	**Sn**	**18 35 59.9**		**-1.5**
BRBB	**Barentsburg B**	**2.33**	**117**	Pn	**Pn**	**18 35 32.9**		**+0.1**
BRBB				Sn	**Sn**	**18 35 59.9**		**-1.5**
BRBA	**Barentsburg A**	**2.36**	**118**	Pn	**Pn**	**18 35 33.2**		**+0.1**
BRBA				Sn	**Sn**	**18 36 00.2**		**-1.8**
BRBA	**Barentsburg A**	**2.36**	**118**	*eP*	**Pn**	**18 35 34.3**		**+1.2**
BRBA				*eS*	**Sn**	**18 36 00.2**		**-1.8**
BRBA				IAML		18 36 03.1		
	comp=Z,101nm,0.4s							
SPA0	**Spitsbergen Ar**	**2.66**	**110**	Pn	**Pn**	**18 35 37.9**		**+0.6**
	baz=310,slow=12							
SPA0				Sn	**Sn**	**18 36 08.4**		**-1.1**
	baz=314,slow=56							
SPA0	**Spitsbergen Ar**	**2.66**	**110**	Pn	**Pn**	**18 35 37.9**		**+0.6**
	baz=310,slow=12							
SPA0				Sn	**Sn**	**18 36 08.4**		**-1.1**
	baz=314,slow=56							
SPA0				IAML		18 36 16.8		
	comp=Z,113nm,0.8s							
SPA0	**Spitsbergen Ar**	**2.66**	**110**	P	**Pn**	**18 35 37.8**		**+0.6**
SPA0				*i* S	**Sn**	**18 36 07.6**		**-1.8**
SPITS	**Spitsbergen Ar**	**2.66**	**110**	Pn	**Pn**	**18 35 37.

comp=Z,0.2nm,0.4s,baz=348,slow=6.1,SNR=3.5
CMAR Chiang Mai Arr 72.88 82 P **P** **18 46 24.6 +1.4**
comp=Z,0.3nm,0.8s,baz=2.7,slow=5.7,SNR=2.9
MAW Mawson 150.51 138 PKPbc **PKiKP** **18 54 44.2 -0.6**
comp=Z,1.3nm,0.6s,baz=45,slow=1.4,SNR=1.3

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*DJA **15** 18:40:42.3±1.0, 13°N±16°×14°8E±1°1, h10km, M5.0/6, mB7.7/1, mb5.0/6, MLv5.0/1, Mw(mB)7.8/1*
*NEIC **15** 18:41:00.1±2.2, 12°.40N±0°.07×145°.0E±0°.1, h23km±5km, mb4.7/85, Error ellipse: s-maj=14.4km s-min=10.1km az=84.0*
*IDC **15** 18:41:03.0±1.7, 12°.48N×144°.91E, h46km±14km, mb3.9/16, mb1 4.0/16, mb1mx3.7/55, mbtmp4.1/16, Error ellipse: s-maj=24.3km s-min=12.4km az=103.0*
ISC 15 18:41:01.0±0.4,**12°.40N**±0°.05×**145°.01E**±0°.08,**h38**km,**n120,**
σ1§**13**/120,**mb4.6**/57,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.20**	**353**	P	**Pn**	**18 41 21.2**	**0.0**
	317nm,0.3s,baz=160,slow=6.9,SNR=147						
GUMO				S	**Sn**	**18 41 36.7**	**+0.4**
	448nm,0.3s,baz=21,slow=20,SNR=7.9						
PATS	**Pohnpei**	**14.22**	**112**	Pn	**Pn**	**18 44 17.1**	**-2.9**
MANU	**Manus Island**	**14.53**	**171**		**Pn**	**18 44 23.6**	**-0.7**
JCJ	**Chichijima**	**14.86**	**350**		**Pn**	**18 44 28.3**	**-0.2**
RABL	**Rabaul**	**17.95**	**156**	P	**Pn**	**18 45 06.3**	**-1.5**
JOW	**Kunigami**	**21.29**	**315**	P	**P**	**18 45 46.0**	**+1.6**
	14nm,0.6s,baz=160,slow=7.0,SNR=4.4						
JOW	**Kunigami**	**21.29**	**315**	P	**P**	**18 45 43.8**	**-0.7**
JOW				IAmb	IAmb	18 46 15.6	
	comp=Z,80nm,1.6s						
MJAR	**Matsushiro Arr**	**24.81**	**347**	P	**P**	**18 46 17.5**	**-2.1**
MAJO	**Matsushiro**	**24.81**	**347**	P	**P**	**18 46 18.4**	**-1.3**
MJB9	**Matsu-Tunnel**	**24.82**	**347**	P	**P**	**18 46 18.1**	**-1.6**
YHNB	**Yeheng**	**25.47**	**302**	P	**P**	**18 46 24.8**	**-1.0**
SSLB	**Suanglung**	**25.48**	**300**	P	**P**	**18 46 25.1**	**-0.7**
SSLB				IAmb	IAmb	18 46 27.7	
	comp=Z,25nm,0.9s						
JMM	**Marumori**	**25.64**	**352**	P	**P**	**18 46 26.3**	**-0.8**
JMM				IAmb	IAmb	18 46 58.9	
	comp=Z,34nm,1.2s						
LUWI	**Luwuk**	**25.80**	**240**	P	**P**	**18 46 27.5**	**-1.4**
JSD	**Sado**	**26.24**	**348**	P	**P**	**18 46 31.7**	**-0.8**
TOLI2	**Tolitoli**	**26.51**	**247**	P	**P**	**18 46 32.3**	**-3.0**
MTN	**Manton Dam**	**28.61**	**209**	P	**P**	**18 46 55.0**	**+1.0**
KNRA	**Kununurra**	**32.20**	**210**	P	**P**	**18 47 27.0**	**+1.4**
KNRA				IAmb	IAmb	18 47 31.0	
	comp=Z,8.7nm,0.8s						
WB0	**Warramunga Arr**	**33.63**	**198**	P	**P**	**18 47 38.9**	**+0.8**
WB0				IAmb	IAmb	18 47 39.7	
	comp=Z,5.3nm,0.7s						
WR0	**Warramunga Arr**	**33.77**	**198**	P	**P**	**18 47 40.0**	**+0.7**
WR0				IAmb	IAmb	18 47 40.6	
	comp=Z,5.1nm,0.8s						
WRAB	**Tennant Creek**	**33.80**	**198**	P	**P**	**18 47 40.3**	**+0.7**
WRAB				IAmb	IAmb	18 47 44.7	
	comp=Z,7.4nm,0.7s						
WB2	**Warramunga Arr**	**33.81**	**198**	P	**P**	**18 47 40.6**	**+0.9**
WB2				IAmb	IAmb	18 47 44.8	
	comp=Z,6.9nm,0.7s						
WRA	**Warramunga Arr**	**33.81**	**198**	P	**P**	**18 47 40.5**	**+0.8**
	comp=Z,4.7nm,0.7s,baz=22,slow=9.8,SNR=64						
WRA	**Warramunga Arr**	**33.81**	**198**	P	**P**	**18 47 38.3**	**-1.4**
SBUM	**Sibu**	**33.94**	**256**	P	**P**	**18 47 41.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**35.83**	**213**	P	**P**	**18 47 58.7**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=18,slow=5.0,SNR=6.2						
FITZ	**Fitzroy Crossi**	**35.83**	**213**	P	**P**	**18 47 58.1**	**+0.9**
JAGI	**Jajag, Banyuwa**	**37.02**	**237**	P	**P**	**18 48 07.1**	**-0.4**
JAGI				IAmb	IAmb	18 48 47.5	
	comp=Z,16nm,1.0s						
AS31	**Alice Springs**	**37.45**	**197**	P	**P**	**18 48 12.2**	**+1.2**
ASAR	**Alice Springs**	**37.45**	**197**	P	**P**	**18 48 11.9**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=23,slow=9.8,SNR=54						
KLR	**Kul'dur**	**38.33**	**346**	P	**P**	**18 48 17.6**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=141,slow=13,SNR=4.8						
UBPT	**Khong Chiam**	**38.47**	**279**	P	**P**	**18 48 19.3**	**-0.4**
UBPT				IAmb	IAmb	18 48 52.6	
	comp=Z,20nm,1.7s						
UGM	**Wanagama**	**39.78**	**241**	P	**P**	**18 48 32.6**	**+1.9**
MBWA	**Marble Bar**	**41.58**	**217**	P	**P**	**18 48 45.8**	**+0.4**
MBWA				IAmb	IAmb	18 49 33.2	
	comp=Z,29nm,1.6s						
PSA00	**Pilbara Seismi**	**41.84**	**216**	P	**P**	**18 48 48.8**	**+1.3**
PSA00	**Pilbara Seismi**	**41.84**	**216**	P	**P**	**18 48 48.3**	**+0.8**
PSA00				IAmb	IAmb	18 48 49.8	
	comp=Z,8.7nm,0.8s						
CM31	**Chiang Mai Arr**	**44.73**	**284**	P	**P**	**18 49 10.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**44.73**	**284**	P	**P**	**18 49 12.1**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=80,slow=6.8,SNR=12						
CMAR				PcP	**PcP**	**18 50 52.9**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=90,slow=3.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	**44.73**	**284**	P	**P**	**18 49 11.1**	**+0.1**
KNTN	**Kanton**	**45.55**	**106**	P	**P**	**18 49 17.1**	**-0.4**
BBOO	**Buckleboo**	**45.76**	**191**	P	**P**	**18 49 19.5**	**+0.6**
BBOO				IAmb	IAmb	18 49 22.6	
	comp=Z,17nm,1.4s						
SONM	**Songino Array**	**47.79**	**325**	P	**P**	**18 49 34.4**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=127,slow=8.4,SNR=2.6						
SONM	**Songino Array**	**47.79**	**325**	IAmb	IAmb	18 49 41.5	
	comp=Z,3.4nm,1.5s						
GSI	**Gunungsitoli**	**48.28**	**261**	P	**P**	**18 49 36.7**	**-2.2**
MORW	**Morawa**	**49.82**	**214**	P	**P**	**18 49 50.3**	**-0.1**
YAK	**Yakutsk**	**50.78**	**351**	P	**P**	**18 49 56.6**	**-0.6**
	comp=Z,4.6nm,0.5s,baz=72,slow=0.9,SNR=4.6						
SHL	**Shillong**	**51.61**	**293**	P	**P**	**18 50 03.2**	**-1.1**
SHL				IAmb	IAmb	18 50 08.2	
	comp=Z,9.9nm,0.7s						
TIXI	**Tiksi**	**60.03**	**354**	P	**P**	**18 51 02.7**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=90,slow=20,SNR=12						
TIXI	**Tiksi**	**60.03**	**354**	IAmb	IAmb	18 51 08.7	
	comp=Z,3.1nm,0.8s						
MLZ	**Mavora Lakes**	**61.17**	**162**	P	**P**	**18 51 13.5**	**+1.8**
MKAR	**Makanchi Array**	**62.45**	**316**	P	**P**	**18 51 21.2**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=91,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**62.45**	**316**	P	**P**	**18 51 20.4**	**-0.1**
MAKZ	**Makanchi**	**62.66**	**316**	P	**P**	**18 51 23.2**	**+1.3**
MAKZ				IAmb	IAmb	18 51 40.6	
	comp=Z,7.8nm,1.6s						
O18K	**Koktuh Hills**	**64.38**	**29**	P	**P**	**18 51 32.1**	**-0.9**
O18K				IAmb	IAmb	18 52 11.8	
	comp=Z,17nm,1.4s						
SVW2	**Sparrevohn**	**64.66**	**28**	P	**P**	**18 51 34.9**	**+0.1**
N19K	**Bonanza Creek**	**65.06**	**28**	P	**P**	**18 51 39.1**	**+1.6**
TTA	**Tatalina**	**65.16**	**26**	P	**P**	**18 51 37.8**	**-0.3**
TTA				IAmb	IAmb	18 51 48.2	
	comp=Z,5.8nm,1.4s						
P19K	**Oil Pt**	**65.26**	**30**	P	**P**	**18 51 39.2**	**+0.5**
KURK	**Kurchatov**	**65.58**	**320**	P	**P**	**18 51 39.9**	**-1.0**
K20K	**Telida**	**66.14**	**26**	P	**P**	**18 51 45.5**	**+1.2**
K20K				IAmb	IAmb	18 51 51.1	
	comp=Z,6.6nm,1.3s						
CNPM	**China Poot**	**66.19**	**30**	P	**P**	**18 51 45.4**	**+0.7**
J20K	**Nowinta River**	**66.41**	**25**	P	**P**	**18 51 47.2**	**+1.2**
J20K				IAmb	IAmb	18 52 08.9	
	comp=Z,6.5nm,1.2s						
BRLK	**Bradley Lake**	**66.43**	**30**	P	**P**	**18 51 46.7**	**+0.5**
PPLA	**Purkeypile**	**66.78**	**26**	P	**P**	**18 51 49.5**	**+0.9**
PPLA				IAmb	IAmb	18 52 01.7	
	comp=Z,13nm,1.3s						
CAST	**Castle Rocks**	**67.00**	**26**	P	**P**	**18 51 51.3**	**+1.4**
CAST				IAmb	IAmb	18 51 55.5	
	comp=Z,8.4nm,1.3s						
IMAR	**Indian Mountai**	**67.23**	**23**	P	**P**	**18 51 52.6**	**+1.4**
RC01	**Rabbit Creek A**	**67.34**	**29**	P	**P**	**18 51 53.0**	**+1.0**
AAK	**Ala-Archa**	**67.40**	**311**	P	**P**	**18 51 53.3**	**+0.4**
H21K	**Melozitna Rive**	**67.47**	**23**	P	**P**	**18 51 54.1**	**+1.3**
H21K				IAmb	IAmb	18 52 14.0	
	comp=Z,6.5nm,1.5s						
KTH	**Kantishna Hill**	**67.54**	**26**	P	**P**	**18 51 54.5**	**+1.2**
KTH				IAmb	IAmb	18 52 18.0	
	comp=Z,18nm,1.7s						
I21K	**Tanana**	**67.63**	**24**	P	**P**	**18 51 55.3**	**+1.5**
I21K				IAmb	IAmb	18 52 07.8	
	comp=Z,16nm,1.8s						
BPAW	**Bear Paw Mtn.**	**67.68**	**25**	P	**P**	**18 51 55.1**	**+0.9**
TRF	**Thorofare Moun**	**67.78**	**26**	P	**P**	**18 51 53.9**	**-1.1**
TRF				IAmb	IAmb	18 52 16.7	
	comp=Z,16nm,1.7s						
GHO	**Glory Hole Cre**	**67.91**	**28**	P	**P**	**18 51 57.0**	**+1.4**
PWL	**Port Wells**	**67.94**	**29**	P	**P**	**18 51 56.5**	**+0.6**
NIL	**Nilore**	**68.12**	**301**	P	**P**	**18 51 57.4**	**-0.1**
SML	**Sawmill**	**68.19**	**28**	P	**P**	**18 51 58.1**	**+0.7**
SML				IAmb	IAmb	18 52 18.6	
	comp=Z,12nm,1.0s						
RND	**Reindeer**	**68.38**	**26**	P	**P**	**18 51 57.4**	**-1.2**
RND				IAmb	IAmb	18 52 05.0	
	comp=Z,15nm,1.7s						
MCK	**McKinley**	**68.44**	**26**	P	**P**	**18 51 59.5**	**+0.6**
MCK				IAmb	IAmb	18 52 46.1	
	comp=Z,11nm,1.6s						
FID	**Port Fidalgo**	**68.80**	**29**	P	**P**	**18 52 02.4**	**+1.2**
WRH	**Wood River Hil**	**69.00**	**25**	P	**P**	**18 52 02.9**	**+0.6**
WRH				IAmb	IAmb	18 52 08.0	
	comp=Z,3.5nm,0.8s						
MDM	**Murphy Dome**	**69.08**	**25**	P	**P**	**18 52 04.8**	**+2.0**
H24K	**Noodor Dome**	**69.46**	**24**	P	**P**	**18 52 05.2**	**-0.1**
H24K				IAmb	IAmb	18 52 11.2	
	comp=Z,5.1nm,1.3s						
IL31		**69.58**	**25**	P	**P**	**18 52 05.9**	**0.0**
IL31				IAmb	IAmb	18 52 10.3	
	comp=Z,6.5nm,1.2s						
ILAR	**Eielson Array**	**69.58**	**25**	P	**P**	**18 52 06.0**	**0.0**
	comp=Z,1.3nm,0.6s,baz=251,slow=5.8,SNR=12						
ILAR	**Eielson Array**	**69.58**	**25**	P	**P**	**18 52 05.6**	**-0.4**
TOLK	**Toolik Lake Re**	**69.67**	**21**	P	**P**	**18 52 08.2**	**+1.8**
TOLK				IAmb	IAmb	18 52 21.9	
	comp=Z,9.5nm,1.6s						
J25K	**Salcha River,**	**70.17**	**25**	P	**P**	**18 52 10.5**	**+0.8**
J25K				IAmb	IAmb	18 52 27.0	
	comp=Z,6.7nm,1.4s						
DOT	**Dot Lake**	**70.53**	**27**	P	**P**	**18 52 13.4**	**+1.6**
DOT				IAmb	IAmb	18 52 15.6	
	comp=Z,23nm,1.8s						
SCRK	**Sand Creek**	**70.63**	**26**	P	**P**	**18 52 13.6**	**+1.1**
SCRK				IAmb	IAmb	18 52 52.1	
	comp=Z,8.2nm,1.5s						
BRVK	**Borovoye**	**71.01**	**322**	P	**P**	**18 52 13.9**	**-1.0**
GRNC	**Granite Creek**	**71.08**	**30**	P	**P**	**18 52 16.2**	**+0.8**
BMAR	**Burnt Mountain**	**71.14**	**23**	P	**P**	**18 52 16.7**	**+1.2**
M27K	**Edge Creek, AK**	**71.27**	**28**	P	**P**	**18 52 15.2**	**-1.3**
M27K				IAmb	IAmb	18 52 22.4	
	comp=Z,14nm,1.6s						
CTGM	**Chitina Glacie**	**71.32**	**30**	P	**P**	**18 52 17.1**	**+0.3**
TABL	**Table Mountain**	**71.34**	**30**	P	**P**	**18 52 15.7**	**-1.3**
L27K	**Beaver Creek,**	**71.41**	**27**	P	**P**	**18 52 16.9**	**-0.3**
BCAR	**Beaver Creek A**	**71.43**	**27**	P	**P**	**18 52 17.5**	**+0.1**
HYT	**Haines Junctio**	**73.16**	**30**	P	**P**	**18 52 28.7**	**+0.9**
HYT				IAmb	IAmb	18 52 36.1	
	comp=Z,4.6nm,0.9s						
M30M	**Minto, Yukon**	**73.64**	**28**	P	**P**	**18 52 30.7**	**+0.2**
M30M				IAmb	IAmb	18 52 50.4	
	comp=Z,11nm,1.6s						
N31M	**Braeburn, Yuko**	**74.04**	**29**	P	**P**	**18 52 35.0**	**+2.2**
N31M				IAmb	IAmb	18 53 10.3	
	comp=Z,12nm,1.2s						
INK	**Inuvik**	**75.41**	**22**	P	**P**	**18 52 42.3**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=285,slow=9.2,SNR=3.9						
INK	**Inuvik**	**75.41**	**22**	P	**P**	**18 52 41.3**	**+0.8**
DIB	**Dawson Inlet,**	**75.70**	**38**	P	**P**	**18 52 41.8**	**-0.7**
ABKAR	**Akbulak array**	**77.52**	**318**	P	**P**	**18 52 52.8**	**0.0**
YKA	**Yellowknife Ar**	**83.85**	**27**	P	**P**	**18 53 27.8**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=285,slow=5.1,SNR=15						
YKA	**Yellowknife Ar**	**83.85**	**27**	P	**P**	**18 53 27.4**	**+1.0**
EUNU	**Eureka**	**84.02**	**8**	P	**P**	**18 53 28.9**	**+1.7**
EUNU				IAmb	IAmb	18 53 34.1	
	comp=Z,5.6nm,1.1s						
PINE	**Pine Mountain**	**84.42**	**47**	P	**P**	**18 53 31.8**	**+1.8**
PINE				IAmb	IAmb	18 53 37.2	
	comp=Z,5.1nm,0.8s						
B08A	**Colville Reser**	**84.56**	**42**	P	**P**	**18 53 32.0**	**+1.5**
B08A				IAmb	IAmb	18 53 49.1	
	comp=Z,15nm,1.7s						
NVAR	**Mina Array Bea**	**87.55**	**51**	P	**P**	**18 53 48.2**	**+2.6**
	comp=Z,1.1nm,0.7s,baz=276,slow=4.1,SNR=3.3						
ARCES	**ARCESS Array B**	**88.26**	**342**	P	**P**	**18 53 48.0**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=23,slow=4.9,SNR=1.4						
FINES	**FINESS Array B**	**92.30**	**335**	P	**P**	**18 54 06.1**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=48,slow=5.7,SNR=7.5						
PLCA	**Paso Flores**	**137.95**	**139**	PKP	**PKiKP**	**19 00 23.9**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=160,slow=7.5,SNR=3.3						
PLCA	**Paso Flores**	**137.95**	**139**		**PKPdf**	**19 00 22.4**	**+0.4**
DBIC	**Dimbokro**	**144.56**	**301**	PKP	**PKPdf**	**19 00 35.2**	**+0.6**
	comp=Z,4.7nm,0.7s,baz=15,slow=4.1,SNR=5.9						
KIC	**Kosan Boka**	**144.63**	**300**	*e*P	**PKPdf**	**19 00 34.7**	**0.0**
	comp=Z,6.3nm,0.5s						
TIC	**Toumodi**	**144.71**	**301**	*e*P	**PKPdf**	**19 00 35.4**	**+0.5**
LIC	**Lamto**	**144.94**	**300**	*e*P	**PKPdf**	**19 00 36.8**	**+1.6**
	comp=Z,31nm,1.0s						
LPAZ	**La Paz**	**147.68**	**101**	PKPbc	**PKPab**	**19 00 45.9**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=188,slow=5.2,SNR=6.0						

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*IDC **15** 18:42:33.2±1.2, 12°.36N×145°.10E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.6/55, mbtmp3.8/7, Error ellipse: s-maj=43.8km s-min=21.8km az=97.0*
*NEIC **15** 18:42:34.6±1.1, 12°.36N±0°.09×145°.1E±0°.1, h10km±2km, mb4.5/12, Error ellipse: s-maj=21.4km s-min=12.8km az=55.0*
ISC 15 18:42:37.9±0.6,**12°.37N**±0°.08×**145°.2E**±0°.1,**h38**km,**n22,**
σ1§**09**/23,**mb4.3**/13,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.24**	**347**	Pn	**Pn**	**18 42 58.6**	**-0.1**
	149nm,0.3s,baz=149,slow=14,SNR=1.4						
GUMO				Sn	**Sn**	**18 43 12.5**	**-1.7**
	234nm,0.3s,baz=87,slow=21,SNR=2.1						
PATS	**Pohnpei**	**14.09**	**112**	Pn	**Pn**	**18 45 53.7**	**-1.4**
YULB	**Yu-li**	**25.16**	**299**	P	**P**	**18 47 58.2**	**-1.6**
YULB				IAmb	IAmb	18 48 07.0	
	comp=Z,35nm,1.6s						
SSLB	**Suanglung**	**25.60**	**300**	P	**P**	**18 48 02.4**	**-1.5**
JMM	**Marumori**	**25.69**	**352**	P	**P**	**18 48 04.6**	**+0.2**
WB0	**Warramunga Arr**	**33.64**	**198**	P	**P**	**18 49 15.7**	**+0.5**
WB0				IAmb	IAmb	18 49 26.8	
	comp=Z,9.2nm,1.4s						
WR0	**Warramunga Arr**	**33.78**	**198**	P	**P**	**18 49 14.8**	**-1.5**
WR0				IAmb	IAmb	18 49 21.5	
	comp=Z,7.5nm,1.3s						
WRAB	**Tennant Creek**	**33.81**	**198**	P	**P**	**18 49 15.9**	**-0.7**
WRAB				IAmb	IAmb	18 49 18.3	
	comp=Z,4.7nm,0.8s						
WB2	**Warramunga Arr**	**33.82**	**198**	P	**P**	**18 49 16.1**	**-0.6**
WB2				IAmb	IAmb	18 49 18.4	
	comp=Z,3.8nm,0.8s						
WRA	**Warramunga Arr**	**33.83**	**198**	P	**P**	**18 49 17.5**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=22,slow=9.8,SNR=3.1						
WRA	**Warramunga Arr**	**33.83**	**198**	P	**P**	**18 49 15.0**	**-1.8**
AS31	**Alice Springs**	**37.46**	**197**	P	**P**	**18 49 48.0**	**0.0**
ASAR	**Alice Springs**	**37.47**	**197**	P	**P**	**18 49 48.6**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=23,slow=9.4,SNR=2.1						
MARNC	**Mare, Loyalty**	**40.45**	**146**	P	**P**	**18 50 12.8**	**-0.2**
MBWA	**Marble Bar**	**41.64**	**217**	P	**P**	**18 50 22.7**	**-0.1**
MBWA				IAmb	IAmb	18 50 28.4	
	comp=Z,21nm,1.6s						
PSA00	**Pilbara Seismi**	**41.89**	**217**	P	**P**	**18 50 24.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**44.86**	**284**	P	**P**	**18 50 48.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=75,slow=6.6,SNR=1.7						
NWAO	**Narrogin (SRO)**	**52.34**	**210**	P	**P**	**18 51 46.8**	**+0.7**
MKAR	**Makanchi Array**	**62.55**	**316**	P	**P**	**18 52 59.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=88,slow=7.5,SNR=1.4						
ILAR	**Eielson Array**	**69.55**	**25**	P	**P**	**18 53 43.3**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=253,slow=5.7,SNR=2.2						
YKA	**Yellowknife Ar**	**83.81**	**27**	P	**P**	**18 55 04.7**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=288,slow=5.2,SNR=1.9						
FINES	**FINESS Array B**	**92.38**	**335**	P	**P**	**18 55 45.5**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=78,slow=4.9,SNR=2.0						

JMA 15 18:44:56.7,32°.69N×130°.78E,h9km±1km,**M3.6,3C,**
Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.14**	**169**	↑P	Pg	18 45 00.1	+0.2
JIU3				*e*S	Sg	18 45 02.7	+0.7
JTA	**Tamana**	**0.34**	**323**	↑P	Pg	18 45 03.6	+0.1
JTA				*e*S	Sg	18 45 08.5	+0.4
JTZ	**Takazaki**	**0.83**	**162**	↑P	Pb	18 45 13.3	0.0

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*IDC **15** 18:47:07.9±0.5, 14°.48S×166°.61E, h0km, mb4.6/23, mb1 4.6/25, mb1mx4.4/53, mbtmp4.6/25, ML4.5/2, Error ellipse: s-maj=19.1km s-min=13.7km az=100.0*
*NEIC **15** 18:47:08.7±1.6, 14°.50S±0°.07×166°.74E±0°.08, h11km±3km, mb5.3/96, Error ellipse: s-maj=12.7km s-min=8.0km az=57.0*
*MOS **15** 18:47:10.5±1.3, 14°.55S×166°.53E, h29km, mb5.1/14, Error ellipse: s-maj=11.3km s-min=8.6km az=123.5*
*NOU **15** 18:47:15.0, 14°.93S×166°.58E, h0km, mb4.9/18, Vanuatu Islands*
ISC 15 18:47:11.2±0.3,**14°.58S**±0°.04×**166°.69E**±0°.05,**h28**km,**n323,**
σ1§**31**/321,**mb5.1**/86,**MS5.7**/4,**9C-9D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.99**	**150**		**Pn**	**18 47 28.1**	**-1.2**
SANVU				Sn	**Sn**	**18 47 43.0**	**+0.6**
SANVU	**Saraoutou**	**0.99**	**150**	P	**Pb**	**18 47 30.1**	**+0.3**
DVP	**Devils Point**	**3.44**	**156**	P	**Pb**	**18 48 07.8**	**-3.7**
RTV	**Rentapao**	**3.60**	**153**	P	**Pn**	**18 48 08.0**	**+2.8**
LIFNC	**LIFOU**	**6.19**	**175**	Pn	**Pn**	**18 48 38.8**	**-1.9**
LIFNC				Sn	**Sn**	**18 49 46.8**	**-3.7**
LIFNC	**LIFOU**	**6.19**	**175**	P	**Pn**	**18 48 41.2**	**+0.5**
KOUNC	**Koumac, New Ca**	**6.37**	**201**	Pn	**Pn**	**18 48 43.2**	**+0.1**
KOUNC				Sn	**Sn**	**18 49 54.2**	**-0.7**
KOUNC	**Koumac, New Ca**	**6.37**	**201**	P	**Pn**	**18 48 44.9**	**+1.7**
MARNC	**Mare, Loyalty**	**6.98**	**170**	Pn	**Pn**	**18 48 50.5**	**-1.1**
MARNC	**Mare, Loyalty**	**6.98**	**170**	P	**Pn**	**18 48 54.6**	**+3.0**
YATNC	**Mamie plateau,**	**7.44**	**179**	P	**Pn**	**18 48 58.3**	**+0.4**
DZM	**Mont Dzumac**	**7.46**	**182**	Pn	**Pn**	**18 48 58.5**	**+0.3**
	4.5nm,0.3s,baz=18,slow=19,SNR=61						
DZM				Sn	**Sn**	**18 50 22.5**	**+0.6**
	baz=306,slow=23,SNR=1.3						
DZM	**Mont Dzumac**	**7.46**	**182**	Pn	**Pn**	**18 48 58.2**	**0.0**
DZM	**Mont Dzumac**	**7.46**	**182**	P	**Pn**	**18 48 59.3**	**+1.1**
NOUC	**Port Laguerre**	**7.49**	**183**	P	**Pn**	**18 49 00.7**	**+2.1**
ONTNC	**Ouen Toro**	**7.69**	**182**	Pn	**Pn**	**18 49 02.1**	**+0.8**
ONTNC	**Ouen Toro**	**7.69**	**182**	P	**Pn**	**18 49 03.2**	**+1.9**
OUENC	**Ouen Island, N**	**7.80**	**179**		**Pn**	**18 49 03.8**	**+1.0**
OUENC	**Ouen Island, N**	**7.80**	**179**	P	**Pn**	**18 49 05.1**	**+2.3**
PINNC	**Pines Island,**	**8.02**	**175**		**Pn**	**18 49 06.7**	**+0.8**
PINNC	**Pines Island,**	**8.02**	**175**	P	**Pn**	**18 49 08.2**	**+2.3**
HNR	**Honiara**	**8.35**	**307**	Pn	**Pn**	**18 49 08.5**	**-1.9**
	8.2nm,0.3s,baz=144,slow=4.0,SNR=4.2						
HNR				Sn	**Sn**	**18 50 40.4**	**-3.4**
	13nm,0.3s,baz=177,slow=23,SNR=1.5						
HNR	**Honiara**	**8.35**	**307**		**Pn**	**18 49 08.0**	**-2.4**
HNR	**Honiara**	**8.35**	**307**	P	**Pn**	18 49 19.3	+8.9
	252nm,1.0s						
EIDS	**Eidsvold**	**18.16**	**231**	P	**P**	**18 51 23.8**	**+2.3**
	baz=18,SNR=4.9						
EIDS	**Eidsvold**	**18.16**	**231**		**P**	**18 51 21.9**	**+0.4**
PMG	**Port Moresby**	**19.78**	**283**	P	**P**	**18 51 39.0**	**-0.4**
PMG				pmax	pmax		
	comp=Z,79nm,1.5s						
PMG	**Port Moresby**	**19.78**	**283**		**P**	**18 51 39.0**	**-0.4**
CTA	**Charters Tower**	**20.26**	**251**	P	Pn	18 51 45.8	-0.9
	comp=Z,16nm,0.8s,baz=99,slow=13,SNR=9.2						
CTA	**Charters Tower**	**20.26**	**251**	P	Pn	18 51 46.2	-0.4
	baz=20						
RAO	**Raoul Island**	**20.39**	**138**	P	**P**	**18 51 46.7**	**+0.8**
RAO				pmax	pmax		
	comp=Z,501nm,1.1s						
RAO	**Raoul Island**	**20.39**	**138**	P	**P**	**18 51 46.7**	**+0.8**
RMQ	**Roma**	**20.52**	**232**	P	Pn	18 51 49.7	+0.1
	baz=21,SNR=14						
AFI	**Afiamalu**	**20.88**	**91**	P	**P**	**18 51 50.3**	**-1.1**
AFI				pmax	pmax		
	comp=Z,166nm,1.4s						
AFI	**Afiamalu**	**20.88**	**91**	P	**P**	**18 51 50.3**	**-1.1**
AFI				IAmb	IAmb	18 52 04.2	
	comp=Z,166nm,1.4s						
ARMA	**Armidale**	**20.99**	**219**	P	Pn	18 51 55.3	+0.1
	baz=21						
ARMA

TOLI2 Tolitoli 48.03 285 P P 18 55 48.4 0.0
TOLI2 IAmb IAmb 18 55 57.9
comp=Z,19nm,1.5s

MORW Morawa 48.83 244 P P 18 55 55.4 +1.0
baz=49,SNR=4.0
MORW Morawa 48.83 244 P P 18 55 52.7 -1.7
MORW IAmb IAmb 18 56 01.1
comp=Z,14nm,1.0s

GIRL Giralia 50.15 253 P P 18 56 03.7 -0.8
HLK Haleakala 50.58 47 P P 18 56 04.9 -3.1
MYLDM Lahad Datu 51.65 289 P P 18 56 15.1 -0.8
MYLDM IAmb IAmb 18 56 29.9
comp=Z,50nm,1.3s

KKM Kota Kinabalu 54.08 289 P P 18 56 33.3 -0.7
KKM IAmb IAmb 18 56 42.4
comp=Z,38nm,1.0s

UGM Wanagama 55.38 270 P P 18 56 43.2 -0.2
MJAR Matsushiro Arr 57.52 333 P P 18 56 57.1 -1.0
comp=Z,3.1nm,0.6s,baz=165,slow=9.0,SNR=6.8
MAJO Matsushiro 57.52 333‖ *e*P P 18 56 57.8 -0.3
MAJO pmax pmax
comp=Z,48nm,3.9s

KSM Kuching 58.03 281 P P 18 57 01.4 -0.7
LEM Lembang 58.42 271 P P 18 57 06.2 +1.1
comp=Z,8.5nm,0.4s,baz=128,slow=19,SNR=3.7
ASAJ Asahikawa 62.41 341 P P 18 57 32.7 +1.2
comp=Z,25nm,1.1s,baz=237,slow=10,SNR=4.6
VNDA Vanda 63.00 181 P P 18 57 37.1 +2.1
comp=Z,2.2nm,0.9s,baz=5.7,slow=5.4,SNR=8.6
VNDA Vanda 63.00 181 P P 18 57 36.9 +1.9
VNDA pmax pmax
comp=Z,10.0nm,1.3s

VNDA Vanda 63.00 181 P P 18 57 36.9 +1.9
SBA Scott Base 63.28 180 P P 18 57 37.2 +0.3
SBA pmax pmax
comp=Z,10.0nm,0.9s

SBA Scott Base 63.28 180 P P 18 57 37.2 +0.3
SBA IAmb IAmb 18 57 47.1
comp=Z,9.8nm,0.9s

NJ2 Nanjing 65.18 316 *e*P P 18 57 52.0 +2.0
NJ2 pmax pmax
comp=Z,10.0nm,0.5s

USRK Ussuriysk Ar. 66.50 333 P P 18 57 59.5 +1.3
comp=Z,4.9nm,0.8s,baz=106,slow=6.9,SNR=6.2
IPM Ipoh 67.77 281 P P 18 58 06.5 -0.5
IPM IAmb IAmb 18 58 14.7
comp=Z,14nm,1.0s

PETK Petropavlovsk- 67.85 354 P P 18 58 07.7 +1.0
comp=Z,4.9nm,0.8s,baz=132,slow=8.0,SNR=6.4
MDJ Mudanjiang 67.89 332 P P 18 58 05.4 -1.6
MDJ Mudanjiang 67.89 332 P P 18 58 09.3 +2.2
MDJ pmax pmax
comp=Z,12nm,1.2s

MDJ pmax pmax
comp=Z,960nm,10.2s

BNX BinXian 69.74 332 ‖ P P 18 58 19.4 +0.8
BNX pmax pmax
comp=Z,9.0nm,0.6s

GSI Gunungsitoli 70.16 277 P P 18 58 20.4 -1.4
GSI IAmb IAmb 18 58 29.6
comp=Z,15nm,1.0s

NIKH Nikolski High 70.50 15 P P 18 58 23.5 +0.4
baz=205
KLR Kul'dur 70.65 337 P P 18 58 25.0 +0.9
comp=Z,1.8nm,0.6s,baz=142,slow=2.3,SNR=7.2
KLR Kul'dur 70.65 337⇑ *i*P P 18 58 25.6 +1.6
KLR pmax pmax
comp=Z,12nm,1.5s

ENH Enshi 70.84 310 P P 18 58 24.6 -1.1
LYN LuoYang 70.97 315 *e*P P 18 58 27.8 +1.4
BJT Baijiatuan 71.79 321 P P 18 58 30.3 -0.9
BJT pmax pmax
comp=Z,58nm,1.0s

BJT Baijiatuan 71.79 321 P P 18 58 30.3 -0.9
BJT IAmb IAmb 18 59 56.3
comp=Z,58nm,1.0s

XAN Xi'an 73.18 313 P P 18 58 40.8 +1.1
XAN pP sP 18 58 51.0 -0.3
XAN pmax pmax
comp=Z,7.0nm,0.8s

KMI Kunming 73.75 302 ⇑P P 18 58 45.1 +1.6
KMI pmax pmax
comp=Z,8.0nm,0.5s

XLT XiLinHaoTe 74.26 325 *e*P P 18 58 48.1 +2.3
XLT pmax pmax
comp=Z,12nm,1.4s

CM31 Chiang Mai Arr 74.38 294 P P 18 58 47.0 0.0
CMAR Chiang Mai Arr 74.38 294 P P 18 58 48.4 +1.4
comp=Z,4.3nm,0.9s,baz=125,slow=4.6,SNR=34
CMAR Chiang Mai Arr 74.38 294 *i* P P 18 58 48.9 +1.9
CMAR pmax pmax
comp=Z,4.0nm,0.9s

CMAR Chiang Mai Arr 74.38 294 P P 18 58 47.3 +0.3
CHTO Chiang Mai 74.51 295 P P 18 58 47.5 -0.2
CHTO pmax pmax
comp=Z,8.0nm,1.1s

CHTO Chiang Mai 74.51 295 P P 18 58 47.5 -0.2
SDPT Sand Point 74.97 19 P P 18 58 48.9 -0.7
MA2 Magadan 75.02 352 P P 18 58 50.1 +0.4
comp=Z,5.5nm,0.7s,baz=154,slow=5.5,SNR=9.0
MA2 Magadan 75.02 352‖ *i*P P 18 58 50.5 +0.7
MA2 pmax pmax
comp=Z,9.0nm,0.8s

MA2 Magadan 75.02 352 P P 18 58 48.8 -1.0
HHC Hu-ho-hao-te 75.11 320 *e*P P 18 58 51.9 +1.0
HHC pmax pmax
comp=Z,10.0nm,0.7s

HHC pmax pmax
comp=Z,1μm,7.4s

PZH PanZhiHua 75.15 303 P P 18 58 52.6 +1.2
PZH pmax pmax
comp=Z,8.0nm,0.8s

PZH pmax pmax
comp=Z,100nm,5.9s

QSPA South Pole Qui 75.45 180 P P 18 58 52.9 +0.4
ZEA Zeya 75.94 337 *e*P P 18 58 57.1 +1.9
ZEA pmax pmax
comp=N,10.0nm,0.9s

ZEA pmax pmax
comp=Z,10.0nm,0.7s

LZH Lanzhou 77.81 312 *e*P P 18 59 08.6 +2.3
LZH pmax pmax
comp=Z,32nm,1.3s

LZH LR LR
comp=Z,3μm,15.7s

LZH LR LR
comp=Z,5μm,18.5s

SEY Seymchan 78.07 353 P P 18 59 07.8 +0.9
comp=Z,5.8nm,0.7s,baz=144,slow=6.3,SNR=32
SEY Seymchan 78.07 353⇑ *e*P P 18 59 08.2 +1.3
GAMB Gambell 79.87 10 P P 18 59 16.4 -0.3
GAMB Gambell 79.87 10 P P 18 59 18.3 +1.6
baz=201
P18K Big Mountain, 79.92 19 P P 18 59 17.1 -0.1
O18K Koktuh Hills 80.29 18 P P 18 59 18.6 -0.7
O18K IAmb IAmb 18 59 56.1
comp=Z,29nm,1.4s

O18K Koktuh Hills 80.29 18 P P 18 59 20.6 +1.3
baz=217
N19K Bonanza Creek 81.28 18 P P 18 59 23.5 -1.0
N19K IAmb IAmb 19 01 18.1
comp=Z,16nm,1.1s

N19K Bonanza Creek 81.28 18 P P 18 59 24.8 +0.2
baz=218
CNPM China Poot 81.31 20 P P 18 59 24.4 -0.2
CNPM IAmb IAmb 19 02 20.7
comp=Z,106nm,1.8s

RSO Redoubt South 81.53 19 P P 18 59 24.6 -1.4
BRLK Bradley Lake 81.61 20 P P 18 59 27.2 +0.9
BRLK IAmb IAmb 19 00 08.2
comp=Z,100nm,1.8s

YAK Yakutsk 81.73 343 P P 18 59 27.6 +0.8
comp=E,2.9,6nm,0.7s,baz=182,slow=0.8,SNR=7.9
YAK Yakutsk 81.73 343 *e*P P 18 59 27.9 +1.2
YAK pmax pmax
comp=Z,20nm,0.9s

YAK pmax pmax
comp=N,2.0nm,0.9s

YAK pmax pmax
comp=E,3.0nm,1.3s

ANM Nome 81.73 12 P P 18 59 28.4 +1.6
baz=207
SONM Songino Array 82.05 324 P P 18 59 29.5 +0.5
comp=E,2.1nm,0.8s,baz=138,slow=5.8,SNR=9.1
SONM Songino Array 82.05 324 P P 18 59 28.0 -1.0
SONM pmax pmax
comp=Z,76nm,0.9s

SONM Songino Array 82.05 324 P P 18 59 27.9 -1.0
GTA Gaotai 82.16 314 ⇑P P 18 59 31.6 +1.8
GTA pmax pmax
comp=Z,8.0nm,1.2s

M19K Big River Lodg 82.17 17 P P 18 59 29.8 +0.7
M19K IAmb IAmb 19 00 45.6
comp=Z,31nm,0.7s

M19K Big River Lodg 82.17 17 P P 18 59 30.7 +1.6
baz=218
L19K White Mountain 82.25 17 P P 18 59 29.8 +0.2
L19K IAmb IAmb 19 00 43.0
comp=Z,43nm,0.8s

L19K White Mountain 82.25 17 P P 18 59 31.1 +1.5
baz=217
L19K White Mountain 82.25 17 IAML 19 00 42.5
comp=N,67nm,0.9s

SEW Seward 82.34 20 P P 18 59 30.0 0.0
SEW IAmb IAmb 19 01 40.5
comp=Z,70nm,1.6s

SEW Seward 82.34 20 P P 18 59 30.8 +0.8
baz=222
BILL Bilibino 82.39 360⇑ *e*P P 18 59 30.6 +0.5
BILL *e* 18 59 37.0
BILL *e* 19 02 38.1
BILL pmax pmax
comp=Z,14nm,0.8s

BILL MLR MLR
comp=Z,2μm,20.0s

BILL Bilibino 82.39 360 P P 18 59 30.1 -0.1
BILL IAmb IAmb 18 59 32.9
comp=Z,12nm,0.7s

O22K Cooper Landing 82.53 20 P P 18 59 30.5 -0.5
O22K Cooper Landing 82.53 20 P P 18 59 32.2 +1.2
baz=222
TTA Tatalina 82.53 16 P P 18 59 31.6 +0.5
TTA Tatalina 82.53 16 P P 18 59 31.6 +0.5
TTA Tatalina 82.53 16 P P 18 59 32.6 +1.5
baz=216
L20K Farewell, AK 82.77 17 P P 18 59 33.7 +1.4
baz=218
Q23K Middleton Isla 82.95 22 P P 18 59 33.6 +0.4
baz=225
RC01 Rabbit Creek A 82.98 20 P P 18 59 33.6 +0.3
baz=222
PWL Port Wells 83.27 20 P P 18 59 34.4 -0.6
PWL IAmb IAmb 18 59 37.3
comp=Z,41nm,1.0s

PWL Port Wells 83.27 20 P P 18 59 35.6 +0.7
baz=224
M22K Willow 83.35 19 P P 18 59 35.4 +0.2
baz=222
K20K Telida 83.41 17 P P 18 59 36.1 +0.6
baz=218
PMR Palmer 83.55 20 P P 18 59 36.5 +0.3
PMR Palmer 83.55 20 P P 18 59 36.5 +0.3
PMR Palmer 83.55 20 P P 18 59 36.3 0.0
baz=223
KNK Knik Glacier 83.64 20 P P 18 59 35.4 -1.4
KNK Knik Glacier 83.64 20 P P 18 59 36.8 0.0
baz=223
GLI Glacier Island 83.71 21 P P 18 59 37.9 +0.8
GLI IAmb IAmb 19 01 22.5
comp=Z,30nm,1.2s

GLI Glacier Island 83.71 21 P P 18 59 37.1 0.0
baz=225
GHO Glory Hole Cre 83.75 20 P P 18 59 36.6 -0.8
FID Port Fidalgo 83.83 21 P P 18 59 38.1 +0.4
FID IAmb IAmb 19 02 24.8
comp=Z,34nm,1.3s

SML Sawmill 83.97 20 P P 18 59 38.6 +0.1
baz=223
CAST Castle Rocks 84.02 17 P P 18 59 36.7 -2.0
CAST Castle Rocks 84.02 17 P P 18 59 38.3 -0.3
baz=220
J20K Nowinta River 84.03 16 P P 18 59 35.6 -3.1
J20K Nowinta River 84.03 16 P P 18 59 40.6 +1.9
baz=218,SNR=7.1
BOD Bodaibo 84.10 335 *e*P P 18 59 39.6 +0.4
BOD pmax pmax
comp=Z,9.0nm,1.6s

CHUM Lake Minchumin 84.31 17 P P 18 59 40.6 +0.5
baz=220
SCM Sheep Creek Mo 84.31 20 P P 18 59 38.7 -1.6
SCM pmax pmax
comp=Z,64nm,0.8s

SCM Sheep Creek Mo 84.31 20 P P 18 59 38.7 -1.6
SCM Sheep Creek Mo 84.31 20 P P 18 59 40.7 +0.4
baz=224
KTH Kantishna Hill 84.46 18 P P 18 59 39.5 -1.5
GOMU GeErMu 84.46 309 P P 18 59 41.3 -0.7
GOMU S S 19 10 07.3 +0.1
GOMU LR LR
comp=Z,750nm,16.3s

GOMU LR LR
comp=Z,2μm,16.3s

TRF Thorofare Moun 84.57 18 P P 18 59 40.7 -0.9
TRF Thorofare Moun 84.57 18 P P 18 59 41.5 -0.2
baz=222,SNR=7.1
WAT1 Susitna Watana 84.64 19 P P 18 59 42.0 +0.1
baz=223
WAT6 Susitna Watana 84.72 19 P P 18 59 43.3 +0.8
baz=224,SNR=7.7
SNCC San Nicolas Is 84.83 54 P P 18 59 43.2 -0.3
baz=249
BPAW Bear Paw Mtn. 84.86 17 P P 18 59 43.0 +0.1
BPAW Bear Paw Mtn. 84.86 17 P P 18 59 42.9 -0.1
baz=221,SNR=7.2
M24K Tolsona, Glenn 84.89 20 P P 18 59 44.3 +1.1
baz=225
RND Reindeer 84.97 18 P P 18 59 43.4 -0.2
RND pmax pmax
comp=Z,59nm,0.5s

RND Reindeer 84.97 18 P P 18 59 43.4 -0.2
N25K Chitina, Valde 85.08 21 P P 18 59 44.7 +0.5
baz=227
ZAK Zakamensk 85.11 325 *e*P P 18 59 44.8 +0.2
ZAK pmax pmax
comp=Z,10.0nm,1.4s

MCK McKinley 85.19 18 P P 18 59 44.3 -0.3
MCK pmax pmax
comp=Z,79nm,0.6s

MCK McKinley 85.19 18 P P 18 59 44.3 -0.3
MCK McKinley 85.19 18 P P 18 59 44.9 +0.3
baz=223,SNR=14
DHY Denali Highway 85.19 19 P P 18 59 44.2 -0.6
DHY Denali Highway 85.19 19 P P 18 59 44.4 -0.4
baz=224
RDOG Red Dog Mine 85.29 11 P P 18 59 46.2 +1.2
baz=209
BWN Browne 85.35 18 P P 18 59 45.6 +0.2
I21K Tanana 85.40 16 P P 18 59 45.7 +0.2
I21K IAmb IAmb 18 59 48.5
comp=Z,33nm,0.9s

I21K Tanana 85.40 16 P P 18 59 46.8 +1.2
baz=220,SNR=22
H21K Melozitna Rive 85.56 16 P P 18 59 46.2 -0.1
H21K IAmb IAmb 18 59 49.0
comp=Z,13nm,0.9s

H21K Melozitna Rive 85.56 16 P P 18 59 47.8 +1.4
baz=219,SNR=18
IMAR Indian Mountai 85.57 15 P P 18 59 46.7 +0.3
NEA2 Nenana 85.78 18 P P 18 59 47.3 -0.2
NEA2 Nenana 85.78 18 P P 18 59 47.7 +0.2
baz=223,SNR=5.5
WRH Wood River Hil 85.98 18 P P 18 59 48.6 +0.1
I23K Minto, Yukon-K 86.11 17 P P 18 59 49.3 +0.2
baz=222
M26K Nabesna, AK 86.18 21 P P 18 59 49.4 -0.2
M26K Nabesna, AK 86.18 21 P P 18 59 50.3 +0.7
baz=228
CCB Clear Creek Bu 86.19 18 P P 18 59 49.2 -0.3
CCB IAmb IAmb 19 00 54.8
comp=Z,16nm,0.7s

MDM Murphy Dome 86.30 18 P P 18 59 49.7 -0.4
MDM IAmb IAmb 19 00 58.4
comp=Z,31nm,0.7s

COLA College 86.34 18 *d* *i*P P 18 59 51.0 +0.8
COLA pmax pmax
comp=Z,20nm,1.0s

RIDG Independent Ri 86.47 19 P P 18 59 50.6 -0.4
RIDG IAmb IAmb 19 01 27.7
comp=Z,30nm,0.7s

RIDG Independent Ri 86.47 19 P P 18 59 51.2 +0.2
baz=226
L26K Log Cabin Wild 86.48 20 P P 18 59 50.8 -0.2
baz=228
M27K Edge Creek, AK 86.55 21 P P 18 59 52.1 +0.6
baz=229
IL31 86.56 18 P P 18 59 51.1 -0.2
IL31 IAmb IAmb 19 01 08.9
comp=Z,20nm,0.6s

ILAR Eielson Array 86.56 18 P P 18 59 51.0 -0.4
comp=Z,9.4nm,0.7s,baz=237,slow=5.1,SNR=65
ILAR Eielson Array 86.56 18 P P 18 59 50.5 -0.8
ILAR Eielson Array 86.56 18 P P 18 59 50.5 -0.8
H23K Yukon River 86.56 17 P P 18 59 50.8 -0.6
H23K IAmb IAmb 18 59 54.0
comp=Z,11nm,0.9s

H23K Yukon River 86.56 17 P P 18 59 52.7 +1.3
baz=222
EDW2 Edwards Air Fo 86.59 53 P P 18 59 51.0 -1.3
baz=250
POKR Poker Plat Res 86.64 18 P P 18 59 51.9 +0.1
baz=224
DOT Dot Lake 86.66 20 P P 18 59 51.0 -0.9
DOT IAmb IAmb 19 01 34.7
comp=Z,16nm,0.9s

YUK3 Moose Creek 86.68 22 P P 18 59 51.6 -0.7
baz=231
J25K Salcha River, 86.91 19 P P 18 59 53.1 0.0
J25K IAmb IAmb 19 01 27.6
comp=Z,19nm,0.7s

J25K Salcha River, 86.91 19 P P 18 59 53.2 +0.1
baz=226,SNR=14
SCRK Sand Creek 86.91 20 P P 18 59 53.0 -0.2
SCRK IAmb IAmb 19 01 38.0
comp=Z,13nm,0.5s

SCRK Sand Creek 86.91 20 P P 18 59 53.6 +0.4
baz=227,SNR=9.9
L27K Beaver Creek, 87.02 21 P P 18 59 54.4 +0.7
baz=229
H24K Noodor Dome 87.04 17 P P 18 59 54.0 +0.3
baz=224
J05D Fort Rock, OR 87.32 44 P P 18 59 56.6 +0.8
baz=247
IKP In-Ko-Pah, Jac 87.33 55 P P 18 59 56.8 +0.8
baz=251
PFO Pinyon Flats O 87.36 54 P P 18 59 57.0 +0.8
baz=251
TPFO Pinon Flats 87.36 54 P P 18 59 56.6 +0.5
baz=251
J26L Joseph Creek 87.40 19 P P 18 59 56.8 +1.2
baz=228
COLD Coldfoot 87.43 15 P P 18 59 55.3 -0.2
COLD IAmb IAmb 18 59 59.1
comp=Z,8.8nm,0.9s

COLD Coldfoot 87.43 15 P P 18 59 57.5 +2.0
baz=221,SNR=11
NVAR Mina Array Bea 87.60 49 P P 18 59 58.2 +1.0
comp=Z,0.4nm,0.5s,baz=216,slow=9.0,SNR=1.5
EGAK Eagle 88.36 20 P P 18 59 59.8 -0.2
EGAK IAmb IAmb 19 02 31.8
comp=Z,10nm,0.9s

EGAK Eagle 88.36 20 P P 19 00 00.2 +0.2
baz=230
KNGR Kungurtug, Tuv 88.48 323‖ *e*P P 19 00 02.2 +1.2
M30M Minto, Yukon 88.53 23 P P 19 00 00.5 -0.5
baz=234
TOLK Toolik Lake Re 88.65 15 P P 19 00 00.9 -0.5
TOLK IAmb IAmb 19 00 04.3
comp=Z,7.5nm,1.0s

TOLK Toolik Lake Re 88.65 15 P P 19 00 02.9 +1.6
baz=222
SYO Syowa Base 88.69 197‖ *e*P P 19 00 00.8 -0.8
SYO Syowa Base 88.69 197⇑ *e*sP sP 19 00 08.9 -4.4
J08A Circle Bar Ran 89.22 45 P P 19 00 03.8 -0.9
I29M Ogilvie Camp, 89.67 20 P P 19 00 05.3 -0.9
I29M Ogilvie Camp, 89.67 20 P P 19 00 06.8 +0.7
baz=232
TIXI Tiksi 89.72 349 P P 19 00 06.0 -0.2
comp=Z,1.7nm,0.9s,baz=90,slow=20,SNR=7.0
TIXI Tiksi 89.72 349‖ *e*P P 19 00 06.6 +0.4
TIXI Tiksi 89.72 349 P P 19 00 05.5 -0.6
TIXI IAmb IAmb 19 03 31.4
comp=Z,23nm,1.1s

WMQ Urumqi 92.22 315 *e*P P 19 00 21.0 +2.4
WMQ sP sP 19 00 33.6 +3.2
WMQ pmax pmax
comp=Z,16nm,0.9s

WMQ LR LR
comp=Z,3μm,18.3s

HYBB Hyderabad (bro 92.55 287 *e*P P 19 00 21.1 +0.5
TROLL Troll, Antarti 92.96 185 P P 19 00 21.4 -0.3
SNAA Sanae 93.67 183 P P 19 00 23.0 -1.8
SNAA Sanae 93.67 183 P P 19 00 23.7 -1.1
SNAA pmax pmax
comp=Z,9.0nm,1.2s

SNAA Sanae 93.67 183 P P 19 00 23.7 -1.1
SNAA IAmb IAmb 19 00 27.0
comp=Z,9.0nm,1.2s

VNA3 Neumayer Olymp 94.35 181 P P 19 00 26.2 -1.7
VNA2 Neumayer--Watz 94.61 182 P P 19 00 27.7 -1.4
baz=191,slow=3.0
VNA1 Neumayer--Stat 94.91 182 P P 19 00 29.2 -1.2
C36M Paulatuk 96.44 20 P P 19 00 36.6 -0.6
baz=246
MK31 Makanchi Array 96.71 316 P P 19 00 38.3 -0.7
MK31 pmax pmax
comp=Z,18nm,1.1s

MK31 Makanchi Array 96.71 316 P P 19 00 38.3 -0.7
MK31 IAmb IAmb 19 03 35.7
comp=Z,18nm,1.1s

MKAR Makanchi Array 96.71 316 P P 19 00 39.8 +0.8
comp=Z,2.0nm,0.7s,baz=93,slow=6.6,SNR=19
MKAR PKKPbc **PKKPbc** 19 17 23.5 0.0
comp=Z,0.3nm,0.8s,baz=292,slow=2.0,SNR=3.5
MKAR Makanchi Array 96.71 316 *i* P P 19 00 39.7 +0.6
MKAR pmax pmax
comp=Z,2.0nm,0.7s

MKAR Makanchi Array 96.71 316 P P 19 00 39.2 +0.1
ZALV Zalesovo Beam 96.94 324 P P 19 00 39.6 -0.2
comp=Z,1.8nm,0.6s,baz=118,slow=3.7,SNR=11
A36M Sachs Harbour 97.19 17 P P 19 00 40.2 -0.4
A36M IAmb IAmb 19 02 21.5
comp=Z,7.7nm,0.6s

A36M Sachs Harbour 97.19 17 P Pdif 19 00 41.2 +0.5
baz=245
YKA Yellowknife Ar 97.67 27 P P 19 00 42.7 -0.3
comp=Z,1.2nm,0.8s,baz=255,slow=4.6,SNR=16
KURK Kurchatov 99.93 320‖ *e*P **Pdif** 19 00 53.1 -0.2
KURK pmax pmax
comp=Z,9.0nm,3.5s

LPAZ La Paz 117.77 117 PKP **PKiKP** 19 05 57.1 +0.5
comp=Z,0.7nm,0.6s,baz=250,slow=3.9,SNR=2.8
ARCES ARCESS Array B 119.97 345 PKP **PKPdf** 19 05 58.5 0.0
comp=Z,2.6nm,0.5s,baz=77,slow=2.8,SNR=27
SCHQ Schefferville 122.48 33 PKP **PKiKP** 19 06 04.4 +0.5
comp=Z,2.7nm,0.9s,baz=253,slow=6.5,SNR=3.5
BOSA Boshof 123.12 221 PKP **PKiKP** 19 06 06.9 +0.7
comp=Z,1.7nm,0.6s,baz=82,slow=4.4,SNR=6.0
GNI Garni 123.60 309 PKP **PKiKP** 19 06 08.4 +1.5
comp=Z,1.3nm,0.3s,baz=49,slow=18,SNR=2.4
VALR Valaam 123.62 336⇑ *e*PKIKP **PKiKP** 19 06 07.6 +1.7
ZEI Tsey 123.73 312 *e*PKIKP **PKiKP** 19 06 13.5 +6.4
ZEI pmax pmax
comp=Z,3.0nm,1.0s

FINES FINESS Array B 125.38 338 PKP **PKiKP** 19 06 09.9 +0.5
comp=Z,4.2nm,0.9s,baz=1.9,slow=5.7,SNR=7.4
FINES FINESS Array B 125.38 338 PKIKP **PKPdf** 19 06 07.7 -1.4
FINES FINESS Array B 125.38 338 **PKPdf** 19 06 07.7 -1.4
VSU Vasula 127.04 335⇑ *i*PKIKP **PKPdf** 19 06 12.1 -0.2
NACGM Naroch 129.20 331 *e*PKP **PKPdf** 19 06 14.9 -1.6
AKASG Malin Array Be 130.30 326 SKP 19 09 58.8
comp=Z,0.5nm,0.4s,baz=43,slow=4.4,SNR=4.9
AKBB Malin Array Si 130.30 326⇑ *e*PKIKP **PKiKP** 19 06 20.1 +0.5
NB2 NORSAR Subarra 130.33 345 PKPdf **PKiKP** 19 06 19.9 +0.4
comp=Z,0.7nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 130.33 345 PKP **PKiKP** 19 06 19.4 -0.1
comp=Z,1.4nm,0.8s,baz=36,slow=2.0,SNR=5.2
NOA SKP 19 09 58.0
comp=Z,2.7nm,1.0s,baz=31,slow=3.1,SNR=3.3
BRTR Keskin Array B 131.99 311 PKP **PKiKP** 19 06 24.2 +0.6
comp=Z,0.7nm,0.8s,baz=337,slow=3.3,SNR=2.7
BDFB Brasilia 134.41 130 PKP **PKPdf** 19 06 28.4 +0.6
comp=Z,1.8nm,0.4s,baz=134,slow=3.8,SNR=4.0
KRLC Kraliky 136.97 332 *e*PKIKP **PKiKP** 19 06 34.5 +1.2
KRLC Kraliky 136.97 332 *e*PKP **PKiKP** 19 06 34.5 +1.2
CLL Collm 137.69 336 *e*(PKiKP) 19 06 37.0
CLL *ex* x 19 06 45.0
KHC Kasperske Hory 139.10 333 PKIKP **PKPdf** 19 06 32.0 -3.4

KHC	**Kasperske Hory**	**139.10**	**333**	*e*PKP	**PKPdf**	**19 06 32.0**	**-3.4**
KHC				*ep*PKP	**PKiKP**	**19 06 36.8**	**-0.8**
GERES	**GERESS Array B**	**139.25**	**333**	PKP	**PKiKP**	**19 06 37.1**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=65,slow=3.5,SNR=6.2						
FNA	**Florina**	**140.11**	**318**	PKIKP	**PKPdf**	**19 06 33.3**	**-4.2**
FNA	**Florina**	**140.11**	**318**		**PKPdf**	**19 06 33.3**	**-4.2**
TUE	**Stuetta**	**142.97**	**334**		**PKPdf**	**19 06 38.6**	**-4.0**
SSB	**Saint Sauveur**	**145.88**	**337**	PKIKP	**PKPdf**	**19 06 46.6**	**-0.9**
SSB	**Saint Sauveur**	**145.88**	**337**		**PKPdf**	**19 06 46.6**	**-0.9**
KEST	**Kesra**	**150.74**	**320**	PKPbc	**PKiKP**	**19 07 03.0**	**+1.0**
	comp=Z,9.6nm,0.8s,baz=352,slow=2.8,SNR=11						
KEST				PKPab	**sPKPdf**	**19 07 07.9**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=354,slow=4.2,SNR=6.3						
KEST	**Kesra**	**150.74**	**320**		**PKiKP**	**19 07 02.5**	**+0.5**
ESDC	**Sonseca Array**	**153.69**	**344**	PKPbc	**PKiKP**	**19 07 09.5**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=21,slow=3.1,SNR=8.4						
TORD	**Torodi Ar. Bea**	**165.36**	**266**	PKP	**PKPdf**	**19 07 14.5**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=126,slow=3.8,SNR=3.8						
TORD				PKPab	**PKPab**	**19 08 12.9**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=87,slow=3.2,SNR=3.9						

IDC ***15*** *18:47:57.9±2.3, 33.°01N×131.°19E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/56, mbtmp3.2/3, Error ellipse: s-maj=40.5km s-min=10.4km az=12.0*
JMA ***15*** *18:47:57.9, 33.°12N×131.°22E, h4km, M3.2*
JMA Felt I J1.

ISC 15 18:47:59.5±1.0, 33.°19N±0.°06×131.°30E±0.°07, h10km, n6, σ2s75/7, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.36**	**259**	Pg		Pg	Pg	18 48 03.4	-3.3
	77nm,0.3s,baz=94,slow=11,SNR=6.4								
JNU				Lg		Lg	Lg	18 48 07.5	
	413nm,0.3s,baz=20,slow=23,SNR=11								
JNU	**Nakatsue**	**0.36**	**259**	P		Pg	Pg	18 48 03.8	-2.9
JNU				*e*S		Sg	**Sg**	**18 48 08.0**	**-3.5**
JUS	**Usuki**	**0.40**	**108**	P		Pg	**Pg**	**18 48 06.7**	**-0.6**
JUS				S		Sg	**Sg**	**18 48 13.1**	**+0.6**
KSRS	**Korea Array**	**5.07**	**328**	Pn		**Pn**	**Pn**	**18 49 16.9**	**+1.4**
	baz=150,slow=14,SNR=1.2								
KSRS				Pg		**Pg**	**Pg**	**18 49 33.0**	**-3.6**
	0.4nm,0.3s,baz=150,slow=18,SNR=3.3								
KSRS				Lg		Lg	Lg	18 50 41.3	
	0.9nm,0.3s,baz=150,slow=30,SNR=5.3								
SONM	**Songino Array**	**23.79**	**315**	P		**P**	**P**	**18 53 12.9**	**+0.6**
	0.5nm,0.5s,baz=121,slow=9.3,SNR=3.7								
YKA	**Yellowknife Ar**	**71.11**	**27**	P		**P**	**P**	**18 59 19.1**	**+1.4**
	0.2nm,0.8s,baz=308,slow=6.3,SNR=4.3								

JMA 15 18:52:01.9, 32.°75N×130.°79E, h11km±1km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.20**	**175**	P		Pg	Pg	18 52 06.3	+0.1
JTA	**Tamana**	**0.30**	**315**	P		Pg	Pg	18 52 08.1	0.0
JTA				*e*S		Sg	Sg	18 52 12.5	+0.3

JMA 15 18:52:24.8, 32.°68N×130.°74E, h12km±1km, M3.7, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.14**	**155**	P		Pg	Pg	18 52 28.4	+0.1
JIU3				*e*S		Sg	Sg	18 52 31.1	+0.4
JTA	**Tamana**	**0.33**	**328**	⇑P		Pg	Pg	18 52 31.6	+0.1
JTA				*e*S		Sg	Sg	18 52 36.3	+0.3

JMA 15 18:55:24.6, 32.°92N×131.°05E, h9km±1km, M2.2, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.25**	**324**	P		Pg	Pg	18 55 29.8	+0.2
JNU				S		Sg	Sg	18 55 33.4	+0.4

BJI ***15*** *18:55:51.4±0.0, 32.°84N×131.°33E, h13km, mb5.0/80, mB5.8/51, Ms5.9/86, Ms7 5.6/81*
MOS ***15*** *18:55:51.6±1.1, 32.°89N×131.°14E, h14km, mb5.4/93, MS5.8/23, Error ellipse: s-maj=5.6km s-min=3.5km az=110.9*
IDC ***15*** *18:55:52.0±0.3, 32.°95N×131.°19E, h0km, mb4.9/60, mb1 4.9/64, mb1mx4.9/75, mbtmp4.9/64, ML4.1/4, MS5.4/19, Ms1 5.4/19, ms1mx5.0/96, Error ellipse: s-maj=8.8km s-min=6.6km az=45.0*
NEIC ***15*** *18:55:53.5±1.8, 33.°01N±0.°04×131.°16E±0.°05, h13km±3km, mb5.4/298, Ms_20 5.6/31, Mwr5.5/10, Error ellipse: s-maj=6.5km s-min=5.7km az=210.0*
JMA ***15*** *18:55:53.0, 33.°03N×131.°19E, h11km±1km, M5.8 Broadband fault plane solution: P waves. NP1: φs302.00000°, δ89.00000°, λ15.00000°. NP2: φs212.00000°, δ75.00000°, λ179.00000°. Principal axes: T Plg11.0000°, Azm168.0000°; N Plg75.0000°, Azm305.0000°; P Plg10.0000°, Azm76.0000°;*
NIED ***15*** *18:55:53.1, 33.°03N×131.°19E, h11km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 1017Nm; Mrr=0.57; Mθθ2.25; Mφφ-1.68; Mrθ-0.27; Mθφ0.49; Mφr0.52; Fault plane solution: M0 2.14000×1017 NP1: φs220.00000°, δ72.00000°, λ-167.00000°. NP2: φs126.00000°, δ78.00000°, λ-19.00000°.*
NEIC ***15*** *18:55:53.1, 32.°97N×131.°15E, h16km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=0.44; Mθθ2.60; Mφφ-2.15; Mrθ0.23; Mθφ0.55; Mφr0.73; Fault plane solution: M0 2.58000×1017 NP1:φs220.18000°, δ80.66000°, λ-161.95000°. NP2:φs127.15000°, δ72.20000°, λ-9.82000°. Principal axes: T 2.6898, Plg6.0000°, Azm353.0000°; N -0.2298, Plg70.0000°, Azm247.0000°; P -2.4600, Plg19.0000°, Azm85.0000°;*
BGR ***15*** *18:55:56.1±0.0, 32.°91N×131.°15E, h10km, mb5.4*

ISC 15 18:55:53.8±0.4, 32.°95N±0.°02×131.°22E±0.°02, h12km±2km, h12km:pP-P, n1176, σ1s62/1171, mb5.3/376, MS5.7/63, 54C-62D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.33**	**300**	Pg		Pg	**Pg**	**18 55 58.6**	**-1.9**
	15μm,0.3s,baz=119,slow=15,SNR=553								
JNU				LR		LR	LR	18 56 16.2	
	comp=Z,262μm,19.1s,baz=56,slow=78								
JNU	**Nakatsue**	**0.33**	**300**	P		Pg	**Pg**	**18 55 58.8**	**-1.7**
JNU				*e*S		Sg	**Sg**	**18 56 03.1**	**-2.0**
JNU	**Nakatsue**	**0.33**	**300**			Pg	**Pg**	**18 55 58.9**	**-1.7**
JNU				Sg		Sg	**Sg**	**18 56 03.2**	**-1.8**
JUS	**Usuki**	**0.46**	**76**	⇓P		Pg	**Pg**	**18 56 02.0**	**-0.8**
JUS				*e*S		Sg	**Sg**	**18 56 09.0**	**+0.1**
JIU3	**Izumi3**	**0.53**	**221**	P		Pg	**Pg**	**18 56 04.2**	**0.0**
JTA	**Tamana**	**0.58**	**271**	⇓P		Pg	**Pg**	**18 56 03.8**	**-1.3**
JTA				S		Sg	**Sg**	**18 56 11.9**	**-0.9**
UWA2	**Uwa jima 2**	**1.21**	**77**	⇓P		**Pn**	**Pn**	**18 56 16.0**	**-0.5**
JNA	**Nagahama**	**1.21**	**60**	⇓P		**Pn**	**Pn**	**18 56 15.0**	**-1.6**
JTO	**Tosashimizu**	**1.33**	**94**	P		**Pn**	**Pn**	**18 56 18.2**	**0.0**
JSU	**Suzuyama**	**1.58**	**204**				**Pn**	**18 56 22.1**	**+0.4**
JSU				Sn		Sg	**Sg**	**18 56 44.4**	**-0.3**
JKU	**Kubokawa**	**1.58**	**77**	P		**Pn**	**Pn**	**18 56 22.0**	**+0.3**
JHM	**Kurahashi**	**1.61**	**42**	⇓P		**Pn**	**Pn**	**18 56 21.6**	**-0.4**
JSJ	**Shimokoshiki**	**1.80**	**225**	P		**Pn**	**Pn**	**18 56 24.6**	**-0.1**
JHT	**Toyohira**	**1.98**	**30**	P		**Pn**	**Pn**	**18 56 26.7**	**-0.4**
JTU	**Tsushima**	**2.18**	**316**	Pn		**Pn**	**Pn**	**18 56 28.0**	**-1.9**
JTN	**Tanegashima 3**	**2.30**	**185**	P		**Pn**	**Pb**	**18 56 33.5**	**-1.7**
JMN	**Monobe**	**2.35**	**70**	⇓P		**Pn**	**Pn**	**18 56 32.6**	**+0.3**
JMN	**Monobe**	**2.35**	**70**	Pn		**Pn**	**Pn**	**18 56 33.3**	**+1.0**
JHS	**Saijyo**	**2.58**	**37**				**Pn**	**18 56 36.1**	**+0.7**
JAI	**Aioi**	**2.83**	**72**	⇓P		**Pn**	**Pn**	**18 56 39.0**	**+0.2**
JAD	**Aida**	**3.15**	**50**	P		**Pn**	**Pn**	**18 56 43.5**	**+0.3**
JAWN	**Awajishima-nag**	**3.43**	**63**	P		**Pn**	**Pn**	**18 56 48.3**	**+1.3**
JWM	**Minabe**	**3.57**	**74**	P		**Pn**	**Pn**	**18 56 48.9**	**-0.1**
JWY	**Kouya**	**3.86**	**70**	⇓P		**Pn**	**Pn**	**18 56 53.5**	**+0.4**
JHE	**Heguri**	**4.08**	**64**	⇓P		**Pn**	**Pn**	**18 56 57.2**	**+1.1**
JWT	**Wachi**	**4.17**	**55**	P		**Pn**	**Pn**	**18 56 57.7**	**+0.4**
JKY	**Yasaka**	**4.18**	**49**	P		**Pn**	**Pn**	**18 56 58.0**	**+0.6**
TJN	**Taejon**	**4.67**	**318**	*ce*P		**Pn**	**Pn**	**18 57 02.6**	**-1.5**
TJN	**Taejon**	**4.67**	**318**	Pn		**Pn**	**Pn**	**18 57 02.7**	**-1.3**
TSUJ	**Tsu 2**	**4.67**	**67**	P		**Pn**	**Pn**	**18 57 05.1**	**+1.0**
JIE	**Ise**	**4.79**	**71**	P		**Pn**	**Pn**	**18 57 07.2**	**+1.4**
KSRS	**Korea Array**	**5.24**	**330**	Pn		**Pn**	**Pn**	**18 57 11.7**	**-0.2**
	5.9nm,0.3s,baz=143,slow=13,SNR=48								
KSRS				Sn		**Sn**	**Sn**	**18 58 10.8**	**-1.4**
	17nm,0.3s,baz=149,slow=28,SNR=6.9								
KSRS				Lg		Lg	Lg	18 58 33.2	
	41nm,0.3s,baz=150,slow=30,SNR=5.6								
KSRS				LR		LR	LR	18 59 16.9	
	comp=Z,28μm,19.4s,baz=150,slow=39								
KSAR	**Wonju Array Be**	**5.25**	**330**	P		**Pn**	**Pn**	**18 57 11.3**	**-0.7**
KSAR	**Wonju Array Be**	**5.25**	**330**			**Pn**	**Pn**	**18 57 11.3**	**-0.7**
JYTA	**Yamagatataniai**	**5.27**	**58**	P		**Pn**	**Pn**	**18 57 14.4**	**+2.0**
KS19	**Wonju Array Si**	**5.30**	**330**			**Pn**	**Pn**	**18 57 10.8**	**-2.0**
INU	**Inuyama**	**5.37**	**62**	Pn		**Pn**	**Pn**	**18 57 13.9**	**+0.2**
JGF	**Kuroka**	**5.72**	**61**			**Pn**	**Pn**	**18 57 19.5**	**+0.8**
INCN	**Inchon**	**5.88**	**322**	P		**Pn**	**Pn**	**18 57 19.0**	**-1.7**
INCN	**Inchon**	**5.88**	**322**	Pn		**Pn**	**Pn**	**18 57 19.0**	**-1.7**
JYN	**Shimob**	**6.57**	**65**	P		**Pn**	**Pn**	**18 57 32.1**	**+1.7**
JOW	**Kunigami**	**6.61**	**204**	Pn		**Pn**	**Pn**	**18 57 32.9**	**+2.0**
	16nm,0.3s,baz=89,slow=14,SNR=15								
JOW				Sn		**Sn**	**Sn**	**18 58 48.1**	**+1.8**
	baz=62,slow=28,SNR=0.7								
JOW	**Kunigami**	**6.61**	**204**			**Pn**	**Pn**	**18 57 32.5**	**+1.6**
MJB9	**Matsu-Tunnel**	**6.77**	**56**			**Pn**	**Pn**	**18 57 33.0**	**-0.1**
MAJO	**Matsushiro**	**6.77**	**56**	*d*	*i*P	**Pn**	**Pn**	**18 57 34.9**	**+1.9**
MAJO	**Matsushiro**	**6.77**	**56**	Pn		**Pn**	**Pn**	**18 57 34.5**	**+1.4**
MAT	**Matsushiro**	**6.77**	**56**	P		**Pn**	**Pn**	**18 57 35.0**	**+2.0**
MJAR	**Matsushiro Arr**	**6.77**	**56**	Pn		**Pn**	**Pn**	**18 57 35.0**	**+2.0**
	3.2nm,0.3s,baz=244,slow=14,SNR=75								
MJAR				Lg		Lg	Lg	18 59 25.5	
	baz=243,slow=27,SNR=1.5								
MJAR				LR		LR	LR	19 00 26.2	
	comp=Z,32μm,18.5s,baz=234,slow=40								
JHJ	**Hachijo jima 2**	**7.19**	**86**	Pn		**Pn**	**Pn**	**18 57 39.6**	**+0.8**
	93nm,0.3s,baz=204,slow=20,SNR=22								
JHJ				Sn		**Sn**	**Sn**	**18 59 03.7**	**+3.3**
	baz=76,slow=19,SNR=1.5								
JHJ				LR		LR	LR	19 00 19.0	
	comp=Z,14μm,21.1s,baz=236,slow=37								
JHJ2	**Mitsune**	**7.22**	**86**			**Pn**	**Pn**	**18 57 39.4**	**+0.3**
JAG	**Ashikaga**	**7.61**	**61**	P		**Pn**	**Pn**	**18 57 46.7**	**+2.2**
JSD	**Sado**	**7.66**	**47**			**Pn**	**Pn**	**18 57 45.7**	**+0.6**
JYT	**Yasato**	**8.09**	**64**			**Pn**	**Pn**	**18 57 52.0**	**+1.0**
JFY	**Yanaizu**	**8.24**	**55**	P		**Pn**	**Pn**	**18 57 56.7**	**+3.5**
SSE	**Sheshan**	**8.72**	**260**	P		**Pn**	**Pn**	**18 57 57.8**	**-1.9**
SSE				S		**Sn**	**Sn**	**18 59 37.5**	**-0.5**
SSE				pmax		pmax	pmax		
	comp=Z,14nm,0.8s								
SSE				pmax		pmax	pmax		
	comp=Z,1μm,10.7s								
JFT	**Otama**	**8.73**	**56**	P		**Pn**	**Pn**	**18 58 03.1**	**+3.1**
JMM	**Marumori**	**9.22**	**55**			**Pn**	**Pn**	**18 58 08.9**	**+2.3**
MSHR	**Mys Shultsa**	**9.61**	**360**	⇓	*e*P	**Pn**	**Pn**	**18 58 14.9**	**+3.0**
MSHR				pmax		pmax	pmax		
	comp=Z,204nm,1.7s								
VLA	**Vladivostok**	**10.16**	**3**	⇑	*i*P	**Pn**	**Pn**	**18 58 22.1**	**+2.6**
NJ2	**Nanjing**	**10.48**	**268**	⇓	*i*P	**Pn**	**Pn**	**18 58 27.3**	**+3.4**
NJ2				S		**Sn**	**Sn**	**19 00 22.3**	**+1.0**
NJ2				pmax		pmax	pmax		
	comp=Z,110nm,1.2s								
NJ2				pmax		pmax	pmax		
	comp=Z,2μm,3.6s								
NJ2				LR		LR	LR		
	comp=Z,26μm,10.6s								
NJ2				LR		LR	LR		
	comp=Z,16μm,9.6s								
NJ2				LR		LR	LR		
	comp=Z,22μm,10.8s								
SNY	**Shenyang**	**10.74**	**328**	⇑P		**Pn**	**Pn**	**18 58 30.9**	**+3.5**
SNY				S		Sn	Sn	19 00 41.9	+14
SNY				pmax		pmax	pmax		
	comp=Z,7.0nm,0.5s								
SNY				pmax		pmax	pmax		
	comp=Z,2μm,6.0s								
SNY				LR		LR	LR		
	comp=Z,85μm,9.9s								
SNY				LR		LR	LR		
	comp=Z,125μm,9.8s								
SNY				LR		LR	LR		
	comp=Z,35μm,11.8s								
YOJ	**Yonaguni jima**	**11.11**	**222**	P		**Pn**	**Pn**	**18 58 30.8**	**-1.7**
YOJ	**Yonaguni jima**	**11.11**	**222**			**Pn**	**Pn**	**18 58 30.8**	**-1.7**
JCJ	**Chichijima**	**11.15**	**119**	Pn		**Pn**	**Pn**	**18 58 34.2**	**+1.2**
USA0B	**Ussuriysk Arra**	**11.25**	**3**	P		**Pn**	**Pn**	**18 58 34.0**	**-0.3**
USA0B	**Ussuriysk Arra**	**11.25**	**3**			**Pn**	**Pn**	**18 58 34.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**11.25**	**3**	Pn		**Pn**	**Pn**	**18 58 36.8**	**+2.5**
	baz=195,slow=12,SNR=19								
USRK				LR		LR	LR	19 02 23.7	
	comp=Z,11μm,18.7s,baz=176,slow=35								
USRK	**Ussuriysk Ar.**	**11.25**	**3**	P		**Pn**	**Pn**	**18 58 34.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.25**	**3**			**Pn**	**Pn**	**18 58 34.4**	**+0.1**
TATO	**Taipei**	**11.65**	**229**			**Pn**	**Pn**	**18 58 38.7**	**-1.1**
MDJ	**Mudanjiang**	**11.71**	**354**	P		**Pn**	**Pn**	**18 58 41.9**	**+1.2**
MDJ				S		**Sn**	**Sn**	**19 00 52.9**	**+1.5**
MDJ				pmax		pmax	pmax		
	comp=Z,12nm,1.3s								
MDJ				pmax		pmax	pmax		
	comp=Z,3μm,4.2s								
MDJ				LR		LR	LR		
	comp=Z,23μm,10.0s								
MDJ				LR		LR	LR		
	comp=Z,33μm,11.6s								
MDJ				LR		LR	LR		
	comp=Z,26μm,11.0s								
CN2	**Changchun**	**11.74**	**339**	*e*P		**Pn**	**Pn**	**18 58 44.3**	**+3.3**
CN2				*e*S		**Sn**	**Sn**	**19 00 55.5**	**+3.6**
CN2				pmax		pmax	pmax		
	comp=Z,10.0nm,0.9s								
CN2				pmax		pmax	pmax		
	comp=Z,100nm,3.0s								
CN2				LR		LR	LR		
	comp=Z,33μm,12.0s								
CN2				LR		LR	LR		
	comp=Z,35μm,12.0s								
CN2				LR		LR	LR		
	comp=Z,33μm,14.4s								
YHNB	**Yeheng**	**11.94**	**229**			**Pn**	**Pn**	**18 58 43.3**	**-0.6**
TIA	**Tai'an**	**12.06**	**290**	⇑P		**Pn**	**Pn**	**18 58 49.1**	**+3.5**
TIA				S		Sn	Sn	19 01 10.4	+10
TIA				pmax		pmax	pmax		
	comp=Z,32nm,1.2s								
TIA				pmax		pmax	pmax		
	comp=Z,1μm,4.0s								
TIA				LR		LR	LR		
	comp=Z,83μm,16.2s								
TIA				LR		LR	LR		
	comp=Z,24μm,14.7s								
TIA				LR		LR	LR		
	comp=Z,23μm,9.8s								
NACB	**Ninganchiao**	**12.16**	**226**			**Pn**	**Pn**	**18 58 46.3**	**-0.6**
JEW	**Eniwo**	**12.74**	**36**			**Pn**	**Pn**	**18 58 53.6**	**-1.2**
TEY	**Ternei**	**12.77**	**18**	⇓	*e*P	P	P	18 59 01.2	-5.0
TEY				pmax		pmax	pmax		
	comp=N,60nm,1.1s								
TEY				pmax		pmax	pmax		
	comp=Z,50nm,1.2s								
TEY				pmax		pmax	pmax		
	comp=Z,30nm,1.1s								
SSLB	**Suanglung**	**12.84**	**227**			**Pn**	**Pn**	**18 58 54.6**	**-1.7**
YULB	**Yu-li**	**12.93**	**225**			**Pn**	**Pn**	**18 58 56.5**	**-0.9**
ERM	**Erimo**	**13.09**	**43**	P		**Pn**	**Pn**	**18 58 57.8**	**-1.7**
ERM	**Erimo**	**13.09**	**43**	Pn		**Pn**	**Pn**	**18 58 57.8**	**-1.7**
BNX	**BinXian**	**13.10**	**348**	⇓P		**Pn**	**Pn**	**18 59 02.6**	**+2.9**
BNX				pmax		pmax	pmax		
	comp=E,100nm,1.2s								
BNX				pmax		pmax	pmax		
	comp=E,2μm,4.0s								
TPUB	**Ta-pu**	**13.40**	**227**			**Pn**	**Pn**	**18 59 01.6**	**-2.2**
TWG	**Pinlang**	**13.50**	**224**			**Pn**	**Pn**	**18 59 02.7**	**-2.4**
QZH	**Quanzhou**	**13.63**	**237**	*e*P		**Pn**	**Pn**	**18 59 09.8**	**+2.9**
QZH				S		**Sn**	**Sn**	**19 01 45.9**	**+7.6**
QZH				LR		LR	LR		
	comp=E,21μm,11.8s								
QZH				LR		LR	LR		
	comp=E,21μm,10.1s								
QZH				LR		LR	LR		
	comp=E,16μm,12.5s								
BJI	**Beijing**	**14.01**	**305**	P		**Pn**	**Pn**	**18 59 12.3**	**+0.2**
BJI				pmax		pmax	pmax		
	comp=E,35nm,2.3s								
BJI				LR		LR	LR		
	comp=E,50μm,17.0s								
BJI				LR		LR	LR		
	comp=E,27μm,17.7s								
BJI				LR		LR	LR		
	comp=E,34μm,13.3s								
KNMB	**Chin-men Tao**	**14.07**	**236**			**Pn**	**Pn**	**18 59 10.8**	**-2.2**
HNS	**HongShan**	**14.21**	**293**	⇓P		**Pn**	**Pn**	**18 59 16.0**	**+1.1**
HNS				S		**Sn**	**Sn**	**19 02 00.9**	**+8.4**
HNS				pmax		pmax	pmax		
	comp=E,51nm,2.1s								
HNS				LR		LR	LR		
	comp=E,28μm,16.3s								
HNS				LR		LR	LR		
	comp=E,12μm,15.5s								
HNS				LR		LR	LR		
	comp=E,11μm,15.9s								
ASAJ	**Asahikawa**	**14.25**	**35**	Pn		**Pn**	**Pn**	**18 59 16.7**	**+1.4**
	comp=E,0.7nm,0.3s,baz=238,slow=23,SNR=8.9								
JKA	**Kamikawa-asahi**	**14.25**	**35**				**Pn**	**18 59 13.9**	**-1.4**
WHN	**Wuhan**	**14.56**	**265**	⇑P			**Pn**	**18 59 22.4**	**+2.8**
WHN				LR		LR	LR		
	comp=E,94μm,10.5s								
WHN				LR		LR	LR		
	comp=E,39μm,12.8s								
WHN				LR		LR	LR		
	comp=E,42μm,12.7s								
LYN	**LuoYang**	**15.68**	**281**	⇓P			**Pn**	**18 59 35.1**	**+0.5**
LYN				pmax		pmax	pmax		
	comp=E,4μm,4.1s								
LYN				LR		LR	LR		
	comp=E,32μm,13.7s								
LYN				LR		LR	LR		
	comp=E,11μm,14.5s								
LYN				LR		LR	LR		
	comp=E,20μm,10.2s								
TIY	**Taiyuan**	**16.05**	**292**	*e*P		**P**	**P**	**18 59 41.9**	**-0.9**
TIY				pmax		pmax	pmax		
	comp=E,2μm,4.3s								
TIY				LR		LR	LR		
	comp=E,46μm,14.7s								
TIY				LR		LR	LR		
	comp=E,14μm,14.7s								
TIY				LR		LR	LR		
	comp=E,13μm,12.9s								
XLT	**XiLinHaoTe**	**16.10**	**317**	⇑	*i*P		**Pn**	**18 59 41.6**	**+1.5**
XLT					sP		sP	18 59 49.3	+0.8
XLT				S			**Sn**	**19 02 38.1**	**-0.5**
XLT				pmax		pmax	pmax		
	comp=E,41nm,1.9s								
XLT				pmax		pmax	pmax		
	comp=E,1μm,3.6s								
XLT				LR		LR	LR		
	comp=E,14μm,11.0s								
XLT				LR		LR	LR		
	comp=E,22μm,13.1s								
KLR	**Kul'dur**	**16.27**	**1**	Pn			**P**	**18 59 44.7**	**-0.3**
	comp=E,2.6nm,0.3s,baz=166,slow=8.8,SNR=103								
KLR				LR		LR	LR	19 05 11.7	
	comp=E,7μm,20.8s,baz=179,slow=34								
KLR	**Kul'dur**	**16.27**	**1**	*de*P			**P**	**18 59 44.2**	**-0.8**
CNSH	**ChangSha**	**16.45**	**258**	⇑P			**Pn**	**18 59 45.6**	**+1.1**
CNSH				S			**Sn**	**19 02 51.1**	**+4.0**
CNSH				pmax		pmax	pmax		
	comp=E,130nm,1.9s								
CNSH				LR		LR	LR		
	comp=E,11μm,10.0s								
CNSH				LR		LR	LR		
	comp=E,15μm,11.1s								
CNSH				LR		LR	LR		
	comp=E,14μm,12.3s								
YSS	**Yuzh-Sakhalins**	**16.52**	**29**	⇑	*i*P		**P**	**18 59 47.7**	**-0.1**
YSS					*e*S		**Sn**	**19 02 51.3**	**+2.9**
YSS				pmax		pmax	pmax		
	comp=Z,140nm,1.1s								
YSS				MLR		MLR	MLR		
	comp=N,8μm,12.0s								
YSS				MLR		MLR	MLR		
	comp=E,17μm,12.0s								
YSS				MLR		MLR	MLR		
	comp=Z,17μm,12.0s								
YSS	**Yuzh-Sakhalins**	**16.52**	**29**	P			**Pn**	**18 59 43.0**	**-2.2**
APYP	**Conner**	**17.51**	**213**	*e*P			**P**	**18 59 58.7**	**-0.2**
HHC	**Hu-ho-hao-te**	**17.56**	**302**	*e*P			**P**	**19 00 00.8**	**+1.2**
HHC				S			**Sn**	**19 03 11.6**	**-2.5**
HHC				pmax		pmax	pmax		
	comp=Z,23nm,1.3s								
HHC				pmax		pmax	pmax		
	comp=Z,690nm,4.1s								
HHC				LR		LR	LR		
	comp=Z,11μm,9.2s								
HHC				LR		LR	LR		
	comp=Z,19μm,8.9s								
HHC				LR		LR	LR		
	comp=Z,28μm,8.3s								
UGL	**Uglegorsk**	**18.04**	**24**	*e*P			**P**	**19 00 07.0**	**+2.4**
UGL				S			**Sn**	**19 03 22.0**	**-3.2**
UGL				pmax		pmax	pmax		
	comp=Z,175nm,1.8s								
UGL				smax		smax	smax		
	comp=E,4μm,12.4s								
UGL				smax		smax	smax		
	comp=N,2μm,8.9s								
UGL				MLR		MLR	MLR		
	comp=Z,12μm,14.0s								
UGL				MLR		MLR	MLR		
	comp=N,6μm,15.0s								
UGL				MLR		MLR	MLR		
	comp=E,8μm,13.0s								
HIA	**Hailar**	**18.41**	**336**	*d*	*i*P		**P

GYA sP sP 19 00 56.8 +0.7
GYA S **S** **19 05 00.3 +4.4**
GYA pmax pmax
comp=N,83nm,1.6s
GYA pmax pmax
comp=N,1μm,4.4s
GYA LR LR
comp=N,24μm,10.2s
GYA LR LR
comp=N,9μm,9.9s
GYA LR LR
comp=N,20μm,12.0s
LZH Lanzhou 22.75 286 *e*P **P** **19 00 56.4 +0.4**
LZH sP sP 19 01 03.8 +2.6
LZH sS sS 19 05 09.4 -1.5
LZH pmax pmax
comp=N,130nm,1.2s
LZH pmax pmax
comp=N,2μm,5.5s
LZH LR LR
comp=N,24μm,11.9s
LZH LR LR
comp=N,10μm,11.9s
LZH LR LR
comp=N,12μm,14.6s
GUMO Guam 22.95 144 P **P** **19 00 59.3 +1.3**
comp=N,151nm,0.9s,baz=247,slow=1.4,SNR=6.9
GUMO Guam 22.95 144 P **P** **19 00 57.5 -0.6**
GUMO pmax pmax
comp=Z,668nm,1.4s
GUMO Guam 22.95 144 P **P** **19 00 57.5 -0.6**
CIT Chita 22.97 331 *e*P **P** **19 00 58.4 +0.3**
CIT *e* 19 01 27.3
CIT *e* 19 05 40.4
CIT pmax pmax
comp=Z,567nm,2.4s
CD2 Chengdu 23.38 272 P **P** **19 01 02.1 -0.3**
CD2 S **S** **19 05 10.8 -4.5**
CD2 pmax pmax
comp=Z,180nm,1.0s
CD2 pmax pmax
comp=Z,2μm,4.3s
CD2 LR LR
comp=Z,6μm,14.2s
CD2 LR LR
comp=Z,32μm,13.2s
CD2 LR LR
comp=Z,21μm,9.6s
MSLP Maasin 23.45 196 *e*P **P** **19 01 03.3 +0.1**
ULN Ulaanbaatar 23.54 316 *de*P **P** **19 01 04.3 +0.3**
ULN pmax pmax
comp=Z,247nm,0.9s
QIZ Qiongzhong 23.63 239 P **P** **19 01 06.6 +1.6**
QIZ S **S** **19 05 21.4 +1.9**
QIZ pmax pmax
comp=Z,34nm,1.3s
QIZ LR LR
comp=Z,21μm,14.0s
QIZ LR LR
comp=Z,14μm,11.2s
QIZ LR LR
comp=Z,10μm,13.5s
SONM Songino Array 23.91 316 P **P** **19 01 08.4 +0.8**
comp=Z,63nm,0.8s,baz=129,slow=7.0,SNR=45
SONM Songino Array 23.91 316 P **P** **19 01 06.4 -1.2**
SONM pmax pmax
comp=Z,76nm,0.9s
SONM Songino Array 23.91 316 P **P** **19 01 06.4 -1.2**
SONM IAmb IAmb 19 01 13.6
comp=Z,76nm,0.9s
CUYO Cuyo Island 23.92 205 *e*P **P** **19 01 06.1 -1.6**
CNOP Candoni, Negro 24.34 201 *e*P **P** **19 01 10.1 -1.5**
KMI Kunming 26.04 260 ⇑P **P** **19 01 27.6 +0.3**
KMI pP sP 19 01 32.1 -0.5
KMI sP pP 19 01 35.5 +4.4
KMI S **S** **19 05 51.9 -6.4**
KMI pmax pmax
comp=Z,29nm,1.2s
KMI pmax pmax
comp=Z,790nm,4.5s
KMI LR LR
comp=Z,12μm,10.9s
KMI LR LR
comp=Z,8μm,13.3s
KMI LR LR
comp=Z,17μm,12.9s
GTA Gaotai 26.07 293 ⇑P **P** **19 01 27.3 -0.1**
GTA pP pP 19 01 31.4 +0.2
GTA sP sP 19 01 34.8 +2.1
GTA pmax pmax
comp=Z,20nm,1.1s
GTA pmax pmax
comp=Z,1μm,6.4s
GTA LR LR
comp=Z,39μm,17.1s
GTA LR LR
comp=Z,9μm,15.1s
GTA LR LR
comp=Z,12μm,15.1s
PZH PanZhiHua 26.34 264 P **P** **19 01 29.3 -0.6**
PZH pP **pP** **19 01 33.4 -0.3**
PZH sP **sP** **19 01 35.8 +0.6**
PZH S **S** **19 06 10.5 +7.6**
PZH sS **sS** **19 06 16.3 +7.1**
PZH pmax pmax
comp=Z,50nm,1.2s
PZH pmax pmax
comp=Z,150nm,5.6s
PZH LR LR
comp=Z,10μm,13.3s
PZH LR LR
comp=Z,12μm,12.2s
PZH LR LR
comp=Z,10μm,13.0s
ZAK Zakamensk 26.95 319 *e*P **P** **19 01 35.4 +0.3**
ZAK pmax pmax
comp=Z,129nm,1.3s
BOD Bodaibo 27.49 340 *e*P **P** **19 01 39.6 -0.1**
BOD pmax pmax
comp=Z,56nm,1.7s
PETK Petropavlovsk- 27.67 35 P **P** **19 01 42.8 +1.3**
comp=Z,8.8nm,0.9s,baz=200,slow=3.0,SNR=4.1
PETK Petropavlovsk- 27.67 35 P **P** **19 01 37.4 -4.0**
PET Petropavlovsk 28.09 36 *e*P **P** **19 01 43.1 -2.1**
PET pmax pmax
comp=Z,99nm,1.2s
PET MLR MLR
comp=Z,13μm,20.0s
PET Petropavlovsk 28.09 36 P **P** **19 01 43.0 -2.1**
MOY Mondy 28.84 319 *e*P **P** **19 01 52.4 +0.4**
MOY pmax pmax
comp=Z,73nm,2.4s
YAK Yakutsk 29.11 359 P **P** **19 01 53.0 -1.1**
comp=Z,12nm,0.7s,baz=161,slow=4.3,SNR=17
YAK Yakutsk 29.11 359 *e*P **P** **19 01 53.5 -0.6**
YAK *e**PP **sP** **19 02 02.6 +3.1**
YAK *e* 19 02 46.8
YAK *e*S **S** **19 06 46.3 +0.8**
YAK *e*SS **SnSn** **19 08 13.2 +3.7**
YAK *e* 19 12 40.0
YAK pmax pmax
comp=Z,44nm,1.1s
YAK pmax pmax
comp=N,99nm,1.7s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,362nm,5.8s
YAK pmax pmax
comp=N,594nm,8.9s
YAK pmax pmax
comp=E,683nm,9.1s
YAK smax smax
comp=N,3μm,14.4s
YAK smax smax
comp=E,1μm,11.6s
YAK MLR MLR
comp=Z,5μm,17.0s
YAK MLR MLR
comp=N,3μm,18.0s
YAK MLR MLR
comp=E,3μm,18.0s
YAK Yakutsk 29.11 359 P **P** **19 01 52.0 -2.2**
YAK IAmb IAmb 19 01 58.9
comp=Z,65nm,0.9s
UBPT Khong Chiam 29.23 239 P **P** **19 01 52.4 -3.3**

MA2 Magadan 29.63 20 P **P** **19 01 58.4 -0.4**
comp=Z,11nm,0.7s,baz=204,slow=10,SNR=9.4
MA2 Magadan 29.63 20 *de*P **P** **19 01 58.8 0.0**
MA2 pmax pmax
comp=Z,51nm,1.7s
MA2 Magadan 29.63 20 P **P** **19 01 56.4 -2.3**
MA2 IAmb IAmb 19 02 06.3
comp=Z,62nm,1.4s
GOMU GeErMu 30.04 286 P **P** **19 02 03.8 +0.7**
GOMU pP pP 19 02 07.4 +0.4
GOMU sP sP 19 02 11.0 +2.5
GOMU S **S** **19 07 07.3 +5.8**
GOMU pmax pmax
comp=Z,49nm,1.1s
GOMU LR LR
comp=Z,9μm,13.3s
GOMU LR LR
comp=Z,5μm,13.7s
GOMU LR LR
comp=Z,4μm,13.5s
MYLDM Lahad Datu 30.07 206 P **P** **19 02 01.9 -1.1**
MYLDM IAmb IAmb 19 02 09.5
comp=Z,161nm,1.8s
KKM Kota Kinabalu 30.20 211 P **P** **19 02 03.1 -1.2**
KNGR Kungurtug, Tuv 30.35 316 *c i*P **P** **19 02 06.1 +0.7**
LKP Lekhapani 31.00 269 *e*P **P** **19 02 11.2 -0.1**
LKP IAmb IAmb 19 02 15.5
comp=Z,68nm,0.9s
MNI Manado 31.91 192 P **P** **19 02 19.0 -0.3**
MNI pmax pmax
comp=Z,172nm,1.0s
CHTO Chiang Mai 32.13 252 P **P** **19 02 19.7 -1.5**
CHTO *PP **P** **19 02 20.2 -1.1**
CHTO Chiang Mai 32.13 252 P **P** **19 02 19.7 -1.5**
CHTO IAmb IAmb 19 02 28.2
comp=Z,34nm,1.0s
CHTO Chiang Mai 32.13 252 **P** **19 02 20.2 -1.1**
CHTO Chiang Mai 32.13 252 P **P** **19 02 21.8 +0.6**
TNTI Ternate 32.22 187 P **P** **19 02 20.4 -1.6**
TNTI IAmb IAmb 19 02 35.6
comp=Z,95nm,1.2s
TNTI Ternate 32.22 187 P **P** **19 02 22.5 +0.5**
comp=Z,67nm,1.2s
CM31 Chiang Mai Arr 32.32 251 P **P** **19 02 23.0 +0.1**
CM31 Chiang Mai Arr 32.32 251 P **P** **19 02 24.7 +1.7**
CMAR Chiang Mai Arr 32.32 251 P **P** **19 02 23.9 +1.0**
comp=Z,15nm,1.0s,baz=50,slow=6.1,SNR=69
CMAR LR LR 19 14 48.3
comp=Z,5μm,20.6s,baz=70,slow=35
CMAR Chiang Mai Arr 32.32 251 *i* P **P** **19 02 23.8 +0.9**
CMAR pmax pmax
comp=Z,16nm,0.9s
CMAR Chiang Mai Arr 32.32 251 P **P** **19 02 22.7 -0.2**
MOKO MOKOCHONG 32.47 268 *e*P **P** **19 02 22.9 -1.4**
MOKO IAmb IAmb 19 02 32.5
comp=Z,50nm,1.1s
SEY Seymchan 32.85 18 P **P** **19 02 27.1 +0.1**
comp=Z,8.4nm,0.8s,baz=217,slow=9.0,SNR=9.6
SEY Seymchan 32.85 18 ⇑*i*P **P** **19 02 28.1 +1.0**
SEY pmax pmax
comp=Z,42nm,1.7s
ITAN ITANAGAR 32.85 270 *e*P **P** **19 02 28.1 +0.5**
ITAN IAmb IAmb 19 02 38.6
comp=Z,205nm,0.9s
KOHI KOHIMA 33.02 267 *e*P **P** **19 02 28.8 -0.4**
GTOI Gorontalo 33.06 195 P **P** **19 02 30.1 +0.7**
comp=Z,9.2nm,1.1s
TOLI2 Tolitoli 33.16 199 P **P** **19 02 28.3 -2.0**
TOLI2 IAmb IAmb 19 02 33.3
comp=Z,36nm,1.0s
MRSI Marisa 33.47 197 P **P** **19 02 33.5 +0.6**
comp=Z,2μmcomp=Z,32nm,1.3s
LBMI Labuha 33.59 187 P **P** **19 02 36.6 +2.6**
comp=Z,2μmcomp=Z,65nm,1.2s
SWI Sorong 33.63 180 P **P** **19 02 34.9 +0.5**
SWI pmax pmax
comp=Z,45nm,1.0s
SWI Sorong 33.63 180 P **P** **19 02 38.0 +3.6**
comp=Z,45nm,1.0s
SIJI Sorong 33.64 180 P **P** **19 02 34.4 0.0**
comp=Z,26nm,0.9s,baz=351,slow=14,SNR=6.5
TEZP TEZPUR 33.80 269 *e*P **P** **19 02 35.4 -0.5**
TEZP IAmb IAmb 19 02 41.6
comp=Z,106nm,1.0s
MPSI Mapaga 34.15 200 P **P** **19 02 40.0 +1.1**
comp=Z,3μmcomp=Z,21nm,1.1s
LSA Lhasa 34.24 276 P **P** **19 02 41.9 +1.7**
LSA pmax pmax
comp=Z,29nm,1.4s
LSA Lhasa 34.24 276 P **P** **19 02 41.3 +1.1**
LSA pmax pmax
comp=Z,25nm,1.5s
LSA Lhasa 34.24 276 *i* P **P** **19 02 41.9 +1.7**
SNR=18
WAKE Wake Island 34.43 104 P **P** **19 02 40.5 -0.8**
LUWI Luwuk 34.74 195 P **P** **19 02 42.6 -1.3**
LUWI IAmb IAmb 19 02 58.8
comp=Z,57nm,1.0s
APSI Ampana 34.87 197 P P 19 02 53.0 +7.9
GUWA GUWAHATI 34.88 269 *e*P **P** **19 02 44.2 -1.0**
GUWA IAmb IAmb 19 02 50.4
comp=Z,67nm,0.6s
SHL Shillong 34.95 268 P **P** **19 02 43.9 -2.1**
SHL pmax pmax
comp=Z,34nm,0.9s
SHL Shillong 34.95 268 P **P** **19 02 43.9 -2.1**
SHL IAmb IAmb 19 02 51.0
comp=Z,34nm,0.9s
SHL Shillong 34.95 268 *e*P **P** **19 02 45.3 -0.7**
SHL IAmb IAmb 19 02 51.7
comp=Z,16nm,0.9s
SANI Sanana 35.16 189 P **P** **19 02 46.4 -1.2**
comp=Z,58nm,0.9s
SBUM Sibu 35.19 214 P **P** **19 02 46.4 -1.5**
WMQ Urumqi 35.43 301 *e*P **P** **19 02 50.8 +0.9**
WMQ sP sP 19 02 59.4 +4.1
WMQ pmax pmax
comp=Z,97nm,1.7s
WMQ pmax pmax
comp=Z,230nm,4.9s
WMQ LR LR
comp=Z,24μm,17.5s
WMQ LR LR
comp=Z,8μm,12.1s
WMQ LR LR
comp=Z,4μm,17.5s
MSAI Masohi 36.17 184 P **P** **19 02 58.6 +2.4**
comp=Z,203nmcomp=Z,19nm,1.4s
PATS Pohnpei 36.17 130 P **P** **19 02 55.1 -1.2**
TURI Tura 36.26 269 *e*P **P** **19 02 57.4 +0.4**
SMY Shemya 36.44 44 P **P** **19 02 57.2 -1.0**
SMY Shemya 36.44 44 P **P** **19 02 57.2 -1.0**
AAI Ambon 36.55 185 P **P** **19 03 00.4 +0.9**
AAI pmax pmax
comp=Z,122nm,0.9s
AAI Ambon 36.55 185 P **P** **19 03 00.3 +0.8**
comp=Z,123nm,0.9s
KSM Kuching 36.97 216 P **P** **19 03 02.0 -1.1**
KSM IAmb IAmb 19 03 09.7
comp=Z,84nm,1.4s
MTKI Muara Teweh, K 37.07 208 P **P** **19 03 08.4 +4.5**
comp=Z,2μmcomp=Z,22nm,1.2s
GTK Tadong 37.10 273 *e*P **P** **19 03 04.0 -0.3**
STKI Sintang 37.63 214 P **P** **19 03 10.8 +2.1**
comp=Z,7.8nm,1.5s
ZSN Zaisan 37.68 307 *e*P **P** **19 03 07.4 -1.5**
ZSN *e*S **S** **19 08 57.7 -1.0**
ZSN pmax pmax
comp=Z,103nm,3.5s
ZSN Zaisan 37.68 307 *e*P **P** **19 03 07.5 -1.5**
comp=Z,102nm,3.5s,baz=307
ZSN *e*S **S** **19 08 57.8 -1.0**
baz=307
TAPN Taplejung 37.84 273 *e*P **P** **19 03 10.8 0.0**
SRIT Nakonsritamara 37.96 237 P **P** **19 03 10.4 -1.1**
SRIT IAmb IAmb 19 03 17.1
comp=Z,54nm,1.2s
MANU Manus Island 38.01 153 P **P** **19 03 11.0 -0.9**
ODAN Odare 38.27 273 *e*P **P** **19 03 14.7 +0.3**
comp=Z,93nm,0.8s
TIXI Tiksi 38.78 359 P **P** **19 03 16.7 -1.1**
comp=Z,5.7nm,0.7s,baz=90,slow=20,SNR=20
TIXI Tiksi 38.78 359 P **P** **19 03 15.6 -2.2**
TIXI IAmb_20 IAmb_20 19 19 09.4
comp=Z,8μm,22.0s

ZAA0 Zalesovo Array 38.80 317 P **P** **19 03 16.1 -2.0**
ZALV Zalesovo Beam 38.80 317 P **P** **19 03 18.1 -0.1**
comp=Z,5.8nm,0.8s,baz=95,slow=7.4,SNR=17
ZALV PcP **PcP** **19 05 31.4 +2.1**
comp=Z,7.9nm,0.9s,baz=110,slow=3.2,SNR=5.3
ZALV Zalesovo Beam 38.80 317 *i* P **P** **19 03 19.2 +1.0**
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV Zalesovo Beam 38.80 317 P **P** **19 03 16.0 -2.2**
RAMN Ramite 38.90 273 *e*P **P** **19 03 19.8 +0.1**
comp=Z,45nm,0.8s
BBSI Bau Bau 39.10 194 P **P** **19 03 25.5 +4.4**
comp=Z,57nmcomp=Z,4.9nm,1.1s
GUN Gumba 39.19 275 *e*P **P** **19 03 22.3 +0.1**
comp=Z,456nm,0.9s
KAPI Kappang 39.30 198 P **P** **19 03 21.9 -0.8**
comp=Z,23nm,1.0s,baz=27,slow=5.0,SNR=12
KAPI Kappang 39.30 198 P **P** **19 03 20.4 -2.3**
KAPI pmax pmax
comp=Z,124nm,1.5s
KAPI Kappang 39.30 198 P **P** **19 03 20.4 -2.3**
KAPI IAmb IAmb 19 03 27.4
comp=Z,124nm,1.5s
MK31 Makanchi Array 39.39 305 *c i*P **P** **19 03 23.7 +0.4**
MK31 Makanchi Array 39.39 305 P **P** **19 03 20.7 -2.5**
MKAR Makanchi Array 39.39 305 P **P** **19 03 23.2 -0.1**
comp=Z,6.2nm,0.7s,baz=91,slow=9.8,SNR=23
MKAR PcP **PcP** **19 05 31.4 0.0**
comp=Z,7.3nm,1.0s,baz=92,slow=4.9,SNR=3.6
MKAR Makanchi Array 39.39 305 P **P** **19 03 21.7 -1.6**
MKAR Makanchi Array 39.39 305 P **P** **19 03 21.7 -1.6**
BBKI Banjar Baru 39.40 206 P **P** **19 03 24.0 +0.4**
comp=Z,133nm,1.0s
MAKZ Makanchi 39.60 305 P **P** **19 03 23.7 -1.4**
MAKZ pmax pmax
comp=Z,26nm,1.2s
MAKZ Makanchi 39.60 305 P **P** **19 03 23.7 -1.4**
KULM Kulim 39.61 233 P **P** **19 03 24.1 -1.2**
KULM IAmb IAmb 19 03 30.6
comp=Z,91nm,1.3s
PKI Pulchoki 39.69 275 *e*P **P** **19 03 25.9 -0.5**
comp=Z,139nm,1.1s
PKIN Phulchoki 39.70 275 *e*P **P** **19 03 25.9 -0.5**
comp=Z,105nm,0.9s
KKN Kakani 39.73 275 *e*P **P** **19 03 26.5 -0.1**
DMN Daman 39.94 275 *e*P **P** **19 03 28.7 +0.4**
IPM Ipoh 39.96 231 P **P** **19 03 27.2 -1.1**
IPM IAmb IAmb 19 03 32.7
comp=Z,127nm,1.2s
DGPR DIGLIPUR 40.06 250 *e*P **P** **19 03 29.3 +0.1**
DGPR IAmb IAmb 19 03 49.5
comp=Z,127nm,1.3s
GKN Gorkha 40.20 276 *e*P **P** **19 03 30.0 -0.4**
MYKOM Kota Tinggi 40.26 225 P **P** **19 03 29.7 -1.1**
BILL Bilibino 40.49 19 *de*P **P** **19 03 33.4 +1.3**
BILL *e* 19 05 08.7
BILL pmax pmax
comp=Z,146nm,1.5s
BILL MLR MLR
comp=Z,5μm,17.0s
BILL Bilibino 40.49 19 P **P** **19 03 32.3 +0.2**
BILL IAmb IAmb 19 03 40.2
comp=Z,200nm,1.5s
TPRI Tanjung Pinang 40.56 224 P P 19 03 39.8 +6.5
comp=Z,50nm,1.2s
SAUI Saumlaki 40.71 180 P **P** **19 03 32.6 -1.8**
SAUI IAmb IAmb 19 03 39.9
comp=Z,98nm,0.8s
DANN Dangsing 40.82 277 *e*P **P** **19 03 35.5 -0.2**
comp=Z,272nm,0.9s
SEM Semipalatinsk 40.99 311 *e*P **P** **19 03 34.8 -1.9**
SEM *e*S **S** **19 09 48.3 -0.4**
SEM pmax pmax
comp=Z,80nm,1.8s
SEM MLR MLR
comp=Z,2μm,14.0s
SEM Semipalatinsk 40.99 311 *e*P **P** **19 03 34.8 -1.9**
comp=Z,80nm,1.8s,baz=311
SEM *e*S **S** **19 09 48.4 -0.4**
baz=311
SEM LR LR 19 20 46.3
comp=Z,2μm,14.1s,baz=311
PBA Port Blair 41.11 248 P **P** **19 03 35.6 -2.2**
PBA Port Blair 41.11 248 *e*P **P** **19 03 39.9 +2.1**
PBA Port Blair 41.11 248 P **P** **19 03 38.8 +1.0**
KOLN Koldanda 41.14 276 *e*P **P** **19 03 37.9 -0.4**
comp=Z,122nm,0.9s
PDGK Podgornoye 41.40 300 *i* P **P** **19 03 38.6 -1.5**
PDGK pmax pmax
comp=Z,21nm,0.9s
SHLS Shalkode 41.43 300 *e*P **P** **19 03 35.8 -4.5**
SHLS Shalkode 41.43 300 *e*P **P** **19 03 35.9 -4.5**
baz=300
PYUN Piuthan 41.55 277 *e*P **P** **19 03 41.3 -0.3**
comp=Z,345nm,1.1s
KIWB Kanaga Island 41.55 47 P **P** **19 03 40.3 -0.8**
UZB Uzynbulak 41.75 300 *e*P **P** **19 03 41.5 -1.5**
UZB *e*S **S** **19 09 59.1 -1.0**
UZB pmax pmax
comp=Z,79nm,2.1s
UZB Uzynbulak 41.75 300 *e*P **P** **19 03 41.5 -1.5**
comp=Z,79nm,2.1s,baz=300
UZB *e*S **S** **19 09 59.1 -1.0**
baz=300
ADK Adak 41.84 47 P **P** **19 03 42.5 -0.9**
ADK pmax pmax
comp=Z,142nm,1.2s
ADK Adak 41.84 47 P **P** **19 03 42.5 -0.9**
ADK IAmb IAmb 19 03 52.6
comp=Z,142nm,1.1s
RABL Rabaul 41.94 148 P **P** **19 03 44.6 0.0**
KPKS Kokpek 41.97 300 *e*P **P** **19 03 43.0 -1.7**
KPKS pmax pmax
comp=Z,70nm,2.3s
KPKS Kokpek 41.97 300 *e*P **P** **19 03 43.1 -1.7**
comp=Z,70nm,2.3s,baz=300
KURK Kurchatov 42.05 311 *d i*P **P** **19 03 45.2 0.0**
KURK pmax pmax
comp=Z,96nm,1.7s
KURK Kurchatov 42.05 311 P **P** **19 03 43.3 -1.9**
KURK IAmb IAmb 19 03 56.1
comp=Z,114nm,1.4s
KURK Kurchatov 42.05 311 IAMs_20 IAMs_20 19 20 29.8
comp=Z,9μm,20.0s
KURK Kurchatov 42.05 311 P **P** **19 03 44.9 -0.3**
TDK Taldyqorghan 42.09 303 *e*P **P** **19 03 44.0 -1.6**
TDK MLR MLR
comp=Z,4μm,15.0s
TDK Taldyqorghan 42.09 303 *e*P **P** **19 03 44.1 -1.6**
baz=303
TDK LR LR 19 21 20.5
comp=Z,4μm,15.4s,baz=303
KURBB Kurchatov Arra 42.10 311 P **P** **19 03 45.3 -0.3**
comp=Z,19nm,0.9s,baz=96,slow=8.8,SNR=87
ZHN Zhinishke 42.18 300 *e*P **P** **19 03 44.6 -1.8**
ZHN Zhinishke 42.18 300 *e*P **P** **19 03 44.7 -1.8**
baz=300
SATY Saty 42.21 300 *e*P **P** **19 03 44.9 -1.8**
SATY Saty 42.21 300 *e*P **P** **19 03 44.9 -1.8**
baz=300
MMRI Maumere 42.23 193 P **P** **19 03 45.2 -1.7**
MMRI IAmb IAmb 19 03 49.0
comp=Z,130nm,1.4s
MMRI Maumere 42.23 193 P **P** **19 03 49.6 +2.7**
comp=Z,51nm,1.0s
GSTR Great Sitkin T 42.25 47 P **P** **19 03 45.3 -1.5**
KCSI Kotacane, Aceh 42.84 234 P P 19 03 58.8 +6.8
BKNI Bangkinang 43.13 227 P **P** **19 03 53.7 -0.6**
BKNI Bangkinang 43.13 227 P **P** **19 03 55.8 +1.5**
comp=Z,134nm,1.1s
CHKK Chushkaly 43.17 301 *e*P **P** **19 03 53.3 -1.1**
CHKK Chushkaly 43.17 301 *e*P **P** **19 03 53.3 -1.1**
baz=301
MDOK Medeo 43.19 300 *e*P **P** **19 03 53.0 -1.7**
MDOK MLR MLR
comp=Z,4μm,16.0s
MDOK Medeo 43.19 300 *e*P **P** **19 03 53.0 -1.7**
baz=300
MDOK LR LR 19 21 19.6
comp=Z,4μm,15.9s,baz=300
KDJ Kajisay 43.19 298 P **P** **19 03 53.5 -1.3**
KDJ pmax pmax
comp=Z,24nm,1.1s
KDJ Kajisay 43.19 298 P **P** **19 03 53.5 -1.3**
TNSS Tian-Shan 43.27 300 *e*P **P** **19 03 54.2 -1.5**

TNSS Tian-Shan 43.27 300 *e*P P 19 03 54.3 -1.5
baz=300
AAA Alma-Ata 43.28 300 *e*P P 19 03 53.9 -1.4
AAA pmax pmax
comp=Z,39nm,1.0s
AAA MLR MLR
comp=Z,6µm,16.0s
AAA Alma-Ata 43.28 300 *e*P P 19 03 54.0 -1.4
comp=Z,39nm,1.0s,baz=300
AAA LR LR 19 21 10.7
comp=Z,6µm,15.9s,baz=300
PTH Pithoragarh 43.40 280 *e*P P 19 03 56.4 -0.2
LGTI Lohaghat 43.40 280 *e*P P 19 03 57.4 +1.1
PLAI Plampang 43.48 200 P P 19 04 00.7 +3.7
comp=Z,2µmcomp=Z,52nm,1.3s
ALBI Allahabad 43.51 273 *e*P P 19 03 57.6 +0.3
BATI Baumata 43.52 191 P P 19 03 55.9 -1.5
comp=Z,69nm,0.9s,baz=28,slow=0.6,SNR=11
BATI Baumata 43.52 191 P P 19 03 56.4 -1.0
comp=Z,47nm,1.1s
PMBI Palembang 43.59 220 P P 19 03 58.3 +0.4
PMBI Palembang 43.59 220 P P 19 04 06.0 +8.0
MNSI Mandailing Nat 43.68 229 P P 19 03 58.6 -0.1
comp=Z,84nm,1.1s
NRIK Noril'sk 43.78 339 P P 19 03 59.2 +0.3
comp=Z,53nm,1.0s,baz=120,slow=8.7,SNR=32
NRIK LR LR 19 22 59.1
comp=Z,3µm,21.0s,baz=298,slow=37
NRIK Noril'sk 43.78 339*c i*P P 19 03 59.4 +0.5
NRIK pmax pmax
comp=Z,58nm,0.9s
NRIK Noril'sk 43.78 339 P P 19 03 58.2 -0.7
NRIK IAmb IAmb 19 04 04.2
comp=Z,58nm,1.0s
WBSI Waikabubak, Su 43.83 197 P P 19 04 06.0 +6.1
comp=Z,36nm,0.9s
ULHL Ulahol 43.87 299 P P 19 04 00.6 +0.3
SNR=15
BOOM Boomskoye usch 44.07 299 P P 19 04 00.4 -1.5
BOOM pmax pmax
comp=Z,25nm,1.1s
BOOM Boomskoye usch 44.07 299 P P 19 04 00.4 -1.5
PPI Padang Panjang 44.13 227 P P 19 04 02.9 +0.5
comp=Z,896nmcomp=Z,41nm,1.2s
MIDW Midway 44.16 82 P P 19 04 01.5 -1.0
TKM2 Tokmak 2 44.27 300 P P 19 04 04.7 +1.2
SNR=16
TKM2 Tokmak 2 44.27 300 *i* P P 19 04 04.4 +0.9
TKM2 pmax pmax
comp=Z,35nm,0.7s
JAGI Jajag, Banyuwa 44.29 205 P P 19 04 01.0 -2.5
JAGI IAmb IAmb 19 04 36.0
comp=Z,64nm,1.5s
SMRI Semarang 44.42 210 P P 19 04 01.8 -2.9
SMRI Semarang 44.42 210 P P 19 04 06.8 +2.1
comp=Z,48nm,0.4s
KSH Kashi 44.45 295 P P 19 04 08.9 +4.0
KSH sP sP 19 04 16.9 +6.5
KSH PP PP 19 05 57.5 +9.0
KSH pmax pmax
comp=Z,28nm,1.7s
KSH LR LR
comp=Z,5µm,14.6s
KSH LR LR
comp=Z,8µm,18.1s
KSH LR LR
comp=Z,8µm,18.7s
GSI Gunungsitoli 44.60 232 P P 19 04 05.2 -0.9
GSI Gunungsitoli 44.60 232 P P 19 04 05.8 -0.4
comp=Z,186nm,1.5s
PWJI Pagerwojo 44.75 208 P P 19 04 08.1 +0.9
comp=Z,57nm,1.0s
KBK Karagaybulak 44.78 299 P P 19 04 08.4 +0.9
SNR=22
PMG Port Moresby 44.78 157 P P 19 04 07.7 +0.3
comp=Z,18nm,0.9s,baz=306,slow=3.7,SNR=4.1
PMG Port Moresby 44.78 157 P P 19 04 06.5 -1.0
PMG 19 05 47.1
PMG pmax pmax
comp=Z,55nm,1.3s
PMG Port Moresby 44.78 157 P P 19 04 06.5 -1.0
PMG IAmb IAmb 19 04 51.4
comp=Z,55nm,1.3s
PMG PcP PcP 19 05 47.1 -2.5
KRJI Kerinci 44.78 225 P P 19 04 11.3 +3.6
comp=Z,6µmcomp=Z,356nm,1.8s
CHMS Chumysh 44.88 300 P P 19 04 08.9 +0.7
SNR=13
CHMS Chumysh 44.88 300 *i* P P 19 04 08.5 +0.3
CHMS pmax pmax
comp=Z,20nm,0.9s
SGDS Sogindy 44.92 301 *e*P P 19 04 07.0 -1.4
SGDS Sogindy 44.92 301 *e*P P 19 04 07.1 -1.4
baz=301
FRU1 Bishkek 44.99 300 P P 19 04 08.4 -0.7
FRU1 IAmb IAmb 19 04 20.0
comp=Z,72nm,1.2s
FRU1 PcP PcP 19 05 48.6 -1.5
USP Ospenovka 45.03 300 P P 19 04 09.6 +0.2
SNR=22
USP Ospenovka 45.03 300 P P 19 04 09.9 +0.5
USP pmax pmax
comp=Z,31nm,1.0s
AAK Ala-Archa 45.11 299 P P 19 04 10.7 +0.6
SNR=15
AAK Ala-Archa 45.11 299 P P 19 04 10.2 +0.1
comp=Z,16nm,0.8s,baz=108,slow=5.5,SNR=42
AAK PcP PcP 19 05 51.1 +0.4
comp=Z,6.4nm,0.6s,baz=131,slow=2.9,SNR=3.2
AAK LR LR 19 23 55.2
comp=Z,10µm,18.1s,baz=298,slow=37
AAK Ala-Archa 45.11 299*d i*P P 19 04 10.7 +0.6
AAK pmax pmax
comp=Z,39nm,1.7s
AAK Ala-Archa 45.11 299 P P 19 04 08.4 -1.7
AAK Ala-Archa 45.11 299 P P 19 04 10.8 +0.6
AAK P P 19 04 10.8 +0.6
AAK Ala-Archa 45.11 299 *i* P P 19 04 10.7 +0.6
SNR=33
UCH Uchtor 45.15 299 P P 19 04 12.2 +1.4
SNR=48
UCH Uchtor 45.15 299 P P 19 04 12.0 +1.2
UCH pmax pmax
comp=Z,52nm,1.1s
UGM Wanagama 45.16 210 P P 19 04 09.2 -1.4
UGM Wanagama 45.16 210 P P 19 04 14.0 +3.4
comp=Z,173nm,1.2s
KLI Kotabumi 45.17 219 P P 19 04 10.8 +0.2
KLI pmax pmax
comp=Z,108nm,1.3s
KLI Kotabumi 45.17 219 P P 19 04 11.4 +0.8
comp=Z,107nm,1.2s
BTLS Baital 45.18 303 *e*P P 19 04 08.6 -1.8
BTLS pmax pmax
comp=Z,76nm,2.5s
BTLS Baital 45.18 303 *e*P P 19 04 08.6 -1.8
comp=Z,76nm,2.5s,baz=303
MASI Maura Aman, Be 45.18 223 P P 19 04 11.7 +1.0
comp=Z,128nm,1.3s
KPJI Karang Pucung 45.33 212 P P 19 04 13.3 +1.4
comp=Z,2µmcomp=Z,55nm,0.9s
BLSI Bandar Lampung 45.39 218 P P 19 04 17.1 +4.7
comp=Z,51nm,1.3s
SMLA Simla 45.44 283 *e*P P 19 04 12.3 -0.4
SMLA IAmb IAmb 19 04 18.5
comp=Z,47nm,0.8s
LEM Lembang 45.48 214 P P 19 04 13.7 +0.4
comp=Z,65nm,0.9s,baz=62,slow=7.0,SNR=12
CBJI Citeko 45.49 215 P P 19 04 24.2 +11
MTN Manton Dam 45.54 180 P P 19 04 12.0 -1.5
SISI Saibi 45.62 228 P P 19 04 13.9 -0.4
comp=Z,53nm,1.0s
EKS2 Erkin-Say 45.63 300 P P 19 04 15.2 +0.9
SNR=17
DBJI Dramaga 45.66 215 P P 19 04 15.4 +0.9
LWLI Liwa 45.72 219 P P 19 04 20.3 +5.2
comp=Z,48nm,0.9s
AML Almayashu 45.77 299 P P 19 04 16.9 +1.3
SNR=39
AML Almayashu 45.77 299 P P 19 04 16.7 +1.1
AML pmax pmax
comp=Z,51nm,0.9s
AML Almayashu 45.77 299 P P 19 04 16.5 +0.8
AML Almayashu 45.77 299 *i* P P 19 04 16.4 +0.8
SNR=52
BRZS Berezniki 45.84 310 *e*P P 19 04 13.8 -1.8
baz=310
KASI Kota Agung 45.91 219 P P 19 04 22.6 +6.1
comp=Z,31nm,1.0s
BHK Bhakra 45.96 284 *e*P P 19 04 17.3 +0.4
OTUK Ortayu 46.12 307 *i* P P 19 04 17.1 -0.8
OTUK pmax pmax
comp=Z,36nm,0.9s
NDI New Delhi 46.16 280 *e*P P 19 04 19.0 +0.6
JHNI Jhansi 46.19 275 *e*P P 19 04 17.0 -1.7
CGJI Cibinong 46.23 216 P P 19 04 19.7 +0.7
comp=Z,26nm,1.2s
THN Thein Dam 46.24 285 *e*P P 19 04 19.1 +0.1
GAMB Gambell 46.52 31 P P 19 04 20.9 +0.2
GAMB IAmb IAmb 19 04 29.3
comp=Z,42nm,1.2s
GAMB Gambell 46.52 31 P P 19 04 20.3 -0.4
baz=257
NIKH Nikolski High 46.69 46 P P 19 04 21.3 -0.9
baz=269
BRVK Borovoye 47.30 314*d i*P P 19 04 27.1 +0.1
BRVK pmax pmax
comp=Z,44nm,0.9s
BRVK Borovoye 47.30 314 P P 19 04 26.5 -0.6
BRVK IAmb IAmb 19 04 35.2
comp=Z,37nm,0.8s
BRVK Borovoye 47.30 314 IAMs_20 IAMs_20 19 22 15.1
comp=Z,7µm,18.0s
DZA Taraz 47.38 300 *e*P P 19 04 26.5 -1.4
DZA Taraz 47.38 300 *e*P P 19 04 26.5 -1.4
baz=300
DRK Karamyk 47.63 296 P P 19 04 28.9 -1.3
DRK IAmb IAmb 19 04 36.4
comp=Z,27nm,0.8s
NIL Nilore 47.89 288 P P 19 04 30.1 -1.8
NIL pmax pmax
comp=Z,46nm,0.8s
NIL Nilore 47.89 288 P P 19 04 30.1 -1.8
KK31 Karatay Array 47.94 301 P P 19 04 31.1 -1.1
KK31 pmax pmax
comp=Z,65nm,1.0s
KK31 Karatay Array 47.94 301 P P 19 04 31.1 -1.1
KKAR Karatay Array 47.94 301 P P 19 04 30.8 -1.4
KKAR 19 04 31.1
KKAR pmax pmax
comp=Z,65nm,1.0s
KKAR Karatay Array 47.94 301 P P 19 04 31.1 -1.1
KKAR Karatay Array 47.94 301 P P 19 04 30.8 -1.4
KKAR IAmb IAmb 19 04 40.9
comp=Z,65nm,0.9s
BTK Batken 48.26 297 P P 19 04 33.7 -1.1
BTK pmax pmax
comp=Z,63nm,1.4s
BTK Batken 48.26 297 P P 19 04 33.7 -1.1
BTK IAmb IAmb 19 04 44.1
comp=Z,63nm,1.4s
KNRA Kununurra 48.41 183 P P 19 04 34.1 -1.8
IUG Iuzhnay 48.45 299 *e*P P 19 04 34.5 -1.7
IUG Iuzhnay 48.45 299 *e*P P 19 04 34.6 -1.7
baz=300
TNA Tin City 48.50 29 P P 19 04 34.5 -1.6
TNA Tin City 48.50 29 P P 19 04 36.3 +0.2
baz=259
GAR Garm 48.86 295 P P 19 04 38.2 -1.3
AJM Ajmer 49.07 278 *e*P P 19 04 41.5 +0.4
TAS Tashkent 49.15 299 P P 19 04 41.8 +0.3
TAS pmax pmax
comp=Z,50nm,0.9s
TAS Tashkent 49.15 299 P P 19 04 41.8 +0.3
TAS IAmb IAmb 19 04 51.3
comp=Z,50nm,0.9s
ANM Nome 49.40 31 P P 19 04 42.8 -0.2
ANM pmax pmax
comp=Z,51nm,1.1s
ANM Nome 49.40 31 P P 19 04 42.8 -0.2
ANM IAmb IAmb 19 04 52.2
comp=Z,51nm,1.1s
ANM Nome 49.40 31 P P 19 04 44.3 +1.3
baz=262
AKL Akola 49.41 270 *e*P P 19 04 44.1 +0.4
HYB Hyderabad 49.62 265 *e*P P 19 04 45.5 +0.1
HYB IAmb IAmb 19 04 55.0
comp=Z,32nm,1.0s
HYBB Hyderabad (bro 49.62 265 *e*P P 19 04 45.3 -0.1
HYBB *ep*P pP 19 04 48.3 -1.0
HYBB *es*P sP 19 04 50.0 -0.9
HYBB *e*PcP PcP 19 06 06.0 -0.9
HYBB IVMs_BB IVMs_BB 19 11 34.7
comp=Z,1µm,18.4s
HYBB *e*S S 19 11 52.8 -1.0
CHGR Chuyangaron 49.82 295 P P 19 04 46.2 -0.6
CHGR pmax pmax
comp=Z,163nm,0.8s
CHGR Chuyangaron 49.82 295 P P 19 04 46.2 -0.6
HNR Honiara 50.26 142 P P 19 04 49.5 -0.6
HNR pmax pmax
comp=Z,84nm,1.0s
HNR Honiara 50.26 142 P P 19 04 49.5 -0.6
MDRS Chennai 50.40 259 *e*P P 19 04 52.4 +1.2
LATR Latur 50.82 268 *e*P P 19 04 55.1 +0.6
RDOG Red Dog Mine 50.88 26 P P 19 04 53.5 -0.8
RDOG IAmb IAmb 19 05 02.1
comp=Z,42nm,1.2s
RDOG Red Dog Mine 50.88 26 P P 19 04 54.4 +0.2
baz=262
KBL Kabul 50.99 290 P P 19 04 55.3 -0.5
KBL pmax pmax
comp=Z,36nm,1.1s
KBL Kabul 50.99 290 P P 19 04 55.3 -0.5
KBL IAmb IAmb 19 05 10.6
comp=Z,36nm,1.1s
FITZ Fitzroy Crossi 51.04 187 P P 19 04 55.8 -0.1
comp=Z,40nm,0.9s,baz=9.1,slow=6.4
WB0 Warramunga Arr 52.51 176 P P 19 05 06.0 -0.9
WB0 IAmb IAmb 19 05 07.6
comp=Z,44nm,1.1s
WRAB Tennant Creek 52.67 176 *ce*P P 19 05 07.1 -1.0
WRAB pmax pmax
comp=Z,51nm,1.1s
WRAB Tennant Creek 52.67 176 P P 19 05 06.4 -1.7
WRAB IAmb IAmb 19 05 08.9
comp=Z,43nm,1.1s
WRA Warramunga Arr 52.68 176 P P 19 05 07.3 -0.9
comp=Z,20nm,0.9s,baz=349,slow=7.8,SNR=78
WRA Warramunga Arr 52.68 176 P P 19 05 06.4 -1.7
WRA pmax pmax
comp=Z,3.0nm,1.1s
WRA Warramunga Arr 52.68 176 P P 19 05 06.4 -1.7
WB2 Warramunga Arr 52.68 176 P P 19 05 06.7 -1.4
WB2 IAmb IAmb 19 05 09.0
comp=Z,42nm,1.0s
SVE Sverdlovsk 52.71 319 *e*P P 19 05 08.3 +0.3
SVE pmax pmax
comp=Z,80nm,1.5s
SVE MLR MLR
comp=Z,5µm,13.0s
WR0 Warramunga Arr 52.71 176 P P 19 05 07.2 -1.1
WR0 IAmb IAmb 19 05 09.3
comp=Z,62nm,1.1s
SALM Salem 52.84 259 *e*P P 19 05 10.2 +0.7
POO Poona 53.05 269 *e*P P 19 05 10.3 -0.9
POO Poona 53.05 269 *e*P P 19 05 07.0 -4.1
BHV Bhavnagar 53.05 274 *e*P P 19 05 10.8 -0.2
PALK Pallekele 53.24 253 P P 19 05 11.7 -0.9
PALK pmax pmax
comp=Z,13nm,0.8s
PALK Pallekele 53.24 253 P P 19 05 11.7 -0.9
PALK Pallekele 53.24 253 P P 19 05 12.5 0.0
KAD Karad 53.34 268 *e*P P 19 05 13.4 +0.2
A21K Barrow 53.45 22 P P 19 05 12.5 -0.7
baz=265
TTA Tatalina 53.46 33 P P 19 05 13.3 -0.3
TTA pmax pmax
comp=Z,23nm,1.1s
TTA Tatalina 53.46 33 P P 19 05 13.3 -0.3
TTA Tatalina 53.46 33 P P 19 05 14.3 +0.8
baz=272,SNR=6.9
N18K Kilae Creek 53.63 36 P P 19 05 14.8 +0.1
N18K IAmb IAmb 19 05 24.1
comp=Z,74nm,1.5s
N18K Kilae Creek 53.63 36 P P 19 05 16.0 +1.3
baz=274
SVW2 Sparrevohn 53.75 35 P P 19 05 14.0 -1.6
ARU Arti 53.89 319 P P 19 05 15.3 -1.4
comp=Z,15nm,1.0s,baz=84,slow=4.7,SNR=40
ARU Arti 53.89 319*d i*P P 19 05 16.2 -0.5
ARU 19 07 16.7
ARU PPP PPP 19 08 26.4
ARU S S 19 12 53.6 +2.1
ARU SS SKiKP 19 16 26.6 -3.3
ARU pmax pmax
comp=Z,70nm,1.3s
O18K Koktuh Hills 54.03 37 P P 19 05 17.8 +0.1
O18K IAmb IAmb 19 05 26.7
comp=Z,93nm,1.5s
O18K Koktuh Hills 54.03 37 P P 19 05 18.5 +0.8
baz=275
L19K White Mountain 54.03 34 P P 19 05 16.8 -0.9
L19K IAmb IAmb 19 05 34.3
comp=Z,77nm,1.6s
L19K White Mountain 54.03 34 P P 19 05 19.7 +1.9
baz=274,SNR=17
ABKAR Akbulak array 54.14 310 P P 19 05 17.1 -1.6
ABKAR IAmb IAmb 19 05 27.5
comp=Z,35nm,0.8s
ABKAR Akbulak array 54.14 310 P P 19 05 17.4 -1.3
KOD Kodaikanal 54.21 258 *e*P P 19 05 20.6 +0.7
CHIR Chirikof Islan 54.24 42 P P 19 05 19.2 0.0
J20K Nowinta River 54.25 31 P P 19 05 18.9 -0.3
J20K IAmb IAmb 19 05 28.4
comp=Z,63nm,1.1s
J20K Nowinta River 54.25 31 P P 19 05 19.8 +0.6
baz=273,SNR=31
M19K Big River Lodg 54.27 34 P P 19 05 18.9 -0.5
M19K Big River Lodg 54.27 34 P P 19 05 20.5 +1.1
baz=274
N19K Bonanza Creek 54.31 36 P P 19 05 18.7 -1.2
N19K Bonanza Creek 54.31 36 P P 19 05 21.2 +1.4
baz=275
K20K Telida 54.32 32 P P 19 05 19.0 -0.8
K20K IAmb IAmb 19 05 29.0
comp=Z,53nm,1.1s
K20K Telida 54.32 32 P P 19 05 21.4 +1.5
baz=273,SNR=30
IMAR Indian Mountai 54.35 29 P P 19 05 19.8 -0.2
O19K Port Alsworth 54.44 36 P P 19 05 20.6 0.0
O19K IAmb IAmb 19 05 30.4
comp=Z,32nm,0.8s
O19K Port Alsworth 54.44 36 P P 19 05 22.8 +2.2
baz=275
L20K Farewell, AK 54.47 33 P P 19 05 22.3 +1.4
baz=274,SNR=7.4
CTA Charters Tower 54.66 163 P P 19 05 23.7 +1.0
comp=Z,17nm,1.1s,baz=359,slow=12,SNR=3.5
H21K Melozitna Rive 54.75 30 P P 19 05 22.7 -0.2
H21K IAmb IAmb 19 05 31.6
comp=Z,42nm,1.2s
H21K Melozitna Rive 54.75 30 P P 19 05 23.9 +1.0
baz=273,SNR=27
Q19K Cape Douglas, 54.92 38 P P 19 05 25.4 +1.2
baz=277
PCHI Peechi 54.97 259 *e*P P 19 05 26.0 +0.8
CHUM Lake Minchumin 55.07 32 P P 19 05 26.7 +1.6
baz=274,SNR=18
I21K Tanana 55.12 30 P P 19 05 25.2 -0.3
I21K Tanana 55.12 30 P P 19 05 26.5 +1.0
baz=274,SNR=24
AKTO Aktyubinsk 55.14 312 P P 19 05 25.8 -0.1
comp=Z,9.5nm,0.8s,baz=82,slow=7.5,SNR=28
AKTO LR LR 19 30 00.2
comp=Z,4µm,18.1s,baz=91,slow=37
RSO Redoubt South 55.19 36 P P 19 05 26.2 -0.2
PPLA Purkeypile 55.21 33 P P 19 05 26.3 -0.1
PPLA Purkeypile 55.21 33 P P 19 05 27.3 +0.9
baz=275,SNR=18
CAST Castle Rocks 55.21 32 P P 19 05 25.5 -0.8
CAST Castle Rocks 55.21 32 P P 19 05 27.8 +1.5
baz=275,SNR=19
O20K Slope Mountain 55.30 36 P P 19 05 28.9 +2.0
baz=277
PSA00 Pilbara Seismi 55.30 193 P P 19 05 25.9 -1.3
PSA00 Pilbara Seismi 55.30 193 IAmb IAmb 19 05 30.4
comp=Z,48nm,1.1s
OHAK Old Harbor 55.33 40 P P 19 05 26.7 -0.4
OHAK Old Harbor 55.33 40 P P 19 05 28.3 +1.2
baz=278
SPCR Spurr Chakacha 55.37 35 P P 19 05 28.7 +1.2
baz=276
COCO West Island 55.61 222 P P 19 05 27.2 -2.4
COCO pmax pmax
comp=Z,234nm,0.5s
COCO West Island 55.61 222 P P 19 05 27.2 -2.4
KDAK Kodiak Island 55.62 39 P P 19 05 30.1 +0.9
comp=Z,16nm,0.7s,baz=284,slow=4.3,SNR=12
KDAK Kodiak Island 55.62 39 P P 19 05 29.5 +0.3
KDAK IAmb IAmb 19 05 37.2
comp=Z,29nm,0.8s
KDAK Kodiak Island 55.62 39 P P 19 05 30.2 +0.9
baz=278
BPAW Bear Paw Mtn. 55.63 31 P P 19 05 28.9 -0.4
BPAW IAmb IAmb 19 05 38.2
comp=Z,66nm,1.3s
BPAW Bear Paw Mtn. 55.63 31 P P 19 05 30.1 +0.8
baz=276,SNR=26
COLD Coldfoot 55.70 28 P P 19 05 29.8 +0.1
COLD Coldfoot 55.70 28 P P 19 05 29.9 +0.2
baz=274
KTH Kantishna Hill 55.72 32 P P 19 05 30.2 +0.3
TOLK Toolik Lake Re 55.84 26 P P 19 05 29.8 -0.9
TOLK IAmb IAmb 19 05 39.1
comp=Z,42nm,1.2s
TOLK Toolik Lake Re 55.84 26 P P 19 05 31.5 +0.8
baz=274,SNR=19
TRF Thorofare Moun 56.01 32 P P 19 05 31.1 -1.1
TRF Thorofare Moun 56.01 32 P P 19 05 32.8 +0.6
baz=277
CNPM China Poot 56.07 37 P P 19 05 31.2 -1.2
CNPM IAmb IAmb 19 05 46.2
comp=Z,29nm,0.9s
H23K Yukon River 56.08 29 P P 19 05 33.8 +1.3
baz=276,SNR=80
CUT Chulitna 56.15 33 P P 19 05 34.0 +1.1
baz=277
BRLK Bradley Lake 56.21 37 P P 19 05 32.5 -1.0
BRLK IAmb IAmb 19 05 44.1
comp=Z,50nm,1.2s
I23K Minto, Yukon-K 56.23 30 P P 19 05 33.6 +0.1
I23K IAmb IAmb 19 05 40.6
comp=Z,69nm,1.7s
I23K Minto, Yukon-K 56.23 30 P P 19 05 34.2 +0.8
baz=276,SNR=14
BRSE Bradley Lake S 56.28 37 P P 19 05 35.7 +1.8
baz=279
M22K Willow 56.30 34 P P 19 05 35.2 +1.2
baz=278
AS31 Alice Springs 56.36 177 P P 19 05 33.4 -1.4
ASAR Alice Springs 56.36 177 P P 19 05 34.4 -0.5
comp=Z,27nm,0.9s,baz=0.3,slow=6.1,SNR=159
ASAR PKP2bc 19 35 48.8
comp=Z,1.9nm,1.1s,baz=177,slow=3.7,SNR=5.2
ASAR Alice Springs 56.36 177 P P 19 05 33.2 -1.7
ASAR Alice Springs 56.36 177 P P 19 05 33.2 -1.7
HRA Herat 56.37 292 P P 19 05 34.4 -0.9
NEA2 Nenana 56.41 31 P P 19 05 34.4 -0.5
NEA2 IAmb IAmb 19 05 43.5
comp=Z,63nm,1.1s
NEA2 Nenana 56.41 31 P P 19 05 36.0 +1.2
baz=277,SNR=22
RC01 Rabbit Creek A 56.58 35 P P 19 05 35.4 -0.6
RC01 IAmb IAmb 19 05 53.8
comp=Z,54nm,1.3s
RC01 Rabbit Creek A 56.58 35 P P 19 05 37.4 +1.4
baz=279
MCK McKinley 56.58 32 IAmb IAmb 19 05 44.1
comp=Z,48nm,1.2s
MCK McKinley 56.58 32 P P 19 05 36.7 +0.6
baz=278,SNR=6.6
RND Reindeer 56.66 32 P P 19 05 36.7 0.0
RND pmax pmax
comp=Z,73nm,1.2s
RND Reindeer 56.66 32 P P 19 05 36.6 0.0
RND IAmb IAmb 19 05 44.5
comp=Z,73nm,1.2s
O22K Cooper Landing 56.67 36 P P 19 05 37.8 +1.1
baz=279
MDM Murphy Dome 56.73 30 P P 19 05 36.1 -0.9
H24K Noodor Dome 56.76 29 P P 19 05 36.8 -0.5
H24K IAmb IAmb 19 05 46.6
comp=Z,51nm,1.1s
H24K Noodor Dome 56.76 29 P P 19 05 38.1 +0.8
baz=277,SNR=32

PMR	Palmer	56.79	34	P	P	19 05 36.6	-0.9		
PMR				pmax	pmax				
	comp=Z,43nm,1.2s								
PMR	Palmer	56.79	34	P	P	19 05 36.6	-0.9		
PMR				IAmb	IAmb	19 06 09.8			
	comp=Z,43nm,1.2s								
PMR	Palmer	56.79	34	P	P	19 05 38.9	+1.4		
	baz=279								
WRH	Wood River Hil	56.85	31	P	P	19 05 37.4	-0.5		
SEW	Seward	56.87	36		pP	19 05 43.5	+1.6		
SEW	Seward	56.87	36	P	P	19 05 39.6	+1.6		
	baz=280								
WAT1	Susitna Watana	56.87	33	P	P	19 05 39.3	+1.2		
	baz=278								
COLA	College	56.90	30	*d i* P	P	19 05 39.0	+0.8		
COLA				pmax	pmax				
	comp=Z,63nm,1.3s								
COLA	College	56.90	30	P	P	19 05 39.0	+0.8		
	baz=278								
POKR	Poker Plat Res	57.04	30	P	P	19 05 39.8	+0.5		
POKR	Poker Plat Res	57.04	30	P	P	19 05 39.5	+0.3		
	baz=278,SNR=8.8								
SML	Sawmill	57.13	34	P	P	19 05 40.9	+0.9		
	baz=279,SNR=6.0								
KNK	Knik Glacier	57.14	34	IAmb	IAmb	19 05 58.1			
	comp=Z,75nm,1.4s								
KNK	Knik Glacier	57.14	34	P	P	19 05 41.1	+1.0		
	baz=279								
WAT6	Susitna Watana	57.28	33	P	P	19 05 41.8	+0.6		
	baz=279								
PWL	Port Wells	57.29	35	P	P	19 05 42.2	+1.1		
	baz=280								
IL31		57.32	30	P	P	19 05 40.4	-0.8		
IL31				IAmb	IAmb	19 05 49.8			
	comp=Z,57nm,1.4s								
ILAR	Eielson Array	57.32	30	P	P	19 05 41.0	-0.3		
	comp=Z,3.2nm,0.6s,baz=269,slow=6.2,SNR=24								
ILAR	Eielson Array	57.32	30	P	P	19 05 41.0	-0.3		
DHY	Denali Highway	57.37	32	P	P	19 05 41.0	-0.8		
DHY				IAmb	IAmb	19 05 49.9			
	comp=Z,56nm,1.5s								
DHY	Denali Highway	57.37	32	P	P	19 05 41.9	+0.1		
	baz=279								
SCM	Sheep Creek Mo	57.60	34	P	P	19 05 43.8	+0.5		
	baz=280								
BMAR	Burnt Mountain	57.84	27	P	P	19 05 44.4	-0.5		
GLI	Glacier Island	57.88	35	P	P	19 05 46.1	+0.9		
	baz=281								
J25K	Saicha River,	57.99	30	P	P	19 05 46.1	+0.1		
	baz=280,SNR=6.7								
M24K	Tolsona, Glenn	58.08	33	P	P	19 05 47.4	+0.6		
	baz=281								
PAX	Paxson	58.24	32	P	P	19 05 46.4	-1.5		
PAX				pmax	pmax				
	comp=Z,45nm,1.7s								
PAX	Paxson	58.24	32	P	P	19 05 46.4	-1.5		
PAX				IAmb	IAmb	19 06 03.1			
	comp=Z,45nm,1.7s								
PAX	Paxson	58.24	32	P	P	19 05 48.3	+0.5		
	baz=281								
KLU	Klutina	58.32	34	P	P	19 05 47.7	-0.7		
KLU				IAmb	IAmb	19 06 02.5			
	comp=Z,28nm,1.2s								
KLU	Klutina	58.32	34	P	P	19 05 49.1	+0.7		
	baz=282								
GEYT	Alibeck	58.36	297	P	P	19 05 49.1	+0.1		
	comp=Z,3.2nm,0.8s,baz=122,slow=12,SNR=5.7								
GEYT	Alibeck	58.36	297	P	P	19 05 48.1	-0.9		
GYA0B	ALIBECK ARRAY	58.36	297	IAmb	IAmb	19 06 00.5			
	comp=Z,25nm,0.9s								
RIDG	Independent Ri	58.37	31	IAmb	IAmb	19 06 00.3			
	comp=Z,52nm,1.4s								
RIDG	Independent Ri	58.37	31	P	P	19 05 49.1	+0.4		
	baz=281								
KIRV	Kirov	58.40	323	P	P	19 05 48.8	-0.1		
	comp=Z,6.7nm,0.5s,baz=76,slow=8.1,SNR=11								
KIRV				LR	LR	19 30 54.6			
	comp=Z,3μm,18.2s,baz=322,slow=36								
KIRV	Kirov	58.40	323	*de* P	P	19 05 48.0	-0.9		
DIV	Divide	58.46	34	IAmb	IAmb	19 05 58.0			
	comp=Z,30nm,1.0s								
HARP	HAARP	58.49	33	P	P	19 05 50.0	+0.5		
	baz=282								
SCRK	Sand Creek	58.70	31	P	P	19 05 50.0	-1.1		
SCRK				IAmb	IAmb	19 05 59.0			
	comp=Z,41nm,1.0s								
SCRK	Sand Creek	58.70	31	P	P	19 05 51.5	+0.4		
	baz=282,SNR=43								
DOT	Dot Lake	58.73	31	P	P	19 05 50.4	-0.8		
DOT				IAmb	IAmb	19 05 59.0			
	comp=Z,41nm,1.3s								
J26L	Joseph Creek	58.77	30	P	P	19 05 51.4	-0.2		
	baz=282,SNR=17								
N25K	Chitina, Valde	58.92	34	P	P	19 05 53.3	+0.7		
	baz=282								
MNCY	Minicoy	58.94	259	*e* P	P	19 06 10.3	+17		
MENT	Mentasta	59.03	32	P	P	19 05 52.6	-0.7		
MENT				IAmb	IAmb	19 06 23.3			
	comp=Z,36nm,0.9s								
BMRM	Bremner River	59.05	34	P	P	19 05 53.0	-0.6		
BMRM				IAmb	IAmb	19 06 08.3			
	comp=Z,42nm,1.0s								
BMRM	Bremner River	59.05	34	P	P	19 05 54.3	+0.8		
	baz=283								
L26K	Log Cabin Wild	59.18	32	IAmb	IAmb	19 06 02.5			
	comp=Z,30nm,1.1s								
L26K	Log Cabin Wild	59.18	32	P	P	19 05 55.7	+1.4		
	baz=283,SNR=15								
GLB	Gilahina Butte	59.32	34	P	P	19 05 54.7	-0.7		
GLB				IAmb	IAmb	19 06 04.2			
	comp=Z,43nm,1.3s								
M26K	Nabesna, AK	59.48	33	P	P	19 05 55.7	-0.7		
M26K				IAmb	IAmb	19 06 05.3			
	comp=Z,57nm,1.1s								
M26K	Nabesna, AK	59.48	33	P	P	19 05 56.7	+0.3		
	baz=283,SNR=23								
VRDI	Verde Repeater	59.54	34	IAmb	IAmb	19 06 09.5			
	comp=Z,50nm,1.3s								
PRGR	Permogore	59.57	326	*e* P	P	19 05 54.7	-2.2		
PRGR				pmax	pmax				
	comp=Z,42nm,0.9s								
MCARA	McCarthy VSAT	59.70	34	P	P	19 05 59.0	+1.1		
	baz=284								
EGAK	Eagle	59.73	30	P	P	19 05 57.8	-0.2		
EGAK				IAmb	IAmb	19 06 07.1			
	comp=Z,57nm,1.6s								
EGAK	Eagle	59.73	30	P	P	19 05 58.2	+0.2		
	baz=284,SNR=16								
L27K	Beaver Creek,	59.84	32	P	P	19 05 58.5	-0.4		
L27K				IAmb	IAmb	19 06 08.0			
	comp=Z,35nm,1.1s								
L27K	Beaver Creek,	59.84	32	P	P	19 05 59.7	+0.8		
	baz=284,SNR=19								
M27K	Edge Creek, AK	59.99	33	IAmb	IAmb	19 06 08.8			
	comp=Z,32nm,1.2s								
M27K	Edge Creek, AK	59.99	33	P	P	19 06 01.2	+1.1		
	baz=284								
BARN	Barnard Glacie	60.42	34	P	P	19 06 02.2	-0.9		
BVCY	Beaver Creek	60.44	32	P	P	19 06 04.1	+1.1		
	baz=285								
CTG	Chitna Glacier	60.60	34	P	P	19 06 04.9	+0.7		
	baz=286								
DAWY	Dawson	60.65	30	P	P	19 06 05.5	+1.1		
	baz=285								
I29M	Ogilvie Camp,	60.75	29	P	P	19 06 05.5	+0.5		
	baz=286								
YUK3	Moose Creek	60.79	33	P	P	19 06 06.5	+0.9		
	baz=286								
BELG	Belogornoye	60.97	316	P	P	19 06 05.5	-1.2		
	comp=Z,32nm,1.1s,baz=141,slow=8.6,SNR=11								
BELG	Belogornoye	60.97	316	*d i* P	P	19 06 05.7	-1.0		
BELG				pmax	pmax				
	comp=Z,18nm,1.0s								
EPYK	Eagle Plains	61.10	27	P	P	19 06 06.5	-0.9		
EPYK	Eagle Plains	61.10	27	P	P	19 06 08.2	+0.8		
	baz=286,SNR=19								
INK	Inuvik	61.71	25	P	P	19 06 11.4	+0.1		
	comp=Z,3.4nm,0.5s,baz=293,slow=6.6,SNR=14								
INK	Inuvik	61.71	25	P	P	19 06 11.2	-0.3		
INK				IAmb	IAmb	19 06 19.4			
	comp=Z,33nm,1.2s								
INK	Inuvik	61.71	25	P	P	19 06 11.5	+0.1		
	baz=288,SNR=17								
YUK4	Talbot Arm	61.74	33	P	P	19 06 12.9	+0.8		
	baz=288,SNR=14								
PNL	Peninsula	61.90	35	P	P	19 06 14.3	+1.4		
	baz=288								
YUK6	Outpost Mounta	62.00	34	P	P	19 06 15.4	+1.6		
	baz=288,SNR=11								
M30M	Minto, Yukon	62.20	32	IAmb	IAmb	19 06 24.4			
	comp=Z,46nm,1.3s								
M30M	Minto, Yukon	62.20	32	P	P	19 06 16.5	+1.6		
	baz=288,SNR=15								
LVZ	Lovozero	62.31	335	⇓ *e* P	P	19 06 15.8	+0.2		
LVZ				pmax	pmax				
	comp=Z,70nm,1.7s								
HYT	Haines Junctio	62.43	34	P	P	19 06 16.5	-0.1		
HYT	Haines Junctio	62.43	34	P	P	19 06 19.1	+2.5		
	baz=289,SNR=17								
KLMR	Klimovskoe	62.62	327	*e* P	P	19 06 15.6	-2.1		
KLMR				pmax	pmax				
	comp=Z,78nm,1.4s								
KLMR	Klimovskoe	62.62	327	*e* P	P	19 06 15.6	-2.1		
KLMR				AMP		19 06 25.6			
	comp=Z,78nm,1.4s								
SPITS	Spitsbergen Ar	62.81	348	P	P	19 06 18.9	+0.1		
	comp=Z,11nm,0.8s,baz=96,slow=8.5,SNR=12								
SPITS				LR	LR	19 35 12.0			
	comp=Z,2μm,20.6s,baz=322,slow=38								
APA	Apatity	62.87	335	⇓ *i* P	P	19 06 23.1	+3.9		
APA				pmax	pmax				
	comp=Z,18nm,0.8s								
APA				MLR	MLR				
	comp=Z,5μm,14.0s								
N31M	Braeburn, Yuko	63.01	33	P	P	19 06 22.3	+2.0		
	baz=290,SNR=21								
A36M	Sachs Harbour	63.04	20	P	P	19 06 20.0	-0.3		
A36M				IAmb	IAmb	19 06 40.2			
	comp=Z,40nm,1.0s								
A36M	Sachs Harbour	63.04	20	P	P	19 06 21.0	+0.7		
	baz=294								
MORW	Morawa	63.34	195	P	P	19 06 21.4	-1.3		
MORW				IAmb	IAmb	19 06 25.7			
	comp=Z,47nm,1.2s								
M31M	Drury Creek, Y	63.38	32	IAmb	IAmb	19 06 31.7			
	comp=Z,42nm,1.2s								
M31M	Drury Creek, Y	63.38	32	P	P	19 06 24.0	+1.2		
	baz=290,SNR=17								
FORT	Forrest	63.46	183	P	P	19 06 22.4	-1.0		
JLN	Jalan Bani Buh	63.50	280	P	P	19 06 24.6	+0.5		
WBK	Wadi Bani Khal	63.66	281	P	P	19 06 26.3	+1.1		
WSAR	Wadi Sarin	63.66	282	P	P	19 06 26.3	+1.1		
	comp=Z,32nm,0.9s,baz=143,slow=3.2,SNR=11								
WSAR	Wadi Sarin	63.66	282	P	P	19 06 26.2	+1.1		
WHY	Whitehorse	63.70	33	P	P	19 06 26.3	+1.3		
	baz=291,SNR=16								
SKAG	Skagway	63.92	35	P	P	19 06 25.7	-0.6		
SKAG	Skagway	63.92	35	P	P	19 06 27.6	+1.3		
	baz=291,SNR=14								
BIDO	Bidbid	63.94	282	P	P	19 06 28.4	+1.4		
KEV	Kevo	64.17	338	P	P	19 06 28.8	+1.0		
KEV	Kevo	64.17	338		pP	19 06 31.6	-0.3		
KEV				IAMs_20	IAMs_20	19 35 00.3			
	comp=Z,4μm,21.0s								
MAK	Makhachkala	64.20	306	*e* P	P	19 06 26.2	-2.2		
MAK				*e* PPP	PPP	19 10 18.7			
MAK				*e* S	S	19 15 03.1	-2.5		
MAK				*e* SS	SS	19 19 11.7	-2.8		
MAK				pmax	pmax				
	comp=Z,134nm,1.2s								
MAK				MLR	MLR				
	comp=Z,5μm,14.0s								
SMDO	Samad	64.21	282	P	P	19 06 32.0	+3.0		
	SNR=5.6								
DZM	Mont Dzumac	64.22	144	P	P	19 06 29.8	+1.0		
	comp=Z,6.1nm,0.6s,baz=347,slow=9.9,SNR=3.9								
BANOM	Banah	64.38	285	P	P	19 06 34.0	+4.0		
	SNR=6.5								
BANOM	Banah	64.38	285	*i* P	P	19 06 31.1	+1.1		
	SNR=12								
SHME	Shamm	64.46	286	P	P	19 06 32.3	+1.9		
	SNR=10.0								
SHME	Shamm	64.46	286	*i* P	P	19 06 31.4	+0.9		
	SNR=10								
BESE	Bessie Mountai	64.47	35		pP	19 06 33.0	-1.1		
JMDO	Jabal Madar	64.48	281	P	P	19 06 32.0	+1.4		
	SNR=6.9								
NOR	Nord	64.48	355	P	P	19 06 30.2	+0.5		
NOR				pmax	pmax				
	comp=Z,21nm,1.6s								
NOR	Nord	64.48	355	*i* P	P	19 06 28.2	-1.5		
NOR				IAmb	IAmb	19 06 31.4			
	comp=Z,4.7nm,0.7s								
C36M	Paulatuk	64.50	22	P	P	19 06 29.9	-0.1		
	baz=296,SNR=63								
MMPY	Sheldon Lake,	64.58	30	P	P	19 06 32.2	+1.5		
	baz=293,SNR=11								
HOQ	Hoqain	64.59	283	P	P	19 06 32.3	+0.9		
MASF	Masafi	64.74	285	P	P	19 06 35.8	+3.5		
	SNR=6.3								
ARCES	ARCESS Array B	64.74	338	P	P	19 06 30.7	-0.9		
	comp=Z,8.9nm,0.8s,baz=58,slow=7.3,SNR=8.3								
ARCES				LR	LR	19 39 15.3			
	comp=Z,3μm,18.4s,baz=68,slow=40								
ARCES	ARCESS Array B	64.74	338	P	P	19 06 30.7	-0.9		
ARCES				pmax	pmax				
	comp=Z,53nm,1.4s								
ARCES	ARCESS Array B	64.74	338	P	P	19 06 30.7	-0.9		
ARCES				IAmb	IAmb	19 06 39.0			
	comp=Z,53nm,1.4s								
MSFE	Esma-Masafi	64.74	285	*i* P	P	19 06 33.1	+0.7		
	SNR=8.8								
SIT	Sitka	64.80	37		pP	19 06 35.1	-1.1		
SIT	Sitka	64.80	37	P	P	19 06 33.9	+1.8		
	baz=292								
JIS	Juneau Island	64.81	36	P	P	19 06 31.4	-0.7		
VRH	Novokhopyorsk	64.82	316	*e* P	P	19 06 30.9	-1.4		
VRH				pmax	pmax				
	comp=Z,50nm,1.6s								
UOSS	Minazif	64.89	284	P	P	19 06 35.0	+1.8		
UOSS				IAmb	IAmb	19 06 54.5			
	comp=Z,37nm,1.1s								
LKRN	Lenkeran, Azer	64.93	301	P	P	19 06 33.5	+0.2		
HATD	Hatta, Dubai	65.00	284	P	P	19 06 36.0	+2.0		
	SNR=12								
HATD	Hatta, Dubai	65.00	284	*i* P	P	19 06 35.0	+1.0		
	SNR=11								
BSY	Bisya	65.05	282	P	P	19 06 36.0	+1.6		
	SNR=5.2								
SEKA	Sheki	65.08	304	P	P	19 06 34.1	-0.2		
MSF	Maaselka	65.11	334	P	P	19 06 34.0	0.0		
MSF				pmax	pmax				
	comp=Z,37nm,1.1s								
ASHO	Ashiyiah	65.12	284	P	P	19 06 37.0	+2.1		
	SNR=19								
ASHO	Ashiyiah	65.12	284	*i* P	P	19 06 35.8	+1.0		
	SNR=23								
MHTO	MHTO	65.22	280	P	P	19 06 36.0	+0.6		
	SNR=19								
STKA	Stephens Creek	65.22	170	P	P	19 06 35.2	+0.2		
	comp=Z,10nm,0.8s,baz=347,slow=8.2,SNR=16								
STKA	Stephens Creek	65.22	170	*de* P	P	19 06 36.0	+1.0		
GROC	Groznyy	65.27	307	*e* P	P	19 06 34.1	-1.3		
GROC				*e*		19 07 07.0			
GROC				*e*		19 09 02.4			
GROC				pmax	pmax				
	comp=Z,72nm,1.2s								
GROC				MLR	MLR				
	comp=Z,2μm,11.0s								
NAZ	Nazwa, Dubai	65.31	285	P	P	19 06 38.0	+2.0		
	SNR=7.9								
NAZ	Nazwa, Dubai	65.31	285	*i* P	P	19 06 37.0	+1.0		
	SNR=7.6								
ZKTA	Zakatala	65.31	305	P	P	19 06 35.8	0.0		
MNGR	Mingechevir, A	65.33	304	P	P	19 06 36.8	+1.0		
EUNU	Eureka	65.33	7	IAmb	IAmb	19 06 41.6			
	comp=Z,19nm,0.9s								
MOS	Moscow	65.38	322	*e* P	P	19 06 32.6	-3.3		
MOS				*e*		19 07 01.8			
MOS				*e*		19 08 58.5			
MOS				MLR	MLR				
	comp=Z,3μm,16.0s								
FAQ	Al Faqa, Dubai	65.47	285	P	P	19 06 39.0	+2.0		
	SNR=7.8								
FAQ	Al Faqa, Dubai	65.47	285	*i* P	P	19 06 37.7	+0.6		
	SNR=16								
LGD	Lagodekhi	65.50	305	P	P	19 06 37.5	+0.5		
BBOO	Buckleboo	65.57	176	P	P	19 06 36.6	-0.7		
BBOO				IAmb	IAmb	19 06 38.1			
	comp=Z,42nm,1.1s								
ALNE	Al Ain	65.65	284	P	P	19 06 39.2	+1.0		
	SNR=22								
ALNE	Al Ain	65.65	284	*i* P	P	19 06 38.7	+0.5		
	SNR=12								
ASUD	Al Ashush, Dub	65.74	285	P	P	19 06 40.4	+1.6		
ASUD	Al Ashush, Dub	65.74	285	*i* P	P	19 06 39.6	+0.8		
	SNR=8.3								
LPSR	Galich'ya Gora	65.89	318	*e* P	P	19 06 37.7	-1.5		
LPSR				pmax	pmax				
	comp=Z,60nm,1.9s								
GANJ	Ganja	65.91	304	P	P	19 06 39.1	-0.6		
ARMA	Armidale	65.92	161	P	P	19 06 38.0	-1.7		
ARMA				IAmb	IAmb	19 06 41.8			
	comp=Z,35nm,1.2s								
AJN	Ajban	66.05	285	P	P	19 06 46.3	+5.5		
	SNR=6.9								
AJN	Ajban	66.05	285	*i* P	P	19 06 41.4	+0.6		
	SNR=6.0								
DQM	DQM	66.07	279	P	P	19 06 45.1	+4.2		
	SNR=5.4								
VORR	Voronezh	66.10	317	*e* P	P	19 06 38.7	-1.9		
VORR				pmax	pmax				
	comp=Z,40nm,1.2s								
OBN	Obninsk	66.18	321	P	P	19 06 40.6	-0.4		
	comp=Z,2.0nm,0.4s,baz=95,slow=4.2,SNR=5.8								
OBN	Obninsk	66.18	321	*de* P	P	19 06 39.8	-1.2		
OBN				*e*		19 07 12.1			
OBN				*e*		19 09 05.9			
OBN				*e* PPP	PPP	19 10 39.6			
OBN				*e* S	S	19 15 32.1	+2.7		
OBN				pmax	pmax				
	comp=Z,70nm,1.7s								
OBN				MLR	MLR				
	comp=Z,4μm,16.0s								
OBN	Obninsk	66.18	321	IAmb	IAmb	19 06 48.2			
	comp=Z,146nm,1.9s								
VSR	Storozhevoye	66.30	317	*e* P	P	19 06 39.6	-2.3		
VSR				pmax	pmax				
	comp=Z,40nm,1.2s								
TGTN	Hyland Airport	66.31	31	P	P	19 06 43.4	+1.4		
	baz=296,SNR=19								
VALR	Valaam	66.31	329	*c i* P	P	19 06 41.1	-0.7		
VALR				pmax	pmax				
	comp=Z,60nm,1.1s								
VORD	Divnogorie	66.33	316	*e* P	P	19 06 40.6	-1.5		
VORD				pmax	pmax				
	comp=Z,20nm,1.3s								
GOF	Gofitskoye	66.37	309	⇑ *i* P	P	19 06 42.8	+0.3		
GOF				pmax	pmax				
	comp=Z,108nm,1.2s								
WRAK	Wrangell Islan	66.56	37	P	P	19 06 44.9	+1.5		
	baz=294								
NCK	Nalchik	66.63	308	⇑ *i* P	P	19 06 44.6	+0.4		
NCK				pmax	pmax				
	comp=Z,38nm,1.1s								
OUL	Oulu	66.65	334	P	P	19 06 43.7	-0.2		
OUL				pmax	pmax				
	comp=Z,46nm,1.9s								
WTLY	Watson Lake, Y	66.70	32	P	P	19 06 45.4	+1.0		
	baz=296								
ZEI	Tsey	66.71	307	*e* P	P	19 06 42.7	-2.3		
ZEI				pmax	pmax				
	comp=Z,47nm,1.0s								
DLBC	Dease Lake	66.85	34	P	P	19 06 47.4	+2.0		
	comp=Z,9.6nm,0.9s,baz=276,slow=5.7,SNR=8.1								
DLBC	Dease Lake	66.85	34	IAmb	IAmb	19 06 55.0			
	comp=Z,44nm,1.1s								
KBZ	Khabaz	67.00	308	P	P	19 06 46.9	+0.4		
	comp=Z,38nm,0.9s,baz=74,slow=3.6,SNR=51								
KBZ	Khabaz	67.00	308	*d i* P	P	19 06 46.3	-0.2		
KBZ				pmax	pmax				
	comp=Z,96nm,1.0s								
KVAR	Kislovodsk Arr	67.04	308	P	P	19 06 46.9	-0.1		
	comp=Z,28nm,1.1s,baz=112,slow=19,SNR=15								
KIV	Kislovodsk	67.05	308	⇑ P	P	19 06 48.0	+1.1		
KIV	Kislovodsk	67.05	308	*e* P	P	19 06 47.1	+0.2		
KIV				pmax	pmax				
	comp=Z,136nm,1.1s								
KIV	Kislovodsk	67.05	308	P	P	19 06 46.9	-0.1		
KIV	Kislovodsk	67.05	308	*i* P	P	19 06 47.1	+0.2		
	SNR=20								
NAX	Nakhchivan	67.09	303	P	P	19 06 46.8	-0.5		
ONI	Oni	67.09	307	IAmb	IAmb	19 06 49.5			
	comp=Z,46nm,1.1s								
GNI	Garni	67.22	304	P	P	19 06 49.4	+1.2		
	comp=Z,45nm,1.2s,baz=157,slow=1.5,SNR=30								
GNI				LR	LR	19 37 56.8			
	comp=Z,3μm,19.5s,baz=177,slow=38								
GNI	Garni	67.22	304	*d i* P	P	19 06 49.2	+1.0		
GNI				pmax	pmax				
	comp=Z,125nm,1.7s								
GNI	Garni	67.22	304	P	P	19 06 47.3	-0.9		
GNI	Garni	67.22	304	P	P	19 06 49.2	+1.0		
NEY	Neytrino	67.31	308	*ce* P	P	19 06 50.0	+1.2		
NEY				pmax	pmax				
	comp=Z,17nm,1.1s								
MSVF	Nonsavu	67.40	131	P	P	19 06 52.2	+2.9		
	comp=Z,25nm,0.8s,baz=318,slow=7.2,SNR=6.3								
MSVF	Nonsavu	67.40	131	P	P	19 06 47.6	-1.8		
MSVF				pmax	pmax				
	comp=Z,65nm,1.0s								
WRGLY	Wrigley	67.54	28	P	P	19 06 50.7	+1.1		
	baz=299								
AKH	Akhalkalaki	67.56	306	⇓ P	P	19 06 51.6	+1.3		
CHVG	Ch'k'valeri	67.96	307	⇑ P	P	19 06 53.5	+0.9		
MZR	Muzera	67.99	284	P	P	19 06 54.5	+1.4		
	SNR=10								
MZR	Muzera	67.99	284	*i* P	P	19 06 53.6	+0.5		
	SNR=19								
KARS	Kars	68.17	305	P	P	19 06 56.5	+2.3		
KARS				pmax	pmax				
	comp=Z,250nm,1.8s								
KARS	Kars	68.17	305		P	19 06 56.5	+2.3		
FIA1	FINESS Array S	68.33	330	IAmb	IAmb	19 07 06.8			
	comp=Z,20nm,0.9s								
FINES	FINESS Array B	68.33	330	P	P	19 06 53.9	-0.7		
	comp=Z,9.2nm,0.6s,baz=68,slow=6.9,SNR=18								
FINES				LR	LR	19 38 15.3			
	comp=Z,4μm,18.5s,baz=72,slow=37								
RES	Resolute Bay	68.47	12	P	P	19 06 55.0	-0.2		
	comp=Z,9.4nm,1.1s,baz=312,slow=6.3,SNR=18								
RES	Resolute Bay	68.47	12	IAmb	IAmb	19 07 02.9			
	comp=Z,55nm,1.4s								
SHAO	Shalim	68.56	278	P	P	19 06 57.3	+0.5

WHFO **Wadi Hawf** 70.16 279 P P 19 07 07.0 +0.3
SNR=17
RAF **Rauma** 70.34 331 *e*P P 19 07 09.0 +2.0
MTSE **Matsula** 70.70 328 *e*P P 19 07 08.7 -0.5
ABTO **Aybut** 70.82 279 P P 19 07 12.0 +1.2
SNR=16
IDID **Didziasalis** 71.09 324 *e*P P 19 07 12.2 +0.5
ISAL **Salakas** 71.26 325 *e*P P 19 07 13.6 +0.8
NACGM **Naroch** 71.28 324 *e*P P 19 07 13.2 +0.3
IIGN **Ignalina** 71.33 324 *e*P P 19 07 14.7 +1.5
DBG **Daneborg** 71.34 352 *i* P P 19 07 11.2 -1.7
DBG IAmb IAmb 19 07 27.1
comp=Z,5.7nm,0.8s
YKA **Yellowknife Ar** 71.36 27 P P 19 07 13.5 +0.3
comp=Z,5.8nm,0.7s,baz=302,slow=5.9,SNR=78
YKA **Yellowknife Ar** 71.36 27 P P 19 07 12.7 -0.5
TOO **Toolangi** 71.41 168 P P 19 07 15.3 +1.5
TOO pmax pmax
comp=Z,25nm,1.8s
TOO **Toolangi** 71.41 168 IAmb IAmb 19 07 16.1
comp=Z,29nm,1.1s
HOLB **Holberg** 71.42 41 P P 19 07 12.8 -1.1
HOLB IAmb IAmb 19 07 16.2
comp=Z,26nm,0.6s
SIM **Simferopol'** 72.10 312 *de*P P 19 07 17.1 -0.9
SIM *e**PP pP 19 07 20.0 -2.1
SIM pmax pmax
comp=Z,19nm,0.7s
AKASG **Malin Array Be** 72.14 319 P P 19 07 17.3 -0.8
comp=Z,11nm,0.5s,baz=52,slow=5.9,SNR=12
AKASG **Malin Array Be** 72.14 319 *i* P P 19 07 17.6 -0.5
AKASG pmax pmax
comp=Z,11nm,0.5s
AKBB **Malin Array Si** 72.14 319 *d* iP P 19 07 16.8 -1.3
AKBB pmax pmax
comp=Z,43nm,1.5s
AKBB **Malin Array Si** 72.14 319 P P 19 07 16.5 -1.7
AKBB IAmb IAmb 19 07 27.7
comp=Z,19nm,0.8s
PABE **Paberze** 72.34 325 IAmb IAmb 19 07 31.2
comp=Z,36nm,1.1s
PABE **Paberze** 72.34 325 *e*P P 19 07 18.2 -1.0
JMIC **Jan Mayen** 72.47 347 LR LR 19 40 58.2
comp=Z,2µm,18.2s,baz=54,slow=37
UPP **Uppsala** 72.69 331 *e*P P 19 07 21.0 -0.2
SOCY **Socotra** 72.83 274 P P 19 07 20.7 -2.2
SOCY **Socotra** 72.83 274 P P 19 07 21.9 -1.0
SNR=14
DIKM **Dikmen** 72.97 309 ⇑P P 19 07 26.5 +3.2
PBUR **Paburge** 73.02 326 *e*P P 19 07 23.4 +0.2
SUW **Suwalki** 73.54 324 P P 19 07 26.5 +0.1
SUW pmax pmax
comp=Z,60nm,1.1s
SUW **Suwalki** 73.54 324 *e*P P 19 07 26.4 +0.1
VIKU **Vikbolandet** 73.89 330 *e*P P 19 07 29.4 +1.1
BNN **Bunyan** 73.94 306 P P 19 07 27.7 -1.5
SORM **Soroca** 73.95 317 ⇑P P 19 07 27.3 -1.5
NC405 **NORSAR Array S** 74.20 334 P P 19 07 28.3 -1.8
MILM **Milestii Mici** 74.32 316 ⇑P P 19 07 33.0 +1.9
NB2 **NORSAR Subarra** 74.44 334 P P 19 07 30.3 -1.3
comp=Z,14nm,1.1s,baz=50,slow=5.9
NOA **NORSAR Array B** 74.44 334 P P 19 07 29.9 -1.7
comp=Z,6.0nm,0.9s,baz=48,slow=5.7,SNR=13
NOA PP PP 19 10 18.7 +1.4
comp=Z,1.6nm,0.9s,baz=49,slow=8.4,SNR=3.9
LLLB **Lillooet** 74.84 39 P P 19 07 33.2 -0.8
IAS **Iasi** 74.90 317 P P 19 07 34.8 +0.4
IAS pmax pmax
comp=Z,134nm,1.1s
BR131 **Keskin Array S** 74.99 308 *d* iP P 19 07 34.8 -0.5
BR131 **Keskin Array S** 74.99 308 P P 19 07 33.6 -1.7
BR131 IAmb IAmb 19 07 36.4
comp=Z,66nm,1.1s
BRTR **Keskin Array B** 74.99 308 P P 19 07 34.8 -0.5
comp=Z,16nm,0.9s,baz=97,slow=5.0,SNR=60
BRTR LR LR 19 44 24.9
comp=Z,1µm,18.1s,baz=60,slow=39
BRTR **Keskin Array B** 74.99 308 *i* P P 19 07 35.5 +0.2
BRTR pmax pmax
comp=Z,17nm,0.9s
BRTR **Keskin Array B** 74.99 308 P P 19 07 34.1 -1.1
VASR **Vaslui** 75.06 316 ⇑P P 19 07 35.5 +0.1
SCO **Scoresbysund** 75.06 351 P P 19 07 37.3 +2.4
SCO pmax pmax
comp=Z,32nm,1.5s
TLCR 75.22 314 ⇓P P 19 07 36.2 -0.1
TLCR 75.22 314 ⇓P P 19 07 36.2 -0.1
VLDR **Vladesti** 75.31 315 ⇑P P 19 07 36.4 -0.4
JURR **Jurilovca** 75.41 314 ⇑P P 19 07 35.7 -1.7
VARL **Varlezi** 75.42 315 ⇑P P 19 07 38.2 +0.7
LVV **L'vov** 75.43 320 *e*P P 19 07 36.6 -0.9
LVV *e*S S 19 17 13.3 -4.0
LVV MLR MLR
comp=E,4µm,15.0s
LVV MLR MLR
comp=N,2µm,14.0s
LVV MLR MLR
comp=Z,4µm,15.0s
SCTR **Scanteiesti** 75.45 315 ⇑P P 19 07 37.8 +0.1
ANTO **Ankara** 75.47 308 P P 19 07 37.1 -0.9
ANTO pmax pmax
comp=Z,25nm,0.9s
ANTO **Ankara** 75.47 308 P P 19 07 37.1 -0.9
ANTO IAmb IAmb 19 07 42.0
comp=Z,25nm,0.8s
CFR **Carcaliu** 75.64 315 ⇓P P 19 07 38.3 -0.4
CFR **Carcaliu** 75.64 315 ⇓P P 19 07 38.3 -0.4
TPGR **Topolog** 75.64 314 ⇑P P 19 07 38.9 +0.1
TESR **Tescani** 75.79 316 ⇓P P 19 07 39.2 -0.4
PANC **Panciu** 75.85 316 ⇓P P 19 07 39.6 -0.3
TIRR **Tirgusor** 75.85 314 ⇓P P 19 07 39.6 -0.3
TIRR **Tirgusor** 75.85 314 ⇓P P 19 07 39.6 -0.3
D03D **Eldon** 75.87 42 P P 19 07 41.2 +1.2
baz=304
ODBI **Odobesti** 75.96 316 ⇓P P 19 07 41.7 +1.1
BUR08 **Bucovina Ar. S** 76.00 318 IAmb IAmb 19 07 53.1
comp=Z,70nm,1.6s
BURAR **Bucovina Array** 76.01 318 ⇑P P 19 07 41.4 +0.4
BURAR **Bucovina Array** 76.01 318 P P 19 07 40.3 -0.6
BURAR pmax pmax
comp=Z,23nm,0.9s
BURAR **Bucovina Array** 76.01 318 P P 19 07 40.3 -0.6
BURAR IAmb IAmb 19 07 48.6
comp=Z,23nm,0.9s
HARR **Harsova** 76.02 314 ⇑P P 19 07 41.4 +0.5
HARR **Harsova** 76.02 314 ⇑P P 19 07 41.4 +0.5
B05A **Bryant** 76.02 41 P P 19 07 41.5 +0.7
baz=304
TLBR **Topalu** 76.03 314 ⇑P P 19 07 29.1 -12
VRI **Vrincioaia** 76.10 316 ⇑P P 19 07 41.7 +0.3
VRI **Vrincioaia** 76.10 316 ⇑P P 19 07 41.7 +0.3
PLOR **Plostina** 76.15 316 ⇑P P 19 07 41.3 -0.4
PLOR **Plostina** 76.15 316 ⇑P P 19 07 41.3 -0.4
MDUB **Mudurnu** 76.21 309 P P 19 07 41.3 -0.9
KWP **Kalwaria Pacla** 76.25 321 *e*P P 19 07 40.3 -1.8
KWP **Kalwaria Pacla** 76.25 321 P P 19 07 42.9 +0.7
KWP pmax pmax
comp=Z,41nm,1.0s
BISRR **Bisoca** 76.28 316 ⇑P P 19 07 43.9 +1.4
ICOR **Ion Corvin** 76.41 314 ⇓P P 19 07 43.8 +0.7
ASF **Jabal al Asfar** 76.52 300 P P 19 07 44.5 +0.3
comp=Z,15nm,0.9s,baz=321,slow=0.5,SNR=4.4
OZUR 76.52 316 ⇓P P 19 07 43.9 +0.1
E04D **Cinebar** 76.71 43 P P 19 07 44.2 -0.7
baz=304
MLR **Muntele Rosu** 76.76 316 ⇑P P 19 07 45.6 +0.3
MLR **Muntele Rosu** 76.76 316 P P 19 07 45.0 -0.3
comp=Z,14nm,1.2s,baz=352,slow=2.3,SNR=7.6
MLR **Muntele Rosu** 76.76 316 P P 19 07 43.6 -1.7
MLR pmax pmax
comp=Z,69nm,1.6s
MLR **Muntele Rosu** 76.76 316 P P 19 07 43.6 -1.7
MLR IAmb IAmb 19 07 58.3
comp=Z,69nm,1.6s
ARCR **ARCALIA** 76.79 318 ⇑P P 19 07 46.3 +1.0
DOPR **Dopca** 76.82 316 ⇓P P 19 07 45.8 +0.3
BMR **Baia Mare** 76.94 319 P P 19 07 47.1 +1.0
BMR pmax pmax
comp=Z,34nm,1.2s
UZH **Uzhgorod** 77.05 320 *e*P P 19 07 45.7 -0.9
UZH *e* 19 07 50.3
UZH *e* 19 07 58.0
MMAI **Mount Meron Ar** 77.18 301 P P 19 07 47.8 0.0
comp=Z,2.1nm,0.8s,baz=125,slow=6.0,SNR=3.7

VOIR 77.32 316 P P 19 07 48.9 +0.5
VOIR pmax pmax
comp=Z,5.0nm,1.1s
CRVS **Cervenica-Dubn** 77.34 320 *e*P P 19 07 48.6 +0.3
CRVS pmax pmax
comp=Z,154nm,2.4s
CRVS **Cervenica-Dubn** 77.34 320 *e*P P 19 07 48.6 +0.3
LTY **Liberty** 77.39 42 IAmb IAmb 19 08 28.5
comp=Z,66nm,2.0s
OJC **Ojcow** 77.43 322 P P 19 07 47.5 -1.3
OJC pmax pmax
comp=Z,37nm,1.2s
OJC MLR MLR
comp=Z,5µm,19.0s
OJC **Ojcow** 77.43 322 P P 19 07 47.5 -1.3
OJC IAmb IAmb 19 07 58.9
comp=Z,37nm,1.2s
B08A **Colville Reser** 77.48 40 P P 19 07 48.4 -0.8
RAZG **Razgrad** 77.49 314 ⇑P P 19 07 48.5 -0.8
ARR **Arges** 77.60 316 ⇓P P 19 07 50.5 +0.6
CSS **Mathiatis** 77.64 304 P P 19 07 48.0 -2.3
CSS IAmb IAmb 19 08 00.1
comp=Z,42nm,1.2s
NIE **Niedzica** 77.65 321 P P 19 07 51.7 +1.6
NIE pmax pmax
comp=Z,13nm,1.2s
H04D **Lebanon** 77.75 45 P P 19 07 49.5 -1.2
baz=304
J01E **Myrtle Point** 77.80 46 P P 19 07 50.2 -0.8
baz=304
I03D **Drain, OR** 77.85 46 P P 19 07 51.6 +0.3
baz=304
DRGR 77.88 318 P P 19 07 52.1 +0.6
DRGR pmax pmax
comp=Z,21nm,1.3s
LTVH **Ltavrtes, Hu** 77.99 319 P P 19 07 50.4 -1.5
H04A **Detroit Lake** 77.99 44 P P 19 07 50.8 -1.3
H04A IAmb IAmb 19 08 11.1
comp=Z,33nm,1.2s
G05D **Wamic, OR** 78.18 44 P P 19 07 53.2 +0.1
baz=305
K02D **Willamette Mer** 78.22 47 P P 19 07 53.9 +0.4
baz=304
LANS **Liptovska Anna** 78.25 321 *e*P P 19 07 53.9 +0.5
LANS **Liptovska Anna** 78.25 321 *e*P P 19 07 53.9 +0.5
I04A **Tendick Farm,** 78.36 45 P P 19 07 54.4 +0.2
baz=305
D08A **Wollman Farm,** 78.47 41 IAmb IAmb 19 08 03.0
comp=Z,21nm,0.9s
OKC **Ostrava-Krasne** 78.51 323 AMS AMS 19 46 30.0
comp=Z,7µm,14.5s
HAWA **Hanford** 78.53 42 P P 19 07 53.4 -1.5
L02E **Cave Junction** 78.56 47 P P 19 07 55.4 +0.1
baz=304
GZR **Gura Zlata** 78.66 317 ⇑P P 19 07 55.6 -0.2
GZR **Gura Zlata** 78.66 317 ⇑P P 19 07 55.6 -0.2
I05D **Terrebonne, OR** 78.68 44 P P 19 07 56.9 +1.0
baz=305
NEW **Newport** 78.73 39 P P 19 07 56.5 +0.4
comp=Z,5.2nm,0.9s,baz=224,slow=7.7,SNR=6.1
NEW **Newport** 78.73 39 P P 19 07 56.7 +0.6
baz=307
E08A **Dief Farm, El** 78.73 42 P P 19 07 57.0 +0.9
PSZ **Piszkesteto** 78.76 320 ⇓P P 19 07 56.6 +0.3
PSZ **Piszkesteto** 78.76 320 ⇓P P 19 07 56.6 +0.3
PSZ **Piszkesteto** 78.76 320 IAmb IAmb 19 08 09.8
comp=Z,49nm,1.5s
PSZ **Piszkesteto** 78.76 320 P P 19 07 56.7 +0.4
KSP **Ksiaz** 78.81 324 P P 19 07 56.9 +0.4
KSP pmax pmax
comp=Z,23nm,1.4s
J04D **Umpqua Nationa** 78.85 46 IAmb IAmb 19 08 13.5
comp=Z,56nm,1.2s
J04D **Umpqua Nationa** 78.85 46 P P 19 07 58.5 +1.4
baz=305
MORC **Moravsky Berou** 78.86 323 ⇓P P 19 08 01.6 +4.8
MORC **Moravsky Berou** 78.86 323 ⇓P P 19 08 01.6 +4.8
MORC **Moravsky Berou** 78.86 323 *e*P P 19 07 56.8 0.0
BSZH **Besenyszg** 78.93 320 P P 19 07 55.3 -1.9
VYHS **Vyhne** 78.97 321 *e*P P 19 07 57.5 +0.1
VYHS pmax pmax
comp=Z,12nm,1.4s
VYHS **Vyhne** 78.97 321 *e*P P 19 07 57.5 +0.1
OSTC **Ostas** 79.03 324 AMS AMS 19 46 50.0
comp=Z,7µm,16.5s
ELL **Elmali** 79.05 307 P P 19 07 55.9 -2.3
ELL pmax pmax
comp=Z,353nm,1.4s
ELL **Elmali** 79.05 307 P P 19 07 55.9 -2.3
KRLC **Kraliky** 79.05 323 *e*P P 19 07 57.7 -0.2
KRLC *e* 19 08 02.4
KRLC MLR MLR
comp=Z,6µm,13.8s
KRLC **Kraliky** 79.05 323 *e*P P 19 07 57.7 -0.2
KRLC *e*pP pP 19 08 02.4 +0.4
KRLC AMS AMS 19 46 50.0
comp=Z,6µm,13.8s
CHVC **Chvalec** 79.09 324 *e*P P 19 07 57.5 -0.5
CHVC AMS AMS 19 47 00.0
comp=Z,6µm,17.3s
DPC **Dobruska-Polom** 79.11 324 *e*P P 19 07 58.5 +0.3
DPC MLR MLR
comp=Z,6µm,15.1s
DPC **Dobruska-Polom** 79.11 324 *e*P P 19 07 58.5 +0.3
DPC AMS AMS 19 47 00.0
comp=Z,6µm,15.1s
UPC **Upice** 79.17 324 AMS AMS 19 46 50.0
comp=Z,7µm,17.0s
BZS **Buzias** 79.19 318 ⇓P P 19 07 58.2 -0.4
BZS **Buzias** 79.19 318 ⇓P P 19 07 58.2 -0.4
PUNG **Punghina** 79.22 316 ⇑P P 19 07 58.1 -0.7
PINE **Pine Mountain** 79.23 45 P P 19 07 58.7 -0.4
PINE IAmb IAmb 19 08 12.2
comp=Z,34nm,1.0s
EIL **Elat** 79.24 298 P P 19 07 59.1 0.0
comp=Z,8.1nm,1.0s,baz=102,slow=3.5,SNR=15
ALN **Alexandroupoli** 79.27 312 P P 19 07 59.3 +0.2
ALN pmax pmax
comp=Z,21nm,1.6s
ALN **Alexandroupoli** 79.27 312 IAmb IAmb 19 08 11.9
comp=Z,59nm,1.6s
L04D **Klamath Falls** 79.32 46 IAmb IAmb 19 08 08.2
comp=Z,47nm,1.1s
L04D **Klamath Falls** 79.32 46 P P 19 08 00.6 +1.0
baz=305
YBH **Yreka Blue Hor** 79.35 47 P P 19 08 01.2 +1.5
comp=Z,1.4nm,0.3s,baz=271,slow=3.0,SNR=4.7
YBH **Yreka Blue Hor** 79.35 47 P P 19 07 57.4 -2.3
J05D **Fort Rock, OR** 79.35 45 P P 19 08 00.8 +1.0
baz=305
JAVC **Velka Javorina** 79.36 322 *e*P P 19 08 00.1 +0.5
M02C **Callahan** 79.45 47 P P 19 08 02.2 +2.0
baz=305
BSEG **Bad Segeberg** 79.56 329 P P 19 08 00.4 0.0
BSEG pmax pmax
comp=Z,16nm,1.0s
BSEG **Bad Segeberg** 79.56 329 *e*P P 19 07 59.9 -0.5
comp=Z,4.1nm,0.7s,baz=46,slow=5.3
MDVR **Moldovita** 79.62 317 ⇑P P 19 08 01.0 -0.1
VRAC **Vranov** 79.63 323 P P 19 08 01.7 +0.7
VRAC pmax pmax
comp=Z,13nm,0.9s
VRAC **Vranov** 79.63 323 *e*P P 19 08 01.3 +0.3
SMOL **Smolenice** 79.70 322 *e*P P 19 08 02.1 +0.7
SMOL pmax pmax
comp=Z,40nm,2.3s
SMOL **Smolenice** 79.70 322 *e*P P 19 08 02.1 +0.7
N02D **Trinity Center** 79.78 48 P P 19 08 04.3 +2.2
baz=305
M04C **Macdoel** 79.85 47 P P 19 08 04.0 +1.5
baz=305
PVCC **Panska Ves** 79.86 325 *e*P P 19 08 06.9 +4.7
PVCC *e* 19 08 11.0
PVCC **Panska Ves** 79.86 325 *e*pP P 19 08 06.9 +4.7
PVCC *ex* x 19 08 11.0
MODS **Modra-Piesok** 79.87 322 *e*P P 19 08 01.9 -0.4
MODS **Modra-Piesok** 79.87 322 *e*P P 19 08 01.9 -0.4
K05A **Summer Lake** 79.88 45 IAmb IAmb 19 08 13.1
comp=Z,33nm,1.2s
KRUC **Moravsky** 79.89 323 P P 19 08 02.8 +0.4
KRUC pmax pmax
comp=Z,9.0nm,1.1s
WALA **Waterton Lakes** 79.91 37 P P 19 08 00.8 -1.8
BRG **Berggiesshubel** 79.94 325 P P 19 08 04.6 +2.0
BRG pmax pmax
comp=Z,11nm,1.1s
BRG **Berggiesshubel** 79.94 325 *e*P P 19 08 02.5 -0.1
baz=46,slow=5.3
CSKK **Cskako** 79.98 321 P P 19 08 01.1 -1.8
VTS **Vitosha** 80.00 315 ⇑P P 19 08 03.8 +0.5
VTS **Vitosha** 80.00 315 ⇑P P 19 08 03.8 +0.5
VTS **Vitosha** 80.00 315 IAmb IAmb 19 08 16.9
comp=Z,99nm,1.8s
ZST **Bratislava** 80.07 322 *e*P P 19 08 05.0 +1.7
ZST **Bratislava** 80.07 322 *e*P P 19 08 05.0 +1.7
CLL **Collm** 80.10 326 P P 19 08 00.0 -3.4
CLL pmax pmax
comp=Z,18nm,0.8s
CLL **Collm** 80.10 326 P P 19 08 00.0 -3.4
CLL **Collm** 80.10 326 *i* P P 19 08 03.0 -0.4
comp=Z,12nm,1.0s
CLL *i* pP pP 19 08 07.4 -0.2
comp=Z,19nm,0.9s
CLL *i* x x 19 08 11.4
comp=Z,32nm,1.3s
CLL *e*PP PP 19 11 06.0 +1.1
CLL Lmax 19 48 00.0
CLL **Collm** 80.10 326 *e*P P 19 08 03.0 -0.4
comp=Z,6.5nm,0.9s,baz=46,slow=5.3
O02D **Mt. Diablo Mer** 80.19 48 P P 19 08 05.8 +1.5
baz=305
FBE **Freiberg** 80.19 325 *e*P P 19 08 03.6 -0.3
baz=46,slow=5.3
TREC **Trest** 80.20 323 AMS AMS 19 47 30.0
comp=Z,9µm,15.6s
PRU **Pruhonice** 80.22 324 *e*P P 19 08 04.1 0.0
PRU *e* 19 08 08.4
PRU MLR MLR
comp=Z,5µm,15.7s
PRU **Pruhonice** 80.22 324 *e*P P 19 08 04.1 0.0
PRU *e*pP pP 19 08 08.4 +0.1
PRU AMS AMS 19 46 50.0
comp=Z,5µm,15.7s
FLTG **Flechtingen** 80.24 327 *e*P P 19 08 03.7 -0.4
comp=Z,4.7nm,0.8s,baz=46,slow=5.3
HLG **Helgoland** 80.42 330 *e*P P 19 08 03.7 -1.4
comp=Z,31nm,0.9s,baz=46,slow=5.3
MORH **Mrgy, Hungar** 80.48 319 ⇓P P 19 08 06.3 +0.7
MORH **Mrgy, Hungar** 80.48 319 *e*P P 19 08 05.1 -0.5
MORH **Mrgy, Hungar** 80.48 319 P P 19 08 04.8 -0.8
FRGS **Fruska Gora** 80.48 318 ⇓P P 19 08 04.6 -1.1
FRGS **Fruska Gora** 80.48 318 *e*P P 19 08 04.2 -1.5
MPLH **Magyarpolny** 80.48 321 P P 19 08 05.3 -0.2
NRDL **Niedersach Rie** 80.63 328 *e*P P 19 08 05.6 -0.6
comp=Z,2.0nm,0.8s,baz=46,slow=5.3
MSEY **Mahe Island** 80.64 258 P P 19 08 10.9 +3.9
SRS **Serrai** 80.66 313 P P 19 08 06.5 -0.2
SRS pmax pmax
comp=Z,28nm,1.3s
BMO **Blue Mountains** 80.70 42 P P 19 08 05.5 -1.4
BMO pmax pmax
comp=Z,11nm,1.0s
BMO **Blue Mountains** 80.70 42 P P 19 08 05.5 -1.4
O03E **Paynes Creek** 80.74 48 P P 19 08 08.5 +1.3
baz=306
RONA **Rosalia, Austr** 80.80 322 *e*P P 19 08 07.4 0.0
comp=Z,12nm,1.4s
KOVH **Kovagotottos** 80.85 320 P P 19 08 06.7 -0.9
CONA **Conrad Observa** 80.88 322 *i* P P 19 08 08.7 +0.8
comp=Z,24nm,1.4s
CONA *i* P PP 19 11 14.1 +2.5
comp=Z,14nm,1.6s
J08A **Circle Bar Ran** 80.93 44 P P 19 08 07.2 -1.0
TANN **Tannenbergstha** 80.95 325 *e*P P 19 08 08.0 -0.1
baz=46,slow=5.3
CLZ **Clausthal** 80.96 327 *e*P P 19 08 07.6 -0.5
comp=Z,9.2nm,1.0s,baz=46,slow=5.3
SOH **Sokhos** 80.98 313 P P 19 08 08.0 -0.5
SOH pmax pmax
comp=Z,8.0nm,1.4s
DIVS **Divibare** 81.02 317 *e*P P 19 08 07.4 -1.3
GUNZ **Gunzen** 81.05 325 *e*P P 19 08 08.3 -0.3
comp=Z,2.5nm,0.7s,baz=46,slow=5.3
WERN **Wernitzgruen** 81.08 325 *e*P P 19 08 08.9 +0.1
baz=46,slow=5.3
NKC **Novy Kostel** 81.08 325 *e*P P 19 08 11.8 +3.0
NKC MLR MLR
comp=Z,6µm,13.7s
NKC **Novy Kostel** 81.08 325 *e*P P 19 08 11.8 +3.0
NKC AMS AMS 19 47 50.0
comp=Z,6µm,13.7s
CKRC **Cesky Krumlov** 81.10 323 *e*P P 19 08 09.1 +0.2
CKRC AMS AMS 19 47 50.0
comp=Z,10µm,15.4s
FCC **Fort Churchill** 81.15 22 P P 19 08 07.4 -1.5
FCC pmax pmax
comp=Z,40nm,1.0s
FCC **Fort Churchill** 81.15 22 P P 19 08 07.4 -1.5
FCC IAmb IAmb 19 08 16.6
comp=Z,40nm,1.0s
VAY **Valandovo** 81.17 314 *i* P P 19 08 08.6 -0.7
STIP **Stip** 81.18 314 *i* P P 19 08 02.9 -6.6
MOX **Moxa** 81.20 326 P P 19 08 09.4 0.0
MOX pmax pmax
comp=Z,8.0nm,2.2s
MOX **Moxa** 81.20 326 *e*P P 19 08 09.4 0.0
comp=Z,2.3nm,0.9s,baz=46,slow=5.3
KHC **Kasperske Hory** 81.26 324 ⇑*e*P P 19 08 09.7 -0.1
KHC pmax pmax
comp=Z,23nm,1.3s
KHC **Kasperske Hory** 81.26 324 *e*P P 19 08 09.5 -0.3
KHC *e*pP pP 19 08 13.8 -0.1
KHC AMS AMS 19 48 30.0
comp=Z,5µm,15.9s
PLID **Pearl Lake** 81.28 41 P P 19 08 08.9 -1.3
MSO **Missoula** 81.31 39 P P 19 08 11.3 +1.1
baz=310
BEHE **Becsehely** 81.33 320 P P 19 08 08.2 -1.9
GTTG **Gottingen** 81.35 327 *e*P P 19 08 09.8 -0.3
comp=Z,11nm,1.0s,baz=46,slow=5.3
ORV **Oroville** 81.35 48 P P 19 08 08.8 -1.6
ORV pmax pmax
comp=Z,11nm,1.2s
ORV **Oroville** 81.35 48 P P 19 08 08.8 -1.6
GEC2 **GERESS Array S** 81.39 324 *e*P P 19 08 10.1 -0.4
comp=Z,306nm,2.8s,baz=46,slow=5.3
GERES **GERESS Array B** 81.39 324 P P 19 08 10.0 -0.5
comp=Z,2.2nm,0.7s,baz=45,slow=2.3,SNR=12
GERES **GERESS Array B** 81.39 324 P P 19 08 09.5 -1.0
GERES **GERESS Array B** 81.39 324 P P 19 08 09.5 -1.0
WVOR **Wild Horse Val** 81.39 45 P P 19 08 12.4 +1.7
WVOR pmax pmax
comp=Z,14nm,2.1s
MANZ **Manzenberg** 81.41 325 *e*P P 19 08 10.8 +0.2
baz=46,slow=5.3
FFC **Flin Flon** 81.44 28 P P 19 08 09.0 -1.6
FFC pmax pmax
comp=Z,22nm,1.0s
FFC **Flin Flon** 81.44 28 P P 19 08 09.0 -1.6
SKO **Skopje** 81.46 315 *i* P P 19 08 11.4 +0.4
BBLS **Lazići** 81.50 317 *e*P P 19 08 10.0 -1.2
ROTZ **Rotzenmuhle** 81.51 325 *e*P P 19 08 11.3 +0.3
comp=Z,0.6nm,0.8s,baz=46,slow=5.3
KARP **Karpathos** 81.56 307 pP 19 08 17.1 +1.3
RUDO **Rudo** 81.67 317 *e*P P 19 08 11.0 -1.0
MOA **Molln** 81.75 323 *e*P P 19 08 12.5 +0.1
comp=Z,11nm,1.6s
IBBN **Ibbenburen** 81.80 329 *e*P P 19 08 11.9 -0.6
comp=Z,7.7nm,0.9s,baz=46,slow=5.3
LIT **Litokhoron** 81.94 313 P P 19 08 12.0 -1.5
LIT pmax pmax
comp=Z,57nm,1.3s
LIT **Litokhoron** 81.94 313 P P 19 08 12.0 -1.5
LIT IAmb IAmb 19 08 22.0
comp=Z,57nm,1.3s
GRA1 **Grafenberg Arr** 82.03 325 P P 19 08 12.9 -0.8
GRA1 IAmb IAmb 19 08 32.0
comp=Z,30nm,1.1s
GRF **Grafenberg Arr** 82.03 325 P P 19 08 13.0 -0.8
GRF pmax pmax
comp=Z,30nm,1.1s
GRF **Grafenberg Arr** 82.03 325 *e*P P 19 08 14.2 +0.4
comp=Z,7.6nm,0.9s,baz=46,slow=5.3
GRF **Grafenberg Arr** 82.03 325 *e*P PP 19 11 28.6 +7.7
comp=Z,73nm,2.3s,baz=37,slow=7.2
GRFO **Grafenberg** 82.03 325 P P 19 08 12.5 -1.3
GRFO pmax pmax
comp=Z,27nm,1.1s
GRFO **Grafenberg** 82.03 325 P P 19 08 12.5 -1.3
GRFO IAmb IAmb 19 08 32.0

SOKA Soboth 82.12 321 *e*P P 19 08 14.6 +0.2
comp=Z,31nm,1.2s,SNR=14
SOKA *i* P PP 19 11 21.2 -0.7
comp=Z,8.4nm,1.7s
BIOA Bad Ischl, Aus 82.18 323 *e*P P 19 08 14.9 +0.3
comp=Z,9.2nm,1.1s
BLY Banja Luka 82.19 319 *e*P P 19 08 12.1 -2.6
KASTN Kahler Asten 82.29 328 *e*P P 19 08 14.9 -0.2
comp=Z,2.3nm,0.8s,baz=46,slow=5.3
FRB Frobisher Bay 82.36 9 LR LR 19 47 44.4
comp=Z,2µm,19.1s,baz=308,slow=38
FRB Frobisher Bay 82.36 9 P P 19 08 15.4 +0.2
FRB pmax pmax
comp=Z,41nm,1.1s
MFID Camas Ranch 82.42 43 P P 19 08 14.7 -1.5
CRES Cresnjev 82.45 321 *e*P P 19 08 17.3 +1.3
MGRS Mrkonjic Grad 82.46 319 *e*P P 19 08 16.7 +0.5
PDG Podgorica 82.47 316 IAmb IAmb 19 08 28.8
comp=Z,41nm,1.0s
PDG Podgorica 82.47 316 *e*P P 19 08 15.7 -0.5
OBKA Obir 82.48 322 *i* P P 19 08 16.6 +0.3
comp=Z,6.9nm,0.7s
RJOB Jochberg 82.57 323 *e*P P 19 08 17.1 +0.3
comp=Z,2.2nm,0.8s,baz=46,slow=5.3
PAHR Pah Rah Range 82.58 47 P P 19 08 15.2 -1.9
BRY Bratogost 82.59 317 *e*P P 19 08 16.1 -0.9
SRKY Kupres RS 82.64 318 *e*P P 19 08 18.8 +1.6
DRME Dracevica, Mon 82.66 316 *e*P P 19 08 17.2 0.0
KBN Korca 82.66 314 IAmb IAmb 19 08 24.2
comp=Z,24nm,1.0s
AGG Agios Georgios 82.68 312 P P 19 08 14.2 -3.2
AGG pmax pmax
comp=Z,18nm,1.1s
AGG Agios Georgios 82.68 312 P P 19 08 14.2 -3.2
EGMT Eagleton 82.68 36 IAmb IAmb 19 09 00.8
comp=Z,31nm,1.1s
EGMT Eagleton 82.68 36 P P 19 08 18.6 +1.2
baz=312
KBA Koelnbreinsper 82.73 322 *i* P P 19 08 17.3 -0.4
comp=Z,9.4nm,1.1s
KBA *i* P PP 19 11 28.8 +1.8
comp=Z,25nm,2.2s
KBA Koelnbreinsper 82.73 322 P P 19 08 18.3 +0.6
KBA pmax pmax
comp=Z,13nm,0.9s
MYKA Terra Mystica 82.88 322 *i* P P 19 08 17.4 -1.0
comp=Z,8.6nm,1.0s
MYKA *i* P PP 19 11 31.2 +3.1
comp=Z,16nm,1.1s
HCY Herceg Novi 82.90 317 *e*P P 19 08 16.8 -1.7
CMB Columbia Colle 82.95 49 P P 19 08 17.4 -1.5
CMB pmax pmax
comp=Z,13nm,1.2s
CMB Columbia Colle 82.95 49 P P 19 08 17.4 -1.5
TNS Taunus Mts 82.96 327 P P 19 08 18.9 +0.2
TNS pmax pmax
comp=Z,13nm,0.9s
TNS Taunus Mts 82.96 327 *e*P P 19 08 18.5 -0.2
comp=Z,7.0nm,1.1s,baz=46,slow=5.3
DLMT Dillon 82.97 40 IAmb IAmb 19 08 27.9
comp=Z,30nm,1.0s
CEY Cerknica 83.05 321 *e*P P 19 08 16.9 -2.3
STON Ston 83.09 317 *e*P P 19 08 17.4 -2.0
YERR Yerington 83.10 48 P P 19 08 17.8 -2.1
YERR IAmb IAmb 19 08 28.4
comp=Z,26nm,1.3s
HLID Hailey 83.13 42 P P 19 08 21.5 +1.7
baz=310
BKZ Black Stump Fm 83.14 146 P P 19 08 16.9 -2.6
IDI Anoyia 83.23 308 ⇑P P 19 08 20.0 -0.4
IDI Anoyia 83.23 308 IAmb IAmb 19 08 32.6
comp=Z,59nm,1.4s
BOZ Bozeman (W) 83.33 39 P P 19 08 22.0 +1.1
baz=311
AHRW Bad Neuenahr-A 83.35 328 *e*P P 19 08 20.8 +0.2
comp=Z,7.2nm,0.9s,baz=46,slow=5.3
ABTA Abfaltersbach 83.38 323 *i* P P 19 08 20.0 -1.0
comp=Z,11nm,1.5s
WATA Walderalm 83.45 323 *e*P P 19 08 22.9 +1.5
comp=Z,13nm,1.6s
WTTA Wattenberg 83.47 323 *i* P P 19 08 23.1 +1.5
comp=Z,8.6nm,1.1s
WTTA Wattenberg 83.47 323 P P 19 08 21.3 -0.3
WTTA pmax pmax
comp=Z,12nm,1.5s
STAL STALIGIAL 83.60 322 P P 19 08 19.7 -2.4
STAL IAmb IAmb 19 08 31.3
comp=Z,16nm,0.9s
MOTA Moosalm 83.68 324 *i* P P 19 08 21.8 -0.8
comp=Z,6.6nm,0.8s
SQTA Sankt Quirin 83.72 324 *e*P P 19 08 22.3 -0.4
comp=Z,4.8nm,0.9s
RETA Reutte 83.76 324 *i* P P 19 08 22.8 0.0
comp=Z,12nm,1.0s
KVN Kaiserville 83.77 47 IAmb IAmb 19 08 31.9
comp=Z,34nm,1.1s
MEM Membach 83.78 328 P P 19 08 22.0 -0.8
MEM pmax pmax
comp=Z,20nm,1.0s
MEM Membach 83.78 328 *d*P P 19 08 21.8 -1.0
comp=Z,10nm,1.0s
EKA Eskdalemuir Ar 83.78 336 LR LR 19 48 24.1
comp=Z,2µm,18.1s,baz=25,slow=38
UBR Ueberruh 83.94 324 *e*P P 19 08 24.0 +0.2
comp=Z,2.3nm,0.7s,baz=46,slow=5.3
NVAR Mina Array Bea 84.02 48 P P 19 08 26.1 +1.4
comp=Z,7.0nm,1.1s,baz=280,slow=5.3,SNR=18
ITM Ithomi 84.04 311 P P 19 08 22.2 -2.2
FETA Feichten 84.09 324 *e*P P 19 08 24.4 -0.3
comp=Z,7.6nm,1.4s
NV11 Mina Array Sit 84.11 48 P P 19 08 23.7 -1.3
CTI Castel Tesino 84.29 322 IAmb IAmb 19 08 35.1
comp=Z,34nm,1.2s
DAVA Damuels 84.33 324 *e*P P 19 08 25.6 -0.3
comp=Z,22nm,1.0s
BFO Black Forest 84.35 326 P P 19 08 23.4 -2.4
BFO pmax pmax
comp=Z,25nm,1.2s
BFO MLR MLR
comp=Z,3µm,19.0s
BFO Black Forest 84.35 326 P P 19 08 23.4 -2.4
BFO IAmb IAmb 19 08 48.2
comp=Z,25nm,1.2s
BFO IAMs_20 IAMs_20 19 49 37.0
comp=Z,3µm,19.0s
BFO Black Forest 84.35 326 *e*P P 19 08 25.6 -0.2
comp=Z,7.0nm,0.8s,baz=46,slow=5.3
WLF Walferdange 84.40 328 P P 19 08 26.2 +0.2
WLF pmax pmax
comp=Z,20nm,0.9s
WLF Walferdange 84.40 328 IAmb IAmb 19 08 31.3
comp=Z,15nm,0.8s
WLF Walferdange 84.40 328 *e*P P 19 08 26.0 0.0
comp=Z,9.2nm,0.8s,baz=46,slow=5.3
WLF Walferdange 84.40 328 *d*P P 19 08 24.1 -1.9
comp=Z,14nm,0.9s
ELK Elko 84.44 44 P P 19 08 24.3 -2.4
ELK pmax pmax
comp=Z,10.0nm,1.1s
ELK Elko 84.44 44 P P 19 08 24.3 -2.4
RCHB Rochefort 84.45 328 *d*P P 19 08 25.3 -1.0
comp=Z,9.8nm,0.8s
BMRD Maredsous 84.55 329 *d*P P 19 08 26.0 -0.7
comp=Z,10nm,0.9s
SLE Schleitheim 84.67 325 P P 19 08 26.8 -0.7
SLE pmax pmax
comp=Z,12nm,1.6s
H17A Grant Village 84.69 39 P P 19 08 29.4 +1.5
baz=312
FLWY Flagg Ranch 84.83 40 IAmb IAmb 19 09 30.6
comp=Z,28nm,1.3s
RLMT Red Lodge 84.89 38 IAmb IAmb 19 08 37.3
comp=Z,20nm,1.3s
RLMT Red Lodge 84.89 38 P P 19 08 30.4 +1.6
baz=313
ECH Echery 84.98 326 P P 19 08 26.9 -2.1
ECH pmax pmax
comp=Z,34nm,1.5s
ECH Echery 84.98 326 P P 19 08 26.9 -2.1
ECH IAmb IAmb 19 09 15.2
comp=Z,34nm,1.5s
MOOW Moose Ponds 85.03 40 P P 19 08 26.7 -2.9
TUE Stuetta 85.16 324 P P 19 08 27.5 -2.7
TUE IAmb IAmb 19 08 42.5
comp=Z,36nm,1.1s

LCH Last Change Ra 85.17 48 P P 19 08 28.1 -2.2
LCH IAmb IAmb 19 08 38.7
comp=Z,21nm,1.3s
LCH PP PP 19 11 47.7 +0.5
LAO LASA Array 85.34 36 P P 19 08 31.7 +0.8
baz=315
CWC Cottonwood Cre 85.38 49 P P 19 08 32.2 +0.8
baz=308
ISA Isabella, Lake 85.60 50 P P 19 08 33.0 +0.5
baz=308
NRCA Norcia 85.68 319 P P 19 08 31.2 -1.5
AQU L'Aquila 85.84 319 P P 19 08 32.0 -1.5
AQU pmax pmax
comp=Z,62nm,1.1s
AQU L'Aquila 85.84 319 P P 19 08 32.0 -1.5
AQU L'Aquila 85.84 319 *e*P P 19 08 33.9 +0.4
TIP Timpagrande 85.99 315 IAmb IAmb 19 08 46.7
comp=Z,30nm,1.2s
MPMC Manual Prospec 85.99 49 P P 19 08 36.1 +1.6
baz=308
HWUT Hardware Ranch 86.00 42 IAmb IAmb 19 08 43.1
comp=Z,19nm,1.1s
PAOL Paolisi 86.06 317 P P 19 08 33.1 -1.5
PAOL IAmb IAmb 19 08 38.3
comp=Z,20nm,1.2s
FURC Furnace Creek, 86.13 49 P P 19 08 37.2 +2.3
baz=309
DUG Dugway, Tooele 86.21 44 P P 19 08 34.4 -1.0
DUG pmax pmax
comp=Z,14nm,1.1s
DUG Dugway, Tooele 86.21 44 P P 19 08 34.4 -1.0
DUG Dugway, Tooele 86.21 44 P P 19 08 36.5 +1.1
baz=311
TPNV Topopah Spring 86.22 48 P P 19 08 36.5 +0.9
baz=309
BW06 Boulder Array 86.33 40 P P 19 08 36.9 +0.8
baz=313
PDAR Pinedale Array 86.33 40 P P 19 08 36.6 +0.5
comp=Z,4.6nm,1.0s,baz=294,slow=1.5,SNR=22
PDAR Pinedale Array 86.33 40 P P 19 08 34.9 -1.2
CEL Celeste 87.09 315 IAMs_20 IAMs_20 19 52 22.3
comp=Z,3µm,19.0s
SHPR Sheep Range 87.18 48 P P 19 08 39.2 -1.1
ULM Lac du Bonnet 87.27 28 P P 19 08 40.5 +0.3
comp=Z,11nm,1.0s,baz=316,slow=5.3,SNR=7.6
ULM Lac du Bonnet 87.27 28 IAmb IAmb 19 08 47.8
comp=Z,37nm,1.2s
HEC Hector,Ludlow 87.49 50 P P 19 08 43.5 +1.7
baz=309
MSU Marysvale 87.69 45 P P 19 08 42.5 -0.3
MSU Marysvale 87.69 45 P P 19 08 42.5 -0.3
MURC Murrieta 87.70 51 P P 19 08 44.5 +1.8
baz=309
P17A Butcher Ranch, 87.89 43 IAmb IAmb 19 08 52.4
comp=Z,28nm,1.1s
K22A Casper 88.03 39 P P 19 08 43.9 -0.3
K22A IAmb IAmb 19 11 45.2
comp=Z,14nm,1.0s
K22A Casper 88.03 39 P P 19 08 45.2 +1.0
baz=315
P18A Preston Nutter 88.06 43 IAmb IAmb 19 08 53.9
comp=Z,23nm,1.0s
PFO Pinyon Flats O 88.17 51 P P 19 08 46.5 +1.4
baz=309
RSSD Black Hills 88.25 36 P P 19 08 44.3 -1.1
RSSD pmax pmax
comp=Z,74nm,1.9s
RSSD Black Hills 88.25 36 P P 19 08 44.3 -1.1
RSSD Black Hills 88.25 36 P P 19 08 45.7 +0.3
baz=316
SRU San Rafael Swe 88.25 43 IAmb IAmb 19 08 53.7
comp=Z,13nm,0.9s
RWWY Rawlins 88.33 40 P P 19 08 44.0 -1.9
RWWY IAmb IAmb 19 08 53.8
comp=Z,18nm,0.9s
MONP2 Monument Peak 88.65 51 P P 19 08 45.7 -1.7
baz=309
AGMN Agassiz Nation 88.81 29 P P 19 08 47.5 -0.1
baz=322
O20A White River Ci 88.85 41 P P 19 08 48.1 -0.2
baz=314
U15A North Rim 88.99 46 IAmb IAmb 19 08 52.1
comp=Z,45nm,1.8s
PHWY Pilot Hill 89.54 39 IAmb IAmb 19 08 59.9
comp=Z,20nm,1.2s
PV23 Carpenter Ridg 89.57 43 P P 19 08 48.5 -3.2
PV23 IAmb IAmb 19 09 05.1
comp=Z,28nm,1.0s
N23A Red Feather La 89.57 40 IAmb IAmb 19 09 00.5
comp=Z,33nm,1.2s
N23A Red Feather La 89.57 40 P P 19 08 53.3 +1.6
baz=315
B35A Bob, Littlefor 89.63 28 P P 19 08 48.7 -2.7
B35A IAmb IAmb 19 08 59.4
comp=Z,35nm,1.1s
WUAZ Wupatki 90.15 46 P P 19 08 56.5 +2.2
baz=312
SMCO Snowmass 90.22 41 P P 19 08 51.8 -3.1
ISCO Idaho Springs 90.53 40 P P 19 08 58.0 +1.8
ISCO pmax pmax
comp=Z,8.0nm,2.1s
ISCO Idaho Springs 90.53 40 P P 19 08 57.3 +1.1
baz=315
MVCO Mesa Verde 90.71 44 IAmb IAmb 19 09 02.0
comp=Z,21nm,1.3s
MVCO Mesa Verde 90.71 44 P P 19 08 58.8 +1.8
baz=314
EYMN Ely 90.83 27 P P 19 08 54.4 -2.7
EYMN IAmb IAmb 19 09 04.9
comp=Z,22nm,1.1s
EYMN Ely 90.83 27 P P 19 08 57.4 +0.3
baz=325
SCHQ Schefferville 91.20 10 P P 19 08 58.5 -0.1
comp=Z,6.9nm,0.9s,baz=44,slow=3.8,SNR=4.9
S22A 4UR Ranch, Cre 91.30 42 P P 19 08 57.1 -2.7
S22A 4UR Ranch, Cre 91.30 42 P P 19 09 01.5 +1.7
baz=315
Q24A Divide 91.37 40 P P 19 09 01.9 +1.7
baz=316
214A Organ Pipe Nat 91.59 50 P P 19 09 02.9 +1.9
baz=311
SDCO Great Sand Dun 92.05 42 P P 19 09 05.1 +1.8
baz=316
ECSD EROS Data Cent 92.07 33 P P 19 09 03.6 +0.7
baz=322
TUC Tucson 92.65 48 P P 19 09 07.7 +1.8
TUC pmax pmax
comp=Z,9.0nm,3.0s
TUC Tucson 92.65 48 P P 19 09 08.0 +2.1
baz=312
T25A Trinidad 93.08 41 P P 19 09 09.2 +1.2
baz=316
BGNE Belgrade 93.16 35 P P 19 09 08.3 +0.3
baz=320
ANMO Albuquerque 93.47 44⇑ *i*P P 19 09 11.5 +1.7
ANMO pmax pmax
comp=Z,10.0nm,1.6s
ANMO Albuquerque 93.47 44 P P 19 09 10.8 +1.0
baz=315
KMBO Kilima Mbogo 93.94 271 P P 19 09 11.9 -0.4
comp=Z,5.0nm,1.0s,baz=51,slow=20,SNR=3.0
KMBO Kilima Mbogo 93.94 271 P P 19 09 15.5 +3.2
121A Cookes Peak, D 94.36 47 P P 19 09 13.1 -0.7
baz=314
SCIA State Center 95.04 32 P P 19 09 16.4 -0.2
baz=324
ESDC Sonseca Array 96.67 327 P P 19 09 24.2 +0.1
comp=Z,0.4nm,0.8s,baz=20,slow=4.2,SNR=1.8
ESDC PP PP 19 13 21.3 +3.5
comp=Z,1.9nm,1.0s,baz=26,slow=5.8,SNR=6.8
PAB San Pablo 96.95 327 IAMs_20 IAMs_20 19 52 15.3
comp=Z,3µm,18.0s
TXAR Lajitas Array 99.11 46 P Pdif 19 09 37.0 +1.6
comp=Z,0.7nm,0.8s,baz=295,slow=4.2,SNR=6.7
TXAR PP PP 19 13 39.9 +2.9
comp=Z,1.9nm,1.1s,baz=260,slow=5.4,SNR=7.3
TXAR PKKP PKKPdf 19 26 02.6 -0.1
comp=Z,0.6nm,0.9s,baz=134,slow=2.6,SNR=4.3
MBAR Mbarara 99.13 275 LR LR 19 56 49.8
comp=Z,3µm,18.6s,baz=146,slow=37
PKME Peaks-Kenny Pk 99.95 15 P Pdif 19 09 37.7 -1.0
baz=343
FFD Franklin Falls 101.12 17 IAMs_20 IAMs_20 19 47 59.1
comp=Z,2µm,21.0s
O53A New Philadelph 101.23 25 P Pdif 19 09 43.1 -1.3
baz=333
BCX Boston College 102.31 17 IAMs_20 IAMs_20 19 42 23.6

comp=Z,2µm,18.0s
VNDA Vanda 111.78 173 PKiKP PKiKP 19 14 27.6 +0.3
comp=Z,2.0nm,0.9s,baz=277,slow=4.9,SNR=4.7
TORD Torodi Ar. Bea 113.51 305 PKiKP PKiKP 19 14 31.6 -0.9
comp=Z,1.0nm,0.8s,baz=60,slow=1.2,SNR=3.3
TORD PP PP 19 15 26.7 +3.3
comp=Z,4.6nm,1.2s,baz=34,slow=6.8,SNR=6.4
CRIN San Cristobal 121.73 45 IAMs_20 IAMs_20 20 01 21.2
comp=Z,1µm,20.0s
DBIC Dimbokro 122.62 305 PKP PKPdf 19 14 50.1 +0.1
comp=Z,3.4nm,0.8s,baz=62,slow=5.5,SNR=3.8
BCIP Isla Barro Col 128.72 41 IAMs_20 IAMs_20 20 20 30.3
comp=Z,1µm,21.0s
SDV Santo Domingo 133.47 30 PKPpre 19 14 59.5
SDV Santo Domingo 133.47 30 *e*P PKiKP 19 15 13.5 +1.2
SNAA Sanae 134.31 199 P PKPdf 19 15 10.0 -0.6
SNAA Sanae 134.31 199 PKPdf PKPdf 19 15 06.7 -4.0
SNAA SKPab 19 18 43.3 +0.2
BAUV El Baul 134.47 27 SKPbc 19 18 43.4 +1.0
BELA Belgrano 2 134.55 184 PKPdf 19 15 05.6 -5.3
BELA SKPbc SKPbc 19 18 40.2 -0.3
VNA2 Neumayer--Watz 135.94 198 P PKPdf 19 15 13.9 +0.3
baz=89,slow=1.0
VNA3 Neumayer Olymp 136.33 197 P PKPdf 19 15 14.2 -0.1
VNA1 Neumayer--Stat 136.34 198 P PKiKP 19 15 15.6 -0.4
OTAV Otavalo 136.74 46 *e*P PKiKP 19 15 19.7 +0.5
BOAV Boa Vista 143.13 20 *e*P PKiKP 19 15 32.1 +0.4
TBTG Tabatinga, AM 145.23 39 *e*P PKPdf 19 15 33.6 +1.5
CZSB Cruzeiro do Su 146.51 47 *e*P PKPab 19 15 37.0 +0.4
PMSA Palmer Station 146.80 168 *e*P PKiKP 19 15 37.5 -0.1
MCPB Macapa, AP 147.43 6 *e*P PKPbc 19 15 37.5 -0.8
MALB Monte Alegre 148.64 11 *e*P PKPbc 19 15 41.1 -0.4
ETMB Extrema 151.92 39 *e*P PKPbc 19 15 47.6 -1.8
LPAZ La Paz 155.89 51 PKP PKPdf 19 15 49.5 +0.3
comp=Z,2.0nm,1.0s,baz=9,slow=4.0,SNR=6.1
LPAZ PKPab PKPab 19 16 15.4 -0.6
comp=Z,8.9nm,1.2s,baz=341,slow=5.8,SNR=7.6
LPAZ La Paz 155.89 51 PKIKP PKPdf 19 15 45.3 -3.9
LPAZ La Paz 155.89 51 PKPdf PKPdf 19 15 45.3 -3.9
LPAZ La Paz 155.89 51 *e*P PKPdf 19 15 52.5 +3.3
CLDB Colider 157.10 18 *e*P PKPdf 19 15 54.8 +4.7
CMC01 Camacan, BA 160.57 332 *e*P PKPdf 19 15 58.7 +4.6
PCMB Pacaembu 168.49 12 *e*P PKPdf 19 16 03.6 +2.6

JMA 15 18:57:27.2, 33°.03N×131°.19E, h13km, M4.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.28**	**289**	P	Pg	18 57 33.0	0.0
JNU				eS	Sg	18 57 37.0	+0.1
JUS	**Usuki**	**0.47**	**86**	P	Pg	18 57 36.3	-0.2
JUS				eS	Sg	18 57 43.1	+0.3
JTA	**Tamana**	**0.56**	**263**	P	Pg	18 57 37.9	-0.2
JIU3	**Izumi3**	**0.57**	**214**	P	Pg	18 57 38.6	+0.1

RSNC ***15*** *18:58:27.7±0.9, 6°.83N×73°.11W, h145km±4km, ML3.2, Mw3.6*
IDC ***15*** *18:58:30.2±5.5, 6°.68N×73°.86W, h179km±23km, mb3.1/1, mb1 3.4/1, mb1mx2.8/35, mbtmp3.6/1, Error ellipse: s-maj=261.8km s-min=39.6km az=94.0*
ISC 15 18:58:27.1±1.0, 6°.84N±0°.04×73°.13W±0°.04, h147km±7km, n22, σ0°.96/41, 5C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**193**	⇑*i*P	Pn	18 58 47.6	+0.1
BARC				eS	Sn	18 59 02.1	-0.8
BARC				*i*		18 59 03.9	
comp=Z,272nm,0.2s							
PAMC	**Pamplona, Colo**	**0.66**	**40**	⇑*e*P	Pn	18 58 50.3	+0.7
PAMC				eS	Sn	18 59 06.8	+0.2
PAMC				*i*		18 59 08.0	
comp=Z,212nm,0.2s							
RUSC	**La Rusia**	**0.94**	**177**	⇑*e*P	Pn	18 58 51.4	-0.2
RUSC				eS	Sn	18 59 10.4	+0.1
RUSC				*i*		18 59 11.4	
comp=Z,106nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	*e*P	Pn	18 58 54.5	-0.4
PTBC				eS	Sn	18 59 16.4	+0.2
PTBC				*i*		18 59 22.7	
comp=Z,212nm,0.3s							
TAMC	**Tame, Arauca**	**1.38**	**107**	⇑*e*P	Pn	18 58 56.0	+0.7
TAMC				eS	Sn	18 59 16.6	-0.2
TAMC				*i*		18 59 18.2	
comp=Z,151nm,0.2s							
OCAC	**Ocana**	**1.41**	**352**	*e*P	Pn	18 58 55.6	0.0
OCAC				eS	Sn	18 59 17.4	-0.1
OCAC				*i*		18 59 22.2	
comp=Z,338nm,0.3s							
SPBC	**San Pablo de B**	**1.51**	**219**	⇑*e*P	Pn	18 58 56.6	0.0
SPBC				eS	Sn	18 59 18.9	-0.2
SPBC				*i*		18 59 26.1	
comp=Z,235nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	Pn	18 59 00.3	+0.1
ZARC				eS	Sn	18 59 25.4	-0.1
ZARC				*i*		18 59 31.3	
comp=Z,257nm,0.5s							
NORC	**Norcasia**	**2.15**	**234**	*e*P	Pn	18 59 03.6	-0.2
NORC				eS	Sn	18 59 31.5	-0.5
NORC				*i*		18 59 37.5	
comp=Z,166nm,0.2s							
CHIC	**Chingaza**	**2.27**	**195**	*e*P	Pn	18 59 05.9	+0.1
CHIC				eS	Sn	18 59 35.1	-0.3
CHIC				*i*		18 59 40.4	
comp=Z,66nm,0.2s							
ROSC	**El Rosal**	**2.31**	**211**	P	Pn	18 59 07.8	+1.5
comp=Z,20nm,0.3s,baz=81,slow=19,SNR=47							
ROSC				S	Sn	18 59 34.5	-1.7
comp=Z,52nm,0.3s,baz=98,slow=18,SNR=18							
ROSC	**El Rosal**	**2.31**	**211**	*e*P	Pn	18 59 06.8	+0.5
ROSC				eS	Sn	18 59 36.1	-0.1
ROSC				*i*		18 59 42.1	
comp=Z,157nm,0.5s							
HELC	**Santa Helena**	**2.47**	**255**	*e*P	Pn	18 59 07.8	-0.4
HELC				eS	Sn	18 59 40.7	+1.1
HELC				*i*		18 59 45.7	
comp=Z,110nm,0.3s							
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	Pn	18 59 07.8	-1.0
UREC				eS	Sn	18 59 38.6	-2.3
UREC				*i*		18 59 50.4	
comp=Z,146nm,0.2s							
SOCV	**Socops**	**2.67**	**57**	*e*P	Pn	18 59 10.3	+0.1
SOCV				eS	Sn	18 59 42.8	-0.7
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P	Pn	18 59 12.0	+0.4
GUY2C				eS	Sn	18 59 46.6	+0.8
GUY2C				*i*		18 59 54.3	
comp=Z,72nm,0.3s							
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	Pn	18 59 10.9	-0.7
VILC				eS	Sn	18 59 46.0	+0.2
PTGC	**Puerto Gaitan,**	**2.80**	**159**	*i* P	Pn	18 59 11.0	-0.9
PTGC				eS	Sn	18 59 44.4	-2.1
PTGC				*i*		18 59 47.0	
comp=Z,77nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*e*P	Pn	18 59 15.2	+0.3
CBOC				eS	Sn	18 59 51.9	+0.1
CBOC				*i*		19 00 08.8	
comp=Z,28nm,0.6s							
YKA	**Yellowknife Ar**	**63.25**	**340**	P	P	19 08 38.3	-1.4
comp=Z,0.3nm,0.5s,baz=132,slow=6.7,SNR=1.4							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	PKPdf	19 17 56.4	+1.6
comp=Z,0.1nm,0.5s,baz=117,slow=3.6,SNR=6.2							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	PKPdf	19 17 59.4	+2.6
comp=Z,0.2nm,0.4s,baz=107,slow=2.7,SNR=9.1							

NEIC ***15*** *18:59:44.0±2.0, 63°.12N±0°.02×151°.46W±0°.04, h11km±4km, Error ellipse: s-maj=2.7km s-min=2.5km az=57.0*
AEIC 15 18:59:43±2.4, 63°.09N±0°.02×151°.45W±0°.05, h11km±6km, ML2.5, mL2.8/134(NEIC), **Error ellipse: s-maj=3.6km s-min=2.5km az=73.0, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPLA	**Purkeypile**	**0.39**	**241**		Pb	18 59 51.9	0.0
CAST	**Castle Rocks**	**0.44**	**320**	Pg	Pb	18 59 52.6	-0.1
CAST				Sg	Sg	18 59 57.7	+0.3
CAST				IAML		18 59 58.9	
comp=E,1µm,0.2s							
CAST				IAML		18 59 58.9	
comp=N,588nm,0.4s							
KTH	**Kantishna Hill**	**0.53**	**27**	Pg	Pb	18 59 54.0	-0.3
KTH				Sg	Sg	19 00 00.5	+0.2

TRF	**Thorofare Moun**	**0.64**	**55**	Pg	Pb	18 59 56.5	+0.2		
TRF				Sg	Sg	19 00 04.3	+0.4		
CUT	**Chulitna**	**0.88**	**141**		Pn	19 00 01.3	+0.1		
CUT				Sg	Sb	19 00 12.8	+0.9		
BPAW	**Bear Paw Mtn.**	**1.04**	**11**		Pb	19 00 03.0	+0.1		
BPAW				Sg	Sg	19 00 16.2	-0.3		
BPAW				IAML		19 00 18.8			
	comp=E,143nm,0.4s								
K20K	**Telida**	**1.22**	**284**		Pg	19 00 06.5	+0.2		
K20K					Sb	19 00 21.9	+0.2		
K20K				IAML		19 00 24.6			
	comp=E,155nm,0.5s								
K20K				IAML		19 00 25.9			
	comp=N,145nm,0.6s								
RND	**Reindeer**	**1.22**	**74**		Pg	19 00 06.3	-0.1		
RND					Sn	19 00 22.6	+0.1		
MCK	**McKinley**	**1.30**	**59**		Pb	19 00 07.7	+0.2		
MCK					Sn	19 00 24.6	+0.1		
MCK				IAML		19 00 27.8			
	comp=N,111nm,0.3s								
MCK				IAML		19 00 31.0			
	comp=E,126nm,0.5s								
BWN	**Browne**	**1.40**	**38**	Pn	Pg	19 00 10.8	+0.8		
BWN				Sn	Sg	19 00 29.2	+1.0		
BWN				IAML		19 00 31.1			
	comp=E,153nm,0.6s								
BWN				IAML		19 00 37.2			
	comp=N,150nm,0.8s								
M22K	**Willow**	**1.48**	**155**		Pb	19 00 10.5	+0.2		
M22K				Sn	Sg	19 00 30.2	-0.2		
M22K				IAML		19 00 34.4			
	comp=N,200nm,0.6s								
M22K				IAML		19 00 37.5			
	comp=E,194nm,0.5s								
J20K	**Nowinta River**	**1.63**	**313**		Pb	19 00 12.5	-0.5		
J20K				Sn	Sn	19 00 32.7	+0.3		
J20K				IAML		19 00 36.7			
	comp=N,138nm,0.5s								
J20K				IAML		19 00 37.6			
	comp=E,136nm,0.4s								
GHO	**Glory Hole Cre**	**1.77**	**137**		Pb	19 00 15.5	+0.1		
GHO				Sn	Sb	19 00 38.1	+0.6		
GHO				IAML		19 00 39.4			
	comp=N,132nm,0.5s								
GHO				IAML		19 00 41.8			
	comp=E,94nm,0.5s								
M19K	**Big River Lodg**	**1.81**	**230**		Pg	19 00 17.0	-0.7		
M19K				Sn	Sg	19 00 40.7	-0.4		
M19K				IAML		19 00 44.3			
	comp=E,63nm,0.2s								
M19K				IAML		19 00 44.6			
	comp=N,58nm,0.3s								
L19K	**White Mountain**	**1.82**	**241**		Pb	19 00 16.6	+0.4		
L19K				Sn	Sg	19 00 40.9	-0.4		
L19K				IAML		19 00 48.6			
	comp=E,56nm,0.6s								
NEA2	**Nenana**	**1.84**	**34**	Pn	Pn	19 00 14.1	-0.4		
NEA2				Sn	Sb	19 00 40.1	+0.4		
PMR	**Palmer**	**1.85**	**143**		Pb	19 00 16.0	-0.8		
PMR				Sn	Sb	19 00 40.3	+0.4		
PMR				IAML		19 00 44.0			
	comp=E,57nm,0.5s								
PMR				IAML		19 00 46.4			
	comp=N,59nm,0.7s								
DHY	**Denali Highway**	**1.85**	**89**	Pn	Pb	19 00 16.5	-0.4		
DHY				Sn	Sb	19 00 40.0	-0.2		
DHY				IAML		19 00 43.6			
	comp=E,114nm,0.5s								
SML	**Sawmill**	**1.94**	**130**	Pn	Pb	19 00 17.1	-1.2		
SML				Sn	Sb	19 00 43.5	+1.1		
WRH	**Wood River Hil**	**2.04**	**46**	Pn	Pn	19 00 17.3	+0.1		
WRH				Sn	Sb	19 00 46.6	+1.3		
TTA	**Tatalina**	**2.09**	**268**		Pn	19 00 18.4	+0.5		
TTA				Sn	Sg	19 00 48.4	-1.6		
TTA				IAML		19 00 52.9			
	comp=N,45nm,0.7s								
TTA				IAML		19 00 53.4			
	comp=E,41nm,0.7s								
I21K	**Tanana**	**2.11**	**354**	Pn	Pn	19 00 18.9	+0.7		
I21K				Sn	Sn	19 00 45.2	+0.8		
RC01	**Rabbit Creek A**	**2.16**	**157**	Pn	Pb	19 00 21.9	-0.1		
KNK	**Knik Glacier**	**2.19**	**139**	Pn	Pb	19 00 21.9	-0.7		
KNK				IAML		19 00 52.0			
	comp=E,76nm,0.4s								
KNK				IAML		19 00 56.0			
	comp=N,37nm,0.6s								
CCB	**Clear Creek Bu**	**2.25**	**44**	Pn	Pn	19 00 20.0	0.0		
I23K	**Minto, Yukon-K**	**2.26**	**23**		Pn	19 00 20.4	+0.2		
SCM	**Sheep Creek Mo**	**2.29**	**121**	Pn	Pb	19 00 22.8	-1.5		
SCM				IAML		19 00 56.7			
	comp=N,78nm,0.7s								
SCM				IAML		19 01 00.4			
	comp=E,45nm,0.9s								
MDM	**Murphy Dome**	**2.35**	**36**	Pn	Pn	19 00 21.5	0.0		
IL31		**2.63**	**48**		Pn	19 00 25.5	+0.2		
ILAR	**Eielson Array**	**2.63**	**48**	Pn	Pb	19 00 28.1	-1.9		
M24K	**Tolsona, Glenn**	**2.63**	**110**		Pn	19 00 26.9	+1.5		
M24K				IAML		19 01 07.9			
	comp=N,54nm,0.4s								
H21K	**Melozitna Rive**	**2.65**	**348**	Pn	Pn	19 00 25.7	+0.1		
PWL	**Port Wells**	**2.68**	**145**	Pn	Pb	19 00 28.5	-2.3		
PWL				IAML		19 01 11.8			
	comp=N,28nm,0.9s								
PWL				IAML		19 01 11.8			
	comp=E,39nm,0.7s								
N19K	**Bonanza Creek**	**2.69**	**213**	Pn	Pn	19 00 27.0	+0.7		
N19K				IAML		19 01 10.4			
	comp=E,23nm,0.7s								
POKR	**Poker Plat Res**	**2.69**	**39**	Pn	Pn	19 00 27.9	+1.7		
RSO	**Redoubt South**	**2.71**	**194**	Pn	Pn	19 00 28.9	+2.4		
PAX	**Paxson**	**2.73**	**90**		Pn	19 00 28.1	+1.4		
O22K	**Cooper Landing**	**2.74**	**162**	Pn	Pn	19 00 29.0	+2.2		
SVW2	**Sparrevohn**	**2.79**	**226**		Pn	19 00 28.9	+1.5		
SVW2				IAML		19 01 16.2			
	comp=E,21nm,0.6s								
SVW2				IAML		19 01 22.3			
	comp=N,25nm,1.3s								
H23K	**Yukon River**	**2.87**	**16**	Pn	Pn	19 00 28.2	-0.4		
GLI	**Glacier Island**	**3.02**	**135**	Pn	Pn	19 00 31.0	+0.3		
GLI				IAML		19 01 04.4			
	comp=N,25nm,2.9s								
GLI				IAML		19 01 25.7			
	comp=E,32nm,0.5s								
KLU	**Klutina**	**3.04**	**119**	Pn	Pn	19 00 33.5	+2.5		
KLU				IAML		19 01 21.6			
	comp=N,20nm,1.1s								
RIDG	**Independent Ri**	**3.04**	**75**	Pn	Pn	19 00 33.0	+2.0		
RIDG				IAML		19 01 22.1			
	comp=N,31nm,0.8s								
RIDG				IAML		19 01 22.3			
	comp=E,30nm,0.7s								
IMAR	**Indian Mountai**	**3.07**	**342**	Pn	Pn	19 00 32.0	+0.6		
J25K	**Salcha River,**	**3.10**	**58**	Pn	Pn	19 00 32.9	+1.1		
J25K				IAML		19 01 26.8			
	comp=N,19nm,0.7s								
J25K				IAML		19 01 27.0			
	comp=E,21nm,0.8s								
SEW	**Seward**	**3.14**	**161**	Pn	Pn	19 00 33.9	+1.5		
H24K	**Noodor Dome**	**3.17**	**28**		Pn	19 00 33.0	+0.3		
N18K	**Kilae Creek**	**3.20**	**223**	Pn	Pn	19 00 35.0	+1.8		
N18K				IAML		19 01 32.4			
	comp=E,15nm,0.8s								
N18K				IAML		19 01 32.4			
	comp=N,16nm,2.1s								
DIV	**Divide**	**3.31**	**124**	Pn	Pn	19 00 37.3	+2.6		
FID	**Port Fidalgo**	**3.32**	**133**	Pn	Pn	19 00 36.6	+1.8		
FID				IAML		19 01 25.5			
	comp=N,20nm,2.0s								
FID				IAML		19 02 14.9			
	comp=E,24nm,4.1s								
BRLK	**Bradley Lake**	**3.35**	**175**	Pn	Pn	19 00 38.1	+2.9		
BRLK				IAML		19 01 30.9			
	comp=N,26nm,2.6s								
BRLK				IAML		19 02 25.0			
	comp=E,26nm,3.5s								
DOT	**Dot Lake**	**3.38**	**77**	Pn	Pn	19 00 37.7	+2.1		
HOM	**Homer**	**3.44**	**182**	Pn	Pn	19 00 37.2	+0.8		
SCRK	**Sand Creek**	**3.46**	**72**	Pn	Pn	19 00 37.3	+0.5		
SCRK				IAML		19 01 34.7			
	comp=N,12nm,1.1s								
N25K	**Chitina, Valde**	**3.52**	**112**	Pn	Pn	19 00 38.2	+0.5		
N25K				IAML		19 01 03.7			
	comp=N,13nm,4.4s								
N25K				IAML		19 01 38.0			
	comp=E,13nm,1.6s								
MENT	**Mentasta**	**3.53**	**89**		Pn	19 00 39.1	+1.5		
P19K	**Oil Pt**	**3.55**	**195**	Pn	Pn	19 00 38.4	+0.4		
CNPM	**China Poot**	**3.58**	**178**	Pn	Pn	19 00 39.6	+1.3		
L26K	**Log Cabin Wild**	**3.69**	**87**		Pn	19 00 41.7	+1.8		
O18K	**Koktuh Hills**	**3.71**	**211**	Pn	Pn	19 00 42.2	+2.0		
O18K				IAML		19 01 45.0			
	comp=E,16nm,3.5s								
O18K				IAML		19 02 25.4			
	comp=N,20nm,4.2s								
EYAK	**Cordova Ski Ar**	**3.71**	**131**	Pn	Pn	19 00 40.6	+0.4		
BMRM	**Bremner River**	**3.86**	**120**	Pn	Pn	19 00 42.9	+0.6		
BMRM				IAML		19 01 41.5			
	comp=E,18nm,2.4s								
BMRM				IAML		19 01 48.4			
	comp=N,15nm,2.8s								
GLB	**Gilahina Butte**	**3.94**	**111**	Pn	Pn	19 00 44.2	+0.9		
GLB				IAML		19 01 43.9			
	comp=E,15nm,4.6s								
GLB				IAML		19 01 56.8			
	comp=N,9.3nm,4.8s								
M26K	**Nabesna, AK**	**3.95**	**96**	Pn	Pn	19 00 43.8	+0.3		
M26K				IAML		19 01 46.9			
	comp=E,17nm,0.7s								
P18K	**Big Mountain,**	**4.13**	**208**	Pn	Pn	19 00 45.8	-0.2		
VRDI	**Verde Repeater**	**4.19**	**113**	Pn	Pn	19 00 46.4	-0.5		
VRDI				IAML		19 02 01.8			
	comp=E,9.0nm,4.5s								
VRDI				IAML		19 03 14.2			
	comp=N,14nm,4.0s								
COLD	**Coldfoot**	**4.19**	**7**	Pn	Pn	19 00 46.4	-0.3		
RAGM	**Ragged Mountai**	**4.21**	**127**	Pn	Pn	19 00 46.0	-1.0		
MCARA	**McCarthy VSAT**	**4.30**	**110**	Pn	Pn	19 00 51.1	+2.9		
Q19K	**Cape Douglas,**	**4.31**	**195**	Pn	Pn	19 00 47.7	-0.7		
L27K	**Beaver Creek,**	**4.38**	**86**	Pn	Pn	19 00 51.2	+1.9		
L27K				IAML		19 01 23.1			
	comp=N,6.7nm,4.8s								
L27K				IAML		19 01 30.0			
	comp=E,7.8nm,4.1s								
BCAR	**Beaver Creek A**	**4.40**	**86**	Pn	Pn	19 00 50.8	+1.2		
HMT	**Hamilton**	**4.40**	**126**	Pn	Pn	19 00 49.9	+0.3		
M27K	**Edge Creek, AK**	**4.47**	**95**	Pn	Pn	19 00 52.8	+2.2		
M27K				IAML		19 01 24.7			
	comp=E,10nm,3.2s								
M27K				IAML		19 01 52.8			
	comp=N,11nm,4.9s								
BERG	**Berg Lake**	**4.57**	**123**	Pn	Pn	19 00 52.4	+0.4		
TGL	**Tana Glacier**	**4.70**	**116**	Pn	Pn	19 00 54.4	+0.6		
EGAK	**Eagle**	**4.85**	**65**	Pn	Pn	19 00 56.2	+0.5		
EGAK				IAML		19 02 29.6			
	comp=N,10nm,0.8s								
EGAK				IAML		19 03 38.1			
	comp=N,10.0nm,0.1s								
BARN	**Barnard Glacie**	**5.03**	**109**	Pn	Pn	19 01 00.8	+2.3		
BMAR	**Burnt Mountain**	**5.23**	**30**	Pn	Pn	19 01 01.1	+0.1		
DAWY	**Dawson**	**5.48**	**74**	Pn	Pn	19 01 04.5	0.0		
TABL	**Table Mountain**	**5.57**	**114**	Pn	Pn	19 01 06.8	+0.9		
TOLK	**Toolik Lake Re**	**5.63**	**7**	Pn	Pn	19 01 07.9	+1.4		
I29M	**Ogilvie Camp,**	**6.17**	**63**	Pn	Pn	19 01 14.0	+0.1		

*JMA **15** 19:00:52.3, 33.03N×131.19E, h11km±1km, M4.1*
JMA Felt III J1.
*IDC **15** 19:00:52.6±1.2, 32.94N×131.20E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.5/72, mbtmp3.7/8, ML2.9/2, Error ellipse: s-maj=27.4km s-min=8.4km az=39.0*
ISC 15 19:00:54.4±0.8, 32.97N±0.06×131.17E±0.05, h12km, n12, σ1§89/14, mb3.7/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.28**	**302**	Pg	**Pg**	**19 00 57.8**	**-2.6**
	1μm,0.3s,baz=92,slow=5.4,SNR=10						
JNU				Lg	Lg	19 01 04.0	
	3μm,0.3s,baz=195,slow=23,SNR=8.2						
JNU	**Nakatsue**	**0.28**	**302**	P	**Pg**	**19 00 58.0**	**-2.3**
JNU				*eS*	**Sg**	**19 01 01.9**	**-2.3**
JUS	**Usuki**	**0.50**	**79**	P	**Pg**	**19 01 01.4**	**-2.8**
JIU3	**Izumi3**	**0.52**	**215**	P	**Pg**	**19 01 02.5**	**-2.0**
KSRS	**Korea Array**	**5.20**	**330**	Pn	**Pn**	**19 02 11.9**	**-0.1**
	baz=306,slow=6.5,SNR=0.6						
KSRS				Pg	**Pb**	**19 02 27.0**	**+1.8**
	1.0nm,0.3s,baz=152,slow=17,SNR=1.5						
KSRS				Lg	Lg	19 03 35.9	
	4.2nm,0.3s,baz=154,slow=30,SNR=4.9						
JOW	**Kunigami**	**6.61**	**203**	Pn	**Pn**	**19 02 32.0**	**+0.5**
	0.4nm,0.3s,baz=271,slow=20,SNR=1.2						
MJAR	**Matsushiro Arr**	**6.80**	**56**	Pn	**Pn**	**19 02 34.4**	**+0.4**
	0.3nm,0.3s,baz=246,slow=14,SNR=1.6						
SONM	**Songino Array**	**23.86**	**316**	P	**P**	**19 06 09.7**	**+2.0**
	0.6nm,0.7s,baz=126,slow=9.4,SNR=1.4						
KURBB	**Kurchatov Arra**	**42.05**	**311**	P	**P**	**19 08 46.5**	**+0.7**
	0.7nm,0.8s,baz=100,slow=9.4,SNR=2.3						
WRA	**Warramunga Arr**	**52.70**	**176**	P	**P**	**19 10 09.5**	**+0.5**
	1.1nm,1.1s,baz=356,slow=7.9,SNR=2.0						
ASAR	**Alice Springs**	**56.38**	**177**	P	**P**	**19 10 34.5**	**-1.2**
	1.4nm,1.0s,baz=13,slow=13,SNR=2.7						
FINES	**FINESS Array B**	**68.29**	**330**	P	**P**	**19 11 55.6**	**+0.7**
	1.1nm,0.8s,baz=58,slow=6.2,SNR=1.4						

*IDC **15** 19:01:56.7±0.8, 32.98N×131.17E, h0km, mb4.2/10, mb1 4.3/10, mb1mx3.8/70, mbtmp4.2/10, Error ellipse: s-maj=25.2km s-min=6.9km az=33.0*
*JMA **15** 19:01:56.9, 33.13N×131.17E, h8km±1km, M3.9*
JMA Felt III J1.
*NEIC **15** 19:01:59.0±2.6, 33.08N±0.04×131.17E±0.04, h10km±1km, mb4.6/9, Error ellipse: s-maj=7.5km s-min=4.8km az=17.0*
ISC 15 19:01:58.6±1.1, 33.06N±0.06×131.11E±0.04, h9km±6km, n37, σ1§27/36, mb4.2/13, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.20**	**288**	Pg	**Pg**	**19 02 01.6**	**-1.2**
	612nm,0.3s,baz=86,slow=9.3,SNR=2.1						
JNU				Lg	Lg	19 02 06.0	
	1μm,0.3s,baz=325,slow=20,SNR=10						
JNU	**Nakatsue**	**0.20**	**288**	P	**Pg**	**19 02 02.0**	**-0.8**
JNU				*eS*	**Sg**	**19 02 05.8**	**+0.1**
JNU	**Nakatsue**	**0.20**	**288**		**Pg**	**19 02 02.4**	**-0.5**
JNU				Sg	**Sb**	**19 02 08.1**	**+2.4**
JUS	**Usuki**	**0.54**	**89**	*eS*	**Sg**	**19 02 13.5**	**-2.6**
JSU	**Suzuyama**	**1.64**	**200**	Pn	**Pn**	**19 02 28.6**	**+1.0**
JTU	**Tsushima**	**2.04**	**316**	Pn	**Pn**	**19 02 33.4**	**+0.3**
JMN	**Monobe**	**2.41**	**73**	Pn	**Pn**	**19 02 39.6**	**+1.4**
JHS	**Saijyo**	**2.56**	**40**	Pn	**Pn**	**19 02 40.1**	**0.0**
TJN	**Taejon**	**4.53**	**318**	Pn	**Pn**	**19 03 05.2**	**-2.0**
KSAR	**Wonju Array Be**	**5.11**	**330**	Pn	**Pn**	**19 03 13.9**	**-1.3**
KS19	**Wonju Array Si**	**5.17**	**330**	Pn	**Pn**	**19 03 15.9**	**-0.1**
INU	**Inuyama**	**5.40**	**63**	Pn	Pn	19 03 15.9	-3.4
JGF	**Kuroka**	**5.76**	**62**	Pn	Pn	19 03 21.3	-2.9
MJAR	**Matsushiro Arr**	**6.79**	**57**	Pn	**Pn**	**19 03 40.7**	**+2.2**
	0.2nm,0.3s,baz=248,slow=17,SNR=3.8						
KLR	**Kul'dur**	**16.16**	**2**	Pn	**P**	**19 05 51.8**	**+2.7**
	0.4nm,0.3s,baz=166,slow=8.3,SNR=6.5						
SONM	**Songino Array**	**23.77**	**316**	P	**P**	**19 07 12.7**	**+1.3**
	5.1nm,1.0s,baz=114,slow=8.2,SNR=6.5						
SONM	**Songino Array**	**23.77**	**316**	IAmb	IAmb	19 07 16.2	
	comp=Z,7.6nm,1.2s						
KURBB	**Kurchatov Arra**	**41.96**	**311**	P	**P**	**19 09 49.2**	**-0.4**
	comp=Z,2.6nm,1.0s,baz=98,slow=9.6,SNR=4.5						
NRIK	**Noril'sk**	**43.65**	**339**	P	**P**	**19 10 03.3**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=120,slow=8.5,SNR=4.1						
MTN	**Manton Dam**	**45.64**	**180**	P	**P**	**19 10 18.1**	**-1.3**
KKAR	**Karatay Array**	**47.81**	**301**	P	**P**	**19 10 37.1**	**+0.8**
KKAR	**Karatay Array**	**47.81**	**301**	P	**P**	**19 10 36.7**	**+0.4**
KKAR				IAmb	IAmb	19 10 38.6	
	comp=Z,11nm,1.5s						
UNV	**Unalaska Valle**	**48.09**	**45**	P	**P**	**19 10 38.1**	**-0.1**
CHGR	**Chuyangaron**	**49.69**	**295**	P	**P**	**19 10 51.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**51.13**	**187**	P	**P**	**19 11 00.8**	**-1.0**
	comp=Z,3.5nm,1.0s,baz=14,slow=9.1,SNR=3.2						
FITZ	**Fitzroy Crossi**	**51.13**	**187**	P	**P**	**19 11 00.3**	**-1.5**
WRA	**Warramunga Arr**	**52.79**	**176**	P	**P**	**19 11 12.8**	**-1.3**
	comp=Z,2.1nm,1.1s,baz=358,slow=8.2,SNR=4.5						
ABKAR	**Akbulak array**	**54.00**	**310**	P	**P**	**19 11 22.8**	**0.0**
ABKAR	**Akbulak array**	**54.00**	**310**	P	**P**	**19 11 22.2**	**-0.5**
ABKAR				IAmb	IAmb	19 11 25.1	
	comp=Z,4.9nm,0.9s						
ASAR	**Alice Springs**	**56.47**	**177**	P	**P**	**19 11 40.2**	**-0.6**
	comp=Z,1.8nm,1.0s,baz=357,slow=6.5,SNR=5.6						
INK	**Inuvik**	**61.65**	**25**	P	**P**	**19 12 14.4**	**-1.8**
INK				IAmb	IAmb	19 12 48.6	
	comp=Z,7.2nm,1.6s						
KBZ	**Khabaz**	**66.86**	**308**	P	**P**	**19 12 51.8**	**+1.0**
	comp=Z,7.0nm,0.8s,baz=169,slow=1.5,SNR=13						
FINES	**FINESS Array B**	**68.19**	**330**	P	**P**	**19 12 59.4**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=66,slow=6.0,SNR=1.4						
YKA	**Yellowknife Ar**	**71.31**	**27**	P	**P**	**19 13 18.0**	**0.0**
	comp=Z,1.4nm,1.0s,baz=296,slow=5.4,SNR=6.4						
BR131	**Keskin Array S**	**74.85**	**308**	P	**P**	**19 13 40.5**	**+0.8**
BR131				IAmb	IAmb	19 13 41.3	
	comp=Z,8.4nm,0.9s						
BRTR	**Keskin Array B**	**74.85**	**308**	P	**P**	**19 13 39.1**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=95,slow=6.7,SNR=11						
BRTR	**Keskin Array B**	**74.85**	**308**	P	**P**	**19 13 40.0**	**+0.4**

*TUL **15** 19:02:10.2±2.4, 36.96N±0.01×98.09W±0.01, h8km±3km, ML2.9, ML2.4/20(NEIC), ML2.5/60(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=129.0*
NEIC 15 19:02:09.7±1.3, 36.96N±0.01×98.09W±0.02, h16km±2km, Error ellipse: s-maj=2.9km s-min=1.6km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.93**	**232**	Pg	Pb	19 02 26.4	-1.0
U32A				Sg	Sb	19 02 39.0	-0.6
U32A				IAML		19 02 41.0	
	comp=N,148nm,0.1s						
T35A	**Sooner Cattle**	**1.27**	**91**	Pn	Pb	19 02 33.4	+0.2
T35A					Sn	19 02 50.0	+0.6
T35A				IAML		19 02 53.5	
	comp=E,98nm,0.3s						
T35A				IAML		19 02 53.8	
	comp=N,64nm,0.3s						
R32A	**Long Quarter,**	**1.54**	**342**	Pn	Pb	19 02 37.7	-0.2
R32A				Sn	Sg	19 02 58.8	-0.6
FNO	**Franklin**	**1.79**	**161**	Pn	Pn	19 02 40.8	+0.9
FNO				Sn	Sb	19 03 03.4	-0.8
W35A	**Tecumseh**	**2.06**	**151**	Pn	Pn	19 02 44.1	+0.5
TUL1	**Leonard**	**2.13**	**119**	Pn	Pn	19 02 44.5	0.0
CBKS	**Cedar Bluff**	**2.26**	**325**	Pn	Pn	19 02 46.6	+0.1
X34A	**Smith Ranch, M**	**2.36**	**175**	Pn	Pn	19 02 49.0	+1.2
X37A	**Clayton**	**3.24**	**136**	Pn	Pn	19 02 59.0	-0.8
HHAR	**Hobbs**	**3.41**	**100**	Pn	Pn	19 03 00.3	-1.9
S39A	**Bolivar**	**3.87**	**78**	Pn	Pn	19 03 07.2	-1.3
U40A	**Yellville**	**4.26**	**97**	Pn	Pn	19 03 14.4	+0.7
MIAR	**Mount Ida**	**4.39**	**122**	Pn	Pn	19 03 15.5	-0.2
BGNE	**Belgrade**	**4.44**	**359**	Pn	Pn	19 03 16.8	+0.4
MGMO	**Mountain Grove**	**4.66**	**86**	Pn	Pn	19 03 18.2	-1.2
R40A	**Maddies Statio**	**4.81**	**72**	Pn	Pn	19 03 20.7	-0.7
FCAR	**Ozark Folk Cen**	**4.93**	**101**	Pn	Pn	19 03 21.8	-1.2

*IDC **15** 19:05:47.1±0.6, 32.73N×130.70E, h0km, mb4.0/21, mb1 4.1/25, mb1mx4.0/72, mbtmp4.0/25, ML3.7/4, Error ellipse: s-maj=14.8km s-min=7.2km az=115.0*
*NEIC **15** 19:05:49.1±1.5, 32.79N±0.03×130.73E±0.07, h9km±4km, mb4.5/34, Error ellipse: s-maj=8.6km s-min=4.7km az=101.0*
*JMA **15** 19:05:49.2, 32.80N×130.81E, h12km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs98.00000°, δ54.00000°, λ-66.00000°. NP2:φs241.00000°, δ42.00000°, λ-119.00000°. Principal axes: T Plg6.0000°, Azm171.0000°; N Plg19.0000°, Azm263.0000°; P Plg70.0000°, Azm64.0000°;*
JMA Felt IV J1.
ISC 15 19:05:49.4±0.4, 32.79N±0.03×130.78E±0.05, h12km, n100, σ1§10/96, mb4.5/45, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.24**	**173**	⇑P	**Pg**	**19 05 54.4**	**-0.2**
JIU3				S	**Sg**	**19 05 58.5**	**+0.5**
JTA	**Tamana**	**0.27**	**310**	⇑P	**Pg**	**19 05 55.2**	**+0.2**
JTA				S	**Sg**	**19 05 59.4**	**+0.7**
JNU	**Nakatsue**	**0.34**	**15**	Pg	**Pg**	**19 05 55.8**	**-0.5**
	2μm,0.3s,baz=62,slow=11,SNR=66						
JNU				Lg	Lg	19 06 00.6	
	baz=31,slow=12						
JNU	**Nakatsue**	**0.34**	**15**	⇑P	**Pg**	**19 05 56.0**	**-0.3**
JNU				S	**Sg**	**19 06 00.7**	**-0.3**
JSU	**Suzuyama**	**1.31**	**192**		**Pn**	**19 06 13.4**	**-0.2**
JSU				Sn	**Sb**	**19 06 29.6**	**-1.2**
JTU	**Tsushima**	**2.08**	**327**		**Pn**	**19 06 22.7**	**-1.4**
JMN	**Monobe**	**2.76**	**69**		**Pn**	**19 06 35.1**	**+1.5**
JHS	**Saijyo**	**2.94**	**41**		**Pn**	**19 06 36.7**	**+0.7**
TJN	**Taejon**	**4.55**	**323**	Pn	Pn	19 06 53.1	-5.0
KSRS	**Korea Array**	**5.21**	**334**	Pn	**Pn**	**19 07 08.0**	**+0.9**
	0.6nm,0.3s,baz=150,slow=14,SNR=2.2						
KSRS				Pg	**Pb**	**19 07 23.1**	**+2.7**
	1.4nm,0.3s,baz=156,slow=16,SNR=5.1						
KSRS				Lg	Lg	19 08 32.0	
	3.7nm,0.3s,baz=153,slow=31,SNR=4.5						
KSAR	**Wonju Array Be**	**5.21**	**334**	Pn	**Pn**	**19 07 09.0**	**+1.9**
KS19	**Wonju Array Si**	**5.27**	**334**	Pn	**Pn**	**19 07 07.8**	**-0.

WR0	**Warramunga Arr**	**52.58**	**176**	P		**P**	**19 15 01.7 -1.3**
ARU	**Arti**	**53.76**	**319**	P		**P**	**19 15 10.4 -1.1**
	comp=Z,0.9nm,0.6s,baz=27,slow=3.6,SNR=5.0						
ABKAR	**Akbulak array**	**53.96**	**310**	P		**P**	**19 15 13.0 0.0**
ABKAR	**Akbulak array**	**53.96**	**310**	P		**P**	**19 15 13.4 +0.4**
L19K	**White Mountain**	**54.37**	**34**	P		**P**	**19 15 15.9 +0.1**
L19K				IAmb	IAmb		19 15 52.4
	comp=Z,9.5nm,1.4s						
J20K	**Nowinta River**	**54.58**	**31**	P		**P**	**19 15 17.9 +0.7**
J20K				IAmb	IAmb		19 15 44.0
	comp=Z,6.9nm,1.6s						
K20K	**Telida**	**54.66**	**32**	P		**P**	**19 15 18.6 +0.7**
K20K				IAmb	IAmb		19 15 19.1
	comp=Z,11nm,1.6s						
IMAR	**Indian Mountai**	**54.67**	**29**	P		**P**	**19 15 18.1 +0.2**
H21K	**Melozitna Rive**	**55.07**	**29**	P		**P**	**19 15 20.4 -0.5**
H21K				IAmb	IAmb		19 15 55.7
	comp=Z,7.7nm,1.6s						
PPLA	**Purkeypile**	**55.55**	**33**	P		**P**	**19 15 24.9 +0.4**
ASAR	**Alice Springs**	**56.22**	**177**	P		**P**	**19 15 29.1 -0.4**
	comp=Z,0.7nm,0.8s,baz=359,slow=6.2,SNR=8.4						
H23K	**Yukon River**	**56.41**	**29**	P		**P**	**19 15 31.1 +0.7**
RND	**Reindeer**	**56.99**	**32**	P		**P**	**19 15 34.7 0.0**
RND				IAmb	IAmb		19 15 35.5
	comp=Z,3.6nm,1.0s						
MDM	**Murphy Dome**	**57.05**	**30**	P		**P**	**19 15 36.0 +1.0**
MDM				IAmb	IAmb		19 15 36.9
	comp=Z,4.3nm,1.1s						
SML	**Sawmill**	**57.48**	**34**	P		**P**	**19 15 37.4 -0.6**
ILAR	**Eielson Array**	**57.65**	**30**	P		**P**	**19 15 39.1 -0.1**
	comp=Z,0.6nm,0.7s,baz=291,slow=7.5,SNR=7.0						
SCM	**Sheep Creek Mo**	**57.94**	**34**	P		**P**	**19 15 40.8 -0.6**
BMAR	**Burnt Mountain**	**58.16**	**27**	P		**P**	**19 15 43.7 +0.9**
SCRK	**Sand Creek**	**59.03**	**31**	P		**P**	**19 15 48.8 -0.2**
SCRK				IAmb	IAmb		19 15 49.9
	comp=Z,5.5nm,1.2s						
DOT	**Dot Lake**	**59.06**	**31**	P		**P**	**19 15 48.2 -0.9**
DOT				IAmb	IAmb		19 15 50.9
	comp=Z,5.8nm,1.4s						
N25K	**Chitina, Valde**	**59.26**	**34**	P		**P**	**19 15 51.0 +0.4**
N25K				IAmb	IAmb		19 16 22.5
	comp=Z,11nm,1.4s						
BMRM	**Bremner River**	**59.40**	**34**	P		**P**	**19 15 52.0 +0.5**
M26K	**Nabesna, AK**	**59.81**	**33**	P		**P**	**19 15 55.4 +1.0**
M26K				IAmb	IAmb		19 15 56.2
	comp=Z,4.8nm,1.1s						
BCAR	**Beaver Creek A**	**60.20**	**32**	P		**P**	**19 15 57.8 +0.8**
TGL	**Tana Glacier**	**60.29**	**34**	P		**P**	**19 15 58.6 +0.9**
INK	**Inuvik**	**62.01**	**25**	P		**P**	**19 16 09.2 +0.2**
	comp=Z,1.1nm,0.3s,baz=300,slow=10,SNR=3.6						
INK	**Inuvik**	**62.01**	**25**	IAmb	IAmb		19 16 13.2
	comp=Z,9.0nm,1.6s						
HYT	**Haines Junctio**	**62.77**	**33**	P		**P**	**19 16 15.9 +1.4**
HYT				IAmb	IAmb		19 16 16.3
	comp=Z,2.5nm,0.8s						
SPITS	**Spitsbergen Ar**	**62.89**	**348**	P		**P**	**19 16 14.9 0.0**
	comp=Z,12nm,1.1s,baz=95,slow=10,SNR=5.2						
ARCES	**ARCESS Array B**	**64.75**	**338**	P		**P**	**19 16 26.4 -0.8**
	comp=Z,2.2nm,0.9s,baz=62,slow=7.7,SNR=4.5						
ARCES	**ARCESS Array B**	**64.75**	**338**	IAmb	IAmb		19 16 28.6
	comp=Z,21nm,1.6s						
KBZ	**Khabaz**	**66.80**	**308**	P		**P**	**19 16 41.4 +0.5**
	comp=Z,3.6nm,0.9s,baz=78,slow=2.4,SNR=7.7						
FINES	**FINESS Array B**	**68.28**	**330**	P		**P**	**19 16 49.3 -0.6**
	comp=Z,1.4nm,0.4s,baz=68,slow=5.8,SNR=21						
YKA	**Yellowknife Ar**	**71.67**	**26**	P		**P**	**19 17 10.4 -0.3**
	comp=Z,0.3nm,0.6s,baz=303,slow=5.9,SNR=6.8						
AKASG	**Malin Array Be**	**72.02**	**319**	P		**P**	**19 17 12.7 -0.3**
	comp=Z,3.3nm,0.6s,baz=53,slow=5.8,SNR=7.3						
AKASG	**Malin Array Be**	**72.02**	**319**	IAmb	IAmb		19 17 13.2
	comp=Z,58nm,0.8s						
NB2	**NORSAR Subarra**	**74.42**	**334**	P		**P**	**19 17 25.8 -1.3**
	comp=Z,1.1nm,0.8s,baz=50,slow=5.6						
NOA	**NORSAR Array B**	**74.42**	**334**	P		**P**	**19 17 25.6 -1.4**
	comp=Z,0.9nm,0.8s,baz=47,slow=5.6,SNR=4.6						
BRTR	**Keskin Array B**	**74.79**	**308**	P		**P**	**19 17 29.6 -0.2**
	comp=Z,1.6nm,0.8s,baz=69,slow=6.5,SNR=8.1						
CLL	**Collm**	**80.02**	**326**	*i* P		**P**	**19 17 58.4 -0.3**
	comp=Z,6.0nm,1.1s						
CONA	**Conrad Observa**	**80.78**	**322**	*i* P		**P**	**19 18 02.7 -0.2**
	comp=Z,5.1nm,1.4s						
GERES	**GERESS Array B**	**81.29**	**323**	P		**P**	**19 18 05.8 +0.2**
	comp=Z,1.1nm,0.8s,baz=0.0,slow=2.0,SNR=6.1						
SOKA	**Soboth**	**82.01**	**321**	*e*P		**P**	**19 18 10.1 +0.6**
	comp=Z,3.2nm,0.8s						
WTTA	**Wattenberg**	**83.38**	**323**	*i* P		**P**	**19 18 16.7 0.0**
	comp=Z,4.8nm,1.2s						
MOTA	**Moosalm**	**83.59**	**324**	*i* P		**P**	**19 18 17.5 -0.2**
	comp=Z,2.3nm,0.8s						
SQTA	**Sankt Quirin**	**83.62**	**323**	*i* P		**P**	**19 18 16.8 -1.1**
	comp=Z,3.3nm,1.0s						
RETA	**Reutte**	**83.67**	**324**	*i* P		**P**	**19 18 17.5 -0.6**
	comp=Z,7.5nm,1.2s						
DAVA	**Damuels**	**84.24**	**324**	*i* P		**P**	**19 18 21.4 +0.3**
	comp=Z,9.0nm,1.1s						
NVAR	**Mina Array Bea**	**84.41**	**47**	P		**P**	**19 18 22.3 +0.1**
	comp=Z,0.2nm,0.3s,baz=269,slow=4.1,SNR=2.2						

JMA 15 19:07:05.9, 32.96N×131.12E, h11km±1km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.26**	**309**	P	Pg	19 07 11.4	+0.1
JNU				*e*S	Sg	19 07 15.2	+0.3
JUS	**Usuki**	**0.54**	**79**	S	Sg	19 07 23.9	+0.3

*IDC **15** 19:09:24.6±1.0, 32.80N×131.05E, h0km, mb3.4/7, mb1 3.6/10, mb1mx3.5/67, mbtmp3.5/10, ML2.9/2, Error ellipse: s-maj=29.2km s-min=7.0km az=70.0*
*JMA **15** 19:09:26.5, 33.02N×131.18E, h12km±1km, M4.1 JMA Felt III J1.*

ISC 15 19:09:25.9±0.7, 32.82N±0.06×131.13E±0.04, h12km, n16, σ1ᵠ41/20, mb3.4/7, 1C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.37**	**326**	Pg	**Pg**	**19 09 31.9**	**-1.3**
	5µm,0.3s,baz=356,slow=22,SNR=32						
JNU				Lg	Lg	19 09 35.9	
	5µm,0.3s,baz=183,slow=23,SNR=26						
JNU	**Nakatsue**	**0.37**	**326**	⇓P	**Pg**	**19 09 32.2**	**-1.1**
JNU				S	**Sg**	**19 09 36.1**	**-2.2**
JIU3	**Izumi3**	**0.38**	**225**	⇑P	**Pn**	**19 09 37.4**	**+0.3**
JTA	**Tamana**	**0.52**	**287**	⇓P	**Pg**	**19 09 37.0**	**0.0**
JTA				S	**Sb**	**19 09 45.0**	**+0.6**
JUS	**Usuki**	**0.58**	**65**	⇓P	**Pg**	**19 09 35.7**	**-1.5**
JUS				S	**Sg**	**19 09 42.3**	**-2.7**
KSRS	**Korea Array**	**5.32**	**331**	Pn	**Pn**	**19 10 44.2**	**-0.8**
	baz=150,slow=14,SNR=1.6						
KSRS				Pg	**Pb**	**19 11 01.7**	**+3.0**
	2.4nm,0.3s,baz=154,slow=17,SNR=6.2						
KSRS				Lg	Lg	19 12 09.3	
	5.3nm,0.3s,baz=154,slow=30,SNR=5.4						
JOW	**Kunigami**	**6.46**	**203**	Pn	**Pn**	**19 11 00.4**	**-0.4**
	0.4nm,0.3s,baz=278,slow=29,SNR=1.2						
MJAR	**Matsushiro Arr**	**6.92**	**56**	Pn	**Pn**	**19 11 08.7**	**+1.6**
	0.5nm,0.3s,baz=241,slow=13,SNR=11						
MJAR				Lg	Lg	19 13 03.7	
	0.0nm,0.3s,baz=300,slow=14,SNR=1.8						
KLR	**Kul'dur**	**16.41**	**1**	Pn	**P**	**19 13 19.9**	**+1.2**
	0.1nm,0.3s,baz=156,slow=11,SNR=3.3						
SONM	**Songino Array**	**23.95**	**316**	P	**P**	**19 14 39.8**	**-0.3**
	0.3nm,0.5s,baz=134,slow=10,SNR=1.7						
MKAR	**Makanchi Array**	**39.40**	**305**	P	**P**	**19 16 54.7**	**-0.7**
	0.1nm,0.4s,baz=75,slow=7.8,SNR=1.8						
KURBB	**Kurchatov Arra**	**42.13**	**311**	P	**P**	**19 17 18.9**	**+1.0**
	0.3nm,0.6s,baz=97,slow=8.8						
FITZ	**Fitzroy Crossi**	**50.90**	**187**	P	**P**	**19 18 26.7**	**-0.2**
	2.1nm,1.0s,baz=354,slow=9.2,SNR=2.6						
WRA	**Warramunga Arr**	**52.55**	**176**	P	**P**	**19 18 39.2**	**0.0**
	0.4nm,0.7s,baz=357,slow=7.8,SNR=4.7						
ASAR	**Alice Springs**	**56.23**	**177**	P	**P**	**19 19 06.8**	**+0.8**
	0.6nm,0.9s,baz=357,slow=8.9,SNR=3.9						
ILAR	**Eielson Array**	**57.48**	**30**	P	**P**	**19 19 14.7**	**+0.3**
	0.4nm,0.9s,baz=298,slow=5.8,SNR=2.2						

*IDC **15** 19:14:36.6±1.0, 14.54S×166.55E, h0km, mb4.0/11, mb1 4.2/12, mb1mx3.9/58, mbtmp4.0/12, ML3.9/1, Error ellipse: s-maj=30.8km s-min=21.7km az=125.0*
*NEIC **15** 19:14:40.6±1.9, 14.60S±0.08×166.76E±0.09, h28km±5km, mb4.6/26, Error ellipse: s-maj=15.2km s-min=8.8km az=53.0*

ISC 15 19:14:40.3±0.6, 14.64S±0.07×166.72E±0.09, h28km, n53, σ1ᵠ47/48, mb4.3/21, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.93**	**150**	Pn	**Pn**	**19 14 56.5**	**-1.0**
LIFNC	**LIFOU**	**6.12**	**175**	Pn	**Pn**	**19 16 10.5**	**+1.6**
KOUNC	**Koumac, New Ca**	**6.32**	**201**		**Pn**	**19 16 13.4**	**+1.8**
MARNC	**Mare, Loyalty**	**6.91**	**170**	Pn	**Pn**	**19 16 23.3**	**+3.5**
DZM	**Mont Dzumac**	**7.39**	**182**	Pn	**Pn**	**19 16 27.6**	**+1.1**
	1.9nm,0.3s,baz=9.0,slow=23,SNR=16						
DZM				Sn	**Sn**	**19 17 48.5**	**-1.0**
	baz=283,slow=9.0,SNR=1.2						
DZM	**Mont Dzumac**	**7.39**	**182**		**Pn**	**19 16 27.2**	**+0.8**
ONTNC	**Ouen Toro**	**7.63**	**182**	Pn	**Pn**	**19 16 30.4**	**+0.8**
OUENC	**Ouen Island, N**	**7.74**	**179**	Pn	**Pn**	**19 16 32.3**	**+1.2**
PINNC	**Pines Island,**	**7.96**	**175**	Pn	**Pn**	**19 16 34.6**	**+0.5**
HNR	**Honiara**	**8.41**	**307**	Pn	**Pn**	**19 16 40.1**	**-0.2**
	3.6nm,0.3s,baz=184,slow=10.0,SNR=2.6						
HNR	**Honiara**	**8.41**	**307**	Pn	**Pn**	**19 16 40.5**	**+0.2**
CTA	**Charters Tower**	**20.26**	**252**	P	**P**	**19 19 13.2**	**-0.6**
	12nm,0.9s,baz=54,slow=13,SNR=3.9						
CTAO	**Charters Tower**	**20.26**	**252**	P	Pn	19 19 14.3	-1.5
CTAO				IAmb	IAmb	19 19 19.0	
	comp=Z,24nm,1.2s						
NIUE	**Niue**	**22.77**	**104**	P	**P**	**19 19 39.7**	**-1.1**
MXZ	**Matakaoa Point**	**25.04**	**158**	P	**P**	**19 20 00.1**	**-2.0**
MXZ				IAmb	IAmb	19 20 36.2	
	comp=Z,24nm,0.9s						
URZ	**Urewera**	**25.26**	**161**	P	**P**	**19 20 10.3**	**+6.2**
	comp=Z,15nm,1.0s,baz=12,slow=23,SNR=4.7						
KHZ	**Kahutara**	**28.30**	**169**	P	**P**	**19 20 30.9**	**-0.4**
STKA	**Stephens Creek**	**28.65**	**229**	P	**P**	**19 20 33.1**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=28,slow=8.1,SNR=1.9						
WKZ	**Wanaka**	**30.15**	**177**	P	**P**	**19 20 47.7**	**-0.2**
WR0	**Warramunga Arr**	**31.14**	**256**	P	**P**	19 20 51.7	-5.2
WB0	**Warramunga Arr**	**31.27**	**256**	P	**P**	**19 20 56.0**	**-2.0**
WB2	**Warramunga Arr**	**31.32**	**256**	P	**P**	**19 20 57.6**	**-0.9**
WB2				IAmb	IAmb	19 21 18.6	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**31.33**	**256**	P	**P**	**19 20 57.2**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=85,slow=8.6,SNR=4.6						
WRA	**Warramunga Arr**	**31.33**	**256**	IAmb	IAmb	19 20 59.6	
	comp=Z,0.6nm,1.6s						
AS31	**Alice Springs**	**32.20**	**249**	P	**P**	**19 21 04.8**	**-1.5**
ASAR	**Alice Springs**	**32.21**	**249**	P	**P**	**19 21 05.3**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=72,slow=9.7,SNR=25						
BBOO	**Buckleboo**	**33.21**	**232**	P	**P**	**19 21 15.3**	**+0.3**
KNRA	**Kununurra**	**36.62**	**263**	P	**P**	**19 21 43.3**	**-1.2**
KNRA				IAmb	IAmb	19 21 49.7	
	comp=Z,14nm,1.2s						
FORT	**Forrest**	**38.88**	**239**	P	**P**	**19 22 04.0**	**+0.5**
FORT				IAmb	IAmb	19 22 39.2	
	comp=Z,26nm,1.0s						
FITZ	**Fitzroy Crossi**	**39.51**	**259**	P	**P**	**19 22 08.4**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=68,slow=9.6,SNR=7.5						
FITZ	**Fitzroy Crossi**	**39.51**	**259**	P	**P**	**19 22 08.4**	**-0.5**
MORW	**Morawa**	**48.83**	**244**	P	**P**	**19 23 23.4**	**0.0**
JHJ2	**Mitsune**	**53.99**	**332**	P	**P**	**19 24 03.0**	**+1.1**
VNDA	**Vanda**	**62.94**	**181**	P	P	19 25 11.1	+7.4
VNDA				IAmb	IAmb	19 25 35.2	
	comp=Z,3.5nm,1.4s						
SBA	**Scott Base**	**63.22**	**180**		pP	19 25 14.8	+0.6
CM31	**Chiang Mai Arr**	**74.43**	**294**	P	**P**	**19 26 16.5**	**+0.1**
CM31				IAmb	IAmb	19 26 31.3	
	comp=Z,3.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**74.43**	**294**	P	**P**	**19 26 16.5**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=118,slow=4.5,SNR=3.5						
QSPA	**South Pole Qui**	**75.38**	**180**	P	**P**	**19 26 23.2**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=192,slow=14,SNR=1.6						
QSPA	**South Pole Qui**	**75.38**	**180**	P	**P**	**19 26 20.7**	**-0.5**
QSPA				IAmb	IAmb	19 26 41.7	
	comp=Z,9.8nm,1.4s						
SEY	**Seymchan**	**78.13**	**353**	P	**P**	**19 26 36.6**	**+0.2**
	comp=Z,1.8nm,1.0s,baz=152,slow=23,SNR=2.3						
L19K	**White Mountain**	**82.31**	**17**	P	**P**	**19 27 01.2**	**+2.2**
L19K				IAmb	IAmb	19 27 20.2	
	comp=Z,11nm,1.6s						
PWL	**Port Wells**	**83.32**	**20**	P	**P**	**19 27 03.8**	**-0.5**
J20K	**Nowinta River**	**84.09**	**16**	P	**P**	**19 27 07.7**	**-0.4**
J20K				IAmb	IAmb	19 27 21.8	
	comp=Z,7.8nm,1.4s						
KTH	**Kantishna Hill**	**84.51**	**18**	P	**P**	**19 27 09.8**	**-0.5**
KTH				IAmb	IAmb	19 27 18.7	
	comp=Z,4.7nm,1.0s						
TRF	**Thorofare Moun**	**84.62**	**18**	P	**P**	**19 27 10.8**	**-0.2**
TRF				IAmb	IAmb	19 27 14.6	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**86.61**	**18**	P	**P**	**19 27 20.4**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=241,slow=4.6,SNR=8.7						
MDPB	**Devils Postpil**	**86.76**	**50**	P	**P**	**19 27 21.8**	**-0.6**
SNAA	**Sanae**	**93.60**	**183**	P	**P**	**19 27 55.1**	**+1.4**
	comp=Z,2.0nm,1.1s,baz=224,slow=11,SNR=2.1						
SNAA	**Sanae**	**93.60**	**183**	IAmb	IAmb	19 28 04.7	
	comp=Z,8.3nm,1.4s						
MKAR	**Makanchi Array**	**96.77**	**316**	P	**P**	**19 28 09.2**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=90,slow=5.8,SNR=3.6						
MKAR	**Makanchi Array**	**96.77**	**316**	P	**P**	**19 28 08.2**	**-0.2**
ARCES	**ARCESS Array B**	**120.03**	**345**	PKP	**PKiKP**	**19 33 27.9**	**+0.1**
	comp=Z,2.9nm,1.0s,baz=29,slow=2.8,SNR=6.6						
FINES	**FINESS Array B**	**125.44**	**338**	PKP	**PKiKP**	**19 33 39.0**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=33,slow=2.8,SNR=1.9						

*JMA **15** 19:15:04.5, 32.77N×130.77E, h13km±1km, M3.5 JMA Felt III J1.*
*IDC **15** 19:15:05.8±0.9, 33.04N×130.55E, h0km, mb3.3/7, mb1 3.6/10, mb1mx3.3/67, mbtmp3.4/10, ML3.1/3, Error ellipse: s-maj=18.7km s-min=6.3km az=169.0*

ISC 15 19:15:06.5±0.7, 32.82N±0.04×130.75E±0.07, h12km, n14, σ2ᵠ12/17, mb3.2/7, 1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.24**	**308**	⇓P	**Pg**	**19 15 10.4**	**-1.1**
JTA				S	**Sg**	**19 15 14.4**	**-0.5**
JIU3	**Izumi3**	**0.27**	**169**	P	**Pg**	**19 15 09.4**	**-2.7**
JIU3				S	**Sg**	**19 15 13.0**	**-2.9**
JNU	**Nakatsue**	**0.32**	**19**	Pg	**Pg**	**19 15 11.8**	**-1.2**
	832nm,0.3s,baz=188,slow=22,SNR=14						
JNU				Lg	Lg	19 15 15.2	
	2µm,0.3s,baz=345,slow=15,SNR=12						
KSRS	**Korea Array**	**5.17**	**334**	Pn	**Pn**	**19 16 22.2**	**-1.5**
	0.2nm,0.3s,baz=152,slow=14,SNR=1.3						
KSRS				Pg	**Pb**	**19 16 36.8**	**-0.1**
	0.7nm,0.3s,baz=146,slow=17,SNR=4.2						
KSRS				Lg	Lg	19 17 46.0	
	1.2nm,0.3s,baz=152,slow=30,SNR=4.5						
JOW	**Kunigami**	**6.34**	**200**	Pn	**Pn**	**19 16 44.2**	**+4.4**
	1.8nm,0.3s,baz=176,slow=9.3,SNR=2.6						
MJAR	**Matsushiro Arr**	**7.18**	**57**	Pn	**Pn**	**19 16 51.7**	**+0.4**
	0.5nm,0.3s,baz=243,slow=13,SNR=14						
KLR	**Kul'dur**	**16.41**	**2**	Pn	**P**	**19 18 59.5**	**+0.2**
	0.2nm,0.3s,baz=166,slow=11,SNR=11						
SONM	**Songino Array**	**23.73**	**316**	P	**P**	**19 20 17.8**	**-0.7**
	0.3nm,0.5s,baz=124,slow=9.9,SNR=1.9						
MKAR	**Makanchi Array**	**39.14**	**305**	P	**P**	**19 22 33.4**	**-0.6**
	0.2nm,0.7s,baz=101,slow=7.5,SNR=2.1						
KURBB	**Kurchatov Arra**	**41.89**	**311**	P	**P**	**19 22 55.0**	**-1.6**
	0.2nm,0.6s,baz=98,slow=8.9,SNR=2.3						
WRA	**Warramunga Arr**	**52.57**	**176**	P	**P**	**19 24 22.9**	**+2.8**
	0.2nm,0.6s,baz=355,slow=7.9,SNR=1.2						
ASAR	**Alice Springs**	**56.25**	**177**	P	**P**	**19 24 49.1**	**+2.3**
	0.3nm,0.9s,baz=11,slow=14,SNR=2.2						
FINES	**FINESS Array B**	**68.25**	**330**	P	**P**	**19 26 04.5**	**-2.3**
	1.3nm,0.8s,baz=182,slow=29,SNR=5.1						
YKA	**Yellowknife Ar**	**71.66**	**26**	P	**P**	**19 26 28.5**	**+0.8**
	0.3nm,0.7s,baz=298,slow=5.4,SNR=3.7						

JMA 15 19:15:13.4, 33.30N×131.39E, h7km±1km, M3.7, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.04**	**22**	⇑P	Pg	19 15 14.8	-0.1
JBEP				*e*S	Sg	19 15 16.4	+0.4

*NEIC **15** 19:17:00.2±1.4, 14.16S±0.02×167.3E±0.1, h8km±5km, mb4.5/8, Error ellipse: s-maj=15.2km s-min=2.6km az=99.0*
*IDC **15** 19:17:04.0±1.1, 14.41S×166.70E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.8/60, mbtmp4.0/11, ML3.8/1, Error ellipse: s-maj=34.5km s-min=23.7km az=124.0*

ISC 15 19:17:08.2±0.7, 14.57S±0.08×166.8E±0.1, h35km, n34, σ1ᵠ60/32, mb4.0/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.98**	**153**	Pn	**Pn**	**19 17 25.9**	**+0.4**
LIFNC	**LIFOU**	**6.19**	**176**	Pn	**Pn**	**19 18 34.3**	**-2.9**
KOUNC	**Koumac, New Ca**	**6.40**	**201**	Pn	**Pn**	**19 18 42.2**	**+2.3**
DZM	**Mont Dzumac**	**7.47**	**182**	Pn	**Pn**	**19 18 56.6**	**+1.8**
	1.4nm,0.3s,baz=226,slow=22,SNR=1.2						
DZM				Sn	**Sn**	**19 20 17.6**	**-0.8**
	baz=52,slow=18,SNR=1.1						
DZM	**Mont Dzumac**	**7.47**	**182**		**Pn**	**19 18 56.1**	**+1.3**
ONTNC	**Ouen Toro**	**7.70**	**182**	Pn	**Pn**	**19 18 57.4**	**-0.5**
OUENC	**Ouen Island, N**	**7.81**	**179**	Pn	**Pn**	**19 18 58.9**	**-0.5**
PINNC	**Pines Island,**	**8.03**	**175**	Pn	**Pn**	**19 19 02.5**	**+0.1**
HNR	**Honiara**	**8.39**	**307**	Pn	**Pn**	**19 19 10.2**	**+2.9**
	7.6nm,0.3s,baz=168,slow=11,SNR=1.9						
HNR				Sn	**Sn**	**19 20 40.2**	**-0.7**
	3.4nm,0.3s,baz=175,slow=22,SNR=1.4						
HNR	**Honiara**	**8.39**	**307**	Pn	**Pn**	**19 19 06.1**	**-1.2**
TARA	**Tarawa**	**16.96**	**22**	Pn	Pn	19 20 49.0	-14
PMG	**Port Moresby**	**19.83**	**283**	P	**P**	**19 21 34.0**	**-2.1**
PMG				IAmb	IAmb	19 21 50.6	
	comp=Z,21nm,1.1s						
CTA	**Charters Tower**	**20.31**	**251**	P	Pn	19 21 43.3	-0.3
	comp=Z,6.3nm,0.8s,baz=66,slow=15,SNR=2.2						
WR0	**Warramunga Arr**	**31.19**	**256**	P	**P**	**19 23 24.2**	**-0.2**
WR0				IAmb	IAmb	19 23 42.8	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**31.31**	**256**	P	**P**	**19 23 25.5**	**0.0**
WB0				IAmb	IAmb	19 23 26.9	
	comp=Z,9.4nm,1.4s						
WRA	**Warramunga Arr**	**31.38**	**256**	P	**P**	**19 23 26.6**	**+0.6**
	comp=Z,2.5nm,1.1s,baz=82,slow=8.2,SNR=3.9						
ASAR	**Alice Springs**	**32.26**	**249**	P	**P**	**19 23 34.0**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=76,slow=9.4,SNR=5.4						
ASAR	**Alice Springs**	**32.26**	**249**	P	**P**	**19 23 33.5**	**-0.3**
KNRA	**Kununurra**	**36.66**	**263**	P	**P**	**19 24 11.9**	**+0.1**
KNRA				IAmb	IAmb	19 24 18.3	
	comp=Z,7.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.55**	**259**	P	**P**	**19 24 36.4**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=82,slow=12,SNR=1.6						
FITZ	**Fitzroy Crossi**	**39.55**	**259**	P	**P**	**19 24 36.0**	**-0.2**
KKM	**Kota Kinabalu**	**54.13**	**289**	P	**P**	**19 26 28.0**	**-2.4**
SBA	**Scott Base**	**63.30**	**180**	P	**P**	**19 27 32.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**74.42**	**294**	P	**P**	**19 28 44.1**	**+0.8**
	comp=Z,1.1nm,1.0s,baz=130,slow=5.3,SNR=5.5						
QSPA	**South Pole Qui**	**75.46**	**180**	P	**P**	**19 28 51.5**	**+2.9**
	comp=Z,1.2nm,0.9s,baz=90,slow=1.0,SNR=2.0						
QSPA	**South Pole Qui**	**75.46**	**180**	P	**P**	**19 28 50.1**	**+1.5**
QSPA				IAmb	IAmb	19 29 14.3	
	comp=Z,8.5nm,1.4s						
SEY	**Seymchan**	**78.06**	**353**	P	**P**	**19 29 04.0**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=51,slow=23,SNR=2.3						
SONM	**Songino Array**	**82.07**	**324**	P	**P**	**19 29 25.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=1.9						
ILAR	**Eielson Array**	**86.53**	**18**	P	**P**	**19 29 47.6**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=233,slow=5.5,SNR=8.8						
ILAR	**Eielson Array**	**86.53**	**18**	P	P	19 29 40.7	-6.5
MKAR	**Makanchi Array**	**96.74**	**316**	P	**P**	**19 30 36.9**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=95,slow=6.1,SNR=3.4						
MKAR	**Makanchi Array**	**96.74**	**316**	P	**P**	**19 30 31.1**	**-4.1**

KNRA	Kununurra	48.36	183	P		P		19 26 57.5	+0.2
CHGR	Chuyangaron	49.78	295	P		P		19 27 08.1	-0.2
FALS	False Pass	49.96	43	P		P		19 27 10.7	+1.5
FITZ	Fitzroy Crossi	50.99	187	P		P		19 27 17.9	+0.6
	comp=Z,1.5nm,0.7s,baz=83,slow=8.6,SNR=3.5								
WRA	Warramunga Arr	52.64	176	P		P		19 27 29.1	-0.6
	comp=Z,0.6nm,0.7s,baz=356,slow=8.0,SNR=6.6								
WRA	Warramunga Arr	52.64	176	IAmb		IAmb		19 27 37.8	
	comp=Z,0.1nm,0.8s								
ABKAR	Akbulak array	54.12	310	P		P		19 27 39.8	-0.6
ABKAR				IAmb		IAmb		19 27 43.9	
	comp=Z,2.6nm,0.7s								
ABKAR	Akbulak array	54.12	310	P		P		19 27 39.5	-0.9
ASAR	Alice Springs	56.31	177	P		P		19 27 56.3	-0.1
	comp=Z,1.1nm,0.8s,baz=1.5,slow=6.9,SNR=7.6								
ASAR	Alice Springs	56.31	177	P		P		19 27 56.5	+0.1
MDM	Murphy Dome	56.80	30	P		P		19 28 00.7	+1.2
MDM				IAmb		IAmb		19 28 26.8	
	comp=Z,4.1nm,1.0s								
H24K	Noodor Dome	56.84	29	P		P		19 28 00.5	+0.8
H24K				IAmb		IAmb		19 28 16.4	
	comp=Z,6.8nm,1.4s								
WRH	Wood River Hil	56.92	31	P		P		19 28 01.3	+1.0
WRH				IAmb		IAmb		19 28 01.5	
	comp=Z,8.9nm,1.5s								
KBZ	Khabaz	66.98	308	P		P		19 29 09.3	+1.1
	comp=Z,3.1nm,0.8s,baz=102,slow=2.7,SNR=6.5								
FINES	FINESS Array B	68.34	330	P		P		19 29 15.2	-1.3
	comp=Z,1.0nm,0.8s,baz=76,slow=5.9,SNR=1.4								
YKA	Yellowknife Ar	71.43	27	P		P		19 29 35.2	-0.3
	comp=Z,0.4nm,0.7s,baz=302,slow=6.3,SNR=4.6								
NOA	NORSAR Array B	74.45	334	P		P		19 29 52.5	-1.0
	comp=Z,0.6nm,0.9s,baz=68,slow=8.2,SNR=1.8								
BRTR	Keskin Array B	74.96	308	P		P		19 29 55.4	-1.6
	comp=Z,0.8nm,0.8s,baz=99,slow=5.5,SNR=3.9								

*IDC **15** 19:22:53.6±0.8, 14°.47S×166°.64E, h0km, mb4.2/15, mb1 4.3/18, mb1mx4.0/55, mbtmp4.2/18, ML3.1/2, Error ellipse: s-maj=23.7km s-min=19.0km az=125.0*
*NEIC **15** 19:22:56.4±1.2, 14°.52S±0°.07×166°.6E±0°.1, h14km±3km, mb4.7/34, Error ellipse: s-maj=17.8km s-min=8.0km az=68.0*

ISC 15 19:22:58.2±0.5, 14°.57S±0°.06×166°.55E±0°.08, h28km, n73, σ1§12/68, mb4.5/29, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DVP	Devils Point	3.51	154	P		Pb	19 23 56.2	-3.5
RTV	Rentapao	3.68	151	P		Pn	19 23 57.6	+4.4
KOUNC	Koumac, New Ca	6.33	200			Pn	19 24 30.5	+0.8
MARNC	Mare, Loyalty	7.02	169	Pn		Pn	19 24 38.9	-0.2
DZM	Mont Dzumac	7.46	181	Pn		Pn	19 24 45.7	+0.3
	2.5nm,0.3s,baz=325,slow=20,SNR=39							
DZM				Sn		Sn	19 26 09.9	+0.7
	1.6nm,0.3s,baz=303,slow=23,SNR=2.2							
DZM	Mont Dzumac	7.46	181			Pn	19 24 45.2	-0.1
ONTNC	Ouen Toro	7.70	181			Pn	19 24 48.9	+0.4
OUENC	Ouen Island, N	7.81	178	Pn		Pn	19 24 50.7	+0.6
PINNC	Pines Island,	8.05	174	Pn		Pn	19 24 52.8	-0.5
HNR	Honiara	8.23	308	Pn		Pn	19 24 55.4	-0.5
	8.2nm,0.3s,baz=231,slow=8.9,SNR=2.4							
HNR				Sn		Sn	19 26 30.3	+2.3
	5.6nm,0.3s,baz=42,slow=19,SNR=1.3							
HNR	Honiara	8.23	308			Pn	19 24 56.4	+0.5
PMG	Port Moresby	19.64	283	P		Pn	19 27 26.0	-0.4
	0.4nm,0.3s,baz=179,slow=22,SNR=2.3							
PMG	Port Moresby	19.64	283	IAmb		IAmb	19 27 35.8	
	comp=Z,24nm,0.9s							
CTA	Charters Tower	20.13	251	P		P	19 27 31.1	+0.8
	comp=Z,7.0nm,0.9s,baz=93,slow=15,SNR=2.5							
CTAO	Charters Tower	20.13	251	P		Pn	19 27 31.9	-0.3
BKZ	Black Stump Fm	26.02	162	P		P	19 28 31.1	+2.1
BKZ				IAmb		IAmb	19 29 04.0	
	comp=Z,27nm,1.5s							
STKA	Stephens Creek	28.57	229	P		P	19 28 52.9	+0.9
	comp=Z,2.5nm,0.7s,baz=37,slow=9.6,SNR=3.1							
STKA	Stephens Creek	28.57	229	P		P	19 28 52.3	+0.4
WB0	Warramunga Arr	31.12	256	P		P	19 29 14.3	-0.4
WB0				IAmb		IAmb	19 29 17.0	
	comp=Z,13nm,1.8s							
WB2	Warramunga Arr	31.18	256	P		P	19 29 14.5	-0.7
WRA	Warramunga Arr	31.19	256	P		P	19 29 14.4	-0.9
	comp=Z,0.8nm,0.9s,baz=85,slow=8.8,SNR=3.9							
WRA				PcP		PcP	19 32 10.8	+0.8
	comp=Z,0.7nm,0.9s,baz=91,slow=4.8,SNR=3.7							
WRA	Warramunga Arr	31.19	256	P		P	19 29 13.6	-1.7
ASAR	Alice Springs	32.08	249	P		P	19 29 23.0	-0.1
	comp=Z,1.8nm,0.6s,baz=72,slow=9.7,SNR=10.0							
ASAR				PcP		PcP	19 32 12.3	-0.1
	comp=Z,0.5nm,0.9s,baz=90,slow=3.8,SNR=4.8							
H11S2	WAKE ISLAND Hy	32.85	0	T		T	20 04 36.3	
	baz=183							
H11S3	WAKE ISLAND Hy	32.86	0	T		T	20 04 30.4	
	baz=183							
H11S1	WAKE ISLAND Hy	32.87	0	T		T	20 04 31.3	
	baz=183							
BBOO	Buckleboo	33.13	231	P		P	19 29 30.8	-1.4
BBOO				IAmb		IAmb	19 29 38.3	
	comp=Z,6.5nm,0.8s							
H11N1	WAKE ISLAND Hy	34.07	1	T		T	20 06 09.9	
	baz=183							
H11N3	WAKE ISLAND Hy	34.07	1	T		T	20 06 14.1	
	baz=183							
H11N2	WAKE ISLAND Hy	34.09	1	T		T	20 06 05.9	
	baz=183							
KNRA	Kununurra	36.46	263	P		P	19 30 00.0	-1.1
FORT	Forrest	38.78	239	P		P	19 30 20.6	0.0
FITZ	Fitzroy Crossi	39.36	259	P		P	19 30 25.8	+0.3
	comp=Z,2.1nm,0.8s,baz=102,slow=8.6,SNR=2.9							
BATI	Baumata	42.07	271	P		P	19 30 49.0	+0.9
	comp=Z,18nm,1.1s,baz=0.0,slow=0.0,SNR=3.0							
MYLDM	Lahad Datu	51.52	289	P		P	19 32 01.8	-0.1
MYLDM				IAmb		IAmb	19 32 24.6	
	comp=Z,12nm,1.1s							
KKM	Kota Kinabalu	53.95	289	P		P	19 32 19.2	-0.8
MAJO	Matsushiro	57.45	333	P		P	19 32 44.1	-0.6
MAJO				IAmb		IAmb	19 32 45.5	
	comp=Z,8.0nm,0.9s							
MJB9	Matsu-Tunnel	57.45	333	P		P	19 32 44.2	-0.5
MJB9				IAmb		IAmb	19 32 45.5	
	comp=Z,8.4nm,0.9s							
VNDA	Vanda	63.01	181	P		P	19 33 22.6	+0.5
	comp=Z,0.6nm,0.7s,baz=208,slow=4.3,SNR=1.6							
VNDA	Vanda	63.01	181	P		P	19 33 22.2	0.0
VNDA				IAmb		IAmb	19 33 56.1	
	comp=Z,7.4nm,1.6s							
SBA	Scott Base	63.30	180	P		P	19 33 26.7	+2.7
SBA				IAmb		IAmb	19 33 27.4	
	comp=Z,3.4nm,0.9s							
CMAR	Chiang Mai Arr	74.25	294	P		P	19 34 33.6	+0.4
	comp=Z,1.8nm,0.8s,baz=128,slow=4.3,SNR=14							
CMAR	Chiang Mai Arr	74.25	294	P		P	19 34 34.1	+0.8
CHTO	Chiang Mai	74.38	295	P		P	19 34 34.6	+0.6
MA2	Magadan	74.99	352	P		P	19 34 36.7	0.0
MA2				IAmb		IAmb	19 34 43.6	
	comp=Z,7.9nm,1.2s							
QSPA	South Pole Qui	75.46	180	P		P	19 34 40.6	+1.0
CHIR	Chirikof Islan	76.98	21	P		P	19 34 47.5	-0.6
GAMB	Gambell	79.89	10	P		P	19 35 03.7	-0.2
GAMB				IAmb		IAmb	19 35 05.6	
	comp=Z,14nm,1.1s							
YAK	Yakutsk	81.68	343	P		P	19 35 13.0	-0.5
	comp=Z,3.2nm,0.6s,baz=334,slow=6.6,SNR=4.1							
YAK	Yakutsk	81.68	343	IAmb		IAmb	19 35 14.8	
	comp=Z,7.0nm,0.7s							
SONM	Songino Array	81.96	324	P		P	19 35 13.5	-2.0
	comp=Z,0.4nm,0.4s,baz=171,slow=10,SNR=4.1							
M19K	Big River Lodg	82.20	18	P		P	19 35 16.2	-0.2
M19K				IAmb		IAmb	19 35 19.0	
	comp=Z,7.7nm,1.2s							
L19K	White Mountain	82.28	17	P		P	19 35 18.2	+1.4
BILL	Bilibino	82.38	360	P		P	19 35 17.2	+0.1
BILL				IAmb		IAmb	19 35 19.1	
	comp=Z,3.7nm,0.8s							
J20K	Nowinta River	84.06	16	P		P	19 35 27.4	+1.4
KTH	Kantishna Hill	84.49	18	P		P	19 35 27.4	-0.8
KTH				IAmb		IAmb	19 35 28.6	
	comp=Z,6.3nm,0.9s							
TRF	Thorofare Moun	84.60	18	P		P	19 35 28.1	-0.8
RND	Reindeer	85.00	18	P		P	19 35 30.4	-0.4
MCK	McKinley	85.22	18	P		P	19 35 31.8	0.0
H21K	Melozitna Rive	85.58	16	P		P	19 35 34.2	+0.7
H21K				IAmb		IAmb	19 35 35.3	
	comp=Z,5.8nm,1.0s							

IMAR	Indian Mountai	85.59	15	P		P		19 35 33.9	+0.3
IL31		86.59	18	P		P		19 35 37.2	-1.3
IL31				IAmb		IAmb		19 35 42.6	
	comp=Z,3.4nm,0.9s								
ILAR	Eielson Array	86.59	18	P		P		19 35 37.2	-1.3
	comp=Z,2.8nm,0.8s,baz=233,slow=5.7,SNR=17								
SCRK	Sand Creek	86.95	20	P		P		19 35 40.3	-0.2
SCRK				IAmb		IAmb		19 35 43.3	
	comp=Z,3.1nm,0.9s								
TIXI	Tiksi	89.68	349	P		P		19 35 52.2	-0.8
	comp=Z,0.2nm,0.3s,baz=91,slow=24,SNR=1.3								
MKAR	Makanchi Array	96.61	317	P		P		19 36 26.3	+0.7
	comp=Z,0.8nm,0.8s,baz=99,slow=6.0,SNR=6.5								
MKAR	Makanchi Array	96.61	317	P		P		19 36 25.6	0.0
ZALV	Zalesovo Beam	96.85	324	P		P		19 36 26.3	-0.2
	comp=Z,1.0nm,0.7s,baz=90,slow=4.4,SNR=4.6								
YKA	Yellowknife Ar	97.73	27	P		P		19 36 29.5	-0.8
	comp=Z,0.4nm,0.8s,baz=263,slow=4.0,SNR=2.8								
ARCES	ARCESS Array B	119.92	345	PKP		PKiKP		19 41 45.7	+0.1
	comp=Z,1.7nm,0.8s,baz=38,slow=4.9,SNR=8.8								
FINES	FINESS Array B	125.32	338	PKP		PKiKP		19 41 56.5	+0.1
	comp=Z,0.5nm,0.6s,baz=16,slow=1.2,SNR=1.3								
KEST	Kesra	150.64	320	PKPbc		PKPbc		19 42 48.5	+0.3
	comp=Z,4.3nm,0.8s,baz=158,slow=4.4,SNR=5.1								
TORD	Torodi Ar. Bea	165.22	266	PKPab		PKPab		19 43 57.5	-0.9
	comp=Z,0.5nm,0.7s,baz=91,slow=3.3,SNR=3.0								

*JMA **15** 19:23:18.3, 33°.04N×131°.20E, h10km±1km, M4.2*
JMA Felt IV J1.
*IDC **15** 19:23:18.3±1.0, 33°.01N×131°.19E, h0km, mb3.3/6, mb1 3.6/8, mb1mx3.4/61, mbtmp3.4/8, ML3.0/2, Error ellipse: s-maj=22.7km s-min=6.8km az=22.0*

ISC 15 19:23:20.3±0.8, 33°.00N±0°.05×131°.12E±0°.08, h12km, n11, σ1§36/14, mb3.4/6, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JNU	Nakatsue	0.24	301	Pg		Pg	19 23 23.7	-1.7
	6µm,0.3s,baz=200,slow=23,SNR=101							
JNU				Lg		Lg	19 23 27.8	
	6µm,0.3s,baz=322,slow=19,SNR=69							
JNU	Nakatsue	0.24	301	⇑P		Pg	19 23 23.9	-1.4
JNU				S		Sg	19 23 28.0	-0.7
JIU3	Izumi3	0.52	210	⇑P		Pg	19 23 29.6	-0.9
JIU3				S		Sg	19 23 37.9	+0.5
KSRS	Korea Array	5.16	330	Pn		Pn	19 24 38.9	+1.6
	0.3nm,0.3s,baz=143,slow=14,SNR=4.8							
KSRS				Pg		Pb	19 24 53.0	+2.6
	1.3nm,0.3s,baz=144,slow=17,SNR=7.0							
KSRS				Lg		Lg	19 25 59.8	
	4.2nm,0.3s,baz=150,slow=29,SNR=3.1							
MJAR	Matsushiro Arr	6.82	57	Pn		Pn	19 25 00.8	+0.6
	0.6nm,0.3s,baz=228,slow=13,SNR=16							
SONM	Songino Array	23.82	316	P		P	19 28 32.4	-0.8
	1.0nm,0.8s,baz=129,slow=11,SNR=4.1							
KURBB	Kurchatov Arra	42.01	311	P		P	19 31 10.9	-0.4
	0.4nm,0.7s,baz=96,slow=9.0,SNR=3.7							
WRA	Warramunga Arr	52.73	176	P		P	19 32 35.4	+0.3
	0.2nm,0.6s,baz=357,slow=8.0,SNR=1.9							
ASAR	Alice Springs	56.41	177	P		P	19 33 01.6	-0.2
	0.3nm,0.6s,baz=9.6,slow=14,SNR=6.1							
ILAR	Eielson Array	57.32	30	P		P	19 33 06.0	-1.7
	0.2nm,0.6s,baz=269,slow=7.2,SNR=2.0							
YKA	Yellowknife Ar	71.36	27	P		P	19 34 40.0	+0.3
	0.2nm,0.6s,baz=299,slow=5.8,SNR=2.7							

*IDC **15** 19:24:25.0±0.6, 32°.90N×131°.07E, h0km, mb3.9/16, mb1 4.1/18, mb1mx3.9/62, mbtmp3.9/18, ML3.2/2, Error ellipse: s-maj=19.3km s-min=6.2km az=57.0*
*JMA **15** 19:24:26.1, 32°.98N×131°.07E, h12km±1km, M4.6*
JMA Felt IV J1.
*NEIC **15** 19:24:27.8±2.4, 32°.97N±0°.04×130°.92E±0°.07, h13km±4km, mb4.6/53, Error ellipse: s-maj=8.1km s-min=5.7km az=85.0*

ISC 15 19:24:27.0±0.4, 33°.01N±0°.04×131°.03E±0°.04, h12km, n94, σ1§26/96, mb4.5/43, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JNU	Nakatsue	0.17	311	Pg		Pg	19 24 30.5	-0.4
	7µm,0.3s,baz=116,slow=5.0,SNR=50							
JNU				Lg		Lg	19 24 33.9	
	6µm,0.3s,baz=151,slow=6.8,SNR=8.2							
JNU	Nakatsue	0.17	311	⇑P		Pg	19 24 30.7	-0.2
JNU	Nakatsue	0.17	311			Pg	19 24 30.7	-0.2
JNU				Sg		Sg	19 24 34.1	+0.5
JTA	Tamana	0.42	264	⇓P		Pg	19 24 35.1	-0.2
JTA				S		Sg	19 24 41.6	+0.7
JSU	Suzuyama	1.58	198	Pn		Pb	19 24 54.4	-1.7
JTU	Tsushima	2.03	318	Pn		Pb	19 25 02.7	-1.2
JMN	Monobe	2.49	72	Pn		Pb	19 25 10.2	-1.5
JHS	Saijyo	2.63	41	Pn		Pb	19 25 11.3	-2.8
TJN	Taejon	4.52	319	Pn		Pn	19 25 34.2	-1.0
KSRS	Korea Array	5.11	331	Pn		Pn	19 25 44.0	+0.7
	1.5nm,0.3s,baz=152,slow=15,SNR=4.2							
KSRS				Lg		Lg	19 27 10.5	
	4.1nm,0.3s,baz=156,slow=30,SNR=6.8							
KSAR	Wonju Array Be	5.12	331			Pn	19 25 43.3	-0.2
KS19	Wonju Array Si	5.17	331			Pn	19 25 44.1	-0.2
INU	Inuyama	5.48	63	Pn		Pn	19 25 50.4	+1.9
INCN	Inchon	5.73	322	Pn		Pn	19 25 50.2	-1.7
JGF	Kuroka	5.84	62	Pn		Pn	19 25 51.1	-2.3
JOW	Kunigami	6.60	202	Pn		Pn	19 26 06.3	+2.4
	1.1nm,0.3s,baz=79,slow=22,SNR=1.3							
JOW	Kunigami	6.60	202	Pn		Pn	19 26 05.7	+1.8
MAJO	Matsushiro	6.88	57	Pn		Pn	19 26 09.7	+2.1
MJB9	Matsu-Tunnel	6.88	57	Pn		Pn	19 26 08.5	+0.8
MJAR	Matsushiro Arr	6.88	57	Pn		Pn	19 26 08.9	+1.2
	0.3nm,0.3s,baz=244,slow=14,SNR=4.0							
MJAR				Lg		Lg	19 28 01.0	
	baz=65,slow=44,SNR=1.6							
MJAR	Matsushiro Arr	6.88	57	Pn		Pn	19 26 10.2	+2.6
ULN	Ulaanbaatar	23.39	316	P		P	19 29 36.5	+0.7
ULN				IAmb		IAmb	19 29 41.1	
	comp=Z,21nm,1.0s							
SONM	Songino Array	23.76	316	P		P	19 29 40.3	+1.0
	comp=Z,4.8nm,0.8s,baz=134,slow=11,SNR=14							
SONM	Songino Array	23.76	316	P		P	19 29 38.3	-1.0
CHTO	Chiang Mai	31.99	252	P		P	19 30 54.2	+1.0
CMAR	Chiang Mai Arr	32.18	251	P		P	19 30 55.3	+0.4
	comp=Z,1.4nm,1.0s,baz=65,slow=5.6,SNR=6.5							
CMAR	Chiang Mai Arr	32.18	251	P		P	19 30 55.1	+0.1
SEY	Seymchan	32.84	18	P		P	19 31 00.9	+0.7
	comp=Z,0.8nm,0.8s,baz=207,slow=16,SNR=3.2							
MANU	Manus Island	38.13	153	P		P	19 31 45.5	-0.6
MANU				IAmb		IAmb	19 31 54.2	
	comp=Z,12nm,1.2s							
ZAA0	Zalesovo Array	38.64	317	P		P	19 31 46.8	-3.3
ZALV	Zalesovo Beam	38.64	317	P		P	19 31 50.3	+0.2
	comp=Z,0.7nm,0.7s,baz=130,slow=5.8,SNR=1.8							
ZALV	Zalesovo Beam	38.64	317	P		P	19 31 46.5	-3.6
MK31	Makanchi Array	39.22	305	P		P	19 31 55.7	+0.6
MKAR	Makanchi Array	39.22	305	P		P	19 31 55.0	0.0
	comp=Z,1.2nm,0.8s,baz=92,slow=11,SNR=8.6							
MKAR	Makanchi Array	39.22	305	P		P	19 31 55.7	+0.6
KAPI	Kappang	39.30	198	P		P	19 31 55.5	-0.4
KAPI				IAmb		IAmb	19 32 10.6	
	comp=Z,13nm,1.2s							
KURK	Kurchatov	41.89	311			P	19 32 15.8	-1.3
KURK				IAmb		IAmb	19 32 21.1	
	comp=Z,7.3nm,0.9s							
KURBB	Kurchatov Arra	41.94	311	P		P	19 32 17.8	+0.4
	comp=Z,4.7nm,0.8s,baz=97,slow=8.8,SNR=26							
TARG	Taragay, Kyrgy	42.60	298	P		P	19 32 22.4	-1.1
TARG				IAmb		IAmb	19 32 28.5	
	comp=Z,9.3nm,1.2s							
KDJ	Kajisay	43.02	298			P	19 32 26.2	-0.4
NRIK	Noril'sk	43.67	339	P		P	19 32 32.3	+1.1
	comp=Z,3.0nm,0.6s,baz=132,slow=10,SNR=2.2							
NRIK	Noril'sk	43.67	339	P		P	19 32 30.3	-0.9
BOOM	Boomskoye usch	43.90	299	P		P	19 32 30.2	-3.4
GSI	Gunungsitoli	44.51	232	P		P	19 32 36.3	-2.3
GSI				IAmb		IAmb	19 32 44.9	
	comp=Z,15nm,1.3s							
AAK	Ala-Archa	44.94	299	P		P	19 32 42.6	+0.6
MTN	Manton Dam	45.59	180	P		P	19 32 45.6	-1.5
MTN				IAmb		IAmb	19 32 51.3	
	comp=Z,11nm,1.1s							
BRVK	Borovoye	47.15	314			P	19 32 59.6	+0.7
BRVK				IAmb		IAmb	19 33 03.2	
	comp=Z,5.3nm,1.1s							
DRK	Karamyk	47.47	296	P		P	19 33 01.8	-0.3
DRK				IAmb		IAmb	19 33 06.8	
	comp=Z,4.2nm,0.8s							
NIL	Nilore	47.72	287	P		P	19 33 03.5	-0.3
NIL				IAmb		IAmb	19 33 08.5	
	comp=Z,6.8nm,1.1s							
KK31	Karatay Array	47.78	301	P		P	19 33 04.2	+0.2
KK31				IAmb		IAmb	19 33 08.5	
	comp=Z,5.8nm,0.9s							
KKAR	Karatay Array	47.78	301	P		P	19 33 04.4	+0.3
KKAR				IAmb		IAmb	19 33 08.5	
	comp=Z,5.8nm,0.9s							
BTK	Batken	48.09	296	P		P	19 33 06.5	-0.2
BTK				IAmb		IAmb	19 33 11.5	
	comp=Z,9.7nm,1.4s							
GAR	Garm	48.69	295	P		P	19 33 11.8	+0.5
CHGR	Chuyangaron	49.65	295	P		P	19 33 19.3	+0.7
FITZ	Fitzroy Crossi	51.08	187	P		P	19 33 28.2	-1.2
	baz=342,slow=3.2							
FITZ	Fitzroy Crossi	51.08	187	P		P	19 33 29.5	+0.1
FITZ				IAmb		IAmb	19 33 33.3	
	comp=Z,10nm,1.6s							
WB0	Warramunga Arr	52.58	176	P		P	19 33 39.9	-0.7
WB0				IAmb		IAmb	19 33 49.0	
	comp=Z,18nm,1.6s							
WB2	Warramunga Arr	52.75	176	P		P	19 33 40.1	-1.7
WB2				IAmb		IAmb	19 33 48.6	
	comp=Z,14nm,1.6s							
WRA	Warramunga Arr	52.75	176	P		P	19 33 39.7	-2.1
	comp=Z,0.7nm,0.8s,baz=355,slow=8.2,SNR=3.7							
WRA	Warramunga Arr	52.75	176	P		P	19 33 40.5	-1.4
WR0	Warramunga Arr	52.78	176	P		P	19 33 40.9	-1.1
WR0				IAmb		IAmb	19 33 45.9	
	comp=Z,5.8nm,1.1s							
N18K	Kilae Creek	53.68	36	P		P	19 33 49.0	+0.7
ABKAR	Akbulak array	53.98	310	P		P	19 33 50.9	+0.2
ABKAR				IAmb		IAmb	19 33 54.7	
	comp=Z,4.1nm,0.8s							
L19K	White Mountain	54.08	34	P		P	19 33 51.7	+0.5
L19K				IAmb		IAmb	19 34 16.4	
	comp=Z,6.8nm,1.2s							
O18K	Koktuh Hills	54.08	37	P		P	19 33 51.2	0.0
J20K	Nowinta River	54.28	31	P		P	19 33 53.7	+1.0
J20K				IAmb		IAmb	19 33 59.8	
	comp=Z,7.6nm,1.4s							
K20K	Telida	54.36	32	P		P	19 33 54.8	+1.5
K20K				IAmb		IAmb	19 34 27.6	
	comp=Z,14nm,1.6s							
KDAK	Kodiak Island	55.68	39	P		P	19 34 05.1	+2.3
H23K	Yukon River	56.11	29	P		P	19 34 06.4	+0.6
H23K				IAmb		IAmb	19 34 27.4	
	comp=Z,4.4nm,1.1s							
FIS	Fire Island	56.38	35	P		P	19 34 07.4	-0.3
ASAR	Alice Springs	56.43	177	P		P	19 34 08.4	-0.2
	comp=Z,1.0nm,0.7s,baz=7.8,slow=7.5,SNR=5.5							
NEA2	Nenana	56.45	31	P		P	19 34 08.8	+0.5
MDM	Murphy Dome	56.76	30	P		P	19 34 11.1	+0.6
WRH	Wood River Hil	56.88	31	P		P	19 34 12.4	+1.1
WRH				IAmb		IAmb	19 34 33.9	
	comp=Z,9.9nm,1.7s							
PWL	Port Wells	57.33	35	P		P	19 34 15.5	+0.9
ILAR	Eielson Array	57.35	30	P		P	19 34 12.7	-1.9
	comp=Z,0.3nm,0.6s,baz=284,slow=8.1,SNR=1.8							
BMAR	Burnt Mountain	57.87	27	P		P	19 34 19.9	+1.7
SCRK	Sand Creek	58.73	31	P		P	19 34 25.9	+1.4
SCRK				IAmb		IAmb	19 34 31.4	
	comp=Z,6.3nm,1.5s							
N25K	Chitina, Valde	58.96	34	P		P	19 34 26.6	+0.5
L27K	Beaver Creek,	59.88	32	P		P	19 34 31.9	-0.4
L27K				IAmb		IAmb	19 34 48.6	
	comp=Z,6.7nm,1.4s							
BCAR	Beaver Creek A	59.90	32	P		P	19 34 31.4	-1.1
INK	Inuvik	61.73	25	P		P	19 34 45.2	+0.5
	comp=Z,0.6nm,0.7s,baz=222,slow=12,SNR=1.6							
A36M	Sachs Harbour	63.05	20	P		P	19 34 53.5	0.0
A36M				IAmb		IAmb	19 34 59.8	
	comp=Z,4.2nm,0.8s							
KBZ	Khabaz

comp=Z,3.1nm,0.7s
RND Reindeer 15.23 35 Pn Pn **19 30 59.8 +1.1**
RND IAmb IAmb 19 31 34.1
comp=Z,13nm,1.6s
DIV Divide 15.25 45 Pn Pn **19 30 57.4 -1.6**
KLU Klutina 15.35 44 Pn **19 30 57.7 -2.6**
I21K Tanana 15.47 27 Pn Pn **19 31 01.0 -0.8**
I21K IAmb IAmb 19 31 23.2
comp=Z,12nm,1.3s
M24K Tolsona, Glenn 15.53 42 Pn Pn **19 31 00.8 -1.9**
DHY Denali Highway 15.57 38 Pn Pn **19 31 01.8 -1.4**
H21K Melozitna Rive 15.62 25 Pn **19 31 05.8 +2.1**
IMAR Indian Mountai 15.65 23 Pn Pn **19 31 05.4 +1.3**
BMRM Bremner River 15.70 47 Pn Pn **19 31 02.8 -2.0**
N25K Chitina, Valde 15.96 45 Pn Pn **19 31 06.0 -2.3**
N25K IAmb IAmb 19 31 52.7
comp=Z,9.5nm,1.2s
WRH Wood River Hil 16.16 33 Pn Pn **19 31 09.8 -0.8**
SNH Sunshine Point 16.24 51 Pn Pn **19 31 10.7 -1.1**
GLB Gilahina Butte 16.24 46 Pn Pn **19 31 10.0 -1.8**
GLB IAmb IAmb 19 31 28.3
comp=Z,12nm,1.4s
VRDI Verde Repeater 16.32 47 Pn Pn **19 31 10.5 -2.4**
VRDI IAmb IAmb 19 31 55.4
comp=Z,13nm,1.4s
TGL Tana Glacier 16.43 49 Pn Pn **19 31 12.8 -1.4**
TGL IAmb IAmb 19 31 26.0
comp=Z,9.9nm,1.0s
MDM Murphy Dome 16.43 31 Pn Pn **19 31 12.4 -1.8**
MCARA McCarthy VSAT 16.57 47 Pn Pn **19 31 14.5 -1.4**
MCARA IAmb IAmb 19 31 32.8
comp=Z,11nm,1.2s
ISLE Juniper Island 16.61 50 Pn Pn **19 31 15.6 -0.9**
ISLE IAmb IAmb 19 31 40.6
comp=Z,12nm,1.0s
H23K Yukon River 16.64 28 P **19 31 18.5 -0.3**
ILAR Eielson Array 16.76 33 Pn Pn **19 31 16.0 -2.2**
comp=Z,0.0nm,0.3s,baz=227,slow=9.6,SNR=2.5
RIDG Independent Ri 16.89 38 Pn Pn **19 31 19.7 -0.2**
GRNC Granite Creek 16.92 49 P Pn **19 31 20.6 0.0**
GRNC IAmb IAmb 19 31 45.0
comp=Z,7.2nm,0.8s
M26K Nabesna, AK 16.99 43 P Pn **19 31 19.5 -1.7**
M26K IAmb IAmb 19 31 23.9
comp=Z,9.4nm,1.3s
BARN Barnard Glacie 17.07 48 P Pn **19 31 20.9 -1.5**
BARN IAmb IAmb 19 32 04.0
comp=Z,14nm,1.4s
TABL Table Mountain 17.12 51 Pn **19 31 22.8 -0.3**
H24K Noodor Dome 17.13 29 P Pn **19 31 22.8 -0.1**
DOT Dot Lake 17.14 39 P Pn **19 31 21.4 -1.7**
J25K Salcha River, 17.18 35 P Pn **19 31 20.7 -2.9**
J25K IAmb IAmb 19 31 24.4
comp=Z,8.0nm,1.4s
CTGM Chitina Glacie 17.19 49 P Pn **19 31 23.8 0.0**
CTGM IAmb IAmb 19 31 33.5
comp=Z,16nm,1.4s
LOGN Logan Glacier 17.30 49 P Pn **19 31 24.5 -0.7**
LOGN IAmb IAmb 19 31 29.1
comp=Z,11nm,1.1s
SCRK Sand Creek 17.34 38 P Pn **19 31 23.0 -2.6**
M27K Edge Creek, AK 17.45 44 P Pn **19 31 24.4 -2.5**
M27K IAmb IAmb 19 31 42.9
comp=Z,17nm,1.6s
COLD Coldfoot 17.50 24 P Pn **19 31 25.4 -2.1**
L27K Beaver Creek, 17.76 42 P Pn **19 31 29.0 -1.7**
BCAR Beaver Creek A 17.78 42 P Pn **19 31 28.9 -2.0**
TOLK Toolik Lake Re 18.76 22 P P **19 31 39.6 -2.5**
TOLK IAmb IAmb 19 32 11.5
comp=Z,6.4nm,1.3s
EGAK Eagle 18.80 38 P P **19 31 41.7 -0.9**
EGAK IAmb IAmb 19 32 13.6
comp=Z,9.2nm,1.4s
HYT Haines Junctio 18.96 51 P Pn **19 31 47.1 +1.7**
BMAR Burnt Mountain 19.18 28 P P **19 31 46.8 0.0**
M30M Minto, Yukon 19.74 46 P P **19 31 50.5 -2.5**
M30M IAmb IAmb 19 32 04.0
comp=Z,4.9nm,1.3s
PEA0B Petropavlovsk- 20.42 286 P P **19 31 60.0 -0.3**
PETK Petropavlovsk- 20.42 286 P P **19 31 59.0 -1.4**
comp=Z,4.1nm,0.5s,baz=92,slow=12,SNR=16
M31M Drury Creek, Y 20.72 48 P P **19 32 03.7 +0.1**
M31M IAmb IAmb 19 32 26.6
comp=Z,3.2nm,0.8s
EPYK Eagle Plains 21.18 36 P P **19 32 07.1 -1.5**
SEY Seymchan 23.15 313 P P **19 32 28.9 -0.5**
comp=Z,1.1nm,0.6s,baz=128,slow=18,SNR=4.6
INK Inuvik 23.16 33 P P **19 32 27.9 -1.4**
comp=Z,1.4nm,0.6s,baz=219,slow=11,SNR=6.0
INK Inuvik 23.16 33 P P **19 32 28.3 -1.1**
INK IAmb IAmb 19 33 15.1
comp=Z,7.2nm,1.6s
YKA Yellowknife Ar 29.92 49 P P **19 33 31.1 +0.4**
comp=Z,0.3nm,0.5s,baz=272,slow=7.3,SNR=8.0
YKA Yellowknife Ar 29.92 49 P P **19 33 29.0 -1.6**
TIXI Tiksi 33.12 329 P P **19 33 58.6 -0.1**
comp=Z,0.3nm,0.2s,baz=88,slow=23,SNR=3.6
H11N2 WAKE ISLAND Hy 37.70 220 T T 20 15 20.1
baz=24
H11N3 WAKE ISLAND Hy 37.71 220 T T 20 15 24.0
baz=24
H11N1 WAKE ISLAND Hy 37.72 220 T T 20 15 21.3
baz=24
H11S1 WAKE ISLAND Hy 38.88 219 T T 20 16 49.7
baz=23,slow=76,SNR=10.0
H11S2 WAKE ISLAND Hy 38.90 219 T T 20 16 50.8
baz=23,slow=76,SNR=7.6
H11S3 WAKE ISLAND Hy 38.90 219 T T 20 16 50.1
baz=23,slow=76,SNR=3.9
PD31 Pinedale Array 39.90 80 P P **19 34 57.8 +0.8**
PD31 IAmb IAmb 19 35 23.4
comp=Z,3.7nm,1.4s
PDAR Pinedale Array 39.90 80 P P **19 34 58.8 +1.8**
comp=Z,0.6nm,0.5s,baz=283,slow=3.8,SNR=12
PDAR Pinedale Array 39.90 80 P P **19 34 57.1 +0.1**
SPITS Spitsbergen Ar 49.81 359 P P **19 36 14.7 -0.5**
comp=Z,12nm,1.0s,baz=27,slow=5.6,SNR=7.6
SONM Songino Array 51.83 301 P P **19 36 31.5 +0.6**
comp=Z,0.7nm,0.5s,baz=69,slow=6.0,SNR=3.6
TXAR Lajitas Array 52.21 90 P P **19 36 35.2 +1.3**
comp=Z,0.4nm,0.7s,baz=316,slow=5.0,SNR=2.4
ARCES ARCESS Array B 58.10 354 P P **19 37 15.0 -0.8**
comp=Z,1.1nm,0.7s,baz=13,slow=11,SNR=3.7
MKAR Makanchi Array 64.28 314 P P **19 37 56.9 -1.1**
comp=Z,1.1nm,0.7s,baz=50,slow=7.2,SNR=8.4
FINES FINESS Array B 66.07 352 P P **19 38 08.9 -0.3**
comp=Z,1.9nm,0.4s,baz=17,slow=7.9,SNR=23
NB2 NORSAR Subarra 67.06 0 P P **19 38 15.9 +0.2**
comp=Z,0.5nm,0.6s,baz=358,slow=6.2
NOA NORSAR Array B 67.06 0 P P **19 38 15.5 -0.2**
comp=Z,0.7nm,0.6s,baz=0.5,slow=6.3,SNR=4.3
CMAR Chiang Mai Arr 77.17 283 P P **19 39 17.6 +0.9**
comp=Z,1.2nm,0.7s,baz=24,slow=6.5,SNR=12
KBZ Khabaz 80.64 338 P P **19 39 37.2 +1.9**
comp=Z,2.2nm,0.9s,baz=97,slow=3.4,SNR=4.5
BRTR Keskin Array B 86.40 343 P P **19 40 05.5 +0.3**
comp=Z,0.5nm,0.7s,baz=65,slow=4.6,SNR=4.0
ESDC Sonseca Array 87.47 12 P P **19 40 10.6 +0.3**
comp=Z,0.6nm,0.7s,baz=351,slow=5.0,SNR=4.5
ASAR Alice Springs 90.73 231 P P **19 40 25.9 +0.3**
comp=Z,0.6nm,0.9s,baz=37,slow=3.6,SNR=4.7

*AEIC **15** 19:28:03.1±0.3, 54.58N±0.04×162.58W±0.04, h13km±6km, ML2.6/13, Error ellipse: s-maj=5.8km s-min=2.3km az=156.0*
NEIC 15 19:28:02.4±0.3, 54.46N±0.04×162.48W±0.04, h10km±2km, Error ellipse: s-maj=7.5km s-min=3.0km az=335.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**0.66**	**10**		Pg	19 28 15.1	+0.1
FALS	**False Pass**	**0.67**	**306**		Pg	19 28 15.3	0.0
BRPK	**Brown Peak**	**0.76**	**284**		Pg	19 28 17.1	+0.2
ISLZ	**Isanotski Laza**	**0.76**	**291**		Pg	19 28 17.1	0.0
ISLZ					Sg	19 28 27.1	+0.1
SSLS	**Shishaldin Sou**	**0.92**	**286**		Pg	19 28 20.0	0.0
SSLS					Sb	19 28 32.5	-0.2
HAG	**Hague Volcano**	**0.92**	**21**		Pg	19 28 19.9	-0.1
PS4A	**Pavlof South-4**	**0.95**	**22**		Pg	19 28 20.4	-0.4
PS4A					Sg	19 28 33.3	+0.2
WESE	**West Dahl East**	**1.23**	**271**		Pn	19 28 25.6	0.0
WECS	**Westdahl Cape**	**1.34**	**274**		Pn	19 28 27.3	+0.1

JMA 15 19:28:35.4, 32.65N×130.73E, h9km±1km, M3.9, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.12**	**145**	P	Pg	19 28 38.3	+0.1
JIU3				*eS*	Sg	19 28 40.5	+0.3
JTA	**Tamana**	**0.35**	**332**	P	Pg	19 28 42.5	+0.1
JTA				*eS*	Sg	19 28 47.4	+0.3
JZO	**Okuchi**	**0.52**	**192**	S	Sg	19 28 52.6	+0.2
JTZ	**Takazaki**	**0.81**	**158**	⇑P	Pb	19 28 51.5	-0.1
JTZ				S	Sg	19 29 01.8	+0.4

*TUL **15** 19:31:00.6±1.6, 36.684N±0.010×97.66W±0.01, h6km±4km, ML2.8, mb_Lg2.3/8(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=65.0*
NEIC 15 19:31:00.3±0.9, 36.659N±0.007×97.66W±0.01, h6km±5km, Error ellipse: s-maj=1.6km s-min=0.9km az=62.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.96**	**74**	Pg	Pg	19 31 18.5	-0.2
T35A				Sg	Sg	19 31 30.8	-0.4
U32A	**Winter Ranch,**	**1.11**	**256**	Pg	Pg	19 31 21.5	-0.2
U32A				Sg	Sg	19 31 35.4	-0.7
FNO	**Franklin**	**1.42**	**171**	Pn	Pn	19 31 26.0	-0.7
FNO				Sn	Sg	19 31 46.3	+0.5
W35A	**Tecumseh**	**1.63**	**157**		Pn	19 31 30.1	+0.4
W35A				Sn	Sb	19 31 52.2	+0.4
TUL1	**Leonard**	**1.69**	**116**		Pn	19 31 31.0	+0.7
TUL1				Sn	Sb	19 31 53.6	+0.3
R32A	**Long Quarter,**	**1.95**	**335**	Pn	Pn	19 31 33.8	-0.2
R32A				Sn	Sb	19 32 00.0	-0.8
X34A	**Smith Ranch, M**	**2.06**	**184**	Pn	Pn	19 31 35.2	-0.3
WMOK	**Wichita Mounta**	**2.12**	**206**	Pn	Pn	19 31 36.5	+0.2
KSU1	**Kansas State U**	**2.58**	**19**	Pn	Pn	19 31 43.1	+0.5
X37A	**Clayton**	**2.78**	**137**		Pn	19 31 45.1	-0.4
HHAR	**Hobbs**	**3.02**	**96**	Pn	Pn	19 31 48.1	-0.7
S39A	**Bolivar**	**3.62**	**72**	Pn	Pn	19 31 57.9	+0.9
U40A	**Yellville**	**3.89**	**93**	Pn	Pn	19 32 01.0	+0.4
MIAR	**Mount Ida**	**3.94**	**121**	Pn	Pn	19 32 00.4	-1.0
P38A	**Dawn**	**4.40**	**46**	Pn	Pn	19 32 07.5	-0.2
P38A				IAmb_Lg		19 33 20.7	
	comp=Z,6.7nm,0.8s						
X40A	**Basin Creek Fa**	**4.49**	**117**	Pn	Pn	19 32 07.9	-1.0
WHAR	**Wooly Hollow**	**4.57**	**106**		Pn	19 32 07.8	-2.2
R40A	**Maddies Statio**	**4.59**	**68**	Pn	Pn	19 32 08.2	-2.0
W41B	**Gary Mavity, V**	**4.64**	**107**	Pn	Pn	19 32 09.9	-1.0
W41B				IAmb_Lg		19 33 35.7	
	comp=Z,5.7nm,0.9s						
LCAR	**Lake Charles**	**5.29**	**94**	IAmb_Lg		19 33 53.1	
	comp=Z,6.5nm,1.0s						
CCM	**Cathedral Cave**	**5.30**	**73**	Pn	Pn	19 32 17.9	-2.1

*IDC **15** 19:31:00.5±0.9, 13.94S×166.44E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.2/49, mbtmp4.3/14, ML4.5/2, Error ellipse: s-maj=27.5km s-min=17.9km az=105.0*
*NEIC **15** 19:31:05.9±2.0, 14.04S±0.07×166.38E±0.08, h29km±6km, mb4.7/28, Error ellipse: s-maj=13.7km s-min=7.1km az=51.0*
ISC 15 19:31:05.7±0.5, 13.97S±0.06×166.43E±0.08, h35km, n58, σ1§19/61, mb4.5/25, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.66**	**153**		Pn	19 31 29.9	-2.4
SANVU				Sn	Sn	19 31 51.6	-0.8
KOUNC	**Koumac, New Ca**	**6.86**	**197**		Pn	19 32 43.7	-0.2
MARNC	**Mare, Loyalty**	**7.63**	**169**	Pn	Pn	19 32 54.0	-0.4
HNR	**Honiara**	**7.78**	**305**	Pn	Pn	19 32 55.3	-1.2
	26nm,0.3s,baz=257,slow=4.6,SNR=11						
HNR				Sn	Sn	19 34 21.7	-1.8
	baz=271,slow=17,SNR=0.9						
HNR	**Honiara**	**7.78**	**305**		Pn	19 32 56.1	-0.4
DZM	**Mont Dzumac**	**8.06**	**180**	Pn	Pn	19 33 00.2	-0.3
	1.8nm,0.3s,baz=12,slow=13,SNR=17						
DZM				Sn	Sn	19 34 31.2	+0.7
	baz=124,slow=16,SNR=1.1						
ONTNC	**Ouen Toro**	**8.30**	**180**	Pn	Pn	19 33 03.7	+0.1
OUENC	**Ouen Island, N**	**8.42**	**177**	Pn	Pn	19 33 04.2	-1.1
PINNC	**Pines Island,**	**8.66**	**174**	Pn	Pn	19 33 08.5	-0.1
CTA	**Charters Tower**	**20.22**	**250**	P	P	19 35 38.9	+1.0
	14nm,0.9s,baz=97,slow=11,SNR=5.4						
CTAO	**Charters Tower**	**20.22**	**250**	P	P	19 35 39.4	+1.5
CTAO				IAmb	IAmb	19 36 00.3	
	comp=Z,77nm,1.8s						
COEN	**Coen**	**22.56**	**267**	P	P	19 36 03.6	+0.4
COEN				IAmb	IAmb	19 36 07.9	
	comp=Z,39nm,1.5s						
URZ	**Urewera**	**25.99**	**161**	P	P	19 36 33.5	-1.7
URZ				IAmb	IAmb	19 36 57.9	
	comp=Z,27nm,1.2s						
BKZ	**Black Stump Fm**	**26.63**	**162**	P	P	19 36 40.7	-0.4
BKZ				IAmb	IAmb	19 36 45.7	
	comp=Z,30nm,1.4s						
PLWZ	**Palliser**	**28.56**	**166**	P	P	19 36 56.9	-1.4
STKA	**Stephens Creek**	**28.88**	**228**	P	P	19 37 02.1	+0.8
	comp=Z,3.3nm,0.7s,baz=88,slow=5.7,SNR=5.7						
STKA	**Stephens Creek**	**28.88**	**228**	P	P	19 37 01.6	+0.3
KHZ	**Kahutara**	**29.01**	**169**	P	P	19 37 02.3	0.0
KHZ				IAmb	IAmb	19 37 51.1	
	comp=Z,31nm,1.2s						
LTZ	**Lake Taylor**	**29.16**	**171**	P	P	19 37 03.9	+0.3
LTZ				IAmb	IAmb	19 37 38.2	
	comp=Z,40nm,1.5s						
WR0	**Warramunga Arr**	**31.04**	**254**	P	P	19 37 18.6	-2.0
WB0	**Warramunga Arr**	**31.16**	**255**	P	P	19 37 20.5	-1.1
WB0				IAmb	IAmb	19 37 21.9	
	comp=Z,16nm,1.1s						
WB2	**Warramunga Arr**	**31.22**	**255**	P	P	19 37 20.6	-1.5
WB2				IAmb	IAmb	19 37 22.3	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**31.23**	**255**	P	P	19 37 20.9	-1.4
	comp=Z,5.3nm,0.8s,baz=85,slow=8.9,SNR=20						
WRA	**Warramunga Arr**	**31.23**	**255**	P	P	19 37 20.4	-1.8
AS31	**Alice Springs**	**32.19**	**248**	P	P	19 37 29.3	-1.4
ASAR	**Alice Springs**	**32.19**	**248**	P	P	19 37 29.6	-1.1
	comp=Z,4.2nm,0.8s,baz=72,slow=9.7,SNR=55						
ASAR	**Alice Springs**	**32.19**	**248**	P	P	19 37 30.0	-0.7
BBOO	**Buckleboo**	**33.41**	**231**	P	P	19 37 41.1	-0.1
MTN	**Manton Dam**	**34.33**	**268**	P	P	19 37 49.9	+0.5
MTN				IAmb	IAmb	19 37 50.9	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**36.42**	**262**	P	P	19 38 06.6	-0.7
FORT	**Forrest**	**38.99**	**238**	P	P	19 38 28.5	-0.5
XMAS	**Kiritimati**	**39.18**	**69**	P	P	19 38 33.1	+2.4
FITZ	**Fitzroy Crossi**	**39.36**	**258**	P	P	19 38 31.0	-1.2
FITZ				IAmb	IAmb	19 38 34.7	
	comp=Z,13nm,1.4s						
GTOI	**Gorontalo**	**45.37**	**285**	P	P	19 39 24.9	+3.8
	comp=Z,2.7nm,0.9s						
MPSI	**Mapaga**	**48.20**	**283**	P	P	19 39 44.0	+0.7
	comp=Z,12nm,1.4s						
MYLDM	**Lahad Datu**	**51.21**	**288**	P	P	19 40 07.1	+0.9
MYLDM				IAmb	IAmb	19 40 31.9	
	comp=Z,12nm,1.1s						
KKM	**Kota Kinabalu**	**53.64**	**288**	P	P	19 40 25.4	+1.0
SBUM	**Sibu**	**56.14**	**283**	P	P	19 40 43.0	+0.6
KSM	**Kuching**	**57.66**	**281**	P	P	19 40 51.6	-1.6
KSM				IAmb	IAmb	19 40 55.2	
	comp=Z,5.2nm,1.0s						
YHNB	**Yeheng**	**58.37**	**311**	P	P	19 40 56.0	-1.9
VNDA	**Vanda**	**63.60**	**181**	P	P	19 41 33.4	+0.8
	comp=Z,2.3nm,1.0s,baz=347,slow=6.5,SNR=5.0						
VNDA	**Vanda**	**63.60**	**181**	P	P	19 41 33.2	+0.6
VNDA				IAmb	IAmb	19 41 35.0	
	comp=Z,12nm,1.4s						
SBA	**Scott Base**	**63.90**	**180**	P	P	19 41 35.5	+1.0
USA0B	**Ussuriysk Arra**	**65.84**	**334**	P	P	19 41 48.4	+0.8
KLR	**Kul'dur**	**69.98**	**337**	P	P	19 42 14.2	+0.6
	comp=Z,1.1nm,0.8s,baz=113,slow=9.6,SNR=3.3						
CMAR	**Chiang Mai Arr**	**73.89**	**294**	P	P	19 42 38.4	+0.7
	comp=Z,1.8nm,0.9s,baz=124,slow=4.4,SNR=12						
CMAR	**Chiang Mai Arr**	**73.89**	**294**	P	P	19 42 39.0	+1.3
QSPA	**South Pole Qui**	**76.06**	**180**	P	P	19 42 49.5	-0.1
QSPA				IAmb	IAmb	19 43 07.7	
	comp=Z,11nm,1.1s						
SEY	**Seymchan**	**77.43**	**353**	P	P	19 42 57.7	+0.7
	comp=Z,1.7nm,0.6s,baz=87,slow=23,SNR=10						
SONM	**Songino Array**	**81.40**	**324**	P	P	19 43 20.3	+1.2
	comp=Z,1.0nm,0.8s,baz=131,slow=4.3,SNR=6.1						
SONM	**Songino Array**	**81.40**	**324**	P	P	19 43 19.2	+0.1
ILAR	**Eielson Array**	**86.06**	**18**	P	P	19 43 40.7	-1.7
	comp=Z,0.4nm,0.6s,baz=238,slow=6.4,SNR=4.4						
MKAR	**Makanchi Array**	**96.09**	**317**	P	P	19 44 30.0	+0.2
	comp=Z,1.2nm,0.8s,baz=91,slow=5.3,SNR=9.1						
MKAR	**Makanchi Array**	**96.09**	**317**	P	P	19 44 29.4	-0.4
ZALV	**Zalesovo Beam**	**96.30**	**324**	P	P	19 44 29.5	-0.9
	comp=Z,0.8nm,0.8s,baz=172,slow=4.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**96.30**	**324**	P	P	19 44 29.8	-0.7
ARCES	**ARCESS Array B**	**119.31**	**345**	PKP	**PKPdf**	19 49 50.2	-0.5
	comp=Z,1.4nm,0.8s,baz=85,slow=2.2,SNR=9.8						
FINES	**FINESS Array B**	**124.71**	**338**	PKP	**PKiKP**	19 50 02.0	+0.3
	comp=Z,0.8nm,0.8s,baz=5.7,slow=2.8,SNR=4.6						

*IDC **15** 19:32:16.7±2.7, 32.71N×130.74E, h0km, mb3.5/2, mb1 3.6/2, mb1mx3.1/64, mbtmp3.5/2, Error ellipse: s-maj=39.1km s-min=12.9km az=119.0*
*JMA **15** 19:32:18.8, 32.79N×130.77E, h16km±1km, M3.3*
JMA Felt II J1.
ISC 15 19:32:19.7±1.0, 32.80N±0.04×130.81E±0.08, h10km, n8, σ1§36/10, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.25**	**179**	P	**Pg**	**19 32 24.3**	**-0.5**
JIU3				*eS*	**Sg**	**19 32 28.1**	**-0.2**
JTA	**Tamana**	**0.28**	**305**	P	**Pg**	**19 32 24.6**	**-0.7**
JTA				*eS*	**Sg**	**19 32 28.6**	**-0.5**
JNU	**Nakatsue**	**0.32**	**11**	Pg	**Pg**	**19 32 25.6**	**-0.5**
	2μm,0.3s,baz=316,slow=4.2,SNR=6.4						
JNU				Lg	Lg	19 32 30.9	
	2μm,0.3s,baz=353,slow=10,SNR=41						
KSRS	**Korea Array**	**5.21**	**334**	Pg	**Pb**	**19 33 52.7**	**+2.0**
	baz=147,slow=16,SNR=1.6						
KSRS				Lg	Lg	19 35 02.1	
	1.7nm,0.3s,baz=146,slow=29,SNR=6.6						
JOW	**Kunigami**	**6.34**	**201**	Pn	**Pn**	**19 33 54.3**	**+1.0**
	1.4nm,0.3s,baz=162,slow=24,SNR=5.9						
KLR	**Kul'dur**	**16.43**	**2**	Pn	**P**	**19 36 13.3**	**+0.4**
	0.1nm,0.3s,baz=178,slow=11,SNR=5.4						
SONM	**Songino Array**	**23.77**	**316**	P	**P**	**19 37 32.9**	**+0.5**
	0.2nm,0.4s,baz=123,slow=10,SNR=1.8						
FINES	**FINESS Array B**	**68.28**	**330**	P	**P**	**19 43 18.0**	**-2.5**
	0.7nm,0.6s,baz=83,slow=5.7,SNR=3.4						

JMA 15 19:34:19.5, 32.98N×131.07E, h12km±1km, M3.0, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.21**	**311**	P	Pg	19 34 24.1	0.0

*IDC **15** 19:34:20.3±1.6, 32.71N×130.76E, h0km, mb3.5/2, mb1 3.6/2, mb1mx3.1/62, mbtmp3.5/2, Error ellipse: s-maj=35.2km s-min=10.3km az=104.0*
*JMA **15** 19:34:23.7, 32.80N×130.85E, h6km±2km, M3.4*
JMA Felt III J1.
ISC 15 19:34:23.3±0.9, 32.83N±0.04×130.9E±0.1, h12km, n11, σ1§65/12, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.30**	**200**	P	**Pg**	**19 34 28.9**	**-0.5**
JIU3				*eS*	**Sg**	**19 34 32.9**	**-0.5**
JNU	**Nakatsue**	**0.30**	**351**	Pg	**Pg**	**19 34 27.5**	**-1.9**
	414nm,0.3s,baz=350,slow=4.4,SNR=8.0						
JNU				Lg	Lg	19 34 34.9	
	1μm,0.3s,baz=33,slow=7.8,SNR=23						
JNU	**Nakatsue**	**0.30**	**351**	*eS*	**Sg**	**19 34 35.0**	**+1.4**
JNU	**Nakatsue**	**0.30**	**351**	*eS*	**Pg**	**19 34 27.6**	**-1.9**
JTA	**Tamana**	**0.36**	**292**	*eS*	**Sg**	**19 34 34.7**	**-0.9**
JTZ	**Takazaki**	**0.93**	**172**	S	**Sn**	**19 34 54.0**	**-1.5**
KSRS	**Korea Array**	**5.23**	**333**	Pg	**Pb**	**19 35 56.0**	**+1.2**
	baz=155,slow=17,SNR=1.9						
KSRS				Lg	Lg	19 37 08.8	
	0.9nm,0.3s,baz=156,slow=30,SNR=5.0						
JOW	**Kunigami**	**6.41**	**202**	Pn	**Pn**	**19 35 59.1**	**+1.6**
	2.3nm,0.3s,baz=112,slow=23,SNR=6.7						
KLR	**Kul'dur**	**16.40**	**2**	Pn	**P**	**19 38 18.3**	**+2.3**
	0.1nm,0.3s,baz=154,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**56.25**	**177**	P	**P**	**19 44 02.3**	**-1.3**
	0.4nm,0.9s,baz=15,slow=7.7,SNR=2.5						
FINES	**FINESS Array B**	**68.32**	**330**	P	**P**	**19 45 23.6**	**-0.4**
	0.6nm,0.6s,baz=51,slow=4.8,SNR=5.5						

JMA 15 19:34:46.6, 33.03N×131.19E, h12km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.28**	**289**	P	Pg	19 34 52.3	-0.1
JNU				*eS*	Sg	19 34 56.3	+0.1
JTA	**Tamana**	**0.56**	**263**	P	Pg	19 34 57.3	-0.2
JTA				S	Sg	19 35 04.8	-0.1

*JMA **15** 19:38:57.8±0.1, 24.83N×121.99E, h84km±2km, M3.2*
*TAP **15** 19:38:58.0, 24.82N×122.01E, h87km, ML4.0, C*
ISC 15 19:38:57.8±1.2, 24.82N±0.03×122.01E±0.02, h91km±5km, n152, σ1§06/271, 6C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.07**	**290**	*eP*	**Pn**	**19 39 10.6**	**0.0**
	baz=290						
NTC	**Toucheng**	**0.17**	**282**	*i* P	**Pn**	**19 39 10.9**	**+0.1**
	baz=282						
TWB1	**Santiao Chiao**	**0.19**	**354**	*i* P	**Pn**	**19 39 10.8**	**0.0**
	baz=356						
TWB1				*i* S	**Sn**	**19 39 19.9**	**-0.8**
	baz=356						
TIPB	**Shuangxi**	**0.23**	**312**	*i* P	**Pn**	**19 39 11.0**	**-0.1**
	baz=312						
TIPB				*eS*	**Sn**	**19 39 20.1**	**-0.9**
	baz=312						
ILA	**Ilan**	**0.24**	**258**	P	**Pn**	**19 39 11.2**	**+0.2**
	baz=262						
ILA				*eS*	**Sn**	**19 39 20.7**	**-0.2**
	baz=262						
TWC	**Suao**	**0.26**	**215**	*i* P	**Pn**	**19 39 11.1**	**0.0**
	baz=214						
TWC				S	**Sn**	**19 39 20.1**	**-0.9**
	baz=214						
SXI1	**Grass Mountain**	**0.30**	**336**	⇑*i* P	**Pn**	**19 39 11.2**	**-0.3**
	baz=325						
SXI1				S	**Sn**	**19 39 20.6**	**-1.0**
	baz=325						
NDS	**Dongshan**	**0.33**	**235**	*i* P	**Pn**	**19 39 11.8**	**+0.3**
	baz=236						
NDS				*eS*	**Sn**	**19 39 22.7**	**+1.0**
	baz=236						
NWF	**Wu-fen Shan**	**0.33**	**320**	⇑*i* P	**Pn**	**19 39 11.5**	**-0.1**
	baz=312						
NWF				S	**Sn**	**19 39 20.9**	**-1.0**
	baz=312						
TWE

Code	Station	Δ°	AZ°	Phase	ISC	Time	Res
ENA				eS	Sn	19 39 23.9	+0.7
	baz=211						
NHDH	Xindian Distri	0.46	288	iP	Pn	19 39 12.4	0.0
	baz=293						
NHDH				eS	Sn	19 39 22.3	-1.0
	baz=293						
NWLT	Wulai	0.46	265	P	Pn	19 39 12.4	0.0
	baz=270						
NWLT				eS	Sn	19 39 23.2	-0.1
	baz=270						
NDT	Datong Townshi	0.50	245	iP	Pn	19 39 13.3	+0.6
	baz=254						
NDT				eS	Sn	19 39 24.3	+0.6
	baz=254						
TAP	Taipei	0.51	296	iP	Pn	19 39 12.5	-0.2
	baz=300						
TAP				S	Sn	19 39 22.9	-1.0
	baz=300						
YM01	YM01	0.52	309	iP	Pn	19 39 12.7	-0.2
	baz=306						
YM01				iS	Sn	19 39 22.9	-1.1
	baz=306						
LATG	Datong	0.52	237	iP	Pn	19 39 13.8	+0.8
	baz=245						
LATG				S	Sn	19 39 25.2	+1.0
	baz=245						
YM08	YM08	0.53	314	iP	Pn	19 39 12.7	-0.3
	baz=314						
BACT	New Taipei Cit	0.55	289	iP	Pn	19 39 13.4	+0.5
	baz=291						
BACT				eS	Sn	19 39 25.9	+1.6
	baz=291						
ANP	Anpu	0.58	310	P	Pn	19 39 13.1	-0.3
	baz=304						
ANP				eS	Sn	19 39 23.9	-1.1
	baz=304						
TWY	Chenhua	0.59	321	P	Pn	19 39 13.4	0.0
	baz=320						
TWY				eS	Sn	19 39 24.7	-0.3
	baz=320						
YHNB	Yeheng	0.60	256	P	Pn	19 39 13.7	+0.2
	baz=256						
YHNB				S	Sn	19 39 25.3	+0.1
	baz=256						
TWS1	Kuangyinshan	0.61	298	iP	Pn	19 39 13.7	+0.1
	baz=302						
TWS1				S	Sn	19 39 25.0	-0.3
	baz=302						
NSK	Sanguang	0.61	257	iP	Pn	19 39 13.9	+0.3
	baz=256						
NSK				iS	Sn	19 39 25.5	0.0
	baz=256						
NTST	Danshui	0.61	304	P	Pn	19 39 13.7	+0.1
	baz=308						
NTST				S	Sn	19 39 24.9	-0.5
	baz=308						
NTY	Taoyuan	0.67	286	iP	Pn	19 39 14.9	+0.8
	baz=285						
NNSB	Datong	0.69	236	iP	Pn	19 39 15.1	+0.6
	baz=242						
NNSB				S	Sn	19 39 27.3	+0.4
	baz=242						
NNS	Nan Shan	0.69	237	P	Pn	19 39 15.1	+0.6
	baz=243						
NNS				S	Sn	19 39 27.1	+0.2
	baz=243						
NACB	Ninganchiao	0.74	211	iP	Pn	19 39 14.5	-0.3
	baz=212						
NACB				S	Sn	19 39 27.6	0.0
	baz=212						
ETL	Fush Village	0.75	208	P	Pn	19 39 14.8	-0.1
	baz=219						
ETL				eS	Sn	19 39 27.9	+0.2
	baz=219						
NCU	National Centr	0.76	282	P	Pn	19 39 15.6	+0.6
	baz=288						
NCU				S	Sn	19 39 28.8	+0.9
	baz=288						
NCUH	Zhongli	0.76	281	P	Pn	19 39 15.7	+0.6
	baz=287						
NCUH				S	Sn	19 39 29.0	+1.1
	baz=287						
ETLH	Xiulin Townshi	0.78	218	P	Pn	19 39 15.4	+0.2
	baz=228						
ETLH				eS	Sn	19 39 28.1	-0.2
	baz=228						
PCYT	Pengchaiyu	0.81	4	P	Pn	19 39 15.8	+0.3
	baz=10.0						
PCYT				eS	Sn	19 39 29.4	+0.6
	baz=10.0						
TWD	Chiawan	0.83	207	iP	Pn	19 39 15.4	-0.3
	baz=217						
TWD				eS	Sn	19 39 28.1	-0.9
	baz=217						
NFF	Wufeng Townshi	0.83	257	P	Pn	19 39 16.1	+0.3
	baz=257						
NFF				S	Sn	19 39 29.3	0.0
	baz=257						
NHW	Xinwu Township	0.89	282	iP	Pn	19 39 17.1	+0.7
	baz=286						
NHW				iS	Sn	19 39 31.2	+0.9
	baz=286						
FUSS	Fushou	0.90	231	P	Pn	19 39 17.5	+0.8
	baz=223						
FUSS				S	Sn	19 39 31.4	+0.5
	baz=223						
HSN1	Hsinchu	0.90	268	iP	Pn	19 39 17.2	+0.7
	baz=267						
HSN1				iS	Sn	19 39 31.4	+1.0
	baz=267						
HWA	Hwalien	0.92	204	eP	Pn	19 39 16.9	+0.3
	baz=194						
HWA				eS	Sn	19 39 31.7	+1.0
	baz=194						
LIOB	Emei	0.92	259	iP	Pn	19 39 17.2	+0.5
	baz=259						
LIOB				S	Sn	19 39 31.1	+0.2
	baz=259						
JYNG	Yonagunijimaku	0.93	113	P	Pn	19 39 16.8	+0.1
JYNG				S	Sn	19 39 30.6	-0.3
SBCB	Hsinchu	0.93	269	P	Pn	19 39 17.4	+0.6
	baz=268						
SBCB				eS	Sn	19 39 31.7	+0.6
	baz=268						
NSTT	Nanjuang	0.94	259	iP	Pn	19 39 17.2	+0.4
	baz=258						
NSTT				S	Sn	19 39 31.2	+0.1
	baz=258						
HSN	Hsinchu	0.95	269	iP	Pn	19 39 17.1	+0.2
	baz=261						
HSN				S	Sn	19 39 31.3	0.0
	baz=261						
TWT	Tachien	0.95	234	P	Pn	19 39 18.4	+1.2
	baz=228						
TWT				S	Sn	19 39 32.8	+1.1
	baz=228						
WHF	Hehuan Shan	0.95	225	eP	Pn	19 39 18.0	+0.5
	baz=220						
WHF				S	Sn	19 39 32.8	+0.6
	baz=220						
ETM	Tongmen	0.97	209	iP	Pn	19 39 16.8	-0.4
	baz=209						
YOJ	Yonaguni jima	0.98	111	P	Pn	19 39 17.4	+0.1
YOJ				S	Sn	19 39 31.7	-0.2
NJN	Zhunan	1.04	263	iP	Pn	19 39 19.0	+1.0
	baz=257						
NJN				iS	Sn	19 39 33.9	+0.6
	baz=257						
CHGB	Renai	1.07	225	P	Pn	19 39 19.5	+0.9
	baz=226						
CHGB				S	Sn	19 39 34.5	+0.2
	baz=226						
WHP	Taichung City	1.11	241	P	Pn	19 39 19.9	+1.0
	baz=242						
WHP				S	Sn	19 39 35.5	+0.7
	baz=242						
ESL	Shilin	1.13	208	eP	Pn	19 39 18.2	-0.9
	baz=215						
ESL				eS	Sn	19 39 33.5	-1.6
	baz=215						
NMLH	Miaoli	1.14	256	P	Pn	19 39 19.7	+0.5
	baz=256						
NMLH				eS	Sn	19 39 35.5	+0.1
	baz=256						
OWD	Renai	1.15	222	eP	Pn	19 39 20.0	+0.5
	baz=223						
OWD				eS	Sn	19 39 35.6	-0.1
	baz=223						
WUSB	Renai	1.16	225	P	Pn	19 39 20.2	+0.7
	baz=226						
WUSB				S	Sn	19 39 36.2	+0.3
	baz=226						
NSY	Sanyi	1.21	251	P	Pn	19 39 20.9	+0.9
	baz=251						
NSY				eS	Sn	19 39 37.0	+0.2
	baz=251						
WCS	Beigang Elemen	1.26	233	eP	Pn	19 39 21.4	+0.8
	baz=242						
WCS				eS	Sn	19 39 38.5	+0.8
	baz=242						
DPDB	Guoxing	1.26	232	iP	Pn	19 39 22.4	+1.7
	baz=241						
EGFH	Guangfu	1.26	205	eP	Pn	19 39 19.7	-1.0
	baz=212						
EGFH				eS	Sn	19 39 36.3	-1.6
	baz=212						
VWDT	VWDT	1.32	217	P	Pn	19 39 22.1	+0.7
	baz=212						
VWDT				S	Sn	19 39 39.5	+0.3
	baz=212						
WDJ	Dajia District	1.33	250	eP	Pn	19 39 22.2	+0.7
	baz=242						
WDJ				eS	Sn	19 39 39.4	0.0
	baz=242						
SMLT	Sun Moon Lake	1.38	228	eP	Pn	19 39 23.1	+0.9
	baz=237						
SMLT				eS	Sn	19 39 42.7	+2.1
	baz=237						
TCU	Taichung	1.39	241	eP	Pn	19 39 22.8	+0.7
	baz=242						
TCU				eS	Sn	19 39 39.7	-0.9
	baz=242						
TYC	Yuchr	1.39	229	eP	Pn	19 39 22.9	+0.7
	baz=237						
TYC				eS	Sn	19 39 41.7	+1.0
	baz=237						
SSLB	Suanglung	1.41	223	P	Pn	19 39 23.4	+0.9
	baz=224						
SSLB				eS	Sn	19 39 41.6	+0.4
	baz=224						
WWF	Wufeng	1.42	237	iP	Pn	19 39 23.6	+0.9
	baz=237						
HGSD	Ruisui	1.43	202	eP	Pn	19 39 22.6	-0.1
	baz=212						
HGSD				eS	Sn	19 39 41.4	0.0
	baz=212						
EHY	Hungye	1.45	206	eP	Pn	19 39 21.9	-1.1
	baz=200						
EHY				eS	Sn	19 39 40.0	-2.1
	baz=200						
WCHH	Zhanghua	1.51	241	eP	Pn	19 39 24.1	+0.4
	baz=241						
WCHH				eS	Sn	19 39 43.5	+0.1
	baz=241						
WJS	Zhushan	1.53	230	eP	Pn	19 39 24.6	+0.5
	baz=240						
WJS				eS	Sn	19 39 44.7	+0.8
	baz=240						
WYL	Yuanlin Townsh	1.56	237	P	Pn	19 39 25.3	+1.0
	baz=247						
WYL				iS	Sn	19 39 45.4	+1.0
	baz=247						
YULB	Yu-li	1.56	205	eP	Pn	19 39 23.2	-1.2
	baz=199						
YULB				eS	Sn	19 39 43.2	-1.4
	baz=199						
ECBN	Changbin	1.58	199	P	Pn	19 39 24.7	+0.1
	baz=209						
ECBN				S	Sn	19 39 44.2	-0.7
	baz=209						
EYUL	Yuli	1.59	203	eP	Pn	19 39 25.7	+0.9
	baz=205						
EYUL				eS	Sn	19 39 43.5	-1.8
	baz=205						
TWF1	Yuli	1.60	204	eP	Pn	19 39 24.0	-0.8
	baz=197						
IRIF	Iriomote-Funau	1.64	107	P	Pn	19 39 25.3	0.0
IRIF				eS	Sn	19 39 46.3	+0.1
ALS	Alishan	1.71	220	eP	Pn	19 39 27.7	+1.2
	baz=231						
ALS				eS	Sn	19 39 50.1	+1.8
	baz=231						
CHN5	Tsauling	1.72	225	eP	Pn	19 39 27.5	+1.0
	baz=234						
CHN5				eS	Sn	19 39 49.1	+0.8
	baz=234						
WGK	Gukeng	1.74	230	iP	Pn	19 39 27.8	+1.1
	baz=240						
WGK				iS	Sn	19 39 50.0	+1.5
	baz=240						
FULB	Fuli	1.74	202	eP	Pn	19 39 26.9	+0.2
	baz=202						
WRL	Guolierlin Hig	1.75	239	eP	Pn	19 39 27.0	+0.2
	baz=239						
WRL				eS	Sn	19 39 48.1	-0.6
	baz=239						
WDLH	Douliu	1.75	230	eP	Pn	19 39 27.6	+0.8
	baz=241						
WDLH				eS	Sn	19 39 49.6	+0.8
	baz=241						
HATJ	Hateruma jima	1.80	115	P	Pn	19 39 27.9	+0.5
HATJ				eS	Sn	19 39 50.4	+0.4
CHKT	Chengkung	1.81	199	eP	Pn	19 39 27.0	-0.6
	baz=201						
CHKT				eS	Sn	19 39 47.9	-2.3
	baz=201						
WTCT	Ta-ch'eng	1.84	239	eS	Sn	19 39 51.0	+0.1
	baz=240						
ELDTW	Lidau	1.86	209	eP	Pn	19 39 28.6	+0.3
	baz=203						
ELDTW				eS	Sn	19 39 50.5	-1.0
	baz=203						
WTK	Tuku	1.86	233	eP	Pn	19 39 28.7	+0.5
	baz=234						
WTK				eS	Sn	19 39 51.4	0.0
	baz=234						
CHN2	Minshiung	1.90	228	eS	Sn	19 39 54.3	+2.0
	baz=237						
JKRS	Kuro-shima	1.91	107	P	Pn	19 39 29.4	+0.6
JKRS				eS	Sn	19 39 52.6	+0.1
EDH	Donghe	1.95	200	eP	Pn	19 39 29.1	-0.3
	baz=201						
EDH				eS	Sn	19 39 51.4	-2.0
	baz=201						
CHN4	Tsaushan	1.95	222	eP	Pn	19 39 30.7	+1.3
	baz=224						
CHN4				eS	Sn	19 39 55.8	+2.2
	baz=224						
CHY	Chiayi	1.96	228	eP	Pn	19 39 30.1	+0.6
	baz=229						
CHY				eS	Sn	19 39 54.1	+0.5
	baz=229						
TPUB	Ta-pu	1.97	220	eP	Pn	19 39 30.5	+0.9
	baz=223						
TPUB				eS	Sn	19 39 55.3	+1.3
	baz=223						
STYH	Taoyuan	1.99	215	eP	Pn	19 39 31.8	+1.9
	baz=207						
STYH				eS	Sn	19 39 55.9	+1.5
	baz=207						
JIJ	Ishigaki jima	1.99	103	P	Pn	19 39 29.9	0.0
JIJ				S	Sn	19 39 53.9	-0.6
WSF	Szhu	2.01	235	eP	Pn	19 39 30.8	+0.7
	baz=235						
WSF				eS	Sn	19 39 55.5	+0.7
	baz=235						
WTP	Ta-pu	2.02	219	eP	Pn	19 39 32.6	+2.3
	baz=230						
WTP				eS	Sn	19 39 56.8	+1.6
	baz=230						
LONT	Longtian	2.07	203	eP	Pn	19 39 30.0	-0.9
	baz=198						
LONT				eS	Sn	19 39 54.1	-2.1
	baz=198						
WSL	Shuilin Townsh	2.08	232	eP	Pn	19 39 31.5	+0.5
	baz=239						
WSL				eS	Sn	19 39 57.3	+0.9
	baz=239						
TWK	Hsinying	2.08	222	eP	Pn	19 39 31.9	+0.8
	baz=224						
TWK				eS	Sn	19 39 58.4	+1.8
	baz=224						
JISG	Ishigakijimahi	2.10	96	P	Pn	19 39 31.7	+0.3
SNST	Tainan City	2.11	221	eP	Pn	19 39 32.1	+0.7
	baz=223						
SNST				eS	Sn	19 39 58.1	+0.9
	baz=223						
CHN1	Nanshi	2.12	220	eP	Pn	19 39 32.6	+1.0
	baz=222						
CHN1				eS	Sn	19 39 58.6	+1.2
	baz=222						
ICHU	Yijhu	2.15	228	eP	Pn	19 39 32.9	+0.9
	baz=229						
ICHU				eS	Sn	19 39 58.7	+0.6
	baz=229						
SGST	Jiashian	2.17	217	eP	Pn	19 39 32.4	+0.1
	baz=228						
SGST				eS	Sn	19 39 59.3	+0.7
	baz=228						
TWGBT	Beinan	2.17	203	eP	Pn	19 39 31.2	-1.1
	baz=198						
TWGBT				eS	Sn	19 39 55.5	-3.1
	baz=198						
LDUT	Ludao	2.19	193	eP	Pn	19 39 31.5	-1.1
	baz=190						
LDUT				eS	Sn	19 39 56.4	-2.7
	baz=190						
TTN	Taitung	2.20	201	eS	Sn	19 39 59.8	+0.4
	baz=203						
CHN8	Yiju	2.20	229	eP	Pn	19 39 33.2	+0.6
	baz=239						
CHN8				eS	Sn	19 40 00.2	+0.8
	baz=239						
MATB	Ma-tsu	2.29	306	eP	Pn	19 39 33.6	-0.2
	baz=305						
CHN3	Shinhua	2.30	221	eS	Sn	19 40 03.9	+2.3
	baz=232						
SCLT	Jiali	2.33	226	eS	Sn	19 40 03.2	+0.8
	baz=228						
VWUC	VWUC	2.33	275	eP	Pn	19 39 33.9	-0.4
	baz=273						
VWUC				eS	Sn	19 40 00.7	-1.7
	baz=273						
SHHT	Tainan City	2.35	221	eP	Pn	19 39 36.2	+1.6
	baz=232						
SHHT				eS	Sn	19 40 05.6	+2.8
	baz=232						
SCST	Cishan	2.37	216	eP	Pn	19 39 36.4	+1.5
	baz=228						
SCST				eS	Sn	19 40 05.2	+1.8
	baz=228						
ECL	Taimali	2.41	204	eS	Sn	19 40 02.9	-1.5
	baz=200						
SSD	Sandimen	2.42	212	eP	Pn	19 39 37.2	+1.6
	baz=202						
TSMG	Majia	2.45	211	eP	Pn	19 39 37.5	+1.5
	baz=215						
TSMG				eS	Sn	19 40 06.7	+1.5
	baz=215						
JTJ	Tarama	2.45	94	P	Pn	19 39 37.3	+1.3
JTJ				S	Sn	19 40 06.4	+1.1
MASBT	Mashibuluo	2.53	210	eP	Pn	19 39 38.5	+1.4
	baz=214						
MASBT				eS	Sn	19 40 08.2	+1.0
	baz=214						
PNG	Penghu	2.56	241	eP	Pn	19 39 37.3	-0.2
	baz=242						
PNG				eS	Sn	19 40 05.7	-2.3
	baz=242						
PHUB	P'eng-hu	2.58	240	eP	Pn	19 39 37.1	-0.6
	baz=241						
PHUB				eS	Sn	19 40 05.7	-2.6
	baz=241						
EAST	Anshuo	2.65	204	eP	Pn	19 39 39.8	+1.1
	baz=200						
EAST				eS	Sn	19 40 09.3	-0.8
	baz=200						
WDGT	Dungji	2.65	235	eP	Pn	19 39 39.1	+0.5
	baz=235						
WDGT				eS	Sn	19 40 08.5	-1.6
	baz=235						
LYJJ	Jianjiangzhen	2.66	311	eP	Pn	19 39 38.4	-0.4
	baz=310						
XPSS	Dashiqiu	2.67	322	eP	Pn	19 39 38.1	-0.7
	baz=321						
SSPT	Xinbi	2.67	210	eP	Pn	19 39 41.7	+2.8
	baz=210						
TAWH	Dawu Township	2.67	203	eP	Pn	19 39 39.5	+0.6
	baz=200						
TAWH				eS	Sn	19 40 08.5	-2.1
	baz=200						
SCZT	Fangliau	2.75	208	eP	Pn	19 39 41.7	+1.7
	baz=208						
LAY	Lan-yu	2.80	189	eP	Pn	19 39 39.9	-0.8
	baz=188						
LAY				eS	Sn	19 40 09.4	-4.2
	baz=188						
LYUB	Lan-yu	2.83	188	eS	Sn	19 40 10.3	-4.1
	baz=188						
VCHM	Qimei	2.85	236	eP	Pn	19 39 41.2	-0.1
	baz=237						
VCHM				eS	Sn	19 40 13.6	-1.3
	baz=237						
JIRB	Irabujima	2.87	89	P	Pn	19 39 42.6	+1.0
JIRB				S	Sn	19 40 15.8	+0.4
JIKM	Ikemajima	2.94	87	S	Sn	19 40 18.0	+1.0
MHZQ	Yeshan	2.98	296	eP	Pn	19 39 42.8	-0.3
	baz=295						
JMJ2	Miyako jima3	3.02	91	P	Pn	19 39 44.9	+1.4
JMJ2				S	Sn	19 40 19.4	+0.6
HEN	Hengchun	3.03	203	eS	Sn	19 40 20.1	+0.8
	baz=207						
TWK1	Hengchun	3.07	201	eS	Sn	19 40 20.1	0.0
	baz=205						
TWKBT	Hengchun	3.07	201	eS	Sn	19 40 20.0	-0.1
	baz=205						
JOGS	Gusukube	3.09	90	eS	Sn	19 40 21.4	+0.9
KNM	Kinmen	3.28	264	eP	Pn	19 39 48.4	+1.3
	baz=261						
KNMB	Chin-men Tao	3.31	265	eP	Pn	19 39 47.0	-0.5
	baz=262						
AXDP	Jialang	3.67	272	eP	Pn	19 39 52.4	0.0
	baz=268						
AXDP				eS	Sn	19 40 32.4	-2.2
	baz=268						
ZPLA	Ao Xicun	3.98	258	eP	Pn	19 39 56.2	-0.4
	baz=254						
ZPLA				eS	Sn	19 40 39.6	-2.6
	baz=254						
SXFK	Yanhouchang	4.24	293	eP	Pn	19 40 00.6	+0.5
	baz=291						

IDC **15** *19:39:14.7±1.0, 14.°47S×166.°53E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/51, mbtmp3.9/11, ML4.3/1, Error ellipse: s-maj=31.1km s-min=19.8km az=115.0*

NEIC **15** *19:39:19.4±2.5, 14.°49S±0.°07×166.°59E±0.°08, h35km±1km, mb4.6/19, Error ellipse: s-maj=15.0km s-min=8.9km az=229.0*

NOU **15** *19:39:21.0, 14.°81S×166.°53E, h0km, MLv4.7/14, Vanuatu Islands*

ISC 15 19:39:18.5±0.5, 14.°49S±0.°05×166.°57E±0.°07, h28km, n52, σ1.41/58, mb4.4/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.13	147		Pn	19 39 36.9	-1.6
SANVU					Sb	19 39 56.3	+2.5
SANVU	Saraoutou	1.13	147	P	Pn	19 39 37.9	-0.6
DVP	Devils Point	3.57	154	P	Pn	19 40 13.7	+1.6
LIFNC	LIFOU	6.29	174	Pn	Pn	19 40 50.0	+0.6
KOUNC	Koumac, New Ca	6.41	200		Pn	19 40 52.0	+0.9
KOUNC				Sn	Sn	19 41 59.7	-3.7
KOUNC	Koumac, New Ca	6.41	200	P	Pn	19 40 52.9	+1.8
MARNC	Mare, Loyalty	7.09	169	Pn	Pn	19 41 01.3	+0.9
MARNC	Mare, Loyalty	7.09	169	P	Pn	19 41 01.9	+1.5
YATNC	Mamie plateau,	7.54	178	P	Pn	19 41 06.2	-0.4
DZM	Mont Dzumac	7.54	181	Pn	Pn	19 41 07.2	+0.5
	4.9nm,0.3s,baz=188,slow=20,SNR=55						
DZM				Sn	Sn	19 42 32.4	+1.0
	2.5nm,0.3s,baz=146,slow=22,SNR=2.0						
DZM	Mont Dzumac	7.54	181		Pn	19 41 06.9	+0.2
DZM				Sn	Sn	19 42 30.8	-0.6
DZM	Mont Dzumac	7.54	181	P	Pn	19 41 07.4	+0.7
NOUC	Port Laguerre	7.58	182	P	Pn	19 41 08.1	+1.0
ONTNC	Ouen Toro	7.78	181		Pn	19 41 10.7	+0.9
ONTNC				Sn	Sn	19 42 37.1	+0.1
ONTNC	Ouen Toro	7.78	181	P	Pn	19 41 11.2	+1.3
OUENC	Ouen Island, N	7.89	178		Pn	19 41 12.4	+1.0
OUENC				Sn	Sn	19 42 38.5	-1.3
OUENC	Ouen Island, N	7.89	178	P	Pn	19 41 12.2	+0.8
PINNC	Pines Island,	8.12	174		Pn	19 41 15.4	+0.8

PINNC Sn **Sn** **19 42 44.7 -0.8**
HNR Honiara 8.20 307 Sn **Sn** **19 42 48.8 +1.4**
5.0nm,0.3s,baz=197,slow=21,SNR=1.4
HNR Honiara 8.20 307 Pn **Pn** **19 41 17.3 +1.6**
EIDS Eidsvold 18.12 231 P **P** **19 43 29.9 +1.5**
CTA Charters Tower 20.17 251 P **P** **19 43 52.0 +1.0**
8.0nm,1.0s,baz=76,slow=8.3,SNR=2.7
CTAO Charters Tower 20.17 251 P **P** **19 43 49.7 -1.2**
CTAO IAmb IAmb 19 44 00.1
comp=Z,41nm,1.4s
NIUE Niue 22.95 105 P **P** **19 44 21.5 +0.7**
KNTN Kanton 24.38 64 P **P** **19 44 33.4 -1.2**
BKZ Black Stump Fm 26.09 162 P **P** **19 44 48.6 -1.3**
BKZ IAmb IAmb 19 45 00.1
comp=Z,11nm,1.0s
NNZ Nelson 27.28 169 P **P** **19 44 57.9 -2.6**
THZ Tophouse 27.73 170 P **P** **19 45 03.7 -0.9**
THZ IAmb IAmb 19 45 15.8
comp=Z,15nm,1.2s
FOZ Fox Glacier 29.08 175 P **P** **19 45 17.0 +0.5**
WB0 Warramunga Arr 31.16 256 P **P** **19 45 35.0 -0.3**
WRA Warramunga Arr 31.23 255 P **P** **19 45 35.4 -0.5**
comp=Z,0.3nm,0.8s,baz=85,slow=9.2,SNR=2.0
WRA Warramunga Arr 31.23 255 P **P** **19 45 34.4 -1.5**
ASAR Alice Springs 32.13 249 P **P** **19 45 43.4 -0.4**
comp=Z,0.5nm,0.7s,baz=72,slow=9.4,SNR=7.6
BBOO Buckleboo 33.20 231 P **P** **19 45 51.9 -1.1**
BBOO IAmb IAmb 19 45 56.7
comp=Z,20nm,1.4s
KNRA Kununurra 36.49 263 P **P** **19 46 20.1 -1.5**
KNRA IAmb IAmb 19 46 23.6
comp=Z,23nm,1.6s
FITZ Fitzroy Crossi 39.39 259 P **P** **19 46 45.2 -0.9**
comp=Z,1.4nm,0.9s,baz=60,slow=9.6,SNR=5.9
FITZ Fitzroy Crossi 39.39 259 IAmb IAmb 19 46 49.1
comp=Z,4.9nm,1.2s
MORW Morawa 48.76 244 P **P** **19 47 59.7 -1.5**
VNDA Vanda 63.09 181 P **P** **19 49 44.1 +1.1**
comp=Z,0.5nm,0.8s,baz=298,slow=9.9,SNR=2.2
KS19 Wonju Array Si 63.23 326 P **P** **19 49 40.2 -4.2**
SBA Scott Base 63.38 180 P **P** **19 49 43.8 -1.1**
PETK Petropaviovsk- 67.75 354 P **P** **19 50 14.8 +1.5**
comp=Z,3.0nm,0.9s,baz=183,slow=11,SNR=1.1
CMAR Chiang Mai Arr 74.23 295 P **P** **19 50 54.7 +1.3**
comp=Z,0.2nm,0.6s,baz=142,slow=37,SNR=3.1
QSPA South Pole Qui 75.54 180 P **P** **19 51 01.5 +1.2**
QSPA IAmb IAmb 19 51 21.3
comp=Z,6.6nm,1.4s
SEY Seymchan 77.97 353 P **P** **19 51 14.5 +0.8**
comp=Z,0.9nm,0.7s,baz=261,slow=22,SNR=7.1
L19K White Mountain 82.20 17 P **P** **19 51 34.1 -2.5**
L19K IAmb IAmb 19 51 59.5
comp=Z,9.9nm,1.6s
J20K Nowinta River 83.98 16 P **P** **19 51 47.0 +1.2**
J20K IAmb IAmb 19 51 47.1
comp=Z,9.0nm,1.4s
IL31 86.51 18 P **P** **19 51 58.2 -0.1**
IL31 IAmb IAmb 19 51 59.5
comp=Z,2.9nm,0.8s
ILAR Eielson Array 86.51 18 P **P** **19 51 57.7 -0.7**
comp=Z,1.8nm,0.7s,baz=234,slow=5.6,SNR=16
MKAR Makanchi Array 96.56 317 P **P** **19 52 46.8 +1.1**
comp=Z,0.3nm,0.7s,baz=102,slow=6.5,SNR=2.6
ARCES ARCESS Array B 119.85 345 PKP **PKiKP** **19 58 05.9 +0.2**
comp=Z,2.7nm,1.0s,baz=50,slow=1.4,SNR=1.8
FINES FINESS Array B 125.25 338 PKP **PKiKP** **19 58 17.6 +1.1**
comp=Z,1.6nm,0.9s,baz=39,slow=2.2,SNR=1.8

*IDC **15** 19:42:04.9±1.6, 32.°75N×130.°55E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.1/56, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=23.6km s-min=10.5km az=130.0*
*JMA **15** 19:42:04.8, 32.°69N×130.°74E, h13km±1km, M3.4*
JMA Felt II J1.
ISC 15 19:42:05.8±0.9, 32.°69N±0.°06×130.°7E±0.°1, h10km, n6, σ1s49/9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.16**	**155**	P	**Pg**	**19 42 08.5**	**-0.8**
JIU3				*e*S	**Sg**	**19 42 11.6**	**-0.1**
JTA	**Tamana**	**0.32**	**328**	P	**Pg**	**19 42 11.5**	**-0.7**
JTA				*e*S	**Sg**	**19 42 16.3**	**-0.2**
JNU	**Nakatsue**	**0.45**	**16**	Pg	**Pg**	**19 42 14.2**	**-0.4**
633nm,0.3s,baz=193,slow=10.0,SNR=9.1							
JNU				Lg	Lg	19 42 19.7	
617nm,0.3s,baz=50,slow=17,SNR=36							
KSRS	**Korea Array**	**5.28**	**335**	Pn	**Pn**	**19 43 23.4**	**-1.3**
0.4nm,0.3s,baz=152,slow=17,SNR=1.6							
KSRS				Pg	**Pb**	**19 43 40.3**	**+2.1**
0.5nm,0.3s,baz=152,slow=17,SNR=7.2							
KSRS				Lg	Lg	19 44 51.1	
1.1nm,0.3s,baz=158,slow=30,SNR=8.4							
WRA	**Warramunga Arr**	**52.45**	**176**	P	**P**	**19 51 20.6**	**+1.8**
0.3nm,0.9s,baz=360,slow=8.5,SNR=1.8							
FINES	**FINESS Array B**	**68.35**	**330**	P	**P**	**19 53 05.6**	**-1.5**
0.9nm,0.7s,baz=76,slow=5.9,SNR=4.4							

*IDC **15** 19:51:22.4±0.6, 32.°67N×131.°03E, h0km, mb3.9/19, mb1 4.1/22, mb1mx4.0/56, mbtmp3.9/22, ML3.2/3, MS4.3/1, Ms1 4.3/1, ms1mx3.6/98, Error ellipse: s-maj=21.5km s-min=7.1km az=77.0*
*JMA **15** 19:51:24.5, 32.°75N×130.°75E, h14km±1km, M4.3*
JMA Felt IV J1.
*NEIC **15** 19:51:24.0±1.5, 32.°71N±0.°02×130.°74E±0.°07, h4km±5km, mb4.7/37, Error ellipse: s-maj=8.8km s-min=1.3km az=105.0*
ISC 15 19:51:25.1±0.9, 32.°73N±0.°03×130.°81E±0.°05, h13km±5km, n110, σ1s46/114, mb4.5/49, 2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.18**	**179**	⇓P	**Pg**	**19 51 29.2**	**+0.1**
JIU3				*e*S	**Sg**	**19 51 32.6**	**+0.7**
JTA	**Tamana**	**0.33**	**316**	⇓P	**Pg**	**19 51 30.4**	**-1.4**
JTA				*e*S	**Sg**	**19 51 34.5**	**-1.9**
JNU	**Nakatsue**	**0.40**	**8**	Pg	**Pg**	**19 51 32.1**	**-0.9**
1μm,0.3s,baz=185,slow=7.2,SNR=55							
JNU				Lg	Lg	19 51 37.5	
7μm,0.3s,baz=330,slow=5.4,SNR=60							
JNU	**Nakatsue**	**0.40**	**8**	P	**Pg**	**19 51 32.2**	**-0.9**
JNU				*e*S	**Sg**	**19 51 37.5**	**-0.9**
JTZ	**Takazaki**	**0.86**	**164**	P	**Pb**	**19 51 42.0**	**+0.2**
JTZ				S	**Sb**	**19 51 54.0**	**+0.8**
JSU	**Suzuyama**	**1.25**	**194**	Pn	**Pg**	**19 51 46.7**	**-2.5**
JTU	**Tsushima**	**2.15**	**327**		**Pn**	**19 51 58.8**	**-1.8**
JMN	**Monobe**	**2.76**	**68**		**Pn**	**19 52 10.0**	**+0.9**
JHS	**Saijyo**	**2.97**	**40**	Pn	**Pn**	**19 52 12.4**	**+0.4**
TJN	**Taejon**	**4.62**	**323**		**Pn**	**19 52 34.5**	**-0.2**
KSRS	**Korea Array**	**5.28**	**334**	Pn	**Pn**	**19 52 42.4**	**-1.3**
0.6nm,0.3s,baz=153,slow=15,SNR=4.1							
KSRS				Pg	**Pb**	**19 52 60.0**	**+2.8**
3.2nm,0.3s,baz=153,slow=17,SNR=28							
KSRS				Lg	Lg	19 54 09.8	
7.0nm,0.3s,baz=154,slow=30,SNR=10.0							
KSAR	**Wonju Array Be**	**5.28**	**334**		**Pn**	**19 52 43.9**	**+0.1**
KS19	**Wonju Array Si**	**5.34**	**334**		**Pn**	**19 52 43.1**	**-1.4**
INU	**Inuyama**	**5.78**	**61**	Pn	**Pn**	**19 52 51.6**	**+1.0**
INCN	**Inchon**	**5.85**	**325**		**Pn**	**19 52 49.8**	**-1.8**
JGF	**Kuroka**	**6.14**	**60**	Pn	**Pn**	**19 52 56.3**	**+0.7**
JOW	**Kunigami**	**6.27**	**201**	Pn	**Pn**	**19 52 59.7**	**+2.3**
JOW				LR	LR	19 55 46.0	
comp=Z,2μm,19.6s,baz=122,slow=42							
JOW	**Kunigami**	**6.27**	**201**	Pn	**Pn**	**19 52 57.7**	**+0.3**
MAJO	**Matsushiro**	**7.19**	**56**	Pn	**Pn**	**19 53 11.2**	**+1.2**
MJB9	**Matsu-Tunnel**	**7.19**	**56**		**Pn**	**19 53 11.2**	**+1.2**
MJAR	**Matsushiro Arr**	**7.19**	**56**	Pn	**Pn**	**19 53 11.3**	**+1.4**
0.6nm,0.3s,baz=249,slow=14,SNR=13							
MJAR				Lg	Lg	19 55 05.1	
0.1nm,0.3s,baz=25,slow=32,SNR=1.9							
MJAR	**Matsushiro Arr**	**7.19**	**56**	Pn	**Pn**	**19 53 11.9**	**+2.0**
JHJ	**Hachijo jima 2**	**7.56**	**85**	Pn	**Pn**	**19 53 16.0**	**+1.0**
58nm,0.3s,baz=100,slow=23,SNR=18							
JHJ2	**Mitsune**	**7.58**	**85**	Pn	**Pn**	**19 53 16.2**	**+0.8**
NJ2	**Nanjing**	**10.13**	**269**	*e*P	**Pn**	**19 53 49.8**	**-0.5**
NJ2				pmax	pmax		
comp=Z,13nm,0.6s							
USRK	**Ussuriysk Ar.**	**11.49**	**4**	Pn	**Pn**	**19 54 09.9**	**+1.0**
baz=108,slow=12,SNR=1.2							
ASAJ	**Asahikawa**	**14.63**	**36**	Pn	**Pn**	**19 54 49.0**	**-2.8**
comp=Z,0.4nm,0.3s,baz=135,slow=34,SNR=1.2							
JKA	**Kamikawa-asahi**	**14.63**	**36**		**Pn**	**19 54 49.0**	**-2.8**
XLT	**XiLinHaoTe**	**16.04**	**318**	*e*P	**Pn**	**19 55 10.4**	**0.0**
XLT				pmax	pmax		
comp=Z,10.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**17.39**	**303**	*e*P	**Pn**	**19 55 27.3**	**-0.3**
HHC	**Hu-ho-hao-te**	**17.39**	**303**	*e*P	**P**	**19 55 29.4**	**+0.5**
HHC				pmax	pmax		
comp=Z,12nm,0.9s							
HHC				pmax	pmax		
comp=Z,1μm,6.3s							
HHC				pmax	pmax		
comp=Z,11nm,0.9s							
HHC				pmax	pmax		
comp=Z,1μm,7.2s							
XAN	**Xi'an**	**18.33**	**280**	P	**P**	**19 55 43.5**	**+4.3**
XAN				pP	sP	19 55 47.3	+2.9
XAN				pmax	pmax		
comp=Z,7.0nm,1.3s							
LZH	**Lanzhou**	**22.47**	**286**	*e*P	**P**	**19 56 29.5**	**+5.2**
LZH				pP	sP	19 56 32.8	+3.2
LZH				pmax	pmax		
comp=Z,23nm,1.1s							
SONM	**Songino Array**	**23.83**	**316**	P	**P**	**19 56 39.6**	**+1.6**
comp=Z,1.1nm,0.6s,baz=132,slow=7.7,SNR=6.1							
SONM	**Songino Array**	**23.83**	**316**	P	**P**	**19 56 41.4**	**+3.4**
PZH	**PanZhiHua**	**25.97**	**264**	P	**P**	**19 57 02.3**	**+4.6**
PZH				pmax	pmax		
comp=Z,10.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,100nm,5.6s							
CHTO	**Chiang Mai**	**31.73**	**252**	P	**P**	**19 57 48.1**	**-0.8**
CM31	**Chiang Mai Arr**	**31.92**	**251**	P	**P**	**19 57 50.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**31.92**	**251**	P	**P**	**19 57 51.4**	**+0.8**
comp=Z,1.1nm,0.9s,baz=50,slow=7.4,SNR=7.9							
CMAR	**Chiang Mai Arr**	**31.92**	**251**	P	**P**	**19 57 49.7**	**-0.9**
WMQ	**Urumqi**	**35.25**	**301**	*e*P	**P**	**19 58 21.3**	**+1.8**
ZAA0	**Zalesovo Array**	**38.72**	**317**	P	**P**	**19 58 48.6**	**-0.2**
ZALV	**Zalesovo Beam**	**38.72**	**317**	P	**P**	**19 58 50.0**	**+1.3**
comp=Z,0.3nm,0.5s,baz=77,slow=6.2,SNR=1.9							
ZALV	**Zalesovo Beam**	**38.72**	**317**	P	**P**	**19 58 48.0**	**-0.8**
MKAR	**Makanchi Array**	**39.23**	**306**	P	**P**	**19 58 55.0**	**+1.8**
comp=Z,1.4nm,0.9s,baz=94,slow=11,SNR=8.6							
MKAR	**Makanchi Array**	**39.23**	**306**	P	**P**	**19 58 53.0**	**-0.2**
KURK	**Kurchatov**	**41.94**	**311**	P	**P**	**19 59 14.4**	**-1.0**
BRVK	**Borovoye**	**47.21**	**314**	P	**P**	**19 59 56.6**	**-0.9**
BRVK				IAmb	IAmb	20 00 01.2	
comp=Z,5.2nm,0.8s							
KK31	**Karatay Array**	**47.76**	**301**	P	**P**	**20 00 01.0**	**-1.0**
KK31				IAmb	IAmb	20 00 05.8	
comp=Z,6.0nm,0.7s							
KKAR	**Karatay Array**	**47.76**	**301**	P	**P**	**20 00 01.4**	**-0.5**
KKAR				IAmb	IAmb	20 00 05.8	
comp=Z,6.0nm,0.7s							
KKAR	**Karatay Array**	**47.76**	**301**	P	**P**	**20 00 01.1**	**-0.8**
KNRA	**Kununurra**	**48.17**	**183**	P	**P**	**20 00 04.1**	**-1.1**
GAR	**Garm**	**48.64**	**295**	P	**P**	**20 00 08.8**	**-0.2**
GAR				IAmb	IAmb	20 00 12.6	
comp=Z,14nm,1.4s							
CHGR	**Chuyangaron**	**49.60**	**295**	P	**P**	**20 00 15.2**	**-1.1**
CHGR				IAmb	IAmb	20 00 19.9	
comp=Z,8.6nm,0.9s							
FITZ	**Fitzroy Crossi**	**50.78**	**186**	P	**P**	**20 00 23.7**	**-1.4**
comp=Z,1.0nm,0.7s,baz=23,slow=9.4,SNR=1.8							
WB0	**Warramunga Arr**	**52.31**	**176**	P	**P**	**20 00 34.6**	**-2.0**
WB0				IAmb	IAmb	20 01 08.1	
comp=Z,7.5nm,1.2s							
WRA	**Warramunga Arr**	**52.48**	**176**	P	**P**	**20 00 36.3**	**-1.6**
comp=Z,0.3nm,0.5s,baz=356,slow=7.9,SNR=5.8							
WRA	**Warramunga Arr**	**52.48**	**176**	P	**P**	**20 00 35.8**	**-2.1**
WB2	**Warramunga Arr**	**52.48**	**176**	P	**P**	**20 00 36.0**	**-1.8**
WB2				IAmb	IAmb	20 00 44.8	
comp=Z,6.6nm,1.2s							
WR0	**Warramunga Arr**	**52.51**	**176**	P	**P**	**20 00 36.5**	**-1.5**
WR0				IAmb	IAmb	20 00 37.1	
comp=Z,8.2nm,1.2s							
ABKAR	**Akbulak array**	**54.02**	**310**	P	**P**	**20 00 49.0**	**0.0**
ABKAR	**Akbulak array**	**54.02**	**310**	P	**P**	**20 00 49.1**	**+0.2**
ABKAR				IAmb	IAmb	20 00 52.1	
comp=Z,2.4nm,0.7s							
L19K	**White Mountain**	**54.41**	**34**	P	**P**	**20 00 52.5**	**+0.9**
CTA	**Charters Tower**	**54.55**	**162**	P	**P**	**20 00 51.8**	**-1.3**
comp=Z,6.0nm,0.9s,baz=11,slow=10,SNR=1.6							
K20K	**Telida**	**54.70**	**32**	P	**P**	**20 00 53.4**	**-0.4**
K20K				IAmb	IAmb	20 00 59.3	
comp=Z,7.1nm,1.4s							
IMAR	**Indian Mountai**	**54.72**	**29**	P	**P**	**20 00 54.6**	**+0.9**
ASAR	**Alice Springs**	**56.16**	**177**	P	**P**	**20 01 03.5**	**-1.1**
comp=Z,0.4nm,0.5s,baz=10,slow=14,SNR=7.3							
H23K	**Yukon River**	**56.45**	**29**	P	**P**	**20 01 07.1**	**+0.8**
MDM	**Murphy Dome**	**57.09**	**30**	P	**P**	**20 01 10.9**	**0.0**
MDM				IAmb	IAmb	20 01 12.3	
comp=Z,5.9nm,1.0s							
SML	**Sawmill**	**57.51**	**34**	P	**P**	**20 01 12.8**	**-1.1**
ILAR	**Eielson Array**	**57.69**	**30**	P	**P**	**20 01 13.6**	**-1.4**
comp=Z,0.7nm,0.9s,baz=278,slow=6.3,SNR=5.7							
BMAR	**Burnt Mountain**	**58.20**	**27**	P	**P**	**20 01 19.9**	**+1.3**
M26K	**Nabesna, AK**	**59.85**	**33**	P	**P**	**20 01 30.6**	**+0.4**
VRDI	**Verde Repeater**	**59.92**	**34**	P	**P**	**20 01 30.6**	**-0.2**
L27K	**Beaver Creek,**	**60.22**	**32**	P	**P**	**20 01 33.1**	**+0.4**
L27K				IAmb	IAmb	20 01 34.3	
comp=Z,5.8nm,1.1s							
BCAR	**Beaver Creek A**	**60.24**	**32**	P	**P**	**20 01 33.5**	**+0.7**
M27K	**Edge Creek, AK**	**60.37**	**32**	P	**P**	**20 01 33.0**	**-0.8**
M27K				IAmb	IAmb	20 01 42.0	
comp=Z,12nm,1.4s							
EPYK	**Eagle Plains**	**61.46**	**27**	P	**P**	**20 01 41.5**	**+0.4**
EPYK				IAmb	IAmb	20 01 41.6	
comp=Z,5.2nm,0.8s							
INK	**Inuvik**	**62.06**	**25**	P	**P**	**20 01 44.5**	**-0.4**
comp=Z,0.8nm,0.7s,baz=292,slow=14,SNR=1.8							
M30M	**Minto, Yukon**	**62.58**	**31**	P	**P**	**20 01 49.2**	**+0.6**
M30M				IAmb	IAmb	20 02 10.6	
comp=Z,13nm,1.8s							
A36M	**Sachs Harbour**	**63.37**	**20**	P	**P**	**20 01 53.2**	**-0.4**
A36M				IAmb	IAmb	20 01 55.1	
comp=Z,2.8nm,0.8s							
ARCES	**ARCESS Array B**	**64.82**	**338**	P	**P**	**20 02 04.5**	**+1.2**
comp=Z,1.6nm,0.9s,baz=34,slow=6.6,SNR=5.0							
ARCES	**ARCESS Array B**	**64.82**	**338**	IAmb	IAmb	20 02 30.4	
comp=Z,7.2nm,1.1s							
C36M	**Paulatuk**	**64.85**	**22**	P	**P**	**20 02 02.4**	**-1.0**
C36M				IAmb	IAmb	20 02 03.6	
comp=Z,3.0nm,0.8s							
STKA	**Stephens Creek**	**65.06**	**170**	P	**P**	**20 02 04.5**	**-0.6**
comp=Z,1.6nm,0.5s,baz=144,slow=8.8,SNR=2.2							
KBZ	**Khabaz**	**66.86**	**308**	P	**P**	**20 02 17.9**	**+1.1**
comp=Z,2.5nm,0.9s,baz=222,slow=3.5,SNR=4.2							
FINES	**FINESS Array B**	**68.35**	**330**	P	**P**	**20 02 24.3**	**-1.7**
comp=Z,2.0nm,0.4s,baz=71,slow=5.6,SNR=32							
YKA	**Yellowknife Ar**	**71.72**	**26**	P	**P**	**20 02 45.5**	**-1.0**
comp=Z,0.1nm,0.5s,baz=300,slow=5.4,SNR=4.0							
AKASG	**Malin Array Be**	**72.08**	**319**	P	**P**	**20 02 48.2**	**-0.8**
comp=Z,1.4nm,0.5s,baz=54,slow=8.1,SNR=4.9							
NOA	**NORSAR Array B**	**74.49**	**334**	P	**P**	**20 03 00.9**	**-2.2**
comp=Z,0.7nm,0.6s,baz=50,slow=5.9,SNR=2.4							
BRTR	**Keskin Array B**	**74.85**	**308**	P	**P**	**20 03 05.9**	**+0.2**
comp=Z,1.2nm,0.8s,baz=90,slow=6.2,SNR=7.6							
CLL	**Collm**	**80.09**	**326**	*e*P	**P**	**20 03 34.0**	**-0.6**
comp=Z,5.0nm,1.2s							
CLL				*i* Pmax		20 03 36.4	
comp=Z,13nm,1.2s							
F10A	**Beach Ranch, E**	**80.46**	**41**	P	**P**	**20 03 36.4**	**-0.4**
F10A				IAmb	IAmb	20 03 39.0	
comp=Z,4.9nm,0.7s							
RONA	**Rosalia, Austr**	**80.76**	**321**	*i* P	**P**	**20 03 39.3**	**+0.9**
comp=Z,4.1nm,1.1s							
CONA	**Conrad Observa**	**80.85**	**322**	*e*P	**P**	**20 03 39.6**	**+0.8**
comp=Z,7.8nm,1.3s							
GERES	**GERESS Array B**	**81.36**	**324**	P	**P**	**20 03 42.0**	**+0.5**
comp=Z,0.9nm,0.8s,baz=67,slow=3.5,SNR=4.5							
MOA	**Mcm**	**81.72**	**322**	*e*P	**P**	**20 03 44.8**	**+1.4**
comp=Z,5.1nm,1.6s							
SOKA	**Soboth**	**82.08**	**321**	*e*P	**P**	**20 03 47.2**	**+1.8**
comp=Z,6.1nm,1.2s							
BIOA	**Bad Ischl, Aus**	**82.15**	**323**	*i* P	**P**	**20 03 47.5**	**+1.8**
comp=Z,2.8nm,0.8s							
MYKA	**Terra Mystica**	**82.84**	**322**	*i* P	**P**	**20 03 51.5**	**+2.1**
comp=Z,1.6nm,0.6s							
ABTA	**Abfaltersbach**	**83.34**	**322**	*e*P	**P**	**20 03 50.9**	**-1.0**
comp=Z,5.7nm,1.2s							
FETA	**Feichten**	**84.07**	**323**	*i* P	**P**	**20 03 54.6**	**-1.1**
comp=Z,2.7nm,0.9s							
CTI	**Castel Tesino**	**84.26**	**322**	P	**P**	**20 03 57.5**	**+0.8**
DAVA	**Damuels**	**84.31**	**324**	*e*P	**P**	**20 03 56.7**	**-0.3**
comp=Z,13nm,1.1s							
BFO	**Black Forest**	**84.34**	**326**	P	**P**	**20 03 56.3**	**-0.6**
NVAR	**Mina Array Bea**	**84.43**	**47**	P	**P**	**20 03 57.4**	**-0.5**
comp=Z,0.6nm,0.5s,baz=286,slow=6.5,SNR=2.3							
DAVOX	**Davos/Dischmat**	**84.66**	**324**	P	**P**	**20 03 58.2**	**-0.5**
baz=83,slow=8.1							
TPAW	**Teton Pass**	**85.48**	**40**	P	**P**	**20 04 01.3**	**-1.8**
TPNV	**Topopah Spring**	**86.63**	**48**	P	**P**	**20 04 08.8**	**0.0**
LCMT	**Little Creek M**	**88.44**	**46**	P	**P**	**20 04 17.6**	**+0.2**

*JMA **15** 19:57:53.9, 33.°02N×131.°17E, h12km±1km, M3.6*
JMA Felt III J1.
*IDC **15** 19:57:55.2±1.7, 33.°17N×131.°15E, h0km, mb3.1/1, mb1 3.5/2, mb1mx3.1/69, mbtmp3.2/2, ML2.4/1, Error ellipse: s-maj=23.3km s-min=9.2km az=166.0*
ISC 15 19:57:56.1±1.0, 33.°20N±0.°08×131.°13E±0.°05, h12km, n8, σ2s64/9, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.22**	**250**	Pg	**Pg**	**19 57 59.0**	**-1.8**
baz=129,slow=6.5							
JNU				Lg	Lg	19 58 03.0	
1μm,0.3s,baz=9.7,slow=21,SNR=29							
JNU	**Nakatsue**	**0.22**	**250**	⇓P	**Pg**	**19 57 59.3**	**-1.6**
JNU				*e*S	**Sg**	**19 58 03.1**	**-1.0**
JUS	**Usuki**	**0.54**	**104**	P	**Pg**	**19 58 03.3**	**-3.3**
JTA	**Tamana**	**0.55**	**245**	P	**Pg**	**19 58 04.3**	**-2.6**
KSRS	**Korea Array**	**4.99**	**329**	Pg	**Pg**	**19 59 28.6**	**-3.0**
0.5nm,0.3s,baz=145,slow=17,SNR=5.3							
KSRS				Lg	Lg	20 00 33.2	
0.5nm,0.3s,baz=155,slow=18,SNR=4.3							
MJAR	**Matsushiro Arr**	**6.71**	**58**	Pn	**Pn**	**19 59 36.9**	**+2.5**
0.1nm,0.3s,baz=241,slow=14,SNR=2.9							
MK31	**Makanchi Array**	**39.18**	**305**	⇑Pg	**P**	**20 05 25.0**	**+1.1**
0.1nm,0.2s,baz=154,slow=17,SNR=3.1							
MK31				Lg	Lg	20 05 57.5	
0.3nm,0.1s,baz=148,slow=29,SNR=8.6							
WRA	**Warramunga Arr**	**52.93**	**176**	P	**P**	**20 07 13.3**	**+1.1**
0.3nm,0.9s,baz=1.2,slow=7.8,SNR=1.3							

IDC 15 20:04:30.6±3.3, 22.°78S×171.°39E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/48, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=109.9km s-min=52.7km az=176.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUENC	**Ouen Island, N**	**4.22**	**274**	P	Pn	20 05 39.1	+2.8
YATNC	**Mamie plateau,**	**4.23**	**279**	P	Pn	20 05 40.4	+4.1
ONTNC	**Ouen Toro**	**4.59**	**275**	P	Pn	20 05 44.9	+3.6
DZM	**Mont Dzumac**	**4.63**	**278**	Pn	Pn	20 05 43.4	+1.4
0.9nm,0.3s,baz=107,slow=20,SNR=72							
DZM				Sn	Sn	20 06 37.6	+1.0
1.3nm,0.3s,baz=143,slow=20,SNR=2.7							
DZM	**Mont Dzumac**	**4.63**	**278**	P	Pn	20 05 44.9	+2.9
NOUC	**Port Laguerre**	**4.76**	**277**	P	Pn	20 05 46.3	+2.7
ASAR	**Alice Springs**	**34.40**	**261**	P	P	20 11 19.6	-0.2
1.2nm,0.9s,baz=82,slow=8.6,SNR=13							
WRA	**Warramunga Arr**	**34.57**	**268**	P	P	20 11 20.1	-1.3
0.3nm,0.6s,baz=96,slow=8.3,SNR=2.1							
CMAR	**Chiang Mai Arr**	**81.78**	**294**	P	P	20 16 52.4	+0.5
0.9nm,0.8s,baz=138,slow=4.2,SNR=7.7							

*IDC **15** 20:11:57.7±0.8, 32.°98N×131.°19E, h0km, mb3.6/10, mb1 3.9/13, mb1mx3.6/66, mbtmp3.6/13, ML3.2/3, Error ellipse: s-maj=20.3km s-min=6.4km az=27.0*
*JMA **15** 20:11:58.5, 33.°13N×131.°17E, h8km±1km, M3.6*
JMA Felt II J1.
*NIED **15** 20:11:58.5, 33.°13N×131.°17E, h8km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.51; $M_{\theta\theta}$3.12; $M_{\phi\phi}$-3.63; $M_{r\theta}$-0.48; $M_{\theta\phi}$1.83; $M_{\phi r}$1.07; Fault plane solution: $M_0$3.98000×10^{15} NP1: ϕ_s212.00000°, δ78.00000°, λ-173.00000°. NP2: ϕ_s120.00000°, δ84.00000°, λ-12.00000°*
ISC 15 20:11:59.5±0.6, 33.°00N±0.°06×131.°16E±0.°04, h12km, n18, σ1s13/21, mb3.7/10, 1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.27**	**297**	Pg	**Pg**	**20 12 03.4**	**-1.8**
1μm,0.3s,baz=59,slow=7.0,SNR=47							
JNU				Lg	Lg	20 12 07.5	
2μm,0.3s,baz=56,slow=6.2,SNR=21							
JNU	**Nakatsue**	**0.27**	**297**	P	**Pg**	**20 12 03.5**	**-1.6**
JUS	**Usuki**	**0.50**	**82**	⇓P	**Pg**	**20 12 07.7**	**-1.6**
JUS				S	**Sg**	**20 12 14.6**	**-1.3**
JTA	**Tamana**	**0.53**	**266**	P	**Pg**	**20 12 09.3**	**-0.7**
JTA				S	**Sb**	**20 12 17.7**	**-0.8**
JIU3	**Iz

IDC ***15*** *20:23:46.8±1.1,32.°71N×130.°76E,h0km,mb3.6/8, mb1 3.7/10,mb1mx3.5/60,mbtmp3.6/10,ML3.1/2,Error ellipse: s-maj=23.1km s-min=8.2km az=109.0*
JMA ***15*** *20:23:48.4,32.°79N×130.°77E,h12km±1km,M3.6*
JMA Felt III J1.

ISC 15 20:23:49.0±0.7,32.°78N±0.°04×130.°81E±0.°08,h12km,n15, σ0s96/17,mb3.6/8,2C,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.23**	**180**	⇑P	**Pg**	**20 23 53.4**	**-0.4**
JIU3				S	**Sg**	**20 23 57.5**	**+0.4**
JTA	**Tamana**	**0.30**	**309**	⇑P	**Pg**	**20 23 54.0**	**-1.1**
JNU	**Nakatsue**	**0.35**	**9**	Pg	**Pg**	**20 23 55.3**	**-0.8**
	288nm,0.3s,baz=188,slow=12,SNR=18						
JNU				Lg	Lg	20 24 00.6	
	1μm,0.3s,baz=276,slow=20,SNR=20						
JNU	**Nakatsue**	**0.35**	**9**	P	**Pg**	**20 23 55.3**	**-0.8**
JNU				S	**Sg**	**20 24 00.6**	**-0.2**
KSRS	**Korea Array**	**5.23**	**334**	Pg	**Pb**	**20 25 23.0**	**+2.6**
	1.4nm,0.3s,baz=150,slow=17,SNR=13						
KSRS				Lg	Lg	20 26 34.8	
	1.1nm,0.3s,baz=155,slow=29,SNR=5.8						
MJAR	**Matsushiro Arr**	**7.16**	**56**	Pn	**Pn**	**20 25 33.4**	**-0.1**
	0.1nm,0.3s,baz=280,slow=9.5,SNR=8.5						
KLR	**Kul'dur**	**16.45**	**2**	Pn	**Pn**	**20 27 39.8**	**+0.2**
	0.1nm,0.3s,baz=113,slow=16,SNR=1.3						
SONM	**Songino Array**	**23.80**	**316**	P	**P**	**20 29 02.2**	**+0.5**
	1.1nm,0.9s,baz=126,slow=7.5,SNR=4.5						
MKAR	**Makanchi Array**	**39.21**	**305**	P	**P**	**20 31 17.0**	**0.0**
	0.1nm,0.3s,baz=108,slow=9.3,SNR=1.4						
KURBB	**Kurchatov Arra**	**41.96**	**311**	P	**P**	**20 31 39.6**	**0.0**
	0.8nm,0.8s,baz=96,slow=8.8,SNR=6.6						
ASAR	**Alice Springs**	**56.20**	**177**	P	**P**	**20 33 28.6**	**-0.4**
	0.9nm,0.9s,baz=354,slow=4.5,SNR=5.9						
FINES	**FINESS Array B**	**68.31**	**330**	P	**P**	**20 34 49.4**	**-0.2**
	0.7nm,0.5s,baz=80,slow=4.6,SNR=6.8						
YKA	**Yellowknife Ar**	**71.67**	**26**	P	**P**	**20 35 10.6**	**+0.3**
	0.2nm,0.6s,baz=301,slow=5.2,SNR=3.5						
BRTR	**Keskin Array B**	**74.82**	**308**	P	**P**	**20 35 27.9**	**-1.6**
	0.6nm,0.8s,baz=116,slow=2.9,SNR=3.9						
GERES	**GERESS Array B**	**81.32**	**323**	P	**P**	**20 36 05.3**	**-0.1**
	0.7nm,0.9s,baz=35,slow=3.3,SNR=3.9						

JMA 15 20:27:23.8,32.°75N×130.°76E,h14km±1km,M3.6,1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.20**	**167**	⇑P	Pg	20 27 28.6	+0.2
JIU3				S	Sg	20 27 31.9	+0.3
JTA	**Tamana**	**0.29**	**318**	⇓P	Pg	20 27 29.8	0.0
JTA				S	Sg	20 27 33.8	-0.1

IDC 15 20:32:00.1±2.2,0.°31N×126.°62E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.2/52,mbtmp3.2/3,Error ellipse: s-maj=177.4km s-min=29.1km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.51**	**160**	P	P	20 36 50.5	-0.3
	0.1nm,0.3s,baz=338,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**24.87**	**164**	P	P	20 37 24.8	+0.2
	0.2nm,0.3s,baz=344,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**60.30**	**326**	P	P	20 42 10.6	-0.1
	0.1nm,0.3s,baz=125,slow=6.8,SNR=0.9						

IDC ***15*** *20:33:40.7±1.6,32.°61N×130.°61E,h0km,mb3.4/2, mb1 3.5/2,mb1mx3.2/57,mbtmp3.4/2,Error ellipse: s-maj=44.1km s-min=11.4km az=114.0*
JMA ***15*** *20:33:46.4,32.°80N×130.°78E,h16km±1km,M3.7*

ISC 15 20:33:41.5±1.2,32.°7N±0.°1×130.°32E±0.°08,h11km,n6, σ0s98/7,2C,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.30**	**38**	⇑P	**Pn**	**20 33 52.1**	**+0.2**
JIU3	**Izumi3**	**0.46**	**113**	⇑P	**Pb**	**20 33 51.9**	**+0.3**
JIU3				S	**Sg**	**20 33 56.0**	**-0.5**
JNU	**Nakatsue**	**0.62**	**50**	Pg	**Pg**	**20 33 53.1**	**-0.5**
	522nm,0.3s,baz=182,slow=8.4,SNR=32						
JNU				Lg	Lg	20 33 57.6	
	1μm,0.3s,baz=221,slow=10,SNR=13						
KSRS	**Korea Array**	**5.11**	**338**	Pg	**Pg**	**20 35 18.4**	**-0.9**
	1.0nm,0.3s,baz=151,slow=16,SNR=6.1						
ASAR	**Alice Springs**	**56.18**	**176**	P	**P**	**20 43 20.8**	**-0.7**
	0.3nm,0.9s,baz=8.4,slow=13,SNR=2.0						
FINES	**FINESS Array B**	**68.14**	**330**	P	**P**	**20 44 42.7**	**+1.4**
	0.6nm,0.7s,baz=77,slow=7.3,SNR=1.1						

IDC ***15*** *20:34:13.0±0.9,32.°55N×130.°69E,h0km,mb3.9/13, mb1 4.0/16,mb1mx3.8/59,mbtmp3.9/16,ML3.5/3,Error ellipse: s-maj=20.2km s-min=8.8km az=111.0*
NIED ***15*** *20:34:13.5,32.°54N×130.°71E,h6km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.49; Mθθ0.68; Mϕϕ-1.17; Mrθ-0.22; Mϕθ2.23; Mϕr-0.14; Fault plane solution: M₀2.44000×10¹⁵ NP1: ϕs191.00000°,δ84.00000°,λ.174.00000°. NP2: ϕs282.00000°,δ84.00000°,λ6.00000°.*
JMA ***15*** *20:34:13.5,32.°54N×130.°71E,h6km±1km,M4.2*
JMA Felt IV J1.
NEIC ***15*** *20:34:13.8±1.8,32.°59N±0.°03×130.°52E±0.°06,h10km±1km, mb4.5/31,Error ellipse: s-maj=9.8km s-min=2.9km az=119.0*

ISC 15 20:34:13.9±0.5,32.°57N±0.°03×130.°55E±0.°05,h11km,n74, σ1s47/76,mb4.4/29,1C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.22**	**95**	P	Pg	20 34 15.5	-3.1
JIU3				S	**Sg**	**20 34 17.0**	**-4.8**
JTA	**Tamana**	**0.40**	**358**	⇑P	**Pb**	**20 34 22.5**	**-0.5**
JZO	**Okuchi**	**0.43**	**174**	P	**Pg**	**20 34 21.6**	**-0.8**
JZO				S	**Sg**	**20 34 26.9**	**-1.2**
JNU	**Nakatsue**	**0.62**	**27**	Pg	**Pg**	**20 34 25.4**	**-0.6**
	246nm,0.3s,baz=182,slow=13,SNR=3.7						
JNU				Lg	Lg	20 34 32.2	
	2μm,0.3s,baz=282,slow=18,SNR=13						
JNU	**Nakatsue**	**0.62**	**27**		**Pg**	**20 34 25.3**	**-0.6**
JNU				Sg	**Sg**	**20 34 33.6**	**-0.5**
JTZ	**Takazaki**	**0.81**	**145**	P	**Pg**	**20 34 27.9**	**-1.6**
JTZ				S	**Sg**	**20 34 37.2**	**-2.8**
JSU	**Suzuyama**	**1.06**	**184**	Pn	**Pb**	**20 34 33.0**	**-1.3**
JTU	**Tsushima**	**2.18**	**334**	Pn	**Pn**	**20 34 49.6**	**-0.5**
JMN	**Monobe**	**3.02**	**67**	Pn	**Pn**	**20 35 04.2**	**+2.4**
JHS	**Saijyo**	**3.23**	**41**	Pn	**Pn**	**20 35 04.4**	**-0.3**
TJN	**Taejon**	**4.62**	**326**	Pn	**Pn**	**20 35 24.1**	**+0.4**
KSRS	**Korea Array**	**5.33**	**337**	Pg	**Pg**	**20 35 52.4**	**-3.6**
	1.4nm,0.3s,baz=154,slow=18,SNR=6.5						
KSRS				Lg	Lg	20 37 04.5	
	2.5nm,0.3s,baz=159,slow=31,SNR=9.9						
KSAR	**Wonju Array Be**	**5.33**	**337**	Pn	**Pn**	**20 35 32.2**	**-1.2**
KS19	**Wonju Array Si**	**5.39**	**337**		**Pn**	**20 35 34.2**	**-0.1**
INU	**Inuyama**	**6.05**	**61**	Pn	**Pn**	**20 35 44.8**	**+1.5**
JOW	**Kunigami**	**6.05**	**200**	Pn	**Pn**	**20 35 45.8**	**+2.5**
	4.4nm,0.3s,baz=62,slow=10,SNR=6.6						
JGF	**Kuroka**	**6.41**	**60**	Pn	**Pn**	**20 35 48.9**	**+0.6**
MJB9	**Matsu-Tunnel**	**7.46**	**56**		**Pn**	**20 36 04.0**	**+1.3**
MAJO	**Matsushiro**	**7.46**	**56**		**Pn**	**20 36 02.9**	**+0.2**
MJAR	**Matsushiro Arr**	**7.46**	**56**	Pn	**Pn**	**20 36 03.4**	**+0.7**
	0.3nm,0.3s,baz=227,slow=14,SNR=6.8						
MJAR	**Matsushiro Arr**	**7.46**	**56**	Pn	**Pn**	**20 36 03.5**	**+0.8**
JHJ2	**Mitsune**	**7.82**	**84**	Pn	**Pn**	**20 36 08.1**	**+0.5**
KLR	**Kul'dur**	**16.67**	**3**	Pn	**P**	**20 38 09.5**	**-0.3**
	0.1nm,0.3s,baz=142,slow=2.3,SNR=4.0						
ULN	**Ulaanbaatar**	**23.44**	**318**	P	**P**	**20 39 21.3**	**-2.0**
SONM	**Songino Array**	**23.80**	**317**	P	**P**	**20 39 28.5**	**+1.7**
	2.9nm,1.0s,baz=136,slow=9.5,SNR=8.9						
SONM	**Songino Array**	**23.80**	**317**	P	**P**	**20 39 24.4**	**-2.4**
GTA	**Gaotai**	**25.71**	**294**	⇓P	**P**	**20 39 48.3**	**+4.0**
GTA				sP	sP	20 39 55.6	+6.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**31.66**	**251**	P	**P**	**20 40 40.2**	**+2.8**
	comp=Z,0.4nm,0.6s,baz=54,slow=7.5,SNR=6.8						
ZAA0	**Zalesovo Array**	**38.69**	**317**	P	**P**	**20 41 36.6**	**-1.0**
ZALV	**Zalesovo Beam**	**38.69**	**317**	P	**P**	**20 41 39.0**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=130,slow=6.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**38.69**	**317**	P	**P**	**20 41 36.2**	**-1.4**
KULM	**Kulim**	**38.92**	**232**	P	**P**	**20 41 36.7**	**-3.2**
KULM				IAmb	IAmb	20 42 02.1	
	comp=Z,14nm,1.6s						
MKAR	**Makanchi Array**	**39.15**	**306**	P	**P**	**20 41 42.9**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=94,slow=11,SNR=8.7						
MKAR	**Makanchi Array**	**39.15**	**306**	P	**P**	**20 41 40.6**	**-1.0**
KURK	**Kurchatov**	**41.88**	**311**	P	**P**	**20 42 02.5**	**-1.5**
AAK	**Ala-Archa**	**44.81**	**300**	P	**P**	**20 42 27.8**	**-0.2**
BRVK	**Borovoye**	**47.16**	**314**	P	**P**	**20 42 44.9**	**-1.4**
BRVK				IAmb	IAmb	20 42 50.9	
	comp=Z,4.5nm,0.9s						
KK31	**Karatay Array**	**47.65**	**301**	P	**P**	**20 42 49.3**	**-1.0**
KK31				IAmb	IAmb	20 42 55.1	
	comp=Z,6.2nm,0.8s						
KKAR	**Karatay Array**	**47.65**	**301**	P	**P**	**20 42 49.4**	**-0.8**
KKAR	**Karatay Array**	**47.65**	**301**	P	**P**	**20 42 49.3**	**-1.0**
KKAR				IAmb	IAmb	20 42 55.1	
	comp=Z,6.2nm,0.8s						
GAR	**Garm**	**48.51**	**295**	P	**P**	**20 42 56.9**	**-0.2**
GAR				IAmb	IAmb	20 43 01.7	
	comp=Z,3.7nm,0.8s						
ABKAR	**Akbulak array**	**53.95**	**310**	P	**P**	**20 43 36.9**	**-0.7**
ABKAR	**Akbulak array**	**53.95**	**310**	P	**P**	**20 43 37.4**	**-0.2**
ABKAR				IAmb	IAmb	20 43 42.1	
	comp=Z,3.8nm,1.0s						
K20K	**Telida**	**54.95**	**32**	P	**P**	**20 43 44.9**	**+0.2**
I21K	**Tanana**	**55.74**	**30**	P	**P**	**20 43 51.1**	**+0.9**
I21K				IAmb	IAmb	20 43 55.9	
	comp=Z,5.0nm,1.1s						
PPLA	**Purkeypile**	**55.84**	**33**	P	**P**	**20 43 51.0**	**-0.2**
ASAR	**Alice Springs**	**56.01**	**176**	P	**P**	**20 43 52.8**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=353,slow=5.0,SNR=4.6						
KTH	**Kantishna Hill**	**56.34**	**32**	P	**P**	**20 43 54.5**	**-0.2**
KTH				IAmb	IAmb	20 44 16.7	
	comp=Z,4.7nm,1.2s						
RND	**Reindeer**	**57.28**	**32**	P	**P**	**20 44 01.4**	**0.0**
RND				IAmb	IAmb	20 44 12.9	
	comp=Z,11nm,1.4s						
MDM	**Murphy Dome**	**57.34**	**30**	P	**P**	**20 44 02.6**	**+0.8**
MDM				IAmb	IAmb	20 44 06.4	
	comp=Z,5.1nm,0.8s						
H24K	**Noodor Dome**	**57.37**	**29**	P	**P**	**20 44 02.0**	**+0.1**
H24K				IAmb	IAmb	20 44 10.8	
	comp=Z,5.3nm,1.3s						
WRH	**Wood River Hil**	**57.47**	**31**	P	**P**	**20 44 01.8**	**-0.7**
WRH				IAmb	IAmb	20 44 08.3	
	comp=Z,5.3nm,1.2s						
GHO	**Glory Hole Cre**	**57.49**	**34**	P	**P**	**20 44 02.0**	**-0.9**
PWL	**Port Wells**	**57.93**	**35**	P	**P**	**20 44 04.9**	**-1.0**
ILAR	**Eielson Array**	**57.94**	**30**	P	**P**	**20 44 05.7**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=284,slow=5.9,SNR=10						
ILAR	**Eielson Array**	**57.94**	**30**	P	**P**	**20 44 05.1**	**-0.7**
SCM	**Sheep Creek Mo**	**58.23**	**34**	P	**P**	**20 44 08.0**	**0.0**
SCRK	**Sand Creek**	**59.32**	**31**	P	**P**	**20 44 14.3**	**-1.4**
SCRK				IAmb	IAmb	20 44 19.0	
	comp=Z,4.5nm,1.0s						
M26K	**Nabesna, AK**	**60.11**	**32**	P	**P**	**20 44 21.8**	**+0.8**
M26K				IAmb	IAmb	20 44 26.1	
	comp=Z,3.5nm,0.9s						
L27K	**Beaver Creek,**	**60.47**	**32**	P	**P**	**20 44 23.9**	**+0.4**
L27K				IAmb	IAmb	20 44 28.0	
	comp=Z,7.8nm,1.4s						
BCAR	**Beaver Creek A**	**60.49**	**32**	P	**P**	**20 44 23.3**	**-0.3**
M27K	**Edge Creek, AK**	**60.62**	**32**	P	**P**	**20 44 23.5**	**-1.2**
M27K				IAmb	IAmb	20 44 53.0	
	comp=Z,7.9nm,1.4s						
EPYK	**Eagle Plains**	**61.70**	**27**	P	**P**	**20 44 33.1**	**+1.3**
EPYK				IAmb	IAmb	20 44 36.1	
	comp=Z,6.0nm,0.9s						
PCA	**Pinnacle**	**61.99**	**35**	P	**P**	**20 44 33.4**	**-0.5**
INK	**Inuvik**	**62.30**	**25**	P	**P**	**20 44 36.6**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=298,slow=6.5,SNR=4.2						
INK	**Inuvik**	**62.30**	**25**	IAmb	IAmb	20 44 48.5	
	comp=Z,5.2nm,1.6s						
C36M	**Paulatuk**	**65.08**	**22**		**P**	**20 44 53.2**	**-0.8**
KBZ	**Khabaz**	**66.79**	**308**	P	**P**	**20 45 07.2**	**+1.7**
	comp=Z,3.3nm,0.8s,baz=325,slow=2.3,SNR=6.1						
FINES	**FINESS Array B**	**68.38**	**330**	P	**P**	**20 45 14.9**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=66,slow=5.1,SNR=6.3						
YKA	**Yellowknife Ar**	**71.96**	**26**	P	**P**	**20 45 37.7**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=300,slow=5.8,SNR=2.6						
AKASG	**Malin Array Be**	**72.06**	**319**	P	**P**	**20 45 39.8**	**+1.8**
	comp=Z,1.6nm,0.6s,baz=63,slow=4.4,SNR=2.3						
NB2	**NORSAR Subarra**	**74.53**	**334**	P	**P**	**20 45 54.0**	**+1.6**
	comp=Z,2.6nm,1.0s,baz=51,slow=5.9						
NOA	**NORSAR Array B**	**74.53**	**334**	P	**P**	**20 45 53.8**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=50,slow=5.7,SNR=5.2						
BRTR	**Keskin Array B**	**74.77**	**307**	P	**P**	**20 45 55.5**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=76,slow=5.2,SNR=9.2						

NEIC ***15*** *20:38:02.2±1.9,31.°03S±0.°09×179.°9W±0.°1,h403km±8km, mb4.0/13,Error ellipse: s-maj=17.8km s-min=12.2km az=61.0*
IDC ***15*** *20:38:04.3±3.6,30.°98S×179.°94W,h432km±35km,mb3.4/5, mb1 3.5/6,mb1mx3.2/38,mbtmp4.2/6,Error ellipse: s-maj=38.2km s-min=24.8km az=29.0*

ISC 15 20:38:01.6±0.6,30.°98S±0.°06×179.°84W±0.°09,h400km, n91,σ2s26/113,mb3.8/12,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.39**	**45**	P	**Pn**	**20 39 01.6**	**+1.3**
GLKZ				S	**S**	**20 39 48.2**	**+0.7**
RIZ	**Raoul Island**	**2.40**	**44**	P	**Pn**	**20 39 02.5**	**+2.3**
RIZ				S	**S**	**20 39 48.5**	**+0.9**
RAO	**Raoul Island**	**2.40**	**45**	S	**S**	**20 39 44.2**	**-3.5**
	69nm,0.3s,baz=102,slow=23,SNR=2.1						
RAO	**Raoul Island**	**2.40**	**45**		**Pn**	**20 39 02.3**	**+2.0**
MXZ	**Matakaoa Point**	**6.74**	**193**		**Pn**	**20 39 43.0**	**+0.8**
MXZ	**Matakaoa Point**	**6.74**	**193**	P	**P**	**20 39 44.1**	**+1.3**
MXZ				S	**S**	**20 41 03.0**	**-1.4**
WCZ	**Waipu Caves**	**6.93**	**223**	P	**P**	**20 39 49.2**	**+4.2**
OUZ	**Omahuta**	**6.94**	**231**	P	**P**	**20 39 48.5**	**+3.4**
WMGZ	**Waiomatatini S**	**6.97**	**191**	P	**P**	**20 39 49.9**	**+4.5**
WMGZ				S	**S**	**20 41 09.9**	**+0.7**
HAZ	**Te Kaha**	**7.04**	**196**	P	**P**	**20 39 46.9**	**+0.8**
HAZ				S	**S**	**20 41 09.2**	**-1.3**
PKGZ	**Pakihiroa**	**7.10**	**193**	P	**P**	**20 39 48.0**	**+1.1**
PKGZ				S	**S**	**20 41 11.0**	**-1.0**
PUZ	**Puketiti**	**7.24**	**192**	P	**P**	**20 39 49.7**	**+1.3**
PUZ				S	**S**	**20 41 15.1**	**+0.2**
RUGZ	**Raukumara Rang**	**7.26**	**196**	P	**P**	**20 39 50.2**	**+1.5**
RUGZ				S	**S**	**20 41 13.4**	**-2.0**
TWGZ	**Tauwhareparae**	**7.40**	**193**	P	**P**	**20 39 54.3**	**+4.1**
TWGZ				S	**S**	**20 41 20.3**	**+2.2**
OPRZ	**Ohinepanea**	**7.46**	**203**	P	**P**	**20 39 55.1**	**+4.2**
OPRZ				S	**S**	**20 41 23.4**	**+4.0**
MARZ	**Manawahe**	**7.55**	**201**	P	**P**	**20 39 55.3**	**+3.4**
EDRZ	**Edgecumbe**	**7.64**	**201**	P	**P**	**20 39 57.7**	**+4.8**
MWZ	**Matawai**	**7.65**	**196**	P	**P**	**20 39 54.3**	**+1.3**
MWZ				S	**S**	**20 41 22.9**	**-0.4**
CNGZ	**Carnagh Statio**	**7.65**	**192**	P	**P**	**20 39 55.1**	**+2.1**
TKGZ	**Te Karaka**	**7.68**	**194**	P	**P**	**20 39 54.8**	**+1.5**
TKGZ				S	**S**	**20 41 22.6**	**-1.2**
URZ	**Urewera**	**7.68**	**198**	P	**P**	**20 39 55.5**	**+2.2**
	34nm,0.3s,baz=301,slow=3.0,SNR=112						
URZ				S	**S**	**20 41 21.6**	**-2.2**
	19nm,0.3s,baz=256,slow=9.2,SNR=20						
URZ	**Urewera**	**7.68**	**198**	P	**Pn**	**20 39 51.5**	**-1.4**
URZ	**Urewera**	**7.68**	**198**	P	**Pn**	**20 39 53.8**	**+1.0**
URZ				S	**S**	**20 41 22.2**	**-1.6**
KARZ	**Kaharoa**	**7.73**	**204**	P	**P**	**20 39 58.4**	**+4.6**
OMRZ	**Omania**	**7.76**	**203**	P	**P**	20 39 59.9	+5.6
RAGZ	**Rawiri**	**7.83**	**196**	P	**P**	**20 39 56.7**	**+1.7**
RAGZ				S	**S**	**20 41 25.7**	**-1.4**
TARZ	**Mount Tarawera**	**7.84**	**202**	P	**P**	**20 39 58.8**	**+4.6**
RIGZ	**Rimuhau**	**7.95**	**194**	P	**P**	**20 39 59.0**	**+2.6**
RIGZ				S	**S**	**20 41 26.6**	**-3.0**
MUGZ	**Murupara**	**7.98**	**200**	P	**P**	**20 39 59.6**	**+3.0**
MUGZ				S	**S**	**20 41 30.9**	**+0.7**
HRRZ	**Handcock Road**	**8.05**	**202**	P	**P**	**20 40 01.6**	**+4.2**
RTZ	**Ruatahuna**	**8.05**	**198**	P	**P**	**20 39 58.3**	**+0.8**
RTZ				S	**S**	**20 41 29.3**	**-2.5**
SNGZ	**Shannon Statio**	**8.12**	**196**	P	**P**	**20 39 59.8**	**+1.6**
SNGZ				S	**S**	**20 41 30.7**	**-2.4**
PRGZ	**Paritu Road**	**8.14**	**193**	P	**P**	**20 40 01.9**	**+3.4**
PRGZ				S	**S**	**20 41 27.5**	**-6.0**
ALRZ	**Allen Road**	**8.19**	**201**	P	**P**	**20 40 02.6**	**+3.7**
KNZ	**Kokohu**	**8.28**	**194**	P	**P**	**20 40 02.9**	**+3.0**
KNZ				S	**S**	**20 41 32.8**	**-3.5**
RAHZ	**Arahi**	**8.31**	**197**	P	**P**	**20 40 03.5**	**+3.2**
RAHZ				S	**S**	**20 41 35.1**	**-2.0**
MTHZ	**Maungataniwha**	**8.31**	**198**	P	**P**	**20 40 02.7**	**+2.4**
MHGZ	**Mahia Peninsul**	**8.36**	**192**	P	**P**	**20 40 03.8**	**+3.0**
MRHZ	**Matea Rd**	**8.41**	**200**	P	**P**	**20 40 03.4**	**+1.9**
WHHZ	**Waihua**	**8.42**	**196**	P	**Pn**	**20 40 01.9**	**+0.6**
NMHZ	**Naumai**	**8.55**	**198**	P	**P**	**20 40 05.5**	**+2.4**
ARHZ	**Aropaoanui**	**8.66**	**197**	P	**P**	**20 40 06.3**	**+2.2**
HIZ	**Hauiti**	**8.69**	**209**	Pn	**P**	**20 40 07.6**	**+3.1**
BKZ	**Black Stump Fm**	**8.70**	**199**	P	**Pn**	**20 40 02.7**	**-1.8**
MCHZ	**McNeill Hill**	**8.90**	**198**	P	**P**	**20 40 09.5**	**+2.6**
CKHZ	**Cape Kidnapper**	**9.01**	**195**	P	**Pn**	**20 40 10.7**	**+2.7**
KAHZ	**Kahuranaki**	**9.19**	**196**	P	**Pn**	**20 40 12.2**	**+2.0**
PXZ	**Pawanui**	**9.42**	**196**	P	**Pn**	**20 40 14.8**	**+2.1**
PRHZ	**Porangahau**	**9.70**	**196**	P	**Pn**	**20 40 18.3**	**+2.3**
BFZ	**Birch Farm**	**10.19**	**197**		**P**	**20 40 20.4**	**-0.7**
MSWZ	**Moikau Station**	**11.14**	**199**	P	**P**	**20 40 31.9**	**+0.3**
BHW	**Baring Head**	**11.24**	**201**	P	**P**	**20 40 31.4**	**-1.4**
PLWZ	**Palliser**	**11.28**	**199**	P	**P**	**20 40 32.6**	**-0.7**
TUWZ	**Tuamarina**	**11.57**	**204**	P	**P**	**20 40 34.9**	**-1.4**
THZ	**Tophouse**	**12.24**	**206**		**S**	**20 42 54.6**	**-3.3**
KHZ	**Kahutara**	**12.58**	**203**	P	**P**	**20 40 47.6**	**+0.1**
PINNC	**Pines Island,**	**14.07**	**303**	P	**Pn**	**20 41 05.5**	**+1.4**
RPZ	**Rata Peaks**	**14.61**	**207**	S	**S**	**20 43 41.5**	**-3.9**
	0.3nm,0.3s,baz=42,slow=20,SNR=2.1						
RPZ	**Rata Peaks**	**14.61**	**207**	P	**P**	**20 41 08.2**	**-1.5**
OUENC	**Ouen Island, N**	**14.63**	**302**	P	**P**	**20 41 09.8**	**-0.4**
FOZ	**Fox Glacier**	**14.97**	**210**	P	**P**	**20 41 11.3**	**-2.3**
DZM	**Mont Dzumac**	**15.13**	**303**	P	**P**	**20 41 16.3**	**+0.5**
	0.3nm,0.3s,baz=95,slow=20,SNR=1.9						
MLZ	**Mavora Lakes**	**17.17**	**210**	P	**P**	**20 41 34.6**	**-2.6**
SANVU	**Saraoutou**	**19.49**	**320**	P	**P**	**20 42 00.5**	**-0.9**
CTA	**Charters Tower**	**32.34**	**281**	P	**P**	**20 43 56.2**	**+0.4**
	3.5nm,0.4s,baz=116,slow=10,SNR=15						
CTAO	**Charters Tower**	**32.34**	**281**	P	**P**	**20 43 57.0**	**+1.2**
STKA	**Stephens Creek**	**32.80**	**258**	P	**P**	**20 43 59.4**	**-0.2**
	1.2nm,0.4s,baz=105,slow=10.0,SNR=4.3						
STKA	**Stephens Creek**	**32.80**	**258**	P	**P**	**20 43 59.1**	**-0.5**
BBOO	**Buckleboo**	**37.28**	**255**	P	**P**	**20 44 37.4**	**-0.1**
BBOO				IAmb	IAmb	20 45 03.1	
	comp=Z,26nm,1.6s						
AS17	**Alice Springs**	**41.42**	**268**	P	**P**	**20 45 10.6**	**-0.7**
AS18	**Alice Springs**	**41.43**	**268**	P	**P**	**20 45 09.9**	**-1.4**
AS19	**Alice Springs**	**41.44**	**268**	P	**P**	**20 45 09.8**	**-1.6**
AS07	**Alice Springs**	**41.44**	**268**	P	**P**	**20 45 10.5**	**-0.9**
ASAR	**Alice Springs**	**41.50**	**268**	P	**P**	**20 45 10.9**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=107,slow=7.4,SNR=20						
ASAR				PcP	**PcP**	**20 46 59.4**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=117,slow=4.4,SNR=2.8						
WR0	**Warramunga Arr**	**42.36**	**274**	P	**P**	**20 45 17.6**	**-1.2**
WR0				IAmb	IAmb	20 45 18.8	
	comp=Z,4.9nm,1.1s						
WR7	**Warramunga Arr**	**42.42**	**274**	P	**P**	**20 45 18.4**	**-0.9**
WB2	**Warramunga Arr**	**42.53**	**274**	P	**P**	**20 45 18.8**	**-1.3**
WB2				IAmb	IAmb	20 45 20.2	
	comp=Z,3.4nm,0.5s						
WRA	**Warramunga Arr**	**42.54**	**274**	P	**P**	**20 45 19.2**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=111,slow=7.9,SNR=53						
WRA	**Warramunga Arr**	**42.54**	**274**	P	**P**	**20 45 18.9**	**-1.3**
MTN	**Manton Dam**	**48.52**	**281**	P	**P**	**20 46 05.5**	**-1.0**
MTN				IAmb	IAmb	20 46 29.2	
	comp=Z,5.7nm,1.1s						
KNRA	**Kununurra**	**49.18**	**276**	P	**P**	**20 46 10.9**	**-0

TLIG	**Tlapa**	**7.23**	**305**	Pn	**Pn**	**20 40 52.2**	**-3.3**
SAJU	**San Juanillo,**	**7.33**	**117**	*e*P	**Pn**	**20 40 57.9**	**+1.2**
ORTG	**Ortega, Santa**	**7.42**	**114**	Pn	**Pn**	**20 40 56.7**	**-1.4**
ORTG	**Ortega, Santa**	**7.42**	**114**	*e*P	**Pn**	**20 40 59.9**	**+1.9**
DUNO	**Dulce Nombre,**	**7.52**	**116**		**Pn**	**20 41 00.1**	**+0.8**
PLVR	**Palo Verde**	**7.53**	**114**	*e*P	**Pn**	**20 41 02.1**	**+2.6**
JTS	**Las Juntas de**	**7.91**	**113**	Pn	**Pn**	**20 41 01.5**	**-3.1**
	comp=Z,1.2nm,0.3s,baz=352,slow=22,SNR=1.1						
JTS				LR	LR	20 42 38.3	
	comp=Z,483nm,21.4s,baz=36,slow=27						
ESPN	**Las Esperanzas**	**7.95**	**98**	Pn	**Pn**	**20 41 04.4**	**-0.9**
LAFE	**Finca La Fe, P**	**8.15**	**116**	*e*P	**Pn**	**20 41 09.7**	**+1.7**
COVE	**Coope Vega, Sa**	**8.24**	**109**	Pn	**Pn**	**20 41 08.7**	**-0.6**
JACO	**JACO, Garabito**	**8.44**	**116**	Pn	**Pn**	**20 41 12.7**	**+0.8**
CVTR	**Volcan Turrial**	**9.09**	**111**		**Pn**	**20 41 21.3**	**+0.1**
RIMA	**Rio Macho**	**9.10**	**113**		**Pn**	**20 41 23.2**	**+2.0**
RIMA	**Rio Macho**	**9.10**	**113**	*e*P	**Pn**	**20 41 24.4**	**+3.2**
PEZE	**Perez Zeledon,**	**9.43**	**115**	Pn	**Pn**	**20 41 27.7**	**+2.1**
SRBA	**San Rafael, Bu**	**9.78**	**115**		**Pn**	**20 41 30.9**	**+0.5**
DRK0	**Durika**	**9.86**	**114**		**Pn**	**20 41 33.9**	**+2.3**
DRK0	**Durika**	**9.86**	**114**	*e*P	**Pn**	**20 41 34.4**	**+2.7**
RIOS	**Rincon, Osa**	**9.89**	**118**		**Pn**	**20 41 33.4**	**+1.5**
RIOS	**Rincon, Osa**	**9.89**	**118**	*e*P	**Pn**	**20 41 35.8**	**+3.9**
CDITO	**Canoas**	**10.50**	**117**	Pn	**Pn**	**20 41 41.2**	**+1.0**
BRU2	**Volcan**	**10.56**	**115**		**Pn**	**20 41 41.0**	**-0.1**
PRVC	**Isla de Provid**	**10.69**	**89**	Pn	**Pn**	**20 41 41.3**	**-1.4**
SJCC	**San Jacinto, C**	**17.19**	**100**	P	**P**	**20 43 11.5**	**0.0**
SJCC				IAmb	IAmb	20 43 14.0	
	comp=Z,27nm,0.8s						
ZARC	**Zaragoza, Cauc**	**18.19**	**107**	P	**P**	**20 43 23.0**	**+0.3**
TX31	**Lajitas Ar. Si**	**18.94**	**328**	P	**P**	**20 43 30.6**	**-0.2**
TX32	**Lajitas Array**	**18.94**	**328**	P	**P**	**20 43 31.1**	**+0.2**
TXAR	**Lajitas Array**	**18.94**	**328**	P	**Pn**	**20 43 33.9**	**+2.4**
	comp=Z,0.0nm,0.3s,baz=150,slow=9.2,SNR=3.0						
TXAR	**Lajitas Array**	**18.94**	**328**	P	**P**	**20 43 30.4**	**-0.5**
Z47A	**Carrollton**	**20.00**	**11**	P	**Pn**	**20 43 43.9**	**-0.2**
LRAL	**Lakeview Retre**	**20.06**	**13**	P	**P**	**20 43 43.8**	**+0.9**
ABTX	**Abilene, Hawle**	**20.18**	**342**	P	**P**	**20 43 42.5**	**-1.8**
ABTX				IAmb	IAmb	20 43 53.6	
	comp=Z,13nm,0.6s						
Y49A	**Blount Mountai**	**20.98**	**14**	P	**P**	**20 43 51.3**	**-1.6**
Y49A				IAmb	IAmb	20 44 06.3	
	comp=Z,25nm,1.4s						
X37A	**Clayton**	**21.18**	**353**	P	**P**	**20 43 55.1**	**0.0**
X48A	**Hartselle**	**21.41**	**12**	P	**P**	**20 43 55.7**	**-1.9**
X48A				IAmb	IAmb	20 44 09.1	
	comp=Z,25nm,1.1s						
GOGA	**Godfrey**	**21.42**	**21**	P	**P**	**20 43 57.1**	**-0.5**
MNTX	**Cornudas Mount**	**21.72**	**329**	P	**P**	**20 44 01.6**	**+0.7**
PLAL	**Pickwick Lake**	**21.74**	**10**	P	**P**	**20 43 59.8**	**-1.3**
SDV	**Santo Domingo**	**21.78**	**100**	P	**P**	**20 44 01.0**	**-0.9**
	comp=Z,11nm,0.8s,baz=256,slow=5.0,SNR=12						
SDV	**Santo Domingo**	**21.78**	**100**	P	**P**	**20 44 00.8**	**-1.1**
SDV				IAmb	IAmb	20 44 03.6	
	comp=Z,14nm,0.9s						
FPAL	**Fort Paine**	**21.83**	**15**	P	**P**	**20 43 60.0**	**-2.1**
FPAL				IAmb	IAmb	20 44 13.7	
	comp=Z,25nm,0.7s						
W35A	**Tecumseh**	**21.95**	**350**	P	**P**	**20 44 01.9**	**-1.5**
W35A				IAmb	IAmb	20 44 15.0	
	comp=Z,14nm,0.7s						
FNO	**Franklin**	**22.15**	**349**	P	**P**	**20 44 04.6**	**-0.9**
FNO				IAmb	IAmb	20 44 09.9	
	comp=Z,23nm,0.6s						
SWET	**Sewanee**	**22.39**	**14**	P	**P**	**20 44 06.5**	**-1.7**
SWET				IAmb	IAmb	20 44 19.4	
	comp=Z,31nm,0.8s						
HODGE	**Hodges**	**22.59**	**22**	P	**P**	**20 44 10.6**	**+0.4**
HODGE				IAmb	IAmb	20 44 11.8	
	comp=Z,15nm,0.9s						
V48A	**Smith Brothers**	**22.70**	**12**	P	**P**	**20 44 09.5**	**-1.9**
V48A				IAmb	IAmb	20 44 22.2	
	comp=Z,36nm,0.9s						
WVT	**Waverly**	**22.90**	**9**	P	**P**	**20 44 13.0**	**-0.5**
WVT				IAmb	IAmb	20 44 23.9	
	comp=Z,13nm,0.7s						
CPCT	**Cooper Cave**	**22.97**	**17**	P	**P**	**20 44 13.0**	**-1.3**
CPCT				IAmb	IAmb	20 44 25.7	
	comp=Z,12nm,0.7s						
CLTN	**Cedars of Leba**	**23.14**	**12**	P	**P**	**20 44 14.5**	**-1.5**
CLTN				IAmb	IAmb	20 44 26.9	
	comp=Z,14nm,0.7s						
TKL	**Tuckaleechee C**	**23.38**	**18**	P	**P**	**20 44 19.1**	**+0.6**
	comp=Z,5.2nm,0.8s,baz=176,slow=7.7,SNR=2.3						
TKL	**Tuckaleechee C**	**23.38**	**18**	IAmb	IAmb	20 44 29.5	
	comp=Z,26nm,1.2s						
U49A	**Red Boiling Sp**	**23.67**	**13**	P	**P**	**20 44 20.4**	**-0.9**
KMSC	**Kings Mountain**	**23.74**	**23**	P	**P**	**20 44 19.2**	**-2.8**
KMSC				IAmb	IAmb	20 44 32.4	
	comp=Z,14nm,0.8s						
T47A	**Sharon Grove**	**23.86**	**10**	P	**P**	**20 44 21.7**	**-1.4**
BAUV	**El Baul**	**24.26**	**98**	P	**P**	**20 44 26.6**	**-0.5**
S44A	**Carbondale**	**24.26**	**6**	P	**P**	**20 44 24.6**	**-2.2**
SIUC	**Southern Illin**	**24.29**	**6**	P	**P**	**20 44 25.5**	**-1.6**
T50A	**Nancy**	**24.38**	**15**	P	**P**	**20 44 25.5**	**-2.4**
T50A				IAmb	IAmb	20 44 39.4	
	comp=Z,10nm,0.8s						
USIN	**University of**	**24.73**	**9**	P	**P**	**20 44 28.8**	**-2.3**
ANMO	**Albuquerque**	**24.88**	**332**	P	**P**	**20 44 35.2**	**+2.4**
	comp=Z,1.2nm,0.6s,baz=168,slow=8.6,SNR=3.6						
ANMO	**Albuquerque**	**24.88**	**332**		**P**	**20 44 33.0**	**+0.2**
OLIL	**Olney**	**25.42**	**8**	P	**P**	**20 44 37.0**	**-0.4**
Q51A	**Peebles**	**26.65**	**16**	P	**P**	**20 44 47.5**	**-1.0**
PDAR	**Pinedale Array**	**32.74**	**336**	P	**P**	**20 45 45.3**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=142,slow=7.5,SNR=4.8						
NVAR	**Mina Array Bea**	**33.86**	**322**	P	**P**	**20 45 55.1**	**+2.5**
	comp=Z,0.4nm,0.4s,baz=112,slow=6.9,SNR=1.7						
TPAW	**Teton Pass**	**33.91**	**335**	P	**P**	**20 45 52.3**	**-0.6**
TPAW				IAmb	IAmb	20 45 59.1	
	comp=Z,12nm,1.4s						
SIV	**San Ignacio**	**42.59**	**132**	P	**P**	**20 47 03.6**	**-2.5**
	comp=Z,0.9nm,0.6s,baz=317,slow=8.5,SNR=3.7						
EDM	**Edmonton**	**43.01**	**342**	P	**P**	**20 47 10.0**	**+1.0**
EDM				IAmb	IAmb	20 47 21.1	
	comp=Z,9.6nm,0.7s						
YKA	**Yellowknife Ar**	**51.44**	**347**	P	**P**	**20 48 16.0**	**+1.4**
	comp=Z,2.1nm,0.7s,baz=149,slow=7.6,SNR=41						
YKA				PcP	**PcP**	**20 49 29.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=141,slow=4.1,SNR=3.9						
BDFB	**Brasilia**	**52.54**	**122**	P	**P**	**20 48 22.4**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=17,slow=19,SNR=3.3						
BDFB	**Brasilia**	**52.54**	**122**	IAmb	IAmb	20 48 23.3	
	comp=Z,3.6nm,0.9s						
INK	**Inuvik**	**60.83**	**344**	P	**P**	**20 49 21.7**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=169,slow=15,SNR=1.6						
INK	**Inuvik**	**60.83**	**344**	IAmb	IAmb	20 49 35.1	
	comp=Z,3.1nm,1.1s						
KDAK	**Kodiak Island**	**62.97**	**329**	LR	LR	21 17 18.5	
	comp=Z,416nm,21.3s,baz=68,slow=36						
ILAR	**Eielson Array**	**63.17**	**337**	P	**P**	**20 49 38.8**	**+1.3**
	comp=Z,1.1nm,1.0s,baz=142,slow=4.6,SNR=6.7						
TIXI	**Tiksi**	**90.68**	**348**	P	**P**	**20 52 11.9**	**-0.2**
	comp=Z,0.5nm,0.2s,baz=270,slow=23,SNR=5.8						
TIXI	**Tiksi**	**90.68**	**348**	IAmb	IAmb	20 52 25.9	
	comp=Z,4.8nm,1.4s						
CMAR	**Chiang Mai Arr**	**146.36**	**340**	PKPbc	**PKPbc**	**20 58 52.1**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=345,slow=3.4,SNR=12						
CMAR	**Chiang Mai Arr**	**146.36**	**340**		**PKPbc**	**20 58 51.8**	**+0.3**

JMA 15 20:49:38.0, 32.72N×130.77E, h13km±1km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.17**	**168**	P	Pg	20 49 42.0	0.0
JIU3				*e*S	Sg	20 49 45.1	+0.3
JTA	**Tamana**	**0.32**	**321**	P	Pg	20 49 44.6	+0.1
JTA				*e*S	Sg	20 49 49.3	+0.5

*IDC **15** 20:52:48.2±1.0, 32.72N×130.95E, h0km, mb3.4/7, mb1 3.6/9, mb1mx3.4/52, mbtmp3.5/9, ML3.2/2, Error ellipse: s-maj=31.3km s-min=8.6km az=83.0*
*JMA **15** 20:52:51.4, 33.01N×131.15E, h9km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs308.00000°, δ76.00000°, λ-25.00000°. NP2:φs44.00000°, δ66.00000°, λ-165.00000°. Principal axes: T Plg7.0000°, Azm358.0000°; N Plg62.0000°, Azm101.0000°; P Plg27.0000°, Azm264.0000°;*
JMA Felt III J1.
*NIED **15** 20:52:51.4, 33.02N×131.16E, h9km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.57; Mθθ2.06; Mφφ-1.48; Mrθ-0.53; Mθφ0.31; Mφr-0.24; Fault plane solution: Mo1.87000×10¹⁵ NP1: φs311.00000°, δ74.00000°, λ0.00000°. NP2:φs41.00000°, δ90.00000°, λ-164.00000°.*

ISC 15 20:52:50.1±0.8, 32.82N±0.06×131.08E±0.04, h12km, n14, σ1s31/19, mb3.3/7, 1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.34**	**331**	Pg	**Pg**	**20 52 56.3**	**-0.7**
	2μm,0.3s,baz=117,slow=12,SNR=92						
JNU				Lg	Lg	20 53 01.0	
	baz=198,slow=20						
JNU	**Nakatsue**	**0.34**	**331**	P	**Pg**	**20 52 56.5**	**-0.5**
JNU				S	**Sg**	**20 53 00.5**	**-1.1**
JIU3	**Izumi3**	**0.35**	**219**	P	**Pn**	**20 53 02.2**	**+1.1**
JTA	**Tamana**	**0.48**	**287**	P	**Pn**	**20 53 01.7**	**-1.1**
JTA				*e*S	**Sb**	**20 53 09.0**	**+1.5**
JUS	**Usuki**	**0.62**	**67**	⇓P	**Pg**	**20 53 01.0**	**-1.1**
JUS				S	**Sg**	**20 53 08.4**	**-1.9**
KSRS	**Korea Array**	**5.29**	**332**	Pn	**Pn**	**20 54 09.7**	**+0.7**
	0.8nm,0.3s,baz=151,slow=14,SNR=5.6						
KSRS				Pg	**Pb**	**20 54 24.1**	**+1.6**
	1.6nm,0.3s,baz=151,slow=16,SNR=5.5						
KSRS				Sn	**Sn**	**20 55 08.3**	**-1.5**
	4.5nm,0.3s,baz=148,slow=25,SNR=7.9						
KSRS				Lg	Lg	20 55 30.6	
	2.8nm,0.3s,baz=154,slow=26,SNR=5.5						
MJAR	**Matsushiro Arr**	**6.95**	**56**	Pn	**Pn**	**20 54 34.2**	**+2.4**
	0.5nm,0.3s,baz=281,slow=9.6,SNR=19						
SONM	**Songino Array**	**23.92**	**316**	P	**P**	**20 58 04.2**	**+0.2**
	0.5nm,0.6s,baz=111,slow=7.9,SNR=3.3						
MKAR	**Makanchi Array**	**39.36**	**305**	P	**P**	**21 00 19.6**	**+0.2**
	0.1nm,0.4s,baz=90,slow=10,SNR=1.2						
WRA	**Warramunga Arr**	**52.56**	**176**	P	**P**	**21 02 02.3**	**-1.3**
	0.3nm,0.7s,baz=351,slow=7.8,SNR=2.5						
ASAR	**Alice Springs**	**56.24**	**177**	P	**P**	**21 02 29.0**	**-1.3**
	0.2nm,0.7s,baz=1.9,slow=5.9,SNR=2.0						
FINES	**FINESS Array B**	**68.38**	**330**	P	**P**	**21 03 51.4**	**+0.2**
	2.0nm,1.1s,baz=61,slow=6.3,SNR=3.4						
YKA	**Yellowknife Ar**	**71.53**	**26**	P	**P**	**21 04 11.3**	**+0.7**
	0.1nm,0.3s,baz=302,slow=5.8,SNR=2.5						
BRTR	**Keskin Array B**	**74.97**	**308**	P	**P**	**21 04 31.3**	**-0.2**
	0.7nm,0.8s,baz=101,slow=5.2,SNR=4.1						

JMA 15 20:53:37.7, 32.68N×130.73E, h13km±1km, M3.9, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**152**	⇑P	Pg	20 53 41.3	0.0
JIU3				S	Sg	20 53 44.0	+0.1
JTA	**Tamana**	**0.33**	**330**	⇑P	Pg	20 53 44.6	+0.2
JTA				S	Sg	20 53 49.2	+0.3

*IDC **15** 20:55:00.1±1.6, 41.52N×141.91E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.1/50, mbtmp3.2/4, ML2.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/44, Error ellipse: s-maj=80.9km s-min=21.9km az=108.0*
*JMA **15** 20:55:02.5±0.2, 41.73N×144.23E, h35km±2km, M3.2*

ISC 15 20:54:59.9±2.1, 41.75N±0.08×144.25E±0.07, h13km±12km, n19, σ1s15/15, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.86**	**289**	P	**Pn**	**20 55 18.6**	**+1.0**
JTHR	**Tokachihiroo**	**0.89**	**308**	P	**Pn**	**20 55 18.8**	**+0.8**
JTHR				*e*S	**Sn**	**20 55 31.2**	**+0.4**
JCH	**Churui**	**1.09**	**323**	P	**Pn**	**20 55 21.6**	**+0.8**
JCH				*e*S	**Sn**	**20 55 35.9**	**+0.3**
JOB	**Onbets**	**1.19**	**345**	P	**Pn**	**20 55 23.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**1.23**	**296**	P	**Pn**	**20 55 24.2**	**+1.4**
JAK	**Akkeshi**	**1.29**	**15**	P	**Pg**	**20 55 24.7**	**0.0**
JAK				*e*S	**Sn**	**20 55 41.4**	**+0.7**
JSHD	**Hidakashinhida**	**1.48**	**297**	P	**Pg**	**20 55 28.4**	**+0.1**
JAR	**Ashorobuto**	**1.59**	**347**	P	**Pb**	**20 55 28.5**	**-0.5**
JAR				*e*S	**Sn**	**20 55 47.9**	**-0.1**
ASAJ	**Asahikawa**	**2.66**	**333**	Pn	**Pn**	**20 55 44.3**	**+1.9**
	1.0nm,0.3s,baz=193,slow=17,SNR=8.0						
ASAJ				Sn	**Sb**	**20 56 18.0**	**-1.8**
	2.6nm,0.3s,baz=117,slow=24,SNR=3.8						
MJAR	**Matsushiro Arr**	**7.00**	**224**	Pn	Pn	20 56 26.1	-16
	baz=356,slow=12,SNR=2.3						
GUMO	**Guam**	**28.06**	**179**	LR	LR	21 11 47.9	
	comp=Z,94nm,21.3s,baz=90,slow=36						
H11N2	**WAKE ISLAND Hy**	**29.17**	**132**	T	T	21 31 51.3	
	baz=325,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**29.18**	**132**	T	T	21 31 54.4	
	baz=324,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**29.19**	**132**	T	T	21 31 55.9	
	baz=324,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**30.05**	**134**	T	T	21 33 04.1	
	baz=325,slow=76,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**30.06**	**134**	T	T	21 32 57.9	
	baz=325,slow=76,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**30.07**	**134**	T	T	21 32 59.1	
	baz=325,slow=76,SNR=11						
ILAR	**Eielson Array**	**44.36**	**35**	P	P	21 03 20.8	+11
	0.3nm,0.9s,baz=290,slow=8.4,SNR=2.0						
WRA	**Warramunga Arr**	**62.06**	**191**	P	**P**	**21 05 19.2**	**-0.9**
	0.2nm,0.6s,baz=8.8,slow=6.8,SNR=1.8						

*IDC **15** 21:02:51.2±0.9, 32.86N×131.07E, h0km, mb3.5/8, mb1 3.8/11, mb1mx3.5/58, mbtmp3.6/11, ML3.0/3, Error ellipse: s-maj=25.7km s-min=6.9km az=59.0*
*NIED **15** 21:02:52.5, 32.96N×131.11E, h9km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-0.33; Mθθ0.84; Mφφ-0.51; Mrθ-0.67; Mθφ0.46; Mφr-1.21; Fault plane solution: Mo1.63000×10¹⁵ NP1: φs292.00000°, δ30.00000°, λ-13.00000°. NP2:φs33.00000°, δ83.00000°, λ-120.00000°.*
*JMA **15** 21:02:52.4, 32.96N×131.11E, h9km±1km, M3.9*
JMA Felt III J1.

ISC 15 21:02:52.9±0.6, 32.88N±0.05×131.10E±0.04, h12km, n17, σ1s44/22, mb3.4/8, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.31**	**323**	Pg	**Pg**	**21 02 57.5**	**-1.8**
	2μm,0.3s,baz=108,slow=5.6,SNR=169						
JNU				Lg	Lg	21 03 01.2	
	5μm,0.3s,baz=247,slow=1.8,SNR=46						
JNU	**Nakatsue**	**0.31**	**323**	⇑P	**Pg**	**21 02 57.6**	**-1.7**
JNU				*e*S	**Sg**	**21 03 01.3**	**-2.2**
JIU3	**Izumi3**	**0.41**	**217**	P	**Pb**	**21 03 02.0**	**0.0**
JTA	**Tamana**	**0.49**	**281**	⇓P	**Pg**	**21 03 01.9**	**-0.6**
JTA				S	**Sg**	**21 03 08.9**	**-0.1**
JUS	**Usuki**	**0.58**	**71**	P	**Pg**	**21 03 02.7**	**-1.5**
JUS				S	**Sg**	**21 03 10.5**	**-1.3**
KSRS	**Korea Array**	**5.26**	**331**	Pn	**Pn**	**21 04 10.7**	**-0.6**
	0.3nm,0.3s,baz=147,slow=14,SNR=3.6						
KSRS				Pg	**Pb**	**21 04 27.7**	**+2.9**
	1.3nm,0.3s,baz=150,slow=14,SNR=8.9						
KSRS				Sn	**Sn**	**21 05 09.8**	**-2.0**
	1.5nm,0.3s,baz=152,slow=16,SNR=4.5						
KSRS				Lg	Lg	21 05 35.2	
	3.2nm,0.3s,baz=150,slow=30,SNR=8.2						
JOW	**Kunigami**	**6.50**	**203**	Pn	**Pn**	**21 04 28.9**	**+0.5**
	0.8nm,0.3s,baz=53,slow=18,SNR=1.1						
MJAR	**Matsushiro Arr**	**6.90**	**26**	Pn	**Pn**	**21 04 34.5**	**+0.6**
	0.3nm,0.3s,baz=278,slow=9.5,SNR=17						
KLR	**Kul'dur**	**16.35**	**2**	Pn	**P**	**21 06 46.5**	**+1.4**
	0.1nm,0.3s,baz=166,slow=10,SNR=6.9						
SONM	**Songino Array**	**23.90**	**316**	P	**P**	**21 08 06.2**	**-0.3**
	0.4nm,0.5s,baz=126,slow=9.4,SNR=2.6						
MKAR	**Makanchi Array**	**39.35**	**305**	P	**P**	**21 10 23.9**	**+1.8**
	0.3nm,0.6s,baz=94,slow=10,SNR=2.2						
WRA	**Warramunga Arr**	**52.61**	**176**	P	**P**	**21 12 06.5**	**-0.3**
	0.2nm,0.5s,baz=357,slow=8.0,SNR=1.6						
ASAR	**Alice Springs**	**56.29**	**177**	P	**P**	**21 12 33.4**	**0.0**
	0.3nm,0.6s,baz=8.5,slow=8.0,SNR=1.9						
ILAR	**Eielson Array**	**57.44**	**30**	P	**P**	**21 12 42.9**	**+1.7**
	0.4nm,0.8s,baz=260,slow=5.4,SNR=2.4						
KBZ	**Khabaz**	**66.97**	**308**	P	**P**	**21 13 44.5**	**-0.8**
	2.6nm,0.9s,baz=142,slow=3.5,SNR=4.6						
FINES	**FINESS Array B**	**68.35**	**330**	P	**P**	**21 13 52.6**	**-1.2**
	2.1nm,1.1s,baz=141,slow=6.4,SNR=3.4						
YKA	**Yellowknife Ar**	**71.47**	**27**	P	**P**	**21 14 12.8**	**-0.2**
	0.2nm,0.7s,baz=304,slow=5.8,SNR=4.5						

*IDC **15** 21:03:01.0±4.9, 24.63S×177.15W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/47, mbtmp3.8/3, Error ellipse: s-maj=209.6km s-min=64.6km az=149.0*
*NEIC **15** 21:03:27.7±0.7, 25.42S±0.08×177.4W±0.2, h212km±9km, mb4.0/14, Error ellipse: s-maj=25.2km s-min=10.0km az=108.0*

ISC 15 21:03:23.5±1.2, 25.3S±0.1×177.4W±0.2, h176km, n23, σ0s82/23, mb3.9/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**12.81**	**196**		**Pn**	**21 06 20.2**	**+0.9**
KOUNC	**Koumac, New Ca**	**17.49**	**282**	P	**Pn**	**21 07 17.8**	**+0.9**
MQZ	**McQueen's Vall**	**20.12**	**201**	P	**P**	**21 07 43.5**	**-0.2**
STKA	**Stephens Creek**	**36.44**	**250**	P	**P**	**21 10 11.2**	**-0.2**
	1.0nm,0.5s,baz=98,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**36.44**	**250**	P	**P**	**21 10 12.0**	**+0.6**
BBOO	**Buckleboo**	**41.11**	**248**	P	**P**	**21 10 50.4**	**+0.1**
BBOO				IAmb	IAmb	21 11 02.5	
	comp=Z,8.1nm,1.1s						
AS31	**Alice Springs**	**44.15**	**261**	P	**P**	**21 11 15.3**	**+0.4**
ASAR	**Alice Springs**	**44.15**	**261**	P	**P**	**21 11 14.4**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=94,slow=7.9,SNR=18						
ASAR	**Alice Springs**	**44.15**	**261**	P	**P**	**21 11 14.9**	**0.0**
WR0	**Warramunga Arr**	**44.48**	**267**	P	**P**	**21 11 18.5**	**+0.9**
WR0				IAmb	IAmb	21 11 18.8	
	comp=Z,3.0nm,1.1s						
WB2	**Warramunga Arr**	**44.66**	**267**	P	**P**	**21 11 18.9**	**0.0**
WB2				IAmb	IAmb	21 11 21.0	
	comp=Z,2.4nm,1.1s						
WB0	**Warramunga Arr**	**44.67**	**267**	P	**P**	**21 11 19.2**	**+0.1**
WB0				IAmb	IAmb	21 11 19.3	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**44.67**	**267**	P	**P**	**21 11 18.0**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=106,slow=7.5,SNR=6.9						
WRA	**Warramunga Arr**	**44.67**	**267**	P	**P**	**21 11 18.9**	**-0.2**
FORT	**Forrest**	**48.06**	**250**	P	**P**	**21 11 45.6**	**+0.3**
FORT				IAmb	IAmb	21 11 45.7	
	comp=Z,22nm,1.1s						
KNRA	**Kununurra**	**51.03**	**270**	P	**P**	**21 12 07.8**	**-0.1**
KNRA				IAmb	IAmb	21 12 09.8	
	comp=Z,5.1nm,1.0s						
SBA	**Scott Base**	**53.20**	**184**	P	**P**	**21 12 24.1**	**+1.2**
MORW	**Morawa**	**58.63**	**250**	P	**P**	**21 13 01.3**	**-1.0**
MORW				IAmb	IAmb	21 13 15.1	
	comp=Z,4.2nm,1.1s						
TOLI2	**Tolitoli**	**65.19**	**284**	P	**P**	**21 13 45.4**	**-0.9**
TOLI2				IAmb	IAmb	21 13 52.2	
	comp=Z,6.4nm,0.9s						
UGM	**Wanagama**	**70.47**	**270**	P	**P**	**21 14 19.3**	**-0.1**
ADK	**Adak**	**76.80**	**0**	P	**P**	**21 14 56.6**	**+1.3**
SNAA	**Sanae**	**83.27**	**178**	P	**P**	**21 15 28.1**	**-2.0**
BRTR	**Keskin Array B**	**150.26**	**307**	PKPbc	**PKPbc**	**21 22 53.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=78,slow=7.5,SNR=2.0						

*TUL **15** 21:04:22.2±1.3, 35.95N±0.01×97.37W±0.01, h5km±7km, ML2.6, mb_Lg2.4/11(NEIC), Error ellipse: s-maj=1.6km s-min=1.5km az=168.0*

NEIC 15 21:04:22.3±0.8, 35.97N±0.02×97.38W±0.01, h9km±7km, Error ellipse: s-maj=2.2km s-min=1.0km az=195.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNO	**Franklin**	**0.71**	**181**	Pg	Pg	21 04 35.5	-0.5
W35A	**Tecumseh**	**0.91**	**153**	Pg	Pg	21 04 38.6	-1.2
T35A	**Sooner Cattle**	**1.18**	**36**		Pb	21 04 44.4	-0.5
TUL1	**Leonard**	**1.29**	**92**	Pn	Pn	21 04 45.4	-1.1
U32A	**Winter Ranch,**	**1.37**	**288**	Pn	Pb	21 04 48.0	-0.2
X34A	**Smith Ranch, M**	**1.41**	**195**	Pn	Pn	21 04 48.0	-0.1
WMOK	**Wichita Mounta**	**1.68**	**223**	Pn	Pn	21 04 51.9	+0.1
WMOK				IAmb_Lg		21 05 19.0	
	comp=Z,16nm,0.8s						
X37A	**Clayton**	**2.15**	**129**	Pn	Pn	21 04 58.5	+0.3
R32A	**Long Quarter,**	**2.67**	**337**	Pn	Pn	21 05 07.2	+1.8
R32A				IAmb_L

σ1°43/24, mb3.4/9, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.23**	**317**	⇑P	**Pg**	**21 15 01.5**	**+1.0**
JTA				S	**Sg**	**21 15 05.6**	**+1.8**
JIU3	**Izumi3**	**0.26**	**162**	P	**Pg**	**21 15 01.3**	**+0.4**
JIU3				S	**Sg**	**21 15 05.2**	**+0.7**
JNU	**Nakatsue**	**0.35**	**22**	Pg	**Pg**	**21 15 02.4**	**-0.3**
	815nm,0.3s,baz=184,slow=8.5,SNR=18						
JNU				Lg	Lg	21 15 07.0	
	2μm,0.3s,baz=279,slow=23,SNR=16						
JNU	**Nakatsue**	**0.35**	**22**	⇑P	**Pg**	**21 15 02.8**	**+0.1**
JNU				S	**Sg**	**21 15 07.5**	**0.0**
JTZ	**Takazaki**	**0.94**	**161**	P	**Pg**	**21 15 14.3**	**+0.6**
JTZ				S	**Sg**	**21 15 26.4**	**+0.4**
KSRS	**Korea Array**	**5.18**	**335**	Pn	**Pn**	**21 16 13.6**	**+0.6**
	baz=149,slow=14,SNR=1.6						
KSRS				Pg	**Pb**	**21 16 29.3**	**+3.1**
	1.0nm,0.3s,baz=148,slow=16,SNR=3.2						
KSRS				Sn	**Sn**	**21 17 09.5**	**-3.1**
	0.5nm,0.3s,baz=349,slow=11,SNR=1.4						
KSRS				Lg	Lg	21 17 31.7	
	0.9nm,0.3s,baz=191,slow=41,SNR=1.5						
JOW	**Kunigami**	**6.31**	**200**	Pn	**Pn**	**21 16 28.7**	**+0.2**
	1.5nm,0.3s,baz=279,slow=25,SNR=1.7						
MJAR	**Matsushiro Arr**	**7.21**	**57**	Pn	**Pn**	**21 16 43.8**	**+2.9**
	0.1nm,0.3s,baz=231,slow=13,SNR=1.8						
KLR	**Kul'dur**	**16.44**	**2**	Pn	**Pn**	**21 18 46.8**	**+0.8**
	0.1nm,0.3s,baz=147,slow=21,SNR=7.3						
SONM	**Songino Array**	**23.73**	**316**	P	**P**	**21 20 06.9**	**-0.7**
	0.5nm,0.6s,baz=115,slow=8.7,SNR=3.6						
CMAR	**Chiang Mai Arr**	**31.87**	**251**	P	**P**	**21 21 19.9**	**-0.8**
	0.2nm,0.7s,baz=53,slow=4.6,SNR=2.1						
WRA	**Warramunga Arr**	**52.55**	**176**	P	**P**	**21 24 08.0**	**-0.9**
	0.4nm,0.9s,baz=355,slow=7.7,SNR=2.0						
ASAR	**Alice Springs**	**56.23**	**176**	P	**P**	**21 24 35.3**	**-0.4**
	0.3nm,0.8s,baz=15,slow=11,SNR=2.3						
ILAR	**Eielson Array**	**57.67**	**30**	P	**P**	**21 24 45.3**	**-0.1**
	0.3nm,0.8s,baz=236,slow=3.1,SNR=1.9						
FINES	**FINESS Array B**	**68.26**	**330**	P	**P**	**21 25 54.8**	**-1.1**
	1.1nm,0.5s,baz=64,slow=6.2,SNR=13						
YKA	**Yellowknife Ar**	**71.69**	**26**	P	**P**	**21 26 15.2**	**-1.7**
	0.2nm,0.7s,baz=304,slow=6.8,SNR=2.6						
NOA	**NORSAR Array B**	**74.40**	**334**	P	**P**	**21 26 31.9**	**-1.2**
	0.4nm,0.8s,baz=51,slow=5.6,SNR=2.1						
BRTR	**Keskin Array B**	**74.75**	**308**	P	**P**	**21 26 35.2**	**-0.4**
	0.7nm,0.8s,baz=100,slow=6.8,SNR=3.8						

IDC 15 21:20:19.3±1.5, 1°56N×128°84E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.4/36, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=68.0km s-min=21.7km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.42**	**135**	Pn	Pn	21 21 12.9	-1.1
	6.0nm,0.3s,baz=116,slow=21,SNR=27						
SIJI				Sn	Sn	21 21 50.4	-4.9
	3.4nm,0.3s,baz=205,slow=23,SNR=8.6						
FITZ	**Fitzroy Crossi**	**19.79**	**189**	P	P	21 24 52.0	+0.6
	0.1nm,0.3s,baz=37,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**22.04**	**166**	P	P	21 25 14.1	-1.7
	0.3nm,0.6s,baz=343,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**25.56**	**169**	P	P	21 25 51.5	+1.3
	0.3nm,0.6s,baz=349,slow=12,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**41.35**	**62**	T	T	22 12 28.4	
	baz=248,slow=75,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**41.36**	**61**	T	T	22 12 28.4	
	baz=248,slow=75,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**41.37**	**62**	T	T	22 12 25.6	
	baz=248,slow=75,SNR=13						
MKAR	**Makanchi Array**	**60.53**	**325**	P	P	21 30 31.4	-0.1
	1.4nm,0.5s,baz=116,slow=8.2,SNR=26						

*ANF **15** 21:21:31.7±0.1, 34°.39N×118°.63W, h24km±1km, ML3.1/24, Error ellipse: s-maj=1.3km s-min=0.7km az=37.0*
*PAS **15** 21:21:32.8±1.7, 34°.36N±0°.02×118°.65W±0°.03, h11km±3km, ML3.1/313, ML2.8/54(NEIC), Error ellipse: s-maj=3.3km s-min=2.2km az=52.0*
NEIC 15 21:21:32.2±1.9, 34°.34N±0°.02×118°.67W±0°.02, h10km±1km, Error ellipse: s-maj=4.0km s-min=2.8km az=223.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSI	**Osito Audit: C**	**0.28**	**351**	P	Pg	21 21 37.9	+0.1
	baz=165,SNR=155						
OSI				S	Sg	21 21 42.2	+0.7
	baz=165						
DECC	**Green Verdugo**	**0.29**	**107**	P	Pg	21 21 38.5	+0.4
	baz=293,SNR=119						
DECC				S	Sb	21 21 43.5	-1.0
	baz=293						
DJJ	**Donna J Jenkin**	**0.30**	**143**		Pg	21 21 38.6	+0.4
DJJ					Sg	21 21 43.2	+1.1
PASC	**Pasadena Art C**	**0.44**	**113**		Pg	21 21 40.7	0.0
PASC				Sg	Sg	21 21 47.0	+0.4
PASC				IAML		21 21 47.8	
	comp=E,1μm,0.5s						
PASC				IAML		21 21 48.7	
	comp=N,665nm,0.4s						
CBCC	**Caltech Broad**	**0.49**	**114**		Pn	21 21 49.5	+4.2
FMP	**Fort Macarthur**	**0.70**	**153**	P	Pg	21 21 45.8	0.0
	baz=336						
FMP				S	Sg	21 21 55.5	+0.6
	baz=336						
EDW2	**Edwards Air Fo**	**0.78**	**46**	P	Pg	21 21 45.8	-1.3
	baz=226,SNR=32						
EDW2				S	Sg	21 21 55.7	-1.6
	baz=226						
ARVC	**Arvin**	**0.79**	**351**	P	Pg	21 21 47.0	-0.5
	baz=169,SNR=34						
ARVC				Sb	Sg	21 21 57.3	-0.6
	baz=169						
BFSC	**Mount Baldy Ra**	**0.84**	**97**	P	Pg	21 21 47.8	-0.7
	baz=279,SNR=30						
BFSC				Sb	Sg	21 21 59.4	-0.1
	baz=279						
BCW	**Bitter Crk WRg**	**0.85**	**315**	Pg	Pg	21 21 48.5	-0.2
BCW				Sg	Sb	21 22 00.6	-0.2
BCW				IAML		21 22 10.1	
	comp=N,468nm,0.7s						
SBC	**Santa Barbara**	**0.87**	**277**	P	Pg	21 21 48.9	0.0
	baz=95						
SBC				S	Sb	21 22 00.9	-0.1
	baz=95						
CIS	**Catalina Islan**	**0.96**	**167**	P	Pg	21 21 50.1	-0.6
	baz=349,SNR=7.5						
CIS				S	Sb	21 22 03.6	-0.2
	baz=349						
CCAC	**Calif City Air**	**0.97**	**34**	Pg	Pg	21 21 49.8	-1.1
CCAC				Sg	Sg	21 22 02.5	-1.0
PKM	**Mcpherson Peak**	**1.09**	**300**	Pb	Pg	21 21 52.6	-0.5
	baz=118,SNR=13						
PKM				S	Sg	21 22 06.2	-1.1
	baz=118						
ELS	**Elsinore Mount**	**1.25**	**123**		Pn	21 21 54.4	-1.3
ELS					Sb	21 22 10.8	-1.2
ELS				IAML		21 22 12.2	
	comp=N,122nm,0.4s						
SNCC	**San Nicolas Is**	**1.30**	**213**	Pn	Pn	21 21 55.3	-1.1
SNCC					Sb	21 22 13.6	+0.1
SNCC	**San Nicolas Is**	**1.30**	**213**	P	Pn	21 21 55.1	-1.3
	baz=33						
SNCC				S	Sb	21 22 12.3	-1.2
	baz=33						
ISA	**Isabella, Lake**	**1.33**	**7**	Pn	Pn	21 21 55.7	-1.1
ISA					Sb	21 22 14.2	-0.2
ISA	**Isabella, Lake**	**1.33**	**7**	Pb	Pn	21 21 55.7	-1.2
	baz=186,SNR=23						
SCI2	**San Clemente I**	**1.36**	**176**	Sb	Sg	21 22 16.2	+0.2
	baz=357						
MURC	**Murrieta**	**1.43**	**121**	Pb	Pn	21 21 57.7	-0.6
	baz=303,SNR=9.2						
MURC				Sb	Sn	21 22 16.5	-0.6
	baz=303						
BBRC	**Big Bear Solar**	**1.45**	**93**	Pb	Pn	21 21 58.3	-0.4
	baz=275						
SMMC	**Simmler**	**1.46**	**312**	Pb	Pn	21 21 58.1	-0.5
	baz=130						
SMMC				Sb	Sn	21 22 17.6	-0.2
	baz=130						
RRX	**Edison Barstow**	**1.48**	**68**	Pb	Pn	21 21 58.0	-0.9
	baz=250,SNR=6.1						
VES	**Vestal, Richgr**	**1.53**	**347**	Pb	Pn	21 21 58.9	-0.7
	baz=166,SNR=14						
GSC	**Goldstone, Bar**	**1.81**	**58**	Pn	Pn	21 22 03.0	-0.5
GSC				IAML		21 22 33.3	
	comp=N,162nm,0.7s						
GSC	**Goldstone, Bar**	**1.81**	**58**	Pb	Pn	21 22 03.3	-0.2
	baz=239						
PAGB	**Antelope Grade**	**1.90**	**317**		Pn	21 22 04.7	+0.1
PAGB				IAML		21 22 39.6	
	comp=N,72nm,0.7s						
PAGB				IAML		21 22 43.6	
	comp=E,70nm,0.8s						
109C	**Camp Elliot, M**	**1.95**	**138**	Pn	Pn	21 22 06.5	+1.1
109C				IAML		21 22 37.2	
	comp=E,74nm,0.4s						
109C				IAML		21 22 40.9	
	comp=N,62nm,0.6s						
109C	**Camp Elliot, M**	**1.95**	**138**	Pb	Pn	21 22 06.5	+1.1
	baz=319						
109C				S	Sn	21 22 27.9	-2.0
	baz=319						
MPMC	**Manual Prospec**	**1.97**	**29**	P	Pn	21 22 03.2	-2.6
	baz=210						
PFO	**Pinyon Flats O**	**1.98**	**111**	Pn	Pn	21 22 05.4	-0.5
PFO	**Pinyon Flats O**	**1.98**	**111**	Pb	Pn	21 22 05.8	0.0
	baz=293						
PFO				Sb	Sb	21 22 32.0	-1.1
	baz=293						
TPFO	**Pinon Flats**	**1.98**	**111**	Sb	Sb	21 22 32.5	-0.8
	baz=293						
HEC	**Hector,Ludlow**	**1.99**	**75**	Pb	Pn	21 22 05.7	-0.2
	baz=257						
QSM	**Queen of Sheba**	**2.19**	**42**	Pg	Pb	21 22 11.8	-0.1
QSM				IAML		21 22 42.5	
	comp=E,90nm,0.8s						
BAR	**Barrett**	**2.35**	**134**		Pn	21 22 10.4	-0.5
BAR				IAML		21 22 50.0	
	comp=E,47nm,0.3s						
BAR				IAML		21 22 50.3	
	comp=N,45nm,0.6s						
MONP2	**Monument Peak**	**2.37**	**127**	Pb	Pb	21 22 14.4	-0.6
	baz=309						
MONP2				Sb	Sb	21 22 43.6	-0.9
	baz=309						
GWY	**Greenwater Val**	**2.46**	**41**		Pg	21 22 18.0	-1.4
GWY				IAML		21 22 52.6	
	comp=E,70nm,0.5s						
GWY				IAML		21 22 55.8	
	comp=N,59nm,0.7s						
PMPB	**Monarch Peak**	**2.56**	**318**	Pn	Pn	21 22 12.8	-0.9
PMPB				IAML		21 23 22.0	
	comp=N,78nm,4.0s						
PMPB				IAML		21 23 28.1	
	comp=E,71nm,2.2s						
YUH	**Yuha Desert**	**2.85**	**126**	Pn	Pn	21 22 18.3	+0.6
YUH				IAML		21 23 08.3	
	comp=E,27nm,4.8s						
BBGB	**Big Mountain B**	**2.95**	**320**	Pn	Pn	21 22 19.8	+0.6
LCH	**Last Change Ra**	**3.00**	**16**		Pn	21 22 20.3	+0.3
TPNV	**Topopah Spring**	**3.26**	**36**	Pn	Pn	21 22 23.4	-0.2
TPNV					Pg	21 22 34.0	-0.7
TPNV				IAML		21 23 18.2	
	comp=E,17nm,1.1s						
TPNV				IAML		21 23 27.0	
	comp=E,16nm,1.4s						
SAO	**San Andreas Ge**	**3.31**	**318**	Pn	Pn	21 22 23.1	-0.9
BLYC	**Blythe**	**3.49**	**99**		Pn	21 22 26.1	-0.5
BLYC				IAML		21 23 29.9	
	comp=N,20nm,0.9s						
BLYC				IAML		21 23 31.7	
	comp=E,20nm,2.2s						
SHPR	**Sheep Range**	**3.59**	**52**		Pn	21 22 27.6	-0.5
SHPR				IAML		21 23 35.7	
	comp=E,18nm,1.0s						
LHV	**Little Huntoon**	**3.90**	**2**		Pn	21 22 32.4	+0.2
LHV				IAML		21 23 42.2	
	comp=E,26nm,1.1s						
LHV				IAML		21 23 49.3	
	comp=N,19nm,1.1s						
TPH	**Tonopah**	**3.91**	**17**		Pg	21 22 44.9	-2.1
CMB	**Columbia Colle**	**3.94**	**340**	Pn	Pn	21 22 32.6	-0.1
W13A	**Hualapai Mount**	**4.01**	**78**	Pn	Pn	21 22 33.0	-0.9
W13A				IAML		21 23 42.6	
	comp=N,16nm,1.4s						
W13A				IAML		21 23 56.5	
	comp=E,11nm,3.4s						

IDC 15 21:24:39.3±2.2, 2°28N×125°53E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/42, mbtmp3.3/3, MS3.8/1, Ms1 3.8/1, ms1mx2.9/36, Error ellipse: s-maj=185.0km s-min=28.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.71**	**159**	P	P	21 29 53.9	+0.8
	0.4nm,0.5s,baz=338,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**27.05**	**163**	P	P	21 30 23.2	-0.4
	0.4nm,0.8s,baz=343,slow=8.7,SNR=2.6						
JCJ	**Chichijima**	**29.39**	**31**	LR	LR	21 43 15.2	
	comp=Z,170nm,18.9s,baz=58,slow=38						
MKAR	**Makanchi Array**	**58.08**	**326**	P	P	21 34 34.3	-0.1
	0.4nm,0.6s,baz=126,slow=7.3,SNR=2.9						

*IDC **15** 21:28:08.4±1.4, 45°.93N×106°.96W, h0km, mb1 3.4/3, mb1mx3.2/45, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=46.9km s-min=9.6km az=129.0*
*NEIC **15** 21:28:10.8±2.7, 45°.87N±0°.05×106°.73W±0°.07, h0km±2km, ML3.0/54, Error ellipse: s-maj=9.4km s-min=7.9km az=163.0*
ISC 15 21:28:09.1±0.9, 45°.91N±0°.04×106°.60W±0°.05, h0km, n40, σ1°38/41, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.82**	**19**		**Pb**	**21 28 27.6**	**+1.2**
RLMT	**Red Lodge**	**2.03**	**248**	Pn	**Pn**	**21 28 44.0**	**-0.8**
RLMT				IAML		21 29 21.0	
	149nm,0.4s						
RLMT				IAML		21 29 24.6	
	80nm,0.6s						
GCMT	**Greycliff**	**2.15**	**268**		**Pn**	**21 28 46.0**	**-0.3**
RSSD	**Black Hills**	**2.55**	**134**		**Pn**	**21 28 53.4**	**+1.5**
RSSD				IAML		21 29 33.5	
	80nm,0.5s						
RSSD				IAML		21 29 41.1	
	57nm,0.7s						
YMP	**Mirror Lake Pl**	**2.77**	**246**		**Pn**	**21 28 54.8**	**-0.1**
LKWY	**Lake**	**3.00**	**245**	Pn	**Pn**	**21 28 59.4**	**+1.3**
LKWY				IAML		21 29 53.1	
	41nm,0.6s						
LKWY				IAML		21 29 55.8	
	32nm,1.4s						
YUF	**Upper Falls**	**3.01**	**248**	Pn	**Pn**	**21 28 58.3**	**+0.1**
YUF				IAML		21 29 59.5	
	comp=N,38nm,1.9s						
EGMT	**Eagleton**	**3.02**	**316**	Pn	**Pn**	**21 28 59.4**	**+1.1**
EGMT				IAML		21 29 56.2	
	comp=N,77nm,0.6s						
EGMT				IAML		21 30 00.3	
	comp=N,84nm,0.7s						
DGMT	**Dagmar**	**3.04**	**32**		**Pb**	**21 29 02.5**	**-1.7**
YNR	**Norris Junctio**	**3.11**	**249**		**Pn**	**21 29 01.4**	**+1.8**
YNR				IAML		21 29 49.9	
	comp=N,37nm,0.7s						
H17A	**Grant Village**	**3.19**	**243**		**Pn**	**21 29 02.8**	**+2.0**
YHH	**Holmes Hill**	**3.20**	**251**		**Pn**	**21 29 02.9**	**+2.0**
YHH				IAML		21 29 52.5	
	comp=N,32nm,1.0s						
K22A	**Casper**	**3.26**	**179**		**Pn**	**21 29 01.9**	**+0.3**
K22A				IAML		21 30 00.2	
	comp=N,55nm,0.4s						
K22A				IAML		21 30 03.6	
	comp=E,52nm,0.5s						
YMR	**Madison River**	**3.32**	**250**	Pn	**Pn**	**21 29 04.3**	**+1.8**
YFT	**Old Faithful**	**3.33**	**246**	Pn	**Pn**	**21 29 04.4**	**+1.7**
FLWY	**Flagg Ranch**	**3.43**	**239**	Pn	**Pn**	**21 29 05.3**	**+1.3**
FLWY				IAML		21 30 02.6	
	comp=E,57nm,2.0s						
FLWY				IAML		21 30 23.0	
	comp=E,41nm,2.5s						
BOZ	**Bozeman (W)**	**3.53**	**267**		**Pn**	**21 29 05.0**	**-0.3**
BOZ				IAML		21 30 02.0	
	comp=E,41nm,2.9s						
QLMT	**Earthquake Lak**	**3.57**	**254**		**Pn**	**21 29 06.7**	**+0.8**
MOOW	**Moose Ponds**	**3.65**	**235**	Pn	**Pn**	**21 29 10.1**	**+3.0**
LOHW	**Long Hollow**	**3.66**	**233**		**Pn**	**21 29 07.3**	**+0.2**
LOHW				IAML		21 31 10.3	
	comp=E,26nm,4.2s						
HRY	**Holter Researc**	**3.71**	**284**		**Pn**	**21 29 07.3**	**-0.4**
BW06	**Boulder Array**	**3.79**	**215**		**Pn**	**21 29 09.9**	**+1.0**
BW06				IAML		21 30 09.8	
	comp=E,18nm,1.0s						
BW06				IAML		21 30 11.5	
	comp=E,23nm,1.1s						
PDAR	**Pinedale Array**	**3.79**	**215**	Pn	**Pn**	**21 29 09.2**	**+0.2**
	comp=E,0.8nm,0.3s,baz=41,slow=10,SNR=31						
PDAR				Pg	**Pb**	**21 29 16.9**	**0.0**
	comp=E,4.2nm,0.3s,baz=38,slow=20,SNR=17						
PDAR				Lg	Lg	21 30 02.8	
	comp=E,4.2nm,0.3s,baz=43,slow=33,SNR=17						
PDAR	**Pinedale Array**	**3.79**	**215**	Pg	**Pg**	**21 29 20.8**	**-0.9**
SNOW	**Snow King Moun**	**3.84**	**232**	Pn	**Pn**	**21 29 12.1**	**+2.4**
SNOW				IAML		21 31 16.2	
	comp=E,31nm,4.1s						
SNOW				IAML		21 31 33.1	
	comp=E,28nm,3.2s						
TPAW	**Teton Pass**	**3.93**	**234**	Pg	**Pg**	**21 29 23.3**	**-1.1**
TPAW				IAML		21 31 08.8	
	comp=E,16nm,4.8s						
TPAW				IAML		21 31 11.1	
	comp=E,25nm,5.0s						
REDW	**Red Top Meadow**	**3.96**	**231**		**Pg**	**21 29 26.1**	**+1.1**
REDW				IAML		21 30 25.0	
	comp=E,18nm,2.5s						
REDW				IAML		21 31 29.0	
	comp=E,22nm,3.5s						
LRM	**Limekiln Ridge**	**4.09**	**271**		**Pn**	**21 29 12.3**	**-0.8**
E28A	**Huff**	**4.15**	**79**	Pn	**Pn**	**21 29 16.5**	**+2.7**
DLMT	**Dillon**	**4.24**	**265**	Pn	**Pn**	**21 29 15.1**	**0.0**
DLMT				IAML		21 30 34.1	
	comp=E,22nm,2.2s						
DLMT				IAML		21 30 48.4	
	comp=E,21nm,3.4s						
RWWY	**Rawlins**	**4.24**	**186**	Pn	**Pn**	**21 29 15.5**	**+0.3**
RWWY				Pg	**Pg**	**21 29 29.3**	**-1.1**
RWWY				IAML		21 30 24.8	
	comp=E,30nm,1.5s						
ECR	**Eagle Creek**	**4.45**	**232**	Pn	**Pn**	**21 29 19.5**	**+1.5**
AHID	**Auburn Hatcher**	**4.50**	**227**	Pn	**Pn**	**21 29 20.0**	**+1.3**
MCMT	**McKenzie Canyo**	**4.53**	**258**		**Pn**	**21 29 20.1**	**+0.9**
N23A	**Red Feather La**	**5.04**	**174**		**Pn**	**21 29 27.5**	**+1.4**
JTMT	**Jette**	**5.58**	**292**	Pn	**Pn**	**21 29 35.7**	**+2.2**
HWUT	**Hardware Ranch**	**5.60**	**222**	Pn	**Pn**	**21 29 33.6**	**-0.3**
I10CA	**LAC DU BONNET**	**8.28**	**55**	*i*		22 21 50.0	
	baz=243,slow=300,SNR=10						
ULM	**Lac du Bonnet**	**8.39**	**55**	Pn	**Pn**	**21 30 12.6**	**+0.7**
	comp=E,0.5nm,0.3s,baz=256,slow=12,SNR=2.1						
ULM				Lg	Lg	21 32 31.5	
	comp=E,0.3nm,0.3s,baz=101,slow=5.2,SNR=1.7						
YKA	**Yellowknife Ar**	**17.24**	**347**	P	**Pn**	**21 32 09.3**	**-1.7**
	comp=E,0.0nm,0.3s,baz=163,slow=13,SNR=4.6						

*IDC **15** 21:31:01.1±0.9, 32°.87N×131°.11E, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.7/43, mbtmp3.7/12, ML2.8/4, MS3.9/1, Ms1 3.9/1, ms1mx2.9/93, Error ellipse: s-maj=24.4km s-min=6.8km az=50.0*
*JMA **15** 21:31:02.4, 33°.12N×131°.18E, h10km±1km, M3.4*
JMA Felt II J1.
*NEIC **15** 21:31:03.9±2.0, 32°.87N±0°.04×131°.14E±0°.05, h11km±4km, mb4.3/20, Error ellipse: s-maj=6.9km s-min=5.6km az=63.0*
ISC 15 21:31:03.1±0.5, 32°90N±0°.04×131°15E±0°03, h12km, n57, σ1°30/60, mb4.1/18, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.32**	**314**	Pg	**Pg**	**21 31 07.5**	**-2.1**
	332nm,0.3s,baz=91,slow=12,SNR=50						
JNU				Lg	Lg	21 31 11.4	
	3μm,0.3s,baz=246,slow=17,SNR=98						
JNU	**Nakatsue**	**0.32**	**314**	P	**Pg**	**21 31 07.8**	**-1.8**
JNU				S	**Sg**	**21 31 11.7**	**-2.3**
JNU	**Nakatsue**	**0.32**	**314**		**Pg**	**21 31 07.9**	**-1.8**
JIU3	**Izumi3**	**0.45**	**219**	P	**Pn**	**21 31 14.9**	**-0.4**
JTA	**Tamana**	**0.52**	**277**	P	**Pb**	**21 31 13.3**	**-0.9**
JUS	**Usuki**	**0.53**	**71**	P	**Pg**	**21 31 11.8**	**-1.6**
JUS				*e*S	**Sg**	**21 31 18.5**	**-2.0**
JSU	**Suzuyama**	**1.51**	**203**	Pn	**Pg**	**21 31 30.4**	**-1.7**
JTU	**Tsushima**	**2.18**	**318**		**Pn**	**21 31 38.7**	**-0.5**
JMN	**Monobe**	**2.43**	**69**	Pn	**Pb**	**21 31 44.3**	**-2.4**
JHS	**Saijyo**	**2.66**	**37**		**Pn**	**21 31 45.5**	**-0.2**
TJN	**Taejon**	**4.67**	**319**		**Pn**	**21 32 14.2**	**+0.9**
TJN					**Sb**	**21 33 22.6**	**+1.6**
KSRS	**Korea Array**	**5.26**	**331**	Pn	**Pn**	**21 32 20.1**	**-1.4**
	0.2nm,0.3s,baz=149,slow=16,SNR=3.1						
KSRS				Pg	**Pb**	**21 32 35.8**	**+0.9**
	0.4nm,0.3s,baz=147,slow=16,SNR=5.2						
KSRS				Sn	**Sn**	**21 33 23.3**	**+1.4**
	0.4nm,0.3s,baz=142,slow=29,SNR=4.0						
KSRS				Lg	Lg	21 33 41.2	
	1.2nm,0.3s,baz=152,slow=31,SNR=6.3						
KSAR	**Wonju Array Be**	**5.26**	**330**		**Pg**	**21 32 41.2**	**-2.7**
INU	**Inuyama**	**5.44**	**62**		**Pn**	**21 32 25.7**	**+1.6**
JGF	**Kuroka**	**5.80**	**61**	Pn	**Pn**	**21 32 29.2**	**+0.2**
MJB9	**Matsu-Tunnel**	**6.85**	**56**		**Pn**	**21 32 44.2**	**+0.8**
MAJO	**Matsushiro**	**6.85**	**56**		**Pn**	**21 32 44.2**	**+0.8**
MJAR	**Matsushiro Arr**	**6.85**	**56**	Pn	**Pn**	**21 32 44.2**	**+0.8**
	0.1nm,0.3s,baz=280,slow=9.2,SNR=12						
MJAR	**Matsushiro Arr**	**6.85**	**56**		**Pn**	**21 32 43.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**11.30**	**3**	Pn	**Pn**	**21 33 45.6**	**+1.3**
	baz=212,slow=14,SNR=2.5						
USRK	**Ussuriysk Ar.**	**11.30**	**3**		**Pn**	**21 33 45.4**	**+1.0**
KLR	**Kul'dur**	**16.32**	**1**	Pn	**P**	**21 34 53.2**	**-1.7**
	0.2nm,0.3s,baz=165,slow=10,SNR=21						
ULN	**Ulaanbaatar**	**23.54**	**316**	P	**P**	**21 36 14.2**	**+0.9**
SONM	**Songino Array**	**23.91**	**316**	P	**P**	**21 36 16.5**	**-0.3**
	0.6nm,0.5s,baz=134,slow=8.6,SNR=4.7						
SONM	**Songino Array**	**23.91**	**316**	P	**P**	**21 36 16.3**	**-0.5**
KKM	**Kota Kinabalu**	**30.12**	**211**	P	**P**	**21 37 11.8**	**-1.1**
KKM				IAmb	IAmb	21 37 23.5	
	comp=Z,3.6nm,1.0s						
NRIK	**Noril'sk**	**43.81**	**339**	P	**P**	**21 39 08.3**	**-0.1**
NRIK				IAmb	IAmb	21 39 10.0	
	comp=Z,3.2nm,0.9s						
JAGI	**Jajag, Banyuwa**	**44.21**	**205**	P	**P**	**21 39 11.8**	**-0

comp=Z,2.9nm,0.8s,baz=72,slow=3.9,SNR=6.9
KIV Kislovodsk 67.03 308 P **P** 21 41 56.6 +0.5
KIV IAmb IAmb 21 41 58.5
comp=Z,7.5nm,1.1s
FINES FINESS Array B 68.35 330 P **P** 21 42 04.5 +0.5
comp=Z,1.5nm,0.9s,baz=100,slow=23,SNR=1.6
YKA Yellowknife Ar 71.44 27 P **P** 21 42 22.9 0.0
comp=Z,0.8nm,0.8s,baz=304,slow=6.0,SNR=14
SOCY Socotra 72.78 274 P **P** 21 42 30.9 -0.9
BRTR Keskin Array B 74.97 308 P **P** 21 42 44.3 -0.1
comp=Z,1.2nm,0.8s,baz=134,slow=5.3,SNR=6.9
KCPM Cahto Peak 80.04 49 P **P** 21 43 12.5 -0.3
CLL Collm 80.11 326 *e*(sP) sP 21 43 18.0 -0.5

IDC ***15*** *21:39:58.5±0.7,32.92N×131.09E,h0km,mb3.8/10, mb1 3.9/15,mb1mx3.8/38,mbtmp3.9/15,ML3.2/3,MS3.8/7, Ms1 3.8/7,ms1mx3.2/94,Error ellipse: s-maj=17.6km s-min=5.8km az=50.0*
NIED ***15*** *21:39:59.4,33.00N×131.10E,h9km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.64; $M_{\theta\theta}$3.55; $M_{\phi\phi}$-4.20; $M_{r\theta}$-3.67; $M_{\theta\phi}$-0.04; $M_{\phi r}$1.92; Fault plane solution: $M_0$5.62000×10^{15} NP1: ϕ_s219.00000°,δ46.00000°,λ171.00000°. NP2: ϕ_s316.00000°,δ83.00000°,λ45.00000°.*
JMA ***15*** *21:39:59.3,33.00N×131.10E,h9km±1km,M4.5*
JMA Felt III J1.
NEIC ***15*** *21:40:01.5,32.94N×130.92E,h20km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.42; $M_{\theta\theta}$6.36; $M_{\phi\phi}$-6.78; $M_{r\theta}$0.13; $M_{\theta\phi}$3.18; $M_{\phi r}$0.06; Fault plane solution: $M_0$7.31000×10^{15} NP1:ϕ_s32.10000°, δ89.30000°,λ178.97000°. NP2:ϕ_s122.11000°,δ88.97000°, λ0.70000°. Principal axes: T 7.0912, Plg1.0000°, Azm347.0000°; N 0.4198, Plg89.0000°, Azm178.0000°; P -7.5110, Plg0.0000°, Azm77.0000°;*
NEIC ***15*** *21:40:01.5±1.7,32.95N±0.03×130.91E±0.04,h10km±1km, mb4.3/21,Mwr4.5/15 Error ellipse: s-maj=6.3km s-min=4.4km az=118.0*

ISC 15 21:40:00.4±1.1,32.92N±0.03×130.98E±0.04,h7km±7km, n67,σ1^{s}25/73,mb4.2/22,MS4.1/7,1C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.22**	**337**	Pg	**Pg**	**21 40 03.7**	**-1.0**
	4μm,0.3s,baz=129,slow=12,SNR=150						
JNU				Lg	Lg	21 40 07.1	
	8μm,0.3s,baz=221,slow=22,SNR=69						
JNU	**Nakatsue**	**0.22**	**337**		**Pg**	**21 40 03.9**	**-0.9**
JNU				Sg	**Sg**	**21 40 07.7**	**-0.1**
JTA	**Tamana**	**0.38**	**277**	P	**Pg**	**21 40 08.5**	**+0.7**
JZO	**Okuchi**	**0.84**	**203**	P	**Pg**	**21 40 16.4**	**-0.1**
JZO				S	**Sn**	**21 40 31.2**	**-0.1**
JTZ	**Takazaki**	**1.02**	**175**	⇑P	**Pb**	**21 40 20.6**	**+0.3**
JTZ				S	**Sn**	**21 40 35.3**	**-0.3**
JSU	**Suzuyama**	**1.48**	**198**		**Pb**	**21 40 28.1**	**-0.1**
JSU				Sn	**Sg**	**21 40 48.7**	**+0.8**
JTU	**Tsushima**	**2.07**	**321**		**Pn**	**21 40 34.4**	**-1.2**
JTU					**Sb**	**21 41 04.0**	**-0.3**
JMN	**Monobe**	**2.56**	**71**		**Pn**	**21 40 44.3**	**+2.0**
JMN				Sn	**Sn**	**21 41 14.1**	**+0.5**
JHS	**Saijyo**	**2.73**	**40**	Pn	**Pn**	**21 40 45.9**	**+1.2**
JHS				Sn	**Sb**	**21 41 20.7**	**-2.5**
TJN	**Taejon**	**4.56**	**320**		**Pn**	**21 41 09.7**	**-0.1**
KSRS	**Korea Array**	**5.17**	**332**	Pn	**Pn**	**21 41 17.7**	**-0.4**
	0.7nm,0.3s,baz=148,slow=14,SNR=6.8						
KSRS				Pg	**Pb**	**21 41 33.9**	**+2.8**
	1.8nm,0.3s,baz=145,slow=16,SNR=17						
KSRS				Sn	**Sn**	**21 42 17.4**	**-0.7**
	3.2nm,0.3s,baz=148,slow=24,SNR=1.5						
KSRS				Lg	Lg	21 42 39.1	
	4.6nm,0.3s,baz=151,slow=31,SNR=1.4						
KSAR	**Wonju Array Be**	**5.17**	**332**	Pn	**Pn**	**21 41 17.7**	**-0.6**
KS19	**Wonju Array Si**	**5.23**	**332**		**Pn**	**21 41 17.8**	**-1.3**
INU	**Inuyama**	**5.56**	**63**	Pn	**Pn**	**21 41 23.3**	**-0.2**
JGF	**Kuroka**	**5.92**	**61**		**Pn**	**21 41 28.8**	**+0.3**
JOW	**Kunigami**	**6.51**	**202**	Pn	**Pn**	**21 41 36.9**	**+0.4**
	1.5nm,0.3s,baz=136,slow=29,SNR=2.1						
MJB9	**Matsu-Tunnel**	**6.96**	**57**		**Pn**	**21 41 43.6**	**+0.9**
MAJO	**Matsushiro**	**6.96**	**57**	Pn	**Pn**	**21 41 43.2**	**+0.5**
MJAR	**Matsushiro Arr**	**6.96**	**57**	Pn	**Pn**	**21 41 42.6**	**-0.2**
	0.4nm,0.3s,baz=228,slow=18,SNR=12						
MJAR				Lg	Lg	21 43 36.4	
	baz=239,slow=26,SNR=1.8						
JHJ	**Hachijo jima 2**	**7.40**	**86**	Pn	**Pn**	**21 41 48.1**	**-0.6**
	14nm,0.3s,baz=239,slow=18,SNR=1.3						
JHJ				LR	LR	21 44 36.9	
	comp=Z,571nm,18.7s,baz=248,slow=38						
NJ2	**Nanjing**	**10.28**	**268**	*e*P	**Pn**	**21 42 27.8**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=N,440nm,4.9s						
NJ2				LR	LR		
	comp=E,1μm,8.6s						
NJ2				LR	LR		
	comp=Z,970nm,9.0s						
USRK	**Ussuriysk Ar.**	**11.29**	**4**	Pn	**Pn**	**21 42 41.8**	**-0.3**
	baz=178,slow=28,SNR=1.7						
CN2	**Changchun**	**11.70**	**340**	*e*P	**Pn**	**21 42 51.1**	**+3.5**
CN2				*e*S	**Sn**	**21 45 01.3**	**+2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,900nm,14.0s						
CN2				LR	LR		
	comp=E,2μm,14.0s						
CN2				LR	LR		
	comp=Z,900nm,10.0s						
HNS	**HongShan**	**14.04**	**293**	⇓P	**P**	**21 43 23.8**	**-3.9**
HNS				S	Sn	21 46 05.3	+10
HNS				LR	LR		
	comp=N,430nm,13.6s						
HNS				LR	LR		
	comp=E,280nm,14.8s						
HNS				LR	LR		
	comp=Z,320nm,17.2s						
KLR	**Kul'dur**	**16.30**	**2**	Pn	**P**	**21 43 52.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=158,slow=7.9,SNR=15						
KLR				LR	LR	21 50 41.3	
	comp=Z,144nm,18.5s,baz=183,slow=39						
HHC	**Hu-ho-hao-te**	**17.41**	**303**	*e*P	**Pn**	**21 44 02.0**	**-1.9**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.1s						
HHC				LR	LR		
	comp=N,190nm,9.8s						
HHC				LR	LR		
	comp=E,550nm,9.2s						
HHC				LR	LR		
	comp=Z,610nm,11.1s						
XAN	**Xi'an**	**18.44**	**280**	P	**Pn**	**21 44 20.0**	**+3.5**
XAN				pP	sP	21 44 23.8	+4.2
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ULN	**Ulaanbaatar**	**23.43**	**317**	P	**P**	**21 45 10.3**	**+0.1**
ULN				IAmb	IAmb	21 45 18.1	
	comp=Z,7.6nm,0.9s						
SONM	**Songino Array**	**23.79**	**316**	P	**P**	**21 45 14.0**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=122,slow=7.3,SNR=9.8						
SONM	**Songino Array**	**23.79**	**316**	P	**P**	**21 45 14.2**	**+0.4**
GTA	**Gaotai**	**25.90**	**293**	*e*P	**P**	**21 45 33.3**	**+0.2**
GTA				pP	sP	21 45 38.6	+2.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,97nm,7.2s						
GTA				LR	LR		
	comp=N,580nm,16.7s						
GTA				LR	LR		
	comp=E,300nm,15.5s						
GTA				LR	LR		
	comp=Z,280nm,16.7s						
PZH	**PanZhiHua**	**26.14**	**264**	P	**P**	**21 45 36.3**	**+0.9**
PZH				S	S	21 49 38.3	-29
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
PZH				LR	LR		
	comp=N,540nm,12.2s						
PZH				LR	LR		
	comp=E,770nm,11.9s						
PZH				LR	LR		
	comp=Z,630nm,12.6s						
PETK	**Petropavlovsk-**	**27.81**	**36**	LR	LR	21 58 11.2	
	comp=Z,103nm,18.0s,baz=64,slow=39						
CMAR	**Chiang Mai Arr**	**32.12**	**251**	P	**P**	**21 46 30.0**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=61,slow=6.3,SNR=3.5						
CMAR	**Chiang Mai Arr**	**32.12**	**251**	P	**P**	**21 46 28.7**	**+0.2**
WMQ	**Urumqi**	**35.28**	**301**	*e*P	**P**	**21 46 58.3**	**+2.5**
MKAR	**Makanchi Array**	**39.24**	**305**	P	**P**	**21 47 29.1**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=93,slow=6.4,SNR=2.8						
LHMI	**Lhok Sumawe**	**42.00**	**236**	P	**P**	**21 47 52.0**	**-0.5**
MMRI	**Maumere**	**42.16**	**193**	P	**P**	**21 47 53.3**	**-0.3**
KDJ	**Kajisay**	**43.03**	**298**	P	**P**	**21 48 00.9**	**+0.1**
AAK	**Ala-Archa**	**44.95**	**299**	LR	LR	22 07 41.2	
	comp=Z,151nm,18.7s,baz=38,slow=37						
BRVK	**Borovoye**	**47.18**	**314**	P	**P**	**21 48 33.9**	**+0.5**
BRVK				IAmb	IAmb	21 48 37.8	
	comp=Z,1.9nm,0.7s						
KK31	**Karatay Array**	**47.79**	**301**	P	**P**	**21 48 38.8**	**+0.5**
KK31				IAmb	IAmb	21 48 48.3	
	comp=Z,3.0nm,0.9s						
KKAR	**Karatay Array**	**47.79**	**301**	P	**P**	**21 48 38.1**	**-0.2**
KKAR				IAmb	IAmb	21 48 48.3	
	comp=Z,3.0nm,0.9s						
BTK	**Batken**	**48.09**	**297**	P	**P**	**21 48 40.7**	**-0.1**
BTK				IAmb	IAmb	21 48 42.9	
	comp=Z,2.5nm,1.1s						
GAR	**Garm**	**48.69**	**295**	P	**P**	**21 48 45.1**	**-0.4**
CHGR	**Chuyangaron**	**49.65**	**295**	P	**P**	**21 48 51.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**50.99**	**187**	P	**P**	**21 49 02.7**	**-0.2**
WB0	**Warramunga Arr**	**52.49**	**176**	P	**P**	**21 49 13.8**	**-0.3**
WB0				IAmb	IAmb	21 49 20.1	
	comp=Z,4.0nm,1.1s						
WRA	**Warramunga Arr**	**52.66**	**176**	P	**P**	**21 49 13.8**	**-1.5**
	comp=Z,6.0nm,0.7s,baz=355,slow=7.9,SNR=8.0						
WB2	**Warramunga Arr**	**52.66**	**176**	P	**P**	**21 49 15.7**	**+0.4**
WB2				IAmb	IAmb	21 49 17.3	
	comp=Z,4.0nm,1.1s						
WR0	**Warramunga Arr**	**52.69**	**176**	P	**P**	**21 49 15.7**	**+0.1**
PALK	**Pallekele**	**53.04**	**253**	LR	LR	22 12 50.5	
	comp=Z,120nm,20.3s,baz=235,slow=37						
ABKAR	**Akbulak array**	**54.01**	**310**	P	**P**	**21 49 24.9**	**-0.2**
ABKAR				IAmb	IAmb	21 49 32.1	
	comp=Z,2.7nm,0.8s						
ABKAR	**Akbulak array**	**54.01**	**310**	P	**P**	**21 49 25.0**	**0.0**
AKTO	**Aktyubinsk**	**55.01**	**312**	LR	LR	22 12 37.6	
	comp=Z,146nm,18.0s,baz=29,slow=36						
ASAR	**Alice Springs**	**56.34**	**177**	P	**P**	**21 49 40.6**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=10,slow=14,SNR=5.6						
C36M	**Paulatuk**	**64.61**	**22**	P	**P**	**21 50 38.6**	**+0.6**
C36M				IAmb	IAmb	21 50 44.5	
	comp=Z,2.2nm,0.8s						
KBZ	**Khabaz**	**66.86**	**308**	P	**P**	**21 50 53.0**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=68,slow=10.0,SNR=2.9						
KBZ				LR	LR	22 23 18.4	
	comp=Z,105nm,19.3s,baz=76,slow=39						
FIA1	**FINESS Array S**	**68.26**	**330**	P	**P**	**21 51 01.0**	**-0.5**
FIA1				IAmb	IAmb	21 51 09.1	
	comp=Z,3.7nm,1.1s						
FINES	**FINESS Array B**	**68.26**	**330**	P	**P**	**21 51 00.0**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=62,slow=8.9,SNR=6.4						
FINES	**FINESS Array B**	**68.26**	**330**	P	**P**	**21 51 00.8**	**-0.7**
YKA	**Yellowknife Ar**	**71.48**	**26**	P	**P**	**21 51 20.7**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=302,slow=6.2,SNR=8.7						
AKASG	**Malin Array Be**	**72.03**	**319**	P	**P**	**21 51 22.9**	**-1.9**
	comp=Z,1.6nm,0.5s,baz=57,slow=6.8,SNR=2.8						
BRTR	**Keskin Array B**	**74.85**	**308**	P	**P**	**21 51 42.5**	**+0.6**
	comp=Z,2.2nm,1.0s,baz=59,slow=5.9,SNR=7.1						
BURAR	**Bucovina Array**	**75.89**	**318**	P	**P**	**21 51 48.3**	**+0.6**
CLL	**Collm**	**80.02**	**326**	*e*P	**P**	**21 52 11.0**	**+0.6**

JMA 15 21:40:38.4,33.00N×131.10E,h8km±1km,M3.6,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.22**	**303**	P	Pg	21 40 43.1	+0.2
JNU				S	Sg	21 40 46.7	+0.7
JTA	**Tamana**	**0.48**	**266**	P	Pg	21 40 47.8	+0.1
JUS	**Usuki**	**0.55**	**83**	S	Sg	21 40 56.6	+0.3

IDC ***15*** *21:49:50.2±2.2,6.93S×82.15W,h0km,mb3.5/3,mb1 3.7/4, mb1mx3.5/25,mbtmp3.6/4,ML3.5/1,Error ellipse: s-maj=105.0km s-min=30.7km az=41.0*

ISC 15 21:49:55.4±1.7,7.08S±0.4×82.12W±0.4,h35km,n9,σ0^{s}30/6, mb3.6/3,Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**16.53**	**125**	Pn	**Pn**	**21 53 45.6**	**+0.4**
	0.1nm,0.3s,baz=304,slow=12,SNR=3.7						
SIV	**San Ignacio**	**22.49**	**115**	P	**P**	**21 54 51.7**	**-0.3**
	1.5nm,0.6s,baz=299,slow=8.7,SNR=6.7						
H03N2	**Juan Fernandez**	**26.46**	**174**	T	T	22 24 16.6	
	baz=354						
H03N1	**Juan Fernandez**	**26.47**	**174**	T	T	22 23 43.4	
	baz=354,slow=74						
H03N3	**Juan Fernandez**	**26.48**	**174**	T	T	22 23 35.2	
	baz=354,slow=74						
YKA	**Yellowknife Ar**	**73.65**	**345**	P	**P**	**22 01 25.2**	**+0.2**
	0.2nm,0.6s,baz=144,slow=6.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**85.64**	**76**	P	**P**	**22 02 31.1**	**-0.1**
	0.4nm,0.7s,baz=275,slow=4.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**132.03**	**10**	PKP	**PKPdf**	**22 09 05.1**	**-0.1**
	0.3nm,0.3s,baz=340,slow=1.6,SNR=2.2						
WRA	**Warramunga Arr**	**135.19**	**233**	PKP	**PKPdf**	**22 09 12.1**	**-0.1**
	0.3nm,0.9s,baz=129,slow=2.1,SNR=1.6						

IDC ***15*** *21:53:18.5±1.0,42.33N×86.71E,h0km,mb3.4/6, mb1 3.5/12,mb1mx3.4/60,mbtmp3.4/12,ML3.2/5,MS3.6/1, Ms1 3.6/1,ms1mx2.7/70,Error ellipse: s-maj=30.5km s-min=14.8km az=52.0*
NNC ***15*** *21:53:24.0±2.1,42.67N×86.52E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=16.8km s-min=13.0km az=102.0*

ISC 15 21:53:22.2±0.9,42.52N±0.08×86.87E±0.08,h20km,n20, σ2^{s}15/23,mb3.5/6,9C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**5.37**	**324**	⇓Pn	**Pn**	**21 54 42.7**	**+1.5**
	1.6nm,0.3s,baz=141,slow=14,SNR=116						
MK31				⇓Sn	**Sn**	**21 55 42.0**	**-0.5**
	8.1nm,0.6s,baz=145,slow=24,SNR=4.7						
MK31				⇑Lg	Lg	21 56 06.2	
	12nm,0.5s,baz=137,slow=28,SNR=5.5						
MKAR	**Makanchi Array**	**5.37**	**324**	Pn	**Pn**	**21 54 42.7**	**+1.4**
	2.6nm,0.3s,baz=143,slow=14,SNR=104						
MKAR				Pg	**Pb**	**21 54 58.2**	**+2.8**
	1.6nm,0.3s,baz=141,slow=17,SNR=10						
MKAR				Sn	**Sn**	**21 55 43.8**	**+1.3**
	2.4nm,0.3s,baz=143,slow=24,SNR=6.7						
MKAR				Lg	Lg	21 56 01.2	
	2.9nm,0.3s,baz=140,slow=27,SNR=6.0						
PDGK	**Podgornoye**	**5.47**	**281**	⇑Pn	**Pn**	**21 54 42.5**	**-0.2**
	0.9nm,0.3s						
PDGK				⇑Pg	**Pb**	**21 55 01.2**	**+4.0**
	7.8nm,0.8s						
PDGK				⇑Lg	Lg	21 56 06.2	
	69nm,0.9s						
MAKZ	**Makanchi**	**5.52**	**323**	⇑Sn	**Sn**	**21 55 46.2**	**+0.1**
	8.7nm,0.4s						
MAKZ				⇓Lg	Lg	21 56 12.7	
	19nm,0.6s						
MDOK	**Medeo**	**7.24**	**278**	Lg	Lg	21 57 05.1	
	7.1nm,0.6s						
TKM2	**Tokmak 2**	**8.31**	**277**	⇑Lg	Lg	21 57 39.8	
	5.4nm,0.6s						
AAK	**Ala-Archa**	**9.13**	**275**	Pn	**Pn**	**21 55 32.5**	**-0.4**
	0.2nm,0.3s,baz=108,slow=15,SNR=2.3						
AAK				Lg	Lg	21 58 02.0	
	0.1nm,0.3s,baz=228,slow=22,SNR=1.2						
KURBB	**Kurchatov Arra**	**9.92**	**328**	Pn	**Pn**	**21 55 42.5**	**-1.0**
	0.1nm,0.3s,baz=135,slow=12,SNR=13						
KURBB				Sn	**Sn**	**21 57 29.2**	**-5.0**
	0.1nm,0.3s,baz=125,slow=40,SNR=2.1						
KURBB				Lg	Lg	21 58 29.2	
	0.1nm,0.3s,baz=261,slow=19,SNR=7.4						
KURBB	**Kurchatov Arra**	**9.92**	**328**	⇓Pn	**Pn**	**21 55 43.0**	**-0.6**
	3.0nm,0.8s						
KURBB				⇑Lg	Lg	21 58 32.9	
	22nm,0.8s						
KURK	**Kurchatov**	**9.96**	**328**	⇑Pn	**Pn**	**21 55 44.3**	**+0.2**
	1.0nm,0.6s						
KURK				⇑Lg	Lg	21 58 31.9	
	11nm,0.8s						
ZALV	**Zalesovo Beam**	**11.51**	**354**	Pn	**Pn**	**21 56 05.7**	**+0.3**
	0.4nm,0.3s,baz=172,slow=14,SNR=9.1						
ZALV				Sn	**Sn**	**21 58 10.2**	**-3.0**
	0.6nm,0.3s,baz=167,slow=26,SNR=7.9						
ZALV				Lg	Lg	21 59 19.7	
	baz=172,slow=33,SNR=1.5						
SONM	**Songino Array**	**14.75**	**62**	Pn	**Pn**	**21 56 52.2**	**+2.5**
	0.1nm,0.3s,baz=246,slow=11,SNR=1.8						
BVAR	**Borovoye Array**	**15.23**	**319**	Pn	**Pn**	**21 56 53.0**	**-2.9**
AKTO	**Aktyubinsk**	**21.28**	**302**	P	**P**	**21 58 07.3**	**+0.1**
	0.9nm,0.4s,baz=111,slow=11,SNR=4.8						
CMAR	**Chiang Mai Arr**	**26.09**	**153**	P	**P**	**21 58 52.1**	**-2.5**
	0.1nm,0.4s,baz=351,slow=26,SNR=1.9						
NOA	**NORSAR Array B**	**47.35**	**320**	P	**P**	**22 01 53.3**	**-1.1**
	0.3nm,0.7s,baz=77,slow=7.9,SNR=1.4						
BORG	**Borgarnes**	**59.38**	**332**	LR	LR	22 29 00.2	
	comp=Z,47nm,20.6s,baz=131,slow=36						
YKA	**Yellowknife Ar**	**73.92**	**10**	P	**P**	**22 04 55.1**	**-0.3**
	0.2nm,0.7s,baz=333,slow=5.4,SNR=4.4						
WRA	**Warramunga Arr**	**76.01**	**134**	P	**P**	**22 05 08.7**	**+0.7**
	0.4nm,0.7s,baz=313,slow=3.2,SNR=6.6						
TORD	**Torodi Ar. Bea**	**77.71**	**277**	P	**P**	**22 05 15.9**	**-1.9**
	0.5nm,0.6s,baz=45,slow=5.3,SNR=6.1						

IDC ***15*** *21:57:42.1±0.9,32.92N×131.14E,h0km,mb3.6/7, mb1 3.8/10,mb1mx3.6/46,mbtmp3.6/10,ML2.7/3,Error ellipse: s-maj=25.9km s-min=6.8km az=42.0*
JMA ***15*** *21:57:43.4,33.13N×131.19E,h10km±1km,M3.3*
JMA Felt I J1.

ISC 15 21:57:44.3±0.9,33.01N±0.08×131.16E±0.06,h12km,n13, σ1^{s}26/17,mb3.2/7,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.26**	**296**	Pg	**Pg**	**21 57 47.9**	**-1.8**
	2μm,0.3s,baz=250,slow=16,SNR=102						
JNU				Lg	Lg	21 57 51.8	
	2μm,0.3s,baz=241,slow=16,SNR=93						
JNU	**Nakatsue**	**0.26**	**296**	P	**Pg**	**21 57 48.7**	**-1.0**
JNU				S	**Sg**	**21 57 52.6**	**-0.7**
JTA	**Tamana**	**0.53**	**265**	P	**Pg**	**21 57 54.3**	**-0.3**
JTA				S	**Sg**	**21 58 02.1**	**+0.6**
KSRS	**Korea Array**	**5.16**	**330**	Pn	**Pn**	**21 59 03.6**	**+2.2**
	0.2nm,0.3s,baz=152,slow=14,SNR=2.5						
KSRS				Pg	**Pb**	**21 59 16.3**	**+1.8**
	0.5nm,0.3s,baz=146,slow=16,SNR=5.5						
KSRS				Sn	**Sn**	**21 59 59.2**	**-1.7**
	0.8nm,0.3s,baz=106,slow=12,SNR=4.3						
KSRS				Lg	Lg	22 00 19.1	
	0.8nm,0.3s,baz=148,slow=26,SNR=6.9						
MJAR	**Matsushiro Arr**	**6.79**	**57**	Pn	**Pn**	**21 59 24.8**	**+1.0**
	0.1nm,0.3s,baz=229,slow=13,SNR=6.9						
KLR	**Kul'dur**	**16.21**	**1**	Pn	**P**	**22 01 34.3**	**-0.6**
	0.1nm,0.3s,baz=161,slow=17,SNR=4.5						
SONM	**Songino Array**	**23.83**	**316**	P	**P**	**22 02 57.1**	**-0.2**
	0.2nm,0.4s,baz=107,slow=4.8,SNR=2.7						
MKAR	**Makanchi Array**	**39.31**	**305**	P	**P**	**22 05 13.2**	**+0.1**
	0.3nm,0.9s,baz=78,slow=9.0,SNR=2.1						
WRA	**Warramunga Arr**	**52.74**	**176**	P	**P**	**22 07 00.0**	**+1.0**
	0.2nm,0.8s,baz=352,slow=8.0,SNR=1.3						
ASAR	**Alice Springs**	**56.42**	**177**	P	**P**	**22 07 23.9**	**-1.8**
	0.1nm,0.4s,baz=12,slow=14,SNR=5.2						
KBZ	**Khabaz**	**66.92**	**308**	P	**P**	**22 08 35.7**	**-0.7**
	1.9nm,0.9s,baz=21,slow=7.2,SNR=4.0						
YKA	**Yellowknife Ar**	**71.33**	**27**	P	**P**	**22 09 03.4**	**-0.1**
	0.6nm,0.7s,baz=306,slow=6.0,SNR=12						
BRTR	**Keskin Array B**	**74.91**	**308**	P	**P**	**22 09 25.2**	**-0.1**
	1.0nm,0.9s,baz=133,slow=10,SNR=3.5						

IDC ***15*** *22:01:19.4±0.8,32.93N×131.15E,h0km,mb3.6/9, mb1 3.8/12,mb1mx3.6/41,mbtmp3.6/12,ML3.0/2,Error ellipse: s-maj=22.2km s-min=6.6km az=41.0*
JMA ***15*** *22:01:20.5,32.98N×131.11E,h11km±1km,M3.8*
JMA Felt III J1.
NIED ***15*** *22:01:20.5,32.98N×131.11E,h11km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.49; $M_{\theta\theta}$8.05; $M_{\phi\phi}$-2.55; $M_{r\theta}$5.03; $M_{\theta\phi}$0.78; $M_{\phi r}$-0.13; Fault plane solution: $M_0$8.47000×10^{14} NP1:ϕ_s78.00000°, δ27.00000°,λ-102.00000°. NP2:ϕ_s271.00000°, δ63.00000°,λ-84.00000°.*

ISC 15 22:01:21.4±0.7,32.94N±0.07×131.10E±0.04,h12km,n16, σ1^{s}26/20,mb3.4/9,1C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.26**	**314**	Pg	**Pg**	**22 01 25.4**	**-1.5**
	2μm,0.3s,baz=172,slow=4.0,SNR=123						
JNU				Lg	Lg	22 01 29.0	
	2μm,0.3s,baz=221,slow=22,SNR=27						
JNU	**Nakatsue**	**0.26**	**314**	⇑P	**Pg**	**22 01 25.6**	**-1.3**
JNU				S	**Sg**	**22 01 29.1**	**-1.5**
JUS	**Usuki**	**0.56**	**77**	⇓P	**Pg**	**22 01 30.8**	**-1.5**
JUS				S	**Sg**	**22 01 38.8**	**-1.0**
KSRS	**Korea Array**	**5.20**	**331**	Pn	**Pn**	**22 02 38.8**	**-0.2**
	0.6nm,0.3s,baz=148,slow=14,SNR=4.4						
KSRS				Pg	**Pb**	**22 02 55.0**	**+2.7**
	2.1nm,0.3s,baz=145,slow=16,SNR=6.1						
KSRS				Sn	**Sn**	**22 03 37.9**	**-1.1**
	2.4nm,0.3s,baz=152,slow=24,SNR=7.4						
KSRS			

IDC ***15*** *22:11:37.8±0.5, 33˙.25N×131˙.36E, h0km, mb4.4/21, mb1 4.6/28, mb1mx4.5/49, mbtmp4.4/28, ML3.8/6, MS4.5/78, Ms1 4.5/78, ms1mx4.5/97, Error ellipse: s-maj=11.3km s-min=6.1km az=153.0*

BJI ***15*** *22:11:37.9±0.0, 33˙.13N×131˙.54E, h16km, mb4.5/59, mB5.1/44, Ms5.3/73, Ms7 5.1/67*

JMA ***15*** *22:11:37.4, 33˙.27N×131˙.40E, h6km±1km, M5.4*

NIED ***15*** *22:11:37.5, 33˙.27N×131˙.40E, h6km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr=3.09; Mθθ=5.27; Mφφ=-2.18; Mrθ=-2.70; Mθφ=-1.61; Mφr=0.39; Fault plane solution: M0=5.13000×10^16 NP1: φs=291.00000°, δ=29.00000°, λ=-77.00000°. NP2: φs=96.00000°, δ=61.00000°, λ=-97.00000°.*

MOS ***15*** *22:11:38.8±0.9, 33˙.23N×131˙.34E, h16km, mb5.0/46, MS4.9/17 Error ellipse: s-maj=5.9km s-min=3.6km az=115.0*

NEIC ***15*** *22:11:40.3±1.2, 33˙.25N±0˙.04×131˙.37E±0˙.04, h10km±1km, mb4.9/260, Mwr5.1/15, Error ellipse: s-maj=7.4km s-min=5.2km az=168.0*

BGR ***15*** *22:11:40.8±0.0, 33˙.29N×131˙.35E, h10km, mb5.2*

NEIC ***15*** *22:11:40.3, 33˙.28N×131˙.40E, h9km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=1.61; Mθθ=4.21; Mφφ=-2.60; Mrθ=2.41; Mθφ=-1.76; Mφr=1.99; Fault plane solution: M0=5.13000×10^16 NP1: φs=143.06000°, δ=49.47000°, λ=-17.96000°. NP2: φs=244.95000°, δ=76.45000°, λ=-138.05000°. Principal axes: T 5.2120, Plg17.0000°, Azm8.0000°; N -0.1577, Plg46.0000°, Azm260.0000°; P -5.0543, Plg39.0000°, Azm113.0000°;*

GCMT ***15*** *22:11:41.3±0.4, 33˙.28N±0˙.02×131˙.33E±0˙.03, h17km±2km, MW5.2/97, Moment Tensor Solution. s3,c4; s97,c130; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.45±.08; Mθθ=0.82±.05; Mφφ=-0.37±.04; Mrθ=0.17±.09; Mθφ=-0.29±.03; Mφr=0.15±.11; Best double couple: M0=0.77100×10^17 NP1: φs=139.00000°, δ=54.00000°, λ=-33.00000°. NP2: φs=249.00000°, δ=64.00000°, λ=-139.00000°. Principal axes: T 0.9030, Plg6.0000°, Azm12.0000°; N -0.2630, Plg43.0000°, Azm277.0000°; P -0.6400, Plg47.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 22:11:39.3±0.4, 33˙.22N±0˙.03×131˙.43E±0˙.02, h8km±2km, h8km:pP-P, n782, σ1s43/769, mb4.8/232, MS4.7/104, 31C-51D, Fault plane solution: NP1: φs=62.43810°, δ=65.94629°, λ=-128.51923°. **NP2:** φs=305.32285°, δ=44.40115°, λ=-35.62965°. **Principal axes:** T Plg12.5321°, Azm179.2535°; N Plg34.6595°, Azm80.4131°; P Plg52.5054°, Azm286.0960°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
JBEP	**Beppuamama**	**0.11**	**351**	P	**Pg**	**22 11 39.1**	**-2.9**
JUS	**Usuki**	**0.31**	**120**	⇓P	**Pg**	**22 11 44.4**	**-1.1**
JUS				eS	**Sg**	**22 11 49.7**	**0.0**
JNU	**Nakatsue**	**0.47**	**258**	Pg	**Pg**	**22 11 46.1**	**-2.4**
	538nm,0.3s,baz=69,slow=9.6,SNR=34						
JNU				Lg	Lg	22 11 51.2	
	1μm,0.3s,baz=64,slow=14,SNR=20						
JNU	**Nakatsue**	**0.47**	**258**	Pg	**Pg**	**22 11 46.3**	**-2.2**
JNU				Sg	**Sb**	**22 11 54.3**	**-2.7**
JTA	**Tamana**	**0.80**	**251**	P	**Pg**	**22 11 52.6**	**-2.0**
JIU3	**Izumi3**	**0.85**	**218**	P	**Pg**	**22 11 53.8**	**-1.9**
JNA	**Nagahama**	**0.94**	**69**	P	**Pg**	**22 11 55.1**	**-2.3**
UWA2	**Uwa jima 2**	**1.00**	**90**	P	**Pg**	**22 11 56.8**	**-1.8**
JTO	**Tosashimizu**	**1.21**	**107**	P	**Pn**	**22 12 00.4**	**-2.1**
JTZ	**Takazaki**	**1.35**	**192**	P	**Pn**	**22 12 03.5**	**-0.9**
JKU	**Kubokawa**	**1.37**	**86**	⇓P	**Pn**	**22 12 03.3**	**-1.5**
JET	**Tanbara**	**1.46**	**67**	P	**Pn**	**22 12 04.5**	**-1.5**
JHGM	**Hagimishima**	**1.57**	**351**	⇑P	**Pn**	**22 12 05.3**	**-2.2**
JHT	**Toyohira**	**1.66**	**30**	⇑P	**Pn**	**22 12 07.2**	**-1.5**
JHT				S	**Sn**	**22 12 29.4**	**-0.7**
JSU	**Suzuyama**	**1.90**	**206**	Pn	**Pn**	**22 12 11.3**	**-0.8**
JGT2	**ShimaneMisato**	**2.04**	**26**	P	**Pn**	**22 12 13.3**	**-0.6**
JMN	**Monobe**	**2.11**	**76**	P	**Pn**	**22 12 15.5**	**+0.6**
JMN	**Monobe**	**2.11**	**76**	Pn	**Pn**	**22 12 14.7**	**-0.2**
JMN				Sn	**Sn**	**22 12 44.0**	**+2.7**
JTU	**Tsushima**	**2.13**	**308**	Pn	**Pn**	**22 12 14.2**	**-1.0**
JTU				Sn	**Sn**	**22 12 41.2**	**-0.5**
JHS	**Saijyo**	**2.26**	**38**	P	**Pn**	**22 12 17.1**	**+0.2**
JHS	**Saijyo**	**2.26**	**38**	Pn	**Pn**	**22 12 17.1**	**+0.2**
JHS				Sn	**Sn**	**22 12 46.1**	**+1.1**
JAI	**Aioi**	**2.59**	**77**	P	**Pn**	**22 12 21.4**	**-0.1**
JOI	**OKI**	**3.41**	**26**	P	**Pn**	**22 12 32.7**	**0.0**
JHE	**Heguri**	**3.81**	**67**	P	**Pn**	**22 12 38.4**	**+0.1**
JWT	**Wachi**	**3.88**	**57**	⇑P	**Pn**	**22 12 39.4**	**+0.2**
JIE	**Ise**	**4.55**	**74**	P	**Pn**	**22 12 49.5**	**+1.1**
TJN	**Taejon**	**4.59**	**314**	⇑eP	**Pn**	**22 12 48.5**	**-0.5**
TJN	**Taejon**	**4.59**	**314**	Pn	**Pn**	**22 12 48.8**	**-0.2**
JYTA	**Yamagatataniai**	**4.98**	**60**	P	**Pn**	**22 12 55.3**	**+0.9**
INU	**Inuyama**	**5.09**	**64**	Pn	**Pn**	**22 12 55.9**	**+0.1**
KSRS	**Korea Array**	**5.10**	**327**	Pn	**Pn**	**22 12 54.4**	**-1.5**
	1.9nm,0.3s,baz=146,slow=14,SNR=12						
KSRS				Pg	**Pb**	**22 13 09.9**	**+1.2**
	3.9nm,0.3s,baz=142,slow=16,SNR=15						
KSRS				Sn	**Sn**	**22 13 54.1**	**-1.0**
	2.6nm,0.3s,baz=150,slow=25,SNR=2.5						
KSRS				Lg	Lg	22 14 16.3	
	4.6nm,0.3s,baz=138,slow=30,SNR=5.4						
KSRS				LR	LR	22 14 48.4	
	comp=Z,3μm,21.7s,baz=130,slow=38						
KSAR	**Wonju Array Be**	**5.11**	**326**	P	**Pn**	**22 12 55.9**	**-0.2**
KSAR	**Wonju Array Be**	**5.11**	**326**	Pn	**Pn**	**22 12 55.9**	**-0.2**
KS19	**Wonju Array Si**	**5.17**	**327**		**Pn**	**22 12 56.5**	**-0.4**
JGF	**Kuroka**	**5.44**	**63**	Pn	**Pn**	**22 13 00.1**	**-0.7**
INCN	**Inchon**	**5.78**	**319**	P	**Pn**	**22 13 03.9**	**-1.5**
INCN	**Inchon**	**5.78**	**319**		**Pn**	**22 13 03.9**	**-1.5**
MAJO	**Matsushiro**	**6.48**	**57**	P	**Pn**	**22 13 15.8**	**+0.8**
MAJO	**Matsushiro**	**6.48**	**57**	Pn	**Pn**	**22 13 15.8**	**+0.8**
MJB9	**Matsu-Tunnel**	**6.48**	**57**		**Pn**	**22 13 15.6**	**+0.7**
MJAR	**Matsushiro Arr**	**6.48**	**57**	Pn	**Pn**	**22 13 15.6**	**+0.6**
	5.6nm,0.3s,baz=229,slow=13,SNR=109						
MJAR				Lg	Lg	22 15 03.2	
	baz=324,slow=24,SNR=6.8						
MJAR				LR	LR	22 15 55.9	
	comp=Z,4μm,18.7s,baz=241,slow=40						
MJAR	**Matsushiro Arr**	**6.48**	**57**	P	**Pn**	**22 13 15.7**	**+0.7**
JRY	**Ryogami san**	**6.76**	**64**	P	**Pn**	**22 13 19.8**	**+0.9**
JOW	**Kunigami**	**6.93**	**204**	Pn	**Pn**	**22 13 21.5**	**+0.3**
	2.1nm,0.3s,baz=141,slow=24,SNR=2.3						
JOW				Sn	**Sn**	**22 14 42.3**	**+2.0**
	1.6nm,0.3s,baz=134,slow=28,SNR=1.3						
JOW	**Kunigami**	**6.93**	**204**	Pn	**Pn**	**22 13 22.5**	**+1.3**
JHJ	**Hachijo jima 2**	**7.01**	**89**	Pn	**Pn**	**22 13 22.2**	**0.0**
	33nm,0.3s,baz=30,slow=22,SNR=10						
JHJ				LR	LR	22 15 57.2	
	comp=Z,3μm,21.2s,baz=282,slow=37						
JHJ2	**Mitsune**	**7.04**	**89**	Pn	**Pn**	**22 13 22.6**	**0.0**
JSD	**Sado**	**7.35**	**47**		**Pn**	**22 13 25.8**	**-1.0**
JYT	**Yasato**	**7.81**	**65**		**Pn**	**22 13 32.5**	**-0.7**
JMM	**Marumori**	**8.93**	**56**		**Pn**	**22 13 48.9**	**+0.4**
SSE	**Sheshan**	**8.94**	**259**	P	**Pn**	**22 13 47.8**	**-0.9**
SSE				S	**Sn**	**22 15 29.6**	**0.0**
SSE				pmax	pmax		
	comp=Z,19nm,0.7s						
SSE				pmax	pmax		
	comp=Z,110nm,3.9s						
SSE				LR	LR		
	comp=N,5μm,10.3s						
SSE				LR	LR		
	comp=E,5μm,11.3s						
MSHR	**Mys Shultsa**	**9.34**	**359**	⇑eP	**Pn**	**22 13 56.2**	**+2.0**
NJ2	**Nanjing**	**10.67**	**267**	eP	**Pn**	**22 14 12.3**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NJ2				LR	LR		
	comp=N,5μm,9.2s						
NJ2				LR	LR		
	comp=E,10μm,10.4s						
NJ2				LR	LR		
	comp=Z,13μm,10.7s						
JTM	**Tenmabayashi**	**10.78**	**43**	Pn	**Pn**	**22 14 09.9**	**-4.1**
USA0B	**Ussuriysk Arra**	**10.97**	**2**	P	**Pn**	**22 14 14.4**	**-2.1**
USA0B	**Ussuriysk Arra**	**10.97**	**2**	Pn	**Pn**	**22 14 14.4**	**-2.1**
USRK	**Ussuriysk Ar.**	**10.97**	**2**	Pn	**Pn**	**22 14 17.3**	**+0.8**
	baz=179,slow=13,SNR=16						
USRK				LR	LR	22 18 11.8	
	comp=Z,6μm,18.6s,baz=176,slow=36						
USRK	**Ussuriysk Ar.**	**10.97**	**2**	Pn	**Pn**	**22 14 15.5**	**-1.0**
JCJ	**Chichijima**	**11.13**	**120**	LR	LR	22 18 05.4	
	comp=Z,1μm,19.0s,baz=320,slow=35						
JCJ	**Chichijima**	**11.13**	**120**	Pn	**Pn**	**22 14 18.2**	**-0.5**
MDJ	**Mudanjiang**	**11.46**	**353**	Pn	**Pn**	**22 14 23.3**	**0.0**
MDJ	**Mudanjiang**	**11.46**	**353**	P	**Pn**	**22 14 26.3**	**+3.0**
MDJ				S	**Sn**	**22 16 35.1**	**+3.6**
MDJ				pmax	pmax		
	comp=Z,56nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,910nm,3.7s						
MDJ				LR	LR		
	comp=N,6μm,9.6s						
MDJ				LR	LR		
	comp=E,8μm,9.0s						
MDJ				LR	LR		
	comp=Z,6μm,8.3s						
CN2	**Changchun**	**11.55**	**338**	eP	**Pn**	**22 14 25.4**	**+1.0**
CN2				eS	**Sn**	**22 16 38.8**	**+5.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.7s						
CN2				pmax	pmax		
	comp=Z,400nm,7.0s						
CN2				LR	LR		
	comp=N,11μm,10.0s						
CN2				LR	LR		
	comp=E,7μm,10.0s						
CN2				LR	LR		
	comp=E,6μm,14.4s						
TATO	**Taipei**	**11.96**	**229**	Pn	**Pn**	**22 14 29.6**	**-0.5**
JEW	**Eniwo**	**12.42**	**37**	Pn	**Pn**	**22 14 36.9**	**+0.6**
TEY	**Ternei**	**12.46**	**17**	⇑eP	**Pn**	**22 14 41.1**	**+4.3**
TEY				e		22 17 05.4	
TEY				pmax	pmax		
	comp=N,10.0nm,1.7s						
TEY				pmax	pmax		
	comp=E,10.0nm,1.7s						
TEY				pmax	pmax		
	comp=Z,20nm,0.9s						
TEY				MLR	MLR		
	comp=E,200nm,11.0s						
TEY				MLR	MLR		
	comp=N,100nm,13.0s						
TEY				MLR	MLR		
	comp=Z,200nm,12.0s						
NACB	**Ninganchiao**	**12.47**	**226**	Pn	**Pn**	**22 14 38.4**	**+1.3**
BNX	**BinXian**	**12.88**	**347**	⇑P	**Pn**	**22 14 46.1**	**+3.5**
BNX				pP		22 14 49.8	
BNX				sP		22 14 52.8	
BNX				PP	**PnPn**	**22 14 57.0**	**+6.5**
BNX				S	Sn	22 17 16.1	+10
BNX				sS		22 17 20.4	
BNX				pmax	pmax		
	comp=Z,55nm,1.3s						
BNX				pmax	pmax		
	comp=Z,880nm,5.2s						
BNX				LR	LR		
	comp=Z,16μm,12.0s						
BNX				LR	LR		
	comp=Z,22μm,11.4s						
BNX				LR	LR		
	comp=Z,20μm,13.1s						
SSLB	**Suanglung**	**13.15**	**227**	Pn	**Pn**	**22 14 45.7**	**-0.7**
TPUB	**Ta-pu**	**13.71**	**227**	Pn	**Pn**	**22 14 52.7**	**-1.4**
TWG	**Pinlang**	**13.81**	**224**	Pn	**Pn**	**22 14 55.9**	**+0.5**
ASAJ	**Asahikawa**	**13.93**	**35**	Pn	**Pn**	**22 14 57.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=208,slow=20,SNR=5.0						
ASAJ				LR	LR	22 19 48.3	
	comp=Z,4μm,20.6s,baz=229,slow=35						
BJT	**Baijiatuau**	**14.00**	**303**	P	**Pn**	**22 14 57.6**	**-0.3**
BJT	**Baijiatuau**	**14.00**	**303**	Pn	**Pn**	**22 14 57.6**	**-0.3**
BJI	**Beijing**	**14.00**	**303**	P	**Pn**	**22 14 59.1**	**+1.2**
BJI				S	Sn	22 17 42.5	+9.0
BJI				pmax	pmax		
	comp=Z,9.0nm,1.9s						
BJI				LR	LR		
	comp=Z,7μm,14.4s						
BJI				LR	LR		
	comp=Z,3μm,17.6s						
BJI				LR	LR		
	comp=Z,5μm,13.8s						
HNS	**HongShan**	**14.27**	**292**	⇓P	**Pn**	**22 15 04.3**	**+2.6**
HNS				S	Sn	22 17 48.3	+8.2
HNS				pmax	pmax		
	comp=Z,11nm,1.7s						
HNS				LR	LR		
	comp=Z,3μm,17.4s						
HNS				LR	LR		
	comp=Z,2μm,15.3s						
HNS				LR	LR		
	comp=Z,2μm,11.2s						
WHN	**Wuhan**	**14.76**	**264**	⇑P	**P**	**22 15 16.4**	**+2.0**
WHN				S	Sn	22 17 59.4	+7.4
WHN				LR	LR		
	comp=N,14μm,10.0s						
WHN				LR	LR		
	comp=E,24μm,10.4s						
WHN				LR	LR		
	comp=Z,31μm,10.7s						
LYN	**LuoYang**	**15.80**	**280**	eP	**P**	**22 15 24.8**	**-1.3**
LYN				sP	sP	22 15 30.6	+0.9
LYN				S	**S**	**22 18 25.6**	**-6.6**
LYN				pmax	pmax		
	comp=Z,410nm,5.9s						
LYN				LR	LR		
	comp=Z,7μm,9.4s						
LYN				LR	LR		
	comp=Z,7μm,9.4s						
LYN				LR	LR		
	comp=Z,7μm,9.6s						
KLR	**Kul'dur**	**15.99**	**1**	Pn	**Pn**	**22 15 25.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=169,slow=12,SNR=56						
KLR				LR	LR	22 21 19.1	
	comp=Z,3μm,18.2s,baz=176,slow=36						
KLR	**Kul'dur**	**15.99**	**1**	⇑eP	**P**	**22 15 26.5**	**-1.6**
KLR				pmax	pmax		
	comp=Z,217nm,1.3s						
XLT	**XiLinHaoTe**	**16.03**	**316**	⇓iP	**P**	**22 15 26.6**	**-2.0**
XLT				pP	pP	22 15 30.3	-0.8
XLT				sP	sP	22 15 32.8	+0.6
XLT				S	**Sn**	**22 18 28.9**	**+6.0**
XLT				pmax	pmax		
	comp=Z,45nm,2.0s						
XLT				pmax	pmax		
	comp=Z,610nm,3.6s						
XLT				LR	LR		
	comp=Z,7μm,8.4s						
XLT				LR	LR		
	comp=Z,6μm,9.7s						
YSS	**Yuzh-Sakhalins**	**16.20**	**29**	eP	**Pn**	**22 15 28.0**	**+0.9**
YSS				eS	**Sn**	**22 18 26.1**	**-0.8**
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
YSS				MLR	MLR		
	comp=N,3μm,16.0s						
YSS	**Yuzh-Sakhalins**	**16.20**	**29**	Pn	**Pn**	**22 15 27.5**	**+0.4**
YSS				IAmb	IAmb	22 15 43.5	
	comp=Z,121nm,1.5s						
HHC	**Hu-ho-hao-te**	**17.57**	**301**	eP	**P**	**22 15 44.8**	**-0.9**
HHC				S	**Sn**	**22 18 57.6**	**-2.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,360nm,4.3s						
HHC				LR	LR		
	comp=Z,3μm,8.3s						
HHC				LR	LR		
	comp=Z,5μm,8.2s						
HHC				LR	LR		
	comp=Z,5μm,8.9s						
UGL	**Uglegorsk**	**17.72**	**24**	P	Pn	22 15 37.0	-9.3
UGL				MLR	MLR		
	comp=Z,3μm,14.0s						
UGL				MLR	MLR		
	comp=N,3μm,8.0s						
UGL				MLR	MLR		
	comp=E,2μm,13.0s						
GRNR	**Gornyy**	**17.91**	**10**	⇓iP	**Pn**	**22 15 48.9**	**+0.2**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,1μm,12.0s						
HIA	**Hailar**	**18.24**	**335**	P	**P**	**22 15 52.7**	**-0.3**
HIA				pmax	pmax		
	comp=Z,79nm,1.5s						
HIA	**Hailar**	**18.24**	**335**	P	**P**	**22 15 52.7**	**-0.3**
BTO	**Baotou**	**18.61**	**299**	eP	**Pn**	**22 15 58.8**	**+1.4**
BTO				S	**S**	**22 19 32.5**	**+3.0**
BTO				LR	LR		
	comp=Z,25μm,18.6s						
BTO				LR	LR		
	comp=Z,6μm,14.5s						
XAN	**Xi'an**	**18.76**	**279**	P	**Pn**	**22 15 59.6**	**+0.4**
XAN				pP	sP	22 16 03.1	+0.6
XAN				S	**S**	**22 19 31.6**	**-0.9**
XAN				SS	**SnSn**	**22 19 52.1**	**+9.1**
XAN				pmax	pmax		
	comp=Z,28nm,1.3s						
XAN				pmax	pmax		
	comp=Z,360nm,7.5s						
XAN				LR	LR		
	comp=Z,9μm,11.4s						
XAN				LR	LR		
	comp=Z,4μm,11.4s						
XAN				LR	LR		
	comp=Z,6μm,10.1s						
HKPS	**Hong Kong Po S**	**18.76**	**239**	P	**Pn**	**22 15 59.0**	**-0.3**
HKPS				IAmb	IAmb	22 16 13.6	
	comp=Z,180nm,1.4s						
ENH	**Enshi**	**18.89**	**267**	P	**Pn**	**22 16 00.3**	**-0.5**
ZEA	**Zeya**	**20.72**	**353**	eP	**P**	**22 16 20.3**	**+0.3**
ZEA				eS	**S**	**22 20 01.6**	**-10**
ZEA				pmax	pmax		
	comp=N,500nm,3.1s						
ZEA				pmax	pmax		
	comp=Z,600nm,3.0s						
ZEA				pmax	pmax		
	comp=N,80nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,120nm,1.4s						
ZEA				smax	smax		
	comp=Z,900nm,7.2s						
ZEA				smax	smax		
	comp=N,1μm,8.4s						
ZEA				MLR	MLR		
	comp=E,1μm,9.0s						
ZEA				MLR	MLR		
	comp=N,2μm,10.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,10.0s						
NKL	**Nikolayevsk**	**20.99**	**16**	eP	**P**	**22 16 22.2**	**-0.7**
NKL				eS	**S**	**22 20 19.4**	**+2.7**
NKL				pmax	pmax		
	comp=N,1.0nm,0.6s						
NKL				pmax	pmax		
	comp=E,3.0nm,1.4s						
NKL				pmax	pmax		
	comp=Z,48nm,1.4s						
NKL				smax	smax		
	comp=E,3.0nm,1.2s						
NKL				smax	smax		
	comp=N,1.0nm,1.0s						
NKL				MLR	MLR		
	comp=Z,3μm,12.0s						
GYA	**Guiyang**	**22.48**	**259**	⇑P	**P**	**22 16 41.3**	**+2.0**
GYA				LR	LR		
	comp=Z,2μm,9.3s						
GYA				LR	LR		
	comp=Z,8μm,10.2s						
GYA				LR	LR		
	comp=Z,10μm,10.2s						
CIT	**Chita**	**22.82**	**331**	eP	**P**	**22 16 44.7**	**+2.1**
CIT				e		22 16 48.1	
CIT				e		22 17 15.5	
LZH	**Lanzhou**	**22.84**	**285**	eP	**P**	**22 16 43.9**	**+0.8**
LZH				sP	sP	22 16 48.5	+1.7
LZH				PP	**PnPn**	**22 17 14.4**	**+7.2**
LZH				eS	**S**	**22 20 54.3**	**+1.5**
LZH				sS	sS	22 20 59.8	+2.6
LZH				SS	**SnSn**	**22 21 33.0**	**+10**
LZH				pmax	pmax		
	comp=Z,31nm,1.1s						
LZH				pmax	pmax		
	comp=Z,330nm,4.9s						
LZH				LR	LR		
	comp=Z,3μm,11.5s						
LZH				LR	LR		
	comp=Z,4μm,11.8s						
LZH				LR	LR		
	comp=Z,5μm,13.0s						
GUMO	**Guam**	**23.07**	**145**	LR	LR	22 23 35.7	
	comp=Z,385nm,20.4s,baz=333,slow=31						
ULN	**Ulaanbaatar**	**23.47**	**316**	*d* iP	**P**	**22 16 49.5**	**+0.1**
ULN				pmax	pmax		
	comp=Z,100nm,1.7s						
ULN	**Ulaanbaatar**	**23.47**	**316**	P	**P**	**22 16 49.2**	**-0.2**
ULN					**pP**	**22 16 49.7**	**-2.2**
ULN				IAmb	IAmb	22 16 56.9	
	comp=Z,63nm,1.3s						
CD2	**Chengdu**	**23.54**	**272**	P	**P**	**22 16 49.8**	**-0.3**
CD2				S	**S**	**22 21 04.1**	**-0.3**
CD2				pmax	pmax		
	comp=Z,50nm,1.0s						
CD2				pmax	pmax		
	comp=Z,210nm,4.6s						
CD2				LR	LR		
	comp=Z,12μm,11.2s						
CD2				LR	LR		
	comp=Z,12μm,12.1s						
SONM	**Songino Array**	**23.84**	**315**	P	**P**	**22 16 53.7**	**+0.7**
	comp=Z,5.1nm,0.6s,baz=138,slow=7.0,SNR=26						
SONM				LR	LR	22 27 44.3	
	comp=Z,1μm,18.0s,baz=108,slow=41						
SONM	**Songino Array**	**23.84**	**315**	P	**P**	**22 16 52.9**	**-0.1**
SONM				pmax	pmax		
	comp=Z,26nm,1.2s						
SONM	**Songino Array**	**23.84**	**315**	P	**P**	**22 16 52.9**	**-0.1**
QIZ	**Qiongzhong**	**23.92**	**239**	P	**P**	**22 16 52.9**	**-0.9**
QIZ				S	**S**	**22 21 11.8**	**+1.3**
QIZ				LR	LR		
	comp=Z,5μm,11.4s						
QIZ				LR	LR		
	comp=Z,2μm,11.6s						
QIZ				LR	LR		
	comp=Z,3μm,11.6s						
GTA	**Gaotai**	**26.12**	**293**	⇓P	**P**	**22 17 14.3**	**+0.4**
GTA				pP	sP	22 17 18.8	+1.1
GTA				S	**S**	**22 21 47.8**	**+2.1**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,110nm,8.4s						
GTA				LR	LR		
	comp=Z,4μm,15.5s						
GTA				LR	LR		
	comp=Z,2μm,14.3s						
GTA				LR	LR		
	comp=Z,3μm,14.3s						
KMI	**Kunming**	**26.26**	**260**	⇑P	**P**	**22 17 18.5**	**+3.2**
KMI				pmax	pmax		
	comp=Z,12nm,1.2s						
PZH	**PanZhiHua**	**26.54**	**263**	⇓P	**P**	**22 17 17.5**	**-0.3**
PZH				pP	**sP**	**22 17 22.1**	**+0.5**
PZH				sP	**pP**	**22 17 23.4**	**+2.9**
PZH				PP	**PnPn**	**22 18 03.3**	**+5.4**
PZH				S	**S**	**22 21 48.8**	**-3.7**
PZH				sS	**sS**	**22 21 58.1**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,120nm,5.8s						
PZH				LR	LR		
	comp=Z,2μm,9.1s						
PZH				LR	LR		
	comp=Z,2μm,9.7s						
PZH				LR	LR		
	comp=Z,2μm,10.1s						
DAV	**Davao City (W)**	**26.59**	**193**	LR	LR	22 29 36.1	
	comp=Z,647nm,18.5s,baz=14,slow=40						
ZAK	**Zakamensk**	**26.86**	**318**	eP	**P**	**22 17 21.1**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,27nm,1.4s						
BOD	**Bodaibo**	**27.29**	**340**	eP	**P**	**22 17 24.4**	**+0.3**
BOD				pmax	pmax		
	comp=Z,24nm,1.9s						
IRK	**Irkutsk**	**27.30**	**322**	eP	**P**	**22 17 25.4**	**+1.2**
IRK				pmax	pmax		
	comp=Z,75nm,2.3s						
PETK	**Petropavlovsk-**	**27.35**	**36**	LR	LR	22 29 53.8	
	comp=Z,825nm,18.1s,baz=210,slow=40						
PET	**Petropavlovsk**	**27.77**	**36**	eP	**P**	**22 17 30.5**	**+2.2**
PET				eS	**S**	**22 22 10.5**	**-0.5**

PET pmax pmax
comp=Z,200nm,15.0s
PET MLR MLR
comp=Z,2µm,19.0s
PET Petropavlovsk 27.77 36 P **P 22 17 28.2 -0.1**
MOY Mondy 28.75 319 *eP* **P 22 17 37.6 +0.3**
MOY pmax pmax
comp=Z,28nm,2.9s
YAK Yakutsk 28.84 358 LR LR 22 29 04.0
comp=Z,2µm,18.3s,baz=176,slow=36
YAK Yakutsk 28.84 358 *eP* **P 22 17 36.0 -1.8**
YAK *e**PP **pP 22 17 39.2 -1.2**
YAK *e* 22 18 27.9
YAK *e* 22 20 45.0
YAK *eS* **S 22 22 26.7 -1.1**
YAK *eSS* **SnSn 22 23 48.5 -0.8**
YAK *e* 22 28 18.5
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=Z,209nm,4.3s
YAK pmax pmax
comp=N,82nm,3.3s
YAK pmax pmax
comp=E,209nm,4.8s
YAK smax smax
comp=N,332nm,5.0s
YAK smax smax
comp=E,54nm,3.6s
YAK MLR MLR
comp=Z,1µm,14.0s
YAK Yakutsk 28.84 358 P **P 22 17 36.4 -1.5**
YAK IAmb IAmb 22 17 40.2
comp=Z,23nm,0.7s
MA2 Magadan 29.31 20 LR LR 22 30 24.8
comp=Z,1µm,18.4s,baz=219,slow=38
MA2 Magadan 29.31 20*c i*P **P 22 17 42.4 +0.3**
MA2 pmax pmax
comp=Z,31nm,1.7s
MA2 Magadan 29.31 20 P **P 22 17 41.9 -0.1**
MA2 IAmb IAmb 22 17 43.5
comp=Z,36nm,1.5s
GOMU GeErMu 30.13 286 P **P 22 17 50.5 +0.5**
GOMU pP sP 22 17 53.8 -0.1
GOMU sP pP 22 17 58.0 +5.3
GOMU S **S 22 22 43.8 -5.5**
GOMU pmax pmax
comp=Z,10.0nm,1.7s
GOMU LR LR
comp=Z,770nm,13.6s
GOMU LR LR
comp=Z,920nm,13.3s
GOMU LR LR
comp=Z,720nm,13.7s
KNGR Kungurtug, Tuv 30.28 315⇑*e*P **P 22 17 53.1 +2.2**
MYLDM Lahad Datu 30.39 206 P **P 22 17 52.7 +0.7**
CHTO Chiang Mai 32.38 252 P **P 22 18 08.9 -0.6**
CHTO pmax pmax
comp=Z,7.0nm,1.5s
CHTO Chiang Mai 32.38 252 P **P 22 18 08.9 -0.6**
TNTI Ternate 32.51 188 P **P 22 18 08.4 -2.2**
TNTI IAmb IAmb 22 18 25.2
comp=Z,25nm,1.0s
SEY Seymchan 32.54 18 LR LR 22 30 57.6
comp=Z,2µm,21.1s,baz=211,slow=36
SEY Seymchan 32.54 18⇓*e*P **P 22 18 10.9 +0.5**
SEY pmax pmax
comp=Z,17nm,1.4s
CM31 Chiang Mai Arr 32.57 251 P **P 22 18 09.8 -1.4**
CMAR Chiang Mai Arr 32.57 251 P **P 22 18 11.7 +0.5**
CMAR PcP **PcP 22 20 57.6 -0.1**
comp=Z,0.5nm,0.6s,baz=47,slow=8.2,SNR=6.7
CMAR comp=Z,0.4nm,0.6s,baz=355,slow=1.6,SNR=5.0 LR LR 22 32 17.9
comp=Z,751nm,19.6s,baz=55,slow=38
CMAR Chiang Mai Arr 32.57 251 P **P 22 18 09.4 -1.8**
CMAR Chiang Mai Arr 32.57 251 P **P 22 18 09.4 -1.8**
SIJI Sorong 33.91 180 LR LR 22 32 09.7
comp=Z,808nm,19.3s,baz=346,slow=36
LSA Lhasa 34.39 275 P **P 22 18 27.4 -0.2**
LSA pmax pmax
comp=Z,4.0nm,0.7s
LSA Lhasa 34.39 275 P **P 22 18 27.4 -0.2**
SHL Shillong 35.13 268 P **P 22 18 33.0 -0.6**
SHL pmax pmax
comp=Z,19nm,1.4s
SHL Shillong 35.13 268 P **P 22 18 33.0 -0.6**
SHL IAmb IAmb 22 18 34.0
comp=Z,19nm,1.4s
WMQ Urumqi 35.45 300 *eP* **P 22 18 37.1 +1.1**
WMQ S **S 22 24 11.5 +0.3**
WMQ pmax pmax
comp=Z,27nm,1.3s
WMQ pmax pmax
comp=Z,180nm,5.7s
WMQ LR LR
comp=Z,4µm,15.3s
WMQ LR LR
comp=Z,1µm,14.7s
WMQ LR LR
comp=Z,600nm,16.7s
SBUM Sibu 35.51 214 P **P 22 18 36.5 -0.2**
SHEM Shemya Is, Ala 36.13 44 LR LR 22 32 38.8
comp=Z,567nm,21.9s,baz=282,slow=35
KSM Kuching 37.29 216 P **P 22 18 51.7 -0.3**
ZSN Zaisan 37.66 306 *eP* **P 22 18 53.8 -1.0**
ZSN pmax pmax
comp=Z,33nm,2.4s
ZSN Zaisan 37.66 306 *eP* **P 22 18 53.9 -1.0**
comp=Z,33nm,2.4s,baz=306
TAPN Taplejung 37.99 273 *eP* **P 22 18 59.7 +1.5**
ODAN Odare 38.43 272 *eP* **P 22 19 02.1 +0.3**
TIXI Tiksi 38.51 359 LR LR 22 35 19.9
comp=Z,2µm,19.3s,baz=180,slow=37
TIXI Tiksi 38.51 359⇓*e*P **P 22 19 00.2 -1.4**
TIXI pmax pmax
comp=Z,29nm,2.5s
TIXI Tiksi 38.51 359 P **P 22 19 00.3 -1.4**
ZAA0 Zalesovo Array 38.72 317 P **P 22 19 03.0 -0.6**
ZALV Zalesovo Beam 38.72 317 P **P 22 19 03.5 -0.1**
comp=Z,3.2nm,0.9s,baz=104,slow=6.3,SNR=13
ZALV PcP **PcP 22 21 12.2 -3.0**
comp=Z,0.8nm,0.6s,baz=90,slow=2.9,SNR=2.8
ZALV LR LR 22 33 48.1
comp=Z,872nm,20.6s,baz=104,slow=34
JIRN Jiri 39.16 274 *eP* **P 22 19 09.0 +0.9**
GUN Gumba 39.34 275 *eP* **P 22 19 10.3 +0.7**
MK31 Makanchi Array 39.37 305*d i*P **P 22 19 09.3 0.0**
MK31 Makanchi Array 39.37 305 P **P 22 19 08.3 -0.9**
MKAR Makanchi Array 39.37 305 P **P 22 19 09.4 +0.2**
MKAR comp=Z,4.2nm,0.8s,baz=91,slow=11,SNR=16 PcP **PcP 22 21 16.7 -0.8**
comp=Z,0.7nm,0.8s,baz=93,slow=3.0,SNR=2.5
MKAR LR LR 22 36 18.5
comp=Z,909nm,18.8s,baz=91,slow=38
MKAR Makanchi Array 39.37 305*ce*P **P 22 19 09.3 0.0**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 39.37 305 P **P 22 19 08.9 -0.4**
MAKZ Makanchi 39.59 305 P **P 22 19 10.7 -0.4**
MAKZ pmax pmax
comp=Z,14nm,1.2s
MAKZ Makanchi 39.59 305 P **P 22 19 10.7 -0.4**
KAPI Kappang 39.61 198 LR LR 22 35 03.3
comp=Z,383nm,21.1s,baz=32,slow=36
KAPI Kappang 39.61 198 P **P 22 19 10.6 -0.8**
KAPI pmax pmax
comp=Z,17nm,1.3s
KAPI Kappang 39.61 198 P **P 22 19 10.6 -0.8**
PKI Pulchoki 39.84 274 *eP* **P 22 19 14.0 +0.2**
comp=Z,22nm,0.9s
PKIN Phulchoki 39.85 274 *eP* **P 22 19 14.1 +0.3**
KKN Kakani 39.88 275 *eP* **P 22 19 14.4 +0.5**
comp=Z,41nm,1.0s
KULM Kulim 39.91 233 P **P 22 19 13.2 -0.8**
DMN Daman 40.09 275 *eP* **P 22 19 16.7 +1.0**
BILL Bilibino 40.18 19*c i*P **P 22 19 16.3 +0.7**
BILL *e* 22 20 51.8
BILL *i* S **S 22 25 21.8 -0.4**
BILL pmax pmax
comp=Z,69nm,2.5s
BILL MLR MLR
comp=Z,1µm,15.0s
BILL Bilibino 40.18 19 P **P 22 19 15.5 -0.1**
BILL IAmb IAmb 22 19 21.0
comp=Z,30nm,1.2s
IPM Ipoh 40.26 231 P **P 22 19 16.9 -0.1**
GKN Gorkha 40.35 275 *eP* **P 22 19 17.9 +0.2**
SEM Semipalatinsk 40.95 310 *eP* **P 22 19 21.1 -1.4**
SEM pmax pmax
comp=Z,31nm,1.7s
SEM Semipalatinsk 40.95 310 *eP* **P 22 19 21.1 -1.4**
comp=Z,31nm,1.7s,baz=310
SEM LR LR 22 36 20.4
baz=310
DANN Dangsing 40.96 276 *eP* **P 22 19 23.6 +0.6**
comp=Z,80nm,1.0s
KOLN Koldanda 41.29 276 *eP* **P 22 19 25.4 -0.2**
PDGK Podgornoye 41.41 300 *i* P **P 22 19 26.3 0.0**
PDGK pmax pmax
comp=Z,24nm,1.5s
SHLS Shalkode 41.45 299 *eP* **P 22 19 23.1 -3.5**
SHLS Shalkode 41.45 299 *eP* **P 22 19 23.1 -3.5**
baz=299
PYUN Piuthan 41.69 276 *eP* **P 22 19 29.0 +0.2**
comp=Z,32nm,0.8s
UZB Uzynbulak 41.77 299 *eP* **P 22 19 28.2 -1.0**
UZB Uzynbulak 41.77 299 *eP* **P 22 19 28.3 -1.0**
baz=300
KPKS Kokpek 41.99 300 *eP* **P 22 19 29.7 -1.3**
KPKS pmax pmax
comp=Z,34nm,2.3s
KPKS Kokpek 41.99 300 *eP* **P 22 19 29.7 -1.3**
comp=Z,34nm,2.3s,baz=300
KURK Kurchatov 42.01 311 P **P 22 19 30.3 -0.6**
KURK pmax pmax
comp=Z,23nm,1.2s
KURK Kurchatov 42.01 311 P **P 22 19 30.3 -0.6**
KURK IAmb IAmb 22 19 33.2
comp=Z,23nm,1.1s
KURBB Kurchatov Arra 42.06 311 LR LR 22 38 40.6
comp=Z,684nm,18.1s,baz=71,slow=39
TDK Taldyqorghan 42.10 302 *eP* **P 22 19 30.7 -1.0**
TDK MLR MLR
comp=Z,1µm,10.0s
TDK Taldyqorghan 42.10 302 *eP* **P 22 19 30.7 -1.0**
baz=302
TDK LR LR 22 37 04.1
comp=Z,1µm,9.5s,baz=302
ZHN Zhinishke 42.19 300 *eP* **P 22 19 31.6 -1.1**
ZHN Zhinishke 42.19 300 *eP* **P 22 19 31.6 -1.1**
baz=300
SATY Saty 42.22 299 *eP* **P 22 19 32.3 -0.6**
SATY Saty 42.22 299 *eP* **P 22 19 32.3 -0.6**
baz=299
MMRI Maumere 42.54 194 P **P 22 19 35.6 +0.1**
MMRI IAmb IAmb 22 19 46.6
comp=Z,37nm,1.2s
TARG Taragay, Kyrgy 42.80 298 P **P 22 19 38.0 0.0**
PSI Prapat 42.90 232 LR LR 22 38 52.0
comp=Z,840nm,18.2s,baz=38,slow=38
CHKK Chushkaly 43.19 301 *eP* **P 22 19 39.5 -1.1**
CHKK Chushkaly 43.19 301 *eP* **P 22 19 39.6 -1.1**
baz=301
MDOK Medeo 43.20 300 *eP* **P 22 19 40.1 -0.8**
MDOK Medeo 43.20 300 *eP* **P 22 19 40.1 -0.8**
baz=300
MDOK LR LR 22 38 24.3
baz=300
KDJ Kajisay 43.22 298 P **P 22 19 40.8 -0.3**
KDJ pmax pmax
comp=Z,18nm,1.4s
KDJ Kajisay 43.22 298 P **P 22 19 40.8 -0.3**
TNSS Tian-Shan 43.29 300 *eP* **P 22 19 41.0 -0.9**
TNSS Tian-Shan 43.29 300 *eP* **P 22 19 41.1 -0.9**
baz=300
AAA Alma-Ata 43.30 300 *eP* **P 22 19 40.6 -0.9**
AAA pmax pmax
comp=Z,19nm,1.1s
AAA Alma-Ata 43.30 300 *eP* **P 22 19 40.7 -0.9**
comp=Z,18nm,1.1s,baz=300
NRIK Noril'sk 43.59 339 P **P 22 19 42.7 -0.8**
comp=Z,9.5nm,0.9s,baz=116,slow=8.0,SNR=10
NRIK LR LR 22 39 08.1
comp=Z,2µm,20.2s,baz=129,slow=38
NRIK Noril'sk 43.59 339⇓*i*P **P 22 19 42.6 -0.9**
NRIK pmax pmax
comp=Z,16nm,1.1s
NRIK Noril'sk 43.59 339 P **P 22 19 42.4 -1.1**
NRIK IAmb IAmb 22 19 45.2
comp=Z,18nm,1.2s
KUU Kurty 43.65 301 *eP* **P 22 19 42.5 -1.8**
KUU pmax pmax
comp=Z,72nm,2.0s
KUU Kurty 43.65 301 *eP* **P 22 19 42.6 -1.8**
comp=Z,72nm,2.0s,baz=301
BATI Baumata 43.82 191 LR LR 22 39 49.3
comp=Z,205nm,18.9s,baz=26,slow=39
BOOM Boomskoye usch 44.09 299 P **P 22 19 47.6 -0.5**
BOOM pmax pmax
comp=Z,12nm,1.4s
BOOM Boomskoye usch 44.09 299 P **P 22 19 47.6 -0.5**
KSH Kashi 44.50 295 P **P 22 19 55.1 +3.7**
KSH sP sP 22 20 02.3 +7.0
KSH PP **PcP 22 21 41.4 +6.7**
KSH S **S 22 26 34.3 +7.4**
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH LR LR
comp=Z,750nm,14.5s
KSH LR LR
comp=Z,870nm,15.3s
KSH LR LR
comp=Z,1µm,15.9s
KBK Karagaybulak 44.79 299 P **P 22 19 54.5 +0.8**
SNR=8.9
CHMS Chumysh 44.90 300 P **P 22 19 55.1 +0.7**
SNR=6.9
GSI Gunungsitoli 44.91 232 P **P 22 19 54.1 -0.6**
SGDS Sogindy 44.93 300 *eP* **P 22 19 53.8 -0.9**
SGDS pmax pmax
comp=Z,24nm,2.4s
SGDS Sogindy 44.93 300 *eP* **P 22 19 53.8 -0.9**
comp=Z,24nm,2.4s,baz=300
FRU1 Bishkek 45.01 299 P **P 22 19 55.3 0.0**
FRU1 pmax pmax
comp=Z,18nm,1.3s
FRU1 Bishkek 45.01 299 P **P 22 19 55.3 0.0**
FRU1 IAmb IAmb 22 19 56.9
comp=Z,18nm,1.2s
USP Ospenovka 45.05 300 P **P 22 19 55.9 +0.4**
SNR=7.9
AAK Ala-Archa 45.13 299 P **P 22 19 56.8 +0.4**
SNR=6.1
AAK Ala-Archa 45.13 299 LR LR 22 39 22.8
comp=Z,972nm,18.4s,baz=71,slow=37
AAK Ala-Archa 45.13 299*d i*P **P 22 19 56.8 +0.4**
AAK pmax pmax
comp=Z,13nm,1.5s
AAK Ala-Archa 45.13 299 P **P 22 19 56.4 0.0**
UCH Uchtor 45.17 299 P **P 22 19 58.4 +1.3**
SNR=12
BTLS Baital 45.18 303 *eP* **P 22 19 55.6 -0.9**
BTLS pmax pmax
comp=Z,18nm,1.6s
BTLS Baital 45.18 303 *eP* **P 22 19 55.7 -0.9**
comp=Z,18nm,1.6s,baz=303
AML Almayashu 45.79 299 P **P 22 20 03.0 +1.1**
SNR=12
BRZS Berezniki 45.80 310 *eP* **P 22 20 00.9 -0.5**
BRZS pmax pmax
comp=Z,12nm,1.2s
BRZS Berezniki 45.80 310 *eP* **P 22 20 00.9 -0.5**
comp=Z,12nm,1.2s,baz=310
SPIA Saint Paul Isl 45.81 40 P **P 22 20 01.2 -0.1**
baz=264
MTN Manton Dam 45.81 180 P **P 22 20 01.5 -0.2**
MTN IAmb IAmb 22 20 04.2
comp=Z,19nm,0.8s
OTUK Ortayu 46.10 307 P **P 22 20 03.7 -0.1**
OTUK pmax pmax
comp=Z,22nm,1.1s
GAMB Gambell 46.20 31 P **P 22 20 04.1 -0.2**
baz=257
BRVK Borovoye 47.24 314*d i*P **P 22 20 12.8 +0.2**
BRVK pmax pmax
comp=Z,17nm,1.1s
BRVK Borovoye 47.24 314 P **P 22 20 12.7 0.0**
BRVK IAmb IAmb 22 20 15.1
comp=Z,17nm,1.1s
DZA Taraz 47.40 300 *eP* **P 22 20 13.4 -0.6**
baz=300
DZA Taraz 47.40 300 *eP* **P 22 20 13.5 -0.6**
baz=300
DRK Karamyk 47.67 295 P **P 22 20 16.8 +0.2**
DRK IAmb IAmb 22 20 20.3
comp=Z,6.7nm,0.7s
KK31 Karatay Array 47.95 300⇑*e*P **P 22 20 18.2 -0.2**
KK31 pmax pmax
comp=Z,22nm,0.9s
NIL Nilore 47.97 287 P **P 22 20 19.2 +0.5**
NIL pmax pmax
comp=Z,8.0nm,1.1s
NIL Nilore 47.97 287 P **P 22 20 19.2 +0.5**
NIL IAmb IAmb 22 20 36.4
comp=Z,8.3nm,1.1s
TNA Tin City 48.18 29 P **P 22 20 19.3 -0.4**
baz=259
BTK Batken 48.30 296 P **P 22 20 20.7 -0.5**
BTK pmax pmax
comp=Z,9.0nm,1.0s
BTK Batken 48.30 296 P **P 22 20 20.7 -0.5**
BTK IAmb IAmb 22 20 35.1
comp=Z,9.2nm,1.0s
IUG luzhnay 48.47 299 *eP* **P 22 20 21.7 -0.8**
IUG luzhnay 48.47 299 *eP* **P 22 20 21.8 -0.8**
baz=299
KNRA Kununurra 48.69 183 P **P 22 20 24.8 +0.6**
ANM Nome 49.07 31 P **P 22 20 26.8 +0.2**
ANM pmax pmax
comp=Z,13nm,0.9s
ANM Nome 49.07 31 P **P 22 20 26.8 +0.2**
ANM IAmb IAmb 22 20 31.4
comp=Z,13nm,0.9s
ANM Nome 49.07 31 P **P 22 20 26.1 -0.5**
baz=262
TAS Tashkent 49.17 298 P **P 22 20 28.2 +0.4**
TAS pmax pmax
comp=Z,25nm,0.6s
TAS Tashkent 49.17 298 P **P 22 20 28.2 +0.4**
HYBB Hyderabad (bro 49.82 265 *eP* **P 22 20 33.0 0.0**
HYBB *ep*P **sP 22 20 36.1 -0.9**
HYBB *es*P **pP 22 20 37.3 +1.5**
HYBB *eS* **S 22 27 43.3 +0.3**
HYBB IVMs_BB IVMs_BB 22 28 45.2
comp=Z,112nm,6.2s
CHGR Chuyangaron 49.86 295 P **P 22 20 33.2 0.0**
HNR Honiara 50.37 142 LR LR 22 40 32.8
comp=Z,144nm,20.5s,baz=321,slow=34
RDOG Red Dog Mine 50.57 26 P **P 22 20 37.8 -0.2**
RDOG IAmb IAmb 22 20 44.5
comp=Z,10.0nm,1.0s
KBL Kabul 51.06 290 P **P 22 20 42.7 +0.3**
KBL pmax pmax
comp=Z,17nm,1.3s
KBL Kabul 51.06 290 P **P 22 20 42.7 +0.3**
KBL IAmb IAmb 22 20 48.5
comp=Z,17nm,1.3s
FITZ Fitzroy Crossi 51.33 187 LR LR 22 42 12.5
comp=Z,130nm,21.1s,baz=32,slow=36
FITZ Fitzroy Crossi 51.33 187 P **P 22 20 44.7 +0.5**
SVE Sverdlovsk 52.62 319 *eP* **P 22 20 53.4 0.0**
SVE pmax pmax
comp=Z,22nm,0.9s
SVE MLR MLR
comp=Z,1µm,14.0s
WB0 Warramunga Arr 52.77 176 IAmb IAmb 22 20 57.4
comp=Z,12nm,1.1s
WRAB Tennant Creek 52.93 177⇓*e*P **P 22 20 57.4 +1.3**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WB2 Warramunga Arr 52.94 177 P **P 22 20 57.0 +0.8**
WB2 IAmb IAmb 22 20 59.9
comp=Z,8.6nm,0.8s
WRA Warramunga Arr 52.94 177 P **P 22 20 55.2 -0.9**
comp=Z,3.9nm,0.8s,baz=356,slow=8.1,SNR=24
WRA LR LR 22 43 42.6
comp=Z,172nm,20.5s,baz=26,slow=36
WRA Warramunga Arr 52.94 177 *i* P **P 22 20 54.7 -1.5**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WR0 Warramunga Arr 52.97 176 P **P 22 20 57.1 +0.8**
WR0 IAmb IAmb 22 21 00.1
comp=Z,9.9nm,0.8s
A21K Barrow 53.14 23 P **P 22 20 57.9 +0.8**
baz=265
TTA Tatalina 53.14 33 P **P 22 20 57.8 +0.5**
TTA pmax pmax
comp=Z,9.0nm,1.1s
TTA Tatalina 53.14 33 P **P 22 20 57.8 +0.5**
TTA Tatalina 53.14 33 P **P 22 20 57.6 +0.3**
baz=272
N18K Kilae Creek 53.31 36 P **P 22 20 59.8 +1.3**
N18K IAmb IAmb 22 21 01.8
comp=Z,24nm,1.4s
N18K Kilae Creek 53.31 36 P **P 22 20 59.4 +0.9**
baz=274
SVW2 Sparrevohn 53.43 35 P **P 22 21 00.1 +0.7**
SVW2 IAmb IAmb 22 21 01.9
comp=Z,13nm,1.1s
PALK Pallekele 53.49 253 LR LR 22 44 03.9
comp=Z,347nm,21.4s,baz=151,slow=36
PALK Pallekele 53.49 253 P **P 22 21 01.1 +0.6**
PALK pmax pmax
comp=Z,22nm,1.4s
PALK Pallekele 53.49 253 P **P 22 21 01.1 +0.6**
PALK IAmb IAmb 22 21 09.7
comp=Z,22nm,1.4s
O18K Koktuh Hills 53.71 37 IAmb IAmb 22 21 04.4
comp=Z,32nm,1.4s
O18K Koktuh Hills 53.71 37 P **P 22 21 01.2 -0.2**
baz=275
L19K White Mountain 53.71 34 P **P 22 21 02.0 +0.6**
L19K IAmb IAmb 22 21 03.8
comp=Z,12nm,1.1s
L19K White Mountain 53.71 34 P **P 22 21 01.6 +0.1**
baz=274,SNR=6.0
P18K Big Mountain, 53.74 37 P **P 22 21 02.0 +0.3**
P18K IAmb IAmb 22 21 04.2
comp=Z,17nm,1.2s
ARU Arti 53.80 319 LR LR 22 46 54.1
comp=Z,694nm,18.9s,baz=82,slow=39
ARU Arti 53.80 319*d i*P **P 22 21 01.8 -0.4**
ARU pmax pmax
comp=Z,24nm,1.3s
ARU Arti 53.80 319 P **P 22 21 01.8 -0.4**
ARU IAmb IAmb 22 21 06.6
comp=Z,19nm,1.0s
CHIR Chirikof Islan 53.92 42 P **P 22 21 01.7 -1.4**
baz=278
J20K Nowinta River 53.93 31 P **P 22 21 03.9 +0.9**
J20K IAmb IAmb 22 21 05.9
comp=Z,18nm,0.9s
J20K Nowinta River 53.93 31 P **P 22 21 03.8 +0.9**
baz=273,SNR=16
M19K Big River Lodg 53.95 34 P **P 22 21 02.7 -0.4**
baz=274
N19K Bonanza Creek 53.99 36 P **P 22 21 03.2 -0.4**
N19K IAmb IAmb 22 21 05.9
comp=Z,11nm,1.1s
N19K Bonanza Creek 53.99 36 P **P 22 21 04.1 +0.5**
baz=275
K20K Telida 54.00 32 P **P 22 21 04.4 +0.9**
K20K IAmb IAmb 22 21 09.9
comp=Z,16nm,0.8s
K20K Telida 54.00 32 P **P 22 21 04.3 +0.7**
baz=273,SNR=16
AB31 Akbulak array 54.10 310⇑*e*P **P 22 21 03.4 -1.1**
AB31 pmax pmax
comp=Z,10.0nm,0.9s
ABKAR Akbulak array 54.10 310 IAmb IAmb 22 21 06.0
comp=Z,17nm,1.1s
O19K Port Alsworth 54.12 36 P **P 22 21 05.1 +0.6**
O19K Port Alsworth 54.12 36 P **P 22 21 05.2 +0.7**
baz=275
L20K Farewell, AK 54.15 34 P **P 22 21 05.5 +0.9**
baz=274,SNR=8.1
H21K Melozitna Rive 54.43 30 P **P 22 21 05.9 -0.8**
H21K IAmb IAmb 22 21 09.3
comp=Z,12nm,1.2s
H21K Melozitna Rive 54.43 30 P **P 22 21 07.5 +0.8**
baz=273,SNR=8.4
Q19K Cape Douglas, 54.60 38 P **P 22 21 07.6 -0.4**
CHUM Lake Minchumin 54.75 32 P **P 22 21 08.2 -0.7**
baz=274,SNR=10
I21K Tanana 54.80 30 P **P 22 21 10.1 +0.8**
I21K IAmb IAmb 22 21 15.6
comp=Z,18nm,1.0s

I21K	Tanana	54.80	30	P	P	22 21 09.0	-0.3	KLU	Klutina	58.00	34	P	P	22 21 33.0	+0.7
	baz=274,SNR=14							KLU				IAmb	IAmb	22 21 37.8	
RSO	Redoubt South	54.87	36	P	P	22 21 11.0	+0.9		comp=Z,14nm,1.1s						
CTA	Charters Tower	54.87	163	LR	LR	22 42 35.7		KLU	Klutina	58.00	34	P	P	22 21 33.5	+1.2
	comp=Z,263nm,21.1s,baz=340,slow=34								baz=282						
PPLA	Purkeypile	54.89	33	P	P	22 21 10.2	0.0	RIDG	Independent Ri	58.05	31	IAmb	IAmb	22 21 37.4	
PPLA				IAmb	IAmb	22 21 12.6			baz=281						
	comp=Z,13nm,0.9s								comp=Z,17nm,1.5s						
PPLA	Purkeypile	54.89	33	P	P	22 21 09.9	-0.3	RIDG	Independent Ri	58.05	31	P	P	22 21 33.0	+0.4
	baz=275,SNR=5.7								baz=281						
CAST	Castle Rocks	54.89	32	P	P	22 21 10.5	+0.4	DIV	Divide	58.14	35	P	P	22 21 33.0	-0.3
CAST				IAmb	IAmb	22 21 12.8		DIV				IAmb	IAmb	22 21 38.9	
	comp=Z,12nm,0.8s								comp=Z,11nm,0.8s						
CAST	Castle Rocks	54.89	32	P	P	22 21 10.0	0.0	HARP	HAARP	58.17	33	P	P	22 21 34.3	+0.8
	baz=275,SNR=10								baz=282						
O20K	Slope Mountain	54.98	36	P	P	22 21 11.0	+0.3	KIRV	Kirov	58.29	322	LR	LR	22 48 36.5	
	baz=277								comp=Z,540nm,18.8s,baz=79,slow=38						
OHAK	Old Harbor	55.01	40	P	P	22 21 11.1	+0.2	KIRV	Kirov	58.29	322⇑	*i*P	P	22 21 35.7	+1.5
	baz=278							SCRK	Sand Creek	58.38	31	IAmb	IAmb	22 21 39.9	
SPCR	Spurr Chakacha	55.05	35	P	P	22 21 12.2	+0.9		comp=Z,16nm,1.1s						
	baz=276							SCRK	Sand Creek	58.38	31	P	P	22 21 35.3	+0.4
AKTO	Aktyubinsk	55.09	312	LR	LR	22 46 40.2			baz=282,SNR=14						
	comp=Z,1μm,18.0s,baz=80,slow=38							GEYT	Alibeck	58.39	297	P	P	22 21 35.4	0.0
KDAK	Kodiak Island	55.30	39	LR	LR	22 45 15.0			comp=Z,5.1nm,0.8s,baz=249,slow=17,SNR=7.3						
	comp=Z,471nm,21.6s,baz=273,slow=36							GEYT				LR	LR	22 49 07.8	
BPAW	Bear Paw Mtn.	55.31	31	P	P	22 21 13.7	+0.6		comp=Z,437nm,19.3s,baz=71,slow=39						
BPAW				IAmb	IAmb	22 21 15.8		GEYT	Alibeck	58.39	297	P	P	22 21 36.2	+0.8
	comp=Z,20nm,1.3s							GYA0B	ALIBECK ARRAY	58.39	297	P	P	22 21 35.0	-0.3
BPAW	Bear Paw Mtn.	55.31	31	P	P	22 21 12.6	-0.5	GYA0B				IAmb	IAmb	22 21 43.0	
	baz=276,SNR=7.6								comp=Z,6.8nm,0.8s						
COLD	Coldfoot	55.38	28	P	P	22 21 13.9	+0.4	DOT	Dot Lake	58.41	31	IAmb	IAmb	22 21 39.8	
COLD				IAmb	IAmb	22 21 19.6			comp=Z,9.7nm,1.0s						
	comp=Z,8.9nm,1.0s							J26L	Joseph Creek	58.45	30	P	P	22 21 35.8	+0.3
COLD	Coldfoot	55.38	28	P	P	22 21 13.8	+0.3		baz=282						
	baz=274,SNR=12							N25K	Chitina, Valde	58.60	34	P	P	22 21 36.9	+0.4
KTH	Kantishna Hill	55.40	32	P	P	22 21 14.5	+0.7		baz=282						
KTH				IAmb	IAmb	22 21 16.5		MENT	Mentasta	58.71	32	P	P	22 21 38.1	+0.9
	comp=Z,19nm,1.0s							BMRM	Bremner River	58.73	35	P	P	22 21 36.7	-0.7
TOLK	Toolik Lake Re	55.53	26	P	P	22 21 15.1	+0.5	BMRM	Bremner River	58.73	35	P	P	22 21 37.7	+0.3
TOLK				IAmb	IAmb	22 21 16.7			baz=283						
	comp=Z,14nm,1.3s							L26K	Log Cabin Wild	58.86	32	P	P	22 21 38.0	-0.2
TOLK	Toolik Lake Re	55.53	26	P	P	22 21 13.3	-1.3	L26K				IAmb	IAmb	22 21 44.1	
	baz=274,SNR=5.2								comp=Z,6.8nm,1.0s						
PSA00	Pilbara Seismi	55.60	193	P	P	22 21 15.7	+0.1	L26K	Log Cabin Wild	58.86	32	P	P	22 21 39.4	+1.2
TRF	Thorofare Moun	55.69	32	P	P	22 21 16.3	+0.3		baz=283,SNR=6.4						
TRF				IAmb	IAmb	22 21 21.3		M26K	Nabesna, AK	59.16	33	P	P	22 21 40.8	+0.5
	comp=Z,8.7nm,1.0s							M26K	Nabesna, AK	59.16	33	P	P	22 21 40.2	-0.1
TRF	Thorofare Moun	55.69	32	P	P	22 21 15.9	-0.1		baz=283,SNR=15						
	baz=276							MCARA	McCarthy VSAT	59.38	34	P	P	22 21 41.9	+0.1
H23K	Yukon River	55.76	29	P	P	22 21 17.6	+1.3	MCARA	McCarthy VSAT	59.38	34	P	P	22 21 42.0	+0.1
H23K	Yukon River	55.76	29	P	P	22 21 16.9	+0.7		baz=284						
	baz=276,SNR=28							EGAK	Eagle	59.41	30	P	P	22 21 42.6	+0.7
I23K	Minto, Yukon-K	55.91	30	P	P	22 21 17.9	+0.7	EGAK				IAmb	IAmb	22 22 01.5	
I23K				IAmb	IAmb	22 21 20.2			comp=Z,11nm,1.5s						
	comp=Z,14nm,1.4s							PRGR	Permogore	59.44	326	*e*P	P	22 21 42.1	-0.1
I23K	Minto, Yukon-K	55.91	30	P	P	22 21 18.2	+1.0	PRGR				pmax	pmax		
	baz=276								comp=Z,5.0nm,0.6s						
BRSE	Bradley Lake S	55.96	37	P	P	22 21 18.2	+0.4	L27K	Beaver Creek,	59.52	32	P	P	22 21 43.7	+0.9
	baz=279							L27K				IAmb	IAmb	22 21 48.9	
BWN	Browne	55.97	31	P	P	22 21 19.1	+1.3		comp=Z,10nm,0.9s						
M22K	Willow	55.98	34	P	P	22 21 18.2	+0.4	L27K	Beaver Creek,	59.52	32	P	P	22 21 43.7	+0.9
M22K	Willow	55.98	34	P	P	22 21 18.7	+0.9		baz=284,SNR=12						
	baz=278							BCAR	Beaver Creek A	59.54	32	P	P	22 21 43.6	+0.6
NEA2	Nenana	56.09	31	P	P	22 21 19.2	+0.5	TGL	Tana Glacier	59.63	35	P	P	22 21 44.5	+0.8
NEA2	Nenana	56.09	31	P	P	22 21 19.4	+0.7	TGL				IAmb	IAmb	22 22 03.1	
	baz=277,SNR=12								comp=Z,16nm,1.0s						
RC01	Rabbit Creek A	56.26	35	P	P	22 21 20.5	+0.7	M27K	Edge Creek, AK	59.67	33	P	P	22 21 44.3	+0.4
RC01				IAmb	IAmb	22 21 25.3		M27K				IAmb	IAmb	22 21 49.8	
	comp=Z,19nm,1.0s								comp=Z,7.5nm,1.0s						
RC01	Rabbit Creek A	56.26	35	P	P	22 21 20.9	+1.0	M27K	Edge Creek, AK	59.67	33	P	P	22 21 44.8	+0.8
	baz=279								baz=284						
MCK	McKinley	56.26	32	P	P	22 21 20.2	+0.3	CTG	Chitna Glacier	60.28	34	P	P	22 21 48.8	+0.7
MCK				pmax	pmax				baz=286						
	comp=Z,15nm,1.1s							DAWY	Dawson	60.33	30	P	P	22 21 49.7	+1.3
MCK	McKinley	56.26	32	P	P	22 21 20.2	+0.3	DAWY	Dawson	60.33	30	P	P	22 21 49.2	+0.9
MCK				IAmb	IAmb	22 21 21.8			baz=285						
	comp=Z,15nm,1.1s							I29M	Ogilvie Camp,	60.43	29	P	P	22 21 49.7	+0.7
MCK	McKinley	56.26	32	P	P	22 21 20.2	+0.3	I29M				IAmb	IAmb	22 21 54.1	
	baz=278,SNR=5.6								comp=Z,14nm,1.2s						
RND	Reindeer	56.34	32	P	P	22 21 20.2	-0.3	I29M	Ogilvie Camp,	60.43	29	P	P	22 21 49.9	+0.9
RND				pmax	pmax				baz=286,SNR=8.6						
	comp=Z,22nm,0.9s							YUK3	Moose Creek	60.47	33	P	P	22 21 50.2	+0.7
RND	Reindeer	56.34	32	P	P	22 21 20.2	-0.3		baz=286						
MDM	Murphy Dome	56.40	30	P	P	22 21 21.4	+0.5	LOGN	Logan Glacier	60.47	34	P	P	22 21 51.7	+2.1
HRA	Herat	56.43	292	P	P	22 21 21.8	0.0	LOGN				IAmb	IAmb	22 22 01.5	
H24K	Noodor Dome	56.44	29	P	P	22 21 22.6	+1.4		comp=Z,19nm,1.3s						
H24K				IAmb	IAmb	22 21 27.5		TABL	Table Mountain	60.51	35	P	P	22 21 50.5	+0.7
	comp=Z,18nm,1.1s							TABL				IAmb	IAmb	22 21 52.8	
H24K	Noodor Dome	56.44	29	P	P	22 21 21.8	+0.6		comp=Z,17nm,1.3s						
	baz=277,SNR=13							EPYK	Eagle Plains	60.78	27	P	P	22 21 52.0	+0.7
PMR	Palmer	56.47	34	P	P	22 21 22.0	+0.7	EPYK	Eagle Plains	60.78	27	P	P	22 21 51.8	+0.5
PMR				pmax	pmax				baz=286						
	comp=Z,17nm,1.0s							BELG	Begornoye	60.90	316	LR	LR	22 49 54.6	
PMR	Palmer	56.47	34	P	P	22 21 22.0	+0.7		comp=Z,556nm,18.4s,baz=64,slow=38						
PMR				IAmb	IAmb	22 21 26.2		BELG	Belogornoye	60.90	316⇓	*e*P	P	22 21 51.2	-1.1
	comp=Z,17nm,1.0s							BELG				pmax	pmax		
PMR	Palmer	56.47	34	P	P	22 21 21.9	+0.7		comp=Z,5.0nm,1.4s						
	baz=279							INK	Inuvik	61.39	25	LR	LR	22 50 36.3	
WRH	Wood River Hil	56.53	31	P	P	22 21 22.0	+0.3		comp=Z,440nm,18.2s,baz=267,slow=38						
WRH				IAmb	IAmb	22 21 29.1		INK	Inuvik	61.39	25	P	P	22 21 55.2	-0.2
	comp=Z,9.9nm,1.0s							INK				pmax	pmax		
GHO	Glory Hole Cre	56.54	34	P	P	22 21 21.8	-0.2		comp=Z,6.0nm,1.0s						
SEW	Seward	56.55	36	P	P	22 21 21.9	0.0	INK	Inuvik	61.39	25	P	P	22 21 55.2	-0.2
	baz=280							INK				IAmb	IAmb	22 21 59.9	
TCOL	CIGO, UAF Yank	56.57	30	P	P	22 21 23.3	+1.3		comp=Z,6.2nm,0.9s						
TCOL				IAmb	IAmb	22 21 24.7		INK	Inuvik	61.39	25	P	P	22 21 56.1	+0.7
	comp=Z,12nm,0.8s								baz=288						
COLA	College	56.58	30⇑	*i*P	P	22 21 23.8	+1.8	YUK4	Talbot Arm	61.42	33	P	P	22 21 56.7	+0.7
COLA				pmax	pmax				baz=288						
	comp=Z,23nm,1.7s							YKU2	Yakutat	61.49	35	P	P	22 21 56.6	+0.4
COLA	College	56.58	30	P	P	22 21 22.9	+0.8	FUNA	Funafuti	61.52	124	P	P	22 21 58.7	+1.8
COLA				IAmb	IAmb	22 21 24.7		YUK6	Outpost Mounta	61.68	34	P	P	22 21 58.0	+0.2
	comp=Z,11nm,0.8s								baz=288						
AS31	Alice Springs	56.62	177	P	P	22 21 22.4	-0.5	M30M	Minto, Yukon	61.88	32	P	P	22 21 59.0	+0.1
ASAR	Alice Springs	56.62	177	P	P	22 21 22.8	0.0	M30M				IAmb	IAmb	22 22 01.4	
	comp=Z,3.8nm,0.7s,baz=4.1,slow=6.3,SNR=37								comp=Z,8.1nm,1.4s						
ASAR	Alice Springs	56.62	177	P	P	22 21 23.6	+0.8	M30M	Minto, Yukon	61.88	32	P	P	22 21 59.2	+0.3
CCB	Clear Creek Bu	56.62	31	P	P	22 21 23.5	+1.1		baz=288						
POKR	Poker Plat Res	56.72	30	P	P	22 21 23.8	+0.7	HYT	Haines Junctio	62.11	34	P	P	22 22 01.1	+0.5
POKR	Poker Plat Res	56.72	30	P	P	22 21 22.7	-0.4	HYT	Haines Junctio	62.11	34	P	P	22 22 00.8	+0.2
	baz=278								baz=289						
SML	Sawmill	56.81	34	P	P	22 21 24.5	+0.6	KLMR	Klimovskoe	62.49	327	*e*P	P	22 22 01.4	-1.5
SML	Sawmill	56.81	34	P	P	22 21 24.5	+0.6	KLMR				*e*		22 24 19.8	
SML				IAmb	IAmb	22 21 29.2		KLMR				pmax	pmax		
	comp=Z,17nm,1.0s								comp=Z,18nm,1.2s						
SML	Sawmill	56.81	34	P	P	22 21 24.2	+0.4	KLMR	Klimovskoe	62.49	327	*e*P	P	22 22 01.5	-1.5
	baz=279							KLMR				AMP		22 22 14.2	
KNK	Knik Glacier	56.81	34	P	P	22 21 24.1	+0.2		comp=Z,18nm,1.2s						
KNK	Knik Glacier	56.81	34	P	P	22 21 23.2	-0.6	KLMR				*e*PP	PP	22 24 19.9	-0.1
	baz=279							KLMR				LQ	LQ	22 43 44.5	
WAT6	Susitna Watana	56.96	33	P	P	22 21 25.2	+0.1	KLMR				LQ	LQ	22 43 44.5	
	baz=279							KLMR				LR	LR	22 49 58.6	
PWL	Port Wells	56.97	35	P	P	22 21 24.4	-0.5	SPITS	Spitsbergen Ar	62.59	348	LR	LR	22 51 09.4	
	baz=280								comp=Z,962nm,18.8s,baz=257,slow=38						
IL31		57.00	30	P	P	22 21 24.4	-0.7	SPITS	Spitsbergen Ar	62.59	348	P	P	22 22 04.1	+0.7
ILAR	Eielson Array	57.00	30	P	P	22 21 24.9	-0.2	SPITS				pmax	pmax		
	comp=Z,3.8nm,0.9s,baz=281,slow=5.3,SNR=26								comp=Z,51nm,1.5s						
ILAR				LR	LR	22 48 10.8		N31M	Braeburn, Yuko	62.69	33	P	P	22 22 04.9	+0.6
	comp=Z,293nm,18.3s,baz=281,slow=38							N31M				IAmb	IAmb	22 22 10.6	
ILAR	Eielson Array	57.00	30	P	P	22 21 24.1	-1.0		comp=Z,12nm,1.1s						
DHY	Denali Highway	57.05	32	P	P	22 21 26.0	+0.3	N31M	Braeburn, Yuko	62.69	33	P	P	22 22 04.7	+0.4
DHY				IAmb	IAmb	22 21 30.7			baz=290						
	comp=Z,14nm,1.3s							APA	Apatity	62.70	335⇓	*i*P	P	22 22 01.3	-2.9
DHY	Denali Highway	57.05	32	P	P	22 21 25.5	-0.1	APA				pmax	pmax		
	baz=279								comp=Z,14nm,0.9s						
SCM	Sheep Creek Mo	57.28	34	P	P	22 21 27.6	+0.4	A36M	Sachs Harbour	62.73	20	P	P	22 22 03.5	-0.9
SCM				pmax	pmax			A36M	Sachs Harbour	62.73	20	P	P	22 22 04.7	+0.3
	comp=Z,22nm,1.2s								baz=294						
SCM	Sheep Creek Mo	57.28	34	P	P	22 21 27.6	+0.4	M31M	Drury Creek, Y	63.06	32	P	P	22 22 07.0	+0.2
SCM				IAmb	IAmb	22 21 32.5		M31M	Drury Creek, Y	63.06	32	P	P	22 22 07.3	+0.5
	comp=Z,22nm,1.2s								baz=290						
SCM	Sheep Creek Mo	57.28	34	P	P	22 21 28.0	+0.9	WHY	Whitehorse	63.38	33	P	P	22 22 09.8	+0.8
	baz=280							WHY	Whitehorse	63.38	33	P	P	22 22 09.3	+0.3
BMAR	Burnt Mountain	57.52	27		P	22 21 29.8	+1.0		baz=291						
GLI	Glacier Island	57.56	35	P	P	22 21 29.5	+0.4	FARO	Faro, Yukon	63.51	31	P	P	22 22 09.9	+0.2
	baz=281								baz=291						
J25K	Salcha River,	57.67	30	P	P	22 21 31.1	+1.2	SKAG	Skagway	63.60	35	P	P	22 22 11.4	+1.1
	baz=280							SKAG	Skagway	63.60	35	P	P	22 22 10.8	+0.5
M24K	Tolsona, Glenn	57.76	33	P	P	22 21 31.2	+0.6		baz=291						
	baz=281							KAAM	Kaadhehdhoo	63.68	252	P	P	22 22 08.5	-2.9
PAX	Paxson	57.92	32	P	P	22 21 32.6	+0.8	FORT	Forrest	63.74	183	P	P	22 22 12.1	+0.7
PAX				pmax	pmax			WSAR	Wadi Sarin	63.77	282	LR	LR	22 55 14.8	
	comp=Z,6.0nm,1.1s								comp=Z,272nm,18.6s,baz=110,slow=41						
PAX	Paxson	57.92	32	P	P	22 21 32.6	+0.8	KEV	Kevo	63.99	338	P	P	22 22 12.2	-0.5
PAX	Paxson	57.92	32	P	P	22 21 32.7	+1.0	KEV				pmax	pmax		
	baz=281								comp=Z,27nm,0.9s						
								KEV	Kevo	63.99	338	P	P	22 22 12.2	-0.5

C36M	Paulatuk	64.19	22	P	P	22 22 14.3	+0.3
C36M	Paulatuk	64.19	22	P	P	22 22 14.6	+0.6
	baz=296						
NOR	Nord	64.23	355	*i* P	P	22 22 10.3	-3.9
NOR				IAmb	IAmb	22 22 17.5	
	comp=Z,1.4nm,0.8s						
MMPY	Sheldon Lake,	64.26	31	P	P	22 22 15.0	+0.3
	baz=293						
DZM	Mont Dzumac	64.34	144	LR	LR	22 45 56.6	
	comp=Z,211nm,21.5s,baz=333,slow=32						
DZM	Mont Dzumac	64.34	144	*e*LR	LR	22 41 34.2	
	comp=Z,411nm,22.4s						
JIS	Juneau Island	64.49	36	P	P	22 22 16.3	+0.2
ARCES	ARCESS Array B	64.56	338	P	P	22 22 16.0	-0.4
	comp=Z,13nm,0.9s,baz=64,slow=8.5,SNR=29						
ARCES				LR	LR	22 56 05.7	
	comp=Z,715nm,18.1s,baz=68,slow=41						
ARCES	ARCESS Array B	64.56	338	P	P	22 22 16.1	-0.4
ARCES				pmax	pmax		
	comp=Z,19nm,1.0s						
ARCES	ARCESS Array B	64.56	338	P	P	22 22 16.1	-0.4
LKRN	Lenkeran, Azer	64.94	301	P	P	22 22 19.1	-0.4
EUNU	Eureka	65.04	7	IAmb	IAmb	22 22 26.0	
	comp=Z,13nm,1.4s						
SEKA	Sheki	65.07	304	P	P	22 22 20.4	0.0
MOS	Moscow	65.27	322	*e*P	P	22 22 20.7	-0.6
MOS				MLR	MLR		
	comp=Z,1μm,15.0s						
ZKTA	Zakatala	65.30	305	P	P	22 22 21.2	-0.6
HPAH	Hawaii Prepara	65.31	81	P	P	22 22 21.3	-0.9
MNGR	Mingechevir, A	65.32	304	P	P	22 22 21.5	-0.4
STKA	Stephens Creek	65.46	170	P	P	22 22 23.4	+0.8
	comp=Z,4.4nm,0.7s,baz=350,slow=8.0,SNR=8.9						
STKA				LR	LR	22 50 15.9	
	comp=Z,163nm,20.3s,baz=3.2,slow=35						
STKA	Stephens Creek	65.46	170⇓	*e*P	P	22 22 24.3	+1.6
STKA	Stephens Creek	65.46	170	P	P	22 22 24.0	+1.3
MLOA	Mauna Loa Obse	65.64	82	P	P	22 22 24.8	0.0
GANJ	Ganja	65.91	304	P	P	22 22 25.2	-0.6
TGTN	Hyland Airport	65.99	31	P	P	22 22 26.2	+0.3
	baz=296						
VORR	Voronezh	66.02	317	*e*P	P	22 22 28.1	+1.9
VORR				pmax	pmax		
	comp=Z,20nm,0.4s						
OBN	Obninsk	66.07	321	LR	LR	22 54 36.5	
	comp=Z,178nm,20.8s,baz=58,slow=39						
OBN	Obninsk	66.07	321⇑	*e*P	P	22 22 27.9	+1.4
OBN				*e*		22 22 55.2	
OBN				*e*		22 24 55.2	
OBN				pmax	pmax		
	comp=Z,38nm,2.1s						
OBN				MLR	MLR		
	comp=Z,1μm,16.0s						
OBN	Obninsk	66.07	321	P	P	22 22 27.0	+0.6
VALR	Valaam	66.17	329	*de*P	P	22 22 28.0	+1.0
VALR				pmax	pmax		
	comp=Z,16nm,0.7s						
GOF	Gofitskoye	66.33	309⇑	*e*P	P	22 22 28.6	+0.2
DLBC	Dease Lake	66.53	35	LR	LR	22 53 18.9	
	comp=Z,259nm,18.5s,baz=308,slow=38						
DLBC	Dease Lake	66.53	35	P	P	22 22 30.3	+0.8
DLBC				IAmb	IAmb	22 22 34.1	
	comp=Z,18nm,1.4s						
ZEI	Tsey	66.69	307	*e*P	P	22 22 29.0	-2.0
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBZ	Khabaz	66.97	308	P	P	22 22 32.5	+0.1
	comp=Z,6.6nm,0.8s,baz=64,slow=2.8,SNR=11						
KBZ				LR	LR	22 55 19.4	
	comp=Z,442nm,18.2s,baz=171,slow=39						
KBZ	Khabaz	66.97	308⇓	*e*P	P	22 22 32.3	-0.1
KBZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIV	Kislovodsk	67.02	308	*e*P	P	22 22 32.7	-0.2
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV	Kislovodsk	67.02	308	P	P	22 22 32.9	0.0
ONI	Oni	67.07	307	P	P	22 22 33.8	+0.6
ONI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ONI	Oni	67.07	307	P	P	22 22 33.8	+0.6
ONI				IAmb	IAmb	22 22 36.7	
	comp=Z,4.5nm,0.7s						
NAX	Nakhchivan	67.09	303	P	P	22 22 32.9	-0.5
GNI	Garni	67.21	304	LR	LR	22 55 17.6	
	comp=Z,488nm,18.6s,baz=67,slow=39						
GNI	Garni	67.21	304⇓	*e*P	P	22 22 35.6	+1.3
GNI				pmax	pmax		
	comp=Z,16nm,1.3s						
GNI	Garni	67.21	304	P	P	22 22 34.9	+0.7
WRGLY	Wrigley	67.22	28	P	P	22 22 33.8	+0.1
	baz=299						
KARS	Kars	68.16	305	P	P	22 22 40.5	+0.3
KARS				pmax	pmax		
	comp=Z,56nm,1.2s						
KARS	Kars	68.16	305	P	P	22 22 40.5	+0.3
RES	Resolute Bay	68.17	12	LR	LR	22 54 42.2	
	comp=Z,617nm,19.0s,baz=313,slow=38						
RES	Resolute Bay	68.17	12	IAmb	IAmb	22 22 42.1	
	comp=Z,7.2nm,1.2s						
FIA1	FINESS Array S	68.18	330	P	P	22 22 39.9	+0.1
FIA1				IAmb	IAmb	22 22 42.7	
	comp=Z,9.0nm,0.8s						
FINES	FINESS Array B	68.18	330	P	P	22 22 39.1	-0.7
	comp=Z,7.0nm,0.7s,baz=83,slow=5.6,SNR=17						
FINES				LR	LR	22 55 01.7	
	comp=Z,736nm,19.2s,baz=66,slow=38						
FINES	FINESS Array B	68.18	330	P	P	22 22 39.3	-0.5
FINES	FINESS Array B	68.18	330	P	P	22 22 39.3	-0.5
DAG	Danmarks Havn	68.69	353	*i* P	P	22 22 41.0	-1.7
DAG				IAmb	IAmb	22 22 46.0	
	comp=Z,6.3nm,1.0s						
SOC	Sochi	69.12	309	*e*P	P	22 22 45.2	-0.8
SOC				*e*		22 25 18.6	
SOC				*e*PPP	PPP	22 26 56.0	
SOC				*e*S	S	22 31 51.3	-0.3
SOC				*e*SS	SS	22 36 21.5	+4.4
SOC				pmax	pmax		
	comp=Z,14nm,0.8s						
SOC				MLR	MLR		
	comp=Z,362nm,14.0s						
VSU	Vasula	69.38	327⇓	*e*P	P	22 22 47.0	-0.3
VSU				pmax	pmax		
	comp=Z,52nm,1.0s						
VSU	Vasula	69.38	327	*e*P	P	22 22 47.0	-0.3
GURO	Guroymak-BITLI	69.79	303	P	P	22 22 50.5	+0.1
GURO				IAmb	IAmb	22 22 52.5	
	comp=Z,17nm,1.4s						
ANN	Anapa	70.04	311	*e*P	P	22 22 49.0	-2.6
ANN				*e*PP	pP	22 22 53.6	-0.9
ANN				*e*S	S	22 31 59.3	-3.1
ANN				pmax	pmax		
	comp=Z,63nm,1.1s						
ANN				MLR	MLR		
	comp=Z,581nm,13.0s						
BBB	Bella Bella	70.36	40	LR	LR	22 52 40.7	
	comp=Z,192nm,21.1s,baz=310,slow=35						
MNK	Minsk	70.82	323	*i* P	P	22 22 54.6	-1.6
MNK				*i*		22 25 29.4	
MNK				*i* PPP	PPP	22 27 15.4	
MNK				*i* S	S	22 32 10.3	-0.9
MNK				*i* SS	SS	22 36 41.8	-0.9
MNK				pmax	pmax		
	comp=E,2.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,23nm,1.5s						
MNK				pmax	pmax		
	comp=Z,14nm,1.3s						
MNK				MLR	MLR		
	comp=E,175nm,13.0s						
MNK				MLR	MLR		
	comp=Z,1μm,13.0s						
MNK				MLR	MLR		
	comp=N,642nm,12.0s						
MNK	Minsk	70.82	323	*i* P	P	22 22 54.7	-1.6
	comp=E,2.0nm,0.8s				

MNK *i* LQ LQ 22 49 07.3
MNK *i* LR LR 22 54 36.8
MNK *i* LRM MLR 22 57 30.6
comp=E,175nm,13.4s
MNK *i* LRM MLR 22 57 33.2
comp=Z,1µm,13.1s
MNK *i* LRM MLR 22 57 38.9
comp=N,642nm,12.4s
IDID Didziasalis 70.98 324 *e*P **P 22 22 57.2 0.0**
YKA Yellowknife Ar 71.04 27 *ce*P **P 22 22 56.5 -0.8**
comp=N,3.1nm,0.8s,baz=300,slow=6.0,SNR=46
YKA LR LR 22 55 46.4
comp=N,248nm,19.6s,baz=312,slow=37
YKA Yellowknife Ar 71.04 27 *ce*P **P 22 22 57.9 +0.5**
YKA pmax pmax
comp=Z,3.0nm,0.8s
DBG Daneborg 71.10 352 *i* P **P 22 22 55.6 -1.9**
DBG IAmb IAmb 22 23 10.6
comp=Z,2.6nm,0.9s
NACGM Naroch 71.17 324 *e*P **P 22 22 57.6 -0.7**
IIGN Ignalina 71.21 324 *e*P **P 22 22 58.4 -0.2**
MARD Mardin 71.24 303 P **P 22 22 59.2 0.0**
MARD IAmb IAmb 22 23 00.0
comp=Z,14nm,1.1s
AFI Afiamalu 71.61 121 LR LR 22 48 53.5
comp=Z,130nm,21.3s,baz=318,slow=31
AKASG Malin Array Be 72.05 319 P **P 22 23 01.6 -2.1**
comp=Z,1.8nm,0.6s,baz=52,slow=6.2,SNR=2.3
AKASG Malin Array Be 72.05 319 P **P 22 23 01.6 -2.1**
AKASG pmax pmax
comp=Z,47nm,0.8s
AKASG Malin Array Be 72.05 319 IAmb IAmb 22 23 07.1
comp=Z,47nm,0.8s
AKBB Malin Array Si 72.05 319† *e*P **P 22 23 04.0 +0.3**
AKBB pmax pmax
comp=Z,16nm,1.8s
AKBB Malin Array Si 72.05 319 P **P 22 23 03.8 +0.1**
AKBB IAmb IAmb 22 23 08.7
comp=Z,12nm,1.4s
PABE Paberze 72.22 325 P **P 22 23 04.6 0.0**
PABE IAmb IAmb 22 23 05.9
comp=Z,18nm,1.1s
PABE Paberze 72.22 325 *e*P **P 22 23 04.5 0.0**
JMIC Jan Mayen 72.24 347 LR LR 22 55 33.6
comp=Z,264nm,20.4s,baz=67,slow=36
TOKA Tokat 72.77 307 P **P 22 23 07.4 -0.9**
TOKA IAmb IAmb 22 23 09.5
comp=Z,16nm,1.4s
CBB Campbell River 72.94 41 P **P 22 23 08.7 -0.4**
SOCY Socotra 72.99 274 P **P 22 23 07.5 -2.5**
SOCY IAmb IAmb 22 23 18.1
comp=Z,14nm,1.1s
XMAS Kiritimati 73.12 99 P **P 22 23 10.7 0.0**
SUW Suwalki 73.42 324 *e*P **P 22 23 11.5 -0.3**
BNN Bunyan 73.92 306 P **P 22 23 15.6 +0.4**
BNN IAmb IAmb 22 23 17.1
comp=Z,17nm,1.1s
HFS Hagfors 73.92 333 LR LR 22 57 31.0
comp=Z,609nm,18.6s,baz=52,slow=37
NC405 NORSAR Array S 74.04 334 P **P 22 23 14.1 -1.2**
NC303 NORSAR Array S 74.09 334 P **P 22 23 13.3 -2.3**
NC303 IAmb IAmb 22 23 16.4
comp=Z,14nm,1.1s
NB201 NORSAR Array S 74.23 334 P **P 22 23 15.7 -0.8**
NB2 NORSAR Subarra 74.27 334 P **P 22 23 16.2 -0.5**
comp=Z,33nm,1.7s,baz=50,slow=5.9
NB2 NORSAR Subarra 74.27 334 P **P 22 23 16.2 -0.5**
baz=50,slow=5.9
NOA NORSAR Array B 74.27 334 P **P 22 23 15.7 -1.0**
comp=Z,3.7nm,1.0s,baz=49,slow=5.8,SNR=9.7
NOA LR LR 22 58 45.0
comp=Z,758nm,19.5s,baz=35,slow=38
NC204 NORSAR Array S 74.28 334 P **P 22 23 17.1 +0.3**
NC204 IAmb IAmb 22 23 28.8
comp=Z,20nm,1.2s
LLLB Lillooet 74.52 39 P **P 22 23 18.0 -0.3**
LLLB IAmb IAmb 22 23 22.7
comp=Z,15nm,1.2s
PGC Sidney 74.74 42 P **P 22 23 18.6 -0.9**
SCO Scoresbysund 74.82 351 P **P 22 23 19.0 -0.7**
SCO pmax pmax
comp=Z,18nm,1.3s
SCO Scoresbysund 74.82 351 P **P 22 23 19.0 -0.7**
SCO IAmb IAmb 22 23 25.7
comp=Z,18nm,1.3s
BR131 Keskin Array S 74.96 308 P **P 22 23 19.6 -1.7**
BR131 pmax pmax
comp=Z,6.0nm,1.2s
BR131 Keskin Array S 74.96 308 P **P 22 23 19.6 -1.7**
BRTR Keskin Array B 74.96 308 P **P 22 23 20.1 -1.1**
comp=Z,1.9nm,0.8s,baz=120,slow=7.2,SNR=9.5
BRTR LR LR 23 00 19.3
comp=Z,367nm,18.8s,baz=52,slow=39
BRTR Keskin Array B 74.96 308 *ce*P **P 22 23 20.6 -0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
A04D Lummi Island 75.11 41 P **P 22 23 21.7 0.0**
baz=304
LVV L'vov 75.34 320 *e*P **P 22 23 21.1 -1.9**
LVV MLR MLR
comp=N,500nm,13.0s
LVV MLR MLR
comp=E,900nm,13.0s
LVV MLR MLR
comp=Z,800nm,14.0s
D03D Eldon 75.56 42 P **P 22 23 24.6 +0.3**
baz=304
B05A Bryant 75.71 41 P **P 22 23 24.8 -0.4**
baz=304
B06A Marblemount 75.90 41 P **P 22 23 26.7 +0.4**
BUR08 Bucovina Ar. S 75.92 318 P **P 22 23 26.5 0.0**
BURAR Bucovina Array 75.92 318 P **P 22 23 26.6 0.0**
KWP Kalwaria Pacla 76.15 321 P **P 22 23 28.0 +0.3**
KWP Kalwaria Pacla 76.15 321 P **P 22 23 28.0 +0.3**
E04D Cinebar 76.40 43 P **P 22 23 28.8 -0.4**
baz=304
MLR Muntele Rosu 76.69 316 LR LR 22 58 46.6
comp=Z,355nm,20.2s,baz=50,slow=37
G03D McMinnville, O 76.74 44 P **P 22 23 31.5 +0.4**
baz=304
UZH Uzhgorod 76.95 320 *e*P **P 22 23 32.0 -0.2**
UZH *e* 22 23 42.0
LTY Liberty 77.07 42 P **P 22 23 32.5 -0.5**
LTY IAmb IAmb 22 23 34.6
comp=Z,12nm,1.4s
B08A Colville Reser 77.17 40 P **P 22 23 34.0 +0.5**
B08A IAmb IAmb 22 23 35.3
comp=Z,11nm,1.1s
EDM Edmonton 77.23 34 P **P 22 23 34.0 +0.1**
EDM pmax pmax
comp=Z,12nm,0.9s
EDM Edmonton 77.23 34 P **P 22 23 34.0 +0.1**
EDM IAmb IAmb 22 23 35.4
comp=Z,12nm,0.9s
OJC Ojcow 77.32 322 P **P 22 23 34.1 -0.2**
OJC pmax pmax
comp=Z,27nm,1.5s
OJC Ojcow 77.32 322 P **P 22 23 34.1 -0.2**
J01E Myrtle Point 77.48 46 P **P 22 23 36.1 +0.8**
baz=304
I03D Drain, OR 77.54 46 P **P 22 23 36.3 +0.7**
baz=304
H04A Detroit Lake 77.67 44 P **P 22 23 36.2 -0.3**
H04A IAmb IAmb 22 23 42.5
comp=Z,13nm,1.3s
ICESG Greenland Ices 77.78 357 *i* P **P 22 23 36.0 -1.0**
ICESG IAmb IAmb 22 23 37.3
comp=Z,6.0nm,0.8s
K02D Willamette Mer 77.91 47 P **P 22 23 38.6 +0.7**
baz=304
I04A Tendick Farm, 78.05 45 P **P 22 23 39.2 +0.7**
baz=305
SOEG Soedalen 78.06 354 *i* P **P 22 23 37.6 -0.4**
SOEG IAmb IAmb 22 23 40.7
comp=Z,7.2nm,0.5s
C09A Chrisman Ranch 78.07 40 P **P 22 23 39.2 +0.6**
C09A IAmb IAmb 22 23 45.0
comp=Z,19nm,1.2s
LANS Liptovska Anna 78.14 322 *e*P **P 22 23 43.0 +4.0**
LANS Liptovska Anna 78.14 322 *e*P **P 22 23 43.0 +4.0**
D08A Wollman Farm, 78.16 41 P **P 22 23 39.8 +0.8**
D08A IAmb IAmb 22 23 44.8
comp=Z,11nm,1.0s
HAWA Hanford 78.21 42 P **P 22 23 40.1 +0.8**
HAWA IAmb IAmb 22 23 42.0
comp=Z,27nm,1.5s
L02E Cave Junction 78.25 47 P **P 22 23 40.4 +0.7**
baz=304
NEW Newport 78.41 39 LR LR 23 00 42.6
comp=Z,141nm,18.6s,baz=344,slow=38
NEW Newport 78.41 39 P **P 22 23 41.3 +0.8**
NEW pmax pmax
comp=Z,14nm,1.4s
NEW Newport 78.41 39 P **P 22 23 41.3 +0.8**
NEW IAmb IAmb 22 23 42.8
comp=Z,14nm,1.4s
NEW Newport 78.41 39 P **P 22 23 40.4 -0.1**
baz=307
E08A Dider Farm, El 78.42 42 P **P 22 23 40.9 +0.5**
E08A IAmb IAmb 22 23 42.4
comp=Z,8.9nm,0.9s
J04D Umpqua Nationa 78.54 46 P **P 22 23 41.5 0.0**
J04D Umpqua Nationa 78.54 46 P **P 22 23 41.1 -0.4**
baz=305
PSZ Piszkesteto 78.66 320 P **P 22 23 41.6 -0.3**
PSZ pmax pmax
comp=Z,13nm,1.4s
PSZ Piszkesteto 78.66 320 P **P 22 23 41.6 -0.3**
PSZ IAmb IAmb 22 23 45.7
comp=Z,12nm,1.4s
PSZ Piszkesteto 78.66 320 P **P 22 23 43.1 +1.2**
MORC Moravsky Berou 78.75 323 *eP* **P 22 23 42.5 +0.2**
E09A Wood Farm, Sta 78.91 41 P **P 22 23 43.9 +0.7**
E09A IAmb IAmb 22 23 45.3
comp=Z,17nm,1.3s
OSTC Ostas 78.92 324 *eP* **P 22 23 43.1 -0.1**
OSTC *ex* x 22 23 47.6
OSTC AMS AMS 23 02 50.0
comp=Z,2µm,16.8s
PINE Pine Mountain 78.92 45 P **P 22 23 44.1 +0.6**
PINE IAmb IAmb 22 23 50.7
comp=Z,20nm,1.1s
KRLC Kraliky 78.94 323 *eP* **P 22 23 43.6 +0.2**
KRLC *e* 22 23 47.9
KRLC MLR MLR
comp=Z,2µm,15.0s
KRLC Kraliky 78.94 323 *eP* **P 22 23 43.6 +0.2**
KRLC *ex* x 22 23 47.9
KRLC AMS AMS 23 02 50.0
comp=Z,2µm,15.0s
CHVC Chvalec 78.98 324 AMS AMS 23 02 40.0
comp=Z,2µm,15.5s
DPC Dobruska-Polom 79.00 324 *eP* **P 22 23 44.5 +0.8**
DPC MLR MLR
comp=Z,2µm,14.7s
DPC Dobruska-Polom 79.00 324 *eP* **P 22 23 44.5 +0.8**
DPC AMS AMS 23 02 40.0
comp=Z,2µm,14.7s
L04D Klamath Falls 79.01 47 P **P 22 23 44.9 +0.9**
L04D IAmb IAmb 22 23 46.1
comp=Z,17nm,1.0s
L04D Klamath Falls 79.01 47 P **P 22 23 44.6 +0.5**
baz=305
ELL Elmali 79.02 307 P **P 22 23 43.3 -0.9**
ELL pmax pmax
comp=Z,25nm,1.2s
ELL Elmali 79.02 307 P **P 22 23 43.3 -0.9**
J05D Fort Rock, OR 79.04 45 P **P 22 23 44.1 0.0**
baz=306
YBH Yreka Blue Hor 79.04 47 LR LR 22 54 47.8
comp=Z,140nm,20.5s,baz=311,slow=33
UPC Upice 79.05 324 AMS AMS 23 02 50.0
comp=Z,2µm,15.6s
M02C Callahan 79.14 48 P **P 22 23 45.3 +0.6**
baz=305
G08A Pilot Rock 79.18 43 P **P 22 23 44.6 -0.3**
JAVC Velka Javorina 79.25 322 *eP* **P 22 23 45.8 +0.7**
EIL Elat 79.26 298 LR LR 23 00 43.6
comp=Z,333nm,21.9s,baz=22,slow=37
N02D Trinity Center 79.47 48 P **P 22 23 46.2 -0.3**
baz=305
VRAC Vranov 79.52 323 LR LR 23 03 10.7
comp=Z,852nm,18.8s,baz=44,slow=39
VRAC Vranov 79.52 323 *eP* **P 22 23 46.3 -0.2**
M04C Macdoel 79.54 47 P **P 22 23 45.9 -1.0**
M04C IAmb IAmb 22 23 49.2
comp=Z,24nm,1.3s
I07A Izee 79.59 44 P **P 22 23 48.2 +1.1**
I07A IAmb IAmb 22 23 49.5
comp=Z,16nm,1.5s
WALA Waterton Lakes 79.59 37 P **P 22 23 47.2 +0.2**
SMOL Smolenice 79.59 322 *eP* P 22 23 53.5 +6.6
PVCC Panska Ves 79.74 325 AMS AMS 23 03 50.0
comp=Z,1µm,15.3s
F10A Beach Ranch, E 79.74 41 P **P 22 23 48.3 +0.5**
MODS Modra-Piesok 79.76 322 *eP* **P 22 23 49.4 +1.6**
MODS Modra-Piesok 79.76 322 *eP* **P 22 23 49.3 +1.5**
KRUC Moravsky 79.78 323 *eP* **P 22 23 47.1 -0.8**
O02D Mt. Diablo Mer 79.88 49 P **P 22 23 49.3 +0.5**
O02D IAmb IAmb 22 23 51.3
comp=Z,25nm,1.5s
O02D Mt. Diablo Mer 79.88 49 P **P 22 23 48.5 -0.2**
baz=305
VTS Vitosha 79.94 315 P **P 22 23 48.6 -0.5**
VTS pmax pmax
comp=Z,3.0nm,1.0s
VTS Vitosha 79.94 315 P **P 22 23 48.6 -0.5**
CLL Collm 79.97 326 P **P 22 23 47.9 -0.9**
CLL pmax pmax
comp=Z,14nm,1.2s
CLL Collm 79.97 326 P **P 22 23 47.9 -0.9**
CLL IAmb IAmb 22 23 54.1
comp=Z,14nm,1.2s
CLL Collm 79.97 326 *eP* **P 22 23 48.0 -0.9**
CLL *i* x x 22 23 48.8
comp=Z,10.0nm,1.0s
CLL *i* (sP) **sP 22 23 53.4 +0.7**
comp=Z,16nm,1.3s
CLL *e*PP **PP 22 26 51.0 +1.0**
BORG Borgarnes 80.04 348 LR LR 23 00 15.8
comp=Z,250nm,18.7s,baz=31,slow=36
SFJD Kangerlussuaq 80.08 1 LR LR 23 01 22.1
comp=Z,383nm,19.4s,baz=340,slow=37
TREC Trest 80.09 323 AMS AMS 23 03 30.0
comp=Z,2µm,14.3s
PRU Pruhonice 80.11 324 *eP* **P 22 23 50.2 +0.6**
PRU *e* 22 23 55.4
PRU MLR MLR
comp=Z,2µm,15.3s
PRU Pruhonice 80.11 324 *eP* **P 22 23 50.2 +0.6**
PRU *ep*P **PcP 22 23 55.4 -1.6**
PRU AMS AMS 23 03 30.0
comp=Z,2µm,15.3s
JTMT Jette 80.23 39 P **P 22 23 50.7 +0.1**
EGYH Egyhazaskeszo 80.33 321 P **P 22 23 53.1 +2.2**
MOD Modoc Plateau 80.40 46 P **P 22 23 51.5 -0.1**
O03E Paynes Creek 80.43 48 P **P 22 23 52.1 +0.4**
O03E IAmb IAmb 22 23 54.7
comp=Z,12nm,1.1s
O03E Paynes Creek 80.43 48 P **P 22 23 51.8 +0.2**
baz=306
DY2G Dye2 80.60 359 *i* P **P 22 23 51.0 -1.3**
DY2G IAmb IAmb 22 23 52.3
comp=Z,7.8nm,0.8s
J08A Circle Bar Ran 80.62 44 P **P 22 23 53.5 +0.8**
RONA Rosalia, Austr 80.70 322 *i* P **P 22 23 54.4 +1.5**
comp=Z,5.8nm,1.4s
CONA Conrad Observa 80.78 322 *eP* **P 22 23 54.9 +1.5**
comp=Z,8.1nm,1.2s
FCC Fort Churchill 80.83 22 IAmb IAmb 22 23 58.2
comp=Z,10nm,1.1s
DIVS Divibare 80.94 317 P **P 22 23 54.7 +0.3**
NKC Novy Kostel 80.95 325 AMS AMS 23 04 20.0
comp=Z,2µm,13.7s
PLID Pearl Lake 80.97 41 P **P 22 23 55.1 +0.4**
CKRC Cesky Krumlov 80.98 323 *eP* **P 22 23 54.3 -0.1**
CKRC *ex* x 22 23 59.2
CKRC AMS AMS 23 04 10.0
comp=Z,2µm,15.6s
MSO Missoula 80.99 39 P **P 22 23 55.3 +0.7**
MSO IAmb IAmb 22 23 56.8
comp=Z,11nm,1.4s
MSO Missoula 80.99 39 P **P 22 23 53.6 -1.0**
baz=310
ORV Oroville 81.05 48 P **P 22 23 54.7 -0.2**
ORV pmax pmax
comp=Z,11nm,1.5s
ORV Oroville 81.05 48 P **P 22 23 54.7 -0.2**
WVOR Wild Horse Val 81.08 45 P **P 22 23 56.0 +0.8**
comp=Z,5.0nm,1.1s
WVOR Wild Horse Val 81.08 45 P **P 22 23 56.0 +0.8**
FFC Flin Flon 81.12 28 P **P 22 23 55.3 +0.3**
FFC pmax pmax
comp=Z,8.0nm,0.9s
FFC Flin Flon 81.12 28 P **P 22 23 55.3 +0.3**
FFC IAmb IAmb 22 23 56.0
comp=Z,7.5nm,0.8s
KHC Kasperske Hory 81.14 324 *eP* **P 22 23 55.1 -0.2**
KHC MLR MLR
comp=Z,2µm,14.4s
KHC Kasperske Hory 81.14 324 P **P 22 23 55.7 +0.5**
KHC Kasperske Hory 81.14 324 *eP* **P 22 23 55.1 -0.2**
KHC AMS AMS 23 04 00.0
comp=Z,2µm,14.4s
GERES GERESS Array B 81.27 324 P **P 22 23 55.7 -0.3**
comp=Z,1.1nm,0.8s,baz=31,slow=3.1,SNR=9.6
GERES LR LR 23 02 35.2
comp=Z,677nm,18.2s,baz=51,slow=38
GERES GERESS Array B 81.27 324 P **P 22 23 55.6 -0.4**
GERES GERESS Array B 81.27 324 P **P 22 23 55.6 -0.4**
ARSA Arzberg 81.39 322 *i* P **P 22 23 57.5 +0.9**
comp=Z,3.9nm,1.1s
BEKR Beckworth 81.57 48 P **P 22 23 58.6 +0.6**
LIT Litokhoron 81.88 313 P **P 22 23 57.8 -1.6**
LIT pmax pmax
comp=Z,4.0nm,0.9s
LIT Litokhoron 81.88 313 P **P 22 23 57.8 -1.6**
GRA1 Grafenberg Arr 81.91 325 P **P 22 23 59.4 +0.1**
GRA1 IAmb IAmb 22 24 01.8
comp=Z,24nm,1.3s
GRF Grafenberg Arr 81.91 325 P **P 22 23 59.4 +0.1**
GRF pmax pmax
comp=Z,24nm,1.3s
GRF Grafenberg Arr 81.91 325 *eP* **P 22 24 00.5 +1.2**
comp=Z,33nm,1.5s,baz=52,slow=4.6
GRFO Grafenberg 81.91 325 P **P 22 23 59.5 +0.2**
GRFO pmax pmax
comp=Z,30nm,1.4s
GRFO Grafenberg 81.91 325 P **P 22 23 59.5 +0.2**
SOKA Soboth 82.02 321 *eP* **P 22 24 00.8 +0.8**
comp=Z,5.7nm,0.8s
FRB Frobisher Bay 82.06 9 LR LR 23 02 57.8
comp=Z,922nm,18.8s,baz=358,slow=38
BIOA Bad Ischl, Aus 82.07 323 *i* P **P 22 24 00.9 +0.7**
comp=Z,4.4nm,0.8s
MFID Camas Ranch 82.11 43 P **P 22 24 00.8 +0.2**
PAHR Pah Rah Range 82.27 47 P **P 22 24 01.5 0.0**
EGMT Eagleton 82.36 36 P **P 22 24 01.7 -0.1**
EGMT Eagleton 82.36 36 P **P 22 24 01.0 -0.7**
baz=312
PDG Podgorica 82.39 316 IAmb IAmb 22 24 03.2
comp=Z,8.0nm,1.0s
LRM Limekiln Ridge 82.43 39 P **P 22 24 03.4 +1.0**
PNTR Pine Nut 82.51 48 P **P 22 24 03.8 +0.9**
ATD Arta Tunnel 82.61 279 LR LR 23 04 12.2
comp=Z,175nm,18.1s,baz=18,slow=38
CMB Columbia Colle 82.64 49 P **P 22 24 03.4 0.0**
CMB pmax pmax
comp=Z,9.0nm,1.3s
CMB Columbia Colle 82.64 49 P **P 22 24 03.4 0.0**
CMB IAmb IAmb 22 24 05.6
comp=Z,8.8nm,1.3s
DLMT Dillon 82.65 40 P **P 22 24 04.3 +0.9**
DLMT IAmb IAmb 22 24 10.0
comp=Z,18nm,1.3s
YERR Yerington 82.79 48 P **P 22 24 04.7 +0.3**
HLID Hailey 82.81 42 P **P 22 24 05.0 +0.7**
HLID Hailey 82.81 42 P **P 22 24 03.9 -0.5**
baz=310
URZ Urewera 82.83 145 LR LR 22 56 44.8
comp=Z,98nm,19.0s,baz=29,slow=33
BOZ Bozeman (W) 83.01 39 P **P 22 24 05.5 +0.2**
BOZ pmax pmax
comp=Z,6.0nm,1.1s
BOZ Bozeman (W) 83.01 39 P **P 22 24 05.5 +0.2**
BOZ Bozeman (W) 83.01 39 P **P 22 24 04.8 -0.5**
baz=311
BBGB Big Mountain B 83.09 51 P **P 22 24 05.1 -0.7**
BMN Battle Mountai 83.14 46 P **P 22 24 07.1 +1.0**
BMN pmax pmax
comp=Z,7.0nm,1.1s
BMN Battle Mountai 83.14 46 P **P 22 24 07.1 +1.0**
BMN IAmb IAmb 22 24 08.4
comp=Z,6.6nm,1.1s
ABTA Abfaltersbach 83.27 323 *eP* **P 22 24 06.1 -0.4**
comp=Z,4.4nm,1.1s
WTTA Wattenberg 83.36 323 *eP* **P 22 24 07.5 +0.4**
comp=Z,5.8nm,1.3s
RYN Ryan 83.46 48 P **P 22 24 08.8 +1.1**
RYN IAmb IAmb 22 24 09.9
comp=Z,8.0nm,1.1s
KVN Kaiserville 83.46 47 P **P 22 24 08.4 +0.6**
KVN pmax pmax
comp=Z,14nm,1.2s
KVN Kaiserville 83.46 47 P **P 22 24 08.4 +0.6**
KVN IAmb IAmb 22 24 09.8
comp=Z,14nm,1.2s
STAL STALIGIAL 83.50 322 P **P 22 24 07.1 -0.5**
STAL IAmb IAmb 22 24 13.2
comp=Z,7.8nm,1.0s
MOTA Moosalm 83.57 324 *i* P **P 22 24 08.2 0.0**
comp=Z,3.1nm,0.9s
SQTA Sankt Quirin 83.60 324 *i* P **P 22 24 08.3 0.0**
comp=Z,3.2nm,1.2s
EKA Eskdalemuir Ar 83.61 336 LR LR 23 04 23.7
comp=Z,501nm,20.1s,baz=36,slow=38
RETA Reutte 83.64 324 *i* P **P 22 24 09.0 +0.6**
comp=Z,6.1nm,1.1s
LHV Little Huntoon 83.70 48 P **P 22 24 10.1 +1.3**
NVAR Mina Array Bea 83.71 48 P **P 22 24 10.2 +1.0**
comp=Z,3.0nm,1.0s,baz=288,slow=5.1,SNR=8.1
NVAR Mina Array Bea 83.71 48 P **P 22 24 09.5 +0.3**
NV11 Mina Array Sit 83.80 48 P **P 22 24 10.9 +1.3**
YHH Holmes Hill 83.96 39 P **P 22 24 10.9 +0.5**
YNR Norris Junctio 84.10 39 P **P 22 24 12.5 +1.4**
YNR IAmb IAmb 22 24 20.7
comp=Z,5.0nm,1.0s
ELK Elko 84.13 45 P **P 22 24 11.7 +0.4**
ELK pmax pmax
comp=Z,1.0nm,0.9s
ELK Elko 84.13 45 P **P 22 24 11.7 +0.4**
BGES Gesves 84.21 329 *d*P **P 22 24 10.7 -0.4**
DAVA Damuels 84.21 324 *i* P **P 22 24 10.9 -0.6**
comp=Z,7.6nm,0.9s
WLF Walferdange 84.26 328 P **P 22 24 11.6 +0.2**
WLF pmax pmax
comp=Z,21nm,1.1s
WLF Walferdange 84.26 328 P **P 22 24 11.6 +0.2**
WLF Walferdange 84.26 328 *d*P **P 22 24 11.7 +0.3**
LKWY Lake 84.35 39 P **P 22 24 13.3 +1.0**
LKWY pmax pmax
comp=Z,7.0nm,1.1s
LKWY Lake 84.35 39 P **P 22 24 13.3 +1.0**
LKWY IAmb IAmb 22 24 15.8
comp=Z,6.7nm,1.1s
YMP Mirror Lake Pl 84.36 39 P **P 22 24 13.2 +0.8**
H17A Grant Village 84.37 39 P **P 22 24 14.0 +1.6**
H17A IAmb IAmb 22 24 16.0
comp=Z,8.2nm,1.1s
H17A Grant Village 84.37 39 P **P 22 24 11.2 -1.2**
baz=312
FLWY Flagg Ranch 84.51 40 P **P 22 24 13.2 +0.1**
FLWY IAmb IAmb 22 24 29.7
comp=Z,7.2nm,1.2s
DAVOX Davos/Dischmat 84.56 324 LR LR 23 06 08.8
comp=Z,1µm,18.4s,baz=73,slow=39
RLMT Red Lodge 84.57 38 P **P 22 24 12.6 -0.8**
RLMT IAmb IAmb 22 24 16.1
comp=Z,9.6nm,1.2s
RLMT Red Lodge 84.57 38 P **P 22 24 13.0 -0.4**
baz=313
TPH Tonopah 84.60 48 P **P 22 24 14.1 +0.4**
TPH pmax pmax
comp=Z,86nm,1.3s
TPH Tonopah 84.60 48 P **P 22 24 14.1 +0.4**
MOOW Moose Ponds 84.71 40 P **P 22 24 14.7 +0.6**
TPAW Teton Pass 84.77 40 P **P 22 24 14.5 0.0**
TPAW IAmb IAmb 22 24 22.6
comp=Z,8.4nm,1.5s
LCH Last Change Ra 84.86 48 P **P 22 24 15.3 +0.4**
LCH IAmb IAmb 22 24 18.0
comp=Z,10nm,1.1s
PKM Mcpherson Peak 84.90 51 P **P 22 24 13.3 -1.9**
baz=307

LAO	**LASA Array**	**85.02**	**36**	P	**P**	**22 24 15.8**	**+0.3**
LAO				IAmb	IAmb	22 24 23.1	
	comp=Z,11nm,1.1s						
RAR	**Rarotonga**	**85.03**	**119**	LR	LR	22 54 06.9	
	comp=Z,119nm,21.8s,baz=306,slow=30						
TUE	**Stuetta**	**85.04**	**324**	IAmb	IAmb	22 24 20.6	
	comp=Z,9.1nm,1.0s						
CWC	**Cottonwood Cre**	**85.07**	**49**	P	**P**	**22 24 15.3**	**-0.8**
	baz=308						
NRCA	**Norcia**	**85.59**	**319**	P	**P**	**22 24 18.8**	**+0.5**
NRCA				IAmb	IAmb	22 24 27.0	
	comp=Z,11nm,1.1s						
HWUT	**Hardware Ranch**	**85.68**	**42**	P	**P**	**22 24 19.2**	**+0.2**
AQU	**L'Aquila**	**85.75**	**319**	P	**P**	**22 24 19.6**	**+0.5**
AQU				pmax	pmax		
	comp=Z,25nm,1.1s						
AQU	**L'Aquila**	**85.75**	**319**	P	**P**	**22 24 19.6**	**+0.5**
BW06	**Boulder Array**	**86.01**	**40**	P	**P**	**22 24 20.7**	**+0.1**
	baz=313						
PDAR	**Pinedale Array**	**86.01**	**40**	P	**P**	**22 24 20.8**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=0.0,slow=1.5,SNR=10						
PDAR				LR	LR	23 04 10.7	
	comp=Z,186nm,20.3s,baz=338,slow=37						
ULM	**Lac du Bonnet**	**86.95**	**28**	P	**P**	**22 24 24.2**	**-0.5**
	comp=Z,5.7nm,0.9s,baz=325,slow=7.2,SNR=5.0						
ULM				LR	LR	23 06 10.4	
	comp=Z,248nm,19.7s,baz=335,slow=38						
P18A	**Preston Nutter**	**87.75**	**43**	P	**P**	**22 24 29.6**	**+0.3**
P18A				IAmb	IAmb	22 24 31.3	
	comp=Z,6.6nm,1.0s						
PFO	**Pinyon Flats O**	**87.87**	**51**	LR	LR	22 55 51.5	
	comp=Z,246nm,21.3s,baz=299,slow=30						
N23A	**Red Feather La**	**89.25**	**40**	P	**P**	**22 24 35.6**	**-0.7**
	baz=315						
PV13	**Radium Mtn., P**	**89.56**	**43**	P	**P**	**22 24 37.5**	**-0.3**
PV13				IAmb	IAmb	22 24 39.8	
	comp=Z,5.5nm,1.1s						
MVCO	**Mesa Verde**	**90.40**	**44**	P	**P**	**22 24 40.9**	**-0.8**
	baz=314						
PPT2	**Papeete2**	**90.64**	**111**	*e*LR	LR	22 53 41.0	
	comp=Z,195nm,23.0s						
SCHQ	**Schefferville**	**90.90**	**10**	LR	LR	23 08 44.1	
	comp=Z,586nm,18.4s,baz=357,slow=38						
S22A	**4UR Ranch, Cre**	**90.98**	**42**	P	**P**	**22 24 44.2**	**-0.3**
	baz=315						
ANMO	**Albuquerque**	**93.16**	**44**⇑	*e*P	**P**	**22 24 56.6**	**+2.1**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TAOE	**Nuku Hiva Isla**	**93.47**	**98**	*e*LR	LR	22 54 58.9	
	comp=Z,307nm,26.6s						
ESDC	**Sonseca Array**	**96.53**	**327**	LR	LR	23 14 34.4	
	comp=Z,563nm,18.2s,baz=33,slow=39						
SADO	**Sadowa**	**97.55**	**21**	LR	LR	23 13 38.5	
	comp=Z,344nm,18.1s,baz=2.0,slow=38						
LPIG	**La Paz**	**98.12**	**54**	LR	LR	23 03 31.4	
	comp=Z,88nm,19.9s,baz=335,slow=32						
ROSB	**Rosrio**	**149.54**	**351**	*e*P	**PKPbc**	**22 31 29.4**	**-0.5**
NBPB	**Pedra_Branca-C**	**151.22**	**341**	*e*P	**PKPbc**	**22 31 33.2**	**-0.7**
ETMB	**Extrema**	**151.60**	**39**	*e*P	**PKPbc**	**22 31 33.5**	**-1.3**
PRPB	**Parauapebas**	**153.06**	**3**	*e*P	**PKPbc**	**22 31 37.1**	**-1.0**
NPGB	**Novo Progresso**	**153.20**	**15**	*e*P	**PKPbc**	**22 31 37.4**	**-1.0**
NBAN	**Anadia - AL**	**153.96**	**331**	*e*P	**PKPbc**	**22 31 39.2**	**-0.9**
SMTB	**Santa Maria do**	**155.74**	**358**	*e*P	**PKPdf**	**22 31 41.5**	**+7.0**
SDBA	**SAO DESIDERIO**	**159.01**	**350**	*e*P	**PKPdf**	**22 31 45.1**	**+6.5**
CMC01	**Camacan, BA**	**160.41**	**333**	*e*P	PKPdf	22 31 48.0	+7.9

JMA 15 22:23:36.1, 32.66N×130.77E, h4km±1km, M1.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.12**	**162**	P	Pg	22 23 38.7	+0.3
JIU3				*e*S	Sg	22 23 40.7	+0.7

JMA 15 22:23:50.6, 33.26N×131.35E, h10km±1km, M3.2, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.09**	**32**	P	Pg	22 23 53.0	-0.1
JBEP				S	Sg	22 23 55.1	+0.2
JUS	**Usuki**	**0.39**	**120**	P	Pg	22 23 58.1	-0.2
JKI	**Kunimi**	**0.41**	**26**	P	Pg	22 23 59.1	+0.3
JKI				*e*S	Sg	22 24 04.8	+0.6

*BJI **15** 22:23:50.5±0.0, 32.49N×131.13E, h15km, mb4.4/51, mB5.3/15, Ms4.6/8, Ms7 4.3/8*

*IDC **15** 22:23:52.6±0.5, 32.71N×130.78E, h0km, mb4.4/22, mb1 4.6/26, mb1mx4.5/40, mbtmp4.5/26, ML3.6/3, MS4.0/10, Ms1 4.0/10, ms1mx3.5/96, Error ellipse: s-maj=14.7km s-min=6.4km az=101.0*

*MOS **15** 22:23:53.6±0.8, 32.70N×130.70E, h17km, mb5.2/40, Error ellipse: s-maj=6.5km s-min=3.7km az=112.3*

*NIED **15** 22:23:54.3, 32.79N×130.77E, h12km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-6.52; Mθθ7.48; Mφφ-0.96; Mrθ4.57; Mrφ 1.75; Mθφ2.37; Fault plane solution: M₀8.86000×10¹⁵ NP1:φ92.00000°, δ29.00000°, λ-69.00000°. NP2:φ248.00000°, δ63.00000°, λ-101.00000°.*

*JMA **15** 22:23:54.3, 32.79N×130.77E, h12km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φ283.00000°, δ67.00000°, λ-80.00000°. NP2:φ79.00000°, δ25.00000°, λ-112.00000°. Principal axes: T Plg21.0000°, Azm5.0000°; N Plg9.0000°, Azm99.0000°; P Plg67.0000°, Azm211.0000°;*

*NEIC **15** 22:23:55.0±1.4, 32.75N±0.03×130.74E±0.05, h10km±1km, mb4.9/202, Mwr4.6/15 Error ellipse: s-maj=7.9km s-min=4.8km az=112.0*

*NEIC **15** 22:23:55.5, 32.76N×130.74E, h8km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-7.09; Mθθ7.99; Mφφ-0.90; Mrθ4.66; Mθφ1.02; Mφr-2.23; Fault plane solution: M₀9.23000×10¹⁵ NP1:φ65.24000°, δ32.78000°, λ-121.44000°. NP2:φ281.26000°, δ62.49000°, λ-71.44000°. Principal axes: T 9.3257, Plg16.0000°, Azm358.0000°; N -0.2020, Plg16.0000°, Azm92.0000°; P -9.1238, Plg67.0000°, Azm227.0000°;*

*BGR **15** 22:24:02.8±0.0, 32.58N×131.00E, h65km, mb4.8*

ISC 15 22:23:54.6±0.6, 32.77N±0.02×130.71E±0.03, h11km±3km, n575,σ1°18/568, mb4.8/241, MS4.0/10, 24C-34D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.23**	**159**	⇑P	**Pg**	**22 23 59.4**	**-0.1**
JIU3				*e*S	**Sg**	**22 24 03.6**	**+0.9**
JTA	**Tamana**	**0.25**	**322**	P	**Pg**	**22 23 59.9**	**+0.2**
JTA				S	**Sg**	**22 24 04.1**	**+0.9**
JNU	**Nakatsue**	**0.38**	**21**	Pg	**Pg**	**22 24 01.1**	**-1.1**
	3μm,0.3s,baz=190,slow=9.3,SNR=216						
JNU				Lg	Lg	22 24 06.1	
	5μm,0.3s,baz=280,slow=9.2,SNR=35						
JNU	**Nakatsue**	**0.38**	**21**	P	**Pg**	**22 24 01.3**	**-0.9**
JNU				*e*S	**Sg**	**22 24 06.5**	**-0.7**
JNU	**Nakatsue**	**0.38**	**21**	Pg	**Pg**	**22 24 01.5**	**-0.7**
JNU				Sg	**Sg**	**22 24 05.8**	**-1.4**
JTZ	**Takazaki**	**0.92**	**160**	⇑P	**Pb**	**22 24 12.5**	**-0.1**
JTZ				S	**Sb**	**22 24 25.1**	**+0.2**
JSU	**Suzuyama**	**1.28**	**190**	Pn	**Pn**	**22 24 18.5**	**0.0**
JSU				Sn	**Sg**	**22 24 36.1**	**+0.4**
JTU	**Tsushima**	**2.07**	**328**	Pn	**Pn**	**22 24 28.8**	**-0.6**
JTU				Sn	**Sb**	**22 24 57.5**	**-0.4**
JMN	**Monobe**	**2.82**	**69**	Pg	**Pb**	**22 24 46.7**	**+1.6**
JMN					**Sb**	**22 25 20.8**	**+1.2**
JHS	**Saijyo**	**2.99**	**41**	Pn	**Pn**	**22 24 42.1**	**0.0**
JHS				Sn	**Sn**	**22 25 19.4**	**+1.4**
TJN	**Taejon**	**4.54**	**323**⇑	*e*P	**Pn**	**22 25 03.7**	**+0.4**
TJN	**Taejon**	**4.54**	**323**		**Pn**	**22 25 03.6**	**+0.4**
TJN	**Taejon**	**4.54**	**323**	P	Pn	22 25 08.4	+5.1
KSRS	**Korea Array**	**5.20**	**335**	Pn	**Pn**	**22 25 13.0**	**+0.6**
	1.6nm,0.3s,baz=150,slow=13,SNR=12						
KSRS				Pg	**Pb**	**22 25 27.8**	**+2.1**
	3.2nm,0.3s,baz=150,slow=17,SNR=15						
KSRS				Sn	**Sn**	**22 26 14.1**	**+1.6**
	2.1nm,0.3s,baz=153,slow=30,SNR=5.4						
KSRS				Lg	Lg	22 26 35.9	
	6.9nm,0.3s,baz=157,slow=29,SNR=5.5						
KSAR	**Wonju Array Be**	**5.21**	**334**	P	**Pn**	**22 25 13.5**	**+1.0**
KSAR	**Wonju Array Be**	**5.21**	**334**		**Pn**	**22 25 13.5**	**+1.0**
KS19	**Wonju Array Si**	**5.27**	**335**		**Pn**	**22 25 13.3**	**-0.1**
INCN	**Inchon**	**5.77**	**326**	P	**Pn**	**22 25 20.6**	**+0.3**
INCN	**Inchon**	**5.77**	**326**	Pn	**Pn**	**22 25 20.6**	**+0.3**
INCN	**Inchon**	**5.77**	**326**	P	**Pn**	**22 25 24.9**	**+4.6**
INU	**Inuyama**	**5.83**	**62**	Pn	**Pn**	**22 25 20.9**	**-0.2**
INU	**Inuyama**	**5.83**	**62**	P	**Pn**	**22 25 23.3**	**+2.2**
JGF	**Kuroka**	**6.19**	**61**		**Pn**	**22 25 26.9**	**+0.9**
JOW	**Kunigami**	**6.28**	**200**	Pn	**Pn**	**22 25 29.9**	**+2.6**
	15nm,0.3s,baz=46,slow=8.3,SNR=20						
JOW				Sn	**Sn**	**22 26 44.9**	**+5.7**
	baz=68,slow=27,SNR=1.1						
JOW				LR	LR	22 28 06.2	
	comp=Z,927nm,19.0s,baz=148,slow=41						
JOW	**Kunigami**	**6.28**	**200**	Pn	**Pn**	**22 25 29.2**	**+1.8**
JOW	**Kunigami**	**6.28**	**200**	P	**Pn**	**22 25 30.8**	**+3.5**
JMZ	**Minamidaito 2**	**6.94**	**176**	Pn	**Pn**	**22 25 37.4**	**+1.1**
MJB9	**Matsu-Tunnel**	**7.23**	**57**		**Pn**	**22 25 41.1**	**+0.8**
MAJO	**Matsushiro**	**7.23**	**57**	*de*P	**Pn**	**22 25 42.2**	**+1.9**
MAJO	**Matsushiro**	**7.23**	**57**	Pn	**Pn**	**22 25 41.1**	**+0.8**
MAJO	**Matsushiro**	**7.23**	**57**	P	**Pn**	**22 25 42.5**	**+2.2**
MJAR	**Matsushiro Arr**	**7.23**	**57**	Pn	**Pn**	**22 25 42.4**	**+2.1**
	0.9nm,0.3s,baz=280,slow=9.1,SNR=24						
MJAR				Lg	Lg	22 27 41.5	
	baz=243,slow=26,SNR=3.4						
MJAR				LR	LR	22 28 43.7	
	comp=Z,800nm,19.5s,baz=226,slow=40						
MJAR	**Matsushiro Arr**	**7.23**	**57**	P	**Pn**	**22 25 41.3**	**+0.9**
MJAR	**Matsushiro Arr**	**7.23**	**57**	Pn	**Pn**	**22 25 41.3**	**+0.9**
JHJ	**Hachijo jima 2**	**7.63**	**85**	Pn	**Pn**	**22 25 46.2**	**+0.4**
	96nm,0.3s,baz=85,slow=23,SNR=30						
JHJ2	**Mitsune**	**7.66**	**85**	Pn	**Pn**	**22 25 46.2**	**0.0**
JSD	**Sado**	**8.10**	**47**	Pn	**Pn**	**22 25 51.0**	**-1.2**
JYT	**Yasato**	**8.55**	**64**	Pn	**Pn**	**22 25 58.6**	**+0.2**
JMM	**Marumori**	**9.68**	**55**		**Pn**	**22 26 14.8**	**+1.0**
MSHR	**Mys Shultsa**	**9.80**	**2**⇓	*e*P	**Pn**	**22 26 18.8**	**+3.3**
NJ2	**Nanjing**	**10.05**	**269**	*e*P	**Pn**	**22 26 20.8**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
VLA	**Vladivostok**	**10.38**	**5**⇓	*e*P	**Pn**	**22 26 25.5**	**+2.1**
TATO	**Taipei**	**11.21**	**228**	Pn	**Pn**	**22 26 35.5**	**+0.7**
USA0B	**Ussuriysk Arra**	**11.46**	**5**	P	**Pn**	**22 26 39.5**	**+1.3**
USA0B	**Ussuriysk Arra**	**11.46**	**5**		**Pn**	**22 26 39.5**	**+1.3**
USRK	**Ussuriysk Ar.**	**11.46**	**5**	Pn	**Pn**	**22 26 41.0**	**+2.8**
	baz=189,slow=13,SNR=38						
USRK				LR	LR	22 30 36.1	
	comp=Z,859nm,18.8s,baz=165,slow=35						
USRK	**Ussuriysk Ar.**	**11.46**	**5**	P	**Pn**	**22 26 40.3**	**+2.1**
USRK	**Ussuriysk Ar.**	**11.46**	**5**		**Pn**	**22 26 40.3**	**+2.1**
JTM	**Tenmabayashi**	**11.52**	**43**	Pn	**Pn**	**22 26 35.8**	**-3.3**
NACB	**Ninganchiao**	**11.73**	**225**	Pn	**Pn**	**22 26 42.3**	**+0.3**
CN2	**Changchun**	**11.76**	**341**	*e*P	**Pn**	**22 26 45.8**	**+3.4**
CN2				*e*S	**Sn**	**22 28 53.3**	**-0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s						
CN2				LR	LR		
	comp=E,1μm,15.0s						
CN2				LR	LR		
	comp=Z,2μm,15.1s						
MDJ	**Mudanjiang**	**11.86**	**356**	P	**Pn**	**22 26 46.3**	**+2.6**
SSLB	**Suanglung**	**12.40**	**226**		**Pn**	**22 26 52.5**	**+1.2**
SSLB	**Suanglung**	**12.40**	**226**	P	**Pn**	**22 26 55.9**	**+4.6**
YULB	**Yu-li**	**12.50**	**224**		**Pn**	**22 26 52.6**	**+0.1**
TPUB	**Ta-pu**	**12.96**	**226**	P	Pn	22 27 03.7	+4.8
JEW	**Eniwo**	**13.15**	**37**	Pn	**Pn**	**22 27 01.8**	**+0.5**
BNX	**BinXian**	**13.20**	**350**	⇓P	**Pn**	**22 27 05.6**	**+3.6**
BNX				pmax	pmax		
	comp=Z,36nm,1.2s						
BNX				pmax	pmax		
	comp=Z,550nm,3.9s						
HNS	**HongShan**	**13.89**	**294**	⇑P	**P**	**22 27 18.3**	**-1.5**
HNS				S	**S**	**22 30 01.3**	**-6.6**
HNS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HNS				LR	LR		
	comp=N,890nm,13.3s						
HNS				LR	LR		
	comp=E,720nm,13.9s						
HNS				LR	LR		
	comp=Z,420nm,15.5s						
ASAJ	**Asahikawa**	**14.65**	**36**	Pn	**Pn**	**22 27 22.2**	**+0.5**
	0.7nm,0.3s,baz=212,slow=14,SNR=7.2						
ASAJ				LR	LR	22 32 38.7	
	comp=Z,433nm,18.9s,baz=208,slow=36						
KLR	**Kul'dur**	**16.46**	**2**	Pn	**P**	**22 27 47.1**	**-1.2**
	0.1nm,0.3s,baz=170,slow=11,SNR=5.6						
KLR	**Kul'dur**	**16.46**	**2**⇑	*e*P	**P**	**22 27 47.2**	**-1.1**
KLR				pmax	pmax		
	comp=Z,53nm,1.0s						
YSS	**Yuzh-Sakhalins**	**16.89**	**29**	*e*P	**P**	**22 27 53.6**	**+0.7**
YSS				pmax	pmax		
	comp=Z,50nm,1.1s						
YSS	**Yuzh-Sakhalins**	**16.89**	**29**	P	**P**	**22 27 52.0**	**-0.9**
YSS				IAmb	IAmb	22 27 56.3	
	comp=Z,60nm,1.1s						
YSS	**Yuzh-Sakhalins**	**16.89**	**29**	P	**P**	**22 27 52.4**	**-0.5**
HHC	**Hu-ho-hao-te**	**17.30**	**303**	*e*P	**P**	**22 27 59.1**	**+1.4**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,610nm,5.1s						
XAN	**Xi'an**	**18.24**	**280**	P	**P**	**22 28 12.1**	**+4.0**
XAN				pP	sP	22 28 15.9	+3.5
XAN				pmax	pmax		
	comp=Z,16nm,1.4s						
ENH	**Enshi**	**18.27**	**268**	P	**P**	**22 28 08.4**	**0.0**
HIA	**Hailar**	**18.41**	**337**	P	**Pn**	**22 28 10.4**	**+0.6**
HIA				pmax	pmax		
	comp=Z,31nm,1.1s						
HIA	**Hailar**	**18.41**	**337**	P	**Pn**	**22 28 10.4**	**+0.6**
GRNR	**Gornyy**	**18.47**	**11**	*e*P	**P**	**22 28 10.4**	**-0.1**
GRNR				MLR	MLR		
	comp=E,230nm,14.0s						
GRNR				MLR	MLR		
	comp=N,230nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,360nm,15.0s						
ZEA	**Zeya**	**21.11**	**354**	*e*P	**P**	**22 28 41.7**	**+2.6**
ZEA				pmax	pmax		
	comp=N,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,60nm,0.9s						
GYA	**Guiyang**	**21.81**	**260**	⇑P	**P**	**22 28 48.1**	**+1.0**
GYA				pmax	pmax		
	comp=Z,15nm,0.9s						
LZH	**Lanzhou**	**22.38**	**286**	*e*P	**P**	**22 28 54.1**	**+0.9**
LZH				pP	sP	22 28 58.8	+1.2
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
CD2	**Chengdu**	**22.96**	**273**	P	**P**	**22 28 59.8**	**+0.6**
CD2				pmax	pmax		
	comp=Z,40nm,1.3s						
GUMO	**Guam**	**23.06**	**143**	LR	LR	22 36 24.7	
	comp=Z,236nm,18.6s,baz=286,slow=33						
ULN	**Ulaanbaatar**	**23.38**	**317**	⇑P	**P**	**22 29 05.2**	**+1.7**
ULN				pmax	pmax		
	comp=Z,15nm,1.0s						
ULN	**Ulaanbaatar**	**23.38**	**317**	P	**P**		
ULN					**pP**	**22 29 04.1**	**-2.5**
SONM	**Songino Array**	**23.75**	**316**	P	**P**	**22 29 08.4**	**+1.3**
	comp=Z,7.8nm,0.7s,baz=122,slow=8.9,SNR=19						
SONM				LR	LR	22 40 05.5	
	comp=Z,445nm,18.4s,baz=128,slow=41						
SONM	**Songino Array**	**23.75**	**316**	P	**P**	**22 29 08.0**	**+0.9**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**23.75**	**316**	P	**P**	**22 29 08.0**	**+0.9**
GTA	**Gaotai**	**25.75**	**294**	*e*P	**P**	**22 29 27.0**	**+1.5**
GTA				sP	sP	22 29 34.3	+4.3
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH	**PanZhiHua**	**25.89**	**264**	⇑P	**P**	**22 29 27.3**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
ZAK	**Zakamensk**	**26.81**	**319**	*e*P	**P**	**22 29 35.0**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PETK	**Petropavlovsk-**	**28.07**	**36**	LR	LR	22 39 33.4	
	comp=Z,253nm,20.2s,baz=236,slow=34						
YAK	**Yakutsk**	**29.29**	**359**	*e*P	**P**	**22 29 58.5**	**+1.8**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=N,11nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
GOMU	**GeErMu**	**29.68**	**287**	P	**P**	**22 30 02.4**	**+1.4**
GOMU				pP	sP	22 30 05.3	-0.3
GOMU				sP	pP	22 30 09.5	+5.2
GOMU				pmax	pmax		
	comp=E,6.0nm,0.8s						
KKM	**Kota Kinabalu**	**29.82**	**210**	P	**P**	**22 30 00.8**	**-1.2**
MA2	**Magadan**	**29.95**	**20**	LR	LR	22 41 05.6	
	comp=E,171nm,20.6s,baz=240,slow=34						
CHTO	**Chiang Mai**	**31.66**	**252**	P	**P**	**22 30 18.2**	**0.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CHTO	**Chiang Mai**	**31.66**	**252**	P	**P**	**22 30 18.2**	**0.0**
CHTO	**Chiang Mai**	**31.66**	**252**	P	**P**	**22 30 19.3**	**+1.1**
CM31	**Chiang Mai Arr**	**31.85**	**251**	P	**P**	**22 30 20.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**31.85**	**251**	P	**P**	**22 30 21.3**	**+1.4**
	comp=Z,2.9nm,0.8s,baz=57,slow=5.7,SNR=22						
CMAR				PcP	**PcP**	**22 33 10.6**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=96,slow=1.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**31.85**	**251**	P	**P**	**22 30 20.8**	**+0.9**
TOLI2	**Tolitoli**	**32.85**	**199**	P	**P**	**22 30 28.2**	**-0.3**
TOLI2				IAmb	IAmb	22 30 30.2	
	comp=Z,11nm,1.0s						
SEY	**Seymchan**	**33.16**	**18**	LR	LR	22 44 21.5	
	comp=Z,244nm,19.5s,baz=212,slow=37						
SEY	**Seymchan**	**33.16**	**18**⇑	*e*P	**P**	**22 30 32.1**	**+1.3**
SEY				pmax	pmax		
	comp=Z,13nm,3.0s						
LBMI	**Labuha**	**33.37**	**186**	P	**P**	**22 30 31.3**	**-1.8**
	comp=Z,16nm,0.6s						
LSA	**Lhasa**	**33.84**	**276**	P	**P**	**22 30 38.1**	**+0.4**
LSA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LSA	**Lhasa**	**33.84**	**276**	P	**P**	**22 30 38.1**	**+0.4**
SHL	**Shillong**	**34.51**	**268**	P	**P**	**22 30 42.7**	**-0.5**
SHL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SHL	**Shillong**	**34.51**	**268**	P	**P**	**22 30 42.7**	**-0.5**
SBUM	**Sibu**	**34.80**	**214**	P	**P**	**22 30 45.4**	**-0.1**
SANI	**Sanana**	**34.92**	**188**	P	**P**	**22 30 44.9**	**-1.6**
	comp=Z,14nm,1.0s						
WMQ	**Urumqi**	**35.16**	**301**	*e*P	**P**	**22 30 52.3**	**+3.8**
WMQ				pP	sP	22 30 55.1	+2.0
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,200nm,7.1s						
KSM	**Kuching**	**36.57**	**216**	P	**P**	**22 31 01.4**	**+0.7**
KSM				IAmb	IAmb	22 31 02.9	
	comp=Z,20nm,1.2s						
KSM	**Kuching**	**36.57**	**216**	P	**P**	**22 31 02.0**	**+1.3**
ZSN	**Zaisan**	**37.45**	**307**	*e*P	**P**	**22 31 07.6**	**-0.3**
ZSN	**Zaisan**	**37.45**	**307**	*e*P	**P**	**22 31 07.7**	**-0.3**
	baz=307						
SRIT	**Nakonsritamara**	**37.50**	**237**	P	**P**	**22 31 07.8**	**-0.9**
SRIT				IAmb	IAmb	22 31 11.3	
	comp=Z,16nm,1.1s						
ODAN	**Odare**	**37.85**	**273**	*e*P	**P**	**22 31 12.0**	**+0.1**
RAMN	**Ramite**	**38.48**	**273**	*e*P	**P**	**22 31 17.0**	**-0.2**
JIRN	**Jiri**	**38.60**	**274**	*e*P	**P**	**22 31 19.2**	**+0.9**
ZAA0	**Zalesovo Array**	**38.64**	**317**	P	**P**	**22 31 17.9**	**0.0**
ZALV	**Zalesovo Beam**	**38.64**	**317**	P	**P**	**22 31 19.8**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=107,slow=7.9,SNR=5.0						
ZALV				PcP	**PcP**	**22 33 28.9**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=102,slow=4.9,SNR=7.6						
ZALV				LR	LR	22 47 36.5	
	comp=Z,311nm,19.0s,baz=112,slow=37						
ZALV	**Zalesovo Beam**	**38.64**	**317**	P	**P**	**22 31 17.4**	**-0.5**
GUN	**Gumba**	**38.78**	**275**	*e*P	**P**	**22 31 20.8**	**+1.0**
	comp=Z,96nm,0.8s						
TIXI	**Tiksi**	**38.95**	**359**⇓	*e*P	**P**	**22 31 20.6**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,11nm,1.8s						
TIXI	**Tiksi**	**38.95**	**359**	P	**P**	**22 31 20.5**	**+0.3**
KAPI	**Kappang**	**38.99**	**198**	P	**P**	**22 31 20.1**	**-1.1**
KAPI				pmax	pmax		
	comp=Z,17nm,0.3s						
KAPI	**Kappang**	**38.99**	**198**	P	**P**	**22 31 20.1**	**-1.1**
BBKI	**Banjar Baru**	**39.05**	**206**	P	**P**	**22 31 22.4**	**+0.7**
	comp=Z,37nm,0.9s						
MK31	**Makanchi Array**	**39.15**	**305**	*i* P	**P**	**22 31 22.5**	**+0.2**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MK31	**Makanchi Array**	**39.15**	**305**	P	**P**	**22 31 22.1**	**-0.2**
MKAR	**Makanchi Array**	**39.15**	**305**	P	**P**	**22 31 22.5**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=92,slow=8.9,SNR=14						
MKAR				PcP	**PcP**	**22 33 30.6**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=64,slow=4.1,SNR=3.1						
MKAR	**Makanchi Array**	**39.15**	**305**	P	**P**	**22 31 22.1**	**-0.2**
KULM	**Kulim**	**39.16**	**232**	P	**P**	**22 31 21.2**	**-1.5**
PKI	**Pulchoki**	**39.28**	**275**	*e*P	**P**	**22 31 24.3**	**+0.3**
	comp=Z,27nm,0.9s						
PKIN	**Phulchoki**	**39.29**	**275**	*e*P	**P**	**22 31 24.3**	**+0.3**
	comp=Z,21nm,0.9s						
KKN	**Kakani**	**39.32**	**275**	*e*P	**P**	**22 31 25.0**	**+0.8**
	comp=Z,29nm,0.9s						
MAKZ	**Makanchi**	**39.36**	**306**	P	**P**	**

GSI **Gunungsitoli** 44.15 232 P **P** 22 32 03.7 +0.1
GSI IAmb IAmb 22 32 04.5
comp=Z,36nm,1.5s
GSI **Gunungsitoli** 44.15 232 P **P** 22 32 02.9 -0.7
comp=Z,14nm,2.3s
GSI **Gunungsitoli** 44.15 232 P **P** 22 32 04.0 +0.4
KBK **Karagaybulak** 44.49 300 P **P** 22 32 07.7 +1.4
SNR=5.2
CHMS **Chumysh** 44.60 300 P **P** 22 32 08.1 +1.1
SNR=5.3
SGDS **Sogindy** 44.64 301 *e*P **P** 22 32 07.0 -0.3
SGDS **Sogindy** 44.64 301 *e*P **P** 22 32 07.1 -0.3
baz=301
FRU1 **Bishkek** 44.71 300 P **P** 22 32 08.6 +0.7
FRU1 pmax pmax
comp=Z,12nm,1.0s
FRU1 **Bishkek** 44.71 300 P **P** 22 32 08.6 +0.7
FRU1 IAmb IAmb 22 32 09.8
comp=Z,12nm,1.0s
MASI **Maura Aman, Be** 44.75 223 P **P** 22 32 08.9 +0.5
comp=Z,36nm,0.5s
USP **Ospenovka** 44.76 300 P **P** 22 32 09.2 +0.9
SNR=5.4
KLI **Kotabumi** 44.76 218 P **P** 22 32 09.2 +0.8
KLI pmax pmax
comp=Z,80nm,0.8s
KLI **Kotabumi** 44.76 218 P **P** 22 32 09.0 +0.6
comp=Z,85nm,0.8s
AAK **Ala-Archa** 44.83 300 P **P** 22 32 05.0 -3.9
SNR=5.4
AAK **Ala-Archa** 44.83 300 P **P** 22 32 09.4 +0.4
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK **Ala-Archa** 44.83 300 P **P** 22 32 09.4 +0.4
UCH **Uchtor** 44.86 299 P **P** 22 32 10.9 +1.3
SNR=14
BTLS **Baital** 44.92 303 *e*P **P** 22 32 08.8 -0.6
BTLS **Baital** 44.92 303 *e*P **P** 22 32 08.9 -0.6
baz=303
LEM **Lembang** 45.09 213 P **P** 22 32 11.4 +0.2
LEM pmax pmax
comp=Z,44nm,0.9s
SISI **Saibi** 45.18 228 P **P** 22 32 11.4 -0.4
comp=Z,27nm,0.8s
EKS2 **Erkin-Say** 45.35 300 P **P** 22 32 13.8 +0.7
SNR=5.1
MTN **Manton Dam** 45.35 179 P **P** 22 32 11.9 -1.2
MTN **Manton Dam** 45.35 179 P **P** 22 32 11.9 -1.2
AML **Almayashu** 45.48 299 P **P** 22 32 15.7 +1.3
SNR=13
BRZS **Berezniki** 45.63 310 *e*P **P** 22 32 14.2 -0.8
BRZS **Berezniki** 45.63 310 *e*P **P** 22 32 14.3 -0.8
baz=310
OTUK **Ortayu** 45.90 308 *i* P **P** 22 32 17.5 +0.3
OTUK pmax pmax
comp=Z,7.0nm,0.7s
DZA **Taraz** 47.10 300 *e*P **P** 22 32 26.4 -0.3
DZA **Taraz** 47.10 300 *e*P **P** 22 32 26.5 -0.3
baz=300
BRVK **Borovoye** 47.12 314 *d i*P **P** 22 32 27.1 +0.4
BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK **Borovoye** 47.12 314 P **P** 22 32 27.5 +0.8
BRVK IAmb IAmb 22 32 30.1
comp=Z,13nm,0.7s
DRK **Karamyk** 47.33 296 P **P** 22 32 28.9 0.0
DRK IAmb IAmb 22 32 32.8
comp=Z,3.7nm,0.6s
NIL **Nilore** 47.54 288 P **P** 22 32 30.5 +0.2
NIL pmax pmax
comp=Z,5.0nm,0.8s
NIL **Nilore** 47.54 288 P **P** 22 32 30.5 +0.2
NIL IAmb IAmb 22 32 45.5
comp=Z,4.6nm,0.8s
KK31 **Karatay Array** 47.67 301 *i* P **P** 22 32 31.6 +0.5
KK31 pmax pmax
comp=Z,13nm,0.7s
BTK **Batken** 47.96 297 P **P** 22 32 34.0 +0.5
BTK pmax pmax
comp=Z,9.0nm,1.3s
BTK **Batken** 47.96 297 P **P** 22 32 34.0 +0.5
BTK IAmb IAmb 22 32 39.0
comp=Z,9.0nm,1.2s
IUG **Iuzhnay** 48.17 300 *e*P **P** 22 32 35.0 -0.1
IUG **Iuzhnay** 48.17 300 *e*P **P** 22 32 35.1 -0.1
baz=300
KNRA **Kununurra** 48.21 183 P **P** 22 32 34.7 -0.6
KNRA **Kununurra** 48.21 183 P **P** 22 32 35.0 -0.4
GAR **Garm** 48.55 295 P **P** 22 32 38.1 0.0
GAR IAmb IAmb 22 32 41.1
comp=Z,14nm,1.1s
CHGR **Chuyangaron** 49.51 295 P **P** 22 32 45.8 +0.3
CHGR IAmb IAmb 22 32 46.9
comp=Z,20nm,1.0s
ANM **Nome** 49.77 31 P **P** 22 32 47.3 +0.4
ANM pmax pmax
comp=Z,5.0nm,0.9s
ANM **Nome** 49.77 31 P **P** 22 32 47.3 +0.4
KBL **Kabul** 50.65 290 P **P** 22 32 54.6 +0.3
KBL pmax pmax
comp=Z,5.0nm,0.9s
KBL **Kabul** 50.65 290 P **P** 22 32 54.6 +0.3
FITZ **Fitzroy Crossi** 50.81 186 IAmb IAmb 22 32 55.8
comp=Z,17nm,1.4s
FITZ **Fitzroy Crossi** 50.81 186 P **P** 22 32 54.9 -0.3
WB0 **Warramunga Arr** 52.36 176 IAmb IAmb 22 33 06.8
comp=Z,22nm,1.4s
WRAB **Tennant Creek** 52.52 176 *e*P **P** 22 33 07.0 -1.0
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRAB **Tennant Creek** 52.52 176 P **P** 22 33 07.7 -0.3
WRA **Warramunga Arr** 52.53 176 P **P** 22 33 06.9 -1.2
comp=Z,5.7nm,0.8s,baz=352,slow=8.0,SNR=33
WB2 **Warramunga Arr** 52.53 176 IAmb IAmb 22 33 08.1
comp=Z,11nm,0.9s
WR0 **Warramunga Arr** 52.56 175 IAmb IAmb 22 33 08.4
comp=Z,16nm,0.9s
SVE **Sverdlovsk** 52.57 319 *e*P **P** 22 33 08.7 +0.7
SVE pmax pmax
comp=Z,16nm,1.4s
PALK **Pallekele** 52.78 253 P **P** 22 33 09.8 -0.4
PALK pmax pmax
comp=Z,9.0nm,1.0s
PALK **Pallekele** 52.78 253 P **P** 22 33 09.8 -0.4
PALK IAmb IAmb 22 33 12.6
comp=Z,9.4nm,1.0s
QIS **Mount Isa** 53.70 170 P **P** 22 33 15.8 -0.9
ARU **Arti** 53.75 319 *d i*P **P** 22 33 16.8 +0.1
ARU 22 34 21.5
ARU 22 35 19.0
ARU S **S** 22 40 54.8 +4.0
ARU SS **SS** 22 44 33.6 +2.5
ARU pmax pmax
comp=Z,12nm,1.1s
ARU **Arti** 53.75 319 P **P** 22 33 16.9 +0.2
ARU IAmb IAmb 22 33 18.8
comp=Z,12nm,1.1s
AB31 **Akbulak array** 53.93 310 *i* P **P** 22 33 18.0 -0.2
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR **Akbulak array** 53.93 310 IAmb IAmb 22 33 21.9
comp=Z,6.0nm,0.7s
O18K **Koktuh Hills** 54.43 37 P **P** 22 33 22.8 +1.1
O18K IAmb IAmb 22 33 25.8
comp=Z,15nm,1.1s
J20K **Nowinta River** 54.63 31 P **P** 22 33 25.3 +2.3
J20K IAmb IAmb 22 33 27.2
comp=Z,21nm,1.5s
K20K **Telida** 54.71 32 P **P** 22 33 24.3 +0.6
K20K IAmb IAmb 22 33 27.9
comp=Z,10nm,1.2s
IMAR **Indian Mountai** 54.72 29 P **P** 22 33 23.6 0.0
PSA00 **Pilbara Seismi** 55.02 192 P **P** 22 33 24.0 -2.3
H21K **Melozitna Rive** 55.12 29 P **P** 22 33 25.1 -1.4
I21K **Tanana** 55.49 30 P **P** 22 33 29.6 +0.4
I21K IAmb IAmb 22 33 33.0
comp=Z,12nm,1.3s
CAST **Castle Rocks** 55.59 32 P **P** 22 33 31.1 +1.1
CAST IAmb IAmb 22 33 34.2
comp=Z,15nm,1.3s
PPLA **Purkeypile** 55.60 33 P **P** 22 33 31.5 +1.2
PPLA IAmb IAmb 22 33 33.9
comp=Z,28nm,1.5s
BPAW **Bear Paw Mtn.** 56.02 31 P **P** 22 33 33.8 +0.8
BPAW IAmb IAmb 22 33 37.0
comp=Z,8.8nm,1.1s
HRA **Herat** 56.05 292 P **P** 22 33 34.2 +0.2
KTH **Kantishna Hill** 56.10 32 P **P** 22 33 34.7 +0.9
KTH IAmb IAmb 22 33 37.7
comp=Z,16nm,1.2s
TOLK **Toolik Lake Re** 56.20 26 P **P** 22 33 35.3 +0.9
AS31 **Alice Springs** 56.20 176 P **P** 22 33 34.2 -0.5
ASAR **Alice Springs** 56.20 176 P **P** 22 33 34.1 -0.7
comp=Z,6.9nm,0.9s,baz=0.6,slow=6.1,SNR=52
TRF **Thorofare Moun** 56.39 32 P **P** 22 33 36.2 +0.3
TRF IAmb IAmb 22 33 38.9
comp=Z,8.9nm,1.3s
H23K **Yukon River** 56.45 29 IAmb IAmb 22 33 40.7
comp=Z,8.1nm,0.9s
CUT **Chulitna** 56.53 33 P **P** 22 33 38.1 +1.4
CUT IAmb IAmb 22 33 40.8
comp=Z,24nm,1.2s
NEA2 **Nenana** 56.79 31 P **P** 22 33 38.9 +0.4
NEA2 IAmb IAmb 22 33 42.4
comp=Z,13nm,1.0s
RND **Reindeer** 57.04 32 P **P** 22 33 40.7 +0.2
RND pmax pmax
comp=Z,11nm,1.0s
RND **Reindeer** 57.04 32 P **P** 22 33 40.7 +0.2
RND IAmb IAmb 22 33 43.5
comp=Z,11nm,1.0s
MDM **Murphy Dome** 57.10 30 IAmb IAmb 22 33 44.7
comp=Z,21nm,1.0s
H24K **Noodor Dome** 57.13 29 P **P** 22 33 42.7 +1.7
H24K IAmb IAmb 22 33 45.4
comp=Z,11nm,1.2s
PMR **Palmer** 57.18 34 P **P** 22 33 42.4 +1.1
PMR pmax pmax
comp=Z,10.0nm,0.9s
PMR **Palmer** 57.18 34 P **P** 22 33 42.4 +1.1
PMR IAmb IAmb 22 33 44.3
comp=Z,10.0nm,0.9s
WRH **Wood River Hil** 57.23 31 P **P** 22 33 42.8 +1.2
GHO **Glory Hole Cre** 57.25 34 P **P** 22 33 42.0 +0.1
GHO IAmb IAmb 22 33 56.3
comp=Z,26nm,1.4s
POKR **Poker Plat Res** 57.41 30 P **P** 22 33 44.4 +1.5
POKR IAmb IAmb 22 33 53.4
comp=Z,9.6nm,0.8s
KNK **Knik Glacier** 57.53 34 P **P** 22 33 43.9 0.0
KNK IAmb IAmb 22 33 47.2
comp=Z,12nm,1.1s
WRKA **Warakurna** 57.53 183 P **P** 22 33 43.8 -0.4
ILAR **Eielson Array** 57.69 30 P **P** 22 33 45.1 +0.2
comp=Z,2.0nm,0.8s,baz=284,slow=6.9,SNR=10
ILAR **Eielson Array** 57.69 30 P **P** 22 33 44.1 -0.9
ILAR **Eielson Array** 57.69 30 P **P** 22 33 44.0 -0.9
DHY **Denali Highway** 57.75 32 P **P** 22 33 45.6 0.0
KIRV **Kirov** 58.29 323 *ce*P **P** 22 33 49.2 +0.1
DIV **Divide** 58.86 34 P **P** 22 33 53.6 +0.4
DIV IAmb IAmb 22 33 56.8
comp=Z,14nm,1.0s
SCRK **Sand Creek** 59.08 31 IAmb IAmb 22 33 57.7
comp=Z,13nm,1.0s
DOT **Dot Lake** 59.11 31 P **P** 22 33 54.2 -0.7
DOT IAmb IAmb 22 33 57.8
comp=Z,7.5nm,1.0s
N25K **Chitina, Valde** 59.31 34 P **P** 22 33 57.0 +0.6
N25K IAmb IAmb 22 34 01.1
comp=Z,9.8nm,0.9s
MENT **Mentasta** 59.41 32 P **P** 22 33 57.9 +0.9
MENT IAmb IAmb 22 34 00.9
comp=Z,12nm,0.9s
BMRM **Bremner River** 59.45 34 P **P** 22 33 57.9 +0.7
PRGR **Permogore** 59.49 326 *e*P **P** 22 33 55.8 -1.6
PRGR pmax pmax
comp=Z,6.0nm,1.5s
L26K **Log Cabin Wild** 59.56 32 P **P** 22 33 58.3 +0.3
M26K **Nabesna, AK** 59.86 33 P **P** 22 34 00.1 0.0
M26K IAmb IAmb 22 34 04.0
comp=Z,15nm,0.9s
VRDI **Verde Repeater** 59.93 34 P **P** 22 34 00.6 -0.2
VRDI IAmb IAmb 22 34 04.3
comp=Z,7.8nm,0.9s
MCARA **McCarthy VSAT** 60.09 34 P **P** 22 34 03.1 +1.4
MCARA IAmb IAmb 22 34 11.7
comp=Z,20nm,1.2s
L27K **Beaver Creek,** 60.23 32 P **P** 22 34 02.7 +0.1
L27K IAmb IAmb 22 34 06.7
comp=Z,8.2nm,0.9s
M27K **Edge Creek, AK** 60.38 32 P **P** 22 34 04.3 +0.6
M27K IAmb IAmb 22 34 07.2
comp=Z,6.5nm,0.8s
QLP **Quilpie** 60.41 166 P **P** 22 34 03.6 -0.5
WAX **Waxell Ridge** 60.41 35 P **P** 22 34 03.6 -0.3
WAX IAmb IAmb 22 34 11.6
comp=Z,15nm,1.1s
OOD **Oodnadatta** 60.41 175 P **P** 22 34 03.5 -0.6
BELG **Belogornoye** 60.80 316 *d i*P **P** 22 34 06.2 -0.4
BELG pmax pmax
comp=Z,3.0nm,0.8s
BARN **Barnard Glacie** 60.81 34 P **P** 22 34 07.0 +0.2
BARN IAmb IAmb 22 34 07.8
comp=Z,20nm,1.4s
GRNC **Granite Creek** 60.86 34 P **P** 22 34 05.1 -2.1
GRNC IAmb IAmb 22 34 10.7
comp=Z,21nm,1.4s
I29M **Ogilvie Camp,** 61.12 29 IAmb IAmb 22 34 12.5
comp=Z,6.5nm,0.9s
LOGN **Logan Glacier** 61.19 34 P **P** 22 34 10.3 +0.9
LOGN IAmb IAmb 22 34 14.5
comp=Z,14nm,1.1s
INK **Inuvik** 62.05 25 P **P** 22 34 15.3 +0.5
INK pmax pmax
comp=Z,6.0nm,1.1s
INK **Inuvik** 62.05 25 P **P** 22 34 15.2 +0.5
INK IAmb IAmb 22 34 18.2
comp=Z,6.0nm,1.1s
KLMR **Klimovskoe** 62.54 327 *e*P **P** 22 34 14.4 -3.7
KLMR *e* 22 34 55.0
KLMR pmax pmax
comp=Z,12nm,1.2s
KLMR **Klimovskoe** 62.54 327 *e*P **P** 22 34 14.5 -3.7
KLMR AMP 22 34 18.2
comp=Z,12nm,1.2s
KLMR *e*PcP **PcP** 22 34 55.1 -2.1
M30M **Minto, Yukon** 62.58 31 IAmb IAmb 22 34 23.9
comp=Z,13nm,1.3s
MULG **Mulgathing** 62.79 177 P **P** 22 34 19.9 -0.2
HYT **Haines Junctio** 62.82 33 P **P** 22 34 20.9 +0.6
HYT IAmb IAmb 22 34 22.4
comp=Z,9.0nm,1.0s
MORW **Morawa** 63.05 194 P **P** 22 34 19.8 -2.1
KBS **Kingsbay** 63.25 349 P **P** 22 34 23.0 +0.4
KBS pmax pmax
comp=Z,52nm,0.8s
KBS **Kingsbay** 63.25 349 P **P** 22 34 23.0 +0.4
KBS **Kingsbay** 63.25 349 *i* P **P** 22 34 20.5 -2.1
FORT **Forrest** 63.25 183 P **P** 22 34 21.5 -1.6
LCRK **Leigh Creek** 63.27 173 P **P** 22 34 23.5 +0.2
A36M **Sachs Harbour** 63.36 20 IAmb IAmb 22 34 26.9
comp=Z,12nm,0.9s
M31M **Drury Creek, Y** 63.76 31 P **P** 22 34 25.7 -0.6
WHY **Whitehorse** 64.09 33 P **P** 22 34 28.7 +0.1
WHY IAmb IAmb 22 34 32.8
comp=Z,8.6nm,1.1s
NOR **Nord** 64.63 355 *i* P **P** 22 34 30.6 -1.1
NOR IAmb IAmb 22 34 33.6
comp=Z,2.1nm,0.7s
ARCES **ARCESS Array B** 64.75 338 P **P** 22 34 31.7 -1.0
comp=Z,1.3nm,0.6s,baz=63,slow=8.3,SNR=1.7
C36M **Paulatuk** 64.84 22 IAmb IAmb 22 34 36.5
comp=Z,12nm,0.9s
STKA **Stephens Creek** 65.11 170 P **P** 22 34 34.9 -0.5
comp=Z,9.8nm,0.9s,baz=347,slow=8.5,SNR=14
STKA **Stephens Creek** 65.11 170 *e*P **P** 22 34 34.2 -1.2
STKA **Stephens Creek** 65.11 170 P **P** 22 34 35.2 -0.2
STKA **Stephens Creek** 65.11 170 P **P** 22 34 35.4 0.0
MOS **Moscow** 65.25 322 *e*P **P** 22 34 35.0 -1.1
CMSA **Cobar Meteorol** 65.51 166 P **P** 22 34 38.7 +0.8
EUNU **Eureka** 65.56 7 IAmb IAmb 22 34 43.5
comp=Z,4.9nm,0.8s
VORR **Voronezh** 65.94 317 *e*P **P** 22 34 39.2 -1.4
VORR pmax pmax
comp=Z,10.0nm,0.4s
NAPP **Napperby** 65.97 173 P **P** 22 34 41.0 +0.1
OBN **Obninsk** 66.05 321 *e*P **P** 22 34 44.2 +2.9
OBN *e* 22 35 10.1
OBN *e* 22 37 14.3
OBN *e*S **S** 22 43 23.6 -5.5
OBN pmax pmax
comp=Z,28nm,1.6s
OBN MLR MLR
comp=Z,285nm,15.0s
GOF **Gofitskoye** 66.15 309 *e*P **P** 22 34 42.8 +0.6
VALR **Valaam** 66.25 329 *de*P **P** 22 34 42.5 +0.1
VALR pmax pmax
comp=Z,11nm,0.7s
NCK **Nalchik** 66.40 308 *e*P **P** 22 34 44.6 +0.8
NCK pmax pmax
comp=Z,3.0nm,0.2s
KBZ **Khabaz** 66.78 308 P **P** 22 34 47.0 +0.8
comp=Z,6.0nm,0.9s,baz=186,slow=3.2,SNR=9.2
KBZ **Khabaz** 66.78 308 *de*P **P** 22 34 46.9 +0.8
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KIV **Kislovodsk** 66.83 308 *e*P **P** 22 34 45.2 -1.4
KIV pmax pmax
comp=Z,15nm,1.1s
KIV **Kislovodsk** 66.83 308 P **P** 22 34 46.9 +0.3
KIV IAmb IAmb 22 34 49.0
comp=Z,16nm,1.1s
ONI **Oni** 66.86 307 P **P** 22 34 47.4 +0.6
ONI pmax pmax
comp=Z,12nm,1.2s
ONI **Oni** 66.86 307 P **P** 22 34 47.4 +0.6
ONI IAmb IAmb 22 34 49.2
comp=Z,12nm,1.2s
GNI **Garni** 66.96 304 *de*P **P** 22 34 48.8 +1.2
GNI pmax pmax
comp=Z,29nm,1.6s
GNI **Garni** 66.96 304 P **P** 22 34 48.3 +0.7
FINES **FINESS Array B** 68.28 330 P **P** 22 34 54.8 -0.6
comp=Z,7.0nm,0.5s,baz=72,slow=5.9,SNR=72
RES **Resolute Bay** 68.73 12 IAmb IAmb 22 35 01.4
comp=Z,7.8nm,1.0s
DAG **Danmarks Havn** 69.07 353 *i* P **P** 22 34 59.0 -1.0
DAG IAmb IAmb 22 35 07.7
comp=Z,4.1nm,0.8s
VSU **Vasula** 69.43 327 *e*P **P** 22 35 03.2 +0.7
GURO **Guroymak-BITLI** 69.54 303 P **P** 22 35 04.8 +0.9
GURO IAmb IAmb 22 35 08.5
comp=Z,6.0nm,1.0s
CAN **Canberra** 69.87 164 P **P** 22 35 06.1 +0.6
CAN pmax pmax
comp=Z,32nm,1.3s
CAN **Canberra** 69.87 164 P **P** 22 35 06.1 +0.6
KOPT **Kop Dagi** 69.97 305 P **P** 22 35 07.4 +0.8
KOPT IAmb IAmb 22 35 09.7
comp=Z,9.2nm,1.0s
TULEG **Thule** 70.27 5 P **P** 22 35 07.7 +0.3
TULEG IAmb IAmb 22 35 09.9
comp=Z,11nm,1.2s
MARD **Mardin** 70.98 303 P **P** 22 35 13.4 +0.8
BRAT **Ballarat** 71.04 169 P **P** 22 35 13.3 +0.9
NACGM **Naroch** 71.18 324 *e*P **P** 22 35 13.6 +0.2
TOO **Toolangi** 71.32 168 P **P** 22 35 13.9 -0.4
TOO pmax pmax
comp=Z,11nm,1.0s
TOO **Toolangi** 71.32 168 P **P** 22 35 13.9 -0.4
TOO IAmb IAmb 22 35 15.2
comp=Z,11nm,1.0s
DBG **Daneborg** 71.46 352 *i* P **P** 22 35 12.3 -2.4
DBG IAmb IAmb 22 35 33.1
comp=Z,0.9nm,0.8s
YKA **Yellowknife Ar** 71.72 26 P **P** 22 35 16.1 -0.3
comp=Z,1.6nm,0.8s,baz=303,slow=5.9,SNR=21
YKA **Yellowknife Ar** 71.72 26 *i* P **P** 22 35 16.7 +0.3
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA **Yellowknife Ar** 71.72 26 P **P** 22 35 16.7 +0.3
AKASG **Malin Array Be** 72.00 319 P **P** 22 35 17.9 -0.5
comp=Z,6.7nm,0.6s,baz=52,slow=5.9,SNR=14
AKBB **Malin Array Si** 72.00 319 *i*P **P** 22 35 17.7 -0.6
AKBB pmax pmax
comp=Z,17nm,1.0s
AKBB **Malin Array Si** 72.00 319 IAmb IAmb 22 35 21.5
comp=Z,14nm,1.0s
PABE **Paberze** 72.25 325 P **P** 22 35 19.8 +0.1
SOCY **Socotra** 72.42 273 P **P** 22 35 20.1 -1.4
SOCY IAmb IAmb 22 35 21.2
comp=Z,18nm,1.0s
SUW **Suwalki** 73.44 324 P **P** 22 35 26.0 -0.8
SUW pmax pmax
comp=Z,20nm,1.1s
SUW **Suwalki** 73.44 324 P **P** 22 35 26.0 -0.8
SUW IAmb IAmb 22 35 31.0
comp=Z,20nm,1.1s
BNN **Bunyan** 73.70 306 P **P** 22 35 29.2 +0.4
SORM **Soroca** 73.79 317 P **P** 22 35 28.7 -0.3
SORM **Soroca** 73.79 317 P **P** 22 35 28.7 -0.3
NB201 **NORSAR Array S** 74.38 334 P **P** 22 35 32.6 +0.3
NB2 **NORSAR Subarra** 74.42 334 P **P** 22 35 31.3 -1.2
comp=Z,0.8nm,0.5s,baz=47,slow=5.9
NOA **NORSAR Array B** 74.42 334 P **P** 22 35 31.7 -0.8
comp=Z,2.9nm,1.0s,baz=50,slow=5.7,SNR=9.3
NC204 **NORSAR Array S** 74.43 334 P **P** 22 35 33.2 +0.6
NC204 IAmb IAmb 22 35 36.1
comp=Z,23nm,1.1s
NORES **NORESS Array B** 74.49 334 P **P** 22 35 32.5 -0.4
BR131 **Keskin Array S** 74.76 308 *de*P **P** 22 35 34.9 -0.1
BR131 **Keskin Array S** 74.76 308 P **P** 22 35 35.0 -0.1
BR131 IAmb IAmb 22 35 36.2
comp=Z,14nm,0.9s
BRTR **Keskin Array B** 74.76 308 P **P** 22 35 35.3 +0.3
comp=Z,6.3nm,0.9s,baz=95,slow=5.2,SNR=32
VLDR **Vladesti** 75.14 315 P **P** 22 35 37.2 +0.3
JURR **Jurilovca** 75.23 314 P **P** 22 35 37.0 -0.4
LVV **L'vov** 75.30 320 *e*P **P** 22 35 38.0 +0.2
TPLR **Topolog** 75.46 314 P **P** 22 35 39.0 +0.2
CFR **Carcaliu** 75.46 315 P **P** 22 35 37.9 -0.8
CFR **Carcaliu** 75.46 315 P **P** 22 35 37.9 -0.8
TESR **Tescani** 75.63 316 P **P** 22 35 39.4 -0.3
BUR08 **Bucovina Ar. S** 75.85 318 P **P** 22 35 41.4 +0.3
BUR08 IAmb IAmb 22 35 59.3
comp=Z,6.9nm,1.0s
BUR01 **Bucovina Ar. S** 75.86 318 P **P** 22 35 41.2 +0.1
BURAR **Bucovina Array** 75.86 318 P **P** 22 35 40.8 -0.3
BURAR IAmb IAmb 22 35 46.0
comp=Z,8.6nm,0.9s
VRI **Vrincioaia** 75.93 316 P **P** 22 35 42.2 +0.7
VRI **Vrincioaia** 75.93 316 P **P** 22 35 42.2 +0.7
MDUB **Mudurnu** 76.00 309 P **P** 22 35 42.0 -0.1
OZUR 76.36 316 P **P** 22 35 44.8 +0.9
MLR **Muntele Rosu** 76.60 316 P **P** 22 35 45.7 +0.3
MLR pmax pmax
comp=Z,9.0nm,1.1s
MLR **Muntele Rosu** 76.60 316 P **P** 22 35 45.7 +0.3
MLR IAmb IAmb 22 35 50.6
comp=Z,9.1nm,1.1s
DOPR **Dopca** 76.66 316 P **P** 22 35 46.7 +1.0
BORA **Eskisehir** 76.79 309 P **P** 22 35 46.0 -0.6
BORA IAmb IAmb 22 35 47.3
comp=Z,10.0nm,0.8s
BMR **Baia Mare** 76.79 318 P **P** 22 35 47.4 +1.1
BMR **Baia Mare** 76.79 318 P **P** 22 35 47.4 +1.1
UZH **Uzhgorod** 76.91 320 *d i*P **P** 22 35 46.8 -0.1
UZH *i* 22 35 51.7
UZH *e* 22 35 58.2
CRVS **Cervenica-Dubn** 77.21 320 *e*P **P** 22 35 48.8 +0.2
CRVS **Cervenica-Dubn** 77.21 320 *e*P **P** 22 35 48.8 +0.2
OJC **Ojcow** 77.31 322 *e*P **P** 22 35 49.4 +0.2
MESR **Meseseni** 77.39 318 P **P** 22 35 51.4 +1.7
ARR **Arges** 77.44 316 P **P** 22 35 50.8 +0.7
NIE **Niedzica** 77.52 321 *e*P **P** 22 35 52.2 +1.8
GHAJ **Ghor Haditha** 77.65 299 P **P** 22 35 50.8 -0.7
LANS **Liptovska Anna** 78.12 321 *e*P **P** 22 35 55.7 +1.9
LANS pmax pmax
comp=Z,5.0nm,0.9s
LANS **Liptovska Anna** 78.12 321 *e*P **P** 22 35 55.7 +1.9
ICESG **Greenland Ices** 78.20 356 *i* P **P** 22 35 52.4 -1.8
ICESG IAmb IAmb 22 35 55.5
comp=Z,5.8nm,0.8s
GZR **Gura Zlata** 78.50 317 P **P** 22 35 56.6 +0.6
GZR **Gura Zlata** 78.50 317 P **P** 22 35 56.6 +0.6
PSZ **Piszkesteto** 78.63 320 P **P** 22 35 56.3 -0.4
PSZ **Piszkesteto** 78.63 320 P **P** 22 35 56.3 -0.4
PSZ **Piszkesteto** 78.63 320 P **P** 22 35 56.3 -0.4
PSZ IAmb IAmb 22 36 01.6
comp=Z,31nm,1.5s
PSZ **Piszkesteto** 78.63 320 P **P** 22 35 56.6 -0.1
OUZ **Omahuta** 78.69 145 P **P** 22 35 57.0 +0.2
KSP **Ksiaz** 78.71 324 *e*P **P** 22 35 57.3 +0.3
MORC **Moravsky Berou** 78.74 323 P **P** 22 35 57.2 0.0

MORC	**Moravsky Berou**	**78.74**	**323**	P	**P**	**22 35 56.9**	**-0.3**
MORC				pmax	pmax			
	comp=Z,17nm,1.3s							
MORC	**Moravsky Berou**	**78.74**	**323**	P	**P**	**22 35 56.9**	**-0.3**
MORC				IAmb	IAmb	22 35 58.6		
	comp=Z,17nm,1.3s							
MORC	**Moravsky Berou**	**78.74**	**323**	*eP*	**P**	**22 35 57.5**	**+0.3**
MANT	**Manisa**	**78.78**	**309**	P	**P**	**22 35 57.5**	**-0.3**
MANT				IAmb	IAmb	22 36 00.9		
	comp=Z,9.4nm,1.0s							
ELL	**Elmali**	**78.81**	**306**	P	**P**	**22 35 57.3**	**-0.6**
ELL				pmax	pmax			
	comp=Z,47nm,0.8s							
ELL	**Elmali**	**78.81**	**306**	P	**P**	**22 35 57.3**	**-0.6**
VYHS	**Vyhne**	**78.85**	**321**	*eP*	**P**	**22 35 58.6**	**+0.8**
VYHS				pmax	pmax			
	comp=Z,11nm,1.3s							
VYHS	**Vyhne**	**78.85**	**321**	*eP*	**P**	**22 35 58.6**	**+0.8**
D08A	**Wollman Farm,**	**78.89**	**41**	P	**P**	**22 35 57.2**	**-0.8**
OSTC	**Ostas**	**78.93**	**324**	*eP*	**P**	**22 35 59.4**	**+1.2**
KRLC	**Kraliky**	**78.94**	**323**	*eP*	**P**	**22 35 58.7**	**+0.4**
KRLC				*e*		22 36 02.3		
KRLC	**Kraliky**	**78.94**	**323**	*eP*	**P**	**22 35 58.7**	**+0.4**
KRLC				*epP*	**pP**	**22 36 02.3**	**+0.5**
CHVC	**Chvalec**	**78.99**	**324**	*eP*	**P**	**22 35 59.1**	**+0.6**
CHVC				*ex*	x	22 36 02.1		
DPC	**Dobruska-Polom**	**79.00**	**324**	*eP*	**P**	**22 35 59.3**	**+0.7**
DPC				*e*		22 36 02.1		
DPC	**Dobruska-Polom**	**79.00**	**324**	*eP*	**P**	**22 35 59.3**	**+0.7**
DPC				*epP*	**pP**	**22 36 02.1**	**0.0**
KOLL	**Kolacno**	**79.03**	**321**	*eP*	**P**	**22 35 59.7**	**+1.0**
ALN	**Alexandroupoli**	**79.07**	**312**	P	**P**	**22 35 59.3**	**+0.2**
ALN	**Alexandroupoli**	**79.07**	**312**	P	**P**	**22 35 59.3**	**+0.2**
ALN				IAmb	IAmb	22 35 60.0		
	comp=Z,9.1nm,1.3s							
NEW	**Newport**	**79.14**	**39**	P	**P**	**22 35 58.2**	**-1.2**
NEW				pmax	pmax			
	comp=Z,3.0nm,1.0s							
NEW	**Newport**	**79.14**	**39**	P	**P**	**22 35 58.2**	**-1.2**
JAVC	**Velka Javorina**	**79.24**	**322**	*eP*	**P**	**22 36 01.1**	**+1.1**
JCC	**Jacoby Creek,**	**79.49**	**48**	P	**P**	**22 36 00.5**	**-0.8**
BSEG	**Bad Segeberg**	**79.49**	**329**	*eP*	**P**	**22 36 01.1**	**0.0**
	comp=Z,6.3nm,0.9s,baz=47,slow=5.2							
VRAC	**Vranov**	**79.52**	**323**	*eP*	**P**	**22 36 01.9**	**+0.5**
SMOL	**Smolenice**	**79.58**	**322**	*eP*	**P**	**22 36 03.0**	**+1.2**
SMOL				pmax	pmax			
	comp=Z,12nm,1.3s							
SMOL	**Smolenice**	**79.58**	**322**	*eP*	**P**	**22 36 03.0**	**+1.2**
PINE	**Pine Mountain**	**79.66**	**44**	P	**P**	**22 36 02.6**	**0.0**
PINE				IAmb	IAmb	22 36 06.4		
	comp=Z,8.5nm,1.1s							
MODS	**Modra-Piesok**	**79.75**	**322**	*eP*	**P**	**22 36 03.7**	**+1.0**
MODS				pmax	pmax			
	comp=Z,57nm,1.4s							
MODS	**Modra-Piesok**	**79.75**	**322**	*eP*	**P**	**22 36 03.7**	**+1.0**
KRUC	**Moravsky**	**79.77**	**322**	*eP*	**P**	**22 36 03.0**	**+0.2**
YBH	**Yreka Blue Hor**	**79.79**	**47**	P	**P**	**22 36 03.4**	**+0.3**
YBH				pmax	pmax			
	comp=Z,9.0nm,1.2s							
YBH	**Yreka Blue Hor**	**79.79**	**47**	P	**P**	**22 36 03.4**	**+0.3**
VTS	**Vitosha**	**79.83**	**314**	⇓P	**P**	**22 36 04.2**	**+0.8**
VTS	**Vitosha**	**79.83**	**314**	⇓P	**P**	**22 36 04.2**	**+0.8**
VTS	**Vitosha**	**79.83**	**314**	IAmb	IAmb	22 36 08.4		
	comp=Z,14nm,1.3s							
BRG	**Berggiesshubel**	**79.84**	**325**	*eP*	**P**	**22 36 03.6**	**+0.4**
BRG				Amp		22 36 08.4		
	comp=Z,31nm,1.8s							
BRG				Amp		23 02 51.0		
	comp=N,1.2nm,15.1s							
BRG				Amp		23 02 54.0		
	comp=Z,1.7nm,14.9s							
BRG				Amp		23 03 06.0		
	comp=E,0.7nm,16.0s							
BRG	**Berggiesshubel**	**79.84**	**325**	*eP*	**P**	**22 36 03.5**	**+0.4**
BRG				pmax	pmax			
	comp=Z,31nm,1.8s							
BRG				MLR	MLR			
	comp=N,1μm,15.1s							
BRG				MLR	MLR			
	comp=Z,2μm,14.9s							
BRG				MLR	MLR			
	comp=E,720nm,16.0s							
BRG	**Berggiesshubel**	**79.84**	**325**	*eP*	**P**	**22 36 03.3**	**+0.1**
	comp=E,3.0nm,0.9s,baz=47,slow=5.2							
CSKK	**Cskako**	**79.84**	**320**	P	**P**	**22 36 03.2**	**0.0**
CLL	**Collm**	**80.01**	**326**	P	**P**	**22 36 03.8**	**-0.2**
CLL				pmax	pmax			
	comp=Z,22nm,1.1s							
CLL	**Collm**	**80.01**	**326**	P	**P**	**22 36 03.8**	**-0.2**
CLL				IAmb	IAmb	22 36 05.5		
	comp=Z,22nm,1.1s							
CLL	**Collm**	**80.01**	**326**	*i* P	**P**	**22 36 04.0**	**0.0**
	comp=Z,20nm,1.0s							
CLL				*i* x	x	22 36 06.1		
	comp=Z,30nm,1.3s							
CLL				Lm	MLR	23 15 00.0		
	comp=N,300nm,21.5s							
CLL				Lm	MLR	23 15 00.0		
	comp=E,300nm,19.6s							
CLL				Lm	MLR	23 15 00.0		
	comp=Z,400nm,18.3s							
CLL	**Collm**	**80.01**	**326**	*eP*	**P**	**22 36 04.3**	**+0.2**
	comp=Z,13nm,0.9s,baz=47,slow=5.2							
FBE	**Freiberg**	**80.10**	**325**	*eP*	**P**	**22 36 04.5**	**0.0**
	comp=Z,12nm,1.0s,baz=47,slow=5.2							
PRU	**Pruhonice**	**80.12**	**324**	*eP*	**P**	**22 36 05.3**	**+0.7**
PRU	**Pruhonice**	**80.12**	**324**	*eP*	**P**	**22 36 05.3**	**+0.7**
FLTG	**Flechtingen**	**80.16**	**327**	*eP*	**P**	**22 36 04.8**	**+0.1**
	comp=Z,6.8nm,0.8s,baz=47,slow=5.2							
EGYH	**Egyhazaskeszo**	**80.31**	**321**	P	**P**	**22 36 08.2**	**+2.5**
FRGS	**Fruska Gora**	**80.33**	**318**	⇑P	**P**	**22 36 05.2**	**-0.7**
I07A	**Izee**	**80.33**	**43**	P	**P**	**22 36 05.6**	**-0.5**
MPLH	**Magyarpolny**	**80.35**	**320**	P	**P**	**22 36 06.0**	**0.0**
KOPM	**Cahto Peak**	**80.41**	**49**	P	**P**	**22 36 06.5**	**0.0**
SOP	**Sopron**	**80.55**	**321**	P	**P**	**22 36 07.9**	**+0.9**
O02D	**Mt. Diablo Mer**	**80.63**	**48**	P	**P**	**22 36 07.5**	**-0.2**
NEUB	**Neuenburg**	**80.66**	**326**	*eP*	**P**	**22 36 07.6**	**+0.1**
	comp=Z,21nm,0.9s,baz=47,slow=5.2							
RONA	**Rosalia, Austr**	**80.68**	**321**	*i* P	**P**	**22 36 08.5**	**+0.7**
	comp=Z,18nm,1.3s,SNR=11							
KOVH	**Kovagotottos**	**80.72**	**319**	P	**P**	**22 36 08.0**	**+0.1**
CONA	**Conrad Observa**	**80.76**	**322**	*i* P	**P**	**22 36 09.1**	**+0.9**
	comp=Z,24nm,1.2s,SNR=14							
TANN	**Tannenbergstha**	**80.86**	**325**	*eP*	**P**	**22 36 08.8**	**+0.1**
	baz=47,slow=5.2							
DIVS	**Divbare**	**80.86**	**317**	IAmb	IAmb	22 36 12.9		
	comp=Z,19nm,1.3s							
CLZ	**Clausthal**	**80.88**	**327**	*eP*	**P**	**22 36 08.9**	**+0.2**
	comp=Z,16nm,1.0s,baz=47,slow=5.2							
WERD	**Werda**	**80.91**	**325**	*eP*	**P**	**22 36 09.1**	**+0.1**
	baz=47,slow=5.2							
WERD				*epP*	PcP	22 36 28.3	+13	
GUNZ	**Gunzen**	**80.95**	**325**	*eP*	**P**	**22 36 09.5**	**+0.3**
	comp=Z,7.5nm,1.0s,baz=47,slow=5.2							
JTMT	**Jette**	**80.96**	**38**	P	**P**	**22 36 08.4**	**-1.0**
WERN	**Wernitzgruen**	**80.98**	**325**	*eP*	**P**	**22 36 09.7**	**+0.3**
	comp=Z,6.5nm,0.9s,baz=47,slow=5.2							
NKC	**Novy Kostel**	**80.99**	**325**	*eP*	**P**	**22 36 10.1**	**+0.8**
NKC	**Novy Kostel**	**80.99**	**325**	*eP*	**P**	**22 36 10.1**	**+0.8**
CKRC	**Cesky Krumlov**	**80.99**	**323**	*eP*	**P**	**22 36 09.8**	**+0.4**
DY2G	**Dye2**	**81.05**	**359**	*i* P	P	22 36 04.4	-5.2	
DY2G				IAmb	IAmb	22 36 10.4		
	comp=Z,4.5nm,0.8s							
MOX	**Moxa**	**81.11**	**326**	*eP*	**P**	**22 36 10.1**	**+0.2**
	comp=Z,4.6nm,1.0s,baz=47,slow=5.2							
BMO	**Blue Mountains**	**81.12**	**42**	P	**P**	**22 36 10.8**	**+0.6**
BMO				pmax	pmax			
	comp=Z,4.0nm,1.3s							
BMO	**Blue Mountains**	**81.12**	**42**	P	**P**	**22 36 10.8**	**+0.6**
KHC	**Kasperske Hory**	**81.16**	**324**	⇓*eP*	**P**	**22 36 10.4**	**+0.1**
KHC				pmax	pmax			
	comp=Z,20nm,1.2s							
KHC	**Kasperske Hory**	**81.16**	**324**	IAmb	IAmb	22 36 11.6		
	comp=Z,9.9nm,1.2s							
KHC	**Kasperske Hory**	**81.16**	**324**	*eP*	**P**	**22 36 10.3**	**0.0**
O03E	**Paynes Creek**	**81.18**	**48**	P	**P**	**22 36 10.7**	**+0.1**
O03E				IAmb	IAmb	22 36 13.4		
	comp=Z,19nm,1.5s							
GEC2	**GERESS Array S**	**81.28**	**323**	IAmb	IAmb	22 36 14.3		
	comp=Z,9.7nm,1.2s							
GEC2	**GERESS Array S**	**81.28**	**323**	*eP*	**P**	**22 36 11.4**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=47,slow=5.2							
GERES	**GERESS Array B**	**81.28**	**323**	P	**P**	**22 36 11.2**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=48,slow=2.2,SNR=24							
GERES	**GERESS Array B**	**81.28**	**323**	P	**P**	**22 36 11.0**	**0.0**

MANZ	**Manzenberg**	**81.31**	**325**	*eP*	**P**	**22 36 11.4**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=47,slow=5.2							
ARSA	**Arzberg**	**81.37**	**321**	*i* P	**P**	**22 36 11.7**	**+0.3**
	comp=Z,10nm,1.2s							
ROTZ	**Rotzenmuhle**	**81.41**	**325**	*eP*	**P**	**22 36 11.9**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=47,slow=5.2							
FCC	**Fort Churchill**	**81.48**	**22**	IAmb	IAmb	22 36 15.6		
	comp=Z,5nm,1.4s							
WET	**Wettzell**	**81.49**	**324**	*eP*	**P**	**22 36 12.2**	**+0.2**
	baz=47,slow=5.2							
MOA	**Molln**	**81.64**	**322**	*i* P	**P**	**22 36 13.5**	**+0.6**
	comp=Z,8.6nm,1.1s							
IBBN	**Ibbenburen**	**81.73**	**329**	*eP*	**P**	**22 36 13.4**	**+0.2**
	comp=Z,10nm,0.8s,baz=47,slow=5.2							
LIT	**Litokhoron**	**81.75**	**313**	P	**P**			
LIT				pmax	pmax			
	comp=Z,6.0nm,0.9s							
LIT	**Litokhoron**	**81.75**	**313**	P	**P**	**22 36 12.6**	**-1.0**
LIT				IAmb	IAmb	22 36 13.6		
	comp=Z,5.9nm,0.9s							
UBBA	**Unterbreizbach**	**81.75**	**327**	*eP*	**P**	**22 36 13.4**	**+0.2**
	baz=47,slow=5.2							
ORV	**Oroville**	**81.80**	**48**	P	**P**	**22 36 13.1**	**-0.7**
ORV				pmax	pmax			
	comp=Z,4.0nm,1.2s							
ORV	**Oroville**	**81.80**	**48**	P	**P**	**22 36 13.1**	**-0.7**
FFC	**Flin Flon**	**81.80**	**28**	P	**P**	**22 36 13.4**	**-0.1**
FFC				pmax	pmax			
	comp=Z,4.0nm,0.9s							
FFC	**Flin Flon**	**81.80**	**28**	P	**P**	**22 36 13.4**	**-0.1**
GRA1	**Grafenberg Arr**	**81.94**	**325**	P	**P**	**22 36 14.7**	**+0.3**
GRF	**Grafenberg Arr**	**81.94**	**325**	P	**P**	**22 36 14.7**	**+0.3**
GRF				pmax	pmax			
	comp=Z,54nm,1.2s							
GRF	**Grafenberg Arr**	**81.94**	**325**	*eP*	**P**	**22 36 14.6**	**+0.2**
	comp=Z,16nm,0.9s,baz=47,slow=5.2							
HIZ	**Hauiti**	**81.94**	**147**	P	**P**	**22 36 14.8**	**+0.5**
GRFO	**Grafenberg**	**81.94**	**325**	P	**P**	**22 36 14.4**	**+0.1**
GRFO				pmax	pmax			
	comp=Z,63nm,1.3s							
GRFO	**Grafenberg**	**81.94**	**325**	P	**P**	**22 36 14.4**	**+0.1**
SOKA	**Soboth**	**82.00**	**321**	*i* P	**P**	**22 36 15.2**	**+0.3**
	comp=Z,26nm,1.5s,SNR=14							
BIOA	**Bad Ischl, Aus**	**82.06**	**323**	*i* P	**P**	**22 36 15.8**	**+0.7**
	comp=Z,18nm,1.3s							
KASTN	**Kahler Asten**	**82.21**	**328**	*eP*	**P**	**22 36 15.9**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=47,slow=5.2							
PDG	**Podgorica**	**82.30**	**316**	IAmb	IAmb	22 36 21.0		
	comp=Z,6.6nm,0.9s							
OBKA	**Obir**	**82.36**	**321**	*i* P	**P**	**22 36 17.0**	**+0.3**
	comp=Z,19nm,1.7s							
RJOB	**Jochberg**	**82.46**	**323**	*eP*	**P**	**22 36 17.5**	**+0.3**
	baz=47,slow=5.2							
KBN	**Korca**	**82.48**	**314**	IAmb	IAmb	22 36 17.0		
	comp=Z,8.3nm,0.5s							
KBA	**Koelnbreinsper**	**82.62**	**322**	*i* P	**P**	**22 36 17.3**	**-0.9**
	comp=Z,20nm,1.3s							
MYKA	**Terra Mystica**	**82.76**	**322**	*i* P	**P**	**22 36 19.3**	**+0.5**
	comp=Z,18nm,1.6s							
TNS	**Taunus Mts**	**82.88**	**327**	*eP*	**P**	**22 36 19.2**	**-0.1**
	comp=Z,7.6nm,0.9s,baz=47,slow=5.2							
FUR	**Furstenfeldbru**	**82.94**	**324**	*eP*	**P**	**22 36 19.6**	**-0.1**
	baz=47,slow=5.2							
PAHR	**Pah Rah Range**	**83.02**	**47**	P	**P**	**22 36 20.1**	**-0.3**
BKZ	**Black Stump Fm**	**83.23**	**146**	P	**P**	**22 36 20.1**	**-0.9**
ABTA	**Abfaltersbach**	**83.26**	**322**	*i* P	**P**	**22 36 20.6**	**-0.9**
	comp=Z,20nm,1.1s,SNR=9.8							
AHRW	**Bad Neuenahr-A**	**83.28**	**328**	*eP*	**P**	**22 36 21.5**	**+0.2**
	comp=Z,12nm,0.9s,baz=47,slow=5.2							
WATA	**Walderalm**	**83.35**	**323**	*i* P	**P**	**22 36 21.9**	**0.0**
	comp=Z,6.1nm,0.9s							
WTTA	**Wattenberg**	**83.36**	**323**	*i* P	**P**	**22 36 21.8**	**-0.3**
	comp=Z,12nm,1.0s,SNR=8.4							
DLMT	**Dillon**	**83.38**	**39**	P	**P**	**22 36 22.1**	**-0.1**
DLMT				IAmb	IAmb	22 36 25.6		
	comp=Z,6.8nm,1.0s							
STAL	**STALIGIAL**	**83.48**	**322**	P	**P**	**22 36 21.6**	**-0.9**
HLID	**Hailey**	**83.55**	**42**	P	**P**	**22 36 23.2**	**+0.1**
MOTA	**Moosalm**	**83.58**	**323**	*i* P	**P**	**22 36 22.8**	**-0.3**
	comp=Z,11nm,0.9s							
SQTA	**Samt Quirin**	**83.61**	**323**	*i* P	**P**	**22 36 22.9**	**-0.3**
	comp=Z,9.7nm,0.9s							
RETA	**Reutte**	**83.65**	**324**	*i* P	**P**	**22 36 23.7**	**+0.3**
	comp=Z,15nm,1.0s,SNR=6.6							
THZ	**Tophouse**	**83.71**	**150**	P	**P**	**22 36 22.7**	**-0.7**
ITM	**Ithomi**	**83.83**	**310**	P	**P**	**22 36 23.7**	**-0.7**
UBR	**Ueberruh**	**83.84**	**324**	*eP*	**P**	**22 36 24.2**	**-0.2**
	comp=Z,7.6nm,0.9s,baz=47,slow=5.2							
UBR				*epP*	sP	22 36 42.4	+13	
FOZ	**Fox Glacier**	**83.93**	**153**	P	**P**	**22 36 23.7**	**-0.7**
FETA	**Feichten**	**83.98**	**323**	*i* P	**P**	**22 36 25.0**	**-0.2**
	comp=Z,13nm,1.0s,SNR=6.1							
BSWZ	**Blackbirch Sta**	**84.09**	**149**	P	**P**	**22 36 23.9**	**-1.4**
KVN	**Kaiserville**	**84.21**	**47**	P	**P**	**22 36 27.1**	**+0.5**
KVN				pmax	pmax			
	comp=Z,10.0nm,1.2s							
KVN	**Kaiserville**	**84.21**	**47**	P	**P**	**22 36 27.1**	**+0.5**
KVN				IAmb	IAmb	22 36 30.1		
	comp=Z,10nm,1.2s							
DAVA	**Damuels**	**84.23**	**324**	*i* P	**P**	**22 36 26.7**	**+0.2**
	comp=Z,34nm,1.0s,SNR=12							
BFO	**Black Forest**	**84.26**	**326**	P	**P**	**22 36 26.0**	**-0.4**
BFO				pmax	pmax			
	comp=Z,24nm,0.9s							
BFO	**Black Forest**	**84.26**	**326**	P	**P**	**22 36 26.0**	**-0.4**
BFO	**Black Forest**	**84.26**	**326**	*eP*	**P**	**22 36 26.4**	**0.0**
	comp=Z,18nm,0.9s,baz=47,slow=5.2							
BFZ	**Birch Farm**	**84.31**	**147**	P	**P**	**22 36 27.4**	**+0.9**
WLF	**Walferdange**	**84.33**	**327**	*eP*	**P**	**22 36 27.0**	**+0.3**
	comp=Z,13nm,0.8s,baz=47,slow=5.2							
NVAR	**Mina Array Bea**	**84.46**	**47**	P	**P**	**22 36 27.9**	**0.0**
	comp=Z,1.5nm,0.7s,baz=292,slow=4.8,SNR=7.4							
NVAR	**Mina Array Bea**	**84.46**	**47**	P	**P**	**22 36 27.6**	**-0.3**
YHL	**Hebgen Lake**	**84.47**	**39**	P	**P**	**22 36 28.0**	**0.0**
YHL				IAmb	IAmb	22 36 31.6		
	comp=Z,5.3nm,1.2s							
RPZ	**Rata Peaks**	**84.57**	**152**	P	**P**	**22 36 27.0**	**-0.8**
	baz=270,slow=9.1							
GIVF	**Givet**	**84.60**	**328**	*eP*	**P**	**22 36 26.7**	**-1.4**
GIVF				pmax	pmax			
	comp=Z,28nm,1.3s							
OXZ	**Oxford**	**84.64**	**151**	P	**P**	**22 36 28.1**	**0.0**
CDF	**Champ du Feu**	**84.70**	**326**	*eP*	**P**	**22 36 27.8**	**-0.9**
CDF				pmax	pmax			
	comp=Z,46nm,1.4s							
PAGB	**Antelope Grade**	**84.86**	**51**	P	**P**	**22 36 30.0**	**+0.3**
HINF	**Hinteralfeld**	**85.32**	**326**	*eP*	**P**	**22 36 31.3**	**-0.5**
HINF				pmax	pmax			
	comp=Z,19nm,1.1s							
TPH	**Tonopah**	**85.35**	**47**	P	**P**	**22 36 32.4**	**0.0**
TPH				pmax	pmax			
	comp=Z,30nm,0.9s							
TPH	**Tonopah**	**85.35**	**47**	P	**P**	**22 36 32.4**	**0.0**
HAU	**Haudompre**	**85.42**	**326**	*eP*	**P**	**22 36 31.0**	**-1.3**
HAU				pmax	pmax			
	comp=Z,21nm,1.3s							
MURB	**Monte Urbino**	**85.58**	**320**	P	**P**	**22 36 34.2**	**+1.0**
SENIN	**Lac Senin/Sane**	**86.14**	**325**	IAmb	IAmb	22 36 43.9		
	comp=Z,17nm,1.4s							
CABF	**La Chapelle**	**86.55**	**325**	*eP*	**P**	**22 36 36.6**	**-1.4**
CABF				pmax	pmax			
	comp=Z,62nm,1.8s							
PDAR	**Pinedale Array**	**86.75**	**40**	P	**P**	**22 36 38.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=304,slow=0.5,SNR=9.2							
LPL	**La Plagne**	**87.02**	**324**	*eP*	**P**	**22 36 39.1**	**-1.4**
LPL				pmax	pmax			
	comp=Z,8.0nm,0.7s							
LPG	**La Plagne**	**87.03**	**324**	*eP*	**P**	**22 36 39.3**	**-1.3**
LPG				pmax	pmax			
	comp=Z,8.0nm,0.7s							
LOR	**Lormes**	**87.12**	**327**	*eP*	**P**	**22 36 39.1**	**-1.5**
LOR				pmax	pmax			
	comp=Z,20nm,1.5s							
MBDF	**Montbardon**	**87.57**	**324**	*eP*	**P**	**22 36 40.9**	**-2.1**
MBDF				pmax	pmax			
	comp=Z,20nm,1.4s							
SMF	**Signal de Mont**	**87.58**	**327**	*eP*	**P**	**22 36 42.3**	**-0.6**
SMF				pmax	pmax			
	comp=Z,21nm,1.4s							
ULM	**Lac du Bonnet**	**87.63**	**28**	P	**P**	**22 36 42.1**	**-0.9**
	comp=Z,6.4nm,0.8s,baz=299,slow=4.3,SNR=5.2							
ULM	**Lac du Bonnet**	**87.63**	**28**	IAmb	IAmb	22 36 45.2		
	comp=Z,10.0nm,0.9s							
AVF	**Avril sur Loir**	**87.70**	**327**	*eP*	**P**	**22 36 42.0**	**-1.4**
AVF				pmax	pmax			
	comp=Z,36nm,1.6s							

SSB	**Saint Sauveur**	**88.26**	**325**	IAmb	IAmb	22 36 46.6		
	comp=Z,8.6nm,0.9s							
P18A	**Preston Nutter**	**88.49**	**42**	P	**P**	**22 36 48.3**	**+0.6**
P18A				IAmb	IAmb	22 36 51.4		
	comp=Z,6.6nm,1.0s							
VIVF	**Saint-Julien-l**	**88.50**	**325**	*eP*	**P**	**22 36 45.7**	**-1.6**
VIVF				pmax	pmax			
	comp=Z,11nm,1.0s							
TCF	**Toulx Ste Croi**	**88.60**	**327**	*eP*	**P**	**22 36 46.4**	**-1.4**
TCF				pmax	pmax			
	comp=Z,13nm,1.2s							
MFF	**Saint Martin d**	**89.42**	**329**	*eP*	**P**	**22 36 51.3**	**-0.3**
MFF				pmax	pmax			
	comp=Z,111nm,2.4s							
RJF	**Les Rejaudoux**	**89.66**	**327**	*eP*	**P**	**22 36 51.6**	**-1.1**
RJF				pmax	pmax			
	comp=Z,48nm,1.6s							
CAF	**Calviac**	**89.69**	**326**	*eP*	**P**	**22 36 52.0**	**-0.9**
CAF				pmax	pmax			
	comp=Z,12nm,1.0s							
LFF	**La Frestale**	**90.30**	**327**	*eP*	**P**	**22 36 55.6**	**-0.1**
LFF				pmax	pmax			
	comp=Z,11nm,1.0s							
PV13	**Radium Mtn., P**	**90.31**	**43**	P	**P**	**22 36 56.4**	**+0.2**
ESDC	**Sonseca Array**	**96.58**	**326**	P	**P**	**22 37 23.8**	**-1.1**
	comp=Z,1.2nm,1.0s,baz=25,slow=4.2,SNR=6.0							
TXAR	**Lajitas Array**	**99.55**	**46**	P	**Pdif**	**22 37 38.0**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=14,slow=0.5,SNR=3.5							
TXAR	**Lajitas Array**	**99.55**	**46**	P	**Pdif**	**22 37 38.0**	**-0.4**

JMA 15 22:24:34.4, 32°.79N×130°.78E, h15$^{km}_{\pm}$1km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.24**	**173**	P	Pg	22 24 39.9	+0.2
JIU3				S	Sg	22 24 43.6	+0.3
JTA	**Tamana**	**0.27**	**310**	P	Pg	22 24 40.1	-0.1
JTA				*eS*	Sg	22 24 44.2	0.0
JNU	**Nakatsue**	**0.34**	**14**	P	Pg	22 24 41.5	0.0
JNU				*eS*	Sg	22 24 46.1	-0.2

JMA 15 22:41:59.6, 33°.29N×131°.45E, h7$^{km}_{\pm}$1km, M2.1, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.06**	**322**	P	Pg	22 42 01.4	+0.1
JUS	**Usuki**	**0.34**	**131**	*eS*	Sg	22 42 10.7	+0.1
JKI	**Kunimi**	**0.36**	**16**	P	Pg	22 42 06.5	-0.1
JKI				*eS*	Sg	22 42 11.7	+0.4

*IDC **15** 22:42:31.0±0.7, 32°.68N×130°.72E, h0^{km}, mb3.9/17, mb1 4.0/19, mb1mx3.9/44, mbtmp3.9/19, ML3.0/2, MS3.6/3, Ms1 3.6/3, ms1mx2.9/99, Error ellipse: s-maj=18.4km s-min=7.4km az=111.0*

*JMA **15** 22:42:33.2, 32°.78N×130°.74E, h11$^{km}_{\pm}$1km, M4.2*

JMA Felt IV J1.

*NIED **15** 22:42:33.2, 32°.78N×130°.74E, h11^{km}, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.71; $M_{\theta\theta}$1.62; $M_{\phi\phi}$0.10; $M_{r\theta}$-0.17; $M_{\theta\phi}$-1.24; $M_{\phi r}$-0.78; Fault plane solution: $M_0$2.22000×10^{15} NP1:ϕ_s95.00000°, δ48.00000°,λ-127.00000°. NP2:ϕ_s323.00000°, δ54.00000°,λ-56.00000°.*

*NEIC **15** 22:42:33.6±1.4, 32°.79N±0°.03×130°.65E±0°.05, h10$^{km}_{\pm}$1km, mb4.4/34, Mwr4.1/11 Error ellipse: s-maj=7.3km s-min=4.5km az=93.0*

*NEIC **15** 22:42:34, 32°.81N×130°.65E, h16^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.53; $M_{\theta\theta}$0.61; $M_{\phi\phi}$-1.14; $M_{r\theta}$0.69; $M_{\theta\phi}$-1.34; $M_{\phi r}$-0.67; Fault plane solution: $M_0$1.92000×10^{15} NP1:ϕ_s168.29000°, δ72.23000°,λ29.87000°. NP2:ϕ_s68.34000°,δ61.69000°, λ159.71000°. Principal axes: T 1.9444, Plg33.0000°, Azm31.0000°; N -0.0505, Plg56.0000°, Azm196.0000°; P -1.8939, Plg7.0000°, Azm296.0000°;*

**ISC 15 22:42:33.9±0.9, 32°.77N±0°.03×130°.67E±0°.04, h14$^{km}_{\pm}$5

WMQ	**Urumqi**	**35.13**	**301**	*e*P	**P**	**22 49 28.5**	**+1.5**
WMQ				pP	sP	22 49 35.1	+2.0
WMQ				pmax	pmax		
	comp=Z,11nm,0.8s						
ZALV	**Zalesovo Beam**	**38.61**	**317**	P	**P**	**22 49 55.6**	**-0.8**
MK31	**Makanchi Array**	**39.11**	**305**	P	**P**	**22 50 00.8**	**0.0**
MKAR	**Makanchi Array**	**39.11**	**305**	P	**P**	**22 50 00.9**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=92,slow=11,SNR=8.3						
MKAR	**Makanchi Array**	**39.11**	**305**	P	**P**	**22 50 00.7**	**-0.1**
PBA	**Port Blair**	**40.61**	**248**	P	**P**	**22 50 12.6**	**-0.8**
BILL	**Bilibino**	**40.82**	**20**	P	**P**	**22 50 16.0**	**+1.4**
KURK	**Kurchatov**	**41.82**	**311**	P	**P**	**22 50 22.8**	**-0.3**
KURK				IAmb	IAmb	22 50 24.1	
	comp=Z,4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**41.87**	**311**	P	**P**	**22 50 23.7**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=98,slow=8.9,SNR=19						
PSI	**Prapat**	**42.12**	**232**	LR	LR	23 10 27.0	
	comp=Z,235nm,18.2s,baz=332,slow=40						
TARG	**Taragay, Kyrgy**	**42.44**	**298**	P	**P**	**22 50 28.2**	**-0.7**
KDJ	**Kajisay**	**42.87**	**299**	P	**P**	**22 50 30.4**	**-1.6**
NRIK	**Noril'sk**	**43.79**	**339**	P	**P**	**22 50 39.0**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=15,slow=12,SNR=5.8						
NRIK	**Noril'sk**	**43.79**	**339**	P	**P**	**22 50 38.7**	**-0.1**
NRIK				IAmb	IAmb	22 50 39.7	
	comp=Z,2.8nm,0.8s						
GSI	**Gunungsitoli**	**44.12**	**232**	P	**P**	**22 50 42.4**	**+0.3**
GSI				IAmb	IAmb	22 50 50.4	
	comp=Z,7.4nm,1.0s						
AAK	**Ala-Archa**	**44.80**	**300**	P	**P**	**22 50 47.2**	**-0.2**
AAK				IAmb	IAmb	22 50 48.9	
	comp=Z,2.7nm,0.9s						
BRVK	**Borovoye**	**47.09**	**314**	P	**P**	**22 51 05.5**	**+0.3**
BRVK				IAmb	IAmb	22 51 06.5	
	comp=Z,4.3nm,0.8s						
KK31	**Karatay Array**	**47.64**	**301**	P	**P**	**22 51 09.7**	**+0.1**
KKAR	**Karatay Array**	**47.64**	**301**	P	**P**	**22 51 09.6**	**0.0**
GAR	**Garm**	**48.52**	**295**	P	**P**	**22 51 16.4**	**-0.2**
GAR				IAmb	IAmb	22 51 32.4	
	comp=Z,3.1nm,0.9s						
TNA	**Tin City**	**48.88**	**29**	P	**P**	**22 51 19.7**	**+0.9**
CHGR	**Chuyangaron**	**49.48**	**295**	P	**P**	**22 51 23.4**	**-0.6**
CHGR				IAmb	IAmb	22 51 25.9	
	comp=Z,7.6nm,0.8s						
ANM	**Nome**	**49.79**	**31**	P	**P**	**22 51 26.4**	**+0.6**
ANM				IAmb	IAmb	22 51 30.5	
	comp=Z,9.1nm,1.2s						
KBL	**Kabul**	**50.61**	**290**	P	**P**	**22 51 32.6**	**-0.2**
WRA	**Warramunga Arr**	**52.53**	**176**	P	**P**	**22 51 45.5**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=355,slow=7.7,SNR=3.8						
ARU	**Arti**	**53.72**	**319**	P	**P**	**22 51 54.8**	**-0.5**
ARU				IAmb	IAmb	22 51 56.7	
	comp=Z,4.0nm,0.9s						
ABKAR	**Akbulak array**	**53.90**	**310**	P	**P**	**22 51 56.2**	**-0.5**
ABKAR	**Akbulak array**	**53.90**	**310**	P	**P**	**22 51 56.7**	**0.0**
ABKAR				IAmb	IAmb	22 51 57.4	
	comp=Z,1.6nm,0.7s						
AS31	**Alice Springs**	**56.20**	**176**	P	**P**	**22 52 13.4**	**-0.1**
ASAR	**Alice Springs**	**56.20**	**176**	P	**P**	**22 52 12.7**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=11,slow=13,SNR=6.7						
ILAR	**Eielson Array**	**57.71**	**30**	P	**P**	**22 52 23.2**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=300,slow=7.2,SNR=1.9						
J25K	**Salcha River,**	**58.38**	**30**	P	**P**	**22 52 28.8**	**+0.2**
MNCI	**Minicoy**	**58.41**	**259**	P	**P**	**22 52 29.0**	**-0.4**
INK	**Inuvik**	**62.07**	**25**	P	**P**	**22 52 53.4**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=252,slow=5.9,SNR=2.1						
STKA	**Stephens Creek**	**65.12**	**170**	P	**P**	**22 53 11.9**	**-2.2**
	comp=Z,1.5nm,0.7s,baz=323,slow=15,SNR=1.8						
KBZ	**Khabaz**	**66.75**	**308**	P	**P**	**22 53 23.8**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=36,slow=6.6,SNR=4.5						
FINES	**FINESS Array B**	**68.26**	**330**	P	**P**	**22 53 33.3**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=69,slow=6.6,SNR=24						
YKA	**Yellowknife Ar**	**71.73**	**26**	P	**P**	**22 53 54.3**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=306,slow=5.8,SNR=4.2						
AKASG	**Malin Array Be**	**71.97**	**319**	P	**P**	**22 53 55.4**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=51,slow=5.9,SNR=4.9						
NOA	**NORSAR Array B**	**74.40**	**334**	P	**P**	**22 54 10.4**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=49,slow=5.6,SNR=2.4						
BRTR	**Keskin Array B**	**74.73**	**307**	P	**P**	**22 54 14.2**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=79,slow=6.4,SNR=10						
ELL	**Elmali**	**78.78**	**306**	P	**P**	**22 54 35.7**	**-0.8**
L04D	**Klamath Falls**	**79.78**	**46**	P	**P**	**22 54 42.2**	**+0.3**
L04D				IAmb	IAmb	22 55 00.4	
	comp=Z,2.6nm,0.9s						
CLL	**Collm**	**79.99**	**326**	P	**P**	**22 54 41.3**	**-1.3**
CLL				IAmb	IAmb	22 54 44.0	
	comp=Z,6.5nm,1.0s						
RONA	**Rosalia, Austr**	**80.66**	**321**	*i* P	**P**	**22 54 47.0**	**+0.7**
	comp=Z,4.8nm,1.1s						
CONA	**Conrad Observa**	**80.74**	**322**	*i* P	**P**	**22 54 48.0**	**+1.1**
	comp=Z,3.9nm,1.0s						
GERES	**GERESS Array B**	**81.26**	**323**	P	**P**	**22 54 49.7**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=45,slow=2.1,SNR=6.4						
ARSA	**Arzberg**	**81.35**	**321**	*i* P	**P**	**22 54 50.7**	**+0.6**
	comp=Z,2.4nm,0.7s						
SOKA	**Soboth**	**81.97**	**321**	*e*P	**P**	**22 54 52.9**	**-0.5**
	comp=Z,4.6nm,0.9s						
YERR	**Yerington**	**83.57**	**47**	P	**P**	**22 55 02.0**	**-0.1**
YERR				IAmb	IAmb	22 55 04.7	
	comp=Z,7.9nm,1.2s						
FETA	**Feichten**	**83.96**	**323**	*e*P	**P**	**22 55 03.5**	**-0.3**
	comp=Z,4.4nm,1.1s						
CTI	**Castel Tesino**	**84.15**	**322**	P	**P**	**22 55 03.4**	**-1.3**
CTI				IAmb	IAmb	22 55 05.2	
	comp=Z,2.7nm,0.8s						
DAVA	**Damuels**	**84.20**	**324**	*i* P	**P**	**22 55 05.1**	**0.0**
	comp=Z,6.2nm,0.9s						
BFO	**Black Forest**	**84.24**	**325**	P	**P**	**22 55 05.0**	**0.0**
BFO				IAmb	IAmb	22 55 06.1	
	comp=Z,5.1nm,0.8s						

NIED ***15*** *22:49:25.6,32.°97N×131.°11E,h10km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}4.80; $M_{\theta\theta}$1.67; $M_{\phi\phi}$-6.48; $M_{r\theta}$-1.62; $M_{\theta\phi}$4.55; $M_{\phi r}$-3.38; Fault plane solution: $M_0$8.18000×10^{14} NP1: ϕ_s303.00000°,δ47.00000°,λ36.00000°. NP2: ϕ_s186.00000°,δ65.00000°,λ131.00000°.*

JMA 15 22:49:25.5,32.°97N×131.°11E,h10km±1km,M3.6,1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.25**	**308**	⇑P	Pg	22 49 30.7	+0.1
JNU				S	Sg	22 49 34.2	+0.2
JTA	**Tamana**	**0.48**	**269**	⇓P	Pg	22 49 35.0	0.0
JTA				S	Sg	22 49 41.4	0.0
JIU3	**Izumi3**	**0.49**	**211**	P	Pg	22 49 35.1	+0.1
JUS	**Usuki**	**0.55**	**80**	P	Pg	22 49 36.0	-0.1
JUS				S	Sg	22 49 43.9	+0.6

IDC ***15*** *22:55:17.6±3.4, 13.°48N×92.°26W,h0km,mb3.7/6, mb1 3.9/8,mb1mx3.7/39,mbtmp3.6/8,ML3.4/2,MS4.0/1, Ms1 4.0/1,ms1mx2.8/70,Error ellipse: s-maj=120.1km s-min=25.6km az=35.0*

GCG ***15*** *22:55:19.2±1.4, 13.°66N×92.°68W,h14km±204km,MD4.0*

MEX ***15*** *22:55:20.0±1.2, 13.°58N×92.°29W,h130km±40km,MD4.1*

NEIC ***15*** *22:55:23.8±2.1, 13.°64N±0.°08×92.°20W±0.°09, h37km±10km, mb4.2/38,Error ellipse: s-maj=14.6km s-min=9.0km az=223.0*

ISC 15 22:55:20.2±2.1,13.°61N±0.°07×92.°34W±0.°07,h16km±11km, n76,σ1§21/87,mb4.2/22,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**1.11**	**34**		**Pg**	**22 55 43.2**	**+1.6**
THIG		**1.30**	**3**	*i* P	**Pg**	**22 55 44.5**	**-0.7**
THIG				*i* S	**Sg**	**22 56 03.8**	**+1.7**
STG3	**Santiaguito 3,**	**1.33**	**34**	*e*P	**Pg**	**22 55 46.2**	**+0.3**
STG3				*e*S	**Sg**	**22 56 06.7**	**+3.5**
CHUJ	**Union Juarez**	**1.50**	**9**	*e*P	**Pb**	**22 55 47.0**	**-0.7**
CHUJ				*i* S	**Sg**	**22 56 07.5**	**-1.1**
PATR	**El Naranjo**	**1.50**	**4**	*e*P	**Pb**	**22 55 47.2**	**-0.7**
PATR				*i* S	**Sg**	**22 56 08.8**	**-0.1**
PAVE	**Pavencul**	**1.59**	**6**	*e*P	**Pb**	**22 55 48.5**	**-0.7**
PAVE				*i* S	**Sg**	**22 56 11.0**	**-0.4**
FUG	**Fuego 3**	**1.68**	**60**	*e*P	**Pg**	**22 55 50.9**	**-1.6**
FUG				*e*S	**Sg**	**22 56 17.2**	**+2.8**
NBG	**Las Nubes**	**2.17**	**63**	*e*P	**Pg**	**22 55 59.8**	**-2.0**
NBG				*e*S	**Sg**	**22 56 31.5**	**+1.5**
PCIG		**2.25**	**338**	*e*P	**Pn**	**22 55 56.4**	**-0.3**
PCIG				*i* S	**Sn**	**22 56 24.5**	**+0.3**
CCIG	**Comitan**	**2.67**	**4**	Pn	**Pn**	**22 56 03.2**	**+0.5**
CCIG				Sn	**Sn**	**22 56 34.6**	**-0.1**
CCIG	**Comitan**	**2.67**	**4**	*e*P	**Pb**	**22 56 05.7**	**-2.0**
CCIG				*e*S	**Sb**	**22 56 39.1**	**-1.2**
MTO3	**Montecristo**	**3.00**	**74**	Pn	**Pn**	**22 56 05.3**	**-1.9**
ESQI	**Esquipulas**	**3.06**	**72**	Pn	**Pn**	**22 56 05.0**	**-3.0**
TGIG		**3.24**	**347**	*e*P	**Pn**	**22 56 11.9**	**+1.4**
TGIG				*e*S	**Sn**	**22 56 50.1**	**+1.3**
PETF	**Flores**	**4.07**	**36**	Pn	**Pn**	**22 56 19.2**	**-2.6**
CMIG	**Matias Romero**	**4.25**	**325**	Pn	**Pn**	**22 56 23.9**	**-0.3**
	1.1nm,0.3s,baz=174,slow=11,SNR=12						
CMIG				Sn	**Sn**	**22 57 12.8**	**-0.6**
	3.3nm,0.3s,baz=107,slow=15,SNR=9.0						
TGUH	**Tegucigalpa,Un**	**4.94**	**84**	Pn	**Pn**	**22 56 32.7**	**-1.2**
CRIN	**San Cristobal**	**5.23**	**99**	Pn	**Pn**	**22 56 36.3**	**-1.5**
CNGN	**Cerro Negro**	**5.61**	**101**	Pn	**Pn**	**22 56 40.8**	**-2.2**
MATN	**Matagalpa**	**6.28**	**95**	Pn	**Pn**	**22 56 50.0**	**-2.3**
BOAB	**BOACO BROADBAN**	**6.61**	**99**	Pn	**Pn**	**22 56 56.5**	**-0.2**
HZTE	**Horizontes, Gu**	**7.20**	**113**	Pn	**Pn**	**22 57 03.8**	**-1.0**
ORTG	**Ortega, Santa**	**7.46**	**115**		**Pn**	**22 57 08.9**	**+0.3**
DUNO	**Dulce Nombre,**	**7.56**	**117**	Pn	**Pn**	**22 57 09.9**	**+0.1**
JTS	**Las Juntas de**	**7.95**	**114**	Pn	**Pn**	**22 57 15.9**	**+0.8**
RIMA	**Rio Macho**	**9.14**	**114**	Pn	**Pn**	**22 57 32.6**	**+0.9**
SRBA	**San Rafael, Bu**	**9.82**	**115**		**Pn**	**22 57 41.7**	**+0.8**
DRK0	**Durika**	**9.90**	**115**	Pn	**Pn**	**22 57 41.9**	**-0.3**
CDITO	**Canoas**	**10.55**	**117**	Pn	**Pn**	**22 57 51.6**	**+0.7**
BRU2	**Volcan**	**10.61**	**116**	Pn	**Pn**	**22 57 52.5**	**+0.8**
833A	**Chaparral WMA,**	**16.05**	**337**	Pn	**Pn**	**22 59 05.4**	**+0.1**
344A	**Westbrook Farm**	**17.82**	**4**		**Pn**	**22 59 27.1**	**-0.5**
344A				IAmb	IAmb	22 59 36.6	
	comp=Z,61nm,1.5s						
ZARC	**Zaragoza, Cauc**	**18.22**	**108**		**Pn**	**22 59 31.6**	**-1.0**
TXAR	**Lajitas Array**	**18.85**	**328**	P	**Pn**	**22 59 41.0**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=141,slow=8.1,SNR=5.7						
TX31	**Lajitas Ar. Si**	**18.85**	**328**	P	**Pn**	**22 59 40.6**	**+0.4**
TX32	**Lajitas Array**	**18.85**	**328**	P	**Pn**	**22 59 40.9**	**+0.6**
Z47A	**Carrollton**	**19.89**	**11**	P	**Pn**	**22 59 51.6**	**-1.0**
Z47A				IAmb	IAmb	22 59 54.7	
	comp=Z,28nm,1.1s						
ABTX	**Abilene, Hawle**	**20.07**	**342**	P	**P**	**22 59 54.1**	**+1.1**
ABTX				IAmb	IAmb	22 59 57.1	
	comp=Z,8.2nm,0.7s						
X48A	**Hartselle**	**21.30**	**12**	P	**P**	**23 00 06.7**	**+0.5**
X48A				IAmb	IAmb	23 00 08.9	
	comp=Z,17nm,1.2s						
SDV	**Santo Domingo**	**21.80**	**100**	P	**P**	**23 00 10.6**	**-1.3**
	comp=Z,5.2nm,0.8s,baz=240,slow=2.5,SNR=6.6						
SDV	**Santo Domingo**	**21.80**	**100**	P	**P**	**23 00 11.3**	**-0.6**
SDV				IAmb	IAmb	23 00 22.6	
	comp=Z,9.0nm,0.9s						
HHAR	**Hobbs**	**22.62**	**357**	P	**P**	**23 00 20.2**	**-0.2**
HHAR				IAmb	IAmb	23 00 26.3	
	comp=Z,7.4nm,1.0s						
BIRD	**Birdtown, Kers**	**23.55**	**25**	P	**P**	**23 00 30.7**	**+0.9**
BIRD				IAmb	IAmb	23 00 30.8	
	comp=Z,4.9nm,0.9s						
U49A	**Red Boiling Sp**	**23.56**	**13**	P	**P**	**23 00 30.4**	**+0.4**
U49A				IAmb	IAmb	23 00 31.8	
	comp=Z,10nm,0.8s						
319A	**Douglas**	**23.56**	**321**	P	**P**	**23 00 31.1**	**+0.9**
S44A	**Carbondale**	**24.15**	**6**	P	**P**	**23 00 35.3**	**-0.2**
SIUC	**Southern Illin**	**24.17**	**6**	P	**P**	**23 00 35.3**	**-0.4**
SIUC				IAmb	IAmb	23 00 38.3	
	comp=Z,11nm,0.8s						
BAUV	**El Baul**	**24.27**	**98**	P	**P**	**23 00 36.7**	**-0.2**
ANMO	**Albuquerque**	**24.78**	**331**	P	**P**	**23 00 42.7**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=151,slow=13,SNR=2.3						
SDCO	**Great Sand Dun**	**26.75**	**336**	P	**P**	**23 00 59.8**	**+0.4**
PV13	**Radium Mtn., P**	**28.50**	**332**	P	**P**	**23 01 15.9**	**+0.8**
PV11	**David Mesa, Pa**	**28.64**	**332**	P	**P**	**23 01 18.5**	**+2.2**
PV11				IAmb	IAmb	23 01 27.3	
	comp=Z,8.9nm,1.3s						
L44A	**Lake County Fo**	**28.73**	**7**	P	**P**	**23 01 16.6**	**-0.1**
Q16A	**Castle Valley**	**30.21**	**330**	P	**P**	**23 01 30.0**	**-0.3**
Q16A				IAmb	IAmb	23 01 36.1	
	comp=Z,11nm,1.4s						
TMUT	**Trail Mountain**	**30.53**	**330**	P	**P**	**23 01 32.3**	**-0.9**
TMUT				IAmb	IAmb	23 01 51.3	
	comp=Z,4.1nm,1.2s						
SHPR	**Sheep Range**	**30.62**	**322**	P	**P**	**23 01 33.0**	**-0.9**
SHPR				IAmb	IAmb	23 01 34.2	
	comp=Z,5.4nm,1.4s						
LUPA	**Lehigh Univers**	**30.72**	**26**	P	**P**	**23 01 34.3**	**-0.2**
GWY	**Greenwater Val**	**31.34**	**320**	P	**P**	**23 01 40.4**	**+0.3**
PD31	**Pinedale Array**	**32.64**	**336**	P	**P**	**23 01 52.6**	**+1.0**
PDAR	**Pinedale Array**	**32.64**	**336**	P	**P**	**23 01 53.5**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=121,slow=4.4,SNR=1.9						
PDAR	**Pinedale Array**	**32.64**	**336**	P	**P**	**23 01 52.8**	**+1.1**
REDW	**Red Top Meadow**	**33.66**	**335**	P	**P**	**23 02 00.1**	**-0.4**
REDW				IAmb	IAmb	23 02 03.6	
	comp=Z,6.9nm,1.2s						
SNOW	**Snow King Moun**	**33.70**	**336**	P	**P**	**23 02 01.7**	**+0.8**
LOHW	**Long Hollow**	**33.77**	**336**	P	**P**	**23 02 01.8**	**+0.4**
LOHW				IAmb	IAmb	23 02 04.3	
	comp=Z,5.1nm,1.5s						
NVAR	**Mina Array Bea**	**33.77**	**322**	P	**P**	**23 02 03.7**	**+2.1**
	comp=Z,1.4nm,0.9s,baz=157,slow=8.0,SNR=5.0						
NVAR	**Mina Array Bea**	**33.77**	**322**	P	**P**	**23 02 03.0**	**+1.5**
TPAW	**Teton Pass**	**33.80**	**335**	P	**P**	**23 02 02.2**	**+0.3**
TPAW				IAmb	IAmb	23 02 19.7	
	comp=Z,7.0nm,1.5s						
MOOW	**Moose Ponds**	**33.94**	**336**	P	**P**	**23 02 03.2**	**+0.2**
MOOW				IAmb	IAmb	23 02 16.5	
	comp=Z,3.6nm,1.5s						
BMN	**Battle Mountai**	**34.48**	**325**	P	**P**	**23 02 08.9**	**+1.3**
BMN				IAmb	IAmb	23 02 11.2	
	comp=Z,1.5nm,0.7s						
BMO	**Blue Mountains**	**37.70**	**331**	P	**P**	**23 02 34.1**	**-0.9**
MSO	**Missoula**	**37.75**	**336**	P	**P**	**23 02 35.6**	**+0.1**
MSO				IAmb	IAmb	23 02 46.6	
	comp=Z,6.3nm,1.4s						
WALA	**Waterton Lakes**	**39.57**	**338**	P	**P**	**23 02 50.1**	**-0.6**
WALA				IAmb	IAmb	23 02 51.4	
	comp=Z,3.8nm,1.3s						
YKA	**Yellowknife Ar**	**51.33**	**347**	P	**P**	**23 04 24.6**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=150,slow=7.7,SNR=20						
RCBR	**Riachuelo**	**59.26**	**105**	LR	LR	23 32 45.7	
	comp=Z,137nm,20.0s,baz=158,slow=38						
ILAR	**Eielson Array**	**63.07**	**337**	P	**P**	**23 05 46.6**	**+0.2**
	comp=Z,1.7nm,1.2s,baz=101,slow=4.8,SNR=6.5						
CMAR	**Chiang Mai Arr**	**146.25**	**340**	PKPbc	**PKPdf**	**23 15 00.2**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=332,slow=3.0,SNR=6.1						

NEIC ***15*** *22:57:19.9±1.8, 7.°4N±0.°1×123.°9E±0.°1, h607km±10km, mb4.4/28,Error ellipse: s-maj=21.2km s-min=14.1km az=46.0*

IDC ***15*** *22:57:20.9±1.4, 7.°28N×123.°85E, h622km±17km,mb3.1/11, mb1 3.2/12,mb1mx2.8/46,mbtmp4.2/12,Error ellipse: s-maj=35.5km s-min=8.0km az=63.0*

ISC 15 22:57:18.8±0.5,7.°35N±0.°09×123.°9E±0.°1,h600km,n49, σ1§02/56,mb4.2/21,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYLDM	**Lahad Datu**	**5.75**	**248**	P	**P**	**22 58 58.8**	**+0.8**
TOLI2	**Tolitoli**	**6.92**	**207**	P	**P**	**22 59 07.5**	**-0.7**
KKM	**Kota Kinabalu**	**7.71**	**261**	P	**P**	**22 59 14.0**	**-1.6**
SIJI	**Sorong**	**11.01**	**138**	P	**P**	**22 59 49.5**	**+1.8**
	3.7nm,0.3s,baz=330,slow=15,SNR=8.2						
SBUM	**Sibu**	**12.58**	**248**	P	**P**	**23 00 03.5**	**0.0**
TPUB	**Ta-pu**	**16.16**	**349**	P	**P**	**23 00 37.4**	**-0.3**
TPUB				IAmb	IAmb	23 00 38.7	
	comp=Z,36nm,1.0s						
UBPT	**Khong Chiam**	**19.67**	**295**	P	**P**	**23 01 10.2**	**+0.4**
UBPT				IAmb	IAmb	23 01 14.0	
	comp=Z,27nm,1.9s						
FITZ	**Fitzroy Crossi**	**25.34**	**176**	P	**P**	**23 02 00.5**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=1.1,slow=8.0,SNR=15						
FITZ	**Fitzroy Crossi**	**25.34**	**176**	P	**P**	**23 02 00.5**	**+0.3**
FITZ				IAmb	IAmb	23 02 04.8	
	comp=Z,17nm,1.9s						
CMAR	**Chiang Mai Arr**	**26.65**	**297**	P	**P**	**23 02 13.0**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=109,slow=6.9,SNR=20						
CHTO	**Chiang Mai**	**26.78**	**298**	P	**P**	**23 02 13.2**	**+0.5**
CHTO				IAmb	IAmb	23 02 14.3	
	comp=Z,3.7nm,0.7s						
GSI	**Gunungsitoli**	**26.88**	**258**	P	**P**	**23 02 13.2**	**-0.6**
GSI				IAmb	IAmb	23 02 13.9	
	comp=Z,7.7nm,0.5s						
COEN	**Coen**	**28.55**	**138**	P	**P**	**23 02 28.2**	**-0.1**
WB0	**Warramunga Arr**	**28.87**	**159**	P	**P**	**23 02 31.2**	**+0.2**
WB0				IAmb	IAmb	23 03 31.7	
	comp=Z,14nm,1.6s						
WRA	**Warramunga Arr**	**29.01**	**159**	P	**P**	**23 02 32.5**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=331,slow=11,SNR=43						
WRA				PcP	**PcP**	**23 05 21.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=332,slow=2.6,SNR=2.8						
WRA				S	**S**	**23 06 39.9**	**-2.8**
	comp=Z,1.4nm,1.0s,baz=339,slow=15,SNR=6.0						
WRA				ScP	**ScP**	**23 08 05.2**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=342,slow=3.1,SNR=5.6						
WB2	**Warramunga Arr**	**29.02**	**159**	P	**P**	**23 02 32.6**	**+0.3**
WB2				IAmb	IAmb	23 02 33.1	
	comp=Z,5.2nm,0.5s						
WR0	**Warramunga Arr**	**29.10**	**159**	P	**P**	**23 02 33.1**	**+0.2**
WR0				IAmb	IAmb	23 03 49.5	
	comp=Z,33nm,2.0s						
AS31	**Alice Springs**	**32.35**	**163**	P	**P**	**23 03 01.9**	**+1.3**
AS31				IAmb	IAmb	23 03 02.2	
	comp=Z,2.5nm,0.3s						
ASAR	**Alice Springs**	**32.35**	**163**	P	**P**	**23 03 01.8**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=341,slow=7.2,SNR=83						
ASAR				PcP	**PcP**	**23 05 30.4**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=344,slow=2.6,SNR=11						
ASAR				S	**S**	**23 07 33.0**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=348,slow=18,SNR=10						
ASAR				ScP	**ScP**	**23 08 15.0**	**-2.6**
	comp=Z,0.3nm,0.5s,baz=348,slow=3.4,SNR=2.4						
BBOO	**Buckleboo**	**41.59**	**164**	P	**P**	**23 04 16.8**	**+0.9**
STKA	**Stephens Creek**	**42.52**	**157**	P	**P**	**23 04 24.1**	**+0.9**
	comp=Z,0.7nm,0.2s,baz=340,slow=15,SNR=2.8						
MARNC	**Mare, Loyalty**	**51.94**	**125**	P	**P**	**23 05 32.1**	**-1.6**
MK31	**Makanchi Array**	**52.98**	**325**	P	**P**	**23 05 41.6**	**+0.8**
MKAR	**Makanchi Array**	**52.98**	**325**	P	**P**	**23 05 41.7**	**+1.0**
	comp=Z,2.7nm,0.3s,baz=120,slow=7.4,SNR=89						
MKAR				PcP	**PcP**	**23 06 39.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=110,slow=4.9,SNR=2.5						
MKAR	**Makanchi Array**	**52.98**	**325**	P	**P**	**23 05 41.5**	**+0.7**
MAKZ	**Makanchi**	**53.16**	**325**	P	**P**	**23 05 42.6**	**+0.6**
KDJ	**Kajisay**	**53.77**	**318**	P	**P**	**23 05 47.9**	**+1.2**
BOOM	**Boomskoye usch**	**54.75**	**318**	P	**P**	**23 05 54.2**	**+0.7**
AAK	**Ala-Archa**	**55.78**	**317**	P	**P**	**23 06 01.0**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=132,slow=12,SNR=1.9						
KURBB	**Kurchatov Arra**	**57.18**	**327**	P	**P**	**23 06 10.4**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=128,slow=6.2,SNR=16						
KURK	**Kurchatov**	**57.18**	**328**	P	**P**	**23 06 10.4**	**+0.7**
GAR	**Garm**	**57.40**	**312**	P	**P**	**23 06 12.2**	**+0.6**
GAR				IAmb	IAmb	23 07 24.9	
	comp=Z,29nm,2.0s						
KKAR	**Karatay Array**	**58.66**	**317**	P	**P**	**23 06 19.5**	**-0.5**
QRZ	**Quartz Range**	**65.52**	**141**	P	**P**	**23 07 06.0**	**+1.8**
BKZ	**Black Stump Fm**	**67.16**	**138**	P	**P**	**23 07 15.6**	**+1.2**
BKZ				IAmb	IAmb	23 07 18.2	
	comp=Z,48nm,1.8s						
MQZ	**McQueen's Vall**	**67.27**	**144**	P	**P**	**23 07 15.9**	**+1.0**
ABKAR	**Akbulak array**	**67.56**	**320**	P	**P**	**23 07 16.9**	**+0.3**
ABKAR	**Akbulak array**	**67.56**	**320**	P	**P**	**23 07 16.8**	**+0.1**
ABKAR				IAmb	IAmb	23 09 25.6	
	comp=Z,8.4nm,1.8s						
BFZ	**Birch Farm**	**67.79**	**139**	P	**P**	**23 07 16.1**	**-2.1**
ATD	**Arta Tunnel**	**79.81**	**280**	P	**P**	**23 08 26.5**	**-0.2**
ATD				IAmb	IAmb	23 10 51.8	
	comp=Z,38nm,1.9s						
Q19K	**Cape Douglas,**

δ45.00000°,λ-74.00000°. NP2:φ231.00000°,δ47.00000°, λ-105.00000°.

ISC 15 23:02:48.3±1.0,**32°64′N**±0′.03×**130°72′E**±0′.07,**h16**km±7km, **n17**,σ1§**13**/**22**,**mb3.7**/9,**3C**,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.12**	**139**	⇑P	**Pb**	**23 02 51.6**	**-0.6**
JIU3				S	**Sb**	**23 02 54.1**	**-0.7**
JTA	**Tamana**	**0.36**	**334**	⇑P	**Pg**	**23 02 55.2**	**-0.6**
JTA				S	**Sg**	**23 02 59.9**	**-1.0**
JNU	**Nakatsue**	**0.50**	**15**	Pg	**Pg**	**23 02 57.5**	**-0.8**
	253nm,0.3s,baz=182,slow=10,SNR=46						
JNU				Lg	Lg	23 03 04.4	
	879nm,0.3s,baz=274,slow=19,SNR=19						
JZO	**Okuchi**	**0.51**	**192**	P	**Pg**	**23 02 58.7**	**+0.3**
JZO				S	**Sg**	**23 03 05.9**	**+0.6**
JTZ	**Takazaki**	**0.80**	**157**	⇑P	**Pb**	**23 03 04.6**	**+0.8**
JTZ				S	**Sb**	**23 03 15.5**	**+1.1**
KSRS	**Korea Array**	**5.33**	**335**	Pn	**Pn**	**23 04 07.5**	**+0.4**
	0.3nm,0.3s,baz=152,slow=14,SNR=1.9						
KSRS				Pg	**Pb**	**23 04 23.6**	**+2.6**
	0.9nm,0.3s,baz=152,slow=16,SNR=11						
KSRS				Lg	Lg	23 05 34.3	
	1.6nm,0.3s,baz=234,slow=32,SNR=9.2						
JOW	**Kunigami**	**6.16**	**201**	Pn	**Pn**	**23 04 17.9**	**-0.9**
	1.2nm,0.3s,baz=34,slow=15,SNR=1.3						
MJAR	**Matsushiro Arr**	**7.30**	**56**	Pn	**Pn**	**23 04 36.9**	**+2.6**
	0.1nm,0.3s,baz=240,slow=12,SNR=1.9						
WRA	**Warramunga Arr**	**52.40**	**176**	P	**P**	**23 11 59.6**	**-0.4**
	0.4nm,0.8s,baz=356,slow=8.0,SNR=2.6						
ASAR	**Alice Springs**	**56.07**	**176**	P	**P**	**23 12 26.9**	**+0.2**
	0.4nm,0.8s,baz=75,slow=27,SNR=2.5						
ILAR	**Eielson Array**	**57.80**	**30**	P	**P**	**23 12 38.1**	**-0.5**
	0.6nm,0.8s,baz=254,slow=5.2,SNR=4.0						
FINES	**FINESS Array B**	**68.39**	**330**	P	**P**	**23 13 48.4**	**-0.5**
	0.7nm,0.5s,baz=101,slow=3.9,SNR=11						
YKA	**Yellowknife Ar**	**71.83**	**26**	P	**P**	**23 14 10.3**	**+0.3**
	0.2nm,0.7s,baz=303,slow=5.8,SNR=2.4						
NOA	**NORSAR Array B**	**74.54**	**334**	P	**P**	**23 14 25.0**	**-1.1**
	0.8nm,0.8s,baz=50,slow=6.0,SNR=3.4						
BRTR	**Keskin Array B**	**74.84**	**308**	P	**P**	**23 14 27.1**	**-1.3**
	0.7nm,0.7s,baz=116,slow=2.9,SNR=4.2						
GERES	**GERESS Array B**	**81.39**	**323**	P	**P**	**23 15 04.7**	**+0.3**
	0.5nm,0.8s,baz=20,slow=6.4,SNR=3.3						
PDAR	**Pinedale Array**	**86.84**	**40**	P	**P**	**23 15 32.8**	**+0.3**
	0.4nm,0.7s,baz=296,slow=2.7,SNR=2.8						

IDC ***15*** *23:08:48.3±0.8,32°.78N×130°.71E,h0km,mb3.8/13, mb1 4.0/16,mb1mx3.9/42,mbtmp3.8/16,ML3.2/3,MS2.8/1, Ms1 2.8/1,ms1mx2.4/92,Error ellipse: s-maj=18.3km s-min=6.6km az=117.0*

NIED ***15*** *23:08:50.6,32°.86N×130°.85E,h11km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.02; Mθθ0.47; Mφφ0.54; Mrθ0.17; Mθφ0.04; Mφr-1.47; Fault plane solution: M₀1.68000×10¹⁵ NP1: φs182.00000°,δ14.00000°,λ-83.00000°. NP2: φs355.00000°,δ76.00000°,λ-92.00000°.*

JMA ***15*** *23:08:50.6,32°.86N×130°.85E,h11km±1km,M3.9*

JMA Felt IV J1.

NEIC ***15*** *23:08:51.5±1.6,32°.85N±0°.04×130°.76E±0°.07,h10km±1km, mb4.6/29,Error ellipse: s-maj=10.9km s-min=5.9km az=104.0*

ISC 15 23:08:51.1±0.9,**32°84N**±0′.03×**130°82E**±0′.04,**h11**km±6km, **n68**,σ1§**17**/**74**,**mb4.3**/27,**3C**,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.27**	**296**	⇑P	**Pg**	**23 08 56.6**	**-0.1**
JTA				S	**Sg**	**23 09 00.8**	**+0.4**
JNU	**Nakatsue**	**0.28**	**10**	Pg	**Pg**	**23 08 55.9**	**-1.0**
	1μm,0.3s,baz=180,slow=9.3,SNR=137						
JNU				Lg	Lg	23 08 60.0	
	3μm,0.3s,baz=317,slow=8.9,SNR=53						
JNU	**Nakatsue**	**0.28**	**10**	⇑P	**Pg**	**23 08 56.2**	**-0.7**
JNU				S	**Sg**	**23 09 00.1**	**-0.7**
JNU	**Nakatsue**	**0.28**	**10**		**Pg**	**23 08 56.4**	**-0.5**
JNU				Sg	**Sg**	**23 09 00.3**	**-0.5**
JIU3	**Izumi3**	**0.29**	**182**	⇑P	**Pg**	**23 08 56.8**	**-0.3**
JIU3				S	**Sg**	**23 09 01.5**	**+0.4**
JTZ	**Takazaki**	**0.97**	**166**	P	**Pg**	**23 09 09.4**	**-0.3**
JTZ				S	**Sg**	**23 09 22.7**	**+0.4**
JSU	**Suzuyama**	**1.37**	**193**		**Pn**	**23 09 15.5**	**-0.6**
JTU	**Tsushima**	**2.05**	**325**	Pn	**Pn**	**23 09 24.4**	**-1.2**
JMN	**Monobe**	**2.71**	**70**		**Pg**	**23 09 41.7**	**-1.4**
JHS	**Saijyo**	**2.87**	**41**	Pn	**Pn**	**23 09 37.0**	**+0.1**
TJN	**Taejon**	**4.53**	**322**	Pn	**Pn**	**23 10 00.1**	**+0.4**
KSRS	**Korea Array**	**5.18**	**334**	Pn	**Pn**	**23 10 08.7**	**+0.2**
	1.0nm,0.3s,baz=152,slow=15,SNR=5.2						
KSRS				Pg	**Pb**	**23 10 23.2**	**+1.6**
	1.5nm,0.3s,baz=151,slow=17,SNR=9.7						
KSRS				Lg	Lg	23 11 30.9	
	6.3nm,0.3s,baz=153,slow=30,SNR=6.7						
KSAR	**Wonju Array Be**	**5.18**	**333**	Pn	**Pn**	**23 10 09.8**	**+1.2**
KS19	**Wonju Array Si**	**5.24**	**333**	Pn	**Pn**	**23 10 09.4**	**0.0**
INU	**Inuyama**	**5.71**	**62**	Pn	**Pn**	**23 10 16.4**	**+0.5**
JGF	**Kuroka**	**6.07**	**61**		**Pn**	**23 10 21.8**	**+0.9**
MJB9	**Matsu-Tunnel**	**7.11**	**57**		**Pn**	**23 10 35.7**	**+0.5**
MAJO	**Matsushiro**	**7.11**	**57**	Pn	**Pn**	**23 10 35.3**	**+0.1**
MJAR	**Matsushiro Arr**	**7.12**	**57**	Pn	**Pn**	**23 10 35.1**	**-0.1**
	0.2nm,0.3s,baz=279,slow=9.6,SNR=14						
MJAR	**Matsushiro Arr**	**7.12**	**57**	Pn	**Pn**	**23 10 35.7**	**+0.5**
JHJ	**Hachijo jima 2**	**7.54**	**85**	LR	LR	23 12 44.7	
	comp=Z,64nm,18.9s,baz=78,slow=31						
KLR	**Kul'dur**	**16.39**	**2**	Pn	**Pn**	**23 12 41.6**	**+0.6**
	0.2nm,0.3s,baz=360,slow=20,SNR=1.4						
HIA	**Hailar**	**18.38**	**336**		**P**	**23 13 06.0**	**+0.1**
SONM	**Songino Array**	**23.76**	**316**	P	**P**	**23 14 03.9**	**+0.4**
	2.2nm,0.7s,baz=136,slow=9.7,SNR=8.5						
SONM	**Songino Array**	**23.76**	**316**	P	**P**	**23 14 03.5**	**0.0**
ZALV	**Zalesovo Beam**	**38.65**	**317**	P	**P**	**23 16 13.2**	**-1.2**
	0.3nm,0.4s,baz=114,slow=6.5,SNR=2.1						
ZALV				PcP	**PcP**	**23 18 24.2**	**-2.1**
	0.7nm,0.4s,baz=114,slow=1.8,SNR=6.0						
MKAR	**Makanchi Array**	**39.18**	**305**	P	**P**	**23 16 18.6**	**-0.4**
	1.0nm,0.9s,baz=98,slow=9.6,SNR=6.6						
MKAR				PcP	**PcP**	**23 18 26.8**	**-1.4**
	0.1nm,0.4s,baz=76,slow=5.7,SNR=1.7						
MKAR	**Makanchi Array**	**39.18**	**305**	P	**P**	**23 16 18.5**	**-0.5**
KURK	**Kurchatov**	**41.87**	**311**	P	**P**	**23 16 40.5**	**-0.6**
NRIK	**Noril'sk**	**43.77**	**339**	P	**P**	**23 16 56.2**	**0.0**
	1.1nm,0.4s,baz=112,slow=12,SNR=4.6						
BRVK	**Borovoye**	**47.14**	**314**	P	**P**	**23 17 23.5**	**+0.4**
BRVK				IAmb	IAmb	23 17 26.6	
	comp=Z,4.3nm,0.8s						
KK31	**Karatay Array**	**47.71**	**301**	P	**P**	**23 17 27.9**	**+0.1**
KKAR	**Karatay Array**	**47.71**	**301**	P	**P**	**23 17 27.8**	**0.0**
BTK	**Batken**	**48.01**	**297**	P	**P**	**23 17 30.1**	**-0.2**
BTK				IAmb	IAmb	23 17 35.5	
	comp=Z,2.6nm,1.0s						
GAR	**Garm**	**48.60**	**295**	IAmb	IAmb	23 17 35.4	
	comp=Z,4.3nm,0.6s						
CHGR	**Chuyangaron**	**49.56**	**295**	P	**P**	**23 17 42.3**	**+0.1**
CHGR				IAmb	IAmb	23 17 43.1	
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**52.59**	**176**	P	**P**	**23 18 02.9**	**-2.1**
	comp=Z,0.7nm,0.9s,baz=350,slow=7.6,SNR=4.8						
ABKAR	**Akbulak array**	**53.95**	**310**	P	**P**	**23 18 14.7**	**-0.1**
TOLK	**Toolik Lake Re**	**56.09**	**26**	P	**P**	**23 18 33.3**	**+3.3**
ASAR	**Alice Springs**	**56.27**	**177**	P	**P**	**23 18 30.9**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=352,slow=6.4,SNR=7.5						
ASAR	**Alice Springs**	**56.27**	**177**	P	**P**	**23 18 31.5**	**-0.2**
BARN	**Barnard Glacie**	**60.70**	**34**	P	**P**	**23 19 04.8**	**+2.4**
BARN				IAmb	IAmb	23 19 05.2	
	comp=Z,11nm,1.2s						
M30M	**Minto, Yukon**	**62.47**	**31**	P	**P**	**23 19 17.3**	**+3.1**
M30M				IAmb	IAmb	23 19 22.8	
	comp=Z,4.9nm,1.5s						
HYT	**Haines Junctio**	**62.71**	**33**	P	**P**	**23 19 18.4**	**+2.5**
A36M	**Sachs Harbour**	**63.26**	**20**	P	**P**	**23 19 20.8**	**+1.6**
A36M				IAmb	IAmb	23 19 27.0	
	comp=Z,3.7nm,1.3s						
N31M	**Braeburn, Yuko**	**63.28**	**32**	P	**P**	**23 19 21.1**	**+1.5**
ARCES	**ARCESS Array B**	**64.72**	**338**	P	**P**	**23 19 28.1**	**-0.7**
	comp=Z,2.0nm,1.0s,baz=25,slow=4.0,SNR=3.9						
C36M	**Paulatuk**	**64.73**	**22**	P	**P**	**23 19 29.5**	**+0.6**
C36M				IAmb	IAmb	23 19 31.7	
	comp=Z,1.8nm,0.7s						
EUNU	**Eureka**	**65.48**	**7**	P	**P**	**23 19 33.8**	**+0.1**
FIA1	**FINESS Array S**	**68.26**	**330**	P	**P**	**23 19 50.2**	**-1.4**
FINES	**FINESS Array B**	**68.26**	**330**	P	**P**	**23 19 50.0**	**-1.6**
	comp=Z,2.4nm,0.7s,baz=82,slow=6.2,SNR=18						
FINES	**FINESS Array B**	**68.26**	**330**	P	**P**	**23 19 50.3**	**-1.3**
YKA	**Yellowknife Ar**	**71.61**	**26**	P	**P**	**23 20 11.9**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=303,slow=6.0,SNR=5.2						
AKASG	**Malin Array Be**	**72.00**	**319**	P	**P**	**23 20 12.1**	**-2.6**
	comp=Z,1.3nm,0.4s,baz=53,slow=6.7,SNR=5.6						
AKBB	**Malin Array Si**	**72.00**	**319**	P	**P**	**23 20 13.8**	**-0.9**
AKBB				IAmb	IAmb	23 20 14.5	
	comp=Z,4.7nm,0.7s						
PABE	**Paberze**	**72.24**	**325**	P	**P**	**23 20 15.7**	**-0.4**
PABE				IAmb	IAmb	23 20 15.8	
	comp=Z,6.0nm,0.8s						
NC405	**NORSAR Array S**	**74.16**	**334**	P	**P**	**23 20 27.6**	**+0.3**
NOA	**NORSAR Array B**	**74.39**	**334**	P	**P**	**23 20 27.0**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=197,slow=14,SNR=2.6						
NBO00	**NORSAR Array S**	**74.56**	**334**	P	**P**	**23 20 29.9**	**+0.3**
NBO00				IAmb	IAmb	23 20 30.6	
	comp=Z,10.0nm,0.9s						
BRTR	**Keskin Array B**	**74.79**	**308**	P	**P**	**23 20 30.0**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=71,slow=8.0,SNR=7.3						
BRTR	**Keskin Array B**	**74.79**	**308**	P	**P**	**23 20 30.4**	**-1.1**
BUR08	**Bucovina Ar. S**	**75.86**	**318**	P	**P**	**23 20 37.6**	**+0.1**
BUR08				IAmb	IAmb	23 20 41.9	
	comp=Z,7.9nm,1.4s						
BURAR	**Bucovina Array**	**75.86**	**318**	P	**P**	**23 20 37.2**	**-0.3**
BURAR				IAmb	IAmb	23 20 38.1	
	comp=Z,2.1nm,0.8s						
OJC	**Ojcow**	**77.31**	**322**	P	**P**	**23 20 45.9**	**+0.3**
OJC				IAmb	IAmb	23 20 46.3	
	comp=Z,5.0nm,0.7s						
ELL	**Elmali**	**78.84**	**306**	P	**P**	**23 20 54.4**	**0.0**
CLL	**Ccllm**	**80.00**	**326**	*eP*	**P**	**23 21 03.0**	**+2.6**
GERES	**GERESS Array B**	**81.27**	**323**	P	**P**	**23 21 06.2**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=39,slow=8.7,SNR=4.1						
NRCA	**Norcia**	**85.54**	**319**	P	**P**	**23 21 30.4**	**+1.0**

MOS ***15*** *23:20:39.8±0.9,32°.64N×130°.67E,h14km,mb4.7/30,Error ellipse: s-maj=9.5km s-min=5.0km az=110.7*

IDC ***15*** *23:20:39.3±0.5,32°.65N×130°.57E,h0km,mb4.3/24, mb1 4.5/30,mb1mx4.3/49,mbtmp4.3/30,ML3.5/5,MS3.5/13, Ms1 3.6/13,ms1mx3.2/94,Error ellipse: s-maj=13.3km s-min=7.1km az=118.0*

JMA ***15*** *23:20:41.5,32°.70N×130°.68E,h12km±1km,M4.6 Broadband fault plane solution: P waves. NP1: φs84.00000°,δ58.00000°,λ-84.00000°. NP2:φs253.00000°, δ32.00000°,λ-99.00000°. Principal axes: T Plg13.0000°, Azm170.0000°; N Plg5.0000°, Azm261.0000°; P Plg76.0000°, Azm11.0000°;*

JMA Felt IV J1.

NIED ***15*** *23:20:41.5,32°.70N×130°.68E,h12km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-4.03; Mθθ4.72; Mφφ-0.69; Mrθ-2.30; Mθφ0.82; Mφr2.01; Fault plane solution: M₀5.42000×10¹⁵ NP1: φs238.00000°,δ38.00000°,λ-131.00000°. NP2: φs106.00000°,δ62.00000°,λ-63.00000°.*

NEIC ***15*** *23:20:42.0±1.6,32°.65N±0°.03×130°.65E±0°.07,h10km, mb4.7/93,Mwr4.5/13 Error ellipse: s-maj=9.6km s-min=4.9km az=96.0*

NEIC ***15*** *23:20:42.2,32°.65N×130°.67E,h11km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-4.72; Mθθ5.74; Mφφ-1.02; Mrθ0.72; Mθφ0.40; Mφr3.39; Fault plane solution: M₀6.35000×10¹⁵ NP1:φs238.96000°, δ57.53000°,λ-126.16000°. NP2:φs112.66000°, δ47.07000°,λ-47.16000°. Principal axes: T 5.8559, Plg6.0000°, Azm354.0000°; N 0.8870, Plg30.0000°, Azm260.0000°; P -6.7429, Plg59.0000°, Azm94.0000°;*

BGR ***15*** *23:20:50.9±0.0,34°.34N×131.73E,h33km,mb5.3*

ISC 15 23:20:41.3±0.6,**32°65N**±0′.02×**130°64E**±0′.04,**h11**km±3km, **h12**km:**pP-P**,**n375**,σ1§**31**/364,**mb4.7**/117,**MS3.6**/18, **20C-30D**,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.18**	**126**	⇑P	**Pg**	**23 20 45.7**	**+0.5**
JIU3				S	**Sg**	**23 20 48.9**	**+1.0**
JTA	**Tamana**	**0.32**	**343**	⇑P	**Pg**	**23 20 47.6**	**-0.3**
JNU	**Nakatsue**	**0.51**	**23**	Pg	**Pg**	**23 20 50.4**	**-0.9**
	3μm,0.3s,baz=187,slow=11,SNR=190						
JNU				Lg	Lg	23 20 56.8	
	9μm,0.3s,baz=78,slow=19,SNR=35						
JNU	**Nakatsue**	**0.51**	**23**		**Pg**	**23 20 50.6**	**-0.7**
JNU				Sg	**Sg**	**23 20 56.5**	**-1.6**
JZO	**Okuchi**	**0.51**	**184**	⇑P	**Pb**	**23 20 52.4**	**0.0**
JZO				S	**Sb**	**23 21 00.1**	**+0.3**
JTZ	**Takazaki**	**0.84**	**153**	⇑P	**Pn**	**23 20 58.6**	**-0.5**
JTZ				S	**Sb**	**23 21 10.0**	**+0.8**
JSU	**Suzuyama**	**1.16**	**188**		**Pg**	**23 21 03.8**	**+0.3**
JSU				Sn	**Sn**	**23 21 19.9**	**+0.6**
JTU	**Tsushima**	**2.14**	**331**	Pn	**Pn**	**23 21 17.4**	**+0.5**
JTU				Sn	**Sn**	**23 21 44.7**	**+1.3**
JMN	**Monobe**	**2.92**	**68**		**Pg**	**23 21 35.6**	**-1.6**
JMN					**Sg**	**23 22 13.7**	**-1.4**
JHS	**Saijyo**	**3.12**	**41**	Pn	**Pn**	**23 21 30.9**	**+0.5**
TJN	**Taejon**	**4.60**	**325**	*de*P	**Pn**	**23 21 51.1**	**+0.4**
TJN	**Taejon**	**4.60**	**325**	Pn	**Pn**	**23 21 50.6**	**-0.1**
KSRS	**Korea Array**	**5.28**	**336**	Pn	**Pn**	**23 22 00.6**	**+0.4**
	2.8nm,0.3s,baz=151,slow=14,SNR=16						
KSRS				Pg	**Pb**	**23 22 15.6**	**+1.9**
	8.6nm,0.3s,baz=153,slow=17,SNR=11						
KSRS				Lg	Lg	23 23 26.4	
	9.8nm,0.3s,baz=158,slow=31,SNR=6.6						
KSAR	**Wonju Array Be**	**5.29**	**335**	P	**Pn**	**23 22 01.1**	**+0.9**
KSAR	**Wonju Array Be**	**5.29**	**335**		**Pn**	**23 22 01.1**	**+0.9**
KS19	**Wonju Array Si**	**5.35**	**336**		**Pn**	**23 22 00.7**	**-0.4**
INCN	**Inchon**	**5.83**	**327**	P	**Pn**	**23 22 07.4**	**-0.4**
INCN	**Inchon**	**5.83**	**327**		**Pn**	**23 22 07.4**	**-0.4**
INU	**Inuyama**	**5.94**	**61**	Pn	**Pn**	**23 22 09.9**	**+0.7**
JOW	**Kunigami**	**6.16**	**200**	Pn	**Pn**	**23 22 15.9**	**+3.7**
	10nm,0.3s,baz=27,slow=12,SNR=12						
JOW				Sn	**Sb**	**23 23 33.8**	**-8.5**
	baz=254,slow=25,SNR=1.0						
JOW	**Kunigami**	**6.16**	**200**	Pn	**Pn**	**23 22 13.6**	**+1.4**
JGF	**Kuroka**	**6.30**	**60**		**Pn**	**23 22 14.8**	**+0.7**
MJB9	**Matsu-Tunnel**	**7.34**	**56**		**Pn**	**23 22 29.4**	**+0.9**
MAJO	**Matsushiro**	**7.34**	**56**	*de*P	**Pn**	**23 22 29.8**	**+1.3**
MAJO	**Matsushiro**	**7.34**	**56**	Pn	**Pn**	**23 22 29.1**	**+0.6**
MJAR	**Matsushiro Arr**	**7.34**	**56**	Pn	**Pn**	**23 22 29.8**	**+1.3**
	1.2nm,0.3s,baz=239,slow=13,SNR=13						
MJAR				Lg	Lg	23 24 32.6	
	0.2nm,0.3s,baz=215,slow=25,SNR=3.5						
MJAR				LR	LR	23 25 40.7	
	comp=Z,303nm,19.8s,baz=240,slow=41						
MJAR	**Matsushiro Arr**	**7.34**	**56**	P	**Pn**	**23 22 29.5**	**+1.0**
MJAR	**Matsushiro Arr**	**7.34**	**56**	Pn	**Pn**	**23 22 29.5**	**+1.0**
JHJ	**Hachijo jima 2**	**7.70**	**84**	Pn	**Pn**	**23 22 34.2**	**+0.8**
	93nm,0.3s,baz=229,slow=20,SNR=14						
JHJ2	**Mitsune**	**7.73**	**84**	Pn	**Pn**	**23 22 34.3**	**+0.6**
JSD	**Sado**	**8.22**	**47**	Pn	**Pn**	**23 22 41.0**	**+0.5**
NJ2	**Nanjing**	**9.99**	**270**	*eP*	**Pn**	**23 23 05.8**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**11.58**	**5**	P	**Pn**	**23 23 28.8**	**+2.3**
USA0B	**Ussuriysk Arra**	**11.58**	**5**		**Pn**	**23 23 28.8**	**+2.3**
USRK	**Ussuriysk Ar.**	**11.58**	**5**	Pn	**Pn**	**23 23 27.8**	**+1.3**
	baz=194,slow=12,SNR=6.5						
CN2	**Changchun**	**11.85**	**341**	*eP*	Pn	23 23 36.4	+6.2
CN2				*eS*	**Sn**	**23 25 47.3**	**+4.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,6.2s						
CN2				LR	LR		
	comp=N,1μm,12.0s						
CN2				LR	LR		
	comp=E,600nm,12.0s						
CN2				LR	LR		
	comp=Z,1μm,11.0s						
MDJ	**Mudanjiang**	**11.97**	**356**	P	**Pn**	**23 23 36.3**	**+4.4**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,130nm,5.9s						
BNX	**BinXian**	**13.31**	**350**	⇓P	**P**	**23 23 56.6**	**-3.2**
BNX				pmax	pmax		
	comp=Z,31nm,1.3s						
BNX				pmax	pmax		
	comp=Z,630nm,5.6s						
HNS	**HongShan**	**13.89**	**294**	⇑P	P	23 24 12.4	+6.1
HNS				S	Sn	23 26 42.3	+10
HNS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HNS				LR	LR		
	comp=N,460nm,15.5s						
HNS				LR	LR		
	comp=E,310nm,14.5s						
HNS				LR	LR		
	comp=Z,250nm,12.6s						
ASAJ	**Asahikawa**	**14.77**	**36**	Pn	**Pn**	**23 24 10.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=230,slow=21,SNR=2.5						
ASAJ				LR	LR	23 29 23.5	
	comp=Z,212nm,18.3s,baz=202,slow=35						
LYN	**LuoYang**	**15.27**	**282**	*eP*	**Pn**	**23 24 17.3**	**+0.5**
LYN				sP	P	23 24 22.3	+0.6
LYN				S	**Sn**	**23 27 04.8**	**-1.1**
LYN				pmax	pmax		
	comp=Z,170nm,4.9s						
LYN				LR	LR		
	comp=N,860nm,11.4s						
LYN				LR	LR		
	comp=E,430nm,13.0s						
LYN				LR	LR		
	comp=Z,730nm,9.6s						
KLR	**Kul'dur**	**16.58**	**3**	Pn	**Pn**	**23 24 33.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=155,slow=10,SNR=2.6						
KLR	**Kul'dur**	**16.58**	**3**	⇓*eP*	**P**	**23 24 36.9**	**+0.7**
HHC	**Hu-ho-hao-te**	**17.32**	**304**	*eP*	**Pn**	**23 24 43.3**	**+0.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,6.2s						
HHC				LR	LR		
	comp=N,580nm,12.7s						
HHC				LR	LR		
	comp=E,580nm,12.1s						
HHC				LR	LR		
	comp=Z,600nm,13.3s						
XAN	**Xi'an**	**18.20**	**280**	P	**P**	**23 24 59.1**	**+4.8**
XAN				pP	sP	23 25 03.4	+4.5
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
ZEA	**Zeya**	**21.21**	**354**	*eP*	**P**	**23 25 28.7**	**+1.8**
ZEA				*eS*	**S**	**23 29 16.7**	**-5.8**
ZEA				pmax	pmax		
	comp=N,20nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.7s						
ZEA				smax	smax		
	comp=N,200nm,5.3s						
LZH	**Lanzhou**	**22.36**	**286**	*eP*	**P**	**23 25 39.0**	**-0.6**
LZH				sP	pP	23 25 43.8	+1.1
LZH				sS	sS	23 29 51.5	+0.9
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=N,610nm,12.5s						
LZH				LR	LR		
	comp=E,380nm,12.1s						
LZH				LR	LR		
	comp=Z,470nm,13.6s						
CD2	**Chengdu**	**22.90**	**273**	P	**P**	**23 25 47.1**	**+1.9**
CD2				pP	sP	23 25 50.3	+0.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				LR	LR		
	comp=N,100nm,13.2s						
CD2				LR	LR		
	comp=E,740nm,11.8s						
CD2				LR	LR		
	comp=Z,980nm,11.6s						
GUMO	**Guam**	**23.00**	**142**	LR	LR	23 32 16.1	
	comp=Z,45nm,20.7s,baz=326,slow=30						
ULN	**Ulaanbaatar**	**23.43**	**317**	*eP*	**P**	**23 25 50.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,13nm,1.3s						
SONM	**Songino Array**	**23.79**	**317**	P	**P**	**23 25 53.8**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=127,slow=9.9,SNR=8.6						
SONM	**Songino Array**	**23.79**	**317**	P	**P**	**23 25 54.4**	**+0.3**
KMI	**Kunming**	**25.51**	**260**	⇓P	**P**	**23 26 12.8**	**+2.7**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA	**Gaotai**	**25.75**	**294**	⇓P	**P**	**23 26 13.1**	**+1.1**
GTA				pP	sP	23 26 16.9	+0.1
GTA				sP	pP	23 26 19.6	+4.2
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,45nm,5.2s						
GTA				LR	LR		
	comp=N,630nm,15.1s						
GTA				LR	LR		
	comp=E,250nm,11.5s						
GTA				LR	LR		
	comp=Z,320nm,11.9s						
PZH	**PanZhiHua**	**25.82**	**264**	P	**P**	**23 26 15.1**	**+2.2**
PZH				S	**S**	**23 30 40.0**	**-2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,100nm,5.8s						
PZH				LR	LR		
	comp=N,460nm,11.6s						
PZH				LR	LR		
	comp=E,490nm,10.6s						
PZH				LR	LR		
	comp=Z,480nm,10.8s						
DAV	**

IPM Ipoh 39.39 231 P P 23 28 12.2 +0.9
BILL Bilibino 40.93 20⇓eP P 23 28 23.8 +0.3
BILL e 23 29 59.4
BILL pmax pmax
comp=Z,10.0nm,1.7s
BILL MLR MLR
comp=Z,50nm,13.0s
BILL Bilibino 40.93 20 P P 23 28 23.7 +0.3
KURK Kurchatov 41.88 311deP P 23 28 30.9 -0.5
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 41.88 311 P P 23 28 31.5 0.0
KURBB Kurchatov Arra 41.93 311 LR LR 23 46 49.1
comp=Z,170nm,19.0s,baz=52,slow=38
KIWB Kanaga Island 42.11 47 P P 23 28 34.4 +1.1
KDJ Kajisay 42.91 299 P P 23 28 40.9 +0.7
KDJ pmax pmax
comp=Z,2.0nm,0.8s
KDJ Kajisay 42.91 299 P P 23 28 40.9 +0.7
NRIK Noril'sk 43.89 340 P P 23 28 47.0 -0.4
comp=Z,6.2nm,0.7s,baz=118,slow=9.3,SNR=17
NRIK Noril'sk 43.89 340deP P 23 28 46.9 -0.6
NRIK pmax pmax
comp=Z,6.0nm,0.7s
NRIK Noril'sk 43.89 340 P P 23 28 47.2 -0.3
NRIK IAmb IAmb 23 28 51.8
comp=Z,6.3nm,0.8s
GSI Gunungsitoli 44.04 232 P P 23 28 49.9 +0.6
PMG Port Moresby 44.69 156 LR LR 23 48 03.4
comp=Z,53nm,19.6s,baz=316,slow=37
FRU1 Bishkek 44.72 300 P P 23 28 55.3 +0.8
FRU1 pmax pmax
comp=Z,10.0nm,1.1s
FRU1 Bishkek 44.72 300 P P 23 28 55.3 +0.8
FRU1 IAmb IAmb 23 29 00.0
comp=Z,10nm,1.1s
AAK Ala-Archa 44.83 300 LR LR 23 49 08.9
comp=Z,134nm,18.2s,baz=70,slow=38
AAK Ala-Archa 44.83 300⇓eP P 23 28 55.6 0.0
AAK pmax pmax
comp=Z,5.0nm,1.5s
AAK Ala-Archa 44.83 300 P P 23 28 56.3 +0.7
LEM Lembang 44.97 213 P P 23 28 55.3 -1.5
comp=Z,11nm,0.4s,baz=306,slow=19,SNR=2.2
MTN Manton Dam 45.24 179 P P 23 28 57.5 -1.2
MTN IAmb IAmb 23 29 01.5
comp=Z,5.4nm,0.7s
BRVK Borovoye 47.16 314deP P 23 29 13.6 0.0
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 47.16 314 P P 23 29 14.0 +0.4
KK31 Karatay Array 47.68 301 P P 23 29 18.0 +0.2
KK31 pP 23 29 18.5 -2.8
KNRA Kununurra 48.09 182 P P 23 29 21.5 +0.5
KNRA IAmb IAmb 23 29 38.1
comp=Z,4.9nm,0.8s
CHGR Chuyangaron 49.51 295 IAmb IAmb 23 29 36.5
comp=Z,11nm,0.8s
FITZ Fitzroy Crossi 50.69 186 P P 23 29 40.2 -0.7
comp=Z,0.9nm,0.6s,baz=1.6,slow=12,SNR=2.6
FITZ PcP PcP 23 30 58.1 -0.1
comp=Z,2.2nm,1.0s,baz=241,slow=1.1,SNR=3.4
WRA Warramunga Arr 52.42 176 P P 23 29 53.3 -0.6
comp=Z,1.0nm,0.6s,baz=354,slow=7.8,SNR=6.3
SVE Sverdlovsk 52.62 319 eP P 23 29 55.6 +0.6
SVE pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 53.80 319 LR LR 23 53 56.2
comp=Z,49nm,18.4s,baz=94,slow=37
ARU Arti 53.80 319c iP P 23 30 03.5 -0.2
ARU S S 23 37 42.1 +4.1
ARU SS SS 23 41 22.1 +3.7
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 53.80 319 P P 23 30 03.3 -0.4
ARU IAmb IAmb 23 30 09.7
comp=Z,8.5nm,0.8s
A21K Barrow 53.91 22 P P 23 30 03.7 -0.6
baz=265
ABKAR Akbulak array 53.96 310 IAmb IAmb 23 30 11.0
comp=Z,3.9nm,0.7s
TTA Tatalina 53.98 33 P P 23 30 04.6 -0.4
baz=272
CTA Charters Tower 54.53 162 LR LR 23 52 41.8
comp=Z,38nm,18.6s,baz=338,slow=35
L19K White Mountain 54.55 34 P P 23 30 09.7 +0.5
baz=274
O18K Koktuh Hills 54.56 37 P P 23 30 09.5 +0.3
baz=275
J20K Nowinta River 54.76 31 P P 23 30 11.8 +1.3
J20K IAmb IAmb 23 30 12.6
comp=Z,6.2nm,1.0s
J20K Nowinta River 54.76 31 P P 23 30 10.8 +0.3
baz=273
N19K Bonanza Creek 54.83 35 P P 23 30 11.2 -0.1
baz=275
K20K Telida 54.84 32 IAmb IAmb 23 30 13.2
comp=Z,7.0nm,1.0s
K20K Telida 54.84 32 P P 23 30 11.6 +0.3
baz=274
L20K Farewell, AK 54.98 33 P P 23 30 12.7 +0.4
baz=274
H21K Melozitna Rive 55.25 29 P P 23 30 14.5 +0.4
baz=273
P19K Oil Pt 55.58 37 P P 23 30 17.1 +0.5
baz=277
CHUM Lake Minchumin 55.58 32 P P 23 30 16.8 +0.3
baz=275,SNR=7.5
I21K Tanana 55.62 30 IAmb IAmb 23 30 21.8
comp=Z,7.5nm,1.1s
I21K Tanana 55.62 30 P P 23 30 17.3 +0.5
baz=274
CAST Castle Rocks 55.72 32 IAmb IAmb 23 30 19.5
comp=Z,4.6nm,0.8s
CAST Castle Rocks 55.72 32 P P 23 30 18.4 +0.8
baz=275
PPLA Purkeypile 55.73 33 IAmb IAmb 23 30 19.2
comp=Z,10nm,1.0s
PPLA Purkeypile 55.73 33 P P 23 30 17.9 +0.2
baz=276
OHAK Old Harbor 55.87 40 P P 23 30 18.2 -0.5
baz=278
SPCR Spurr Chakacha 55.90 35 P P 23 30 18.5 -0.5
baz=277
ASAR Alice Springs 56.09 176 P P 23 30 21.1 +0.5
comp=Z,1.7nm,0.9s,baz=345,slow=4.2,SNR=10
BPAW Bear Paw Mtn. 56.14 31 P P 23 30 20.8 +0.2
baz=276
KDAK Kodiak Island 56.16 39 P P 23 30 20.5 -0.2
baz=279
COLD Coldfoot 56.19 27 P P 23 30 20.9 0.0
baz=274
TOLK Toolik Lake Re 56.33 26 P P 23 30 21.9 0.0
baz=274
TRF Thorofare Moun 56.52 32 P P 23 30 24.2 +0.7
baz=277
H23K Yukon River 56.58 29 IAmb IAmb 23 30 26.0
comp=Z,11nm,0.8s
H23K Yukon River 56.58 29 P P 23 30 24.3 +0.6
baz=276,SNR=10
I23K Minto, Yukon-K 56.73 30 P P 23 30 25.4 +0.7
baz=276
BRSE Bradley Lake S 56.81 36 P P 23 30 25.5 0.0
baz=279
NEA2 Nenana 56.92 30 IAmb IAmb 23 30 27.7
comp=Z,11nm,0.8s
NEA2 Nenana 56.92 30 P P 23 30 26.4 +0.4
baz=277,SNR=9.9
MCK McKinley 57.09 32 IAmb IAmb 23 30 29.6
comp=Z,7.5nm,1.1s
MCK McKinley 57.09 32 P P 23 30 26.8 -0.5
baz=278
RC01 Rabbit Creek A 57.10 35 P P 23 30 27.4 0.0
baz=279
H24K Noodor Dome 57.26 29 P P 23 30 29.9 +1.4
H24K IAmb IAmb 23 30 30.7
comp=Z,5.2nm,0.8s
H24K Noodor Dome 57.26 29 P P 23 30 28.9 +0.4
baz=277,SNR=7.4
PMR Palmer 57.31 34 P P 23 30 28.3 -0.6
baz=279
SEW Seward 57.40 36 P P 23 30 29.5 0.0
baz=280
POKR Poker Plat Res 57.54 30 IAmb IAmb 23 30 32.3
comp=Z,12nm,0.9s
POKR Poker Plat Res 57.54 30 P P 23 30 30.9 +0.4
baz=278,SNR=6.7

SML Sawmill 57.65 34 P P 23 30 31.8 +0.4
baz=280
KNK Knik Glacier 57.66 34 P P 23 30 31.1 -0.3
baz=280
WAT6 Susitna Watana 57.80 33 P P 23 30 32.4 -0.1
baz=280
ILAR Eielson Array 57.82 30 P P 23 30 31.6 -0.9
comp=Z,2.6nm,0.7s,baz=267,slow=5.3,SNR=24
DHY Denali Highway 57.88 32 IAmb IAmb 23 30 34.0
comp=Z,9.6nm,1.2s
DHY Denali Highway 57.88 32 P P 23 30 32.6 -0.5
baz=280
SCM Sheep Creek Mo 58.12 34 P P 23 30 34.8 +0.2
baz=280
GLI Glacier Island 58.40 35 P P 23 30 35.5 -1.1
baz=281
J25K Salcha River, 58.49 30 P P 23 30 37.1 -0.1
baz=280
PAX Paxson 58.75 32 P P 23 30 38.3 -0.8
baz=281
KLU Klutina 58.84 34 IAmb IAmb 23 30 41.0
comp=Z,12nm,1.1s
KLU Klutina 58.84 34 P P 23 30 39.4 -0.3
baz=282
RIDG Independent Ri 58.88 31 P P 23 30 39.8 -0.1
baz=281
HARP HAARP 59.01 33 P P 23 30 41.2 +0.4
baz=282
SCRK Sand Creek 59.21 31 IAmb IAmb 23 30 42.9
comp=Z,9.6nm,0.8s
SCRK Sand Creek 59.21 31 P P 23 30 41.7 -0.6
baz=282,SNR=13
DOT Dot Lake 59.24 31 IAmb IAmb 23 30 42.9
comp=Z,7.0nm,0.8s
J26L Joseph Creek 59.28 30 P P 23 30 42.6 -0.1
baz=282
N25K Chitina, Valde 59.44 34 IAmb IAmb 23 30 48.8
comp=Z,7.1nm,0.8s
N25K Chitina, Valde 59.44 34 P P 23 30 44.0 +0.2
baz=283,SNR=5.4
PRGR Permogore 59.55 327 eP P 23 30 44.0 -0.5
PRGR pmax pmax
comp=Z,6.0nm,0.9s
BMRM Bremner River 59.58 34 P P 23 30 45.3 +0.5
baz=283
L26K Log Cabin Wild 59.69 32 IAmb IAmb 23 31 03.7
comp=Z,5.8nm,0.8s
L26K Log Cabin Wild 59.69 32 P P 23 30 45.7 +0.2
baz=283
M26K Nabesna, AK 59.99 32 P P 23 30 47.8 +0.2
baz=284,SNR=11
VRDI Verde Repeater 60.06 34 P P 23 30 49.0 +0.7
MCARA McCarthy VSAT 60.22 34 P P 23 30 49.5 +0.3
baz=284
EGAK Eagle 60.23 30 IAmb IAmb 23 30 54.5
comp=Z,2.9nm,0.7s
L27K Beaver Creek, 60.35 32 IAmb IAmb 23 30 51.9
comp=Z,8.1nm,0.8s
L27K Beaver Creek, 60.35 32 P P 23 30 50.8 +0.7
baz=284,SNR=8.0
BCAR Beaver Creek A 60.37 32 P P 23 30 50.9 +0.7
M27K Edge Creek, AK 60.51 32 IAmb IAmb 23 30 52.7
comp=Z,8.6nm,0.8s
M27K Edge Creek, AK 60.51 32 P P 23 30 51.7 +0.4
baz=284,SNR=5.5
BELG Belogornoye 60.84 316⇑iP P 23 30 53.2 -0.3
BELG pmax pmax
comp=Z,2.0nm,0.8s
BARN Barnard Glacie 60.94 34 IAmb IAmb 23 30 55.7
comp=Z,7.0nm,0.7s
BVCY Beaver Creek 60.95 32 P P 23 30 55.1 +0.9
baz=285
CTG Chitna Glacier 61.12 34 P P 23 30 56.0 +0.5
baz=286
CTGM Chitina Glacie 61.12 34 IAmb IAmb 23 31 01.0
comp=Z,7.3nm,0.7s
DAWY Dawson 61.15 30 P P 23 30 55.6 +0.1
baz=286
I29M Ogilvie Camp, 61.25 29 IAmb IAmb 23 30 58.2
comp=Z,7.1nm,1.0s
I29M Ogilvie Camp, 61.25 29 P P 23 30 56.7 +0.6
baz=286
YUK3 Moose Creek 61.30 33 P P 23 30 57.1 +0.3
baz=286
EPYK Eagle Plains 61.59 27 P P 23 30 58.7 +0.3
baz=287,SNR=11
INK Inuvik 62.18 25 IAmb IAmb 23 31 02.9
comp=Z,4.5nm,0.9s
INK Inuvik 62.18 25 P P 23 31 02.2 -0.1
baz=288,SNR=5.3
YUK4 Talbot Arm 62.26 33 P P 23 31 03.7 +0.5
baz=288
PNL Peninsula 62.42 35 P P 23 31 04.9 +0.9
baz=288
YUK6 Outpost Mounta 62.52 33 P P 23 31 05.0 +0.1
baz=288
KLMR Klimovskoe 62.60 327 eP P 23 31 03.4 -1.8
KLMR pmax pmax
comp=Z,9.0nm,1.2s
KLMR Klimovskoe 62.60 327 eP P 23 31 03.5 -1.8
KLMR AMP 23 31 11.8
comp=Z,9.0nm,1.2s
M30M Minto, Yukon 62.71 31 P P 23 31 07.3 +1.3
M30M IAmb IAmb 23 31 07.5
comp=Z,4.4nm,0.8s
M30M Minto, Yukon 62.71 31 P P 23 31 06.9 +0.9
baz=288
HYT Haines Junctio 62.95 33 IAmb IAmb 23 31 09.8
comp=Z,8.3nm,1.0s
HYT Haines Junctio 62.95 33 P P 23 31 08.3 +0.6
baz=289
A36M Sachs Carbour 63.49 20 P P 23 31 10.4 -0.5
baz=294,SNR=13
N31M Braeburn, Yuko 63.52 32 P P 23 31 12.0 +0.6
baz=290
M31M Drury Creek, Y 63.89 31 P P 23 31 14.1 +0.3
baz=291
WHY Whitehorse 64.22 33 P P 23 31 16.5 +0.4
baz=291
FARO Faro, Yukon 64.34 31 P P 23 31 17.4 +0.7
baz=291
ARCES ARESS Array B 64.84 338 P P 23 31 19.1 -0.7
comp=Z,2.4nm,0.7s,baz=64,slow=8.2,SNR=8.3
ARCES LR LR 00 04 26.1
comp=Z,67nm,18.7s,baz=72,slow=40
ARCES ARCESS Array B 64.84 338 IAmb IAmb 23 31 23.3
comp=Z,8.0nm,1.1s
C36M Paulatuk 64.97 22 P P 23 31 20.6 -0.1
baz=296,SNR=14
STKA Stephens Creek 65.01 170 P P 23 31 21.1 -0.3
comp=Z,1.1nm,0.4s,baz=335,slow=6.2,SNR=5.4
STKA Stephens Creek 65.01 170⇓eP P 23 31 21.9 +0.6
STKA Stephens Creek 65.01 170 IAmb IAmb 23 31 22.1
comp=Z,1.2nm,1.1s
MMPY Sheldon Lake, 65.09 30 P P 23 31 22.3 +0.6
baz=293
EUNU Eureka 65.68 7 IAmb IAmb 23 31 25.7
comp=Z,5.3nm,1.1s
VORR Voronezh 65.98 317 eP P 23 31 30.0 +2.5
VORR pmax pmax
comp=Z,20nm,0.4s
VALR Valaam 66.32 329ceP P 23 31 28.9 -0.6
VALR pmax pmax
comp=Z,20nm,1.6s
KBZ Khabaz 66.80 308 P P 23 31 33.3 +0.4
comp=Z,7.0nm,0.9s,baz=61,slow=6.4,SNR=6.2
KBZ Khabaz 66.80 308⇓eP P 23 31 34.0 +1.1
KBZ pmax pmax
comp=Z,8.0nm,0.9s
TGTN Hyland Airport 66.82 31 P P 23 31 33.5 +0.6
baz=296
KIV Kislovodsk 66.85 308 eP P 23 31 33.4 0.0
KIV pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 66.85 308 P P 23 31 34.1 +0.7
WRAK Wrangell Islan 67.09 37 P P 23 31 35.0 +0.5
baz=295
FINES FINESS Array B 68.35 330 P P 23 31 41.5 -0.9
comp=Z,3.7nm,0.6s,baz=74,slow=5.9,SNR=41
RES Resolute Bay 68.86 12 P P 23 31 45.3 -0.1
RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 68.86 12 IAmb IAmb 23 31 46.3
comp=Z,7.9nm,0.9s
DAG Danmarks Havn 69.18 353 P P 23 31 46.8 -0.5
DAG pmax pmax
comp=Z,9.0nm,1.3s
DAG Danmarks Havn 69.18 353 iP P 23 31 46.0 -1.3

DAG IAmb IAmb 23 31 50.5
comp=Z,2.9nm,0.8s
MNK Minsk 70.88 323 iP P 23 31 55.6 -2.5
MNK i 23 34 33.5
MNK iPPP PPP 23 36 17.5
MNK iS S 23 41 12.1 -1.0
MNK iSS SS 23 45 46.9 +2.0
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK pmax pmax
comp=Z,14nm,1.2s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK MLR MLR
comp=Z,128nm,10.0s
MNK MLR MLR
comp=N,218nm,18.0s
MNK Minsk 70.88 323 iP P 23 31 55.7 -2.5
comp=E,1.0nm,0.8s
MNK iLR LR 00 03 36.5
MNK iLRM MLR 00 06 35.5
comp=Z,128nm,10.2s
MNK iLRM MLR 00 07 35.2
comp=N,218nm,17.8s
MNK iP P 23 31 55.7 -2.5
comp=N,5.0nm,0.8s
MNK iP P 23 31 55.7 -2.5
comp=Z,14nm,1.2s,baz=60
MNK iPP PP 23 34 33.5 -1.2
MNK iPPP PPP 23 36 17.5
MNK iS S 23 41 12.2 -1.0
MNK iSS SS 23 45 46.9 +2.0
MNK iSSS SSS 23 49 05.0
MNK iLQ LQ 23 58 12.4
NACGM Naroch 71.24 324 eP P 23 31 59.9 -0.3
DBG Daneborg 71.57 352 iP P 23 32 00.3 -1.7
DBG IAmb IAmb 23 32 04.9
comp=Z,1.9nm,0.7s
YKA Yellowknife Ar 71.84 26 P P 23 32 03.9 +0.1
comp=Z,1.3nm,0.7s,baz=304,slow=5.8,SNR=15
AKASG Malin Array Be 72.05 319 P P 23 32 04.3 -0.9
comp=Z,2.6nm,0.5s,baz=52,slow=6.7,SNR=6.8
AKBB Malin Array Si 72.05 319⇓eP P 23 32 04.4 -0.9
AKBB pmax pmax
comp=Z,12nm,1.4s
AKBB Malin Array Si 72.05 319 P P 23 32 04.3 -0.9
AKBB IAmb IAmb 23 32 06.0
comp=Z,4.6nm,0.7s
KIEV Kiev 72.06 319 P P 23 32 03.0 -2.3
PABE Paberze 72.31 325 P P 23 32 06.0 -0.7
PABE IAmb IAmb 23 32 07.1
comp=Z,8.9nm,0.9s
SORM Soroca 73.84 317⇑P P 23 32 14.5 -1.4
SORM Soroca 73.84 317⇑P P 23 32 14.5 -1.4
KIS Kishinev 74.15 316⇓P P 23 32 09.6 -8.2
KIS Kishinev 74.15 316⇑P P 23 32 09.6 -8.1
NB2 NORSAR Subarra 74.49 334 P P 23 32 18.0 -1.5
comp=Z,1.5nm,0.7s,baz=47,slow=5.6
NOA NORSAR Array B 74.49 334 P P 23 32 18.1 -1.5
comp=Z,2.7nm,0.8s,baz=49,slow=5.8,SNR=12
NORES NORESS Array B 74.57 334 P P 23 32 18.9 -1.0
KMPD K-Podol'skiy 74.69 318 P P 23 32 20.0 -0.8
BR131 Keskin Array S 74.78 308⇑eP P 23 32 20.7 -1.1
BR131 Keskin Array S 74.78 308 IAmb IAmb 23 32 26.5
comp=Z,6.3nm,0.9s
BRTR Keskin Array B 74.78 308 P P 23 32 21.0 -0.8
comp=Z,2.8nm,0.9s,baz=107,slow=5.1,SNR=13
BRTR Keskin Array B 74.78 308 iP P 23 32 21.7 -0.1
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 74.78 308 P P 23 32 21.4 -0.4
TESR Tescani 75.67 316⇓P P 23 32 22.4 -4.2
BURAR Bucovina Array 75.90 318⇑P P 23 32 28.2 +0.2
BURAR Bucovina Array 75.90 318⇑P P 23 32 28.2 +0.2
VRI Vrincioaia 75.97 316⇑P P 23 32 26.4 -2.0
VRI Vrincioaia 75.97 316⇑P P 23 32 26.4 -2.0
A04D Lummi Island 75.98 41 P P 23 32 28.5 +0.3
baz=304
OZUR 76.40 316⇓P P 23 32 30.7 -0.1
D03D Eldon 76.42 42 P P 23 32 31.3 +0.5
baz=304
B05A Bryant 76.57 41 P P 23 32 31.8 +0.1
baz=304
DOPR Dopca 76.70 316⇑P P 23 32 32.8 +0.3
BORA Eskisehir 76.81 309 IAmb IAmb 23 32 33.6
comp=Z,8.7nm,1.1s
OJC Ojcow 77.37 322 P P 23 32 36.5 +0.4
OJC pmax pmax
comp=Z,16nm,1.1s
OJC Ojcow 77.37 322 P P 23 32 36.5 +0.4
LANS Liptovska Anna 78.17 321 eP P 23 32 41.7 +1.0
LANS pmax pmax
comp=Z,3.0nm,1.2s
LANS Liptovska Anna 78.17 321 eP P 23 32 41.7 +1.0
ICESG Greenland Ices 78.31 356 iP P 23 32 39.2 -2.2
ICESG IAmb IAmb 23 32 46.5
comp=Z,5.0nm,0.9s
PSZ Piszkesteto 78.68 320⇓P P 23 32 43.6 +0.1
PSZ Piszkesteto 78.68 320⇓P P 23 32 43.6 +0.1
PSZ Piszkesteto 78.68 320 P P 23 32 43.6 +0.1
PSZ IAmb IAmb 23 32 44.9
comp=Z,7.8nm,1.1s
PSZ Piszkesteto 78.68 320 P P 23 32 45.4 +1.9
K02D Willamette Mer 78.78 46 P P 23 32 43.9 -0.4
baz=304
MORC Moravsky Berou 78.80 323⇑P P 23 32 41.1 -3.0
MORC Moravsky Berou 78.80 323⇑P P 23 32 41.1 -3.0
MORC Moravsky Berou 78.80 323 IAmb IAmb 23 32 48.7
comp=Z,6.4nm,1.1s
MORC Moravsky Berou 78.80 323 eP P 23 32 44.5 +0.4
VYHS Vyhne 78.90 321 eP P 23 32 45.1 +0.4
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 78.90 321 eP P 23 32 45.1 +0.4
OSTC Ostas 78.99 324 eP P 23 32 45.8 +0.7
KRLC Kraliky 79.00 323 eP P 23 32 45.4 +0.2
KRLC e 23 32 48.8
KRLC Kraliky 79.00 323 eP P 23 32 45.4 +0.2
KRLC epP pP 23 32 48.8 -0.1
CHVC Chvalec 79.05 324 eP P 23 32 45.6 +0.1
CHVC epP pP 23 32 49.3 +0.1
DPC Dobruska-Polom 79.06 324 eP P 23 32 45.7 +0.1
DPC e 23 32 49.6
DPC Dobruska-Polom 79.06 324 eP P 23 32 45.7 +0.1
DPC epP pP 23 32 49.6 +0.3
BZS Buzias 79.08 317 P P 23 32 46.2 +0.5
BZS pmax pmax
comp=Z,3.0nm,1.9s
KOLL Kolacno 79.08 321 eP P 23 32 47.1 +1.5
NEW Newport 79.27 39 P P 23 32 46.7 -0.1
baz=307
JAVC Velka Javorina 79.29 322 eP P 23 32 48.2 +1.3
J04D Umpqua Nationa 79.41 45 P P 23 32 47.4 -0.5
baz=305
VRAC Vranov 79.57 323⇓P P 23 32 48.3 -0.1
VRAC Vranov 79.57 323⇓P P 23 32 48.3 -0.1
VRAC Vranov 79.57 323 eP P 23 32 48.7 +0.4
SMOL Smolenice 79.63 322 eP P 23 32 49.7 +1.0
SMOL Smolenice 79.63 322 eP P 23 32 49.7 +1.0
PINE Pine Mountain 79.79 44 P P 23 32 50.6 +0.8
MODS Modra-Piesok 79.80 322 eP P 23 32 50.4 +0.8
MODS Modra-Piesok 79.80 322 eP P 23 32 50.4 +0.8
KRUC Moravsky 79.83 322 eP P 23 32 49.8 +0.1
VTS Vitosha 79.86 314⇓P P 23 32 50.2 0.0
VTS Vitosha 79.86 314⇓P P 23 32 50.2 0.0
L04D Klamath Falls 79.88 46 P P 23 32 49.2 -1.1
baz=305
CSKK Cskako 79.90 320 P P 23 32 54.9 +4.8
BRG Berggiesshubel 79.91 325 P P 23 32 50.4 +0.3
BRG pmax pmax
comp=Z,4.0nm,1.8s
J05D Fort Rock, OR 79.91 45 P P 23 32 50.7 +0.3
baz=306
M02C Callahan 80.01 47 P P 23 32 51.1 +0.1
baz=305
CLL Collm 80.08 326⇓iP P 23 32 50.5 -0.5
CLL i 23 32 54.3
CLL pmax pmax
comp=Z,14nm,1.1s
CLL Collm 80.08 326⇓iP P 23 32 50.5 -0.5
comp=Z,14nm,1.1s
CLL i (sP) pP 23 32 54.3 -0.4
comp=Z,16nm,1.1s
PRU Pruhonice 80.18 324 eP P 23 32 51.7 +0.1

PRU				*e*			23 32 55.6	
PRU	**Pruhonice**	**80.18**	**324**	*e*P		**P**	**23 32 51.7**	**+0.1**
PRU				*ep*P		**pP**	**23 32 55.6**	**+0.3**
FRGS	**Fruska Gora**	**80.38**	**318**	⇓P		**P**	**23 32 52.3**	**-0.5**
MPLH	**Magyarpolny**	**80.40**	**320**	P		**P**	**23 32 54.5**	**+1.7**
M04C	**Macdoel**	**80.41**	**46**	P		**P**	**23 32 53.6**	**+0.4**
	baz=305							
RONA	**Rosalia, Austr**	**80.73**	**321**	*e*P		**P**	**23 32 55.2**	**+0.6**
	comp=Z,11nm,1.8s							
O02D	**Mt. Diablo Mer**	**80.75**	**48**	P		**P**	**23 32 54.3**	**-0.6**
	baz=305							
KOVH	**Kovagotottos**	**80.76**	**319**	P		**P**	**23 32 54.4**	**-0.4**
CONA	**Conrad Observa**	**80.82**	**322**	*e*P		**P**	**23 32 56.2**	**+1.0**
	comp=Z,7.3nm,1.0s							
CKRC	**Cesky Krumlov**	**81.05**	**323**	*e*P		**P**	**23 32 56.3**	**0.0**
CKRC				*ep*P		**pP**	**23 33 00.2**	**+0.2**
NKC	**Novy Kostel**	**81.05**	**325**	*e*P		**P**	**23 32 56.3**	**0.0**
NKC	**Novy Kostel**	**81.05**	**325**	*e*P		**P**	**23 32 56.3**	**0.0**
DY2G	**Dye2**	**81.16**	**359**	*i* P		**P**	**23 32 55.5**	**-1.3**
DY2G				IAmb		IAmb	23 33 00.8	
	comp=Z,6.4nm,0.8s							
KHC	**Kasperske Hory**	**81.21**	**324**	*e*P		**P**	**23 32 57.4**	**+0.2**
KHC				*e*			23 33 00.9	
KHC	**Kasperske Hory**	**81.21**	**324**	*e*P		**P**	**23 32 57.4**	**+0.2**
KHC				*ep*P		**pP**	**23 33 00.9**	**0.0**
GERES	**GERESS Array B**	**81.34**	**323**	P		**P**	**23 32 57.7**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=80,slow=1.5,SNR=12							
ARSA	**Arzberg**	**81.42**	**321**	*e*P		**P**	**23 32 58.6**	**+0.2**
	comp=Z,4.6nm,1.1s							
MOA	**Molln**	**81.69**	**322**	*e*P		**P**	**23 33 00.5**	**+0.8**
	comp=Z,6.4nm,1.2s							
GRF	**Grafenberg Arr**	**82.00**	**325**	*e*P		**P**	**23 33 01.9**	**+0.6**
	comp=Z,31nm,1.4s,baz=56,slow=5.0							
SOKA	**Soboth**	**82.05**	**321**	*i* P		**P**	**23 33 02.0**	**+0.3**
	comp=Z,5.6nm,0.7s							
KBA	**Koelnbreinsper**	**82.67**	**322**	*e*P		**P**	**23 33 04.8**	**-0.3**
	comp=Z,3.9nm,1.0s							
MYKA	**Terra Mystica**	**82.81**	**322**	*e*P		**P**	**23 33 05.3**	**-0.4**
	comp=Z,1.9nm,0.6s							
EGMT	**Eagleton**	**83.21**	**36**	P		**P**	**23 33 07.7**	**0.0**
	baz=312							
ABTA	**Abfaltersbach**	**83.32**	**322**	*e*P		**P**	**23 33 07.5**	**-0.8**
	comp=Z,8.4nm,1.0s							
WATA	**Walderalm**	**83.40**	**323**	*i* P		**P**	**23 33 08.5**	**-0.3**
	comp=Z,4.7nm,0.9s							
WTTA	**Wattenberg**	**83.42**	**323**	*e*P		**P**	**23 33 08.9**	**-0.1**
	comp=Z,6.8nm,1.0s							
MOTA	**Moosalm**	**83.64**	**323**	*i* P		**P**	**23 33 09.8**	**-0.2**
	comp=Z,5.7nm,1.0s							
SQTA	**Sankt Quirin**	**83.67**	**323**	*i* P		**P**	**23 33 09.9**	**-0.3**
	comp=Z,6.2nm,0.9s							
HLID	**Hailey**	**83.68**	**42**	P		**P**	**23 33 09.8**	**-0.5**
	baz=310							
RETA	**Reutte**	**83.71**	**324**	*e*P		**P**	**23 33 10.2**	**-0.1**
	comp=Z,8.7nm,1.2s							
BOZ	**Bozeman (W)**	**83.87**	**39**	P		**P**	**23 33 10.5**	**-0.8**
	baz=311							
FETA	**Feichten**	**84.04**	**323**	*e*P		**P**	**23 33 12.1**	**-0.1**
	comp=Z,5.9nm,1.1s							
CTI	**Castel Tesino**	**84.23**	**322**	P		**P**	**23 33 12.2**	**-0.8**
CTI				pmax		pmax		
	comp=Z,9.0nm,0.9s							
DAVA	**Damuels**	**84.28**	**324**	*i* P		**P**	**23 33 13.2**	**-0.2**
	comp=Z,18nm,0.9s							
BFO	**Black Forest**	**84.32**	**325**	P		**P**	**23 33 12.6**	**-0.7**
BFO				pmax		pmax		
	comp=Z,19nm,1.0s							
KVN	**Kaiserville**	**84.33**	**47**	P		**P**	**23 33 14.4**	**+0.6**
KVN				pmax		pmax		
	comp=Z,7.0nm,1.2s							
NVAR	**Mina Array Bea**	**84.58**	**47**	P		**P**	**23 33 15.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=310,slow=5.0,SNR=5.7							
H17A	**Grant Village**	**85.23**	**39**	P		**P**	**23 33 18.3**	**0.0**
	baz=312							
BW06	**Boulder Array**	**86.87**	**40**	P		**P**	**23 33 26.3**	**-0.1**
	baz=313							
PDAR	**Pinedale Array**	**86.87**	**40**	P		**P**	**23 33 26.0**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=343,slow=0.6,SNR=11							
ULM	**Lac du Bonnet**	**87.76**	**28**	P		**P**	**23 33 29.8**	**-0.5**
	comp=Z,7.8nm,0.8s,baz=321,slow=5.9,SNR=5.7							
P17A	**Butcher Ranch,**	**88.44**	**43**	P		**P**	**23 33 33.7**	**-0.2**
P17A				IAmb		IAmb	23 33 39.2	
	comp=Z,5.1nm,0.9s							
P18A	**Preston Nutter**	**88.61**	**42**	P		**P**	**23 33 35.6**	**+0.6**
P18A				IAmb		IAmb	23 33 40.3	
	comp=Z,4.1nm,0.8s							
AGMN	**Agassiz Nation**	**89.31**	**29**	P		**P**	**23 33 37.3**	**-0.3**
	baz=322							
O20A	**White River Ci**	**89.39**	**41**	P		**P**	**23 33 38.7**	**+0.2**
	baz=314							
N23A	**Red Feather La**	**90.11**	**39**	P		**P**	**23 33 42.0**	**+0.1**
	baz=315							
B35A	**Bob, Littlefor**	**90.12**	**28**	P		**P**	**23 33 41.3**	**-0.1**
GLA	**Glamis**	**90.15**	**50**	P		**P**	**23 33 42.9**	**+1.0**
	baz=310							
PV13	**Radium Mtn., P**	**90.43**	**43**	P		**P**	**23 33 42.9**	**-0.4**
PV13				IAmb		IAmb	23 33 44.8	
	comp=Z,6.9nm,1.2s							
SMCO	**Snowmass**	**90.76**	**41**	P		**P**	**23 33 44.4**	**-0.8**
SUSD	**Miller**	**90.97**	**33**	P		**P**	**23 33 45.5**	**0.0**
	baz=320							
ISCO	**Idaho Springs**	**91.07**	**40**	P		**P**	**23 33 46.7**	**+0.3**
	baz=316							
MVCO	**Mesa Verde**	**91.27**	**43**	P		**P**	**23 33 48.0**	**+0.7**
	baz=314							
EYMN	**Ely**	**91.32**	**27**	P		**P**	**23 33 46.8**	**-0.2**
	baz=326							
S22A	**4UR Ranch, Cre**	**91.85**	**42**	P		**P**	**23 33 50.3**	**+0.2**
	baz=315							
ESDC	**Sonseca Array**	**96.65**	**326**	P		**P**	**23 34 10.7**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=157,slow=41,SNR=4.4							
ESDC	**Sonseca Array**	**96.65**	**326**	IAmb		IAmb	23 34 15.6	
	comp=Z,1.4nm,1.1s							
TXAR	**Lajitas Array**	**99.67**	**46**	P		**Pdif**	**23 34 25.3**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=143,slow=19,SNR=2.9							
U40A	**Yellville**	**100.20**	**34**	P		**Pdif**	**23 34 27.1**	**-0.5**
	baz=324							
O48B	**Farmland**	**100.25**	**27**	P		**Pdif**	**23 34 27.1**	**-0.7**
	baz=330							
WVT	**Waverly**	**102.68**	**31**	P		**Pdif**	**23 34 38.6**	**-0.1**
	baz=328							

JMA 15 23:26:47.4, 32.68N×130.77E, h7km±1km, M2.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.14**	**165**	P	Pg	23 26 50.5	+0.2
JIU3				S	Sg	23 26 52.8	+0.6
JTA	**Tamana**	**0.35**	**325**	P	Pg	23 26 54.4	+0.2
JTA				S	Sg	23 26 59.5	+0.7

*IDC **15** 23:26:54.7±1.4, 32.64N×130.88E, h0km, mb3.5/5, mb1 3.9/7, mb1mx3.5/49, mbtmp3.7/7, ML3.4/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/69, Error ellipse: s-maj=29.3km s-min=12.4km az=90.0*

*NIED **15** 23:27:00.0, 33.28N×131.39E, h7km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.29; $M_{\theta\theta}$1.24; $M_{\phi\phi}$0.06; $M_{r\theta}$-1.51; $M_{\theta\phi}$0.23; $M_{\phi r}$0.27; Fault plane solution: $M_0$2.00000×10^{15} NP1: ϕ_S247.00000°, δ22.00000°, λ-116.00000°. NP2: ϕ_S95.00000°, δ70.00000°, λ-80.00000°.*

*JMA **15** 23:27:00.0, 33.28N×131.39E, h7km±1km, M3.7*

JMA Felt IV J1.

ISC 15 23:26:58.9±0.8, 33.21N±0.06×131.18E±0.04, h10km, n14, σ2.937/14, mb3.7/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBEP	**Beppuamama**	**0.23**	**56**	P	**Pg**	**23 27 01.7**	**-1.9**
JBEP				S	**Sg**	**23 27 03.0**	**-3.8**
JNU	**Nakatsue**	**0.27**	**252**	Pg	**Pg**	**23 27 02.8**	**-1.6**
	201nm,0.3s,baz=278,slow=3.6,SNR=9.4						
JNU				Lg	Lg	23 27 11.3	
	194nm,0.3s,baz=67,slow=5.2,SNR=6.8						
JUS	**Usuki**	**0.50**	**106**	P	**Pg**	**23 27 07.4**	**-1.2**
JUS				S	**Sg**	**23 27 12.3**	**-2.9**
JTA	**Tamana**	**0.60**	**246**	P	**Pn**	**23 27 14.1**	**+0.6**
KSRS	**Korea Array**	**5.00**	**329**	Pg	**Pg**	**23 28 33.1**	**-1.6**
	0.6nm,0.3s,baz=148,slow=17,SNR=3.3						
KSRS				Lg	Lg	23 29 42.7	
	1.9nm,0.3s,baz=156,slow=28,SNR=6.5						
MJAR	**Matsushiro Arr**	**6.66**	**58**	Pn	**Pn**	**23 28 39.2**	**+2.4**
	0.3nm,0.3s,baz=233,slow=13,SNR=20						
MJAR				Lg	Lg	23 30 30.2	
	0.1nm,0.3s,baz=6.5,slow=4.2,SNR=1.4						
JHJ	**Hachijo jima 2**	**7.21**	**88**	LR	LR	23 31 24.8	
	comp=Z,132nm,19.0s,baz=140,slow=36						
KLR	**Kul'dur**	**16.01**	**1**	Pn	**P**	**23 30 47.8**	**+0.1**
	0.2nm,0.3s,baz=158,slow=12,SNR=8.1						
SONM	**Songino Array**	**23.71**	**315**	P	**P**	**23 32 11.6**	**+0.6**
	0.3nm,0.5s,baz=128,slow=11,SNR=1.7						
MKAR	**Makanchi Array**	**39.22**	**305**	P	**P**	**23 34 24.1**	**-3.1**
	0.2nm,0.7s,baz=79,slow=7.5,SNR=1.8						
NRIK	**Noril'sk**	**43.53**	**339**	P	**P**	**23 35 03.5**	**+1.1**
	1.8nm,0.8s,baz=78,slow=9.3,SNR=4.1						
HNR	**Honiara**	**50.48**	**142**	LR	LR	23 55 21.2	
	comp=Z,52nm,21.2s,baz=146,slow=34						
ILAR	**Eielson Array**	**57.12**	**30**	P	**P**	**23 36 48.2**	**+3.0**
	0.6nm,0.8s,baz=297,slow=8.0,SNR=5.3						
YKA	**Yellowknife Ar**	**71.15**	**27**	P	**P**	**23 38 19.0**	**+1.7**
	0.7nm,0.8s,baz=301,slow=6.0,SNR=11						

*IDC **15** 23:28:48.6±2.4, 8.43S×120.66E, h195km±22km, mb3.4/3, mb1 3.3/8, mb1mx3.0/46, mbtmp3.7/8, Error ellipse: s-maj=92.3km s-min=14.4km az=59.0*

ISC 15 23:28:49.1±1.0, 8.32S±0.2×121.2E±0.2, h200km, n8, σ2.935/10, mb3.5/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.16**	**128**	P	**Pn**	**23 29 42.6**	**+1.8**
	0.8nm,0.3s,baz=307,slow=20,SNR=1.7						
BATI				S	**Sn**	**23 30 19.0**	**-2.1**
	18nm,0.3s,baz=254,slow=10,SNR=6.7						
KAPI	**Kappang**	**3.49**	**336**	P	**Pn**	**23 29 45.1**	**+0.4**
	0.8nm,0.3s,baz=184,slow=10,SNR=3.9						
FITZ	**Fitzroy Crossi**	**10.73**	**156**	P	**Pn**	**23 31 17.4**	**-0.4**
	0.1nm,0.3s,baz=329,slow=9.5,SNR=12						
FITZ				S	Sn	23 33 08.2	-10
	0.3nm,0.3s,baz=189,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**17.28**	**134**	P	**P**	**23 32 38.9**	**+1.7**
	0.4nm,0.3s,baz=306,slow=13,SNR=17						
WRA				S	**S**	**23 35 42.1**	**-4.7**
	0.1nm,0.3s,baz=301,slow=18,SNR=1.6						
ASAR	**Alice Springs**	**19.62**	**143**	P	**P**	**23 33 04.1**	**+1.5**
	0.7nm,0.3s,baz=327,slow=12,SNR=24						
STKA	**Stephens Creek**	**30.25**	**144**	P	**P**	**23 34 43.0**	**+1.7**
	1.2nm,0.3s,baz=324,slow=9.2,SNR=5.2						
MKAR	**Makanchi Array**	**64.77**	**332**	P	**P**	**23 39 06.3**	**0.0**
	0.4nm,0.6s,baz=133,slow=8.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**69.11**	**338**	P	**P**	**23 39 32.6**	**-0.8**
	0.3nm,0.3s,baz=145,slow=5.3,SNR=2.4						

*TUL **15** 23:42:10.1±0.8, 36.894N±0.010×97.68W±0.01, h4km±6km, ML2.8, mb_Lg2.4/10(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=121.0*

NEIC 15 23:42:10.5±0.8, 36.88N±0.01×97.65W±0.01, h5km±5km, Error ellipse: s-maj=1.7km s-min=1.5km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.92**	**87**	Pg	Pg	23 42 27.8	-0.3
U32A	**Winter Ranch,**	**1.19**	**246**	Pg	Pg	23 42 32.6	-0.7
FNO	**Franklin**	**1.63**	**173**	Pn	Pn	23 42 40.1	+0.3
R32A	**Long Quarter,**	**1.76**	**332**	Pn	Pn	23 42 42.0	+0.4
TUL1	**Leonard**	**1.79**	**122**	Pn	Pn	23 42 42.6	+0.6
TUL1				IAmb_Lg		23 43 09.8	
	comp=Z,19nm,0.8s						
W35A	**Tecumseh**	**1.83**	**160**	Pn	Pn	23 42 42.5	-0.1
X34A	**Smith Ranch, M**	**2.27**	**184**	Pn	Pn	23 42 49.1	+0.4
WMOK	**Wichita Mounta**	**2.32**	**204**	Pn	Pn	23 42 49.9	+0.6
KSU1	**Kansas State U**	**2.37**	**20**	Pn	Pn	23 42 50.0	0.0
KSU1				IAmb_Lg		23 43 27.2	
	comp=Z,18nm,1.1s						
HHAR	**Hobbs**	**3.05**	**100**	Pn	Pn	23 42 59.6	+0.3
S39A	**Bolivar**	**3.55**	**75**	Pn	Pn	23 43 06.4	+0.2
W39A	**Magazine**	**3.56**	**117**	IAmb_Lg		23 44 12.3	
	comp=Z,6.2nm,0.8s						
P38A	**Dawn**	**4.25**	**49**	IAmb_Lg		23 44 25.2	
	comp=Z,9.8nm,0.8s						
PBMO	**Poplar Bluff**	**5.80**	**89**	IAmb_Lg		23 45 18.6	
	comp=Z,6.3nm,0.8s						

*NEIC **15** 23:48:04.8±1.6, 15.1S±0.1×171.76W±0.08, h25km±5km, mb4.5/18, Error ellipse: s-maj=19.2km s-min=9.7km az=193.0*

*IDC **15** 23:48:04.8±47.0, 15.62S×172.24W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/37, mbtmp4.1/3, Error ellipse: s-maj=919.0km s-min=200.7km az=79.0*

ISC 15 23:48:02.7±0.9, 15.1S±0.1×171.8W±0.1, h18km, n25, σ1.931/25, mb4.6/13, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.38**	**156**	Pn	**Pn**	**23 49 08.7**	**+0.4**
MSVF	**Nonsavu**	**10.09**	**253**	Pn	**Pn**	**23 50 26.6**	**-0.2**
PLWZ	**Palliser**	**28.69**	**200**	P	**P**	**23 53 54.7**	**-4.1**
THZ	**Tophouse**	**29.71**	**203**	P	**P**	**23 54 09.2**	**+1.3**
THZ				IAmb	IAmb	23 54 11.7	
	comp=Z,14nm,1.2s						
MQZ	**McQueen's Vall**	**31.48**	**202**	P	**P**	**23 54 25.4**	**+2.1**
MQZ				IAmb	IAmb	23 54 37.9	
	comp=Z,16nm,1.2s						
ARMA	**Armidale**	**36.83**	**239**	P	**P**	**23 55 10.0**	**-0.1**
ARMA				IAmb	IAmb	23 55 10.9	
	comp=Z,4.3nm,0.8s						
COEN	**Coen**	**43.54**	**265**	P	**P**	**23 56 06.2**	**+0.4**
COEN				IAmb	IAmb	23 56 15.1	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**45.53**	**240**	P	**P**	**23 56 21.3**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=70,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**45.53**	**240**	P	**P**	**23 56 22.1**	**+0.5**
BBOO	**Buckleboo**	**50.31**	**240**	P	**P**	**23 56 59.5**	**+1.0**
BBOO				IAmb	IAmb	23 57 18.7	
	comp=Z,7.4nm,1.1s						
WR0	**Warramunga Arr**	**51.23**	**256**	P	**P**	**23 57 06.1**	**+0.4**
WR0				IAmb	IAmb	23 57 15.2	
	comp=Z,3.4nm,1.1s						
WB0	**Warramunga Arr**	**51.38**	**257**	P	**P**	**23 57 07.3**	**+0.4**
WB0				IAmb	IAmb	23 57 09.7	
	comp=Z,3.6nm,1.1s						
WB2	**Warramunga Arr**	**51.41**	**256**	P	**P**	**23 57 07.2**	**+0.2**
WRA	**Warramunga Arr**	**51.42**	**256**	P	**P**	**23 57 07.5**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=93,slow=7.1,SNR=7.2						
WRA	**Warramunga Arr**	**51.42**	**256**	P	**P**	**23 57 07.8**	**+0.7**
AS31	**Alice Springs**	**51.67**	**252**	P	**P**	**23 57 09.8**	**+0.7**
ASAR	**Alice Springs**	**51.67**	**252**	P	**P**	**23 57 09.8**	**+0.8**
	comp=Z,3.6nm,0.4s,baz=89,slow=8.1,SNR=72						
ASAR	**Alice Springs**	**51.67**	**252**	P	**P**	**23 57 09.3**	**+0.3**
FORT	**Forrest**	**56.94**	**243**	P	**P**	**23 57 49.0**	**+1.8**
KNRA	**Kununurra**	**57.14**	**261**	P	**P**	**23 57 49.1**	**+0.3**
KNRA				IAmb	IAmb	23 58 00.6	
	comp=Z,3.5nm,0.6s						
VA02	**Isla de Pascua**	**58.91**	**113**	P	**P**	**23 58 00.2**	**-0.8**
PSA00	**Pilbara Seismi**	**64.77**	**253**	P	**P**	**23 58 40.0**	**-0.7**
PSA00				IAmb	IAmb	23 58 40.2	
	comp=Z,2.4nm,0.9s						
SAO	**San Andreas Ge**	**70.06**	**41**	P	**P**	**23 59 13.6**	**-0.2**
HOPS	**Hopland Field**	**70.45**	**38**	P	**P**	**23 59 17.8**	**+1.7**
MYLDM	**Lahad Datu**	**71.89**	**281**	P	**P**	**23 59 23.5**	**-1.9**
MYLDM				IAmb	IAmb	23 59 24.6	
	comp=Z,4.8nm,0.7s						

*IDC **15** 23:52:32.2±4.7, 14.21N×91.78W, h0km, mb3.6/1, mb1 3.7/2, mb1mx3.3/36, mbtmp3.3/2, ML3.6/1, Error ellipse: s-maj=196.9km s-min=83.2km az=55.0*

*MEX **15** 23:52:35.0±0.8, 13.89N×93.19W, h18km±46km, MD4.2*

ISC 15 23:52:36.1±1.8, 14.2N±0.1×93.04W±0.06, h10km, n11, σ1.883/18, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATR	**El Naranjo**	**1.22**	**40**	*e*P	**Pn**	**23 52 58.3**	**-1.1**
PATR				*e*S	**Sn**	**23 53 16.1**	**+0.1**
CHUJ	**Union Juarez**	**1.28**	**45**	*e*P	**Pn**	**23 52 59.3**	**-1.0**
CHUJ				*e*S	**Sn**	**23 53 18.6**	**+0.9**
PAVE	**Pavencul**	**1.31**	**39**	*e*P	**Pn**	**23 52 60.0**	**-0.7**
PAVE				*e*S	**Sg**	**23 53 19.1**	**+0.8**
PCIG		**1.53**	**353**	*e*P	**Pn**	**23 53 02.1**	**-1.3**
CCIG	**Comitan**	**2.27**	**22**	*e*P	**Pn**	**23 53 14.2**	**+0.4**
CCIG				*e*S	**Sb**	**23 53 43.9**	**-1.6**
TGIG		**2.59**	**358**	*e*P	**Pn**	**23 53 17.9**	**-0.2**
TGIG				*i* S	**Sn**	**23 53 50.2**	**+0.6**
UXUV	**UXUV**	**3.30**	**341**	*e*P	**Pn**	**23 53 28.7**	**+0.8**
UXUV				*i* S	**Sn**	**23 54 08.0**	**+0.8**
CMIG	**Matias Romero**	**3.40**	**329**	*e*P	**Pn**	**23 53 29.4**	**+0.2**
CMIG				*i* S	**Sn**	**23 54 05.8**	**-3.9**
TXAR	**Lajitas Array**	**18.01**	**329**	P	**P**	**23 56 51.8**	**+4.6**
	0.1nm,0.3s,baz=140,slow=14,SNR=2.3						
YKA	**Yellowknife Ar**	**50.63**	**347**	P	**P**	**00 01 34.4**	**-0.6**
	0.6nm,0.7s,baz=153,slow=7.4,SNR=12						
CMAR	**Chiang Mai Arr**	**145.49**	**340**	PKPbc	**PKPbc**	**00 12 13.5**	**-1.9**
	0.2nm,0.4s,baz=354,slow=3.6,SNR=2.4						

*IDC **15** 23:55:39.8±1.7, 51.15N×177.86W, h0km, mb3.6/6, mb1 4.0/10, mb1mx3.6/51, mbtmp3.8/10, ML4.3/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/87, Error ellipse: s-maj=46.1km s-min=16.2km az=2.0*

*NEIC **15** 23:55:41.1±1.4, 50.8N±0.2×177.8W±0.2, h30km±14km, mb3.7/33, ML3.7(AEIC), Error ellipse: s-maj=30.8km s-min=13.1km az=159.0*

*AEIC **15** 23:55:45±2.1, 51.3N±0.2×178.0W±0.1, h46km±8km, Error ellipse: s-maj=24.5km s-min=9.9km az=160.0*

ISC 15 23:55:44.1±1.2, 51.1N±0.2×177.85W±0.06, h35km, n61, σ1.921/54, mb3.7/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.84**	**31**		**Pn**	**23 55 59.7**	**+0.3**
ADK	**Adak**	**1.04**	**44**		**Pn**	**23 56 03.0**	**+0.7**
GSTR	**Great Sitkin T**	**1.47**	**49**		**Pn**	**23 56 09.7**	**+1.6**
SHEM	**Shemya Is, Ala**	**5.23**	**291**	Pn	**Pn**	**23 56 59.6**	**-0.2**
	4.2nm,0.3s,baz=311,slow=19,SNR=1.7						
SHEM				Sn	**Sn**	**23 57 59.5**	**+0.7**
	3.6nm,0.3s,baz=103,slow=22,SNR=1.2						
SHEM				LR	LR	23 59 09.9	
	comp=Z,143nm,18.6s,baz=61,slow=40						
SMY	**Shemya**	**5.23**	**291**	Pn	**Pn**	**23 56 58.7**	**-1.1**
SPIA	**Saint Paul Isl**	**7.51**	**33**	Pn	**Pn**	**23 57 31.5**	**+0.4**
SDPT	**Sand Point**	**11.22**	**61**	Pn	**Pn**	**23 58 19.3**	**-2.5**
CHIR	**Chirikof Islan**	**14.01**	**62**	Pn	**Pn**	**23 58 57.8**	**-2.1**
O18K	**Koktuh Hills**	**15.44**	**47**	P	**P**	**23 59 22.2**	**-1.1**
O18K				IAmb	IAmb	23 59 37.1	
	comp=Z,5.8nm,1.1s						
N18K	**Kilae Creek**	**15.51**	**44**	Pn	**Pn**	**23 59 19.5**	**-0.4**
N18K				IAmb	IAmb	23 59 36.6	
	comp=Z,4.7nm,1.1s						
OHAK	**Old Harbor**	**15.56**	**57**	Pn	**Pn**	**23 59 18.6**	**-2.0**
KDAK	**Kodiak Island**	**16.06**	**56**	Pn	**Pn**	**23 59 26.1**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=218,slow=4.6,SNR=16						
KDAK				Sn	**Sn**	**00 02 19.3**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=329,slow=19,SNR=1.8						
KDAK	**Kodiak Island**	**16.06**	**56**	Pn	**Pn**	**23 59 26.0**	**-1.0**
N19K	**Bonanza Creek**	**16.18**	**44**	Pn	**Pn**	**23 59 27.9**	**-0.8**
N19K				IAmb	IAmb	23 59 46.6	
	comp=Z,2.9nm,0.8s						
TTA	**Tatalina**	**16.64**	**36**	Pn	**Pn**	**23 59 35.2**	**+0.8**
L19K	**White Mountain**	**16.68**	**40**	Pn	**Pn**	**23 59 32.6**	**-2.3**
M19K	**Big River Lodg**	**16.73**	**41**	Pn	**Pn**	**23 59 34.2**	**-1.4**
CNPM	**China Poot**	**17.21**	**51**	Pn	**Pn**	**23 59 40.3**	**-1.2**
BRLK	**Bradley Lake**	**17.45**	**50**		**Pn**	**23 59 44.9**	**+0.4**
J20K	**Nowinta River**	**18.05**	**35**		**P**	**23 59 52.4**	**+0.4**
PPLA	**Purkeypile**	**18.11**	**40**		**P**	**23 59 53.0**	**+0.1**
PPLA				IAmb	IAmb	00 00 07.2	
	comp=Z,4.4nm,1.0s						
CAST	**Castle Rocks**	**18.41**	**38**		**Pn**	**23 59 57.2**	**+0.9**
KTH	**Kantishna Hill**	**18.93**	**39**	P	**P**	**00 00 02.9**	**+1.1**
KTH				IAmb	IAmb	00 00 05.7	
	comp=Z,4.7nm,0.8s						
PWL	**Port Wells**	**18.99**	**48**	P	**P**	**00 00 02.4**	**0.0**
TRF	**Thorofare Moun**	**19.13**	**39**	P	**P**	**00 00 04.5**	**+0.4**
TRF				IAmb	IAmb	00 00 10.2	
	comp=Z,5.5nm,1.0s						
BPAW	**Bear Paw Mtn.**	**19.17**	**37**	P	**P**	**00 00 04.4**	**0.0**
BPAW				IAmb	IAmb	00 00 22.5	
	comp=Z,4.7nm,1.2s						
IMAR	**Indian Mountai**	**19.27**	**30**	P	**P**	**00 00 05.4**	**0.0**
MA2	**Magadan**	**19.57**	**308**	P	**Pn**	**00 00 10.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=153,slow=22,SNR=2.2						
RND	**Reindeer**	**19.69**	**40**	P	**P**	**00 00 09.6**	**-0.5**
RND				IAmb	IAmb	00 00 26.9	
	comp=Z,4.0nm,1.1s						
MCK	**McKinley**	**19.80**	**39**	P	**P**	**00 00 10.8**	**-0.5**
MCK				IAmb	IAmb	00 00 25.8	
	comp=Z,3.2nm,1.0s						
SEY	**Seymchan**	**19.82**	**318**	P	**P**	**00 00 13

JMJ2	**Miyako jima3**	**0.68**	**11**	P		**Pn**	**00 10 35.5**	**+0.1**
JMJ2				S		**Sn**	**00 10 45.7**	**+0.9**
JOGS	**Gusukube**	**0.71**	**16**	P		**Pn**	**00 10 36.1**	**+0.3**
JOGS				S		**Sn**	**00 10 46.6**	**+1.0**
JTJ	**Tarama**	**0.72**	**322**	P		**Pn**	**00 10 35.8**	**-0.1**
JTJ				*e*S		**Sn**	**00 10 46.5**	**+0.7**
JIRB	**Irabujima**	**0.76**	**359**	P		**Pn**	**00 10 36.2**	**-0.2**
JIRB				S		**Sn**	**00 10 46.8**	**+0.2**
JIKM	**Ikemajima**	**0.85**	**4**	P		**Pn**	**00 10 37.9**	**+0.2**
JIKM				S		**Sn**	**00 10 49.5**	**+0.5**
JISG	**Ishigakijimahi**	**0.95**	**303**	P		**Pn**	**00 10 39.0**	**-0.1**
JIJ	**Ishigaki jima**	**1.00**	**287**	P		**Pn**	**00 10 39.6**	**-0.1**
JIJ				*e*S		**Sn**	**00 10 52.9**	**+0.3**
JKRS	**Kuro-shima**	**1.09**	**279**	P		**Pn**	**00 10 41.2**	**+0.3**
JKRS				*e*S		**Sn**	**00 10 55.4**	**+0.6**
HATJ	**Hateruma jima**	**1.26**	**270**	P		**Pn**	**00 10 43.2**	**-0.1**
HATJ				*e*S		**Sn**	**00 10 58.9**	**-0.2**
IRIF	**Iriomote-Funau**	**1.36**	**281**	P		**Pn**	**00 10 44.8**	**+0.2**
YOJ	**Yonaguni jima**	**2.02**	**282**	P		**Pn**	**00 10 53.9**	**+0.1**
YOJ				S		**Sn**	**00 11 18.1**	**+0.2**
JYNG	**Yonagunijimaku**	**2.08**	**281**	P		**Pn**	**00 10 54.9**	**+0.3**
JYNG				*e*S		**Sn**	**00 11 18.4**	**-0.9**
JOW	**Kunigami**	**3.92**	**45**	Pn		**Pn**	**00 11 19.3**	**-0.5**
	7.1nm,0.3s,baz=202,slow=15,SNR=3.3							
MJAR	**Matsushiro Arr**	**16.74**	**39**	Pn		**P**	**00 14 13.2**	**-2.4**
	0.1nm,0.3s,baz=306,slow=4.3,SNR=4.9							
ASAJ	**Asahikawa**	**24.56**	**31**	LR		LR	00 25 22.6	
	comp=Z,158nm,18.5s,baz=113,slow=37							
CMAR	**Chiang Mai Arr**	**25.07**	**262**	P		**P**	**00 15 41.5**	**-1.6**
	0.3nm,0.3s,baz=254,slow=7.9,SNR=1.7							
SONM	**Songino Array**	**28.03**	**332**	P		**P**	**00 16 07.8**	**-1.8**
	0.5nm,0.4s,baz=149,slow=12,SNR=1.5							
MKAR	**Makanchi Array**	**41.00**	**315**	P		**P**	**00 18 01.5**	**+0.2**
	1.8nm,0.5s,baz=99,slow=9.6,SNR=22							
ZALV	**Zalesovo Beam**	**42.37**	**325**	P		**P**	**00 18 12.2**	**-0.2**
	1.7nm,0.5s,baz=112,slow=7.8,SNR=9.9							
WRA	**Warramunga Arr**	**44.65**	**168**	P		**P**	**00 18 31.3**	**+0.3**
	0.8nm,0.9s,baz=349,slow=9.0,SNR=4.4							
ASAR	**Alice Springs**	**48.20**	**169**	P		**P**	**00 19 00.2**	**+1.3**
	0.3nm,0.6s,baz=355,slow=14,SNR=7.3							
GEYT	**Alibeck**	**58.00**	**301**	P		**P**	**00 20 12.4**	**+1.3**
	0.8nm,0.5s,baz=172,slow=22,SNR=1.5							
ILAR	**Eielson Array**	**67.63**	**28**	P		P	00 21 17.9	+3.2
	0.2nm,0.6s,baz=84,slow=19,SNR=1.9							
FINES	**FINESS Array B**	**73.37**	**330**	P		**P**	**00 21 50.2**	**+0.5**
	2.1nm,0.9s,baz=14,slow=6.3,SNR=2.4							
BRTR	**Keskin Array B**	**76.17**	**307**	P		**P**	**00 22 07.5**	**+1.1**
	0.8nm,1.0s,baz=83,slow=3.9,SNR=2.4							
NB2	**NORSAR Subarra**	**80.01**	**333**	P		**P**	**00 22 27.5**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=61,slow=5.3							
NOA	**NORSAR Array B**	**80.01**	**333**	P		**P**	**00 22 27.6**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=52,slow=2.0,SNR=3.6							

HLW **16** *00:10:35.2,35˚.28N×25˚.70E,h17km±17km,Md4.5,Ml4.5*
DDA **16** *00:10:37.0±0.0,34˚.92N×25˚.63E,h6km±4km,MW4.8*
NIC **16** *00:10:38.6±0.0,34˚.80N×25˚.79E,h10km±31km,Ml5.1/5*
ISK **16** *00:10:38.8,34˚.97N×25˚.69E,h7km,ML4.8/30*
BJI **16** *00:10:38.2±0.0,34˚.81N×25˚.84E,h8km,mb4.7/46, mB5.0/28,Ms4.7/20,Ms7 4.4/20*
THE **16** *00:10:39.0,34˚.96N×25˚.71E,h0km,ML4.4/10,Error ellipse: s-maj=1.8km s-min=0.5km az=177.0*
IDC **16** *00:10:39.4±0.5,35˚.01N×25˚.80E,h0km,mb4.5/33, mb1 4.5/46,mb1mx4.5/67,mbtmp4.5/46,ML4.2/12, MS4.3/51,Ms1 4.3/51,ms1mx4.2/90,Error ellipse: s-maj=11.3km s-min=9.4km az=166.0*
ATH **16** *00:10:40.4,34˚.98N×25˚.74E,h9km,Mw4.7,Moment Tensor Solution. s6 Moment tensor: Mrr-0.43; Mθθ 0.14; Mφφ0.29; Mrθ-0.20; Mrφ 1.36; Mθφ0.80; Fault plane solution: NP1:φs183.00000°,δ77.00000°,λ-15.00000°. NP2: φs183.00000°,δ77.00000°,λ-146.00000°.*
MED_RC **16** *00:10:40.0±0.3,34˚.81N×25˚.66E,h15km±1km,MW5.1/37, Moment Tensor Solution.Mantle waves: s37,c58; Duration: 1ß3 Moment tensor: Scale 10¹⁶Nm; Mrr0.69±.17; Mθθ0.02±.13; Mφφ-0.71±.14; Mrθ-1.84±.34; Mθφ4.53±.16; Mφr-1.07±.26; Best double couple: Mo5.05000×10¹⁶ NP1:φs275.00000°,δ76.00000°, λ22.00000°. NP2:φs180.00000°,δ69.00000°,λ165.00000°. Principal axes: T 5.1700, Plg25.0000°, Azm139.0000°; N -0.2400, Plg64.0000°, Azm305.0000°; P -4.9300, Plg5.0000°, Azm46.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=40s.*
MOS **16** *00:10:40.3±1.3,34˚.92N×25˚.75E,h19km,mb4.9/79, MS4.2/22 Error ellipse: s-maj=3.7km s-min=2.1km az=98.5*
PDG **16** *00:10:40.4±0.7,35˚.01N×25˚.71E,h9km±1km,ML4.7/13, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0*
GII **16** *00:10:41.3±0.0,34˚.91N×26˚.09E,h10km,mb4.6/5, MD4.5/5,Mm5.0/3*
NEIC **16** *00:10:41.3±1.5,34˚.94N±0˚.07×25˚.76E±0˚.07,h10km±1km, mb4.7/167,Mwr5.0/39,ML4.4(THE),Error ellipse: s-maj=12.1km s-min=9.6km az=195.0*
NEIC **16** *00:10:41.6,34˚.95N×25˚.75E,h25km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.48; Mθθ-1.03; Mφφ-0.44; Mrθ0.18; Mθφ2.78; Mφr2.35; Fault plane solution: Mo3.87000×10¹⁶ NP1:φs348.89000°, δ73.98000°,λ135.44000°. NP2:φs94.09000°,δ47.60000°, λ21.95000°. Principal axes: T 3.7824, Plg42.0000°, Azm302.0000°; N 0.1772, Plg43.0000°, Azm153.0000°; P -3.9595, Plg16.0000°, Azm47.0000°;*
GCMT **16** *00:10:42.3±0.3,34˚.99N±0˚.02×25˚.59E±0˚.02,h28km±1km, MW5.1/95,Moment Tensor Solution. s20,c21; s95,c138; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.45±.35; Mθθ-0.04±.26; Mφφ-0.39±.24; Mrθ1.16±.38; Mθφ6.36±.19; Mφr-1.12±.37; Best double couple: Mw6.53900×10¹⁶ NP1:φs1.00000°,δ81.00000°,λ-172.00000°. NP2: φs270.00000°,δ82.00000°,λ-9.00000°. Principal axes: T 6.1410, Plg1.0000°, Azm316.0000°; N 0.7960, Plg78.0000°, Azm48.0000°; P -6.9360, Plg12.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 00:10:39.8±0.5,34˚.94N±0˚.03×25˚.70E±0˚.02,h5km±2km, h4km:pP-P,n911,σ1ß92/960,mb4.7/198,MS4.3/50, 46C-75D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.08**	**19**	P		**Pg**	**00 10 42.4**	**+0.8**
FRMA				S		**Sg**	**00 10 45.5**	**+2.7**
FRMA	**Ierapetra Chan**	**0.08**	**19**	P		**Pg**	**00 10 42.5**	**+0.9**
FRMA				S		**Sg**	**00 10 45.6**	**+2.7**
	164µm,0.6s							
ZKR	**Zakros**	**0.46**	**67**	P		**Pg**	**00 10 48.2**	**-0.5**
ZKR				S		**Sg**	**00 10 54.9**	**+0.2**
ZKR				AML	AML		00 10 56.4	
ZKR				AML	AML		00 10 56.5	
ZKR	**Zakros**	**0.46**	**67**	P		**Pg**	**00 10 48.0**	**-0.7**
ZKR				S		**Sg**	**00 10 54.7**	**0.0**
	349µm,0.5s							
ZKR	**Zakros**	**0.46**	**67**	PG		**Pg**	**00 10 48.1**	**-0.5**
ZKR				SG		**Sg**	**00 10 54.9**	**+0.2**
ZKR	**Zakros**	**0.46**	**67**	P		**Pg**	**00 10 47.7**	**-1.0**
ZKR				AML	AML		00 10 55.0	
	365nm,0.5s							
ZKR				AML	AML		00 10 55.0	
	365nm,0.5s							
ZKR				S		**Sg**	**00 10 55.4**	**+0.7**
ZKR				AML	AML		00 10 55.4	
	942nm,0.6s							
ZKR				AML	AML		00 10 55.4	
	942nm,0.6s							
HRKL	**Herakleio**	**0.62**	**307**	P		**Pb**	**00 10 52.5**	**-0.6**
HRKL	**Herakleio**	**0.62**	**307**	P		**Pg**	**00 10 51.2**	**-0.5**
HRKL				S		**Sg**	**00 11 00.2**	**+0.5**
	87µm,0.8s							
HRKL	**Herakleio**	**0.62**	**307**	PG		**Pg**	**00 10 51.1**	**-0.6**
KSTL	**Kastelli Herak**	**0.63**	**306**	P		**Pg**	**00 10 47.8**	**-4.2**
KSTL	**Kastelli Herak**	**0.63**	**306**	P		Pg	00 10 47.3	-4.7
KSTL				S		**Sg**	**00 10 54.3**	**-5.9**
IACM	**Heraklion**	**0.64**	**306**	P		**Pb**	**00 10 52.7**	**-0.7**
IACM	**Heraklion**	**0.64**	**306**	P		**Pg**	**00 10 51.7**	**-0.3**
IACM				S		**Sg**	**00 11 01.2**	**+0.9**
SIVA	**Sivas**	**0.74**	**277**	P		**Pg**	**00 10 53.5**	**-0.5**
SIVA				S		**Sb**	**00 11 06.0**	**+0.4**
SIVA				AML	AML		00 11 07.8	
SIVA				AML	AML		00 11 09.3	
SIVA	**Sivas**	**0.74**	**277**	P		**Pg**	**00 10 53.1**	**-0.9**
SIVA				S		**Sb**	**00 11 05.6**	**+0.1**
	70µm,0.6s							
IDI	**Anoyia**	**0.75**	**298**	P		**Pg**	**00 10 54.0**	**-0.3**
IDI				S		**Sb**	**00 11 05.0**	**-1.2**
IDI				AML	AML		00 11 10.7	
	comp=E,39526µm,0.5s							
IDI				AML	AML		00 11 10.7	
	comp=N,43915µm,0.5s							
IDI	**Anoyia**	**0.75**	**298**	P		**Pg**	**00 10 53.4**	**-0.9**
IDI				S		**Sb**	**00 11 04.9**	**-1.2**
	comp=N,21µm,0.5s							
IDI	**Anoyia**	**0.75**	**298**	PG		**Pg**	**00 10 52.8**	**-1.5**
IDI	**Anoyia**	**0.75**	**298**			**Pg**	**00 10 52.9**	**-1.4**
TMBK	**Timbaki Herakl**	**0.78**	**280**	P		**Pg**	**00 10 54.7**	**-0.1**
TMBK				S		**Sb**	**00 11 07.2**	**+0.5**
TMBK				AML	AML		00 11 09.6	
TMBK				AML	AML		00 11 14.8	
TMBK	**Timbaki Herakl**	**0.78**	**280**	P		**Pg**	**00 10 54.1**	**-0.7**
TMBK				S		**Sb**	**00 11 06.8**	**0.0**
	comp=N,26µm,0.6s							
PRNS	**Prines Rethymn**	**1.07**	**294**	P		**Pg**	**00 10 59.8**	**-0.6**
PRNS				S		**Sn**	**00 11 17.1**	**+0.3**
	comp=N,7µm,1.1s							
GVDS	**Gavdos**	**1.33**	**266**	P		**Pn**	**00 11 04.3**	**-0.8**
GVDS				S		**Sn**	**00 11 22.7**	**-0.4**
	comp=N,8µm,0.7s							
GVD	**Gavdhos**	**1.33**	**266**	P		**Pb**	**00 11 06.3**	**+1.0**
GVD	**Gavdhos**	**1.33**	**266**	P		**Pn**	**00 11 04.4**	**-0.7**
GVD				S		**Sn**	**00 11 23.4**	**+0.2**
	comp=N,11µm,0.6s							
GVD	**Gavdhos**	**1.33**	**266**	PN		**Pn**	**00 11 04.6**	**-0.5**
KARP	**Karpathos**	**1.34**	**63**	P		**Pn**	**00 11 04.8**	**-0.5**
KARP				S		**Sg**	**00 11 21.3**	**-1.6**
KARP				AML	AML		00 11 31.6	
	comp=E,72781µm,0.7s							
KARP				AML	AML		00 11 32.4	
	comp=N,70821µm,0.6s							
KARP	**Karpathos**	**1.34**	**63**	P		**Pn**	**00 11 03.5**	**-1.8**
KARP				S		**Sb**	**00 11 23.3**	**+0.3**
	comp=N,44µm,0.6s							
KARP	**Karpathos**	**1.34**	**63**	PN		**Pn**	**00 11 03.6**	**-1.8**
KARP				SN		**Sb**	**00 11 23.3**	**+0.3**
KARP	**Karpathos**	**1.34**	**63**	Pn		**Pn**	**00 11 03.6**	**-1.7**
KARP	**Karpathos**	**1.34**	**63**	P		**Pn**	**00 11 03.5**	**-1.7**
KARP				S		**Sg**	**00 11 22.9**	**0.0**
KARP				AML	AML		00 11 35.7	
	comp=N,79nm,0.6s							
KARP				AML	AML		00 11 35.7	
	comp=N,79nm,0.6s							
KARP				AML	AML		00 11 36.8	
	comp=N,96nm,0.7s							
KARP				AML	AML		00 11 36.8	
	comp=N,96nm,0.7s							
THR3	**Thira Island,**	**1.49**	**351**	P		**Pn**	**00 11 06.0**	**-1.3**
IMMV	**Iera Moni Meta**	**1.50**	**291**	P		**Pg**	**00 11 08.5**	**-0.1**
IMMV	**Iera Moni Meta**	**1.50**	**291**	P		**Pn**	**00 11 05.0**	**-2.5**
IMMV	**Iera Moni Meta**	**1.50**	**291**	PN		**Pn**	**00 11 05.8**	**-1.7**
THR2	**Thira island,**	**1.52**	**352**	P		**Pn**	**00 11 06.6**	**-1.2**
CMBO	**Columbo, Santo**	**1.55**	**351**	P		**Pn**	**00 11 06.8**	**-1.3**
KNDR	**Palaiochora Ch**	**1.68**	**281**	PN		**Pn**	**00 11 09.9**	**0.0**
RODP	**Rodopos**	**1.71**	**292**	PN		**Pb**	**00 11 11.4**	**-0.3**
KOSK	**Kos Island**	**2.09**	**29**	PN		**Pn**	**00 11 14.8**	**-0.7**
APE	**Apeiranthos**	**2.13**	**356**	P		**Pb**	**00 11 17.7**	**-1.3**
APE	**Apeiranthos**	**2.13**	**356**	P		**Pn**	**00 11 15.0**	**-1.2**
APE	**Apeiranthos**	**2.13**	**356**	*c* i P		**Pn**	**00 11 15.0**	**-1.2**
APE	**Apeiranthos**	**2.13**	**356**	PN		**Pn**	**00 11 15.2**	**-1.0**
ANKY	**Antikythira Is**	**2.17**	**296**	P		**Pb**	**00 11 18.2**	**-1.4**
ANKY	**Antikythira Is**	**2.17**	**296**	P		**Pn**	**00 11 15.5**	**-1.1**
DAT	**Datca**	**2.35**	**40**	PN		**Pn**	**00 11 18.8**	**-0.5**
DAT	**Datca**	**2.35**	**40**	P		**Pn**	**00 11 18.7**	**-0.5**
DAT				S		**Sn**	**00 11 48.0**	**-0.6**
DAT				*i* AML	AML		00 12 02.0	
	comp=N,2µm,1.1s							
DAT				*i* AML	AML		00 12 02.0	
	comp=N,1µm,0.9s							
ARG	**Arkhangelos**	**2.35**	**56**	P		**Pn**	**00 11 20.5**	**+1.3**
ARG	**Arkhangelos**	**2.35**	**56**	P		**Pn**	**00 11 20.5**	**+1.3**
ARG	**Arkhangelos**	**2.35**	**56**	PN		**Pn**	**00 11 18.8**	**-0.4**
ARG	**Arkhangelos**	**2.35**	**56**	P		**Pn**	**00 11 19.9**	**+0.8**
ARG				S		**Sn**	**00 11 48.9**	**+0.4**
BODT	**Bodrum**	**2.49**	**31**	PN		**Pn**	**00 11 20.2**	**-0.9**
BDRM	**Kayabasi**	**2.55**	**33**	P		**Pn**	**00 11 21.4**	**-0.5**
BDRM				S		**Sn**	**00 11 52.4**	**-1.0**
BDRM				*i* AML	AML		00 12 10.0	
	comp=N,990nm,3.1s							
BDRM				*i* AML	AML		00 12 15.0	
	comp=N,879nm,1.1s							
TURN	**Turunc**	**2.76**	**48**	PN		**Pn**	**00 11 24.5**	**-0.3**
TURN	**Turunc**	**2.76**	**48**	P		**Pn**	**00 11 25.0**	**+0.2**
TURN				S		**Sb**	**00 12 02.6**	**-1.3**
TURN				*i* AML	AML		00 12 06.0	
	comp=N,1µm,0.5s							
TURN				*i* AML	AML		00 12 11.0	
	comp=N,1µm,0.5s							
DDIM	**Aydin, Didim**	**2.81**	**26**	P		**Pn**	**00 11 25.3**	**-0.1**
DDIM				*i* AML	AML		00 12 25.0	
	comp=N,3µm,1.7s							
DDIM				*i* AML	AML		00 12 27.0	
	comp=N,3µm,1.2s							
VLI	**Velíai**	**2.87**	**309**	P		**Pn**	**00 11 25.5**	**-0.7**
MLSB	**Milas**	**2.89**	**35**	PN		**Pn**	**00 11 26.7**	**+0.1**
GCAM	**G?zelcaml?**	**3.02**	**24**	PN		**Pn**	**00 11 28.0**	**-0.3**
GCAM	**G?zelcaml?**	**3.02**	**24**	P		**Pn**	**00 11 28.1**	**-0.3**
GCAM				*i* AML	AML		00 12 31.0	
	comp=N,718nm,0.8s							
GCAM				*i* AML	AML		00 12 41.0	
	comp=N,911nm,1.9s							
YER	**Yerkesik**	**3.03**	**43**	P		**Pn**	**00 11 29.4**	**+0.8**
YER	**Yerkesik**	**3.03**	**43**	PN		**Pn**	**00 11 28.6**	**0.0**
DALY	**Dalyan (Mula)**	**3.04**	**51**	PN		**Pn**	**00 11 28.5**	**-0.2**
MULA	**Mugla, Merkez-**	**3.14**	**42**	P		**Pn**	**00 11 31.6**	**+1.5**
MULA				S		**Sn**	**00 12 10.3**	**+2.3**
MULA				*i* AML	AML		00 12 14.0	
	comp=N,901nm,1.2s							
MULA				*i* AML	AML		00 12 17.0	
	comp=N,972nm,1.3s							
FETY	**Fethiye**	**3.23**	**57**	PN		**Pn**	**00 11 31.5**	**+0.2**
FETY	**Fethiye**	**3.23**	**57**	P		**Pn**	**00 11 31.7**	**+0.4**
FETY				*i* AML	AML		00 12 41.0	
	comp=N,730nm,1.2s							
FETY				*i* AML	AML		00 12 42.0	
	comp=N,1µm,1.2s							
AYDN	**Tasoluk**	**3.24**	**32**	P		**Pn**	**00 11 32.3**	**+0.9**
AYDN				S		**Sb**	**00 12 16.1**	**-1.6**
AYDN				*i* AML	AML		00 12 30.0	
	comp=N,523nm,0.8s							
AYDN				*i* AML	AML		00 12 44.0	
	comp=N,538nm,2.3s							
DGB	**zmir**	**3.25**	**17**	P		**Pn**	**00 11 31.5**	**0.0**
DGB				*i* AML	AML		00 12 35.0	
	comp=N,876nm,1.6s							
DGB				*i* AML	AML		00 12 43.0	
	comp=N,596nm,1.6s							
ZEYE	**Izmir, Urla-Ze**	**3.36**	**11**	P		**Pn**	**00 11 33.5**	**+0.5**
ZEYE				*i* AML	AML		00 12 48.0	
	comp=N,554nm,0.7s							
ZEYE				*i* AML	AML		00 12 52.0	
	comp=N,484nm,1.0s							
KSL	**Kastellorizon**	**3.39**	**68**	P		**Pn**	**00 11 33.2**	**-0.2**
AKAS	**Kas**	**3.44**	**67**	PN		**Pn**	**00 11 34.3**	**+0.1**
AKAS	**Kas**	**3.44**	**67**			**Pn**	**00 11 34.1**	**-0.1**
AKAS	**Kas**	**3.44**	**67**	P		**Pn**	**00 11 34.4**	**+0.3**
AKAS				*i* AML	AML		00 12 34.0	
	comp=N,1µm,1.2s							
AKAS				*i* AML	AML		00 12 38.0	
	comp=N,2µm,0.9s							
CHOS	**Chios island**	**3.46**	**5**	PN		**Pn**	**00 11 34.2**	**-0.2**
SLUM	**Salum**	**3.46**	**187**	P		**Pn**	**00 11 32.7**	**-1.7**
	baz=187							
URLA	**Izmir**	**3.49**	**12**	PN		**Pn**	**00 11 34.6**	**-0.3**
URLA	**Izmir**	**3.49**	**12**	P		**Pn**	**00 11 35.3**	**+0.4**
URLA				*i* AML	AML		00 12 41.0	
	comp=N,989nm,1.0s							
URLA				*i* AML	AML		00 12 51.0	
	comp=N,1µm,1.0s							
CAME	**Cameli-Denizli**	**3.54**	**55**	PN		**Pn**	**00 11 35.8**	**+0.1**
BLCB	**Balcova**	**3.61**	**17**	PN		**Pn**	**00 11 36.2**	**-0.2**
TAVA	**DENIZLI_Tavas**	**3.62**	**45**	P		**Pn**	**00 11 38.1**	**+1.4**
TAVA				S		**Sn**	**00 12 21.9**	**+2.0**
TAVA				*i* AML	AML		00 12 38.0	
	comp=N,748nm,1.2s							
TAVA				*i* AML	AML		00 13 00.0	
	comp=N,823nm,1.4s							
CAEL	**Denizli, Camel**	**3.66**	**52**	P		**Pn**	**00 11 38.5**	**+1.3**
CAEL				*i* AML	AML		00 12 49.0	
	comp=N,4µm,1.5s							
CAEL				*i* AML	AML		00 13 11.0	
	comp=N,3µm,1.3s							
ITM	**Ithomi**	**3.79**	**307**	PN		**Pn**	**00 11 39.2**	**+0.3**
ITM	**Ithomi**	**3.79**	**307**	Pn		**Pn**	**00 11 40.7**	**+1.8**
MATC	**Matruh**	**3.80**	**160**	P		**Pn**	**00 11 38.0**	**-1.1**
	baz=161							
ELL	**Elmali**	**3.87**	**61**	P		**Pn**	**00 11 40.7**	**+0.6**
ELL	**Elmali**	**3.87**	**61**	PN		**Pn**	**00 11 40.4**	**+0.3**
ELL	**Elmali**	**3.87**	**61**	Pn		**Pn**	**00 11 40.7**	**+0.6**
GOLH	**Golhisar**	**3.88**	**53**	P		**Pn**	**00 11 41.9**	**+1.7**
GOLH				*i* AML	AML		00 12 48.0	
	comp=N,2µm,1.4s							
GOLH				*i* AML	AML		00 12 48.0	
	comp=N,1µm,1.3s							
AKUM	**Antalya-Kumluc**	**4.03**	**69**	P		**Pn**	**00 11 42.0**	**-0.1**
AKUM				*i* AML	AML		00 12 39.0	
	comp=N,479nm,0.9s							
AKUM				*i* AML	AML		00 13 21.0	
	comp=N,484nm,2.4s							
MANT	**Manisa**	**4.22**	**32**			**Pn**	**00 11 46.8**	**+1.7**
MANT	**Manisa**	**4.22**	**32**	P		**Pn**	**00 11 46.0**	**+0.9**
MANT				*i* AML	AML		00 13 02.0	
	comp=N,255nm,1.2s							
MANT				*i* AML	AML		00 13 11.0	
	comp=N,323nm,1.6s							
DKL	**Dikili**	**4.24**	**13**	PN		**Pn**	**00 11 45.5**	**+0.4**
KULA	**Kula-Manisa**	**4.29**	**33**	PN		**Pn**	**00 11 46.5**	**+0.6**
BRDR	**BURDUR-Merkez**	**4.47**	**51**	P		**Pn**	**00 11 50.2**	**+1.8**
BRDR				*i* AML	AML		00 13 20.0	
	comp=N,385nm,1.0s							
BRDR				*i* AML	AML		00 13 26.0	
	comp=N,321nm,1.3s							
ANTB	**Antalya**	**4.47**	**63**	PN		**Pn**	**00 11 49.3**	**+1.0**
BASM	**Basmaki-Afyon**	**4.60**	**48**	PN		**Pn**	**00 11 50.4**	**+0.3**
BUCA	**Burdur, Bucak-**	**4.60**	**57**	P		**Pn**	**00 11 51.4**	**+1.3**
BUCA				*i* AML	AML		00 13 05.0	
	comp=N,417nm,0.7s							
BUCA				*i* AML	AML		00 13 06.0	
	comp=N,354nm,1.8s							
USAK	**Uak-Merkez**	**4.62**	**34**	P		**Pn**	**00 11 51.4**	**+1.1**
USAK				*i* AML	AML		00 13 25.0	
	comp=N,219nm,1.8s							
USAK				*i* AML	AML		00 13 39.0	
	comp=N,192nm,2.4s							
BCK	**Bucak**	**4.69**	**56**	PN		**Pn**	**00 11 52.1**	**+0.8**
DEMI	**Demirci**	**4.76**	**30**	P		**Pn**	**00 11 53.9**	**+1.6**
DEMI				*i* AML	AML		00 13 31.0	
	comp=N,175nm,1.5s							
DEMI				*i* AML	AML		00 13 34.0	
	comp=N,258nm,1.4s							
OSC1	**CSNet OBS 1**	**4.84**	**106**	P		**Pn**	**00 11 51.2**	**-2.1**
ISP	**Isparta**	**4.84**	**52**	*d i* P		**Pn**	**00 11 54.9**	**+1.4**
ISP	**Isparta**	**4.84**	**52**	PN		**Pn**	**00 11 54.1**	**+0.6**
ISP	**Isparta**	**4.84**	**52**	Pn		**Pn**	**00 11 54.0**	**+0.5**
AGG	**Agios Georgios**	**4.89**	**327**	P		**Pn**	**00 11 55.6**	**+1.5**
AGG	**Agios Georgios**	**4.89**	**327**	Pn		**Pn**	**00 11 55.6**	**+1.5**
PAIG	**Paliouri**	**5.24**	**343**	P		**Pn**	**00 11 59.2**	**+0.4**
PAIG				pmax	pmax			
	comp=Z,168nm,1.0s							
AKMS	**Akamas**	**5.45**	**87**	P		**Pn**	**00 11 59.4**	**-2.4**
AKMS				S		**Sn**	**00 13 02.9**	**-1.9**
AKMS				AML	AML		00 13 03.5	
	comp=Z,3.3nm,1.4s							
AKMS				AML	AML		00 13 03.5	
	comp=Z,3.3nm,1.4s							
AKMS				AML	AML		00 13 08.2	
	comp=Z,3.1nm,0.6s							
AKMS				AML	AML		00 13 08.2	
	comp=Z,3.1nm,0.6s							
NATA	**Nata**	**5.65**	**90**	P		**Pn**	**00 12 02.5**	**-2.1**
ALFC	**Alefka**	**5.66**	**86**	P		**Pn**	**00 12 02.8**	**-1.9**
ALFC				AML	AML		00 13 07.3	
	comp=Z,3.2nm,0.8s							
ALFC				AML	AML		00 13 07.8	
	comp=Z,3.6nm,0.7s							
SWA2		**5.68**	**182**	P		**Pn**	**00 12 03.4**	**-1.5**
	baz=182							
LIT	**Litokhoron**	**5.75**	**335**	P		**Pn**	**00 12 07.0**	**+1.1**
LIT	**Litokhoron**	**5.75**	**335**	Pn		**Pn**	**00 12 07.0**	**+1.1**
OSC2	**CSNet OBS 4**	**5.76**	**107**	P		**Pn**	**00 12 03.2**	**-2.8**
SZAC	**Souni**	**5.91**	**90**	P		**Pn**	**00 12 06.2**	**-1.9**
SZAC				AML	AML		00 13 15.2	
	comp=Z,2.7nm,1.3s							
SZAC				AML	AML		00 13 16.6	
	comp=Z,3.7nm,1.3s							
ALN	**Alexandroupoli**	**5.96**	**3**	P		**Pn**	**00 12 08.7**	**0.0**
ALN	**Alexandroupoli**	**5.96**	**3**	Pn		**Pn**	**00 12 08

baz=221,slow=13,SNR=1.1
BRTR LR LR 00 16 33.7
comp=Z,3µm,21.1s,baz=244,slow=45
BRTR Keskin Array B 7.92 51 Pn **Pn 00 12 35.7 -0.2**
BR131 Keskin Array S 7.92 51 *ce*P **Pn 00 12 36.2 +0.3**
BR131 Keskin Array S 7.92 51 Pn **Pn 00 12 36.2 +0.3**
OFRI `Ofer 8.07 104 Pn **Pn 00 12 33.7 -4.0**
HFRF Wahat Farafira 8.08 163 P **Pn 00 12 36.5 -1.4**
baz=163
HNTI Hanita 8.08 101 Pn **Pn 00 12 35.4 -2.5**
BLGI Bet Lehem HaGe 8.20 103 Pn **Pn 00 12 35.4 -4.0**
SLTI Sal'it 8.24 106 Pn **Pn 00 12 37.1 -3.0**
SLTI Sn **Sn 00 14 05.8 -7.8**
DQRL Deir Qamar 8.26 96 *e*P **Pn 00 12 37.7 -2.7**
MMA0B Mount Meron ar 8.28 101 Pn **Pn 00 12 37.4 -3.3**
MMAI Mount Meron Ar 8.28 101 Pn **Pn 00 12 38.3 -2.4**
comp=Z,20nm,0.3s,baz=256,slow=38,SNR=43
MMAI Sn **Sn 00 14 08.1 -6.6**
comp=Z,8.0nm,0.3s,baz=290,slow=42,SNR=2.5
TIP Timpagrande 8.31 303 ⇑P **Pn 00 12 40.5 -0.5**
TIP Timpagrande 8.31 303 Pn **Pn 00 12 40.2 -0.8**
KZIT Kziot 8.34 116 Pn **Pn 00 12 37.9 -3.6**
QRWL Qaraoun 8.38 97 *e*P **Pn 00 12 38.8 -3.3**
AMAZ Amatzia 8.43 111 Pn **Pn 00 12 39.5 -3.2**
GEM Giv'at Ha'Em 8.44 99 Pn **Pn 00 12 39.2 -3.6**
GEM Sn **Sn 00 14 11.8 -6.7**
HWQ Hawqa 8.47 92 *e*P **Pn 00 12 41.2 -2.1**
MMLI Mount Malkishu 8.47 104 Pn **Pn 00 12 39.6 -3.7**
SHBL Chebaa 8.47 98 *e*P **Pn 00 12 40.8 -2.7**
NATI Neve Ativ 8.49 99 Pn **Pn 00 12 41.0 -2.5**
RCY Rachaya 8.52 97 *e*P **Pn 00 12 40.7 -3.3**
CEL Celeste 8.55 296 Pn 00 12 45.2 +0.8
HMDT Nahal Hemdat 8.62 105 Pn **Pn 00 12 42.0 -3.3**
HMDT Sn **Sn 00 14 16.9 -6.0**
KSHT Keshet 8.62 100 Pn **Pn 00 12 43.0 -2.4**
RAZG Razgrad 8.64 4 ⇑P **Pn 00 12 48.1 +2.6**
ULC Ulcinj 8.65 326 *e*Pn **Pn 00 12 46.2 +0.5**
ULC *i* Sn **Sn 00 14 19.6 -4.1**
YTIR Yattir 8.66 112 Pn **Pn 00 12 43.1 -2.8**
YTIR Sn **Sn 00 14 17.6 -6.4**
DSI Dead Sea 8.77 110 Pn **Pn 00 12 44.3 -3.1**
DSI Sn **Sn 00 14 20.0 -6.7**
ILGA Ilgaz 8.79 44 Pn **Pn 00 12 47.7 -0.1**
DRME Dracevica, Mon 8.86 327 *e*Pn **Pn 00 12 48.2 -0.3**
DRME Dracevica, Mon 8.86 327 ⇑*i*Pn **Pn 00 12 49.0 +0.5**
DRME *i* Sn **Sn 00 14 24.4 -4.2**
PVY Plav 8.86 331 *e*Pn **Pn 00 12 49.2 +0.5**
PVY *i* Sn **Sn 00 14 24.7 -4.3**
MSBI Mazada 8.87 111 Pn **Pn 00 12 45.5 -3.1**
BLKB Belogradchik 8.98 346 ⇓P **Pn 00 12 51.9 +1.6**
KRMI Paran Flat 9.01 120 Pn **Pn 00 12 47.4 -3.2**
BNN Bunyan 9.02 61 Pn **Pn 00 12 51.5 +0.6**
PDG Podgorica 9.02 328 ⇓P **Pn 00 12 51.7 +1.0**
PDG Podgorica 9.02 328 *e*Pn **Pn 00 12 50.6 -0.1**
TTG Podgorica 9.02 328 ⇑*i*Pn **Pn 00 12 51.2 +0.5**
TTG *i* Sn **Sn 00 14 28.4 -4.2**
GHAJ Ghor Haditha 9.03 111 Pn **Pn 00 12 49.0 -1.9**
GHAJ Ghor Haditha 9.03 111 Pn **Pn 00 12 48.6 -2.3**
BUM Brajici-Budva 9.08 326 *e*Pn **Pn 00 12 51.9 +0.3**
BUM *i* Sn **Sn 00 14 29.8 -4.4**
PRNI Paran 9.08 118 Pn **Pn 00 12 48.7 -2.9**
PRNI Sn **Sn 00 14 27.6 -6.6**
ZFRI Zfri 9.10 116 Pn **Pn 00 12 48.0 -3.8**
ZFRI Sn **Sn 00 14 28.3 -6.3**
MATE Matera 9.12 311 ⇓P **Pn 00 12 52.3 +0.3**
IVA Berane 9.12 332 *e*Pn **Pn 00 12 52.7 +0.5**
IVA *i* Sn **Sn 00 14 30.8 -4.5**
MANR Mangalia 9.14 13 ⇑P **Pn 00 12 55.3 +2.9**
BAIL Bailesti 9.25 349 ⇓P **Pn 00 12 56.8 +3.0**
KOME Kolasin 9.25 330 *e*Pn **Pn 00 12 54.4 +0.4**
KOME *i* Sn **Sn 00 14 34.1 -4.5**
CEME Cevo 9.26 327 *e*Pn **Pn 00 12 53.1 -1.0**
CEME *i* Sn **Sn 00 14 34.2 -4.5**
HRFI Mount Harif 9.27 119 Pn **Pn 00 12 51.9 -2.4**
HRFI Sn **Sn 00 14 33.4 -5.6**
ICDR Ion Corvin 9.31 9 ⇓P **Pn 00 12 56.9 +2.2**
MBRI Mt Berech 9.32 121 Pn **Pn 00 12 52.7 -2.3**
RASA Rasa 9.33 6 ⇓P **Pn 00 12 58.5 +3.5**
HCY Herceg Novi 9.38 325 *e*Pn **Pn 00 12 53.1 -2.5**
HCY Herceg Novi 9.38 325 *e*Pn **Pn 00 12 55.0 -0.6**
HCY *i* Sn **Sn 00 14 37.0 -4.4**
NKME Niksic 9.42 328 *e*Pn **Pn 00 12 56.7 +0.4**
NKME *i* Sn **Sn 00 14 38.0 -4.6**
EIL Elat 9.42 121 Pn **Pn 00 12 54.0 -2.3**
comp=Z,8.4nm,0.3s,baz=238,slow=2.6,SNR=76
EIL Sn **Sn 00 14 36.2 -6.4**
comp=Z,6.2nm,0.3s,baz=253,slow=22,SNR=11
EIL Elat 9.42 121 Pn **Pn 00 12 53.5 -2.8**
NKY Niksic 9.44 328 *e*Pn **Pn 00 12 56.8 +0.3**
NKY *i* Sn **Sn 00 14 38.5 -4.7**
MFTR Murfatlar 9.46 12 ⇓P **Pn 00 12 59.9 +3.1**
VAE Valguarnera 9.47 289 Pn **Pn 00 13 00.0 +3.0**
comp=Z,5.6nm,0.3s,baz=140,slow=5.6,SNR=27
VAE Sn **Sn 00 14 44.0 +0.1**
comp=Z,1.7nm,0.3s,baz=128,slow=9.9,SNR=1.7
VAE LR LR 00 17 26.0
comp=Z,1µm,18.6s,baz=92,slow=42
BZK Bozkurt 9.56 40 ⇓P **Pn 00 13 01.0 +2.8**
BZK Bozkurt 9.56 40 Pn **Pn 00 12 58.3 +0.1**
PUNG Punghina 9.57 348 ⇑P **Pn 00 13 00.3 +2.1**
HUMR Humele 9.60 357 ⇓P **Pn 00 13 01.0 +2.4**
NUB Nuweibaa 9.61 125 P **Pn 00 12 57.0 -1.9**
baz=127
TREB Trebinje 9.65 326 *e*Pn **Pn 00 12 56.1 -3.3**
BRY Bratogost 9.71 327 *e*Pn **Pn 00 12 58.4 -1.9**
BRY Bratogost 9.71 327 *e*Pn **Pn 00 13 00.7 +0.4**
BRY *i* Sn **Sn 00 14 44.9 -5.0**
TIRR Tirgusor 9.74 12 ⇑P **Pn 00 13 02.9 +2.4**
TIRR Tirgusor 9.74 12 ⇑P **Pn 00 13 02.9 +2.4**
TIRR Tirgusor 9.74 12 Pn **Pn 00 13 01.1 +0.6**
ASF Jabal al Asfar 9.74 103 Pn **Pn 00 12 58.7 -2.1**
comp=Z,3.8nm,0.3s,baz=262,slow=10,SNR=11
ASF Sn **Sn 00 14 47.5 -3.1**
comp=Z,1.4nm,0.3s,baz=30,slow=15,SNR=2.3
TLBR Topalu 9.76 10 ⇑P **Pn 00 13 03.5 +2.6**
UPM Unac-Piva 9.80 329 *e*Pn **Pn 00 13 01.2 -0.4**
UPM Unac-Piva 9.80 329 *e*Pn **Pn 00 13 01.8 +0.2**
UPM *i* Sn **Sn 00 14 47.0 -5.0**
HARR Harsova 9.89 9 ⇑P **Pn 00 13 05.8 +3.2**
HARR Harsova 9.89 9 ⇑P **Pn 00 13 05.8 +3.2**
SRE Strehaia 9.90 350 ⇑P **Pn 00 13 06.6 +3.8**
SRE Strehaia 9.90 350 ⇑P **Pn 00 13 06.6 +3.8**
RUDO Rudo 9.96 332 *e*Pn **Pn 00 13 01.7 -1.9**
DJES Djerdap 10.02 347 ⇓P **Pn 00 13 06.0 +1.6**
SECR 10.09 1 ⇑P **Pn 00 13 08.6 +3.2**
TOKA Tokat 10.10 55 Pn **Pn 00 13 05.8 +0.2**
JURR Jurilovca 10.12 13 ⇓P **Pn 00 13 08.0 +2.3**
TPGR Topolog 10.12 11 ⇓P **Pn 00 13 09.0 +3.2**
DIVS Divibare 10.15 336 Pn **Pn 00 13 07.4 +1.0**
DIVS Divibare 10.15 336 *e*Pn **Pn 00 13 07.7 +1.4**
BBLS Lazikći 10.16 333 *i* Pn **Pn 00 13 04.1 -2.3**
ISR Istrita 10.19 3 ⇑P **Pn 00 13 10.5 +3.7**
ISR Istrita 10.19 3 ⇑P **Pn 00 13 10.5 +3.7**
HERR Herculane 10.25 347 ⇑P **Pn 00 13 08.7 +1.2**
MDVR Moldovita 10.30 344 ⇑P **Pn 00 13 10.7 +2.4**
SGRT San Giovanni R 10.36 314 Pn 00 13 07.3 -1.9
CFR Carcaliu 10.40 10 ⇓P **Pn 00 13 11.7 +2.1**
CFR Carcaliu 10.40 10 ⇓P **Pn 00 13 11.7 +2.1**
CLTB Caltabellotta 10.42 288 Pn **Pn 00 13 11.5 +1.5**
ARR Arges 10.45 356 ⇓P **Pn 00 13 11.8 +1.4**
NEHR Nehoiu 10.49 2 ⇓P **Pn 00 13 13.8 +2.9**
VOIR 10.50 357 ⇓P **Pn 00 13 13.2 +2.1**
VOIR 10.50 357 ⇓P **Pn 00 13 13.2 +2.1**
TLCR 10.51 12 ⇓P **Pn 00 13 14.6 +3.5**
TLCR 10.51 12 ⇓P **Pn 00 13 14.6 +3.5**
MLR Muntele Rosu 10.54 1 ⇓P **Pn 00 13 14.0 +2.3**
MLR Muntele Rosu 10.54 1 Pn **Pn 00 13 12.9 +1.2**
comp=Z,0.4nm,0.3s,baz=183,slow=8.9,SNR=26
MLR Muntele Rosu 10.54 1 ⇓P **Pn 00 13 14.0 +2.3**
MLR Muntele Rosu 10.54 1 Pn **Pn 00 13 12.2 +0.5**
LOT Lotru 10.60 353 ⇓P **Pn 00 13 15.1 +2.6**
BISRR Bisoca 10.63 4 ⇑P **Pn 00 13 15.6 +2.8**
GZR Gura Zlata 10.68 349 ⇓P **Pn 00 13 16.2 +2.7**
GZR Gura Zlata 10.68 349 P **Pn 00 13 16.7 +3.2**
PAOL Paolisi 10.68 308 Pn **Pn 00 13 14.6 +1.0**
SCTR Scanteiesti 10.87 9 ⇓P **Pn 00 13 18.3 +2.3**
COVR Voineasa-Covas 10.90 2 ⇓P **Pn 00 13 19.6 +3.0**
PLOR Plostina 10.93 3 ⇑P **Pn 00 13 19.8 +2.9**
PLOR Plostina 10.93 3 ⇑P **Pn 00 13 19.8 +2.9**
VRI Vrincioaia 10.95 4 ⇓P **Pn 00 13 20.1 +3.0**
VRI Vrincioaia 10.95 4 ⇓P **Pn 00 13 20.1 +3.0**

DOPR Dopca 11.02 359 ⇑P **Pn 00 13 21.4 +3.2**
VLDR Vladesti 11.04 9 ⇓P **Pn 00 13 21.9 +3.4**
VARL Varlezi 11.07 8 ⇓P **Pn 00 13 22.1 +3.3**
BZS Buzias 11.11 345 ⇓P **Pn 00 13 21.7 +2.3**
BZS Buzias 11.11 345 ⇓P **Pn 00 13 21.7 +2.3**
OZUR 11.15 0 ⇑P **Pn 00 13 22.7 +2.8**
FRGS Fruska Gora 11.16 338 ⇓P **Pn 00 13 21.7 +1.6**
FRGS Fruska Gora 11.16 338 *e*Pn **Pn 00 13 20.5 +0.5**
MDB Medias 11.24 355 ⇓P **Pn 00 13 24.1 +3.0**
MDB Medias 11.24 355 ⇓P **Pn 00 13 24.1 +3.0**
SRKY Kupres RS 11.25 327 *e*Pn **Pn 00 13 17.3 -4.0**
MGRS Mrkonjic Grad 11.56 328 *e*Pn **Pn 00 13 27.5 +2.0**
TESR Tescani 11.59 3 ⇑P **Pn 00 13 29.5 +3.6**
BLY Banja Luka 11.78 329 *e*Pn **Pn 00 13 27.0 -1.5**
SIM Simferopol' 11.90 30 *e*P **Pn 00 13 33.2 +3.1**
SIM pmax pmax
comp=Z,67nm,1.4s
AMBH Ambrzfalva 12.01 343 ⇓P **Pn 00 13 34.3 +2.7**
AMBH Ambrzfalva 12.01 343 P **Pn 00 13 34.2 +2.7**
DRGR 12.06 350 P **Pn 00 13 35.1 +2.7**
DRGR pmax pmax
comp=Z,11nm,0.8s
AQU L'Aquila 12.13 311 P **Pn 00 13 35.2 +1.8**
AQU L'Aquila 12.13 311 Pn 00 13 35.2 +1.8
AQU L'Aquila 12.13 311 *e*Pn **Pn 00 13 34.4 +1.1**
MILM Milestii Mici 12.20 10 *e*P **Pn 00 13 34.0 -0.2**
MILM Milestii Mici 12.20 10 *e*PP Pn 00 13 41.0 +6.8
MILM *e*S **Sn 00 15 52.0 +1.5**
MILM *e*L L 00 16 37.0
MILM LqM 00 17 39.0
comp=Z,6µm,15.0s
MILM LRM MLR 00 17 55.0
comp=Z,2µm,13.0s
MILM Milestii Mici 12.20 10 ⇑P **Pn 00 13 36.8 +2.6**
MILM Milestii Mici 12.20 10 *e*P **Pn 00 13 34.0 -0.2**
MILM *e*S **Sn 00 15 52.0 +1.5**
MILM MLR MLR
comp=Z,2µm,13.0s
MARD Mardin 12.42 75 Pn **Pn 00 13 36.9 -0.5**
KOVH Kovagotottos 12.54 335 P **Pn 00 13 39.9 +1.0**
NRCA Norcia 12.57 313 Pn 00 13 39.5 0.0
BURAR Bucovina Array 12.67 359 ⇓P **Pn 00 13 43.8 +3.0**
BURAR Bucovina Array 12.67 359 ⇓P **Pn 00 13 43.8 +3.0**
BURAR Bucovina Array 12.67 359 Pn **Pn 00 13 40.8 0.0**
BUR08 Bucovina Ar. S 12.70 358 Pn 00 13 41.5 +0.3
LTVH Ltavrtes, Hu 12.76 348 ⇑P Pn 00 13 49.0 +7.2
LTVH Ltavrtes, Hu 12.76 348 P Pn 00 13 47.7 +5.8
KOPT Kop Dagi 12.80 62 Pn 00 13 41.6 -1.1
MURB Monte Urbino 13.17 313 Pn 00 13 49.2 +1.6
PTJ Puntijarka 13.22 329 P **Pn 00 13 52.8 +4.6**
SORM Soroca 13.34 8 ⇑P **Pn 00 13 51.9 +2.2**
SORM Soroca 13.34 8 ⇑P **Pn 00 13 51.9 +2.2**
ANN Anapa 13.34 39 *e*P **Pn 00 13 49.3 -0.4**
ANN pmax pmax
comp=Z,85nm,1.0s
ANN MLR MLR
comp=Z,420nm,9.0s
CRES Cresnjev 13.38 327 *e*Pn **Pn 00 13 46.9 -3.4**
KEST Kesra 13.38 278 Pn **Pn 00 13 53.2 +2.7**
comp=Z,0.1nm,0.3s,baz=62,slow=9.1,SNR=5.5
KEST LR LR 00 20 01.9
comp=Z,481nm,20.2s,baz=4.0,slow=42
KEST Kesra 13.38 278 Pn 00 13 51.0 +0.5
GURO Guroymak-BITLI 13.58 70 Pn **Pn 00 13 53.5 +0.2**
CSKK Cskako 13.61 338 P **Pn 00 13 57.6 +4.1**
MPLH Magyarpolny 13.67 336 P **Pn 00 13 57.0 +2.6**
PSZ Piszkesteto 13.68 343 ⇓P **Pn 00 13 56.3 +1.9**
PSZ Piszkesteto 13.68 343 ⇓P **Pn 00 13 56.3 +1.9**
PSZ Piszkesteto 13.68 343 Pn **Pn 00 13 54.9 +0.5**
PSZ Piszkesteto 13.68 343 P **Pn 00 13 56.7 +2.3**
VSL Villasalto 13.78 294 Pn **Pn 00 13 51.7 -4.1**
CEY Cerknica 13.78 325 *e*Pn **Pn 00 13 53.4 -2.5**
SKDS Skadanscina 13.84 323 *e*Pn Pn 00 13 51.9 -4.8
SOC Sochi 13.86 47 *e*P **Pn 00 13 55.5 -1.4**
SOC *e* 00 16 31.1
SOC MLR MLR
comp=Z,691nm,19.0s
UZH Uzhgorod 13.92 351 *d*/*i*P **Pn 00 14 00.0 +2.4**
UZH *e*S **Sn 00 16 35.5 +3.0**
UZH MLR MLR
comp=N,270nm,10.0s
UZH MLR MLR
comp=E,400nm,10.0s
UZH MLR MLR
comp=Z,280nm,10.0s
TRI Trieste 14.08 323 P **Pn 00 13 56.4 -3.5**
TRI Trieste 14.08 323 Pn **Pn 00 13 56.4 -3.5**
OSSC Osservatorio P 14.09 312 Pn 00 14 01.1 +1.0
KOLS Kolonicke sedl 14.21 351 *e*P **P 00 14 09.5 +0.2**
KOLS Kolonicke sedl 14.21 351 *e*PN **P 00 14 09.5 +0.2**
SOKA Soboth 14.22 329 *e*Pn **Pn 00 14 02.9 +0.9**
comp=Z,7.7nm,0.8s
GEVA Gevas 14.34 71 Pn **Pn 00 14 02.6 -1.1**
SOP Sopron 14.46 335 P **P 00 14 13.2 +1.2**
SOP Sopron 14.46 335 P **Pn 00 14 08.3 +3.3**
VYHS Vyhne 14.47 341 *e*P **P 00 14 13.7 +1.5**
VYHS Vyhne 14.47 341 *e*PN **P 00 14 13.7 +1.5**
ARSA Arzberg 14.48 331 *e*Pn **Pn 00 14 07.1 +1.7**
comp=Z,7.7nm,0.9s
RONA Rosalia, Austr 14.56 334 *e*Pn **Pn 00 14 08.3 +1.7**
comp=Z,4.5nm,0.5s
KOLL Kolacno 14.67 341 *e*PN **P 00 14 12.6 -1.7**
ZCCA Zocca 14.71 314 Pn 00 14 09.0 +0.3
ZST Bratislava 14.71 337 P **P 00 14 12.1 -2.8**
ZST pmax pmax
comp=Z,118nm,0.5s
MODS Modra-Piesok 14.81 338 *e*P **P 00 14 15.7 -0.3**
MODS Modra-Piesok 14.81 338 *e*PN **P 00 14 15.7 -0.3**
KWP Kalwaria Pacla 14.85 352 P **Pn 00 14 10.9 +0.5**
KWP Kalwaria Pacla 14.85 352 Pn 00 14 10.9 +0.5
KARS Kars 14.86 62 P **Pn 00 14 11.0 +0.2**
KARS Kars 14.86 62 Pn 00 14 11.0 +0.2
CONA Conrad Observa 14.91 333 *e*Pn **Pn 00 14 13.9 +2.6**
comp=Z,6.2nm,0.9s
LVV L'vov 14.92 356 *e*P **Pn 00 14 12.8 +1.4**
LVV *e*S **Sn 00 16 59.1 +2.0**
LVV MLR MLR
comp=E,2µm,9.0s
LVV MLR MLR
comp=N,2µm,10.0s
LVV MLR MLR
comp=Z,3µm,9.0s
TEOL Teolo 14.93 318 Pn 00 14 09.8 -1.7
STAL STALIGIAL 14.99 323 Pn 00 14 12.4 +0.1
NIE Niedzica 15.01 346 P **P 00 14 19.0 +0.8**
NIE pmax pmax
comp=Z,10.0nm,1.3s
JAVC Velka Javorina 15.13 339 *e*PN **Pn 00 14 15.9 +1.7**
KBA Koelnbreinsper 15.28 326 *i* Pn **Pn 00 14 18.7 +2.4**
comp=Z,6.7nm,0.7s
KBA Koelnbreinsper 15.28 326 P **P 00 14 19.8 -1.5**
KBA pmax pmax
comp=Z,10.0nm,0.7s
CTI Castel Tesino 15.38 320 P **Pn 00 14 18.2 +0.5**
CTI pmax pmax
comp=Z,11nm,0.9s
CTI Castel Tesino 15.38 320 Pn **Pn 00 14 18.2 +0.5**
AKH Akhalkalaki 15.40 60 ⇓P **Pn 00 14 19.3 +1.3**
ABTA Abfaltersbach 15.43 324 *i* Pn **Pn 00 14 16.6 -1.6**
comp=Z,8.4nm,0.7s
MOA Molln 15.47 330 *i* Pn **P 00 14 21.2 -2.1**
comp=Z,3.6nm,0.5s
NEY Neytrino 15.59 53 ⇓*e*P **Pn 00 14 22.5 +2.1**
NEY pmax pmax
comp=Z,25nm,1.2s
KRUC Moravsky 15.70 337 P **P 00 14 23.9 -1.9**
KRUC pmax pmax
comp=Z,14nm,0.8s
KRUC Moravsky 15.70 337 *e*PN **Pn 00 14 23.2 +1.5**
SALO Sair 15.72 317 Pn 00 14 21.6 -0.4
SALO IAmb IAmb 00 14 40.1
comp=Z,41nm,0.7s
ONI Oni 15.80 56 P **Pn 00 14 23.2 +0.1**
ONI pmax pmax
comp=Z,41nm,1.0s
ONI Oni 15.80 56 Pn **Pn 00 14 23.1 +0.1**
ONI IAmb IAmb 00 14 38.9
comp=Z,41nm,1.0s
VRAC Vranov 15.85 338 ⇑P **Pn 00 14 24.5 +0.8**

VRAC Vranov 15.85 338 Pn **P 00 14 26.3 -1.2**
comp=Z,0.6nm,0.3s,baz=157,slow=9.8,SNR=18
VRAC LR LR 00 21 04.4
comp=Z,450nm,19.4s,baz=158,slow=40
VRAC Vranov 15.85 338 *e*PN **P 00 14 26.1 -1.4**
OJC Ojcow 15.87 346 P **Pn 00 14 25.1 +1.2**
OJC pmax pmax
comp=Z,16nm,1.1s
OJC Ojcow 15.87 346 P **Pn 00 14 25.1 +1.2**
OKC Ostrava-Krasne 15.89 342 AMS AMS 00 21 50.0
comp=Z,2µm,11.2s
KIV Kislovodsk 15.89 50 *e*P **Pn 00 14 24.5 +0.2**
KIV *e*S **Sn 00 17 21.8 +1.0**
KIV pmax pmax
comp=Z,67nm,1.1s
KIV MLR MLR
comp=Z,448nm,13.0s
KIV Kislovodsk 15.89 50 Pn 00 14 24.5 +0.2
KIV IAmb IAmb 00 14 30.7
comp=Z,52nm,1.0s
KIV Kislovodsk 15.89 50 P **Pn 00 14 23.9 -0.3**
KVAR Kislovodsk Arr 15.90 50 Pn **Pn 00 14 25.7 +1.3**
baz=255,slow=22,SNR=3.2
KBZ Khabaz 15.92 51 Pn **Pn 00 14 25.5 +1.0**
comp=Z,1.3nm,0.3s,baz=243,slow=9.0,SNR=43
KBZ Khabaz 15.92 51 *de*P **P 00 14 27.5 -0.7**
KBZ pmax pmax
comp=Z,107nm,1.4s
AKASG Malin Array Be 15.96 8 Pn **Pn 00 14 25.1 0.0**
comp=Z,16nm,0.3s,baz=195,slow=10,SNR=41
AKASG Sn **Sn 00 17 22.2 -0.1**
comp=Z,0.6nm,0.3s,baz=79,slow=35,SNR=0.9
AKASG Malin Array Be 15.96 8 *i* P **P 00 14 28.2 -0.5**
AKASG pmax pmax
comp=Z,14nm,0.4s
AKBB Malin Array Si 15.96 8⇑*e*P **Pn 00 14 26.7 +1.7**
AKBB pmax pmax
comp=Z,29nm,0.8s
AKBB Malin Array Si 15.96 8 **P 00 14 27.3 -1.4**
AKBB IAmb IAmb 00 14 33.8
comp=Z,86nm,1.1s
GNI Garni 15.97 65 Pn **Pn 00 14 26.0 +0.7**
comp=Z,2.0nm,0.3s,baz=312,slow=5.2,SNR=17
GNI LR LR 00 21 55.1
comp=Z,3µm,19.3s,baz=270,slow=43
GNI Garni 15.97 65 *de*P **Pn 00 14 25.9 +0.6**
GNI pmax pmax
comp=Z,159nm,2.5s
GNI Garni 15.97 65 Pn **Pn 00 14 26.4 +1.1**
GNI Garni 15.97 65 P **Pn 00 14 25.1 -0.3**
MORC Moravsky Berou 15.99 340 ⇑P **Pn 00 14 26.2 +0.7**
MORC Moravsky Berou 15.99 340 ⇑P **Pn 00 14 26.2 +0.7**
MORC Moravsky Berou 15.99 340 *e*PN **Pn 00 14 25.1 -0.4**
ZEI Tsey 16.18 56 *e*P **Pn 00 14 28.0 -0.1**
ZEI pmax pmax
comp=Z,53nm,1.2s
TREC Trest 16.20 335 *e*P **P 00 14 30.9 -0.5**
TREC MLR MLR
comp=Z,2µm,11.8s
TREC Trest 16.20 335 *e*P **P 00 14 30.9 -0.5**
TREC AMS AMS 00 22 30.0
comp=Z,2µm,11.8s
WTTA Wattenberg 16.22 324 *i* Pn **P 00 14 31.3 -0.4**
comp=Z,5.1nm,0.5s
WTTA Wattenberg 16.22 324 P **P 00 14 33.1 +1.3**
WTTA pmax pmax
comp=Z,30nm,1.1s
CKRC Cesky Krumlov 16.23 332 *e*P **P 00 14 30.6 -1.2**
CKRC AMS AMS 00 22 20.0
comp=Z,2µm,10.9s
NCK Nalchik 16.27 53 *ce*P **P 00 14 30.8 -1.4**
NCK pmax pmax
comp=Z,123nm,1.6s
WATA Walderalm 16.30 324 *e*Pn **P 00 14 31.2 -1.4**
comp=Z,8.9nm,0.5s
NAX Nakhchivan 16.35 69 P **Pn 00 14 30.6 +0.4**
KRLC Kraliky 16.48 339 *e*P **P 00 14 33.8 -0.7**
KRLC MLR MLR
comp=Z,1µm,13.9s
KRLC Kraliky 16.48 339 *e*P **P 00 14 33.8 -0.7**
KRLC AMS AMS 00 22 20.0
comp=Z,1µm,13.9s
GEC2 GERESS Array S 16.49 331 P **P 00 14 33.4 -1.3**
GERES GERESS Array B 16.49 331 Pn **P 00 14 33.4 -1.3**
comp=Z,0.4nm,0.3s,baz=163,slow=9.6,SNR=27
GERES LR LR 00 22 07.4
comp=Z,1µm,18.9s,baz=146,slow=42
GERES ScP **ScP 00 23 01.2 +2.5**
comp=Z,0.1nm,0.3s,baz=212,slow=4.7,SNR=3.8
FETA Feichten 16.50 322 *e*Pn **P 00 14 34.0 -0.9**
comp=Z,10.0nm,0.8s,SNR=9.7
MOTA Moosalm 16.54 323 *e*Pn **Pn 00 14 32.3 -0.3**
comp=Z,3.5nm,0.7s
SAOF Saorge 16.65 308 P **P 00 14 36.0 -0.4**
SAOF pmax pmax
comp=Z,24nm,0.9s
GOF Gofitskoye 16.66 47⇑*e*P **P 00 14 36.7 +0.2**
GOF pmax pmax
comp=Z,87nm,1.4s
SBF Sospel 16.67 308 *e*P **P 00 14 36.2 -0.5**
SBF pmax pmax
comp=Z,20nm,0.9s
KHC Kasperske Hory 16.77 331 *e*P **P 00 14 37.4 -0.3**
KHC MLR MLR
comp=Z,2µm,10.7s
KHC Kasperske Hory 16.77 331 Pn 00 14 36.4 +1.0
KHC Kasperske Hory 16.77 331 *e*P **P 00 14 37.4 -0.3**
KHC *e*pP **sP 00 14 40.0 +0.5**
KHC AMS AMS 00 22 40.0
comp=Z,2µm,10.7s
DAVOX Davos/Dischmat 16.79 320 Pn **P 00 14 38.1 -0.1**
comp=Z,0.4nm,0.3s,baz=146,slow=16,SNR=7.0
DAVOX LR LR 00 21 39.4
comp=Z,1µm,21.0s,baz=96,slow=39
RETA Reutte 16.80 323 *i* Pn **Pn 00 14 35.9 +0.1**
comp=Z,2.1nm,0.5s
DPC Dobruska-Polom 16.86 339 *e*P **Pn 00 14 37.3 +0.8**
DPC MLR MLR
comp=Z,1µm,14.8s
DPC Dobruska-Polom 16.86 339 *e*P **Pn 00 14 37.3 +0.8**
DPC AMS AMS 00 22 20.0
comp=Z,1µm,14.8s
TUE Stuetta 16.89 318 Pn 00 14 36.9 -0.2
FUR Furstenfeldbru 17.03 325 P **P 00 14 42.1 +1.5**
FUR pmax pmax
comp=Z,23nm,0.9s
FRF La Foret Royal 17.06 306 *e*P **P 00 14 40.6 -0.3**
FRF pmax pmax
comp=Z,52nm,1.7s
WET Wettzell 17.06 330 P **P 00 14 40.2 -0.7**
WET pmax pmax
comp=Z,19nm,1.1s
OSTC Ostas 17.07 339 *e*P **P 00 14 41.0 0.0**
OSTC AMS AMS 00 22 30.0
comp=Z,1µm,13.2s
UPC Upice 17.09 339 *e*P **P 00 14 41.3 +0.1**
UPC MLR MLR
comp=Z,1µm,16.3s
UPC Upice 17.09 339 *e*P **P 00 14 41.3 +0.1**
UPC AMS AMS 00 22 40.0
comp=Z,1µm,16.3s
DAVA Damuels 17.12 321 *e*Pn **Pn 00 14 39.9 0.0**
comp=Z,10nm,0.8s
PRU Pruhonice 17.12 335 *e*P **P 00 14 40.7 -0.8**
PRU MLR MLR
comp=Z,2µm,12.0s
PRU Pruhonice 17.12 335 *e*P **P 00 14 40.7 -0.8**
PRU AMS AMS 00 23 00.0
comp=Z,2µm,12.0s
CHVC Chvalec 17.15 339 *e*P **Pn 00 14 40.7 +0.5**
MRWI Hamdab 17.19 159 *i* P **P 00 14 43.9 +1.4**
GANJ Ganja 17.25 65 P **Pn 00 14 40.4 -1.2**
KSP Ksiaz 17.30 340 *e*P **P 00 14 45.4 +1.9**
MQOL MQOL 17.39 142 *i* P **P 00 14 45.9 +1.3**
MQOL *i* 00 14 54.7
baz=171,slow=12
MBDF Montbardon 17.48 310 *e*P **P 00 14 45.4 -0.4**
MBDF pmax pmax
comp=Z,17nm,0.8s
PVCC Panska Ves 17.57 336 *e*P **P 00 14 46.9 +0.4**
PVCC MLR MLR
comp=Z,1µm,10.9s
PVCC Panska Ves 17.57 336 *e*P **P 00 14 46.9 +0.4**
PVCC AMS AMS 00 23 00.0
comp=Z,1µm,10.9s

GROC Groznyy 17.62 56 *e*P **Pn 00 14 46.2 +0.1**
GROC pmax pmax
comp=Z,47nm,1.2s
GROC MLR MLR
comp=Z,505nm,12.0s
BNI Bardonecchia 17.70 311 P **Pn 00 14 47.1 0.0**
BNI pmax pmax
comp=Z,14nm,0.8s
BNI Bardonecchia 17.70 311 **Pn 00 14 47.1 0.0**
ZKTA Zakatala 17.71 62 P **Pn 00 14 46.4 -0.9**
MNGR Mingechevir, A 17.85 65 P **Pn 00 14 48.5 -0.4**
LPG La Plagne 17.87 312 *e*P **P 00 14 50.3 +0.2**
LPG pmax pmax
comp=Z,10.0nm,0.8s
LPL La Plagne 17.89 312 *e*P **P 00 14 50.7 +0.4**
LPL pmax pmax
comp=Z,8.0nm,0.6s
SEKA Sheki 18.03 63 P **Pn 00 14 50.0 -1.2**
BRG Berggiesshubel 18.07 335 *e*P **Pn 00 14 51.6 0.0**
BRG Amp 00 14 57.5
comp=Z,14nm,1.1s
BRG Amp 00 23 34.0
comp=E,1.0nm,12.0s
BRG Amp 00 23 37.0
comp=Z,1.4nm,10.4s
BRG Amp 00 23 39.0
comp=N,1.5nm,12.0s
BRG Berggiesshubel 18.07 335 *e*P **Pn 00 14 51.6 0.0**
BRG pmax pmax
comp=Z,14nm,1.1s
BRG MLR MLR
comp=E,1μm,12.0s
BRG MLR MLR
comp=Z,1μm,10.4s
BRG MLR MLR
comp=N,1μm,12.0s
NKC Novy Kostel 18.09 332 AMS AMS 00 23 30.0
comp=N,2μm,12.0s
ORIF Oris-en-Rattie 18.14 309 P **P 00 14 57.5 +4.6**
ORIF pmax pmax
comp=Z,13nm,1.1s
SLE Schleitheim 18.15 320 P **P 00 14 52.7 -0.2**
SLE pmax pmax
comp=Z,19nm,1.0s
GRA1 Grafenberg Arr 18.17 329 **Pn 00 14 52.7 -0.2**
GRF Grafenberg Arr 18.17 329 P **Pn 00 14 52.7 -0.2**
GRF pmax pmax
comp=Z,18nm,1.0s
GRFO Grafenberg 18.17 329 P **Pn 00 14 52.8 -0.1**
GRFO pmax pmax
comp=Z,14nm,0.9s
GRFO Grafenberg 18.17 329 **Pn 00 14 52.8 -0.1**
STU Stuttgart 18.45 324 P **Pn 00 14 56.2 0.0**
STU pmax pmax
comp=Z,13nm,0.7s
STU Stuttgart 18.45 324 P **Pn 00 14 56.2 0.0**
BFO Black Forest 18.59 321 P **P 00 14 57.7 -0.1**
BFO pmax pmax
comp=Z,9.0nm,0.9s
BFO Black Forest 18.59 321 **P 00 14 57.7 -0.1**
MAK Makhachkala 18.72 58 *e*P **P 00 14 55.5 -3.7**
MAK *e*S **Sn 00 18 23.9 -5.3**
MAK pmax pmax
comp=Z,225nm,1.2s
MAK MLR MLR
comp=Z,708nm,19.0s
MOX Moxa 18.74 331 P **Pn 00 15 01.5 +1.7**
MOX pmax pmax
comp=Z,14nm,0.9s
CLL Collm 18.76 335 *i* P **Pn 00 15 00.0 0.0**
CLL *e*S **Sn 00 18 31.0 +1.0**
CLL pmax pmax
comp=Z,23nm,1.6s
CLL Collm 18.76 335 P **P 00 14 58.9 -0.7**
CLL Collm 18.76 335 *i* P **Pn 00 15 00.0 0.0**
comp=Z,23nm,1.6s
CLL *i* pP **sP 00 15 03.0 +1.6**
comp=Z,12nm,0.9s
CLL *i* sP **pP 00 15 04.5 +3.7**
comp=Z,19nm,1.0s
CLL *e*PPP PPP 00 15 23.0
CLL *e*S **Sn 00 18 31.0 +1.0**
CLL Lmax 00 24 00.0
CABF La Chapelle 18.83 314 *e*P **P 00 14 58.0 -2.5**
CABF pmax pmax
comp=Z,17nm,0.8s
LKRN Lenkeran, Azer 18.84 72 P **P 00 14 58.6 -2.0**
VIVF Saint-Julien-l 18.89 308 *e*P **Pn 00 15 01.4 -0.2**
VIVF pmax pmax
comp=Z,8.0nm,0.8s
VSR Storozhevoye 18.96 27 *e*P **P 00 15 02.0 +0.2**
VSR pmax pmax
comp=Z,30nm,1.4s
HINF Hinteralfeld 19.06 318 *e*P **P 00 15 01.9 -1.1**
HINF pmax pmax
comp=Z,9.0nm,0.8s
ECH Echery 19.13 320 P **P 00 15 03.7 -0.1**
ECH pmax pmax
comp=Z,23nm,1.1s
ECH Echery 19.13 320 P **P 00 15 03.7 -0.1**
SSB Saint Sauveur 19.15 309 P **P 00 15 03.4 -0.6**
SSB pmax pmax
comp=Z,10.0nm,1.0s
SUW Suwalki 19.16 355 P **P 00 15 02.8 -1.1**
SUW pmax pmax
comp=Z,118nm,0.9s
SUW Suwalki 19.16 355 P **P 00 15 01.7 -2.2**
SUW Suwalki 19.16 355 *e*P **Pn 00 15 04.5 -0.2**
CDF Champ du Feu 19.19 320 *e*P **P 00 15 04.6 +0.2**
CDF pmax pmax
comp=Z,24nm,1.1s
GKP Gorka Klasztor 19.29 344 P **P 00 15 04.0 -1.3**
GKP pmax pmax
comp=Z,49nm,1.0s
VORR Voronezh 19.35 26 *e*P **P 00 15 06.1 +0.1**
VORR *e*S **S 00 18 45.7 +0.5**
VORR pmax pmax
comp=Z,72nm,2.0s
VORR MLR MLR
comp=Z,936nm,18.0s
HAU Haudompre 19.45 318 *e*P **P 00 15 06.3 -0.9**
HAU pmax pmax
comp=Z,36nm,1.0s
RUE Ruedersdorf 19.49 338 *e*P **Pn 00 15 09.0 +0.2**
MNK Minsk 19.62 4 *i* P **P 00 15 06.2 -2.8**
MNK *i* S **S 00 18 48.3 -2.4**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=N,17nm,0.9s
MNK MLR MLR
comp=E,232nm,13.0s
MNK MLR MLR
comp=N,783nm,16.0s
MNK MLR MLR
comp=Z,653nm,16.0s
MNK Minsk 19.62 4 *i* P **P 00 15 06.2 -2.8**
comp=E,2.0nm,0.9s
MNK *i* P **P 00 15 06.2 -2.8**
comp=N,17nm,0.8s
MNK *i* P **P 00 15 06.2 -2.8**
comp=Z,15nm,0.8s,baz=4.9
MNK *i* PP **PnPn 00 15 21.3 -2.5**
MNK *i* PPP PPP 00 15 29.0
MNK *i* S **S 00 18 48.4 -2.4**
MNK *i* SS **SnSn 00 19 05.5 +0.3**
MNK *i* SSS SSS 00 19 18.4
MNK *i* LR LR 00 21 38.6
MNK *i* LRM MLR 00 23 03.1
comp=E,232nm,13.1s
MNK *i* LRM MLR 00 23 06.9
comp=N,783nm,15.7s
MNK *i* LRM MLR 00 23 12.1
comp=Z,653nm,15.7s
TNS Taunus Mts 19.80 326 P **Pn 00 15 12.0 -0.5**
TNS pmax pmax
comp=Z,27nm,0.7s
VRH Novokhopyorsk 19.96 31 *e*P **Pn 00 15 13.5 -0.9**
VRH pmax pmax
comp=Z,100nm,1.2s
NACGM Naroch 19.98 2 *e*P **Pn 00 15 15.2 +0.6**
MTLF Montolieu 20.01 302 P Pn 00 15 15.2 +0.1
MTLF pmax pmax
comp=Z,17nm,1.0s
LPSR Galich'ya Gora 20.02 24 *e*P **P 00 15 13.5 +0.2**
LPSR pmax pmax
comp=Z,60nm,1.3s
SMF Signal de Mont 20.19 312 *e*P **P 00 15 13.0 -2.4**
SMF pmax pmax
comp=Z,15nm,0.7s
IDID Didziasalis 20.39 2 *e*P **P 00 15 17.1 -0.3**
IDID IAmb IAmb 00 15 24.3
comp=Z,7.5nm,0.9s
IIGN Ignalina 20.42 1 *e*P **P 00 15 16.8 -0.9**
IIGN IAmb IAmb 00 15 27.0
comp=Z,12nm,0.7s
LOR Lormes 20.48 314 P **P 00 15 17.6 -0.9**
LOR pmax pmax
comp=Z,31nm,1.2s
WLF Walferdange 20.54 322 P **P 00 15 19.3 +0.2**
WLF pmax pmax
comp=Z,44nm,1.1s
WLF Walferdange 20.54 322 P **P 00 15 19.3 +0.2**
WLF IAmb IAmb 00 15 26.8
comp=Z,44nm,1.1s
WLF Walferdange 20.54 322 *d*P **P 00 15 19.2 +0.2**
comp=Z,22nm,1.0s
JAWL J.Aulia 20.55 161 *i* P **P 00 15 13.3 -6.0**
JAWL AMP 00 47 05.0
comp=N,1μm,0.2s
AVF Avril sur Loir 20.56 312 *e*P **P 00 15 18.5 -0.8**
AVF pmax pmax
comp=Z,33nm,1.2s
SSF Saint Saulge 20.59 313 *e*P **P 00 15 18.9 -0.8**
SSF pmax pmax
comp=Z,69nm,1.1s
PABE Paberze 20.61 357 P **P 00 15 17.4 -2.2**
PABE Paberze 20.61 357 *e*P **P 00 15 18.5 -1.2**
CAF Calviac 20.62 306 *e*P Pn 00 15 21.5 -0.8
CAF pmax pmax
comp=Z,16nm,1.2s
ISAL Salakas 20.64 1 *e*P **P 00 15 17.9 -2.2**
BGF Bois d'Agland 20.77 311 *e*P **P 00 15 21.3 -0.3**
BGF pmax pmax
comp=Z,30nm,0.9s
BHOU Houvegnez 21.05 323 *d*P **P 00 15 26.4 +1.8**
TCF Toulx Ste Croi 21.05 310 *e*P **P 00 15 23.1 -1.6**
TCF pmax pmax
comp=Z,16nm,1.1s
RJF Les Rejaudoux 21.12 307 *e*P **P 00 15 25.3 -0.1**
RJF pmax pmax
comp=Z,8.0nm,0.8s
BTNL Ternell 21.14 324 *d*P **P 00 15 25.8 +0.2**
comp=Z,27nm,1.0s
BUG Bochum--Univer 21.18 327 P **P 00 15 29.4 +3.5**
BUG pmax pmax
comp=Z,21nm,1.4s
MEM Membach 21.21 324 P **P 00 15 26.4 +0.1**
MEM pmax pmax
comp=Z,48nm,0.9s
MEM Membach 21.21 324 *d*P **P 00 15 26.4 +0.1**
comp=Z,32nm,0.8s
PBUR Paburge 21.25 354 *e*P **P 00 15 25.6 -1.0**
RCHB Rochefort 21.32 322 *d*P **P 00 15 28.0 +0.6**
comp=Z,13nm,1.1s
BSTI Sart Tilman 21.41 323 *d*P **P 00 15 28.2 -0.2**
comp=Z,8.0nm,1.0s
BCLA Clavier 21.44 322 *d*P **P 00 15 28.4 -0.3**
comp=Z,18nm,1.0s
BCLA *d*pP **sP 00 15 31.8 +1.1**
BCLA *d*PP **PnPn 00 15 49.6 +0.9**
GIVF Givet 21.49 321 *e*P **P 00 15 27.3 -2.0**
GIVF pmax pmax
comp=Z,41nm,0.9s
BEBN Eben Emael 21.50 324 *d*PP **PnPn 00 15 50.3 +0.9**
LFF La Frestale 21.51 305 *e*P **P 00 15 32.8 +3.2**
LFF pmax pmax
comp=Z,12nm,0.7s
BGES Gesves 21.53 322 *d*P **P 00 15 33.6 +3.9**
OBN Obninsk 21.54 17 P **P 00 15 31.3 +1.5**
comp=Z,2.7nm,0.5s,baz=298,slow=1.7,SNR=9.0
OBN LR LR 00 24 04.2
comp=Z,169nm,21.3s,baz=200,slow=38
OBN Obninsk 21.54 17‖ *e*P **P 00 15 31.1 +1.4**
OBN *e* 00 15 51.6
OBN *i* S **S 00 19 27.4 -1.4**
OBN *e*SS **SnSn 00 19 55.6 +3.6**
OBN pmax pmax
comp=Z,54nm,1.6s
OBN MLR MLR
comp=Z,512nm,14.0s
OBN Obninsk 21.54 17 P **P 00 15 31.2 +1.5**
OBN IAmb IAmb 00 15 41.2
comp=Z,20nm,0.6s
DOU Dourbes 21.61 321 *d*P **P 00 15 29.5 -1.1**
comp=Z,43nm,1.1s
BMRD Maredsous 21.64 322 *d*P **P 00 15 29.9 -1.0**
comp=Z,15nm,1.0s
BAIF Baives 21.79 320 *e*P **P 00 15 30.7 -1.8**
BAIF pmax pmax
comp=Z,79nm,0.8s
CLF Chambon-Foret 21.79 314 P **P 00 15 32.8 +0.3**
BSEG Bad Segeberg 21.85 335 P **P 00 15 31.7 -1.4**
BSEG pmax pmax
comp=Z,33nm,1.0s
ETSF Etsaut 21.86 299 *e*P **P 00 15 36.5 +3.0**
ETSF pmax pmax
comp=Z,16nm,1.0s
UCC Uccle 22.15 322 P **P 00 15 35.9 -0.4**
UCC pmax pmax
comp=Z,12nm,1.0s
UCC Uccle 22.15 322 P **P 00 15 35.9 -0.4**
LUNU Lund 22.36 342 *i* P **P 00 15 37.0 -1.5**
MOS Moscow 22.36 18 *e*P **P 00 15 39.0 +0.4**
MOS *e*S **S 00 19 41.3 -3.4**
MOS pmax pmax
comp=Z,50nm,1.3s
MOS MLR MLR
comp=Z,600nm,9.0s
SJPF Ste Jean 22.39 299 *e*P **P 00 15 39.9 +0.9**
SJPF pmax pmax
comp=Z,21nm,1.0s
MFF Saint Martin d 22.67 309 *e*P **P 00 15 41.3 -0.7**
MFF pmax pmax
comp=Z,38nm,1.0s
DEL Delary 23.00 343 *e*P **P 00 15 45.2 -0.1**
DEL Delary 23.00 343 *i* P **P 00 15 42.0 -3.3**
BELG Belogornoye 23.43 35 P **P 00 15 48.5 -1.3**
comp=Z,51nm,0.8s,baz=205,slow=0.2,SNR=33
BELG S **S 00 19 56.5 -6.8**
comp=Z,9.3nm,1.0s,baz=33,slow=23,SNR=2.0
BELG LR LR 00 26 11.0
comp=Z,435nm,20.5s,baz=235,slow=40
BELG Belogornoye 23.43 35*de*P **P 00 15 48.2 -1.5**
BELG pmax pmax
comp=Z,26nm,1.4s
LDF La Druitiere 23.47 313 *e*P **P 00 15 49.3 -0.9**
LDF pmax pmax
comp=Z,35nm,1.2s
VSU Vasula 23.55 1‖ *e*P **P 00 15 52.3 +1.5**
VSU pmax pmax
comp=Z,85nm,1.6s
VSU Vasula 23.55 1 *e*P **P 00 15 51.0 +0.2**
FLN La Foliniere 23.75 314 *e*P **P 00 15 52.0 -1.0**
FLN pmax pmax
comp=Z,50nm,1.3s
GRR Gorron 23.82 312 *e*P **P 00 15 52.0 -1.6**
GRR pmax pmax
comp=Z,15nm,0.8s
ESDC Sonseca Array 24.01 290 P **P 00 15 55.1 -0.5**
comp=Z,3.5nm,0.6s,baz=80,slow=9.4,SNR=20
ESDC LR LR 00 25 57.8
comp=Z,365nm,20.2s,baz=81,slow=38
MUD Monsted U'grnd 24.30 337 *i* P **P 00 15 58.0 0.0**
MUD IAmb IAmb 00 16 10.2
comp=Z,7.3nm,0.6s
PAB San Pablo 24.30 290 P **P 00 15 58.1 -0.3**
PAB pmax pmax
comp=Z,14nm,1.0s
PAB San Pablo 24.30 290 P **P 00 15 58.1 -0.3**
VIKU Vikbolandet 24.32 348 *e*P **P 00 15 58.3 +0.1**
SGMF Saint Gilles 24.81 311 P **P 00 16 01.7 -1.1**
SGMF pmax pmax
comp=Z,57nm,1.4s
QUIF Quistinic 25.07 310 *e*P **P 00 16 05.2 +0.1**
QUIF pmax pmax
comp=Z,86nm,1.5s
MDT Midelt 25.21 274 P **P 00 16 07.9 +1.3**
comp=Z,3.2nm,0.9s,baz=98,slow=14,SNR=5.1
MDT LR LR 00 28 43.7
comp=Z,611nm,19.5s,baz=94,slow=43
MEF Metsahovi 25.31 358 *e*P **P 00 16 08.6 +1.5**
AAL Aland 25.53 353 *e*P **P 00 16 09.6 +0.5**
GEYT Alibeck 26.18 74 P **P 00 16 15.2 -0.1**
comp=Z,9.5nm,0.5s,baz=255,slow=16,SNR=23
PBRG Braganca 26.24 295 *e*P **P 00 16 16.5 +0.7**
comp=Z,56nm,1.2s
HFS Hagfors 26.39 346 P **P 00 16 17.1 +0.1**
comp=Z,4.8nm,0.9s,baz=24,slow=31,SNR=4.5
HFS LR LR 00 27 34.1
comp=Z,828nm,18.6s,baz=151,slow=38
MVO Moncorvo 26.41 293 *e*P **P 00 16 21.9 +4.5**
comp=Z,68nm,0.9s
MVO *e*LR LR 00 21 03.0
comp=Z,305nm,18.0s
PBAR Barrancos 26.42 287 *e*P **P 00 16 18.9 +1.4**
comp=Z,26nm,2.4s
FINES FINESS Array B 26.53 0 P **P 00 16 16.6 -1.5**
comp=Z,2.5nm,0.7s,baz=161,slow=10,SNR=14
FINES PcP **PcP 00 19 42.0 -0.6**
comp=Z,1.7nm,0.8s,baz=129,slow=2.7,SNR=3.4
FINES LR LR 00 26 23.4
comp=Z,843nm,21.8s,baz=179,slow=36
FINES FINESS Array B 26.53 0 P **P 00 16 17.8 -0.3**
FINES FINESS Array B 26.53 0 P **P 00 16 17.8 -0.3**
FIA1 FINESS Array S 26.53 0 P **P 00 16 17.1 -1.0**
FIA1 IAmb IAmb 00 16 25.3
comp=Z,14nm,1.1s
PMRV Marv??o 26.66 290 *e*P **P 00 16 20.9 +1.3**
comp=Z,28nm,2.0s
PMRV *e*LR LR 00 21 14.9
comp=Z,236nm,24.0s
PCBR Castelo Branco 26.72 290 *e*P **P 00 16 21.6 +1.5**
comp=Z,24nm,1.5s
MTE Manteigas 26.77 292 *e*P **P 00 16 23.1 +2.4**
comp=Z,45nm,2.0s
MTE *e*S **S 00 21 03.6 +6.4**
MTE *e*LR LR 00 21 13.0
comp=Z,348nm,20.0s
MTE Manteigas 26.77 292 P **P 00 16 19.5 -1.3**
MTE IAmb IAmb 00 16 34.6
comp=Z,16nm,0.9s
PESTR Estremoz 26.82 288 *e*P **P 00 16 22.8 +1.7**
comp=Z,26nm,1.1s
PESTR Estremoz 26.82 288 P **P 00 16 21.9 +0.7**
MZR Muzera 26.96 109 P **P 00 16 23.1 +0.6**
POLO Lamas de Olo 27.00 294 *e*P **P 00 16 23.6 +0.8**
PVAQ Vaqueiros 27.01 285 *e*P **P 00 16 24.3 +1.5**
PVAQ *e*LR LR 00 21 26.3
comp=Z,142nm,20.0s
PVIS Viseu 27.05 292 *e*P **P 00 16 22.9 -0.3**
comp=Z,35nm,2.0s
EVO Evora 27.17 288 *e*P **P 00 16 25.3 +1.1**
PCAB Cabril 27.19 295 *e*P **P 00 16 26.3 +1.9**
comp=Z,55nm,1.6s
PBDV Barranco-do-Ve 27.20 285 *e*P **P 00 16 24.2 -0.3**
comp=Z,67nm,1.4s
PCVE Castro Verde 27.25 286 *e*P **P 00 16 30.3 +5.4**
PMTG Montargil 27.31 289 *e*P **P 00 16 28.7 +3.2**
comp=Z,35nm,1.5s
NC602 NORSAR Array S 27.39 345 P **P 00 16 24.6 -1.3**
NC602 NORSAR Array S 27.39 345 *e*P **P 00 16 26.2 +0.3**
PGAV Gavieira, Arco 27.39 295 *e*P **P 00 16 28.7 +2.4**
comp=Z,38nm,1.6s
PGAV *e*LR LR 00 21 27.8
comp=Z,371nm,16.0s
KLMR Klimovskoe 27.42 15 *e*P **P 00 16 30.4 +4.2**
KLMR pmax pmax
comp=Z,19nm,0.9s
KLMR Klimovskoe 27.42 15 *e*P **P 00 16 30.4 +4.2**
KLMR AMP 00 16 33.7
comp=Z,19nm,0.9s
KLMR *e*S **S 00 21 14.9 +8.1**
KLMR *e*S **S 00 21 14.9 +8.1**
KLMR LQ LQ 00 24 42.0
KLMR LQ LQ 00 24 42.0
KLMR LR LR 00 26 02.6
PCAS Casmilo, Conde 27.50 291 *e*P **P 00 16 29.8 +2.6**
comp=Z,38nm,2.0s
PTO Porto 27.60 293 *e*P **P 00 16 30.9 +2.9**
comp=Z,38nm,1.1s
SHME Shamm 27.60 100 P **P 00 16 29.7 +1.6**
NAZ Nazwa, Dubai 27.70 103 P **P 00 16 29.9 +0.9**
NB2 NORSAR Subarra 27.73 345 P **P 00 16 28.0 -1.0**
comp=Z,1.1nm,0.8s,baz=154,slow=11
NOA NORSAR Array B 27.73 345 P **P 00 16 27.9 -1.2**
comp=Z,1.4nm,0.8s,baz=151,slow=8.6,SNR=5.2
NOA PcP **PcP 00 19 46.2 +0.6**
comp=Z,1.2nm,0.9s,baz=135,slow=2.5,SNR=3.7
NOA LR LR 00 29 45.1
comp=Z,510nm,20.0s,baz=155,slow=41
PSBE So Bento 27.74 290 *e*P **P 00 16 32.4 +3.0**
comp=Z,66nm,1.8s
FAQ Al Faqa, Dubai 27.75 103 P **P 00 16 29.6 +0.1**
BANOM Banah 27.78 100 P **P 00 16 29.3 -0.6**
PTEO Sao Teotonio 27.80 286 *e*P **P 00 16 34.8 +5.0**
comp=Z,114nm,1.9s
NBO00 NORSAR Array S 27.82 344 P **P 00 16 29.8 0.0**
NBO00 IAmb IAmb 00 16 47.1
comp=Z,19nm,1.1s
PFVI Vila Bisbo 27.92 285 *e*P **P 00 16 33.2 +2.3**
comp=Z,186nm,1.8s
ATD Arta Tunnel 28.04 142 LR LR 00 27 32.9
comp=Z,203nm,19.9s,baz=334,slow=36
AKTO Aktyubinsk 28.08 47 P **P 00 16 30.8 -1.4**
comp=Z,9.4nm,0.8s,baz=241,slow=10.0,SNR=16
AKTO LR LR 00 30 34.9
comp=Z,285nm,21.9s,baz=264,slow=43
SKAR Skarslia 28.10 342 *e*P **P 00 16 32.4 0.0**
HATD Hatta, Dubai 28.15 103 P **P 00 16 32.9 -0.2**
UOSS Minazif 28.15 102 P **P 00 16 33.9 +0.8**
UOSS Minazif 28.15 102 P **P 00 16 32.8 -0.3**
ASHO Ashiyiah 28.16 103 P **P 00 16 32.4 -0.9**
KIRV Kirov 28.40 26 LR LR 00 27 47.9
comp=Z,353nm,18.1s,baz=226,slow=36
KIRV Kirov 28.40 26*de*P **P 00 16 35.1 +0.1**
EKA Eskdalemuir Ar 28.48 325 P **P 00 16 35.9 +0.2**
comp=Z,4.4nm,0.5s,baz=120,slow=10,SNR=17
EKA LR LR 00 30 16.7
comp=Z,794nm,18.8s,baz=126,slow=41
ESK Eskdalemuir 28.49 325 P **P 00 16 34.9 -0.9**
ESK pmax pmax
comp=Z,22nm,0.9s
ESK Eskdalemuir 28.49 325 P **P 00 16 34.9 -0.9**
FURI Furi 28.52 152 P **P 00 16 37.0 +0.3**
FURI IAmb IAmb 00 16 48.8
comp=Z,13nm,1.1s
BER Bergen 28.68 339 *e*P **P 00 16 38.0 +0.6**
ASK Askoy 28.80 339 *e*P **P 00 16 38.8 +0.4**
AB31 Akbulak array 28.88 50 P **P 00 16 38.9 -0.4**
HYA Hoyanger 29.07 341 *e*P **P 00 16 41.9 +1.0**
DOMB Dombas 29.10 344 *e*P **P 00 16 41.2 0.0**
PRGR Permogore 29.57 19 *e*P **P 00 16 44.0 -1.3**
PRGR *e*S **S 00 21 35.4 -5.2**
PRGR pmax pmax
comp=Z,7.0nm,0.8s
FOO Floro 29.74 340 *e*P **P 00 16 45.9 -1.0**
HRA Herat 29.96 80 P **P 00 16 48.7 -0.7**
TOA0 Torodi Ar. Sit 30.69 231 P **P 00 16 55.8 +0.2**
TOA0 IAmb IAmb 00 16 58.3
comp=Z,20nm,1.0s
TORD Torodi Ar. Bea 30.69 231 P **P 00 16 55.5 -0.2**
comp=Z,21nm,1.0s,baz=36,slow=8.1,SNR=79
TORD LR LR 00 30 58.6
comp=Z,569nm,20.2s,baz=33,slow=40
TORD Torodi Ar. Bea 30.69 231 P **P 00 16 55.8 +0.1**
TORD IAmb IAmb 00 16 58.3
comp=Z,15nm,1.1s
NSS Namsos 30.78 348 *e*P **P 00 16 55.5 -0.5**
WSAR Wadi Sarin 30.91 103 LR LR 00 33 16.4
comp=Z,497nm,20.9s,baz=328,slow=44
ARU Arti 30.97 36 LR LR 00 31 08.4
comp=Z,562nm,19.8s,baz=239,slow=40
ARU Arti 30.97 36*d i*P **P 00 16 55.9 -1.9**
ARU 00 17 54.3
ARU 00 19 48.3
ARU S **S 00 22 00.2 -2.5**
ARU pmax pmax
comp=Z,22nm,1.7s
ARU MLR MLR
comp=Z,492nm,15.0s
ARU Arti 30.97 36 P **P 00 16 55.9 -1.9**
ARU IAmb IAmb 00 17 13.5

MOR8 **Moi Rana** 31.98 351 *e*P P 00 17 06.9 +0.3
SVE **Sverdlovsk** 32.17 36⇓ *e*P P 00 17 07.3 -1.0
SVE eS S 00 22 18.1 -3.3
SVE pmax pmax
comp=Z,19nm,0.9s
SVE MLR MLR
comp=Z,548nm,13.0s
LODK **Lodwar** 32.62 162 P P 00 17 12.4 -0.2
APA **Apatity** 32.98 5⇓ *i*P P 00 17 19.2 +3.9
APA pmax pmax
comp=Z,5.0nm,0.6s
APA MLR MLR
comp=Z,1μm,10.0s
FAUS **Fauske** 33.04 353 *e*P P 00 17 15.9 +0.1
STEI **Steigen** 33.58 353 *e*P P 00 17 20.2 -0.3
KOWA **Kowa** 33.60 240 P P 00 17 21.7 +0.4
KOWA IAmb IAmb 00 17 32.9
comp=Z,8.0nm,1.1s
LOF **Lofoten** 33.96 352 *e*P P 00 17 22.0 -1.8
KTK1 **Kautokeino** 34.16 358 *e*P P 00 17 25.4 -0.2
ARA0 **ARCESS Array S** 34.65 360 *e*P P 00 17 28.7 -1.1
ARCES **ARCESS Array B** 34.65 360 P P 00 17 28.6 -1.2
comp=Z,0.9nm,0.4s,baz=174,slow=8.8,SNR=15
ARCES PcP PcP 00 20 02.5 -1.3
comp=Z,1.6nm,0.8s,baz=56,slow=4.5,SNR=1.1
ARCES LR LR 00 31 12.6
comp=Z,726nm,20.3s,baz=170,slow=36
ARCES **ARCESS Array B** 34.65 360 P P 00 17 29.3 -0.6
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES **ARCESS Array B** 34.65 360 P P 00 17 29.3 -0.6
CHGR **Chuyangaron** 34.76 71 P P 00 17 31.0 -0.2
JETT **Jettan, Norway** 34.80 357 *e*P P 00 17 31.8 +0.7
KEV **Kevo** 34.88 1 P P 00 17 32.3 +0.5
KEV pmax pmax
comp=Z,12nm,1.0s
KEV **Kevo** 34.88 1 P P 00 17 32.2 +0.5
KEV IAmb IAmb 00 17 48.4
comp=Z,12nm,1.0s
TRO **Tromso** 34.95 356 *e*P P 00 17 33.1 +0.7
KK31 **Karatay Array** 35.41 63 *i*P P 00 17 35.6 -1.1
KK31 **Karatay Array** 35.41 63 IAmb IAmb 00 17 40.2
comp=Z,12nm,0.9s
KKAR **Karatay Array** 35.41 63 IAmb IAmb 00 17 40.2
comp=Z,12nm,0.9s
KBL **Kabul** 35.41 78 P P 00 17 36.7 -0.4
KBL pmax pmax
comp=Z,4.0nm,1.1s
KBL **Kabul** 35.41 78 P P 00 17 36.7 -0.4
MBAR **Mbarara** 35.67 171 P P 00 17 39.4 +0.1
comp=Z,2.6nm,0.2s,baz=258,slow=6.9,SNR=1.7
MBAR LR LR 00 34 39.1
comp=Z,419nm,18.3s,baz=341,slow=40
MBAR **Mbarara** 35.67 171 P P 00 17 39.1 -0.1
HAMF **Hammerfest** 35.78 359 *e*P P 00 17 39.9 +0.4
BTK **Batken** 35.86 68 P P 00 17 40.6 -0.2
BTK pmax pmax
comp=Z,7.0nm,1.1s
BTK **Batken** 35.86 68 P P 00 17 40.6 -0.2
BRVK **Borovoye** 36.12 46 *de*P P 00 17 41.8 -0.9
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK **Borovoye** 36.12 46 P P 00 17 42.2 -0.5
DRK **Karamyk** 36.69 69 P P 00 17 48.1 0.0
DRK IAmb IAmb 00 18 01.8
comp=Z,12nm,1.1s
OTUK **Ortayu** 36.77 54 P P 00 17 47.2 -1.1
KMBO **Kilima Mbogo** 37.47 161 P P 00 17 56.9 +2.1
comp=Z,0.9nm,0.3s,baz=24,slow=6.7,SNR=3.0
KMBO LR LR 00 32 53.2
comp=Z,497nm,20.1s,baz=82,slow=36
KMBO **Kilima Mbogo** 37.47 161 P P 00 17 54.5 -0.3
EKS2 **Erkin-Say** 37.83 63 P P 00 17 57.5 0.0
SNR=7.6
AAK **Ala-Archa** 38.36 63 P P 00 18 02.0 0.0
SNR=12
AAK **Ala-Archa** 38.36 63 P P 00 18 02.4 +0.4
comp=Z,6.4nm,0.7s,baz=158,slow=2.5,SNR=16
AAK LR LR 00 36 54.4
comp=Z,256nm,18.8s,baz=281,slow=41
AAK **Ala-Archa** 38.36 63⇑ *e*P P 00 18 01.6 -0.4
AAK pmax pmax
comp=Z,23nm,1.7s
AAK **Ala-Archa** 38.36 63 P P 00 18 02.0 0.0
AAK IAmb IAmb 00 18 09.8
comp=Z,14nm,1.1s
FRU1 **Bishkek** 38.44 63 P P 00 18 02.7 +0.1
FRU1 pmax pmax
comp=Z,19nm,1.1s
FRU1 **Bishkek** 38.44 63 P P 00 18 02.7 +0.1
FRU1 IAmb IAmb 00 18 16.8
comp=Z,19nm,1.1s
CHMS **Chumysh** 38.52 63 P P 00 18 02.7 -0.5
SNR=7.7
CHMS **Chumysh** 38.52 63 *i*P P 00 18 02.3 -0.9
CHMS pmax pmax
comp=Z,26nm,1.5s
KBK **Karagaybulak** 38.69 63 P P 00 18 04.8 -0.1
SNR=6.0
KIBK **Kibwezi** 38.85 160 P P 00 18 07.2 +1.0
NIL **Nilore** 39.02 78 P P 00 18 07.0 -0.5
NIL pmax pmax
comp=Z,14nm,0.9s
NIL **Nilore** 39.02 78 P P 00 18 07.0 -0.5
NIL IAmb IAmb 00 18 21.7
comp=Z,14nm,0.9s
TKM2 **Tokmak 2** 39.14 63 *i*P P 00 18 08.6 0.0
TKM2 pmax pmax
comp=Z,12nm,1.1s
ULHL **Ulahol** 39.69 64 P P 00 18 12.9 -0.3
SNR=14
DBIC **Dimbokro** 39.78 232 P P 00 18 16.9 +3.1
comp=Z,3.2nm,0.5s,baz=58,slow=10,SNR=5.9
DBIC LR LR 00 38 32.7
comp=Z,456nm,18.6s,baz=42,slow=42
DBIC **Dimbokro** 39.78 232 P P 00 18 17.0 +3.1
DBIC **Dimbokro** 39.78 232 P P 00 18 14.0 +0.1
DBIC IAmb IAmb 00 18 29.3
comp=Z,15nm,1.1s
KSH **Kashi** 39.87 68 P P 00 18 13.0 -1.7
KSH sP sP 00 18 20.0 +3.4
KSH PP PP 00 19 45.9 -0.2
KSH PcP PcP 00 20 23.5 +3.1
KSH pmax pmax
comp=Z,5.0nm,0.5s
TIC **Toumodi** 39.90 232 *e*P P 00 18 15.8 +0.8
KIC **Kosan Boka** 39.94 232 *e*P P 00 18 15.3 +0.1
comp=Z,12nm,0.6s
MDOK **Medeo** 40.18 62 P P 00 18 16.4 -0.8
LIC **Lamto** 40.22 232 *e*P P 00 18 18.9 +1.3
comp=Z,33nm,1.2s
KDJ **Kajisay** 40.39 64 IAmb IAmb 00 18 36.5
comp=Z,12nm,1.0s
JMIC **Jan Mayen** 40.42 343 LR LR 00 35 10.4
comp=Z,158nm,19.0s,baz=96,slow=36
TARG **Taragay, Kyrgy** 40.91 64 P P 00 18 22.6 -1.0
KURBB **Kurchatov Arra** 40.92 51 P P 00 18 22.2 -0.8
comp=Z,24nm,0.7s,baz=276,slow=8.8,SNR=104
KURBB PP PP 00 19 58.8 +1.7
comp=Z,7.2nm,1.1s,baz=274,slow=11,SNR=6.4
KURBB **Kurchatov Arra** 40.92 51 P P 00 18 21.8 -1.2
BORG **Borgarnes** 40.96 331 LR LR 00 38 25.5
comp=Z,453nm,18.4s,baz=117,slow=41
KURK **Kurchatov** 40.98 51 *d*/*i*P P 00 18 22.5 -0.9
KURK pmax pmax
comp=Z,48nm,1.3s
KURK **Kurchatov** 40.98 51 P P 00 18 22.6 -0.9
HOPEN **Hopen** 41.67 360 *e*P P 00 18 29.0 +0.2
HSPB **Hornsund (broa** 42.41 357 *e*P P 00 18 35.6 +0.7
MAKZ **Makanchi** 43.31 56 P P 00 18 42.5 -0.1
MAKZ pmax pmax
comp=Z,11nm,0.6s
MAKZ **Makanchi** 43.31 56 P P 00 18 42.5 -0.1
MAKZ IAmb IAmb 00 18 49.3
comp=Z,11nm,0.6s
MK31 **Makanchi Array** 43.53 56 *de*P P 00 18 43.7 -0.7
MK31 **Makanchi Array** 43.53 56 IAmb IAmb 00 18 48.3
comp=Z,23nm,1.1s
MKAR **Makanchi Array** 43.53 56 P P 00 18 43.9 -0.5
comp=Z,14nm,0.6s,baz=274,slow=7.5,SNR=74
MKAR S S 00 25 17.1 +3.4
comp=Z,1.4nm,1.0s,baz=250,slow=16,SNR=1.2
MKAR LR LR 00 40 46.3
comp=Z,327nm,19.0s,baz=281,slow=42

MKAR **Makanchi Array** 43.53 56 P P 00 18 43.5 -0.9
SPB2 **Spitsbergen Ar** 43.53 357 P P 00 18 44.9 +1.0
SPA0 **Spitsbergen Ar** 43.53 357 *e*P P 00 18 44.4 +0.4
SPITS **Spitsbergen Ar** 43.53 357 P P 00 18 43.0 -1.0
comp=Z,4.8nm,0.8s,baz=149,slow=16,SNR=8.7
SPITS **Spitsbergen Ar** 43.53 357 P P 00 18 45.2 +1.2
SPITS pmax pmax
comp=Z,29nm,1.2s
KBS **Kingsbay** 44.47 356 P P 00 18 53.0 +1.5
KBS pmax pmax
comp=Z,16nm,1.1s
KBS **Kingsbay** 44.47 356 P P 00 18 53.0 +1.5
KBS IAmb IAmb 00 18 59.2
comp=Z,16nm,1.1s
KBS **Kingsbay** 44.47 356 *e*P P 00 18 52.1 +0.6
ZAA0 **Zalesovo Array** 44.84 46 IAmb IAmb 00 18 58.1
comp=Z,14nm,0.9s
ZALV **Zalesovo Beam** 44.84 46 P P 00 18 53.5 -1.3
comp=Z,9.8nm,0.6s,baz=271,slow=8.4,SNR=37
ZALV LR LR 00 41 40.4
comp=Z,357nm,19.8s,baz=268,slow=42
DAG **Danmarks Havn** 46.37 347 *i*P P 00 19 03.9 -2.6
DAG IAmb IAmb 00 19 27.4
comp=Z,2.1nm,0.7s
WMQ **Urumqi** 47.73 60 *e*P P 00 19 18.3 +0.5
WMQ pP sP 00 19 24.4 +4.7
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,170nm,4.1s
WMQ LR LR
comp=Z,410nm,22.9s
WMQ LR LR
comp=Z,410nm,26.7s
NRIK **Noril'sk** 47.89 25 P P 00 19 18.4 -0.1
comp=Z,3.8nm,0.6s,baz=207,slow=4.5,SNR=9.1
NRIK **Noril'sk** 47.89 25⇓ *e*P P 00 19 19.2 +0.7
NRIK pmax pmax
comp=Z,12nm,1.3s
NRIK **Noril'sk** 47.89 25 P P 00 19 18.7 +0.2
NRIK IAmb IAmb 00 19 27.1
comp=Z,7.8nm,0.9s
PYUN **Piuthan** 48.75 81 *e*P P 00 19 25.2 -0.8
comp=Z,34nm,0.6s
ICESG **Greenland Ices** 49.07 334 *i*P P 00 19 27.0 -1.1
ICESG IAmb IAmb 00 19 38.8
comp=Z,5.1nm,0.7s
NOR **Nord** 49.22 352 *i*P P 00 19 25.7 -3.0
NOR IAmb IAmb 00 19 35.9
comp=Z,2.5nm,0.9s
DANN **Dangsing** 49.28 81 *e*P P 00 19 29.6 -0.5
comp=Z,76nm,0.6s
KOLN **Koldanda** 49.38 81 *e*P P 00 19 30.1 -0.7
comp=Z,27nm,0.7s
GKN **Gorkha** 50.12 81 *e*P P 00 19 35.3 -1.1
comp=Z,32nm,0.6s
DMN **Daman** 50.66 81 *e*P P 00 19 39.4 -1.2
comp=Z,41nm,0.7s
KKN **Kakani** 50.73 81 *e*P P 00 19 39.8 -1.3
comp=Z,28nm,0.7s
PKIN **Phulchoki** 50.91 81 *e*P P 00 19 41.1 -1.4
comp=Z,70nm,1.2s
PKI **Pulchoki** 50.92 81 *e*P P 00 19 41.3 -1.4
comp=Z,31nm,0.7s
GUN **Gumba** 51.17 80 *e*P P 00 19 43.4 -1.1
comp=Z,53nm,0.9s
DY2G **Dye2** 51.37 331 *i*P P 00 19 45.3 -0.1
DY2G IAmb IAmb 00 19 58.3
comp=Z,8.8nm,0.8s
JIRN **Jiri** 51.52 80 *e*P P 00 19 45.8 -1.4
comp=Z,13nm,0.9s
RAMN **Ramite** 52.15 81 *e*P P 00 19 50.8 -0.9
ODAN **Odare** 52.82 81 *e*P P 00 19 55.0 -1.8
TAPN **Taplejung** 52.88 80 *e*P P 00 19 56.1 -1.1
KNGR **Kungurtug, Tuv** 52.93 49⇓ *e*P P 00 19 57.5 +0.4
SFJD **Kangerlussuaq** 53.09 331 LR LR 00 42 41.2
comp=Z,317nm,21.4s,baz=90,slow=36
TSUM **Tsumeb** 54.39 189 LR LR 00 47 08.9
comp=Z,614nm,18.5s,baz=8.0,slow=40
TSUM **Tsumeb** 54.39 189 P P 00 20 08.6 +0.6
TSUM IAmb IAmb 00 20 23.2
comp=Z,6.6nm,1.1s
LSA **Lhasa** 54.69 76 P P 00 20 09.8 -0.9
LSA pmax pmax
comp=Z,9.0nm,0.9s
LSA **Lhasa** 54.69 76 P P 00 20 09.8 -0.9
LSA IAmb IAmb 00 20 17.1
comp=Z,8.9nm,0.9s
MOY **Mondy** 54.84 47 *e*P P 00 20 11.6 +0.6
MOY pmax pmax
comp=Z,22nm,2.1s
GOMU **GeErMu** 55.10 67 P P 00 20 13.4 -0.1
GOMU pP sP 00 20 17.9 +2.5
GOMU sP pP 00 20 18.9 +4.0
GOMU PcP **PcP** 00 21 16.3 +1.4
GOMU PP **PP** 00 22 18.0 +1.5
GOMU S **S** 00 27 55.6 -1.5
GOMU sS sS 00 28 08.4 +9.0
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,75nm,4.9s
ZAK **Zakamensk** 56.56 49 *e*P P 00 20 22.0 -1.4
ZAK pmax pmax
comp=Z,16nm,1.1s
OPO **Ambohidratompo** 56.99 156 LR LR 00 46 37.8
comp=Z,168nm,19.4s,baz=176,slow=38
PALK **Pallekele** 57.37 105 LR LR 00 46 54.8
comp=Z,461nm,22.0s,baz=53,slow=38
TULEG **Thule** 57.38 344 P P 00 20 27.6 -1.0
TULEG **Thule** 57.38 344 *i*P P 00 20 26.9 -1.7
TULEG IAmb IAmb 00 20 35.9
comp=Z,10nm,0.8s
GTA **Gaotai** 57.68 62 *e*P P 00 20 34.3 +2.8
GTA pP sP 00 20 38.1 +4.6
GTA sP pP 00 20 40.8 +7.9
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,44nm,6.0s
GTA LR LR
comp=Z,230nm,19.1s
GTA LR LR
comp=Z,180nm,19.5s
GTA LR LR
comp=Z,170nm,19.9s
SONM **Songino Array** 59.28 51 P P 00 20 42.2 -0.4
comp=Z,8.2nm,1.1s,baz=286,slow=7.4,SNR=9.8
SONM **Songino Array** 59.28 51 P P 00 20 42.2 -0.4
SONM IAmb IAmb 00 20 50.5
comp=Z,5.5nm,0.9s
EUNU **Eureka** 59.49 349 P P 00 20 44.5 +1.0
EUNU IAmb IAmb 00 20 49.0
comp=Z,4.9nm,0.8s
ULN **Ulaanbaatar** 59.69 50 *ce*P P 00 20 44.8 -0.6
ULN pmax pmax
comp=Z,15nm,1.0s
ULN **Ulaanbaatar** 59.69 50 P P 00 20 45.2 -0.2
BOD **Bodaibo** 60.36 38 *e*P P 00 20 47.5 -2.1
BOD pmax pmax
comp=Z,14nm,1.0s
FRB **Frobisher Bay** 61.08 330 LR LR 00 49 47.0
comp=Z,276nm,18.2s,baz=26,slow=38
TIXI **Tiksi** 61.22 21⇓ *e*P P 00 20 55.7 +0.5
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI **Tiksi** 61.22 21 P P 00 20 55.9 +0.7
TIXI IAmb IAmb 00 20 59.9
comp=Z,6.9nm,0.9s
LZH **Lanzhou** 61.90 64 *e*P P 00 21 00.5 -0.2
LZH pP sP 00 21 04.4 +1.8
LZH sP pP 00 21 08.0 +5.9
LZH pmax pmax
comp=Z,14nm,1.6s
BOSA **Boshof** 63.21 180 P P 00 21 10.3 +1.1
comp=Z,4.0nm,1.0s,baz=4.8,slow=8.3,SNR=5.2
BOSA LR LR 00 47 57.0
comp=Z,324nm,21.5s,baz=8.5,slow=35
SCHQ **Schefferville** 63.64 320 P P 00 21 11.1 -0.7
comp=Z,7.5nm,0.4s,baz=64,slow=4.6,SNR=43
SCHQ LR LR 00 50 20.5
comp=Z,117nm,18.5s,baz=73,slow=37
SCHQ **Schefferville** 63.64 320 P P 00 21 11.4 -0.4
RES **Resolute Bay** 64.00 345 LR LR 00 51 05.0
comp=Z,166nm,18.4s,baz=46,slow=38
RES **Resolute Bay** 64.00 345 P P 00 21 13.3 -0.4

RES pmax pmax
comp=Z,7.0nm,0.9s
RES **Resolute Bay** 64.00 345 P P 00 21 13.3 -0.4
RES IAmb IAmb 00 21 22.4
comp=Z,6.6nm,0.8s
CD2 **Chengdu** 64.05 69 P P 00 21 17.0 +2.1
CD2 pmax pmax
comp=Z,20nm,0.9s
PZH **PanZhiHua** 64.49 74 P P 00 21 16.9 -1.1
PZH pP sP 00 21 22.4 +2.4
PZH PP PP 00 23 39.8 +0.2
PZH S S 00 29 57.1 -0.8
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,120nm,4.7s
PZH LR LR
comp=Z,270nm,14.5s
PZH LR LR
comp=Z,310nm,15.2s
HHC **Hu-ho-hao-te** 65.39 56 *e*P P 00 21 24.1 +0.5
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,99nm,6.4s
CHTO **Chiang Mai** 65.98 83 P P 00 21 26.2 -1.3
CHTO pmax pmax
comp=Z,9.0nm,1.2s
CHTO **Chiang Mai** 65.98 83 P P 00 21 26.2 -1.3
CHTO IAmb IAmb 00 21 39.8
comp=Z,8.7nm,1.1s
CM31 **Chiang Mai Arr** 66.16 84 P P 00 21 28.3 -0.4
CM31 IAmb IAmb 00 21 45.5
comp=Z,6.4nm,0.8s
CMAR **Chiang Mai Arr** 66.16 84 P P 00 21 27.8 -0.9
comp=Z,4.9nm,1.0s,baz=301,slow=8.3,SNR=18
CMAR **Chiang Mai Arr** 66.16 84 *i*P P 00 21 30.7 +2.0
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CMAR **Chiang Mai Arr** 66.16 84 P P 00 21 27.6 -1.1
XAN **Xi'an** 66.54 64 ⇑P P 00 21 32.4 +1.4
XAN pP sP 00 21 36.4 +3.4
XAN sP pP 00 21 39.5 +7.1
XAN pmax pmax
comp=Z,7.0nm,0.7s
XLT **XiLinHaoTe** 67.05 52⇑ *i*P P 00 21 34.0 -0.1
XLT pP sP 00 21 38.6 +2.5
XLT pmax pmax
comp=Z,13nm,1.1s
XLT pmax pmax
comp=Z,77nm,4.1s
SUR **Sutherland** 67.12 184 LR LR 00 52 17.9
comp=Z,308nm,20.1s,baz=8.0,slow=37
NBPV **Pedro Velho** 70.57 247 *e*P P 00 21 58.2 +1.9
RCBR **Riachuelo** 70.66 248 LR LR 00 54 17.6
comp=Z,588nm,19.3s,baz=189,slow=37
NBCL **Cascavel-CE** 71.48 251 *e*P P 00 22 03.6 +1.7
VLDQ **Val d'Or** 72.67 317 P P 00 22 10.2 +1.7
BILL **Bilibino** 73.17 14⇑ *e*P P 00 22 12.8 +1.6
BILL *i* 00 22 26.3
BILL *e*S S 00 31 41.4 +2.1
BILL *e*SS SS 00 36 27.5 +8.2
BILL pmax pmax
comp=Z,8.0nm,1.7s
BILL MLR MLR
comp=Z,174nm,19.0s
BILL **Bilibino** 73.17 14 P P 00 22 11.6 +0.5
BILL IAmb IAmb 00 22 13.5
comp=Z,6.0nm,1.1s
SEY **Seymchan** 73.60 22⇓ *e*P P 00 22 15.5 +1.8
SEY pmax pmax
comp=Z,8.0nm,1.5s
KLR **Kul'dur** 73.64 41 P P 00 22 15.1 +0.8
comp=Z,8.2nm,0.9s,baz=320,slow=7.9,SNR=7.5
KLR **Kul'dur** 73.64 41 *ce*P P 00 22 15.9 +1.6
KLR pmax pmax
comp=Z,11nm,0.9s
C36M **Paulatuk** 73.67 349 P P 00 22 13.0 -1.0
C36M IAmb IAmb 00 22 21.8
comp=Z,12nm,1.1s
NBMA **Muriti-CE** 73.82 249 *e*P P 00 22 17.2 +1.4
FCC **Fort Churchill** 74.11 332 P P 00 22 16.5 -0.3
FCC pmax pmax
comp=Z,5.0nm,0.9s
FCC **Fort Churchill** 74.11 332 P P 00 22 16.5 -0.3
NJ2 **Nanjing** 74.77 61 *e*P P 00 22 21.3 +0.2
NJ2 pmax pmax
comp=Z,16nm,0.8s
MA2 **Magadan** 75.49 25⇓ *e*P P 00 22 26.9 +2.1
MA2 pmax pmax
comp=Z,6.0nm,1.3s
MA2 **Magadan** 75.49 25 P P 00 22 26.0 +1.2
MA2 IAmb IAmb 00 22 44.7
comp=Z,9.9nm,1.0s
SADO **Sadowa** 75.51 315 LR LR 00 55 41.4
comp=Z,274nm,19.7s,baz=20,slow=36
INK **Inuvik** 75.90 352 P P 00 22 27.7 +0.8
INK pmax pmax
comp=Z,6.0nm,1.1s
INK **Inuvik** 75.90 352 P P 00 22 27.7 +0.8
INK IAmb IAmb 00 22 38.3
comp=Z,6.3nm,1.1s
MEDO **Medina** 76.02 313 P P 00 22 26.7 -1.4
TOLK **Toolik Lake Re** 76.67 358 IAmb IAmb 00 22 38.5
comp=Z,5.2nm,0.8s
USA0B **Ussuriysk Arra** 76.68 45 P P 00 22 32.0 +0.1
USA0B pmax pmax
comp=Z,15nm,0.9s
USA0B **Ussuriysk Arra** 76.68 45 P P 00 22 32.0 +0.1
USRK **Ussuriysk Ar.** 76.68 45 P P 00 22 31.0 -0.9
comp=Z,14nm,0.8s,baz=274,slow=6.0,SNR=12
USRK **Ussuriysk Ar.** 76.68 45 P P 00 22 30.6 -1.2
SDMD **Soldier's Deli** 77.16 309 P P 00 22 35.1 +0.5
SDMD IAmb IAmb 00 22 41.5
comp=Z,6.9nm,0.9s
E46A **Sault Ste Mari** 77.49 318 P P 00 22 36.5 +0.2
MDP **Montagnes des** 77.54 268 LR LR 00 59 11.6
comp=Z,96nm,18.3s,baz=26,slow=38
BMAR **Burnt Mountain** 77.69 356 P P 00 22 37.1 -0.1
YKA **Yellowknife Ar** 77.80 342 P P 00 22 36.5 -1.2
comp=Z,0.7nm,0.4s,baz=35,slow=5.5,SNR=18
YKA LR LR 00 56 40.3
comp=Z,144nm,20.9s,baz=2.0,slow=36
YKA **Yellowknife Ar** 77.80 342 P P 00 22 38.2 +0.4
BKNI **Bangkinang** 77.81 98 P P 00 22 37.7 -0.9
ALLY **Alegheny Colle** 77.92 312 P P 00 22 39.6 +0.8
KSRS **Korea Array** 78.06 53 P P 00 22 40.2 +0.4
comp=Z,9.2nm,0.9s,baz=310,slow=4.7,SNR=3.2
COLD **Coldfoot** 78.11 358 P P 00 22 40.7 +1.2
COLD IAmb IAmb 00 22 45.3
comp=Z,9.1nm,1.1s
EPYK **Eagle Plains** 78.11 353 P P 00 22 40.5 +0.9
EPYK IAmb IAmb 00 22 50.0
comp=Z,8.4nm,0.7s
I29M **Ogilvie Camp,** 79.25 353 IAmb IAmb 00 22 57.0
comp=Z,10nm,1.0s
IMAR **Indian Mountai** 79.40 360 P P 00 22 47.7 +1.1
H24K **Noodor Dome** 79.43 357 P P 00 22 47.8 +1.0
H23K **Yukon River** 79.50 358 P P 00 22 48.3 +1.2
H23K IAmb IAmb 00 22 59.1
comp=Z,6.4nm,0.8s
H21K **Melozitna Rive** 79.72 359 IAmb IAmb 00 22 54.8
comp=Z,7.8nm,0.9s
FFC **Flin Flon** 80.03 332 P P 00 22 50.2 0.0
FFC pmax pmax
comp=Z,9.0nm,1.1s
FFC **Flin Flon** 80.03 332 P P 00 22 50.2 0.0
FFC IAmb IAmb 00 23 00.8
comp=Z,9.4nm,1.1s
EGAK **Eagle** 80.08 354 P P 00 22 51.1 +0.8
POKR **Poker Plat Res** 80.13 357 P P 00 22 51.1 +0.5
POKR IAmb IAmb 00 22 56.5
comp=Z,8.3nm,0.9s
I23K **Minto, Yukon-K** 80.17 358 P P 00 22 52.1 +1.4
I23K IAmb IAmb 00 23 12.1
comp=Z,7.8nm,1.1s
I21K **Tanana** 80.19 359 P P 00 22 52.1 +1.2
I21K IAmb IAmb 00 22 56.6
comp=Z,14nm,1.1s
COWI **Conover** 80.25 320 P P 00 22 52.4 +0.8
COWI IAmb IAmb 00 23 00.6
comp=Z,8.9nm,1.1s
MDM **Murphy Dome** 80.32 357 IAmb IAmb 00 22 55.6
comp=Z,6.0nm,0.8s
COLA **College** 80.39 357⇑ *e*P P 00 22 53.8 +1.9

COLA pmax pmax
comp=Z,14nm,1.7s
ILAR Eielson Array 80.45 357 P **P** **00 22 52.9 +0.6**
comp=Z,6.7nm,1.3s,baz=357,slow=4.6,SNR=8.7
ILAR Eielson Array 80.45 357 P **P** **00 22 53.4 +1.1**
ILAR Eielson Array 80.45 357 P **P** **00 22 53.4 +1.1**
DAWY Dawson 80.62 353 IAmb IAmb 00 23 06.2
comp=Z,6.5nm,0.9s
NEA2 Nenana 80.72 358 P **P** **00 22 54.1 +0.4**
NEA2 IAmb IAmb 00 22 58.6
comp=Z,8.0nm,1.2s
ULM Lac du Bonnet 80.74 326 P **P** **00 22 55.5 +1.4**
comp=Z,2.7nm,0.6s,baz=44,slow=2.5,SNR=2.6
ULM LR LR 01 00 42.8
comp=Z,167nm,19.1s,baz=46,slow=37
ULM Lac du Bonnet 80.74 326 P **P** **00 22 54.9 +0.8**
ULM IAmb IAmb 00 23 01.9
comp=Z,5.3nm,0.9s
WRH Wood River Hil 80.80 357 IAmb IAmb 00 22 57.0
comp=Z,9.2nm,0.9s
YSS Yuzh-Sakhalins 80.83 38 P **P** **00 22 53.9 -0.8**
J20K Nowinta River 81.22 360 IAmb IAmb 00 22 60.0
comp=Z,7.4nm,0.9s
BPAW Bear Paw Mtn. 81.26 359 IAmb IAmb 00 22 59.2
comp=Z,9.0nm,1.2s
G40A Rib Lake 81.36 320 P **P** **00 22 58.1 +0.5**
G40A IAmb IAmb 00 23 03.8
comp=Z,9.9nm,1.1s
DOT Dot Lake 81.41 355 P **P** **00 22 57.9 +0.5**
DOT IAmb IAmb 00 23 06.3
comp=Z,5.9nm,1.0s
MCK McKinley 81.57 358 P **P** **00 22 59.1 +0.8**
MCK pmax pmax
comp=Z,17nm,1.2s
MCK McKinley 81.57 358 P **P** **00 22 59.1 +0.8**
SMTB Santa Maria do 81.59 253 *eP* **P** **00 23 00.4 +1.2**
CELP Cerrillos 81.68 286 P **P** **00 23 00.3 +0.7**
CELP IAmb IAmb 00 23 03.9
comp=Z,14nm,1.1s
N47A Urbana 81.70 314 P **P** **00 22 59.9 +0.5**
KTH Kantishna Hill 81.81 358 P **P** **00 23 00.6 +0.9**
KTH IAmb IAmb 00 23 15.4
comp=Z,7.3nm,1.1s
BCAR Beaver Creek A 81.82 354 P **P** **00 23 00.4 +0.7**
L27K Beaver Creek, 81.83 354 P **P** **00 23 00.1 +0.4**
L27K IAmb IAmb 00 23 17.4
comp=Z,6.7nm,1.1s
M31M Drury Creek, Y 81.87 351 P **P** **00 23 00.2 +0.3**
M31M IAmb IAmb 00 23 08.6
comp=Z,6.0nm,1.1s
RND Reindeer 81.90 358 P **P** **00 23 00.5 +0.4**
RND pmax pmax
comp=Z,5.0nm,0.9s
RND Reindeer 81.90 358 P **P** **00 23 00.5 +0.4**
RND IAmb IAmb 00 23 16.9
comp=Z,4.7nm,0.9s
TRF Thorofare Moun 81.90 358 P **P** **00 23 00.5 +0.3**
TRF IAmb IAmb 00 23 07.6
comp=Z,6.7nm,1.0s
CAST Castle Rocks 81.96 359 IAmb IAmb 00 23 04.1
comp=Z,7.7nm,1.1s
L26K Log Cabin Wild 81.98 355 P **P** **00 23 01.5 +1.0**
L26K IAmb IAmb 00 23 15.0
comp=Z,5.8nm,1.1s
K43A Burlington 82.03 317 P **P** **00 23 01.6 +0.5**
K20K Telida 82.04 360 P **P** **00 23 01.5 +0.7**
DHY Denali Highway 82.17 357 IAmb IAmb 00 23 13.0
comp=Z,8.2nm,0.8s
PAX Paxson 82.17 356 P **P** **00 23 03.2 +1.6**
PAX pmax pmax
comp=Z,4.0nm,1.2s
PAX Paxson 82.17 356 P **P** **00 23 03.2 +1.6**
M27K Edge Creek, AK 82.53 354 P **P** **00 23 04.1 +0.6**
M27K IAmb IAmb 00 23 07.0
comp=Z,6.2nm,1.1s
F36A Milaca 82.68 322 P **P** **00 23 05.2 +0.8**
F36A IAmb IAmb 00 23 09.8
comp=Z,5.6nm,1.1s
N31M Braeburn, Yuko 82.74 351 P **P** **00 23 05.1 +0.6**
N31M IAmb IAmb 00 23 11.7
comp=Z,9.7nm,1.1s
L19K White Mountain 83.22 0 P **P** **00 23 06.8 -0.1**
L19K IAmb IAmb 00 23 15.2
comp=Z,9.1nm,1.1s
L42A Oliver, Polo 83.24 317 P **P** **00 23 08.4 +1.0**
SML Sawmill 83.48 357 P **P** **00 23 09.6 +1.2**
SML IAmb IAmb 00 23 20.6
comp=Z,8.8nm,1.0s
M22K Willow 83.59 358 P **P** **00 23 09.5 +0.7**
PMR Palmer 83.72 358 P **P** **00 23 10.6 +1.1**
PMR pmax pmax
comp=Z,15nm,1.2s
PMR Palmer 83.72 358 P **P** **00 23 10.6 +1.1**
TKL Tuckaleechee C 83.81 309 LR LR 01 02 46.7
comp=Z,202nm,18.2s,baz=46,slow=37
KNK Knik Glacier 83.88 357 P **P** **00 23 10.6 +0.3**
L40A Anamosa 84.06 318 P **P** **00 23 12.5 +0.9**
F33A 5 Mile Ranch, 84.07 323 P **P** **00 23 13.0 +1.4**
F33A IAmb IAmb 00 23 17.6
comp=Z,5.1nm,1.0s
PEXB Peixe 84.11 251 *eP* **P** **00 23 14.0 +1.8**
BMRM Bremner River 84.11 355 P **P** **00 23 12.9 +1.3**
RC01 Rabbit Creek A 84.25 358 P **P** **00 23 10.8 -1.4**
U49A Red Boiling Sp 84.53 311 P **P** **00 23 14.5 +0.4**
Q44A Meyer Farm, Va 84.92 315 P **P** **00 23 16.2 +0.1**
MAJO Matsushiro 85.14 48⇑ *eP* **P** **00 23 18.2 +1.0**
MAJO pmax pmax
comp=Z,16nm,1.2s
MJAR Matsushiro Arr 85.14 48 P **P** **00 23 17.8 +0.5**
comp=Z,3.9nm,0.9s,baz=0.8,slow=14,SNR=5.1
MJAR Matsushiro Arr 85.14 48 P **P** **00 23 16.2 -1.1**
MJAR IAmb IAmb 00 23 22.8
comp=Z,6.6nm,1.0s
EDM Edmonton 85.28 337 P **P** **00 23 18.6 +1.0**
EDM pmax pmax
comp=Z,14nm,1.0s
EDM Edmonton 85.28 337 P **P** **00 23 18.6 +1.0**
ITTB Itaituba 85.48 262 *eP* **P** **00 23 20.1 +1.0**
BDFB Brasilia 86.03 248 P **P** **00 23 24.3 +2.3**
comp=Z,1.1nm,0.4s,baz=167,slow=9.3,SNR=3.9
BDFB LR LR 01 03 36.7
comp=Z,306nm,19.6s,baz=67,slow=37
NPGB Novo Progresso 86.72 259 *eP* **P** **00 23 26.8 +1.5**
CCM Cathedral Cave 86.79 315 P **P** **00 23 26.1 +0.8**
CCM pmax pmax
comp=Z,5.0nm,0.8s
CCM Cathedral Cave 86.79 315 P **P** **00 23 26.1 +0.8**
CCM IAmb IAmb 00 23 44.2
comp=Z,5.2nm,0.8s
R40A Maddies Statio 87.22 316 P **P** **00 23 27.9 +0.5**
LRAL Lakeview Retre 87.54 309 P **P** **00 23 29.5 +0.5**
WALA Waterton Lakes 88.98 335 P **P** **00 23 36.6 +0.8**
RSSD Black Hills 89.01 326 P **P** **00 23 37.3 +1.2**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 89.01 326 P **P** **00 23 37.3 +1.2**
RSSD IAmb IAmb 00 23 49.6
comp=Z,3.6nm,0.8s
SDV Santo Domingo 90.12 281 *eP* **P** **00 23 41.0 -0.7**
JTMT Jette 90.23 334 P **P** **00 23 42.7 +1.0**
JTMT IAmb IAmb 00 23 53.9
comp=Z,8.0nm,1.0s
BBB Bella Bella 90.27 344 LR LR 01 06 11.8
comp=Z,210nm,20.0s,baz=326,slow=37
PDRB Porto dos Gac 90.46 256 *eP* **P** **00 23 43.9 +0.9**
NEW Newport 90.76 336 P **P** **00 23 44.5 +0.5**
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW Newport 90.76 336 P **P** **00 23 44.5 +0.5**
PHWY Pilot Hill 91.87 325 P **P** **00 23 49.0 -0.6**
PHWY IAmb IAmb 00 24 02.5
comp=Z,5.1nm,0.9s
PP1B Ponte de Pedra 92.47 250 *eP* **P** **00 23 51.7 -0.6**
PDAR Pinedale Array 92.53 329 P **P** **00 23 52.7 +0.2**
comp=Z,0.6nm,0.8s,baz=93,slow=3.0,SNR=6.2
HWUT Hardware Ranch 94.33 329 P **P** **00 24 00.8 0.0**
HWUT IAmb IAmb 00 24 12.5
comp=Z,4.1nm,1.1s
SIV San Ignacio 96.41 255 LR LR 01 11 24.1
comp=Z,157nm,18.6s,baz=90,slow=38
ELK Elko 96.55 331 LR LR 01 08 23.2
comp=Z,177nm,22.0s,baz=12,slow=36
YBH Yreka Blue Hor 98.38 337 LR LR 01 11 30.5
comp=Z,243nm,18.6s,baz=354,slow=37
CPUP Villa Florida 99.33 245 LR LR 01 12 26.3
comp=Z,210nm,18.1s,baz=46,slow=37

IDC ***16*** *00:16:27.1±0.7,32.˙49N×130.˙68E,h0km,mb4.0/18, mb1 4.2/22,mb1mx4.0/62,mbtmp4.1/22,ML3.0/3,MS3.6/7, Ms1 3.6/7,ms1mx3.2/89,Error ellipse: s-maj=17.5km s-min=8.1km az=107.0*

NEIC ***16*** *00:16:28.5,32.˙56N×130.˙57E,h8km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.07; Mθθ=2.49; Mφφ=-2.41; Mrθ=-1.14; Mθφ=2.48; Mφr=-1.79; Fault plane solution: M₀4.08000×10¹⁵ NP1:φs293.56000°, δ59.24000°,λ2.44000°. NP2:φs202.31000°,δ87.90000°, λ149.21000°. Principal axes: T 4.2573, Plg23.0000°, Azm154.0000°; N -0.3751, Plg59.0000°, Azm19.0000°; P -3.8822, Plg20.0000°, Azm252.0000°;*

JMA ***16*** *00:16:28.3,32.˙55N×130.˙65E,h7km±2km,M4.5*

JMA Felt IV J1.

NIED ***16*** *00:16:28.3,32.˙55N×130.˙65E,h7km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.01; Mθθ2.32; Mφφ-2.34; Mrθ-0.68; Mθφ3.03; Mφr2.77; Fault plane solution: M₀4.62000×10¹⁵ NP1: φs104.00000°,δ62.00000°,λ-12.00000°. NP2: φs200.00000°,δ79.00000°,λ-151.00000°.*

NEIC ***16*** *00:16:29.3±1.6,32.˙56N±0.˙03×130.˙57E±0.˙07,h10km±1km, mb4.6/39,Mwr4.3/13 Error ellipse: s-maj=10.6km s-min=3.5km az=104.0*

ISC 16 00:16:28.4±0.8,32.˙55N±0.˙03×130.˙62E±0.˙04,h4km±5km, n107,σ1s27/115,mb4.5/41,MS3.7/6,2C-2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JIU3	**Izumi3**	**0.16**	**91**	⇓P		**Pg**	**00 16 31.1**	**-0.5**
JIU3				S		**Sg**	**00 16 33.5**	**-0.3**
JZO	**Okuchi**	**0.41**	**183**	P		**Pg**	**00 16 36.2**	**-0.2**
JZO				*e*S		**Sg**	**00 16 41.8**	**+0.1**
JTA	**Tamana**	**0.42**	**350**	⇑P		**Pg**	**00 16 36.9**	**+0.4**
JTA				*e*S		**Sg**	**00 16 43.3**	**+1.4**
JNU	**Nakatsue**	**0.61**	**21**	Pg		**Pg**	**00 16 40.1**	**0.0**
	472nm,0.3s,baz=194,slow=9.7,SNR=74							
JNU				Lg		Lg	00 16 48.5	
	3µm,0.3s,baz=298,slow=18,SNR=27							
JNU	**Nakatsue**	**0.61**	**21**	Pg		**Pg**	**00 16 40.1**	**0.0**
JNU				Sg		**Sg**	**00 16 48.8**	**+0.8**
JSU	**Suzuyama**	**1.05**	**188**	Pg		**Pg**	**00 16 48.6**	**-0.1**
JSU				Sg		**Sg**	**00 17 02.6**	**+0.3**
JTU	**Tsushima**	**2.21**	**333**	Pn		**Pn**	**00 17 04.7**	**-1.2**
JMN	**Monobe**	**2.97**	**66**			**Pn**	**00 17 17.1**	**+0.6**
JHS	**Saijyo**	**3.21**	**40**	Pn		**Pn**	**00 17 20.1**	**+0.5**
TJN	**Taejon**	**4.67**	**326**	Pn		**Pn**	**00 17 39.3**	**-0.4**
KSRS	**Korea Array**	**5.37**	**336**	Pn		**Pn**	**00 17 49.7**	**+0.4**
	1.1nm,0.3s,baz=154,slow=14,SNR=7.6							
KSRS				Pg		**Pg**	**00 18 08.0**	**-3.3**
	4.4nm,0.3s,baz=155,slow=17,SNR=16							
KSRS				Lg		Lg	00 19 15.2	
	4.1nm,0.3s,baz=331,slow=43,SNR=1.3							
KSRS				LR		LR	00 20 00.8	
	comp=Z,685nm,18.3s,baz=165,slow=39							
KSRS	**Korea Array**	**5.37**	**336**			**Pn**	**00 17 49.7**	**+0.4**
KSAR	**Wonju Array Be**	**5.37**	**336**	Pn		**Pn**	**00 17 50.1**	**+0.8**
KS19	**Wonju Array Si**	**5.43**	**336**			**Pn**	**00 17 49.4**	**-0.7**
INU	**Inuyama**	**6.00**	**61**	Pn		**Pn**	**00 17 59.2**	**+1.2**
JOW	**Kunigami**	**6.05**	**200**	Pn		**Pn**	**00 18 00.8**	**+2.0**
	12nm,0.3s,baz=92,slow=18,SNR=7.7							
JOW	**Kunigami**	**6.05**	**200**			**Pn**	**00 18 01.4**	**+2.6**
JGF	**Kuroka**	**6.36**	**60**			**Pn**	**00 18 03.9**	**+0.9**
MJB9	**Matsu-Tunnel**	**7.42**	**55**	Pn		**Pn**	**00 18 18.9**	**+1.4**
MAJO	**Matsushiro**	**7.42**	**55**	Pn		**Pn**	**00 18 18.6**	**+1.1**
MJAR	**Matsushiro Arr**	**7.42**	**55**	Pn		**Pn**	**00 18 18.4**	**+1.0**
	0.7nm,0.3s,baz=226,slow=14,SNR=12							
MJAR				Lg		Lg	00 20 30.8	
	0.1nm,0.3s,baz=229,slow=28,SNR=5.1							
MJAR				LR		LR	00 21 40.0	
	comp=Z,402nm,20.2s,baz=218,slow=42							
MJAR	**Matsushiro Arr**	**7.42**	**55**			**Pn**	**00 18 17.6**	**+0.1**
JHJ	**Hachijo jima 2**	**7.73**	**83**	Pn		**Pn**	**00 18 22.8**	**+1.0**
	18nm,0.3s,baz=19,slow=12,SNR=2.5							
JHJ				LR		LR	00 21 12.5	
	comp=Z,222nm,21.1s,baz=317,slow=37							
JHJ	**Hachijo jima 2**	**7.73**	**83**			**Pn**	**00 18 22.8**	**+1.0**
JHJ2	**Mitsune**	**7.76**	**83**	Pn		**Pn**	**00 18 22.5**	**+0.3**
JSD	**Sado**	**8.30**	**47**	Pn		**Pn**	**00 18 29.3**	**-0.2**
USRK	**Ussuriysk Ar.**	**11.68**	**5**	Pn		**Pn**	**00 19 17.6**	**+1.8**
	baz=147,slow=42,SNR=4.3							
USRK	**Ussuriysk Ar.**	**11.68**	**5**	Pn		**Pn**	**00 19 13.9**	**-1.9**
HNS	**HongShan**	**13.91**	**295**	⇓P		P	00 20 08.3	+14
HNS				S		**S**	**00 22 49.3**	**+5.8**
HNS				pmax	pmax			
	comp=Z,5.0nm,1.2s							
HNS				LR		LR		
	comp=N,520nm,15.7s							
HNS				LR		LR		
	comp=E,270nm,16.7s							
HNS				LR		LR		
	comp=Z,260nm,16.1s							
XLT	**XiLinHaoTe**	**16.06**	**319**	*e*P		**P**	**00 20 18.8**	**+0.1**
XLT				S		**Sn**	**00 23 14.8**	**+1.1**
XLT				pmax	pmax			
	comp=Z,18nm,0.8s							
XLT				pmax	pmax			
	comp=Z,150nm,4.6s							
XLT				LR		LR		
	comp=N,37nm,13.0s							
XLT				LR		LR		
	comp=E,490nm,10.9s							
XLT				LR		LR		
	comp=Z,500nm,13.1s							
KLR	**Kul'dur**	**16.68**	**3**	Pn		**P**	**00 20 27.5**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=163,slow=9.3,SNR=13							
KLR	**Kul'dur**	**16.68**	**3**	P		**P**	**00 20 27.5**	**+2.1**
HHC	**Hu-ho-hao-te**	**17.36**	**304**	*e*P		**Pn**	**00 20 29.8**	**-1.8**
HHC				pP		sP	00 20 39.3	+4.5
HHC				S		**Sn**	**00 23 43.6**	**-1.6**
HHC				pmax	pmax			
	comp=Z,17nm,1.0s							
HHC				pmax	pmax			
	comp=Z,110nm,7.5s							
HHC				LR		LR		
	comp=N,410nm,12.7s							
HHC				LR		LR		
	comp=E,520nm,14.3s							
HHC				LR		LR		
	comp=Z,500nm,12.9s							
BTO	**Baotou**	**18.37**	**302**	*e*P		**P**	**00 20 46.9**	**+2.7**
BTO				S		**S**	**00 24 19.8**	**+5.2**
BTO				LR		LR		
	comp=N,1µm,6.1s							
BTO				LR		LR		
	comp=E,2µm,11.4s							
LZH	**Lanzhou**	**22.37**	**286**	⇑P		**P**	**00 21 28.4**	**+0.6**
LZH				pP		sP	00 21 33.0	+3.5
LZH				sP		pP	00 21 35.9	+6.9
LZH				pmax	pmax			
	comp=Z,14nm,1.5s							
LZH				LR		LR		
	comp=N,440nm,14.1s							
LZH				LR		LR		
	comp=E,180nm,13.0s							
LZH				LR		LR		
	comp=Z,190nm,14.6s							
GUMO	**Guam**	**22.93**	**142**	LR		LR	00 28 58.1	
	comp=Z,102nm,21.4s,baz=296,slow=33							
SONM	**Songino Array**	**23.85**	**317**	P		**P**	**00 21 43.0**	**+0.2**
	comp=Z,4.5nm,0.7s,baz=131,slow=9.3,SNR=8.0							
SONM				LR		LR	00 32 13.6	
	comp=Z,235nm,19.6s,baz=187,slow=40							
PZH	**PanZhiHua**	**25.80**	**264**	P		**P**	**00 22 01.8**	**+1.0**
PZH				pmax	pmax			
	comp=Z,8.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,100nm,4.3s							
MA2	**Magadan**	**30.18**	**20**	LR		LR	00 34 43.7	
	comp=Z,73nm,18.1s,baz=160,slow=36							
CMAR	**Chiang Mai Arr**	**31.71**	**251**	P		**P**	**00 22 54.5**	**+1.1**
	comp=Z,1.4nm,1.0s,baz=61,slow=7.1,SNR=4.7							
CMAR				LR		LR	00 37 29.3	
	comp=Z,152nm,18.3s,baz=65,slow=40							
CMAR	**Chiang Mai Arr**	**31.71**	**251**	P		**P**	**00 22 54.5**	**+1.1**
SBUM	**Sibu**	**34.58**	**214**	P		**P**	**00 23 18.3**	**-0.1**
SBUM				IAmb		IAmb	00 23 26.0	
	comp=Z,11nm,1.3s							
WMQ	**Urumqi**	**35.20**	**301**	*e*P		**P**	**00 23 23.3**	**-0.4**
WMQ				pmax	pmax			
	comp=Z,21nm,0.9s							
WMQ				LR		LR		
	comp=N,420nm,22.1s							
WMQ				LR		LR		
	comp=Z,280nm,20.9s							
ZALV	**Zalesovo Beam**	**38.74**	**317**	P		**P**	**00 23 52.9**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=103,slow=6.4,SNR=5.2							
ZALV	**Zalesovo Beam**	**38.74**	**317**	P		**P**	**00 23 53.2**	**-0.4**
MKAR	**Makanchi Array**	**39.21**	**306**	P		**P**	**00 23 57.0**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=101,slow=8.0,SNR=3.3							
KURK	**Kurchatov**	**41.94**	**311**	P		**P**	**00 24 18.9**	**-1.1**
NRIK	**Noril'sk**	**43.98**	**340**	P		**P**	**00 24 36.6**	**+0.2**
	comp=Z,2.5nm,0.4s,baz=93,slow=1.2,SNR=5.0							
BRVK	**Borovoye**	**47.22**	**314**	P		**P**	**00 25 01.9**	**-0.3**
BRVK				IAmb		IAmb	00 25 05.4	
	comp=Z,5.0nm,0.7s							
KK31	**Karatay Array**	**47.71**	**301**	P		**P**	**00 25 05.3**	**-1.0**
KK31				IAmb		IAmb	00 25 10.9	
	comp=Z,4.5nm,0.8s							
KKAR	**Karatay Array**	**47.71**	**301**	P		**P**	**00 25 05.2**	**-1.1**
KKAR				IAmb		IAmb	00 25 10.9	
	comp=Z,4.5nm,0.8s							
KKAR	**Karatay Array**	**47.71**	**301**	P		**P**	**00 25 05.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**50.59**	**186**	P		**P**	**00 25 27.1**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=12,slow=9.3,SNR=6.6							
FITZ	**Fitzroy Crossi**	**50.59**	**186**	P		**P**	**00 25 27.0**	**-1.3**
FITZ				IAmb		IAmb	00 25 34.7	
	comp=Z,7.3nm,1.4s							
WB0	**Warramunga Arr**	**52.15**	**176**	P		**P**	**00 25 38.2**	**-1.9**
WB0				IAmb		IAmb	00 25 41.7	
	comp=Z,7.9nm,1.4s							
WRA	**Warramunga Arr**	**52.32**	**176**	P		**P**	**00 25 39.3**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=355,slow=7.9,SNR=6.3							
WRA	**Warramunga Arr**	**52.32**	**176**	P		**P**	**00 25 39.3**	**-2.1**
ABKAR	**Akbulak array**	**54.01**	**310**	P		**P**	**00 25 53.1**	**-0.5**
ABKAR	**Akbulak array**	**54.01**	**310**	P		**P**	**00 25 53.0**	**-0.6**
J20K	**Nowinta River**	**54.85**	**31**	P		**P**	**00 25 58.3**	**-1.2**
K20K	**Telida**	**54.93**	**32**	P		**P**	**00 26 00.2**	**+0.1**
AKTO	**Aktyubinsk**	**55.03**	**312**	P		**P**	**00 26 01.5**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=61,slow=8.7,SNR=3.6							
PPLA	**Purkeypile**	**55.82**	**33**	P		**P**	**00 26 07.2**	**+0.5**
PPLA				IAmb		IAmb	00 26 08.1	
	comp=Z,6.7nm,0.9s							
ASAR	**Alice Springs**	**55.99**	**176**	P		**P**	**00 26 07.1**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=8.1,slow=14,SNR=8.2							
ASAR	**Alice Springs**	**55.99**	**176**	P		**P**	**00 26 07.7**	**-0.5**
KDAK	**Kodiak Island**	**56.25**	**39**	P		**P**	**00 26 09.2**	**-0.4**
H23K	**Yukon River**	**56.68**	**29**	P		**P**	**00 26 13.1**	**+0.5**
H23K				IAmb		IAmb	00 26 14.4	
	comp=Z,4.9nm,0.8s							
RND	**Reindeer**	**57.26**	**32**	P		**P**	**00 26 16.5**	**-0.3**
RND				IAmb		IAmb	00 26 20.3	
	comp=Z,6.5nm,0.9s							
MDM	**Murphy Dome**	**57.32**	**30**	P		**P**	**00 26 17.6**	**+0.4**
MDM				IAmb		IAmb	00 26 18.4	
	comp=Z,7.1nm,0.8s							
SML	**Sawmill**	**57.74**	**34**	P		**P**	**00 26 19.4**	**-0.8**
SML				IAmb		IAmb	00 26 29.2	
	comp=Z,8.2nm,1.0s							
IL31		**57.92**	**30**	P		**P**	**00 26 20.8**	**-0.5**
ILAR	**Eielson Array**	**57.92**	**30**	P		**P**	**00 26 20.8**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=267,slow=5.6,SNR=11							
ILAR	**Eielson Array**	**57.92**	**30**	P		**P**	**00 26 20.6**	**-0.8**
SCM	**Sheep Creek Mo**	**58.21**	**34**	P		**P**	**00 26 22.9**	**-0.6**
BMAR	**Burnt Mountain**	**58.43**	**27**	P		**P**	**00 26 25.6**	**+0.6**
SCRK	**Sand Creek**	**59.30**	**31**	P		**P**	**00 26 30.4**	**-0.8**
SCRK				IAmb		IAmb	00 26 34.2	
	comp=Z,4.7nm,1.0s							
DOT	**Dot Lake**	**59.34**	**31**	P		**P**	**00 26 30.3**	**-1.0**
DOT				IAmb		IAmb	00 26 31.4	
	comp=Z,2.7nm,0.8s							
BMRM	**Bremner River**	**59.67**	**34**	P		**P**	**00 26 33.7**	**0.0**
M26K	**Nabesna, AK**	**60.09**	**32**	P		**P**	**00 26 36.6**	**+0.1**
M26K				IAmb		IAmb	00 26 38.0	
	comp=Z,5.5nm,0.8s							
L27K	**Beaver Creek,**	**60.45**	**32**	P		**P**	**00 26 39.3**	**+0.3**
L27K				IAmb		IAmb	00 26 41.0	
	comp=Z,2.8nm,0.8s							
BCAR	**Beaver Creek A**	**60.47**	**32**	P		**P**	**00 26 39.5**	**+0.4**
EPYK	**Eagle Plains**	**61.69**	**27**	P		**P**	**00 26 47.2**	**-0.1**
EPYK				IAmb		IAmb	00 26 48.2	
	comp=Z,4.9nm,0.8s							
INK	**Inuvik**	**62.28**	**25**	P		**P**	**00 26 51.0**	**-0.2**
INK				IAmb		IAmb	00 27 00.9	
	comp=Z,4.3nm,1.2s							
A36M	**Sachs Harbour**	**63.59**	**20**			**P**	**00 26 59.6**	**-0.2**
A36M				IAmb		IAmb	00 27 09.4	
	comp=Z,5.0nm,1.1s							
C36M	**Paulatuk**	**65.07**	**22**			**P**	**00 27 08.7**	**-0.9**
EUNU	**Eureka**	**65.79**	**7**	P		**P**	**00 27 14.1**	**-0.1**
EUNU				IAmb		IAmb	00 27 15.8	
	comp=Z,4.5nm,1.1s							
KBZ	**Khabaz**	**66.85**	**308**	P		**P**	**00 27 22.6**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=83,slow=3.1,SNR=6.6							
FIA1	**FINESS Array S**	**68.42**	**330**	P		**P**	**00 27 30.1**	**-1.0**
FINES	**FINESS Array B**	**68.42**	**330**	P		**P**	**00 27 30.4**	**-0.7**
	comp=Z,3.5nm,0.5s,baz=69,slow=5.8,SNR=32							
FINES	**FINESS Array B**	**68.42**	**330**	P		**P**	**00 27 30.0**	**-1.1**
RES	**Resolute Bay**	**68.96**	**12**	P		**P**	**00 27 33.6**	**-0.6**
YKA	**Yellowknife Ar**	**71.94**	**26**	P		**P**	**00 27 51.7**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=310,slow=5.6,SNR=6.2							
AKASG	**Malin Array Be**	**72.11**	**319**	P		**P**	**00 27 54.4**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=56,slow=7.0,SNR=4.9							
HFS	**Hagfors**	**74.20**	**332**	P		**P**	**00 28 04.5**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=31,slow=46,SNR=2.9							
NC405	**NORSAR Array S**	**74.34**	**334**	P		**P**	**00 28 07.0**	**+0.1**
NB2	**NORSAR Subarra**	**74.57**	**334**	P		**P**	**00 28 09.2**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=50,slow=5.9							
NOA	**NORSAR Array B**	**74.57**	**334**	P		**P**	**00 28 06.5**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=50,slow=5.7,SNR=12							
BR131	**Keskin Array S**	**74.83**	**308**	P		**P**	**00 28 09.8**	**-0.5**
BR131				IAmb		IAmb	00 28 12.8	
	comp=Z,4.9nm,0.8s							
BRTR	**Keskin Array B**	**74.83**	**308**	P		**P**	**00 28 10.2**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=112,slow=5.7,SNR=18							
BRTR	**Keskin Array B**	**74.83**	**308**	P		**P**	**00 28 09.5**	**-0.8**
BUR08	**Bucovina Ar. S**	**75.96**	**318**	P		**P**	**00 28 16.8**	**+0.2**
BURAR	**Bucovina Array**	**75.96**	**318**	P		**P**	**00 28 15.8**	**-0.9**
OJC	**Ojcow**	**77.43**	**322**	P		**P**	**00 28 24.5**	**-0.2**
OJC				IAmb		IAmb	00 28 28.0	
	comp=Z,6.1nm,0.9s							
CSS	**Mathiatis**	**77.44**	**303**			**P**	**00 28 25.7**	**+0.6**
ELL	**Elmali**	**78.88**	**306**	P		**P**	**00 28 31.9**	**-1.2**
CLL	**Collm**	**80.15**	**326**	*e*P		**P**	**00 28 39.0**	**-0.6**
CLL				*i* (sP)		**sP**	**00 28 42.2**	**+0.7**
	comp=Z,7.0nm,1.1s							
GERES	**GERESS Array B**	**81.41**	**323**	P		**P**	**00 28 47.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=344,slow=1.9,SNR=4.2							

NIED ***16*** *00:18:25.5,33.˙00N×131.˙11E,h9km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.67; Mθθ0.86; Mφφ-0.19; Mrθ-0.62; Mθφ0.82; Mφr-0.14; Fault plane solution: M₀1.21000×10¹⁵ NP1: φs209

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.02**	**145**		**Pn**	**00 22 32.5**	**-2.7**
SANVU					**Sn**	**00 22 46.6**	**-1.7**
DVP	**Devils Point**	**3.46**	**154**	P	Pn	00 23 03.2	-5.5
DVP	**Devils Point**	**3.46**	**154**	P	**Pn**	**00 23 11.9**	**+3.2**
RTV	**Rentapao**	**3.62**	**151**	P	Pn	00 23 04.7	-6.2
LIFNC	**LIFOU**	**6.17**	**174**	Pn	**Pn**	**00 23 45.9**	**-0.1**
KOUNC	**Koumac, New Ca**	**6.31**	**200**	Pn	**Pn**	**00 23 45.4**	**-2.6**
KOUNC					**Sn**	**00 24 58.6**	**-0.2**
KOUNC	**Koumac, New Ca** 210nm,1.0s	**6.31**	**200**	P	**Pn**	**00 23 47.8**	**-0.1**
YATNC	**Mamie plateau,**	**7.42**	**178**	P	**Pn**	**00 24 01.2**	**-2.0**
YATNC	**Mamie plateau,**	**7.42**	**178**	P	**Pn**	**00 24 03.6**	**+0.4**
DZM	**Mont Dzumac** 4.0nm,0.3s,baz=142,slow=21,SNR=14	**7.43**	**181**	Pn	**Pn**	**00 24 03.8**	**+0.5**
DZM	1.4nm,0.3s,baz=18,slow=21,SNR=1.8			Sn	**Sn**	**00 25 28.8**	**+2.3**
DZM	comp=Z,1μm,20.2s,baz=48,slow=35			LR	LR	00 26 41.4	
DZM	**Mont Dzumac** 62nm,0.5s	**7.43**	**181**	*e*Pn	**Pn**	**00 24 02.7**	**-0.7**
DZM	54nm,0.8s			*e*Sn	**Sn**	**00 25 22.2**	**-4.3**
DZM	comp=Z,2μm,24.3s			*e*LR	LR	00 25 42.0	
DZM	**Mont Dzumac**	**7.43**	**181**		**Pn**	**00 24 02.3**	**-1.1**
DZM	**Mont Dzumac** 46nm,0.7s	**7.43**	**181**	P	**Pn**	**00 24 02.9**	**-0.5**
NOUC	**Port Laguerre**	**7.46**	**182**	P	**Pn**	**00 24 04.1**	**+0.4**
NOUC	**Port Laguerre**	**7.46**	**182**	P	**Pn**	**00 24 04.1**	**+0.4**
ONTNC	**Ouen Toro**	**7.67**	**181**		**Pn**	**00 24 05.3**	**-1.1**
ONTNC	**Ouen Toro**	**7.67**	**181**	P	**Pn**	**00 24 07.0**	**+0.5**
ONTNC	**Ouen Toro**	**7.67**	**181**	P	**Pn**	**00 24 06.8**	**+0.3**
OUENC	**Ouen Island, N**	**7.78**	**178**		**Pn**	**00 24 07.6**	**-0.5**
OUENC	**Ouen Island, N**	**7.78**	**178**	P	**Pn**	**00 24 08.4**	**+0.4**
PINNC	**Pines Island,**	**8.01**	**174**	Pn	**Pn**	**00 24 10.0**	**-1.2**
HNR	**Honiara** comp=Z,574nm,18.0s,baz=139,slow=39	**8.29**	**308**	LR	LR	00 27 19.3	
MSVF	**Nonsavu** comp=Z,2μm,18.4s,baz=184,slow=32	**11.43**	**107**	LR	LR	00 28 28.2	
FUNA	**Funafuti**	**13.74**	**65**	Pn	**Pn**	**00 25 26.6**	**-3.0**
EIDS	**Eidsvold**	**18.07**	**231**		**P**	**00 26 25.4**	**-0.5**
PMG	**Port Moresby** comp=Z,726nm,18.5s,baz=58,slow=35	**19.70**	**283**	LR	LR	00 33 23.7	
CTA	**Charters Tower** 0.5nm,0.3s,baz=84,slow=9.8,SNR=11	**20.16**	**251**	P	**P**	**00 26 46.6**	**-2.3**
CTA	comp=Z,500nm,19.3s,baz=79,slow=35			LR	LR	00 33 44.6	
CTA	**Charters Tower**	**20.16**	**251**	P	**P**	**00 26 46.6**	**-2.3**
ARMA	**Armidale**	**20.91**	**219**	P	**P**	**00 26 56.2**	**-0.8**
AFI	**Afiamalu** comp=Z,402nm,19.2s,baz=246,slow=31	**20.97**	**91**	LR	LR	00 33 13.9	
COEN	**Coen**	**22.71**	**269**	P	**P**	**00 27 15.6**	**-0.7**
NIUE	**Niue**	**22.90**	**104**	P	**P**	**00 27 17.7**	**-0.5**
MXZ	**Matakaoa Point** comp=Z,21nm,0.9s	**25.12**	**158**	P	**P**	**00 27 38.1**	**-0.8**
MXZ				IAmb	IAmb	00 27 47.6	
URZ	**Urewera** comp=Z,12nm,0.7s,baz=325,slow=3.5,SNR=6.5	**25.33**	**160**	P	**P**	**00 27 44.8**	**+4.0**
URZ	comp=Z,150nm,20.0s,baz=30,slow=30			LR	LR	00 34 56.9	
URZ	**Urewera**	**25.33**	**160**	P	**P**	**00 27 40.4**	**-0.4**
URZ	comp=Z,44nm,1.4s			IAmb	IAmb	00 27 56.4	
NNZ	**Nelson**	**27.17**	**169**	P	**P**	**00 27 57.8**	**+0.4**
NNZ	comp=Z,28nm,1.2s			IAmb	IAmb	00 28 06.7	
BFZ	**Birch Farm**	**27.31**	**164**	P	**P**	**00 27 59.5**	**+0.8**
SNZO	**South Karori**	**27.53**	**167**	P	**P**	**00 27 59.5**	**-1.1**
THZ	**Tophouse**	**27.61**	**170**	P	**P**	**00 28 02.2**	**+0.7**
THZ	comp=Z,20nm,1.2s			IAmb	IAmb	00 28 16.7	
PLWZ	**Palliser**	**27.90**	**166**	P	**P**	**00 28 00.6**	**-3.5**
STKA	**Stephens Creek** comp=Z,2.9nm,0.6s,baz=306,slow=20,SNR=4.6	**28.59**	**229**	P	**P**	**00 28 09.7**	**-0.6**
STKA	comp=Z,618nm,18.1s,baz=43,slow=37			LR	LR	00 39 41.8	
STKA	**Stephens Creek**	**28.59**	**229**	P	**P**	**00 28 10.5**	**+0.3**
FOZ	**Fox Glacier**	**28.96**	**175**	P	**P**	**00 28 13.2**	**-0.2**
FOZ	comp=Z,33nm,1.4s			IAmb	IAmb	00 28 27.1	
RPZ	**Rata Peaks** comp=Z,286nm,18.4s,baz=346,slow=34	**29.26**	**173**	LR	LR	00 39 01.9	
WR0	**Warramunga Arr**	**31.04**	**256**	P	**P**	**00 28 30.5**	**-1.6**
WB0	**Warramunga Arr**	**31.16**	**256**	P	**P**	**00 28 31.2**	**-2.0**
WB2	**Warramunga Arr**	**31.22**	**256**	P	**P**	**00 28 32.7**	**-1.0**
WRA	**Warramunga Arr** comp=Z,3.2nm,1.0s,baz=85,slow=8.3,SNR=14	**31.23**	**256**	P	**P**	**00 28 31.4**	**-2.4**
WRA	comp=Z,371nm,18.7s,baz=44,slow=36			LR	LR	00 40 47.7	
WRA	**Warramunga Arr**	**31.23**	**256**	P	**P**	**00 28 35.0**	**+1.2**
AS31	**Alice Springs**	**32.11**	**249**	P	**P**	**00 28 40.1**	**-1.5**
ASAR	**Alice Springs** comp=Z,4.3nm,0.8s,baz=80,slow=9.8,SNR=24	**32.11**	**249**	P	**P**	**00 28 39.5**	**-2.1**
ASAR	comp=Z,354nm,19.0s,baz=100,slow=36			LR	LR	00 41 11.3	
ASAR	**Alice Springs**	**32.11**	**249**	P	**P**	**00 28 41.2**	**-0.4**
RAR	**Rarotonga** comp=Z,148nm,21.1s,baz=280,slow=31	**32.62**	**107**	LR	LR	00 39 19.6	
BBOO	**Buckleboo**	**33.15**	**232**	P	**P**	**00 28 49.9**	**-0.5**
KNRA	**Kununurra** comp=Z,17nm,1.1s	**36.51**	**263**	P	**P**	**00 29 17.8**	**-1.9**
KNRA				IAmb	IAmb	00 29 19.2	
FORT	**Forrest**	**38.81**	**239**	P	**P**	**00 29 38.7**	**-0.2**
FITZ	**Fitzroy Crossi** comp=Z,4.4nm,1.0s,baz=63,slow=9.6,SNR=10	**39.40**	**259**	P	**P**	**00 29 41.8**	**-2.2**
FITZ	**Fitzroy Crossi**	**39.40**	**259**	P	**P**	**00 29 43.5**	**-0.6**
BATI	**Baumata** comp=Z,272nm,18.6s,baz=158,slow=38	**42.12**	**271**	LR	LR	00 48 32.9	
PPT2	**Papeete2** comp=Z,228nm,23.5s	**42.15**	**100**	*e*LR	LR	00 41 50.2	
PSA00	**Pilbara Seismi**	**44.85**	**254**	P	**P**	**00 30 27.5**	**-1.0**
LUWI	**Luwuk**	**45.34**	**283**	P	**P**	**00 30 31.7**	**-0.8**
KAPI	**Kappang** comp=Z,9.8nm,0.9s,baz=278,slow=1.4,SNR=5.0	**47.05**	**277**	P	**P**	**00 30 45.5**	**-0.4**
KAPI	**Kappang**	**47.05**	**277**	P	**P**	**00 30 45.3**	**-0.6**
KAPI	comp=Z,19nm,1.1s			IAmb	IAmb	00 30 47.3	
TOLI2	**Tolitoli**	**47.95**	**285**	P	**P**	**00 30 52.3**	**-0.6**
TOLI2	comp=Z,5.0nm,0.8s			IAmb	IAmb	00 31 03.6	
MORW	**Morawa**	**48.74**	**244**	P	**P**	**00 30 59.0**	**+0.2**
MORW	comp=Z,14nm,0.9s			IAmb	IAmb	00 30 59.2	
MYLDM	**Lahad Datu**	**51.58**	**289**	P	**P**	**00 31 20.9**	**+0.4**
MYLDM	comp=Z,22nm,1.2s			IAmb	IAmb	00 31 33.0	
TAOE	**Nuku Hiva Isla** comp=Z,229nm,25.4s	**52.36**	**90**	*e*LR	LR	00 46 28.3	
KKM	**Kota Kinabalu**	**54.01**	**289**	P	**P**	**00 31 38.3**	**-0.2**
SBUM	**Sibu**	**56.45**	**283**	P	**P**	**00 31 56.7**	**+0.6**
SBUM	comp=Z,9.1nm,1.3s			IAmb	IAmb	00 32 01.7	
MJAR	**Matsushiro Arr**	**57.50**	**333**	P	**P**	**00 32 03.1**	**+0.1**
MJAR	comp=Z,12nm,1.5s			IAmb	IAmb	00 32 10.0	
MAJO	**Matsushiro**	**57.50**	**333**	P	**P**	**00 32 03.7**	**+0.6**
KSM	**Kuching**	**57.95**	**281**	P	**P**	**00 32 06.5**	**-0.2**
KSM	comp=Z,19nm,1.4s			IAmb	IAmb	00 32 08.6	
CGJI	**Cibinong** comp=Z,2μmcomp=Z,16nm,0.6s	**60.24**	**271**	P	**P**	**00 32 22.5**	**-0.1**
JTU	**Tsushima**	**60.31**	**325**	P	**P**	**00 32 21.6**	**-1.0**
VNDA	**Vanda** comp=Z,1.5nm,0.6s,baz=354,slow=6.2,SNR=6.9	**62.97**	**181**	P	**P**	**00 32 43.6**	**+3.6**
VNDA	**Vanda**	**62.97**	**181**	P	**P**	**00 32 43.6**	**+3.6**
SBA	**Scott Base**	**63.26**	**180**	P	**P**	**00 32 43.5**	**+1.6**
SBA	comp=Z,8.0nm,1.1s			IAmb	IAmb	00 32 48.4	
SBA	**Scott Base**	**63.26**	**180**	P	**P**	**00 32 43.2**	**+1.3**
CCD	**Concordia, Ant**	**64.90**	**191**	P	**P**	**00 32 55.5**	**+2.4**
CCD				pP	**pwP**	**00 33 05.4**	**+1.8**
NJ2	**Nanjing**	**65.14**	**316**	*e*P	**P**	**00 32 55.8**	**+1.0**
NJ2	comp=Z,7.0nm,0.5s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,3.4nm,0.7s,baz=146,slow=39,SNR=2.7	**66.48**	**334**	P	**P**	**00 33 03.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**66.48**	**334**	P	**P**	**00 33 03.3**	**0.0**
GSI	**Gunungsitoli** comp=Z,14nm,1.1s	**70.07**	**277**	P	**P**	**00 33 26.1**	**-0.3**
GSI				IAmb	IAmb	00 33 27.8	
XAN	**Xi'an**	**73.13**	**313**	*e*P	**P**	**00 33 45.0**	**+0.5**
XAN				pP	pP	00 33 49.9	-5.1
XAN	comp=Z,4.0nm,0.6s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,2.3nm,0.9s,baz=119,slow=4.3,SNR=14	**74.31**	**294**	P	**P**	**00 33 51.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**74.31**	**294**	P	**P**	**00 33 52.2**	**+0.6**
CHTO	**Chiang Mai**	**74.44**	**295**	P	**P**	**00 33 53.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**75.07**	**320**	*e*P	**P**	**00 33 58.0**	**+2.2**
HHC	comp=Z,27nm,1.0s			pmax	pmax		
HHC	comp=Z,140nm,6.0s			pmax	pmax		
PZH	**PanZhiHua**	**75.08**	**303**	P	**P**	**00 33 57.9**	**+1.7**
PZH	comp=Z,10.0nm,0.7s			pmax	pmax		
PZH	comp=Z,100nm,5.4s			pmax	pmax		
QSPA	**South Pole Qui**	**75.42**	**180**	P	**P**	**00 33 57.8**	**+0.3**
QSPA				IAmb	IAmb	00 34 06.2	
CHIR	**Chirikof Islan**	**77.00**	**21**	P	**P**	**00 34 04.5**	**-1.7**
LZH	**Lanzhou**	**77.76**	**313**	*e*P	**P**	**00 34 13.3**	**+2.1**
LZH				pP	pP	00 34 19.3	-2.4
LZH				sP	sP	00 34 23.1	-2.5
LZH	comp=Z,11nm,1.5s			pmax	pmax		
SONM	**Songino Array** comp=Z,1.3nm,0.9s,baz=141,slow=4.8,SNR=2.8	**82.01**	**324**	P	**P**	**00 34 33.5**	**-0.4**
TNA	**Tin City**	**82.20**	**10**	P	**P**	**00 34 33.0**	**-1.3**
M19K	**Big River Lodg**	**82.22**	**18**	P	**P**	**00 34 35.5**	**+1.0**
L19K	**White Mountain**	**82.30**	**17**	P	**P**	**00 34 35.8**	**+0.8**
BILL	**Bilibino**	**82.41**	**360**	P	**P**	**00 34 36.2**	**+0.8**
BILL	comp=Z,10.0nm,1.2s			IAmb	IAmb	00 34 40.6	
CAST	**Castle Rocks**	**84.07**	**17**	P	**P**	**00 34 43.5**	**-0.5**
CAST	comp=Z,13nm,1.2s			IAmb	IAmb	00 34 48.2	
J20K	**Nowinta River**	**84.08**	**16**	P	**P**	**00 34 45.5**	**+1.4**
J20K	comp=Z,11nm,1.4s			IAmb	IAmb	00 34 51.4	
KTH	**Kantishna Hill** comp=Z,12nm,1.2s	**84.51**	**18**	IAmb	IAmb	00 35 01.7	
RND	**Reindeer**	**85.02**	**18**	P	**P**	**00 34 49.1**	**+0.2**
MCK	**McKinley** comp=Z,12nm,1.1s	**85.23**	**18**	IAmb	IAmb	00 34 58.4	
H21K	**Melozitna Rive**	**85.60**	**16**	P	**P**	**00 34 51.8**	**+0.1**
H21K	comp=Z,8.6nm,1.1s			IAmb	IAmb	00 34 57.4	
NEA2	**Nenana**	**85.83**	**18**	P	**P**	**00 34 53.2**	**+0.4**
NEA2	comp=Z,10nm,1.4s			IAmb	IAmb	00 34 57.1	
WRH	**Wood River Hil** comp=Z,10nm,1.2s	**86.03**	**18**	IAmb	IAmb	00 34 58.1	
CCB	**Clear Creek Bu**	**86.24**	**18**	P	**P**	**00 34 55.5**	**+0.7**
CCB	comp=Z,6.5nm,1.2s			IAmb	IAmb	00 34 58.9	
MDM	**Murphy Dome**	**86.34**	**18**	P	**P**	**00 34 55.3**	**-0.1**
MDM	comp=Z,13nm,1.3s			IAmb	IAmb	00 35 11.7	
H23K	**Yukon River**	**86.61**	**17**	P	**P**	**00 34 56.2**	**-0.4**
H23K	comp=Z,6.1nm,1.1s			IAmb	IAmb	00 35 13.3	
IL31	comp=Z,6.6nm,1.1s	**86.61**	**18**	IAmb	IAmb	00 35 03.3	
ILAR	**Eielson Array** comp=Z,1.8nm,0.7s,baz=232,slow=5.7,SNR=12	**86.61**	**18**	P	**P**	**00 34 56.1**	**-0.6**
J25K	**Salcha River,**	**86.96**	**19**	P	**P**	**00 34 58.2**	**-0.2**
J25K	comp=Z,5.4nm,1.0s			IAmb	IAmb	00 35 06.3	
COLD	**Coldfoot**	**87.48**	**15**	P	**P**	**00 35 01.3**	**+0.5**
COLD	comp=Z,6.5nm,1.3s			IAmb	IAmb	00 35 11.9	
SYO	**Syowa Base**	**88.64**	**197**	*e*P	**P**	**00 35 06.2**	**-0.3**
SYO	**Syowa Base**	**88.64**	**197**	*e*sP	sP	00 35 20.8	-0.4
WMQ	**Urumqi**	**92.18**	**315**	*e*P	**P**	**00 35 25.3**	**+1.8**
MKAR	**Makanchi Array** comp=Z,1.0nm,0.7s,baz=90,slow=6.6,SNR=8.9	**96.67**	**317**	P	**P**	**00 35 43.5**	**-0.4**
MKAR	**Makanchi Array**	**96.67**	**317**	P	**P**	**00 35 43.5**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.6s,baz=98,slow=5.1,SNR=4.5	**96.91**	**324**	P	**P**	**00 35 43.0**	**-1.8**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.7s,baz=257,slow=4.9,SNR=4.5	**97.73**	**27**	P	Pdif	00 35 49.6	+1.3
ARCES	**ARCESS Array B** comp=Z,3.3nm,0.9s,baz=72,slow=2.2,SNR=15	**119.97**	**345**	PKP	**PKiKP**	**00 41 03.9**	**+0.2**
FINES	**FINESS Array B** comp=Z,4.0nm,1.1s,baz=79,slow=4.1,SNR=3.6	**125.36**	**338**	PKP	**PKPdf**	**00 41 14.4**	**+0.4**
FINES	**FINESS Array B**	**125.36**	**338**		**PKPdf**	**00 41 14.4**	**+0.4**
GERES	**GERESS Array B** comp=Z,0.2nm,0.3s,baz=358,slow=4.0,SNR=3.8	**139.24**	**333**	PKP	**PKPdf**	**00 41 41.7**	**+0.9**
GERES	**GERESS Array B**	**139.24**	**333**		**PKPdf**	**00 41 41.7**	**+0.9**
KEST	**Kesra** comp=Z,4.6nm,1.0s,baz=345,slow=11,SNR=3.5	**150.70**	**320**	PKPbc	**PKPbc**	**00 42 06.1**	**-0.2**
KEST	**Kesra**	**150.70**	**320**		**PKiKP**	**00 42 07.8**	**+0.8**
ESDC	**Sonseca Array** comp=Z,0.7nm,0.9s,baz=338,slow=1.1,SNR=4.6	**153.69**	**343**	PKPbc	**PKPbc**	**00 42 11.5**	**-1.4**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,1.1s,baz=274,slow=28,SNR=2.4	**165.27**	**266**	PKPab	**PKPab**	**00 43 16.7**	**0.0**

*DDA **16** 00:31:55.0ₛ0.0, 39°.05N×38°.93E, h7ᵏᵐ±5ᵏᵐ, MW3.9*
*ISK **16** 00:31:55.2, 39°.00N×38°.97E, h5ᵏᵐ, ML3.9/19*
*IDC **16** 00:31:59.0ₛ1.2, 39°.16N×38°.75E, h0ᵏᵐ, mb3.4/4,*
mb1 3.5/7, mb1mx3.3/38, mbtmp3.5/7, ML3.1/3, Error ellipse: s-maj=22.1km s-min=10.6km az=166.0

ISC 16 00:31:58.0ₛ0.7, 39°.01N±0°.02×38°.98E±0°.02, h10ᵏᵐ, n44, σ1°41/60, mb3.5/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPR	**Arapgir-MALATY**	**0.51**	**279**	PG	**Pg**	**00 32 06.2**	**-1.8**
ARPR				SG	**Sg**	**00 32 14.4**	**-0.4**
SVRC	**Sivrice-ELAZID**	**0.68**	**158**	PG	**Pg**	**00 32 09.5**	**-1.8**
SVRC				SG	**Sg**	**00 32 19.7**	**-0.5**
KOVA	**Elazig, Kovanc**	**0.72**	**115**	P	**Pg**	**00 32 10.6**	**-1.3**
KOVA				S	**Sb**	**00 32 21.8**	**-0.8**
KOVA	comp=N,3μm,0.6s			*i* AML	AML	00 32 25.0	
KOVA	comp=E,2μm,0.8s			*i* AML	AML	00 32 25.0	
ERZN	**Erzincan**	**0.81**	**45**	PG	**Pg**	**00 32 11.6**	**-2.1**
ERZN				SG	**Sg**	**00 32 24.4**	**+0.1**
MALT	**Malatya**	**0.82**	**212**	PG	**Pg**	**00 32 11.6**	**-2.3**
MALT				SG	**Sg**	**00 32 23.6**	**-1.1**
EUZM	**Uzumlu**	**0.89**	**38**	P	**Pg**	**00 32 13.4**	**-1.7**
EUZM				S	**Sg**	**00 32 26.5**	**-0.3**
EUZM	comp=E,2μm,0.7s			*i* AML	AML	00 32 27.0	
EUZM	comp=N,1μm,0.9s			*i* AML	AML	00 32 34.0	
REFA	**Refahiye_ERZN**	**0.91**	**349**	P	**Pg**	**00 32 13.2**	**-2.3**
REFA				S	**Sg**	**00 32 24.2**	**-3.2**
REFA	comp=N,1μm,0.8s			*i* AML	AML	00 32 32.0	
AKCD	**Akcadag**	**1.10**	**230**	P	**Pg**	**00 32 16.4**	**-2.7**
AKCD				S	**Sg**	**00 32 32.8**	**-0.6**
AKCD	comp=N,3μm,0.4s			*i* AML	AML	00 32 35.0	
AKCD	comp=E,2μm,0.8s			*i* AML	AML	00 32 38.0	
DARE	**Darende-Malaty**	**1.25**	**250**	PN	**Pn**	**00 32 19.6**	**-2.1**
DARE				SN	**Sb**	**00 32 37.6**	**-0.4**
HANI	**Diyarbakir_Han**	**1.26**	**118**	P	**Pn**	**00 32 20.4**	**-1.3**
HANI				S	**Sn**	**00 32 40.6**	**+1.8**
HANI	comp=E,495nm,0.5s			*i* AML	AML	00 32 44.0	
HANI	comp=N,529nm,0.7s			*i* AML	AML	00 32 49.0	
YEDI	**Yedisu-Bingol**	**1.28**	**70**	PN	**Pn**	**00 32 20.8**	**-1.4**
YEDI				SN	**Sn**	**00 32 40.1**	**+0.5**
BNGB	**Bingl**	**1.32**	**90**	PN	**Pn**	**00 32 20.9**	**-1.8**
DYBB	**Diyarbakir**	**1.40**	**139**	PN	**Pn**	**00 32 22.9**	**-0.7**
ELBS	**KAHRAMANMARAS**	**1.60**	**245**	P	**Pn**	**00 32 26.3**	**-0.3**
ELBS	comp=N,39nm,0.4s			*i* AML	AML	00 32 52.0	
ELBS	comp=E,582nm,0.4s			*i* AML	AML	00 32 53.0	
BAYT	**Aydıntepe-Bayb**	**1.64**	**33**	PN	**Pn**	**00 32 26.3**	**-0.8**
SVSK	**Karacayir**	**1.78**	**301**	PN	**Pn**	**00 32 28.4**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.88**	**318**	PN	**Pn**	**00 32 29.9**	**-0.4**
ESPY	**Espiye-Giresun**	**1.91**	**354**	PN	**Pn**	**00 32 30.5**	**-0.2**
VRTB	**Varto-Mus**	**1.93**	**85**	PN	**Pn**	**00 32 30.7**	**-0.4**
MAZI	**Mazidag**	**1.93**	**143**	PN	**Pn**	**00 32 30.4**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.94**	**116**	PN	**Pn**	**00 32 30.4**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.94**	**116**	P	**Pn**	**00 32 31.3**	**+0.2**
SVAN				S	**Sg**	**00 33 00.4**	**+0.1**
SVAN	comp=N,232nm,0.6s			*i* AML	AML	00 33 02.0	
SVAN	comp=E,218nm,1.0s			*i* AML	AML	00 33 02.0	
MUSM	**Mu-Merkez**	**2.00**	**98**	P	**Pb**	**00 32 32.9**	**-1.6**
MUSM	comp=E,100nm,0.7s			*i* AML	AML	00 33 09.0	
MUSM	comp=N,141nm,1.1s			*i* AML	AML	00 33 10.0	
GZT	**Gaziantep**	**2.00**	**214**	P	**Pb**	**00 32 33.4**	**-1.1**
GZT				S	**Sg**	**00 33 03.0**	**+0.8**
GZT	comp=N,966nm,0.9s			*i* AML	AML	00 33 04.0	
GZT	comp=E,554nm,0.9s			*i* AML	AML	00 33 06.0	
KRIK	**Erzurum-spir**	**2.00**	**48**	P	**Pb**	**00 32 33.3**	**-1.3**
KRIK				S	**Sg**	**00 33 02.4**	**+0.1**
KRIK	comp=N,148nm,0.9s			*i* AML	AML	00 33 13.0	
KRIK	comp=E,123nm,1.1s			*i* AML	AML	00 33 17.0	
KTUT	**Trabzon**	**2.06**	**17**	PN	**Pn**	**00 32 32.6**	**-0.1**
SARI	**SarD1z-Kayseri**	**2.10**	**254**	PN	**Pn**	**00 32 32.8**	**-0.6**
SURC	**SANLIURFA_SURC**	**2.15**	**188**	P	**Pn**	**00 32 34.3**	**+0.3**
SURC				S	**Sg**	**00 33 07.3**	**+0.2**
SURC	comp=N,377nm,0.8s			*i* AML	AML	00 33 17.0	
SURC	comp=E,409nm,0.6s			*i* AML	AML	00 33 22.0	
TOKT	**Tokat**	**2.29**	**306**	PN	**Pn**	**00 32 35.8**	**-0.1**
BNN	**Bunyan**	**2.45**	**267**	PN	**Pn**	**00 32 37.7**	**-0.5**
MIDY	**Mardin/Midyat-**	**2.49**	**129**	P	**Pn**	**00 32 38.6**	**-0.1**
MIDY				S	**Sg**	**00 33 16.9**	**-1.1**
MIDY	comp=N,308nm,0.7s			*i* AML	AML	00 33 23.0	
MIDY	comp=E,377nm,0.4s			*i* AML	AML	00 33 25.0	
YOZ	**Yozgat**	**2.91**	**284**	PN	**Pn**	**00 32 44.5**	**0.0**
KOZT	**Kozan**	**2.92**	**239**	PN	**Pn**	**00 32 44.4**	**-0.1**
KVT	**Kavak**	**3.06**	**313**	PN	**Pn**	**00 32 46.5**	**+0.1**
KOZK	**Kozakli-Nevseh**	**3.21**	**275**	PN	**Pn**	**00 32 48.7**	**+0.1**
BRTR	**Keskin Array B** 2.2nm,0.3s,baz=89,slow=15,SNR=84	**4.20**	**281**	Pn	**Pn**	**00 33 02.9**	**+0.6**
BRTR	0.8nm,0.3s,baz=108,slow=26,SNR=7.6			Lg	Lg	00 34 08.3	
GNI	**Garni** 0.4nm,0.3s,baz=152,slow=5.6,SNR=2.6	**4.59**	**74**	Pn	**Pb**	**00 33 15.5**	**-3.2**
GNI	baz=137,slow=23,SNR=0.7			Lg	Lg	00 34 29.8	
KBZ	**Khabaz** 0.2nm,0.3s,baz=226,slow=11,SNR=5.8	**5.55**	**31**	Pn	**Pn**	**00 33 22.9**	**+2.2**
MMAI	**Mount Meron Ar** 0.4nm,0.3s,baz=246,slow=8.1,SNR=1.7	**6.65**	**207**	Pn	**Pn**	**00 33 37.0**	**+1.2**
MMAI	0.8nm,0.3s,baz=122,slow=47,SNR=2.6			Lg	Lg	00 35 30.9	
GERES	**GERESS Array B** 3.0nm,0.9s,baz=140,slow=8.5,SNR=19	**20.60**	**307**	P	**P**	**00 36 38.4**	**+1.1**
KHC	**Kasperske Hory**	**20.78**	**307**	*e*P	**P**	**00 36 39.5**	**+0.4**
ARU	**Arti** 0.4nm,0.3s,baz=205,slow=12,SNR=4.1	**21.71**	**30**	P	**P**	**00 36 52.9**	**+3.9**
FINES	**FINESS Array B** 1.4nm,0.9s,baz=134,slow=9.9,SNR=3.4	**23.83**	**345**	P	**P**	**00 37 12.2**	**+1.2**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=282,slow=7.2,SNR=2.3	**32.32**	**62**	P	**P**	**00 38 29.9**	**+2.7**

*TIR **16** 00:35:45.7, 40°.32N×19°.37E, h26ᵏᵐ±1ᵏᵐ, Md2.7, Ml2.6*
*THE **16** 00:35:46.8, 40°.32N×19°.39E, h0ᵏᵐ±3ᵏᵐ, ML2.3/9, Error ellipse: s-maj=4.1km s-min=0.7km az=265.0*

ISC 16 00:35:45.6±1.0, 40°.32N±0°.03×19°.30E±0°.03, h14ᵏᵐ±7ᵏᵐ, n31, σ1°31/56, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.21**	**44**	P	**Pg**	**00 35 49.7**	**-0.6**
VLO				S	**Sg**	**00 35 52.1**	**-1.4**
VLO	11μm,0.2s			P	**Pg**	**00 35 49.8**	**-0.5**
VLO	**Vlora** baz=32	**0.21**	**44**	P	**Pg**	**00 35 49.8**	**-0.5**
VLO	baz=32			S	**Sg**	**00 35 55.5**	**+2.0**
VLO	comp=E,29nm,0.4s,baz=32			AMP			
SCTE	**Santa Cesarea** baz=252	**0.68**	**249**	P	**Pg**	**00 36 00.1**	**+1.3**
SCTE	baz=252			S	**Sb**	**00 36 11.5**	**+3.0**
SCTE	comp=E,0.8nm,0.4s,baz=252			AMP			
SRN	**Sarande**	**0.69**	**129**	P	**Pg**	**00 35 58.2**	**-0.8**
SRN				S	**Sb**	**00 36 08.7**	**0.0**
SRN	comp=E,190nm,0.2s **Sarande** baz=131	**0.69**	**129**	P	**Pg**	**00 35 58.4**	**-0.6**
SRN	baz=131			S	**Sb**	**00 36 08.8**	**0.0**
SRN	comp=E,0.7nm,0.2s,baz=131			AMP			
KEK	**Kerkira**	**0.71**	**147**	P	**Pb**	**00 35 59.9**	**+0.1**
KEK				S	**Sb**	**00 36 09.6**	**+0.2**
LSK	comp=E,228nm,0.2s **Leskovik**	**1.01**	**99**	P	**Pg**	**00 36 03.9**	**-1.1**
LSK				S	**Sg**	**00 36 17.0**	**-1.2**
LSK	comp=E,298nm,0.8s **Leskovik** baz=99	**1.01**	**99**	P	**Pg**	**00 36 03.5**	**-1.5**
LSK	baz=99			S	**Sb**	**00 36 18.5**	**+0.5**
LSK	comp=N,1.5nm,0.9s,baz=99			AMP			
IGT	**Igoumenitsa**	**1.11**	**134**	P	**Pg**	**00 36 06.4**	**-0.6**
IGT				S	**Sn**	**00 36 22.8**	**+0.9**
IGT	comp=N,138nm,0.5s **Igoumenitsa** baz=136	**

DUGI				Sn	**Sn**	**00 37 51.0**	**-2.9**
UDBI	**Udbina**	**4.96**	**329**	*e*Pn	**Pn**	**00 37 00.1**	**+0.5**
VIRC	**Vir**	**5.07**	**323**	*e*Pn	**Pn**	**00 37 02.1**	**+1.0**
VIRC				Sn	**Sn**	**00 37 57.3**	**-2.1**
NVLJ	**Novalja**	**5.36**	**324**	*e*Pn	**Pn**	**00 37 05.1**	**0.0**

ROM 16 00:36:36.9±0.1, 42°.605N±0°.004×13°.198E±0°.006, h11km, ML1.3/4, 2C-3D, Error ellipse: s-maj=0.6km s-min=0.4km az=208.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.10**	**173**	P	Pg	00 36 40.2	+0.5
RM33				S	Sg	00 36 42.5	+0.7
SMA1	**SAN MARTINO**	**0.10**	**76**	⇑P	Pb	00 36 40.5	-0.5
SMA1				S	Sg	00 36 41.9	0.0
SMA1	comp=N,318μm,0.2s			AML	AML		
SMA1	comp=E,600μm,0.5s			AML	AML		
LNSS	**Leonessa**	**0.12**	**269**	P	Pg	00 36 40.4	+0.4
LNSS				S	Sg	00 36 42.8	+0.7
LNSS	comp=E,387μm,0.3s			AML	AML		
LNSS	comp=N,516μm,0.1s			AML	AML		
CAMP	**Campotosto**	**0.17**	**114**	P	Pg	00 36 41.4	+0.6
CAMP				S	Sg	00 36 44.5	+1.0
NRCA	**Norcia**	**0.24**	**345**	⇓P	Pg	00 36 42.2	+0.3
NRCA				S	Sg	00 36 46.0	+0.8
NRCA	comp=E,77μm,0.1s			AML	AML		
NRCA	comp=N,47μm,0.7s			AML	AML		
GIGS	**Gran Sasso**	**0.32**	**119**	P	Pg	00 36 43.5	+0.2
GIGS				S	Sg	00 36 48.4	+0.9
GIGS	comp=E,11μm,0.8s			AML	AML		
GIGS	comp=N,11μm,1.3s			AML	AML		
ARRO	**Arrone**	**0.32**	**266**	⇑P	Pg	00 36 43.6	+0.2
ARRO				S	Sg	00 36 48.4	+0.8
FIAM	**Fiamignano**	**0.34**	**190**	⇓P	Pg	00 36 44.2	+0.4
FIAM				S	Sb	00 36 49.5	-1.0
FDMO	**Fiordimonte**	**0.44**	**349**	⇓P	Pg	00 36 46.0	+0.4
FDMO				S	Sb	00 36 52.9	-0.4

IDC ***16*** *00:48:30.1±0.4, 32°.75N×130°.80E, h0km, mb4.9/37, mb1 5.0/42, mb1mx5.0/48, mbtmp4.9/42, ML4.0/3, MS4.4/23, Ms1 4.4/23, ms1mx4.3/40, Error ellipse: s-maj=11.2km s-min=5.7km az=101.0*

BJI ***16*** *00:48:31.9±0.0, 32°.62N×131°.11E, h35km, mb4.8/78, mB5.3/68, Ms5.4/94, Ms7 5.2/87*

MOS ***16*** *00:48:32.1±0.8, 32°.83N×130°.80E, h21km, mb5.6/96, MS5.1/26, Error ellipse: s-maj=6.2km s-min=3.1km az=117.8*

NIED ***16*** *00:48:32.7, 32°.85N×130°.84E, h16km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr=5.53; Mθφ=4.84; Mθθ=0.69; Mrθ=-2.19; Mθφ=2.67; Mφr=0.48; Fault plane solution: M0=6.27000×10^16 NP1: φs=230.00000°, δ=38.00000°, λ=-112.00000°. NP2: φs=77.00000°, δ=55.00000°, λ=-73.00000°.*

NEIC ***16*** *00:48:32.8±1.6, 32°.84N±0°.03×130°.78E±0°.06, h9km±3km, mb5.4/366, Mwr5.2/34, Mww5.2 Error ellipse: s-maj=7.7km s-min=4.3km az=99.0*

JMA ***16*** *00:48:32.6, 32°.85N×130°.84E, h16km±1km, M5.4 Broadband fault plane solution: P waves. NP1: φs=72.00000°, δ=56.00000°, λ=-78.00000°. NP2: φs=231.00000°, δ=36.00000°, λ=-107.00000°. Principal axes: T Plg10.0000°, Azm153.0000°; N Plg10.0000°, Azm245.0000°; P Plg76.0000°, Azm19.0000°;*

NEIC ***16*** *00:48:32.8, 32°.85N×130°.78E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=5.62; Mθθ=6.09; Mθφ=-0.47; Mrθ=-2.37; Mθφ=2.17; Mφr=0.33; Fault plane solution: M0=6.70000×10^16 NP1: φs=83.74000°, δ=55.63000°, λ=-77.03000°. NP2: φs=241.54000°, δ=36.45000°, λ=-108.17000°. Principal axes: T 7.1168, Plg10.0000°, Azm164.0000°; N -0.9371, Plg11.0000°, Azm256.0000°; P -6.1798, Plg75.0000°, Azm33.0000°;*

GCMT ***16*** *00:48:33.8±0.2, 32°.87N±0°.01×130°.68E±0°.02, h18km, MW5.3/120, Moment Tensor Solution. s74, c112; s120, c214; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.93±.03; Mθθ=0.78±.02; Mθφ=0.15±.02; Mrθ=-0.20±.04; Mθφ=0.41±.01; Mφr=0.38±.04; Best double couple: M0=1.04000×10^17 NP1: φs=223.00000°, δ=49.00000°, λ=-120.00000°. NP2: φs=84.00000°, δ=49.00000°, λ=-61.00000°. Principal axes: T 0.9770, Plg0.0000°, Azm154.0000°; N 0.1250, Plg22.0000°, Azm244.0000°; P -1.1020, Plg68.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***16*** *00:48:34.8±0.0, 32°.84N×130°.86E, h10km, mb5.2*

NEIC ***16*** *00:48:37, 32°.95N×130°.78E, h16km, Moment Tensor Solution. Duration: 10s6 Moment tensor: Scale 10^16 Nm; Mrr=7.39; Mθφ=5.94; Mθφ=1.46; Mrθ=-1.73; Mθθ=3.86; Mφr=1.87; Fault plane solution: M0=8.21000×10^16 NP1: φs=223.00000°, δ=46.00000°, λ=-116.00000°. NP2: φs=78.00000°, δ=50.00000°, λ=-65.00000°. Principal axes: T 8.1835, Plg2.0000°, Azm151.0000°; N 0.0571, Plg18.0000°, Azm241.0000°; P -8.2406, Plg72.0000°, Azm54.0000°;*

ISC 16 00:48:33.4±0.4, 32°.83N±0°.02×130°.94E±0°.03, h17km±2km, h17km: pP-P, n1133, c1s66/1071, mb5.3/388, MS4.9/60, 124C-325D, Fault plane solution: NP1: φs=80.18227°, δ=68.46083°, λ=-100.76867°. **NP2:** φs=287.56845°, δ=23.96607°, λ=-64.66796°. **Principal axes:** T Plg22.7393°, Azm178.4184°; N Plg10.0086°, Azm84.1766°; P Plg64.9244°, Azm332.0183°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.30**	**350**	Pg	**Pg**	**00 48 38.5**	**-1.4**
JNU	10μm,0.3s,baz=184,slow=9.7,SNR=3567			Lg	Lg	00 48 42.5	
JNU	32μm,0.3s,baz=184,slow=11,SNR=32			LR	LR	00 49 04.7	
JNU	comp=Z,145μm,20.6s,baz=316,slow=91 **Nakatsue**	**0.30**	**350**	⇑P	**Pg**	**00 48 38.5**	**-1.4**
JNU				S	**Sg**	**00 48 42.7**	**-1.6**
JIU3	**Izumi3**	**0.30**	**201**	⇑P	**Pg**	**00 48 38.9**	**-1.0**
JIU3				S	**Sg**	**00 48 43.6**	**-0.7**
JTA	**Tamana**	**0.37**	**292**	⇑P	**Pg**	**00 48 38.7**	**-2.4**
JTA				*e*S	**Sg**	**00 48 43.0**	**-3.3**
JTZ	**Takazaki**	**0.93**	**172**	⇑P	**Pb**	**00 48 51.2**	**+0.1**
JTZ				S	**Sn**	**00 49 04.5**	**-0.2**
JSU	**Suzuyama**	**1.38**	**197**	Pn	**Pn**	**00 48 57.5**	**-0.5**
JSU					**Sb**	**00 49 16.5**	**+0.3**
JTU	**Tsushima**	**2.12**	**323**	Pn	**Pn**	**00 49 06.4**	**-1.6**
JMN	**Monobe**	**2.62**	**69**	Pn	**Pn**	**00 49 16.9**	**+1.9**
JHS	**Saijyo**	**2.82**	**39**	Pn	**Pn**	**00 49 19.3**	**+1.6**
TJN	**Taejon**	**4.61**	**321**	*d*iP	**Pn**	**00 49 41.9**	**-0.3**
TJN	**Taejon**	**4.61**	**321**		**Pn**	**00 49 41.0**	**-1.2**
TJN	**Taejon**	**4.61**	**321**	P	**Pn**	**00 49 42.7**	**+0.5**
KSRS	**Korea Array**	**5.23**	**333**	Pn	**Pn**	**00 49 50.6**	**-0.2**
KSRS	6.0nm,0.3s,baz=153,slow=15,SNR=30			Pg	**Pg**	**00 50 10.4**	**-3.2**
KSRS	14nm,0.3s,baz=147,slow=18,SNR=48			Sn	**Sn**	**00 50 52.6**	**+1.9**
KSRS	16nm,0.3s,baz=153,slow=25,SNR=4.9			Lg	Lg	00 51 15.7	
KSAR	33nm,0.3s,baz=152,slow=29,SNR=9.1 **Wonju Array Be**	**5.24**	**332**	P	**Pn**	**00 49 50.5**	**-0.4**
KSAR	**Wonju Array Be**	**5.24**	**332**		**Pn**	**00 49 50.5**	**-0.4**
KS19	**Wonju Array Si**	**5.30**	**333**		**Pn**	**00 49 50.8**	**-1.0**
INU	**Inuyama**	**5.63**	**62**		**Pn**	**00 49 58.3**	**+2.0**
INU	**Inuyama**	**5.63**	**62**	P	**Pn**	**00 49 59.9**	**+3.5**
INCN	**Inchon**	**5.83**	**324**	P	**Pn**	**00 49 58.3**	**-0.8**
INCN	**Inchon**	**5.83**	**324**	Pn	**Pn**	**00 49 58.3**	**-0.8**
INCN	**Inchon**	**5.83**	**324**	P	**Pn**	**00 49 58.8**	**-0.3**
JGF	**Kuroka**	**5.99**	**61**		**Pn**	**00 50 03.1**	**+1.7**
JOW	**Kunigami**	**6.41**	**202**	Pn	**Pn**	**00 50 08.9**	**+1.8**
JOW	40nm,0.3s,baz=44,slow=10,SNR=18			Sn	**Sn**	**00 51 21.6**	**+1.8**
	baz=140,slow=29,SNR=1.2			LR	LR	00 52 56.9	
JOW	comp=Z,6μm,19.8s,baz=58,slow=42						
JOW	**Kunigami**	**6.41**	**202**		**Pn**	**00 50 08.4**	**+1.4**
JOW	**Kunigami**	**6.41**	**202**	P	**Pn**	**00 50 11.2**	**+4.2**
MJB9	**Matsu-Tunnel**	**7.04**	**56**		**Pn**	**00 50 18.2**	**+2.5**
MAJO	**Matsushiro**	**7.04**	**56**	*d*iP	**Pn**	**00 50 18.4**	**+2.7**
MAJO	**Matsushiro**	**7.04**	**56**	Pn	**Pn**	**00 50 18.2**	**+2.6**
MAJO	**Matsushiro**	**7.04**	**56**	P	**Pn**	**00 50 19.2**	**+3.5**
MJAR	**Matsushiro Arr**	**7.04**	**56**	Pn	**Pn**	**00 50 18.4**	**+2.7**
MJAR	1.6nm,0.3s,baz=280,slow=9.7,SNR=68			LR	LR	00 53 23.4	
MJAR	comp=Z,7μm,18.1s,baz=234,slow=41 **Matsushiro Arr**	**7.04**	**56**	P	**Pn**	**00 50 18.1**	**+2.4**
MJAR	**Matsushiro Arr**	**7.04**	**56**		**Pn**	**00 50 18.1**	**+2.4**
JHJ	**Hachijo jima 2**	**7.44**	**85**	Pn	**Pn**	**00 50 23.4**	**+2.3**
JHJ	76nm,0.3s,baz=43,slow=9.4,SNR=15			Sn	**Sn**	**00 51 49.0**	**+4.0**
JHJ	baz=287,slow=23,SNR=2.1			LR	LR	00 53 00.1	
JHJ2	comp=Z,1μm,18.6s,baz=111,slow=36 **Mitsune**	**7.47**	**85**		**Pn**	**00 50 23.9**	**+2.4**
JHJ2	**Mitsune**	**7.47**	**85**	P	**Pn**	**00 50 24.8**	**+3.3**
JSD	**Sado**	**7.92**	**47**		**Pn**	**00 50 29.7**	**+2.0**
SSE	**Sheshan**	**8.46**	**261**	P	**Pn**	**00 50 33.5**	**-1.7**
SSE				S	**Sn**	**00 52 09.3**	**-1.0**
SSE	comp=Z,12nm,0.7s			pmax	pmax		
SSE	comp=Z,93nm,4.1s			pmax	pmax		
SSE	comp=N,3μm,16.6s			LR	LR		
SSE	comp=E,7μm,16.5s			LR	LR		
JMM	**Marumori**	**9.49**	**55**		**Pn**	**00 50 50.1**	**+0.9**
DL2	**Dalian**	**9.68**	**311**	P	Pn	00 50 56.8	+4.9
DL2				S	Sn	00 52 50.0	+10
DL2	comp=Z,660nm,4.3s			pmax	pmax		
DL2	comp=N,14μm,6.3s			LR	LR		
DL2	comp=E,6μm,4.8s			LR	LR		
DL2	comp=Z,6μm,5.4s			LR	LR		
MSHR	**Mys Shultsa**	**9.73**	**1**	⇓*e*P	**Pn**	**00 50 53.0**	**+0.4**
NJ2	**Nanjing**	**10.24**	**269**	*e*P	**Pn**	**00 51 02.6**	**+3.0**
NJ2				pP		00 51 04.3	
NJ2				S	**Sn**	**00 53 00.1**	**+6.1**
NJ2	comp=Z,16nm,0.8s			pmax	pmax		
NJ2	comp=Z,470nm,4.5s			pmax	pmax		
NJ2	comp=N,5μm,9.8s			LR	LR		
NJ2	comp=E,8μm,10.0s			LR	LR		
NJ2	comp=Z,9μm,10.7s			LR	LR		
VLA	**Vladivostok**	**10.30**	**4**	*de*P	**Pn**	**00 51 00.9**	**+0.6**
SNY	**Shenyang**	**10.72**	**329**	⇑P	Pn	00 51 12.6	+6.5
SNY				S	Sn	00 53 17.8	+12
SNY	comp=Z,16nm,0.7s			pmax	pmax		
SNY	comp=N,21μm,7.6s			LR	LR		
SNY	comp=E,12μm,7.8s			LR	LR		
SNY	comp=Z,30μm,8.1s			LR	LR		
JCJ	**Chichijima**	**11.30**	**117**	LR	LR	00 55 15.8	
USA0B	comp=Z,2μm,19.7s,baz=10.0,slow=36 **Ussuriysk Arra**	**11.38**	**4**	P	**Pn**	**00 51 17.0**	**+1.9**
USA0B	**Ussuriysk Arra**	**11.38**	**4**		**Pn**	**00 51 17.0**	**+1.9**
USRK	**Ussuriysk Ar.**	**11.38**	**4**	Pn	**Pn**	**00 51 17.1**	**+2.0**
USRK	baz=184,slow=13,SNR=18			LR	LR	00 55 24.9	
USRK	comp=Z,3μm,18.0s,baz=169,slow=36 **Ussuriysk Ar.**	**11.38**	**4**		**Pn**	**00 51 17.4**	**+2.3**
CN2	**Changchun**	**11.77**	**340**	*e*P	**Pn**	**00 51 20.5**	**+0.1**
CN2				*e*PP	**PnPn**	**00 51 30.1**	**+1.8**
CN2				*e*S	**Sn**	**00 53 33.1**	**+1.8**
CN2	comp=Z,20nm,1.2s			pmax	pmax		
CN2	comp=N,5μm,12.0s			LR	LR		
CN2	comp=E,9μm,12.0s			LR	LR		
CN2	comp=Z,16μm,13.0s			LR	LR		
MDJ	**Mudanjiang**	**11.82**	**355**	P	**Pn**	**00 51 25.8**	**+4.7**
MDJ				pP		00 51 27.9	
MDJ				S	**Sn**	**00 53 36.4**	**+3.9**
MDJ				SS	**SnSn**	**00 53 52.4**	**+7.7**
MDJ	comp=Z,21nm,1.0s			pmax	pmax		
MDJ	comp=Z,2μm,4.4s			pmax	pmax		
MDJ	comp=N,4μm,10.1s			LR	LR		
MDJ	comp=E,6μm,9.5s			LR	LR		
MDJ	comp=Z,6μm,10.6s			LR	LR		
TIA	**Tai'an**	**11.88**	**290**	P	**Pn**	**00 51 25.3**	**+3.3**
TIA	comp=Z,5.0nm,0.8s			pmax	pmax		
TIA	comp=Z,560nm,5.9s			pmax	pmax		
TIA	comp=N,6μm,11.8s			LR	LR		
TIA	comp=E,3μm,7.8s			LR	LR		
TIA	comp=Z,7μm,9.3s			LR	LR		
NACB	**Ninganchiao**	**11.90**	**226**	Pn	**Pn**	**00 51 23.0**	**+0.6**
TEY	**Ternei**	**12.96**	**18**	⇑*e*P	**Pn**	**00 51 41.3**	**+4.7**
TEY	comp=N,20nm,0.9s			pmax	pmax		
TEY	comp=Z,20nm,0.9s			pmax	pmax		
TEY	comp=E,20nm,0.9s			pmax	pmax		
TEY	comp=Z,40nm,1.7s			pmax	pmax		
TEY	comp=E,20nm,1.2s			pmax	pmax		
TEY	comp=N,60nm,1.0s			MLR	MLR		
TEY	comp=N,200nm,13.0s			MLR	MLR		
TEY	comp=E,200nm,13.0s			MLR	MLR		
JEW	comp=Z,200nm,15.0s **Eniwo**	**12.98**	**37**		**Pn**	**00 51 39.2**	**+2.2**
BNX	**BinXian**	**13.18**	**349**	⇓P	**Pn**	**00 51 42.3**	**+2.6**
BNX				pP	**P**	**00 51 45.9**	**-3.7**
BNX				PP	**PnPn**	**00 51 52.9**	**+5.3**
BNX				S	**Sn**	**00 54 10.3**	**+4.6**
BNX	comp=Z,24nm,1.0s			pmax	pmax		
BNX	comp=Z,2μm,4.4s			pmax	pmax		
BNX	comp=Z,23μm,11.7s			LR	LR		
BNX	comp=Z,11μm,8.4s			LR	LR		
BNX	comp=Z,29μm,9.7s			LR	LR		
TWG	**Pinlang**	**13.24**	**224**		**Pn**	**00 51 41.3**	**+0.6**
ERM	**Erimo**	**13.34**	**43**	⇑*e*P	**Pn**	**00 51 43.4**	**+1.5**
QZH	**Quanzhou**	**13.36**	**237**	⇓*i*P	**P**	**00 51 48.5**	**-3.3**
QZH				S	Sn	00 54 20.5	+10
QZH	comp=Z,340nm,3.8s			pmax	pmax		
QZH	comp=Z,94nm,1.3s			pmax	pmax		
QZH	comp=N,5μm,11.8s			LR	LR		
QZH	comp=E,2μm,9.4s			LR	LR		
QZH	comp=Z,3μm,12.0s			LR	LR		
BJI	**Beijing**	**13.88**	**305**	P	**Pn**	**00 51 50.1**	**+0.8**
BJI				S	**Sn**	**00 54 24.3**	**+1.3**
BJI	comp=Z,27nm,1.0s			pmax	pmax		
BJI	comp=Z,860nm,8.2s			pmax	pmax		
BJI	comp=Z,4μm,9.2s			LR	LR		
BJI	comp=Z,8μm,11.8s			LR	LR		
BJI	comp=Z,9μm,11.9s			LR	LR		
HNS	**HongShan**	**14.04**	**293**	⇑P	**P**	**00 51 56.3**	**-3.0**
HNS				S	Sn	00 54 37.3	+10
HNS	comp=Z,23nm,1.6s			pmax	pmax		
HNS	comp=Z,630nm,9.3s			pmax	pmax		
HNS	comp=Z,5μm,16.3s			LR	LR		
HNS	comp=Z,3μm,15.7s			LR	LR		
HNS	comp=Z,3μm,12.9s			LR	LR		
WHN	**Wuhan**	**14.31**	**265**	⇑P	**Pn**	**00 51 56.5**	**+1.3**
WHN				S	Sn	00 54 42.8	+9.3
WHN	comp=Z,18μm,15.8s			LR	LR		
WHN	comp=Z,21μm,11.3s			LR	LR		
WHN	comp=Z,26μm,11.9s			LR	LR		
ASAJ	**Asahikawa**	**14.49**	**36**	Pn	**Pn**	**00 51 59.4**	**+1.8**
ASAJ	comp=Z,1.3nm,0.3s,baz=215,slow=12,SNR=9.8			LR	LR	00 57 16.5	
ASAJ	comp=Z,2μm,19.4s,baz=270,slow=36 **Asahikawa**	**14.49**	**36**	P	**Pn**	**00 51 58.9**	**+1.3**
JKA	**Kamikawa-asahi**	**14.49**	**36**		**Pn**	**00 51 58.9**	**+1.3**
LYN	**LuoYang**	**15.47**	**281**	⇓P	**Pn**	**00 52 11.6**	**+0.8**
LYN				PP	**sP**	**00 52 25.9**	**+3.4**
LYN				S	**S**	**00 55 12.1**	**-5.4**
LYN	comp=Z,30nm,1.4s			pmax	pmax		
LYN	comp=Z,1μm,5.3s			pmax	pmax		
LYN	comp=Z,8μm,11.7s			LR	LR		
LYN	comp=Z,5μm,12.7s			LR	LR		
LYN	comp=Z,8μm,11.7s			LR	LR		
TIY	**Taiyuan**	**15.87**	**293**	⇑P	**P**	**00 52 19.3**	**-0.4**
TIY				PP	**sP**	**00 52 30.3**	**+3.3**
TIY				S	**S**	**00 55 21.3**	**-4.5**
TIY	comp=Z,740nm,4.5s			pmax	pmax		
TIY	comp=Z,10μm,15.8s			LR	LR		
TIY	comp=Z,2μm,7.3s			LR	LR		
TIY	comp=Z,4μm,12.7s			LR	LR		
XLT	**XiLinHaoTe**	**16.03**	**318**	⇑*i*P	**Pn**	**00 52 19.4**	**+1.3**
XLT				pP	P	00 52 23.1	+1.6
XLT				PP	**sP**	**00 52 30.8**	**+2.0**
XLT				S	**Sn**	**00 55 21.4**	**+5.9**
XLT				SS	S	00 55 42.0	+13
XLT	comp=Z,73nm,1.3s			pmax	pmax		
XLT	comp=Z,1μm,4.4s			pmax	pmax		
XLT	comp=Z,13μm,10.5s			LR	LR		
XLT	comp=Z,17μm,10.4s			LR	LR		
CNSH	**ChangSha**	**16.19**	**258**	⇑P	**Pn**	**00 52 21.3**	**+1.2**
CNSH				S	**Sn**	**00 55 24.3**	**+4.9**
CNSH	comp=Z,26nm,1.3s			pmax	pmax		
CNSH	comp=Z,6μm,10.2s			LR	LR		
CNSH	comp=Z,4μm,9.9s			LR	LR		
CNSH	comp=Z,6μm,10.7s			LR	LR		
KLR	**Kul'dur**	**16.40**	**2**	Pn	**P**	**00 52 27.9**	**+2.6**
YSS	comp=Z,1.7nm,0.3s,baz=167,slow=8.2,SNR=78 **Yuzh-Sakhalins**	**16.74**	**29**	*e*P	**Pn**	**00 52 28.0**	**+1.0**
YSS				*e*S	**Sn**	**00 55 27.1**	**-5.3**
YSS	comp=Z,140nm,1.0s			pmax	pmax		
YSS	comp=Z,500nm,3.1s			pmax	pmax		
YSS	comp=Z,3μm,15.0s			MLR	MLR		
YSS	comp=N,2μm,16.0s			MLR	MLR		
YSS	comp=E,2μm,16.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**16.74**	**29**		**Pn**	**00 52 27.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**17.43**	**303**	*e*P	**P**	**00 52 39.4**	**+2.4**
HHC				PP	**PnPn**	**00 52 56.5**	**+11**
HHC				S	**Sn**	**00 55 49.6**	**+0.2**
HHC				sS	sS	00 56 02.0	-3.4
HHC				SS	**SnSn**	**00 56 17.1**	**+14**
HHC	comp=E,20nm,1.0s			pmax	pmax		
HHC	comp=E,1μm,6.4s			pmax	pmax		
HHC	comp=E,4μm,12.6s			LR	LR		
HHC	comp=E,9μm,10.2s			LR	LR		
HHC	comp=E,9μm,11.8s			LR	LR		
GRNR	**Gornyy**	**18.38**	**11**	⇓*i*P	**P**	**00 52 47.1**	**-0.1**
GRNR				*e*S	**S**	**00 56 17.3**	**+0.8**
GRNR	comp=Z,10.0nm,0.7s			pmax	pmax		
GRNR	comp=N,1.0nm,0.8s			smax	smax		
GRNR	comp=E,2μm,14.0s			MLR	MLR		
GRNR	comp=N,1μm,16.0s			MLR	MLR		
XAN	**Xi'an**	**18.41**	**280**	⇑P	**Pn**	**00 52 48.4**	**+0.5**
XAN				pP	sP	00 52 53.8	-1.4
XAN				sP	pP	00 52 56.8	+4.0
XAN				S	**S**	**00 56 17.9**	**+0.3**
XAN				sS	sS	00 56 25.8	+0.3
XAN	comp=N,25nm,2.1s			pmax	pmax		
XAN	comp=N,1μm,7.1s			pmax	pmax		
XAN	comp=N,7μm,12.4s			LR	LR		
XAN	comp=N,6μm,12.1s			LR	LR		
XAN	comp=N,5μm,12.4s			LR	LR		
HIA	**Hailar**	**18.43**	**336**	P	**Pn**	**00 52 49.8**	**+1.8**
HIA	comp=Z,109nm,1.2s			pmax	pmax		
HIA	**Hailar**	**18.43**	**336**	P	**Pn**	**00 52 49.8**	**+1.8**
BTO	**Baotou**	**18.45**	**301**	*e*P	**Pn**	**00 52 50.3**	**+1.9**
BTO				S	**S**	**00 56 22.0**	**+3.7**
BTO	comp=Z,9μm,7.0s			LR	LR		
BTO	comp=Z,17μm,13.2s			LR	LR		
ENH	**Enshi**	**18.46**	**268**	P	**Pn**	**00 52 49.1**	**+0.7**
GULI	**GuiLin**	**19.47**	**253**	⇑P	**Pn**	**00 53 01.3**	**+0.6**
GULI	comp=Z,50nm,1.4s			pmax	pmax		
GULI	comp=Z,3μm,12.0s			LR	LR		
GULI	comp=Z,3μm,12.8s			LR	LR		
GULI	comp=Z,6μm,12.9s			LR	LR		
TYV	**Tymovskoe**	**19.98**	**22**	*e*P	**Pn**	**00 53 07.8**	**+1.3**
TYV	comp=Z,400nm,2.7s			pmax	pmax		
TYV	comp=Z,46nm,1.2s			pmax	pmax		
ZEA	**Zeya**	**21.07**	**354**	*e*P	**P**	**00 53 18.1**	**+1.6**
ZEA				*e*S	**S**	**00 57 03.9**	**-6.3**
ZEA				pmax	pmax		

comp=N,130nm,1.2s
ZEA pmax pmax
comp=Z,200nm,1.1s
ZEA pmax pmax
comp=E,300nm,2.9s
ZEA pmax pmax
comp=Z,1μm,2.2s
ZEA smax smax
comp=E,1μm,6.2s
ZEA MLR MLR
comp=N,3μm,10.0s
ZEA MLR MLR
comp=Z,2μm,10.0s
GYA Guiyang 22.01 260⇑ *i*P **P 00 53 26.8 -0.2**
GYA PP **PnPn 00 53 56.5 +7.7**
GYA S **S 00 57 27.3 -2.0**
GYA pmax pmax
comp=Z,37nm,1.0s
GYA pmax pmax
comp=Z,590nm,7.8s
GYA LR LR
comp=Z,3μm,11.4s
GYA LR LR
comp=Z,3μm,12.1s
GYA LR LR
comp=Z,4μm,11.6s
LZH Lanzhou 22.55 286⇓ P **P 00 53 32.1 -0.7**
LZH PP **PnPn 00 53 59.9 +3.7**
LZH S **S 00 57 39.6 +0.1**
LZH sS sS 00 57 49.8 +1.9
LZH SS **SnSn 00 58 18.3 +10**
LZH pmax pmax
comp=Z,50nm,1.5s
LZH pmax pmax
comp=Z,430nm,4.9s
LZH LR LR
comp=Z,6μm,13.6s
LZH LR LR
comp=Z,5μm,14.6s
LZH LR LR
comp=Z,7μm,14.6s
CIT Chita 22.97 332 *e*P **P 00 53 36.0 -0.9**
CIT *e* 00 54 04.1
CIT pmax pmax
comp=Z,222nm,2.9s
GUMO Guam 22.99 143 P **P 00 53 41.3 +3.9**
comp=Z,255nm,1.1s,baz=210,slow=4.7,SNR=4.7
GUMO LR LR 01 00 56.0
comp=Z,624nm,20.4s,baz=329,slow=32
GUMO Guam 22.99 143 P **P 00 53 38.3 +0.9**
GUMO pmax pmax
comp=Z,373nm,1.2s
GUMO Guam 22.99 143 P **P 00 53 38.3 +0.9**
CD2 Chengdu 23.14 273 P **P 00 53 37.4 -1.5**
CD2 S **S 00 57 47.9 -1.8**
CD2 pmax pmax
comp=Z,110nm,1.3s
CD2 pmax pmax
comp=Z,870nm,7.5s
CD2 LR LR
comp=Z,2μm,14.2s
CD2 LR LR
comp=Z,14μm,12.3s
CD2 LR LR
comp=Z,16μm,11.8s
QIZ Qiongzhong 23.37 239 P **P 00 53 41.0 -0.2**
QIZ S **S 00 57 54.0 +0.6**
QIZ SS **SnSn 00 58 27.6 -1.1**
QIZ pmax pmax
comp=Z,540nm,4.9s
QIZ LR LR
comp=Z,3μm,9.5s
QIZ LR LR
comp=Z,2μm,11.1s
QIZ LR LR
comp=Z,3μm,10.4s
ULN Ulaanbaatar 23.47 317*d i*P **P 00 53 41.5 -0.6**
ULN pmax pmax
comp=Z,126nm,1.7s
ULN Ulaanbaatar 23.47 317 P **P 00 53 41.2 -0.9**
ULN IAmb IAmb 00 53 49.3
comp=Z,95nm,1.1s
ULN Ulaanbaatar 23.47 317 P **P 00 53 42.0 -0.1**
SONM Songino Array 23.83 316 P **P 00 53 44.9 -0.8**
comp=Z,23nm,0.8s,baz=131,slow=7.7,SNR=57
SONM PcP **PcP 00 57 28.1 -0.4**
comp=Z,3.7nm,0.8s,baz=125,slow=3.3,SNR=3.9
SONM Songino Array 23.83 316 P **P 00 53 44.6 -1.0**
SONM pmax pmax
comp=Z,45nm,1.1s
SONM Songino Array 23.83 316 P **P 00 53 44.6 -1.0**
SKR Severo-Kuril's 25.71 39 *e*P **P 00 54 00.0 -2.5**
SKR *e*S **S 00 58 26.2 -4.1**
SKR MLR MLR
comp=Z,2μm,15.0s
KMI Kunming 25.78 260⇑ P **P 00 54 03.1 -0.6**
KMI S **S 00 58 28.3 -4.2**
KMI PcS **PcS 01 01 15.4 +1.0**
KMI pmax pmax
comp=Z,17nm,1.2s
KMI pmax pmax
comp=Z,440nm,7.0s
KMI LR LR
comp=Z,3μm,10.0s
KMI LR LR
comp=Z,4μm,12.4s
KMI LR LR
comp=Z,5μm,12.2s
GTA Gaotai 25.90 294⇑ P **P 00 54 04.3 -0.3**
GTA S **S 00 58 37.3 +3.3**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,380nm,6.8s
GTA LR LR
comp=Z,8μm,15.1s
GTA LR LR
comp=Z,4μm,13.1s
GTA LR LR
comp=Z,4μm,12.7s
PZH PanZhiHua 26.09 264⇓ P **P 00 54 05.4 -1.0**
PZH S **S 00 58 33.9 -3.2**
PZH sS **sS 00 58 46.1 +0.1**
PZH pmax pmax
comp=Z,30nm,1.4s
PZH pmax pmax
comp=Z,130nm,5.4s
PZH LR LR
comp=Z,2μm,14.5s
PZH LR LR
comp=Z,3μm,12.4s
PZH LR LR
comp=Z,2μm,13.7s
DAV Davao City (W) 26.11 192 LR LR 01 06 23.6
comp=Z,1μm,18.2s,baz=344,slow=41
ZAK Zakamensk 26.88 319 *e*P **P 00 54 12.5 -0.8**
ZAK pmax pmax
comp=Z,34nm,1.3s
IRK Irkutsk 27.36 323 *e*P **P 00 54 17.2 -0.3**
IRK pmax pmax
comp=Z,182nm,1.7s
BOD Bodaibo 27.52 340 *e*P **P 00 54 18.7 -0.1**
BOD pmax pmax
comp=Z,55nm,1.9s
UBPT Khong Chiam 28.97 239 P **P 00 54 31.9 -0.2**
YAK Yakutsk 29.23 359 P **P 00 54 33.3 -0.6**
comp=Z,9.5nm,0.3s,baz=158,slow=4.1,SNR=4.6
YAK Yakutsk 29.23 359 *e*P **P 00 54 32.8 -1.1**
YAK *e**PP **sP 00 54 44.5 +2.8**
YAK *e* 00 55 26.8
YAK *e* 00 57 37.1
YAK *e*S **S 00 59 24.8 -0.8**
YAK *e*S **S 00 59 24.8 -0.8**
YAK *e*SS **SnSn 01 00 56.5 +5.5**
YAK *e* 01 01 15.0
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,21nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,16nm,0.4s
YAK smax smax
comp=E,45nm,1.9s
YAK smax smax
comp=N,91nm,3.0s
YAK MLR MLR
comp=Z,2μm,11.0s
YAK MLR MLR
comp=N,1μm,12.0s
YAK MLR MLR
comp=E,290nm,10.0s
MA2 Magadan 29.82 20 P **P 00 54 39.1 -0.3**
comp=E,7.4nm,0.8s,baz=216,slow=8.0,SNR=6.9
MA2 LR LR 01 07 12.9
comp=E,1μm,18.1s,baz=203,slow=38
MA2 Magadan 29.82 20*d i*P **P 00 54 39.0 -0.3**
MA2 pmax pmax
comp=Z,50nm,2.5s
MA2 Magadan 29.82 20 P **P 00 54 38.8 -0.5**
GOMU GeErMu 29.85 287 P **P 00 54 38.3 -1.9**
GOMU S **S 00 59 41.4 +4.7**
GOMU sS sS 00 59 49.8 +4.1
GOMU pmax pmax
comp=Z,17nm,1.4s
GOMU pmax pmax
comp=Z,110nm,3.6s
GOMU LR LR
comp=Z,1μm,11.5s
GOMU LR LR
comp=Z,870nm,14.4s
GOMU LR LR
comp=Z,720nm,12.0s
MYLDM Lahad Datu 29.86 206 P **P 00 54 39.7 -0.2**
KNGR Kungurtug, Tuv 30.27 316*i*P **P 00 54 43.6 +0.1**
CHTO Chiang Mai 31.86 252 P **P 00 54 57.2 -0.5**
CHTO pmax pmax
comp=Z,37nm,1.1s
CHTO Chiang Mai 31.86 252 P **P 00 54 57.2 -0.5**
CHTO IAmb IAmb 00 55 00.0
comp=Z,37nm,1.1s
CHTO Chiang Mai 31.86 252 P **P 00 54 57.7 0.0**
CM31 Chiang Mai Arr 32.05 251 P **P 00 54 58.6 -0.8**
CM31 Chiang Mai Arr 32.05 251 P **P 00 55 00.1 +0.7**
SNR=11
CMAR Chiang Mai Arr 32.05 251 P **P 00 54 59.5 +0.1**
comp=Z,3.4nm,0.7s,baz=51,slow=6.9,SNR=31
CMAR Chiang Mai Arr 32.05 251 P **P 00 54 58.7 -0.7**
CMAR Chiang Mai Arr 32.05 251 P **P 00 54 58.7 -0.7**
TNTI Ternate 32.06 187 P **P 00 55 00.0 +0.6**
TNTI IAmb IAmb 00 55 06.5
comp=Z,42nm,0.8s
TOLI2 Tolitoli 32.97 199 P **P 00 55 06.2 -1.1**
SEY Seymchan 33.04 18 P **P 00 55 08.1 +0.5**
comp=Z,12nm,1.0s,baz=212,slow=8.8,SNR=11
SEY LR LR 01 08 34.1
comp=Z,2μm,18.7s,baz=210,slow=36
SEY Seymchan 33.04 18⇓*i*P **P 00 55 07.5 0.0**
SEY pmax pmax
comp=Z,44nm,2.5s
MRSI Marisa 33.28 197 P **P 00 55 09.4 -0.7**
SIJI Sorong 33.52 179 LR LR 01 07 45.4
comp=Z,1μm,20.2s,baz=353,slow=35
LSA Lhasa 34.02 276 P **P 00 55 17.8 +0.8**
SHL Shillong 34.70 268 P **P 00 55 19.9 -2.8**
SHL pmax pmax
comp=Z,36nm,1.3s
SHL Shillong 34.70 268 P **P 00 55 19.9 -2.8**
SHL Shillong 34.70 268 P **P 00 55 22.6 -0.1**
SNR=7.8
SBUM Sibu 34.95 214 P **P 00 55 23.6 -1.0**
SANI Sanana 35.01 189 P **P 00 55 23.2 -1.8**
comp=Z,32nm,1.0s
WMQ Urumqi 35.29 301 *e*P **P 00 55 26.8 -0.6**
WMQ pmax pmax
comp=Z,31nm,1.7s
WMQ pmax pmax
comp=Z,470nm,5.7s
WMQ LR LR
comp=Z,4μm,16.5s
WMQ LR LR
comp=Z,1μm,14.3s
WMQ LR LR
comp=Z,870nm,19.3s
FAKI Fak Fak 35.58 178 P **P 00 55 29.3 -0.7**
MSAI Masohi 36.03 183 P **P 00 55 34.0 +0.2**
comp=Z,581nmcomp=Z,8.8nm,1.1s
JAY Jayapura 36.35 163 LR LR 01 09 55.2
comp=Z,634nm,18.6s,baz=358,slow=35
AAI Ambon 36.41 185 P **P 00 55 37.5 +0.4**
KSM Kuching 36.73 216 P **P 00 55 39.9 0.0**
ZSN Zaisan 37.56 307 *i* P **P 00 55 45.5 -1.2**
ZSN pmax pmax
comp=Z,43nm,2.5s
ZSN Zaisan 37.56 307 *i* P **P 00 55 45.5 -1.2**
comp=Z,44nm,2.5s,baz=307
TAPN Taplejung 37.60 273 *e*P **P 00 55 47.2 -0.4**
comp=Z,57nm,1.1s
SRIT Nakonsritamara 37.70 237 P **P 00 55 48.0 -0.1**
SRIT IAmb IAmb 00 55 54.1
comp=Z,65nm,1.6s
ODAN Odare 38.04 273 *e*P **P 00 55 50.3 -0.9**
comp=Z,64nm,1.1s
ZAA0 Zalesovo Array 38.72 317 P **P 00 55 54.9 -1.4**
ZAA0 PcP **PcP 00 58 06.8 -1.1**
ZALV Zalesovo Beam 38.72 317 P **P 00 55 55.5 -0.8**
comp=Z,5.5nm,1.1s,baz=94,slow=6.7,SNR=24
ZALV PcP **PcP 00 58 06.7 -1.1**
comp=Z,13nm,0.8s,baz=105,slow=3.5,SNR=21
ZALV ScP **S 01 01 52.3 -0.1**
comp=Z,0.9nm,0.7s,baz=107,slow=2.0,SNR=5.2
ZALV Zalesovo Beam 38.72 317 P **P 00 55 55.3 -1.1**
ZALV 00 58 06.3
ZALV Zalesovo Beam 38.72 317 P **P 00 55 55.3 -1.1**
ZALV PcP **PcP 00 58 06.3 -1.5**
JIRN Jiri 38.78 274 *e*P **P 00 55 57.5 -0.1**
comp=Z,12nm,0.9s
TIXI Tiksi 38.90 359⇓ *e*P **P 00 55 56.1 -1.5**
TIXI pmax pmax
comp=Z,26nm,1.0s
TIXI Tiksi 38.90 359 P **P 00 55 56.0 -1.5**
GUN Gumba 38.96 275 *e*P **P 00 55 59.0 -0.1**
comp=Z,328nm,0.9s
KAPI Kappang 39.11 198 P **P 00 55 59.0 -0.9**
KAPI pmax pmax
comp=Z,24nm,1.3s
KAPI Kappang 39.11 198 P **P 00 55 59.0 -0.9**
BBKI Banjar Baru 39.19 206 P **P 00 56 00.8 +0.2**
comp=Z,72nm,1.2s
MK31 Makanchi Array 39.26 305*d i*P **P 00 56 00.1 -0.9**
MK31 Makanchi Array 39.26 305 P **P 00 55 59.8 -1.2**
MKAR Makanchi Array 39.26 305 P **P 00 56 00.2 -0.8**
comp=Z,15nm,1.0s,baz=94,slow=8.6,SNR=59
MKAR PcP **PcP 00 58 08.5 -1.2**
comp=Z,3.9nm,0.9s,baz=72,slow=2.7,SNR=4.8
MKAR LR LR 01 13 38.6
comp=Z,758nm,19.3s,baz=92,slow=38
MKAR Makanchi Array 39.26 305 P **P 00 55 59.9 -1.2**
PKI Pulchoki 39.47 275 *e*P **P 00 56 02.4 -0.9**
comp=Z,66nm,0.9s
PKIN Phulchoki 39.47 275 *e*P **P 00 56 02.6 -0.7**
comp=Z,91nm,1.0s
MAKZ Makanchi 39.48 305 P **P 00 56 01.3 -1.6**
MAKZ pmax pmax
comp=Z,23nm,1.1s
MAKZ Makanchi 39.48 305 P **P 00 56 01.3 -1.6**
KKN Kakani 39.50 275 *e*P **P 00 56 03.1 -0.4**
comp=Z,93nm,1.0s
IPM Ipoh 39.70 231 P **P 00 56 03.8 -1.1**
DMN Daman 39.71 275 *e*P **P 00 56 04.7 -0.5**
GKN Gorkha 39.97 276 *e*P **P 00 56 06.8 -0.5**
comp=Z,61nm,0.9s
DANN Dangsing 40.60 277 *e*P **P 00 56 12.3 -0.4**
comp=Z,185nm,1.0s
BILL Bilibino 40.69 19*c i*P **P 00 56 13.0 +0.5**
BILL *e* 00 57 46.5
BILL *e*S **S 01 02 24.7 +3.2**
BILL pmax pmax
comp=Z,77nm,1.7s
BILL MLR MLR
comp=Z,595nm,13.0s
BILL Bilibino 40.69 19 P **P 00 56 12.6 +0.1**
PBA Port Blair 40.84 248 P **P 00 56 12.9 -1.5**
PBA IAmb IAmb 00 56 21.1
comp=Z,42nm,0.8s
SEM Semipalatinsk 40.89 311 *e*P **P 00 56 13.8 -0.9**
SEM pmax pmax
comp=Z,48nm,1.5s
SEM Semipalatinsk 40.89 311 *e*P **P 00 56 13.8 -0.9**
comp=Z,48nm,1.5s,baz=311
KOLN Koldanda 40.92 276 *e*P **P 00 56 14.8 -0.4**
comp=Z,123nm,1.2s
PDGK Podgornoye 41.25 300 P **P 00 56 15.6 -2.1**
SHLS Shalkode 41.28 300 *e*P **P 00 56 14.1 -3.8**
SHLS Shalkode 41.28 300 *e*P **P 00 56 14.1 -3.8**
baz=300
PYUN Piuthan 41.32 277 *e*P **P 00 56 18.2 -0.3**
comp=Z,148nm,0.9s
DSRI Dabo 41.42 222 P **P 00 56 19.7 +0.6**
UZB Uzynbulak 41.60 300 *e*P **P 00 56 19.6 -1.0**
UZB pmax pmax
comp=Z,38nm,1.8s
UZB Uzynbulak 41.60 300 *e*P **P 00 56 19.6 -1.0**
comp=Z,38nm,1.8s,baz=300
KIWB Kanaga Island 41.81 47 P **P 00 56 22.2 +0.2**
KPKS Kokpek 41.83 300 *e*P **P 00 56 21.1 -1.3**
KPKS pmax pmax
comp=Z,37nm,2.1s
KPKS Kokpek 41.83 300 *e*P **P 00 56 21.2 -1.2**
comp=Z,37nm,2.1s,baz=300
KURK Kurchatov 41.95 311*d i*P **P 00 56 22.3 -0.8**
KURK pmax pmax
comp=Z,62nm,1.0s
KURK Kurchatov 41.95 311 P **P 00 56 21.9 -1.2**
KURK IAmb IAmb 00 56 23.9
comp=Z,76nm,1.2s
KURK Kurchatov 41.95 311 P **P 00 56 22.6 -0.6**
TDK Taldyqorghan 41.96 303 *i* P **P 00 56 22.1 -1.2**
TDK Taldyqorghan 41.96 303 *i* P **P 00 56 22.1 -1.2**
baz=303
PPBI Pangkal Pinang 41.97 219 P **P 00 56 24.5 +0.9**
KURBB Kurchatov Arra 42.00 311 P **P 00 56 22.9 -0.6**
comp=Z,22nm,1.0s,baz=96,slow=9.1,SNR=128
KURBB PcP **PcP 00 58 17.1 -1.3**
comp=Z,8.4nm,0.9s,baz=93,slow=3.7,SNR=8.5
KURBB Kurchatov Arra 42.00 311 P **P 00 56 22.6 -0.9**
ZHN Zhinishke 42.03 300 *e*P **P 00 56 22.6 -1.5**
ZHN Zhinishke 42.03 300 *e*P **P 00 56 22.6 -1.5**
baz=300
MMRI Maumere 42.06 193 P **P 00 56 23.7 -0.6**
MMRI IAmb IAmb 00 56 27.9
comp=Z,63nm,1.1s
SATY Saty 42.06 300 *e*P **P 00 56 22.7 -1.6**
SATY Saty 42.06 300 *e*P **P 00 56 22.8 -1.6**
baz=300
ADK Adak 42.10 47 P **P 00 56 24.1 -0.2**
ADK pmax pmax
comp=Z,94nm,1.2s
ADK Adak 42.10 47 P **P 00 56 24.1 -0.2**
ADK IAmb IAmb 00 56 25.4
comp=Z,94nm,1.1s
PSI Prapat 42.33 232 LR LR 01 15 58.5
comp=Z,916nm,18.3s,baz=40,slow=39
ARXS Arharly 42.41 301 *e*P **P 00 56 24.9 -2.2**
BKNI Bangkinang 42.87 227 P **P 00 56 30.1 -0.9**
BKNI IAmb IAmb 00 56 32.2
comp=Z,60nm,1.0s
BKNI Bangkinang 42.87 227 P **P 00 56 31.0 0.0**
comp=Z,58nm,0.5s
JMBI JAMBI 42.90 222 P **P 00 56 33.1 +2.0**
comp=Z,65nm,0.4s
CHKK Chushkaly 43.03 301 *e*P **P 00 56 31.1 -0.9**
CHKK Chushkaly 43.03 301 *e*P **P 00 56 31.2 -0.9**
baz=301
KDJ Kajisay 43.04 298 P **P 00 56 31.4 -1.0**
KDJ pmax pmax
comp=Z,97nm,2.0s
KDJ Kajisay 43.04 298 P **P 00 56 31.4 -1.0**
KDJ IAmb IAmb 00 56 33.6
comp=Z,97nm,1.9s
MDOK Medeo 43.04 300 *e*P **P 00 56 31.3 -1.0**
MDOK Medeo 43.04 300 *e*P **P 00 56 31.4 -1.0**
baz=300
TNSS Tian-Shan 43.13 300 *e*P **P 00 56 33.2 -0.1**
TNSS Tian-Shan 43.13 300 *e*P **P 00 56 33.3 -0.1**
baz=300
AAA Alma-Ata 43.14 300 *e*P **P 00 56 31.7 -1.3**
AAA Alma-Ata 43.14 300 *e*P **P 00 56 31.7 -1.3**
baz=300
MNSI Mandailing Nat 43.42 229 P **P 00 56 34.9 -0.5**
comp=Z,27nm,0.7s
KUU Kurty 43.50 301 *e*P **P 00 56 33.9 -1.9**
KUU pmax pmax
comp=Z,77nm,1.6s
KUU Kurty 43.50 301 *e*P **P 00 56 34.0 -1.9**
comp=Z,77nm,1.6s,baz=301
ULHL Ulahol 43.72 299 P **P 00 56 37.7 -0.2**
SNR=12
NRIK Noril'sk 43.81 339 P **P 00 56 37.6 -0.3**
comp=Z,33nm,0.9s,baz=121,slow=8.5,SNR=78
NRIK Noril'sk 43.81 339*d i*P **P 00 56 37.3 -0.6**
NRIK pmax pmax
comp=Z,61nm,1.1s
NRIK Noril'sk 43.81 339 P **P 00 56 37.4 -0.5**
NRIK IAmb IAmb 00 56 38.9
comp=Z,56nm,1.1s
PPI Padang Panjang 43.88 227 P **P 00 56 38.7 -0.4**
comp=Z,27nm,1.1s
TKM2 Tokmak 2 44.12 300 P **P 00 56 41.5 +0.4**
SNR=31
KSH Kashi 44.29 295 P **P 00 56 45.8 +3.4**
KSH S **S 01 03 20.8 +5.2**
KSH SS **SS 01 06 35.8 +1.9**
KSH pmax pmax
comp=Z,20nm,1.1s
KSH pmax pmax
comp=Z,280nm,8.3s
KSH LR LR
comp=Z,1μm,12.1s
KSH LR LR
comp=Z,1μm,14.0s
KSH LR LR
comp=Z,2μm,12.7s
GSI Gunungsitoli 44.34 232 P **P 00 56 41.1 -1.7**
GSI IAmb IAmb 00 56 47.4
comp=Z,45nm,1.0s
GSI Gunungsitoli 44.34 232 P **P 00 56 42.2 -0.6**
comp=Z,47nm,1.4s
KRJI Kerinci 44.53 225 P **P 00 56 44.9 +0.5**
comp=Z,16μmcomp=Z,414nm,0.4s
KBK Karagaybulak 44.63 299 P **P 00 56 45.4 +0.2**
SNR=13
CHMS Chumysh 44.73 300 P **P 00 56 45.7 -0.1**
SNR=25
SGDS Sogindy 44.77 301 *e*P **P 00 56 45.0 -1.1**
SGDS Sogindy 44.77 301 *e*P **P 00 56 45.0 -1.1**
baz=301
FRU1 Bishkek 44.84 300 P **P 00 56 46.1 -0.6**
FRU1 pmax pmax
comp=Z,63nm,1.1s
FRU1 Bishkek 44.84 300 P **P 00 56 46.1 -0.6**
FRU1 IAmb IAmb 00 56 48.0
comp=Z,63nm,1.1s
USP Ospenovka 44.89 300 P **P 00 56 46.7 -0.3**
SNR=25
KLI Kotabumi 44.92 218 P **P 00 56 47.4 0.0**
MASI Maura Aman, Be 44.92 223 P **P 00 56 48.4 +0.9**
comp=Z,2μmcomp=Z,141nm,1.6s
MDSI Maura Dua 44.96 219 P **P 00 56 48.4 +0.7**
comp=Z,1μmcomp=Z,35nm,1.4s
AAK Ala-Archa 44.96 300 P **P 00 56 47.4 -0.4**
SNR=21
AAK Ala-Archa 44.96 300 P **P 00 56 47.6 -0.1**
comp=Z,15nm,0.9s,baz=105,slow=5.5,SNR=45
AAK Ala-Archa 44.96 300*d i*P **P 00 56 47.4 -0.4**
AAK pmax pmax
comp=Z,26nm,1.0s
AAK Ala-Archa 44.96 300 P **P 00 56 46.5 -1.3**
AAK Ala-Archa 44.96 300 P **P 00 56 47.8 +0.1**
AAK Ala-Archa 44.96 300 *i* P **P 00 56 47.0 -0.8**
SNR=26
UCH Uchtor 45.00 299 P **P 00 56 48.5 +0.1**
SNR=74
BTLS Baital 45.04 303 *e*P **P 00 56 47.0 -1.1**
BTLS pmax pmax
comp=Z,43nm,2.4s
BTLS Baital 45.04 303 *e*P **P 00 56 47.0 -1.1**
comp=Z,43nm,2.4s,baz=303
KPJI Karang Pucung 45.10 212 P **P 00 56 49.1 +0.3**
comp=Z,45nm,1.2s
TNG Tangerang 45.14 215 P **P 00 56 50.8 +1.7**
comp=Z,443nm,0.6s
TNG P **P 00 56 52.2 +3.1**
comp=Z,7μmcomp=Z,298nm,0.6s
BLSI Bandar Lampung 45.15 218 P **P 00 56 49.2 0.0**
LEM Lembang 45.25 214 P **P 00 56 50.9 +0.7**
comp=Z,58nm,1.0s

MTN	**Manton Dam**	**45.41**	**180**		P		**P**		**00 56 49.8**	**-1.4**
MTN	comp=Z,56nm,0.9s				IAmb		IAmb		00 56 54.5	
EKS2	**Erkin-Say**	**45.48**	**300**		P		**P**		**00 56 51.8**	**-0.1**
	SNR=6.3									
AML	**Almayashu**	**45.62**	**299**		P		**P**		**00 56 53.6**	**+0.5**
	SNR=67									
AML	**Almayashu**	**45.62**	**299**		P		**P**		**00 56 53.7**	**+0.5**
AML	**Almayashu**	**45.62**	**299**	*i*	P		**P**		**00 56 53.4**	**+0.2**
	SNR=68									
BRZS	**Berezniki**	**45.73**	**310**		*e*P		**P**		**00 56 52.6**	**-1.0**
BRZS	comp=Z,31nm,1.4s				pmax		pmax			
BRZS	**Berezniki**	**45.73**	**310**		*e*P		**P**		**00 56 52.6**	**-1.0**
	comp=Z,31nm,1.4s,baz=310									
OTUK	**Ortayu**	**46.01**	**308**		P		**P**		**00 56 55.6**	**-0.2**
GAMB	**Gambell**	**46.75**	**31**		P		**P**		**00 57 01.7**	**+0.4**
GAMB	comp=Z,22nm,1.1s				IAmb		IAmb		00 57 03.6	
GAMB	**Gambell**	**46.75**	**31**		P		**P**		**00 57 02.4**	**+1.1**
	baz=257									
BVAR	**Borovoye Array**	**47.15**	**314**		P		**P**		**00 57 04.3**	**-0.4**
BVAR	comp=Z,14nm,0.7s				PcP		**PcP**		**00 58 35.3**	**-0.8**
BRVK	**Borovoye**	**47.22**	**314**	*d*	*i*P		**P**		**00 57 04.7**	**-0.4**
BRVK	comp=Z,60nm,1.0s				pmax		pmax			
BRVK	**Borovoye**	**47.22**	**314**		P		**P**		**00 57 04.5**	**-0.6**
BRVK	**Borovoye**	**47.22**	**314**		P		**P**		**00 57 05.2**	**0.0**
DZA	**Taraz**	**47.24**	**300**		*e*P		**P**		**00 57 04.0**	**-1.5**
DZA	**Taraz**	**47.24**	**300**		*e*P		**P**		**00 57 04.0**	**-1.5**
	baz=300									
NIL	**Nilore**	**47.70**	**288**		P		**P**		**00 57 09.0**	**-0.2**
NIL	comp=Z,25nm,1.0s				pmax		pmax			
NIL	**Nilore**	**47.70**	**288**		P		**P**		**00 57 09.0**	**-0.2**
NIL	comp=Z,25nm,1.0s				IAmb		IAmb		00 57 33.8	
KK31	**Karatay Array**	**47.80**	**301**	*i*	P		**P**		**00 57 09.6**	**-0.3**
KK31	**Karatay Array**	**47.80**	**301**		P		**P**		**00 57 09.3**	**-0.5**
KKAR	**Karatay Array**	**47.80**	**301**		P		**P**		**00 57 09.1**	**-0.7**
KKAR	**Karatay Array**	**47.80**	**301**		P		**P**		**00 57 09.1**	**-0.7**
KKAR	**Karatay Array**	**47.80**	**301**		P		**P**		**00 57 09.3**	**-0.6**
KKAR	comp=Z,101nm,1.1s				IAmb		IAmb		00 57 11.0	
BTK	**Batken**	**48.10**	**297**		IAmb		IAmb		00 57 13.2	
	comp=Z,57nm,1.4s									
KNRA	**Kununurra**	**48.28**	**183**		P		**P**		**00 57 13.2**	**-0.5**
KNRA	comp=Z,53nm,1.1s				IAmb		IAmb		00 57 17.6	
IUG	**luzhnay**	**48.30**	**300**	*d*	*i*P		**P**		**00 57 13.4**	**-0.5**
IUG	**luzhnay**	**48.30**	**300**	⇓	*i*P		**P**		**00 57 13.4**	**-0.5**
	baz=300									
HYBB	**Hyderabad (bro**	**49.37**	**265**		*e*P		**P**		**00 57 22.0**	**-0.3**
HYBB					*es*P		**pP**		**00 57 25.6**	**-2.4**
HYBB					*e*PcP		**PcP**		**00 58 43.9**	**-0.8**
HYBB					*e*PP		**PP**		**00 59 17.4**	**+1.0**
HYBB					*e*S		**S**		**01 04 28.4**	**-0.1**
HYBB	comp=Z,100nm,4.4s				IVMs_BB		IVMs_BB		01 04 50.7	
ANM	**Nome**	**49.62**	**31**		P		**P**		**00 57 25.3**	**+1.8**
	baz=262									
KBL	**Kabul**	**50.81**	**290**		P		**P**		**00 57 32.5**	**-0.7**
KBL	comp=Z,28nm,1.3s				pmax		pmax			
KBL	**Kabul**	**50.81**	**290**		P		**P**		**00 57 32.5**	**-0.7**
KBL	**Kabul**	**50.81**	**290**		P		**P**		**00 57 32.6**	**-0.7**
	SNR=18									
FITZ	**Fitzroy Crossi**	**50.89**	**186**		LR		LR		01 18 19.2	
	comp=Z,157nm,21.8s,baz=12,slow=35									
FITZ	**Fitzroy Crossi**	**50.89**	**186**		P		**P**		**00 57 33.1**	**-0.4**
FITZ	comp=Z,25nm,1.0s				IAmb		IAmb		00 57 37.6	
WB0	**Warramunga Arr**	**52.40**	**176**		P		**P**		**00 57 43.4**	**-1.5**
WB0	comp=Z,62nm,1.4s				IAmb		IAmb		00 57 48.7	
WRAB	**Tennant Creek**	**52.57**	**176**	*de*	P		**P**		**00 57 45.1**	**-1.0**
WRAB	comp=Z,44nm,1.3s				pmax		pmax			
WRA	**Warramunga Arr**	**52.58**	**176**		P		**P**		**00 57 45.4**	**-0.7**
	comp=Z,22nm,0.9s,baz=351,slow=8.0,SNR=55									
WB2	**Warramunga Arr**	**52.58**	**176**		IAmb		IAmb		00 57 50.0	
	comp=Z,36nm,0.9s									
WR0	**Warramunga Arr**	**52.60**	**176**		IAmb		IAmb		00 57 50.3	
	comp=Z,48nm,0.9s									
SVE	**Sverdlovsk**	**52.65**	**319**	*c*	*i*P		**P**		**00 57 46.2**	**-0.1**
SVE					*e*S		**S**		**01 05 16.2**	**+3.4**
SVE	comp=Z,68nm,1.4s				pmax		pmax			
SVE	comp=Z,1μm,11.0s				MLR		MLR			
PALK	**Pallekele**	**52.98**	**253**		P		**P**		**00 57 49.9**	**+0.5**
TTA	**Tatalina**	**53.70**	**33**		P		**P**		**00 57 54.8**	**+0.7**
TTA	comp=Z,16nm,1.2s				pmax		pmax			
TTA	**Tatalina**	**53.70**	**33**		P		**P**		**00 57 54.8**	**+0.7**
TTA	**Tatalina**	**53.70**	**33**		P		**P**		**00 57 55.0**	**+0.9**
	baz=272,SNR=7.6									
ARU	**Arti**	**53.83**	**319**		P		**P**		**00 57 54.3**	**-0.7**
ARU	comp=Z,10nm,0.9s,baz=90,slow=5.3,SNR=48				PcP		**PcP**		**00 58 59.3**	**-1.2**
	comp=Z,6.0nm,0.7s,baz=2.4,slow=1.3,SNR=6.8									
ARU	**Arti**	**53.83**	**319**	*d*	*i*P		**P**		**00 57 54.2**	**-0.7**
ARU									00 58 58.3	
ARU					S		**S**		**01 05 31.5**	**+2.7**
ARU					SS		**SS**		**01 09 08.9**	**-0.5**
ARU	comp=Z,75nm,1.2s				pmax		pmax			
ARU	comp=Z,930nm,11.0s				MLR		MLR			
ARU	**Arti**	**53.83**	**319**		P		**P**		**00 57 54.0**	**-1.0**
ARU	comp=Z,76nm,1.2s				IAmb		IAmb		00 57 55.6	
N18K	**Kilae Creek**	**53.87**	**36**		P		**P**		**00 57 56.6**	**+1.3**
N18K	comp=Z,38nm,1.4s				IAmb		IAmb		00 57 58.4	
N18K	**Kilae Creek**	**53.87**	**36**		P		**P**		**00 57 57.2**	**+1.9**
	baz=274,SNR=7.3									
SVW2	**Sparrevohn**	**53.99**	**35**		P		**P**		**00 57 56.7**	**+0.5**
AB31	**Akbulak array**	**54.04**	**310**		P		**P**		**00 57 55.8**	**-0.9**
ABKAR	**Akbulak array**	**54.04**	**310**		P		**P**		**00 57 55.8**	**-0.8**
ABKAR	comp=Z,58nm,1.3s				IAmb		IAmb		00 57 57.6	
ABKAR	**Akbulak array**	**54.04**	**310**		P		**P**		**00 57 56.1**	**-0.5**
L19K	**White Mountain**	**54.27**	**34**		P		**P**		**00 57 59.1**	**+0.9**
L19K	comp=Z,40nm,1.4s				IAmb		IAmb		00 58 04.9	
L19K	**White Mountain**	**54.27**	**34**		P		**P**		**00 57 59.9**	**+1.7**
	baz=274,SNR=12									
O18K	**Koktuh Hills**	**54.27**	**37**		IAmb		IAmb		00 58 01.2	
	comp=Z,86nm,1.6s									
O18K	**Koktuh Hills**	**54.27**	**37**		P		**P**		**00 58 00.0**	**+1.8**
	baz=275,SNR=6.5									
P18K	**Big Mountain,**	**54.30**	**37**		P		**P**		**00 57 58.8**	**+0.3**
	baz=275									
J20K	**Nowinta River**	**54.48**	**31**		P		**P**		**00 58 00.6**	**+0.9**
J20K	comp=Z,29nm,1.1s				IAmb		IAmb		00 58 01.9	
J20K	**Nowinta River**	**54.48**	**31**		P		**P**		**00 58 01.2**	**+1.6**
	baz=273,SNR=18									
M19K	**Big River Lodg**	**54.50**	**34**		P		**P**		**00 58 01.1**	**+1.2**
	baz=274									
N19K	**Bonanza Creek**	**54.55**	**35**		IAmb		IAmb		00 58 38.3	
	comp=Z,40nm,1.6s									
N19K	**Bonanza Creek**	**54.55**	**35**		P		**P**		**00 58 02.0**	**+1.6**
	baz=275,SNR=5.1									
K20K	**Telida**	**54.55**	**32**		IAmb		IAmb		00 58 02.6	
	comp=Z,25nm,0.9s									
K20K	**Telida**	**54.55**	**32**		P		**P**		**00 58 02.0**	**+1.8**
	baz=274,SNR=14									
O19K	**Port Alsworth**	**54.68**	**36**		IAmb		IAmb		00 58 03.7	
	comp=Z,28nm,1.0s									
O19K	**Port Alsworth**	**54.68**	**36**		P		**P**		**00 58 02.8**	**+1.6**
	baz=276									
L20K	**Farewell, AK**	**54.70**	**33**		P		**P**		**00 58 02.9**	**+1.6**
	baz=274,SNR=9.9									
PCHI	**Peechi**	**54.71**	**259**	⇓	*e*P		**P**		**00 58 01.2**	**-0.8**
PCHI					*e*S		**S**		**01 05 49.4**	**+7.5**
H21K	**Melozitna Rive**	**54.97**	**29**		P		**P**		**00 58 04.4**	**+1.2**
	baz=273,SNR=8.8									
AKTO	**Aktyubinsk**	**55.04**	**312**		P		**P**		**00 58 03.2**	**-0.7**
	comp=Z,31nm,1.0s,baz=86,slow=6.1,SNR=36									
AKTO	comp=Z,420nm,20.6s,baz=83,slow=35				LR		LR		01 20 41.3	
PSA00	**Pilbara Seismi**	**55.12**	**193**		IAmb		IAmb		00 58 08.3	
	comp=Z,47nm,1.1s									
PSA00	**Pilbara Seismi**	**55.12**	**193**		IAmb		IAmb		00 58 08.3	
	comp=Z,27nm,1.1s									
CHUM	**Lake Minchumin**	**55.30**	**32**		P		**P**		**00 58 07.5**	**+1.9**
	baz=275,SNR=21									
I21K	**Tanana**	**55.35**	**30**		IAmb		IAmb		00 58 08.2	
	comp=Z,22nm,1.0s									
I21K	**Tanana**	**55.35**	**30**		P		**P**		**00 58 07.4**	**+1.5**
	baz=274,SNR=15									
CAST	**Castle Rocks**	**55.44**	**32**		IAmb		IAmb		00 58 08.8	
	comp=Z,23nm,1.0s									
CAST	**Castle Rocks**	**55.44**	**32**		P		**P**		**00 58 08.2**	**+1.5**
	baz=275,SNR=15									
PPLA	**Purkeypile**	**55.44**	**33**		P		**P**		**00 58 08.6**	**+1.7**
	baz=276,SNR=6.8									
OHAK	**Old Harbor**	**55.58**	**40**		P		**P**		**00 58 08.5**	**+0.8**
	baz=278,SNR=5.3									
SPCR	**Spurr Chakacha**	**55.61**	**35**		P		**P**		**00 58 09.3**	**+1.4**
	baz=277,SNR=6.4									
BPAW	**Bear Paw Mtn.**	**55.86**	**31**		IAmb		IAmb		00 58 12.4	
	comp=Z,75nm,1.8s									
BPAW	**Bear Paw Mtn.**	**55.86**	**31**		P		**P**		**00 58 11.0**	**+1.3**
	baz=276,SNR=15									
KDAK	**Kodiak Island**	**55.87**	**39**	⇓	*e*P		**P**		**00 58 10.3**	**+0.5**
KDAK	comp=Z,196nm,2.5s				pmax		pmax			
KDAK	**Kodiak Island**	**55.87**	**39**		P		**P**		**00 58 10.0**	**+0.3**
KDAK	**Kodiak Island**	**55.87**	**39**		P		**P**		**00 58 10.1**	**+0.4**
	baz=279									
COLD	**Coldfoot**	**55.92**	**27**		P		**P**		**00 58 10.3**	**+0.3**
COLD	**Coldfoot**	**55.92**	**27**		P		**P**		**00 58 11.0**	**+1.0**
	baz=274,SNR=5.2									
KTH	**Kantishna Hill**	**55.95**	**32**		P		**P**		**00 58 11.1**	**+0.7**
KTH	comp=Z,81nm,1.4s				IAmb		IAmb		00 58 13.0	
TOLK	**Toolik Lake Re**	**56.06**	**26**		P		**P**		**00 58 11.9**	**+0.8**
	baz=274,SNR=12									
HRA	**Herat**	**56.20**	**292**		P		**P**		**00 58 12.3**	**-0.5**
HRA	comp=Z,24nm,1.0s				IAmb		IAmb		00 58 14.5	
TRF	**Thorofare Moun**	**56.24**	**32**		P		**P**		**00 58 13.7**	**+1.1**
	baz=277,SNR=5.0									
ASAR	**Alice Springs**	**56.25**	**177**		P		**P**		**00 58 12.5**	**-0.4**
	comp=Z,24nm,0.9s,baz=359,slow=5.9,SNR=106									
ASAR	comp=Z,0.1nm,0.3s,baz=354,slow=10,SNR=4.1				S		**S**		**01 06 01.6**	**-0.3**
H23K	**Yukon River**	**56.30**	**29**		IAmb		IAmb		00 58 15.3	
	comp=Z,32nm,0.9s									
H23K	**Yukon River**	**56.30**	**29**		P		**P**		**00 58 14.7**	**+1.9**
	baz=276,SNR=35									
CUT	**Chulitna**	**56.38**	**33**		P		**P**		**00 58 14.8**	**+1.5**
	baz=278									
I23K	**Minto, Yukon-K**	**56.45**	**30**		IAmb		IAmb		00 59 16.9	
	comp=Z,83nm,1.9s									
I23K	**Minto, Yukon-K**	**56.45**	**30**		P		**P**		**00 58 15.1**	**+1.3**
	baz=276,SNR=7.0									
M22K	**Willow**	**56.53**	**34**		IAmb		IAmb		00 58 16.5	
	comp=Z,50nm,0.9s									
M22K	**Willow**	**56.53**	**34**		P		**P**		**00 58 15.8**	**+1.3**
	baz=278									
NEA2	**Nenana**	**56.64**	**31**		IAmb		IAmb		00 58 17.7	
	comp=Z,43nm,1.0s									
NEA2	**Nenana**	**56.64**	**31**		P		**P**		**00 58 16.4**	**+1.2**
	baz=277,SNR=32									
MCK	**McKinley**	**56.81**	**32**		IAmb		IAmb		00 58 18.4	
	comp=Z,104nm,1.9s									
MCK	**McKinley**	**56.81**	**32**		P		**P**		**00 58 16.9**	**+0.5**
	baz=278,SNR=8.4									
RC01	**Rabbit Creek A**	**56.81**	**35**		IAmb		IAmb		00 58 18.1	
	comp=Z,59nm,1.3s									
RND	**Reindeer**	**56.89**	**32**		IAmb		IAmb		00 58 18.7	
	comp=Z,42nm,1.0s									
H24K	**Noodor Dome**	**56.98**	**29**		IAmb		IAmb		00 58 20.7	
	comp=Z,37nm,1.3s									
H24K	**Noodor Dome**	**56.98**	**29**		P		**P**		**00 58 19.3**	**+1.6**
	baz=277,SNR=14									
PMR	**Palmer**	**57.02**	**34**		IAmb		IAmb		00 58 19.5	
	comp=Z,44nm,1.2s									
PMR	**Palmer**	**57.02**	**34**		P		**P**		**00 58 18.5**	**+0.6**
	baz=279									
SEW	**Seward**	**57.11**	**36**		IAmb		IAmb		00 58 43.8	
	comp=Z,71nm,1.4s									
SEW	**Seward**	**57.11**	**36**		P		**P**		**00 58 19.1**	**+0.6**
	baz=280									
TCOL	**CIGO, UAF Yank**	**57.12**	**30**		IAmb		IAmb		00 58 21.1	
	comp=Z,82nm,1.7s									
TCOL	**CIGO, UAF Yank**	**57.12**	**30**		P		**P**		**00 58 20.4**	**+1.9**
	baz=278									
COLA	**College**	**57.12**	**30**	*d*	*i*P		**P**		**00 58 19.5**	**+0.9**
COLA	comp=Z,42nm,1.6s				pmax		pmax			
COLA	**College**	**57.12**	**30**		P		**P**		**00 58 20.1**	**+1.5**
COLA	comp=Z,69nm,1.6s				IAmb		IAmb		00 58 21.1	
POKR	**Poker Plat Res**	**57.26**	**30**		IAmb		IAmb		00 58 22.3	
	comp=Z,64nm,1.1s									
POKR	**Poker Plat Res**	**57.26**	**30**		P		**P**		**00 58 21.4**	**+1.8**
	baz=278,SNR=14									
SML	**Sawmill**	**57.37**	**34**		IAmb		IAmb		00 58 21.7	
	comp=Z,39nm,1.1s									
SML	**Sawmill**	**57.37**	**34**		P		**P**		**00 58 20.9**	**+0.4**
	baz=280									
KNK	**Knik Glacier**	**57.37**	**34**		P		**P**		**00 58 21.3**	**+0.9**
	baz=280									
WAT6	**Susitna Watana**	**57.52**	**33**		P		**P**		**00 58 22.0**	**+0.4**
	baz=280									
PWL	**Port Wells**	**57.52**	**35**		IAmb		IAmb		00 58 23.1	
	comp=Z,39nm,1.1s									
PWL	**Port Wells**	**57.52**	**35**		P		**P**		**00 58 22.1**	**+0.6**
	baz=280									
ILAR	**Eielson Array**	**57.55**	**30**		P		**P**		**00 58 21.4**	**-0.2**
	comp=Z,6.2nm,0.9s,baz=275,slow=5.5,SNR=38									
DHY	**Denali Highway**	**57.60**	**32**		IAmb		IAmb		00 58 24.0	
	comp=Z,27nm,1.1s									
DHY	**Denali Highway**	**57.60**	**32**		P		**P**		**00 58 23.3**	**+1.1**
	baz=280,SNR=12									
SCM	**Sheep Creek Mo**	**57.83**	**34**		P		**P**		**00 58 24.5**	**+0.8**
	baz=280									
GLI	**Glacier Island**	**58.12**	**35**		IAmb		IAmb		00 58 32.0	
	comp=Z,87nm,1.6s									
GLI	**Glacier Island**	**58.12**	**35**		P		**P**		**00 58 26.5**	**+0.8**
	baz=281									
K24K	**Donelly Dome**	**58.18**	**31**		P		**P**		**00 58 26.4**	**+0.2**
	baz=280									
GEYT	**Alibeck**	**58.20**	**297**		P		**P**		**00 58 26.6**	**-0.1**
GEYT	comp=Z,4.4nm,0.8s,baz=67,slow=4.8,SNR=12				LR		LR		01 23 51.2	
	comp=Z,240nm,19.1s,baz=63,slow=36									
J25K	**Salcha River,**	**58.22**	**30**		P		**P**		**00 58 27.4**	**+1.0**
	baz=280,SNR=8.5									
KIRV	**Kirov**	**58.35**	**323**		P		**P**		**00 58 26.8**	**-0.6**
	comp=Z,28nm,1.1s,baz=113,slow=3.1,SNR=17									
KIRV	**Kirov**	**58.35**	**323**	*d*	*i*P		**P**		**00 58 26.5**	**-0.8**
FID	**Port Fidalgo**	**58.44**	**35**		IAmb		IAmb		00 58 29.8	
	comp=Z,72nm,1.4s									
PAX	**Paxson**	**58.47**	**32**		P		**P**		**00 58 29.1**	**+0.9**
	baz=281,SNR=5.9									
KLU	**Klutina**	**58.55**	**34**		IAmb		IAmb		00 58 31.0	
	comp=Z,24nm,1.1s									
KLU	**Klutina**	**58.55**	**34**		P		**P**		**00 58 29.3**	**+0.4**
	baz=282									
RIDG	**Independent Ri**	**58.60**	**31**		IAmb		IAmb		00 58 30.7	
	comp=Z,95nm,2.0s									
RIDG	**Independent Ri**	**58.60**	**31**		P		**P**		**00 58 29.0**	**-0.1**
	baz=281,SNR=8.7									
DIV	**Divide**	**58.70**	**34**		IAmb		IAmb		00 58 32.0	
	comp=Z,46nm,1.0s									
HARP	**HAARP**	**58.73**	**33**		P		**P**		**00 58 31.3**	**+1.3**
	baz=282,SNR=5.9									
SCRK	**Sand Creek**	**58.93**	**31**		IAmb		IAmb		00 58 33.0	
	comp=Z,35nm,1.0s									
SCRK	**Sand Creek**	**58.93**	**31**		P		**P**		**00 58 31.7**	**+0.3**
	baz=282,SNR=35									
DOT	**Dot Lake**	**58.96**	**31**		IAmb		IAmb		00 58 33.0	
	comp=Z,24nm,1.0s									
J26L	**Joseph Creek**	**59.00**	**30**		P		**P**		**00 58 32.0**	**+0.1**
	baz=282,SNR=17									
N25K	**Chitina, Valde**	**59.15**	**34**		P		**P**		**00 58 34.5**	**+1.6**
	baz=283,SNR=7.7									
MENT	**Mentasta**	**59.26**	**32**		IAmb		IAmb		00 58 36.2	
	comp=Z,33nm,1.0s									
BMRM	**Bremner River**	**59.29**	**34**		P		**P**		**00 58 34.9**	**+1.0**
	baz=283,SNR=12									
L26K	**Log Cabin Wild**	**59.41**	**32**		IAmb		IAmb		00 58 36.5	
	comp=Z,23nm,1.0s									
L26K	**Log Cabin Wild**	**59.41**	**32**		P		**P**		**00 58 36.0**	**+1.4**
	baz=283,SNR=10.0									
PRGR	**Permogore**	**59.54**	**326**		*e*P		**P**		**00 58 32.3**	**-3.2**
PRGR					pmax		pmax			
	comp=Z,29nm,1.4s									
GLB	**Gilahina Butte**	**59.56**	**34**		IAmb		IAmb		00 58 38.2	
	comp=Z,52nm,1.4s									
M26K	**Nabesna, AK**	**59.71**	**33**		P		**P**		**00 58 38.1**	**+1.4**
	baz=284,SNR=29									
VRDI	**Verde Repeater**	**59.77**	**34**		IAmb		IAmb		00 58 39.1	
	comp=Z,30nm,0.9s									
MCARA	**McCarthy VSAT**	**59.94**	**34**		P		**P**		**00 58 39.7**	**+1.4**
	baz=284,SNR=9.2									
EGAK	**Eagle**	**59.95**	**30**		IAmb		IAmb		00 58 43.2	
	comp=Z,46nm,1.7s									
EGAK	**Eagle**	**59.95**	**30**		P		**P**		**00 58 39.0**	**+0.7**
	baz=284									
L27K	**Beaver Creek,**	**60.08**	**32**		P		**P**		**00 58 40.4**	**+1.1**
L27K	comp=Z,29nm,0.9s				IAmb		IAmb		00 58 42.0	
L27K	**Beaver Creek,**	**60.08**	**32**		P		**P**		**00 58 40.8**	**+1.5**
	baz=284,SNR=27									
BCAR	**Beaver Creek A**	**60.09**	**32**		P		**P**		**00 58 40.2**	**+0.8**
TGL	**Tana Glacier**	**60.18**	**34**		IAmb		IAmb		00 58 42.2	
	comp=Z,41nm,0.9s									
M27K	**Edge Creek, AK**	**60.23**	**32**		IAmb		IAmb		00 58 42.7	
	comp=Z,19nm,0.8s									
M27K	**Edge Creek, AK**	**60.23**	**32**		P		**P**		**00 58 41.6**	**+1.1**
	baz=284,SNR=14									
WAX	**Waxell Ridge**	**60.25**	**35**		IAmb		IAmb		00 58 49.0	
	comp=Z,46nm,1.2s									
ISLE	**Juniper Island**	**60.46**	**34**		IAmb		IAmb		00 58 43.8	
	comp=Z,29nm,0.9s									
BARN	**Barnard Glacie**	**60.66**	**34**		IAmb		IAmb		00 58 45.2	
	comp=Z,22nm,0.9s									
BVCY	**Beaver Creek**	**60.67**	**32**		P		**P**		**00 58 44.4**	**+1.1**
	baz=285									
CTG	**Chitna Glacier**	**60.83**	**34**		P		**P**		**00 58 45.6**	**+1.0**
	baz=286,SNR=9.9									
CTGM	**Chitina Glacie**	**60.84**	**34**		IAmb		IAmb		00 58 46.9	
	comp=Z,33nm,1.0s									
DAWY	**Dawson**	**60.87**	**30**		P		**P**		**00 58 45.4**	**+0.7**
	baz=286,SNR=10.0									
BELG	**Belogornoye**	**60.89**	**316**	*d*	*i*P		**P**		**00 58 43.7**	**-1.2**
BELG	comp=Z,19nm,1.3s				pmax		pmax			
I29M	**Ogilvie Camp,**	**60.97**	**29**		P		**P**		**00 58 46.5**	**+1.1**
	baz=286,SNR=11									
YUK3	**Moose Creek**	**61.02**	**33**		P		**P**		**00 58 46.9**	**+1.0**
	baz=286,SNR=9.6									
EPYK	**Eagle Plains**	**61.32**	**27**		P		**P**		**00 58 48.6**	**+0.9**
	baz=287,SNR=42									
PCA	**Pinnacle**	**61.59**	**35**		IAmb		IAmb		00 58 51.9	
	comp=Z,31nm,0.8s									
PINM	**Pinnacle**	**61.59**	**35**		P		**P**		**00 58 50.7**	**+1.0**
	baz=287									
INK	**Inuvik**	**61.92**	**25**		P		**P**		**00 58 51.8**	**+0.2**
	comp=Z,15nm,1.0s,baz=285,slow=7.1,SNR=47									
INK	**Inuvik**	**61.92**	**25**		IAmb		IAmb		00 58 53.4	
	comp=Z,30nm,1.1s									
INK	**Inuvik**	**61.92**	**25**		P		**P**		**00 58 52.2**	**+0.6**
	baz=288,SNR=23									
HOPEN	**Hopen**	**61.95**	**345**		*e*P		**P**		**00 58 51.6**	**-0.1**
YUK4	**Talbot Arm**	**61.98**	**33**		P		**P**		**00 58 53.8**	**+1.4**
	baz=288,SNR=11									
PNL	**Peninsula**	**62.13**	**35**		P		**P**		**00 58 54.9**	**+1.7**
	baz=288,SNR=5.3									
YUK6	**Outpost Mounta**	**62.23**	**33**		P		**P**		**00 58 56.0**	**+1.8**
	baz=288,SNR=12									
LVZ	**Lovozero**	**62.32**	**335**	⇑	*e*P		**P**		**00 58 55.7**	**+1.3**
LVZ	comp=Z,108nm,2.5s				pmax		pmax			
M30M	**Minto, Yukon**	**62.43**	**31**		P		**P**		**00 58 56.8**	**+1.6**
M30M	**Minto, Yukon**	**62.43**	**31**		P		**P**		**00 58 56.9**	**+1.7**
	baz=288,SNR=17									
KLMR	**Klimovskoe**	**62.59**	**327**		*e*P		**P**		**00 58 52.2**	**-4.0**
KLMR					*e*				00 59 33.2	
KLMR	comp=Z,48nm,1.1s				pmax		pmax			
KLMR	**Klimovskoe**	**62.59**	**327**		*e*P		**P**		**00 58 52.2**	**-4.0**
KLMR	comp=Z,48nm,1.1s				AMP				00 58 56.4	
KLMR					*e*PcP		**PcP**		**00 59 33.3**	**-1.8**
KLMR					*e*SS		**SS**		**01 11 19.2**	**-7.6**
KLMR					*e*SS		**SS**		**01 11 19.2**	**-7.6**
KLMR					LQ		LQ		01 20 57.6	
KLMR					LQ

ARA0 ARCESS Array S 64.77 338 *e*P P 00 59 09.9 -0.6
ARCES ARCESS Array B 64.77 338 P P 00 59 09.1 -1.4
comp=Z,11nm,0.9s,baz=68,slow=7.0,SNR=21
ARCES ARCESS Array B 64.77 338 P P 00 59 09.9 -0.6
ARCES pmax pmax
comp=Z,24nm,1.1s
ARCES ARCESS Array B 64.77 338 P P 00 59 09.9 -0.6
ARCES lAmb lAmb 00 59 10.2
comp=Z,24nm,1.1s
LKRN Lenkeran, Azer 64.79 301 P P 00 59 10.4 -0.7
HATD Hatta, Dubai 64.80 284 P P 00 59 12.0 +0.5
MMPY Sheldon Lake, 64.81 30 P P 00 59 12.5 +1.5
baz=293,SNR=15
HAMF Hammerfest 64.82 339 *e*P P 00 59 10.3 -0.5
ASHO Ashiyiah 64.92 284 P P 00 59 12.6 +0.4
ASHO Ashiyiah 64.92 284 P P 00 59 12.4 +0.1
SEKA Sheki 64.95 304 P P 00 59 11.6 -0.6
MHTO MHTO 65.00 280 P P 00 59 12.6 -0.2
SNR=11
SIT Sitka 65.04 37 P P 00 59 14.4 +2.0
baz=292
NAZ Nazwa, Dubai 65.11 285 P P 00 59 13.1 -0.4
ARQ Araqi 65.14 283 P P 00 59 13.9 +0.2
SNR=7.5
STKA Stephens Creek 65.14 170 P P 00 59 13.5 +0.3
comp=Z,24nm,0.7s,baz=341,slow=7.8,SNR=20
STKA Stephens Creek 65.14 170 *d* *i*P P 00 59 13.4 +0.1
GROC Groznyy 65.15 307 *e*P P 00 59 12.0 -1.4
GROC *e* 00 59 47.1
GROC pmax pmax
comp=Z,41nm,1.0s
GROC MLR MLR
comp=Z,1μm,14.0s
ZKTA Zakatala 65.19 305 P P 00 59 12.5 -1.2
MNGR Mingechevir, A 65.20 304 P P 00 59 13.4 -0.3
FAQ Al Faqa, Dubai 65.27 284 P P 00 59 14.5 0.0
MOS Moscow 65.33 322 *e*P P 00 59 12.7 -1.6
MOS *e*S S 01 08 04.0 +6.8
MOS pmax pmax
comp=Z,126nm,1.5s
MOS pmax pmax
comp=Z,431nm,1.9s
MOS MLR MLR
comp=Z,800nm,13.0s
MOS MLR MLR
comp=E,600nm,14.0s
ALNE Al Ain 65.45 284 P P 00 59 16.1 +0.4
SNR=7.9
ALNE Al Ain 65.45 284 *i* P P 00 59 15.8 +0.1
SNR=6.8
BBOO Buckleboo 65.47 175 P P 00 59 15.1 -0.3
EUNU Eureka 65.48 7 lAmb lAmb 00 59 16.0
comp=Z,19nm,0.9s
KTK1 Kautokeino 65.73 338 *e*P P 00 59 15.8 -0.9
GANJ Ganja 65.78 304 P P 00 59 16.9 -0.7
LPSR Galich'ya Gora 65.82 318 *e*P P 00 59 16.5 -1.0
LPSR pmax pmax
comp=Z,60nm,1.0s
LPSR MLR MLR
comp=Z,960nm,14.0s
ARMA Armidale 65.89 160 lAmb lAmb 00 59 23.7
comp=Z,34nm,1.1s
VORR Voronezh 66.02 317 *e*P P 00 59 16.9 -2.0
VORR pmax pmax
comp=Z,132nm,2.1s
OBN Obninsk 66.12 321 LR LR 01 29 24.6
comp=Z,59nm,19.3s,baz=18,slow=37
OBN Obninsk 66.12 321 *d* *i*P P 00 59 18.2 -1.3
OBN *e* 01 01 43.8
OBN *e*S S 01 08 06.0 -0.9
OBN pmax pmax
comp=Z,121nm,1.7s
OBN MLR MLR
comp=Z,767nm,15.0s
OBN Obninsk 66.12 321 P P 00 59 18.1 -1.3
VSR Storozhevoye 66.23 317 *e*P P 00 59 18.9 -1.3
VSR pmax pmax
comp=Z,50nm,0.9s
VSR MLR MLR
comp=Z,560nm,9.0s
VORD Divnogorie 66.25 316 *e*P P 00 59 18.7 -1.6
VORD pmax pmax
comp=Z,20nm,1.3s
GOF Gofitskoye 66.26 309⇓ *i*P P 00 59 20.4 -0.1
GOF pmax pmax
comp=Z,369nm,2.3s
VALR Valaam 66.30 329 *de*P P 00 59 19.4 -1.0
VALR pmax pmax
comp=Z,62nm,0.9s
JETT Jettan, Norway 66.33 339 *e*P P 00 59 19.4 -1.3
NCK Nalchik 66.52 308 *de*P P 00 59 21.6 -0.6
NCK pmax pmax
comp=Z,79nm,2.4s
UMZA Um Al Zommool 66.54 283 P P 00 59 21.9 -0.7
TGTN Hyland Airport 66.54 31 P P 00 59 23.6 +1.4
baz=296,SNR=23
ZEI Tsey 66.59 307 *e*P P 00 59 19.6 -3.4
ZEI pmax pmax
comp=Z,27nm,1.0s
TRO Tromso 66.74 339 *e*P P 00 59 21.4 -1.7
KBZ Khabaz 66.89 308 P P 00 59 24.4 -0.1
comp=Z,47nm,0.9s,baz=69,slow=3.5,SNR=66
KBZ Khabaz 66.89 308 *d* *i*P P 00 59 24.1 -0.4
KBZ pmax pmax
comp=Z,76nm,1.1s
KIV Kislovodsk 66.94 308 *e*P P 00 59 24.7 -0.3
KIV *e*S S 01 08 18.2 +0.8
KIV pmax pmax
comp=Z,83nm,1.0s
KIV pmax pmax
comp=Z,70nm,2.9s
KIV MLR MLR
comp=Z,469nm,17.0s
KIV Kislovodsk 66.94 308 P P 00 59 24.9 -0.1
KIV Kislovodsk 66.94 308 *i* P P 00 59 25.1 +0.1
SNR=33
NAX Nakhchivan 66.95 303 P P 00 59 23.9 -1.3
ONI Oni 66.98 307 lAmb lAmb 00 59 27.1
comp=Z,42nm,1.2s
GNI Garni 67.09 304 *d* *i*P P 00 59 26.7 +0.6
GNI pmax pmax
comp=Z,64nm,1.3s
GNI Garni 67.09 304 P P 00 59 26.8 +0.6
GNI Garni 67.09 304 P P 00 59 26.4 +0.3
NEY Neytrino 67.20 308 *ce*P P 00 59 27.9 +1.1
NEY pmax pmax
comp=Z,19nm,1.6s
JRN Qarnain Island 67.42 286 P P 00 59 26.8 -1.4
WRGLY Wrigley 67.76 28 P P 00 59 30.8 +1.1
baz=299,SNR=10.0
MZR Muzera 67.78 284 *i* P P 00 59 29.8 -0.8
SNR=6.5
FIA1 FINESS Array S 68.32 330 lAmb lAmb 00 59 33.2
comp=Z,32nm,0.9s
FINES FINESS Array B 68.32 330 P P 00 59 32.1 -1.2
comp=Z,23nm,0.8s,baz=78,slow=5.5,SNR=63
RES Resolute Bay 68.64 12 lAmb lAmb 00 59 40.4
comp=Z,34nm,1.1s
SLWR Sila 68.75 286 P P 00 59 36.0 -0.6
STEI Steigen 68.80 339 *e*P P 00 59 35.0 -1.1
SAKB Bahrain 68.81 288 P P 00 59 36.0 -0.9
DAG Danmarks Havn 69.03 353 *i* P P 00 59 36.0 -1.5
DAG lAmb lAmb 00 59 38.6
comp=Z,9.7nm,0.8s
DAG IVmB_BB 00 59 39.0
comp=Z,502nm,10.3s
DAG Danmarks Havn 69.03 353 *i* P P 00 59 35.6 -1.9
DAG lAmb lAmb 00 59 38.6
comp=Z,9.7nm,0.8s
DAG IVmBBB 00 59 39.1
comp=Z,502nm,10.3s
SOC Sochi 69.05 309 *d* *i*P P 00 59 36.9 -1.2
SOC *e* 01 02 07.5
SOC *e*PPP PPP 01 03 48.0
SOC *e*S S 01 08 43.2 +0.8
SOC *e*SS SS 01 13 04.4 -3.3
SOC pmax pmax
comp=Z,35nm,0.9s
SOC MLR MLR
comp=Z,485nm,16.0s
FAUS Fauske 69.11 338 *e*P P 00 59 37.4 -0.7
DOK Doka 69.30 279 P P 00 59 39.3 -0.9
VSU Vasula 69.49 327 *d* *i*P P 00 59 39.6 -0.9
VSU pmax pmax
comp=Z,126nm,1.0s

VSU Vasula 69.49 327 *e*P P 00 59 40.0 -0.6
MEF Metsahovi 69.64 329 *e*P P 00 59 40.6 -0.8
GURO Guroymak-BITLI 69.67 303 lAmb lAmb 00 59 44.2
comp=Z,32nm,1.1s
CAN Canberra 69.88 164 lAmb lAmb 00 59 48.8
comp=Z,38nm,1.2s
KOPT Kop Dagi 70.09 305 lAmb lAmb 00 59 47.1
comp=Z,39nm,1.2s
MOR8 Moi Rana 70.10 337 *e*P P 00 59 42.1 -2.2
TULEG Thule 70.19 5 *i* P P 00 59 41.1 -3.5
TULEG lAmb lAmb 00 59 44.4
comp=Z,14nm,0.8s
TULEG Thule 70.19 5 *i* P P 00 59 42.2 -2.4
TULEG lAmb lAmb 00 59 44.6
comp=Z,14nm,0.8s
RAF Rauma 70.33 331 *e*P P 00 59 45.2 -0.5
ABTO Aybut 70.61 278 P P 00 59 47.1 -1.1
SNR=7.5
MTSE Matsula 70.68 328 *e*P P 00 59 47.3 -0.6
MNK Minsk 70.89 323 *i* P P 00 59 49.2 0.0
MNK *i* 01 00 09.8
MNK *i* 01 02 25.7
MNK *i* PPP PPP 01 04 08.3
MNK *i* S S 01 09 03.7 +0.1
MNK *i* 01 09 52.7
MNK *i* SS SS 01 13 37.6 +2.1
MNK pmax pmax
comp=Z,48nm,0.9s
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK pmax pmax
comp=N,27nm,1.1s
MNK MLR MLR
comp=Z,513nm,16.0s
MNK MLR MLR
comp=E,92nm,17.0s
MNK MLR MLR
comp=N,217nm,18.0s
MNK Minsk 70.89 323 *i* P P 00 59 49.2 0.0
comp=E,4.0nm,1.0s
MNK *i* P P 00 59 49.2 0.0
comp=N,27nm,1.1s
MNK *i* P P 00 59 49.2 0.0
comp=Z,48nm,0.9s,baz=239
MNK *i* PcP PcP 01 00 09.8 0.0
MNK *i* PP PP 01 02 25.7 -0.2
MNK *i* PPP PPP 01 04 08.3
MNK *i* S S 01 09 03.8 +0.1
MNK *i* SS SS 01 13 37.6 +2.1
MNK *i* SSS SSS 01 16 56.3
MNK *i* LQ LQ 01 26 00.6
MNK *i* LR LR 01 31 23.8
MNK *i* LRM MLR 01 33 48.2
comp=Z,513nm,15.9s
MNK *i* LRM MLR 01 33 49.0
comp=E,92nm,16.6s
MNK *i* LRM MLR 01 33 59.8
comp=N,217nm,18.1s
BBB Bella Bella 70.93 40 LR LR 01 30 02.5
comp=N,172nm,20.0s,baz=306,slow=35
IDID Didziasalis 71.06 324 *e*P P 00 59 49.9 -0.4
ISAL Salakas 71.23 325 *e*P P 00 59 51.1 -0.2
NACGM Naroch 71.24 324 *e*P P 00 59 50.7 -0.7
IIGN Ignalina 71.29 324 *e*P P 00 59 51.3 -0.4
TOO Toolangi 71.34 168 P P 00 59 53.2 +1.1
TOO pmax pmax
comp=Z,32nm,1.1s
TOO Toolangi 71.34 168 P P 00 59 53.2 +1.1
TOO lAmb lAmb 00 59 57.6
comp=Z,32nm,1.1s
DBG Daneborg 71.43 352 *i* P P 00 59 49.6 -2.6
DBG IVmB_BB 00 59 54.0
comp=Z,461nm,4.7s
DBG lAmb lAmb 01 00 04.0
comp=Z,3.5nm,0.8s
DBG Daneborg 71.43 352 *i* P P 00 59 49.8 -2.4
DBG lAmb lAmb 01 00 04.0
comp=Z,3.5nm,0.8s
YKA Yellowknife Ar 71.58 26 P P 00 59 53.6 +0.3
comp=Z,4.1nm,0.7s,baz=304,slow=6.0,SNR=85
NSS Namsos 71.93 337 *e*P P 00 59 53.7 -1.6
SLIT Slitere, Latvi 71.94 328 *e*P P 00 59 54.2 -1.3
SIM Simferopol' 72.01 312 *e*P P 00 59 54.7 -1.5
SIM pmax pmax
comp=Z,67nm,1.5s
AKASG Malin Array Be 72.08 319 P P 00 59 55.5 -1.0
comp=Z,42nm,0.9s,baz=51,slow=5.6,SNR=54
AKBB Malin Array Si 72.08 319 *ce*P P 00 59 55.0 -1.5
KIEV Kiev 72.09 319 P P 00 59 55.0 -1.6
PABE Paberze 72.31 325 *e*P P 00 59 57.5 -0.2
JMIC Jan Mayen 72.53 347 LR LR 01 34 53.4
comp=Z,182nm,18.7s,baz=68,slow=38
SOCY Socotra 72.60 273 P P 00 59 58.0 -2.3
SOCY Socotra 72.60 273 P P 00 59 58.1 -2.2
SNR=12
TOKA Tokat 72.68 307 lAmb lAmb 01 00 01.6
comp=Z,40nm,1.1s
UPP Uppsala 72.68 331 *e*P P 00 59 58.6 -1.3
PBUR Paburge 72.99 326 *e*P P 01 00 00.8 -1.0
TBLU Trondheim 73.33 336 *e*P P 01 00 02.6 -1.2
SUW Suwalki 73.50 324 *e*P P 01 00 03.8 -1.0
SUW Suwalki 73.50 324 *e*P P 01 00 03.8 -1.0
VIKU Vikbolandet 73.87 330 *e*P P 01 00 06.0 -0.9
SORM Soroca 73.88 317 ⇓P P 01 00 06.2 -1.0
SORM Soroca 73.88 317 P P 01 00 06.2 -1.0
KIS Kishinev 74.19 316 *e*P P 01 00 08.0 -1.1
KIS *e*L L 01 34 06.0
KIS LRM MLR 01 35 12.0
comp=Z,400nm,13.5s
KIS Kishinev 74.19 316 *e*P P 01 00 08.0 -1.1
KIS MLR MLR
comp=Z,400nm,13.5s
MILM Milestii Mici 74.24 316⇓ *i*P P 01 00 07.5 -1.8
comp=Z,160nm,2.0s
MILM LRM MLR 01 35 15.0
comp=Z,1μm,13.5s
MILM Milestii Mici 74.24 316⇓ P P 01 00 08.3 -1.1
MILM Milestii Mici 74.24 316 *d* *i*P P 01 00 07.5 -1.8
MILM pmax pmax
comp=Z,160nm,2.0s
MILM MLR MLR
comp=Z,1μm,13.5s
NC303 NORSAR Array S 74.27 334 lAmb lAmb 01 00 10.3
comp=Z,21nm,0.9s
HORU Horodok 74.39 319 P P 01 00 09.4 -0.8
NB2 NORSAR Subarra 74.44 334 P P 01 00 08.5 -1.8
comp=Z,28nm,1.2s,baz=50,slow=5.9
NB2 NORSAR Subarra 74.44 334 P P 01 00 08.5 -1.8
baz=50,slow=5.9
NOA NORSAR Array B 74.44 334 P P 01 00 08.7 -1.6
comp=Z,12nm,0.9s,baz=49,slow=5.7,SNR=50
NC204 NORSAR Array S 74.45 334 lAmb lAmb 01 00 11.6
comp=Z,44nm,1.0s
NORES NORESS Array B 74.52 334 P P 01 00 09.5 -1.2
KLNR Kaliningrad 74.61 326 *i* P P 01 00 10.5 -0.8
KLNR pmax pmax
comp=Z,61nm,0.8s
NBO00 NORSAR Array S 74.61 334 lAmb lAmb 01 00 14.1
comp=Z,46nm,1.2s
NAO01 NORSAR Array S 74.69 334 lAmb lAmb 01 00 14.6
comp=Z,68nm,1.4s
KMPD K-Podol'skiy 74.72 318 P P 01 00 11.0 -1.1
LEOM Leova 74.80 316 ⇑P P 01 00 11.7 -1.0
LEOM Leova 74.80 316 P P 01 00 11.6 -1.0
IAS Iasi 74.82 317 P P 01 00 12.8 +0.1
BR131 Keskin Array S 74.87 308 *d* *i*P P 01 00 12.5 -0.8
BR131 Keskin Array S 74.87 308 P P 01 00 13.0 -0.3
SNR=23
BRTR Keskin Array B 74.87 308 P P 01 00 12.7 -0.7
comp=Z,24nm,1.0s,baz=94,slow=5.0,SNR=95
BRTR Keskin Array B 74.87 308 *ce*P P 01 00 12.6 -0.8
BRTR pmax pmax
comp=Z,24nm,1.0s
VASR Vaslui 74.98 316 ⇓P P 01 00 13.5 -0.1
LLLB Lillooet 75.08 39 lAmb lAmb 01 00 16.5
comp=Z,50nm,1.9s
TLCR 75.14 314 ⇓P P 01 00 14.5 -0.1
TLCR 75.14 314 P P 01 00 14.4 -0.1
AKN Aaknes 75.17 336 *e*P P 01 00 14.2 -0.3
VLDR Vladesti 75.23 315 ⇑P P 01 00 15.0 -0.1
JURR Jurilovca 75.32 314 ⇓P P 01 00 15.1 -0.5
VARL Varlezi 75.34 315 ⇑P P 01 00 15.7 0.0
ANTO Ankara 75.36 308 P P 01 00 16.2 +0.1
ANTO pmax pmax
comp=Z,56nm,1.3s

ANTO Ankara 75.36 308 P P 01 00 16.2 +0.1
ANTO lAmb lAmb 01 00 17.1
comp=Z,56nm,1.2s
SCTR Scanteiesti 75.37 315 ⇑P P 01 00 16.0 +0.1
LVV L'vov 75.38 320 *e*P P 01 00 15.1 -0.8
LVV MLR MLR
comp=E,400nm,18.0s
LVV MLR MLR
comp=N,300nm,17.0s
LVV MLR MLR
comp=Z,600nm,17.0s
TATR Tatarca 75.38 315 ⇑P P 01 00 15.9 0.0
GHRR 75.52 316 ⇑P P 01 00 16.6 -0.2
SLCR Slobozia Conac 75.55 315 ⇑P P 01 00 16.1 -0.8
TPGR Topolog 75.55 314 ⇓P P 01 00 16.8 -0.2
CFR Carcaliu 75.55 315 ⇓P P 01 00 16.4 -0.5
CFR Carcaliu 75.55 315 P P 01 00 16.4 -0.5
KSV Kosov 75.64 318 P P 01 00 15.4 -2.0
TESR Tescani 75.72 316 ⇑P P 01 00 17.6 -0.3
TIRR Tirgusor 75.77 314 ⇓P P 01 00 17.9 -0.4
TIRR Tirgusor 75.77 314 P P 01 00 17.8 -0.4
PANC Panciu 75.77 316 ⇓P P 01 00 18.4 +0.2
MORS Morshin 75.83 320 P P 01 00 18.1 -0.4
ODBI Odobesti 75.88 316 ⇓P P 01 00 20.1 +1.2
BEL Belsk 75.92 323 P P 01 00 19.7 +0.7
HARR Harsova 75.94 314 ⇑P P 01 00 19.1 0.0
HARR Harsova 75.94 314 P P 01 00 19.1 0.0
BURAR Bucovina Array 75.94 318 ⇓P P 01 00 19.3 0.0
BURAR Bucovina Array 75.94 318 P P 01 00 19.3 0.0
BURAR Bucovina Array 75.94 318 lAmb lAmb 01 00 20.7
comp=Z,48nm,1.1s
TLBR Topalu 75.94 314 ⇓P P 01 00 19.3 +0.1
MANR Mangalia 76.00 313 ⇓P P 01 00 18.9 -0.6
VRI Vrincioaia 76.02 316 ⇓P P 01 00 19.8 +0.1
VRI Vrincioaia 76.02 316 P P 01 00 19.8 +0.1
PLOR Plostina 76.07 316 ⇑P P 01 00 20.0 0.0
PLOR Plostina 76.07 316 P P 01 00 20.0 0.0
D03D Eldon 76.12 42 P P 01 00 22.0 +1.8
baz=304
GRER 76.14 315 ⇓P P 01 00 18.7 -1.6
KWP Kalwaria Pacla 76.19 321 *e*P P 01 00 20.4 -0.1
KWP Kalwaria Pacla 76.19 321 P P 01 00 20.5 -0.1
BISRR Bisoca 76.20 315 ⇓P P 01 00 21.5 +0.8
B05A Bryant 76.27 41 P P 01 00 21.7 +0.6
baz=304
PSN Preselentsi 76.32 313 P P 01 00 21.8 +0.4
ICOR Ion Corvin 76.32 314 ⇑P P 01 00 22.0 +0.6
COVR Voineasa-Covas 76.34 316 ⇑P P 01 00 21.7 +0.2
BHL Bhannes 76.40 302 *e*P P 01 00 21.6 -0.6
OZUR 76.45 316 ⇑P P 01 00 22.7 +0.6
B06A Marblemount 76.47 41 lAmb lAmb 01 00 27.6
comp=Z,13nm,0.7s
NEHR Nehoiu 76.51 316 ⇓P P 01 00 22.8 +0.3
ISR Istrita 76.53 315 ⇑P P 01 00 23.2 +0.5
ISR Istrita 76.53 315 P P 01 00 23.2 +0.5
SHBL Chebaa 76.62 301 *e*P P 01 00 22.9 -0.6
RASA Rasa 76.66 314 ⇑P P 01 00 23.4 +0.1
MLR Muntele Rosu 76.69 316 ⇑P P 01 00 23.5 -0.1
MLR Muntele Rosu 76.69 316 P P 01 00 23.5 -0.1
ARCR ARCALIA 76.72 318 ⇓P P 01 00 24.5 +0.9
BSD Bornholm Skovb 76.74 328 *i* P P 01 00 19.1 -4.4
BSD lAmb lAmb 01 00 23.0
comp=Z,21nm,0.8s
BSD Bornholm Skovb 76.74 328 *i* P P 01 00 20.4 -3.1
BSD lAmb lAmb 01 00 23.1
comp=Z,21nm,0.8s
DOPR Dopca 76.75 316 ⇑P P 01 00 24.4 +0.6
KOLS Kolonicke sedl 76.82 320 *e*P P 01 00 23.9 -0.3
KOLS pmax pmax
comp=Z,23nm,0.8s
KOLS Kolonicke sedl 76.82 320 *e*P P 01 00 23.9 -0.3
SECR 76.86 315 ⇓P P 01 00 25.3 +0.8
BMR Baia Mare 76.87 319 P P 01 00 25.2 +0.8
TRSU Trosnyk 76.93 319 P P 01 00 24.9 +0.2
SULR 76.95 315 ⇑P P 01 00 25.2 +0.3
UZH Uzhgorod 76.99 320 *e*P P 01 00 23.0 -2.0
UZH *e* 01 00 27.0
UZH *i* 01 00 32.7
PRD Provadia 77.06 313 P P 01 00 26.2 +0.7
VOIR 77.24 316 ⇓P P 01 00 26.2 -0.4
VOIR 77.24 316 P P 01 00 26.2 -0.4
CRVS Cervenica-Dubn 77.28 320 *e*P P 01 00 26.9 +0.2
CRVS pmax pmax
comp=Z,204nm,2.1s
CRVS Cervenica-Dubn 77.28 320 *e*P P 01 00 26.9 +0.2
BLS5 Blasjo 77.29 334 *e*P P 01 00 26.4 -0.2
CJR Cluj-Napoca 77.36 318 P P 01 00 28.7 +1.4
OJC Ojcow 77.38 322 *e*P P 01 00 27.1 -0.2
OJC Ojcow 77.38 322 P P 01 00 27.0 -0.2
RAZG Razgrad 77.41 314 ⇑P P 01 00 27.2 -0.3
COP Copenhagen 77.46 329 *i* P P 01 00 25.1 -2.4
COP lAmb lAmb 01 00 27.2
comp=Z,163nm,0.8s
COP Copenhagen 77.46 329 *i* P P 01 00 26.0 -1.5
COP lAmb lAmb 01 00 27.3
comp=Z,163nm,0.8s
MESR Meseseni 77.47 318 ⇓P P 01 00 28.7 +0.9
CSS Mathiatis 77.51 304 lAmb lAmb 01 00 28.6
comp=Z,46nm,0.9s
ARR Arges 77.52 316 ⇑P P 01 00 28.8 +0.6
NIE Niedzica 77.59 321 *e*P P 01 00 29.5 +1.0
NIE Niedzica 77.59 321 P P 01 00 24.9 -3.6
HUMR Humele 77.79 315 ⇓P P 01 00 29.6 0.0
EDM Edmonton 77.79 34 lAmb lAmb 01 00 35.1
comp=Z,47nm,1.4s
DRGR 77.81 318 ⇑P P 01 00 30.1 +0.2
DRGR 77.81 318 P P 01 00 30.0 +0.2
COPA Copaceanca 77.87 315 ⇑P P 01 00 29.5 -0.6
GOET G??ttrup 77.89 332 *i* P P 01 00 27.9 -1.9
GOET lAmb lAmb 01 00 29.6
comp=Z,27nm,0.9s
GOET G??ttrup 77.89 332 *i* P P 01 00 28.1 -1.8
GOET lAmb lAmb 01 00 29.6
comp=Z,27nm,0.9s
SZH Strazhica 77.92 314 P P 01 00 29.8 -0.6
LTVH Ltavrtes, Hu 77.92 319 ⇓P P 01 00 29.7 -0.6
LTVH Ltavrtes, Hu 77.92 319 P P 01 00 30.4 +0.1
JMB Yambol 77.97 313 P P 01 00 31.4 +0.8
ICESG Greenland Ices 78.15 357 *i* P P 01 00 29.4 -2.2
ICESG lAmb lAmb 01 00 31.4
comp=Z,14nm,0.8s
ICESG Greenland Ices 78.15 357 *i* P P 01 00 30.5 -1.1
ICESG lAmb lAmb 01 00 31.6
comp=Z,14nm,0.8s
BORR Bors 78.16 319 ⇑P P 01 00 32.6 +1.0
HOOD Mount Hood Mea 78.19 43 lAmb lAmb 01 00 37.9
comp=Z,22nm,0.9s
EDRB Edirne 78.21 312 P P 01 00 31.4 -0.6
H04A Detroit Lake 78.24 44 P P 01 00 33.0 +0.8
H04A lAmb lAmb 01 00 37.2
comp=Z,50nm,1.7s
MUD Monsted U'grnd 78.30 331 *i* P P 01 00 30.4 -1.8
MUD lAmb lAmb 01 00 32.0
comp=Z,11nm,0.7s
MUD Monsted U'grnd 78.30 331 *i* P P 01 00 31.0 -1.2
MUD lAmb lAmb 01 00 32.1
comp=Z,11nm,0.7s
SOEG Soedalen 78.41 353 *i* P P 01 00 30.4 -2.2
SOEG lAmb lAmb 01 00 31.9
comp=Z,7.3nm,0.7s
VLAD Vladila 78.43 315 ⇓P P 01 00 32.8 -0.3
OKC Ostrava-Krasne 78.46 322 AMS AMS 01 39 30.0
comp=Z,1μm,12.1s
GZR Gura Zlata 78.58 317 ⇓P P 01 00 34.1 -0.1
I04A Tendick Farm, 78.61 45 P P 01 00 34.9 +0.6
baz=305
PSZ Piszkesteto 78.70 320 ⇓P P 01 00 34.9 +0.2
PSZ Piszkesteto 78.70 320 P P 01 00 34.9 +0.2
PSZ Piszkesteto 78.70 320 P P 01 00 34.3 -0.5
D08A Wollman Farm, 78.72 41 P P 01 00 35.6 +0.9
SRE Strehaia 78.76 316 ⇑P P 01 00 35.1 +0.1
SRE Strehaia 78.76 316 P P 01 00 35.1 +0.1
KSP Ksiaz 78.77 324 *e*P P 01 00 34.9 -0.1
KSP Ksiaz 78.77 324 P P 01 00 34.7 -0.3
HAWA Hanford 78.78 42 P P 01 00 36.2 +1.2
MORC Moravsky Berou 78.81 323 ⇓P P 01 00 35.4 +0.2
MORC Moravsky Berou 78.81 323 P P 01 00 35.4 +0.2
MORC Moravsky Berou 78.81 323 lAmb lAmb 01 00 36.5
comp=Z,60nm,1.2s
MORC Moravsky Berou 78.81 323 *e*P P 01 00 34.9 -0.3
BSZH Besenyszg 78.87 320 ⇑P P 01 00 36.4 +0.8
BSZH Besenyszg 78.87 320 P P 01 00 36.1 +0.6

MANT Manisa 78.89 309 IAmb IAmb 01 00 36.6
comp=Z,44nm,1.2s
VYHS Vyhne 78.92 321 *eP* **P 01 00 36.3 +0.5**
VYHS pmax pmax
comp=Z,33nm,1.2s
VYHS Vyhne 78.92 321 *eP* **P 01 00 36.3 +0.5**
RUE Ruedersdorf 78.94 326 *eP* **P 01 00 35.8 0.0**
RUE Ruedersdorf 78.94 326 *eP* **P 01 00 36.2 +0.4**
comp=Z,29nm,1.0s,baz=46,slow=5.3
NEW Newport 78.97 39 P **P 01 00 36.5 +0.3**
baz=308
OSTC Ostas 78.99 324 *eP* **P 01 00 36.5 +0.3**
OSTC AMS AMS 01 38 00.0
comp=Z,1µm,14.6s
KRLC Kraliky 79.01 323 *eP* **P 01 00 36.4 +0.1**
KRLC MLR MLR
comp=Z,2µm,14.9s
KRLC Kraliky 79.01 323 *eP* **P 01 00 36.4 +0.1**
KRLC AMS AMS 01 39 10.0
comp=Z,2µm,14.9s
CHVC Chvalec 79.05 324 *eP* **P 01 00 36.6 +0.1**
CHVC AMS AMS 01 38 10.0
comp=Z,1µm,13.2s
DPC Dobruska-Polom 79.07 324 *eP* **P 01 00 36.6 -0.1**
DPC MLR MLR
comp=Z,1µm,14.6s
DPC Dobruska-Polom 79.07 324 *eP* **P 01 00 36.6 -0.1**
DPC AMS AMS 01 38 30.0
comp=Z,1µm,14.6s
EIL Elat 79.09 298 LR LR 01 38 36.1
comp=Z,286nm,18.8s,baz=58,slow=38
HERR Herculane 79.09 317 ⇑P **P 01 00 36.6 -0.2**
KOLL Kolacno 79.10 321 *eP* **P 01 00 37.2 +0.4**
J04D Umpqua Nationa 79.11 45 IAmb IAmb 01 00 46.1
comp=Z,22nm,0.8s
J04D Umpqua Nationa 79.11 45 P **P 01 00 37.8 +0.6**
baz=305
BZS Buzias 79.11 318 ⇓P **P 01 00 36.4 -0.5**
BZS Buzias 79.11 318 P **P 01 00 36.4 -0.5**
UPC Upice 79.12 324 *eP* **P 01 00 36.9 0.0**
UPC MLR MLR
comp=Z,1µm,12.9s
UPC Upice 79.12 324 *eP* **P 01 00 36.9 0.0**
UPC AMS AMS 01 38 10.0
comp=Z,1µm,12.9s
PUNG Punghina 79.14 316 ⇑P **P 01 00 37.5 +0.5**
KDZ Kurdzhali 79.14 313 P **P 01 00 37.8 +0.6**
DJES Djerdap 79.15 316 ⇑P **P 01 00 37.1 -0.1**
ALN Alexandroupoli 79.17 312 P **P 01 00 36.8 -0.5**
ALN Alexandroupoli 79.17 312 IAmb IAmb 01 00 38.1
comp=Z,63nm,1.3s
AMBH Ambrzfalva 79.18 319 P **P 01 00 37.3 0.0**
JAVC Velka Javorina 79.31 322 *eP* **P 01 00 38.8 +0.8**
RDO Rodhopi 79.35 312 P **P 01 00 37.6 -0.7**
BUD Budapest 79.44 320 P **P 01 00 38.6 0.0**
E09A Wood Farm, Sta 79.48 41 IAmb IAmb 01 00 40.8
comp=Z,65nm,1.9s
BANR Banloc 79.53 318 ⇑P **P 01 00 39.8 +0.6**
BSEG Bad Segeberg 79.54 329 *eP* **P 01 00 38.9 -0.2**
comp=Z,13nm,0.9s,baz=46,slow=5.3
FETY Fethiye 79.55 307 P **P 01 00 38.2 -1.3**
MDVR Moldovita 79.55 317 ⇓P **P 01 00 39.1 -0.3**
RZN Rozhen 79.55 313 P **P 01 00 39.4 -0.2**
L04D Klamath Falls 79.58 46 IAmb IAmb 01 00 41.8
comp=Z,88nm,1.6s
L04D Klamath Falls 79.58 46 P **P 01 00 40.6 +0.9**
baz=305
VRAC Vranov 79.58 323 ⇑P **P 01 00 40.0 +0.5**
VRAC Vranov 79.58 323 P **P 01 00 39.9 +0.5**
VRAC Vranov 79.58 323 *eP* **P 01 00 39.4 -0.1**
YBH Yreka Blue Hor 79.61 47 LR LR 01 31 57.6
comp=Z,117nm,21.7s,baz=312,slow=33
J05D Fort Rock, OR 79.61 45 P **P 01 00 40.8 +0.9**
baz=306
SRO Srobarova 79.61 321 *eP* **P 01 00 40.3 +0.7**
SRO pmax pmax
comp=Z,76nm,1.5s
SRO Srobarova 79.61 321 *eP* **P 01 00 40.3 +0.7**
SMOL Smolenice 79.65 322 *eP* **P 01 00 40.5 +0.7**
SMOL pmax pmax
comp=Z,41nm,1.3s
SMOL Smolenice 79.65 322 *eP* **P 01 00 40.5 +0.7**
BLKB Belogradchik 79.67 315 ⇑P **P 01 00 39.8 -0.3**
SMTH Samothraki Isl 79.73 312 P **P 01 00 38.8 -1.6**
YER Yerkesik 79.81 308 P **P 01 00 40.6 -0.4**
MODS Modra-Piesok 79.81 322 *eP* **P 01 00 41.3 +0.6**
MODS pmax pmax
comp=Z,243nm,1.5s
MODS Modra-Piesok 79.81 322 *eP* **P 01 00 41.3 +0.6**
PVCC Panska Ves 79.82 324 *eP* **P 01 00 41.0 +0.3**
PVCC *e* 01 00 47.3
PVCC MLR MLR
comp=Z,2µm,14.7s
PVCC Panska Ves 79.82 324 *eP* **P 01 00 41.0 +0.3**
PVCC *ex* x 01 00 47.3
PVCC AMS AMS 01 39 40.0
comp=Z,2µm,14.7s
KRUC Moravsky 79.84 323 *eP* **P 01 00 40.7 -0.1**
BRG Berggiesshubel 79.90 325 ⇓*iP* **P 01 00 40.8 -0.3**
BRG Amp 01 00 43.9
comp=Z,28nm,1.1s
BRG *ex* x 01 00 57.3
BRG Amp 01 00 58.9
comp=Z,7.2nm,0.9s
BRG Amp 01 40 06.0
comp=Z,1.9nm,14.1s
BRG Amp 01 40 09.0
comp=E,1.2nm,15.3s
BRG Amp 01 40 10.0
comp=N,0.9nm,14.2s
BRG Berggiesshubel 79.90 325 *eP* **P 01 00 41.2 +0.1**
comp=N,11nm,0.9s,baz=46,slow=5.3
CSKK Cskako 79.92 320 P **P 01 00 40.7 -0.6**
VTS Vitosha 79.92 314 ⇓P **P 01 00 41.9 +0.3**
VTS Vitosha 79.92 314 P **P 01 00 41.8 +0.3**
VTS Vitosha 79.92 314 P **P 01 00 42.0 +0.4**
PRK Paraskevi 79.95 310 P **P 01 00 41.4 -0.2**
ZST Bratislava 80.02 322 *eP* **P 01 00 42.1 +0.3**
ZST pmax pmax
comp=Z,318nm,1.7s
ZST Bratislava 80.02 322 *eP* **P 01 00 42.1 +0.3**
CLL Collm 80.07 326 ⇓*iP* **P 01 00 41.4 -0.6**
CLL *i* 01 00 45.3
CLL pmax pmax
comp=Z,87nm,1.2s
CLL Collm 80.07 326 IAmb IAmb 01 00 42.7
comp=Z,72nm,1.1s
CLL Collm 80.07 326 ⇓*iP* **P 01 00 41.4 -0.6**
comp=Z,87nm,1.2s
CLL *i* (sP) **pP 01 00 45.3 -2.5**
CLL *e*PP **PP 01 03 44.0 +0.5**
CLL *e*S **S 01 10 54.0 +8.6**
CLL *e*SS **SS 01 15 54.0 -0.6**
CLL *e*SSS SSS 01 19 54.0
CLL Collm 80.07 326 *eP* **P 01 00 41.9 -0.1**
comp=Z,39nm,1.0s,baz=46,slow=5.3
M04C Macdoel 80.11 46 P **P 01 00 43.5 +0.9**
baz=306
FBE Freiberg 80.16 325 *eP* **P 01 00 42.9 +0.5**
comp=Z,44nm,1.1s,baz=46,slow=5.3
TREC Trest 80.16 323 *eP* **P 01 00 42.7 +0.1**
TREC MLR MLR
comp=Z,2µm,16.1s
TREC Trest 80.16 323 *eP* **P 01 00 42.7 +0.1**
TREC AMS AMS 01 39 50.0
comp=Z,2µm,16.1s
PRU Pruhonice 80.18 324 *eP* **P 01 00 42.7 0.0**
PRU MLR MLR
comp=Z,1µm,13.0s
PRU Pruhonice 80.18 324 *eP* **P 01 00 42.7 0.0**
PRU AMS AMS 01 38 50.0
comp=Z,1µm,13.0s
FLTG Flechtingen 80.21 327 *eP* **P 01 00 42.3 -0.4**
comp=Z,24nm,1.0s,baz=46,slow=5.3

MMB Musomiste 80.22 313 P **P 01 00 43.0 -0.1**
NVR Nevrokopi 80.27 313 P **P 01 00 42.3 -1.1**
EGYH Egyhazaskeszo 80.38 321 P **P 01 00 43.7 -0.1**
FRGS Fruska Gora 80.41 318 ⇓P **P 01 00 43.1 -0.9**
FRGS Fruska Gora 80.41 318 ⇓*iP* **P 01 00 42.6 -1.4**
MORH Mrgy, Hungar 80.42 319 ⇓*iP* **P 01 00 43.3 -0.6**
MORH Mrgy, Hungar 80.42 319 P **P 01 00 43.4 -0.6**
MPLH Magyarpolny 80.42 321 P **P 01 00 43.2 -0.8**
O02D Mt. Diablo Mer 80.45 48 P **P 01 00 45.3 +0.9**
baz=305
KKB Krupnik 80.45 314 P **P 01 00 44.3 0.0**
SMG Samos 80.45 309 P **P 01 00 43.2 -1.1**
KOKK Kokkinochori, 80.49 313 P **P 01 00 43.3 -1.2**
BODT Bodrum 80.50 308 P **P 01 00 43.3 -1.3**
DAT Datca 80.50 308 P **P 01 00 43.1 -1.7**
SRS Serrai 80.57 313 P **P 01 00 43.0 -1.9**
SOP Sopron 80.62 321 P **P 01 00 45.3 +0.2**
SOP Sopron 80.62 321 P **P 01 00 45.1 0.0**
NEUB Neuenburg 80.71 326 *eP* **P 01 00 45.6 +0.1**
comp=Z,47nm,1.0s,baz=46,slow=5.3
RONA Rosalia, Austr 80.75 322 *iP* **P 01 00 46.0 +0.2**
comp=Z,61nm,1.3s,SNR=29
OUR Ouranopolis 80.78 312 P **P 01 00 44.6 -1.4**
KOVH Kovagotottos 80.79 319 P **P 01 00 45.3 -0.7**
CONA Conrad Observa 80.83 322 *iP* **P 01 00 46.8 +0.5**
comp=Z,84nm,1.3s,SNR=37
SOH Sokhos 80.89 313 P **P 01 00 45.2 -1.5**
TANN Tannenbergstha 80.92 325 *eP* **P 01 00 46.7 +0.1**
comp=Z,19nm,1.1s,baz=46,slow=5.3
CLZ Clausthal 80.94 327 *eP* **P 01 00 47.0 +0.3**
comp=Z,40nm,1.1s,baz=46,slow=5.3
DIVS Divibare 80.95 317 IAmb IAmb 01 00 47.7
comp=Z,58nm,1.1s
DIVS Divibare 80.95 317 ⇓*iP* **P 01 00 46.0 -1.0**
WERD Werda 80.97 325 *eP* **P 01 00 47.0 +0.1**
comp=Z,20nm,1.1s,baz=46,slow=5.3
DY2G Dye2 80.99 359 *iP* **P 01 00 45.2 -1.8**
DY2G IAmb IAmb 01 00 46.6
comp=Z,14nm,0.8s
DY2G Dye2 80.99 359 *iP* **P 01 00 45.3 -1.6**
DY2G IAmb IAmb 01 00 46.7
comp=Z,14nm,0.8s
003E Paynes Creek 81.00 48 P **P 01 00 48.0 +0.7**
baz=306
GUNZ Gunzen 81.01 325 *eP* **P 01 00 47.4 +0.2**
comp=Z,25nm,1.1s,baz=46,slow=5.3
WERN Wernitzgruen 81.04 325 *eP* **P 01 00 47.6 +0.3**
comp=Z,28nm,1.0s,baz=46,slow=5.3
NKC Novy Kostel 81.04 325 *eP* **P 01 00 47.4 +0.1**
NKC MLR MLR
comp=Z,2µm,14.6s
NKC Novy Kostel 81.04 325 *eP* **P 01 00 47.4 +0.1**
NKC AMS AMS 01 40 30.0
comp=Z,2µm,14.6s
CKRC Cesky Krumlov 81.05 323 *eP* **P 01 00 47.2 -0.2**
CKRC AMS AMS 01 40 30.0
comp=Z,2µm,15.8s
VAY Valandovo 81.08 314 *iP* **P 01 00 47.0 -0.7**
STIP Stip 81.09 314 *iP* **P 01 00 45.9 -1.8**
PLG Polygyros 81.09 312 P **P 01 00 46.3 -1.5**
MOX Moxa 81.17 326 *eP* **P 01 00 48.0 +0.1**
comp=Z,12nm,1.0s,baz=46,slow=5.3
PAIG Paliouri 81.21 312 P **P 01 00 46.6 -1.7**
KHC Kasperske Hory 81.22 324 *diP* **P 01 00 47.6 -0.7**
KHC Kasperske Hory 81.22 324 IAmb IAmb 01 00 49.4
comp=Z,32nm,1.1s
KHC Kasperske Hory 81.22 324 *eP* **P 01 00 48.0 -0.3**
KHC *ep*P **pP 01 00 53.1 -1.0**
KHC AMS AMS 01 40 40.0
comp=Z,1µm,15.4s
BEHE Becsehely 81.27 320 ⇓*iP* **P 01 00 48.3 -0.3**
GTTG Gottingen 81.32 327 *eP* **P 01 00 48.8 0.0**
comp=Z,21nm,1.0s,baz=46,slow=5.3
GEC2 GERESS Array S 81.34 324 IAmb IAmb 01 00 49.7
comp=Z,28nm,1.1s
GEC2 GERESS Array S 81.34 324 *eP* **P 01 00 48.9 -0.1**
comp=Z,15nm,1.0s,baz=46,slow=5.3
GERES GERESS Array B 81.34 324 P **P 01 00 48.3 -0.7**
comp=Z,11nm,1.0s,baz=48,slow=2.0,SNR=61
FCC Fort Churchill 81.35 22 IAmb IAmb 01 00 53.9
comp=Z,72nm,1.6s
MANZ Manzenberg 81.37 325 *eP* **P 01 00 49.2 +0.2**
comp=Z,3.5nm,0.9s,baz=46,slow=5.3
SKO Skopje 81.38 315 *iP* **P 01 00 49.4 +0.2**
GRG Griva 81.40 313 P **P 01 00 47.9 -1.5**
BBLS Lazići 81.43 317 ⇓*iP* **P 01 00 49.2 -0.3**
ARSA Arzberg 81.44 322 *iP* **P 01 00 49.5 0.0**
comp=Z,39nm,1.2s,SNR=14
KARP Karpathos 81.44 307 P **P 01 00 48.2 -1.5**
ROTZ Rotzenmuhle 81.47 325 *eP* **P 01 00 50.1 +0.5**
comp=Z,9.3nm,1.1s,baz=46,slow=5.3
ANGG Ammassalik, Gr 81.47 355 *iP* **P 01 00 45.9 -3.3**
ANGG IAmb IAmb 01 00 48.2
comp=Z,5.8nm,0.9s
ANGG Ammassalik, Gr 81.47 355 *iP* **P 01 00 46.7 -2.5**
ANGG IAmb IAmb 01 00 48.3
comp=Z,5.8nm,0.9s
MSO Missoula 81.56 39 P **P 01 00 50.4 +0.2**
baz=310
WET Wettzell 81.56 324 *eP* **P 01 00 50.3 +0.2**
comp=Z,9.5nm,1.0s,baz=46,slow=5.3
KOGS Kog 81.57 321 *iP* **P 01 00 49.0 -1.1**
RUDO Rudo 81.60 317 ⇓*iP* **P 01 00 49.5 -0.9**
FFC Flin Flon 81.66 28 P **P 01 00 50.3 -0.2**
FFC pmax pmax
comp=Z,16nm,1.1s
FFC Flin Flon 81.66 28 P **P 01 00 50.3 -0.2**
MOA Molln 81.71 323 *iP* **P 01 00 50.8 -0.1**
comp=Z,30nm,1.2s,SNR=15
IVA Berane 81.75 316 *eP* **P 01 00 51.0 -0.3**
PLE Pljevlja 81.76 317 *eP* **P 01 00 50.7 -0.7**
UBBA Unterbreizbach 81.80 327 *eP* **P 01 00 51.0 -0.1**
comp=Z,56nm,1.5s,baz=46,slow=5.3
KARY Karystos 81.83 310 P **P 01 00 50.0 -1.6**
XOR Xorichti 81.84 312 P **P 01 00 49.2 -2.5**
LIT Litokhoron 81.85 313 P **P 01 00 50.0 -1.8**
LIT Litokhoron 81.85 313 IAmb IAmb 01 00 51.7
comp=Z,59nm,1.2s
KOME Kolasin 81.98 316 *eP* **P 01 00 52.1 -0.4**
GRF Grafenberg Arr 82.00 325 *eP* **P 01 00 53.0 +0.6**
comp=Z,53nm,1.0s,baz=46,slow=5.3
GRFO Grafenberg 82.00 325 P **P 01 00 52.8 +0.5**
GRFO pmax pmax
comp=Z,141nm,1.3s
GRFO Grafenberg 82.00 325 P **P 01 00 52.8 +0.5**
PTJ Puntijarka 82.06 320 P **P 01 00 52.7 -0.2**
SOKA Soboth 82.07 321 *iP* **P 01 00 52.7 -0.2**
comp=Z,64nm,1.1s,SNR=46
UPM Unac-Piva 82.12 317 *eP* **P 01 00 53.4 +0.1**
UPM Unac-Piva 82.12 317 *eP* **P 01 00 52.3 -1.0**
FNA Florina 82.12 314 P **P 01 00 51.0 -2.2**
FNA Florina 82.12 314 IAmb IAmb 01 00 53.1
comp=Z,30nm,1.3s
BIOA Bad Ischl, Aus 82.13 323 *iP* **P 01 00 53.0 -0.1**
comp=Z,52nm,1.7s,SNR=19
BLY Banja Luka 82.13 319 ⇓*iP* **P 01 00 52.8 -0.3**
GOLS Golise 82.18 321 *iP* **P 01 00 52.8 -0.6**
ATD Arta Tunnel 82.26 279 IAmb IAmb 01 00 56.4
comp=Z,36nm,1.2s
ATD Arta Tunnel 82.26 279 P **P 01 00 54.3 0.0**
SNR=57
KASTN Kahler Asten 82.26 328 *eP* **P 01 00 53.5 -0.2**
comp=Z,7.8nm,0.9s,baz=46,slow=5.3
OHR Ohrid 82.28 314 *iP* **P 01 00 53.2 -0.9**
NKY Niksic 82.31 316 *eP* **P 01 00 53.9 -0.3**
ATAL Atalanti 82.34 311 P **P 01 00 52.4 -2.0**
NKME Niksic 82.36 316 *eP* **P 01 00 53.9 -0.5**
CRES Crnomjev 82.39 320 ⇓*iP* **P 01 00 53.9 -0.6**
PDG Podgorica 82.39 316 ⇑P **P 01 00 54.3 -0.2**
PDG Podgorica 82.39 316 ⇓*iP* **P 01 00 53.8 -0.7**
TTG Podgorica 82.39 316 *eP* **P 01 00 53.9 -0.6**
MGRS Mrkonjic Grad 82.39 319 *eP* **P 01 00 55.0 +0.4**
OBKA Obir 82.43 321 *iP* **P 01 00 54.4 -0.4**
comp=Z,48nm,1.8s,SNR=14
CEME Cevo 82.52 316 *eP* **P 01 00 54.4 -0.9**
BRY Bratogost 82.52 317 ⇓*iP* **P 01 00 54.1 -1.3**
BRY Bratogost 82.52 317 *eP* **P 01 00 54.2 -1.2**
RJOB Jochberg 82.53 323 *eP* **P 01 00 55.7 +0.5**
comp=Z,22nm,1.0s,baz=46,slow=5.3
NEST Nestorio 82.55 314 P **P 01 00 53.8 -1.7**
KBN Korca 82.58 314 P **P 01 00 54.1 -1.5**
DRME Dracevica, Mon 82.58 316 ⇓*iP* **P 01 00 54.9 -0.6**
DRME Dracevica, Mon 82.58 316 *eP* **P 01 00 55.1 -0.4**
AGG Agios Georgios 82.58 312 P **P 01 00 52.6 -3.1**

AGG Agios Georgios 82.58 312 IAmb IAmb 01 00 54.7
comp=Z,38nm,1.3s
BUG Bochum--Univer 82.61 328 *eP* **P 01 00 55.0 -0.5**
comp=Z,10nm,0.9s,baz=46,slow=5.3
MFID Camas Ranch 82.67 42 IAmb IAmb 01 00 58.3
comp=Z,50nm,2.0s
BUM Brajici-Budva 82.68 316 *eP* **P 01 00 55.4 -0.7**
KBA Koelnbreinsper 82.68 322 *iP* **P 01 00 55.8 -0.4**
comp=Z,57nm,1.6s,SNR=20
ULC Ulcinj 82.68 316 *eP* **P 01 00 55.6 -0.5**
TIR Tirane 82.69 315 ⇑P **P 01 00 56.2 +0.1**
TIR Tirane 82.69 315 P **P 01 00 56.2 +0.1**
TREB Trebinje 82.74 317 *eP* **P 01 00 55.8 -0.5**
LJU Ljubljana 82.74 321 ⇓*iP* **P 01 00 55.5 -0.8**
LJU Ljubljana 82.74 321 *iP* **P 01 00 55.7 -0.6**
HCY Herceg Novi 82.82 316 ⇓*iP* **P 01 00 55.5 -1.3**
HCY Herceg Novi 82.82 316 *eP* **P 01 00 56.2 -0.6**
MYKA Terra Mystica 82.83 322 *iP* **P 01 00 55.9 -0.9**
comp=Z,46nm,1.2s,SNR=15
PAHR Pah Rah Range 82.84 47 IAmb IAmb 01 00 59.0
comp=Z,19nm,1.3s
EGMT Eagleton 82.92 36 IAmb IAmb 01 01 02.6
comp=Z,18nm,1.0s
EGMT Eagleton 82.92 36 P **P 01 00 57.3 0.0**
baz=312
TNS Taunus Mts 82.93 327 *eP* **P 01 00 57.3 0.0**
comp=Z,11nm,0.9s,baz=46,slow=5.3
CEY Cerknica 83.00 321 ⇓*iP* **P 01 00 57.0 -0.7**
FUR Furstenfeldbru 83.00 324 *eP* **P 01 00 58.1 +0.5**
comp=Z,127nm,1.2s,baz=46,slow=5.3
STON Ston 83.02 317 ⇓*iP* **P 01 00 56.1 -1.6**
PNTR Pine Nut 83.08 48 IAmb IAmb 01 01 04.3
comp=Z,28nm,1.4s
ANX Ano Chora 83.10 312 P **P 01 00 56.0 -2.4**
IDI Anoyia 83.11 308 ⇓P **P 01 00 56.6 -1.9**
BKZ Black Stump Fm 83.17 146 P **P 01 00 59.8 +1.4**
BKZ IAmb IAmb 01 01 12.2
comp=Z,26nm,1.1s
CMB Columbia Colle 83.21 49 IAmb IAmb 01 01 00.7
comp=Z,28nm,1.5s
DLMT Dillon 83.22 39 IAmb IAmb 01 01 04.6
comp=Z,24nm,1.1s
RIY Rijeka 83.23 321 ⇓*iP* **P 01 00 57.8 -1.0**
LAKA Lakka 83.27 311 P **P 01 00 56.9 -2.3**
KLV Kalavryta, Ach 83.28 311 P **P 01 00 56.4 -2.9**
ABTA Abfaltersbach 83.33 322 *iP* **P 01 00 57.7 -1.7**
comp=Z,56nm,1.1s,SNR=28
AHRW Bad Neuenahr-A 83.33 328 *eP* **P 01 00 59.2 -0.1**
comp=Z,20nm,1.0s,baz=46,slow=5.3
SKDS Skadanscina 83.34 321 ⇓*iP* **P 01 00 58.4 -1.0**
YERR Yerington 83.36 48 IAmb IAmb 01 01 01.9
comp=Z,33nm,1.4s
TRI Trieste 83.37 321 P **P 01 00 59.0 -0.5**
HLID Hailey 83.38 42 P **P 01 01 00.5 +0.6**
baz=310
WATA Walderalm 83.41 323 *iP* **P 01 00 59.1 -0.8**
comp=Z,33nm,1.2s,SNR=9.5
WTTA Wattenberg 83.43 323 *iP* **P 01 00 59.4 -0.7**
comp=Z,55nm,1.3s,SNR=16
IGT Igoumenitsa 83.52 313 P **P 01 00 58.8 -1.6**
BOZ Bozeman (W) 83.58 39 IAmb IAmb 01 01 05.7
comp=Z,20nm,1.4s
BOZ Bozeman (W) 83.58 39 P **P 01 01 01.3 +0.5**
baz=311
STU Stuttgart 83.59 326 P **P 01 01 00.5 -0.1**
STU Stuttgart 83.59 326 *eP* **P 01 01 00.6 0.0**
comp=Z,98nm,1.0s,baz=46,slow=5.3
IMMV Iera Moni Meta 83.62 308 P **P 01 00 59.5 -1.5**
MOTA Moosalm 83.64 324 *iP* **P 01 01 00.2 -0.9**
comp=Z,31nm,1.1s,SNR=22
SQTA Sankt Quirin 83.67 323 *iP* **P 01 01 00.4 -0.8**
comp=Z,30nm,1.1s,SNR=14
BMN Battle Mountai 83.71 45 IAmb IAmb 01 01 07.8
comp=Z,18nm,1.2s
RETA Reutte 83.71 324 *iP* **P 01 01 01.0 -0.4**
comp=Z,73nm,1.2s,SNR=25
BTNL Ternell 83.72 328 *dP* **P 01 00 59.8 -1.5**
comp=Z,11nm,1.3s
MEM Membach 83.76 328 *dP* **P 01 01 00.6 -0.8**
comp=Z,12nm,1.1s
BEBN Eben Emael 83.77 329 *dP* **P 01 01 00.5 -1.0**
EKA Eskdalemuir Ar 83.80 336 P **P 01 00 00.9 -0.6**
UBR Ueberruh 83.91 324 *eP* **P 01 01 02.3 -0.1**
comp=Z,32nm,1.0s,baz=46,slow=5.3
ITM Ithomi 83.94 311 P **P 01 00 05.5 -2.1**
BHOU Houvegnez 83.94 328 *dP* **P 01 01 01.2 -1.2**
comp=Z,11nm,1.4s
BSTI Sart Tilman 83.97 328 *dP* **P 01 01 01.9 -0.6**
RYN Ryan 84.03 48 IAmb IAmb 01 01 05.4
comp=Z,22nm,1.2s
KVN Kaiserville 84.03 47 IAmb IAmb 01 01 05.4
comp=Z,30nm,1.2s
FETA Feichten 84.05 324 *iP* **P 01 01 02.5 -0.7**
comp=Z,47nm,1.1s,SNR=16
BCLA Clavier 84.21 328 *dP* **P 01 01 02.4 -1.3**
comp=Z,9.0nm,1.6s
LHV Little Huntoon 84.27 48 IAmb IAmb 01 01 10.7
comp=Z,32nm,1.1s
MDPB Devils Postpil 84.28 49 IAmb IAmb 01 01 14.2
comp=Z,24nm,0.9s
NVAR Mina Array Bea 84.28 48 P **P 01 01 05.3 +0.7**
comp=Z,5.1nm,0.8s,baz=287,slow=5.2,SNR=26
DAVA Damuels 84.29 324 *iP* **P 01 01 03.7 -0.7**
comp=Z,121nm,1.1s,SNR=31
BFO Black Forest 84.31 326 P **P 01 01 03.8 -0.6**
BFO pmax pmax
comp=Z,111nm,1.2s
BFO Black Forest 84.31 326 P **P 01 01 03.8 -0.6**
BFO Black Forest 84.31 326 *eP* **P 01 01 04.2 -0.2**
comp=Z,68nm,1.1s,baz=46,slow=5.3
BGES Gesves 84.33 329 *dP* **P 01 01 03.1 -1.3**
comp=Z,9.4nm,1.4s
UCC Uccle 84.34 329 *dP* **P 01 01 03.0 -1.3**
WLF Walferdange 84.37 328 *eP* **P 01 01 04.6 0.0**
comp=Z,18nm,0.9s,baz=46,slow=5.3
WLF Walferdange 84.37 328 *dP* **P 01 01 03.5 -1.1**
comp=Z,22nm,1.4s
RCHB Rochefort 84.43 328 *dP* **P 01 01 03.7 -1.2**
BMRD Maredsous 84.53 329 *dP* **P 01 01 04.4 -1.0**
comp=Z,14nm,1.2s
RPZ Rata Peaks 84.53 152 P **P 01 01 05.6 +0.4**
RPZ IAmb IAmb 01 01 09.1
comp=Z,24nm,1.0s
GIVF Givet 84.65 329 *eP* **P 01 01 05.9 -0.1**
GIVF pmax pmax
comp=Z,79nm,1.6s
ELK Elko 84.70 44 LR LR 01 36 26.4
comp=Z,76nm,20.4s,baz=336,slow=34
CDF Champ du Feu 84.75 326 *eP* **P 01 01 04.6 -2.1**
CDF pmax pmax
comp=Z,140nm,1.5s
DOU Dourbes 84.75 329 *dP* **P 01 01 05.1 -1.4**
comp=Z,9.3nm,1.1s
LBZ Lake Benmore 84.76 153 P **P 01 01 07.4 +1.0**
H17A Grant Village 84.93 39 IAmb IAmb 01 01 15.4
comp=Z,22nm,1.1s
H17A Grant Village 84.93 39 P **P 01 01 10.4 +2.5**
baz=312
FLWY Flagg Ranch 85.08 40 IAmb IAmb 01 01 15.3
comp=Z,27nm,1.3s
RLMT Red Lodge 85.13 38 IAmb IAmb 01 01 13.9
comp=Z,47nm,1.8s
RLMT Red Lodge 85.13 38 P **P 01 01 09.4 +0.6**
baz=313
VES Vestal, Richgr 85.36 50 P **P 01 01 09.8 -0.1**
baz=308
HINF Hinteralfeld 85.38 326 *eP* **P 01 01 08.3 -1.4**
HINF pmax pmax
comp=Z,68nm,1.4s
LCH Last Change Ra 85.43 48 IAmb IAmb 01 01 16.0
comp=Z,16nm,1.1s
HAU Haudompre 85.48 326 *eP* **P 01 01 08.8 -1.4**
HAU pmax pmax
comp=Z,111nm,1.6s
AQU L'Aquila 85.78 319 P **P 01 01 12.7 +0.8**
AQU L'Aquila 85.78 319 ⇓*iP* **P 01 01 11.3 -0.6**
BGU Big Grassy Mou 85.86 43 IAmb IAmb 01 01 14.9
comp=Z,34nm,1.7s
TIP Timpagrande 85.90 315 ⇑P **P 01 01 12.3 -0.3**
PAOL Paolisi 85.99 317 IAmb IAmb 01 01 13.2
comp=Z,44nm,1.3s
OSSC Osservatorio P 86.16 321 IAmb IAmb 01 01 15.0
comp=Z,33nm,1.0s
SENIN Lac Senin/Sane 86.20 325 IAmb IAmb 01 01 14.2
comp=Z,36nm,1.1s
HWUT Hardware Ranch 86.25 42 IAmb IAmb 01 01 20.3

	comp=Z,23nm,1.2s							
DUG	**Dugway, Tooele**	**86.47**	**43**	IAmb	IAmb	01 01 21.4		
	comp=Z,20nm,1.4s							
DUG	**Dugway, Tooele**	**86.47**	**43**	P	**P**	**01 01 16.2**	**+0.8**	
	baz=311							
BW06	**Boulder Array**	**86.58**	**40**	P	**P**	**01 01 16.0**	**0.0**	
	baz=313							
PDAR	**Pinedale Array**	**86.58**	**40**	P	**P**	**01 01 15.9**	**-0.1**	
	comp=Z,3.7nm,0.9s,baz=300,slow=1.5,SNR=30							
CABF	**La Chapelle**	**86.61**	**325**	*e*P	**P**	**01 01 14.4**	**-1.5**	
CABF				pmax	pmax			
	comp=Z,64nm,1.3s							
GWY	**Greenwater Val**	**86.69**	**49**	IAmb	IAmb	01 03 31.0		
	comp=Z,15nm,0.9s							
NLU	**North Lily Min**	**87.05**	**43**	IAmb	IAmb	01 01 24.3		
	comp=Z,14nm,1.1s							
LPL	**La Plagne**	**87.08**	**324**	*e*P	**P**	**01 01 17.0**	**-1.4**	
LPL				pmax	pmax			
	comp=Z,33nm,1.1s							
LPG	**La Plagne**	**87.09**	**324**	*e*P	**P**	**01 01 17.1**	**-1.4**	
LPG				pmax	pmax			
	comp=Z,36nm,1.1s							
GSC	**Goldstone, Bar**	**87.16**	**49**	IAmb	IAmb	01 01 20.4		
	comp=Z,20nm,1.5s							
GSC	**Goldstone, Bar**	**87.16**	**49**	P	**P**	**01 01 20.0**	**+1.2**	
	baz=309							
LOR	**Lormes**	**87.17**	**327**	*e*P	**P**	**01 01 18.0**	**-0.6**	
LOR				pmax	pmax			
	comp=Z,48nm,1.4s							
BNI	**Bardonecchia**	**87.44**	**324**	IAmb	IAmb	01 01 20.4		
	comp=Z,52nm,1.6s							
SSF	**Saint Saulge**	**87.48**	**327**	*e*P	**P**	**01 01 18.5**	**-1.5**	
SSF				pmax	pmax			
	comp=Z,49nm,1.5s							
ULM	**Lac du Bonnet**	**87.49**	**28**	P	**P**	**01 01 19.7**	**-0.3**	
	comp=Z,16nm,1.0s,baz=322,slow=5.7,SNR=12							
ULM	**Lac du Bonnet**	**87.49**	**28**⇑	*e*P	**P**	**01 01 18.0**	**-2.0**	
ULM	**Lac du Bonnet**	**87.49**	**28**	IAmb	IAmb	01 01 24.8		
	comp=Z,32nm,1.1s							
SMF	**Signal de Mont**	**87.64**	**327**	*e*P	**P**	**01 01 19.2**	**-1.6**	
SMF				pmax	pmax			
	comp=Z,41nm,1.1s							
HEC	**Hector,Ludlow**	**87.75**	**49**	P	**P**	**01 01 21.4**	**-0.3**	
	baz=309							
AVF	**Avril sur Loir**	**87.75**	**327**	*e*P	**P**	**01 01 19.8**	**-1.5**	
AVF				pmax	pmax			
	comp=Z,104nm,1.6s							
SBF	**Sospel**	**87.91**	**323**	*e*P	**P**	**01 01 19.9**	**-2.4**	
SBF				pmax	pmax			
	comp=Z,34nm,1.0s							
ORIF	**Oris-en-Rattie**	**87.93**	**324**	*e*P	**P**	**01 01 20.6**	**-1.8**	
ORIF				pmax	pmax			
	comp=Z,13nm,1.0s							
PGF	**Pioggiola**	**88.03**	**321**	*e*P	**P**	**01 01 21.1**	**-1.8**	
PGF				pmax	pmax			
	comp=Z,24nm,1.2s							
P17A	**Butcher Ranch,**	**88.14**	**43**	IAmb	IAmb	01 01 29.6		
	comp=Z,21nm,1.0s							
BGF	**Bois d'Agland**	**88.16**	**327**	*e*P	**P**	**01 01 21.8**	**-1.5**	
BGF				pmax	pmax			
	comp=Z,55nm,1.6s							
MTPU	**Mount Pierson**	**88.25**	**45**	IAmb	IAmb	01 01 27.2		
	comp=Z,32nm,1.6s							
Q16A	**Castle Valley**	**88.26**	**44**	IAmb	IAmb	01 01 26.8		
	comp=Z,50nm,1.9s							
SSB	**Saint Sauveur**	**88.32**	**325**	IAmb	IAmb	01 01 24.0		
	comp=Z,26nm,1.0s							
P18A	**Preston Nutter**	**88.32**	**43**	IAmb	IAmb	01 01 26.7		
	comp=Z,20nm,1.0s							
GRR	**Gorron**	**88.39**	**330**	*e*P	**P**	**01 01 22.6**	**-1.7**	
GRR				pmax	pmax			
	comp=Z,134nm,2.3s							
RSSD	**Black Hills**	**88.49**	**36**	P	**P**	**01 01 25.8**	**+0.6**	
RSSD				pmax	pmax			
	comp=Z,49nm,1.6s							
RSSD	**Black Hills**	**88.49**	**36**	P	**P**	**01 01 25.8**	**+0.6**	
RSSD				IAmb	IAmb	01 01 30.7		
	comp=Z,49nm,1.6s							
RSSD	**Black Hills**	**88.49**	**36**	P	**P**	**01 01 25.3**	**+0.1**	
	baz=317							
RSSD	**Black Hills**	**88.49**	**36**	P	**P**	**01 01 25.8**	**+0.6**	
	baz=317							
SRU	**San Rafael Swe**	**88.51**	**43**	IAmb	IAmb	01 01 30.9		
	comp=Z,13nm,1.0s							
FRF	**La Foret Royal**	**88.53**	**323**	*e*P	**P**	**01 01 22.9**	**-2.2**	
FRF				pmax	pmax			
	comp=Z,22nm,1.2s							
KNB	**Kanab**	**88.54**	**46**	IAmb	IAmb	01 01 35.6		
	comp=Z,28nm,1.6s							
VIVF	**Saint-Julien-l**	**88.56**	**325**	*e*P	**P**	**01 01 23.5**	**-1.8**	
VIVF				pmax	pmax			
	comp=Z,29nm,1.0s							
RWWY	**Rawlins**	**88.58**	**40**	IAmb	IAmb	01 01 31.0		
	comp=Z,16nm,0.9s							
LMR	**La Mourre**	**88.76**	**323**	*e*P	**P**	**01 01 24.2**	**-2.0**	
LMR				pmax	pmax			
	comp=Z,31nm,1.1s							
AGMN	**Agassiz Nation**	**89.04**	**29**	P	**P**	**01 01 26.9**	**-0.5**	
	baz=322							
AGMN	**Agassiz Nation**	**89.04**	**29**	P	**P**	**01 01 27.3**	**-0.1**	
	baz=322							
O20A	**White River Ci**	**89.10**	**41**	P	**P**	**01 01 28.3**	**+0.2**	
	baz=314							
U15A	**North Rim**	**89.25**	**46**	IAmb	IAmb	01 01 31.6		
	comp=Z,32nm,1.7s							
MFF	**Saint Martin d**	**89.47**	**329**	*e*P	**P**	**01 01 28.3**	**-1.1**	
MFF				pmax	pmax			
	comp=Z,51nm,1.3s							
RJF	**Les Rejaudoux**	**89.72**	**327**	*e*P	**P**	**01 01 29.5**	**-1.1**	
RJF				pmax	pmax			
	comp=Z,57nm,1.2s							
CAF	**Calviac**	**89.75**	**326**	*e*P	**P**	**01 01 29.8**	**-1.0**	
CAF				pmax	pmax			
	comp=Z,46nm,1.1s							
PHWY	**Pilot Hill**	**89.79**	**39**	IAmb	IAmb	01 01 37.0		
	comp=Z,17nm,1.1s							
N23A	**Red Feather La**	**89.82**	**39**	IAmb	IAmb	01 01 37.7		
	comp=Z,30nm,1.2s							
N23A	**Red Feather La**	**89.82**	**39**	P	**P**	**01 01 32.7**	**+1.2**	
	baz=315							
PV23	**Carpenter Ridg**	**89.82**	**43**	IAmb	IAmb	01 01 37.6		
	comp=Z,34nm,1.1s							
B35A	**Bob, Littlefor**	**89.85**	**28**	IAmb	IAmb	01 01 36.4		
	comp=Z,31nm,0.9s							
B35A	**Bob, Littlefor**	**89.85**	**28**	P	**P**	**01 01 31.2**	**0.0**	
	baz=324							
PV11	**David Mesa, Pa**	**90.00**	**43**	IAmb	IAmb	01 01 38.5		
	comp=Z,33nm,1.3s							
PV07	**Paradox Valley**	**90.04**	**43**	IAmb	IAmb	01 01 38.4		
	comp=Z,32nm,1.6s							
PV13	**Radium Mtn., P**	**90.13**	**43**	IAmb	IAmb	01 01 35.2		
	comp=Z,39nm,1.4s							
PV15	**Paradox Valley**	**90.20**	**43**	IAmb	IAmb	01 01 35.5		
	comp=Z,21nm,1.2s							
LFF	**La Frestale**	**90.35**	**327**	*e*P	**P**	**01 01 32.4**	**-1.2**	
LFF				pmax	pmax			
	comp=Z,34nm,1.2s							
SMCO	**Snowmass**	**90.47**	**41**	IAmb	IAmb	01 01 40.7		
	comp=Z,14nm,1.1s							
ISCO	**Idaho Springs**	**90.77**	**40**	P	**P**	**01 01 36.0**	**0.0**	
	baz=316							
ISCO	**Idaho Springs**	**90.77**	**40**	P	**P**	**01 01 36.4**	**+0.4**	
	baz=316							
F33A	**5 Mile Ranch,**	**90.79**	**31**	IAmb	IAmb	01 01 41.0		
	comp=Z,24nm,1.3s							
F33A	**5 Mile Ranch,**	**90.79**	**31**	P	**P**	**01 01 36.2**	**+0.5**	
	baz=322							
PMOR	**Pomariorio Ree**	**90.80**	**107**	*e*T	T	02 41 31.8		
	comp=Z,9.7nm,0.2s							
MTLF	**Montolieu**	**90.87**	**325**	*e*P	**P**	**01 01 34.5**	**-1.6**	
MTLF				pmax	pmax			
	comp=Z,27nm,1.3s							
PPT2	**Papeete2**	**90.89**	**110**	*e*LR	LR	01 30 34.8		
	comp=Z,244nm,25.5s							
MVCO	**Mesa Verde**	**90.97**	**43**	IAmb	IAmb	01 01 42.9		
	comp=Z,22nm,1.2s							
MVCO	**Mesa Verde**	**90.97**	**43**	P	**P**	**01 01 37.8**	**+0.8**	
	baz=314							
EYMN	**Ely**	**91.05**	**27**	IAmb	IAmb	01 01 41.9		
	comp=Z,27nm,1.0s							
EYMN	**Ely**	**91.05**	**27**	P	**P**	**01 01 37.2**	**+0.3**	
	baz=326							
EYMN	**Ely**	**91.05**	**27**	P	**P**	**01 01 36.9**	**+0.1**	
	baz=326							
SCHQ	**Schefferville**	**91.36**	**10**	P	**P**	**01 01 37.3**	**-0.8**	
	comp=Z,5.4nm,0.9s,baz=310,slow=5.4,SNR=5.5							
SCHQ	**Schefferville**	**91.36**	**10**	IAmb	IAmb	01 05 10.2		
	comp=Z,56nm,2.0s							
S22A	**4UR Ranch, Cre**	**91.55**	**42**	IAmb	IAmb	01 01 42.2		
	comp=Z,26nm,1.6s							
S22A	**4UR Ranch, Cre**	**91.55**	**42**	P	**P**	**01 01 40.9**	**+1.2**	
	baz=315							
X18A	**Snowflake**	**91.93**	**46**	IAmb	IAmb	01 01 47.2		
	comp=Z,14nm,1.3s							
F36A	**Milaca**	**91.94**	**29**	P	**P**	**01 01 40.8**	**-0.1**	
	baz=324							
SDCO	**Great Sand Dun**	**92.30**	**41**	P	**P**	**01 01 43.3**	**+0.2**	
	baz=316							
SDCO	**Great Sand Dun**	**92.30**	**41**	P	**P**	**01 01 43.4**	**+0.3**	
	baz=316							
ECSD	**EROS Data Cent**	**92.30**	**32**	P	**P**	**01 01 42.8**	**+0.1**	
	baz=322							
ETSF	**Etsaut**	**92.52**	**327**	*e*P	**P**	**01 01 42.7**	**-1.1**	
ETSF				pmax	pmax			
	comp=Z,46nm,1.6s							
KEST	**Kesra**	**92.59**	**316**	P	**P**	**01 01 43.0**	**-1.2**	
	comp=Z,5.4nm,1.0s,baz=357,slow=1.3,SNR=5.0							
KEST	**Kesra**	**92.59**	**316**	IAmb	IAmb	01 01 44.9		
	comp=Z,15nm,1.2s							
SJPF	**Ste Jean**	**92.66**	**327**	*e*P	**P**	**01 01 43.5**	**-0.9**	
SJPF				pmax	pmax			
	comp=Z,23nm,1.5s							
SPMN	**Marine on St.**	**92.76**	**29**	IAmb	IAmb	01 01 49.7		
	comp=Z,13nm,1.0s							
TUC	**Tucson**	**92.91**	**48**	P	**P**	**01 01 47.1**	**+1.3**	
TUC				pmax	pmax			
	comp=Z,20nm,1.6s							
TUC	**Tucson**	**92.91**	**48**	P	**P**	**01 01 47.1**	**+1.3**	
TUC				IAmb	IAmb	01 01 51.7		
	comp=Z,20nm,1.6s							
TUC	**Tucson**	**92.91**	**48**	P	**P**	**01 01 46.2**	**+0.4**	
	baz=312							
T25A	**Trinidad**	**93.33**	**41**	P	**P**	**01 01 48.4**	**+0.5**	
	baz=316							
KMBO	**Kilima Mbogo**	**93.71**	**271**	P	**P**	**01 01 48.9**	**-1.0**	
	comp=Z,1.9nm,0.9s,baz=80,slow=8.8,SNR=4.4							
ANMO	**Albuquerque**	**93.73**	**44**	*de*P	**P**	**01 01 50.1**	**+0.4**	
ANMO				pmax	pmax			
	comp=Z,19nm,2.5s							
ANMO	**Albuquerque**	**93.73**	**44**	P	**P**	**01 01 51.0**	**+1.3**	
ANMO	**Albuquerque**	**93.73**	**44**	P	**P**	**01 01 50.7**	**+1.1**	
	baz=315							
ANMO	**Albuquerque**	**93.73**	**44**	P	**P**	**01 01 50.8**	**+1.1**	
	baz=315							
G40A	**Rib Lake**	**93.77**	**28**	IAmb	IAmb	01 01 50.6		
	comp=Z,12nm,0.9s							
G40A	**Rib Lake**	**93.77**	**28**	P	**P**	**01 01 49.4**	**-0.1**	
	baz=326							
TAOE	**Nuku Hiva Isla**	**93.83**	**98**	*e*LR	LR	01 32 03.6		
	comp=Z,309nm,29.0s							
ESDC	**Sonseca Array**	**96.64**	**327**	P	**P**	**01 02 01.4**	**-1.2**	
	comp=Z,4.2nm,1.0s,baz=23,slow=3.8,SNR=16							
ESDC				PP	**PP**	**01 05 57.7**	**+1.4**	
	comp=Z,2.2nm,1.2s,baz=38,slow=8.4,SNR=5.5							
ESDC	**Sonseca Array**	**96.64**	**327**	IAmb	IAmb	01 02 02.4		
	comp=Z,7.7nm,1.1s							
TXAR	**Lajitas Array**	**99.37**	**46**	P	**Pdif**	**01 02 15.7**	**+0.4**	
	comp=Z,0.8nm,0.7s,baz=301,slow=2.3,SNR=7.9							
TXAR				PP	**PP**	**01 06 18.2**	**+0.5**	
	comp=Z,0.5nm,0.9s,baz=300,slow=5.3,SNR=4.5							
TORD	**Torodi Ar. Bea**	**113.38**	**305**	PP	**PP**	**01 07 57.6**	**-3.6**	
	comp=Z,1.9nm,1.1s,baz=38,slow=8.7,SNR=6.0							
DBIC	**Dimbokro**	**122.50**	**305**	PKP	**PKPdf**	**01 07 27.6**	**-0.9**	
	comp=Z,3.5nm,0.9s,baz=98,slow=3.2,SNR=3.0							
BATAN	**Batan**	**126.21**	**43**		PKPpre	01 07 27.0		
SDV	**Santo Domingo**	**133.70**	**30**	PKPdf	**PKPdf**	**01 07 46.9**	**-3.2**	
SDV	**Santo Domingo**	**133.70**	**30**	*e*P	**PKPdf**	**01 07 50.1**	**0.0**	
VNA2	**Neumayer--Watz**	**135.75**	**198**	PKPdf	**PKPdf**	**01 07 51.4**	**-0.6**	
	baz=129,slow=1.0							
BOAV	**Boa Vista**	**143.32**	**19**	*e*P	**PKPdf**	**01 08 07.5**	**0.0**	
CZSB	**Cruzeiro do Su**	**146.77**	**46**	*e*P	**PKPdf**	**01 08 13.2**	**-0.2**	
MCPB	**Macapa, AP**	**147.58**	**6**	*e*P	**PKPdf**	**01 08 14.4**	**-0.3**	
MACA	**Manacapuru-AM**	**148.54**	**23**	*e*P	**PKPdf**	**01 08 16.5**	**+0.2**	
NBCL	**Cascavel-CE**	**149.81**	**338**	*e*P	**PKPdf**	**01 08 19.4**	**+1.0**	
ITTB	**Itaituba**	**151.00**	**14**	*e*P	**PKPdf**	**01 08 20.7**	**+0.4**	
PRPB	**Parauapebas**	**153.47**	**2**	*e*P	**PKPdf**	**01 08 23.2**	**-0.7**	
LPAZ	**La Paz**	**156.15**	**51**	PKP	**PKPdf**	**01 08 28.3**	**+0.1**	
	comp=Z,2.5nm,1.1s,baz=274,slow=0.3,SNR=6.0							
LPAZ				PKPab	**PKPab**	**01 08 54.7**	**-1.1**	
	comp=Z,2.2nm,0.8s,baz=323,slow=7.3,SNR=4.8							
GO04	**Tololo Observa**	**161.28**	**88**		**PKPab**	**01 09 18.1**	**+0.7**	
BDFB	**Brasilia**	**162.86**	**357**	PKP	**PKPdf**	**01 08 34.8**	**-0.6**	
	comp=Z,6.7nm,1.1s,baz=13,slow=3.3,SNR=6.1							

JMA 16 00:49:30.8, 32°.86N×130°.85E, h13$^{km}_{\pm 1 km}$, M4.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.29**	**291**	P	Pg	00 49 36.9	+0.1
JIU3	**Izumi3**	**0.31**	**186**	P	Pg	00 49 37.0	-0.2
JIU3				S	Sg	00 49 41.6	+0.1
JZO	**Okuchi**	**0.75**	**197**	P	Pg	00 49 45.0	-0.3
JZO				S	Sg	00 49 55.1	-0.1

*IDC **16** 00:50:03.8±1.1, 32°.81N×130°.63E, h0^{km}, mb4.3/9, mb1 4.5/9, mb1mx4.1/44, mbtmp4.3/9, Error ellipse: s-maj=31.7km s-min=7.9km az=130.0*
*JMA **16** 00:50:06.2, 32°.85N×130°.83E, h15$^{km}_{\pm 1 km}$, M4.5*
ISC 16 00:50:05.6±0.7, 32°.83N±0°.05×130°.83E±0°.08, h12^{km}, n13, σ0°69/16, mb4.3/9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.28**	**297**	P	**Pb**	**00 50 12.1**	**-0.5**
JTA				S	**Sg**	**00 50 16.2**	**+0.9**
JIU3	**Izumi3**	**0.28**	**183**	P	**Pb**	**00 50 12.5**	**-0.2**
JIU3				S	**Sb**	**00 50 16.9**	**-0.5**
JNU	**Nakatsue**	**0.29**	**8**	Pg	**Pg**	**00 50 11.6**	**0.0**
	baz=186,slow=9.2						
JNU				Lg	Lg	00 50 15.8	
	12μm,0.3s,baz=281,slow=11,SNR=12						
JNU	**Nakatsue**	**0.29**	**8**	P	**Pg**	**00 50 11.9**	**+0.3**
JNU				S	**Sg**	**00 50 15.7**	**+0.1**
ILAR	**Eielson Array**	**57.59**	**30**	P	**P**	**00 59 54.9**	**-0.1**
	1.0nm,0.5s,baz=298,slow=7.2,SNR=5.4						
ARCES	**ARCESS Array B**	**64.73**	**338**	P	**P**	**01 00 42.7**	**-0.5**
	1.4nm,0.7s,baz=56,slow=8.9,SNR=1.4						
STKA	**Stephens Creek**	**65.16**	**170**	P	**P**	**01 00 46.8**	**+0.4**
	4.8nm,0.8s,baz=345,slow=11,SNR=1.9						
KBZ	**Khabaz**	**66.81**	**308**	P	**P**	**01 00 58.1**	**+1.1**
	8.8nm,0.9s,baz=70,slow=5.8,SNR=2.7						
FINES	**FINESS Array B**	**68.27**	**330**	P	**P**	**01 01 04.9**	**-1.1**
	1.9nm,0.5s,baz=78,slow=7.9,SNR=3.4						
AKASG	**Malin Array Be**	**72.02**	**319**	P	**P**	**01 01 28.9**	**-0.2**
	4.1nm,0.6s,baz=55,slow=5.7,SNR=4.0						
NOA	**NORSAR Array B**	**74.40**	**334**	P	**P**	**01 01 42.0**	**-1.2**
	2.3nm,0.9s,baz=48,slow=5.7,SNR=3.0						
BRTR	**Keskin Array B**	**74.80**	**308**	P	**P**	**01 01 46.3**	**+0.3**
	2.5nm,0.9s,baz=92,slow=7.7,SNR=2.3						
NVAR	**Mina Array Bea**	**84.35**	**48**	P	**P**	**01 02 38.8**	**+0.8**
	0.9nm,0.7s,baz=270,slow=4.1,SNR=1.9						

JMA 16 00:53:37.2, 32°.86N×130°.82E, h13$^{km}_{\pm 1 km}$, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.26**	**293**	P	Pg	00 53 42.9	+0.2
JTA				S	Sg	00 53 46.9	+0.4
JNU	**Nakatsue**	**0.27**	**11**	P	Pg	00 53 42.5	-0.3
JNU				*e*S	Sg	00 53 46.7	+0.1
JIU3	**Izumi3**	**0.31**	**181**	P	Pg	00 53 43.7	+0.1
JIU3				S	Sg	00 53 48.1	+0.3

JMA 16 00:56:31.9, 32°.70N×130°.67E, h12$^{km}_{\pm 1 km}$, M3.6, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.19**	**141**	P	Pg	00 56 36.1	0.0
JIU3				*e*S	Sg	00 56 39.3	+0.2
JTA	**Tamana**	**0.29**	**336**	⇑P	Pg	00 56 37.9	+0.1
JTA				S	Sg	00 56 42.0	+0.2
JZO	**Okuchi**	**0.56**	**186**	P	Pg	00 56 42.8	-0.1
JZO				S	Sg	00 56 50.5	+0.2
JTZ	**Takazaki**	**0.87**	**156**	P	Pb	00 56 49.2	+0.2
JTZ				S	Sb	00 57 00.5	-0.1

JMA 16 00:58:10.8, 32°.63N×130°.72E, h6$^{km}_{\pm 1 km}$, M3.5, 1C-1D,

Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.11**	**136**	⇓P	Pg	00 58 13.4	+0.2
JIU3				S	Sg	00 58 15.4	+0.6
JTA	**Tamana**	**0.37**	**335**	⇑P	Pg	00 58 18.2	+0.2
JTA				S	Sg	00 58 23.4	+0.6

*HLW **16** 01:02:18.3, 36°.67N×28°.05E, h14$^{km}_{\pm 17 km}$, Md3.5*
*ATH **16** 01:02:20.8, 36°.63N×27°.88E, h78$^{km}_{\pm 4 km}$, ML2.9/5, Error ellipse: s-maj=4.9km s-min=2.6km az=64.0*
*ISK **16** 01:02:22.5, 36°.70N×27°.92E, h68$^{km}_{\pm 1 km}$, ML2.7/17*
*DDA **16** 01:02:23.5±0.0, 36°.63N×27°.91E, h64$^{km}_{\pm 1 km}$, ML2.7*
*THE **16** 01:02:24.2, 36°.69N×27°.94E, h62$^{km}_{\pm 1 km}$, ML2.8/5, Error ellipse: s-maj=1.9km s-min=0.6km az=298.0*
ISC 16 01:02:22.4±1.1, 36°.65N±0°.03×27°.94E±0°.03, h68$^{km}_{\pm 8 km}$, n69, σ1°16/101, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.27**	**64**	PG	**Pn**	**01 02 33.5**	**+0.4**
TURN				SG	**Sn**	**01 02 41.2**	**+0.2**
TURN	**Turunc**	**0.27**	**64**	P	**Pn**	**01 02 33.4**	**+0.3**
TURN				*i* AML	AML	01 02 41.0	
	comp=N,1μm,0.2s						
TURN				*i* AML	AML	01 02 41.0	
	comp=E,1μm,0.2s						
TURN				S	**Sn**	**01 02 41.2**	**+0.2**
DAT	**Datca**	**0.30**	**285**	P	**Pn**	**01 02 33.8**	**+0.3**
DAT				S	**Sn**	**01 02 41.4**	**-0.2**
DAT	**Datca**	**0.30**	**285**	PG	**Pn**	**01 02 34.0**	**+0.5**
DAT				SG	**Sn**	**01 02 41.9**	**+0.3**
DAT	**Datca**	**0.30**	**285**	P	**Pn**	**01 02 33.9**	**+0.5**
DAT				S	**Sn**	**01 02 41.7**	**+0.1**
DAT				*i* AML	AML	01 02 43.0	
	comp=E,586nm,0.2s						
DAT				*i* AML	AML	01 02 43.0	
	comp=N,784nm,0.6s						
ARG	**Arkhangelos**	**0.46**	**161**	P	**Pn**	**01 02 35.7**	**+1.1**
ARG				S	**Sn**	**01 02 44.8**	**+1.2**
ARG				AML	AML	01 02 45.2	
	comp=N,2050μm,0.2s						
ARG				AML	AML	01 02 45.3	
	comp=E,2402μm,0.4s						
ARG	**Arkhangelos**	**0.46**	**161**	P	**Pn**	**01 02 35.7**	**+1.1**
ARG				S	**Sn**	**01 02 44.8**	**+1.2**
	comp=E,1μm,0.2s						
ARG	**Arkhangelos**	**0.46**	**161**	PG	**Pn**	**01 02 35.8**	**+1.2**
ARG				SG	**Sn**	**01 02 44.8**	**+1.2**
YER	**Yerkesik**	**0.55**	**30**	P	**Pn**	**01 02 36.0**	**+0.4**
YER				S	**Sn**	**01 02 45.1**	**-0.2**
YER	**Yerkesik**	**0.55**	**30**	PG	**Pn**	**01 02 36.3**	**+0.7**
YER				SG	**Sn**	**01 02 45.5**	**+0.2**
BDRM	**Kayabasi**	**0.57**	**316**	P	**Pn**	**01 02 36.1**	**+0.4**
BDRM				S	**Sn**	**01 02 45.8**	**+0.3**
BDRM				*i* AML	AML	01 02 46.0	
	comp=E,461nm,0.4s						
BDRM				*i* AML	AML	01 02 46.0	
	comp=E,364nm,0.2s						
DALY	**Dalyan (Mula)**	**0.60**	**74**	PG	**Pn**	**01 02 37.3**	**+1.3**
DALY				SG	**Sn**	**01 02 47.1**	**+1.2**
BODT	**Bodrum**	**0.65**	**309**	P	**Pn**	**01 02 37.0**	**+0.4**
BODT				S	**Sn**	**01 02 47.0**	**0.0**
BODT	**Bodrum**	**0.65**	**309**	PG	**Pn**	**01 02 37.2**	**+0.6**
BODT				SG	**Sn**	**01 02 47.3**	**+0.3**
NISR	**Nisiros**	**0.65**	**267**	P	**Pn**	**01 02 37.5**	**+0.9**
NISR				S	**Sn**	**01 02 48.0**	**+1.0**
NISR				AML	AML	01 02 49.0	
	comp=N,1244μm,0.2s						
NISR				AML	AML	01 02 49.5	
	comp=E,1634μm,0.3s						
NISR	**Nisiros**	**0.65**	**267**	P	**Pn**	**01 02 37.5**	**+0.9**
NISR				S	**Sn**	**01 02 48.0**	**+1.0**
	comp=E,728nm,0.2s						
MLSB	**Milas**	**0.65**	**349**	PG	**Pn**	**01 02 37.3**	**+0.6**
MLSB				SG	**Sn**	**01 02 46.9**	**-0.3**
MULA	**Mugla, Merkez-**	**0.68**	**27**	P	**Pn**	**01 02 37.9**	**+1.0**
MULA				S	**Sn**	**01 02 48.8**	**+1.1**
MULA				*i* AML	AML	01 02 51.0	
	comp=E,173nm,0.3s						
MULA				*i* AML	AML	01 02 52.0	
	comp=E,351nm,0.2s						
YKAV	**Yalikavak-Bodr**	**0.71**	**312**	PG	**Pn**	**01 02 37.2**	**0.0**
YKAV				SG	**Sn**	**01 02 47.7**	**-0.4**
KOSK	**Kos Island**	**0.78**	**278**	P	**Pn**	**01 02 38.8**	**+0.8**
KOSK				S	**Sn**	**01 02 50.6**	**+1.0**
KOSK				AML	AML	01 02 51.6	
	comp=N,2630μm,0.4s						
KOSK				AML	AML	01 02 53.2	
	comp=E,2479μm,0.3s						
KOSK	**Kos Island**	**0.78**	**278**	P	**Pn**	**01 02 38.8**	**+0.8**
KOSK				S	**Sn**	**01 02 50.6**	**+1.0**
	comp=E,432nm,0.4s						
KOSK	**Kos Island**	**0.78**	**278**	PG	**Pn**	**01 02 38.7**	**+0.8**
KOSK				SG	**Sn**	**01 02 50.3**	**+0.8**
FETY	**Fethiye**	**0.92**	**91**	P	**Pn**	**01 02 41.0**	**+1.2**
FETY				S	**Sn**	**01 02 53.3**	**+0.6**
FETY	**Fethiye**	**0.92**	**91**	PG	**Pn**	**01 02 40.9**	**+1.2**
FETY				SG	**Sn**	**01 02 54.0**	**+1.3**
**FETY

AKS	Akhisar	2.22	357	PN	Pn	01 02 57.2 +0.2
CHOS	Chios island	2.29	320	P	Pn	01 02 59.7 +1.8
CHOS	Chios island	2.29	320	P	Pn	01 02 58.6 +0.7
CHOS	Chios island	2.29	320	PN	Pn	01 02 58.9 +1.0
DKL	Dikili	2.55	342	PN	Pn	01 03 01.9 +0.5
SIMA	Simav-Kutahya	2.56	18	PN	Pn	01 03 02.3 +0.6
SHAP	Saphane-Kutahy	2.58	23	PN	Pn	01 03 02.5 +0.7
SHUT	Suhut-Afyon	2.81	47	PN	Pn	01 03 06.4 +1.3
MATC	Matruh baz=188	5.33	187	P	Pn	01 03 38.9 -0.4
SLUM	Salum baz=206	5.62	205	P	Pn	01 03 42.6 -0.7
HNAT	Natroun baz=162	7.35	161	P	Pn	01 04 05.8 -1.3
KOT	Kottamia baz=153	7.46	153	P	Pn	01 04 06.8 -1.7
HSAF	As Saff baz=156	7.64	156	P	Pn	01 04 09.5 -1.5
SWA2	baz=198	7.68	196	P	Pn	01 04 10.6 -0.9
GLL	Jalalah baz=155	7.73	155	P	Pn	01 04 10.8 -1.4
GLL	baz=155			S	Sn	01 05 32.3 -6.1
RYAN	Fayoum baz=165	7.80	165	P	Pn	01 04 11.0 -2.2
NBNS	Bani Suef baz=160	8.49	160	P	Pn	01 04 21.1 -1.5
GRB	Gharib baz=153	9.30	153	P	Pn	01 04 31.6 -2.1
HFRF	Wahat Farafira baz=178	9.48	178	P	Pn	01 04 35.0 -1.1
HKAT	Jabal Katrina baz=146	9.58	146	P	Pn	01 04 35.9 -1.7
TR2	Tor 2 baz=148	9.58	148	P	Pn	01 04 36.1 -1.4
TR1	Tor 1 baz=148	10.01	148	P	Pn	01 04 42.2 -1.1
HHRG	Al Ghardaqah baz=152	10.55	151	P	Pn	01 04 51.8 +1.0

IDC ***16*** *01:06:42.7±3.4,24°.39N×109°.07W,h0km,mb3.5/3, mb1 3.8/7,mb1mx3.6/40,mbtmp3.4/7,ML3.4/4,Error ellipse: s-maj=61.5km s-min=11.8km az=148.0*

MEX ***16*** *01:06:48.8±1.1,24°.79N×109°.20W,h17km±999km,MD4.1*

ISC 16 01:06:50.4±1.7,24°.9N±0°.1×108°.9W±0°.1,h16km,n11, σ1§68/12,mb3.7/3,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.66**	**350**	*i* P	**Pg**	**01 07 02.0**	**-1.5**
TSIG				eS	**Sg**	**01 07 11.8**	**-0.5**
LPIG	**La Paz** 26nm,0.3s,baz=41,slow=5.2,SNR=14	**1.52**	**237**	Pn	Pn	01 07 06.4	-11
LPIG				Lg	Lg	01 07 19.9	
	69nm,0.3s,baz=205,slow=16,SNR=27						
SSIG	**Sanalona**	**1.62**	**94**	*e*P	**Pn**	**01 07 16.2**	**-2.1**
SSIG				*e*S	**Sn**	**01 07 39.1**	**+0.2**
CSIG	**Choix**	**1.94**	**15**	*e*P	**Pn**	**01 07 21.9**	**-0.9**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=224,slow=14,SNR=6.1	**6.40**	**46**	Pn	**Pn**	**01 08 24.8**	**+0.6**
TXAR				Lg	Lg	01 10 16.4	
	1.2nm,0.3s,baz=204,slow=30,SNR=4.4						
ANMO	**Albuquerque** 0.1nm,0.3s,baz=182,slow=9.9,SNR=3.8	**10.20**	**11**	Pn	**Pn**	**01 09 20.0**	**+3.7**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=157,slow=15,SNR=1.7	**15.63**	**332**	Pn	**Pn**	**01 10 31.5**	**+1.3**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=166,slow=11,SNR=11	**17.79**	**358**	P	**P**	**01 10 59.1**	**+0.9**
NEW	**Newport** 2.3nm,0.7s,baz=174,slow=9.3,SNR=4.0	**24.16**	**347**	P	**P**	**01 12 06.1**	**+0.2**
YKA	**Yellowknife Ar** 0.3nm,0.9s,baz=167,slow=8.0,SNR=4.5	**37.73**	**356**	P	**P**	**01 14 04.3**	**-0.8**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=156,slow=6.9,SNR=5.0	**46.72**	**339**	P	**P**	**01 15 17.8**	**-0.6**

IDC ***16*** *01:22:19.9±0.9,16°.70S×172°.98W,h0km,mb4.0/9, mb1 4.2/10,mb1mx4.0/54,mbtmp4.0/10,ML3.6/1,MS3.5/1, Ms1 3.5/1,ms1mx2.8/72,Error ellipse: s-maj=38.1km s-min=19.5km az=126.0*

ISC 16 01:22:24.5±0.8,16.6S±0°.1×172°.9W±0°.2,h32km,n14, σ2§54/14,mb4.0/8,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 7.1nm,0.3s,baz=132,slow=9.2,SNR=8.5	**2.86**	**22**	Pn	**Pn**	**01 23 07.7**	**-0.3**
AFI				Sn	**Sn**	**01 23 38.0**	**-3.3**
	24nm,0.3s,baz=210,slow=23,SNR=11						
URZ	**Urewera** 9.1nm,0.7s,baz=304,slow=2.4,SNR=6.1	**23.32**	**200**	P	**P**	**01 27 27.2**	**-2.7**
WRA	**Warramunga Arr** 1.7nm,0.7s,baz=96,slow=7.5,SNR=13	**50.06**	**258**	P	**P**	**01 31 15.1**	**-1.5**
ASAR	**Alice Springs** 4.7nm,0.7s,baz=86,slow=9.3,SNR=40	**50.22**	**253**	P	**P**	**01 31 16.8**	**-1.1**
FITZ	**Fitzroy Crossi** 1.2nm,0.8s,baz=142,slow=15,SNR=2.2	**58.45**	**259**	P	**P**	**01 32 17.7**	**0.0**
RPN	**Rapa Nui** comp=Z,42nm,20.0s,baz=224,slow=30	**59.40**	**112**	LR	LR	01 51 50.2	
VNDA	**Vanda** 0.9nm,0.8s,baz=347,slow=6.5,SNR=4.2	**62.27**	**186**	P	**P**	**01 32 42.6**	**-0.3**
PDAR	**Pinedale Array** 0.1nm,0.4s,baz=278,slow=4.3,SNR=4.5	**82.81**	**42**	P	**P**	**01 34 46.9**	**+0.9**
ILAR	**Eielson Array** 0.6nm,0.9s,baz=234,slow=5.1,SNR=4.8	**83.49**	**11**	P	**P**	**01 34 50.1**	**+1.5**
YKA	**Yellowknife Ar** 0.0nm,0.4s,baz=107,slow=37,SNR=2.4	**90.97**	**23**	P	**P**	**01 35 25.8**	**+0.8**
CMAR	**Chiang Mai Arr** 0.3nm,0.4s,baz=219,slow=52,SNR=2.1	**93.44**	**288**	P	**P**	**01 35 38.5**	**+1.1**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=94,slow=4.6,SNR=2.1	**111.99**	**314**	Pdiff	**Pdif**	**01 37 06.4**	**+6.6**
KMBO	**Kilima Mbogo** 1.4nm,0.9s,baz=35,slow=17,SNR=3.2	**145.44**	**242**	PKPbc	**PKPab**	**01 42 01.5**	**+0.7**
BRTR	**Keskin Array B** 0.8nm,0.9s,baz=70,slow=1.2,SNR=2.1	**147.36**	**320**	PKPbc	**PKPbc**	**01 42 05.8**	**+0.3**

IDC 16 01:22:28.6±5.5,4°.74S×148°.06E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.6/38,mbtmp3.6/4,MS4.0/1,Ms1 4.0/1, ms1mx2.8/45,Error ellipse: s-maj=111.0km s-min=56.3km az=179.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=47,slow=10.0,SNR=10	**20.18**	**220**	P	P	01 27 05.3	+0.4
ASAR	**Alice Springs** 1.3nm,0.8s,baz=43,slow=7.6,SNR=12	**23.25**	**215**	P	P	01 27 38.0	+0.1
FITZ	**Fitzroy Crossi** 0.9nm,0.4s,baz=45,slow=6.9,SNR=13	**25.63**	**237**	P	P	01 27 59.8	-0.3
JHJ	**Hachijo jima 2** comp=Z,185nm,18.8s,baz=104,slow=34	**38.46**	**349**	LR	LR	01 44 13.1	
VNDA	**Vanda** 0.5nm,0.6s,baz=348,slow=7.3,SNR=1.7	**73.11**	**177**	P	P	01 34 00.5	+0.1

GCG ***16*** *01:23:14.9±3.8,13°.35N×96°.99W,h0km±999km,MD4.6*

IDC ***16*** *01:24:08.1±1.7,14°.40N×92°.50W,h0km,mb3.9/8, mb1 4.2/10,mb1mx3.9/45,mbtmp3.9/10,ML3.6/2,MS2.5/1, Ms1 2.5/1,ms1mx2.3/70,Error ellipse: s-maj=91.5km s-min=22.3km az=50.0*

MEX ***16*** *01:24:09.1±0.9,13°.92N×93°.18W,h16km,MD4.2*

NEIC ***16*** *01:24:11.2±2.0,14°.25N±0°.04×92°.95W±0°.02,h10km±5km, mb4.2/25,Md4.2/34(MEX),Error ellipse: s-maj=5.3km s-min=3.1km az=192.0*

ISC 16 01:24:08.0±1.8,14°.13N±0°.06×93°.08W±0°.04,h5km±11km, n76,σ1§80/91,mb4.1/16,1D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.11**	**45**		**Pg**	**01 24 29.0**	**-0.4**
THIG					**Sn**	**01 24 44.6**	**-1.2**
THIG		**1.11**	**45**	*e*P	**Pg**	**01 24 29.0**	**-0.4**
THIG				*e*S	**Sn**	**01 24 44.6**	**-1.2**
PATR	**El Naranjo**	**1.28**	**40**	*e*P	**Pg**	**01 24 31.9**	**-0.7**
PATR				*e*S	**Sn**	**01 24 49.9**	**-0.6**
CHUJ	**Union Juarez**	**1.35**	**44**	*e*P	**Pb**	**01 24 32.8**	**-1.1**
CHUJ				*i* S	**Sn**	**01 24 52.2**	**+0.2**
PAVE	**Pavencul**	**1.38**	**39**	*e*P	**Pb**	**01 24 33.4**	**-1.0**
PAVE				*e*S	**Sn**	**01 24 52.1**	**-0.7**
RTAL	**Retalhuleu**	**1.40**	**73**	Pn	**Pn**	**01 24 33.6**	**-0.6**
RTAL				Sn	**Sb**	**01 24 46.4**	**-6.4**
STG3	**Santiaguito 3,**	**1.57**	**68**	*e*P	**Pn**	**01 24 36.6**	**-0.2**
PCIG		**1.58**	**355**		**Pn**	**01 24 35.3**	**-1.3**
PCIG					**Sn**	**01 24 56.3**	**-1.1**
PCIG		**1.58**	**355**	*e*P	**Pn**	**01 24 35.3**	**-1.3**
PCIG				*i* S	**Sn**	**01 24 56.3**	**-1.1**
HUEH	**Huehuetenango**	**1.93**	**52**	Pn	**Pn**	**01 24 42.1**	**+0.3**
FUG	**Fuego 3**	**2.19**	**81**	*e*P	**Pn**	**01 24 45.1**	**-0.2**
CARR	**Arriaga**	**2.26**	**339**	*e*P	**Pn**	**01 24 46.0**	**0.0**
CARR				*i* S	**Sn**	**01 25 12.9**	**-1.3**
CCIG	**Comitan**	**2.33**	**23**	Pn	**Pn**	**01 24 48.8**	**+1.6**
CCIG	**Comitan**	**2.33**	**23**		**Sb**	**01 25 17.3**	**-2.5**
CCIG	**Comitan**	**2.33**	**23**	*e*P	**Pb**	**01 24 49.7**	**-0.9**
CCIG				*e*S	**Sb**	**01 25 17.3**	**-2.5**
TGIG		**2.64**	**359**		**Pn**	**01 24 51.9**	**+0.6**
TGIG					**Sn**	**01 25 24.0**	**+0.3**
TGIG		**2.64**	**359**	*e*P	**Pn**	**01 24 51.9**	**+0.6**
TGIG				*e*S	**Sn**	**01 25 24.0**	**+0.3**
NBG	**Las Nubes**	**2.69**	**80**	*e*P	**Pn**	**01 24 54.0**	**+1.8**
UXUV	**UXUV**	**3.34**	**342**	*e*P	**Pn**	**01 25 02.8**	**+2.0**
UXUV				*i* S	**Sn**	**01 25 43.1**	**+2.3**
HUIG	**Huatulco**	**3.35**	**300**		Pn	01 24 58.8	-2.3
HUIG					Sn	01 25 33.8	-7.5
HUIG	**Huatulco**	**3.35**	**300**	*e*P	Pn	01 24 58.8	-2.3
HUIG				*e*S	Sn	01 25 33.8	-7.5
MRL	**Marmol**	**3.42**	**73**	*e*P	**Pn**	**01 25 04.6**	**+2.3**
CMIG	**Matias Romero** 7.2nm,0.3s,baz=164,slow=12,SNR=70	**3.42**	**330**	Pn	**Pn**	**01 25 02.7**	**+0.7**
CMIG				Sn	**Sn**	**01 25 40.6**	**-2.5**
	15nm,0.3s,baz=114,slow=13,SNR=3.7						
CMIG				LR	LR	01 25 48.2	
	comp=Z,66nm,19.4s,baz=200,slow=28						
CMIG	**Matias Romero**	**3.42**	**330**		**Pn**	**01 25 01.8**	**-0.3**
CMIG					**Sn**	**01 25 42.3**	**-0.7**
CMIG	**Matias Romero**	**3.42**	**330**	*e*P	**Pn**	**01 25 01.8**	**-0.3**
CMIG				*e*S	**Sn**	**01 25 42.3**	**-0.7**
MTO3	**Montecristo**	**3.62**	**85**	Pn	**Pn**	**01 25 03.8**	**-1.1**
ESQI	**Esquipulas**	**3.65**	**83**	Pn	**Pn**	**01 25 06.2**	**+0.9**
SNET	**Serv Nac Est T**	**3.76**	**96**	Pn	**Pn**	**01 25 07.5**	**+0.6**
PETF	**Flores**	**4.16**	**48**	Pn	**Pn**	**01 25 13.3**	**+1.1**
PEIG	**Puerto Escondi**	**4.35**	**296**	*e*P	**Pn**	**01 25 14.2**	**-0.6**
PEIG				*e*S	**Sn**	**01 26 01.4**	**-4.4**
NEUV	**Arroyo Zacate**	**4.42**	**324**	*e*P	**Pn**	**01 25 15.4**	**-0.4**
NEUV				*i* S	**Sn**	**01 26 05.6**	**-2.1**
PNIG	**Pinotepa**	**5.37**	**295**		**Pn**	**01 25 28.2**	**-0.6**
PNIG					Sn	01 26 23.7	-7.4
PNIG	**Pinotepa**	**5.37**	**295**	*e*P	**Pn**	**01 25 28.2**	**-0.6**
PNIG				*e*S	Sn	01 26 23.7	-7.4
TXIG	**Tlaxiaco**	**5.48**	**305**	ǁ *e*P	**Pn**	**01 25 32.6**	**+2.0**
TXIG				*e*S	**Sn**	**01 26 29.6**	**-4.6**
TGUH	**Tegucigalpa,Un**	**5.63**	**90**	Pn	**Pn**	**01 25 33.5**	**+0.9**
HLIG	**Huajuapan de L**	**5.85**	**310**	*e*P	**Pn**	**01 25 35.5**	**-0.1**
HLIG				*e*S	**Sn**	**01 26 41.9**	**-1.3**
TLIG	**Tlapa**	**6.29**	**304**		**Pn**	**01 25 44.7**	**+3.1**
JAUV	**Jalcomulco**	**6.31**	**326**	*e*P	**Pn**	**01 25 42.0**	**+0.1**
JAUV				*i* S	**Sn**	**01 26 48.8**	**-5.6**
MATN	**Matagalpa**	**7.06**	**99**	Pn	**Pn**	**01 25 51.7**	**-0.4**
BOAB	**BOACO BROADBAN**	**7.41**	**102**	Pn	**Pn**	**01 25 57.7**	**+0.8**
ACON	**Acoyapa**	**8.00**	**105**	Pn	**Pn**	**01 26 06.5**	**+1.5**
JTS	**Las Juntas de**	**8.81**	**115**		**Pn**	**01 26 18.2**	**+2.1**
RIMA	**Rio Macho**	**10.00**	**115**		**Pn**	**01 26 34.2**	**+1.5**
SRBA	**San Rafael, Bu**	**10.69**	**116**		**Pn**	**01 26 43.6**	**+1.6**
BRU2	**Volcan**	**11.48**	**116**	Pn	**Pn**	**01 26 53.9**	**+1.1**
435B	**Jarrell**	**17.09**	**347**	Pn	**Pn**	**01 28 08.1**	**+0.3**
JCT	**Junction City**	**17.41**	**340**	Pn	**Pn**	**01 28 12.4**	**+0.6**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=153,slow=11,SNR=10	**18.03**	**329**	P	**P**	**01 28 22.9**	**+2.8**
TXAR	**Lajitas Array**	**18.03**	**329**		**Pn**	**01 28 21.2**	**+1.7**
TX31	**Lajitas Ar. Si**	**18.03**	**329**		**P**	**01 28 22.1**	**+2.0**
TX31				IAmb	IAmb	01 28 31.3	
	comp=Z,14nm,1.1s						
TX32	**Lajitas Array**	**18.03**	**329**		**Pn**	**01 28 21.8**	**+2.2**
WLAR	**White Oak Lake**	**19.48**	**360**	P	**P**	**01 28 37.1**	**+1.4**
WLAR				IAmb	IAmb	01 28 45.6	
	comp=Z,29nm,1.2s						
MIAR	**Mount Ida**	**20.34**	**359**	P	**P**	**01 28 45.9**	**+0.7**
MIAR				IAmb	IAmb	01 28 54.5	
	comp=Z,8.1nm,0.9s						
ROSC	**El Rosal**	**20.66**	**115**	P	**P**	**01 28 48.7**	**-0.6**
ROSC				IAmb	IAmb	01 28 52.4	
	comp=Z,24nm,1.4s						
MNTX	**Cornudas Mount**	**20.81**	**329**	P	Pn	01 28 53.7	+1.0
FNO	**Franklin**	**21.40**	**350**	P	**P**	**01 28 58.3**	**+1.6**
FNO				IAmb	IAmb	01 29 00.3	
	comp=Z,10nm,0.7s						
U40A	**Yellville**	**22.14**	**0**	P	**P**	**01 29 05.2**	**+0.5**
SDV	**Santo Domingo**	**22.60**	**101**	P	**P**	**01 29 09.7**	**-0.2**
SDV				IAmb	IAmb	01 29 12.3	
	comp=Z,6.5nm,1.1s						
121A	**Cookes Peak, D**	**22.71**	**326**	P	**P**	**01 29 14.6**	**+3.6**
121A				IAmb	IAmb	01 29 16.0	
	comp=Z,8.2nm,0.8s						
S39A	**Bolivar**	**23.47**	**360**	P	**P**	**01 29 16.6**	**-2.0**
S39A				IAmb	IAmb	01 29 19.0	
	comp=Z,6.0nm,0.8s						
ANMO	**Albuquerque**	**23.99**	**332**	P	**P**	**01 29 25.4**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=151,slow=12,SNR=3.8						
ANMO	**Albuquerque**	**23.99**	**332**	IAmb	IAmb	01 29 28.6	
	comp=Z,1.6nm,0.9s						
T25A	**Trinidad**	**25.05**	**338**	P	**P**	**01 29 36.5**	**+3.0**
T25A				IAmb	IAmb	01 29 46.1	
	comp=Z,4.8nm,0.8s						
SDCO	**Great Sand Dun**	**25.99**	**337**	P	**P**	**01 29 44.6**	**+2.5**
SDCO				IAmb	IAmb	01 29 54.8	
	comp=Z,5.3nm,1.2s						
CCUT	**Cedar City**	**29.49**	**326**	P	**P**	**01 30 14.9**	**+1.5**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.8s,baz=134,slow=11,SNR=3.7	**31.88**	**337**	P	**P**	**01 30 34.8**	**+0.3**
NVAR	**Mina Array Bea** comp=Z,1.7nm,0.8s,baz=137,slow=8.8,SNR=7.3	**32.92**	**322**	P	**P**	**01 30 45.7**	**+2.0**
LOHW	**Long Hollow** comp=Z,2.0nm,0.8s	**33.00**	**336**	IAmb	IAmb	01 30 53.6	
F10A	**Beach Ranch, E** comp=Z,3.5nm,0.8s	**37.70**	**332**	IAmb	IAmb	01 31 38.7	
SIV	**San Ignacio** comp=Z,1.0nm,0.8s,baz=260,slow=6.2,SNR=4.4	**43.55**	**132**	P	**P**	**01 32 12.0**	**-1.1**
YKA	**Yellowknife Ar** comp=Z,2.5nm,0.7s,baz=151,slow=7.5,SNR=49	**50.67**	**347**	P	**P**	**01 33 07.8**	**-0.2**
INK	**Inuvik** comp=Z,1.1nm,0.4s,baz=153,slow=2.5,SNR=24	**60.02**	**344**	P	**P**	**01 34 15.4**	**0.0**
INK	**Inuvik**	**60.02**	**344**	P	**P**	**01 34 16.0**	**+0.6**
ILAR	**Eielson Array** comp=Z,0.8nm,0.9s,baz=135,slow=4.9,SNR=6.7	**62.31**	**337**	P	**P**	**01 34 31.6**	**+0.6**
FINES	**FINESS Array B** comp=Z,3.3nm,1.1s,baz=250,slow=7.3,SNR=5.1	**90.83**	**25**	P	**P**	**01 37 10.8**	**-1.5**
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.8s,baz=335,slow=3.8,SNR=13	**145.52**	**340**	PKPbc	**PKPbc**	**01 43 48.3**	**0.0**

NIED ***16*** *01:26:10.4,32°.80N×130°.85E,h11km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.57; Mθθ3.54; Mφφ-0.97; Mrθ0.04; Mθφ5.76; Mφr0.92; Fault plane solution: M₀6.30000×10¹⁴ NP1: φs100.00000°,δ76.00000°,λ-9.00000°. NP2:φs192.00000°, δ81.00000°,λ-166.00000°.*

JMA 16 01:26:10.4,32°.80N×130°.85E,h11km±1km,M3.8,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.25**	**187**	S	Sg	01 26 19.7	+0.6
JTA	**Tamana**	**0.31**	**302**	P	Pg	01 26 16.7	0.0
JTA				S	Sg	01 26 21.3	+0.3

IDC ***16*** *01:38:51.8±0.7,32°.59N×130°.74E,h0km,mb3.8/16, mb1 4.0/18,mb1mx3.8/61,mbtmp3.8/18,ML3.1/2,MS3.7/28, Ms1 3.7/28,ms1mx3.4/98,Error ellipse: s-maj=20.1km s-min=8.2km az=106.0*

JMA ***16*** *01:38:53.1,32°.65N×130°.73E,h10km±1km,M4.5*

JMA Felt IV J1.

NIED ***16*** *01:38:53.1,32°.65N×130°.73E,h10km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.24; Mθθ3.56; Mθφ-3.80; Mrθ-0.53; Mθφ2.47; Mφr2.36; Fault plane solution: M₀4.94000×10¹⁵ NP1: φs116.00000°,δ72.00000°,λ-14.00000°. NP2: φs210.00000°,δ76.00000°,λ-162.00000°.*

NEIC ***16*** *01:38:53.9±1.6,32°.54N±0°.03×130°.48E±0°.06,h8km±5km, mb4.3/20 Error ellipse: s-maj=7.7km s-min=4.8km az=92.0*

ISC 16 01:38:53.1±1.1,32°.58N±0°.03×130°.64E±0°.05,h7km±7km, n87,σ1§55/73,mb4.2/26,MS3.7/25,5C,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**103**	⇑P	**Pg**	**01 38 56.0**	**-0.2**
JIU3				S	**Sg**	**01 38 58.1**	**-0.2**
JTA	**Tamana**	**0.39**	**346**	⇑P	**Pg**	**01 39 00.3**	**-0.5**
JTA				S	**Sg**	**01 39 05.3**	**-0.6**
JZO	**Okuchi**	**0.44**	**185**	⇑P	**Pb**	**01 39 03.3**	**0.0**
JZO				S	**Sb**	**01 39 10.3**	**+0.1**
JNU	**Nakatsue** 767nm,0.3s,baz=278,slow=22,SNR=113	**0.57**	**20**	Pg	**Pg**	**01 39 02.7**	**-1.5**
JNU				Lg	Lg	01 39 09.6	
	3µm,0.3s,baz=273,slow=21,SNR=30						
JNU	**Nakatsue**	**0.57**	**20**	Pg	**Pn**	**01 39 06.8**	**-1.0**
JTZ	**Takazaki**	**0.78**	**151**	⇑P	**Pb**	**01 39 09.2**	**+0.2**
JTZ				S	**Sb**	**01 39 19.9**	**+0.1**
JSU	**Suzuyama**	**1.09**	**189**		**Pn**	**01 39 14.8**	**-0.1**
JTU	**Tsushima**	**2.20**	**332**		**Pn**	**01 39 29.9**	**-0.2**
JMN	**Monobe**	**2.94**	**66**		**Pb**	**01 39 43.5**	**-2.5**
JHS	**Saijyo**	**3.17**	**40**	Pn	**Pn**	**01 39 43.2**	**-0.3**
TJN	**Taejon**	**4.65**	**325**		**Pn**	**01 40 03.5**	**-0.3**
KSRS	**Korea Array** 0.6nm,0.3s,baz=151,slow=14,SNR=8.6	**5.35**	**336**	Pn	**Pn**	**01 40 13.5**	**+0.1**
KSRS				Pg	**Pb**	**01 40 30.2**	**+3.3**
	1.6nm,0.3s,baz=150,slow=16,SNR=8.1						
KSRS				Lg	Lg	01 41 38.8	
	5.0nm,0.3s,baz=155,slow=32,SNR=7.5						
KSRS				LR	LR	01 42 39.9	
	comp=Z,232nm,18.6s,baz=155,slow=42						
KS19	**Wonju Array Si**	**5.41**	**336**	Pn	**Pn**	**01 40 14.9**	**+0.6**
INCN	**Inchon**	**5.89**	**327**	Pn	**Pn**	**01 40 20.5**	**-0.4**
INU	**Inuyama**	**5.97**	**61**	Pn	**Pn**	**01 40 21.9**	**-0.1**
JOW	**Kunigami**	**6.09**	**200**	Pn	**Pn**	**01 40 22.6**	**-1.0**
JGF	**Kuroka**	**6.33**	**60**	Pn	**Pn**	**01 40 29.4**	**+2.4**
MAJO	**Matsushiro**	**7.38**	**56**		**Pn**	**01 40 44.7**	**+3.3**
MJB9	**Matsu-Tunnel**	**7.38**	**56**		**Pn**	**01 40 44.5**	**+3.2**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=236,slow=13,SNR=7.3	**7.38**	**56**	Pn	**Pn**	**01 40 41.1**	**-0.3**
MJAR				LR	LR	01 43 39.5	
	comp=Z,623nm,22.0s,baz=229,slow=39						
MJAR	**Matsushiro Arr**	**7.38**	**56**		**Pn**	**01 40 44.6**	**+3.2**
USRK	**Ussuriysk Ar.** baz=188,slow=15,SNR=8.1	**11.65**	**5**	Pn	**Pn**	**01 41 42.7**	**+3.0**
USRK				LR	LR	01 45 47.6	
	comp=Z,260nm,19.1s,baz=176,slow=36						
USRK	**Ussuriysk Ar.**	**11.65**	**5**	Pn	**Pn**	**01 41 40.9**	**+1.1**
KNMB	**Chin-men Tao**	**13.46**	**236**	Pn	Pn	01 42 00.2	-4.4
ASAJ	**Asahikawa** comp=Z,134nm,18.0s,baz=348,slow=39	**14.83**	**36**	LR	LR	01 48 24.1	
KLR	**Kul'dur** 0.6nm,0.3s,baz=176,slow=8.4,SNR=15	**16.65**	**3**	Pn	**P**	**01 42 51.0**	**+1.6**
KLR				LR	LR	01 48 47.0	
	comp=Z,198nm,19.2s,baz=176,slow=36						
HHC	**Hu-ho-hao-te**	**17.36**	**304**	*e*P	**Pn**	**01 42 53.9**	**-2.1**
HHC				S	**Sn**	**01 46 04.1**	**-5.3**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,200nm,5.6s						
HHC				LR	LR		
	comp=N,660nm,12.1s						
HHC				LR	LR		
	comp=E,620nm,11.3s						
HHC				LR	LR		
	comp=Z,630nm,12.3s						
LZH	**Lanzhou**	**22.38**	**286**	⇑P	P	01 44 01.6	+9.4
LZH				pP	sP	01 44 05.4	+10
LZH				sP	pP	01 44 08.8	+15
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
LZH				LR	LR		
	comp=N,630nm,12.5s						
LZH				LR	LR		
	comp=E,410nm,12.5s						
LZH				LR	LR		
	comp=Z,470nm,13.0s						
GUMO	**Guam**	**22.95**	**142**	LR	LR	01 51 01.7	
	comp=Z,127nm,21.6s,baz=1.0,slow=32						
SONM	**Songino Array** comp=Z,2.5nm,0.9s,baz=119,slow=9.2,SNR=7.7	**23.84**	**317**	P	**P**	**01 44 07.6**	**+0.6**
SONM				LR	LR	01 54 37.2	
	comp=Z,176nm,19.1s,baz=104,slow=40						
SONM	**Songino Array**	**23.84**	**317**	P	**P**	**01 44 05.4**	**-1.6**
GTA	**Gaotai**	**25.77**	**294**	*e*P	**P**	**01 44 29.0**	**+4.2**
GTA				pP	sP	01 44 33.4	+5.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PZH	**PanZhiHua**	**25.82**	**264**	P	**P**	**01 44 24.8**	**-0.5**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.6s						
YAK	**Yakutsk**	**29.47**	**359**	LR	LR	01 56 18.9	
	comp=Z,128nm,18.1s,baz=222,slow=36						
MA2	**Magadan** comp=Z,92nm,18.1s,baz=204,slow=38	**30.14**	**20**	LR	LR	01 58 05.5	
CHTO	**Chiang Mai**	**31.55**	**252**	P	**P**	**01 45 15.6**	**-0.7**
CHTO				IAmb	IAmb	01 45 22.2	
	comp=Z,2.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.74**	**251**	P	**P**	**01 45 19.8**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=300,slow=14,SNR=3.6						
CMAR				LR	LR	02 00 07.0	
	comp=Z,134nm,18.6s,baz=65,slow=40						
SIJI	**Sorong** comp=Z,45nm,18.7s,baz=338,slow=37	**33.28**	**179**	LR	LR	01 59 12.0	
WMQ	**Urumqi**	**35.20**	**301**	*e*P	**P**	**01 45 49.5**	**

INK	**Inuvik**	**62.25**	**25**	P	**P**	**01 49 14.3**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=273,slow=7.0,SNR=3.4						
INK				LR	LR	02 20 51.7	
	comp=Z,45nm,18.0s,baz=28,slow=40						
INK	**Inuvik**	**62.25**	**25**	IAmb	IAmb	01 49 28.7	
	comp=Z,3.7nm,1.4s						
A36M	**Sachs Harbour**	**63.55**	**20**	P	**P**	**01 49 23.9**	**+0.1**
ARCES	**ARCESS Array B**	**64.90**	**338**	P	**P**	**01 49 32.9**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=64,slow=9.5,SNR=3.8						
ARCES				LR	LR	02 22 22.1	
	comp=Z,99nm,20.1s,baz=70,slow=40						
ARCES	**ARCESS Array B**	**64.90**	**338**	IAmb	IAmb	01 49 33.9	
	comp=Z,13nm,1.4s						
C36M	**Paulatuk**	**65.03**	**22**	P	**P**	**01 49 34.3**	**+0.8**
KBZ	**Khabaz**	**66.84**	**308**	P	**P**	**01 49 45.8**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=296,slow=7.6,SNR=3.6						
KBZ				LR	LR	02 22 39.7	
	comp=Z,71nm,18.8s,baz=100,slow=39						
FINES	**FINESS Array B**	**68.41**	**330**	P	**P**	**01 49 53.6**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=77,slow=5.5,SNR=13						
FINES				LR	LR	02 23 40.3	
	comp=Z,100nm,18.2s,baz=72,slow=39						
RES	**Resolute Bay**	**68.93**	**12**	LR	LR	02 22 03.3	
	comp=Z,32nm,18.5s,baz=336,slow=38						
YKA	**Yellowknife Ar**	**71.91**	**26**	P	**P**	**01 50 15.9**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=303,slow=5.7,SNR=5.6						
AKASG	**Malin Array Be**	**72.10**	**319**	P	**P**	**01 50 19.2**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=184,slow=1.9,SNR=4.0						
NOA	**NORSAR Array B**	**74.56**	**334**	P	**P**	**01 50 30.6**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=48,slow=5.9,SNR=4.2						
BR131	**Keskin Array S**	**74.83**	**308**	P	**P**	**01 50 34.8**	**+0.2**
BR131				IAmb	IAmb	01 50 42.0	
	comp=Z,3.6nm,0.9s						
BRTR	**Keskin Array B**	**74.83**	**308**	P	**P**	**01 50 33.9**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=51,slow=9.8,SNR=5.2						
BRTR	**Keskin Array B**	**74.83**	**308**	P	**P**	**01 50 34.1**	**-0.4**
BURAR	**Bucovina Array**	**75.95**	**318**	P	**P**	**01 50 40.5**	**-0.4**
SFJD	**Kangerlussuaq**	**80.73**	**1**	LR	LR	02 29 22.5	
	comp=Z,39nm,18.0s,baz=332,slow=38						
DAVOX	**Davos/Dischmat**	**84.69**	**324**	LR	LR	02 34 57.4	
	comp=Z,99nm,18.1s,baz=76,slow=40						
PDAR	**Pinedale Array**	**86.92**	**40**	P	**P**	**01 51 40.2**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=0.0,slow=1.5,SNR=4.1						
PDAR				LR	LR	02 31 28.9	
	comp=Z,28nm,18.8s,baz=342,slow=36						
SCHQ	**Schefferville**	**91.65**	**10**	LR	LR	02 33 23.9	
	comp=Z,41nm,21.8s,baz=69,slow=36						
ESDC	**Sonseca Array**	**96.70**	**326**	LR	LR	02 41 57.8	
	comp=Z,57nm,18.1s,baz=34,slow=39						

JMA 16 01:39:33.6, 32.98N×131.10E, h10km±1km, M3.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.23**	**307**	P	Pg	01 39 38.6	+0.2
JNU				S	Sg	01 39 41.9	+0.2
JTA	**Tamana**	**0.48**	**268**	P	Pg	01 39 42.9	0.0
JUS	**Usuki**	**0.55**	**81**	P	Pg	01 39 43.9	-0.5
JUS				S	Sg	01 39 51.4	-0.3

*IDC **16** 01:46:17.0±8.3, 31.39S×179.96E, h426km±100km, mb2.6/2, mb1 2.9/3, mb1mx2.8/32, mbtmp3.6/3, Error ellipse: s-maj=101.3km s-min=44.8km az=7.0*

ISC 16 01:46:11.2±1.1, 31.07S±0.09×179.4W±0.2, h400km, n22, σ2878/37, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.21**	**36**	P	**Pn**	**01 47 08.2**	**-0.4**
GLKZ				S	**S**	**01 47 51.6**	**-3.3**
MXZ	**Matakaoa Point**	**6.75**	**196**	P	**P**	**01 47 55.6**	**+3.0**
MXZ				S	**S**	**01 49 11.0**	**-3.2**
WMGZ	**Waiomatatini S**	**6.97**	**194**	P	**P**	**01 47 57.4**	**+2.4**
WMGZ				S	**S**	**01 49 17.8**	**-1.0**
HAZ	**Te Kaha**	**7.07**	**198**	P	**P**	**01 47 58.4**	**+2.3**
HAZ				S	**S**	**01 49 16.7**	**-4.0**
PKGZ	**Pakihiroa**	**7.12**	**196**	P	**P**	**01 47 59.4**	**+2.7**
PKGZ				S	**S**	**01 49 21.3**	**-0.5**
WCZ	**Waipu Caves**	**7.13**	**225**	P	**P**	**01 47 59.8**	**+3.1**
PUZ	**Puketiti**	**7.25**	**195**	P	**P**	**01 48 02.0**	**+3.9**
PUZ				S	**S**	**01 49 21.2**	**-3.3**
RUGZ	**Raukumara Rang**	**7.29**	**198**	P	**P**	**01 48 01.2**	**+2.5**
RUGZ				S	**S**	**01 49 23.1**	**-2.4**
TWGZ	**Tauwhareparae**	**7.41**	**196**	P	P	01 48 05.3	+5.4
TWGZ				S	**S**	**01 49 26.0**	**-2.0**
CNGZ	**Carnagh Statio**	**7.66**	**194**	P	**P**	**01 48 07.2**	**+4.6**
CNGZ				S	**S**	**01 49 30.6**	**-2.3**
MWZ	**Matawai**	**7.68**	**198**	P	**P**	**01 48 05.2**	**+2.4**
TKGZ	**Te Karaka**	**7.69**	**196**	P	**P**	**01 48 06.7**	**+3.7**
TKGZ				S	**S**	**01 49 32.5**	**-1.2**
URZ	**Urewera**	**7.73**	**201**	P	**P**	**01 48 04.2**	**+0.8**
	1.7nm,0.3s,baz=266,slow=5.0,SNR=50						
URZ				S	**S**	**01 49 31.0**	**-3.4**
	5.3nm,0.3s,baz=242,slow=24,SNR=23						
URZ	**Urewera**	**7.73**	**201**	P	P	**01 48 04.2**	**+0.8**
URZ				S	**S**	**01 49 34.9**	**+0.5**
RAGZ	**Rawiri**	**7.86**	**199**	P	**P**	**01 48 09.2**	**+4.2**
RIGZ	**Rimuhau**	**7.97**	**196**	P	**P**	**01 48 09.1**	**+3.0**
RIGZ				S	**S**	**01 49 37.1**	**-2.4**
SNGZ	**Shannon Statio**	**8.15**	**198**	P	**P**	**01 48 10.6**	**+2.5**
SNGZ				S	**S**	**01 49 41.0**	**-2.3**
RAHZ	**Arahi**	**8.34**	**199**	P	**P**	**01 48 13.7**	**+3.4**
RAHZ				S	**S**	**01 49 44.9**	**-2.5**
NMHZ	**Naumai**	**8.59**	**200**	P	**P**	**01 48 16.5**	**+3.4**
NMHZ				S	**S**	**01 49 50.7**	**-2.0**
ASAR	**Alice Springs**	**41.87**	**268**	P	**P**	**01 53 22.5**	**-1.9**
	0.2nm,0.5s,baz=103,slow=7.7,SNR=1.4						
WRA	**Warramunga Arr**	**42.92**	**274**	P	**P**	**01 53 33.0**	**+0.3**
	0.3nm,0.3s,baz=112,slow=7.8,SNR=10						
FINES	**FINESS Array B**	**145.34**	**339**	PKPbc	**PKPab**	**02 05 04.6**	**+1.6**
	1.7nm,0.8s,baz=53,slow=5.4,SNR=5.7						

*NIED **16** 01:51:13.4, 32.76N×130.76E, h18km, MW4.0, Moment Tensor Solution. s1 Moment tensor: Scale 10^{15}Nm; M_{rr}0.31; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-0.27; $M_{r\theta}$0.58; $M_{\theta\phi}$-0.16; $M_{r\theta}$0.98; Fault plane solution: $M_0$1.18000×10^{15} NP1: ϕ_s205.00000°, δ8.00000°, λ84.00000°. NP2:ϕ_s30.00000°, δ82.00000°, λ91.00000°.*

JMA 16 01:51:13.4, 32.76N×130.76E, h18km±1km, M3.6, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.21**	**168**	⇑P	Pb	01 51 18.6	0.0
JIU3				S	Sg	01 51 22.4	+0.3
JTA	**Tamana**	**0.28**	**317**	⇑P	Pg	01 51 19.5	-0.1
JTA				S	Sg	01 51 23.7	-0.1
JNU	**Nakatsue**	**0.37**	**15**	⇑P	Pg	01 51 21.3	0.0
JNU				S	Sg	01 51 26.3	-0.3

*DDA **16** 01:54:18.5±0.0, 35.08N×25.50E, h4km±4km, MW3.8*
*IDC **16** 01:54:18.8±1.1, 35.02N×25.76E, h0km, mb3.7/8, mb1 3.6/13, mb1mx3.5/53, mbtmp3.5/13, ML3.3/5, Error ellipse: s-maj=25.7km s-min=18.1km az=178.0*
*ISK **16** 01:54:19.0, 34.98N×25.71E, h5km, ML3.3/20*
*THE **16** 01:54:19.5, 34.93N×25.69E, h0km, ML3.1/11, Error ellipse: s-maj=1.5km s-min=0.4km az=177.0*
*ATH **16** 01:54:20.3, 34.96N×25.71E, h16km±1km, ML3.4/16, Error ellipse: s-maj=2.9km s-min=1.1km az=164.0*

ISC 16 01:54:21.1±0.7, 35.03N±0.04×25.66E±0.02, h17km±4km, n103, σ1966/129, mb3.6/8, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.06**	**108**	P	**Pg**	**01 54 23.5**	**-0.7**
FRMA				S	**Sg**	**01 54 26.8**	**+0.5**
FRMA				AML	AML	01 54 27.3	
	comp=N,26422μm,0.2s						
FRMA				AML	AML	01 54 29.8	
	comp=E,20528μm,0.3s						
FRMA	**Ierapetra Chan**	**0.06**	**108**	P	**Pg**	**01 54 23.5**	**-0.7**
FRMA				S	**Sg**	**01 54 26.8**	**+0.5**
	comp=E,4μm,0.2s						
ZKR	**Zakros**	**0.46**	**80**	P	**Pg**	**01 54 28.8**	**-1.6**
ZKR				S	**Sg**	**01 54 36.3**	**-0.4**
ZKR				AML	AML	01 54 39.5	
	comp=E,7835μm,0.3s						
ZKR				AML	AML	01 54 40.2	
	comp=N,4049μm,0.3s						
ZKR	**Zakros**	**0.46**	**80**	P	**Pg**	**01 54 28.8**	**-1.6**
ZKR				S	**Sg**	**01 54 36.3**	**-0.4**
	comp=N,3μm,0.4s						
ZKR	**Zakros**	**0.46**	**80**	PG	**Pg**	**01 54 28.5**	**-1.9**
ZKR				SG	**Sg**	**01 54 36.1**	**-0.6**
HRKL	**Herakleio**	**0.54**	**301**	P	**Pg**	**01 54 32.0**	**+0.2**
HRKL				AML	AML	01 54 48.8	
	comp=N,34330μm,0.7s						
HRKL				AML	AML	01 54 51.5	
	comp=E,46138μm,0.7s						
HRKL	**Herakleio**	**0.54**	**301**	P	**Pg**	**01 54 32.0**	**+0.2**
HRKL				S	**Sn**	**01 54 41.6**	**-1.1**
	comp=E,7μm,0.6s						
HRKL	**Herakleio**	**0.54**	**301**	PG	**Pb**	**01 54 32.3**	**+0.2**
HRKL				SG	**Sb**	**01 54 41.1**	**+1.5**
KSTL	**Kastelli Herak**	**0.56**	**299**	P	**Pg**	**01 54 28.0**	**-4.1**
KSTL				S	**Sg**	**01 54 34.3**	**-5.3**
KSTL				AML	AML	01 54 36.9	
	comp=E,6326μm,0.3s						
KSTL				AML	AML	01 54 38.1	
	comp=N,12751μm,0.4s						
KSTL	**Kastelli Herak**	**0.56**	**299**	P	**Pg**	**01 54 28.0**	**-4.1**
KSTL				S	**Sg**	**01 54 34.3**	**-5.3**
	comp=N,2μm,0.3s						
IACM	**Heraklion**	**0.56**	**299**	P	**Pb**	**01 54 32.6**	**+0.2**
IACM	**Heraklion**	**0.56**	**299**	P	**Pb**	**01 54 32.6**	**+0.2**
IACM				S	**Sn**	**01 54 42.3**	**-0.9**
IDI	**Anoyia**	**0.68**	**292**	P	**Pg**	**01 54 33.6**	**-0.9**
IDI				S	**Sb**	**01 54 45.0**	**+1.2**
IDI				AML	AML	01 54 46.2	
	comp=E,4551μm,0.3s						
IDI				AML	AML	01 54 47.3	
	comp=N,5473μm,0.4s						
IDI	**Anoyia**	**0.68**	**292**	P	**Pg**	**01 54 33.4**	**-1.1**
IDI				S	**Sn**	**01 54 45.6**	**-0.8**
	comp=N,3μm,0.3s						
IDI	**Anoyia**	**0.68**	**292**	PG	**Pg**	**01 54 34.1**	**-0.4**
IDI				SG	**Sb**	**01 54 45.1**	**+1.2**
SIVA	**Sivas**	**0.70**	**269**	P	**Pb**	**01 54 33.7**	**-1.2**
SIVA				S	**Sb**	**01 54 45.3**	**+1.0**
SIVA				AML	AML	01 54 47.3	
	comp=N,14087μm,0.7s						
SIVA				AML	AML	01 54 50.3	
	comp=E,20311μm,0.4s						
SIVA	**Sivas**	**0.70**	**269**	P	**Pb**	**01 54 33.7**	**-1.2**
SIVA				S	**Sb**	**01 54 45.3**	**+1.0**
	comp=E,9μm,0.4s						
TMBK	**Timbaki Herakl**	**0.74**	**273**	P	**Pb**	**01 54 34.8**	**-0.7**
TMBK				AML	AML	01 54 48.4	
	comp=N,21001μm,0.4s						
TMBK				AML	AML	01 54 50.7	
	comp=E,16110μm,0.3s						
TMBK	**Timbaki Herakl**	**0.74**	**273**	P	**Pb**	**01 54 34.8**	**-0.7**
TMBK				S	**Sn**	**01 54 47.1**	**-0.5**
	comp=E,3μm,0.4s						
PRNS	**Prines Rethymn**	**1.01**	**290**	P	**Pg**	**01 54 40.7**	**+0.1**
PRNS				S	**Sn**	**01 54 56.4**	**+2.1**
	comp=E,642nm,0.4s						
GVDS	**Gavdos**	**1.31**	**262**	P	**Pb**	**01 54 45.0**	**-0.2**
GVD	**Gavdhos**	**1.31**	**262**	P	**Pb**	**01 54 45.1**	**-0.2**
GVD				AML	AML	01 55 13.0	
	comp=E,2902μm,0.4s						
GVD				AML	AML	01 55 13.2	
	comp=N,1908μm,0.4s						
GVD	**Gavdhos**	**1.31**	**262**	P	**Pb**	**01 54 44.8**	**-0.5**
GVD	**Gavdhos**	**1.31**	**262**	PN	**Pb**	**01 54 45.4**	**+0.1**
GVD				SN	**Sg**	**01 55 06.6**	**+2.2**
KARP	**Karpathos**	**1.33**	**67**	P	**Pn**	**01 54 45.3**	**+0.3**
KARP				AML	AML	01 55 13.0	
	comp=N,1683μm,0.5s						
KARP				AML	AML	01 55 15.1	
	comp=E,1421μm,0.5s						
KARP	**Karpathos**	**1.33**	**67**	P	**Pn**	**01 54 45.0**	**0.0**
KARP				S	**Sg**	**01 55 04.2**	**+0.1**
	comp=E,772nm,0.5s						
KARP	**Karpathos**	**1.33**	**67**	PN	**Pn**	**01 54 45.4**	**+0.4**
THR6	**Thira Island,**	**1.34**	**351**	P	**Pb**	**01 54 46.9**	**+1.1**
THR6	**Thira Island,**	**1.34**	**351**	P	**Pn**	**01 54 45.8**	**+0.7**
THR9	**Santorini-Faro**	**1.35**	**349**	P	**Pb**	**01 54 46.0**	**+0.1**
THR9	**Santorini-Faro**	**1.35**	**349**	P	**Pn**	**01 54 46.0**	**+0.1**
THR8	**Santorini-Mono**	**1.38**	**354**	P	**Pb**	**01 54 46.1**	**+0.5**
THR8	**Santorini-Mono**	**1.38**	**354**	P	**Pn**	**01 54 46.1**	**+0.5**
SNT5	**Nea Kammeni, S**	**1.39**	**351**	P	**Pb**	**01 54 46.6**	**+0.1**
THR3	**Thira Island,**	**1.39**	**351**	P	**Pb**	**01 54 46.8**	**+0.2**
THR3	**Thira Island,**	**1.39**	**351**	P	**Pn**	**01 54 46.8**	**+0.2**
THR5	**Thira Island,**	**1.41**	**350**	P	**Pn**	**01 54 46.8**	**+0.8**
THR5	**Thira Island,**	**1.41**	**350**	P	**Pn**	**01 54 46.8**	**+0.8**
CHAN	**Chania**	**1.41**	**291**	P	**Pb**	**01 54 47.1**	**+0.1**
CHAN				AML	AML	01 55 12.1	
	comp=E,1630μm,0.4s						
CHAN				AML	AML	01 55 13.1	
	comp=N,1996μm,0.5s						
THR2	**Thira island,**	**1.42**	**353**	P	**Pb**	**01 54 47.2**	**0.0**
THR2	**Thira island,**	**1.42**	**353**	P	**Pb**	**01 54 47.2**	**0.0**
SAP3	**Santorini-Thir**	**1.42**	**350**	P	**Pn**	**01 54 47.0**	**+0.8**
SAP3	**Santorini-Thir**	**1.42**	**350**	P	**Pn**	**01 54 46.9**	**+0.7**
IMMV	**Iera Moni Meta**	**1.44**	**288**	P	**Pb**	**01 54 47.6**	**+0.1**
IMMV				AML	AML	01 55 12.3	
	comp=E,2990μm,0.6s						
IMMV				AML	AML	01 55 12.9	
	comp=N,3283μm,0.5s						
IMMV	**Iera Moni Meta**	**1.44**	**288**	P	**Pb**	**01 54 47.1**	**-0.4**
IMMV				S	**Sg**	**01 55 07.3**	**-0.4**
	comp=N,2μm,0.5s						
IMMV	**Iera Moni Meta**	**1.44**	**288**	PN	**Pb**	**01 54 48.2**	**+0.7**
CMBO	**Columbo, Santo**	**1.45**	**352**	P	**Pb**	**01 54 48.0**	**+0.4**
CMBO				AML	AML	01 55 11.8	
	comp=E,3209μm,0.7s						
CMBO				AML	AML	01 55 16.3	
	comp=N,4548μm,0.4s						
KNDR	**Palaiochora Ch**	**1.63**	**278**	P	**Pb**	**01 54 50.5**	**-0.3**
KNDR				AML	AML	01 55 26.3	
	comp=E,1003μm,0.4s						
KNDR				AML	AML	01 55 28.7	
	comp=N,1318μm,0.6s						
KNDR	**Palaiochora Ch**	**1.63**	**278**	P	**Pn**	**01 54 49.1**	**0.0**
KNDR				S	**Sg**	**01 55 12.8**	**-1.0**
	comp=N,195nm,0.7s						
KNDR	**Palaiochora Ch**	**1.63**	**278**	PN	**Pb**	**01 54 51.4**	**+0.6**
RODP	**Rodopos**	**1.65**	**289**	PN	**Pb**	**01 54 51.2**	**+0.2**
MHLO	**Agia Marina, M**	**1.94**	**329**	P	**Pn**	**01 54 55.0**	**+1.6**
MHLO				AML	AML	01 55 31.0	
	comp=N,2093μm,0.4s						
MHLO				AML	AML	01 55 32.3	
	comp=E,1579μm,0.7s						
NISR	**Nisiros**	**1.98**	**37**	P	**Pn**	**01 54 55.2**	**+1.4**
KOSK	**Kos Island**	**2.02**	**32**	P	**Pn**	**01 54 55.3**	**+0.9**
KOSK				AML	AML	01 55 33.3	
	comp=E,1263μm,0.5s						
KOSK				AML	AML	01 55 36.1	
	comp=N,1465μm,0.5s						
KOSK	**Kos Island**	**2.02**	**32**	P	**Pn**	**01 54 55.3**	**+0.9**
KOSK	**Kos Island**	**2.02**	**32**	PN	**Pn**	**01 54 56.2**	**+1.8**
APE	**Apeiranthos**	**2.04**	**357**	P	**Pn**	**01 54 56.2**	**+1.5**
APE	**Apeiranthos**	**2.04**	**357**	P	**Pn**	**01 54 55.8**	**+1.1**
ANKY	**Antikythira Is**	**2.10**	**294**	P	**Pb**	**01 54 57.7**	**-1.1**
ANKY	**Antikythira Is**	**2.10**	**294**	P	**Pn**	**01 54 56.1**	**+0.6**
DAT	**Datca**	**2.30**	**42**	PN	**Pn**	**01 54 59.8**	**+1.4**
DAT	**Datca**	**2.30**	**42**	P	**Pn**	**01 54 59.6**	**+1.3**
DAT				AML	AML	01 55 43.0	
	comp=N,39nm,0.6s						
DAT				AML	AML	01 55 43.0	
	comp=N,31nm,0.6s						
ARG	**Arkhangelos**	**2.33**	**59**	P	**Pn**	**01 55 00.8**	**+2.1**
ARG				AML	AML	01 55 38.2	
	comp=N,306μm,0.4s						
ARG				AML	AML	01 55 41.5	
	comp=E,383μm,1.1s						
ARG	**Arkhangelos**	**2.33**	**59**	PN	**Pn**	**01 55 00.1**	**+1.4**
BODT	**Bodrum**	**2.42**	**33**	PN	**Pn**	**01 55 01.9**	**+1.9**
KTHA	**Kythira Island**	**2.44**	**301**	P	**Pb**	**01 55 02.8**	**-1.8**
KTHR	**Kythira**	**2.49**	**300**	P	**Pb**	**01 55 03.1**	**+2.2**
BDRM	**Kayabasi**	**2.49**	**35**	P	**Pn**	**01 55 03.3**	**+2.4**
BDRM				AML	AML	01 55 48.0	
	comp=E,19nm,1.1s						
BDRM				AML	AML	01 55 58.0	
	comp=E,35nm,0.6s						
TURN	**Turunc**	**2.72**	**50**	PN	**Pn**	**01 55 05.6**	**+1.5**
TURN	**Turunc**	**2.72**	**50**	P	**Pn**	**01 55 05.9**	**+1.8**
TURN				AML	AML	01 55 43.0	
	comp=E,21nm,0.8s						
TURN				AML	AML	01 55 46.0	
	comp=E,28nm,0.8s						
VLI	**Veliai**	**2.78**	**308**	P	**Pn**	**01 55 07.3**	**+2.4**
MLSB	**Milas**	**2.83**	**37**	PN	**Pn**	**01 55 07.8**	**+2.2**
GCAM	**G?zelcaml?**	**2.95**	**25**	PN	**Pn**	**01 55 09.7**	**+2.5**
YER	**Yerkesik**	**2.98**	**45**	PN	**Pn**	**01 55 09.8**	**+2.1**
DALY	**Dalyan (Mula)**	**3.01**	**53**	PN	**Pn**	**01 55 09.9**	**+1.9**
MULA	**Mugla, Merkez-**	**3.09**	**43**	P	**Pn**	**01 55 12.3**	**+3.1**
MULA				S	**Sb**	**01 55 52.2**	**-1.0**
MULA				AML	AML	01 55 54.0	
	comp=E,21nm,0.9s						
MULA				AML	AML	01 55 57.0	
	comp=E,24nm,0.6s						
DGB	**zmir**	**3.17**	**18**	P	**Pn**	**01 55 11.8**	**+1.6**
DGB				S	**Sn**	**01 55 49.8**	**+2.2**
DGB				AML	AML	01 55 55.0	
	comp=E,16nm,0.6s						
DGB				AML	AML	01 55 55.0	
	comp=E,26nm,0.9s						
FETY	**Fethiye**	**3.21**	**59**	PN	**Pn**	**01 55 12.6**	**+1.8**
FETY	**Fethiye**	**3.21**	**59**	P	**Pn**	**01 55 12.6**	**+1.8**
FETY				AML	AML	01 56 05.0	
	comp=E,22nm,0.5s						
FETY				AML	AML	01 56 08.0	
	comp=E,23nm,0.6s						
ZEYE	**Izmir, Urla-Ze**	**3.27**	**12**	P	**Pn**	**01 55 13.5**	**+1.9**
ZEYE				AML	AML	01 55 58.0	
	comp=E,30nm,0.7s						
ZEYE				AML	AML	01 56 10.0	
	comp=E,12nm,0.4s						
CHOS	**Chios island**	**3.36**	**5**	PN	**Pn**	**01 55 15.6**	**+2.6**
URLA	**Izmir**	**3.40**	**12**	PN	**Pn**	**01 55 16.0**	**+2.5**
AKAS	**Kas**	**3.43**	**68**	PN	**Pn**	**01 55 15.6**	**+1.7**
CAME	**Cameli-Denizli**	**3.51**	**56**	PN	**Pn**	**01 55 17.1**	**+2.0**
BLCB	**Balcova**	**3.52**	**18**	PN	**Pn**	**01 55 17.1**	**+2.0**
TAVA	**DENIZLI_Tavas**	**3.58**	**46**	P	**Pn**	**01 55 18.6**	**+2.7**
TAVA				S	**Sb**	**01 56 06.0**	**-1.2**
TAVA				AML	AML	01 56 08.0	
	comp=E,13nm,0.6s						
TAVA				AML	AML	01 56 10.0	
	comp=E,11nm,0.5s						
GOLH	**Golhisar**	**3.85**	**54**	P	**Pn**	**01 55 22.6**	**+2.9**
ELL	**Elmali**	**3.85**	**62**	PN	**Pn**	**01 55 21.6**	**+1.9**
ZEDA	**zmir-Bergama**	**4.09**	**16**	P	**Pn**	**01 55 25.0**	**+2.2**
ZEDA				AML	AML	01 56 18.0	
	comp=E,9.9nm,1.0s						
ZEDA				AML	AML	01 56 19.0	
	comp=E,12nm,1.6s						
BRTR	**Keskin Array B**	**7.89**	**51**	Pn	**Pn**	**01 56 15.7**	**+0.5**
	comp=E,0.1nm,0.3s,baz=149,slow=39,SNR=3.4						
MMAI	**Mount Meron Ar**	**8.33**	**101**	Pn	**Pn**	**01 56 21.3**	**+0.1**
	comp=E,0.9nm,0.3s,baz=359,slow=40,SNR=2.1						
MMAI				Sn	**Sn**	**01 57 50.6**	**-4.4**
	comp=E,0.3nm,0.3s,baz=230,slow=37,SNR=1.8						
VAE	**Valguarnera**	**9.41**	**288**	Pn	**Pn**	**01 56 38.5**	**+2.5**
	comp=E,1.6nm,0.3s,baz=360,slow=10,SNR=12						
EIL	**Elat**	**9.50**	**122**	Pn	**Pn**	**01 56 37.1**	**-0.1**
	comp=E,0.3nm,0.3s,baz=290,slow=16,SNR=1.6						
EIL				Sn	**Sn**	**01 58 20.1**	**-3.6**
	comp=E,0.3nm,0.3s,baz=47,slow=21,SNR=1.7						
MODS	**Modra-Piesok**	**14.71**	**337**	*e*Sn	**Sn**	**02 00 27.5**	**-3.5**
GERES	**GERESS Array B**	**16.39**	**331**	Pn	**Pn**	**01 58 11.8**	**+1.4**
	comp=E,0.1nm,0.3s,baz=317,slow=35,SNR=2.8						
ESDC	**Sonseca Array**	**23.95**	**290**	P	**P**	**01 59 35.3**	**+0.8**
	comp=E,0.4nm,0.8s,baz=84,slow=11,SNR=2.5						
FINES	**FINESS Array B**	**26.43**	**0**	P	**P**	**01 59 57.1**	**+0.3**
	comp=E,11nm,1.4s,baz=154,slow=13,SNR=2.4						
EKA	**Eskdalemuir Ar**	**28.38**	**325**	P	**P**	**02 00 15.2**	**+0.9**
	comp=E,2.1nm,0.9s,baz=124,slow=9.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**30.73**	**231**	P	**P**	**02 00 35.5**	**+0.1**
	comp=E,0.3nm,0.4s,baz=33,slow=8.4,SNR=9.5						
MKAR	**Makanchi Array**	**43.50**	**56**	P	**P**	**02 02 22.8**	**-0.8**
	comp=E,0.6nm,0.7s,baz=271,slow=6.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**44.79**	**46**	P	**P**	**02 02 32.9**	**-0.9**
	comp=E,0.6nm,0.5s,baz=336,slow=3.3,SNR=4.2						
SCHQ	**Schefferville**	**63.55**	**320**	P	**P**	**02 04 51.0**	**+0.4**
	comp=E,0.6nm,0.4s,baz=58,slow=4.5,SNR=5.5						
YKA	**Yellowknife Ar**	**77.69**	**342**	P	**P**	**02 06 18.8**	**+2.3**
	comp=E,0.1nm,0.5s,baz=30,slow=6.4,SNR=2.1						

JMA 16 01:55:25.3, 32.72N×130.73E, h15km±1km, M3.7, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.18**	**158**	⇑P	Pg	01 55 29.8	+0.1
JIU3				*e*S	Sg	01 55 32.7	+0.1
JTA	**Tamana**	**0.29**	**326**	⇑P	Pg	01 55 31.5	0.0
JTA				*e*S	Sg	01 55 35.7	-0.1
JTZ	**Takazaki**	**0.87**	**160**	⇑P	Pb	01 55 41.9	-0.2
JTZ				S	Sb	01 55 53.6	0.0

*HLW **16** 02:00:30.3, 33.88N×25.38E, h22km±19km, Md3.4*
*GII **16** 02:00:34.6±0.0, 33.29N×25.78E, h8km, Mm2.8/1*

**ISC 16 02:00:34

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.20**	**156**	⇓P	**Pb**	**02 02 56.5**	**+1.3**
JIU3				*e*S	**Sg**	**02 02 59.6**	**+1.5**
JTA	**Tamana**	**0.28**	**326**	⇑P	**Pb**	**02 02 57.8**	**-0.3**
JTA				S	**Sg**	**02 03 02.2**	**+1.8**
JNU	**Nakatsue**	**0.41**	**19**	Pg	**Pg**	**02 02 59.1**	**0.0**
	1μm,0.3s,baz=177,slow=8.5,SNR=148						
JNU				Lg	Lg	02 03 04.2	
	7μm,0.3s,baz=252,slow=5.5,SNR=62						
JNU	**Nakatsue**	**0.41**	**19**	P	**Pg**	**02 02 59.4**	**+0.3**
JNU				eS	**Sg**	**02 03 04.5**	**0.0**
JNU	**Nakatsue**	**0.41**	**19**		**Pg**	**02 02 59.3**	**+0.3**
JTZ	**Takazaki**	**0.89**	**159**	⇑P	**Pn**	**02 03 09.1**	**-0.5**
JSU	**Suzuyama**	**1.24**	**190**		**Pg**	**02 03 14.5**	**-0.4**
JTU	**Tsushima**	**2.10**	**329**	Pn	**Pb**	**02 03 27.8**	**-1.3**
JMN	**Monobe**	**2.83**	**69**		**Pb**	**02 03 39.0**	**-2.7**
JHS	**Saijyo**	**3.02**	**41**	Pn	**Pn**	**02 03 39.7**	**+0.8**
TJN	**Taejon**	**4.57**	**324**	⇑*e*P	**Pn**	**02 04 02.1**	**+1.9**
TJN	**Taejon**	**4.57**	**324**	Pn	**Pn**	**02 04 00.3**	**+0.1**
KSRS	**Korea Array**	**5.24**	**335**	Pn	**Pn**	**02 04 10.4**	**+1.1**
	1.6nm,0.3s,baz=152,slow=13,SNR=11						
KSRS				Pg	**Pg**	**02 04 27.4**	**-4.0**
	4.8nm,0.3s,baz=154,slow=16,SNR=21						
KSRS				Lg	Lg	02 05 35.3	
	6.9nm,0.3s,baz=157,slow=29,SNR=5.5						
KSRS				LR	LR	02 05 46.3	
	comp=Z,134nm,18.5s,baz=170,slow=33						
KS19	**Wonju Array Si**	**5.30**	**335**	Pn	**Pn**	**02 04 11.0**	**+0.7**
INU	**Inuyama**	**5.84**	**62**	Pn	**Pn**	**02 04 19.5**	**+1.7**
JGF	**Kuroka**	**6.20**	**61**	Pn	**Pn**	**02 04 24.5**	**+1.8**
JOW	**Kunigami**	**6.25**	**200**	Pn	Pn	02 04 27.0	+3.6
	8.4nm,0.3s,baz=20,slow=12,SNR=14						
MJB9	**Matsu-Tunnel**	**7.25**	**56**		**Pn**	**02 04 38.8**	**+1.7**
MAJO	**Matsushiro**	**7.25**	**56**	*ce*P	**Pn**	**02 04 39.4**	**+2.4**
MAJO	**Matsushiro**	**7.25**	**56**	Pn	**Pn**	**02 04 38.4**	**+1.4**
MJAR	**Matsushiro Arr**	**7.25**	**56**	Pn	**Pn**	**02 04 38.8**	**+1.7**
	0.8nm,0.3s,baz=237,slow=13,SNR=14						
MJAR				LR	LR	02 07 53.8	
	comp=Z,216nm,21.0s,baz=224,slow=42						
MJAR	**Matsushiro Arr**	**7.25**	**56**	P	**Pn**	**02 04 38.5**	**+1.5**
MJAR	**Matsushiro Arr**	**7.25**	**56**		**Pn**	**02 04 38.5**	**+1.5**
JHJ	**Hachijo jima 2**	**7.63**	**85**	Pn	**Pn**	**02 04 42.7**	**+0.4**
	41nm,0.3s,baz=81,slow=23,SNR=9.8						
JSD	**Sado**	**8.12**	**47**		**Pn**	**02 04 49.7**	**+0.8**
NJ2	**Nanjing**	**10.05**	**269**	*e*P	**Pn**	**02 05 16.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				LR	LR		
	comp=N,600nm,11.0s						
NJ2				LR	LR		
	comp=E,410nm,8.4s						
NJ2				LR	LR		
	comp=Z,600nm,10.3s						
USA0B	**Ussuriysk Arra**	**11.49**	**5**	P	**Pn**	**02 05 36.4**	**+1.3**
USA0B	**Ussuriysk Arra**	**11.49**	**5**	Pn	**Pn**	**02 05 36.4**	**+1.3**
USRK	**Ussuriysk Ar.**	**11.49**	**5**	Pn	**Pn**	**02 05 37.4**	**+2.2**
	baz=194,slow=13,SNR=7.5						
TIA	**Tai'an**	**11.74**	**291**	P	Pn	02 05 49.3	+11
TIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TIA				LR	LR		
	comp=N,540nm,8.6s						
TIA				LR	LR		
	comp=E,420nm,8.3s						
TIA				LR	LR		
	comp=Z,680nm,7.8s						
BJT	**Baijiatuau**	**13.78**	**306**	P	**Pn**	**02 06 06.1**	**-0.4**
BJT	**Baijiatuau**	**13.78**	**306**	Pn	**Pn**	**02 06 06.1**	**-0.4**
HNS	**HongShan**	**13.91**	**294**	⇑P	**P**	**02 06 11.8**	**-4.7**
HNS				S	**Sn**	**02 08 50.4**	**+7.7**
HNS				LR	LR		
	comp=N,250nm,12.8s						
HNS				LR	LR		
	comp=E,170nm,12.8s						
HNS				LR	LR		
	comp=Z,280nm,13.5s						
ASAJ	**Asahikawa**	**14.67**	**36**	LR	LR	02 11 15.8	
	comp=Z,142nm,20.4s,baz=300,slow=34						
XLT	**XiLinHaoTe**	**15.98**	**318**	*e*P	**P**	**02 06 38.4**	**-1.1**
XLT				pP	pP	02 06 42.4	+0.1
XLT				S	**Sn**	**02 09 35.9**	**+2.7**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.5s						
XLT				pmax	pmax		
	comp=Z,100nm,4.6s						
XLT				LR	LR		
	comp=E,840nm,9.5s						
XLT				LR	LR		
	comp=Z,1μm,10.1s						
KLR	**Kul'dur**	**16.50**	**2**	Pn	**P**	**02 06 44.5**	**-0.6**
	1.2nm,0.3s,baz=160,slow=8.2,SNR=98						
KLR	**Kul'dur**	**16.50**	**2**	⇑*e*P	**P**	**02 06 45.0**	**-0.1**
KLR				pmax	pmax		
	comp=Z,66nm,1.3s						
YSS	**Yuzh-Sakhalins**	**16.91**	**29**	⇓*i*P	**P**	**02 06 48.3**	**-1.5**
YSS				pmax	pmax		
	comp=Z,71nm,1.9s						
YSS	**Yuzh-Sakhalins**	**16.91**	**29**	Pn	**P**	**02 06 48.2**	**-1.5**
HHC	**Hu-ho-hao-te**	**17.32**	**303**	*e*P	**Pn**	**02 06 50.6**	**-2.5**
HHC				S	**Sn**	**02 10 04.1**	**-1.8**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,5.9s						
HHC				LR	LR		
	comp=N,470nm,15.8s						
HHC				LR	LR		
	comp=E,520nm,11.9s						
HHC				LR	LR		
	comp=Z,510nm,11.1s						
XAN	**Xi'an**	**18.25**	**280**	⇑P	P	02 07 11.6	+7.0
XAN				pP	sP	02 07 17.6	+8.9
XAN				sP	pP	02 07 20.1	+13
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,140nm,5.4s						
XAN				LR	LR		
	comp=Z,470nm,12.4s						
XAN				LR	LR		
	comp=Z,400nm,12.1s						
XAN				LR	LR		
	comp=Z,370nm,11.7s						
BTO	**Baotou**	**18.34**	**301**	*e*P	P	02 07 13.8	+8.1
BTO				LR	LR		
	comp=Z,950nm,11.8s						
BTO				LR	LR		
	comp=Z,2μm,9.8s						
ZEA	**Zeya**	**21.14**	**354**	*e*P	**P**	**02 07 38.7**	**+2.7**
ZEA				pmax	pmax		
	comp=N,30nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,40nm,0.9s						
ZEA				MLR	MLR		
	comp=N,200nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,100nm,15.0s						
LZH	**Lanzhou**	**22.40**	**286**	*e*P	P	02 07 56.5	+6.7
LZH				pP	sP	02 08 01.4	+7.5
LZH				sP	pP	02 08 03.8	+11
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
LZH				pmax	pmax		
	comp=Z,170nm,6.0s						
LZH				LR	LR		
	comp=Z,280nm,13.0s						
LZH				LR	LR		
	comp=Z,410nm,13.0s						
LZH				LR	LR		
	comp=Z,510nm,13.6s						
CD2	**Chengdu**	**22.96**	**273**	P	**P**	**02 07 57.3**	**+1.6**
CD2				S	**S**	**02 12 07.3**	**+1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				LR	LR		
	comp=Z,1μm,11.0s						
CD2				LR	LR		
	comp=Z,1μm,12.0s						
GUMO	**Guam**	**23.03**	**143**	LR	LR	02 15 20.8	
	comp=Z,50nm,19.4s,baz=50,slow=33						
ULN	**Ulaanbaatar**	**23.41**	**317**	*d*iP	**P**	**02 08 01.7**	**+1.4**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SONM	**Songino Array**	**23.77**	**316**	P	**P**	**02 08 04.1**	**+0.4**
	comp=Z,3.8nm,0.9s,baz=127,slow=9.7,SNR=11						
SONM	**Songino Array**	**23.77**	**316**	P	**P**	**02 08 04.2**	**+0.4**
GTA	**Gaotai**	**25.77**	**294**	*e*P	**P**	**02 08 24.5**	**+2.4**
GTA				pP	sP	02 08 28.8	+2.4
GTA				sP	pP	02 08 31.8	+6.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,51nm,7.2s						
GTA				LR	LR		
	comp=Z,160nm,11.6s						
GTA				LR	LR		
	comp=Z,300nm,11.2s						
GTA				LR	LR		
	comp=Z,250nm,9.6s						
PZH	**PanZhiHua**	**25.89**	**264**	P	**P**	**02 08 25.8**	**+2.4**
PZH				S	**S**	**02 12 48.5**	**-5.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.6s						
PZH				LR	LR		
	comp=Z,490nm,13.1s						
PZH				LR	LR		
	comp=Z,570nm,12.4s						
PZH				LR	LR		
	comp=Z,480nm,13.6s						
ZAK	**Zakamensk**	**26.83**	**319**	*e*P	**P**	**02 08 32.1**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
PETK	**Petropavlovsk-**	**28.09**	**36**	LR	LR	02 18 48.7	
	comp=Z,50nm,20.2s,baz=210,slow=34						
GOMU	**GeErMu**	**29.70**	**287**	P	**P**	**02 08 59.1**	**+1.5**
GOMU				pP	sP	02 09 02.3	+0.4
GOMU				sP	pP	02 09 03.8	+3.1
GOMU				PcP	**PcP**	**02 12 04.9**	**+3.2**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,85nm,5.0s						
MA2	**Magadan**	**29.98**	**20**	LR	LR	02 21 06.7	
	comp=Z,76nm,18.3s,baz=275,slow=36						
CHTO	**Chiang Mai**	**31.65**	**252**	P	**P**	**02 09 15.2**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CHTO	**Chiang Mai**	**31.65**	**252**	P	**P**	**02 09 15.2**	**+0.6**
CM31	**Chiang Mai Arr**	**31.84**	**251**	P	**P**	**02 09 16.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**31.84**	**251**	P	**P**	**02 09 15.8**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=34,slow=7.3,SNR=4.8						
CMAR				LR	LR	02 23 34.0	
	comp=Z,67nm,19.1s,baz=70,slow=39						
CMAR	**Chiang Mai Arr**	**31.84**	**251**	*ce*P	**P**	**02 09 17.1**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SEY	**Seymchan**	**33.19**	**18**	LR	LR	02 23 15.6	
	comp=Z,110nm,18.9s,baz=316,slow=37						
SEY	**Seymchan**	**33.19**	**18**	⇓*e*P	**P**	**02 09 26.5**	**-1.1**
SEY				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SHL	**Shillong**	**34.52**	**268**	P	**P**	**02 09 39.9**	**+0.1**
SHL				pmax	pmax		
	comp=Z,11nm,1.3s						
SHL	**Shillong**	**34.52**	**268**	P	**P**	**02 09 39.9**	**+0.1**
SBUM	**Sibu**	**34.77**	**214**	P	**P**	**02 09 42.5**	**+0.7**
WMQ	**Urumqi**	**35.18**	**301**	*e*P	**P**	**02 09 47.5**	**+2.3**
WMQ				LR	LR		
	comp=Z,110nm,15.1s						
KSM	**Kuching**	**36.54**	**216**	P	**P**	**02 09 57.6**	**+0.6**
SRIT	**Nakonsritamara**	**37.49**	**237**	P	**P**	**02 10 05.4**	**+0.3**
ZALV	**Zalesovo Beam**	**38.67**	**317**	PcP	**PcP**	**02 12 25.5**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=84,slow=4.0,SNR=6.8						
ZALV				LR	LR	02 27 42.2	
	comp=Z,60nm,19.9s,baz=28,slow=39						
ZALV	**Zalesovo Beam**	**38.67**	**317**	P	**P**	**02 10 14.6**	**0.0**
ZALV						02 12 25.5	
ZALV	**Zalesovo Beam**	**38.67**	**317**	P	**P**	**02 10 14.6**	**0.0**
TIXI	**Tiksi**	**38.99**	**359**	P	**P**	**02 10 16.0**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=269,slow=23,SNR=13						
TIXI	**Tiksi**	**38.99**	**359**	⇓*e*P	**P**	**02 10 15.5**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TIXI	**Tiksi**	**38.99**	**359**	P	**P**	**02 10 16.8**	**-0.3**
KULM	**Kulim**	**39.14**	**232**	P	**P**	**02 10 17.2**	**-1.8**
MK31	**Makanchi Array**	**39.17**	**306**	⇓*e*P	**P**	**02 10 18.6**	**-0.4**
MK31	**Makanchi Array**	**39.17**	**306**	P	**P**	**02 10 18.6**	**-0.4**
MKAR	**Makanchi Array**	**39.17**	**306**	P	**P**	**02 10 18.9**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=93,slow=10,SNR=9.0						
MKAR	**Makanchi Array**	**39.17**	**306**	*i* P	**P**	**02 10 21.3**	**+2.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**39.17**	**306**	P	**P**	**02 10 19.4**	**+0.4**
BILL	**Bilibino**	**40.84**	**20**	*d* iP	**P**	**02 10 33.3**	**+0.8**
BILL				*e*		02 12 05.7	
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,78nm,15.0s						
BILL	**Bilibino**	**40.84**	**20**	P	**P**	**02 10 33.1**	**+0.6**
KURK	**Kurchatov**	**41.88**	**311**	⇓*i*P	**P**	**02 10 41.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	**Kurchatov**	**41.88**	**311**	P	**P**	**02 10 41.7**	**+0.4**
KURBB	**Kurchatov Arra**	**41.93**	**311**	P	**P**	**02 10 42.0**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=98,slow=9.1,SNR=30						
KURBB				LR	LR	02 30 11.0	
	comp=Z,84nm,18.1s,baz=122,slow=39						
NRIK	**Noril'sk**	**43.84**	**339**	P	**P**	**02 10 57.0**	**0.0**
	comp=Z,8.6nm,0.8s,baz=115,slow=8.8,SNR=12						
NRIK	**Noril'sk**	**43.84**	**339**	*d* iP	**P**	**02 10 56.9**	**0.0**
NRIK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NRIK	**Noril'sk**	**43.84**	**339**	P	**P**	**02 10 57.4**	**+0.5**
NRIK				lAmb	lAmb	02 10 58.0	
	comp=Z,8.6nm,0.8s						
GSI	**Gunungsitoli**	**44.13**	**232**	P	**P**	**02 11 01.4**	**+1.4**
GSI				lAmb	lAmb	02 11 04.9	
	comp=Z,16nm,1.1s						
AAK	**Ala-Archa**	**44.85**	**300**	P	**P**	**02 11 06.1**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=166,slow=2.6,SNR=8.0						
AAK	**Ala-Archa**	**44.85**	**300**	⇓*i*P	**P**	**02 11 06.3**	**+0.7**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**44.85**	**300**	P	**P**	**02 11 06.3**	**+0.7**
MTN	**Manton Dam**	**45.32**	**179**	P	**P**	**02 11 08.4**	**-0.9**
MTN				lAmb	lAmb	02 11 08.9	
	comp=Z,6.8nm,0.8s						
BVAR	**Borovoye Array**	**47.09**	**314**	P	**P**	**02 11 23.7**	**+0.8**
	comp=Z,5.6nm,0.5s						
BRVK	**Borovoye**	**47.15**	**314**	*d* iP	**P**	**02 11 23.9**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRVK	**Borovoye**	**47.15**	**314**	P	**P**	**02 11 24.0**	**+0.6**
BRVK				lAmb	lAmb	02 11 30.8	
	comp=Z,8.3nm,0.6s						
KNRA	**Kununurra**	**48.17**	**183**	P	**P**	**02 11 31.4**	**-0.2**
KNRA				lAmb	lAmb	02 11 32.1	
	comp=Z,22nm,1.4s						
WRAB	**Tennant Creek**	**52.48**	**176**	⇑*i*P	**P**	**02 12 03.6**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,19nm,2.0s						
WRA	**Warramunga Arr**	**52.49**	**176**	P	**P**	**02 12 03.0**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=352,slow=8.3,SNR=12						
WRA	**Warramunga Arr**	**52.49**	**176**	*i* P	**P**	**02 12 03.5**	**-0.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**52.49**	**176**	P	**P**	**02 12 04.3**	**0.0**
WR0	**Warramunga Arr**	**52.52**	**175**	P	**P**	**02 12 04.8**	**+0.2**
SVE	**Sverdlovsk**	**52.60**	**319**	*e*P	**P**	**02 12 05.7**	**+1.0**
ARU	**Arti**	**53.77**	**319**	P	**P**	**02 12 14.0**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=69,slow=4.0,SNR=6.0						
ARU	**Arti**	**53.77**	**319**	*c* iP	**P**	**02 12 13.7**	**+0.3**
ARU						02 13 17.2	
ARU						02 14 10.0	
ARU				S	**S**	**02 19 52.2**	**+4.5**
ARU				pmax	pmax		
	comp=Z,11nm,1.1s						
ARU	**Arti**	**53.77**	**319**	P	**P**	**02 12 13.3**	**-0.1**
ARU				lAmb	lAmb	02 12 15.1	
	comp=Z,8.3nm,0.9s						
AB31	**Akbulak array**	**53.96**	**310**	*i* P	**P**	**02 12 15.2**	**+0.3**
ABKAR	**Akbulak array**	**53.96**	**310**	P	**P**	**02 12 15.2**	**+0.3**
J20K	**Nowinta River**	**54.66**	**31**	P	**P**	**02 12 20.9**	**+1.2**
	baz=273						
K20K	**Telida**	**54.73**	**32**	P	**P**	**02 12 21.4**	**+1.0**
	baz=274						
IMAR	**Indian Mountai**	**54.75**	**29**	P	**P**	**02 12 21.2**	**+0.8**
L20K	**Farewell, AK**	**54.88**	**33**	P	**P**	**02 12 22.2**	**+0.7**
	baz=274						
AKTO	**Aktyubinsk**	**54.97**	**312**	P	**P**	**02 12 22.6**	**+0.4**
	comp=Z,6.4nm,0.7s,baz=69,slow=8.8,SNR=18						
H21K	**Melozitna Rive**	**55.15**	**29**	P	**P**	**02 12 24.3**	**+1.0**
	baz=273						
CHUM	**Lake Minchumin**	**55.48**	**32**	P	**P**	**02 12 26.2**	**+0.5**
	baz=275,SNR=5.1						
I21K	**Tanana**	**55.52**	**30**	P	**P**	**02 12 27.2**	**+1.2**
	baz=274						
CAST	**Castle Rocks**	**55.62**	**32**	P	**P**	**02 12 27.8**	**+1.1**
	baz=275						
KTH	**Kantishna Hill**	**56.13**	**32**	IAmb	IAmb	02 12 34.5	
	comp=Z,22nm,1.5s						
ASAR	**Alice Springs**	**56.17**	**176**	P	**P**	**02 12 30.6**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=0.1,slow=6.7,SNR=21						
ASAR	**Alice Springs**	**56.17**	**176**	P	**P**	**02 12 30.8**	**-0.3**
H23K	**Yukon River**	**56.48**	**29**	IAmb	IAmb	02 12 35.3	
	comp=Z,7.4nm,0.9s						
H23K	**Yukon River**	**56.48**	**29**	P	**P**	**02 12 34.5**	**+1.6**
	baz=276,SNR=7.7						
NEA2	**Nenana**	**56.82**	**31**	IAmb	IAmb	02 12 37.0	
	comp=Z,11nm,1.0s						
NEA2	**Nenana**	**56.82**	**31**	P	**P**	**02 12 36.3**	**+1.1**
	baz=277,SNR=5.6						
MCK	**McKinley**	**56.99**	**32**	IAmb	IAmb	02 12 37.0	
	comp=Z,7.5nm,1.1s						
MCK	**McKinley**	**56.99**	**32**	P	**P**	**02 12 36.4**	**-0.1**
	baz=278						
RND	**Reindeer**	**57.07**	**32**	IAmb	IAmb	02 12 38.0	
	comp=Z,10nm,0.9s						
MDM	**Murphy Dome**	**57.13**	**30**	IAmb	IAmb	02 12 39.3	
	comp=Z,14nm,1.0s						
H24K	**Noodor Dome**	**57.16**	**29**	P	**P**	**02 12 39.1**	**+1.4**
	baz=277,SNR=5.0						
COLA	**College**	**57.30**	**30**	⇓*i*P	**P**	**02 12 40.1**	**+1.5**
COLA				pmax	pmax		
	comp=Z,29nm,4.0s						
POKR	**Poker Plat Res**	**57.44**	**30**	IAmb	IAmb	02 12 41.6	
	comp=Z,13nm,1.0s						
POKR	**Poker Plat Res**	**57.44**	**30**	P	**P**	**02 12 41.0**	**+1.3**
	baz=278						
WAT6	**Susitna Watana**	**57.70**	**33**	P	**P**	**02 12 41.8**	**+0.1**
	baz=280						
IL31		**57.72**	**30**	P	**P**	**02 12 42.0**	**+0.4**
IL31				PcP	**PcP**	**02 13 33.3**	**-1.1**
ILAR	**Eielson Array**	**57.72**	**30**	P	**P**	**02 12 41.3**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=263,slow=3.8,SNR=21						
DHY	**Denali Highway**	**57.78**	**32**	P	**P**	**02 12 43.3**	**+1.0**
	baz=280						
M23K	**Glacier View**	**57.84**	**34**	P	**P**	**02 12 42.6**	**+0.1**
	baz=280						
KIRV	**Kirov**	**58.32**	**323**	P	**P**	**02 12 46.0**	**+0.1**
	comp=Z,7.5nm,0.6s,baz=352,slow=2.0,SNR=3.8						
KIRV	**Kirov**	**58.32**	**323**	⇓*e*P	**P**	**02 12 46.6**	**+0.8**
SCRK	**Sand Creek**	**59.10**	**31**	IAmb	IAmb	02 12 52.3	
	comp=Z,8.0nm,0.9s						
SCRK	**Sand Creek**	**59.10**	**31**	P	**P**	**02 12 51.4**	**-0.1**
	baz=282,SNR=13						
DOT	**Dot Lake**	**59.14**	**31**	IAmb	IAmb	02 12 52.2	
	comp=Z,4.2nm,0.8s						
J26L	**Joseph Creek**	**59.18**	**30**	P	**P**	**02 12 51.9**	**-0.1**
	baz=282						
N25K	**Chitina, Valde**	**59.34**	**34**	P	**P**	**02 12 52.1**	**-0.9**
	baz=283						
MENT	**Mentasta**	**59.44**	**32**	IAmb	IAmb	02 12 55.5	
	comp=Z,8.2nm,0.8s						
BMRM	**Bremner River**	**59.47**	**34**	P	**P**	**02 12 54.8**	**+0.8**
BMRM	**Bremner River**	**59.47**	**34**	P	**P**	**02 12 54.7**	**+0.8**
	baz=283,SNR=5.3						
L26K	**Log Cabin Wild**	**59.59**	**32**	IAmb	IAmb	02 12 56.4	
	comp=Z,7.8nm,0.9s						
L26K	**Log Cabin Wild**	**59.59**	**32**	P	**P**	**02 12 55.8**	**+1.1**
	baz=283						
M26K	**Nabesna, AK**	**59.89**	**32**	IAmb	IAmb	02 12 58.5	
	comp=Z,13nm,0.9s						
M26K	**Nabesna, AK**	**59.89**	**32**	P	**P**	**02 12 57.7**	**+0.9**
	baz=284,SNR=8.9						
VRDI	**Verde Repeater**	**59.96**	**34**	P	**P**	**02 12 58.3**	**+0.9**
VRDI				IAmb	IAmb	02 12 58.9	
	comp=Z,6.8nm,0.8s						
MCARA	**McCarthy VSAT**	**60.12**	**34**	P	**P**	**02 12 59.5**	**+1.1**
	baz=284						
EGAK	**Eagle**	**60.13**	**30**	P	**P**	**02 12 58.5**	**+0.2**
	baz=284						
L27K	**Beaver Creek,**	**60.25**	**32**	P	**P**	**02 12 59.9**	**+0.6**
L27K				IAmb	IAmb	02 13 01.3	
	comp=Z,8.8nm,0.8s						
L27K	**Beaver Creek,**	**60.25**	**32**	P	**P**	**02 13 00.5**	**+1.3**
	baz=284,SNR=8.7						
BCAR	**Beaver Creek A**	**60.27**	**32**	P	**P**	**02 13 00.4**	**+1.0**
M27K	**Edge Creek, AK**	**60.41**	**32**	IAmb	IAmb	02 13 02.1	
	comp=Z,6.5nm,0.8s						
M27K	**Edge Creek, AK**	**60.41**	**32**	P	**P**	**02 13 01.0**	**+0.5**
	baz=284						
BELG	**Belogornoye**	**60.83**	**316**	*de*P	**P**	**02 13 03.0**	**-0.3**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CTG	**Chitna Glacier**	**61.02**	**34**	P	**P**	**02 13 05.3**	**+0.7**
	baz=286						
DAWY	**Dawson**	**61.05**	**30**	P	**P**	**02 13 04.7**	**0.0**
	baz=286						
I29M	**Ogilvie Camp,**	**61.15**	**29**	IAmb	IAmb	02 13 07.0	
	comp=Z,4.5nm,0.8s						
I29M	**Ogilvie Camp,**	**61.15**	**29**	P	**P**	**02 13 06.0**	**+0.7**
	baz=286						
J29M	**Klondike Camp**	**61.44**	**30**	P	**P**	**02 13 09.1**	**+1.8**
	baz=286						
EPYK	**Eagle Plains**	**61.49**	**27**	P	**P**	**02 13 08.3**	**+0.7**
	baz=287,SNR=11						
INK	**Inuvik**	**62.09**	**25**	P	**P**	**02 13 12.2**	**+0.7**
INK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
INK	**Inuvik**	**62.09**	**25**	IAmb	IAmb	02 13 12.7	
	comp=Z,4.9nm,0.9s						
INK	**Inuvik**	**62.09**	**25**	P	**P**	**02 13 12.0**	**+0.5**
	baz=288,SNR=6.3						
YUK4	**Talbot Arm**	**62.16**	**33**	P	**P**	**02 13 13.6**	**+1.2**
	baz=288						
YUK6	**Outpost Mounta**	**62.41**	**33**	P	**P**	**02 13 15.7**	**+1.5**
	baz=288						
KLMR	**Klimovskoe**	**62.57**	**327**	*e*P	**P**	**02 13 13.2**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,10.0nm

OBN	**Obninsk**	**66.08**	**321**	⇑	*e*P		**P**	**02 13 37.8 -0.2**
OBN					*e*			02 16 05.5
OBN					*e*S		**S**	**02 22 24.8 -1.2**
OBN					pmax		pmax	
	comp=Z,22nm,1.7s							
OBN					MLR		MLR	
	comp=Z,53nm,14.0s							
TGTN	**Hyland Airport**	**66.72**	**31**		P		**P**	**02 13 43.1 +1.0**
	baz=296,SNR=5.3							
KBZ	**Khabaz**	**66.80**	**308**		P		**P**	**02 13 43.1 +0.3**
	comp=Z,6.2nm,0.8s,baz=110,slow=1.9,SNR=13							
KBZ	**Khabaz**	**66.80**	**308**	⇓	*e*P		**P**	**02 13 43.4 +0.6**
KBZ					pmax		pmax	
	comp=Z,9.0nm,0.9s							
KIV	**Kislovodsk**	**66.85**	**308**		*e*P		**P**	**02 13 43.8 +0.5**
KIV					pmax		pmax	
	comp=Z,16nm,1.1s							
KIV	**Kislovodsk**	**66.85**	**308**		P		**P**	**02 13 43.0 -0.3**
GNI	**Garni**	**66.98**	**304**		P		**P**	**02 13 45.2 +1.0**
	comp=Z,2.0nm,0.5s,baz=172,slow=7.6,SNR=3.8							
GNI	**Garni**	**66.98**	**304**	⇑	*e*P		**P**	**02 13 45.3 +1.0**
GNI					pmax		pmax	
	comp=Z,15nm,1.7s							
GNI	**Garni**	**66.98**	**304**		P		**P**	**02 13 44.9 +0.7**
GNI					IAmb		IAmb	02 13 47.1
	comp=Z,16nm,1.4s							
FINES	**FINESS Array B**	**68.31**	**330**		P		**P**	**02 13 51.3 -0.7**
	comp=Z,7.6nm,0.5s,baz=70,slow=6.1,SNR=78							
RES	**Resolute Bay**	**68.77**	**12**		IAmb		IAmb	02 13 55.8
	comp=Z,6.6nm,0.8s							
GEVA	**Gevas**	**68.94**	**303**		P		**P**	**02 13 56.3 -0.4**
SOC	**Sochi**	**68.96**	**309**		*e*P		**P**	**02 13 55.9 -0.5**
SOC					*e*			02 16 25.1
SOC					*e*PPP		PPP	02 18 05.7
SOC					*e*S		**S**	**02 23 03.6 +2.6**
SOC					*e*SS		**SS**	**02 27 22.0 -3.9**
SOC					MLR		MLR	
	comp=Z,96nm,21.0s							
DAG	**Danmarks Havn**	**69.10**	**353**		P		**P**	**02 13 56.5 -0.2**
DAG					pmax		pmax	
	comp=Z,6.0nm,1.1s							
VSU	**Vasula**	**69.47**	**327**	⇓	*e*P		**P**	**02 14 00.3 +1.1**
VSU					pmax		pmax	
	comp=Z,36nm,1.1s							
GURO	**Guroymak-BITLI**	**69.56**	**303**		IAmb		IAmb	02 14 02.8
	comp=Z,4.8nm,0.9s							
MNK	**Minsk**	**70.86**	**323**		*i* P		**P**	**02 14 06.5 -1.3**
MNK					*i*			02 14 26.8
MNK					*i*			02 16 43.4
MNK					*i* PPP		PPP	02 18 26.2
MNK					*i* S		**S**	**02 23 21.4 -1.5**
MNK					*i*			02 24 10.3
MNK					*i* SS		**SS**	**02 27 56.3 +1.8**
MNK					pmax		pmax	
	comp=Z,10.0nm,0.9s							
MNK					pmax		pmax	
	comp=E,2.0nm,1.0s							
MNK					pmax		pmax	
	comp=N,8.0nm,1.1s							
MNK					MLR		MLR	
	comp=Z,77nm,15.0s							
MNK					MLR		MLR	
	comp=N,57nm,17.0s							
MNK					MLR		MLR	
	comp=E,13nm,18.0s							
MNK	**Minsk**	**70.86**	**323**		*i* P		**P**	**02 14 06.6 -1.3**
	comp=E,2.0nm,1.0s							
MNK					*i* P		**P**	**02 14 06.6 -1.3**
	comp=N,8.0nm,1.1s							
MNK					*i* P		**P**	**02 14 06.6 -1.3**
	comp=Z,10.0nm,0.9s,baz=240							
MNK					*i* PcP		**PcP**	**02 14 26.9 -1.6**
MNK					*i* PP		**PP**	**02 16 43.5 -0.9**
MNK					*i* PPP		PPP	02 18 26.2
MNK					*i* S		**S**	**02 23 21.5 -1.5**
MNK					*i* SS		**SS**	**02 27 56.4 +1.8**
MNK					*i* SSS		SSS	02 31 15.2
MNK					*i* LQ		LQ	02 40 21.8
MNK					*i* LR		LR	02 45 45.7
MNK					*i* LRM		MLR	02 47 37.8
	comp=N,57nm,17.4s							
MNK					*i* LRM		MLR	02 47 37.8
	comp=Z,77nm,15.2s							
MNK					*i* LRM		MLR	02 47 48.2
	comp=E,13nm,18.1s							
MARD	**Mardin**	**71.00**	**303**		P		**P**	**02 14 09.9 +0.6**
MARD					IAmb		IAmb	02 14 11.5
	comp=Z,12nm,0.9s							
NACGM	**Naroch**	**71.21**	**324**		*e*P		**P**	**02 14 10.2 +0.2**
YKA	**Yellowknife Ar**	**71.74**	**26**		P		**P**	**02 14 13.3 +0.2**
	comp=Z,1.5nm,0.8s,baz=304,slow=5.9,SNR=29							
AKASG	**Malin Array Be**	**72.03**	**319**		P		**P**	**02 14 14.7 -0.3**
	comp=Z,6.9nm,0.6s,baz=53,slow=6.1,SNR=16							
AKBB	**Malin Array Si**	**72.03**	**319**	*c*	*i* P		**P**	**02 14 14.7 -0.3**
AKBB					pmax		pmax	
	comp=Z,14nm,0.7s							
SUW	**Suwalki**	**73.47**	**324**		P		**P**	**02 14 23.4 -0.1**
SUW					pmax		pmax	
	comp=Z,21nm,1.2s							
BNN	**Bunyan**	**73.72**	**306**		IAmb		IAmb	02 14 27.1
	comp=Z,20nm,1.1s							
SORM	**Soroca**	**73.82**	**317**	⇓	P		**P**	**02 14 25.1 -0.6**
SORM	**Soroca**	**73.82**	**317**	⇓	P		**P**	**02 14 25.1 -0.6**
NB2	**NORSAR Subarra**	**74.45**	**334**		P		**P**	**02 14 27.9 -1.3**
	comp=Z,4.6nm,1.0s,baz=50,slow=5.9							
NOA	**NORSAR Array B**	**74.45**	**334**		P		**P**	**02 14 28.3 -0.9**
	comp=Z,1.9nm,0.8s,baz=49,slow=5.7,SNR=8.3							
BR131	**Keskin Array S**	**74.78**	**308**	*d*	*i* P		**P**	**02 14 31.8 +0.1**
BR131	**Keskin Array S**	**74.78**	**308**		IAmb		IAmb	02 14 32.8
	comp=Z,11nm,0.8s							
BRTR	**Keskin Array B**	**74.78**	**308**		P		**P**	**02 14 32.0 +0.4**
	comp=Z,5.6nm,0.8s,baz=95,slow=5.9,SNR=36							
BRTR	**Keskin Array B**	**74.78**	**308**		P		**P**	**02 14 31.8 +0.1**
JURR	**Jurilovca**	**75.26**	**314**	⇑	P		**P**	**02 14 34.3 +0.2**
LVV	**L'vov**	**75.33**	**320**		*e*P		**P**	**02 14 33.6 -0.8**
TPGR	**Topolog**	**75.49**	**314**	⇑	P		**P**	**02 14 35.9 +0.5**
TESR	**Tescani**	**75.66**	**316**	⇑	P		**P**	**02 14 35.5 -0.9**
BUR08	**Bucovina Ar. S**	**75.88**	**318**		IAmb		IAmb	02 14 39.7
	comp=Z,9.2nm,1.1s							
BURAR	**Bucovina Array**	**75.88**	**318**	⇑	P		**P**	**02 14 38.3 +0.5**
BURAR	**Bucovina Array**	**75.88**	**318**	⇑	P		**P**	**02 14 38.3 +0.5**
BURAR	**Bucovina Array**	**75.88**	**318**		P		**P**	**02 14 37.9 +0.1**
VRI	**Vrincioaia**	**75.96**	**316**	⇓	P		**P**	**02 14 39.6 +1.4**
VRI	**Vrincioaia**	**75.96**	**316**	⇓	P		**P**	**02 14 39.6 +1.4**
OZUR		**76.39**	**316**	⇓	P		**P**	**02 14 41.2 +0.6**
MLR	**Muntele Rosu**	**76.62**	**316**		IAmb		IAmb	02 14 44.0
	comp=Z,10.0nm,1.2s							
DOPR	**Dopca**	**76.69**	**316**	⇑	P		**P**	**02 14 43.5 +1.2**
BORA	**Eskisehir**	**76.81**	**309**		IAmb		IAmb	02 14 43.9
	comp=Z,9.4nm,0.8s							
MMAI	**Mount Meron Ar**	**76.92**	**301**		P		**P**	**02 14 44.3 +0.3**
	comp=Z,1.8nm,0.9s,baz=51,slow=30,SNR=4.7							
UZH	**Uzhgorod**	**76.94**	**320**		*e*P		**P**	**02 14 42.8 -0.8**
UZH					*e*			02 14 46.6
UZH					*e*			02 14 52.7
CRVS	**Cervenica-Dubn**	**77.23**	**320**		*e*P		**P**	**02 14 46.0 +0.7**
CRVS	**Cervenica-Dubn**	**77.23**	**320**		*e*P		**P**	**02 14 46.0 +0.7**
OJC	**Ojcow**	**77.34**	**322**		*e*P		**P**	**02 14 46.6 +0.7**
MESR	**Meseseni**	**77.42**	**318**	⇑	P		**P**	**02 14 48.2 +1.9**
ARR	**Arges**	**77.46**	**316**	⇑	P		**P**	**02 14 47.8 +1.0**
ARR				⇓	P		**PP**	**02 17 38.1 -2.7**
NIE	**Niedzica**	**77.55**	**321**		*e*P		**P**	**02 14 48.8 +1.7**
GHAJ	**Ghor Haditha**	**77.67**	**299**		IAmb		IAmb	02 14 49.5
	comp=Z,13nm,0.8s							
DRGR		**77.76**	**318**	⇑	P		**P**	**02 14 49.1 +0.7**
DRGR		**77.76**	**318**	⇑	P		**P**	**02 14 49.1 +0.7**
LANS	**Liptovska Anna**	**78.15**	**321**		*e*P		**P**	**02 14 51.6 +1.1**
LANS					pmax		pmax	
	comp=Z,4.0nm,0.8s							
LANS	**Liptovska Anna**	**78.15**	**321**		*e*P		**P**	**02 14 51.6 +1.1**
PSZ	**Piszkesteto**	**78.66**	**320**	⇓	P		**P**	**02 14 54.1 +0.8**
PSZ	**Piszkesteto**	**78.66**	**320**		P		**P**	**02 14 53.8 +0.5**
PSZ					pmax		pmax	
	comp=Z,12nm,1.0s							
PSZ	**Piszkesteto**	**78.66**	**320**		P		**P**	**02 14 53.8 +0.5**
PSZ					IAmb		IAmb	02 14 55.0
	comp=Z,12nm,1.0s							
PSZ	**Piszkesteto**	**78.66**	**320**		P		**P**	**02 14 52.3 -1.0**
MORC	**Moravsky Berou**	**78.77**	**323**	⇑	P		**P**	**02 14 54.4 +0.5**
MORC	**Moravsky Berou**	**78.77**	**323**	⇑	P		**P**	**02 14 54.4 +0.5**
MORC	**Moravsky Berou**	**78.77**	**323**		IAmb		IAmb	02 14 55.4
	comp=Z,13nm,1.1s							
MORC	**Moravsky Berou**	**78.77**	**323**		*e*P		**P**	**02 14 54.4 +0.5**
MANT	**Manisa**	**78.80**	**309**		IAmb		IAmb	02 14 55.1
	comp=Z,5.9nm,0.9s							
VYHS	**Vyhne**	**78.88**	**321**		*e*P		**P**	**02 14 55.3 +0.8**
VYHS					pmax		pmax	
	comp=Z,6.0nm,1.0s							
VYHS	**Vyhne**	**78.88**	**321**		*e*P		**P**	**02 14 55.3 +0.8**
OSTC	**Ostas**	**78.96**	**324**		*e*P		**P**	**02 14 55.7 +0.8**
EIL	**Elat**	**78.97**	**298**		P		**P**	**02 14 55.3 0.0**
	comp=Z,2.4nm,0.7s,baz=209,slow=5.0,SNR=3.6							
KRLC	**Kraliky**	**78.97**	**323**		*e*P		**P**	**02 14 55.3 +0.3**
KRLC	**Kraliky**	**78.97**	**323**		*e*P		**P**	**02 14 55.3 +0.3**
CHVC	**Chvalec**	**79.02**	**324**		*e*P		**P**	**02 14 55.7 +0.5**
DPC	**Dobruska-Polom**	**79.03**	**324**		*e*P		**P**	**02 14 56.1 +0.8**
DPC	**Dobruska-Polom**	**79.03**	**324**		*e*P		**P**	**02 14 56.1 +0.8**
KOLL	**Kolacno**	**79.06**	**321**		*e*P		**P**	**02 14 56.4 +1.0**
UPC	**Upice**	**79.09**	**324**		*e*P		**P**	**02 14 56.2 +0.6**
UPC	**Upice**	**79.09**	**324**		*e*P		**P**	**02 14 56.2 +0.6**
JAVC	**Velka Javorina**	**79.27**	**322**		*e*P		**P**	**02 14 58.4 +1.8**
MDVR	**Moldovita**	**79.49**	**317**	⇑	P		**P**	**02 14 57.8 -0.1**
BSEG	**Bad Segeberg**	**79.52**	**329**		*e*P		**P**	**02 14 58.1 +0.3**
	comp=Z,7.5nm,0.9s,baz=47,slow=5.3							
VRAC	**Vranov**	**79.55**	**323**		*e*P		**P**	**02 14 58.9 +0.8**
SRO	**Srobarova**	**79.57**	**321**		*e*P		**P**	**02 14 59.5 +1.3**
SRO	**Srobarova**	**79.57**	**321**		*e*P		**P**	**02 14 59.5 +1.3**
SMOL	**Smolenice**	**79.61**	**322**		*e*P		**P**	**02 14 59.5 +1.1**
SMOL					pmax		pmax	
	comp=Z,7.0nm,1.1s							
SMOL	**Smolenice**	**79.61**	**322**		*e*P		**P**	**02 14 59.5 +1.1**
MODS	**Modra-Piesok**	**79.77**	**322**		*e*P		**P**	**02 15 00.6 +1.3**
MODS					pmax		pmax	
	comp=Z,30nm,1.2s							
MODS	**Modra-Piesok**	**79.77**	**322**		*e*P		**P**	**02 15 00.6 +1.3**
PVCC	**Panska Ves**	**79.79**	**324**		*e*P		**P**	**02 15 00.2 +0.8**
PVCC	**Panska Ves**	**79.79**	**324**		*e*P		**P**	**02 15 00.2 +0.8**
KRUC	**Moravsky**	**79.80**	**322**		*e*P		**P**	**02 15 00.2 +0.7**
BRG	**Berggiesshubel**	**79.88**	**325**	⇑	*i*P		**P**	**02 15 00.3 +0.5**
BRG					Amp			02 15 02.7
	comp=Z,7.1nm,1.0s							
BRG	**Berggiesshubel**	**79.88**	**325**	⇑	*i*P		**P**	**02 15 00.3 +0.5**
BRG					pmax		pmax	
	comp=Z,7.0nm,1.0s							
BRG	**Berggiesshubel**	**79.88**	**325**		*e*P		**P**	**02 15 00.3 +0.5**
	comp=Z,4.1nm,0.8s,baz=47,slow=5.3							
ZST	**Bratislava**	**79.98**	**321**		*e*P		**P**	**02 15 01.8 +1.4**
ZST	**Bratislava**	**79.98**	**321**		*e*P		**P**	**02 15 01.8 +1.4**
CLL	**Collm**	**80.04**	**326**	⇓	*i*P		**P**	**02 15 00.7 0.0**
CLL					*i*			02 15 04.8
CLL					pmax		pmax	
	comp=Z,23nm,0.9s							
CLL	**Collm**	**80.04**	**326**		IAmb		IAmb	02 15 01.7
	comp=Z,20nm,0.9s							
CLL	**Collm**	**80.04**	**326**	⇓	*i*P		**P**	**02 15 00.7 0.0**
	comp=Z,23nm,0.9s							
CLL					*i* (sP)		**sP**	**02 15 04.8 -0.4**
CLL	**Collm**	**80.04**	**326**		*e*P		**P**	**02 15 00.8 +0.1**
	comp=Z,14nm,0.8s,baz=47,slow=5.3							
TREC	**Trest**	**80.12**	**323**		*e*P		**P**	**02 15 01.7 +0.5**
TREC					*e*			02 15 05.9
TREC	**Trest**	**80.12**	**323**		*e*P		**P**	**02 15 01.7 +0.5**
TREC					*e*pP		**sP**	**02 15 05.9 +0.2**
FBE	**Freiberg**	**80.13**	**325**		*e*P		**P**	**02 15 01.8 +0.6**
	comp=Z,14nm,1.0s,baz=47,slow=5.3							
PRU	**Pruhonice**	**80.15**	**324**		*e*P		**P**	**02 15 01.8 +0.5**
PRU					*e*			02 15 05.6
PRU	**Pruhonice**	**80.15**	**324**		*e*P		**P**	**02 15 01.8 +0.5**
PRU					*e*pP		**sP**	**02 15 05.6 -0.2**
FLTG	**Flechtingen**	**80.19**	**327**		*e*P		**P**	**02 15 01.8 +0.4**
	comp=Z,11nm,0.8s,baz=47,slow=5.3							
FRGS	**Fruska Gora**	**80.36**	**318**	⇑	P		**P**	**02 15 02.1 -0.4**
RONA	**Rosalia, Austr**	**80.71**	**321**		*i* P		**P**	**02 15 05.6 +1.2**
	comp=Z,10nm,1.3s,SNR=6.0							
CONA	**Conrad Observa**	**80.79**	**322**		*i* P		**P**	**02 15 06.2 +1.3**
	comp=Z,14nm,1.0s,SNR=8.5							
TANN	**Tannenbergstha**	**80.89**	**325**		*e*P		**P**	**02 15 05.6 +0.2**
	comp=Z,3.5nm,0.9s,baz=47,slow=5.3							
DIVS	**Divibare**	**80.89**	**317**		IAmb		IAmb	02 15 07.0
	comp=Z,7.9nm,1.2s							
CLZ	**Clausthal**	**80.92**	**327**		*e*P		**P**	**02 15 05.9 +0.4**
	comp=Z,15nm,0.9s,baz=47,slow=5.3							
GUNZ	**Gunzen**	**80.98**	**325**		*e*P		**P**	**02 15 06.4 +0.5**
	comp=Z,6.7nm,0.9s,baz=47,slow=5.3							
WERN	**Wernitzgruen**	**81.01**	**325**		*e*P		**P**	**02 15 06.8 +0.8**
	comp=Z,6.1nm,0.9s,baz=47,slow=5.3							
NKC	**Novy Kostel**	**81.02**	**325**		*e*P		**P**	**02 15 06.8 +0.8**
NKC	**Novy Kostel**	**81.02**	**325**		*e*P		**P**	**02 15 06.8 +0.8**
CKRC	**Cesky Krumlov**	**81.02**	**323**		*e*P		**P**	**02 15 06.4 +0.4**
CKRC					*e*x		x	02 15 10.7
MOX	**Moxa**	**81.14**	**326**		*e*P		**P**	**02 15 07.2 +0.5**
	comp=Z,2.1nm,0.8s,baz=47,slow=5.3							
KHC	**Kasperske Hory**	**81.18**	**324**	⇑	*e*P		**P**	**02 15 06.5 -0.4**
KHC					pmax		pmax	
	comp=Z,16nm,1.0s							
KHC	**Kasperske Hory**	**81.18**	**324**		IAmb		IAmb	02 15 08.3
	comp=Z,6.7nm,1.0s							
KHC	**Kasperske Hory**	**81.18**	**324**		*e*P		**P**	**02 15 07.3 +0.4**
KHC					*e*pP		**PcP**	**02 15 11.8 -1.4**
GTTG	**Gottingen**	**81.30**	**327**		*e*P		**P**	**02 15 07.7 +0.2**
	comp=Z,12nm,0.9s,baz=47,slow=5.3							
GEC2	**GERESS Array S**	**81.31**	**323**		*e*P		**P**	**02 15 07.8 +0.1**
	comp=Z,4.0nm,0.9s,baz=47,slow=5.3							
GERES	**GERESS Array B**	**81.31**	**323**		P		**P**	**02 15 07.8 +0.1**
	comp=Z,3.5nm,0.9s,baz=48,slow=2.0,SNR=24							
MANZ	**Manzenberg**	**81.34**	**325**		*e*P		**P**	**02 15 08.2 +0.5**
	comp=Z,12nm,0.9s,baz=47,slow=5.3							
ARSA	**Arzberg**	**81.40**	**321**		*i* P		**P**	**02 15 08.8 +0.7**
	comp=Z,10nm,1.2s							
ROTZ	**Rotzenmuhle**	**81.44**	**325**		*e*P		**P**	**02 15 08.8 +0.5**
	comp=Z,2.2nm,1.0s,baz=47,slow=5.3							
WET	**Wettzell**	**81.52**	**324**		*e*P		**P**	**02 15 09.4 +0.7**
	comp=Z,2.4nm,0.8s,baz=47,slow=5.3							
MOA	**Molln**	**81.67**	**322**		*i* P		**P**	**02 15 10.3 +0.8**
	comp=Z,5.7nm,1.0s							
IBBN	**Ibbenburen**	**81.77**	**329**		*e*P		**P**	**02 15 10.2 +0.4**
	comp=Z,5.5nm,0.9s,baz=47,slow=5.3							
LIT	**Litokhoron**	**81.77**	**313**		IAmb		IAmb	02 15 10.3
	comp=Z,4.4nm,0.7s							
FFC	**Flin Flon**	**81.83**	**28**		P		**P**	**02 15 09.9 -0.3**
FFC					pmax		pmax	
	comp=Z,6.0nm,1.0s							
FFC	**Flin Flon**	**81.83**	**28**		P		**P**	**02 15 09.9 -0.3**
FFC					IAmb		IAmb	02 15 10.8
	comp=Z,6.2nm,1.0s							
GRF	**Grafenberg Arr**	**81.97**	**325**		*e*P		**P**	**02 15 11.7 +0.6**
	comp=Z,13nm,0.8s,baz=47,slow=5.3							
GRFO	**Grafenberg**	**81.97**	**325**		P		**P**	**02 15 11.9 +0.9**
GRFO					pmax		pmax	
	comp=Z,36nm,1.3s							
GRFO	**Grafenberg**	**81.97**	**325**		P		**P**	**02 15 11.9 +0.9**
SOKA	**Soboth**	**82.02**	**321**		*i* P		**P**	**02 15 12.2 +0.7**
	comp=Z,12nm,0.8s,SNR=7.7							
BIOA	**Bad Ischl, Aus**	**82.09**	**323**		*e*P		**P**	**02 15 11.0 -0.8**
	comp=Z,11nm,1.6s							
KASTN	**Kahler Asten**	**82.24**	**328**		*e*P		**P**	**02 15 12.7 +0.3**
	comp=Z,6.1nm,0.8s,baz=47,slow=5.3							
PDG	**Podgorica**	**82.33**	**316**		IAmb		IAmb	02 15 19.7
	comp=Z,5.7nm,0.9s							
OBKA	**Obir**	**82.39**	**321**		*e*P		**P**	**02 15 13.7 +0.3**
	comp=Z,15nm,1.6s							
RJOB	**Jochberg**	**82.49**	**323**		*e*P		**P**	**02 15 14.5 +0.6**
	comp=Z,6.6nm,0.9s,baz=47,slow=5.3							
KBN	**Korca**	**82.51**	**314**		IAmb		IAmb	02 15 18.8
	comp=Z,4nm,1.3s							
BUG	**Bochum--Univer**	**82.59**	**328**		*e*P		**P**	**02 15 14.6 +0.4**
	comp=Z,9.0nm,0.8s,baz=47,slow=5.3							
KBA	**Koelnbreinsper**	**82.64**	**322**		*i* P		**P**	**02 15 15.2 +0.3**
	comp=Z,9.2nm,1.1s							
MYKA	**Terra Mystica**	**82.78**	**322**		*i* P		**P**	**02 15 15.5 0.0**
	comp=Z,12nm,1.6s							
TNS	**Taunus Mts**	**82.91**	**327**		*e*P		**P**	**02 15 16.2 +0.2**
	comp=Z,6.5nm,0.9s,baz=47,slow=5.3							
FUR	**Furstenfeldbru**	**82.97**	**324**		*e*P		**P**	**02 15 16.7 +0.4**
	comp=Z,9.9nm,1.0s,baz=47,slow=5.3							
LRM	**Limekiln Ridge**	**83.19**	**39**		P		**P**	**02 15 18.2 +0.4**
ABTA	**Abfaltersbach**	**83.29**	**322**		*e*P		**P**	**02 15 17.6 -0.5**
	comp=Z,16nm,1.0s,SNR=6.2							
AHRW	**Bad Neuenahr-A**	**83.31**	**328**		*e*P		**P**	**02 15 18.4 +0.5**
	comp=Z,12nm,1.0s,baz=47,slow=5.3							
WATA	**Walderalm**	**83.38**	**323**		*i* P		**P**	**02 15 18.7 +0.1**
	comp=Z,6.7nm,0.8s							
WTTA	**Wattenberg**	**83.39**	**323**		*i* P		**P**	**02 15 19.0 +0.2**
	comp=Z,14nm,1.1s							
MOTA	**Moosalm**	**83.61**	**323**		*i* P		**P**	**02 15 19.8 0.0**
	comp=Z,9.9nm,0.8s							
SQTA	**Sankt Quirin**	**83.64**	**323**		*e*P		**P**	**02 15 20.0 +0.1**
	comp=Z,9.9nm,0.9s,SNR=5.2							
RETA	**Reutte**	**83.68**	**324**		*i* P		**P**	**02 15 20.4 +0.3**
	comp=Z,14nm,1.1s,SNR=6.5							
BOZ	**Bozeman (W)**	**83.77**	**39**		P		**P**	**02 15 20.9 +0.3**
	baz=311							
UBR	**Ueberruh**	**83.87**	**324**		*e*P		**P**	**02 15 21.2 +0.2**
	comp=Z,6.0nm,0.8s,baz=47,slow=5.3							
BMN	**Battle Mountai**	**83.91**	**45**		P		**P**	**02 15 22.6 +1.1**
BMN					pmax		pmax	
	comp=Z,5.0nm,1.1s							
BMN	**Battle Mountai**	**83.91**	**45**		P		**P**	**02 15 22.6 +1.1**
BMN					IAmb		IAmb	02 15 23.1
	comp=Z,5.3nm,1.1s							
FETA	**Feichten**	**84.02**	**323**		*i* P		**P**	**02 15 22.1 +0.2**
	comp=Z,12nm,1.0s,SNR=6.7							
CTI	**Castel Tesino**	**84.20**	**322**		P		**P**	**02 15 22.6 -0.2**
CTI					pmax		pmax	
	comp=Z,11nm,0.9s							
CTI	**Castel Tesino**	**84.20**	**322**		P		**P**	**02 15 22.6 -0.2**
KVN	**Kaiserville**	**84.23**	**47**		P		**P**	**02 15 23.6 +0.4**
KVN					pmax		pmax	
	comp=Z,7.0nm,1.0s							
KVN	**Kaiserville**	**84.23**	**47**		P		**P**	**02 15 23.6 +0.4**
KVN					IAmb		IAmb	02 15 24.4
	comp=Z,6.5nm,1.0s							
DAVA	**Damuels**	**84.26**	**324**		*e*P		**P**	**02 15 23.5 +0.4**
	comp=Z,34nm,1.1s,SNR=13							
BFO	**Black Forest**	**84.29**	**326**		P		**P**	**02 15 22.8 -0.3**
BFO					pmax		pmax	
	comp=Z,26nm,1.0s							
BFO	**Black Forest**	**84.29**	**326**		P		**P**	**02 15 22.8 -0.3**
BFO	**Black Forest**	**84.29**	**326**		*e*P		**P**	**02 15 23.4 +0.3**
	comp=Z,16nm,0.9s,baz=47,slow=5.3							
BGES	**Gesves**	**84.31**	**328**		*d*P		**P**	**02 15 22.4 -0.7**
WLF	**Walferdange**	**84.36**	**327**		*e*P		**P**	**02 15 23.8 +0.4**
	comp=Z,14nm,0.8s,baz=47,slow=5.3							
WLF	**Walferdange**	**84.36**	**327**		*d*P		**P**	**02 15 23.7 +0.3**
	comp=Z,14nm,1.0s							
RCHB	**Rochefort**	**84.42**	**328**		*d*P		**P**	**02 15 23.0 -0.6**
	comp=Z,8.7nm,1.0s							
NVAR	**Mina Array Bea**	**84.48**	**47**		P		**P**	**02 15 24.6 +0.1**
	comp=Z,1.6nm,0.7s,baz=300,slow=4.6,SNR=10							
NVAR	**Mina Array Bea**	**84.48**	**47**		P		**P**	**02 15 24.7 +0.2**
BMRD	**Maredsous**	**84.51**	**329**		*d*P		**P**	**02 15 24.1 0.0**
	comp=Z,10nm,0.9s							
H17A	**Grant Village**	**85.12**	**39**		P		**P**	**02 15 29.9 +2.2**
	baz=312							
TPH	**Tonopah**	**85.37**	**47**		P		**P**	**02 15 29.3 +0.3**
TPH					pmax		pmax	
	comp=Z,26nm,0.9s							
TPH	**Tonopah**	**85.37**	**47**		P		**P**	**02 15 29.3 +0.3**
PD31	**Pinedale Array**	**86.77**	**40**		P		**P**	**02 15 35.4 -0.4**
PDAR	**Pinedale Array**	**86.77**	**40**		P		**P**	**02 15 35.5 -0.4**
	comp=Z,14nm,0.8s,baz=288,slow=1.0,SNR=13							
ULM	**Lac du Bonnet**	**87.66**	**28**		P		**P**	**02 15 38.6 -1.1**
	comp=Z,4.6nm,0.8s,baz=294,slow=5.8,SNR=4.7							
ULM	**Lac du Bonnet**	**87.66**	**28**		IAmb		IAmb	02 15 40.1
	comp=Z,9.2nm,1.1s							
P17A	**Butcher Ranch,**	**88.34**	**43**		IAmb		IAmb	02 15 44.9
	comp=Z,5.5nm,1.0s							
P18A	**Preston Nutter**	**88.51**	**42**		P		**P**	**02 15 44.9 +0.5**
P18A					IAmb		IAmb	02 15 45.9
	comp=Z,4.1nm,0.9s							
N23A

AAK Ala-Archa 7.20 22 P Pn 02 12 29.7 +1.3
comp=Z,92nm,0.3s,baz=197,slow=7.7,SNR=620
AAK S Sn 02 13 47.0 -1.6
comp=Z,8.0nm,0.3s,baz=354,slow=20,SNR=2.0
AAK Ala-Archa 7.20 22*d i* PN Pn 02 12 29.6 +1.3
AAK pmax pmax
comp=Z,359nm,0.8s
AAK Ala-Archa 7.20 22 Pn Pn 02 12 29.5 +1.1
AAK Ala-Archa 7.20 22 P Pn 02 12 29.8 +1.5
AAK S Sn 02 13 46.3 -2.2
AAK Ala-Archa 7.20 22 *i* P Pn 02 12 29.7 +1.3
SNR=515
SMLA Simla 7.24 131 *e*P Pn 02 12 28.0 -0.8
SMLA *e*S Sn 02 13 44.8 -4.7
SMLA IAML 02 13 50.6
comp=E,585nm,0.5s
SMLA IAML 02 13 52.5
comp=N,359nm,0.5s
KBK Karagaybulak 7.36 25 P Pn 02 12 32.1 +1.5
SNR=88
FRU1 Bishkek 7.39 23 PN Pn 02 12 32.4 +1.5
FRU1 Bishkek 7.39 23 Pn 02 12 32.4 +1.5
ULHL Ulahol 7.52 33 P Pn 02 12 33.5 +0.8
SNR=89
BOOM Boomskoye usch 7.59 30 PN Pn 02 12 34.7 +1.0
BOOM Boomskoye usch 7.59 30 Pn Pn 02 12 34.7 +1.0
CHMS Chumysh 7.60 23 P Pn 02 12 34.7 +0.9
SNR=260
CHMS Chumysh 7.60 23 *i* PN Pn 02 12 34.2 +0.4
CHMS pmax pmax
comp=Z,243nm,0.4s
CHMS Chumysh 7.60 23 ⇓P Pn 02 12 34.6 +0.8
comp=Z,243nm,0.5s
CHMS ⇑S Sn 02 14 00.9 +2.6
comp=Z,117nm,0.8s
USP Ospenovka 7.77 21 P Pn 02 12 36.9 +0.8
SNR=56
TKM2 Tokmak 2 7.82 27 P Pn 02 12 38.0 +1.1
SNR=147
TKM2 Tokmak 2 7.82 27 *i* PN Pn 02 12 38.0 +1.1
TKM2 pmax pmax
comp=Z,54nm,0.4s
TKM2 Tokmak 2 7.82 27 ⇑P Pn 02 12 37.8 +0.9
comp=Z,54nm,0.5s
TKM2 ⇓S Sn 02 14 07.2 +3.3
comp=Z,78nm,0.8s
KDJ Kajisay 7.86 37 PN Pn 02 12 38.3 +0.8
KDJ Kajisay 7.86 37 Pn Pn 02 12 38.3 +0.8
TARG Taragay, Kyrgy 7.90 42 Pn 02 12 38.4 +0.3
SGDS Sogindy 7.98 21 *i* PN Pn 02 12 39.0 +0.1
SGDS pmax pmax
comp=Z,20nm,0.4s
SGDS Sogindy 7.98 21 *i* P Pn 02 12 39.1 +0.1
comp=Z,20nm,0.4s,baz=20
DDI Dehra Dun 8.35 131 *e*P Pn 02 12 44.1 0.0
DDI *e*S Sn 02 14 11.5 -5.2
DDI IAML 02 14 21.7
comp=E,420nm,0.5s
TNSS Tian-Shan 8.46 32 *e*PN Pn 02 12 45.5 -0.3
TNSS Tian-Shan 8.46 32 *e*P Pn 02 12 45.6 -0.3
baz=32
AAA Alma-Ata 8.59 32 *e*PN Pn 02 12 48.0 +0.8
AAA Alma-Ata 8.59 32 *e*P Pn 02 12 48.0 +0.8
baz=31
MDOK Medeo 8.61 32 *e*PN Pn 02 12 47.1 -0.5
MDOK Medeo 8.61 32 *e*P Pn 02 12 47.1 -0.5
baz=32
KUU Kurty 8.93 27*c i* PN Pn 02 12 51.8 -0.1
KUU pmax pmax
comp=Z,22nm,0.6s
KUU Kurty 8.93 27⇑ *i* P Pn 02 12 51.8 -0.1
comp=Z,22nm,0.6s,baz=26
CHKK Chushkaly 9.15 30 *e*P Pn 02 12 54.7 -0.1
CHKK Chushkaly 9.15 30 *e*P Pn 02 12 54.7 -0.1
baz=29
SATY Saty 9.16 38 *e*P Pn 02 12 55.0 -0.1
SATY pmax pmax
comp=Z,7.0nm,0.7s
SATY Saty 9.16 38 *e*P Pn 02 12 55.1 -0.1
comp=Z,7.1nm,0.7s,baz=37
ZHN Zhinishke 9.25 37 *e*P Pn 02 12 55.8 -0.6
ZHN Zhinishke 9.25 37 *e*P Pn 02 12 55.8 -0.6
baz=37
BTLS Baital 9.33 14 *i* P Pn 02 12 56.5 -0.8
BTLS pmax pmax
comp=Z,5.0nm,0.5s
BTLS Baital 9.33 14 *i* P Pn 02 12 56.6 -0.8
comp=Z,5.4nm,0.5s,baz=14
UZB Uzynbulak 9.53 39 *e*P Pn 02 13 00.0 -0.2
UZB pmax pmax
comp=Z,14nm,0.7s
UZB Uzynbulak 9.53 39 *e*P Pn 02 13 00.0 -0.2
comp=Z,14nm,0.7s,baz=39
KPKS Kokpek 9.60 37 *e*P Pn 02 13 00.3 -0.7
KPKS pmax pmax
comp=Z,9.0nm,0.6s
KPKS Kokpek 9.60 37 *e*P Pn 02 13 00.4 -0.7
comp=Z,8.7nm,0.6s,baz=37
SHLS Shalkode 9.77 41 *e*P Pn 02 13 06.0 +2.6
SHLS pmax pmax
comp=Z,7.0nm,0.7s
SHLS Shalkode 9.77 41 *e*P Pn 02 13 06.0 +2.6
comp=Z,7.0nm,0.7s,baz=42
ARXS Arharly 9.79 31 *e*P Pn 02 13 01.9 -1.7
PDGK Podgornoye 9.90 40 P Pn 02 13 05.1 -0.2
PDGK Podgornoye 9.90 40 ⇑P Pn 02 13 08.4 +3.1
comp=Z,38nm,0.9s
PDGK ⇑S Sn 02 15 02.7 +8.0
comp=Z,91nm,1.1s
GEYT Alibeck 10.30 284 P Pn 02 13 08.6 -2.0
comp=Z,12nm,0.3s,baz=118,slow=12,SNR=67
GEYT S Sn 02 14 58.2 -6.0
comp=Z,9.3nm,0.3s,baz=111,slow=19,SNR=5.8
GEYT Alibeck 10.30 284 Pn Pn 02 13 08.4 -2.1
GYA0 ALIBECK ARRAY 10.30 284 P Pn 02 13 08.2 -2.4
GYA0B ALIBECK ARRAY 10.30 284 Pn Pn 02 13 09.2 -1.4
TDK Taldyqorghan 10.67 31 *e*P Pn 02 13 15.2 -0.4
TDK Taldyqorghan 10.67 31 *e*P Pn 02 13 15.2 -0.4
baz=30
OTUK Ortayu 12.26 5 P Pn 02 13 34.6 -2.5
OTUK Ortayu 12.26 5 ⇓P Pn 02 13 35.0 -2.1
comp=Z,36nm,0.7s
OTUK ⇓S Sn 02 15 50.7 -1.0
comp=Z,31nm,0.8s
PYUN Piuthan 13.03 124 *e*P Pn 02 13 43.7 -4.1
comp=Z,49nm,0.4s
DANN Dangsing 13.40 121 *e*P Pn 02 13 49.0 -3.7
comp=Z,91nm,0.5s
MAKZ Makanchi 13.64 34 P Pn 02 13 53.6 -1.9
MAKZ Makanchi 13.64 34 Pn Pn 02 13 53.6 -1.9
KOLN Koldanda 13.65 124 *e*P Pn 02 13 52.2 -3.8
comp=Z,47nm,0.6s
MK31 Makanchi Array 13.78 35*c i* P Pn 02 13 56.7 -0.6
MK31 Makanchi Array 13.78 35 Pn Pn 02 13 56.6 -0.7
MKAR Makanchi Array 13.78 35 P Pn 02 13 56.0 -1.3
comp=Z,1.0nm,0.3s,baz=219,slow=14,SNR=32
MKAR LR LR 02 19 27.4
comp=Z,105nm,20.4s,baz=236,slow=38
MKAR Makanchi Array 13.78 35 P Pn 02 13 56.7 -0.6
MKAR Makanchi Array 13.78 35 Pn Pn 02 13 56.7 -0.6
BHPL Bhopal 13.99 154 *e*P Pn 02 13 56.8 -3.6
BHPL IAmb IAmb 02 13 58.6
comp=Z,51nm,0.7s
BHPL *e*S Sn 02 16 22.6 -12
BRZS Berezniki 14.01 5 *e*P Pn 02 13 58.3 -2.0
BRZS pmax pmax
comp=Z,18nm,0.9s
BRZS Berezniki 14.01 5 *e*P Pn 02 13 58.3 -2.0
comp=Z,18nm,0.9s,baz=4.7
GKN Gorkha 14.22 120 *e*P Pn 02 13 59.5 -3.9
comp=Z,41nm,0.4s
DMN Daman 14.79 121 *e*P Pn 02 14 07.3 -3.5
comp=Z,46nm,0.5s
KKN Kakani 14.80 120 *e*P Pn 02 14 07.3 -3.6
comp=Z,78nm,0.5s
PKI Pulchoki 15.02 120 *e*P Pn 02 14 09.6 -4.3
comp=Z,77nm,0.5s
WMQ Urumqi 15.12 54 *e*P Pn 02 14 16.1 +1.4
WMQ pP pP 02 14 31.1 -4.1
WMQ pmax pmax
comp=Z,29nm,0.7s
GUN Gumba 15.15 118 *e*P Pn 02 14 11.6 -4.0
comp=Z,74nm,0.4s
ABKAR Akbulak array 15.40 332 Pn Pn 02 14 16.6 -1.6
ZSN Zaisan 15.49 38 *e*P Pn 02 14 19.0 -0.3
ZSN Zaisan 15.49 38 *e*P Pn 02 14 19.1 -0.3
baz=38
JIRN Jiri 15.52 118 *e*P Pn 02 14 16.8 -3.5
comp=Z,26nm,0.6s
KURBB Kurchatov Arra 15.62 19 P Pn 02 14 17.3 -3.7
comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=32
KURK Kurchatov 15.73 19*de*P Pn 02 14 18.3 -4.0
KURK Kurchatov 15.73 19 Pn Pn 02 14 20.0 -2.3
SEM Semipalatinsk 15.92 23 *e*P Pn 02 14 24.5 -0.4
SEM Semipalatinsk 15.92 23 *e*P Pn 02 14 24.6 -0.4
baz=22
BANOM Banah 15.97 235 P P 02 14 27.3 -0.2
BANOM Banah 15.97 235 P P 02 14 27.4 -0.2
SHME Shamm 15.99 236 P P 02 14 28.9 +1.1
SHME Shamm 15.99 236 P P 02 14 28.7 +0.9
RAMN Ramite 16.24 119 *e*P Pn 02 14 25.2 -4.0
comp=Z,60nm,0.4s
WSAR Wadi Sarin 16.53 223 P Pn 02 14 33.0 +0.4
comp=Z,1.7nm,0.3s,baz=68,slow=7.8,SNR=14
WSAR Wadi Sarin 16.53 223 P P 02 14 35.6 +1.8
UOSS Minazif 16.71 233 P Pn 02 14 35.3 +0.6
TAPN Taplejung 16.80 116 *e*P Pn 02 14 33.1 -3.0
comp=Z,66nm,0.5s
HATD Hatta, Dubai 16.84 232 P P 02 14 39.4 +2.2
WBK Wadi Bani Khal 16.86 221 P P 02 14 39.8 +2.4
ASHO Ashiyiah 16.98 232 P P 02 14 39.8 +1.0
ASHO Ashiyiah 16.98 232 P P 02 14 39.8 +1.0
BVAR Borovoye Array 16.99 359 P Pn 02 14 37.0 -0.9
SMDO Samad 17.00 224 P P 02 14 39.9 +0.9
JLN Jalan Bani Buh 17.01 219 P P 02 14 40.2 +1.1
HOQ Hoqain 17.02 227 P P 02 14 40.1 +0.9
BRVK Borovoye 17.02 359*d i* P Pn 02 14 36.4 -2.0
BRVK pmax pmax
comp=Z,52nm,1.7s
BRVK Borovoye 17.02 359 Pn Pn 02 14 37.0 -1.4
BRVK IAmb IAmb 02 14 39.3
comp=Z,50nm,1.4s
NAZ Nazwa, Dubai 17.03 234 P P 02 14 41.3 +2.0
AKTO Aktyubinsk 17.09 331 P Pn 02 14 39.4 +0.1
comp=Z,12nm,0.3s,baz=137,slow=13,SNR=210
AKTO LR LR 02 20 57.2
comp=Z,92nm,21.9s,baz=138,slow=36
ARQ Araqi 17.68 228 P Pn 02 14 49.4 +2.8
LKRN Lenkeran, Azer 17.68 285 P P 02 14 46.4 +0.1
MHTO MHTO 18.72 220 P Pn 02 15 00.1 +1.0
SEKA Sheki 19.11 293 P P 02 15 02.3 +0.2
MNGR Mingechevir, A 19.14 291 P Pn 02 15 03.4 -0.6
GOMU GeErMu 19.42 82 P P 02 15 04.8 -1.0
GOMU S S 02 18 27.3 -14
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU pmax pmax
comp=Z,76nm,5.5s
GOMU LR LR
comp=Z,73nm,6.9s
GOMU LR LR
comp=Z,92nm,5.6s
GOMU LR LR
comp=Z,66nm,10.1s
KHOR Al-Khor Airpor 19.49 243 P P 02 15 06.0 -0.2
ZKTA Zakatala 19.60 294 P Pn 02 15 09.2 -0.2
GANJ Ganja 19.70 291 P Pn 02 15 09.7 -0.9
HYBB Hyderabad (bro 19.79 158 *e*P P 02 15 10.0 +0.4
HYBB IVmB_BB 02 15 11.5
comp=Z,133nm,2.5s
HYBB *e*pP pP 02 15 27.9 +1.2
HYBB *e*S S 02 18 49.8 +1.6
HYBB IVMs_BB IVMs_BB 02 20 18.3
comp=Z,138nm,5.4s
MZR Muzera 19.84 234 P P 02 15 09.8 -0.2
MZR Muzera 19.84 234 *i* P P 02 15 09.9 -0.2
SNR=20
LGD Lagodekhi 19.91 294 P Pn 02 15 12.6 -0.5
DDFL Dedoflistskaro 19.95 293 P Pn 02 15 15.6 +2.1
NAX Nakhchivan 20.25 286 P P 02 15 15.8 +1.3
SLWR Sila 20.33 239 P P 02 15 14.4 -0.9
ZAA0 Zalesovo Array 20.41 24 P P 02 15 15.8 -0.2
ZALV Zalesovo Beam 20.41 24 P P 02 15 15.6 -0.4
comp=Z,52nm,0.6s,baz=219,slow=11,SNR=138
ZALV S S 02 18 57.5 -2.4
comp=Z,2.3nm,0.8s,baz=214,slow=15,SNR=2.5
ZALV Zalesovo Beam 20.41 24 *i* P P 02 15 16.1 +0.1
ZALV pmax pmax
comp=Z,53nm,0.6s
ZALV Zalesovo Beam 20.41 24 P P 02 15 16.0 0.0
GROC Groznyy 20.48 298 *e*P P 02 15 17.4 +0.6
GROC *e**SP sP 02 15 47.2 +2.5
GROC S S 02 19 03.1 +1.7
GROC *e* 02 19 25.3
GROC pmax pmax
comp=Z,22nm,0.6s
GNI Garni 20.87 289 P Pn 02 15 23.3 -1.2
comp=Z,27nm,0.8s,baz=29,slow=2.3,SNR=23
GNI Garni 20.87 289*c i* P Pn 02 15 23.6 -0.9
GNI pmax pmax
comp=Z,29nm,0.7s
GNI Garni 20.87 289 P P 02 15 22.4 +1.2
GNI IAmb IAmb 02 15 31.3
comp=Z,73nm,1.1s
GNI Garni 20.87 289 P Pn 02 15 24.0 -0.5
GNI Garni 20.87 289 P Pn 02 15 24.0 -0.5
SHL Shillong 20.88 114 P P 02 15 21.5 0.0
SHL pmax pmax
comp=Z,29nm,0.8s
SHL Shillong 20.88 114 P P 02 15 21.4 0.0
SHL IAmb IAmb 02 15 43.4
comp=Z,29nm,0.8s
SHL Shillong 20.88 114 P Pn 02 15 24.8 0.0
SNR=6.6
SVE Sverdlovsk 21.89 345 *e*P P 02 15 32.4 +0.6
SVE *e*S S 02 19 35.1 +6.3
SVE pmax pmax
comp=Z,25nm,0.8s
AKH Akhalkalaki 21.90 292 ⇓P P 02 15 36.3 +4.1
ARU Arti 22.01 342 P P 02 15 33.6 +0.5
comp=Z,14nm,0.6s,baz=143,slow=5.8,SNR=24
ARU Arti 22.01 342*c i* P P 02 15 35.3 +2.2
ARU 02 16 02.9
ARU S S 02 19 34.9 +3.9
ARU SS SnSn 02 20 11.6 +7.8
ARU pmax pmax
comp=Z,82nm,1.1s
ARU Arti 22.01 342 P P 02 15 33.6 +0.5
ONI Oni 22.07 296 P P 02 15 33.3 -0.7
ONI pmax pmax
comp=Z,15nm,0.9s
ONI Oni 22.07 296 P P 02 15 33.3 -0.7
NCK Nalchik 22.11 298⇓ *e*P P 02 15 36.1 +1.8
NCK pmax pmax
comp=Z,21nm,0.6s
KBZ Khabaz 22.65 298 P P 02 15 39.9 -0.1
comp=Z,5.2nm,0.7s,baz=110,slow=9.2,SNR=7.6
KBZ S S 02 19 45.4 +3.5
comp=Z,1.4nm,0.6s,baz=270,slow=22,SNR=1.7
KBZ Khabaz 22.65 298⇓ *e*P P 02 15 40.2 +0.2
KBZ pmax pmax
comp=Z,10.0nm,0.9s
DOK Doka 22.74 225 P P 02 15 42.0 +0.9
SNR=8.3
GOF Gofitskoye 22.83 302⇑ *e*P P 02 15 45.1 +3.3
GOF pmax pmax
comp=Z,40nm,0.8s
KIV Kislovodsk 22.84 299 *e*P P 02 15 43.9 +1.8
KIV *e*S S 02 19 47.8 +2.5
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 22.84 299 P P 02 15 41.6 -0.5
KIV IAmb IAmb 02 15 55.8
comp=Z,19nm,0.9s
DMTO DMTO 23.01 222 P P 02 15 44.5 +0.6
BELG Belogornoye 23.14 322 P P 02 15 45.2 +0.4
comp=Z,33nm,0.6s,baz=316,slow=2.0,SNR=9.2
BELG Belogornoye 23.14 322*c i* P P 02 15 45.0 +0.2
BELG pmax pmax
comp=Z,11nm,1.1s
GTA Gaotai 23.17 73 *e*P P 02 15 47.4 +1.9
GTA pP sP 02 16 09.4 -4.6
GTA sP pP 02 16 17.4 +13
GTA pmax pmax
comp=Z,6.0nm,0.9s
WHFO Wadi Hawf 23.50 224 P P 02 15 48.5 +0.1
SNR=26
RBK Rabkut 23.59 223 P P 02 15 49.3 0.0
MARD Mardin 24.05 282 P P 02 15 53.0 -0.4
MARD IAmb IAmb 02 15 57.6
comp=Z,9.2nm,0.5s
KNGR Kungurtug, Tuv 24.13 45⇓ *e*P P 02 15 55.3 +1.3
ABTO Aybut 24.22 224 P P 02 15 55.1 +0.1
SNR=19
SOC Sochi 24.91 297 *e*P P 02 16 00.6 -0.4
SOC *e*S S 02 20 19.1 +0.7
SOC *e*SS SnSn 02 21 14.8 +0.2
SOC MLR MLR
comp=Z,76nm,16.0s
MOY Mondy 26.57 45 *e*P P 02 16 19.6 +3.6
MOY pmax pmax
comp=Z,8.0nm,0.8s
KIRV Kirov 26.58 335 P P 02 16 17.3 +1.5
comp=Z,33nm,0.5s,baz=167,slow=4.2,SNR=13
LZH Lanzhou 26.67 80 *e*P P 02 16 23.6 +6.4
LZH pP pP 02 16 41.1 +3.9
LZH pmax pmax
comp=Z,17nm,1.4s
VORR Voronezh 27.33 315 *e*P P 02 16 22.4 -0.3
VORR pmax pmax
comp=Z,20nm,0.5s
ZAK Zakamensk 27.43 48 *e*P P 02 16 27.2 +3.4
ZAK pmax pmax
comp=Z,5.0nm,1.3s
LPSR Galich'ya Gora 27.86 316 *e*P P 02 16 27.0 -0.4
LPSR pmax pmax
comp=Z,10.0nm,0.8s
PZH PanZhiHua 28.03 101 P P 02 16 30.8 +1.5
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.6s
SONM Songino Array 28.75 55 P P 02 16 36.0 +0.4
comp=Z,0.4nm,0.4s,baz=301,slow=9.9,SNR=2.5
BR131 Keskin Array S 29.40 289*c i* P P 02 16 41.9 +0.4
BR131 Keskin Array S 29.40 289 P P 02 16 41.5 0.0
BR131 IAmb IAmb 02 16 43.0
comp=Z,9.9nm,0.8s
BR131 Keskin Array S 29.40 289 P P 02 16 42.4 +0.9
SNR=15
BRTR Keskin Array B 29.40 289 P P 02 16 42.1 +0.6
comp=Z,5.6nm,0.7s,baz=100,slow=8.6,SNR=31
MOS Moscow 29.91 322 *e*P P 02 16 45.0 -0.5
MOS *e* 02 17 17.7
MOS *e* 02 17 44.5
PALK Pallekele 30.04 160 LR LR 02 29 00.0
comp=Z,86nm,19.9s,baz=133,slow=36
PRGR Permogore 30.12 336 *e*P P 02 16 47.7 +0.4
PRGR pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 30.17 320*de*P P 02 16 47.9 +0.1
OBN *e* 02 17 54.0
OBN pmax pmax
comp=Z,25nm,1.3s
OBN Obninsk 30.17 320 P P 02 16 47.8 -0.1
CMAR Chiang Mai Arr 30.40 118 P P 02 16 51.1 +0.8
comp=Z,1.0nm,0.7s,baz=298,slow=7.7,SNR=3.9
CMAR Chiang Mai Arr 30.40 118 P P 02 16 52.1 +1.8
CMAR Chiang Mai Arr 30.40 118 P P 02 16 52.1 +1.8
EIL Elat 30.63 268 P P 02 16 53.1 +0.8
comp=Z,5.6nm,0.9s,baz=98,slow=1.5,SNR=5.5
XAN Xi'an 31.17 82 *e*P P 02 17 01.5 +4.5
XAN pP pP 02 17 20.3 +3.0
XAN sP sP 02 17 31.3 +4.0
XAN pmax pmax
comp=Z,4.0nm,0.8s
MDUB Mudurnu 31.21 290 P P 02 16 57.4 +0.1
KLMR Klimovskoe 31.80 331 *e*P P 02 17 01.9 -0.2
KLMR *e**SP sP 02 17 32.7 +0.9
KLMR pmax pmax
comp=Z,10.0nm,0.6s
KLMR Klimovskoe 31.80 331 *e*P P 02 17 01.9 -0.2
KLMR AMP 02 17 04.4
comp=Z,10.0nm,0.6s
KLMR *e*sP sP 02 17 32.8 +0.9
BORA Eskisehir 31.83 289 P P 02 17 02.7 -0.1
HHC Hu-ho-hao-te 32.10 69 *e*P P 02 17 06.5 +1.3
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.3s
ENH Enshi 32.77 89 P P 02 17 11.5 +0.5
ENH IAmb IAmb 02 17 35.8
comp=Z,13nm,1.0s
AKASG Malin Array Be 33.09 309 P P 02 17 13.6 0.0
comp=Z,3.4nm,0.5s,baz=84,slow=7.1,SNR=15
AKBB Malin Array Si 33.09 309⇑ *e*P P 02 17 13.4 -0.2
AKBB pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 33.09 309 IAmb IAmb 02 17 13.8
comp=Z,5.4nm,0.8s
MANT Manisa 33.48 287 IAmb IAmb 02 17 19.2
comp=Z,8.4nm,0.8s
PLOR Plostina 34.35 300 ⇓P P 02 17 26.3 +1.6
PLOR Plostina 34.35 300 ⇓P P 02 17 26.3 +1.6
NRIK Noril'sk 34.62 10 P P 02 17 27.7 +1.2
comp=Z,10.0nm,0.8s,baz=201,slow=6.0,SNR=15
NRIK Noril'sk 34.62 10*ce*P P 02 17 27.6 +1.1
NRIK pmax pmax
comp=Z,18nm,1.1s
NRIK Noril'sk 34.62 10 P P 02 17 27.3 +0.8
NRIK IAmb IAmb 02 17 30.0
comp=Z,15nm,1.0s
MNK Minsk 34.70 316 *i* P P 02 17 24.3 -3.1
MNK *i* *PP pP 02 17 45.0 -2.8
MNK *i* 02 18 45.2
MNK *i* 02 19 56.2
MNK *i* S S 02 22 47.3 -4.0
MNK *i* *SS sS 02 23 24.6 -1.4
MNK *i* SS SnSn 02 25 10.9 -1.0
MNK pmax pmax
comp=N,12nm,1.2s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK MLR MLR
comp=N,92nm,19.0s
MNK MLR MLR
comp=Z,111nm,14.0s
MNK MLR MLR
comp=E,9.0nm,15.0s
MNK Minsk 34.70 316 *i* P P 02 17 24.3 -3.1
comp=E,1.0nm,0.8s
MNK *i* P P 02 17 24.3 -3.1
comp=N,12nm,1.2s
MNK *i* P P 02 17 24.3 -3.1
comp=Z,7.0nm,0.8s,baz=103
MNK *i* pP pP 02 17 45.1 -2.8
MNK *i* PP PnPn 02 18 45.2 -0.6
MNK *i* S S 02 22 47.3 -4.0
MNK *i* sS sS 02 23 24.6 -1.4
MNK *i* SS SnSn 02 25 11.0 -1.0
MNK *i* LR LR 02 29 07.6
MNK *i* LRM MLR 02 33 05.0
comp=N,92nm,18.8s
MNK *i* LRM MLR 02 33 10.8
comp=Z,111nm,14.5s
MNK *i* LRM MLR 02 33 19.4
comp=E,9.0nm,15.2s
MLR Muntele Rosu 34.85 300 ⇑P P 02 17 31.0 +2.0
MLR Muntele Rosu 34.85 300 ⇑P P 02 17 31.0 +2.0
MLR Muntele Rosu 34.85 300 IAmb IAmb 02 17 31.9
comp=Z,11nm,0.8s
ALN Alexandroupoli 35.06 292 IAmb IAmb 02 17 32.4
comp=Z,4.3nm,0.9s
BURAR Bucovina Array 35.38 303 P P 02 17 33.9 +0.3
NACGM Naroch 35.42 316 *e*P P 02 17 34.3 +0.7
VOIR 35.48 300 ⇑P P 02 17 35.0 +0.6
VOIR 35.48 300 ⇑P P 02 17 35.0 +0.6
IDID Didziasalis 35.54 317 *e*P P 02 17 35.5 +0.8
BJT Baijiatuau 35.69 70 P P 02 17 37.1 +1.0
BJT pmax pmax
comp=Z,5.0nm,0.5s
BJT Baijiatuau 35.69 70 P P 02 17 37.1 +1.0
BJT IAmb IAmb 02 17 46.9
comp=Z,4.9nm,0.5s
BOD Bodaibo 35.83 39 *e*P P 02 17 32.0 -5.1
BOD pmax pmax
comp=Z,16nm,1.9s
APE Apeiranthos 36.10 285 ⇑P P 02 17 39.8 +0.1
APE Apeiranthos 36.10 285 ⇑P P 02 17 39.8 +0.1
VSU Vasula 36.43 322*d i* P P 02 17 42.5 +0.3
VSU pmax pmax
comp=Z,39nm,0.6s

VSU	**Vasula**	**36.43 322**	*e*P	**P**	**02 17 42.9**	**+0.6**
SRS	**Serrai**	**36.88 293**	P	**P**	**02 17 43.8**	**-2.5**
SRS			pmax	pmax		
	comp=Z,5.0nm,1.3s					
IDI	**Anoyia**	**37.02 283**	⇓P	**P**	**02 17 45.7**	**-1.9**
IDI	**Anoyia**	**37.02 283**	IAmb	IAmb	02 17 48.6	
	comp=Z,9.2nm,0.6s					
DRGR		**37.08 302**	⇑P	**P**	**02 17 48.8**	**+0.8**
DRGR		**37.08 302**	⇑P	**P**	**02 17 48.8**	**+0.8**
PABE	**Paberze**	**37.12 317**	IAmb	IAmb	02 17 49.4	
	comp=Z,12nm,0.8s					
PABE	**Paberze**	**37.12 317**	*e*P	**P**	**02 17 48.8**	**+0.7**
BLKB	**Belogradchik**	**37.27 297**	⇓P	**P**	**02 17 50.2**	**+0.6**
FINES	**FINESS Array B**	**37.77 327**	P	**P**	**02 17 53.9**	**+0.5**
	comp=Z,12nm,0.6s,baz=111,slow=9.4,SNR=42					
FINES	**FINESS Array B**	**37.77 327**	P	**P**	**02 17 53.1**	**-0.3**
LVZ	**Lovozero**	**37.82 339**	*de*P	**P**	**02 17 54.5**	**+0.5**
LVZ			pmax	pmax		
	comp=Z,110nm,3.0s					
LVZ	**Lovozero**	**37.82 339**	P	**P**	**02 17 54.5**	**+0.5**
LIT	**Litokhoron**	**37.86 291**	IAmb	IAmb	02 17 55.3	
	comp=Z,4.2nm,0.8s					
BZS	**Buzias**	**37.88 300**	⇓P	**P**	**02 17 54.0**	**-0.7**
BZS	**Buzias**	**37.88 300**	⇓P	**P**	**02 17 54.0**	**-0.7**
MTSE	**Matsula**	**37.97 322**	*e*P	**P**	**02 17 55.7**	**+0.5**
MEF	**Metsahovi**	**38.12 324**	*e*P	**P**	**02 17 57.6**	**+1.1**
AGG	**Agios Georgios**	**38.17 289**	IAmb	IAmb	02 17 58.8	
	comp=Z,5.8nm,0.7s					
MSF	**Maaselka**	**38.52 334**	P	**P**	**02 18 00.7**	**+0.9**
MSF			pmax	pmax		
	comp=Z,20nm,1.3s					
FNA	**Florina**	**38.59 292**	IAmb	IAmb	02 18 01.5	
	comp=Z,5.0nm,0.8s					
NIE	**Niedzica**	**38.70 306**	P	**P**	**02 18 03.5**	**+2.0**
NIE			pmax	pmax		
	comp=Z,3.0nm,1.8s					
PDG	**Podgorica**	**39.90 295**	P	**P**	**02 18 10.6**	**-0.9**
VRAC	**Vranov**	**41.12 306**	P	**P**	**02 18 22.9**	**+1.3**
VRAC			pmax	pmax		
	comp=Z,4.0nm,0.8s					
DPC	**Dobruska-Polom**	**41.27 308**	*e*P	**P**	**02 18 23.3**	**+0.5**
DPC	**Dobruska-Polom**	**41.27 308**	*e*P	**P**	**02 18 23.3**	**+0.5**
UPP	**Uppsala**	**41.32 322**	*e*P	**P**	**02 18 22.9**	**-0.1**
ARA0	**ARCESS Array S**	**41.50 338**	*e*P	**P**	**02 18 25.4**	**+0.9**
ARCES	**ARCESS Array B**	**41.50 338**	P	**P**	**02 18 25.4**	**+1.0**
	comp=Z,15nm,0.7s,baz=112,slow=7.2,SNR=97					
ARCES			LR	LR	02 37 26.5	
	comp=Z,54nm,18.5s,baz=75,slow=38					
ARCES	**ARCESS Array B**	**41.50 338**	P	**P**	**02 18 24.7**	**+0.3**
ARCES			IAmb	IAmb	02 18 26.0	
	comp=Z,12nm,0.7s					
CONA	**Conrad Observa**	**41.68 304**	*e*P	**P**	**02 18 26.0**	**-0.3**
	comp=Z,3.2nm,1.0s					
KTK1	**Kautokeino**	**41.97 337**	*e*P	**P**	**02 18 28.8**	**+0.6**
SOKA	**Soboth**	**42.36 302**	*i* P	**P**	**02 18 32.3**	**+0.5**
	comp=Z,6.0nm,1.2s					
HAMF	**Hammerfest**	**42.59 339**	*e*P	**P**	**02 18 34.6**	**+1.4**
MOA	**Molln**	**42.76 304**	*e*P	**P**	**02 18 36.1**	**+1.1**
	comp=Z,3.7nm,0.9s					
BRG	**Berggiesshubel**	**42.77 309**	*e*P	**P**	**02 18 35.4**	**+0.5**
BRG			Amp		02 18 37.1	
	comp=Z,4.2nm,1.1s					
BRG			*ex*	x	02 18 59.8	
BRG			Amp		02 19 00.7	
	comp=Z,3.1nm,0.8s					
BRG			*ex*	x	02 19 12.2	
BRG			Amp		02 19 12.5	
	comp=Z,4.4nm,0.9s					
BRG	**Berggiesshubel**	**42.77 309**	*e*P	**P**	**02 18 35.4**	**+0.5**
BRG			*e*		02 18 59.8	
BRG			*e*		02 19 12.1	
BRG			pmax	pmax		
	comp=Z,4.0nm,1.1s					
BRG			pmax	pmax		
	comp=Z,3.0nm,0.8s					
BRG			pmax	pmax		
	comp=Z,4.0nm,0.9s					
DEL	**Delary**	**42.87 317**	*i* P	**P**	**02 18 36.0**	**+0.3**
GERES	**GERESS Array B**	**43.05 306**	P	**P**	**02 18 37.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=96,slow=12,SNR=2.5					
LUNU	**Lund**	**43.07 316**	*i* P	**P**	**02 18 36.4**	**-0.9**
LUNU			IAmb	IAmb	02 18 39.7	
	comp=Z,5μm,5.4s					
KHC	**Kasperske Hory**	**43.11 306**	*e*P	**P**	**02 18 35.8**	**-1.9**
KHC	**Kasperske Hory**	**43.11 306**	*e*P	**P**	**02 18 35.8**	**-1.9**
JETT	**Jettan, Norway**	**43.11 337**	*e*P	**P**	**02 18 38.1**	**+0.6**
TRO	**Tromso**	**43.62 336**	*e*P	**P**	**02 18 42.0**	**+0.6**
FAUS	**Fauske**	**44.13 333**	*e*P	**P**	**02 18 46.1**	**+0.5**
MOR8	**Moi Rana**	**44.13 331**	*e*P	**P**	**02 18 45.1**	**-0.6**
STEI	**Steigen**	**44.30 334**	*e*P	**P**	**02 18 47.6**	**+0.6**
NC405	**NORSAR Array S**	**44.41 323**	P	**P**	**02 18 48.1**	**+0.2**
NC602	**NORSAR Array S**	**44.45 323**	*e*P	**P**	**02 18 48.1**	**-0.1**
NORES	**NORESS Array B**	**44.45 323**	P	**P**	**02 18 48.7**	**+0.4**
YAK	**Yakutsk**	**44.45 35**	LR	LR	02 38 58.2	
	comp=Z,55nm,18.8s,baz=139,slow=38					
YAK	**Yakutsk**	**44.45 35**	⇓*e*P	**P**	**02 18 48.0**	**-0.2**
YAK			pmax	pmax		
	comp=Z,26nm,0.9s					
NC303	**NORSAR Array S**	**44.59 324**	P	**P**	**02 18 49.2**	**-0.2**
MURB	**Monte Urbino**	**44.64 298**	P	**P**	**02 18 50.5**	**+0.4**
NB2	**NORSAR Subarra**	**44.64 323**	P	**P**	**02 18 49.3**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=95,slow=7.9					
NB2	**NORSAR Subarra**	**44.64 323**	P	**P**	**02 18 49.3**	**-0.6**
	baz=95,slow=7.9					
NOA	**NORSAR Array B**	**44.64 323**	P	**P**	**02 18 49.6**	**-0.3**
	comp=Z,8.2nm,0.8s,baz=97,slow=7.8,SNR=37					
NOA			LR	LR	02 40 30.2	
	comp=Z,29nm,18.9s,baz=30,slow=40					
KONS	**Konsvik**	**44.73 331**	*e*P	**P**	**02 18 50.8**	**+0.4**
NSS	**Namsos**	**44.79 328**	*e*P	**P**	**02 18 49.0**	**-1.9**
MOTA	**Moosalm**	**44.95 304**	*e*P	**P**	**02 18 52.2**	**-0.4**
	comp=Z,4.3nm,0.9s					
LOF	**Lofoten**	**44.98 334**	*e*P	**P**	**02 18 51.9**	**-0.5**
KSRS	**Korea Array**	**45.21 70**	P	**P**	**02 18 54.3**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=270,slow=8.3,SNR=4.8					
KSRS			LR	LR	02 39 19.6	
	comp=Z,42nm,21.0s,baz=145,slow=38					
KONO	**Kongsberg**	**45.33 321**	*e*P	**P**	**02 18 55.3**	**+0.1**
HOPEN	**Hopen**	**45.41 346**	*e*P	**P**	**02 18 57.7**	**+2.1**
KLR	**Kul'dur**	**45.57 53**	LR	LR	02 40 14.1	
	comp=Z,54nm,19.2s,baz=183,slow=39					
DOMB	**Dombas**	**45.76 325**	*e*P	**P**	**02 18 58.1**	**-0.6**
DAVA	**Damuels**	**45.78 304**	*i* P	**P**	**02 18 58.6**	**-0.6**
	comp=Z,6.1nm,0.6s					
TIXI	**Tiksi**	**46.27 22**	⇑*e*P	**P**	**02 19 02.3**	**-0.2**
TIXI			pmax	pmax		
	comp=Z,10.0nm,1.0s					
TIXI	**Tiksi**	**46.27 22**	P	**P**	**02 19 02.3**	**-0.2**
TIXI			IAmb	IAmb	02 19 06.7	
	comp=Z,7.2nm,0.7s					
HYA	**Hoyanger**	**47.09 323**	*e*P	**P**	**02 19 10.5**	**+1.6**
JTU	**Tsushima**	**47.25 74**	P	**P**	**02 19 10.7**	**0.0**
SENIN	**Lac Senin/Sane**	**47.68 303**	P	**P**	**02 19 13.6**	**-0.6**
SENIN			IAmb	IAmb	02 19 16.1	
	comp=Z,5.2nm,0.7s					
SPA0	**Spitsbergen Ar**	**47.90 347**	*e*P	**P**	**02 19 13.0**	**-2.2**
KMBO	**Kilima Mbogo**	**48.38 228**	P	**P**	**02 19 20.1**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=33,slow=12,SNR=8.1					
KMBO	**Kilima Mbogo**	**48.38 228**	*i* P	**P**	**02 19 20.6**	**+0.7**
KMBO			pmax	pmax		
	comp=Z,2.0nm,0.6s					
KMBO	**Kilima Mbogo**	**48.38 228**	IAmb	IAmb	02 19 21.8	
	comp=Z,2.5nm,0.6s					
KMBO	**Kilima Mbogo**	**48.38 228**	P	**P**	**02 19 20.1**	**+0.2**
KEST	**Kesra**	**49.01 289**	P	**P**	**02 19 25.0**	**+0.7**
	comp=Z,7.9nm,0.5s,baz=32,slow=2.2,SNR=34					
KEST	**Kesra**	**49.01 289**	P	**P**	**02 19 23.6**	**-0.7**
KEST	**Kesra**	**49.01 289**	P	**P**	**02 19 24.9**	**+0.7**
	SNR=27					
KEST			P	**P**	**02 19 25.2**	**+0.9**
	SNR=8.0					
KBS	**Kingsbay**	**49.02 347**	*e*P	**P**	**02 19 22.9**	**-0.8**
EKA	**Eskdalemuir Ar**	**52.49 316**	P	**P**	**02 19 49.0**	**-1.1**
INU	**Inuyama**	**52.83 70**	P	**P**	**02 19 51.0**	**-1.9**
NOR	**Nord**	**54.22 350**	*i* P	**P**	**02 20 02.4**	**0.0**
NOR			IAmb	IAmb	02 21 25.5	
	comp=Z,2.1nm,0.7s					
SEY	**Seymchan**	**54.91 34**	⇓*e*P	**P**	**02 20 08.0**	**+0.4**
SEY			pmax	pmax		
	comp=Z,6.0nm,1.0s					
DAG	**Danmarks Havn**	**55.12 344**	P	**P**	**02 20 09.4**	**+0.5**
DAG			pmax	pmax		
	comp=Z,18nm,0.9s					
DAG	**Danmarks Havn**	**55.12 344**	*i* P	**P**	**02 20 08.0**	**-1.0**
DAG			IAmb	IAmb	02 20 11.7	
	comp=Z,8.5nm,0.8s					
DBG	**Daneborg**	**55.96 341**	*i* P	**P**	**02 20 14.3**	**-0.7**
ESDC	**Sonseca Array**	**57.51 298**	P	**P**	**02 20 25.2**	**-1.3**
	comp=Z,4.3nm,0.7s,baz=56,slow=7.5,SNR=40					
BILL	**Bilibino**	**59.10 26**	⇓*e*P	**P**	**02 20 37.2**	**+0.1**
BILL			*e*		02 22 47.2	
BILL			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BILL	**Bilibino**	**59.10 26**	P	**P**	**02 20 37.5**	**+0.4**
BILL			IAmb	IAmb	02 20 38.3	
	comp=Z,4.3nm,0.9s					
PVIS	**Viseu**	**59.89 301**	*e*P	**P**	**02 20 43.6**	**+0.5**
PMRV	**Marv??o**	**60.05 299**	*e*P	**P**	**02 20 43.9**	**-0.2**
	comp=Z,23nm,1.6s					
PBAR	**Barrancos**	**60.30 298**	*e*P	**P**	**02 20 45.8**	**-0.1**
PESTR	**Estremoz**	**60.42 298**	*e*P	**P**	**02 20 46.5**	**-0.1**
EVO	**Evora**	**60.86 298**	*e*P	**P**	**02 20 48.3**	**-1.3**
	comp=Z,33nm,2.0s					
PSBE	**So Bento**	**61.01 300**	*e*P	**P**	**02 20 51.2**	**+0.5**
	comp=Z,57nm,1.7s					
KAPI	**Kappang**	**61.37 121**	LR	LR	02 52 38.2	
	comp=Z,66nm,18.1s,baz=300,slow=41					
EUNU	**Eureka**	**63.45 356**	P	**P**	**02 21 07.1**	**+0.7**
TOA0	**Torodi Ar. Sit**	**65.52 269**	P	**P**	**02 21 18.9**	**-2.0**
TOA0			IAmb	IAmb	02 21 19.9	
	comp=Z,5.1nm,0.8s					
TOA0	**Torodi Ar. Sit**	**65.52 269**	P	**P**	**02 21 18.8**	**-2.0**
	SNR=11					
TORD	**Torodi Ar. Bea**	**65.52 269**	P	**P**	**02 21 18.7**	**-2.1**
	comp=Z,3.0nm,0.5s,baz=50,slow=5.9,SNR=56					
TORD	**Torodi Ar. Bea**	**65.52 269**	P	**P**	**02 21 18.8**	**-1.9**
DY2G	**Dye2**	**67.14 337**	*i* P	**P**	**02 21 28.9**	**-1.7**
DY2G			IAmb	IAmb	02 21 33.1	
	comp=Z,5.8nm,0.5s					
SFJD	**Kangerlussuaq**	**68.12 339**	LR	LR	02 51 06.1	
	comp=Z,41nm,18.9s,baz=168,slow=36					
BLWY	**Bulawayo**	**68.65 223**	*i* P	**P**	**02 21 40.8**	**+0.3**
BLWY	**Bulawayo**	**68.65 223**	*i* P	**P**	**02 21 40.8**	**+0.3**
MATP	**Matopo**	**68.94 223**	*i* P	**P**	**02 21 42.6**	**+0.2**
MATP	**Matopo**	**68.94 223**	*i* P	**P**	**02 21 42.6**	**+0.2**
KOWA	**Kowa**	**69.41 273**	P	**P**	**02 21 43.9**	**-1.4**
KOWA			IAmb	IAmb	02 21 46.4	
	comp=Z,5.6nm,0.8s					
TOLK	**Toolik Lake Re**	**71.42 14**	P	**P**	**02 21 57.0**	**+0.2**
TOLK			IAmb	IAmb	02 22 00.8	
	comp=Z,10nm,0.7s					
TOLK	**Toolik Lake Re**	**71.42 14**	P	**P**	**02 21 57.0**	**+0.2**
	baz=326					
A36M	**Sachs Harbour**	**71.68 5**	P	**P**	**02 21 58.5**	**+0.3**
A36M	**Sachs Harbour**	**71.68 5**	P	**P**	**02 21 58.4**	**+0.3**
	baz=346,SNR=27					
COLD	**Coldfoot**	**72.47 16**	P	**P**	**02 22 04.2**	**+1.2**
	baz=326					
H21K	**Melozitna Rive**	**73.16 17**	P	**P**	**02 22 07.2**	**0.0**
	baz=324					
BMAR	**Burnt Mountain**	**73.43 13**	P	**P**	**02 22 09.5**	**+0.7**
AIS	**Amsterdam Isla**	**73.73 174**	P	**P**	**02 22 11.0**	**+0.3**
I21K	**Tanana**	**73.75 17**	P	**P**	**02 22 10.4**	**-0.2**
	baz=325					
H23K	**Yukon River**	**73.79 16**	IAmb	IAmb	02 22 15.0	
	comp=Z,4.8nm,0.8s					
H23K	**Yukon River**	**73.79 16**	P	**P**	**02 22 11.5**	**+0.7**
	baz=327					
J20K	**Nowinta River**	**74.03 19**	IAmb	IAmb	02 22 16.0	
	comp=Z,8.0nm,1.1s					
J20K	**Nowinta River**	**74.03 19**	P	**P**	**02 22 12.5**	**+0.3**
	baz=324					
H24K	**Noodor Dome**	**74.14 16**	IAmb	IAmb	02 22 16.9	
	comp=Z,5.6nm,0.9s					
H24K	**Noodor Dome**	**74.14 16**	P	**P**	**02 22 16.2**	**+3.3**
	baz=328					
LBTB	**Lobatse**	**74.21 222**	P	**P**	**02 22 14.3**	**+0.4**
LBTB			pmax	pmax		
	comp=Z,16nm,0.8s					
LBTB	**Lobatse**	**74.21 222**	P	**P**	**02 22 14.3**	**+0.4**
LBTB	**Lobatse**	**74.21 222**	*i* P	**P**	**02 22 14.9**	**+1.0**
LBTB	**Lobatse**	**74.21 222**	*i* P	**P**	**02 22 14.9**	**+1.0**
C36M	**Paulatuk**	**74.36 5**	P	**P**	**02 22 13.5**	**-0.5**
	baz=348,SNR=23					
INK	**Inuvik**	**74.39 9**	P	**P**	**02 22 14.6**	**+0.4**
INK			pmax	pmax		
	comp=Z,8.0nm,0.7s					
INK	**Inuvik**	**74.39 9**	P	**P**	**02 22 14.6**	**+0.4**
INK			IAmb	IAmb	02 22 18.0	
	comp=Z,7.8nm,0.7s					
INK	**Inuvik**	**74.39 9**	P	**P**	**02 22 14.6**	**+0.4**
	baz=340,SNR=11					
I23K	**Minto, Yukon-K**	**74.40 16**	IAmb	IAmb	02 22 18.2	
	comp=Z,8.7nm,1.1s					
I23K	**Minto, Yukon-K**	**74.40 16**	P	**P**	**02 22 14.8**	**+0.5**
	baz=327					
DBIC	**Dimbokro**	**74.49 267**	P	**P**	**02 22 15.2**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=286,slow=22,SNR=2.2					
DBIC	**Dimbokro**	**74.49 267**	IAmb	IAmb	02 22 17.2	
	comp=Z,27nm,1.4s					
TTA	**Tatalina**	**74.52 20**	P	**P**	**02 22 15.5**	**+0.3**
	baz=322					
K20K	**Telida**	**74.71 19**	IAmb	IAmb	02 22 20.1	
	comp=Z,4.8nm,0.7s					
K20K	**Telida**	**74.71 19**	P	**P**	**02 22 16.6**	**+0.3**
	baz=324					
CHUM	**Lake Minchumin**	**74.74 18**	P	**P**	**02 22 16.9**	**+0.6**
	baz=325					
POKR	**Poker Plat Res**	**74.86 16**	P	**P**	**02 22 19.7**	**+2.7**
	baz=329					
BPAW	**Bear Paw Mtn.**	**74.89 18**	IAmb	IAmb	02 22 43.5	
	comp=Z,8.4nm,1.3s					
BPAW	**Bear Paw Mtn.**	**74.89 18**	P	**P**	**02 22 17.1**	**-0.2**
	baz=326					
NEA2	**Nenana**	**74.94 17**	IAmb	IAmb	02 22 21.2	
	comp=Z,6.3nm,0.8s					
NEA2	**Nenana**	**74.94 17**	P	**P**	**02 22 17.7**	**+0.3**
	baz=328					
COLA	**College**	**74.97 16**	⇓*e*P	**P**	**02 22 17.7**	**+0.1**
COLA			pmax	pmax		
	comp=Z,11nm,0.9s					
KNRA	**Kununiurra**	**75.14 122**	P	**P**	**02 22 19.5**	**+0.3**
KNRA			IAmb	IAmb	02 22 21.2	
	comp=Z,8.6nm,0.8s					
CAST	**Castle Rocks**	**75.18 18**	IAmb	IAmb	02 22 23.0	
	comp=Z,12nm,1.0s					
CAST	**Castle Rocks**	**75.18 18**	P	**P**	**02 22 19.4**	**+0.5**
	baz=325,SNR=7.9					
ILAR	**Eielson Array**	**75.28 16**	P	**P**	**02 22 18.4**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=322,slow=4.9,SNR=20					
KTH	**Kantishna Hill**	**75.36 18**	IAmb	IAmb	02 22 25.8	
	comp=Z,5.4nm,0.7s					
L20K	**Farewell, AK**	**75.47 20**	P	**P**	**02 22 21.1**	**+0.5**
	baz=324					
MCK	**McKinley**	**75.70 17**	P	**P**	**02 22 21.9**	**0.0**
	baz=328					
J25K	**Salcha River,**	**75.74 15**	P	**P**	**02 22 21.8**	**-0.4**
	baz=330					
J26L	**Joseph Creek**	**76.21 15**	P	**P**	**02 22 25.0**	**+0.1**
	baz=332,SNR=5.8					
K24K	**Donnelly Dome**	**76.36 16**	P	**P**	**02 22 25.1**	**-0.6**
	baz=330					
I29M	**Ogilvie Camp,**	**76.42 12**	IAmb	IAmb	02 22 29.1	
	comp=Z,5.2nm,0.7s					
I29M	**Ogilvie Camp,**	**76.42 12**	P	**P**	**02 22 25.7**	**-0.3**
	baz=336,SNR=6.0					
SCRK	**Sand Creek**	**76.59 15**	IAmb	IAmb	02 22 30.6	
	comp=Z,4.4nm,0.6s					
SCRK	**Sand Creek**	**76.59 15**	P	**P**	**02 22 27.2**	**+0.2**
	baz=332					
RIDG	**Independent Ri**	**76.62 15**	P	**P**	**02 22 26.6**	**-0.5**
	baz=331					
DHY	**Denali Highway**	**76.62 17**	IAmb	IAmb	02 22 30.7	
	comp=Z,6.1nm,0.7s					
DHY	**Denali Highway**	**76.62 17**	P	**P**	**02 22 27.6**	**+0.3**
	baz=329					
WAT6	**Susitna Watana**	**76.96 17**	P	**P**	**02 22 28.0**	**-1.3**
	baz=329					
PAX	**Paxson**	**77.15 16**	IAmb	IAmb	02 22 33.7	
	comp=Z,6.3nm,0.7s					
PAX	**Paxson**	**77.15 16**	P	**P**	**02 22 29.9**	**-0.3**
	baz=331					
O18K	**Koktuh Hills**	**77.21 22**	P	**P**	**02 22 31.3**	**+0.8**
	baz=323					
BOSA	**Boshof**	**77.27 220**	P	**P**	**02 22 31.1**	**-0.2**
	comp=Z,18nm,0.7s,baz=33,slow=5.2,SNR=44					
BOSA	**Boshof**	**77.27 220**	*i* P	**P**	**02 22 30.8**	**-0.5**
BOSA	**Boshof**	**77.27 220**	*i* P	**P**	**02 22 31.4**	**+0.1**
BOSA	**Boshof**	**77.27 220**	*i* P	**P**	**02 22 31.4**	**+0.1**
DAWY	**Dawson**	**77.42 13**	IAmb	IAmb	02 22 35.0	
	comp=Z,4.2nm,0.7s					
DAWY	**Dawson**	**77.42 13**	P	**P**	**02 22 31.0**	**-0.6**
	baz=335,SNR=5.7					
SML	**Sawmill**	**77.48 18**	P	**P**	**02 22 32.0**	**0.0**
	baz=328					
P18K	**Big Mountain,**	**77.58 22**	P	**P**	**02 22 32.6**	**0.0**
	baz=323					
M23K	**Glacier View**	**77.64 18**	P	**P**	**02 22 32.9**	**0.0**
	baz=329					
HARP	**HAARP**	**77.72 16**	P	**P**	**02 22 34.3**	**+1.0**
	baz=331,SNR=5.3					
M24K	**Tolsona, Glenn**	**77.75 17**	P	**P**	**02 22 34.7**	**+1.2**
	baz=330					
L27K	**Beaver Creek,**	**77.85 15**	P	**P**	**02 22 35.0**	**+1.0**
	baz=334,SNR=6.1					
M27K	**Edge Creek, AK**	**78.47 15**	IAmb	IAmb	02 22 42.2	
	comp=Z,7.5nm,0.8s					
M27K	**Edge Creek, AK**	**78.47 15**	P	**P**	**02 22 37.8**	**+0.1**
	baz=334					
BVCY	**Beaver Creek**	**78.63 14**	P	**P**	**02 22 39.2**	**+0.9**
	baz=334					
YUK4	**Talbot Arm**	**80.05 14**	P	**P**	**02 22 47.3**	**+1.0**
	baz=336					
FARO	**Faro, Yukon**	**80.15 11**	P	**P**	**02 22 46.5**	**-0.2**
	baz=340					
YKA	**Yellowknife Ar**	**81.72 3**	P	**P**	**02 22 54.1**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=351,slow=5.3,SNR=57					
YKA	**Yellowknife Ar**	**81.72 3**	*i* P	**P**	**02 22 54.0**	**-0.8**
YKA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
WRA	**Warramunga Arr**	**81.90 122**	P	**P**	**02 22 55.2**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=327,slow=4.8,SNR=46					
WRAB	**Tennant Creek**	**81.91 122**	⇑*e*P	**P**	**02 22 55.2**	**-1.3**
WRAB			pmax	pmax		
	comp=Z,10.0nm,1.7s					
AS31	**Alice Springs**	**84.14 125**	P	**P**	**02 23 06.7**	**-1.2**
ASAR	**Alice Springs**	**84.14 125**	P	**P**	**02 23 06.8**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=315,slow=5.2,SNR=29					
ASAR	**Alice Springs**	**84.14 125**	P	**P**	**02 23 07.1**	**-0.9**
ASAR	**Alice Springs**	**84.14 125**	P	**P**	**02 23 07.0**	**-0.9**
CTA	**Charters Tower**	**90.52 115**	P	**P**	**02 23 37.4**	**-1.4**
	comp=Z,11nm,1.2s					
AC02	**Maricunga**	**144.78 274**	PKPdf	PKPbc	02 30 13.2	0.0
CO01	**Juntas del Tor**	**146.79 269**	PKPbc	**PKPbc**	**02 30 18.2**	**-0.7**
PLCA	**Paso Flores**	**149.49 249**	PKPbc	**PKPbc**	**02 30 25.3**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=96,slow=2.7,SNR=5.5					

MEX ***16*** *02:10:48.9±1.2, 14°.77N×92°.41W, h101km±8km, MD4.1*
GCG ***16*** *02:10:50.6±0.8, 14°.97N×92°.43W, h55km±21km, MD3.7*

ISC 16 02:10:50.8±1.4, 14°.96N±0°.07×92°.44W±0°.05, h78km±8km, n23, σ1°.49/34, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
THIG		**0.17**	**107**	*e*P		**Pn**	**02 11 01.4**	**-0.9**
THIG				*e*S		**Sn**	**02 11 12.2**	**+1.4**
PATR	**El Naranjo**	**0.25**	**51**	*e*P		**Pn**	**02 11 01.9**	**-1.1**
PATR				*e*S		**Sn**	**02 11 12.5**	**+0.6**
PAVE	**Pavencul**	**0.34**	**47**	*e*P		**Pn**	**02 11 02.8**	**-0.7**
PAVE				*i* S		**Sn**	**02 11 13.9**	**+1.1**
CHUJ	**Union Juarez**	**0.34**	**67**	*e*P		**Pn**	**02 11 02.5**	**-1.0**
CHUJ				*e*S		**Sn**	**02 11 13.7**	**+0.8**
STG3	**Santiaguito 3,**	**0.87**	**106**	⇓*e*P		**Pn**	**02 11 07.3**	**-1.2**
STG3				*e*S		**Sn**	**02 11 20.5**	**-1.1**
PCIG		**1.06**	**315**	*e*P		**Pn**	**02 11 10.5**	**0.0**
PCIG				*e*S		**Sn**	**02 11 27.3**	**+2.1**
CCIG	**Comitan**	**1.35**	**12**	*e*P		**Pn**	**02 11 14.6**	**+0.3**
CCIG				*e*S		**Sn**	**02 11 34.1**	**+2.2**
FUG	**Fuego 3**	**1.62**	**108**	*e*P		**Pn**	**02 11 17.1**	**-0.8**
FUG				*e*S		**Sn**	**02 11 38.6**	**+0.2**
CARR	**Arriaga**	**1.91**	**312**	*e*P		**Pn**	**02 11 21.7**	**+0.2**
CARR				*e*S		**Sn**	**02 11 47.1**	**+2.1**
TGIG		**1.93**	**340**	*e*P		**Pn**	**02 11 20.7**	**-1.1**
TGIG				*e*S		**Sn**	**02 11 43.9**	**-1.4**
NBG	**Las Nubes**	**2.06**	**100**	*e*P		**Pn**	**02 11 26.3**	**+2.6**
UXUV	**UXUV**	**2.86**	**325**	*e*P		**Pn**	**02 11 34.1**	**-0.3**
UXUV				*e*S		**Sn**	**02 12 07.2**	**-0.6**
CMIG	**Matias Romero**	**3.17**	**312**	*e*		**Pn**	**02 11 37.6**	**-0.8**
CMIG				*e*			02 12 13.9	
HUIG	**Huatulco**	**3.63**	**283**	*e*		**Pn**	**02 11 42.7**	**-2.0**
HUIG				*i*			02 12 19.9	
SCIG	**Sabancuy**	**4.16**	**17**	*e*		**Pn**	**02 11 50.6**	**-1.4**
SCIG				*e*			02 12 36.3	
NEUV	**Arroyo Zacate**	**4.24**	**311**	*e*		**Pn**	**02 11 52.9**	**-0.1**
NEUV				*e*			02 12 38.5	
PEIG	**Puerto Escondi**	**4.66**	**283**	*e*		**Pn**	**02 11 57.0**	**-1.8**
PEIG				*e*			02 12 45.1	
YOIG	**Yosondua**	**5.26**	**292**	*e*		**Pn**	**02 12 08.1**	**+0.8**
YOIG				*e*			02 13 01.6	
TXIG	**Tlaxiaco**	**5.61**	**295**	⇓*e*		**Pn**	**02 12 13.5**	**+1.5**
TXIG				*e*			02 13 12.4	
PNIG	**Pinotepa**	**5.66**	**285**	*e*		**Pn**	**02 12 11.9**	**-0.6**
PNIG				*e*			02 13 09.7	
HLIG	**Huajuapan de L**	**5.89**	**300**	*e*		**Pn**	**02 12 15.7**	**0.0**
HLIG				*e*			02 13 21.9	
JAUV	**Jalcomulco**	**6.05**	**317**	*e*		**Pn**	**02 12 13.8**	**-4.0**
JAUV				*e*			02 13 29.9	
FTIG	**Fresnillo de T**	**6.20**	**299**	*e*		**Pn**	**02

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.13**	**148**	S	Sg	02 37 50.3	+0.1
JTA	**Tamana**	**0.34**	**331**	S	Sg	02 37 57.1	+0.6

IDC **16** *02:38:20.2±1.9, 32°.57N×130°.64E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.3/64, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=27.9km s-min=12.2km az=105.0*
NIED **16** *02:38:23.9, 32°.69N×130°.70E, h16km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.17; $M_{\theta\theta}$=5.85; $M_{\phi\phi}$=-5.68; $M_{r\theta}$=-0.15; $M_{r\phi}$=4.24; $M_{\theta\phi}$=1.08; Fault plane solution: $M_0$7.24000×10^{14} NP1: ϕ_s117.00000°, δ83.00000°, λ=-5.00000°. NP2:ϕ_s207.00000°, δ85.00000°, λ=-173.00000°.*
JMA **16** *02:38:23.8, 32°.69N×130°.70E, h16km±1km, M3.9*
JMA Felt III J1.

ISC 16 02:38:19.7±1.4**, 32°.67N**±0°.07×**130°.36E**±0°.08**, h11**km**, n7, σ0^{s}71/9, 2C, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.33**	**26**	⇑P	**Pn**	**02 38 30.5**	**+0.1**
JIU3	**Izumi3**	**0.40**	**107**	⇑P	**Pg**	**02 38 28.0**	**+0.4**
JIU3				*e*S	**Sg**	**02 38 31.4**	**-1.5**
JNU	**Nakatsue**	**0.63**	**44**	Pg	**Pb**	**02 38 32.9**	**+0.3**
	395nm,0.3s,baz=204,slow=7.1,SNR=60						
JNU				Lg	Lg	02 38 38.5	
	1μm,0.3s,baz=280,slow=22,SNR=28						
JNU	**Nakatsue**	**0.63**	**44**	P	**Pb**	**02 38 33.0**	**+0.3**
JNU				*e*S	**Sg**	**02 38 39.6**	**-0.5**
KSRS	**Korea Array**	**5.18**	**338**	Pn	Pn	02 39 43.4	+6.4
	0.8nm,0.3s,baz=220,slow=35,SNR=3.2						
KSRS				Pg	**Pg**	**02 39 58.6**	**-0.2**
	1.3nm,0.3s,baz=152,slow=17,SNR=8.9						
KSRS				Lg	Lg	02 41 07.6	
	1.9nm,0.3s,baz=153,slow=30,SNR=8.4						
MJAR	**Matsushiro Arr**	**7.53**	**57**	Pn	**Pn**	**02 40 10.0**	**+0.5**
	0.3nm,0.3s,baz=238,slow=14,SNR=3.3						
WRA	**Warramunga Arr**	**52.45**	**175**	P	**P**	**02 47 32.4**	**-0.1**
	0.3nm,1.0s,baz=355,slow=8.1,SNR=1.3						

IDC **16** *02:39:26.1±0.4, 41°.01N×71°.08E, h0km, mb4.6/41, mb1 4.7/49, mb1mx4.6/63, mbtmp4.6/49, ML3.8/7, MS3.8/40, Ms1 3.8/40, ms1mx3.6/96, Error ellipse: s-maj=8.7km s-min=6.1km az=157.0*
MOS **16** *02:39:27.2±1.0, 41°.07N×70°.97E, h13km, mb4.9/77, MS4.0/11, Error ellipse: s-maj=3.4km s-min=3.0km az=101.1*
MOS Felt (IV) at Ala-Buka, Sumsar, Tengy; (III-IV) at Kerben, Tash-Kumyr; (II-III) at Batken, Kyzyl-Kiya, Osh, Shymkent.
BJI **16** *02:39:27.5±0.0, 41°.16N×70°.92E, h19km, mb4.6/34, mB4.7/20, ML4.7/6, Ms4.2/19, Ms7 4.0/19*
SOME **16** *02:39:27.1, 41°.05N×71°.18E, h5km, MS4.0*
ISU **16** *02:39:28, 41°.02N×71°.00E, h25km, Hypocentre not reviewed by the ISC*
KRNET **16** *02:39:28.2±0.1, 41°.03N×71°.08E, h13km, mb5.0*
NNC **16** *02:39:29.6±0.8, 41°.13N×71°.12E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=7.3km s-min=3.7km az=12.0*
BGR **16** *02:39:30.4±0.0, 41°.20N×71°.04E, h10km, mb4.5*
NEIC **16** *02:39:32.3±1.8, 41°.00N±0°.05×70°.99E±0°.07, h38km±5km, mb4.8/139, Error ellipse: s-maj=7.4km s-min=6.7km az=63.0*

ISC 16 02:39:28.9±0.4**, 41°.04N**±0°.02×**71°.06E**±0°.01**, h17**km**±2km, h17**km**:pP-P, n794,** σ1^s**87**/818**, mb4.8**/211**, MS4.0**/44**, 65C-58D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.50**	**7**	*i* PG	**Pg**	**02 39 37.2**	**-1.8**
TRKS				*i* S	**Sg**	**02 39 43.4**	**-2.3**
TRKS	**Terek-Say**	**0.50**	**7**	⇑*i*P	**Pg**	**02 39 37.2**	**-1.8**
	baz=10.0						
TRKS				⇑*i*S	**Sg**	**02 39 43.4**	**-2.3**
	baz=10.0						
MINT	**Mingtut**	**0.57**	**187**	P		02 39 40.7	
MINT				S		02 39 49.8	
CHMI	**Chimion**	**0.84**	**155**	P		02 39 45.2	
CHMI				S		02 39 58.4	
FRG	**Fergana**	**0.86**	**140**	P		02 39 45.6	
FRG				S		02 39 58.7	
BTK	**Batken**	**1.00**	**191**	*i* PG	**Pb**	**02 39 47.2**	**-0.5**
BTK				*i* S	**Sg**	**02 40 01.0**	**-0.4**
BTK	**Batken**	**1.00**	**191**	⇑*i*P	**Pb**	**02 39 47.2**	**-0.5**
	baz=92						
BTK				⇑*i*S	**Sg**	**02 40 01.0**	**-0.4**
	baz=92						
BTK	**Batken**	**1.00**	**191**		**Pb**	**02 39 47.5**	**-0.2**
BTK	**Batken**	**1.00**	**191**	P		02 39 47.1	
ARK	**Arkit**	**1.02**	**41**	*i* PG	**Pb**	**02 39 47.8**	**-0.3**
ARK				*i* S	**Sb**	**02 40 01.9**	**+0.7**
ARK	**Arkit**	**1.02**	**41**	⇑*i*P	**Pb**	**02 39 47.8**	**-0.3**
	baz=41						
ARK				⇑*i*S	**Sb**	**02 40 01.9**	**+0.7**
	baz=41						
ANR	**Andizhan**	**1.02**	**106**	P		02 39 49.1	
ANR				S		02 40 05.2	
CHRV	**Charvak**	**1.03**	**306**	P		02 39 47.6	
CHRV				S		02 40 02.5	
SHAK	**Shakhimardan**	**1.20**	**154**	P		02 39 51.1	
SHAK				S		02 40 08.2	
TGS	**TashGRES**	**1.23**	**289**	P		02 39 53.6	
TGS				S		02 40 12.3	
IUG	**luzhnay**	**1.35**	**325**	*d* PG	**Pb**	**02 39 53.9**	**+0.1**
IUG				*e*S	**Sg**	**02 40 12.4**	**-0.3**
IUG	**luzhnay**	**1.35**	**325**	⇓*e*P	**Pb**	**02 39 54.1**	**+0.3**
	20μm,0.3s						
IUG				*e*S	**Sg**	**02 40 13.1**	**+0.4**
	16μm,0.6s						
IUG	**luzhnay**	**1.35**	**325**	⇓*i*P	**Pn**	**02 39 53.1**	**0.0**
	baz=322						
IUG				*e*S	**Sg**	**02 40 12.4**	**-0.3**
	baz=322						
TAS	**Tashkent**	**1.37**	**283**	PG	**Pg**	**02 39 54.5**	**-0.8**
TAS	**Tashkent**	**1.37**	**283**	⇑*i*P	**Pg**	**02 39 54.4**	**-0.8**
	baz=83						
TAS				⇑*i*S	**Sg**	**02 40 13.2**	**+0.1**
	baz=83						
TAS	**Tashkent**	**1.37**	**283**		**Pg**	**02 39 54.5**	**-0.8**
TAS	**Tashkent**	**1.37**	**283**	P		02 39 54.4	
TAS				S		02 40 13.9	
OHH	**Osh**	**1.40**	**111**	*i* PG	**Pb**	**02 39 54.6**	**-0.1**
OHH				*i* S	**Sb**	**02 40 13.5**	**+1.2**
OHH	**Osh**	**1.40**	**111**	⇑*i*P	**Pb**	**02 39 54.6**	**-0.1**
	baz=11						
OHH				⇑*i*S	**Sb**	**02 40 13.5**	**+1.2**
	baz=11						
DRK	**Karamyk**	**1.65**	**160**	⇓*i*P	**Pb**	**02 39 59.1**	**0.0**
	baz=60						
DRK				⇓*i*S	**Sg**	**02 40 21.4**	**-0.9**
	baz=60						
DRK	**Karamyk**	**1.65**	**160**		**Pg**	**02 40 00.1**	**-0.7**
CHM	**Chimkent**	**1.69**	**320**	*e*PN	**Pg**	**02 40 00.6**	**-0.7**
CHM				*e*		02 40 23.0	
CHM	**Chimkent**	**1.69**	**320**	*e*P	**Pg**	**02 40 00.7**	**-0.7**
	27nm,0.4s						
CHM				*e*S	**Sg**	**02 40 24.3**	**+1.1**
	18μm,0.6s						
CHM	**Chimkent**	**1.69**	**320**	*e*Pg	**Pg**	**02 40 00.7**	**-0.6**
	baz=317						
CHM				*e*Sn	**Sg**	**02 40 23.1**	**-0.2**
	baz=317						
DZA	**Taraz**	**1.86**	**6**	*e*PN	**Pb**	**02 40 02.8**	**+0.3**
DZA	**Taraz**	**1.86**	**6**	*e*P	**Pb**	**02 40 03.1**	**+0.6**
	4μm,0.1s						
DZA				*e*S	**Sg**	**02 40 28.4**	**-0.5**
	25μm,0.3s						
DZA	**Taraz**	**1.86**	**6**	*e*Pg	**Pb**	**02 40 02.9**	**+0.4**
	baz=4.5						
KK31	**Karatay Array**	**2.10**	**349**	PN	**Pb**	**02 40 05.7**	**-0.9**
KK31	**Karatay Array**	**2.10**	**349**		**Pb**	**02 40 06.3**	**-0.3**
KK31	**Karatay Array**	**2.10**	**349**	⇑Pn	**Pb**	**02 40 05.7**	**-0.9**
	142nm,0.3s,baz=175,slow=12						
KK31				Lg	Lg	02 40 35.0	
	3μm,0.4s,baz=163,slow=24,SNR=16						
KKAR	**Karatay Array**	**2.10**	**349**	PN	**Pb**	**02 40 06.0**	**-0.6**
KKAR	**Karatay Array**	**2.10**	**349**	⇑*i*P	**Pb**	**02 40 06.2**	**-0.4**
	baz=49						
KKAR				⇑*i*S	**Sb**	**02 40 34.4**	**+1.9**
	baz=49						
KKAR	**Karatay Array**	**2.10**	**349**		**Pb**	**02 40 06.3**	**-0.4**
KKAR	**Karatay Array**	**2.10**	**349**		**Pb**	**02 40 06.0**	**-0.6**
GAR	**Garm**	**2.11**	**196**	*i* PN	**Pb**	**02 40 06.0**	**-0.8**
GAR				*i* S	**Sb**	**02 40 34.4**	**+1.6**
GAR	**Garm**	**2.11**	**196**	⇑*i*P	**Pb**	**02 40 06.0**	**-0.8**
	baz=96						
GAR				⇑*i*S	**Sb**	**02 40 34.4**	**+1.6**
	baz=96						
GAR	**Garm**	**2.11**	**196**		**Pb**	**02 40 06.0**	**-0.8**
BRLS	**Borolday**	**2.19**	**336**	*e*PN	**Pb**	**02 40 06.2**	**-1.9**
BRLS	**Borolday**	**2.19**	**336**	*e*P	**Pn**	**02 40 04.9**	**+0.3**
	520nm,0.0s						
BRLS				*e*S	**Sn**	**02 40 31.5**	**+0.2**
	1μm,0.5s						
BRLS	**Borolday**	**2.19**	**336**	*e*Pg	**Pb**	**02 40 06.2**	**-1.9**
	baz=328						
BRLS				*e*Lg	Lg	02 40 33.4	
	baz=328						
BRLS	**Borolday**	**2.19**	**336**	Lg	Lg	02 40 31.5	
	1μm,0.5s						
AML	**Almayashu**	**2.25**	**60**	P	**Pn**	**02 40 07.8**	**+2.0**
	SNR=301						
AML	**Almayashu**	**2.25**	**60**	PN	**Pn**	**02 40 07.2**	**+1.4**
AML	**Almayashu**	**2.25**	**60**	*e*P	**Pn**	**02 40 07.7**	**+2.0**
	SNR=399						
MRKS	**Merke**	**2.35**	**43**	*e*P	**Pb**	**02 40 12.0**	**+1.2**
	264nm,0.3s						
MRKS				*e*S	**Sg**	**02 40 44.2**	**-0.3**
	8μm,0.6s						
MRKS	**Merke**	**2.35**	**43**	Pg	**Pb**	**02 40 12.0**	**+1.2**
	264nm,0.3s						
MRKS				Lg	Lg	02 40 44.2	
	8μm,0.6s						
EKS2	**Erkin-Say**	**2.60**	**50**	P	**Pn**	**02 40 12.9**	**+2.7**
	SNR=50						
EKS2	**Erkin-Say**	**2.60**	**50**	*i* PN	**Pn**	**02 40 12.8**	**+2.6**
EKS2				*i* S	**Sb**	**02 40 46.3**	**-0.4**
EKS2	**Erkin-Say**	**2.60**	**50**	⇑*i*P	**Pn**	**02 40 12.8**	**+2.6**
	baz=50						
EKS2				⇑*i*S	**Sb**	**02 40 46.3**	**-0.4**
	baz=50						
DZI	**Dzhizak**	**2.63**	**251**	P		02 40 12.6	
CHGR	**Chuyangaron**	**2.79**	**212**	*i* PN	**Pb**	**02 40 16.3**	**-2.1**
CHGR				*i* S	**Sb**	**02 40 50.9**	**-1.4**
CHGR	**Chuyangaron**	**2.79**	**212**	⇑*i*P	**Pb**	**02 40 16.3**	**-2.1**
	baz=13						
CHGR				⇑*i*S	**Sb**	**02 40 50.9**	**-1.4**
	baz=13						
CHGR	**Chuyangaron**	**2.79**	**212**	Pn	**Pb**	**02 40 15.9**	**-2.5**
UCH	**Uchtor**	**2.85**	**64**	P	**Pn**	**02 40 16.0**	**+2.1**
	SNR=151						
UCH	**Uchtor**	**2.85**	**64**	PN	**Pn**	**02 40 16.0**	**+2.1**
UCH				*i* S	**Sb**	**02 40 52.6**	**-1.6**
UCH	**Uchtor**	**2.85**	**64**	⇑*i*P	**Pn**	**02 40 16.0**	**+2.1**
	baz=64						
UCH				⇑*i*S	**Sb**	**02 40 52.6**	**-1.6**
	baz=64						
AAK	**Ala-Archa**	**3.02**	**57**	P	**Pn**	**02 40 18.6**	**+2.5**
	SNR=190						
AAK	**Ala-Archa**	**3.02**	**57**	Pn	**Pn**	**02 40 18.6**	**+2.5**
	56nm,0.3s,baz=210,slow=2.1,SNR=230						
AAK				Pg	**Pb**	**02 40 24.4**	**+2.1**
	132nm,0.3s,baz=222,slow=7.8,SNR=68						
AAK				Lg	Lg	02 40 59.9	
	178nm,0.3s,baz=301,slow=20,SNR=20						
AAK	**Ala-Archa**	**3.02**	**57**	⇑*i*P	**Pn**	**02 40 19.2**	**+3.1**
	baz=57						
AAK				⇑*i*S	**Sb**	**02 40 56.2**	**-2.7**
	baz=57						
AAK	**Ala-Archa**	**3.02**	**57**		**Pn**	**02 40 19.2**	**+3.1**
AAK	**Ala-Archa**	**3.02**	**57**	*i* P	**Pn**	**02 40 18.5**	**+2.5**
	SNR=292						
FRU1	**Bishkek**	**3.20**	**55**	PN	**Pn**	**02 40 21.6**	**+3.2**
FRU1	**Bishkek**	**3.20**	**55**	⇑*i*P	**Pn**	**02 40 21.7**	**+3.3**
	baz=55						
FRU1				⇑*i*S	**Sb**	**02 41 00.8**	**-3.1**
	baz=55						
FRU1	**Bishkek**	**3.20**	**55**		**Pn**	**02 40 21.6**	**+3.3**
KBK	**Karagaybulak**	**3.32**	**60**	P	**Pn**	**02 40 23.2**	**+3.0**
	SNR=86						
KBK	**Karagaybulak**	**3.32**	**60**	PN	**Pn**	**02 40 22.9**	**+2.7**
CHMS	**Chumysh**	**3.37**	**53**	P	**Pn**	**02 40 23.3**	**+2.5**
	SNR=34						
CHMS	**Chumysh**	**3.37**	**53**	*i* PN	**Pn**	**02 40 22.6**	**+1.8**
CHMS				pmax	pmax		
	comp=Z,75nm,0.7s						
CHMS	**Chumysh**	**3.37**	**53**	⇓Pn	**Pn**	**02 40 22.7**	**+1.8**
	comp=Z,75nm,0.7s						
CHMS				⇑Pg	**Pb**	**02 40 30.1**	**+1.9**
	comp=Z,519nm,1.0s						
CHMS				⇓Sn	**Sn**	**02 41 04.3**	**+3.8**
	comp=Z,319nm,0.7s						
CHMS				⇓Lg	Lg	02 41 13.6	
	comp=Z,2μm,0.8s						
USP	**Ospenovka**	**3.39**	**48**	P	**Pn**	**02 40 23.6**	**+2.6**
	SNR=49						
USP	**Ospenovka**	**3.39**	**48**	PN	**Pn**	**02 40 22.6**	**+1.6**
SAM	**Samarkand**	**3.40**	**248**	P		02 40 23.1	
SGDS	**Sogindy**	**3.58**	**46**	*i* PN	**Pn**	**02 40 25.4**	**+1.8**
SGDS				*i*		02 40 33.8	
SGDS	**Sogindy**	**3.58**	**46**	*e*P	**Pb**	**02 40 31.5**	**-0.3**
	comp=Z,103nm,1.9s						
SGDS				*e*S	**Sb**	**02 41 16.9**	**+1.9**
	comp=Z,869nm,0.0s						
SGDS	**Sogindy**	**3.58**	**46**	*i* Pn	**Pn**	**02 40 25.5**	**+1.8**
	baz=47						
SGDS				*i* Pg	**Pb**	**02 40 33.8**	**+2.0**
	baz=47						
KTAB	**Kitab**	**3.73**	**241**	P		02 40 27.4	
TKM2	**Tokmak 2**	**3.87**	**59**	P	**Pn**	**02 40 29.9**	**+2.2**
	SNR=46						
TKM2	**Tokmak 2**	**3.87**	**59**	*i* PN	**Pn**	**02 40 29.8**	**+2.1**
TKM2				pmax	pmax		
	comp=Z,39nm,0.4s						
TKM2	**Tokmak 2**	**3.87**	**59**	⇑Pn	**Pn**	**02 40 29.8**	**+2.1**
	comp=Z,39nm,0.5s						
TKM2				⇓Pg	**Pb**	**02 40 40.2**	**+3.4**
	comp=Z,114nm,0.4s						
TKM2				⇓Lg	Lg	02 41 30.3	
	comp=Z,789nm,0.6s						
BOOM	**Boomskoye usch**	**3.92**	**67**	PN	**Pn**	**02 40 31.3**	**+2.8**
BOOM	**Boomskoye usch**	**3.92**	**67**	⇓*i*P	**Pn**	**02 40 31.3**	**+2.8**
	baz=67						
BOOM				⇓*i*S	**Sn**	**02 41 18.6**	**+4.4**
	baz=67						
BOOM	**Boomskoye usch**	**3.92**	**67**		**Pn**	**02 40 31.3**	**+2.8**
KSH	**Kashi**	**4.05**	**110**	Pn	**Pn**	**02 40 31.1**	**+0.9**
KSH				Sn	**Sn**	**02 41 18.4**	**+1.2**
KSH				smax	smax		
	comp=Z,2μm,1.1s						
KSH				smax	smax		
	comp=Z,1μm,1.1s						
ULHL	**Ulahol**	**4.06**	**71**	P	**Pn**	**02 40 32.8**	**+2.4**
	SNR=40						
DGS	**Degeres**	**4.14**	**56**	*e*P	**Pb**	**02 40 43.0**	**+1.7**
	comp=Z,460nm,0.1s						
DGS				*e*S	**Sb**	**02 41 36.4**	**+5.5**
	comp=Z,818nm,0.1s						
DGS	**Degeres**	**4.14**	**56**	Pg	**Pb**	**02 40 43.4**	**+2.2**
	comp=Z,462nm,1.1s						
DGS				Lg	Lg	02 41 37.7	
	comp=Z,694nm,0.8s						
KST	**Kastek**	**4.16**	**60**	*e*P	**Pb**	**02 40 44.1**	**+2.3**
	comp=Z,155nm,0.1s						
KST				*e*S	**Sg**	**02 41 38.3**	**-4.3**
	comp=Z,1μm,0.3s						
KST	**Kastek**	**4.16**	**60**	Pg	**Pb**	**02 40 44.4**	**+2.6**
	comp=Z,181nm,1.1s						
KST				Lg	Lg	02 41 39.8	
	comp=Z,1μm,0.9s						
KRBS	**Karabastau**	**4.33**	**51**	*e*P	**Pb**	**02 40 46.0**	**+1.5**
	comp=Z,76nm,0.0s						
KRBS				*e*S	**Sb**	**02 41 42.7**	**+6.2**
	comp=Z,688nm,0.6s						
KRBS	**Karabastau**	**4.33**	**51**	Pg	**Pb**	**02 40 46.0**	**+1.5**
	comp=Z,103nm,0.5s						
KRBS				Lg	Lg	02 41 42.7	
	comp=Z,688nm,0.6s						
MTBS	**Maitube**	**4.51**	**61**	*e*P	**Pb**	**02 40 49.8**	**+2.3**
	comp=Z,89nm,0.1s						
MTBS				*e*S	**Sb**	**02 41 48.1**	**+6.5**
	comp=Z,687nm,0.4s						
MTBS	**Maitube**	**4.51**	**61**	Pg	**Pb**	**02 40 49.9**	**+2.3**
	comp=Z,124nm,0.8s						
MTBS				Lg	Lg	02 41 49.2	
	comp=Z,714nm,0.4s						
BTLS	**Baital**	**4.56**	**28**	*i* PN	**Pn**	**02 40 38.9**	**+1.9**
BTLS				*e*		02 40 51.4	
BTLS	**Baital**	**4.56**	**28**	*e*P	**Pb**	**02 40 50.2**	**+1.8**
	comp=Z,75nm,0.3s						
BTLS				*e*S	**Sg**	**02 41 49.6**	**-5.6**
	comp=Z,124nm,0.1s						
BTLS	**Baital**	**4.56**	**28**	*i* Pn	**Pn**	**02 40 39.0**	**+1.9**
	baz=28						
BTLS				*e*Pg	**Pb**	**02 40 51.5**	**+3.1**
	baz=28						
BTLS	**Baital**	**4.56**	**28**	Pg	**Pb**	**02 40 50.2**	**+1.8**
	comp=Z,109nm,0.4s						
IZV	**Izvestkoviy**	**4.59**	**62**	*e*P	**Pb**	**02 40 49.8**	**+0.8**
	comp=Z,150nm,0.5s						
IZV				*e*S	**Sb**	**02 41 48.7**	**+4.6**
	comp=Z,669nm,0.8s						
IZV	**Izvestkoviy**	**4.59**	**62**	Pg	**Pb**	**02 40 49.8**	**+0.8**
	comp=Z,148nm,0.5s						
IZV				Lg	Lg	02 41 48.7	
	comp=Z,669nm,0.8s						
KDJ	**Kajisay**	**4.71**	**75**	PN	**Pn**	**02 40 42.4**	**+3.0**
KDJ	**Kajisay**	**4.71**	**75**	⇓*i*P	**Pn**	**02 40 42.3**	**+2.9**
	baz=75						
KDJ				⇓*i*S	**Sn**	**02 41 37.2**	**+3.5**
	baz=75						
KDJ	**Kajisay**	**4.71**	**75**	Pn	**Pn**	**02 40 42.4**	**+3.0**
TNSS	**Tian-Shan**	**4.81**	**64**	*e*PN	**Pn**	**02 40 43.4**	**+2.5**
TNSS	**Tian-Shan**	**4.81**	**64**	*e*P	**Pb**	**02 40 55.0**	**+2.0**
	comp=Z,87nm,0.0s						
TNSS				*e*S	**Sb**	**02 41 57.1**	**+6.3**
	comp=Z,252nm,0.1s						
TNSS	**Tian-Shan**	**4.81**	**64**	*e*Pn	**Pn**	**02 40 43.5**	**+2.5**
	baz=64						
TNSS	**Tian-Shan**	**4.81**	**64**	Pg	**Pg**	**02 40 57.7**	**-3.5**
	comp=Z,87nm,0.5s						
KUU	**Kurty**	**4.83**	**52**	*e*PN	**Pn**	**02 40 42.2**	**+1.4**
KUU	**Kurty**	**4.83**	**52**	*e*P	**Pb**	**02 40 55.0**	**+1.9**
	comp=Z,79nm,0.7s						
KUU				*e*S	**Sb**	**02 41 57.6**	**+6.6**
	comp=Z,503nm,0.2s						
KUU	**Kurty**	**4.83**	**52**	*e*Pn	**Pn**	**02 40 42.3**	**+1.4**
	baz=52						
KUU	**Kurty**	**4.83**	**52**	Pg	**Pb**	**02 40 55.0**	**+1.9**
	comp=Z,79nm,0.7s						
KUU				Lg	Lg	02 41 57.6	
	comp=Z,503nm,0.7s						
AAA	**Alma-Ata**	**4.86**	**62**	*e*PN	**Pn**	**02 40 43.6**	**+2.3**
AAA	**Alma-Ata**	**4.86**	**62**	*e*P	**Pb**	**02 40 57.1**	**+3.5**
	comp=Z,210nm,0.5s						
AAA				*e*S	**Sg**	**02 42 01.1**	**-3.9**
	comp=Z,1μm,0.7s						
AAA	**Alma-Ata**	**4.86**	**62**	*e*Pn	**Pn**	**02 40 42.8**	**+1.6**
	baz=62						
AAA				*e*Pg	**Pb**	**02 40 56.7**	**+3.1**
	baz=62						
AAA	**Alma-Ata**	**4.86**	**62**	Pg	**Pb**	**02 40 57.1**	**+3.5**
	comp=Z,210nm,0.5s						
AAA				Lg	Lg	02 42 01.1	
	comp=Z,1μm,0.7s						
KNDC	**Almaty**	**4.90**	**62**	PN	**Pn**	**02 40 44.9**	**+3.1**
KNDC	**Almaty**	**4.90**	**62**	⇑Pn	**Pn**	**02 40 44.9**	**+3.1**
	comp=Z,66nm,0.6s						
KNDC				⇑Pg	**Pg**	**02 40 58.9**	**-3.8**
	comp=Z,322nm,0.6s						
KNDC				⇑Lg	Lg	02 42 03.6	
	comp=Z,2μm,0.8s						
MDOK	**Medeo**	**4.93**	**63**	PN	**Pn**	**02 40 44.5**	**+2.2**
MDOK	**Medeo**	**4.93**	**63**	*e*P	**Pb**	**02 40 57.9**	**+3.0**
	comp=Z,88nm,0.2s						
MDOK				*e*S	**Sg**	**02 42 02.8**	**-4.4**
	comp=Z,497nm,1.1s						
MDOK	**Medeo**	**4.93**	**63**	*e*Pn	**Pn**	**02 40 43.5**	**+1.2**
	baz=63						
MDOK				*e*Pg	**Pb**	**02 40 57.8**	**+3.0**
	baz=63						
MDOK	**Medeo**	**4.93**	**63**	⇓Pn	**Pn**	**02 40 44.5**	**+2.2**
	comp=Z,59nm,0.5s						
MDOK				⇓Lg	Lg	02 42 04.5	
	comp=Z,566nm,0.7s						
MDOK	**Medeo**	**4.93**	**63**	Pg	**Pb**	**02 40 57.9**	**+3.0**
	comp=Z,79nm,1.0s						
MDOK				Lg	Lg	02 42 02.8	
	comp=Z,497nm,1.1s						
KTBS	**Karatobe**	**4.95**	**55**	*e*P	**Pb**	**02 40 57.1**	**+2.1**
	comp=Z,54nm,0.3s						
KTBS				*e*S	**Sb**	**02 42 01.2**	**+7.0**
	comp=Z,550nm,0.2s						
KTBS	**Karatobe**	**4.95**	**55**	Pg	**Pb**	**02 40 57.9**	**+2.9**
	comp=Z,107nm,1.1s						
KTBS				Lg	Lg	02 42 02.4	
	comp=Z,550nm,0.5s						
KOTS	**Kotyrbulak**	**5.00**	**62**	*e*P	**Pb**	**02 40 60.0**	**+3.9**
	comp=Z,109nm,0.5s						
KOTS				*e*S	**Sg**	**02 42 06.1**	**-3.4**
	comp=Z,580nm,0.2s						
KOTS	**Kotyrbulak**	**5.00**	**62**	Pg	**Pb**	**02 40 59.9**	**+3.9**
	comp=Z,109nm,0.5s						
KOTS				Lg	Lg	02 42 06.1	
	comp=Z,1μm,1.0s						
CHKK	**Chushkaly**	**5.21**	**55**	*e*PN	**Pn**	**02 40 47.2**	**+1.2**
CHKK				*e*		02 41 02.6	
CHKK	**Chushkaly**	**5.21**	**55**	*e*P	**Pb**	**02 41 02.1**	**+2.6**
	comp=Z,56nm,0.2s						
CHKK				*e*S	**Sb**	**02 42 09.5**	**+7.8**
	comp=Z,352nm,0.1s						
CHKK	**Chushkaly**	**5.21**	**55**	*e*Pn	**Pn**	**02 40 47.3**	**+1.2**
	baz=56						
CHKK				*e*Pg	**Pb**	**02 41 02.7**	**+3.2**
	baz=56						
CHKK	**Chushkaly**	**5.21**	**55**	Pg	**Pb**	**02 41 02.1**	**+2.6**
	comp=Z,57nm,0.7s						
CHKK				Lg	Lg	02 42 09.5	
	comp=Z,429nm,0.9s						
ANVS	**Anan'yevo**	**5.23**	**68**	⇓*i*P	**Pn**	**02 40 49.2**	**+2.8**
	baz=68						
ANVS				⇓*i*S	**Sn**	**02 41 49.5**	**+3.2**
	baz=68						
KURS	**Kuram**	**5.81**	**63**	*e*P	Pb	02 41 14.3	+4.5
	comp=Z,26nm,0.

BLB **Baldybastay** 6.27 58 *e*P Pb 02 41 22.1 +4.5
comp=Z,108nm,0.0s
BLB *e*S **Sg** 02 42 43.5 -6.5
comp=Z,246nm,0.4s
BLB Baldybastay 6.27 58 Pg **Pb** 02 41 21.6 +4.0
comp=Z,110nm,0.7s
BLB Lg Lg 02 42 43.2
comp=Z,246nm,0.2s
UZB Uzynbulak 6.28 68 *e*PN **Pn** 02 41 00.9 0.0
UZB *e* 02 41 22.6
UZB Uzynbulak 6.28 68 *e*P Pb 02 41 22.9 +5.0
comp=Z,72nm,0.1s
UZB *e*S **Sg** 02 42 45.3 -5.2
comp=Z,163nm,0.4s
UZB Uzynbulak 6.28 68 *e*Pn **Pn** 02 41 00.9 0.0
baz=68
UZB *e*Pg Pb 02 41 22.7 +4.8
baz=68
UZB Uzynbulak 6.28 68 Pg Pb 02 41 22.9 +5.0
comp=Z,72nm,0.6s
UZB Lg Lg 02 42 45.3
comp=Z,198nm,0.6s
SHLS Shalkode 6.60 69 *e*PN Pn 02 41 10.8 +5.7
SHLS *e* 02 41 33.6
SHLS Shalkode 6.60 69 *e*P **Pg** 02 41 34.0 -1.1
comp=Z,67nm,0.3s
SHLS *e*S **Sg** 02 43 04.2 +3.7
comp=Z,150nm,1.5s
SHLS Shalkode 6.60 69 *e*Pn Pn 02 41 10.8 +5.7
baz=70
SHLS *e*Pg **Pg** 02 41 33.6 -1.5
baz=70
SHLS Shalkode 6.60 69 Pg **Pg** 02 41 34.7 -0.4
comp=Z,67nm,0.9s
PDGK Podgornoye 6.66 67 PN **Pn** 02 41 07.6 +1.6
PDGK Podgornoye 6.66 67 Pg Pb 02 41 29.9 +5.5
comp=Z,14nm,0.7s
PDGK Lg Lg 02 42 57.0
comp=Z,118nm,0.7s
PDGK Podgornoye 6.66 67 ⇑Pn **Pn** 02 41 07.7 +1.6
comp=Z,6.6nm,0.5s
PDGK ⇓Pg Pb 02 41 30.2 +5.8
comp=Z,73nm,0.8s
PDGK ⇑Lg Lg 02 42 57.9
comp=Z,194nm,0.7s
KBL Kabul 6.68 194 PN **Pn** 02 41 08.8 +2.4
KBL Kabul 6.68 194 **Pn** 02 41 08.8 +2.4
KBL Kabul 6.68 194 P **Pn** 02 41 09.5 +3.1
SNR=24
TDK Taldyqorghan 6.68 51 *e*PN **Pn** 02 41 07.3 +1.1
TDK Taldyqorghan 6.68 51 *e*P **Pb** 02 41 29.0 +4.5
comp=Z,101nm,0.0s
TDK *e*S **Sg** 02 42 55.7 -7.5
comp=Z,500nm,0.1s
TDK Taldyqorghan 6.68 51 *e*Pn **Pn** 02 41 07.3 +1.1
baz=51
TDK Taldyqorghan 6.68 51 Pg **Pb** 02 41 29.0 +4.5
comp=Z,101nm,0.4s
TDK Lg Lg 02 42 55.7
comp=Z,711nm,1.2s
DJR Jarkent 7.22 60 *e*P Pb 02 41 39.8 +6.0
comp=Z,14nm,0.4s
DJR *e*S **Sg** 02 43 14.3 -6.2
comp=Z,181nm,0.1s
DJR Jarkent 7.22 60 Pg Pb 02 41 39.8 +6.0
comp=Z,15nm,0.7s
DJR Lg Lg 02 43 14.3
comp=Z,181nm,2.0s
CEP Cherat 7.23 174 P **Pn** 02 41 16.6 +2.7
OTUK Ortayu 7.26 7 P **Pn** 02 41 14.7 +0.6
OTUK Ortayu 7.26 7 ⇓Pn **Pn** 02 41 14.8 +0.6
comp=Z,18nm,0.6s
OTUK ⇓Lg Lg 02 43 20.0
comp=Z,726nm,0.8s
KAPS Kapalarasan 7.40 52 *e*P Pb 02 41 43.2 +6.4
comp=Z,16nm,0.3s
KAPS *e*S **Sg** 02 43 19.6 -6.6
comp=Z,156nm,0.9s
NIL Nilore 7.58 166 P **Pn** 02 41 20.4 +1.9
NIL Nilore 7.58 166 Pn **Pn** 02 41 20.4 +1.9
NIL Nilore 7.58 166 P **Pn** 02 41 21.1 +2.6
BRZS Berezniki 9.02 7 *e*P **Pn** 02 41 38.8 +0.6
HRA Herat 9.63 229 **Pn** 02 41 46.0 -0.9
MAKZ Makanchi 9.76 50 P **Pn** 02 41 49.9 +1.6
MAKZ Makanchi 9.76 50 Pn **Pn** 02 41 49.9 +1.6
MAKZ Makanchi 9.76 50 ⇑Pn **Pn** 02 41 49.2 +0.9
comp=Z,3.4nm,0.5s
MAKZ ⇑Lg Lg 02 44 36.2
comp=Z,171nm,1.4s
MK31 Makanchi Array 9.93 51 *de*P **Pn** 02 41 52.4 +1.6
MK31 Makanchi Array 9.93 51 Pn **Pn** 02 41 52.1 +1.3
MK31 Makanchi Array 9.93 51 ⇑Pn **Pn** 02 41 52.0 +1.3
comp=Z,10.0nm,0.7s,baz=232,slow=11,SNR=69
MK31 ⇑Lg Lg 02 44 42.5
comp=Z,19nm,0.5s,baz=244,slow=28,SNR=4.5
MKAR Makanchi Array 9.93 51 Pn **Pn** 02 41 52.1 +1.3
comp=Z,1.3nm,0.3s,baz=232,slow=14,SNR=53
MKAR Lg Lg 02 44 40.9
comp=Z,5.6nm,0.3s,baz=242,slow=28,SNR=6.6
MKAR LR LR 02 46 04.0
comp=Z,412nm,20.9s,baz=231,slow=40
MKAR Makanchi Array 9.93 51 **Pn** 02 41 51.9 +1.1
GEYT Alibeck 10.48 257 Pn **Pn** 02 41 55.8 -2.5
comp=Z,4.7nm,0.3s,baz=88,slow=8.3,SNR=32
GEYT Sn **Sn** 02 43 50.3 -5.0
comp=Z,9.1nm,0.3s,baz=315,slow=57,SNR=2.8
GEYT Lg Lg 02 44 57.9
baz=169,slow=37,SNR=1.2
GEYT LR LR 02 45 35.2
comp=Z,60nm,20.5s,baz=69,slow=35
GEYT Alibeck 10.48 257 Pn **Pn** 02 41 56.6 -1.7
GYA0B ALIBECK ARRAY 10.48 257 Pn **Pn** 02 41 56.2 -2.1
KURBB Kurchatov Arra 10.90 26 Pn **Pn** 02 42 02.0 -1.9
comp=Z,0.3nm,0.3s,baz=214,slow=12,SNR=44
KURBB Sn **Sn** 02 43 58.9 -6.6
comp=Z,1.2nm,0.3s,baz=227,slow=34,SNR=2.5
KURBB LR LR 02 46 33.0
comp=Z,484nm,19.6s,baz=192,slow=39
KURBB Kurchatov Arra 10.90 26 P **Pn** 02 42 05.8 +1.8
KURBB Kurchatov Arra 10.90 26 ⇓Pn **Pn** 02 42 05.8 +1.8
comp=Z,8.3nm,0.7s
KURBB ⇑Lg Lg 02 45 13.5
comp=Z,557nm,0.7s
KURK Kurchatov 11.01 26 P **Pn** 02 42 06.8 +1.3
KURK Kurchatov 11.01 26 Pn **Pn** 02 42 03.8 -1.7
KURK Kurchatov 11.01 26 ⇓Pn **Pn** 02 42 06.8 +1.3
comp=Z,4.6nm,0.8s
KURK ⇑Lg Lg 02 45 16.6
comp=Z,296nm,0.9s
AB31 Akbulak array 11.36 320 *e*P **Pn** 02 42 08.6 -1.6
AB31 Akbulak array 11.36 320 ⇑Pn **Pn** 02 42 08.7 -1.6
comp=Z,12nm,0.4s,baz=135,slow=11,SNR=613
ABKAR Akbulak array 11.36 320 **Pn** 02 42 08.8 -1.4
ZSN Zaisan 11.79 52 *e*P **Pn** 02 42 17.2 +1.1
ZSN Zaisan 11.79 52 *e*Pn **Pn** 02 42 17.2 +1.1
baz=52
BVAR Borovoye Array 12.00 358 Pn **Pn** 02 42 18.1 -0.9
BVAR Sn **Sn** 02 44 28.2 -4.2
BVAR Lg Lg 02 45 41.4
BRVK Borovoye 12.04 358 *d*P **Pn** 02 42 18.7 -0.8
BRVK pmax pmax
comp=Z,12nm,0.5s
BRVK Borovoye 12.04 358 Pn **Pn** 02 42 18.7 -0.8
BRVK Borovoye 12.04 358 ⇑Pn **Pn** 02 42 21.5 +1.9
comp=Z,12nm,0.5s
BRVK ⇑Sn **Sn** 02 44 35.5 +2.3
comp=Z,45nm,0.8s
WMQ Urumqi 12.60 72 *e*P Pn 02 42 32.3 +5.0
WMQ LR LR
comp=Z,710nm,6.5s
WMQ LR LR
comp=Z,550nm,6.9s
WMQ LR LR
comp=Z,330nm,13.5s
AKTO Aktyubinsk 13.07 320 Pn **Pn** 02 42 32.5 -1.2
comp=Z,2.7nm,0.3s,baz=139,slow=14,SNR=42
AKTO Sn **Sn** 02 44 52.6 -6.0
comp=Z,6.5nm,0.3s,baz=95,slow=23,SNR=8.6
AKTO LR LR 02 48 02.1
comp=Z,560nm,21.1s,baz=136,slow=39
AKTO Aktyubinsk 13.07 320 ⇑Pn **Pn** 02 42 32.9 -0.8
ZAA0 Zalesovo Array 15.87 31 Pn **Pn** 02 43 09.5 -1.8
ZALV Zalesovo Beam 15.87 31 Pn **Pn** 02 43 09.4 -1.8
comp=Z,1.4nm,0.3s,baz=222,slow=13,SNR=46
ZALV Sn **Sn** 02 46 02.3 -4.4
comp=Z,0.6nm,0.3s,baz=229,slow=17,SNR=1.8
ZALV Lg Lg 02 47 45.8
baz=245,slow=28,SNR=1.5
ZALV LR LR 02 49 31.2
comp=Z,315nm,18.5s,baz=218,slow=38
ZALV Zalesovo Beam 15.87 31 *i*P **Pn** 02 43 09.5 -1.8
ZALV pmax pmax
comp=Z,10.0nm,0.5s
PYUN Piuthan 16.20 139 *e*P **Pn** 02 43 10.4 -5.4
comp=Z,41nm,0.3s
DANN Dangsing 16.38 137 *e*P **Pn** 02 43 13.4 -4.9
comp=Z,73nm,0.4s
KOLN Koldanda 16.77 138 *e*P **Pn** 02 43 18.6 -4.6
comp=Z,34nm,0.4s
GKN Gorkha 17.12 135 *e*P **Pn** 02 43 23.1 -4.4
comp=Z,45nm,0.4s
SVE Sverdlovsk 17.19 340 *e*P **Pn** 02 43 26.6 -1.4
SVE *e*S **Sn** 02 46 33.9 -4.7
SVE pmax pmax
comp=Z,30nm,1.3s
SVE MLR MLR
comp=Z,893nm,12.0s
LKRN Lenkeran, Azer 17.26 270 P **Pn** 02 43 28.4 -0.6
ARU Arti 17.43 336 P **Pn** 02 43 29.1 -1.8
comp=Z,0.0nm,0.3s,baz=148,slow=7.7,SNR=6.9
ARU LR LR 02 50 37.8
comp=Z,478nm,19.7s,baz=136,slow=38
ARU Arti 17.43 336 *d*P **Pn** 02 43 29.6 -1.3
ARU S **Sn** 02 46 43.9 -0.4
ARU pmax pmax
comp=Z,26nm,1.0s
ARU MLR MLR
comp=Z,515nm,16.0s
ARU Arti 17.43 336 **Pn** 02 43 29.9 -1.0
MAK Makhachkala 17.61 284 *e*P **Pn** 02 43 28.4 -4.9
MAK *e*S **Sn** 02 46 43.0 -5.9
MAK pmax pmax
comp=Z,12nm,0.3s
MAK MLR MLR
comp=Z,510nm,11.0s
KKN Kakani 17.64 134 *e*P **Pn** 02 43 30.0 -4.0
comp=Z,30nm,0.5s
DMN Daman 17.69 135 *e*P **Pn** 02 43 30.6 -4.0
comp=Z,20nm,0.4s
GUN Gumba 17.87 132 *e*P **Pn** 02 43 33.2 -3.8
comp=Z,25nm,0.4s
PKI Pulchoki 17.88 134 *e*P **Pn** 02 43 32.7 -4.4
SEKA Sheki 17.98 278 P **Pn** 02 43 35.1 -2.8
JIRN Jiri 18.24 132 *e*P **Pn** 02 43 37.6 -4.0
comp=Z,14nm,0.6s
ZKTA Zakatala 18.35 280 P **Pn** 02 43 40.7 -1.8
LGD Lagodekhi 18.62 281 P **P** 02 43 45.1 -0.3
GANJ Ganja 18.71 277 P **P** 02 43 44.7 -1.8
GROC Groznyy 18.85 285 *e*P **P** 02 43 47.7 -0.2
GROC S **Sn** 02 47 19.7 +0.7
GROC pmax pmax
comp=Z,90nm,0.8s
GROC MLR MLR
comp=Z,104nm,8.0s
RAMN Ramite 19.02 133 *e*P **P** 02 43 46.5 -3.7
comp=Z,48nm,0.5s
GOMU GeErMu 19.16 97 P **Pn** 02 43 52.8 +0.2
GOMU pP pP 02 43 56.3 -0.6
GOMU S **Sn** 02 47 25.5 -1.5
GOMU sS S 02 47 32.4 +3.9
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU pmax pmax
comp=Z,98nm,4.3s
GOMU LR LR
comp=Z,170nm,11.6s
GOMU LR LR
comp=Z,210nm,11.2s
GOMU LR LR
comp=Z,200nm,13.4s
JBP Jabalpur 19.33 154 *e*P **Pn** 02 43 54.2 -0.2
JBP *e*S **Sn** 02 47 26.0 -4.8
TAPN Taplejung 19.34 130 *e*P **P** 02 43 51.7 -2.1
comp=Z,27nm,0.4s
SHME Shamm 19.40 224 P **P** 02 43 53.5 -0.6
BANOM Banah 19.42 224 P **P** 02 43 54.0 -0.3
BANOM Banah 19.42 224 P **P** 02 43 54.1 -0.2
ODAN Odare 19.53 131 *e*P **P** 02 43 53.4 -2.4
comp=Z,61nm,0.6s
BELG Belogornoye 19.58 313 *de*P **P** 02 43 56.2 +0.4
BELG pmax pmax
comp=Z,7.0nm,0.9s
NAX Nakhchivan 19.63 273 P **Pn** 02 43 57.5 -0.5
LSA Lhasa 19.86 118 P **Pn** 02 44 02.6 +1.5
LSA pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 19.86 118 P **P** 02 43 59.5 0.0
LSA lAmb lAmb 02 44 14.5
comp=Z,26nm,0.8s
MSFE Esma-Masafi 19.95 223 P **P** 02 44 00.1 0.0
GNI Garni 19.99 276 P **Pn** 02 44 01.7 -0.6
comp=Z,31nm,0.9s,baz=167,slow=3.9,SNR=20
GNI LR LR 02 53 20.1
comp=Z,168nm,18.2s,baz=88,slow=42
GNI Garni 19.99 276 ⇑*e*P **P** 02 44 00.7 +0.1
GNI pmax pmax
comp=Z,68nm,1.2s
GNI Garni 19.99 276 P **P** 02 43 59.8 -0.8
GNI lAmb lAmb 02 44 11.2
comp=Z,56nm,1.1s
GNI Garni 19.99 276 P **Pn** 02 44 02.2 -0.1
UOSS Minazif 20.27 222 P **P** 02 44 03.9 +0.3
UOSS Minazif 20.27 222 P **P** 02 44 04.2 +0.7
HATD Hatta, Dubai 20.41 222 P Pn 02 44 05.9 -1.3
HATD Hatta, Dubai 20.41 222 P **P** 02 44 05.5 +0.5
NCK Nalchik 20.44 286 ⇑*e*P **P** 02 44 05.5 +0.2
NCK pmax pmax
comp=Z,44nm,0.7s
NAZ Nazwa, Dubai 20.52 223 P Pn 02 44 07.2 -1.3
NAZ Nazwa, Dubai 20.52 223 *i*P Pn 02 44 07.3 -1.2
SNR=9.3
ASHO Ashiyiah 20.56 222 P **P** 02 44 07.1 +0.3
SNR=8.7
ASHO Ashiyiah 20.56 222 *i*P **P** 02 44 07.0 +0.3
SNR=5.9
WSAR Wadi Sarin 20.59 214 P **P** 02 44 07.4 +0.3
comp=Z,7.6nm,0.7s,baz=53,slow=4.1,SNR=8.1
WSAR LR LR 02 54 17.4
comp=Z,280nm,18.1s,baz=66,slow=43
ONI Oni 20.61 283 P Pn 02 44 09.1 -0.4
ONI Oni 20.61 283 lAmb lAmb 02 44 11.4
comp=Z,54nm,0.9s
KNGR Kungurtug, Tuv 20.67 54 ⇑*e*P **P** 02 44 07.9 0.0
FAQ Al Faqa, Dubai 20.75 223 P **P** 02 44 09.3 +0.6
SNR=6.9
FAQ Al Faqa, Dubai 20.75 223 *i*P **P** 02 44 09.0 +0.2
SNR=7.0
GOF Gofitskoye 20.82 290 ⇑*e*P **P** 02 44 10.0 +0.6
GOF *e*S **S** 02 47 56.8 -4.1
GOF pmax pmax
comp=Z,132nm,0.9s
GOF smax smax
comp=N,40nm,0.9s
GOF smax smax
comp=E,55nm,0.8s
HOQ Hoqain 20.88 218 P **P** 02 44 09.8 -0.4
KBZ Khabaz 20.94 287 P **P** 02 44 10.0 -0.6
comp=E,15nm,0.9s,baz=118,slow=8.8,SNR=13
KBZ S **S** 02 47 58.1 -5.1
comp=E,4.5nm,0.9s,baz=208,slow=18,SNR=1.4
KBZ LR LR 02 54 30.7
comp=E,296nm,18.1s,baz=91,slow=43
KBZ Khabaz 20.94 287 ⇓*e*P **P** 02 44 09.6 -1.0
KBZ pmax pmax
comp=Z,26nm,1.0s
ASUD Al Ashush, Dub 20.98 224 P **P** 02 44 12.3 +1.0
SNR=7.0
ASUD Al Ashush, Dub 20.98 224 *i*P **P** 02 44 12.0 +0.8
SNR=7.0
SMDO Samad 21.00 215 P **P** 02 44 11.8 +0.2
SNR=6.2
KVAR Kislovodsk Arr 21.08 287 P **P** 02 44 12.4 +0.1
comp=Z,10nm,0.5s,baz=87,slow=23,SNR=9.3
KIV Kislovodsk 21.08 287 *e*P **P** 02 44 11.8 -0.5
KIV *e*S **S** 02 48 06.7 +0.4
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,84nm,14.0s
KIV Kislovodsk 21.08 287 P **P** 02 44 12.0 -0.4
KIV lAmb lAmb 02 44 30.0
comp=Z,27nm,0.8s
KIV Kislovodsk 21.08 287 *i*P **P** 02 44 12.1 -0.2
SNR=12
NEY Neytrino 21.09 285 ⇑*e*P **P** 02 44 12.7 +0.2
NEY pmax pmax
comp=Z,6.0nm,0.7s
KARS Kars 21.15 278 lAmb lAmb 02 44 15.7
comp=Z,72nm,1.0s
ALNE Al Ain 21.24 222 P **P** 02 44 14.2 +0.2
SNR=9.5
ALNE Al Ain 21.24 222 *i*P **P** 02 44 14.6 +0.6
SNR=9.5
ARQ Araqi 21.46 219 P **P** 02 44 17.1 +0.6
JMDO Jabal Madar 21.59 214 P **P** 02 44 17.6 -0.2
SNR=12
BSY Bisya 21.66 217 P **P** 02 44 19.4 +0.8
GTA Gaotai 21.97 85 ⇑P **P** 02 44 23.8 +1.8
GTA pP sP 02 44 30.4 +0.8
GTA sP pP 02 44 34.8 +7.6
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,76nm,4.8s
GTA LR LR
comp=Z,310nm,14.7s
GTA LR LR
comp=Z,400nm,17.1s
GTA LR LR
comp=Z,350nm,15.9s
KIRV Kirov 22.27 329 P **P** 02 44 24.8 +0.1
comp=Z,17nm,0.7s,baz=234,slow=20,SNR=6.3
KIRV LR LR 02 53 31.1
comp=Z,621nm,18.6s,baz=130,slow=38
KIRV Kirov 22.27 329 *d*P **P** 02 44 25.0 +0.2
VRH Novokhopyorsk 22.60 307 *e*P **P** 02 44 27.1 -1.3
VRH pmax pmax
comp=Z,10.0nm,0.7s
MHTO MHTO 22.87 213 P **P** 02 44 31.9 +0.4
SNR=8.4
MOY Mondy 23.07 52 *e*P **P** 02 44 36.6 +3.1
MOY pmax pmax
comp=Z,18nm,1.4s
SHL Shillong 23.17 125 P **P** 02 44 34.7 0.0
SHL pmax pmax
comp=Z,22nm,0.6s
SHL Shillong 23.17 125 P **P** 02 44 34.7 0.0
SHL lAmb lAmb 02 44 50.5
comp=Z,22nm,0.6s
SHL Shillong 23.17 125 P **P** 02 44 37.9 +3.1
SNR=6.8
MZR Muzera 23.28 225 *i*P **P** 02 44 35.5 -0.2
SNR=7.5
MARD Mardin 23.71 271 P **P** 02 44 39.5 -0.5
MARD lAmb lAmb 02 44 48.3
comp=Z,15nm,0.5s
VSR Storozhevoye 24.16 306 *e*P **P** 02 44 42.7 -1.2
VSR pmax pmax
comp=Z,10.0nm,0.6s
ZAK Zakamensk 24.19 56 *e*P **P** 02 44 45.2 +0.8
ZAK pmax pmax
comp=Z,9.0nm,1.1s
VORR Voronezh 24.24 307 P **P** 02 44 44.8 +0.2
VORR 02 45 23.2
VORR S **S** 02 49 07.2 +5.0
VORR pmax pmax
comp=Z,29nm,2.0s
VORR MLR MLR
comp=Z,1μm,17.0s
HYBB Hyderabad (bro 24.41 162 *e*P **P** 02 44 46.8 +0.3
HYBB *e*pP **sP** 02 44 57.3 +3.1
HYBB *e*S **S** 02 49 04.0 -1.5
HYBB lVMs_BB lVMs_BB 02 49 17.8
comp=Z,120nm,4.4s
LPSR Galich'ya Gora 24.63 309 *e*P **P** 02 44 46.3 -1.9
LPSR pmax pmax
comp=Z,10.0nm,0.6s
PRGR Permogore 25.73 332 *e*P **P** 02 44 54.6 -3.4
PRGR pmax pmax
comp=Z,23nm,0.8s
SONM Songino Array 25.96 63 P **P** 02 45 00.9 +0.5
comp=Z,2.4nm,0.8s,baz=277,slow=10.0,SNR=9.9
SONM Songino Array 25.96 63 P **P** 02 45 01.4 +0.9
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 25.96 63 P **P** 02 45 01.4 +0.9
LZH Lanzhou 26.01 90 *e*P **P** 02 45 02.5 +1.4
LZH pP sP 02 45 08.3 -0.6
LZH sP pP 02 45 11.4 +4.8
LZH pmax pmax
comp=Z,19nm,1.5s
LZH LR LR
comp=Z,470nm,13.0s
LZH LR LR
comp=Z,320nm,14.1s
LZH LR LR
comp=Z,360nm,13.0s
MOS Moscow 26.31 315 *e*P **P** 02 45 03.1 -0.3
MOS *e* 02 45 46.0
MOS *e*S **S** 02 49 38.6 +3.4
MOS pmax pmax
comp=Z,32nm,1.0s
MOS MLR MLR
comp=Z,300nm,15.0s
ULN Ulaanbaatar 26.40 63 ⇓*i*P **P** 02 45 04.8 +0.3
ULN pmax pmax
comp=Z,16nm,1.7s
DOK Doka 26.64 218 P **P** 02 45 06.7 0.0
SNR=8.1
OBN Obninsk 26.68 314 ⇓*e*P **P** 02 45 07.0 +0.3
OBN *e* 02 45 47.6
OBN *e*S **S** 02 49 41.3 +0.3
OBN *e*SS **SnSn** 02 50 47.2 +2.9
OBN pmax pmax
comp=Z,29nm,1.3s
OBN MLR MLR
comp=Z,297nm,18.0s
OBN Obninsk 26.68 314 P **P** 02 45 06.5 -0.2
OBN lAmb lAmb 02 45 08.3
comp=Z,24nm,1.1s
WHFO Wadi Hawf 27.42 218 P **P** 02 45 13.8 +0.1
SNR=10
RBK Rabkut 27.58 217 P **P** 02 45 15.7 +0.6
KLMR Klimovskoe 27.64 326 *e*P **P** 02 45 14.0 -1.2
KLMR pmax pmax
comp=Z,9.0nm,1.0s
KLMR Klimovskoe 27.64 326 *e*P **P** 02 45 14.0 -1.2
KLMR AMP 02 45 21.3
comp=Z,9.0nm,1.0s
ABTO Aybut 28.13 218 P **P** 02 45 20.4 +0.3
SNR=11
CD2 Chengdu 28.18 101 P P 02 45 25.4 +4.9
CD2 pmax pmax
comp=Z,10.0nm,0.8s
BR131 Keskin Array S 28.40 280 *c*P **P** 02 45 22.6 +0.1
BR131 Keskin Array S 28.40 280 P **P** 02 45 22.5 +0.1
BR131 lAmb lAmb 02 45 24.9
comp=Z,13nm,0.9s
BR131 Keskin Array S 28.40 280 P **P** 02 45 23.1 +0.5
SNR=16
BRTR Keskin Array B 28.40 280 P **P** 02 45 22.6 +0.1
comp=Z,5.6nm,0.7s,baz=86,slow=7.7,SNR=40
BRTR LR LR 02 58 48.9
comp=Z,126nm,19.5s,baz=80,slow=41
BRTR Keskin Array B 28.40 280 *i*P **P** 02 45 23.0 +0.5
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 28.40 280 P **P** 02 45 22.2 -0.2
PZH PanZhiHua 29.16 110 P **P** 02 45 31.9 +2.6
PZH pmax pmax
comp=Z,8.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.6s
NRIK Noril'sk 29.67 12 P **P** 02 45 33.3 +0.1
comp=Z,5.6nm,0.8s,baz=205,slow=5.3,SNR=6.8
NRIK LR LR 02 58 48.7
comp=Z,126nm,20.0s,baz=205,slow=39
NRIK Noril'sk 29.67 12 *de*P **P** 02 45 34.2 +1.0
NRIK pmax pmax
comp=Z,11nm,1.0s
NRIK Noril'sk 29.67 12 P **P** 02 45 33.9 +0.7
AKASG Malin Array Be 30.33 303 P **P** 02 45 39.0 -0.2
comp=Z,21nm,0.7s,baz=85,slow=6.9,SNR=36
AKBB Malin Array Si 30.33 303 *ce*P **P** 02 45 39.1 -0.2
AKBB pmax pmax
comp=Z,26nm,0.7s

KIEV Kiev 30.34 303 P P 02 45 39.0 -0.3
HHC Hu-ho-hao-te 30.40 77 eP P 02 45 42.0 +1.8
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,180nm,5.7s
KMI Kunming 30.71 111 ⇑P P 02 45 50.0 +6.8
KMI pP sP 02 45 58.1 +7.0
KMI sP pP 02 46 01.3 +12
KMI pmax pmax
comp=Z,13nm,0.8s
BORA Eskisehir 30.73 281 P P 02 45 43.2 +0.1
CFR Carcaliu 31.34 292 ⇑P P 02 45 49.3 +1.1
CFR Carcaliu 31.34 292 P P 02 45 49.3 +1.1
EIL Elat 31.35 260 P P 02 45 49.1 +0.5
comp=Z,8.9nm,0.8s,baz=100,slow=3.5,SNR=11
MNK Minsk 31.46 310 i P P 02 45 48.9 -0.3
MNK i 02 46 51.5
MNK i 02 48 42.0
MNK i S S 02 50 57.0 +0.9
MNK i SS SnSn 02 52 42.5 +1.8
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK MLR MLR
comp=E,29nm,17.0s
MNK MLR MLR
comp=N,158nm,19.0s
MNK MLR MLR
comp=Z,209nm,18.0s
MNK Minsk 31.46 310 i P P 02 45 48.9 -0.3
comp=E,1.0nm,0.8s
MNK i P P 02 45 48.9 -0.3
comp=N,6.0nm,0.9s
MNK i P P 02 45 48.9 -0.3
comp=Z,11nm,0.9s,baz=99
MNK i PP PP 02 46 51.6 -8.6
MNK i PPP PPP 02 47 00.6
MNK i S S 02 50 57.0 +0.9
MNK i SS SnSn 02 52 42.6 +1.8
MNK i SSS SSS 02 52 57.7
MNK i LR LR 02 56 18.9
MNK i LRM MLR 02 59 42.0
comp=E,29nm,16.6s
MNK i LRM MLR 02 59 46.5
comp=N,158nm,18.5s
MNK i LRM MLR 02 59 50.4
comp=Z,209nm,17.9s
BOD Bodaibo 31.91 44 eP P 02 45 53.2 +0.1
BOD pmax pmax
comp=Z,22nm,0.9s
ELL Elmali 32.10 276 IAmb IAmb 02 45 59.6
comp=Z,11nm,0.7s
HORU Horodok 32.14 300 P P 02 45 55.1 -0.2
NACGM Naroch 32.15 311 eP P 02 45 55.2 0.0
KMPD K-Podol'skiy 32.15 299 P P 02 45 55.0 -0.3
TESR Tescani 32.20 295 ⇓P P 02 45 56.1 +0.2
VRI Vrincioaia 32.23 294 ⇓P P 02 45 57.4 +1.3
VRI Vrincioaia 32.23 294 P P 02 45 57.7 +1.6
VRI pmax pmax
comp=Z,12nm,1.6s
PLOR Plostina 32.28 294 ⇑P P 02 45 57.2 +0.6
PLOR Plostina 32.28 294 P P 02 45 57.2 +0.6
CHTO Chiang Mai 32.54 125 P P 02 46 01.7 +2.7
CHTO pmax pmax
comp=Z,4.0nm,1.1s
NEHR Nehoiu 32.59 293 ⇓P P 02 46 00.6 +1.3
VSU Vasula 32.77 317⇓eP P 02 46 00.3 -0.3
VSU pmax pmax
comp=Z,51nm,1.1s
CMAR Chiang Mai Arr 32.80 125 P P 02 46 01.3 -0.1
comp=Z,0.7nm,0.5s,baz=316,slow=7.1,SNR=6.4
CMAR PcP PcP 02 48 46.0 -0.2
comp=Z,1.4nm,0.7s,baz=306,slow=4.0,SNR=7.0
CMAR LR LR 03 02 04.9
comp=Z,100nm,19.0s,baz=285,slow=42
CMAR Chiang Mai Arr 32.80 125 P P 02 46 01.5 +0.1
MLR Muntele Rosu 32.82 293 ⇑P P 02 46 03.1 +1.6
MLR Muntele Rosu 32.82 293 P P 02 46 03.1 +1.6
comp=Z,17nm,1.0s,baz=63,slow=3.9,SNR=20
MLR LR LR 03 01 25.6
comp=Z,235nm,19.9s,baz=62,slow=40
BUR01 Bucovina Ar. S 33.06 297 ⇓P P 02 46 03.6 +0.2
BUR08 Bucovina Ar. S 33.07 297 P P 02 46 03.5 0.0
KSV Kosov 33.09 298 P P 02 46 03.7 +0.1
DOPR Dopca 33.14 294 ⇑P P 02 46 05.6 +1.5
LVZ Lovozero 33.30 336⇓eP P 02 46 05.7 +0.4
LVZ pmax pmax
comp=Z,98nm,2.5s
LVZ Lovozero 33.30 336 P P 02 46 05.7 +0.4
LVV L'vov 33.67 301 eP P 02 46 09.0 +0.4
ARR Arges 33.75 293 ⇓P P 02 46 11.0 +1.5
MORS Morshin 33.80 300 P P 02 46 10.4 +0.6
PABE Paberze 33.81 312 P P 02 46 10.1 +0.3
PABE IAmb IAmb 02 46 11.9
comp=Z,23nm,1.2s
PABE Paberze 33.81 312 eP P 02 46 09.8 +0.1
FINES FINESS Array B 33.83 322 P P 02 46 10.4 +0.6
comp=Z,6.8nm,0.6s,baz=108,slow=10,SNR=58
FINES LR LR 03 00 34.1
comp=Z,310nm,19.8s,baz=82,slow=37
FINES FINESS Array B 33.83 322 P P 02 46 10.0 +0.2
SUW Suwalki 34.17 309 eP P 02 46 12.8 0.0
MTSE Matsula 34.32 317 eP P 02 46 14.7 +0.5
MEF Metsahovi 34.33 320 eP P 02 46 14.3 +0.1
KWP Kalwaria Pacla 34.54 301 P P 02 46 17.3 +1.1
PALK Pallekele 34.70 163 P P 02 46 17.8 -0.1
comp=Z,5.3nm,0.8s,baz=107,slow=7.3,SNR=4.8
PALK LR LR 03 01 22.8
comp=Z,135nm,19.1s,baz=91,slow=38
DRGR 34.85 296 ⇓P P 02 46 20.4 +1.4
DRGR 34.85 296 P P 02 46 20.4 +1.4
KOLS Kolonicke sedl 34.88 300 eP P 02 46 19.9 +0.7
KOLS Kolonicke sedl 34.88 300 eP P 02 46 19.9 +0.7
UZH Uzhgorod 34.90 299 eP P 02 46 19.8 +0.5
UZH e 02 46 22.6
GZR Gura Zlata 35.04 294 ⇓P P 02 46 21.1 +0.4
VTS Vitosha 35.30 289 ⇑P P 02 46 24.3 +1.2
VTS Vitosha 35.30 289 P P 02 46 24.7 +1.7
VTS pmax pmax
comp=Z,8.0nm,1.0s
HERR Herculane 35.39 293 ⇓P P 02 46 23.9 +0.3
BZS Buzias 35.80 294 P P 02 46 28.5 +1.4
MDVR Moldovita 35.90 293 ⇓P P 02 46 29.2 +1.2
NIE Niedzica 36.12 301 eP P 02 46 31.6 +1.8
NIE Niedzica 36.12 301 P P 02 46 30.4 +0.6
NIE pmax pmax
comp=Z,10.0nm,1.1s
OJC Ojcow 36.36 302 eP P 02 46 32.4 +0.5
PSZ Piszkesteto 36.58 298 P P 02 46 35.4 +1.6
PSZ Piszkesteto 36.58 298 P P 02 46 34.5 +0.7
LANS Liptovska Anna 36.69 301 eP P 02 46 35.9 +1.2
LANS pmax pmax
comp=Z,5.0nm,0.7s
LANS Liptovska Anna 36.69 301 eP P 02 46 35.9 +1.2
ARA0 ARCESS Array S 37.01 335 eP P 02 46 37.7 +0.6
ARCES ARCESS Array B 37.01 335 P P 02 46 37.6 +0.5
comp=Z,13nm,0.6s,baz=110,slow=8.2,SNR=133
ARCES PcP PcP 02 48 57.9 +0.2
comp=Z,1.0nm,0.5s,baz=105,slow=2.9,SNR=4.7
ARCES LR LR 03 02 38.7
comp=Z,308nm,19.6s,baz=107,slow=38
ARCES ARCESS Array B 37.01 335 P P 02 46 37.8 +0.7
ARCES pmax pmax
comp=Z,14nm,0.9s
ARCES ARCESS Array B 37.01 335 P P 02 46 37.8 +0.7
ARCES IAmb IAmb 02 46 38.5
comp=Z,14nm,0.8s
FNA Florina 37.14 286 P P 02 46 38.9 +0.3
FNA pmax pmax
comp=Z,16nm,0.7s
FNA Florina 37.14 286 IAmb IAmb 02 46 39.6
comp=Z,9.3nm,0.7s
FRGS Fruska Gora 37.14 294 ⇓P P 02 46 38.8 +0.3
VYHS Vyhne 37.20 300 eP P 02 46 40.2 +1.2
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 37.20 300 eP P 02 46 40.2 +1.2
DIVS Divibare 37.25 292 IAmb IAmb 02 46 41.5
comp=Z,17nm,0.9s
DIVS Divibare 37.25 292 eP P 02 46 40.2 +0.6

KOLL Kolacno 37.47 300 eP P 02 46 42.3 +1.0
KTK1 Kautokeino 37.52 334 eP P 02 46 41.5 0.0
KBN Korca 37.61 286 P P 02 46 42.5 -0.2
KBN pmax pmax
comp=Z,6.0nm,1.3s
KBN Korca 37.61 286 P P 02 46 42.5 -0.2
SRO Srobarova 37.65 299 eP P 02 46 44.2 +1.4
SRO pmax pmax
comp=Z,12nm,1.0s
SRO Srobarova 37.65 299 eP P 02 46 44.2 +1.4
BBLS Lazići 37.72 292 eP P 02 46 44.3 +0.8
MORH Mrgy, Hungar 37.72 296 eP P 02 46 43.7 +0.3
MORH Mrgy, Hungar 37.72 296 P P 02 46 43.4 0.0
CSKK Cskako 37.76 298 P P 02 46 44.9 +1.1
RUDO Rudo 37.80 292 eP P 02 46 43.8 -0.4
MORC Moravsky Berou 37.86 302 P P 02 46 45.6 +1.0
MORC pmax pmax
comp=Z,15nm,0.9s
MORC Moravsky Berou 37.86 302 IAmb IAmb 02 46 46.4
comp=Z,9.7nm,0.8s
MORC Moravsky Berou 37.86 302 eP P 02 46 45.0 +0.4
JAVC Velka Javorina 37.91 300 eP P 02 46 46.8 +1.8
HAMF Hammerfest 38.06 337 eP P 02 46 46.8 +0.9
KOVH Kovagotottos 38.12 296 P P 02 46 47.2 +0.5
SMOL Smolenice 38.12 300 eP P 02 46 47.8 +1.0
SMOL pmax pmax
comp=Z,6.0nm,1.3s
SMOL Smolenice 38.12 300 eP P 02 46 47.8 +1.0
PDG Podgorica 38.19 290 ⇓P P 02 46 47.8 +0.4
PDG Podgorica 38.19 290 eP P 02 46 47.8 +0.4
UPM Unac-Piva 38.23 291 eP P 02 46 49.1 +1.1
MODS Modra-Piesok 38.24 300 eP P 02 46 48.7 +0.9
MODS pmax pmax
comp=Z,13nm,1.0s
MODS Modra-Piesok 38.24 300 eP P 02 46 48.7 +0.9
MPLH Magyarpolny 38.28 298 P P 02 46 48.9 +0.8
KRLC Kraliky 38.30 302 eP P 02 46 49.1 +0.7
KRLC MLR MLR
comp=Z,300nm,17.0s
KRLC Kraliky 38.30 302 eP P 02 46 49.1 +0.7
KRLC AMS AMS 03 05 30.0
comp=Z,300nm,17.0s
DRME Dracevica, Mon 38.31 289 eP P 02 46 47.0 -1.5
EGYH Egyhazaskeszo 38.37 298 P P 02 46 49.4 +0.5
ATD Arta Tunnel 38.45 228 P P 02 46 51.3 +1.4
comp=Z,1.7nm,0.3s,baz=350,slow=3.9,SNR=4.4
ATD Arta Tunnel 38.45 228 IAmb IAmb 02 46 52.7
comp=Z,12nm,1.1s
KSP Ksiaz 38.52 304 P P 02 46 51.0 +0.9
KSP pmax pmax
comp=Z,14nm,0.8s
VRAC Vranov 38.54 301 ⇓P P 02 46 51.2 +0.8
VRAC Vranov 38.54 301 LR LR 03 05 28.3
comp=Z,222nm,18.9s,baz=82,slow=40
VRAC Vranov 38.54 301 P P 02 46 51.1 +0.8
VRAC Vranov 38.54 301 eP P 02 46 51.1 +0.8
DPC Dobruska-Polom 38.56 303 eP P 02 46 51.7 +1.2
DPC Dobruska-Polom 38.56 303 eP P 02 46 51.7 +1.2
BRY Bratogost 38.57 291 eP P 02 46 51.9 +1.1
OSTC Ostas 38.60 303 eP P 02 46 51.9 +1.1
JETT Jettan, Norway 38.66 334 eP P 02 46 51.8 +0.7
CHVC Chvalec 38.70 303 eP P 02 46 52.6 +1.0
KRUC Moravsky 38.70 301 eP P 02 46 52.7 +1.0
HCY Herceg Novi 38.73 290 eP P 02 46 51.7 -0.3
UPC Upice 38.74 303 eP P 02 46 52.9 +1.0
UPC Upice 38.74 303 eP P 02 46 52.9 +1.0
TREB Trebinje 38.76 291 eP P 02 46 52.6 +0.4
SOP Sopron 38.84 299 P P 02 46 54.4 +1.6
SOP Sopron 38.84 299 P P 02 46 53.8 +1.0
RONA Rosalia, Austr 39.01 299 eP P 02 46 55.1 +0.8
comp=Z,11nm,1.1s,SNR=5.4
NJ2 Nanjing 39.01 88 eP P 02 46 55.9 +1.5
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
BLY Banja Luka 39.05 294 eP P 02 46 55.2 +0.6
STON Ston 39.17 291 eP P 02 46 52.8 -2.8
TRO Tromso 39.18 334 eP P 02 46 55.5 +0.2
MGRS Mrkonjic Grad 39.20 293 eP P 02 46 57.5 +1.6
SRKY Kupres RS 39.23 293 eP P 02 46 57.3 +1.0
CONA Conrad Observa 39.25 299 eP P 02 46 57.2 +0.8
comp=Z,12nm,0.8s,SNR=8.8
TREC Trest 39.25 301 eP P 02 46 57.3 +1.0
TREC Trest 39.25 301 eP P 02 46 57.3 +1.0
HFS Hagfors 39.61 319 LR LR 03 04 04.2
comp=Z,371nm,18.5s,baz=94,slow=37
PVCC Panska Ves 39.65 303 eP P 02 47 00.6 +1.1
PVCC Panska Ves 39.65 303 eP P 02 47 00.6 +1.1
PRU Pruhonice 39.75 303 eP P 02 47 01.4 +1.0
PRU Pruhonice 39.75 303 eP P 02 47 01.4 +1.0
FAUS Fauske 39.85 330 eP P 02 47 01.4 +0.4
MOR8 Moi Rana 39.94 328 eP P 02 47 01.2 -0.6
BRG Berggiesshubel 39.99 304 ⇓iP P 02 47 03.5 +1.2
BRG Amp 02 47 05.1
comp=Z,12nm,0.8s
BRG ex x 02 47 48.2
BRG Amp 02 47 52.1
comp=Z,3.5nm,0.7s
BRG ex x 02 49 03.9
BRG Amp 02 49 05.4
comp=Z,1.4nm,0.7s
BRG Berggiesshubel 39.99 304 ⇓iP P 02 47 03.5 +1.2
BRG e 02 49 03.9
BRG pmax pmax
comp=Z,12nm,0.8s
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG pmax pmax
comp=Z,1.0nm,0.7s
BRG Berggiesshubel 39.99 304 eP P 02 47 03.6 +1.2
comp=Z,7.6nm,0.8s,baz=79,slow=8.2
STEI Steigen 39.99 331 eP P 02 47 02.4 +0.2
SOKA Soboth 40.06 297 eP P 02 47 03.8 +0.6
comp=Z,12nm,1.2s,SNR=5.7
CKRC Cesky Krumlov 40.10 301 eP P 02 47 04.5 +1.1
CKRC AMS AMS 03 07 30.0
comp=Z,200nm,13.5s
YAK Yakutsk 40.31 38 P P 02 47 04.4 -0.5
comp=Z,12nm,0.4s,baz=86,slow=1.4,SNR=6.8
YAK LR LR 03 03 17.1
comp=Z,55nm,20.3s,baz=266,slow=36
YAK Yakutsk 40.31 38 eP P 02 47 03.8 -1.1
YAK pmax pmax
comp=Z,31nm,0.8s
YAK pmax pmax
comp=E,15nm,1.2s
YAK Yakutsk 40.31 38 P P 02 47 04.7 -0.2
MOA Molln 40.32 299 iP P 02 47 05.6 +0.4
comp=E,5.7nm,0.8s
FBE Freiberg 40.35 304 eP P 02 47 06.5 +1.2
comp=E,11nm,0.8s,baz=79,slow=8.2
OBKA Obir 40.43 297 iP P 02 47 06.9 +0.8
comp=E,14nm,1.1s
GEC2 GERESS Array S 40.49 301 IAmb IAmb 02 47 08.6
comp=Z,18nm,0.8s
GEC2 GERESS Array S 40.49 301 eP P 02 47 07.4 +0.7
comp=Z,13nm,0.8s,baz=79,slow=8.2
GERES GERESS Array B 40.49 301 P P 02 47 07.8 +1.2
comp=Z,14nm,0.8s,baz=68,slow=7.6,SNR=104
GERES LR LR 03 06 37.6
comp=Z,199nm,20.3s,baz=82,slow=40
GERES GERESS Array B 40.49 301 P P 02 47 07.4 +0.7
CLL Collm 40.51 305 iP P 02 47 06.9 +0.3
CLL pmax pmax
comp=Z,11nm,0.7s
CLL MLR MLR
comp=Z,400nm,18.2s
CLL Collm 40.51 305 IAmb IAmb 02 47 07.9
comp=Z,10nm,0.8s
CLL Collm 40.51 305⇑iP P 02 47 06.9 +0.3
comp=Z,11nm,0.7s
CLL ePPP PPP 02 49 06.0
CLL eS S 02 53 24.0 +9.4
CLL eSS SS 02 56 00.0 -14
CLL Lm MLR 03 06 00.0
comp=Z,400nm,18.2s
CLL Collm 40.51 305 eP P 02 47 07.4 +0.8
comp=Z,8.0nm,0.8s,baz=79,slow=8.2
KHC Kasperske Hory 40.52 302 iP P 02 47 07.7 +0.9
KHC Kasperske Hory 40.52 302 IAmb IAmb 02 47 08.8
comp=Z,14nm,0.8s
KHC Kasperske Hory 40.52 302 eP P 02 47 08.0 +1.2
KONS Konsvik 40.52 328 eP P 02 47 07.0 +0.5
LJU Ljubljana 40.55 297 eP P 02 47 07.5 +0.4
NC405 NORSAR Array S 40.62 320 P P 02 47 07.9 +0.4

LOF Lofoten 40.66 331 eP P 02 47 07.5 -0.1
CEY Cerknica 40.69 296 eP P 02 47 08.1 -0.2
NC602 NORSAR Array S 40.70 320 eP P 02 47 08.0 -0.1
NORES NORESS Array B 40.70 320 P P 02 47 08.0 -0.1
NSS Namsos 40.74 325 eP P 02 47 07.5 -0.8
BIOA Bad Ischl, Aus 40.77 299 iP P 02 47 09.4 +0.5
comp=Z,15nm,1.5s
NB2 NORSAR Subarra 40.86 320 P P 02 47 09.6 +0.1
comp=Z,4.9nm,0.7s,baz=92,slow=8.6
NB2 NORSAR Subarra 40.86 320 P P 02 47 09.6 +0.1
baz=92,slow=8.6
NOA NORSAR Array B 40.86 320 P P 02 47 09.3 -0.2
comp=Z,9.6nm,0.8s,baz=91,slow=8.1,SNR=41
NOA LR LR 03 04 42.4
comp=Z,277nm,18.2s,baz=95,slow=37
WET Wettzell 40.96 302 eP P 02 47 11.7 +1.2
comp=Z,9.0nm,0.8s,baz=79,slow=8.2
BJO1 Bjornoya 40.98 341 eP P 02 47 10.8 +0.6
TANN Tannenbergstha 40.99 304 eP P 02 47 11.4 +0.7
comp=Z,4.6nm,0.8s,baz=79,slow=8.2
TIP Timpagrande 41.01 286 ⇓P P 02 47 11.1 0.0
NKC Novy Kostel 41.03 303 AMS AMS 03 07 00.0
SRIT Nakonsritamara 41.04 134 P P 02 47 12.1 +0.7
SRIT IAmb IAmb 02 47 19.1
comp=Z,19nm,1.1s
GUNZ Gunzen 41.08 304 eP P 02 47 12.4 +0.9
comp=Z,5.3nm,0.8s,baz=79,slow=8.2
WERD Werda 41.08 304 eP P 02 47 12.4 +0.9
comp=Z,5.0nm,0.8s,baz=79,slow=8.2
NC204 NORSAR Array S 41.09 320 P P 02 47 11.7 +0.3
KBA Koelnbreinsper 41.10 298 iP P 02 47 12.0 +0.2
comp=Z,4.6nm,0.5s
OSL Oslo 41.10 318 eP P 02 47 11.6 +0.2
TRI Trieste 41.15 296 P P 02 47 13.1 +1.1
ROTZ Rotzenmuhle 41.27 303 eP P 02 47 13.8 +0.8
baz=79,slow=8.2
NEUB Neuenburg 41.28 305 eP P 02 47 14.2 +1.2
comp=Z,12nm,0.7s,baz=79,slow=8.2
MANZ Manzenberg 41.29 303 eP P 02 47 14.2 +1.0
comp=Z,1.0nm,0.9s,baz=79,slow=8.2
RJOB Jochberg 41.31 300 eP P 02 47 13.6 +0.2
baz=79,slow=8.2
TBLU Trondheim 41.39 323 eP P 02 47 13.4 -0.3
FLTG Flechtingen 41.43 307 eP P 02 47 14.4 +0.2
comp=Z,11nm,0.8s,baz=79,slow=8.2
MOX Moxa 41.48 304 eP P 02 47 15.7 +1.0
comp=Z,4.3nm,0.8s,baz=79,slow=8.2
TIXI Tiksi 41.58 24 P P 02 47 15.1 -0.1
comp=Z,10nm,0.9s,baz=88,slow=23,SNR=31
TIXI Tiksi 41.58 24⇑iP P 02 47 14.9 -0.3
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TIXI Tiksi 41.58 24 P P 02 47 15.1 -0.1
TIXI IAmb IAmb 02 47 16.2
comp=Z,8.6nm,0.7s
TIXI Tiksi 41.58 24 P P 02 47 15.4 +0.2
TIXI pP sP 02 47 24.8 +1.7
KONO Kongsberg 41.67 318⇓eP P 02 47 15.9 -0.2
KONO pmax pmax
comp=Z,45nm,2.5s
KONO Kongsberg 41.67 318 eP P 02 47 16.2 +0.1
KONO Kongsberg 41.67 318 P P 02 47 16.4 +0.2
KONO pP sP 02 47 27.0 +2.9
BSEG Bad Segeberg 41.75 309 eP P 02 47 17.4 +0.6
comp=Z,10nm,0.8s,baz=79,slow=8.2
DOMB Dombas 41.91 321 eP P 02 47 17.8 -0.2
GRA1 Grafenberg Arr 41.91 303 IAmb IAmb 02 47 20.8
comp=Z,23nm,0.8s
GRF Grafenberg Arr 41.91 303 eP P 02 47 19.1 +0.8
comp=Z,17nm,0.8s,baz=79,slow=8.2
GRFO Grafenberg 41.91 303 P P 02 47 19.1 +0.8
GRFO pmax pmax
comp=Z,22nm,0.8s
GRFO Grafenberg 41.91 303 P P 02 47 19.1 +0.8
GRFO IAmb IAmb 02 47 20.7
comp=Z,22nm,0.8s
CLZ Clausthal 42.04 306 eP P 02 47 19.7 +0.4
comp=Z,6.4nm,0.8s,baz=79,slow=8.2
NRDL Niedersach Rie 42.09 307 eP P 02 47 20.2 +0.7
comp=Z,9.8nm,0.8s,baz=79,slow=8.2
WTTA Wattenberg 42.19 299 eP P 02 47 20.6 -0.1
comp=Z,19nm,1.1s,SNR=7.2
FUR Furstenfeldbru 42.21 301 eP P 02 47 21.5 +0.8
comp=Z,12nm,1.1s,SNR=5.5
WATA Walderalm 42.21 299 iP P 02 47 20.8 0.0
comp=Z,12nm,1.1s,SNR=5.5
GTTG Gottingen 42.34 306 eP P 02 47 22.5 +0.8
comp=Z,19nm,0.9s,baz=79,slow=8.2
AQU L'Aquila 42.36 292 IAmb IAmb 02 47 30.3
comp=Z,18nm,1.0s
NRCA Norcia 42.41 292 IAmb IAmb 02 47 24.4
comp=Z,20nm,1.0s
UBBA Unterpfaffenbach 42.46 305 eP P 02 47 23.4 +0.8
baz=79,slow=8.2
SQTA Sankt Quirin 42.48 299 iP P 02 47 23.0 0.0
comp=Z,6.2nm,0.7s
CTI Castel Tesino 42.49 297 P P 02 47 23.1 0.0
CTI pmax pmax
comp=Z,9.0nm,1.0s
CTI Castel Tesino 42.49 297 P P 02 47 23.1 0.0
MOTA Moosalm 42.52 299 iP P 02 47 22.7 -0.7
comp=Z,8.4nm,0.7s
KLR Kul'dur 42.55 58 P P 02 47 23.8 +0.4
comp=Z,2.6nm,0.5s,baz=273,slow=8.3,SNR=9.9
KLR PcP PcP 02 49 15.0 -0.6
comp=Z,1.5nm,0.6s,baz=338,slow=9.8,SNR=3.6
KLR Kul'dur 42.55 58cP P 02 47 23.6 +0.2
KLR pmax pmax
comp=Z,6.0nm,1.4s
MOL Molde 42.62 322 eP P 02 47 23.8 0.0
MURB Monte Urbino 42.69 293 IAmb IAmb 02 47 27.5
comp=Z,30nm,1.0s
RETA Reutte 42.71 300 iP P 02 47 24.5 -0.3
comp=Z,7.0nm,1.1s
FETA Feichten 42.85 299 iP P 02 47 25.6 -0.5
comp=Z,10nm,1.1s
UBR Ueberruh 43.09 300 eP P 02 47 28.4 +0.5
comp=Z,15nm,0.8s,baz=79,slow=8.2
SPA0 Spitsbergen Ar 43.10 346 eP P 02 47 28.2 +0.6
SPITS Spitsbergen Ar 43.10 346 P P 02 47 28.0 +0.4
comp=Z,5.1nm,0.8s,baz=107,slow=12,SNR=7.6
SPITS PcP PcP 02 49 16.9 -0.1
comp=Z,1.3nm,0.4s,baz=137,slow=9.0,SNR=11
SPITS LR LR 03 07 54.2
comp=Z,199nm,18.0s,baz=180,slow=40
SPITS Spitsbergen Ar 43.10 346 P P 02 47 28.0 +0.4
SPITS 02 49 17.0
DAVA Damuels 43.34 300 eP P 02 47 29.7 -0.4
comp=Z,17nm,0.8s,SNR=8.2
KASTN Kahler Asten 43.36 306 eP P 02 47 30.9 +0.9
baz=79,slow=8.2
STU Stuttgart 43.41 302 eP P 02 47 31.5 +1.0
comp=Z,35nm,0.8s,baz=79,slow=8.2
DAVOX Davos/Dischmat 43.47 299 P P 02 47 31.2 +0.1
comp=Z,7.2nm,0.5s,baz=115,slow=5.1,SNR=28
DAVOX LR LR 03 07 45.0
comp=Z,182nm,21.4s,baz=79,slow=39
OSSC Osservatorio P 43.49 294 IAmb IAmb 02 47 32.6
comp=Z,19nm,1.2s
KSRS Korea Array 43.52 75 LR LR 03 07 44.7
comp=Z,83nm,19.0s,baz=145,slow=39
IBBN Ibbenburen 43.54 307 eP P 02 47 32.1 +0.7
comp=Z,8.5nm,0.8s,baz=79,slow=8.2
TNS Taunus Mts 43.55 304 eP P 02 47 32.7 +1.1
comp=Z,4.3nm,0.7s,baz=79,slow=8.2
USRK Ussuriysk Ar. 44.05 65 P P 02 47 35.1 -0.4
comp=Z,2.6nm,0.7s,baz=263,slow=10.0,SNR=4.8
USRK Ussuriysk Ar. 44.05 65 P P 02 47 36.9 +1.3
USRK Ussuriysk Ar. 44.05 65 P P 02 47 36.9 +1.3
BFO Black Forest 44.08 301 P P 02 47 35.8 0.0
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 44.08 301 P P 02 47 35.8 0.0
BFO Black Forest 44.08 301 eP P 02 47 36.4 +0.6
comp=Z,5.5nm,1.0s,baz=79,slow=8.2
BFO Black Forest 44.08 301 P P 02 47 36.4 +0.6
BFO pP sP 02 47 45.4 +1.6
AHRW Bad Neuenahr-A 44.33 305 eP P 02 47 38.9 +1.2
comp=Z,8.2nm,0.8s,baz=79,slow=8.2
CDF Champ du Feu 44.74 302 eP P 02 47 40.9 -0.3
CDF pmax pmax
comp=Z,9.0nm,0.9s
ECH Echery 44.87 302 P P 02 47 42.4 +0.3
ECH pP sP 02 47 52.6 +2.5
BTNL Ternell 44.91 305 dP P 02 47 42.3 -0.1
comp=Z,7.3nm,1.0s

MEM Membach 44.98 305 *d*P P 02 47 43.5 +0.6
comp=Z,4.8nm,0.9s
WLF Walferdange 45.12 304 *e*P P 02 47 45.6 +1.4
comp=Z,14nm,0.9s,baz=79,slow=8.2
WLF Walferdange 45.12 304 *d*P P 02 47 45.4 +1.3
comp=Z,12nm,1.0s
HINF Hinteralfeld 45.17 301 *e*P P 02 47 44.2 -0.4
HINF pmax pmax
comp=Z,16nm,1.3s
IPM Ipoh 45.24 135 P P 02 47 45.9 +0.5
IPM IAmb IAmb 02 47 52.1
comp=Z,14nm,0.8s
SENIN Lac Senin/Sane 45.30 299 IAmb IAmb 02 47 46.0
comp=Z,8.9nm,1.0s
HAU Haudompre 45.45 302 *e*P P 02 47 46.5 -0.2
HAU pmax pmax
comp=Z,12nm,1.0s
BCLA Clavier 45.46 305 *d*P P 02 47 47.2 +0.4
PSI Prapat 45.59 139 P P 02 47 49.4 +1.1
comp=Z,2.3nm,0.3s,baz=294,slow=12,SNR=4.5
PSI LR LR 03 10 25.1
comp=Z,151nm,18.3s,baz=222,slow=41
BGES Gesves 45.60 305 *d*P P 02 47 48.5 +0.6
comp=Z,4.7nm,1.1s
BMRD Maredsous 45.82 305 *d*P P 02 47 51.2 +1.6
comp=Z,5.3nm,1.1s
GIVF Givet 45.84 305 *e*P P 02 47 50.1 +0.3
GIVF pmax pmax
comp=Z,16nm,1.0s
LPG La Plagne 45.93 298 *e*P P 02 47 51.1 +0.2
LPG pmax pmax
comp=Z,6.0nm,0.7s
LPL La Plagne 45.94 298 *e*P P 02 47 51.6 +0.7
LPL pmax pmax
comp=Z,5.0nm,0.4s
CABF La Chapelle 46.02 300 *e*P P 02 47 53.3 +1.9
CABF pmax pmax
comp=Z,25nm,1.5s
BNI Bardonecchia 46.12 298 P P 02 47 53.3 +1.1
BNI pmax pmax
comp=Z,14nm,1.1s
BNI Bardonecchia 46.12 298 IAmb IAmb 02 47 54.1
comp=Z,14nm,1.0s
MBDF Montbardon 46.16 297 *e*P P 02 47 53.1 +0.5
MBDF pmax pmax
comp=Z,15nm,0.8s
BAIF Baives 46.24 305 *e*P P 02 47 53.3 +0.4
BAIF pmax pmax
comp=Z,25nm,1.1s
GSI Gunungsitoli 46.25 142 P P 02 47 58.7 +5.4
comp=Z,28nm,0.9s
FRF La Foret Royal 46.64 296 *e*P P 02 47 55.9 -0.3
FRF pmax pmax
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 46.70 298 *e*P P 02 47 57.6 +0.9
ORIF pmax pmax
comp=Z,9.0nm,1.0s
LOR Lormes 47.27 301 *e*P P 02 48 00.2 -0.9
LOR pmax pmax
comp=Z,11nm,1.1s
VIVF Saint-Julien-l 47.53 298 *e*P P 02 48 03.1 0.0
VIVF pmax pmax
comp=Z,4.0nm,1.0s
MNSI Mandailing Nat 47.65 140 P P 02 48 09.6 +5.3
comp=Z,26nm,0.7s
AVF Avril sur Loir 47.75 301 *e*P P 02 48 04.3 -0.5
AVF pmax pmax
comp=Z,18nm,1.0s
KEST Kesra 47.79 285 P P 02 48 05.1 -0.2
comp=Z,12nm,0.9s,baz=290,slow=4.7,SNR=11
KEST Kesra 47.79 285 IAmb IAmb 02 48 07.6
comp=Z,16nm,1.0s
KEST Kesra 47.79 285 P P 02 48 05.4 +0.1
SNR=7.6
CLF Chambon-Foret 48.06 303 P P 02 48 06.7 -0.4
CLF pP **sP** 02 48 14.5 -0.6
JMIC Jan Mayen 48.49 335 LR LR 03 07 43.3
comp=Z,65nm,19.7s,baz=66,slow=35
TCF Toulx Ste Croi 48.66 301 *e*P P 02 48 11.8 -0.1
TCF pmax pmax
comp=Z,20nm,1.2s
EKA Eskdalemuir Ar 49.13 313 P P 02 48 14.8 -0.5
LDF La Druitiere 49.38 304 *e*P P 02 48 16.7 -0.6
LDF pmax pmax
comp=Z,36nm,1.0s
RJF Les Rejaudoux 49.47 300 *e*P P 02 48 18.2 +0.2
RJF pmax pmax
comp=Z,13nm,1.0s
FLN La Foliniere 49.55 304 *e*P P 02 48 17.8 -0.7
FLN pmax pmax
comp=Z,39nm,1.2s
MTLF Montolieu 49.73 297 *e*P P 02 48 20.1 +0.1
MTLF pmax pmax
comp=Z,7.0nm,0.7s
GRR Gorron 49.91 304 *e*P P 02 48 20.5 -0.8
GRR pmax pmax
comp=Z,38nm,1.0s
MFF Saint Martin d 50.08 302 *e*P P 02 48 21.8 -0.8
MFF pmax pmax
comp=Z,11nm,1.0s
LFF La Frestale 50.11 299 *e*P P 02 48 23.1 +0.2
LFF pmax pmax
comp=Z,7.0nm,0.6s
DAG Danmarks Havn 50.41 343 P P 02 48 24.5 -0.2
DAG pmax pmax
comp=Z,18nm,0.8s
DAG Danmarks Havn 50.41 343 *i* P P 02 48 24.0 -0.7
SEY Seymchan 50.67 36⇓ *i*P P 02 48 27.4 +0.6
SEY pmax pmax
comp=Z,3.0nm,0.8s
MA2 Magadan 50.82 40 P P 02 48 27.7 -0.3
comp=Z,3.9nm,0.6s,baz=288,slow=9.5,SNR=4.5
MA2 LR LR 03 10 46.3
comp=Z,60nm,19.9s,baz=292,slow=37
MA2 Magadan 50.82 40⇑ *i*P P 02 48 27.8 -0.2
MA2 pmax pmax
comp=Z,14nm,1.7s
MA2 Magadan 50.82 40 P P 02 48 28.1 +0.1
MA2 IAmb IAmb 02 48 28.9
comp=Z,7.3nm,0.9s
SGMF Saint Gilles 51.02 304 *e*P P 02 48 29.2 -0.5
SGMF pmax pmax
comp=Z,15nm,0.8s
INU Inuyama 51.05 74 P P 02 48 29.8 -0.3
INU IAmb IAmb 02 48 30.4
comp=Z,12nm,0.9s
EPF Esparros 51.11 297 *e*P P 02 48 29.3 -1.2
EPF pmax pmax
comp=Z,3.0nm,0.7s
DSRI Dabo 51.30 135 P P 02 48 38.0 +5.9
MAJO Matsushiro 51.36 72⇑ *e*P P 02 48 31.6 -0.9
MAJO pmax pmax
comp=Z,33nm,3.3s
MJAR Matsushiro Arr 51.37 72 P P 02 48 30.9 -1.6
comp=Z,2.0nm,0.4s,baz=234,slow=14,SNR=5.8
ROSF Rostrenen 51.43 305 *e*P P 02 48 32.2 -0.6
ROSF pmax pmax
comp=Z,41nm,1.1s
QUIF Quistinic 51.52 304 *e*P P 02 48 32.8 -0.6
QUIF pmax pmax
comp=Z,31nm,1.0s
ETSF Etsaut 51.77 297 *e*P P 02 48 35.4 -0.1
ETSF pmax pmax
comp=Z,4.0nm,0.6s
JMBI JAMBI 51.78 137 P P 02 48 41.2 +5.5
comp=Z,77nm,0.4s
KMBO Kilima Mbogo 52.00 225 P P 02 48 36.9 -0.8
comp=Z,1.1nm,0.6s,baz=34,slow=14,SNR=3.8
KMBO Kilima Mbogo 52.00 225 *i* P P 02 48 39.7 +2.0
KMBO pmax pmax
comp=Z,2.0nm,0.8s
SJPF Ste Jean 52.13 298 *e*P P 02 48 38.1 0.0
SJPF pmax pmax
comp=Z,11nm,1.3s
MASI Maura Aman, Be 52.36 139 P P 02 48 44.8 +4.7
comp=Z,86nm,0.9s
SBUM Sibu 53.36 125 P P 02 48 47.6 +0.2
SBUM IAmb IAmb 02 48 55.5
comp=Z,5.6nm,0.8s
BILL Bilibino 54.54 27 *e*P P 02 48 56.3 +0.9
BILL *e* 02 49 03.0
BILL *e* 02 50 59.2
BILL pmax pmax
comp=Z,15nm,0.9s
BILL MLR MLR
comp=Z,103nm,16.0s

BILL Bilibino 54.54 27 P P 02 48 56.3 +0.9
BILL IAmb IAmb 02 48 57.2
comp=Z,14nm,0.9s
BILL Bilibino 54.54 27 P P 02 48 56.4 +1.0
BORG Borgarnes 54.74 328 LR LR 03 12 06.6
comp=Z,130nm,18.9s,baz=42,slow=36
MBAR Mbarara 55.26 232 LR LR 03 14 56.2
comp=Z,138nm,18.8s,baz=38,slow=39
MYLDM Lahad Datu 55.37 117 P P 02 49 03.1 +1.0
MYLDM IAmb IAmb 02 49 11.0
comp=Z,17nm,1.3s
ESBB Sonseca Array 55.48 295 IAmb IAmb 02 49 03.8
comp=Z,5.8nm,0.9s
ESDC Sonseca Array 55.48 295 P P 02 49 02.5 -0.2
comp=Z,5.3nm,0.8s,baz=58,slow=7.0,SNR=39
ESDC LR LR 03 14 09.4
comp=Z,52nm,18.2s,baz=48,slow=38
ICESG Greenland Ices 59.04 337 *i* P P 02 49 27.0 -0.7
MPSI Mapaga 59.88 120 P P 02 49 35.5 +1.6
KAPI Kappang 63.85 124 LR LR 03 20 06.3
comp=Z,60nm,19.1s,baz=298,slow=38
RES Resolute Bay 64.18 356 LR LR 03 21 51.8
comp=Z,56nm,18.2s,baz=56,slow=40
RES Resolute Bay 64.18 356 P P 02 50 02.5 +0.6
RES pmax pmax
comp=Z,7.0nm,1.4s
RES Resolute Bay 64.18 356 P P 02 50 02.5 +0.6
GAMB Gambell 64.39 26 P P 02 50 03.9 +0.5
baz=312
TOA0 Torodi Ar. Sit 65.95 267 P P 02 50 13.5 -0.9
TOA0 Torodi Ar. Sit 65.95 267 P P 02 50 13.4 -0.9
SNR=14
TORD Torodi Ar. Bea 65.95 267 P P 02 50 13.3 -0.9
comp=Z,15nm,0.6s,baz=52,slow=5.9,SNR=220
TORD Torodi Ar. Bea 65.95 267 P P 02 50 13.4 -0.9
TOLK Toolik Lake Re 66.53 15 P P 02 50 17.8 +0.5
baz=328
A36M Sachs Harbour 66.69 5 P P 02 50 18.6 +0.5
baz=347,SNR=49
COLD Coldfoot 67.60 16 IAmb IAmb 02 50 25.4
comp=Z,14nm,1.0s
COLD Coldfoot 67.60 16 P P 02 50 24.4 +0.3
baz=327
GCSA Galena City Sc 68.07 20 P P 02 50 27.4 +0.4
baz=323
H21K Melozitna Rive 68.34 18 IAmb IAmb 02 50 29.8
comp=Z,10nm,1.3s
H21K Melozitna Rive 68.34 18 P P 02 50 28.9 +0.2
baz=326,SNR=6.1
BMAR Burnt Mountain 68.53 14 P P 02 50 30.7 +0.7
I21K Tanana 68.93 18 P P 02 50 32.7 +0.4
baz=326
H23K Yukon River 68.93 17 IAmb IAmb 02 50 35.7
comp=Z,13nm,1.5s
H23K Yukon River 68.93 17 P P 02 50 33.3 +0.9
baz=328
J20K Nowinta River 69.23 19 P P 02 50 34.8 +0.5
J20K IAmb IAmb 02 50 35.8
comp=Z,7.4nm,0.9s
J20K Nowinta River 69.23 19 P P 02 50 34.7 +0.4
baz=325
H24K Noodor Dome 69.28 16 P P 02 50 35.4 +0.8
H24K Noodor Dome 69.28 16 P P 02 50 35.2 +0.6
baz=330
C36M Paulatuk 69.36 6 P P 02 50 34.9 -0.1
baz=348,SNR=50
INK Inuvik 69.43 10 P P 02 50 36.0 +0.6
comp=Z,10nm,0.5s,baz=351,slow=6.8,SNR=91
INK Inuvik 69.43 10 P P 02 50 36.0 +0.6
INK Inuvik 69.43 10 P P 02 50 36.0 +0.6
baz=340,SNR=23
KOWA Kowa 69.43 272 P P 02 50 35.5 -0.8
KOWA Kowa 69.43 272 P P 02 50 35.5 -0.8
KOWA pP **pP** 02 50 43.0 +0.6
I23K Minto, Yukon-K 69.55 17 IAmb IAmb 02 50 37.9
comp=Z,14nm,1.4s
I23K Minto, Yukon-K 69.55 17 P P 02 50 36.7 +0.5
baz=328,SNR=5.8
TTA Tatalina 69.76 21 P P 02 50 38.4 +0.7
baz=324
K20K Telida 69.93 20 IAmb IAmb 02 50 39.6
comp=Z,7.9nm,1.1s
K20K Telida 69.93 20 P P 02 50 39.3 +0.6
baz=325
POKR Poker Plat Res 69.99 16 IAmb IAmb 02 50 40.7
comp=Z,8.6nm,0.8s
POKR Poker Plat Res 69.99 16 P P 02 50 39.7 +0.7
baz=330
BPAW Bear Paw Mtn. 70.07 18 IAmb IAmb 02 50 40.3
comp=Z,8.2nm,1.1s
BPAW Bear Paw Mtn. 70.07 18 P P 02 50 39.4 -0.1
baz=328,SNR=6.3
NEA2 Nenana 70.09 17 IAmb IAmb 02 50 40.6
comp=Z,9.8nm,1.0s
NEA2 Nenana 70.09 17 P P 02 50 40.0 +0.4
baz=329
TCOL CIGO, UAF Yank 70.11 17 *c i*P P 02 50 39.8 +0.1
comp=Z,13nm,0.9s
COLA College 70.11 17 *c i*P P 02 50 39.8 +0.1
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 70.11 17 P P 02 50 40.0 +0.4
COLA College 70.11 17 P P 02 50 40.3 +0.6
baz=330
CAST Castle Rocks 70.38 19 P P 02 50 41.5 +0.1
baz=327
ILAR Eielson Array 70.41 16 P P 02 50 41.0 -0.5
comp=Z,3.5nm,0.8s,baz=326,slow=5.2,SNR=37
L19K White Mountain 70.69 21 IAmb IAmb 02 50 45.5
comp=Z,9.2nm,1.3s
L19K White Mountain 70.69 21 P P 02 50 44.0 +0.7
baz=325
L20K Farewell, AK 70.70 20 P P 02 50 44.0 +0.6
baz=326
PPLA Purkeypile 70.79 19 P P 02 50 44.0 -0.1
baz=327
EPYK Eagle Plains 70.81 11 P P 02 50 43.8 -0.2
baz=338
MCK McKinley 70.86 18 P P 02 50 44.4 +0.1
baz=329
J25K Salcha River, 70.86 16 P P 02 50 44.2 -0.2
baz=332
J26L Joseph Creek 71.33 15 P P 02 50 47.4 +0.1
baz=333,SNR=6.5
I29M Ogilvie Camp, 71.49 13 IAmb IAmb 02 50 49.0
comp=Z,9.2nm,0.8s
I29M Ogilvie Camp, 71.49 13 P P 02 50 48.1 0.0
baz=337,SNR=11
K24K Donnelly Dome 71.50 16 P P 02 50 47.8 -0.4
baz=332
EGAK Eagle 71.53 14 P P 02 50 48.7 +0.4
baz=335
SCRK Sand Creek 71.71 15 IAmb IAmb 02 50 50.7
comp=Z,8.7nm,1.1s
SCRK Sand Creek 71.71 15 P P 02 50 49.8 +0.2
baz=333,SNR=8.6
RIDG Independent Ri 71.75 16 P P 02 50 49.4 -0.4
baz=332
DHY Denali Highway 71.78 17 IAmb IAmb 02 50 51.4
comp=Z,5.7nm,0.8s
DHY Denali Highway 71.78 17 P P 02 50 49.9 -0.2
baz=330,SNR=5.6
WAT6 Susitna Watana 72.13 18 P P 02 50 51.8 -0.3
baz=330
M22K Willow 72.28 19 P P 02 50 52.4 -0.4
baz=329
PAX Paxson 72.30 17 IAmb IAmb 02 50 53.3
comp=Z,5.6nm,0.7s
PAX Paxson 72.30 17 P P 02 50 52.8 -0.3
baz=332,SNR=7.3
J29M Klondike Camp 72.35 13 P P 02 50 54.1 +0.7
baz=337
O18K Koktuh Hills 72.50 22 P P 02 50 55.2 +1.0
baz=325
DAWY Dawson 72.50 14 P P 02 50 54.2 0.0
DAWY IAmb IAmb 02 50 55.3
comp=Z,6.7nm,0.9s
DAWY Dawson 72.50 14 P P 02 50 54.3 0.0
baz=336,SNR=6.8
SML Sawmill 72.67 18 IAmb IAmb 02 50 55.9
comp=Z,12nm,1.0s
SML Sawmill 72.67 18 P P 02 50 55.3 0.0
baz=330
L26K Log Cabin Wild 72.69 16 P P 02 50 55.8 +0.4
baz=334
M23K Glacier View 72.82 18 P P 02 50 56.0 -0.2
baz=330

HARP HAARP 72.87 17 P P 02 50 57.3 +0.9
baz=332,SNR=5.5
SCM Sheep Creek Mo 72.88 18 P P 02 50 56.5 0.0
baz=331
M24K Tolsona, Glenn 72.90 17 P P 02 50 57.5 +0.8
baz=332
L27K Beaver Creek, 72.97 15 P P 02 50 57.7 +0.7
baz=335
KNK Knik Glacier 72.98 19 P P 02 50 57.8 +0.8
baz=330
M26K Nabesna, AK 73.33 16 P P 02 50 59.7 +0.6
baz=334
KLU Klutina 73.50 18 P P 02 51 00.6 +0.4
baz=332
M27K Edge Creek, AK 73.59 15 IAmb IAmb 02 51 02.7
comp=Z,11nm,1.1s
M27K Edge Creek, AK 73.59 15 P P 02 51 00.8 0.0
baz=335
M30M Minto, Yukon 74.33 13 P P 02 51 04.9 -0.1
baz=339
YUK3 Moose Creek 74.40 15 P P 02 51 06.2 +0.5
baz=336
DBIC Dimbokro 75.03 266 P P 02 51 09.2 -0.5
comp=Z,10.0nm,0.8s,baz=44,slow=6.9,SNR=12
M31M Drury Creek, Y 75.08 12 P P 02 51 09.8 +0.5
M31M IAmb IAmb 02 51 10.8
comp=Z,7.4nm,0.8s
M31M Drury Creek, Y 75.08 12 P P 02 51 10.1 +0.8
baz=340,SNR=7.4
MMPY Sheldon Lake, 75.14 10 P P 02 51 10.8 +1.1
baz=343
KIC Kosan Boka 75.15 265 *e*P P 02 51 09.7 -0.7
comp=Z,26nm,0.6s
YUK4 Talbot Arm 75.15 14 P P 02 51 10.4 +0.4
baz=337
TIC Toumodi 75.17 266 *e*P P 02 51 09.7 -0.9
FARO Faro, Yukon 75.21 12 P P 02 51 10.6 +0.4
baz=341
OHAK Old Harbor 75.25 23 P P 02 51 10.8 +0.5
baz=327
WRGLY Wrigley 75.43 7 P P 02 51 12.2 +1.0
baz=349,SNR=10
LIC Lamto 75.45 266 *e*P P 02 51 11.6 -0.6
comp=Z,19nm,0.8s
N31M Braeburn, Yuko 75.53 13 IAmb IAmb 02 51 13.4
comp=Z,8.9nm,1.0s
N31M Braeburn, Yuko 75.53 13 P P 02 51 12.0 +0.1
baz=339
HYT Haines Junctio 75.84 14 IAmb IAmb 02 51 15.7
comp=Z,7.1nm,0.8s
HYT Haines Junctio 75.84 14 P P 02 51 14.7 +0.9
baz=338
WHY Whitehorse 76.45 13 P P 02 51 17.2 -0.2
baz=340
TGTN Hyland Airport 76.59 9 P P 02 51 19.3 +1.3
baz=345
YKA Yellowknife Ar 76.72 3 P P 02 51 18.7 +0.1
comp=Z,20nm,0.7s,baz=352,slow=5.9,SNR=431
YKA LR LR 03 29 38.4
comp=Z,50nm,18.3s,baz=356,slow=39
YKA Yellowknife Ar 76.72 3 *i* P P 02 51 18.7 +0.1
YKA pmax pmax
comp=Z,21nm,0.7s
SCHQ Schefferville 77.95 337 P P 02 51 25.5 -0.2
comp=Z,3.1nm,0.7s,baz=24,slow=7.3,SNR=8.7
SCHQ LR LR 03 25 28.8
comp=Z,75nm,18.3s,baz=86,slow=35
SCHQ Schefferville 77.95 337 IAmb IAmb 02 51 38.6
comp=Z,20nm,1.4s
DLBC Dease Lake 79.34 11 LR LR 03 32 22.6
comp=Z,40nm,19.6s,baz=192,slow=40
FCC Fort Churchill 79.80 352 P P 02 51 36.2 +0.5
FCC pmax pmax
comp=Z,10.0nm,0.8s
FCC Fort Churchill 79.80 352 P P 02 51 36.2 +0.5
FCC IAmb IAmb 02 51 36.9
comp=Z,9.6nm,0.8s
BOSA Boshof 81.26 220 P P 02 51 42.9 -1.1
comp=Z,1.6nm,0.7s,baz=360,slow=2.5,SNR=5.5
BOSA Boshof 81.26 220 IAmb IAmb 02 52 02.7
comp=Z,19nm,1.5s
WRA Warramunga Arr 84.36 122 P P 02 51 59.1 -1.0
comp=Z,1.2nm,0.4s,baz=333,slow=4.5,SNR=23
WRA Warramunga Arr 84.36 122 *i* P P 02 52 00.5 +0.3
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRAB Tennant Creek 84.36 122⇓ *i*P P 02 51 59.4 -0.8
WRAB pmax pmax
comp=Z,5.0nm,0.8s
FFC Flin Flon 84.42 356 P P 02 52 00.2 +0.1
FFC pmax pmax
comp=Z,13nm,0.8s
FFC Flin Flon 84.42 356 P P 02 52 00.2 +0.1
AS31 Alice Springs 86.81 125 P P 02 52 11.4 -1.0
ASAR Alice Springs 86.82 125 P P 02 52 11.4 -0.9
comp=Z,47nm,0.8s,baz=321,slow=5.3,SNR=50
ULM Lac du Bonnet 88.37 352 P P 02 52 18.5 -1.1
comp=Z,3.4nm,0.8s,baz=4.0,slow=9.1,SNR=3.1
ULM LR LR 03 34 17.1
comp=Z,62nm,18.9s,baz=308,slow=37
ULM Lac du Bonnet 88.37 352⇑ *e*P P 02 52 18.8 -0.7
ULM Lac du Bonnet 88.37 352 IAmb IAmb 02 52 20.9
comp=Z,10.0nm,1.3s
FORT Forrest 88.76 134 P P 02 52 20.5 -1.0
EYMN Ely 90.06 348 P P 02 52 27.7 +0.2
baz=13
WALA Waterton Lakes 90.18 3 P P 02 52 28.6 +0.4
WALA IAmb IAmb 02 52 29.2
comp=Z,7.7nm,0.9s
AGMN Agassiz Nation 90.30 351 IAmb IAmb 02 52 29.4
comp=Z,5.1nm,0.8s
AGMN Agassiz Nation 90.30 351 P P 02 52 28.4 -0.2
baz=9.9
B05A Bryant 90.32 9 P P 02 52 29.3 +0.6
baz=350
SADO Sadowa 90.49 339 LR LR 03 33 25.2
comp=Z,65nm,20.0s,baz=13,slow=36
DGMT Dagmar 90.78 357 P P 02 52 32.0 +1.1
baz=3.6
NEW Newport 90.78 5 P P 02 52 31.6 +0.6
baz=354
EGMT Eagleton 91.32 1 IAmb IAmb 02 52 35.5
comp=Z,5.4nm,0.9s
EGMT Eagleton 91.32 1 P P 02 52 34.3 +0.8
baz=359
JTMT Jette 91.47 4 IAmb IAmb 02 52 35.9
comp=Z,5.9nm,1.1s
HRY Holter Researc 92.60 2 P P 02 52 39.5 0.0
BOZ Bozeman (W) 93.72 2 IAmb IAmb 02 52 46.2
comp=Z,4.8nm,0.9s
BOZ Bozeman (W) 93.72 2 P P 02 52 45.3 +0.6
baz=358
QLMT Earthquake Lak 94.49 2 P P 02 52 48.2 -0.1
YHH Holmes Hill 94.54 1 IAmb IAmb 02 52 50.3
comp=Z,2.3nm,0.9s
I04A Tendick Farm, 94.68 10 P P 02 52 49.3 +0.3
baz=350
JFWS Jewell Farm 94.74 346 P P 02 52 49.1 -0.1
baz=14
ECSD EROS Data Cent 94.89 351 P P 02 52 50.1 +0.2
baz=9.4
H17A Grant Village 94.94 1 IAmb IAmb 02 52 54.7
comp=Z,4.0nm,0.9s
H17A Grant Village 94.94 1 P P 02 52 52.6 +2.2
baz=359
RSSD Black Hills 95.11 356 P P 02 52 51.6 +0.4
baz=3.8
MFID Camas Ranch 95.70 5 IAmb IAmb 02 52 56.0
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 96.58 0 P P 02 52 58.1 +0.2
comp=Z,1.2nm,0.8s,baz=46,slow=3.2,SNR=11
PDAR LR LR 03 38 40.2
comp=Z,29nm,21.9s,baz=337,slow=37
ELK Elko 98.40 5 LR LR 03 42 07.0
comp=Z,35nm,18.8s,baz=43,slow=38
O20A White River Ci 99.21 359 P **Pdif** 02 53 10.6 +0.8
baz=0.6
CPUP Villa Florida 135.25 273 PKP **PKPdf** 02 58 46.7 -0.9
comp=Z,3.0nm,0.7s,baz=187,slow=1.9,SNR=7.2
LPAZ La Paz 137.07 293 PKP **PKPdf** 02 58 51.4 -0.6
comp=Z,2.2nm,0.9s,baz=315,slow=1.5,SNR=7.3
AC02 Maricunga 144.38 281 PKPdf PKPbc 02 59 03.9 +0.6
ZON Zonda 146.45 273 PKP2 **PKPdf** 02 59 08.0 +0.4
ZON Zonda 146.45 273 PKPbc **PKPdf** 02 59 08.0 +0.4
CO01 Juntas del Tor 146.76 277 PKPbc **PKPdf** 02 59 08.9 +0.5
CO02 Combarbal 148.04 276 PKPbc **PKPdf** 02 59 11.4 +1.1
VA03 San Esteban 148.42 273 PKPbc **PKPbc** 02 59 13.1 -1.3

BO02	**Sierra Bellavi**	**149.44**	**269**	PKPbc	**PKPbc**	02 59 15.0	**-1.9**
PLCA	**Paso Flores**	**151.13**	**258**	PKPbc	**PKPbc**	02 59 20.8	**0.0**
	comp=Z,12nn,0.9s,baz=56,slow=1.5,SNR=22						

IDC 16 02:40:54.4±2.5, 20°61'S×179°95'E, h0km, mb4.0/5, mb1 4.4/5, mb1mx3.9/31, mbtmp4.0/5, MS3.4/1, Ms1 3.4/1, ms1mx2.6/63, Error ellipse: s-maj=173.5km s-min=25.9km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**33.50**	**284**	LR	LR	02 58 07.1	
	comp=Z,61nn,18.8s,baz=0.5,slow=31						
ASAR	**Alice Springs**	**42.62**	**257**	P	P	02 48 51.7	-1.2
	3.6nn,0.8s,baz=96,slow=7.9,SNR=28						
WRA	**Warramunga Arr**	**42.68**	**263**	P	P	02 48 54.0	+0.6
	4.8nn,0.6s,baz=102,slow=8.4,SNR=65						
NVAR	**Mina Array Bea**	**82.43**	**44**	P	P	02 53 17.3	-1.7
	0.3nn,0.6s,baz=1.5,slow=3.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**88.34**	**290**	P	P	02 53 48.8	+0.1
	0.4nn,0.5s,baz=86,slow=1.7,SNR=5.0						
TXAR	**Lajitas Array**	**88.74**	**58**	P	P	02 53 51.5	+1.1
	0.5nn,0.7s,baz=214,slow=6.2,SNR=7.3						
BRTR	**Keskin Array B**	**145.47**	**311**	PKPbc	PKPbc	03 00 34.7	-0.2
	0.9nn,0.6s,baz=96,slow=3.3,SNR=6.5						

*ISK **16** 02:51:39.9, 34°.71N×24°.98E, h13km, ML3.0/16*
*ATH **16** 02:51:41.4, 34°.74N×24°.92E, h23km±6km, ML3.0/11, Error ellipse: s-maj=7.2km s-min=1.4km az=349.0*
*THE **16** 02:51:41.7, 34°.76N×24°.91E, h12km±1km, ML2.7/11, Error ellipse: s-maj=1.5km s-min=0.5km az=347.0*
*GII **16** 02:51:47.0±0.0, 34°.11N×25°.56E, h10km, Mm3.1/1*

ISC 16 02:51:37.3±1.7, 34°52N±0°.07×24°90E±0°.03, h9km±10km, n50, σ1s65/74, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.50**	**351**	P	**Pg**	**02 51 47.5**	**+0.5**
SIVA				S	**Sg**	**02 51 52.2**	**-1.4**
SIVA				AML	AML	02 51 54.6	
	comp=E,15117µm,0.3s						
SIVA				AML	AML	02 51 57.0	
	comp=N,7341µm,0.2s						
SIVA	**Sivas**	**0.50**	**351**	P	**Pg**	**02 51 47.5**	**+0.5**
SIVA				S	**Sg**	**02 51 52.2**	**-1.4**
	comp=N,6µm,0.4s						
TMBK	**Timbaki Herakl**	**0.56**	**348**	P	**Pg**	**02 51 48.8**	**+0.7**
TMBK				S	**Sg**	**02 51 55.0**	**-0.6**
TMBK				AML	AML	02 51 56.0	
	comp=N,8057µm,0.2s						
TMBK				AML	AML	02 51 56.6	
	comp=E,8938µm,0.4s						
TMBK	**Timbaki Herakl**	**0.56**	**348**	P	**Pg**	**02 51 48.9**	**+0.7**
TMBK				S	**Sg**	**02 51 54.5**	**-1.0**
	comp=E,1µm,0.3s						
GVD	**Gavdhos**	**0.74**	**295**	P	**Pn**	**02 51 54.5**	**+0.6**
GVD				AML	AML	02 52 10.4	
	comp=N,4091µm,0.5s						
GVD				AML	AML	02 52 13.1	
	comp=E,4183µm,0.5s						
GVD	**Gavdhos**	**0.74**	**295**	P	**Pn**	**02 51 54.5**	**+0.6**
GVD				S	**Sn**	**02 52 05.2**	**-0.2**
	comp=E,2µm,0.5s						
GVD	**Gavdhos**	**0.74**	**295**	PG	**Pn**	**02 51 55.1**	**+1.1**
GVD				SG	**Sn**	**02 52 05.9**	**+0.5**
GVDS	**Gavdos**	**0.74**	**296**	P	**Pn**	**02 51 55.0**	**+1.0**
GVDS				S	**Sn**	**02 52 06.0**	**+0.6**
	comp=E,1µm,0.4s						
IDI	**Anoyia**	**0.76**	**359**	P	**Pg**	**02 51 51.5**	**-0.5**
IDI				S	**Sg**	**02 51 59.3**	**-2.7**
IDI				AML	AML	02 52 01.4	
	comp=N,1792µm,0.3s						
IDI				AML	AML	02 52 04.5	
	comp=E,1719µm,0.7s						
IDI	**Anoyia**	**0.76**	**359**	P	**Pg**	**02 51 51.5**	**-0.5**
IDI				S	**Sg**	**02 51 59.7**	**-2.3**
	comp=E,882nm,0.5s						
IDI	**Anoyia**	**0.76**	**359**	PG	**Pg**	**02 51 51.8**	**-0.2**
IDI				SG	**Sg**	**02 52 00.5**	**-1.5**
KSTL	**Kastelli Herak**	**0.79**	**10**	P	**Pg**	**02 51 52.6**	**0.0**
KSTL				S	**Sg**	**02 52 01.1**	**-1.8**
KSTL				AML	AML	02 52 03.1	
	comp=N,7046µm,0.5s						
KSTL				AML	AML	02 52 04.4	
	comp=E,2184µm,0.4s						
KSTL	**Kastelli Herak**	**0.79**	**10**	P	**Pg**	**02 51 52.6**	**0.0**
KSTL				S	**Sg**	**02 52 01.1**	**-1.8**
	comp=E,782nm,0.4s						
HRKL	**Herakleio**	**0.80**	**12**	P	**Pg**	**02 51 53.0**	**+0.2**
HRKL				AML	AML	02 52 08.7	
	comp=N,15054µm,0.5s						
HRKL				AML	AML	02 52 10.9	
	comp=E,22950µm,0.6s						
HRKL	**Herakleio**	**0.80**	**12**	P	**Pg**	**02 51 53.0**	**+0.2**
HRKL				S	**Sg**	**02 52 01.2**	**-2.1**
	comp=E,3µm,0.5s						
HRKL	**Herakleio**	**0.80**	**12**	PG	**Pg**	**02 51 52.3**	**-0.5**
HRKL				SG	**Sg**	**02 52 01.2**	**-2.1**
FRMA	**Ierapetra Chan**	**0.84**	**54**	P	**Pn**	**02 51 56.7**	**+1.4**
FRMA				AML	AML	02 52 12.8	
	comp=N,1823µm,0.6s						
FRMA				AML	AML	02 52 15.8	
	comp=E,1878µm,0.5s						
FRMA	**Ierapetra Chan**	**0.84**	**54**	P	**Pn**	**02 51 56.7**	**+1.4**
FRMA				S	**Sn**	**02 52 09.8**	**+2.0**
	comp=E,315nm,0.6s						
IMMV	**Iera Moni Meta**	**1.20**	**321**	P	**Pg**	**02 52 00.5**	**+0.1**
IMMV				AML	AML	02 52 17.0	
	comp=N,1141µm,0.5s						
IMMV				AML	AML	02 52 21.7	
	comp=E,1417µm,0.6s						
IMMV	**Iera Moni Meta**	**1.20**	**321**	P	**Pg**	**02 52 00.5**	**+0.1**
IMMV				S	**Sg**	**02 52 15.6**	**-0.5**
	comp=E,640nm,0.6s						
IMMV	**Iera Moni Meta**	**1.20**	**321**	PN	**Pn**	**02 52 01.5**	**+1.2**
IMMV				SN	**Sb**	**02 52 16.8**	**+0.9**
CHAN	**Chania**	**1.22**	**325**	P	**Pg**	**02 52 00.4**	**-0.3**
CHAN				AML	AML	02 52 19.8	
	comp=N,941µm,0.7s						
CHAN				AML	AML	02 52 22.0	
	comp=E,1198µm,0.7s						
KNDR	**Palaiochora Ch**	**1.23**	**306**	P	**Pn**	**02 52 02.3**	**+1.7**
KNDR				AML	AML	02 52 30.7	
	comp=E,830µm,0.6s						
KNDR				AML	AML	02 52 33.0	
	comp=N,1037µm,0.7s						
KNDR	**Palaiochora Ch**	**1.23**	**306**	P	**Pn**	**02 52 02.3**	**+1.7**
KNDR				S	**Sn**	**02 52 17.9**	**+0.6**
	comp=N,158nm,0.6s						
KNDR	**Palaiochora Ch**	**1.23**	**306**	PN	**Pn**	**02 52 02.7**	**+2.1**
KNDR				SN	**Sn**	**02 52 20.6**	**+3.3**
ZKR	**Zakros**	**1.23**	**61**	P	**Pg**	**02 52 02.0**	**+1.1**
ZKR				AML	AML	02 52 25.4	
	comp=E,766µm,0.5s						
ZKR				AML	AML	02 52 25.5	
	comp=N,365µm,0.4s						
ZKR	**Zakros**	**1.23**	**61**	P	**Pg**	**02 52 02.0**	**+1.1**
ZKR				S	**Sg**	**02 52 18.3**	**+1.4**
	comp=N,285nm,0.4s						
ZKR	**Zakros**	**1.23**	**61**	PN	**Pg**	**02 52 01.4**	**+0.5**
ZKR				SN	**Sg**	**02 52 16.8**	**-0.1**
RODP	**Rodopos**	**1.40**	**318**	PN	**Pb**	**02 52 04.1**	**+0.5**
RODP				SN	**Sn**	**02 52 22.6**	**+1.0**
KARP	**Karpathos**	**2.12**	**60**	P	**Pn**	**02 52 15.9**	**+3.0**
KARP	**Karpathos**	**2.12**	**60**	PN	**Pn**	**02 52 14.1**	**+1.2**
KOSK	**Kos Island**	**2.79**	**97**	PN	**Pn**	**02 52 23.1**	**+1.0**
DAT	**Datca**	**3.10**	**44**	PN	**Pn**	**02 52 27.8**	**+1.4**
TURN	**Turunc**	**3.53**	**49**	PN	**Pn**	**02 52 33.9**	**+1.6**
YER	**Yerkesik**	**3.79**	**46**	PN	**Pn**	**02 52 37.5**	**+1.6**
DALY	**Dalyan (Mula)**	**3.82**	**52**	PN	**Pn**	**02 52 37.9**	**+1.7**
CHOS	**Chios island**	**3.97**	**13**	PN	**Pn**	**02 52 39.7**	**+1.3**
FETY	**Fethiye**	**4.01**	**57**	PN	**Pn**	**02 52 40.5**	**+1.6**
AKAS	**Kas**	**4.20**	**65**	PN	**Pn**	**02 52 43.9**	**+2.2**
CAME	**Cameli-Denizli**	**4.32**	**55**	PN	**Pn**	**02 52 45.0**	**+1.8**
ELL	**Elmali**	**4.64**	**60**	PN	**Pn**	**02 52 50.0**	**+2.3**
KZIT	**Kziot**	**8.77**	**112**	Pn	**Pn**	**02 53 44.3**	**0.0**
KZIT				Sn	Sn	02 55 16.6	-6.7
SLTI	**Sal'it**	**8.78**	**102**	Pn	**Pn**	**02 53 46.1**	**+1.7**
AMAZ	**Amatzia**	**8.92**	**107**	Pn	**Pn**	**02 53 47.0**	**+0.7**
DSI	**Dead Sea**	**9.27**	**106**	Pn	**Pn**	**02 53 52.9**	**+1.7**
KRMI	**Paran Flat**	**9.40**	**115**	Pn	**Pn**	**02 53 53.8**	**+0.9**
KRMI				Sn	Sn	02 55 31.9	-6.8
PRNI	**Paran**	**9.49**	**113**	Pn	**Pn**	**02 53 55.1**	**+0.9**
PRNI				Sn	Sn	02 55 34.8	-6.3
GHAJ	**Ghor Haditha**	**9.52**	**107**	Pn	**Pn**	**02 53 55.7**	**+1.2**
GHAJ				Sn	**Sn**	**02 55 36.0**	**-5.6**
HRFI	**Mount Harif**	**9.67**	**115**	Pn	**Pn**	**02 53 57.3**	**+0.6**
HRFI				Sn	**Sn**	**02 55 40.1**	**-5.4**
MBRI	**Mt Berech**	**9.70**	**116**	Pn	**Pn**	**02 53 58.0**	**+0.8**
MBRI				Sn	Sn	02 55 40.4	-6.0

*NORS **16** 02:54:43.4±0.0, 42°.92N×45°.73E, h13km, MPVA3.5*
*MOS **16** 02:54:43.1±0.0, 42°.92N×45°.77E, h12km, MPVA3.4*
*DRS **16** 02:54:45.5±0.0, 43°.04N×45°.60E, h20km*
*TIF **16** 02:54:45.2, 42°.93N×45°.70E, h26km±3km*

ISC 16 02:54:44.9±1.0, 42°94N±0°.03×45°77E±0°.02, h19km±2km, n35, σ0s84/70, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.26**	**86**	*i* Pg	**Pb**	**02 54 50.8**	**-0.2**
DVE				*e*Sg	**Sg**	**02 54 56.5**	**+1.4**
GROC	**Groznyy**	**0.27**	**4**	*i* Pg	**Pb**	**02 54 50.8**	**-0.3**
GROC				*i* Sg	**Sg**	**02 54 56.2**	**+1.1**
BTLR	**Botlikh**	**0.43**	**129**	*i* Pg	**Pg**	**02 54 53.2**	**-0.7**
BTLR				*i* Sg	**Sb**	**02 55 01.1**	**+0.9**
DLMR	**Dylym**	**0.64**	**78**	*e*Pg	**Pb**	**02 54 57.2**	**-0.4**
DLMR				*e*Sg	**Sn**	**02 55 07.4**	**-1.5**
DBC	**Dubki**	**0.78**	**84**	*e*Pg	**Pg**	**02 55 00.1**	**-0.2**
DBC				*e*Sg	**Sn**	**02 55 12.1**	**-0.3**
UNCR	**Uncukul**	**0.79**	**106**	*e*Pg	**Pg**	**02 55 00.4**	**+0.1**
UNCR				*e*Sg	**Sn**	**02 55 11.7**	**-0.6**
XNZR	**Khunzakh**	**0.79**	**120**	*e*Pg	**Pb**	**02 54 59.9**	**-0.4**
XNZR				*e*Sg	**Sn**	**02 55 12.5**	**-0.2**
VLKR	**Vladikavkaz**	**0.81**	**278**	*e*Pg	**Pg**	**02 55 00.7**	**-0.1**
VLKR				*e*Sg	**Sn**	**02 55 13.0**	**-0.8**
KRNR	**Karanay**	**0.84**	**97**	*e*Pg	**Pg**	**02 55 01.3**	**-0.2**
KRNR				*e*Sg	**Sg**	**02 55 12.9**	**+0.3**
PNSH	**Pansheti**	**0.90**	**251**	P	**Pb**	**02 55 01.5**	**-0.6**
PNSH				S	**Sb**	**02 55 12.8**	**-1.0**
MTEO	**Meteo**	**0.95**	**255**	P	**Pb**	**02 55 02.3**	**-0.7**
MTEO				S	**Sb**	**02 55 15.5**	**+0.2**
ARKR	**Arakani**	**0.96**	**110**	*e*Pg	**Pn**	**02 55 03.4**	**-0.1**
ARKR				*e*Sg	**Sn**	**02 55 17.0**	**+0.3**
BUJR	**Buynaksk**	**0.99**	**96**	*e*Pg	**Pn**	**02 55 03.8**	**-0.1**
BUJR				*e*Sg	**Sn**	**02 55 17.5**	**+0.2**
BTKR	**Batakoyurt**	**1.00**	**296**	*e*Pg	**Pg**	**02 55 04.3**	**0.0**
BTKR				*e*Sg	**Sn**	**02 55 19.3**	**+1.7**
GNBR	**Gunib**	**1.04**	**121**	*i* Pg	**Pb**	**02 55 04.4**	**0.0**
GNBR				*e*Sg	**Sg**	**02 55 19.7**	**+1.0**
GUDG	**Gudauri**	**1.06**	**244**	P	**Pb**	**02 55 04.9**	**0.0**
GUDG				S	**Sn**	**02 55 19.4**	**-0.1**
LACR	**Lac**	**1.09**	**265**	*e*Pg	**Pb**	**02 55 04.5**	**-0.8**
LACR				*e*Sg	**Sg**	**02 55 21.0**	**+0.6**
ARNR	**Ardon**	**1.12**	**283**	*e*Pg	**Pn**	**02 55 05.2**	**-0.5**
ARNR				*e*Sg	**Sg**	**02 55 22.1**	**+0.9**
LGD	**Lagodekhi**	**1.16**	**162**	P	**Pg**	**02 55 07.2**	**-0.2**
LGD				S	**Sg**	**02 55 22.7**	**+0.2**
KORR	**Kora**	**1.26**	**277**	*e*Pg	**Pb**	**02 55 08.2**	**+0.1**
KORR				*e*Sg	**Sg**	**02 55 25.9**	**+0.2**
KMKR	**Kumukh**	**1.27**	**129**	*e*Pg	**Pg**	**02 55 09.2**	**-0.3**
KMKR				*e*Sg	**Sg**	**02 55 27.1**	**+1.0**
MAK	**Makhachkala**	**1.27**	**88**	*e*Pg	**Pg**	**02 55 08.8**	**-0.7**
MAK				*e*Sg	**Sg**	**02 55 27.1**	**+0.9**
KANR	**Karaman**	**1.29**	**78**	*e*Pg	**Pb**	**02 55 08.6**	**+0.1**
KANR				*e*Sg	**Sg**	**02 55 28.8**	**+0.2**
STDR	**Stavd-Durt**	**1.32**	**290**	*e*Pg	**Pb**	**02 55 09.0**	**-0.1**
STDR				*e*Sg	**Sg**	**02 55 28.5**	**+0.8**
PRTR	**Priterechnaya**	**1.36**	**307**	*e*Pg	**Pb**	**02 55 09.7**	**0.0**
PRTR				*i* Sg	**Sg**	**02 55 28.8**	**-0.1**
LSNR	**Lesken**	**1.46**	**284**	*e*Pg	**Pb**	**02 55 11.1**	**-0.5**
LSNR				*i* Sg	**Sg**	**02 55 31.9**	**-0.4**
SGKR	**Sergokala**	**1.47**	**108**	*e*Pg	**Pb**	**02 55 11.1**	**-0.6**
SGKR				*e*Sg	**Sg**	**02 55 31.6**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.61**	**269**	*e*Pg	**Pn**	**02 55 13.2**	**+0.6**
DIGR				*e*Sg	**Sb**	**02 55 35.3**	**+1.1**
NCK	**Nalchik**	**1.69**	**290**	*e*Pg	**Pn**	**02 55 12.3**	**-1.2**
NCK				*i* Sg	**Sn**	**02 55 34.6**	**+0.1**
DMNI	**Dmanisi**	**1.99**	**217**	P	**Pb**	**02 55 19.5**	**-1.2**
DMNI				S	**Sb**	**02 55 46.6**	**+1.5**
KBZ	**Khabaz**	**2.24**	**292**	*e*Pg	**Pb**	**02 55 22.9**	**-1.9**
KBZ				*e*Sg	**Sb**	**02 55 51.4**	**-0.7**
NEY	**Neytrino**	**2.25**	**279**	*e*Pn	**Pn**	**02 55 21.8**	**+0.3**
NEY				*i* Sn	**Sn**	**02 55 50.4**	**+1.6**
SHA1	**Shidzhatmaz**	**2.41**	**290**	*e*Pn	**Pn**	**02 55 23.6**	**0.0**
SHA1				*e*Sn	**Sb**	**02 55 55.0**	**-2.2**
KIV	**Kislovodsk**	**2.47**	**295**	*e*Pn	**Pb**	**02 55 29.9**	**+1.2**
KIV				*i* Sn	**Sb**	**02 56 00.7**	**+2.0**
ALER	**Alexandrovskoy**	**2.76**	**312**	*e*Pn	**Pg**	**02 55 37.8**	**0.0**
ALER				*e*Sn	**Sg**	**02 56 11.8**	**-1.8**

*IDC **16** 03:08:30.1±2.5, 18°.16S×178°.14W, h612km±24km, mb3.0/8, mb1 3.3/9, mb1mx3.1/27, mbtmp3.9/9, Error ellipse: s-maj=78.8km s-min=16.7km az=148.0*

ISC 16 03:08:28.7±1.3, 18°3S±0°.5×178°0W±0°.3, h600km, n9, σ0s96/11, mb3.3/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.81**	**278**	P	**P**	**03 09 54.0**	**+1.0**
	2.1nn,0.3s,baz=122,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**38.79**	**242**	P	**P**	**03 15 03.7**	**+0.1**
	3.6nn,0.7s,baz=76,slow=9.1,SNR=7.4						
WRA	**Warramunga Arr**	**44.95**	**260**	P	**P**	**03 15 51.9**	**-0.2**
	3.6nn,0.6s,baz=98,slow=6.9,SNR=79						
WRA				PcP	**PcP**	**03 17 19.5**	**-0.7**
	0.7nn,1.1s,baz=93,slow=3.4,SNR=2.8						
ASAR	**Alice Springs**	**45.07**	**255**	P	**P**	**03 15 52.8**	**-0.1**
	6.6nn,0.8s,baz=89,slow=7.8,SNR=90						
ASAR				PcP	**PcP**	**03 17 19.6**	**-1.0**
	0.2nn,0.6s,baz=100,slow=3.9,SNR=1.8						
NVAR	**Mina Array Bea**	**79.43**	**44**	P	**P**	**03 19 35.2**	**+1.0**
	0.4nn,0.6s,baz=234,slow=8.5,SNR=3.3						
TXAR	**Lajitas Array**	**85.87**	**57**	P	**P**	**03 20 07.2**	**+0.7**
	0.5nn,0.7s,baz=219,slow=6.3,SNR=7.4						
ILAR	**Eielson Array**	**86.18**	**13**	P	**P**	**03 20 07.2**	**+0.2**
	0.2nn,0.4s,baz=227,slow=5.0,SNR=13						
PDAR	**Pinedale Array**	**87.36**	**43**	P	**P**	**03 20 13.7**	**+0.3**
	0.2nn,0.5s,baz=232,slow=8.9,SNR=1.8						
YKA	**Yellowknife Ar**	**94.52**	**25**	P	**P**	**03 20 43.7**	**-1.8**
	0.1nn,0.6s,baz=246,slow=4.2,SNR=1.9						

*ISK **16** 03:16:09.7, 34°.34N×32°.77E, h5km, ML2.7/9*
*DDA **16** 03:16:13.5±0.0, 34°.42N×32°.62E, h4km±1km, ML1.9*
*NIC **16** 03:16:15.6±0.0, 34°.42N×33°.03E, h10km±5.4km, Ml2.5/6*
*GII **16** 03:16:16.2±0.0, 34°.40N×33°.16E, h2km, Mm2.3/2*

ISC 16 03:16:15.9±1.3, 34°45N±0°.03×33°08E±0°.04, h7km±10km, n41, σ1s22/67, 1C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni**	**0.34**	**331**	P	**Pg**	**03 16 22.1**	**-0.6**
SZAC				S	**Sg**	**03 16 28.1**	**+0.8**
SZAC				AML	AML	03 16 31.0	
	4.8nn,0.3s						
SZAC				AML	AML	03 16 31.0	
	4.8nn,0.3s						
ASGA	**Asgata**	**0.36**	**22**	P	**Pg**	**03 16 23.0**	**0.0**
ASGA				S	**Sb**	**03 16 30.7**	**+0.1**
ASGA				AML	AML	03 16 31.6	
	2.1nn,0.5s						
ASGA				AML	AML	03 16 31.6	
	2.1nn,0.5s						
ASGA				AML	AML	03 16 32.2	
	2.0nn,0.4s						
ASGA				AML	AML	03 16 32.2	
	2.0nn,0.4s						
NATA	**Nata**	**0.53**	**308**	P	**Pg**	**03 16 26.3**	**0.0**
NATA				S	**Sb**	**03 16 34.4**	**-1.2**
NATA				AML	AML	03 16 39.9	
	1.6nn,0.5s						
NATA				AML	AML	03 16 39.9	
	1.6nn,0.5s						
NATA				AML	AML	03 16 49.6	
	1.6nn,0.7s						
NATA				AML	AML	03 16 49.6	
	1.6nn,0.7s						
CSS	**Mathiatis**	**0.55**	**22**	PG	**Pg**	**03 16 25.9**	**-0.6**
CSS				SG	**Sb**	**03 16 36.6**	**+0.6**
MVOU	**Mavrovouni**	**0.72**	**39**	P	**Pb**	**03 16 31.5**	**+0.6**
MVOU				AML	AML	03 16 47.8	
	0.5nn,0.3s						
MVOU				AML	AML	03 16 51.4	
	0.4nn,0.5s						
AKMS	**Akamas**	**0.83**	**313**	*i* P	**Pg**	**03 16 30.9**	**-1.0**
AKMS				S	**Sb**	**03 16 44.4**	**+0.2**
AKMS				AML	AML	03 16 50.2	
	0.5nn,0.6s						
AKMS				AML	AML	03 16 50.2	
	0.5nn,0.6s						
LFK	**Lefkose**	**0.90**	**24**	PN	**Pg**	**03 16 32.4**	**-0.9**
LFK				SN	**Sn**	**03 16 49.3**	**+0.9**
EREN	**Erenkoy**	**1.40**	**39**	PN	**Pn**	**03 16 41.0**	**-0.8**
TEKE	**Tekeli-Mersin**	**1.69**	**1**	PN	**Pn**	**03 16 43.5**	**-2.3**
TEKE				SN	**Sn**	**03 17 07.9**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.75**	**13**	PN	**Pn**	**03 16 44.4**	**-2.2**
GULN	**MERSIN_Gulnar**	**1.77**	**12**	P	**Pn**	**03 16 47.0**	**0.0**
GULN				S	**Sn**	**03 17 10.8**	**+1.1**
GULN				*i* AML	AML	03 17 14.0	
	comp=E,10.0nm,0.4s						
GULN				*i* AML	AML	03 17 15.0	
	comp=N,8.2nm,0.6s						
IKL	**Isikli**	**1.85**	**15**	PN	**Pn**	**03 16 46.3**	**-1.7**
IKL				SN	**Sn**	**03 17 13.2**	**+1.6**
GAZI	**Gazipasa**	**1.89**	**341**	PN	**Pn**	**03 16 44.8**	**-3.8**
GAZI				SN	**Sn**	**03 17 10.4**	**-2.2**
GAZI	**Gazipasa**	**1.89**	**341**	P	**Pn**	**03 16 47.6**	**-1.0**
GAZI				S	**Sn**	**03 17 13.9**	**+1.3**
GAZI				*i* AML	AML	03 17 14.0	
	comp=N,15nm,0.6s						
GAZI				*i* AML	AML	03 17 14.0	
	comp=E,11nm,0.6s						
BERE	**Bereket-Mersin**	**1.89**	**3**	PN	**Pn**	**03 16 46.5**	**-2.3**
BERE				SN	**Sn**	**03 17 13.3**	**+0.3**
TEVE	**Tevekalti-Mers**	**2.00**	**8**	PN	**Pn**	**03 16 47.9**	**-2.3**
KEBE	**Keben-Mersin**	**2.06**	**14**	PN	**Pn**	**03 16 49.3**	**-1.6**
ERMK	**Ermenek**	**2.19**	**356**	P	**Pn**	**03 16 53.7**	**+0.8**
ERMK				S	**Sb**	**03 17 24.1**	**+0.7**
ERMK				*i* AML	AML	03 17 28.0	
	comp=E,11nm,0.3s						
ERMK				*i* AML	AML	03 17 29.0	
	comp=N,15nm,0.4s						
HNTI	**Hanita**	**2.21**	**128**	Pn	**Pn**	**03 16 52.6**	**-0.5**
HNTI				Sn	**Sn**	**03 17 20.0**	**-0.7**
MMA0B	**Mount Meron ar**	**2.41**	**126**	Pn	**Pn**	**03 16 54.9**	**-0.9**
MMA0B				Sn	**Sn**	**03 17 25.4**	**-0.1**
OFRI	**`Ofer**	**2.42**	**138**	Pn	**Pn**	**03 16 54.5**	**-1.4**
OFRI				Sn	**Sn**	**03 17 25.3**	**-0.5**
GEM	**Giv'at Ha'Em**	**2.48**	**119**	Pn	**Pn**	**03 16 56.3**	**-0.4**
NATI	**Neve Ativ**	**2.51**	**118**	Pn	**Pn**	**03 16 56.7**	**-0.4**
NATI				Sn	**Sn**	**03 17 27.6**	**-0.3**
MERS	**Mersin**	**2.68**	**26**	PN	**Pn**	**03 16 58.8**	**-0.7**
KEPZ	**Antalya-Kepez**	**2.72**	**334**	P	**Pn**	**03 16 59.8**	**-0.3**
KEPZ				*i* AML	AML	03 17 46.0	
	comp=N,3.3nm,0.5s						
KEPZ				*i* AML	AML	03 17 47.0	
	comp=E,5.2nm,1.2s						
KKBE	**Karaman, Kazim**	**2.76**	**358**	P	**Pn**	**03 17 02.9**	**+2.2**
KKBE				S	**Sb**	**03 17 39.3**	**-0.5**
KKBE				*i* AML	AML	03 17 40.0	
	comp=E,6.1nm,0.9s						
KKBE				*i* AML	AML	03 17 47.0	
	comp=N,4.4nm,0.9s						
MMLI	**Mount Malkishu**	**2.80**	**135**	PN	**Pn**	**03 16 59.0**	**-2.2**
MMLI	**Mount Malkishu**	**2.80**	**135**	Pn	**Pn**	**03 17 00.7**	**-0.5**
MMLI				Sn	**Sn**	**03 17 35.0**	**-0.3**
HMDT	**Nahal Hemdat**	**3.00**	**136**	Pn	**Pn**	**03 17 04.0**	**+0.2**
KERG	**Konya-Eregli**	**3.08**	**16**	P	**Pn**	**03 17 07.4**	**+2.3**
KERG				S	**Sb**	**03 17 47.9**	**-0.9**
KERG				*i* AML	AML	03 17 48.0	
	comp=N,12nm,0.3s						
KERG				*i* AML	AML	03 17 49.0	
	comp=E,9.6nm,0.4s						
SEDI	**Konya, Seydise**	**3.18**	**341**	P	**Pn**	**03 17 09.2**	**+2.8**
SEDI				S	**Sb**	**03 17 51.2**	**-0.6**
SEDI				*i* AML	AML	03 17 54.0	
	comp=N,5.1nm,0.7s						
SEDI				*i* AML	AML	03 17 55.0	
	comp=E,4.1nm,0.9s						
AMAZ	**Amatzia**	**3.29**	**152**	Pn	**Pn**	**03 17 08.6**	**+0.7**
DSI	**Dead Sea**	**3.46**	**145**	Pn	**Pn**	**03 17 10.5**	**+0.3**
YTIR	**Yattir**	**3.52**	**150**	Pn	**Pn**	**03 17 12.1**	**+1.0**
YTIR				Sn	**Sn**	**03 17 54.1**	**+1.0**
MSBI	**Mazada**	**3.67**	**148**	Pn	**Pn**	**03 17 13.8**	**+0.8**
KZIT	**Kziot**	**3.71**	**162**	Pn	**Pn**	**03 17 14.4**	**+0.8**
PRNI	**Paran**	**4.40**	**158**	Pn	**Pn**	**03 17 23.4**	**+0.3**
PRNI				Sn	**Sn**	**03 18 14.4**	**-0.2**
KRMI	**Paran Flat**	**4.54**	**162**	Pn	**Pn**	**03 17 25.1**	**0.0**
KRMI				Sn	**Sn**	**03 18 17.6**	**-0.5**
**

comp=Z,0.5nm,0.4s,baz=132,slow=3.1,SNR=5.5

TXAR	**Lajitas Array**	**90.40**	**58**	P		**P**	**03 39 34.5**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=217,slow=6.0,SNR=13							
PDAR	**Pinedale Array**	**92.64**	**44**	P		**P**	**03 39 44.0**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=252,slow=4.6,SNR=3.7							
BRTR	**Keskin Array B**	**147.53**	**307**	PKPbc		**PKPab**	**03 46 16.9**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=92,slow=4.1,SNR=6.8							
CLL	**Collm**	**150.78**	**343**	*e*PKPbc		**PKiKP**	**03 46 23.0**	**+0.5**
CLL				*e*PKiKP		**PKPbc**	**03 46 24.0**	**+2.0**
CLL				*e*PKPab		**PKPab**	**03 46 34.0**	**+2.6**

WEL 16 03:30:09.5,41°S±9°×17°4E±1°2,h70km±28km,M2.2/10, ML2.4/10,MLv2.2/10,Error ellipse: s-maj=0.0km s-min=0.0km az=115.7,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.29**	**220**	P	Pn	03 30 21.4	+0.7
KIW	**Kapiti Island**	**0.63**	**117**	P	Pn	03 30 23.7	+0.1
TCW	**Tory Channel**	**0.64**	**173**	P	Pn	03 30 24.5	+0.8
OGWZ	**Otaki Gorge**	**0.80**	**108**	P	Pn	03 30 26.0	+0.5
CAW	**Cannon Point**	**0.86**	**128**	P	Pn	03 30 26.3	+0.1
TUWZ	**Tuamarina**	**0.87**	**191**	P	Pn	03 30 26.7	+0.3
NNZ	**Nelson**	**0.88**	**223**	P	Pn	03 30 26.9	+0.5
TKNZ	**Takaka Hill**	**1.03**	**243**	P	Pn	03 30 29.0	+0.7
BSWZ	**Blackbirch Sta**	**1.16**	**191**	P	Pn	03 30 30.8	+0.9
QRZ	**Quartz Range**	**1.27**	**258**	P	Pn	03 30 31.2	-0.2
MRNZ	**Matariki Terra**	**1.35**	**232**	P	Pn	03 30 33.2	+0.8
PKE	**Pukeiti**	**1.39**	**354**	P	Pn	03 30 33.7	+0.8
THZ	**Tophouse**	**1.52**	**218**	P	Pn	03 30 28.7	-6.0

*IDC **16** 03:34:56.5±1.5,33.26N×131.43E,h0km,mb3.7/6, mb1 3.8/8,mb1mx3.5/64,mbtmp3.6/8,ML2.9/2,MS2.9/3, Ms1 2.9/3,ms1mx2.5/96,Error ellipse: s-maj=27.1km s-min=8.5km az=151.0*
*JMA **16** 03:34:57.6,33.28N×131.38E,h10km±1km,M3.4*
JMA Felt II J1.

ISC 16 03:34:58.2±1.1,33.25N±0.05×131.40E±0.05,h8km±7km, n14,σ1°42/15,mb3.6/6,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.09**	**5**	P	**Pg**	**03 34 59.8**	**-0.7**
JBEP				S	**Sg**	**03 35 01.5**	**-0.5**
JUS	**Usuki**	**0.35**	**122**	P	**Pg**	**03 35 04.9**	**-0.2**
JUS				S	**Sg**	**03 35 10.2**	**+0.5**
JKI	**Kunimi**	**0.41**	**20**	P	**Pg**	**03 35 05.6**	**-0.6**
JNU	**Nakatsue**	**0.46**	**254**	Pg	**Pg**	**03 35 06.3**	**-0.8**
	184nm,0.3s,baz=52,slow=6.6,SNR=9.9						
JNU				Lg	Lg	03 35 12.2	
	221nm,0.3s,baz=159,slow=19,SNR=18						
KSRS	**Korea Array**	**5.07**	**327**	Pn	**Pn**	**03 36 13.2**	**-1.2**
	0.4nm,0.3s,baz=145,slow=14,SNR=2.6						
KSRS				Pg	**Pb**	**03 36 30.7**	**+3.6**
	0.5nm,0.3s,baz=147,slow=18,SNR=4.2						
KSRS				Lg	Lg	03 37 37.0	
	1.2nm,0.3s,baz=148,slow=30,SNR=6.9						
MJAR	**Matsushiro Arr**	**6.49**	**58**	Pn	**Pn**	**03 36 33.2**	**-0.9**
	0.3nm,0.3s,baz=246,slow=12,SNR=10						
MJAR				LR	LR	03 38 51.8	
	comp=Z,81nm,19.6s,baz=232,slow=36						
ASAJ	**Asahikawa**	**13.92**	**36**	LR	LR	03 42 54.4	
	comp=Z,60nm,21.1s,baz=72,slow=34						
KLR	**Kul'dur**	**15.97**	**1**	LR	LR	03 44 25.6	
	comp=Z,58nm,19.5s,baz=182,slow=36						
SONM	**Songino Array**	**23.80**	**315**	P	**P**	**03 40 12.8**	**+1.2**
	0.8nm,0.5s,baz=124,slow=8.1,SNR=4.6						
MKAR	**Makanchi Array**	**39.34**	**305**	P	**P**	**03 42 28.1**	**+0.2**
	0.2nm,0.4s,baz=81,slow=8.9,SNR=1.6						
KURBB	**Kurchatov Arra**	**42.02**	**311**	P	**P**	**03 42 49.5**	**-0.4**
	0.9nm,0.9s,baz=97,slow=9.2,SNR=7.6						
ARCES	**ARCESS Array B**	**64.52**	**338**	P	**P**	**03 45 33.8**	**-1.4**
	2.3nm,0.9s,baz=61,slow=4.2,SNR=5.7						
FINES	**FINESS Array B**	**68.15**	**330**	P	**P**	**03 45 57.7**	**-0.9**
	1.4nm,0.6s,baz=72,slow=6.2,SNR=6.0						
YKA	**Yellowknife Ar**	**71.03**	**27**	P	**P**	**03 46 15.9**	**-0.4**
	0.3nm,0.7s,baz=303,slow=6.2,SNR=7.5						

*IDC **16** 03:38:24.2±0.7,57.39S×25.23W,h0km,mb4.1/7, mb1 4.2/8,mb1mx4.0/29,mbtmp4.2/8,ML4.2/1,MS3.4/3, Ms1 3.4/3,ms1mx2.9/42,Error ellipse: s-maj=26.6km s-min=19.4km az=68.0*
*NEIC **16** 03:38:30.6±2.0,57.52S±0.08×25.3W±0.2,h48km±4km, mb4.2/12,Error ellipse: s-maj=16.0km s-min=12.0km az=77.0*

ISC 16 03:38:30.5±0.6,57.5S±0.1×25.3W±0.1,h43km,n33, σ1°18/25,mb4.2/7,MS3.4/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.08**	**292**	Pn	**Pn**	**03 40 12.3**	**+0.9**
VNA1	**Neumayer--Stat**	**15.07**	**158**	P	**Pn**	**03 41 59.2**	**-1.0**
VNA3	**Neumayer Olymp**	**15.29**	**161**	P	**Pn**	**03 42 01.5**	**-1.5**
VNA3				S	Sn	03 44 38.0	-13
VNA2	**Neumayer--Watz**	**15.47**	**158**	P	**Pn**	**03 42 04.0**	**-1.3**
	baz=322,slow=13						
SNAA	**Sanae**	**17.00**	**156**	P	**Pn**	**03 42 25.8**	**+1.0**
SNAA	**Sanae**	**17.00**	**156**	P	**Pn**	**03 42 24.6**	**-0.2**
	0.9nm,0.3s,baz=12,slow=11,SNR=119						
SNAA	**Sanae**	**17.00**	**156**	P	**Pn**	**03 42 24.8**	**0.0**
SNAA				IAmb	IAmb	03 42 29.1	
	comp=Z,9.4nm,0.7s						
TROLL	**Troll, Antarti**	**18.49**	**153**	P	**Pn**	**03 42 45.9**	**+2.8**
BELA	**Belgrano 2**	**20.74**	**186**	P	**P**	**03 43 06.3**	**-0.7**
QSPA	**South Pole Qui**	**32.77**	**180**	P	**P**	**03 44 59.2**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=301,slow=0.3,SNR=24						
QSPA	**South Pole Qui**	**32.77**	**180**	IAmb	IAmb	03 45 01.8	
	comp=Z,11nm,1.4s						
MAW	**Mawson**	**38.37**	**142**	P	**P**	**03 45 46.3**	**-0.5**
CPUP	**Villa Florida**	**38.55**	**310**	P	**P**	**03 45 48.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=354,slow=7.7,SNR=1.8						
CPUP	**Villa Florida**	**38.55**	**310**	IAmb	IAmb	03 45 52.1	
	comp=Z,4.3nm,1.2s						
SUR	**Sutherland**	**40.04**	**71**	LR	LR	03 58 38.4	
	comp=Z,51nm,20.5s,baz=194,slow=30						
VNDA	**Vanda**	**45.19**	**182**	P	**P**	**03 46 43.2**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=193,slow=6.7,SNR=9.4						
VNDA	**Vanda**	**45.19**	**182**	IAmb	IAmb	03 46 49.9	
	comp=Z,5.6nm,1.4s						
BOSA	**Boshof**	**45.34**	**73**	P	**P**	**03 46 43.6**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=192,slow=8.1,SNR=6.5						
BOSA				LR	LR	04 01 33.7	
	comp=Z,67nm,19.2s,baz=195,slow=31						
BOSA	**Boshof**	**45.34**	**73**	IAmb	IAmb	03 46 44.8	
	comp=Z,4.8nm,0.9s						
LBTB	**Lobatse**	**48.45**	**70**	LR	LR	04 04 14.1	
	comp=Z,35nm,20.0s,baz=185,slow=32						
PB08	**IPOC Station P**	**49.17**	**301**	P	**P**	**03 47 13.1**	**-1.4**
SIV	**San Ignacio**	**49.33**	**312**	P	**P**	**03 47 14.1**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=174,slow=5.9,SNR=3.7						
H10N1	**ASCENSION HYDR**	**50.22**	**14**	T	T	04 41 42.4	
	baz=191,slow=71,SNR=7.7						
H10N3	**ASCENSION HYDR**	**50.22**	**14**	T	T	04 41 27.4	
	baz=191,slow=71,SNR=17						
H10N2	**ASCENSION HYDR**	**50.23**	**14**	T	T	04 41 30.5	
	baz=191,slow=71,SNR=11						
LPAZ	**La Paz**	**52.06**	**304**	P	**P**	**03 47 36.1**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=99,slow=5.8,SNR=12						
LPAZ	**La Paz**	**52.06**	**304**	P	**P**	**03 47 36.5**	**-0.1**
LPAZ				IAmb	IAmb	03 47 39.2	
	comp=Z,1.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.81**	**27**	P	**P**	**03 50 00.5**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=192,slow=6.2,SNR=13						
TORD	**Torodi Ar. Bea**	**73.81**	**27**	P	**P**	**03 50 00.6**	**+0.3**
TORD				IAmb	IAmb	03 50 01.2	
	comp=Z,1.9nm,0.8s						
FINES	**FINESS Array B**	**125.16**	**27**	PKP	**PKPdf**	**03 57 24.0**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=119,slow=2.4,SNR=4.4						
YKA	**Yellowknife Ar**	**137.94**	**316**	PKP	**PKPdf**	**03 57 48.3**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=130,slow=2.5,SNR=12						
YKA				SKPbc	**SKPbc**	**04 01 19.4**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=122,slow=1.8,SNR=7.0						
SONM	**Songino Array**	**149.75**	**87**	PKPbc	**PKPdf**	**03 58 12.9**	**+3.0**
	comp=Z,1.0nm,0.7s,baz=212,slow=5.1,SNR=4.3						
ILAR	**Eielson Array**	**151.85**	**309**	PKPbc	**PKPbc**	**03 58 19.0**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=144,slow=2.8,SNR=6.9						

*IDC **16** 03:43:57.2±1.2,21.02N×72.31W,h0km,mb3.6/5, mb1 4.0/8,mb1mx3.6/52,mbtmp3.8/8,ML3.4/3,MS3.0/2, Ms1 3.0/2,ms1mx2.5/68,Error ellipse: s-maj=32.0km s-min=24.2km az=18.0*
*NEIC **16** 03:43:58.2±1.9,20.91N±0.06×72.41W±0.03,h10km±1km, mb4.1/2,Error ellipse: s-maj=10.9km s-min=4.8km az=191.0*
*SSNC **16** 03:43:59.1±1.9,20.88N×72.59W,h5km,MD3.9,ML3.8*
*OSPL **16** 03:44:00.7±2.3,20.89N×72.53W,h88km±58km,ML3.9*

ISC 16 03:43:57.4±0.6,20.83N±0.04×72.44W±0.04,h10km,n49, σ1°72/53,mb3.7/6,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRTK	**Grand Turk**	**1.40**	**61**		**Pn**	**03 44 23.2**	**+0.2**
GRTK	**Grand Turk**	**1.40**	**61**	*e*P	**Pb**	**03 44 23.6**	**-0.1**
GRTK				*e*S	**Sg**	**03 44 42.6**	**+0.2**
GRTK	**Grand Turk**	**1.40**	**61**	*i* P	**Pb**	**03 44 23.7**	**+0.1**
GRTK				*e*S	**Sg**	**03 44 43.0**	**+0.5**
GRTK				IAML		03 44 45.4	
	comp=Z,2μm,0.5s						
LODA1	**ITESIL, Dajabo**	**1.45**	**151**	*i* P	**Pb**	**03 44 25.3**	**+0.8**
LODA1				IAML		03 44 44.5	
	comp=Z,1μm,1.1s						
LODA1				*e*S	**Sg**	**03 44 45.0**	**+0.8**
MASC	**Masc**	**1.80**	**249**	*e*P	**Pn**	**03 44 28.4**	**-0.2**
MASC				IAML		03 44 57.5	
	comp=N,946nm,0.2s						
MASC				IAML		03 44 58.6	
	comp=E,915nm,0.3s						
SC01	**Santiago de lo**	**2.13**	**131**		**Pn**	**03 44 34.5**	**+1.4**
SDDR	**Presa de Saban**	**2.13**	**149**		**Pn**	**03 44 33.9**	**+0.7**
SDDR	**Presa de Saban**	**2.13**	**149**	*e*P	**Pn**	**03 44 33.6**	**+0.5**
SDDR	**Presa de Saban**	**2.13**	**149**	*i* P	**Pn**	**03 44 33.4**	**+0.2**
SDDR				*e*S	**Sn**	**03 45 00.4**	**+0.6**
SDDR				IAML		03 45 17.9	
	comp=Z,675nm,0.5s						
LGNH	**Logne**	**2.31**	**184**		**Pb**	**03 44 38.3**	**-1.0**
LGNH	**Logne**	**2.31**	**184**	IAML		03 45 18.6	
	comp=Z,162nm,0.4s						
MOAC	**Moa**	**2.36**	**266**	*e*P	**Pn**	**03 44 34.4**	**-1.9**
MOAC				IAML		03 45 19.5	
	comp=E,367nm,0.6s						
MOAC				IAML		03 45 20.5	
	comp=N,801nm,0.6s						
LONE2	**Loma La Sidra**	**2.44**	**158**	*i* P	**Pn**	**03 44 38.5**	**+1.0**
JAKH	**Jacmel**	**2.58**	**182**		**Pb**	**03 44 42.7**	**-1.1**
GTBY	**Guantanamo Bay**	**2.66**	**251**		**Pn**	**03 44 40.2**	**-0.2**
GTBY	**Guantanamo Bay**	**2.66**	**251**	*i* P	**Pn**	**03 44 40.0**	**-0.4**
GTBY				IAML		03 45 27.4	
	comp=Z,148nm,0.6s						
BANI	**BANI**	**3.12**	**141**		**Pn**	**03 44 49.1**	**+2.3**
BANI	**BANI**	**3.12**	**141**	*i* P	**Pn**	**03 44 49.5**	**+2.6**
BANI				*e*S	**Sn**	**03 45 22.3**	**-1.9**
BANI				IAML		03 45 28.6	
	comp=Z,384nm,0.6s						
RCC	**Rio Carpintero**	**3.16**	**255**	*e*P	**Pn**	**03 44 36.3**	**-1.0**
RCC				IAML		03 45 40.9	
	comp=N,180nm,0.7s						
RCC				IAML		03 45 41.0	
	comp=E,143nm,0.4s						
HLGC	**Holguin**	**3.39**	**272**	*e*P	**Pn**	**03 44 50.2**	**-0.2**
HLGC				IAML		03 45 35.0	
	comp=E,216nm,0.4s						
HLGC				IAML		03 45 35.9	
	comp=N,178nm,0.3s						
DR12	**Loma Pena Alta**	**3.52**	**125**		**Pn**	**03 44 52.4**	**0.0**
LMGC	**Las Mercedes**	**4.35**	**261**	*e*P	**Pn**	**03 45 01.7**	**-1.9**
LMGC				IAML		03 45 53.2	
	comp=N,93nm,0.3s						
LMGC				IAML		03 45 54.4	
	comp=E,81nm,0.4s						
PCDR	**Punta Cana, DR**	**4.46**	**120**	Pn	**Pn**	**03 45 05.9**	**+0.7**
CCCC	**Cccc**	**4.99**	**275**	*e*P	Pn	03 45 04.6	-7.9
CCCC				IAML		03 46 04.4	
	comp=E,44nm,0.4s						
CCCC				IAML		03 46 04.5	
	comp=N,44nm,0.3s						
MTDJ	**Mount Denham**	**5.46**	**243**	Pn	**Pn**	**03 45 18.1**	**-0.8**
PRSN	**Puerto Rico Se**	**5.63**	**117**		**Pn**	**03 45 22.1**	**+0.8**
CRPR	**Cabo Rojo, PR**	**5.76**	**118**		**Pn**	**03 45 23.7**	**+0.7**
AOPR	**Arecibo Observ**	**5.90**	**114**		**Pn**	**03 45 25.5**	**+0.5**
OBIP	**Obispado Ponce**	**6.16**	**116**		**Pn**	**03 45 29.7**	**+1.1**
CELP	**Cerrillos**	**6.17**	**115**		**Pn**	**03 45 29.3**	**+0.6**
GCPR	**Guaynabo City**	**6.50**	**112**		**Pn**	**03 45 33.6**	**+0.5**
SJG	**San Juan**	**6.52**	**113**	Pn	**Pn**	**03 45 32.3**	**-1.2**
	comp=N,3.4nm,0.3s,baz=310,slow=9.4,SNR=12						
SJG				Sn	**Sn**	**03 46 41.1**	**-6.9**
	comp=N,4.5nm,0.3s,baz=265,slow=23,SNR=1.6						
SJG				LR	LR	03 48 26.7	
	comp=N,107nm,19.3s,baz=279,slow=42						
SJG	**San Juan**	**6.52**	**113**		**Pn**	**03 45 32.6**	**-0.9**
PDPR	**Patillas Dam,**	**6.67**	**114**		**Pn**	**03 45 35.6**	**+0.1**
CBYP	**Canovanas**	**6.71**	**111**		**Pn**	**03 45 35.3**	**-0.9**
MTP	**Monte Pirata**	**7.04**	**112**		**Pn**	**03 45 40.3**	**-0.3**
CUPR	**Culebra, Puert**	**7.20**	**109**		**Pn**	**03 45 41.8**	**-1.0**
STVI	**Saint Thomas**	**7.47**	**108**		**Pn**	**03 45 45.4**	**-1.2**
SDV	**Santo Domingo**	**12.00**	**171**	Pn	**Pn**	**03 46 52.2**	**+3.4**
	comp=N,0.3nm,0.3s,baz=5.1,slow=6.4,SNR=3.0						
SDV				Sn	**Sn**	**03 48 56.9**	**-6.1**
	comp=N,0.3nm,0.3s,baz=294,slow=17,SNR=1.5						
JTS	**Las Juntas de**	**15.96**	**231**	Pn	**P**	**03 47 48.1**	**+2.3**
	comp=N,0.2nm,0.3s,baz=344,slow=19,SNR=1.9						
TUL1	**Leonard**	**25.36**	**311**	P	**P**	**03 49 24.4**	**-0.4**
TUL1				IAmb	IAmb	03 49 26.5	
	comp=Z,6.0nm,0.7s						
TXAR	**Lajitas Array**	**29.45**	**293**	P	**P**	**03 50 03.1**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=110,slow=11,SNR=9.6						
TXAR	**Lajitas Array**	**29.45**	**293**	P	**P**	**03 50 02.1**	**+0.4**
ANMO	**Albuquerque**	**33.02**	**302**	LR	LR	04 06 09.0	
	comp=Z,25nm,18.0s,baz=117,slow=40						
YKA	**Yellowknife Ar**	**50.58**	**336**	P	**P**	**03 52 56.0**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=124,slow=7.2,SNR=11						
ESDC	**Sonseca Array**	**60.68**	**55**	P	**P**	**03 54 09.9**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=276,slow=6.6,SNR=4.0						
ESDC	**Sonseca Array**	**60.68**	**55**	P	**P**	**03 54 08.1**	**-1.0**
ESDC				IAmb	IAmb	03 54 13.2	
	comp=Z,1.1nm,1.3s						
GERES	**GERESS Array B**	**72.12**	**44**	P	**P**	**03 55 22.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=235,slow=4.7,SNR=3.5						
BRTR	**Keskin Array B**	**88.56**	**48**	P	**P**	**03 56 51.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=322,slow=4.4,SNR=2.1						

*JMA **16** 03:48:50.9,33.03N×131.20E,h6km±1km,M3.8*
JMA Felt III J1.
*NIED **16** 03:48:51.0,33.03N×131.20E,h6km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.24; Mθθ=1.15; Mφφ=-0.91; Mrθ=-0.81; Mθφ=0.63; Mφr=1.22; Fault plane solution: M0=1.84000×10^15 NP1: φs=219.00000°,δ45.00000°,λ=-168.00000°. NP2: φs=120.00000°,δ82.00000°,λ=-45.00000°.*
*IDC **16** 03:48:51.6±1.2,32.95N×131.13E,h0km,mb3.5/4, mb1 3.6/6,mb1mx3.4/53,mbtmp3.5/6,ML2.7/2,MS3.4/12, Ms1 3.4/12,ms1mx3.1/65 Error ellipse: s-maj=30.3km s-min=7.4km az=36.0*

ISC 16 03:48:53.3±0.8,33.01N±0.05×131.18E±0.04,h12km,n21, σ2°15/16,mb3.5/4,MS3.6/8,2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.28**	**294**	Pg	**Pg**	**03 48 56.5**	**-2.5**
	779nm,0.3s,baz=113,slow=7.3,SNR=69						
JNU				Lg	Lg	03 49 00.7	
	7μm,0.3s,baz=346,slow=18,SNR=137						
JNU	**Nakatsue**	**0.28**	**294**	P	**Pg**	**03 48 56.7**	**-2.4**
JNU				*e*S	**Sg**	**03 49 00.8**	**-2.1**
JUS	**Usuki**	**0.48**	**83**	∥P	**Pg**	**03 48 59.8**	**-3.0**
JUS				S	**Sg**	**03 49 06.5**	**-2.7**
JTA	**Tamana**	**0.55**	**266**	∥P	**Pg**	**03 49 01.9**	**-2.1**
JIU3	**Izumi3**	**0.55**	**214**	P	**Pg**	**03 49 02.6**	**-1.5**
JIU3				*e*S	**Sg**	**03 49 10.1**	**-1.3**
KSRS	**Korea Array**	**5.18**	**330**	Pn	**Pn**	**03 50 08.6**	**-1.9**
	0.3nm,0.3s,baz=148,slow=14,SNR=2.7						
KSRS				Pg	**Pb**	**03 50 25.4**	**+1.6**
	0.8nm,0.3s,baz=148,slow=16,SNR=7.8						
KSRS				Lg	Lg	03 51 31.4	
	2.9nm,0.3s,baz=150,slow=29,SNR=10						
KSRS				LR	LR	03 52 26.2	
	comp=Z,225nm,18.8s,baz=155,slow=41						
MJAR	**Matsushiro Arr**	**6.77**	**57**	Pn	**Pn**	**03 50 34.1**	**+1.6**
	0.1nm,0.3s,baz=228,slow=14,SNR=8.3						
MJAR				LR	LR	03 52 59.0	
	comp=Z,142nm,18.7s,baz=228,slow=36						
USRK	**Ussuriysk Ar.**	**11.19**	**3**	LR	LR	03 55 49.4	
	comp=Z,140nm,18.9s,baz=180,slow=37						
KLR	**Kul'dur**	**16.21**	**1**	Pn	**P**	**03 52 46.5**	**+2.5**
	0.1nm,0.3s,baz=162,slow=8.7,SNR=15						
KLR				LR	LR	03 57 55.5	
	comp=Z,87nm,20.8s,baz=174,slow=33						
SONM	**Songino Array**	**23.85**	**316**	P	**P**	**03 54 07.5**	**+1.0**
	1.4nm,0.9s,baz=134,slow=8.5,SNR=4.9						
YAK	**Yakutsk**	**29.06**	**359**	LR	LR	04 06 23.1	
	comp=Z,89nm,18.3s,baz=265,slow=36						
CMAR	**Chiang Mai Arr**	**32.30**	**251**	LR	LR	04 10 34.7	
	comp=Z,43nm,19.0s,baz=140,slow=40						
SEY	**Seymchan**	**32.81**	**18**	LR	LR	04 09 04.3	
	comp=Z,25nm,20.9s,baz=22,slow=37						
KURBB	**Kurchatov Arra**	**42.04**	**311**	P	**P**	**03 56 46.0**	**+1.4**
	0.7nm,0.8s,baz=95,slow=8.5,SNR=2.7						
BATI	**Baumata**	**43.56**	**191**	LR	LR	04 15 55.7	
	comp=Z,144nm,19.0s,baz=252,slow=37						
AAK	**Ala-Archa**	**45.05**	**299**	LR	LR	04 17 49.5	
	comp=Z,75nm,18.5s,baz=72,slow=39						
ASAR	**Alice Springs**	**56.42**	**177**	P	**P**	**03 58 34.3**	**-0.4**
	0.6nm,0.8s,baz=14,slow=7.2,SNR=5.5						
INK	**Inuvik**	**61.67**	**25**	LR	LR	04 27 23.9	
	comp=Z,39nm,20.0s,baz=14,slow=38						
ARCES	**ARCESS Array B**	**64.68**	**338**	LR	LR	04 32 12.9	
	comp=Z,38nm,20.4s,baz=90,slow=40						
FINES	**FINESS Array B**	**68.27**	**330**	LR	LR	04 35 13.3	
	comp=Z,34nm,18.5s,baz=68,slow=41						
YKA	**Yellowknife Ar**	**71.33**	**27**	P	**P**	**04 00 13.3**	**+0.8**
	0.3nm,0.8s,baz=304,slow=6.1,SNR=6.3						

*NIED **16** 03:49:58.9,33.03N×131.19E,h5km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=0.75; Mθθ=8.54; Mφφ=-7.78; Mrθ=-1.06; Mθφ=4.47; Mφr=0.09; Fault plane solution: M0=9.36000×10^14 NP1: φs=211.00000°,δ84.00000°,λ=178.00000°. NP2: φs=301.00000°,δ=88.00000°,λ=6.00000°.*

JMA 16 03:49:58.8,33.03N×131.19E,h5km±1km,M3.6,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.28**	**289**	P	Pg	03 50 04.4	+0.2
JNU				S	Sg	03 50 08.5	+0.6
JUS	**Usuki**	**0.47**	**86**	P	Pg	03 50 07.8	-0.1
JUS				S	Sg	03 50 14.8	+0.7

*JMA **16** 03:59:55.9,32.74N×130.76E,h14km±1km,M3.7*
JMA Felt II J1.
*IDC **16** 03:59:56.6±1.5,32.84N×130.60E,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.3/47,mbtmp3.6/3,ML2.7/1,Error ellipse: s-maj=23.8km s-min=9.8km az=133.0*

ISC 16 03:59:57.8±0.9,32.74N±0.05×130.73E±0.09,h10km,n8, σ1°86/10,2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.20**	**160**	∥P	**Pg**	**04 00 00.3**	**-1.6**
JIU3				*e*S	**Sg**	**04 00 03.5**	**-1.3**
JTA	**Tamana**	**0.28**	**324**	∥P	**Pg**	**04 00 02.1**	**-1.4**
JTA				*e*S	**Sg**	**04 00 06.3**	**-1.0**
JNU	**Nakatsue**	**0.40**	**18**	Pg	**Pg**	**04 00 03.7**	**-2.0**
	974nm,0.3s,baz=87,slow=23,SNR=51						
JNU				Lg	Lg	04 00 08.7	
	973nm,0.3s,baz=86,slow=23,SNR=41						
KSRS	**Korea Array**	**5.24**	**335**	Pg	**Pb**	**04 01 31.1**	**+1.7**
	0.7nm,0.3s,baz=154,slow=17,SNR=4.4						
KSRS				Lg	Lg	04 02 40.2	
	0.7nm,0.3s,baz=149,slow=32,SNR=5.4						
MJAR	**Matsushiro Arr**	**7.24**	**56**	Pn	**Pn**	**04 01 45.1**	**+1.4**
	0.1nm,0.3s,baz=240,slow=13,SNR=2.2						
KLR	**Kul'dur**	**16.50**	**2**	Pn	**P**	**04 03 52.0**	**+0.1**
	0.1nm,0.3s,baz=140,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**52.49**	**176**	P	**P**	**04 09 13.1**	**+2.0**
	0.4nm,1.0s,baz=356,slow=7.9,SNR=2.0						
FINES	**FINESS Array B**	**68.31**	**330**	P	**P**	**04 10 56.8**	**-1.9**
	1.2nm,0.9s,baz=57,slow=5.3,SNR=3.4						

*IDC **16** 04:09:43.9±2.3,32.67N×130.66E,h0km,mb4.3/1, mb1 3.9/3,mb1mx3.3/58,mbtmp3.7/3,ML3.0/3,Error ellipse: s-maj=30.4km s-min=13.6km az=125.0*
*NIED **16** 04:09:43.8,32.65N×130.74E,h10km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr=0.33; Mθθ=0.23; Mφφ0.56; Mrθ=0.88; Mθφ0.73; Mφr=1.34; Fault plane solution: M0=1.74000×10^15 NP1: φs198.

WB2	**Warramunga Arr**	**20.25**	**225**	P	**P**	**04 18 54.4**	**-0.2**
WB2				IAmb	IAmb	04 18 55.2	
	comp=Z,28nm,0.7s						
WRA	**Warramunga Arr**	**20.26**	**225**	P	**P**	**04 18 54.4**	**-0.2**
	comp=Z,57nm,1.1s,baz=52,slow=11,SNR=140						
WRA				pP	**pP**	**04 19 12.1**	**-0.3**
	comp=Z,5.9nm,0.8s,baz=50,slow=11,SNR=3.7						
WRA				S	**S**	**04 22 35.5**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=54,slow=24,SNR=5.4						
WRA				ScP	**ScP**	**04 26 32.4**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=48,slow=2.6,SNR=14						
RMQ	**Roma**	**20.43**	**182**	P	Pn	04 18 58.4	-0.9
QLP	**Quilpie**	**21.12**	**193**	P	**P**	**04 19 04.7**	**+1.0**
KNRA	**Kununurra**	**22.52**	**243**	P	**P**	**04 19 17.2**	**-1.4**
KNRA				IAmb	IAmb	04 19 20.0	
	comp=Z,18nm,0.5s						
KNRA	**Kununurra**	**22.52**	**243**	P	**P**	**04 19 17.6**	**-1.1**
DZM	**Mont Dzumac**	**22.91**	**136**	P	**P**	**04 19 23.2**	**+0.6**
	comp=Z,18nm,1.0s,baz=294,slow=8.0,SNR=11						
DZM				LR	LR	04 26 26.8	
	comp=Z,93nm,20.9s,baz=220,slow=31						
DZM	**Mont Dzumac**	**22.91**	**136**	P	**P**	**04 19 23.2**	**+0.6**
DZM				IAmb	IAmb	04 19 24.4	
	comp=Z,15nm,0.9s						
DZM	**Mont Dzumac**	**22.91**	**136**	P	**P**	**04 19 23.6**	**+1.0**
AS31	**Alice Springs**	**23.14**	**219**	P	**P**	**04 19 24.2**	**-0.6**
ASAR	**Alice Springs**	**23.14**	**219**	P	**P**	**04 19 24.4**	**-0.3**
	comp=Z,6.1nm,0.5s,baz=54,slow=8.6,SNR=128						
ASAR				pP	**pP**	**04 19 43.3**	**-0.3**
	comp=Z,10nm,1.0s,baz=59,slow=11,SNR=4.5						
ASAR				ScP	**ScP**	**04 26 39.7**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=44,slow=2.5,SNR=9.9						
INKA	**Innaminka**	**23.21**	**200**	P	**P**	**04 19 25.6**	**+0.3**
ARMA	**Armidale**	**24.41**	**176**	P	**P**	**04 19 36.5**	**+0.2**
ARMA				IAmb	IAmb	04 19 40.3	
	comp=Z,20nm,1.4s						
ARMA	**Armidale**	**24.41**	**176**	P	**P**	**04 19 37.5**	**+1.2**
OOD	**Oodnadatta**	**25.38**	**210**	P	**P**	**04 19 45.8**	**+0.8**
CMSA	**Cobar Meteorol**	**25.70**	**188**	P	**P**	**04 19 48.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**26.23**	**241**	P	**P**	**04 19 51.9**	**-1.0**
	comp=Z,11nm,0.7s,baz=54,slow=7.9,SNR=62						
LCRK	**Leigh Creek**	**26.58**	**202**	P	**P**	**04 19 55.3**	**-0.5**
STKA	**Stephens Creek**	**26.83**	**195**	P	**P**	**04 19 58.9**	**+0.9**
	comp=Z,6.7nm,0.8s,baz=34,slow=14,SNR=18						
STKA				LR	LR	04 30 04.8	
	comp=Z,52nm,19.7s,baz=28,slow=35						
STKA	**Stephens Creek**	**26.83**	**195**	P	**P**	**04 19 58.4**	**+0.4**
STKA	**Stephens Creek**	**26.83**	**195**	P	**P**	**04 19 59.6**	**+1.6**
WRKA	**Warakurna**	**27.80**	**225**	P	**P**	**04 20 06.3**	**-0.6**
MULG	**Mulgathing**	**28.23**	**209**	P	**P**	**04 20 09.6**	**-1.0**
HTT	**Hallett**	**29.05**	**198**	P	**P**	**04 20 18.4**	**+0.5**
BBOO	**Buckleboo**	**29.51**	**203**	P	**P**	**04 20 22.3**	**+0.4**
BBOO				IAmb	IAmb	04 20 40.4	
	comp=Z,25nm,1.4s						
KAPI	**Kappang**	**29.63**	**270**	LR	LR	04 34 48.5	
	comp=Z,56nm,18.1s,baz=153,slow=41						
TOO	**Toolangi**	**31.68**	**186**	P	**P**	**04 20 40.8**	**-0.2**
TOO				IAmb	IAmb	04 20 42.5	
	comp=Z,7.0nm,0.8s						
FORT	**Forrest**	**31.86**	**217**	P	**P**	**04 20 42.6**	**-0.1**
FORT	**Forrest**	**31.86**	**217**	P	**P**	**04 20 42.5**	**-0.1**
PSA00	**Pilbara Seismi**	**32.62**	**239**	P	**P**	**04 20 48.5**	**-1.0**
PSA00				IAmb	IAmb	04 20 59.7	
	comp=Z,10nm,1.1s						
MEEK	**Meekatharra**	**35.91**	**232**	P	**P**	**04 21 16.7**	**-1.1**
	comp=Z,11nm,0.7s						
MOO	**Moorlands**	**36.39**	**183**	P	**P**	**04 21 22.5**	**+0.9**
GIRL	**Giralia**	**37.84**	**240**	P	**P**	**04 21 34.5**	**+0.3**
GIRL	**Giralia**	**37.84**	**240**	P	**P**	**04 21 33.4**	**-0.8**
URZ	**Urewera**	**40.76**	**146**	LR	LR	04 35 19.6	
	comp=Z,69nm,21.7s,baz=32,slow=31						
TUWZ	**Tuamarina**	**41.50**	**152**	P	**P**	**04 22 05.0**	**+0.7**
KHZ	**Kahutara**	**42.10**	**153**	P	**P**	**04 22 10.7**	**+1.6**
KSRS	**Korea Array**	**47.65**	**337**	P	**P**	**04 22 52.2**	**-0.9**
	comp=Z,3.4nm,0.6s,baz=154,slow=8.9,SNR=5.0						
KSAR	**Wonju Array Be**	**47.66**	**337**	P	**P**	**04 22 53.2**	**0.0**
KS19	**Wonju Array Si**	**47.71**	**337**	P	**P**	**04 22 53.7**	**0.0**
NJ2	**Nanjing**	**47.76**	**324**	*eP*	**P**	**04 22 55.1**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
IPM	**Ipoh**	**49.51**	**281**	P	**P**	**04 23 06.8**	**-1.1**
IPM				IAmb	IAmb	04 23 08.4	
	comp=Z,4.6nm,0.9s						
ASAJ	**Asahikawa**	**50.23**	**354**	P	**P**	**04 23 12.3**	**-0.5**
	comp=Z,5.3nm,0.5s,baz=191,slow=10,SNR=5.6						
USRK	**Ussuriysk Ar.**	**52.37**	**344**	P	**P**	**04 23 28.5**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=158,slow=8.5,SNR=6.5						
USRK	**Ussuriysk Ar.**	**52.37**	**344**	P	**P**	**04 23 28.2**	**-0.5**
PZH	**PanZhiHua**	**56.40**	**307**	P	**P**	**04 24 00.4**	**+1.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
KLR	**Kul'dur**	**57.10**	**346**	P	**P**	**04 24 02.3**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=229,slow=4.5,SNR=7.2						
HHC	**Hu-ho-hao-te**	**58.13**	**327**	*eP*	**P**	**04 24 13.4**	**+3.0**
HHC				pP	**pP**	**04 24 37.3**	**+2.3**
HHC				S	**S**	**04 32 07.5**	**+3.3**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,75nm,4.6s						
PETK	**Petropavlovsk-**	**59.25**	**6**	P	**P**	**04 24 17.4**	**-0.3**
	comp=Z,6.6nm,0.5s,baz=169,slow=7.5,SNR=10						
VNDA	**Vanda**	**71.82**	**177**	P	**P**	**04 25 39.1**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=332,slow=6.6,SNR=17						
VNDA	**Vanda**	**71.82**	**177**	IAmb	IAmb	04 25 39.9	
	comp=Z,2.8nm,1.1s						
WMQ	**Urumqi**	**74.40**	**319**	*eP*	**P**	**04 25 55.6**	**+1.4**
MK31	**Makanchi Array**	**79.06**	**320**	P	**P**	**04 26 20.5**	**+0.2**
MKAR	**Makanchi Array**	**79.06**	**320**	P	**P**	**04 26 18.7**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=94,slow=8.5,SNR=10						
ZALV	**Zalesovo Beam**	**80.31**	**327**	P	**P**	**04 26 24.4**	**-2.4**
	comp=Z,0.7nm,0.4s,baz=123,slow=7.3,SNR=4.8						
ZALV				pP	**pP**	**04 26 48.1**	**-4.7**
	comp=Z,0.6nm,0.5s,baz=105,slow=5.1,SNR=3.1						
IMAR	**Indian Mountai**	**82.58**	**20**	P	**P**	**04 26 39.6**	**+1.0**
KURK	**Kurchatov**	**82.67**	**323**	P	**P**	**04 26 37.5**	**-1.9**
KURBB	**Kurchatov Arra**	**82.70**	**323**	P	**P**	**04 26 37.5**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=103,slow=4.6,SNR=2.8						
MAW	**Mawson**	**83.25**	**203**	P	**P**	**04 26 41.4**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=317,slow=13,SNR=2.0						
ILAR	**Eielson Array**	**84.47**	**23**	P	**P**	**04 26 45.8**	**-2.5**
	comp=Z,0.9nm,0.8s,baz=252,slow=5.3,SNR=8.0						
ILAR	**Eielson Array**	**84.47**	**23**	P	**P**	**04 26 47.7**	**-0.6**
YKA	**Yellowknife Ar**	**97.97**	**28**	P	**P**	**04 27 50.5**	**-1.0**
	comp=Z,0.1nm,0.7s,baz=270,slow=4.6,SNR=2.1						
TORD	**Torodi Ar. Bea**	**147.49**	**285**	PKPbc	**PKPbc**	**04 33 59.0**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=85,slow=3.0,SNR=50						
BDFB	**Brasilia**	**152.40**	**141**	PKPbc	**PKPbc**	**04 34 12.2**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=227,slow=1.6,SNR=4.1						
BDFB				pPKPbc	**pPKPdf**	**04 34 34.6**	**+1.3**
	comp=Z,4.9nm,0.6s,baz=201,slow=3.8,SNR=7.4						
BDFB	**Brasilia**	**152.40**	**141**		**PKPbc**	**04 34 10.4**	**-2.2**

JMA 16 04:15:28.4,32.98N×131.08E,h9km±1km,M3.4,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.22**	**310**	P	Pg	04 15 33.1	+0.2

*JMA **16** 04:15:29.1,32.70N×130.71E,h18km±1km,M3.9*
JMA Felt III J1.
*NIED **16** 04:15:29.1,32.70N×130.71E,h18km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.11; $M_{\theta\theta}$7.22; $M_{\phi\phi}$-6.11; $M_{r\theta}$0.01; $M_{\theta\phi}$1.62; $M_{\phi r}$1.72; Fault plane solution: $M_0$7.12000×10^{14} NP1: ϕ_s127.00000°,δ77.00000°,λ-11.00000°. NP2: ϕ_s219.00000°,δ79.00000°,λ-167.00000°.*
*IDC **16** 04:15:30.0±1.3,32.72N×130.90E,h0km,mb3.4/4, mb1 3.6/6,mb1mx3.4/53,mbtmp3.4/6,ML2.9/2 Error ellipse: s-maj=35.0km s-min=9.4km az=89.0*

ISC 16 04:15:31.5±0.8,32.74N±0.04×130.83E±0.07,h10km,n11, σ2^{S}25/15,mb3.2/4,2C,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.19**	**185**	⇑P	**Pg**	**04 15 33.5**	**-2.0**
JIU3				S	**Sg**	**04 15 36.7**	**-1.5**
JTA	**Tamana**	**0.34**	**312**	⇑P	**Pg**	**04 15 35.6**	**-2.7**
JTA				S	**Sg**	**04 15 40.1**	**-2.7**
JNU	**Nakatsue**	**0.39**	**6**	Pg	**Pg**	**04 15 36.4**	**-2.8**
	689nm,0.3s,baz=121,slow=11,SNR=159						
JNU				Lg	Lg	04 15 44.4	
	4μm,0.3s,baz=27,slow=10,SNR=37						
JNU	**Nakatsue**	**0.39**	**6**	S	**Pg**	**04 15 36.4**	**-2.8**
JTZ	**Takazaki**	**0.86**	**165**	P	**Pg**	**04 15 45.5**	**-2.6**
JTZ				S	**Sg**	**04 15 56.9**	**-2.3**
KSRS	**Korea Array**	**5.28**	**334**	Pn	**Pn**	**04 16 52.1**	**+1.7**
	0.3nm,0.3s,baz=151,slow=14,SNR=3.6						
KSRS				Pg	**Pb**	**04 17 05.5**	**+1.7**
	1.8nm,0.3s,baz=151,slow=16,SNR=7.6						
KSRS				Lg	Lg	04 18 12.5	
	2.0nm,0.3s,baz=156,slow=30,SNR=11						
MJAR	**Matsushiro Arr**	**7.17**	**56**	Pn	**Pn**	**04 17 17.6**	**+1.2**
	0.2nm,0.3s,baz=239,slow=13,SNR=2.4						
KURBB	**Kurchatov Arra**	**42.00**	**311**	P	**P**	**04 23 23.8**	**+1.1**
	0.1nm,0.3s,baz=94,slow=8.8,SNR=1.5						
WRA	**Warramunga Arr**	**52.49**	**176**	P	**P**	**04 24 46.4**	**+1.7**
	0.3nm,0.7s,baz=351,slow=7.5,SNR=1.7						
FINES	**FINESS Array B**	**68.36**	**330**	P	**P**	**04 26 33.2**	**+0.4**
	1.4nm,0.9s,baz=62,slow=6.5,SNR=4.9						
YKA	**Yellowknife Ar**	**71.70**	**26**	P	**P**	**04 26 52.5**	**-0.8**
	0.1nm,0.8s,baz=309,slow=5.8,SNR=2.4						

*IDC **16** 04:17:10.3±0.8,32.75N×130.66E,h0km,mb3.6/10, mb1 3.8/11,mb1mx3.6/55,mbtmp3.7/11,ML2.9/1,MS2.9/3, Ms1 2.9/3,ms1mx2.5/89,Error ellipse: s-maj=22.6km s-min=7.2km az=117.0*
*JMA **16** 04:17:11.8,32.80N×130.74E,h9km±1km,M3.6*
JMA Felt IV J1.
*NIED **16** 04:17:11.8,32.80N×130.74E,h9km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.00; $M_{\theta\theta}$0.37; $M_{\phi\phi}$0.63; $M_{r\theta}$0.44; $M_{\theta\phi}$-0.30; $M_{\phi r}$-0.48; Fault plane solution: $M_0$1.12000×10^{15} NP1: ϕ_s150.00000°,δ27.00000°,λ-83.00000°. NP2: ϕ_s322.00000°,δ63.00000°,λ-93.00000°.*

ISC 16 04:17:12.4±0.6,32.77N±0.05×130.68E±0.08,h12km,n17, σ0^{S}92/17,mb3.5/10,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.23**	**327**	P	**Pg**	**04 17 16.9**	**-0.4**
JTA				S	**Sg**	**04 17 20.7**	**+0.1**
JIU3	**Izumi3**	**0.25**	**153**	P	**Pg**	**04 17 17.2**	**-0.3**
JIU3				S	**Sg**	**04 17 21.2**	**+0.2**
JNU	**Nakatsue**	**0.39**	**25**	Pg	**Pg**	**04 17 18.5**	**-1.6**
	380nm,0.3s,baz=193,slow=11,SNR=13						
JNU				Lg	Lg	04 17 23.6	
	3μm,0.3s,baz=16,slow=8.1,SNR=31						
JNU				LR	LR	04 17 44.1	
	comp=Z,2μm,20.6s,baz=280,slow=81						
KSRS	**Korea Array**	**5.19**	**335**	Lg	Lg	04 19 55.1	
	1.8nm,0.3s,baz=154,slow=29,SNR=4.6						
KSRS				LR	LR	04 20 26.6	
	comp=Z,78nm,18.3s,baz=145,slow=38						
MJAR	**Matsushiro Arr**	**7.25**	**57**	Pn	**Pn**	**04 18 59.0**	**+0.8**
	0.2nm,0.3s,baz=245,slow=12,SNR=3.7						
MJAR				LR	LR	04 22 04.4	
	comp=Z,174nm,19.8s,baz=218,slow=40						
ASAJ	**Asahikawa**	**14.66**	**36**	LR	LR	04 25 46.1	
	comp=Z,54nm,21.8s,baz=98,slow=35						
KLR	**Kul'dur**	**16.46**	**2**	Pn	**P**	**04 21 07.4**	**+1.6**
	0.2nm,0.3s,baz=175,slow=10,SNR=3.4						
SONM	**Songino Array**	**23.73**	**316**	P	**P**	**04 22 24.4**	**+0.1**
	0.7nm,0.7s,baz=92,slow=8.7,SNR=3.3						
KURBB	**Kurchatov Arra**	**41.88**	**311**	P	**P**	**04 25 02.2**	**-0.1**
	0.8nm,0.9s,baz=96,slow=8.5,SNR=6.1						
FITZ	**Fitzroy Crossi**	**50.81**	**186**	P	**P**	**04 26 12.2**	**-0.6**
	1.3nm,1.0s,baz=274,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**52.53**	**176**	P	**P**	**04 26 24.8**	**-0.8**
	0.4nm,0.7s,baz=354,slow=8.3,SNR=2.7						
ASAR	**Alice Springs**	**56.20**	**176**	P	**P**	**04 26 52.1**	**-0.3**
	0.5nm,0.7s,baz=7.0,slow=13,SNR=2.8						
ILAR	**Eielson Array**	**57.71**	**30**	P	**P**	**04 27 04.4**	**+1.9**
	0.3nm,0.7s,baz=262,slow=6.3,SNR=2.0						
STKA	**Stephens Creek**	**65.12**	**170**	P	**P**	**04 27 52.1**	**-0.9**
	1.8nm,0.7s,baz=348,slow=12,SNR=3.2						
FINES	**FINESS Array B**	**68.26**	**330**	P	**P**	**04 28 12.2**	**-0.5**
	1.3nm,0.4s,baz=72,slow=5.4,SNR=20						
YKA	**Yellowknife Ar**	**71.72**	**26**	P	**P**	**04 28 34.2**	**+0.2**
	0.2nm,0.8s,baz=307,slow=5.5,SNR=1.8						
BRTR	**Keskin Array B**	**74.74**	**307**	P	**P**	**04 28 52.1**	**-0.3**
	0.8nm,0.7s,baz=90,slow=5.8,SNR=4.5						

*NIED **16** 04:24:17.2,33.04N×131.12E,h5km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.69; $M_{\theta\theta}$3.28; $M_{\phi\phi}$-2.60; $M_{r\theta}$2.34; $M_{\theta\phi}$3.17; $M_{\phi r}$3.23; Fault plane solution: $M_0$5.82000×10^{14} NP1: ϕ_s113.00000°,δ47.00000°,λ-3.00000°. NP2:ϕ_s205.00000°, δ88.00000°,λ-137.00000°.*

JMA 16 04:24:17.2,33.04N×131.12E,h5km±2km,M3.5,1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.22**	**292**	P	Pg	04 24 21.8	+0.3
JNU				S	Sg	04 24 25.2	+0.8
JTA	**Tamana**	**0.50**	**261**	⇓P	Pg	04 24 27.0	+0.2
JUS	**Usuki**	**0.53**	**87**	P	Pg	04 24 27.2	-0.2
JUS				S	Sg	04 24 34.7	+0.4

*CRAAG **16** 04:27:20.5,36.35N×3.46E,Ml3.6*
*IDC **16** 04:27:21.0±1.1,36.30N×3.46E,h0km,mb3.4/3,mb1 3.8/8, mb1mx3.5/49,mbtmp3.5/8,ML3.7/5,MS2.9/2,Ms1 3.0/2, ms1mx2.3/52,Error ellipse: s-maj=24.8km s-min=17.9km az=155.0*
*LDG **16** 04:27:21.4±0.4,36.18N×3.89E,h30km,Ml3.4/7,Error ellipse: s-maj=9.6km s-min=4.6km az=159.0*
*MDD **16** 04:27:22.9±0.7,36.28N×3.56E,h9km±10km,Mb4.1/15, M_mb3.5/15,Error ellipse: s-maj=13.8km s-min=3.5km az=146.0*
*SFS **16** 04:27:23.0,36.28N×3.50W,h8km,ML3.6,BOUIRA (ARGELIA)*
*CNRM **16** 04:27:31.0,36.23N×2.67E,h233km,ml3.7*

ISC 16 04:27:22.7±1.2,36.34N±0.05×3.48E±0.03,h15km±9km, n80,σ2^{S}19/108,mb3.5/3,12C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADJB	**Djebel Djouab**	**0.19**	**189**	P	**Pg**	**04 27 26.3**	**-1.0**
AKET	**Djebel Ketaf**	**0.44**	**132**	P	**Pg**	**04 27 31.4**	**-0.2**
ABA	**Alger-Bouzarea**	**0.58**	**322**	P	**Pn**	**04 27 39.4**	**+3.0**
ATAF	**Djebel Tarf**	**0.80**	**126**	P	**Pg**	**04 27 38.1**	**-0.2**
SET	**Setif**	**1.56**	**95**	P	**Pg**	**04 27 53.0**	**+0.3**
EBNR	**Beni Rached**	**1.57**	**269**	P	**Pb**	**04 27 51.3**	**-0.2**
ECHA	**Ech Chlef**	**1.72**	**264**	P	**Pb**	**04 27 53.2**	**-0.7**
DFRA	**Djebel Bou Aff**	**1.95**	**83**	P	**Pn**	**04 27 56.1**	**+0.8**
EANR	**Ain N'Sour**	**1.96**	**259**	P	**Pn**	**04 27 55.4**	**0.0**
OKGL	**Djebel Kef Gue**	**2.31**	**263**	P	**Pg**	**04 28 07.0**	**0.0**
OJGS	**Djebel Guires**	**2.37**	**250**	P	**Pb**	**04 28 04.0**	**-1.0**
CASM	**Ain Smara**	**2.44**	**91**	P	**Pg**	**04 28 10.9**	**+1.5**
CKFL	**Kef-Lekhel**	**2.62**	**88**	P	**Pb**	**04 28 10.7**	**+1.3**
OJBR	**Djebel Berber**	**2.65**	**254**	P	**Pg**	**04 28 16.0**	**+2.5**
ODJA	**Bouhanifia**	**3.12**	**252**	P	**Pg**	**04 28 24.0**	**+1.6**
EIBI	**Ibiza**	**3.17**	**328**	Pn	**Pn**	**04 28 12.6**	**+0.7**
EIBI				⇑*i*Vmb_V		04 28 15.6	
	719nm,SNR=8.3						
EIBI				Sn	**Sn**	**04 28 48.1**	**-1.4**
CMAH	**Djebel Manchou**	**3.19**	**84**	P	**Pn**	**04 28 12.4**	**+0.1**
ETOS	**Mallorca**	**3.46**	**352**	Pn	**Pn**	**04 28 16.3**	**+0.3**
ETOS				⇑*i*Vmb_V		04 28 19.3	
	459nm,SNR=6.5						
ETOS				Sn	**Sn**	**04 28 55.0**	**-1.6**
MAHO	**Mahon**	**3.60**	**10**	P	**Pn**	**04 28 16.6**	**-1.3**
MAHO				S	**Sn**	**04 28 55.8**	**-4.3**
OTSS	**Djebel Tessala**	**3.63**	**254**	P	Pn	04 28 06.0	-12
CART	**Cartagena**	**3.79**	**290**	P	**Pn**	**04 28 20.5**	**0.0**
CART				S	**Sn**	**04 29 03.6**	**-1.2**
EMUR	**La Murta**	**4.06**	**293**	Pn	**Pn**	**04 28 24.7**	**+0.5**
EMUR				⇑*i*Vmb_V		04 28 27.2	
	177nm,SNR=5.5						
EMUR				Sn	**Sn**	**04 29 11.5**	**0.0**
ECOL	**Islas Columbre**	**4.18**	**329**	Pn	**Pn**	**04 28 26.0**	**+0.2**
ECOL				Sn	**Sn**	**04 29 11.8**	**-2.4**
EZAR	**Zarzadilla de**	**4.41**	**292**	Pn	**Pn**	**04 28 29.9**	**+0.8**
EZAR				Sn	**Sn**	**04 29 19.7**	**-0.4**
ETOB	**Tobarra**	**4.61**	**301**	Pn	**Pn**	**04 28 32.5**	**+0.7**
ETOB				⇑*i*Vmb_V		04 28 35.3	
	243nm,SNR=8.8						
ETOB				Sn	**Sn**	**04 29 23.9**	**-1.2**
ECHE	**Chera**	**4.78**	**314**	Pn	**Pn**	**04 28 35.5**	**+1.3**
ECHE				Sn	**Sn**	**04 29 28.1**	**-1.2**
KEST	**Kesra**	**4.80**	**96**	Pn	**Pn**	**04 28 36.8**	**+2.3**
	1.2nm,0.3s,baz=228,slow=4.2,SNR=17						
KEST				Sn	**Sn**	**04 29 31.4**	**+1.7**
	1.2nm,0.3s,baz=0.9,slow=9.5,SNR=2.0						
TAF	**Taforalt**	**5.04**	**254**	P	**Pn**	**04 28 38.6**	**+0.8**
TAF				S	**Sn**	**04 29 34.9**	**-0.8**
EMOS	**Mosqueruela**	**5.07**	**323**	Pn	**Pn**	**04 28 39.3**	**+1.0**
EMOS				⇑*i*Vmb_V		04 28 42.9	
	277nm,SNR=8.4						
EMOS				Sn	**Sn**	**04 29 33.8**	**-2.9**
EBER	**Berja**	**5.15**	**278**	Pn	**Pn**	**04 28 39.6**	**+0.2**
EBER				Sn	**Sn**	**04 29 38.2**	**-0.5**
ERTA	**Horta de San J**	**5.22**	**333**	Pn	**Pn**	**04 28 40.4**	**+0.2**
ERTA				⇑*i*Vmb_V		04 28 44.2	
	55nm,SNR=1.4						
ERTA				Sn	**Sn**	**04 29 36.4**	**-3.8**
JBK	**JBK**	**5.33**	**250**	P	**Pn**	**04 28 43.1**	**+1.2**
JBK				S	**Sn**	**04 29 42.9**	**-0.2**
EPOB	**Poblet**	**5.34**	**340**	Pn	**Pn**	**04 28 42.5**	**+0.6**
EPOB				⇑*i*Vmb_V		04 28 46.7	
	60nm,SNR=2.2						
EPOB				Sn	**Sn**	**04 29 39.7**	**-3.5**
GOG	**Mont Gurugu**	**5.38**	**260**	P	**Pn**	**04 28 42.0**	**-0.4**
GOG				S	**Sn**	**04 29 38.3**	**-5.8**
TDRA	**Tendrara**	**5.61**	**236**	P	**Pn**	**04 28 45.9**	**+0.2**
TDRA				S	**Sn**	**04 29 52.2**	**+2.4**
FIGM	**Figuig**	**5.75**	**224**	P	**Pn**	**04 28 47.8**	**+0.3**
FIGM				S	**Sn**	**04 29 52.0**	**-1.3**
EJON	**La Jonquera**	**6.11**	**356**	Pn	**Pn**	**04 28 54.0**	**+1.5**
EJON				⇑*i*Vmb_V		04 28 57.6	
	204nm,SNR=1.8						
EJON				Sn	**Sn**	**04 30 00.2**	**-1.9**
ETOR	**Torete**	**6.22**	**318**	Pn	**Pn**	**04 28 55.1**	**+1.0**
ETOR				⇑*i*Vmb_V		04 29 02.5	
	66nm,SNR=2.7						
ETOR				Sn	**Sn**	**04 30 07.0**	**+2.1**
UCM	**Universidad Co**	**6.60**	**309**	P	**Pn**	**04 28 59.2**	**+0.1**
ESDC	**Sonseca Array**	**6.75**	**302**	Pn	**Pn**	**04 29 01.7**	**+0.5**
	0.5nm,0.3s,baz=114,slow=13,SNR=12						
ESDC				Sn	**Sn**	**04 30 16.1**	**-1.7**
	baz=99,slow=24,SNR=0.7						
ESDC				LR	LR	04 31 40.0	
	comp=Z,98nm,18.2s,baz=137,slow=38						
PAB	**San Pablo**	**6.96**	**300**	Pn	**Pn**	**04 29 04.4**	**+0.3**
PAB				⇑*i*Vmb_V		04 29 11.2	
	52nm,SNR=3.2						
MTLF	**Montolieu**	**7.05**	**353**	*eP*	**Pn**	**04 29 08.0**	**+2.6**
MTLF				*eS*n	**Sn**	**04 30 20.4**	**-4.9**
	2.4nm,0.5s						
EPF	**Esparros**	**7.10**	**341**	*eP*	**Pn**	**04 29 09.8**	**+3.7**
EPF				*eS*n	**Sn**	**04 30 22.3**	**-4.2**
	3.4nm,0.4s						
ECAB	**El Cabril**	**7.30**	**286**	Pn	**Pn**	**04 29 08.7**	**-0.1**
ECAB				Sn	**Sn**	**04 30 29.9**	**-1.6**
LMR	**La Mourre**	**7.36**	**18**	*eP*	**Pn**	**04 29 09.7**	**+0.2**
LMR				*eS*n	**Sn**	**04 30 26.5**	**-6.2**
	3.4nm,0.3s						
GUD	**Guadarrama**	**7.36**	**308**	Pn	**Pn**	**04 29 11.3**	**+1.6**
GUD				⇑*i*Vmb_V		04 29 14.7	
	41nm,SNR=3.0						
PGF	**Pioggiola**	**7.53**	**33**	*eP*	**Pn**	**04 29 12.5**	**+0.6**
PGF				*eS*n	Sn	04 30 26.2	-11
	2.1nm,0.3s						
MDT	**Midelt**	**7.54**	**244**	Pn	**Pn**	**04 29 13.8**	**+1.6**
	0.2nm,0.3s,baz=93,slow=15,SNR=12						
MDT				Lg	Lg	04 31 18.8	
	0.2nm,0.3s,baz=40,slow=7.9,SNR=1.8						
MDT	**Midelt**	**7.54**	**244**	P	**Pn**	**04 29 12.8**	**+0.7**
MDT				S	Sn	04 30 27.2	-10
FRF	**La Foret Royal**	**7.61**	**18**	*eP*	**Pn**	**04 29 13.0**	**+0.1**
FRF				*eS*n	**Sn**	**04 30 35.9**	**-2.

MKAR	**Makanchi Array**	**47.35**	**344**	P	**P**	**04 39 06.2**	**0.0**
	0.4nm,0.4s,baz=156,slow=9.3,SNR=1.4						
ZALV	**Zalesovo Beam**	**53.48**	**349**	P	**P**	**04 39 52.2**	**+0.2**
	0.8nm,0.4s,baz=157,slow=7.8,SNR=1.9						
FINES	**FINESS Array B**	**80.57**	**332**	P	**P**	**04 42 45.9**	**+3.1**
	1.2nm,0.7s,baz=111,slow=7.6,SNR=1.7						

DMN ***16*** *04:32:58.0±0.3,28°.52N×87°.69E, h10km, Ml5.0/7, Error ellipse: s-maj=4.7km s-min=1.6km az=33.0*

IDC ***16*** *04:33:00.8±0.7,28°.31N×87°.48E, h0km, mb3.9/18, mb1 4.1/21, mb1mx3.9/52, mbtmp3.9/21, ML3.5/3, MS3.5/14, Ms1 3.5/14, ms1mx3.1/89, Error ellipse: s-maj=21.5km s-min=13.8km az=53.0*

NEIC ***16*** *04:33:03.3±1.8,28°.34N±0°.08×87°.44E±0°.06, h10km±1km, mb4.1/21, Error ellipse: s-maj=13.6km s-min=9.4km az=174.0*

NDI ***16*** *04:33:07.4±5.0,28°.29N×87°.26E, h10km±115km, ML3.8, mb4.1(NEIC)*

ISC 16 04:33:02.5±1.4, 28°.35N±0°.04×87°.49E±0°.04, h10km±9km, n76, σ1§39/75, mb4.0/22, MS3.6/12, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**1.02**	**169**	*e*Pg		**Pg**	**04 33 20.4**	**-1.7**
TAPN				*e*Sg		**Sg**	**04 33 35.1**	**-0.2**
	5µm,0.7s							
JIRN	**Jiri**	**1.34**	**239**	*e*Pg		**Pn**	**04 33 27.5**	**0.0**
GUN	**Gumba**	**1.49**	**253**	*e*Pg		**Pb**	**04 33 30.3**	**-0.1**
GUN				*e*Sg		**Sg**	**04 33 50.3**	**-0.1**
	10µm,0.5s							
ODAN	**Odare**	**1.49**	**183**	*e*Pg		**Pn**	**04 33 29.2**	**-0.3**
ODAN				*e*Sg		**Sg**	**04 33 51.0**	**+0.6**
	4µm,0.5s							
RAMN	**Ramite**	**1.60**	**210**	*e*Pg		**Pb**	**04 33 32.2**	**-0.1**
PKI	**Pulchoki**	**2.00**	**248**	*e*Pg		**Pb**	**04 33 39.9**	**+0.8**
PKI				*e*Sg		**Sg**	**04 34 07.9**	**+1.2**
	6µm,0.6s							
PKIN	**Phulchoki**	**2.00**	**248**	*e*Pg		**Pb**	**04 33 39.9**	**+0.7**
PKIN				*e*Sg		**Sg**	**04 34 09.0**	**+2.0**
	3µm,0.4s							
KKN	**Kakani**	**2.03**	**255**	*e*Pg		**Pb**	**04 33 40.0**	**+0.4**
KKN				*e*Sg		**Sg**	**04 34 09.0**	**+1.2**
KKN				*e*Sg		**Sb**	**04 34 09.3**	**+4.3**
DMN	**Daman**	**2.23**	**251**	*e*Pg		**Pb**	**04 33 43.6**	**+0.5**
GKN	**Gorkha**	**2.54**	**263**	*e*Sg		**Sg**	**04 34 23.7**	**-0.4**
DANN	**Dangsing**	**3.29**	**271**	*e*Sg		**Sg**	**04 34 46.7**	**-1.4**
	785nm,0.4s							
LSA	**Lhasa**	**3.48**	**66**			**Pn**	**04 33 59.2**	**+2.1**
PYUN	**Piuthan**	**3.98**	**267**	*e*Sg		**Sg**	**04 35 08.6**	**-1.6**
	558nm,0.4s							
SHL	**Shillong**	**4.80**	**124**	Pn		**Pn**	**04 34 15.8**	**+0.7**
SHL	**Shillong**	**4.80**	**124**	*e*P		**Pn**	**04 34 16.0**	**+1.0**
SHL				IAML			04 35 30.9	
	comp=N,206nm,0.6s							
SHL				IAML			04 35 31.8	
	comp=E,200nm,0.6s							
DDI	**Dehra Dun**	**8.46**	**286**	*e*P		**Pn**	**04 35 07.9**	**+2.7**
JBP	**Jabalpur**	**8.51**	**234**	*e*P		**Pn**	**04 35 07.5**	**+1.8**
JBP				*ex*		**Pn**	**04 35 07.5**	**+1.8**
SMLA	**Simla**	**9.39**	**290**	*e*P		**Pn**	**04 35 17.0**	**-0.8**
SMLA				*e*S		**Sn**	**04 36 59.8**	**-3.7**
SMLA				IAML			04 37 08.8	
	comp=E,36nm,0.4s							
SMLA				IAML			04 37 10.5	
	comp=N,42nm,0.6s							
BHPL	**Bhopal**	**10.40**	**243**	*e*P		**Pn**	**04 35 30.4**	**-1.3**
BHPL				IAmb		IAmb	04 35 33.7	
	comp=Z,22nm,0.7s							
BHPL				*e*S		**Sn**	**04 37 23.1**	**-5.2**
NIL	**Nilore**	**13.30**	**297**	Pn		**Pn**	**04 36 10.7**	**-0.7**
HYBB	**Hyderabad (bro**	**13.64**	**219**	*e*Pn		**Pn**	**04 36 16.2**	**+0.1**
HYBB				*e*Sn		**Sn**	**04 38 48.6**	**+0.9**
HYBB				IVMs_BB		IVMs_BB	04 40 41.4	
	comp=Z,130nm,5.0s							
CHTO	**Chiang Mai**	**14.15**	**130**	Pn		**Pn**	**04 36 22.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**14.40**	**131**	Pn		**Pn**	**04 36 24.4**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=309,slow=13,SNR=17							
CMAR				LR		LR	04 43 17.9	
	comp=Z,102nm,18.8s,baz=305,slow=43							
TARG	**Taragay, Kyrgy**	**15.51**	**332**	Pn		**Pn**	**04 36 41.1**	**-0.5**
TARG				IAmb		IAmb	04 36 44.1	
	comp=Z,6.6nm,1.0s							
POO	**Poona**	**15.87**	**235**	*ex*		**S**	**04 39 55.0**	**-1.5**
DGPR	**DIGLIPUR**	**15.93**	**160**	*e*P		**Pn**	**04 36 48.5**	**+1.7**
KBL	**Kabul**	**16.90**	**296**	Pn		**Pn**	**04 36 56.9**	**-2.4**
BOOM	**Boomskoye usch**	**16.93**	**329**	Pn		**Pn**	**04 36 59.3**	**-0.4**
BOOM				IAmb		IAmb	04 37 06.2	
	comp=Z,16nm,1.2s							
AAK	**Ala-Archa**	**17.72**	**327**	P		**P**	**04 37 10.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=142,slow=12,SNR=9.9							
AAK	**Ala-Archa**	**17.72**	**327**	Pn		**Pn**	**04 37 07.9**	**-1.5**
BTK	**Batken**	**18.04**	**315**	Pn		**Pn**	**04 37 10.5**	**-2.8**
BTK				IAmb		IAmb	04 37 13.0	
	comp=Z,5.9nm,0.7s							
CHGR	**Chuyangaron**	**18.39**	**309**	P		**Pn**	**04 37 17.5**	**-0.1**
CHGR				IAmb		IAmb	04 37 25.8	
	comp=Z,13nm,0.7s							
MK31	**Makanchi Array**	**18.86**	**349**	P		**P**	**04 37 22.9**	**+0.2**
MKAR	**Makanchi Array**	**18.86**	**349**	P		**P**	**04 37 22.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=16							
MKAR				LR		LR	04 45 54.7	
	comp=Z,70nm,19.6s,baz=144,slow=41							
MKAR	**Makanchi Array**	**18.86**	**349**	P		**P**	**04 37 22.2**	**-0.5**
KK31	**Karatay Array**	**20.11**	**322**	P		**P**	**04 37 36.7**	**+0.4**
KKAR	**Karatay Array**	**20.11**	**322**	P		Pn	04 37 37.8	-0.4
UBPT	**Khong Chiam**	**21.13**	**124**	P		**P**	**04 37 47.3**	**-0.2**
UBPT				IAmb		IAmb	04 37 49.3	
	comp=Z,8.5nm,0.8s							
PALK	**Pallekele**	**21.93**	**198**	P		**P**	**04 37 55.9**	**-0.3**
	comp=Z,5.5nm,0.9s,baz=288,slow=6.9,SNR=2.7							
PALK	**Pallekele**	**21.93**	**198**	IAmb		IAmb	04 37 56.9	
	comp=Z,15nm,1.2s							
KURBB	**Kurchatov Arra**	**23.26**	**345**	P		**P**	**04 38 10.1**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=162,slow=9.7,SNR=23							
KURK	**Kurchatov**	**23.32**	**346**	P		**P**	**04 38 10.9**	**+0.3**
KURK				IAmb		IAmb	04 38 13.2	
	comp=Z,11nm,1.0s							
SONM	**Songino Array**	**24.37**	**32**	P		**P**	**04 38 21.6**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=219,slow=12,SNR=8.5							
SONM	**Songino Array**	**24.37**	**32**	IAmb		IAmb	04 38 34.2	
	comp=Z,3.6nm,1.2s							
ZALV	**Zalesovo Beam**	**25.65**	**356**	P		**P**	**04 38 31.9**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=178,slow=10,SNR=9.4							
ZALV				LR		LR	04 50 06.3	
	comp=Z,61nm,21.4s,baz=130,slow=40							
ZALV	**Zalesovo Beam**	**25.65**	**356**	P		**P**	**04 38 32.1**	**0.0**
GEYT	**Alibeck**	**26.29**	**299**	LR		LR	04 51 04.5	
	comp=Z,120nm,19.1s,baz=168,slow=41							
WSAR	**Wadi Sarin**	**26.44**	**266**	LR		LR	04 50 33.1	
	comp=Z,52nm,18.4s,baz=132,slow=40							
ABKAR	**Akbulak array**	**29.67**	**322**	P		**P**	**04 39 08.6**	**+0.4**
ABKAR				IAmb		IAmb	04 39 43.6	
	comp=Z,6.0nm,1.4s							
AKTO	**Aktyubinsk**	**31.36**	**323**	LR		LR	04 54 23.4	
	comp=Z,132nm,19.7s,baz=118,slow=41							
KSRS	**Korea Array**	**34.92**	**64**	P		**P**	**04 39 54.9**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=270,slow=8.5,SNR=2.3							
BELG	**Belogornoye**	**38.01**	**320**	LR		LR	04 58 28.8	
	comp=Z,63nm,20.7s,baz=316,slow=40							
BRTR	**Keskin Array B**	**45.44**	**299**	P		**P**	**04 41 22.1**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=124,slow=7.2,SNR=2.8							
KAPI	**Kappang**	**45.45**	**132**	LR		LR	05 06 21.3	
	comp=Z,78nm,18.7s,baz=299,slow=44							
AKASG	**Malin Array Be**	**48.75**	**314**	P		**P**	**04 41 46.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=77,slow=7.2,SNR=2.8							
MLR	**Muntele Rosu**	**50.86**	**307**	P		**P**	**04 42 04.7**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=122,slow=1.8,SNR=8.5							
MLR				LR		LR	05 08 45.1	
	comp=Z,33nm,19.0s,baz=62,slow=42							
MLR	**Muntele Rosu**	**50.86**	**307**	P		**P**	**04 42 04.5**	**+0.9**
BURAR	**Bucovina Array**	**51.29**	**310**	P		**P**	**04 42 07.9**	**+1.1**
FINES	**FINESS Array B**	**51.91**	**328**	P		**P**	**04 42 11.5**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=104,slow=8.0,SNR=7.2							
FINES				LR		LR	05 07 06.5	
	comp=Z,114nm,18.2s,baz=76,slow=39							
ARCES	**ARCESS Array B**	**54.00**	**337**	P		**P**	**04 42 26.6**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=100,slow=7.3,SNR=8.1							
HFS	**Hagfors**	**57.85**	**325**	LR		LR	05 10 13.7	
	comp=Z,94nm,18.2s,baz=77,slow=39							
GERES	**GERESS Array B**	**58.85**	**312**	P		**P**	**04 43 01.6**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=100,slow=4.7,SNR=5.3							
GERES	**GERESS Array B**	**58.85**	**312**	P		**P**	**04 43 01.8**	**+0.4**
NOA	**NORSAR Array B**	**59.04**	**327**	P		**P**	**04 43 02.9**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=86,slow=6.8,SNR=3.4							
NOA				LR		LR	05 10 51.1	
	comp=Z,38nm,19.7s,baz=95,slow=38							
WB0	**Warramunga Arr**	**65.90**	**131**	P		**P**	**04 43 49.2**	**+0.4**
WRA	**Warramunga Arr**	**65.99**	**131**	P		**P**	**04 43 49.3**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=326,slow=6.6,SNR=22							
EKA	**Eskdalemuir Ar**	**67.54**	**322**	LR		LR	05 17 05.6	
	comp=Z,72nm,19.2s,baz=355,slow=39							
AS31	**Alice Springs**	**68.37**	**134**	P		**P**	**04 44 05.7**	**+1.2**
AS31				IAmb		IAmb	04 44 09.3	
	comp=Z,0.7nm,0.8s							
ASAR	**Alice Springs**	**68.37**	**134**	P		**P**	**04 44 04.5**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=319,slow=6.6,SNR=26							
BORG	**Borgarnes**	**72.25**	**335**	LR		LR	05 16 09.8	
	comp=Z,32nm,19.0s,baz=351,slow=36							
ESDC	**Sonseca Array**	**73.55**	**306**	P		**P**	**04 44 34.7**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=55,slow=6.7,SNR=4.3							
ESDC	**Sonseca Array**	**73.55**	**306**	IAmb		IAmb	04 44 42.5	
	comp=Z,4.5nm,1.5s							
BMAR	**Burnt Mountain**	**76.90**	**18**	P		**P**	**04 44 56.1**	**+1.5**
ILAR	**Eielson Array**	**78.07**	**21**	P		**P**	**04 45 00.3**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=313,slow=4.8,SNR=4.9							
TORD	**Torodi Ar. Bea**	**80.23**	**280**	P		**P**	**04 45 13.4**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=69,slow=4.9,SNR=8.3							
YKA	**Yellowknife Ar**	**87.75**	**10**	P		**P**	**04 45 51.4**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=334,slow=4.9,SNR=5.9							

IDC ***16*** *04:43:54.4±4.8,6°.83N×73°.20W, h165km±38km, mb2.6/2, mb1 3.1/3, mb1mx2.8/24, mbtmp3.2/3, Error ellipse: s-maj=87.9km s-min=42.0km az=87.0*

RSNC ***16*** *04:43:55.0±0.9,6°.83N×73°.16W, h150km±3km, ML3.2, Mw3.5*

ISC 16 04:43:53.3±0.9, 6°.84N±0°.03×73°.11W±0°.03, h160km±6km, n38, σ1§30/72, 2C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**197**	*i*	P	**Pn**	**04 44 15.4**	**+0.2**
BARC				*e*S		**Sn**	**04 44 30.5**	**-1.4**
BARC				*i*			04 44 31.6	
	comp=Z,368nm,0.2s							
PAMC	**Pamplona, Colo**	**0.65**	**39**	*i*	P	**Pn**	**04 44 18.2**	**+1.1**
PAMC				*e*S		**Sn**	**04 44 35.3**	**-0.1**
PAMC				*i*			04 44 37.6	
	comp=Z,501nm,0.5s							
RUSC	**La Rusia**	**0.94**	**178**	*i*	P	**Pn**	**04 44 19.5**	**+0.3**
RUSC				*e*S		**Sn**	**04 44 38.2**	**-0.7**
RUSC				*i*			04 44 39.3	
	comp=Z,270nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	*i*	P	**Pn**	**04 44 21.9**	**-0.4**
PTBC				*e*S		**Sn**	**04 44 43.0**	**-1.6**
PTBC				*i*			04 44 46.2	
	comp=Z,128nm,0.2s							
TAMC	**Tame, Arauca**	**1.37**	**107**	*i*	P	**Pn**	**04 44 23.7**	**+1.4**
TAMC				*e*S		**Sn**	**04 44 45.4**	**+0.7**
OCAC	**Ocana**	**1.41**	**352**	*i*	P	**Pn**	**04 44 23.4**	**+0.5**
OCAC				*e*S		**Sn**	**04 44 45.4**	**-0.3**
OCAC				*i*			04 44 48.8	
	comp=Z,289nm,0.2s							
SPBC	**San Pablo de B**	**1.51**	**219**	*e*P		**Pn**	**04 44 24.1**	**+0.2**
SPBC				*e*S		**Sn**	**04 44 46.3**	**-1.1**
SPBC				*i*			04 44 54.0	
	comp=Z,240nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P		**Pn**	**04 44 27.9**	**+0.5**
ZARC				*e*S		**Sn**	**04 44 53.4**	**-0.3**
ZARC				*i*			04 45 00.2	
	comp=Z,128nm,0.4s							
NORC	**Norcasia**	**2.16**	**234**	*e*P		**Pn**	**04 44 31.3**	**+0.4**
NORC				*e*S		**Sn**	**04 44 58.9**	**-1.0**
NORC				*i*			04 45 05.0	
	comp=Z,160nm,0.2s							
CHIC	**Chingaza**	**2.28**	**196**	*e*P		**Pn**	**04 44 33.5**	**+0.8**
CHIC				*e*S		**Sn**	**04 45 02.6**	**-0.5**
CHIC				*i*			04 45 06.3	
	comp=Z,88nm,0.6s							
ROSC	**El Rosal**	**2.32**	**211**	P		**Pn**	**04 44 35.3**	**+2.2**
	comp=Z,56nm,0.3s,baz=329,slow=2.3,SNR=166							
ROSC				S		**Sn**	**04 45 04.5**	**+0.6**
	comp=Z,57nm,0.3s,baz=151,slow=19,SNR=12							
ROSC	**El Rosal**	**2.32**	**211**	*e*P		**Pn**	**04 44 35.0**	**+1.9**
ROSC				*e*S		**Sn**	**04 45 03.5**	**-0.4**
ROSC				*i*			04 45 09.2	
	comp=Z,137nm,0.4s							
HELC	**Santa Helena**	**2.49**	**255**	*e*P		**Pn**	**04 44 36.0**	**+0.9**
HELC				*e*S		**Sn**	**04 45 07.0**	**-0.3**
HELC				*i*			04 45 14.2	
	comp=Z,81nm,0.4s							
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P		**Pn**	**04 44 35.1**	**-0.6**
UREC				*e*S		**Sn**	**04 45 07.3**	**-1.3**
UREC				*i*			04 45 16.0	
	comp=Z,93nm,0.2s							
SOCV	**Socops**	**2.66**	**57**	*i*	P	**Pn**	**04 44 38.2**	**+1.3**
SOCV				*e*S		**Sn**	**04 45 08.7**	**-1.9**
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P		**Pn**	**04 44 39.3**	**+0.9**
GUY2C				*e*S		**Sn**	**04 45 14.4**	**+1.0**
GUY2C				*i*			04 45 21.6	
	comp=Z,95nm,0.3s							
PTGC	**Puerto Gaitan,**	**2.79**	**160**	*e*P		**Pn**	**04 44 38.5**	**0.0**
PTGC				*e*S		**Sn**	**04 45 11.5**	**-2.1**
PTGC				*i*			04 45 16.8	
	comp=Z,116nm,0.3s							
LL6C	**La Loma 6 Bece**	**2.89**	**357**	*e*P		**Pn**	**04 44 39.9**	**+0.2**
LL6C				*e*S		**Sn**	**04 45 15.6**	**-0.1**
LL6C				*i*			04 45 22.3	
	comp=Z,43nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P		**Pn**	**04 44 42.9**	**+1.1**
CBOC				*e*S		**Sn**	**04 45 19.6**	**+0.3**
CBOC				*i*			04 45 23.6	
	comp=Z,24nm,0.1s							
DBBC	**Dabeiba**	**3.08**	**274**	*e*P		**Pn**	**04 44 42.9**	**+0.7**
DBBC				*e*S		**Sn**	**04 45 18.6**	**-1.5**
SDV	**Santo Domingo**	**3.19**	**50**	*e*P		**Pn**	**04 44 44.9**	**+1.3**
SDV				*e*S		**Sn**	**04 45 21.9**	**-0.9**
SDV				*i*			04 45 26.9	
	comp=Z,29nm,0.5s							
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P		**Pn**	**04 44 49.5**	**+0.8**
ORTC				*e*S		**Sn**	**04 45 33.2**	**+1.3**
ORTC				*i*			04 45 39.2	
	comp=Z,54nm,0.5s							
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P		**Pn**	**04 44 49.7**	**+0.1**
SJCC				*e*S		**Sn**	**04 45 30.6**	**-2.8**
SJCC				*i*			04 45 35.1	
	comp=Z,31nm,0.6s							
PLMC	**San Jos del P**	**3.69**	**239**	*i*	P	**Pn**	**04 44 50.9**	**+1.0**
PLMC				*e*S		**Sn**	**04 45 33.8**	**-0.2**
PLMC				*i*			04 45 37.0	
	comp=Z,29nm,0.2s							
LCBC	**Los crdobas,**	**3.80**	**302**	*e*S		**Sn**	**04 45 38.1**	**+1.7**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P		**Pn**	**04 44 55.6**	**-0.5**
CRJC				*e*S		**Sn**	**04 45 43.1**	**-1.9**
CRJC				*i*			04 45 50.7	
	comp=Z,34nm,0.2s							
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*P		**Pn**	**04 44 58.1**	**+0.4**
YOTC				*e*S		**Sn**	**04 45 48.8**	**+0.9**
YOTC				*i*			04 45 60.0	
	comp=Z,14nm,0.9s							
GUVC	**San Jose del G**	**4.29**	**174**	*e*P		**Pn**	**04 44 58.2**	**+0.6**
GUVC				*e*S		**Sn**	**04 45 47.5**	**-0.3**
GUVC				*i*			04 45 52.9	
	comp=Z,59nm,0.2s							
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P		**Pn**	**04 44 59.8**	**+0.2**
SMRC				*e*S		**Sn**	**04 45 48.1**	**-3.2**
SMRC				*i*			04 45 51.9	
	comp=Z,36nm,0.2s							
MACC	**Macarena, Meta**	**4.72**	**189**	*e*P		**Pn**	**04 45 02.2**	**-1.0**
MACC				*e*S		**Sn**	**04 45 54.0**	**-3.8**
MACC				*i*			04 46 02.9	
	comp=Z,16nm,0.6s							
MARP	**Paez Belalcaza**	**4.87**	**216**	*e*P		**Pn**	**04 45 04.9**	**-0.7**
MARP				*e*S		**Sn**	**04 46 00.1**	**-1.8**
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P		**Pn**	**04 45 09.3**	**-0.4**
GARC				*e*S		**Sn**	**04 46 06.3**	**-3.1**
GARC				*i*			04 46 11.8	
	comp=Z,28nm,0.2s							
PCON	**Cinco Dias**	**5.55**	**216**	*e*P		**Pn**	**04 45 16.0**	**+1.4**
PCON				*e*S		**Sn**	**04 46 18.6**	**+0.4**
PCON				*i*			04 46 21.8	
	comp=Z,5.8nm,0.4s							
POPC	**Popayan, Colom**	**5.55**	**220**	*e*P		**Pn**	**04 45 14.5**	**+0.1**
POPC				*e*S		**Sn**	**04 46 15.0**	**-2.9**
SOTA	**Rioblanco**	**5.83**	**217**	*e*P		**Pn**	**04 45 19.4**	**+1.1**
SOTA				*e*S		**Sn**	**04 46 25.0**	**+0.2**
TXAR	**Lajitas Array**	**36.46**	**312**	P		**P**	**04 50 44.1**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=129,slow=7.1,SNR=2.0							
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**	**04 54 04.1**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=134,slow=6.8,SNR=5.9							
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc		**PKPbc**	**05 03 27.0**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=104,slow=3.2,SNR=1.3							

IDC ***16*** *05:03:55.8±0.6,32°.97N×131°.28E, h0km, mb4.0/16, mb1 4.2/21, mb1mx4.1/43, mbtmp4.0/21, ML3.7/4, MS3.5/26, Ms1 3.6/26, ms1mx3.3/95, Error ellipse: s-maj=16.1km s-min=6.9km az=21.0*

JMA ***16*** *05:03:56.9, 33°.01N×131°.22E, h9km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs50.00000°, δ89.00000°, λ145.00000°. NP2: φs141.00000°, δ55.00000°, λ2.00000°. Principal axes: T Plg25.0000°, Azm359.0000°; N Plg55.0000°, Azm228.0000°; P Plg23.0000°, Azm101.0000°;*

JMA Felt IV J1.

MOS ***16*** *05:03:56.5±1.3, 32°.90N×131°.25E, h13km, mb4.6/17 Error ellipse: s-maj=10.1km s-min=5.8km az=104.1*

NIED ***16*** *05:03:57.0, 33°.01N×131°.22E, h9km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.05; Mθθ4.98; Mφφ-3.93; Mrθ-0.49; Mθφ-0.79; Mφr1.47; Fault plane solution: M0 4.85000×10^15 NP1: φs232.00000°, δ70.00000°, λ-168.00000°. NP2: φs138.00000°, δ79.00000°, λ-20.00000°.*

BJI ***16*** *05:03:57.3±0.0, 32°.85N×131°.08E, h6km, mb4.3/38, mB4.7/26, Ms4.3/28, Ms7 4.0/28*

NEIC ***16*** *05:03:57.9±1.4, 33°.00N±0°.04×131°.13E±0°.03, h9km±4km, mb4.6/29, Error ellipse: s-maj=7.1km s-min=2.4km az=210.0*

ISC 16 05:03:58.4±0.4, 32°.94N±0°.04×131°.19E±0°.03, h12km, n139, σ1§61/133, mb4.5/46, MS3.7/28, 13C-6D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.31**	**305**	Pg		**Pg**	**05 04 03.0**	**-1.9**
	2µm,0.3s,baz=113,slow=10,SNR=1361							
JNU				Lg		Lg	05 04 07.6	
	baz=205,slow=19							
JNU	**Nakatsue**	**0.31**	**305**	⇓P		**Pg**	**05 04 03.2**	**-1.7**
JNU				S		**Sg**	**05 04 07.7**	**-1.5**
JNU	**Nakatsue**	**0.31**	**305**			**Pg**	**05 04 02.9**	**-1.9**
JNU				Sg		**Sg**	**05 04 06.2**	**-3.0**
JUS	**Usuki**	**0.49**	**75**	⇓P		**Pg**	**05 04 05.5**	**-2.6**
JUS				S		**Sg**	**05 04 11.9**	**-2.7**
JIU3	**Izumi3**	**0.50**	**219**	⇑P		**Pg**	**05 04 07.9**	**-0.4**
JTA	**Tamana**	**0.55**	**272**	⇓P		**Pg**	**05 04 08.1**	**-1.1**
JSU	**Suzuyama**	**1.56**	**204**	Pn		**Pn**	**05 04 25.5**	**-0.5**
JTU	**Tsushima**	**2.17**	**317**	Pn		**Pn**	**05 04 31.7**	**-2.7**
JMN	**Monobe**	**2.39**	**70**	Pn		**Pn**	**05 04 36.5**	**-0.9**
JHS	**Saijyo**	**2.60**	**37**	Pn		**Pn**	**05 04 39.3**	**-1.1**
TJN	**Taejon**	**4.65**	**318**	*i* P		**Pn**	**05 05 09.0**	**+0.5**
TJN	**Taejon**	**4.65**	**318**	Pn		**Pn**	**05 05 07.2**	**-1.3**
KSRS	**Korea Array**	**5.23**	**330**	Pn		**Pn**	**05 05 16.4**	**0.0**
	1.2nm,0.3s,baz=149,slow=14,SNR=12							
KSRS				Pg		**Pb**	**05 05 32.7**	**+2.8**
	4.2nm,0.3s,baz=147,slow=16,SNR=8.2							
KSRS				Sn		**Sn**	**05 06 16.1**	**-0.7**
	3.2nm,0.3s,baz=150,slow=22,SNR=5.5							
KSRS				Lg		Lg	05 06 38.1	
	7.4nm,0.3s,baz=151,slow=30,SNR=10							
KSRS				LR		LR	05 07 10.6	
	comp=Z,219nm,19.7s,baz=145,slow=37							
KSAR	**Wonju Array Be**	**5.24**	**330**	P		**Pn**	**05 05 16.8**	**+0.2**
KSAR	**Wonju Array Be**	**5.24**	**330**			**Pn**	**05 05 16.8**	**+0.2**
INU	**Inuyama**	**5.40**	**62**	Pn		**Pn**	**05 05 18.9**	**+0.1**
JGF	**Kuroka**	**5.76**	**61**			**Pn**	**05 05 23.5**	**-0.3**
MAJO	**Matsushiro**	**6.80**	**56**	*i* P		**Pn**	**05 05 38.7**	**+0.6**
MAJO	**Matsushiro**	**6.80**	**56**	Pn		**Pn**	**05 05 38.3**	**+0.1**
**MJB9

HHC comp=Z,20nm,0.8s pmax pmax
HHC comp=Z,110nm,4.7s pmax pmax
HHC comp=Z,340nm,12.2s LR LR
HHC comp=Z,380nm,10.5s LR LR
HHC comp=Z,380nm,11.0s LR LR
HIA Hailar 18.41 336 *i* P **Pn 05 08 15.2 +1.7**
HIA comp=Z,16nm,1.4s pmax pmax
BTO Baotou 18.57 300 *eP* **P 05 08 10.8 -4.6**
XAN Xi'an 18.60 279 ↓P Pn 05 08 26.6 +11
XAN pP sP 05 08 36.1 +15
XAN sP pP 05 08 39.8 +21
XAN comp=Z,6.0nm,1.1s pmax pmax
XAN comp=Z,82nm,6.0s LR LR
XAN comp=N,610nm,11.7s LR LR
XAN comp=E,400nm,11.7s LR LR
XAN comp=Z,470nm,11.7s LR LR
ZEA Zeya 20.98 353 *eP* **P 05 08 42.1 +0.8**
ZEA *e* 05 12 45.0
ZEA comp=N,30nm,1.3s pmax pmax
ZEA comp=Z,40nm,1.2s pmax pmax
ZEA comp=E,300nm,12.0s MLR MLR
ZEA comp=Z,200nm,16.0s MLR MLR
LZH Lanzhou 22.72 286 *eP* **P 05 09 01.6 +1.2**
LZH pP sP 05 09 07.3 +1.6
LZH comp=Z,29nm,1.5s pmax pmax
LZH comp=Z,310nm,13.6s LR LR
LZH comp=Z,280nm,12.5s LR LR
LZH comp=Z,280nm,13.6s LR LR
CD2 Chengdu 23.34 272 P **P 05 09 08.4 +1.6**
CD2 comp=Z,20nm,0.7s pmax pmax
CD2 comp=Z,790nm,13.1s LR LR
CD2 comp=Z,870nm,12.0s LR LR
ULN Ulaanbaatar 23.53 316 *ceP* **P 05 09 09.4 +0.8**
ULN comp=Z,14nm,0.7s pmax pmax
ULN Ulaanbaatar 23.53 316 P **P 05 09 07.9 -0.7**
ULN comp=Z,15nm,0.8s lAmb lAmb 05 09 11.4
SONM Songino Array 23.90 316 P **P 05 09 10.9 -1.2**
comp=Z,5.3nm,0.8s,baz=143,slow=9.2,SNR=16
SONM Songino Array 23.90 316 P **P 05 09 11.8 -0.3**
GTA Gaotai 26.05 293 *eP* **P 05 09 33.3 +1.5**
GTA pP sP 05 09 36.8 -0.4
GTA sP pP 05 09 40.1 +4.5
GTA comp=Z,5.0nm,1.4s pmax pmax
GTA comp=Z,48nm,5.6s LR LR
GTA comp=Z,500nm,15.9s LR LR
GTA comp=Z,430nm,19.5s LR LR
GTA comp=Z,170nm,10.8s LR LR
DAV Davao City (W) 26.27 193 LR LR 05 21 59.2
comp=Z,50nm,18.1s,baz=308,slow=41
PZH PanZhiHua 26.31 264 P **P 05 09 41.3 +7.1**
PZH comp=Z,10.0nm,1.0s pmax pmax
PZH comp=Z,100nm,5.6s pmax pmax
ZAK Zakamensk 26.94 319 *eP* **P 05 09 39.8 +0.1**
ZAK comp=Z,7.0nm,1.1s pmax pmax
PETK Petropavlovsk- 27.70 35 LR LR 05 21 25.6
comp=Z,92nm,18.1s,baz=205,slow=38
YAK Yakutsk 29.12 359 LR LR 05 21 21.3
comp=Z,93nm,21.1s,baz=268,slow=36
YAK Yakutsk 29.12 359 *i* P **P 05 10 01.4 +2.6**
MA2 Magadan 29.65 20 LR LR 05 22 53.2
comp=Z,75nm,19.3s,baz=206,slow=38
GOMU GeErMu 30.02 286 P **P 05 10 09.1 +1.5**
GOMU pP sP 05 10 12.3 -0.7
GOMU sP pP 05 10 14.6 +3.1
GOMU PcP **PcP 05 13 14.1 +4.5**
GOMU comp=Z,3.0nm,0.7s pmax pmax
GOMU comp=Z,67nm,5.0s LR LR
GOMU comp=Z,170nm,11.5s LR LR
GOMU comp=Z,140nm,13.5s LR LR
GOMU comp=Z,120nm,10.3s LR LR
CMAR Chiang Mai Arr 32.28 251 P **P 05 10 28.8 +1.5**
comp=Z,1.3nm,0.9s,baz=46,slow=6.2,SNR=8.6
CMAR LR LR 05 24 20.4
comp=Z,86nm,18.6s,baz=60,slow=38
CMAR Chiang Mai Arr 32.28 251 *ceP* **P 05 10 29.7 +2.4**
CMAR comp=Z,2.0nm,0.9s pmax pmax
CMAR Chiang Mai Arr 32.28 251 P **P 05 10 26.8 -0.5**
SEY Seymchan 32.87 18 LR LR 05 23 35.2
comp=Z,151nm,20.6s,baz=254,slow=36
SEY Seymchan 32.87 18 *ceP* **P 05 10 32.2 +0.3**
SEY comp=Z,4.0nm,1.3s pmax pmax
SIJI Sorong 33.63 180 LR LR 05 23 50.0
comp=Z,39nm,20.4s,baz=62,slow=36
WMQ Urumqi 35.41 301 *eP* **P 05 10 55.1 +0.8**
WMQ comp=Z,360nm,17.3s LR LR
ZALV Zalesovo Beam 38.78 317 P **P 05 11 23.1 +0.3**
comp=Z,1.2nm,0.7s,baz=89,slow=7.9,SNR=6.8
ZALV LR LR 05 26 33.2
comp=Z,79nm,18.5s,baz=107,slow=35
ZALV Zalesovo Beam 38.78 317 P **P 05 11 21.4 -1.3**
TIXI Tiksi 38.79 359 *i* P **P 05 11 25.1 +2.6**
TIXI comp=Z,6.0nm,2.0s pmax pmax
KAPI Kappang 39.28 198 LR LR 05 29 27.6
comp=Z,51nm,18.1s,baz=37,slow=39
MKAR Makanchi Array 39.37 305 P **P 05 11 28.1 +0.4**
comp=Z,0.2nm,0.5s,baz=101,slow=6.6,SNR=2.1
MKAR LR LR 05 27 03.5
comp=Z,79nm,18.6s,baz=88,slow=35
BILL Bilibino 40.51 19 *eP* **P 05 11 37.6 +0.7**
BILL *e* 05 13 13.5
BILL comp=Z,4.0nm,0.9s pmax pmax
BILL comp=Z,75nm,14.0s MLR MLR
KWAJ Kwajalein Atol 41.32 117 P **P 05 11 44.4 +0.2**
KWAJ comp=Z,651nm,1.4s pmax pmax
KWAJ Kwajalein Atol 41.32 117 P **P 05 11 44.4 +0.2**
KURK Kurchatov 42.04 311 *ceP* **P 05 11 50.8 +1.1**
KURK comp=Z,8.0nm,1.3s pmax pmax
KURK Kurchatov 42.04 311 P **P 05 11 48.2 -1.5**
KURK lAmb lAmb 05 11 51.6
comp=Z,5.4nm,0.6s
KURBB Kurchatov Arra 42.09 311 LR LR 05 29 30.3
comp=Z,102nm,18.6s,baz=309,slow=36
NRIK Noril'sk 43.78 339 P **P 05 12 02.7 -0.9**
comp=Z,8.2nm,0.9s,baz=121,slow=8.9,SNR=8.1
NRIK LR LR 05 33 37.2
comp=Z,23nm,19.1s,baz=149,slow=41
NRIK Noril'sk 43.78 339 *ceP* **P 05 12 03.9 +0.3**
NRIK comp=Z,8.0nm,0.9s pmax pmax
NRIK Noril'sk 43.78 339 P **P 05 12 02.9 -0.7**
NRIK lAmb lAmb 05 12 05.3

comp=Z,7.4nm,0.8s
AAK Ala-Archa 45.09 299 LR LR 05 31 42.0
comp=Z,126nm,18.0s,baz=75,slow=37
AAK Ala-Archa 45.09 299 *ceP* **P 05 12 17.1 +2.5**
AAK pmax pmax
comp=Z,4.0nm,1.3s
MTN Manton Dam 45.53 180 P **P 05 12 17.4 -0.6**
MTN lAmb lAmb 05 12 19.1
comp=Z,11nm,0.9s
BRVK Borovoye 47.29 314 *ceP* **P 05 12 32.9 +1.3**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 47.29 314 P **P 05 12 30.9 -0.7**
BRVK lAmb lAmb 05 12 34.1
comp=Z,5.3nm,1.1s
KK31 Karatay Array 47.92 301 P **P 05 12 35.7 -1.0**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KK31 Karatay Array 47.92 301 P **P 05 12 35.6 -1.0**
KK31 lAmb lAmb 05 12 39.3
comp=Z,6.2nm,0.9s
KKAR Karatay Array 47.92 301 P **P 05 12 35.9 -0.8**
KKAR Karatay Array 47.92 301 P **P 05 12 35.9 -0.8**
KNRA Kununurra 48.40 183 P **P 05 12 40.4 0.0**
GAR Garm 48.84 295 P **P 05 12 42.6 -1.4**
GAR lAmb lAmb 05 12 46.4
comp=Z,10nm,0.9s
CHGR Chuyangaron 49.80 295 P **P 05 12 51.3 +0.1**
CHGR pmax pmax
comp=Z,24nm,0.8s
CHGR Chuyangaron 49.80 295 P **P 05 12 51.3 +0.1**
WRA Warramunga Arr 52.67 176 P **P 05 13 11.6 -1.2**
comp=Z,1.2nm,0.7s,baz=355,slow=8.0,SNR=7.0
ARU Arti 53.88 319 LR LR 05 37 18.6
comp=Z,56nm,19.6s,baz=122,slow=37
ARU Arti 53.88 319 *ceP* **P 05 13 23.5 +2.2**
ARU pmax pmax
comp=Z,5.0nm,1.0s
ABKAR Akbulak array 54.12 310 P **P 05 13 21.8 -1.4**
ABKAR Akbulak array 54.12 310 P **P 05 13 21.9 -1.3**
ABKAR lAmb lAmb 05 13 25.0
comp=Z,5.1nm,0.9s
CAST Castle Rocks 55.24 32 P **P 05 13 30.6 -0.5**
H23K Yukon River 56.11 29 P **P 05 13 36.6 -0.6**
H23K lAmb lAmb 05 13 46.9
comp=Z,8.0nm,1.2s
AS31 Alice Springs 56.35 177 P **P 05 13 38.8 -0.7**
ASAR Alice Springs 56.35 177 P **P 05 13 38.9 -0.6**
comp=Z,1.0nm,0.8s,baz=6.3,slow=7.9,SNR=10
ASAR LR LR 05 39 44.6
comp=Z,29nm,18.3s,baz=357,slow=38
ASAR Alice Springs 56.35 177 P **P 05 13 38.5 -1.0**
ASAR Alice Springs 56.35 177 P **P 05 13 38.5 -1.0**
MDM Murphy Dome 56.75 30 P **P 05 13 41.8 -0.1**
MDM lAmb lAmb 05 14 00.8
comp=Z,5.3nm,1.0s
TCOL CIGO, UAF Yank 56.92 30 P **P 05 13 42.9 -0.1**
TCOL lAmb lAmb 05 14 11.4
comp=Z,6.9nm,1.1s
COLA College 56.92 30 P **P 05 13 43.0 0.0**
COLA pmax pmax
comp=Z,5.0nm,0.7s
COLA College 56.92 30 P **P 05 13 43.0 0.0**
COLA lAmb lAmb 05 13 53.0
comp=Z,4.8nm,0.7s
ILAR Eielson Array 57.34 30 P **P 05 13 44.5 -1.6**
comp=Z,0.4nm,0.8s,baz=283,slow=6.6,SNR=4.4
ILAR LR LR 05 38 42.2
comp=Z,59nm,18.1s,baz=260,slow=36
DHY Denali Highway 57.39 32 P **P 05 13 46.5 -0.1**
GEYT Alibeck 58.34 297 LR LR 05 41 14.4
comp=Z,68nm,19.4s,baz=50,slow=38
KIRV Kirov 58.39 323 LR LR 05 39 07.9
comp=Z,121nm,18.2s,baz=89,slow=36
MENT Mentasta 59.06 32 P **P 05 13 57.6 -0.5**
MENT lAmb lAmb 05 14 16.3
comp=Z,7.1nm,1.3s
BELG Belogornoye 60.96 316 LR LR 05 39 51.5
comp=Z,83nm,18.9s,baz=299,slow=35
KLMR Klimovskoe 62.62 327 *eP* **P 05 14 22.9 +0.6**
KLMR pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 62.62 327 *eP* **P 05 14 22.9 +0.6**
KLMR AMP 05 14 24.6
comp=Z,6.0nm,1.0s
A36M Sachs Harbour 63.06 20 P **P 05 14 24.0 -1.0**
A36M lAmb lAmb 05 14 33.4
comp=Z,3.9nm,0.8s
M31M Drury Creek, Y 63.41 32 P **P 05 14 27.1 -0.5**
ARCES ARCESS Array B 64.74 338 P **P 05 14 34.9 -1.3**
comp=Z,2.0nm,0.9s,baz=34,slow=12,SNR=4.3
OBN Obninsk 66.17 321 *eP* **P 05 14 47.7 +2.1**
OBN pmax pmax
comp=Z,3.0nm,1.0s
OBN MLR MLR
comp=Z,83nm,18.0s
KBZ Khabaz 66.98 308 P **P 05 14 50.6 -0.4**
comp=Z,6.8nm,0.9s,baz=70,slow=5.7,SNR=12
KBZ Khabaz 66.98 308 *ceP* **P 05 14 50.7 -0.3**
KIV Kislovodsk 67.03 308 *eP* **P 05 14 53.7 +2.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 67.03 308 P **P 05 14 50.0 -1.5**
GNI Garni 67.20 304 LR LR 05 45 50.4
comp=Z,50nm,19.7s,baz=80,slow=37
FINES FINESS Array B 68.33 330 P **P 05 14 57.7 -1.5**
comp=Z,3.3nm,1.0s,baz=98,slow=5.8,SNR=6.7
DAG Danmarks Havn 68.95 353 P **P 05 15 02.7 -0.1**
DAG pmax pmax
comp=Z,66nm,1.5s
YKA Yellowknife Ar 71.38 27 P **P 05 15 16.9 -1.0**
comp=Z,0.9nm,0.7s,baz=303,slow=6.4,SNR=16
YKA Yellowknife Ar 71.38 27 *i* P **P 05 15 20.6 +2.6**
YKA pmax pmax
comp=Z,1.0nm,0.7s
NC405 NORSAR Array S 74.20 334 P **P 05 15 34.8 0.0**
NB201 NORSAR Array S 74.40 334 P **P 05 15 35.7 -0.3**
NOA NORSAR Array B 74.43 334 P **P 05 15 35.0 -1.2**
comp=Z,1.0nm,0.8s,baz=49,slow=5.8,SNR=3.9
NOA NORSAR Array B 74.43 334 P **P 05 15 35.0 -1.2**
BR131 Keskin Array S 74.97 308 P **P 05 15 39.0 -0.8**
BR131 pmax pmax
comp=Z,8.0nm,1.3s
BR131 Keskin Array S 74.97 308 P **P 05 15 39.0 -0.8**
BR131 lAmb lAmb 05 15 40.8
comp=Z,7.9nm,1.2s
BRTR Keskin Array B 74.97 308 P **P 05 15 39.2 -0.7**
comp=Z,3.2nm,1.1s,baz=104,slow=5.2,SNR=12
BRTR Keskin Array B 74.97 308 *ceP* **P 05 15 39.9 +0.1**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 74.97 308 P **P 05 15 38.7 -1.1**
GERES GERESS Array B 81.38 324 P **P 05 16 13.0 -2.1**
comp=Z,0.2nm,0.5s,baz=23,slow=3.3,SNR=1.6
GERES GERESS Array B 81.38 324 P **P 05 16 13.0 -2.1**
NVAR Mina Array Bea 84.05 48 P **P 05 16 27.7 -1.7**
comp=Z,0.5nm,0.7s,baz=292,slow=4.8,SNR=1.9
QSPA South Pole Qui 122.70 180 PKP **PKPdf 05 22 52.9 -0.4**
comp=Z,2.1nm,1.1s,baz=260,slow=1.5,SNR=2.3

IDC 16 05:13:06.0±1.6,**54°32S**×**133°75W**,**h0**km,**mb4.0**/4,
mb1 4.3/4,**mb1mx3.8**/37,**mbtmp4.0**/4,**MS3.5**/3,**Ms1 3.5**/3,
ms1mx3.0/48,**Error ellipse: s-maj=116.8km**
s-min=37.0km az=151.0,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**34.98**	**135**			LR	LR	05 32 15.1	
comp=Z,91nm,18.6s,baz=272,slow=33									
URZ	**Urewera**	**36.73**	**275**			LR	LR	05 31 07.6	
comp=Z,117nm,19.1s,baz=31,slow=29									
AFI	**Afiamalu**	**50.08**	**309**			LR	LR	05 38 40.7	
comp=Z,26nm,19.3s,baz=284,slow=31									
ASAR	**Alice Springs**	**72.45**	**254**	P		Pg	P	05 24 34.1	-0.1
2.4nm,0.9s,baz=145,slow=7.2,SNR=18									
H01W1	**Cape Leeuwin H**	**73.72**	**233**	T		T	T	06 46 29.5	
baz=144,slow=76,SNR=15									
H01W2	**Cape Leeuwin H**	**73.72**	**232**	T		T	T	06 46 29.8	
baz=144,slow=76,SNR=13									
H01W3	**Cape Leeuwin H**	**73.73**	**233**	T		T	T	06 46 30.6	
baz=144,slow=76,SNR=16									
WRA	**Warramunga Arr**	**75.14**	**257**	P		P	P	05 24 49.7	-0.3
1.7nm,0.7s,baz=145,slow=5.1,SNR=18									
FITZ	**Fitzroy Crossi**	**81.51**	**251**	P		P	P	05 25 26.4	+1.2
0.4nm,0.5s,baz=180,slow=4.0,SNR=1.1									
TXAR	**Lajitas Array**	**87.27**	**26**	P		P	P	05 25 54.0	-0.1
0.4nm,0.9s,baz=178,slow=7.0,SNR=2.4									
ILAR	**Eielson Array**	**119.19**	**354**	PKP		PKPdf		05 31 54.9	-0.4
0.4nm,0.9s,baz=197,slow=3.3,SNR=2.9									
TORD	**Torodi Ar. Bea**	**126.14**	**122**	PKP		PKPdf		05 32 10.0	-0.2
0.4nm,0.8s,baz=191,slow=2.9,SNR=2.5									

UCR ***16*** *05:14:20.9*±*2.2, 11°.39N*×*85°.88W, h147*km±*8*km*, MW3.7*
INET ***16*** *05:14:21.2*±*0.9, 11°.39N*×*85°.77W, h153*km±*7*km*, MW3.3*
IDC ***16*** *05:14:22.1*±*3.3, 10°.96N*×*85°.97W, h155*km±*34*km*, mb3.1/2, mb1 3.4/2, mb1mx2.9/41, mbtmp3.5/2, Error ellipse: s-maj=302.8km s-min=22.9km az=48.0*
SNET ***16*** *05:14:26.6*±*1.0, 11°.96N*×*86°.00W, h168*km±*33*km*, ML3.4*

ISC 16 05:14:20.9±0.9,**11°37N**±0°.05×**85°82W**±0°.05,**h150**km±7km,
n63,σ1°19/76,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.27**	**44**	*eP*		**Pn**		**05 14 41.9**	**+0.5**
GB1A	**Borinquen Arri**	**0.68**	**143**	*i* P		**Pn**		**05 14 44.0**	**+0.5**
GB1A				*i* S		**Sn**		**05 15 01.5**	**+0.8**
HZTE	**Horizontes, Gu**	**0.69**	**162**	*eP*		**Pn**		**05 14 44.0**	**+0.7**
HZTE	**Horizontes, Gu**	**0.69**	**162**	*eP*		**Pn**		**05 14 44.1**	**+0.7**
BUEV	**Buena Vista**	**0.70**	**145**	*i* P		**Pn**		**05 14 43.9**	**+0.3**
BUEV				*eS*		**Sn**		**05 15 01.4**	**+0.7**
ACON	**Acoyapa**	**0.86**	**47**	*eP*		**Pn**		**05 14 44.9**	**+0.3**
ACON	**Acoyapa**	**0.86**	**47**	*eP*		**Pn**		**05 14 44.8**	**+0.3**
ACON				*eS*		**Sn**		**05 15 02.7**	**0.0**
MGAN	**Managua**	**0.88**	**331**	*eP*		**Pn**		**05 14 45.6**	**+0.8**
TISN	**Laguna Tiscapa**	**0.89**	**330**	*eP*		**Pn**		**05 14 45.5**	**+0.7**
CUI	**Cuipilapa**	**0.95**	**138**	*eP*		**Pn**		**05 14 46.0**	**+0.6**
HUEN		**1.02**	**340**	*eP*		**Pn**		**05 14 46.6**	**+0.7**
PTEN	**Parque Tenorio**	**1.04**	**129**	*i* P		**Pn**		**05 14 46.8**	**+0.6**
ORTG	**Ortega, Santa**	**1.06**	**161**	*eP*		**Pn**		**05 14 46.6**	**+0.2**
BOAB	**BOACO BROADBAN**	**.08**	**8**	*eP*		**Pn**		**05 14 46.8**	**+0.3**
COPN	**Copaltepe**	**1.11**	**317**	*eP*		**Pn**		**05 14 47.3**	**+0.6**
PLVR	**Palo Verde**	**1.11**	**156**	*eP*		**Pn**		**05 14 47.1**	**+0.2**
MOMN	**Momotombo**	**1.25**	**326**	*eP*		**Pn**		**05 14 48.6**	**+0.6**
NICO	**Nicoya**	**1.28**	**164**	*eP*		**Pn**		**05 14 49.6**	**+1.3**
SAJU	**San Juanillo,**	**1.30**	**175**	*eP*		**Pn**		**05 14 48.5**	**0.0**
DUNO	**Dulce Nombre,**	**1.32**	**166**	*eP*		**Pn**		**05 14 49.0**	**+0.3**
DUNO	**Dulce Nombre,**	**1.32**	**166**	*eP*		**Pn**		**05 14 49.0**	**+0.3**
JTS	**Las Juntas de**	**1.37**	**142**	P		**Pn**		**05 14 49.2**	**0.0**
6.1nm,0.3s,baz=147,slow=4.7,SNR=90									
JTS				S		**Sn**		**05 15 09.8**	**-1.0**
14nm,0.3s,baz=15,slow=18,SNR=8.4									
JTS	**Las Juntas de**	**1.37**	**142**	*eP*		**Pn**		**05 14 49.1**	**0.0**
ARE1	**Arenal 1**	**1.41**	**130**	*eP*		**Pn**		**05 14 50.1**	**+0.6**
CNGN	**Cerro Negro**	**1.42**	**323**	*eP*		**Pn**		**05 14 49.3**	**-0.4**
GRZA	**Playa Garza**	**1.46**	**173**	*eP*		**Pn**		**05 14 50.0**	**0.0**
INDI	**Punta indio, G**	**1.53**	**168**	*eP*		**Pn**		**05 14 50.8**	**0.0**
MATN	**Matagalpa**	**1.55**	**356**	*eP*		**Pn**		**05 14 51.6**	**+0.4**
TEL3	**Telica 3**	**1.56**	**320**	*eP*		**Pn**		**05 14 52.2**	**+1.1**
ESPN	**Las Esperanzas**	**1.69**	**61**	*eP*		**Pn**		**05 14 52.8**	**+0.2**
ESPN	**Las Esperanzas**	**1.69**	**61**	*eP*		**Pn**		**05 14 52.8**	**+0.2**
CRIN	**San Cristobal**	**1.79**	**318**	*eP*		**Pn**		**05 14 54.4**	**+0.7**
LAFE	**Finca La Fe, P**	**1.79**	**150**	*eP*		**Pn**		**05 14 53.7**	**+0.1**
LAFE	**Finca La Fe, P**	**1.79**	**150**	*eP*		**Pn**		**05 14 53.8**	**+0.1**
CAO2	**Cobano, Puntar**	**1.81**	**157**	*eP*		**Pn**		**05 14 53.9**	**-0.1**
JACO	**JACO, Garabito**	**2.04**	**146**	*eP*		**Pn**		**05 14 56.9**	**-0.4**
CSGN	**Cosiguina Volc**	**2.33**	**313**	*eP*		**Pn**		**05 15 00.6**	**+0.5**
LCR2	**La Lucha 2**	**2.41**	**132**	*eP*		**Pn**		**05 15 01.8**	**+0.7**
LCND	**La Caada**	**2.80**	**314**	*eP*		**Pn**		**05 15 06.6**	**+0.9**
LCND				*eS*		**Sn**		**05 15 37.7**	**-2.7**
LCND	**La Caada**	**2.80**	**314**	*eP*		**Pn**		**05 15 06.6**	**+0.9**
LCND				*eS*		**Sn**		**05 15 37.7**	**-2.7**
LCND				IAML				05 15 45.4	
comp=Z,146nm,0.3s									
RANC	**El Ranchito**	**3.17**	**311**	*eP*		**Pn**		**05 15 11.8**	**+1.3**
RANC				*eS*		**Sn**		**05 15 47.4**	**-1.6**
RANC	**El Ranchito**	**3.17**	**311**	*eP*		**Pn**		**05 15 11.8**	**+1.3**
RANC				*eS*		**Sn**		**05 15 47.4**	**-1.6**
RANC				IAML				05 15 57.6	
comp=Z,147nm,0.2s									
COEB	**Comit de Eme**	**3.39**	**309**	*eP*		**Pn**		**05 15 14.5**	**+1.2**
COEB				*eS*		**Sn**		**05 15 53.1**	**-1.0**
COEB	**Comit de Eme**	**3.39**	**309**	*eP*		**Pn**		**05 15 14.5**	**+1.2**
COEB				*eS*		**Sn**		**05 15 53.1**	**-1.0**
COEB				IAML				05 16 04.1	
comp=Z,113nm,0.3s									
SCLA	**Alcaldia de Sa**	**3.67**	**309**	*eP*		**Pn**		**05 15 17.8**	**+0.9**
SCLA	**Alcaldia de Sa**	**3.67**	**309**	*eP*		**Pn**		**05 15 17.8**	**+0.9**
COEG	**Centro de Oper**	**3.74**	**307**	*eP*		**Pn**		**05 15 19.2**	**+1.4**
COEG	**Centro de Oper**	**3.74**	**307**	*eP*		**Pn**		**05 15 19.2**	**+1.4**
COEG				IAML				05 16 08.1	
comp=Z,92nm,0.3s									
SJTE	**Alcalda de S**	**3.83**	**306**	*eP*		**Pn**		**05 15 20.2**	**+1.2**
SJTE	**Alcalda de S**	**3.83**	**306**	*eP*		**Pn**		**05 15 20.2**	**+1.2**
SJTE				IAML				05 16 05.9	
comp=Z,46nm,0.3s									
LFRS	**El Faro**	**3.88**	**306**	*eP*		**Pn**		**05 15 21.6**	**+1.9**
LFRS				*eS*		**Sn**		**05 16 04.1**	**-1.3**
LFRS	**El Faro**	**3.88**	**306**	*eP*		**Pn**		**05 15 21.6**	**+1.9**
LFRS				*eS*		**Sn**		**05 16 04.1**	**-1.3**
BOQS	**Boqueron**	**4.12**	**305**	*eP*		**Pn**		**05 15 25.3**	**+2.4**
PMON	**Piamonte**	**4.13**	**305**	*eP*		**Pn**		**05 15 24.6**	**+1.5**
PMON	**Piamonte**	**4.13**	**305**	*eP*		**Pn**		**05 15 24.6**	**+1.5**
MTO3	**Montecristo**	**4.58**	**311**	*eP*		**Pn**		**05 15 30.5**	**+1.5**
MTO3	**Montecristo**	**4.58**	**311**	*eP*		**Pn**		**05 15 30.5**	**+1.5**
NUBE	**Las Nubes**	**4.62**	**303**	*eP*		**Pn**		**05 15 31.1**	**+1.7**
NUBE	**Las Nubes**	**4.62**	**303**	*eP*		**Pn**		**05 15 31.1**	**+1.7**
NUBE				*eS*		**Sn**		**05 16 19.7**	**-3.1**
NUBE				IAML				05 16 29.9	
comp=Z,38nm,0.2s									
TXAR	**Lajitas Array**	**24.42**	**320**	P		**Pn**		**05 19 28.6**	**+2.9**
comp=Z,0.2nm,0.5s,baz=138,slow=11,SNR=7.5									
SIV	**San Ignacio**	**36.59**	**138**	P		**Pn**		**05 21 11.9**	**-0.9**
comp=Z,0.9nm,0.5s,baz=297,slow=10.0,SNR=5.3									
ASAR	**Alice Springs**	**140.33**	**247**	PKP		**PKPdf**		**05 33 31.3**	**-1.6**
comp=Z,0.2nm,0.4s,baz=91,slow=2.1,SNR=1.6									
WRA	**Warramunga Arr**	**140.49**	**252**	PKP		**PKPdf**		**05 33 33.1**	**-0.1**
comp=Z,0.3nm,0.7s,baz=93,slow=2.3,SNR=5.0									

MOS ***16*** *05:27:03.8*±*1.2, 32°.56N*×*130°.77E, h12*km*, mb4.5/18, Error ellipse: s-maj=11.1km s-min=6.4km az=97.6*
IDC ***16*** *05:27:03.7*±*0.6, 32°.63N*×*130°.69E, h0*km*, mb3.9/19, mb1 4.1/23, mb1mx4.0/65, mbtmp3.9/23, ML3.6/4, MS3.8/40, Ms1 3.8/40, ms1mx3.6/95, Error ellipse: s-maj=15.2km s-min=7.6km az=110.0*
JMA ***16*** *05:27:04.0, 32°.65N*×*130°.74E, h8*km±*1*km*, M4.6*
*Broadband fault plane solution: P waves. NP1: *ϕ_s*212.00000°,*δ*84.00000°,*λ*172.00000°. NP2: *ϕ_s*302.00000°,*δ*82.00000°,*λ*6.00000°. Principal axes: T Plg10.0000°, Azm167.0000°; N Plg80.0000°, Azm353.0000°; P Plg1.0000°, Azm257.0000°;*
JMA Felt IV J1.
BJI ***16*** *05:27:04.5*±*0.0, 32°.49N*×*130°.52E, h10*km*, mb4.3/34, mB4.8/22, Ms4.4/27, Ms7 4.1/28*
NIED ***16*** *05:27:04.0, 32°.65N*×*130°.74E, h8*km*, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10*^{15}*Nm; M*$_{rr}$*0.71; M*$_{\theta\theta}$*4.40; M*$_{\phi\phi}$*-5.11; M*$_{r\theta}$*-0.88; M*$_{r\phi}$*2.59; M*$_{\theta\phi}$*3.16; Fault plane solution: M*$_0$*6.10000×10*^{15} *NP1: *ϕ_s*213.00000°,*δ*73.00000°,*λ*-164.00000°. NP2: *ϕ_s*119.00000°,*δ*75.00000°,*λ*-17.00000°.*
NEIC ***16*** *05:27:05.6*±*2.2, 32°.67N*±*0°.02×130°.68E*±*0°.05, h10*km*±1*km*, mb4.6/34 Error ellipse: s-maj=7.1km s-min=3.4km az=108.0*

ISC 16 05:27:05.1±1.0,**32°63N**±0°.03×**130°70E**±0°.04,**h7**km±6km,
n151,σ1°23/129,mb4.4/51,**MS3.9**/43,**16C,Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.13**	**129**	↑P		**Pg**		**05 27 06.7**	**-1.1**
JIU3				S		**Sg**		**05 27 09.0**	**-0.7**
JTA	**Tamana**	**0.36**	**337**	↑P		**Pg**		**05 27 11.3**	**-0.9**
JTA				S		**Sg**		**05 27 16.7**	**-0.3**
JNU	**Nakatsue**	**0.52**	**17**	**Pg**		**Pg**		**05 27 13.6**	**-1.6**
987nm,0.3s,baz=177,slow=12,SNR=174									
JNU				Lg		Lg		05 27 20.4	
13μm,0.3s,baz=52,slow=16,SNR=64									
JSU	**Suzuyama**	**1.14**	**190**			**Pg**		**05 27 26.2**	**-0.8**
JSU				Sg		**Sg**		**05 27 41.4**	**-0.4**
JTU	**Tsushima**	**2.18**	**331**	Pn		**Pn**		**05 27 39.7**	**-2.2**
JMN	**Monobe**	**2.88**	**67**			**Pn**		**05 27 50.1**	**-1.5**
JHS	**Saijyo**	**3.10**	**40**	Pn		**Pn**		**05 27 53.2**	**-1.4**
TJN	**Taejon**	**4.64**	**325**	*i* P		**Pn**		**05 28 17.3**	**+1.6**
TJN	**Taejon**	**4.64**	**325**	Pn		**Pn**		**05 28 14.6**	**-1.1**

KSRS	**Korea Array**	**5.33**	**335**	Pn		**Pn**	**05 28 24.4**	**-0.6**	
	1.1nm,0.3s,baz=143,slow=14,SNR=10.0								
KSRS				Pg		**Pb**	**05 28 41.5**	**+2.9**	
	3.7nm,0.3s,baz=150,slow=17,SNR=30								
KSRS				Sn		**Sn**	**05 29 24.0**	**-2.6**	
	3.3nm,0.3s,baz=137,slow=20,SNR=4.5								
KSRS				Lg		Lg	05 29 50.0		
	8.2nm,0.3s,baz=158,slow=30,SNR=7.2								
KSRS				LR		LR	05 30 35.0		
	comp=Z,801nm,21.6s,baz=155,slow=40								
KS19	**Wonju Array Si**	**5.39**	**335**			**Pn**	**05 28 23.7**	**-2.3**	
INU	**Inuyama**	**5.91**	**61**	Pn		**Pn**	**05 28 32.4**	**-0.7**	
JOW	**Kunigami**	**6.15**	**201**	Pn		**Pn**	**05 28 38.9**	**+2.5**	
	11nm,0.3s,baz=48,slow=9.5,SNR=6.7								
JOW	**Kunigami**	**6.15**	**201**			**Pn**	**05 28 38.1**	**+1.7**	
JGF	**Kuroka**	**6.27**	**60**	Pn		**Pn**	**05 28 38.6**	**+0.5**	
MJB9	**Matsu-Tunnel**	**7.32**	**56**			**Pn**	**05 28 52.3**	**-0.2**	
MAJO	**Matsushiro**	**7.32**	**56**	*i* P		**Pn**	**05 28 52.7**	**+0.2**	
MAJO	**Matsushiro**	**7.32**	**56**	Pn		**Pn**	**05 28 52.1**	**-0.4**	
MJAR	**Matsushiro Arr**	**7.32**	**56**	Pn		**Pn**	**05 28 52.6**	**+0.1**	
	0.6nm,0.3s,baz=291,slow=8.7,SNR=14								
MJAR				LR		LR	05 31 49.4		
	comp=Z,982nm,18.9s,baz=230,slow=39								
MJAR	**Matsushiro Arr**	**7.32**	**56**	Pn		**Pn**	**05 28 53.0**	**+0.5**	
JHJ	**Hachijo jima 2**	**7.66**	**84**	Pn		**Pn**	**05 28 57.0**	**-0.2**	
	19nm,0.3s,baz=59,slow=16,SNR=5.1								
JHJ				LR		LR	05 31 50.7		
	comp=Z,346nm,19.0s,baz=234,slow=37								
NJ2	**Nanjing**	**10.04**	**270**	*e*P		**Pn**	**05 29 29.4**	**-0.3**	
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
NJ2				LR		LR			
	comp=N,710nm,11.4s								
NJ2				LR		LR			
	comp=E,950nm,10.4s								
NJ2				LR		LR			
	comp=Z,790nm,12.0s								
USRK	**Ussuriysk Ar.**	**11.60**	**5**	Pn		**Pn**	**05 29 53.6**	**+2.6**	
	baz=191,slow=15,SNR=11								
USRK				LR		LR	05 34 07.5		
	comp=Z,404nm,18.2s,baz=179,slow=36								
USRK	**Ussuriysk Ar.**	**11.60**	**5**	P		**Pn**	**05 29 52.0**	**+0.9**	
USRK	**Ussuriysk Ar.**	**11.60**	**5**			**Pn**	**05 29 52.0**	**+0.9**	
TIA	**Tai'an**	**11.76**	**291**	P		**Pn**	**05 29 53.5**	**+0.1**	
TIA				pmax		pmax			
	comp=Z,3.0nm,0.4s								
TIA				LR		LR			
	comp=N,250nm,5.9s								
TIA				LR		LR			
	comp=E,680nm,7.5s								
TIA				LR		LR			
	comp=Z,450nm,6.4s								
ASAJ	**Asahikawa**	**14.77**	**36**	Pn		**Pn**	**05 30 34.4**	**0.0**	
	0.3nm,0.3s,baz=239,slow=12,SNR=1.6								
KLR	**Kul'dur**	**16.60**	**2**	Pn		**P**	**05 31 03.0**	**+2.1**	
	0.4nm,0.3s,baz=153,slow=8.0,SNR=23								
KLR				LR		LR	05 37 05.6		
	comp=Z,243nm,18.2s,baz=176,slow=36								
KLR	**Kul'dur**	**16.60**	**2**	*ce*P		**P**	**05 30 59.9**	**-0.9**	
KLR				pmax		pmax			
	comp=Z,36nm,0.9s								
YSS	**Yuzh-Sakhalins**	**17.02**	**29**	*e*P		**P**	**05 31 04.5**	**-0.9**	
YSS				pmax		pmax			
	comp=Z,30nm,1.0s								
HHC	**Hu-ho-hao-te**	**17.37**	**304**	*e*P		**Pn**	**05 31 06.1**	**-2.0**	
HHC				PP		**PnPn**	**05 31 20.3**	**+2.2**	
HHC				S		**Sn**	**05 34 22.1**	**+0.4**	
HHC				pmax		pmax			
	comp=Z,10.0nm,0.8s								
HHC				pmax		pmax			
	comp=Z,99nm,5.7s								
HHC				LR		LR			
	comp=Z,620nm,13.5s								
HHC				LR		LR			
	comp=Z,860nm,13.9s								
HHC				LR		LR			
	comp=Z,1μm,12.6s								
HIA	**Hailar**	**18.53**	**337**	*i* P		**Pn**	**05 31 23.7**	**+1.4**	
HIA				pmax		pmax			
	comp=Z,30nm,1.8s								
HIA	**Hailar**	**18.53**	**337**	P		**P**	**05 31 21.4**	**-0.8**	
HIA				IAmb		IAmb	05 31 28.8		
	comp=Z,90nm,2.0s								
ZEA	**Zeya**	**21.24**	**354**	*e*P		**P**	**05 31 52.6**	**+1.0**	
ZEA				*e*			05 35 52.5		
ZEA				pmax		pmax			
	comp=N,10.0nm,0.7s								
ZEA				pmax		pmax			
	comp=Z,30nm,0.8s								
LZH	**Lanzhou**	**22.41**	**286**	⇑P		**P**	**05 32 04.6**	**+0.1**	
LZH				sP		sP	05 32 13.4	+6.0	
LZH				pmax		pmax			
	comp=Z,16nm,1.5s								
LZH				LR		LR			
	comp=Z,850nm,13.6s								
LZH				LR		LR			
	comp=Z,650nm,12.5s								
LZH				LR		LR			
	comp=Z,720nm,13.0s								
CD2	**Chengdu**	**22.95**	**273**	P		**P**	**05 32 08.9**	**-1.2**	
CD2				S		**S**	**05 36 20.4**	**-0.3**	
CD2				pmax		pmax			
	comp=Z,10.0nm,1.2s								
CD2				LR		LR			
	comp=Z,170nm,12.2s								
CD2				LR		LR			
	comp=Z,1μm,12.2s								
CD2				LR		LR			
	comp=Z,670nm,13.9s								
GUMO	**Guam**	**22.95**	**142**	LR		LR	05 39 46.1		
	comp=Z,57nm,18.2s,baz=102,slow=33								
ULN	**Ulaanbaatar**	**23.48**	**317**	*ce*P		**P**	**05 32 16.9**	**+1.4**	
ULN				pmax		pmax			
	comp=Z,12nm,1.5s								
ULN	**Ulaanbaatar**	**23.48**	**317**	P		**P**	**05 32 15.6**	**+0.1**	
ULN				IAmb		IAmb	05 32 21.4		
	comp=Z,18nm,1.6s								
SONM	**Songino Array**	**23.84**	**317**	P		**P**	**05 32 18.5**	**-0.5**	
	comp=Z,3.0nm,1.0s,baz=119,slow=11,SNR=7.8								
SONM				LR		LR	05 42 38.1		
	comp=Z,299nm,18.9s,baz=30,slow=39								
SONM	**Songino Array**	**23.84**	**317**	P		**P**	**05 32 19.6**	**+0.6**	
KMI	**Kunming**	**25.55**	**260**	⇑P		**P**	**05 32 35.4**	**+0.5**	
KMI				pmax		pmax			
	comp=Z,13nm,0.7s								
KMI				LR		LR			
	comp=Z,350nm,14.3s								
KMI				LR		LR			
	comp=Z,320nm,14.3s								
KMI				LR		LR			
	comp=Z,320nm,16.2s								
GTA	**Gaotai**	**25.80**	**294**	P		**P**	**05 32 37.3**	**+0.3**	
GTA				pP		sP	05 32 41.3	+1.3	
GTA				sP		pP	05 32 46.0	+6.9	
GTA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
GTA				pmax		pmax			
	comp=Z,100nm,6.0s								
GTA				LR		LR			
	comp=Z,1μm,15.5s								
GTA				LR		LR			
	comp=Z,360nm,17.9s								
GTA				LR		LR			
	comp=Z,210nm,14.7s								
PZH	**PanZhiHua**	**25.87**	**264**	P		**P**	**05 32 35.8**	**-1.9**	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.9s								
PZH				pmax		pmax			
	comp=Z,110nm,6.1s								
DAV	**Davao City (W)**	**25.87**	**192**	LR		LR	05 44 29.5		
	comp=Z,119nm,18.6s,baz=350,slow=40								
ZAK	**Zakamensk**	**26.90**	**319**	*e*P		**P**	**05 32 45.7**	**-1.1**	
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.4s								
PETK	**Petropavlovsk-**	**28.19**	**35**	LR		LR	05 43 51.9		
	comp=Z,90nm,20.4s,baz=226,slow=36								
YAK	**Yakutsk**	**29.43**	**359**	LR		LR	05 44 39.6		
	comp=Z,132nm,19.8s,baz=256,slow=36								
GOMU	**GeErMu**	**29.71**	**287**	P		**P**	**05 33 11.6**	**-0.7**	
GOMU				pP		sP	05 33 14.8	-0.6	
GOMU				sP		pP	05 33 17.0	+2.5	
GOMU				PcP		**PcP**	**05 36 13.9**	**-2.5**	
GOMU				pmax		pmax			
	comp=Z,2.0nm,0.4s								
GOMU				pmax		pmax			
	comp=Z,43nm,4.7s								
GOMU				LR		LR			
	comp=Z,110nm,10.0s								
GOMU				LR		LR			
	comp=Z,150nm,15.4s								
GOMU				LR		LR			
	comp=Z,130nm,12.8s								
MA2	**Magadan**	**30.08**	**20**	LR		LR	05 45 08.3		
	comp=Z,52nm,18.6s,baz=213,slow=36								
CMAR	**Chiang Mai Arr**	**31.80**	**251**	P		**P**	**05 33 30.6**	**+0.2**	
	comp=Z,0.6nm,0.7s,baz=39,slow=9.0,SNR=9.0								
CMAR				LR		LR	05 48 18.4		
	comp=Z,209nm,18.5s,baz=55,slow=40								
CMAR	**Chiang Mai Arr**	**31.80**	**251**	*ce*P		**P**	**05 33 32.7**	**+2.3**	
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
SEY	**Seymchan**	**33.29**	**18**	LR		LR	05 46 47.0		
	comp=Z,116nm,20.4s,baz=213,slow=36								
SEY	**Seymchan**	**33.29**	**18**	*ce*P		**P**	**05 33 46.0**	**+2.9**	
SEY				pmax		pmax			
	comp=Z,3.0nm,1.0s								
WMQ	**Urumqi**	**35.22**	**301**	*e*P		**P**	**05 34 01.6**	**+1.5**	
WMQ				LR		LR			
	comp=Z,750nm,15.3s								
WMQ				LR		LR			
	comp=Z,400nm,18.5s								
WMQ				LR		LR			
	comp=Z,240nm,16.9s								
ZAA0	**Zalesovo Array**	**38.73**	**317**	P		**P**	**05 34 29.6**	**-0.1**	
ZALV	**Zalesovo Beam**	**38.73**	**317**	P		**P**	**05 34 29.9**	**+0.1**	
	comp=Z,0.4nm,0.5s,baz=88,slow=12,SNR=1.7								
ZALV	**Zalesovo Beam**	**38.73**	**317**	P		**P**	**05 34 29.7**	**-0.1**	
ZALV	**Zalesovo Beam**	**38.73**	**317**	P		**P**	**05 34 29.6**	**-0.1**	
KAPI	**Kappang**	**38.85**	**198**	LR		LR	05 50 05.2		
	comp=Z,76nm,20.9s,baz=14,slow=36								
MKAR	**Makanchi Array**	**39.22**	**306**	LR		LR	05 53 18.7		
	comp=Z,118nm,18.4s,baz=94,slow=40								
BILL	**Bilibino**	**40.94**	**20**	*e*P		**P**	**05 34 49.4**	**+1.4**	
BILL				pmax		pmax			
	comp=Z,5.0nm,0.9s								
BILL				MLR		MLR			
	comp=Z,116nm,14.0s								
BILL	**Bilibino**	**40.94**	**20**	P		**P**	**05 34 48.7**	**+0.8**	
KURK	**Kurchatov**	**41.93**	**311**	*ce*P		**P**	**05 34 56.6**	**+0.3**	
KURK				pmax		pmax			
	comp=Z,8.0nm,2.3s								
KURK	**Kurchatov**	**41.93**	**311**	P		**P**	**05 34 55.3**	**-1.0**	
KURBB	**Kurchatov Arra**	**41.98**	**311**	P		**P**	**05 34 55.3**	**-1.4**	
	comp=Z,0.8nm,0.7s,baz=99,slow=9.3,SNR=7.6								
KURBB				LR		LR	05 53 12.5		
	comp=Z,319nm,18.3s,baz=59,slow=37								
PSI	**Prapat**	**42.05**	**232**	LR		LR	05 56 19.5		
	comp=Z,186nm,18.2s,baz=38,slow=42								
NRIK	**Noril'sk**	**43.93**	**340**	P		**P**	**05 35 11.0**	**-1.3**	
	comp=Z,2.6nm,0.5s,baz=110,slow=6.6,SNR=4.4								
NRIK				LR		LR	05 54 15.0		
	comp=Z,190nm,18.6s,baz=116,slow=37								
NRIK	**Noril'sk**	**43.93**	**340**	*ce*P		**P**	**05 35 13.0**	**+0.8**	
NRIK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
NRIK	**Noril'sk**	**43.93**	**340**	P		**P**	**05 35 12.1**	**-0.1**	
NRIK				IAmb		IAmb	05 35 14.7		
	comp=Z,8.3nm,1.2s								
AAK	**Ala-Archa**	**44.88**	**300**	LR		LR	05 53 31.6		
	comp=Z,146nm,18.1s,baz=66,slow=35								
AAK	**Ala-Archa**	**44.88**	**300**	*i* P		**P**	**05 35 21.0**	**+0.5**	
AAK				pmax		pmax			
	comp=Z,8.0nm,2.5s								
BRVK	**Borovoye**	**47.21**	**314**	*ce*P		**P**	**05 35 41.5**	**+3.1**	
BRVK				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KK31	**Karatay Array**	**47.73**	**301**	P		**P**	**05 35 41.4**	**-1.3**	
KK31				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KK31	**Karatay Array**	**47.73**	**301**	P		**P**	**05 35 41.4**	**-1.3**	
KK31				IAmb		IAmb	05 35 50.5		
	comp=Z,5.6nm,1.0s								
KKAR	**Karatay Array**	**47.73**	**301**	P		**P**	**05 35 41.2**	**-1.5**	
KKAR				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KKAR	**Karatay Array**	**47.73**	**301**	P		**P**	**05 35 41.2**	**-1.5**	
KKAR				IAmb		IAmb	05 35 50.5		
	comp=Z,5.6nm,1.0s								
KKAR	**Karatay Array**	**47.73**	**301**	P		**P**	**05 35 41.8**	**-0.9**	
FITZ	**Fitzroy Crossi**	**50.67**	**186**	P		**P**	**05 36 04.3**	**-1.0**	
	comp=Z,1.3nm,0.8s,baz=11,slow=10,SNR=2.1								
WB0	**Warramunga Arr**	**52.22**	**176**	P		**P**	**05 36 15.5**	**-1.4**	
WB0				IAmb		IAmb	05 38 08.0		
	comp=Z,22nm,1.9s								
WRAB	**Tennant Creek**	**52.38**	**176**	P		**P**	**05 36 16.6**	**-1.5**	
WRAB				pmax		pmax			
	comp=Z,8.0nm,1.3s								
WRAB	**Tennant Creek**	**52.38**	**176**	P		**P**	**05 36 16.6**	**-1.5**	
WRAB				IAmb		IAmb	05 38 13.7		
	comp=Z,8.3nm,1.2s								
WRA	**Warramunga Arr**	**52.39**	**176**	P		**P**	**05 36 16.4**	**-1.8**	
	comp=Z,1.0nm,0.8s,baz=352,slow=7.7,SNR=7.5								
WRA				LR		LR	06 02 02.3		
	comp=Z,36nm,18.1s,baz=267,slow=40								
WRA	**Warramunga Arr**	**52.39**	**176**	*ce*P		**P**	**05 36 19.6**	**+1.5**	
WRA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
WRA	**Warramunga Arr**	**52.39**	**176**	P		**P**	**05 36 16.8**	**-1.4**	
PALK	**Pallekele**	**52.73**	**253**	LR		LR	05 59 51.8		
	comp=Z,70nm,20.1s,baz=175,slow=37								
ARU	**Arti**	**53.84**	**319**	P		**P**	**05 36 27.7**	**-0.8**	
	comp=Z,0.5nm,0.3s,baz=208,slow=11,SNR=3.2								
ARU				LR		LR	05 59 59.3		
	comp=Z,88nm,20.0s,baz=96,slow=37								
ARU	**Arti**	**53.84**	**319**	*c i*P		P	05 36 34.9	+6.4	
ARU							05 38 35.9		
ARU				S		S	05 44 16.7	+13	
ARU				pmax		pmax			
	comp=Z,7.0nm,1.2s								
ARU	**Arti**	**53.84**	**319**	IAmb		IAmb	05 36 36.6		
	comp=Z,5.8nm,1.1s								
ABKAR	**Akbulak array**	**54.01**	**310**	P		**P**	**05 36 28.9**	**-1.0**	
ABKAR	**Akbulak array**	**54.01**	**310**	P		**P**	**05 36 29.6**	**-0.3**	
CTA	**Charters Tower**	**54.49**	**162**	LR		LR	05 59 06.4		
	comp=Z,45nm,19.3s,baz=44,slow=35								
AKTO	**Aktyubinsk**	**55.03**	**312**	LR		LR	06 01 58.8		
	comp=Z,159nm,18.1s,baz=82,slow=38								
AS31	**Alice Springs**	**56.06**	**176**	P		**P**	**05 36 43.8**	**-1.1**	
ASAR	**Alice Springs**	**56.06**	**176**	P		**P**	**05 36 43.5**	**-1.4**	
	comp=Z,0.8nm,0.8s,baz=1.2,slow=6.3,SNR=9.7								
ASAR	**Alice Springs**	**56.06**	**176**	P		**P**	**05 36 43.4**	**-1.5**	
TRF	**Thorofare Moun**	**56.52**	**32**	P		**P**	**05 36 47.8**	**-0.2**	
TRF				IAmb		IAmb	05 36 57.4		
	comp=Z,5.7nm,0.8s								
H23K	**Yukon River**	**56.58**	**29**	P		**P**	**05 36 48.6**	**+0.4**	
BWN	**Browne**	**56.80**	**31**	P		**P**	**05 36 50.4**	**+0.7**	
NEA2	**Nenana**	**56.92**	**30**	P		**P**	**05 36 51.8**	**+1.3**	
NEA2				IAmb		IAmb	05 36 52.7		
	comp=Z,4.9nm,0.9s								
MDM	**Murphy Dome**	**57.23**	**30**	P		**P**	**05 36 53.6**	**+0.8**	
MDM				IAmb		IAmb	05 37 10.3		
	comp=Z,5.4nm,0.8s								
POKR	**Poker Plat Res**	**57.54**	**30**	P		**P**	**05 36 54.8**	**-0.2**	
ILAR	**Eielson Array**	**57.82**	**30**	P		**P**	**05 36 57.3**	**+0.4**	
	comp=Z,1.0nm,0.7s,baz=278,slow=6.8,SNR=9.2								
GEYT	**Alibeck**	**58.11**	**297**	LR		LR	06 02 39.4		
	comp=Z,99nm,18.1s,baz=93,slow=37								
KIRV	**Kirov**	**58.39**	**323**	LR		LR	06 05 03.1		
	comp=Z,97nm,18.7s,baz=102,slow=39								
SCRK	**Sand Creek**	**59.20**	**31**	P		**P**	**05 37 05.6**	**-1.1**	
SCRK				IAmb		IAmb	05 37 08.5		
	comp=Z,3.8nm,0.9s								
HMT	**Hamilton**	**59.88**	**35**	P		**P**	**05 37 10.7**	**-0.7**	
M26K	**Nabesna, AK**	**59.99**	**32**	P		**P**	**05 37 11.7**	**-0.4**	
M26K				IAmb		IAmb	05 37 17.0		
	comp=Z,7.7nm,1.1s								
L27K	**Beaver Creek,**	**60.35**	**32**	P		**P**	**05 37 15.6**	**+1.0**	
L27K				IAmb		IAmb	05 37 36.4		
	comp=Z,5.6nm,1.1s								
BCAR	**Beaver Creek A**	**60.37**	**32**	P		**P**	**05 37 15.0**	**+0.3**	
BELG	**Belogornoye**	**60.89**	**316**	LR		LR	06 05 37.9		
	comp=Z,114nm,18.9s,baz=102,slow=38								
I29M	**Ogilvie Camp,**	**61.25**	**29**	P		**P**	**05 37 21.2**	**+0.7**	
I29M				IAmb		IAmb	05 39 24.8		
	comp=Z,6.8nm,1.2s								
EPYK	**Eagle Plains**	**61.59**	**27**	P		**P**	**05 37 22.6**	**-0.4**	
INK	**Inuvik**	**62.19**	**25**	P		**P**	**05 37 26.2**	**-0.6**	
	comp=Z,1.9nm,0.9s,baz=270,slow=9.0,SNR=8.2								
INK	**Inuvik**	**62.19**	**25**	IAmb		IAmb	05 37 29.0		
	comp=Z,3.4nm,1.0s								
SPITS	**Spitsbergen Ar**	**63.04**	**348**	LR		LR	06 06 54.3		
	comp=Z,64nm,19.1s,baz=239,slow=38								
WSAR	**Wadi Sarin**	**63.29**	**282**	LR		LR	06 06 47.5		
	comp=Z,38nm,18.3s,baz=105,slow=38								
A36M	**Sachs Harbour**	**63.50**	**20**	P		**P**	**05 37 35.2**	**-0.2**	
A36M				IAmb		IAmb	05 37 46.6		
	comp=Z,4.7nm,0.9s								
ARCES	**ARCESS Array B**	**64.88**	**338**	LR		LR	06 10 21.4		
	comp=Z,108nm,20.1s,baz=84,slow=40								
ARCES	**ARCESS Array B**	**64.88**	**338**	P		**P**	**05 37 43.9**	**-0.7**	
ARCES				pmax		pmax			
	comp=Z,51nm,1.8s								
ARCES	**ARCESS Array B**	**64.88**	**338**	P		**P**	**05 37 43.9**	**-0.7**	
C36M	**Paulatuk**	**64.97**	**22**	P		**P**	**05 37 44.5**	**-0.6**	
STKA	**Stephens Creek**	**64.98**	**170**	LR		LR	06 05 09.3		
	comp=Z,32nm,21.8s,baz=24,slow=35								
OBN	**Obninsk**	**66.15**	**321**	*e*P		**P**	**05 37 55.2**	**+2.2**	
OBN				*e*			05 40 20.1		
OBN				pmax		pmax			
	comp=Z,3.0nm,0.9s								
OBN				MLR		MLR			
	comp=Z,90nm,16.0s								
KBZ	**Khabaz**	**66.85**	**308**	P		**P**	**05 37 59.2**	**+1.5**	
	comp=Z,3.6nm,0.8s,baz=75,slow=4.2,SNR=6.2								
KIV	**Kislovodsk**	**66.90**	**308**	*e*P		**P**	**05 37 57.8**	**-0.4**	
KIV				pmax		pmax			
	comp=Z,7.0nm,1.0s								
GNI	**Garni**	**67.03**	**304**	LR		LR	06 10 46.6		
	comp=Z,58nm,18.6s,baz=72,slow=39								
FIA1	**FINESS Array S**	**68.39**	**330**	P		**P**	**05 38 06.3**	**-0.8**	
FINES	**FINESS Array B**	**68.39**	**330**	P		**P**	**05 38 06.8**	**-0.3**	
	comp=Z,1.0nm,0.4s,baz=62,slow=5.9,SNR=16								
FINES				LR		LR	06 11 33.0		
	comp=Z,131nm,18.9s,baz=67,slow=39								
FINES	**FINESS Array B**	**68.39**	**330**	P		**P**	**05 38 06.5**	**-0.6**	
FINES	**FINESS Array B**	**68.39**	**330**	P		**P**	**05 38 06.5**	**-0.6**	
RES	**Resolute Bay**	**68.87**	**12**	LR		LR	06 12 17.4		
	comp=Z,21nm,18.7s,baz=62,slow=39								
RES	**Resolute Bay**	**68.87**	**12**	P		**P**	**05 38 09.3**	**-0.6**	
RES				pmax		pmax			
	comp=Z,5.0nm,1.3s								
RES	**Resolute Bay**	**68.87**	**12**	P		**P**	**05 38 09.3**	**-0.6**	
RES				IAmb		IAmb	05 38 12.1		
	comp=Z,5.1nm,1.3s								
DAG	**Danmarks Havn**	**69.21**	**353**	P		**P**	**05 38 12.2**	**+0.2**	
DAG				pmax		pmax			
	comp=Z,4.0nm,1.5s								
YKA	**Yellowknife Ar**	**71.84**	**26**	P		**P**	**05 38 28.8**	**+0.5**	
	comp=Z,0.6nm,0.8s,baz=303,slow=5.6,SNR=11								
YKA	**Yellowknife Ar**	**71.84**	**26**	*ce*P		**P**	**05 38 28.7**	**+0.4**	
YKA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**72.10**	**319**	P		**P**	**05 38 29.7**	**-0.3**	
	comp=Z,1.7nm,0.5s,baz=54,slow=6.1,SNR=3.3								
HFS	**Hagfors**	**74.17**	**332**	LR		LR	06 16 14.9		
	comp=Z,121nm,19.7s,baz=48,slow=40								
NOA	**NORSAR Array B**	**74.53**	**334**	P		**P**	**05 38 42.7**	**-1.6**	
	comp=Z,0.3nm,0.8s,baz=26,slow=21,SNR=2.0								
NOA				LR		LR	06 13 28.1		
	comp=Z,47nm,18.3s,baz=5.0,slow=37								
BRTR	**Keskin Array B**	**74.83**	**308**	P		**P**	**05 38 46.1**	**-0.4**	
	comp=Z,0.5nm,0.8s,baz=145,slow=3.0,SNR=5.6								
BRTR	**Keskin Array B**	**74.83**	**308**	*ce*P		**P**	**05 38 49.7**	**+3.1**	
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
BURAR	**Bucovina Array**	**75.95**	**318**	P		**P**	**05 38 52.3**	**-0.5**	
BURAR				pmax		pmax			
	comp=Z,2.0nm,1.0s								
BURAR	**Bucovina Array**	**75.95**	**318**	P		**P**	**05 38 52.4**	**-0.5**	
EIL	**Elat**	**79.00**	**298**	LR		LR	06 18 01.3		
	comp=Z,55nm,18.3s,baz=44,slow=39								
VRAC	**Vranov**	**79.62**	**323**	LR		LR	06 18 20.6		
	comp=Z,91nm,19.6s,baz=49,slow=39								
SFJD	**Kangerlussuaq**	**80.68**	**1**	LR		LR	06 17 22.7		
	comp=Z,47nm,18.4s,baz=322,slow=37								
FRB	**Frobisher Bay**	**82.74**	**8**	LR		LR	06 17 37.0		
	comp=Z,78nm,20.3s,baz=20,slow=37								
NVAR	**Mina Array Bea**	**84.57**	**47**	P		**P**	**05 39 40.0**	**+0.4**	
	comp=Z,0.4nm,0.6s,baz=289,slow=5.2,SNR=4.5								
PDAR	**Pinedale Array**	**86.86**	**40**	P		**P**	**05 39 51.5**	**+0.6**	
	comp=Z,0.4nm,0.8s,baz=77,slow=3.2,SNR=3.7								
MBAR	**Mbarara**	**98.72**	**275**	*ce*P		Pdif	05 40 49.5	+3.4	
MBAR				pmax		pmax			
	comp=Z,8.0nm,1.3s								

IDC **16** *05:32:21.0±1.5, 32.70N×130.69E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/64, mbtmp3.6/3, Error ellipse: s-maj=26.3km s-min=10.2km az=114.0*
JMA **16** *05:32:22.3, 32.75N×130.78E, h10km±1km, M3.5*
JMA Felt III J1.
NIED **16** *05:32:22.4, 32.75N×130.78E, h10km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.10; Mθθ0.80; Mϕϕ-0.91; Mrθ-0.20; Mθϕ0.34; Mϕr0.38; Fault plane solution: M₀1.00000×10¹⁵ NP1: ϕs216.00000°, δ69.00000°, λ-174.00000°. NP2: ϕs124.00000°, δ84.00

mb1 3.6/5,mb1mx3.2/48,mbtmp3.5/5,ML2.6/2 Error ellipse: s-maj=38.2km s-min=11.9km az=89.0

ISC 16 05:46:58.6±1.3,32.73N±0.03×130.85E±0.07,h1km±11km, n10,σ1§10/15,mb3.5/3,3C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.18**	**190**	⇑P	**Pg**	**05 47 01.9**	**-0.2**
JIU3				S	**Sg**	**05 47 04.9**	**+0.4**
JTA	**Tamana**	**0.36**	**311**	⇑P	**Pg**	**05 47 04.2**	**-1.3**
JTA				S	**Sg**	**05 47 08.7**	**-1.4**
JNU	**Nakatsue**	**0.39**	**3**	Pg	**Pg**	**05 47 05.9**	**-0.2**
	432nm,0.3s,baz=209,slow=13,SNR=62						
JNU				Lg	Lg	05 47 11.5	
	2µm,0.3s,baz=73,slow=17,SNR=70						
JNU	**Nakatsue**	**0.39**	**3**	P	**Pg**	**05 47 06.0**	**-0.2**
JNU				S	**Sg**	**05 47 11.6**	**+0.3**
JTZ	**Takazaki**	**0.85**	**166**	⇑P	**Pg**	**05 47 14.9**	**0.0**
JTZ				S	**Sb**	**05 47 26.7**	**-1.4**
KSRS	**Korea Array**	**5.29**	**334**	Pn	**Pn**	**05 48 19.6**	**+0.8**
	0.3nm,0.3s,baz=158,slow=13,SNR=1.9						
KSRS				Pg	**Pb**	**05 48 33.8**	**+2.0**
	0.9nm,0.3s,baz=151,slow=16,SNR=3.2						
KSRS				Lg	Lg	05 49 40.8	
	1.1nm,0.3s,baz=162,slow=30,SNR=4.1						
MJAR	**Matsushiro Arr**	**7.16**	**56**	Pn	**Pn**	**05 48 43.1**	**-1.4**
	0.1nm,0.3s,baz=237,slow=15,SNR=1.2						
SONM	**Songino Array**	**23.86**	**316**	P	**P**	**05 52 14.5**	**+0.9**
	0.8nm,0.8s,baz=106,slow=11,SNR=2.9						
KURBB	**Kurchatov Arra**	**42.01**	**311**	P	**P**	**05 54 50.9**	**-0.5**
	0.8nm,0.8s,baz=96,slow=8.8,SNR=4.1						
FINES	**FINESS Array B**	**68.37**	**330**	P	**P**	**05 58 01.3**	**-0.2**
	0.5nm,0.4s,baz=72,slow=6.2,SNR=4.6						

*IDC **16** 05:46:59.1±2.6,19.80S×176.21W,h202km±25km,mb3.5/9, mb1 3.7/12,mb1mx3.4/38,mbtmp4.0/12,Error ellipse: s-maj=24.5km s-min=13.3km az=136.0*

ISC 16 05:47:00.7±0.6,19.9S±0.1×176.1W±0.2,h222km,n25, σ1§00/25,mb3.5/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.27**	**36**	P	**Pn**	**05 48 43.0**	**-1.7**
	1.4nm,0.3s,baz=162,slow=6.4,SNR=1.4						
AFI				S	S	05 49 52.7	-15
	1.5nm,0.3s,baz=318,slow=23,SNR=1.5						
DZM	**Mont Dzumac**	**16.41**	**259**	P	**P**	**05 50 37.9**	**0.0**
	0.1nm,0.3s,baz=172,slow=7.1,SNR=1.6						
URZ	**Urewera**	**19.21**	**196**	P	**P**	**05 51 07.9**	**-0.1**
	0.9nm,0.3s,baz=347,slow=2.7,SNR=6.4						
URZ				S	**S**	**05 54 30.1**	**-3.4**
	0.2nm,0.3s,baz=178,slow=21,SNR=1.9						
ASAR	**Alice Springs**	**46.36**	**256**	P	**P**	**05 55 05.2**	**+0.1**
	1.4nm,0.6s,baz=79,slow=8.2,SNR=30						
WRA	**Warramunga Arr**	**46.42**	**261**	P	**P**	**05 55 05.0**	**-0.6**
	1.0nm,0.4s,baz=96,slow=5.7,SNR=45						
FITZ	**Fitzroy Crossi**	**54.85**	**261**	P	**P**	**05 56 08.9**	**+0.5**
	0.5nm,0.5s,baz=97,slow=5.7,SNR=2.2						
VNDA	**Vanda**	**58.66**	**185**	P	**P**	**05 56 36.2**	**+1.9**
	0.9nm,0.9s,baz=2.4,slow=5.4,SNR=4.4						
NVAR	**Mina Array Bea**	**79.39**	**43**	P	**P**	**05 58 43.2**	**+0.7**
	0.9nm,0.8s,baz=230,slow=11,SNR=5.5						
TXAR	**Lajitas Array**	**85.26**	**57**	P	**P**	**05 59 13.8**	**+1.0**
	0.7nm,0.8s,baz=215,slow=8.4,SNR=6.9						
ILAR	**Eielson Array**	**87.36**	**12**	P	**P**	**05 59 21.7**	**-0.3**
	0.8nm,0.7s,baz=221,slow=5.4,SNR=12						
INK	**Inuvik**	**93.25**	**15**	P	**P**	**05 59 49.0**	**-0.3**
	1.0nm,0.8s,baz=175,slow=2.7,SNR=6.6						
YKA	**Yellowknife Ar**	**95.25**	**24**	P	**P**	**05 59 58.2**	**-0.4**
	0.4nm,0.8s,baz=241,slow=4.4,SNR=6.8						
ARCES	**ARCESS Array B**	**128.64**	**350**	PKP	**PKPdf**	**06 05 40.2**	**-0.4**
	3.2nm,1.1s,baz=10.0,slow=1.7,SNR=12						
FINES	**FINESS Array B**	**135.67**	**345**	PKP	**PKPdf**	**06 05 54.6**	**+0.6**
	0.4nm,0.5s,baz=74,slow=4.9,SNR=3.8						
AKASG	**Malin Array Be**	**143.31**	**333**	PKhKP	PKPpre	06 06 04.8	
	0.9nm,0.4s,baz=43,slow=5.6,SNR=4.6						
BRTR	**Keskin Array B**	**147.71**	**314**	PKPbc	**PKPbc**	**06 06 19.6**	**+0.2**
	1.1nm,0.5s,baz=163,slow=4.7,SNR=6.3						
GERES	**GERESS Array B**	**150.06**	**347**	PKPbc	**PKPbc**	**06 06 25.5**	**+0.5**
	1.3nm,0.6s,baz=48,slow=2.0,SNR=13						
CONA	**Conrad Observa**	**150.40**	**344**	*i* P	**PKiKP**	**06 06 26.4**	**-0.1**
	2.7nm,0.6s						
RONA	**Rosalia, Austr**	**150.49**	**343**	*i* P	**PKiKP**	**06 06 26.6**	**0.0**
	3.8nm,0.5s						
KBA	**Koelnbreinsper**	**151.81**	**346**	*i* P	**PKPbc**	**06 06 29.4**	**+0.2**
	4.5nm,1.0s						
WATA	**Walderalm**	**151.92**	**349**	*i* P	**PKPbc**	**06 06 29.4**	**0.0**
	3.4nm,0.5s						
WTTA	**Wattenberg**	**151.98**	**349**	*i* P	**PKPbc**	**06 06 29.9**	**+0.3**
	4.8nm,0.5s						
ABTA	**Abfaltersbach**	**152.30**	**347**	*i* P	**PKPbc**	**06 06 29.8**	**-0.4**
	2.9nm,0.5s						
FETA	**Feichten**	**152.37**	**350**	*i* P	**PKPbc**	**06 06 30.7**	**+0.2**
	2.6nm,0.7s						
ESDC	**Sonseca Array**	**159.17**	**17**	PKPab	**PKPab**	**06 07 10.6**	**0.0**
	0.6nm,0.7s,baz=336,slow=2.8,SNR=3.0						

IDC 16 05:51:23.2±2.2,1.62N×127.19E,h0km,mb3.3/3, mb1 3.5/4,mb1mx2.3/35,mbtmp3.3/4,ML3.4/1,MS3.3/1, Ms1 3.3/1,ms1mx2.5/34,Error ellipse: s-maj=120.3km s-min=27.5km az=69.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.66**	**184**	P	P	05 55 53.9	+0.1
	0.1nm,0.3s,baz=13,slow=10,SNR=1.4						
WRA	**Warramunga Arr**	**22.55**	**162**	P	P	05 56 24.6	-0.5
	0.6nm,0.3s,baz=341,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.97**	**166**	P	P	05 56 58.4	+0.6
	0.2nm,0.3s,baz=343,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**59.54**	**326**	P	P	06 01 28.4	-0.1
	0.2nm,0.6s,baz=110,slow=8.8,SNR=1.9						
MKAR				LR	LR	06 28 20.4	
	comp=Z,24nm,18.0s,baz=116,slow=37						

*DJA **16** 05:54:41.6±1.2,1.1S±6.3×13.1E±1.0,h10km±6km,M3.7/5, MLv3.7/5*

*IDC **16** 05:54:43.9±1.2,1.05S×131.15E,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.2/28,mbtmp3.4/4,ML3.6/2,Error ellipse: s-maj=37.5km s-min=6.8km az=120.0*

ISC 16 05:54:39.2±2.1,0.6S±0.1×131.49E±0.10,h10km,n8, σ1§03/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.37**	**218**	Pg	**Pb**	**05 54 47.5**	**-0.4**
SWI				Sg	**Sg**	**05 54 51.4**	**0.0**
SIJI	**Sorong**	**0.37**	**217**	Pg	**Pb**	**05 54 47.7**	**-0.2**
	397nm,0.3s,baz=131,slow=12,SNR=884						
SIJI				Lg	Lg	05 54 51.0	
	659nm,0.3s,baz=251,slow=23,SNR=47						
FAKI	**Fak Fak**	**2.45**	**162**	P	**Pb**	**05 55 22.5**	**-1.0**
LBMI	**Labuha**	**3.98**	**269**	P	**Pn**	**05 55 39.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.34**	**198**	P	**Pn**	**05 58 53.6**	**-0.3**
	0.2nm,0.3s,baz=30,slow=9.7,SNR=1.8						
FITZ				S	Sn	06 01 59.9	-19
	0.1nm,0.3s,baz=80,slow=16,SNR=1.6						
WRA	**Warramunga Arr**	**19.45**	**172**	P	**Pn**	**05 59 07.7**	**+0.3**
	0.1nm,0.3s,baz=350,slow=11,SNR=6.5						
WRA				S	Sn	06 02 32.1	-14
	0.1nm,0.3s,baz=6.0,slow=22,SNR=1.7						
ASAR	**Alice Springs**	**23.08**	**174**	P	**P**	**05 59 47.1**	**+1.9**
	1.0nm,0.6s,baz=354,slow=10,SNR=12						
MKAR	**Makanchi Array**	**63.78**	**325**	P	P	06 05 19.8	+8.2
	0.3nm,0.5s,baz=113,slow=8.3,SNR=2.9						

*NIED **16** 05:58:25.3,33.05N×131.21E,h6km,MW3.7,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr-1.08; Mθθ1.80; Mϕϕ-0.72; Mrθ0.95; Mθϕ3.17; Mrϕ0.89; Fault plane solution: M₀3.58000×10¹⁴ NP1: ϕs102.00000°,δ75.00000°,λ4.00000°. NP2:ϕs11.00000°, δ86.00000°,λ165.00000°.*

JMA 16 05:58:25.3,33.04N×131.21E,h6km±1km,M3.5,1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.29**	**286**	⇑P	Pg	05 58 31.1	+0.1
JNU				S	Sg	05 58 35.4	+0.5
JUS	**Usuki**	**0.46**	**87**	⇓P	Pg	05 58 34.0	-0.1
JUS				S	Sg	05 58 40.4	+0.4
JTA	**Tamana**	**0.57**	**263**	⇓P	Pg	05 58 36.5	+0.1

*NEIC **16** 06:05:22.9±1.7,26.46S±0.04×69.86W±0.09,h59km±3km, mb5.5/168,Mww5.3,Mwr5.4(GUC),Error ellipse: s-maj=11.6km s-min=6.1km az=95.0*

*SJA **16** 06:05:23.0±2.3,26.43S×70.20W,h93km±14km,ML5.7, MW5.2*

*GUC **16** 06:05:23.7±0.7,26.49S×70.04W,h73km±5km,ML5.3*

*VAO **16** 06:05:23.9±0.6,26.39S×69.84W,h52km±4km,mb5.4*

*IDC **16** 06:05:25.0±0.3,26.43S×69.90W,h72km±2km,mb5.1/25, mb1 5.1/30,mb1mx5.0/36,mbtmp5.3/30,MS4.2/48, Ms1 4.2/48,ms1mx4.1/56,Error ellipse: s-maj=12.0km s-min=9.0km az=79.0*

*GCMT **16** 06:05:26.9±0.2,26.48S±0.01×70.15W±0.01,h102km±1km, MW5.2/113,Moment Tensor Solution. s113,c165; s109,c178; Duration: 1§0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.66±.02; Mθθ0.68±.02; Mϕϕ-0.01±.02; Mrθ0.15±.01; Mθϕ-0.39±.01; Mϕr0.52±.01; Best double couple: M₀0.93200×10¹⁷ NP1:ϕs266.00000°,δ51.00000°, λ-135.00000°. NP2:ϕs143.00000°,δ57.00000°, λ-49.00000°. Principal axes: T 0.8560, Plg3.0000°, Azm206.0000°; N 0.1530, Plg33.0000°, Azm298.0000°; P -1.0080, Plg57.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **16** 06:05:28,26.45S×69.80W,h60km,Moment Tensor Solution. Duration: 8§0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.59; Mθθ0.93; Mϕϕ-0.34; Mrθ0.20; Mθϕ-0.20; Mϕr0.64; Fault plane solution: M₀1.08000×10¹⁷ NP1: ϕs131.00000°,δ53.00000°,λ-36.00000°. NP2: ϕs245.00000°,δ61.00000°,λ-137.00000°. Principal axes: T 0.9724, Plg5.0000°, Azm6.0000°; N 0.1847, Plg40.0000°, Azm272.0000°; P -1.1571, Plg50.0000°, Azm102.0000°;*

ISC 16 06:05:24.4±0.3,26.48S±0.02×70.10W±0.03,h73km±2km, h73km:pP-P,n898,σ1§39/985,mb5.5/120,119C-150D, Fault plane solution: NP1:ϕs292.19595°,δ65.89570°, λ-100.95662°. NP2:ϕs137.55847°,δ26.34162°, λ-66.98365°. Principal axes: T Plg20.1758°, Azm30.4280°; N Plg9.9910°, Azm296.7166°; P Plg67.2892°, Azm181.8244°**; Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC01	**Pan de Azucar**	**0.55**	**306**		**Pn**	**06 05 38.7**	**+0.6**
AC01	**Pan de Azucar**	**0.55**	**306**	⇑*e*P	**Pn**	**06 05 38.8**	**+0.6**
AC01				*e*S	**Sn**	**06 05 49.8**	**+1.6**
AC01				IAML		06 05 51.2	
	comp=E,163µm,0.5s						
AC01	**Pan de Azucar**	**0.55**	**306**	*i* P	**Pn**	**06 05 38.9**	**+0.8**
AC01				*e*S	**Sn**	**06 05 49.7**	**+1.6**
AC01				IAML		06 05 50.4	
	comp=Z,86µm,0.3s						
AC06	**Mina Casimiro**	**0.91**	**194**	Pn	**Pn**	**06 05 42.5**	**+0.5**
AC06	**Mina Casimiro**	**0.91**	**194**	*e*P	**Pn**	**06 05 42.4**	**+0.4**
AC06				*e*S	**Sn**	**06 05 56.0**	**+1.0**
AC06				IAML		06 05 58.0	
	comp=E,103µm,0.4s						
AC02	**Maricunga**	**0.94**	**113**	*e*P	**Pn**	**06 05 43.5**	**+0.6**
AC02				*e*S	**Sn**	**06 05 57.9**	**+1.3**
AC02				IAML		06 05 59.0	
	comp=E,151µm,0.2s						
AC02	**Maricunga**	**0.94**	**113**	*i* P	**Pn**	**06 05 43.9**	**+1.0**
AC02				*e*S	**Sn**	**06 05 58.2**	**+1.7**
AC02				IAML		06 05 59.9	
	comp=Z,83µm,0.2s						
GO03	**Copiap**	**1.12**	**186**		**Pn**	**06 05 45.4**	**+0.7**
GO03	**Copiap**	**1.12**	**186**	⇑*e*P	**Pn**	**06 05 45.1**	**+0.4**
GO03				*e*S	**Sn**	**06 06 01.1**	**+1.3**
GO03				IAML		06 06 03.0	
	comp=N,114µm,0.5s						
GO03	**Copiap**	**1.12**	**186**	*i* P	**Pn**	**06 05 45.0**	**+0.4**
GO03				*e*S	**Sn**	**06 05 59.7**	**0.0**
GO02	**Mina Guanaco**	**1.39**	**20**	Pn	**Pn**	**06 05 49.0**	**+0.7**
GO02	**Mina Guanaco**	**1.39**	**20**	*e*P	**Pn**	**06 05 49.1**	**+0.8**
GO02				*e*S	**Sn**	**06 06 08.7**	**+2.5**
GO02				IAML		06 06 12.7	
	comp=E,108µm,0.6s						
GO02	**Mina Guanaco**	**1.39**	**20**	*i* P	**Pn**	**06 05 49.0**	**+0.7**
GO02				*e*S	**Sn**	**06 06 07.7**	**+1.4**
PB14	**IPOC Station P**	**1.86**	**352**		**Pn**	**06 05 54.7**	**+0.1**
PB14	**IPOC Station P**	**1.86**	**352**	*e*P	**Pn**	**06 05 54.8**	**+0.1**
PB14				*e*S	**Sn**	**06 06 19.2**	**+1.7**
PB14				IAML		06 06 27.1	
	comp=E,21µm,0.4s						
PB14	**IPOC Station P**	**1.86**	**352**	*i* P	**Pn**	**06 05 55.0**	**+0.4**
PB14				*e*S	**Sn**	**06 06 18.8**	**+1.3**
PB14				IAML		06 06 23.6	
	comp=Z,47µm,0.8s						
AC04	**Llanos de Chal**	**1.93**	**206**		**Pn**	**06 05 55.2**	**0.0**
AC04	**Llanos de Chal**	**1.93**	**206**	*e*P	**Pn**	**06 05 55.4**	**+0.2**
AC04				*e*S	**Sn**	**06 06 20.5**	**+2.0**
AC04	**Llanos de Chal**	**1.93**	**206**	*i* P	**Pn**	**06 05 55.5**	**+0.4**
AC04				*e*S	**Sn**	**06 06 21.1**	**+2.5**
AC04				IAML		06 06 26.2	
	comp=Z,46µm,0.8s						
LCO	**Las Campanas**	**2.58**	**192**	Pn	**Pn**	**06 06 04.6**	**+0.4**
LCO	**Las Campanas**	**2.58**	**192**	*e*P	**Pn**	**06 06 03.9**	**-0.4**
LCO				*e*S	**Sn**	**06 06 36.7**	**+1.9**
LCO	**Las Campanas**	**2.58**	**192**	*i* P	**Pn**	**06 06 04.8**	**+0.5**
LCO				IAML		06 06 56.9	
	comp=Z,155µm,0.6s						
TINO	**Tinogasta**	**2.75**	**126**	*i* P	**Pn**	**06 06 09.0**	**+2.6**
VCA	**Vinchina**	**2.81**	**144**	*i* P	**Pn**	**06 06 10.0**	**+2.7**
VCA				IAML		06 06 53.0	
	comp=Z,10µm,0.3s						
PB10	**IPOC Station P**	**2.98**	**352**	Pn	**Pn**	**06 06 08.7**	**-0.7**
PB10	**IPOC Station P**	**2.98**	**352**	*e*P	**Pn**	**06 06 08.2**	**-1.2**
PB10				*e*S	**Sn**	**06 06 46.3**	**+2.3**
PB10	**IPOC Station P**	**2.98**	**352**	*i* P	**Pn**	**06 06 08.4**	**-1.0**
PB10				*e*S	**Sn**	**06 06 49.0**	**+5.0**
PB10				IAML		06 06 58.3	
	comp=Z,15µm,0.8s						
PB15	**IPOC Station P**	**3.30**	**10**		**Pn**	**06 06 14.4**	**+0.4**
PB15	**IPOC Station P**	**3.30**	**10**	⇑*e*P	**Pn**	**06 06 14.3**	**+0.2**
PB15				*e*S	**Sn**	**06 06 54.8**	**+2.5**
PB15	**IPOC Station P**	**3.30**	**10**	*i* P	**Pn**	**06 06 14.7**	**+0.7**
PB15				*e*S	**Sn**	**06 06 58.4**	**+6.1**
PB15				IAML		06 07 06.7	
	comp=Z,29µm,0.4s						
CO01	**Juntas del Tor**	**3.49**	**180**	⇑*e*P	**Pn**	**06 06 17.6**	**+1.0**
CO01				*e*S	**Sn**	**06 06 59.4**	**+2.6**
CO01	**Juntas del Tor**	**3.49**	**180**	*i* P	**Pn**	**06 06 18.0**	**+1.5**
CO01				IAML		06 07 16.1	
	comp=Z,8µm,0.7s						
CO05	**La Serena**	**3.57**	**196**		**Pn**	**06 06 16.7**	**-0.8**
AROD	**Rodeo**	**3.72**	**172**	*i* P	**Pn**	**06 06 23.0**	**+3.2**
FSA	**Cafayete**	**3.72**	**85**	*i* P	**Pn**	**06 06 22.0**	**+2.4**
GO04	**Tololo Observa**	**3.73**	**189**		**Pn**	**06 06 20.5**	**+0.6**
GO04	**Tololo Observa**	**3.73**	**189**	*i* P	**Pn**	**06 06 20.0**	**+0.1**
ACDV	**Cuesta del Vie**	**3.78**	**167**	*i* P	**Pn**	**06 06 23.0**	**+2.5**
ACDV				IAML		06 07 17.8	
	comp=Z,8µm,0.8s						
PB06	**IPOC Station P**	**3.79**	**7**		**Pn**	**06 06 19.5**	**-1.0**
PB06	**IPOC Station P**	**3.79**	**7**	*i* P	**Pn**	**06 06 19.6**	**-1.0**
PB06				IAML		06 07 29.3	
	comp=Z,22µm,0.8s						
LVC	**Limon Verde**	**4.00**	**16**	P	**Pn**	**06 06 23.7**	**0.0**
	comp=Z,228nm,0.3s,baz=196,slow=9.5,SNR=555						
LVC	**Limon Verde**	**4.00**	**16**	*i* P	**Pn**	**06 06 23.0**	**-0.7**
LVC				IAML		06 07 31.1	
	comp=Z,9µm,0.9s						
LVC	**Limon Verde**	**4.00**	**16**	*e*P	**Pn**	**06 06 23.7**	**0.0**
ACLC	**CERRO LA CRUZ**	**4.05**	**137**	*i* P	**Pn**	**06 06 26.0**	**+1.9**
ACLC				IAML		06 07 17.3	
	comp=Z,8µm,0.9s						
ACCO	**Cerro Coronel**	**4.20**	**168**	*i* P	**Pn**	**06 06 29.0**	**+2.7**
ACCO				IAML		06 07 53.8	
	comp=Z,2µm,1.8s						
CO06	**Fray Jorge**	**4.39**	**198**		**Pn**	**06 06 26.9**	**-1.7**
SLA	**San Lorenzo**	**4.50**	**68**	*i* P	**Pn**	**06 06 33.3**	**+3.0**
SLA				*e*S	**Sn**	**06 07 20.2**	**-1.4**
SLA				IAML		06 07 55.1	
	comp=Z,2µm,1.3s						
PB09	**IPOC Station P**	**4.72**	**10**	*i* P	**Pn**	**06 06 33.0**	**-0.4**
PB09				IAML		06 07 59.7	
	comp=Z,19µm,0.7s						
PB07	**IPOC Station P**	**4.73**	**2**		**Pn**	**06 06 31.8**	**-1.7**
PB07	**IPOC Station P**	**4.73**	**2**	*i* P	**Pn**	**06 06 31.0**	**-2.5**
PB07				IAML		06 07 56.4	
	comp=Z,13µm,0.9s						
AVFE	**Valle Fertil**	**4.77**	**151**	*i* P	**Pn**	**06 06 35.0**	**+1.1**
AVFE				IAML		06 07 35.2	
	comp=Z,14µm,0.9s						
CO02	**Combarbal**	**4.78**	**189**	Pn	**Pn**	**06 06 33.2**	**-0.8**
CO02	**Combarbal**	**4.78**	**189**	*i* P	**Pn**	**06 06 33.0**	**-1.0**
CO02				IAML		06 08 00.4	
	comp=Z,22µm,1.0s						
APLL	**PUNTA DE LOS L**	**5.01**	**142**	*i* P	**Pn**	**06 06 38.0**	**+0.8**
RTLL	**Cerro Villicun**	**5.04**	**164**	*i* P	**Pn**	**06 06 39.0**	**+1.4**
PB02	**IPOC Station P**	**5.14**	**2**		**Pn**	**06 06 36.7**	**-2.3**
PB02	**IPOC Station P**	**5.14**	**2**	*i* P	**Pn**	**06 06 37.0**	**-2.0**
PB02				IAML		06 08 03.5	
	comp=Z,9µm,0.6s						
ZON	**Zonda**	**5.20**	**166**	*i* P	**Pn**	**06 06 42.0**	**+2.2**
ZON				IAML		06 07 50.5	
	comp=Z,5µm,1.0s						
RTLS	**Leoncito**	**5.35**	**173**	*i* P	**Pn**	**06 06 43.0**	**+1.0**
RTLS				IAML		06 08 05.4	
	comp=Z,2µm,0.8s						
HJA	**Humahuaca**	**5.36**	**54**	*i* P	**Pn**	**06 06 45.0**	**+2.7**
HJA				IAML		06 08 00.3	
	comp=Z,431nm,2.9s						
RTCV	**Cerro Valdivia**	**5.54**	**166**	*i* P	**Pn**	**06 06 47.0**	**+2.7**
RTCV				IAML		06 08 02.2	
	comp=Z,82nm,0.9s						
ACHE	**Chepes**	**5.56**	**148**	*i* P	**Pn**	**06 06 46.0**	**+1.3**
PATCX	**Punta Patache**	**5.63**	**360**		**Pn**	**06 06 42.4**	**-3.3**
PATCX	**Punta Patache**	**5.63**	**360**	*i* P	**Pn**	**06 06 43.0**	**-2.7**
PATCX				IAML		06 08 30.5	
	comp=Z,5µm,1.1s						
AUSP	**Uspallata**	**5.76**	**174**	*i* P	**Pn**	**06 06 49.0**	**+1.4**
TA01	**Diego Aracena**	**5.88**	**359**	Pn	**Pn**	**06 06 45.8**	**-3.2**
YJA	**Yavi**	**5.99**	**45**	*i* P	**Pn**	**06 06 52.0**	**+1.1**
YJA				IAML		06 08 25.2	
	comp=Z,126nm,2.5s						
VA06	**Catapilco**	**6.15**	**189**		**Pn**	**06 06 50.5**	**-2.1**
ASAL	**Salagasta**	**6.19**	**170**	*i* P	**Pn**	**06 06 54.0**	**+0.7**
ASAL				IAML		06 08 49.8	
	comp=Z,2µm,1.4s						
VA03	**San Esteban**	**6.28**	**183**		**Pn**	**06 06 54.2**	**-0.3**
PB08	**IPOC Station P**	**6.37**	**8**	*i* P	**Pn**	**06 06 53.0**	**-3.0**
PB08				IAML		06 08 44.0	
	comp=Z,4µm,1.0s						
ARCO	**CERRO ARCO**	**6.42**	**171**	*i* P	**Pn**	**06 06 58.0**	**+1.5**
ARCO				IAML		06 08 25.5	
	comp=Z,4µm,0.8s						
VA01	**Torpederas**	**6.66**	**191**		**Pn**	**06 06 57.0**	**-2.6**
PEL	**Peldehue**	**6.66**	**184**		**Pn**	**06 06 58.5**	**-1.3**
PEL	**Peldehue**	**6.66**	**184**	*i* P	**Pn**	**06 06 59.0**	**-0.7**
AAGR	**Agrelo**	**6.68**	**171**	*i* P	**Pn**	**06 07 01.0**	**+1.0**
AAGR				IAML		06 08 57.9	
	comp=Z,2µm,2.2s						
PB11	**IPOC Station P**	**6.70**	**4**		**Pn**	**06 06 56.7**	**-3.7**
PB11	**IPOC Station P**	**6.70**	**4**	*i* P	**Pn**	**06 06 56.0**	**-4.3**
PB11				IAML		06 08 49.9	
	comp=Z,4µm,0.9s						
MT02	**Curacav**	**6.82**	**187**		**Pn**	**06 06 59.8**	**-2.0**
GO01	**Chusmiza**	**6.83**	**7**	*i* P	**Pn**	**06 06 59.0**	**-3.4**
MT05	**Renca**	**6.91**	**184**		**Pn**	**06 07 01.9**	**-1.3**
MRA	**San Martin**	**7.05**	**148**	*i* P	**Pn**	**06 07 05.0**	**0.0**
MRA				IAML		06 08 28.0	
	comp=Z,3µm,1.0s						
VA05	**Santo Domingo**	**7.28**	**190**		**Pn**	**06 07 04.7**	**-3.3**
MT09	**Talagante**	**7.32**	**186**		**Pn**	**06 07 07.1**	**-1.6**
LMEL	**Las Melosas**	**7.35**	**181**		**Pn**	**06 07 08.2**	**-1.0**
BO04	**La Punta**	**7.50**	**183**		**Pn**	**06 07 09.9**	**-1.2**
PB12	**IPOC Station P**	**7.83**	**358**		**Pn**	**06 07 12.5**	**-3.2**
PB12	**IPOC Station P**	**7.83**	**358**	*i* P	**Pn**	**06 07 12.0**	**-3.7**
PB12				IAML		06 09 19.6	
	comp=Z,2µm,1.2s						
BO01	**Tunca**	**7.94**	**186**		**Pn**	**06 07 15.1**	**-1.9**
PB16	**IPOC Station P**	**8.12**	**4**		**Pn**	**06 07 18.1**	**-2.1**
PB16	**IPOC Station P**	**8.12**	**4**	*i* P	**Pn**	**06 07 17.0**	**-3.2**
PB16				IAML		06 09 28.6	
	comp=Z,2µm,1.7s						
RFA	**San Rafael**	**8.39**	**171**	*i* P	**Pn**	**06 07 22.0**	**-1.3**
RFA				IAML		06 09 29.0	
	comp=Z,972nm,0.9s						
GO05	**Huala**	**8.65**	**190**		**Pn**	**06 07 24.5**	**-2.3**
ML02	**Panimavida**	**9.32**	**187**		**Pn**	**06 07 32.2**	**-3.8**
LPAZ	**La Paz**	**10.30**	**11**	P	**Pn**	**06 07 48.8**	**-1.2**
	comp=Z,5.3nm,0.3s,baz=200,slow=6.5,SNR=185						
LPAZ				LR	LR	06 13 20.2	
	comp=Z,802nm,19.8s,baz=194,slow=46						
LPAZ	**La Paz**	**10.30**	**11**		**Pn**	**06 07 47.7**	**-2.3**
LPAZ	**La Paz**	**10.30**	**11

BOSC IAmb IAmb 06 11 22.6
comp=Z,158nm,1.2s
VAS01 Vassouras-RJ 24.62 86 *eP* **P 06 10 37.6 -0.5**
ARNL Arenillas 24.72 336 P **P 06 10 39.7 +0.7**
MACA Manacapuru-AM 24.88 23 *eP* **P 06 10 40.3 -0.1**
PEXB Peixe 25.00 59 *eP* **P 06 10 41.0 -0.5**
MG05 Puerto Natales 25.23 184 P **P 06 10 41.4 -1.9**
DUB01 Friburgo-RJ 25.63 86 *eP* **P 06 10 47.0 -0.3**
DIAM Diamantina, MG 25.72 77 *eP* **P 06 10 47.3 -1.0**
ITTB Itaituba 25.93 34 *eP* **P 06 10 48.8 -1.2**
CAM01 Campos-RJ 26.34 86 *eP* **P 06 10 53.4 -0.2**
JANB Januaria 26.60 70 *eP* **P 06 10 54.8 -1.4**
EFI East Falkland 26.77 163 P **P 06 10 55.4 -1.8**
EFI IAmb IAmb 06 10 57.8
comp=Z,148nm,0.8s
PTLC Puerto Leguiza 26.88 350 *eP* **P 06 10 56.6 -1.9**
MG03 Isla Dawson 27.34 180 P **P 06 11 01.9 -0.4**
MG03 IAmb IAmb 06 11 50.7
comp=Z,206nm,1.2s
DSPA Despedida 27.48 178 P **P 06 11 02.8 -0.8**
SDBA SAO DESIDERIO 27.50 64 *eP* **P 06 11 02.9 -1.3**
ALF01 Guarapari-ES 27.52 84 *eP* **P 06 11 03.6 -0.7**
SMTB Santa Maria do 27.61 55 *eP* **P 06 11 04.8 -0.4**
SJMB Sao Joao De Ma 27.75 80 *eP* **P 06 11 05.3 -1.1**
PRPB Parauapebas 27.96 47 *eP* **P 06 11 07.5 -0.7**
RIB01 Linhares ES 28.24 82 *eP* **P 06 11 09.9 -0.7**
USHA Ushuaia 28.35 178 P **P 06 11 11.9 +0.6**
comp=Z,29nm,0.6s,baz=1.6,slow=7.3,SNR=23
USHA LR LR 06 23 16.1
comp=Z,942nm,21.9s,baz=12,slow=38
GCUF Volcan Galeras 28.41 345 *eP* **P 06 11 15.6 +2.9**
MACC Macarena, Meta 28.68 352 *eP* **P 06 11 14.5 -0.1**
MALB Monte Alegre 28.83 34 *eP* **P 06 11 16.2 +0.3**
NAN01 Guarapari, ES 29.00 79 *eP* **P 06 11 16.5 -1.0**
SOTA Rioblanco 29.13 347 *eP* **P 06 11 22.7 +3.5**
PCON Cinco Dias 29.27 347 *eP* **P 06 11 23.7 +3.2**
POPC Popayan, Colom 29.54 347 *eP* **P 06 11 23.7 +1.3**
MARP Paez Belalcaza 29.69 348 *eP* **P 06 11 26.0 +2.1**
GUA01 Guaratinga, BA 29.79 77 *eP* **P 06 11 23.8 -0.6**
BOAV Boa Vista 30.18 19 *eP* **P 06 11 27.4 -0.3**
CMC01 Camacan, BA 30.56 75 *eP* **P 06 11 30.2 -1.1**
ORTC Ortega, Tolima 30.61 350 *eP* **P 06 11 33.4 +1.6**
YOTC Yotoco, Valle 30.88 348 *eP* **P 06 11 35.6 +1.4**
CHIC Chingaza 31.12 353 *eP* **P 06 11 37.0 +0.4**
MCPB Macapa, AP 31.24 37 *eP* **P 06 11 36.8 -0.5**
GDU01 Guandu, BA 31.26 72 *eP* **P 06 11 36.0 -1.4**
ROSC El Rosal 31.40 352 P **P 06 11 39.8 +0.8**
comp=Z,29nm,0.9s,baz=178,slow=8.4,SNR=4.3
ROSC LR LR 06 24 56.9
comp=Z,694nm,18.0s,baz=221,slow=37
ROSC El Rosal 31.40 352 P **P 06 11 38.2 -0.8**
ROSC El Rosal 31.40 352 *eP* **P 06 11 41.8 +2.8**
PLMC San Jos del P 31.77 348 *eP* **P 06 11 42.6 +0.7**
GUY2C Guyana, Caldas 31.92 350 *eP* **P 06 11 44.9 +1.2**
TMAB Tom-Au,PA,Br 31.95 45 *eP* **P 06 11 44.0 +0.5**
NORC Norcasia 32.18 351 *eP* **P 06 11 46.2 +0.7**
NBPN Ponto Novo - B 32.20 67 *eP* **P 06 11 43.6 -2.1**
RUSC La Rusia 32.31 354 *eP* **P 06 11 47.7 +0.6**
CBOC Ciudad Bolivar 32.66 349 *eP* **P 06 11 50.1 +0.3**
HELC Santa Helena 32.90 350 *eP* **P 06 11 52.5 +0.3**
BARC Barichara 33.01 354 *eP* **P 06 11 53.4 +0.4**
PTBC PUERTO BERRIO, 33.09 352 *eP* **P 06 11 51.0 -2.4**
ZARC Zaragoza, Cauc 34.08 352 *eP* **P 06 12 01.8 -0.2**
NBLA Lagarto - SE 34.13 69 *eP* **P 06 12 00.9 -1.6**
ROSB Rosrio 34.21 51 *eP* **P 06 12 03.2 0.0**
UREC San Jos de Ur 34.43 350 *eP* P 06 11 57.1 -8.0
SOCV Socops 34.56 359 *eP* P 06 11 55.9 -10
RPN Rapa Nui 34.93 260 LR LR 06 22 43.1
comp=Z,647nm,19.9s,baz=108,slow=30
NBPS Pedro II - PI 35.12 56 *eP* **P 06 12 10.5 -0.6**
SDV Santo Domingo 35.15 359 LR LR 06 28 09.0
comp=Z,412nm,19.7s,baz=172,slow=39
SDV Santo Domingo 35.15 359 P **P 06 12 09.8 -1.6**
SDV Santo Domingo 35.15 359 *eP* P 06 12 06.4 -5.1
SDV Santo Domingo 35.15 359 *eP* **P 06 12 10.7 -0.8**
CACAO El Cacao, Vera 35.20 341 *eP* **P 06 12 13.0 +1.3**
BAUV El Baul 35.26 4 P **P 06 12 11.1 -1.1**
NBMA Muriti-CE 35.34 63 *eP* **P 06 12 12.6 -0.4**
MDP Montagnes des 35.66 31 P **P 06 12 15.3 -0.4**
comp=Z,50nm,0.8s,baz=206,slow=8.6,SNR=24
MDP LR LR 06 28 19.8
comp=Z,1µm,20.7s,baz=207,slow=39
MPGF Montagnes des 35.67 31 P **P 06 12 15.6 -0.1**
MPGF P **P 06 12 15.7 -0.1**
MPGF X 06 12 25.5
MPGF pP **sP 06 12 40.2 -2.1**
NBPB Pedra_Branca-C 35.79 60 *eP* **P 06 12 17.3 +0.4**
NBAN Anadia - AL 36.09 69 *eP* **P 06 12 18.7 -0.7**
SJCC San Jacinto, C 36.49 352 P **P 06 12 22.3 -0.5**
SJCC San Jacinto, C 36.49 352 *eP* **P 06 12 21.8 -0.9**
NBMO Morrinhos-CE 36.88 56 *eP* **P 06 12 25.3 -0.8**
BIRV Birongo 36.92 6 P **P 06 12 24.4 -1.9**
HOPE Hope Point 37.17 147 P **P 06 12 26.0 -2.1**
HOPE Hope Point 37.17 147 P **P 06 12 29.1 +1.1**
HOPE pP **sP 06 13 00.3 +5.2**
RIOS Rincon, Osa 37.31 338 P **P 06 12 31.2 +1.5**
RIOS IAmb IAmb 06 12 33.2
comp=Z,53nm,0.8s
NBRF Rio Formoso - 37.57 68 *eP* **P 06 12 30.4 -1.6**
NBCL Cascavel-CE 37.62 59 *eP* **P 06 12 32.4 0.0**
URIC Uribia, Colomb 37.99 357 P **P 06 12 32.4 -3.0**
PEZE Perez Zeledon, 38.01 338 P **P 06 12 35.7 0.0**
PEZE IAmb IAmb 06 12 56.7
comp=Z,58nm,1.4s
ORCD Orcadas 38.36 160 P **P 06 12 37.1 -0.9**
PMSA Palmer Station 38.50 176 P **P 06 12 40.9 +1.8**
comp=Z,100nm,0.9s,baz=357,slow=7.9,SNR=5.2
PMSA LR LR 06 28 11.0
comp=Z,924nm,20.4s,baz=349,slow=35
PMSA Palmer Station 38.50 176 *eP* **P 06 12 40.7 +1.6**
RCBR Riachuelo 38.53 64 P **P 06 12 40.9 +0.8**
comp=Z,64nm,0.8s,baz=16,slow=11,SNR=29
RCBR LR LR 06 30 46.4
comp=Z,318nm,19.0s,baz=12,slow=40
RCBR Riachuelo 38.53 64 P **P 06 12 39.7 -0.4**
RCBR Riachuelo 38.53 64 *eP* **P 06 12 40.0 -0.1**
RCBR Riachuelo 38.53 64 ⇑P **P 06 12 41.2 +1.1**
TOSP Speyside 38.68 15 P **P 06 12 39.7 -1.5**
TOSP IAmb IAmb 06 12 59.4
comp=Z,56nm,1.0s
NBPV Pedro Velho 38.69 65 *eP* **P 06 12 41.4 0.0**
JTS Las Juntas de 39.29 337 P **P 06 12 48.7 +2.4**
comp=Z,12nm,0.9s,baz=199,slow=6.6,SNR=8.9
JTS Las Juntas de 39.29 337 P **P 06 12 47.8 +1.5**
ACON Acoyapa 40.93 337 P **P 06 12 59.5 -0.3**
PRVC Isla de Provid 41.10 343 P **P 06 13 01.4 +0.2**
MPOM Morne Pois Mar 41.66 14 P **P 06 13 03.0 -2.7**
MPOM IAmb IAmb 06 13 05.2
comp=Z,120nm,1.0s
BIM Bigot 41.68 13 P **P 06 13 04.0 -2.1**
BIM IAmb IAmb 06 13 05.9
comp=Z,90nm,1.0s
FDF Fort de France 41.88 13 P **P 06 13 05.2 -2.5**
FDF IAmb IAmb 06 13 08.8
comp=Z,50nm,0.7s
FDF Fort de France 41.88 13 P **P 06 13 05.9 -1.7**
MLPR Magueyes Islan 44.28 4 P **P 06 13 25.4 -1.5**
CRPR Cabo Rojo, PR 44.31 4 P **P 06 13 25.4 -1.8**
OBIP Obispado Ponce 44.38 5 P **P 06 13 25.5 -2.2**
PDPR Patillas Dam, 44.41 6 P **P 06 13 25.7 -2.2**
SJG San Juan 44.49 5 P **P 06 13 26.8 -1.8**
comp=Z,15nm,0.6s,baz=146,slow=3.3,SNR=14
SJG LR LR 06 34 34.7
comp=Z,223nm,21.0s,baz=194,slow=39
SJG San Juan 44.49 5 P **P 06 13 26.3 -2.3**
MTP Monte Pirata 44.53 6 P **P 06 13 26.6 -2.3**
ANWB Willy Bob 44.62 11 P **P 06 13 26.2 -3.4**
ANWB IAmb IAmb 06 13 27.6
comp=Z,52nm,0.9s
CBYP Canovanas 44.67 6 P **P 06 13 27.6 -2.5**
SMRT St. Maarten 44.78 10 P **P 06 13 27.8 -3.1**
GTBY Guantanamo Bay 46.38 353 P **P 06 13 43.3 -0.2**
GTBY IAmb IAmb 06 13 45.5
comp=Z,42nm,0.9s
PETF Flores 47.22 334 P **P 06 13 50.3 +0.2**
PETF IAmb IAmb 06 14 10.1
comp=Z,60nm,0.8s
CCIG Comitan 47.59 331 P **P 06 13 52.6 -0.7**
CMIG Matias Romero 49.55 328 LR LR 06 31 07.3
comp=Z,194nm,20.9s,baz=144,slow=31
TRIS Tristan da Cun 49.59 117 P **P 06 14 06.5 -1.7**
SOR Soroa 50.55 345 P **P 06 14 15.9 +0.4**
SOR IAmb IAmb 06 14 34.7
comp=Z,45nm,1.0s
BELA Belgrano 2 54.01 171 P **P 06 14 40.9 +0.4**
VNA3 Neumayer Olymp 55.76 160 P **P 06 14 53.5 +0.2**
ASCN Ascension 55.90 81 P **P 06 14 55.0 -0.1**
VNA1 Neumayer--Stat 56.01 159 P **P 06 14 55.1 +0.1**
VNA2 Neumayer--Watz 56.37 159 P **P 06 14 57.8 +0.2**
baz=279,slow=8.0
SNAA Sanae 57.98 160 P **P 06 15 09.0 -0.1**
SNAA Sanae 57.98 160 P **P 06 15 09.0 -0.1**
comp=Z,74nm,1.0s,baz=279,slow=8.5,SNR=148
SNAA LR LR 06 38 38.0
comp=Z,192nm,20.9s,baz=308,slow=34
SNAA Sanae 57.98 160 ⇓*iP* **P 06 15 09.0 -0.1**
SNAA IAmb IAmb 06 15 09.9
comp=Z,8µm,1.3s
SNAA Sanae 57.98 160 P **P 06 15 08.3 -0.7**
352A Blakely 59.34 345 P **P 06 15 18.0 -0.9**
352A Blakely 59.34 345 P **P 06 15 19.3 +0.5**
baz=164,SNR=6.8
BRAL Brewton 59.56 343 P **P 06 15 20.1 -0.3**
BRAL Brewton 59.56 343 P **P 06 15 20.4 0.0**
baz=162
TROLL Troll, Antarti 59.69 160 P **P 06 15 21.3 +0.3**
NHSC New Hope 60.02 350 P **P 06 15 24.7 +1.2**
baz=169
154A Montrose 60.05 347 P **P 06 15 22.9 -0.7**
154A IAmb IAmb 06 15 25.1
comp=Z,56nm,0.9s
154A Montrose 60.05 347 P **P 06 15 23.9 +0.2**
baz=166
250A Grady 60.14 344 P **P 06 15 23.3 -1.0**
250A Grady 60.14 344 P **P 06 15 23.3 -1.0**
baz=163
346A Big Creek Wild 60.44 341 P **P 06 15 26.4 0.0**
346A Big Creek Wild 60.44 341 P **P 06 15 27.1 +0.7**
baz=160,SNR=5.2
152A Waverly Hall 60.44 346 P **P 06 15 25.6 -0.7**
152A IAmb IAmb 06 15 27.0
comp=Z,37nm,1.1s
152A Waverly Hall 60.44 346 P **P 06 15 26.4 0.0**
baz=165,SNR=7.3
Y58A Scranton 60.73 351 P **P 06 15 29.1 +0.8**
baz=170
Y58A P **P 06 15 29.1 +0.8**
baz=170
344A Westbrook Farm 60.88 340 P **P 06 15 28.8 -0.5**
344A IAmb IAmb 06 15 31.4
comp=Z,57nm,0.9s
344A Westbrook Farm 60.88 340 P **P 06 15 30.8 +1.5**
baz=159,SNR=7.4
GOGA Godfrey 60.90 347 P **P 06 15 28.9 -0.5**
baz=166
Y57A Sumter 60.95 350 P **P 06 15 28.0 -1.7**
Y57A IAmb IAmb 06 15 31.1
comp=Z,52nm,1.0s
735A Kenedy 61.10 332 P **P 06 15 32.7 +1.8**
baz=152,SNR=5.5
HKT Hockley 61.28 335 P **P 06 15 32.1 +0.1**
HKT IAmb IAmb 06 15 52.7
comp=Z,37nm,1.2s
HKT Hockley 61.28 335 P **P 06 15 33.2 +1.2**
baz=154
HKT Hockley 61.28 335 P **P 06 15 33.4 +1.4**
HKT pP **pP 06 15 52.2 +0.9**
342B Flagon Creek P 61.32 338 P **P 06 15 33.5 +1.2**
baz=157,SNR=8.2
833A Chaparral WMA, 61.32 331 P **P 06 15 33.5 +1.1**
833A Chaparral WMA, 61.32 331 P **P 06 15 34.0 +1.5**
baz=150,SNR=26
833A Chaparral WMA, 61.32 331 P **P 06 15 34.3 +1.8**
baz=150,SNR=26
LRAL Lakeview Retre 61.33 344 P **P 06 15 31.5 -0.8**
LRAL Lakeview Retre 61.33 344 P **P 06 15 31.9 -0.5**
baz=163,SNR=6.1
LRAL Lakeview Retre 61.33 344 P **P 06 15 32.1 -0.2**
baz=163,SNR=6.1
X58A Rowland 61.33 351 P **P 06 15 33.2 +0.9**
baz=170,SNR=6.0
X58A P **P 06 15 33.2 +0.9**
baz=170,SNR=6.0
Z47A Carrollton 61.76 343 P **P 06 15 33.2 -2.1**
baz=162,SNR=5.3
CNNC Cliffs of the 61.82 353 P **P 06 15 36.8 +1.2**
baz=172
PAULI Pauline 61.97 349 P **P 06 15 36.7 +0.1**
PAULI IAmb IAmb 06 15 37.8
comp=Z,32nm,1.1s
PAULI Pauline 61.97 349 P **P 06 15 36.7 +0.1**
baz=168,SNR=5.1
Y49A Blount Mountai 61.97 345 P **P 06 15 36.2 -0.4**
Y49A IAmb IAmb 06 15 37.4
comp=Z,31nm,1.3s
Y49A Blount Mountai 61.97 345 P **P 06 15 36.0 -0.7**
baz=163
W57A Gilead 62.01 351 P **P 06 15 37.0 +0.2**
W57A IAmb IAmb 06 15 37.7
comp=Z,24nm,0.8s
W57A Gilead 62.01 351 P **P 06 15 37.0 +0.2**
baz=170
W57A P **P 06 15 37.0 +0.2**
baz=170
KMSC Kings Mountain 62.20 350 P **P 06 15 38.3 +0.1**
KMSC IAmb IAmb 06 15 38.9
comp=Z,87nm,1.7s
KMSC Kings Mountain 62.20 350 P **P 06 15 38.7 +0.5**
baz=168,SNR=5.4
143A Socs Landing, 62.25 340 P **P 06 15 39.9 +1.4**
baz=158,SNR=25
X51A Calhoun 62.30 346 P **P 06 15 39.3 +0.4**
baz=165,SNR=7.1
X51A P **P 06 15 39.3 +0.4**
baz=165,SNR=7.1
BG3 Lake Jocassee 62.33 348 P **P 06 15 39.2 +0.1**
CASEE Lake Jocassee 62.33 348 P **P 06 15 39.5 +0.4**
baz=167
NATX Nacogdoches 62.47 336 P **P 06 15 41.0 +0.9**
baz=155,SNR=8.0
NATX Nacogdoches 62.47 336 P **P 06 15 41.8 +1.7**
baz=155,SNR=8.0
W52A Murphy 62.62 347 P **P 06 15 41.4 +0.4**
baz=166
X48A Hartselle 62.69 344 P **P 06 15 40.9 -0.5**
X48A IAmb IAmb 06 15 42.3
comp=Z,48nm,0.8s
X48A Hartselle 62.69 344 P **P 06 15 41.7 +0.2**
baz=163,SNR=17
435B Jarrell 62.71 333 P **P 06 15 42.3 +0.6**
435B IAmb IAmb 06 16 02.1
comp=Z,25nm,0.9s
435B Jarrell 62.71 333 P **P 06 15 43.3 +1.6**
baz=152
Y45A Yeager Farm, C 62.79 342 P **P 06 15 41.9 -0.2**
Y45A IAmb IAmb 06 15 43.5
comp=Z,50nm,0.8s
Y45A Yeager Farm, C 62.79 342 P **P 06 15 42.6 +0.5**
baz=160
V55A Taylorsville 62.88 350 P **P 06 15 43.1 +0.4**
V55A IAmb IAmb 06 15 44.1
comp=Z,36nm,0.9s
V55A Taylorsville 62.88 350 P **P 06 15 43.6 +0.9**
baz=169,SNR=5.0
V55A P **P 06 15 43.6 +0.9**
baz=169,SNR=5.0
U59A Littleton 62.91 353 P **P 06 15 42.4 -0.5**
U59A IAmb IAmb 06 15 44.6
comp=Z,30nm,0.9s
U59A Littleton 62.91 353 P **P 06 15 43.8 +0.9**
baz=172
U59A P **P 06 15 43.8 +0.9**
baz=172
V53A Saluda 62.97 348 P **P 06 15 43.5 +0.1**
baz=167
V53A P **P 06 15 43.5 +0.1**
baz=167
W50A Signal Mountai 63.01 346 P **P 06 15 42.7 -0.9**
W50A IAmb IAmb 06 15 44.6
comp=Z,50nm,0.8s
W50A Signal Mountai 63.01 346 P **P 06 15 44.1 +0.5**
baz=164,SNR=14
SLBS Sierra La Lagu 63.01 319 P **P 06 15 46.8 +2.8**
SLBS pP **pP 06 16 05.3 +2.1**
CPCT Cooper Cave 63.08 347 P **P 06 15 44.0 0.0**
CPCT IAmb IAmb 06 15 45.0
comp=Z,29nm,0.8s
237A Washetta, Mont 63.11 336 P **P 06 15 45.9 +1.6**
baz=154
TKL Tuckaleechee C 63.13 348 LR LR 06 47 35.8
comp=Z,89nm,18.0s,baz=157,slow=40
TKL Tuckaleechee C 63.13 348 P **P 06 15 43.8 -0.6**
TKL IAmb IAmb 06 15 45.1
comp=Z,33nm,0.9s
TKL Tuckaleechee C 63.13 348 P **P 06 15 44.6 +0.2**
baz=166,SNR=8.1
SWET Sewanee 63.16 346 P **P 06 15 44.0 -0.6**
Z41A Richland Creek 63.20 339 P **P 06 15 45.0 +0.1**
Z41A IAmb IAmb 06 15 47.0
comp=Z,58nm,1.1s
Z41A Richland Creek 63.20 339 P **P 06 15 46.3 +1.4**
baz=157,SNR=7.2
Z41A P **P 06 15 46.3 +1.4**
baz=157,SNR=7.2
Z41A Richland Creek 63.20 339 P **P 06 15 46.2 +1.4**
baz=157,SNR=7.2
U56A King 63.23 351 P **P 06 15 46.1 +1.1**
baz=170,SNR=5.0
U56A P **P 06 15 46.1 +1.1**
baz=170,SNR=5.0
V52A Sevierville 63.28 348 P **P 06 15 45.5 +0.2**
baz=166,SNR=7.7
OXF Oxford 63.36 342 P **P 06 15 44.6 -1.2**
OXF Oxford 63.36 342 P **P 06 15 45.9 0.0**
baz=160,SNR=10
OXF Oxford 63.36 342 P **P 06 15 45.8 0.0**
baz=160,SNR=10
JCT Junction City 63.36 331 P **P 06 15 47.2 +1.2**
JCT Junction City 63.36 331 P **P 06 15 47.1 +1.0**
baz=150,SNR=34
JCT Junction City 63.36 331 P **P 06 15 47.5 +1.4**
baz=150,SNR=34
V51A Loudon 63.39 347 P **P 06 15 45.0 -1.1**
V51A IAmb IAmb 06 15 46.8
comp=Z,25nm,0.8s
V51A Loudon 63.39 347 P **P 06 15 46.0 0.0**
baz=166
PLAL Pickwick Lake 63.45 344 P **P 06 15 45.8 -0.7**
PLAL IAmb IAmb 06 15 46.9
comp=Z,34nm,1.1s
LPIG La Paz 63.55 319 LR LR 06 35 07.6
comp=Z,34nm,20.1s,baz=180,slow=28
U54A Nelsons Funny 63.63 349 P **P 06 15 47.9 +0.1**
baz=168,SNR=5.5
U54A P **P 06 15 47.9 +0.1**
baz=168,SNR=5.5
T57A Hurt 63.72 352 P **P 06 15 48.6 +0.4**
baz=171
T57A P **P 06 15 48.6 +0.4**
baz=171
WHTX Lake Whitney, 63.73 334 P **P 06 15 49.5 +1.1**
baz=152,SNR=8.8
WHTX Lake Whitney, 63.73 334 P **P 06 15 49.4 +1.1**
baz=152,SNR=8.8
QSPA South Pole Qui 63.74 180 LR LR 06 43 17.6
comp=Z,220nm,21.9s,baz=162,slow=36
QSPA South Pole Qui 63.74 180 P **P 06 15 49.0 +0.8**
QSPA South Pole Qui 63.74 180 ⇓P **P 06 15 49.6 +1.3**
QSPA pP **pP 06 16 09.4 +1.6**
QSPA sP **sP 06 16 18.0 +1.8**
V48A Smith Brothers 63.87 345 P **P 06 15 49.3 +0.1**
baz=163,SNR=9.6
W45A Hickory Valley 63.90 343 P **P 06 15 49.0 -0.5**
W45A Hickory Valley 63.90 343 P **P 06 15 49.7 +0.2**
baz=161,SNR=7.8
Z38A Mt. Pleasant 63.95 337 P **P 06 15 49.7 0.0**
Z38A IAmb IAmb 06 15 51.9
comp=Z,41nm,0.9s
Z38A Mt. Pleasant 63.95 337 P **P 06 15 50.9 +1.1**
baz=155
CLTN Cedars of Leba 64.09 345 P **P 06 15 50.4 -0.2**
CLTN IAmb IAmb 06 15 51.5
comp=Z,31nm,0.8s
TXAR Lajitas Array 64.15 328 P **P 06 15 52.9 +1.5**
comp=Z,5.2nm,0.8s,baz=152,slow=7.8,SNR=56
TXAR pP **pP 06 16 11.6 +0.8**
comp=Z,9.1nm,0.7s,baz=150,slow=8.3,SNR=17
TXAR LR LR 06 39 37.1
comp=Z,144nm,20.9s,baz=133,slow=32
TXAR PKPPKP **P'P'df 06 44 40.4 +1.0**
comp=Z,0.4nm,0.9s,baz=107,slow=1.3,SNR=3.5
TXAR PKP2bc 06 44 48.4
comp=Z,1.2nm,1.0s,baz=318,slow=3.5,SNR=6.1
TXAR Lajitas Array 64.15 328 P **P 06 15 52.2 +0.8**
TX31 Lajitas Ar. Si 64.15 328 P **P 06 15 52.5 +1.1**
TX31 IAmb IAmb 06 16 12.5
comp=Z,44nm,0.8s
TX31 Lajitas Ar. Si 64.15 328 P **P 06 15 53.0 +1.6**
baz=146,SNR=22
X40A Basin Creek Fa 64.35 339 P **P 06 15 53.2 +0.8**
baz=157
X40A P **P 06 15 53.2 +0.8**
baz=157
X40A Basin Creek Fa 64.35 339 P **P 06 15 53.2 +0.8**
baz=157
U49A Red Boiling Sp 64.37 346 P **P 06 15 52.4 -0.1**
baz=164,SNR=7.5
S57A Dark Hollow, R 64.44 352 P **P 06 15 53.9 +1.0**
baz=171,SNR=5.8
S57A P **P 06 15 53.9 +1.0**
baz=171,SNR=5.8
UALR University of 64.46 340 P **P 06 15 53.3 +0.2**
WVT Waverly 64.48 344 P **P 06 15 52.5 -0.7**
WVT IAmb IAmb 06 15 53.7
comp=Z,35nm,0.8s
WVT Waverly 64.48 344 P **P 06 15 52.7 -0.5**
baz=162,SNR=17
WVT Waverly 64.48 344 P **P 06 15 52.9 -0.3**
baz=162
WVT Waverly 64.48 344 ⇑P **P 06 15 53.1 -0.1**
WVT pP **pP 06 16 12.0 -0.7**
R58B Mineral 64.51 353 P **P 06 15 54.7 +1.3**
baz=172,SNR=7.1
R58B P **P 06 15 54.7 +1.3**
baz=172,SNR=7.1
T50A Nancy 64.66 347 P **P 06 15 53.7 -0.7**
T50A Nancy 64.66 347 P **P 06 15 54.3 -0.1**
baz=165
T50A P **P 06 15 54.3 -0.1**
baz=165
CBN Corbin Frederi 64.70 354 P **P 06 15 55.8 +1.2**
baz=173
S54A Dingess, Beckl 64.80 350 P **P 06 15 53.6 -1.8**
S54A IAmb IAmb 06 15 56.2
comp=Z,55nm,1.2s
S54A Dingess, Beckl 64.80 350 P **P 06 15 55.7 +0.4**
baz=169,SNR=5.3
S54A P **P 06 15 55.7 +0.4**
baz=169,SNR=5.3
W41B Gary Mavity, V 64.80 340 P **P 06 15 55.9 +0.6**
baz=158,SNR=22
W41B Gary Mavity, V 64.80 340 P **P 06 15 55.9 +0.6**
baz=158,SNR=22
Z35A Perchaven, San 64.84 335 P **P 06 15 55.9 +0.2**
Z35A Perchaven, San 64.84 335 P **P 06 15 56.9 +1.3**
baz=153,SNR=24
LNXT Lenox 64.88 343 P **P 06 15 55.8 0.0**
baz=161
GNAR Gosnell 64.89 342 P **P 06 15 55.5 -0.3**
WHAR Wooly Hollow 64.92 340 P **P 06 15 56.3 +0.2**
WHAR IAmb IAmb 06 15 57.5
comp=Z,40nm,0.8s
S51A Beattyville 65.02 348 P **P 06 15 56.9 +0.2**
baz=166,SNR=5.9
S51A P **P 06 15 56.9 +0.2**
baz=166,SNR=5.9
T47A Sharon Grove 65.12 345 P **P 06 15 56.9 -0.5**
T47A IAmb IAmb 06 15 58.1
comp=Z,71nm,1.0s
T47A Sharon Grove 65.12 345 P **P 06 15 57.3 -0.1**
baz=163,SNR=17
ABTX Abilene, Hawle 65.16 333 P **P 06 15 58.4 +0.6**
ABTX IAmb IAmb 06 16 18.4
comp=Z,69nm,0.9s
ABTX Abilene, Hawle 65.16 333 P **P 06 15 59.0 +1.2**
baz=151,SNR=14
ABTX Abilene, Hawle 65.16 333 P **P 06 15 59.0 +1.2**
baz=151,SNR=14
HICK Hickman 65.22 343 P **P 06 15 56.8 -1.2**
HICK IAmb IAmb 06 16 12.9
comp=Z,54nm,1.0s
X37A Clayton 65.28 337 P **P 06 15 59.7 +1.2**
baz=155,SNR=22
W39A Magazine 65.30 339 P **P 06 15 60.0 +1.3**
baz=156,SNR=19

W39A Magazine 65.30 339 P P 06 15 59.9 +1.3
baz=156,SNR=19
LCAR Lake Charles 65.31 341 P P 06 15 58.4 -0.2
LCAR IAmb IAmb 06 15 59.6
comp=Z,44nm,0.7s
LCAR Lake Charles 65.31 341 P P 06 15 59.1 +0.5
baz=159,SNR=35
PARMO Parma 65.47 343 P P 06 15 59.8 +0.1
PARMO IAmb IAmb 06 16 01.0
comp=Z,52nm,0.7s
T45B Paducah 65.52 344 P P 06 16 00.2 +0.2
baz=162,SNR=16
T45A Paducah 65.53 344 P P 06 15 59.6 -0.3
Q56A Snyder Ridge, 65.73 352 P P 06 16 01.7 +0.4
Q56A IAmb IAmb 06 16 03.5
comp=Z,41nm,1.1s
PBMO Poplar Bluff 65.77 342 P P 06 16 01.4 -0.2
PBMO IAmb IAmb 06 16 02.6
comp=Z,56nm,0.8s
PBMO Poplar Bluff 65.77 342 P P 06 16 01.9 +0.4
baz=160,SNR=27
R50A Paris 65.78 348 P P 06 16 01.7 +0.1
baz=166,SNR=5.7
R50A P P 06 16 01.7 +0.1
baz=166,SNR=5.7
Q54A Coxs Mills 65.89 351 P P 06 16 02.4 +0.1
baz=169
Q54A P P 06 16 02.4 +0.1
baz=169
R49A Shelbyville 65.96 347 P P 06 16 02.3 -0.5
R49A Shelbyville 65.96 347 P P 06 16 02.6 -0.1
baz=165,SNR=6.3
R49A P P 06 16 02.6 -0.1
baz=165,SNR=6.3
P57A Homestead Farm 66.03 353 P P 06 16 05.0 +1.8
baz=172,SNR=6.7
P57A P P 06 16 05.0 +1.8
baz=172,SNR=6.7
U40A Yellville 66.08 340 P P 06 16 04.2 +0.6
baz=158,SNR=36
X34A Smith Ranch, M 66.19 335 P 06 16 04.8 +0.5
X34A IAmb IAmb 06 16 06.2
comp=Z,57nm,0.7s
USIN University of 66.19 345 P P 06 16 03.0 -1.2
USIN IAmb IAmb 06 16 05.2
comp=Z,34nm,0.8s
S44A Carbondale 66.32 343 P P 06 16 04.7 -0.3
S44A Carbondale 66.32 343 P P 06 16 05.5 +0.5
baz=161,SNR=21
Q51A Peebles 66.33 349 P P 06 16 05.3 +0.2
baz=167,SNR=6.4
Q51A P P 06 16 05.3 +0.2
baz=167,SNR=6.4
SIUC Southern Illin 66.33 344 P P 06 16 04.5 -0.6
SIUC IAmb IAmb 06 16 06.0
comp=Z,50nm,0.7s
HHAR Hobbs 66.35 339 P P 06 16 05.7 +0.4
baz=157
MCWV Mont Chateau 66.42 352 P P 06 16 06.6 +1.0
baz=170
MCWV Mont Chateau 66.42 352 P P 06 16 06.4 +0.8
baz=170
P53A Whipple 66.46 350 P P 06 16 06.5 +0.6
baz=169,SNR=5.8
P53A P P 06 16 06.5 +0.6
baz=169,SNR=5.8
TUPA Temple Univers 66.47 356 P P 06 16 06.9 +0.9
baz=175
TUL1 Leonard 66.62 337 P P 06 16 07.9 +0.9
baz=155,SNR=34
WMOK Wichita Mounta 66.67 335 P P 06 16 07.6 +0.2
baz=152
WMOK Wichita Mounta 66.67 335 P P 06 16 07.9 +0.5
baz=152
P52A Corning 66.72 350 P P 06 16 07.4 -0.1
baz=168,SNR=5.0
P51A Williamsport 66.72 349 P P 06 16 07.1 -0.5
P51A IAmb IAmb 06 16 08.1
comp=Z,31nm,0.7s
P51A Williamsport 66.72 349 P P 06 16 07.4 -0.2
baz=167,SNR=8.6
P51A P P 06 16 07.4 -0.2
baz=167,SNR=8.6
FVM French Village 66.90 343 P P 06 16 08.8 +0.1
FVM French Village 66.90 343 P P 06 16 09.4 +0.7
baz=160,SNR=37
MNTX Cornudas Mount 66.93 328 P P 06 16 09.8 +0.7
baz=146,SNR=25
BRNJ Basking Ridge 66.94 356 P P 06 16 10.5 +1.6
baz=175
OLIL Olney 67.02 345 P P 06 16 08.8 -0.7
OLIL Olney 67.02 345 P P 06 16 09.1 -0.4
baz=162
P49A Miami Univ. Ec 67.07 348 P P 06 16 09.2 -0.6
P49A Miami Univ. Ec 67.07 348 P P 06 16 09.6 -0.2
baz=166,SNR=5.4
P49A Miami Univ. Ec 67.07 348 P P 06 16 09.3 -0.6
baz=166,SNR=5.4
BLO Bloomington 67.09 346 P P 06 16 09.3 -0.6
P48A Milroy 67.14 347 P P 06 16 09.8 -0.5
baz=165,SNR=5.6
P48A P P 06 16 09.8 -0.5
baz=165,SNR=5.6
O52A Adamsville 67.14 350 P P 06 16 10.6 +0.3
baz=168,SNR=6.3
O52A P P 06 16 10.6 +0.3
baz=168,SNR=6.3
SSPA Standing Stone 67.16 354 P P 06 16 11.6 +1.3
baz=172,SNR=5.3
SSPA Standing Stone 67.16 354 P P 06 16 11.3 +1.0
baz=172
SSPA Standing Stone 67.16 354 P P 06 16 11.3 +1.0
O53A New Philadelph 67.18 351 P P 06 16 10.8 +0.3
baz=169
CCM Cathedral Cave 67.19 342 P P 06 16 09.9 -0.7
CCM Cathedral Cave 67.19 342 P P 06 16 11.1 +0.5
baz=159,SNR=42
CCM Cathedral Cave 67.19 342 P P 06 16 11.1 +0.5
baz=159
CCM Cathedral Cave 67.19 342 P P 06 16 11.0 +0.5
CCM pP pP 06 16 29.6 -0.5
N59A State Game Lan 67.26 355 P P 06 16 12.3 +1.3
baz=174
N59A State Game Lan 67.26 355 P P 06 16 12.4 +1.4
baz=174
Q44A Meyer Farm, Va 67.40 344 P P 06 16 11.7 -0.2
baz=162,SNR=6.4
ACSO Alum Creek Sta 67.44 349 P P 06 16 12.2 0.0
baz=167,SNR=10
ACSO Alum Creek Sta 67.44 349 P P 06 16 12.1 0.0
baz=167,SNR=10
S39A Bolivar 67.45 340 P P 06 16 12.6 +0.3
S39A Bolivar 67.45 340 P P 06 16 13.1 +0.8
baz=157,SNR=82
KIDD KIDD Seismic O 67.54 327 P P 06 16 14.6 +1.5
baz=145
O49A Covington 67.63 348 P P 06 16 13.3 0.0
baz=166,SNR=6.8
O49A P P 06 16 13.3 0.0
baz=166,SNR=6.8
MSTX Muleshoe 67.64 331 P P 06 16 14.9 +1.2
baz=148,SNR=19
MSTX Muleshoe 67.64 331 P P 06 16 14.8 +1.2
baz=148,SNR=19
N53A Lisbon 67.68 351 P P 06 16 14.2 +0.5
baz=169,SNR=6.2
N53A P P 06 16 14.2 +0.5
baz=169,SNR=6.2
R40A Maddies Statio 67.69 341 P P 06 16 14.7 +0.9
baz=158,SNR=112
N54A Moraine State 67.72 352 P P 06 16 14.7 +0.8
baz=170,SNR=6.0
N54A Moraine State 67.72 352 P P 06 16 14.6 +0.8
baz=170,SNR=6.0
T35B Sooner Cattle 67.78 337 P P 06 16 15.2 +0.8
baz=154,SNR=13
O48B Farmland 67.85 348 P P 06 16 14.3 -0.4
baz=165,SNR=9.3
NPNY Mohonk Preserv 67.99 357 P P 06 16 15.0 -0.6
baz=176,SNR=6.1
M55A Ridgway 68.08 353 P P 06 16 17.1 +0.9
baz=171,SNR=13
M55A P P 06 16 17.1 +0.9
baz=171,SNR=13
P43A Skaggs, Pawnee 68.23 344 P P 06 16 17.1 0.0
baz=181,SNR=11
TAOE Nuku Hiva Isla 68.28 271 eS S 06 25 10.5 -3.2
comp=Z,93nm,27.2s
TAOE Nuku Hiva Isla 68.28 271 eLR LR 06 37 03.0
comp=Z,597nm,29.2s
M53A WI Miller and 68.28 351 P P 06 16 17.8 +0.4
baz=170,SNR=5.0
N49A Columbus Grove 68.32 349 P P 06 16 17.6 0.0
baz=166,SNR=15
N49A P P 06 16 17.6 0.0
baz=166,SNR=15
SFIN Lafayette 68.37 346 P P 06 16 17.1 -0.9
baz=164,SNR=9.0
SFIN Lafayette 68.37 346 P P 06 16 17.3 -0.6
baz=164,SNR=9.0
ALLY Alegheny Colle 68.42 352 P P 06 16 18.9 +0.7
baz=170,SNR=6.5
O44A Mansfield 68.46 345 P P 06 16 17.7 -0.8
baz=162
M52A Chesterland 68.47 351 P P 06 16 18.9 +0.3
baz=169,SNR=5.6
M52A P P 06 16 18.9 +0.3
baz=169,SNR=5.6
L59A Walton 68.47 356 P P 06 16 20.4 +1.8
baz=175,SNR=12
L59A P P 06 16 20.4 +1.8
baz=175,SNR=12
BINY Binghamton 68.55 355 P P 06 16 19.9 +0.9
baz=174,SNR=7.6
BINY Binghamton 68.55 355 P P 06 16 20.4 +1.3
baz=174,SNR=7.6
N47A Urbana 68.56 347 P P 06 16 18.6 -0.6
N47A IAmb IAmb 06 16 19.4
comp=Z,74nm,1.3s
N47A Urbana 68.56 347 P P 06 16 18.8 -0.3
baz=165,SNR=9.6
N47A P P 06 16 18.8 -0.3
baz=165,SNR=9.6
M50A Fremont 68.59 350 P P 06 16 18.9 -0.5
baz=167
M50A P P 06 16 18.9 -0.5
baz=167
L56A Greenwood 68.62 354 P P 06 16 20.7 +1.2
baz=173,SNR=9.8
L56A P P 06 16 20.7 +1.2
baz=173,SNR=9.8
L61B Northampton 68.62 358 P P 06 16 19.4 -0.1
baz=177,SNR=8.3
L61B Northampton 68.62 358 P P 06 16 20.9 +1.4
baz=177,SNR=8.3
HRV Adam Dziewonsk 68.65 359 P P 06 16 21.4 +1.7
baz=178,SNR=5.6
HRV Adam Dziewonsk 68.65 359 P P 06 16 21.2 +1.5
baz=178
121A Cookes Peak, D 68.78 326 P P 06 16 21.9 +0.9
baz=144
P40A Paris 68.79 342 P P 06 16 20.3 -0.3
P40A Paris 68.79 342 P P 06 16 20.9 +0.3
baz=159,SNR=64
ERPA Erie 68.86 352 P P 06 16 21.7 +0.8
baz=170,SNR=6.8
ERPA Erie 68.86 352 P P 06 16 21.5 +0.6
baz=170,SNR=6.8
HCNY Howe Caverns 68.94 357 P P 06 16 23.3 +1.8
baz=176,SNR=11
WVNY West Valley, N 68.99 353 P P 06 16 23.1 +1.3
baz=172,SNR=14
HDIL Hopedale 69.04 344 P P 06 16 21.9 -0.3
baz=161,SNR=13
HDIL Hopedale 69.04 344 P P 06 16 21.8 -0.3
baz=161,SNR=13
K57A Scipio Center 69.12 355 P P 06 16 22.6 0.0
baz=174,SNR=6.5
P38A Dawn 69.30 341 P P 06 16 24.3 +0.5
baz=158,SNR=15
L48A N Adams 69.36 349 P P 06 16 23.6 -0.5
baz=166,SNR=9.1
L48A P P 06 16 23.6 -0.5
baz=166,SNR=9.1
J61A Chester 69.51 358 P P 06 16 25.9 +1.0
baz=177,SNR=7.9
J61A P P 06 16 25.9 +1.0
baz=177,SNR=7.9
Y22A Socorro 69.53 328 P P 06 16 26.9 +1.4
baz=145,SNR=5.8
AAM Ann Arbor 69.57 349 P P 06 16 25.0 -0.3
baz=167
AAM Ann Arbor 69.57 349 P P 06 16 25.1 -0.3
baz=167
N41A Harden Midland 69.57 343 P P 06 16 25.8 +0.4
baz=160,SNR=6.5
ACCN Adirondack Com 69.59 357 P P 06 16 26.3 +0.8
baz=176,SNR=7.3
J58A Remsen 69.66 356 P P 06 16 26.5 +0.7
baz=175,SNR=6.2
J58A P P 06 16 26.5 +0.7
baz=175,SNR=6.2
J56A Wolcott 69.69 355 P P 06 16 26.6 +0.5
baz=173,SNR=15
J56A P P 06 16 26.6 +0.5
baz=173,SNR=15
J59A Piesco 69.71 357 P P 06 16 27.7 +1.5
baz=176,SNR=13
J59A P P 06 16 27.7 +1.5
baz=176,SNR=13
J55A Hilton 69.76 354 P P 06 16 27.0 +0.6
baz=172,SNR=5.8
J55A P P 06 16 27.0 +0.6
baz=172,SNR=5.8
L46A Eue Claire 69.77 347 P P 06 16 25.9 -0.8
baz=164,SNR=8.6
L46A P P 06 16 25.9 -0.8
baz=164,SNR=8.6
KSU1 Kansas State U 69.78 338 P P 06 16 26.6 -0.2
baz=155,SNR=13
KSU1 Kansas State U 69.78 338 P P 06 16 27.2 +0.4
baz=155,SNR=13
J54A Appleton 69.85 353 P P 06 16 27.7 +0.7
baz=172
J54A P P 06 16 27.7 +0.7
baz=172
K50A Casco 69.87 350 P P 06 16 26.8 -0.4
baz=168,SNR=9.1
K50A P P 06 16 26.8 -0.4
baz=168,SNR=9.1
R32A Long Quarter, 69.90 336 P P 06 16 28.8 +1.3
baz=153,SNR=28
ANMO Albuquerque 70.11 329 LR LR 06 43 43.1
comp=Z,150nm,21.2s,baz=153,slow=33
ANMO Albuquerque 70.11 329 P P 06 16 31.2 +2.0
baz=146,SNR=20
ANMO Albuquerque 70.11 329 P P 06 16 31.2 +2.0
baz=146
ANMO Albuquerque 70.11 329 ⇑P P 06 16 31.4 +2.3
ANMO pP PcP 06 16 50.3 -0.4
MCVT Middlebury Col 70.14 358 P P 06 16 29.9 +1.1
baz=177,SNR=6.2
TUC Tucson 70.14 324 P P 06 16 31.5 +2.2
baz=142
TUC Tucson 70.14 324 P P 06 16 27.2 -2.0
TUC pP PcP 06 16 50.4 -0.4
NCB Newcomb 70.20 357 P P 06 16 30.2 +0.9
baz=176,SNR=5.4
L44A Lake County Fo 70.27 346 P P 06 16 29.3 -0.4
baz=163
N38A Joes South For 70.29 342 P P 06 16 30.3 +0.5
baz=158,SNR=20
WCNY West Carthage 70.30 356 P P 06 16 30.9 +1.2
baz=174,SNR=14
LBNH Lisbon 70.39 359 P P 06 16 32.2 +1.8
baz=178
L42A Oliver, Polo 70.50 345 P P 06 16 30.6 -0.5
L42A IAmb IAmb 06 16 31.9
comp=Z,92nm,1.6s
L42A Oliver, Polo 70.50 345 P P 06 16 31.0 0.0
baz=161
CBKS Cedar Bluff 70.62 336 P P 06 16 32.7 +0.7
CBKS IAmb IAmb 06 16 34.2
comp=Z,53nm,0.9s
CBKS Cedar Bluff 70.62 336 P P 06 16 33.4 +1.5
baz=152,SNR=5.6
CBKS Cedar Bluff 70.62 336 P P 06 16 33.5 +1.5
baz=152,SNR=5.6
J47A Sunmer 70.68 349 P P 06 16 32.0 -0.1
baz=166,SNR=7.5
J47A P P 06 16 32.0 -0.1
baz=166,SNR=7.5
SBA Scott Base 70.76 191 P P 06 16 34.2 +2.0
SBA Scott Base 70.76 191 ⇓P P 06 16 34.5 +2.2
K43A Burlington 70.86 346 P P 06 16 33.2 -0.1
baz=163,SNR=8.1
LIC Lamto 70.87 73 eP P 06 16 34.1 +0.1
comp=Z,94nm,0.8s
LONY Lake Ozonia 70.87 357 P P 06 16 33.5 +0.3
LONY Lake Ozonia 70.87 357 P P 06 16 34.5 +1.2
baz=176,SNR=8.5
TBI Tubuai 70.92 253 eS S 06 25 42.9 -1.4
comp=Z,105nm,32.0s
TBI Tubuai 70.92 253 eLR LR 06 38 16.6
comp=Z,233nm,33.2s
L40A Anamosa 70.94 344 P P 06 16 33.9 +0.2
baz=160,SNR=39
214A Organ Pipe Nat 70.96 322 P P 06 16 36.9 +2.8
baz=140,SNR=17
T25A Trinidad 71.03 332 P P 06 16 36.8 +2.1
baz=148,SNR=20
FRNY Flat Rock 71.04 357 P P 06 16 35.5 +1.2
baz=176,SNR=11
N35A Tabor 71.07 340 P P 06 16 35.1 +0.6
baz=156,SNR=22
BMNY Brushton-Moira 71.08 357 P P 06 16 35.8 +1.3
baz=176,SNR=9.8
TIC Toumodi 71.09 72 eP P 06 16 35.1 -0.2
KIC Kosan Boka 71.18 73 eP P 06 16 35.9 0.0
comp=Z,170nm,0.7s
DBIC Dimbokro 71.24 72 P P 06 16 36.3 +0.1
comp=Z,111nm,0.7s,baz=243,slow=6.1,SNR=119
DBIC pP PcP 06 16 55.9 +0.1
comp=Z,31nm,0.7s,baz=247,slow=3.8,SNR=5.9
DBIC LR LR 06 46 23.2
comp=Z,180nm,20.1s,baz=230,slow=35
DBIC Dimbokro 71.24 72 ⇓iP P 06 16 35.7 -0.5
DBIC IAmb IAmb 06 16 37.0
comp=Z,133nm,0.8s
DBIC Dimbokro 71.24 72 P P 06 16 35.8 -0.5
SCIA State Center 71.32 342 P P 06 16 36.6 +0.5
baz=158
G62A West of Eustis 71.35 360 P P 06 16 37.2 +1.0
baz=179,SNR=7.4
G62A P P 06 16 37.2 +1.0
baz=179,SNR=7.4
SADO Sadowa 71.38 353 LR LR 06 50 32.2
comp=Z,116nm,19.2s,baz=192,slow=38
PKME Peaks-Kenny Pk 71.40 1 P P 06 16 37.6 +1.2
baz=180
PKME Peaks-Kenny Pk 71.40 1 P P 06 16 37.6 +1.2
baz=180
JFWS Jewell Farm 71.50 345 P P 06 16 37.2 +0.1
baz=161,SNR=13
JFWS Jewell Farm 71.50 345 P P 06 16 37.5 +0.4
baz=161,SNR=13
VNDA Vanda 71.78 190 P P 06 16 40.6 +2.2
comp=Z,14nm,0.9s,baz=127,slow=5.4,SNR=36
VNDA LR LR 06 47 49.4
comp=Z,90nm,18.6s,baz=140,slow=35
VNDA Vanda 71.78 190 P P 06 16 39.9 +1.4
W18A Petrified Fore 71.82 327 P P 06 16 42.1 +2.6
baz=143,SNR=6.0
K38A Parkersburg 71.89 343 P P 06 16 39.9 +0.4
baz=158,SNR=7.3
KSCO Kaye Shedlock' 71.89 334 P P 06 16 41.7 +2.0
baz=149,SNR=8.0
KSCO Kaye Shedlock' 71.89 334 P P 06 16 41.7 +2.0
baz=149,SNR=8.0
SDCO Great Sand Dun 72.01 331 P P 06 16 42.0 +1.3
SDCO IAmb IAmb 06 16 43.5
comp=Z,113nm,2.0s
SDCO Great Sand Dun 72.01 331 P P 06 16 42.8 +2.1
baz=147,SNR=9.7
SDCO Great Sand Dun 72.01 331 P P 06 16 42.7 +2.1
baz=147,SNR=9.7
F64A Sherman 72.01 1 P P 06 16 41.0 +0.9
baz=181
F64A P P 06 16 41.0 +0.9
baz=181
I42A Draeger Farm, 72.12 346 P P 06 16 40.8 0.0
I42A IAmb IAmb 06 16 41.6
comp=Z,28nm,0.7s
I42A Draeger Farm, 72.12 346 P P 06 16 41.2 +0.4
baz=162,SNR=13
GLMI Grayling 72.19 349 P P 06 16 40.7 -0.5
baz=166,SNR=7.9
GLMI Grayling 72.19 349 P P 06 16 41.1 -0.1
baz=166,SNR=7.9
SYO Syowa Base 72.25 159⇑eP P 06 16 39.2 -2.2
SYO Syowa Base 72.25 159⇓epP pP 06 16 55.4 -5.9
L34A Svendsen Farm, 72.31 340 P P 06 16 42.1 +0.1
L34A Svendsen Farm, 72.31 340 P P 06 16 42.8 +0.8
baz=155,SNR=20
BGNE Belgrade 72.37 338 P P 06 16 43.8 +1.4
baz=154,SNR=22
H43A Windswept, Lux 72.43 347 P P 06 16 43.0 +0.3
baz=163,SNR=16
I40A Norwalk 72.51 345 P P 06 16 42.7 -0.4
I40A Norwalk 72.51 345 P P 06 16 42.8 -0.4
baz=161
S22A 4UR Ranch, Cre 72.59 330 P P 06 16 46.1 +1.9
baz=146,SNR=14
Q24A Divide 72.88 332 P P 06 16 47.4 +1.6
Q24A IAmb IAmb 06 16 48.7
comp=Z,46nm,0.7s
Q24A Divide 72.88 332 P P 06 16 48.1 +2.3
baz=147,SNR=34
GLA Glamis 72.89 322 P P 06 16 48.1 +2.4
baz=139,SNR=6.3
MVCO Mesa Verde 72.91 329 P P 06 16 48.0 +2.0
baz=144,SNR=24
WUAZ Wupatki 72.96 326 P P 06 16 49.0 +2.8
baz=142,SNR=12
PPT2 Papeete2 73.18 258 eS S 06 26 08.7 -1.8
comp=Z,121nm,24.8s
PPT2 Papeete2 73.18 258 eLR LR 06 39 19.6
comp=Z,443nm,32.0s
PPT Papeete 73.19 258 P P 06 16 49.8 +1.9
comp=Z,44nm,0.9s,baz=117,slow=1.6,SNR=3.7
D62A Allapoint, All 73.22 1 P P 06 16 47.4 +0.2
baz=181,SNR=10
D62A P P 06 16 47.4 +0.2
baz=181,SNR=10
IKP In-Ko-Pah, Jac 73.32 321 P P 06 16 50.8 +2.5
baz=138
I37B Waseca 73.33 343 P P 06 16 48.8 +0.8
baz=158,SNR=17
OGNE Ogallala 73.34 335 P P 06 16 49.6 +1.4
baz=150,SNR=6.0
OGNE Ogallala 73.34 335 P P 06 16 49.7 +1.5
baz=150,SNR=6.0
PDMCI Parker Dam,Lak 73.46 323 P P 06 16 51.2 +2.3
baz=139
E46A Sault Ste Mari 73.63 350 P P 06 16 49.3 -0.4
E46A IAmb IAmb 06 16 50.7
comp=Z,62nm,0.8s
E46A Sault Ste Mari 73.63 350 P P 06 16 50.1 +0.4
baz=167,SNR=17
K31A O'Neill 73.66 338 P P 06 16 50.8 +0.8
K31A O'Neill 73.66 338 P P 06 16 50.9 +1.0
baz=153,SNR=9.8
MONP2 Monument Peak 73.67 321 P P 06 16 53.0 +2.5
baz=138
BC3 Big Chuckawall 73.69 322 P P 06 16 53.0 +2.5
baz=138,SNR=10
G40A Rib Lake 73.71 345 P P 06 16 49.8 -0.4
baz=161,SNR=8.7
ISCO Idaho Springs 73.78 332 P P 06 16 52.8 +1.8
baz=147,SNR=29
ISCO Idaho Springs 73.78 332 P P 06 16 52.9 +1.8
baz=147,SNR=29
PV13 Radium Mtn., P 73.83 329 P P 06 16 52.9 +1.5
SMCO Snowmass 73.84 331 P P 06 16 52.9 +1.3
IRM Iron Mountain 73.90 322 P P 06 16 53.8 +2.2
baz=139,SNR=7.0
ECSD EROS Data Cent 73.98 340 P P 06 16 52.3 +0.5
baz=155,SNR=33
ECSD EROS Data Cent 73.98 340 P P 06 16 52.6 +0.7
baz=155,SNR=33
E43A Lone Tree Farm 74.11 348 P P 06 16 52.2 -0.3
baz=164,SNR=12
PFO Pinyon Flats O 74.22 321 LR LR 06 43 32.6
comp=Z,114nm,21.3s,baz=145,slow=31
PFO Pinyon Flats O 74.22 321 P P 06 16 56.1 +2.5
baz=138,SNR=5.5
BELC Belle Mtn. Jos 74.25 322 P P 06 16 56.3 +2.5
baz=138,SNR=5.2
COWI Conover 74.27 346 P P 06 16 53.9 +0.4
baz=162
SPMN Marine on St. 74.30 344 P P 06 16 53.7 +0.1
baz=159,SNR=12
SPMN Marine on St. 74.30 344 P P 06 16 53.8 +0.2

baz=159,SNR=12
MURC Murrieta 74.63 321 P **P** **06 16 58.3 +2.4**
baz=137,SNR=7.2
GMRC Granite Mounta 74.65 322 P **P** **06 16 58.6 +2.5**
baz=138,SNR=13
N23A Red Feather La 74.83 333 P **P** **06 16 59.3 +2.1**
baz=147,SNR=17
HEC Hector,Ludlow 75.05 322 P **P** **06 17 01.0 +2.6**
baz=136,SNR=12
D41A Chassel 75.07 347 P **P** **06 16 58.9 +0.9**
baz=163,SNR=15
F36A Milaca 75.08 343 P **P** **06 16 58.4 +0.3**
baz=158,SNR=34
O20A White River Ci 75.18 331 P **P** **06 17 01.4 +2.2**
baz=145,SNR=36
E38A The Farm, Brul 75.29 345 P **P** **06 16 59.0 -0.2**
E38A The Farm, Brul 75.29 345 P **P** **06 16 59.6 +0.3**
baz=160,SNR=8.3
SUSD Miller 75.35 339 P **P** **06 17 00.2 +0.5**
baz=153
SUSD Miller 75.35 339 P **P** **06 17 00.6 +0.8**
baz=153
BFSC Mount Baldy Ra 75.36 321 P **P** **06 17 02.2 +2.0**
baz=137
ELIM Elim 75.37 122⇓*iP* **P** **06 17 00.7 +0.4**
ELIM IAmb IAmb 06 17 01.1
comp=Z,46nm,0.8s
SRU San Rafael Swe 75.39 329 P **P** **06 17 01.6 +1.3**
SRU IAmb IAmb 06 17 03.0
comp=Z,31nm,0.8s
RRX Edison Barstow 75.45 322 P **P** **06 17 03.3 +2.8**
baz=137
CER Ceres 75.49 120⇓*iP* **P** **06 17 01.5 +0.5**
CER IAmb IAmb 06 17 02.4
comp=Z,34nm,0.8s
GSC Goldstone, Bar 75.66 322 P **P** **06 17 04.2 +2.4**
baz=138,SNR=9.0
P18A Preston Nutter 75.67 329 P **P** **06 17 03.5 +1.5**
P18A IAmb IAmb 06 17 05.2
comp=Z,34nm,0.8s
F33A 5 Mile Ranch, 75.81 341 P **P** **06 17 02.6 +0.3**
baz=156,SNR=6.4
EDW2 Edwards Air Fo 76.02 321 P **P** **06 17 05.8 +2.0**
baz=137,SNR=7.6
KOWA Kowa 76.02 66 P **P** **06 17 04.2 0.0**
MATJ Matjiesfontein 76.52 121⇓*iP* **P** **06 17 07.9 +0.9**
EYMN Ely 76.54 345 P **P** **06 17 05.8 -0.6**
baz=160,SNR=11
EYMN Ely 76.54 345 P **P** **06 17 06.7 +0.3**
baz=160,SNR=11
K22A Casper 76.54 333 P **P** **06 17 08.8 +2.0**
baz=147
K22A Casper 76.54 333 P **P** **06 17 08.8 +2.0**
baz=147
FURC Furnace Creek, 76.55 323 P **P** **06 17 09.2 +2.5**
baz=138,SNR=10
CVNA Calvinia 76.57 119⇓*iP* **P** **06 17 08.1 +0.8**
CVNA IAmb IAmb 06 17 09.0
comp=Z,76nm,0.8s
TPNV Topopah Spring 76.58 324 P **P** **06 17 09.8 +2.7**
baz=138,SNR=8.5
MPMC Manual Prospec 76.59 322 P **P** **06 17 09.2 +2.0**
baz=137,SNR=6.7
RSSD Black Hills 76.82 336 P **P** **06 17 09.9 +1.5**
baz=149,SNR=19
RSSD Black Hills 76.82 336 P **P** **06 17 10.2 +1.8**
baz=149
ISA Isabella, Lake 76.85 321 P **P** **06 17 11.1 +2.6**
baz=136,SNR=17
SUR Sutherland 77.04 120 LR LR 06 45 27.9
comp=Z,187nm,21.1s,baz=239,slow=31
PKM Mcpherson Peak 77.06 320 P **P** **06 17 12.2 +2.4**
baz=135,SNR=11
CWC Cottonwood Cre 77.20 322 P **P** **06 17 12.7 +2.1**
baz=137
GRAC Grapevine Rang 77.22 323 P **P** **06 17 12.9 +2.4**
baz=138,SNR=5.5
R11A Troy Canyon, C 77.28 325 P **P** **06 17 13.5 +2.5**
baz=139,SNR=23
VES Vestal, Richgr 77.32 321 P **P** **06 17 13.4 +2.4**
baz=136,SNR=11
DUG Dugway, Tooele 77.33 328 P **P** **06 17 13.6 +2.4**
baz=141,SNR=22
B35A Bob, Littlefor 77.45 344 P **P** **06 17 11.9 +0.4**
baz=158,SNR=18
SMMC Simmler 77.47 320 P **P** **06 17 14.8 +2.9**
baz=135,SNR=7.1
BW06 Boulder Array 77.90 331 P **P** **06 17 15.7 +1.2**
baz=144,SNR=15
PDAR Pinedale Array 77.90 331 P **P** **06 17 15.5 +1.1**
comp=Z,9.8nm,0.9s,baz=125,slow=7.6,SNR=52
PDAR pP **pP** **06 17 34.4 0.0**
comp=Z,7.8nm,1.0s,baz=116,slow=6.9,SNR=4.9
PDAR PKKPbc **PKKPbc** **06 36 14.7 -2.6**
comp=Z,0.5nm,0.6s,baz=176,slow=2.1,SNR=5.6
PDAR PKPPKP **P'P'df** **06 44 19.0 +3.4**
comp=Z,0.1nm,0.4s,baz=349,slow=1.5,SNR=3.6
PDAR LR LR 06 48 14.5
comp=Z,48nm,21.6s,baz=158,slow=33
AGMN Agassiz Nation 77.94 343 P **P** **06 17 14.7 +0.4**
baz=156,SNR=24
AGMN Agassiz Nation 77.94 343 P **P** **06 17 14.8 +0.6**
baz=156,SNR=24
GRAN Grantham 78.13 120⇓*iP* **P** **06 17 16.4 +0.4**
GRAN IAmb IAmb 06 17 17.5
comp=Z,75nm,0.6s
AUGR Augrabies 78.17 116 *e*P **P** **06 17 16.3 +0.1**
AUGR IAmb IAmb 06 17 17.1
comp=Z,60nm,0.7s
MLAC Mammoth, Mammo 78.48 322 P **P** **06 17 20.3 +2.5**
baz=136
MDND Maddock 78.60 340 P **P** **06 17 19.4 +1.6**
baz=153,SNR=8.0
MDND Maddock 78.60 340 P **P** **06 17 19.5 +1.6**
baz=153,SNR=8.0
KEIM Keimoes 78.63 116⇓*iP* **P** **06 17 19.4 +0.6**
KEIM IAmb IAmb 06 17 20.2
comp=Z,92nm,1.1s
NVAR Mina Array Bea 78.77 323 P **P** **06 17 21.3 +2.0**
comp=Z,13nm,0.8s,baz=154,slow=6.3,SNR=76
NVAR pP **pP** **06 17 40.5 +1.1**
comp=Z,8.7nm,0.9s,baz=145,slow=5.4,SNR=7.1
NVAR PKKPbc **PKKPbc** **06 36 13.6 -1.4**
comp=Z,0.4nm,0.5s,baz=308,slow=1.7,SNR=4.8
ECR Eagle Creek 78.92 330 P **P** **06 17 21.4 +1.3**
ELK Elko 78.93 327 LR LR 06 48 23.6
comp=Z,183nm,21.7s,baz=124,slow=33
ELK Elko 78.93 327 P **P** **06 17 21.2 +1.0**
UPI Upington 79.00 116⇓*iP* **P** **06 17 21.0 +0.2**
UPI IAmb IAmb 06 17 22.1
comp=Z,59nm,1.0s
H17A Grant Village 79.65 332 P **P** **06 17 26.6 +2.5**
baz=144,SNR=11
TSUM Tsumeb 79.68 106 LR LR 06 48 44.9
comp=Z,84nm,21.0s,baz=316,slow=33
TSUM Tsumeb 79.68 106⇓*iP* **P** **06 17 25.1 +0.4**
TSUM IAmb IAmb 06 17 26.1
comp=Z,2μm,1.8s
RLMT Red Lodge 79.70 333 P **P** **06 17 26.1 +1.9**
baz=145,SNR=25
ULM Lac du Bonnet 79.74 344 P **P** **06 17 24.7 +0.7**
comp=Z,19nm,0.6s,baz=153,slow=6.2,SNR=21
ULM pP **pP** **06 17 43.6 -0.5**
comp=Z,11nm,0.6s,baz=145,slow=4.9,SNR=4.6
ULM LR LR 06 56 00.7
comp=Z,50nm,18.0s,baz=136,slow=38
ULM Lac du Bonnet 79.74 344 P **P** **06 17 23.9 -0.1**
ULM IAmb IAmb 06 17 25.3
comp=Z,119nm,1.5s
LAO LASA Array 79.82 336 P **P** **06 17 26.4 +1.8**
baz=147,SNR=7.6
LAO LASA Array 79.82 336 P **P** **06 17 26.3 +1.6**
baz=147,SNR=7.6
MAW Mawson 79.89 163 P **P** **06 17 25.6 +0.8**
comp=Z,113nm,0.9s,baz=210,slow=6.4,SNR=96
MAW LR LR 06 53 49.2
comp=Z,134nm,19.1s,baz=222,slow=36
TOA0 Torodi Ar. Sit 80.07 70 P **P** **06 17 26.1 -0.5**
TORD Torodi Ar. Bea 80.07 70 P **P** **06 17 26.4 -0.2**
comp=Z,188nm,0.7s,baz=255,slow=5.0,SNR=850
TORD LR LR 06 53 43.1
comp=Z,198nm,18.6s,baz=220,slow=36
TORD Torodi Ar. Bea 80.07 70 P **P** **06 17 26.3 -0.3**
RAR Rarotonga 80.54 251 LR LR 06 44 27.2
comp=Z,222nm,22.0s,baz=170,slow=29
SOE Somerset East 80.57 122 *e*P **P** **06 17 29.7 +0.5**
SOE IAmb IAmb 06 17 30.1
comp=Z,64nm,0.8s
DGMT Dagmar 80.62 338 P **P** **06 17 30.5 +1.6**
baz=149,SNR=22
DGMT Dagmar 80.62 338 P **P** **06 17 30.8 +1.9**
baz=149,SNR=22
HLID Hailey 80.69 329 P **P** **06 17 31.8 +2.3**
baz=140,SNR=70
SCHQ Schefferville 81.02 2 P **P** **06 17 31.1 +0.2**
comp=Z,11nm,0.8s,baz=188,slow=3.3,SNR=17
SCHQ pP **pP** **06 17 50.5 -0.5**
comp=Z,7.4nm,0.7s,baz=205,slow=7.4,SNR=4.1
SCHQ LR LR 06 54 15.6
comp=Z,80nm,21.7s,baz=206,slow=36
BOZ Bozeman (W) 81.06 332 P **P** **06 17 32.9 +1.5**
baz=143,SNR=22
HVD Gariep Dam 81.42 120⇓*iP* **P** **06 17 34.0 +0.1**
HVD IAmb IAmb 06 17 35.2
comp=Z,106nm,1.2s
TTIG Tnine Tigouga, 81.79 50 P **P** **06 17 38.0 +2.3**
O03E Paynes Creek 82.00 323 P **P** **06 17 37.4 +0.9**
baz=135,SNR=15
BOSA Boshof 82.09 118 P **P** **06 17 37.0 -0.4**
comp=Z,29nm,0.8s,baz=259,slow=3.5,SNR=80
BOSA pP **pP** **06 17 56.7 -1.0**
comp=Z,13nm,0.8s,baz=220,slow=3.4,SNR=3.6
BOSA LR LR 06 49 30.4
comp=Z,146nm,20.8s,baz=208,slow=32
BOSA Boshof 82.09 118⇓*iP* **P** **06 17 37.1 -0.4**
BOSA IAmb IAmb 06 17 38.0
comp=Z,204nm,1.7s
BOSA Boshof 82.09 118 P **P** **06 17 36.5 -0.9**
BOSA IAmb IAmb 06 17 37.7
comp=Z,34nm,0.8s
BOSA Boshof 82.09 118 *eP* **P** **06 17 37.8 +0.3**
BOSA Boshof 82.09 118 *eP* **P** **06 17 37.8 +0.3**
EGMT Eagleton 82.27 334 P **P** **06 17 38.8 +1.1**
baz=145,SNR=22
O02D Mt. Diablo Mer 82.45 322 P **P** **06 17 40.3 +1.5**
baz=134
OUK Oukaimeden 82.58 50 P **P** **06 17 42.0 +2.0**
SWZ Schweizer 82.77 117 *eP* **P** **06 17 40.1 -0.9**
SWZ IAmb IAmb 06 17 41.2
comp=Z,157nm,1.4s
N02D Trinity Center 82.96 323 P **P** **06 17 42.4 +1.0**
baz=134,SNR=5.7
MSO Missoula 83.02 331 P **P** **06 17 43.4 +1.8**
baz=141,SNR=9.1
M04C Macdoel 83.06 324 P **P** **06 17 43.7 +1.7**
baz=135,SNR=17
OUZM OUZ 83.17 51 P **P** **06 17 44.1 +1.3**
M02C Callahan 83.33 323 P **P** **06 17 44.4 +1.0**
baz=134
YBH Yreka Blue Hor 83.49 323 LR LR 06 51 58.2
comp=Z,77nm,19.9s,baz=138,slow=33
ZGR Zagora 83.50 52 P **P** **06 17 46.0 +1.5**
L04D Klamath Falls 83.62 324 P **P** **06 17 44.5 -0.4**
L04D Klamath Falls 83.62 324 P **P** **06 17 45.6 +0.8**
baz=134,SNR=5.0
J05D Fort Rock, OR 83.81 325 P **P** **06 17 47.5 +1.6**
baz=135,SNR=15
TZRR Tazzarine 83.92 51 P **P** **06 17 48.1 +1.4**
LBTB Lobatse 83.93 115 LR LR 06 49 55.8
comp=Z,108nm,21.9s,baz=222,slow=32
LBTB Lobatse 83.93 115⇓*iP* **P** **06 17 46.8 -0.1**
LBTB IAmb IAmb 06 17 47.7
comp=Z,151nm,1.1s
LBTB Lobatse 83.93 115 P **P** **06 17 46.6 -0.3**
LBTB Lobatse 83.93 115 *eP* **P** **06 17 47.6 +0.6**
LBTB Lobatse 83.93 115 *eP* **P** **06 17 47.6 +0.6**
SNKL Senekal, Frees 84.22 119⇓*iP* **P** **06 17 48.0 -0.5**
SNKL IAmb IAmb 06 17 49.1
comp=Z,141nm,1.1s
J04D Umpqua Nationa 84.23 325 P **P** **06 17 49.7 +1.6**
baz=135,SNR=9.6
L02E Cave Junction 84.27 323 P **P** **06 17 49.7 +1.8**
baz=134
PRYS Parys 84.50 117⇓*iP* **P** **06 17 49.2 -0.7**
PRYS IAmb IAmb 06 17 50.0
comp=Z,51nm,0.9s
I05D Terrebonne, OR 84.62 326 P **P** **06 17 51.6 +1.9**
baz=135,SNR=14
K02D Willamette Mer 84.67 323 P **P** **06 17 52.1 +2.0**
baz=134,SNR=7.6
I04A Tendick Farm, 84.78 325 P **P** **06 17 51.4 +0.8**
baz=134
GOLM Goulmima 84.89 51 P **P** **06 17 54.0 +2.5**
J01E Myrtle Point 85.13 324 P **P** **06 17 54.0 +1.7**
baz=133
I03D Drain, OR 85.20 324 P **P** **06 17 54.0 +1.4**
baz=134
G05D Wamic, OR 85.25 326 P **P** **06 17 55.0 +2.1**
baz=135
H04A Detroit Lake 85.29 326 P **P** **06 17 53.8 +0.7**
H04D Lebanon 85.46 325 P **P** **06 17 54.9 +1.0**
baz=134
HOOD Mount Hood Mea 85.47 326 P **P** **06 17 54.8 +0.7**
HOOD IAmb IAmb 06 17 56.6
comp=Z,36nm,1.1s
NEW Newport 85.50 331 LR LR 06 54 48.1
comp=Z,83nm,21.9s,baz=142,slow=35
NEW Newport 85.50 331 P **P** **06 17 54.2 +0.1**
NEW Newport 85.50 331 P **P** **06 17 54.6 +0.5**
baz=139,SNR=14
CZD Col de Zad 85.59 50 P **P** **06 17 57.1 +1.9**
MORF Marmelete 85.76 45 *eP* **P** **06 17 57.0 +1.4**
comp=Z,98nm,1.7s
MDT Midelt 85.76 50 LR LR 06 56 13.4
comp=Z,120nm,19.3s,baz=240,slow=36
MDT Midelt 85.76 50 P **P** **06 17 57.6 +1.8**
F05D White Salmon 85.78 327 P **P** **06 17 57.2 +1.8**
baz=135
SLR Silverton 85.78 117⇓*iP* **P** **06 17 55.6 -0.7**
SLR IAmb IAmb 06 17 56.6
comp=Z,38nm,0.8s
PTEO Sao Teotonio 85.86 44 *eP* **P** **06 17 57.7 +1.7**
comp=Z,110nm,1.5s
LCRM LCR 86.09 49 P **P** **06 17 59.1 +1.6**
PBDV Barranco-do-Ve 86.18 45 *eP* **P** **06 17 58.6 +0.9**
comp=Z,136nm,1.7s
PNCL Nicolau / Gran 86.33 44 *eP* **P** **06 17 59.3 +1.0**
comp=Z,81nm,1.6s
PCVE Castro Verde 86.34 45 *eP* **P** **06 17 59.9 +1.5**
comp=Z,65nm,2.0s
LTY Liberty 86.38 328 P **P** **06 17 58.7 +0.2**
LTY IAmb IAmb 06 18 00.3
comp=Z,93nm,1.9s
PVAQ Vaqueiros 86.41 45 *eP* **P** **06 17 59.1 +0.3**
comp=Z,74nm,1.6s
PVAQ Vaqueiros 86.41 45 *e*LR LR 06 50 58.6
comp=Z,199nm,22.0s
PBEJ Beja 86.69 44 *eP* **P** **06 18 01.7 +1.6**
comp=Z,12nm,1.4s
E04D Cinebar 86.80 327 P **P** **06 18 01.9 +1.5**
baz=134
EVO Evora 86.91 44 *eP* **P** **06 18 02.3 +1.1**
PSBE So Bento 87.03 43 *eP* **P** **06 18 02.7 +0.9**
comp=Z,85nm,1.7s
PMTG Montargil 87.10 43 *eP* **P** **06 18 03.6 +1.5**
comp=Z,37nm,1.3s
FCC Fort Churchill 87.23 348 P **P** **06 18 02.4 +0.2**
FCC IAmb IAmb 06 18 04.0
comp=Z,40nm,0.9s
PBAR Barrancos 87.30 45 *eP* **P** **06 18 04.4 +1.3**
PESTR Estremoz 87.37 44 *eP* **P** **06 18 04.5 +1.1**
comp=Z,43nm,1.4s
B06A Marblemount 87.67 329 P **P** **06 18 04.5 0.0**
B06A IAmb IAmb 06 18 05.7
comp=Z,18nm,0.8s
D03D Eldon 87.74 327 P **P** **06 18 06.0 +1.0**
baz=134,SNR=6.7
B05A Bryant 87.77 328 P **P** **06 18 05.4 +0.3**
baz=135,SNR=6.2
EDM Edmonton 87.81 336 P **P** **06 18 04.8 -0.3**
MTE Manteigas 88.33 43 *e*LR LR 06 51 34.3
comp=Z,92nm,20.0s
A04D Lummi Island 88.38 328 P **P** **06 18 09.1 +1.2**
baz=134,SNR=8.1
MATP Matopo 88.39 112 *eP* **P** **06 18 09.2 +0.3**
MATP Matopo 88.39 112 *eP* **P** **06 18 09.2 +0.3**
BLWY Bulawayo 88.61 112⇓*iP* **P** **06 18 10.0 0.0**
BLWY IAmb IAmb 06 18 10.9
comp=Z,188nm,0.9s
BLWY Bulawayo 88.61 112 *eP* **P** **06 18 10.6 +0.5**
BLWY Bulawayo 88.61 112 *eP* **P** **06 18 10.6 +0.5**
CNG Changalane 88.62 119⇓*iP* **P** **06 18 10.0 +0.2**
CNG IAmb IAmb 06 18 11.8
comp=Z,10nm,0.8s
MSNA Messina 88.75 114⇓*iP* **P** **06 18 11.2 +0.6**
MSNA IAmb IAmb 06 18 12.2
comp=Z,46nm,0.9s
PGAV Gavieira, Arco 88.85 41 *e*LR LR 06 52 27.0
comp=Z,160nm,20.0s
MVO Moncorvo 89.10 42 *e*LR LR 06 52 15.5
comp=Z,167nm,18.0s
MOPA Mopani 89.32 116⇓*iP* **P** **06 18 13.2 +0.1**
MOPA IAmb IAmb 06 18 14.3
comp=Z,39nm,1.0s
PBRG Braganca 89.66 42 *eP* **P** **06 18 14.3 +0.1**
comp=Z,29nm,1.7s
FRB Frobisher Bay 89.92 1 LR LR 06 58 46.8
comp=Z,145nm,21.6s,baz=192,slow=36
URZ Urewera 89.99 227 P **P** **06 18 18.9 +2.9**
comp=Z,14nm,0.7s,baz=153,slow=3.8,SNR=10
URZ LR LR 06 49 43.1
comp=Z,171nm,21.7s,baz=211,slow=30
ESDC Sonseca Array 90.12 45 P **P** **06 18 16.4 -0.1**
comp=Z,4.6nm,1.0s,baz=235,slow=4.8,SNR=13
ESDC LR LR 06 55 48.3
comp=Z,204nm,21.4s,baz=225,slow=34
RPZ Rata Peaks 90.47 219 P **P** **06 18 20.6 +2.5**
comp=Z,25nm,0.9s,baz=66,slow=2.8,SNR=11
RPZ LR LR 06 50 22.4
comp=Z,124nm,20.7s,baz=112,slow=30
LSZ Lusaka 90.49 107 P **P** **06 18 20.2 +1.4**
comp=Z,24nm,0.7s,baz=234,slow=3.4,SNR=36
LSZ LR LR 06 56 41.6
comp=Z,150nm,19.1s,baz=266,slow=34
LSZ Lusaka 90.49 107⇓*iP* **P** **06 18 20.3 +1.4**
LSZ IAmb IAmb 06 18 21.3
comp=Z,450nm,1.0s
AFI Afiamalu 94.03 252 LR LR 06 50 44.7
comp=Z,126nm,21.7s,baz=114,slow=29
YKA Yellowknife Ar 95.50 341 P **P** **06 18 40.8 +0.2**
comp=Z,14nm,0.8s,baz=139,slow=4.4,SNR=311
YKA pP **pP** **06 19 00.4 -0.7**
comp=Z,6.0nm,0.7s,baz=139,slow=4.5,SNR=7.0
YKA sP **sP** **06 19 09.2 +0.1**
comp=Z,2.8nm,0.7s,baz=140,slow=4.4,SNR=2.8
YKA PKiKP **PKiKP** **06 23 20.3 -0.1**
comp=Z,0.9nm,0.9s,baz=150,slow=1.8,SNR=4.3
YKA PKKP **PKKPbc** **06 35 31.4 -3.0**
comp=Z,0.6nm,0.7s,baz=325,slow=3.1,SNR=9.0
YKA LR LR 07 05 04.6
comp=Z,68nm,19.5s,baz=92,slow=38
YKA Yellowknife Ar 95.50 341 P **P** **06 18 40.3 -0.2**
KEST Kesra 97.14 54 LR LR 07 06 06.3
comp=Z,285nm,18.2s,baz=176,slow=38
BORG Borgarnes 98.46 19 LR LR 06 59 36.1
comp=Z,40nm,20.3s,baz=219,slow=33
TGTN Hyland Airport 99.36 336 Pdiff **Pdif** **06 18 59.5 +1.4**
baz=129
EKA Eskdalemuir Ar 99.40 32 LR LR 07 00 03.6
comp=Z,58nm,20.7s,baz=181,slow=33
MMPY Sheldon Lake, 101.14 336 Pdiff **Pdif** **06 19 06.8 +0.8**
baz=127
FARO Faro, Yukon 101.70 335 Pdiff **Pdif** **06 19 09.7 +1.2**
baz=125
RES Resolute Bay 102.20 353 PKKPbc PKKPbc 06 35 12.8 -2.9
comp=Z,1.6nm,0.8s,baz=345,slow=4.0,SNR=4.1
INK Inuvik 105.22 340 PKKPbc PKKPbc 06 35 04.5 -1.9
comp=Z,3.7nm,0.9s,baz=332,slow=3.5,SNR=13
INK PKKPab **PKKPab** **06 35 20.4 +0.9**
comp=Z,6.3nm,0.8s,baz=312,slow=5.2,SNR=18
GERES GERESS Array B 105.61 43 Pdiff **Pdif** **06 19 25.9 -0.3**
comp=Z,0.4nm,0.8s,baz=245,slow=2.8,SNR=3.4
GERES PKiKP **PKiKP** **06 23 39.1 0.0**
comp=Z,0.9nm,0.7s,baz=224,slow=2.7,SNR=7.6
CLL Collm 106.12 40 *e*PKiKP **PKiKP** **06 23 40.0 +0.2**
DZM Mont Dzumac 107.02 234 *e*LR LR 06 54 58.6
comp=Z,308nm,31.4s
ILAR Eielson Array 108.23 334 Pdiff **Pdif** **06 19 37.6 +0.2**
comp=Z,0.3nm,0.6s,baz=157,slow=3.0,SNR=6.0
ILAR PKiKP **PKiKP** **06 23 43.4 0.0**
comp=Z,1.2nm,0.9s,baz=208,slow=2.3,SNR=7.6
ILAR PKKPbc **PKKPbc** **06 34 54.0 -3.0**
comp=Z,0.8nm,0.7s,baz=291,slow=3.1,SNR=7.3
BPAW Bear Paw Mtn. 109.63 333 PKiKP **PKiKP** **06 23 46.5 +0.4**
baz=110
TOLK Toolik Lake Re 110.65 337 PKiKP **PKiKP** **06 23 49.0 +1.1**
baz=110
AKASG Malin Array Be 115.76 44 PKP **PKPdf** **06 23 57.2 -0.8**
comp=Z,4.0nm,0.6s,baz=262,slow=3.2,SNR=13
AKASG PKKPbc **PKKPbc** **06 34 31.1 -0.3**
comp=Z,0.3nm,0.3s,baz=73,slow=3.4,SNR=4.5
AKBB Malin Array Si 115.76 44 PKPdf **PKPdf** **06 23 57.0 -1.1**
FINES FINESS Array B 115.80 32 PKP **PKPdf** **06 23 57.6 -0.2**
comp=Z,1.8nm,0.7s,baz=188,slow=7.3,SNR=5.7
FINES PKKPbc **PKKPbc** **06 34 30.4 -1.2**
comp=Z,1.2nm,0.6s,baz=108,slow=6.2,SNR=6.7
ARCES ARCESS Array B 116.48 23 PKP **PKPdf** **06 23 57.9 -1.1**
comp=Z,1.0nm,0.7s,baz=338,slow=2.6,SNR=3.8
ARCES PKKPbc **PKKPbc** **06 34 27.9 -1.5**
comp=Z,2.3nm,0.5s,baz=84,slow=3.5,SNR=16
BRTR Keskin Array B 116.52 57 PKP **PKiKP** **06 24 00.2 +0.1**
comp=Z,3.0nm,0.8s,baz=164,slow=2.7,SNR=13
KLMR Klimovskoe 122.28 33 *e*PKPdf **PKPdf** **06 24 09.9 -0.4**
KLMR AMP 06 24 11.5
comp=Z,28nm,0.8s
KLMR *e*PKiKPbc **PKKPab** **06 34 04.3 -0.7**
KBZ Khabaz 124.01 54 PKP **PKiKP** **06 24 14.7 +0.2**
comp=Z,12nm,0.9s,baz=217,slow=3.9,SNR=20
ASAR Alice Springs 125.01 207 PKhKP PKPpre 06 24 09.7
comp=Z,2.9nm,0.5s,baz=117,slow=1.2,SNR=4.6
ASAR PKP **PKPdf** **06 24 16.4 -0.5**
comp=Z,6.6nm,0.5s,baz=146,slow=2.1,SNR=68
ASAR pPKP pPKPdf 06 24 37.0 -1.2
comp=Z,5.0nm,0.8s,baz=157,slow=2.1,SNR=6.9
ASAR PKKPab **PKKPbc** **06 33 57.0 +0.4**
comp=Z,0.5nm,0.8s,baz=338,slow=5.1,SNR=4.2
ASAR PKKP **PKKPdf** **06 34 37.1 -0.4**
comp=Z,0.4nm,0.6s,baz=341,slow=1.2,SNR=5.9
ASAR SKKPbc SKKPbc 06 37 46.1 +7.6
comp=Z,0.7nm,0.9s,baz=335,slow=4.6,SNR=4.5
H11S2 WAKE ISLAND Hy1 27.26 274 T T 08 44 44.9
baz=108,slow=74,SNR=226
H11S1 WAKE ISLAND Hy1 27.27 274 T T 08 44 22.5
baz=108,slow=74,SNR=131
H11S3 WAKE ISLAND Hy1 27.28 274 T T 08 44 26.0
baz=108,slow=74,SNR=138
H11N3 WAKE ISLAND Hy1 27.48 275 T T 08 44 32.6
baz=108,slow=75,SNR=20
H11N1 WAKE ISLAND Hy1 27.49 275 T T 08 44 35.8
baz=108,slow=75,SNR=16
H11N2 WAKE ISLAND Hy1 27.49 275 T T 08 44 54.6
baz=108,slow=75,SNR=17
WRA Warramunga Arr 128.12 210 PKhKP PKPpre 06 24 17.7
comp=Z,0.6nm,0.5s,baz=158,slow=1.8,SNR=5.2
WRA PKP **PKPdf** **06 24 22.9 0.0**
comp=Z,16nm,0.9s,baz=163,slow=1.6,SNR=67
WRA pPKP pPKPdf 06 24 43.5 -0.7
comp=Z,6.8nm,0.8s,baz=160,slow=1.6,SNR=6.6
PMG Port Moresby 129.19 230 PKP **PKiKP** **06 24 26.3 +0.6**
comp=Z,8.5nm,0.5s,baz=112,slow=18,SNR=3.7
NRIK Noril'sk 135.14 11 PKP **PKiKP** **06 24 35.5 -0.5**
comp=Z,1.1nm,0.3s,baz=28,slow=1.5,SNR=7.5
GEYT Alibeck 135.23 62 PKhKP PKPpre 06 24 28.9
comp=Z,1.8nm,0.4s,baz=149,slow=20,SNR=2.2
GEYT PKP **PKPdf** **06 24 36.1 +0.3**
comp=Z,3.6nm,0.6s,baz=227,slow=26,SNR=4.6
PETK Petropavlovsk- 135.79 320 PKP **PKiKP** **06 24 37.2 -0.6**
comp=Z,13nm,0.8s,baz=164,slow=5.8,SNR=9.6
PETK pPKP **pPKPdf** **06 24 57.7 +0.2**
comp=Z,3.2nm,0.6s,baz=55,slow=3.9,SNR=2.1
PLAI Plampang 144.08 193 PKP PKPbc 06 24 50.7 +0.1
IGBI Denpasar 144.55 189 PKP PKPbc 06 24 52.4 +0.4
PCHI Peechi 144.59 110⇓*eP* PKPbc 06 24 52.5 +0.3
GUMO Guam 144.85 256 PKPbc **PKPdf** **06 24 53.6 -0.1**
comp=Z,178nm,0.8s,baz=197,slow=11,SNR=7.5
JAGI Jajag, Banyuwa 145.02 187 PKP **PKPbc** **06 24 52.9 -0.6**
MSAI Masohi 145.10 215 PKP **PKPbc** **06 24 53.8 0.0**
AAI Ambon 145.18 213 PKP **PKPbc** **06 24 53.4 -0.7**
SRBI Singaraja 145.26 189 PKP **PKPbc** **06 24 54.2 -0.1**
GMJI Gumukmas 145.29 186 PKP **PKPdf** **06 24 55.0 +0.4**
PCJI Pacitan 145.51 182 PKP **PKPab** **06 24 56.0 +0.7**
PWJI Pagerwojo 145.66 183 PKP **PKPab** **06 24 56.1 +0.2**
BLJI Banyuglugur 145.79 187 PKP **PKPab** **06 24 57.0 +0.6**
CMJI Cimerak 145.92 177 PKP **PKPdf** **06 24 55.6 0.0**
BSSI Bau Bau, Buton 145.99 199 PKP **PKPbc** **06 24 56.2 -0.4**
KURBB Kurchatov Arra 146.03 36 PKPbc **PKPbc** **06 24 55.9 +0.2**
comp=Z,45nm,0.8s,baz=305,slow=3.1,SNR=314
KURBB pPKPbc **pPKPdf** **06 25 15.1 -0.9**
comp=Z,15nm,0.8s,baz=299,slow=3.3,SNR=3.7
PALK Pallekele 146.30 119 PKPbc **PKPbc** **06 24 57.5 -0.1**

	comp=Z,21nm,0.8s,baz=354,slow=4.1,SNR=18						
CNJI	**Cibinong**	**146.31**	**175**	PKP	**PKPbc**	**06 24 57.8**	**+0.3**
KPJI	**Karang Pucung**	**146.38**	**178**	PKP	**PKPbc**	**06 24 57.9**	**+0.2**
KMMI	**Kalianget**	**146.44**	**187**	PKP	**PKPdf**	**06 24 57.0**	**+0.5**
EKS2	**Erkin-Say**	**146.46**	**52**	P	**PKPbc**	**06 24 57.6**	**+0.2**
	SNR=61						
AML	**Almayashu**	**146.55**	**53**	P	**PKPbc**	**06 24 57.9**	**-0.1**
	SNR=88						
USP	**Ospenovka**	**146.78**	**51**	P	**PKPbc**	**06 24 57.6**	**-0.5**
	SNR=40						
ZALV	**Zalesovo Beam**	**146.88**	**27**	PKPbc	**PKPbc**	**06 24 57.0**	**-0.9**
	comp=Z,164nm,0.7s,baz=289,slow=2.7,SNR=215						
ZALV				pPKPbc	**pPKPdf**	**06 25 17.6**	**+0.3**
	comp=Z,51nm,0.7s,baz=302,slow=2.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**146.88**	**27**		**PKPdf**	**06 24 56.4**	**+0.4**
AAK	**Ala-Archa**	**146.97**	**52**	P	**PKPbc**	**06 24 58.4**	**-0.5**
	SNR=99						
AAK	**Ala-Archa**	**146.97**	**52**	PKPbc	**PKPbc**	**06 24 58.3**	**-0.5**
	comp=Z,77nm,0.8s,baz=216,slow=2.8,SNR=90						
AAK	**Ala-Archa**	**146.97**	**52**		**PKPbc**	**06 24 58.2**	**-0.7**
CHMS	**Chumysh**	**147.04**	**51**	P	**PKPab**	**06 25 00.2**	**-0.4**
	SNR=26						
UCH	**Uchtor**	**147.10**	**52**	P	**PKPbc**	**06 24 59.1**	**-0.6**
	SNR=136						
KBK	**Karagaybulak**	**147.28**	**51**	P	**PKPab**	**06 25 01.6**	**-0.1**
	SNR=39						
TKM2	**Tokmak 2**	**147.65**	**51**	P	**PKPdf**	**06 24 59.1**	**+1.2**
	SNR=62						
BOOM	**Boomskoye usch**	**148.03**	**51**		**PKPdf**	**06 24 59.4**	**+0.8**
ULHL	**Ulahol**	**148.32**	**52**	P	**PKPdf**	**06 25 00.7**	**+1.6**
	SNR=93						
KSH	**Kashi**	**148.91**	**57**	PKPbc	**PKPdf**	**06 25 01.4**	**+1.4**
KDJ	**Kajisay**	**149.02**	**51**		**PKPdf**	**06 25 01.3**	**+1.1**
HYBB	**Hyderabad (bro**	**149.63**	**101**	*e*P	**PKPbc**	**06 25 05.6**	**-0.8**
HYBB				*e*PKiKP	**PKiKP**	**06 25 06.1**	**-1.3**
HYBB				*e*pPKiKP	**pPKPbc**	**06 25 26.4**	**-1.1**
HYBB				*e*PP	**PP**	**06 28 37.4**	**-2.8**
MKAR	**Makanchi Array**	**150.22**	**40**	PKPbc	**PKiKP**	**06 25 07.4**	**-0.3**
	comp=Z,94nm,0.7s,baz=323,slow=1.8,SNR=182						
MKAR				pPKPbc	**pPKPbc**	**06 25 27.7**	**-0.3**
	comp=Z,28nm,0.9s,baz=302,slow=2.7,SNR=3.3						
MJAR	**Matsushiro Arr**	**153.94**	**300**	PKP	**PKPdf**	**06 25 07.1**	**-0.6**
	comp=Z,5.7nm,0.9s,baz=29,slow=13,SNR=10						
MJAR				PKPbc	**PKiKP**	**06 25 15.7**	**0.0**
	comp=Z,11nm,0.8s,baz=32,slow=13,SNR=13						
MJAR				PKPab	**PKPab**	**06 25 29.4**	**+0.2**
	comp=Z,11nm,0.9s,baz=194,slow=14,SNR=9.7						
MJAR				pPKPab	**pPKPab**	**06 25 50.2**	**+0.5**
	comp=Z,15nm,1.0s,baz=196,slow=14,SNR=4.5						
PSI	**Prapat**	**154.21**	**154**	PKP	**PKPdf**	**06 25 08.8**	**-0.1**
	comp=Z,9.3nm,0.7s,baz=223,slow=4.5,SNR=14						
PSI				PKPbc	**PKPbc**	**06 25 16.5**	**-0.5**
	comp=Z,11nm,0.6s,baz=200,slow=5.2,SNR=13						
PSI				pPKP	**pPKPdf**	**06 25 29.9**	**-0.2**
	comp=Z,41nm,0.9s,baz=193,slow=2.3,SNR=13						
PSI				pPKPab	**pPKPab**	**06 25 51.2**	**-0.3**
	comp=Z,12nm,0.9s,baz=236,slow=4.5,SNR=2.5						
USRK	**Ussuriysk Ar.**	**154.88**	**320**	PKP	**PKPdf**	**06 25 09.2**	**+0.6**
	comp=Z,4.6nm,0.9s,baz=333,slow=0.6,SNR=5.4						
USRK				PKPbc	**PKiKP**	**06 25 18.2**	**+0.9**
	comp=Z,13nm,0.9s,baz=338,slow=1.5,SNR=9.8						
WMQ	**Urumqi**	**155.04**	**40**	*e*PKPbc	**PKPdf**	**06 25 10.6**	**+1.6**
WMQ				LR	LR		
	comp=Z,1µm,15.5s						
PYUN	**Piuthan**	**156.05**	**80**	*e*P	**PKPdf**	**06 25 11.3**	**+0.3**
	comp=Z,45nm,1.0s						
BNX	**BinXian**	**156.23**	**328**	⇓P	**PKPab**	**06 25 38.8**	**+0.2**
BNX	**BinXian**	**156.23**	**328**	⇓PKP	**PKPdf**	**06 25 10.3**	**-0.1**
KOLN	**Koldanda**	**156.57**	**81**	*e*P	**PKPdf**	**06 25 11.9**	**+0.2**
DANN	**Dangsing**	**156.73**	**79**	*e*P	**PKPdf**	**06 25 12.6**	**+0.6**
	comp=Z,129nm,0.9s						
GKN	**Gorkha**	**157.50**	**80**	*e*P	**PKPdf**	**06 25 12.9**	**+0.1**
DMN	**Daman**	**157.90**	**81**	*e*P	**PKPdf**	**06 25 13.8**	**+0.4**
KKN	**Kakani**	**158.06**	**81**	*e*P	**PKPdf**	**06 25 13.8**	**+0.2**
PKI	**Pulchoki**	**158.16**	**82**	*e*P	**PKPdf**	**06 25 13.8**	**-0.1**
SONM	**Songino Array**	**158.50**	**6**	PKP	**PKPdf**	**06 25 14.8**	**+1.4**
	comp=Z,16nm,0.9s,baz=322,slow=0.5,SNR=60						
SONM				pPKP	**pPKPdf**	**06 25 35.0**	**+0.4**
	comp=Z,7.4nm,0.9s,baz=282,slow=0.4,SNR=5.0						
SONM				PKPab	**PKPab**	**06 25 49.1**	**+0.7**
	comp=Z,9.3nm,0.8s,baz=326,slow=4.1,SNR=9.5						
SONM				pPKPab	**pPKPab**	**06 26 08.7**	**-0.4**
	comp=Z,6.2nm,0.8s,baz=322,slow=5.0,SNR=3.7						
SONM				PP	**PP**	**06 29 28.0**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=350,slow=7.5,SNR=4.7						
GUN	**Gumba**	**158.59**	**81**	*e*P	**PKPdf**	**06 25 14.4**	**0.0**
JIRN	**Jiri**	**158.86**	**81**	*e*P	**PKPdf**	**06 25 14.9**	**+0.2**
RAMN	**Ramite**	**159.19**	**83**	*e*P	**PKPdf**	**06 25 15.6**	**+0.6**
	comp=Z,34nm,0.7s						
ODAN	**Odare**	**159.88**	**84**	*e*P	**PKPdf**	**06 25 16.2**	**+0.4**
	comp=Z,60nm,0.8s						
TAPN	**Taplejung**	**160.19**	**82**	*e*P	**PKPdf**	**06 25 16.5**	**+0.3**
KSRS	**Korea Array**	**161.23**	**310**	PKP	**PKPdf**	**06 25 17.7**	**+1.1**
	comp=Z,11nm,0.9s,baz=96,slow=0.9,SNR=34						
KSRS				pPKP	**pPKPdf**	**06 25 37.2**	**-0.6**
	comp=Z,5.1nm,1.0s,baz=126,slow=1.1,SNR=2.9						
KSRS				PKPab	**PKPab**	**06 26 02.6**	**+2.1**
	comp=Z,2.3nm,0.6s,baz=76,slow=4.8,SNR=4.9						
KSRS				pPKPab	**pPKPab**	**06 26 22.6**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=54,slow=5.5,SNR=2.1						
GOMU	**GeErMu**	**163.89**	**49**	PKP	**PKPdf**	**06 25 20.9**	**+1.1**
GOMU				AMB	AMB		
	comp=Z,97nm,4.7s						
GTA	**Gaotai**	**164.59**	**31**	PKP	**PKPdf**	**06 25 21.3**	**+1.3**
GTA				PKPab	**PKPab**	**06 26 15.8**	**+0.5**
GTA				SS	SS	06 50 22.6	-5.0
BJI	**Beijing**	**165.50**	**340**	PKP	**PKPdf**	**06 25 21.1**	**+0.6**
HHC	**Hu-ho-hao-te**	**165.60**	**355**	*e*PKP	**PKPdf**	**06 25 16.0**	**-4.8**
CMAR	**Chiang Mai Arr**	**167.11**	**126**	PKP	**PKPdf**	**06 25 23.0**	**+0.6**
	comp=Z,7.1nm,0.9s,baz=262,slow=2.3,SNR=44						
CMAR				pPKP	**pPKPdf**	**06 25 43.0**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=272,slow=3.5,SNR=2.5						
CMAR				PKPab	**PKPab**	**06 26 26.6**	**-0.4**
	comp=Z,9.6nm,0.9s,baz=239,slow=4.3,SNR=21						
CMAR				pPKPab	**pPKPab**	**06 26 47.2**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=230,slow=4.6,SNR=1.8						
CMAR				PP	**PP**	**06 30 16.6**	**+1.7**
	comp=Z,1.9nm,0.9s,baz=242,slow=6.8,SNR=7.5						
HNS	**HongShan**	**168.37**	**341**	⇓PKP	**PKPdf**	**06 25 23.9**	**+1.2**
TIA	**Tai'an**	**168.50**	**329**	PKP	**PKPdf**	**06 25 24.0**	**+1.1**
LZH	**Lanzhou**	**169.11**	**27**	*e*PKP	**PKPdf**	**06 25 15.8**	**-7.7**
LZH				pPKP	pPKPdf	06 25 44.3	-0.6
LZH				PKPab	**PKPab**	**06 26 36.0**	**+0.6**
NJ2	**Nanjing**	**170.41**	**307**	*e*PKP	**PKPdf**	**06 25 23.4**	**-0.8**
XAN	**Xi'an**	**172.41**	**6**	⇑PKP	**PKPdf**	**06 25 26.3**	**+1.1**
XAN				PKPab	**PKPab**	**06 26 50.1**	**+0.2**
PZH	**PanZhiHua**	**172.69**	**88**	PKP	**PKPdf**	**06 25 25.5**	**-0.1**
CD2	**Chengdu**	**173.03**	**49**	PKP	**PKPdf**	**06 25 26.3**	**+0.8**
CD2				PKPab	**PKPab**	**06 26 53.6**	**+0.7**
KMI	**Kunming**	**173.41**	**100**	⇓PKP	**PKPdf**	**06 25 25.8**	**-0.3**
KMI				pPKP	pPKPdf	06 25 46.8	-0.6
KMI				sPKP		06 25 55.4	

*TEH **16** 06:05:47.0, 37.49N×48.60E, h11^{km}, ML3.1*
*AZER **16** 06:05:47.6±0.2, 37.71N×48.64E, h5^{km}, Error ellipse: s-maj=3.5km s-min=3.0km az=27.0*
ISC 16 06:05:47.4±1.2**, 37.58N**±0.03×**48.62E**±0.03**, h7**^{km}±11^{km}**, n35,** σ1§**23**/43**, Northwestern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSN1	**Caspian**	**0.38**	**92**	*e*Pg	**Pg**	**06 05 54.8**	**+0.1**
CSN1				*e*Sg	**Sg**	**06 06 00.0**	**+0.3**
ISRB	**Sarab**	**0.80**	**288**	*e*		06 06 03.1	
	comp=Z,11µm,0.1s						
ISRB				*e*Pg	**Pg**	**06 06 02.4**	**-0.3**
ZNJK	**Zanjan**	**0.91**	**177**	*e*Pg	**Pg**	**06 06 03.6**	**-1.3**
ASTR	**Astara**	**0.99**	**8**	P	**Pb**	**06 06 06.5**	**-0.4**
	SNR=14						
ASTR				S	**Sn**	**06 06 21.4**	**-0.6**
LRK	**Lerik**	**1.09**	**348**	P	**Pn**	**06 06 08.6**	**-0.7**
	SNR=199						
LRK				S	**Sn**	**06 06 24.0**	**-0.7**
LKRN	**Lenkeran, Azer**	**1.14**	**6**	P	**Pn**	**06 06 09.5**	**-0.3**
	SNR=7.5						
LKRN				S	**Sn**	**06 06 25.6**	**0.0**
LHJ2	**Lahijan - Gila**	**1.22**	**109**	*e*Sg	**Sn**	**06 06 27.8**	**+0.1**
LHJ2				*e*Pg	**Pb**	**06 06 09.9**	**-0.9**
LHJ2				*e*		06 06 30.4	
	comp=Z,16µm,0.2s						
JIR1	**Jirandeh**	**1.28**	**132**	*e*Pg	**Pn**	**06 06 10.1**	**-1.9**
JIR1				*e*		06 06 29.9	
	comp=Z,12µm,0.2s						
GRMI	**Germi**	**1.35**	**335**	*e*Pg	**Pg**	**06 06 13.7**	**+0.3**
YRD	**Yardimli**	**1.37**	**347**	P	**Pg**	**06 06 13.3**	**-0.3**
	SNR=49						
YRD				S	**Sn**	**06 06 32.6**	**+0.9**
IBST	**Bostanabad**	**1.38**	**276**	*e*Pg	**Pn**	**06 06 12.9**	**-0.4**
IBST				*e*		06 06 35.0	
	comp=Z,3µm,0.1s						
IHRS	**Heris**	**1.45**	**301**	*e*	**Pg**	**06 06 17.6**	**+2.3**
	comp=Z,4µm,0.1s						
GLBA	**Clilabad**	**1.67**	**354**	P	**Pg**	**06 06 19.4**	**-0.1**
GLBA				S	**Sg**	**06 06 42.1**	**+1.0**
IGZV	**Ghazvin**	**1.75**	**132**	*e*Pn	**Pn**	**06 06 19.0**	**+0.6**
IGZV				*e*		06 06 20.5	
	comp=Z,4µm,0.2s						
QALM	**Alamut, Qazvin**	**1.98**	**125**	*e*Pn	**Pn**	**06 06 21.4**	**-0.3**
QALM				*e*		06 06 52.1	
	comp=Z,3µm,0.3s						
QABG	**Abgarm-Qazvin**	**2.02**	**157**	*e*Pn	**Pn**	**06 06 21.5**	**-0.7**
QABG				*e*		06 06 23.1	
	comp=Z,2µm,0.4s						
ITBZ	**Tabriz**	**2.06**	**289**	*e*Pn	**Pb**	**06 06 24.4**	**-0.9**
ITBZ				*e*		06 07 13.3	
	comp=Z,647nm,0.1s						
IAZR	**Azarshahr**	**2.10**	**274**	*e*	**Pg**	**06 06 31.6**	**+3.9**
	comp=Z,3µm,0.3s						
IRAZ	**Razeghan**	**2.41**	**154**	*e*Pn	**Pn**	**06 06 27.7**	**+0.2**
IRAZ				*e*		06 07 09.8	
	comp=Z,2µm,0.4s						
THKV	**Tehran--Karaj**	**2.46**	**132**	*e*Pn	**Pn**	**06 06 28.5**	**+0.4**
MAHB	**Mahabad**	**2.47**	**252**	*e*Pn	**Pn**	**06 06 28.1**	**-0.1**
ORD	**Ordubad**	**2.47**	**304**	P	**Pb**	**06 06 31.7**	**-0.5**
ORD				S	**Sg**	**06 07 05.2**	**-1.5**
ISHB	**Shabestar**	**2.48**	**287**	*e*Pn	**Pb**	**06 06 30.6**	**-1.8**
ISHB				*e*		06 06 34.9	
	comp=Z,953nm,0.4s						
IMRD	**Marand**	**2.56**	**297**	*e*Pn	**Pb**	**06 06 32.0**	**-1.9**
IMRD				*e*		06 06 42.8	
	comp=Z,1µm,0.2s						
CHTH	**Charan**	**2.61**	**129**	*e*Pn	**Pn**	**06 06 32.0**	**+1.7**
HAGD	**Aghdareh**	**2.78**	**171**	*e*Pn	**Pn**	**06 06 32.5**	**-0.2**
HAGD				*e*		06 07 23.5	
	comp=Z,344nm,0.6s						
ASAO	**Ashtian**	**3.23**	**159**	*e*Pn	**Pn**	**06 06 40.4**	**+1.6**
IPRN	**Peran**	**3.26**	**113**	*e*Pn	**Pn**	**06 06 40.9**	**+1.7**
DAMV	**Damavand**	**3.32**	**125**	*e*Pn	**Pn**	**06 06 41.7**	**+1.6**
IFIR	**Firoozkooh**	**3.84**	**119**	*e*Pn	**Pn**	**06 06 48.6**	**+1.3**
KHMZ	**Khomeyn**	**3.98**	**164**	*e*Pn	**Pn**	**06 06 50.3**	**+1.2**
IGLO	**Ghaloghah**	**4.30**	**103**	*e*Pn	**Pn**	**06 06 54.9**	**+1.4**
IGLO				*e*		06 07 55.5	
	comp=Z,274nm,0.6s						
ISFB	**Sefidab**	**4.36**	**137**	*e*Pn	**Pn**	**06 06 54.6**	**+0.4**
ISFB				*e*		06 07 13.1	
	comp=Z,155nm,0.4s						
MRVT	**Maraveh tapeh**	**5.93**	**87**	*e*Pn	**Pn**	**06 07 16.4**	**+0.7**
ANAR	**Anarak**	**6.05**	**135**	*e*Pn	**Pn**	**06 07 18.5**	**+1.1**

*NIED **16** 06:15:09.2, 32.82N×130.82E, h13^{km}, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.84; $M_{\theta\theta}$5.25; $M_{\phi\phi}$-1.41; $M_{r\theta}$0.34; $M_{\theta\phi}$3.64; $M_{\phi r}$-0.61; Fault plane solution: $M_0$5.54000×10^{14} NP1:ϕ_s40.00000°, δ52.00000°, λ-129.00000°. NP2:ϕ_s272.00000°, δ52.00000°, λ-51.00000°.*
JMA 16 06:15:09.2, 32.82N×130.82E, h13^{km}±1^{km}**, M3.6, 1C, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.30**	**9**	⇑P	Pg	06 15 15.6	+0.1
JNU				S	Sg	06 15 20.1	+0.3

*IDC **16** 06:31:45.5±2.3, 18.61N×148.08E, h0^{km}, mb3.7/5, mb1 3.9/6, mb1mx3.5/63, mbtmp3.8/6, ML4.2/1, MS3.8/1, Ms1 3.7/1, ms1mx2.5/80, Error ellipse: s-maj=102.2km s-min=22.8km az=91.0*
ISC 16 06:31:52.4±1.8**, 18.6N**±0.1×**147.5E**±0.4**, h35**^{km}**, n7,** σ1§**58**/8**, mb3.7**/5**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.54**	**207**	Pn	**Pn**	**06 33 14.4**	**+2.0**
	5.7nm,0.3s,baz=54,slow=19,SNR=1.7						
GUMO				Sn	**Sn**	**06 34 12.8**	**-2.1**
	4.1nm,0.3s,baz=75,slow=15,SNR=1.6						
KLR	**Kul'dur**	**33.14**	**341**	P	**P**	**06 38 25.3**	**0.0**
	1.0nm,0.6s,baz=124,slow=11,SNR=2.3						
WRA	**Warramunga Arr**	**40.37**	**199**	P	**P**	**06 39 26.7**	**-0.4**
	0.9nm,0.8s,baz=20,slow=8.2,SNR=6.3						
WRA				PcP	**PcP**	**06 41 30.6**	**+0.6**
	0.2nm,0.6s,baz=20,slow=4.1,SNR=1.4						
ASAR	**Alice Springs**	**44.00**	**198**	P	**P**	**06 39 56.2**	**-0.5**
	0.3nm,0.8s,baz=28,slow=6.4,SNR=4.5						
STKA	**Stephens Creek**	**50.45**	**187**	LR	LR	07 02 10.4	
	comp=Z,108nm,20.7s,baz=194,slow=36						
KURBB	**Kurchatov Arra**	**62.57**	**318**	P	**P**	**06 42 13.7**	**+0.9**
	0.2nm,0.3s,baz=91,slow=7.3,SNR=1.8						
FINES	**FINESS Array B**	**87.73**	**336**	P	**P**	**06 44 35.8**	**-1.6**
	0.9nm,0.6s,baz=62,slow=6.9,SNR=5.2						

*NNC **16** 06:42:39.6±1.2, 41.11N×72.42E, h0^{km}, mb3.8, mpv3.5, Error ellipse: s-maj=11.4km s-min=4.8km az=177.0*
*KRNET **16** 06:42:39.3±0.1, 41.05N×72.36E, h26^{km}, mb3.5*
*SOME **16** 06:42:39.4, 41.25N×72.38E, h0^{km}*
*ISU **16** 06:42:40, 41.02N×72.36E, h25^{km}, Hypocentre not reviewed by the ISC*
ISC 16 06:42:40.5±2.0**, 41.02N**±0.03×**72.25E**±0.02**, h17**^{km}±15^{km}**, n75,** σ1§**66**/119**, 33C-18D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANR	**Andizhan**	**0.28**	**163**	P		06 42 47.7	
ANR				S		06 42 54.0	
TSTA	**Tashata**	**0.48**	**159**	P		06 42 49.5	
TSTA				S		06 42 57.6	
OHH	**Osh**	**0.64**	**141**	⇑*e*P	**Pb**	**06 42 51.5**	**-1.8**
	baz=48						
OHH				⇑*i*S	**Sb**	**06 43 00.0**	**-2.0**
	baz=48						
OHH	**Osh**	**0.64**	**141**	P		06 42 52.0	
OHH				S		06 42 59.8	
FRG	**Fergana**	**0.74**	**209**	P		06 42 55.9	
FRG				S		06 43 07.3	
ARK	**Arkit**	**0.80**	**344**	⇓*i*P	**Pb**	**06 42 54.8**	**-1.3**
	baz=39						
ARK				⇓*i*S	**Sb**	**06 43 05.5**	**-1.2**
	baz=39						
CHMI	**Chimion**	**0.94**	**217**	P		06 42 59.3	
CHMI				S		06 43 14.4	
TRKS	**Terek-Say**	**0.98**	**301**	⇑*i*P	**Pb**	**06 42 57.9**	**-1.2**
	baz=95						
TRKS				⇑*i*S	**Sb**	**06 43 11.3**	**-0.5**
	baz=95						
MINT	**Mingtut**	**1.12**	**241**	P		06 43 02.9	
MINT				S		06 43 21.0	
SHAK	**Shakhimardan**	**1.14**	**200**	P		06 43 02.0	
SHAK				S		06 43 18.6	
BTK	**Batken**	**1.46**	**229**	⇑*i*P	**Pn**	**06 43 07.1**	**+1.0**
	baz=30						
BTK				⇑*i*S	**Sb**	**06 43 27.4**	**+1.9**
	baz=30						
BTK	**Batken**	**1.46**	**229**	P		06 43 08.6	
BTK				S		06 43 29.2	
AML	**Almayashu**	**1.55**	**44**	P	**Pn**	**06 43 06.2**	**-1.5**
	SNR=174						
DRK	**Karamyk**	**1.58**	**193**	⇓*i*P	**Pn**	**06 43 09.0**	**+1.0**
	baz=95						
DRK				⇓*i*S	**Sb**	**06 43 29.9**	**+0.7**
	baz=95						
CHRV	**Charvak**	**1.84**	**290**	P		06 43 14.2	
CHRV				S		06 43 40.7	
MRKS	**Merke**	**1.87**	**23**	*e*P	**Pb**	**06 43 14.0**	**-0.3**
	95nm,0.2s						
MRKS				*e*S	**Sb**	**06 43 37.9**	**+0.7**
	244nm,0.5s						
MRKS	**Merke**	**1.87**	**23**	P	**Pb**	**06 43 13.9**	**-0.3**
	95nm,0.7s						
MRKS				S	**Sb**	**06 43 37.9**	**+0.7**
	244nm,0.5s						
DZA	**Taraz**	**1.99**	**340**	*e*P	**Pn**	**06 43 15.0**	**+1.6**
	131nm,0.0s						
DZA				*e*S	**Sb**	**06 43 40.5**	**-0.3**
	256nm,0.5s						
DZA	**Taraz**	**1.99**	**340**	Pg	**Pn**	**06 43 15.0**	**+1.6**
	132nm,0.1s						
DZA				Lg	Lg	06 43 40.5	
	256nm,0.5s						
EKS2	**Erkin-Say**	**1.99**	**34**	P	**Pn**	**06 43 13.2**	**-0.3**
	SNR=35						
EKS2	**Erkin-Say**	**1.99**	**34**	⇑*i*P	**Pn**	**06 43 12.9**	**-0.6**
	baz=33						
EKS2				⇑*i*S	**Sn**	**06 43 37.2**	**-0.9**
	baz=33						
IUG	**Iuzhnay**	**2.01**	**305**	*e*P	**Pb**	**06 43 16.9**	**+0.2**
	360nm,0.1s						
IUG				*e*S	**Sg**	**06 43 44.2**	**-1.1**
	208nm,0.2s						
IUG	**Iuzhnay**	**2.01**	**305**	Pg	**Pb**	**06 43 16.9**	**+0.2**
	423nm,0.5s						
IUG				Lg	Lg	06 43 44.2	
	208nm,0.5s						
UCH	**Uchtor**	**2.08**	**54**	P	**Pn**	**06 43 14.1**	**-0.9**
	SNR=43						
UCH	**Uchtor**	**2.08**	**54**	⇑*i*P	**Pn**	**06 43 14.0**	**-0.9**
	baz=53						
UCH				⇑*i*S	**Sn**	**06 43 39.6**	**-1.1**
	baz=53						
TAS	**Tashkent**	**2.25**	**279**	⇓*i*P	**Pn**	**06 43 18.1**	**+1.1**
	baz=78						
TAS				⇓*i*S	**Sb**	**06 43 46.8**	**-1.5**
	baz=78						
AAK	**Ala-Archa**	**2.32**	**45**	P	**Pn**	**06 43 17.6**	**-0.5**
	SNR=25						
AAK	**Ala-Archa**	**2.32**	**45**	⇑*i*P	**Pn**	**06 43 17.5**	**-0.6**
	baz=44						
AAK				⇑*i*S	**Sn**	**06 43 45.1**	**-1.2**
	baz=44						
KK31	**Karatay Array**	**2.45**	**329**	Pn	**Pn**	**06 43 20.1**	**+0.4**
	1.3nm,0.4s,baz=137,slow=17,SNR=29						
KK31				Lg	Lg	06 43 54.9	
	27nm,0.6s,baz=141,slow=30,SNR=17						
KKAR	**Karatay Array**	**2.45**	**329**	⇑*i*P	**Pn**	**06 43 20.4**	**+0.7**
	baz=27						
KKAR				⇑*i*S	**Sn**	**06 43 50.3**	**+1.1**
	baz=27						
GAR	**Garm**	**2.51**	**217**	⇓*e*P	**Pn**	**06 43 22.0**	**+1.4**
	baz=18						
GAR				⇓*i*S	**Sn**	**06 43 53.2**	**+2.3**
	baz=18						
FRU1	**Bishkek**	**2.52**	**44**	⇓*i*P	**Pn**	**06 43 20.1**	**-0.6**
	baz=43						
FRU1				⇓*e*S	**Sn**	**06 43 49.8**	**-1.1**
	baz=43						
KBK	**Karagaybulak**	**2.59**	**50**	P	**Pn**	**06 43 22.0**	**+0.2**
	SNR=19						
KBK	**Karagaybulak**	**2.59**	**50**	⇑*i*P	**Pn**	**06 43 21.1**	**-0.7**
	baz=49						
KBK				⇑*i*S	**Sn**	**06 43 51.5**	**-1.4**
	baz=49						
BRLS	**Borolday**	**2.69**	**319**	*e*P	**Pb**	**06 43 27.3**	**-1.0**
	6.4nm,0.1s						
BRLS				*e*S	**Sb**	**06 44 01.6**	**+0.6**
	26nm,0.3s						
BRLS	**Borolday**	**2.69**	**319**	Pg	**Pb**	**06 43 27.3**	**-1.0**
	13nm,0.8s						
BRLS				Lg	Lg	06 44 01.6	
	26nm,0.3s						
CHMS	**Chumysh**	**2.71**	**42**	P	**Pb**	**06 43 27.5**	**-1.1**
	SNR=5.8						
CHMS	**Chumysh**	**2.71**	**42**	⇓*e*P	**Pn**	**06 43 22.6**	**-0.7**
	baz=42						
CHMS				⇓*i*S	**Sn**	**06 43 54.3**	**-1.4**
	baz=42						
CHMS	**Chumysh**	**2.71**	**42**	⇑Pn	**Pn**	**06 43 22.7**	**-0.7**
	7.6nm,0.5s						
CHMS				⇓Sn	**Sn**	**06 43 56.2**	**+0.5**
	9.2nm,0.4s						
USP	**Ospenovka**	**2.79**	**36**	P	**Pn**	**06 43 23.8**	**-0.7**
	SNR=13						
USP	**Ospenovka**	**2.79**	**36**	⇑*i*P	**Pn**	**06 43 23.9**	**-0.6**
	baz=35						
USP				⇑*i*S	**Sn**	**06 43 56.3**	**-1.5**
	baz=35						
BOOM	**Boomskoye usch**	**3.12**	**61**	⇑*i*P	**Pn**	**06 43 28.5**	**-0.6**
	baz=61						
BOOM				⇑*e*S	**Sn**	**06 44 04.1**	**-1.9**
	baz=61						
TKM2	**Tokmak 2**	**3.13**	**52**	P	**Pn**	**06 43 28.8**	**-0.5**
	SNR=7.7						
TKM2	**Tokmak 2**	**3.13**	**52**	⇑*e*P	**Pn**	**06 43 28.7**	**-0.5**
	baz=51						
TKM2				⇑*i*S	**Sn**	**06 44 04.6**	**-1.7**
	baz=51						
TKM2	**Tokmak 2**	**3.13**	**52**	⇓Pn	**Pn**	**06 43 28.1**	**-1.1**
	1.9nm,0.3s						
TKM2				⇑Lg	Lg	06 44 12.7	
	26nm,0.6s						
ULHL	**Ulahol**	**3.23**	**66**	⇑*i*P	**Pn**	**06 43 29.9**	**-0.7**
	baz=66						
ULHL				⇑*i*S	**Sn**	**06 44 06.7**	**-2.0**
	baz=66						
KST	**Kastek**	**3.42**	**53**	*e*P	**Pb**	**06 43 39.8**	**-0.9**
	16nm,0.0s						
KST				*e*S	**Sb**	**06 44 23.2**	**+1.2**
	39nm,0.7s						
KST	**Kastek**	**3.42**	**53**	Pg	**Pb**	**06 43 39.8**	**-0.9**
	16nm,0.4s						
KST				Lg	Lg	06 44 23.2	
	39nm,0.7s						
DGS	**Degeres**	**3.43**	**49**	*e*P	**Pb**	**06 43 40.0**	**-0.9**
	28nm,0.8s						
DGS				*e*S	**Sb**	**06 44 23.7**	**+1.5**
	14nm,0.3s						
DGS	**Degeres**	**3.43**	**49**	Pg	**Pb**	**06 43 39.9**	**-0.9**
	28nm,0.8s						
DGS				Lg	Lg	06 44 23.7	
	14nm,0.3s						
KRBS	**Karabastau**	**3.68**	**42**	*e*P	**Pb**	**06 43 44.3**	**-0.8**
	9.0nm,0.1s						
KRBS				*e*S	**Sb**	**06 44 31.1**	**+1.6**
	13nm,0.1s						
KRBS	**Karabastau**	**3.68**	**42**	Pg	**Pb**	**06 43 44.3**	**-0.8**
	9.1nm,0.5s						
KRBS				Lg	Lg	06 44 31.1	
	13nm,0.7s						
MTBS	**Maitube**	**3.75**	**55**	*e*P	**Pb**	**06 43 45.3**	**-1.0**
	3.8nm,0.0s						
MTBS				*e*S	**Sb**	**06 44 32.6**	**+1.1**
	11nm,0.1s						
MTBS	**Maitube**	**3.75**	**55**	Pg	**Pb**	**06 43 45.3**	**-1.0**
	3.6nm,0.3s						
MTBS				Lg	Lg	06 44 32.6	
	11nm,0.4s						
KDJ	**Kajisay**	**3.86**	**72**	⇑*i*P	**Pn**	**06 43 38.8**	**-0.4**
	baz=72						
KDJ				⇑*i*S	**Sn**	**06 44 21.7**	**-2.5**
	baz=72						
TNSS	**Tian-Shan**	**4.03**	**59**	*e*P	**Pb**	**06 43 49.8**	**-1.5**
	6.8nm,0.2s						
TNSS				*e*S	**Sb**	**06 44 40.6**	**+0.7**
	4.9nm,0.2s						
TNSS	**Tian-Shan**	**4.03**	**59**	Pg	**Pb**	**06 43 49.8**	**-1.5**
	6.7nm,0.8s						
TNSS				Lg	Lg	06 44 40.6	
	5.0nm,0.6s						
MDOK	**Medeo**	**4.16**	**57**	*e*P	**Pb**	**06 43 51.7**	**-1.6**
	5.7nm,0.1s						
MDOK				*e*S	**Sb**	**06 44 43.6**	**+0.4**
	7.6nm,0.3s						
MDOK	**Medeo**	**4.16**	**57**	⇑Pn	**Pn**	**06 43 42.3**	**-1.0**
	4.0nm,0.7s						
MDOK				⇑Pg	**Pb**	**06 43 52.2**	**-1.1**
	10.0nm,0.7s						
MDOK				⇓Lg	Lg	06 44 43.5	
	12nm,0.9s						
MDOK	**Medeo**	**4.16**	**57**	Pg	**Pb**	**06 43 51.7**	**-1.6**
	9.2nm,0.8s						
MDOK				Lg	Lg	06 44 43.6	
	7.6nm,0.6s						
KUU	**Kurty**	**4.17**	**45**	*e*P	**Pb**	**06 43 52.7**	**-0.6**
	4.3nm,0.1s						
KUU				*e*S	**Sb**	**06 44 45.4**	**+2.0**
	14nm,0.1s						
KUU	**Kurty**	**4.17**	**45**	Pg	**Pb**	**06 43 52.7**	**-0.6**
	4.3nm,0.5s						
KUU				Lg	Lg	06 44 45.4	
	12nm,0.4s						
BTLS	**Baital**	**4.22**	**18**	*e*P	**Pb**	**06 43 55.3**	**+1.0**
	1.7nm,0.2s						
BTLS				*e*S	**Sb**	**06 44 49.3**	**+4.3**
	9.1nm,0.1s						

KOTS	**Kotyrbulak**	**4.23**	**57**	*e*P		**Pb**	**06 43 53.2**	**-1.3**
	6.8nm,0.1s							
KOTS				*e*S		**Sb**	**06 44 46.4**	**+0.9**
	20nm,0.7s							
KOTS	**Kotyrbulak**	**4.23**	**57**	Pg		**Pb**	**06 43 53.2**	**-1.3**
	6.6nm,0.5s							
KOTS				Lg		Lg	06 44 46.4	
	20nm,0.7s							
KTBS	**Karatobe**	**4.24**	**49**	*e*P		**Pb**	**06 43 54.1**	**-0.5**
	3.6nm,0.1s							
KTBS				*e*S		**Sb**	**06 44 48.1**	**+2.6**
	24nm,0.1s							
KTBS	**Karatobe**	**4.24**	**49**	Pg		**Pb**	**06 43 54.1**	**-0.5**
	3.7nm,0.7s							
KTBS				Lg		Lg	06 44 48.1	
	24nm,0.6s							
ANVS	**Anan'yevo**	**4.41**	**65**	⇓*i*P		**Pn**	**06 43 46.8**	**+0.1**
	baz=65							
ANVS				⇓*i*S		**Sn**	**06 44 34.4**	**-3.3**
	baz=65							
CHKK	**Chushkaly**	**4.50**	**50**	*e*P		**Pb**	**06 43 59.3**	**+0.2**
	2.6nm,0.1s							
CHKK				*e*S		**Sb**	**06 44 56.4**	**+3.4**
	5.9nm,0.0s							
CHKK	**Chushkaly**	**4.50**	**50**	Pg		**Pb**	**06 43 59.3**	**+0.2**
	2.6nm,0.1s							
CHKK				Lg		Lg	06 44 56.4	
	7.8nm,0.3s							
SATY	**Saty**	**5.01**	**64**	*e*P		**Pb**	**06 44 08.8**	**+1.0**
	2.0nm,0.3s							
SATY				*e*S		**Sb**	**06 45 12.9**	**+5.1**
	14nm,0.2s							
SATY	**Saty**	**5.01**	**64**	Pg		**Pb**	**06 44 08.8**	**+1.0**
	2.1nm,0.7s							
ZHN	**Zhinishke**	**5.07**	**63**	*e*P		**Pb**	**06 44 09.2**	**+0.3**
	2.3nm,0.0s							
ZHN				*e*S		**Sb**	**06 45 13.2**	**+3.6**
	8.9nm,0.1s							
ZHN	**Zhinishke**	**5.07**	**63**	Pg		**Pb**	**06 44 09.2**	**+0.3**
	3.2nm,0.3s							
ZHN				Lg		Lg	06 45 13.2	
	7.7nm,0.3s							
ARXS	**Arharly**	**5.20**	**50**	*e*P		**Pb**	**06 44 12.0**	**+1.0**
	3.8nm,0.5s							
ARXS				*e*S		**Sb**	**06 45 17.9**	**+4.7**
	7.7nm,0.5s							
ARXS	**Arharly**	**5.20**	**50**	Pg		**Pb**	**06 44 12.0**	**+1.0**
	3.8nm,0.5s							
ARXS				Lg		Lg	06 45 17.9	
	7.7nm,0.5s							
KPKS	**Kokpek**	**5.36**	**61**	*e*P		**Pb**	**06 44 14.9**	**+1.2**
	3.8nm,0.0s							
KPKS				*e*S		**Sb**	**06 45 23.4**	**+5.6**
	14nm,0.1s							
UZB	**Uzynbulak**	**5.46**	**65**	*e*P		**Pb**	**06 44 16.0**	**+0.5**
	2.9nm,0.1s							
UZB				*e*S		**Sb**	**06 45 25.4**	**+4.5**
	5.8nm,0.3s							
UZB	**Uzynbulak**	**5.46**	**65**	Pg		**Pb**	**06 44 16.0**	**+0.5**
	2.5nm,0.6s							
UZB				Lg		Lg	06 45 25.4	
	6.4nm,1.3s							
BLB	**Baldybastay**	**5.53**	**54**	*e*P		**Pb**	**06 44 17.0**	**+0.4**
	2.9nm,0.1s							
BLB				*e*S		**Sb**	**06 45 26.8**	**+4.2**
	6.8nm,0.1s							
BLB	**Baldybastay**	**5.53**	**54**	Pg		**Pb**	**06 44 17.0**	**+0.4**
	3.5nm,0.6s							
BLB				Lg		Lg	06 45 26.8	
	4.0nm,0.3s							
PDGK	**Podgornoye**	**5.85**	**64**	Pg		**Pb**	**06 44 22.5**	**+0.5**
	0.7nm,0.8s							
PDGK				Lg		Lg	06 45 36.4	
	2.0nm,0.7s							
PDGK	**Podgornoye**	**5.85**	**64**	⇑Pg		**Pb**	**06 44 21.8**	**-0.2**
	2.8nm,1.0s							
PDGK				⇑Lg		Lg	06 45 40.2	
	8.4nm,0.9s							
OTUK	**Ortayu**	**7.22**	**0**	⇑Sn		**Sn**	**06 45 42.9**	**-3.8**
	1.0nm,0.5s							
OTUK				⇓Lg		Lg	06 46 22.5	
	3.1nm,0.8s							

IDC ***16*** *06:43:57.6±6.7,6˚.90S×147˚.27E,h75km±65km,mb3.0/2, mb1 3.2/4,mb1mx3.0/41,mbtmp3.3/4,ML3.5/1,MS3.7/1, Ms1 3.7/1,ms1mx2.8/17,Error ellipse: s-maj=71.2km s-min=45.4km az=124.0*

ISC 16 06:43:54.8±3.2,6.7S±0˚.2×147˚.2E±0˚.4,h50km,n6,σ0.8˚77/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**2.70**	**180**	P		**Pn**	**06 44 36.5**	**+0.7**
	12nm,0.3s,baz=356,slow=6.9,SNR=8.0							
PMG				S		**Sn**	**06 45 06.4**	**-0.9**
	8.0nm,0.3s,baz=41,slow=19,SNR=5.2							
WRA	**Warramunga Arr**	**18.12**	**222**	P		**P**	**06 48 02.9**	**+0.1**
	0.2nm,0.3s,baz=51,slow=11,SNR=8.9							
WRA				S		Sn	06 51 16.1	-8.4
	0.0nm,0.3s,baz=43,slow=24,SNR=2.3							
ASAR	**Alice Springs**	**21.14**	**216**	P		**P**	**06 48 35.9**	**+0.1**
	0.5nm,0.5s,baz=47,slow=8.6,SNR=9.9							
FITZ	**Fitzroy Crossi**	**23.84**	**240**	P		**P**	**06 49 03.6**	**+0.1**
	0.3nm,0.3s,baz=60,slow=8.1,SNR=6.6							
DZM	**Mont Dzumac**	**24.10**	**131**	LR		LR	06 56 24.5	
	comp=Z,169nm,19.2s,baz=19,slow=31							
TORD	**Torodi Ar. Bea**	**145.40**	**283**	PKPbc		**PKPbc**	**07 03 27.6**	**-0.7**
	0.3nm,0.4s,baz=74,slow=3.6,SNR=6.2							

JMA 16 06:44:17.2,32˚.98N×131˚.06E,h10km±1km,M1.7,1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**0.21**	**313**	P		Pg	06 44 21.8	+0.2
JIU3	**Izumi3**	**0.48**	**206**	S		Sg	06 44 29.0	-3.8
JIU3	**Izumi3**	**0.48**	**206**	⇓P		Pg	06 44 26.8	+0.3

IDC ***16*** *06:44:21.9±1.5,32˚.73N×131˚.41E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.3/52,mbtmp3.4/5,ML2.9/1,Error ellipse: s-maj=52.4km s-min=10.2km az=48.0*

NIED ***16*** *06:44:23.9,32˚.63N×130˚.70E,h5km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.22; $M_{\theta\theta}$=1.68; $M_{\phi\phi}$=-5.89; $M_{r\theta}$=-2.23; $M_{r\phi}$=1.46; $M_{\theta\phi}$=4.30; Fault plane solution: $M_0$7.17000×10^{14} NP1: ϕ_s191.00000°,δ27.00000°,λ123.00000°. NP2: ϕ_s335.00000°,δ68.00000°,λ74.00000°.*

JMA ***16*** *06:44:23.9,32˚.63N×130˚.70E,h5km±1km,M3.6*

JMA Felt III J1.

ISC 16 06:44:24.3±1.2,32˚.9N±0˚.1×131˚.0E±0˚.1,h12km,n7, σ2.9˚41/9,mb3.4/4,1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**0.28**	**339**	Pg		**Pn**	**06 44 34.1**	**-0.1**
	192nm,0.3s,baz=187,slow=17,SNR=16							
JNU				Lg		Lg	06 44 41.1	
	545nm,0.3s,baz=198,slow=20,SNR=18							
JTA	**Tamana**	**0.40**	**285**	⇓P		**Pg**	**06 44 31.3**	**-0.9**
JTA				S		**Sg**	**06 44 36.4**	**-1.2**
KSRS	**Korea Array**	**5.23**	**332**	Pn		**Pn**	**06 45 45.4**	**+3.2**
	0.3nm,0.3s,baz=153,slow=14,SNR=2.3							
KSRS				Pg		**Pg**	**06 46 01.4**	**-2.9**
	1.3nm,0.3s,baz=153,slow=17,SNR=8.1							
KSRS				Lg		Lg	06 47 10.1	
	1.2nm,0.3s,baz=163,slow=23,SNR=4.7							
MKAR	**Makanchi Array**	**39.28**	**305**	P		**P**	**06 51 55.5**	**+2.6**
	0.5nm,0.8s,baz=95,slow=9.4,SNR=2.9							
WRA	**Warramunga Arr**	**52.60**	**176**	P		**P**	**06 53 35.8**	**-2.3**
	0.6nm,1.0s,baz=355,slow=7.8,SNR=1.8							
ASAR	**Alice Springs**	**56.28**	**177**	P		**P**	**06 54 03.8**	**-1.0**
	0.2nm,0.6s,baz=12,slow=13,SNR=1.7							
FINES	**FINESS Array B**	**68.31**	**330**	P		**P**	**06 55 25.7**	**+0.8**
	1.1nm,0.9s,baz=66,slow=6.8,SNR=4.2							

IDC ***16*** *06:48:10.5±1.4,32˚.68N×130˚.61E,h0km,mb3.5/3, mb1 3.8/6,mb1mx3.4/53,mbtmp3.8/6,ML3.5/3,Error ellipse: s-maj=25.0km s-min=10.2km az=121.0*

JMA ***16*** *06:48:12.2,32˚.76N×130˚.65E,h14km±1km,M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s119.00000°,δ75.00000°,λ-25.00000°. NP2: ϕ_s216.00000°,δ66.00000°,λ-164.00000°. Principal axes: T Plg6.0000°, Azm169.0000°; N Plg61.0000°, Azm270.0000°; P Plg28.0000°, Azm76.0000°;*

JMA Felt III J1.

NIED ***16*** *06:48:12.3,32˚.76N×130˚.65E,h14km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.00; $M_{\theta\theta}$=6.90; $M_{\phi\phi}$=-3.90; $M_{r\theta}$=-1.17; $M_{r\phi}$=0.68; $M_{\theta\phi}$=2.87; Fault plane solution: $M_0$6.77000×10^{14} NP1: ϕ_s229.00000°,δ58.00000°,λ-153.00000°. NP2: ϕ_s123.00000°,δ67.00000°,λ-36.00000°.*

ISC 16 06:48:12.8±0.7,32.73N±0˚.03×130˚.63E±0˚.06,h11km,n11, σ1.9˚11/16,mb3.2/3,4C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	**Izumi3**	**0.24**	**140**	⇑P		**Pg**	**06 48 17.6**	**-0.2**
JIU3				S		**Sg**	**06 48 21.4**	**+0.2**
JTA	**Tamana**	**0.24**	**341**	⇑P		**Pg**	**06 48 17.4**	**-0.5**
JTA				S		**Sg**	**06 48 20.8**	**-0.5**
JNU	**Nakatsue**	**0.44**	**29**	Pg		**Pg**	**06 48 20.4**	**-1.1**
	422nm,0.3s,baz=182,slow=8.6,SNR=100							
JNU				Lg		Lg	06 48 26.2	
	3μm,0.3s,baz=168,slow=12,SNR=74							
JZO	**Okuchi**	**0.59**	**182**	⇑P		**Pg**	**06 48 24.2**	**-0.1**
JZO				S		**Sg**	**06 48 32.4**	**+0.2**
JTZ	**Takazaki**	**0.92**	**155**	⇑P		**Pg**	**06 48 30.1**	**-0.4**
JTZ				S		**Sb**	**06 48 42.4**	**-0.5**
KSRS	**Korea Array**	**5.21**	**336**	Pn		**Pn**	**06 49 30.7**	**+0.1**
	0.4nm,0.3s,baz=155,slow=15,SNR=2.9							
KSRS				Pg		**Pg**	**06 49 46.6**	**+2.8**
	1.6nm,0.3s,baz=151,slow=17,SNR=7.3							
KSRS				Lg		Lg	06 50 51.3	
	1.5nm,0.3s,baz=153,slow=30,SNR=4.8							
MJAR	**Matsushiro Arr**	**7.31**	**57**	Pn		**Pn**	**06 50 01.0**	**+1.4**
	0.4nm,0.3s,baz=234,slow=13,SNR=6.0							
JHJ	**Hachijo jima 2**	**7.71**	**85**	Pn		**Pn**	**06 50 05.0**	**0.0**
	19nm,0.3s,baz=233,slow=20,SNR=5.2							
KURBB	**Kurchatov Arra**	**41.87**	**311**	P		**P**	**06 56 02.5**	**-0.4**
	0.3nm,0.6s,baz=101,slow=8.8,SNR=3.0							
WRA	**Warramunga Arr**	**52.50**	**176**	P		**P**	**06 57 24.2**	**-1.8**
	0.3nm,0.9s,baz=352,slow=7.7,SNR=2.0							
FINES	**FINESS Array B**	**68.27**	**330**	P		**P**	**06 59 12.7**	**-0.7**
	1.1nm,0.8s,baz=79,slow=7.2,SNR=6.0							

JMA 16 07:02:00.1,32˚.89N×131˚.01E,h9km±2km,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**0.26**	**334**	P		Pg	07 02 05.6	+0.3
JUS	**Usuki**	**0.65**	**74**	P		Pg	07 02 12.4	-0.2

BJI ***16*** *07:02:00.3±0.0,32˚.66N×130˚.84E,h17km,mb5.0/76, mB5.2/70,Ms5.3/93,Ms7 5.2/86*

MOS ***16*** *07:02:00.4±0.9,32˚.68N×130˚.66E,h16km,mb5.5/111, MS4.9/33,Error ellipse: s-maj=5.7km s-min=3.2km az=115.9*

IDC ***16*** *07:02:01.7±1.4,32˚.73N×130˚.75E,h13km±8km,mb4.8/37, mb1 4.9/42,mb1mx4.9/47,mbtmp4.9/42,ML4.4/5,MS4.5/69, Ms1 4.5/69,ms1mx4.4/94,Error ellipse: s-maj=11.9km s-min=11.0km az=69.0*

NIED ***16*** *07:02:01.0,32˚.70N×130˚.72E,h12km,MW5.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.80; $M_{\theta\theta}$=4.59; $M_{\phi\phi}$=0.21; $M_{r\theta}$=-2.65; $M_{r\phi}$=1.44; $M_{\theta\phi}$=-0.91; Fault plane solution: $M_0$5.65000×10^{16} NP1: ϕ_s255.00000°,δ30.00000°,λ-88.00000°. NP2:ϕ_s72.00000°, δ60.00000°,λ-91.00000°.*

NEIC ***16*** *07:02:01.9±1.2,32˚.72N±0˚.04×130˚.66E±0˚.07,h9km±3km, mb5.3/166,Ms_20 4.9/100,Mww5.1 Error ellipse: s-maj=8.6km s-min=5.3km az=116.0*

JMA ***16*** *07:02:01.0,32˚.70N×130˚.72E,h12km±1km,M5.4 Broadband fault plane solution: P waves. NP1: ϕ_s58.00000°,δ57.00000°,λ-102.00000°. NP2: ϕ_s260.00000°,δ35.00000°,λ-72.00000°. Principal axes: T Plg11.0000°, Azm157.0000°; N Plg10.0000°, Azm65.0000°; P Plg75.0000°, Azm294.0000°;*

GCMT ***16*** *07:02:02.8±0.1,32˚.69N±0˚.01×130˚.53E±0˚.02,h13km, MW5.1/124,Moment Tensor Solution. s78,c119; s124,c192; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.71±.16; $M_{\theta\theta}$5.68±.12; $M_{\phi\phi}$0.02±.12; $M_{r\theta}$-1.42±.25; $M_{r\phi}$2.15±.09; $M_{\theta\phi}$1.71±.31; Best double couple: $M_0$6.48000×10^{16} NP1:ϕ_s233.00000°,δ44.00000°, λ-118.00000°. NP2:ϕ_s90.00000°,δ52.00000°, λ-65.00000°. Principal axes: T 6.4590, Plg4.0000°, Azm163.0000°; N 0.0330, Plg20.0000°, Azm254.0000°; P -6.5010, Plg70.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***16*** *07:02:03.0±0.0,32˚.68N×130˚.86E,h10km,mb5.4*

NEIC ***16*** *07:02:05,32˚.75N×130˚.67E,h12km,Moment Tensor Solution. Duration: 49 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.05; $M_{\theta\theta}$4.86; $M_{\phi\phi}$0.19; $M_{r\theta}$-2.48; $M_{r\phi}$1.93; $M_{\theta\phi}$-0.14; Fault plane solution: $M_0$5.87000×10^{16} NP1: ϕ_s242.00000°,δ33.00000°,λ-103.00000°. NP2: ϕ_s78.00000°,δ57.00000°,λ-81.00000°. Principal axes: T 6.0698, Plg12.0000°, Azm162.0000°; N -0.4157, Plg7.0000°, Azm253.0000°; P -5.6541, Plg76.0000°, Azm13.0000°;*

ISC 16 07:02:02.2±0.5,32.69N±0˚.02×130˚.76E±0˚.03,h15km±2km, h15km:pP-P,n1090,σ1.9˚42/1081,mb5.3/310,MS4.9/142, 69C-34D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**163**	⇑P		**Pg**	**07 02 04.8**	**-1.3**
JIU3				S		**Sg**	**07 02 08.3**	**-0.3**
JTA	**Tamana**	**0.34**	**325**	P		**Pg**	**07 02 07.4**	**-1.8**
JTA				S		**Sg**	**07 02 12.2**	**-1.8**
JNU	**Nakatsue**	**0.44**	**13**	Pg		**Pg**	**07 02 09.4**	**-1.7**
	3μm,0.3s,baz=191,slow=12,SNR=335							
JNU				Lg		Lg	07 02 15.8	
	16μm,0.3s,baz=263,slow=22,SNR=28							
JNU	**Nakatsue**	**0.44**	**13**			**Pg**	**07 02 09.9**	**-1.2**
JNU				Sg		**Sg**	**07 02 16.0**	**-1.2**
JTZ	**Takazaki**	**0.83**	**161**	P		**Pb**	**07 02 17.8**	**-0.5**
JSU	**Suzuyama**	**1.21**	**193**	Pn		**Pn**	**07 02 24.0**	**-0.6**
JTU	**Tsushima**	**2.16**	**329**	Pn		**Pn**	**07 02 36.2**	**-1.4**
JMN	**Monobe**	**2.81**	**68**	Pn		**Pn**	**07 02 47.7**	**+1.1**
JHS	**Saijyo**	**3.02**	**40**	Pn		**Pn**	**07 02 50.4**	**+0.8**
TJN	**Taejon**	**4.63**	**324**	*ce*P		**Pn**	**07 03 12.0**	**+0.5**
TJN	**Taejon**	**4.63**	**324**	Pn		**Pn**	**07 03 10.1**	**-1.5**
KSRS	**Korea Array**	**5.29**	**335**	Pn		**Pn**	**07 03 20.6**	**0.0**
	6.0nm,0.3s,baz=152,slow=14,SNR=31							
KSRS				Pg		**Pb**	**07 03 37.5**	**+3.1**
	17nm,0.3s,baz=151,slow=16,SNR=18							
KSRS				Lg		Lg	07 04 45.1	
	34nm,0.3s,baz=159,slow=30,SNR=7.1							
KSRS	**Korea Array**	**5.29**	**335**	P		**Pn**	**07 03 20.7**	**0.0**
INU	**Inuyama**	**5.83**	**61**	Pn		**Pn**	**07 03 29.5**	**+1.4**
INCN	**Inchon**	**5.86**	**326**	P		**Pn**	**07 03 27.1**	**-1.4**
INCN	**Inchon**	**5.86**	**326**	Pn		**Pn**	**07 03 27.1**	**-1.4**
INCN	**Inchon**	**5.86**	**326**	P		**Pn**	**07 03 28.2**	**-0.3**
JGF	**Kuroka**	**6.19**	**60**			**Pn**	**07 03 34.1**	**+1.0**
JOW	**Kunigami**	**6.22**	**201**	Pn		**Pn**	**07 03 35.9**	**+2.4**
	24nm,0.3s,baz=35,slow=11,SNR=26							
JOW				Sn		**Sn**	**07 04 46.1**	**+1.7**
	baz=46,slow=27,SNR=1.1							
JOW	**Kunigami**	**6.22**	**201**			**Pn**	**07 03 35.4**	**+1.9**
MJB9	**Matsu-Tunnel**	**7.24**	**56**			**Pn**	**07 03 49.0**	**+1.5**
MAJO	**Matsushiro**	**7.24**	**56**	*i* P		**Pn**	**07 03 48.9**	**+1.4**
MAJO	**Matsushiro**	**7.24**	**56**	Pn		**Pn**	**07 03 49.0**	**+1.6**
MJAR	**Matsushiro Arr**	**7.24**	**56**	Pn		**Pn**	**07 03 49.3**	**+1.8**
	1.6nm,0.3s,baz=223,slow=16,SNR=37							
MJAR				Lg		Lg	07 05 51.6	
	0.2nm,0.3s,baz=67,slow=8.1,SNR=1.0							
MJAR				LR		LR	07 06 26.8	
	comp=Z,2μm,18.0s,baz=234,slow=37							
MJAR	**Matsushiro Arr**	**7.24**	**56**	P		**Pn**	**07 03 49.1**	**+1.6**
MJAR	**Matsushiro Arr**	**7.24**	**56**			**Pn**	**07 03 49.1**	**+1.6**
JHJ	**Hachijo jima 2**	**7.60**	**84**	Pn		**Pn**	**07 03 54.0**	**+1.6**
	112nm,0.3s,baz=208,slow=18,SNR=17							
JHJ				LR		LR	07 06 56.3	
	comp=Z,2μm,18.4s,baz=244,slow=39							
JHJ2	**Mitsune**	**7.63**	**84**			**Pn**	**07 03 54.5**	**+1.8**
JSD	**Sado**	**8.12**	**47**			**Pn**	**07 04 01.2**	**+1.7**
SSE	**Sheshan**	**8.30**	**262**	P		**Pn**	**07 04 00.3**	**-1.6**
SSE				S		**Sn**	**07 05 35.0**	**-0.4**
SSE				pmax		pmax		
	comp=Z,17nm,0.8s							
SSE				pmax		pmax		
	comp=Z,110nm,5.1s							
SSE				LR		LR		
	comp=N,2μm,16.6s							
SSE				LR		LR		
	comp=E,4μm,16.6s							
JYT	**Yasato**	**8.55**	**63**			**Pn**	**07 04 06.2**	**+0.8**
DL2	**Dalian**	**9.67**	**312**	P		**Pn**	**07 04 24.4**	**+3.7**
DL2				S		**Sn**	**07 06 14.4**	**+5.4**
DL2				pmax		pmax		
	comp=Z,580nm,7.6s							
DL2				LR		LR		
	comp=N,16μm,5.8s							
DL2				LR		LR		
	comp=E,6μm,6.5s							
DL2				LR		LR		
	comp=Z,10μm,11.9s							
JMM	**Marumori**	**9.69**	**55**			**Pn**	**07 04 22.2**	**+1.2**
MSHR	**Mys Shultsa**	**9.88**	**2**	*i* P		**Pn**	**07 04 23.5**	**-0.1**
MSHR				pmax		pmax		
	comp=Z,46nm,0.8s							
NJ2	**Nanjing**	**10.09**	**270**	*e*P		**Pn**	**07 04 29.9**	**+3.3**
NJ2				pP			07 04 32.8	
NJ2				S		**Sn**	**07 06 26.1**	**+6.6**
NJ2				pmax		pmax		
	comp=Z,39nm,1.0s							
NJ2				pmax		pmax		
	comp=Z,460nm,4.1s							
NJ2				LR		LR		
	comp=E,6μm,10.9s							
NJ2				LR		LR		
	comp=Z,5μm,10.9s							
NJ2				LR		LR		
	comp=Z,6μm,9.9s							
VLA	**Vladivostok**	**10.45**	**5**	*i* P		**Pn**	**07 04 31.4**	**0.0**
VLA				pmax		pmax		
	comp=Z,68nm,1.0s							
SNY	**Shenyang**	**10.77**	**330**	⇑P		**Pn**	**07 04 40.0**	**+4.3**
SNY				S		Sn	07 06 45.0	+9.1
SNY				pmax		pmax		
	comp=Z,21nm,0.9s							
SNY				LR		LR		
	comp=Z,20μm,8.3s							
SNY				LR		LR		
	comp=Z,14μm,7.1s							
SNY				LR		LR		
	comp=Z,28μm,8.5s							
JCJ	**Chichijima**	**11.37**	**116**	LR		LR	07 08 52.5	
	comp=Z,952nm,18.8s,baz=354,slow=36							
JCJ	**Chichijima**	**11.37**	**116**	Pn		**Pn**	**07 04 46.0**	**+2.0**
USA0B	**Ussuriysk Arra**	**11.53**	**4**	P		**Pn**	**07 04 48.9**	**+2.6**
USA0B	**Ussuriysk Arra**	**11.53**	**4**			**Pn**	**07 04 48.9**	**+2.6**
USRK	**Ussuriysk Ar.**	**11.53**	**4**	Pn		**Pn**	**07 04 50.4**	**+4.1**
	baz=190,slow=13,SNR=39							
USRK				LR		LR	07 08 52.0	
	comp=Z,3μm,18.9s,baz=172,slow=36							
USRK	**Ussuriysk Ar.**	**11.53**	**4**	P		**Pn**	**07 04 49.2**	**+3.0**
USRK	**Ussuriysk Ar.**	**11.53**	**4**			**Pn**	**07 04 49.2**	**+3.0**
TIA	**Tai'an**	**11.79**	**291**	P		**Pn**	**07 04 53.6**	**+3.7**
TIA				pmax		pmax		
	comp=Z,7.0nm,0.4s							
TIA				pmax		pmax		
	comp=Z,510nm,3.7s							
TIA				LR		LR		
	comp=Z,6μm,10.0s							
TIA				LR		LR		
	comp=Z,6μm,10.7s							
TIA				LR		LR		
	comp=Z,8μm,9.3s							
CN2	**Changchun**	**11.85**	**341**	*e*P		**Pn**	**07 04 47.8**	**-2.8**
CN2				*e*PP		**PnPn**	**07 04 57.4**	**-1.1**
CN2				*e*S		**Sn**	**07 07 00.6**	**-1.9**
CN2				pmax		pmax		
	comp=Z,20nm,1.1s							
CN2				LR		LR		
	comp=Z,12μm,11.0s							
CN2				LR		LR		
	comp=Z,8μm,11.0s							
CN2				LR		LR		
	comp=Z,12μm,13.0s							
MDJ	**Mudanjiang**	**11.95**	**356**	Pn		**Pn**	**07 04 51.6**	**-0.3**
MDJ	**Mudanjiang**	**11.95**	**356**	P		**Pn**	**07 04 53.9**	**+2.0**
MDJ				pP			07 04 57.3	
MDJ				sP			07 04 59.8	
MDJ				PP		**PnPn**	**07 05 01.5**	**+1.7**
MDJ				S		**Sn**	**07 07 06.3**	**+1.5**
MDJ				SS		**SnSn**	**07 07 22.3**	**+5.2**
MDJ				pmax		pmax		
	comp=Z,15nm,0.9s							
MDJ				pmax		pmax		
	comp=Z,1μm,6.2s							
MDJ				LR		LR		
	comp=Z,4μm,9.9s							
MDJ				LR		LR		
	comp=Z,5μm,10.6s							
MDJ				LR		LR		
	comp=Z,7μm,9.6s							
SSLB	**Suanglung**	**12.38**	**227**			**Pn**	**07 04 58.4**	**+0.5**
YULB	**Yu-li**	**12.47**	**224**	Pn		**Pn**	**07 04 58.5**	**-0.6**
TEY	**Ternei**	**13.14**	**19**	⇑*e*P		**Pn**	**07 05 12.7**	**+4.6**
TEY				pmax		pmax		
	comp=N,20nm,0.8s							
TEY				pmax		pmax		
	comp=E,10.0nm,0.8s							
TEY				pmax		pmax		
	comp=Z,20nm,0.8s							
TEY				pmax		pmax		
	comp=N,100nm,6.0s							
TEY				pmax		pmax		
	comp=Z,100nm,5.7s							
TEY				pmax		pmax		
	comp=N,100nm,0.7s							
TEY				pmax		pmax		
	comp=Z,130nm,0.7s							
TEY				MLR		MLR		
	comp=E,200nm,12.0s							
TEY				MLR		MLR		
	comp=N,100nm,15.0s							
TEY				MLR		MLR		
	comp=Z,100nm,14.0s							
QZH	**Quanzhou**	**13.16**	**237**	⇑*i*P		**Pn**	**07 05 12.8**	**+4.2**
QZH				S		**Sn**	**07 07 40.9**	**+6.2**
QZH				pmax		pmax		
	comp=Z,330nm,4.3s							
QZH				LR		LR		
	comp=Z,2μm,12.6s							
QZH				LR		LR		
	comp=Z,3μm,10.2s							
QZH				LR		LR		

BJI LR LR
comp=Z,9μm,13.0s
HNS HongShan 13.96 294 ⇑P **Pn 07 05 21.5 +2.0**
HNS S **Sn 07 08 00.8 +6.6**
HNS SS **S 07 08 18.3 +2.4**
HNS pmax pmax
comp=Z,11nm,1.2s
HNS pmax pmax
comp=Z,560nm,7.9s
HNS LR LR
comp=Z,5μm,16.4s
HNS LR LR
comp=Z,3μm,16.9s
HNS LR LR
comp=Z,3μm,14.4s
WHN Wuhan 14.15 266 S **S 07 08 13.1 -6.6**
WHN Wuhan 14.15 266 LR LR
comp=Z,20μm,11.0s
WHN Wuhan 14.15 266 LR LR
comp=E,17μm,10.2s
WHN Wuhan 14.15 266 LR LR
comp=N,12μm,8.3s
WHN Wuhan 14.15 266 ⇑P **P 07 05 33.0 +3.4**
ASAJ Asahikawa 14.69 36 Pn **Pn 07 05 29.6 +0.2**
comp=N,3.0nm,0.3s,baz=224,slow=12,SNR=30
ASAJ LR LR 07 10 43.5
comp=N,1μm,19.7s,baz=234,slow=36
ASAJ Asahikawa 14.69 36 P **Pn 07 05 28.9 -0.5**
JKA Kamikawa-asahi 14.69 36 **Pn 07 05 28.9 -0.5**
LYN LuoYang 15.36 282 ⇓P **Pn 07 05 39.5 +1.1**
LYN pmax pmax
comp=N,50nm,1.7s
LYN pmax pmax
comp=N,1μm,5.7s
LYN LR LR
comp=N,4μm,11.1s
LYN LR LR
comp=N,8μm,13.9s
LYN LR LR
comp=N,8μm,14.1s
TIY Taiyuan 15.79 294 ⇑P **P 07 05 47.6 -0.3**
TIY S **Sn 07 08 41.4 +2.5**
TIY pmax pmax
comp=N,820nm,5.0s
TIY LR LR
comp=N,5μm,10.8s
TIY LR LR
comp=N,4μm,12.0s
TIY LR LR
comp=N,6μm,12.0s
CNSH ChangSha 16.02 258 ⇑P **P 07 05 49.0 -1.4**
CNSH LR LR
comp=N,3μm,8.3s
CNSH LR LR
comp=N,3μm,9.3s
CNSH LR LR
comp=N,2μm,8.7s
XLT XiLinHaoTe 16.04 318 ⇓*i*P **Pn 07 05 47.9 +0.7**
XLT pP pP 07 05 52.8 -2.1
XLT S **Sn 07 08 51.1 +6.3**
XLT pmax pmax
comp=N,53nm,1.5s
XLT pmax pmax
comp=N,880nm,4.0s
XLT LR LR
comp=N,13μm,10.2s
XLT LR LR
comp=N,15μm,11.1s
KLR Kul'dur 16.54 2 Pn **P 07 05 56.1 +0.1**
comp=N,2.8nm,0.3s,baz=178,slow=9.6,SNR=136
KLR LR LR 07 11 59.3
comp=N,1μm,18.4s,baz=180,slow=36
KLR Kul'dur 16.54 2*ce*P **P 07 05 54.9 -1.2**
KLR pmax pmax
comp=Z,270nm,1.3s
YSS Yuzh-Sakhalins 16.94 29 *e*P **Pn 07 05 59.1 +0.6**
YSS *e*S **Sn 07 09 01.3 -5.0**
YSS pmax pmax
comp=Z,70nm,0.9s
YSS pmax pmax
comp=Z,600nm,4.4s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS MLR MLR
comp=N,2μm,14.0s
YSS Yuzh-Sakhalins 16.94 29 **Pn 07 05 58.3 -0.2**
HHC Hu-ho-hao-te 17.38 303 *e*P **P 07 06 05.4 -0.1**
HHC S **Sn 07 09 17.3 -0.2**
HHC SS **SnSn 07 09 34.3 +3.5**
HHC pmax pmax
comp=N,24nm,0.9s
HHC pmax pmax
comp=N,1μm,6.8s
HHC LR LR
comp=N,4μm,12.7s
HHC LR LR
comp=N,9μm,11.8s
HHC LR LR
comp=N,10μm,11.8s
XAN Xi'an 18.29 280 ⇑P **P 07 06 16.6 +1.0**
XAN pP sP 07 06 23.8 +1.9
XAN sP pP 07 06 26.9 +7.0
XAN S **S 07 09 46.8 +2.4**
XAN pmax pmax
comp=N,21nm,1.5s
XAN pmax pmax
comp=N,1μm,6.7s
XAN LR LR
comp=N,4μm,12.4s
XAN LR LR
comp=N,6μm,13.0s
XAN LR LR
comp=N,7μm,14.0s
ENH Enshi 18.30 268 P **Pn 07 06 15.7 0.0**
BTO Baotou 18.40 301 *e*P **Pn 07 06 19.1 +2.3**
BTO LR LR
comp=N,19μm,16.8s
BTO LR LR
comp=N,19μm,14.1s
UGL Uglegorsk 18.43 24 *e*P P 07 06 06.3 -11
UGL pmax pmax
comp=Z,70nm,1.1s
UGL MLR MLR
comp=N,3μm,15.0s
UGL MLR MLR
comp=E,4μm,15.0s
UGL MLR MLR
comp=Z,3μm,15.0s
HIA Hailar 18.50 337 *i* P **P 07 06 17.5 -0.2**
HIA Hailar 18.50 337 **Pn 07 06 18.6 +0.7**
HIA IAmb IAmb 07 06 21.2
comp=Z,223nm,1.4s
GRNR Gornyy 18.54 11 ⇓*i*P **P 07 06 17.8 -0.3**
GRNR pmax pmax
comp=N,9.0nm,0.8s
GRNR pmax pmax
comp=Z,7.0nm,0.6s
GRNR MLR MLR
comp=E,2μm,12.0s
GRNR MLR MLR
comp=N,1μm,16.0s
GRNR MLR MLR
comp=Z,2μm,15.0s
GULI GuiLin 19.29 253 P **Pn 07 06 29.6 +2.1**
GULI LR LR
comp=Z,2μm,7.8s
GULI LR LR
comp=Z,2μm,9.6s
GULI LR LR
comp=Z,3μm,10.8s
TYV Tymovskoe 20.16 22 *e*P Pn 07 06 38.2 +0.5
TYV *e*S Sn 07 10 27.2 +2.9
TYV pmax pmax
comp=Z,400nm,3.2s
TYV pmax pmax
comp=Z,27nm,1.1s
TYV smax smax
comp=N,300nm,5.0s
TYV smax smax
comp=E,600nm,5.0s
ZEA Zeya 21.19 354*de*P **P 07 06 48.5 +1.6**
ZEA *e*S **S 07 10 38.3 -3.7**
ZEA pmax pmax
comp=N,130nm,1.8s
ZEA pmax pmax
comp=Z,230nm,2.1s
ZEA pmax pmax
comp=N,700nm,8.4s
ZEA pmax pmax
comp=Z,1μm,9.2s
ZEA smax smax
comp=Z,1μm,13.1s
ZEA smax smax
comp=N,1μm,7.3s
ZEA smax smax
comp=E,1μm,9.0s
ZEA MLR MLR
comp=N,2μm,10.0s
ZEA MLR MLR
comp=Z,2μm,9.0s
NKL Nikolayevsk 21.66 16 *e*P **P 07 06 49.5 -2.5**
NKL *e*S **S 07 10 52.2 +1.0**
NKL pmax pmax
comp=E,6.0nm,1.2s
NKL pmax pmax
comp=N,1.0nm,0.9s
NKL MLR MLR
comp=E,31nm,18.0s
NKL MLR MLR
comp=Z,1μm,15.0s
GYA Guiyang 21.84 260 ⇑*i*P **P 07 06 54.6 +0.3**
GYA S **S 07 10 53.3 -2.0**
GYA pmax pmax
comp=Z,42nm,1.0s
GYA pmax pmax
comp=Z,580nm,7.1s
GYA LR LR
comp=Z,2μm,6.4s
GYA LR LR
comp=Z,4μm,12.2s
GYA LR LR
comp=Z,4μm,11.5s
LZH Lanzhou 22.45 286 ⇓P **P 07 07 00.8 0.0**
LZH pP pP 07 07 05.9 +0.7
LZH sP sP 07 07 08.6 +1.4
LZH SS Sn 07 11 42.1 +22
LZH pmax pmax
comp=Z,64nm,1.5s
LZH pmax pmax
comp=Z,370nm,4.3s
LZH LR LR
comp=Z,4μm,13.6s
LZH LR LR
comp=Z,6μm,14.1s
LZH LR LR
comp=Z,6μm,13.6s
GUMO Guam 22.97 143 LR LR 07 15 13.3
comp=Z,532nm,19.9s,baz=328,slow=34
GUMO Guam 22.97 143 P **P 07 07 05.5 -0.7**
GUMO pmax pmax
comp=Z,840nm,1.5s
GUMO Guam 22.97 143 P **P 07 07 05.5 -0.7**
CD2 Chengdu 23.00 273 P **P 07 07 05.6 -1.0**
CD2 S **S 07 11 15.8 -0.8**
CD2 pmax pmax
comp=Z,170nm,1.4s
CD2 pmax pmax
comp=Z,600nm,6.3s
CD2 LR LR
comp=Z,13μm,11.8s
CD2 LR LR
comp=Z,14μm,12.7s
CIT Chita 23.02 332 *e*P **P 07 07 06.3 -0.3**
CIT *e* 07 07 46.1
CIT pmax pmax
comp=Z,212nm,1.7s
QIZ Qiongzhong 23.17 239 P **P 07 07 10.0 +1.7**
QIZ S **S 07 11 22.8 +3.4**
QIZ pmax pmax
comp=Z,390nm,4.9s
QIZ LR LR
comp=Z,2μm,11.2s
QIZ LR LR
comp=Z,2μm,11.6s
QIZ LR LR
comp=Z,1μm,9.8s
ULN Ulaanbaatar 23.47 317*ce*P **P 07 07 11.1 -0.2**
ULN pmax pmax
comp=Z,171nm,1.7s
ULN Ulaanbaatar 23.47 317 P **P 07 07 10.6 -0.7**
ULN IAmb IAmb 07 07 13.4
comp=Z,112nm,1.1s
ULN Ulaanbaatar 23.47 317 IAMs_20 IAMs_20 07 16 27.7
comp=Z,2μm,20.0s
ULN Ulaanbaatar 23.47 317 P **P 07 07 11.3 +0.1**
SONM Songino Array 23.83 317 P **P 07 07 14.9 +0.1**
comp=Z,28nm,1.0s,baz=129,slow=8.9,SNR=42
SONM LR LR 07 15 42.4
comp=Z,868nm,21.4s,baz=112,slow=34
SONM Songino Array 23.83 317 P **P 07 07 14.5 -0.3**
SONM Songino Array 23.83 317 P **P 07 07 14.5 -0.3**
KMI Kunming 25.61 260 ⇑P **P 07 07 31.0 -0.3**
KMI pP pP 07 07 34.4 -1.5
KMI sP sP 07 07 36.1 -1.8
KMI S **S 07 11 55.9 -3.2**
KMI pmax pmax
comp=Z,18nm,1.0s
KMI pmax pmax
comp=Z,330nm,4.5s
KMI LR LR
comp=Z,3μm,11.0s
KMI LR LR
comp=Z,3μm,13.1s
KMI LR LR
comp=Z,3μm,13.1s
GTA Gaotai 25.82 294 ⇑P **P 07 07 33.3 +0.3**
GTA pP pP 07 07 37.6 0.0
GTA sP sP 07 07 41.5 +1.9
GTA S **S 07 11 56.5 -5.6**
GTA sS sS 07 12 09.0 -0.8
GTA pmax pmax
comp=Z,18nm,1.0s
GTA pmax pmax
comp=Z,440nm,8.0s
GTA LR LR
comp=Z,6μm,16.3s
GTA LR LR
comp=Z,5μm,13.5s
GTA LR LR
comp=Z,5μm,12.3s
SKR Severo-Kuril's 25.91 39 *e*P **P 07 07 40.4 +6.9**
SKR MLR MLR
comp=Z,1μm,15.0s
SKR MLR MLR
comp=Z,400nm,14.0s
PZH PanZhiHua 25.93 264 ⇑P **P 07 07 33.8 -0.3**
PZH pP **pP 07 07 37.3 -1.4**
PZH S **S 07 12 01.8 -2.1**
PZH sS **sS 07 12 16.8 +5.2**
PZH pmax pmax
comp=Z,80nm,1.5s
PZH pmax pmax
comp=Z,110nm,4.7s
PZH LR LR
comp=Z,2μm,11.8s
PZH LR LR
comp=Z,2μm,10.8s
PZH LR LR
comp=Z,2μm,10.6s
DAV Davao City (W) 25.94 192 LR LR 07 19 45.8
comp=Z,1μm,18.1s,baz=349,slow=41
ZAK Zakamensk 26.89 319 *e*P **P 07 07 42.2 -0.3**
ZAK pmax pmax
comp=Z,41nm,1.3s
IRK Irkutsk 27.38 323 *e*P **P 07 07 45.8 -1.0**
IRK pmax pmax
comp=Z,96nm,1.9s
BOD Bodaibo 27.60 341 *e*P **P 07 07 48.8 +0.1**
BOD pmax pmax
comp=Z,57nm,1.7s
PETK Petropavlovsk- 28.11 35 P **P 07 07 54.0 +0.8**
comp=Z,2.1nm,0.6s,baz=218,slow=9.0,SNR=1.4
PETK LR LR 07 18 20.9
comp=Z,481nm,21.8s,baz=180,slow=35
PETK Petropavlovsk- 28.11 35 P **P 07 07 54.0 +0.8**
PET Petropavlovsk 28.53 36 *e*P **P 07 07 59.2 +2.2**
PET *e*S **S 07 12 43.2 -0.9**
PET MLR MLR
comp=Z,2μm,21.0s
UBPT Khong Chiam 28.77 239 P **P 07 07 58.7 -0.7**
MOY Mondy 28.79 320 *e*P **P 07 07 58.7 -0.8**
MOY pmax pmax
comp=Z,41nm,2.2s
YAK Yakutsk 29.37 359 P **P 07 08 03.5 -0.8**
comp=Z,12nm,0.4s,baz=102,slow=0.8,SNR=1.5
YAK LR LR 07 19 42.7
comp=Z,726nm,18.5s,baz=226,slow=36
YAK Yakutsk 29.37 359 *e*P **P 07 08 03.5 -0.8**
YAK *e**PP **sP 07 08 11.5 +0.6**
YAK *e* 07 08 55.8
YAK *e*S **S 07 12 52.5 -4.6**
YAK pmax pmax
comp=Z,30nm,1.3s
YAK pmax pmax
comp=N,23nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,14nm,0.5s
YAK smax smax
comp=E,112nm,11.9s
YAK smax smax
comp=N,1μm,17.8s
YAK MLR MLR
comp=Z,1μm,13.0s
YAK MLR MLR
comp=N,342nm,8.0s
YAK MLR MLR
comp=E,343nm,10.0s
YAK Yakutsk 29.37 359 P **P 07 08 03.1 -1.1**
YAK IAmb IAmb 07 08 11.7
comp=Z,52nm,0.8s
GOMU GeErMu 29.75 287 P **P 07 08 08.4 0.0**
GOMU pP pP 07 08 12.1 -1.0
GOMU PcP **PcP 07 11 14.1 +2.0**
GOMU S **S 07 12 56.3 -8.1**
GOMU pmax pmax
comp=Z,36nm,1.3s
GOMU pmax pmax
comp=Z,68nm,4.0s
GOMU LR LR
comp=Z,730nm,13.4s
GOMU LR LR
comp=Z,810nm,12.1s
GOMU LR LR
comp=Z,630nm,10.8s
MA2 Magadan 30.01 20 LR LR 07 20 21.7
comp=Z,960nm,18.1s,baz=210,slow=37
MA2 Magadan 30.01 20*ce*P **P 07 08 10.9 +0.9**
MA2 pmax pmax
comp=Z,12nm,1.7s
MA2 Magadan 30.01 20 P **P 07 08 09.9 -0.1**
KNGR Kungurtug, Tuv 30.27 316 *i* P **P 07 08 12.9 +0.3**
CHTO Chiang Mai 31.68 252 P **P 07 08 24.6 -0.6**
CHTO pmax pmax
comp=Z,28nm,1.2s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 31.68 252 P **P 07 08 24.6 -0.6**
CHTO Chiang Mai 31.68 252 P **P 07 08 25.8 +0.6**
CM31 Chiang Mai Arr 31.87 251 P **P 07 08 26.4 -0.5**
CM31 Chiang Mai Arr 31.87 251 P **P 07 08 27.9 +1.1**
CMAR Chiang Mai Arr 31.87 251 P **P 07 08 26.9 +0.1**
comp=Z,8.8nm,1.1s,baz=41,slow=7.0,SNR=22
CMAR PcP **PcP 07 11 17.9 +0.4**
comp=Z,2.5nm,0.9s,baz=26,slow=1.7,SNR=8.2
CMAR LR LR 07 23 08.1
comp=Z,1μm,18.1s,baz=65,slow=40
CMAR Chiang Mai Arr 31.87 251*ce*P **P 07 08 27.8 +0.9**
CMAR Chiang Mai Arr 31.87 251 P **P 07 08 26.4 -0.5**
MRSI Marisa 33.10 196 P **P 07 08 37.9 +0.3**
comp=Z,14nm,1.2s
SEY Seymchan 33.22 18 LR LR 07 22 00.9
comp=Z,1μm,18.5s,baz=215,slow=36
SEY Seymchan 33.22 18*ce*P **P 07 08 39.7 +1.5**
SEY pmax pmax
comp=Z,16nm,1.7s
SIJI Sorong 33.38 179 LR LR 07 22 31.3
comp=Z,648nm,18.4s,baz=17,slow=37
MPSI Mapaga 33.77 200 P **P 07 08 44.1 +0.6**
comp=Z,1μmcomp=Z,16nm,1.5s
LSA Lhasa 33.88 276 *i* P **P 07 08 46.5 +1.5**
SNR=6.8
LUWI Luwuk 34.39 194 P **P 07 08 48.5 -0.3**
LUWI IAmb IAmb 07 09 59.1
comp=Z,26nm,1.0s
SHL Shillong 34.55 268 P **P 07 08 49.1 -1.4**
SHL pmax pmax
comp=Z,35nm,1.2s
SHL Shillong 34.55 268 P **P 07 08 49.1 -1.4**
SHL IAmb IAmb 07 08 50.7
comp=Z,35nm,1.2s
SHL Shillong 34.55 268 P **P 07 08 50.8 +0.3**
SBUM Sibu 34.76 214 P **P 07 08 51.9 -0.2**
SBUM IAmb IAmb 07 08 55.5
comp=Z,43nm,1.7s
SANI Sanana 34.84 188 P **P 07 08 51.1 -1.7**
comp=Z,26nm,0.7s
WMQ Urumqi 35.24 301 *e*P **P 07 08 56.4 +0.3**
WMQ pP pP 07 09 01.0 +0.2
WMQ sP sP 07 09 07.8 +5.1
WMQ pmax pmax
comp=Z,37nm,1.5s
WMQ pmax pmax
comp=Z,260nm,5.3s
WMQ LR LR
comp=Z,4μm,15.7s
WMQ LR LR
comp=Z,3μm,15.7s
WMQ LR LR
comp=Z,970nm,18.7s
SMPI Sarmi 35.30 166 P **P 07 08 57.6 +0.9**
FAKI Fak Fak 35.44 177 P **P 07 08 57.5 -0.4**
FAKI IAmb IAmb 07 08 58.7
comp=Z,37nm,0.8s
KSM Kuching 36.53 216 P **P 07 09 06.9 -0.3**
TAPN Taplejung 37.47 273 *e*P **P 07 09 14.8 -0.8**
comp=Z,68nm,1.2s
ODAN Odare 37.90 273 *e*P **P 07 09 18.9 -0.2**
RAMN Ramite 38.53 273 *e*P **P 07 09 24.3 -0.2**
JIRN Jiri 38.65 275 *e*P **P 07 09 25.5 -0.1**
comp=Z,23nm,1.0s
ZAA0 Zalesovo Array 38.73 317 P **P 07 09 24.6 -0.8**
ZALV Zalesovo Beam 38.73 317 P **P 07 09 25.0 -0.5**
comp=Z,6.6nm,0.9s,baz=103,slow=6.5,SNR=25
ZALV PcP **PcP 07 11 35.9 -1.1**
comp=Z,4.6nm,0.8s,baz=107,slow=3.6,SNR=6.7
ZALV ScP **S 07 15 21.7 -0.1**
comp=Z,1.7nm,0.8s,baz=100,slow=3.5,SNR=6.1
ZALV LR LR 07 26 30.9
comp=Z,2μm,18.3s,baz=107,slow=38
ZALV Zalesovo Beam 38.73 317 *i* P **P 07 09 25.5 0.0**
ZALV pmax pmax
comp=Z,7.0nm,0.9s
ZALV Zalesovo Beam 38.73 317 P **P 07 09 24.6 -0.8**
GUN Gumba 38.83 275 *e*P **P 07 09 27.3 +0.2**
comp=Z,245nm,1.0s
KAPI Kappang 38.93 198 LR LR 07 26 05.4
comp=Z,170nm,21.8s,baz=13,slow=37
BBKI Banjar Baru 38.99 206 P **P 07 09 28.6 +0.5**
comp=Z,85nm,1.0s
TIXI Tiksi 39.03 359 LR LR 07 25 58.3
comp=Z,1μm,19.8s,baz=181,slow=37
TIXI Tiksi 39.03 359*ce*P **P 07 09 27.1 -0.7**
TIXI pmax pmax
comp=Z,39nm,1.7s
TIXI Tiksi 39.03 359 P **P 07 09 26.9 -0.9**
TIXI IAMs_20 IAMs_20 07 25 36.8
comp=Z,1μm,21.0s
KULM Kulim 39.14 232 P **P 07 09 29.6 +0.2**
MK31 Makanchi Array 39.23 306 *i* P **P 07 09 29.2 -0.6**
MK31 pmax pmax
comp=Z,23nm,1.0s
MK31 Makanchi Array 39.23 306 P **P 07 09 28.6 -1.2**
MKAR Makanchi Array 39.23 306 P **P 07 09 29.2 -0.6**
comp=Z,14nm,0.9s,baz=93,slow=10,SNR=32
MKAR PcP **PcP 07 11 37.8 -1.0**
comp=Z,0.5nm,0.4s,baz=81,slow=3.5,SNR=4.2
MKAR ScP **ScP 07 15 24.4 -2.3**
comp=Z,0.8nm,0.8s,baz=76,slow=6.3,SNR=3.8
MKAR LR LR 07 26 20.4
comp=Z,834nm,18.3s,baz=92,slow=37
MKAR Makanchi Array 39.23 306 *i* P **P 07 09 29.2 -0.6**
MKAR Makanchi Array 39.23 306 P **P 07 09 28.9 -1.0**
PKI Pulchoki 39.33 275 *e*P **P 07 09 31.0 -0.3**
comp=Z,87nm,1.1s
PKIN Phulchoki 39.34 275 *e*P **P 07 09 30.9 -0.4**
KKN Kakani 39.37 275 *e*P **P 07 09 31.1 -0.4**

MAKZ Makanchi 39.44 306 P P 07 09 30.7 -0.9
MAKZ pmax pmax
comp=Z,23nm,1.0s
MAKZ MLR MLR
comp=Z,1µm,19.0s
MAKZ Makanchi 39.44 306 P P 07 09 30.7 -0.9
MAKZ IAMs_20 IAMs_20 07 26 41.3
comp=Z,1µm,19.0s
IPM Ipoh 39.49 231 P P 07 09 32.0 -0.4
DMN Daman 39.57 275 eP P 07 09 32.9 -0.3
GKN Gorkha 39.84 276 eP P 07 09 35.1 -0.2
comp=Z,73nm,1.0s
DANN Dangsing 40.47 277 eP P 07 09 40.7 0.0
comp=Z,147nm,0.9s
KOLN Koldanda 40.78 276 eP P 07 09 43.1 -0.1
comp=Z,103nm,1.1s
BILL Bilibino 40.87 20⇓iP P 07 09 44.2 +1.1
BILL e 07 11 15.6
BILL eS S 07 15 59.6 +6.0
BILL pmax pmax
comp=Z,44nm,1.7s
BILL MLR MLR
comp=Z,602nm,14.0s
BILL Bilibino 40.87 20 P P 07 09 43.6 +0.4
SEM Semipalatinsk 40.87 311 eP P 07 09 41.5 -2.2
SEM pmax pmax
comp=Z,53nm,1.2s
SEM Semipalatinsk 40.87 311 eP P 07 09 41.5 -2.2
comp=Z,53nm,1.2s,baz=311
PYUN Piuthan 41.19 277 eP P 07 09 46.4 -0.2
comp=Z,155nm,1.0s
SHLS Shalkode 41.22 300 eP P 07 09 42.5 -4.0
SHLS Shalkode 41.22 300 eP P 07 09 42.5 -4.0
baz=300
UZB Uzynbulak 41.55 300 eP P 07 09 46.9 -2.3
UZB pmax pmax
comp=Z,39nm,1.6s
UZB Uzynbulak 41.55 300 eP P 07 09 46.9 -2.3
comp=Z,39nm,1.6s,baz=300
PPBI Pangkal Pinang 41.77 219 P P 07 09 52.3 +1.2
comp=Z,17µmcomp=Z,49nm,1.1s
KPKS Kokpek 41.77 300 eP P 07 09 49.0 -2.0
KPKS pmax pmax
comp=Z,37nm,1.7s
KPKS Kokpek 41.77 300 eP P 07 09 49.0 -2.0
comp=Z,37nm,1.7s,baz=300
TDK Taldyqorghan 41.91 303 eP P 07 09 51.1 -0.9
TDK pmax pmax
comp=Z,39nm,1.6s
TDK MLR MLR
comp=Z,1µm,15.0s
TDK Taldyqorghan 41.91 303 eP P 07 09 51.1 -0.9
comp=Z,39nm,1.6s,baz=303
TDK LR LR 07 28 10.3
comp=Z,1µm,14.9s,baz=303
RABL Rabaul 41.92 147 P P 07 09 53.4 +1.0
KURK Kurchatov 41.94 311 ceP P 07 09 51.9 -0.2
KURK pmax pmax
comp=Z,94nm,1.3s
KURK Kurchatov 41.94 311 P P 07 09 51.6 -0.5
KURK IAmb IAmb 07 09 53.1
comp=Z,70nm,1.1s
KURK Kurchatov 41.94 311 IAMs_20 IAMs_20 07 28 16.2
comp=Z,3µm,19.0s
KURK Kurchatov 41.94 311 P P 07 09 51.7 -0.4
ZHN Zhinishke 41.97 300 eP P 07 09 50.3 -2.4
ZHN Zhinishke 41.97 300 eP P 07 09 50.4 -2.4
baz=300
KURBB Kurchatov Arra 41.98 311 P P 07 09 52.0 -0.5
comp=Z,34nm,1.0s,baz=97,slow=9.2,SNR=85
KURBB LR LR 07 28 30.0
comp=Z,2µm,18.1s,baz=67,slow=38
KURBB Kurchatov Arra 41.98 311 P P 07 09 51.6 -0.9
SATY Saty 42.00 300 eP P 07 09 50.7 -2.2
SATY pmax pmax
comp=Z,48nm,1.9s
SATY Saty 42.00 300 eP P 07 09 50.8 -2.2
comp=Z,48nm,1.9s,baz=300
PSI Prapat 42.13 232 LR LR 07 28 51.6
comp=Z,190nm,19.9s,baz=48,slow=38
ADK Adak 42.30 47 P P 07 09 55.3 +0.2
ADK pmax pmax
comp=Z,91nm,1.4s
ADK Adak 42.30 47 P P 07 09 55.3 +0.2
ADK IAmb IAmb 07 09 56.7
comp=Z,91nm,1.4s
TARG Taragay, Kyrgy 42.55 298 P P 07 09 57.7 -0.1
TARG IAmb IAmb 07 09 59.6
comp=Z,53nm,1.2s
KDJ Kajisay 42.98 299 P P 07 10 00.4 -0.6
KDJ pmax pmax
comp=Z,55nm,1.5s
KDJ Kajisay 42.98 299 P P 07 10 00.4 -0.6
KDJ IAmb IAmb 07 10 02.5
comp=Z,55nm,1.5s
CHKK Chushkaly 42.98 301 eP P 07 09 59.5 -1.2
CHKK Chushkaly 42.98 301 eP P 07 09 59.5 -1.2
baz=301
MDOK Medeo 42.98 300 eP P 07 09 59.2 -1.8
MDOK eS S 07 16 25.3 -0.6
MDOK Medeo 42.98 300 eP P 07 09 59.2 -1.8
baz=300
MDOK eS S 07 16 25.3 -0.6
baz=300
TNSS Tian-Shan 43.07 300 eP P 07 10 00.1 -1.8
TNSS Tian-Shan 43.07 300 eP P 07 10 00.2 -1.8
baz=300
AAA Alma-Ata 43.08 300 eP P 07 10 00.4 -1.2
AAA pmax pmax
comp=Z,62nm,1.2s
AAA Alma-Ata 43.08 300 eP P 07 10 00.5 -1.2
comp=Z,62nm,1.2s,baz=300
BATI Baumata 43.19 190 LR LR 07 31 05.5
comp=Z,134nm,18.2s,baz=206,slow=40
KUU Kurty 43.45 301 eP P 07 10 02.7 -1.8
KUU pmax pmax
comp=Z,91nm,1.4s
KUU Kurty 43.45 301 eP P 07 10 02.7 -1.8
comp=Z,91nm,1.4s,baz=301
KUU LR LR 07 27 57.5
baz=301
ULHL Ulahol 43.66 299 P P 07 10 06.6 +0.1
SNR=11
ULHL Ulahol 43.66 299 P P 07 10 06.7 +0.1
ULHL pmax pmax
comp=Z,19nm,1.6s
BOOM Boomskoye usch 43.86 299 P P 07 10 07.4 -0.7
BOOM pmax pmax
comp=Z,25nm,1.3s
BOOM Boomskoye usch 43.86 299 P P 07 10 07.4 -0.7
NRIK Noril'sk 43.89 339 P P 07 10 07.2 -0.5
comp=Z,41nm,0.7s,baz=123,slow=8.6,SNR=46
NRIK LR LR 07 30 00.3
comp=Z,3µm,18.6s,baz=126,slow=38
NRIK Noril'sk 43.89 339 ceP P 07 10 06.7 -1.0
NRIK pmax pmax
comp=Z,69nm,0.9s
NRIK Noril'sk 43.89 339 P P 07 10 07.1 -0.6
NRIK IAmb IAmb 07 10 08.9
comp=Z,58nm,0.9s
TKM2 Tokmak 2 44.07 300 P P 07 10 10.4 +0.7
SNR=36
TKM2 Tokmak 2 44.07 300 iP P 07 10 09.7 -0.1
TKM2 pmax pmax
comp=Z,97nm,1.1s
GSI Gunungsitoli 44.14 232 P P 07 10 09.3 -1.1
GSI IAmb IAmb 07 10 30.7
comp=Z,35nm,1.0s
GSI Gunungsitoli 44.14 232 P P 07 10 10.0 -0.3
comp=Z,36nm,1.6s
KSH Kashi 44.21 295 P P 07 10 14.5 +3.6
KSH sP sP 07 10 22.8 +5.2
KSH PP PcP 07 11 59.0 +3.6
KSH pmax pmax
comp=Z,24nm,1.6s
KSH pmax pmax
comp=Z,430nm,5.7s
KSH LR LR
comp=Z,1µm,14.6s
KSH LR LR
comp=Z,2µm,14.0s
KSH LR LR
comp=Z,2µm,14.9s
PWJI Pagerwojo 44.33 207 P P 07 10 13.7 +1.9
comp=Z,51nm,1.1s

KBK Karagaybulak 44.57 300 P P 07 10 14.1 +0.3
SNR=10.0
KBK Karagaybulak 44.57 300 P P 07 10 14.6 +0.8
KBK pmax pmax
comp=Z,44nm,1.2s
CHMS Chumysh 44.68 300 P P 07 10 15.1 +0.7
SNR=15
PMG Port Moresby 44.69 157 LR LR 07 28 53.8
comp=Z,524nm,18.9s,baz=330,slow=36
PMG Port Moresby 44.69 157 IAMs_20 IAMs_20 07 25 34.5
comp=Z,1µm,22.0s
SGDS Sogindy 44.72 301 eP P 07 10 13.3 -1.5
SGDS eS S 07 16 50.8 -0.2
SGDS pmax pmax
comp=Z,26nm,1.3s
SGDS Sogindy 44.72 301 eP P 07 10 13.3 -1.5
comp=Z,26nm,1.3s,baz=301
SGDS eS S 07 16 50.8 -0.2
baz=301
KLI Kotabumi 44.72 218 P P 07 10 15.6 +0.7
comp=Z,9µmcomp=Z,111nm,0.6s
MASI Maura Aman, Be 44.72 223 P P 07 10 16.3 +1.3
comp=Z,138nm,0.9s
UGM Wanagama 44.74 209 P P 07 10 14.7 -0.4
MDSI Maura Dua 44.76 219 P P 07 10 15.7 +0.4
comp=Z,583nmcomp=Z,31nm,1.1s
USP Ospenovka 44.83 301 P P 07 10 15.7 0.0
SNR=21
USP Ospenovka 44.83 301 P P 07 10 15.8 +0.1
USP pmax pmax
comp=Z,37nm,1.3s
KPJI Karang Pucung 44.90 212 P P 07 10 17.1 +0.7
comp=Z,70nm,0.9s
AAK Ala-Archa 44.90 300 P P 07 10 16.6 +0.1
SNR=13
AAK Ala-Archa 44.90 300 P P 07 10 16.3 -0.1
comp=Z,11nm,0.8s,baz=102,slow=6.3,SNR=34
AAK LR LR 07 30 06.9
comp=Z,1µm,19.4s,baz=76,slow=38
AAK Ala-Archa 44.90 300 ceP P 07 10 16.8 +0.4
AAK pmax pmax
comp=Z,48nm,1.7s
AAK Ala-Archa 44.90 300 P P 07 10 15.4 -1.0
AAK IAmb IAmb 07 10 17.8
comp=Z,29nm,1.1s
AAK Ala-Archa 44.90 300 IAMs_20 IAMs_20 07 29 53.9
comp=Z,1µm,19.0s
AAK Ala-Archa 44.90 300 P P 07 10 16.5 +0.1
AAK P P 07 10 16.5 +0.1
AAK Ala-Archa 44.90 300 iP P 07 10 16.9 +0.4
SNR=6.8
AAK iP pP 07 10 17.0 -4.2
SNR=13
UCH Uchtor 44.94 299 P P 07 10 18.0 +1.0
SNR=42
BTLS Baital 45.00 303 eP P 07 10 15.0 -1.9
BTLS pmax pmax
comp=Z,30nm,1.4s
BTLS Baital 45.00 303 eP P 07 10 15.1 -1.9
comp=Z,30nm,1.4s,baz=303
LEM Lembang 45.05 213 P P 07 10 19.2 +1.5
comp=Z,1µmcomp=Z,65nm,1.3s
MTN Manton Dam 45.27 179 P P 07 10 18.0 -1.3
MTN IAmb IAmb 07 10 22.5
comp=Z,69nm,1.4s
EKS2 Erkin-Say 45.43 300 P P 07 10 21.1 +0.6
SNR=8.7
EKS2 Erkin-Say 45.43 300 P P 07 10 20.9 +0.4
EKS2 pmax pmax
comp=Z,23nm,1.5s
AML Almayashu 45.55 299 P P 07 10 22.4 +0.6
SNR=49
AML Almayashu 45.55 299 P P 07 10 22.5 +0.7
AML Almayashu 45.55 299 iP P 07 10 22.4 +0.6
SNR=49
BRZS Berezniki 45.71 310 eP P 07 10 20.7 -1.8
BRZS pmax pmax
comp=Z,32nm,1.4s
BRZS Berezniki 45.71 310 eP P 07 10 20.8 -1.8
comp=Z,32nm,1.4s,baz=310
PPSI Pulau Pagai 45.72 226 P P 07 10 26.8 +3.9
comp=Z,5µmcomp=Z,575nm,0.7s
CGJI Cibinong 45.79 216 P P 07 10 24.2 +0.8
comp=Z,28nm,1.0s
OTUK Ortayu 45.98 308 P P 07 10 23.7 -1.0
GAMB Gambell 46.95 31 P P 07 10 33.2 +1.3
baz=257
BVAR Borovoye Array 47.14 314 P P 07 10 33.5 -0.2
comp=Z,15nm,0.5s
BVAR Borovoye Array 47.14 314 P P 07 10 33.5 -0.2
DZA Taraz 47.18 300 eP P 07 10 32.7 -1.5
DZA pmax pmax
comp=Z,21nm,1.3s
DZA Taraz 47.18 300 eP P 07 10 32.8 -1.5
comp=Z,21nm,1.3s,baz=300
BRVK Borovoye 47.21 314 ceP P 07 10 34.1 -0.1
BRVK pmax pmax
comp=Z,60nm,1.0s
BRVK Borovoye 47.21 314 P P 07 10 34.1 -0.1
BRVK IAmb IAmb 07 10 35.5
comp=Z,49nm,0.9s
BRVK Borovoye 47.21 314 IAMs_20 IAMs_20 07 30 34.6
comp=Z,832nm,19.0s
BRVK Borovoye 47.21 314 P P 07 10 34.3 +0.1
NIL Nilore 47.60 288 P P 07 10 37.2 -0.4
NIL pmax pmax
comp=Z,102nm,1.7s
NIL Nilore 47.60 288 P P 07 10 37.2 -0.4
NIL Nilore 47.60 288 P P 07 10 37.8 +0.2
KK31 Karatay Array 47.75 301 P P 07 10 38.1 -0.5
KK31 pmax pmax
comp=Z,103nm,1.1s
KK31 Karatay Array 47.75 301 P P 07 10 38.1 -0.5
KKAR Karatay Array 47.75 301 P P 07 10 38.2 -0.4
KKAR pmax pmax
comp=Z,103nm,1.1s
KKAR Karatay Array 47.75 301 P P 07 10 38.2 -0.4
BTK Batken 48.03 297 P P 07 10 40.3 -0.6
BTK pmax pmax
comp=Z,56nm,1.4s
BTK Batken 48.03 297 P P 07 10 40.3 -0.6
BTK IAmb IAmb 07 10 42.2
comp=Z,56nm,1.4s
KNRA Kununurra 48.13 183 P P 07 10 40.9 -0.7
KNRA IAmb IAmb 07 10 45.8
comp=Z,47nm,1.2s
IUG Iuzhnay 48.25 300 eP P 07 10 40.9 -1.6
IUG Iuzhnay 48.25 300 eP P 07 10 41.0 -1.6
baz=300
GAR Garm 48.62 295 P P 07 10 44.9 -0.7
TAS Tashkent 48.93 299 P P 07 10 47.5 -0.2
TAS pmax pmax
comp=Z,80nm,0.6s
TAS Tashkent 48.93 299 P P 07 10 47.5 -0.2
XMIS Christmas Isla 49.17 213 P P 07 10 48.9 -0.8
HYBB Hyderabad (bro 49.21 265 eP P 07 10 49.8 -0.4
HYBB esP pP 07 10 53.9 -1.1
HYBB ePcP PcP 07 12 12.5 -0.7
HYBB ePP PP 07 12 43.0 -1.0
HYBB eS S 07 17 55.9 +0.2
CHGR Chuyangaron 49.58 295 P P 07 10 52.2 -0.6
CHGR pmax pmax
comp=Z,156nm,1.3s
CHGR Chuyangaron 49.58 295 P P 07 10 52.2 -0.6
ANM Nome 49.82 30 P P 07 10 55.0 +0.9
ANM pmax pmax
comp=Z,16nm,1.0s
ANM Nome 49.82 30 P P 07 10 55.0 +0.9
ANM Nome 49.82 30 P P 07 10 55.9 +1.8
baz=262
HNR Honiara 50.29 141 LR LR 07 29 21.3
comp=Z,292nm,21.8s,baz=320,slow=33
KBL Kabul 50.72 290 P P 07 11 01.5 -0.1
KBL pmax pmax
comp=Z,32nm,1.5s
KBL Kabul 50.72 290 P P 07 11 01.5 -0.1
KBL IAmb IAmb 07 11 04.3
comp=Z,32nm,1.4s
KBL Kabul 50.72 290 P P 07 11 01.5 -0.1
FITZ Fitzroy Crossi 50.74 186 LR LR 07 31 52.6
comp=Z,120nm,21.9s,baz=46,slow=35
RDOG Red Dog Mine 51.29 26 P P 07 11 05.5 +0.3
WB0 Warramunga Arr 52.27 176 P P 07 11 12.5 -0.5
WRAB Tennant Creek 52.44 176 ceP P 07 11 14.3 +0.1
WRAB pmax pmax
comp=Z,27nm,1.7s

WRAB Tennant Creek 52.44 176 P P 07 11 14.1 -0.2
WRA Warramunga Arr 52.45 176 P P 07 11 13.4 -0.9
comp=Z,6.9nm,0.8s,baz=352,slow=7.9,SNR=28
WRA LR LR 07 33 22.3
comp=Z,202nm,20.0s,baz=28,slow=36
WRA Warramunga Arr 52.45 176 ceP P 07 11 13.6 -0.7
WRA Warramunga Arr 52.45 176 P P 07 11 13.6 -0.7
WB2 Warramunga Arr 52.45 176 P P 07 11 13.6 -0.7
WR0 Warramunga Arr 52.48 176 P P 07 11 14.1 -0.4
SVE Sverdlovsk 52.66 319 eP P 07 11 15.7 +0.2
SVE pmax pmax
comp=Z,69nm,1.4s
SVE MLR MLR
comp=Z,1µm,14.0s
PALK Pallekele 52.80 253 LR LR 07 35 01.9
comp=Z,222nm,21.8s,baz=162,slow=38
PALK Pallekele 52.80 253 P P 07 11 15.8 -1.4
PALK pmax pmax
comp=Z,20nm,1.3s
PALK Pallekele 52.80 253 P P 07 11 15.8 -1.4
PALK Pallekele 52.80 253 P P 07 11 18.2 +1.1
ARU Arti 53.83 319 P P 07 11 23.7 -0.5
comp=Z,9.8nm,0.7s,baz=90,slow=4.5,SNR=47
ARU LR LR 07 35 21.7
comp=Z,497nm,21.1s,baz=86,slow=37
ARU Arti 53.83 319 diP P 07 11 23.7 -0.5
ARU 07 12 25.4
ARU 07 13 22.4
ARU S S 07 19 01.1 +2.8
ARU SS SKiKP 07 22 37.2 -0.1
ARU pmax pmax
comp=Z,59nm,1.0s
ARU MLR MLR
comp=Z,1µm,13.0s
ARU Arti 53.83 319 P P 07 11 23.6 -0.6
ARU IAmb IAmb 07 11 25.1
comp=Z,52nm,1.0s
ARU IAMs_20 IAMs_20 07 33 51.8
comp=Z,619nm,21.0s
TTA Tatalina 53.89 33 P P 07 11 24.2 -0.4
TTA pmax pmax
comp=Z,21nm,1.2s
TTA Tatalina 53.89 33 P P 07 11 24.2 -0.4
TTA Tatalina 53.89 33 P P 07 11 26.2 +1.5
baz=272,SNR=6.8
ABKAR Akbulak array 54.02 310 P P 07 11 25.0 -0.6
ABKAR IAmb IAmb 07 11 26.9
comp=Z,67nm,1.4s
N18K Kilae Creek 54.07 36 P P 07 11 27.1 +1.2
N18K IAmb IAmb 07 11 28.9
comp=Z,34nm,1.3s
N18K Kilae Creek 54.07 36 P P 07 11 27.9 +2.0
baz=274,SNR=6.6
SVW2 Sparrevohn 54.19 35 P P 07 11 28.0 +1.2
SVW2 IAmb IAmb 07 11 29.7
comp=Z,31nm,1.3s
L19K White Mountain 54.47 34 P P 07 11 29.7 +1.0
L19K IAmb IAmb 07 11 31.6
comp=Z,36nm,1.4s
L19K White Mountain 54.47 34 P P 07 11 30.5 +1.7
baz=274,SNR=11
O18K Koktuh Hills 54.47 37 P P 07 11 30.5 +1.7
O18K IAmb IAmb 07 11 32.4
comp=Z,62nm,1.4s
O18K Koktuh Hills 54.47 37 P P 07 11 30.7 +1.8
baz=275
P18K Big Mountain, 54.50 37 P P 07 11 30.2 +1.1
baz=275
CTA Charters Tower 54.53 162 LR LR 07 32 45.0
comp=Z,248nm,20.8s,baz=340,slow=34
PCHI Peechi 54.54 259⇓eP P 07 11 29.7 -0.2
PCHI eS S 07 19 13.4 +4.5
J20K Nowinta River 54.67 31 P P 07 11 31.2 +1.0
J20K IAmb IAmb 07 11 33.1
comp=Z,46nm,1.2s
J20K Nowinta River 54.67 31 P P 07 11 31.7 +1.5
baz=273,SNR=23
M19K Big River Lodg 54.70 34 P P 07 11 32.2 +1.8
baz=274
N19K Bonanza Creek 54.75 35 P P 07 11 31.9 +1.0
N19K Bonanza Creek 54.75 35 P P 07 11 32.5 +1.6
baz=275
K20K Telida 54.75 32 P P 07 11 31.8 +1.0
K20K IAmb IAmb 07 11 33.8
comp=Z,51nm,1.2s
K20K Telida 54.75 32 P P 07 11 32.4 +1.6
baz=274,SNR=22
IMAR Indian Mountai 54.77 29 P P 07 11 31.3 +0.4
O19K Port Alsworth 54.88 36 P P 07 11 33.1 +1.3
baz=276
L20K Farewell, AK 54.90 33 P P 07 11 33.1 +1.2
baz=274,SNR=8.7
AKTO Aktyubinsk 55.03 312 P P 07 11 32.5 -0.5
comp=Z,21nm,1.0s,baz=73,slow=7.8,SNR=21
AKTO LR LR 07 36 53.8
comp=Z,887nm,19.7s,baz=84,slow=38
AKTO Aktyubinsk 55.03 312 P P 07 11 32.5 -0.5
H21K Melozitna Rive 55.17 29 P P 07 11 34.6 +0.8
H21K IAmb IAmb 07 11 36.5
comp=Z,30nm,1.4s
H21K Melozitna Rive 55.17 29 P P 07 11 35.1 +1.3
baz=273,SNR=12
Q19K Cape Douglas, 55.36 38 P P 07 11 35.0 -0.3
baz=277
SII Sitkinak Islan 55.39 41 P P 07 11 36.8 +1.3
baz=278
P19K Oil Pt 55.49 37 P P 07 11 36.9 +0.7
baz=277
CHUM Lake Minchumin 55.50 32 P P 07 11 37.9 +1.8
baz=275,SNR=19
I21K Tanana 55.54 30 P P 07 11 37.5 +1.0
I21K IAmb IAmb 07 11 39.4
comp=Z,38nm,1.2s
I21K Tanana 55.54 30 P P 07 11 38.0 +1.6
baz=274,SNR=20
RSO Redoubt South 55.63 36 P P 07 11 38.0 +0.6
CAST Castle Rocks 55.64 32 P P 07 11 38.2 +1.0
CAST IAmb IAmb 07 11 40.0
comp=Z,21nm,0.8s
CAST Castle Rocks 55.64 32 P P 07 11 38.6 +1.4
baz=275,SNR=20
PPLA Purkeypile 55.64 33 P P 07 11 37.8 +0.4
PPLA Purkeypile 55.64 33 P P 07 11 38.6 +1.2
baz=276,SNR=12
OHAK Old Harbor 55.78 40 P P 07 11 39.0 +0.8
baz=278
SPCR Spurr Chakacha 55.81 35 P P 07 11 40.5 +1.9
baz=277,SNR=7.0
BPAW Bear Paw Mtn. 56.06 31 P P 07 11 42.0 +1.8
baz=276,SNR=12
KDAK Kodiak Island 56.07 39 LR LR 07 38 00.3
comp=Z,228nm,18.7s,baz=264,slow=38
KDAK Kodiak Island 56.07 39 iP P 07 11 41.2 +0.9
KDAK Kodiak Island 56.07 39 P P 07 11 41.2 +0.9
KDAK IAmb IAmb 07 11 41.9
comp=Z,63nm,1.1s
KDAK Kodiak Island 56.07 39 P P 07 11 40.7 +0.4
baz=279
HRA Herat 56.11 292 P P 07 11 40.8 -0.5
HRA IAmb IAmb 07 11 42.7
comp=Z,34nm,1.3s
COLD Coldfoot 56.11 27 P P 07 11 41.5 +1.0
COLD Coldfoot 56.11 27 P P 07 11 41.8 +1.2
baz=274,SNR=6.3
AS31 Alice Springs 56.12 177 P P 07 11 40.6 -0.4
ASAR Alice Springs 56.12 177 P P 07 11 40.5 -0.5
comp=Z,9.4nm,1.0s,baz=356,slow=5.6,SNR=36
ASAR Alice Springs 56.12 177 P P 07 11 40.5 -0.5
ASAR Alice Springs 56.12 177 P P 07 11 40.4 -0.7
KTH Kantishna Hill 56.15 32 P P 07 11 41.7 +0.8
KTH IAmb IAmb 07 11 43.5
comp=Z,60nm,1.2s
TOLK Toolik Lake Re 56.25 26 P P 07 11 41.8 +0.2
TOLK IAMs_20 IAMs_20 07 37 33.5
comp=Z,599nm,19.0s
TOLK Toolik Lake Re 56.25 26 P P 07 11 42.5 +0.9
baz=274,SNR=8.9
TRF Thorofare Moun 56.44 32 P P 07 11 44.2 +1.1
baz=277
H23K Yukon River 56.50 29 P P 07 11 44.3 +1.0
H23K IAmb IAmb 07 11 46.5
comp=Z,41nm,0.9s
H23K Yukon River 56.50 29 P P 07 11 45.0 +1.7
baz=276,SNR=50
I23K Minto, Yukon-K 56.65 30 P P 07 11 45.6 +1.3
I23K IAmb IAmb 07 12 42.9

comp=Z,25nm,1.3s
I23K Minto, Yukon-K 56.65 30 P P 07 11 46.2 +1.9
baz=276,SNR=6.8
BWN Browne 56.72 31 P P 07 11 46.5 +1.7
BRSE Bradley Lake S 56.73 36 P P 07 11 45.7 +0.7
baz=279
M22K Willow 56.73 34 P P 07 11 45.5 +0.5
M22K Willow 56.73 34 P P 07 11 46.4 +1.4
baz=278,SNR=9.7
NEA2 Nenana 56.84 31 P P 07 11 46.9 +1.1
NEA2 IAmb IAmb 07 11 48.2
comp=Z,42nm,1.0s
NEA2 Nenana 56.84 31 P P 07 11 47.3 +1.6
baz=277,SNR=21
MCK McKinley 57.01 32 P P 07 11 47.1 +0.1
MCK pmax pmax
comp=Z,44nm,1.3s
MCK McKinley 57.01 32 P P 07 11 47.1 +0.1
MCK IAmb IAmb 07 11 48.8
comp=Z,44nm,1.3s
MCK McKinley 57.01 32 P P 07 11 47.7 +0.7
baz=278,SNR=14
RC01 Rabbit Creek A 57.01 35 P P 07 11 47.9 +0.8
baz=279,SNR=7.3
RND Reindeer 57.09 32 P P 07 11 47.9 +0.3
RND pmax pmax
comp=Z,39nm,0.8s
RND Reindeer 57.09 32 P P 07 11 47.9 +0.3
RND IAmb IAmb 07 11 49.2
comp=Z,39nm,0.8s
MDM Murphy Dome 57.15 30 P P 07 11 48.6 +0.7
MDM IAmb IAmb 07 11 50.5
comp=Z,57nm,1.0s
H24K Noodor Dome 57.18 29 P P 07 11 50.0 +1.8
baz=277,SNR=29
PMR Palmer 57.23 34 P P 07 11 48.7 +0.2
PMR Palmer 57.23 34 P P 07 11 48.6 +0.2
PMR IAmb IAmb 07 11 50.0
comp=Z,56nm,1.2s
PMR Palmer 57.23 34 P P 07 11 48.8 +0.4
baz=279,SNR=12
SEW Seward 57.31 36 P P 07 11 48.7 -0.4
SEW IAmb IAmb 07 11 50.5
comp=Z,38nm,0.6s
SEW Seward 57.31 36 P P 07 11 49.3 +0.2
baz=280,SNR=6.6
TCOL CIGO, UAF Yank 57.31 30 P P 07 11 49.7 +0.6
TCOL IAmb IAmb 07 11 51.6
comp=Z,64nm,1.6s
TCOL CIGO, UAF Yank 57.31 30 P P 07 11 50.8 +1.7
baz=278
COLA College 57.32 30 *i* P **P 07 11 50.5 +1.4**
COLA pmax pmax
comp=Z,35nm,1.6s
CCB Clear Creek Bu 57.37 30 P P 07 11 49.9 +0.5
POKR Poker Plat Res 57.46 30 P P 07 11 50.5 +0.4
POKR IAmb IAmb 07 11 53.5
comp=Z,56nm,1.1s
POKR Poker Plat Res 57.46 30 P P 07 11 51.8 +1.6
baz=278,SNR=18
SML Sawmill 57.57 34 P P 07 11 51.7 +0.7
baz=280,SNR=11
KNK Knik Glacier 57.57 34 P P 07 11 51.0 0.0
KNK IAmb IAmb 07 11 52.9
comp=Z,38nm,0.8s
KNK Knik Glacier 57.57 34 P P 07 11 51.8 +0.8
baz=280,SNR=14
WAT6 Susitna Watana 57.71 33 P P 07 11 52.6 +0.5
baz=280,SNR=11
PWL Port Wells 57.73 35 P P 07 11 52.2 +0.1
PWL IAmb IAmb 07 11 53.6
comp=Z,33nm,0.9s
PWL Port Wells 57.73 35 P P 07 11 52.5 +0.4
baz=280,SNR=6.9
ILAR Eielson Array 57.74 30 P P 07 11 51.8 -0.3
comp=Z,10nm,0.9s,baz=268,slow=5.7,SNR=59
ILAR LR LR 07 36 47.9
comp=Z,220nm,19.2s,baz=350,slow=36
ILAR Eielson Array 57.74 30 P P 07 11 51.8 -0.3
ILAR Eielson Array 57.74 30 P P 07 11 52.2 +0.1
DHY Denali Highway 57.80 32 P P 07 11 53.3 +0.6
baz=280,SNR=11
M23K Glacier View 57.85 34 P P 07 11 53.6 +0.7
baz=280
SCM Sheep Creek Mo 58.03 34 P P 07 11 55.1 +0.8
baz=280,SNR=11
GEYT Alibeck 58.13 297 P P 07 11 55.7 +0.4
comp=Z,6.4nm,1.0s,baz=228,slow=17,SNR=5.0
GEYT LR LR 07 38 39.6
comp=Z,428nm,18.1s,baz=76,slow=38
GEYT Alibeck 58.13 297 P P 07 11 55.4 0.0
GYA0B ALIBECK ARRAY 58.13 297 P P 07 11 55.0 -0.4
BMAR Burnt Mountain 58.25 27 P P 07 11 56.7 +0.9
GLI Glacier Island 58.32 35 P P 07 11 56.9 +0.7
baz=281,SNR=7.4
KIRV Kirov 58.38 323 P P 07 11 56.3 -0.3
comp=Z,14nm,0.4s,baz=87,slow=7.2,SNR=11
KIRV LR LR 07 37 57.5
comp=Z,297nm,20.4s,baz=81,slow=37
KIRV Kirov 58.38 323 *ce*P **P 07 11 56.6 0.0**
K24K Donnelly Dome 58.38 31 P P 07 11 57.5 +0.8
baz=280
J25K Salcha River, 58.41 30 P P 07 11 56.4 -0.5
J25K Salcha River, 58.41 30 P P 07 11 56.5 -0.4
baz=280,SNR=8.4
M24K Tolsona, Glenn 58.52 33 P P 07 11 59.2 +1.6
baz=281
PAX Paxson 58.67 32 P P 07 11 59.5 +0.7
baz=281,SNR=8.9
KLU Klutina 58.76 34 P P 07 12 00.2 +0.9
baz=282,SNR=10
RIDG Independent Ri 58.80 31 P P 07 11 59.7 +0.1
baz=281,SNR=8.9
DIV Divide 58.90 34 P P 07 12 01.1 +0.8
DIV IAmb IAmb 07 12 02.6
comp=Z,35nm,0.8s
HARP HAARP 58.93 33 P P 07 12 01.7 +1.3
baz=282,SNR=10
EYAK Cordova Ski Ar 59.03 35 P P 07 12 02.2 +1.1
baz=282
SCRK Sand Creek 59.12 31 P P 07 12 02.2 +0.3
baz=282,SNR=44
J26L Joseph Creek 59.20 30 P P 07 12 02.3 -0.1
baz=282,SNR=17
HMDM Hanimaadhoo 59.21 257 P P 07 12 03.9 +0.9
N25K Chitina, Valde 59.35 34 P P 07 12 04.5 +1.1
baz=283,SNR=14
BMRM Bremner River 59.49 34 P P 07 12 04.8 +0.4
BMRM Bremner River 59.49 34 P P 07 12 05.4 +1.0
baz=283,SNR=18
PRGR Permogore 59.58 327 *e*P **P 07 12 01.9 -3.0**
PRGR *e* 07 12 49.2
PRGR pmax pmax
comp=Z,34nm,1.3s
L26K Log Cabin Wild 59.61 32 P P 07 12 06.4 +1.2
baz=283,SNR=21
GLB Gilahina Butte 59.76 34 P P 07 12 06.9 +0.6
GLB IAmb IAmb 07 12 08.6
comp=Z,47nm,1.3s
M26K Nabesna, AK 59.91 32 P P 07 12 08.6 +1.3
baz=284,SNR=44
VRDI Verde Repeater 59.97 34 P P 07 12 08.2 +0.3
VRDI IAmb IAmb 07 12 10.1
comp=Z,28nm,0.8s
MCARA McCarthy VSAT 60.14 34 P P 07 12 10.1 +1.3
baz=284,SNR=10
EGAK Eagle 60.15 30 P P 07 12 09.1 +0.3
baz=284,SNR=10
L27K Beaver Creek, 60.27 32 P P 07 12 11.2 +1.4
baz=284,SNR=28
BCAR Beaver Creek A 60.29 32 P P 07 12 10.9 +1.1
TGL Tana Glacier 60.38 34 P P 07 12 11.6 +1.0
TGL IAmb IAmb 07 12 12.7
comp=Z,34nm,0.8s
M27K Edge Creek, AK 60.42 32 P P 07 12 11.7 +0.8
M27K IAmb IAmb 07 12 13.2
comp=Z,23nm,0.7s
M27K Edge Creek, AK 60.42 32 P P 07 12 12.0 +1.1
baz=284,SNR=17
BELG Belogornoye 60.89 316 P P 07 12 13.6 -0.5
comp=Z,34nm,0.9s,baz=23,slow=7.7,SNR=20
BELG LR LR 07 40 57.3
comp=Z,930nm,18.1s,baz=67,slow=38
BELG Belogornoye 60.89 316 *i* P **P 07 12 13.2 -0.8**
BELG pmax pmax
comp=Z,16nm,1.3s

CTG Chitna Glacier 61.03 34 P P 07 12 16.1 +1.0
baz=286,SNR=7.5
CTGM Chitina Glacie 61.04 34 P P 07 12 15.6 +0.5
CTGM IAmb IAmb 07 12 17.4
comp=Z,21nm,0.9s
DAWY Dawson 61.07 30 P P 07 12 15.5 +0.4
DAWY Dawson 61.07 30 P P 07 12 16.1 +0.9
baz=286,SNR=11
I29M Ogilvie Camp, 61.17 29 P P 07 12 17.1 +1.3
baz=286,SNR=19
YUK3 Moose Creek 61.22 33 P P 07 12 17.3 +0.9
baz=286,SNR=9.8
J29M Klondike Camp 61.46 30 P P 07 12 19.7 +1.9
baz=286,SNR=18
EPYK Eagle Plains 61.51 27 P P 07 12 18.8 +0.7
EPYK Eagle Plains 61.51 27 P P 07 12 19.1 +1.0
baz=287,SNR=56
PINM Pinnacle 61.79 35 P P 07 12 21.6 +1.4
baz=287
INK Inuvik 62.11 25 LR LR 07 39 59.5
comp=Z,270nm,21.3s,baz=276,slow=37
INK Inuvik 62.11 25 P P 07 12 22.6 +0.6
INK Inuvik 62.11 25 P P 07 12 22.6 +0.6
INK IAmb IAmb 07 12 23.9
comp=Z,21nm,0.9s
INK Inuvik 62.11 25 P P 07 12 22.7 +0.7
baz=288,SNR=29
YUK4 Talbot Arm 62.18 33 P P 07 12 24.1 +1.3
baz=288,SNR=10
PNL Peninsula 62.33 35 P P 07 12 24.6 +0.9
baz=288
LVZ Lovozero 62.38 335 *ce*P **P 07 12 26.3 +2.4**
LVZ pmax pmax
comp=Z,53nm,2.5s
LVZ Lovozero 62.38 335 IAMs_20 IAMs_20 07 41 20.7
comp=Z,707nm,19.0s
YUK6 Outpost Mounta 62.43 33 P P 07 12 26.3 +1.7
baz=288,SNR=12
M30M Minto, Yukon 62.63 31 P P 07 12 27.2 +1.6
baz=289,SNR=14
KLMR Klimovskoe 62.63 327 *e*P **P 07 12 21.8 -3.8**
KLMR *e* 07 14 39.6
KLMR *e*SS SS 07 24 56.4 -0.3
KLMR pmax pmax
comp=Z,35nm,0.8s
KLMR Klimovskoe 62.63 327 *e*P **P 07 12 21.9 -3.7**
KLMR AMP 07 12 26.8
comp=Z,35nm,0.8s
KLMR *e*PP **PP 07 14 39.6 -3.4**
KLMR *e*SS **SS 07 24 56.5 -0.2**
KLMR *e*SS **SS 07 24 56.5 -0.2**
KLMR LQ LQ 07 35 03.6
KLMR LQ LQ 07 35 03.6
KLMR LR LR 07 39 01.6
MAYO Mayo, Yukon 62.69 30 P P 07 12 27.6 +1.6
baz=289,SNR=5.3
HYT Haines Junctio 62.87 33 P P 07 12 28.8 +1.4
HYT IAmb IAmb 07 12 30.3
comp=Z,32nm,1.0s
HYT Haines Junctio 62.87 33 P P 07 12 29.1 +1.7
baz=289,SNR=17
APA Apatity 62.94 335 ⇓ *i*P **P 07 12 26.2 -1.4**
APA pmax pmax
comp=Z,20nm,0.8s
APA MLR MLR
comp=Z,900nm,16.0s
KAAM Kaadhehdhoo 62.98 252 P P 07 12 29.7 +1.0
SPA0 Spitsbergen Ar 62.99 348 *e*P **P 07 12 28.1 +0.2**
SPITS Spitsbergen Ar 62.99 348 LR LR 07 41 06.4
comp=Z,432nm,19.8s,baz=254,slow=37
JLN Jalan Bani Buh 63.16 280 P P 07 12 30.2 +0.4
WBK Wadi Bani Khal 63.33 281 P P 07 12 31.7 +0.8
WSAR Wadi Sarin 63.33 282 LR LR 07 42 11.4
comp=Z,192nm,20.9s,baz=86,slow=38
WSAR Wadi Sarin 63.33 282 P P 07 12 31.1 +0.2
KBS Kingsbay 63.34 349 *ce*P **P 07 12 31.2 +1.1**
KBS pmax pmax
comp=Z,54nm,2.5s
KBS Kingsbay 63.34 349 P P 07 12 30.4 +0.3
KBS IAmb IAmb 07 12 31.4
comp=Z,26nm,0.9s
KBS Kingsbay 63.34 349 IAmb IAmb 07 12 30.6
comp=Z,27nm,0.8s
KBS *i* P **P 07 12 30.7 +0.6**
A36M Sachs Harbour 63.42 20 P P 07 12 31.5 +0.8
A36M IAmb IAmb 07 12 32.8
comp=Z,34nm,0.9s
A36M Sachs Harbour 63.42 20 P P 07 12 31.5 +0.8
baz=294,SNR=37
N31M Braeburn, Yuko 63.44 32 P P 07 12 32.1 +1.1
N31M IAmb IAmb 07 12 34.0
comp=Z,41nm,1.1s
N31M Braeburn, Yuko 63.44 32 P P 07 12 32.8 +1.7
baz=290,SNR=13
BIDO Bidbid 63.62 282 P P 07 12 33.5 +0.7
M31M Drury Creek, Y 63.81 31 P P 07 12 34.1 +0.6
M31M IAmb IAmb 07 12 35.9
comp=Z,19nm,1.1s
M31M Drury Creek, Y 63.81 31 P P 07 12 34.5 +1.0
baz=291,SNR=9.5
SMDO Samad 63.89 282 P P 07 12 35.0 +0.3
MAK Makhachkala 64.05 306 *e*P P 07 12 30.3 -5.0
MAK *e* 07 14 50.7
MAK *e*S **S 07 21 04.8 -6.4**
MAK pmax pmax
comp=Z,25nm,0.3s
MAK MLR MLR
comp=Z,1μm,14.0s
BANOM Banah 64.08 285 P P 07 12 36.6 +0.7
BANOM Banah 64.08 285 P P 07 12 37.5 +1.7
WHY Whitehorse 64.14 33 P P 07 12 37.2 +1.4
baz=291,SNR=14
JMDO Jabal Madar 64.15 281 P P 07 12 37.0 +0.7
DZM Mont Dzumac 64.24 143 LR LR 07 37 08.2
comp=Z,253nm,21.9s,baz=12,slow=33
FARO Faro, Yukon 64.25 31 P P 07 12 37.6 +1.2
baz=292,SNR=22
HOQ Hoqain 64.27 283 P P 07 12 37.3 +0.2
KEV Kevo 64.27 338 P P 07 12 36.6 +0.3
KEV Kevo 64.27 338 IAMs_20 IAMs_20 07 45 27.6
comp=Z,2μm,18.0s
BJO1 Bjornoya 64.30 344 *e*P **P 07 12 36.2 -0.3**
SKAG Skagway 64.36 34 P P 07 12 39.3 +2.3
baz=291,SNR=6.6
MASF Masafi 64.43 285 P P 07 12 38.5 +0.3
UOSS Minazif 64.58 284 P P 07 12 39.3 +0.1
SOHO SOHO 64.66 283 P P 07 12 39.2 -0.4
SOHO SOHO 64.66 283 P P 07 12 40.7 +1.1
HATD Hatta, Dubai 64.69 284 P P 07 12 41.0 +1.2
HATD Hatta, Dubai 64.69 284 P P 07 12 41.9 +2.1
NOR Nord 64.71 355 *i* P **P 07 12 38.1 -1.0**
NOR IAmb IAmb 07 12 42.2
comp=Z,5.8nm,0.9s
BSY Bisya 64.73 282 P P 07 12 41.0 +0.8
VRH Novokhopyorsk 64.74 316 *e*P **P 07 12 38.8 -0.9**
VRH pmax pmax
comp=Z,100nm,1.9s
ASHO Ashiyiah 64.81 284 P P 07 12 41.5 +0.8
ARA0 ARCESS Array S 64.84 338 *e*P **P 07 12 39.5 -0.6**
ARCES ARCESS Array B 64.84 338 P P 07 12 39.3 -0.8
comp=Z,6.4nm,0.5s,baz=61,slow=8.2,SNR=50
ARCES LR LR 07 45 56.3
comp=Z,1μm,18.3s,baz=66,slow=41
ARCES ARCESS Array B 64.84 338 P P 07 12 39.3 -0.8
MHTO MHTO 64.88 280 P P 07 12 41.2 +0.1
SNR=6.9
C36M Paulatuk 64.90 22 P P 07 12 40.9 +0.5
C36M Paulatuk 64.90 22 P P 07 12 41.1 +0.8
baz=296
HAMF Hammerfest 64.90 339 *e*P **P 07 12 39.7 -0.8**
MMPY Sheldon Lake, 65.01 30 P P 07 12 42.7 +1.3
baz=293,SNR=12
ARQ Araqi 65.03 283 P P 07 12 42.3 +0.3
STKA Stephens Creek 65.03 170 P P 07 12 41.4 -0.3
comp=Z,9.3nm,0.7s,baz=347,slow=7.6,SNR=11
STKA LR LR 07 41 42.1
comp=Z,291nm,19.9s,baz=12,slow=37
STKA Stephens Creek 65.03 170 P P 07 12 41.4 -0.3
GROC Groznyy 65.12 307 *e*P **P 07 12 42.4 +0.1**
GROC *e* 07 13 15.1
GROC pmax pmax
comp=Z,20nm,0.6s
GROC MLR MLR
comp=Z,664nm,12.0s
FAQ Al Faqa, Dubai 65.17 284 P P 07 12 42.9 0.0

SIT Sitka 65.25 37 P P 07 12 45.4 +2.5
baz=292
JIS Juneau Island 65.25 35 P P 07 12 43.7 +0.8
JIS IAmb IAmb 07 12 45.8
comp=Z,19nm,1.1s
ALNE Al Ain 65.34 284 P P 07 12 45.3 +1.2
SNR=5.6
MOS Moscow 65.34 322 *e*P **P 07 12 41.3 -2.2**
MOS *e* 07 15 11.4
MOS pmax pmax
comp=Z,179nm,1.4s
MOS MLR MLR
comp=Z,800nm,18.0s
ASUD Al Ashush, Dub 65.43 284 P P 07 12 45.3 +0.6
ASUD Al Ashush, Dub 65.43 284 P P 07 12 45.3 +0.6
EUNU Eureka 65.64 7 P P 07 12 45.5 +0.3
EUNU IAmb IAmb 07 12 48.1
comp=Z,24nm,1.1s
DQM DQM 65.72 279 P P 07 12 46.6 0.0
KTK1 Kautokeino 65.80 338 *e*P **P 07 12 45.4 -0.9**
LPSR Galich'ya Gora 65.83 318 *e*P **P 07 12 46.0 -0.7**
LPSR pmax pmax
comp=Z,40nm,0.9s
VORR Voronezh 66.03 317 *e*P **P 07 12 47.5 -0.5**
VORR pmax pmax
comp=Z,70nm,0.5s
OBN Obninsk 66.14 321 *ce*P **P 07 12 46.0 -2.7**
OBN *i* 07 15 12.2
OBN *e*S S 07 21 54.8 +18
OBN pmax pmax
comp=Z,137nm,1.7s
OBN MLR MLR
comp=Z,628nm,15.0s
OBN Obninsk 66.14 321 P P 07 12 48.3 -0.4
OBN IAMs_20 IAMs_20 07 44 10.2
comp=Z,699nm,18.0s
VSR Storozhevoye 66.23 317 *e*P **P 07 12 48.2 -1.1**
VSR pmax pmax
comp=Z,110nm,1.9s
VORD Divnogorie 66.25 316 *e*P **P 07 12 48.9 -0.6**
VALR Valaam 66.34 329 *i* P **P 07 12 48.9 -0.9**
VALR pmax pmax
comp=Z,54nm,1.0s
JETT Jettan, Norway 66.41 339 *e*P **P 07 12 50.4 +0.1**
UMZA Um Al Zommool 66.42 283 P P 07 12 50.8 -0.2
NCK Nalchik 66.49 308 *i* P **P 07 12 51.9 +0.7**
NCK pmax pmax
comp=Z,12nm,0.8s
TGTN Hyland Airport 66.74 31 P P 07 12 53.8 +1.3
baz=296,SNR=14
TRO Tromso 66.82 339 *e*P **P 07 12 52.3 -0.5**
KBZ Khabaz 66.86 308 P P 07 12 53.6 +0.1
comp=Z,37nm,0.9s,baz=73,slow=3.0,SNR=48
KBZ LR LR 07 45 56.6
comp=Z,466nm,18.3s,baz=85,slow=39
KBZ Khabaz 66.86 308 *ce*P **P 07 12 53.4 -0.1**
KBZ pmax pmax
comp=Z,65nm,1.1s
KVAR Kislovodsk Arr 66.90 308 P P 07 12 54.5 +0.6
comp=Z,36nm,1.1s,baz=90,slow=20,SNR=5.2
KIV Kislovodsk 66.91 308 ⇑ P **P 07 12 54.7 +0.8**
KIV Kislovodsk 66.91 308 P P 07 12 54.2 +0.3
KIV Kislovodsk 66.91 308 *e*P **P 07 12 54.3 +0.3**
KIV pmax pmax
comp=Z,83nm,1.0s
KIV MLR MLR
comp=Z,393nm,17.0s
KIV Kislovodsk 66.91 308 P P 07 12 53.7 -0.3
KIV IAMs_20 IAMs_20 07 41 44.9
comp=Z,490nm,20.0s
KIV Kislovodsk 66.91 308 P P 07 12 54.4 +0.5
KIV Kislovodsk 66.91 308 *i* P **P 07 12 54.8 +0.8**
SNR=14
SHA1 Shidzhatmaz 67.01 308 *d* *i*P **P 07 12 54.6 -0.2**
GNI Garni 67.04 304 P P 07 12 55.9 +1.0
comp=Z,9.5nm,0.6s,baz=190,slow=3.2,SNR=19
GNI LR LR 07 43 50.3
comp=Z,342nm,19.1s,baz=72,slow=37
GNI Garni 67.04 304 P P 07 12 55.7 +0.7
GNI Garni 67.04 304 *de*P **P 07 12 55.6 +0.6**
GNI Garni 67.04 304 P P 07 12 55.5 +0.6
GNI Garni 67.04 304 IAMs_20 IAMs_20 07 43 28.7
comp=Z,389nm,19.0s
GNI Garni 67.04 304 P P 07 12 56.1 +1.2
NEY Neytrino 67.17 308 *i* P **P 07 12 56.2 +0.5**
NEY pmax pmax
comp=Z,8.0nm,1.2s
PUL Pulkovo 67.28 327 *i* P **P 07 12 56.9 +1.1**
PUL pmax pmax
comp=Z,53nm,0.8s
DLBC Dease Lake 67.28 34 LR LR 07 41 30.4
comp=Z,196nm,21.9s,baz=302,slow=35
JRN Qarnain Island 67.31 286 P P 07 12 55.6 -1.1
AKH Akhalkalaki 67.39 306 ⇑ P **P 07 12 56.9 -0.3**
AKH Akhalkalaki 67.39 306 P P 07 12 57.7 +0.5
AKH Akhalkalaki 67.39 306 P P 07 12 56.9 -0.3
MZR Muzera 67.67 284 P P 07 12 58.6 -0.4
GHWR Ruwais 67.73 285 P P 07 12 59.0 -0.4
WRGLY Wrigley 67.95 28 P P 07 13 01.7 +1.7
baz=299,SNR=8.5
CLDR Caldiran 68.04 303 P P 07 13 01.7 +0.3
SHAO Shalim 68.22 278 P P 07 13 02.4 -0.1
FIA1 FINESS Array S 68.37 330 P P 07 13 01.9 -0.8
FINES FINESS Array B 68.37 330 P P 07 13 01.6 -1.1
comp=Z,18nm,0.5s,baz=72,slow=5.6,SNR=203
FINES LR LR 07 46 33.7
comp=Z,1μm,18.0s,baz=60,slow=39
FINES FINESS Array B 68.37 330 P P 07 13 01.6 -1.1
AGRB Hanur-Agry 68.50 304 P P 07 13 05.1 +0.9
SENK Senkaya-Erzuru 68.53 305 P P 07 13 04.8 +0.4
SLWR Sila 68.65 285 P P 07 13 04.8 -0.3
SAKB Bahrain 68.71 288 P P 07 13 04.7 -0.8
TRNA Turayna 68.73 286 P P 07 13 05.0 -0.6
RES Resolute Bay 68.80 12 LR LR 07 46 51.1
comp=Z,36nm,18.0s,baz=307,slow=39
RES Resolute Bay 68.80 12 P P 07 13 05.7 +0.5
RES pmax pmax
comp=Z,45nm,1.1s
RES Resolute Bay 68.80 12 P P 07 13 05.7 +0.5
RES IAmb IAmb 07 13 07.0
comp=Z,45nm,1.1s
STEI Steigen 68.88 339 *e*P **P 07 13 05.2 -0.5**
DMTO DMTO 68.93 278 P P 07 13 06.8 -0.1
MLAZ Malazgirt-MUS 69.00 304 P P 07 13 08.2 +0.9
SOC Sochi 69.02 309 *d* *i*P **P 07 13 06.4 -0.7**
SOC *e* 07 15 35.6
SOC *e*S **S 07 22 13.5 +2.0**
SOC *e*SS **SS 07 26 42.8 +6.1**
SOC pmax pmax
comp=Z,50nm,0.9s
SOC MLR MLR
comp=Z,438nm,17.0s
AKDM Akdamar-Van 69.05 303 P P 07 13 06.8 -0.8
KOPR Koprukoy-ERZUR 69.12 305 P P 07 13 07.8 -0.2
DAG Danmarks Havn 69.15 353 P P 07 13 06.8 -0.6
DAG pmax pmax
comp=Z,45nm,1.3s
DAG Danmarks Havn 69.15 353 *i* P **P 07 13 05.1 -2.2**
DAG IAmb IAmb 07 13 10.2
comp=Z,12nm,0.8s
DOK Doka 69.18 279 P P 07 13 08.1 -0.4
FAUS Fauske 69.18 338 *e*P **P 07 13 06.8 -0.9**
CHOM Cayeli-Rize 69.39 306 P P 07 13 09.1 -0.4
VSU Vasula 69.52 327 *i* P **P 07 13 11.0 +1.1**
VSU pmax pmax
comp=Z,164nm,1.0s
VSU Vasula 69.52 327 *e*P **P 07 13 10.2 +0.3**
GURO Guroymak-BITLI 69.62 303 P P 07 13 11.6 +0.5
MEF Metsahovi 69.69 329 *e*P **P 07 13 11.0 +0.1**
VRTB Varto-Mus 69.76 304 P P 07 13 12.0 0.0
WHFO Wadi Hawf 69.81 279 P P 07 13 11.7 -0.7
MORB Moi Rana 70.17 337 *e*P **P 07 13 12.0 -1.9**
TULEG Thule 70.34 5 IAMs_20 IAMs_20 07 46 37.6
comp=Z,453nm,18.0s
TULEG Thule 70.34 5 *i* P **P 07 13 13.0 -1.7**
TULEG IAmb IAmb 07 13 18.1
comp=Z,12nm,0.8s
BNGB Bingl 70.38 304 P P 07 13 14.8 -0.9
RAF Rauma 70.38 331 *e*P **P 07 13 14.5 -0.6**
SVAN Silvan-Diyarba 70.38 303 P P 07 13 15.7 0.0
ABTO Aybut 70.48 278 P P 07 13 16.3 -0.3
SNR=7.6
MTSE Matsula 70.72 328 *e*P **P 07 13 17.6 +0.4**
IDID Didziasalis 71.08 324 *e*P **P 07 13 19.4 -0.1**

BBB Bella Bella 71.13 40 LR LR 07 43 37.0
comp=Z,108nm,20.4s,baz=318,slow=35
DYBB Diyarbakir 71.22 303 P **P** **07 13 19.7 -1.1**
MAZI Mazidag 71.23 303 P **P** **07 13 20.8 -0.1**
ISAL Salakas 71.25 325 *eP* **P** **07 13 20.6 0.0**
NACGM Naroch 71.27 324 *eP* **P** **07 13 20.9 +0.2**
IIGN Ignalina 71.32 324 *eP* **P** **07 13 21.1 +0.1**
DBG Daneborg 71.55 352 *i* P **P** **07 13 19.6 -2.5**
DBG IAmb IAmb 07 13 22.0
comp=Z,4.7nm,0.8s
AAL Aland 71.57 330 *eP* **P** **07 13 21.2 -1.2**
SVRC Sivrice-ELAZID 71.61 304 P **P** **07 13 22.9 -0.4**
YKA Yellowknife Ar 71.77 26 P **P** **07 13 23.6 +0.1**
comp=Z,4.2nm,0.9s,baz=300,slow=5.8,SNR=50
YKA LR LR 07 49 16.0
comp=Z,172nm,18.0s,baz=280,slow=40
YKA Yellowknife Ar 71.77 26 P **P** **07 13 23.7 +0.1**
ARPR Arapgir-MALATY 71.95 305 P **P** **07 13 26.2 +0.9**
SLIT Slitere, Latvi 71.98 328 *eP* **P** **07 13 24.6 -0.2**
SIM Simferopol' 71.99 312 *eP* **P** **07 13 24.1 -1.1**
SIM pmax pmax
comp=Z,62nm,1.4s
NSS Namsos 72.00 337 *eP* **P** **07 13 24.1 -0.8**
AKASG Malin Array Be 72.09 319 P **P** **07 13 24.9 -0.8**
comp=Z,12nm,0.4s,baz=50,slow=6.0,SNR=51
AKASG Malin Array Be 72.09 319 P **P** **07 13 24.9 -0.8**
AKBB Malin Array Si 72.09 319 *ce* P **P** **07 13 25.0 -0.7**
KIEV Kiev 72.10 319 P **P** **07 13 24.0 -1.8**
PABE Paberze 72.34 325 *eP* **P** **07 13 27.6 +0.5**
SOCY Socotra 72.46 273 P **P** **07 13 27.5 -1.1**
SNR=13
SVSK Karacayir 72.48 306 P **P** **07 13 28.1 -0.1**
KVT Kavak 72.58 308 P **P** **07 13 29.5 +0.6**
TOKT Tokat 72.60 307 P **P** **07 13 29.0 -0.1**
JMIC Jan Mayen 72.64 347 LR LR 07 47 20.3
comp=Z,183nm,18.5s,baz=66,slow=37
UPP Uppsala 72.73 331 *eP* **P** **07 13 29.0 -0.3**
DARE Darende-Malaty 72.79 305 P **P** **07 13 29.2 -1.0**
DIKM Dikmen 72.83 309 ⇑P **P** **07 13 30.8 +0.5**
PBUR Paburge 73.03 326 *eP* **P** **07 13 31.6 +0.4**
SUW Suwalki 73.53 324 *eP* **P** **07 13 34.0 -0.2**
SUW Suwalki 73.53 324 P **P** **07 13 33.1 -1.1**
SUW pmax pmax
comp=Z,102nm,1.0s
SUW MLR MLR
comp=Z,1μm,18.0s
SUW Suwalki 73.53 324 P **P** **07 13 33.1 -1.1**
SUW IAMs_20 IAMs_20 07 49 19.4
comp=Z,1μm,18.0s
SUW Suwalki 73.53 324 *eP* **P** **07 13 34.0 -0.2**
SARI SarD1z-Kayseri 73.60 305 P **P** **07 13 35.9 +0.8**
YOZ Yozgat 73.75 307 P **P** **07 13 34.9 -1.1**
BNN Bunyan 73.78 306 P **P** **07 13 35.6 -0.5**
BNN Bunyan 73.78 306 P **P** **07 13 35.5 -0.7**
SORM Soroca 73.88 317 ⇑P **P** **07 13 36.7 +0.4**
SORM Soroca 73.88 317 P **P** **07 13 36.7 +0.4**
VIKU Vikbolandet 73.92 330 *eP* **P** **07 13 36.2 -0.2**
CORM Corum 73.95 308 P **P** **07 13 36.9 -0.2**
ILGA Ilgaz 74.13 309 P **P** **07 13 38.5 +0.3**
HFS Hagfors 74.14 332 LR LR 07 50 32.4
comp=Z,559nm,18.4s,baz=49,slow=39
KIS Kishinev 74.19 316 *eP* **P** **07 13 37.0 -1.2**
KIS *eL* L 07 46 29.0
KIS LRM MLR 07 48 46.0
comp=Z,600nm,18.5s
KIS Kishinev 74.19 316 *eP* **P** **07 13 37.0 -1.2**
MILM Milestii Mici 74.24 316 ⇓ *i* P **P** **07 13 37.0 -1.5**
comp=Z,290nm,5.6s
MILM LRM MLR 07 48 59.0
comp=Z,1μm,18.0s
MILM Milestii Mici 74.24 316 *d i* P **P** **07 13 37.0 -1.5**
MILM pmax pmax
comp=Z,300nm,5.6s
NC303 NORSAR Array S 74.33 334 P **P** **07 13 37.8 -0.9**
NC303 IAmb IAmb 07 13 39.0
comp=Z,58nm,1.1s
HORU Horodok 74.40 319 P **P** **07 13 39.1 -0.3**
KOZT Kozan 74.46 305 P **P** **07 13 39.9 -0.1**
NB2 NORSAR Subarra 74.50 334 P **P** **07 13 38.3 -1.5**
comp=Z,72nm,1.2s,baz=50,slow=6.2
NB2 NORSAR Subarra 74.50 334 P **P** **07 13 38.3 -1.5**
baz=50,slow=6.2
NOA NORSAR Array B 74.50 334 P **P** **07 13 37.9 -2.0**
comp=Z,20nm,0.9s,baz=49,slow=5.8,SNR=51
NOA PP **PP** **07 16 23.6 -2.2**
comp=Z,0.9nm,0.8s,baz=48,slow=8.6,SNR=3.3
NOA LR LR 07 49 23.2
comp=Z,528nm,18.0s,baz=45,slow=38
NOA NORSAR Array B 74.50 334 P **P** **07 13 37.9 -2.0**
NORES NORESS Array B 74.58 334 P **P** **07 13 39.4 -0.8**
NORES pmax pmax
comp=Z,2.0nm,0.8s
DOMB Dombas 74.62 335 *eP* **P** **07 13 40.2 -0.3**
KMPD K-Podol'skiy 74.73 318 P **P** **07 13 41.0 -0.3**
CEYT Ceyhan 74.74 307 P **P** **07 13 41.8 +0.2**
MOL Molde 74.78 336 *eP* **P** **07 13 41.4 +0.1**
BR131 Keskin Array S 74.84 308 P **P** **07 13 41.5 -0.8**
BR131 pmax pmax
comp=Z,67nm,1.1s
BR131 Keskin Array S 74.84 308 P **P** **07 13 41.5 -0.8**
BR131 Keskin Array S 74.84 308 P **P** **07 13 41.9 -0.4**
SNR=29
BRTR Keskin Array B 74.84 308 P **P** **07 13 42.0 -0.4**
comp=Z,25nm,1.0s,baz=97,slow=4.0,SNR=88
BRTR LR LR 07 51 09.5
comp=Z,240nm,18.0s,baz=62,slow=39
BRTR Keskin Array B 74.84 308 P **P** **07 13 41.9 -0.4**
BRTR Keskin Array B 74.84 308 P **P** **07 13 41.3 -1.0**
BRTR Keskin Array B 74.84 308 P **P** **07 13 41.2 -1.0**
CMRD Camardi-Nigde 74.95 305 P **P** **07 13 43.7 +0.8**
VASR Vaslui 74.98 316 ⇑P **P** **07 13 43.1 +0.3**
KARA Karaisali 75.10 305 P **P** **07 13 43.7 0.0**
YAYX Yaylak 75.12 307 P **P** **07 13 43.0 -0.9**
AKN Aaknes 75.24 336 *eP* **P** **07 13 44.3 +0.3**
SCO Scoresbysund 75.26 351 *i* P **P** **07 13 42.7 -1.3**
SCO IAmb IAmb 07 13 44.9
comp=Z,5.3nm,1.0s
SERE Sereflikochisa 75.28 307 P **P** **07 13 43.6 -1.2**
ANTO Ankara 75.33 308 P **P** **07 13 45.0 -0.1**
ANTO Ankara 75.33 308 P **P** **07 13 44.8 -0.3**
LOD Lodumlu 75.34 308 P **P** **07 13 43.9 -1.2**
AFSR Afar-Bala (An 75.36 308 P **P** **07 13 44.2 -1.1**
LVV L'vov 75.39 320 *eP* **P** **07 13 44.8 -0.3**
LVV *e* 07 16 34.9
LVV *eS* **S** **07 23 23.9 -0.4**
LVV MLR MLR
comp=N,300nm,18.0s
LVV MLR MLR
comp=E,700nm,18.0s
LVV MLR MLR
comp=Z,600nm,17.0s
TPGR Topolog 75.55 314 ⇑P **P** **07 13 45.5 -0.6**
CFR Carcaliu 75.55 315 ⇑P **P** **07 13 45.7 -0.3**
CFR Carcaliu 75.55 315 P **P** **07 13 45.7 -0.3**
KSV Kosov 75.64 318 P **P** **07 13 46.3 -0.3**
MERS Mersin 75.67 305 P **P** **07 13 45.0 -2.0**
TESR Tescani 75.72 316 ⇑P **P** **07 13 46.7 -0.4**
TIRR Tirgusor 75.76 314 ⇓P **P** **07 13 46.8 -0.4**
TIRR Tirgusor 75.76 314 P **P** **07 13 47.4 +0.1**
TIRR pmax pmax
comp=Z,55nm,1.5s
MORS Morshin 75.84 320 P **P** **07 13 48.5 +0.8**
A04D Lummi Island 75.89 41 P **P** **07 13 49.8 +1.9**
baz=304
BURAR Bucovina Array 75.94 318 ⇑P **P** **07 13 48.6 +0.2**
BURAR Bucovina Array 75.94 318 P **P** **07 13 48.6 +0.2**
VRI Vrincioaia 76.02 316 ⇑P **P** **07 13 49.5 +0.7**
VRI Vrincioaia 76.02 316 P **P** **07 13 49.5 +0.7**
KONO Kongsberg 76.03 333 *ce* P **P** **07 13 49.0 +0.4**
KONO pmax pmax
comp=Z,36nm,2.5s
PLOR Plostina 76.07 316 ⇓P **P** **07 13 49.9 +0.8**
PLOR Plostina 76.07 316 P **P** **07 13 49.9 +0.8**
KWP Kalwaria Pacla 76.21 320 *eP* **P** **07 13 50.0 +0.2**
D03D Eldon 76.33 42 P **P** **07 13 52.2 +1.7**
baz=304
COVR Voineasa-Covas 76.34 316 ⇑P **P** **07 13 50.8 +0.1**
DEL Delary 76.38 329 *eP* **P** **07 13 50.2 -0.4**
KEBE Keben-Mersin 76.44 305 P **P** **07 13 50.0 -1.4**
OZUR 76.44 316 ⇑P **P** **07 13 52.0 +0.7**
B05A Bryant 76.48 41 P **P** **07 13 52.1 +0.8**
baz=304
ISR Istrita 76.53 315 ⇑P **P** **07 13 52.1 +0.3**
ISR Istrita 76.53 315 P **P** **07 13 52.1 +0.3**
MLR Muntele Rosu 76.68 316 ⇑P **P** **07 13 52.7 -0.1**
MLR Muntele Rosu 76.68 316 LR LR 07 50 08.9
comp=Z,631nm,19.3s,baz=57,slow=38
MLR Muntele Rosu 76.68 316 P **P** **07 13 52.6 -0.1**
MLR Muntele Rosu 76.68 316 IAMs_20 IAMs_20 07 50 52.2
comp=Z,1μm,18.0s
D04E Lakebay 76.70 42 P **P** **07 13 53.5 +0.9**
baz=304
ARCR ARCALIA 76.72 318 ⇑P **P** **07 13 52.6 -0.2**
DOPR Dopca 76.75 316 ⇑P **P** **07 13 53.5 +0.5**
BSD Bornholm Skovb 76.78 328 *eP* **P** **07 13 52.9 0.0**
BSD Bornholm Skovb 76.78 328 *i* P **P** **07 13 50.6 -2.2**
BSD IAmb IAmb 07 13 52.4
comp=Z,22nm,0.8s
KOLS Kolonicke sedl 76.84 320 *eP* **P** **07 13 54.3 +0.9**
KOLS pmax pmax
comp=Z,24nm,1.0s
KOLS Kolonicke sedl 76.84 320 *eP* **P** **07 13 54.3 +0.9**
GKP Gorka Klasztor 76.85 326 *eP* **P** **07 13 54.2 +0.9**
SECR 76.86 315 ⇑P **P** **07 13 54.3 +0.7**
TRSU Trosnyk 76.94 319 P **P** **07 13 55.2 +1.3**
ODD1 Odda 76.95 335 *eP* **P** **07 13 53.8 -0.1**
MMAI Mount Meron Ar 76.98 301 LR LR 07 51 51.1
comp=Z,291nm,20.0s,baz=210,slow=39
UZH Uzhgorod 77.00 320 *ce* P **P** **07 13 53.6 -0.7**
UZH *e* 07 13 58.0
UZH *i* 07 14 01.1
UZH *e* 07 14 04.6
ASK Askoy 77.05 336 *eP* **P** **07 13 54.6 +0.3**
CRVS Cervenica-Dubn 77.29 320 *eP* **P** **07 13 56.5 +0.5**
CRVS pmax pmax
comp=Z,69nm,1.2s
CRVS Cervenica-Dubn 77.29 320 *eP* **P** **07 13 56.5 +0.5**
BLS5 Blasjo 77.35 334 *eP* **P** **07 13 56.3 +0.3**
CJR Cluj-Napoca 77.36 318 ⇑P **P** **07 13 56.8 +0.4**
HOMB Homborsund 77.38 333 *eP* **P** **07 13 56.3 +0.2**
OJC Ojcow 77.40 322 *eP* **P** **07 13 56.7 +0.1**
OJC Ojcow 77.40 322 IAMs_20 IAMs_20 07 54 09.8
comp=Z,501nm,18.0s
CSS Mathiatis 77.47 303 IAMs_20 IAMs_20 07 52 30.6
comp=Z,456nm,20.0s
ARR Arges 77.52 316 ⇑P **P** **07 13 58.0 +0.6**
NIE Niedzica 77.61 321 *eP* **P** **07 13 59.0 +1.3**
RGN Rugen 77.85 328 IAMs_20 IAMs_20 07 52 00.7
comp=Z,1μm,19.0s
ISP Isparta 77.91 307 *i* P **P** **07 13 59.6 -0.1**
ISP pmax pmax
comp=Z,20nm,0.9s
GOET G??ttrup 77.94 332 *i* P **P** **07 13 57.5 -1.8**
GOET IAmb IAmb 07 13 60.0
comp=Z,43nm,1.0s
LOT Lotru 77.98 317 ⇑P **P** **07 13 59.9 -0.1**
LANS Liptovska Anna 78.21 321 *eP* **P** **07 14 02.5 +1.4**
LANS pmax pmax
comp=Z,24nm,1.2s
LANS Liptovska Anna 78.21 321 *eP* **P** **07 14 02.5 +1.4**
DEV Deva 78.23 317 ⇑P **P** **07 14 01.5 +0.2**
DEV Deva 78.23 317 P **P** **07 14 01.4 +0.2**
ICESG Greenland Ices 78.28 356 *i* P **P** **07 13 59.5 -2.0**
ICESG IAmb IAmb 07 14 04.8
comp=Z,18nm,0.9s
I03D Drain, OR 78.31 45 P **P** **07 14 03.0 +1.4**
baz=304
MUD Monsted U'grnd 78.36 331 *i* P **P** **07 14 00.3 -1.4**
MUD IAmb IAmb 07 14 01.6
comp=Z,20nm,0.7s
H04A Detroit Lake 78.45 44 P **P** **07 14 02.9 +0.4**
H04A IAmb IAmb 07 14 04.2
comp=Z,53nm,1.9s
OKC Ostrava-Krasne 78.48 322 AMS AMS 07 52 40.0
comp=Z,1μm,14.1s
GZR Gura Zlata 78.58 317 ⇑P **P** **07 14 02.9 -0.4**
K02D Willamette Mer 78.68 46 P **P** **07 14 04.9 +1.0**
baz=304
PSZ Piszkesteto 78.72 320 ⇓P **P** **07 14 03.9 0.0**
PSZ Piszkesteto 78.72 320 P **P** **07 14 03.9 0.0**
PSZ pmax pmax
comp=Z,98nm,1.3s
PSZ MLR MLR
comp=Z,500nm,19.0s
PSZ Piszkesteto 78.72 320 P **P** **07 14 03.9 0.0**
PSZ IAMs_20 IAMs_20 07 52 30.9
comp=Z,482nm,19.0s
PSZ Piszkesteto 78.72 320 P **P** **07 14 04.4 +0.4**
KSP Ksiaz 78.80 324 *eP* **P** **07 14 04.3 +0.1**
KSP Ksiaz 78.80 324 P **P** **07 14 04.5 +0.2**
KSP pmax pmax
comp=Z,78nm,1.2s
I04A Tendick Farm, 78.82 45 P **P** **07 14 05.7 +1.2**
baz=305
MORC Moravsky Berou 78.83 323 ⇓P **P** **07 14 04.5 0.0**
MORC Moravsky Berou 78.83 323 P **P** **07 14 04.9 +0.4**
MORC pmax pmax
comp=Z,54nm,1.2s
MORC Moravsky Berou 78.83 323 *eP* **P** **07 14 04.4 -0.1**
VYHS Vyhne 78.94 321 *eP* **P** **07 14 05.8 +0.7**
VYHS pmax pmax
comp=Z,33nm,1.2s
VYHS Vyhne 78.94 321 *eP* **P** **07 14 05.8 +0.7**
RUE Ruedersdorf 78.97 326 *eP* **P** **07 14 06.2 +1.0**
RUE Ruedersdorf 78.97 326 *eP* **P** **07 14 05.6 +0.5**
comp=Z,53nm,0.9s,baz=47,slow=5.3
OSTC Ostas 79.02 324 *eP* **P** **07 14 05.9 +0.4**
OSTC AMS AMS 07 53 40.0
comp=Z,1μm,13.9s
EIL Elat 79.02 298 LR LR 07 52 57.8
comp=Z,272nm,18.3s,baz=62,slow=39
KRLC Kraliky 79.03 323 *eP* **P** **07 14 05.8 +0.2**
KRLC MLR MLR
comp=Z,1μm,14.2s
KRLC Kraliky 79.03 323 *eP* **P** **07 14 05.8 +0.2**
KRLC AMS AMS 07 53 20.0
comp=Z,1μm,14.2s
CHVC Chvalec 79.08 324 *eP* **P** **07 14 05.7 -0.1**
CHVC AMS AMS 07 51 40.0
comp=Z,1μm,13.9s
HERR Herculane 79.09 317 ⇑P **P** **07 14 06.0 0.0**
DPC Dobruska-Polom 79.09 324 *eP* **P** **07 14 06.4 +0.5**
DPC MLR MLR
comp=Z,1μm,16.5s
DPC Dobruska-Polom 79.09 324 *eP* **P** **07 14 06.4 +0.5**
DPC AMS AMS 07 52 50.0
comp=Z,1μm,16.5s
KOLL Kolacno 79.12 321 *eP* **P** **07 14 07.0 +1.0**
BZS Buzias 79.12 318 ⇑P **P** **07 14 05.7 -0.4**
BZS Buzias 79.12 318 P **P** **07 14 05.7 -0.4**
I05D Terrebonne, OR 79.14 44 P **P** **07 14 07.6 +1.3**
baz=305
UPC Upice 79.15 324 *eP* **P** **07 14 06.2 0.0**
UPC MLR MLR
comp=Z,1μm,16.3s
UPC Upice 79.15 324 *eP* **P** **07 14 06.2 0.0**
UPC AMS AMS 07 52 40.0
comp=Z,1μm,16.3s
NEW Newport 79.18 39 P **P** **07 14 07.0 +0.6**
baz=308
J04D Umpqua Nationa 79.31 45 P **P** **07 14 08.5 +1.0**
baz=305
JAVC Velka Javorina 79.33 322 *eP* **P** **07 14 08.5 +1.2**
BUD Budapest 79.45 320 P **P** **07 14 08.7 +0.9**
MDVR Moldovita 79.55 317 ⇑P **P** **07 14 08.6 +0.1**
BSEG Bad Segeberg 79.58 329 *eP* **P** **07 14 08.4 0.0**
comp=Z,45nm,1.0s,baz=47,slow=5.3
VRAC Vranov 79.61 323 ⇓P **P** **07 14 09.0 +0.2**
VRAC Vranov 79.61 323 LR LR 07 50 34.6
comp=Z,358nm,19.0s,baz=59,slow=37
VRAC Vranov 79.61 323 P **P** **07 14 08.9 +0.2**
VRAC Vranov 79.61 323 *eP* **P** **07 14 09.0 +0.2**
SRO2 Moca 79.62 321 *eP* **P** **07 14 08.6 -0.1**
SRO2 pmax pmax
comp=Z,25nm,0.9s
SRO2 Moca 79.62 321 *eP* **P** **07 14 08.6 -0.1**
SRO Srobarova 79.63 321 *eP* **P** **07 14 09.6 +0.8**
SRO pmax pmax
comp=Z,47nm,1.2s
SRO Srobarova 79.63 321 *eP* **P** **07 14 09.6 +0.8**
SMOL Smolenice 79.67 322 *eP* **P** **07 14 10.2 +1.1**
SMOL pmax pmax
comp=Z,37nm,1.0s
SMOL Smolenice 79.67 322 *eP* **P** **07 14 10.2 +1.1**
YER Yerkesik 79.78 308 P **P** **07 14 10.0 +0.1**
L04D Klamath Falls 79.78 46 P **P** **07 14 11.4 +1.4**
baz=305
J05D Fort Rock, OR 79.81 45 P **P** **07 14 11.3 +1.2**
baz=306
MODS Modra-Piesok 79.83 322 *eP* **P** **07 14 11.1 +1.1**
MODS pmax pmax
comp=Z,201nm,1.3s
MODS Modra-Piesok 79.83 322 *eP* **P** **07 14 11.0 +1.1**
PVCC Panska Ves 79.85 324 *eP* **P** **07 14 10.5 +0.5**
PVCC MLR MLR
comp=Z,1μm,17.4s
PVCC Panska Ves 79.85 324 *eP* **P** **07 14 10.5 +0.5**
PVCC AMS AMS 07 53 00.0
comp=Z,1μm,17.4s
KRUC Moravsky 79.86 323 *eP* **P** **07 14 10.3 +0.2**
VTS Vitosha 79.91 314 ⇓P **P** **07 14 10.6 -0.1**
CSKK Cskako 79.93 320 P **P** **07 14 11.0 +0.5**
BRG Berggiesshubel 79.93 325 *i* P **P** **07 14 10.3 -0.1**
BRG Amp 07 14 13.5
comp=Z,46nm,1.2s
BRG Amp 07 53 28.0
comp=N,1.0nm,14.3s
BRG Amp 07 53 31.0
comp=Z,1.9nm,15.4s
BRG Amp 07 53 35.0
comp=E,1.1nm,14.9s
BRG Berggiesshubel 79.93 325 *i* P **P** **07 14 10.3 -0.1**
BRG pmax pmax
comp=Z,46nm,1.2s
BRG MLR MLR
comp=N,990nm,14.3s
BRG MLR MLR
comp=Z,2μm,15.4s
BRG MLR MLR
comp=E,1μm,14.9s
BRG Berggiesshubel 79.93 325 *eP* **P** **07 14 10.6 +0.2**
comp=E,17nm,0.9s,baz=47,slow=5.3
ZST Bratislava 80.03 322 *eP* **P** **07 14 12.4 +1.4**
ZST pmax pmax
comp=Z,195nm,1.4s
ZST Bratislava 80.03 322 *eP* **P** **07 14 12.4 +1.4**
CLL Collm 80.10 326 P **P** **07 14 10.8 -0.5**
CLL pmax pmax
comp=Z,104nm,1.1s
CLL MLR MLR
comp=Z,2μm,18.0s
CLL Collm 80.10 326 P **P** **07 14 10.8 -0.5**
CLL Collm 80.10 326 ⇓ *i* P **P** **07 14 11.1 -0.2**
comp=Z,112nm,1.1s
CLL *e* PP **PP** **07 17 14.0 +1.1**
CLL *e* Sx Sx 07 24 06.0
CLL *e* SS SS 07 29 54.0 +30
CLL *e* SSS SSS 07 32 54.0
CLL Collm 80.10 326 *eP* **P** **07 14 11.4 +0.1**
comp=Z,68nm,1.0s,baz=47,slow=5.3
TREC Trest 80.18 323 *eP* **P** **07 14 12.2 +0.4**
TREC MLR MLR
comp=Z,1μm,16.0s
TREC Trest 80.18 323 *eP* **P** **07 14 12.2 +0.4**
TREC AMS AMS 07 53 30.0
comp=Z,1μm,16.0s
FBE Freiberg 80.19 325 *eP* **P** **07 14 11.9 +0.1**
comp=Z,49nm,1.0s,baz=47,slow=5.3
PRU Pruhonice 80.21 324 *eP* **P** **07 14 12.3 +0.4**
PRU MLR MLR
comp=Z,1μm,13.8s
PRU Pruhonice 80.21 324 *eP* **P** **07 14 12.3 +0.4**
PRU AMS AMS 07 52 10.0
comp=Z,1μm,13.8s
FLTG Flechtingen 80.25 327 *eP* **P** **07 14 11.9 -0.1**
comp=Z,58nm,1.0s,baz=47,slow=5.3
M04C Macdoel 80.31 46 P **P** **07 14 13.1 +0.2**
M04C Macdoel 80.31 46 P **P** **07 14 13.7 +0.8**
baz=306
EGYH Egyhazaskeszo 80.40 321 P **P** **07 14 13.7 +0.7**
FRGS Fruska Gora 80.42 318 ⇑P **P** **07 14 12.8 -0.4**
MORH Mrgy. Hungar 80.43 319 P **P** **07 14 12.7 -0.5**
MPLH Magyarpolny 80.44 321 P **P** **07 14 13.8 +0.6**
BORG Borgarnes 80.45 348 LR LR 07 50 57.1
comp=Z,140nm,20.6s,baz=18,slow=36
SFJD Kangerlussuaq 80.62 1 LR LR 07 52 00.1
comp=Z,313nm,19.1s,baz=340,slow=37
SFJD Kangerlussuaq 80.62 1 *i* P **P** **07 14 12.4 -1.4**
SFJD IAmb IAmb 07 14 16.6
comp=Z,5.1nm,0.7s
ASSE Asse, Remlinge 80.64 327 *eP* **P** **07 14 14.3 +0.2**
comp=Z,16nm,1.0s,baz=47,slow=5.3
SOP Sopron 80.64 321 P **P** **07 14 14.5 +0.2**
O02D Mt. Diablo Mer 80.65 48 P **P** **07 14 15.8 +1.1**
baz=305
NRDL Niedersach Rie 80.65 328 *eP* **P** **07 14 14.4 +0.3**
comp=Z,25nm,1.1s,baz=47,slow=5.3
NEUB Neuenburg 80.75 326 *eP* **P** **07 14 15.2 +0.5**
comp=Z,114nm,1.1s,baz=47,slow=5.3
RONA Rosalia, Austr 80.77 321 *i* P **P** **07 14 15.3 +0.3**
comp=Z,52nm,1.2s,SNR=25
KOVH Kovagoottos 80.80 319 P **P** **07 14 15.1 -0.1**
CONA Conrad Observa 80.85 322 *i* P **P** **07 14 16.0 +0.4**
comp=Z,82nm,1.2s,SNR=34
TANN Tannenbergstha 80.95 325 *eP* **P** **07 14 16.3 +0.3**
comp=Z,32nm,1.2s,baz=47,slow=5.3
DIVS Divibare 80.95 317 IAMs_20 IAMs_20 07 53 06.1
comp=Z,665nm,20.0s
CLZ Clausthal 80.97 327 *eP* **P** **07 14 16.3 +0.2**
comp=Z,82nm,1.1s,baz=47,slow=5.3
WERD Werda 81.00 325 *eP* **P** **07 14 16.6 +0.4**
comp=Z,41nm,1.1s,baz=47,slow=5.3
GUNZ Gunzen 81.04 325 *eP* **P** **07 14 16.8 +0.3**
comp=Z,28nm,0.9s,baz=47,slow=5.3
WERN Wernitzgruen 81.07 325 *eP* **P** **07 14 16.9 +0.2**
comp=Z,55nm,1.1s,baz=47,slow=5.3
NKC Novy Kostel 81.08 325 *eP* **P** **07 14 17.0 +0.4**
NKC MLR MLR
comp=Z,2μm,15.1s
NKC Novy Kostel 81.08 325 *eP* **P** **07 14 17.0 +0.4**
NKC AMS AMS 07 53 50.0
comp=Z,2μm,15.1s
CKRC Cesky Krumlov 81.08 323 *eP* **P** **07 14 16.9 +0.2**
CKRC AMS AMS 07 54 00.0
comp=Z,1μm,16.5s
DY2G Dye2 81.13 359 *i* P **P** **07 14 15.1 -1.7**
DY2G IAmb IAmb 07 14 16.8
comp=Z,12nm,0.6s
MOX Moxa 81.20 326 *eP* **P** **07 14 17.4 +0.2**
comp=Z,19nm,1.0s,baz=47,slow=5.3
KHC Kasperske Hory 81.24 324 *i* P **P** **07 14 17.9 +0.3**
KHC pmax pmax
comp=Z,61nm,1.1s
KHC Kasperske Hory 81.24 324 P **P** **07 14 17.3 -0.2**
KHC IAmb IAmb 07 14 18.9
comp=Z,36nm,1.1s
KHC Kasperske Hory 81.24 324 *eP* **P** **07 14 17.7 +0.1**
KHC *ex* x 07 15 08.0
KHC AMS AMS 07 54 00.0
comp=Z,1μm,17.1s
GTTG Gottingen 81.36 327 *eP* **P** **07 14 18.3 +0.3**
comp=Z,34nm,0.9s,baz=47,slow=5.3
GEC2 GERESS Array S 81.37 323 P **P** **07 14 17.9 -0.4**
GEC2 IAmb IAmb 07 14 19.2
comp=Z,26nm,1.1s
GEC2 GERESS Array S 81.37 323 *eP* **P** **07 14 18.6 +0.3**
comp=Z,21nm,1.1s,baz=47,slow=5.3
GERES GERESS Array B 81.37 323 P **P** **07 14 17.9 -0.4**
comp=Z,12nm,0.9s,baz=48,slow=2.0,SNR=66
GERES LR LR 07 54 48.0
comp=Z,1μm,18.4s,baz=52,slow=39
GERES GERESS Array B 81.37 323 P **P** **07 14 17.9 -0.4**
J08A Circle Bar Ran 81.39 44 P **P** **07 14 19.4 +0.8**
MANZ Manzenberg 81.40 325 *eP* **P** **07 14 18.4 +0.1**
comp=Z,4.7nm,0.9s,baz=47,slow=5.3
KARP Karpathos 81.41 307 IAMs_20 IAMs_20 07 55 40.8
comp=Z,360nm,20.0s
ARSA Arzberg 81.46 321 *i* P **P** **07 14 18.6 -0.1**
comp=Z,37nm,1.1s,SNR=12
ROTZ Rotzenmuhle 81.50 325 *eP* **P** **07 14 19.1 +0.3**
comp=Z,9.0nm,1.1s,baz=47,slow=5.3
FCC Fort Churchill 81.54 22 P **P** **07 14 18.5 -0.3**
FCC pmax pmax
comp=Z,47nm,1.1s
FCC Fort Churchill 81.54 22 P **P** **07 14 18.5 -0.3**
FCC IAmb IAmb 07 14 20.2
comp=Z,47nm,1.1s
KOGS Kog 81.58 321 *i* P **P** **07 14 18.4 -0.9**
WET Wettzell 81.58 324 *eP* **P** **07 14 19.7 +0.3**
comp=Z,8.9nm,0.9s,baz=47,slow=5.3
APE Apeiranthos 81.64 309 ⇑P **P** **07 14 19.2 -0.7**
APE Apeiranthos 81.64 309 *i* P **P** **07 14 16.9 -3.0**
APE pmax pmax

comp=Z,9.0nm,1.0s
MOA Molln 81.73 322 *i* P **P** 07 14 20.2 +0.1
comp=Z,35nm,1.2s,SNR=19
PLID Pearl Lake 81.74 41 IAMs_20 IAMs_20 07 53 41.8
comp=Z,449nm,20.0s
MSO Missoula 81.76 39 P **P** **07 14 21.3 +0.9**
baz=310
IBBN Ibbenburen 81.82 329 *eP* **P** **07 14 20.9 +0.4**
comp=Z,44nm,1.0s,baz=47,slow=5.3
UBBA Unterbreizbach 81.84 327 *eP* **P** **07 14 21.0 +0.5**
comp=Z,102nm,1.6s,baz=47,slow=5.3
GRA1 Grafenberg Arr 82.03 325 P **P** **07 14 21.5 -0.2**
GRF Grafenberg Arr 82.03 325 P **P** **07 14 21.5 -0.2**
GRF pmax pmax
comp=Z,174nm,1.2s
GRF MLR MLR
comp=Z,1μm,18.0s
GRF Grafenberg Arr 82.03 325 *eP* **P** **07 14 22.0 +0.4**
comp=Z,87nm,1.0s,baz=47,slow=5.3
SOKA Soboth 82.08 321 *i* P **P** **07 14 21.9 -0.2**
comp=Z,78nm,1.2s,SNR=36
ATD Arta Tunnel 82.14 279 LR LR 07 54 37.8
comp=Z,117nm,18.8s,baz=36,slow=38
ATD Arta Tunnel 82.14 279 P **P** **07 14 24.0 +1.1**
SNR=5.0
BIOA Bad Ischl, Aus 82.15 323 *i* P **P** **07 14 22.2 -0.2**
comp=Z,48nm,1.3s,SNR=16
GOLS Golise 82.19 320 *i* P **P** **07 14 22.2 -0.4**
KASTN Kahler Asten 82.30 328 *eP* **P** **07 14 23.1 +0.1**
comp=Z,18nm,0.9s,baz=47,slow=5.3
PDG Podgorica 82.39 316 ⇑P **P** **07 14 23.5 -0.1**
PDG Podgorica 82.39 316 IAMs_20 IAMs_20 07 54 03.2
comp=Z,644nm,20.0s
OBKA Obir 82.45 321 *i* P **P** **07 14 23.8 -0.2**
comp=Z,34nm,1.2s,SNR=10
RJOB Jochberg 82.55 323 *eP* **P** **07 14 24.7 +0.2**
comp=Z,21nm,0.9s,baz=47,slow=5.3
BUG Bochum--Univer 82.65 328 *eP* **P** **07 14 25.0 +0.2**
comp=Z,30nm,0.9s,baz=47,slow=5.3
FRB Frobisher Bay 82.67 9 LR LR 07 53 00.4
comp=Z,608nm,19.6s,baz=360,slow=37
TIR Tirane 82.69 315 IAMs_20 IAMs_20 07 55 05.2
comp=Z,1μm,18.0s
KBA Koelnbreinsper 82.70 322 *i* P **P** **07 14 25.1 -0.3**
comp=Z,42nm,1.5s,SNR=13
LJU Ljubljana 82.71 321 *i* P **P** **07 14 24.9 -0.6**
MYKA Terra Mystica 82.84 322 *i* P **P** **07 14 25.4 -0.7**
comp=Z,60nm,1.6s,SNR=11
MFID Camas Ranch 82.88 42 P **P** **07 14 26.9 +0.5**
MFID IAmb IAmb 07 14 28.3
comp=Z,25nm,1.6s
HRY Holter Researc 82.94 38 P **P** **07 14 26.6 0.0**
TNS Taunus Mts 82.97 327 *eP* **P** **07 14 26.6 0.0**
comp=Z,32nm,1.0s,baz=47,slow=5.3
FUR Furstenfeldbru 83.03 324 *eP* **P** **07 14 26.8 -0.1**
comp=Z,87nm,1.0s,baz=47,slow=5.3
IDI Anoyia 83.08 308 ⇑P **P** **07 14 26.1 -1.4**
IDI Anoyia 83.08 308 IAMs_20 IAMs_20 07 56 06.1
comp=Z,284nm,19.0s
EGMT Eagleton 83.12 36 P **P** **07 14 27.8 +0.4**
baz=312
ABTA Abfaltersbach 83.35 322 *i* P **P** **07 14 27.4 -1.3**
comp=Z,52nm,1.0s,SNR=16
AHRW Bad Neuenahr-A 83.37 328 *eP* **P** **07 14 29.1 +0.5**
comp=Z,65nm,1.0s,baz=47,slow=5.3
WATA Walderalm 83.44 323 *i* P **P** **07 14 28.5 -0.7**
comp=Z,35nm,1.2s,SNR=11
WTTA Wattenberg 83.45 323 *i* P **P** **07 14 28.8 -0.6**
comp=Z,56nm,1.2s,SNR=16
HLID Hailey 83.58 42 P **P** **07 14 31.2 +1.1**
baz=310
STU Stuttgart 83.63 325 P **P** **07 14 29.8 -0.2**
STU pmax pmax
comp=Z,95nm,1.1s
STU MLR MLR
comp=Z,700nm,19.0s
STU Stuttgart 83.63 325 P **P** **07 14 29.8 -0.2**
STU IAMs_20 IAMs_20 07 55 28.5
comp=Z,723nm,19.0s
STU Stuttgart 83.63 325 *eP* **P** **07 14 30.4 +0.4**
comp=Z,160nm,1.0s,baz=47,slow=5.3
MOTA Moosalm 83.67 324 *i* P **P** **07 14 29.7 -0.7**
comp=Z,30nm,0.9s,SNR=14
SQTA Sankt Quirin 83.70 323 *i* P **P** **07 14 29.8 -0.7**
comp=Z,36nm,1.0s,SNR=11
RETA Reute 83.74 324 *i* P **P** **07 14 30.4 -0.3**
comp=Z,70nm,1.2s,SNR=22
BTNL Ternell 83.76 328 *dP* **P** **07 14 29.6 -1.1**
comp=Z,29nm,1.1s
BOZ Bozeman (W) 83.78 39 P **P** **07 14 31.6 +0.6**
baz=311
MEM Membach 83.80 328 *dP* **P** **07 14 30.2 -0.6**
comp=Z,34nm,1.0s
BEBN Eben Emael 83.81 329 *dP* **P** **07 14 30.5 -0.3**
comp=Z,57nm,1.0s
EKA Eskdalemuir Ar 83.86 336 LR LR 07 54 47.7
comp=Z,515nm,21.8s,baz=358,slow=38
EKA Eskdalemuir Ar 83.86 336 P **P** **07 14 30.0 -1.0**
BMN Battle Mountai 83.92 45 P **P** **07 14 32.1 +0.3**
BMN pmax pmax
comp=Z,22nm,1.3s
BMN Battle Mountai 83.92 45 P **P** **07 14 32.1 +0.3**
BMN IAmb IAmb 07 14 34.1
comp=Z,22nm,1.3s
UBR Ueberruh 83.93 324 *eP* **P** **07 14 31.7 +0.1**
comp=Z,33nm,1.0s,baz=47,slow=5.3
BHOU Houvegnez 83.99 328 *dP* **P** **07 14 31.7 -0.1**
comp=Z,25nm,1.2s
BSTI Sart Tilman 84.02 328 *dP* **P** **07 14 31.4 -0.4**
comp=Z,6.0nm,1.1s
FETA Feichten 84.07 323 *i* P **P** **07 14 32.0 -0.5**
comp=Z,44nm,1.1s,SNR=21
KVN Kaiserville 84.23 47 P **P** **07 14 33.6 +0.1**
KVN pmax pmax
comp=Z,24nm,1.1s
KVN Kaiserville 84.23 47 P **P** **07 14 33.6 +0.1**
KVN IAmb IAmb 07 14 35.5
comp=Z,24nm,1.1s
BCLA Clavier 84.25 328 *dP* **P** **07 14 32.0 -1.1**
comp=Z,22nm,1.2s
CTI Castel Tesino 84.26 322 P **P** **07 14 32.1 -1.3**
CTI pmax pmax
comp=Z,86nm,1.2s
CTI Castel Tesino 84.26 322 P **P** **07 14 32.0 -1.3**
DAVA Damuels 84.32 324 *i* P **P** **07 14 33.2 -0.5**
comp=Z,192nm,1.1s,SNR=48
BFO Black Forest 84.35 326 P **P** **07 14 32.9 -0.8**
BFO pmax pmax
comp=Z,116nm,1.1s
BFO Black Forest 84.35 326 P **P** **07 14 32.9 -0.8**
BFO IAMs_20 IAMs_20 07 56 57.6
comp=Z,575nm,19.0s
BFO Black Forest 84.35 326 *eP* **P** **07 14 33.9 +0.3**
comp=Z,77nm,1.0s,baz=47,slow=5.3
BGES Gesves 84.37 328 *dP* **P** **07 14 32.9 -0.8**
comp=Z,22nm,1.2s
WLF Walferdange 84.41 327 P **P** **07 14 33.8 -0.1**
WLF pmax pmax
comp=Z,101nm,1.0s
WLF Walferdange 84.41 327 P **P** **07 14 33.8 -0.1**
WLF IAMs_20 IAMs_20 07 56 51.3
comp=Z,901nm,19.0s
WLF Walferdange 84.41 327 *eP* **P** **07 14 34.3 +0.4**
comp=Z,66nm,1.0s,baz=47,slow=5.3
WLF Walferdange 84.41 327 *dP* **P** **07 14 33.9 -0.1**
comp=Z,59nm,1.1s
RCHB Rochefort 84.47 328 *dP* **P** **07 14 33.6 -0.6**
comp=Z,34nm,1.1s
NVAR Mina Array Bea 84.49 47 P **P** **07 14 35.5 +0.7**
comp=Z,3.7nm,0.6s,baz=302,slow=5.5,SNR=35
BMRD Maredsous 84.57 329 *dP* **P** **07 14 34.1 -0.6**
comp=Z,41nm,1.1s
SNF Seneffe 84.63 329 *dP* **P** **07 14 34.2 -0.8**
comp=Z,37nm,1.1s
DAVOX Davos/Dischmat 84.66 324 LR LR 07 55 31.8
comp=Z,777nm,18.4s,baz=78,slow=38
GIVF Givet 84.69 328 *eP* **P** **07 14 34.0 -1.3**
GIVF pmax pmax
comp=Z,52nm,1.1s
TEOL Teolo 84.72 322 P **P** **07 14 34.8 -0.8**
YMR Madison River 84.75 39 P **P** **07 14 36.7 +0.7**
CDF Champ du Feu 84.79 326 *eP* **P** **07 14 34.1 -1.9**
CDF pmax pmax
comp=Z,37nm,1.3s
DOU Dourbes 84.80 329 *dP* **P** **07 14 35.1 -0.7**
comp=Z,18nm,1.2s
YNR Norris Junctio 84.87 39 P **P** **07 14 37.7 +1.0**

PAGB Antelope Grade 84.88 51 P **P** **07 14 37.5 +0.9**
PAGB IAmb IAmb 07 14 38.5
comp=Z,30nm,1.1s
ECH Echery 84.98 326 P **P** **07 14 36.0 -0.9**
ECH pmax pmax
comp=Z,86nm,1.2s
ECH MLR MLR
comp=Z,500nm,20.0s
ECH Echery 84.98 326 P **P** **07 14 36.0 -0.9**
ECH IAMs_20 IAMs_20 07 55 24.4
comp=Z,468nm,20.0s
BAIF Baives 84.99 329 *eP* **P** **07 14 35.5 -1.4**
BAIF pmax pmax
comp=Z,32nm,1.2s
SALO Salr 85.13 323 P **P** **07 14 36.7 -1.0**
H17A Grant Village 85.14 39 P **P** **07 14 41.1 +3.0**
baz=312
TUE Stuetta 85.14 324 P **P** **07 14 37.6 -0.3**
TPH Tonopah 85.38 47 P **P** **07 14 39.6 +0.3**
TPH pmax pmax
comp=Z,116nm,1.0s
TPH Tonopah 85.38 47 P **P** **07 14 39.6 +0.3**
HINF Hinteralfeld 85.41 326 *eP* **P** **07 14 37.7 -1.4**
HINF pmax pmax
comp=Z,43nm,1.1s
DGMT Dagmar 85.47 33 P **P** **07 14 39.0 -0.3**
DGMT IAmb IAmb 07 14 40.9
comp=Z,32nm,1.3s
DGMT Dagmar 85.47 33 P **P** **07 14 39.7 +0.3**
baz=316
MOOW Moose Ponds 85.48 40 P **P** **07 14 40.4 +0.6**
MOOW IAmb IAmb 07 14 42.2
comp=Z,31nm,1.9s
HAU Haudompre 85.51 326 *eP* **P** **07 14 38.2 -1.3**
HAU pmax pmax
comp=Z,81nm,1.4s
VES Vestal, Richgr 85.57 50 P **P** **07 14 40.2 +0.2**
baz=308
LAO LASA Array 85.78 35 P **P** **07 14 41.4 +0.4**
LAO IAmb IAmb 07 14 47.5
comp=Z,14nm,0.8s
AQU L'Aquila 85.78 319 P **P** **07 14 43.2 +2.2**
AQU pmax pmax
comp=Z,50nm,1.5s
AQU L'Aquila 85.78 319 IAMs_20 IAMs_20 07 58 53.9
comp=Z,502nm,18.0s
TIP Timpagrande 85.90 315 IAMs_20 IAMs_20 07 57 27.1
comp=Z,643nm,19.0s
OSSC Osservatorio P 86.18 321 P **P** **07 14 42.5 -0.4**
OSSC IAmb IAmb 07 14 44.5
comp=Z,37nm,1.3s
R11A Troy Canyon, C 86.21 46 P **P** **07 14 43.6 +0.2**
R11A IAmb IAmb 07 14 45.5
comp=Z,19nm,1.5s
R11A Troy Canyon, C 86.21 46 P **P** **07 14 44.1 +0.7**
baz=310
SENIN Lac Senin/Sane 86.23 325 IAMs_20 IAMs_20 07 57 13.4
comp=Z,818nm,19.0s
HWUT Hardware Ranch 86.45 42 P **P** **07 14 45.2 +0.7**
HWUT IAmb IAmb 07 14 46.7
comp=Z,23nm,1.3s
MPMC Manual Prospec 86.46 49 P **P** **07 14 45.5 +0.9**
baz=308
FURC Furnace Creek, 86.60 48 P **P** **07 14 46.4 +1.3**
baz=309
CABF La Chapelle 86.64 325 *eP* **P** **07 14 43.9 -1.3**
CABF pmax pmax
comp=Z,47nm,1.3s
DUG Dugway, Tooele 86.67 43 P **P** **07 14 46.5 +0.9**
baz=311
BW06 Boulder Array 86.78 40 P **P** **07 14 46.3 +0.1**
baz=313
PD31 Pinedale Array 86.78 40 P **P** **07 14 45.8 -0.4**
PDAR Pinedale Array 86.78 40 P **P** **07 14 46.2 +0.1**
comp=Z,3.6nm,0.8s,baz=335,slow=0.6,SNR=31
PDAR Pinedale Array 86.78 40 P **P** **07 14 45.9 -0.2**
CEL Celeste 87.00 314 IAMs_20 IAMs_20 07 58 37.4
comp=Z,489nm,19.0s
LPL La Plagne 87.11 324 *eP* **P** **07 14 46.4 -1.3**
LPL pmax pmax
comp=Z,13nm,0.8s
LPG La Plagne 87.11 324 *eP* **P** **07 14 46.5 -1.3**
LPG pmax pmax
comp=Z,16nm,0.8s
PSUT Pine Spring 87.14 45 P **P** **07 14 48.1 +0.2**
LOR Lormes 87.21 327 *eP* **P** **07 14 46.3 -1.6**
LOR pmax pmax
comp=Z,46nm,1.4s
ULM Lac du Bonnet 87.68 28 P **P** **07 14 50.0 -0.1**
comp=Z,26nm,0.9s,baz=327,slow=5.9,SNR=18
ULM Lac du Bonnet 87.68 28 *i* P **P** **07 14 49.5 -0.6**
AVF Avril sur Loir 87.79 327 *eP* **P** **07 14 49.1 -1.6**
AVF pmax pmax
comp=Z,44nm,1.2s
HEC Hector,Ludlow 87.96 49 P **P** **07 14 53.2 +1.4**
baz=309
ORIF Oris-en-Rattie 87.96 324 *eP* **P** **07 14 50.0 -1.6**
ORIF pmax pmax
comp=Z,18nm,1.2s
VAE Valguarnera 88.40 315 LR LR 08 00 00.8
comp=Z,245nm,19.4s,baz=64,slow=39
MTPU Mount Pierson 88.45 45 P **P** **07 14 54.4 0.0**
MTPU IAmb IAmb 07 14 57.3
comp=Z,44nm,1.8s
TCF Toulx Ste Croi 88.69 327 *eP* **P** **07 14 53.6 -1.4**
TCF pmax pmax
comp=Z,47nm,1.4s
RSSD Black Hills 88.69 36 P **P** **07 14 55.9 +0.6**
baz=317
RSSD Black Hills 88.69 36 P **P** **07 14 56.4 +1.1**
baz=317
AGMN Agassiz Nation 89.23 29 P **P** **07 14 57.2 -0.2**
baz=322
AGMN Agassiz Nation 89.23 29 P **P** **07 14 57.0 -0.4**
baz=322
O20A White River Ci 89.30 41 P **P** **07 14 58.5 +0.3**
baz=314
U15A North Rim 89.45 46 P **P** **07 14 59.3 +0.2**
U15A IAmb IAmb 07 15 01.8
comp=Z,52nm,1.9s
VSL Villasalto 89.96 319 IAMs_20 IAMs_20 08 01 32.5
comp=Z,305nm,20.0s
N23A Red Feather La 90.02 39 P **P** **07 15 01.5 -0.2**
N23A IAmb IAmb 07 15 04.0
comp=Z,30nm,1.2s
N23A Red Feather La 90.02 39 P **P** **07 15 02.9 +1.2**
baz=315
B35A Bob, Littlefor 90.04 28 P **P** **07 15 01.2 -0.1**
B35A Bob, Littlefor 90.04 28 P **P** **07 15 01.7 +0.4**
baz=324
PV11 David Mesa, Pa 90.21 43 P **P** **07 15 03.6 +1.2**
PV11 IAmb IAmb 07 15 04.9
comp=Z,34nm,1.2s
PV07 Paradox Valley 90.24 43 P **P** **07 15 03.5 +0.8**
PV07 IAmb IAmb 07 15 04.9
comp=Z,39nm,1.7s
LFF La Frestale 90.39 327 *eP* **P** **07 15 01.9 -1.0**
LFF pmax pmax
comp=Z,40nm,1.2s
ISCO Idaho Springs 90.98 40 P **P** **07 15 07.6 +1.4**
baz=316
F33A 5 Mile Ranch, 90.99 31 P **P** **07 15 05.8 +0.1**
baz=322
MVCO Mesa Verde 91.17 43 P **P** **07 15 08.2 +1.2**
baz=314
EYMN Ely 91.24 27 P **P** **07 15 06.1 -0.8**
baz=326
EYMN Ely 91.24 27 P **P** **07 15 07.1 +0.2**
baz=326
SCHQ Schefferville 91.53 10 P **P** **07 15 07.6 -0.4**
comp=Z,6.1nm,1.0s,baz=318,slow=7.7,SNR=5.6
SCHQ LR LR 07 58 39.1
comp=Z,390nm,19.2s,baz=282,slow=37
S22A 4UR Ranch, Cre 91.75 42 P **P** **07 15 11.2 +1.4**
baz=315
F36A Milaca 92.14 29 P **P** **07 15 11.2 +0.1**
baz=324
SDCO Great Sand Dun 92.50 41 P **P** **07 15 13.6 +0.4**
baz=316
ECSD EROS Data Cent 92.50 32 P **P** **07 15 12.7 -0.1**
baz=322
ECSD EROS Data Cent 92.50 32 P **P** **07 15 13.1 +0.3**
baz=322
KEST Kesra 92.59 316 P **P** **07 15 13.1 -0.3**
comp=Z,6.6nm,1.0s,baz=19,slow=8.2,SNR=4.4
KEST LR LR 08 02 36.8

comp=Z,434nm,18.7s,baz=0.5,slow=39
SPMN Marine on St. 92.95 29 P **P** **07 15 15.5 +0.7**
baz=325
SPMN Marine on St. 92.95 29 P **P** **07 15 15.6 +0.7**
baz=325
TUC Tucson 93.11 48 P **P** **07 15 17.1 +1.2**
TUC pmax pmax
comp=Z,8.0nm,1.2s
TUC Tucson 93.11 48 P **P** **07 15 17.1 +1.2**
baz=312
T25A Trinidad 93.54 41 P **P** **07 15 18.9 +0.9**
baz=316
KMBO Kilima Mbogo 93.56 271 P **P** **07 15 16.9 -1.6**
comp=Z,1.6nm,0.6s,baz=62,slow=12,SNR=4.3
KMBO Kilima Mbogo 93.56 271 *ceP* **P** **07 15 19.0 +0.6**
ANMO Albuquerque 93.93 44 *ceP* **P** **07 15 18.8 -1.0**
ANMO Albuquerque 93.93 44 P **P** **07 15 21.0 +1.2**
baz=315
G40A Rib Lake 93.96 28 P **P** **07 15 19.4 0.0**
baz=326
JFWS Jewell Farm 95.90 29 P **P** **07 15 28.4 +0.1**
baz=326
ESDC Sonseca Array 96.67 326 P **P** **07 15 30.7 -1.3**
comp=Z,2.7nm,1.0s,baz=24,slow=3.5,SNR=10
ESDC PP PP **07 19 21.8 -4.0**
comp=Z,0.9nm,0.8s,baz=34,slow=7.8,SNR=5.1
ESDC LR LR 08 04 25.5
comp=Z,407nm,18.4s,baz=36,slow=39
PGAV Gavieira, Arco 96.71 331 *e*LR LR 07 51 59.1
comp=Z,338nm,20.0s
MVO Moncorvo 96.84 329 *e*LR LR 07 52 24.5
comp=Z,530nm,18.0s
CART Cartagena 96.88 323 IAMs_20 IAMs_20 08 06 40.3
comp=Z,285nm,20.0s
PAB San Pablo 96.95 327 IAMs_20 IAMs_20 08 06 44.2
comp=Z,585nm,19.0s
MTE Manteigas 97.69 329 *e*LR LR 07 52 44.8
comp=Z,539nm,16.0s
MTE Manteigas 97.69 329 IAMs_20 IAMs_20 08 04 38.6
comp=Z,659nm,19.0s
TXAR Lajitas Array 99.58 46 P **Pdif** **07 15 45.9 +0.6**
comp=Z,0.5nm,0.7s,baz=276,slow=3.5,SNR=8.9
TXAR PP PP **07 19 45.3 -3.1**
comp=Z,0.4nm,1.0s,baz=298,slow=1.9,SNR=2.1
TXAR Lajitas Array 99.58 46 P **Pdif** **07 15 45.9 +0.6**
PVAQ Vaqueiros 100.23 328 *e*LR LR 07 54 25.2
comp=Z,750nm,18.0s
TORD Torodi Ar. Bea 113.34 305 PKiKP **PKiKP** **07 20 38.6 -1.4**
comp=Z,0.3nm,0.4s,baz=23,slow=1.2,SNR=7.5
TORD PP PP **07 21 25.3 -4.8**
comp=Z,2.2nm,1.1s,baz=46,slow=4.9,SNR=6.2
SYO Syowa Base 120.50 205 ⇑*e*Pdiff **Pdif** **07 17 19.4 +2.4**
SYO Syowa Base 120.50 205 ⇓*e*PKPdf **PKiKP** **07 20 52.8 +0.6**
GTBY Guantanamo Bay 122.12 29 IAMs_20 IAMs_20 08 05 42.6
comp=Z,352nm,20.0s
SDDR Presa de Saban 124.46 26 IAMs_20 IAMs_20 08 05 33.0
comp=Z,638nm,22.0s
SJG San Juan 126.96 20 IAMs_20 IAMs_20 08 16 11.7
comp=Z,356nm,18.0s
SMRT St. Maarten 127.84 17 IAMs_20 IAMs_20 08 20 18.7
comp=Z,400nm,19.0s
FDF Fort de France 131.49 15 IAMs_20 IAMs_20 08 12 54.2
comp=Z,408nm,18.0s
BIM Bigot 131.72 15 IAMs_20 IAMs_20 08 12 43.3
comp=Z,380nm,20.0s
GRGR Grenville 133.88 17 IAMs_20 IAMs_20 08 11 57.7
comp=Z,487nm,21.0s
PMSA Palmer Station 146.62 169 *eP* **PKiKP** **07 21 45.2 +0.2**
NNA Nana 147.36 57 *c i* PKIKP **PKPdf** **07 21 41.5 -2.1**
MCPB Macapa, AP 147.73 5 *eP* **PKPbc** **07 21 46.6 -0.4**
MACA Manacapuru-AM 148.73 22 *eP* **PKPbc** **07 21 48.4 -1.2**
MALB Monte Alegre 148.97 10 *eP* **PKPbc** **07 21 50.0 -0.2**
NBMO Morrinhos-CE 149.53 342 *eP* **PKPbc** **07 21 51.1 -0.5**
TMAB Tom-Au,PA,Br 149.82 358 *eP* **PKPbc** **07 21 50.0 -2.3**
NBCL Cascavel-CE 149.89 338 *eP* **PKPbc** **07 21 51.1 -1.4**
NBPV Pedro Velho 150.81 331 *eP* **PKPdf** **07 21 51.9 +2.8**
NBPS Pedro II - PI 150.92 344 *eP* **PKPbc** **07 21 53.2 -1.9**
ITTB Itaituba 151.18 14 *eP* **PKPbc** **07 21 54.0 -1.6**
NBPB Pedra_Branca-C 151.53 340 *eP* **PKPbc** **07 21 54.5 -1.9**
ETMB Extrema 152.36 38 *eP* **PKPbc** **07 21 56.6 -1.6**
PRPB Parauapebas 153.61 1 *eP* **PKPbc** **07 21 57.4 -3.6**
NPGB Novo Progresso 153.86 14 *eP* **PKPbc** **07 21 58.2 -3.3**
NBLA Lagarto - SE 155.97 331 *eP* **PKPdf** **07 22 00.9 +4.4**
SMTB Santa Maria do 156.24 356 *eP* **PKPdf** **07 22 00.6 +3.7**
LPAZ La Paz 156.35 51 PKP **PKPdf** **07 21 57.0 -0.7**
comp=Z,1.2nm,0.9s,baz=343,slow=4.7,SNR=4.7
LPAZ La Paz 156.35 51 PKIKP **PKPdf** **07 21 57.0 -0.7**
PLCA Paso Flores 161.15 121 *eP* **PKPdf** **07 22 07.0 +4.9**
BDFB Brasilia 162.99 356 PKP **PKPdf** **07 22 03.8 -0.8**
comp=Z,3.3nm,0.9s,baz=196,slow=4.7,SNR=5.1
BDFB Brasilia 162.99 356 PKIKP **PKPdf** **07 22 03.8 -0.8**
ITRB Iturama 167.03 5 *eP* **PKPdf** **07 22 12.0 +4.1**
PLTB Pedras Altas 176.19 77 *eP* **PKPdf** **07 22 16.5 +4.5**

NNC ***16*** *07:05:40.8±0.5, 50.°04N×78.°76E, h0km, mb3.5, mpv2.9, Error ellipse: s-maj=8.6km s-min=2.5km az=76.0, Suspected Mining explosion.*
IDC ***16*** *07:05:41.6±1.0, 50.°06N×78.°76E, h0km, mb1 2.9/2, mb1mx2.7/34, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=11.9km s-min=6.4km az=65.0*

ISC 16 07:05:41.7±1.0, 50.°04N±0.°06×78.°78E±0.°07, h0km, n9, σ0°61/13, 10C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.60**	**345**	Pg	**Pg**	**07 05 52.8**	**-0.4**
	2.6nm,0.3s,baz=165,slow=17,SNR=81						
KURBB				Lg	Lg	07 06 01.6	
	2.9nm,0.3s,baz=168,slow=32,SNR=10						
KURBB	**Kurchatov Arra**	**0.60**	**345**	⇑P	**Pg**	**07 05 52.8**	**-0.4**
	26nm,0.4s						
KURBB				⇑S	**Sg**	**07 06 01.1**	**+0.1**
	33nm,0.4s						
KURK	**Kurchatov**	**0.68**	**352**	⇑P	**Pg**	**07 05 54.1**	**-0.6**
	7.4nm,0.3s						
KURK				⇑S	**Sg**	**07 06 04.1**	**+0.5**
	8.6nm,0.4s						
MAKZ	**Makanchi**	**3.87**	**145**	⇑Pg	**Pb**	**07 06 51.2**	**+0.4**
	5.0nm,0.6s						
MAKZ				⇓Lg	Lg	07 07 42.3	
	6.7nm,0.5s						
MK31	**Makanchi Array**	**4.00**	**143**	⇑Pn	**Pn**	**07 06 44.8**	**+0.5**
	0.1nm,0.1s,baz=322,slow=10,SNR=33						
MK31				⇑Pg	**Pb**	**07 06 52.6**	**-0.5**
	1.5nm,0.5s,baz=334,slow=14,SNR=15						
MK31				⇑Lg	Lg	07 07 47.2	
	3.3nm,0.5s,baz=329,slow=27,SNR=9.8						
MKAR	**Makanchi Array**	**4.00**	**143**	Pn	**Pn**	**07 06 44.9**	**+0.7**
	0.3nm,0.3s,baz=323,slow=10,SNR=30						
MKAR				Pg	**Pb**	**07 06 52.2**	**-0.9**
	0.9nm,0.3s,baz=329,slow=16,SNR=21						
MKAR				Lg	Lg	07 07 45.5	
	1.0nm,0.3s,baz=332,slow=33,SNR=8.1						
OTUK	**Ortayu**	**4.59**	**249**	⇑Pn	**Pn**	**07 06 52.1**	**-0.3**
	0.6nm,0.1s						
OTUK				⇓Pg	**Pb**	**07 07 03.4**	**+0.3**
	0.7nm,0.4s						
OTUK				⇑Lg	Lg	07 08 06.6	
	2.9nm,0.5s						
ZALV	**Zalesovo Beam**	**5.41**	**41**	Pn	**Pn**	**07 07 04.3**	**+0.8**
	0.4nm,0.3s,baz=233,slow=14,SNR=14						
ZALV				Lg	Lg	07 08 31.6	
	0.3nm,0.3s,baz=228,slow=29,SNR=2.7						
I46RU	**ZALESOVO INFRA**	**5.41**	**41**	*i*		07 37 40.0	
	baz=226,slow=320,SNR=0.9						

DDA 16 07:12:18.2±0.0, 39.°07N×27.°55E, h7km±3km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEDA	**zmir-Bergama**	**0.38**	**254**	P	Pg	07 12 25.6	0.0
ZEDA				S	Sb	07 12 32.4	-1.0
BALY	**Balya**	**0.67**	**5**	P	Pg	07 12 29.8	-1.4
BALY				S	Sb	07 12 41.1	-0.8
BAYC	**CANAKKALE_Bayr**	**1.03**	**311**	P	Pb	07 12 38.2	-0.1
BAYC				S	Sn	07 12 53.2	-0.5
BAYC				*i* AML	AML	07 12 55.0	
	comp=Z,8.8nm,0.8s						
BAYC				*i* AML	AML	07 12 56.0	
	comp=N,7.2nm,0.3s						
BAYC				*i* AML	AML	07 12 58.0	
	comp=E,8.2nm,0.4s						
DGB	**zmir**	**1.14**	**207**	P	Pg	07 12 40.1	0.0

DGB			S	Sg	07 12 54.6	-0.3	
DGB			*i* AML	AML	07 12 57.0		
	comp=N,7.0nm,0.5s						

NNC ***16*** *07:21:16.8±0.6,50°.81N×73°.71E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=6.9km s-min=5.3km az=20.0, Suspected Mining explosion.*

IDC ***16*** *07:21:17.9±1.5,50°.85N×73°.76E,h0km,mb1 2.7/4, mb1mx2.6/52,mbtmp2.7/4,ML2.0/3,Error ellipse: s-maj=30.7km s-min=9.4km az=29.0*

ISC 16 07:21:18.2±1.1,**50°.85N**±0°.09×**73°.71E**±0°.07,**h0**km**,n21,** σ1ᵗ**49**/12**,13C-6D,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.76**	**199**	⇑Pn	**Pn**	**07 22 02.2**	**-1.4**
	12nm,1.0s						
OTUK				⇓Lg	Lg	07 22 41.2	
	42nm,1.0s						
BVAR	**Borovoye Array**	**2.99**	**318**	Pn	**Pn**	**07 22 06.3**	**-0.5**
BVAR				Sn	**Sn**	**07 22 43.7**	**+0.3**
BRVK	**Borovoye**	**3.06**	**318**	⇑Pn	**Pn**	**07 22 07.5**	**-0.3**
	5.6nm,0.9s						
BRVK				⇑Lg	Lg	07 22 51.0	
	114nm,1.0s						
KURBB	**Kurchatov Arra**	**3.07**	**92**	Pn	**Pn**	**07 22 06.9**	**-1.0**
	0.2nm,0.3s,baz=280,slow=13,SNR=46						
KURBB				Lg	Lg	07 22 53.7	
	0.5nm,0.3s,baz=262,slow=30,SNR=6.9						
KURBB	**Kurchatov Arra**	**3.07**	**92**	⇑Pn	**Pn**	**07 22 06.7**	**-1.2**
	7.6nm,0.8s						
KURBB				⇑Lg	Lg	07 22 54.5	
	127nm,0.8s						
KURK	**Kurchatov**	**3.12**	**91**	⇑Pn	**Pn**	**07 22 07.5**	**-1.1**
	4.6nm,0.6s						
KURK				⇓Lg	Lg	07 22 54.3	
	54nm,1.0s						
MAKZ	**Makanchi**	**6.79**	**123**	⇑Lg	Lg	07 24 49.0	
	22nm,0.9s						
MK31	**Makanchi Array**	**6.97**	**122**	⇑Pn	**Pn**	**07 23 00.9**	**-0.6**
	0.3nm,0.5s,baz=293,slow=11,SNR=4.6						
MK31				Pg	**Pb**	**07 23 22.8**	**+2.7**
	1.4nm,0.8s,baz=312,slow=13,SNR=4.0						
MK31				⇑Sn	**Sn**	**07 24 19.4**	**-2.1**
	5.0nm,0.8s						
MK31				⇓Lg	Lg	07 24 56.0	
	32nm,1.1s,baz=306,slow=28,SNR=4.8						
MKAR	**Makanchi Array**	**6.97**	**122**	Pn	**Pn**	**07 23 00.8**	**-0.8**
	0.0nm,0.3s,baz=309,slow=12,SNR=1.1						
MKAR				Lg	Lg	07 24 55.7	
	0.2nm,0.3s,baz=311,slow=23,SNR=5.9						
I46RU	**ZALESOVO INFRA**	**7.47**	**61**	*i*		08 05 50.0	
	baz=250,slow=321,SNR=1.6						
ZALV	**Zalesovo Beam**	**7.47**	**61**	Pn	**Pn**	**07 23 07.3**	**-1.0**
	0.2nm,0.3s,baz=253,slow=12,SNR=2.8						
ZALV				Lg	Lg	07 25 15.7	
	0.2nm,0.3s,baz=243,slow=28,SNR=2.5						
CHMS	**Chumysh**	**7.89**	**174**	⇑Lg	Lg	07 25 28.3	
	25nm,1.1s						
MDOK	**Medeo**	**8.02**	**162**	⇓Lg	Lg	07 25 30.3	
	25nm,1.0s						
TKM2	**Tokmak 2**	**8.04**	**170**	⇑Lg	Lg	07 25 28.1	
	27nm,1.1s						
KK31	**Karatay Array**	**8.05**	**197**	⇑Lg	Lg	07 25 30.2	
	7.3nm,0.8s,baz=12,slow=27,SNR=4.0						
AAK	**Ala-Archa**	**8.24**	**176**	Lg	Lg	07 25 32.7	
	0.3nm,0.3s,baz=38,slow=22,SNR=4.4						
PDGK	**Podgornoye**	**8.49**	**150**	⇓Lg	Lg	07 25 45.9	
	19nm,1.0s						
AB31	**Akbulak array**	**9.00**	**265**	⇑Lg	Lg	07 26 01.7	
	7.1nm,1.1s						
AKTO	**Aktyubinsk**	**9.98**	**274**	Lg	Lg	07 26 31.1	
	0.1nm,0.3s,baz=262,slow=17,SNR=3.6						
AKTO	**Aktyubinsk**	**9.98**	**274**	⇓Lg	Lg	07 26 33.0	
	7.6nm,1.1s						
ARU	**Arti**	**10.57**	**308**	Lg	Lg	07 26 50.6	
	0.0nm,0.3s,baz=53,slow=24,SNR=3.6						

IDC ***16*** *07:21:17.6±0.9,50°.34S×112°.55E,h0km,mb4.0/6, mb1 4.2/6,mb1mx4.0/31,mbtmp4.0/6,MS3.8/5,Ms1 3.8/5, ms1mx3.4/51,Error ellipse: s-maj=46.8km s-min=18.1km az=101.0*

NEIC ***16*** *07:21:20.3±1.9,50°.4S±0°.1×112°.6E±0°.3,h10km±1km, mb4.5/17,Error ellipse: s-maj=31.1km s-min=18.5km az=282.0*

ISC 16 07:21:19.6±0.7,**50°.38S**±0°.09×**112°.6E**±0°.2,**h10**km**,n36,** σ0ˢ**83**/30**,mb4.3**/13**,MS3.8**/5**,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.51**	**5**	T	T	07 40 44.2	
	baz=183,slow=74,SNR=252						
H01W1	**Cape Leeuwin H**	**15.52**	**5**	T	T	07 40 45.4	
	baz=183,slow=74,SNR=244						
H01W3	**Cape Leeuwin H**	**15.53**	**5**	T	T	07 40 46.1	
	baz=183,slow=74,SNR=211						
NWAO	**Narrogin (SRO)**	**17.78**	**13**	P	**Pn**	**07 25 25.4**	**-1.6**
MORW	**Morawa**	**21.45**	**8**	P	**P**	**07 26 08.6**	**+0.8**
FORT	**Forrest**	**22.76**	**36**	P	**P**	**07 26 21.1**	**-0.7**
FORT				IAmb	IAmb	07 26 40.0	
	comp=Z,16nm,0.9s						
STKA	**Stephens Creek**	**28.37**	**60**	P	**P**	**07 27 14.3**	**+0.6**
MAW	**Mawson**	**29.74**	**216**	LR	LR	07 36 35.0	
	comp=Z,139nm,19.2s,baz=46,slow=31						
ASAR	**Alice Springs**	**31.42**	**40**	P	**P**	**07 27 40.4**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=205,slow=7.9,SNR=9.1						
ASAR				PcP	**PcP**	**07 30 33.6**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=180,slow=2.1,SNR=1.4						
VNDA	**Vanda**	**32.80**	**162**	P	**P**	**07 27 52.6**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=290,slow=8.7,SNR=13						
VNDA				LR	LR	07 40 11.2	
	comp=Z,186nm,19.0s,baz=335,slow=34						
VNDA	**Vanda**	**32.80**	**162**	P	**P**	**07 27 52.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**33.87**	**23**	LR	LR	07 40 46.1	
	comp=Z,173nm,18.1s,baz=149,slow=34						
FITZ	**Fitzroy Crossi**	**33.87**	**23**	P	**P**	**07 28 02.6**	**+0.4**
SBA	**Scott Base**	**33.90**	**162**	P	**P**	**07 28 03.5**	**+1.6**
WRA	**Warramunga Arr**	**34.94**	**38**	P	**P**	**07 28 10.6**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=204,slow=8.5,SNR=11						
WRA				PcP	**PcP**	**07 30 43.7**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=220,slow=2.9,SNR=1.5						
WRA	**Warramunga Arr**	**34.94**	**38**	P	**P**	**07 28 11.5**	**-0.1**
WB2	**Warramunga Arr**	**34.94**	**38**	P	**P**	**07 28 10.1**	**-1.5**
WB2				IAmb	IAmb	07 28 12.6	
	comp=Z,7.2nm,1.1s						
WR0	**Warramunga Arr**	**35.00**	**38**	P	**P**	**07 28 12.3**	**+0.2**
WR0				IAmb	IAmb	07 28 12.5	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**35.12**	**38**	P	**P**	**07 28 13.6**	**+0.5**
WB0				IAmb	IAmb	07 28 13.9	
	comp=Z,4.6nm,0.9s						
QSPA	**South Pole Qui**	**39.75**	**180**	P	**P**	**07 28 51.6**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=302,slow=4.0,SNR=12						
QSPA	**South Pole Qui**	**39.75**	**180**	P	**P**	**07 28 52.4**	**+0.3**
QSPA				IAmb	IAmb	07 28 58.9	
	comp=Z,6.3nm,0.8s						
CTA	**Charters Tower**	**40.28**	**54**	LR	LR	07 44 20.0	
	comp=Z,126nm,20.0s,baz=282,slow=34						
CTAO	**Charters Tower**	**40.28**	**54**	P	**P**	**07 28 56.8**	**+0.1**
CTAO				IAmb	IAmb	07 29 21.5	
	comp=Z,16nm,1.4s						
LEM	**Lembang**	**43.60**	**353**	LR	LR	07 45 39.3	
	comp=Z,158nm,18.7s,baz=206,slow=34						
SNAA	**Sanae**	**50.07**	**202**	P	**P**	**07 30 13.8**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=118,slow=10.0,SNR=4.1						
SNAA	**Sanae**	**50.07**	**202**	IAmb	IAmb	07 30 33.4	
	comp=Z,4.8nm,1.0s						
BELA	**Belgrano 2**	**50.43**	**189**	P	**P**	**07 30 16.3**	**-0.3**
BELA				IAmb	IAmb	07 30 23.2	
	comp=Z,5.6nm,0.8s						
SBUM	**Sibu**	**52.62**	**360**	P	**P**	**07 30 35.0**	**+1.4**
SBUM				IAmb	IAmb	07 30 51.1	
	comp=Z,3.7nm,0.7s						
MYLDM	**Lahad Datu**	**55.57**	**7**	P	**P**	**07 30 56.6**	**+1.5**
SANVU	**Saraoutou**	**55.91**	**72**	P	**P**	**07 30 57.6**	**0.0**
CMAR	**Chiang Mai Arr**	**69.58**	**346**	P	**P**	**07 32 28.4**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=194,slow=5.8,SNR=8.5						
CMAR	**Chiang Mai Arr**	**69.58**	**346**	P	**P**	**07 32 28.7**	**+0.1**
TXAR	**Lajitas Array**	**145.63**	**114**	PKPbc	**PKPdf**	**07 40 57.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=197,slow=3.9,SNR=4.2						
PDAR	**Pinedale Array**	**150.40**	**88**	PKPbc	**PKPbc**	**07 41 11.0**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=208,slow=1.7,SNR=5.2						
PDAR	**Pinedale Array**	**150.40**	**88**		**PKPbc**	**07 41 11.0**	**+0.2**

YKA	**Yellowknife Ar**	**151.94**	**46**	PKPbc	**PKPbc**	**07 41 11.7**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=283,slow=2.0,SNR=23						

NEIC ***16*** *07:34:20.5±1.4,29°.58S±0°.10×111°.6W±0°.1,h10km±1km, mb5.4/110,Ms_20 5.2/147,Mwc5.5(GCMT),Error ellipse: s-maj=18.6km s-min=13.9km az=141.0*

IDC ***16*** *07:34:21.5±0.4,29°.63S×111°.78W,h0km,mb4.5/26, mb1 4.7/26,mb1mx4.6/35,mbtmp4.5/26,MS4.9/53, Ms1 4.9/53,ms1mx4.9/55,Error ellipse: s-maj=17.2km s-min=14.1km az=91.0*

MOS ***16*** *07:34:22.0±1.1,29°.66S×111°.73W,h10km,mb5.3/27, Error ellipse: s-maj=11.4km s-min=8.5km az=71.5*

BJI ***16*** *07:34:26.0±0.0,29°.60S×111°.70W,h10km,mB5.5/6, Ms5.5/16,Ms7 5.3/17*

GCMT ***16*** *07:34:27.5±0.1,29°.66S±0°.01×111°.74W±0°.01,h22km, MW5.5/150,Moment Tensor Solution. s115,c189; s150,c278; Duration: 1ᵗ4 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.33±.03; Mθθ-1.72±.03; Mϕϕ2.05±.03; Mrθ-0.38±.04; Mθϕ1.04±.02; Mϕr-0.07±.04; Best double couple: Mo2.19400×10¹⁷ NP1:ϕs150.00000°,δ79.00000°, λ-174.00000°. NP2:ϕs59.00000°,δ84.00000°, λ-11.00000°. Principal axes: T 2.3290, Plg4.0000°, Azm105.0000°; N -0.2650, Plg78.0000°, Azm212.0000°; P -2.0600, Plg12.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 07:34:22.0±0.3,**29°.65S**±0°.07×**111°.65W**±0°.06,**h10**km**, n626,** σ2ˢ**90**/498**,mb5.3**/88**,MS5.2**/124**,24C-10D,Easter Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA02	**Isla de Pascua**	**3.16**	**39**		**Pn**	**07 35 07.9**	**-3.9**
RPN	**Rapa Nui**	**3.24**	**40**	Pn	**Pn**	**07 35 10.9**	**-2.1**
	8.9nm,0.3s,baz=212,slow=9.0,SNR=4.1						
RPN				LR	LR	07 36 22.5	
	comp=Z,16μm,20.8s,baz=232,slow=37						
RPN	**Rapa Nui**	**3.24**	**40**	P	**Pn**	**07 35 13.9**	**+0.9**
RPN	**Rapa Nui**	**3.24**	**40**	Pn	**Pn**	**07 35 09.6**	**-3.4**
PTCN	**Pitcairn Islan**	**17.00**	**281**		**Pn**	**07 38 18.4**	**-1.6**
PTCN				IAmb	IAmb	07 38 21.2	
	comp=Z,367nm,1.1s						
H03S2	**Juan Fernandez**	**28.07**	**107**	T	T	08 10 14.2	
	baz=276						
H03N2	**Juan Fernandez**	**28.08**	**106**	T	T	08 09 41.0	
	baz=273,slow=73,SNR=1801						
H03N3	**Juan Fernandez**	**28.08**	**106**	T	T	08 09 48.6	
	baz=273,slow=73,SNR=2028						
H03S3	**Juan Fernandez**	**28.09**	**107**	T	T	08 09 53.6	
	baz=276						
H03S1	**Juan Fernandez**	**28.09**	**107**	T	T	08 10 07.9	
	baz=276						
H03N1	**Juan Fernandez**	**28.09**	**106**	T	T	08 09 43.7	
	baz=273,slow=73,SNR=3187						
BI05	**Punta Hualpn**	**32.79**	**113**	P	**P**	**07 40 53.5**	**-1.9**
BI05				IAmb	IAmb	07 40 53.7	
	comp=Z,70nm,1.1s						
LR04	**Corral**	**32.80**	**118**	P	**P**	**07 40 52.5**	**-3.0**
LR03	**Panguipulli**	**33.61**	**118**	P	**P**	**07 41 00.1**	**-2.5**
LL04	**Puerto Octay**	**33.69**	**120**	P	**P**	**07 41 01.3**	**-2.0**
LL03	**Petrohue**	**33.72**	**121**	P	**P**	**07 40 59.7**	**-3.8**
LL03				IAmb	IAmb	07 41 22.9	
	comp=Z,55nm,0.9s						
TAOE	**Nuku Hiva Isla**	**33.77**	**302**	*e*LQ	LQ	07 48 25.9	
	comp=Z,2μm,25.1s						
TAOE				*e*LR	LR	07 49 51.6	
	comp=Z,8μm,26.3s,baz=142						
GO05	**Huala**	**33.83**	**110**	P	**P**	**07 41 01.5**	**-3.1**
GO05				IAmb	IAmb	07 41 09.5	
	comp=Z,136nm,1.9s						
LL01	**San Ignacio de**	**33.89**	**123**	P	**P**	**07 41 02.9**	**-2.1**
AY01	**Puyuhuapi**	**34.10**	**126**	P	**P**	**07 41 04.3**	**-2.4**
AY01				IAmb	IAmb	07 41 10.4	
	comp=Z,54nm,1.4s						
ML02	**Panimavida**	**34.22**	**111**	P	**P**	**07 41 05.1**	**-2.9**
ML02				IAmb	IAmb	07 41 10.9	
	comp=Z,51nm,1.1s						
TBI	**Tubuai**	**34.30**	**271**	*e*S	**S**	**07 46 30.0**	**-6.1**
	comp=Z,544nm,28.8s						
TBI				*e*LQ	LQ	07 48 39.7	
	comp=Z,3μm,26.0s						
TBI				*e*LR	LR	07 50 04.9	
	comp=Z,11μm,26.8s,baz=108						
LL02	**Futaleuf**	**34.44**	**124**	P	**P**	**07 41 07.9**	**-1.8**
CO06	**Fray Jorge**	**34.49**	**102**	P	**P**	**07 41 07.6**	**-2.7**
BO01	**Tunca**	**34.56**	**109**	P	**P**	**07 41 08.0**	**-2.9**
BO01				IAmb	IAmb	07 41 14.0	
	comp=Z,45nm,1.2s						
MT02	**Curacav**	**34.60**	**107**	P	**P**	**07 41 08.7**	**-2.5**
ROC1	**El Roble**	**34.73**	**106**	P	**P**	**07 41 09.6**	**-3.1**
COYC	**Coyhaique**	**34.75**	**128**	P	**P**	**07 41 08.8**	**-3.5**
COYC				IAmb	IAmb	07 41 17.3	
	comp=Z,65nm,1.0s						
MT05	**Renca**	**34.92**	**107**	P	**P**	**07 41 11.5**	**-2.6**
PEL	**Peldehue**	**34.99**	**106**	P	**P**	**07 41 17.1**	**+2.4**
PEL				pmax	pmax		
	comp=Z,53nm,1.2s						
PEL	**Peldehue**	**34.99**	**106**	P	**P**	**07 41 11.3**	**-3.4**
PEL				IAmb	IAmb	07 41 18.1	
	comp=Z,53nm,1.2s						
PLCA	**Paso Flores**	**35.08**	**120**	P	**P**	**07 41 18.4**	**+3.0**
	comp=Z,5.1nm,0.8s,baz=281,slow=10,SNR=11						
PLCA				LR	LR	07 51 56.4	
	comp=Z,3μm,21.1s,baz=270,slow=30						
MT03	**Universidad Ad**	**35.10**	**107**	P	**P**	**07 41 13.6**	**-2.1**
MT03				IAmb	IAmb	07 41 27.6	
	comp=Z,74nm,1.2s						
VA03	**San Esteban**	**35.14**	**106**	P	**P**	**07 41 13.2**	**-2.8**
PAYG	**Puerto Ayora**	**35.28**	**39**	IAMs_20	IAMs_20	07 51 39.5	
	comp=Z,3μm,19.0s						
LMEL	**Las Melosas**	**35.33**	**108**	P	**P**	**07 41 14.7**	**-3.0**
LMEL				IAmb	IAmb	07 41 21.9	
	comp=Z,66nm,1.0s						
LCO	**Las Campanas**	**35.58**	**99**	P	**P**	**07 41 22.0**	**+1.9**
LCO				pmax	pmax		
	comp=Z,36nm,1.2s						
LCO	**Las Campanas**	**35.58**	**99**		**P**	**07 41 15.7**	**-4.4**
LCO	**Las Campanas**	**35.58**	**99**	IAMs_20	IAMs_20	07 51 44.1	
	comp=Z,4μm,18.0s						
CO01	**Juntas del Tor**	**35.92**	**101**	P	**P**	**07 41 20.3**	**-2.6**
AC06	**Mina Casimiro**	**36.23**	**97**	P	**P**	**07 41 23.1**	**-2.3**
AC06				IAmb	IAmb	07 41 29.2	
	comp=Z,78nm,1.4s						
PPT2	**Papeete2**	**36.60**	**281**	*e*S	**S**	**07 47 06.0**	**-5.7**
	comp=Z,470nm,26.5s						
PPT2				*e*LQ	LQ	07 49 37.6	
	comp=Z,1μm,24.5s						
PPT2				*e*LR	LR	07 51 05.8	
	comp=Z,11μm,26.5s,baz=114						
PPT	**Papeete**	**36.61**	**281**	LR	LR	07 51 58.6	
	comp=Z,4μm,21.6s,baz=96,slow=29						
NNA	**Nana**	**36.79**	**69**	LR	LR	07 53 02.0	
	comp=Z,3μm,18.8s,baz=236,slow=30						
NNA	**Nana**	**36.79**	**69**	*i* P	**P**	**07 41 32.5**	**+2.2**
NNA	**Nana**	**36.79**	**69**	IAMs_20	IAMs_20	07 51 56.6	
	comp=Z,3μm,22.0s						
ZON	**Zonda**	**36.87**	**104**	P	**P**	**07 41 32.8**	**+2.0**
ZON				pmax	pmax		
	comp=Z,258nm,1.9s						
PB14	**IPOC Station P**	**36.91**	**92**	P	**P**	**07 41 28.4**	**-3.2**
PB14				IAmb	IAmb	07 41 36.4	
	comp=Z,194nm,2.0s						
GO02	**Mina Guanaco**	**37.46**	**93**	P	**P**	**07 41 32.7**	**-3.6**
GO02				IAmb	IAmb	07 41 48.6	
	comp=Z,100nm,1.8s						
PB06	**IPOC Station P**	**38.23**	**90**	P	**P**	**07 41 40.3**	**-2.3**
PB06				IAmb	IAmb	07 41 47.8	
	comp=Z,215nm,2.0s						
PB07	**IPOC Station P**	**38.30**	**88**	P	**P**	**07 41 40.9**	**-2.2**
TA02	**Huaiquique**	**38.62**	**86**	P	**P**	**07 41 43.5**	**-2.2**
TA02				IAmb	IAmb	07 41 45.4	
	comp=Z,33nm,0.6s						
LVC	**Limon Verde**	**38.84**	**90**	LR	LR	07 53 45.1	
	comp=Z,5μm,19.6s,baz=254,slow=30						
LVC	**Limon Verde**	**38.84**	**90***c*	*e*P	**P**	**07 41 51.5**	**+3.5**
LVC	**Limon Verde**	**38.84**	**90**	P	**P**	**07 41 45.2**	**-2.7**
PB12	**IPOC Station P**	**39.10**	**83**	P	**P**	**07 41 46.3**	**-3.5**
PB11	**IPOC Station P**	**39.22**	**85**	P	**P**	**07 41 47.1**	**-3.8**
PB08	**IPOC Station P**	**39.51**	**86**	P	**P**	**07 41 49.7**	**-3.9**
USHA	**Ushuaia**	**39.78**	**142**	LR	LR	07 54 17.6	
	comp=Z,3μm,20.1s,baz=286,slow=30						

PB16	**IPOC Station P**	**39.92**	**83**	P	**P**	**07 41 53.5**	**-3.8**
LPAZ	**La Paz**	**41.98**	**81**	P	**P**	**07 42 16.4**	**+2.1**
	comp=Z,6.0nm,0.9s,baz=256,slow=5.7,SNR=24						
LPAZ				PcP	**PcP**	**07 44 11.0**	**+1.4**
	comp=Z,4.3nm,0.9s,baz=214,slow=3.8,SNR=5.3						
LPAZ				LR	LR	07 56 11.4	
	comp=Z,2μm,19.1s,baz=243,slow=31						
LPAZ	**La Paz**	**41.98**	**81**	*e*P	**P**	**07 42 16.6**	**+2.3**
LPAZ	**La Paz**	**41.98**	**81**	P	**P**	**07 42 11.6**	**-2.7**
CUSE	**Cuicocha Este**	**43.51**	**53**	*e*P	**P**	**07 42 27.9**	**+1.5**
RAR	**Rarotonga**	**44.01**	**269**	LR	LR	07 55 32.2	
	comp=Z,3μm,20.3s,baz=106,slow=29						
GCUF	**Volcan Galeras**	**44.90**	**53**	*e*P	**P**	**07 42 39.2**	**+1.6**
EFI	**East Falkland**	**45.02**	**135**	*i* P	**P**	**07 42 40.7**	**+3.1**
EFI				pmax	pmax		
	comp=Z,63nm,1.1s						
PMSA	**Palmer Station**	**45.87**	**154**	LR	LR	07 56 15.7	
	comp=Z,671nm,21.3s,baz=298,slow=29						
PTLC	**Puerto Leguiza**	**45.97**	**57**	*e*P	**P**	**07 42 43.7**	**-1.9**
SOTA	**Rioblanco**	**46.06**	**53**	*e*P	**P**	**07 42 46.7**	**-0.2**
SMAI	**San Martin Ant**	**46.46**	**159**	P	**P**	**07 42 47.1**	**-1.7**
DUNO	**Dulce Nombre,**	**46.86**	**37**	P	**P**	**07 42 48.1**	**-4.4**
TBTG	**Tabatinga, AM**	**46.89**	**65**	*e*P	**P**	**07 42 50.3**	**-2.6**
MARP	**Paez Belalcaza**	**47.02**	**53**	*e*P	**P**	07 43 00.5	+6.3
CDITO	**Canoas**	**47.03**	**41**	P	**P**	**07 42 50.2**	**-3.7**
CDITO				IAmb	IAmb	07 43 07.0	
	comp=Z,50nm,1.3s						
ORTG	**Ortega, Santa**	**47.12**	**36**	P	**P**	**07 42 50.9**	**-3.8**
ORTG				IAmb	IAmb	07 43 07.6	
	comp=Z,42nm,1.3s						
PEZE	**Perez Zeledon,**	**47.25**	**39**	P	**P**	**07 42 51.7**	**-3.9**
PEZE				IAmb	IAmb	07 43 12.4	
	comp=Z,61nm,1.8s						
BRU2	**Volcan**	**47.31**	**41**	P	**P**	**07 42 53.4**	**-2.8**
BRU2				IAmb	IAmb	07 43 09.9	
	comp=Z,64nm,1.3s						
BRU2	**Volcan**	**47.31**	**41**	*e*P	**P**	**07 43 00.8**	**+4.6**
JTS	**Las Juntas de**	**47.32**	**37**	LR	LR	07 57 54.1	
	comp=Z,2μm,19.9s,baz=280,slow=30						
JTS	**Las Juntas de**	**47.32**	**37**	P	**P**	**07 42 59.8**	**+3.7**
JTS	**Las Juntas de**	**47.32**	**37**	P	**P**	**07 42 52.6**	**-3.6**
JTS				IAmb	IAmb	07 43 09.4	
	comp=Z,48nm,1.5s						
JTS	**Las Juntas de**	**47.32**	**37**	IAMs_20	IAMs_20	07 57 31.5	
	comp=Z,2μm,21.0s						
ITQB	**Itaqui**	**47.42**	**104**	P	**P**	**07 42 54.1**	**-2.8**
ITQB				IAmb	IAmb	07 43 14.6	
	comp=Z,45nm,1.1s						
HDC	**Heredia**	**47.52**	**38**	IAMs_20	IAMs_20	07 57 42.9	
	comp=Z,3μm,21.0s						
YOTC	**Yotoco, Valle**	**47.57**	**51**	*e*P	**P**	**07 42 57.2**	**-1.1**
CPUP	**Villa Florida**	**47.72**	**100**	P	**P**	**07 43 00.5**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=249,slow=9.8,SNR=5.3						
CPUP				LR	LR	07 59 45.7	
	comp=Z,2μm,19.1s,baz=262,slow=32						
CPUP	**Villa Florida**	**47.72**	**100**	P	**P**	**07 42 57.1**	**-2.2**
MACC	**Macarena, Meta**	**48.01**	**56**	*e*P	**P**	**07 43 03.1**	**+1.5**
SIV	**San Ignacio**	**48.21**	**85**	LR	LR	07 59 51.5	
	comp=Z,2μm,20.1s,baz=268,slow=32						
ORTC	**Ortega, Tolima**	**48.27**	**53**	*e*P	**P**	**07 43 06.5**	**+2.9**
PLMC	**San Jos del P**	**48.29**	**51**	*e*P	**P**	**07 43 04.4**	**+0.6**
ANIL	**Santa Ana**	**48.58**	**52**	*e*P	**P**	**07 43 07.2**	**+0.9**
MTO3	**Montecristo**	**48.79**	**29**	P	**P**	**07 43 05.1**	**-2.6**
MTO3				IAmb	IAmb	07 43 20.4	
	comp=Z,27nm,1.1s						
ESQI	**Esquipulas**	**48.95**	**29**	P	**P**	**07 43 06.3**	**-2.5**
ESQI				IAmb	IAmb	07 43 21.4	
	comp=Z,83nm,1.4s						
GUY2C	**Guyana, Caldas**	**49.14**	**51**	*e*P	**P**	**07 43 12.7**	**+1.9**
CBOC	**Ciudad Bolivar**	**49.17**	**50**	*e*P	**P**	**07 43 09.9**	**-0.8**
CMIG	**Matias Romero**	**49.21**	**21**	LR	LR	07 58 55.1	
	comp=Z,1μm,21.2s,baz=192,slow=30						
UPA	**Univ. de Panam**	**49.31**	**44**	*e*P	**P**	**07 43 12.2**	**+0.7**
PLTB	**Pedras Altas**	**49.44**	**108**	P	**P**	**07 43 09.8**	**-2.6**
PLTB				IAmb	IAmb	07 43 28.6	
	comp=Z,78nm,1.7s						
ROSC	**El Rosal**	**49.58**	**53**	P	**P**	**07 43 17.3**	**+3.3**
	comp=Z,7.0nm,0.7s,baz=207,slow=3.9,SNR=9.2						
ROSC				LR	LR	08 00 47.8	
	comp=Z,1μm,18.7s,baz=222,slow=32						
ROSC	**El Rosal**	**49.58**	**53**	*e*P	**P**	**07 43 18.5**	**+4.4**
HELC	**Santa Helena**	**49.74**	**50**	*e*P	**P**	**07 43 15.9**	**+0.7**
CHIC	**Chingaza**	**49.84**	**53**	*e*P	**P**	**07 43 19.1**	**+3.0**
PTGC	**Puerto Gaitan,**	**50.66**	**55**	*e*P	**P**	**07 43 23.2**	**+1.4**
PTBC	**PUERTO BERRIO,**	**50.71**	**51**	*e*P	**P**	**07 43 23.2**	**+1.0**
AQDB

HKT pmax pmax
comp=Z,25nm,1.4s
HKT Hockley 61.16 16 P **P** **07 44 39.3 +2.7**
baz=196
214A Organ Pipe Nat 61.28 359 P **P** **07 44 34.7 -2.8**
214A IAmb IAmb 07 44 49.2
comp=Z,26nm,1.2s
214A Organ Pipe Nat 61.28 359 P **P** **07 44 39.8 +2.3**
baz=179
MNTX Cornudas Mount 61.30 6 P **P** **07 44 38.7 +1.0**
baz=186,SNR=11
MNTX Cornudas Mount 61.30 6 P **P** **07 44 38.3 +0.6**
baz=186,SNR=11
RPZ Rata Peaks 61.46 234 LR LR 08 06 49.7
comp=Z,488nm,18.4s,baz=97,slow=32
435B Jarrell 61.58 14 P **P** **07 44 38.4 -1.1**
435B Jarrell 61.58 14 P **P** **07 44 40.5 +1.0**
baz=194,SNR=6.2
435B Jarrell 61.58 14 P **P** **07 44 41.5 +2.0**
baz=194
TUC Tucson 61.63 1 P **P** **07 44 42.0 +2.0**
baz=181
121A Cookes Peak, D 61.95 4 P **P** **07 44 40.7 -1.6**
121A Cookes Peak, D 61.95 4 P **P** **07 44 42.2 -0.1**
baz=184
121A Cookes Peak, D 61.95 4 P **P** **07 44 43.4 +1.2**
baz=184
113A Mohawk Valley, 62.11 358 P **P** **07 44 39.8 -3.3**
113A IAmb IAmb 07 44 54.6
comp=Z,33nm,1.4s
WHTX Lake Whitney, 62.77 14 P **P** **07 44 44.7 -2.8**
WHTX Lake Whitney, 62.77 14 P **P** **07 44 48.4 +0.9**
baz=194
ABTX Abilene, Hawle 62.98 11 P **P** **07 44 46.1 -2.8**
ABTX Abilene, Hawle 62.98 11 P **P** **07 44 49.5 +0.6**
baz=192
ABTX Abilene, Hawle 62.98 11 P **P** **07 44 49.7 +0.8**
baz=192
PFO Pinyon Flats O 63.09 356 P **P** **07 44 51.6 +1.8**
comp=Z,1.6nm,0.7s,baz=137,slow=11,SNR=2.0
PFO LR LR 08 05 50.7
comp=Z,915nm,19.9s,baz=180,slow=30
PFO Pinyon Flats O 63.09 356 *i* P **P** **07 44 50.7 +0.9**
PFO pmax pmax
comp=Z,10.0nm,1.0s
BLYC Blythe 63.12 357 P **P** **07 44 46.8 -3.0**
BLYC IAmb IAmb 07 45 05.2
comp=Z,61nm,2.0s
NATX Nacogdoches 63.17 16 P **P** **07 44 53.0 +2.8**
baz=196
Y22A Socorro 63.40 4 P **P** **07 44 52.7 +0.8**
baz=184,SNR=15
BELC Belle Mtn. Jos 63.44 356 P **P** **07 44 54.7 +2.6**
baz=176
BNM Barren Site 63.64 5 P **P** **07 44 50.9 -2.6**
PASC Pasadena Art C 63.78 354 IAMs_20 IAMs_20 08 05 20.7
comp=Z,2µm,22.0s
MSTX Muleshoe 63.84 8 P **P** **07 44 54.7 0.0**
baz=188,SNR=14
MSTX Muleshoe 63.84 8 P **P** **07 44 55.4 +0.8**
baz=188,SNR=14
CRPR Cabo Rojo, PR 63.95 48 P **P** **07 44 52.1 -3.5**
MLPR Magueyes Islan 63.97 48 P **P** **07 44 52.3 -3.4**
Z35A Perchaven, San 64.11 13 P **P** **07 44 56.2 -0.2**
baz=194,SNR=6.7
PUH Pauahi 64.33 314 P **P** **07 44 56.0 -2.3**
ANMO Albuquerque 64.44 5 P **P** **07 45 00.0 +1.3**
comp=Z,1.6nm,0.8s,baz=157,slow=5.9,SNR=6.7
ANMO LR LR 08 08 13.5
comp=Z,1µm,18.2s,baz=197,slow=32
ANMO Albuquerque 64.44 5*ce* P **P** **07 45 01.0 +2.3**
ANMO Albuquerque 64.44 5 IAMs_20 IAMs_20 08 07 52.1
comp=Z,1µm,18.0s
ANMO Albuquerque 64.44 5 P **P** **07 44 59.9 +1.1**
baz=185
ANMO Albuquerque 64.44 5 P **P** **07 45 00.0 +1.3**
baz=185
W13A Hualapai Mount 64.44 358 P **P** **07 44 55.6 -3.1**
MSVF Nonsavu 64.61 263 LR LR 08 06 05.6
comp=Z,1µm,21.9s,baz=148,slow=30
MSVF Nonsavu 64.61 263 *i* P **P** **07 45 00.4 +0.2**
MSVF pmax pmax
comp=Z,23nm,1.0s
SJG San Juan 64.65 49 LR LR 08 09 57.5
comp=Z,260nm,21.1s,baz=230,slow=33
SJG San Juan 64.65 49 P **P** **07 44 57.7 -2.5**
SJG San Juan 64.65 49 P **P** **07 44 57.6 -2.5**
PDPR Patillas Dam, 64.67 49 P **P** **07 44 58.1 -2.2**
PDPR IAmb IAmb 07 45 10.5
comp=Z,34nm,1.2s
GSC Goldstone, Bar 64.79 355 P **P** **07 45 01.1 +0.2**
baz=175
WUAZ Wupatki 64.82 0 IAMs_20 IAMs_20 08 07 29.3
comp=Z,1µm,19.0s
WUAZ Wupatki 64.82 0 P **P** **07 45 03.9 +2.7**
baz=180
Z41A Richland Creek 65.07 17 P **P** **07 44 60.0 -2.6**
Z41A IAmb IAmb 07 45 14.1
comp=Z,35nm,1.1s
Z41A Richland Creek 65.07 17 P **P** **07 45 05.5 +2.9**
baz=198
WMOK Wichita Mounta 65.19 12 IAMs_20 IAMs_20 08 09 01.3
comp=Z,2µm,19.0s
ISA Isabella, Lake 65.29 354 P **P** **07 45 06.6 +2.6**
ISA pmax pmax
comp=Z,41nm,1.8s
ISA Isabella, Lake 65.29 354 P **P** **07 45 06.7 +2.6**
baz=173
SHOC Shoshone, Teco 65.35 356 P **P** **07 45 06.9 +2.4**
baz=176
CUPR Culebra, Puert 65.36 49 P **P** **07 45 03.0 -1.8**
QSM Queen of Sheba 65.45 355 P **P** **07 45 03.1 -2.0**
QSM IAmb IAmb 07 45 09.2
comp=Z,41nm,1.5s
VES Vestal, Richgr 65.52 353 P **P** **07 45 07.7 +2.2**
baz=173
MPMC Manual Prospec 65.59 355 P **P** **07 45 08.6 +2.4**
baz=174,SNR=9.6
FDF Fort de France 65.72 55 P P 07 45 12.3 +5.1
FDF pmax pmax
comp=Z,62nm,1.1s
X37A Clayton 65.72 15 P **P** **07 45 04.2 -2.6**
X37A IAmb IAmb 07 45 17.2
comp=Z,23nm,1.2s
FNO Franklin 65.95 13 **P** **07 45 05.8 -2.5**
FURC Furnace Creek, 65.95 355 P **P** **07 45 10.8 +2.6**
baz=175
VNA3 Neumayer Olymp 65.97 160 P **P** **07 45 08.7 +0.6**
CWC Cottonwood Cre 66.02 354 P **P** **07 45 11.3 +2.4**
baz=174
MDP Montagnes des 66.24 69 LR LR 08 11 23.3
comp=Z,1µm,19.2s,baz=246,slow=34
MVCO Mesa Verde 66.58 3 P **P** **07 45 10.6 -2.0**
MVCO IAmb IAmb 07 45 24.4
comp=Z,52nm,1.4s
MVCO Mesa Verde 66.58 3 P **P** **07 45 14.3 +1.7**
baz=183,SNR=16
LRAL Lakeview Retre 66.58 22 P **P** **07 45 14.3 +1.9**
baz=203
VNA1 Neumayer--Stat 66.62 159 P **P** **07 45 13.5 +1.3**
SMRT St. Maarten 66.65 51 P **P** **07 45 10.2 -3.0**
SMRT IAmb IAmb 07 45 26.3
comp=Z,42nm,1.4s
W39A Magazine 66.67 16 P **P** **07 45 14.6 +1.7**
baz=197
W39A Magazine 66.67 16 P **P** **07 45 14.7 +1.8**
baz=197
VNA2 Neumayer--Watz 66.77 160 P **P** **07 45 14.1 +0.9**
baz=261,slow=5.0
T25A Trinidad 66.79 6 P **P** **07 45 15.8 +1.9**
baz=187,SNR=5.8
TUL1 Leonard 66.90 14 P **P** **07 45 15.3 +0.9**
baz=195,SNR=15
TUL1 Leonard 66.90 14 P **P** **07 45 15.9 +1.5**
baz=195,SNR=15
W41B Gary Mavity, V 67.03 17 P **P** **07 45 16.2 +1.0**
baz=198,SNR=13
W41B Gary Mavity, V 67.03 17 P **P** **07 45 16.8 +1.6**
baz=198,SNR=13
152A Waverly Hall 67.04 25 P **P** **07 45 13.8 -1.5**
152A IAmb IAmb 07 45 26.6
comp=Z,41nm,1.3s
S22A 4UR Ranch, Cre 67.20 4 P **P** **07 45 18.0 +1.4**
baz=184,SNR=10
SDCO Great Sand Dun 67.30 5 IAMs_20 IAMs_20 08 09 48.6
comp=Z,1µm,20.0s
SDCO Great Sand Dun 67.30 5 P **P** **07 45 18.2 +1.0**
baz=186,SNR=13
SDCO Great Sand Dun 67.30 5 P **P** **07 45 18.6 +1.4**
baz=186,SNR=13
Z51A Franklin 67.46 24 P **P** **07 45 19.7 +1.7**
baz=205
TPH Tonopah 67.58 355 P **P** **07 45 17.2 -1.6**
TPH pmax pmax
comp=Z,255nm,1.9s
TPH Tonopah 67.58 355 P **P** **07 45 17.2 -1.6**
154A Montrose 67.59 26 P **P** **07 45 15.9 -2.9**
HHAR Hobbs 67.67 15 P **P** **07 45 19.6 +0.3**
baz=196
T35B Sooner Cattle 67.73 13 P **P** **07 45 20.9 +1.2**
baz=194
R11A Troy Canyon, C 67.75 357 P **P** **07 45 22.8 +2.9**
baz=176,SNR=9.0
SNAA Sanae 67.78 161 P **P** **07 45 20.3 +0.5**
SNAA Sanae 67.78 161 LR LR 08 10 37.2
comp=Z,383nm,19.9s,baz=290,slow=32
SNAA Sanae 67.78 161 *i* P **P** **07 45 20.2 +0.5**
U40A Yellville 68.00 16 P **P** **07 45 22.3 +0.9**
baz=198,SNR=8.0
U40A P **P** **07 45 22.3 +0.9**
baz=198,SNR=8.0
U40A Yellville 68.00 16 P **P** **07 45 23.1 +1.8**
baz=198,SNR=8.0
NVAR Mina Array Bea 68.02 354 P **P** **07 45 23.3 +1.7**
comp=Z,4.2nm,0.9s,baz=186,slow=7.9,SNR=25
NVAR LR LR 08 09 12.5
comp=Z,1µm,18.0s,baz=167,slow=31
LCAR Lake Charles 68.16 18 P **P** **07 45 21.8 -0.5**
baz=199,SNR=5.9
GOGA Godfrey 68.16 25 P **P** **07 45 25.5 +3.1**
GOGA pmax pmax
comp=Z,31nm,1.7s
GOGA Godfrey 68.16 25 P **P** **07 45 25.0 +2.6**
baz=206
MCCM Marconi Confer 68.26 350 IAMs_20 IAMs_20 08 08 04.3
comp=Z,1µm,18.0s
Q24A Divide 68.53 5 P **P** **07 45 27.1 +2.1**
baz=186
R32A Long Quarter, 68.80 11 P **P** **07 45 27.5 +1.2**
baz=192
KSCO Kaye Shedlock' 68.83 8 P **P** **07 45 24.3 -2.3**
KSCO Kaye Shedlock' 68.83 8 P **P** **07 45 29.1 +2.5**
baz=188,SNR=6.4
KSCO Kaye Shedlock' 68.83 8 P **P** **07 45 29.3 +2.6**
baz=188,SNR=6.4
CBKS Cedar Bluff 69.02 10 P **P** **07 45 29.8 +2.1**
baz=191
PBMO Poplar Bluff 69.02 18 P **P** **07 45 28.6 +0.9**
baz=200,SNR=9.9
TROLL Troll, Antarti 69.08 162 P **P** **07 45 29.2 +1.3**
W50A Signal Mountai 69.12 23 P **P** **07 45 29.6 +1.2**
baz=204
HICK Hickman 69.13 19 P **P** **07 45 25.7 -2.7**
S39A Bolivar 69.16 15 P **P** **07 45 29.3 +0.7**
baz=197,SNR=7.5
WVT Waverly 69.17 20 P **P** **07 45 29.3 +0.8**
baz=202
NLU North Lily Min 69.25 360 P **P** **07 45 26.6 -2.8**
ISCO Idaho Springs 69.33 5 P **P** **07 45 32.7 +2.8**
ISCO pmax pmax
comp=Z,12nm,1.5s
ISCO Idaho Springs 69.33 5 P **P** **07 45 28.0 -1.9**
ISCO Idaho Springs 69.33 5 P **P** **07 45 30.8 +0.9**
baz=186,SNR=11
ISCO Idaho Springs 69.33 5 P **P** **07 45 32.4 +2.5**
baz=186,SNR=11
PAHR Pah Rah Range 69.38 354 P **P** **07 45 26.8 -3.2**
ORV Oroville 69.46 352 IAMs_20 IAMs_20 08 08 29.2
comp=Z,1µm,22.0s
DUG Dugway, Tooele 69.50 359 P **P** **07 45 33.7 +2.9**
DUG pmax pmax
comp=Z,11nm,1.4s
DUG Dugway, Tooele 69.50 359 P **P** **07 45 28.1 -2.7**
DUG Dugway, Tooele 69.50 359 P **P** **07 45 33.4 +2.6**
baz=179,SNR=7.2
O20A White River Ci 69.51 3 P **P** **07 45 33.2 +2.3**
baz=183,SNR=5.8
W52A Murphy 69.51 24 P **P** **07 45 33.0 +2.2**
baz=206
CASEE Lake Jocassee 69.78 25 P **P** **07 45 34.6 +2.2**
baz=206,SNR=5.7
KSU1 Kansas State U 69.83 12 P **P** **07 45 34.7 +2.1**
baz=194
JLU Jordanelle 69.90 0 P **P** **07 45 31.4 -1.9**
JLU IAmb IAmb 07 45 44.4
comp=Z,32nm,1.2s
R40A Maddies Statio 69.98 16 P **P** **07 45 34.8 +1.2**
baz=198,SNR=6.3
CCM Cathedral Cave 70.01 17 P **P** **07 45 35.2 +1.5**
baz=199,SNR=7.2
CCM Cathedral Cave 70.01 17 P **P** **07 45 35.8 +2.0**
baz=199
TKL Tuckaleechee C 70.07 24 LR LR 08 11 34.1
comp=Z,957nm,21.8s,baz=208,slow=32
ELK Elko 70.12 357 P **P** **07 45 36.2 +1.5**
comp=Z,2.8nm,1.0s,baz=212,slow=6.6,SNR=8.0
ELK LR LR 08 10 29.2
comp=Z,1µm,19.8s,baz=186,slow=31
ELK Elko 70.12 357 IAMs_20 IAMs_20 08 10 18.5
comp=Z,1µm,21.0s
FVM French Village 70.16 18 P **P** **07 45 34.9 +0.3**
baz=200,SNR=6.1
T47A Sharon Grove 70.18 21 P **P** **07 45 36.3 +1.5**
baz=202,SNR=8.1
S44A Carbondale 70.20 19 P **P** **07 45 36.1 +1.1**
baz=200
O03E Paynes Creek 70.23 352 P **P** **07 45 37.4 +2.2**
baz=171
O02D Mt. Diablo Mer 70.24 351 P **P** **07 45 37.8 +2.6**
baz=170
N23A Red Feather La 70.39 5 P **P** **07 45 37.6 +1.2**
baz=185,SNR=8.7
V53A Saluda 70.42 25 P **P** **07 45 39.2 +2.7**
baz=206,SNR=5.9
V53A P **P** **07 45 39.2 +2.7**
baz=206,SNR=5.9
KMSC Kings Mountain 70.50 26 P **P** **07 45 39.2 +2.3**
baz=208
OGNE Ogallala 70.81 8 P **P** **07 45 40.9 +2.2**
baz=189
PHWY Pilot Hill 70.83 5 IAMs_20 IAMs_20 08 11 28.2
comp=Z,2µm,21.0s
T50A Nancy 70.94 22 P **P** **07 45 37.9 -1.5**
T50A Nancy 70.94 22 P **P** **07 45 38.9 -0.6**
baz=204
T50A P **P** **07 45 38.9 -0.6**
baz=204
TZTN Tazewell 70.94 24 P **P** **07 45 38.2 -1.3**
TZTN Tazewell 70.94 24 P **P** **07 45 41.9 +2.4**
baz=206
P38A Dawn 70.96 15 P **P** **07 45 39.8 +0.3**
baz=196,SNR=5.7
N02D Trinity Center 71.01 351 P **P** **07 45 41.9 +2.0**
baz=170
P40A Paris 71.21 16 P **P** **07 45 41.4 +0.4**
baz=198
Q44A Meyer Farm, Va 71.40 18 P **P** **07 45 43.5 +1.3**
baz=201,SNR=14
M02C Callahan 71.44 351 IAMs_20 IAMs_20 08 09 47.7
comp=Z,1µm,20.0s
M02C Callahan 71.44 351 P **P** **07 45 44.9 +2.4**
baz=170
M04C Macdoel 71.70 352 P **P** **07 45 46.5 +2.4**
baz=171
N35A Tabor 71.71 13 P **P** **07 45 45.8 +1.7**
baz=194,SNR=9.5
YBH Yreka Blue Hor 71.76 351 P **P** **07 45 46.2 +1.7**
comp=Z,3.4nm,1.0s,baz=145,slow=12,SNR=4.6
YBH LR LR 08 10 11.3
comp=Z,1µm,20.1s,baz=177,slow=30
YBH Yreka Blue Hor 71.76 351 IAMs_20 IAMs_20 08 09 49.0
comp=Z,1µm,20.0s
BGNE Belgrade 71.80 11 P **P** **07 45 47.4 +2.8**
baz=192
BGNE Belgrade 71.80 11 P **P** **07 45 47.4 +2.8**
baz=192
S51A Beattyville 71.91 23 P **P** **07 45 47.2 +1.8**
baz=205
S51A P **P** **07 45 47.2 +1.8**
baz=205
R49A Shelbyville 71.98 22 P **P** **07 45 46.8 +1.1**
baz=204
R49A P **P** **07 45 46.8 +1.1**
baz=204
WVOR Wild Horse Val 72.02 355 P **P** **07 45 48.7 +2.7**
WVOR pmax pmax
comp=Z,18nm,1.6s
AHID Auburn Hatcher 72.06 0 IAMs_20 IAMs_20 08 11 40.9
comp=Z,1µm,20.0s
BW06 Boulder Array 72.09 2 IAMs_20 IAMs_20 08 12 05.5
comp=Z,1µm,18.0s
BW06 Boulder Array 72.09 2 P **P** **07 45 47.5 +0.9**
baz=182,SNR=18
PDAR Pinedale Array 72.09 2 P **P** **07 45 46.0 -0.5**
comp=Z,16nm,1.3s,baz=158,slow=7.8,SNR=29
PDAR LR LR 08 12 35.5
comp=Z,928nm,18.3s,baz=191,slow=32
K22A Casper 72.10 4 P **P** **07 45 47.8 +1.3**
baz=185,SNR=7.3
K22A Casper 72.10 4 P **P** **07 45 48.8 +2.2**
baz=185,SNR=7.3
L04D Klamath Falls 72.19 352 P **P** **07 45 48.6 +1.5**
baz=170
L02E Cave Junction 72.30 351 P **P** **07 45 50.2 +2.6**
baz=169
P46A Rosedale 72.58 20 P **P** **07 45 51.0 +1.7**
baz=202
N41A Harden Midland 72.61 16 P **P** **07 45 47.5 -2.0**
N41A IAmb IAmb 07 46 01.1
comp=Z,73nm,1.8s
HUMO Hull Mountain 72.65 351 IAMs_20 IAMs_20 08 10 18.6
comp=Z,1µm,20.0s
BLA Blacksburg 72.67 26 P P 07 45 55.0 +5.0
baz=208
DZM Mont Dzumac 72.68 254 LR LR 08 10 17.1
comp=Z,2µm,21.2s,baz=108,slow=30
DZM Mont Dzumac 72.68 254 *e*S **S** **07 55 10.4 -5.9**
comp=Z,399nm,24.6s
DZM *e*LQ LQ 08 04 50.6
comp=Z,958nm,26.4s
DZM *e*LR LR 08 07 54.0
comp=Z,3µm,23.1s,baz=113
K02D Willamette Mer 72.84 351 P **P** **07 45 53.6 +2.8**
baz=169
HDIL Hopedale 72.87 18 P **P** **07 45 53.1 +2.2**
baz=200
K31A O'Neill 72.89 10 P **P** **07 45 50.0 -1.2**
HLID Hailey 72.90 358 IAMs_20 IAMs_20 08 12 19.1
comp=Z,1µm,18.0s
HLID Hailey 72.90 358 P **P** **07 45 53.5 +2.1**
baz=177,SNR=26
LOHW Long Hollow 72.92 1 IAMs_20 IAMs_20 08 11 59.4
comp=Z,2µm,22.0s
MOOW Moose Ponds 73.05 1 IAMs_20 IAMs_20 08 12 14.0
comp=Z,1µm,20.0s
J05D Fort Rock, OR 73.11 353 P **P** **07 45 55.0 +2.4**
baz=171,SNR=15
SCIA State Center 73.21 14 P **P** **07 45 50.1 -2.8**
SCIA IAmb IAmb 07 46 04.1
comp=Z,46nm,1.2s
Q51A Peebles 73.25 23 P **P** **07 45 55.2 +1.9**
baz=205,SNR=5.4
Q51A P **P** **07 45 55.2 +1.9**
baz=205,SNR=5.4
P49A Miami Univ. Ec 73.26 21 P **P** **07 45 54.5 +1.2**
baz=204
P49A Miami Univ. Ec 73.26 21 P **P** **07 45 54.8 +1.5**
baz=204
SFIN Lafayette 73.31 19 P **P** **07 45 55.8 +2.2**
baz=202
FLWY Flagg Ranch 73.38 1 P **P** **07 45 51.9 -2.4**
FLWY IAmb IAmb 07 46 05.0
comp=Z,28nm,1.1s
FLWY IAMs_20 IAMs_20 08 12 35.8
comp=Z,1µm,21.0s
I07A Izee 73.73 354 P **P** **07 45 53.2 -2.9**
RSSD Black Hills 73.75 6 P **P** **07 45 58.4 +2.0**
RSSD pmax pmax
comp=Z,24nm,1.3s
RSSD Black Hills 73.75 6 IAMs_20 IAMs_20 08 13 11.4
comp=Z,1µm,21.0s
RSSD Black Hills 73.75 6 P **P** **07 45 57.5 +1.1**
baz=187,SNR=8.9
RSSD Black Hills 73.75 6 P **P** **07 45 58.2 +1.9**
baz=187
L40A Anamosa 73.81 16 P **P** **07 45 58.2 +1.7**
baz=198,SNR=11
L42A Oliver, Polo 74.13 17 P **P** **07 45 59.3 +0.9**
baz=200
I05D Terrebonne, OR 74.17 353 P **P** **07 46 01.3 +2.7**
baz=171
N47A Urbana 74.19 20 P **P** **07 45 60.0 +1.3**
baz=203,SNR=5.7
N47A P **P** **07 45 60.0 +1.3**
baz=203,SNR=5.7
P52A Corning 74.21 23 P **P** **07 46 01.5 +2.6**
baz=206
ECSD EROS Data Cent 74.32 11 P **P** **07 45 59.7 +0.3**
baz=194,SNR=9.1
ECSD EROS Data Cent 74.32 11 P **P** **07 46 01.0 +1.5**
baz=194,SNR=9.1
BMO Blue Mountains 74.33 356 IAMs_20 IAMs_20 08 12 19.9
comp=Z,1µm,21.0s
COR Corvallis 74.64 351 P P 07 46 06.4 +5.1
COR pmax pmax
comp=Z,56nm,1.5s
O52A Adamsville 74.74 23 P **P** **07 45 59.4 -2.6**
O52A Adamsville 74.74 23 P **P** **07 46 01.7 -0.3**
baz=206,SNR=6.8
O52A P **P** **07 46 01.7 -0.3**
baz=206,SNR=6.8
RCBR Riachuelo 74.77 88 LR LR 08 16 20.2
comp=Z,2µm,20.6s,baz=25,slow=34
JFWS Jewell Farm 74.85 16 P **P** **07 46 04.4 +1.9**
baz=199
BOZ Bozeman (W) 74.89 0 IAMs_20 IAMs_20 08 14 41.8
comp=Z,972nm,18.0s
BOZ Bozeman (W) 74.89 0 P **P** **07 46 05.0 +2.0**
baz=180,SNR=11
L46A Eue Claire 75.05 19 P **P** **07 46 01.5 -2.3**
L46A IAmb IAmb 07 46 14.4
comp=Z,54nm,1.3s
O53A New Philadelph 75.07 24 P **P** **07 46 06.3 +2.4**
baz=207,SNR=6.5
N51A Ashland 75.27 23 P **P** **07 46 03.0 -2.0**
N51A IAmb IAmb 07 46 16.2
comp=Z,60nm,1.1s
N51A Ashland 75.27 23 P **P** **07 46 05.3 +0.2**
baz=206,SNR=6.1
N51A P **P** **07 46 05.3 +0.2**
baz=206,SNR=6.1
F10A Beach Ranch, E 75.44 356 P **P** **07 46 04.4 -1.6**
F05D White Salmon 75.71 353 IAMs_20 IAMs_20 08 12 38.4
comp=Z,1µm,22.0s
F04A Amboy 75.86 352 P **P** **07 46 06.1 -2.1**
F04A IAmb IAmb 07 46 19.0
comp=Z,25nm,1.0s
HAWA Hanford 76.02 354 IAMs_20 IAMs_20 08 13 14.8
comp=Z,1µm,20.0s
I42A Draeger Farm, 76.09 17 P **P** **07 46 11.2 +1.6**
baz=200
AAM Ann Arbor 76.11 21 P **P** **07 46 11.9 +2.1**
baz=205
N54A Moraine State 76.14 24 P **P** **07 46 12.7 +2.7**
baz=208
LAO LASA Array 76.14 4 P **P** **07 46 12.0 +2.0**
baz=185
MSO Missoula 76.15 358 IAMs_20 IAMs_20 08 14 42.1
comp=Z,1µm,18.0s
MSO Missoula 76.15 358 P **P** **07 46 10.8 +0.7**
baz=178
M53A WI Miller and 76.32 23 P **P** **07 46 13.7 +2.7**
baz=207
SPMN Marine on St. 76.47 14 P **P** **07 46 13.6 +1.9**
baz=197
E04D Cinebar 76.49 352 P **P** **07 46 14.4 +2.6**
baz=170
SSPA Standing Stone 76.62 26 P **P** **07 46 14.8 +2.1**
baz=210
F36A Milaca 76.94 13 P **P** **07 46 12.1 -2.3**
F36A IAmb IAmb 07 46 26.3
comp=Z,46nm,1.1s
F36A Milaca 76.94 13 P **P** **07 46 16.1 +1.6**
baz=196,SNR=6.9
G40A Rib Lake 77.08 15 P **P** **07 46 16.8 +1.5**
baz=199,SNR=8.6
D04E Lakebay 77.13 352 P **P** **07 46 18.6 +3.2**
baz=170
EGMT Eagleton 77.34 1 IAMs_20 IAMs_20 08 14 43.5
comp=Z,1µm,22.0s
EGMT Eagleton 77.34 1 P **P** **07 46 19.2 +2.5**
baz=182,SNR=11

D03D	Eldon	77.52	352	P		P		07 46 19.7	+2.1	
	baz=170									
NEW	Newport	77.72	356	P		P		07 46 19.4	+0.7	
	comp=Z,9.7nm,1.0s,baz=166,slow=6.5,SNR=13									
NEW				LR		LR		08 15 27.5		
	comp=Z,1μm,18.5s,baz=184,slow=32									
NEW	Newport	77.72	356	IAMs_20		IAMs_20		08 14 37.5		
	comp=Z,1μm,19.0s									
NEW	Newport	77.72	356	P		P		07 46 20.8	+2.0	
	baz=175,SNR=11									
L56A	Greenwood	78.05	25	P		P		07 46 20.3	-0.5	
	baz=210,SNR=5.2									
L56A				P		P		07 46 20.3	-0.5	
	baz=210,SNR=5.2									
DGMT	Dagmar	78.06	5	IAMs_20		IAMs_20		08 15 53.4		
	comp=Z,1μm,20.0s									
DGMT	Dagmar	78.06	5	P		P		07 46 22.5	+1.9	
	baz=187,SNR=8.2									
DGMT	Dagmar	78.06	5	P		P		07 46 23.3	+2.6	
	baz=187,SNR=8.2									
COWI	Conover	78.11	16	P		P		07 46 23.4	+2.4	
	baz=200									
B05A	Bryant	78.13	353	P		P		07 46 22.9	+2.0	
	baz=171									
A04D	Lummi Island	78.64	353	P		P		07 46 25.6	+1.8	
	baz=170									
AGMN	Agassiz Nation	78.88	11	P		P		07 46 26.7	+1.6	
	baz=194,SNR=5.7									
AGMN	Agassiz Nation	78.88	11	P		P		07 46 27.6	+2.4	
	baz=194,SNR=5.7									
EYMN	Ely	79.34	14	IAMs_20		IAMs_20		08 17 56.4		
	comp=Z,1μm,19.0s									
EYMN	Ely	79.34	14	P		P		07 46 29.6	+1.9	
	baz=198									
SYO	Syowa Base	79.39	170	⇑eP		P		07 46 25.7	-2.1	
SYO	Syowa Base	79.39	170	⇑eX		P		07 46 36.6	+8.8	
E46A	Sault Ste Mari	79.61	19	P		P		07 46 31.4	+2.2	
	baz=204,SNR=9.2									
SADO	Sadowa	79.78	23	P		P		07 46 31.5	+1.3	
	comp=Z,14nm,1.0s,baz=267,slow=4.8,SNR=8.2									
SADO				LR		LR		08 17 49.2		
	comp=Z,707nm,21.6s,baz=197,slow=33									
CAN	Canberra	80.34	235	P		P		07 46 36.9	+3.1	
ULM	Lac du Bonnet	80.77	10	P		P		07 46 36.2	+0.9	
	comp=Z,6.6nm,0.7s,baz=202,slow=4.8,SNR=7.3									
ULM				LR		LR		08 18 54.9		
	comp=Z,521nm,19.0s,baz=198,slow=33									
LONY	Lake Ozonia	81.29	26	P		P		07 46 41.1	+2.8	
	baz=212									
TOO	Toolangi	81.66	232	P		P		07 46 43.5	+2.8	
TOO				pmax		pmax				
	comp=Z,25nm,1.4s									
BBB	Bella Bella	82.76	350	LR		LR		08 17 46.5		
	comp=Z,324nm,18.2s,baz=172,slow=32									
MAW	Mawson	82.96	178	P		P		07 46 48.0	+1.2	
	comp=Z,8.7nm,0.8s,baz=189,slow=7.4,SNR=17									
MAW				LR		LR		08 21 09.0		
	comp=Z,1μm,18.4s,baz=190,slow=34									
MAW	Mawson	82.96	178	P		P		07 46 48.0	+1.2	
HNR	Honiara	84.02	263	IAMs_20		IAMs_20		08 15 28.2		
	comp=Z,1μm,22.0s									
FFC	Flin Flon	84.44	6	IAMs_20		IAMs_20		08 19 48.4		
	comp=Z,1μm,21.0s									
STKA	Stephens Creek	87.41	235	P		P		07 47 11.6	+1.8	
	comp=Z,2.3nm,0.9s,baz=129,slow=8.1,SNR=3.6									
STKA				LR		LR		08 19 44.4		
	comp=Z,267nm,20.3s,baz=105,slow=31									
STKA	Stephens Creek	87.41	235	i P		P		07 47 11.3	+1.4	
DLBC	Dease Lake	89.09	350	P		P		07 47 18.5	+1.5	
	comp=Z,8.7nm,1.2s,baz=162,slow=8.4,SNR=4.8									
DLBC				LR		LR		08 22 37.1		
	comp=Z,420nm,18.6s,baz=146,slow=32									
CTA	Charters Tower	90.19	247	LR		LR		08 22 10.6		
	comp=Z,375nm,19.6s,baz=110,slow=32									
YKA	Yellowknife Ar	91.85	359	P		P		07 47 29.8	0.0	
	comp=Z,1.6nm,0.9s,baz=173,slow=4.7,SNR=24									
YKA				PKKP		PKKPdf		08 04 48.5	+0.2	
	comp=Z,0.3nm,0.7s,baz=343,slow=2.9,SNR=8.4									
YKA				LR		LR		08 24 31.8		
	comp=Z,1μm,18.0s,baz=184,slow=33									
H11S2	WAKE ISLAND Hy	92.01	290	T		T		09 29 39.3		
	baz=118,slow=74,SNR=5.4									
H11S1	WAKE ISLAND Hy	92.02	290	T		T		09 29 20.8		
	baz=118,slow=74,SNR=6.0									
H11S3	WAKE ISLAND Hy	92.03	290	T		T		09 29 27.3		
	baz=118,slow=74,SNR=4.9									
H11N3	WAKE ISLAND Hy	92.46	291	T		T		09 30 07.8		
	baz=123									
H11N1	WAKE ISLAND Hy	92.48	291	T		T		09 30 06.7		
	baz=123									
H11N2	WAKE ISLAND Hy	92.48	291	T		T		09 30 02.7		
	baz=123									
SCHQ	Schefferville	92.54	24	P		P		07 47 35.0	+1.9	
	comp=Z,3.5nm,0.8s,baz=219,slow=5.7,SNR=6.2									
SCHQ				LR		LR		08 25 16.0		
	comp=Z,276nm,21.2s,baz=214,slow=33									
FARO	Faro, Yukon	93.22	350	P		P		07 47 36.0	-0.1	
	baz=161									
MMPY	Sheldon Lake,	93.29	351	P		P		07 47 38.3	+1.8	
	baz=163									
KDAK	Kodiak Island	93.63	339	LR		LR		08 22 02.2		
	comp=Z,198nm,19.3s,baz=182,slow=31									
KDAK	Kodiak Island	93.63	339	i P		P		07 47 39.9	+1.9	
KDAK				pmax		pmax				
	comp=Z,22nm,1.1s									
PMG	Port Moresby	94.97	256	LR		LR		08 22 25.1		
	comp=Z,1μm,21.7s,baz=123,slow=30									
PMG	Port Moresby	94.97	256	IAMs_20		IAMs_20		08 22 02.4		
	comp=Z,1μm,22.0s									
M26K	Nabesna, AK	95.13	346	P		P		07 47 45.9	+1.0	
	baz=153									
L27K	Beaver Creek,	95.48	347	P		P		07 47 47.5	+1.0	
	baz=154									
RIDG	Independent Ri	96.71	346	P		P		07 47 53.5	+1.4	
	baz=151									
SCRK	Sand Creek	96.74	346	P		P		07 47 53.1	+0.8	
	baz=152									
CUT	Chulitna	96.83	343	P		P		07 47 58.5	+5.9	
	baz=147									
I29M	Ogilvie Camp,	96.94	349	P		P		07 47 54.2	+1.1	
	baz=157									
J25K	Salcha River,	97.59	346	P		Pdif		07 47 57.4	+1.3	
	baz=151									
MCK	McKinley	97.62	344	P		Pdif		07 47 57.8	+1.6	
	baz=148									
ASAR	Alice Springs	97.69	237	P		P		07 47 57.5	-0.1	
	comp=Z,0.7nm,0.7s,baz=119,slow=4.1,SNR=9.3									
ASAR				PP		PP		07 51 52.4	-2.6	
	comp=Z,0.8nm,1.0s,baz=120,slow=5.6,SNR=3.1									
TRF	Thorofare Moun	97.71	344	P		Pdif		07 47 57.7	+0.9	
	baz=147									
PPLA	Purkeypile	97.73	343	P		Pdif		07 48 01.6	+4.7	
	baz=145									
ILAR	Eielson Array	98.05	346	P		Pdif		07 47 58.8	+0.7	
	comp=Z,1.0nm,1.2s,baz=193,slow=3.7,SNR=3.2									
ILAR				PP		PP		07 51 53.1	-4.5	
	comp=Z,0.2nm,0.5s,baz=178,slow=4.5,SNR=1.9									
ILAR				LR		LR		08 23 14.9		
	comp=Z,233nm,20.6s,baz=177,slow=30									
CAST	Castle Rocks	98.14	343	Pdiff		Pdif		07 47 59.2	+0.7	
	baz=145									
COLA	College	98.35	345	i P		Pdif		07 48 01.1	+1.7	
COLA				pmax		pmax				
	comp=Z,8.0nm,1.6s									
BPAW	Bear Paw Mtn.	98.43	344	Pdiff		Pdif		07 48 00.5	+0.7	
	baz=146									
CHUM	Lake Minchumin	98.58	343	P		Pdif		07 48 01.6	+1.2	
	baz=145									
I23K	Minto, Yukon-K	98.92	345	Pdiff		Pdif		07 48 03.5	+1.5	
	baz=147									
INK	Inuvik	99.01	352	P		Pdif		07 48 03.1	+0.9	
	comp=Z,1.9nm,1.1s,baz=180,slow=2.7,SNR=3.8									
INK				LR		LR		08 28 41.0		
	comp=Z,303nm,18.3s,baz=147,slow=33									
INK	Inuvik	99.01	352	Pdiff		Pdif		07 48 03.1	+0.9	
	baz=161									
FRB	Frobisher Bay	99.11	18	LR		LR		08 29 52.0		
	comp=Z,895nm,20.6s,baz=198,slow=34									
WRA	Warramunga Arr	99.57	241	P		Pdif		07 48 06.9	+0.8	
	comp=Z,0.5nm,0.7s,baz=130,slow=4.5,SNR=4.6									
WRA				LR		LR		08 29 22.4		
	comp=Z,776nm,18.9s,baz=100,slow=33									
H01W1	Cape Leeuwin H	102.62	217	T		T		09 43 03.4		
	baz=138,slow=76,SNR=67									
H01W2	Cape Leeuwin H	102.62	217	T		T		09 43 05.9		
	baz=138,slow=76,SNR=73									
H01W3	Cape Leeuwin H	102.64	217	T		T		09 43 12.4		
	baz=138,slow=76,SNR=89									

BILL	Bilibino	114.26	336	ePKIKP		PKiKP		07 53 02.7	+1.7	
BILL				eSS		SS		08 09 54.0	+5.8	
BILL				pmax		pmax				
	comp=Z,2.0nm,1.2s									
BILL				MLR		MLR				
	comp=Z,140nm,16.0s									
ALE	Alert	114.42	6	IAMs_20		IAMs_20		08 38 08.6		
	comp=Z,721nm,21.0s									
TORD	Torodi Ar. Bea	116.57	90	PKP		PKPdf		07 53 06.6	-0.4	
	comp=Z,1.1nm,0.8s,baz=316,slow=1.5,SNR=5.5									
TORD				PP		PP		07 54 12.8	-1.6	
	comp=Z,0.8nm,0.8s,baz=243,slow=5.7,SNR=4.9									
COI	Coimbra	117.98	58	IAMs_20		IAMs_20		08 43 06.5		
	comp=Z,568nm,18.0s									
SFS	San Fernando	118.57	62	IAMs_20		IAMs_20		08 53 03.3		
	comp=Z,618nm,19.0s									
SEY	Seymchan	118.63	329	i PKIKP		PKiKP		07 53 12.0	+2.5	
SEY				pmax		pmax				
	comp=Z,1.0nm,1.0s									
MTE	Manteigas	118.67	58	IAMs_20		IAMs_20		08 43 56.8		
	comp=Z,570nm,19.0s									
ESDC	Sonseca Array	121.14	59	PKP		PKPdf		07 53 14.5	-0.7	
	comp=Z,1.1nm,0.8s,baz=256,slow=2.5,SNR=6.9									
INU	Inuyama	122.84	295	IAMs_20		IAMs_20		08 45 57.7		
	comp=Z,528nm,20.0s									
TIXI	Tiksi	127.06	340	i PKIKP		PKiKP		07 53 28.5	+2.6	
TIXI				pmax		pmax				
	comp=Z,3.0nm,0.9s									
KLR	Kul'dur	128.84	311	PKP		PKiKP		07 53 30.7	+0.5	
	comp=Z,0.7nm,0.5s,baz=129,slow=1.6,SNR=4.7									
BNI	Bardonecchia	129.79	54	IAMs_20		IAMs_20		08 48 18.8		
	comp=Z,546nm,21.0s									
INCN	Inchon	131.47	295	IAMs_20		IAMs_20		08 39 42.5		
	comp=Z,584nm,20.0s									
DAVA	Damuels	132.10	51	i P		PKiKP		07 53 37.5	+0.4	
	comp=Z,14nm,1.3s									
NACB	Ninganchiao	132.54	277	IAMs_20		IAMs_20		08 41 12.8		
	comp=Z,478nm,20.0s									
FETA	Feichten	132.69	52	eP		PKiKP		07 53 38.8	+0.5	
	comp=Z,17nm,1.3s									
RETA	Reutte	132.70	51	i P		PKiKP		07 53 39.1	+1.0	
	comp=Z,6.4nm,1.2s									
MOTA	Moosalm	132.94	51	eP		PKiKP		07 53 39.5	+0.7	
	comp=Z,6.3nm,0.8s									
SSLB	Suanglung	132.97	276	IAMs_20		IAMs_20		08 40 37.2		
	comp=Z,501nm,21.0s									
SQTA	Sankt Quirin	133.01	52	eP		PKiKP		07 53 39.3	+0.4	
	comp=Z,9.6nm,0.9s									
TPUB	Ta-pu	133.09	275	IAMs_20		IAMs_20		08 46 15.4		
	comp=Z,552nm,20.0s									
WATA	Walderalm	133.26	51	eP		PKiKP		07 53 39.6	+0.2	
	comp=Z,7.7nm,1.1s									
WTTA	Wattenberg	133.30	51	eP		PKiKP		07 53 39.0	-0.5	
	comp=Z,6.4nm,0.8s									
ABTA	Abfaltersbach	133.91	52	eP		PKPdf		07 53 39.5	+0.1	
	comp=Z,6.3nm,1.0s									
CLL	Collm	133.94	46	i PKIKP		PKiKP		07 53 41.2	+0.8	
CLL				e				07 53 48.0		
CLL				MLR		MLR				
	comp=Z,300nm,18.0s									
CLL	Collm	133.94	46	i PKiKP		PKiKP		07 53 41.2	+0.8	
CLL				ex		x		07 53 48.0		
CLL				LmV				08 55 00.0		
	comp=Z,300nm,18.0s									
KHC	Kasperske Hory	134.51	49	ePKIKP		PKiKP		07 53 41.1	-0.6	
KHC	Kasperske Hory	134.51	49	ePKPDF		PKiKP		07 53 41.1	-0.6	
AQU	L'Aquila	134.51	58	IAMs_20		IAMs_20		08 54 02.9		
	comp=Z,436nm,21.0s									
BRG	Berggiesshubel	134.58	46	ePKP		PKiKP		07 53 42.7	+0.9	
BRG				Amp				07 53 51.8		
	comp=Z,5.0nm,1.1s									
BRG	Berggiesshubel	134.58	46	ePKIKP		PKiKP		07 53 42.6	+0.9	
BRG				pmax		pmax				
	comp=Z,5.0nm,1.1s									
GERES	GERESS Array B	134.61	49	PKP		PKPdf		07 53 41.0	+0.5	
	comp=Z,1.5nm,0.8s,baz=219,slow=1.7,SNR=8.4									
CKRC	Cesky Krumlov	135.01	49	ePKPDF		PKiKP		07 53 42.4	-0.3	
SOKA	Soboth	135.65	52	eP		PKiKP		07 53 43.4	-0.7	
	comp=Z,4.7nm,1.2s									
OSTC	Ostas	136.05	47	ePKPDF		PKiKP		07 53 44.3	-0.5	
OSTC				ex		x		07 53 54.1		
CONA	Conrad Observa	136.12	50	eP		PKiKP		07 53 44.9	-0.2	
	comp=Z,5.9nm,1.0s									
DPC	Dobruska-Polom	136.15	47	ePKIKP		PKiKP		07 53 48.6	+3.6	
DPC	Dobruska-Polom	136.15	47	ePKPDF		PKiKP		07 53 48.6	+3.6	
CEL	Celeste	136.15	64	IAMs_20		IAMs_20		09 00 47.8		
	comp=Z,400nm,19.0s									
KRUC	Moravsky	136.36	49	ePKIKP		PKiKP		07 53 54.2	+8.8	
HIA	Hailar	136.69	312	IAMs_20		IAMs_20		08 50 19.9		
	comp=Z,549nm,21.0s									
NJ2	Nanjing	136.89	286	ePKP		PKiKP		07 53 46.6	-0.4	
KIBK	Kibwezi	136.97	132	IAMs_20		IAMs_20		08 50 23.3		
	comp=Z,534nm,21.0s									
MORC	Moravsky Berou	137.01	47	ePKIKP		PKiKP		07 53 55.7	+8.9	
JAVC	Velka Javorina	137.22	49	ePKIKP		PKiKP		07 53 56.9	+10	
FINES	FINESS Array B	137.83	29	PKP		PKiKP		07 53 47.0	-1.0	
	comp=Z,1.8nm,0.8s,baz=251,slow=4.3,SNR=4.0									
NRIK	Noril'sk	138.76	350	i PKIKP		PKPdf		07 53 47.6	+0.1	
NRIK				pmax		pmax				
	comp=Z,7.0nm,1.3s									
LODK	Lodwar	139.29	124	IAMs_20		IAMs_20		08 49 52.0		
	comp=Z,506nm,20.0s									
TIR	Tirane	139.32	60	IAMs_20		IAMs_20		08 58 53.4		
	comp=Z,420nm,21.0s									
VSU	Vasula	139.54	33	i PKIKP		PKPdf		07 53 50.2	+1.0	
BJT	Baijiatuan	139.83	298	IAMs_20		IAMs_20		08 48 36.3		
	comp=Z,333nm,20.0s									
IPM	Ipoh	140.23	237	IAMs_20		IAMs_20		08 53 30.6		
	comp=Z,348nm,18.0s									
KULM	Kulim	141.05	238	IAMs_20		IAMs_20		08 49 58.4		
	comp=Z,438nm,19.0s									
BURAR	Bucovina Array	142.40	49	⇑P		PKPdf		07 53 55.7	+0.8	
BURAR	Bucovina Array	142.40	49	⇑PKIKP		PKPdf		07 53 55.7	+0.8	
VOIR		142.71	53	⇑P		PKPdf		07 53 55.5	0.0	
VOIR		142.71	53	⇑PKIKP		PKPdf		07 53 55.5	0.0	
IDI	Anoyia	143.13	70	⇑P		PKPbc		07 53 54.3	+0.9	
IDI	Anoyia	143.13	70	eP		PKiKP		07 54 03.5	+3.7	
HHC	Hu-ho-hao-te	143.32	300	ePKP		PKPbc		07 53 55.1	+1.3	
MLR	Muntele Rosu	143.32	53	⇑P		PKPbc		07 53 55.0	+1.2	
MLR	Muntele Rosu	143.32	53	⇑PKIKP		PKPbc		07 53 55.0	+1.3	
KLMR	Klimovskoe	143.37	23	ePKIKP		PKPbc		07 53 53.2	0.0	
KLMR				pmax		pmax				
	comp=Z,52nm,1.3s									
KLMR	Klimovskoe	143.37	23	ePKPdf		PKPbc		07 53 53.3	+0.1	
KLMR				AMP				07 54 04.8		
	comp=Z,52nm,1.3s									
RDO	Rodhopi	143.60	60	eP		PKPdf		07 53 57.1	0.0	
APE	Apeiranthos	143.72	67	⇑P		PKPbc		07 53 55.5	+0.5	
APE	Apeiranthos	143.72	67	⇑PKIKP		PKPbc		07 53 55.5	+0.4	
VRI	Vrincioaia	143.79	52	⇓P		PKPdf		07 53 56.8	-0.5	
VRI	Vrincioaia	143.79	52	⇓PKIKP		PKPdf		07 53 56.8	-0.5	
ISR	Istrita	143.81	53	⇓P		PKPdf		07 53 56.3	-1.1	
ISR	Istrita	143.81	53	⇓PKIKP		PKPdf		07 53 56.3	-1.1	
ALN	Alexandroupoli	144.01	60	eP		PKPbc		07 53 55.8	+0.1	
AKASG	Malin Array Be	144.03	43	PKP		PKPbc		07 53 56.0	+0.6	
	comp=Z,0.6nm,0.3s,baz=288,slow=3.7,SNR=9.2									
ENEZ	Enez	144.10	61	eP		PKPbc		07 53 56.7	+0.7	
CHOS	Chios island	144.14	65	eP		PKPbc		07 53 56.4	+0.1	
ZKR	Zakros	144.21	70	eP		PKPbc		07 53 57.2	+0.7	
EZN	Ezine	144.29	62	eP		PKPab		07 53 56.4	+0.1	
SORM	Soroca	144.31	48	⇑P		PKPdf		07 53 57.3	-0.8	
SORM	Soroca	144.31	48	⇑PKIKP		PKPdf		07 53 57.3	-0.8	
GELI	Tayfur-Gelibol	144.37	61	eP		PKPbc		07 53 57.1	+0.3	
ERIK	Erikli-Kesan	144.38	61	eP		PKPdf		07 53 57.7	-0.7	
EDRB	Edirne	144.44	59	eP		PKPab		07 53 56.4	-0.4	
BTO	Baotou	144.50	299	ePKP		PKPdf		07 53 58.4	-0.4	
BTO				LR		LR				
	comp=Z,650nm,17.2s									
LPK	Lapseki	144.59	61	eP		PKPbc		07 53 57.9	+0.3	
PRGR	Permogore	144.68	19	ePKIKP		PKPbc		07 53 57.3	+0.2	
PRGR				pmax		pmax				
	comp=Z,36nm,0.9s									
SCTR	Scanteiesti	144.70	52	⇑P		PKPdf		07 53 58.7	-0.1	
VLDR	Vladesti	144.72	51	⇓P		PKPdf		07 53 59.0	+0.1	
HARR	Harsova	144.86	53	⇑P		PKPdf		07 53 59.4	+0.3	
HARR	Harsova	144.86	53	⇑PKIKP		PKPdf		07 53 59.4	+0.3	
RKY	Sarkoy-Tekirda	144.88	60	eP		PKPdf		07 53 59.2	-0.2	
CFR	Carcaliu	144.90	53	⇑P		PKPdf		07 53 59.5	+0.3	
CFR	Carcaliu	144.90	53	⇑PKIKP		PKPdf		07 53 59.5	+0.3	
BLCB	Balcova	144.91	64	eP		PKPbc		07 53 59.0	+0.3	
MAR3	Marsite Statio	144.96	60	eP		PKPdf		07 53 59.3	-0.2	
GZKV	Gazikoy-Tekird	144.99	60	eP		PKPbc		07 53 58.8	0.0	
KARP	Karpathos	145.00	69	eP		PKPdf		07 54 00.0	+0.2	
KARP	Karpathos	145.00	69	IAMs_20		IAMs_20		09 07 41.4		
	comp=Z,304nm,19.0s									

KRBG	Karabiga-Canak	145.00	61	eP		PKPbc		07 53 58.5	-0.3	
BODT	Bodrum	145.15	67	eP		PKPbc		07 53 59.3	-0.2	
TPGR	Topolog	145.16	53	⇑P		PKPbc		07 53 59.2	-0.1	
ULN	Ulaanbaatar	145.22	312	c PKIKP		PKPdf		07 54 00.1	+0.2	
ULN				pmax		pmax				
	comp=Z,56nm,1.7s									
ULN	Ulaanbaatar	145.22	312	IAMs_20		IAMs_20		08 56 54.2		
	comp=Z,424nm,18.0s									
TIRR	Tirgusor	145.24	54	⇓P		PKPbc		07 53 59.3	-0.2	
TIRR	Tirgusor	145.24	54	⇓PKP2		PKPbc		07 53 59.3	-0.2	
IRK	Irkutsk	145.25	321	ePKP2		PKPbc		07 53 59.1	-0.2	
IRK				pmax		pmax				
	comp=Z,133nm,2.1s									
DAT	Datca	145.36	67	eP		PKPbc		07 53 59.6	-0.7	
FURI	Furi	145.39	121	IAMs_20		IAMs_20		08 55 00.7		
	comp=Z,447nm,21.0s									
XAN	Xi'an	145.41	288	⇓PKPbc		PKPab		07 54 01.3	+0.6	
XAN				LR		LR				
	comp=Z,380nm,19.0s									
XAN				LR		LR				
	comp=Z,510nm,20.3s									
EDC	Edincik	145.43	61	eP		PKPbc		07 53 59.5	-0.8	
MLSB	Milas	145.52	66	eP		PKPab		07 54 01.1	+0.2	
SONM	Songino Array	145.65	313	PKPbc		PKPbc		07 54 01.0	+0.1	
	comp=Z,5.6nm,0.9s,baz=99,slow=2.8,SNR=28									
SONM	Songino Array	145.65	313	PKIKP		PKPbc		07 54 01.0	+0.1	
CTKS	Kestanelik-??a	145.82	59	eP		PKPdf		07 54 00.9	0.0	
OBN	Obninsk	145.90	33	⇓ePKIKP		PKPdf		07 53 59.9	-0.7	
OBN				eSS		SS		08 16 23.5	+6.7	
OBN				pmax		pmax				
	comp=Z,43nm,1.1s									
YER	Yerkesik	145.92	67	eP		PKPbc		07 54 01.9	-0.1	
MOS	Moscow	146.01	31	i PKHKP		PKPpre		07 53 58.9		
MOS				pmax		pmax				
	comp=Z,38nm,0.7s									
BGKT	Bogazkoy	146.03	59	eP		PKPbc		07 54 01.9	-0.2	
GYA	Guiyang	146.14	274	⇑PKPbc		PKPab		07 54 03.8	+0.1	
KULA	Kula-Manisa	146.18	64	eP		PKPbc		07 54 02.6	-0.2	
DALY	Dalyan (Mula)	146.22	67	eP		PKPdf		07 54 02.2	+0.5	
ISK	Istanbul-Kandi	146.26	60	eP		PKPdf		07 54 01.2	-0.5	
KAVV	Kandilli-Istan	146.26	60	eP		PKPdf		07 54 01.9	+0.2	
YLV	Yalova	146.56	60	eP		PKPbc		07 54 03.8	0.0	
FETY	Fethiye	146.57	68	eP		PKPab		07 54 05.1	+0.1	
ZAK	Zakamensk	146.62	318	ePKP2		PKPbc		07 54 04.1	+0.4	
ZAK				e				08 01 06.9		
ZAK				pmax		pmax				
	comp=Z,37nm,1.5s									
ZAK				pmax		pmax				
	comp=Z,4.0nm,1.4s									
TVSB	Tavsanli	146.74	62	eP		PKPbc		07 54 03.9	-0.5	
HRT	Hereke	146.75	60	eP		PKPbc		07 54 03.6	-0.7	
ADVT	Abdulvahap	146.85	61	eP		PKPbc		07 54 03.9	-0.6	
MOY	Mondy	147.31	322	ePKP2		PKPab		07 54 07.2	-0.3	
MOY				pmax		pmax				
	comp=Z,41nm,1.7s									
GULT	Gul

MKAR	**Makanchi Array**	**159.74**	**331**	PKP		**PKPdf**	**07 54 20.9**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=88,slow=4.1,SNR=4.2							
MKAR				PKPab		**PKPab**	**07 54 59.7**	**0.0**
	comp=Z,1.7nm,1.0s,baz=32,slow=10.0,SNR=5.4							
GEYT	**Alibeck**	**168.15**	**43**	PKP		**PKPdf**	**07 54 30.8**	**+1.8**
	comp=Z,1.8nm,0.5s,baz=230,slow=13,SNR=1.6							

DJA ***16*** *07:34:36.0±0.8, 4˚N±32˚×12˚7E±1˚3, h28km±32km, M4.0/6, mb4.0/2, mB4.0/1, MLv4.0/6, Mw(mB)3.1/1*

IDC ***16*** *07:34:41.3±3.7, 3˚53N×127˚00E, h75km±38km, mb3.7/13, mb1 3.8/14, mb1mx3.6/55, mbtmp4.0/14, ML4.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/79, Error ellipse: s-maj=45.7km s-min=14.2km az=68.0*

ISC 16 07:34:39.1±0.7, 3˚51N±0˚07×126˚9E±0˚1, h48km, n22, σ1§10/21, mb4.0/13, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.84**	**336**	**i**	**eP**	**Pn**	**07 35 22.5**	**+0.5**
KCP	**Kidapawan**	**3.92**	**333**	**i**	**eP**	**Pn**	**07 35 38.2**	**+1.4**
KCP				*i*	S	Sn	07 36 37.5	+16
LBMI	**Labuha**	**4.16**	**172**	P		**Pn**	**07 35 39.7**	**-0.4**
GTOI	**Gorontalo**	**4.81**	**234**	P		**Pn**	**07 35 49.4**	**+0.3**
SIJI	**Sorong**	**6.16**	**135**	P		**Pn**	**07 36 08.2**	**+0.6**
	3.4nm,0.3s,baz=330,slow=7.7,SNR=6.4							
SIJI				S		**Sn**	**07 37 19.3**	**+2.4**
	1.7nm,0.3s,baz=202,slow=20,SNR=5.8							
SIJI				LR		LR	07 38 21.8	
	comp=Z,170nm,20.1s,baz=214,slow=36							
FITZ	**Fitzroy Crossi**	**21.50**	**183**	P		**P**	**07 39 24.5**	**+0.5**
	2.3nm,0.6s,baz=11,slow=10,SNR=13							
PMG	**Port Moresby**	**23.93**	**123**	LR		LR	07 50 06.8	
	comp=Z,68nm,18.1s,baz=256,slow=39							
WRA	**Warramunga Arr**	**24.42**	**163**	P		**P**	**07 39 52.0**	**-1.4**
	9.2nm,0.8s,baz=340,slow=11,SNR=4.0							
WRA				S		**S**	**07 44 10.7**	**+0.5**
	1.4nm,1.0s,baz=348,slow=14,SNR=5.6							
ASAR	**Alice Springs**	**27.86**	**166**	P		**P**	**07 40 23.6**	**-0.8**
	0.6nm,0.5s,baz=348,slow=7.2,SNR=15							
ASAR				PcP		**PcP**	**07 43 40.2**	**+0.7**
	0.3nm,0.6s,baz=356,slow=2.2,SNR=2.2							
CMAR	**Chiang Mai Arr**	**31.12**	**301**	P		**P**	**07 40 55.4**	**+2.0**
	0.4nm,0.4s,baz=123,slow=7.6,SNR=1.8							
STKA	**Stephens Creek**	**37.86**	**159**	P		**P**	**07 41 51.3**	**-0.1**
	7.7nm,0.7s,baz=334,slow=7.4,SNR=16							
H11S3	**WAKE ISLAND Hy**	**41.67**	**66**	T		T	08 26 54.2	
	baz=251							
H11S2	**WAKE ISLAND Hy**	**41.69**	**66**	T		T	08 26 58.4	
	baz=251							
H11S1	**WAKE ISLAND Hy**	**41.69**	**66**	T		T	08 26 54.0	
	baz=251							
SONM	**Songino Array**	**47.56**	**341**	P		**P**	**07 43 10.0**	**0.0**
	0.6nm,0.6s,baz=155,slow=8.5,SNR=3.7							
MKAR	**Makanchi Array**	**57.83**	**325**	P		**P**	**07 44 25.4**	**-0.4**
	0.8nm,0.5s,baz=124,slow=6.9,SNR=9.5							
ZALV	**Zalesovo Beam**	**60.86**	**333**	P		**P**	**07 44 45.4**	**-1.1**
	0.4nm,0.5s,baz=111,slow=7.9,SNR=1.9							
KURBB	**Kurchatov Arra**	**62.01**	**327**	P		**P**	**07 44 53.4**	**-1.0**
	0.8nm,0.5s,baz=130,slow=6.3,SNR=15							
BVAR	**Borovoye Array**	**67.59**	**327**	P		**P**	**07 45 30.8**	**+0.1**
	0.5nm,0.5s							
AKTO	**Aktyubinsk**	**73.93**	**322**	P		**P**	**07 46 08.8**	**-0.5**
	0.8nm,0.4s,baz=93,slow=9.8,SNR=4.4							
BRTR	**Keskin Array B**	**90.29**	**310**	P		**P**	**07 47 34.3**	**-1.0**
	0.6nm,0.8s,baz=57,slow=5.3,SNR=2.8							
ARCES	**ARCESS Array B**	**90.71**	**340**	P		**P**	**07 47 35.1**	**-1.4**
	1.9nm,1.0s,baz=88,slow=6.5,SNR=1.3							

JMA 16 07:54:58.7, 32˚69N×130˚70E, h11km±1km, M3.6, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	**Izumi3**	**0.17**	**146**	**↑↑**	**P**	Pg	07 55 02.6	+0.1
JTA	**Tamana**	**0.31**	**333**	**↑↑**	**P**	Pg	07 55 05.0	+0.1
JTA					S	Sg	07 55 09.3	+0.2
JZO	**Okuchi**	**0.56**	**189**	**↑↑**	**P**	Pg	07 55 09.7	+0.2
JZO					S	Sg	07 55 17.3	+0.4

MAN ***16*** *07:56:11.3, 2˚89N×126˚99E, h29km, mb4.7, ML3.6, MS3.5, Hypocentre not reviewed by the ISC*

IDC ***16*** *07:56:12.5±0.5, 3˚45N×126˚74E, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.1/49, mbtmp4.2/18, ML4.3/1, MS4.0/12, Ms1 4.1/12, ms1mx3.6/78, Error ellipse: s-maj=32.6km s-min=10.7km az=70.0*

DJA ***16*** *07:56:14.8±0.6, 4˚N±4˚×12˚7E±˚, h35km±5km, M4.6/24, mB5.1/8, mb4.6/24, MLv4.7/13, Mw(mB)4.5/8*

NEIC ***16*** *07:56:21.2±1.4, 3˚43N±0˚07×126˚92E±0˚10, h66km±8km, mb4.7/42, Error ellipse: s-maj=14.3km s-min=8.8km az=71.0*

ISC 16 07:56:19.8±0.4, 3˚37N±0˚04×126˚80E±0˚06, h48km, n129, σ1§97/118, mb4.6/44, MS4.1/14, 2C-9D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.31**	**284**	P		**Pn**	**07 56 39.0**	**-2.8**
TNTI	**Ternate**	**2.64**	**168**	Pn		**Pn**	**07 57 02.4**	**+2.4**
DDMP	**Don Marcelino,**	**2.92**	**338**	**i**	**eP**	**Pn**	**07 57 03.3**	**-0.6**
GSPH	**General Santos**	**3.27**	**326**	**i**	**eP**	**Pn**	**07 57 07.7**	**-1.0**
MATI	**Mati**	**3.59**	**351**	**i**	**eP**	**Pn**	**07 57 13.8**	**+0.7**
DAV	**Davao City (W)**	**3.87**	**342**	Sn		Sn	07 58 09.6	+8.5
	59nm,0.3s,baz=111,slow=19,SNR=3.5							
DAV	**Davao City (W)**	**3.87**	**342**	Pn		**Pn**	**07 57 17.5**	**+0.6**
KMSI	**Cibinong**	**3.96**	**225**	P		**Pn**	**07 57 19.9**	**+1.8**
KCP	**Kidapawan**	**4.00**	**335**	**i**	**eP**	**Pn**	**07 57 18.3**	**-0.4**
KCP				*i*	S	**Sn**	**07 58 10.8**	**+6.5**
LBMI	**Labuha**	**4.04**	**170**	P		**Pn**	**07 57 17.9**	**-1.4**
CTBH	**Cotabato--PC H**	**4.59**	**326**	**i**	**eP**	**Pn**	**07 57 28.4**	**+1.5**
GTOI	**Gorontalo**	**4.66**	**234**	P		**Pn**	**07 57 29.5**	**+1.7**
	0.1nm350nm26nm,0.9s							
BUKP	**Musuan**	**4.80**	**339**	**i**	**eP**	**Pn**	**07 57 28.3**	**-1.5**
BUKP	**Musuan**	**4.80**	**339**	**i**	**eP**	**Pn**	**07 57 31.2**	**+1.5**
BUKP					*e*S	**Sn**	**07 58 32.2**	**+8.1**
SANI	**Sanana**	**5.45**	**189**	P		**Pn**	**07 57 38.4**	**-0.1**
	0.2nm18nm,0.8s							
CGP	**Cagayan de Oro**	**5.47**	**338**	**i**	**eP**	Pn	07 57 49.8	+11
MRSI	**Marisa**	**5.65**	**239**	P		**Pn**	**07 57 42.9**	**+1.6**
	0.5nm1μm136nm,0.7s							
LUWI	**Luwuk**	**5.96**	**223**	Pn		Pn	07 57 50.6	+5.1
LUWI	**Luwuk**	**5.96**	**223**	P		**Pn**	**07 57 48.1**	**+2.6**
	0.7nm3μm241nm,1.0s							
LUWI	**Luwuk**	**5.96**	**223**	P		Pn	07 57 53.0	+7.5
SWI	**Sorong**	**6.13**	**133**	P		**Pn**	**07 57 43.5**	**-4.4**
	0.4nm92nm,0.8s							
SIJI	**Sorong**	**6.13**	**133**	Pn		**Pn**	**07 57 47.4**	**-0.6**
	6.5nm,0.3s,baz=335,slow=14,SNR=12							
SIJI				Sn		**Sn**	**07 58 59.6**	**+2.7**
	0.3nm,0.3s,baz=135,slow=23,SNR=1.9							
SIJI				LR		LR	08 00 25.6	
	comp=Z,685nm,21.8s,baz=279,slow=41							
GLSP	**General Luna,**	**6.41**	**354**	**i**	**eP**	**Pn**	**07 57 52.6**	**+0.9**
TOLI2	**Tolitoli**	**6.42**	**250**			**Pn**	**07 57 52.0**	**+0.1**
TOLI2	**Tolitoli**	**6.42**	**250**	P		Pn	07 57 58.6	+6.7
APSI	**Ampana**	**6.68**	**231**	P		**Pn**	**07 57 58.3**	**+2.8**
	0.4nm1μm117nm,1.0s							
TBP	**Tagbilaran**	**6.92**	**335**	**i**	**eP**	**Pn**	**07 58 01.1**	**+2.3**
MPSI	**Mapaga**	**7.53**	**247**	P		**Pn**	**07 58 09.3**	**+2.2**
	3.1nm18nm,0.9s							
FAKI	**Fak Fak**	**8.29**	**139**	Pn		**Pn**	**07 58 17.4**	**-0.1**
FAKI	**Fak Fak**	**8.29**	**139**	P		**Pn**	**07 58 16.6**	**-0.9**
	28nm,0.7s							
FAKI	**Fak Fak**	**8.29**	**139**	P		**Pn**	**07 58 21.6**	**+4.1**
MYLDM	**Lahad Datu**	**8.47**	**283**	Pn		**Pn**	**07 58 24.1**	**+4.1**
TTSI	**Tana Toraja**	**9.45**	**228**	P		**Pn**	**07 58 35.0**	**+1.5**
	2μm32nm,1.0s							
BBKI	**Banjar Baru**	**13.75**	**241**	P		P	07 59 47.3	+7.7
SBUM	**Sibu**	**14.59**	**267**			**P**	**07 59 46.8**	**-2.2**
PLAI	**Plampang**	**15.10**	**217**	P		**P**	**07 59 54.2**	**-0.3**
	979nm117nm,1.0s							
PLAI	**Plampang**	**15.10**	**217**	P		**P**	**07 59 53.8**	**-0.7**
KSM	**Kuching**	**16.59**	**264**			**P**	**08 00 11.3**	**+0.2**
MTN	**Manton Dam**	**16.67**	**165**			**Pn**	**08 00 09.8**	**-0.5**
MTN	**Manton Dam**	**16.67**	**165**	P		**Pn**	**08 00 10.2**	**-0.1**
KDU	**Kakadu**	**16.92**	**161**	P		**Pn**	**08 00 13.6**	**+0.3**
KNRA	**Kununurra**	**19.02**	**174**	P		**P**	**08 00 37.2**	**-0.7**
KNRA				IAmb		IAmb	08 00 44.9	
	comp=Z,22nm,0.8s							
KNRA	**Kununurra**	**19.02**	**174**	P		**P**	**08 00 36.9**	**-1.0**
PCJI	**Pacitan**	**19.36**	**234**	P		**Pn**	**08 00 43.5**	**+0.3**
	comp=Z,35nm,0.9s							

GUMO	**Guam**	**20.53**	**59**	LR		LR	08 07 36.1	
	comp=Z,186nm,20.7s,baz=241,slow=33							
YULB	**Yu-li**	**20.60**	**345**	P		**P**	**08 00 51.5**	**-3.7**
YULB				IAmb		IAmb	08 00 58.6	
	comp=Z,76nm,1.5s							
TPUB	**Ta-pu**	**20.69**	**344**	P		**P**	**08 00 53.6**	**-2.5**
KPJI	**Karang Pucung**	**20.77**	**239**	P		Pn	08 01 12.4	+13
SSLB	**Suanglung**	**21.07**	**345**	P		**P**	**08 00 58.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**21.36**	**183**	P		**P**	**08 01 02.8**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=24,slow=11,SNR=15							
FITZ	**Fitzroy Crossi**	**21.36**	**183**	P		**P**	**08 01 02.9**	**-0.4**
YHNB	**Yeheng**	**21.81**	**347**	P		**P**	**08 01 06.6**	**-1.6**
YHNB				IAmb		IAmb	08 01 15.8	
	comp=Z,30nm,0.7s							
COEN	**Coen**	**23.67**	**137**	P		**P**	**08 01 26.3**	**-0.9**
MDSI	**Maura Dua**	**23.92**	**251**	P		**P**	**08 01 29.5**	**-0.1**
	comp=Z,7.3nm,0.9s							
UBPT	**Khong Chiam**	**24.11**	**301**	P		**P**	**08 01 31.1**	**-0.3**
UBPT				IAmb		IAmb	08 01 40.0	
	comp=Z,46nm,1.6s							
WB0	**Warramunga Arr**	**24.17**	**162**	P		**P**	**08 01 30.0**	**-1.9**
WB0				IAmb		IAmb	08 01 40.2	
	comp=Z,35nm,0.8s							
WRAB	**Tennant Creek**	**24.32**	**163**	P		**P**	**08 01 32.2**	**-1.0**
WRAB				IAmb		IAmb	08 01 38.2	
	comp=Z,30nm,0.8s							
WRA	**Warramunga Arr**	**24.32**	**163**	P		**P**	**08 01 31.4**	**-1.8**
	comp=Z,19nm,0.9s,baz=340,slow=11,SNR=46							
WRA				PcP		**PcP**	**08 05 12.8**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=343,slow=2.2,SNR=2.7							
WRA				S		**S**	**08 05 55.6**	**+6.3**
	comp=Z,1.5nm,1.1s,baz=322,slow=21,SNR=3.2							
WRA	**Warramunga Arr**	**24.32**	**163**	P		**P**	**08 01 31.5**	**-1.7**
WB2	**Warramunga Arr**	**24.33**	**163**	P		**P**	**08 01 32.5**	**-0.7**
WB2				IAmb		IAmb	08 01 38.7	
	comp=Z,44nm,1.0s							
WR0	**Warramunga Arr**	**24.40**	**162**	P		**P**	**08 01 32.9**	**-1.0**
WR0				IAmb		IAmb	08 01 38.9	
	comp=Z,26nm,1.0s							
PSA00	**Pilbara Seismi**	**25.71**	**195**	P		**P**	**08 01 45.9**	**+0.1**
AS31	**Alice Springs**	**27.75**	**166**	P		**P**	**08 02 03.9**	**-0.3**
ASAR	**Alice Springs**	**27.75**	**166**	P		**P**	**08 02 02.9**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=341,slow=6.3,SNR=45							
ASAR				PcP		**PcP**	**08 05 21.4**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=1.1,slow=2.1,SNR=5.8							
ASAR	**Alice Springs**	**27.75**	**166**	P		**P**	**08 02 03.5**	**-0.7**
NJ2	**Nanjing**	**29.49**	**346**	**e**	**P**	**P**	**08 02 19.3**	**-0.2**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
CMAR	**Chiang Mai Arr**	**31.12**	**301**	P		**P**	**08 02 33.1**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=117,slow=6.8,SNR=6.4							
CMAR				LR		LR	08 17 51.9	
	comp=Z,120nm,18.2s,baz=120,slow=42							
CMAR	**Chiang Mai Arr**	**31.12**	**301**	P		**P**	**08 02 34.1**	**-0.1**
CHTO	**Chiang Mai**	**31.27**	**301**	P		**P**	**08 02 35.0**	**-0.5**
JHJ	**Hachijo jima 2**	**31.99**	**21**	LR		LR	08 15 19.1	
	comp=Z,327nm,20.3s,baz=122,slow=36							
PZH	**PanZhiHua**	**33.25**	**316**	P		**P**	**08 02 55.3**	**+2.4**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,100nm,4.8s							
KSRS	**Korea Array**	**33.94**	**2**	P		**P**	**08 02 55.6**	**-2.8**
	comp=Z,0.8nm,0.5s,baz=176,slow=10,SNR=2.7							
KSRS				LR		LR	08 15 52.7	
	comp=Z,126nm,21.6s,baz=175,slow=35							
FORT	**Forrest**	**33.98**	**178**	P		**P**	**08 02 58.0**	**-0.9**
MJAR	**Matsushiro Arr**	**34.64**	**16**	LR		LR	08 16 41.1	
	comp=Z,234nm,21.1s,baz=212,slow=36							
XAN	**Xi'an**	**34.77**	**333**	P		**P**	**08 03 08.8**	**+3.0**
XAN				pP		sP	08 03 23.3	-0.1
XAN				sP		pwP	08 03 28.6	+8.3
XAN				pmax		pmax		
	comp=Z,9.0nm,1.2s							
HNS	**HongShan**	**35.64**	**343**	**e**	**P**	P	08 03 19.1	+5.9
HNS				pmax		pmax		
	comp=Z,7.0nm,1.2s							
BBOO	**Buckleboo**	**37.04**	**167**	P		**P**	**08 03 24.3**	**-0.9**
BJT	**Baijiatuan**	**37.73**	**347**	P		**P**	**08 03 30.4**	**-0.5**
BJI	**Beijing**	**37.75**	**347**	P		**P**	**08 03 31.8**	**+0.7**
BJI				pmax		pmax		
	comp=Z,17nm,0.7s							
STKA	**Stephens Creek**	**37.77**	**159**	P		**P**	**08 03 30.6**	**-0.8**
	comp=Z,14nm,0.9s,baz=342,slow=9.8,SNR=16							
STKA	**Stephens Creek**	**37.77**	**159**	P		**P**	**08 03 30.6**	**-0.8**
STKA				IAmb		IAmb	08 03 35.3	
	comp=Z,6.6nm,1.1s							
LZH	**Lanzhou**	**38.85**	**330**	**e**	**P**	**P**	**08 03 44.3**	**+3.6**
LZH				pP		sP	08 03 56.9	-1.5
LZH				pmax		pmax		
	comp=Z,15nm,1.5s							
LZH				LR		LR		
	comp=N,350nm,16.3s							
LZH				LR		LR		
	comp=E,490nm,16.3s							
LZH				LR		LR		
	comp=Z,690nm,15.7s							
HHC	**Hu-ho-hao-te**	**39.76**	**342**	**e**	**P**	**P**	**08 03 48.8**	**+0.7**
HHC				pmax		pmax		
	comp=Z,19nm,1.0s							
HHC				pmax		pmax		
	comp=Z,110nm,5.8s							
HHC				LR		LR		
	comp=N,370nm,17.2s							
HHC				LR		LR		
	comp=Z,370nm,16.5s							
ARMA	**Armidale**	**41.13**	**147**	P		**P**	**08 03 58.6**	**-1.0**
ARMA				IAmb		IAmb	08 04 03.8	
	comp=Z,18nm,1.1s							
MDJ	**Mudanjiang**	**41.15**	**3**	P		**P**	**08 04 03.6**	**+4.2**
MDJ				pP		pP	08 04 08.8	-3.0
MDJ				pmax		pmax		
	comp=Z,11nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,250nm,4.5s							
H11S3	**WAKE ISLAND Hy**	**41.81**	**66**	T		T	08 48 33.6	
	baz=253							
H11S1	**WAKE ISLAND Hy**	**41.82**	**66**	T		T	08 48 32.3	
	baz=253							
H11S2	**WAKE ISLAND Hy**	**41.82**	**66**	T		T	08 48 35.7	
	baz=253							
GOMU	**GeErMu**	**44.01**	**322**	P		P	08 04 32.3	+9.0
GOMU				pP		pP	08 04 35.6	+0.1
GOMU				sP		pwP	08 04 37.3	-1.3
GOMU				S		**S**	**08 10 49.4**	**-3.0**
GOMU				sS		sS	08 11 05.0	-8.1
GOMU				pmax		pmax		
	comp=Z,3.0nm,0.5s							
GOMU				AMB		AMB		
	comp=Z,96nm,5.0s							
ULN	**Ulaanbaatar**	**47.48**	**342**	P		**P**	**08 04 48.5**	**-1.6**
ULN				IAmb		IAmb	08 05 15.3	
	comp=Z,5.9nm,1.1s							
SONM	**Songino Array**	**47.66**	**341**	P		**P**	**08 04 50.1**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=161,slow=14,SNR=4.7							
SONM				LR		LR	08 25 50.1	
	comp=Z,199nm,21.8s,baz=169,slow=37							
SONM	**Songino Array**	**47.66**	**341**	P		**P**	**08 04 50.4**	**-1.2**
WMQ	**Urumqi**	**53.06**	**325**	**e**	**P**	**P**	**08 05 34.0**	**+1.6**
WMQ				LR		LR		
	comp=N,280nm,17.3s							
WMQ				LR		LR		
	comp=Z,200nm,24.5s							
PETK	**Petropavlovsk-**	**55.73**	**22**	P		**P**	**08 05 50.5**	**-1.0**
	comp=Z,5.0nm,0.9s,baz=202,slow=11,SNR=1.7							
MK31	**Makanchi Array**	**57.89**	**325**	P		**P**	**08 06 06.2**	**-0.8**
MK31				IAmb		IAmb	08 06 19.0	
	comp=Z,13nm,1.9s							
MKAR	**Makanchi Array**	**57.89**	**325**	P		**P**	**08 06 05.1**	**-1.9**
	comp=Z,2.2nm,0.4s,baz=128,slow=8.0,SNR=16							
MKAR				LR		LR	08 31 51.6	
	comp=Z,177nm,21.0s,baz=68,slow=37							
MAKZ	**Makanchi**	**58.08**	**325**	P		**P**	**08 06 07.9**	**-0.4**
MAKZ				IAmb		IAmb	08 06 18.9	
	comp=Z,5.3nm,0.8s							
KDJ	**Kajisay**	**58.66**	**318**	P		**P**	**08 06 11.2**	**-1.4**
KDJ				IAmb		IAmb	08 06 26.1	
	comp=Z,13nm,1.6s							
AAK	**Ala-Archa**	**60.67**	**318**	LR		LR	08 36 46.0	
	comp=Z,116nm,18.9s,baz=114,slow=40							
ZAA0	**Zalesovo Array**	**60.94**	**333**	P		**P**	**08 06 27.9**	**+0.1**
ZAA0				IAmb		IAmb	08 07 15.7	
	comp=Z,8.3nm,1.6s							
ZALV	**Zalesovo Beam**	**60.94**	**333**	P		**P**	**08 06 27.3**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=120,slow=5.9,SNR=5.8							
ZALV	**Zalesovo Beam**	**60.94**	**333**	P		**P**	**08 06 27.5**	**-0.4**

TUWZ	**Tuamarina**	**61.83**	**141**	P		**P**	**08 06 32.9**	**-1.1**
KURK	**Kurchatov**	**62.08**	**328**	P		**P**	**08 06 33.9**	**-1.7**
GAR	**Garm**	**62.22**	**313**	P		**P**	**08 06 35.7**	**-1.2**
GAR				IAmb		IAmb	08 06 53.4	
	comp=Z,8.5nm,0.9s							
KKAR	**Karatay Array**	**63.54**	**317**	P		**P**	**08 06 44.3**	**-1.3**
KKAR	**Karatay Array**	**63.54**	**317**	P		**P**	**08 06 44.1**	**-1.4**
KKAR				IAmb		IAmb	08 06 49.3	
	comp=Z,2.1nm,0.8s							
BRVK	**Borovoye**	**67.73**	**327**	P		**P**	**08 07 11.6**	**-0.7**
BRVK				IAmb		IAmb	08 07 17.1	
	comp=Z,5.0nm,0.8s							
NRIK	**Noril'sk**	**70.79**	**346**	P		**P**	**08 07 30.5**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=117,slow=7.5,SNR=5.3							
NRIK	**Noril'sk**	**70.79**	**346**	P		**P**	**08 07 29.6**	**-1.3**
NRIK				IAmb		IAmb	08 07 38.9	
	comp=Z,4.8nm,0.8s							
ABKAR	**Akbulak array**	**72.47**	**321**	P		**P**	**08 07 40.1**	**-1.4**
ABKAR	**Akbulak array**	**72.47**	**321**	P		**P**	**08 07 40.4**	**-1.1**
ABKAR				IAmb		IAmb	08 07 53.3	
	comp=Z,3.9nm,1.0s							
AKTO	**Aktyubinsk**	**73.98**	**322**	P		**P**	**08 07 48.9**	**-1.5**
	comp=Z,2.2nm,0.6s,baz=92,slow=7.8,SNR=4.2							
TTA	**Tatalina**	**81.18**	**27**	P		**P**	**08 08 28.9**	**-1.5**
TTA				IAmb		IAmb	08 10 07.1	
	comp=Z,26nm,1.8s							
J20K	**Nowinta River**	**82.21**	**26**	P		**P**	**08 08 35.0**	**-0.7**
J20K				IAmb		IAmb	08 08 39.2	
	comp=Z,13nm,1.4s							
IMAR	**Indian Mountai**	**82.64**	**24**	P		**P**	**08 08 37.4**	**-0.5**
VNDA	**Vanda**	**83.06**	**173**	P		**P**	**08 08 41.3**	**+1.5**
	comp=Z,2.5nm,1.0s,baz=314,slow=6.6,SNR=9.4							
I21K	**Tanana**	**83.26**	**25**	P		**P**	**08 08 40.0**	**-1.0**
I21K				IAmb		IAmb	08 08 56.7	
	comp=Z,13nm,1.2s							
KTH	**Kantishna Hill**	**83.55**	**27**	P		**P**	**08 08 41.6**	**-1.1**
MCK	**McKinley**	**84.45**	**26**	P		**P**	**08 08 46.1**	**-1.2**
ILAR	**Eielson Array**	**85.39**	**25**	P		**P**	**08 08 51.6**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=232,slow=4.4,SNR=4.4							
KLMR	**Klimovskoe**	**85.75**	**331**	**e**	**P**	**P**	**08 08 52.3**	**-1.4**
KLMR					AMP		08 09 03.3	
	comp=Z,11nm,1.0s							
KMBO	**Kilima Mbogo**	**89.62**	**269**	LR		LR	08 47 05.2	
	comp=Z,359nm,21.8s,baz=264,slow=34							
BRTR	**Keskin Array B**	**90.31**	**310**	P		**P**	**08 09 14.4**	**-1.7**
	comp=Z,1.0nm,0.9s,baz=144,slow=7.1,SNR=4.7							
ARCES	**ARCESS Array B**	**90.81**	**340**	P		**P**	**08 09 15.0**	**-2.7**
	comp=Z,1.7nm,0.7s,baz=69,slow=4.9,SNR=4.1							
SYO	**Syowa Base**	**92.12**	**201**	**i**	**eP**	**P**	**08 09 23.8**	**+0.1**
FINES	**FINESS Array B**	**92.18**	**332**	P		**P**	**08 09 25.2**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=28,slow=6.3,SNR=2.1							
FINES				LR		LR	08 54 40.5	
	comp=Z,321nm,19.2s,baz=297,slow=38							
NOA	**NORSAR Array B**	**99.14**	**334**	LR		LR	08 58 18.1	
	comp=Z,106nm,21.0s,baz=295,slow=38							
TORD	**Torodi Ar. Bea**	**123.10**	**288**	PKP		**PKPdf**	**08 15 10.9**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=83,slow=2.4,SNR=2.1							

IDC 16 08:09:47.2±524.0, 48˚32N×49˚33E, h0km, Error ellipse: s-maj=192.8km s-min=122.4km az=59.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.06**	**67**	*i*			08 48 30.0	
	baz=255,slow=325,SNR=6.3							
I43RU	**DUBNA INFRASONI**	**11.18**	**323**	*i*			09 27 30.0	
	baz=138,slow=332,SNR=0.9							
I46RU	**ZALESOVO INFRA**	**22.80**	**62**	*i*			10 26 30.0	
	baz=271,slow=322,SNR=2.0							

IDC ***16*** *08:17:48.2±1.6, 32˚82N×130˚74E, h0km, mb3.4/5, mb1 3.6/6, m

σ1ᵽ51/123, **mb4.5**/49, **MS4.0**/6, **12C-2D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.20**	**137**	⇑P	**Pg**	**08 40 24.1**	**-0.8**
JIU3				S	**Sg**	**08 40 27.3**	**-0.5**
JTA	**Tamana**	**0.29**	**339**	⇑P	**Pg**	**08 40 26.4**	**-0.2**
JTA				S	**Sg**	**08 40 30.9**	**+0.4**
JNU	**Nakatsue**	**0.47**	**24**	Pg	**Pg**	**08 40 28.9**	**-1.1**
	696nm,0.3s,baz=182,slow=11,SNR=144						
JNU				Lg	Lg	08 40 34.9	
	3μm,0.3s,baz=360,slow=22,SNR=44						
JNU	**Nakatsue**	**0.47**	**24**	Pg	**Pg**	**08 40 28.7**	**-1.2**
JNU				Sg	**Sg**	**08 40 34.8**	**-1.4**
JSU	**Suzuyama**	**1.20**	**188**		**Pg**	**08 40 42.7**	**-1.0**
JTU	**Tsushima**	**2.10**	**331**		**Pn**	**08 40 54.3**	**-1.6**
JMN	**Monobe**	**2.89**	**68**		**Pn**	**08 41 08.2**	**+1.4**
JHS	**Saijyo**	**3.08**	**41**	Pn	**Pn**	**08 41 09.2**	**-0.2**
TJN	**Taejon**	**4.57**	**324**	*i* P	**Pn**	**08 41 29.5**	**-0.2**
TJN	**Taejon**	**4.57**	**324**	Pn	**Pn**	**08 41 29.3**	**-0.4**
KSRS	**Korea Array**	**5.25**	**336**	Pn	**Pn**	**08 41 38.6**	**-0.5**
	0.8nm,0.3s,baz=151,slow=14,SNR=9.9						
KSRS				Lg	Lg	08 43 04.7	
	6.5nm,0.3s,baz=158,slow=30,SNR=2.1						
KSAR	**Wonju Array Be**	**5.25**	**335**	P	**Pn**	**08 41 37.9**	**-1.2**
KSAR	**Wonju Array Be**	**5.25**	**335**		**Pn**	**08 41 37.9**	**-1.2**
KS19	**Wonju Array Si**	**5.31**	**335**		**Pn**	**08 41 40.7**	**+0.7**
INCN	**Inchon**	**5.80**	**327**	P	**Pn**	**08 41 46.0**	**-0.7**
INCN	**Inchon**	**5.80**	**327**	Pn	**Pn**	**08 41 46.0**	**-0.7**
INU	**Inuyama**	**5.91**	**62**	Pn	**Pn**	**08 41 49.9**	**+1.7**
JOW	**Kunigami**	**6.20**	**200**	Pn	**Pn**	**08 41 55.7**	**+3.5**
	3.4nm,0.3s,baz=43,slow=13,SNR=6.0						
JOW	**Kunigami**	**6.20**	**200**	Pn	**Pn**	**08 41 54.3**	**+2.1**
JGF	**Kuroka**	**6.27**	**61**	Pn	**Pn**	**08 41 53.6**	**+0.5**
MJB9	**Matsu-Tunnel**	**7.31**	**56**		**Pn**	**08 42 09.2**	**+1.7**
MAJO	**Matsushiro**	**7.32**	**56**	*i* P	**Pn**	**08 42 08.3**	**+0.8**
MAJO	**Matsushiro**	**7.32**	**56**	Pn	**Pn**	**08 42 09.1**	**+1.6**
MJAR	**Matsushiro Arr**	**7.32**	**56**	Pn	**Pn**	**08 42 09.8**	**+2.3**
	0.3nm,0.3s,baz=246,slow=14,SNR=11						
MJAR				Lg	Lg	08 44 11.5	
	baz=258,slow=30,SNR=2.5						
MJAR	**Matsushiro Arr**	**7.32**	**56**	P	**Pn**	**08 42 08.8**	**+1.3**
MJAR	**Matsushiro Arr**	**7.32**	**56**	Pn	**Pn**	**08 42 08.8**	**+1.3**
JSD	**Sado**	**8.19**	**47**	Pn	**Pn**	**08 42 20.8**	**+1.4**
NJ2	**Nanjing**	**10.00**	**270**	*e*P	**Pn**	**08 42 44.0**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
SNY	**Shenyang**	**10.71**	**330**	⇓P	**Pn**	**08 42 57.1**	**+3.1**
SNY				pmax	pmax		
	comp=Z,11nm,0.4s						
SNY				LR	LR		
	comp=N,960nm,7.8s						
SNY				LR	LR		
	comp=E,660nm,6.6s						
SNY				LR	LR		
	comp=Z,1μm,9.2s						
USRK	**Ussuriysk Ar.**	**11.54**	**5**	Pn	**Pn**	**08 43 09.6**	**+4.3**
	baz=202,slow=13,SNR=5.0						
ASAJ	**Asahikawa**	**14.74**	**36**	Pn	**Pn**	**08 43 51.9**	**+2.9**
	0.2nm,0.3s,baz=274,slow=12,SNR=2.2						
JKA	**Kamikawa-asahi**	**14.74**	**36**		**Pn**	**08 43 51.9**	**+2.9**
KLR	**Kul'dur**	**16.54**	**3**	Pn	**P**	**08 44 17.1**	**+1.9**
	baz=173,slow=8.4						
KLR	**Kul'dur**	**16.54**	**3**	*i* P	**Pn**	**08 44 12.5**	**-0.1**
KLR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**17.30**	**303**	*e*P	**P**	**08 44 23.1**	**-0.7**
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.8s						
HHC				LR	LR		
	comp=Z,290nm,13.1s						
HHC				LR	LR		
	comp=Z,530nm,12.1s						
HHC				LR	LR		
	comp=Z,520nm,14.4s						
HIA	**Hailar**	**18.46**	**337**	*i* P	**Pn**	**08 44 37.1**	**+0.7**
HIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ZEA	**Zeya**	**21.18**	**354**	*e*P	**P**	**08 45 08.0**	**+2.1**
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
LZH	**Lanzhou**	**22.36**	**286**	*e*P	**P**	**08 45 21.0**	**+2.1**
LZH				pP	sP	08 45 26.8	+3.3
LZH				pmax	pmax		
	comp=Z,17nm,1.6s						
CD2	**Chengdu**	**22.91**	**273**	P	**P**	**08 45 26.0**	**+1.3**
CD2				pmax	pmax		
	comp=Z,20nm,1.1s						
GUMO	**Guam**	**23.03**	**142**	LR	LR	08 52 30.6	
	comp=Z,124nm,21.3s,baz=353,slow=32						
ULN	**Ulaanbaatar**	**23.40**	**317**	*ce*P	**P**	**08 45 30.4**	**+0.7**
ULN				pmax	pmax		
	comp=Z,12nm,1.4s						
ULN	**Ulaanbaatar**	**23.40**	**317**	P	**P**	**08 45 29.1**	**-0.7**
SONM	**Songino Array**	**23.77**	**317**	P	**P**	**08 45 33.5**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=128,slow=9.3,SNR=5.3						
SONM	**Songino Array**	**23.77**	**317**	P	**P**	**08 45 32.7**	**-0.5**
SONM				pmax	pmax		
	comp=Z,6.0nm,1.4s						
SONM	**Songino Array**	**23.77**	**317**	P	**P**	**08 45 32.7**	**-0.5**
GTA	**Gaotai**	**25.74**	**294**	⇓P	**P**	**08 45 53.3**	**+1.9**
GTA				pP	sP	08 45 58.3	+2.2
GTA				sP	pP	08 46 01.8	+7.1
GTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GTA				LR	LR		
	comp=Z,420nm,17.9s						
GTA				LR	LR		
	comp=Z,780nm,18.7s						
GTA				LR	LR		
	comp=Z,390nm,19.5s						
PZH	**PanZhiHua**	**25.84**	**264**	P	**P**	**08 45 54.0**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,4.2s						
YAK	**Yakutsk**	**29.36**	**359**	*i* P	**P**	**08 46 24.3**	**+0.9**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GOMU	**GeErMu**	**29.66**	**287**	P	**P**	**08 46 24.8**	**-2.0**
GOMU				PcP	**PcP**	**08 49 26.6**	**-4.5**
GOMU				S	S	08 51 11.3	-11
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,80nm,6.4s						
GOMU				LR	LR		
	comp=Z,200nm,17.2s						
GOMU				LR	LR		
	comp=Z,190nm,17.2s						
GOMU				LR	LR		
	comp=Z,190nm,16.0s						
CMAR	**Chiang Mai Arr**	**31.78**	**251**	P	**P**	**08 46 45.2**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=48,slow=7.7,SNR=6.3						
CMAR	**Chiang Mai Arr**	**31.78**	**251**	*ce*P	**P**	**08 46 47.7**	**+2.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	**Seymchan**	**33.24**	**18**	*i* P	**P**	**08 46 58.2**	**+0.6**
SEY				pmax	pmax		
	comp=Z,8.0nm,2.0s						
WMQ	**Urumqi**	**35.16**	**301**	*e*P	**P**	**08 47 15.6**	**+1.1**
WMQ				LR	LR		
	comp=Z,440nm,16.5s						
WMQ				LR	LR		
	comp=Z,380nm,13.9s						
WMQ				LR	LR		
	comp=Z,290nm,18.1s						
TIXI	**Tiksi**	**39.03**	**359**	P	**P**	**08 47 43.8**	**-3.1**
	comp=Z,0.7nm,0.5s,baz=270,slow=23,SNR=4.6						
TIXI	**Tiksi**	**39.03**	**359**	*i* P	**P**	**08 47 47.9**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.8s						
TIXI	**Tiksi**	**39.03**	**359**	IAmb	IAmb	08 47 48.9	
	comp=Z,8.5nm,1.7s						
MKAR	**Makanchi Array**	**39.15**	**306**	P	**P**	**08 47 47.4**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=94,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**39.15**	**306**	*ce*P	**P**	**08 47 52.7**	**+4.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**39.15**	**306**	P	**P**	**08 47 47.0**	**-1.3**
BILL	**Bilibino**	**40.89**	**20**	*e*P	**P**	**08 48 03.0**	**+0.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.9s						
KURK	**Kurchatov**	**41.86**	**311**	*ce*P	**P**	**08 48 10.8**	**+0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	**Kurchatov**	**41.86**	**311**	P	**P**	**08 48 10.0**	**-0.6**
NRIK	**Noril'sk**	**43.85**	**340**	P	**P**	**08 48 26.0**	**-0.6**
	comp=Z,4.1nm,0.7s,baz=117,slow=10,SNR=9.0						
NRIK	**Noril'sk**	**43.85**	**340**	*ce*P	**P**	**08 48 24.6**	**-2.0**
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NRIK	**Noril'sk**	**43.85**	**340**	P	**P**	**08 48 25.8**	**-0.8**
NRIK				IAmb	IAmb	08 49 00.6	
	comp=Z,4.4nm,0.6s						
AAK	**Ala-Archa**	**44.82**	**300**	*ce*P	**P**	**08 48 34.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
BRVK	**Borovoye**	**47.14**	**314**	*ce*P	**P**	**08 48 51.6**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**47.14**	**314**	P	**P**	**08 48 52.1**	**-0.7**
BRVK				IAmb	IAmb	08 48 53.6	
	comp=Z,5.3nm,0.6s						
KK31	**Karatay Array**	**47.66**	**301**	P	**P**	**08 48 56.9**	**-0.2**
KK31				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KK31	**Karatay Array**	**47.66**	**301**	P	**P**	**08 48 56.9**	**-0.2**
KK31				IAmb	IAmb	08 48 58.2	
	comp=Z,8.4nm,0.9s						
KKAR	**Karatay Array**	**47.66**	**301**	P	**P**	**08 48 56.9**	**-0.2**
KKAR	**Karatay Array**	**47.66**	**301**	P	**P**	**08 48 57.0**	**0.0**
KKAR				IAmb	IAmb	08 48 58.2	
	comp=Z,8.4nm,0.9s						
KKAR	**Karatay Array**	**47.66**	**301**	P	**P**	**08 48 56.9**	**-0.2**
KNRA	**Kununurra**	**48.13**	**182**	P	**P**	**08 49 03.8**	**+3.0**
WRA	**Warramunga Arr**	**52.46**	**176**	P	**P**	**08 49 32.1**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=354,slow=8.0,SNR=6.7						
WRA	**Warramunga Arr**	**52.46**	**176**	P	**P**	**08 49 34.1**	**+0.5**
WR0	**Warramunga Arr**	**52.49**	**175**	P	**P**	**08 49 33.7**	**0.0**
WR0				IAmb	IAmb	08 50 23.3	
	comp=Z,14nm,1.7s						
ARU	**Arti**	**53.77**	**319**	*c* P	**P**	**08 49 42.7**	**-0.2**
ARU						08 51 40.7	
ARU				S	**S**	**08 57 19.5**	**+2.5**
ARU				SS	**SKiKP**	**09 00 51.3**	**-5.6**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ABKAR	**Akbulak array**	**53.94**	**310**	P	**P**	**08 49 43.8**	**-0.5**
ABKAR	**Akbulak array**	**53.94**	**310**	P	**P**	**08 49 44.1**	**-0.2**
ABKAR				IAmb	IAmb	08 49 45.2	
	comp=Z,7.8nm,1.6s						
CTA	**Charters Tower**	**54.56**	**162**	LR	LR	09 10 45.0	
	comp=Z,62nm,20.0s,baz=312,slow=34						
ASAR	**Alice Springs**	**56.13**	**176**	P	**P**	**08 49 59.7**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=357,slow=5.9,SNR=4.2						
H23K	**Yukon River**	**56.54**	**29**	P	**P**	**08 50 03.7**	**+0.9**
H23K				IAmb	IAmb	08 50 12.1	
	comp=Z,11nm,1.6s						
NEA2	**Nenana**	**56.88**	**31**	P	**P**	**08 50 05.5**	**+0.3**
MDM	**Murphy Dome**	**57.19**	**30**	P	**P**	**08 50 08.0**	**+0.5**
MDM				IAmb	IAmb	08 50 12.1	
	comp=Z,6.2nm,1.0s						
ILAR	**Eielson Array**	**57.78**	**30**	P	**P**	**08 50 10.4**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=283,slow=8.2,SNR=7.6						
MENT	**Mentasta**	**59.51**	**32**	P	**P**	**08 50 23.6**	**0.0**
M26K	**Nabesna, AK**	**59.95**	**32**	P	**P**	**08 50 27.3**	**+0.5**
M26K				IAmb	IAmb	08 50 27.9	
	comp=Z,6.8nm,1.0s						
L27K	**Beaver Creek,**	**60.32**	**32**	P	**P**	**08 50 29.8**	**+0.6**
L27K				IAmb	IAmb	08 50 50.7	
	comp=Z,11nm,1.6s						
BCAR	**Beaver Creek A**	**60.34**	**32**	P	**P**	**08 50 29.5**	**+0.1**
BELG	**Belogornoye**	**60.82**	**316**	*i* P	**P**	**08 50 32.7**	**0.0**
BELG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**62.15**	**25**	P	**P**	**08 50 41.0**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=279,slow=8.6,SNR=5.5						
INK	**Inuvik**	**62.15**	**25**	P	**P**	**08 50 41.0**	**-0.4**
INK	**Inuvik**	**62.15**	**25**	IAmb	IAmb	08 50 45.4	
	comp=Z,4.3nm,1.1s						
A36M	**Sachs Harbour**	**63.45**	**20**	P	**P**	**08 50 50.4**	**+0.3**
A36M				IAmb	IAmb	08 50 53.9	
	comp=Z,4.3nm,0.8s						
ARCES	**ARCESS Array B**	**64.80**	**338**	P	**P**	**08 50 58.1**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=59,slow=7.6,SNR=8.3						
ARCES	**ARCESS Array B**	**64.80**	**338**	IAmb	IAmb	08 51 07.4	
	comp=Z,75nm,1.9s						
OBN	**Obninsk**	**66.08**	**321**	*e*P	**P**	**08 51 08.4**	**+1.0**
OBN				*e*		08 53 33.8	
OBN				pmax	pmax		
	comp=Z,11nm,0.8s						
KBZ	**Khabaz**	**66.78**	**308**	P	**P**	**08 51 12.3**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=51,slow=3.3,SNR=7.0						
KBZ	**Khabaz**	**66.78**	**308**	*ce*P	**P**	**08 51 11.9**	**-0.3**
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV	**Kislovodsk**	**66.83**	**308**	*e*P	**P**	**08 51 11.9**	**-0.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FINES	**FINESS Array B**	**68.32**	**330**	P	**P**	**08 51 20.5**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=73,slow=6.1,SNR=29						
RES	**Resolute Bay**	**68.82**	**12**	P	**P**	**08 51 24.4**	**-0.1**
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RES	**Resolute Bay**	**68.82**	**12**	P	**P**	**08 51 24.4**	**-0.1**
RES				IAmb	IAmb	08 51 28.1	
	comp=Z,3.3nm,0.8s						
YKA	**Yellowknife Ar**	**71.80**	**26**	P	**P**	**08 51 42.5**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=303,slow=5.8,SNR=13						
YKA	**Yellowknife Ar**	**71.80**	**26**	*e*P	**P**	**08 51 46.0**	**+3.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**72.02**	**319**	P	**P**	**08 51 43.2**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=55,slow=7.1,SNR=5.0						
NB2	**NORSAR Subarra**	**74.46**	**334**	P	**P**	**08 51 57.3**	**-1.5**
	comp=Z,1.4nm,1.0s,baz=49,slow=5.9						
NOA	**NORSAR Array B**	**74.46**	**334**	P	**P**	**08 51 57.0**	**-1.8**
	comp=Z,1.9nm,0.9s,baz=49,slow=5.8,SNR=6.5						
NOA	**NORSAR Array B**	**74.46**	**334**	P	**P**	**08 51 57.0**	**-1.8**
BRTR	**Keskin Array B**	**74.77**	**308**	P	**P**	**08 52 00.9**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=101,slow=5.1,SNR=9.7						
BRTR	**Keskin Array B**	**74.77**	**308**	P	**P**	**08 52 00.7**	**-0.4**
BRTR	**Keskin Array B**	**74.77**	**308**	P	**P**	**08 52 00.7**	**-0.4**
KWP	**Kalwaria Pacla**	**76.14**	**320**	P	**P**	**08 52 08.5**	**-0.1**
KWP				pmax	pmax		
	comp=Z,399nm,1.8s						
KWP	**Kalwaria Pacla**	**76.14**	**320**	P	**P**	**08 52 08.5**	**-0.1**
CLL	**Collm**	**80.05**	**326**	*i* P	**P**	**08 52 29.7**	**-0.5**
CLL				*i*		08 52 32.5	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CLL	**Collm**	**80.05**	**326**	*i* P	**P**	**08 52 29.7**	**-0.5**
	comp=Z,9.0nm,1.0s						
CLL				*i* x	x	08 52 32.5	
CLL				*e*(PP)		08 55 41.0	
GERES	**GERESS Array B**	**81.31**	**323**	P	**P**	**08 52 36.7**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=86,slow=4.0,SNR=6.0						
FCC	**Fort Churchill**	**81.57**	**22**	P	**P**	**08 52 37.9**	**-0.2**
FCC				pmax	pmax		
	comp=Z,8.0nm,1.3s						
FCC	**Fort Churchill**	**81.57**	**22**	P	**P**	**08 52 37.9**	**-0.2**
FCC				IAmb	IAmb	08 52 41.9	
	comp=Z,7.9nm,1.2s						
PDAR	**Pinedale Array**	**86.83**	**40**	P	**P**	**08 53 04.8**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=357,slow=3.0,SNR=7.1						
ULM	**Lac du Bonnet**	**87.72**	**28**	P	**P**	**08 53 09.6**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=358,slow=1.8,SNR=3.3						
MBAR	**Mbarara**	**98.67**	**275**	LR	LR	09 40 01.2	
	comp=Z,107nm,19.1s,baz=36,slow=36						

IDC ***16*** *09:25:09.3±0.9, 32.˚59N×130.˚68E, h0km, mb3.4/8, mb1 3.7/12, mb1mx3.6/39, mbtmp3.5/12, ML3.2/4, MS3.4/3, Ms1 3.4/3, ms1mx2.8/52, Error ellipse: s-maj=20.3km s-min=9.0km az=104.0*

NIED ***16*** *09:25:10.7, 32.˚65N×130.˚72E, h10km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.37; Mθθ0.67; Mϕϕ-1.04; Mrθ-0.51; Mθϕ1.17; Mϕr-0.54; Fault plane solution: M₀1.66000×10¹⁵ NP1: ϕs292.00000°, δ64.00000°, λ16.00000°. NP2: ϕs194.00000°, δ76.00000°, λ153.00000°.*

JMA ***16*** *09:25:10.7, 32.˚65N×130.˚72E, h10km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕs20.00000°, δ77.00000°, λ-152.00000°. NP2: ϕs283.00000°, δ63.00000°, λ-15.00000°. Principal axes: T Plg9.0000°, Azm149.0000°; N Plg59.0000°, Azm43.0000°; P Plg29.0000°, Azm244.0000°;*

JMA Felt IV J1.

ISC 16 09:25:10.9±1.2, 32.˚61N±0.˚07×130.˚68E±0.˚09, h10km±7km, n16, σ1ᵽ16/18, mb3.5/8, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.12**	**119**	⇑P	**Pg**	**09 25 13.7**	**-0.1**
JIU3				S	**Sg**	**09 25 16.2**	**+0.4**
JTA	**Tamana**	**0.38**	**340**	⇑P	**Pg**	**09 25 17.8**	**-0.5**
JTA				S	**Sg**	**09 25 22.8**	**-0.5**
JNU	**Nakatsue**	**0.54**	**18**	Pg	**Pg**	**09 25 20.3**	**-1.1**
	242nm,0.3s,baz=174,slow=7.2,SNR=48						
JNU				Lg	Lg	09 25 26.8	
	881nm,0.3s,baz=287,slow=19,SNR=39						
KSRS	**Korea Array**	**5.34**	**336**	Pn	**Pn**	**09 26 31.2**	**+0.5**
	0.3nm,0.3s,baz=150,slow=14,SNR=2.8						
KSRS				Pg	**Pb**	**09 26 45.7**	**+1.4**
	1.2nm,0.3s,baz=151,slow=17,SNR=7.7						
KSRS				Lg	Lg	09 27 57.3	
	1.4nm,0.3s,baz=152,slow=30,SNR=7.3						
KSRS				LR	LR	09 28 39.8	
	comp=Z,211nm,18.5s,baz=160,slow=39						
MJAR	**Matsushiro Arr**	**7.34**	**56**	Pn	**Pn**	**09 26 58.6**	**+0.4**
	0.1nm,0.3s,baz=276,slow=10,SNR=7.5						
JHJ	**Hachijo jima 2**	**7.67**	**84**	Pn	**Pn**	**09 27 01.5**	**-1.3**
	4.3nm,0.3s,baz=18,slow=20,SNR=2.1						
KLR	**Kul'dur**	**16.62**	**2**	Pn	**P**	**09 29 05.1**	**-1.3**
	0.1nm,0.3s,baz=16,slow=3.9,SNR=1.8						
SONM	**Songino Array**	**23.84**	**317**	P	**P**	**09 30 24.9**	**+0.6**
	0.6nm,0.7s,baz=93,slow=5.9,SNR=3.6						
MKAR	**Makanchi Array**	**39.22**	**306**	P	**P**	**09 32 39.5**	**+0.2**
	0.2nm,0.5s,baz=81,slow=8.9,SNR=2.6						
AAK	**Ala-Archa**	**44.88**	**300**	LR	LR	09 55 02.2	
	comp=Z,56nm,18.2s,baz=36,slow=40						
WRA	**Warramunga Arr**	**52.37**	**176**	P	**P**	**09 34 21.2**	**-2.1**
	0.5nm,0.9s,baz=355,slow=7.8,SNR=3.5						
ASAR	**Alice Springs**	**56.04**	**176**	P	**P**	**09 34 49.0**	**-1.1**
	0.6nm,1.1s,baz=11,slow=10,SNR=2.5						
ASAR				LR	LR	10 00 38.1	
	comp=Z,27nm,18.1s,baz=323,slow=38						
FINES	**FINESS Array B**	**68.40**	**330**	P	**P**	**09 36 12.0**	**-0.5**
	0.5nm,0.5s,baz=69,slow=10,SNR=4.8						
YKA	**Yellowknife Ar**	**71.87**	**26**	P	**P**	**09 36 35.2**	**+1.4**
	0.1nm,0.6s,baz=305,slow=6.0,SNR=2.2						
NVAR	**Mina Array Bea**	**84.59**	**47**	P	**P**	**09 37 46.1**	**+1.1**
	0.1nm,0.3s,baz=289,slow=5.6,SNR=1.4						
PDAR	**Pinedale Array**	**86.88**	**40**	P	**P**	**09 37 57.5**	**+1.2**
	0.2nm,0.6s,baz=316,slow=2.5,SNR=2.2						

WEL 16 09:30:26.7±0.3, 40.˚5S±2.˚2×17.˚7E±.˚, h16km±2km, M3.4/56, ML3.7/56, MLv3.4/56, Error ellipse: s-maj=0.0km s-min=0.0km az=115.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.12**	**143**	P	Pb	09 30 32.0	+1.3
CKHZ				S	Sb	09 30 35.1	+1.8
KAHZ	**Kahuranaki**	**0.25**	**199**	P	Pb	09 30 33.9	+1.0
KAHZ				S	Sb	09 30 39.5	+2.5
MCHZ	**McNeill Hill**	**0.25**	**297**	P	Pb	09 30 33.2	+0.3
MCHZ				S	Sb	09 30 38.6	+1.6
ARHZ	**Aropaoanui**	**0.30**	**2**	P	Pb	09 30 34.3	+0.7
KWHZ	**Kaweka Forest**	**0.45**	**287**	P	Pb	09 30 36.2	-0.1
KWHZ				S	Sb	09 30 43.4	+0.5
PXZ	**Pawanui**	**0.48**	**191**	P	Pb	09 30 37.2	+0.5
PXZ				S	Sn	09 30 46.2	-0.8
KRHZ	**Kereru**	**0.48**	**260**	P	Pb	09 30 36.7	-0.1
KRHZ				S	Sb	09 30 44.2	+0.6
NMHZ	**Naumai**	**0.48**	**343**	P	Pb	09 30 37.3	+0.4
WHHZ	**Waihua**	**0.52**	**22**	P	Pg	09 30 35.7	-1.4
BKZ	**Black Stump Fm**	**0.55**	**316**	P	Pb	09 30 37.8	-0.2
BKZ				S	Sb	09 30 46.3	+0.8
RAHZ	**Arahi**	**0.65**	**7**	P	Pb	09 30 40.4	+0.7
WPHZ	**Waipukurau**	**0.65**	**220**	P	Pb	09 30 40.2	+0.4
PNHZ	**Pukenui**	**0.70**	**239**	P	Pg	09 30 40.4	0.0
PNHZ				S	Sb	09 30 50.9	+1.0
BHHZ	**Black Hill Sta**	**0.71**	**275**	P	Pg	09 30 40.5	-0.3
MTHZ	**Maungataniwha**	**0.71**	**351**	P	Pb	09 30 41.0	+0.2
PRHZ	**Porangahau**	**0.76**	**201**	P	Pg	09 30 41.0	-0.4
KNZ	**Kokohu**	**0.76**	**45**	P	Pg	09 30 41.5	0.0
MHGZ	**Mahia Peninsul**	**0.82**	**61**	P	Pb	09 30 42.3	-0.3
SNGZ	**Shannon Statio**	**0.82**	**20**	P	Pg	09 30 43.1	+0.3
MRHZ	**Matea Rd**	**0.85**	**329**	P	Pg	09 30 43.2	0.0
TSZ	**Takapari Road**	**0.93**	**237**	P	Pb	09 30 43.6	-1.0
RTZ	**Rutahuna**	**0.94**	**360**	P	Pb	09 30 44.6	-0.1
PRGZ	**Paritu Road**	**0.94**	**48**	P	Pb	09 30 44.1	-0.7
HATZ	**Hinemaiaia**	**0.96**	**314**	P	Pb	09 30 45.0	0.0
MOVZ	**Moawhango**	**0.96**	**279**	P	Pb	09 30 44.8	-0.3
DVHZ	**Dannevirke**	**0.97**	**220**	P	Pb	09 30 43.9	-1.2
ANWZ	**Angora Road**	**0.98**	**203**	P	Pb	09 30 44.1	-1.2
RIGZ	**Rimuhau**	**1.05**	**36**	P	Pb	09 30 45.6	-0.9
**RITZ

DREZ	**Durham Road**	**2.19 279**	P	Pb	09 31 06.6	+0.7
PREZ	**Palmer Road**	**2.20 275**	P	Pb	09 31 06.1	+0.1
NEZ	**North Egmont**	**2.25 276**	P	Pn	09 31 05.2	+1.8
MSWZ	**Moikau Station**	**2.28 215**	P	Pn	09 31 02.0	-1.6
KHEZ	**Kahui Hut**	**2.31 276**	P	Pb	09 31 08.9	+0.8
PKE	**Pukeiti**	**2.35 278**	P	Pn	09 31 06.3	+1.6
PLWZ	**Palliser**	**2.40 213**	P	Pn	09 31 02.5	-2.9
NMEZ	**Namu Road**	**2.41 273**	P	Pb	09 31 08.6	-1.0
NBEZ	**Newall Road No**	**2.43 276**	P	Pb	09 31 09.1	-1.0
TCW	**Tory Channel**	**2.64 231**	P	Pn	09 31 05.9	-2.7
DUWZ	**D'Urville Isla**	**2.65 241**	P	Pn	09 31 07.4	-1.4
TUWZ	**Tuamarina**	**2.98 230**	P	Pn	09 31 09.5	-3.7
TKNZ	**Takaka Hill**	**3.41 243**	P	Pn	09 31 16.7	-2.5
QRZ	**Quartz Range**	**3.64 248**	P	Pn	09 31 19.2	-3.1
MRNZ	**Matariki Terra**	**3.71 239**	P	Pn	09 31 21.0	-2.4
THZ	**Tophouse**	**3.80 233**	P	Pn	09 31 21.5	-3.2
KHZ	**Kahutara**	**3.86 221**	P	Pn	09 31 22.2	-3.2
DSZ	**Denniston Nort**	**4.50 239**	P	Pn	09 31 33.4	-0.9
INZ	**Inchbonnie**	**5.24 231**	P	Pn	09 31 41.2	-3.1
CTZ	**Chatham Island**	**6.35 133**	P	Pn	09 31 58.0	-1.6
TMZ	**Timaru**	**6.56 221**	P	Pn	09 31 58.7	-3.8

IDC ***16*** *09:50:41.4±4.8, 25°.59S×178°.78W, h504km±56km, mb3.0/4, mb1 3.3/6, mb1mx3.1/21, mbtmp4.1/6, Error ellipse: s-maj=55.9km s-min=35.0km az=173.0*

ISC 16 09:50:41.1±1.5, 25°.7S±0°.1×178°.8W±0°.2, h500km, n6, σ1§64/7, mb3.5/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.97**	**195**	P		**P**		**09 53 31.8**	**+2.1**
	2.4nm,0.3s,baz=6.4,slow=8.7,SNR=3.8								
URZ				S		**S**		**09 55 46.5**	**-2.3**
	0.2nm,0.3s,baz=313,slow=18,SNR=2.5								
DZM	**Mont Dzumac**	**14.00**	**282**	P		**P**		**09 53 41.0**	**0.0**
	0.8nm,0.3s,baz=145,slow=21,SNR=8.8								
STKA	**Stephens Creek**	**35.12**	**251**	P		**P**		**09 56 51.3**	**-0.7**
	0.5nm,0.3s,baz=98,slow=10,SNR=4.3								
ASAR	**Alice Springs**	**42.87**	**262**	P		**P**		**09 57 55.4**	**+0.5**
	1.0nm,0.4s,baz=94,slow=8.0,SNR=26								
WRA	**Warramunga Arr**	**43.42**	**268**	P		**P**		**09 57 59.5**	**+0.2**
	0.5nm,0.3s,baz=103,slow=7.9,SNR=41								
PDAR	**Pinedale Array**	**93.23**	**44**	P		**P**		**10 03 01.2**	**-0.7**
	0.2nm,0.6s,baz=228,slow=4.3,SNR=2.0								

JMA ***16*** *10:02:53.0, 32°.72N×130°.78E, h10km±1km, M3.2*
JMA Felt II J1.
IDC ***16*** *10:02:53.4±3.2, 32°.77N×130°.82E, h0km, mb3.9/1, mb1 3.8/2, mb1mx3.2/32, mbtmp3.7/2, ML2.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/96, Error ellipse: s-maj=51.5km s-min=32.4km az=39.0*

ISC 16 10:02:53.2±1.2, 32°.74N±0°.04×130°.77E±0°.06, h5km±12km, n9, σ1§82/10, Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.20**	**169**	P		**Pg**		**10 02 56.8**	**-0.3**
JIU3				S		**Sg**		**10 02 59.7**	**0.0**
JTA	**Tamana**	**0.30**	**318**	P		**Pg**		**10 02 59.5**	**+0.5**
JTA				S		**Sg**		**10 03 04.2**	**+1.3**
JNU	**Nakatsue**	**0.39**	**14**	LR		LR		10 03 00.5	
	comp=Z,609nm,20.0s,baz=352,slow=20								
JNU	**Nakatsue**	**0.39**	**14**	P		**Pg**		**10 03 01.1**	**+0.4**
JNU				S		**Sg**		**10 03 06.8**	**+1.0**
JUS	**Usuki**	**0.89**	**69**	P		**Pg**		**10 03 09.3**	**-0.9**
KSRS	**Korea Array**	**5.25**	**334**	Pg		**Pg**		**10 04 29.9**	**-3.9**
	0.3nm,0.3s,baz=152,slow=17,SNR=4.8								
KSRS				Lg		Lg		10 05 39.6	
	0.2nm,0.3s,baz=153,slow=30,SNR=3.4								
MJAR	**Matsushiro Arr**	**7.21**	**56**	Pn		**Pn**		**10 04 39.4**	**+0.1**
	0.2nm,0.3s,baz=244,slow=13,SNR=5.5								
SIJI	**Sorong**	**33.44**	**179**	LR		LR		10 23 50.3	
	comp=Z,24nm,18.7s,baz=140,slow=38								
FINES	**FINESS Array B**	**68.32**	**330**	P		**P**		**10 13 56.1**	**+1.0**
	1.5nm,0.9s,baz=107,slow=8.9,SNR=3.5								

IDC 16 10:17:16.3±1.3, 27°.67N×102°.28E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.3/44, mbtmp3.3/5, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/46, Error ellipse: s-maj=39.5km s-min=21.0km az=85.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.67**	**199**	Pn		Pn		10 19 38.8	+1.9
	0.1nm,0.3s,baz=12,slow=12,SNR=12								
CMAR				Pg				10 20 13.6	
	0.2nm,0.3s,baz=6.3,slow=17,SNR=5.4								
CMAR				Lg		Lg		10 22 20.5	
	baz=16,slow=30,SNR=1.6								
SONM	**Songino Array**	**20.39**	**8**	P		P		10 21 55.0	+0.2
	0.2nm,0.3s,baz=195,slow=10,SNR=2.2								
MKAR	**Makanchi Array**	**24.73**	**326**	P		P		10 22 39.1	-0.3
	0.4nm,0.8s,baz=130,slow=10,SNR=2.3								
ASAJ	**Asahikawa**	**36.14**	**52**	LR		LR		10 39 00.5	
	comp=Z,33nm,18.6s,baz=7.5,slow=36								
WRA	**Warramunga Arr**	**56.59**	**143**	P		P		10 27 00.9	-0.3
	0.2nm,0.4s,baz=330,slow=8.7,SNR=10								
ASAR	**Alice Springs**	**59.46**	**146**	P		P		10 27 21.1	-0.1
	0.2nm,0.3s,baz=327,slow=6.7,SNR=9.2								

TRN 16 10:54:33.9, 17°.90N×60°.75W, h50km, MD4.0, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.01**	**257**	*e*P		Pn		10 54 52.6	+0.7
ANWB				*e*S		Sn		10 55 06.3	+1.2
ANBD	**Bethesda, Anti**	**1.29**	**229**	⇑*i*P		Pn		10 54 57.0	+1.5
ANBD				*e*S		Sn		10 55 13.1	+1.4
ANDO	**Antigua, Disas**	**1.30**	**233**	*e*P		Pn		10 54 57.3	+1.6
ANDO				*e*S		Sn		10 55 13.8	+1.9
ABD	**La Joyeuse, An**	**1.58**	**207**	*e*P		Pn		10 55 01.1	+1.5
ABD				*e*S		Sn		10 55 21.0	+2.1
MBFL	**Flemmings, Mon**	**1.81**	**231**	*e*P		Pn		10 55 04.6	+1.9
MBFL				*e*S		Sn		10 55 26.9	+2.5
MLYT	**Lee's Yard**	**1.81**	**230**	*e*P		Pn		10 55 05.4	+2.7
MLYT				*e*S		Sn		10 55 27.7	+3.2
NVDO	**Nevis, Disaste**	**1.95**	**247**	*e*P		Pn		10 55 06.1	+1.6
NVDO				*e*S		Sn		10 55 31.1	+3.3
SKOC	**St. Kitts, UWI**	**1.99**	**253**	*e*S		Sn		10 55 30.4	+1.6
CBE	**Ff, Capester**	**2.00**	**204**	*e*P		Pn		10 55 07.8	+2.5
CBE				*e*S		Sn		10 55 31.1	+1.9
MAGL	**Barre de l'ile**	**2.01**	**195**	*e*P		Pn		10 55 07.2	+1.8
MAGL				*e*S		Sn		10 55 31.8	+2.5
SEUS	**St. Eustatius**	**2.17**	**260**	*e*P		Pn		10 55 09.5	+2.0
SEUS				*e*S		Sn		10 55 35.0	+1.7
TBG	**Guadaloupe-3**	**2.21**	**203**	*e*P		Pn		10 55 10.5	+2.4
TBG				*e*S		Sn		10 55 36.7	+2.4
TDBA	**Terre de Bas,**	**2.21**	**203**	*e*P		Pn		10 55 10.4	+2.3
TDBA				*e*S		Sn		10 55 35.7	+1.4
SMRT	**St. Maarten**	**2.22**	**274**	*e*P		Pn		10 55 09.4	+1.1
SMRT				*e*S		Sn		10 55 35.7	+1.1
DSLB	**Salisbury**	**2.53**	**195**	*e*P		Pn		10 55 14.3	+1.7
DSLB				*e*S		Sn		10 55 43.7	+1.4
DLPL	**La Plaine**	**2.60**	**191**	*e*S		Sn		10 55 44.9	+1.0
MDN	**Morne-Daniel**	**2.64**	**194**	*e*P		Pn		10 55 16.2	+2.2
MDN				*e*S		Sn		10 55 46.2	+1.3
ILAM	**Ilet Lapin Mar**	**3.11**	**182**	*e*P		Pn		10 55 21.6	+1.1
ILAM				*e*S		Sn		10 55 57.0	+0.5
FDF	**Fort de France**	**3.17**	**187**	*e*P		Pn		10 55 23.0	+1.6
FDF				*e*S		Sn		10 55 58.8	+0.7
BIM	**Bigot**	**3.38**	**185**	*e*P		Pn		10 55 25.8	+1.6
BIM				*e*S		Sn		10 56 03.8	+0.7
MPOM	**Morne Pois Mar**	**3.44**	**182**	*e*P		Pn		10 55 26.1	+1.2
MPOM				*e*S		Sn		10 56 04.9	+0.4
SLBI	**Saint Lucia, B**	**3.86**	**183**	*e*P		Pn		10 55 32.5	+1.7
SLBI				*e*S		Sn		10 56 15.0	0.0
MCLT	**Moule a Chique**	**4.17**	**183**	*e*P		Pn		10 55 37.3	+2.2
MCLT	**Moule a Chique**	**4.17**	**183**	*e*S		Sn		10 56 23.2	+0.6
SSV	**Crater Summit**	**4.57**	**185**	*e*P		Pn		10 55 43.3	+2.7
SSV	**Crater Summit**	**4.57**	**185**	*e*S		Sn		10 56 32.5	0.0
SVV	**Soufriere Volc**	**4.58**	**186**	*e*P		Pn		10 55 43.1	+2.4
SVV	**Soufriere Volc**	**4.58**	**186**	*e*S		Sn		10 56 33.2	+0.5
SVB	**Belmont**	**4.63**	**186**	*e*P		Pn		10 55 43.6	+2.2
SVB	**Belmont**	**4.63**	**186**	*e*S		Sn		10 56 34.0	+0.1

IDC ***16*** *10:55:42.5±0.4, 22°.32N×121°.91E, h0km, mb4.4/33, mb1 4.5/35, mb1mx4.5/47, mbtmp4.5/35, ML4.3/2, MS3.9/58, Ms1 3.9/58, ms1mx3.8/88, Error ellipse: s-maj=14.1km s-min=9.3km az=83.0*
NEIC ***16*** *10:55:45.2±1.9, 22°.46N±0°.05×121°.87E±0°.05, h10km±1km, mb4.9/119, ML5.4(TAP), Error ellipse: s-maj=10.0km s-min=5.9km az=213.0*
BJI ***16*** *10:55:45.0±0.0, 22°.54N×121°.91E, h10km, mb4.5/69, mB4.8/43, ML4.6/7, Ms4.5/71, Ms7 4.2/68*
TAP ***16*** *10:55:46.5, 22°.44N×121°.80E, h12km, ML5.2, D*
ASIES ***16*** *10:55:46.0, 22°.40N×121°.85E, h41km, MW4.8*
GCMT ***16*** *10:55:46.3±0.3, 22°.34N±0°.01×121°.85E±0°.02, h21km±1km, MW4.9/92, Moment Tensor Solution. s27,c30; s92,c135; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.45±.15; Mθθ=2.94±.12; Mφφ=2.49±.11; Mrθ=-0.35±.16; Mrφ=0.93±.10; Mθφ=-0.80±.22; Best double couple: M=3.01500×10^16 NP1:φs=305.00000°, δ72.00000°, λ=-7.00000°. NP2: φs=37.00000°, δ84.00000°, λ=-162.00000°. Principal axes: T 3.1600, Plg8.0000°, Azm170.0000°; N -0.2920, Plg71.0000°, Azm56.0000°; P -2.8700, Plg17.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NIED ***16*** *10:55:47.2, 22°.57N×121°.88E, h37km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr=0.19; Mθθ=2.17; Mφφ=-1.98; Mrθ=-0.03; Mrφ=1.16; Mθφ=0.43; Fault plane solution: M=2.42000×10^16 NP1: φs=120.00000°, δ81.00000°, λ=-7.00000°. NP2: φs=211.00000°, δ83.00000°, λ=-171.00000°.*
JMA ***16*** *10:55:47.1±0.4, 22°.57N×121°.88E, h37km, M4.8*

ISC 16 10:55:44.5±0.7, 22°.43N±0°.02×121°.92E±0°.02, h8km±4km, n463, σ1§82/581, mb4.9/113, MS4.0/67, 118C-42D, Fault plane solution: NP1:φs103.84990°, δ87.35502°, λ28.20519°. NP2:φs12.43216°, δ61.82754°, λ176.99925°. Principal axes: T Plg21.4984°, Azm331.8029°; N Plg61.6812°, Azm108.7678°; P Plg17.5305°, Azm234.6556°; Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.48**	**301**	⇑*i*P		**Pb**		**10 55 54.7**	**-0.5**
	baz=307								
LDUT				*i* S		**Sg**		**10 56 00.2**	**0.0**
	baz=307								
LAY	**Lan-yu**	**0.52**	**222**	*i* P		**Pg**		**10 55 55.0**	**+0.5**
	baz=209								
LAY				*e*S		**Sg**		**10 56 00.1**	**-1.2**
	baz=209								
LYUB	**Lan-yu**	**0.53**	**216**	⇓*i*P		**Pg**		**10 55 55.3**	**+0.7**
	baz=205								
LYUB				*i* S		**Sg**		**10 56 01.2**	**-0.3**
	baz=205								
TTN	**Taitung**	**0.79**	**295**	⇑*i*P		**Pb**		**10 55 59.7**	**-0.7**
	baz=297								
TTN				S		**Sg**		**10 56 09.1**	**-0.7**
	baz=297								
EDH	**Donghe**	**0.79**	**314**	⇑*i*P		**Pg**		**10 55 59.4**	**-0.3**
	baz=319								
EDH				S		**Sg**		**10 56 08.5**	**-1.4**
	baz=319								
CHKT	**Chengkung**	**0.84**	**323**	⇑*i*P		**Pg**		**10 56 00.2**	**-0.5**
	baz=329								
CHKT				S		**Sg**		**10 56 10.1**	**-1.5**
	baz=329								
TWGBT	**Beinan**	**0.87**	**297**	⇑*i*P		**Pg**		**10 56 00.7**	**-0.5**
	baz=299								
TWGBT				*e*S		**Sg**		**10 56 11.7**	**-0.8**
	baz=299								
LONT	**Longtian**	**0.87**	**303**	⇑*i*P		**Pg**		**10 56 00.6**	**-0.7**
	baz=307								
LONT				*e*S		**Sb**		**10 56 12.4**	**-1.4**
	baz=307								
TWG	**Pinlang**	**0.88**	**297**			**Pb**		**10 56 01.3**	**-0.7**
TWG					Sg	**Sg**		**10 56 11.5**	**-1.2**
TWG	**Pinlang**	**0.88**	**297**	⇑*i*P		**Pg**		**10 56 00.8**	**-0.6**
	baz=299								
TWG				S		**Sg**		**10 56 11.9**	**-0.8**
	baz=299								
ECL	**Taimali**	**0.91**	**281**	⇓*i*P		**Pg**		**10 56 01.6**	**-0.3**
	baz=281								
ECL				*i* S		**Sg**		**10 56 12.1**	**-1.7**
	baz=281								
ECS	**Chishang**	**0.93**	**316**	⇑*i*P		**Pg**		**10 56 02.1**	**-0.2**
	baz=320								
ECS				*e*S		**Sg**		**10 56 13.0**	**-1.4**
	baz=320								
TAW	**Tawu**	**0.95**	**266**	⇓*i*P		**Pg**		**10 56 02.0**	**-0.7**
	baz=264								
TAW				*e*S		**Sg**		**10 56 12.8**	**-2.3**
	baz=264								
TAWH	**Dawu Township**	**0.96**	**265**	⇓*i*P		**Pg**		**10 56 02.2**	**-0.7**
	baz=263								
TAWH				*e*S		**Sg**		**10 56 13.5**	**-1.9**
	baz=263								
FULB	**Fuli**	**0.96**	**323**	⇑*i*P		**Pg**		**10 56 02.0**	**-1.0**
	baz=328								
FULB				*e*S		**Sg**		**10 56 13.9**	**-1.6**
	baz=328								
ECBN	**Changbin**	**0.98**	**334**	⇑*i*P		**Pb**		**10 56 02.6**	**-1.2**
	baz=340								
ECBN				*e*S		**Sg**		**10 56 14.5**	**-1.8**
	baz=340								
EAST	**Anshuo**	**0.99**	**268**	⇓*i*P		**Pg**		**10 56 02.8**	**-0.8**
	baz=266								
EAST				*e*S		**Sg**		**10 56 14.3**	**-2.2**
	baz=266								
SLIU	**Shizi**	**1.06**	**259**	⇓*i*P		**Pb**		**10 56 03.7**	**-1.4**
	baz=256								
SLIU				*e*S		**Sb**		**10 56 15.6**	**-3.5**
	baz=256								
EYUL	**Yuli**	**1.07**	**329**	⇑*i*P		**Pb**		**10 56 04.0**	**-1.3**
	baz=334								
EYUL				*e*S		**Sb**		**10 56 16.9**	**-2.6**
	baz=334								
SMST	**Manzhou Townsh**	**1.08**	**248**	⇓*i*P		**Pb**		**10 56 04.3**	**-1.2**
	baz=245								
SMST				S		**Sb**		**10 56 16.8**	**-2.9**
	baz=245								
TSEB	**Hengchuen, Pin**	**1.08**	**241**	⇓*i*P		**Pb**		**10 56 05.0**	**-0.4**
	baz=238								
TSEB				*i* S		**Sb**		**10 56 17.6**	**-2.1**
	baz=238								
TWF1	**Yuli**	**1.08**	**328**	⇑*i*P		**Pb**		**10 56 04.1**	**-1.4**
	baz=333								
TWF1				*e*S		**Sb**		**10 56 17.9**	**-2.0**
	baz=333								
YULB	**Yu-li**	**1.12**	**329**	Pn		**Pb**		**10 56 04.8**	**-1.4**
YULB				Sg		**Sb**		**10 56 18.7**	**-2.2**
YULB	**Yu-li**	**1.12**	**329**	⇑*i*P		**Pb**		**10 56 04.8**	**-1.4**
	baz=334								
YULB				*e*S		**Sb**		**10 56 18.8**	**-2.2**
	baz=334								
ELDTW	**Lidau**	**1.13**	**313**	⇑*i*P		**Pb**		**10 56 04.6**	**-1.8**
	baz=316								
ELDTW				*e*S		**Sb**		**10 56 17.5**	**-3.7**
	baz=316								
TWKBT	**Hengchun**	**1.13**	**245**	⇓*i*P		**Pb**		**10 56 04.5**	**-1.9**
	baz=241								
TWK1	**Hengchun**	**1.14**	**245**	⇓*i*P		**Pb**		**10 56 05.2**	**-1.3**
	baz=241								
TWK1				*e*S		**Sb**		**10 56 17.5**	**-3.9**
	baz=241								
HGSD	**Ruisui**	**1.15**	**337**	⇑*i*P		**Pb**		**10 56 04.9**	**-1.8**
	baz=342								
HGSD				*e*S		**Sn**		**10 56 22.0**	**-1.0**
	baz=342								
HEN	**Hengchun**	**1.17**	**249**	⇓*i*P		**Pb**		**10 56 06.0**	**-1.0**
	baz=246								
HEN				*e*S		**Sb**		**10 56 19.3**	**-3.0**
	baz=246								
MASBT	**Mashibuluo**	**1.20**	**279**	⇓*i*P		**Pb**		**10 56 06.3**	**-1.3**
	baz=279								
MASBT				*e*S		**Sb**		**10 56 19.4**	**-3.9**
	baz=279								
SCZT	**Fangliau**	**1.20**	**268**	⇓*i*P		**Pb**		**10 56 06.1**	**-1.4**
	baz=266								
SCZT				*e*S		**Sb**		**10 56 20.1**	**-3.1**
	baz=266								
EHY	**Hungye**	**1.21**	**333**	⇑*i*P		**Pn**		**10 56 06.0**	**-1.7**
	baz=338								
EHY				*e*S		**Sb**		**10 56 21.3**	**-2.1**
	baz=338								
TSMG	**Majia**	**1.21**	**283**	⇓*i*P		**Pb**		**10 56 06.2**	**-1.4**
	baz=284								
TSMG				*e*S		**Sb**		**10 56 17.2**	**-6.3**
	baz=284								
SSD	**Sandimen**	**1.23**	**285**	⇓*i*P		**Pn**		**10 56 06.5**	**-1.6**
	baz=286								
SSD				*e*S		**Sb**		**10 56 21.0**	**-3.1**
	baz=286								
SSPT	**Xinbi**	**1.25**	**273**	⇓*i*P		**Pn**		**10 56 07.5**	**-0.8**
	baz=272								
SSPT				*e*S		**Sb**		**10 56 22.4**	**-2.3**
	baz=272								
STYH	**Taoyuan**	**1.29**	**305**	⇑*i*P		**Pn**		**10 56 07.7**	**-1.1**
	baz=308								
STYH				*e*S		**Sb**		**10 56 22.6**	**-3.2**
	baz=308								
STYT	**Tauyuan**	**1.30**	**305**	⇑*i*P		**Pn**		**10 56 07.9**	**-1.2**
	baz=307								
STYT				*e*S		**Sb**		**10 56 22.6**	**-3.5**
	baz=307								
SLGT	**Liugui**	**1.30**	**296**	*e*P		**Pn**		**10 56 08.5**	**-0.6**
	baz=297								
SLGT				*e*S		**Sb**		**10 56 23.9**	**-2.3**
	baz=297								
EGFH	**Guangfu**	**1.32**	**340**	⇑*i*P		**Pn**		**10 56 07.5**	**-1.7**
	baz=344								
EGFH				*e*S		**Sb**		**10 56 23.0**	**-3.6**
	baz=344								
TEGC	**Jichi Village**	**1.32**	**345**	⇑*e*P		**Pn**		**10 56 07.8**	**-1.5**
	baz=349								
TEGC				*e*S		**Sb**		**10 56 23.3**	**-3.4**
	baz=349								
TSPT	**Pingtung City**	**1.34**	**281**	*e*P		**Pg**		**10 56 10.8**	**+0.6**
	baz=281								
TSPT				*e*S		**Sg**		**10 56 27.8**	**+0.2**
	baz=281								
SGLT	**Jiouru**	**1.35**	**283**	*e*P		**Pg**		**10 56 09.9**	**-0.6**
	baz=283								
SGLT				*e*S		**Sg**		**10 56 29.9**	**+1.9**
	baz=283								
SCST	**Cishan**	**1.39**	**289**	P		**Pb**		**10 56 10.4**	**-0.4**
	baz=290								
SCST				*e*S		**Sg**		**10 56 29.4**	**0.0**
	baz=290								
SGST	**Jiashian**	**1.40**	**298**	⇑*e*P		**Pn**		**10 56 09.4**	**-1.0**
	baz=300								
SGST				*e*S		**Sb**		**10 56 26.9**	**-1.9**
	baz=300								
WLCH	**Liuqiu**	**1.43**	**267**	⇓*e*P		**Pg**		**10 56 12.8**	**+0.9**
	baz=266								
WLCH				*e*S		**Sg**		**10 56 32.1**	**+1.7**
	baz=266								
TWP	**Hsiaoliuchiu**	**1.44**	**267**	⇓*e*P		**Pg**		**10 56 13.1**	**+0.9**
	baz=266								
TWP				*e*S		**Sg**		**10 56 32.8**	**+1.9**
	baz=266								
ESL	**Shilin**	**1.45**	**342**	⇑P		**Pn**		**10 56 09.5**	**-1.6**
	baz=346								
ESL				*e*S		**Sn**		**10 56 26.7**	**-3.6**
	baz=346								
WTP	**Ta-pu**	**1.45**	**304**	⇑P		**Pb**		**10 56 11.1**	**-0.8**
	baz=306								
WTP				*e*S		**Sb**		**10 56 29.3**	**-1.3**
	baz=306								
TEYL	**Yanliau Villag**	**1.47**	**348**	⇑P		**Pn**		**10 56 10.5**	**-0.8**
	baz=353								
TEYL				*e*S		**Sn**		**10 56 28.6**	**-2.0**
	baz=353								
TPUB	**Ta-pu**	**1.47**	**306**			**Pb**		**10 56 11.6**	**-0.6**
TPUB					Sn	**Sn**		**10 56 29.3**	**-1.6**
TPUB	**Ta-pu**	**1.47**	**306**	⇑P		**Pb**		**10 56 11.3**	**-0.8**
	baz=308								
TPUB				*e*S		**Sn**		**10 56 29.1**	**-1.7**
	baz=308								
ALS	**Alishan**	**1.49**	**317**	⇑P		**Pn**		**10 56 11.4**	**-0.4**
	baz=319								
ALS				*e*S		**Sn**		**10 56 29.6**	**-2.1**
	baz=319								
CHN1	**Nanshi**	**1.49**	**301**	⇑*e*P		**Pn**		**10 56 12.2**	**-0.3**
	baz=302								
CHN1				*e*S		**Sg**		**10 56 30.8**	**-1.6**
	baz=302								
KAU	**Kaohsiung**	**1.50**	**276**	⇓*e*P		**Pg**		**10 56 13.7**	**+0.4**
	baz=275								
SNJT	**Kaohsiung City**	**1.50**	**283**	*e*P		**Pb**		**10 56 12.1**	**-0.6**
	baz=283								
VWDT	**VWDT**	**1.50**	**332**	⇑P		**Pn**		**10 56 11.1**	**-0.7**
	baz=335								
VWDT				*e*S		**Sn**		**10 56 29.0**	**-2.6**
	baz=335								
CHN4	**Tsaushan**	**1.53**	**307**	⇑*e*P		**Pb**		**10 56 12.5**	**-0.7**
	baz=309								
CHN4				*e*S		**Sb**		**10 56 31.9**	**-0.8**
	baz=309								
SNST	**Tainan City**	**1.53**	**301**	⇑*e*P		**Pb**		**10 56 12.7**	**-0.4**
	baz=303								
SNST				*e*S		**Sb**		**10 56 31.4**	**-1.4**
	baz=303								
WSSB	**Gushan**	**1.55**	**278**	⇓*e*P		**Pg**		**10 56 14.0**	**-0.2**
	baz=278								
WSSB				*e*S		**Sg**		**10 56 35.6**	**+1.3**
	baz=278								
TWK	**Hsinying**	**1.56**	**303**	⇑*e*P		**Pb**		**10 56 13.1**	**-0.6**
	baz=304								
TWK				*e*S		**Sg**		**10 56 33.4**	**-1.4**
	baz=304								
SHHT	**Tainan City**	**1.57**	**292**	⇑*e*P		**Pg**		**10 56 15.0**	**+0.4**
	baz=293								
SHHT				*e*S		**Sg**		**10 56 35.2**	**+0.3**
	baz=293								
HWA	**Hwalien**	**1.57**	**349**	⇑*e*P		**Pn**		**10 56 11.6**	**-1.1**
	baz=354								
HWA				*e*S		**Sn**		**10 56 30.1**	**-3.1**
	baz=354								
CHN3	**

	baz=296								
CHGB	**Renai**	**1.76**	**337**⇑	*e*P		**Pn**	**10 56 15.1**	**-0.4**	
	baz=340								
CHGB				*e*S		**Sn**	**10 56 35.4**	**-3.0**	
	baz=340								
NACB	**Ninganchiao**	**1.76**	**350**			**Pn**	**10 56 13.9**	**-1.4**	
NACB	**Ninganchiao**	**1.76**	**350**⇑	*e*P		**Pn**	**10 56 14.0**	**-1.4**	
	baz=354								
NACB				*e*S		**Sn**	**10 56 33.4**	**-4.6**	
	baz=354								
TYC	**Yuchr**	**1.77**	**327**⇑	*e*P		**Pn**	**10 56 15.7**	**+0.3**	
	baz=329								
TYC				*e*S		**Sb**	**10 56 38.6**	**-0.9**	
	baz=329								
WJS	**Zhushan**	**1.77**	**322**⇑	*e*P		**Pb**	**10 56 16.6**	**-0.6**	
	baz=324								
WJS				*e*S		**Sg**	**10 56 39.7**	**-1.7**	
	baz=324								
WGK	**Gukeng**	**1.77**	**315**⇑	*e*P		**Pb**	**10 56 17.0**	**-0.2**	
	baz=317								
WGK				*e*S		**Sb**	**10 56 39.5**	**-0.1**	
	baz=317								
ICHU	**Yijhu**	**1.77**	**302**⇑	*e*P		**Pb**	**10 56 16.3**	**-1.0**	
	baz=303								
ICHU				*e*S		**Sb**	**10 56 38.0**	**-1.8**	
	baz=303								
WDLH	**Douliu**	**1.79**	**315**⇑	*e*P		**Pb**	**10 56 17.1**	**-0.4**	
	baz=317								
WDLH				*e*S		**Sb**	**10 56 39.1**	**-1.0**	
	baz=317								
WPL	**Puli Township**	**1.81**	**331**⇑	*e*P		**Pn**	**10 56 16.1**	**+0.1**	
	baz=333								
WPL				*e*S		**Sn**	**10 56 37.4**	**-1.8**	
	baz=333								
WHF	**Hehuan Shan**	**1.81**	**341**⇑	*e*P		**Pn**	**10 56 15.4**	**-1.0**	
	baz=344								
WHF				*e*S		**Sn**	**10 56 37.1**	**-2.7**	
	baz=344								
ETLH	**Xiulin Townshi**	**1.82**	**347**⇑	*e*P		**Pn**	**10 56 15.0**	**-1.2**	
	baz=350								
ETLH				*e*S		**Sn**	**10 56 35.4**	**-4.1**	
	baz=350								
CHN8	**Yiju**	**1.82**	**300**	*e*P		**Pb**	**10 56 17.0**	**-1.1**	
	baz=302								
CHN8				*e*S		**Sb**	**10 56 39.9**	**-1.2**	
	baz=302								
DPDB	**Guoxing**	**1.84**	**330**⇑	*e*P		**Pn**	**10 56 16.9**	**+0.4**	
	baz=333								
DPDB				*e*S		**Sn**	**10 56 39.5**	**-0.5**	
	baz=333								
WNT1	**Nantou City**	**1.86**	**322**	*e*P		**Pb**	**10 56 18.2**	**-0.6**	
	baz=325								
WNT1				*e*S		**Sb**	**10 56 41.2**	**-1.1**	
	baz=325								
WCS	**Beigang Elemen**	**1.87**	**330**⇑	*e*P		**Pn**	**10 56 17.3**	**+0.5**	
	baz=333								
WCS				*e*S		**Sn**	**10 56 38.6**	**-2.1**	
	baz=333								
WTK	**Tuku**	**1.89**	**312**	*e*P		**Pb**	**10 56 18.4**	**-0.9**	
	baz=314								
WTK				*e*S		**Sb**	**10 56 41.2**	**-1.8**	
	baz=314								
WSL	**Shuilin Townsh**	**1.90**	**305**⇑	*e*P		**Pb**	**10 56 18.0**	**-1.5**	
	baz=307								
WSL				*e*S		**Sn**	**10 56 40.6**	**-0.8**	
	baz=307								
FUSS	**Fushou**	**1.92**	**341**⇑	*e*P		**Pn**	**10 56 16.2**	**-1.5**	
	baz=344								
FUSS				*e*S		**Sn**	**10 56 37.8**	**-4.3**	
	baz=344								
TWT	**Tachien**	**1.94**	**340**⇑	*e*P		**Pn**	**10 56 18.1**	**+0.1**	
	baz=342								
TWT				*e*S		**Sn**	**10 56 40.7**	**-2.0**	
	baz=342								
WWF	**Wufeng**	**1.96**	**325**⇑	*e*P		**Pb**	**10 56 19.8**	**-0.7**	
	baz=327								
WWF				*e*S		**Sb**	**10 56 44.4**	**-0.7**	
	baz=327								
WYL	**Yuanlin Townsh**	**1.96**	**321**	*e*P		**Pb**	**10 56 19.7**	**-0.8**	
	baz=323								
WYL				*e*S		**Sb**	**10 56 43.7**	**-1.4**	
	baz=323								
WSF	**Szhu**	**1.97**	**308**	*e*P		**Pb**	**10 56 18.9**	**-1.8**	
	baz=309								
WSF				*e*S		**Sn**	**10 56 41.8**	**-1.4**	
	baz=309								
ENA	**Nanau**	**2.00**	**355**⇑	*e*P		**Pn**	**10 56 17.8**	**-0.8**	
	baz=359								
ENA				*e*S		**Sn**	**10 56 40.9**	**-2.9**	
	baz=359								
EWUT	**Wuta**	**2.01**	**356**⇑	*e*P		**Pn**	**10 56 18.1**	**-0.7**	
	baz=359								
EWUT				*e*S		**Sn**	**10 56 40.9**	**-3.3**	
	baz=359								
WRL	**Guolierlin Hig**	**2.04**	**316**⇑	*e*P		**Pn**	**10 56 19.9**	**+0.8**	
	baz=318								
WRL				*e*S		**Sn**	**10 56 44.4**	**-0.5**	
	baz=318								
WHP	**Taichung City**	**2.05**	**334**⇑	*e*P		**Pn**	**10 56 19.9**	**+0.5**	
	baz=337								
WHP				*e*S		**Sb**	**10 56 47.9**	**+0.2**	
	baz=337								
NNSB	**Datong**	**2.05**	**346**⇑	*e*P		**Pn**	**10 56 18.9**	**-0.6**	
	baz=349								
NNSB				*e*S		**Sn**	**10 56 42.7**	**-2.6**	
	baz=349								
TCU	**Taichung**	**2.06**	**327**⇑	*e*P		**Pb**	**10 56 21.1**	**-1.1**	
	baz=329								
TCU				*e*S		**Sb**	**10 56 46.2**	**-1.8**	
	baz=329								
NNS	**Nan Shan**	**2.07**	**346**⇑	*e*P		**Pn**	**10 56 19.1**	**-0.6**	
	baz=349								
NNS				*e*S		**Sn**	**10 56 43.7**	**-2.0**	
	baz=349								
WCHH	**Zhanghua**	**2.07**	**323**⇑	*e*P		**Pb**	**10 56 21.0**	**-1.3**	
	baz=325								
WCHH				*e*S		**Sb**	**10 56 46.2**	**-1.9**	
	baz=325								
WTCT	**Ta-ch'eng**	**2.08**	**314**	*e*P		**Pn**	**10 56 20.2**	**+0.5**	
	baz=315								
LATG	**Datong**	**2.13**	**350**⇑	*e*P		**Pn**	**10 56 19.9**	**-0.6**	
	baz=353								
LATG				*e*S		**Sn**	**10 56 44.5**	**-2.7**	
	baz=353								
TWC	**Suao**	**2.17**	**358**⇑	*e*P		**Pn**	**10 56 20.9**	**0.0**	
	baz=1.0								
TWC				*e*S		**Sn**	**10 56 45.9**	**-2.3**	
	baz=1.0								
TWQ1	**Liyutan**	**2.18**	**331**⇑	*e*P		**Pb**	**10 56 23.0**	**-1.3**	
	baz=333								
TWQ1				*e*S		**Sb**	**10 56 50.1**	**-1.4**	
	baz=333								
NDT	**Datong Townshi**	**2.20**	**350**⇑	*e*P		**Pn**	**10 56 21.1**	**-0.3**	
	baz=353								
NDT				*e*S		**Sn**	**10 56 43.4**	**-5.4**	
	baz=353								
NDS	**Dongshan**	**2.21**	**355**	*e*P		**Pn**	**10 56 21.1**	**-0.3**	
	baz=358								
NDS				*e*S		**Sn**	**10 56 47.3**	**-1.6**	
	baz=358								
JYNG	**Yonagunijimaku**	**2.22**	**25**	P		**Pn**	**10 56 21.9**	**+0.2**	
JYNG				S		**Sn**	**10 56 46.7**	**-2.7**	
ENTT	**Nioudou**	**2.23**	**352**⇑	*e*P		**Pn**	**10 56 21.4**	**-0.3**	
	baz=355								
ENTT				*e*S		**Sn**	**10 56 44.7**	**-4.8**	
	baz=355								
WDGT	**Dungji**	**2.24**	**292**⇑	*e*P		**Pn**	**10 56 22.1**	**+0.2**	
	baz=292								
WDGT				*e*S		**Sn**	**10 56 47.5**	**-2.3**	
	baz=292								
WDJ	**Dajia District**	**2.24**	**329**	*e*P		**Pb**	**10 56 23.6**	**-1.7**	
	baz=331								
WDJ				*e*S		**Sb**	**10 56 51.1**	**-2.1**	
	baz=331								
NSY	**Sanyi**	**2.25**	**332**⇑	*e*P		**Pb**	**10 56 24.0**	**-1.4**	
	baz=334								
NSY				*e*S		**Sb**	**10 56 51.8**	**-1.6**	
	baz=334								
YOJ	**Yonaguni jima**	**2.26**	**26**	P		**Pn**	**10 56 22.4**	**+0.2**	
YOJ				S		**Sn**	**10 56 48.2**	**-2.1**	
YOJ	**Yonaguni jima**	**2.26**	**26**			**Pn**	**10 56 22.5**	**+0.3**	
YHNB	**Yeheng**	**2.29**	**348**			**Pn**	**10 56 22.8**	**+0.1**	
YHNB	**Yeheng**	**2.29**	**348**⇑	*e*P		**Pn**	**10 56 22.8**	**+0.1**	
	baz=350								
YHNB				*e*S		**Sn**	**10 56 46.4**	**-4.6**	
	baz=350								
TWE	**Neicheng**	**2.29**	**354**⇑	*e*P		**Pn**	**10 56 22.6**	**-0.1**	
	baz=357								

NSK	**Sanguang**	**2.30**	**347**⇑	*e*P		**Pn**	**10 56 22.9**	**+0.1**	
	baz=350								
NSK				*e*S		**Sn**	**10 56 47.1**	**-4.2**	
	baz=350								
NFF	**Wufeng Townshi**	**2.31**	**342**⇑	*e*P		**Pn**	**10 56 23.7**	**+0.7**	
	baz=344								
NFF				*e*S		**Sb**	**10 56 52.9**	**-2.5**	
	baz=344								
ILA	**Ilan**	**2.33**	**356**	*e*P		**Pn**	**10 56 23.9**	**+0.7**	
	baz=359								
FUSB	**Fushanzhiwuyua**	**2.34**	**353**⇑	*e*P		**Pn**	**10 56 23.2**	**-0.2**	
	baz=355								
FUSB				*e*S		**Sn**	**10 56 49.5**	**-2.9**	
	baz=355								
NMLH	**Miaoli**	**2.34**	**334**⇑	*e*P		**Pb**	**10 56 24.8**	**-2.2**	
	baz=336								
NMLH				*e*S		**Sn**	**10 56 52.9**	**+0.6**	
	baz=336								
NSTT	**Nanjuang**	**2.35**	**339**⇑	*e*P		**Pn**	**10 56 24.8**	**+1.4**	
	baz=342								
NSTT				*e*S		**Sb**	**10 56 53.5**	**-2.8**	
	baz=342								
LIOB	**Emei**	**2.36**	**340**⇑	*e*P		**Pn**	**10 56 25.1**	**+1.5**	
	baz=342								
LIOB				*e*S		**Sb**	**10 56 53.8**	**-2.8**	
	baz=342								
NWLT	**Wulai**	**2.37**	**351**⇑	*e*P		**Pn**	**10 56 23.5**	**-0.2**	
	baz=353								
NWLT				*e*S		**Sn**	**10 56 47.5**	**-5.6**	
	baz=353								
HATJ	**Hateruma jima**	**2.38**	**47**	P		**Pn**	**10 56 24.2**	**+0.4**	
HATJ				S		**Sn**	**10 56 51.3**	**-1.8**	
EGS		**2.41**	**0**	*e*P		**Pn**	**10 56 25.2**	**+1.0**	
	baz=3.0								
NTC	**Toucheng**	**2.42**	**358**⇑	*e*P		**Pn**	**10 56 24.8**	**+0.5**	
	baz=1.0								
PHUB	**P'eng-hu**	**2.42**	**297**	*e*P		**Pn**	**10 56 24.6**	**+0.3**	
	baz=297								
PHUB				*e*S		**Sn**	**10 56 51.0**	**-3.1**	
	baz=297								
NJD	**Zhudong**	**2.42**	**342**	*e*P		**Pb**	**10 56 26.9**	**-1.4**	
	baz=344								
VCHM	**Qimei**	**2.42**	**289**⇓	*e*P		**Pn**	**10 56 24.5**	**0.0**	
	baz=289								
VCHM				*e*S		**Sn**	**10 56 51.2**	**-3.2**	
	baz=289								
NJN	**Zhunan**	**2.44**	**337**	*e*P		**Pn**	**10 56 25.5**	**+0.8**	
	baz=339								
PNG	**Penghu**	**2.46**	**298**	*e*P		**Pn**	**10 56 24.6**	**-0.3**	
	baz=298								
PNG				*e*S		**Sn**	**10 56 52.8**	**-2.3**	
	baz=298								
HSN1	**Hsinchu**	**2.48**	**341**	*e*P		**Pn**	**10 56 27.0**	**+1.7**	
	baz=343								
HSN1				*e*S		**Sb**	**10 56 58.0**	**-2.2**	
	baz=343								
SBCB	**Hsinchu**	**2.51**	**340**	*e*P		**Pn**	**10 56 27.0**	**+1.4**	
	baz=342								
SBCB				*e*S		**Sn**	**10 56 57.1**	**+0.7**	
	baz=342								
HSN	**Hsinchu**	**2.52**	**340**	*e*P		**Pb**	**10 56 27.7**	**-2.3**	
	baz=343								
HSN				*e*S		**Sb**	**10 56 58.6**	**-2.6**	
	baz=343								
IRIF	**Iriomote-Funau**	**2.52**	**41**	P		**Pn**	**10 56 26.3**	**+0.5**	
IRIF				S		**Sn**	**10 56 55.1**	**-1.7**	
TIPB	**Shuangxi**	**2.54**	**358**⇑	*e*P		**Pn**	**10 56 26.8**	**+0.8**	
	baz=1.0								
TIPB				*e*S		**Sn**	**10 56 55.4**	**-1.7**	
	baz=1.0								
NHDH	**Xindian Distri**	**2.55**	**352**	*e*P		**Pn**	**10 56 26.7**	**+0.5**	
	baz=354								
TWA	**Mucha**	**2.56**	**353**	*e*P		**Pn**	**10 56 27.0**	**+0.6**	
	baz=356								
TATO	**Taipei**	**2.57**	**351**			**Pn**	**10 56 27.0**	**+0.6**	
TWB1	**Santiao Chiao**	**2.57**	**1**	*e*P		**Pn**	**10 56 26.9**	**+0.4**	
	baz=4.0								
NCUH	**Zhongli**	**2.62**	**345**	*e*P		**Pn**	**10 56 28.3**	**+1.1**	
	baz=347								
NCU	**National Centr**	**2.62**	**345**	*e*P		**Pn**	**10 56 28.0**	**+0.9**	
	baz=348								
TAP1	**Taipei**	**2.63**	**352**	*e*P		**Pn**	**10 56 27.2**	**+0.1**	
	baz=354								
TAP	**Taipei**	**2.63**	**352**	*e*P		**Pn**	**10 56 24.9**	**-2.3**	
	baz=354								
JKRS	**Kuro-shima**	**2.63**	**46**	P		**Pn**	**10 56 28.0**	**+0.7**	
JKRS				S		**Sn**	**10 56 57.7**	**-1.8**	
NWF	**Wu-fen Shan**	**2.63**	**357**	*e*P		**Pn**	**10 56 28.4**	**+1.0**	
	baz=360								
WFSB	**Wu-fen Shan**	**2.63**	**357**	*e*P		**Pn**	**10 56 28.5**	**+1.1**	
	baz=360								
SXI1	**Grass Mountain**	**2.66**	**359**⇑	*e*P		**Pn**	**10 56 28.5**	**+0.8**	
	baz=1.0								
SXI1				*e*S		**Sn**	**10 56 57.0**	**-3.1**	
	baz=1.0								
NHW	**Xinwu Township**	**2.69**	**343**	*e*P		**Pn**	**10 56 29.7**	**+1.6**	
	baz=345								
TWS1	**Kuangyinshan**	**2.70**	**350**	*e*P		**Pn**	**10 56 29.2**	**+0.9**	
	baz=353								
TWS1				*e*S		**Sn**	**10 57 01.2**	**0.0**	
	baz=353								
TNOU	**National Taiwa**	**2.71**	**357**	*e*P		**Pn**	**10 56 29.3**	**+0.9**	
	baz=359								
YM01	**YM01**	**2.73**	**353**	*e*P		**Pn**	**10 56 28.9**	**+0.3**	
	baz=355								
YM01				*e*S		**Sn**	**10 57 01.7**	**-0.2**	
	baz=355								
NTST	**Danshui**	**2.76**	**351**	*e*P		**Pn**	**10 56 30.0**	**+1.0**	
	baz=353								
YM08	**YM08**	**2.77**	**354**	*e*P		**Pn**	**10 56 29.1**	**-0.1**	
	baz=356								
JIJ	**Ishigaki jima**	**2.81**	**46**	P		**Pn**	**10 56 29.8**	**+0.1**	
JIJ				S		**Sn**	**10 57 01.1**	**-2.7**	
JISG	**Ishigakijimahi**	**3.07**	**45**	P		**Pn**	**10 56 33.3**	**-0.1**	
JISG				*e*S		**Sn**	**10 57 07.8**	**-2.5**	
PCYT	**Pengchaiyu**	**3.19**	**2**	*e*P		**Pn**	**10 56 35.3**	**+0.3**	
	baz=5.0								
JTJ	**Tarama**	**3.37**	**49**	P		**Pn**	**10 56 38.0**	**+0.5**	
JTJ				S		**Sn**	**10 57 16.1**	**-1.6**	
VWUC	**VWUC**	**3.41**	**319**⇑	*e*P		**Pn**	**10 56 37.7**	**-0.3**	
	baz=320								
VWUC				*e*S		**Sn**	**10 57 15.2**	**-3.5**	
	baz=320								
PTMZ	**Houxiangcun**	**3.65**	**316**⇑	*e*P		**Pn**	**10 56 39.3**	**-2.1**	
	baz=316								
PTMZ				*e*S		**Sn**	**10 57 19.3**	**-5.3**	
	baz=316								
KNM	**Kinmen**	**3.77**	**302**	*e*P		**Pn**	**10 56 44.1**	**+1.2**	
	baz=301								
JIRB	**Irabujima**	**3.82**	**51**	P		**Pn**	**10 56 44.0**	**+0.3**	
JIRB				S		**Sn**	**10 57 27.0**	**-1.8**	
KNMB	**Chin-men Tao**	**3.82**	**303**	Pn		**Pn**	**10 56 43.6**	**-0.1**	
KNMB	**Chin-men Tao**	**3.82**	**303**	*e*P		**Pn**	**10 56 43.3**	**-0.4**	
	baz=303								
KNMB				*e*S		**Sn**	**10 57 23.4**	**-5.5**	
	baz=303								
JMJ2	**Miyako jima3**	**3.88**	**53**	P		**Pn**	**10 56 44.6**	**+0.1**	
JMJ2				S		**Sn**	**10 57 29.3**	**-1.0**	
JIKM	**Ikemajima**	**3.94**	**50**	P		**Pn**	**10 56 45.5**	**+0.3**	
JIKM				S		**Sn**	**10 57 29.5**	**-2.1**	
QZH	**Quanzhou**	**3.95**	**310**⇑	*i*Pn		**Pn**	**10 56 44.9**	**-0.5**	
QZH				Sn		**Sn**	**10 57 28.8**	**-3.1**	
QZH				smax	smax				
	comp=N,670nm,1.1s								
QZH				smax	smax				
	comp=E,570nm,0.7s								
QZH				LR	LR				
	comp=N,4μm,10.3s								
QZH				LR	LR				
	comp=E,3μm,10.0s								
QZH				LR	LR				
	comp=Z,2μm,10.2s								
JOGS	**Gusukube**	**3.95**	**53**	P		**Pn**	**10 56 46.2**	**+0.7**	
JOGS				S		**Sn**	**10 57 31.0**	**-1.0**	
ZPLA	**Ao Xicun**	**4.12**	**292**	*e*P		**Pn**	**10 56 48.2**	**+0.5**	
	baz=292								
ZPLA				*e*S		**Sn**	**10 57 32.0**	**-4.1**	
	baz=292								
MATB	**Ma-tsu**	**4.12**	**334**	*e*P		**Pn**	**10 56 47.5**	**-0.3**	
	baz=335								
MATB				*e*S		**Sn**	**10 57 32.8**	**-3.4**	
	baz=335								
SGCP	**Gonzaga**	**4.17**	**178**⇓	*i*P		**Pn**	**10 56 47.0**	**-1.4**	
DSXP	**Dongshan**	**4.33**	**288**	*e*P		**Pn**	**10 56 50.8**	**+0.1**	
	baz=287								
DSXP				*e*S		**Sn**	**10 57 37.2**	**-4.2**	
	baz=287								

AXDP	**Jialang**	**4.38**	**305**⇑	*e*P		**Pn**	**10 56 51.1**	**-0.2**	
	baz=305								
AXDP				*e*S		**Sn**	**10 57 38.5**	**-4.0**	
	baz=305								
MHZQ	**Yeshan**	**4.51**	**325**	*e*P		**Pn**	**10 56 52.9**	**-0.2**	
	baz=325								
LYJJ	**Jianjiangzhen**	**4.55**	**335**	*e*P		**Pn**	**10 56 53.3**	**-0.4**	
	baz=336								
APYP	**Conner**	**4.59**	**188**⇓	*i*P		**Pn**	**10 56 54.6**	**+0.4**	
APYP	**Conner**	**4.59**	**188**⇑	*i*P		**Pb**	**10 57 04.5**	**-0.8**	
APYP				*i*S		**Sb**	**10 58 00.0**	**-0.6**	
XPSS	**Dashiqiu**	**4.75**	**341**	*e*P		**Pn**	**10 56 55.9**	**-0.5**	
	baz=342								
VDOS	**Pratas Island**	**5.13**	**251**	*e*P		**Pn**	**10 57 01.8**	**+0.2**	
	baz=250								
VDOS				*e*S		**Sn**	**10 57 56.6**	**-4.4**	
	baz=250								
BOLP	**Bolinao**	**6.30**	**198**⇑	*i*P		**Pn**	**10 57 18.6**	**+0.7**	
SMPP	**San Manuel, Pa**	**6.35**	**191**⇑	*i*P		**Pn**	**10 57 19.5**	**+1.0**	
BALP	**Baler**	**6.66**	**183**⇑	*i*P		**Pn**	**10 57 22.8**	**+0.1**	
PCPH	**Palayan**	**6.87**	**187**⇓	*e*P		**Pn**	**10 57 26.6**	**+0.9**	
SCZP	**Santa Cruz**	**6.88**	**196**⇓	*e*P		**Pn**	**10 57 26.6**	**+0.8**	
HKPS	**Hong Kong Po S**	**7.20**	**270**	Pn		**Pn**	**10 57 30.5**	**+0.4**	
JOW	**Kunigami**	**7.26**	**52**	Pn		**Pn**	**10 57 29.2**	**-1.6**	
	10.0nm,0.3s,baz=152,slow=16,SNR=16								
JOW				Sn		**Sn**	**10 58 46.9**	**-6.6**	
	4.7nm,0.3s,baz=266,slow=14,SNR=1.7								
JCNP	**Jose Panganiba**	**8.13**	**175**⇓	*e*P		**Pn**	**10 57 42.5**	**-0.4**	
MACP	**Maragondon, Ca**	**8.20**	**188**⇓	*e*P		**Pn**	**10 57 44.7**	**+0.9**	
LQP	**Lukban**	**8.28**	**183**⇓	*e*P		**Pn**	**10 57 45.6**	**+0.4**	
TGY	**Tagaytay City**	**8.33**	**187**	Pn		**Pn**	**10 57 43.7**	**-2.0**	
	71nm,0.3s,baz=52,slow=19,SNR=2.0								
SSE	**Sheshan**	**8.66**	**356**	P		**Pn**	**10 57 52.1**	**+2.0**	
SSE				S		**Sn**	**10 59 32.3**	**+4.3**	
SSE				pmax	pmax				
	comp=Z,24nm,0.8s								
SSE				pmax	pmax				
	comp=Z,77nm,6.0s								
SSE				LR	LR				
	comp=N,390nm,17.8s								
SSE				LR	LR				
	comp=E,650nm,17.7s								
LUBP	**Lubang**	**8.79**	**191**⇓	*e*P		**Pn**	**10 57 52.6**	**+0.7**	
CNSH	**ChangSha**	**9.95**	**307**	⇑P		**Pn**	**10 58 04.3**	**-3.5**	
CNSH				S		**Sn**	**10 59 55.8**	**-3.8**	
CNSH				smax	smax				
	comp=N,310nm,0.9s								
CNSH				smax	smax				
	comp=E,280nm,0.9s								
NJ2	**Nanjing**	**9.97**	**345**	⇑P		**Pn**	**10 58 07.3**	**-0.7**	
NJ2				pP			10 58 10.0		
NJ2				S		**Sn**	**10 59 58.3**	**-1.8**	
NJ2				pmax	pmax				
	comp=E,24nm,0.5s								
NJ2				smax	smax				
	comp=E,130nm,0.8s								
NJ2				smax	smax				
	comp=E,81nm,1.4s								
NJ2				LR	LR				
	comp=E,2μm,8.1s								
NJ2				LR	LR				
	comp=E,2μm,10.4s								
NJ2				LR	LR				
	comp=E,2μm,10.0s								
WHN	**Wuhan**	**10.55**	**322**	⇑P		**Pn**		**10 58 16.3**	**+0.3**
WHN				pP			10 58 24.8		
WHN				LR	LR				
	comp=E,2μm,13.8s								
GULI	**GuiLin**	**10.95**	**287**	P		**Pn**		**10 58 24.3**	**+2.7**
GULI				S		**Sn**		**11 00 23.3**	**-1.0**
GULI				LR	LR				
	comp=E,2μm,13.8s								
GULI				LR	LR				
	comp=E,770nm,13.3s								
GULI				LR	LR				
	comp=E,1μm,14.2s								
QIZ	**Qiongzhong**	**11.79**	**256**	Pn		**Pn**		**10 58 32.4**	**-0.7**
QIZ	**Qiongzhong**	**11.79**	**256**	P		**Pn**		**10 58 32.8**	**-0.3**
QIZ				S		**Sn**		**11 00 44.4**	**-0.7**
QIZ				pmax	pmax				
	comp=E,34nm,1.1s								
QIZ				LR	LR				
	comp=E,2μm,20.1s								
QIZ				LR	LR				
	comp=E,1μm,15.2s								
QIZ				LR	LR				
	comp=E,2μm,14.9s								
TIA	**Tai'an**	**14.36**	**344**	P		**Pn**		**10 59 11.3**	**+3.2**
TIA				pmax	pmax				
	comp=E,17nm,0.8s								
TIA				LR	LR				
	comp=E,410nm,5.9s								
TIA				LR	LR				
	comp=E,890nm,11.4s								
TIA				LR	LR				
	comp=E,1μm,7.8s								
GYA	**Guiyang**	**14.46**	**289**	⇑P		**Pn**		**10 59 10.8**	**+1.1**
GYA				pmax	pmax				
	comp=E,28nm,1.0s								
GYA				LR	LR				
	comp=E,1μm,10.7s								
LYN	**LuoYang**	**14.65**	**328**	⇓P		**P**		**10 59 21.5**	**+3.0**
LYN				PP		PnPn		10 59 30.8	+11
LYN				S		**Sn**		**11 01 50.9**	**-3.8**
LYN				pmax	pmax				
	comp=Z,70nm,0.8s								
LYN				LR	LR				
	comp=N,2μm,10.0s								
LYN				LR	LR				
	comp=E,610nm,10.9s								
LYN				LR	LR				
	comp=Z,2μm,12.2s								
KCP	**Kidapawan**	**15.63**	**168**⇓	*e*P		**Pn**		**10 59 23.5**	**-1.8**
DAV	**Davao City (W)**	**15.67**	**166**	LR		LR		11 05 15.9	
	comp=Z,638nm,19.9s,baz=336,slow=37								
KSAR	**Wonju Array Be**	**15.83**	**18**			**Pn**		**10 59 27.6**	**0.0**
KSRS	**Korea Array**	**15.85**	**18**	Pn		**Pn**		**10 59 29.4**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=199,slow=12,SNR=38								
KSRS				Lg	Lg			11 04 12.0	
	comp=Z,0.2nm,0.3s,baz=218,slow=29,S

TIY pmax pmax
comp=Z,36nm,0.7s
TIY pmax pmax
comp=Z,250nm,3.7s
TIY LR LR
comp=Z,1µm,14.8s
TIY LR LR
comp=Z,2µm,13.4s
TIY LR LR
comp=Z,1µm,13.2s
MYLDM Lahad Datu 17.46 191 P **P** **10 59 50.5 +0.7**
MYLDM lAmb lAmb 11 00 15.7
comp=Z,109nm,1.2s
BJT Baijiatuau 18.20 346 P **Pn** **10 59 55.9 -1.7**
BJI Beijing 18.23 346 P **P** **10 59 59.6 +1.6**
BJI pmax pmax
comp=Z,26nm,1.1s
BJI pmax pmax
comp=Z,210nm,6.8s
BJI LR LR
comp=Z,490nm,10.7s
BJI LR LR
comp=Z,620nm,11.5s
BJI LR LR
comp=Z,580nm,11.3s
CD2 Chengdu 18.28 301 P **P** **11 00 01.0 +2.2**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 LR LR
comp=Z,200nm,13.1s
CD2 LR LR
comp=Z,1µm,11.8s
CD2 LR LR
comp=Z,850nm,13.3s
INU Inuyama 18.42 42 **P** **10 59 59.9 -0.4**
PZH PanZhiHua 18.81 287 ⇑P **Pn** **11 00 07.9 +2.7**
PZH sP **pwP** **11 00 10.9 -0.8**
PZH PP **PnPn** **11 00 18.3 +1.0**
PZH S **Sn** **11 03 32.9 -3.0**
PZH sS **S** **11 03 36.1 -3.0**
PZH SS **SnSn** **11 03 52.0 +2.1**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,70nm,4.9s
PZH LR LR
comp=Z,680nm,12.9s
PZH LR LR
comp=Z,620nm,12.4s
PZH LR LR
comp=Z,770nm,12.6s
JCJ Chichijima 18.98 72 LR LR 11 05 48.9
comp=Z,111nm,19.1s,baz=56,slow=32
SNY Shenyang 19.39 4 ⇑P **Pn** **11 00 13.4 +1.4**
SNY pmax pmax
comp=Z,37nm,1.1s
SNY LR LR
comp=Z,580nm,13.7s
SNY LR LR
comp=Z,250nm,11.6s
SNY LR LR
comp=Z,820nm,14.0s
MAJO Matsushiro 19.93 41 P **P** **11 00 16.7 -0.2**
MJAR Matsushiro Arr 19.93 42 P **P** **11 00 17.2 +0.4**
comp=Z,8.6nm,0.9s,baz=322,slow=6.1,SNR=7.4
MJAR LR LR 11 08 19.4
comp=Z,158nm,19.3s,baz=224,slow=38
MJAR Matsushiro Arr 19.93 42 P **P** **11 00 17.2 +0.4**
MJB9 Matsu-Tunnel 19.93 41 P **P** **11 00 17.5 +0.6**
HHC Hu-ho-hao-te 20.34 337 *e*P Pn 11 00 23.4 0.0
HHC S Sn 11 04 10.3 -2.5
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,270nm,4.5s
HHC LR LR
comp=Z,790nm,16.9s
HHC LR LR
comp=Z,320nm,10.4s
HHC LR LR
comp=Z,910nm,16.6s
BTO Baotou 20.73 334 *e*P Pn 11 00 27.5 -0.5
LZH Lanzhou 20.78 315 ⇓P Pn 11 00 30.5 +1.8
LZH pP pwP 11 00 36.4 +3.2
LZH sP sP 11 00 40.0 +12
LZH PP **PnPn** **11 00 54.3 +10**
LZH S Sn 11 04 19.8 -3.7
LZH pmax pmax
comp=Z,50nm,1.5s
LZH pmax pmax
comp=Z,360nm,4.9s
LZH LR LR
comp=Z,1µm,13.6s
LZH LR LR
comp=Z,650nm,14.1s
LZH LR LR
comp=Z,510nm,14.1s
JSD Sado 20.96 38 P **P** **11 00 29.0 +1.1**
JYT Yasato 21.00 45 P **P** **11 00 29.1 +0.7**
JYT lAmb lAmb 11 00 50.1
comp=Z,51nm,1.2s
TOLI2 Tolitoli 21.22 183 P **P** **11 00 31.2 +0.3**
TOLI2 lAmb lAmb 11 00 32.9
comp=Z,61nm,1.0s
CN2 Changchun 21.52 7 *e*P **P** **11 00 32.8 -1.1**
CN2 pmax pmax
comp=Z,40nm,1.0s
GTOI Gorontalo 21.69 177 P **P** **11 00 34.6 -1.3**
comp=Z,758nmcomp=Z,75nm,1.1s
CHTO Chiang Mai 21.80 265 P **P** **11 00 37.4 +0.2**
CHTO lAmb lAmb 11 00 51.7
comp=Z,78nm,1.7s
KMSI Cibinong 21.81 174 P **P** **11 00 37.2 -0.1**
comp=Z,133nm,0.8s
MRSI Marisa 21.82 180 P **P** **11 00 38.2 +0.9**
comp=Z,1µmcomp=Z,106nm,0.8s
CM31 Chiang Mai Arr 21.88 264 P **P** **11 00 38.4 +0.4**
CMAR Chiang Mai Arr 21.88 264 P **P** **11 00 37.7 -0.4**
comp=Z,7.9nm,0.9s,baz=69,slow=8.7,SNR=55
CMAR PcP **PcP** **11 04 35.8 -1.9**
comp=Z,0.3nm,0.3s,baz=36,slow=3.4,SNR=1.9
CMAR LR LR 11 10 50.0
comp=Z,464nm,18.2s,baz=80,slow=42
CMAR Chiang Mai Arr 21.88 264 P **P** **11 00 38.3 +0.2**
XLT XiLinHaoTe 21.95 349 *e*P **P** **11 00 37.6 -1.1**
XLT sP sP 11 00 44.3 +4.2
XLT PP **PnPn** **11 01 04.5 +4.2**
XLT S **S** **11 04 42.4 +1.1**
XLT SS **SnSn** **11 05 17.8 +11**
XLT pmax pmax
comp=Z,15nm,1.0s
XLT pmax pmax
comp=Z,190nm,5.0s
XLT LR LR
comp=Z,590nm,14.3s
XLT LR LR
comp=Z,520nm,13.6s
SBUM Sibu 21.98 207 P **P** **11 00 39.0 -0.1**
SBUM lAmb lAmb 11 00 41.8
comp=Z,51nm,0.7s
MPSI Mapaga 22.04 185 P **P** **11 00 41.0 +1.2**
comp=Z,1µmcomp=Z,123nm,1.0s
TNTI Ternate 22.17 165 P **P** **11 00 39.6 -1.4**
TNTI lAmb lAmb 11 00 40.6
comp=Z,60nm,0.9s
TNTI Ternate 22.17 165 P **P** **11 00 39.7 -1.4**
comp=Z,73nm,0.9s
MDJ Mudanjiang 23.02 14 P **P** **11 00 50.3 +0.4**
MDJ Mudanjiang 23.02 14 P **P** **11 00 51.0 +1.1**
MDJ pP sP 11 00 53.4 +2.1
MDJ sP pwP 11 00 55.8 -1.1
MDJ S **S** **11 05 04.6 +3.9**
MDJ pmax pmax
comp=Z,43nm,0.9s
MDJ LR LR
comp=Z,700nm,12.8s
MDJ LR LR
comp=Z,780nm,14.5s
MDJ LR LR
comp=Z,840nm,14.6s
SMKI Samarinda 23.19 192 P **P** **11 00 53.1 +1.2**
APSI Ampana 23.20 181 P **P** **11 00 52.1 +0.1**
comp=Z,1µmcomp=Z,70nm,1.3s
USA0B Ussuriysk Arra 23.25 19 P **P** **11 00 52.5 +0.2**
USA0B lAmb lAmb 11 01 06.1
comp=Z,34nm,0.9s
USRK Ussuriysk Ar. 23.25 19 P **P** **11 00 52.3 0.0**
comp=Z,13nm,0.7s,baz=198,slow=9.5,SNR=16
USRK LR LR 11 10 36.3
comp=Z,230nm,18.3s,baz=185,slow=38
USRK Ussuriysk Ar. 23.25 19 P **P** **11 00 52.1 -0.2**
LUWI Luwuk 23.34 178 P **P** **11 00 52.8 -0.6**
LUWI Luwuk 23.34 178 P **P** **11 00 52.6 -0.8**
comp=Z,2µmcomp=Z,118nm,0.9s
GUMO Guam 23.50 108 LR LR 11 09 05.4
comp=Z,62nm,20.2s,baz=293,slow=34
BNX BinXian 23.68 10 ⇑P **P** **11 00 56.5 -0.1**
BNX pmax pmax
comp=Z,62nm,1.1s
BNX pmax pmax
comp=Z,440nm,5.2s
KSM Kuching 23.69 210 P **P** **11 00 55.8 -1.1**
KSM lAmb lAmb 11 00 57.9
comp=Z,43nm,0.9s
MTKI Muara Teweh, K 24.22 197 P **P** **11 01 02.0 +0.1**
comp=Z,39nm,0.8s
STKI Sintang 24.44 206 P **P** **11 01 04.1 +0.1**
comp=Z,10µmcomp=Z,28nm,0.7s
SANI Sanana 24.65 170 P **P** **11 01 05.2 -0.6**
comp=Z,46nm,0.9s
SIJI Sorong 24.88 157 P **P** **11 01 07.5 -0.5**
comp=Z,8.0nm,0.6s,baz=343,slow=9.9,SNR=4.9
GTA Gaotai 25.32 317 ⇑P **P** **11 01 13.3 +1.5**
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA LR LR
comp=Z,720nm,19.1s
GTA LR LR
comp=Z,650nm,20.3s
GTA LR LR
comp=Z,320nm,19.1s
TTSI Tana Toraja 25.40 185 P **P** **11 01 13.1 +0.5**
comp=Z,979nmcomp=Z,43nm,0.9s
SRIT Nakonsritamara 25.47 241 P **P** **11 01 14.3 +1.0**
JEW Eniwo 26.05 34 P **P** **11 01 18.8 +0.5**
SPSI Sidrap Palu 26.31 185 P **P** **11 01 22.0 +1.1**
comp=Z,38nm,1.0s
ERM Erimo 26.41 37 P **P** **11 01 21.7 +0.1**
MSAI Masohi 26.52 164 P **P** **11 01 23.2 +0.5**
comp=Z,2µmcomp=Z,6.6nm,0.6s
BBKI Banjar Baru 26.64 196 P **P** **11 01 24.5 +0.6**
comp=Z,2µmcomp=Z,21nm,1.1s
AAI Ambon 26.67 166 P **P** **11 01 23.7 -0.4**
comp=Z,73nm,0.9s
BNSI Bone 26.72 184 P **P** **11 01 25.9 +1.3**
comp=Z,24nm,1.3s
IPM Ipoh 26.97 232 P **P** **11 01 25.8 -1.1**
MYKOM **Kota Tinggi 27.00 223** P **P** **11 01 25.8 -1.3**
MYKOM lAmb lAmb 11 01 47.9
comp=Z,16nm,0.9s
GOMU GeErMu 27.22 306 P **P** **11 01 32.4 +3.0**
GOMU pP pwP 11 01 36.9 +0.5
GOMU sP sP 11 01 38.3 +7.5
GOMU S **S** **11 06 08.8 -0.1**
GOMU sS sS 11 06 20.9 +10
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU pmax pmax
comp=Z,130nm,6.1s
GOMU LR LR
comp=Z,520nm,13.9s
GOMU LR LR
comp=Z,410nm,15.1s
GOMU LR LR
comp=Z,400nm,12.8s
KAPI Kappang 27.36 185 P **P** **11 01 29.3 -1.0**
comp=Z,5.3nm,0.6s,baz=65,slow=14,SNR=2.5
KAPI LR LR 11 12 46.2
comp=Z,263nm,19.5s,baz=20,slow=38
KAPI Kappang 27.36 185 P **P** **11 01 29.3 -1.0**
KAPI lAmb lAmb 11 01 48.1
comp=Z,40nm,1.2s
ASAJ Asahikawa 27.55 33 P **P** **11 01 31.5 -0.3**
comp=Z,5.1nm,0.5s,baz=241,slow=14,SNR=8.3
ASAJ LR LR 11 12 00.2
comp=Z,262nm,21.8s,baz=238,slow=35
KLR Kul'dur 27.86 14 P **P** **11 01 35.6 +1.1**
comp=Z,18nm,0.9s,baz=217,slow=6.3,SNR=32
KLR LR LR 11 13 33.3
comp=Z,234nm,19.4s,baz=198,slow=38
ULN Ulaanbaatar 28.04 338 P **P** **11 01 35.4 -1.0**
SONM Songino Array 28.24 338 P **P** **11 01 37.4 -0.7**
comp=Z,2.9nm,0.7s,baz=150,slow=10,SNR=26
SONM LR LR 11 14 28.5
comp=Z,407nm,20.3s,baz=142,slow=40
SONM Songino Array 28.24 338 P **P** **11 01 37.5 -0.7**
LSA Lhasa 28.51 291 P **P** **11 01 45.1 +3.9**
LSA pmax pmax
comp=Z,13nm,1.4s
PSI Prapat 29.64 232 P **P** **11 01 51.0 +0.2**
comp=Z,9.1nm,0.9s,baz=119,slow=6.7,SNR=4.2
PSI LR LR 11 13 15.7
comp=Z,300nm,18.5s,baz=38,slow=36
YSS Yuzh-Sakhalins 29.69 29 P **P** **11 01 51.7 +0.9**
MNSI Mandailing Nat 30.57 228 P **P** **11 01 59.2 +0.2**
comp=Z,24nm,0.6s
MMRI Maumere 30.87 179 P **P** **11 02 00.2 -1.3**
MMRI Maumere 30.87 179 P **P** **11 02 00.9 -0.6**
comp=Z,31nm,0.7s
PPI Padang Panjang 30.94 226 P **P** **11 02 03.0 +0.8**
comp=Z,9.2nm,1.0s
PWJI Pagerwojo 31.84 199 P **P** **11 02 09.4 -0.7**
comp=Z,36nm,0.9s
MASI Maura Aman, Be 31.87 220 P **P** **11 02 11.2 +0.8**
comp=Z,65nm,0.9s
MDSI Maura Dua 31.88 215 P **P** **11 02 11.3 +0.8**
comp=Z,955nmcomp=Z,14nm,1.2s
KPJI Karang Pucung 32.20 205 P **P** **11 02 14.2 +1.0**
comp=Z,1µmcomp=Z,37nm,1.2s
DBJI Dramaga 32.41 209 P **P** **11 02 14.2 -0.9**
comp=Z,32µmcomp=Z,57nm,0.6s
BATI Baumata 32.48 177 LR LR 11 15 33.8
comp=Z,145nm,21.1s,baz=276,slow=37
WMQ Urumqi 35.37 315 *e*P **P** **11 02 43.3 +2.6**
WMQ LR LR
comp=Z,410nm,11.1s
WMQ LR LR
comp=Z,320nm,14.1s
WMQ LR LR
comp=Z,170nm,20.3s
MTN Manton Dam 36.20 165 P **P** **11 02 47.6 -0.2**
MTN lAmb lAmb 11 03 04.6
comp=Z,17nm,1.4s
KNRA Kununurra 38.46 169 P **P** **11 03 06.8 -0.3**
YAK Yakutsk 39.94 6 LR LR 11 20 15.9
comp=Z,149nm,19.5s,baz=212,slow=37
YAK Yakutsk 39.94 6 P **P** **11 03 20.2 +1.3**
MK31 Makanchi Array 40.07 317 P **P** **11 03 20.7 +0.3**
MKAR Makanchi Array 40.07 317 P **P** **11 03 21.0 +0.6**
comp=Z,11nm,0.7s,baz=112,slow=9.8,SNR=64
MKAR LR LR 11 20 03.5
comp=Z,204nm,18.3s,baz=114,slow=36
MKAR Makanchi Array 40.07 317 P **P** **11 03 20.7 +0.3**
PMG Port Moresby 40.16 139 P **P** **11 03 19.8 -1.5**
comp=Z,33nm,0.9s,baz=231,slow=23,SNR=6.6
PMG Port Moresby 40.16 139 P **P** **11 03 22.6 +1.2**
PMG lAmb lAmb 11 03 23.9
comp=Z,43nm,0.9s
MAKZ Makanchi 40.27 317 P **P** **11 03 21.9 -0.2**
MAKZ lAmb lAmb 11 03 42.1
comp=Z,26nm,1.1s
FITZ Fitzroy Crossi 40.44 175 P **P** **11 03 20.9 -2.7**
comp=Z,5.2nm,0.9s,baz=9.9,slow=7.4,SNR=7.2
FITZ Fitzroy Crossi 40.44 175 P **P** **11 03 22.0 -1.5**
PETK Petropavlovsk- 40.96 33 LR LR 11 21 49.1
comp=Z,127nm,18.9s,baz=233,slow=38
COEN Coen 41.73 148 P **P** **11 03 34.1 -0.2**
COEN lAmb lAmb 11 03 36.2
comp=Z,35nm,1.2s
H11N1 WAKE ISLAND Hy 41.94 85 T T 11 48 56.4
baz=282,slow=74,SNR=29
H11N2 WAKE ISLAND Hy 41.94 85 T T 11 48 55.8
baz=282,slow=74,SNR=46
H11N3 WAKE ISLAND Hy 41.95 85 T T 11 48 56.2
baz=282,slow=74,SNR=38
H11S3 WAKE ISLAND Hy 42.01 87 T T 11 49 00.3
baz=284,slow=74,SNR=42
H11S1 WAKE ISLAND Hy 42.02 87 T T 11 49 02.5
baz=284,slow=74,SNR=31
H11S2 WAKE ISLAND Hy 42.03 87 T T 11 48 59.5
baz=284,slow=74,SNR=27
ZAA0 Zalesovo Array 42.08 328 P **P** **11 03 36.4 -0.4**
ZAA0 lAmb lAmb 11 03 48.1
comp=Z,21nm,0.7s
ZALV Zalesovo Beam 42.08 328 P **P** **11 03 36.2 -0.6**
comp=Z,15nm,0.7s,baz=114,slow=7.9,SNR=40
ZALV LR LR 11 21 22.7
comp=Z,241nm,20.6s,baz=130,slow=36
ZALV Zalesovo Beam 42.08 328 P **P** **11 03 36.0 -0.8**
MA2 Magadan 42.35 21 P **P** **11 03 38.8 -0.1**
comp=Z,4.0nm,0.7s,baz=196,slow=7.0,SNR=8.3
MA2 LR LR 11 21 55.0
comp=Z,137nm,18.2s,baz=225,slow=37
PALK Pallekele 42.42 256 LR LR 11 22 49.3
comp=Z,134nm,18.7s,baz=157,slow=38
KSH Kashi 42.43 305 P **P** **11 03 42.8 +2.8**
KSH sP pwP 11 03 48.4 +1.3
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH LR LR
comp=Z,400nm,19.0s
BOOM Boomskoye usch 43.04 309 P **P** **11 03 42.7 -2.3**
MBWA Marble Bar 43.37 183 P **P** **11 03 46.0 -1.6**
MBWA lAmb lAmb 11 05 26.5
comp=Z,35nm,1.8s
WB0 Warramunga Arr 43.67 163 P **P** **11 03 50.0 0.0**
PSA00 Pilbara Seismi 43.78 183 P **P** **11 03 49.3 -1.6**
WRAB Tennant Creek 43.82 163 P **P** **11 03 50.1 -1.0**
WRA Warramunga Arr 43.82 163 P **P** **11 03 49.2 -2.0**
comp=Z,4.2nm,0.9s,baz=344,slow=8.7,SNR=13
WRA PcP **PcP** **11 05 36.6 -1.2**
comp=Z,1.3nm,0.8s,baz=340,slow=3.7,SNR=2.2
WRA LR LR 11 22 10.4
comp=Z,101nm,21.1s,baz=308,slow=36
WRA Warramunga Arr 43.82 163 P **P** **11 03 49.6 -1.6**
WB2 Warramunga Arr 43.83 163 P **P** **11 03 49.2 -2.0**
KURK Kurchatov 43.87 321 P **P** **11 03 50.4 -0.9**
KURK lAmb lAmb 11 04 07.3
comp=Z,22nm,1.0s
WR0 Warramunga Arr 43.90 163 P **P** **11 03 50.2 -1.6**
NIL Nilore 44.03 296 P **P** **11 03 52.1 -0.9**
NIL lAmb lAmb 11 04 15.6
comp=Z,20nm,1.1s
AAK Ala-Archa 44.12 309 P **P** **11 03 53.7 +0.1**
comp=Z,3.1nm,0.8s,baz=129,slow=6.5,SNR=3.7
AAK LR LR 11 24 53.2
comp=Z,268nm,19.5s,baz=98,slow=40
AAK Ala-Archa 44.12 309 P **P** **11 03 53.0 -0.6**
SEY Seymchan 45.40 19 LR LR 11 24 06.5
comp=Z,137nm,19.2s,baz=28,slow=38
GIRL Giralia 45.42 190 P **P** **11 04 03.4 -0.5**
GAR Garm 46.72 303 P **P** **11 04 13.4 -0.9**
KK31 Karatay Array 47.08 309 P **P** **11 04 17.6 +0.6**
KK31 lAmb lAmb 11 04 30.6
comp=Z,6.2nm,0.9s
KKAR Karatay Array 47.08 309 P **P** **11 04 17.6 +0.6**
KKAR lAmb lAmb 11 04 30.6
comp=Z,6.2nm,0.9s
AS31 Alice Springs 47.27 165 P **P** **11 04 16.8 -1.8**
ASAR Alice Springs 47.28 165 P **P** **11 04 16.8 -1.8**
comp=Z,2.0nm,0.8s,baz=343,slow=6.7,SNR=14
ASAR PcP **PcP** **11 05 47.6 -2.1**
comp=Z,1.4nm,0.8s,baz=337,slow=3.7,SNR=2.3
ASAR ScP **ScP** **11 09 42.9 -1.2**
comp=Z,0.3nm,1.0s,baz=331,slow=3.3,SNR=1.2
ASAR Alice Springs 47.28 165 P **P** **11 04 17.0 -1.6**
KBL Kabul 47.54 297 P **P** **11 04 20.6 -0.3**
KBL lAmb lAmb 11 04 35.8
comp=Z,19nm,1.2s
CHGR Chuyangaron 47.60 302 P **P** **11 04 21.3 +0.2**
CTA Charters Tower 48.48 149 P **P** **11 04 26.6 -1.3**
comp=Z,10nm,0.9s,baz=309,slow=6.1,SNR=7.2
CTA LR LR 11 26 27.5
comp=Z,62nm,18.0s,baz=318,slow=38
CTAO Charters Tower 48.48 149 P **P** **11 04 28.1 +0.2**
CTAO lAmb lAmb 11 04 30.0
comp=Z,15nm,1.0s
TIXI Tiksi 49.41 3 LR LR 11 28 31.7
comp=Z,299nm,18.2s,baz=181,slow=40
TIXI Tiksi 49.41 3 P **P** **11 04 34.6 +0.2**
TIXI lAmb lAmb 11 04 47.1
comp=Z,20nm,0.9s
BRVK Borovoye 49.53 322 P **P** **11 04 35.7 +0.1**
BRVK lAmb lAmb 11 04 52.3
comp=Z,10nm,0.8s
NRIK Noril'sk 51.27 345 P **P** **11 04 48.1 -0.4**
comp=Z,4.8nm,0.8s,baz=148,slow=9.7,SNR=5.7
NRIK LR LR 11 28 32.0
comp=Z,103nm,19.5s,baz=160,slow=38
NRIK Noril'sk 51.27 345 P **P** **11 04 48.1 -0.4**
NRIK lAmb lAmb 11 04 60.0
comp=Z,8.2nm,0.7s
MORW Morawa 51.51 187 P **P** **11 04 49.3 -1.5**
MORW lAmb lAmb 11 05 07.7
comp=Z,17nm,1.1s
BILL Bilibino 53.11 19 P **P** **11 05 02.8 +0.5**
BILL lAmb lAmb 11 05 15.2
comp=Z,13nm,0.8s
ABKAR Akbulak array 55.15 315 P **P** **11 05 17.6 +0.1**
ABKAR Akbulak array 55.15 315 P **P** **11 05 17.2 -0.3**
ABKAR lAmb lAmb 11 05 30.4
comp=Z,6.8nm,0.8s
GEYT Alibeck 56.28 301 P **P** **11 05 26.5 +0.7**
comp=Z,4.6nm,0.8s,baz=105,slow=14,SNR=3.7
GEYT Alibeck 56.28 301 lAmb lAmb 11 05 43.8
comp=Z,6.2nm,0.8s
AKTO Aktyubinsk 56.50 316 LR LR 11 31 52.6
comp=Z,147nm,18.0s,baz=101,slow=38
BBOO Buckleboo 56.56 166 P **P** **11 05 27.4 -0.2**
BBOO lAmb lAmb 11 05 42.3
comp=Z,15nm,0.8s
ARU Arti 56.91 324 LR LR 11 31 01.7
comp=Z,133nm,18.5s,baz=133,slow=37
ARU Arti 56.91 324 P **P** **11 05 29.3 -0.7**
STKA Stephens Creek 57.19 160 P **P** **11 05 31.2 -0.9**
comp=Z,3.9nm,1.1s,baz=322,slow=12,SNR=4.1
WSAR Wadi Sarin 57.90 284 LR LR 11 33 05.8
comp=Z,164nm,20.1s,baz=102,slow=39
SANVU Saraoutou 58.17 126 P **P** **11 05 39.7 +0.4**
DZM Mont Dzumac 61.95 133 LR LR 11 28 21.4
comp=Z,83nm,21.9s,baz=14,slow=32
DZM Mont Dzumac 61.95 133 *e*P P 11 06 10.2 +4.9
comp=Z,7.6nm,0.6s
DZM Mont Dzumac 61.95 133 *e*LR LR 11 24 31.2
comp=Z,189nm,27.5s
KIRV Kirov 62.04 326 LR LR 11 34 59.9
comp=Z,199nm,19.3s,baz=98,slow=38
BELG Belogornoye 63.05 319 LR LR 11 37 33.7
comp=Z,39nm,21.1s,baz=96,slow=40
SOCY Socotra 65.20 273 P **P** **11 06 26.0 -1.0**
SOCY lAmb lAmb 11 06 38.6
comp=Z,11nm,0.8s
GNI Garni 66.36 305 LR LR 11 39 57.1
comp=Z,103nm,20.2s,baz=83,slow=40
TTA Tatalina 66.69 30 P **P** **11 06 37.2 +1.4**
TTA lAmb lAmb 11 06 48.1
comp=Z,7.2nm,0.8s
KLMR Klimovskoe 67.00 328 *e*P **P** **11 06 36.2 -1.5**
KLMR AMP 11 06 49.8
comp=Z,20nm,1.2s
KBZ Khabaz 67.11 309 P **P** **11 06 38.0 -0.6**
comp=Z,3.3nm,0.7s,baz=111,slow=8.6,SNR=4.3
KBZ LR LR 11 38 20.4
comp=Z,131nm,19.3s,baz=76,slow=38
J20K Nowinta River 67.43 28 P **P** **11 06 42.1 +1.7**
J20K lAmb lAmb 11 06 53.2
comp=Z,12nm,1.1s
IMAR Indian Mountai 67.45 26 P **P** **11 06 41.4 +0.9**
K20K Telida 67.54 29 P **P** **11 06 42.9 +1.8**
K20K lAmb lAmb 11 06 56.1
comp=Z,11nm,1.0s
H21K Melozitna Rive 67.86 26 lAmb lAmb 11 07 03.2
comp=Z,9.5nm,0.8s
I21K Tanana 68.26 27 lAmb lAmb 11 07 01.0
comp=Z,8.9nm,0.9s
CAST Castle Rocks 68.42 29 lAmb lAmb 11 07 04.5
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 68.79 23 lAmb lAmb 11 07 07.2
comp=Z,6.5nm,0.8s
KDAK Kodiak Island 68.95 35 P **P** **11 06 50.9 +0.9**
comp=Z,5.9nm,0.6s,baz=244,slow=6.4,SNR=9.9
WRH Wood River Hil 70.01 27 lAmb lAmb 11 07 15.0
comp=Z,7.4nm,0.8s
ILAR Eielson Array 70.46 27 P **P** **11 06 59.5 +0.3**
comp=Z,0.9nm,0.6s,baz=272,slow=5.2,SNR=12
ILAR PP **PP** **11 09 34.0 -0.8**
comp=Z,0.9nm,1.1s,baz=283,slow=8.0,SNR=2.4
DHY Denali Highway 70.58 29 lAmb lAmb 11 07 16.1
comp=Z,5.0nm,0.8s

BMAR	**Burnt Mountain**	**70.85**	**24**	P		**P**	**11 07 02.1**	**+0.5**
SPITS	**Spitsbergen Ar**	**71.34**	**348**	LR		LR	11 43 17.0	
	comp=Z,94nm,18.5s,baz=238,slow=40							
ARCES	**ARCESS Array B**	**71.41**	**338**	P		**P**	**11 07 03.9**	**-1.1**
ARCES	comp=Z,3.8nm,0.6s,baz=68,slow=8.0,SNR=9.7			LR		LR	11 41 52.1	
	comp=Z,102nm,18.5s,baz=84,slow=39							
ARCES	**ARCESS Array B**	**71.41**	**338**	P		**P**	**11 07 04.5**	**-0.5**
PAX	**Paxson**	**71.45**	**29**	IAmb		IAmb	11 07 23.7	
	comp=Z,9.9nm,1.2s							
RIDG	**Independent Ri**	**71.55**	**28**	P		**P**	**11 07 06.5**	**+0.6**
RIDG	comp=Z,18nm,1.1s			IAmb		IAmb	11 07 23.1	
SCRK	**Sand Creek**	**71.86**	**28**	IAmb		IAmb	11 07 26.8	
	comp=Z,6.9nm,0.9s							
MENT	**Mentasta**	**72.23**	**29**	IAmb		IAmb	11 07 36.0	
	comp=Z,11nm,0.8s							
M26K	**Nabesna, AK**	**72.69**	**29**	IAmb		IAmb	11 07 24.6	
	comp=Z,11nm,0.8s							
EGAK	**Eagle**	**72.85**	**26**	IAmb		IAmb	11 07 31.5	
	comp=Z,13nm,1.1s							
FINES	**FINESS Array B**	**73.30**	**330**	P		**P**	**11 07 15.8**	**-0.4**
FINES	comp=Z,5.4nm,0.7s,baz=91,slow=10,SNR=12			LR		LR	11 41 11.3	
	comp=Z,147nm,20.3s,baz=64,slow=37							
DAWY	**Dawson**	**73.79**	**27**	P		**P**	**11 07 20.3**	**+1.0**
DAWY	comp=Z,14nm,1.1s			IAmb		IAmb	11 07 37.6	
I29M	**Ogilvie Camp,**	**73.83**	**25**	P		**P**	**11 07 19.3**	**-0.1**
AFI	**Afiamalu**	**74.31**	**113**	LR		LR	11 34 46.1	
	comp=Z,52nm,19.3s,baz=266,slow=32							
MNK	**Minsk**	**74.33**	**323**	*i* P		**P**	**11 07 24.6**	**+2.2**
MNK	comp=E,2.0nm,0.8s			*i* P		**P**	**11 07 24.6**	**+2.2**
	comp=N,18nm,0.9s							
MNK				*i* P		**P**	**11 07 24.6**	**+2.2**
	comp=Z,16nm,0.8s,baz=74							
MNK				*i* PcP		**PcP**	**11 07 39.4**	**+2.1**
MNK				*i* PP		**PP**	**11 10 10.0**	**+1.9**
MNK				*i* PPP		PPP	11 11 55.1	
MNK				*i* S		**S**	**11 16 57.7**	**+0.9**
MNK				*i* SS		**SS**	**11 21 45.0**	**+2.9**
MNK				*i* SSS		SSS	11 25 06.6	
MNK				*i* LQ		LQ	11 32 57.8	
MNK				*i* LR		LR	11 38 58.4	
MNK				*i* LRM		MLR	11 42 20.3	
	comp=N,288nm,18.5s							
MNK				*i* LRM		MLR	11 42 24.1	
	comp=E,32nm,17.9s							
MNK				*i* LRM		MLR	11 42 43.3	
	comp=Z,169nm,16.6s							
ASF	**Jabal al Asfar**	**74.39**	**299**	LR		LR	11 45 58.5	
	comp=Z,7μm,20.8s,baz=309,slow=40							
INK	**Inuvik**	**74.59**	**22**	P		**P**	**11 07 23.9**	**+0.2**
INK	comp=Z,2.5nm,0.9s,baz=302,slow=3.0,SNR=9.5			LR		LR	11 43 29.4	
	comp=Z,47nm,18.1s,baz=241,slow=38							
INK	**Inuvik**	**74.59**	**22**	IAmb		IAmb	11 07 47.3	
	comp=Z,6.6nm,0.9s							
BR131	**Keskin Array S**	**74.76**	**307**	P		**P**	**11 07 25.4**	**-0.1**
BR131	comp=Z,6.9nm,0.9s			IAmb		IAmb	11 07 37.5	
BRTR	**Keskin Array B**	**74.76**	**307**	P		**P**	**11 07 25.9**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=147,slow=3.9,SNR=10							
BRTR				LR		LR	11 45 50.2	
	comp=Z,32nm,18.1s,baz=82,slow=40							
BRTR	**Keskin Array B**	**74.76**	**307**	P		**P**	**11 07 24.8**	**-0.7**
MMAI	**Mount Meron Ar**	**75.35**	**300**	LR		LR	11 45 12.0	
	comp=Z,53nm,19.7s,baz=241,slow=39							
M30M	**Minto, Yukon**	**75.38**	**28**	IAmb		IAmb	11 07 48.6	
	comp=Z,13nm,1.1s							
A36M	**Sachs Harbour**	**75.59**	**17**	IAmb		IAmb	11 07 46.3	
	comp=Z,6.6nm,0.9s							
ATD	**Arta Tunnel**	**75.69**	**277**	LR		LR	11 40 44.1	
	comp=Z,47nm,18.6s,baz=116,slow=36							
SORM	**Soroca**	**75.93**	**316**	⇑P		**P**	**11 07 34.2**	**+2.4**
TPGR	**Topolog**	**76.91**	**313**	⇓P		P	11 07 47.2	+10
C36M	**Paulatuk**	**77.23**	**19**	IAmb		IAmb	11 07 54.0	
	comp=Z,6.2nm,0.6s							
TESR	**Tescani**	**77.55**	**315**	⇑P		**P**	**11 07 41.9**	**+0.8**
VRI	**Vrincioaia**	**77.71**	**315**	⇑P		**P**	**11 07 43.0**	**+1.0**
PLOR	**Plostina**	**77.77**	**315**	⇓P		**P**	**11 07 44.8**	**+2.5**
MLR	**Muntele Rosu**	**78.35**	**314**	⇑P		**P**	**11 07 47.2**	**+1.5**
MLR	**Muntele Rosu**	**78.35**	**314**	LR		LR	11 47 23.1	
	comp=Z,138nm,19.3s,baz=68,slow=40							
ARR	**Arges**	**79.26**	**315**	⇓P		**P**	**11 07 50.3**	**-0.3**
HFS	**Hagfors**	**79.42**	**331**	LR		LR	11 46 29.6	
	comp=Z,266nm,18.7s,baz=68,slow=38							
URZ	**Urewera**	**79.52**	**139**	LR		LR	11 42 32.0	
	comp=Z,32nm,20.0s,baz=31,slow=35							
RPZ	**Rata Peaks**	**79.76**	**146**	LR		LR	11 43 49.3	
	comp=Z,43nm,18.0s,baz=276,slow=36							
NC405	**NORSAR Array S**	**79.84**	**332**	P		**P**	**11 07 52.9**	**-0.5**
NB2	**NORSAR Subarra**	**80.09**	**332**	P		**P**	**11 07 53.6**	**-1.2**
	comp=Z,8.4nm,1.2s,baz=60,slow=5.6							
NOA	**NORSAR Array B**	**80.09**	**332**	P		**P**	**11 07 54.2**	**-0.6**
NOA	comp=Z,1.9nm,0.8s,baz=58,slow=5.6,SNR=9.5			LR		LR	11 46 49.1	
	comp=Z,250nm,18.4s,baz=60,slow=38							
RES	**Resolute Bay**	**80.28**	**9**	LR		LR	11 47 20.6	
	comp=Z,53nm,18.3s,baz=10,slow=38							
JMIC	**Jan Mayen**	**80.69**	**345**	LR		LR	11 48 54.8	
	comp=Z,64nm,18.1s,baz=72,slow=40							
BLKB	**Belogradchik**	**81.21**	**314**	⇓P		**P**	**11 08 01.4**	**+0.3**
VTS	**Vitosha**	**81.21**	**312**	⇑P		**P**	**11 08 02.4**	**+1.0**
VTS	**Vitosha**	**81.21**	**312**	P		**P**	**11 08 00.3**	**-1.0**
VTS	comp=Z,17nm,1.0s			IAmb		IAmb	11 08 13.8	
VYHS	**Vyhne**	**81.73**	**319**	*e*P		**P**	**11 08 03.4**	**-0.3**
LIT	**Litokhoron**	**82.70**	**310**	IAmb		IAmb	11 08 18.9	
	comp=Z,6.1nm,0.7s							
FNA	**Florina**	**83.21**	**311**	IAmb		IAmb	11 08 27.6	
	comp=Z,7.0nm,0.8s							
AGG	**Agios Georgios**	**83.23**	**309**	IAmb		IAmb	11 08 33.0	
	comp=Z,6.2nm,0.8s							
CLL	**Collm**	**83.86**	**323**	*e*P		**P**	**11 08 14.0**	**-0.7**
CLL	comp=Z,6.0nm,1.2s			*i* x		x	11 08 27.1	
	comp=Z,6.0nm,1.0s							
CLL				*e*SSSS			11 30 24.0	
CLL				Lm		MLR	11 48 00.0	
	comp=Z,100nm,20.1s							
YKA	**Yellowknife Ar**	**84.32**	**23**	P		**P**	**11 08 16.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=309,slow=4.8,SNR=23							
YKA				PKKPbc		**PKKPbc**	**11 26 26.1**	**-4.5**
	comp=Z,0.2nm,0.5s,baz=134,slow=2.5,SNR=7.1							
KHC	**Kasperske Hory**	**84.56**	**321**	*e*P		**P**	**11 08 19.5**	**+1.1**
KHC				*ex*		x	11 08 30.0	
GERES	**GERESS Array B**	**84.62**	**321**	P		**P**	**11 08 17.6**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=51,slow=4.3,SNR=8.7							
GERES	**GERESS Array B**	**84.62**	**321**	P		**P**	**11 08 18.5**	**-0.3**
KMBO	**Kilima Mbogo**	**85.49**	**267**	P		**P**	**11 08 22.9**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=107,slow=22,SNR=1.3							
KMBO				LR		LR	11 46 45.7	
	comp=Z,54nm,19.4s,baz=92,slow=36							
KMBO	**Kilima Mbogo**	**85.49**	**267**	P		**P**	**11 08 21.3**	**-2.7**
KMBO	comp=Z,8.0nm,0.9s			IAmb		IAmb	11 08 36.2	
DAVOX	**Davos/Dischmat**	**87.88**	**320**	LR		LR	11 51 56.3	
	comp=Z,89nm,18.2s,baz=80,slow=38							
BORG	**Borgarnes**	**88.59**	**345**	LR		LR	11 50 42.8	
	comp=Z,81nm,21.7s,baz=356,slow=37							
EKA	**Eskdalemuir Ar**	**89.57**	**332**	LR		LR	11 51 11.5	
	comp=Z,170nm,18.1s,baz=9.5,slow=37							
SFJD	**Kangerlussuaq**	**90.67**	**357**	LR		LR	11 51 26.3	
	comp=Z,38nm,18.4s,baz=336,slow=37							
MBAR	**Mbarara**	**91.32**	**270**	LR		LR	11 50 00.3	
	comp=Z,31nm,20.8s,baz=38,slow=36							
FRB	**Frobisher Bay**	**93.72**	**5**	LR		LR	11 55 55.8	
	comp=Z,64nm,18.0s,baz=19,slow=38							
KEST	**Kesra**	**93.92**	**311**	LR		LR	11 57 58.2	
	comp=Z,50nm,19.1s,baz=260,slow=40							
PPT	**Papeete**	**95.21**	**107**	LR		LR	11 48 11.6	
	comp=Z,30nm,18.5s,baz=302,slow=33							
PPT2	**Papeete2**	**95.22**	**107**	*e*LR		LR	11 39 49.7	
	comp=Z,77nm,25.0s							
NVAR	**Mina Array Bea**	**97.25**	**43**	P		**P**	**11 09 17.6**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=282,slow=5.4,SNR=1.6							
LCH	**Last Change Ra**	**98.37**	**44**	P		**P**	**11 09 22.4**	**-1.1**
LSZ	**Lusaka**	**99.06**	**257**	LR		LR	11 52 56.6	
	comp=Z,80nm,18.6s,baz=128,slow=35							
TAOE	**Nuku Hiva Isla**	**100.61**	**95**	*e*LR		LR	11 42 01.3	
	comp=Z,78nm,32.0s							
TORD	**Torodi Ar. Bea**	**111.59**	**295**	PKiKP		**PKiKP**	**11 14 19.8**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=33,slow=3.5,SNR=1.9							
TORD				PP		**PP**	**11 15 04.6**	**+3.1**
	comp=Z,0.3nm,0.7s,baz=38,slow=3.1,SNR=1.8							
TXAR	**Lajitas Array**	**112.37**	**42**	PKiKP		**PKiKP**	**11 14 21.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=203,slow=0.3,SNR=1.9							
TXAR				PP		**PP**	**11 15 10.2**	**+3.8**
	comp=Z,0.3nm,0.8s,baz=258,slow=4.5,SNR=2.2							

WEL 16 11:12:05.7±0.8,35°S±10°×17°9E±1°6,h267km±11km, M3.6/12,ML3.8/14,MLv3.6/12 Error ellipse: s-maj=0.0km s-min=0.0km az=119.2,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.69**	**196**	P			Pn	11 12 54.5	-1.4
MXZ				S			S	11 13 34.7	-1.1
WMGZ	**Waiomatatini S**	**2.91**	**193**	P			Pn	11 12 59.3	+1.1
WMGZ				S			S	11 13 41.1	+1.1
HAZ	**Te Kaha**	**3.01**	**202**	P			Pn	11 12 59.1	-0.1
HAZ				S			S	11 13 41.6	-0.2
PKGZ	**Pakihiroa**	**3.05**	**197**	P			Pn	11 13 00.1	+0.4
PKGZ				S			S	11 13 42.8	+0.1
PUZ	**Puketiti**	**3.19**	**194**	P			Pn	11 13 00.4	-0.7
PUZ				S			S	11 13 45.8	+0.5
RUGZ	**Raukumara Rang**	**3.23**	**202**	P			Pn	11 13 01.3	-0.4
RUGZ				S			S	11 13 45.2	-1.1
OPRZ	**Ohinepanea**	**3.58**	**216**	P			Pn	11 13 05.6	+0.1
CNGZ	**Carnagh Statio**	**3.59**	**193**	P			Pn	11 13 06.3	+0.7
MWZ	**Matawai**	**3.62**	**202**	P			Pn	11 13 06.0	+0.1
TKGZ	**Te Karaka**	**3.63**	**197**	P			Pn	11 13 06.3	+0.4
TKGZ				S			S	11 13 55.5	+1.5
URZ	**Urewera**	**3.69**	**207**	P			Pn	11 13 06.2	-0.4
URZ				S			S	11 13 55.2	-0.1
RIGZ	**Rimuhau**	**3.90**	**197**	P			Pn	11 13 09.7	+0.6
RIGZ				S			S	11 14 01.2	+1.5
MUGZ	**Murupara**	**4.01**	**209**	P			Pn	11 13 10.2	-0.1
MUGZ				S			S	11 14 01.5	-0.3
RTZ	**Ruatahuna**	**4.05**	**206**	P			Pn	11 13 09.4	-1.4
RTZ				S			S	11 14 02.0	-0.8
SNGZ	**Shannon Statio**	**4.09**	**201**	P			Pn	11 13 11.1	0.0
SNGZ				S			S	11 14 06.0	+1.5
PRRZ	**Plateau Road**	**4.19**	**212**	P			Pn	11 13 12.4	+0.1
KNZ	**Kokohu**	**4.22**	**197**	P			Pn	11 13 13.1	+0.4
KNZ				S			S	11 14 06.0	-0.2
RAHZ	**Arahi**	**4.29**	**203**	P			Pn	11 13 13.8	+0.3
RAHZ				S			S	11 14 09.9	+2.2
MTHZ	**Maungataniwha**	**4.31**	**206**	P			Pn	11 13 13.4	-0.5
MTHZ				S			S	11 14 08.2	-0.1
TLZ	**Tolley Road**	**4.47**	**220**	P			Pn	11 13 17.2	+1.6
ARHZ	**Aropaoanui**	**4.63**	**202**	P			Pn	11 13 17.1	-0.5
ARHZ				S			S	11 14 16.6	+1.6
BKZ	**Black Stump Fm**	**4.72**	**207**	P			Pn	11 13 17.4	-1.1
BKZ				S			S	11 14 17.9	+1.0
HIZ	**Hauiti**	**4.98**	**224**	P			Pn	11 13 23.6	+2.0
NTVZ	**North Tongarir**	**5.00**	**214**	P			Pn	11 13 22.1	+0.1
TMVZ	**Te Maari**	**5.00**	**213**	P			Pn	11 13 21.8	-0.2
ETVZ	**East Tongariro**	**5.01**	**213**	P			Pn	11 13 22.0	-0.2
OTVZ	**Oturere**	**5.06**	**213**	P			Pn	11 13 22.6	-0.2
SNVZ	**South Ngauruho**	**5.09**	**213**	P			Pn	11 13 22.7	-0.2
BHHZ	**Black Hill Sta**	**5.16**	**208**	P			Pn	11 13 22.9	-1.0
BHHZ				S			S	11 14 28.3	+1.7
KRHZ	**Kereru**	**5.18**	**205**	P			Pn	11 13 23.2	-1.0
KRHZ				S			S	11 14 27.1	+0.1
MOVZ	**Moawhango**	**5.22**	**211**	P			Pn	11 13 23.5	-1.1
PXZ	**Pawanui**	**5.38**	**200**	P			Pn	11 13 25.5	-1.0
PXZ				S			S	11 14 31.2	-0.1
PNHZ	**Pukenui**	**5.48**	**205**	P			Pn	11 13 26.9	-0.9
PNHZ				S			S	11 14 33.0	-0.6
PRHZ	**Porangahau**	**5.67**	**200**	P			Pn	11 13 29.5	-0.4
PRHZ				S			S	11 14 39.8	+2.2
TSZ	**Takapari Road**	**5.70**	**206**	P			Pn	11 13 29.4	-1.0
TSZ				S			S	11 14 39.1	+0.8
BFZ	**Birch Farm**	**6.16**	**202**	P			Pn	11 13 35.0	-1.0
BFZ				S			S	11 14 48.9	+0.2
MRZ	**Mangatainoka R**	**6.37**	**206**	P			Pn	11 13 36.9	-1.6
MRZ				S			S	11 14 52.2	-1.0
HOWZ	**Holdsworth Sta**	**6.60**	**205**	P			Pn	11 13 39.6	-1.9
OGWZ	**Otaki Gorge**	**6.65**	**208**	P			Pn	11 13 39.5	-2.9
OGWZ				S			S	11 14 57.4	-2.3
TMWZ	**Te Maipa**	**6.66**	**202**	P			Pn	11 13 40.8	-1.5
CAW	**Cannon Point**	**6.94**	**207**	P			Pn	11 13 42.9	-2.8

*IDC **16** 11:28:36.9±2.4, 16°.90N×101°.12W, h0km, mb4.1/7, mb1 4.2/10,mb1mx3.9/40,mbtmp3.9/10,ML3.4/3,MS3.4/7, Ms1 3.4/7,ms1mx3.0/72,Error ellipse: s-maj=51.5km s-min=28.6km az=21.0*
*NEIC **16** 11:28:38.3±3.3, 16°.99N±0°.05×101°.08W±0°.04, h12km±5km, Error ellipse: s-maj=7.7km s-min=4.9km az=201.0*
*MEX **16** 11:28:42.0±2.5, 17°.09N×101°.14W, h20km±22km, MD4.5*
ISC 16 11:28:38.6±1.4, 17°.11N±0°.04×101°.05W±0°.03, h8km±9km, n133,σ1°41/147, mb4.3/14, MS3.2/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.63**	**321**				**Pb**	**11 28 51.5**	**-0.4**
ZIIG							**Sg**	**11 28 59.3**	**+0.2**
ZIIG	**Zihuatanejo**	**0.63**	**321**	*e*P			**Pb**	**11 28 51.5**	**-0.4**
ZIIG				*e*S			**Sg**	**11 28 59.3**	**+0.2**
CAIG	**El Cayaco**	**0.75**	**95**				**Pn**	**11 28 55.2**	**-0.3**
CAIG							Pb	11 29 05.1	+11
CAIG	**El Cayaco**	**0.75**	**95**	*e*P			**Pn**	**11 28 55.2**	**-0.3**
CAIG				*e*S			**Sb**	**11 29 05.1**	**+0.8**
UON	**La Union**	**1.12**	**319**	*e*P			**Pg**	**11 28 59.4**	**-0.8**
UON				*i* S			**Sg**	**11 29 12.8**	**-2.0**
ACP2	**Acapulco**	**1.14**	**102**				**Pb**	**11 29 00.9**	**+0.4**
ACP2							**Sn**	**11 29 17.0**	**+0.4**
ACP2	**Acapulco**	**1.14**	**102**	*e*P			**Pb**	**11 29 00.9**	**+0.4**
ACP2				*i* S			**Sn**	**11 29 17.0**	**+0.4**
ARIG	**Puente Sto Nin**	**1.34**	**30**				**Pn**	**11 29 03.3**	**-0.3**
ARIG							**Sb**	**11 29 20.0**	**-1.3**
ARIG	**Puente Sto Nin**	**1.34**	**30**	*e*P			**Pn**	**11 29 03.3**	**-0.3**
ARIG				*e*S			**Sb**	**11 29 20.0**	**-1.3**
DAIG	**Los Arroyos**	**1.34**	**94**				**Pn**	**11 29 03.6**	**0.0**
DAIG							**Sb**	**11 29 20.9**	**-0.4**
DAIG	**Los Arroyos**	**1.34**	**94**	*e*P			**Pn**	**11 29 03.6**	**0.0**
DAIG				*e*S			**Sb**	**11 29 20.9**	**-0.4**
MEIG	**Mezcala**	**1.58**	**59**				**Pn**	**11 29 07.5**	**+0.5**
MEIG							**Sn**	**11 29 26.9**	**-0.8**
MEIG	**Mezcala**	**1.58**	**59**	*e*P			**Pn**	**11 29 07.5**	**+0.5**
MEIG				*e*S			**Sn**	**11 29 26.9**	**-0.8**
CRIG	**Cruz Grande**	**1.87**	**101**				**Pn**	**11 29 11.3**	**+0.4**
CRIG							**Sn**	**11 29 32.7**	**-2.0**
CRIG	**Cruz Grande**	**1.87**	**101**	*e*P			**Pn**	**11 29 11.3**	**+0.4**
CRIG				*e*S			**Sn**	**11 29 32.7**	**-2.0**
PLIG	**Platanillo**	**1.94**	**49**				**Pn**	**11 29 12.6**	**+0.5**
PLIG							**Sn**	**11 29 38.2**	**+1.5**
PLIG	**Platanillo**	**1.94**	**49**	*e*P			**Pn**	**11 29 12.6**	**+0.5**
PLIG				*i* S			**Sn**	**11 29 38.2**	**+1.5**
MAVM	**Malinalco, Edo**	**2.35**	**39**				**Pn**	**11 29 17.7**	**-0.1**
MAVM	**Malinalco, Edo**	**2.35**	**39**	*e*P			**Pn**	**11 29 17.7**	**-0.1**
TLIG	**Tlapa**	**2.41**	**79**	Pn			**Pb**	**11 29 22.7**	**+0.4**
TLIG	**Tlapa**	**2.41**	**79**				**Sb**	**11 29 52.7**	**+0.4**
TLIG	**Tlapa**	**2.41**	**79**	*e*P			**Pn**	**11 29 19.7**	**+1.2**
TLIG				*i* S			**Sb**	**11 29 52.7**	**+0.4**
MMIG	**Aquila**	**2.48**	**298**				**Pn**	**11 29 18.5**	**-0.9**
MMIG							**Sn**	**11 29 48.8**	**-1.1**
MMIG	**Aquila**	**2.48**	**298**	*e*P			**Pn**	**11 29 18.5**	**-0.9**
MMIG				*i* S			**Sn**	**11 29 48.8**	**-1.1**
MOIG	**Morelia**	**2.55**	**357**				**Pb**	**11 29 23.0**	**-1.8**
MOIG							**Sn**	**11 29 52.3**	**+0.3**
MOIG	**Morelia**	**2.55**	**357**	*e*P			**Pb**	**11 29 23.0**	**-1.8**
MOIG				*i* S			**Sn**	**11 29 52.3**	**+0.3**
YAIG	**Yautepec**	**2.56**	**47**				**Pn**	**11 29 20.4**	**-0.2**
YAIG							**Sn**	**11 29 50.6**	**-1.4**
YAIG	**Yautepec**	**2.56**	**47**	*e*P			**Pn**	**11 29 20.4**	**-0.2**
YAIG				*e*S			**Sn**	**11 29 50.6**	**-1.4**
INVM	**La Marquesa**	**2.68**	**36**	*e*			**Pn**	**11 29 23.0**	**+0.6**
AOVM	**Tlapan**	**2.70**	**37**	*e*			**Pn**	**11 29 23.0**	**+0.2**
TLVM	**San Miguel Top**	**2.75**	**41**	*e*			**Pn**	**11 29 23.2**	**-0.2**
CJVM	**Cuajimalpa**	**2.79**	**37**	*e*			**Pn**	**11 29 25.3**	**+1.4**
XCVM	**Xochimilco**	**2.81**	**40**	*e*			**Pn**	**11 29 23.7**	**-0.8**
UNM	**Universidad Na**	**2.83**	**39**	Pn			**Pb**	**11 29 29.7**	**+0.1**
ATVM	**ATLACOMULCO**	**2.87**	**23**				**Pn**	**11 29 26.9**	**+1.9**
ATVM	**ATLACOMULCO**	**2.87**	**23**	*e*			**Pn**	**11 29 26.9**	**+1.9**
FTIG	**Fresnillo de T**	**2.89**	**74**	*e*			**Pn**	**11 29 26.5**	**+1.4**
FTIG				*e*				11 29 59.0	
APVM	**Azcapotzalco**	**2.94**	**36**	*e*			**Pb**	**11 29 31.2**	**-0.2**
AMVM	**AMECAMECA**	**2.94**	**47**				**Pn**	**11 29 28.1**	**+2.1**
AMVM							**Sb**	**11 30 09.5**	**+1.8**
AMVM	**AMECAMECA**	**2.94**	**47**	*e*			**Pn**	**11 29 28.1**	**+2.1**
AMVM				*i*				11 30 09.5	
THVM	**De Xico**	**2.94**	**42**	*e*			**Pn**	**11 29 26.5**	**+0.5**
PBVM	**Pinon**	**2.97**	**39**				**Pn**	**11 29 26.2**	**+0.1**
PBVM	**Pinon**	**2.97**	**39**	*e*			**Pn**	**11 29 26.2**	**+0.1**
AZVM	**Cuida Lopez Ma**	**2.97**	**34**				**Pn**	**11 29 26.8**	**+0.4**
AZVM	**Cuida Lopez Ma**	**2.97**	**34**	*i*			**Pn**	**11 29 26.8**	**+0.4**
GMVM	**Gustavo A Made**	**3.00**	**38**	*e*			**Pn**	**11 29 28.5**	**+1.8**
ACIG	**Acambay**	**3.06**	**21**	*e*			**Pn**	**11 29 29.3**	**+1.8**
ACIG				*e*				11 30 12.3	
PTVM	**Pico Tres Padr**	**3.07**	**36**				**Pn**	**11 29 27.7**	**0.0**
PTVM	**Pico Tres Padr**	**3.07**	**36**	*e*			**Pn**	**11 29 27.7**	**0.0**
HLIG	**Huajuapan de L**	**3.18**	**77**	*e*			**Pn**	**11 29 30.5**	**+1.4**
HLIG				*i*				11 30 09.0	
COIG	**Colima**	**3.25**	**310**	*e*			**Pn**	**11 29 31.6**	**+1.7**
COIG				*i*				11 30 12.1	
ZUVM	**ZUMPANGO**	**3.28**	**34**				**Pn**	**11 29 30.0**	**-0.6**
ZUVM	**ZUMPANGO**	**3.28**	**34**	*e*			**Pn**	**11 29 30.0**	**-0.6**
CDAR	**Ciudad de Arme**	**3.35**	**303**	*e*			**Pn**	**11 29 32.3**	**+1.0**
CDAR				*i*				11 30 13.4	
EZ5V		**3.38**	**314**	*e*			**Pn**	**11 29 34.7**	**+2.8**
EZ5V				*i*				11 30 19.7	
JUBC	**Volcan de Coli**	**3.38**	**315**	*e*P			**Pn**	**11 29 34.6**	**+2.6**
JUBC				*i*				11 30 22.5	
JUBC				*e*				11 30 22.5	
MNGA	**Volcan de Coli**	**3.38**	**314**	*e*			**Pn**	**11 29 33.2**	**+1.2**
MNGA				*i*				11 30 19.2	
VTVM	**Tizayuca**	**3.41**	**39**				**Pn**	**11 29 34.0**	**+1.7**
VTVM	**Tizayuca**	**3.41**	**39**	*e*P			**Pn**	**11 29 34.0**	**+1.7**
INCO	**Volcan de Coli**	**3.41**	**315**	*e*			**Pn**	**11 29 34.3**	**+1.7**
INCO				*i*				11 30 22.9	
R15V		**3.46**	**307**	*e*			**Pn**	**11 29 35.9**	**+3.0**
R15V				*i*				11 30 11.2	
DEIG	**Demacu**	**3.70**	**31**	*e*			**Pn**	**11 29 36.2**	**-0.1**
DEIG				*e*				11 30 18.5	
JAUV	**Jalcomulco**	**4.61**	**60**	*e*			**Pn**	**11 29 50.3**	**+1.6**
JAUV				*i*				11 30 46.4	
HUIG	**Huatulco**	**4.92**	**105**				**Pn**	**11 29 55.3**	**+2.3**
HUIG							**Sn**	**11 30 45.8**	**-4.3**
HUIG	**Huatulco**	**4.92**	**105**	*i*			**Pn**	**11 29 55.3**	**+2.3**
HUIG				*e*				11 30 45.8	
NEUV	**Arroyo Zacate**	**5.04**	**82**	*e*			**Pn**	**11 29 56.2**	**+1.6**
NEUV				*i*				11 31 01.0	
ANIG	**Ahuacatlan**	**5.11**	**321**				Pn	11 30 01.6	+6.0
ANIG	**Ahuacatlan**	**5.11**	**321**	*e*			Pn	11 30 01.6	+6.0
CMIG	**Matias Romero**	**5.89**	**89**	Pn			**Pn**	**11 30 08.0**	**+1.7**
	0.7nm,0.3s,baz=271,slow=13,SNR=9.7								
CMIG						Sn	**Sn**	**11 31 09.9**	**-4.1**
	2.8nm,0.3s,baz=280,slow=12,SNR=5.4								
CMIG						L

EGAK				IAmb	IAmb	11 38 27.1
	comp=Z,4.1nm,1.1s					
INK	**Inuvik**	**55.15 346**	P		**P**	**11 38 11.3 +0.2**
	comp=Z,2.7nm,0.9s,baz=136,slow=6.7,SNR=11					
INK	**Inuvik**	**55.15 346**			**P**	**11 38 11.5 +0.4**
OHAK	**Old Harbor**	**55.67 329**	P		**P**	**11 38 16.5 +1.4**
ILAR	**Eielson Array**	**56.65 338**	P		**P**	**11 38 22.9 +0.9**
	comp=Z,0.7nm,0.9s,baz=143,slow=5.5,SNR=6.2					
ILAR			PcP		**PcP**	**11 39 18.8 +0.5**
	comp=Z,0.4nm,0.6s,baz=155,slow=2.3,SNR=6.5					
J20K	**Nowinta River**	**59.04 336**	P		**P**	**11 38 38.6 -0.2**
TOLK	**Toolik Lake Re**	**59.73 341**	P		**P**	**11 38 44.6 +1.0**
TOLK				IAmb	IAmb	11 39 03.8
	comp=Z,3.4nm,1.2s					
IMAR	**Indian Mountai**	**59.73 338**	P		**P**	**11 38 43.7 +0.1**
NOA	**NORSAR Array B**	**85.46 27**	LR		LR	12 20 19.4
	comp=Z,17nm,18.8s,baz=290,slow=36					
TORD	**Torodi Ar. Bea**	**98.01 74**	P		**P**	**11 42 11.9 -4.4**
TORD				IAmb	IAmb	11 42 21.9
	comp=Z,1.2nm,1.2s					
CMAR	**Chiang Mai Arr**	**139.55 330**	PKP		**PKPdf**	**11 48 07.0 -0.8**
	comp=Z,0.2nm,0.3s,baz=347,slow=2.8,SNR=1.9					

JMA ***16*** *11:38:59.0, 33.28N × 131.44E, h3km ± 1km, M3.1*
JMA Felt II J1.
IDC ***16*** *11:38:59.5 ± 1.8, 33.15N × 131.44E, h0km, mb3.2/4, mb1 3.5/7, mb1mx3.4/45, mbtmp3.3/7, ML2.6/3, Error ellipse: s-maj=29.7km s-min=9.2km az=165.0*
ISC 16 11:39:01.1 ± 0.9, 33.30N ± 0.07 × 131.41E ± 0.05, h10 km, n11, σ2 s01/13, mb3.3/4, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JBEP	**Beppuamama**	**0.04**	**354**	P		**Pg**	**11 39 00.7**	**-2.4**
JBEP				S		**Sg**	**11 39 02.1**	**-2.5**
JUS	**Usuki**	**0.36**	**129**	P		**Pg**	**11 39 05.9**	**-2.5**
JNU	**Nakatsue**	**0.48**	**249**	Pg		**Pg**	**11 39 08.6**	**-1.9**
	45nm,0.3s,baz=59,slow=11,SNR=28							
JNU				Lg		Lg	11 39 15.3	
	38nm,0.3s,baz=91,slow=8.6,SNR=9.5							
JNA	**Nagahama**	**0.93**	**73**	P		**Pg**	**11 39 16.9**	**-2.1**
KSRS	**Korea Array**	**5.03**	**326**	Pn		**Pn**	**11 40 17.4**	**+0.7**
	0.1nm,0.3s,baz=145,slow=15,SNR=2.4							
KSRS				Pg		**Pg**	**11 40 35.0**	**-2.6**
	0.6nm,0.3s,baz=149,slow=17,SNR=14							
KSRS				Lg		Lg	11 41 44.3	
	0.7nm,0.3s,baz=149,slow=28,SNR=7.5							
MJAR	**Matsushiro Arr**	**6.45**	**58**	Pn		**Pn**	**11 40 37.1**	**+0.9**
	0.2nm,0.3s,baz=234,slow=13,SNR=11							
KLR	**Kul'dur**	**15.92**	**1**	Pn		**Pn**	**11 42 47.1**	**+2.0**
	0.1nm,0.3s,baz=256,slow=20,SNR=1.6							
SONM	**Songino Array**	**23.78**	**315**	P		**P**	**11 44 14.2**	**+0.3**
	0.4nm,0.9s,baz=135,slow=9.1,SNR=2.0							
MKAR	**Makanchi Array**	**39.32**	**305**	P		**P**	**11 46 31.1**	**+0.7**
	0.8nm,1.0s,baz=99,slow=9.3,SNR=3.3							
ILAR	**Eielson Array**	**56.94**	**30**	P		**P**	**11 48 47.3**	**+1.1**
	0.2nm,0.6s,baz=292,slow=8.3,SNR=1.9							
YKA	**Yellowknife Ar**	**70.98**	**27**	P		**P**	**11 50 19.2**	**+0.6**
	0.2nm,0.8s,baz=299,slow=5.6,SNR=2.8							

NEIC ***16*** *11:40:41.5 ± 1.1, 10.1S ± 0.1 × 161.23E ± 0.07, h88km ± 9km, mb4.0/15, Error ellipse: s-maj=17.0km s-min=9.6km az=196.0*
IDC ***16*** *11:40:42.2 ± 1.9, 10.07S × 161.12E, h98km ± 14km, mb3.4/7, mb1 3.7/9, mb1mx3.5/36, mbtmp3.8/9, MS3.6/4, Ms1 3.6/4, ms1mx2.9/58, Error ellipse: s-maj=24.8km s-min=18.3km az=89.0*
ISC 16 11:40:41.9 ± 0.7, 10.13S ± 0.08 × 161.19E ± 0.10, h100 km, n34, σ1 s52/33, mb3.9/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.41**	**299**	P		**Pn**	**11 41 05.5**	**-1.5**
	165nm,0.3s,baz=167,slow=8.4,SNR=57							
HNR				S		**Sn**	**11 41 24.3**	**-1.7**
	629nm,0.3s,baz=174,slow=22,SNR=35							
SANVU	**Saraoutou**	**7.90**	**133**	Pn		**Pn**	**11 42 33.5**	**-0.5**
KOUNC	**Koumac, New Ca**	**10.78**	**164**	Pn		**Pn**	**11 43 13.3**	**0.0**
DZM	**Mont Dzumac**	**12.90**	**158**	P		**Pn**	**11 43 43.0**	**+1.4**
	0.7nm,0.3s,baz=33,slow=11,SNR=21							
DZM				S		**Sn**	**11 45 58.9**	**-4.7**
	0.4nm,0.3s,baz=236,slow=20,SNR=1.5							
DZM				LR		LR	11 47 16.3	
	comp=Z,50nm,20.0s,baz=34,slow=30							
DZM	**Mont Dzumac**	**12.90**	**158**			**Pn**	**11 43 44.0**	**+2.3**
CTA	**Charters Tower**	**17.48**	**234**	P		**Pn**	**11 44 40.9**	**+1.5**
	0.2nm,0.3s,baz=59,slow=13,SNR=5.0							
CTAO	**Charters Tower**	**17.48**	**234**	P		**Pn**	**11 44 41.7**	**+2.3**
CTAO				IAmb	IAmb		11 45 06.6	
	comp=Z,8.6nm,1.1s							
EIDS	**Eidsvold**	**17.94**	**211**	P		**Pn**	**11 44 45.9**	**+1.0**
EIDS				IAmb	IAmb		11 44 46.6	
	comp=Z,24nm,1.5s							
ARMA	**Armidale**	**22.07**	**202**	P		**P**	**11 45 29.1**	**+0.2**
ARMA				IAmb	IAmb		11 45 33.5	
	comp=Z,13nm,1.4s							
WR0	**Warramunga Arr**	**27.49**	**246**	P		**P**	**11 46 19.4**	**+0.4**
WR0				IAmb	IAmb		11 46 27.0	
	comp=Z,11nm,1.5s							
WB0	**Warramunga Arr**	**27.57**	**247**	P		**P**	**11 46 19.9**	**+0.1**
WB0				IAmb	IAmb		11 46 23.2	
	comp=Z,5.7nm,1.3s							
WRAB	**Tennant Creek**	**27.65**	**246**	P		**P**	**11 46 21.5**	**+0.9**
WRAB				IAmb	IAmb		11 46 45.1	
	comp=Z,3.0nm,1.1s							
WB2	**Warramunga Arr**	**27.65**	**246**	P		**P**	**11 46 21.1**	**+0.6**
WB2				IAmb	IAmb		11 46 48.0	
	comp=Z,4.5nm,1.3s							
WRA	**Warramunga Arr**	**27.66**	**246**	P		**P**	**11 46 21.1**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=75,slow=9.1,SNR=12							
WRA	**Warramunga Arr**	**27.66**	**246**	P		**P**	**11 46 20.8**	**+0.1**
STKA	**Stephens Creek**	**28.24**	**217**	P		**P**	**11 46 24.1**	**-1.5**
KDU	**Kakadu**	**28.25**	**262**	P		**P**	**11 46 26.7**	**+0.8**
ASAR	**Alice Springs**	**29.30**	**239**	P		**P**	**11 46 34.6**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=58,slow=10,SNR=4.9							
KNRA	**Kununurra**	**32.06**	**257**	P		**P**	**11 46 57.0**	**-2.5**
KNRA	**Kununurra**	**32.06**	**257**	P		**P**	**11 46 57.0**	**-2.5**
BBOO	**Buckleboo**	**32.34**	**222**	P		**P**	**11 47 02.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**35.32**	**253**	P		**P**	**11 47 28.2**	**+0.4**
FITZ				IAmb	IAmb		11 47 48.3	
	comp=Z,3.3nm,1.0s							
BATI	**Baumata**	**36.92**	**266**	P		**P**	**11 47 41.8**	**+0.2**
	comp=Z,29nm,0.4s,baz=118,slow=13,SNR=1.9							
KSRS	**Korea Array**	**56.68**	**329**	P		**P**	**11 50 13.2**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=146,slow=7.1,SNR=2.2							
PSI	**Prapat**	**63.31**	**278**	LR		LR	12 21 47.6	
	comp=Z,180nm,18.3s,baz=41,slow=39							
VNDA	**Vanda**	**67.37**	**180**	P		**P**	**11 51 26.6**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=346,slow=6.7,SNR=7.7							
VNDA	**Vanda**	**67.37**	**180**	P		**P**	**11 51 26.5**	**+0.5**
SONM	**Songino Array**	**75.32**	**325**	P		**P**	**11 52 15.0**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=136,slow=5.9,SNR=7.8							
SONM	**Songino Array**	**75.32**	**325**	P		**P**	**11 52 15.9**	**+1.4**
SONM				IAmb	IAmb		11 52 17.5	
	comp=Z,1.3nm,0.8s							
QSPA	**South Pole Qui**	**79.87**	**180**	P		**P**	**11 52 40.5**	**+1.0**
PALK	**Pallekele**	**81.98**	**279**	LR		LR	12 33 04.3	
	comp=Z,35nm,19.3s,baz=209,slow=38							
ILAR	**Eielson Array**	**84.12**	**20**	P		**P**	**11 53 01.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=249,slow=5.3,SNR=6.9							
KURBB	**Kurchatov Arra**	**93.13**	**321**	LR		LR	12 33 12.7	
	comp=Z,23nm,21.9s,baz=69,slow=34							
YKA	**Yellowknife Ar**	**96.23**	**28**	P		**P**	**11 53 59.7**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=262,slow=4.8,SNR=6.8							

JMA ***16*** *11:44:02.1, 32.57N × 130.66E, h9km ± 1km, M3.7*
JMA Felt III J1.
NIED ***16*** *11:44:02.2, 32.57N × 130.66E, h8km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}0.10; $M_{\theta\theta}$2.97; $M_{\phi\phi}$-3.06; $M_{r\theta}$0.68; $M_{\theta\phi}$3.31; $M_{r\phi}$2.61; Fault plane solution: $M_0$5.22000×10^{14} NP1: ϕ_s110.00000°, δ59.00000°, λ-1.00000°. NP2:ϕ_s201.00000°, δ89.00000°, λ-149.00000°.*
IDC ***16*** *11:44:02.9 ± 2.5, 33.19N × 131.52E, h0km, mb3.5/2, mb1 3.5/2, mb1mx3.2/41, mbtmp3.5/2 Error ellipse: s-maj=33.8km s-min=12.6km az=156.0*
ISC 16 11:44:02.3 ± 1.0, 32.52N ± 0.05 × 130.67E ± 0.10, h10 km, n7, σ1 s66/9, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.12**	**76**	⇓P		**Pg**	**11 44 05.0**	**-0.3**
JZO	**Okuchi**	**0.38**	**189**	⇑P		**Pb**	**11 44 10.5**	**-0.7**
JZO				S		**Sb**	**11 44 16.4**	**-0.8**
JTA	**Tamana**	**0.46**	**345**	⇑P		**Pg**	**11 44 10.4**	**-0.9**
JTA				S		**Sg**	**11 44 16.2**	**-1.2**
JNU	**Nakatsue**	**0.63**	**16**	Pg		**Pg**	**11 44 13.5**	**-1.0**
	139nm,0.3s,baz=59,slow=5.9,SNR=38							
JNU				Lg		Lg	11 44 20.6	
	416nm,0.3s,baz=105,slow=20,SNR=23							
KSRS	**Korea Array**	**5.42**	**336**	Pg		**Pb**	**11 45 36.9**	**-0.1**
	0.3nm,0.3s,baz=148,slow=16,SNR=3.9							
KSRS				Lg		Lg	11 46 47.5	
	0.4nm,0.3s,baz=144,slow=30,SNR=2.8							
SONM	**Songino Array**	**23.90**	**317**	P		**P**	**11 49 19.8**	**+3.5**
	0.5nm,0.7s,baz=126,slow=9.5,SNR=3.6							
FINES	**FINESS Array B**	**68.47**	**330**	P		**P**	**11 55 04.4**	**+0.1**
	0.5nm,0.5s,baz=64,slow=6.3,SNR=5.6							

IDC ***16*** *11:44:36.2 ± 2.2, 6.05S × 130.28E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.5/36, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=59.5km s-min=31.4km az=76.0*
ISC 16 11:45:00.8 ± 2.0, 7.7S ± 0.2 × 129.58E ± 0.07, h100 km, n9, σ2 s49/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.73**	**101**	P		**Pn**	**11 45 31.1**	**+1.2**
MTN	**Manton Dam**	**5.37**	**164**	P		**Pn**	**11 46 23.1**	**+4.5**
BATI	**Baumata**	**6.37**	**246**	Pn		**Pn**	**11 46 31.2**	**-1.0**
	4.6nm,0.3s,baz=59,slow=5.0,SNR=2.0							
BATI				Sn		**Sn**	**11 47 45.7**	**+2.1**
	18nm,0.3s,baz=19,slow=22,SNR=11							
PLAI	**Plampang**	**11.74**	**264**	P		Pn	11 47 34.6	-11
WRA	**Warramunga Arr**	**13.05**	**160**	Pn		**Pn**	**11 48 00.5**	**-1.9**
	0.5nm,0.3s,baz=344,slow=13,SNR=22							
WRA				Sn		**Sn**	**11 50 26.0**	**-0.1**
	1.6nm,0.3s,baz=330,slow=23,SNR=19							
COEN	**Coen**	**14.74**	**116**	P		**Pn**	**11 48 21.0**	**-3.4**
QIS	**Mount Isa**	**16.08**	**144**	P		**Pn**	**11 48 40.0**	**-1.1**
ASAR	**Alice Springs**	**16.45**	**166**	P		**Pn**	**11 48 46.0**	**+0.3**
	0.2nm,0.3s,baz=348,slow=8.5,SNR=8.6							
ASAR				S		**Sn**	**11 51 47.8**	**-0.4**
	0.2nm,0.3s,baz=330,slow=18,SNR=3.1							
MKAR	**Makanchi Array**	**68.55**	**327**	P		P	11 55 34.7	-18
	0.2nm,0.4s,baz=116,slow=8.2,SNR=4.8							

IDC ***16*** *11:51:39.7 ± 1.3, 27.44S × 71.10W, h0km, mb3.9/1, mb1 3.9/1, mb1mx3.5/23, mbtmp3.9/1, Error ellipse: s-maj=149.6km s-min=30.3km az=139.0*
NEIC ***16*** *11:51:42.1 ± 1.2, 27.26S ± 0.02 × 71.27W ± 0.07, h7km ± 5km, mb4.4/3, ML3.3(GUC), Error ellipse: s-maj=8.9km s-min=1.9km az=106.0*
GUC ***16*** *11:51:45.7 ± 0.6, 27.39S × 71.08W, h42km ± 2km, ML3.1*
ISC 16 11:51:42.0 ± 1.6, 27.27S ± 0.04 × 71.23W ± 0.07, h12 km ± 10 km, n40, σ1 s07/45, mb4.4/3, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.78**	**96**			**Pg**	**11 51 57.8**	**+0.7**
AC06	**Mina Casimiro**	**0.78**	**96**	⇓*i*P		**Pg**	**11 51 57.9**	**+0.7**
AC06				*i* S		**Sg**	**11 52 07.2**	**-0.3**
AC04	**Llanos de Chal**	**0.94**	**172**			**Pg**	**11 52 00.7**	**+0.5**
AC04	**Llanos de Chal**	**0.94**	**172**	*e*P		**Pb**	**11 52 00.8**	**+0.6**
AC04				*e*S		**Sg**	**11 52 12.1**	**-0.4**
AC04				IAML			11 52 17.6	
	comp=E,987nm,0.2s							
GO03	**Copiap**	**0.94**	**110**			**Pg**	**11 52 00.5**	**+0.2**
GO03	**Copiap**	**0.94**	**110**	*i* P		**Pg**	**11 52 00.4**	**+0.2**
GO03				*i* S		**Sg**	**11 52 11.3**	**-1.2**
GO03				IAML			11 52 13.7	
	comp=E,2μm,0.1s							
AC01	**Pan de Azucar**	**1.25**	**27**	*e*P		**Pb**	**11 52 05.5**	**-0.1**
AC01				*e*S		**Sb**	**11 52 20.6**	**-1.2**
AC01				IAML			11 52 25.3	
	comp=N,598nm,0.5s							
LCO	**Las Campanas**	**1.79**	**165**			**Pn**	**11 52 14.0**	**+1.0**
LCO	**Las Campanas**	**1.79**	**165**	⇑*i*P		**Pn**	**11 52 14.1**	**+1.1**
LCO				*i* S		**Sn**	**11 52 35.5**	**-0.3**
AC02	**Maricunga**	**1.92**	**77**	⇑*i*P		**Pb**	**11 52 16.8**	**-0.5**
AC02				*e*S		**Sn**	**11 52 40.0**	**+0.7**
GO02	**Mina Guanaco**	**2.57**	**35**			**Pn**	**11 52 24.9**	**+1.2**
GO02	**Mina Guanaco**	**2.57**	**35**	*e*P		**Pn**	**11 52 24.2**	**+0.6**
CO05	**La Serena**	**2.64**	**180**			**Pn**	**11 52 26.0**	**+1.7**
PB14	**IPOC Station P**	**2.74**	**16**			**Pn**	**11 52 25.9**	**-0.1**
PB14	**IPOC Station P**	**2.74**	**16**	*e*P		**Pn**	**11 52 26.2**	**+0.1**
CO01	**Juntas del Tor**	**2.87**	**160**	IAML			11 53 14.7	
	comp=E,91nm,0.3s							
GO04	**Tololo Observa**	**2.91**	**173**	⇓*i*P		**Pn**	**11 52 29.9**	**+1.5**
GO04				*e*S		**Sn**	**11 53 04.8**	**+1.4**
VCA	**Vinchina**	**3.04**	**119**	*e*P		**Pb**	**11 52 35.2**	**-1.0**
CO02	**Combarbal**	**3.92**	**177**	⇓*e*P		**Pn**	**11 52 42.9**	**+0.8**
CO02				*e*S		**Sn**	**11 53 25.9**	**-2.2**
PB15	**IPOC Station P**	**4.35**	**22**			**Pn**	**11 52 49.1**	**+0.9**
PB15	**IPOC Station P**	**4.35**	**22**	*e*P		**Pn**	**11 52 48.9**	**+0.8**
PB06	**IPOC Station P**	**4.79**	**19**	*e*P		**Pn**	**11 52 53.6**	**-0.5**
LVC	**Limon Verde**	**5.10**	**25**			**Pn**	**11 52 59.9**	**+1.3**
LVC	**Limon Verde**	**5.10**	**25**	*e*P		**Pn**	**11 52 59.6**	**+1.0**
VA03	**San Esteban**	**5.50**	**174**			**Pn**	**11 53 05.2**	**+1.3**
ROC1	**El Roble**	**5.69**	**178**	Pn		**Pn**	**11 53 08.6**	**+2.0**
MT02	**Curacav**	**5.97**	**179**	Pn		**Pn**	**11 53 10.7**	**+0.6**
H03N1	**Juan Fernandez**	**9.04**	**225**	Pn		**Pn**	**11 53 50.9**	**-1.2**
	baz=284,slow=74,SNR=6.7							
H03N1				T		T	12 03 24.0	
	baz=52,slow=72,SNR=709							
H03N2	**Juan Fernandez**	**9.06**	**225**	Pn		Pn	11 53 50.3	-2.0
H03N2				T		T	12 03 24.2	
	baz=52,slow=72,SNR=359							
H03N3	**Juan Fernandez**	**9.06**	**225**	Pn		**Pn**	**11 53 50.9**	**-1.5**
	baz=105,slow=74,SNR=7.7							
H03N3				T		T	12 03 20.1	
	baz=52,slow=72,SNR=325							
H03S3	**Juan Fernandez**	**9.30**	**224**	Pn		Pn	11 53 53.5	-2.1
	SNR=6.9							
H03S1	**Juan Fernandez**	**9.31**	**223**	Pn		**Pn**	**11 53 53.8**	**-2.0**
	SNR=3.4							
H03S2	**Juan Fernandez**	**9.31**	**224**	Pn		**Pn**	**11 53 54.0**	**-1.9**
	SNR=4.2							
SNAA	**Sanae**	**57.58**	**160**	P		**P**	**12 01 31.8**	**+0.6**
SNAA				IAmb	IAmb		12 01 32.5	
	comp=Z,4.8nm,1.3s							
QSPA	**South Pole Qui**	**62.94**	**180**	P		**P**	**12 02 09.2**	**+1.0**
QSPA				IAmb	IAmb		12 02 27.2	
	comp=Z,6.9nm,1.4s							
TORD	**Torodi Ar. Bea**	**81.28**	**70**	P		**P**	**12 03 58.1**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=252,slow=4.7,SNR=4.9							
TORD	**Torodi Ar. Bea**	**81.28**	**70**	P		**P**	**12 03 58.6**	**0.0**
TORD				IAmb	IAmb		12 04 19.5	
	comp=Z,2.5nm,1.4s							
ZALV	**Zalesovo Beam**	**148.05**	**27**	PKPbc		**PKPbc**	**12 11 26.7**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=324,slow=4.3,SNR=8.2							
ZALV	**Zalesovo Beam**	**148.05**	**27**			**PKiKP**	**12 11 28.1**	**-0.8**
MKAR	**Makanchi Array**	**151.47**	**40**	PKPbc		**PKPbc**	**12 11 35.0**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=312,slow=2.4,SNR=7.2							

IDC ***16*** *12:00:17.5 ± 2.4, 7.41S × 128.12E, h168km ± 28km, mb2.9/2, mb1 3.4/5, mb1mx3.0/48, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/14, Error ellipse: s-maj=37.3km s-min=26.0km az=108.0*
ISC 16 12:00:13.6 ± 0.8, 7.74S ± 0.06 × 128.46E ± 0.09, h150 km, n8, σ1 s66/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.34**	**242**	P		**Pn**	**12 01 33.7**	**+2.2**
	6.9nm,0.3s,baz=116,slow=8.0,SNR=3.6							
BATI				S		**Sn**	**12 02 31.2**	**-1.1**
	8.0nm,0.3s,baz=153,slow=18,SNR=3.6							
SIJI	**Sorong**	**7.37**	**22**	P		**Pn**	**12 02 00.7**	**+2.0**
	1.0nm,0.3s,baz=186,slow=19,SNR=4.4							
SIJI				S		**Sn**	**12 03 19.8**	**-1.4**
	0.6nm,0.3s,baz=238,slow=22,SNR=1.6							
FITZ	**Fitzroy Crossi**	**10.66**	**195**	P		**Pn**	**12 02 44.0**	**+1.7**
	0.6nm,0.3s,baz=16,slow=9.7,SNR=40							
FITZ				S		**Sn**	**12 04 38.9**	**-1.3**
	0.8nm,0.3s,baz=67,slow=21,SNR=5.9							
WRA	**Warramunga Arr**	**13.40**	**155**	P		**P**	**12 03 22.6**	**+0.5**
	0.5nm,0.3s,baz=325,slow=13,SNR=21							
WRA				S		**Sn**	**12 05 45.6**	**-0.8**
	1.8nm,0.3s,baz=330,slow=21,SNR=14							
ASAR	**Alice Springs**	**16.68**	**162**	P		Pn	12 04 05.9	+7.2
	0.8nm,0.3s,baz=343,slow=11,SNR=109							
ASAR				S		**S**	**12 07 03.1**	**-1.1**
	0.1nm,0.3s,baz=344,slow=26,SNR=3.0							
GUMO	**Guam**	**26.73**	**38**	LR		LR	12 14 56.2	
	comp=Z,73nm,20.9s,baz=266,slow=33							
CMAR	**Chiang Mai Arr**	**39.06**	**312**	P		**P**	**12 07 24.9**	**-1.3**
	0.3nm,0.6s,baz=134,slow=6.4,SNR=2.4							
MKAR	**Makanchi Array**	**68.02**	**328**	P		**P**	**12 10 55.4**	**-1.3**
	0.2nm,0.5s,baz=125,slow=7.9,SNR=2.3							

MAN ***16*** *12:03:26.2, 3.02N × 126.64E, h1km, mb5.2, ML4.2, MS4.3, Hypocentre not reviewed by the ISC*
IDC ***16*** *12:03:34.8 ± 0.6, 3.98N × 126.44E, h0km, mb4.3/17, mb1 4.5/18, mb1mx4.2/52, mbtmp4.3/18, ML4.2/1, MS3.4/11, Ms1 3.4/11, ms1mx3.0/80, Error ellipse: s-maj=36.4km s-min=12.2km az=66.0*
DJA ***16*** *12:03:38.7 ± 0.6, 4.1N ± 4.3 × 12.7E ± , h24km ± 3km, M4.5/30, mB5.0/8, mb4.7/30, MLv4.5/12, Mw(mB)4.4/8*
BJI ***16*** *12:03:40.1 ± 0.0, 4.54N × 126.85E, h7km, mb4.5/20, mB5.0/11, Ms4.6/3, Ms7 4.3/3*
NEIC ***16*** *12:03:40.6 ± 1.4, 4.06N ± 0.06 × 126.82E ± 0.09, h35km ± 6km, mb4.7/43, Error ellipse: s-maj=13.8km s-min=7.2km az=66.0*
ISC 16 12:03:40.2 ± 0.4, 4.01N ± 0.04 × 126.75E ± 0.06, h35 km, n115, σ1 s50/107, mb4.5/39, MS3.4/11, 7C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.26**	**255**	P		**Pn**	**12 04 01.6**	**+0.3**
DDMP	**Don Marcelino,**	**2.32**	**334**	⇑*i*P		**Pn**	**12 04 18.6**	**+2.7**
GSPH	**General Santos**	**2.73**	**319**	⇑*i*P		**Pn**	**12 04 22.1**	**+0.4**
MATI	**Mati**	**2.96**	**351**	⇑*i*P		**Pn**	**12 04 28.1**	**+3.3**
DAV	**Davao City (W)**	**3.26**	**339**	Lg		Lg	12 05 14.1	
	26nm,0.3s,baz=71,slow=21,SNR=1.3							
DAV	**Davao City (W)**	**3.26**	**339**	Pn		**Pn**	**12 04 26.1**	**-2.7**
TNTI	**Ternate**	**3.27**	**169**	Pn		**Pn**	**12 04 28.3**	**-0.7**
TNTI	**Ternate**	**3.27**	**169**	P		**Pn**	**12 04 29.8**	**+0.8**
KCP	**Kidapawan**	**3.41**	**331**	⇓*e*P		**Pn**	**12 04 34.0**	**+3.1**
KCP				*i* S		Sn	12 05 24.0	+14
CTBH	**Cotabato--PC H**	**4.05**	**322**	⇑*e*P		Pn	12 04 44.5	+4.8
KMSI	**Cibinong**	**4.39**	**219**	P		**Pn**	**12 04 46.4**	**+2.0**
LBMI	**Labuha**	**4.68**	**171**	P		**Pn**	**12 04 50.7**	**+2.3**
GTOI	**Gorontalo**	**5.01**	**228**	P		**Pn**	**12 04 54.8**	**+1.8**
	0.1nm342nm29nm,0.9s							
GLSP	**General Luna,**	**5.77**	**354**	⇑*e*P		Pn	12 05 08.2	+4.8
MRSI	**Marisa**	**5.95**	**234**	P		**Pn**	**12 05 08.0**	**+2.2**
	0.6nm2μm156nm,0.5s							
SANI	**Sanana**	**6.06**	**187**	P		**Pn**	**12 05 07.0**	**-0.4**
	0.2nm774nm22nm,0.8s							
LUWI	**Luwuk**	**6.40**	**218**	P		**Pn**	**12 05 13.0**	**+1.0**
	0.8nm3μm224nm,0.8s							
SWI	**Sorong**	**6.61**	**137**	P		**Pn**	**12 05 17.6**	**+2.6**
	0.2nm30nm,0.5s							
TOLI2	**Tolitoli**	**6.62**	**244**			**Pn**	**12 05 15.6**	**+0.6**
SIJI	**Sorong**	**6.62**	**137**	Pn		**Pn**	**12 05 17.3**	**+2.2**
	4.6nm,0.3s,baz=162,slow=22,SNR=11							
SIJI				Sn		**Sn**	**12 06 29.9**	**+0.4**
	1.5nm,0.3s,baz=193,slow=20,SNR=8.3							
SIJI				LR		LR	12 08 12.9	
	comp=Z,312nm,19.8s,baz=3.0,slow=41							
APSI	**Ampana**	**7.06**	**226**	P		**Pn**	**12 05 21.1**	**0.0**
	0.5nm2μm184nm,0.9s							
MPSI	**Mapaga**	**7.75**	**242**	P		**Pn**	**12 05 31.8**	**+1.2**
	0.1nm14nm,0.8s							
MYLDM	**Lahad Datu**	**8.30**	**278**	Pn		**Pn**	**12 05 41.9**	**+3.7**
BNSI	**Bone**	**10.67**	**219**	P		**Pn**	**12 06 13.4**	**+2.8**
	20nm,1.3s				

LZH	**Lanzhou**	**38.27 329**	*e*P		**P**		**12 10 57.8**	**+0.3**
LZH			pP		pP		12 11 02.1	-5.3
LZH			pmax		pmax			
	comp=Z,13nm,1.6s							
STKA	**Stephens Creek**	**38.38 159**	P		**P**		**12 10 58.8**	**+0.6**
	comp=Z,23nm,1.0s,baz=338,slow=8.2,SNR=25							
STKA			LR		LR		12 30 25.7	
	comp=Z,66nm,20.0s,baz=28,slow=42							
STKA	**Stephens Creek**	**38.38 159**	P		**P**		**12 10 58.5**	**+0.3**
HHC	**Hu-ho-hao-te**	**39.14 342**	*e*P		**P**		**12 11 06.3**	**+1.7**
HHC			pmax		pmax			
	comp=Z,12nm,1.0s							
HHC			pmax		pmax			
	comp=Z,170nm,7.2s							
CN2	**Changchun**	**39.65 359**	*e*P		P		12 11 15.5	+6.9
CN2			pmax		pmax			
	comp=Z,10.0nm,1.4s							
ARMA	**Armidale**	**41.69 147**	P		**P**		**12 11 25.6**	**-0.2**
ARMA			IAmb		IAmb		12 11 28.2	
	comp=Z,14nm,0.8s							
ASAJ	**Asahikawa**	**42.32 17**	LR		LR		12 29 50.9	
	comp=Z,47nm,19.7s,baz=188,slow=37							
GOMU	**GeErMu**	**43.48 322**	P		**P**		**12 11 39.9**	**-0.8**
GOMU			PP		**PcP**		**12 13 25.8**	**-2.6**
GOMU			pmax		pmax			
	comp=Z,3.0nm,0.6s							
GOMU			pmax		pmax			
	comp=Z,78nm,4.7s							
CAN	**Canberra**	**44.35 154**	P		**P**		**12 11 48.5**	**+1.2**
KLR	**Kul'dur**	**45.26 5**	P		**P**		**12 11 54.5**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=194,slow=4.2,SNR=3.1							
KLR			LR		LR		12 29 55.6	
	comp=Z,24nm,20.8s,baz=202,slow=35							
SONM	**Songino Array**	**47.04 341**	P		**P**		**12 12 08.1**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=154,slow=7.8,SNR=2.9							
SONM			PcP		**PcP**		**12 13 40.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=158,slow=4.2,SNR=3.3							
SONM	**Songino Array**	**47.04 341**	P		**P**		**12 12 08.2**	**-0.3**
WMQ	**Urumqi**	**52.51 325**	*e*P		**P**		**12 12 52.9**	**+2.9**
WMQ			LR		LR			
	comp=Z,230nm,16.3s							
WMQ			LR		LR			
	comp=Z,170nm,16.3s							
KAAM	**Kaadhehdhoo**	**53.81 268**	P		**P**		**12 13 01.4**	**+1.4**
MKAR	**Makanchi Array**	**57.34 325**	P		**P**		**12 13 23.3**	**-1.6**
	comp=Z,1.6nm,0.4s,baz=124,slow=7.6,SNR=10							
MKAR			PcP		**PcP**		**12 14 18.2**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=127,slow=4.1,SNR=4.7							
MKAR	**Makanchi Array**	**57.34 325**	P		**P**		**12 13 24.8**	**-0.1**
ZAA0	**Zalesovo Array**	**60.35 333**	P		**P**		**12 13 44.1**	**-1.5**
ZALV	**Zalesovo Beam**	**60.35 333**	P		**P**		**12 13 43.4**	**-2.2**
	comp=Z,1.4nm,0.7s,baz=99,slow=9.3,SNR=5.6							
ZALV	**Zalesovo Beam**	**60.35 333**	P		**P**		**12 13 44.3**	**-1.3**
KURK	**Kurchatov**	**61.52 327**	P		**P**		**12 13 52.5**	**-1.1**
KURK			IAmb		IAmb		12 13 54.7	
	comp=Z,6.6nm,0.8s							
LBZ	**Lake Benmore**	**61.90 146**	P		**P**		**12 13 56.4**	**+0.1**
THZ	**Tophouse**	**61.91 142**	P		**P**		**12 13 56.3**	**-0.1**
TIXI	**Tiksi**	**67.57 1**	P		**P**		**12 14 32.6**	**-0.1**
TIXI			IAmb		IAmb		12 14 36.6	
	comp=Z,12nm,1.5s							
NRIK	**Noril'sk**	**70.17 346**	P		**P**		**12 14 49.9**	**+1.0**
	comp=Z,4.1nm,0.5s,baz=147,slow=7.3,SNR=5.2							
NRIK	**Noril'sk**	**70.17 346**	P		**P**		**12 14 49.4**	**+0.4**
NRIK			IAmb		IAmb		12 14 50.3	
	comp=Z,6.6nm,0.8s							
ABKAR	**Akbulak array**	**71.95 321**	P		**P**		**12 14 59.8**	**-0.3**
ABKAR	**Akbulak array**	**71.95 321**	P		**P**		**12 14 59.4**	**-0.7**
ABKAR			IAmb		IAmb		12 15 00.8	
	comp=Z,2.7nm,0.6s							
SOCY	**Socotra**	**72.32 281**	P		**P**		**12 14 60.0**	**-3.1**
SOCY			IAmb		IAmb		12 15 01.9	
	comp=Z,4.9nm,0.9s							
VNDA	**Vanda**	**83.70 173**	P		**P**		**12 16 05.0**	**0.0**
	comp=Z,2.1nm,0.9s,baz=318,slow=6.8,SNR=9.7							
VNDA	**Vanda**	**83.70 173**	P		**P**		**12 16 05.6**	**+0.7**
VNDA			IAmb		IAmb		12 16 06.7	
	comp=Z,3.7nm,1.1s							
ILAR	**Eielson Array**	**84.85 25**	LR		LR		12 58 15.0	
	comp=Z,14nm,19.6s,baz=214,slow=39							
KLMR	**Klimovskoe**	**85.17 331**	*e*P		**P**		**12 16 09.9**	**-2.8**
KLMR			AMP				12 16 12.9	
	comp=Z,19nm,0.9s							
BMAR	**Burnt Mountain**	**85.82 23**	P		**P**		**12 16 18.0**	**+2.1**
KMBO	**Kilima Mbogo**	**89.57 269**	P		**P**		**12 16 35.0**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=70,slow=15,SNR=3.6							
KMBO	**Kilima Mbogo**	**89.57 269**	P		**P**		**12 16 33.1**	**-2.1**
KMBO			IAmb		IAmb		12 16 35.9	
	comp=Z,3.9nm,1.1s							
BRTR	**Keskin Array B**	**89.86 310**	P		**P**		**12 16 34.0**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=123,slow=4.6,SNR=4.5							
BRTR	**Keskin Array B**	**89.86 310**	P		**P**		**12 16 33.7**	**-2.3**
ARCES	**ARCESS Array B**	**90.19 340**	P		**P**		**12 16 35.2**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=70,slow=8.0,SNR=5.4							
ARCES	**ARCESS Array B**	**90.19 340**	P		**P**		**12 16 36.2**	**-0.5**
FINES	**FINESS Array B**	**91.60 332**	P		**P**		**12 16 42.6**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=99,slow=4.4,SNR=4.5							
SYO	**Syowa Base**	**92.69 201**⇑*e*	PcP		**PcP**		**12 16 50.4**	**+1.6**
NOA	**NORSAR Array B**	**98.55 334**	P		**P**		**12 17 13.9**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=66,slow=4.4,SNR=3.1							
LSZ	**Lusaka**	**99.29 255**	LR		LR		12 58 26.5	
	comp=Z,47nm,21.4s,baz=160,slow=33							
PDAR	**Pinedale Array**	**111.14 41**	PKKPab		PKKPab		12 33 16.1	-2.0
	comp=Z,0.5nm,0.8s,baz=130,slow=4.6,SNR=4.9							
TXAR	**Lajitas Array**	**121.42 52**	PKP		**PKiKP**		**12 22 32.0**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=239,slow=2.6,SNR=5.5							
TXAR	**Lajitas Array**	**121.42 52**	PKP		**PKPdf**		**12 22 29.7**	**-1.0**
TORD	**Torodi Ar. Bea**	**122.85 288**	PKP		**PKPdf**		**12 22 32.7**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=67,slow=2.0,SNR=5.9							

JMA 16 12:04:51.2, 32.78N×130.78E, h12km±1km, M1.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.23**	**173**	P	Pg	12 04 56.3	+0.2
JIU3				*e*S	Sg	12 04 59.8	+0.4
JTA	**Tamana**	**0.28**	**311**	P	Pg	12 04 57.0	+0.1

IDC ***16*** *12:05:03.4±0.8, 32.67N×130.60E, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.0/55, mbtmp4.1/18, ML3.5/3, MS3.6/19, Ms1 3.6/19, ms1mx3.2/95, Error ellipse: s-maj=18.1km s-min=8.1km az=124.0*

MOS ***16*** *12:05:03.8±0.9, 32.65N×130.67E, h12km, mb4.6/25, Error ellipse: s-maj=11.1km s-min=5.6km az=109.0*

BJI ***16*** *12:05:05.0±0.0, 32.68N×130.59E, h10km, mb4.4/34, mb4.7/20, Ms4.3/22, Ms7 4.1/22*

NEIC ***16*** *12:05:06.0±1.8, 32.73N±0.01°×130.69E±0.06, h10km±4km, mb4.5/31, Error ellipse: s-maj=7.8km s-min=1.9km az=92.0*

NIED ***16*** *12:05:06.3, 32.75N×130.76E, h18km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.37; $M_{\theta\theta}$=1.39; $M_{\phi\phi}$=-1.02; $M_{r\theta}$=-1.23; $M_{\theta\phi}$=0.21; $M_{\phi r}$=2.12; Fault plane solution: M_o=2.74000×10^{15} NP1: ϕ_s=301.00000°, δ=27.00000°, λ=-8.00000°. NP2: ϕ_s=38.00000°, δ=87.00000°, λ=-117.00000°.*

JMA ***16*** *12:05:06.2, 32.75N×130.76E, h18km±1km, M4.4 Broadband fault plane solution: P waves. NP1: ϕ_s=213.00000°, δ=86.00000°, λ=116.00000°. NP2: ϕ_s=311.00000°, δ=26.00000°, λ=9.00000°. Principal axes: T Plg=43.0000°, Azm=148.0000°; N Plg=26.0000°, Azm=31.0000°; P Plg=36.0000°, Azm=281.0000°;*

JMA Felt IV J1.

ISC 16 12:05:06.5±0.7, 32.74N±0.03×130.67E±0.05, h15km±4km, n=175, σ1=29/170, mb=4.5/62, MS=3.8/22, 15C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.22**	**148**	P	**Pg**	**12 05 11.2**	**-0.3**
JIU3				S	**Sg**	**12 05 14.7**	**-0.2**
JTA	**Tamana**	**0.25**	**333**	⇑P	**Pb**	**12 05 12.3**	**-0.6**
JTA				S	**Sb**	**12 05 16.6**	**-0.5**
JNU	**Nakatsue**	**0.42**	**25**	Pg	**Pg**	**12 05 14.0**	**-1.0**
	1μm,0.3s,baz=179,slow=8.2,SNR=337						
JNU				Lg	Lg	12 05 19.3	
	2μm,0.3s,baz=86,slow=23,SNR=20						
JNU	**Nakatsue**	**0.42**	**25**	⇑P	**Pg**	**12 05 14.2**	**-0.8**
JNU				S	**Sg**	**12 05 19.6**	**-1.1**
JNU	**Nakatsue**	**0.42**	**25**	Pg	**Pg**	**12 05 14.2**	**-0.8**
JNU				Sg	**Sg**	**12 05 19.7**	**-1.0**
JNU	**Nakatsue**	**0.42**	**25**	P	**Pg**	**12 05 14.5**	**-0.5**

JSU	**Suzuyama**	**1.24**	**189**	Pn	**Pn**		**12 05 29.1**	**-0.3**
JTU	**Tsushima**	**2.07**	**330**	Pn	**Pn**		**12 05 40.0**	**-0.9**
JMN	**Monobe**	**2.86**	**69**		**Pn**		**12 05 52.7**	**+0.9**
JHS	**Saijyo**	**3.04**	**41**	Pn	**Pn**		**12 05 54.0**	**-0.1**
TJN	**Taejon**	**4.54**	**324**	*i* P	**Pn**		**12 06 15.4**	**+0.7**
TJN	**Taejon**	**4.54**	**324**	Pn	**Pn**		**12 06 15.8**	**+1.1**
TJN	**Taejon**	**4.54**	**324**	P	**Pn**		**12 06 15.5**	**+0.7**
KSRS	**Korea Array**	**5.21**	**335**	Pn	**Pn**		**12 06 24.1**	**+0.1**
	0.8nm,0.3s,baz=150,slow=14,SNR=11							
KSRS				Lg	Lg		12 07 45.5	
	6.4nm,0.3s,baz=152,slow=30,SNR=7.8							
KSRS				LR	LR		12 08 29.2	
	comp=Z,498nm,18.8s,baz=155,slow=39							
KSAR	**Wonju Array Be**	**5.22**	**335**	P	**Pb**	**12 06 33.9**		**-3.6**
KSAR	**Wonju Array Be**	**5.22**	**335**		**Pb**	**12 06 33.9**		**-3.6**
KS19	**Wonju Array Si**	**5.28**	**335**		**Pn**	**12 06 24.4**		**-0.5**
INCN	**Inchon**	**5.77**	**326**	P	**Pn**	**12 06 31.9**		**+0.2**
INCN	**Inchon**	**5.77**	**326**	Pn	**Pn**	**12 06 31.9**		**+0.2**
INCN	**Inchon**	**5.77**	**326**	P	Pb	12 06 32.1		+0.1
INU	**Inuyama**	**5.88**	**62**	Pn	**Pn**	**12 06 33.4**		**+0.2**
INU	**Inuyama**	**5.88**	**62**	P	**Pn**	**12 06 33.9**		**+0.8**
JGF	**Kuroka**	**6.23**	**61**	Pn	**Pn**	**12 06 38.9**		**+0.8**
JOW	**Kunigami**	**6.24**	**200**	Pn	Pn	12 06 42.0		+3.8
	11nm,0.3s,baz=90,slow=19,SNR=6.9							
JOW	**Kunigami**	**6.24**	**200**		Pn	12 06 41.7		+3.5
JOW	**Kunigami**	**6.24**	**200**	P	Pb	12 06 42.4		+1.3
MAJO	**Matsushiro**	**7.28**	**56**	*i* P	**Pn**	**12 06 52.5**		**+0.1**
MAJO	**Matsushiro**	**7.28**	**56**	Pn	**Pn**	**12 06 54.1**		**+1.7**
MAJO	**Matsushiro**	**7.28**	**56**	P	Pb	12 06 54.3		+1.5
MJB9	**Matsu-Tunnel**	**7.28**	**56**		**Pn**	**12 06 53.6**		**+1.2**
MJAR	**Matsushiro Arr**	**7.28**	**57**	Pn	**Pn**	**12 06 53.6**		**+1.2**
	0.2nm,0.3s,baz=229,slow=13,SNR=17							
MJAR				Lg	Lg	12 08 55.7		
	0.1nm,0.3s,baz=235,slow=32,SNR=2.2							
MJAR				LR	LR	12 09 57.7		
	comp=Z,217nm,21.8s,baz=224,slow=40							
MJAR	**Matsushiro Arr**	**7.28**	**57**	Pn	**Pn**	**12 06 54.1**		**+1.7**
JHJ	**Hachijo jima 2**	**7.67**	**85**	Pn	**Pn**	**12 06 57.5**		**-0.3**
	18nm,0.3s,baz=218,slow=18,SNR=6.1							
JHJ				LR	LR	12 09 47.6		
	comp=Z,245nm,20.4s,baz=84,slow=37							
JHJ2	**Mitsune**	**7.70**	**85**	Pn	**Pn**	**12 06 56.8**		**-1.3**
JHJ2	**Mitsune**	**7.70**	**85**	P	**Pn**	**12 06 57.7**		**-0.5**
MSHR	**Mys Shultsa**	**9.83**	**2**	*i* P	**Pn**	**12 07 29.0**		**+1.6**
MSHR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
NJ2	**Nanjing**	**10.02**	**269**	*e*P	**Pn**	**12 07 31.3**		**+1.4**
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.6s							
JCJ	**Chichijima**	**11.46**	**116**	LR	LR	12 11 35.0		
	comp=Z,283nm,19.8s,baz=88,slow=34							
USRK	**Ussuriysk Ar.**	**11.49**	**5**	Pn	**Pn**	**12 07 54.5**		**+4.5**
	baz=198,slow=13,SNR=3.4							
TIA	**Tai'an**	**11.70**	**291**	P	Pn	12 08 06.3		+13
TIA				pmax	pmax			
	comp=Z,5.0nm,0.5s							
TIA				LR	LR			
	comp=N,530nm,7.8s							
TIA				LR	LR			
	comp=E,410nm,6.9s							
TIA				LR	LR			
	comp=Z,890nm,14.2s							
HNS	**HongShan**	**13.87**	**294**	*e*P	**Pn**	**12 08 21.6**		**-1.0**
HNS				*e*S	**Sn**	**12 11 01.8**		**+5.4**
HNS				LR	LR			
	comp=Z,200nm,14.5s							
HNS				LR	LR			
	comp=Z,350nm,14.7s							
HNS				LR	LR			
	comp=Z,330nm,14.8s							
KLR	**Kul'dur**	**16.50**	**2**	Pn	**P**	**12 09 02.6**		**+2.6**
	comp=Z,0.2nm,0.3s,baz=163,slow=8.1,SNR=22							
KLR				LR	LR	12 14 02.8		
	comp=Z,72nm,20.3s,baz=190,slow=33							
KLR	**Kul'dur**	**16.50**	**2**	*i* P	**Pn**	**12 08 57.5**		**+0.2**
KLR				pmax	pmax			
	comp=Z,20nm,1.0s							
YSS	**Yuzh-Sakhalins**	**16.93**	**30**	*e*P	**Pn**	**12 09 03.6**		**+0.8**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**17.29**	**303**	*e*P	**P**	**12 09 09.1**		**+0.2**
HHC				S	**Sn**	**12 12 22.8**		**+3.1**
HHC				pmax	pmax			
	comp=Z,17nm,0.8s							
HHC				pmax	pmax			
	comp=Z,160nm,4.9s							
HHC				LR	LR			
	comp=Z,230nm,11.6s							
HHC				LR	LR			
	comp=Z,650nm,13.6s							
HHC				LR	LR			
	comp=Z,790nm,11.8s							
XAN	**Xi'an**	**18.21**	**280**	⇑P	P	12 09 26.1		+7.0
XAN				pP	sP	12 09 30.8		+5.7
XAN				sP	pP	12 09 33.3		+10
XAN				pmax	pmax			
	comp=Z,9.0nm,1.1s							
XAN				pmax	pmax			
	comp=Z,140nm,5.1s							
XAN				LR	LR			
	comp=N,590nm,12.4s							
XAN				LR	LR			
	comp=E,490nm,12.1s							
XAN				LR	LR			
	comp=Z,450nm,14.3s							
BTO	**Baotou**	**18.30**	**301**	*e*P	**P**	**12 09 20.5**		**+0.4**
HIA	**Hailar**	**18.42**	**337**	*i* P	**Pn**	**12 09 22.6**		**+1.2**
HIA				pmax	pmax			
	comp=Z,15nm,1.4s							
ZEA	**Zeya**	**21.13**	**354**	*e*P	**P**	**12 09 52.7**		**+2.0**
ZEA				pmax	pmax			
	comp=N,10.0nm,1.5s							
ZEA				pmax	pmax			
	comp=Z,20nm,1.6s							
LZH	**Lanzhou**	**22.36**	**286**	⇑P	**P**	**12 10 05.0**		**+0.7**
LZH				pP	sP	12 10 08.5		-1.8
LZH				sP	pP	12 10 10.8		+2.4
LZH				pmax	pmax			
	comp=Z,14nm,1.6s							
LZH				LR	LR			
	comp=Z,320nm,13.6s							
LZH				LR	LR			
	comp=Z,420nm,12.5s							
LZH				LR	LR			
	comp=Z,570nm,13.6s							
CD2	**Chengdu**	**22.92**	**273**	P	**P**	**12 10 10.5**		**+0.4**
CD2				pmax	pmax			
	comp=Z,20nm,0.9s							
CD2				LR	LR			
	comp=Z,1μm,11.2s							
CD2				LR	LR			
	comp=Z,1μm,12.3s							
ULN	**Ulaanbaatar**	**23.38**	**317**	*e*P	**P**	**12 10 14.1**		**-0.7**
ULN				pmax	pmax			
	comp=Z,12nm,1.0s							
ULN	**Ulaanbaatar**	**23.38**	**317**	P	**P**	**12 10 16.0**		**+1.2**
ULN				IAmb	IAmb	12 10 16.7		
	comp=Z,9.0nm,0.8s							
SONM	**Songino Array**	**23.74**	**317**	P	**P**	**12 10 17.9**		**-0.5**
	comp=Z,4.8nm,0.9s,baz=132,slow=10,SNR=16							
SONM				LR	LR	12 20 01.1		
	comp=Z,192nm,18.4s,baz=134,slow=38							
SONM	**Songino Array**	**23.74**	**317**	P	**P**	**12 10 19.0**		**+0.7**
KMI	**Kunming**	**25.54**	**260**	⇓P	**P**	**12 10 35.3**		**+0.2**
KMI				pmax	pmax			
	comp=Z,18nm,0.5s							
KMI				LR	LR			
	comp=Z,380nm,10.1s							
KMI				LR	LR			
	comp=Z,500nm,12.2s							
KMI				LR	LR			
	comp=Z,600nm,14.0s							
GTA	**Gaotai**	**25.73**	**294**	*e*P	**P**	**12 10 37.6**		**+1.0**
GTA				pP	sP	12 10 43.1		+0.2
GTA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
GTA				pmax	pmax			
	comp=Z,45nm,5.6s							
GTA				LR	LR			
	comp=Z,310nm,15.9s							
GTA				LR	LR			
	comp=Z,290nm,13.9s							
GTA				LR	LR			
	comp=Z,360nm,13.9s							
PZH	**PanZhiHua**	**25.86**	**264**	P	**P**	**12 10 37.4**		**-0.4**

PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,100nm,4.8s							
ZAK	**Zakamensk**	**26.80**	**319**	*e*P	**P**	**12 10 45.3**		**-0.9**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.2s							
YAK	**Yakutsk**	**29.31**	**359**	*i* P	**P**	**12 11 08.7**		**+0.4**
YAK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
GOMU	**GeErMu**	**29.66**	**287**	P	**P**	**12 11 12.4**		**+0.3**
GOMU				pP	sP	12 11 15.8		-2.6
GOMU				sP	pP	12 11 16.8		+0.2
GOMU				PcP	**PcP**	**12 14 16.6**		**+0.2**
GOMU				S	**S**	**12 16 03.3**		**-4.2**
GOMU				pmax	pmax			
	comp=Z,4.0nm,1.2s							
GOMU				pmax	pmax			
	comp=Z,97nm,5.4s							
GOMU				LR	LR			
	comp=Z,72nm,12.1s							
GOMU				LR	LR			
	comp=Z,110nm,11.4s							
GOMU				LR	LR			
	comp=Z,100nm,14.1s							
CMAR	**Chiang Mai Arr**	**31.81**	**251**	P	**P**	**12 11 31.8**		**+1.0**
	comp=Z,0.6nm,0.6s,baz=59,slow=5.6,SNR=4.8							
CMAR				LR	LR	12 24 07.3		
	comp=Z,40nm,18.4s,baz=90,slow=36							
CMAR	**Chiang Mai Arr**	**31.81**	**251**	*e*P	**P**	**12 11 34.0**		**+3.2**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SEY	**Seymchan**	**33.20**	**18**	*i* P	**P**	**12 11 42.6**		**+0.2**
SEY				pmax	pmax			
	comp=Z,8.0nm,1.8s							
SIJI	**Sorong**	**33.43**	**179**	LR	LR	12 23 25.5		
	comp=Z,50nm,21.1s,baz=31,slow=33							
WMQ	**Urumqi**	**35.14**	**301**	*e*P	**P**	**12 12 01.9**		**+2.2**
WMQ				LR	LR			
	comp=Z,110nm,14.3s							
WMQ				LR	LR			
	comp=Z,120nm,16.5s							
ZALV	**Zalesovo Beam**	**38.64**	**317**	LR	LR	12 29 33.8		
	comp=Z,112nm,19.2s,baz=113,slow=38							
TIXI	**Tiksi**	**38.98**	**359**	*i* P	**P**	**12 12 31.2**		**-0.6**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.5s							
MKAR	**Makanchi Array**	**39.13**	**306**	P	**P**	**12 12 33.2**		**-0.3**
	comp=Z,2.5nm,1.0s,baz=93,slow=10.0,SNR=8.0							
BILL	**Bilibino**	**40.85**	**20**	*e*P	**P**			
BILL				pmax	pmax			
	comp=Z,14nm,3.1s							
KURK	**Kurchatov**	**41.84**	**311**	*ce*P	**P**	**12 12 55.2**		**-0.6**
KURK				pmax	pmax			
	comp=Z,8.0nm,1.3s							
KURK	**Kurchatov**	**41.84**	**311**	P	**P**	**12 12 55.5**		**-0.2**
KURK				IAmb	IAmb	12 12 56.4		
	comp=Z,6.5nm,0.8s							
KDJ	**Kajisay**	**42.89**	**299**	P	**P**	**12 13 04.9**		**+0.3**
KDJ				pmax	pmax			
	comp=Z,4.0nm,1.2s							
KDJ	**Kajisay**	**42.89**	**299**	P	**P**	**12 13 04.9**		**+0.3**
NRIK	**Noril'sk**	**43.82**	**339**	P	**P**	**12 13 11.3**		**-0.3**
	comp=Z,2.8nm,0.4s,baz=108,slow=17,SNR=6.2							
NRIK	**Noril'sk**	**43.82**	**339**	*ce*P	**P**	**12 13 10.9**		**-0.6**
NRIK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
NRIK	**Noril'sk**	**43.82**	**339**	P	**P**	**12 13 10.7**		**-0.9**
NRIK				IAmb	IAmb	12 13 12.0		
	comp=Z,5.8nm,0.8s							
KSH	**Kashi**	**44.12**	**295**	P	**P**	**12 13 17.8**		**+3.2**
PMG	**Port Moresby**	**44.76**	**157**	LR	LR	12 29 17.3		
	comp=Z,80nm,21.3s,baz=306,slow=32							
AAK	**Ala-Archa**	**44.81**	**300**	LR	LR	12 33 19.9		
	comp=Z,93nm,18.3s,baz=90,slow=38							
AAK	**Ala-Archa**	**44.81**	**300**	*ce*P	**P**	**12 13 19.8**		**-0.3**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.7s							
MTN	**Manton Dam**	**45.33**	**179**	P	**P**	**12 13 22.6**		**-1.5**
MTN				IAmb	IAmb	12 13 29.1		
	comp=Z,4.5nm,0.8s							
BRVK	**Borovoye**	**47.12**	**314**	*ce*P	**P**	**12 13 38.2**		**+0.3**
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BRVK	**Borovoye**	**47.12**	**314**	P	**P**	**12 13 38.0**		**+0.1**
BRVK				IAmb	IAmb	12 13 38.8		
	comp=Z,6.6nm,0.8s							
KK31	**Karatay Array**	**47.65**	**301**	P	**P**	**12 13 42.2**		**-0.1**
KK31				pmax	pmax			
	comp=Z,12nm,0.8s							
KK31	**Karatay Array**	**47.65**	**301**	P	**P**	**12 13 42.2**		**-0.1**
KKAR	**Karatay Array**	**47.65**	**301**	P	**P**	**12 13 42.6**		**+0.3**
KKAR	**Karatay Array**	**47.65**	**301**	P	**P**	**12 13 43.0**		**+0.8**
KKAR	**Karatay Array**	**47.65**	**301**	P	**P**	**12 13 42.6**		**+0.3**
KNRA	**Kununurra**	**48.18**	**182**	P	**P**	**12 13 45.4**		**-1.1**
GAR	**Garm**	**48.53**	**295**	P	**P**	**12 13 49.7**		**+0.4**
FITZ	**Fitzroy Crossi**	**50.78**	**186**	P	**P**	**12 14 05.0**		**+0.3**
FITZ	**Fitzroy Crossi**	**50.78**	**186**	P	**P**	**12 14 05.0**		**-1.3**
FITZ				IAmb	IAmb	12 14 05.8		
	comp=Z,5.4nm,1.1s							
WB0	**Warramunga Arr**	**52.33**	**176**	P	**P**	**12 14 16.6**		**-1.3**
WB0				IAmb	IAmb	12 14 20.2		
	comp=Z,7.7nm,1.2s							
WRA	**Warramunga Arr**	**52.50**	**176**	P	**P**	**12 14 17.4**		**-1.8**
	comp=Z,0.9nm,0.7s,baz=355,slow=8.0,SNR=3.3							
WRA	**Warramunga Arr**	**52.

FINES	**FINESS Array B**	**68.28**	**330**	P		**P**	**12 16 05.4**	**-1.2**
	comp=Z,2.5nm,0.5s,baz=72,slow=5.8,SNR=23							
FINES				LR		LR	12 48 42.6	
	comp=Z,71nm,18.5s,baz=32,slow=38							
FINES	**FINESS Array B**	**68.28**	**330**	P		**P**	**12 16 05.9**	**-0.7**
RES	**Resolute Bay**	**68.77**	**12**	P		**P**	**12 16 09.2**	**-0.3**
RES				pmax		pmax		
	comp=Z,3.0nm,1.1s							
RES	**Resolute Bay**	**68.77**	**12**	P		**P**	**12 16 09.2**	**-0.3**
YKA	**Yellowknife Ar**	**71.76**	**26**	P		**P**	**12 16 28.3**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=302,slow=5.8,SNR=4.3							
AKASG	**Malin Array Be**	**72.00**	**319**	P		**P**	**12 16 28.5**	**-1.1**
	comp=Z,5.4nm,0.7s,baz=51,slow=6.1,SNR=7.7							
AKBB	**Malin Array Si**	**72.00**	**319**	*ce*P		**P**	**12 16 29.0**	**-0.6**
KIEV	**Kiev**	**72.01**	**319**	P		**P**	**12 16 28.0**	**-1.7**
HFS	**Hagfors**	**74.06**	**332**	LR		LR	12 54 20.3	
	comp=Z,48nm,18.5s,baz=50,slow=40							
NOA	**NORSAR Array B**	**74.43**	**334**	P		**P**	**12 16 41.9**	**-1.9**
	comp=Z,1.2nm,0.9s,baz=49,slow=5.9,SNR=3.7							
BR131	**Keskin Array S**	**74.75**	**307**	*i* P		**P**	**12 16 46.5**	**+0.3**
BR131	**Keskin Array S**	**74.75**	**307**	P		**P**	**12 16 46.1**	**-0.2**
BR131				IAmb		IAmb	12 16 46.7	
	comp=Z,5.6nm,0.8s							
BRTR	**Keskin Array B**	**74.75**	**307**	P		**P**	**12 16 45.4**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=96,slow=5.0,SNR=14							
BRTR	**Keskin Array B**	**74.75**	**307**	*ce*P		**P**	**12 16 46.0**	**-0.2**
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
BRTR	**Keskin Array B**	**74.75**	**307**	P		**P**	**12 16 46.0**	**-0.2**
BUR08	**Bucovina Ar. S**	**75.85**	**318**	P		**P**	**12 16 52.2**	**-0.1**
BUR08				IAmb		IAmb	12 16 53.1	
	comp=Z,6.2nm,1.1s							
BURAR	**Bucovina Array**	**75.85**	**318**	P		**P**	**12 16 52.3**	**-0.1**
BURAR				pmax		pmax		
	comp=Z,4.0nm,0.9s							
BURAR	**Bucovina Array**	**75.85**	**318**	P		**P**	**12 16 52.3**	**-0.1**
BURAR				IAmb		IAmb	12 16 53.4	
	comp=Z,4.1nm,0.9s							
MLR	**Muntele Rosu**	**76.59**	**316**	LR		LR	12 54 23.2	
	comp=Z,85nm,18.7s,baz=50,slow=39							
CRVS	**Cervenica-Dubn**	**77.20**	**320**	*e*P		**P**	**12 17 00.1**	**+0.2**
CRVS	**Cervenica-Dubn**	**77.20**	**320**	*e*P		**P**	**12 17 00.1**	**+0.2**
OJC	**Ojcow**	**77.31**	**322**	P		**P**	**12 17 00.6**	**+0.1**
OJC				pmax		pmax		
	comp=Z,8.0nm,0.9s							
OJC	**Ojcow**	**77.31**	**322**	P		**P**	**12 17 00.6**	**+0.1**
OJC				IAmb		IAmb	12 17 01.2	
	comp=Z,8.4nm,0.9s							
NIE	**Niedzica**	**77.52**	**321**	P		**P**	**12 17 03.0**	**+1.3**
NIE				pmax		pmax		
	comp=Z,4.0nm,1.1s							
MORC	**Moravsky Berou**	**78.74**	**323**	P		**P**	**12 17 08.0**	**-0.5**
MORC				pmax		pmax		
	comp=Z,7.0nm,1.2s							
MORC	**Moravsky Berou**	**78.74**	**323**	P		**P**	**12 17 08.0**	**-0.5**
MORC				IAmb		IAmb	12 17 09.2	
	comp=Z,7.0nm,1.2s							
VYHS	**Vyhne**	**78.85**	**321**	*e*P		**P**	**12 17 09.4**	**+0.4**
VYHS	**Vyhne**	**78.85**	**321**	*e*P		**P**	**12 17 09.4**	**+0.4**
DPC	**Dobruska-Polom**	**79.01**	**324**	*e*P		**P**	**12 17 09.9**	**0.0**
DPC	**Dobruska-Polom**	**79.01**	**324**	*e*P		**P**	**12 17 09.9**	**0.0**
MODS	**Modra-Piesok**	**79.75**	**322**	*e*P		**P**	**12 17 15.6**	**+1.7**
MODS	**Modra-Piesok**	**79.75**	**322**	*e*P		**P**	**12 17 15.6**	**+1.7**
CLL	**Collm**	**80.02**	**326**	*e*P		**P**	**12 17 15.0**	**-0.3**
CLL				*i*			12 17 20.3	
CLL				pmax		pmax		
	comp=Z,8.0nm,1.0s							
CLL	**Collm**	**80.02**	**326**	P		**P**	**12 17 15.0**	**-0.3**
CLL				IAmb		IAmb	12 17 16.0	
	comp=Z,7.1nm,0.9s							
CLL	**Collm**	**80.02**	**326**	*e*P		**P**	**12 17 15.0**	**-0.3**
	comp=Z,8.0nm,1.0s							
CLL				*i* (sP)		**PcP**	**12 17 20.3**	**-2.4**
CLL				*i* PcP		**sP**	**12 17 22.6**	**+0.7**
CLL				Lm		MLR	12 56 00.0	
	comp=Z,100nm,18.7s							
RONA	**Rosalia, Austr**	**80.68**	**321**	*e*P		**P**	**12 17 19.0**	**0.0**
	comp=Z,3.3nm,0.9s							
CONA	**Conrad Observa**	**80.76**	**322**	*e*P		**P**	**12 17 20.2**	**+0.7**
	comp=Z,4.6nm,1.0s							
CKRC	**Cesky Krumlov**	**80.99**	**323**	*e*P		**P**	**12 17 20.5**	**-0.1**
KHC	**Kasperske Hory**	**81.16**	**324**	*e*P		**P**	**12 17 21.5**	**0.0**
KHC	**Kasperske Hory**	**81.16**	**324**	*e*P		**P**	**12 17 21.5**	**0.0**
GERES	**GERESS Array B**	**81.28**	**323**	P		**P**	**12 17 21.2**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=29,slow=3.0,SNR=6.5							
GERES	**GERESS Array B**	**81.28**	**323**	P		**P**	**12 17 21.6**	**-0.7**
SOKA	**Soboth**	**82.00**	**321**	*e*P		**P**	**12 17 26.2**	**+0.1**
	comp=Z,7.5nm,0.9s							
MYKA	**Terra Mystica**	**82.76**	**322**	*e*P		**P**	**12 17 28.5**	**-1.6**
	comp=Z,2.3nm,0.5s							
ABTA	**Abfaltersbach**	**83.26**	**322**	*e*P		**P**	**12 17 31.2**	**-1.5**
	comp=Z,4.8nm,1.1s							
WTTA	**Wattenberg**	**83.37**	**323**	*e*P		**P**	**12 17 32.7**	**-0.6**
	comp=Z,5.7nm,1.3s							
MOTA	**Moosalm**	**83.58**	**323**	*e*P		**P**	**12 17 33.5**	**-0.9**
	comp=Z,5.8nm,1.2s							
SQTA	**Sankt Quirin**	**83.61**	**323**	*e*P		**P**	**12 17 34.6**	**+0.1**
	comp=Z,5.2nm,0.9s							
RETA	**Reutte**	**83.65**	**324**	*e*P		**P**	**12 17 34.1**	**-0.6**
	comp=Z,8.0nm,1.6s							
EKA	**Eskdalemuir Ar**	**83.79**	**336**	LR		LR	12 56 46.1	
	comp=Z,49nm,19.3s,baz=357,slow=37							
FETA	**Feichten**	**83.99**	**323**	*e*P		**P**	**12 17 35.1**	**-1.4**
	comp=Z,5.3nm,1.0s							
DAVA	**Damuels**	**84.23**	**324**	*e*P		**P**	**12 17 37.4**	**-0.3**
	comp=Z,10nm,1.1s							
BFO	**Black Forest**	**84.26**	**325**	P		**P**	**12 17 36.6**	**-1.1**
BFO				pmax		pmax		
	comp=Z,11nm,1.1s							
BFO	**Black Forest**	**84.26**	**325**	P		**P**	**12 17 36.6**	**-1.1**
PDAR	**Pinedale Array**	**86.79**	**40**	P		**P**	**12 17 50.3**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=289,slow=2.8,SNR=1.9							

*NEIC **16** 12:05:15.3±1.4,20°.6S±0°.2×177°.3W±0°.2, h319km±10km, mb4.2/22, Error ellipse: s-maj=26.0km s-min=19.7km az=160.0*
*IDC **16** 12:05:17.1±2.5,20°.65S×177°.48W, h337km±24km, mb3.5/10, mb1 3.7/12, mb1mx3.3/45, mbtmp4.2/12, Error ellipse: s-maj=18.4km s-min=15.4km az=101.0*

ISC 16 12:05:13.8±0.7, 20°.7S±0°.1×177°.30W±0°.08, h300km, n57, σ1§12/57, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**5.30**	**303**	P		**Pn**	**12 06 38.2**	**+3.2**
	1.8nm,0.3s,baz=128,slow=14,SNR=4.0							
NIUE	**Niue**	**7.13**	**78**	Pn		**Pn**	**12 06 57.9**	**+1.1**
MARNC	**Mare, Loyalty**	**13.71**	**264**	P		**Pn**	**12 08 16.8**	**-0.2**
PINNC	**Pines Island,**	**14.30**	**260**	P		**Pn**	**12 08 25.2**	**+1.2**
LIFNC	**LIFOU**	**14.46**	**267**	P		**P**	**12 08 25.2**	**+0.2**
OUENC	**Ouen Island, N**	**14.85**	**261**			**Pn**	**12 08 30.1**	**-0.4**
DZM	**Mont Dzumac**	**15.20**	**262**	P		**Pn**	**12 08 35.6**	**+0.9**
	3.4nm,0.3s,baz=79,slow=19,SNR=29							
DZM	**Mont Dzumac**	**15.20**	**262**	P		**Pn**	**12 08 35.5**	**+0.7**
OPRZ	**Ohinepanea**	**17.88**	**196**	P		Pn	12 09 40.5	+35
URZ	**Urewera**	**18.14**	**194**	P		**P**	**12 09 05.3**	**+0.5**
	2.2nm,0.3s,baz=297,slow=2.1,SNR=14							
URZ				S		**S**	**12 12 17.4**	**+0.9**
	1.2nm,0.3s,baz=74,slow=18,SNR=2.1							
URZ	**Urewera**	**18.14**	**194**	P		**P**	**12 09 05.6**	**+0.8**
BKZ	**Black Stump Fm**	**19.15**	**195**	P		**P**	**12 09 15.7**	**0.0**
BKZ				IAmb		IAmb	12 09 21.3	
	comp=Z,18nm,1.4s							
TMVZ	**Te Maari**	**19.30**	**197**	P		**P**	**12 09 19.2**	**+1.9**
ETVZ	**East Tongariro**	**19.32**	**197**	P		**P**	**12 09 18.9**	**+1.3**
OTVZ	**Oturere**	**19.35**	**197**	P		**P**	**12 09 19.0**	**+1.0**
BHHZ	**Black Hill Sta**	**19.56**	**195**	P		**P**	**12 09 19.5**	**-0.6**
MRZ	**Mangatainoka R**	**20.79**	**195**	P		**P**	**12 09 31.7**	**-0.8**
OGWZ	**Otaki Gorge**	**21.04**	**196**	P		**P**	**12 09 33.9**	**-1.0**
CAW	**Cannon Point**	**21.34**	**196**	P		**P**	**12 09 38.0**	**+0.3**
TCW	**Tory Channel**	**21.64**	**197**	P		**P**	**12 09 40.7**	**+0.2**
QRZ	**Quartz Range**	**21.83**	**201**	P		**P**	**12 09 42.3**	**+0.2**
TKNZ	**Takaka Hill**	**21.88**	**200**	P		**P**	**12 09 43.9**	**+1.3**
NNZ	**Nelson**	**21.91**	**199**	P		**P**	**12 09 42.8**	**0.0**
TUWZ	**Tuamarina**	**21.94**	**198**	P		**P**	**12 09 43.8**	**+0.7**
TUWZ	**Tuamarina**	**21.94**	**198**	P		**P**	**12 09 43.1**	**-0.1**
THZ	**Tophouse**	**22.56**	**199**	P		**P**	**12 09 49.5**	**+0.7**
FOZ	**Fox Glacier**	**25.17**	**202**	P		**P**	**12 10 12.8**	**+0.5**
FOZ				IAmb		IAmb	12 10 18.8	
	comp=Z,24nm,1.3s							
EIDS	**Eidsvold**	**29.42**	**255**	P		**P**	**12 10 49.8**	**-0.5**
EIDS				IAmb		IAmb	12 10 53.4	
	comp=Z,12nm,0.8s							
EIDS	**Eidsvold**	**29.42**	**255**	P		**P**	**12 10 49.8**	**-0.5**
ARMA	**Armidale**	**29.56**	**245**	P		**P**	**12 10 52.6**	**+1.0**
ARMA				IAmb		IAmb	12 10 55.5	
	comp=Z,9.3nm,1.3s							
CAN	**Canberra**	**32.93**	**237**	P		**P**	**12 11 22.0**	**+1.1**
CTA	**Charters Tower**	**34.12**	**265**	P		**P**	**12 11 30.5**	**-0.7**
	comp=Z,2.9nm,0.4s,baz=98,slow=10,SNR=12							
CTAO	**Charters Tower**	**34.12**	**265**	P		**P**	**12 11 30.7**	**-0.5**
CTAO				IAmb		IAmb	12 11 31.3	
	comp=Z,6.5nm,0.9s							
TOO	**Toolangi**	**36.30**	**234**	P		**P**	**12 11 50.7**	**+1.2**
TOO				IAmb		IAmb	12 11 50.9	
	comp=Z,9.4nm,0.7s							
TOO	**Toolangi**	**36.30**	**234**	P		**P**	**12 11 50.7**	**+1.2**
STKA	**Stephens Creek**	**38.28**	**245**	P		**P**	**12 12 06.5**	**+0.4**
	comp=Z,3.6nm,0.6s,baz=80,slow=10,SNR=3.8							
STKA	**Stephens Creek**	**38.28**	**245**	P		**P**	**12 12 06.6**	**+0.5**
BBOO	**Buckleboo**	**43.04**	**244**	P		**P**	**12 12 43.6**	**-1.1**
BBOO				IAmb		IAmb	12 12 44.7	
	comp=Z,21nm,1.1s							
WR0	**Warramunga Arr**	**45.03**	**262**	P		**P**	**12 12 59.0**	**-1.6**
AS31	**Alice Springs**	**45.10**	**257**	P		**P**	**12 13 00.2**	**-1.0**
ASAR	**Alice Springs**	**45.10**	**257**	P		**P**	**12 12 59.8**	**-1.4**
	comp=Z,7.2nm,0.5s,baz=92,slow=8.5,SNR=50							
WB0	**Warramunga Arr**	**45.20**	**262**	P		**P**	**12 13 00.4**	**-1.6**
WB0				IAmb		IAmb	12 13 00.8	
	comp=Z,4.2nm,0.9s							
WB2	**Warramunga Arr**	**45.21**	**262**	P		**P**	**12 13 00.6**	**-1.4**
WRAB	**Tennant Creek**	**45.21**	**262**	P		**P**	**12 13 00.5**	**-1.5**
WRAB				IAmb		IAmb	12 13 25.5	
	comp=Z,6.8nm,1.1s							
WRA	**Warramunga Arr**	**45.22**	**262**	P		**P**	**12 13 00.0**	**-2.1**
	comp=Z,1.1nm,0.2s,baz=95,slow=7.7,SNR=35							
WRA	**Warramunga Arr**	**45.22**	**262**	P		**P**	**12 13 00.7**	**-1.4**
FORT	**Forrest**	**49.81**	**247**	P		**P**	**12 13 35.4**	**-1.6**
KNRA	**Kununurra**	**51.30**	**266**	P		**P**	**12 13 46.1**	**-2.1**
KNRA				IAmb		IAmb	12 13 48.0	
	comp=Z,6.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**53.65**	**262**	P		**P**	**12 14 03.9**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=94,slow=7.1,SNR=32							
QSPA	**South Pole Qui**	**69.35**	**180**	P		**P**	**12 15 50.0**	**+0.8**
	comp=Z,2.4nm,0.9s,baz=43,slow=2.9,SNR=9.1							
QSPA	**South Pole Qui**	**69.35**	**180**	P		**P**	**12 15 50.0**	**+0.8**
QSPA				IAmb		IAmb	12 16 01.0	
	comp=Z,10nm,1.4s							
NVAR	**Mina Array Bea**	**80.74**	**43**	P		**P**	**12 16 54.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=202,slow=6.8,SNR=2.8							
NVAR	**Mina Array Bea**	**80.74**	**43**	P		**P**	**12 16 53.8**	**-0.6**
SNAA	**Sanae**	**87.77**	**178**	P		**P**	**12 17 28.4**	**-0.5**
PDAR	**Pinedale Array**	**88.67**	**43**	P		**P**	**12 17 33.6**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=215,slow=6.2,SNR=2.1							
CMIG	**Matias Romero**	**89.12**	**71**	P		**P**	**12 17 35.3**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=262,slow=7.1,SNR=2.7							
CMAR	**Chiang Mai Arr**	**90.80**	**289**	P		**P**	**12 17 42.3**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=84,slow=2.8,SNR=2.0							

*IDC **16** 12:10:41.9±1.6,27°.80S×66°.42W, h169km±16km, mb3.5/9, mb1 3.6/14, mb1mx3.5/30, mbtmp3.9/14, Error ellipse: s-maj=18.7km s-min=12.6km az=79.0*
*NEIC **16** 12:10:41.4±2.6,28°.01S±0°.05×66°.5W±0°.1, h161km±5km, mb4.1/14, Md3.7(SJA), Error ellipse: s-maj=14.6km s-min=6.2km az=106.0*
*GUC **16** 12:10:43.2±0.4,27°.85S×66°.72W, h174km±6km, ML4.3*
*VAO **16** 12:10:54.5±2.5,27°.32S×65°.98W, h252km±18km, mb4.1*

ISC 16 12:10:41.3±0.4, 27°.90S±0°.04×66°.57W±0°.06, h167km, n83, σ1§28/98, mb4.0/12, 9C, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
VCA	**Vinchina**	**1.66**	**240**	*i* P		**Pn**	**12 11 16.2**	**+2.2**
VCA				*e*S		**Sn**	**12 11 41.4**	**+2.1**
VCA				IAML			12 11 44.5	
	comp=N,2µm,0.5s							
AC02	**Maricunga**	**2.51**	**294**			**Pn**	**12 11 26.4**	**+2.5**
GO03	**Copiap**	**3.26**	**275**			**Pn**	**12 11 33.9**	**+1.2**
GO03	**Copiap**	**3.26**	**275**	*i* P		**Pn**	**12 11 33.8**	**+1.2**
GO03				*i* S		**Sn**	**12 12 12.1**	**-0.5**
GO03				IAML			12 12 13.4	
	comp=N,418nm,0.3s							
SLA	**San Lorenzo**	**3.31**	**17**	*e*P		**Pn**	**12 11 35.8**	**+2.4**
AC06	**Mina Casimiro**	**3.40**	**278**	*e*P		**Pn**	**12 11 35.1**	**+0.7**
AC06				*e*S		**Sn**	**12 12 14.8**	**-0.9**
CO01	**Juntas del Tor**	**3.71**	**235**			**Pn**	**12 11 40.7**	**+2.1**
CO01	**Juntas del Tor**	**3.71**	**235**	*i* P		**Pn**	**12 11 40.7**	**+2.1**
CO01				*e*S		**Sn**	**12 12 24.2**	**+1.0**
LCO	**Las Campanas**	**3.80**	**252**	Pn		**Pn**	**12 11 40.4**	**+0.7**
LCO	**Las Campanas**	**3.80**	**252**	*i* P		**Pn**	**12 11 40.4**	**+0.7**
LCO				*e*S		**Sn**	**12 12 24.9**	**-0.3**
GO02	**Mina Guanaco**	**3.84**	**315**	*i* P		**Pn**	**12 11 42.7**	**+2.4**
GO02				*e*S		**Sn**	**12 12 28.1**	**+1.9**
AC04	**Llanos de Chal**	**3.99**	**265**	*e*P		**Pn**	**12 11 42.0**	**+0.1**
AC04				*e*S		**Sn**	**12 12 26.9**	**-2.3**
AC01	**Pan de Azucar**	**3.99**	**295**	*e*P		**Pn**	**12 11 42.6**	**+0.6**
AC01				*e*S		**Sn**	**12 12 26.9**	**-2.4**
GO04	**Tololo Observa**	**4.34**	**238**	*i* P		**Pn**	**12 11 46.9**	**+0.3**
GO04				*e*S		**Sn**	**12 12 37.9**	**+0.3**
CO05	**La Serena**	**4.56**	**243**	*e*P		**Pn**	**12 11 48.6**	**-0.7**
CO05				*e*S		**Sn**	**12 12 40.5**	**-1.8**
CO03	**El Pedregal**	**4.63**	**230**			**Pn**	**12 11 50.7**	**+0.4**
PB14	**IPOC Station P**	**4.74**	**313**			**Pn**	**12 11 53.9**	**+1.9**
CO02	**Combarbal**	**5.07**	**228**	*e*P		**Pn**	**12 11 55.4**	**-0.6**
CO06	**Fray Jorge**	**5.21**	**237**	*e*P		**Pn**	**12 11 56.3**	**-1.5**
LVC	**Limon Verde**	**5.68**	**338**	P		**Pn**	**12 12 05.9**	**+1.5**
	comp=N,2.6nm,0.3s,baz=144,slow=11,SNR=32							
LVC				S		**Sn**	**12 13 07.7**	**-1.7**
	comp=N,3.1nm,0.3s,baz=287,slow=21,SNR=15							
LVC	**Limon Verde**	**5.68**	**338**			**Pn**	**12 12 06.2**	**+1.9**
VA03	**San Esteban**	**5.94**	**214**			**Pn**	**12 12 07.9**	**+0.5**
PEL	**Peldehue**	**6.31**	**213**			**Pn**	**12 12 11.7**	**-0.6**
ROC1	**El Roble**	**6.35**	**216**			**Pn**	**12 12 09.2**	**-3.8**
MT03	**Universidad Ad**	**6.52**	**210**			**Pn**	**12 12 15.2**	**0.0**
MT02	**Curacav**	**6.63**	**215**			**Pn**	**12 12 15.7**	**-0.8**
LMEL	**Las Melosas**	**6.70**	**207**			**Pn**	**12 12 17.9**	**+0.4**
BO04	**La Punta**	**6.99**	**209**	Pn		**Pn**	**12 12 20.5**	**-0.7**
CPUP	**Villa Florida**	**8.38**	**81**	P		**Pn**	**12 12 38.3**	**-1.5**
	comp=N,0.6nm,0.3s,baz=264,slow=11,SNR=6.6							
LPAZ	**La Paz**	**11.65**	**353**	P		**Pn**	**12 13 22.7**	**-0.5**
	comp=N,1.0nm,0.3s,baz=163,slow=5.1,SNR=16							
LPAZ	**La Paz**	**11.65**	**353**	Pn		**Pn**	**12 13 23.1**	**-0.1**
AQDB	**Aquidauana**	**12.37**	**56**			**Pn**	**12 13 31.5**	**-0.4**
AQDB	**Aquidauana**	**12.37**	**56**	*e*P		**Pn**	**12 13 32.0**	**+0.1**
SIV	**San Ignacio**	**12.90**	**24**	P		**Pn**	**12 13 38.3**	**-0.5**
	comp=N,0.5nm,0.3s,baz=199,slow=13,SNR=12							
PLCA	**Paso Flores**	**13.21**	**193**	P		**Pn**	**12 13 44.2**	**+1.6**
	comp=N,0.1nm,0.3s,baz=16,slow=15,SNR=1.9							
PLCA	**Paso Flores**	**13.21**	**193**	P		**Pn**	**12 13 41.3**	**-1.3**
PTGB	**Pitanga**	**13.39**	**80**	*e*P		**P**	**12 13 49.4**	**+0.7**
PTLB	**Pontes e Lacer**	**14.18**	**31**	*e*P		**Pn**	**12 13 55.9**	**+1.0**
PCMB	**Pacaembu**	**15.25**	**69**	*e*P		**P**	**12 14 10.0**	**+0.8**
SALV	**Santo Antonio**	**15.62**	**42**	*e*P		**Pn**	**12 14 12.4**	**-0.3**
FRTB	**Fartura**	**15.99**	**77**	*e*P		**Pn**	**12 14 17.6**	**+0.3**
VILB	**Vilhena**	**16.02**	**23**	*e*P		**Pn**	**12 14 17.2**	**-0.4**
ITRB	**Iturama**	**16.92**	**65**	*e*P		**P**	**12 14 28.3**	**+0.7**
BB19B	**Bebedouro**	**17.77**	**71**	*e*P		**P**	**12 14 36.7**	**-0.2**
ETMB	**Extrema**	**17.99**	**1**	*e*P		**Pn**	**12 14 40.2**	**-0.9**
RCLB	**Rio Claro- Sao**	**18.07**	**77**	*e*P		**P**	**12 14 40.6**	**+0.3**
VAO	**Valinhos**	**18.36**	**79**	*e*P		**P**	**12 14 43.9**	**+0.4**
PDRB	**Porto dos Gac**	**18.65**	**32**	*e*P		**P**	**12 14 46.6**	**0.0**
PARB	**Paraibuna**	**19.43**	**81**	*e*P		**P**	**12 14 54.7**	**-0.3**
IPMB	**Ipameri, GO**	**19.56**	**64**	*e*P		**P**	**12 14 56.0**	**-0.4**
BDFB	**Brasilia**	**21.08**	**58**	P		**P**	**12 15 11.5**	**-1.3**
	comp=N,3.8nm,0.5s,baz=246,slow=11,SNR=7.9							
BDFB	**Brasilia**	**21.08**	**58**	P		**P**	**12 15 12.0**	**-0.8**
BDFB				IAmb		IAmb	12 15 12.4	
	comp=Z,7.3nm,0.9s							
BDFB	**Brasilia**	**21.08**	**58**	*e*P		**P**	**12 15 12.1**	**-0.8**
SNDB	**Serra Nova Dou**	**21.35**	**45**	*e*P		**P**	**12 15 14.4**	**-1.2**
DIAM	**Diamantina, MG**	**23.10**	**70**	*e*P		**P**	**12 15 32.6**	**-0.1**
JANB	**Januaria**	**24.29**	**63**	*e*P		**P**	**12 15 42.2**	**-1.3**
USHA	**Ushuaia**	**26.94**	**182**	P		**P**	**12 16 08.7**	**+1.8**
	comp=Z,6.6nm,0.8s,baz=39,slow=13,SNR=1.5							
BELA	**Belgrano 2**	**52.14**	**172**	P		**P**	**12 19 34.3**	**+0.3**
SNAA	**Sanae**	**55.56**	**160**	P		**P**	**12 19 59.6**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=273,slow=10,SNR=8.8							
SNAA	**Sanae**	**55.56**	**160**	P		**P**	**12 19 56.4**	**-2.6**
QSPA	**South Pole Qui**	**62.32**	**180**	P		**P**	**12 20 46.6**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=152,slow=0.6,SNR=12							
QSPA	**South Pole Qui**	**62.32**	**180**	P		**P**	**12 20 46.5**	**+0.8**
QSPA				IAmb		IAmb	12 21 13.4	
	comp=Z,6.5nm,1.4s							
WVT	**Waverly**	**66.77**	**341**	P		**P**	**12 21 14.0**	**-0.6**
WVT				IAmb		IAmb	12 21 15.0	
	comp=Z,3.9nm,0.8s							
TXAR	**Lajitas Array**	**67.08**	**325**	P		**P**	**12 21 17.6**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=152,slow=6.1,SNR=2.8							
TXAR	**Lajitas Array**	**67.08**	**325**	P		**P**	**12 21 16.1**	**-0.8**
DBIC	**Dimbokro**	**68.72**	**70**	P		**P**	**12 21 25.5**	**-1.8**
VNDA	**Vanda**	**70.94**	**190**	P		**P**	**12 21 41.5**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=120,slow=4.4,SNR=2.4							
VNDA	**Vanda**	**70.94**	**190**	P		**P**	**12 21 38.1**	**-1.8**
ECSD	**EROS Data Cent**	**76.43**	**338**	P		**P**	**12 22 12.2**	**0.0**
ECSD				IAmb		IAmb	12 22 40.1	
	comp=Z,5.1nm,1.4s							
TOA0	**Torodi Ar. Sit**	**77.64**	**68**	P		**P**	**12 22 18.4**	**-1.3**
TOA0				IAmb		IAmb	12 22 43.2	
	comp=Z,4.3nm,1.2s							
TORD	**Torodi Ar. Bea**	**77.64**	**68**	P		**P**	**12 22 18.7**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=258,slow=5.4,SNR=8.0							
TORD				pP		**pP**	**12 23 02.4**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=261,slow=6.5,SNR=1.7							
TORD	**Torodi Ar. Bea**	**77.64**	**68**	P		**P**	**12 22 18.6**	**-1.0**
PD31	**Pinedale Array**	**80.69**	**329**	P		**P**	**12 22 37.0**	**+1.1**
PD31				IAmb		IAmb	12 22 37.6	
	comp=Z,3.2nm,1.5s							
PDAR	**Pinedale Array**	**80.69**	**329**	P		**P**	**12 22 36.5**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=130,slow=8.4,SNR=8.1							
HLID	**Hailey**	**83.56**	**327**	P		**P**	**12 22 52.1**	**+1.4**
HLID				IAmb		IAmb	12 22 52.9	
	comp=Z,1.8nm,0.9s							
YKA	**Yellowknife Ar**	**97.90**	**340**	P		Pdif	12 23 57.3	-0.1
	comp=Z,0.2nm,0.7s,baz=135,slow=4.3,SNR=5.7							
ASAR	**Alice Springs**	**125.06**	**203**	PKP		**PKPdf**	**12 29 21.9**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=131,slow=1.6,SNR=15							
ASAR				pPKP		**pPKPdf**	**12 30 08.7**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=146,slow=1.5,SNR=2.2							
ASAR	**Alice Springs**	**125.06**	**203**			**PKPdf**	**12 29 22.2**	**-0.2**
WRA	**Warramunga Arr**	**128.31**	**205**	PKP		**PKPdf**	**12 29 28.6**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=156,slow=2.0,SNR=27							
WRA				pPKP		**pPKPdf**	**12 30 14.8

PNCL					*e*Sn	**Sn**	**12 21 53.2**	**-0.4**
PNCL					A	A	12 21 57.6	
	3.0nm,0.3s							
PCVE	**Castro Verde**	**4.35**	**80**		*e*Sn	**Sn**	**12 22 01.2**	**+0.4**
PCVE					A	A	12 22 05.4	
	2.7nm,0.3s							
PBDV	**Barranco-do-Ve**	**4.40**	**85**		*e*Sn	**Sn**	**12 22 03.3**	**+1.1**
PBDV					A	A	12 22 09.2	
	5.2nm,1.0s							
PSBE	**So Bento**	**4.44**	**54**		*e*Pn	**Pn**	**12 21 14.2**	**+1.4**
PSBE					*e*Sn	**Sn**	**12 22 04.5**	**+1.2**
PBEJ	**Beja**	**4.54**	**75**		*e*Sn	**Sn**	**12 22 06.0**	**+0.3**
PBEJ					A	A	12 22 13.5	
	1.6nm,0.1s							
EVO	**Evora**	**4.56**	**68**		*e*Sn	**Sn**	**12 22 07.1**	**+0.9**
PVAQ	**Vaqueiros**	**4.58**	**83**		*e*Pn	**Pn**	**12 21 16.7**	**+2.1**
PVAQ					*e*Sn	**Sn**	**12 22 06.8**	**+0.2**
PVAQ					A	A	12 22 10.2	
	6.4nm,0.6s							
PVAQ	**Vaqueiros**	**4.58**	**83**		P	**Pn**	**12 21 16.1**	**+1.5**
PVAQ					S	**Sn**	**12 22 06.7**	**+0.2**
PMTG	**Montargil**	**4.61**	**61**		*e*Pn	**Pn**	**12 21 16.4**	**+1.4**
PMTG					*e*Sn	**Sn**	**12 22 08.0**	**+0.7**
PMTG					A	A	12 22 14.3	
	2.6nm,0.3s							
EGRO	**El Granado**	**4.78**	**81**		Pn	**Pn**	**12 21 17.7**	**+0.5**
EGRO				⇑	*i*Vmb_V		12 21 22.6	
	334nm,SNR=1.7							
EGRO					Sn	**Sn**	**12 22 09.2**	**-2.1**
PCAS	**Casmilo, Conde**	**4.94**	**50**		*e*Pn	**Pn**	**12 21 20.6**	**+1.0**
PCAS					*e*Sn	**Sn**	**12 22 14.5**	**-1.0**
PESTR	**Estremoz**	**4.99**	**66**		*e*Sn	**Sn**	**12 22 17.1**	**+0.4**
PESTR	**Estremoz**	**4.99**	**66**		P	**Pn**	**12 21 22.6**	**+2.4**
PESTR					S	**Sn**	**12 22 14.7**	**-2.0**
PBAR	**Barrancos**	**5.21**	**75**		*e*Sn	**Sn**	**12 22 22.5**	**+0.3**
PBAR					A	A	12 22 25.8	
	1.4nm,0.3s							
PMRV	**Marv??o**	**5.35**	**61**		*e*Pn	**Pn**	**12 21 27.8**	**+2.6**
PMRV					*e*Sn	**Sn**	**12 22 24.7**	**-0.9**
PMRV					A	A	12 22 31.7	
	2.0nm,0.5s							
EMIN	**Mina Concepcio**	**5.44**	**80**		Sn	**Sn**	**12 22 24.3**	**-3.5**
PVIS	**Viseu**	**5.71**	**47**		*e*Sn	**Sn**	**12 22 33.2**	**-1.4**
POLO	**Lamas de Olo**	**6.21**	**43**		*e*Pn	**Pn**	**12 21 38.2**	**+1.2**
POLO					*e*Sn	**Sn**	**12 22 44.2**	**-2.5**
POLO					A	A	12 22 49.1	
	1.9nm,0.5s							
PGAV	**Gavieira, Arco**	**6.39**	**37**		*e*Sn	**Sn**	**12 22 46.5**	**-4.8**
PGAV					A	A	12 22 47.9	
	4.8nm,0.8s							
SRHM	**Skhour des Reh**	**6.39**	**133**		P	**Pn**	**12 21 39.9**	**+0.4**
ELOB	**Lobios**	**6.42**	**39**		Sn	Sn	12 22 41.4	-11
ECAB	**El Cabril**	**6.46**	**78**		Pn	**Pn**	**12 21 40.2**	**-0.2**
ECAB				⇑	*i*Vmb_V		12 21 49.5	
	94nm,SNR=1.3							
ECAB					Sn	**Sn**	**12 22 48.3**	**-4.6**
ZHG	**ZHG**	**6.57**	**120**		P	**Pn**	**12 21 46.6**	**+4.6**
ZHG					S	**Sn**	**12 22 53.8**	**-1.9**
EMAZ	**Mazaricos**	**6.88**	**28**		Sn	Sn	12 22 51.0	-12
EADA	**Adamuz**	**7.13**	**78**		Pn	**Pn**	**12 21 47.3**	**-2.3**
EADA				⇑	*i*Vmb_V		12 21 50.2	
	79nm,SNR=1.5							
EADA					Sn	**Sn**	**12 23 05.6**	**-3.8**
MD31	**MD31**	**8.21**	**117**		P	**Pn**	**12 22 05.0**	**+0.5**
MD31					S	**Sn**	**12 23 30.3**	**-5.8**
MDT	**Midelt**	**8.34**	**117**		P	**Pn**	**12 22 07.0**	**+0.6**
MDT					S	**Sn**	**12 23 36.1**	**-3.3**

JMA ***16*** *12:43:40.7,32°.62N×130°.71E,h5km±1km,M3.3*
JMA Felt III J1.
IDC ***16*** *12:43:40.7±3.3,32°.82N×130°.37E,h0km,mb3.9/1, mb1 3.5/3,mb1mx3.2/40,mbtmp3.4/3,ML2.5/2,Error ellipse: s-maj=64.8km s-min=12.4km az=159.0*

ISC 16 12:43:39.5±1.3,32°.69N±0°.06×130°.9E±0°.1,h12km,n8, σ0s80/9,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**202**	P		**Pg**	**12 43 43.2**	**0.0**
JTA	**Tamana**	**0.40**	**313**	P		**Pb**	**12 43 48.4**	**-0.1**
JTA				S		**Sg**	**12 43 53.8**	**+1.0**
JNU	**Nakatsue**	**0.43**	**360**	Pg		**Pn**	**12 43 51.0**	**-0.6**
	78nm,0.3s,baz=182,slow=8.6,SNR=23							
JNU				Lg		Lg	12 43 58.0	
	346nm,0.3s,baz=52,slow=16,SNR=24							
JZO	**Okuchi**	**0.60**	**203**	P		**Pg**	**12 43 50.3**	**-1.0**
JTZ	**Takazaki**	**0.81**	**167**	P		**Pn**	**12 43 56.5**	**-0.3**
JTZ				S		**Sb**	**12 44 07.0**	**+0.6**
KSRS	**Korea Array**	**5.33**	**334**	Pn		**Pn**	**12 44 58.2**	**-0.7**
	0.2nm,0.3s,baz=155,slow=14,SNR=1.8							
MJAR	**Matsushiro Arr**	**7.16**	**56**	Pn		Pb	12 45 31.6	-12
	0.1nm,0.3s,baz=240,slow=13,SNR=2.6							
FINES	**FINESS Array B**	**68.41**	**330**	P		**P**	**12 54 41.5**	**+0.7**
	1.0nm,0.7s,baz=77,slow=7.3,SNR=5.6							

IDC ***16*** *12:44:37.8±1.1,32°.51N×130°.69E,h0km,mb3.4/7, mb1 3.6/9,mb1mx3.5/39,mbtmp3.4/9,ML2.9/2,MS2.4/1, Ms1 2.4/1,ms1mx2.2/55,Error ellipse: s-maj=28.1km s-min=10.2km az=110.0*
JMA ***16*** *12:44:38.7,32°.56N×130°.65E,h9km±1km,M3.8*
JMA Felt III J1.
NIED ***16*** *12:44:38.7,32°.56N×130°.65E,h9km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr1.64; Mθθ0.39; Mφφ-2.02; Mrθ-3.52; Mθφ3.81; Mφr1.79; Fault plane solution: M₀5.63000×10¹⁴ NP1: φs187.00000°,δ41.00000°,λ164.00000°. NP2: φs289.00000°,δ80.00000°,λ51.00000°.*

ISC 16 12:44:39.5±0.9,32°.53N±0°.08×130°.65E±0°.07,h10km,n13, σ1s45/15,mb3.3/7,1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**81**	⇓P		**Pg**	**12 44 41.6**	**-1.1**
JIU3				S		**Sg**	**12 44 43.9**	**-1.1**
JTA	**Tamana**	**0.45**	**348**	P		**Pg**	**12 44 47.2**	**-1.1**
JTA				S		**Sg**	**12 44 52.9**	**-1.3**
JNU	**Nakatsue**	**0.62**	**18**	Pg		**Pg**	**12 44 50.0**	**-1.6**
	359nm,0.3s,baz=184,slow=6.6,SNR=20							
JNU				Lg		Lg	12 44 58.5	
	1μm,0.3s,baz=28,slow=22,SNR=33							
KSRS	**Korea Array**	**5.40**	**336**	Pn		**Pn**	**12 46 00.0**	**-0.1**
	0.3nm,0.3s,baz=155,slow=15,SNR=1.4							
KSRS				Lg		Lg	12 47 26.4	
	1.9nm,0.3s,baz=153,slow=30,SNR=8.7							
KSRS				LR		LR	12 47 49.2	
	comp=Z,38nm,20.2s,baz=160,slow=35							
MJAR	**Matsushiro Arr**	**7.41**	**55**	Pn		**Pn**	**12 46 29.1**	**+1.3**
	0.2nm,0.3s,baz=227,slow=14,SNR=6.9							
KLR	**Kul'dur**	**16.71**	**3**	Pn		**P**	**12 48 38.9**	**+3.0**
	0.2nm,0.3s,baz=191,slow=4.2,SNR=5.4							
SONM	**Songino Array**	**23.88**	**317**	P		**P**	**12 49 54.2**	**+0.8**
	0.5nm,0.7s,baz=127,slow=9.7,SNR=2.7							
MKAR	**Makanchi Array**	**39.24**	**306**	P		**P**	**12 52 07.3**	**-0.8**
	0.3nm,0.7s,baz=81,slow=9.2,SNR=2.4							
WRA	**Warramunga Arr**	**52.29**	**176**	P		**P**	**12 53 49.6**	**-1.7**
	0.4nm,1.0s,baz=352,slow=7.6,SNR=1.3							
ILAR	**Eielson Array**	**57.93**	**30**	P		**P**	**12 54 30.9**	**-0.7**
	0.5nm,0.8s,baz=264,slow=6.3,SNR=5.4							
FINES	**FINESS Array B**	**68.46**	**330**	P		**P**	**12 55 41.8**	**+0.4**
	1.1nm,0.6s,baz=54,slow=5.5,SNR=7.7							
YKA	**Yellowknife Ar**	**71.95**	**26**	P		**P**	**12 56 04.0**	**+1.1**
	0.1nm,0.6s,baz=303,slow=6.3,SNR=2.5							
BRTR	**Keskin Array B**	**74.86**	**308**	P		**P**	**12 56 21.4**	**+0.8**
	0.6nm,0.8s,baz=76,slow=6.1,SNR=2.9							

IDC ***16*** *12:50:30.6±1.1,32°.89N×131°.02E,h0km,mb3.4/4, mb1 3.6/6,mb1mx3.4/43,mbtmp3.3/6,ML2.6/2,MS3.0/2, Ms1 3.0/2,ms1mx2.5/51,Error ellipse: s-maj=35.1km s-min=7.0km az=63.0*
JMA ***16*** *12:50:31.1,32°.97N×131°.07E,h12km±1km,M3.8*
JMA Felt III J1.
NIED ***16*** *12:50:31.1,32°.97N×131°.07E,h12km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.19; Mθθ8.06; Mφφ-8.25; Mrθ1.27; Mθφ-0.26; Mφr5.35; Fault plane solution: M₀9.58000×10¹⁴ NP1: φs132.00000°,δ64.00000°,λ-12.00000°. NP2: φs227.00000°,δ80.00000°,λ-153.00000°.*

ISC 16 12:50:32.7±0.8,32°.93N±0°.04×130°.99E±0°.07,h12km,n13, σ1s39/16,mb3.5/4,2C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**0.22**	**335**	Pg		**Pg**	**12 50 35.6**	**-1.8**
	950nm,0.3s,baz=192,slow=3.6,SNR=85							
JNU				Lg		Lg	12 50 38.9	
	3μm,0.3s,baz=26,slow=23,SNR=65							
JNU	**Nakatsue**	**0.22**	**335**	⇑P		**Pg**	**12 50 35.8**	**-1.6**
JNU				S		**Sg**	**12 50 39.2**	**-1.4**
JTA	**Tamana**	**0.38**	**276**	⇓P		**Pg**	**12 50 39.9**	**-0.5**
JTA				S		**Sg**	**12 50 46.0**	**+0.5**
JIU3	**Izumi3**	**0.40**	**201**	⇑P		**Pg**	**12 50 40.1**	**-0.6**
JIU3				S		**Sb**	**12 50 47.0**	**-0.9**
JTZ	**Takazaki**	**1.02**	**175**	S		**Sn**	**12 51 06.1**	**-1.1**
KSRS	**Korea Array**	**5.17**	**332**	Pn		**Pn**	**12 51 49.4**	**-0.5**
	0.3nm,0.3s,baz=149,slow=14,SNR=2.8							
KSRS				Pg		**Pb**	**12 52 05.3**	**+2.3**
	0.7nm,0.3s,baz=147,slow=16,SNR=5.6							
KSRS				Lg		Lg	12 53 12.4	
	1.1nm,0.3s,baz=158,slow=29,SNR=6.0							
MJAR	**Matsushiro Arr**	**6.95**	**57**	Pn		**Pn**	**12 52 15.8**	**+1.4**
	0.1nm,0.3s,baz=231,slow=13,SNR=6.9							
MJAR				Lg		Lg	12 54 09.0	
	0.0nm,0.3s,baz=249,slow=29,SNR=2.1							
MJAR				LR		LR	12 55 08.9	
	comp=Z,98nm,21.8s,baz=246,slow=40							
KLR	**Kul'dur**	**16.30**	**2**	Pn		**P**	**12 54 25.4**	**+1.1**
	0.1nm,0.3s,baz=127,slow=9.2,SNR=5.8							
SONM	**Songino Array**	**23.79**	**316**	P		**P**	**12 55 47.0**	**+1.6**
	0.4nm,0.6s,baz=145,slow=9.7,SNR=3.8							
SIJI	**Sorong**	**33.61**	**179**	LR		LR	13 11 57.2	
	comp=Z,25nm,18.4s,baz=324,slow=38							
WRA	**Warramunga Arr**	**52.67**	**176**	P		**P**	**12 59 45.4**	**-1.5**
	0.7nm,0.8s,baz=355,slow=8.1,SNR=3.7							
ASAR	**Alice Springs**	**56.34**	**177**	P		**P**	**13 00 13.7**	**0.0**
	0.3nm,0.2s,baz=13,slow=8.8,SNR=3.1							
YKA	**Yellowknife Ar**	**71.47**	**26**	P		**P**	**13 01 51.8**	**-1.0**
	0.3nm,0.9s,baz=308,slow=5.8,SNR=4.9							

IDC ***16*** *13:05:57.0±1.8,32°.79N×130°.82E,h0km,mb3.2/2, mb1 3.5/4,mb1mx3.2/61,mbtmp3.3/4,ML2.9/2,MS3.3/2, Ms1 3.3/2,ms1mx2.6/33,Error ellipse: s-maj=37.1km s-min=11.6km az=99.0*
JMA ***16*** *13:05:58.7,32°.87N×130°.83E,h15km±1km,M3.7*
JMA Felt IV J1.
NIED ***16*** *13:05:58.7,32°.87N×130°.83E,h15km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr-6.84; Mθθ7.71; Mφφ-0.88; Mrθ-1.93; Mθφ3.23; Mφr2.61; Fault plane solution: M₀8.62000×10¹⁴ NP1: φs228.00000°,δ47.00000°,λ-126.00000°. NP2: φs95.00000°,δ54.00000°,λ-58.00000°.*
NEIC ***16*** *13:05:58.9±1.6,32°.88N±0°.04×130°.75E±0°.06,h10km±1km, mb4.5/4 Error ellipse: s-maj=10.2km s-min=5.5km az=307.0*

ISC 16 13:05:59.1±0.7,32°.87N±0°.03×130°.82E±0°.05,h12km,n27, σ0s95/28,mb3.8/4,1C,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JTA	**Tamana**	**0.26**	**292**	P		**Pg**	**13 06 04.4**	**0.0**
JTA				S		**Sg**	**13 06 08.4**	**+0.4**
JNU	**Nakatsue**	**0.26**	**12**	Pg		**Pg**	**13 06 03.8**	**-0.7**
	962nm,0.3s,baz=208,slow=23,SNR=370							
JNU				Lg		Lg	13 06 07.7	
	2μm,0.3s,baz=233,slow=20,SNR=42							
JNU	**Nakatsue**	**0.26**	**12**	⇑P		**Pg**	**13 06 04.2**	**-0.3**
JNU				S		**Sg**	**13 06 08.0**	**-0.2**
JNU	**Nakatsue**	**0.26**	**12**	Pg		**Pg**	**13 06 04.1**	**-0.4**
JIU3	**Izumi3**	**0.32**	**180**	P		**Pg**	**13 06 05.3**	**-0.2**
JIU3				S		**Sg**	**13 06 10.1**	**+0.3**
JSU	**Suzuyama**	**1.39**	**193**	Pn		**Pn**	**13 06 23.7**	**-0.7**
JTU	**Tsushima**	**2.03**	**325**			**Pn**	**13 06 32.2**	**-0.9**
JHS	**Saijyo**	**2.86**	**41**	Pn		**Pn**	**13 06 44.2**	**-0.3**
KSRS	**Korea Array**	**5.15**	**333**	Pn		**Pn**	**13 07 16.2**	**+0.2**
	0.3nm,0.3s,baz=145,slow=14,SNR=2.4							
KSRS				Lg		Lg	13 08 37.7	
	1.4nm,0.3s,baz=155,slow=28,SNR=5.5							
KS19	**Wonju Array Si**	**5.22**	**333**			**Pn**	**13 07 16.9**	**0.0**
INU	**Inuyama**	**5.71**	**63**	Pn		**Pn**	**13 07 25.2**	**+1.5**
JGF	**Kuroka**	**6.07**	**61**	Pn		**Pn**	**13 07 29.2**	**+0.6**
JOW	**Kunigami**	**6.41**	**201**	LR		LR	13 09 44.7	
	comp=Z,194nm,20.1s,baz=90,slow=36							
MAJO	**Matsushiro**	**7.11**	**57**	Pn		**Pn**	**13 07 43.9**	**+1.0**
MJB9	**Matsu-Tunnel**	**7.11**	**57**	Pn		**Pn**	**13 07 43.6**	**+0.7**
MJAR	**Matsushiro Arr**	**7.11**	**57**	Pn		**Pn**	**13 07 44.2**	**+1.3**
	0.2nm,0.3s,baz=238,slow=13,SNR=20							
MJAR	**Matsushiro Arr**	**7.11**	**57**	Pn		**Pn**	**13 07 43.3**	**+0.4**
JEW	**Eniwo**	**13.02**	**37**	Pn		**Pn**	**13 09 02.2**	**-1.6**
KLR	**Kul'dur**	**16.36**	**2**	Pn		**P**	**13 09 54.0**	**+2.6**
	0.1nm,0.3s,baz=160,slow=8.3,SNR=12							
SONM	**Songino Array**	**23.73**	**316**	P		**P**	**13 11 11.5**	**+0.3**
	0.2nm,0.4s,baz=124,slow=9.0,SNR=2.2							
SEY	**Seymchan**	**33.04**	**18**	LR		LR	13 25 39.3	
	comp=Z,80nm,20.8s,baz=26,slow=36							
KKAR	**Karatay Array**	**47.69**	**301**	P		**P**	**13 14 34.2**	**-1.4**
COEN	**Coen**	**48.03**	**164**	P		**P**	**13 14 37.4**	**-0.9**
WRAB	**Tennant Creek**	**52.61**	**176**	P		**P**	**13 15 13.2**	**+0.4**
WRAB				IAmb		IAmb	13 15 18.4	
	comp=Z,4.4nm,1.1s							
WB2	**Warramunga Arr**	**52.62**	**176**	P		**P**	**13 15 14.1**	**+1.2**
WB2				IAmb		IAmb	13 15 16.7	
	comp=Z,12nm,1.4s							
H23K	**Yukon River**	**56.32**	**29**	P		**P**	**13 15 39.2**	**-0.3**
YKA	**Yellowknife Ar**	**71.59**	**26**	P		**P**	**13 17 19.2**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=306,slow=6.3,SNR=4.9							

IDC ***16*** *13:06:41.9±1.0,35°.62N×2°.28W,h0km,mb3.6/6, mb1 3.8/10,mb1mx3.6/46,mbtmp3.6/10,ML3.6/4,MS3.3/16, Ms1 3.3/16,ms1mx3.0/88,Error ellipse: s-maj=28.7km s-min=15.4km az=117.0*
CNRM ***16*** *13:06:43.1,35°.68N×2°.18W,h27km,ml4.0*
INMG ***16*** *13:06:44.4±1.4,35°.63N×2°.28W,h22km±5km,ML3.2,Error ellipse: s-maj=5.1km s-min=2.5km az=158.0*
CRAAG ***16*** *13:06:44.0,35°.53N×2°.27W,Ml3.6*
SFS ***16*** *13:06:44.0,35°.53N×2°.27W,h29km,ML3.6,ALBORAN SUR*
MDD ***16*** *13:06:44.2±0.4,35°.53N×2°.27W,h29km±5km,mb_Lg3.6/28, Error ellipse: s-maj=5.4km s-min=1.7km az=161.0*
LDG ***16*** *13:06:45.0±0.3,35°.64N×2°.34W,h2km,Ml3.3/4,Error ellipse: s-maj=7.8km s-min=2.3km az=163.0*

ISC 16 13:06:42.9±1.2,35°.72N±0°.03×2°.25W±0°.03,h11km±9km, n161,σ2s08/217,mb3.7/6,MS3.3/11,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
EALB	**Alboran**	**0.67**	**290**	Pg		**Pb**	**13 06 56.7**	**+0.1**
EALB				Sg		**Sb**	**13 07 06.7**	**+0.7**
EALB				*i*	Vmb_Lg		13 07 07.8	
EMEL	**Melilla**	**0.71**	**234**	Pg		**Pg**	**13 06 56.2**	**-0.4**
EMEL				Sg		**Sg**	**13 07 05.2**	**-0.7**
GOG	**Mont Gurugu**	**0.78**	**231**	P		**Pg**	**13 06 57.1**	**-1.0**
GOG				S		**Sb**	**13 07 09.6**	**+0.4**
TAF	**Taforalt**	**0.91**	**188**	P		**Pg**	**13 06 59.8**	**-0.6**
TAF				S		**Sg**	**13 07 11.5**	**-0.8**
ENIJ	**Nijar**	**1.25**	**2**	Pn		**Pn**	**13 07 05.9**	**-0.5**
ENIJ				Sn		**Sb**	**13 07 21.8**	**-0.9**
OTSS	**Djebel Tessala**	**1.27**	**110**	P		**Pn**	**13 07 06.0**	**-0.7**
EBER	**Berja**	**1.28**	**337**	Pn		**Pn**	**13 07 06.2**	**-0.8**
EBER				Sn		**Sb**	**13 07 23.9**	**0.0**
EBER				*i*	Vmb_Lg		13 07 32.3	
USTO	**Oran**	**1.39**	**89**	P		**Pn**	**13 07 07.0**	**-1.2**
JBK	**JBK**	**1.40**	**191**	P		**Pn**	**13 07 06.9**	**-1.8**
JBK				S		**Sn**	**13 07 23.2**	**-4.0**
PALE	**Palemas**	**1.46**	**251**	P		**Pn**	**13 07 07.6**	**-1.7**
PALE				S		**Sn**	**13 07 28.1**	**-0.4**
PALE	**Palemas**	**1.46**	**251**	P		**Pn**	**13 07 08.0**	**-1.4**
ELGU	**Los Guajares,**	**1.60**	**316**	Pn		**Pn**	**13 07 09.9**	**-1.3**
ELGU				Sn		**Sn**	**13 07 30.4**	**-1.5**
ELGU				*i*	Vmb_Lg		13 07 31.3	
PVLZ	**Peæn de**	**1.76**	**253**	P		**Pn**	**13 07 12.1**	**-1.2**
PVLZ				S		**Pg**	**13 07 16.6**	**0.0**
ODJA	**Bouhanifia**	**1.76**	**102**	P		**Pn**	**13 07 12.0**	**-1.4**
EQUE	**Quentar**	**1.77**	**328**	Pn		**Pn**	**13 07 13.7**	**+0.1**
EQUE				Sn		**Sn**	**13 07 36.3**	**+0.2**
EQUE				*i*	Vmb_Lg		13 07 49.7	
TLOR	**Lorca, Murcia**	**1.99**	**13**	Pn		**Pn**	**13 07 16.9**	**+0.4**
TLOR				Sn		**Sn**	**13 07 40.8**	**-0.6**

EGOR	**Sierra Gorda,**	**2.04**	**313**		Pn	**Pn**	**13 07 16.9**	**-0.5**
EGOR					Sn	**Sn**	**13 07 42.4**	**-0.6**
EGOR				*i*	Vmb_Lg		13 07 47.2	
EMAL	**Malaga-Limoner**	**2.04**	**301**		P	**Pn**	**13 07 17.9**	**+0.6**
EMAL					S	**Sn**	**13 07 39.8**	**-3.0**
CART	**Cartagena**	**2.12**	**28**		P	**Pn**	**13 07 17.1**	**-1.2**
CART					S	**Sn**	**13 07 41.0**	**-3.7**
CART	**Cartagena**	**2.12**	**28**		P	**Pn**	**13 07 17.1**	**-1.2**
CART					S	**Sn**	**13 07 41.3**	**-3.3**
OJBR	**Djebel Berber**	**2.12**	**93**		P	**Pn**	**13 07 17.0**	**-1.4**
EZAR	**Zarzadilla de**	**2.20**	**12**		Pn	**Pn**	**13 07 20.7**	**+1.1**
EZAR					Sn	**Sn**	**13 07 47.1**	**+0.3**
EMIJ	**Mijas**	**2.21**	**293**		Pn	**Pn**	**13 07 18.4**	**-1.1**
EMIJ					Sn	**Sn**	**13 07 44.1**	**-2.8**
EMIJ				*i*	Vmb_Lg		13 07 58.4	
EMUR	**La Murta**	**2.27**	**21**		Pn	**Pn**	**13 07 20.5**	**0.0**
EMUR					Sn	**Sn**	**13 07 46.9**	**-1.6**
EMUR				*i*	Vmb_Lg		13 07 49.0	
OKGL	**Djebel Kef Gue**	**2.37**	**81**		P	**Pn**	**13 07 21.0**	**-0.9**
OJGS	**Djebel Guires**	**2.46**	**94**		P	**Pb**	**13 07 28.0**	**+0.8**
CEU	**Ceuta**	**2.54**	**275**		P	**Pn**	**13 07 21.6**	**-2.5**
CEU					S	**Sn**	**13 07 46.8**	**-8.2**
ECEU	**Ceuta**	**2.54**	**275**		Pn	**Pn**	**13 07 22.6**	**-1.6**
ECEU					Sn	**Sn**	**13 07 50.5**	**-4.7**
ECEU				*i*	Vmb_Lg		13 08 03.2	
SMIR	**Smir Dam**	**2.54**	**270**		P	**Pn**	**13 07 22.8**	**-1.4**
SMIR					S	**Sn**	**13 07 54.1**	**-1.1**
SMIR	**Smir Dam**	**2.54**	**270**		P	**Pn**	**13 07 23.0**	**-1.2**
ETRV	**Los Montesinos**	**2.59**	**27**		Pn	**Pn**	**13 07 25.3**	**+0.5**
ETRV					Sn	**Sn**	**13 07 55.3**	**-1.0**
ETRV				*i*	Vmb_Lg		13 07 59.3	
CHEFC	**Chefchaouen**	**2.59**	**257**		P	**Pn**	**13 07 25.4**	**+0.5**
CHEFC					S	**Sn**	**13 07 55.4**	**-1.1**
TDRA	**Tendrara**	**2.68**	**176**		P	**Pn**	**13 07 25.4**	**-0.8**
EJIF	**Jimena Fronter**	**2.71**	**287**		Pn	**Pn**	**13 07 26.7**	**+0.3**
EJIF					Sn	**Sn**	**13 07 56.8**	**-2.3**
ETOB	**Tobarra**	**2.98**	**11**		Pn	**Pn**	**13 07 30.6**	**+0.4**
ETOB					Sn	**Sn**	**13 08 05.7**	**-0.2**
ETOB				*i*	Vmb_Lg		13 08 09.5	
EADA	**Adamuz**	**3.07**	**323**		Pn	**Pn**	**13 07 32.4**	**+0.9**
EADA					Sn	**Sn**	**13 08 07.7**	**-0.5**
EADA				*i*	Vmb_Lg		13 08 17.9	
ESPR	**Espera**	**3.13**	**293**		Pn	**Pn**	**13 07 32.3**	**+0.1**
ESPR					Sn	**Sn**	**13 08 06.1**	**-3.5**
ESPR				*i*	Vmb_Lg		13 08 23.9	
AFON	**Font Roja**	**3.24**	**24**		Pn	**Pn**	**13 07 34.1**	**+0.2**
AFON					Sn	**Sn**	**13 08 12.5**	**-0.1**
AFON				*i*	Vmb_Lg		13 08 15.6	
EBEN2	**Beniarda presa**	**3.38**	**29**		Pn	**Pn**	**13 07 35.5**	**-0.2**
EBEN2					Sn	**Sn**	**13 08 14.1**	**-1.7**
EBEN2				*i*	Vmb_Lg		13 08 18.6	
ECAB	**El Cabril**	**3.46**	**314**		Pn	**Pn**	**13 07 36.1**	**-0.7**
ECAB					Sn	**Sn**	**13 08 16.2**	**-1.6**
ECAB				*i*	Vmb_Lg		13 08 28.7	
MDT	**Midelt**	**3.49**	**215**		Pn	**Pn**	**13 07 36.4**	**-0.9**
	6.1nm,0.3s,baz=85,slow=11,SNR=104							
MDT					Lg	Lg	13 08 30.4	
	7.9nm,0.3s,baz=81,slow=23,SNR=4.6							
MDT	**Midelt**	**3.49**	**215**		P	**Pn**	**13 07 36.8**	**-0.4**
MDT					S	**Sn**	**13 08 18.9**	**+0.2**
MD31	**MD31**	**3.52**	**217**		P	**Pn**	**13 07 36.9**	**-0.8**
MD31					S	**Sn**	**13 08 18.6**	**-0.7**
CZD	**Col de Zad**	**3.53**	**222**		P	**Pn**	**13 07 38.5**	**+0.4**
FIGM	**Figuig**	**3.67**	**167**		P	**Pn**	**13 07 39.4**	**-0.4**
ECHE	**Chera**	**4.00**	**14**		Pn	**Pn**	**13 07 45.8**	**+1.6**
ECHE					Sn	**Sn**	**13 08 29.9**	**-1.2**
EMIN	**Mina Concepcio**	**4.10**	**301**		Pn	**Pn**	**13 07 44.8**	**-0.7**
EMIN					Sn	**Sn**	**13 08 29.6**	**-3.8**
EMIN				*i*	Vmb_Lg		13 09 00.8	
PAB	**San Pablo**	**4.17**	**337**		Pn	**Pn**	**13 07 47.8**	**+1.3**
PAB

PMTG					A	A	13 09 49.0	
	17nm,0.6s							
PCBR	**Castelo Branco**	**5.83**	**316**	*e*Pn	**Pn**	**13 08 10.1**	**+0.7**
PCBR				*e*Sn	**Sn**	**13 09 14.0**	**-2.3**
OUZM	**OUZ**	**6.10**	**219**	P	**Pn**	**13 08 14.2**	**+1.0**
OUZM	**OUZ**	**6.10**	**219**	P	**Pn**	**13 08 14.0**	**+0.8**
ESAC	**San Caprasio**	**6.16**	**13**	Pn	**Pn**	**13 08 15.4**	**+1.5**
ESAC				Sn	**Sn**	**13 09 22.1**	**-2.1**
EPOB	**Poblet**	**6.20**	**24**	Pn	**Pn**	**13 08 15.2**	**+0.7**
EPOB				Sn	**Sn**	**13 09 21.2**	**-4.2**
ZGR	**Zagora**	**6.26**	**208**	P	**Pn**	**13 08 15.0**	**-0.3**
MTE	**Manteigas**	**6.27**	**320**	*e*Pn	**Pn**	**13 08 16.4**	**+1.0**
MTE				*e*Sn	**Sn**	**13 09 23.8**	**-3.2**
MTE				A	A	13 10 02.4	
	24nm,0.6s						
PSBE	**So Bento**	**6.43**	**308**	*e*Pn	**Pn**	**13 08 17.9**	**+0.3**
PSBE				*e*Sn	**Sn**	**13 09 27.1**	**-3.8**
PSBE				A	A	13 09 33.3	
	17nm,0.7s						
PMAFR	**Mafra**	**6.46**	**302**	*e*Sn	**Sn**	**13 09 29.4**	**-2.4**
PCAS	**Casmilo, Conde**	**6.56**	**313**	*e*Pn	**Pn**	**13 08 19.9**	**+0.5**
PCAS				*e*Sn	**Sn**	**13 09 29.2**	**-5.1**
PCAS				A	A	13 10 12.5	
	12nm,1.0s						
MVO	**Moncorvo**	**6.60**	**327**	*e*Pn	**Pn**	**13 08 21.2**	**+1.2**
PVIS	**Viseu**	**6.68**	**320**	*e*Pn	**Pn**	**13 08 22.1**	**+1.1**
PVIS				*e*Sn	**Sn**	**13 09 33.9**	**-3.2**
POLO	**Lamas de Olo**	**7.12**	**324**	*e*Pn	**Pn**	**13 08 28.4**	**+1.3**
ECHI	**Chisagues Biel**	**7.19**	**15**	Pn	**Pn**	**13 08 30.1**	**+1.9**
ECHI				Sn	**Sn**	**13 09 47.2**	**-2.7**
EORO	**Oroz-Betelu**	**7.20**	**6**	Pn	**Pn**	**13 08 28.8**	**+0.6**
ETSF	**Etsaut**	**7.29**	**10**	*e*Pn	**Pn**	**13 08 31.6**	**+2.2**
ETSF	**Etsaut**	**7.29**	**10**	*e*P	Pn	13 08 36.0	+6.6
ETSF				*e*Sn	**Sn**	**13 09 51.2**	**-1.0**
	1.0nm,0.3s						
SJPF	**Ste Jean**	**7.43**	**6**	*e*Pn	**Pn**	**13 08 33.8**	**+2.5**
SJPF	**Ste Jean**	**7.43**	**6**	*e*P	Pn	13 08 37.4	+6.1
EALK	**Alkurruntz**	**7.51**	**4**	Pn	**Pn**	**13 08 34.6**	**+2.0**
EALK				Sn	**Sn**	**13 09 54.2**	**-3.6**
ELAN	**Lanestosa**	**7.56**	**353**	Pn	**Pn**	**13 08 34.1**	**+1.0**
ELAN				Sn	**Sn**	**13 09 55.8**	**-3.0**
ELAN				*i* Vmb_Lg		13 11 11.4	
EPF	**Esparros**	**7.57**	**15**	*e*Pn	**Pn**	**13 08 35.4**	**+2.1**
EPF	**Esparros**	**7.57**	**15**	*e*P	Pn	13 08 39.7	+6.4
EPF				*e*Sn	**Sn**	**13 09 56.9**	**-2.3**
	9.2nm,0.4s						
ELOB	**Lobios**	**7.63**	**325**	Pn	**Pn**	**13 08 34.8**	**+0.7**
ELOB				Sn	**Sn**	**13 09 54.8**	**-5.9**
PGAV	**Gavieira, Arco**	**7.80**	**325**	*e*Pn	**Pn**	**13 08 37.8**	**+1.3**
EARI	**Arriondas**	**7.91**	**344**	Pn	**Pn**	**13 08 38.0**	**+0.1**
EARI				Sn	**Sn**	**13 10 03.3**	**-4.2**
EARI				*i* Vmb_Lg		13 11 19.2	
MTLF	**Montolieu**	**8.36**	**23**	*e*Pn	**Pn**	**13 08 46.8**	**+2.8**
MTLF	**Montolieu**	**8.36**	**23**	*e*P	Pn	13 08 51.7	+7.7
KEST	**Kesra**	**9.43**	**87**	LR	LR	13 13 21.7	
	comp=Z,185nm,18.4s,baz=225,slow=42						
LFF	**La Frestale**	**9.49**	**13**	*e*Pn	**Pn**	**13 09 01.5**	**+2.0**
LFF	**La Frestale**	**9.49**	**13**	*e*P	Pn	13 09 06.9	+7.4
CAF	**Calviac**	**9.77**	**18**	*e*Pn	**Pn**	**13 09 05.3**	**+1.9**
CAF	**Calviac**	**9.77**	**18**	*e*P	Pn	13 09 09.6	+6.2
CAF				*e*Sn	**Sn**	**13 10 50.6**	**-2.5**
	2.0nm,0.4s						
RJF	**Les Rejaudoux**	**10.00**	**16**	*e*Pn	**Pn**	**13 09 09.0**	**+2.5**
RJF	**Les Rejaudoux**	**10.00**	**16**	*e*P	Pn	13 09 14.1	+7.6
LMR	**La Mourre**	**10.18**	**39**	*e*Pn	**Pn**	**13 09 10.7**	**+1.8**
LMR				*e*Sn	**Sn**	**13 10 58.0**	**-5.0**
FRF	**La Foret Royal**	**10.41**	**39**	*e*Pn	**Pn**	**13 09 13.7**	**+1.6**
FRF				*e*Sn	**Sn**	**13 11 05.0**	**-3.7**
MFF	**Saint Martin d**	**10.99**	**8**	*e*Pn	**Pn**	**13 09 22.1**	**+2.1**
MFF				*e*Sn	**Sn**	**13 11 19.2**	**-3.7**
	0.2nm,0.2s						
PGF	**Pioggiola**	**11.08**	**49**	*e*Pn	**Pn**	**13 09 23.0**	**+1.6**
TCF	**Toulx Ste Croi**	**11.08**	**16**	*e*Pn	**Pn**	**13 09 23.0**	**+1.6**
AVF	**Avril sur Loir**	**11.84**	**19**	*e*Pn	**Pn**	**13 09 33.6**	**+2.0**
AVF	**Avril sur Loir**	**11.84**	**19**	*e*P	Pn	13 09 39.6	+8.0
SMF	**Signal de Mont**	**11.84**	**21**	*e*Pn	**Pn**	**13 09 33.7**	**+2.0**
QUIF	**Quistinic**	**12.21**	**357**	*e*Pn	**Pn**	**13 09 37.7**	**+1.0**
QUIF	**Quistinic**	**12.21**	**357**	*e*P	P	13 09 44.1	-5.1
SGMF	**Saint Gilles**	**12.53**	**359**	*e*Pn	**Pn**	**13 09 41.9**	**+0.8**
ROSF	**Rostrenen**	**12.63**	**357**	*e*Pn	**Pn**	**13 09 44.2**	**+1.7**
ROSF	**Rostrenen**	**12.63**	**357**	*e*P	**P**	**13 09 49.7**	**-4.3**
VAE	**Valguarnera**	**13.51**	**78**	LR	LR	13 14 26.6	
	comp=Z,125nm,19.3s,baz=276,slow=34						
DAVOX	**Davos/Dischmat**	**14.31**	**36**	LR	LR	13 14 46.6	
	comp=Z,99nm,20.1s,baz=271,slow=34						
FETA	**Feichten**	**14.89**	**37**	*e*P	**P**	**13 10 21.2**	**+1.9**
	6.6nm,0.7s						
RETA	**Reutte**	**15.24**	**36**	*i* P	**P**	**13 10 25.0**	**+2.0**
	4.8nm,1.0s						
SQTA	**Sankt Quirin**	**15.27**	**37**	*i* P	**P**	**13 10 25.7**	**+2.3**
	6.4nm,0.7s						
MOTA	**Moosalm**	**15.30**	**37**	*e*P	**P**	**13 10 25.7**	**+1.9**
	6.2nm,1.1s						
WTTA	**Wattenberg**	**15.51**	**38**	*e*P	**P**	**13 10 28.3**	**+2.2**
	6.5nm,0.8s						
WATA	**Walderalm**	**15.53**	**37**	*e*P	**P**	**13 10 28.2**	**+1.9**
	7.7nm,0.9s						
ABTA	**Abfaltersbach**	**15.62**	**41**	*e*P	**P**	**13 10 28.6**	**+1.4**
	10nm,1.0s						
OBKA	**Obir**	**16.59**	**44**	*e*P	**P**	**13 10 40.3**	**+2.2**
	9.4nm,0.9s						
ARSA	**Arzberg**	**17.57**	**44**	*e*P	**P**	**13 10 49.9**	**+1.2**
	5.9nm,0.9s						
GERES	**GERESS Array B**	**17.60**	**37**	P	**P**	**13 10 49.1**	**-0.1**
	0.1nm,0.3s,baz=226,slow=11,SNR=11						
GERES				LR	LR	13 17 23.8	
	comp=Z,101nm,19.7s,baz=242,slow=36						
KHC	**Kasperske Hory**	**17.73**	**36**	*e*P	**Pn**	**13 10 49.5**	**-0.3**
CONA	**Conrad Observa**	**18.14**	**42**	*e*P	**P**	**13 10 57.6**	**+2.4**
	2.6nm,0.9s						
VRAC	**Vranov**	**19.36**	**40**	LR	LR	13 18 04.5	
	comp=Z,57nm,18.9s,baz=250,slow=35						
EKA	**Eskdalemuir Ar**	**19.63**	**358**	Pn	**Pn**	**13 11 15.4**	**+2.8**
	baz=179,slow=14,SNR=1.8						
VYHS	**Vyhne**	**20.11**	**44**	*e*P	Pn	13 11 18.7	+0.2
TORD	**Torodi Ar. Bea**	**22.75**	**170**	P	**P**	**13 11 44.8**	**-0.5**
	2.9nm,0.8s,baz=343,slow=11,SNR=12						
TORD				LR	LR	13 21 03.3	
	comp=Z,78nm,20.7s,baz=225,slow=38						
MLR	**Muntele Rosu**	**23.43**	**57**	P	**P**	**13 11 54.9**	**+2.8**
	2.6nm,1.0s,baz=243,slow=4.5,SNR=3.8						
MLR				LR	LR	13 21 30.0	
	comp=Z,95nm,18.1s,baz=18,slow=38						
NOA	**NORSAR Array B**	**26.76**	**15**	LR	LR	13 23 31.5	
	comp=Z,35nm,18.3s,baz=125,slow=38						
BORG	**Borgarnes**	**31.25**	**344**	LR	LR	13 25 22.3	
	comp=Z,25nm,19.4s,baz=183,slow=36						
JMIC	**Jan Mayen**	**35.49**	**356**	LR	LR	13 27 54.0	
	comp=Z,16nm,19.0s,baz=84,slow=36						
ARCES	**ARCESS Array B**	**37.12**	**16**	LR	LR	13 29 38.7	
	comp=Z,63nm,20.9s,baz=346,slow=37						
SFJD	**Kangerlussuaq**	**41.68**	**334**	LR	LR	13 31 17.4	
	comp=Z,26nm,18.4s,baz=282,slow=35						
ARU	**Arti**	**45.27**	**43**	LR	LR	13 33 37.4	
	comp=Z,34nm,19.8s,baz=294,slow=36						
TSUM	**Tsumeb**	**57.77**	**158**	LR	LR	13 42 38.4	
	comp=Z,66nm,18.7s,baz=328,slow=37						
LSZ	**Lusaka**	**58.34**	**145**	LR	LR	13 43 44.0	
	comp=Z,46nm,20.3s,baz=154,slow=38						
ZALV	**Zalesovo Beam**	**60.44**	**43**	P	**P**	**13 16 53.2**	**+0.9**
	0.7nm,0.7s,baz=305,slow=5.1,SNR=3.9						
MKAR	**Makanchi Array**	**61.61**	**51**	P	**P**	**13 17 01.1**	**+0.6**
	0.4nm,0.6s,baz=282,slow=6.1,SNR=3.7						
LBTB	**Lobatse**	**65.90**	**152**	LR	LR	13 47 33.3	
	comp=Z,73nm,18.1s,baz=4.0,slow=37						
YKA	**Yellowknife Ar**	**68.22**	**332**	P	**P**	**13 17 45.5**	**+2.4**
	0.2nm,0.9s,baz=57,slow=5.9,SNR=2.7						
PDAR	**Pinedale Array**	**77.59**	**314**	P	**P**	**13 18 39.5**	**+0.2**
	0.2nm,0.6s,baz=72,slow=5.6,SNR=2.8						

IDC ***16*** *13:10:10.9±1.7, 33.°03N×131.°49E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.1/52, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=36.2km s-min=12.0km az=14.0*
JMA ***16*** *13:10:13.0, 32.°70N×130.°71E, h11km±1km, M3.4*
JMA Felt III J1.
ISC 16 13:10:13.3±0.9, 32.°75N±0.°07×130.°8E±0.°1, h12km, n7, σ0s77/9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JIU3	**Izumi3**	**0.20**	**177**	P		**Pg**	**13 10 16.9**	**-0.7**
JTA	**Tamana**	**0.31**	**314**	P		**Pg**	**13 10 19.3**	**-0.3**
JTA				S		**Sg**	**13 10 23.7**	**-0.2**
JNU	**Nakatsue**	**0.38**	**10**	Pg		**Pb**	**13 10 21.7**	**-0.3**
	122nm,0.3s,baz=179,slow=8.3,SNR=37							
JNU				Lg		Lg	13 10 27.4	
	583nm,0.3s,baz=87,slow=22,SNR=24							
JTZ	**Takazaki**	**0.88**	**164**	P		**Pg**	**13 10 29.9**	**-0.3**
JTZ				S		**Sg**	**13 10 41.7**	**0.0**
KSRS	**Korea Array**	**5.25**	**334**	Pn		**Pn**	**13 11 32.4**	**+0.8**
	0.2nm,0.3s,baz=152,slow=15,SNR=1.7							
KSRS				Lg		Lg	13 12 56.1	
	1.7nm,0.3s,baz=154,slow=28,SNR=5.2							
WRA	**Warramunga Arr**	**52.50**	**176**	P		**P**	**13 19 27.4**	**+1.1**
	0.8nm,1.0s,baz=357,slow=7.9,SNR=3.9							
FINES	**FINESS Array B**	**68.33**	**330**	P		**P**	**13 21 13.1**	**-0.9**
	0.7nm,0.6s,baz=46,slow=5.5,SNR=3.5							

IDC ***16*** *13:28:03.8±0.6, 3.°95N×126.°42E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.1/38, mbtmp4.2/17, ML4.2/1, MS3.5/7, Ms1 3.5/7, ms1mx3.0/80, Error ellipse: s-maj=35.3km s-min=12.8km az=69.0*
DJA ***16*** *13:28:07.3±0.8, 4.°N±5.°×12.°7E±.°, h20km±4km, M4.3/19, mB4.8/5, mb4.5/19, MLv4.4/13, Mw(mB)4.1/5*
NEIC ***16*** *13:28:09.6±2.8, 4.°13N±0.°09×127.°0E±0.°1, h47km±10km, mb4.4/17, Error ellipse: s-maj=19.3km s-min=11.1km az=61.0*
MAN ***16*** *13:28:15.4, 4.°18N×126.°04E, h12km, mb4.8, ML3.7, MS3.7, Hypocentre not reviewed by the ISC*
ISC 16 13:28:09.3±0.5, 4.°02N±0.°04×126.°78E±0.°07, h36km, n80, σ1s81/72, mb4.4/27, MS3.7/5, 5C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SGSI	**Sangihe**	**1.29**	**255**	P		**Pn**	**13 28 30.5**	**-0.3**
DDMP	**Don Marcelino,**	**2.33**	**333**	ǁ*e*P		**Pn**	**13 28 48.0**	**+2.8**
GSPH	**General Santos**	**2.75**	**319**	ǁ*e*P		**Pn**	**13 28 51.4**	**+0.4**
MATI	**Mati**	**2.96**	**350**	ǁ*e*P		Pn	13 29 00.6	+6.8
DAV	**Davao City (W)**	**3.26**	**339**	Lg		Lg	13 29 46.7	
	baz=63,slow=22,SNR=1.0							
TNTI	**Ternate**	**3.28**	**170**	Pn		**Pn**	**13 28 57.1**	**-1.1**
TNTI	**Ternate**	**3.28**	**170**	P		**Pn**	**13 29 00.5**	**+2.3**
KCP	**Kidapawan**	**3.41**	**331**	ǁ*i*P		**Pn**	**13 29 02.4**	**+2.3**
KCP				*i* S		Sn	13 29 50.4	+11
CTBH	**Cotabato--PC H**	**4.06**	**322**	ǁ*e*P		Pn	13 29 13.6	+4.7
KMSI	**Cibinong**	**4.41**	**219**	P		**Pn**	**13 29 16.4**	**+2.6**
LBMI	**Labuha**	**4.68**	**171**	P		**Pn**	**13 29 19.7**	**+2.2**
CGP	**Cagayan de Oro**	**4.87**	**335**	ǁ*e*P		Pn	13 29 32.5	+12
CGP				*e*S		**Sn**	**13 30 21.0**	**+5.8**
GTOI	**Gorontalo**	**5.04**	**228**	P		**Pn**	**13 29 23.7**	**+1.2**
	0.1nm17nm,0.4s							
PAGZ	**Pagadian**	**5.09**	**319**	ǁ*e*P		**Pn**	**13 29 24.9**	**+1.8**
GLSP	**General Luna,**	**5.77**	**354**	ǁ*e*P		Pn	13 29 39.3	+6.9
MRSI	**Marisa**	**5.97**	**234**	P		**Pn**	**13 29 37.4**	**+2.1**
	0.4nm1μm105nm,0.6s							
SANI	**Sanana**	**6.08**	**187**	P		**Pn**	**13 29 37.8**	**+1.1**
	0.1nm701nm18nm,0.7s							
LUWI	**Luwuk**	**6.42**	**219**	Pn		**Pn**	**13 29 45.9**	**+4.4**
LUWI	**Luwuk**	**6.42**	**219**	P		**Pn**	**13 29 43.3**	**+1.9**
	0.6nm2μm154nm,0.7s							
SWI	**Sorong**	**6.60**	**137**	P		**Pn**	**13 29 46.4**	**+2.5**
	0.1nm20nm,0.7s							
SIJI	**Sorong**	**6.61**	**137**	Pn		**Pn**	**13 29 46.5**	**+2.5**
	4.7nm,0.3s,baz=327,slow=16,SNR=17							
SIJI				Sn		**Sn**	**13 31 00.5**	**+2.3**
	1.1nm,0.3s,baz=229,slow=19,SNR=6.5							
SIJI				LR		LR	13 32 41.6	
	comp=Z,206nm,19.8s,baz=328,slow=41							
MPSI	**Mapaga**	**7.78**	**242**	P		**Pn**	**13 30 01.9**	**+1.8**
	0.1nm16nm,0.9s							
MYLDM	**Lahad Datu**	**8.33**	**278**	Pn		**Pn**	**13 30 11.3**	**+3.7**
KKM	**Kota Kinabalu**	**10.71**	**281**	Pn		**Pn**	**13 30 41.3**	**+0.9**
KAPI	**Kappang**	**11.39**	**218**	LR		LR	13 35 08.4	
	comp=Z,120nm,21.7s,baz=38,slow=38							
SBUM	**Sibu**	**14.61**	**264**	Pn		**Pn**	**13 31 36.0**	**+2.4**
WBSI	**Waikabubak, Su**	**15.43**	**208**	P		**P**	**13 31 48.0**	**-0.7**
	64nm,0.8s							
PLAI	**Plampang**	**15.60**	**215**	P		**P**	**13 31 51.6**	**+1.1**
	55nm,0.9s							
KSM	**Kuching**	**16.64**	**262**	Pn		**Pn**	**13 32 00.9**	**+1.0**
MTN	**Manton Dam**	**17.30**	**166**	Pn		**Pn**	**13 32 06.5**	**-1.7**
MTN				IAmb		IAmb	13 32 10.3	
	comp=Z,13nm,0.6s							
GMJI	**Gumukmas**	**18.05**	**227**	P		**Pn**	**13 32 20.0**	**+2.5**
	comp=Z,30nm,1.1s							
TWG	**Pinlang**	**19.49**	**344**	P		**P**	**13 32 31.0**	**-2.4**
TWG				IAmb		IAmb	13 32 53.2	
	comp=Z,37nm,1.2s							
KNRA	**Kununurra**	**19.67**	**174**			**P**	**13 32 35.5**	**+0.2**
KNRA				IAmb		IAmb	13 32 40.9	
	comp=Z,12nm,0.6s							
PCJI	**Pacitan**	**19.73**	**232**	P		**P**	**13 32 37.2**	**+1.1**
	comp=Z,45nm,1.4s							
YULB	**Yu-li**	**19.98**	**345**	P		**P**	**13 32 35.8**	**-2.9**
FITZ	**Fitzroy Crossi**	**22.00**	**183**	P		**P**	**13 32 59.2**	**-1.4**
	comp=Z,2.9nm,0.3s,baz=10,slow=7.8,SNR=17							
FITZ	**Fitzroy Crossi**	**22.00**	**183**	P		**P**	**13 33 00.3**	**-0.2**
FITZ				IAmb		IAmb	13 33 03.9	
	comp=Z,9.9nm,1.1s							
CGJI	**Cibinong**	**23.55**	**243**	P		**P**	**13 33 14.1**	**-2.5**
	comp=Z,18nm,0.6s							
PMG	**Port Moresby**	**24.30**	**123**	LR		LR	13 42 19.1	
	comp=Z,51nm,21.9s,baz=264,slow=35							
WB0	**Warramunga Arr**	**24.79**	**163**	P		**P**	**13 33 27.9**	**-0.2**
WRAB	**Tennant Creek**	**24.94**	**163**	P		**P**	**13 33 29.0**	**-0.4**
WRAB				IAmb		IAmb	13 33 38.9	
	comp=Z,15nm,0.8s							
WRA	**Warramunga Arr**	**24.94**	**163**	P		**P**	**13 33 28.6**	**-0.8**
	comp=Z,7.3nm,1.0s,baz=342,slow=10,SNR=50							
WRA	**Warramunga Arr**	**24.94**	**163**	P		**P**	**13 33 28.7**	**-0.8**
WB2	**Warramunga Arr**	**24.95**	**163**	P		**P**	**13 33 29.1**	**-0.4**
WB2				IAmb		IAmb	13 33 39.0	
	comp=Z,18nm,0.8s							
WR0	**Warramunga Arr**	**25.02**	**163**	P		**P**	**13 33 30.0**	**-0.2**
WR0				IAmb		IAmb	13 33 31.3	
	comp=Z,7.5nm,0.8s							
PSA00	**Pilbara Seismi**	**26.32**	**195**	P		**P**	**13 33 41.7**	**-0.2**
PSI	**Prapat**	**27.83**	**268**	LR		LR	13 47 12.7	
	comp=Z,173nm,18.1s,baz=68,slow=42							
AS31	**Alice Springs**	**28.38**	**166**	P		**P**	**13 34 00.5**	**+0.1**
ASAR	**Alice Springs**	**28.38**	**166**	P		**P**	**13 34 00.3**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=340,slow=6.7,SNR=30							
CMAR	**Chiang Mai Arr**	**30.77**	**300**	P		**P**	**13 34 20.8**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=112,slow=6.7,SNR=14							
CHTO	**Chiang Mai**	**30.91**	**301**	P		**P**	**13 34 22.4**	**-0.5**
CHTO				IAmb		IAmb	13 34 28.9	
	comp=Z,3.2nm,0.7s							
KMI	**Kunming**	**31.21**	**315**	⇑P		**P**	**13 34 26.9**	**+1.2**
KMI				pmax		pmax		
	comp=Z,9.0nm,0.5s							
PZH	**PanZhiHua**	**32.77**	**316**	P		**P**	**13 34 42.0**	**+2.7**
PZH				pmax		pmax		
	comp=Z,6.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,90nm,4.2s							
XAN	**Xi'an**	**34.18**	**333**	⇑P		**P**	**13 34 49.6**	**-1.8**
XAN				pP		pP	13 34 56.3	-5.1
XAN				pmax		pmax		
	comp=Z,12nm,1.2s							
BBOO	**Buckleboo**	**37.67**	**167**	P		**P**	**13 35 21.0**	**-0.2**
LZH	**Lanzhou**	**38.28**	**329**	ǁP		**P**	**13 35 26.3**	**-0.3**
LZH				sP		sP	13 35 47.1	+7.4
LZH				pmax		pmax		
	comp=Z,12nm,1.6s							
STKA	**Stephens Creek**	**38.38**	**159**	P		**P**	**13 35 27.5**	**+0.2**
	comp=Z,9.7nm,0.8s,baz=328,slow=7.6,SNR=17							
STKA	**Stephens Creek**	**38.38**	**159**	P		**P**	**13 35 27.3**	**+0.1**
HHC	**Hu-ho-hao-te**	**39.14**	**342**	*e*P		**P**	**13 35 33.6**	**-0.1**
HHC				pmax		pmax		
	comp=Z,10.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,140nm,5.6s							
KLR	**Kul'dur**	**45.25**	**5**	P		**P**	**13 36 24.4**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=225,slow=4.3,SNR=2.9							
SONM	**Songino Array**	**47.04**	**341**	P		**P**	**13 36 37.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=147,slow=9.1,SNR=4.4							
WMQ	**Urumqi**	**52.52**	**325**	*e*P		**P**	**13 37 20.0**	**+0.9**
PETK	**Petropavlovsk-**	**55.15**	**22**	P		**P**	**13 37 39.8**	**+1.7**
	comp=Z,3.7nm,1.0s,baz=215,slow=9.8,SNR=0.9							
MK31	**Makanchi Array**	**57.35**	**325**	P		**P**	**13 37 52.0**	**-2.0**
MK31				IAmb		IAmb	13 38 08.2	
	comp=Z,6.0nm,1.4s							
MKAR	**Makanchi Array**	**57.35**	**325**	P		**P**	**13 37 52.8**	**-1.2**
	comp=Z,1.5nm,0.4s,baz=124,slow=7.7,SNR=24							
MKAR				PcP		**PcP**	**13 38 47.2**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=124,slow=4.1,SNR=6.5							
MKAR	**Makanchi Array**	**57.35**	**325**	P		**P**	**13 37 51.9**	**-2.1**
ZALV	**Zalesovo Beam**	**60.35**	**333**	P		**P**	**13 38 12.5**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=125,slow=7.4,SNR=4.2							
KURBB	**Kurchatov Arra**	**61.52**	**327**	LR		LR	14 05 14.4	
	comp=Z,60nm,18.4s,baz=72,slow=36							
NRIK	**Noril'sk**	**70.16**	**346**	P		**P**	**13 39 18.3**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=126,slow=7.5,SNR=4.5							
GEYT	**Ailbeck**	**70.75**	**309**	LR		LR	14 14 39.0	
	comp=Z,39nm,18.4s,baz=88,slow=40							
ABKAR	**Akbulak array**	**71.96**	**321**	P		**P**	**13 39 27.4**	**-1.8**
KDAK	**Kodiak Island**	**81.62**	**32**	LR		LR	14 09 31.5	
	comp=Z,121nm,21.6s,baz=242,slow=30							
BRTR	**Keskin Array B**	**89.87**	**310**	P		**P**	**13 41 03.2**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=104,slow=6.6,SNR=4.0							
ARCES	**ARCESS Array B**	**90.20**	**340**	P		**P**	**13 41 05.2**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=64,slow=5.5,SNR=5.0							
FINES	**FINESS Array B**	**91.60**	**332**	P		**P**	**13 41 11.6**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=64,slow=4.4,SNR=6.3							
FINES	**FINESS Array B**	**91.60**	**332**	P		**P**	**13 41 10.5**	**-1.9**
AKASG	**Malin Array Be**	**91.70**	**321**	P		**P**	**13 41 11.8**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=68,slow=4.4,SNR=5.0							
NOA	**NORSAR Array B**	**98.55**	**334**	P		**P**	**13 41 42.9**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=65,slow=4.9,SNR=2.0							
TXAR	**Lajitas Array**	**121.39**	**52**	PKP		**PKiKP**	**13 47 00.7**	**+0.9**
	comp=Z,0.8nm,1.0s,baz=300,slow=2.0,SNR=3.1							
TORD	**Torodi Ar. Bea**	**122.87**	**288**	PKP		**PKPdf**	**13 47 01.9**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=52,slow=2.4,SNR=4.7							

MDD ***16*** *13:33:32.4±1.5, 35.°36N×3.°82W, h61km±24km, Mb2.9/6, M_mb2.0/7, Error ellipse: s-maj=8.3km s-min=4.9km az=5.0*
SFS ***16*** *13:33:32.0, 35.°36N×3.°81W, h61km, ML1.9, ALHUCEMAS (MARRUECOS)*
CNRM ***16*** *13:33:33.3, 35.°45N×3.°79W, h26km, ml2.1*
ISC 16 13:33:32.2±1.0, 35.°45N±0.°04×3.°79W±0.°03, h29km±11km, n11, σ0s76/22, 5C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PALE	**Palemas**	**0.27**	**208**	P		**Pn**	**13 33 40.2**	**-0.1**
PALE				S		**Sb**	**13 33 44.5**	**+0.6**
PVLZ	**Peæn de**	**0.50**	**237**	P		**Pn**	**13 33 44.2**	**+0.8**
PVLZ				S		**Sn**	**13 33 51.4**	**+0.2**
GOG	**Mont Gurugu**	**0.69**	**109**	P		**Pn**	**13 33 46.7**	**+0.6**
GOG				S		**Sn**	**13 33 56.3**	**+0.5**
EMEL	**Melilla**	**0.69**	**102**	Pg		**Pb**	**13 33 45.6**	**-0.3**
EMEL				Sg		**Sn**	**13 33 55.9**	**+0.1**
EALB	**Alboran**	**0.78**	**51**	Pg		**Pn**	**13 33 48.2**	**+0.8**
EALB				⇑*i*Vmb_V			13 33 49.0	
	2μm,SNR=5.5							
EALB				Sg		**Sn**	**13 33 58.7**	**+0.7**
SMIR	**Smir Dam**	**1.32**	**280**	P		**Pb**	**13 33 56.4**	**0.0**
SMIR				S		**Sb**	**13 34 13.9**	**+1.0**
EMIJ	**Mijas**

EBER					Sn	**Sb**	**13 40 34.0**	**+0.6**
EBER					*i* Vmb_Lg		13 40 41.8	
JBK	**JBK**	**1.39**	**192**		P	**Pn**	**13 40 15.9**	**-0.6**
ELGU	**Los Guajares,**	**1.64**	**316**		Pn	**Pn**	**13 40 18.8**	**-1.1**
ELGU					Sn	**Sn**	**13 40 39.5**	**-0.8**
ELGU					*i* Vmb_Lg		13 40 41.0	
PVLZ	**Peæn de**	**1.79**	**254**		P	**Pb**	**13 40 24.5**	**-0.1**
PVLZ					S	**Sn**	**13 40 42.0**	**-1.8**
EQUE	**Quentar**	**1.81**	**327**		Pn	**Pn**	**13 40 23.3**	**+1.0**
EQUE					Sn	**Sn**	**13 40 45.5**	**+1.0**
EQUE					*i* Vmb_Lg		13 40 51.2	
TLOR	**Lorca, Murcia**	**2.00**	**12**		Sn	**Sn**	**13 40 48.4**	**-0.8**
EGOR	**Sierra Gorda,**	**2.09**	**313**		Pn	**Pn**	**13 40 26.9**	**+0.8**
EGOR					Sn	**Sn**	**13 40 52.2**	**+0.7**
EGOR					*i* Vmb_Lg		13 41 10.2	
EMAL	**Malaga-Limoner**	**2.09**	**301**		P	**Pb**	**13 40 29.7**	**0.0**
EMAL					S	**Sn**	**13 40 49.3**	**-2.0**
CART	**Cartagena**	**2.12**	**27**		P	**Pn**	**13 40 26.1**	**-0.3**
CART					S	**Sn**	**13 40 49.6**	**-2.5**
CART	**Cartagena**	**2.12**	**27**		P	**Pn**	**13 40 26.5**	**0.0**
CART					S	**Sn**	**13 40 50.6**	**-1.5**
EZAR	**Zarzadilla de**	**2.22**	**11**		Pn	**Pn**	**13 40 27.8**	**-0.1**
EZAR					Sn	**Sn**	**13 40 54.5**	**0.0**
EMIJ	**Mijas**	**2.25**	**293**		Pn	**Pn**	**13 40 28.6**	**+0.3**
EMIJ					Sn	**Sn**	**13 40 55.8**	**+0.4**
EMIJ					*i* Vmb_Lg		13 41 01.7	
EMUR	**La Murta**	**2.28**	**20**		Pn	**Pn**	**13 40 28.5**	**-0.2**
EMUR					Sn	**Sn**	**13 40 54.3**	**-1.8**
EMUR					*i* Vmb_Lg		13 41 06.0	
TDRA	**Tendrara**	**2.65**	**177**		P	**Pn**	**13 40 34.6**	**+0.6**
TDRA					S	**Sn**	**13 41 07.7**	**+2.2**
ETOB	**Tobarra**	**2.99**	**10**		Pn	**Pn**	**13 40 40.2**	**+1.6**
ETOB					Sn	**Sn**	**13 41 14.3**	**+0.6**
ETOB					*i* Vmb_Lg		13 41 19.2	
EADA	**Adamuz**	**3.12**	**323**		Pn	**Pn**	**13 40 40.9**	**+0.8**
EADA					Sn	**Sn**	**13 41 16.5**	**-0.2**
EADA					*i* Vmb_Lg		13 41 27.3	
ESPR	**Espera**	**3.17**	**293**		Pn	**Pn**	**13 40 42.5**	**+1.6**
ESPR					Sn	**Sn**	**13 41 18.5**	**+0.5**
ESPR					*i* Vmb_Lg		13 41 43.2	
AFON	**Font Roja**	**3.25**	**24**		Pn	**Pn**	**13 40 42.1**	**-0.1**
AFON					Sn	**Sn**	**13 41 20.1**	**0.0**
AFON					*i* Vmb_Lg		13 41 33.3	
MDT	**Midelt**	**3.49**	**215**		P	**Pn**	**13 40 46.2**	**+0.8**
MDT					S	**Sn**	**13 41 27.8**	**+1.7**
ECAB	**El Cabril**	**3.50**	**314**		Pn	**Pn**	**13 40 45.3**	**-0.3**
ECAB					Sn	**Sn**	**13 41 25.5**	**-0.7**
MD31	**MD31**	**3.52**	**218**		P	**Pn**	**13 40 46.0**	**+0.1**
MD31					S	**Sn**	**13 41 27.1**	**+0.3**
EMIN	**Mina Concepcio**	**4.14**	**301**		Pn	**Pn**	**13 40 55.3**	**+1.0**
EMIN					Sn	**Sn**	**13 41 40.0**	**-1.9**
PAB	**San Pablo**	**4.21**	**337**		Pn	**Pn**	**13 40 55.8**	**+0.6**
PAB					Sn	**Sn**	**13 41 42.5**	**-1.1**
PAB					Sg	**Sb**	**13 41 58.8**	**+2.6**
ESDC	**Sonseca Array**	**4.21**	**341**		Sn	**Sn**	**13 41 43.8**	**+0.1**
ESDC					Sg	**Sb**	**13 41 59.1**	**+2.8**
PBAR	**Barrancos**	**4.60**	**304**	*e*Pn		**Pn**	**13 41 02.5**	**+2.0**
PBAR				*e*Sn		**Sn**	**13 41 52.2**	**-0.9**
PVAQ	**Vaqueiros**	**4.75**	**293**	*e*Pn		**Pn**	**13 41 03.5**	**+0.8**
PVAQ				*e*Sn		**Sn**	**13 41 56.1**	**-0.9**
PVAQ				A		A	13 41 59.3	
	4.6nm,1.0s							
PBDV	**Barranco-do-Ve**	**4.87**	**290**	*e*Pn		**Pn**	**13 41 05.7**	**+1.5**
PBDV				*e*Sn		**Sn**	**13 41 57.5**	**-2.3**
PMRV	**Marv??o**	**5.55**	**314**	*e*Pn		**Pn**	**13 41 13.9**	**+0.2**
PMRV				*e*Sn		**Sn**	**13 42 11.3**	**-5.5**
PNCL	**Nicolau / Gran**	**5.61**	**297**	*e*Pn		**Pn**	**13 41 15.4**	**+1.0**
PNCL				*e*Sn		**Sn**	**13 42 15.9**	**-2.2**
PNCL				A		A	13 42 19.7	
	1.7nm,0.4s							

BJI ***16*** *13:50:04.1±0.0,50°.92N×157°.76E,h87km,mb4.5/29, mB4.9/15,Ms4.3/1,Ms7 4.1/1*
KRSC ***16*** *13:50:04.1±2.1,50°.82N×157°.50E,h69km±22km,ML5.1*
MOS ***16*** *13:50:06.1±1.2,50°.88N×157°.40E,h81km,mb4.6/44, MS3.2/6,Error ellipse: s-maj=7.7km s-min=3.3km az=80.2*
IDC ***16*** *13:50:06.9±0.5,51°.07N×157°.15E,h62km±4km,mb4.0/27, mb1 4.2/33,mb1mx4.2/42,mbtmp4.3/33,MS3.4/27, Ms1 3.4/27,ms1mx3.2/96,Error ellipse: s-maj=13.2km s-min=8.8km az=146.0*
NEIC ***16*** *13:50:08.6±2.1,51°.03N±0°.09×157°.2E±0°.1,h86km±7km, mb4.5/69,Error ellipse: s-maj=14.6km s-min=10.1km az=134.0*
ISC 16 13:50:07.2±0.6,50°.96N±0°.05×157°.45E±0°.04,h73km±4km, h73km:pP-P,n306,σ1§58/322,mb4.5/105,6C-5D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PAU	**Pauzhetka**	**0.65**	**322**	PN		**Pn**	**13**	**50**	**21.5**	**-0.1**
PAU				S		**Sn**	**13**	**50**	**32.7**	**+0.4**
PAU	**Pauzhetka**	**0.65**	**322**	*i* P		**Pn**	**13**	**50**	**21.5**	**-0.1**
PAU				*e*S		**Sn**	**13**	**50**	**32.7**	**+0.4**
SKR	**Severo-Kuril's**	**0.89**	**252**	*e*PN		Pn	13	50	22.7	-1.7
SKR				*e*S		Sn	13	50	34.4	-2.8
SKR				pmax	pmax					
	comp=Z,2μm,0.5s									
SKR				smax	smax					
	comp=N,19μm,0.5s									
SKR				smax	smax					
	comp=E,13μm,0.4s									
SKR	**Severo-Kuril's**	**0.89**	**252**	*i* P		Pn	13	50	22.6	-1.8
SKR				*e*S		Sn	13	50	34.4	-2.8
KDTR	**Khodutka, Kamc**	**0.94**	**25**	PN		**Pn**	**13**	**50**	**24.8**	**-0.2**
KDTR				S		**Sn**	**13**	**50**	**37.6**	**-0.6**
KDTR	**Khodutka, Kamc**	**0.94**	**25**	*e*P		**Pn**	**13**	**50**	**24.8**	**-0.2**
KDTR				*e*S		**Sn**	**13**	**50**	**37.6**	**-0.6**
MIPR	**Malaya Ipel'ka**	**1.39**	**342**	PN		**Pn**	**13**	**50**	**31.8**	**+1.1**
MIPR	**Malaya Ipel'ka**	**1.39**	**342**	*i* P		**Pn**	**13**	**50**	**31.8**	**+1.1**
ASAK	**Asacha**	**1.45**	**11**	PN		**Pn**	**13**	**50**	**32.2**	**+0.6**
ASAK				S		**Sn**	**13**	**50**	**51.9**	**+1.9**
ASAK	**Asacha**	**1.45**	**11**	*e*P		**Pn**	**13**	**50**	**32.2**	**+0.6**
ASAK				*e*S		**Sn**	**13**	**50**	**51.9**	**+1.9**
MTVR	**Mutnovka**	**1.59**	**16**	PN		**Pn**	**13**	**50**	**34.2**	**+0.7**
MTVR				S		**Sn**	**13**	**50**	**54.1**	**+0.7**
MTVR	**Mutnovka**	**1.59**	**16**	*e*P		**Pn**	**13**	**50**	**34.2**	**+0.7**
MTVR				*e*S		**Sn**	**13**	**50**	**54.1**	**+0.7**
RUS	**Russkaya**	**1.62**	**24**	PN		**Pn**	**13**	**50**	**33.9**	**+0.2**
RUS				S		**Sn**	**13**	**50**	**54.0**	**+0.2**
RUS	**Russkaya**	**1.62**	**24**	*e*P		**Pn**	**13**	**50**	**33.9**	**+0.2**
RUS				*e*S		**Sn**	**13**	**50**	**54.0**	**+0.2**
GRL	**Gorelyy**	**1.64**	**13**	PN		**Pn**	**13**	**50**	**35.4**	**+1.3**
GRL				S		**Sn**	**13**	**50**	**56.4**	**+1.9**
GRL	**Gorelyy**	**1.64**	**13**	*e*P		**Pn**	**13**	**50**	**35.4**	**+1.3**
GRL				*e*S		**Sn**	**13**	**50**	**56.4**	**+1.9**
APC	**Apacha**	**1.98**	**355**	PN		**Pn**	**13**	**50**	**40.1**	**+1.6**
APC	**Apacha**	**1.98**	**355**	*i* P		**Pn**	**13**	**50**	**40.1**	**+1.6**
PEA0B	**Petropavlovsk-**	**2.16**	**4**	*ce*PN		**Pn**	**13**	**50**	**42.1**	**+1.2**
PEA0B	**Petropavlovsk-**	**2.16**	**4**	Pn		**Pn**	**13**	**50**	**42.3**	**+1.4**
PETK	**Petropavlovsk-**	**2.16**	**4**	P		**Pn**	**13**	**50**	**41.3**	**+0.4**
	comp=E,33nm,0.3s,baz=183,slow=16,SNR=235									
PETK				S		**Sn**	**13**	**51**	**02.5**	**-4.3**
	comp=E,50nm,0.3s,baz=182,slow=20,SNR=5.5									
PETK				LR		LR	13	51	19.2	
	comp=E,247nm,18.5s,baz=173,slow=35									
PET	**Petropavlovsk**	**2.20**	**19**	*i* PN		**Pn**	**13**	**50**	**42.6**	**+1.2**
PET				*e*S		**Sn**	**13**	**51**	**09.4**	**+1.8**
PET				pmax	pmax					
	comp=Z,354nm,0.8s									
PET				smax	smax					
	comp=E,4μm,0.7s									
PET				MLR	MLR					
	comp=Z,5μm,8.0s									
PET	**Petropavlovsk**	**2.20**	**19**	Pn		**Pn**	**13**	**50**	**42.7**	**+1.2**
PET	**Petropavlovsk**	**2.20**	**19**	P		**Pn**	**13**	**50**	**42.8**	**+1.4**
PET	**Petropavlovsk**	**2.20**	**19**	*e*P		**Pn**	**13**	**50**	**42.5**	**+1.2**
PET				*e*S		**Sn**	**13**	**51**	**09.3**	**+1.7**
DALK	**Dalny**	**2.23**	**21**	PN		**Pn**	**13**	**50**	**42.9**	**+1.1**
DALK				S		**Sn**	**13**	**51**	**09.9**	**+1.6**
DALK	**Dalny**	**2.23**	**21**	*e*P		**Pn**	**13**	**50**	**42.9**	**+1.1**
DALK				*e*S		**Sn**	**13**	**51**	**09.9**	**+1.6**
UGLR	**Uglovaya**	**2.41**	**20**	PN		**Pn**	**13**	**50**	**46.3**	**+1.9**
UGLR	**Uglovaya**	**2.41**	**20**	*e*P		**Pn**	**13**	**50**	**46.3**	**+1.9**
AVH	**Avacha**	**2.44**	**19**	PN		**Pn**	**13**	**50**	**47.0**	**+2.2**
AVH	**Avacha**	**2.44**	**19**	*e*P		**Pn**	**13**	**50**	**47.0**	**+2.2**
KOK	**Koryaka**	**2.45**	**17**	PN		**Pn**	**13**	**50**	**47.4**	**+2.5**
KOK	**Koryaka**	**2.45**	**17**	*e*P		**Pn**	**13**	**50**	**47.4**	**+2.5**
SMAR	**Somma**	**2.45**	**19**	PN		**Pn**	**13**	**50**	**47.7**	**+2.6**
SMAR	**Somma**	**2.45**	**19**	*e*P		**Pn**	**13**	**50**	**47.7**	**+2.6**
KRER	**Koryakskii**	**2.48**	**18**	PN		**Pn**	**13**	**50**	**47.4**	**+1.9**
KRER	**Koryakskii**	**2.48**	**18**	*e*P		**Pn**	**13**	**50**	**47.4**	**+1.9**
SPN	**Mys Shipunski**	**2.67**	**36**	PN		**Pn**	**13**	**50**	**48.7**	**+0.9**
SPN				S		**Sn**	**13**	**51**	**19.6**	**+0.6**
SPN	**Mys Shipunski**	**2.67**	**36**	*e*P		**Pn**	**13**	**50**	**48.7**	**+0.9**
SPN				*e*S		**Sn**	**13**	**51**	**19.6**	**+0.6**
GNL	**Ganaly**	**2.75**	**6**	PN		**Pn**	**13**	**50**	**51.1**	**+2.0**
GNL	**Ganaly**	**2.75**	**6**	*e*P		**Pn**	**13**	**50**	**51.1**	**+2.0**
KII	**Karymskiy**	**3.31**	**21**	PN		**Pn**	**13**	**50**	**59.6**	**+2.9**
KII	**Karymskiy**	**3.31**	**21**	*e*P		**Pn**	**13**	**50**	**59.6**	**+2.9**
TUMD	**Tumrok D**	**4.61**	**22**	*e*P		**Pn**	**13**	**51**	**16.8**	**+2.6**
TUMD				*e*S		**Sn**	**13**	**52**	**10.2**	**+3.8**
TUMR	**Tumrok**	**4.62**	**20**	PN		**Pn**	**13**	**51**	**16.8**	**+2.2**
TUMR				S		**Sn**	**13**	**52**	**10.2**	**+3.2**
TUMR	**Tumrok**	**4.62**	**20**	*e*P		**Pn**	**13**	**51**	**18.1**	**+3.5**
ESO	**Esso**	**5.03**	**8**	PN		**Pn**	**13**	**51**	**22.9**	**+2.9**
ESO	**Esso**	**5.03**	**8**	*e*P		**Pn**	**13**	**51**	**22.9**	**+2.9**
KMNR	**Kamenistaya**	**5.09**	**18**	PN		**Pn**	**13**	**51**	**24.5**	**+3.7**
KMNR	**Kamenistaya**	**5.09**	**18**	*e*P		**Pn**	**13**	**51**	**24.5**	**+3.7**
KLY	**Klyuchi**	**5.69**	**18**	PN		**Pn**	**13**	**51**	**32.5**	**+3.5**
KLY	**Klyuchi**	**5.69**	**18**	*e*P		**Pn**	**13**	**51**	**32.5**	**+3.5**
SMKR	**Semkarok**	**6.11**	**21**	PN		**Pn**	**13**	**51**	**37.4**	**+2.6**
SMKR	**Semkarok**	**6.11**	**21**	*e*P		**Pn**	**13**	**51**	**37.4**	**+2.6**
SRKR	**Sorokina**	**6.11**	**20**	PN		**Pn**	**13**	**51**	**37.9**	**+3.1**
SRKR	**Sorokina**	**6.11**	**20**	*e*P		**Pn**	**13**	**51**	**37.9**	**+3.1**
KBTR	**Krutoberegovo**	**6.15**	**29**	PN		**Pn**	**13**	**51**	**37.4**	**+2.1**
KBTR	**Krutoberegovo**	**6.15**	**29**	*e*P		**Pn**	**13**	**51**	**37.4**	**+2.1**
KBG	**Krutoberegovo**	**6.16**	**28**	PN		**Pn**	**13**	**51**	**37.2**	**+1.9**
KBG	**Krutoberegovo**	**6.16**	**28**	*e*P		**Pn**	**13**	**51**	**37.2**	**+1.9**
BKI	**Bering**	**6.66**	**47**	PN		**Pn**	**13**	**51**	**42.9**	**+0.7**
BKI	**Bering**	**6.66**	**47**	*e*P		**Pn**	**13**	**51**	**42.9**	**+0.7**
BKI				*e*S		**Sn**	**13**	**52**	**50.9**	**-5.7**
KUR	**Kuril'sk**	**8.60**	**232**	*e*PN		**Pn**	**13**	**52**	**10.7**	**+2.0**
KUR				*e*S		**Sn**	**13**	**53**	**48.8**	**+4.8**
TYV	**Tymovskoe**	**9.35**	**275**	*e*PN		**Pn**	**13**	**52**	**21.3**	**+2.4**
TYV				*e*S		**Sn**	**13**	**54**	**04.4**	**+2.1**
TYV				pmax	pmax					
	comp=Z,16nm,1.0s									
TYV				pmax	pmax					
	comp=Z,400nm,4.5s									
TYV				smax	smax					
	comp=E,11nm,1.4s									
MA2	**Magadan**	**9.43**	**339**	P		**Pn**	**13**	**52**	**21.0**	**+1.0**
	comp=E,2.5nm,0.3s,baz=159,slow=10.0,SNR=36									
MA2				LR		LR	13	56	18.1	
	comp=E,82nm,20.8s,baz=185,slow=40									
MA2	**Magadan**	**9.43**	**339**	Pn		**Pn**	**13**	**52**	**21.4**	**+1.4**
MA2	**Magadan**	**9.43**	**339**	P		**Pn**	**13**	**52**	**22.2**	**+2.2**
UGL	**Uglegorsk**	**10.08**	**265**	*e*PN		**Pn**	**13**	**52**	**31.0**	**+2.1**
UGL				S		**Sn**	**13**	**54**	**20.0**	**-0.2**
UGL				pmax	pmax					
	comp=Z,79nm,0.9s									
SHO	**Shikotan**	**10.10**	**229**	*e*PN		Pn	13	52	26.3	-2.9
SHEM	**Shemya Is, Ala**	**10.46**	**74**	P		**Pn**	**13**	**52**	**34.7**	**+0.7**
	comp=Z,8.4nm,0.3s,baz=278,slow=19,SNR=4.3									
SHEM				S		**Sn**	**13**	**54**	**26.8**	**-2.5**
	comp=Z,14nm,0.3s,baz=278,slow=22,SNR=8.0									
SHEM				LR		LR	13	56	28.5	
	comp=Z,61nm,21.8s,baz=117,slow=36									
SMY	**Shemya**	**10.46**	**74**	PN		**Pn**	**13**	**52**	**33.8**	**-0.2**
SMY	**Shemya**	**10.46**	**74**	Pn		**Pn**	**13**	**52**	**33.8**	**-0.2**
YSS	**Yuzh-Sakhalins**	**10.46**	**253**	*e*PN		**Pn**	**13**	**52**	**36.0**	**+1.9**
YSS				pmax	pmax					
	comp=Z,20nm,0.8s									
YSS				MLR	MLR					
	comp=Z,500nm,15.0s									
YSS	**Yuzh-Sakhalins**	**10.46**	**253**	Pn		**Pn**	**13**	**52**	**35.0**	**+0.9**
YSS	**Yuzh-Sakhalins**	**10.46**	**253**	P		**Pn**	**13**	**52**	**36.7**	**+2.6**
JKA	**Kamikawa-asahi**	**12.13**	**241**			**Pn**	**13**	**52**	**56.9**	**-0.1**
ASAJ	**Asahikawa**	**12.14**	**241**	P		**Pn**	**13**	**52**	**56.8**	**-0.2**
	comp=Z,3.6nm,0.3s,baz=68,slow=10,SNR=24									
ASAJ				LR		LR	13	57	04.2	
	comp=Z,96nm,18.3s,baz=22,slow=35									
SEY	**Seymchan**	**12.31**	**349**	P		**Pn**	**13**	**53**	**00.8**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=176,slow=10.0,SNR=14									
SEY				LR		LR	13	58	12.8	
	comp=Z,176nm,19.6s,baz=247,slow=40									
SEY	**Seymchan**	**12.31**	**349**	*ce*PN		**Pn**	**13**	**52**	**59.8**	**+0.6**
SEY				pmax	pmax					
	comp=Z,1.0nm,0.5s									
SEY				MLR	MLR					
	comp=Z,153nm,16.0s									
ERM	**Erimo**	**13.28**	**233**	*i* PN		Pn	13	53	07.0	-5.5
ERM	**Erimo**	**13.28**	**233**	Pn		Pn	13	53	07.3	-5.2
ERM	**Erimo**	**13.28**	**233**	P		**Pn**	**13**	**53**	**16.3**	**+3.8**
KLR	**Kul'dur**	**16.56**	**274**	P		**P**	**13**	**53**	**57.0**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=69,slow=12,SNR=26									
KLR				LR		LR	14	00	17.5	
	comp=Z,138nm,19.3s,baz=68,slow=37									
KLR	**Kul'dur**	**16.56**	**274**	*ce*P		**Pn**	**13**	**53**	**54.6**	**+0.1**
KLR				pmax	pmax					
	comp=Z,22nm,1.7s									
KLR				MLR	MLR					
	comp=Z,92nm,16.0s									
BILL	**Bilibino**	**17.67**	**11**	*ce*P		**P**	**13**	**54**	**08.7**	**+0.7**
BILL				*e*S		**Sn**	**13**	**57**	**24.0**	**-0.1**
BILL				pmax	pmax					
	comp=Z,9.0nm,1.3s									
BILL				MLR	MLR					
	comp=Z,67nm,18.0s									
BILL	**Bilibino**	**17.67**	**11**	P		**P**	**13**	**54**	**07.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**18.40**	**258**	P		**P**	**13**	**54**	**16.2**	**0.0**
	baz=56,slow=12,SNR=2.9									
USRK				LR		LR	14	00	59.7	
	comp=Z,144nm,21.6s,baz=52,slow=36									
ZEA	**Zeya**	**18.59**	**290**	*e*P		**P**	**13**	**54**	**18.4**	**+0.2**
ZEA				pmax	pmax					
	comp=N,10.0nm,0.5s									
ZEA				pmax	pmax					
	comp=Z,10.0nm,0.5s									
YAK	**Yakutsk**	**18.74**	**317**	P		**P**	**13**	**54**	**19.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=106,slow=3.9,SNR=11									
YAK	**Yakutsk**	**18.74**	**317**	*e*P		**P**	**13**	**54**	**19.7**	**-0.1**
YAK				*e*S		**S**	**13**	**57**	**48.9**	**+0.1**
YAK				pmax	pmax					
	comp=Z,43nm,0.9s									
YAK				pmax	pmax					
	comp=N,4.0nm,0.9s									
YAK				pmax	pmax					
	comp=E,13nm,1.1s									
YAK				smax	smax					
	comp=N,50nm,2.2s									
YAK				smax	smax					
	comp=E,151nm,4.0s									
YAK	**Yakutsk**	**18.74**	**317**	P		**P**	**13**	**54**	**17.8**	**-2.0**
JSD	**Sado**	**18.75**	**234**	P		**P**	**13**	**54**	**19.6**	**-0.5**
JSD				IAmb		IAmb	13	54	26.7	
	comp=Z,14nm,0.6s									
MDJ	**Mudanjiang**	**19.69**	**262**	P		**P**	**13**	**54**	**29.5**	**-0.8**
MDJ				pP		pP	13	54	46.3	+1.2
MDJ				sP		sP	13	54	55.4	+1.2
MDJ				pmax	pmax					
	comp=Z,17nm,1.0s									
MDJ				pmax	pmax					
	comp=Z,230nm,3.6s									
MJB9	**Matsu-Tunnel**	**19.93**	**231**	P		**P**	**13**	**54**	**32.7**	**-0.4**
MJB9				IAmb		IAmb	13	54	37.6	
	comp=Z,16nm,0.8s									
MAJO	**Matsushiro**	**19.94**	**231**	*i* P		**P**	**13**	**54**	**31.5**	**-1.5**
MAJO				pmax	pmax					
	comp=Z,15nm,0.7s									
MAJO	**Matsushiro**	**19.94**	**231**	P		**P**	**13**	**54**	**32.6**	**-0.5**
MAJO				IAmb		IAmb	13	54	37.6	
	comp=Z,16nm,0.8s									
MAJO	**Matsushiro**	**19.94**	**231**	P		**P**	**13**	**54**	**32.9**	**-0.1**
MJAR	**Matsushiro Arr**	**19.94**	**231**	P		**P**	**13**	**54**	**32.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=36,slow=10,SNR=18									
MJAR				LR		LR	14	01	53.5	
	comp=Z,100nm,21.4s,baz=42,slow=36									
MJAR	**Matsushiro Arr**	**19.94**	**231**	P		**P**	**13**	**54**	**32.4**	**-0.7**
INU	**Inuyama**	**21.47**	**231**	P		**P**	**13**	**54**	**48.1**	**-1.3**
INU				IAmb		IAmb	13	54	50.0	
	comp=Z,21nm,0.7s									
INU	**Inuyama**	**21.47**	**231**	P		**P**	**13**	**54**	**49.1**	**-0.4**
TIXI	**Tiksi**	**24.40**	**338**	P		**P**	**13**	**55**	**17.5**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=90,slow=20,SNR=14									
TIXI	**Tiksi**	**24.40**	**338**	*ie*P		**P**	**13**	**55**	**17.4**	**-0.8**
TIXI				pmax	pmax					
	comp=Z,4.0nm,0.6s									
TIXI				MLR	MLR					
	comp=Z,80nm,16.0s									
TIXI	**Tiksi**	**24.40**	**338**	P		**P**	**13**	**55**	**17.3**	**-0.9**
TIXI				IAmb		IAmb	13	55	45.3	
	comp=Z,8.8nm,0.8s									
KSRS	**Korea Array**	**24.91**	**249**	P		**P**	**13**	**55**	**23.6**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=41,slow=9.8,SNR=5.2									
BOD	**Bodaibo**	**25.83**	**302**	*e*P		**P**	**13**	**55**	**29.5**	**-1.8**
BOD				pmax	pmax					
	comp=Z,15nm,1.6s									
K20K	**Telida**	**28.30**	**45**	P		**P**	**13**	**55**	**53.5**	**0.0**
J20K	**Nowinta River**	**28.33**	**44**	P		**P**	**13**	**55**	**54.2**	**+0.6**
CAST	**Castle Rocks**	**29.20**	**45**	P		**P**	**13**	**56**	**02.5**	**+1.1**
KDAK	**Kodiak Island**	**29.31**	**57**	P		**P**	**13**	**56**	**03.7**	**+1.4**
	comp=Z,2.2nm,0.6s,baz=311,slow=11,SNR=1.3									
KDAK	**Kodiak Island**	**29.31**	**57**	P		**P**	**13**	**56**	**02.1**	**-0.3**
KDAK				pmax	pmax					
	comp=Z,15nm,1.4s									
KDAK	**Kodiak Island**	**29.31**	**57**	P		**P**	**13**	**56**	**02.1**	**-0.3**
KDAK				IAmb		IAmb	13	56	23.0	
	comp=Z,15nm,1.4s									
I21K	**Tanana**	**29.33**	**42**	P		**P**	**13**	**56**	**04.0**	**+1.5**
BPAW	**Bear Paw Mtn.**	**29.70**	**44**	P		**P**	**13**	**56**	**05.2**	**-0.7**
KTH	**Kantishna Hill**	**29.73**	**45**	P		**P**	**13**	**56**	**07.3**	**+1.2**
KTH				IAmb		IAmb	13	56	08.0	
	comp=Z,7.4nm,1.2s									
COLD	**Coldfoot**	**30.24**	**38**	P		**P**	**13**	**56**	**09.8**	**-0.8**
H23K	**Yukon River**	**30.39**	**41**	P		**P**	**13**	**56**	**12.3**	**+0.4**
TOLK	**Toolik Lake Re**	**30.65**	**35**	P		**P**	**13**	**56**	**14.6**	**+0.4**
RND	**Reindeer**	**30.66**	**45**	P		**P**	**13**	**56**	**13.6**	**-0.7**
RND				pmax	pmax					
	comp=Z,5.0nm,0.8s									
RND	**Reindeer**	**30.66**	**45**	P		**P**	**13**	**56**	**13.6**	**-0.7**
RND				IAmb		IAmb	13	56	15.7	
	comp=Z,5.0nm,0.8s									
COLA	**College**	**31.07**	**42**	*i* P		**P**	**13**	**56**	**16.9**	**-0.9**
COLA				pmax	pmax					
	comp=Z,8.0nm,0.8s									
SCM	**Sheep Creek Mo**	**31.46**	**48**	P		**P**	**13**	**56**	**20.5**	**-0.9**
SCM				pmax	pmax					
	comp=Z,10.0nm,0.8s									
SCM	**Sheep Creek Mo**	**31.46**	**48**	P		**P**	**13**	**56**	**20.5**	**-0.9**
SCM				IAmb		IAmb	13	56	31.1	
	comp=Z,10nm,0.8s									
ILAR	**Eielson Array**	**31.49**	**43**	P		**P**	**13**	**56**	**22.1**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=260,slow=8.0,SNR=28									
FID	**Port Fidalgo**	**31.99**	**50**	P		**P**	**13**	**56**	**24.8**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**32.05**	**163**	T		T	14	30	12.7	
	baz=348,slow=76,SNR=800									
H11N3	**WAKE ISLAND Hy**	**32.06**	**163**	T		T	14

EDM	**Edmonton**	**51.37**	**50**	P	**P**	**13 59 03.9**	**-0.2**		
EDM				pmax	pmax				
	comp=Z,11nm,0.8s								
EDM	**Edmonton**	**51.37**	**50**	P	**P**	**13 59 03.9**	**-0.2**		
DAG	**Danmarks Havn**	**52.52**	**359**	P	**P**	**13 59 11.9**	**-0.2**		
DAG				pmax	pmax				
	comp=Z,8.0nm,0.9s								
DAG	**Danmarks Havn**	**52.52**	**359**	*i* P	**P**	**13 59 11.0**	**-1.1**		
DAG				IAmb	IAmb	13 59 12.1			
	comp=Z,5.1nm,0.6s								
YBH	**Yreka Blue Hor**	**53.33**	**67**	LR	LR	14 19 39.3			
	comp=Z,40nm,20.9s,baz=338,slow=33								
ULHL	**Ulahol**	**53.80**	**295**	P	**P**	**13 59 23.8**	**+1.5**		
ULHL				pmax	pmax				
	comp=Z,4.0nm,0.8s								
BOOM	**Boomskoye usch**	**53.81**	**295**	P	**P**	**13 59 20.4**	**-2.0**		
BOOM				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BOOM	**Boomskoye usch**	**53.81**	**295**	P	**P**	**13 59 20.4**	**-2.0**		
BOOM				IAmb	IAmb	13 59 24.1			
	comp=Z,3.5nm,0.8s								
ARU	**Arti**	**53.85**	**317**	LR	LR	14 25 25.4			
	comp=Z,67nm,18.4s,baz=72,slow=40								
ARU	**Arti**	**53.85**	**317**	*d i* P	**P**	**13 59 20.8**	**-1.4**		
ARU				*PP	**pP**	**13 59 42.9**	**+2.2**		
ARU						14 00 25.5			
ARU				S	**S**	**14 06 52.4**	**+1.0**		
ARU				SS	**SS**	**14 10 29.5**	**-3.0**		
ARU				pmax	pmax				
	comp=Z,5.0nm,0.8s								
ARU	**Arti**	**53.85**	**317**	P	**P**	**13 59 20.5**	**-1.8**		
ARU				IAmb	IAmb	13 59 21.6			
	comp=Z,6.3nm,0.9s								
AAK	**Ala-Archa**	**54.55**	**296**	LR	LR	14 23 30.2			
	comp=Z,59nm,19.3s,baz=85,slow=37								
AAK	**Ala-Archa**	**54.55**	**296**	*i* P	**P**	**13 59 26.3**	**-1.4**		
AAK				pmax	pmax				
	comp=Z,2.0nm,0.5s								
AAK	**Ala-Archa**	**54.55**	**296**	P	**P**	**13 59 25.8**	**-1.9**		
AAK				IAmb	IAmb	13 59 29.4			
	comp=Z,3.2nm,0.6s								
MOD	**Modoc Plateau**	**54.61**	**65**	P	**P**	**13 59 29.8**	**+1.6**		
UBPT	**Khong Chiam**	**54.63**	**249**	P	**P**	**13 59 28.1**	**-0.3**		
UBPT				IAmb	IAmb	13 59 32.7			
	comp=Z,7.9nm,1.1s								
ARCES	**ARCESS Array B**	**54.80**	**341**	P	**P**	**13 59 27.8**	**-1.1**		
	comp=Z,2.1nm,0.9s,baz=30,slow=7.3,SNR=3.8								
PLID	**Pearl Lake**	**54.99**	**60**		**P**	**13 59 31.2**	**+0.2**		
PLID				IAmb	IAmb	13 59 50.8			
	comp=Z,2.3nm,0.8s								
DBG	**Daneborg**	**55.01**	**359**	*i* P	**P**	**13 59 28.6**	**-1.8**		
DBG				IAmb	IAmb	13 59 29.8			
	comp=Z,2.3nm,0.6s								
FFC	**Flin Flon**	**55.69**	**44**	P	**P**	**13 59 37.0**	**+1.5**		
FFC				pmax	pmax				
	comp=Z,5.0nm,0.8s								
FFC	**Flin Flon**	**55.69**	**44**	P	**P**	**13 59 37.0**	**+1.5**		
FFC				IAmb	IAmb	13 59 38.0			
	comp=Z,5.2nm,0.8s								
KSH	**Kashi**	**55.70**	**292**	P	**P**	**13 59 39.3**	**+3.3**		
KSH				pmax	pmax				
	comp=Z,4.0nm,1.1s								
CHTO	**Chiang Mai**	**55.86**	**257**	P	**P**	**13 59 37.8**	**+0.6**		
CHTO				pmax	pmax				
	comp=Z,21nm,0.7s								
CHTO	**Chiang Mai**	**55.86**	**257**	P	**P**	**13 59 37.8**	**+0.6**		
BEKR	**Beckworth**	**55.90**	**67**	P	**P**	**13 59 38.3**	**+0.9**		
BEKR				IAmb	IAmb	13 59 40.6			
	comp=Z,3.8nm,0.8s								
CM31	**Chiang Mai Arr**	**56.13**	**257**	P	**P**	**13 59 39.8**	**+0.7**		
CMAR	**Chiang Mai Arr**	**56.13**	**257**	P	**P**	**13 59 40.1**	**+1.0**		
	comp=Z,13nm,0.7s,baz=29,slow=6.8,SNR=127								
CMAR				pP	**pP**	**13 59 55.4**	**-2.2**		
	comp=Z,1.4nm,0.6s,baz=25,slow=6.9,SNR=3.1								
CMAR				PcP	**PcP**	**14 00 37.0**	**+0.7**		
	comp=Z,1.4nm,0.6s,baz=7.0,slow=2.6,SNR=4.6								
CMAR	**Chiang Mai Arr**	**56.13**	**257**	P	**P**	**13 59 40.0**	**+0.9**		
CMAR	**Chiang Mai Arr**	**56.13**	**257**	P	**P**	**13 59 40.0**	**+0.9**		
KIRV	**Kirov**	**56.13**	**323**	LR	LR	14 25 24.5			
	comp=Z,116nm,20.8s,baz=58,slow=38								
FCC	**Fort Churchill**	**56.17**	**37**	P	**P**	**13 59 39.0**	**+0.2**		
FCC				pmax	pmax				
	comp=Z,5.0nm,0.9s								
FCC	**Fort Churchill**	**56.17**	**37**	P	**P**	**13 59 39.0**	**+0.2**		
FCC				IAmb	IAmb	13 59 40.8			
	comp=Z,5.3nm,0.9s								
PNTR	**Pine Nut**	**56.85**	**67**	P	**P**	**13 59 46.3**	**+2.0**		
BOZ	**Bozeman (W)**	**57.01**	**57**	P	**P**	**13 59 45.8**	**+0.5**		
BOZ				pmax	pmax				
	comp=Z,2.0nm,0.8s								
BOZ	**Bozeman (W)**	**57.01**	**57**	P	**P**	**13 59 45.8**	**+0.5**		
BOZ				IAmb	IAmb	13 59 48.2			
	comp=Z,2.3nm,0.8s								
ODAN	**Odare**	**57.26**	**273**	*e*P	**P**	**13 59 47.6**	**+0.2**		
JIRN	**Jiri**	**57.46**	**275**	*e*P	**P**	**13 59 48.3**	**-0.6**		
	comp=Z,4.6nm,0.8s								
GUN	**Gumba**	**57.48**	**275**	*e*P	**P**	**13 59 48.7**	**-0.3**		
	comp=Z,17nm,0.5s								
RAMN	**Ramite**	**57.70**	**274**	*e*P	**P**	**13 59 50.2**	**-0.2**		
KVN	**Kaiserville**	**57.75**	**66**	P	**P**	**13 59 52.2**	**+1.6**		
KVN				pmax	pmax				
	comp=Z,5.0nm,0.7s								
KVN	**Kaiserville**	**57.75**	**66**	P	**P**	**13 59 52.2**	**+1.6**		
ABKAR	**Akbulak array**	**57.92**	**310**	P	**P**	**13 59 48.9**	**-2.5**		
KKN	**Kakani**	**57.94**	**276**	*e*P	**P**	**13 59 51.9**	**-0.2**		
	comp=Z,23nm,0.5s								
JMIC	**Jan Mayen**	**57.94**	**355**	LR	LR	14 23 51.9			
	comp=Z,30nm,18.5s,baz=104,slow=35								
PKI	**Pulchoki**	**58.01**	**275**	*e*P	**P**	**13 59 52.2**	**-0.5**		
	comp=Z,11nm,0.5s								
PKIN	**Phulchoki**	**58.01**	**275**	*e*P	**P**	**13 59 52.5**	**-0.2**		
	comp=Z,11nm,0.5s								
NVAR	**Mina Array Bea**	**58.04**	**67**	P	**P**	**13 59 55.2**	**+2.5**		
	comp=Z,3.4nm,0.6s,baz=298,slow=7.3,SNR=40								
NVAR				pP	**pP**	**14 00 10.9**	**-0.3**		
	comp=Z,1.2nm,0.7s,baz=301,slow=6.6,SNR=5.0								
DMN	**Daman**	**58.17**	**276**	*e*P	**P**	**13 59 54.0**	**+0.2**		
	comp=Z,26nm,0.6s								
GKN	**Gorkha**	**58.19**	**276**	*e*P	**P**	**13 59 54.0**	**+0.2**		
	comp=Z,31nm,0.5s								
ELK	**Elko**	**58.25**	**63**	P	**P**	**13 59 53.9**	**-0.3**		
ELK				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ELK	**Elko**	**58.25**	**63**	P	**P**	**13 59 53.9**	**-0.3**		
ELK				IAmb	IAmb	14 00 15.0			
	comp=Z,2.3nm,1.0s								
DANN	**Dangsing**	**58.50**	**277**	*e*P	**P**	**13 59 55.8**	**-0.3**		
	comp=Z,41nm,0.6s								
KOLN	**Koldanda**	**59.01**	**277**	*e*P	**P**	**13 59 59.2**	**-0.3**		
	comp=Z,33nm,0.7s								
PYUN	**Piuthan**	**59.16**	**278**	*e*P	**P**	**14 00 00.1**	**-0.5**		
	comp=Z,62nm,0.9s								
GAR	**Garm**	**59.32**	**295**	P	**P**	**13 59 59.1**	**-2.4**		
ICESG	**Greenland Ices**	**59.60**	**7**	*i* P	**P**	**14 00 01.1**	**-2.0**		
ICESG				IAmb	IAmb	14 00 03.6			
	comp=Z,6.1nm,0.7s								
PDAR	**Pinedale Array**	**60.02**	**58**	P	**P**	**14 00 08.3**	**+2.0**		
	comp=Z,1.9nm,0.7s,baz=320,slow=2.7,SNR=19								
PDAR				pP	**pP**	**14 00 23.8**	**-1.2**		
	comp=Z,1.1nm,0.8s,baz=317,slow=2.0,SNR=4.7								
PDAR	**Pinedale Array**	**60.02**	**58**	P	**P**	**14 00 07.5**	**+1.2**		
FRB	**Frobisher Bay**	**60.10**	**22**	P	**P**	**14 00 06.0**	**-0.2**		
FRB				pmax	pmax				
	comp=Z,10.0nm,0.9s								
FINES	**FINESS Array B**	**61.41**	**336**	P	**P**	**14 00 13.6**	**-1.5**		
	comp=Z,0.8nm,0.4s,baz=41,slow=7.1,SNR=12								
FINES	**FINESS Array B**	**61.41**	**336**	*i* P	**P**	**14 00 14.6**	**-0.5**		
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
SBUM	**Sibu**	**61.45**	**234**	P	**P**	**14 00 16.7**	**+0.7**		
PV13	**Radium Mtn., P**	**63.63**	**61**	P	**P**	**14 00 31.6**	**+1.0**		
PV13				IAmb	IAmb	14 00 33.6			
	comp=Z,6.8nm,1.0s								
ISCO	**Idaho Springs**	**64.21**	**58**	P	**P**	**14 00 35.2**	**+0.7**		
ISCO				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ISCO	**Idaho Springs**	**64.21**	**58**	P	**P**	**14 00 35.2**	**+0.7**		
NB2	**NORSAR Subarra**	**65.11**	**343**	P	**P**	**14 00 38.9**	**-0.8**		
	comp=Z,2.5nm,0.7s,baz=23,slow=6.5								
NOA	**NORSAR Array B**	**65.11**	**343**	P	**P**	**14 00 38.6**	**-1.1**		
	comp=Z,1.0nm,0.6s,baz=23,slow=6.5,SNR=8.6								
NORES	**NORESS Array B**	**65.33**	**342**	P	**P**	**14 00 40.4**	**-0.6**		
HFS	**Hagfors**	**65.46**	**341**	LR	LR	14 34 33.9			
	comp=Z,31nm,20.7s,baz=38,slow=41								
MTN	**Manton Dam**	**67.56**	**208**	P	**P**	**14 00 55.4**	**-0.3**		
MTN				IAmb	IAmb	14 00 56.9			
	comp=Z,7.8nm,0.9s								
SCHQ	**Schefferville**	**68.29**	**26**	P	**P**	**14 01 00.5**	**+0.5**		
	comp=Z,6.8nm,0.8s,baz=334,slow=5.8,SNR=19								
SCHQ	**Schefferville**	**68.29**	**26**	P	**P**	**14 00 59.7**	**-0.3**		
SCHQ				IAmb	IAmb	14 01 01.9			
	comp=Z,6.8nm,0.8s								
AKASG	**Malin Array Be**	**69.57**	**328**	P	**P**	**14 01 05.9**	**-2.0**		
	comp=Z,0.7nm,0.3s,baz=31,slow=6.4,SNR=2.8								
KIV	**Kislovodsk**	**69.85**	**316**	*e*P	**P**	**14 01 08.8**	**-1.1**		
KIV				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KBZ	**Khabaz**	**69.93**	**315**	P	**P**	**14 01 10.8**	**+0.5**		
	comp=Z,1.0nm,0.5s,baz=78,slow=5.3,SNR=4.2								
KBZ	**Khabaz**	**69.93**	**315**	*i* P	**P**	**14 01 09.3**	**-0.9**		
KBZ				pmax	pmax				
	comp=Z,7.0nm,2.1s								
SHA1	**Shidzhatmaz**	**70.03**	**316**	*i* P	**P**	**14 01 06.9**	**-4.3**		
GSI	**Gunungsitoli**	**70.44**	**247**	P	**P**	**14 01 12.3**	**-1.4**		
GNI	**Garni**	**71.92**	**312**	LR	LR	14 36 10.2			
	comp=Z,26nm,19.7s,baz=324,slow=38								
EKA	**Eskdalemuir Ar**	**72.85**	**349**	P	**P**	**14 01 27.1**	**-0.5**		
TX31	**Lajitas Ar. Si**	**73.00**	**64**	P	**P**	**14 01 29.1**	**0.0**		
TXAR	**Lajitas Array**	**73.01**	**64**	P	**P**	**14 01 31.0**	**+1.9**		
	comp=Z,5.3nm,0.7s,baz=299,slow=4.5,SNR=55								
TXAR				pP	**PcP**	**14 01 48.5**	**+2.9**		
	comp=Z,1.0nm,0.5s,baz=288,slow=4.9,SNR=3.4								
TXAR				LR	LR	14 32 52.9			
	comp=Z,17nm,19.9s,baz=324,slow=35								
TXAR	**Lajitas Array**	**73.01**	**64**	P	**P**	**14 01 29.2**	**+0.1**		
TXAR	**Lajitas Array**	**73.01**	**64**	P	**P**	**14 01 29.1**	**+0.1**		
LPIG	**La Paz**	**73.03**	**73**	LR	LR	14 33 00.9			
	comp=Z,14nm,18.5s,baz=269,slow=35								
DZM	**Mont Dzumac**	**73.14**	**171**	LR	LR	14 25 12.6			
	comp=Z,37nm,21.2s,baz=45,slow=29								
WR0	**Warramunga Arr**	**73.44**	**202**	P	**P**	**14 01 29.3**	**-2.1**		
WR0				IAmb	IAmb	14 01 32.5			
	comp=Z,7.1nm,1.1s								
WRAB	**Tennant Creek**	**73.46**	**203**	P	**P**	**14 01 29.2**	**-2.3**		
WRAB				pmax	pmax				
	comp=Z,16nm,1.5s								
WRAB	**Tennant Creek**	**73.46**	**203**	P	**P**	**14 01 29.2**	**-2.3**		
WB2	**Warramunga Arr**	**73.47**	**203**	P	**P**	**14 01 30.9**	**-0.7**		
WB2				IAmb	IAmb	14 01 32.3			
	comp=Z,5.3nm,0.7s								
WRA	**Warramunga Arr**	**73.47**	**203**	P	**P**	**14 01 31.6**	**0.0**		
	comp=Z,3.3nm,0.6s,baz=18,slow=6.3,SNR=27								
DPC	**Dobruska-Polom**	**73.78**	**335**	*e*P	P	14 01 41.7	+8.5		
FCAR	**Ozark Folk Cen**	**74.16**	**52**	P	**P**	**14 01 35.1**	**-0.6**		
FCAR				IAmb	IAmb	14 01 36.4			
	comp=Z,5.2nm,0.8s								
MLR	**Muntele Rosu**	**75.18**	**327**	LR	LR	14 36 45.9			
	comp=Z,66nm,19.0s,baz=39,slow=37								
KHC	**Kasperske Hory**	**75.61**	**336**	*e*P	**P**	**14 01 44.5**	**+0.7**		
KHC				*e*		14 01 50.2			
KHC	**Kasperske Hory**	**75.61**	**336**	*e*P	**P**	**14 01 44.5**	**+0.7**		
KHC				*ex*	x	14 01 50.2			
M55A	**Ridgway**	**75.72**	**40**	P	**P**	**14 01 44.6**	**0.0**		
GERES	**GERESS Array B**	**75.84**	**336**	P	**P**	**14 01 45.2**	**0.0**		
	comp=Z,0.5nm,0.4s,baz=40,slow=7.8,SNR=6.1								
GERES				LR	LR	14 42 20.6			
	comp=Z,11nm,18.3s,baz=10,slow=41								
AS31	**Alice Springs**	**77.15**	**202**	P	**P**	**14 01 52.8**	**+0.1**		
ASAR	**Alice Springs**	**77.15**	**202**	P	**P**	**14 01 53.7**	**+1.0**		
	comp=Z,2.7nm,0.7s,baz=15,slow=5.4,SNR=51								
ASAR				pP	**PcP**	**14 02 10.4**	**+7.2**		
	comp=Z,1.5nm,0.6s,baz=15,slow=5.1,SNR=7.2								
ASAR	**Alice Springs**	**77.15**	**202**	P	**P**	**14 01 53.6**	**+0.9**		
ASAR	**Alice Springs**	**77.15**	**202**	P	**P**	**14 01 53.5**	**+0.9**		
BRTR	**Keskin Array B**	**77.19**	**319**	P	**P**	**14 01 52.9**	**-0.2**		
	comp=Z,0.6nm,0.6s,baz=46,slow=3.6,SNR=4.6								
BRTR				LR	LR	14 39 11.1			
	comp=Z,33nm,19.7s,baz=62,slow=38								
KBA	**Koelnbreinsper**	**77.56**	**336**	P	**P**	**14 01 56.5**	**+1.4**		
KBA				pmax	pmax				
	comp=Z,8.0nm,0.7s								
HAU	**Haudompre**	**78.33**	**341**	*e*P	**P**	**14 02 00.9**	**+1.8**		
HAU				pmax	pmax				
	comp=Z,7.0nm,1.0s								
FLN	**La Foliniere**	**78.87**	**345**	*e*P	**P**	**14 02 02.0**	**0.0**		
FLN				pmax	pmax				
	comp=Z,19nm,1.2s								
GRR	**Gorron**	**79.29**	**345**	*e*P	**P**	**14 02 04.6**	**+0.3**		
GRR				pmax	pmax				
	comp=Z,15nm,0.8s								
LOR	**Lormes**	**79.54**	**342**	*e*P	**P**	**14 02 06.1**	**+0.3**		
LOR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
SSF	**Saint Saulge**	**79.81**	**342**	*e*P	**P**	**14 02 08.0**	**+0.8**		
SSF				pmax	pmax				
	comp=Z,15nm,1.4s								
AVF	**Avril sur Loir**	**80.10**	**342**	*e*P	**P**	**14 02 09.1**	**+0.4**		
AVF				pmax	pmax				
	comp=Z,4.0nm,0.6s								
QUIF	**Quistinic**	**80.10**	**347**	*e*P	**P**	**14 02 08.9**	**+0.2**		
QUIF				pmax	pmax				
	comp=Z,84nm,1.9s								
SMF	**Signal de Mont**	**80.14**	**342**	*e*P	**P**	**14 02 10.6**	**+1.6**		
SMF				pmax	pmax				
	comp=Z,11nm,0.9s								
LPL	**La Plagne**	**80.62**	**340**	*e*P	**P**	**14 02 12.5**	**+0.7**		
LPL				pmax	pmax				
	comp=Z,4.0nm,0.7s								
LPG	**La Plagne**	**80.63**	**340**	*e*P	**P**	**14 02 13.3**	**+1.3**		
LPG				pmax	pmax				
	comp=Z,3.0nm,0.6s								
RAR	**Raronga**	**81.12**	**140**	LR	LR	14 32 33.9			
	comp=Z,39nm,20.9s,baz=210,slow=31								
ORIF	**Oris-en-Rattie**	**81.37**	**340**	*e*P	**P**	**14 02 17.2**	**+1.5**		
ORIF				pmax	pmax				
	comp=Z,6.0nm,0.8s								
VIVF	**Saint-Julien-l**	**81.69**	**341**	*e*P	**P**	**14 02 17.7**	**+0.4**		
VIVF				pmax	pmax				
	comp=Z,3.0nm,0.7s								
RJF	**Les Rejaudoux**	**81.88**	**343**	*e*P	**P**	**14 02 18.3**	**+0.1**		
RJF				pmax	pmax				
	comp=Z,12nm,1.2s								
CAF	**Calviac**	**82.14**	**343**	*e*P	**P**	**14 02 19.6**	**0.0**		
CAF				pmax	pmax				
	comp=Z,10.0nm,1.2s								
STKA	**Stephens Creek**	**83.66**	**194**	P	**P**	**14 02 28.2**	**+0.8**		
	comp=Z,1.9nm,0.9s,baz=37,slow=8.6,SNR=3.6								
STKA	**Stephens Creek**	**83.66**	**194**	P	**P**	**14 02 27.8**	**+0.5**		
STKA				pmax	pmax				
	comp=Z,1.0nm,1.2s								
STKA	**Stephens Creek**	**83.66**	**194**	P	**P**	**14 02 27.8**	**+0.5**		
EPF	**Esparros**	**84.29**	**343**	*e*P	**P**	**14 02 31.0**	**+0.2**		
EPF				pmax	pmax				
	comp=Z,3.0nm,0.6s								
SJPF	**Ste Jean**	**84.48**	**344**	*e*P	**P**	**14 02 33.0**	**+1.3**		
SJPF				pmax	pmax				
	comp=Z,15nm,1.5s								
ETSF	**Etsaut**	**84.58**	**344**	*e*P	**P**	**14 02 32.2**	**-0.1**		
ETSF				pmax	pmax				
	comp=Z,6.0nm,0.9s								
VAE	**Valguarnera**	**86.14**	**331**	LR	LR	14 45 16.5			
	comp=Z,35nm,18.6s,baz=336,slow=38								
ESDC	**Sonseca Array**	**88.28**	**346**	P	**P**	**14 02 49.7**	**-0.7**		
	comp=Z,3.0nm,0.8s,baz=2.6,slow=4.4,SNR=20								
KEST	**Kesra**	**89.22**	**335**	P	**P**	**14 02 55.1**	**+0.2**		
	comp=Z,6.4nm,0.7s,baz=16,slow=2.0,SNR=5.6								
TORD	**Torodi Ar. Bea**	**112.74**	**334**	PKiKP	**PKiKP**	**14 08 35.7**	**+0.1**		
	comp=Z,0.6nm,0.7s,baz=355,slow=2.4,SNR=3.6								
DBIC	**Dimbokro**	**120.60**	**339**	PKP	**PKiKP**	**14 08 51.2**	**+0.4**		
	comp=Z,1.4nm,0.5s,baz=91,slow=2.8,SNR=4.7								
LPAZ	**La Paz**	**129.87**	**63**	PKP	**PKiKP**	**14 09 09.8**	**0.0**		
	comp=Z,0.7nm,0.6s,baz=342,slow=3.2,SNR=2.2								
H03N2	**Juan Fernandez**	**135.86**	**89**	T	T	16 40 21.0			
	baz=313,slow=77,SNR=459								
H03N1	**Juan Fernandez**	**135.88**	**89**	T	T	16 40 22.3			
	baz=313,slow=77,SNR=425								
H03N3	**Juan Fernandez**	**135.88**	**89**	T	T	16 40 19.1			
	baz=313,slow=77,SNR=731								
PLCA	**Paso Flores**	**145.60**	**92**	PKPbc	**PKPab**	**14 09 37.9**	**+0.6**		
	comp=Z,4.5nm,0.7s,baz=253,slow=3.0,SNR=12								

*NEIC **16** 14:03:26.7±1.6, 19°.22N±0°.04×64°.91W±0°.03, h10km±2km, Error ellipse: s-maj=6.9km s-min=4.9km az=347.0*
*RSPR **16** 14:03:26.4, 19°.44N×64°.73W, h58km±8km, MD3.6/10*

ISC 16 14:03:24.3±1.9, 19°.5N±0°.1×64°.75W±0°.06, h27km, n46, σ0°.83/46, 9C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.11**	**190**	*e*S	**Pb**	**14 03 44.9**	**0.0**
STVI	**Saint Thomas**	**1.11**	**190**		**Sn**	**14 03 58.7**	**+0.1**
STVI	**Saint Thomas**	**1.11**	**190**		**Pb**	**14 03 44.9**	**0.0**
STVI				IAML		14 04 02.3	
	comp=N,480nm,0.3s						
STVI	**Saint Thomas**	**1.11**	**190**		**Sn**	**14 03 58.7**	**+0.1**
CUPR	**Culebra, Puert**	**1.25**	**204**	*e*P	**Pb**	**14 03 46.5**	**-0.6**
CUPR	**Culebra, Puert**	**1.25**	**204**	*e*S	**Sn**	**14 04 01.9**	**+0.1**
CUPR	**Culebra, Puert**	**1.25**	**204**		**Pb**	**14 03 46.3**	**-0.9**
CUPR				IAML		14 04 06.6	
	comp=E,347nm,0.5s						
CUPR				IAML		14 04 09.0	
	comp=N,345nm,0.5s						
CUPR	**Culebra, Puert**	**1.25**	**204**		**Sn**	**14 04 01.9**	**+0.1**
MTP	**Monte Pirata**	**1.55**	**210**	*e*P	**Pb**	**14 03 51.0**	**-1.4**
MTP	**Monte Pirata**	**1.55**	**210**	*e*S	**Sn**	**14 04 09.6**	**+0.3**
MTP	**Monte Pirata**	**1.55**	**210**		**Pb**	**14 03 50.9**	**-1.4**
MTP				IAML		14 04 18.0	
	comp=E,326nm,0.3s						
MTP	**Monte Pirata**	**1.55**	**210**		**Sn**	**14 04 09.6**	**+0.3**
CBYP	**Canovanas**	**1.57**	**222**		**Pn**	**14 03 50.7**	**+0.2**
CDVI	**St. Croix**	**1.69**	**181**	*e*P	**Pn**	**14 03 52.5**	**+0.4**
CDVI	**St. Croix**	**1.69**	**181**	*e*S	**Sn**	**14 04 13.3**	**+0.5**
CDVI	**St. Croix**	**1.69**	**181**		**Sn**	**14 04 13.3**	**+0.5**
GCPR	**Guaynabo City**	**1.70**	**228**		**Pn**	**14 03 52.1**	**-0.1**
PDPR	**Patillas Dam,**	**1.87**	**220**		**Pn**	**14 03 55.1**	**+0.6**
PDPR				IAML		14 04 27.1	
	comp=E,163nm,0.5s						
SJG	**San Juan**	**1.88**	**225**		**Pn**	**14 03 55.0**	**+0.4**
SJG				IAML		14 04 21.1	
	comp=E,197nm,0.5s						
EMPR	**Esperanza - Ma**	**1.94**	**240**	*e*P	**Pn**	**14 03 56.6**	**+1.0**
EMPR	**Esperanza - Ma**	**1.94**	**240**	*e*S	**Sn**	**14 04 19.9**	**+0.8**
EMPR	**Esperanza - Ma**	**1.94**	**240**		**Pn**	**14 03 55.7**	**+0.1**
EMPR				IAML		14 04 30.6	
	comp=N,200nm,0.6s						
EMPR	**Esperanza - Ma**	**1.94**	**240**		**Sn**	**14 04 19.9**	**+0.8**
IGPR	**InterUniversit**	**1.96**	**221**	*e*P	**Pn**	**14 03 57.0**	**+1.3**
IGPR	**InterUniversit**	**1.96**	**221**	*e*S	**Sn**	**14 04 20.4**	**+0.9**
IGPR	**InterUniversit**	**1.96**	**221**		**Sn**	**14 04 20.4**	**+0.9**
SMRT	**St. Maarten**	**2.11**	**131**	Pn	**Pb**	**14 04 00.8**	**-1.1**
AOPR	**Arecibo Observ**	**2.19**	**240**	*e*P	**Pn**	**14 03 59.6**	**+0.6**
AOPR	**Arecibo Observ**	**2.19**	**240**	*e*S	**Sn**	**14 04 26.1**	**+0.8**
AOPR	**Arecibo Observ**	**2.19**	**240**		**Pn**	**14 03 59.3**	**+0.3**
AOPR	**Arecibo Observ**	**2.19**	**240**		**Sn**	**14 04 26.1**	**+0.8**
CELP	**Cerrillos**	**2.21**	**232**	*e*P	**Pn**	**14 04 00.1**	**+0.9**
CELP	**Cerrillos**	**2.21**	**232**	*e*S	**Sn**	**14 04 25.9**	**+0.2**
CELP	**Cerrillos**	**2.21**	**232**		**Pn**	**14 03 59.3**	**0.0**
CELP				IAML		14 04 32.1	
	comp=N,125nm,0.5s						
CELP	**Cerrillos**	**2.21**	**232**		**Sn**	**14 04 25.9**	**+0.2**
OBIP	**Obispado Ponce**	**2.25**	**232**	*e*P	**Pn**	**14 04 00.7**	**+0.9**
OBIP	**Obispado Ponce**	**2.25**	**232**	*e*S	**Sn**	**14 04 27.6**	**+0.9**
OBIP	**Obispado Ponce**	**2.25**	**232**		**Pn**	**14 03 58.9**	**+0.8**
OBIP	**Obispado Ponce**	**2.25**	**232**		**Sn**	**14 04 27.6**	**+0.9**
ICMP	**Isla Caja de M**	**2.29**	**228**		**Pn**	**14 04 00.1**	**-0.3**
ICMP				IAML		14 04 46.8	
	comp=N,127nm,0.6s						
ICMP				IAML		14 04 47.8	
	comp=E,139nm,0.7s						
MLPR	**Magueyes Islan**	**2.63**	**236**		**Pb**	**14 04 08.

ARE1	**Arenal 1**	**1.44**	**14**	*eP*	Pn	14 30 00.1	+0.6
CEDE	**Laguna Cedeo**	**1.47**	**14**	*i* P	Pn	14 30 00.9	+0.9
EDPN	**Palmar Norte**	**1.59**	**93**	*eP*	Pn	14 30 01.8	+0.2
EDPN				*eS*	Sn	14 30 21.7	+0.4
CUI	**Cuipilapa**	**1.60**	**357**	*i* P	Pn	14 30 01.9	+0.1
CUI				*i* S	Sn	14 30 22.1	+0.4
HORNC	**Hornillas**	**1.66**	**356**	*i* P	Pn	14 30 02.6	+0.1
HORNC				*i* S	Sn	14 30 23.7	+0.7
SRBA	**San Rafael, Bu**	**1.69**	**84**	*eP*	Pn	14 30 03.3	+0.2
VMAR	**Armenia, Volca**	**1.75**	**358**	*eP*	Pn	14 30 04.5	+0.6
PIRO	**Carate, Puerto**	**1.82**	**110**	*eP*	Pn	14 30 04.8	0.0

ATH ***16*** *14:29:31.0, 36°.81N×28°.08E, h112km±5km, ML3.9/8, Error ellipse: s-maj=6.0km s-min=1.7km az=133.0*
IDC ***16*** *14:29:35.9±1.9, 36°.68N×28°.02E, h66km±19km, mb3.6/10, mb1 3.8/18, mb1mx3.6/50, mbtmp3.9/18, Error ellipse: s-maj=15.1km s-min=14.4km az=177.0*
ISK ***16*** *14:29:36.9, 36°.78N×28°.02E, h69km, ML3.8/11*
DDA ***16*** *14:29:37.3±0.0, 36°.76N×27°.96E, h36km±1km, MW3.7*
NIC ***16*** *14:29:38.3±0.0, 36°.51N×28°.20E, h85km±1km, Ml4.1/3*
THE ***16*** *14:29:38.3, 36°.81N×28°.04E, h67km±1km, ML3.6/14, Error ellipse: s-maj=1.7km s-min=0.6km az=135.0*
GII ***16*** *14:29:42.5±0.3, 36°.22N×28°.37E, h65km, MD3.2/3*
HLW ***16*** *14:29:42.6, 35°.97N×28°.11E, h7km±11km, Md3.4, Ml4.2*

ISC 16 14:29:36.7±0.6, 36°.75N±0°.03×28°.13E±0°.03, h72km±5km, n180, σ1§76/254, mb3.6/10, 10C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.10**	**73**	P	**Pn**	**14 29 47.5**	**+0.4**
TURN				S	**Sn**	**14 29 54.7**	**-0.1**
YER	**Yerkesik**	**0.41**	**18**	P	**Pn**	**14 29 49.5**	**+0.6**
YER				S	**Sn**	**14 29 57.7**	**-0.3**
YER	**Yerkesik**	**0.41**	**18**	PG	**Pn**	**14 29 49.6**	**+0.6**
YER				SG	**Sn**	**14 29 58.3**	**+0.3**
DALY	**Dalyan (Mula)**	**0.43**	**80**	PG	**Pn**	**14 29 50.2**	**+1.2**
DALY				SG	**Sn**	**14 29 59.7**	**+1.6**
DAT	**Datca**	**0.44**	**268**	P	**Pn**	**14 29 48.8**	**-0.4**
DAT				S	**Sn**	**14 29 57.0**	**-1.5**
DAT	**Datca**	**0.44**	**268**	PG	**Pn**	**14 29 48.9**	**-0.3**
DAT				SG	**Sn**	**14 29 57.5**	**-1.0**
ARG	**Arkhangelos**	**0.53**	**180**	P	**Pn**	**14 29 51.0**	**+1.1**
ARG				AML	AML	14 30 02.1	
	comp=E,41775μm,0.4s						
ARG				AML	AML	14 30 00.2	
	comp=N,18945μm,0.5s						
ARG	**Arkhangelos**	**0.53**	**180**	P	**Pn**	**14 29 51.1**	**+1.1**
ARG				S	**Sn**	**14 30 01.4**	**+1.7**
	comp=N,15μm,0.4s						
ARG	**Arkhangelos**	**0.53**	**180**	PG	**Pn**	**14 29 51.1**	**+1.1**
ARG				SG	**Sn**	**14 30 01.1**	**+1.4**
ARG	**Arkhangelos**	**0.53**	**180**	P	**Pn**	**14 29 51.0**	**+1.1**
ARG				S	**Sn**	**14 30 01.3**	**+1.7**
MULA	**Mugla, Merkez-**	**0.53**	**17**	P	**Pn**	**14 29 50.7**	**+0.6**
MULA				S	**Sn**	**14 29 59.1**	**-0.9**
MLSB	**Milas**	**0.62**	**333**	PG	**Pn**	**14 29 50.8**	**-0.1**
MLSB				SG	**Sn**	**14 30 00.7**	**-0.6**
BDRM	**Kayabasi**	**0.63**	**301**	P	**Pn**	**14 29 50.7**	**-0.3**
BDRM				S	**Sn**	**14 30 00.1**	**-1.5**
BODT	**Bodrum**	**0.72**	**296**	P	**Pn**	**14 29 51.8**	**-0.2**
BODT				S	**Sn**	**14 30 02.1**	**-1.3**
BODT	**Bodrum**	**0.72**	**296**	PG	**Pn**	**14 29 51.5**	**-0.5**
BODT				SG	**Sn**	**14 30 02.2**	**-1.2**
YKAV	**Yalikavak-Bodr**	**0.78**	**299**	PG	**Pn**	**14 29 51.7**	**-0.8**
FETY	**Fethiye**	**0.78**	**98**	P	**Pn**	**14 29 54.1**	**+1.5**
FETY				S	**Sn**	**14 30 07.2**	**+2.8**
FETY	**Fethiye**	**0.78**	**98**	PG	**Pn**	**14 29 54.2**	**+1.6**
FETY				SG	**Sn**	**14 30 07.1**	**+2.7**
NISR	**Nisiros**	**0.81**	**261**	P	**Pn**	**14 29 53.0**	**0.0**
NISR				AML	AML	14 30 06.2	
	comp=E,12947μm,0.3s						
NISR				AML	AML	14 30 08.0	
	comp=N,6161μm,0.5s						
NISR	**Nisiros**	**0.81**	**261**	P	**Pn**	**14 29 52.9**	**0.0**
NISR				S	**Sn**	**14 30 04.4**	**-0.6**
	comp=N,5μm,0.4s						
KOSK	**Kos Island**	**0.92**	**271**	P	**Pn**	**14 29 53.9**	**-0.4**
KOSK				AML	AML	14 30 07.7	
	comp=E,29209μm,0.5s						
KOSK				AML	AML	14 30 08.8	
	comp=N,24063μm,0.5s						
KOSK	**Kos Island**	**0.92**	**271**	P	**Pn**	**14 29 54.2**	**0.0**
KOSK				S	**Sn**	**14 30 06.3**	**-1.0**
	comp=N,5μm,0.5s						
KOSK	**Kos Island**	**0.92**	**271**	PG	**Pn**	**14 29 54.1**	**-0.1**
KOSK				SG	**Sn**	**14 30 06.4**	**-0.9**
AYDN	**Tasoluk**	**0.94**	**348**	P	**Pn**	**14 29 54.9**	**+0.4**
AYDN				S	**Sn**	**14 30 07.1**	**-0.7**
DIDI	**Didim-Aydin**	**0.95**	**312**	PG	**Pn**	**14 29 54.4**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.96**	**41**	P	**Pn**	**14 29 55.9**	**+1.1**
TAVA				S	**Sn**	**14 30 09.2**	**+0.9**
CAME	**Cameli-Denizli**	**0.96**	**78**	PG	**Pn**	**14 29 56.5**	**+1.5**
DDIM	**Aydin, Didim**	**1.00**	**315**	P	**Pn**	**14 29 55.3**	**+0.1**
DDIM				S	**Sn**	**14 30 08.3**	**-0.8**
CAEL	**Denizli, Camel**	**1.03**	**68**	P	**Pn**	**14 29 57.4**	**+1.6**
CAEL				S	**Sn**	**14 30 12.3**	**+2.3**
GCAM	**G?zelcaml?**	**1.19**	**324**	P	**Pn**	**14 29 57.6**	**0.0**
GCAM				S	**Sn**	**14 30 11.9**	**-1.4**
GDLH	**Golhisar**	**1.25**	**66**	P	**Pn**	**14 30 00.5**	**+1.9**
AKAS	**Kas**	**1.30**	**113**	P	**Pn**	**14 30 00.5**	**+1.3**
AKAS				S	**Sn**	**14 30 16.4**	**+0.3**
KSL	**Kastellorizon**	**1.32**	**116**	P	**Pn**	**14 30 00.5**	**+1.2**
KSL				AML	AML	14 30 18.9	
	comp=E,1162μm,0.5s						
KSL				AML	AML	14 30 21.2	
	comp=N,491μm,0.2s						
KSL	**Kastellorizon**	**1.32**	**116**	P	**Pn**	**14 30 00.4**	**+1.2**
KSL				S	**Sn**	**14 30 18.2**	**+1.9**
KSL	**Kastellorizon**	**1.32**	**116**	P	**Pn**	**14 30 00.5**	**+1.2**
KSL				S	**Sn**	**14 30 17.0**	**+0.8**
SMG	**Samos**	**1.41**	**313**	P	**Pn**	**14 30 00.0**	**-0.5**
SMG				AML	AML	14 30 17.7	
	comp=E,3837μm,0.2s						
SMG				AML	AML	14 30 19.6	
	comp=N,3515μm,0.2s						
SMG	**Samos**	**1.41**	**313**	P	**Pn**	**14 30 00.0**	**-0.5**
SMG				S	**Sn**	**14 30 17.2**	**-1.2**
	comp=N,2μm,0.3s						
KARP	**Karpathos**	**1.43**	**213**	P	**Pn**	**14 30 01.5**	**+0.7**
KARP				AML	AML	14 30 20.0	
	comp=N,6491μm,0.4s						
KARP				AML	AML	14 30 20.2	
	comp=E,9838μm,0.5s						
KARP	**Karpathos**	**1.43**	**213**	P	**Pn**	**14 30 01.4**	**+0.7**
KARP				S	**Sn**	**14 30 19.2**	**+0.3**
	comp=E,4μm,0.4s						
KARP	**Karpathos**	**1.43**	**213**	PN	**Pn**	**14 30 01.3**	**+0.5**
KARP	**Karpathos**	**1.43**	**213**	P	**Pn**	**14 30 01.4**	**+0.7**
KARP				S	**Sn**	**14 30 19.2**	**+0.3**
KARP				AML	AML	14 30 19.6	
	comp=E,6.5nm,0.4s						
KARP				AML	AML	14 30 19.6	
	comp=E,6.5nm,0.4s						
KARP				AML	AML	14 30 19.8	
	comp=E,9.8nm,0.5s						
KARP				AML	AML	14 30 19.8	
	comp=E,9.8nm,0.5s						
ELL	**Elmali**	**1.43**	**89**	PN	**Pn**	**14 30 02.9**	**+2.0**
DGB	**zmir**	**1.64**	**323**	P	**Pn**	**14 30 03.2**	**-0.3**
DGB				S	**Sn**	**14 30 21.0**	**-2.7**
MANT	**Manisa**	**1.78**	**11**	P	**Pn**	**14 30 05.7**	**+0.1**
MANT				S	**Sn**	**14 30 25.4**	**-2.0**
BRDR	**BURDUR-Merkez**	**1.81**	**58**	P	**Pn**	**14 30 07.4**	**+1.4**
BRDR				S	**Sn**	**14 30 30.4**	**+2.3**
KULA	**Kula-Manisa**	**1.82**	**13**	P	**Pn**	**14 30 06.4**	**+0.4**
KULA				S	**Sn**	**14 30 27.3**	**-0.9**
AKUM	**Antalya-Kumluc**	**1.84**	**103**	P	**Pn**	**14 30 08.0**	**+1.9**
AKUM				S	**Sn**	**14 30 30.3**	**+1.8**
BLCB	**Balcova**	**1.85**	**333**	P	**Pn**	**14 30 06.1**	**-0.2**
BLCB				S	**Sn**	**14 30 26.7**	**-2.1**
PASA	**Karahalli, USA**	**1.93**	**34**	P	**Pn**	**14 30 08.3**	**+0.8**
PASA				S	**Sn**	**14 30 29.3**	**-1.6**
ZEYE	**Izmir, Urla-Ze**	**1.97**	**320**	P	**Pn**	**14 30 07.6**	**-0.3**
ZEYE				S	**Sn**	**14 30 29.9**	**-1.9**
URLA	**Izmir**	**2.02**	**323**	P	**Pn**	**14 30 08.1**	**-0.5**
URLA				S	**Sn**	**14 30 29.7**	**-3.3**
BUCA	**Burdur, Bucak-**	**2.03**	**73**	P	**Pn**	**14 30 11.6**	**+2.7**
USAK	**Uak-Merkez**	**2.09**	**20**	P	**Pn**	**14 30 10.1**	**+0.5**
USAK				S	**Sn**	**14 30 30.8**	**-3.9**
APE	**Apeiranthos**	**2.10**	**280**	⇑P	**Pn**	**14 30 10.0**	**+0.2**
APE	**Apeiranthos**	**2.10**	**280**	P	**Pn**	**14 30 10.5**	**+0.7**
APE	**Apeiranthos**	**2.10**	**280**	P	**Pn**	**14 30 10.1**	**+0.3**
APE				S	**Sn**	**14 30 33.6**	**-1.4**
AKHS	**Akhisar**	**2.14**	**354**	P	**Pn**	**14 30 10.2**	**-0.1**
AKHS				S	**Sn**	**14 30 34.6**	**-1.4**
THR8	**Santorini-Mono**	**2.16**	**262**	P	**Pn**	**14 30 11.3**	**+0.9**
THR2	**Thira island,**	**2.19**	**263**	P	**Pn**	**14 30 11.7**	**+0.9**
THR2	**Thira island,**	**2.19**	**263**	P	**Pn**	**14 30 12.1**	**+1.3**
ISP	**Isparta**	**2.19**	**60**	P	**Pn**	**14 30 12.5**	**+1.4**
KZIL	**AFYON_Kizioren**	**2.20**	**46**	P	**Pn**	**14 30 12.2**	**+1.0**
KZIL				S	**Sn**	**14 30 35.3**	**-2.3**
THR3	**Thira Island,**	**2.22**	**262**	P	**Pn**	**14 30 12.2**	**+1.0**
THR3	**Thira Island,**	**2.22**	**262**	P	**Pn**	**14 30 12.2**	**+1.0**
SNT5	**Nea Kammeni, S**	**2.22**	**262**	P	**Pn**	**14 30 12.4**	**+1.1**
THR6	**Thira Island,**	**2.23**	**261**	P	**Pn**	**14 30 12.7**	**+1.3**
THR6	**Thira Island,**	**2.23**	**261**	P	**Pn**	**14 30 12.8**	**+1.3**
ZKR	**Zakros**	**2.25**	**224**	P	**Pn**	**14 30 13.9**	**+2.2**
ZKR				AML	AML	14 30 44.3	
	comp=E,1077μm,0.5s						
ZKR				AML	AML	14 30 48.7	
	comp=N,678μm,0.5s						
ZKR	**Zakros**	**2.25**	**224**	P	**Pn**	**14 30 12.8**	**+1.1**
ZKR				S	**Sn**	**14 30 39.0**	**+0.6**
	comp=N,458nm,0.6s						
ZKR	**Zakros**	**2.25**	**224**	P	**Pn**	**14 30 12.5**	**+0.8**
ZKR				S	**Sn**	**14 30 39.3**	**+0.9**
SAP3	**Santorini-Thir**	**2.26**	**263**	P	**Pn**	**14 30 13.0**	**+1.2**
THR5	**Thira Island,**	**2.26**	**262**	P	**Pn**	**14 30 13.2**	**+1.4**
THR5	**Thira Island,**	**2.26**	**262**	P	**Pn**	**14 30 13.1**	**+1.3**
THR9	**Santorini-Faro**	**2.26**	**261**	P	**Pn**	**14 30 13.1**	**+1.3**
CHOS	**Chios island**	**2.32**	**316**	P	**Pn**	**14 30 12.8**	**0.0**
CHOS	**Chios island**	**2.32**	**316**	P	**Pn**	**14 30 12.6**	**-0.1**
CHOS				S	**Sn**	**14 30 38.0**	**-2.3**
	comp=N,522nm,0.4s						
DEMI	**Demirci**	**2.34**	**11**	P	**Pn**	**14 30 13.8**	**+0.7**
DEMI				S	**Sn**	**14 30 39.2**	**-1.6**
ZEDA	**zmir-Bergama**	**2.37**	**340**	P	**Pn**	**14 30 13.1**	**-0.2**
ZEDA				S	**Sn**	**14 30 38.2**	**-3.1**
BAGO	**Egridir - ISPA**	**2.46**	**59**	P	**Pn**	**14 30 15.7**	**+1.1**
GDZ	**Gediz**	**2.57**	**24**	P	**Pn**	**14 30 16.8**	**+0.6**
GDZ				S	**Sn**	**14 30 41.0**	**-5.6**
FRMA	**Ierapetra Chan**	**2.60**	**229**	P	**Pn**	**14 30 17.1**	**+0.7**
FRMA				AML	AML	14 30 50.8	
	comp=N,1012μm,0.4s						
FRMA				AML	AML	14 30 52.0	
	comp=E,1139μm,0.4s						
FRMA	**Ierapetra Chan**	**2.60**	**229**	P	**Pn**	**14 30 17.2**	**+0.8**
STEP	**BALIKESIR_Sava**	**2.65**	**353**	P	**Pn**	**14 30 16.9**	**-0.2**
STEP				S	**Sn**	**14 30 45.1**	**-3.1**
AFYO	**Afyonkarahisar**	**2.67**	**40**	P	**Pn**	**14 30 19.3**	**+1.9**
AFYO				S	**Sn**	**14 30 43.8**	**-5.0**
KEPZ	**Antalya-Kepez**	**2.80**	**86**	P	**Pn**	**14 30 22.0**	**+2.8**
HRKL	**Herakleio**	**2.84**	**241**	P	**Pn**	**14 30 21.0**	**+1.3**
HRKL				S	**Sn**	**14 30 52.3**	**-0.4**
	comp=E,795nm,0.6s						
DURS	**Dursunbey**	**2.86**	**5**	P	**Pn**	**14 30 20.5**	**+0.4**
BUHA	**Balikesir, Bur**	**2.87**	**344**	P	**Pn**	**14 30 20.0**	**-0.1**
PRK	**Paraskevi**	**2.89**	**330**	P	**Pn**	**14 30 21.8**	**+1.4**
PRK	**Paraskevi**	**2.89**	**330**	P	**Pn**	**14 30 21.9**	**+1.4**
PRK				S	**Sn**	**14 30 53.4**	**-0.7**
	comp=E,528nm,0.5s						
YVAC	**Isparta, Yalva**	**2.91**	**57**	P	**Pn**	**14 30 22.5**	**+1.7**
SEDI	**Konya, Seydise**	**2.99**	**75**	P	**Pn**	**14 30 24.1**	**+2.3**
IDI	**Anoyia**	**3.00**	**242**	⇓P	**Pn**	**14 30 22.4**	**+0.5**
IDI	**Anoyia**	**3.00**	**242**	P	**Pn**	**14 30 22.2**	**+0.3**
IDI				S	**Sn**	**14 30 57.0**	**+0.2**
	comp=E,238nm,0.5s						
BALY	**Balya**	**3.02**	**353**	P	**Pn**	**14 30 22.2**	**+0.1**
ANDZ	**Kutahya, Merke**	**3.09**	**26**	P	**Pn**	**14 30 24.2**	**+0.9**
DOGA	**KONYA_Doganhis**	**3.13**	**63**	P	**Pn**	**14 30 26.0**	**+2.2**
KOCA	**Canakkale, Ayv**	**3.17**	**331**	P	**Pn**	**14 30 24.5**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**3.24**	**338**	P	**Pn**	**14 30 25.3**	**+0.2**
PRNS	**Prines Rethymn**	**3.24**	**246**	P	**Pn**	**14 30 27.4**	**+2.2**
EZN	**Ezine**	**3.39**	**336**	P	**Pn**	**14 30 27.4**	**+0.3**
EZN				S	**Sn**	**14 31 04.3**	**-1.8**
	comp=E,148nm,0.5s						
GAZI	**Gazipasa**	**3.42**	**97**	P	**Pn**	**14 30 27.9**	**+0.4**
ULDT	**Uludag**	**3.48**	**13**	P	**Pn**	**14 30 29.4**	**+0.7**
BOZC	**Bozcaada**	**3.50**	**333**	P	**Pn**	**14 30 28.8**	**+0.2**
STBT	**Saitabat**	**3.50**	**14**	P	**Pn**	**14 30 28.9**	**+0.1**
IMMV	**Iera Moni Meta**	**3.59**	**250**	P	**Pn**	**14 30 31.5**	**+1.6**
KDHN	**Kadinhani**	**3.63**	**60**	P	**Pn**	**14 30 32.2**	**+1.7**
RODP	**Rodopos**	**3.73**	**253**	P	**Pn**	**14 30 33.4**	**+1.6**
RODP				S	**Sn**	**14 31 14.3**	**-0.2**
GVDS	**Gavdos**	**3.79**	**241**	P	**Pn**	**14 30 34.6**	**+2.0**
GVD	**Gavdhos**	**3.79**	**241**	P	**Pn**	**14 30 34.5**	**+1.8**
GVD				S	**Sn**	**14 31 16.5**	**+0.4**
	comp=E,355nm,0.4s						
AKMS	**Akamas**	**3.83**	**116**	P	**Pn**	**14 30 33.8**	**+0.6**
AKMS				AML	AML	14 31 17.1	
	comp=E,1.2nm,0.3s						
AKMS				AML	AML	14 31 17.5	
	comp=E,1.3nm,0.4s						
LIA	**Limnos Island**	**3.91**	**325**	P	**Pn**	**14 30 34.9**	**+0.7**
LIA				S	**Sn**	**14 31 16.4**	**-2.4**
	comp=E,78nm,0.5s						
ALFC	**Alefka**	**3.96**	**112**	P	**Pn**	**14 30 35.4**	**+0.4**
ALFC				AML	AML	14 31 19.2	
	comp=E,0.4nm,0.3s						
ALFC				AML	AML	14 31 19.3	
	comp=E,0.4nm,0.3s						
ANKY	**Antikythira Is**	**3.99**	**259**	P	**Pn**	**14 30 36.8**	**+1.4**
KTHA	**Kythira Island**	**4.11**	**265**	P	**Pn**	**14 30 39.1**	**+2.1**
NATA	**Nata**	**4.11**	**117**	P	**Pn**	**14 30 37.6**	**+0.5**
OSC1	**CSNet OBS 1**	**4.14**	**140**	P	**Pn**	**14 30 36.9**	**-0.6**
OSC1				S	**Sn**	**14 31 23.1**	**-1.5**
KTHR	**Kythira**	**4.15**	**265**	P	**Pn**	**14 30 40.1**	**+2.5**
VLI	**Veliai**	**4.17**	**271**	P	**Pn**	**14 30 39.9**	**+2.1**
SMTH	**Samothraki Isl**	**4.24**	**332**	P	**Pn**	**14 30 39.2**	**+0.4**
SMTH				S	**Sn**	**14 31 24.6**	**-2.4**
	comp=E,60nm,0.5s						
ENEZ	**Enez**	**4.27**	**339**	P	**Pn**	**14 30 40.3**	**+1.1**
SZAC	**Souni**	**4.35**	**116**	P	**Pn**	**14 30 41.2**	**+0.9**
ALN	**Alexandroupoli**	**4.45**	**339**	P	**Pn**	**14 30 41.8**	**+0.2**
ALN				S	**Sn**	**14 31 30.1**	**-2.0**
ASGA	**Asgata**	**4.60**	**114**	P	**Pn**	**14 30 44.9**	**+1.1**
THAS	**Thassos island**	**4.69**	**326**	P	**Pn**	**14 30 45.1**	**+0.3**
THAS				S	**Sn**	**14 31 34.3**	**-3.6**
OSC2	**CSNet OBS 4**	**5.00**	**136**	P	**Pn**	**14 30 48.9**	**-0.2**
BRTR	**Keskin Array B**	**5.26**	**54**	P	**Pn**	**14 30 54.8**	**+1.9**
	comp=E,1.8nm,0.3s,baz=232,slow=14,SNR=40						
BRTR				S	**Sn**	**14 31 53.4**	**+1.1**
	comp=E,0.7nm,0.3s,baz=216,slow=23,SNR=12						
MATC	**Matruh**	**5.44**	**188**	P	**Pn**	**14 30 54.7**	**-0.4**
	baz=190						
SLUM	**Salum**	**5.77**	**206**	P	**Pn**	**14 30 59.0**	**-0.7**
	baz=210						
SLUM				S	Sn	14 31 57.0	-7.5
	baz=210						
HNTI	**Hanita**	**6.85**	**120**	Pn	**Pn**	**14 31 15.1**	**+0.7**
HNTI				Sn	**Sn**	**14 32 26.4**	**-4.5**
OFRI	**`Ofer**	**6.99**	**124**	Pn	**Pn**	**14 31 16.7**	**+0.3**
MMA0B	**Mount Meron ar**	**7.04**	**120**	Pn	**Pn**	**14 31 17.4**	**+0.2**
MMAI	**Mount Meron Ar**	**7.04**	**120**	P	**Pn**	**14 31 16.6**	**-0.6**
	comp=E,2.6nm,0.3s,baz=327,slow=23,SNR=3.2						
MMAI				S	**Sn**	**14 32 30.6**	**-5.2**
	comp=E,10nm,0.3s,baz=108,slow=22,SNR=6.4						
GEM	**Giv'at Ha'Em**	**7.12**	**117**	Pn	**Pn**	**14 31 18.0**	**-0.2**
GEM				Sn	**Sn**	**14 32 33.7**	**-3.9**
NATI	**Neve Ativ**	**7.15**	**117**	Pn	**Pn**	**14 31 18.9**	**+0.4**
KSHT	**Keshet**	**7.35**	**118**	Pn	**Pn**	**14 31 21.7**	**+0.4**
MMLI	**Mount Malkishu**	**7.39**	**123**	Pn	**Pn**	**14 31 22.6**	**+0.7**
KOT	**Kottamia**	**7.47**	**154**	P	**Pn**	**14 31 22.7**	**-0.3**
	baz=151						
HMDT	**Nahal Hemdat**	**7.58**	**124**	Pn	**Pn**	**14 31 24.3**	**-0.1**
HMDT				Sn	**Sn**	**14 32 45.0**	**-3.7**
AMAZ	**Amatzia**	**7.66**	**131**	Pn	**Pn**	**14 31 25.0**	**-0.6**
AMAZ				Sn	**Sn**	**14 32 45.9**	**-5.0**
HSAF	**As Saff**	**7.67**	**157**	P	**Pn**	**14 31 24.4**	**-1.2**
	baz=154						
TIRR	**Tirgusor**	**7.71**	**2**	⇑P	**Pn**	**14 31 27.1**	**+1.0**
GLL	**Jalalah**	**7.75**	**156**	P	**Pn**	**14 31 26.6**	**-0.3**
	baz=153						
SWA2		**7.81**	**197**	P	**Pn**	**14 31 26.6**	**-1.0**
	baz=200						
SWA2				S	Sn	14 32 47.2	-7.2
	baz=200						
KZIT	**Kziot**	**7.82**	**136**	Pn	**Pn**	**14 31 26.9**	**-0.8**
KZIT				Sn	**Sn**	**14 32 49.1**	**-5.6**
RYAN	**Fayoum**	**7.85**	**166**	S	Sn	14 32 43.5	-12
	baz=164						
YTIR	**Yattir**	**7.90**	**131**	Pn	**Pn**	**14 31 28.5**	**-0.4**
YTIR				Sn	**Sn**	**14 32 51.5**	**-5.4**
DSI	**Dead Sea**	**7.92**	**129**	Pn	**Pn**	**14 31 29.0**	**-0.1**
SUZ	**Suez**	**7.93**	**149**	P	**Pn**	**14 31 28.9**	**-0.4**
	baz=145						
MSBI	**Mazada**	**8.09**	**130**	Pn	**Pn**	**14 31 31.5**	**+0.2**
TPGR	**Topolog**	**8.11**	**1**	⇑P	**Pn**	**14 31 32.3**	**+0.7**
CFR	**Carcaliu**	**8.43**	**0**	⇑P	**Pn**	**14 31 36.5**	**+0.7**
ASF	**Jabal al Asfar**	**8.56**	**120**	P	**Pn**	**14 31 38.2**	**+0.3**
	comp=E,0.7nm,0.3s,baz=36,slow=17,SNR=1.3						
ASF				S	**Sn**	**14 33 09.9**	**-3.0**
	comp=E,0.6nm,0.3s,baz=29,slow=16,SNR=1.3						
PRNI	**Paran**	**8.58**	**136**	Pn	**Pn**	**14 31 36.7**	**-1.4**
PRNI				Sn	**Sn**	**14 33 07.1**	**-6.2**
KRMI	**Paran Flat**	**8.61**	**138**	Pn	**Pn**	**14 31 37.6**	**-0.9**
KRMI				Sn	**Sn**	**14 33 07.5**	**-6.5**
HRFI	**Mount Harif**	**8.84**	**137**	Pn	**Pn**	**14 31 40.5**	**-1.2**
MLR	**Muntele Rosu**	**8.89**	**350**	⇑P	**Pn**	**14 31 44.1**	**+1.7**
MLR	**Muntele Rosu**	**8.89**	**350**	P	**Pn**	**14 31 43.8**	**+1.4**
	comp=E,0.2nm,0.3s,baz=198,slow=3.6,SNR=16						
MBRI	**Mt Berech**	**8.96**	**139**	Pn	**Pn**	**14 31 42.4**	**-1.0**
MBRI				Sn	**Sn**	**14 33 17.3**	**-5.5**
EIL	**Elat**	**9.08**	**139**	P	**Pn**	**14 31 44.4**	**-0.6**
	comp=E,2.1nm,0.3s,baz=42,slow=3.0,SNR=20						
EIL				S	**Sn**	**14 33 18.6**	**-7.0**
	comp=E,0.8nm,0.3s,baz=66,slow=18,SNR=1.7						
EIL	**Elat**	**9.08**	**139**	Pn	**Pn**	**14 31 43.7**	**-1.2**
EIL				Sn	Sn	14 33 18.2	-7.4
VRI	**Vrincioaia**	**9.17**	**354**	⇑P	**Pn**	**14 31 47.2**	**+1.1**
COVR	**Voineasa-Covas**	**9.21**	**352**	⇑P	**Pn**	**14 31 48.2**	**+1.6**
DOPR	**Dopca**	**9.44**	**348**	⇑P	**Pn**	**14 31 50.8**	**+1.0**
GZR	**Gura Zlata**	**9.53**	**337**	⇑P	**Pn**	**14 31 52.7**	**+1.6**
TESR	**Tescani**	**9.82**	**354**	⇑P	**Pn**	**14 31 55.8**	**+0.8**
GNI	**Garni**	**13.46**	**70**	P	**Pn**	**14 32 45.1**	**+0.5**
	comp=E,2.1nm,0.3s,baz=138,slow=17,SNR=2.7						
AKASG	**Malin Array Be**	**13.97**	**3**	P	**Pn**	**14 32 50.4**	**-0.7**
	comp=E,0.6nm,0.3s,baz=185,slow=10.0,SNR=2.1						
GERES	**GERESS Array B**	**16.04**	**323**	P	**Pn**	**14 33 18.5**	**+0.7**
	comp=E,0.3nm,0.3s,baz=135,slow=9.8,SNR=1.4						
KHC	**Kasperske Hory**	**16.29**	**324**	*eP*	**P**	**14 33 24.5**	**+1.9**
FINES	**FINESS Array B**	**24.75**	**358**	P	**P**	**14 34 51.5**	**+0.4**
	comp=E,1.1nm,0.7s,baz=159,slow=11,SNR=5.8						
ESDC	**Sonseca Array**	**25.31**	**286**	P	**P**	**14 34 55.4**	**-1.2**
	comp=E,1.1nm,0.6s,baz=83,slow=9.2,SNR=10						
EKA	**Eskdalemuir Ar**	**28.23**	**321**	P	**P**	**14 35 21.0**	**-1.5**
	comp=E,0.4nm,0.6s,baz=169,slow=8.4,SNR=1.4						
ATD	**Arta Tunnel**	**28.40**	**148**	P	**P**	**14 35 23.2**	**-1.3**
	comp=E,2.1nm,0.3s,baz=316,slow=23,SNR=1.1						
ARCES	**ARCESS Array B**	**32.88**	**358**	P	**P**	**14 36 03.2**	**-0.2**
	comp=E,3.6nm,1.0s,baz=173,slow=8.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**33.35**	**232**	P	**P**	**14 36 07.8**	**-0.2**
	comp=E,0.4nm,0.3s,baz=32,slow=9.0,SNR=7.3						
MKAR	**Makanchi Array**	**40.90**	**58**	P	**P**	**14 37 12.9**	**+1.2**
	comp=E,0.6nm,0.5s,baz=273,slow=8.2,SNR=8.5						
ZALV	**Zalesovo Beam**	**42.17**	**47**	P	**P**	**14 37 23.5**	**+1.6**
	comp=E,0.3nm,0.

0.2nm,0.4s,baz=70,slow=8.4,SNR=2.5

NEIC ***16*** *14:57:51.4±1.5,0.°03S±0.°07×123.°75E±0.°08,h113km±3km, mb4.1/17, Error ellipse: s-maj=11.7km s-min=9.9km az=123.0*

IDC ***16*** *14:57:51.2±1.9,0.°12N×123.°81E,h121km±17km,mb3.8/21, mb1 3.9/24,mb1mx3.8/45,mbtmp4.2/24, Error ellipse: s-maj=16.2km s-min=9.6km az=78.0*

DJA ***16*** *14:57:53.0±0.2,0.°S±2.°×12.°4E±.°,h94km±5km,M4.3/25, mb4.5/14,mB4.8/10,MLv4.5/25,Mw(mB)4.1/10*

ISC 16 14:57:50.6±0.4,0.°05S±0.°04×123.°83E±0.°05,h110km,n92, σ2§02/103,mb4.2/32,1D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.64**	**14**	P	**Pn**	**14 58 10.8**	**+2.4**
KMSI				S	**Sn**	**14 58 25.4**	**+3.6**
GTOI	**Gorontalo**	**1.06**	**310**	P	**Pn**	**14 58 15.5**	**+3.1**
GTOI				S	**Sn**	**14 58 33.0**	**+4.2**
LUWI	**Luwuk**	**1.44**	**227**	Pn	**Pn**	**14 58 17.2**	**+0.5**
LUWI	**Luwuk**	**1.44**	**227**	P	**Pn**	**14 58 17.8**	**+1.1**
LUWI				S	**Sn**	**14 58 37.1**	**+0.6**
LUWI	**Luwuk**	**1.44**	**227**	P	**Pn**	**14 58 17.8**	**+1.1**
MRSI	**Marisa**	**1.96**	**285**	P	**Pn**	**14 58 22.6**	**-0.4**
APSI	**Ampana**	**2.34**	**248**	P	**Pn**	**14 58 29.3**	**+1.4**
SANI	**Sanana**	**2.94**	**133**	P	**Pn**	**14 58 35.9**	**+0.1**
SANI	**Sanana**	**2.94**	**133**	P	**Pn**	**14 58 36.1**	**+0.3**
TOLI2	**Tolitoli**	**3.25**	**291**	Pn	**Pn**	**14 58 40.2**	**+0.2**
TOLI2	**Tolitoli**	**3.25**	**291**	P	**Pn**	**14 58 40.9**	**+1.0**
TNTI	**Ternate**	**3.63**	**77**	Pn	**Pn**	**14 58 46.2**	**+1.2**
TNTI	**Ternate**	**3.63**	**77**	P	**Pn**	**14 58 47.6**	**+2.6**
TNTI	**Ternate**	**3.63**	**77**	P	**Pn**	**14 58 48.1**	**+3.1**
LBMI	**Labuha**	**3.72**	**99**	P	**Pn**	**14 58 47.2**	**+1.0**
MPSI	**Mapaga**	**3.94**	**276**	P	**Pn**	**14 58 51.1**	**+1.9**
TTSI	**Tana Toraja**	**4.99**	**233**	P	**Pn**	**14 59 05.1**	**+1.8**
BBSI	**Bau Bau**	**5.55**	**193**	P	**Pn**	**14 59 13.7**	**+2.9**
	0.0nm76m5.7nm,0.8s						
SPSI	**Sidrap Palu**	**5.62**	**226**	P	**Pn**	**14 59 14.1**	**+2.3**
	0.4nm1μm55nm,0.5s						
AAI	**Ambon**	**5.67**	**130**	P	**Pn**	**14 59 15.5**	**+3.0**
	1.0nm3μm238nm,0.5s						
BNSI	**Bone**	**5.70**	**221**	P	**Pn**	**14 59 16.1**	**+3.2**
	0.2nm787nm40nm,0.8s						
MSAI	**Masohi**	**6.06**	**123**	P	**Pn**	**14 59 20.9**	**+3.1**
	0.1nm608nm33nm,0.7s						
SGKI	**Sangatta, Kali**	**6.24**	**266**	P	**Pn**	**14 59 22.1**	**+1.9**
	0.6nm126nm,0.8s						
KAPI	**Kappang**	**6.39**	**219**	P	**Pn**	**14 59 24.9**	**+2.6**
	5.2nm,0.3s,baz=32,slow=4.6,SNR=6.4						
KAPI				S	**Sn**	**15 00 30.5**	**-3.4**
	8.8nm,0.3s,baz=203,slow=17,SNR=2.6						
BKSI	**Bulukumba**	**6.41**	**215**	P	**Pn**	**14 59 23.5**	**+1.0**
	0.1nm22nm,0.5s						
BSSI	**Bau Bau, Buton**	**6.91**	**209**	P	**Pn**	**14 59 32.8**	**+3.5**
	0.3nm805nm70nm,0.6s						
MYLDM	**Lahad Datu**	**7.43**	**314**	Pn	**Pn**	**14 59 40.4**	**+4.0**
SWI	**Sorong**	**7.48**	**96**	P	**Pn**	**14 59 40.1**	**+3.1**
	0.2nm40nm,0.7s						
SIJI	**Sorong**	**7.49**	**96**	P	**Pn**	**14 59 38.5**	**+1.4**
	4.9nm,0.3s,baz=221,slow=23,SNR=18						
SIJI				S	**Sn**	**15 01 03.0**	**+2.5**
	0.6nm,0.3s,baz=236,slow=22,SNR=1.0						
BNDI	**Bandanaira**	**7.53**	**126**	P	**Pn**	**14 59 40.6**	**+2.9**
BBKI	**Banjar Baru**	**9.60**	**249**	P	**Pn**	**15 00 09.4**	**+3.6**
	3μm18nm,0.8s						
KKM	**Kota Kinabalu**	**9.71**	**309**	Pn	**Pn**	**15 00 10.9**	**+3.5**
KKM	**Kota Kinabalu**	**9.71**	**309**	P	**Pn**	**15 00 11.3**	**+3.9**
MTN	**Manton Dam**	**14.63**	**151**	P	**Pn**	**15 01 13.5**	**+1.2**
MTN	**Manton Dam**	**14.63**	**151**	P	**Pn**	**15 01 13.2**	**+0.9**
KNRA	**Kununurra**	**16.28**	**163**	P	**P**	**15 01 34.7**	**+0.9**
KNRA				IAmb	IAmb	15 01 43.5	
	comp=Z,6.7nm,0.7s						
KNRA	**Kununurra**	**16.28**	**163**	P	**P**	**15 01 34.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**18.03**	**174**	P	**P**	**15 01 53.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=12,slow=9.2,SNR=17						
WB0	**Warramunga Arr**	**22.17**	**153**	P	**P**	**15 02 38.0**	**+0.2**
WB0				IAmb	IAmb	15 02 40.9	
	comp=Z,6.4nm,0.6s						
WRAB	**Tennant Creek**	**22.29**	**153**	P	**P**	**15 02 39.9**	**+0.9**
WRAB				IAmb	IAmb	15 02 59.2	
	comp=Z,7.3nm,0.6s						
WRAB	**Tennant Creek**	**22.29**	**153**	P	**P**	**15 02 40.0**	**+0.9**
WRA	**Warramunga Arr**	**22.30**	**153**	P	**P**	**15 02 39.8**	**+0.7**
	comp=Z,5.4nm,0.6s,baz=333,slow=9.9,SNR=42						
WRA				PcP	**PcP**	**15 06 30.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=332,slow=2.1,SNR=7.6						
WRA	**Warramunga Arr**	**22.30**	**153**	P	**P**	**15 02 39.4**	**+0.3**
WB2	**Warramunga Arr**	**22.30**	**153**	P	**P**	**15 02 40.0**	**+0.8**
WB2				IAmb	IAmb	15 02 42.5	
	comp=Z,5.1nm,0.7s						
WR0	**Warramunga Arr**	**22.40**	**153**	P	**P**	**15 02 40.5**	**+0.4**
WR0				IAmb	IAmb	15 02 43.5	
	comp=Z,4.9nm,0.8s						
WRKA	**Warakurna**	**25.22**	**170**	P	**P**	**15 03 07.3**	**+1.0**
AS31	**Alice Springs**	**25.44**	**158**	P	**P**	**15 03 09.0**	**+0.7**
ASAR	**Alice Springs**	**25.44**	**158**	P	**P**	**15 03 08.8**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=335,slow=7.9,SNR=35						
ASAR				PcP	**PcP**	**15 06 37.8**	**0.0**
	comp=Z,1.5nm,0.4s,baz=347,slow=2.2,SNR=22						
ASAR				ScP	**ScP**	**15 10 05.7**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=332,slow=3.0,SNR=0.9						
ASAR	**Alice Springs**	**25.44**	**158**	P	**P**	**15 03 10.1**	**+1.8**
QIS	**Mount Isa**	**25.57**	**144**	P	**P**	**15 03 11.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**30.59**	**308**	P	**P**	**15 03 54.0**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=135,slow=6.8,SNR=9.0						
CMAR				PcP	**PcP**	**15 06 50.2**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=161,slow=1.3,SNR=9.0						
FORT	**Forrest**	**30.83**	**173**	P	**P**	**15 03 56.2**	**0.0**
FORT	**Forrest**	**30.83**	**173**	P	**P**	**15 03 57.1**	**+0.9**
BLDU	**Ballidu**	**31.14**	**192**	P	**P**	**15 03 59.3**	**+0.3**
MULG	**Mulgathing**	**31.61**	**163**	P	**P**	**15 04 04.8**	**+1.8**
JCJ	**Chichijima**	**32.25**	**32**	P	**P**	**15 04 07.3**	**-1.4**
	comp=Z,80nm,0.8s,baz=239,slow=20,SNR=1.3						
PZH	**PanZhiHua**	**33.90**	**323**	P	**P**	**15 04 26.1**	**+2.8**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,80nm,4.3s						
BBOO	**Buckleboo**	**34.57**	**162**	P	**P**	**15 04 27.1**	**-1.7**
STKA	**Stephens Creek**	**35.84**	**154**	P	**P**	**15 04 40.9**	**+1.1**
	comp=Z,4.0nm,0.4s,baz=329,slow=8.0,SNR=11						
STKA				PcP	**PcP**	**15 07 04.0**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=330,slow=6.6,SNR=3.6						
STKA	**Stephens Creek**	**35.84**	**154**	P	**P**	**15 04 40.5**	**+0.7**
STKA	**Stephens Creek**	**35.84**	**154**	P	**P**	**15 04 41.3**	**+1.5**
HTT	**Hallett**	**36.12**	**158**	P	**P**	**15 04 44.1**	**+2.0**
CMSA	**Cobar Meteorol**	**37.55**	**149**	P	**P**	**15 04 56.4**	**+2.2**
MJAR	**Matsushiro Arr**	**38.78**	**19**	P	**P**	**15 05 01.8**	**-2.6**
	comp=Z,1.0nm,0.6s,baz=131,slow=0.7,SNR=6.5						
ARMA	**Armidale**	**40.14**	**141**	P	**P**	**15 05 17.3**	**+1.3**
ARMA				IAmb	IAmb	15 05 19.1	
	comp=Z,4.6nm,0.8s						
HHC	**Hu-ho-hac-te**	**42.20**	**346**	*eP*	**P**	**15 05 36.0**	**+3.3**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,240nm,6.3s						
CAN	**Canberra**	**42.22**	**149**	P	**P**	**15 05 34.9**	**+1.9**
CAN				IAmb	IAmb	15 05 36.2	
	comp=Z,4.8nm,0.7s						
CAN	**Canberra**	**42.22**	**149**	P	**P**	**15 05 35.6**	**+2.7**
XLT	**XiLinHaoTe**	**44.30**	**352**	*iP*	**P**	**15 05 52.8**	**+3.3**
XLT				pmax	pmax		
	comp=Z,14nm,0.8s						
XLT				pmax	pmax		
	comp=Z,200nm,4.1s						
USRK	**Ussuriysk Ar.**	**44.65**	**8**	P	**P**	**15 05 51.1**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=190,slow=7.2,SNR=4.4						
ASAJ	**Asahikawa**	**47.05**	**18**	P	**P**	**15 06 09.5**	**-1.6**
	comp=Z,3.8nm,0.8s,baz=275,slow=21,SNR=1.7						
KLR	**Kul'dur**	**49.56**	**7**	P	**P**	**15 06 27.6**	**-2.6**
	comp=Z,1.1nm,0.6s,baz=208,slow=4.3,SNR=4.4						
SONM	**Songino Array**	**50.04**	**345**	P	**P**	**15 06 32.2**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=164,slow=12,SNR=4.2						
WMQ	**Urumqi**	**54.26**	**328**	*eP*	**P**	**15 07 08.1**	**+2.8**
MK31	**Makanchi Array**	**59.09**	**328**	P	**P**	**15 07 37.2**	**-2.1**
MK31				IAmb	IAmb	15 07 38.9	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**59.09**	**328**	P	**P**	**15 07 37.2**	**-2.2**
	comp=Z,1.4nm,0.5s,baz=121,slow=8.7,SNR=19						
MKAR				PcP	**PcP**	**15 08 24.9**	**-2.1**
	comp=Z,1.0nm,0.4s,baz=167,slow=2.9,SNR=13						
YAK	**Yakutsk**	**62.08**	**3**	P	**P**	**15 07 57.4**	**-1.9**
	comp=Z,5.2nm,0.6s,baz=163,slow=1.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**62.70**	**335**	P	**P**	**15 08 02.0**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=104,slow=9.3,SNR=3.7						
MA2	**Magadan**	**63.06**	**15**	P	**P**	**15 08 05.2**	**-0.8**
	comp=Z,4.7nm,0.8s,baz=172,slow=8.4,SNR=6.3						
MA2	**Magadan**	**63.06**	**15**	P	**P**	**15 08 04.5**	**-1.4**
KURBB	**Kurchatov Arra**	**63.42**	**330**	P	**P**	**15 08 07.0**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=129,slow=6.1,SNR=20						
SEY	**Seymchan**	**66.35**	**14**	P	**P**	**15 08 25.7**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=270,slow=23,SNR=5.0						
TIXI	**Tiksi**	**71.66**	**2**	P	**P**	**15 08 57.5**	**-2.3**
MAW	**Mawson**	**79.23**	**200**	P	**P**	**15 09 43.5**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=33,slow=6.1,SNR=4.3						
MAW	**Mawson**	**79.23**	**200**	P	**P**	**15 09 42.6**	**-0.6**
VNDA	**Vanda**	**80.09**	**172**	P	**P**	**15 09 48.1**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=318,slow=6.0,SNR=16						
VNDA	**Vanda**	**80.09**	**172**	P	**P**	**15 09 48.0**	**+0.3**
VNDA				IAmb	IAmb	15 09 49.2	
	comp=Z,1.7nm,0.8s						
KDAK	**Kodiak Island**	**86.61**	**32**	P	**P**	**15 10 21.8**	**+0.3**
	comp=Z,6.0nm,1.1s,baz=335,slow=23,SNR=2.2						
ILAR	**Eielson Array**	**89.74**	**25**	P	**P**	**15 10 33.1**	**-3.1**
	comp=Z,0.2nm,0.7s,baz=239,slow=5.2,SNR=5.0						
ARCES	**ARCESS Array B**	**92.96**	**340**	P	**P**	**15 10 48.1**	**-3.0**
	comp=Z,1.7nm,0.9s,baz=49,slow=5.5,SNR=4.7						
FINES	**FINESS Array B**	**93.75**	**332**	P	**P**	**15 10 52.2**	**-2.6**
	comp=Z,1.4nm,1.0s,baz=158,slow=6.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**121.22**	**285**	PKP	**PKPdf**	**15 16 30.0**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=89,slow=1.5,SNR=11						

JMA ***16*** *15:04:23.4,32.°56N×130.°66E,h9km±1km,M3.6*
JMA Felt III J1.
NIED ***16*** *15:04:23.5,32.°56N×130.°66E,h9km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.09; Mθθ1.64; Mφφ-2.74; Mrθ-0.64; Mθφ3.89; Mφr0.40; Fault plane solution: M₀4.53000×10¹⁴ NP1: φs195.00000°,δ81.00000°,λ179.00000°. NP2: φs285.00000°,δ89.00000°,λ9.00000°.*
IDC ***16*** *15:04:24.2±1.4,32.°60N×130.°61E,h0km,mb3.3/2, mb1 3.5/4,mb1mx3.2/50,mbtmp3.2/4,ML2.7/2,MS2.6/2, Ms1 2.6/2,ms1mx2.3/36 Error ellipse: s-maj=27.9km s-min=10.4km az=107.0*

ISC 16 15:04:24.5±1.8,32.°60N±0.°08×130.°7E±0.°1,h3km±14km,n7, σ1§47/10,1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.13**	**114**	*i*P	**Pg**	**15 04 26.5**	**-0.6**
JIU3				S	**Sg**	**15 04 28.7**	**-0.2**
JTA	**Tamana**	**0.38**	**342**	P	**Pg**	**15 04 31.8**	**0.0**
JTA				S	**Sb**	**15 04 37.6**	**-2.6**
JNU	**Nakatsue**	**0.55**	**19**	Pg	**Pg**	**15 04 35.0**	**-0.1**
	219nm,0.3s,baz=358,slow=1.6,SNR=4.5						
JNU				Lg	Lg	15 04 43.3	
	447nm,0.3s,baz=295,slow=20,SNR=8.2						
KSRS	**Korea Array**	**5.34**	**336**	Pn	**Pn**	**15 05 44.1**	**-1.0**
	0.3nm,0.3s,baz=154,slow=15,SNR=4.1						
KSRS				Pg	**Pb**	**15 06 00.4**	**+1.9**
	0.7nm,0.3s,baz=153,slow=18,SNR=4.3						
KSRS				Lg	Lg	15 07 14.0	
	0.6nm,0.3s,baz=152,slow=29,SNR=3.2						
KSRS				LR	LR	15 07 54.4	
	comp=Z,59nm,20.2s,baz=155,slow=40						
MJAR	**Matsushiro Arr**	**7.35**	**56**	Pn	**Pn**	**15 06 13.3**	**+0.5**
	0.1nm,0.3s,baz=244,slow=16,SNR=2.5						
MJAR				LR	LR	15 08 58.2	
	comp=Z,49nm,19.8s,baz=209,slow=37						
WRA	**Warramunga Arr**	**52.37**	**176**	P	**P**	**15 13 37.6**	**-0.4**
	0.5nm,1.0s,baz=354,slow=7.7,SNR=2.4						
ASAR	**Alice Springs**	**56.04**	**176**	P	**P**	**15 14 05.6**	**+0.8**
	0.2nm,0.6s,baz=0.7,slow=7.5,SNR=1.7						

MDD ***16*** *15:05:34.6±0.9,35.°66N×2.°27W,h27km±11km,mb_Lg2.5/5, Error ellipse: s-maj=10.4km s-min=6.0km az=162.0*
CNRM ***16*** *15:05:37.0,35.°47N×2.°38W,h46km,ml2.2*

ISC 16 15:05:33.2±1.3,35.°70N±0.°03×2.°28W±0.°05,h25km±14km, n12,σ0§72/20,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.66**	**292**	Pg	**Pn**	**15 05 47.4**	**+0.4**
EALB				Sg	**Sn**	**15 05 56.9**	**+0.4**
EALB				*i* Vmb_Lg		15 05 57.8	
EMEL	**Melilla**	**0.68**	**235**	Pg	**Pn**	**15 05 47.0**	**-0.1**
EMEL				Sg	**Sn**	**15 05 56.9**	**0.0**
GOG	**Mont Gurugu**	**0.75**	**231**	P	**Pb**	**15 05 47.4**	**-0.3**
GOG				S	**Sb**	**15 05 58.7**	**+1.0**
TAF	**Taforalt**	**0.89**	**187**	P	**Pb**	**15 05 49.7**	**-0.2**
TAF				S	**Sb**	**15 06 01.1**	**-0.3**
ENIJ	**Nijar**	**1.27**	**3**	Pn	**Pb**	**15 05 55.7**	**-0.9**
ENIJ				Sn	**Sb**	**15 06 12.4**	**-0.2**
ENIJ				*i* Vmb_Lg		15 06 15.0	
JBK	**JBK**	**1.38**	**190**	P	**Pb**	**15 05 59.0**	**+0.6**
JBK				S	**Sn**	**15 06 12.6**	**-1.9**
PALE	**Palemas**	**1.44**	**251**	P	**Pb**	**15 05 59.3**	**-0.1**
ELGU	**Los Guajares,**	**1.60**	**317**	Pn	**Pn**	**15 05 59.7**	**-0.2**
ELGU				Sn	**Sn**	**15 06 19.3**	**-0.5**
ELGU				*i* Vmb_Lg		15 06 22.5	
EMIJ	**Mijas**	**2.20**	**294**	Sn	**Sn**	**15 06 34.1**	**-0.5**
EMIJ				*i* Vmb_Lg		15 06 35.6	
EZAR	**Zarzadilla de**	**2.23**	**12**	Sn	**Sn**	**15 06 36.1**	**+0.8**
EMUR	**La Murta**	**2.30**	**21**	Pn	**Pn**	**15 06 10.4**	**+0.9**
EMUR				Sn	**Sn**	**15 06 37.0**	**-0.1**
EMUR				*i* Vmb_Lg		15 06 40.5	
MD31	**MD31**	**3.49**	**217**	P	**Pn**	**15 06 26.4**	**+0.5**

IDC 16 15:07:22.1±2.1,2.°57S×150.°72E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.2/40,mbtmp3.2/3,Error ellipse: s-maj=177.0km s-min=31.6km az=123.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.54**	**222**	P	P	15 12 35.0	+0.8
	0.1nm,0.3s,baz=46,slow=9.4,SNR=1.2						
ASAR	**Alice Springs**	**26.54**	**216**	P	P	15 13 01.4	-0.4
	0.2nm,0.4s,baz=46,slow=7.9,SNR=7.0						
ILAR	**Eielson Array**	**80.90**	**23**	P	P	15 19 37.9	0.0
	0.1nm,0.5s,baz=231,slow=5.7,SNR=2.0						

SJA ***16*** *15:07:55.0±0.7,21.°11S×68.°67W,h156km±3km,ML4.4, MW4.0*
IDC ***16*** *15:07:56.7±0.9,21.°10S×68.°34W,h123km±10km,mb3.8/7, mb1 4.0/11,mb1mx3.8/25,mbtmp4.2/11,Error ellipse: s-maj=18.5km s-min=12.2km az=129.0*
VAO ***16*** *15:07:56.9±0.5,21.°04S×68.°45W,h129km±4km,mb4.7*
NEIC ***16*** *15:07:56.5±2.9,21.°16S±0.°05×68.°6W±0.°1,h141km±8km, mb4.6/10,ML4.3(GUC),Error ellipse: s-maj=14.6km s-min=7.9km az=88.0*
GUC ***16*** *15:07:57.4±0.7,21.°13S×68.°57W,h134km±4km,ML4.3*

ISC 16 15:07:56.4±0.6,21.°12S±0.°03×68.°56W±0.°04,h137km±5km, n131,σ1§53/159,mb4.4/8,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.92**	**223**		**Pn**	**15 08 20.0**	**+0.5**
PB09	**IPOC Station P**	**0.92**	**223**	*eP*	**Pn**	**15 08 20.1**	**+0.5**
PB09				*i* S	**Sn**	**15 08 37.2**	**+0.2**
PB09				IAML		15 08 39.0	
	comp=N,6μm,0.4s						
PB09	**IPOC Station P**	**0.92**	**223**	*eP*	**Pn**	**15 08 20.0**	**+0.5**
PB09				*eP*		15 08 20.2	
PB09				*eS*	**Sn**	**15 08 38.5**	**+1.5**
PB09				IAML		15 08 39.0	
	comp=Z,4μm,0.6s						
PB08	**IPOC Station P**	**1.12**	**330**		**Pn**	**15 08 21.9**	**+0.3**
PB08	**IPOC Station P**	**1.12**	**330**	*eP*	**Pn**	**15 08 22.1**	**+0.5**
PB08				*i* S	**Sn**	**15 08 40.6**	**0.0**
PB08				IAML		15 08 42.1	
	comp=N,2μm,0.3s						
PB08	**IPOC Station P**	**1.12**	**330**	*eP*	**Pn**	**15 08 22.0**	**+0.3**
PB08				*eS*	**Sn**	**15 08 41.8**	**+1.1**
PB08				IAML		15 08 43.2	
	comp=Z,1μm,0.5s						
PB02	**IPOC Station P**	**1.26**	**261**		**Pn**	**15 08 22.8**	**+0.2**
PB02	**IPOC Station P**	**1.26**	**261**	*eP*	**Pn**	**15 08 22.8**	**+0.2**
PB02				*i* S	**Sn**	**15 08 41.7**	**-0.8**
PB02				IAML		15 08 42.8	
	comp=N,10μm,0.3s						
PB02	**IPOC Station P**	**1.26**	**261**	*eP*	**Pn**	**15 08 22.0**	**-0.6**
PB02				*eP*		15 08 22.7	
PB02				*eS*	**Sn**	**15 08 42.8**	**+0.3**
PB02				IAML		15 08 46.2	
	comp=Z,8μm,0.3s						
PB07	**IPOC Station P**	**1.37**	**244**		**Pn**	**15 08 23.6**	**-0.2**
PB07	**IPOC Station P**	**1.37**	**244**	*eP*	**Pn**	**15 08 24.0**	**+0.1**
PB07				*i* S	**Sn**	**15 08 43.9**	**-0.8**
PB07				IAML		15 08 44.5	
	comp=N,6μm,0.4s						
PB07	**IPOC Station P**	**1.37**	**244**	*eP*	**Pn**	**15 08 23.8**	**0.0**
PB07				*eS*	**Sn**	**15 08 44.4**	**-0.3**
PB07				IAML		15 08 46.2	
	comp=Z,5μm,0.5s						
HMBC	**Humberstone**	**1.50**	**304**	*eP*	**Pn**	**15 08 24.9**	**-0.3**
HMBC				*i* S	**Sn**	**15 08 46.2**	**-0.9**
HMBC				IAML		15 08 47.5	
	comp=N,6μm,0.3s						
LVC	**Limon Verde**	**1.51**	**192**	P	**Pn**	**15 08 26.0**	**+0.5**
	comp=N,317nm,0.3s,baz=12,slow=9.1,SNR=1950						
LVC				S	**Sn**	**15 08 47.7**	**-0.1**
	comp=N,184nm,0.3s,baz=197,slow=17,SNR=48						
LVC	**Limon Verde**	**1.51**	**192**	*eP*	**Pn**	**15 08 26.1**	**+0.5**
LVC				*i* S	**Sn**	**15 08 47.7**	**-0.1**
LVC	**Limon Verde**	**1.51**	**192**	*eP*	**Pn**	**15 08 26.0**	**+0.5**
LVC				*eP*		15 08 26.1	
LVC				*eS*	**Sn**	**15 08 42.6**	**-5.3**
LVC				*eS*		15 08 49.3	
LVC	**Limon Verde**	**1.51**	**192**	*eP*	**Pn**	**15 08 26.2**	**+0.6**
PATCX	**Punta Patache**	**1.52**	**281**		**Pn**	**15 08 25.4**	**+0.1**
PATCX	**Punta Patache**	**1.52**	**281**	*eP*	**Pn**	**15 08 25.4**	**+0.1**
PATCX				*i* S	**Sn**	**15 08 46.6**	**-0.7**
PATCX				IAML		15 08 48.9	
	comp=N,5μm,0.4s						
PATCX	**Punta Patache**	**1.52**	**281**	*eP*	**Pn**	**15 08 25.0**	**-0.3**
PATCX				*eP*	**P**	**15 08 25.8**	**+0.5**
PATCX				*eP*	**P**	**15 08 25.8**	**+0.5**
PATCX				IAML		15 08 49.5	
	comp=Z,3μm,0.8s						
GO01	**Chusmiza**	**1.56**	**338**		**Pn**	**15 08 26.6**	**+0.3**
GO01	**Chusmiza**	**1.56**	**338**	*eP*	**Pn**	**15 08 26.7**	**+0.4**
GO01				*i* S	**Sn**	**15 08 49.2**	**+0.2**
GO01				IAML		15 08 53.4	
	comp=E,7μm,0.1s						
GO01	**Chusmiza**	**1.56**	**338**	*eP*	**Pn**	**15 08 26.0**	**-0.3**
GO01				*eS*	**Sn**	**15 08 50.0**	**+1.0**
TA01	**Diego Aracena**	**1.61**	**290**	Pn	**Pn**	**15 08 25.9**	**-0.3**
TA01	**Diego Aracena**	**1.61**	**290**	*eP*	**Pn**	**15 08 25.9**	**-0.3**
TA01				*i* S	**Sn**	**15 08 48.0**	**-1.0**
TA01				IAML		15 08 48.7	
	comp=N,3μm,0.5s						
TA01	**Diego Aracena**	**1.61**	**290**	*eP*	**Pn**	**15 08 26.0**	**-0.3**
TA01				*eP*		15 08 26.1	
TA01				*eS*	**Sn**	**15 08 43.1**	**-6.0**
TA01				*eS*		15 08 48.6	
TA02	**Huaiquique**	**1.70**	**300**		**Pn**	**15 08 26.9**	**-0.3**
TA02	**Huaiquique**	**1.70**	**300**	*eP*	**Pn**	**15 08 27.1**	**-0.2**
TA02				*i* S	**Sn**	**15 08 49.5**	**-1.2**
TA02				IAML		15 08 53.3	
	comp=N,4μm,0.1s						
TA02	**Huaiquique**	**1.70**	**300**	*eP*	**Pn**	**15 08 27.0**	**-0.3**
TA02				*eS*	**Sn**	**15 08 51.4**	**+0.6**
TA02				IAML		15 08 53.4	
	comp=Z,2μm,0.1s						
PB11	**IPOC Station P**	**1.70**	**323**	Pn	**Pn**	**15 08 27.0**	**-0.5**
PB06	**IPOC Station P**	**1.83**	**211**		**Pn**	**15 08 29.3**	**+0.3**
PB06	**IPOC Station P**	**1.83**	**211**	*eP*	**Pn**	**15 08 29.4**	**+0.4**
PB06				*i* S	**Sn**	**15 08 53.7**	**-0.2**
PB06				IAML		15 08 55.2	
	comp=E,2μm,0.4s						
PB06	**IPOC Station P**	**1.83**	**211**	*eP*	**Pn**	**15 08 29.0**	**0.0**
PB06				*eS*	**Sn**	**15 08 54.3**	**+0.4**
PB06				*eS*		15 08 54.6	
PB06				IAML		15 08 56.1	
	comp=Z,2μm,0.5s						
PB15	**IPOC Station P**	**2.24**	**202**		**Pn**	**15 08 34.4**	**+0.4**
PB15	**IPOC Station P**	**2.24**	**202**	*eP*	**Pn**	**

BDFB				IAmb	IAmb	15 12 24.8	
	comp=Z,19nm,0.5s						
ITTB	**Itaituba**	**20.80**	**39**	*eP*	**P**	**15 12 26.0**	**-1.1**
PARB	**Paraibuna**	**21.35**	**100**	*eP*	**P**	**15 12 32.7**	**-0.3**
PEXB	**Peixe**	**21.36**	**68**	*eP*	**P**	**15 12 32.9**	**-0.2**
PRPB	**Parauapebas**	**23.47**	**53**	*eP*	**P**	**15 12 53.4**	**-0.5**
SMTB	**Santa Maria do**	**23.61**	**62**	*eP*	**P**	**15 12 55.6**	**+0.5**
MALB	**Monte Alegre**	**23.69**	**38**	*eP*	**P**	**15 12 55.8**	**-0.1**
JANB	**Januaria**	**23.81**	**79**	*eP*	**P**	**15 12 56.5**	**-0.5**
SDBA	**SAO DESIDERIO**	**24.23**	**73**	*eP*	**P**	**15 13 00.9**	**+0.1**
BOAV	**Boa Vista**	**24.66**	**20**	*eP*	**P**	**15 13 05.2**	**+0.5**
SJMB	**Sao Joao De Ma**	**25.84**	**89**	*eP*	**P**	**15 13 15.8**	**+0.5**
MCPB	**Macapa, AP**	**26.19**	**40**	*eP*	**P**	**15 13 19.2**	**+0.7**
RIB01	**Linhares ES**	**26.48**	**91**	*eP*	**P**	**15 13 21.7**	**+0.6**
NAN01	**Guarapari, ES**	**26.99**	**88**	*eP*	**P**	**15 13 25.8**	**+0.2**
GUA01	**Guaratinga, BA**	**27.57**	**85**	*eP*	**P**	**15 13 31.4**	**+0.5**
GDU01	**Guandu, BA**	**28.59**	**80**	*eP*	**P**	**15 13 39.5**	**-0.4**
NBPN	**Ponto Novo - B**	**29.07**	**74**	*eP*	**P**	**15 13 44.3**	**+0.1**
BAUV	**El Baul**	**29.88**	**1**	P	**P**	**15 13 49.5**	**-1.7**
BAUV				IAmb	IAmb	15 13 56.4	
	comp=Z,8.3nm,0.9s						
NBPS	**Pedro II - PI**	**31.15**	**61**	*eP*	**P**	**15 14 03.1**	**+0.5**
NBLA	**Lagarto - SE**	**31.18**	**76**	*eP*	**P**	**15 14 01.7**	**-1.2**
NBPB	**Pedra_Branca-C**	**32.08**	**65**	*eP*	**P**	**15 14 11.3**	**+0.6**
NBAN	**Anadia - AL**	**33.07**	**75**	*eP*	**P**	**15 14 19.2**	**-0.1**
NBCL	**Cascavel-CE**	**33.86**	**64**	*eP*	**P**	**15 14 27.6**	**+1.4**
RCBR	**Riachuelo**	**35.10**	**69**	P	**P**	**15 14 37.1**	**+0.2**
RCBR				IAmb	IAmb	15 14 39.1	
	comp=Z,19nm,0.9s						
RCBR	**Riachuelo**	**35.10**	**69**	*eP*	**P**	**15 14 38.3**	**+1.3**
TXAR	**Lajitas Array**	**60.51**	**325**	P	**P**	**15 17 54.1**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=133,slow=8.8,SNR=2.2						
DBIC	**Dimbokro**	**68.32**	**73**	P	**P**	**15 18 43.5**	**+0.2**
	comp=Z,7.1nm,0.8s,baz=251,slow=8.4,SNR=11						
DBIC	**Dimbokro**	**68.32**	**73**	P	**P**	**15 18 44.0**	**+0.6**
DBIC				IAmb	IAmb	15 18 44.2	
	comp=Z,6.8nm,0.8s						
QSPA	**South Pole Qui**	**69.07**	**180**	P	**P**	**15 18 47.3**	**0.0**
PDAR	**Pinedale Array**	**73.95**	**330**	P	**P**	**15 19 18.9**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=144,slow=7.7,SNR=2.4						
NVAR	**Mina Array Bea**	**75.40**	**322**	P	**P**	**15 19 27.8**	**+2.4**
	comp=Z,0.7nm,0.9s,baz=165,slow=7.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**76.92**	**70**	P	**P**	**15 19 34.9**	**+0.6**
	comp=Z,3.5nm,0.6s,baz=256,slow=5.5,SNR=44						
TORD	**Torodi Ar. Bea**	**76.92**	**70**	P	**P**	**15 19 34.3**	**+0.1**
TORD				IAmb	IAmb	15 19 40.9	
	comp=Z,4.3nm,0.6s						
YKA	**Yellowknife Ar**	**90.94**	**340**	P	**P**	**15 20 45.9**	**+1.6**
	comp=Z,2.5nm,0.8s,baz=134,slow=4.6,SNR=46						
YKA	**Yellowknife Ar**	**90.94**	**340**	P	**P**	**15 20 44.9**	**+0.6**
ASAR	**Alice Springs**	**130.39**	**207**	PKP	**PKiKP**	**15 26 53.2**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=123,slow=1.7,SNR=13						
WRA	**Warramunga Arr**	**133.44**	**210**	PKP	**PKiKP**	**15 26 59.4**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=160,slow=1.7,SNR=14						
ZALV	**Zalesovo Beam**	**141.48**	**25**	PKP	**PKiKP**	**15 27 13.1**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=0.0,slow=1.5,SNR=4.5						
MKAR	**Makanchi Array**	**145.14**	**36**	PKPbc	**PKPdf**	**15 27 19.5**	**+1.8**
	comp=Z,1.0nm,0.4s,baz=348,slow=2.5,SNR=19						
MKAR	**Makanchi Array**	**145.14**	**36**		**PKPdf**	**15 27 19.7**	**+2.0**
PZH	**PanZhiHua**	**169.64**	**57**	PKP	**PKPdf**	**15 27 44.6**	**-3.8**

CNRM ***16*** *15:12:01.7,35˚.76N×2˚.21W,h3km,ml2.8*
MDD ***16*** *15:12:05.4±0.7,35˚.61N×2˚.24W,h23km±1km,mb_Lg2.5/10, Error ellipse: s-maj=7.0km s-min=3.6km az=147.0*
ISC 16 15:12:04.5±1.3,35˚.65N±0˚.03×2˚.23W±0˚.04,h26km±13km, n24,σ1≥12/42,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMEL	**Melilla**	**0.69**	**240**	Pg	**Pb**	**15 12 17.8**	**-0.1**
EMEL				Sg	**Sb**	**15 12 27.4**	**+0.4**
EALB	**Alboran**	**0.71**	**294**	Pg	**Pb**	**15 12 18.0**	**-0.3**
EALB				Sg	**Sb**	**15 12 28.1**	**+0.3**
EALB				*i* Vmb_Lg		15 12 29.1	
GOG	**Mont Gurugu**	**0.76**	**236**	P	**Pb**	**15 12 18.3**	**-0.9**
GOG				S	**Sb**	**15 12 28.6**	**-0.4**
TAF	**Taforalt**	**0.85**	**190**	P	**Pn**	**15 12 20.9**	**+0.1**
TAF				S	**Sn**	**15 12 32.7**	**+0.3**
ENIJ	**Nijar**	**1.32**	**1**	Pn	**Pn**	**15 12 27.1**	**-0.3**
ENIJ				Sn	**Sn**	**15 12 44.0**	**-0.1**
ENIJ				*i* Vmb_Lg		15 12 46.4	
JBK	**JBK**	**1.34**	**192**	P	**Pn**	**15 12 29.0**	**+1.3**
EBER	**Berja**	**1.35**	**337**	Pn	**Pn**	**15 12 27.7**	**-0.2**
EBER				Sn	**Sn**	**15 12 45.7**	**+0.6**
EBER				*i* Vmb_Lg		15 12 53.6	
PALE	**Palemas**	**1.46**	**253**	P	**Pn**	**15 12 29.3**	**+0.1**
ELGU	**Los Guajares,**	**1.66**	**318**	Pn	**Pn**	**15 12 31.1**	**-1.0**
ELGU				Sn	**Sn**	**15 12 50.8**	**-1.8**
ELGU				*i* Vmb_Lg		15 12 53.4	
EQUE	**Quentar**	**1.83**	**328**	Pn	**Pn**	**15 12 35.2**	**+0.7**
EQUE				Sn	**Sn**	**15 12 57.5**	**+0.7**
EQUE				*i* Vmb_Lg		15 13 04.1	
EGOR	**Sierra Gorda,**	**2.10**	**314**	Pn	**Pn**	**15 12 39.2**	**+1.0**
EGOR				Sn	**Sn**	**15 13 04.3**	**+0.7**
EGOR				*i* Vmb_Lg		15 13 09.3	
CART	**Cartagena**	**2.17**	**27**	P	**Pn**	**15 12 38.5**	**-0.5**
CART				S	**Sn**	**15 13 02.4**	**-2.6**
EMIJ	**Mijas**	**2.25**	**295**	Pn	**Pn**	**15 12 39.4**	**-0.7**
EMIJ				Sn	**Sn**	**15 13 05.5**	**-1.5**
EMIJ				*i* Vmb_Lg		15 13 11.1	
EZAR	**Zarzadilla de**	**2.26**	**11**	Pn	**Pn**	**15 12 41.5**	**+1.2**
EZAR				Sn	**Sn**	**15 13 07.4**	**0.0**
EMUR	**La Murta**	**2.33**	**20**	Pn	**Pn**	**15 12 41.5**	**+0.3**
EMUR				Sn	**Sn**	**15 13 08.5**	**-0.5**
EMUR				*i* Vmb_Lg		15 13 14.3	
SMIR	**Smir Dam**	**2.56**	**272**	P	**Pn**	**15 12 45.1**	**+0.7**
TDRA	**Tendrara**	**2.61**	**176**	P	**Pb**	**15 12 49.2**	**-1.5**
ETOB	**Tobarra**	**3.04**	**10**	Pn	**Pn**	**15 12 53.1**	**+2.1**
ETOB				Sn	**Sn**	**15 13 27.0**	**+0.4**
ETOB				*i* Vmb_Lg		15 13 28.6	
EADA	**Adamuz**	**3.14**	**324**	Pn	**Pn**	**15 12 52.9**	**+0.6**
EADA				Sn	**Sn**	**15 13 28.4**	**-0.6**
EADA				*i* Vmb_Lg		15 13 36.7	
MDT	**Midelt**	**3.44**	**216**	P	**Pn**	**15 12 58.1**	**+1.5**
MD31	**MD31**	**3.48**	**218**	P	**Pn**	**15 12 58.7**	**+1.7**
ECAB	**El Cabril**	**3.52**	**314**	Pn	**Pn**	**15 12 59.0**	**+1.5**
ECAB				Sn	**Sn**	**15 13 37.1**	**-1.3**
PAB	**San Pablo**	**4.24**	**337**	Pn	**Pn**	**15 13 07.9**	**+0.5**
PAB				Sn	**Sn**	**15 13 54.4**	**-1.8**
PAB				Sg	**Sb**	**15 14 11.6**	**+2.4**
PVAQ	**Vaqueiros**	**4.75**	**293**	P	**Pn**	**15 13 14.4**	**-0.1**

IDC ***16*** *15:14:50.6±0.5,32˚.95N×131˚.16E,h0km,mb4.3/28, mb1 4.4/32,mb1mx4.2/67,mbtmp4.3/32,ML3.4/4,MS3.8/28, Ms1 3.8/28,ms1mx3.6/84,Error ellipse: s-maj=14.0km s-min=5.3km az=37.0*
NIED ***16*** *15:14:51.7,32˚.96N×131˚.08E,h9km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-0.36; Mθθ1.04; Mϕϕ-0.67; Mrθ-0.21; Mθϕ-0.32; Mϕr0.64; Fault plane solution: M₀1.18000×10¹⁶ NP1: ϕs241.00000°,δ54.00000°,λ-161.00000°. NP2: ϕs140.00000°,δ75.00000°,λ-38.00000°.*
JMA ***16*** *15:14:51.6,32˚.96N×131˚.08E,h9km±1km,M4.8 Broadband fault plane solution: P waves. NP1: ϕs240.00000°,δ71.00000°,λ-145.00000°. NP2: ϕs137.00000°,δ57.00000°,λ-23.00000°. Principal axes: T Plg9.0000°, Azm6.0000°; N Plg51.0000°, Azm265.0000°; P Plg38.0000°, Azm103.0000°;*
JMA Felt IV J1.
MOS ***16*** *15:14:51.5±1.2,32˚.91N×131˚.13E,h14km,mb4.8/34, MS4.1/5 Error ellipse: s-maj=8.6km s-min=5.0km az=104.2*
BJI ***16*** *15:14:52.1±0.0,32˚.85N×130˚.97E,h5km,mb4.5/57, mB4.9/36,Ms4.7/55,Ms7 4.5/52*
NEIC ***16*** *15:14:53.0±2.0,32˚.94N±0˚.04×130˚.95E±0˚.03,h10km±1km, mb4.7/37,Error ellipse: s-maj=6.1km s-min=3.7km az=357.0*
GCMT ***16*** *15:14:54.0±0.3,32˚.99N±0˚.02×130˚.97E±0˚.03,h22km±2km, MW4.8/70,Moment Tensor Solution. s8,c9; s70,c93; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.67±.15; Mθθ1.84±.11; Mϕϕ-1.17±.09; Mrθ0.27±.13; Mθϕ-0.33±.07; Mϕr0.46±.15; Best double couple: M₀1.69500×10¹⁶ NP1:ϕs137.00000°,δ65.00000°,λ-19.00000°. NP2: ϕs236.00000°,δ72.00000°,λ-154.00000°. Principal axes: T 1.8940, Plg5.0000°, Azm5.0000°; N -0.3980,*

Plg59.0000°, Azm267.0000°; P -1.4960, Plg31.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 16 15:14:52.4±1.0,32˚.94N±0˚.03×131˚.10E±0˚.03,h5km±5km, n218,σ1≥74/231,mb4.5/75,MS3.9/36,47C-23D,Fault plane solution: NP1:ϕs170.54993°,δ44.10695°, λ0.78203°. NP2:ϕs79.98838°,δ89.45572°,λ134.10428°. Principal axes: T Plg30.9607°, Azm25.0103°; N Plg44.1018°, Azm259.4609°; P Plg30.0672°, Azm135.3330°; Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.26**	**315**	Pg	**Pg**	**15 14 56.5**	**-0.9**
	3μm,0.3s,baz=126,slow=4.9,SNR=1533						
JNU				Lg	Lg	15 15 00.1	
	36μm,0.3s,baz=31,slow=23,SNR=94						
JNU	**Nakatsue**	**0.26**	**315**	P	**Pg**	**15 14 56.6**	**-0.9**
JNU	**Nakatsue**	**0.26**	**315**	Pg	**Pg**	**15 14 56.7**	**-0.7**
JNU				Sg	**Sg**	**15 15 00.2**	**-0.6**
JIU3	**Izumi3**	**0.46**	**211**	⇑P	**Pg**	**15 15 00.8**	**-0.5**
JIU3				S	**Sg**	**15 15 07.6**	**+0.4**
JTA	**Tamana**	**0.47**	**273**	⇓P	**Pg**	**15 15 00.7**	**-0.9**
JTA				S	**Sg**	**15 15 07.1**	**-0.6**
JUS	**Usuki**	**0.56**	**77**	⇓P	**Pg**	**15 15 02.3**	**-1.0**
JSU	**Suzuyama**	**1.53**	**201**		**Pn**	**15 15 19.1**	**-1.4**
JTU	**Tsushima**	**2.12**	**319**	Pn	**Pn**	**15 15 26.5**	**-2.0**
JMN	**Monobe**	**2.46**	**71**	Pn	**Pn**	**15 15 34.1**	**+0.8**
JHS	**Saijyo**	**2.65**	**39**	Pn	**Pn**	**15 15 35.9**	**+0.1**
TJN	**Taejon**	**4.60**	**319**	*i* P	**Pn**	**15 16 02.4**	**-0.3**
TJN	**Taejon**	**4.60**	**319**	Pn	**Pn**	**15 16 01.7**	**-1.0**
TJN	**Taejon**	**4.60**	**319**	P	**Pn**	**15 16 01.6**	**-1.0**
KSRS	**Korea Array**	**5.20**	**331**	Pn	**Pn**	**15 16 10.1**	**-0.8**
	1.5nm,0.3s,baz=149,slow=14,SNR=14						
KSRS				Pg	**Pb**	**15 16 26.6**	**+2.8**
	4.1nm,0.3s,baz=149,slow=17,SNR=14						
KSRS				Sn	**Sn**	**15 17 10.0**	**-1.1**
	5.2nm,0.3s,baz=160,slow=16,SNR=5.5						
KSRS				Lg	Lg	15 17 34.2	
	14nm,0.3s,baz=153,slow=30,SNR=6.7						
KSAR	**Wonju Array Be**	**5.20**	**331**	P	**Pn**	**15 16 10.9**	**0.0**
KSAR	**Wonju Array Be**	**5.20**	**331**	Pn	**Pn**	**15 16 10.9**	**0.0**
KS19	**Wonju Array Si**	**5.26**	**331**		**Pn**	**15 16 10.8**	**-1.0**
INU	**Inuyama**	**5.47**	**62**		**Pn**	**15 16 16.0**	**+1.5**
INU	**Inuyama**	**5.47**	**62**	P	**Pn**	**15 16 16.5**	**+2.0**
	327nm,0.8s						
INCN	**Inchon**	**5.82**	**322**	P	**Pn**	**15 16 18.3**	**-1.1**
INCN	**Inchon**	**5.82**	**322**		**Pn**	**15 16 18.3**	**-1.1**
INCN	**Inchon**	**5.82**	**322**	P	**Pn**	**15 16 18.8**	**-0.6**
	130nm,2.6s						
JGF	**Kuroka**	**5.82**	**61**	Pn	**Pn**	**15 16 20.8**	**+1.3**
JOW	**Kunigami**	**6.56**	**203**	Pn	**Pn**	**15 16 32.4**	**+2.8**
	4.5nm,0.3s,baz=1.6,slow=3.5,SNR=8.1						
JOW	**Kunigami**	**6.56**	**203**	Pn	**Pn**	**15 16 31.7**	**+2.1**
MJB9	**Matsu-Tunnel**	**6.87**	**56**		**Pn**	**15 16 35.7**	**+1.9**
MAJO	**Matsushiro**	**6.87**	**56**	*i* P	**Pn**	**15 16 35.0**	**+1.2**
MAJO	**Matsushiro**	**6.87**	**56**	Pn	**Pn**	**15 16 35.6**	**+1.8**
MAJO	**Matsushiro**	**6.87**	**56**	P	**Pn**	**15 16 35.8**	**+2.0**
	61nm,0.8s						
MJAR	**Matsushiro Arr**	**6.87**	**57**	Pn	**Pn**	**15 16 35.7**	**+1.9**
	0.8nm,0.3s,baz=229,slow=14,SNR=50						
MJAR				Lg	Lg	15 18 28.6	
	baz=254,slow=26,SNR=2.0						
JHJ	**Hachijo jima 2**	**7.30**	**86**	Pn	**Pn**	**15 16 39.0**	**-0.7**
	15nm,0.3s,baz=71,slow=22,SNR=6.3						
JHJ				LR	LR	15 19 41.5	
	comp=Z,1μm,18.1s,baz=307,slow=40						
JHJ2	**Mitsune**	**7.33**	**86**	P	**Pn**	**15 16 40.9**	**+0.8**
	324nm,1.1s						
JSD	**Sado**	**7.74**	**47**	Pn	**Pn**	**15 16 49.3**	**+3.5**
SSE	**Sheshan**	**8.61**	**260**	P	**Pn**	**15 16 58.6**	**+0.9**
SSE				S	**Sn**	**15 18 37.0**	**+1.7**
SSE				pmax	pmax		
	comp=Z,11nm,1.3s						
SSE				pmax	pmax		
	comp=Z,210nm,3.6s						
SSE				LR	LR		
	comp=N,1μm,17.4s						
SSE				LR	LR		
	comp=E,1μm,17.4s						
MSHR	**Mys Shultsa**	**9.62**	**0**	*i* P	**Pn**	**15 17 13.2**	**+1.7**
MSHR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NJ2	**Nanjing**	**10.38**	**268**	*e*P	**Pn**	**15 17 19.4**	**-2.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,3.8s						
NJ2				LR	LR		
	comp=Z,2μm,7.5s						
NJ2				LR	LR		
	comp=Z,2μm,12.2s						
USRK	**Ussuriysk Ar.**	**11.26**	**3**	Pn	**Pn**	**15 17 33.2**	**-0.8**
	baz=160,slow=13,SNR=6.9						
USRK				LR	LR	15 21 35.8	
	comp=Z,297nm,18.3s,baz=178,slow=36						
CN2	**Changchun**	**11.71**	**339**	*e*P	**Pn**	**15 17 41.8**	**+1.7**
CN2				pmax	pmax		
	comp=Z,30nm,1.8s						
MDJ	**Mudanjiang**	**11.72**	**355**	P	**Pn**	**15 17 43.0**	**+2.8**
MDJ				PP	**PnPn**	**15 17 51.8**	**+3.7**
MDJ				pmax	pmax		
	comp=Z,12nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,240nm,3.7s						
MDJ				LR	LR		
	comp=Z,1μm,11.4s						
MDJ				LR	LR		
	comp=Z,2μm,11.0s						
MDJ				LR	LR		
	comp=Z,2μm,9.1s						
BNX	**BinXian**	**13.09**	**349**	⇑P	**Pn**	**15 18 02.5**	**+3.5**
BNX				pmax	pmax		
	comp=Z,25nm,1.3s						
BNX				pmax	pmax		
	comp=Z,410nm,4.3s						
ERM	**Erimo**	**13.17**	**43**	*i* P	**Pn**	**15 18 01.5**	**+1.4**
HNS	**HongShan**	**14.12**	**293**	⇑P	**P**	**15 18 17.0**	**-3.9**
HNS				S	S	15 21 01.3	-10
HNS				pmax	pmax		
	comp=Z,16nm,1.4s						
HNS				LR	LR		
	comp=Z,590nm,16.5s						
HNS				LR	LR		
	comp=Z,830nm,14.7s						
HNS				LR	LR		
	comp=Z,860nm,15.6s						
ASAJ	**Asahikawa**	**14.32**	**36**	Pn	**Pn**	**15 18 16.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=260,slow=23,SNR=2.1						
WHN	**Wuhan**	**14.45**	**265**	⇑P	**Pn**	**15 18 16.8**	**-0.8**
WHN				S	**Sn**	**15 20 53.6**	**-4.6**
WHN				LR	LR		
	comp=Z,2μm,4.3s						
WHN				LR	LR		
	comp=Z,5μm,10.9s						
WHN				LR	LR		
	comp=Z,6μm,12.5s						
TIY	**Taiyuan**	**15.95**	**293**	*e*P	**Pn**	**15 18 36.8**	**-0.9**
TIY				pmax	pmax		
	comp=Z,240nm,3.5s						
TIY				LR	LR		
	comp=Z,510nm,7.9s						
TIY				LR	LR		
	comp=Z,1μm,11.3s						
TIY				LR	LR		
	comp=Z,1μm,13.1s						
XLT	**XiLinHaoTe**	**16.04**	**317**	*e*P	**P**	**15 18 39.9**	**-2.4**
XLT				S	**Sn**	**15 21 38.0**	**+1.0**
XLT				pmax	pmax		
	comp=Z,13nm,1.4s						
XLT				pmax	pmax		
	comp=Z,200nm,3.7s						
XLT				LR	LR		
	comp=Z,2μm,8.5s						
XLT				LR	LR		
	comp=Z,2μm,10.1s						
KLR	**Kul'dur**	**16.28**	**2**	Pn	**P**	**15 18 47.6**	**+2.8**
	comp=Z,0.4nm,0.3s,baz=155,slow=9.0,SNR=40						
KLR				LR	LR	15 24 34.4	
	comp=Z,186nm,18.8s,baz=174,slow=36						
KLR	**Kul'dur**	**16.28**	**2**	*ce*P	**Pn**	**15 18 41.7**	**0.0**
KLR				pmax	pmax		
	comp=Z,41nm,1.3s						
YSS	**Yuzh-Sakhalins**	**16.58**	**29**	*e*P	**P**	**15 18 47.1**	**-1.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=E,600nm,15.0s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
HHC	**Hu-ho-hao-te**	**17.48**	**302**	*e*P	**Pn**	**15 18 56.0**	**-1.0**
HHC				sP	sP	15 19 05.5	+4.9
HHC				PP	**PnPn**	**15 19 09.6**	**+2.4**
HHC				S	**Sn**	**15 22 07.3**	**-4.7**
HHC				SS	**SnSn**	**15 22 32.8**	**+7.5**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,260nm,4.6s						
HHC				LR	LR		
	comp=Z,880nm,10.8s						
HHC				LR	LR		
	comp=Z,1μm,12.6s						
HHC				LR	LR		
	comp=Z,1μm,13.2s						
XAN	**Xi'an**	**18.53**	**279**	⇓P	**Pn**	**15 19 12.0**	**+2.1**
XAN				pmax	pmax		
	comp=Z,24nm,1.5s						
XAN				pmax	pmax		
	comp=Z,440nm,5.2s						
XAN				LR	LR		
	comp=Z,2μm,12.1s						
XAN				LR	LR		
	comp=Z,1μm,12.1s						
XAN				LR	LR		
	comp=Z,1μm,13.3s						
ZEA	**Zeya**	**20.97**	**354**	*e*P	Pn	15 19 37.7	-1.1
ZEA				*e*S	**S**	**15 23 23.4**	**-6.7**
ZEA				*e*		15 23 38.6	
ZEA				pmax	pmax		
	comp=N,40nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,70nm,1.1s						
ZEA				pmax	pmax		
	comp=N,100nm,4.7s						
ZEA				pmax	pmax		
	comp=Z,100nm,2.1s						
ZEA				smax	smax		
	comp=N,300nm,7.9s						
ZEA				MLR	MLR		
	comp=N,600nm,9.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,11.0s						
GYA	**Guiyang**	**22.16**	**259**	⇑P	**P**	**15 19 51.5**	**+2.1**
GYA				pmax	pmax		
	comp=Z,18nm,1.1s						
GYA				LR	LR		
	comp=Z,1μm,9.9s						
LZH	**Lanzhou**	**22.65**	**286**	⇑P	**P**	**15 19 56.5**	**+1.9**
LZH				pP	sP	15 20 02.8	+5.8
LZH				sP	pP	15 20 08.0	+12
LZH				pmax	pmax		
	comp=Z,21nm,1.5s						
LZH				pmax	pmax		
	comp=Z,220nm,4.3s						
LZH				LR	LR		
	comp=Z,930nm,14.1s						
LZH				LR	LR		
	comp=Z,900nm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,13.0s						
GUMO	**Guam**	**23.00**	**144**	LR	LR	15 26 45.7	
	comp=Z,63nm,20.7s,baz=36,slow=31						
CD2	**Chengdu**	**23.27**	**272**	P	**P**	**15 20 02.4**	**+1.4**
CD2				S	**S**	**15 24 15.6**	**+1.7**
CD2				pmax	pmax		
	comp=Z,40nm,1.0s						
CD2				LR	LR		
	comp=Z,3μm,11.8s						
CD2				LR	LR		
	comp=Z,3μm,11.8s						
ULN	**Ulaanbaatar**	**23.48**	**316**	*ce*P	**P**	**15 20 02.3**	**-0.8**
ULN				pmax	pmax		
	comp=Z,22nm,1.0s						
ULN	**Ulaanbaatar**	**23.48**	**316**	P	**P**	**15 20 04.2**	**+1.2**
ULN				IAmb	IAmb	15 20 07.1	
	comp=Z,18nm,0.9s						
SONM	**Songino Array**	**23.84**	**316**	P	**P**	**15 20 06.9**	**+0.3**
	comp=Z,4.7nm,0.7s,baz=132,slow=7.5,SNR=22						
SONM				LR	LR	15 29 24.7	
	comp=Z,197nm,18.1s,baz=108,slow=37						
SONM	**Songino Array**	**23.84**	**316**	P	**P**	**15 20 07.3**	**+0.7**
KMI	**Kunming**	**25.93**	**260**	⇓P	**P**	**15 20 26.1**	**+0.1**
KMI				pmax	pmax		
	comp=Z,13nm,1.5s						
KMI				LR	LR		
	comp=Z,520nm,9.1s						
KMI				LR	LR		
	comp=Z,1μm,11.4s						
KMI				LR	LR		
	comp=Z,800nm,12.2s						
GTA	**Gaotai**	**25.98**	**293**	⇑P	**P**	**15 20 28.3**	**+2.1**
GTA				sP	sP	15 20 35.8	+7.1
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,120nm,4.4s						
GTA				LR	LR		
	comp=Z,730nm,13.5s						
GTA				LR	LR		
	comp=Z,850nm,13.5s						
GTA				LR	LR		
	comp=Z,880nm,13.5s						
PZH	**PanZhiHua**	**26.23**	**264**	P	**P**	**15 20 28.6**	**0.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
ZAK	**Zakamensk**	**26.89**	**319**	*e*P	**P**	**15 20 34.7**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BOD	**Bodaibo**	**27.46**	**340**	*e*P	**P**	**15 20 39.7**	**+0.5**
BOD				pmax	pmax		
	comp=Z,9.0nm,2.4s						
MOY	**Mondy**	**28.78**	**320**	*e*P	P	15 20 58.9	+7.8
YAK	**Yakutsk**	**29.12**	**359**	*ce*P	**P**	**15 20 55.9**	**+2.0**
YAK				pmax	pmax		
	comp=Z,13nm,1.3s						
MA2	**Magadan**	**29.67**	**20**	*i* P	**P**	**15 21 00.2**	**+1.3**
GOMU	**GeErMu**	**29.94**	**286**	P	**P**	**15 21 03.8**	**+1.8**
GOMU				pP	sP	15 21 08.3	+3.9
GOMU				PcP	**PcP**	**15 24 06.4**	**+1.8**
GOMU				pmax	pmax		
	comp=Z,16nm,2.0s						
GOMU				pmax	pmax		
	comp=Z,80nm,5.0s						
GOMU				LR	LR		
	comp=Z,240nm,12.7s						
GOMU				LR	LR		
	comp=Z,240nm,11.6

comp=Z,134nm,18.8s,baz=106,slow=36
ZALV Zalesovo Beam 38.73 317 *i* P **P** **15 22 19.7 +2.4**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
TIXI Tiksi 38.79 359 P **P** **15 22 15.9 -1.7**
comp=Z,0.4nm,0.2s,baz=90,slow=24,SNR=5.3
TIXI Tiksi 38.79 359 *i* P **P** **15 22 18.4 +0.8**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
KAPI Kappang 39.25 198 LR LR 15 37 18.5
comp=Z,84nm,21.7s,baz=11,slow=34
MK31 Makanchi Array 39.31 305 *i* P **P** **15 22 23.6 +1.3**
MKAR Makanchi Array 39.31 305 P **P** **15 22 21.7 -0.6**
comp=Z,1.4nm,0.6s,baz=88,slow=9.4,SNR=13
MKAR PcP **PcP** **15 24 28.4 -2.6**
comp=Z,0.9nm,0.7s,baz=79,slow=6.3,SNR=3.5
MKAR LR LR 15 39 39.5
comp=Z,161nm,20.5s,baz=92,slow=38
MKAR Makanchi Array 39.31 305 *i* P **P** **15 22 23.6 +1.3**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 39.31 305 P **P** **15 22 21.4 -1.0**
BBKI Banjar Baru 39.34 206 P **P** **15 22 22.8 0.0**
BILL Bilibino 40.54 19 *ce*P **P** **15 22 32.9 +0.7**
BILL pmax pmax
comp=Z,10.0nm,1.7s
BILL MLR MLR
comp=Z,106nm,15.0s
BILL Bilibino 40.54 19 P **P** **15 22 32.6 +0.4**
KURK Kurchatov 41.98 311 *ce*P **P** **15 22 44.9 +0.6**
KURK pmax pmax
comp=Z,18nm,1.3s
KURK Kurchatov 41.98 311 P **P** **15 22 42.8 -1.5**
KURK IAmb IAmb 15 22 48.6
comp=Z,13nm,1.0s
KURBB Kurchatov Arra 42.03 311 P **P** **15 22 44.5 -0.2**
comp=Z,5.5nm,0.7s,baz=97,slow=9.1,SNR=36
KURBB PcP **PcP** **15 24 36.6 -3.1**
comp=Z,1.1nm,0.8s,baz=92,slow=3.7,SNR=5.5
PSI Prapat 42.51 232 LR LR 15 40 05.0
comp=Z,147nm,20.9s,baz=34,slow=36
NRIK Noril'sk 43.75 339 P **P** **15 22 58.5 +0.1**
comp=Z,6.3nm,0.9s,baz=126,slow=11,SNR=5.5
NRIK Noril'sk 43.75 339↑ *ie*P **P** **15 22 58.5 +0.1**
NRIK pmax pmax
comp=Z,8.0nm,1.1s
KSH Kashi 44.36 295 P P 15 23 10.0 +6.1
KSH pmax pmax
comp=Z,7.0nm,1.2s
KSH LR LR
comp=Z,250nm,12.4s
KSH LR LR
comp=Z,190nm,10.2s
KSH LR LR
comp=Z,510nm,15.2s
PMG Port Moresby 44.81 157 LR LR 15 41 27.8
comp=Z,91nm,18.3s,baz=332,slow=36
AAK Ala-Archa 45.02 299 P **P** **15 23 09.9 +0.8**
comp=Z,2.7nm,0.7s,baz=136,slow=4.9,SNR=11
AAK LR LR 15 44 06.8
comp=Z,246nm,18.1s,baz=77,slow=39
AAK Ala-Archa 45.02 299 *ce*P **P** **15 23 09.8 +0.6**
AAK pmax pmax
comp=Z,10.0nm,1.7s
LEM Lembang 45.41 214 P **P** **15 23 12.3 -0.2**
MTN Manton Dam 45.53 180 P **P** **15 23 10.9 -2.1**
MTN IAmb IAmb 15 23 19.6
comp=Z,14nm,1.0s
BRVK Borovoye 47.23 314 *ce*P **P** **15 23 27.9 +1.7**
BRVK pmax pmax
comp=Z,16nm,1.3s
BRVK Borovoye 47.23 314 P **P** **15 23 26.3 +0.1**
KK31 Karatay Array 47.86 301 P **P** **15 23 31.5 +0.2**
KK31 pmax pmax
comp=Z,14nm,0.9s
KK31 Karatay Array 47.86 301 P **P** **15 23 31.5 +0.2**
KKAR Karatay Array 47.86 301 P **P** **15 23 31.0 -0.3**
KKAR pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 47.86 301 P **P** **15 23 31.0 -0.3**
KKAR Karatay Array 47.86 301 P **P** **15 23 31.5 +0.2**
KKAR IAmb IAmb 15 23 34.4
comp=Z,14nm,0.8s
KNRA Kununurra 48.40 183 P **P** **15 23 34.0 -1.5**
KBL Kabul 50.89 290 P **P** **15 23 57.1 +2.3**
KBL pmax pmax
comp=Z,9.0nm,2.2s
FITZ Fitzroy Crossi 51.02 187 P **P** **15 23 53.7 -1.7**
comp=Z,2.6nm,0.8s,baz=12,slow=6.3,SNR=11
FITZ LR LR 15 48 46.3
comp=Z,32nm,18.1s,baz=16,slow=40
FITZ Fitzroy Crossi 51.02 187 P **P** **15 23 53.9 -1.6**
FITZ IAmb IAmb 15 24 21.7
comp=Z,14nm,1.5s
WB0 Warramunga Arr 52.51 176 P **P** **15 24 04.7 -1.9**
SVE Sverdlovsk 52.65 319 *e*P **P** **15 24 08.4 +1.1**
SVE pmax pmax
comp=Z,15nm,1.4s
WRAB Tennant Creek 52.67 176 *i* P **P** **15 24 07.1 -0.7**
WRAB pmax pmax
comp=Z,5.0nm,0.9s
WRA Warramunga Ar 52.68 176 P **P** **15 24 05.6 -2.3**
comp=Z,2.9nm,0.8s,baz=355,slow=7.9,SNR=33
WRA Warramunga Ar 52.68 176 *i* P **P** **15 24 06.3 -1.6**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 52.68 176 P **P** **15 24 06.8 -1.0**
WB2 Warramunga Arr 52.68 176 P **P** **15 24 06.4 -1.5**
WB2 IAmb IAmb 15 24 07.5
comp=Z,8.1nm,1.0s
WR0 Warramunga Arr 52.71 176 P **P** **15 24 06.5 -1.6**
WR0 IAmb IAmb 15 24 09.9
comp=Z,18nm,1.2s
PALK Pallekele 53.14 253 LR LR 15 49 31.2
comp=Z,84nm,18.0s,baz=158,slow=39
ARU Arti 53.83 319 P **P** **15 24 15.4 -0.6**
comp=Z,1.3nm,0.6s,baz=57,slow=4.0,SNR=9.8
ARU LR LR 15 48 18.8
comp=Z,91nm,20.2s,baz=82,slow=37
ARU Arti 53.83 319 *ci* P **P** **15 24 16.0 0.0**
ARU S **S** **15 31 53.1 +2.0**
ARU SS **SS** **15 35 29.7 -1.8**
ARU pmax pmax
comp=Z,14nm,1.1s
ABKAR Akbulak array 54.07 310 P **P** **15 24 17.4 -0.5**
ABKAR Akbulak array 54.07 310 P **P** **15 24 17.6 -0.3**
ABKAR IAmb IAmb 15 24 22.3
comp=Z,9.3nm,0.9s
J20K Nowinta River 54.31 31 P **P** **15 24 20.1 +0.7**
J20K IAmb IAmb 15 24 20.4
comp=Z,6.0nm,0.9s
K20K Telida 54.39 32 P **P** **15 24 20.4 +0.4**
K20K IAmb IAmb 15 24 21.4
comp=Z,5.1nm,0.7s
CTA Charters Tower 54.69 162 LR LR 15 45 21.8
comp=Z,56nm,21.1s,baz=1.0,slow=34
AKTO Aktyubinsk 55.07 312 P **P** **15 24 24.6 -0.5**
comp=Z,5.1nm,0.8s,baz=89,slow=10,SNR=6.8
AKTO LR LR 15 47 10.0
comp=Z,159nm,18.1s,baz=81,slow=35
CAST Castle Rocks 55.28 32 P **P** **15 24 27.1 +0.6**
H23K Yukon River 56.14 29 P **P** **15 24 33.6 +0.9**
H23K IAmb IAmb 15 24 34.3
comp=Z,7.5nm,0.8s
AS31 Alice Springs 56.35 177 P **P** **15 24 33.8 -0.8**
ASAR Alice Springs 56.35 177 P **P** **15 24 33.7 -0.9**
comp=Z,2.3nm,0.6s,baz=8.8,slow=14,SNR=60
ASAR LR LR 15 49 37.3
comp=Z,21nm,19.1s,baz=54,slow=37
RND Reindeer 56.72 32 P **P** **15 24 36.6 -0.3**
RND pmax pmax
comp=Z,8.0nm,0.8s
RND Reindeer 56.72 32 P **P** **15 24 36.6 -0.3**
RND IAmb IAmb 15 24 38.1
comp=Z,7.6nm,0.8s
MDM Murphy Dome 56.79 30 P **P** **15 24 37.4 +0.2**
MDM IAmb IAmb 15 25 06.1
comp=Z,12nm,1.1s
H24K Noodor Dome 56.82 29 P **P** **15 24 37.6 0.0**
H24K IAmb IAmb 15 24 41.2
comp=Z,7.1nm,1.3s
IL31 57.38 30 P **P** **15 24 40.6 -0.8**
ILAR Eielson Array 57.38 30 P **P** **15 24 40.4 -1.0**
comp=Z,0.8nm,0.6s,baz=274,slow=6.4,SNR=17
ILAR Eielson Array 57.38 30 P **P** **15 24 40.2 -1.2**
GEYT Alibeck 58.27 297 LR LR 15 52 06.8

comp=Z,140nm,21.5s,baz=86,slow=38
KIRV Kirov 58.35 322 LR LR 15 50 09.8
comp=Z,137nm,18.3s,baz=75,slow=36
KIRV Kirov 58.35 322 *ce*P **P** **15 24 46.6 -1.6**
M26K Nabesna, AK 59.54 33 P **P** **15 24 56.8 +0.2**
BELG Belogornoye 60.90 316 P **P** **15 25 04.8 -1.1**
comp=Z,12nm,0.8s,baz=291,slow=16,SNR=5.5
BELG LR LR 15 53 22.2
comp=Z,117nm,18.5s,baz=360,slow=38
BELG Belogornoye 60.90 316 *i* P **P** **15 25 07.1 +1.1**
BELG pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 61.76 25 P **P** **15 25 10.1 -1.4**
comp=Z,2.3nm,0.8s,baz=293,slow=6.6,SNR=11
INK Inuvik 61.76 25 P **P** **15 25 11.0 -0.6**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 61.76 25 P **P** **15 25 11.0 -0.6**
INK IAmb IAmb 15 25 18.7
comp=Z,5.0nm,1.1s
KLMR Klimovskoe 62.57 327 *e*P **P** **15 25 13.1 -4.0**
KLMR pmax pmax
comp=Z,11nm,1.5s
KLMR Klimovskoe 62.57 327 *e*P **P** **15 25 13.1 -4.0**
KLMR AMP 15 25 29.9
comp=Z,11nm,1.5s
KLMR LQ LQ 15 48 03.5
KLMR LQ LQ 15 48 03.5
KLMR LR LR 15 49 52.8
A36M Sachs Harbour 63.09 20 P **P** **15 25 20.1 -0.3**
FORT Forrest 63.44 183 P **P** **15 25 21.9 -1.2**
C36M Paulatuk 64.56 22 P **P** **15 25 28.8 -1.2**
ARCES ARCESS Array B 64.71 338 P **P** **15 25 29.1 -2.1**
comp=Z,4.7nm,1.1s,baz=9.5,slow=11,SNR=4.6
ARCES ARCESS Array B 64.71 338 P **P** **15 25 29.4 -1.7**
ARCES pmax pmax
comp=Z,16nm,1.5s
ARCES ARCESS Array B 64.71 338 P **P** **15 25 29.4 -1.7**
STKA Stephens Creek 65.23 170 P **P** **15 25 35.1 +0.3**
comp=Z,1.7nm,0.7s,baz=337,slow=2.8,SNR=4.8
STKA LR LR 15 56 00.2
comp=Z,31nm,18.3s,baz=30,slow=38
STKA Stephens Creek 65.23 170 P **P** **15 25 35.5 +0.7**
EUNU Eureka 65.36 7 P **P** **15 25 34.4 -0.8**
EUNU IAmb IAmb 15 25 35.5
comp=Z,4.2nm,0.8s
OBN Obninsk 66.12 321 *e*P **P** **15 25 41.6 +1.2**
OBN pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 66.92 308 P **P** **15 25 44.9 -0.9**
comp=Z,15nm,0.9s,baz=90,slow=3.2,SNR=17
KBZ LR LR 15 58 51.3
comp=Z,226nm,19.2s,baz=85,slow=39
KBZ Khabaz 66.92 308 *ce*P **P** **15 25 44.7 -1.1**
KBZ pmax pmax
comp=Z,18nm,0.9s
KIV Kislovodsk 66.97 308↑ P **P** **15 25 46.6 +0.3**
KIV Kislovodsk 66.97 308 *e*P **P** **15 25 45.9 -0.3**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,153nm,17.0s
SHA1 Shidzhatmaz 67.08 308 *i* P **P** **15 25 47.6 +0.5**
GNI Garni 67.13 304 LR LR 15 58 12.1
comp=Z,68nm,18.3s,baz=50,slow=39
NEY Neytrino 67.23 308 *i* P **P** **15 25 47.6 -0.4**
NEY pmax pmax
comp=Z,3.0nm,1.0s
FINES FINESS Array B 68.29 330 P **P** **15 25 52.1 -1.9**
comp=Z,1.4nm,0.5s,baz=74,slow=6.9,SNR=13
RES Resolute Bay 68.50 12 P **P** **15 25 54.6 -0.6**
RES pmax pmax
comp=Z,5.0nm,0.9s
RES Resolute Bay 68.50 12 P **P** **15 25 54.6 -0.6**
RES IAmb IAmb 15 25 55.8
comp=Z,4.9nm,0.9s
DAG Danmarks Havn 68.94 353 P **P** **15 25 56.8 -1.1**
DAG pmax pmax
comp=Z,7.0nm,1.0s
MNK Minsk 70.88 323 *i* P **P** **15 26 13.0 +2.8**
MNK *i* 15 26 33.2
MNK *i* 15 28 50.0
MNK *i* PPP PPP 15 30 32.9
MNK *i* S **S** **15 35 29.1 +3.2**
MNK *i* SS **SS** **15 39 58.9 +1.4**
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=N,22nm,0.8s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK MLR MLR
comp=Z,250nm,21.0s
MNK MLR MLR
comp=E,15nm,16.0s
MNK MLR MLR
comp=N,115nm,15.0s
MNK Minsk 70.88 323 *i* P **P** **15 26 13.1 +2.8**
comp=E,1.0nm,0.7s
MNK *i* P **P** **15 26 13.1 +2.8**
comp=N,22nm,0.8s
MNK *i* P **P** **15 26 13.1 +2.8**
comp=Z,11nm,0.8s,baz=60
MNK *i* PcP **PcP** **15 26 33.2 +2.4**
MNK *i* PP **PP** **15 28 50.1 +3.3**
MNK *i* PPP PPP 15 30 32.9
MNK *i* S **S** **15 35 29.1 +3.2**
MNK *i* SS **SS** **15 39 59.0 +1.4**
MNK *i* SSS SSS 15 43 22.2
MNK *i* LQ LQ 15 52 29.8
MNK *i* LR LR 15 56 56.7
MNK *i* LRM MLR 15 59 37.8
comp=Z,250nm,20.6s
MNK *i* LRM MLR 15 59 40.4
comp=E,15nm,16.1s
MNK *i* LRM MLR 15 59 56.1
comp=N,115nm,15.4s
NACGM Naroch 71.23 324 *e*P **P** **15 26 11.3 -1.0**
YKA Yellowknife Ar 71.42 27 P **P** **15 26 12.9 -0.5**
comp=N,3.4nm,0.7s,baz=305,slow=5.9,SNR=77
AKASG Malin Array Be 72.08 319 P **P** **15 26 15.5 -2.0**
comp=N,1.9nm,0.5s,baz=48,slow=6.2,SNR=7.0
AKBB Malin Array Si 72.08 319 P **P** **15 26 15.8 -1.7**
AKBB pmax pmax
comp=Z,12nm,1.1s
AKBB Malin Array Si 72.08 319 P **P** **15 26 15.8 -1.7**
AKBB IAmb IAmb 15 26 20.4
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 74.40 334 P **P** **15 26 28.8 -2.3**
comp=Z,3.9nm,1.0s,baz=51,slow=6.5
NOA NORSAR Array B 74.40 334 P **P** **15 26 28.8 -2.3**
comp=Z,1.4nm,0.8s,baz=49,slow=5.9,SNR=7.5
BRTR Keskin Array B 74.91 308 P **P** **15 26 33.8 -0.8**
comp=Z,6.4nm,1.0s,baz=96,slow=5.1,SNR=16
BRTR Keskin Array B 74.91 308 *i* P **P** **15 26 34.0 -0.6**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
TPGR Topolog 75.57 314↓ P **P** **15 26 37.1 -1.0**
TIRR Tirgusor 75.78 314↓ P **P** **15 26 38.6 -0.7**
TIRR Tirgusor 75.78 314↓ P **P** **15 26 38.6 -0.7**
BUR08 Bucovina Ar. S 75.94 318 P **P** **15 26 38.4 -2.0**
BUR08 IAmb IAmb 15 26 44.1
comp=Z,5.2nm,0.9s
BURAR Bucovina Array 75.94 318↓ P **P** **15 26 38.3 -2.1**
BURAR Bucovina Array 75.94 318↓ P **P** **15 26 38.3 -2.1**
BURAR Bucovina Array 75.94 318 P **P** **15 26 39.6 -0.8**
BURAR IAmb IAmb 15 26 46.5
comp=Z,7.8nm,0.9s
VRI Vrincioaia 76.03 316↑ P **P** **15 26 39.7 -1.1**
VRI Vrincioaia 76.03 316↑ P **P** **15 26 39.7 -1.1**
PLOR Plostina 76.09 316↓ P **P** **15 26 40.3 -0.8**
PLOR Plostina 76.09 316↓ P **P** **15 26 40.3 -0.8**
MLR Muntele Rosu 76.70 316↑ P **P** **15 26 43.8 -1.0**
MLR Muntele Rosu 76.70 316 P **P** **15 26 45.7 +1.0**
comp=Z,2.2nm,0.8s,baz=56,slow=7.3,SNR=4.8
DOPR Dopca 76.76 316↓ P **P** **15 26 44.2 -0.7**
PNT Penticton 76.85 39 P P 15 26 36.6 -8.8
PNT pmax pmax
comp=Z,15nm,1.0s
ARR Arges 77.53 316↑ P **P** **15 26 48.9 -0.4**
GZR Gura Zlata 78.59 317↑ P **P** **15 26 55.0 -0.2**
GZR Gura Zlata 78.59 317↑ P **P** **15 26 55.0 -0.2**
PSZ Piszkesteto 78.70 320↑ P **P** **15 26 52.9 -2.9**
PSZ Piszkesteto 78.70 320↑ P **P** **15 26 52.9 -2.9**
MORC Moravsky Berou 78.80 323↑ P **P** **15 26 53.3 -3.0**
MORC Moravsky Berou 78.80 323↑ P **P** **15 26 53.3 -3.0**
HERR Herculane 79.10 317↑ P **P** **15 26 57.1 -0.8**
VRAC Vranov 79.58 323 P **P** **15 27 01.2 +0.7**
comp=Z,4.6nm,1.1s,baz=76,slow=5.8,SNR=2.3
BLKB Belogradchik 79.68 316↑ P **P** **15 27 00.2 -1.0**
VTS Vitosha 79.94 314↑ P **P** **15 27 03.2 +0.5**
VTS Vitosha 79.94 314↑ P **P** **15 27 02.5 -0.2**
CLL Collm 80.05 326 *e*P **P** **15 27 02.0 -1.0**
CLL *e*S **S** **15 37 09.0 +1.3**
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 80.05 326 *e*P **P** **15 27 02.0 -1.0**
comp=Z,3.0nm,0.8s
CLL *e*(PP) 15 30 14.0
CLL *e*S **S** **15 37 09.0 +1.3**
CLL *e*PPS PPS 15 38 12.0
CLL *ex* x 15 43 12.0
CLL *e*SSSS 15 48 18.0
FRGS Fruska Gora 80.42 318↑ P **P** **15 27 04.0 -1.1**
MORH Mrgy, Hungar 80.42 319↓ P **P** **15 27 04.6 -0.4**
FCC Fort Churchill 81.20 22 P **P** **15 27 07.3 -1.6**
FCC pmax pmax
comp=Z,4.0nm,0.9s
FCC Fort Churchill 81.20 22 P **P** **15 27 07.3 -1.6**
NVAR Mina Array Bea 84.11 48 P **P** **15 27 24.8 -0.1**
comp=Z,1.7nm,0.8s,baz=299,slow=5.0,SNR=6.4
DAVOX Davos/Dischmat 84.63 324 P **P** **15 27 25.2 -2.0**
comp=Z,3.1nm,0.8s,baz=34,slow=8.3,SNR=4.0
PPT Papeete 90.79 110 LR LR 16 01 51.3
comp=Z,47nm,19.5s,baz=272,slow=31
SADO Sadowa 97.91 21 LR LR 16 16 15.9
comp=Z,70nm,19.3s,baz=355,slow=38

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*IDC **16** 15:20:08.7±0.6, 10.11N×104.26W, h0km, mb4.5/14, mb1 4.7/17, mb1mx4.5/38, mbtmp4.5/17, ML3.8/3, MS4.4/40, Ms1 4.4/40, ms1mx4.3/52 Error ellipse: s-maj=24.9km s-min=12.6km az=60.0*

*NEIC **16** 15:20:11.1±2.0, 10.15N±0.09×104.3W±0.1, h10km±1km, mb5.0/104, Error ellipse: s-maj=20.7km s-min=14.7km az=248.0*

*GCMT **16** 15:20:14.1±0.2, 10.30N±0.01×104.37W±0.01, h18km±1km, MW5.1/110, Moment Tensor Solution. s50,c56; s110,c177; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.33±.17; Mθθ-1.08±.14; Mϕϕ1.41±.18; Mrθ2.35±.38; Mθϕ5.50±.14; Mϕr-0.06±.36; Best double couple: M◎6.11600×10¹⁶ NP1:ϕ◎354.00000°, δ67.00000°, λ-176.00000° NP2:ϕ◎263.00000°, δ86.00000°, λ-23.00000°. Principal axes: T 6.1310, Plg13.0000°, Azm311.0000°; N -0.0270, Plg67.0000°, Azm74.0000°; P -6.1010, Plg18.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 15:20:14.8±0.4, 10.20N±0.06×104.19W±0.07, h35km, n341, σ1§20/306, mb4.9/52, MS4.4/41, 1D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**9.13**	**36**	Pn	**Pn**	**15 22 24.3**	**+0.1**
CMIG	**Matias Romero**	**11.34**	**52**	Pn	**Pn**	**15 22 54.6**	**+0.2**
	0.2nm,0.3s,baz=226,slow=10,SNR=29						
CMIG				LR	LR	15 26 16.4	
	comp=Z,3μm,20.5s,baz=236,slow=32						
ZAIG	**Zacatecas**	**12.60**	**7**	Pn	**Pn**	**15 23 13.0**	**+1.2**
RTAL	**Retalhuleu**	**12.94**	**69**	Pn	**Pn**	**15 23 16.4**	**+0.1**
CCIG	**Comitan**	**13.19**	**61**		**Pn**	**15 23 22.3**	**+2.4**
LPIG	**La Paz**	**15.01**	**338**	LR	LR	15 28 04.5	
	comp=Z,4μm,19.2s,baz=164,slow=32						
MTO3	**Montecristo**	**15.07**	**72**	Pn	**Pn**	**15 23 47.3**	**+1.8**
MTO3				IAmb	IAmb	15 23 59.5	
	comp=Z,67nm,1.3s						
PETF	**Flores**	**15.43**	**63**		**P**	**15 23 52.6**	**-1.6**
PAYG	**Puerto Ayora**	**17.55**	**127**	Pn	**Pn**	**15 24 14.2**	**-2.7**
MATN	**Matagalpa**	**18.09**	**80**	P	**P**	**15 24 25.8**	**+2.0**
KVTX	**Kingsville**	**18.25**	**18**	Pn	**P**	**15 24 22.1**	**-3.1**
BOAB	**BOACO BROADBAN**	**18.30**	**81**	P	**P**	**15 24 26.2**	**+0.3**
BOAB				IAmb	IAmb	15 24 50.5	
	comp=Z,205nm,1.5s						
DUNO	**Dulce Nombre,**	**18.40**	**89**	P	**P**	**15 24 26.9**	**-0.2**
ORTG	**Ortega, Santa**	**18.43**	**88**	P	**P**	**15 24 27.0**	**-0.4**
833A	**Chaparral WMA,**	**18.58**	**13**	P	**Pn**	**15 24 29.5**	**0.0**
833A				IAmb	IAmb	15 24 42.7	
	comp=Z,150nm,1.4s						
833A	**Chaparral WMA,** baz=195,SNR=11	**18.58**	**13**	P	**Pn**	**15 24 31.9**	**+2.4**
ACON	**Acoyapa**	**18.74**	**83**	P	**Pn**	**15 24 31.8**	**+0.4**
JTS	**Las Juntas de**	**18.93**	**88**	P	**Pn**	**15 24 33.6**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=347,slow=16,SNR=2.5						
JTS	**Las Juntas de**	**18.93**	**88**		**P**	**15 24 33.1**	**+0.2**
TX31	**Lajitas Ar. Si**	**19.04**	**1**	P	**Pn**	**15 24 35.2**	**+0.1**
TX31				IAmb	IAmb	15 24 39.6	
	comp=Z,172nm,1.4s						
TX32	**Lajitas Array**	**19.04**	**1**	P	**Pn**	**15 24 34.9**	**-0.2**
TXAR	**Lajitas Array**	**19.04**	**1**	P	**P**	**15 24 34.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=181,slow=10.0,SNR=56						
TXAR				PcP	**PcP**	**15 28 59.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=177,slow=5.8,SNR=4.3						
TXAR				LR	LR	15 30 53.0	
	comp=Z,729nm,21.8s,baz=180,slow=34						
ESPN	**Las Esperanzas**	**19.61**	**82**	P	**P**	**15 24 40.7**	**+0.4**
ESPN				IAmb	IAmb	15 24 56.1	
	comp=Z,81nm,1.4s						
HSIG		**19.77**	**342**	P	**P**	**15 24 41.2**	**-0.7**
HSIG				IAmb	IAmb	15 24 52.1	
	comp=Z,82nm,1.5s						
RIMA	**Rio Macho**	**20.02**	**89**	P	**P**	**15 24 45.3**	**+0.2**
JCT	**Junction City** baz=193,SNR=13	**20.59**	**11**	P	Pn	15 24 53.0	-0.3
HKT	**Hockley**	**21.14**	**20**	P	**P**	**15 24 56.3**	**-0.4**
HKT				IAmb	IAmb	15 25 00.1	
	comp=Z,72nm,1.4s						
435B	**Jarrell**	**21.38**	**16**	P	**P**	**15 25 00.1**	**+0.7**
435B	**Jarrell** baz=198	**21.38**	**16**	P	**P**	**15 25 01.6**	**+2.2**
MNTX	**Cornudas Mount**	**21.42**	**357**	P	**P**	**15 25 00.5**	**+0.7**
MNTX				IAmb	IAmb	15 25 07.5	
	comp=Z,99nm,1.3s						
MNTX	**Cornudas Mount** baz=177,SNR=53	**21.42**	**357**	P	**P**	**15 25 00.7**	**+0.8**
319A	**Douglas**	**21.60**	**348**	P	**P**	**15 25 02.6**	**+0.7**
319A				IAmb	IAmb	15 25 10.0	
	comp=Z,61nm,1.1s						
121A	**Cookes Peak, D**	**22.47**	**352**	P	**P**	**15 25 11.5**	**+0.2**
121A	**Cookes Peak, D** baz=171,SNR=6.8	**22.47**	**352**	P	**P**	**15 25 11.7**	**+0.4**
WHTX	**Lake Whitney,** baz=198	**22.56**	**15**	P	**P**	**15 25 14.8**	**+2.8**
ABTX	**Abilene, Hawle**	**22.71**	**10**	P	**P**	**15 25 14.2**	**+0.6**
ABTX				IAmb	IAmb	15 25 16.9	
	comp=Z,77nm,1.1s						
ABTX	**Abilene, Hawle** baz=192,SNR=11	**22.71**	**10**	P	**P**	**15 25 14.9**	**+1.2**
TUC	**Tucson**	**22.83**	**345**	P	**P**	**15 25 15.1**	**+0.1**
TUC				IAmb	IAmb	15 25 22.4	
	comp=Z,56nm,1.4s						
TUC	**Tucson** baz=164	**22.83**	**345**	P	**P**	**15 25 16.1**	**+1.1**
214A	**Organ Pipe Nat**	**23.08**	**341**	P	**P**	**15 25 17.7**	**+0.2**
214A				IAmb	IAmb	15 25 24.5	
	comp=Z,46nm,1.4s						
214A	**Organ Pipe Nat** baz=158	**23.08**	**341**	P	**P**	**15 25 18.8**	**+1.3**
NATX	**Nacogdoches**	**23.20**	**21**	P	**P**	**15 25 18.0**	**-0.6**
NATX	**Nacogdoches** baz=205,SNR=7.0	**23.20**	**21**	P	**P**	**15 25 19.8**	**+1.2**
MSTX	**Muleshoe**	**23.70**	**3**	P	**P**	**15 25 23.8**	**+0.2**
MSTX				IAmb	IAmb	15 25 31.5	
	comp=Z,72nm,1.1s						
MSTX	**Muleshoe** baz=184,SNR=14	**23.70**	**3**	P	**P**	**15 25 25.0**	**+1.5**
342A	**Flagon Creek P**	**23.77**	**26**	P	**P**	**15 25 24.5**	**+0.4**
BNM	**Barren Site**	**23.94**	**355**	P	**P**	**15 25 26.9**	**+0.9**
113A	**Mohawk Valley,**	**24.14**	**340**	P	**P**	**15 25 27.1**	**-0.4**
113A				IAmb	IAmb	15 25 36.3	
	comp=Z,37nm,1.4s						
ANMO	**Albuquerque**	**24.72**	**356**	P	**P**	**15 25 33.9**	**+0.8**
	comp=Z,5.9nm,0.8s,baz=161,slow=11,SNR=14						
ANMO				LR	LR	15 34 26.0	
	comp=Z,643nm,19.1s,baz=180,slow=35						
ANMO	**Albuquerque**	**24.72**	**356**	P	**P**	**15 25 33.6**	**+0.5**
ANMO	**Albuquerque**	**24.72**	**356**	P	**P**	**15 25 34.7**	**+1.6**

baz=175
Z41A Richland Creek 25.23 23 P P 15 25 38.2 +0.8
baz=207
W18A Petrified Fore 25.32 349 P P 15 25 40.0 +1.5
baz=168
BC3 Big Chuckawall 25.54 338 P P 15 25 41.0 +0.6
baz=154
W35A Tecumseh 25.72 14 P 15 25 41.6 -0.3
PFO Pinyon Flats O 25.89 336 P P 15 25 43.4 -0.3
comp=Z,10nm,1.2s,baz=180,slow=6.0,SNR=4.0
PFO Pinyon Flats O 25.89 336 P P 15 25 43.6 0.0
PFO IAmb IAmb 15 25 50.6
comp=Z,45nm,1.5s
WUAZ Wupatki 26.04 347 P P 15 25 47.0 +2.0
baz=164
MIAR Mount Ida 26.11 20 P P 15 25 45.4 0.0
baz=204
X40A Basin Creek Fa 26.31 22 P P 15 25 48.4 +1.2
baz=206
GMRC Granite Mounta 26.62 339 P P 15 25 50.7 +0.4
baz=154
W39A Magazine 26.63 19 P P 15 25 52.3 +2.1
baz=204
TUL1 Leonard 26.71 15 P P 15 25 49.4 -1.4
TUL1 IAmb IAmb 15 25 53.3
comp=Z,39nm,1.4s
TUL1 Leonard 26.71 15 P P 15 25 52.7 +1.9
baz=199
T25A Trinidad 26.82 360 P P 15 25 53.4 +1.3
T25A IAmb IAmb 15 25 59.3
comp=Z,49nm,1.4s
T25A Trinidad 26.82 360 P P 15 25 53.8 +1.7
baz=180
HEC Hector,Ludlow 26.91 338 P P 15 25 53.4 +0.5
baz=153
BFSC Mount Baldy Ra 26.92 335 P P 15 25 52.8 -0.2
baz=150
W41B Gary Mavity, V 27.14 22 P P 15 25 55.2 +0.5
baz=207,SNR=9.1
MVCO Mesa Verde 27.17 352 P P 15 25 56.5 +1.2
baz=171
WHAR Wooly Hollow 27.23 22 P P 15 25 55.3 -0.3
SDCO Great Sand Dun 27.45 358 P P 15 25 58.1 +0.2
SDCO Great Sand Dun 27.45 358 P P 15 26 01.1 +3.2
baz=178
T35A Sooner Cattle 27.49 13 P P 15 25 57.1 -0.8
T35A IAmb IAmb 15 26 00.2
comp=Z,39nm,1.1s
GSC Goldstone, Bar 27.51 337 P P 15 25 56.3 -1.9
GSC IAmb IAmb 15 26 05.2
comp=Z,34nm,1.4s
GSC Goldstone, Bar 27.51 337 P P 15 25 58.6 +0.4
baz=153
S22A 4UR Ranch, Cre 27.53 355 P P 15 26 00.4 +1.8
baz=175
FCAR Ozark Folk Cen 27.82 21 P P 15 26 01.3 +0.4
FCAR IAmb IAmb 15 26 06.9
comp=Z,20nm,1.1s
CCAC Calif City Air 27.86 335 P P 15 25 59.8 -1.5
CCAC IAmb IAmb 15 26 08.6
comp=Z,50nm,1.4s
U40A Yellville 27.99 20 P P 15 26 02.7 +0.2
baz=204
MCRA Macar, Loja 28.14 120 P P 15 26 03.3 -0.7
LCAR Lake Charles 28.34 23 P P 15 26 04.8 -0.6
MPMC Manual Prospec 28.44 337 P P 15 26 06.9 +0.3
baz=152,SNR=16
ISA Isabella, Lake 28.49 335 P P 15 26 07.5 +0.6
baz=150
SJCC San Jacinto, C 28.56 88 P P 15 26 07.0 -0.8
TPNV Topopah Spring 28.78 340 P P 15 26 08.9 -0.7
TPNV Topopah Spring 28.78 340 P P 15 26 12.0 +2.5
baz=155
BOSC San Juan Bosco 28.82 116 P P 15 26 11.2 +1.0
BOSC IAmb IAmb 15 26 18.0
comp=Z,33nm,0.8s
WVT Waverly 29.78 27 P P 15 26 17.8 -0.4
baz=214
R11A Troy Canyon, C 29.84 342 P P 15 26 19.3 +0.4
baz=157
R40A Maddies Statio 29.95 19 P P 15 26 18.8 -0.9
O20A White River Ci 30.03 354 P P 15 26 22.9 +2.2
baz=172
ROSC El Rosal 30.07 98 LR LR 15 35 32.2
comp=Z,1µm,21.4s,baz=256,slow=31
CCM Cathedral Cave 30.08 21 P P 15 26 20.8 -0.1
MLAC Mammoth, Mammo 30.33 337 P P 15 26 24.8 +1.4
baz=151
N23A Red Feather La 30.61 357 P P 15 26 26.1 +0.3
N23A Red Feather La 30.61 357 P P 15 26 27.6 +1.7
baz=177
OGNE Ogallala 30.68 3 P P 15 26 28.9 +2.6
baz=184
NVAR Mina Array Bea 30.83 338 P P 15 26 28.6 +0.8
comp=Z,3.4nm,1.0s,baz=158,slow=7.8,SNR=17
NVAR PcP PcP 15 29 26.0 +1.5
comp=Z,1.2nm,1.0s,baz=139,slow=9.4,SNR=2.9
NVAR Mina Array Bea 30.83 338 P P 15 26 28.8 +1.0
DUG Dugway, Tooele 30.84 347 P P 15 26 28.9 +1.1
baz=164
RYN Ryan 31.09 338 P P 15 26 29.6 -0.4
P40A Paris 31.15 18 P P 15 26 29.7 -0.6
P40A IAmb IAmb 15 26 32.7
comp=Z,29nm,1.1s
TKL Tuckaleechee C 31.41 33 LR LR 15 42 18.5
comp=Z,216nm,18.0s,baz=227,slow=42
BGNE Belgrade 31.54 9 P P 15 26 35.8 +2.0
baz=192
PNTR Pine Nut 31.90 337 P P 15 26 36.6 -0.6
PNTR IAmb IAmb 15 26 44.1
comp=Z,15nm,1.0s
HWUT Hardware Ranch 31.95 350 P P 15 26 37.6 0.0
VCNR Virginia City 32.09 337 P P 15 26 39.0 +0.1
VCNR IAmb IAmb 15 26 46.6
comp=Z,27nm,1.3s
BMN Battle Mountai 32.25 341 P P 15 26 38.9 -1.3
BMN IAmb IAmb 15 26 48.3
comp=Z,33nm,1.5s
PAHR Pah Rah Range 32.35 338 P P 15 26 41.1 0.0
PAHR IAmb IAmb 15 26 48.8
comp=Z,29nm,1.4s
BW06 Boulder Array 32.78 353 P P 15 26 44.1 -0.8
BW06 IAmb IAmb 15 26 51.1
comp=Z,20nm,1.3s
BW06 Boulder Array 32.78 353 P P 15 26 45.0 +0.1
baz=170,SNR=9.4
PD31 Pinedale Array 32.78 353 P P 15 26 44.4 -0.5
PD31 IAmb IAmb 15 26 51.1
comp=Z,16nm,1.2s
PDAR Pinedale Array 32.78 353 P P 15 26 44.6 -0.3
comp=Z,2.6nm,0.8s,baz=169,slow=8.9,SNR=18
PDAR PcP PcP 15 29 30.0 +0.4
comp=Z,3.3nm,1.0s,baz=132,slow=2.2,SNR=2.4
PDAR LR LR 15 38 54.2
comp=Z,383nm,21.5s,baz=186,slow=34
PDAR Pinedale Array 32.78 353 P P 15 26 43.8 -1.1
HDIL Hopedale 32.99 21 P P 15 26 46.5 0.0
baz=208
SDV Santo Domingo 33.10 89 P P 15 26 49.2 +1.2
comp=Z,16nm,1.0s,baz=284,slow=4.2,SNR=7.5
SDV LR LR 15 38 33.2
comp=Z,509nm,20.8s,baz=274,slow=33
SDV Santo Domingo 33.10 89 P P 15 26 48.8 +0.8
SDV IAmb IAmb 15 26 58.9
comp=Z,21nm,1.1s
SDV Santo Domingo 33.10 89 eP P 15 26 49.6 +1.5
ECR Eagle Creek 33.33 350 P P 15 26 49.1 -0.5
SFIN Lafayette 33.66 24 P P 15 26 52.1 -0.2
SFIN Lafayette 33.66 24 P P 15 26 52.5 +0.2
baz=212,SNR=7.1
L40A Anamosa 33.72 18 P P 15 26 51.7 -1.1
L40A IAmb IAmb 15 26 54.7
comp=Z,34nm,1.2s
LOHW Long Hollow 33.75 352 P P 15 26 53.0 -0.3
LOHW IAmb IAmb 15 27 00.4
comp=Z,22nm,1.4s
P49A Miami Univ. Ec 33.98 27 P P 15 26 54.2 -0.9
P49A Miami Univ. Ec 33.98 27 P P 15 26 54.8 -0.3
baz=216
ECSD EROS Data Cent 34.05 10 P P 15 26 56.2 +0.5
baz=194,SNR=6.6
Q51A Peebles 34.21 30 P P 15 26 56.5 -0.7
O48B Farmland 34.37 26 P P 15 26 57.6 -0.8
baz=215
BLA Blacksburg 34.39 35 P P 15 26 58.7 0.0
baz=225

HLID Hailey 34.41 347 P P 15 27 00.3 +1.3
baz=162
H17A Grant Village 34.52 352 P P 15 27 02.6 +2.6
baz=169
N02D Trinity Center 34.75 335 P P 15 27 02.0 +0.1
baz=147
NNA Nana 34.99 128 LR LR 15 38 30.8
comp=Z,275nm,20.3s,baz=315,slow=32
RLMT Red Lodge 35.07 354 P P 15 27 04.4 -0.4
RLMT Red Lodge 35.07 354 P P 15 27 05.6 +0.9
baz=172
M04C Macdoel 35.08 337 P P 15 27 03.1 -1.7
baz=149
P52A Corning 35.28 30 P P 15 27 05.6 -0.7
baz=220
MCMT McKenzie Canyo 35.30 349 P P 15 27 06.5 -0.3
YBH Yreka Blue Hor 35.38 336 LR LR 15 39 34.2
comp=Z,493nm,20.5s,baz=140,slow=33
L04D Klamath Falls 35.63 337 P P 15 27 09.4 -0.2
baz=149
BAUV El Baul 35.65 89 P P 15 27 10.1 +0.2
DLMT Dillon 35.78 350 P P 15 27 09.9 -0.8
DLMT IAmb IAmb 15 27 18.1
comp=Z,23nm,1.4s
BOZ Bozeman (W) 35.85 351 P P 15 27 12.1 +0.8
baz=168,SNR=13
CZSB Cruzeiro do Su 36.05 118 eP P 15 27 12.4 -0.8
I42A Draeger Farm, 36.09 19 P P 15 27 12.3 -0.9
LRM Limekiln Ridge 36.20 350 P P 15 27 13.1 -1.3
PLID Pearl Lake 36.22 346 P P 15 27 12.9 -1.7
J04D Umpqua Nationa 36.43 338 P P 15 27 18.4 +2.0
baz=150
MCWV Mont Chateau 36.47 32 P P 15 27 16.2 -0.3
baz=223
K02D Willamette Mer 36.58 336 P P 15 27 18.4 +0.9
baz=147
AAM Ann Arbor 36.69 26 P P 15 27 17.9 -0.4
AAM Ann Arbor 36.69 26 P P 15 27 18.3 -0.1
baz=215
F36A Milaca 36.69 12 P P 15 27 17.4 -0.9
TBTG Tatitnga, AM 37.01 111 eP P 15 27 20.7 -0.8
EGMT Eagleton 37.99 354 P P 15 27 29.5 +0.1
EGMT IAmb IAmb 15 27 36.3
comp=Z,56nm,1.4s
EGMT Eagleton 37.99 354 P P 15 27 30.9 +1.5
baz=171
COWI Conover 38.02 17 P P 15 27 29.5 -0.2
COWI IAmb IAmb 15 27 31.8
comp=Z,39nm,1.3s
DGMT Dagmar 38.15 360 P P 15 27 29.8 -0.9
DGMT IAmb IAmb 15 27 33.4
comp=Z,42nm,1.1s
DGMT Dagmar 38.15 360 P P 15 27 32.2 +1.5
baz=180,SNR=6.4
AGMN Agassiz Nation 38.61 9 P P 15 27 34.3 -0.2
AGMN IAmb IAmb 15 27 40.3
comp=Z,40nm,1.1s
AGMN Agassiz Nation 38.61 9 P P 15 27 35.1 +0.6
baz=193,SNR=21
EYMN Ely 39.12 14 P P 15 27 38.7 -0.1
baz=200,SNR=6.7
NEW Newport 39.47 346 LR LR 15 42 36.5
comp=Z,351nm,20.4s,baz=167,slow=34
NEW Newport 39.47 346 P P 15 27 40.7 -1.1
NEW IAmb IAmb 15 27 48.4
comp=Z,31nm,1.4s
NEW Newport 39.47 346 P P 15 27 41.6 -0.2
baz=160,SNR=12
BINY Binghamton 40.33 33 P P 15 27 49.5 +0.5
baz=226
TAOE Nuu Hiva Isla 40.49 243 eS S 15 33 58.6 +0.9
comp=Z,47nm,26.8s
TAOE eLQ LQ 15 37 06.3
comp=Z,2µm,28.6s
TAOE eLR LR 15 38 39.9
comp=Z,645nm,25.7s
TAOE Nuku Hiva Isla 40.49 243 eT T 16 10 31.5
comp=Z,37nm,0.2s
ULM Lac du Bonnet 40.52 8 P P 15 27 49.6 -0.8
comp=Z,6.3nm,0.7s,baz=192,slow=9.4,SNR=9.1
ULM LR LR 15 44 44.8
comp=Z,603nm,21.4s,baz=192,slow=36
ULM Lac du Bonnet 40.52 8 P P 15 27 49.3 -1.1
ULM IAmb IAmb 15 27 52.0
comp=Z,34nm,1.4s
ETMB Extrema 42.69 117 eP P 15 28 06.5 -2.2
EDM Edmonton 43.54 352 P P 15 28 14.2 -0.8
BOAV Boa Vista 44.04 97 eP P 15 28 19.1 -0.6
LPAZ La Paz 44.33 126 P P 15 28 21.9 -0.7
comp=Z,5.1nm,0.7s,baz=319,slow=8.5,SNR=16
LPAZ La Paz 44.33 126 P P 15 28 22.2 -0.4
LPAZ IAmb IAmb 15 28 29.0
comp=Z,12nm,0.8s
LPAZ La Paz 44.33 126 eP P 15 28 22.4 -0.2
FFC Flin Flon 44.45 2 P P 15 28 21.2 -1.1
FFC IAmb IAmb 15 28 28.1
comp=Z,30nm,1.4s
MACA Manacapuru-AM 45.30 105 eP P 15 28 29.0 -0.7
BBB Bella Bella 46.16 340 LR LR 15 46 17.5
comp=Z,448nm,21.0s,baz=161,slow=34
LVC Limon Verde 47.52 134 LR LR 15 43 56.9
comp=Z,317nm,20.2s,baz=315,slow=30
LVC Limon Verde 47.52 134 eP P 15 28 45.4 -2.0
FCC Fort Churchill 49.06 7 P P 15 28 57.8 -0.5
FCC IAmb IAmb 15 28 59.5
comp=Z,20nm,1.2s
VILB Vilhena 49.36 117 eP P 15 29 00.7 -0.6
H03N2 Juan Fernandez 49.61 152 T T 16 22 17.2
baz=329,slow=77,SNR=35
H03N1 Juan Fernandez 49.62 152 T T 16 22 23.2
baz=329,slow=77,SNR=38
H03N3 Juan Fernandez 49.63 152 T T 16 22 18.1
baz=329,slow=77,SNR=38
SIV San Ignacio 49.98 121 LR LR 15 48 06.9
comp=Z,1µm,21.5s,baz=296,slow=34
MALB Monte Alegre 51.11 101 eP P 15 29 14.2 -0.3
MDP Montagnes des 51.29 92 LR LR 15 51 32.3
comp=Z,230nm,18.6s,baz=260,slow=37
PTLB Pontes e Lacer 51.38 119 eP P 15 29 15.5 -1.0
PDRB Porto dos Gac 51.90 113 eP P 15 29 20.4 -0.1
DLBC Dease Lake 52.00 343 P P 15 29 20.8 +0.1
DLBC IAmb IAmb 15 29 28.4
comp=Z,25nm,1.4s
PPT2 Papeete2 52.66 239 eS S 15 36 51.3 -0.4
comp=Z,238nm,25.5s
PPT2 eLQ LQ 15 42 17.2
comp=Z,438nm,27.0s
PPT2 eLR LR 15 44 21.2
comp=Z,579nm,26.2s,baz=54
YKA Yellowknife Ar 52.75 354 P P 15 29 24.5 -1.5
comp=Z,11nm,1.2s,baz=166,slow=7.5,SNR=36
YKA PcP PcP 15 30 34.9 -0.3
comp=Z,1.4nm,0.8s,baz=158,slow=4.0,SNR=5.1
YKA Yellowknife Ar 52.75 354 P P 15 29 24.1 -1.8
MCPB Macapa, AP 52.90 98 eP P 15 29 28.7 +0.8
SCHQ Schefferville 53.40 26 P P 15 29 29.6 -1.3
comp=Z,7.7nm,0.7s,baz=236,slow=6.9,SNR=14
SCHQ Schefferville 53.40 26 P P 15 29 29.4 -1.5
SCHQ IAmb IAmb 15 29 50.7
comp=Z,20nm,1.2s
TGTN Hyland Airport 54.19 346 P P 15 29 37.5 +0.9
baz=150
SALV Santo Antonio 54.56 118 eP P 15 29 39.7 -0.3
WRGLY Wrigley 54.71 349 P P 15 29 41.8 +1.4
baz=157,SNR=7.2
TBI Tubuai 55.44 232 eS S 15 37 30.9 +2.0
comp=Z,133nm,29.0s
TBI eLR LR 15 45 50.6
comp=Z,658nm,26.5s
MMPY Sheldon Lake, 55.86 345 P P 15 29 49.4 +0.7
baz=147,SNR=9.8
FARO Faro, Yukon 56.08 344 P P 15 29 52.0 +1.7
baz=145
N31M Braeburn, Yuko 56.17 342 P P 15 29 51.1 +0.1
baz=142
M31M Drury Creek, Y 56.34 344 P P 15 29 53.4 +1.2
baz=144
PRPB Parauapebas 56.54 104 eP P 15 29 56.1 +1.8
YUK6 Outpost Mounta 56.56 341 P P 15 29 55.3 +1.4
baz=139
YUK4 Talbot Arm 56.95 341 P P 15 29 57.5 +0.8
baz=139
SNDB Serra Nova Dou 56.98 111 eP P 15 29 56.3 -1.1
TMAB Tom-Au,PA,Br 57.21 99 eP P 15 30 00.6 +1.5
M30M Minto, Yukon 57.33 343 P P 15 29 58.6 -0.5
CPUP Villa Florida 58.23 130 P P 15 30 04.6 -1.4

comp=Z,8.5nm,0.9s,baz=311,slow=6.4,SNR=11
CPUP Villa Florida 58.23 130 eP P 15 30 05.7 -0.2
MCARA McCarthy VSAT 58.44 339 P P 15 30 08.0 +1.1
baz=134
VRDI Verde Repeater 58.49 339 P P 15 30 06.7 -0.7
VRDI IAmb IAmb 15 30 21.0
comp=Z,15nm,1.3s
BMRM Bremner River 58.73 338 P P 15 30 10.8 +1.8
baz=132
M27K Edge Creek, AK 58.74 341 P P 15 30 08.8 -0.4
baz=135
M26K Nabesna, AK 59.14 340 P P 15 30 11.8 0.0
baz=134
N25K Chitina, Valde 59.15 339 P P 15 30 11.4 -0.5
baz=132
DAWY Dawson 59.22 343 P P 15 30 13.5 +1.1
baz=139
L27K Beaver Creek, 59.23 341 P P 15 30 11.7 -0.7
baz=136
DIV Divide 59.26 338 P P 15 30 12.8 +0.1
SMTB Santa Maria do 59.43 107 eP P 15 30 15.7 +1.1
PLCA Paso Flores 59.44 151 P P 15 30 12.8 -1.4
comp=Z,9.6nm,1.0s,baz=328,slow=9.1,SNR=9.1
PLCA LR LR 15 50 08.8
comp=Z,553nm,21.0s,baz=326,slow=30
PLCA Paso Flores 59.44 151 eP P 15 30 15.7 +1.5
KLU Klutina 59.55 338 P P 15 30 16.4 +1.7
baz=131
L26K Log Cabin Wild 59.69 341 P P 15 30 14.8 -0.8
baz=134
PEXB Peixe 59.78 110 eP P 15 30 18.1 +1.2
HARP HAARP 59.88 339 P P 15 30 18.8 +2.0
baz=132
I29M Ogilvie Camp, 59.91 344 P P 15 30 16.6 -0.5
baz=140,SNR=9.7
KDAK Kodiak Island 60.09 332 LR LR 15 51 21.9
comp=Z,335nm,19.3s,baz=166,slow=31
EGAK Eagle 60.27 343 P P 15 30 20.5 +1.1
baz=137
DOT Dot Lake 60.36 341 P P 15 30 20.0 -0.1
DOT IAmb IAmb 15 30 26.8
comp=Z,15nm,1.1s
BRSE Bradley Lake S 60.36 335 P P 15 30 24.6 +4.4
baz=125
PAX Paxson 60.37 340 P P 15 30 20.8 +0.5
baz=132
SCRK Sand Creek 60.56 341 P P 15 30 22.0 +0.4
SCRK IAmb IAmb 15 30 28.4
comp=Z,12nm,1.2s
SCRK Sand Creek 60.56 341 P P 15 30 21.2 -0.4
baz=134
ITQB Itaqui 60.56 132 eP P 15 30 23.5 +1.5
SML Sawmill 60.64 338 P P 15 30 21.7 -0.5
baz=128
RIDG Independent Ri 60.68 341 P P 15 30 22.5 +0.1
baz=133,SNR=10
ITRB Iturama 60.76 119 eP P 15 30 25.0 +1.4
J26L Joseph Creek 60.79 342 P P 15 30 23.5 +0.3
baz=134,SNR=9.8
PMR Palmer 60.81 337 P P 15 30 23.5 +0.3
PMR Palmer 60.81 337 P P 15 30 23.0 -0.1
baz=127
WAT6 Susitna Watana 60.91 339 P P 15 30 23.6 -0.5
baz=129,SNR=13
K24K Donnelly Dome 61.03 340 P P 15 30 24.4 -0.4
baz=132
INK Inuvik 61.16 348 P P 15 30 24.5 -1.0
comp=Z,4.0nm,0.8s,baz=120,slow=6.6,SNR=15
INK Inuvik 61.16 348 P P 15 30 24.6 -0.9
INK IAmb IAmb 15 30 31.7
comp=Z,20nm,1.2s
INK Inuvik 61.16 348 P P 15 30 24.7 -0.7
baz=147
ROSB Rosrio 61.19 99 eP P 15 30 28.7 +2.1
BDFB Brasilia 61.26 114 P P 15 30 25.1 -2.1
comp=Z,4.2nm,0.8s,baz=280,slow=5.8,SNR=5.0
BDFB LR LR 15 55 18.5
comp=Z,720nm,20.8s,baz=311,slow=34
M22K Willow 61.29 337 P P 15 30 27.2 +0.8
baz=126
WAT1 Susitna Watana 61.36 339 P P 15 30 26.7 -0.3
baz=128
J25K Salcha River, 61.44 341 P P 15 30 28.3 +0.8
baz=133
RND Reindeer 61.82 339 P P 15 30 30.0 -0.1
IPMB Ipameri, GO 61.95 117 eP P 15 30 31.9 +0.2
IL31 62.03 341 P P 15 30 30.2 -1.2
ILAR Eielson Array 62.03 341 P P 15 30 30.2 -1.2
comp=Z,7.0nm,0.9s,baz=151,slow=4.8,SNR=39
ILAR LR LR 15 56 52.4
comp=Z,150nm,18.8s,baz=173,slow=36
ILAR Eielson Array 62.03 341 P P 15 30 30.1 -1.3
MCK McKinley 62.05 339 P P 15 30 31.3 -0.4
baz=128
P18K Big Mountain, 62.11 333 P P 15 30 36.4 +4.3
baz=120,SNR=5.2
TRF Thorofare Moun 62.36 339 P P 15 30 34.5 +0.6
baz=127
N19K Bonanza Creek 62.51 335 P P 15 30 33.1 -1.8
N19K Bonanza Creek 62.51 335 P P 15 30 35.4 +0.5
baz=122
NEA2 Nenana 62.64 340 P P 15 30 34.7 -0.8
baz=129,SNR=15
PPLA Purkeypile 62.74 337 P P 15 30 35.4 -1.0
baz=125
CAST Castle Rocks 63.00 338 P P 15 30 36.5 -1.4
CAST Castle Rocks 63.00 338 P P 15 30 36.7 -1.2
baz=125,SNR=14
BPAW Bear Paw Mtn. 63.00 339 P P 15 30 36.8 -1.2
BPAW IAmb IAmb 15 30 43.6
comp=Z,15nm,1.3s
BPAW Bear Paw Mtn. 63.00 339 P P 15 30 36.7 -1.2
baz=126
H24K Noodor Dome 63.04 341 P P 15 30 37.5 -0.7
H24K Noodor Dome 63.04 341 P P 15 30 37.6 -0.6
baz=130,SNR=21
M19K Big River Lodg 63.05 336 P P 15 30 38.0 -0.3
M19K Big River Lodg 63.05 336 P P 15 30 37.5 -0.8
baz=122
A36M Sachs Harbour 63.06 353 P P 15 30 37.2 -1.0
A36M IAmb IAmb 15 30 48.9
comp=Z,9.3nm,0.8s
A36M Sachs Harbour 63.06 353 P P 15 30 37.2 -1.0
baz=157,SNR=8.5
I23K Minto, Yukon-K 63.08 340 P P 15 30 38.0 -0.4
baz=129,SNR=22
L20K Farewell, AK 63.16 337 P P 15 30 37.1 -1.9
baz=123,SNR=7.2
CHUM Lake Minchumin 63.35 338 P P 15 30 38.9 -1.3
baz=125
L19K White Mountain 63.38 336 P P 15 30 39.4 -1.1
baz=122
K20K Telida 63.70 337 P P 15 30 42.5 -0.1
K20K Telida 63.70 337 P P 15 30 41.3 -1.3
baz=123,SNR=9.4
I21K Tanana 63.98 340 P P 15 30 43.9 -0.5
baz=126,SNR=18
J20K Nowinta River 64.18 338 P P 15 30 45.0 -0.7
baz=123,SNR=12
TTA Tatalina 64.23 336 P P 15 30 44.5 -1.6
baz=121
TIJ01 Guaruva-PR 64.29 124 eP P 15 30 48.6 +1.5
JANB Januaria 64.41 112 eP P 15 30 49.7 +1.6
H21K Melozitna Rive 64.54 340 P P 15 30 47.0 -1.1
H21K Melozitna Rive 64.54 340 P P 15 30 47.2 -0.9
baz=125,SNR=16
COLD Coldfoot 64.65 342 P P 15 30 49.9 +1.2
baz=129
RES Resolute Bay 64.67 3 LR LR 15 59 30.0
comp=Z,458nm,18.2s,baz=136,slow=36
RES Resolute Bay 64.67 3 P P 15 30 48.3 -0.4
IMAR Indian Mountai 65.05 340 P P 15 30 50.8 -0.5
NBMO Morrinhos-CE 65.26 98 eP P 15 30 56.6 +2.9
TOLK Toolik Lake Re 65.36 343 P P 15 30 53.1 -0.2
TOLK IAmb IAmb 15 30 59.8
comp=Z,20nm,1.2s
TOLK Toolik Lake Re 65.36 343 P P 15 30 52.7 -0.7
baz=130,SNR=10
GUA01 Guaratinga, BA 69.01 112 eP P 15 31 18.4 +1.1
RCBR Riachuelo 69.84 100 LR LR 16 01 08.4
comp=Z,328nm,18.1s,baz=70,slow=35
USHA Ushuaia 71.41 159 LR LR 15 56 46.9
comp=Z,408nm,18.8s,baz=236,slow=31
SHEM Shemya Is, Ala 76.94 322 LR LR 15 58 32.9
comp=Z,227nm,18.5s,baz=124,slow=30
BORG Borgarnes 77.80 26 LR LR 16 07 01.9
comp=Z,133nm,18.2s,baz=300,slow=36

JMIC	**Jan Mayen**	**82.28**	**19**	LR	LR	16 09 55.9		
	comp=Z,90nm,18.9s,baz=268,slow=36							
SPITS	**Spitsbergen Ar**	**86.05**	**10**	LR	LR	16 12 20.8		
	comp=Z,370nm,18.6s,baz=348,slow=36							
PETK	**Petropavlovsk-**	**86.76**	**323**	LR	LR	16 03 57.1		
	comp=Z,110nm,21.2s,baz=77,slow=30							
SEY	**Seymchan**	**87.03**	**334**	LR	LR	16 06 44.1		
	comp=Z,185nm,20.1s,baz=51,slow=32							
URZ	**Urewera**	**87.52**	**231**	LR	LR	16 03 16.5		
	comp=Z,117nm,21.1s,baz=32,slow=30							
MA2	**Magadan**	**88.78**	**331**	LR	LR	16 05 41.2		
	comp=Z,102nm,20.3s,baz=72,slow=31							
TIXI	**Tiksi**	**91.18**	**345**	P	**P**	**15 33 14.5**	**-1.4**	
ESDC	**Sonseca Array**	**91.32**	**49**	LR	LR	16 07 58.9		
	comp=Z,157nm,21.5s,baz=246,slow=31							
MDT	**Midelt**	**92.47**	**56**	LR	LR	16 10 03.1		
	comp=Z,86nm,20.0s,baz=344,slow=32							
NOA	**NORSAR Array B**	**92.97**	**26**	LR	LR	16 16 33.4		
	comp=Z,61nm,18.5s,baz=290,slow=36							
DZM	**Mont Dzumac**	**93.19**	**248**	LR	LR	16 05 43.8		
	comp=Z,139nm,20.3s,baz=43,slow=29							
DZM	**Mont Dzumac**	**93.19**	**248**	*e*LR	LR	16 03 21.0		
	comp=Z,217nm,23.1s							
RPZ	**Rata Peaks**	**93.21**	**226**	LR	LR	16 07 39.9		
	comp=Z,201nm,18.6s,baz=86,slow=31							
ARCES	**ARCESS Array B**	**93.23**	**16**	LR	LR	16 16 07.4		
	comp=Z,164nm,19.6s,baz=317,slow=36							
YAK	**Yakutsk**	**96.81**	**337**	LR	LR	16 15 58.8		
	comp=Z,95nm,19.4s,baz=86,slow=35							
FINES	**FINESS Array B**	**98.71**	**22**	LR	LR	16 19 19.2		
	comp=Z,159nm,18.2s,baz=356,slow=36							
ASAJ	**Asahikawa**	**99.06**	**318**	LR	LR	16 14 30.2		
	comp=Z,131nm,18.8s,baz=80,slow=33							
ZALV	**Zalesovo Beam**	**115.65**	**354**	PKP	**PKiKP**	**15 38 52.8**	**-0.6**	
	comp=Z,0.4nm,0.4s,baz=11,slow=3.3,SNR=2.4							
SONM	**Songino Array**	**116.17**	**339**	PKP	**PKPdf**	**15 38 54.6**	**-0.1**	
	comp=Z,0.3nm,0.3s,baz=64,slow=3.4,SNR=2.8							
SYO	**Syowa Base**	**116.76**	**166**	*e*Pdiff	**Pdif**	**15 35 09.4**	**-1.0**	
BRTR	**Keskin Array B**	**116.78**	**35**	PKP	**PKPdf**	**15 38 55.8**	**-0.4**	
	comp=Z,0.6nm,0.8s,baz=168,slow=4.6,SNR=3.4							
KURBB	**Kurchatov Array**	**119.39**	**358**	PKP	**PKPdf**	**15 39 00.1**	**-0.5**	
	comp=Z,1.6nm,0.9s,baz=0.8,slow=1.8,SNR=8.4							
HHC	**Hu-ho-hao-te**	**119.44**	**329**	*e*PKP	**PKPdf**	**15 38 57.0**	**-4.2**	
NJ2	**Nanjing**	**121.20**	**317**	*e*PKP	**PKPdf**	**15 39 03.9**	**-0.8**	
WRA	**Warramunga Arr**	**122.90**	**253**	PKP	**PKPdf**	**15 39 06.9**	**-1.4**	
	comp=Z,1.9nm,0.8s,baz=86,slow=1.8,SNR=15							
MKAR	**Makanchi Array**	**122.97**	**355**	PKP	**PKPdf**	**15 39 07.5**	**-0.3**	
	comp=Z,1.8nm,0.7s,baz=38,slow=2.1,SNR=13							
ASAR	**Alice Springs**	**123.18**	**248**	PKP	**PKiKP**	**15 39 08.6**	**-0.4**	
	comp=Z,2.4nm,1.0s,baz=103,slow=1.5,SNR=15							
WMQ	**Urumqi**	**125.16**	**349**	*e*PKP	**PKiKP**	**15 39 12.3**	**-0.1**	
WMQ				LR	LR			
	comp=Z,230nm,20.1s							
WMQ				LR	LR			
	comp=Z,160nm,23.1s							
LZH	**Lanzhou**	**126.92**	**332**	*e*PKP	**PKPdf**	**15 39 15.4**	**-0.4**	
BOOM	**Boomskoye usch**	**127.57**	**360**		**PKPdf**	**15 39 16.8**	**-0.1**	
KDJ	**Kajisay**	**127.91**	**359**	PKPdf	**PKPdf**	**15 39 17.3**	**-0.3**	
GEYT	**Alibeck**	**129.34**	**18**	PKP	**PKiKP**	**15 39 21.4**	**+0.5**	
	comp=Z,2.8nm,0.8s,baz=316,slow=21,SNR=2.1							
KSH	**Kashi**	**130.54**	**360**	PKP	**PKiKP**	**15 39 29.1**	**+5.7**	
PZH	**PanZhiHua**	**135.66**	**326**	PKP	**PKPdf**	**15 39 31.8**	**-0.7**	
CMAR	**Chiang Mai Arr**	**143.51**	**321**	PKP	PKPbc	15 39 43.8	-0.2	
	comp=Z,2.1nm,0.8s,baz=14,slow=3.2,SNR=9.3							
CMAR	**Chiang Mai Arr**	**143.51**	**321**	PKPdf	PKPbc	15 39 44.6	+0.6	
KSM	**Kuching**	**143.76**	**287**	PKPdf	PKPab	15 39 43.5	-0.8	
HYBB	**Hyderabad (bro**	**152.43**	**354**	*e*PKiKP	**PKPbc**	**15 40 07.7**	**-0.6**	
HYBB				*e*SKSdf	**SKSdf**	**15 47 06.8**	**+0.2**	

JMA ***16*** *15:23:27.7, 32.65N×130.72E, h4km±1km, M3.2*
JMA Felt IV J1.
IDC ***16*** *15:23:27.8±1.6, 32.63N×130.61E, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.1/51, mbtmp3.1/4, ML2.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=24.8km s-min=11.2km az=116.0*

ISC 16 15:23:29.6±0.8, 32.62N±0.04×130.70E±0.07, h10km, n11, σ1§66/13, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.12**	**126**	P	**Pg**	**15 23 30.4**	**-2.1**
JTA	**Tamana**	**0.37**	**338**	P	**Pg**	**15 23 34.9**	**-2.0**
JZO	**Okuchi**	**0.49**	**190**	P	**Pg**	**15 23 37.8**	**-1.3**
JZO				S	**Sg**	**15 23 44.6**	**-0.9**
JNU	**Nakatsue**	**0.52**	**17**	Pg	**Pg**	**15 23 37.8**	**-2.0**
	88nm,0.3s,baz=182,slow=12,SNR=13						
JNU				Lg	Lg	15 23 46.0	
	276nm,0.3s,baz=90,slow=24,SNR=14						
JTZ	**Takazaki**	**0.79**	**155**	P	**Pg**	**15 23 43.8**	**-1.1**
KSRS	**Korea Array**	**5.33**	**336**	Pn	**Pn**	**15 24 48.8**	**-0.5**
	0.1nm,0.3s,baz=154,slow=15,SNR=1.0						
KSRS				Pg	**Pb**	**15 25 04.1**	**+1.2**
	0.4nm,0.3s,baz=153,slow=16,SNR=4.5						
KSRS				Lg	Lg	15 26 17.0	
	0.4nm,0.3s,baz=160,slow=30,SNR=5.9						
KSRS				LR	LR	15 26 57.8	
	comp=Z,160nm,18.9s,baz=140,slow=40						
MJAR	**Matsushiro Arr**	**7.33**	**56**	Pn	**Pn**	**15 25 17.7**	**+1.0**
	0.1nm,0.3s,baz=234,slow=14,SNR=2.7						
KLR	**Kul'dur**	**16.61**	**2**	Pn	**P**	**15 27 26.5**	**+1.5**
	0.1nm,0.3s,baz=165,slow=6.0,SNR=5.6						
HHC	**Hu-ho-hao-te**	**17.37**	**304**	*e*P	**P**	**15 27 35.8**	**+2.2**
MKAR	**Makanchi Array**	**39.22**	**306**	P	**P**	**15 30 57.0**	**-1.0**
	0.1nm,0.5s,baz=91,slow=8.1,SNR=1.9						
WRA	**Warramunga Arr**	**52.38**	**176**	P	**P**	**15 32 42.1**	**0.0**
	0.2nm,0.7s,baz=0.3,slow=8.0,SNR=1.7						

KOLA ***16*** *15:35:37.9, 67.63N×34.19E, h0km, ML2.6*
HEL ***16*** *15:35:38.2±0.8, 67.65N×34.23E, h0km, ML2.3, Explosion*
NAO ***16*** *15:35:38.9±1.1, 67.71N×33.99E, ML3.0*
IDC ***16*** *15:35:41.0±1.6, 67.68N×33.54E, h0km, mb1 3.5/4, mb1mx3.1/43, mbtmp3.4/4, ML2.7/4, Error ellipse: s-maj=18.3km s-min=9.0km az=83.0*

ISC 16 15:35:36.6±0.9, 67.64N±0.03×34.18E±0.04, h0km, n37, σ1§60/65, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.30**	**258**	P	**Pg**	**15 35 43.6**	**+1.1**
APA				S	**Sg**	**15 35 47.8**	**+1.4**
APZ9	**Apatity**	**0.30**	**258**	Pg	**Pg**	**15 35 43.7**	**+1.2**
APZ9				Lg	Lg	15 35 47.5	
APZ9	**Apatity**	**0.30**	**258**	Pg	**Pg**	**15 35 43.7**	**+1.2**
APZ9				Sg	**Sg**	**15 35 47.5**	**+1.2**
LVZ	**Lovozero**	**0.32**	**34**	P	**Pg**	**15 35 43.3**	**+0.6**
LVZ				S	**Sg**	**15 35 47.6**	**+0.7**
APA0	**Apatity Array**	**0.46**	**267**	Pg	**Pg**	**15 35 46.2**	**+0.9**
	baz=80,slow=16						
APA0				Lg	Lg	15 35 52.2	
	baz=75,slow=37						
APA0				Rg	Rg	15 35 54.5	
	baz=63,slow=37						
APA0	**Apatity Array**	**0.46**	**267**	Pg	**Pg**	**15 35 46.2**	**+0.9**
	baz=80,slow=16						
APA0				Sg	**Sg**	**15 35 52.2**	**+0.9**
	baz=75,slow=37						
APA0	**Apatity Array**	**0.46**	**267**	P	**Pg**	**15 35 45.6**	**+0.3**
APA0				S	**Sg**	**15 35 52.0**	**+0.7**
VRF	**Varrio**	**1.75**	**276**	*e*P	**Pn**	**15 36 09.0**	**+0.8**
VRF				*e*S	**Sn**	**15 36 31.1**	**-0.1**
VRF				MSG		15 36 32.6	
	comp=Z,26nm,0.1s						
PRVG	**Vayda Guba**	**2.24**	**342**	P	**Pn**	**15 36 17.0**	**+2.0**
PRVG				S	**Sn**	**15 36 44.8**	**+1.4**
OLKF	**Oulanka, Finla**	**2.30**	**237**	*e*P	**Pb**	**15 36 19.1**	**+0.2**
OLKF				*e*S	**Sn**	**15 36 47.0**	**+2.4**
KU6	**Riekki**	**2.34**	**228**	*e*PB	**Pb**	**15 36 19.3**	**-0.4**
KU6				*e*SB	**Sb**	**15 36 49.0**	**-0.2**
MSF	**Maaselka**	**2.67**	**232**	*e*P	**Pn**	**15 36 23.4**	**+2.5**
MSF				*e*SB	**Sb**	**15 36 59.6**	**+1.0**
SGF	**Sodankyl**	**2.95**	**270**	*e*PB	**Pb**	**15 36 29.9**	**-0.1**
SGF				*e*SB	**Sb**	**15 37 06.9**	**+0.4**
SGF				MSG		15 37 09.9	
	comp=Z,14nm,0.2s						
RNF	**Rovaniemi**	**3.35**	**256**	*e*P	**Pn**	**15 36 31.3**	**+1.1**
RNF				*e*S	**Sn**	**15 37 12.2**	**+1.5**
KEV	**Kevo**	**3.38**	**312**	Pn	**Pn**	**15 36 31.6**	**+1.1**
KEV				Sn	**Sn**	**15 37 10.4**	**-0.8**
KEV	**Kevo**	**3.38**	**312**	Pn	**Pn**	**15 36 31.6**	**+1.1**
KEV				Sn	**Sn**	**15 37 10.4**	**-0.8**
ARA0	**ARCESS Array S**	**3.71**	**305**	Pn	**Pn**	**15 36 35.9**	**+0.8**
	baz=120,slow=16						
ARA0				Pg	**Pb**	**15 36 44.3**	**+1.4**
	baz=117,slow=16						
ARA0				Sn	**Sn**	**15 37 16.9**	**-2.6**
	baz=116,slow=22						
ARA0				Lg	Lg	15 37 29.6	
	baz=122,slow=37						
ARA0	**ARCESS Array S**	**3.71**	**305**	Pn	**Pn**	**15 36 35.9**	**+0.8**
	baz=120,slow=16						
ARA0				Pg	**Pb**	**15 36 44.3**	**+1.4**
	baz=117,slow=16						
ARA0				Sn	**Sn**	**15 37 16.9**	**-2.6**
	baz=116,slow=22						
ARCES	**ARCESS Array B**	**3.71**	**305**	Pn	**Pn**	**15 36 36.0**	**+0.8**
	baz=119,slow=14,SNR=171						
ARCES				Sn	**Sn**	**15 37 18.1**	**-1.4**
	baz=121,slow=28,SNR=18						
ARCES				Lg	Lg	15 37 30.1	
	baz=119,slow=32,SNR=14						
ARCES	**ARCESS Array B**	**3.71**	**305**	P	**Pn**	**15 36 35.6**	**+0.5**
ARCES				S	**Sn**	**15 37 18.1**	**-1.4**
RMF	**Romuvaara**	**3.85**	**209**	*e*P	**Pn**	**15 36 38.0**	**+1.0**
RMF				*e*S	**Sn**	**15 37 22.1**	**-0.8**
TOF	**Tornio**	**4.19**	**253**	MSG		15 37 52.1	
	comp=Z,3.8nm,0.2s						
OUL	**Oulu**	**4.20**	**236**	Pn	**Pn**	**15 36 43.4**	**+1.5**
OUL				Sn	**Sn**	**15 37 31.2**	**-0.4**
OUL	**Oulu**	**4.20**	**236**	Pn	**Pn**	**15 36 43.4**	**+1.5**
OUL				Sn	**Sn**	**15 37 31.2**	**-0.4**
KTK1	**Kautokeino**	**4.29**	**294**	*e*P	**Pn**	**15 36 43.1**	**+0.1**
KTK1				*e*S	**Sn**	**15 37 29.6**	**-4.1**
KTK1				IAML		15 37 48.0	
	comp=Z,38nm,0.5s						
HAMF	**Hammerfest**	**4.81**	**314**	*e*P	**Pn**	**15 36 50.2**	**0.0**
HAMF				*e*S	**Sn**	**15 37 43.5**	**-3.1**
HAMF				IAML		15 38 09.7	
	comp=Z,20nm,0.4s						
KIF	**Kilpisjarvi**	**5.15**	**292**	Pn	**Pn**	**15 36 54.8**	**0.0**
KIF				Sn	**Sn**	**15 37 53.3**	**-1.5**
KIF	**Kilpisjarvi**	**5.15**	**292**	Pn	**Pn**	**15 36 54.8**	**0.0**
JETT	**Jettan, Norway**	**5.40**	**297**	Pn	**Pn**	**15 36 59.5**	**+1.2**
JETT				IAML		15 38 22.8	
	comp=Z,40nm,0.4s						
FIA0	**FINESS Array S**	**7.12**	**213**	Pn	**Pn**	**15 37 23.7**	**+1.7**
	baz=28,slow=14						
FIA0				Sn	**Sn**	**15 38 41.2**	**-2.3**
	baz=35,slow=22						
FIA0				Lg	Lg	15 39 20.9	
	baz=27,slow=37						
FIA0	**FINESS Array S**	**7.12**	**213**	Pn	**Pn**	**15 37 23.7**	**+1.7**
	baz=28,slow=14						
FIA0				Sn	**Sn**	**15 38 41.2**	**-2.3**
	baz=35,slow=22						
FIA0				Sg	**Sg**	**15 39 20.9**	**-4.3**
	baz=27,slow=37						
FINES	**FINESS Array B**	**7.12**	**213**	Pn	**Pn**	**15 37 23.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=20						
FINES				Sn	**Sn**	**15 38 41.6**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=27,slow=24,SNR=2.2						
FINES				Lg	Lg	15 39 18.9	
	comp=Z,0.7nm,0.3s,baz=27,slow=26,SNR=4.7						
I43RU	**DUBNA INFRASON**	**11.04**	**171**	*i*		16 42 50.0	
	baz=358,slow=325,SNR=5.8						
SPA0	**Spitsbergen Ar**	**11.72**	**342**	Pn	**Pn**	**15 38 22.4**	**-2.5**
	baz=143,slow=16						
SPITS	**Spitsbergen Ar**	**11.72**	**342**	Pn	**Pn**	**15 38 23.2**	**-1.6**
	baz=145,slow=18,SNR=10						
SPITS				Sn	Sn	15 40 23.4	-13
	baz=145,slow=32,SNR=1.6						
NOA	**NORSAR Array B**	**11.88**	**247**	Pn	**Pn**	**15 38 24.9**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=45,slow=11,SNR=2.2						
NOA				Lg	Lg	15 41 44.1	
	comp=Z,0.0nm,0.3s,baz=48,slow=25,SNR=2.4						
NRA0	**NORESS Array S**	**11.98**	**246**	Pn	**Pn**	**15 38 26.4**	**-2.1**
	baz=52,slow=16						

NOU 16 15:36:04.8, 15.27S×167.48E, h98km, MLv4.1/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.32**	**237**	P	Pn	15 36 20.4	+1.1
DVP	**Devils Point**	**2.53**	**165**	P	Pn	15 36 44.3	0.0
YATNC	**Mamie plateau,**	**6.78**	**185**	P	Pn	15 37 40.9	-0.8
DZM	**Mont Dzumac**	**6.84**	**188**	P	Pn	15 37 42.5	-0.1
OUENC	**Ouen Island, N**	**7.14**	**185**	P	Pn	15 37 47.2	+0.7

JMA 16 15:55:45.4, 33.28N×131.39E, h9km, M1.1, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.06**	**14**	P	Pg	15 55 47.3	-0.1
JBEP				*e*S	Sg	15 55 48.9	+0.1
JUS	**Usuki**	**0.37**	**125**	P	Pg	15 55 52.6	-0.1
JUS				*e*S	Sg	15 55 57.5	-0.1

IDC ***16*** *15:56:05.5±1.4, 33.13N×131.52E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/38, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=25.4km s-min=10.7km az=174.0*
JMA ***16*** *15:56:06.6, 32.65N×130.73E, h9km±1km, M3.9*
Broadband fault plane solution: P waves. NP1: φs17.00000°, δ71.00000°, λ-159.00000°. NP2: φs279.00000°, δ71.00000°, λ-21.00000°. Principal axes: T Plg0.0000°, Azm148.0000°; N Plg62.0000°, Azm58.0000°; P Plg28.0000°, Azm238.0000°;
JMA Felt III J1.
NIED ***16*** *15:56:06.6, 32.65N×130.73E, h9km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-0.79; Mθθ3.73; Mφφ-2.94; Mrθ-2.33; Mθφ5.37; Mφr-2.92; Fault plane solution: M0 7.22000×10¹⁴ NP1: φs288.00000°, δ62.00000°, λ4.00000°. NP2: φs196.00000°, δ87.00000°, λ152.00000°.*

ISC 16 15:56:07.1±1.0, 32.64N±0.04×130.78E±0.09, h8km±7km, n10, σ1§47/14, mb3.2/4, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.09**	**163**	⇑P	**Pg**	**15 56 09.5**	**+0.1**
JIU3				*e*S	**Sg**	**15 56 10.9**	**0.0**
JTA	**Tamana**	**0.39**	**327**	⇑P	**Pg**	**15 56 13.9**	**-0.8**
JNU	**Nakatsue**	**0.49**	**10**	Pg	**Pg**	**15 56 16.2**	**-0.4**
	280nm,0.3s,baz=180,slow=6.5,SNR=184						
JNU				Lg	Lg	15 56 23.0	
	4μm,0.3s,baz=47,slow=14,SNR=124						
JZO	**Okuchi**	**0.52**	**197**	⇑P	**Pg**	**15 56 16.8**	**-0.4**
JZO				S	**Sg**	**15 56 23.8**	**-0.2**
JTZ	**Takazaki**	**0.78**	**160**	⇑P	**Pb**	**15 56 22.6**	**-0.4**
JTZ				S	**Sb**	**15 56 33.2**	**-0.5**
KSRS	**Korea Array**	**5.34**	**335**	Pn	**Pn**	**15 57 26.1**	**-1.1**
	0.5nm,0.3s,baz=150,slow=14,SNR=7.3						
KSRS				Pg	**Pb**	**15 57 42.8**	**+2.0**
	1.6nm,0.3s,baz=152,slow=17,SNR=7.5						
KSRS				Lg	Lg	15 58 56.2	
	2.2nm,0.3s,baz=151,slow=31,SNR=8.0						
SONM	**Songino Array**	**23.88**	**317**	P	**P**	**16 01 21.2**	**-0.1**
	0.2nm,0.4s,baz=123,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**56.07**	**177**	P	**P**	**16 05 50.0**	**+3.2**
	0.1nm,0.5s,baz=9.3,slow=14,SNR=4.5						
FINES	**FINESS Array B**	**68.42**	**330**	P	**P**	**16 07 07.3**	**-1.9**
	0.7nm,0.6s,baz=90,slow=5.7,SNR=9.0						
NOA	**NORSAR Array B**	**74.56**	**334**	P	**P**	**16 07 45.0**	**-1.3**
	0.3nm,0.8s,baz=46,slow=5.1,SNR=1.5						

NIED ***16*** *15:59:25.8, 33.01N×131.20E, h9km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.21; Mθθ1.09; Mφφ-0.88; Mrθ-0.12; Mθφ0.23; Mφr0.42; Fault plane solution: M0 1.12000×10¹⁵ NP1: φs221.00000°, δ70.00000°, λ-164.00000°. NP2: φs125.00000°, δ75.00000°, λ-21.00000°.*
JMA ***16*** *15:59:25.8, 33.01N×131.20E, h9km±1km, M3.9*
Broadband fault plane solution: P waves. NP1: φs127.00000°, δ77.00000°, λ-28.00000°. NP2: φs224.00000°, δ62.00000°, λ-166.00000°. Principal axes: T Plg10.0000°, Azm178.0000°; N Plg59.0000°, Azm285.0000°; P Plg29.0000°, Azm83.0000°;
JMA Felt IV J1.
IDC ***16*** *15:59:26.6±1.0, 33.09N×131.20E, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.6/47, mbtmp3.5/10, ML2.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/58 Error ellipse: s-maj=19.5km s-min=6.7km az=2.0*

ISC 16 15:59:28.1±0.7, 33.00N±0.06×131.20E±0.03, h12km, n16, σ1§90/20, mb3.5/7, 1C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.30**	**295**	Pg	**Pg**	**15 59 31.6**	**-2.7**
	861nm,0.3s,baz=44,slow=5.6,SNR=61						
JNU				Lg	Lg	15 59 35.8	
	4μm,0.3s,baz=57,slow=8.3,SNR=139						
JNU	**Nakatsue**	**0.30**	**295**	⇓P	**Pg**	**15 59 31.8**	**-2.5**
JNU				S	**Sg**	**15 59 35.9**	**-2.4**
JUS	**Usuki**	**0.47**	**81**	⇓P	**Pg**	**15 59 34.6**	**-2.8**
JUS				S	**Sg**	**15 59 41.5**	**-2.2**
JIU3	**Izumi3**	**0.55**	**216**	⇑P	**Pg**	**15 59 36.8**	**-2.1**
JTA	**Tamana**	**0.56**	**267**	⇓P	**Pg**	**15 59 36.8**	**-2.3**
JTA				S	**Sg**	**15 59 44.8**	**-1.7**
KSRS	**Korea Array**	**5.19**	**330**	Pn	**Pn**	**16 00 45.0**	**-0.6**
	0.7nm,0.3s,baz=148,slow=15,SNR=2.9						
KSRS				Pg	**Pb**	**16 01 01.2**	**+2.4**
	1.9nm,0.3s,baz=151,slow=16,SNR=9.4						
KSRS				Lg	Lg	16 02 08.8	
	2.8nm,0.3s,baz=152,slow=30,SNR=8.7						
MJAR	**Matsushiro Arr**	**6.77**	**57**	Pn	**Pn**	**16 01 07.8**	**+0.4**
	0.4nm,0.3s,baz=231,slow=13,SNR=19						
MJAR				LR	LR	16 04 07.1	
	comp=Z,108nm,19.4s,baz=242,slow=42						
USRK	**Ussuriysk Ar.**	**11.20**	**3**	Pn	**Pn**	**16 02 08.8**	**+0.7**
	baz=181,slow=13,SNR=3.1						
KLR	**Kul'dur**	**16.23**	**1**	Pn	**P**	**16 03 20.1**	**+1.2**
	0.2nm,0.3s,baz=162,slow=10,SNR=15						
SONM	**Songino Array**	**23.87**	**316**	P	**P**	**16 04 42.1**	**+0.6**
	1.5nm,0.9s,baz=130,slow=9.8,SNR=7.5						
CMAR	**Chiang Mai Arr**	**32.31**	**251**	P	**P**	**16 05 58.5**	**+1.3**
	0.1nm,0.4s,baz=61,slow=7.6,SNR=1.6						
MKAR	**Makanchi Array**	**39.35**	**305**	P	**P**	**16 06 58.1**	**+0.8**
	0.1nm,0.5s,baz=85,slow=9.4,SNR=1.6						
ASAR	**Alice Springs**	**56.40**	**177**	P	**P**	**16 09 11.1**	**+1.6**
	0.3nm,0.6s,baz=9.2,slow=14,SNR=5.8						
KBZ	**Khabaz**	**66.96**	**308**	P	**P**	**16 10 20.9**	**+0.3**
	2.1nm,0.8s,baz=100,slow=6.6,SNR=5.4						
YKA	**Yellowknife Ar**	**71.33**	**27**	P	**P**	**16 10 46.1**	**-1.3**
	0.2nm,0.7s,baz=304,slow=6.3,SNR=4.4						
BRTR	**Keskin Array B**	**74.94**	**308**	P	**P**	**16 11 08.0**	**-1.4**
	0.2nm,0.3s,baz=90,slow=6.2,SNR=3.6						

WEL ***16*** *16:05:00, 44.68S×167.80E, h11km, ML4.0, Mw3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴ Nm; Mrr3.89; Mθθ1.30; Mφφ-2.59; Mrθ-1.50; Mθφ-1.07; Mφr1.10; Fault plane solution: M0 3.88000×10¹⁴ NP1: φs227.00000°, δ46.00000°, λ117.00000°. NP2: φs10.00000°, δ50.00000°, λ64.00000°. Principal axes: T 45.4900, Plg71.0000°, Azm214.0000°; N -13.4100, Plg19.0000°, Azm27.0000°; P -32.0800, Plg2.0000°, Azm118.0000°;*

WEL 16 16:05:35.4, 45.5S±6.6×167.8E±., h15km±8km, M4.0/25, mB4.6/3, ML4.2/30, MLv4.0/25, Mw(mB)3.8/3 Error ellipse: s-maj=0.0km s-min=0.0km az=73.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.09**	**88**	P	Pg	16 05 39.5	+1.0
MSZ				S	Sg	16 05 42.6	+2.1
MLZ	**Mavora Lakes**	**0.72**	**162**	P	Pb	16 05 50.2	+0.4
WKZ	**Wanaka**	**0.88**	**100**	P	Pn	16 05 53.6	+0.3
WKZ				S	Sn	16 06 06.6	+0.8
DCZ	**Deep Cove**	**0.91**	**210**	P	Pb	16 05 51.4	-1.5
JCZ	**Jackson Bay**	**0.93**	**50**	P	Pb	16 05 53.0	-0.3
JCZ				S	Sn	16 06 06.3	-0.8
EAZ	**Earnscleugh**	**1.20**	**118**	P	Pg	16 05 59.2	+0.6
EAZ				S	Sg	16 06 16.8	+2.5
WHZ	**Wether Hill Ro**	**1.22**	**175**	P	Pb	16 06 01.8	-0.1
WHZ				S	Sg	16 06 15.7	+0.8
LBZ	**Lake Benmore**	**1.73**	**81**	P	Pb	16 06 06.9	+0.1
TUZ	**Tuapeka**	**1.81**	**135**	P	Pb	16 06 08.7	+0.4
TUZ				S	Sg	16 06 33.7	-0.1
FOZ	**Fox Glacier**	**1.85**	**52**	P	Pn	16 06 04.7	-1.8
FOZ				S	Sg	16 06 33.9	-0.8
ODZ	**Otahua Downs**	**2.05**	**101**	P	Pb	16 06 11.5	-0.9
SYZ	**Scrubby Hill**	**2.08**	**154**	P	Pb	16 06 12.0	-0.9
APZ	**The Paps**	**2.16**	**177**	P	Pb	16 06 12.8	-1.4
GCSZ	**Gaunt Creek Bo**	**2.27**	**54**	P	Pn	16 06 11.6	-0.8
TMZ	**Timaru**	**2.31**	**84**	P	Pn	16 06 14.5	+1.6
HHSZ	**Highcliff Hill**	**2.31**	**122**	P	Pb	16 06 15.9	-0.9
RPZ	**Rata Peaks**	**2.53**	**69**	P	Pn	16 06 16.5	+0.6
ARCZ	**Arundel**	**2.53**	**74**	P	Pn	16 06 16.7	+

BDR	**Baidarnaya**	**3.42**	**304**	PN	**Pn**	**16**	**10**	**07.4**	**+1.9**
BDR	**Baidarnaya**	**3.42**	**304**	*e*P	**Pn**	**16**	**10**	**07.4**	**+1.9**
TUMD	**Tumrok D**	**3.44**	**280**	*e*P	**Pn**	**16**	**10**	**07.1**	**+1.3**
TUMD				*e*S	**Sn**	**16**	**10**	**45.7**	**+0.4**
SRKR	**Sorokina**	**3.48**	**305**	PN	**Pn**	**16**	**10**	**09.5**	**+3.2**
SRKR	**Sorokina**	**3.48**	**305**	*e*P	**Pn**	**16**	**10**	**09.5**	**+3.2**
KLY	**Klyuchi**	**3.58**	**298**	PN	**Pn**	**16**	**10**	**08.0**	**+0.4**
KLY				S	**Sn**	**16**	**10**	**47.7**	**-0.9**
KLY	**Klyuchi**	**3.58**	**298**	*e*P	**Pn**	**16**	**10**	**08.0**	**+0.4**
KLY				*e*S	**Sn**	**16**	**10**	**47.7**	**-0.9**
TUMR	**Tumrok**	**3.60**	**281**	PN	**Pn**	**16**	**10**	**07.1**	**-0.9**
TUMR	**Tumrok**	**3.60**	**281**	*e*P	**Pn**	**16**	**10**	**09.9**	**+1.9**
TUMR				*e*S	**Sn**	**16**	**10**	**48.4**	**-0.8**
KMNR	**Kamenistaya**	**3.62**	**288**	PN	**Pn**	**16**	**10**	**10.7**	**+2.4**
KMNR				S	**Sn**	**16**	**10**	**49.7**	**-0.2**
KMNR	**Kamenistaya**	**3.62**	**288**	*e*P	**Pn**	**16**	**10**	**10.7**	**+2.4**
KMNR				*e*S	**Sn**	**16**	**10**	**49.7**	**-0.2**
SPN	**Mys Shipunski**	**4.08**	**248**	PN	**Pn**	**16**	**10**	**15.0**	**+0.5**
SPN	**Mys Shipunski**	**4.08**	**248**	*e*P	**Pn**	**16**	**10**	**15.0**	**+0.5**
SPN				*e*S	**Sn**	**16**	**10**	**58.7**	**-2.3**
KII	**Karymskiy**	**4.09**	**263**	PN	**Pn**	**16**	**10**	**16.5**	**+1.9**
KII				S	**Sn**	**16**	**11**	**01.1**	**-0.1**
KII	**Karymskiy**	**4.09**	**263**	*e*P	**Pn**	**16**	**10**	**16.5**	**+1.9**
KII				*e*S	**Sn**	**16**	**11**	**01.1**	**-0.1**
ESO	**Esso**	**4.51**	**288**	PN	**Pn**	**16**	**10**	**21.7**	**+1.3**
ESO	**Esso**	**4.51**	**288**	*e*P	**Pn**	**16**	**10**	**21.7**	**+1.3**
SMAR	**Somma**	**4.69**	**254**	PN	**Pn**	**16**	**10**	**25.0**	**+2.0**
SMAR	**Somma**	**4.69**	**254**	*e*P	**Pn**	**16**	**10**	**25.0**	**+2.0**
UGLR	**Uglovaya**	**4.69**	**254**	PN	**Pn**	**16**	**10**	**24.8**	**+1.8**
UGLR	**Uglovaya**	**4.69**	**254**	*e*P	**Pn**	**16**	**10**	**24.8**	**+1.8**
UGLR				*e*S	**Sn**	**16**	**11**	**15.2**	**-1.1**
KRER	**Koryakskii**	**4.70**	**255**	PN	**Pn**	**16**	**10**	**25.2**	**+2.0**
KRER	**Koryakskii**	**4.70**	**255**	*e*P	**Pn**	**16**	**10**	**25.2**	**+2.0**
KRER				*e*S	**Sn**	**16**	**11**	**15.7**	**-0.9**
AVH	**Avacha**	**4.72**	**255**	PN	**Pn**	**16**	**10**	**25.0**	**+1.6**
AVH	**Avacha**	**4.72**	**255**	*e*P	**Pn**	**16**	**10**	**25.0**	**+1.6**
AVH				*e*S	**Sn**	**16**	**11**	**16.4**	**-0.5**
KOK	**Koryaka**	**4.77**	**255**	PN	**Pn**	**16**	**10**	**25.6**	**+1.6**
KOK	**Koryaka**	**4.77**	**255**	*e*P	**Pn**	**16**	**10**	**25.6**	**+1.6**
KOK				*e*S	**Sn**	**16**	**11**	**16.6**	**-1.5**
DALK	**Dalny**	**4.80**	**252**	PN	**Pn**	**16**	**10**	**25.6**	**+1.2**
DALK	**Dalny**	**4.80**	**252**	*e*P	**Pn**	**16**	**10**	**25.6**	**+1.2**
DALK				*e*S	**Sn**	**16**	**11**	**16.7**	**-2.1**
PET	**Petropavlovsk**	**4.86**	**252**	PN	**Pn**	**16**	**10**	**26.4**	**+1.2**
PET	**Petropavlovsk**	**4.86**	**252**	*e*P	**Pn**	**16**	**10**	**26.4**	**+1.2**
PET				*e*S	**Sn**	**16**	**11**	**18.3**	**-1.9**
GNL	**Ganaly**	**5.04**	**261**	PN	**Pn**	**16**	**10**	**30.1**	**+2.4**
GNL	**Ganaly**	**5.04**	**261**	*e*P	**Pn**	**16**	**10**	**30.1**	**+2.4**
SHEM	**Shemya Is, Ala**	**5.04**	**111**	LR	LR	16	12	10.0	
	comp=Z,118nm,18.6s,baz=192,slow=33								
RUS	**Russkaya**	**5.21**	**247**	PN	**Pn**	**16**	**10**	**32.0**	**+2.1**
RUS	**Russkaya**	**5.21**	**247**	*e*P	**Pn**	**16**	**10**	**32.0**	**+2.1**
RUS				*e*S	**Sn**	**16**	**11**	**26.0**	**-2.7**
KRMR	**Karymshinskiy**	**5.23**	**252**	PN	**Pn**	**16**	**10**	**32.8**	**+2.5**
KRMR	**Karymshinskiy**	**5.23**	**252**	*e*P	**Pn**	**16**	**10**	**32.8**	**+2.5**
KRMR				*e*S	**Sn**	**16**	**11**	**28.2**	**-1.1**
MTVR	**Mutnovka**	**5.36**	**248**	PN	**Pn**	**16**	**10**	**33.9**	**+1.7**
MTVR	**Mutnovka**	**5.36**	**248**	*e*P	**Pn**	**16**	**10**	**33.9**	**+1.7**
MTVR				*e*S	**Sn**	**16**	**11**	**30.5**	**-2.2**
PETK	**Petropavlovsk-**	**5.36**	**256**	P	**Pn**	**16**	**10**	**34.3**	**+2.2**
	1.1nm,0.3s,baz=83,slow=19,SNR=23								
PETK				S	**Sn**	**16**	**11**	**33.0**	**+0.5**
	6.1nm,0.3s,baz=29,slow=3.4,SNR=9.3								
GRL	**Gorelyy**	**5.38**	**249**	PN	**Pn**	**16**	**10**	**34.7**	**+2.2**
GRL	**Gorelyy**	**5.38**	**249**	*e*P	**Pn**	**16**	**10**	**34.7**	**+2.2**
GRL				*e*S	**Sn**	**16**	**11**	**31.4**	**-1.9**
ASAK	**Asacha**	**5.56**	**248**	PN	**Pn**	**16**	**10**	**36.9**	**+2.0**
ASAK	**Asacha**	**5.56**	**248**	*e*P	**Pn**	**16**	**10**	**36.9**	**+2.0**
ASAK				*e*S	**Sn**	**16**	**11**	**36.0**	**-1.5**
APC	**Apacha**	**5.73**	**255**	*e*S	**Sn**	**16**	**11**	**41.5**	**-0.1**
KDTR	**Khodutka, Kamc**	**5.76**	**242**	*e*S	**Sn**	**16**	**11**	**39.2**	**-3.2**
PAU	**Pauzhetka**	**6.61**	**244**	S	**Sn**	**16**	**12**	**01.0**	**-2.3**
SEY	**Seymchan**	**10.90**	**324**	P	**Pn**	**16**	**11**	**49.5**	**+1.6**
	0.1nm,0.3s,baz=162,slow=23,SNR=1.5								
YAK	**Yakutsk**	**20.30**	**306**	P	**P**	**16**	**13**	**46.8**	**-0.3**
	2.1nm,0.4s,baz=220,slow=1.4,SNR=2.5								
KLR	**Kul'dur**	**21.84**	**270**	P	**P**	**16**	**14**	**04.8**	**+1.1**
	2.5nm,0.8s,baz=65,slow=9.8,SNR=11								
KDAK	**Kodiak Island**	**22.76**	**66**	P	**P**	**16**	**14**	**13.7**	**+0.2**
	1.0nm,0.3s,baz=296,slow=10,SNR=9.1								
TIXI	**Tiksi**	**23.27**	**331**	P	**P**	**16**	**14**	**18.5**	**-0.1**
	1.5nm,0.7s,baz=90,slow=23,SNR=7.9								
ILAR	**Eielson Array**	**24.99**	**48**	P	**P**	**16**	**14**	**35.0**	**+0.4**
	1.7nm,0.5s,baz=250,slow=8.0,SNR=23								
MJAR	**Matsushiro Arr**	**26.52**	**238**	P	**P**	**16**	**14**	**49.7**	**+0.9**
	1.6nm,0.6s,baz=29,slow=9.6,SNR=4.8								
INK	**Inuvik**	**30.26**	**40**	P	**P**	**16**	**15**	**21.9**	**+0.2**
	0.6nm,0.4s,baz=277,slow=14,SNR=5.5								
H11N2	**WAKE ISLAND Hy**	**34.98**	**179**	T	T	16	53	03.9	
	baz=360,slow=76,SNR=206								
H11N3	**WAKE ISLAND Hy**	**34.99**	**179**	T	T	16	53	05.5	
	baz=360,slow=76,SNR=207								
H11N1	**WAKE ISLAND Hy**	**34.99**	**179**	T	T	16	53	05.4	
	baz=360,slow=76,SNR=227								
H11S1	**WAKE ISLAND Hy**	**36.19**	**179**	T	T	16	54	52.3	
	baz=6.3,slow=77,SNR=22								
H11S3	**WAKE ISLAND Hy**	**36.20**	**179**	T	T	16	54	36.8	
	baz=6.3,slow=77,SNR=14								
H11S2	**WAKE ISLAND Hy**	**36.21**	**179**	T	T	16	54	54.0	
	baz=6.3,slow=77,SNR=20								
SONM	**Songino Array**	**37.08**	**285**	P	**P**	**16**	**16**	**19.9**	**-1.4**
	1.0nm,0.5s,baz=62,slow=8.6,SNR=7.1								
YKA	**Yellowknife Ar**	**39.39**	**46**	P	**P**	**16**	**16**	**40.7**	**+0.2**
	0.3nm,0.4s,baz=295,slow=7.3,SNR=8.7								
MKAR	**Makanchi Array**	**50.69**	**298**	P	**P**	**16**	**18**	**09.2**	**-1.2**
	0.5nm,0.5s,baz=43,slow=5.9,SNR=6.1								
NVAR	**Mina Array Bea**	**51.73**	**75**	P	**P**	**16**	**18**	**19.2**	**+0.8**
	0.1nm,0.3s,baz=316,slow=7.7,SNR=2.3								
ARCES	**ARCESS Array B**	**52.78**	**344**	P	**P**	**16**	**18**	**24.4**	**-1.2**
	0.5nm,0.5s,baz=37,slow=8.1,SNR=1.4								
PDAR	**Pinedale Array**	**53.48**	**66**	P	**P**	**16**	**18**	**32.7**	**+1.2**
	0.2nm,0.6s,baz=287,slow=3.7,SNR=2.3								
FINES	**FINESS Array B**	**59.96**	**339**	P	**P**	**16**	**19**	**15.8**	**-1.0**
	1.1nm,0.6s,baz=14,slow=8.5,SNR=7.2								
CMAR	**Chiang Mai Arr**	**62.10**	**263**	P	**P**	**16**	**19**	**31.5**	**-0.4**
	0.5nm,0.6s,baz=24,slow=6.9,SNR=4.4								
NB2	**NORSAR Subarra**	**62.87**	**347**	P	**P**	**16**	**19**	**36.3**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=17,slow=6.9								
NOA	**NORSAR Array B**	**62.87**	**347**	P	**P**	**16**	**19**	**35.6**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=14,slow=6.1,SNR=5.1								
TXAR	**Lajitas Array**	**66.60**	**72**	P	**P**	**16**	**20**	**02.4**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=316,slow=5.1,SNR=4.3								
MLR	**Muntele Rosu**	**74.62**	**332**	LR	LR	16	57	55.7	
	comp=Z,286nm,19.9s,baz=109,slow=39								
WRA	**Warramunga Arr**	**79.27**	**210**	P	**P**	**16**	**21**	**16.2**	**0.0**
	comp=Z,1.0nm,0.9s,baz=25,slow=6.0,SNR=5.2								
ASAR	**Alice Springs**	**82.92**	**210**	P	**P**	**16**	**21**	**36.2**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=16,slow=6.1,SNR=9.9								
ESDC	**Sonseca Array**	**85.56**	**352**	P	**P**	**16**	**21**	**48.6**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=3.8,slow=7.7,SNR=2.8								

IDC ***16*** *16:12:31.3±1.2, 11.°67N×139.°46E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/39, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=54.7km s-min=25.4km az=109.0*

ISC 16 16:12:34.9±1.3, 11.°0N±0.°3×141.°5E±0.°3, h10km, n6, σ1s09/6, mb3.4/5, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
GUMO	**Guam**	**4.19**	**52**	Pn	**Pg**	**16**	**13**	**54.5**	**-0.8**
	3.9nm,0.3s,baz=212,slow=21,SNR=1.0								
GUMO				Sn	**Sg**	**16**	**14**	**50.4**	**+0.8**
	5.4nm,0.3s,baz=158,slow=23,SNR=2.0								
WRA	**Warramunga Arr**	**31.57**	**193**	P	**P**	**16**	**18**	**57.0**	**-0.7**
	0.3nm,1.0s,baz=6.7,slow=10,SNR=1.9								
ASAR	**Alice Springs**	**35.27**	**192**	P	**P**	**16**	**19**	**30.9**	**+0.8**
	0.2nm,0.7s,baz=18,slow=12,SNR=1.7								
ILAR	**Eielson Array**	**72.29**	**25**	P	**P**	**16**	**23**	**59.8**	**-0.6**
	0.2nm,0.6s,baz=253,slow=6.2,SNR=2.4								
YKA	**Yellowknife Ar**	**86.64**	**27**	P	**P**	**16**	**25**	**19.4**	**+0.9**
	0.2nm,0.6s,baz=288,slow=4.9,SNR=5.0								
ARCES	**ARCESS Array B**	**88.46**	**342**	P	P	16	25	18.9	-8.3
	1.6nm,0.8s,baz=64,slow=7.1,SNR=4.5								

UCR ***16*** *16:17:00.6±1.6, 9.°03N×85.°06W, h24km±4km, MW4.0*
INET ***16*** *16:17:01.2±1.0, 9.°05N×85.°09W, h32km±156km, MW3.2*

ISC 16 16:16:59.3±2.2, 9.°00N±0.°08×85.°11W±0.°08, h23km±16km, n30, σ0s61/38, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
CAO2	**Cobano, Puntar**	**0.69**	**0**	*e*P	**Pb**	**16**	**17**	**12.9**	**+0.2**
JACO	**JACO, Garabito**	**0.80**	**34**	*e*P	**Pb**	**16**	**17**	**14.2**	**-0.3**
JACO				*e*S	**Sn**	**16**	**17**	**25.9**	**-0.5**
LAFE	**Finca La Fe, P**	**0.83**	**14**	*e*P	**Pb**	**16**	**17**	**14.4**	**-0.6**
LAFE				*e*S	**Sb**	**16**	**17**	**26.1**	**+0.3**
LAFE	**Finca La Fe, P**	**0.83**	**14**	*e*P	**Pb**	**16**	**17**	**14.5**	**-0.6**
LAFE				*e*S	**Sb**	**16**	**17**	**26.0**	**+0.3**
DUNO	**Dulce Nombre,**	**1.14**	**341**	*e*P	**Pn**	**16**	**17**	**19.0**	**-0.9**
EDDO	**Dominical**	**1.26**	**78**	*e*P	**Pn**	**16**	**17**	**21.5**	**0.0**
EDDO				*e*S	**Sn**	**16**	**17**	**37.2**	**-0.5**
JTS	**Las Juntas de**	**1.29**	**7**	*e*P	**Pn**	**16**	**17**	**21.6**	**-0.5**
JTS	**Las Juntas de**	**1.29**	**7**	*e*P	**Pn**	**16**	**17**	**21.5**	**-0.6**
LCR2	**La Lucha 2**	**1.32**	**56**	*e*P	**Pn**	**16**	**17**	**22.4**	**-0.1**
ORTG	**Ortega, Santa**	**1.40**	**346**	*e*P	**Pn**	**16**	**17**	**22.9**	**-0.6**
RIMA	**Rio Macho**	**1.45**	**58**	*e*P	**Pn**	**16**	**17**	**24.5**	**+0.1**
RIMA	**Rio Macho**	**1.45**	**58**	*e*P	**Pn**	**16**	**17**	**24.4**	**+0.1**
RIMA				*e*S	**Sn**	**16**	**17**	**42.3**	**-0.5**
PEZE	**Perez Zeledon,**	**1.47**	**75**	*e*P	**Pn**	**16**	**17**	**24.5**	**0.0**
PEZE	**Perez Zeledon,**	**1.47**	**75**	*e*P	**Pn**	**16**	**17**	**24.5**	**0.0**
ARE1	**Arenal 1**	**1.50**	**15**	*e*P	**Pn**	**16**	**17**	**25.8**	**+0.8**
CEDE	**Laguna Cedeo**	**1.53**	**15**	*i* P	**Pn**	**16**	**17**	**26.5**	**+1.1**
RIOS	**Rincon, Osa**	**1.60**	**101**	*e*P	**Pn**	**16**	**17**	**26.6**	**+0.3**
RIOS				*e*S	**Sn**	**16**	**17**	**45.5**	**-0.8**
EDPN	**Palmar Norte**	**1.63**	**91**	*e*P	**Pn**	**16**	**17**	**27.5**	**+0.7**
EDPN				*e*S	**Sn**	**16**	**17**	**46.9**	**-0.2**
CUI	**Cuipilapa**	**1.65**	**358**	*i* P	**Pn**	**16**	**17**	**27.6**	**+0.5**
CUI				*i* S	**Sn**	**16**	**17**	**48.4**	**+0.8**
COLC	**Colonia**	**1.66**	**357**	*i* P	**Pn**	**16**	**17**	**27.8**	**+0.6**
SRBA	**San Rafael, Bu**	**1.74**	**82**	*e*P	**Pn**	**16**	**17**	**28.9**	**+0.5**
HZTE	**Horizontes, Gu**	**1.77**	**344**	*e*P	**Pn**	**16**	**17**	**29.1**	**+0.5**
HZTE	**Horizontes, Gu**	**1.77**	**344**	*e*P	**Pn**	**16**	**17**	**28.9**	**+0.2**
VMAR	**Armenia, Volca**	**1.80**	**360**	*e*P	**Pn**	**16**	**17**	**30.1**	**+1.0**
BUEV	**Buena Vista**	**1.81**	**351**	*i* P	**Pn**	**16**	**17**	**29.8**	**+0.5**
GBIA	**Boringuen Arri**	**1.83**	**351**	*i* P	**Pn**	**16**	**17**	**30.0**	**+0.4**
COVE	**Coope Vega, Sa**	**1.85**	**22**	*e*P	**Pn**	**16**	**17**	**30.7**	**+1.0**
PIRO	**Carate, Puerto**	**1.85**	**108**	*e*P	**Pn**	**16**	**17**	**30.4**	**+0.6**
PIRO	**Carate, Puerto**	**1.85**	**108**	*e*P	**Pn**	**16**	**17**	**30.3**	**+0.6**
DRK0	**Durika**	**1.86**	**82**	*e*P	**Pn**	**16**	**17**	**30.7**	**+0.7**

IDC ***16*** *16:29:47.6±0.5, 14.°67N×55.°84E, h0km, mb4.2/26, mb1 4.3/27, mb1mx4.1/53, mbtmp4.2/27, ML3.7/1, MS4.1/69, Ms1 4.1/69, ms1mx4.0/86, Error ellipse: s-maj=13.3km s-min=12.4km az=118.0*

GCMT ***16*** *16:29:48.5±0.2, 14.°63N±0.°01×55.°48E±0.°02, h12km, MW5.0/111, Moment Tensor Solution. s47,c55; s111,c175; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.14±.08; Mθθ 3.53±.07; Mϕϕ -0.38±.09; Mrθ 1.78±.25; Mθϕ -0.74±.07; Mϕr 2.99±.30; Best double couple: Mo 4.71600×10^16 NP1:ϕ1 24.00000°, δ1 41.00000°, λ -39.00000°. NP2:ϕ2 46.00000°, δ2 66.00000°, λ -124.00000°. Principal axes: T 3.9750, Plg14.0000°, Azm360.0000°; N 1.4860, Plg30.0000°, Azm261.0000°; P -5.4560, Plg56.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***16*** *16:29:49.5±2.6, 14.°56N±0.°05×55.°7E±0.°1, h10km±1km, mb4.7/44 Error ellipse: s-maj=21.1km s-min=3.0km az=114.0*

MOS ***16*** *16:29:50.5±1.4, 14.°52N×55.°69E, h21km, mb4.8/70, MS4.0/5, Error ellipse: s-maj=8.4km s-min=4.8km az=104.5*

OMAN ***16*** *16:29:57.5±1.8, 14.°99N×55.°77E, h44km±33km, mb4.9/14, ml4.2/7, ms4.1/4, Mwp5.1/9, Error ellipse: s-maj=14.0km s-min=11.3km az=3.0*

ISC 16 16:29:50.1±0.4, 14.°66N±0.°05×55.°76E±0.°05, h10km, n296, σ2s09/283, mb4.6/121, MS4.1/73, 20C-9D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
SOCY	**Socotra**	**3.00**	**215**	Pn	Pn	16	30	31.2	-6.6
SOCY				Sn	Sn	16	31	00.0	-14
DMTO	**DMTO**	**3.14**	**346**	P	**Pn**	**16**	**30**	**38.1**	**-1.5**
	SNR=7.8								
DMTO				P	**Pn**	**16**	**30**	**38.1**	**-1.5**
	SNR=7.8								
DMTO				S	**Sn**	**16**	**31**	**13.8**	**-3.3**
	SNR=11								
DMTO				S	**Sn**	**16**	**31**	**13.8**	**-3.3**
	SNR=11								
RBK	**Rabkut**	**3.20**	**332**	P	**Pn**	**16**	**30**	**41.7**	**+1.3**
RBK				P	**Pn**	**16**	**30**	**41.7**	**+1.3**
RBK				S	**Sn**	**16**	**31**	**15.3**	**-3.4**
	SNR=9.3								
RBK				S	**Sn**	**16**	**31**	**15.3**	**-3.4**
	SNR=9.3								
SHAO	**Shalim**	**3.34**	**358**	P	**Pn**	**16**	**30**	**42.8**	**+0.3**
	SNR=51								
SHAO				P	**Pn**	**16**	**30**	**42.8**	**+0.3**
	SNR=51								
SHAO				S	**Sn**	**16**	**31**	**16.5**	**-5.8**
SHAO				S	**Sn**	**16**	**31**	**16.5**	**-5.8**
ABTO	**Aybut**	**3.57**	**319**	P	**Pn**	**16**	**30**	**44.7**	**-0.9**
	SNR=9.6								
ABTO				S	**Sn**	**16**	**31**	**24.9**	**-3.0**
WHFO	**Wadi Hawf**	**3.76**	**330**	P	**Pn**	**16**	**30**	**48.3**	**+0.1**
	SNR=21								
WHFO				P	**Pn**	**16**	**30**	**48.3**	**+0.1**
	SNR=21								
WHFO				S	**Sn**	**16**	**31**	**31.5**	**-1.1**
WHFO				S	**Sn**	**16**	**31**	**31.5**	**-1.1**
DOK	**Doka**	**4.23**	**339**	P	**Pn**	**16**	**30**	**55.6**	**+1.0**
	SNR=6.8								
DOK				P	**Pn**	**16**	**30**	**55.6**	**+1.0**
	SNR=6.8								
DOK				S	**Sn**	**16**	**31**	**41.4**	**-2.8**
DOK				S	**Sn**	**16**	**31**	**41.4**	**-2.8**
DQM	**DQM**	**5.51**	**18**	P	**Pn**	**16**	**31**	**11.1**	**-1.1**
DQM				S	**Sn**	**16**	**32**	**09.6**	**-6.1**
JMDO	**Jabal Madar**	**7.98**	**16**	P	**Pn**	**16**	**31**	**49.2**	**+3.0**
UMZA	**Um Al Zommool**	**8.03**	**356**	P	**Pn**	**16**	**31**	**49.7**	**+2.9**
UMZA				P	**Pn**	**16**	**31**	**49.7**	**+2.9**
UMZA				S	**Sn**	**16**	**33**	**18.6**	**+0.8**
UMZA				S	**Sn**	**16**	**33**	**18.6**	**+0.8**
BSY	**Bisya**	**8.16**	**9**	P	**Pn**	**16**	**31**	**47.9**	**-0.7**
BSY				S	**Sn**	**16**	**33**	**16.6**	**-4.3**
JLN	**Jalan Bani Buh**	**8.22**	**24**	P	**Pn**	**16**	**31**	**50.9**	**+1.5**
JLN				P	**Pn**	**16**	**31**	**50.9**	**+1.5**
JLN				S	**Sn**	**16**	**33**	**18.6**	**+0.8**
WBK	**Wadi Bani Khal**	**8.47**	**21**	P	**Pn**	**16**	**31**	**53.6**	**+0.6**
WBK				P	**Pn**	**16**	**31**	**53.6**	**+0.6**
MZR	**Muzera**	**8.57**	**346**	P	**Pn**	**16**	**31**	**53.1**	**-1.2**
	SNR=7.2								
SMDO	**Samad**	**8.63**	**14**	P	**Pn**	**16**	**31**	**55.8**	**+0.6**
	SNR=6.1								
SMDO				P	**Pn**	**16**	**31**	**55.8**	**+0.6**
	SNR=6.1								
SMDO				P	**Pn**	**16**	**31**	**55.8**	**+0.6**
	SNR=6.1								
ARQ	**Araqi**	**8.66**	**5**	P	**Pn**	**16**	**31**	**54.9**	**-0.6**
	SNR=6.3								
WSAR	**Wadi Sarin**	**8.96**	**17**	Pn	**Pn**	**16**	**31**	**58.6**	**-0.9**
	0.9nm,0.3s,baz=241,slow=14,SNR=7.4								
WSAR				LR	LR	16	35	26.2	
	comp=Z,3μm,18.4s,baz=220,slow=38								
HOQ	**Hoqain**	**8.99**	**9**	P	**Pn**	**16**	**31**	**59.7**	**-0.4**
BIDO	**Bidbid**	**9.09**	**14**	P	**Pn**	**16**	**32**	**04.5**	**+3.0**
MZWR	**Madinat Zayed**	**9.22**	**349**	P	**Pn**	**16**	**32**	**05.5**	**+2.3**
ALNE	**Al Ain**	**9.35**	**360**	P	**Pn**	**16**	**32**	**06.1**	**+1.1**
GHWR	**Ruwais**	**9.64**	**344**	P	**Pn**	**16**	**32**	**10.9**	**+2.0**
UOSS	**Minazif**	**10.24**	**2**	Pn	**Pn**	**16**	**32**	**15.5**	**-1.7**
JRN	**Qarnain Island**	**10.59**	**345**	P	**Pn**	**16**	**32**	**22.7**	**+0.8**
MASF	**Masafi**	**10.66**	**2**	P	**Pn**	**16**	**32**	**24.9**	**+2.0**
TRNA	**Turayna**	**10.90**	**338**	P	**Pn**	**16**	**32**	**26.4**	**+0.3**
BANOM	**Banah**	**11.22**	**3**	P	**Pn**	**16**	**32**	**32.8**	**+2.2**
ATD	**Arta Tunnel**	**12.95**	**258**	LR	LR	16	36	33.4	
	comp=Z,1μm,21.6s,baz=90,slow=31								
HRA	**Herat**	**20.50**	**15**	P	**P**	**16**	**34**	**28.7**	**+0.2**
HRA				IAmb	IAmb	16	34	40.4	
	comp=Z,53nm,1.5s								
JAWL	**J.Aulia**	**22.48**	**274**	*i* P	P	16	34	57.8	+7.9
JAWL				AMP		16	35	05.0	
	comp=N,40nm,1.8s								
MRWI	**Hamdab**	**23.02**	**283**	*i* P	**P**	**16**	**34**	**51.3**	**-4.3**
MRWI				*i*		16	34	59.4	
	baz=323,slow=5.1								
KBL	**Kabul**	**23.14**	**29**	P	**P**	**16**	**34**	**58.5**	**+1.7**
KBL				pmax	pmax				
	comp=Z,27nm,1.2s								
KBL	**Kabul**	**23.14**	**29**	P	**P**	**16**	**34**	**58.5**	**+1.7**
KBL				IAmb	IAmb	16	35	06.2	
	comp=Z,27nm,1.2s								
KBL	**Kabul**	**23.14**	**29**	P	**P**	**16**	**35**	**00.5**	**+3.7**
	SNR=16								
GEYT	**Alibeck**	**23.27**	**5**	P	**P**	**16**	**34**	**56.5**	**-1.3**
	comp=Z,9.5nm,0.8s,baz=198,slow=14,SNR=17								
GEYT				LR	LR	16	46	11.6	
	comp=Z,331nm,18.2s,baz=192,slow=42								
GEYT	**Alibeck**	**23.27**	**5**	P	**P**	**16**	**34**	**57.2**	**-0.6**
GEYT				IAmb	IAmb	16	35	21.6	
	comp=Z,29nm,1.4s								
GYA0	**ALIBECK ARRAY**	**23.27**	**5**	P	**P**	**16**	**34**	**57.8**	**-0.1**
GYA0				pmax	pmax				
	comp=Z,31nm,1.2s								
GYA0B	**ALIBECK ARRAY**	**23.27**	**5**	P	**P**	**16**	**34**	**57.8**	**-0.1**
GYA0B				IAmb	IAmb	16	35	21.6	
	comp=Z,31nm,1.2s								
KMBO	**Kilima Mbogo**	**24.11**	**231**	P	**P**	**16**	**35**	**07.7**	**+1.1**
	comp=Z,11nm,1.1s,baz=39,slow=11,SNR=14								
KMBO				LR	LR	16	44	13.6	
	comp=Z,844nm,20.4s,baz=88,slow=36								
KMBO	**Kilima Mbogo**	**24.11**	**231**	P	**P**	**16**	**35**	**04.7**	**-1.8**
KMBO				pmax	pmax				
	comp=Z,28nm,1.2s								
KMBO	**Kilima Mbogo**	**24.11**	**231**	P	**P**	**16**	**35**	**04.7**	**-1.8**
KMBO				IAmb	IAmb	16	35	14.9	
	comp=Z,28nm,1.2s								
EIL	**Elat**	**24.32**	**311**	P	**P**	**16**	**35**	**08.0**	**0.0**
	comp=Z,4.5nm,1.0s,baz=60,slow=12,SNR=3.3								
EIL				LR	LR	16	45	11.2	
	comp=Z,554nm,18.9s,baz=104,slow=38								
KIBK	**Kibwezi**	**24.35**	**227**	P	**P**	**16**	**35**	**09.8**	**+1.2**
KIBK				IAmb	IAmb	16	35	16.5	
	comp=Z,27nm,1.1s								
KIBK	**Kibwezi**	**24.35**	**227**	P	**P**	**16**	**35**	**10.7**	**+2.2**
	SNR=11								
NIL	**Nilore**	**24.67**	**37**	P	**P**	**16**	**35**	**13.2**	**+2.

AKTO Aktyubinsk 35.73 2 LR LR 16 54 17.7
comp=Z,279nm,18.6s,baz=173,slow=41

ALN Alexandroupoli 36.75 321 P **P** **16 36 57.1 -0.6**
ALN pmax pmax
comp=Z,6.0nm,1.1s

ALN Alexandroupoli 36.75 321 P **P** **16 36 57.1 -0.6**
TPGR Topolog 37.97 328 ⇓P **P** **16 37 11.3 +3.2**
AGG Agios Georgios 38.10 316 P **P** **16 37 10.9 +1.7**
AGG pmax pmax
comp=Z,9.0nm,1.4s

BELG Belogornoye 38.20 352 LR LR 16 57 29.0
comp=Z,358nm,19.6s,baz=162,slow=44

BELG Belogornoye 38.20 352 *i* P **P** **16 37 13.2 +3.4**
BELG pmax pmax
comp=Z,5.0nm,1.3s

SRS Serrai 38.39 320 P **P** **16 37 13.7 +2.1**
SRS pmax pmax
comp=Z,7.0nm,1.3s

MK31 Makanchi Array 38.95 29 P **P** **16 37 15.8 -0.5**
MK31 pmax pmax
comp=Z,6.0nm,1.2s

MK31 Makanchi Array 38.95 29 P **P** **16 37 15.8 -0.5**
MKAR Makanchi Array 38.95 29 P **P** **16 37 14.7 -1.6**
comp=Z,0.4nm,0.4s,baz=214,slow=8.1,SNR=4.5

MKAR LR LR 16 55 44.6
comp=Z,322nm,19.9s,baz=222,slow=40

MKAR Makanchi Array 38.95 29 P **P** **16 37 17.3 +1.0**
MKAR pmax pmax
comp=Z,16nm,0.6s

MKAR Makanchi Array 38.95 29 P **P** **16 37 16.9 +0.6**
VTS Vitosha 39.46 321 ⇓P **P** **16 37 23.2 +2.5**
VTS Vitosha 39.46 321 ⇓P **P** **16 37 23.2 +2.5**
VTS Vitosha 39.46 321 P **P** **16 37 21.4 +0.6**
VRI Vrincioaia 39.53 328 ⇑P P 16 37 28.6 +7.5
VRI Vrincioaia 39.53 328 ⇑P P 16 37 28.6 +7.5
PLOR Plostina 39.56 328 ⇑P **P** **16 37 24.1 +2.7**
PLOR Plostina 39.56 328 ⇑P **P** **16 37 24.2 +2.7**
MLR Muntele Rosu 39.69 327 ⇑P **P** **16 37 26.2 +3.6**
MLR Muntele Rosu 39.69 327 ⇑P **P** **16 37 26.2 +3.6**
MLR Muntele Rosu 39.69 327 P **P** **16 37 24.1 +1.5**
MLR IAmb IAmb 16 37 36.2
comp=Z,17nm,1.4s

WMQ Urumqi 39.82 37 *eP* **P** **16 37 25.8 +2.1**
WMQ LR LR
comp=N,230nm,25.1s

WMQ LR LR
comp=Z,300nm,25.1s

BRVK Borovoye 40.00 14 *ceP* **P** **16 37 26.4 +1.5**
BRVK pmax pmax
comp=Z,5.0nm,1.0s

BRVK Borovoye 40.00 14 P **P** **16 37 23.4 -1.5**
TESR Tescani 40.01 328 ⇑P **P** **16 37 24.7 -0.4**
DOPR Dopca 40.30 327 ⇑P **P** **16 37 32.0 +4.4**
ARR Arges 40.32 326 ⇓P **P** **16 37 31.2 +3.4**
KURBB Kurchatov Arra 40.33 22 P **P** **16 37 27.1 -0.6**
comp=Z,3.0nm,1.0s,baz=223,slow=8.1,SNR=20

KURBB LR LR 16 55 29.0
comp=Z,255nm,21.1s,baz=201,slow=38

SORM Soroca 40.33 332 ⇑P **P** **16 37 28.4 +0.7**
SORM Soroca 40.33 332 ⇑P **P** **16 37 28.4 +0.7**
LSZ Lusaka 40.34 224 P **P** **16 37 26.7 -1.6**
comp=Z,2.4nm,0.3s,baz=270,slow=4.5,SNR=3.5

LSZ LR LR 16 55 00.9
comp=Z,619nm,19.9s,baz=47,slow=38

BLKB Belogradchik 40.37 322 ⇑P **P** **16 37 24.6 -3.6**
KURK Kurchatov 40.44 22 *ceP* **P** **16 37 31.4 +2.8**
KURK pmax pmax
comp=Z,10.0nm,1.7s

KURK Kurchatov 40.44 22 P **P** **16 37 28.9 +0.4**
HERR Herculane 41.26 324 ⇑P **P** **16 37 35.2 -0.3**
CM31 Chiang Mai Arr 41.50 79 P **P** **16 37 37.9 +0.1**
CMAR Chiang Mai Arr 41.50 79 P **P** **16 37 37.9 +0.1**
comp=Z,1.8nm,0.8s,baz=275,slow=8.7,SNR=14

CMAR LR LR 16 55 34.5
comp=Z,76nm,19.5s,baz=260,slow=37

CMAR Chiang Mai Arr 41.50 79 P **P** **16 37 37.8 0.0**
MDVR Moldovita 41.61 323 ⇑P P 16 37 26.2 -12
ARU Arti 41.74 2 LR LR 16 57 56.5
comp=Z,142nm,19.6s,baz=177,slow=40

ARU Arti 41.74 2 *d* / P **P** **16 37 39.9 +0.7**
ARU 16 39 13.9
ARU S **S** **16 43 57.5 +1.3**
ARU SS **SS** **16 46 55.8 -6.1**
ARU pmax pmax
comp=Z,12nm,1.7s

ARU MLR MLR
comp=Z,205nm,22.0s

ARU Arti 41.74 2 P **P** **16 37 36.9 -2.3**
ARU IAmb IAmb 16 37 46.3
comp=Z,16nm,1.4s

AKASG Malin Array Be 41.86 335 P **P** **16 37 39.4 -0.9**
comp=Z,0.3nm,0.3s,baz=146,slow=6.7,SNR=2.3

BZS Buzias 42.15 324 ⇓P **P** **16 37 44.5 +1.8**
BZS Buzias 42.15 324 ⇓P **P** **16 37 44.5 +1.8**
SVE Sverdlovsk 42.25 4 *eP* **P** **16 37 44.4 +1.1**
SVE pmax pmax
comp=Z,15nm,1.4s

OBN Obninsk 43.03 344 *ceP* **P** **16 37 50.1 +0.5**
OBN pmax pmax
comp=Z,38nm,2.5s

MOS Moscow 43.31 345 *eP* **P** **16 37 51.1 -0.9**
MATP Matopo 43.97 218 P **P** **16 37 58.2 +0.3**
comp=Z,14nm,1.1s,baz=34,slow=9.5,SNR=9.0

KIRV Kirov 44.10 355 LR LR 17 01 03.3
comp=Z,245nm,18.2s,baz=172,slow=42

KIRV Kirov 44.10 355 *ceP* **P** **16 37 59.7 +1.4**
PSI Prapat 44.17 101 P **P** **16 37 57.4 -2.2**
comp=Z,7.5nm,1.1s,baz=185,slow=4.6,SNR=2.5

PSI LR LR 16 54 50.5
comp=Z,339nm,18.1s,baz=262,slow=34

MORH Mrgy, Hungar 44.20 323 ⇓P **P** **16 38 01.1 +1.8**
MORH Mrgy, Hungar 44.20 323 P **P** **16 38 01.4 +2.1**
PZH PanZhiHua 44.42 67 P **P** **16 38 03.1 +1.6**
PZH pmax pmax
comp=Z,8.0nm,0.9s

PZH pmax pmax
comp=Z,100nm,4.5s

CSKK Cskako 45.05 324 P **P** **16 38 09.2 +3.1**
MNK Minsk 45.31 337 *i* P **P** **16 38 04.1 -3.8**
MNK *i* 16 39 50.3
MNK *i* S **S** **16 44 45.7 -2.7**
MNK *i* SS **SS** **16 48 10.3 -1.0**
MNK *i* SSS SSS 16 49 00.8
MNK pmax pmax
comp=N,13nm,0.9s

MNK pmax pmax
comp=E,3.0nm,0.7s

MNK pmax pmax
comp=Z,18nm,0.8s

MNK MLR MLR
comp=N,78nm,16.0s

MNK MLR MLR
comp=Z,181nm,23.0s

MNK MLR MLR
comp=E,26nm,19.0s

MNK Minsk 45.31 337 *i* P **P** **16 38 04.1 -3.8**
comp=E,3.0nm,0.7s

MNK *i* P **P** **16 38 04.1 -3.8**
comp=N,13nm,0.9s

MNK *i* P **P** **16 38 04.1 -3.8**
comp=Z,18nm,0.8s,baz=321

MNK *i* PP **PcP** **16 39 50.4 +2.8**
MNK *i* PPP PPP 16 40 29.2
MNK *i* S **S** **16 44 45.8 -2.7**
MNK *i* SS **SS** **16 48 10.4 -1.0**
MNK *i* SSS SSS 16 49 00.8
MNK *i* LQ LQ 16 54 04.6
MNK *i* LR LR 16 57 14.4
MNK *i* LRM MLR 16 58 50.5
comp=N,78nm,15.9s

MNK *i* LRM MLR 16 59 09.7
comp=Z,181nm,23.0s

MNK *i* LRM MLR 16 59 12.2
comp=E,26nm,18.5s

ZAA0 Zalesovo Array 45.34 24 P **P** **16 38 06.3 -1.9**
ZAA0 IAmb IAmb 16 38 13.9
comp=Z,5.7nm,0.9s

ZALV Zalesovo Beam 45.34 24 P **P** **16 38 06.2 -2.0**
comp=Z,2.7nm,0.8s,baz=222,slow=9.0,SNR=12

ZALV LR LR 16 59 34.2
comp=Z,266nm,19.5s,baz=222,slow=39

ZALV Zalesovo Beam 45.34 24 *i* P **P** **16 38 07.8 -0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.8s

NACGM Naroch 46.02 337 *eP* **P** **16 38 15.7 +2.0**

RONA Rosalia, Austr 46.35 324 *eP* **P** **16 38 18.7 +2.2**
comp=Z,9.4nm,1.1s

KEST Kesra 46.44 306 LR LR 16 59 15.5
comp=Z,100nm,18.3s,baz=252,slow=38

ARSA Arzberg 46.57 323 *eP* **P** **16 38 19.3 +1.2**
comp=Z,9.6nm,1.5s

SOKA Soboth 46.57 322 *eP* **P** **16 38 20.2 +2.0**
comp=Z,8.7nm,1.1s

CONA Conrad Observa 46.72 324 *eP* **P** **16 38 20.4 +1.0**
comp=Z,10nm,1.2s

OBKA Obir 46.78 321 *eP* **P** **16 38 23.1 +3.2**
comp=Z,9.8nm,1.1s

KRUC Moravsky 47.03 325 P P 16 38 26.8 +5.2
VRAC Vranov 47.05 326 LR LR 17 01 41.8
comp=Z,107nm,18.1s,baz=114,slow=41

MYKA Terra Mystica 47.39 321 *eP* **P** **16 38 24.9 +0.3**
comp=Z,15nm,1.0s

PRGR Permogore 47.47 353 *eP* **P** **16 38 23.0 -1.8**
PRGR pmax pmax
comp=Z,16nm,1.4s

MOA Molln 47.61 323 *eP* **P** **16 38 26.6 +0.4**
comp=Z,5.2nm,1.0s

KLMR Klimovskoe 47.61 349 *eP* **P** **16 38 24.6 -1.3**
KLMR pmax pmax
comp=Z,30nm,1.4s

KLMR Klimovskoe 47.61 349 *eP* **P** **16 38 24.7 -1.2**
KLMR AMP 16 38 35.7
comp=Z,30nm,1.4s

KBA Koelnbreinsper 47.78 322 *eP* **P** **16 38 29.4 +1.7**
comp=Z,7.8nm,1.0s

KBA Koelnbreinsper 47.78 322 P **P** **16 38 30.1 +2.3**
KBA pmax pmax
comp=Z,9.0nm,1.2s

BIOA Bad Ischl, Aus 47.90 322 *eP* **P** **16 38 30.2 +1.7**
comp=Z,9.4nm,1.1s

KSP Ksiaz 48.07 327 P **P** **16 38 34.2 +4.5**
KSP pmax pmax
comp=Z,6.0nm,2.1s

ABTA Abfaltersbach 48.13 321 *eP* **P** **16 38 31.6 +1.2**
comp=Z,5.2nm,1.3s

GERES GERESS Array B 48.43 324 P **P** **16 38 30.3 -2.4**
comp=Z,0.1nm,0.3s,baz=145,slow=11,SNR=1.6

GERES LR LR 17 01 20.2
comp=Z,95nm,18.6s,baz=97,slow=39

GERES GERESS Array B 48.43 324 P **P** **16 38 33.8 +1.2**
GERES GERESS Array B 48.43 324 P **P** **16 38 33.8 +1.2**
KHC Kasperske Hory 48.64 324 *eP* **P** **16 38 30.5 -3.7**
KHC Kasperske Hory 48.64 324 *eP* **P** **16 38 30.5 -3.7**
WTTA Wattenberg 48.90 321 *eP* **P** **16 38 36.2 -0.2**
comp=Z,13nm,1.0s

WTTA Wattenberg 48.90 321 P **P** **16 38 37.2 +0.8**
WTTA pmax pmax
comp=Z,16nm,1.1s

WATA Walderalm 48.97 321 *eP* **P** **16 38 36.2 -0.7**
comp=Z,15nm,1.5s

SQTA Sankt Quirin 49.14 321 *eP* **P** **16 38 39.2 +1.0**
comp=Z,5.9nm,0.7s

LBTB Lobatse 49.20 217 LR LR 16 57 35.0
comp=Z,369nm,21.2s,baz=36,slow=34

LBTB Lobatse 49.20 217 P **P** **16 38 39.2 +0.5**
MOTA Moosalm 49.26 321 *eP* **P** **16 38 39.8 +0.6**
comp=Z,9.1nm,0.9s

FETA Feichten 49.35 320 *eP* **P** **16 38 41.0 +1.2**
comp=Z,9.3nm,1.0s

RETA Reutte 49.53 321 *i* P **P** **16 38 41.6 +0.4**
comp=Z,4.9nm,1.1s

DAVOX Davos/Dischmat 49.77 320 LR LR 17 01 52.3
comp=Z,111nm,19.4s,baz=83,slow=39

DAVA Damuels 49.99 320 *eP* **P** **16 38 45.6 +0.9**
comp=Z,12nm,1.0s

CLL Collm 50.07 326 *eS* **S** **16 45 58.0 +1.8**
CLL *e*SSS SSS 16 51 00.0
CLL LmV 17 03 00.0
comp=Z,100nm,19.8s

CLL LmH 17 04 00.0
comp=N,200nm,20.1s

CLL LmH 17 04 00.0
comp=E,100nm,20.6s

TSUM Tsumeb 50.44 229 LR LR 17 00 25.2
comp=E,813nm,20.1s,baz=44,slow=36

FRF La Foret Royal 50.71 315 *eP* **P** **16 38 50.5 +0.5**
FRF pmax pmax
comp=Z,15nm,1.2s

LMR La Mourre 50.73 314 *eP* **P** **16 38 50.7 +0.6**
LMR pmax pmax
comp=Z,31nm,1.2s

MBDF Montbardon 51.01 316 *eP* **P** **16 38 54.3 +1.8**
MBDF pmax pmax
comp=Z,5.0nm,0.8s

SENIN Lac Senin/Sane 51.25 318 P **P** **16 38 55.8 +1.5**
SENIN IAmb IAmb 16 39 01.5
comp=Z,5.4nm,0.8s

LPG La Plagne 51.29 317 *eP* **P** **16 38 54.6 -0.1**
LPG pmax pmax
comp=Z,10.0nm,0.7s

LPL La Plagne 51.31 317 *eP* **P** **16 38 54.7 -0.1**
LPL pmax pmax
comp=Z,10.0nm,0.8s

FINES FINESS Array B 51.35 342 P **P** **16 38 54.0 -0.5**
comp=Z,2.3nm,0.8s,baz=145,slow=7.0,SNR=9.2

FINES LR LR 17 03 19.0
comp=Z,217nm,20.8s,baz=154,slow=39

FINES FINESS Array B 51.35 342 *i* P **P** **16 38 55.2 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.8s

FINES FINESS Array B 51.35 342 P **P** **16 38 53.9 -0.6**
BFO Black Forest 51.37 321 P **P** **16 38 54.3 -0.7**
BFO pmax pmax
comp=Z,9.0nm,1.2s

BFO Black Forest 51.37 321 P **P** **16 38 54.3 -0.7**
BFO IAmb IAmb 16 38 57.3
comp=Z,9.6nm,1.2s

ORIF Oris-en-Rattie 51.67 316 *eP* **P** **16 38 59.5 +2.1**
ORIF pmax pmax
comp=Z,12nm,1.3s

CABF La Chapelle 52.12 318 *eP* **P** **16 39 02.2 +1.6**
CABF pmax pmax
comp=Z,22nm,1.2s

BOSA Boshof 52.17 214 P **P** **16 39 00.1 -1.1**
comp=Z,10nm,1.0s,baz=42,slow=7.8,SNR=8.7

BOSA LR LR 17 01 52.0
comp=Z,340nm,18.8s,baz=32,slow=37

BOSA Boshof 52.17 214 P **P** **16 39 01.6 +0.4**
BOSA pmax pmax
comp=Z,16nm,1.1s

BOSA Boshof 52.17 214 P **P** **16 39 01.6 +0.4**
BOSA IAmb IAmb 16 39 03.8
comp=Z,16nm,1.1s

TORD Torodi Ar. Bea 52.40 275 P **P** **16 39 02.7 -0.4**
comp=Z,3.8nm,1.1s,baz=94,slow=9.4,SNR=16

TORD PcP **PcP** **16 40 14.2 +0.2**
comp=Z,1.2nm,0.8s,baz=77,slow=3.9,SNR=4.2

TORD LR LR 16 59 52.3
comp=Z,188nm,21.1s,baz=219,slow=34

TORD Torodi Ar. Bea 52.40 275 P **P** **16 39 01.3 -1.8**
TORD IAmb IAmb 16 39 04.4
comp=Z,8.0nm,1.2s

SSB Saint Sauveur 52.69 316 P **P** **16 39 05.5 +0.7**
SSB pmax pmax
comp=Z,14nm,1.8s

SONM Songino Array 53.17 41 P **P** **16 39 06.4 -2.1**
comp=Z,0.9nm,0.8s,baz=246,slow=7.1,SNR=5.3

SONM PcP **PcP** **16 40 15.0 -1.5**
comp=Z,0.6nm,0.7s,baz=241,slow=4.8,SNR=2.4

SONM LR LR 17 04 32.0
comp=Z,135nm,19.0s,baz=259,slow=39

ULN Ulaanbaatar 53.60 41 *i* P **P** **16 39 11.8 +0.2**
ULN pmax pmax
comp=Z,9.0nm,2.5s

LOR Lormes 53.78 318 P **P** **16 39 13.0 +0.2**
LOR pmax pmax
comp=Z,13nm,1.0s

SSF Saint Saulge 53.94 318 *eP* **P** **16 39 13.9 -0.1**
SSF pmax pmax
comp=Z,6.0nm,0.8s

AVF Avril sur Loir 53.95 318 *eP* **P** **16 39 13.7 -0.3**
AVF pmax pmax
comp=Z,5.0nm,0.9s

BGF Bois d'Agland 54.21 317 *eP* **P** **16 39 16.3 +0.3**
BGF pmax pmax
comp=Z,9.0nm,0.8s

MSF Maaselka 54.25 347 P **P** **16 39 17.5 +1.6**
MSF pmax pmax
comp=Z,19nm,1.6s

BAIF Baives 54.53 322 *eP* **P** **16 39 19.7 +1.5**
BAIF pmax pmax
comp=Z,14nm,1.1s

TCF Toulx Ste Croi 54.55 317 *eP* **P** **16 39 18.5 0.0**
TCF pmax pmax
comp=Z,5.0nm,0.9s

HFS Hagfors 54.73 336 LR LR 17 07 34.5
comp=Z,158nm,19.3s,baz=134,slow=41

HHC Hu-ho-hao-te 54.80 50 *eP* **P** **16 39 21.8 +1.3**
HHC pmax pmax
comp=Z,17nm,0.8s

HHC pmax pmax
comp=Z,140nm,5.8s

HHC LR LR
comp=N,220nm,18.0s

HHC LR LR
comp=E,380nm,20.8s

HHC LR LR
comp=Z,480nm,20.4s

LFF La Frestale 55.17 315 *eP* **P** **16 39 24.1 +1.2**
LFF pmax pmax
comp=Z,13nm,1.3s

ETSF Etsaut 55.59 312 *eP* **P** **16 39 26.2 +0.1**
ETSF pmax pmax
comp=Z,10.0nm,1.1s

LEM Lembang 55.68 109 LR LR 17 00 59.3
comp=Z,196nm,18.2s,baz=335,slow=34

SJPF Ste Jean 56.12 312 *eP* **P** **16 39 30.0 +0.2**
SJPF pmax pmax
comp=Z,17nm,1.3s

NOA NORSAR Array B 56.26 336 LR LR 17 08 29.4
comp=Z,132nm,19.0s,baz=120,slow=41

GRR Gorron 57.15 319 *eP* **P** **16 39 39.0 +2.0**
GRR pmax pmax
comp=Z,43nm,1.8s

MDT Midelt 57.41 300 LR LR 17 06 18.1
comp=Z,233nm,18.4s,baz=150,slow=38

SUR Sutherland 57.50 215 LR LR 17 01 51.8
comp=Z,263nm,21.8s,baz=36,slow=33

ESDC Sonseca Array 57.55 308 P **P** **16 39 39.8 -0.3**
comp=Z,7.8nm,1.0s,baz=86,slow=6.2,SNR=33

PAB San Pablo 57.83 308 P **P** **16 39 41.4 -0.7**
PAB pmax pmax
comp=Z,11nm,1.3s

ARCES ARCESS Array B 58.03 348 P **P** **16 39 42.3 -0.6**
comp=Z,6.0nm,1.1s,baz=140,slow=5.7,SNR=10.0

ARCES LR LR 17 08 25.6
comp=Z,288nm,20.1s,baz=149,slow=40

NRIK Noril'sk 58.19 13 P **P** **16 39 42.9 -1.1**
comp=Z,0.6nm,0.3s,baz=207,slow=3.9,SNR=1.7

NRIK LR LR 17 07 21.4
comp=Z,200nm,21.7s,baz=222,slow=39

NRIK Noril'sk 58.19 13 *i* P **P** **16 39 48.3 +4.3**
NRIK pmax pmax
comp=Z,4.0nm,1.1s

NJ2 Nanjing 59.69 61 *eP* **P** **16 39 54.6 -0.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s

DBIC Dimbokro 59.95 269 LR LR 17 06 30.1
comp=Z,64nm,18.9s,baz=88,slow=37

BBKI Banjar Baru 61.23 102 P **P** **16 40 03.7 -2.2**
comp=Z,10.0nm,0.8s

KAPI Kappang 66.36 102 LR LR 17 07 34.6
comp=Z,58nm,19.3s,baz=270,slow=34

SPITS Spitsbergen Ar 66.40 352 LR LR 17 15 45.5
comp=Z,152nm,18.7s,baz=159,slow=42

KSRS Korea Array 67.16 55 LR LR 17 12 20.5
comp=Z,109nm,18.5s,baz=270,slow=38

ZEA Zeya 67.37 38 *eP* **P** **16 40 49.2 +3.8**
JMIC Jan Mayen 67.95 341 LR LR 17 12 24.2
comp=Z,74nm,20.9s,baz=88,slow=38

DAV Davao City (W) 68.77 88 LR LR 17 10 39.0
comp=Z,44nm,20.5s,baz=325,slow=36

YAK Yakutsk 69.63 29 LR LR 17 13 33.7
comp=Z,136nm,21.7s,baz=296,slow=38

YAK Yakutsk 69.63 29 *i* P **P** **16 41 01.9 +2.5**
YAK pmax pmax
comp=Z,7.0nm,1.0s

KLR Kul'dur 69.91 43 P **P** **16 41 01.4 -0.1**
comp=Z,0.8nm,0.7s,baz=268,slow=23,SNR=1.8

KLR LR LR 17 14 19.2
comp=Z,173nm,21.6s,baz=270,slow=38

KLR Kul'dur 69.91 43 *i* P **P** **16 41 03.6 +2.2**
KLR pmax pmax
comp=Z,3.0nm,1.0s

TIXI Tiksi 70.88 19 LR LR 17 16 22.7
comp=Z,314nm,18.0s,baz=192,slow=40

TIXI Tiksi 70.88 19 *i* P **P** **16 41 10.4 +3.5**
TIXI pmax pmax
comp=Z,5.0nm,1.1s

TIXI Tiksi 70.88 19 P **P** **16 41 06.4 -0.5**
BORG Borgarnes 71.34 334 LR LR 17 17 05.0
comp=Z,36nm,19.1s,baz=94,slow=40

DBG Daneborg 72.19 344 *i* P **P** **16 41 15.4 +0.6**
DBG IAmb IAmb 16 41 23.2
comp=Z,2.2nm,1.1s

DAG Danmarks Havn 72.26 347 P **P** **16 41 15.7 +0.5**
DAG pmax pmax
comp=Z,10.0nm,1.1s

DAG Danmarks Havn 72.26 347 *i* P **P** **16 41 15.0 -0.2**
DAG IAmb IAmb 16 41 21.6
comp=Z,3.2nm,0.9s

H01W3 Cape Leeuwin H 74.10 133 T T 18 02 17.9
baz=302,slow=75,SNR=32

H01W2 Cape Leeuwin H 74.11 133 T T 18 02 11.2
baz=302,slow=75,SNR=30

H01W1 Cape Leeuwin H 74.12 133 T T 18 02 13.1
baz=302,slow=75,SNR=26

MJAR Matsushiro Arr 75.44 56 LR LR 17 15 17.9
comp=Z,95nm,21.8s,baz=287,slow=36

FITZ Fitzroy Crossi 76.18 113 P **P** **16 41 37.5 -1.5**
baz=278,slow=7.1

FITZ LR LR 17 08 11.5
comp=Z,71nm,21.0s,baz=285,slow=30

SIJI Sorong 76.21 95 LR LR 17 17 26.7
comp=Z,26nm,18.2s,baz=238,slow=38

ASAJ Asahikawa 77.71 47 LR LR 17 17 14.6
comp=Z,102nm,22.0s,baz=328,slow=37

ICESG Greenland Ices 78.34 339 *i* P **P** **16 41 53.4 +2.6**
ICESG IAmb IAmb 16 42 02.4
comp=Z,3.3nm,0.8s

MA2 Magadan 80.01 31 LR LR 17 20 31.6
comp=Z,174nm,19.9s,baz=285,slow=38

SEY Seymchan 80.06 27 LR LR 17 20 15.2
comp=Z,171nm,21.5s,baz=293,slow=38

SEY Seymchan 80.06 27 *i* P **P** **16 42 03.6 +3.8**
SEY pmax pmax
comp=Z,26nm,3.8s

JCJ Chichijima 80.35 64 P **P** **16 42 00.7 -1.4**
comp=Z,58nm,0.7s,baz=275,slow=18,SNR=1.6

DY2G Dye2 81.41 337 *i* P **P** **16 42 06.4 -0.9**
DY2G IAmb IAmb 16 42 14.0
comp=Z,3.7nm,0.6s

MAW Mawson 82.20 177 LR LR 17 09 28.2
comp=Z,164nm,21.4s,baz=346,slow=29

SFJD Kangerlussuaq 82.88 338 LR LR 17 21 42.2
comp=Z,132nm,19.2s,baz=58,slow=38

EUNU Eureka 83.41 354 P **P** **16 42 17.9 +0.6**
EUNU IAmb IAmb 16 42 24.1
comp=Z,6.5nm,1.1s

BILL Bilibino 83.95 21 *eP* **P** **16 42 20.1 0.0**
BILL *eS* **S** **16 52 42.0 -1.8**
BILL *e*SS SS 16 58 21.6 +11
WRA Warramunga Arr 84.55 112 P **P** **16 42 22.0 -2.1**
comp=Z,3.2nm,0.9s,baz=299,slow=4.1,SNR=19

WRA Warramunga Arr 84.55 112 P **P** **16 42 22.4 -1.7**
WRAB Tennant Creek 84.56 112 *i* P **P** **16 42 23.2 -0.9**
WRAB pmax pmax
comp=Z,6.0nm,1.2s

WB2 Warramunga Arr 84.56 112 P **P** **16 42 21.6 -2.5**
WB2 IAmb IAmb 16 42 23.5
comp=Z,8.1nm,1.1s

ASAR Alice Springs 85.30 116 P **P** **16 42 25.9 -1.9**
comp=Z,3.3nm,1.0s,baz=288,slow=4.8,SNR=20

ASAR LR LR 17 15 06.0
comp=Z,63nm,20.3s,baz=299,slow=32

ASAR Alice Springs 85.30 116 P **P** **16 42 24.2 -3.6**
PETK Petropavlovsk- 85.42 36 LR LR 17 24 37.8
comp=Z,99nm,18.4s,baz=276,slow=38

RES Resolute Bay 88.95 353 LR LR 17 28 07.2
comp=Z,128nm,20.4s,baz=60,slow=39

FRB Frobisher Bay 90.99 338 LR LR 17 27 24.5
comp=Z,101nm,18.1s,baz=28,slow=38

RCBR Riachuelo 93.05 265 LR LR 17 23 01.1
comp=Z,28nm,18.5s,baz=227,slow=34

PMG Port Moresby 93.68 99 LR LR 17 27 55.4
comp=Z,25nm,19.5s,baz=252,slow=37

STKA Stephens Creek 94.15 122 LR LR 17 20 06.0
comp=Z,125nm,21.4s,baz=213,slow=32

SHEM	**Shemya Is, Ala**	**94.58**	**32**	LR	LR	17 30 05.7		
	comp=Z,90nm,18.5s,baz=214,slow=38							
CTA	**Charters Tower**	**95.38**	**109**	LR	LR	17 21 52.8		
	comp=Z,63nm,21.2s,baz=258,slow=33							
SCHQ	**Schefferville**	**95.54**	**331**	LR	LR	17 29 31.2		
	comp=Z,38nm,18.9s,baz=80,slow=38							
INK	**Inuvik**	**96.99**	**3**	LR	LR	17 33 16.8		
	comp=Z,70nm,19.3s,baz=337,slow=39							
ILAR	**Eielson Array**	**98.95**	**10**	PP	**PP**	**16 47 31.0**	**-0.6**	
	comp=Z,0.3nm,0.8s,baz=335,slow=6.2,SNR=2.1							
ILAR				LR	LR	17 34 38.7		
	comp=Z,94nm,19.0s,baz=356,slow=39							
YKA	**Yellowknife Ar**	**102.72**	**355**	PP	PKiKP	16 47 59.4	-8.7	
	comp=Z,0.9nm,1.1s,baz=5.2,slow=7.4,SNR=4.7							
PDAR	**Pinedale Array**	**121.28**	**347**	PKP	**PKPdf**	**16 48 42.8**	**-1.3**	
	comp=Z,0.5nm,0.8s,baz=198,slow=0.5,SNR=4.9							
NVAR	**Mina Array Bea**	**126.90**	**354**	PKP	**PKPdf**	**16 48 54.6**	**-0.4**	
	comp=Z,1.5nm,0.9s,baz=21,slow=1.0,SNR=6.7							
TXAR	**Lajitas Array**	**131.96**	**336**	PKP	**PKPdf**	**16 49 03.7**	**-1.0**	
	comp=Z,0.3nm,0.7s,baz=211,slow=1.1,SNR=3.6							

*IDC **16** 16:37:14.1±1.2,32.°84N×130.°71E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.2/49, mbtmp3.6/6, ML3.0/3, Error ellipse: s-maj=18.8km s-min=8.0km az=120.0*
*JMA **16** 16:37:15.3, 32.°87N×130.°86E, h11km±1km, M3.4*
JMA Felt III J1.

ISC 16 16:37:15.8±0.8, 32.°86N±0.°03×130.°84E±0.°06, h12km, n11, σ0.°99/16, mb3.5/3, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.27**	**7**	Pg	**Pg**	**16 37 20.3**	**-1.1**
	1μm,0.3s,baz=204,slow=20,SNR=211						
JNU				Lg	Lg	16 37 24.3	
	3μm,0.3s,baz=54,slow=21,SNR=149						
JNU	**Nakatsue**	**0.27**	**7**	P	**Pg**	**16 37 20.7**	**-0.7**
JNU				S	**Sg**	**16 37 24.4**	**-0.7**
JTA	**Tamana**	**0.28**	**293**	P	**Pg**	**16 37 21.2**	**-0.4**
JTA				*e*S	**Sg**	**16 37 25.4**	**-0.1**
JIU3	**Izumi3**	**0.31**	**185**	P	**Pg**	**16 37 21.9**	**-0.2**
JIU3				*e*S	**Sg**	**16 37 26.6**	**+0.4**
JTZ	**Takazaki**	**0.97**	**168**	P	**Pb**	**16 37 34.3**	**-0.3**
JTZ				S	**Sg**	**16 37 47.3**	**0.0**
KSRS	**Korea Array**	**5.17**	**333**	Pn	**Pn**	**16 38 32.9**	**-0.2**
	0.2nm,0.3s,baz=152,slow=15,SNR=1.6						
KSRS				Pg	**Pb**	**16 38 48.3**	**+2.1**
	0.4nm,0.3s,baz=149,slow=18,SNR=5.7						
KSRS				Lg	Lg	16 39 56.0	
	1.2nm,0.3s,baz=150,slow=28,SNR=7.1						
MJAR	**Matsushiro Arr**	**7.09**	**57**	Pn	**Pn**	**16 39 01.7**	**+2.2**
	0.1nm,0.3s,baz=241,slow=13,SNR=5.3						
JHJ	**Hachijo jima 2**	**7.52**	**86**	Pn	**Pn**	**16 39 05.3**	**+0.1**
	5.8nm,0.3s,baz=60,slow=6.6,SNR=1.8						
SONM	**Songino Array**	**23.76**	**316**	P	**P**	**16 42 28.1**	**0.0**
	0.3nm,0.6s,baz=102,slow=6.5,SNR=2.1						
ASAR	**Alice Springs**	**56.28**	**177**	P	**P**	**16 46 56.7**	**+0.4**
	0.4nm,0.8s,baz=8.7,slow=13,SNR=6.3						
FINES	**FINESS Array B**	**68.26**	**330**	P	**P**	**16 48 15.3**	**-0.8**
	1.4nm,0.9s,baz=77,slow=8.4,SNR=5.8						

*IDC **16** 16:45:29.1±1.7,9.°18S×125.°65E, h0km, mb3.4/1, mb1 3.4/5, mb1mx3.1/31, mbtmp3.3/5, ML3.2/4, MS3.5/2, Ms1 3.6/2, ms1mx2.7/40, Error ellipse: s-maj=31.8km s-min=26.7km az=80.0*

ISC 16 16:45:34.0±1.4, 9.°5S±0.°1×125.°77E±0.°10, h35km, n7, σ2.°72/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.19**	**251**	Pn	**Pn**	**16 46 08.3**	**+0.3**
	5.7nm,0.3s,baz=292,slow=3.5,SNR=21						
BATI				Sn	**Sn**	**16 46 34.5**	**+0.5**
	5.5nm,0.3s,baz=338,slow=17,SNR=5.6						
KAPI	**Kappang**	**7.44**	**306**	LR	LR	16 50 30.9	
	comp=Z,17nm,18.6s,baz=304,slow=42						
FITZ	**Fitzroy Crossi**	**8.56**	**181**	Pn	**Pn**	**16 47 38.2**	**+2.7**
	0.3nm,0.3s,baz=360,slow=11,SNR=24						
FITZ				Sn	**Sn**	**16 49 07.3**	**-3.6**
	0.3nm,0.3s,baz=355,slow=18,SNR=2.1						
WRA	**Warramunga Arr**	**13.29**	**142**	Pn	**Pn**	**16 48 43.6**	**+3.3**
	0.1nm,0.3s,baz=316,slow=15,SNR=5.9						
WRA				Sn	**Sn**	**16 51 03.7**	**-3.2**
	0.1nm,0.3s,baz=284,slow=20,SNR=6.1						
ASAR	**Alice Springs**	**16.10**	**152**	Pn	**P**	**16 49 20.9**	**+0.1**
	0.1nm,0.3s,baz=322,slow=11,SNR=6.0						
ASAR				Sn	**Sn**	**16 52 15.3**	**-0.1**
	0.1nm,0.3s,baz=188,slow=34,SNR=1.4						
MKAR	**Makanchi Array**	**68.11**	**329**	P	**P**	**16 56 28.7**	**-1.6**
	0.3nm,0.7s,baz=126,slow=7.3,SNR=2.8						
VNDA	**Vanda**	**70.53**	**172**	LR	LR	17 25 51.4	
	comp=Z,90nm,21.4s,baz=230,slow=34						

*CNRM **16** 16:49:11.0, 35.°71N×2.°24W, h0km, ml2.7*
*MDD **16** 16:49:13.9±0.8, 35.°66N×2.°27W, h26km±9km, mb_Lg2.5/4, Error ellipse: s-maj=9.8km s-min=4.9km az=162.0*

ISC 16 16:49:11.1±1.5, 35.°69N±0.°03×2.°29W±0.°05, h15km±12km, n16, σ1.°27/29, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.66**	**293**	Pg	**Pn**	**16 49 26.6**	**+0.8**
EALB				Sg	**Sn**	**16 49 35.9**	**0.0**
EALB				*i* Vmb_Lg		16 49 36.8	
EMEL	**Melilla**	**0.67**	**235**	Pg	**Pn**	**16 49 26.1**	**+0.1**
EMEL				Sg	**Sb**	**16 49 35.2**	**+1.7**
GOG	**Mont Gurugu**	**0.74**	**231**	P	**Pg**	**16 49 25.5**	**-0.1**
GOG				S	**Sb**	**16 49 37.4**	**+1.7**
TAF	**Taforalt**	**0.88**	**187**	P	**Pg**	**16 49 28.6**	**+0.4**
TAF				S	**Sn**	**16 49 41.3**	**-0.2**
ENIJ	**Nijar**	**1.28**	**3**	Pn	**Pb**	**16 49 35.1**	**+0.1**
ENIJ				Sn	**Sn**	**16 49 51.2**	**-0.3**
ENIJ				*i* Vmb_Lg		16 50 00.5	
EBER	**Berja**	**1.30**	**338**	Pn	**Pn**	**16 49 35.1**	**+0.1**
EBER				Sn	**Sb**	**16 49 51.6**	**-0.4**
EBER				*i* Vmb_Lg		16 50 05.1	
JBK	**JBK**	**1.37**	**190**	P	**Pg**	**16 49 38.3**	**+0.8**
ELGU	**Los Guajares,**	**1.60**	**318**	Pn	**Pn**	**16 49 39.6**	**+0.7**
ELGU				Sn	**Sn**	**16 49 58.9**	**-0.4**
ELGU				*i* Vmb_Lg		16 50 02.9	
EMIJ	**Mijas**	**2.19**	**294**	Pn	**Pn**	**16 49 48.5**	**+1.5**
EMIJ				Sn	**Sn**	**16 50 13.0**	**-0.9**
EZAR	**Zarzadilla de**	**2.24**	**12**	Pn	**Pb**	**16 49 49.3**	**-1.9**
EZAR				Sn	**Sn**	**16 50 14.1**	**-1.0**
EMUR	**La Murta**	**2.31**	**21**	Pn	**Pn**	**16 49 49.3**	**+0.7**
EMUR				Sn	**Sn**	**16 50 15.6**	**-1.3**
ETOB	**Tobarra**	**3.01**	**11**	Pn	**Pn**	**16 50 00.2**	**+1.8**
ETOB				Sn	**Sn**	**16 50 33.9**	**-0.3**
EADA	**Adamuz**	**3.08**	**324**	Pn	**Pn**	**16 50 01.2**	**+2.0**
EADA				Sn	**Sn**	**16 50 36.2**	**+0.3**
MDT	**Midelt**	**3.45**	**214**	P	**Pb**	**16 50 08.8**	**-3.2**
ECAB	**El Cabril**	**3.46**	**314**	Pn	**Pn**	**16 50 05.3**	**+0.8**
ECAB				Sn	**Sn**	**16 50 44.1**	**-1.1**
MD31	**MD31**	**3.48**	**217**	P	**Pn**	**16 50 06.4**	**+1.7**

IDC 16 16:52:57.9±4.5, 26.°38N×140.°82E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/36, mbtmp3.6/3, Error ellipse: s-maj=318.3km s-min=32.9km az=84.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.47**	**188**	P	P	17 01 26.9	0.0
	0.4nm,0.6s,baz=9.4,slow=8.6,SNR=8.4						
ASAR	**Alice Springs**	**50.20**	**188**	P	P	17 01 55.3	-0.3
	0.1nm,0.6s,baz=6.4,slow=4.9,SNR=1.5						
FINES	**FINESS Array B**	**78.04**	**334**	P	P	17 04 58.1	0.0
	3.4nm,1.1s,baz=67,slow=4.7,SNR=4.6						

*MDD **16** 17:00:56.0±1.1, 35.°63N×2.°40W, h50km±27km, Mb3.1/7, M_mb2.3/7, Error ellipse: s-maj=10.8km s-min=6.6km az=106.0*
*CNRM **16** 17:00:57.1, 35.°50N×2.°33W, h31km, ml1.7*

ISC 16 17:00:52.2±1.4, 35.°69N±0.°03×2.°32W±0.°06, h13km±11km, n13, σ1.°01/23, 6C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.63**	**293**	Pg	**Pn**	**17 01 07.7**	**+0.8**
EALB				⇑*i* Vmb_V		17 01 08.3	
	709nm,SNR=1.9						
EALB				Sg	**Sn**	**17 01 17.2**	**+0.4**
EMEL	**Melilla**	**0.65**	**233**	Pg	**Pn**	**17 01 07.9**	**+0.8**
EMEL				Sg	**Sn**	**17 01 16.1**	**-1.2**
GOG	**Mont Gurugu**	**0.73**	**230**	P	**Pn**	**17 01 08.5**	**+0.2**
GOG				S	**Sn**	**17 01 18.9**	**-0.4**
TAF	**Taforalt**	**0.88**	**185**	P	**Pn**	**17 01 10.5**	**+0.1**
TAF				S	**Sb**	**17 01 21.5**	**+0.4**
ENIJ	**Nijar**	**1.28**	**4**	Pn	**Pg**	**17 01 17.2**	**+0.3**
ENIJ				⇑*i* Vmb_V		17 01 17.6	
	175nm,SNR=1.1						
ENIJ				Sn	**Sn**	**17 01 32.4**	**-0.4**
EBER	**Berja**	**1.29**	**339**	Pn	**Pg**	**17 01 16.9**	**-0.1**
EBER				⇑*i* Vmb_V		17 01 18.2	
	64nm,SNR=0.5						
EBER				Sn	**Sg**	**17 01 34.0**	**+0.1**
JBK	**JBK**	**1.37**	**189**	P	**Pg**	**17 01 18.5**	**-0.1**
JBK				S	**Sn**	**17 01 34.4**	**-0.9**
ELGU	**Los Guajares,**	**1.58**	**318**	Pn	**Pn**	**17 01 20.5**	**+0.5**
ELGU				⇑*i* Vmb_V		17 01 21.5	
	124nm,SNR=1.2						
ELGU				Sn	**Sn**	**17 01 38.7**	**-1.6**
EZAR	**Zarzadilla de**	**2.23**	**13**	Sn	**Sn**	**17 01 56.8**	**+0.2**
EMUR	**La Murta**	**2.31**	**22**	Pn	**Pb**	**17 01 32.4**	**-1.4**
EMUR				⇑*i* Vmb_V		17 01 35.1	
	139nm,SNR=1.0						
EMUR				Sn	**Sn**	**17 01 58.1**	**-0.3**
ETOB	**Tobarra**	**3.01**	**12**	Pn	**Pn**	**17 01 40.5**	**+0.9**
ETOB				⇑*i* Vmb_V		17 01 42.0	
	65nm,SNR=0.5						
ETOB				Sn	**Sn**	**17 02 16.2**	**+0.6**
MDT	**Midelt**	**3.44**	**214**	P	**Pn**	**17 01 48.5**	**+2.9**
MD31	**MD31**	**3.47**	**216**	P	**Pn**	**17 01 46.9**	**+0.9**

*NEIC **16** 17:16:06.1±2.9, 9.°78S±0.°06×123.°11E±0.°08, h103km±7km, mb4.3/27, Error ellipse: s-maj=11.5km s-min=8.9km az=80.0*
*DJA **16** 17:16:06.2±0.3, 10.°S±3.°×12.°3E±.°, h43km±14km, M4.3/13, mB4.9/2, mb4.5/12, MLv4.2/13, Mw(mB)4.2/2*
*IDC **16** 17:16:06.0±0.7, 9.°63S×123.°25E, h102km±11km, mb3.7/4, mb1 3.9/7, mb1mx3.4/44, mbtmp4.2/7, Error ellipse: s-maj=74.2km s-min=20.8km az=61.0*

ISC 16 17:16:06.1±0.4, 9.°68S±0.°05×123.°19E±0.°06, h100km, n101, σ2.°21/99, mb4.2/13, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.70**	**138**	P	**Pn**	**17 16 24.5**	**+1.0**
	695nm,0.3s,baz=348,slow=2.7,SNR=1280						
BATI				LR	LR	17 16 30.6	
	comp=Z,151nm,21.0s,baz=278,slow=35						
BATI				S	**Sn**	**17 16 38.2**	**+1.5**
	401nm,0.3s,baz=131,slow=22,SNR=9.5						
BATI	**Baumata**	**0.70**	**138**	P	**Pn**	**17 16 24.6**	**+1.0**
MMRI	**Maumere**	**1.40**	**318**		**Pn**	**17 16 29.2**	**-1.9**
MMRI	**Maumere**	**1.40**	**318**	P	**Pn**	**17 16 29.3**	**-1.9**
MMRI				S	**Sn**	**17 16 46.1**	**-4.0**
MMRI	**Maumere**	**1.40**	**318**	P	**Pn**	**17 16 29.4**	**-1.7**
BASI	**Baing, Sumba**	**2.62**	**258**	P	**Pn**	**17 16 49.1**	**+2.3**
WBSI	**Waikabubak, Su**	**3.74**	**270**	P	**Pn**	**17 17 03.1**	**+1.3**
BBSI	**Bau Bau**	**4.21**	**352**	P	**Pn**	**17 17 07.4**	**-0.8**
BSSI	**Bau Bau, Buton**	**4.42**	**323**	P	**Pn**	**17 17 10.8**	**-0.1**
BKSI	**Bulukumba**	**5.29**	**325**	P	**Pn**	**17 17 22.2**	**-0.6**
	0.4nm1μm107nm,0.7s						
PLAI	**Plampang**	**5.41**	**279**	P	**Pn**	**17 17 26.3**	**+2.0**
	0.2nm27nm,0.9s						
PLAI	**Plampang**	**5.41**	**279**	P	**Pn**	**17 17 26.3**	**+2.0**
KAPI	**Kappang**	**5.75**	**323**	P	**Pn**	**17 17 29.1**	**0.0**
	4.0nm,0.3s,baz=152,slow=7.4,SNR=21						
KAPI	**Kappang**	**5.75**	**323**	P	**Pn**	**17 17 30.6**	**+1.5**
BNSI	**Bone**	**6.07**	**330**	P	**Pn**	**17 17 34.7**	**+1.3**
	0.3nm84nm,0.7s						
SPSI	**Sidrap Palu**	**6.62**	**329**	P	**Pn**	**17 17 41.8**	**+1.0**
	0.1nm26nm,1.0s						
TTSI	**Tana Toraja**	**7.39**	**333**	P	Pn	17 17 58.3	+6.9
KNRA	**Kununurra**	**8.07**	**138**		**Pn**	**17 17 58.6**	**-1.9**
KNRA	**Kununurra**	**8.07**	**138**	P	**Pn**	**17 17 59.4**	**-1.1**
SANI	**Sanana**	**8.08**	**20**	P	**Pn**	**17 17 59.6**	**-1.1**
	0.1nm14nm,0.8s						
SANI	**Sanana**	**8.08**	**20**	P	**Pn**	**17 17 59.7**	**-1.0**
MTN	**Manton Dam**	**8.40**	**113**	Pn	**Pn**	**17 18 03.1**	**-2.0**
MTN	**Manton Dam**	**8.40**	**113**	P	**Pn**	**17 18 03.4**	**-1.7**
LUWI	**Luwuk**	**8.60**	**357**	P	**Pn**	**17 18 07.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**8.70**	**164**	P	**Pn**	**17 18 09.2**	**+0.1**
	3.9nm,0.3s,baz=4.2,slow=9.2,SNR=99						
FITZ				S	**Sn**	**17 19 41.6**	**-3.9**
	8.2nm,0.3s,baz=184,slow=10,SNR=24						
JAGI	**Jajag, Banyuwa**	**9.00**	**277**	Pn	**Pn**	**17 18 09.7**	**-3.6**
KDU	**Kakadu**	**9.59**	**109**	P	**Pn**	**17 18 19.3**	**-1.9**
TOLI2	**Tolitoli**	**10.99**	**347**		**Pn**	**17 18 41.0**	**+0.8**
TOLI2	**Tolitoli**	**10.99**	**347**	P	**Pn**	**17 18 42.9**	**+2.6**
MBWA	**Marble Bar**	**11.88**	**196**	Pn	**Pn**	**17 18 48.2**	**-4.1**
PSAD1	**Pilbara Seismi**	**12.14**	**195**	Pn	**Pn**	**17 18 51.2**	**-4.5**
PSAC1	**Pilbara Seismi**	**12.22**	**195**	Pn	**Pn**	**17 18 52.8**	**-4.0**
PSAC2	**Pilbara Seismi**	**12.23**	**195**	Pn	**Pn**	**17 18 53.0**	**-3.8**
PSAB2	**Pilbara Seismi**	**12.23**	**195**	Pn	**Pn**	**17 18 53.0**	**-3.8**
PSAA2	**Pilbara Seismi**	**12.24**	**195**	Pn	**Pn**	**17 18 55.3**	**-1.7**
PSA00	**Pilbara Seismi**	**12.25**	**195**	Pn	**Pn**	**17 18 54.3**	**-2.8**
PSAB1	**Pilbara Seismi**	**12.25**	**195**	Pn	**Pn**	**17 18 55.5**	**-1.6**
PSAA3	**Pilbara Seismi**	**12.25**	**195**	Pn	**Pn**	**17 18 55.5**	**-1.7**
PSAA1	**Pilbara Seismi**	**12.26**	**195**	Pn	**Pn**	**17 18 56.3**	**-0.9**
PSAD2	**Pilbara Seismi**	**12.26**	**194**	Pn	**Pn**	**17 18 54.9**	**-2.5**
PSAB3	**Pilbara Seismi**	**12.27**	**195**	Pn	**Pn**	**17 18 55.2**	**-2.2**
WB0	**Warramunga Arr**	**14.76**	**134**	P	**Pn**	**17 19 27.0**	**-2.8**
WRA	**Warramunga Arr**	**14.83**	**135**	P	**Pn**	**17 19 27.6**	**-3.1**
	0.8nm,0.3s,baz=314,slow=13,SNR=34						
WRA				S	Sn	17 22 03.1	-11
	1.3nm,0.3s,baz=306,slow=24,SNR=10						
WRAB	**Tennant Creek**	**14.84**	**135**		**Pn**	**17 19 27.7**	**-3.1**
WR0	**Warramunga Arr**	**14.99**	**134**	P	**Pn**	**17 19 29.9**	**-2.9**
WRKA	**Warakurna**	**16.02**	**163**	P	**P**	**17 19 47.3**	**0.0**
KKM	**Kota Kinabalu**	**17.10**	**336**	P	**P**	**17 20 02.3**	**+3.0**
AS13	**Alice Springs**	**17.25**	**145**		**P**	**17 20 00.6**	**-0.2**
AS31	**Alice Springs**	**17.27**	**145**	P	**Pn**	**17 19 58.2**	**-2.9**
ASAR	**Alice Springs**	**17.27**	**145**	P	**P**	**17 20 01.0**	**-0.1**
	0.9nm,0.3s,baz=321,slow=12,SNR=78						
ASAR				S	Sn	17 23 00.1	-13
	0.6nm,0.3s,baz=320,slow=24,SNR=9.5						
AS06	**Alice Springs**	**17.29**	**145**	P	**P**	**17 20 00.9**	**-0.4**
MEEK	**Meekatharra**	**17.41**	**194**	P	**Pn**	**17 20 06.1**	**+3.4**
QIS	**Mount Isa**	**19.17**	**126**	P	**Pn**	**17 20 25.7**	**+1.9**
COEN	**Coen**	**20.02**	**104**	P	**P**	**17 20 29.6**	**-1.6**
COEN				IAmb	IAmb	17 20 55.4	
	comp=Z,18nm,1.2s						
MORW	**Morawa**	**20.42**	**198**	P	**P**	**17 20 35.0**	**-0.3**
MORW	**Morawa**	**20.42**	**198**	P	Pn	17 20 40.3	+2.0
OOD	**Oodnadatta**	**21.52**	**148**	P	**P**	**17 20 51.6**	**+4.4**
MTSU	**Mount Surprise**	**22.15**	**115**	P	**P**	**17 20 56.9**	**+3.0**
KLBR	**Kellerberrin**	**22.38**	**192**	P	**P**	**17 21 00.5**	**+4.4**
MULG	**Mulgathing**	**22.87**	**155**	P	**P**	**17 21 05.3**	**+4.1**
RKGY	**Rocky Gully**	**25.45**	**192**	P	**P**	**17 21 30.8**	**+6.1**
BBOO	**Buckleboo**	**25.90**	**155**	P	**P**	**17 21 31.1**	**+2.3**
BBOO	**Buckleboo**	**25.90**	**155**	P	**P**	**17 21 32.7**	**+3.9**
HTT	**Hallett**	**27.72**	**151**	P	**P**	**17 21 50.3**	**+5.1**
CMSA	**Cobar Meteorol**	**30.15**	**139**	P	P	17 22 11.6	+4.9
UBPT	**Khong Chiam**	**30.39**	**325**	P	**P**	**17 22 08.6**	**-0.3**
UBPT				IAmb	IAmb	17 22 35.5	
	comp=Z,12nm,1.4s						
ARPS	**Mount Arapiles**	**31.82**	**151**	P	P	17 22 26.7	+5.4
CM03	**Chiang Mai Arr**	**36.76**	**319**	P	**P**	**17 23 03.5**	**-0.6**
CM09	**Chiang Mai Arr**	**36.76**	**319**	P	**P**	**17 23 03.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**36.80**	**319**	P	**P**	**17 23 03.8**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=146,slow=6.8,SNR=5.8						
CHTO	**Chiang Mai**	**37.06**	**320**	P	**P**	**17 23 06.8**	**+0.1**
JCJ	**Chichijima**	**40.94**	**26**	P	**P**	**17 23 39.7**	**+0.7**
OUENC	**Ouen Island, N**	**43.66**	**112**	P	**P**	**17 24 00.1**	**-1.1**
PINNC	**Pines Island,**	**44.25**	**112**	P	**P**	**17 24 05.7**	**-0.2**
MJB6	**Matsu-Irikarui**	**48.05**	**16**	P	**P**	**17 24 33.5**	**-1.9**
MJB6				IAmb	IAmb	17 24 35.2	
	comp=Z,10nm,1.5s						
MAJO	**Matsushiro**	**48.10**	**16**	P	**P**	**17 24 34.0**	**-1.9**
MJB9	**Matsu-Tunnel**	**48.10**	**16**	P	**P**	**17 24 33.8**	**-2.0**
MJA1	**Matsu-Toyosaka**	**48.11**	**16**	P	**P**	**17 24 33.7**	**-2.1**
MJA1				IAmb	IAmb	17 24 58.5	
	comp=Z,4.1nm,1.0s						
JSD	**Sado**	**49.52**	**16**	P	**P**	**17 24 45.5**	**-1.1**
ULN	**Ulaanbaatar**	**59.06**	**347**	P	**P**	**17 25 55.4**	**-0.4**
SONB3	**Songino Array**	**59.17**	**347**	P	**P**	**17 25 56.6**	**0.0**
SONB3				IAmb	IAmb	17 25 56.9	
	comp=Z,3.6nm,1.4s						
SONA0	**Songino Array**	**59.17**	**347**	P	**P**	**17 25 56.6**	**0.0**
SONA0				IAmb	IAmb	17 25 57.0	
	comp=Z,0.9nm,0.5s						
SONM	**Songino Array**	**59.17**	**347**	P	**P**	**17 25 55.7**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=158,slow=8.1,SNR=8.1						
SONM	**Songino Array**	**59.17**	**347**	IAmb	IAmb	17 25 58.8	
	comp=Z,2.4nm,1.3s						
SONB4	**Songino Array**	**59.18**	**347**	P	**P**	**17 25 55.9**	**-0.7**
SONB4				IAmb	IAmb	17 25 57.2	
	comp=Z,1.3nm,0.4s						
MK07	**Makanchi Array**	**66.97**	**331**	P	**P**	**17 26 46.3**	**-1.7**
MK08	**Makanchi Array**	**66.98**	**331**	P	**P**	**17 26 48.4**	**+0.3**
MKAR	**Makanchi Array**	**67.01**	**331**	P	**P**	**17 26 48.2**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=132,slow=7.8,SNR=16						
MKAR	**Makanchi Array**	**67.01**	**331**	P	**P**	**17 26 48.5**	**+0.2**
MSEY	**Mahe Island**	**67.27**	**269**	P	**P**	**17 26 49.6**	**-1.1**
BOOM	**Boomskoye usch**	**67.50**	**324**	P	**P**	**17 26 53.3**	**+1.5**
BOOM				IAmb	IAmb	17 26 55.1	
	comp=Z,2.7nm,1.1s						
AAK	**Ala-Archa**	**68.44**	**323**	P	**P**	**17 26 58.3**	**+0.7**
GAR	**Garm**	**68.96**	**318**	P	**P**	**17 27 00.0**	**-0.8**
GAR				IAmb	IAmb	17 27 04.8	
	comp=Z,2.6nm,0.8s						
PEA2	**Petropavlovsk-**	**69.12**	**21**	P	**P**	**17 27 01.6**	**+0.3**
ZAA2	**Zalesovo Array**	**71.20**	**337**	P	**P**	**17 27 13.7**	**-0.3**
ZALV	**Zalesovo Beam**	**71.21**	**337**	P	**P**	**17 27 13.7**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=140,slow=5.2,SNR=13						
ZALV	**Zalesovo Beam**	**71.21**	**337**	P	**P**	**17 27 13.2**	**-0.8**
KURK	**Kurchatov**	**71.48**	**332**	P	**P**	**17 27 15.8**	**+0.1**
SOCY	**Socotra**	**72.10**	**286**	P	**P**	**17 27 21.6**	**+1.2**
SOCY				IAmb	IAmb	17 27 29.0	
	comp=Z,8.4nm,1.3s						
SMY	**Shemya**	**75.80**	**29**	P	**P**	**17 27 43.4**	**+2.4**
TORD	**Torodi Ar. Bea**	**122.65**	**279**	PKP	**PKiKP**	**17 34 50.9**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=108,slow=3.2,SNR=2.3						

*CRAAG **16** 17:22:52.0, 35.°58N×2.°23W, Ml3.0*
*MDD **16** 17:22:52.5±0.5, 35.°59N×2.°23W, h20km±4km, mb_Lg3.0/15, Error ellipse: s-maj=5.5km s-min=2.0km az=157.0*
*SFS **16** 17:22:52.0, 35.°58N×2.°27W, h20km, ML3.0, ALBORAN SUR*
*INMG **16** 17:22:53.3±1.3, 35.°64N×2.°25W, h21km±5km, ML2.5, Error ellipse: s-maj=5.2km s-min=3.0km az=160.0*
*CNRM **16** 17:22:53.9, 35.°63N×2.°32W, h28km, ml3.1*

ISC 16 17:22:53.5±1.1, 35.°71N±0.°02×2.°30W±0.°03, h33km±8km, n63, σ1.°35/107, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.64**	**292**	Pg	**Pb**	**17 23 06.3**	**0.0**
EALB				Sg	**Sb**	**17 23 16.1**	**+1.1**
EALB				*i* Vmb_Lg		17 23 17.2	
EMEL	**Melilla**	**0.67**	**233**	Pg	**Pb**	**17 23 05.5**	**-1.3**
EMEL				Sg	**Sb**	**17 23 14.1**	**-1.8**
GOG	**Mont Gurugu**	**0.74**	**230**	P	**Pn**	**17 23 07.0**	**-0.8**
GOG				S	**Sb**	**17 23 17.6**	**-0.5**
TAF	**Taforalt**	**0.90**	**186**	P	**Pn**	**17 23 09.6**	**-0.3**
TAF				S	**Sn**	**17 23 20.9**	**-0.8**
ENIJ	**Nijar**	**1.26**	**3**	Pn	**Pn**	**17 23 14.9**	**0.0**
ENIJ				Sn	**Sn**	**17 23 30.5**	**-0.2**
ENIJ				*i* Vmb_Lg		17 23 32.9	
EBER	**Berja**	**1.28**	**338**	Pn	**Pn**	**17 23 15.4**	**+0.1**
EBER				Sn	**Sb**	**17 23 33.2**	**-0.1**
EBER				*i* Vmb_Lg		17 23 41.8	
OTSS	**Djebel Tessala**	**1.30**	**109**	P	**Pb**	**17 23 21.0**	**+3.5**

EVO	**Evora**	**5.36**	**303**	P	**Pn**	**17 24 12.0**	**+0.8**
EVO				S	**Sn**	**17 25 10.5**	**-1.3**
EVO	**Evora**	**5.36**	**303**	*e*Pn	**Pn**	**17 24 12.7**	**+1.5**
EVO				*e*Sn	**Sn**	**17 25 11.6**	**-0.2**
EVO				A	A	17 25 24.2	
	3.4nm,0.6s						
PMRV	**Marv??o**	**5.49**	**314**	*e*Pn	**Pn**	**17 24 14.8**	**+1.8**
PNCL	**Nicolau / Gran**	**5.54**	**298**	*e*Pn	**Pn**	**17 24 14.8**	**+1.2**
PNCL				*e*Sn	**Sn**	**17 25 16.4**	**+0.3**
PNCL				A	A	17 25 22.4	
	3.2nm,0.4s						
ERTA	**Horta de San J**	**5.63**	**21**	Pn	**Pn**	**17 24 14.9**	**-0.1**
ERTA				Sn	**Sn**	**17 25 15.8**	**-2.7**
ETOS	**Mallorca**	**5.73**	**43**	Pn	**Pn**	**17 24 16.4**	**+0.1**
ETOS				Sn	**Sn**	**17 25 18.5**	**-2.5**
PMTG	**Montargil**	**5.79**	**307**	*e*Pn	**Pn**	**17 24 18.3**	**+1.3**
PCBR	**Castelo Branco**	**5.81**	**317**	*e*Pn	**Pn**	**17 24 18.9**	**+1.5**
OUZM	**OUZ**	**6.07**	**219**	P	**Pn**	**17 24 22.3**	**+1.3**
EPOB	**Poblet**	**6.23**	**24**	Pn	**Pn**	**17 24 23.2**	**+0.1**
EPOB				Sn	**Sn**	**17 25 31.1**	**-2.2**
PSBE	**So Bento**	**6.40**	**308**	*e*Pn	**Pn**	**17 24 26.9**	**+1.4**

*IDC **16** 17:38:26.6±1.2,35°.86S×103°.62W,h0km,mb4.0/5, mb1 4.4/5,mb1mx4.0/30,mbtmp4.0/5,MS3.7/14, Ms1 3.7/14,ms1mx3.5/48,Error ellipse: s-maj=38.5km s-min=30.5km az=27.0*

*NEIC **16** 17:38:28.9±2.2,35°.6S±0°.2×103°.7W±0°.1,h10km±2km, mb4.8/8,Error ellipse: s-maj=34.7km s-min=6.4km az=207.0*

ISC 16 17:38:27.9±1.2,35°.7S±0°.2×103°.7W±0°.2,h10km,n38, σ1§13/17,mb4.3/9,MS3.7/13,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.81**	**329**	LR	LR	17 43 39.6	
	comp=Z,415nm,19.4s,baz=112,slow=31						
H03S2	**Juan Fernandez**	**20.39**	**92**	T	T	18 04 03.0	
	baz=258						
H03S1	**Juan Fernandez**	**20.41**	**92**	T	T	18 04 03.6	
	baz=258						
H03S3	**Juan Fernandez**	**20.41**	**92**	T	T	18 04 02.6	
	baz=258						
H03N2	**Juan Fernandez**	**20.47**	**91**	T	T	18 04 10.9	
	baz=247,slow=72,SNR=6.4						
H03N3	**Juan Fernandez**	**20.48**	**91**	T	T	18 04 06.4	
	baz=247,slow=72,SNR=6.4						
H03N1	**Juan Fernandez**	**20.49**	**91**	T	T	18 04 12.1	
	baz=247,slow=72,SNR=6.6						
PLCA	**Paso Flores**	**26.40**	**111**	P	**P**	**17 44 03.8**	**-0.9**
	2.9nm,0.9s,baz=264,slow=10,SNR=1.9						
USHA	**Ushuaia**	**30.86**	**139**	LR	LR	17 54 33.2	
	comp=Z,164nm,19.3s,baz=284,slow=32						
PB07	**IPOC Station P**	**32.55**	**74**	P	**P**	**17 45 00.4**	**+0.9**
PB07				IAmb	IAmb	17 45 10.2	
	comp=Z,24nm,1.6s						
LVC	**Limon Verde**	**32.85**	**76**	LR	LR	17 54 41.9	
	comp=Z,146nm,21.5s,baz=235,slow=30						
NNA	**Nana**	**33.82**	**52**	LR	LR	17 55 13.4	
	comp=Z,246nm,21.2s,baz=197,slow=30						
GO01	**Chusmiza**	**34.23**	**71**	P	**P**	**17 45 15.0**	**+0.5**
GO01				IAmb	IAmb	17 45 20.7	
	comp=Z,15nm,1.7s						
LPAZ	**La Paz**	**37.05**	**68**	P	**P**	**17 45 39.9**	**+1.0**
	comp=Z,7.1nm,1.2s,baz=248,slow=7.1,SNR=8.1						
LPAZ				LR	LR	17 58 14.7	
	comp=Z,70nm,18.9s,baz=239,slow=32						
LPAZ	**La Paz**	**37.05**	**68**	P	**P**	**17 45 39.1**	**+0.2**
PMSA	**Palmer Station**	**37.48**	**153**	LR	LR	17 56 38.6	
	comp=Z,263nm,21.6s,baz=316,slow=29						
CPUP	**Villa Florida**	**40.47**	**90**	LR	LR	17 58 23.9	
	comp=Z,53nm,21.1s,baz=212,slow=30						
ROSC	**El Rosal**	**48.81**	**40**	LR	LR	18 04 10.6	
	comp=Z,130nm,20.2s,baz=294,slow=32						
JTS	**Las Juntas de**	**49.02**	**25**	LR	LR	18 02 47.9	
	comp=Z,67nm,19.2s,baz=288,slow=30						
QSPA	**South Pole Qui**	**54.52**	**180**	LR	LR	18 07 24.6	
	comp=Z,65nm,18.8s,baz=270,slow=32						
BAUV	**El Baul**	**55.66**	**44**	P	**P**	**17 48 03.7**	**-0.7**
MDP	**Montagnes des**	**62.69**	**61**	LR	LR	18 12 10.6	
	comp=Z,95nm,18.3s,baz=200,slow=32						
RPZ	**Rata Peaks**	**63.36**	**234**	LR	LR	18 11 08.4	
	comp=Z,69nm,18.6s,baz=160,slow=31						
SJG	**San Juan**	**64.23**	**40**	LR	LR	18 16 16.6	
	comp=Z,27nm,18.1s,baz=82,slow=35						
TXAR	**Lajitas Array**	**64.67**	**360**	P	**P**	**17 49 06.6**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=179,slow=7.2,SNR=2.6						
TX04	**Lajitas Array**	**64.68**	**360**	P	**P**	**17 49 05.2**	**-0.8**
TX07	**Lajitas Array**	**64.68**	**360**	P	**P**	**17 49 05.5**	**-0.5**
PV13	**Radium Mtn., P**	**73.63**	**356**	P	**P**	**17 49 59.2**	**-2.4**
PV13				IAmb	IAmb	17 50 02.2	
	comp=Z,8.9nm,1.1s						
LCH	**Last Change Ra**	**73.71**	**348**	P	**P**	**17 50 00.8**	**-1.1**
LCH				IAmb	IAmb	17 50 05.5	
	comp=Z,7.7nm,0.8s						
PV15	**Paradox Valley**	**73.80**	**356**	P	**P**	**17 50 03.4**	**+0.8**
NVAR	**Mina Array Bea**	**74.98**	**348**	P	**P**	**17 50 11.3**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=178,slow=7.9,SNR=5.9						
PDAR	**Pinedale Array**	**78.27**	**356**	P	**P**	**17 50 29.4**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=152,slow=7.9,SNR=5.8						
BOSA	**Boshof**	**99.95**	**136**	LR	LR	18 33 31.2	
	comp=Z,33nm,18.7s,baz=186,slow=33						
H01W1	**Cape Leeuwin H**	**101.42**	**211**	T	T	19 45 58.6	
	baz=148,slow=75,SNR=94						
H01W2	**Cape Leeuwin H**	**101.42**	**211**	T	T	19 45 59.8	
	baz=148,slow=75,SNR=84						
H01W3	**Cape Leeuwin H**	**101.43**	**211**	T	T	19 45 59.0	
	baz=148,slow=75,SNR=90						
BRTR	**Keskin Array B**	**146.21**	**70**	PKPbc	**PKPdf**	**17 58 07.8**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=242,slow=3.1,SNR=3.6						
CMAR	**Chiang Mai Arr**	**153.66**	**235**	PKPbc	**PKiKP**	**17 58 27.8**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=197,slow=0.9,SNR=2.8						
CMAR				PKPab	**PKPab**	**17 58 39.9**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=144,slow=2.0,SNR=3.7						

*IDC **16** 17:43:49.3±26.0,18°.21S×173°.19W,h0km,mb4.1/4, mb1 4.3/4,mb1mx3.7/43,mbtmp4.1/4,Error ellipse: s-maj=497.1km s-min=168.2km az=74.0*

*NEIC **16** 17:43:57.1±1.3,18°.4S±0°.3×173°.83W±0°.08,h10km±2km, mb4.6/9,Error ellipse: s-maj=54.3km s-min=7.9km az=348.0*

ISC 16 17:43:59.3±6.7,19°.S±1°×174°.3W±0°.6,h10km,n16, σ0§87/16,mb4.5/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.21**	**261**	P	**P**	**17 51 10.2**	**-0.9**
	2.3nm,0.6s,baz=72,slow=9.6,SNR=1.6						
CTAO	**Charters Tower**	**37.21**	**261**	P	**P**	**17 51 10.8**	**-0.4**
CTAO				IAmb	IAmb	17 51 36.5	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**41.72**	**243**	P	**P**	**17 51 49.5**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=86,slow=13,SNR=3.2						
BBOO	**Buckleboo**	**46.48**	**242**	P	**P**	**17 52 26.2**	**-0.6**
WR0	**Warramunga Arr**	**48.17**	**260**	P	**P**	**17 52 39.2**	**-1.0**
WR0				IAmb	IAmb	17 53 14.4	
	comp=Z,10nm,1.6s						
WR8	**Warramunga Arr**	**48.21**	**260**	P	**P**	**17 52 40.5**	**0.0**
WR5	**Warramunga Arr**	**48.27**	**260**	P	**P**	**17 52 40.8**	**-0.2**
AS18	**Alice Springs**	**48.29**	**255**	P	**P**	**17 52 41.9**	**+0.8**
AS19	**Alice Springs**	**48.31**	**255**	P	**P**	**17 52 42.0**	**+0.7**
AS09	**Alice Springs**	**48.33**	**255**	P	**P**	**17 52 41.9**	**+0.5**
WRA	**Warramunga Arr**	**48.36**	**260**	P	**P**	**17 52 42.0**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=98,slow=6.2,SNR=37						
ASAR	**Alice Springs**	**48.37**	**255**	P	**P**	**17 52 42.5**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=91,slow=8.4,SNR=81						
ASAR	**Alice Springs**	**48.37**	**255**	P	**P**	**17 52 41.0**	**-0.7**
KNRA	**Kununurra**	**54.33**	**264**	P	**P**	**17 53 27.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**56.78**	**260**	P	**P**	**17 53 45.6**	**+1.6**
FITZ				IAmb	IAmb	17 53 56.0	
	comp=Z,14nm,1.9s						
QSPA	**South Pole Qui**	**71.30**	**180**	P	**P**	**17 55 18.9**	**-0.1**
QSPA				IAmb	IAmb	17 55 20.8	
	comp=Z,4.7nm,1.1s						

MDD 16 17:47:12.3±0.6,36°.51N×3°.48W,h11km±1km,mb_Lg1.6/7, Error ellipse: s-maj=5.0km s-min=3.8km az=61.0,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELGU	**Los Guajares,**	**0.38**	**341**	Pg	Pb	17 47 20.7	-0.4
ELGU				Sg	Sg	17 47 24.8	-0.1
ELGU				*i* Vmb_Lg		17 47 26.1	
EBER	**Berja**	**0.61**	**50**	Pg	Pg	17 47 23.3	-0.9
EBER				Sg	Sg	17 47 30.9	-1.3
EBER				*i* Vmb_Lg		17 47 33.1	
EALB	**Alboran**	**0.67**	**148**	Pg	Pg	17 47 24.9	-0.4
EALB				Sg	Sg	17 47 33.6	-0.4
EALB				*i* Vmb_Lg		17 47 38.3	
EQUE	**Quentar**	**0.69**	**2**	Pg	Pg	17 47 25.5	-0.3
EQUE				Sg	Sg	17 47 33.8	-1.1
EQUE				*i* Vmb_Lg		17 47 34.8	
EGOR	**Sierra Gorda,**	**0.79**	**320**	Pg	Pg	17 47 26.7	-0.8
EGOR				Sg	Sg	17 47 37.1	-0.7
EGOR				*i* Vmb_Lg		17 47 44.1	
EMIJ	**Mijas**	**1.04**	**273**	Pg	Pg	17 47 31.5	-0.9
EMIJ				Sg	Sg	17 47 44.1	-1.9
EMIJ				*i* Vmb_Lg		17 47 48.1	
EADA	**Adamuz**	**1.87**	**332**	Pg	Pb	17 47 47.3	+0.7
EADA				Sg	Sg	17 48 11.5	-1.0
EADA				*i* Vmb_Lg		17 48 14.7	

*IDC **16** 17:47:50.2±1.9,58°.82S×24°.71W,h0km,mb3.9/2, mb1 4.1/2,mb1mx3.7/25,mbtmp3.9/2,Error ellipse: s-maj=89.4km s-min=46.6km az=10.0*

*NEIC **16** 17:47:57.3±1.2,57°.5S±0°.2×23°.5W±0°.3,h32km±6km, mb4.4/8,Error ellipse: s-maj=34.6km s-min=11.1km az=220.0*

ISC 16 17:47:57.3±0.8,58°.3S±0°.1×24°.2W±0°.2,h35km,n22, σ1§98/23,mb4.3/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.93**	**295**	Pn	**Pn**	**17 49 50.8**	**+0.9**
VNA1	**Neumayer--Stat**	**14.10**	**158**	P	**P**	**17 51 22.2**	**+0.9**
VNA3	**Neumayer Olymp**	**14.33**	**161**	P	**P**	**17 51 25.1**	**+1.2**
VNA3				S	**Sn**	**17 53 52.3**	**-2.3**
VNA2	**Neumayer--Watz**	**14.49**	**158**	P	**P**	**17 51 26.6**	**+0.9**
	baz=321,slow=14						
VNA2				S	**Sn**	**17 53 59.3**	**+0.6**
SNAA	**Sanae**	**16.02**	**155**	P	**P**	**17 51 47.3**	**+4.6**
SNAA				S	**Sn**	**17 54 33.5**	**-2.4**
SNAA	**Sanae**	**16.02**	**155**		**P**	**17 51 46.7**	**+4.0**
TROLL	**Troll, Antarti**	**17.50**	**152**	P	P	17 52 07.8	+8.7
BELA	**Belgrano 2**	**19.99**	**186**	P	Pn	17 52 38.9	+11
EFI	**East Falkland**	**20.36**	**274**	P	**P**	**17 52 33.2**	**+2.7**
PLTB	**Pedras Altas**	**33.20**	**310**	P	**P**	**17 54 29.0**	**-1.5**
PLCA	**Paso Flores**	**34.01**	**281**	P	**P**	**17 54 37.1**	**-0.4**
PLCA				IAmb	IAmb	17 54 49.7	
	comp=Z,13nm,1.6s						
GO01	**Chusmiza**	**50.50**	**300**	P	**P**	**17 56 50.9**	**-1.4**
GO01				IAmb	IAmb	17 56 55.8	
	comp=Z,4.0nm,1.2s						
LPAZ	**La Paz**	**52.99**	**303**	P	**P**	**17 57 09.9**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=138,slow=6.4,SNR=10						
LPAZ	**La Paz**	**52.99**	**303**	P	**P**	**17 57 10.3**	**-0.8**
LPAZ				IAmb	IAmb	17 57 11.5	
	comp=Z,2.6nm,0.6s						
OTAV	**Otavalo**	**72.24**	**302**	P	**P**	**17 59 19.4**	**+0.1**
OTAV				IAmb	IAmb	17 59 22.4	
	comp=Z,2.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**74.28**	**26**	P	**P**	**17 59 32.6**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=200,slow=6.8,SNR=1.8						
CCUT	**Cedar City**	**120.61**	**293**		**PKiKP**	**18 06 45.0**	**+0.1**
RLMT	**Red Lodge**	**124.58**	**301**		**PKPdf**	**18 06 51.0**	**-1.1**
YKA	**Yellowknife Ar**	**138.92**	**315**	PKP	**PKPdf**	**18 07 17.1**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=125,slow=2.1,SNR=7.3						
INK	**Inuvik**	**148.57**	**318**	PKPbc	**PKPdf**	**18 07 35.4**	**+0.5**
	comp=Z,1.5nm,1.0s,baz=115,slow=1.8,SNR=3.6						
SONM	**Songino Array**	**149.21**	**88**	PKPbc	**PKiKP**	**18 07 40.2**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=207,slow=2.9,SNR=2.5						
ILAR	**Eielson Array**	**152.81**	**308**	PKPbc	**PKiKP**	**18 07 48.2**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=117,slow=2.3,SNR=7.5						

CNRM 16 17:48:08.4,35°.48N×2°.45W,h68km,ml1.1,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.51**	**240**	P	Pn	17 48 20.1	-1.2
GOG				S	Sn	17 48 31.8	+1.2
TAF	**Taforalt**	**0.66**	**177**	P	Pn	17 48 23.1	+0.2
TAF				S	Sn	17 48 33.9	+0.5
JBK	**JBK**	**1.14**	**185**	P	Pn	17 48 30.8	+1.9
JBK				S	Sn	17 48 45.5	+1.5

*KRSC **16** 17:51:40.9±1.0,53°.66N×161°.11E,h40km±17km,ML4.4*
*MOS **16** 17:51:43.7±0.9,53°.77N×160°.80E,h66km,mb4.2/3,Error ellipse: s-maj=9.3km s-min=5.3km az=62.0*

*NEIC **16** 17:51:45.0±1.4,53°.80N±0°.09×160°.7E±0°.1,h55km±8km, mb4.3/21,Error ellipse: s-maj=15.1km s-min=9.8km az=142.0*

*IDC **16** 17:51:46.1±2.0,53°.85N×160°.70E,h69km±17km,mb3.5/18, mb1 3.7/22,mb1mx3.5/50,mbtmp3.8/22,MS3.0/5, Ms1 3.0/5,ms1mx2.6/78,Error ellipse: s-maj=19.1km s-min=12.7km az=130.0*

ISC 16 17:51:42.4±1.0,53°.68N±0°.03×161°.02E±0°.04,h43km±11km, n133,σ1§63/147,mb3.8/24,1C,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.83**	**226**	PN	**Pn**	**17 51 57.9**	**+0.2**
SPN				S	**Sn**	**17 52 08.4**	**-0.5**
SPN	**Mys Shipunski**	**0.83**	**226**	*e*P	**Pn**	**17 51 57.9**	**+0.2**
SPN				*e*S	**Sn**	**17 52 08.4**	**-0.5**
KII	**Karymskiy**	**1.00**	**292**	PN	**Pn**	**17 52 00.4**	**+0.3**
KII				S	**Sn**	**17 52 13.0**	**0.0**
KII	**Karymskiy**	**1.00**	**292**	*i* P	**Pn**	**17 52 00.4**	**+0.3**
KII				*e*S	**Sn**	**17 52 13.0**	**0.0**
NLC	**Nalytchevo**	**1.13**	**244**	PN	**Pn**	**17 52 02.0**	**+0.3**
NLC				S	**Sn**	**17 52 16.0**	**+0.1**
NLC	**Nalytchevo**	**1.13**	**244**	*e*P	**Pn**	**17 52 02.0**	**+0.3**
NLC				*e*S	**Sn**	**17 52 16.0**	**+0.1**
SMAR	**Somma**	**1.39**	**253**	PN	**Pn**	**17 52 06.3**	**+0.7**
SMAR	**Somma**	**1.39**	**253**	*e*P	**Pn**	**17 52 06.3**	**+0.7**
UGLR	**Uglovaya**	**1.40**	**251**	PN	**Pn**	**17 52 06.7**	**+1.2**
UGLR	**Uglovaya**	**1.40**	**251**	*i* P	**Pn**	**17 52 06.7**	**+1.2**
KRER	**Koryakskii**	**1.41**	**255**	PN	**Pn**	**17 52 06.9**	**+1.1**
KRER	**Koryakskii**	**1.41**	**255**	*e*P	**Pn**	**17 52 06.9**	**+1.1**
AVH	**Avacha**	**1.43**	**254**	PN	**Pn**	**17 52 07.1**	**+1.2**
AVH	**Avacha**	**1.43**	**254**	*e*P	**Pn**	**17 52 07.1**	**+1.2**
KOK	**Koryaka**	**1.48**	**256**	PN	**Pn**	**17 52 07.7**	**+1.1**
KOK	**Koryaka**	**1.48**	**256**	*e*P	**Pn**	**17 52 07.7**	**+1.1**
DALK	**Dalny**	**1.51**	**245**	PN	**Pn**	**17 52 07.6**	**+0.7**
DALK				S	**Sn**	**17 52 25.8**	**+0.5**
DALK	**Dalny**	**1.51**	**245**	*e*P	**Pn**	**17 52 07.6**	**+0.7**
DALK				*e*S	**Sn**	**17 52 25.8**	**+0.5**
PET	**Petropavlovsk**	**1.56**	**246**	*i* PN	**Pn**	**17 52 08.9**	**+1.2**
PET				*e*S	**Sn**	**17 52 27.1**	**+0.4**
PET				pmax	pmax		
	comp=Z,189nm,0.5s						
PET				smax	smax		
	comp=E,947nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.6s						
PET	**Petropavlovsk**	**1.56**	**246**	Pn	**Pn**	**17 52 08.5**	**+0.9**
PET				Sn	**Sn**	**17 52 26.4**	**-0.3**
PET	**Petropavlovsk**	**1.56**	**246**	*e*P	**Pn**	**17 52 08.6**	**+0.9**
PET				*e*S	**Sn**	**17 52 27.2**	**+0.5**
TUMD	**Tumrok D**	**1.57**	**347**	*e*P	**Pn**	**17 52 08.7**	**+0.9**
TUMD				*e*S	**Sn**	**17 52 27.2**	**+0.2**
TUMR	**Tumrok**	**1.69**	**343**	PN	**Pn**	**17 52 11.2**	**+1.7**
TUMR				S	**Sn**	**17 52 31.8**	**+1.8**
TUMR	**Tumrok**	**1.69**	**343**	*e*P	**Pn**	**17 52 11.2**	**+1.7**
TUMR				*e*S	**Sn**	**17 52 31.8**	**+1.8**
GNL	**Ganaly**	**1.83**	**272**	PN	**Pn**	**17 52 13.3**	**+1.8**
GNL	**Ganaly**	**1.83**	**272**	*e*P	**Pn**	**17 52 13.3**	**+1.8**
KRMR	**Karymshinskiy**	**1.94**	**245**	PN	**Pn**	**17 52 14.2**	**+1.4**
KRMR				S	**Sn**	**17 52 36.6**	**+0.7**
KRMR	**Karymshinskiy**	**1.94**	**245**	*e*P	**Pn**	**17 52 14.2**	**+1.4**
KRMR				*e*S	**Sn**	**17 52 36.6**	**+0.7**
RUS	**Russkaya**	**1.96**	**232**	PN	**Pn**	**17 52 15.3**	**+2.1**
RUS	**Russkaya**	**1.96**	**232**	*e*P	**Pn**	**17 52 15.3**	**+2.1**
PEB2	**Petropavlovsk-**	**2.06**	**255**	Pn	**Pn**	**17 52 15.8**	**+1.3**
PEA2	**Petropavlovsk-**	**2.07**	**255**	Pn	**Pn**	**17 52 15.7**	**+1.0**
PEA0B	**Petropavlovsk-**	**2.07**	**255**	PN	**Pn**	**17 52 15.8**	**+1.1**
PEA0B	**Petropavlovsk-**	**2.07**	**255**	Pn	**Pn**	**17 52 15.8**	**+1.1**
PETK	**Petropavlovsk-**	**2.07**	**255**	P	**Pn**	**17 52 16.4**	**+1.7**
	comp=N,20nm,0.3s,baz=86,slow=16,SNR=201						
PETK				S	**Sn**	**17 52 41.3**	**+2.0**
	comp=N,48nm,0.3s,baz=92,slow=31,SNR=8.3						
PETK				LR	LR	17 53 10.1	
	comp=N,237nm,20.2s,baz=65,slow=43						
PETK	**Petropavlovsk-**	**2.07**	**255**	Pn	**Pn**	**17 52 15.4**	**+0.7**
PEB5	**Petropavlovsk-**	**2.08**	**256**	Pn	**Pn**	**17 52 15.1**	**+0.3**
MTVR	**Mutnovka**	**2.09**	**236**	PN	**Pn**	**17 52 16.3**	**+1.2**
MTVR				S	**Sn**	**17 52 40.9**	**+1.0**
MTVR	**Mutnovka**	**2.09**	**236**	*e*P	**Pn**	**17 52 16.3**	**+1.2**
MTVR				*e*S	**Sn**	**17 52 40.9**	**+1.0**
GRL	**Gorelyy**	**2.11**	**239**	PN	**Pn**	**17 52 16.9**	**+1.6**
GRL				S	**Sn**	**17 52 42.3**	**+2.0**
GRL	**Gorelyy**	**2.11**	**239**	*e*P	**Pn**	**17 52 16.9**	**+1.6**
GRL				*e*S	**Sn**	**17 52 42.3**	**+2.0**
KMNR	**Kamenistaya**	**2.13**	**348**	PN	**Pn**	**17 52 18.2**	**+2.6**
KMNR	**Kamenistaya**	**2.13**	**348**	*e*P	**Pn**	**17 52 18.2**	**+2.6**
ASAK	**Asacha**	**2.29**	**237**	PN	**Pn**	**17 52 20.1**	**+2.3**
ASAK				S	**Sn**	**17 52 47.5**	**+2.8**
ASAK	**Asacha**	**2.29**	**237**	*e*P	**Pn**	**17 52 20.1**	**+2.3**
ASAK				*e*S	**Sn**	**17 52 47.5**	**+2.8**
ZLN	**Zelenaya**	**2.35**	**357**	PN	**Pn**	**17 52 21.8**	**+3.2**
ZLN	**Zelenaya**	**2.35**	**357**	*e*P	**Pn**	**17 52 21.8**	**+3.2**
APC	**Apacha**	**2.44**	**254**	PN	**Pn**	**17 52 22.3**	**+2.6**
APC				S	**Sn**	**17 52 52.0**	**+3.7**
APC	**Apacha**	**2.44**	**254**	*e*P	**Pn**	**17 52 22.3**	**+2.6**
APC				*e*S	**Sn**	**17 52 52.0**	**+3.7**
KDTR	**Khodutka, Kamc**	**2.59**	**225**	PN	**Pn**	**17 52 25.3**	**+3.5**
KDTR	**Khodutka, Kamc**	**2.59**	**225**	*e*P	**Pn**	**17 52 25.3**	**+3.5**
ESO	**Esso**	**2.62**	**330**	PN	**Pn**	**17 52 23.3**	**+1.0**
ESO	**Esso**	**2.62**	**330**	*e*P	**Pn**	**17 52 23.3**	**+1.0**
KBTR	**Krutoberegovo**	**2.74**	**21**	PN	**Pn**	**17 52 26.6**	**+2.8**
KBTR	**Krutoberegovo**	**2.74**	**21**	*e*P	**Pn**	**17 52 26.6**	**+2.8**
MIPR	**Malaya Ipel'ka**	**2.94**	**243**	PN	**Pn**	**17 52 30.2**	**+3.6**
MIPR	**Malaya Ipel'ka**	**2.94**	**243**	*e*P	**Pn**	**17 52 30.2**	**+3.6**
BKI	**Bering**	**3.27**	**60**	PN	**Pn**	**17 52 31.8**	**+0.7**
BKI				S	**Sn**	**17 53 07.1**	**-1.6**
BKI	**Bering**	**3.27**	**60**	*e*P	**Pn**	**17 52 31.8**	**+0.7**
BKI				*e*S	**Sn**	**17 53 07.1**	**-1.6**
PAU	**Pauzhetka**	**3.39**	**231**	PN	Pn	17 52 36.7	+3.9
PAU	**Pauzhetka**	**3.39**	**231**	*e*P	Pn	17 52 36.7	+3.9
SHEM	**Shemya Is, Ala**	**7.91**	**92**	LR	LR	17 57 04.1	
	comp=N,49nm,18.8s,baz=4.0,slow=39						
MA2	**Magadan**	**8.17**	**320**	P	**Pn**	**17 53 37.9**	**-0.4**
	comp=N,0.3nm,0.3s,baz=166,slow=9.0,SNR=3.6						
MA2				LR	LR	17 56 44.2	
	comp=N,68nm,20.3s,baz=133,slow=38						
ADK	**Adak**	**13.60**	**89**	P	**P**	**17 54 57.7**	**-2.8**
ADK	**Adak**	**13.60**	**89**	Pn	**P**	**17 54 57.7**	**-2.8**
BILL	**Bilibino**	**14.62**	**8**	*e*P	**P**	**17 55 13.7**	**+1.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL	**Bilibino**	**14.62**	**8**	P	**P**	**17 55 11.9**	**+0.1**
JKA	**Kamikawa-asahi**	**15.39**	**239**		**Pn**	**17 55 16.8**	**+0.3**
JKA	**Kamikawa-asahi**	**15.39**	**239**	IAmb	IAmb	17 55 43.6	
	comp=Z,46nm,1.5s						
ASAJ	**Asahikawa**	**15.40**	**239**	P	**Pn**	**17 55 16.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=146,slow=18,SNR=1.9						
ASAJ				LR	LR	18 00 37.7	
	comp=Z,32nm,19.7s,baz=45,slow=35						
ERM	**Erimo**	**16.68**	**233**	P	**Pn**	**17 55 30.9**	**-1.9**
ERM				pmax	pmax		
	comp=Z,26nm,1.3s						
ERM	**Erimo**	**16.68**	**233**	P	**Pn**	**17 55 30.9**	**-1.9**
ERM				IAmb	IAmb	17 55 47.0	
	comp=Z,26nm,1.2s						
YAK	**Yakutsk**	**18.48**	**309**	P	**P**	**17 55 53.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=165,slow=0.7,SNR=6.6						
YAK				LR	LR	18 02 33.4	
	comp=Z,63nm,18.7s,baz=91,slow=36						
YAK	**Yakutsk**	**18.48**	**309**	P	**P**	**17 55 52.9**	**-1.6**
YAK				IAmb	IAmb	17 55 56.5	
	comp=Z,10nm,0.7s						
KLR	**Kul'dur**	**18.71**	**268**	P	**P**	**17 55 56.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=322,slow=18,SNR=4.3						
TNA	**Tin City**	**19.44**	**40**	P	**Pn**	**17 56 04.6**	**-1.8**
TN

AKASG	**Malin Array Be**	**68.39**	**329**	IAmb	IAmb	18 02 39.7			
	comp=Z,54nm,0.8s								
TXAR	**Lajitas Array**	**69.90**	**68**	P	**P**	**18 02 51.3**	**+2.3**		
	comp=Z,0.5nm,0.6s,baz=301,slow=4.1,SNR=6.6								
CLL	**Collm**	**72.00**	**340**	*i* P	**P**	**18 03 01.5**	**+0.2**		
BUR08	**Bucovina Ar. S**	**72.32**	**330**	P	**P**	**18 03 02.7**	**-0.7**		
KHC	**Kasperske Hory**	**73.94**	**338**	*e*P	**P**	**18 03 09.5**	**-3.3**		
KHC	**Kasperske Hory**	**73.94**	**338**	*e*P	**P**	**18 03 09.5**	**-3.3**		
MLR	**Muntele Rosu**	**74.04**	**329**	P	**P**	**18 03 13.8**	**+0.2**		
MLR	**Muntele Rosu**	**74.04**	**329**	P	**P**	**18 03 13.8**	**+0.2**		
GERES	**GERESS Array B**	**74.18**	**338**	P	**P**	**18 03 13.9**	**-0.4**		
	comp=Z,0.9nm,0.7s,baz=33,slow=5.1,SNR=8.3								
WRA	**Warramunga Arr**	**76.85**	**206**	P	**P**	**18 03 30.7**	**+1.0**		
	comp=Z,0.4nm,0.6s,baz=19,slow=6.1,SNR=5.5								
ASAR	**Alice Springs**	**80.52**	**205**	P	**P**	**18 03 50.9**	**+1.0**		
	comp=Z,1.1nm,0.9s,baz=17,slow=5.9,SNR=12								
ESDC	**Sonseca Array**	**86.12**	**348**	P	**P**	**18 04 19.3**	**+0.6**		
	comp=Z,0.4nm,0.6s,baz=12,slow=6.9,SNR=2.4								

*IDC **16** 17:58:03.8±2.9, 26°.13S×70°.33W, h46km±28km, mb3.3/2, mb1 3.5/3, mb1mx3.3/24, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=58.1km s-min=31.1km az=126.0*

*GUC **16** 17:58:05.4±0.6, 25°.91S×70°.24W, h46km±8km, ML3.6*

ISC 16 17:58:03.0±0.8, **25°.77S**±0°.03×**70°.69W**±0°.08, **h29**km±6km, **n24**, σ3**°38**/40, **4C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**1.16**	**59**	⇑*i*P	**Pn**	**17 58 24.7**	**+1.1**
GO02				*e*S	**Sn**	**17 58 38.7**	**0.0**
GO02				IAML		17 58 41.6	
	comp=N,3μm,0.1s						
PB14	**IPOC Station P**	**1.17**	**13**	⇓*e*P	**Pb**	**17 58 26.1**	**+1.4**
PB14				*e*S	**Sn**	**17 58 41.5**	**+2.8**
AC06	**Mina Casimiro**	**1.61**	**169**	⇑*i*P	**Pn**	**17 58 31.0**	**+1.4**
AC06				*e*S	**Sn**	**17 58 50.2**	**+0.8**
AC06				IAML		17 58 54.0	
	comp=E,2μm,0.2s						
GO03	**Copiap**	**1.87**	**167**	⇑*i*P	**Pn**	**17 58 34.3**	**+1.2**
GO03				*e*S	**Sn**	**17 58 56.6**	**+0.9**
GO03				IAML		17 59 01.0	
	comp=E,941nm,0.1s						
PB10	**IPOC Station P**	**2.25**	**3**	*e*P	**Pb**	**17 58 39.9**	**-3.0**
PB10				*e*S	**Sb**	**17 59 14.3**	**+4.0**
AC04	**Llanos de Chal**	**2.45**	**188**	⇑*e*P	**Pn**	**17 58 41.2**	**+0.1**
AC04				*e*S	**Sb**	**17 59 19.3**	**+3.1**
PB15	**IPOC Station P**	**2.78**	**24**	*e*P	**Pb**	**17 58 48.5**	**-3.6**
PB15				*e*S	**Sb**	**17 59 25.0**	**-0.8**
PB06	**IPOC Station P**	**3.21**	**19**	*e*P	**Pb**	**17 58 53.5**	**+1.8**
LCO	**Las Campanas**	**3.23**	**180**	*e*P	**Pn**	**17 58 52.5**	**+0.4**
LCO				*e*S	**Sn**	**17 59 31.2**	**+1.5**
LVC	**Limon Verde**	**3.54**	**28**	P	**Pn**	**17 58 59.2**	**+2.8**
	comp=E,1.0nm,0.3s,baz=176,slow=8.5,SNR=18						
LVC				S	**Sb**	**17 59 47.9**	**+0.1**
	comp=E,26nm,0.3s,baz=342,slow=9.2,SNR=5.5						
VCA	**Vinchina**	**3.69**	**144**	*e*P	**Pn**	**17 59 02.2**	**+3.9**
CO05	**La Serena**	**4.17**	**187**	*e*S	**Sn**	**17 59 55.0**	**+2.6**
PB09	**IPOC Station P**	**4.17**	**19**	*e*P	**Pn**	**17 59 07.1**	**+2.3**
GO04	**Tololo Observa**	**4.39**	**181**	*e*P	**Pn**	**17 59 08.6**	**+0.6**
CO06	**Fray Jorge**	**4.96**	**189**	*e*P	**Pn**	**17 59 14.5**	**-1.1**
H03N1	**Juan Fernandez**	**10.47**	**221**	P	**Pn**	**18 00 30.4**	**-0.5**
	baz=35						
H03N1				S	**Sn**	**18 02 32.4**	**+5.4**
	baz=238						
H03N1				T	T	18 10 58.8	
	baz=47,slow=72,SNR=31						
H03N2	**Juan Fernandez**	**10.48**	**221**	P	**Pn**	**18 00 30.7**	**-0.3**
	baz=35						
H03N2				S	**Sn**	**18 02 33.9**	**+6.5**
	baz=238						
H03N2				T	T	18 11 20.2	
	baz=47,slow=72,SNR=33						
H03N3	**Juan Fernandez**	**10.49**	**221**	P	**Pn**	**18 00 29.8**	**-1.4**
	baz=35						
H03N3				S	**Sn**	**18 02 32.9**	**+5.4**
	baz=238						
H03N3				T	T	18 11 09.0	
	baz=47,slow=72,SNR=27						
H03S3	**Juan Fernandez**	**10.74**	**220**	P	**Pn**	**18 00 33.6**	**-1.1**
	baz=50						
H03S3				S	**Sn**	**18 02 26.2**	**-7.5**
	baz=242						
H03S1	**Juan Fernandez**	**10.75**	**220**	P	**Pn**	**18 00 33.2**	**-1.6**
	baz=50						
H03S1				S	**Sn**	**18 02 25.7**	**-8.3**
	baz=242						
H03S2	**Juan Fernandez**	**10.76**	**220**	P	**Pn**	**18 00 33.1**	**-1.8**
	baz=50						
H03S2				S	**Sn**	**18 02 26.2**	**-7.9**
	baz=242						
PDAR	**Pinedale Array**	**77.03**	**332**	P	**P**	**18 09 54.4**	**+1.0**
	comp=E,0.1nm,0.4s,baz=142,slow=4.6,SNR=1.7						
TORD	**Torodi Ar. Bea**	**80.32**	**70**	P	**P**	**18 10 09.6**	**-2.3**
	comp=E,0.4nm,0.6s,baz=251,slow=4.7,SNR=4.1						
TORD				pP	**sP**	**18 10 24.2**	**-0.4**
	comp=E,1.2nm,0.6s,baz=262,slow=5.2,SNR=7.5						
ZALV	**Zalesovo Beam**	**146.49**	**26**	PKPbc	**PKPdf**	**18 17 39.6**	**0.0**
	comp=E,2.9nm,1.1s,baz=298,slow=3.1,SNR=4.2						

*DJA **16** 18:00:08.6±0.8, 0°.S±14°.×13°.4E±°, h10km, M4.2/9, mb4.3/6, mB4.2/1, MLv4.2/9, Mw(mB)3.3/1*

*IDC **16** 18:00:08.2±1.1, 0°.74S×134°.03E, h0km, mb3.9/7, mb1 4.0/11, mb1mx3.8/44, mbtmp3.9/11, ML3.8/4, MS3.4/2, Ms1 3.4/2, ms1mx2.6/67, Error ellipse: s-maj=27.8km s-min=19.9km az=92.0*

ISC 16 18:00:13.5±0.7, **0°.7S**±0°.1×**133°.96E**±0°.05, **h32**km, **n19**, σ1**°31**/19, **mb4.0/7, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**2.20**	**103**	P	**Pn**	**18 00 47.8**	**0.0**
SRPI	**Serui, Papua**	**2.55**	**117**	P	**Pn**	**18 00 53.6**	**+0.9**
SIJI	**Sorong**	**2.70**	**267**	Pn	**Pn**	**18 00 53.4**	**-1.4**
	15nm,0.3s,baz=186,slow=9.8,SNR=74						
SIJI				Sn	**Sn**	**18 01 29.7**	**+3.4**
	15nm,0.3s,baz=326,slow=24,SNR=1.6						
SIJI				LR	LR	18 01 52.6	
	comp=Z,115nm,18.5s,baz=160,slow=38						
SWI	**Sorong**	**2.71**	**267**	P	**Pn**	**18 00 53.6**	**-1.2**
SMPI	**Sarmi**	**4.92**	**105**	P	**Pn**	**18 01 23.9**	**-1.3**
MSAI	**Masohi**	**5.67**	**242**	P	**Pn**	**18 01 37.5**	**+1.9**
	0.1nm186nm12nm,0.7s						
LBMI	**Labuha**	**6.46**	**271**	P	**Pn**	**18 01 45.1**	**-1.3**
	0.1nm15nm,1.1s						
AAI	**Ambon**	**6.48**	**243**	P	**Pn**	**18 01 47.2**	**+0.5**
	0.2nm50nm,1.0s						
BATI	**Baumata**	**13.93**	**227**	Pn	**Pn**	**18 03 27.5**	**-1.3**
	0.3nm,0.3s,baz=321,slow=18,SNR=1.3						
FITZ	**Fitzroy Crossi**	**19.12**	**205**	Pn	**P**	**18 04 33.6**	**-0.3**
	0.2nm,0.3s,baz=31,slow=8.8,SNR=11						
FITZ				Sn	Sn	18 07 57.2	-11
	0.2nm,0.3s,baz=178,slow=11,SNR=10.0						
WRA	**Warramunga Arr**	**19.12**	**179**	Pn	**P**	**18 04 33.0**	**-1.0**
	0.3nm,0.3s,baz=357,slow=12,SNR=20						
WRA				Sn	Sn	18 07 54.9	-14
	0.0nm,0.3s,baz=12,slow=13,SNR=1.3						
ASAR	**Alice Springs**	**22.82**	**180**	P	**P**	**18 05 12.8**	**-1.1**
	1.4nm,0.5s,baz=1.4,slow=11,SNR=21						
LEM	**Lembang**	**26.97**	**256**	LR	LR	18 18 46.5	
	comp=Z,500nm,18.2s,baz=219,slow=41						
CMAR	**Chiang Mai Arr**	**39.34**	**301**	P	**P**	**18 07 40.1**	**0.0**
	2.4nm,0.9s,baz=119,slow=6.9,SNR=20						
SONM	**Songino Array**	**53.97**	**337**	P	**P**	**18 09 35.0**	**+0.6**
	0.3nm,0.6s,baz=165,slow=7.4,SNR=2.7						
MKAR	**Makanchi Array**	**65.34**	**324**	P	**P**	**18 10 53.0**	**+0.3**
	2.2nm,0.7s,baz=116,slow=7.8,SNR=21						
ZALV	**Zalesovo Beam**	**67.87**	**331**	P	**P**	**18 11 08.1**	**-0.6**
	0.4nm,0.3s,baz=106,slow=9.4,SNR=3.7						
TIXI	**Tiksi**	**72.31**	**358**	P	**P**	**18 11 35.1**	**-0.4**
	0.8nm,0.2s,baz=271,slow=23,SNR=1.4						
ILAR	**Eielson Array**	**86.01**	**25**	P	**P**	**18 12 50.4**	**-0.1**
	0.4nm,0.7s,baz=268,slow=5.3,SNR=3.2						

*BJI **16** 18:08:25.5±0.0, 0°.16N×97°.90E, h17km, mb4.4/38, mB5.0/20, Ms4.5/14, Ms7 4.3/14*

*IDC **16** 18:08:25.7±0.5, 0°.32N×97°.99E, h0km, mb4.3/25, mb1 4.3/29, mb1mx4.2/46, mbtmp4.3/29, ML4.0/4, MS3.7/19, Ms1 3.8/19, ms1mx3.4/82, Error ellipse: s-maj=17.6km s-min=11.1km az=56.0*

*DJA **16** 18:08:28.0±1.4, 0°.N±3°.×9°.8E±°, h22km±12km, M4.8/20, mB4.8/20, mB5.4/9, MLv4.9/19, Mw(mB)4.8/9, MwMwp6.0/1, Mwp6.1/1*

*NEIC **16** 18:08:28.5±2.7, 0°.38N±0°.06×97°.89E±0°.06, h24km±4km, mb4.8/80, Error ellipse: s-maj=10.3km s-min=7.2km az=52.0*

ISC 16 18:08:29.0±0.3, **0°.35N**±0°.04×**97°.92E**±0°.05, **h29**km, **n207**, σ1**°66**/202, **mb4.6**/71, **MS3.9**/23, **2C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.01**	**340**		**Pn**	**18 08 45.7**	**-1.5**
GSI	**Gunungsitoli**	**1.01**	**340**	P	**Pn**	**18 08 46.2**	**-1.0**
GSI	**Gunungsitoli**	**1.01**	**340**	P	**Pn**	**18 08 46.6**	**-0.6**
MNSI	**Mandailing Nat**	**1.72**	**75**	P	**Pn**	**18 08 57.2**	**+0.2**
SISI	**Saibi**	**2.04**	**145**	P	**Pn**	**18 09 02.7**	**+1.3**
RPSI	**Rantau Prapat**	**2.54**	**23**		**Pn**	**18 09 09.3**	**+1.1**
RPSI					**Sn**	**18 09 41.0**	**+2.9**
PPI	**Padang Panjang**	**2.60**	**108**	P	**Pn**	**18 09 09.5**	**+0.3**
PSI	**Prapat**	**2.63**	**22**	Pn	**Pn**	**18 09 09.3**	**-0.3**
	11nm,0.3s,baz=204,slow=7.8,SNR=29						
PSI				Sn	**Sn**	**18 09 41.0**	**+0.3**
	24nm,0.3s,baz=169,slow=16,SNR=4.5						
BKNI	**Bangkinang**	**3.12**	**90**	Pn	**Pn**	**18 09 17.4**	**+1.1**
BKNI	**Bangkinang**	**3.12**	**90**	P	**Pn**	**18 09 18.3**	**+2.0**
BKNI	**Bangkinang**	**3.12**	**90**	P	**Pb**	**18 09 21.1**	**-2.7**
KCSI	**Kotacane, Aceh**	**3.15**	**357**	P	**Pn**	**18 09 16.6**	**-0.1**
TSI	**Tuntungan**	**3.19**	**12**	P	**Pn**	**18 09 18.7**	**+1.4**
PPSI	**Pulau Pagai**	**3.73**	**146**	P	**Pn**	**18 09 25.0**	**+0.3**
KRJI	**Kerinci**	**4.29**	**124**	P	**Pn**	**18 09 35.4**	**+2.9**
RGRI	**Rengat**	**4.47**	**99**	P	**Pn**	**18 09 36.6**	**+1.8**
LHMI	**Lhok Sumawe**	**4.94**	**349**		**Pn**	**18 09 41.4**	**+0.1**
LHMI	**Lhok Sumawe**	**4.94**	**349**	P	**Pn**	**18 09 40.8**	**-0.5**
LHMI	**Lhok Sumawe**	**4.94**	**349**	P	**Pn**	**18 09 40.6**	**-0.7**
MASI	**Maura Aman, Be**	**5.54**	**129**	P	**Pn**	**18 09 51.0**	**+1.4**
	1.6nm3μm198nm,0.5s						
KULM	**Kulim**	**5.61**	**29**	Pn	**Pn**	**18 09 50.5**	**-0.1**
MYKOM	**Kota Tinggi**	**6.10**	**76**		**Pn**	**18 09 56.9**	**-0.3**
TPRI	**Tanjung Pinang**	**6.63**	**85**	P	**Pn**	**18 10 04.9**	**+0.3**
	0.5nm42nm,0.5s						
DSRI	**Dabo**	**6.71**	**97**	P	**Pn**	**18 10 06.5**	**+0.8**
	0.2nm18nm,0.5s						
MNAI	**Manna**	**6.87**	**133**		**Pn**	**18 10 07.8**	**-0.1**
MNAI	**Manna**	**6.87**	**133**	P	**Pn**	**18 10 08.8**	**+0.9**
	1.4nm7μm409nm,0.7s						
MNAI	**Manna**	**6.87**	**133**	P	**Pn**	**18 10 09.0**	**+1.1**
LWLI	**Liwa**	**8.13**	**131**	P	**Pn**	**18 10 25.5**	**+0.3**
	85μm3μm217nm,0.6s						
SRIT	**Nakonsritamara**	**8.36**	**12**	Pn	**Pn**	**18 10 25.3**	**-3.0**
PPBI	**Pangkal Pinang**	**8.59**	**107**	P	**Pn**	**18 10 32.4**	**+1.0**
KLI	**Kotabumi**	**8.65**	**127**	P	**Pn**	**18 10 34.4**	**+2.1**
	116nm,0.8s						
KASI	**Kota Agung**	**8.79**	**132**	P	**Pn**	**18 10 34.0**	**-0.2**
	74nm,0.5s						
CGJI	**Cibinong**	**10.39**	**132**	P	**Pn**	**18 10 53.9**	**-2.3**
	29nm,0.6s						
DBJI	**Dramaga**	**11.17**	**128**	P	**Pn**	**18 11 06.9**	**+0.1**
	42nm,1.1s						
LEM	**Lembang**	**12.02**	**127**	Pn	**Pn**	**18 11 17.9**	**-0.8**
	2.1nm,0.3s,baz=276,slow=23,SNR=2.5						
LEM	**Lembang**	**12.02**	**127**	P	**Pn**	**18 11 18.2**	**-0.5**
	28nm,0.8s						
XMIS	**Christmas Isla**	**13.23**	**145**	Pn	**Pn**	**18 11 32.0**	**-3.0**
KPJI	**Karang Pucung**	**13.38**	**125**	P	**Pn**	**18 11 35.6**	**-1.4**
	29nm,0.6s						
SBUM	**Sibu**	**14.45**	**82**	Pn	**Pn**	**18 11 50.5**	**-1.2**
UGM	**Wanagama**	**15.01**	**123**	Pn	**Pn**	**18 11 55.8**	**-3.6**
UGM	**Wanagama**	**15.01**	**123**	P	**Pn**	**18 11 59.3**	**0.0**
	134nm,1.4s						
UBPT	**Khong Chiam**	**16.60**	**26**		**Pn**	**18 12 20.1**	**+0.3**
CM31	**Chiang Mai Arr**	**18.02**	**3**	P	**Pn**	**18 12 35.8**	**-1.7**
CMAR	**Chiang Mai Arr**	**18.02**	**3**	P	**Pn**	**18 12 36.9**	**-0.6**
	0.5nm,0.3s,baz=191,slow=11,SNR=34						
CMAR				LR	LR	18 19 31.1	
	comp=Z,253nm,18.2s,baz=185,slow=37						
CMAR	**Chiang Mai Arr**	**18.02**	**3**		**Pn**	**18 12 32.8**	**-4.7**
CHTO	**Chiang Mai**	**18.37**	**3**		**P**	**18 12 38.4**	**-3.2**
JAGI	**Jajag, Banyuwa**	**18.40**	**119**		**P**	**18 12 39.0**	**-3.0**
JAGI	**Jajag, Banyuwa**	**18.40**	**119**	P	**P**	**18 12 40.6**	**-1.4**
PALK	**Pallekele**	**18.49**	**292**	P	**Pn**	**18 12 45.4**	**+2.1**
	0.2nm,0.3s,baz=254,slow=16,SNR=1.5						
PALK				S	Sn	18 15 56.2	-13
	0.2nm,0.3s,baz=346,slow=12,SNR=1.4						
PALK				LR	LR	18 19 48.2	
	comp=Z,187nm,18.2s,baz=215,slow=37						
PALK	**Pallekele**	**18.49**	**292**		**Pn**	**18 12 43.2**	**-0.2**
KKM	**Kota Kinabalu**	**19.11**	**72**	P	**Pn**	**18 12 51.5**	**+0.6**
KKM	**Kota Kinabalu**	**19.11**	**72**	P	**Pn**	**18 12 51.6**	**+0.6**
MYLDM	**Lahad Datu**	**21.10**	**77**	P	**P**	**18 13 08.8**	**-2.7**
MYLDM				IAmb	IAmb	18 13 42.1	
	comp=Z,25nm,1.1s						
KAPI	**Kappang**	**22.45**	**104**	P	**P**	**18 13 25.5**	**-0.5**
	comp=Z,4.3nm,0.4s,baz=80,slow=13,SNR=1.3						
TOLI2	**Tolitoli**	**22.87**	**88**		**P**	**18 13 29.6**	**-0.9**
TOLI2	**Tolitoli**	**22.87**	**88**	P	**P**	**18 13 30.9**	**+0.5**
APSI	**Ampana**	**23.76**	**93**	P	**P**	**18 13 40.4**	**+1.1**
	comp=Z,18nm,0.9s						
MRSI	**Marisa**	**24.02**	**90**	P	**P**	**18 13 42.3**	**+0.6**
	comp=Z,22nm,1.0s						
KMI	**Kunming**	**25.06**	**10**	⇓P	**P**	**18 13 54.0**	**+2.7**
KMI				pP	pP	18 13 59.3	-0.3
KMI				pmax	pmax		
	comp=Z,7.0nm,1.8s						
KMI				LR	LR		
	comp=Z,530nm,15.4s						
KMI				LR	LR		
	comp=Z,310nm,14.7s						
KMI				LR	LR		
	comp=Z,600nm,18.1s						
HYBB	**Hyderabad (bro**	**25.51**	**313**	*e*P	**P**	**18 13 54.3**	**-1.0**
HYBB				*es*P	**sP**	**18 14 05.2**	**-2.0**
HYBB				*e*PcP	**PcP**	**18 17 25.3**	**-1.3**
SHL	**Shillong**	**25.74**	**347**	P	**P**	**18 13 57.3**	**-0.1**
SHL				IAmb	IAmb	18 14 07.3	
	comp=Z,24nm,0.9s						
PZH	**PanZhiHua**	**26.26**	**8**	⇑P	**P**	**18 14 05.5**	**+3.5**
PZH				pP	**pP**	**18 14 10.1**	**-0.2**
PZH				S	**S**	**18 18 31.4**	**-1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PZH				pmax	pmax		
	comp=Z,90nm,4.9s						
PZH				LR	LR		
	comp=Z,750nm,11.8s						
PZH				LR	LR		
	comp=Z,800nm,11.7s						
PZH				LR	LR		
	comp=Z,770nm,12.0s						
H08S2	**Diego Garcia H**	**26.57**	**252**	T	T	18 41 26.8	
	baz=73,slow=75,SNR=451						
H08S3	**Diego Garcia H**	**26.57**	**252**	T	T	18 41 28.9	
	baz=73,slow=75,SNR=511						
H08S1	**Diego Carcia H**	**26.59**	**252**	T	T	18 41 30.0	
	baz=73,slow=75,SNR=483						
BATI	**Baumata**	**27.68**	**113**	P	**P**	**18 14 15.4**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=63,slow=20,SNR=1.2						
ODAN	**Odane**	**28.23**	**340**	*e*P	**P**	**18 14 21.3**	**+1.4**
TAPN	**Taplejung**	**28.58**	**341**	*e*P	**P**	**18 14 24.7**	**+1.7**
RAMN	**Ramite**	**28.60**	**339**	*e*P	**P**	**18 14 24.8**	**+1.7**
TNTI	**Ternate**	**29.45**	**89**	P	**P**	**18 14 30.8**	**+0.2**
TNTI				IAmb	IAmb	18 14 37.2	
	comp=Z,18nm,1.0s						
PKI	**Pulchoki**	**29.61**	**337**	*e*P	**P**	**18 14 33.7**	**+1.5**
PKIN	**Phulchoki**	**29.62**	**337**	*e*P	**P**	**18 14 33.8**	**+1.6**
GUN	**Gumba**	**29.73**	**338**	*e*P	**P**	**18 14 34.9**	**+1.6**
KKN	**Kakani**	**29.85**	**337**	*e*P	**P**	**18 14 35.9**	**+1.6**
LSA	**Lhasa**	**29.89**	**348**	P	**P**	**18 14 36.0**	**+1.2**
LSA				IAmb	IAmb	18 14 45.7	
	comp=Z,14nm,0.8s						
GKN	**Gorkha**	**30.30**	**336**	*e*P	**P**	**18 14 39.7**	**+1.6**
KOLN	**Koldanda**	**30.53**	**334**	*e*P	**P**	**18 14 42.0**	**+1.8**
PSA00	**Pilbara Seismi**	**30.55**	**137**	P	**P**	**18 14 40.6**	**+0.4**
PSA00	**Pilbara Seismi**	**30.55**	**137**	P	**P**	**18 14 38.1**	**-2.1**
PSA00				IAmb	IAmb	18 14 48.8	
	comp=Z,18nm,1.2s						
DANN	**Dangsing**	**30.96**	**335**	*e*P	**P**	**18 14 46.5**	**+2.3**
PYUN	**Piuthan**	**31.08**	**334**	*e*P	**P**	**18 14 47.1**	**+2.0**
FITZ	**Fitzroy Crossi**	**32.85**	**125**	P	**P**	**18 14 59.3**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=315,slow=6.5,SNR=1.3						
FITZ				LR	LR	18 30 60.0	
	comp=Z,67nm,18.4s,baz=343,slow=41						
XAN	**Xi'an**	**35.06**	**16**	P	P	18 15 24.6	+5.0
XAN				pP	sP	18 15 31.1	-0.4
XAN				sP	pP	18 15 34.8	+6.8
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MTN	**Manton Dam**	**35.45**	**113**	P	**P**	**18 15 19.5**	**-3.6**
	baz=36,SNR=5.9						
MTN	**Manton Dam**	**35.45**	**113**	P	P	18 15 17.8	-5.4
MTN				IAmb	IAmb	18 15 23.1	
	comp=Z,20nm,1.6s						
GOMU	**GeErMu**	**35.78**	**356**	P	**P**	**18 15 28.9**	**+2.8**
GOMU				pP	pP	18 15 32.4	-2.3
GOMU				sP	sP	18 15 33.8	-4.4
GOMU				S	**S**	**18 20 56.3**	**-5.7**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,170nm,5.7s						
GOMU				LR	LR		
	comp=Z,83nm,11.7s						
GOMU				LR	LR		
	comp=Z,90nm,8.6s						
GOMU				LR	LR		
	comp=Z,49nm,9.0s						
LZH	**Lanzhou**	**35.98**	**8**	⇑P	P	18 15 33.3	+5.7
LZH				pP	pP	18 15 35.8	-0.2
LZH				pmax	pmax		
	comp=Z,16nm,1.5s						
LZH				LR	LR		
	comp=Z,280nm,13.0s						
LZH				LR	LR		
	comp=Z,560nm,14.1s						
LZH				LR	LR		
	comp=Z,380nm,14.6s						
NJ2	**Nanjing**	**37.22**	**30**	*e*P	**P**	**18 15 39.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
WRKA	**Warakurna**	**38.74**	**133**	P	**P**	**18 15 52.7**	**+1.6**
	baz=39,SNR=7.9						
GTA	**Gaotai**	**38.91**	**2**	*e*P	**P**	**18 15 53.1**	**+0.8**
GTA				pP	pP	18 15 58.4	-2.4
GTA				sP	sP	18 16 01.8	-2.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,40nm,7.6s						
GTA				LR	LR		
	comp=Z,150nm,12.3s						
GTA				LR	LR		
	comp=Z,280nm,13.9s						
GTA				LR	LR		
	comp=Z,180nm,14.7s						
WRA	**Warramunga Arr**	**40.98**	**122**	P	**P**	**18 16 09.2**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=306,slow=8.5,SNR=42						
WRA				PcP	**PcP**	**18 18 10.8**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=313,slow=2.4,SNR=2.9						
WRAB	**Tennant Creek**	**40.99**	**122**	P	**P**	**18 16 09.2**	**-0.5**
WC3	**Warramunga Arr**	**41.02**	**122**	P	**P**	**18 16 09.6**	**-0.3**
	baz=41						
WR0	**Warramunga Arr**	**41.16**	**122**	P	**P**	**18 16 10.1**	**-1.0**
FORT	**Forrest**	**42.17**	**140**	P	**P**	**18 16 19.2**	**0.0**
HHC	**Hu-ho-hao-te**	**42.17**	**15**	*e*P	**P**	**18 16 21.8**	**+2.6**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,93nm,4.5s						
HHC				LR	LR		
	comp=Z,330nm,16.2s						
HHC				LR	LR		
	comp=Z,350nm,13.0s						
HHC				LR	LR		
	comp=Z,280nm,15.4s						
ASPA	**Alice Springs**	**42.31**	**127**	P	**P**	**18 16 19.4**	**-1.1**
	baz=42						
ASAR	**Alice Springs**	**42.31**	**127**	P	**P**	**18 16 20.9**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=301,slow=7.5,SNR=45						
ASAR				PcP	**PcP**	**18 18 16.1**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=327,slow=2.8,SNR=4.0						
ASAR	**Alice Springs**	**42.31**	**127**	P	**P**	**18 16 19.0**	**-1.6**
AS31	**Alice Springs**	**42.31**	**127**	P	**P**	**18 16 18.0**	**-2.6**
AIS	**Amsterdam Isla**	**42.35**	**204**	P	**P**	**18 16 18.6**	**-2.0**
BJT	**Baijiatuau**	**42.84**	**21**	P	**P**	**18 16 23.8**	**-0.7**
BJT				IAmb	IAmb	18 16 32.8	
	comp=Z,12nm,0.9s						
WMQ	**Urumqi**	**44.23**	**349**	*e*P	**P**	**18 16 36.6**	**+0.8**
WSAR	**Wadi Sarin**	**44.41**	**304**	LR	LR	18 33 07.0	
	comp=Z,53nm,20.9s,baz=129,slow=33						
TARG	**Taragay, Kyrgy**	**45.02**	**339**	P	**P**	**18 16 39.4**	**-3.1**
SOCY	**Socotra**	**45.14**	**287**	P	**P**	**18 16 43.8**	**+0.3**
SOCY				IAmb	IAmb	18 16 55.9	
	comp=Z,7.1nm,1.0s						
KDJ	**Kajisay**	**45.59**	**338**	P	**P**	**18 16 47.5**	**+0.6**
KDJ				IAmb	IAmb	18 16 55.3	
	comp=Z,11nm,0.9s						
DRK	**Karamyk**	**45.67**	**332**	P	**P

comp=Z,210nm,4.3s
KURK Kurchatov 52.79 345 P **P** **18 17 41.8 +0.3**
KURK IAmb IAmb 18 17 49.2
comp=Z,20nm,1.0s
USRK Ussuriysk Ar. 53.13 30 P **P** **18 17 45.3 +1.2**
comp=Z,16nm,1.1s,baz=234,slow=5.7,SNR=7.1
USRK LR LR 18 40 59.0
comp=Z,98nm,19.6s,baz=190,slow=37
USRK Ussuriysk Ar. 53.13 30 P **P** **18 17 42.4 -1.7**
ZAA0 Zalesovo Array 54.51 351 P **P** **18 17 53.7 -0.3**
ZALV Zalesovo Beam 54.51 351 P **P** **18 17 55.0 +1.0**
comp=Z,6.3nm,0.4s,baz=168,slow=7.0,SNR=38
ZALV LR LR 18 46 49.5
comp=Z,54nm,18.5s,baz=148,slow=42
ZALV Zalesovo Beam 54.51 351 P **P** **18 17 54.2 +0.2**
CMSA Cobar Meteorol 55.20 130 P **P** **18 18 01.4 +1.9**
baz=55,SNR=13
KLR Kul'dur 56.69 26 P **P** **18 18 11.4 +1.6**
comp=Z,5.1nm,0.9s,baz=228,slow=8.9
KLR LR LR 18 44 28.6
comp=Z,112nm,18.2s,baz=210,slow=38
EIDS Eidsvold 57.33 121 P **P** **18 18 14.4 -0.4**
BRVK Borovoye 57.34 341 P **P** **18 18 12.2 -2.2**
BRVK IAmb IAmb 18 18 21.2
comp=Z,9.9nm,0.9s
ABKAR Akbulak array 58.59 332 P **P** **18 18 22.6 -0.5**
ABKAR Akbulak array 58.59 332 P **P** **18 18 22.9 -0.3**
ABKAR IAmb IAmb 18 18 30.2
comp=Z,13nm,0.9s
ASAJ Asahikawa 58.91 36 P **P** **18 18 27.4 +1.9**
comp=Z,6.7nm,1.1s,baz=29,slow=13
LODK Lodwar 62.59 274 P **P** **18 18 50.1 -1.1**
LODK IAmb IAmb 18 19 01.6
comp=Z,5.4nm,1.0s
ARU Arti 64.24 337 P **P** **18 18 58.8 -2.4**
ARU IAmb IAmb 18 19 08.0
comp=Z,8.2nm,1.0s
KBZ Khabaz 65.18 319 P **P** **18 19 10.1 +2.5**
comp=Z,5.2nm,0.9s,baz=130,slow=3.7,SNR=4.0
KIV Kislovodsk 65.41 319 P **P** **18 19 06.8 -2.5**
KIV IAmb IAmb 18 19 16.9
comp=Z,7.5nm,0.9s
YAK Yakutsk 66.03 16 P **P** **18 19 14.8 +2.1**
comp=Z,2.1nm,0.4s,baz=238,slow=2.7,SNR=6.6
YAK LR LR 18 50 10.6
comp=Z,131nm,18.0s,baz=263,slow=38
YAK Yakutsk 66.03 16 P **P** **18 19 12.2 -0.5**
YAK IAmb IAmb 18 19 18.4
comp=Z,11nm,0.9s
GHAJ Ghor Haditha 66.40 304 P **P** **18 19 14.2 -1.5**
GHAJ IAmb IAmb 18 19 32.5
comp=Z,4.3nm,1.0s
BNN Bunyan 68.31 312 P **P** **18 19 25.6 -2.3**
CSS Mathiatis 69.15 307 P **P** **18 19 31.8 -1.2**
CSS IAmb IAmb 18 19 41.1
comp=Z,11nm,1.0s
NRIK Noril'sk 69.22 356 P **P** **18 19 34.1 +1.4**
comp=Z,3.9nm,0.8s,baz=168,slow=10,SNR=2.3
NRIK Noril'sk 69.22 356 P **P** **18 19 32.8 +0.1**
NRIK IAmb IAmb 18 19 39.1
comp=Z,6.0nm,1.1s
BR131 Keskin Array S 70.21 312 P **P** **18 19 36.3 -3.4**
BR131 IAmb IAmb 18 19 46.5
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 70.21 312 P **P** **18 19 41.2 +1.6**
comp=Z,2.4nm,0.8s,baz=140,slow=7.0,SNR=14
BRTR Keskin Array B 70.21 312 P **P** **18 19 37.1 -2.5**
DZM Mont Dzumac 70.29 114 LR LR 18 53 52.8
comp=Z,52nm,18.1s,baz=352,slow=39
LSZ Lusaka 70.56 254 LR LR 18 45 36.1
comp=Z,48nm,21.1s,baz=137,slow=38
BZK Bozkurt 70.61 315 P **P** **18 19 42.2 +0.4**
MA2 Magadan 71.78 25 LR LR 18 54 43.6
comp=Z,54nm,19.2s,baz=205,slow=39
PETK Petropavlovsk- 72.04 33 P **P** **18 19 50.5 +0.2**
comp=Z,7.3nm,0.9s,baz=205,slow=6.4,SNR=3.0
MDUB Mudurnu 72.22 313 P **P** **18 19 51.5 -0.2**
ELL Elmali 72.28 309 P **P** **18 19 51.5 -0.8**
TIXI Tiksi 73.89 10 LR LR 18 55 42.8
comp=Z,111nm,18.3s,baz=183,slow=38
TIXI Tiksi 73.89 10 P **P** **18 19 59.2 -1.6**
TIXI IAmb IAmb 18 20 08.4
comp=Z,9.6nm,1.4s
KARP Karpathos 74.20 307 P **P** **18 20 04.1 +0.6**
BOSA Boshof 74.98 240 P **P** **18 20 09.6 +1.4**
comp=Z,1.6nm,0.7s,baz=25,slow=4.3,SNR=4.7
BOSA Boshof 74.98 240 P **P** **18 20 08.5 +0.3**
BOSA IAmb IAmb 18 20 50.7
comp=Z,12nm,1.4s
IDI Anoyia 75.98 306 P **P** **18 20 13.8 0.0**
IDI IAmb IAmb 18 20 21.6
comp=Z,6.1nm,1.0s
AKASG Malin Array Be 76.36 322 P **P** **18 20 17.9 +2.4**
comp=Z,2.2nm,0.6s,baz=87,slow=3.9,SNR=4.9
AKBB Malin Array Si 76.36 322 P **P** **18 20 14.3 -1.2**
MLR Muntele Rosu 77.17 317 P **P** **18 20 19.3 -1.1**
MLR IAmb IAmb 18 20 28.4
comp=Z,11nm,1.0s
BURAR Bucovina Array 78.13 319 P **P** **18 20 25.2 -0.4**
BURAR IAmb IAmb 18 20 34.4
comp=Z,7.2nm,0.8s
BUR08 Bucovina Ar. S 78.15 319 P **P** **18 20 26.1 +0.4**
BUR08 IAmb IAmb 18 20 34.2
comp=Z,6.4nm,0.9s
VTS Vitosha 78.52 313 P **P** **18 20 26.1 -1.9**
AGG Agios Georgios 78.60 310 P **P** **18 20 27.4 -0.9**
AGG IAmb IAmb 18 20 59.0
comp=Z,7.9nm,1.4s
QRZ Quartz Range 78.61 132 P **P** **18 20 30.0 +1.7**
LIT Litokhoron 78.64 311 P **P** **18 20 25.6 -2.9**
LIT IAmb IAmb 18 20 35.0
comp=Z,8.6nm,1.0s
NACGM Naroch 78.95 326 *eP* **P** **18 20 33.5 +3.7**
THZ Tophouse 79.06 133 P **P** **18 20 31.9 +1.0**
SUR Sutherland 79.31 237 LR LR 18 52 02.5
comp=Z,99nm,18.2s,baz=148,slow=38
SYO Syowa Base 79.43 198 *eP* **P** **18 20 33.2 +1.1**
FIA1 FINESS Array S 81.08 332 P **P** **18 20 42.1 +0.9**
FIA1 IAmb IAmb 18 21 24.5
comp=Z,15nm,1.3s
FINES FINESS Array B 81.08 332 P **P** **18 20 42.0 +0.8**
comp=Z,3.0nm,0.8s,baz=116,slow=4.9,SNR=7.3
FINES FINESS Array B 81.08 332 P **P** **18 20 42.1 +0.9**
BKZ Black Stump Fm 81.36 130 P **P** **18 20 44.3 +1.0**
ARCES ARCESS Array B 83.57 340 P **P** **18 20 54.6 +0.5**
comp=Z,2.3nm,0.9s,baz=98,slow=3.7,SNR=7.9
ARCES ARCESS Array B 83.57 340 P **P** **18 20 55.3 +1.2**
ARCES IAmb IAmb 18 21 17.7
comp=Z,16nm,1.6s
VNDA Vanda 84.86 169 P **P** **18 21 01.6 +1.1**
comp=Z,0.9nm,0.7s,baz=280,slow=4.3,SNR=4.7
VNDA Vanda 84.86 169 P **P** **18 21 01.9 +1.4**
GERES GERESS Array B 85.92 319 P **P** **18 21 08.5 +1.9**
comp=Z,0.7nm,0.8s,baz=151,slow=4.5,SNR=2.0
CLL Collm 86.54 321 *eP* **P** **18 21 09.0 -0.4**
NOA NORSAR Array B 88.09 331 P **P** **18 21 21.3 +4.6**
comp=Z,1.5nm,0.9s,baz=94,slow=5.8,SNR=4.1
NOA LR LR 19 05 18.8
comp=Z,14nm,18.3s,baz=350,slow=39
JMIC Jan Mayen 94.98 342 LR LR 19 07 50.9
comp=Z,16nm,21.7s,baz=281,slow=38
NVAR Mina Array Bea 129.04 37 PKP **PKiKP** **18 27 37.1 +1.4**
comp=Z,0.1nm,0.3s,baz=258,slow=4.5,SNR=1.5
TXAR Lajitas Array 143.99 33 PKP **PKPdf** **18 28 02.6 0.0**
comp=Z,0.8nm,0.7s,baz=197,slow=1.5,SNR=2.6
CPUP Villa Florida 144.85 221 PKP **PKPdf** **18 28 05.0 +1.0**
comp=Z,1.6nm,0.9s,baz=186,slow=1.9,SNR=2.1

*IDC **16** 18:26:25.6±0.9, 32.°82N×130.°65E, h0km, mb3.3/8, mb1 3.5/10, mb1mx3.4/41, mbtmp3.3/10, ML2.7/2, Error ellipse: s-maj=18.4km s-min=6.8km az=127.0*
*JMA **16** 18:26:27.1, 32.°83N×130.°82E, h10km±1km, M3.7*
JMA Felt III J1.
ISC 16 18:26:27.5±0.7, 32.°82N±0.°03×130.°78E±0.°06, h12km, n15, σ0°93/20, mb3.3/8, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.25**	**305**	P		**Pg**	**18 26 32.8**	**+0.1**
JTA				S		**Sg**	**18 26 37.0**	**+0.8**
JIU3	**Izumi3**	**0.27**	**173**	⇑P		**Pg**	**18 26 32.9**	**-0.3**
JIU3				*eS*		**Sg**	**18 26 37.2**	**+0.2**
JNU	**Nakatsue**	**0.31**	**16**	Pg		**Pg**	**18 26 32.9**	**-1.0**
	248nm,0.3s,baz=193,slow=11,SNR=63							
JNU				Lg		Lg	18 26 36.7	
	820nm,0.3s,baz=307,slow=21,SNR=55							
JNU	**Nakatsue**	**0.31**	**16**	P		**Pg**	**18 26 33.3**	**-0.6**
JNU				*eS*		**Sg**	**18 26 37.6**	**-0.5**
JTZ	**Takazaki**	**0.96**	**164**	⇑P		**Pg**	**18 26 45.7**	**-0.2**
JTZ				S		**Sg**	**18 26 58.6**	**+0.2**
KSRS	**Korea Array**	**5.18**	**334**	Pn		**Pn**	**18 27 45.3**	**+0.6**
	0.3nm,0.3s,baz=146,slow=14,SNR=2.5							
KSRS				Pg		**Pb**	**18 27 59.9**	**+1.9**
	0.5nm,0.3s,baz=154,slow=16,SNR=4.6							
KSRS				Lg		Lg	18 29 08.6	
	2.3nm,0.3s,baz=154,slow=30,SNR=12							
MJAR	**Matsushiro Arr**	**7.16**	**57**	Pn		**Pn**	**18 28 14.2**	**+2.1**
	0.1nm,0.3s,baz=234,slow=13,SNR=8.8							
SONM	**Songino Array**	**23.74**	**316**	P		**P**	**18 31 38.9**	**-0.8**
	0.7nm,0.8s,baz=142,slow=12,SNR=4.7							
CMAR	**Chiang Mai Arr**	**31.92**	**251**	P		**P**	**18 32 52.3**	**-0.9**
	0.1nm,0.5s,baz=52,slow=8.4,SNR=2.3							
MKAR	**Makanchi Array**	**39.16**	**305**	P		**P**	**18 33 54.4**	**-0.6**
	0.6nm,0.9s,baz=95,slow=11,SNR=2.7							
WRA	**Warramunga Arr**	**52.58**	**176**	P		**P**	**18 35 40.3**	**-0.7**
	0.3nm,0.8s,baz=355,slow=7.9,SNR=1.8							
ASAR	**Alice Springs**	**56.25**	**177**	P		**P**	**18 36 08.0**	**+0.2**
	0.3nm,0.8s,baz=9.3,slow=14,SNR=7.1							
FINES	**FINESS Array B**	**68.26**	**330**	P		**P**	**18 37 27.1**	**-0.7**
	0.6nm,0.4s,baz=64,slow=4.9,SNR=8.3							
YKA	**Yellowknife Ar**	**71.64**	**26**	P		**P**	**18 37 49.2**	**+0.5**
	0.1nm,0.6s,baz=309,slow=5.9,SNR=2.3							
BRTR	**Keskin Array B**	**74.77**	**308**	P		**P**	**18 38 06.9**	**-0.8**
	0.4nm,0.8s,baz=141,slow=4.7,SNR=3.8							

*IDC **16** 18:30:19.5±0.9, 32.°82N×131.°02E, h0km, mb3.5/8, mb1 3.8/12, mb1mx3.6/40, mbtmp3.6/12, ML2.9/3, MS3.2/6, Ms1 3.3/6, ms1mx2.8/63, Error ellipse: s-maj=23.3km s-min=6.9km az=71.0*
*JMA **16** 18:30:20.4, 33.°02N×131.°18E, h7km±1km, M4.0*
JMA Felt IV J1.
*NIED **16** 18:30:20.5, 33.°02N×131.°18E, h7km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.22; Mθθ1.13; Mφφ-0.91; Mrθ-0.74; Mθφ-0.44; Mφr-0.25; Fault plane solution: M0 1.35000×10¹⁵ NP1: φs328.00000°, δs54.00000°, λs-3.00000°. NP2: φs60.00000°, δ87.00000°, λs-144.00000°.*
*NEIC **16** 18:30:22.8±1.3, 33.°01N±0.°04×131.°05E±0.°06, h16km±4km, mb4.2/10 Error ellipse: s-maj=7.1km s-min=4.6km az=66.0*
ISC 16 18:30:21.6±0.5, 33.°03N±0.°04×131.°15E±0.°03, h12km, n54, σ1°21/55, mb4.1/14, MS3.4/3, 1C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.24**	**293**	Pg		**Pg**	**18 30 25.9**	**-0.9**
	2μm,0.3s,baz=51,slow=5.7,SNR=190							
JNU				Lg		Lg	18 30 30.1	
	3μm,0.3s,baz=210,slow=17,SNR=38							
JNU	**Nakatsue**	**0.24**	**293**	⇓P		**Pg**	**18 30 26.1**	**-0.7**
JNU				S		**Sg**	**18 30 30.1**	**-0.1**
JUS	**Usuki**	**0.51**	**86**	⇓P		**Pg**	**18 30 29.6**	**-2.0**
JUS				S		**Sg**	**18 30 36.5**	**-1.9**
JTA	**Tamana**	**0.52**	**263**	⇓P		**Pg**	**18 30 31.3**	**-0.5**
JIU3	**Izumi3**	**0.55**	**210**	⇑P		**Pg**	**18 30 31.8**	**-0.6**
JSU	**Suzuyama**	**1.63**	**201**			**Pn**	**18 30 50.1**	**0.0**
JTU	**Tsushima**	**2.08**	**316**	Pn		**Pn**	**18 30 55.7**	**-0.7**
JMN	**Monobe**	**2.39**	**72**	Pn		**Pn**	**18 31 02.2**	**+1.5**
JHS	**Saijyo**	**2.56**	**39**	Pn		**Pn**	**18 31 04.2**	**+1.2**
TJN	**Taejon**	**4.57**	**318**			**Pn**	**18 31 30.4**	**-0.1**
KSRS	**Korea Array**	**5.14**	**330**	Pn		**Pn**	**18 31 39.1**	**+0.7**
	0.2nm,0.3s,baz=147,slow=15,SNR=1.6							
KSRS				Pg		**Pg**	**18 31 57.0**	**-3.1**
	2.1nm,0.3s,baz=149,slow=16,SNR=7.7							
KSRS				Lg		Lg	18 33 01.3	
	4.1nm,0.3s,baz=150,slow=30,SNR=6.0							
KSAR	**Wonju Array Be**	**5.15**	**330**	Pn		**Pn**	**18 31 38.0**	**-0.5**
KS19	**Wonju Array Si**	**5.21**	**330**			**Pn**	**18 31 39.3**	**0.0**
INU	**Inuyama**	**5.39**	**63**			**Pn**	**18 31 43.6**	**+1.8**
JGF	**Kuroka**	**5.75**	**62**	Pn		**Pn**	**18 31 48.5**	**+1.7**
INCN	**Inchon**	**5.78**	**322**	Pn		**Pn**	**18 31 47.2**	**0.0**
JOW	**Kunigami**	**6.66**	**203**	Pn		**Pn**	**18 31 58.7**	**-0.6**
MJB9	**Matsu-Tunnel**	**6.79**	**57**			**Pn**	**18 32 01.4**	**+0.4**
MAJO	**Matsushiro**	**6.79**	**57**	Pn		**Pn**	**18 32 01.9**	**+0.8**
MJAR	**Matsushiro Arr**	**6.79**	**57**	Pn		**Pn**	**18 32 03.0**	**+2.0**
	0.2nm,0.3s,baz=226,slow=14,SNR=15							
MJAR				LR		LR	18 34 29.6	
	comp=Z,94nm,19.8s,baz=238,slow=36							
MJAR	**Matsushiro Arr**	**6.79**	**57**	Pn		**Pn**	**18 32 01.6**	**+0.5**
JHJ	**Hachijo jima 2**	**7.25**	**87**	Pn		**Pn**	**18 32 07.9**	**+0.5**
	13nm,0.3s,baz=251,slow=20,SNR=2.6							
JHJ				LR		LR	18 35 14.1	
	comp=Z,203nm,18.1s,baz=64,slow=40							
JHJ2	**Mitsune**	**7.28**	**87**	Pn		**Pn**	**18 32 08.1**	**+0.3**
YULB	**Yu-li**	**12.93**	**225**			**Pn**	**18 33 24.1**	**-1.2**
ASAJ	**Asahikawa**	**14.22**	**36**	LR		LR	18 38 57.1	
	comp=Z,47nm,19.0s,baz=142,slow=36							
KLR	**Kul'dur**	**16.19**	**1**	Pn		**P**	**18 34 13.0**	**+1.0**
	0.1nm,0.3s,baz=165,slow=20,SNR=3.4							
HHC	**Hu-ho-hao-te**	**17.47**	**302**	*eP*		**Pn**	**18 34 24.9**	**-0.3**
HHC				pmax		pmax		
	comp=Z,6.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,140nm,4.7s							
HHC				LR		LR		
	comp=E,300nm,12.0s							
HHC				LR		LR		
	comp=Z,310nm,10.9s							
ULN	**Ulaanbaatar**	**23.44**	**316**	P		**P**	**18 35 31.0**	**+0.1**
SONM	**Songino Array**	**23.81**	**316**	P		**P**	**18 35 34.3**	**-0.2**
	comp=Z,1.7nm,1.1s,baz=133,slow=9.5,SNR=6.0							
SONM	**Songino Array**	**23.81**	**316**			**P**	**18 35 34.2**	**-0.2**
PZH	**PanZhiHua**	**26.29**	**263**	P		**P**	**18 35 59.3**	**+2.1**
PZH				pmax		pmax		
	comp=Z,9.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,70nm,4.2s							
PEA0B	**Petropavlovsk-**	**27.64**	**36**	P		**P**	**18 36 10.1**	**+1.1**
PETK	**Petropavlovsk-**	**27.64**	**36**	P		**P**	**18 36 10.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**32.28**	**251**	P		**P**	**18 36 48.0**	**-2.4**
	comp=Z,0.1nm,0.5s,baz=64,slow=6.3,SNR=1.5							
CMAR				LR		LR	18 51 55.3	
	comp=Z,36nm,18.9s,baz=75,slow=40							
CMAR	**Chiang Mai Arr**	**32.28**	**251**	P		**P**	**18 36 49.1**	**-1.3**
WMQ	**Urumqi**	**35.34**	**301**	*eP*		**P**	**18 37 19.3**	**+2.4**
ZALV	**Zalesovo Beam**	**38.70**	**317**	P		**P**	**18 37 46.0**	**+0.9**
MKAR	**Makanchi Array**	**39.29**	**305**	P		**P**	**18 37 51.3**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=99,slow=8.9,SNR=1.3							
MKAR				LR		LR	18 55 10.5	
	comp=Z,55nm,18.4s,baz=85,slow=38							
KK31	**Karatay Array**	**47.85**	**301**	P		**P**	**18 38 59.1**	**-0.2**
KK31				IAmb		IAmb	18 39 07.1	
	comp=Z,2.0nm,0.9s							
KKAR	**Karatay Array**	**47.85**	**301**	P		**P**	**18 38 59.1**	**-0.2**
KKAR	**Karatay Array**	**47.85**	**301**	P		**P**	**18 38 59.2**	**-0.1**
KKAR				IAmb		IAmb	18 39 07.1	
	comp=Z,2.0nm,0.9s							
KNRA	**Kununurra**	**48.48**	**183**	P		**P**	**18 39 03.9**	**-0.4**
WRA	**Warramunga Arr**	**52.76**	**176**	P		**P**	**18 39 33.8**	**-2.7**
	comp=Z,0.6nm,0.8s,baz=356,slow=8.3,SNR=3.6							
ABKAR	**Akbulak array**	**54.04**	**310**	P		**P**	**18 39 46.7**	**+0.9**
ABKAR	**Akbulak array**	**54.04**	**310**	P		**P**	**18 39 46.2**	**+0.4**
ABKAR				IAmb		IAmb	18 39 54.5	
	comp=Z,1.5nm,0.8s							
J20K	**Nowinta River**	**54.22**	**31**	P		**P**	**18 39 48.1**	**+1.3**
J20K				IAmb		IAmb	18 40 03.2	
	comp=Z,7.1nm,1.6s							
PSA00	**Pilbara Seismi**	**55.35**	**193**	P		**P**	**18 39 55.9**	**+0.4**
PSA00				IAmb		IAmb	18 40 31.8	
	comp=Z,5.2nm,1.6s							
ASAR	**Alice Springs**	**56.44**	**177**	P		**P**	**18 40 02.7**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=9.6,slow=12,SNR=5.6							
ASAR	**Alice Springs**	**56.44**	**177**	P		**P**	**18 40 03.1**	**-0.1**
RC01	**Rabbit Creek A**	**56.55**	**35**	P		**P**	**18 40 03.0**	**-0.6**
KBZ	**Khabaz**	**66.90**	**308**	P		**P**	**18 41 13.1**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=22,slow=19,SNR=2.8							
FINES	**FINESS Array B**	**68.23**	**330**	P		**P**	**18 41 22.1**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=44,slow=6.2,SNR=2.0							
YKA	**Yellowknife Ar**	**71.32**	**27**	P		**P**	**18 41 42.1**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=303,slow=5.9,SNR=6.4							
MLR	**Muntele Rosu**	**76.67**	**316**	LR		LR	19 18 18.8	
	comp=Z,46nm,18.9s,baz=66,slow=38							

*IDC **16** 18:36:18.7±1.4, 38.°90N×21.°75E, h0km, mb3.5/3, mb1 3.4/6, mb1mx3.2/32, mbtmp3.3/6, ML3.4/3, MS3.1/3, Ms1 3.1/3, ms1mx2.4/65, Error ellipse: s-maj=30.4km s-min=22.4km az=173.0*
*THE **16** 18:36:20.1, 39.°06N×21.°66E, h11km, ML3.1/15, Error ellipse: s-maj=0.7km s-min=0.4km az=245.0*
*ATH **16** 18:36:20.3, 39.°06N×21.°67E, h12km±1km, ML3.0/26, Error ellipse: s-maj=1.2km s-min=0.5km az=211.0*
*DDA **16** 18:36:26.0±0.0, 39.°07N×22.°04E, h30km±5km, ML3.2*
ISC 16 18:36:20.4±0.8, 39.°05N±0.°01×21.°70E±0.°01, h13km±6km, n127, σ1°05/185, mb3.4/3, 8C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.16**	**146**	P		**Pg**	**18 36 24.3**	**0.0**
EVR				S		**Sg**	**18 36 27.4**	**+0.4**
EVR				AML		AML	18 36 28.0	
	comp=E,40909μm,0.2s							
EVR				AML		AML	18 36 28.8	
	comp=N,22402μm,0.3s							
EVR	**Evrytania**	**0.16**	**146**	P		**Pg**	**18 36 24.3**	**0.0**
EVR				S		**Sg**	**18 36 27.4**	**+0.4**
	comp=N,18μm,0.2s							
MAKR	**Makrakomi, Fth**	**0.34**	**96**	P		**Pb**	**18 36 27.9**	**-0.5**
MAKR				S		**Sb**	**18 36 32.2**	**-1.6**
MAKR				AML		AML	18 36 34.7	
	comp=N,29503μm,0.3s							
MAKR				AML		AML	18 36 35.0	
	comp=E,37290μm,0.2s							
MAKR	**Makrakomi, Fth**	**0.34**	**96**	P		**Pb**	**18 36 27.9**	**-0.5**
MAKR				S		**Sb**	**18 36 32.2**	**-1.6**
	comp=E,17μm,0.2s							
ANX	**Ano Chora**	**0.49**	**159**	P		**Pg**	**18 36 29.8**	**-0.3**
ANX				S		**Sb**	**18 36 37.6**	**-0.5**
ANX				AML		AML	18 36 40.5	
	comp=N,12152μm,0.3s							
ANX				AML		AML	18 36 41.3	
	comp=E,8391μm,0.3s							
ANX	**Ano Chora**	**0.49**	**159**	P		**Pg**	**18 36 29.8**	**-0.3**
ANX				S		**Sb**	**18 36 37.6**	**-0.5**
	comp=E,5μm,0.2s							
AGG	**Agios Georgios**	**0.50**	**93**	P		**Pb**	**18 36 30.4**	**-0.7**
AGG				S		**Sb**	**18 36 38.0**	**-0.3**
AGG				AML		AML	18 36 39.8	
	comp=N,14028μm,0.2s							
AGG				AML		AML	18 36 40.2	
	comp=E,11248μm,0.2s							
AGG	**Agios Georgios**	**0.50**	**93**	P		**Pb**	**18 36 30.4**	**-0.7**
AGG				S		**Sb**	**18 36 38.0**	**-0.3**
	comp=E,6μm,0.2s							
AGG	**Agios Georgios**	**0.50**	**93**	P		**Pb**	**18 36 30.1**	**-0.9**
AGG				S		**Sb**	**18 36 37.9**	**-0.4**
AGG				*i* AML		AML	18 36 39.0	
	comp=E,3μm,0.2s							
AGG				*i* AML		AML	18 36 40.0	
	comp=E,3μm,0.2s							
THL	**Klokotos Trika**	**0.57**	**26**	P		**Pb**	**18 36 31.4**	**-1.0**
THL				S		**Sb**	**18 36 39.5**	**-0.9**
THL				AML		AML	18 36 41.6	
	comp=N,1606μm,0.3s							
THL				AML		AML	18 36 44.9	
	comp=E,1392μm,0.4s							
THL	**Klokotos Trika**	**0.57**	**26**	P		**Pb**	**18 36 31.4**	**-1.0**
THL				S		**Sb**	**18 36 39.5**	**-0.9**
	comp=E,755nm,0.3s							
EFP	**Efpalio**	**0.64**	**165**	P		**Pb**	**18 36 32.5**	**-0.5**
EFP				S		**Sb**	**18 36 42.3**	**-0.1**
EFP				AML		AML	18 36 45.3	
	comp=E,7250μm,0.4s							
EFP				AML		AML	18 36 45.5	
	comp=N,7582μm,0.5s							
EFP	**Efpalio**	**0.64**	**165**	P		**Pg**	**18 36 32.5**	**-0.5**
EFP				S		**Sb**	**18 36 42.3**	**-0.1**
	comp=N,4μm,0.4s							
LRSO	**Larissa Observ**	**0.82**	**41**	P		**Pb**	**18 36 36.0**	**-0.6**
LRSO	**Larissa Observ**	**0.82**	**41**	P		**Pb**	**18 36 36.0**	**-0.6**
LAKA	**Lakka**	**0.84**	**165**	P		**Pg**	**18 36 35.6**	**-1.1**
LAKA				S		**Sb**	**18 36 47.8**	**-0.3**
LAKA				AML		AML	18 36 57.0	
	comp=E,1300μm,0.5s							
LAKA				AML		AML	18 36 58.2	
	comp=N,866μm,0.7s							
LAKA	**Lakka**	**0.84**	**165**	P		**Pg**	**18 36 35.6**	**-1.1**
LAKA				S		**Sb**	**18 36 47.8**	**-0.3**
	comp=N,2μm,0.6s							
TSLK	**Tsoukalades, L**	**0.84**	**255**	P		**Pg**	**18 36 36.1**	**-0.6**
TSLK				S		**Sg**	**18 36 47.2**	**-0.5**
TSLK				AML		AML	18 36 50.6	
	comp=E,1952μm,0.3s							
TSLK				AML		AML	18 36 52.0	
	comp=N,1721μm,0.3s							
TSLK	**Tsoukalades, L**	**0.84**	**255**	P		**Pg**	**18 36 36.1**	**-0.6**
TSLK				S		**Sg**	**18 36 47.2**	**-0.5**
	comp=N,912nm,0.4s							
NYDR	**Nydri-Lefkada**	**0.85**	**247**	P		**Pg**	**18 36 35.9**	**-0.9**
NYDR				S		**Sg**	**18 36 48.0**	**+0.1**
NYDR	**Nydri-Lefkada**	**0.85**	**247**	P		**Pg**	**18 36 35.9**	**-0.9**
NYDR				S		**Sg**	**18 36 48.0**	**+0.1**
	comp=N,508nm,0.6s							
DLFA	**Delphi**	**0.85**	**132**	P		**Pg**	**18 36 36.2**	**-0.7**
DLFA				S		**Sn**	**18 36 48.9**	**-1.5**
DLFA				AML		AML	18 36 53.1	
	comp=N,2700μm,0.3s							
DLFA				AML		AML	18 36 53.2	
	comp=E,3607μm,0.4s							
LKD2	**Lefkada island**	**0.85**	**252**	P		**Pg**	**18 36 36.0**	**-0.9**
LKD2				S		**Sg**	**18 36 47.6**	**-0.4**
LKD2				AML		AML	18 36 51.3	
	comp=E,2024μm,0.3s							
LKD2				AML		AML	18 36 53.5	
	comp=N,2899μm,0.6s							
LKD2	**Lefkada island**	**0.85**	**252**	P		**Pg**	**18 36 36.0**	**-0.9**
LKD2				S		**Sg**	**18 36 47.6**	**-0.4**
	comp=N,1μm,0.6s							
JAN	**Janina**	**0.89**	**313**	P		**Pg**	**18 36 35.6**	**-2.1**
JAN				S		**Sg**	**18 36 48.6**	**-0.7**
JAN				AML		AML	18 36 53.4	
	comp=N,2503μm,0.3s							
JAN				AML		AML	18 36 54.0	
	comp=E,2638μm,0.3s							
JAN	**Janina**	**0.89**	**313**	P		**Pg**	**18 36 35.6**	**-2.1**
JAN				S		**Sg**	**18 36 48.6**	**-0.7**
	comp=E,1μm,0.3s							
EVGI	**Lefkada island**	**0.92**	**242**	P		**Pg**	**18 36 37.2**	**-1.0**
EVGI				S		**Sg**	**18 36 49.5**	**-0.7**

	comp=N,1326µm,0.2s						
LKR				AML	AML	18 37 01.7	
	comp=E,1554µm,0.2s						
LKR	**Lokris**	**1.09**	**111**	P	**Pn**	**18 36 40.9**	**-0.6**
LKR				S	**Sn**	**18 36 56.4**	**-0.1**
ATAL	**Atalanti**	**1.09**	**109**	P	**Pn**	**18 36 41.0**	**-0.6**
ATAL				S	**Sn**	**18 36 55.5**	**-1.1**
ATAL				AML	AML	18 36 59.6	
	comp=E,600µm,0.2s						
ATAL				AML	AML	18 37 00.4	
	comp=N,796µm,0.3s						
ATAL	**Atalanti**	**1.09**	**109**	P	**Pn**	**18 36 41.0**	**-0.6**
ATAL				S	**Sn**	**18 36 57.1**	**+0.5**
DRO	**Drossia**	**1.10**	**179**	P	**Pb**	**18 36 41.1**	**-0.2**
DRO	**Drossia**	**1.10**	**179**	P	**Pb**	**18 36 41.1**	**-0.2**
IGT	**Igoumenitsa**	**1.16**	**295**	P	**Pn**	**18 36 41.0**	**-1.5**
IGT				S	**Sb**	**18 36 56.7**	**-0.7**
IGT				AML	AML	18 37 05.0	
	comp=E,757µm,0.5s						
IGT				AML	AML	18 37 07.1	
	comp=N,709µm,0.3s						
IGT	**Igoumenitsa**	**1.16**	**295**	P	**Pn**	**18 36 41.0**	**-1.5**
IGT				S	**Sb**	**18 36 56.7**	**-0.7**
XOR	**Xorichti**	**1.21**	**74**	P	**Pg**	**18 36 42.6**	**-1.0**
XOR				S	**Sn**	**18 36 59.7**	**+0.4**
XOR				AML	AML	18 37 05.5	
	comp=N,1808µm,0.3s						
XOR				AML	AML	18 37 06.6	
	comp=E,903µm,0.6s						
XOR	**Xorichti**	**1.21**	**74**	P	**Pg**	**18 36 42.6**	**-1.0**
XOR				S	**Sn**	**18 36 59.7**	**+0.4**
LIT	**Litokhoron**	**1.22**	**30**	P	**Pn**	**18 36 42.9**	**-0.3**
LIT				S	**Sn**	**18 36 58.9**	**-0.7**
LIT				AML	AML	18 37 04.4	
	comp=N,1434µm,0.4s						
LIT				AML	AML	18 37 05.5	
	comp=E,1146µm,0.2s						
LIT	**Litokhoron**	**1.22**	**30**	P	**Pn**	**18 36 42.9**	**-0.3**
LIT				S	**Sn**	**18 36 58.9**	**-0.7**
LIT	**Litokhoron**	**1.22**	**30**	P	**Pg**	**18 36 44.3**	**+0.4**
LIT				S	**Sn**	**18 37 00.4**	**+0.8**
LIT				*i* AML	AML	18 37 11.0	
	comp=E,442nm,0.4s						
NEO	**Neokhori**	**1.22**	**77**	P	**Pg**	**18 36 43.2**	**-0.6**
NEO				S	**Sn**	**18 36 59.3**	**-0.3**
NEO				AML	AML	18 37 01.9	
	comp=E,808µm,0.3s						
NEO				AML	AML	18 37 07.2	
	comp=N,1851µm,0.3s						
NEO	**Neokhori**	**1.22**	**77**	P	**Pg**	**18 36 43.2**	**-0.6**
NEO				S	**Sn**	**18 36 59.3**	**-0.3**
VLS	**Valsamata**	**1.23**	**225**	P	**Pn**	**18 36 42.4**	**-1.0**
VLS				S	**Sb**	**18 36 59.4**	**+0.1**
VLS				AML	AML	18 37 06.0	
	comp=N,896µm,0.4s						
VLS				AML	AML	18 37 10.1	
	comp=E,761µm,0.6s						
VLS	**Valsamata**	**1.23**	**225**	P	**Pn**	**18 36 42.4**	**-1.0**
VLS				S	**Sb**	**18 36 59.4**	**+0.1**
KZN	**Kozani**	**1.26**	**3**	P	**Pn**	**18 36 43.0**	**-0.8**
KZN	**Kozani**	**1.26**	**3**	P	**Pn**	**18 36 43.0**	**-0.8**
THAL	**Thalero**	**1.27**	**143**	P	**Pg**	**18 36 44.2**	**-0.6**
THAL				S	**Sg**	**18 37 00.7**	**-0.5**
THAL				AML	AML	18 37 08.2	
	comp=E,2821µm,0.6s						
THAL				AML	AML	18 37 10.7	
	comp=N,1953µm,0.3s						
THAL	**Thalero**	**1.27**	**143**	P	**Pg**	**18 36 44.2**	**-0.6**
THAL				S	**Sg**	**18 37 00.7**	**-0.5**
KEF4	**Livadi, Kephal**	**1.27**	**232**	P	**Pn**	**18 36 43.2**	**-0.7**
KEF4	**Livadi, Kephal**	**1.27**	**232**	P	**Pn**	**18 36 43.2**	**-0.7**
PSDA	**Pessada-Kefalo**	**1.28**	**223**	P	**Pn**	**18 36 43.4**	**-0.6**
PSDA	**Pessada-Kefalo**	**1.28**	**223**	P	**Pn**	**18 36 43.4**	**-0.6**
ARGA	**Argostoli. Kep**	**1.29**	**228**	P	**Pn**	**18 36 44.4**	**+0.2**
DMLN	**Damoulianata-K**	**1.31**	**232**	P	**Pn**	**18 36 43.8**	**-0.8**
DMLN	**Damoulianata-K**	**1.31**	**232**	P	**Pn**	**18 36 43.8**	**-0.8**
KEF3	**Kipouria, Keph**	**1.35**	**232**	P	**Pn**	**18 36 44.1**	**-1.0**
KEF3	**Kipouria, Keph**	**1.35**	**232**	P	**Pn**	**18 36 44.1**	**-1.0**
NEST	**Nestorio**	**1.45**	**340**	P	**Pn**	**18 36 46.8**	**+0.3**
VIL2	**Platees**	**1.49**	**124**	P	**Pg**	**18 36 48.6**	**-0.5**
VIL2				S	**Sg**	**18 37 09.5**	**+1.1**
VIL2				AML	AML	18 37 16.4	
	comp=N,1067µm,0.4s						
VIL2				AML	AML	18 37 19.4	
	comp=E,1151µm,0.6s						
KASA	**Kassiopi**	**1.53**	**298**	P	**Pb**	**18 36 49.0**	**+0.3**
VILL	**Villia**	**1.55**	**124**	P	**Pb**	**18 36 48.3**	**-0.7**
VILL				S	**Sg**	**18 37 09.1**	**-1.1**
KEK	**Kerkira**	**1.61**	**295**	P	**Pn**	**18 36 49.7**	**+1.0**
KEK				S	**Sn**	**18 37 09.2**	**-0.1**
KEK				AML	AML	18 37 16.2	
	comp=N,863µm,0.6s						
KEK				AML	AML	18 37 17.8	
	comp=E,522µm,0.5s						
ALNA	**Alonissos**	**1.69**	**86**	P	**Pb**	**18 36 50.2**	**-1.2**
FNA	**Florina**	**1.75**	**352**	P	**Pb**	**18 36 51.6**	**-0.9**
FNA	**Florina**	**1.75**	**352**	P	**Pb**	**18 36 51.9**	**-0.6**
FNA				S	**Sg**	**18 37 17.3**	**+0.5**
PAIG	**Paliouri**	**1.77**	**60**	P	**Pn**	**18 36 50.6**	**-0.2**
PAIG	**Paliouri**	**1.77**	**60**	P	**Pn**	**18 36 50.6**	**-0.2**
EPID	**Epidavros**	**1.82**	**142**	P	**Pb**	**18 36 53.0**	**-0.7**
ATH	**Athens Observa**	**1.92**	**124**	P	**Pb**	**18 36 54.3**	**-1.0**
ATHU	**Athens Univers**	**1.96**	**123**	P	**Pb**	**18 36 54.8**	**-1.3**
ATHU				S	**Sb**	**18 37 20.6**	**+0.1**
ATHU				AML	AML	18 37 27.8	
	comp=N,214µm,0.4s						
ATHU				AML	AML	18 37 27.9	
	comp=E,102µm,0.4s						
OHR	**Ohrid**	**2.17**	**342**	*i* Pn	**Pg**	**18 37 01.4**	**-0.6**
STIP	**Stip**	**2.67**	**8**	*i* Pn	**Pn**	**18 37 05.2**	**+2.0**
TIR	**Tirane**	**2.69**	**329**	⇑P	**Pn**	**18 37 05.1**	**+1.7**
BOZC	**Bozcaada**	**3.47**	**75**	P	**Pn**	**18 37 14.2**	**+0.1**
KOCA	**Canakkale, Ayv**	**3.48**	**81**	P	**Pn**	**18 37 14.5**	**+0.2**
KOCA				S	**Sn**	**18 37 52.3**	**-3.0**
APE	**Apeiranthos**	**3.62**	**122**	⇑P	**Pn**	**18 37 16.2**	**-0.1**
APE				⇑S	**Sn**	**18 37 58.2**	**-0.6**
APE	**Apeiranthos**	**3.62**	**122**	P	**Pn**	**18 37 17.4**	**+1.1**
DRME	**Dracevica, Mon**	**3.67**	**329**	*e*Pn	**Pn**	**18 37 19.1**	**+2.2**
VTS	**Vitosha**	**3.75**	**18**	⇓P	**Pn**	**18 37 19.2**	**+1.0**
VTS				⇓S	**Sn**	**18 38 04.5**	**+2.2**
VTS	**Vitosha**	**3.75**	**18**	*e*P	**Pn**	**18 37 15.9**	**-2.3**
ALN	**Alexandroupoli**	**3.82**	**60**	P	**Pn**	**18 37 18.1**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**3.82**	**78**	P	**Pn**	**18 37 18.7**	**-0.3**
PDG	**Podgorica**	**3.85**	**332**	⇑P	**Pn**	**18 37 20.3**	**+0.8**
PDG				⇓S	**Sn**	**18 38 07.6**	**+3.1**
PDG	**Podgorica**	**3.85**	**332**	*e*Pn	**Pn**	**18 37 21.1**	**+1.7**
ZEYE	**Izmir, Urla-Ze**	**3.85**	**101**	P	**Pn**	**18 37 17.2**	**-2.2**
URLA	**Izmir**	**3.90**	**99**	P	**Pn**	**18 37 20.6**	**+0.6**
MATE	**Matera**	**4.16**	**294**	⇓P	**Pn**	**18 37 25.3**	**+1.7**
HCY	**Herceg Novi**	**4.17**	**325**	*e*Pn	**Pn**	**18 37 24.5**	**+0.6**
BUHA	**Balikesir, Bur**	**4.20**	**82**	P	**Pn**	**18 37 24.8**	**+0.5**
TREB	**Trebinje**	**4.45**	**326**	*e*Pn	**Pn**	**18 37 28.4**	**+0.7**
BRY	**Bratogost**	**4.53**	**329**	*e*Pn	**Pn**	**18 37 29.9**	**+1.0**
IDI	**Anoyia**	**4.54**	**145**	⇓P	**Pn**	**18 37 29.5**	**+0.6**
BLKB	**Belogradchik**	**4.63**	**9**	⇓P	**Pn**	**18 37 32.3**	**+2.2**
UPM	**Unac-Piva**	**4.65**	**334**	*e*Pn	**Pn**	**18 37 33.6**	**+3.0**
STON	**Ston**	**4.87**	**323**	*e*Pn	**Pn**	**18 37 32.8**	**-0.6**
RUDO	**Rudo**	**4.89**	**340**	*e*Pn	**Pn**	**18 37 31.2**	**-2.5**
BBLS	**Lazići**	**5.11**	**341**	*e*Pn	**Pn**	**18 37 38.8**	**+2.0**
DIVS	**Divibare**	**5.20**	**346**	*e*Pn	**Pn**	**18 37 40.1**	**+2.0**
SRKY	**Kupres RS**	**6.05**	**327**	*e*Pn	**Pn**	**18 37 51.8**	**+2.0**
FRGS	**Fruska Gora**	**6.26**	**348**	⇑P	**Pn**	**18 37 54.6**	**+2.1**
FRGS	**Fruska Gora**	**6.26**	**348**	*e*Pn	**Pn**	**18 37 52.7**	**+0.1**
BLY	**Banja Luka**	**6.61**	**331**	*e*Pn	**Pn**	**18 37 57.4**	**+0.1**
MLR	**Muntele Rosu**	**7.17**	**25**	⇓P	**Pn**	**18 38 06.4**	**+1.3**
MORH	**Mrgy, Hungar**	**7.50**	**344**	⇑P	**Pn**	**18 38 10.3**	**+0.8**
MORH	**Mrgy, Hungar**	**7.50**	**344**	*e*Pn	**Pn**	**18 38 09.7**	**+0.1**
PLOR	**Plostina**	**7.72**	**27**	⇑P	**Pn**	**18 38 14.4**	**+1.8**
VRI	**Vrincioaia**	**7.76**	**27**	⇓P	**Pn**	**18 38 14.9**	**+1.8**
CRES	**Cresnjev**	**8.19**	**328**	*e*Pn	**Pn**	**18 38 19.5**	**+0.5**
CEY	**Cerknica**	**8.57**	**324**	*e*Pn	**Pn**	**18 38 24.8**	**+0.5**
PSZ	**Piszkesteto**	**8.96**	**352**	⇑P	**Pn**	**18 38 30.3**	**+0.7**
BRTR	**Keskin Array B**	**9.27**	**82**	Pn	**Pn**	**18 38 36.3**	**+2.3**
	comp=E,0.1nm,0.3s,baz=255,slow=13,SNR=2.1						
GERES	**GERESS Array B**	**11.35**	**332**	Pn	**Pn**	**18 39 05.5**	**+3.1**
	comp=E,0.1nm,0.3s,baz=134,slow=21,SNR=1.7						
GERES				LR	LR	18 44 38.8	
	comp=E,32nm,19.8s,baz=244,slow=44						
ESDC	**Sonseca Array**	**19.83**	**280**	P	**P**	**18 40 52.0**	**+1.0**
	comp=E,0.1nm,0.3s,baz=74,slow=9.7,SNR=5.0						
KIRV	**Kirov**	**26.42**	**33**	LR	LR	18 53 53.3	
	comp=E,43nm,19.8s,baz=162,slow=40						
TORD	**Torodi Ar. Bea**	**31.29**	**220**	P	**P**	**18 42 39.6**	**-0.7**
	comp=E,0.3nm,0.7s,baz=27,slow=9.7,SNR=2.1						
MBAR	**Mbarara**	**40.33**	**166**	LR	LR	19 01 30.9	
	comp=E,53nm,18.1s,baz=140,slow=38						
MKAR	**Makanchi Array**	**44.06**	**59**	P	**P**	**18 44 28.9**	**+0.9**
	comp=E,0.3nm,0.5s,baz=273,slow=8.1,SNR=5.8						
ZALV	**Zalesovo Beam**	**44.42**	**49**	P	**P**	**18 44 31.0**	**+0.3**
	comp=E,0.5nm,0.4s,baz=282,slow=7.4,SNR=5.2						

IDC ***16*** *18:42:41.5±1.2,5°.05S×150°.83E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/29, mbtmp3.7/4, ML1.5/1, Error ellipse: s-maj=73.1km s-min=15.7km az=143.0*

ISC 16 18:42:46.1±2.5, **5°.7S**±0°.3×**151°.6E**±0°.5, **h50**km, **n6**, σ1§**22**/8, **mb3.4**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.42**	**19**	Pn		Pn	**Pn**	**18 43 08.8**	**-0.7**
	146nm,0.3s,baz=216,slow=1.2,SNR=172								
KRVT				Sn		**Sn**	**Sn**	**18 43 28.9**	**+1.7**
	131nm,0.3s,baz=37,slow=21,SNR=6.2								
PMG	**Port Moresby**	**5.74**	**229**	Pn		Pn	**Pn**	**18 44 09.0**	**+0.2**
	1.0nm,0.3s,baz=193,slow=22,SNR=2.5								
PMG				Sn		**Sn**	**Sn**	**18 45 13.2**	**-0.1**
	0.8nm,0.3s,baz=260,slow=11,SNR=1.9								
WRA	**Warramunga Arr**	**21.95**	**228**	P		P	**P**	**18 47 36.4**	**+0.5**
	0.5nm,0.3s,baz=53,slow=10.0,SNR=12								
ASAR	**Alice Springs**	**24.69**	**222**	P		P	**P**	**18 48 03.8**	**+1.1**
	1.0nm,0.9s,baz=58,slow=9.5,SNR=12								
FITZ	**Fitzroy Crossi**	**28.17**	**242**	P		P	**P**	**18 48 33.4**	**-0.6**
	1.4nm,0.3s,baz=63,slow=11,SNR=31								
TORD	**Torodi Ar. Bea**	**149.38**	**286**	PKPbc		**PKPbc**	**PKPbc**	**19 02 29.3**	**-1.4**
	0.8nm,0.7s,baz=72,slow=2.8,SNR=4.7								

MDD ***16*** *18:46:20.9±0.9, 35°.66N×2°.26W, h30km±11km, mb_Lg2.5/7, Error ellipse: s-maj=10.1km s-min=5.9km az=163.0*
CNRM ***16*** *18:46:22.0, 35°.50N×2°.53W, h66km, ml2.2*

ISC 16 18:46:17.3±1.5, **35°.72N**±0°.03×**2°.26W**±0°.06, **h14**km±12km, **n11**, σ0§**98**/19, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.67**	**290**	Pg		Pg	**Pn**	**18 46 33.5**	**+1.1**
EALB				Sg		**Sn**	**Sn**	**18 46 43.5**	**+0.9**
EALB				*i* Vmb_Lg				18 46 44.0	
EMEL	**Melilla**	**0.71**	**234**	Pg		Pn	**Pn**	**18 46 33.0**	**+0.2**
EMEL				Sg		**Sn**	**Sn**	**18 46 43.3**	**-0.2**
GOG	**Mont Gurugu**	**0.78**	**231**	P		P	**Pb**	**18 46 32.9**	**+0.2**
GOG				S		**Sn**	**Sn**	**18 46 44.7**	**-0.7**
TAF	**Taforalt**	**0.91**	**188**	P		P	**Pn**	**18 46 36.7**	**+1.0**
ENIJ	**Nijar**	**1.25**	**2**	Pn		Pg	**Pn**	**18 46 41.5**	**0.0**
ENIJ				Sn		**Sn**	**Sn**	**18 46 58.4**	**+1.3**
ENIJ				*i* Vmb_Lg				18 46 59.4	
EBER	**Berja**	**1.29**	**337**	Pn		Pg	**Pn**	**18 46 42.3**	**+0.1**
EBER				Sn		**Sn**	**Sn**	**18 46 58.7**	**+0.6**
EBER				*i* Vmb_Lg				18 47 09.5	
JBK	**JBK**	**1.40**	**191**	P		Pg	**Pn**	**18 46 45.0**	**+0.7**
JBK				S		**Sb**	**Sn**	**18 46 59.1**	**-2.0**
ELGU	**Los Guajares,**	**1.60**	**316**	Pn		Pb	**Pn**	**18 46 45.9**	**-0.7**
ELGU				Sn		**Sn**	**Sn**	**18 47 05.6**	**0.0**
ELGU				*i* Vmb_Lg				18 47 08.3	
EMIJ	**Mijas**	**2.21**	**293**	Sn		**Sn**	**Sn**	**18 47 20.1**	**-0.5**
EMIJ				*i* Vmb_Lg				18 47 54.4	
EMUR	**La Murta**	**2.27**	**21**	Pn		Pb	**Pn**	**18 46 56.8**	**-1.3**
EMUR				Sn		**Sn**	**Sn**	**18 47 23.7**	**+1.4**
EMUR				*i* Vmb_Lg				18 47 56.6	
ETOB	**Tobarra**	**2.98**	**11**	Sn		**Sn**	**Sn**	**18 47 39.6**	**-0.1**

CNRM ***16*** *19:05:48.0, 35°.75N×2°.21W, h5km, ml3.2*
IGIL ***16*** *19:05:49.4, 35°.54N×2°.24W, h0km, ML2.7*
SFS ***16*** *19:05:51.0, 35°.53N×2°.24W, h25km, ML3.0, ALBORAN SUR*
LDG ***16*** *19:05:51.1±0.2, 35°.66N×2°.25W, h2km, Ml2.5/2, Error ellipse: s-maj=4.8km s-min=2.4km az=160.0*
CRAAG ***16*** *19:05:51.0, 35°.54N×2°.25W, Ml3.0*
MDD ***16*** *19:05:51.1±0.5, 35°.54N×2°.24W, h25km±5km, mb_Lg3.0/15, Error ellipse: s-maj=5.5km s-min=1.9km az=157.0*
INMG ***16*** *19:05:52.8±1.4, 35°.67N×2°.37W, h17km±7km, ML2.5, Error ellipse: s-maj=6.6km s-min=4.4km az=141.0*

ISC 16 19:05:52.0±1.0, **35°.71N**±0°.02×**2°.31W**±0°.03, **h31**km±11km, **n83**, σ1§**57**/131, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.63**	**292**	Pg		Pg	**Pb**	**19 06 03.9**	**-0.7**
EALB				Sg		**Sb**	**Sb**	**19 06 14.0**	**+0.8**
EALB				*i* Vmb_Lg				19 06 14.8	
EMEL	**Melilla**	**0.67**	**232**	Pg		Pb	**Pb**	**19 06 03.8**	**-1.4**
EMEL				Sg		**Sb**	**Sb**	**19 06 12.0**	**-2.1**
GOG	**Mont Gurugu**	**0.74**	**229**	P		P	**Pn**	**19 06 04.4**	**-2.1**
GOG				S		**Sb**	**Sb**	**19 06 15.0**	**-1.4**
TAF	**Taforalt**	**0.90**	**185**	P		P	**Pn**	**19 06 06.4**	**-2.2**
TAF				S		**Sn**	**Sn**	**19 06 18.8**	**-1.8**
ENIJ	**Nijar**	**1.26**	**4**	Pn		Pn	**Pn**	**19 06 13.0**	**-0.7**
ENIJ				Sn		**Sn**	**Sn**	**19 06 29.0**	**-0.6**
ENIJ				*i* Vmb_Lg				19 06 31.5	
EBER	**Berja**	**1.28**	**339**	Pn		Pn	**Pn**	**19 06 13.5**	**-0.5**
EBER				Sn		**Sb**	**Sb**	**19 06 31.4**	**-0.3**
EBER				*i* Vmb_Lg				19 06 39.9	
OTSS	**Djebel Tessala**	**1.31**	**109**	P		P	**Pb**	**19 06 17.0**	**+0.9**
JBK	**JBK**	**1.39**	**189**	P		Pn	**Pn**	**19 06 14.4**	**-1.1**
JBK				S		**Sb**	**Sb**	**19 06 36.7**	**+1.9**
PALE	**Palemas**	**1.42**	**250**	P		Pn	**Pn**	**19 06 15.3**	**-0.4**
PALE				S		**Sb**	**Sb**	**19 06 37.7**	**+2.1**
ELGU	**Los Guajares,**	**1.57**	**318**	Pn		Pn	**Pn**	**19 06 16.9**	**-1.0**
ELGU				Sn		**Sn**	**Sn**	**19 06 37.9**	**+0.6**
ELGU				*i* Vmb_Lg				19 06 40.8	
AKLM	**AKL**	**1.75**	**227**	P		Pn	**Pn**	**19 06 20.1**	**-0.2**
EQUE	**Quentar**	**1.75**	**329**	Pn		Pn	**Pn**	**19 06 21.5**	**+1.1**
EQUE				Sn		**Sb**	**Sb**	**19 06 44.6**	**-0.6**
EQUE				*i* Vmb_Lg				19 06 55.3	
ODJA	**Bouhanifia**	**1.80**	**101**	P		Pb	**Pb**	**19 06 29.0**	**+4.6**
TLOR	**Lorca, Murcia**	**2.01**	**14**	Pn		Pn	**Pn**	**19 06 24.1**	**+0.2**
TLOR				Sn		**Sn**	**Sn**	**19 06 47.9**	**-0.1**
EMAL	**Malaga-Limoner**	**2.01**	**302**	P		Pn	**Pn**	**19 06 20.7**	**-3.2**
EMAL				S		**Sn**	**Sn**	**19 06 46.9**	**-1.0**
EGOR	**Sierra Gorda,**	**2.02**	**315**	Pn		Pn	**Pn**	**19 06 25.8**	**+1.8**
EGOR				Sn		**Sn**	**Sn**	**19 06 50.7**	**+2.4**
EGOR				*i* Vmb_Lg				19 06 55.0	
CART	**Cartagena**	**2.15**	**29**	P		Pn	**Pn**	**19 06 24.5**	**-1.3**
CART				S		**Sn**	**Sn**	**19 06 48.0**	**-3.5**
CART	**Cartagena**	**2.15**	**29**	P		Pn	**Pn**	**19 06 24.7**	**-1.1**
CART				S		**Sn**	**Sn**	**19 06 48.6**	**-2.9**
EMIJ	**Mijas**	**2.17**	**294**	Pn		Pn	**Pn**	**19 06 25.2**	**-0.9**
EMIJ				Sn		**Sn**	**Sn**	**19 06 51.2**	**-0.7**
EMIJ				*i* Vmb_Lg				19 07 02.4	
EZAR	**Zarzadilla de**	**2.22**	**13**	Pn		Pn	**Pn**	**19 06 28.0**	**+1.2**
EZAR				Sn		**Sn**	**Sn**	**19 06 53.3**	**+0.1**
EMUR	**La Murta**	**2.30**	**22**	Pn		Pn	**Pn**	**19 06 27.2**	**-0.6**
EMUR				Sn		**Sn**	**Sn**	**19 06 54.7**	**-0.5**
EMUR				*i* Vmb_Lg				19 06 56.9	
CEU	**Ceuta**	**2.50**	**275**	P		Pn	**Pn**	**19 06 29.8**	**-0.8**
CEU				S		**Sn**	**Sn**	**19 06 55.5**	**-4.4**
SMIR	**Smir Dam**	**2.50**	**270**	P		Pn	**Pn**	**19 06 29.7**	**-0.9**
SMIR				S		**Sn**	**Sn**	**19 07 02.7**	**+2.7**
EJIF	**Jimena Fronter**	**2.66**	**287**	Pn		Pn	**Pn**	**19 06 32.5**	**-0.4**
EJIF				Sn		**Sn**	**Sn**	**19 07 03.8**	**-0.3**
TDRA	**Tendrara**	**2.67**	**175**	P		P	**Pn**	**19 06 32.3**	**-0.9**
TDRA				S		**Sn**	**Sn**	**19 07 08.6**	**+4.1**
ETOB	**Tobarra**	**2.99**	**12**	Pn		Pn	**Pn**	**19 06 38.2**	**+0.7**
ETOB				Sn		**Sn**	**Sn**	**19 07 13.1**	**+0.7**
ETOB				*i* Vmb_Lg				19 07 16.8	
EADA	**Adamuz**	**3.05**	**324**	Pn		Pn	**Pn**	**19 06 39.3**	**+1.1**
EADA				Sn		**Sn**	**Sn**	**19 07 15.1**	**+1.4**
EADA				*i* Vmb_Lg				19 07 24.2	
ESPR	**Espera**	**3.09**	**293**	Pn		Pn	**Pn**	**19 06 39.2**	**+0.5**
ESPR				Sn		**Sn**	**Sn**	**19 07 13.2**	**-1.4**
ESPR				*i* Vmb_Lg				19 07 30.8	
EBEN2	**Beniarda presa**	**3.41**	**29**	Pn		Pn	**Pn**	**19 06 42.8**	**-0.4**
EBEN2				Sn		**Sn**	**Sn**	**19 07 20.9**	**-1.7**
EBEN2				*i* Vmb_Lg				19 07 24.2	
ECAB	**El Cabril**	**3.43**	**314**	Pn		Pn	**Pn**	**19 06 43.5**	**+0.1**
ECAB				Sn		**Sn**	**Sn**	**19 07 23.7**	**+0.5**
ECAB				*i* Vmb_Lg				19 07 31.0	
MDT	**Midelt**	**3.46**	**214**	P		Pn	**Pn**	**19 06 44.4**	**+0.6**
MD31	**MD31**	**3.48**	**216**	P		Pn	**Pn**	**19 06 44.6**	**+0.4**
FIGM	**Figuig**	**3.67**	**166**	P		Pn	**Pn**	**19 06 46.9**	**+0.1**
FIGM				S		**Sn**	**Sn**	**19 07 31.5**	**+2.4**
EMIN	**Mina Concepcio**	**4.06**	**302**	Pn		Pn	**Pn**	**19 06 52.2**	**+0.1**
EMIN				Sn		**Sn**	**Sn**	**19 07 37.0**	**-1.5**
PAB	**San Pablo**	**4.16**	**338**	Pn		Pn	**Pn**	**19 06 55.9**	**+2.4**
PAB				Sn		**Sn**	**Sn**	**19 07 42.4**	**+1.3**
PAB	**San Pablo**	**4.16**	**338**	P		Pn	**Pn**	**19 06 56.5**	**+3.0**
ESDC	**Sonseca Array**	**4.17**	**342**	Pn		Pn	**Pn**	**19 06 55.8**	**+2.1**
ESDC				Sn		**Sn**	**Sn**	**19 07 42.2**	**+0.9**
EIBI	**Ibiza**	**4.41**	**40**	Pn		Pn	**Pn**	**19 06 55.9**	**-1.0**
EIBI				Sn		**Sn**	**Sn**	**19 07 44.0**	**-3.1**
PBAR	**Barrancos**	**4.52**	**304**	*e*Pn		Pn	**Pn**	**19 06 59.6**	**+1.3**
PBAR				*e*Sn		**Sn**	**Sn**	**19 07 49.4**	**-0.4**
PBAR				A		A	A	19 08 19.6	
	2.1nm,0.5s								
EGRO	**El Granado**	**4.54**	**295**	Sn		Pn	**Pn**	**19 06 59.6**	**+0.9**
EGRO				Sn		**Sn**	**Sn**	**19 07 48.5**	**-1.9**
UCM	**Universidad Co**	**4.65**	**351**	P		Pn	**Pb**	**19 07 12.2**	**-0.7**
UCM				S		**Sb**	**Sb**	**19 08 08.5**	**0.0**
PVAQ	**Vaqueiros**	**4.67**	**293**	*e*Pn		Pn	**Pn**	**19 07 01.5**	**+1.1**
PVAQ				*e*Sn		**Sn**	**Sn**	**19 07 53.1**	**-0.4**
PVAQ				A		A	A	19 07 56.5	
	4.2nm,0.3s								
PVAQ	**Vaqueiros**	**4.67**	**293**	P		Pn	**Pn**	**19 07 01.8**	**+1.4**
PBDV	**Barranco-do-Ve**	**4.78**	**290**	*e*Pn		Pn	**Pn**	**19 07 03.0**	**+1.0**
PBDV				*e*Sn		**Sn**	**Sn**	**19 07 55.4**	**-0.9**
PBDV				A		A	A	19 08 02.1	
	3.2nm,0.3s								
ECOL	**Islas Columbre**	**4.81**	**29**	Pn		Pn	**Pn**	**19 07 02.1**	**-0.2**
ECOL				Sn		**Sn**	**Sn**	**19 07 55.6**	**-1.3**
EBAD	**Badajoz**	**4.83**	**310**	Pn		Pn	**Pn**	**19 07 02.5**	**-0.1**
EBAD				Sn		**Sn**	**Sn**	**19 07 55.7**	**-1.8**
EMOS	**Mosqueruela**	**4.87**	**17**	Pn		Pn	**Pn**	**19 07 05.2**	**+1.9**
EMOS				Sn		**Sn**	**Sn**	**19 07 57.8**	**-1.0**
PCVE	**Castro Verde**	**4.99**	**294**	*e*Pn		Pn	**Pn**	**19 07 05.9**	**+1.1**
ETOR	**Torete**	**5.11**	**2**	Pn		Pn	**Pn**	**19 07 08.4**	**+1.9**
ETOR				Sn		**Sn**	**Sn**	**19 08 03.3**	**-1.2**
GUD	**Guadarrama**	**5.14**	**344**	Pn		Pn	**Pn**	**19 07 08.8**	**+1.8**
GUD				Sn		**Sn**	**Sn**	**19 08 05.5**	**+0.3**
PESTR	**Estremoz**	**5.26**	**308**	*e*Pn		Pn	**Pn**	**19 07 10.4**	**+1.9**
PESTR	**Estremoz**	**5.26**	**308**	P		Pn	**Pn**	**19 07 07.0**	**-1.5**
EPLA	**Plasencia**	**5.27**	**327**	Pn		Pn	**Pn**	**19 07 09.8**	**+1.0**
EPLA				Sn		**

GALT	**Gorno-Altaysk,**	**5.12**	**332**	Pg		**Pg**	**19 09 59.8**	**-1.1**
GALT				Sg		**Sg**	**19 11 06.0**	**-1.0**
MK31	**Makanchi Array**	**5.17**	**265**	⇑Pn		**Pn**	**19 09 41.8**	**+1.6**
	1.5nm,0.8s,baz=84,slow=16,SNR=7.1							
MK31				⇑Pg		**Pb**	**19 09 56.3**	**+3.0**
	0.8nm,0.5s,baz=88,slow=20,SNR=5.0							
MK31				⇓Lg		Lg	19 10 59.7	
	4.4nm,0.7s,baz=82,slow=31,SNR=5.6							
KZLR	**Kyzyl**	**5.19**	**34**	Sg		**Sg**	**19 11 09.0**	**-0.4**
DJO	**Djoy, Khakassi**	**5.37**	**9**	Pg		**Pg**	**19 10 03.5**	**-2.2**
DJO				Sg		**Sg**	**19 11 14.2**	**-1.0**
MAKZ	**Makanchi**	**5.38**	**266**	⇓Pg		**Pb**	**19 09 56.9**	**+0.1**
	2.6nm,0.8s							
MAKZ				⇑Lg		Lg	19 11 08.7	
	3.1nm,0.8s							
CERR	**Cheremushki**	**5.47**	**10**	Pg		**Pg**	**19 10 07.9**	**+0.4**
CERR				Sg		**Sg**	**19 11 17.3**	**-1.0**
KNGR	**Kungurtug, Tuv**	**5.96**	**56**	Pg		**Pg**	**19 10 14.6**	**-2.3**
KNGR				Sg		**Sg**	**19 11 36.3**	**+2.4**
LUZB	**Luzhba, Kemero**	**6.20**	**355**	Pg		**Pg**	**19 10 20.9**	**-0.6**
LUZB				Sg		**Sg**	**19 11 40.8**	**-1.0**
ELT	**Eltsovka**	**6.21**	**340**	Pg		**Pg**	**19 10 21.5**	**-0.1**
ELT				Sg		**Sg**	**19 11 43.0**	**+1.2**
MINR	**Mina**	**7.92**	**19**	Pg		**Pg**	**19 10 52.9**	**-1.4**
MINR				Sg		**Sg**	**19 12 41.0**	**+4.4**
KURK	**Kurchatov**	**8.01**	**298**	⇑Pn		**Pn**	**19 10 21.2**	**+2.1**
	3.5nm,1.2s							
KURK				⇑Sn		**Sn**	**19 11 47.9**	**-1.8**
	1.2nm,0.6s							
KURK				⇑Lg		Lg	19 12 32.0	
	8.9nm,1.0s							
KURBB	**Kurchatov Arra**	**8.03**	**297**	⇓Pn		**Pn**	**19 10 18.4**	**-1.1**
	2.3nm,1.4s							
KURBB				⇑Sn		**Sn**	**19 11 48.0**	**-2.3**
	5.1nm,0.9s							
KURBB				⇓Lg		Lg	19 12 34.0	
	13nm,0.8s							
BRCR	**Berchikul'**	**8.21**	**354**	Pg		**Pg**	**19 11 01.3**	**+1.4**
BRCR				Sg		**Sg**	**19 12 44.5**	**-1.6**
OTUK	**Ortayu**	**11.75**	**280**	⇓Pn		**Pn**	**19 11 08.1**	**-2.4**
	0.7nm,0.6s							
OTUK				⇑Lg		Lg	19 14 27.9	
	1.7nm,1.1s							

*IDC **16** 19:18:44.8±2.1,0˚.08N×97˚.65E,h0km,mb3.5/5,mb1 3.6/7, mb1mx3.4/33,mbtmp3.4/7,ML3.3/2,MS3.0/1,Ms1 3.0/1, ms1mx2.4/62, Error ellipse: s-maj=67.0km s-min=22.6km az=64.0*

*DJA **16** 19:18:49.7±0.6,0˚N±4˚×9˚8E±˚,h10km,M4.1/11,mb4.5/3, MLv3.9/11*

ISC 16 19:18:51.4±1.1,0˚.32N±0˚.08×98˚.0E±0˚.1,h35km,n18, σ0s87/15,mb3.5/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.05**	**339**	P		**Pn**		**19 19 08.8**	**-0.8**
MNSI	**Mandailing Nat**	**1.70**	**74**	P		**Pn**		**19 19 17.8**	**-0.7**
SISI	**Saibi**	**1.99**	**145**	P		**Pn**		**19 19 23.3**	**+0.7**
PPI	**Padang Panjang**	**2.57**	**107**	P		**Pn**		**19 19 30.2**	**-0.3**
PSI	**Prapat**	**2.65**	**22**	Pn		**Pn**		**19 19 33.1**	**+1.4**
	2.1nm,0.3s,baz=181,slow=12,SNR=7.9								
PSI				LR		LR		19 20 27.9	
	comp=Z,226nm,18.8s,baz=258,slow=36								
KCSI	**Kotacane, Aceh**	**3.19**	**357**	P		**Pn**		**19 19 39.6**	**+0.6**
TSI	**Tuntungan**	**3.22**	**11**	P		**Pn**		**19 19 40.8**	**+1.3**
KRJI	**Kerinci**	**4.25**	**124**	P		**Pn**		**19 19 54.8**	**+1.0**
MNAI	**Manna**	**6.83**	**133**	P		**Pn**		**19 20 29.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.05**	**3**	P		**Pn**		**19 22 58.7**	**-0.9**
	0.1nm,0.3s,baz=194,slow=10,SNR=5.3								
H08S2	**Diego Garcia H**	**26.59**	**252**	T		T		19 51 52.6	
	baz=73,slow=75,SNR=110								
H08S3	**Diego Garcia H**	**26.59**	**252**	T		T		19 51 51.4	
	baz=73,slow=75,SNR=136								
H08S1	**Diego Garcia H**	**26.61**	**252**	T		T		19 51 54.1	
	baz=73,slow=75,SNR=77								
WRA	**Warramunga Arr**	**40.94**	**122**	P		**P**		**19 26 30.3**	**-0.6**
	0.5nm,1.0s,baz=304,slow=9.0,SNR=2.7								
ASAR	**Alice Springs**	**42.27**	**127**	P		**P**		**19 26 41.1**	**-0.8**
	0.2nm,0.3s,baz=299,slow=7.8,SNR=4.8								
SONM	**Songino Array**	**47.89**	**8**	P		**P**		**19 27 26.8**	**+0.6**
	0.4nm,0.6s,baz=190,slow=7.3,SNR=2.8								
MKAR	**Makanchi Array**	**48.27**	**346**	P		**P**		**19 27 29.1**	**+0.1**
	0.4nm,0.7s,baz=148,slow=7.1,SNR=5.2								
ZALV	**Zalesovo Beam**	**54.54**	**351**	P		**P**		**19 28 15.9**	**+0.1**
	1.6nm,0.7s,baz=181,slow=8.3,SNR=4.2								

JMA 16 19:29:19.2,32˚.71N×130˚.72E,h17km±1km,M3.6,2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.18**	**154**	⇑P		Pg		19 29 23.5	-0.2
JIU3				S		Sg		19 29 26.6	-0.2
JTA	**Tamana**	**0.30**	**328**	⇑P		Pg		19 29 25.6	0.0
JTA				S		Sg		19 29 30.1	+0.1

IDC 16 19:36:20.8±1.6,34˚.41N×79˚.20E,h0km,mb3.5/2, mb1 3.6/4,mb1mx3.2/45,mbtmp3.5/4,ML3.1/2,Error ellipse: s-maj=41.2km s-min=24.8km az=62.0, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.01**	**337**	Pn		Pn		19 38 35.0	+2.8
	0.2nm,0.3s,baz=177,slow=16,SNR=10.0								
MKAR	**Makanchi Array**	**12.59**	**10**	Pn		Pn		19 39 22.2	+1.0
	0.1nm,0.3s,baz=195,slow=16,SNR=5.3								
MKAR				Sn		Sn		19 41 40.3	-1.9
	0.1nm,0.3s,baz=196,slow=27,SNR=3.3								
CMAR	**Chiang Mai Arr**	**23.70**	**127**	P		P		19 41 34.2	-0.2
	1.2nm,0.9s,baz=312,slow=9.9,SNR=11								
TORD	**Torodi Ar. Bea**	**72.46**	**274**	P		P		19 47 49.8	+0.3
	0.4nm,0.7s,baz=44,slow=4.1,SNR=2.5								

*IDC **16** 19:46:48.0±0.6,32˚.63N×130˚.79E,h0km,mb4.1/21, mb1 4.2/25,mb1mx4.2/38,mbtmp4.1/25,ML3.7/4,MS3.7/42, Ms1 3.7/42,ms1mx3.5/95,Error ellipse: s-maj=15.1km s-min=7.5km az=99.0*

*MOS **16** 19:46:48.0±0.9,32˚.62N×130˚.70E,h11km,mb4.6/19,Error ellipse: s-maj=9.0km s-min=5.2km az=104.9*

*NIED **16** 19:46:49.1,32˚.69N×130˚.78E,h10km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.85; Mθθ0.06; Mϕϕ-0.92; Mrθ-0.38; Mθϕ3.89; Mϕr-2.11; Fault plane solution: M0=4.52000×10^15^ NP1: ϕs276.00000°,δ60.00000°,λ10.00000°. NP2: ϕs181.00000°,δ82.00000°,λ150.00000°.*

*NEIC **16** 19:46:49.3±1.5,32˚.66N±0˚.03×130˚.68E±0˚.07,h5km±4km, mb4.6/71 Error ellipse: s-maj=8.5km s-min=3.9km az=105.0*

*JMA **16** 19:46:49.0,32˚.69N×130˚.78E,h10km±1km,M4.5 Broadband fault plane solution: P waves. NP1: ϕs184.00000°,δ73.00000°,λ142.00000°. NP2: ϕs286.00000°,δ54.00000°,λ21.00000°. Principal axes: T Plg38.0000°, Azm139.0000°; N Plg49.0000°, Azm343.0000°; P Plg12.0000°, Azm239.0000°;*

JMA Felt IV J1.

*BJI **16** 19:46:50.7±0.0,32˚.54N×130˚.44E,h12km,mb4.2/43, mB4.7/28,Ms4.4/28,Ms7 4.2/28*

ISC 16 19:46:49.9±0.6,32˚.67N±0˚.03×130˚.70E±0˚.04,h10km±3km, n246,σ1s14/231,mb4.5/92,MS3.9/47,17C-2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.15**	**142**	⇑P		**Pg**		**19 46 52.4**	**-0.9**
JIU3				e*S*		**Sg**		**19 46 54.9**	**-0.7**
JTA	**Tamana**	**0.33**	**334**	⇑P		**Pg**		**19 46 56.1**	**-0.4**
JTA				S		**Sg**		**19 47 01.0**	**+0.1**
JNU	**Nakatsue**	**0.47**	**18**	Pg		**Pg**		**19 46 57.8**	**-1.4**
	2μm,0.3s,baz=185,slow=8.6,SNR=460								
JNU				Lg		Lg		19 47 04.2	
	12μm,0.3s,baz=292,slow=18,SNR=45								
JNU	**Nakatsue**	**0.47**	**18**	Pg		**Pg**		**19 46 57.9**	**-1.3**
JNU				Sg		**Sg**		**19 47 04.1**	**-1.5**
JTZ	**Takazaki**	**0.83**	**157**	⇑P		**Pb**		**19 47 05.6**	**-0.9**
JTZ				S		**Sn**		**19 47 17.0**	**-3.1**
JSU	**Suzuyama**	**1.18**	**190**	Pn		**Pn**		**19 47 12.1**	**-0.5**
JSU						**Sn**		**19 47 28.0**	**-0.6**
JTU	**Tsushima**	**2.15**	**330**	Pn		**Pn**		**19 47 24.9**	**-1.0**
JMN	**Monobe**	**2.86**	**67**			**Pn**		**19 47 36.3**	**+0.6**
JHS	**Saijyo**	**3.07**	**40**			**Pn**		**19 47 38.3**	**-0.3**
TJN	**Taejon**	**4.61**	**324**	*i* P		**Pn**		**19 47 59.9**	**+0.2**
TJN	**Taejon**	**4.61**	**324**			**Pn**		**19 47 59.3**	**-0.5**
KSRS	**Korea Array**	**5.29**	**335**	Pn		**Pn**		**19 48 09.4**	**+0.3**
	1.8nm,0.3s,baz=152,slow=14,SNR=13								
KSRS				Pg		**Pg**		**19 48 26.9**	**-4.4**
	4.6nm,0.3s,baz=151,slow=17,SNR=23								
KSRS				Lg		Lg		19 49 35.8	
	7.7nm,0.3s,baz=153,slow=30,SNR=6.7								
KSRS				LR		LR		19 49 36.4	
	comp=Z,91nm,20.6s,baz=160,slow=31								
KSAR	**Wonju Array Be**	**5.29**	**335**	P		**Pn**		**19 48 09.3**	**+0.2**
KSAR	**Wonju Array Be**	**5.29**	**335**	Pn		**Pn**		**19 48 09.3**	**+0.2**
KS19	**Wonju Array Si**	**5.35**	**335**			**Pn**		**19 48 09.5**	**-0.4**
INCN	**Inchon**	**5.85**	**326**	P		**Pn**		**19 48 16.5**	**-0.3**
INCN	**Inchon**	**5.85**	**326**			**Pn**		**19 48 16.4**	**-0.3**
INU	**Inuyama**	**5.88**	**61**	Pn		**Pn**		**19 48 18.3**	**+1.1**
JOW	**Kunigami**	**6.19**	**201**	Pn		Pn		19 48 24.8	+3.4
	5.3nm,0.3s,baz=108,slow=22,SNR=10								
JOW				LR		LR		19 51 10.7	
	comp=Z,423nm,19.5s,baz=70,slow=43								
JOW	**Kunigami**	**6.19**	**201**	Pn		**Pn**		**19 48 23.6**	**+2.2**
JGF	**Kuroka**	**6.24**	**60**	Pn		**Pn**		**19 48 22.5**	**+0.3**
MJB9	**Matsu-Tunnel**	**7.29**	**56**			**Pn**		**19 48 37.3**	**+0.7**
MAJO	**Matsushiro**	**7.29**	**56**	*i* P		**Pn**		**19 48 37.3**	**+0.7**
MAJO	**Matsushiro**	**7.29**	**56**	Pn		**Pn**		**19 48 37.6**	**+1.0**
MJAR	**Matsushiro Arr**	**7.29**	**56**	Pn		**Pn**		**19 48 37.5**	**+1.0**
	0.6nm,0.3s,baz=236,slow=13,SNR=32								
MJAR				LR		LR		19 51 53.1	
	comp=Z,446nm,21.1s,baz=227,slow=42								
JHJ	**Hachijo jima 2**	**7.65**	**84**	Pn		**Pn**		**19 48 40.0**	**-1.4**
	8.5nm,0.3s,baz=234,slow=19,SNR=1.7								
JHJ2	**Mitsune**	**7.68**	**84**	Pn		**Pn**		**19 48 41.6**	**-0.3**
JSD	**Sado**	**8.17**	**47**	Pn		**Pn**		**19 48 49.8**	**+1.2**
SSE	**Sheshan**	**8.24**	**262**	P		**Pn**		**19 48 46.9**	**-2.7**
SSE				S		**Sn**		**19 50 22.8**	**0.0**
SSE				pmax	pmax				
	comp=Z,19nm,0.7s								
SSE				pmax	pmax				
	comp=Z,500nm,4.0s								
SSE				LR	LR				
	comp=N,1μm,19.8s								
SSE				LR	LR				
	comp=E,970nm,19.9s								
NJ2	**Nanjing**	**10.04**	**270**	*e*P		**Pn**		**19 49 14.8**	**+0.5**
NJ2				pmax	pmax				
	comp=Z,4.0nm,0.5s								
USA0B	**Ussuriysk Arra**	**11.56**	**5**	P		**Pn**		**19 49 37.0**	**+2.0**
USA0B	**Ussuriysk Arra**	**11.56**	**5**			**Pn**		**19 49 37.0**	**+2.0**
USRK	**Ussuriysk Ar.**	**11.56**	**5**	Pn		**Pn**		**19 49 38.5**	**+3.5**
	baz=202,slow=15,SNR=9.4								
USRK				LR		LR		19 53 47.3	
	comp=Z,136nm,18.6s,baz=177,slow=36								
USRK	**Ussuriysk Ar.**	**11.56**	**5**	P		**Pn**		**19 49 36.5**	**+1.5**
USRK	**Ussuriysk Ar.**	**11.56**	**5**	Pn		**Pn**		**19 49 36.5**	**+1.5**
MDJ	**Mudanjiang**	**11.96**	**356**	P		Pn		19 49 45.8	+5.3
MDJ				pP				19 49 47.4	
MDJ				pmax	pmax				
	comp=Z,16nm,1.4s								
MDJ				pmax	pmax				
	comp=Z,620nm,5.2s								
MDJ				LR	LR				
	comp=E,1μm,14.2s								
MDJ				LR	LR				
	comp=Z,800nm,11.2s								
SSLB	**Suanglung**	**12.33**	**227**	Pn		**Pn**		**19 49 48.1**	**+2.4**
JEW	**Eniwo**	**13.23**	**37**	Pn		**Pn**		**19 49 59.0**	**+1.2**
HNS	**HongShan**	**13.93**	**294**	*e*P		**P**		**19 50 16.5**	**+0.9**
HNS				e*S*		**S**		**19 52 59.9**	**-4.1**
HNS				LR	LR				
	comp=N,540nm,16.2s								
HNS				LR	LR				
	comp=E,410nm,14.3s								
HNS				LR	LR				
	comp=Z,340nm,12.8s								
WHN	**Wuhan**	**14.10**	**266**	⇓P		P		19 50 29.8	+12
WHN				S		S		19 53 16.1	+8.5
WHN				LR	LR				
	comp=N,3μm,4.4s								
WHN				LR	LR				
	comp=E,2μm,11.0s								
WHN				LR	LR				
	comp=Z,2μm,11.9s								
ASAJ	**Asahikawa**	**14.73**	**36**	Pn		**Pn**		**19 50 17.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=213,slow=12,SNR=12								
ASAJ				LR		LR		19 55 46.3	
	comp=Z,207nm,18.4s,baz=202,slow=37								
XLT	**XiLinHaoTe**	**16.02**	**319**	*e*P		**P**		**19 50 38.8**	**-0.1**
XLT				pP		sP		19 50 42.9	0.0
XLT				S		**Sn**		**19 53 35.6**	**+2.4**
XLT				pmax	pmax				
	comp=Z,9.0nm,1.5s								
XLT				pmax	pmax				
	comp=Z,220nm,5.1s								
XLT				LR	LR				
	comp=Z,770nm,10.1s								
XLT				LR	LR				
	comp=Z,850nm,11.8s								
KLR	**Kul'dur**	**16.56**	**2**	Pn		**P**		**19 50 46.5**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=180,slow=8.0,SNR=25								
KLR				LR	LR			19 56 01.0	
	comp=Z,55nm,19.5s,baz=173,slow=33								
KLR	**Kul'dur**	**16.56**	**2**	*ce*P		**Pn**		**19 50 42.8**	**+0.6**
KLR				pmax	pmax				
	comp=Z,32nm,1.3s								
YSS	**Yuzh-Sakhalins**	**16.98**	**29**	*e*P		**P**		**19 50 48.8**	**-0.6**
YSS				pmax	pmax				
	comp=Z,20nm,0.7s								
YSS				MLR	MLR				
	comp=Z,500nm,13.0s								
YSS	**Yuzh-Sakhalins**	**16.98**	**29**	P		**P**		**19 50 48.5**	**-0.9**
HHC	**Hu-ho-hao-te**	**17.35**	**303**	*e*P		**Pn**		**19 50 51.0**	**-1.3**
HHC				pmax	pmax				
	comp=Z,9.0nm,0.9s								
HHC				pmax	pmax				
	comp=Z,99nm,4.9s								
HHC				LR	LR				
	comp=Z,440nm,13.1s								
HHC				LR	LR				
	comp=Z,510nm,13.0s								
HHC				LR	LR				
	comp=Z,720nm,13.8s								
XAN	**Xi'an**	**18.25**	**280**	P		P		19 51 16.1	+13
XAN				pP		sP		19 51 26.8	+19
XAN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
ENH	**Enshi**	**18.26**	**268**			**P**		**19 51 04.2**	**+0.6**
HIA	**Hailar**	**18.50**	**337**	P		**Pn**		**19 51 06.9**	**+0.6**
HIA				pmax	pmax				
	comp=Z,41nm,1.5s								
HIA	**Hailar**	**18.50**	**337**	P		**Pn**		**19 51 06.9**	**+0.6**
HIA				lAmb	lAmb			19 51 11.7	
	comp=Z,41nm,1.5s								
ZEA	**Zeya**	**21.20**	**354**	*e*P		**P**		**19 51 37.9**	**+2.3**
ZEA				pmax	pmax				
	comp=N,10.0nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,20nm,0.9s								
GYA	**Guiyang**	**21.78**	**260**	⇑P		**P**		**19 51 44.6**	**+2.4**
GYA				pmax	pmax				
	comp=Z,17nm,1.0s								
GYA				LR	LR				
	comp=Z,740nm,11.2s								
LZH	**Lanzhou**	**22.40**	**286**	*e*P		P		19 51 56.3	+7.5
LZH				sP		sP		19 52 04.0	+11
LZH				pmax	pmax				
	comp=Z,11nm,1.5s								
LZH				pmax	pmax				
	comp=Z,170nm,4.3s								
LZH				LR	LR				
	comp=N,570nm,14.6s								
LZH				LR	LR				
	comp=E,660nm,13.6s								
LZH				LR	LR				
	comp=Z,710nm,14.6s								
CD2	**Chengdu**	**22.95**	**273**	P		**P**		**19 51 55.8**	**+1.2**
CD2				pmax	pmax				
	comp=Z,20nm,1.0s								
CD2				LR	LR				
	comp=Z,180nm,13.1s								
CD2				LR	LR				
	comp=Z,1μm,12.4s								
CD2				LR	LR				
	comp=Z,900nm,12.2s								
GUMO	**Guam**	**22.98**	**142**	LR		LR		19 59 08.8	
	comp=Z,110nm,20.8s,baz=338,slow=32								
ULN	**Ulaanbaatar**	**23.45**	**317**	*ce*P		**P**		**19 51 59.5**	**-0.1**
ULN				pmax	pmax				
	comp=Z,15nm,1.3s								
ULN	**Ulaanbaatar**	**23.45**	**317**	P		**P**		**19 51 59.5**	**-0.1**
SONM	**Songino Array**	**23.81**	**317**	P		**P**		**19 52 03.0**	**-0.1**
	comp=Z,5.0nm,1.0s,baz=128,slow=8.5,SNR=20								
SONM				LR		LR		20 02 29.8	
	comp=Z,280nm,19.0s,baz=124,slow=39								
SONM	**Songino Array**	**23.81**	**317**	P		**P**		**19 52 02.6**	**-0.5**
SONM				pmax	pmax				
	comp=Z,6.0nm,1.1s								
SONM	**Songino Array**	**23.81**	**317**	P		**P**		**19 52 02.6**	**-0.5**
GTA	**Gaotai**	**25.79**	**294**	⇓P		**P**		**19 52 22.0**	**+0.8**
GTA				sP		sP		19 52 29.8	+4.4
GTA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
GTA				pmax	pmax				
	comp=Z,76nm,6.0s								
GTA				LR	LR				
	comp=Z,850nm,16.3s								
GTA				LR	LR				
	comp=Z,320nm,15.5s								
GTA				LR	LR				
	comp=Z,350nm,14.3s								
PZH	**PanZhiHua**	**25.88**	**264**	⇑P		**P**		**19 52 21.9**	**-0.3**
PZH				pP		**sP**		**19 52 25.4**	**-0.9**
PZH				sP		**pP**		**19 52 28.9**	**+3.8**
PZH				S		**S**		**19 56 51.4**	**-0.8**
PZH				pmax	pmax				
	comp=Z,10.0nm,1.0s								
PZH				pmax	pmax				
	comp=Z,100nm,5.7s								
PZH				LR	LR				
	comp=Z,620nm,13.1s								
PZH				LR	LR				
	comp=Z,660nm,11.8s								
PZH				LR	LR				
	comp=Z,720nm,12.8s								
ZAK	**Zakamensk**	**26.88**	**319**	*e*P		**P**		**19 52 33.8**	**+2.9**
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.5s								
PETK	**Petropavlovsk-**	**28.15**	**35**	LR		LR		20 03 24.9	
	comp=Z,74nm,20.6s,baz=220,slow=35								
YAK	**Yakutsk**	**29.39**	**359**	*i* P		**P**		**19 52 53.5**	**+0.5**
YAK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
GOMU	**GeErMu**	**29.70**	**287**	P		**P**		**19 52 57.0**	**+0.4**
GOMU				pP		sP		19 53 00.6	-0.2
GOMU				sP		pP		19 53 02.0	+2.4
GOMU				PcP		**PcP**		**19 56 00.9**	**+0.2**
GOMU				pmax	pmax				
	comp=Z,3.0nm,1.0s								
GOMU				pmax	pmax				
	comp=Z,95nm,4.4s								
GOMU				LR	LR				
	comp=Z,140nm,10.1s								
GOMU				LR	LR				
	comp=Z,140nm,12.0s								
GOMU				LR	LR				
	comp=Z,120nm,11.9s								
MA2	**Magadan**	**30.04**	**20**	LR		LR		20 05 14.7	
	comp=Z,80nm,18.2s,baz=214,slow=37								
CHTO	**Chiang Mai**	**31.62**	**252**	P		**P**		**19 53 13.6**	**+0.3**
CHTO	**Chiang Mai**	**31.62**	**252**	P		**P**		**19 53 13.6**	**+0.3**
CM31	**Chiang Mai Arr**	**31.81**	**251**	P		**P**		**19 53 15.2**	**+0.3**
CM31				lAmb		lAmb		19 53 31.4	
	comp=Z,8.1nm,1.5s								
CMAR	**Chiang Mai Arr**	**31.81**	**251**	P		**P**		**19 53 16.6**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=44,slow=6.7,SNR=12								
CMAR				LR		LR		20 07 11.2	
	comp=Z,88nm,18.0s,baz=80,slow=38								
CMAR	**Chiang Mai Arr**	**31.81**	**251**	*ce*P		**P**		**19 53 16.7**	**+1.7**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**31.81**	**251**	P		**P**		**19 53 15.2**	**+0.2**
SEY	**Seymchan**	**33.25**	**18**	LR		LR		20 07 02.4	
	comp=Z,150nm,18.1s,baz=56,slow=36								
SEY	**Seymchan**	**33.25**	**18**	*i* P		**P**		**19 53 28.5**	**+1.4**
SEY				pmax	pmax				
	comp=Z,8.0nm,1.5s								
H11N2	**WAKE ISLAND Hy**	**34.76**	**103**	T		T		20 29 45.5	
	baz=296,slow=74,SNR=9.1								
H11N1	**WAKE ISLAND Hy**	**34.77**	**103**	T		T		20 29 45.1	
	baz=296,slow=74,SNR=4.3								
H11N3	**WAKE ISLAND Hy**	**34.78**	**103**	T		T		20 29 46.4	
	baz=296,slow=74,SNR=11								
WMQ	**Urumqi**	**35.20**	**301**	*e*P		**P**		**19 53 47.3**	**+2.9**
WMQ				LR	LR				
	comp=Z,2μm,27.3s								
WMQ				LR	LR				
	comp=Z,1μm,27.3s								
WMQ				LR	LR				
	comp=Z,270nm,19.9s								
ZAA0	**Zalesovo Array**	**38.71**	**317**	P		**P**		**19 54 13.7**	**-0.2**
ZALV	**Zalesovo Beam**	**38.71**	**317**	P		**P**		**19 54 14.5**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=99,slow=8.9,SNR=2.5								
ZALV				LR		LR		20 09 23.0	
	comp=Z,55nm,19.8s,baz=108,slow=35								
ZALV	**Zalesovo Beam**	**38.71**	**317**	P		**P**		**19 54 14.2**	**+0.3**
ZALV	**Zalesovo Beam**	**38.71**	**317**	P		**P**		**19 54 14.2**	**+0.3**
KAPI	**Kappang**	**38.89**	**198**	LR		LR		20 11 37.4	
	comp=Z,51nm,18.1s,baz=4.0,slow=38								
TIXI	**Tiksi**	**39.05**	**359**	P		**P**		**19 54 16.4**	**-0.1**
TIXI				pmax	pmax				
	comp=Z,4.0nm,1.2s								
TIXI	**Tiksi**	**39.05**	**359**	P		**P**		**19 54 16.4**	**-0.1**
MK31	**Makanchi Array**	**39.20**	**306**	P		**P**		**19 54 18.2**	**0.0**
MK31				pmax	pmax				
	comp=Z,3.0nm,1.2s								
MK31	**Makanchi Array**	**39.20**	**306**	P		**P**		**19 54 18.2**	**0.0**
MKAR	**Makanchi Array**	**39.20**	**306**	P		**P**		**19 54 17.9**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=92,slow=10,SNR=

KKAR	**Karatay Array**	**47.71**	**301**	P		**P**	**19 55 26.9**	**0.0**	
KKAR	**Karatay Array**	**47.71**	**301**	P		**P**	**19 55 26.9**	**0.0**	
KKAR	**Karatay Array**	**47.71**	**301**	P		**P**	**19 55 26.9**	**0.0**	
KKAR				IAmb	IAmb		19 55 29.9		
	comp=Z,9.3nm,0.7s								
BTK	**Batken**	**48.00**	**297**	P		**P**	**19 55 28.5**	**-0.7**	
BTK				pmax	pmax				
	comp=Z,4.0nm,1.3s								
BTK	**Batken**	**48.00**	**297**	P		**P**	**19 55 28.5**	**-0.7**	
BTK				IAmb	IAmb		19 55 34.7		
	comp=Z,4.4nm,1.3s								
KNRA	**Kununurra**	**48.11**	**183**	P		**P**	**19 55 28.4**	**-1.6**	
KNRA				IAmb	IAmb		19 55 56.9		
	comp=Z,8.9nm,1.1s								
CHGR	**Chuyangaron**	**49.55**	**295**	P		**P**	**19 55 41.0**	**-0.2**	
CHGR				pmax	pmax				
	comp=Z,25nm,1.4s								
CHGR	**Chuyangaron**	**49.55**	**295**	P		**P**	**19 55 40.8**	**-0.3**	
FITZ	**Fitzroy Crossi**	**50.71**	**186**	P		**P**	**19 55 49.0**	**-0.9**	
WB0	**Warramunga Arr**	**52.26**	**176**	P		**P**	**19 55 59.8**	**-1.7**	
WB0				IAmb	IAmb		19 56 09.7		
	comp=Z,11nm,1.4s								
WRA	**Warramunga Arr**	**52.43**	**176**	P		**P**	**19 56 01.1**	**-1.7**	
	comp=Z,0.5nm,0.5s,baz=355,slow=8.0,SNR=6.9								
WRA	**Warramunga Arr**	**52.43**	**176**	*i* P		**P**	**19 56 03.4**	**+0.6**	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.4s								
WRA	**Warramunga Arr**	**52.43**	**176**	P		**P**	**19 56 01.1**	**-1.7**	
PALK	**Pallekele**	**52.74**	**253**	LR		LR	20 21 48.0		
	comp=Z,75nm,18.1s,baz=159,slow=40								
ARU	**Arti**	**53.82**	**319**	P		**P**	**19 56 12.9**	**+0.2**	
	comp=Z,1.6nm,0.7s,baz=127,slow=7.4								
ARU				LR		LR	20 19 44.4		
	comp=Z,93nm,18.2s,baz=84,slow=37								
ARU	**Arti**	**53.82**	**319**	*c i* P		**P**	**19 56 12.4**	**-0.2**	
ARU							19 57 17.9		
ARU							19 58 11.6		
ARU				S		**S**	**20 03 49.2**	**+1.9**	
ARU				SS		**SS**	**20 07 28.9**	**+1.2**	
ARU				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ARU	**Arti**	**53.82**	**319**	P		**P**	**19 56 12.4**	**-0.2**	
ARU				IAmb	IAmb		19 56 17.1		
	comp=Z,5.1nm,0.9s								
ABKAR	**Akbulak array**	**53.99**	**310**	P		**P**	**19 56 13.8**	**-0.2**	
ABKAR	**Akbulak array**	**53.99**	**310**	P		**P**	**19 56 14.0**	**0.0**	
ABKAR				IAmb	IAmb		19 56 16.2		
	comp=Z,3.4nm,0.7s								
L19K	**White Mountain**	**54.51**	**34**	P		**P**	**19 56 19.1**	**+1.4**	
L19K				IAmb	IAmb		19 56 33.4		
	comp=Z,8.2nm,1.4s								
O18K	**Koktuh Hills**	**54.52**	**37**	P		**P**	**19 56 18.3**	**+0.6**	
CTA	**Charters Tower**	**54.53**	**162**	LR		LR	20 19 03.6		
	comp=Z,51nm,18.1s,baz=9.0,slow=36								
J20K	**Nowinta River**	**54.72**	**31**	P		**P**	**19 56 20.6**	**+1.5**	
J20K				IAmb	IAmb		19 56 23.2		
	comp=Z,3.1nm,0.8s								
K20K	**Telida**	**54.80**	**32**	P		**P**	**19 56 21.0**	**+1.2**	
K20K				IAmb	IAmb		19 56 23.9		
	comp=Z,7.6nm,1.2s								
IMAR	**Indian Mountai**	**54.81**	**29**	P		**P**	**19 56 20.6**	**+0.9**	
AKTO	**Aktyubinsk**	**55.01**	**312**	LR		LR	20 21 43.6		
	comp=Z,119nm,19.2s,baz=97,slow=38								
H21K	**Melozitna Rive**	**55.21**	**29**	P		**P**	**19 56 23.2**	**+0.5**	
H21K				IAmb	IAmb		19 56 43.6		
	comp=Z,9.1nm,1.5s								
Q19K	**Cape Douglas,**	**55.41**	**38**	P		**P**	**19 56 24.6**	**+0.4**	
Q19K				IAmb	IAmb		19 56 41.6		
	comp=Z,10nm,1.1s								
PPLA	**Purkeypile**	**55.68**	**33**	P		**P**	**19 56 26.6**	**+0.3**	
PPLA				IAmb	IAmb		19 56 32.8		
	comp=Z,6.0nm,1.1s								
ASAR	**Alice Springs**	**56.10**	**176**	P		**P**	**19 56 28.5**	**-1.0**	
	comp=Z,0.7nm,0.8s,baz=356,slow=5.5,SNR=7.3								
ASAR	**Alice Springs**	**56.10**	**176**	P		**P**	**19 56 29.2**	**-0.3**	
KDAK	**Kodiak Island**	**56.12**	**39**	LR		LR	20 21 54.4		
	comp=Z,79nm,19.4s,baz=205,slow=38								
H23K	**Yukon River**	**56.54**	**29**	P		**P**	**19 56 32.7**	**+0.5**	
H23K				IAmb	IAmb		19 56 36.7		
	comp=Z,5.6nm,0.9s								
RND	**Reindeer**	**57.13**	**32**	P		**P**	**19 56 35.7**	**-0.8**	
RND				pmax	pmax				
	comp=Z,4.0nm,0.8s								
RND	**Reindeer**	**57.13**	**32**	P		**P**	**19 56 35.7**	**-0.8**	
RND				IAmb	IAmb		19 56 38.6		
	comp=Z,4.1nm,0.8s								
MDM	**Murphy Dome**	**57.19**	**30**	P		**P**	**19 56 36.7**	**-0.1**	
MDM				IAmb	IAmb		19 56 41.4		
	comp=Z,5.6nm,0.8s								
KNK	**Knik Glacier**	**57.62**	**34**	P		**P**	**19 56 40.0**	**+0.1**	
KNK				IAmb	IAmb		19 56 43.2		
	comp=Z,16nm,1.5s								
IL31		**57.78**	**30**	P		**P**	**19 56 41.2**	**+0.2**	
IL31				IAmb	IAmb		19 56 57.8		
	comp=Z,6.2nm,1.4s								
ILAR	**Eielson Array**	**57.78**	**30**	P		**P**	**19 56 40.7**	**-0.3**	
	comp=Z,1.0nm,0.6s,baz=270,slow=5.4,SNR=12								
ILAR	**Eielson Array**	**57.78**	**30**	P		**P**	**19 56 40.5**	**-0.5**	
ILAR	**Eielson Array**	**57.78**	**30**	P		**P**	**19 56 40.5**	**-0.5**	
GEYT	**Alibeck**	**58.10**	**297**	LR		LR	20 26 11.0		
	comp=Z,80nm,18.8s,baz=84,slow=41								
BMAR	**Burnt Mountain**	**58.29**	**27**	P		**P**	**19 56 45.0**	**+0.4**	
KIRV	**Kirov**	**58.36**	**323**	LR		LR	20 24 44.5		
	comp=Z,64nm,18.2s,baz=71,slow=39								
SCRK	**Sand Creek**	**59.17**	**31**	P		**P**	**19 56 50.1**	**-0.7**	
SCRK				IAmb	IAmb		19 56 56.2		
	comp=Z,4.2nm,0.9s								
M26K	**Nabesna, AK**	**59.95**	**32**	P		**P**	**19 56 56.4**	**+0.2**	
M26K				IAmb	IAmb		19 56 59.5		
	comp=Z,5.2nm,0.7s								
EGAK	**Eagle**	**60.19**	**30**	P		**P**	**19 56 57.9**	**+0.2**	
EGAK				IAmb	IAmb		19 57 01.8		
	comp=Z,3.6nm,0.9s								
L27K	**Beaver Creek,**	**60.31**	**32**	P		**P**	**19 56 59.2**	**+0.5**	
L27K				IAmb	IAmb		19 57 02.8		
	comp=Z,4.6nm,0.7s								
BCAR	**Beaver Creek A**	**60.33**	**32**	P		**P**	**19 56 59.5**	**+0.7**	
M27K	**Edge Creek, AK**	**60.47**	**32**	P		**P**	**19 56 59.8**	**0.0**	
M27K				IAmb	IAmb		19 57 03.0		
	comp=Z,5.3nm,0.7s								
BELG	**Belogormoye**	**60.87**	**316**	LR		LR	20 26 36.0		
	comp=Z,54nm,18.9s,baz=7.4,slow=39								
HYT	**Haines Junctio**	**62.91**	**33**	P		**P**	**19 57 17.1**	**+0.8**	
HYT				IAmb	IAmb		19 57 25.0		
	comp=Z,3.7nm,0.9s								
SPITS	**Spitsbergen Ar**	**63.00**	**348**	P		**P**	**19 57 14.9**	**-1.6**	
SPITS				pmax	pmax				
	comp=Z,20nm,1.2s								
A36M	**Sachs Harbour**	**63.46**	**20**	P		**P**	**19 57 19.1**	**-0.4**	
DZM	**Mont Dzumac**	**64.26**	**143**	LR		LR	20 23 15.7		
	comp=Z,34nm,20.1s,baz=350,slow=34								
ARCES	**ARCESS Array B**	**64.84**	**338**	P		**P**	**19 57 28.9**	**+0.1**	
	comp=Z,1.3nm,0.6s,baz=59,slow=10.0,SNR=5.5								
ARCES				LR		LR	20 29 55.6		
	comp=Z,55nm,19.8s,baz=65,slow=40								
ARCES	**ARCESS Array B**	**64.84**	**338**	P		**P**	**19 57 28.5**	**-0.2**	
ARCES				pmax	pmax				
	comp=Z,14nm,1.5s								
ARCES	**ARCESS Array B**	**64.84**	**338**	P		**P**	**19 57 28.5**	**-0.2**	
STKA	**Stephens Creek**	**65.02**	**170**	P		**P**	**19 57 29.1**	**-1.0**	
	comp=Z,1.4nm,0.7s,baz=7.3,slow=9.3,SNR=3.6								
STKA				LR		LR	20 26 46.8		
	comp=Z,61nm,19.0s,baz=134,slow=37								
STKA	**Stephens Creek**	**65.02**	**170**	P		**P**	**19 57 29.2**	**-1.0**	
STKA				pmax	pmax				
	comp=Z,1.0nm,1.2s								
STKA	**Stephens Creek**	**65.02**	**170**	P		**P**	**19 57 29.2**	**-1.0**	
EUNU	**Eureka**	**65.66**	**7**	P		**P**	**19 57 33.6**	**-0.3**	
EUNU				IAmb	IAmb		19 57 37.3		
	comp=Z,3.1nm,0.8s								
OBN	**Obninsk**	**66.12**	**321**	*e* P		**P**	**19 57 38.0**	**+0.8**	
OBN				*i*			20 00 03.3		
OBN				pmax	pmax				
	comp=Z,4.0nm,0.8s								
OBN				MLR	MLR				
	comp=Z,62nm,14.0s								
KBZ	**Khabaz**	**66.83**	**308**	P		**P**	**19 57 42.5**	**+0.6**	
	comp=Z,6.6nm,0.9s,baz=84,slow=3.2,SNR=9.9								
KBZ				LR		LR	20 30 14.0		
	comp=Z,64nm,18.6s,baz=90,slow=39								
KBZ	**Khabaz**	**66.83**	**308**	*ce* P		**P**	**19 57 41.3**	**-0.6**	
KBZ				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KIV	**Kislovodsk**	**66.88**	**308**	*e* P		**P**	**19 57 41.6**	**-0.8**	
KIV				pmax	pmax				
	comp=Z,15nm,1.1s								
KIV				MLR	MLR				
	comp=Z,53nm,17.0s								
KIV	**Kislovodsk**	**66.88**	**308**	P		**P**	**19 57 41.4**	**-1.0**	
SHA1	**Shidzhatmaz**	**66.99**	**308**	*i* P		**P**	**19 57 43.5**	**+0.2**	
FIA1	**FINESS Array S**	**68.36**	**330**	P		**P**	**19 57 50.1**	**-1.2**	
FINES	**FINESS Array B**	**68.36**	**330**	P		**P**	**19 57 50.2**	**-1.1**	
	comp=Z,3.3nm,0.6s,baz=66,slow=5.6,SNR=20								
FINES				LR		LR	20 31 15.0		
	comp=Z,98nm,18.1s,baz=52,slow=39								
FINES	**FINESS Array B**	**68.36**	**330**	*i* P		**P**	**19 57 50.0**	**-1.3**	
FINES				pmax	pmax				
	comp=Z,3.0nm,0.6s								
FINES	**FINESS Array B**	**68.36**	**330**	P		**P**	**19 57 50.0**	**-1.3**	
RES	**Resolute Bay**	**68.83**	**12**	P		**P**	**19 57 53.7**	**-0.3**	
RES				pmax	pmax				
	comp=Z,4.0nm,0.8s								
RES	**Resolute Bay**	**68.83**	**12**	P		**P**	**19 57 53.7**	**-0.3**	
RES				IAmb	IAmb		19 57 57.4		
	comp=Z,3.7nm,0.8s								
GURO	**Guroymak-BITLI**	**69.59**	**303**	P		**P**	**19 57 59.6**	**0.0**	
NACGM	**Naroch**	**71.25**	**324**	*e* P		**P**	**19 58 09.6**	**+0.4**	
YKA	**Yellowknife Ar**	**71.81**	**26**	P		**P**	**19 58 11.7**	**-0.8**	
	comp=Z,0.9nm,0.7s,baz=305,slow=5.9,SNR=17								
YKA	**Yellowknife Ar**	**71.81**	**26**	P		**P**	**19 58 11.1**	**-1.3**	
YKA	**Yellowknife Ar**	**71.81**	**26**	P		**P**	**19 58 11.1**	**-1.3**	
AKASG	**Malin Array Be**	**72.07**	**319**	P		**P**	**19 58 14.4**	**+0.2**	
	comp=Z,3.0nm,0.5s,baz=54,slow=6.5,SNR=6.3								
AKASG	**Malin Array Be**	**72.07**	**319**	*ce* P		**P**	**19 58 15.6**	**+1.4**	
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.5s								
AKBB	**Malin Array Si**	**72.07**	**319**	*ce* P		**P**	**19 58 15.7**	**+1.5**	
AKBB	**Malin Array Si**	**72.07**	**319**	P		**P**	**19 58 13.4**	**-0.8**	
AKBB				IAmb	IAmb		19 58 15.9		
	comp=Z,5.1nm,0.7s								
PABE	**Paberze**	**72.33**	**325**	P		**P**	**19 58 15.3**	**-0.3**	
SOCY	**Socotra**	**72.41**	**273**	P		**P**	**19 58 14.5**	**-2.4**	
SOCY				IAmb	IAmb		19 58 25.3		
	comp=Z,6.3nm,1.0s								
HFS	**Hagfors**	**74.14**	**332**	LR		LR	20 32 30.3		
	comp=Z,56nm,19.3s,baz=40,slow=37								
NB2	**NORSAR Subarra**	**74.50**	**334**	P		**P**	**19 58 30.0**	**+1.6**	
	comp=Z,0.8nm,0.6s,baz=50,slow=5.9								
NOA	**NORSAR Array B**	**74.50**	**334**	P		**P**	**19 58 28.9**	**+0.5**	
	comp=Z,0.6nm,0.6s,baz=48,slow=5.4,SNR=5.0								
NOA				LR		LR	20 34 04.6		
	comp=Z,42nm,19.3s,baz=40,slow=38								
BR131	**Keskin Array S**	**74.81**	**308**	P		**P**	**19 58 29.7**	**-1.1**	
BR131				pmax	pmax				
	comp=Z,4.0nm,0.9s								
BR131	**Keskin Array S**	**74.81**	**308**	P		**P**	**19 58 29.7**	**-1.1**	
BR131				IAmb	IAmb		19 58 34.4		
	comp=Z,4.2nm,0.8s								
BRTR	**Keskin Array B**	**74.81**	**308**	P		**P**	**19 58 30.6**	**-0.2**	
	comp=Z,2.2nm,0.8s,baz=100,slow=5.5,SNR=11								
BRTR				LR		LR	20 37 58.6		
	comp=Z,34nm,18.5s,baz=70,slow=41								
BRTR	**Keskin Array B**	**74.81**	**308**	*ce* P		**P**	**19 58 33.7**	**+2.9**	
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BRTR	**Keskin Array B**	**74.81**	**308**	P		**P**	**19 58 29.8**	**-1.1**	
BUR08	**Bucovina Ar. S**	**75.92**	**318**	P		**P**	**19 58 36.2**	**-0.8**	
BUR08				IAmb	IAmb		19 59 04.7		
	comp=Z,6.6nm,1.5s								
BURAR	**Bucovina Array**	**75.92**	**318**	P		**P**	**19 58 36.4**	**-0.6**	
BURAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BURAR	**Bucovina Array**	**75.92**	**318**	P		**P**	**19 58 36.4**	**-0.6**	
KWP	**Kalwaria Pacla**	**76.19**	**320**	P		**P**	**19 58 38.2**	**-0.1**	
KWP				pmax	pmax				
	comp=Z,101nm,1.0s								
KWP	**Kalwaria Pacla**	**76.19**	**320**	P		**P**	**19 58 38.2**	**-0.1**	
MLR	**Muntele Rosu**	**76.66**	**316**	LR		LR	20 35 11.0		
	comp=Z,86nm,20.2s,baz=90,slow=38								
ELL	**Elmali**	**78.86**	**306**	P		**P**	**19 58 52.9**	**-0.8**	
ELL				pmax	pmax				
	comp=Z,12nm,0.7s								
ELL	**Elmali**	**78.86**	**306**	P		**P**	**19 58 52.9**	**-0.8**	
VRAC	**Vranov**	**79.59**	**323**	LR		LR	20 36 32.5		
	comp=Z,62nm,18.2s,baz=40,slow=38								
CLL	**Collm**	**80.09**	**326**	*i* P		**P**	**19 58 59.2**	**-0.7**	
CLL				*i*			19 59 02.9		
CLL				pmax	pmax				
	comp=Z,5.0nm,1.1s								
CLL	**Collm**	**80.09**	**326**	*i* P		**P**	**19 58 59.2**	**-0.7**	
	comp=Z,5.0nm,1.1s								
CLL				*i* x		x	19 59 02.9		
	comp=Z,6.0nm,1.0s								
CLL				*e* S		**S**	**20 09 06.0**	**+1.7**	
CLL				*e* PPS		PPS	20 10 06.0		
CLL				Lm		MLR	20 38 00.0		
	comp=Z,100nm,19.3s								
CONA	**Conrad Observa**	**80.84**	**322**	*e* P		**P**	**19 59 02.4**	**-1.7**	
	comp=Z,4.3nm,1.2s								
GERES	**GERESS Array B**	**81.35**	**323**	P		**P**	**19 59 07.3**	**+0.4**	
	comp=Z,1.0nm,0.8s,baz=316,slow=3.7,SNR=5.5								
GERES				LR		LR	20 39 38.8		
	comp=Z,132nm,19.2s,baz=56,slow=39								
ARSA	**Arzberg**	**81.44**	**321**	*e* P		**P**	**19 59 05.9**	**-1.4**	
	comp=Z,2.7nm,1.0s								
FCC	**Fort Churchill**	**81.57**	**22**	P		**P**	**19 59 08.9**	**+1.3**	
FCC				pmax	pmax				
	comp=Z,6.0nm,1.4s								
FCC	**Fort Churchill**	**81.57**	**22**	P		**P**	**19 59 08.9**	**+1.3**	
FCC				IAmb	IAmb		19 59 16.5		
	comp=Z,6.4nm,1.4s								
KBA	**Koelnbreinsper**	**82.69**	**322**	*e* P		**P**	**19 59 14.8**	**+0.8**	
	comp=Z,4.5nm,1.2s								
FRB	**Frobisher Bay**	**82.70**	**9**	LR		LR	20 37 37.0		
	comp=Z,57nm,19.3s,baz=208,slow=37								
ABTA	**Abfaltersbach**	**83.34**	**322**	*e* P		**P**	**19 59 17.0**	**-0.3**	
	comp=Z,4.5nm,1.2s								
WATA	**Walderalm**	**83.42**	**323**	*i* P		**P**	**19 59 17.7**	**0.0**	
	comp=Z,5.3nm,1.6s								
WTTA	**Wattenberg**	**83.44**	**323**	*e* P		**P**	**19 59 18.3**	**+0.4**	
	comp=Z,2.5nm,0.7s								
MOTA	**Moosalm**	**83.65**	**323**	*i* P		**P**	**19 59 19.8**	**+0.9**	
	comp=Z,3.8nm,0.9s								
SQTA	**Sankt Quirin**	**83.68**	**323**	*i* P		**P**	**19 59 19.1**	**0.0**	
	comp=Z,2.4nm,0.8s								
RETA	**Reutte**	**83.73**	**324**	*i* P		**P**	**19 59 20.4**	**+1.1**	
	comp=Z,6.2nm,1.5s								
EKA	**Eskdalemuir Ar**	**83.86**	**336**	LR		LR	20 40 52.4		
	comp=Z,58nm,18.9s,baz=14,slow=39								
ITM	**Ithomi**	**83.89**	**310**	P		**P**	**19 59 19.5**	**-0.7**	
ITM				IAmb	IAmb		19 59 29.0		
	comp=Z,6.8nm,1.0s								
FETA	**Feichten**	**84.06**	**323**	P		**P**	**19 59 21.3**	**+0.2**	
	comp=Z,3.6nm,0.9s								
KVN	**Kaiserville**	**84.28**	**47**	P		**P**	**19 59 21.9**	**-0.5**	
KVN				pmax	pmax				
	comp=Z,3.0nm,1.1s								
KVN	**Kaiserville**	**84.28**	**47**	P		**P**	**19 59 21.9**	**-0.5**	
KVN				IAmb	IAmb		19 59 27.0		
	comp=Z,2.5nm,1.1s								
DAVA	**Damuels**	**84.30**	**324**	*e* P		**P**	**19 59 22.1**	**-0.2**	
	comp=Z,7.8nm,1.1s								
BFO	**Black Forest**	**84.33**	**326**	P		**P**	**19 59 21.7**	**-0.5**	
BFO				pmax	pmax				
	comp=Z,7.0nm,0.9s								
BFO	**Black Forest**	**84.33**	**326**	P		**P**	**19 59 21.7**	**-0.5**	
NVAR	**Mina Array Bea**	**84.54**	**47**	P		**P**	**19 59 23.2**	**-0.5**	
	comp=Z,0.9nm,0.6s,baz=310,slow=5.1,SNR=7.8								
NVAR	**Mina Array Bea**	**84.54**	**47**	P		**P**	**19 59 23.5**	**-0.2**	
DAVOX	**Davos/Dischmat**	**84.65**	**324**	LR		LR	20 41 44.8		
	comp=Z,143nm,18.1s,baz=82,slow=39								
NRCA	**Norcia**	**85.61**	**319**	P		**P**	**19 59 29.0**	**+0.1**	
BW06	**Boulder Array**	**86.83**	**40**	P		**P**	**19 59 34.9**	**-0.2**	
PDAR	**Pinedale Array**	**86.83**	**40**	P		**P**	**19 59 34.4**	**-0.6**	
	comp=Z,1.0nm,0.8s,baz=352,slow=2.1,SNR=8.0								
ULM	**Lac du Bonnet**	**87.72**	**28**	P		**P**	**19 59 39.6**	**+0.7**	
	comp=Z,2.8nm,0.7s,baz=302,slow=4.6,SNR=3.1								
P18A	**Preston Nutter**	**88.57**	**42**	P		**P**	**19 59 44.3**	**+0.7**	
P18A				IAmb	IAmb		19 59 48.1		
	comp=Z,8.9nm,1.4s								
ESDC	**Sonseca Array**	**96.66**	**326**	LR		LR	20 49 51.8		
	comp=Z,50nm,18.4s,baz=4.5,slow=39								

*IDC **16** 20:05:19.3±1.4,32.95N×131.07E,h0km,mb3.3/3, mb1 3.5/5,mb1mx3.2/63,mbtmp3.3/5,ML2.8/2,Error ellipse: s-maj=38.3km s-min=8.2km az=47.0*
*NIED **16** 20:05:19.0,33.05N×131.14E,h11km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.42; Mθθ3.96; Mφφ-2.53; Mrθ0.53; Mθφ1.40; Mφr-0.75;*

Fault plane solution: M₀3.74000×10¹⁴ NP1:φ₀36.00000°, δ70.00000°,λ-164.00000°. NP2:φ₀300.00000°, δ75.00000°,λ-21.00000°.
*JMA **16** 20:05:19.0,33.05N×131.13E,h11km±1km,M3.5*
JMA Felt II J1.

ISC 16 20:05:20.9±0.9,33.00N±0.05×131.12E±0.04,h12km,n10, σ1992/13,mb3.3/3,4D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**0.24**	**301**	Pg		**Pg**	**20 05 23.8**	**-2.2**
	3μm,0.3s,baz=285,slow=18,SNR=297							
JNU				Lg		Lg	20 05 27.1	
	4μm,0.3s,baz=168,slow=19,SNR=207							
JNU	**Nakatsue**	**0.24**	**301**	⇓P		**Pg**	**20 05 23.8**	**-2.2**
JNU				S		**Sg**	**20 05 27.2**	**-2.2**
JTA	**Tamana**	**0.50**	**266**	⇓P		**Pg**	**20 05 29.1**	**-1.5**
JIU3	**Izumi3**	**0.52**	**210**	⇓P		**Pg**	**20 05 30.2**	**-0.8**
JIU3				*e*S		**Sb**	**20 05 38.2**	**-1.2**
JUS	**Usuki**	**0.53**	**83**	⇓P		**Pg**	**20 05 28.7**	**-2.6**
KSRS	**Korea Array**	**5.16**	**330**	Pn		**Pn**	**20 06 37.9**	**0.0**
	0.5nm,0.3s,baz=148,slow=15,SNR=7.8							
KSRS				Pg		**Pb**	**20 06 54.0**	**+3.0**
	0.7nm,0.3s,baz=149,slow=18,SNR=7.6							
KSRS				Lg		Lg	20 07 58.1	
	0.9nm,0.3s,baz=152,slow=27,SNR=5.3							
MJAR	**Matsushiro Arr**	**6.82**	**57**	Pn		**Pn**	**20 07 01.7**	**+1.0**
	0.1nm,0.3s,baz=236,slow=13,SNR=6.6							
SONM	**Songino Array**	**23.82**	**316**	P		**P**	**20 10 33.5**	**-0.2**
	0.8nm,0.7s,baz=134,slow=9.3,SNR=6.4							
KURBB	**Kurchatov Arra**	**42.01**	**311**	P		**P**	**20 13 13.1**	**+1.2**
	0.3nm,0.6s,baz=97,slow=9.2,SNR=2.9							
WRA	**Warramunga Arr**	**52.73**	**176**	P		**P**	**20 14 35.4**	**-0.1**
	0.3nm,0.8s,baz=350,slow=7.6,SNR=2.2							

IDC 16 20:20:21.0±5.1,18.33S×176.49W,h0km,mb4.1/3, mb1 4.4/3,mb1mx3.7/44,mbtmp4.1/3,Error ellipse: s-maj=236.0km s-min=43.9km az=146.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.35**	**260**	P		P	20 28 49.4	+0.1
	1.1nm,0.3s,baz=97,slow=7.7,SNR=46							
ASAR	**Alice Springs**	**46.44**	**255**	P		P	20 28 49.7	-0.2
	1.8nm,0.4s,baz=86,slow=8.2,SNR=50							
CMAR	**Chiang Mai Arr**	**90.75**	**289**	P		P	20 33 26.4	-0.1
	0.6nm,0.9s,baz=143,slow=1.4,SNR=5.4							
BRTR	**Keskin Array B**	**146.37**	**316**	PKPbc		PKPdf	20 40 02.6	-0.4
	0.6nm,0.7s,baz=93,slow=4.9,SNR=4.0							
GERES	**GERESS Array B**	**148.46**	**347**	PKPbc		PKPbc	20 40 09.5	-0.2
	0.5nm,0.7s,baz=13,slow=1.8,SNR=5.9							

*IDC **16** 20:24:23.4±0.9,51.34N×179.58W,h0km,mb3.6/8, mb1 4.1/10,mb1mx3.7/67,mbtmp3.8/10,ML4.3/2,MS3.1/3, Ms1 3.1/3,ms1mx2.6/96,Error ellipse: s-maj=34.4km s-min=16.9km az=176.0*
*AEIC **16** 20:24:28±1.8,51.3N±0.1×179.45W±0.09,h26km±6km, ML4.1,mb4.1/57(NEIC),Error ellipse: s-maj=16.6km s-min=7.7km az=170.0*
*NEIC **16** 20:24:29.1±1.2,51.4N±0.2×179.59W±0.01,h35km±8km, Error ellipse: s-maj=22.2km s-min=1.0km az=179.0*

ISC 16 20:24:29.6±0.8,51.4N±0.1×179.56W±0.04,h45km,n107, σ0983/102,mb4.0/22,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GASW	**Gareloi Southw**	**0.61**	**46**			**Pn**	**20 24 41.1**	**-0.9**
GALAA	**Gareloi Lava P**	**0.64**	**50**			**Pn**	**20 24 41.4**	**-0.9**
GAEA	**Gareloi East**	**0.66**	**50**			**Pn**	**20 24 41.9**	**-0.8**
TASE	**Tanaga Southea**	**1.06**	**63**			**Pn**	**20 24 47.5**	**-0.6**
TAFL	**Tanaga Flats**	**1.11**	**68**			**Pn**	**20 24 48.0**	**-0.7**
TAFP	**Tanaga Falls P**	**1.12**	**60**			**Pn**	**20 24 48.0**

	comp=Z,4.8nm,1.2s								
PAX	**Paxson**	**21.53**	**44**	P	**P**	**20 29 14.7**	**0.0**		
PAX				IAmb	IAmb	20 29 18.3			
	comp=Z,12nm,1.4s								
ILAR	**Eielson Array**	**21.56**	**39**	P	**P**	**20 29 14.2**	**-0.6**		
	comp=Z,0.4nm,0.6s,baz=239,slow=8.2,SNR=2.4								
H24K	**Noodor Dome**	**21.63**	**36**	P	**P**	**20 29 14.7**	**-0.9**		
GLB	**Gilahina Butte**	**21.92**	**49**	P	**P**	**20 29 17.8**	**-1.0**		
GLB				IAmb	IAmb	20 29 21.2			
	comp=Z,5.8nm,0.7s								
SCRK	**Sand Creek**	**22.47**	**42**	P	**P**	**20 29 23.3**	**-1.4**		
TOLK	**Toolik Lake Re**	**22.51**	**29**	P	**P**	**20 29 24.6**	**-0.5**		
M27K	**Edge Creek, AK**	**22.99**	**47**	P	**P**	**20 29 30.1**	**-0.2**		
M27K				IAmb	IAmb	20 29 36.9			
	comp=Z,10nm,1.5s								
BCAR	**Beaver Creek A**	**23.18**	**45**	P	**P**	**20 29 31.8**	**-0.3**		
BMAR	**Burnt Mountain**	**23.52**	**34**	P	**P**	**20 29 34.5**	**-0.8**		
EGAK	**Eagle**	**23.88**	**41**	P	**P**	**20 29 37.7**	**-0.8**		
EGAK				IAmb	IAmb	20 29 50.5			
	comp=Z,3.0nm,0.9s								
INK	**Inuvik**	**27.75**	**35**	LR	LR	20 42 15.2			
	comp=Z,65nm,18.3s,baz=10,slow=39								
DLBC	**Dease Lake**	**28.77**	**56**	LR	LR	20 40 54.8			
	comp=Z,43nm,19.5s,baz=302,slow=34								
H11N2	**WAKE ISLAND Hy**	**33.32**	**204**	T	T	21 06 24.1			
	baz=18,slow=76,SNR=52								
H11N1	**WAKE ISLAND Hy**	**33.34**	**204**	T	T	21 06 24.1			
	baz=16,slow=76,SNR=57								
H11S1	**WAKE ISLAND Hy**	**34.54**	**203**	T	T	21 07 51.3			
	baz=15,slow=76,SNR=59								
H11S2	**WAKE ISLAND Hy**	**34.55**	**203**	T	T	21 08 03.0			
	baz=15,slow=76,SNR=31								
H11S3	**WAKE ISLAND Hy**	**34.55**	**203**	T	T	21 07 59.6			
	baz=15,slow=76,SNR=28								
CLRS	**Cowichan Lake**	**34.94**	**72**	P	**P**	**20 31 18.1**	**+1.2**		
I02E	**Swisshome, OR**	**37.36**	**79**	P	**P**	**20 31 38.5**	**+0.9**		
LTY	**Liberty**	**37.72**	**72**	P	**P**	**20 31 41.0**	**+0.3**		
LTY				IAmb	IAmb	20 31 55.3			
	comp=Z,5.9nm,1.4s								
DBO	**Dodson Butte**	**38.26**	**80**	P	**P**	**20 31 46.7**	**+1.4**		
HAWA	**Hanford**	**38.82**	**73**	P	**P**	**20 31 50.5**	**+0.6**		
NEW	**Newport**	**39.33**	**69**	P	**P**	**20 31 54.4**	**+0.1**		
NEW				IAmb	IAmb	20 31 54.8			
	comp=Z,2.3nm,0.6s								
PAHR	**Pah Rah Range**	**42.58**	**81**	P	**P**	**20 32 21.8**	**+0.7**		
PAHR				IAmb	IAmb	20 32 22.8			
	comp=Z,2.6nm,0.8s								
HLID	**Hailey**	**43.40**	**74**	P	**P**	**20 32 27.9**	**+0.2**		
HLID				IAmb	IAmb	20 32 29.0			
	comp=Z,2.2nm,0.8s								
BMN	**Battle Mountai**	**43.49**	**79**	P	**P**	**20 32 28.7**	**+0.2**		
BMN				IAmb	IAmb	20 32 30.0			
	comp=Z,3.4nm,0.6s								
MCMT	**McKenzie Canyo**	**43.63**	**71**	P	**P**	**20 32 29.6**	**-0.1**		
KVN	**Kaiserville**	**43.77**	**81**	P	**P**	**20 32 31.5**	**+0.6**		
BOZ	**Bozeman (W)**	**43.93**	**70**	P	**P**	**20 32 31.6**	**-0.4**		
BOZ				IAmb	IAmb	20 32 32.3			
	comp=Z,2.9nm,0.6s								
NVAR	**Mina Array Bea**	**44.02**	**82**	P	**P**	**20 32 33.7**	**+0.8**		
	comp=Z,0.9nm,0.7s,baz=300,slow=7.7,SNR=6.4								
ELK	**Elko**	**44.52**	**78**	P	**P**	**20 32 37.4**	**+0.5**		
ELK				IAmb	IAmb	20 32 38.4			
	comp=Z,2.6nm,0.6s								
YHL	**Hebgen Lake**	**44.61**	**70**	P	**P**	**20 32 37.5**	**0.0**		
H17A	**Grant Village**	**45.22**	**71**	P	**P**	**20 32 43.4**	**+1.0**		
RLMT	**Red Lodge**	**45.58**	**69**	P	**P**	**20 32 45.5**	**+0.3**		
RLMT				IAmb	IAmb	20 32 46.5			
	comp=Z,4.3nm,1.1s								
R11A	**Troy Canyon, C**	**45.76**	**80**	P	**P**	**20 32 47.0**	**+0.4**		
TPNV	**Topopah Spring**	**46.22**	**82**	P	**P**	**20 32 50.9**	**+0.6**		
SONM	**Songino Array**	**46.23**	**296**	P	**P**	**20 32 50.6**	**+0.4**		
	comp=Z,0.3nm,0.6s,baz=52,slow=9.3,SNR=2.5								
SONM	**Songino Array**	**46.23**	**296**	P	**P**	**20 32 49.6**	**-0.6**		
DUG	**Dugway, Tooele**	**46.34**	**77**	P	**P**	**20 32 51.5**	**+0.4**		
PD31	**Pinedale Array**	**46.77**	**72**	P	**P**	**20 32 54.5**	**0.0**		
PDAR	**Pinedale Array**	**46.77**	**72**	P	**P**	**20 32 54.6**	**+0.1**		
	comp=Z,4.7nm,0.6s,baz=316,slow=3.4,SNR=64								
PDAR	**Pinedale Array**	**46.77**	**72**	P	**P**	**20 32 54.3**	**-0.2**		
U15A	**North Rim**	**49.00**	**80**	P	**P**	**20 33 12.5**	**+0.5**		
TXAR	**Lajitas Array**	**59.12**	**81**	P	**P**	**20 34 25.7**	**+0.1**		
	comp=Z,0.6nm,0.5s,baz=310,slow=6.6,SNR=9.2								
MK31	**Makanchi Array**	**59.67**	**308**	P	**P**	**20 34 28.0**	**-1.0**		
MKAR	**Makanchi Array**	**59.67**	**308**	P	**P**	**20 34 28.2**	**-0.9**		
	comp=Z,0.2nm,0.4s,baz=52,slow=6.7,SNR=5.4								
MKAR	**Makanchi Array**	**59.67**	**308**	P	**P**	**20 34 28.4**	**-0.7**		
KKAR	**Karatay Array**	**68.05**	**312**	P	**P**	**20 35 25.5**	**+1.3**		
BURAR	**Bucovina Array**	**79.14**	**343**	P	**P**	**20 36 29.7**	**+0.4**		
BURAR				IAmb	IAmb	20 36 30.5			
	comp=Z,1.2nm,1.1s								
WRA	**Warramunga Arr**	**81.67**	**223**	P	**P**	**20 36 42.7**	**-0.3**		
	comp=Z,0.4nm,0.8s,baz=34,slow=6.2,SNR=3.0								
ASAR	**Alice Springs**	**85.15**	**222**	P	**P**	**20 37 01.3**	**+0.5**		
	comp=Z,0.5nm,0.8s,baz=27,slow=4.9,SNR=3.8								
H03N2	**Juan Fernandez**	**121.60**	**105**	T	T	22 56 20.8			
	baz=317,slow=77,SNR=3.2								
H03N1	**Juan Fernandez**	**121.61**	**105**	T	T	22 56 25.6			
	baz=317,slow=77,SNR=2.9								
H03N3	**Juan Fernandez**	**121.61**	**105**	T	T	22 56 20.2			
	baz=317,slow=77,SNR=2.8								

NEIC ***16*** *20:26:25.7±1.4, 18°.3N±0°.1×145°.3E±0°.2, h311km±11km, mb4.0/29, Error ellipse: s-maj=24.5km s-min=15.1km az=109.0*

IDC ***16*** *20:26:26.0±2.4, 18°.33N×145°.41E, h323km±26km, mb3.3/12, mb1 3.5/13, mb1mx3.2/56, mbtmp4.0/13, Error ellipse: s-maj=19.8km s-min=13.8km az=104.0*

ISC 16 20:26:24.2±0.6, 18°.37N±0°.07×145°.3E±0°.1, h300km, n48, σ0s89/50, mb3.9/27, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.77**	**185**	P	**Pn**	**20 27 40.9**	**+1.7**
	5.2nm,0.3s,baz=99,slow=22,SNR=1.7						
GUMO				S	**S**	**20 28 38.2**	**-1.1**
	18nm,0.3s,baz=155,slow=23,SNR=8.1						
GUMO	**Guam**	**4.77**	**185**	Pn	**Pn**	**20 27 40.3**	**+1.2**
JHJ	**Hachijo jima 2**	**15.50**	**342**	S	**S**	**20 32 34.2**	**-0.6**
	8.5nm,0.3s,baz=68,slow=19,SNR=1.7						
YHNB	**Yeheng**	**23.10**	**290**	P	**P**	**20 31 05.4**	**+1.0**
SSLB	**Suanglung**	**23.33**	**288**	P	**P**	**20 31 07.7**	**+1.3**
SSLB				IAmb	IAmb	20 31 08.2	
	comp=Z,7.8nm,0.7s						
KLR	**Kul'dur**	**32.67**	**343**	P	**P**	**20 32 29.4**	**+0.7**
	comp=Z,3nm,0.7s,baz=166,slow=8.3,SNR=7.2						
WB0	**Warramunga Arr**	**39.38**	**196**	P	**P**	**20 33 25.9**	**+0.3**
WR0	**Warramunga Arr**	**39.52**	**196**	P	**P**	**20 33 26.3**	**-0.4**
WRA	**Warramunga Arr**	**39.56**	**196**	P	**P**	**20 33 26.6**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=21,slow=8.4,SNR=5.4						
WRA				PcP	**PcP**	**20 35 26.6**	**-1.3**
	comp=Z,0.3nm,0.9s,baz=18,slow=3.6,SNR=4.9						
MA2	**Magadan**	**41.35**	**4**	P	**P**	**20 33 41.8**	**+0.7**
MA2				IAmb	IAmb	20 34 06.7	
	comp=Z,9.0nm,1.3s						
AS31	**Alice Springs**	**43.23**	**195**	P	**P**	**20 33 56.3**	**-0.3**
ASAR	**Alice Springs**	**43.23**	**195**	P	**P**	**20 33 56.5**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=17,slow=7.4,SNR=9.3						
ASAR	**Alice Springs**	**43.23**	**195**	P	**P**	**20 33 56.3**	**-0.4**
CHTO	**Chiang Mai**	**43.84**	**278**	P	**P**	**20 34 01.5**	**-0.1**
CM31	**Chiang Mai Arr**	**43.88**	**278**	P	**P**	**20 34 02.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**43.88**	**278**	P	**P**	**20 34 03.0**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=70,slow=6.8,SNR=20						
CMAR	**Chiang Mai Arr**	**43.88**	**278**	P	**P**	**20 34 02.5**	**+0.5**
KULM	**Kulim**	**45.45**	**259**	P	**P**	**20 34 14.9**	**+0.6**
KULM				IAmb	IAmb	20 34 16.7	
	comp=Z,8.5nm,1.4s						
GSI	**Gunungsitoli**	**49.77**	**256**	P	**P**	**20 34 47.0**	**-0.4**
TIXI	**Tiksi**	**54.16**	**354**	P	**P**	**20 35 18.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=267,slow=23,SNR=4.3						
MK31	**Makanchi Array**	**58.41**	**314**	P	**P**	**20 35 49.9**	**+0.9**
MK31				IAmb	IAmb	20 35 51.2	
	comp=Z,2.4nm,0.7s						
MKAR	**Makanchi Array**	**58.41**	**314**	P	**P**	**20 35 49.4**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=90,slow=7.9,SNR=38						
MAKZ	**Makanchi**	**58.63**	**314**	P	**P**	**20 35 51.6**	**+1.1**
MAKZ				IAmb	IAmb	20 35 52.7	
	comp=Z,5.3nm,0.6s						
K20K	**Telida**	**60.69**	**27**	P	**P**	**20 36 05.5**	**+1.4**
K20K				IAmb	IAmb	20 36 06.4	
	comp=Z,4.3nm,0.7s						
KURK	**Kurchatov**	**61.26**	**318**	P	**P**	**20 36 08.3**	**+0.3**
KURK				IAmb	IAmb	20 36 09.5	
	comp=Z,7.3nm,1.1s						
CAST	**Castle Rocks**	**61.56**	**27**	P	**P**	**20 36 10.7**	**+0.8**
IMAR	**Indian Mountai**	**61.68**	**24**	P	**P**	**20 36 11.0**	**+0.5**
KDJ	**Kajisay**	**61.79**	**308**	P	**P**	**20 36 12.7**	**+0.6**
I21K	**Tanana**	**62.12**	**25**	P	**P**	**20 36 14.8**	**+1.3**
I21K				IAmb	IAmb	20 36 15.6	
	comp=Z,6.9nm,1.1s						
BOOM	**Boomskoye usch**	**62.71**	**309**	P	**P**	**20 36 18.3**	**+0.2**
BOOM				IAmb	IAmb	20 36 19.2	
	comp=Z,1.7nm,0.6s						
I23K	**Minto, Yukon-K**	**63.17**	**25**	P	**P**	**20 36 21.4**	**+1.0**
ILAR	**Eielson Array**	**64.11**	**26**	P	**P**	**20 36 25.8**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=249,slow=5.9,SNR=19						
KK31	**Karatay Array**	**66.68**	**310**	P	**P**	**20 36 43.1**	**-0.3**
KK31				IAmb	IAmb	20 36 44.0	
	comp=Z,1.7nm,0.7s						
KKAR	**Karatay Array**	**66.68**	**310**	P	**P**	**20 36 43.1**	**-0.3**
KKAR				IAmb	IAmb	20 36 44.0	
	comp=Z,1.7nm,0.7s						
KKAR	**Karatay Array**	**66.68**	**310**	P	**P**	**20 36 43.4**	**0.0**
GAR	**Garm**	**67.16**	**305**	P	**P**	**20 36 46.6**	**0.0**
DAWY	**Dawson**	**67.22**	**27**	P	**P**	**20 36 47.0**	**+0.6**
DAWY				IAmb	IAmb	20 36 47.8	
	comp=Z,1.6nm,0.8s						
HYT	**Haines Junctio**	**67.91**	**31**	P	**P**	**20 36 51.8**	**+0.9**
M31M	**Drury Creek, Y**	**69.42**	**30**	P	**P**	**20 37 00.5**	**+0.5**
M31M				IAmb	IAmb	20 37 23.0	
	comp=Z,3.2nm,1.2s						
INK	**Inuvik**	**69.83**	**23**	P	**P**	**20 37 02.0**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=289,slow=4.2,SNR=5.0						
DLBC	**Dease Lake**	**71.78**	**33**	P	**P**	**20 37 15.3**	**+1.1**
DLBC				IAmb	IAmb	20 37 38.4	
	comp=Z,3.9nm,1.1s						
A36M	**Sachs Harbour**	**72.52**	**19**	P	**P**	**20 37 18.4**	**+0.2**
A36M				IAmb	IAmb	20 37 19.0	
	comp=Z,2.7nm,0.7s						
ABKAR	**Akbulak array**	**73.32**	**317**	P	**P**	**20 37 22.6**	**-0.8**
ABKAR	**Akbulak array**	**73.32**	**317**	P	**P**	**20 37 22.6**	**-0.8**
ABKAR				IAmb	IAmb	20 37 23.9	
	comp=Z,1.6nm,0.8s						
YKA	**Yellowknife Ar**	**78.46**	**28**	P	**P**	**20 37 51.5**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=288,slow=5.5,SNR=8.7						
NVAR	**Mina Array Bea**	**83.65**	**52**	P	**P**	**20 38 19.9**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=264,slow=6.3,SNR=5.4						
FINES	**FINESS Array B**	**87.02**	**335**	P	**P**	**20 38 33.8**	**-2.0**
	comp=Z,1.8nm,0.6s,baz=63,slow=3.0,SNR=7.4						
BRTR	**Keskin Array B**	**94.06**	**314**	P	**P**	**20 39 06.8**	**-2.3**
	comp=Z,0.5nm,0.8s,baz=96,slow=5.5,SNR=3.6						

SKHL ***16*** *20:28:35.9±0.4, 42°.80N×142°.20E, h140km±9km, mb4.9/4, msha5.2/4*

NEIC ***16*** *20:28:35.8±1.4, 42°.79N±0°.05×141°.97E±0°.07, h113km±3km, mb4.2/25, Error ellipse: s-maj=8.2km s-min=7.2km az=125.0*

NIED ***16*** *20:28:36.2, 42°.82N×141°.87E, h113km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.15; Mθθ-2.09; Mφφ 1.94; Mrθ-0.24; Mθφ-4.54; Mφr-2.56; Fault plane solution: M₀5.60000×10¹⁴ NP1: φs101.00000°, δ63.00000°, λ177.00000°. NP2: φs193.00000°, δ87.00000°, λ27.00000°.*

IDC ***16*** *20:28:36.8±1.1, 42°.88N×141°.98E, h121km±8km, mb3.5/15, mb1 3.6/18, mb1mx3.4/55, mbtmp3.9/18 Error ellipse: s-maj=20.0km s-min=13.6km az=107.0*

JMA ***16*** *20:28:36.1±0.1, 42°.82N×141°.87E, h113km±1km, M3.6*

JMA Felt I J1.

ISC 16 20:28:35.7±0.6, 42°.78N±0°.04×141°.96E±0°.03, h115km±5km, kk102, σ0s86/125, mb4.2/36, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	**Iburiatsuma**	**0.16**	**191**	P	**Pn**	**20 28 52.3**	**+0.7**
JIAM				*eS*	**Sn**	**20 29 04.5**	**+1.0**
JBT2	**Biratori 2**	**0.29**	**91**	P	**Pn**	**20 28 52.7**	**+0.7**
JBT2				*eS*	**Sn**	**20 29 05.3**	**+1.1**
JEW	**Eniwo**	**0.38**	**279**	P	**Pn**	**20 28 52.3**	**-0.1**
JEW				*eS*	**Sn**	**20 29 04.3**	**-0.6**
JEW	**Eniwo**	**0.38**	**279**	Pn	**Pn**	**20 28 52.3**	**-0.1**
JEW				Sn	**Sn**	**20 29 04.4**	**-0.6**
JFR	**Furan**	**0.60**	**50**	P	**Pn**	**20 28 53.9**	**+0.1**
JFR				*eS*	**Sn**	**20 29 07.9**	**+0.5**
JISS	**Ishikarishitsu**	**0.64**	**321**	P	**Pn**	**20 28 54.1**	**+0.1**
JISS				*eS*	**Sn**	**20 29 07.3**	**-0.5**
JAB	**Ashibetsu**	**0.75**	**15**	P	**Pn**	**20 28 55.4**	**+0.5**
JAB				*eS*	**Sn**	**20 29 09.2**	**-0.2**
JNB	**Noboribetsu**	**0.75**	**246**	P	**Pn**	**20 28 54.7**	**-0.2**
JNB				*eS*	**Sn**	**20 29 09.1**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.77**	**130**	P	**Pn**	**20 28 56.3**	**+1.2**
JHR	**Hokuryu**	**0.98**	**350**	P	**Pn**	**20 28 57.6**	**+0.6**
JHR				*eS*	**Sn**	**20 29 14.2**	**+1.0**
JCH	**Churui**	**1.04**	**99**	P	**Pn**	**20 28 57.9**	**+0.2**
JCH				*eS*	**Sn**	**20 29 14.2**	**-0.1**
JKB	**Kayabe**	**1.13**	**218**	P	**Pn**	**20 28 58.8**	**+0.2**
JKB				*eS*	**Sn**	**20 29 15.6**	**-0.3**
ERM	**Erimo**	**1.17**	**131**	Pn	**Pn**	**20 29 00.6**	**+1.5**
JKK2	**Kamakawa 2**	**1.23**	**27**	P	**Pn**	**20 29 00.1**	**+0.4**
JKK2				*eS*	**Sn**	**20 29 18.1**	**+0.1**
ASAJ	**Asahikawa**	**1.41**	**19**	P	**Pn**	**20 29 02.1**	**+0.3**
	38nm,0.3s,baz=216,slow=11,SNR=494						
ASAJ				S	**Sn**	**20 29 21.6**	**0.0**
	25nm,0.3s,baz=62,slow=32,SNR=9.3						
JKA	**Kamikawa-asahi**	**1.41**	**19**	Pn	**Pn**	**20 29 02.0**	**+0.2**
JKA				Sn	**Sn**	**20 29 21.1**	**-0.5**
JAR	**Ashorobuto**	**1.42**	**68**	P	**Pn**	**20 29 02.3**	**+0.4**
JAR				*eS*	**Sn**	**20 29 22.0**	**+0.3**
JOT	**Ohata**	**1.56**	**206**	P	**Pn**	**20 29 03.8**	**+0.3**
JOT				*eS*	**Sn**	**20 29 24.8**	**+0.3**
JSS	**Shosan**	**1.62**	**357**	P	**Pn**	**20 29 05.3**	**+1.1**
JSS				*eS*	**Sn**	**20 29 27.2**	**+1.3**
JTKR	**Abashiri--Toko**	**1.85**	**49**	P	**Pn**	**20 29 08.2**	**+1.2**
JTKR				*eS*	**Sn**	**20 29 32.3**	**+1.4**
JOMM	**Oshimamatsumae**	**1.92**	**230**	P	**Pn**	**20 29 08.7**	**+0.8**
JOSM	**Okushiri--Mats**	**1.97**	**250**	P	**Pn**	**20 29 08.9**	**+0.4**
JTM	**Tenmabayashi**	**2.10**	**199**	Pn	**Pn**	**20 29 10.6**	**+0.3**
AKK	**Akkeshi**	**2.13**	**83**	*eP*	**Pn**	**20 29 10.8**	**+0.3**
AKK				*eS*	**Sn**	**20 29 36.8**	**-0.3**
NMR	**Nemuro--Hokkai**	**2.82**	**77**	*eP*	**Pn**	**20 29 19.3**	**-0.1**
NMR				*eS*	**Sn**	**20 29 51.7**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**3.10**	**65**	*eP*	**Pn**	**20 29 24.7**	**+1.5**
YUK				AMB	AMB	20 29 25.4	
	250nm,0.7s						
YUK				*eS*	**Sn**	**20 30 01.6**	**+1.8**
YUK				A	A	20 30 04.7	
	430nm,0.6s						
YUK				A	A	20 30 04.7	
	370nm,0.6s						
SHO	**Shikotan**	**3.71**	**71**	*eP*	**Pn**	**20 29 31.4**	**+0.1**
SHO				AMB	AMB	20 29 32.7	
	80nm,0.2s						
SHO				*eS*	**Sn**	**20 30 11.4**	**-2.8**
SHO				A	A	20 30 15.2	
	210nm,0.4s						
SHO				A	A	20 30 15.2	
	210nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.21**	**7**		**Pn**	**20 29 39.1**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.21**	**7**	*eP*	**Pn**	**20 29 39.4**	**+1.5**
YSS				AMB	AMB	20 29 43.2	
	20nm,0.5s						
YSS				*eS*	**Sn**	**20 30 28.3**	**+2.2**
YSS				A	A	20 30 32.2	
	40nm,0.5s						
YSS				A	A	20 30 32.2	
	30nm,0.5s						
KUR	**Kuril'sk**	**4.91**	**58**	*eP*	**Pn**	**20 29 47.4**	**+0.1**
KUR				AMB	AMB	20 29 51.0	
	200nm,0.8s						
KUR				*eS*	**Sn**	**20 30 43.5**	**+0.5**
KUR				A	A	20 30 51.8	
	10.0nm,0.3s						
KUR				A	A	20 30 51.8	
	30nm,0.3s						
JMM	**Marumori**	**4.99**	**191**		**Pn**	**20 29 47.5**	**-1.0**
JSD	**Sado**	**5.52**	**212**	Pn	**Pn**	**20 29 55.9**	**+0.3**
JYT	**Yasato**	**6.69**	**192**	Pn	**Pn**	**20 30 10.7**	**-0.7**
MJB9	**Matsu-Tunnel**	**6.87**	**206**		**Pn**	**20 30 13.3**	**-0.6**
MAJO	**Matsushiro**	**6.87**	**206**	Pn	**Pn**	**20 30 13.1**	**-0.8**
MJAR	**Matsushiro Arr**	**6.87**	**206**	P	**Pn**	**20 30 15.5**	**+1.6**
	0.5nm,0.3s,baz=325,slow=17,SNR=16						
MJAR	**Matsushiro Arr**	**6.87**	**206**	Pn	**Pn**	**20 30 13.3**	**-0.6**
USA0B	**Ussuriysk Arra**	**7.39**	**284**	Pn	**Pn**	**20 30 23.3**	**+2.4**
USRK	**Ussuriysk Ar.**	**7.39**	**284**	Pn	**Pn**	**20 30 23.3**	**+2.4**
JGF	**Kuroka**	**8.01**	**208**	Pn	**Pn**	**20 30 30.4**	**+1.0**
INU	**Inuyama**	**8.36**	**209**	Pn	**Pn**	**20 30 35.5**	**+1.4**
KLR	**Kul'dur**	**9.59**	**316**	P	**Pn**	**20 30 51.1**	**+0.5**
	0.2nm,0.3s,baz=123,slow=14,SNR=14						
KSRS	**Korea Array**	**11.99**	**248**	P	**P**	**20 31 29.2**	**-1.5**
	0.2nm,0.3s,baz=59,slow=14,SNR=2.1						
PEA0B	**Petropavlovsk-**	**14.73**	**40**	Pn	**Pn**	**20 31 57.3**	**-0.8**
PETK	**Petropavlovsk-**	**14.73**	**40**	P	**Pn**	**20 31 56.6**	**-1.5**
	0.5nm,0.3s,baz=220,slow=11,SNR=7.9						
PETK	**Petropavlovsk-**	**14.73**	**40**	Pn	**Pn**	**20 31 56.3**	**-1.9**
SEY	**Seymchan**	**21.09**	**13**	P	**P**	**20 33 09.2**	**-1.5**
	0.3nm,0.3s,baz=251,slow=23,SNR=5.2						
SONM	**Songino Array**	**25.37**	**294**	P	**P**	**20 33 52.3**	**+0.1**
	0.6nm,0.4s,baz=87,slow=9.3,SNR=9.5						
SONM	**Songino Array**	**25.37**	**294**	P	**P**	**20 33 52.2**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**31.13**	**130**	T	T	21 07 39.8	
	baz=330						
H11N1	**WAKE ISLAND Hy**	**31.14**	**130**	T	T	21 07 40.0	
	baz=330,slow=74,SNR=2.9						
H11N3	**WAKE ISLAND Hy**	**31.15**	**130**	T	T	21 07 50.0	
	baz=330,slow=74						
ZAA0	**Zalesovo Array**	**38.56**	**307**	P	**P**	**20 35 47.0**	**0.0**
ZAA0				IAmb	IAmb	20 35 47.6	
	comp=Z,2.8nm,0.9s						
ZALV	**Zalesovo Beam**	**38.56**	**307**	P	**P**	**20 35 46.7**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=93,slow=7.2,SNR=12						
ZALV				PcP	**PcP**	**20 37 57.4**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=80,slow=2.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**38.56**	**307**	P	**P**	**20 35 46.1**	**-0.8**
MK31	**Makanchi Array**	**41.66**	**297**	P	**P**	**20 36 12.5**	**-0.2**
MKAR	**Makanchi Array**	**41.66**	**297**	P	**P**	**20 36 12.5**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=82,slow=9.4,SNR=8.1						
MKAR				PcP	**PcP**	**20 38 07.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=55,slow=2.9,SNR=7.3						
KDAK	**Kodiak Island**	**42.67**	**46**	P	**P**	**20 36 20.6**	**0.0**
KURK	**Kurchatov**	**42.91**	**303**	P	**P**	**20 36 22.3**	**-0.4**
KURK				IAmb	IAmb	20 36 23.7	
	comp=Z,2.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.62**	**250**	P	**P**	**20 36 29.5**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=38,slow=7.4,SNR=4.9						
RND	**Reindeer**	**43.77**	**37**	P	**P**	**20 36 29.9**	**+0.4**
RND				IAmb	IAmb	20 36 32.3	
	comp=Z,6.2nm,1.3s						
KDJ	**Kajisay**	**46.72**	**292**	P	**P**	**20 36 53.9**	**+0.6**
KDJ				IAmb	IAmb	20 36 54.1	
	comp=Z,2.0nm,0.7s						
L27K	**Beaver Creek,**	**46.97**	**37**	P	**P**	**20 36 55.1**	**+0.4**
BCAR	**Beaver Creek A**	**46.98**	**37**	P	**P**	**20 36 55.8**	**+0.9**
BRVK	**Borovoye**	**47.22**	**309**	P	**P**	**20 36 56.9**	**+0.2**
BRVK				IAmb	IAmb	20 36 58.4	
	comp=Z,2.6nm,0.4s						
GUN	**Gumba**	**47.26**	**271**	*eP*	**P**	**20 36 58.2**	**+0.4**
	comp=Z,10nm,0.4s						
RAMN	**Ramite**	**47.27**	**269**	*eP*	**P**	**20 36 57.8**	**0.0**
	comp=Z,6.3nm,0.4s						
BOOM	**Boomskoye usch**	**47.41**	**293**	P	**P**	**20 36 58.9**	**+0.3**
BOOM				IAmb	IAmb	20 36 59.8	
	comp=Z,4.4nm,0.7s						
DMN	**Daman**	**48.00**	**271**	*eP*	**P**	**20 37 03.7**	**+0.3**
	comp=Z,4.1nm,0.4s						
GKN	**Gorkha**	**48.12**	**272**	*eP*	**P**	**20 37 04.3**	**0.0**
	comp=Z,5.8nm,0.4s						
AAK	**Ala-Archa**	**48.33**	**294**	P	**P**	**20 37 05.7**	**+0.1**
DANN	**Dangsing**	**48.58**	**273**	*eP*	**P**	**20 37 08.5**	**+0.6**
	comp=Z,18nm,0.4s						
KOLN	**Koldan

JHS	Saijyo	3.39	251	P	Pn	20 59 56.8	-0.7
USRK	Ussuriysk Ar.	8.92	336	P	Pn	21 01 03.4	+0.1
	baz=154,slow=15,SNR=4.5						
ASAJ	Asahikawa	9.03	26	P	Pn	21 01 03.1	-1.7
	0.5nm,0.3s,baz=220,slow=11,SNR=5.0						
KLR	Kul'dur	13.63	345	P	P	21 02 00.4	-0.9
	0.2nm,0.3s,baz=195,slow=12,SNR=2.0						
WRA	Warramunga Arr	55.84	183	P	P	21 08 07.2	+0.2
	0.9nm,0.4s,baz=358,slow=7.6,SNR=26						
INK	Inuvik	56.77	26	P	P	21 08 14.5	+1.6
	0.4nm,0.5s,baz=297,slow=6.9,SNR=4.2						
ASAR	Alice Springs	59.56	183	P	P	21 08 33.2	+0.5
	0.3nm,0.3s,baz=359,slow=6.2,SNR=12						
YKA	Yellowknife Ar	66.31	29	P	P	21 09 17.3	+0.8
	0.1nm,0.4s,baz=290,slow=5.9,SNR=2.0						
FINES	FINESS Array B	67.92	331	P	P	21 09 27.1	+0.6
	1.1nm,0.9s,baz=17,slow=7.3,SNR=1.4						

JMA ***16*** *21:00:48.6,32.65N×130.72E,h7km±1km,M3.8*
JMA Felt III J1.
NIED ***16*** *21:00:48.6,32.65N×130.72E,h7km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr0.98; Mθθ4.59; Mϕϕ-5.57; Mrθ1.61; Mθϕ2.88; Mϕr4.15; Fault plane solution: M07.33000×10^14 NP1: ϕs120.00000°,δ52.00000°,λ4.00000°. NP2:ϕs27.00000°, δ87.00000°,λ142.00000°.*
IDC ***16*** *21:00:49.4±1.1,32.69N×130.64E,h0km,mb3.4/5, mb1 3.6/7,mb1mx3.2/48,mbtmp3.4/7,ML2.8/2,MS3.7/2, Ms1 3.7/2,ms1mx2.7/52 Error ellipse: s-maj=22.3km s-min=8.9km az=115.0*
ISC 16 21:00:49.7±1.3,32.63N±0.03×130.68E±0.06,h0km±10km, n14,σ1°17/17,mb3.4/5,4C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	Izumi3	0.14	127	⇑P		Pg		21 00 51.5	-0.9
JIU3						eS		Sg	21 00 53.5	-0.7
JTA	Tamana	0.35	339	⇑P		Pg		21 00 55.8	-0.7
JTA				S		Sg		21 01 00.9	-0.2
JZO	Okuchi	0.50	188	⇑P		Pg		21 00 58.7	-0.5
JZO				eS		Sg		21 01 05.8	+0.1
JNU	Nakatsue	0.52	19	Pg		Pg		21 00 58.4	-1.2
	245nm,0.3s,baz=343,slow=5.5,SNR=48								
JNU				Lg		Lg		21 01 05.1	
	597nm,0.3s,baz=279,slow=19,SNR=28								
JTZ	Takazaki	0.81	155	⇑P		Pg		21 01 04.9	-0.3
KSRS	Korea Array	5.31	336	Pn		Pn		21 02 09.0	-1.3
	0.2nm,0.3s,baz=152,slow=14,SNR=2.3								
KSRS				Pg		Pb		21 02 26.1	+2.7
	0.9nm,0.3s,baz=153,slow=17,SNR=9.0								
KSRS				LR		LR		21 03 35.1	
	comp=Z,41nm,21.0s,baz=150,slow=32								
KSRS				Lg		Lg		21 03 35.9	
	1.1nm,0.3s,baz=164,slow=30,SNR=6.8								
MJAR	Matsushiro Arr	7.33	56	Pn		Pn		21 02 39.1	+1.1
	0.2nm,0.3s,baz=229,slow=13,SNR=6.9								
MJAR				LR		LR		21 05 35.0	
	comp=Z,132nm,19.4s,baz=220,slow=39								
KLR	Kul'dur	16.60	2	Pn		P		21 04 47.9	+1.5
	0.1nm,0.3s,baz=162,slow=8.6,SNR=8.2								
MKAR	Makanchi Array	39.20	306	P		P		21 08 18.8	-0.7
	0.4nm,0.9s,baz=82,slow=7.9,SNR=1.4								
FITZ	Fitzroy Crossi	50.67	186	LR		LR		21 31 25.9	
	comp=Z,359nm,21.7s,baz=309,slow=36								
WRA	Warramunga Arr	52.40	176	P		P		21 10 03.7	-0.1
	0.4nm,0.8s,baz=355,slow=7.8,SNR=1.8								
ASAR	Alice Springs	56.07	176	P		P		21 10 30.6	0.0
	0.3nm,0.7s,baz=16,slow=11,SNR=2.0								
ILAR	Eielson Array	57.82	30	P		P		21 10 42.3	-0.4
	0.2nm,0.4s,baz=281,slow=7.2,SNR=2.4								
FINES	FINESS Array B	68.38	330	P		P		21 11 51.8	-1.0
	0.5nm,0.5s,baz=79,slow=9.9,SNR=5.9								

BJI ***16*** *21:09:10.8±0.0,0.47N×97.88E,h11km,mb4.7/58, mB5.1/41,Ms5.0/47,Ms7 4.7/46*
IDC ***16*** *21:09:10.1±0.5,0.36N×98.11E,h0km,mb4.4/23, mb1 4.5/27,mb1mx4.3/43,mbtmp4.4/27,ML4.0/4,MS4.2/58, Ms1 4.2/58,ms1mx4.1/85,Error ellipse: s-maj=17.3km s-min=10.8km az=50.0*
MOS ***16*** *21:09:11.5±0.9,0.45N×98.03E,h21km,mb5.1/48, MS4.5/6,Error ellipse: s-maj=8.7km s-min=3.8km az=115.6*
NEIC ***16*** *21:09:12.4±1.3,0.45N±0.05×97.97E±0.07,h10km±1km, mb5.1/110,Error ellipse: s-maj=13.7km s-min=6.1km az=242.0*
DJA ***16*** *21:09:12.9±0.7,0.7N±2.7×9.8E±.7,h14km±7km,M4.8/30, mb4.7/30,mB5.1/14,MLv5.3/15,Mw(mB)4.5/14, MwMwp5.7/3,Mwp5.8/3*
GCMT ***16*** *21:09:13.4±0.3,0.51N±0.02×98.08E±0.02,h15km±1km, MW4.8/91,Moment Tensor Solution. s21,c25; s91,c123; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.64±.10; Mθθ-2.25±.10; Mϕϕ1.62±.08; Mrθ-0.71±.18; Mθϕ0.46±.06; Mϕr0.12±.15; Best double couple: M02.07300×10^16 NP1:ϕs51.00000°,δ79.00000°,λ-8.00000°. NP2: ϕs142.00000°,δ82.00000°,λ-169.00000°. Principal axes: T 1.6750, Plg2.0000°, Azm276.0000°; N 0.8050, Plg77.0000°, Azm177.0000°; P -2.4720, Plg13.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KLM ***16*** *21:09:14,0.55N×97.80E,h10km,mb5.1*
BGR ***16*** *21:09:19.5±0.0,0.83N×97.83E,h33km,mb5.3*
ISC 16 21:09:12.4±0.5,0.37N±0.04×97.94E±0.04,h15km±2km, h15km:pP-P,n530,σ1s36/512,mb5.0/178,MS4.4/81, 33C-16D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.00	338			Pb		21 09 30.6	-0.9
GSI						Sg	Sb	21 09 42.4	-2.0
GSI	Gunungsitoli	1.00	338	P		Pb		21 09 30.6	-0.9
GSI				S		Sn		21 09 47.5	+1.7
GSI	Gunungsitoli	1.00	338	P		Pb		21 09 30.9	-0.5
MNSI	Mandailing Nat	1.69	76	P		Pn		21 09 41.7	+0.3
MNSI				S		Sn		21 10 03.3	+0.5
SISI	Saibi	2.04	146	P		Pn		21 09 47.4	+1.2
RPSI	Rantau Prapat	2.51	23	P		Pn		21 09 52.7	0.0
PPI	Padang Panjang	2.59	109	P		Pn		21 09 54.1	+0.3
PSI	Prapat	2.61	22	Pn		Pn		21 09 52.7	-1.5
	17nm,0.3s,baz=184,slow=10,SNR=53								
BKNI	Bangkinang	3.10	91	Pn		Pn		21 10 01.5	+0.7
BKNI	Bangkinang	3.10	91	P		Pn		21 10 02.6	+1.8
KCSI	Kotacane, Aceh	3.13	357	P		Pn		21 10 00.6	-0.8
TSI	Tuntungan	3.17	11	P		Pn		21 10 02.5	+0.7
PPSI	Pulau Pagai	3.73	146	P		Pn		21 10 09.8	+0.2
KRJI	Kerinci	4.28	125	P		Pn		21 10 19.1	+1.9
RGRI	Rengat	4.45	99	P		Pg		21 10 34.8	-2.9
LHMI	Lhok Sumawe	4.93	348	Pn		Pn		21 10 26.0	0.0
LHMI	Lhok Sumawe	4.93	348	P		Pn		21 10 26.2	+0.2
LHMI	Lhok Sumawe	4.93	348	P		Pn		21 10 26.4	+0.4
MASI	Maura Aman, Be	5.53	129	P		Pn		21 10 35.6	+1.2
	3.3nm5µm394nm,0.9s								
KULM	Kulim	5.58	29	Pn		Pn		21 10 34.8	-0.3
KULM	Kulim	5.58	29	P		Pn		21 10 36.0	+1.0
JRMM	Jerantut	5.72	52	P		Pn		21 10 39.0	+2.1
JMBI	JAMBI	6.04	109	P		Pn		21 10 41.4	+0.2
	1.6nm75nm,0.4s								
DSRI	Dabo	6.69	97	P		Pn		21 10 51.0	+0.8
	0.6nm22nm,1.0s								
MNAI	Manna	6.87	133	Pn		Pn		21 10 53.5	+0.8
MNAI	Manna	6.87	133	P		Pn		21 10 54.6	+1.9
PMBI	Palembang	7.57	116	Pn		Pn		21 11 02.8	+0.4
LWLI	Liwa	8.12	131	P		Pn		21 11 10.3	+0.3
	3µm276nm,0.8s								
SRIT	Nakonsritamara	8.34	11	Pn		Pn		21 11 11.4	-1.4
PPBI	Pangkal Pinang	8.57	107	P		Pn		21 11 16.1	+0.1
	4µm18nm,0.6s								
KLI	Kotabumi	8.64	127	P		Pn		21 11 17.4	+0.3
KLI				pmax		pmax			
	comp=Z,204nm,1.2s								
KLI	Kotabumi	8.64	127	P		Pn		21 11 17.1	0.0
	comp=Z,210nm,1.1s								
KASI	Kota Agung	8.78	132	P		Pn		21 11 18.1	-0.8
	comp=Z,1µmcomp=Z,122nm,1.1s								
BLSI	Bandar Lampung	9.26	128	P		Pn		21 11 26.0	+0.5
	comp=Z,66nm,0.5s								
CGJI	Cibinong	10.39	132	P		Pn		21 11 38.2	-2.8
	comp=Z,10µmcomp=Z,51nm,0.8s								
DBJI	Dramaga	11.16	128	P		Pn		21 11 51.8	+0.2
	comp=Z,752µmcomp=Z,7µmcomp=Z,41nm,0.8s								
CNJI	Cibinong	11.92	130	P		Pn		21 12 02.3	+0.3
	comp=Z,82nm,0.9s								
LEM	Lembang	12.01	127	Pn		Pn		21 12 03.0	-0.3
	comp=Z,2.5nm,0.3s,baz=220,slow=18,SNR=3.5								
KSM	Kuchino	12.41	85	Pn		Pn		21 12 09.3	+0.6
KPJI	Karang Pucung	13.37	125	P		Pn		21 12 20.0	-1.8
	comp=Z,28nm,0.6s								
STKI	Sintang	13.54	91	P		Pn		21 12 25.2	+1.1
	comp=Z,19nm,0.9s								
SBUM	Sibu	14.42	82			Pn		21 12 37.0	+0.8
SMRI	Semarang	14.48	121	Pn		Pn		21 12 36.6	-0.4
SMRI	Semarang	14.48	121	P		Pn		21 12 37.0	-0.1
	comp=Z,56nm,0.8s								
UGM	Wanagama	15.00	124	P		Pn		21 12 46.7	+2.6
DLV	T Lat	15.55	42			Pn		21 12 50.3	-1.1
UBPT	Khong Chiam	16.58	26	Pn		Pn		21 13 02.7	-1.7
MTKI	Muara Teweh, K	17.00	94	P		P		21 13 12.5	+0.8
BBKI	Banjar Baru	17.31	103	P		P		21 13 15.2	0.0
	comp=Z,944nmcomp=Z,36nm,1.3s								
KMMI	Kalianget	17.60	115	P		Pn		21 13 16.0	-1.4
	comp=Z,61nm,1.2s								
CM31	Chiang Mai Arr	18.00	3			Pn		21 13 20.4	-1.9
CMAR	Chiang Mai Arr	18.00	3	P		Pn		21 13 20.9	-1.4
	comp=Z,0.3nm,0.3s,baz=195,slow=12,SNR=50								
CMAR	Chiang Mai Arr	18.00	3	*i* P		Pn		21 13 20.5	-1.8
CMAR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
CMAR	Chiang Mai Arr	18.00	3			Pn		21 13 19.9	-2.4
CHTO	Chiang Mai	18.36	3	P		Pn		21 13 24.0	-2.6
CHTO				pmax		pmax			
	comp=Z,11nm,1.0s								
CHTO	Chiang Mai	18.36	3			Pn		21 13 24.0	-2.6
CHTO	Chiang Mai	18.36	3	P		Pn		21 13 26.1	-0.5
PALK	Pallekele	18.51	292	P		Pn		21 13 31.1	+2.5
	comp=Z,0.2nm,0.3s,baz=223,slow=9.7,SNR=7.5								
PALK				S		Sn		21 16 42.5	-13
	comp=Z,0.8nm,0.3s,baz=307,slow=15,SNR=6.1								
PALK				LR		LR		21 19 25.6	
	comp=Z,920nm,21.3s,baz=214,slow=33								
PALK	Pallekele	18.51	292	*i* P		Pn		21 13 30.4	+1.8
PALK				pmax		pmax			
	comp=Z,39nm,1.4s								
PALK	Pallekele	18.51	292	P		P		21 13 28.4	-0.1
SPMM	Sapulut	18.99	77	P		Pn		21 13 36.0	+1.5
KKM	Kota Kinabalu	19.09	72	P		P		21 13 35.0	+0.2
KKM	Kota Kinabalu	19.09	72	P		Pn		21 13 36.5	+0.8
SRBI	Singaraja	19.15	116	P		P		21 13 35.7	+0.2
	comp=Z,30nm,1.1s								
MYLDM	Lahad Datu	21.07	77	P		P		21 13 55.9	-0.5
MYLDM					IAmb	IAmb		21 14 29.7	
	comp=Z,94nm,1.4s								
QIZ	Qiongzhong	21.91	32	P		P		21 14 05.4	+0.1
QIZ				S		S		21 18 07.1	0.0
QIZ				LR		LR			
	comp=Z,2µm,12.1s								
QIZ				LR		LR			
	comp=Z,2µm,13.3s								
QIZ				LR		LR			
	comp=Z,1µm,12.4s								
MPSI	Mapaga	21.95	90	P		P		21 14 08.1	+2.2
	comp=Z,23nm,1.6s								
KAPI	Kappang	22.43	104	P		P		21 14 16.8	+5.9
	comp=Z,6.8nm,0.4s,baz=274,slow=15,SNR=5.6								
KAPI	Kappang	22.43	104	P		P		21 14 10.6	-0.4
KAPI				pmax		pmax			
	comp=Z,39nm,1.3s								
KAPI	Kappang	22.43	104	P		P		21 14 10.6	-0.4
BNSI	Bone	22.64	102	P		P		21 14 14.8	+1.5
	comp=Z,662nmcomp=Z,33nm,1.4s								
TOLI2	Tolitoli	22.85	88	P		P		21 14 14.0	-1.4
TOLI2	Tolitoli	22.85	88	P		P		21 14 15.7	+0.3
BKSI	Bulukumba	22.86	105	P		P		21 14 16.9	+1.4
	comp=Z,483nmcomp=Z,28nm,0.8s								
BSSI	Bau Bau, Buton	23.42	106	P		P		21 14 19.3	-1.9
	comp=Z,441nmcomp=Z,30nm,1.1s								
MRSI	Marisa	24.00	90	P		P		21 14 27.0	+0.2
	comp=Z,515nmcomp=Z,35nm,1.2s								
KMI	Kunming	25.04	10	⇓P		P		21 14 36.6	+0.1
KMI				pP		pP		21 14 40.0	-0.9
KMI				sP		sP		21 14 42.5	-0.2
KMI				S		S		21 18 59.1	-1.4
KMI				pmax		pmax			
	comp=Z,19nm,2.0s								
KMI				pmax		pmax			
	comp=Z,200nm,3.6s								
KMI				LR		LR			
	comp=Z,2µm,14.9s								
KMI				LR		LR			
	comp=Z,2µm,12.8s								
KMI				LR		LR			
	comp=Z,3µm,15.6s								
GTOI	Gorontalo	25.07	89	P		P		21 14 37.0	+0.4
KOHI	KOHIMA	25.47	352	*e*P		P		21 14 39.4	-0.9
KOHI				IAmb		IAmb		21 14 44.1	
	comp=Z,50nm,0.8s								
HYB	Hyderabad	25.52	313	*e*P		P		21 14 44.9	+4.3
HYBB	Hyderabad (bro	25.52	313	*e*P		P		21 14 40.3	-0.4
HYBB				*es*P		pP		21 14 45.0	-0.2
HYBB				*e*S		S		21 19 10.4	+2.5
HYBB				IVMs_BB		IVMs_BB		21 20 43.5	
	comp=Z,171nm,9.1s								
SHL	Shillong	25.72	347	P		P		21 14 40.6	-2.0
SHL				pmax		pmax			
	comp=Z,47nm,0.9s								
SHL	Shillong	25.72	347	P		P		21 14 40.5	-2.0
SHL				IAmb		IAmb		21 14 43.6	
	comp=Z,47nm,0.9s								
SHL	Shillong	25.72	347	*e*P		P		21 14 41.0	-1.6
MNCI	Minicoy	26.01	288	P		P		21 14 44.6	-0.5
MOKO	MOKOCHONG	26.01	353	*e*P		P		21 14 44.8	-0.4
MOKO				IAmb		IAmb		21 14 52.7	
	comp=Z,130nm,0.9s								
TURI	Tura	26.09	344	*e*P		P		21 14 45.1	-0.6
TURI				IAmb		IAmb		21 14 52.3	
	comp=Z,29nm,0.9s								
PZH	PanZhiHua	26.24	8	⇑P		P		21 14 46.8	-0.4
PZH				pP		pP		21 14 51.8	+0.1
PZH				S		S		21 19 20.6	+1.3
PZH				sS		sS		21 19 30.8	+4.2
PZH				SS		SnSn		21 20 24.5	+5.5
PZH				pmax		pmax			
	comp=Z,10.0nm,1.1s								
PZH				pmax		pmax			
	comp=Z,130nm,5.8s								
PZH				LR		LR			
	comp=Z,1µm,14.3s								
PZH				LR		LR			
	comp=Z,2µm,14.5s								
PZH				LR		LR			
	comp=Z,2µm,14.6s								
TEZP	TEZPUR	26.56	350	*e*P		P		21 14 49.1	-0.8
TEZP				IAmb		IAmb		21 14 56.6	
	comp=Z,23nm,1.1s								
H08S2	Diego Garcia H	26.60	252	T		T		21 42 20.8	
	baz=73,slow=75,SNR=873								
H08S3	Diego Garcia H	26.60	252	T		T		21 42 21.0	
	baz=73,slow=75,SNR=799								
H08S1	Diego Carcia H	26.62	252	T		T		21 42 13.1	
	baz=73,slow=75,SNR=6970								
ITAN	ITANAGAR	26.93	352	*e*P		P		21 14 53.2	-0.1
ITAN				IAmb		IAmb		21 14 59.1	
	comp=Z,193nm,1.0s								
ODAN	Odare	28.23	340	*e*P		P		21 15 05.4	+0.2
	comp=Z,90nm,1.2s								
GTK	Tadong	28.26	342	*e*P		P		21 15 06.7	+1.3
GTK				IAmb		IAmb		21 15 12.3	
	comp=Z,61nm,1.2s								
DAV	Davao City (W)	28.35	76	LR		LR		21 27 05.8	
	comp=Z,539nm,20.2s,baz=235,slow=38								
TAPN	Taplejung	28.57	341	*e*P		P		21 15 09.1	+0.8
	comp=Z,217nm,1.3s								
RAMN	Ramite	28.59	338	*e*P		P		21 15 09.3	+0.8
	comp=Z,17nm,0.5s								
JIRN	Jiri	29.39	338	*e*P		P		21 15 16.6	+0.9
	comp=Z,26nm,1.0s								
PKI	Pulchoki	29.60	337	*e*P		P		21 15 17.8	+0.3
	comp=Z,169nm,1.2s								
PKIN	Phulchoki	29.61	337	*e*P		P		21 15 17.4	-0.2
	comp=Z,190nm,1.3s								
GUN	Gumba	29.73	338	*e*P		P		21 15 19.3	+0.6
	comp=Z,246nm,1.2s								
DMN	Daman	29.75	337	*e*P		P		21 15 18.9	+0.1
	comp=Z,68nm,1.0s								
KKN	Kakani	29.85	337	*e*P		P		21 15 19.8	+0.2
	comp=Z,104nm,1.0s								
LSA	Lhasa	29.88	348	P		P		21 15 19.1	-1.0
LSA				pmax		pmax			
	comp=Z,40nm,1.0s								
LSA	Lhasa	29.88	348	P		P		21 15 19.1	-1.0
LSA				IAmb		IAmb		21 15 27.2	
	comp=Z,40nm,1.0s								
LSA	Lhasa	29.88	348	P		P		21 15 20.8	+0.7
LSA				pmax		pmax			
	comp=Z,37nm,0.7s								
GKN	Gorkha	30.29	336	*e*P		P		21 15 24.1	+0.6
	comp=Z,252nm,1.3s								
KOLN	Koldanda	30.52	334	*e*P		P		21 15 26.4	+0.9
	comp=Z,236nm,1.3s								
PSA00	Pilbara Seismi	30.54	137	P		P		21 15 25.6	+0.1
PSA00				IAmb		IAmb		21 15 32.2	
	comp=Z,24nm,1.2s								
PSA00	Pilbara Seismi	30.54	137	P		P		21 15 25.6	+0.1
PSA00				IAmb		IAmb		21 15 32.8	
	comp=Z,11nm,1.1s								
CD2	Chengdu	30.87	10	P		P		21 15 27.3	-1.1
CD2				pmax		pmax			
	comp=Z,10.0nm,0.9s								
CD2				LR		LR			
	comp=Z,3µm,13.7s								
CD2				LR		LR			
	comp=Z,3µm,14.3s								
DANN	Dangsing	30.96	335	*e*P		P		21 15 30.0	+0.5
	comp=Z,173nm,1.2s								
PYUN	Piuthan	31.07	334	*e*P		P		21 15 30.9	+0.5
	comp=Z,83nm,1.0s								
ENH	Enshi	31.70	19	P		P		21 15 34.2	-1.5
ENH				IAmb		IAmb		21 16 03.3	
	comp=Z,25nm,1.2s								
FITZ	Fitzroy Crossi	32.84	125	P		P		21 15 45.9	+0.1
MEEK	Meekatharra	33.43	145	P		P		21 15 50.7	-0.2
	baz=34,SNR=4.2								
MORW	Morawa	34.00	151	P		P		21 15 57.4	+1.5
MORW				IAmb		IAmb		21 16 04.5	
	comp=Z,28nm,1.5s								
XAN	Xi'an	35.04	16	⇑P		P		21 16 03.6	-1.2
XAN				pP		pP		21 16 08.3	-1.0
XAN				sP		sP		21 16 10.6	-0.5
XAN				pmax		pmax			
	comp=Z,14nm,1.2s								
XAN				pmax		pmax			
	comp=Z,220nm,5.9s								
XAN				LR		LR			
	comp=Z,1µm,14.9s								
XAN				LR		LR			
	comp=Z,1µm,15.2s								
XAN				LR		LR			
	comp=Z,2µm,15.9s								
GOMU	GeErMu	35.77	356	P		P		21 16 11.8	+0.4
GOMU				pP		pP		21 16 16.0	+0.1
GOMU				sP		sP		21 16 17.8	+0.1
GOMU				PP		PP		21 17 33.8	+1.0
GOMU				PcP		PcP		21 18 38.5	-0.8
GOMU				pmax		pmax			
	comp=Z,2.0nm,0.9s								
GOMU				pmax		pmax			
	comp=Z,61nm,5.1s								
GOMU				LR		LR			
	comp=Z,190nm,15.5s								
GOMU				LR		LR			
	comp=Z,290nm,15.5s								
GOMU				LR		LR			
	comp=Z,150nm,14.9s								
LZH	Lanzhou	35.96	8	⇓P		P		21 16 12.4	-0.4
LZH				pP		pP		21 16 16.3	-1.0
LZH				pmax		pmax			
	comp=Z,21nm,1.5s								
LZH				pmax		pmax			
	comp=Z,210nm,4.3s								
LZH				LR		LR			
	comp=Z,950nm,15.2s								
LZH				LR		LR			
	comp=Z,2µm,14.1s								
LZH				LR		LR			
	comp=Z,1µm,14.6s								
SMLA	Simla	36.38	329	*e*P		P		21 16 15.9	-0.4
LYN	LuoYang	36.62	20	*e*P		P		21 16 18.3	0.0
LYN				S		S		21 22 07.6	+6.8
LYN				pmax		pmax			
	comp=Z,20nm,1.4s								
LYN				pmax		pmax			
	comp=Z,270nm,4.9s								
LYN				LR		LR			
	comp=Z,2µm,13.3s								
LYN				LR		LR			
	comp=Z,2µm,13.1s								
LYN				LR		LR			
	comp=Z,2µm,12.0s								
NJ2	Nanjing	37.19	30	*e*P		P		21 16 23.4	+0.2
NJ2				pmax		pmax			
	comp=Z,12nm,0.5s								
NJ2				LR		LR			
	comp=Z,2µm,8.5s								
NJ2				LR		LR			
	comp=Z,2µm,7.9s								
NJ2				LR		LR			
	comp=Z,1µm,12.3s								
NWAO	Narrogin (SRO)	37.78	153	P		P		21 16 29.5	+1.3
NWAO				pmax		pmax			
	comp=Z,32nm,1.1s								
NWAO	Narrogin (SRO)	37.78	153	P		P		21 16 29.5	+1.3
NWAO				IAmb		IAmb		21 16 37.1	
	comp=Z,32nm,1.1s								
H01W3	Cape Leeuwin H	38.20	158	T		T		21 56 46.4	
	baz=334,slow=76,SNR=8.2								
H01W2	Cape Leeuwin H	38.22	158	T		T		21 56 47.6	
	baz=334,slow=76,SNR=7.9								
H01W1	Cape Leeuwin H	38.22	158	T		T		21 56 48.1	
	baz=334,slow=76,SNR=7.4								
WRKA	Warakurna	38.73	133	P		P		21 16 36.6	+0.2
	baz=39,SNR=8.2								
GTA	Gaotai	38.89	2	*e*P		P		21 16 37.3	-0.3
GTA				pP		pP		21 16 42.6	+0.5
GTA				sP		sP		21 16 45.6	+1.7
GTA				PcP		PcP		21 18 54.3	+5.9
GTA				pmax		pmax			
	comp=Z,11nm,1.3s								
GTA				pmax		pmax			
	comp=Z,96nm,4.8s								
GTA				LR		LR			
	comp=Z,660nm,12.7s								
GTA		

HHC pmax pmax
comp=Z,170nm,5.2s
HHC LR LR
comp=Z,2µm,16.8s
HHC LR LR
comp=Z,780nm,12.2s
HHC LR LR
comp=Z,2µm,15.3s
ASPA Alice Springs 42.30 127 P **P** **21 17 05.5 -0.5**
baz=42
AS31 Alice Springs 42.30 127 P **P** **21 17 04.8 -1.2**
ASAR Alice Springs 42.30 127 P **P** **21 17 05.0 -0.9**
comp=Z,2.0nm,0.7s,baz=300,slow=7.8,SNR=26
ASAR PcP **PcP** **21 18 59.5 -0.2**
comp=Z,0.7nm,0.6s,baz=299,slow=3.0,SNR=2.4
ASAR S **S** **21 23 23.9 -2.7**
comp=Z,0.7nm,1.0s,baz=303,slow=15,SNR=5.6
ASAR LR LR 21 36 02.7
comp=Z,359nm,20.8s,baz=306,slow=38
BJT Baijiatuau 42.82 21 P **P** **21 17 09.3 -0.5**
BJT pmax pmax
comp=Z,35nm,0.9s
BJT Baijiatuau 42.82 21 P **P** **21 17 09.3 -0.5**
BJT IAmb IAmb 21 17 16.8
comp=Z,35nm,0.9s
BJI Beijing 42.84 21 P **P** **21 17 10.8 +0.9**
BJI pmax pmax
comp=Z,39nm,0.9s
KBL Kabul 43.42 325 P **P** **21 17 13.4 -1.7**
KBL pmax pmax
comp=Z,6.0nm,1.1s
KBL Kabul 43.42 325 P **P** **21 17 13.4 -1.7**
KSH Kashi 43.83 335 P **P** **21 17 16.9 -1.3**
KSH sP sP 21 17 24.0 -0.5
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH LR LR
comp=Z,360nm,20.3s
KSH LR LR
comp=Z,270nm,19.0s
KSH LR LR
comp=Z,480nm,20.6s
DL2 Dalian 44.07 27 P **P** **21 17 24.1 +4.2**
DL2 pmax pmax
comp=Z,53nm,1.5s
WMQ Urumqi 44.22 349 *e*P **P** **21 17 22.5 +1.4**
WMQ pP sP 21 17 26.8 -0.7
WMQ pmax pmax
comp=Z,26nm,1.1s
WMQ pmax pmax
comp=Z,160nm,4.7s
WMQ LR LR
comp=Z,370nm,17.5s
WMQ LR LR
comp=Z,310nm,16.1s
WMQ LR LR
comp=Z,240nm,17.5s
WSAR Wadi Sarin 44.42 304 LR LR 21 33 52.3
comp=Z,189nm,21.0s,baz=122,slow=33
TARG Taragay, Kyrgy 45.01 339 P **P** **21 17 28.0 +0.1**
TARG IAmb IAmb 21 17 50.0
comp=Z,17nm,1.0s
SOCY Socotra 45.16 287 P **P** **21 17 29.9 +0.8**
KDJ Kajisay 45.59 338 P **P** **21 17 32.6 +0.3**
KDJ pmax pmax
comp=Z,29nm,1.1s
KDJ Kajisay 45.59 338 P **P** **21 17 32.5 +0.3**
KDJ IAmb IAmb 21 17 34.6
comp=Z,29nm,1.1s
DRK Karamyk 45.67 332 P **P** **21 17 32.8 -0.3**
SHLS Shalkode 45.70 341 *e*P **P** **21 17 31.7 -1.3**
SHLS Shalkode 45.70 341 *e*P **P** **21 17 31.7 -1.3**
baz=341
UZB Uzynbulak 45.84 341 *e*P **P** **21 17 33.8 -0.3**
UZB Uzynbulak 45.84 341 *e*P **P** **21 17 33.9 -0.3**
baz=341
SATY Saty 45.97 340 *e*P **P** **21 17 34.9 -0.2**
SATY pmax pmax
comp=Z,12nm,1.0s
SATY Saty 45.97 340 *e*P **P** **21 17 34.9 -0.2**
comp=Z,12nm,1.0s,baz=340
GAR Garm 46.02 330 P **P** **21 17 35.0 -0.7**
ULHL Ulahol 46.04 338 P **P** **21 17 36.5 +0.6**
SNR=10
ULHL Ulahol 46.04 338 P **P** **21 17 36.9 +1.1**
ULHL pmax pmax
comp=Z,7.0nm,0.9s
ZHN Zhinishke 46.05 340 *e*P **P** **21 17 35.0 -0.8**
ZHN Zhinishke 46.05 340 *e*P **P** **21 17 35.0 -0.8**
baz=340
KSAR Wonju Array Be 46.09 33 P **P** **21 17 34.9 -1.1**
KSAR Wonju Array Be 46.09 33 P **P** **21 17 34.9 -1.1**
KSRS Korea Array 46.12 33 P **P** **21 17 35.2 -1.1**
comp=Z,8.8nm,0.8s,baz=225,slow=7.9,SNR=17
KSRS LR LR 21 37 57.0
comp=Z,231nm,18.7s,baz=220,slow=38
KS19 Wonju Array Si 46.12 33 P **P** **21 17 35.9 -0.4**
KPKS Kokpek 46.23 341 *e*P **P** **21 17 36.7 -0.5**
KPKS pmax pmax
comp=Z,20nm,1.5s
KPKS Kokpek 46.23 341 *e*P **P** **21 17 36.8 -0.5**
comp=Z,20nm,1.5s,baz=340
XLT XiLinHaoTe 46.26 18⇑ *i*P **P** **21 17 38.0 +0.6**
XLT pP pP 21 17 42.8 +0.8
XLT sP sP 21 17 45.4 +1.6
XLT S **S** **21 24 27.0 +3.3**
XLT pmax pmax
comp=Z,11nm,1.2s
XLT pmax pmax
comp=Z,240nm,3.5s
XLT LR LR
comp=Z,800nm,12.6s
XLT LR LR
comp=Z,730nm,15.6s
CHGR Chuyangaron 46.36 329 P **P** **21 17 37.5 -0.7**
BOOM Boomskoye usch 46.36 337 P **P** **21 17 37.5 -0.8**
BOOM pmax pmax
comp=Z,26nm,1.5s
BOOM Boomskoye usch 46.36 337 P **P** **21 17 37.5 -0.8**
BOOM IAmb IAmb 21 17 44.5
comp=Z,26nm,1.5s
TNSS Tian-Shan 46.46 339 *e*P **P** **21 17 39.5 +0.2**
TNSS Tian-Shan 46.46 339 *e*P **P** **21 17 39.5 +0.2**
baz=339
MDOK Medeo 46.53 339 *e*P **P** **21 17 38.8 -0.8**
MDOK Medeo 46.53 339 *e*P **P** **21 17 38.8 -0.8**
baz=339
MDOK LR LR 21 38 36.3
baz=339
BTK Batken 46.59 331 P **P** **21 17 40.8 +0.7**
BTK pmax pmax
comp=Z,58nm,1.4s
BTK Batken 46.59 331 P **P** **21 17 40.8 +0.7**
AAA Alma-Ata 46.62 339 *e*P **P** **21 17 40.0 -0.2**
AAA pmax pmax
comp=Z,11nm,0.7s
AAA Alma-Ata 46.62 339 *e*P **P** **21 17 40.0 -0.2**
comp=Z,11nm,0.7s,baz=339
UCH Uchtor 46.70 336 P **P** **21 17 42.8 +1.4**
SNR=10
UCH Uchtor 46.70 336 P **P** **21 17 42.6 +1.3**
UCH pmax pmax
comp=Z,12nm,1.6s
KBK Karagaybulak 46.89 337 P **P** **21 17 44.4 +1.9**
SNR=8.6
KBK Karagaybulak 46.89 337 P **P** **21 17 44.5 +2.0**
KBK pmax pmax
comp=Z,35nm,1.6s
AML Almayashu 46.96 335 P **P** **21 17 44.3 +1.0**
SNR=12
AML Almayashu 46.96 335 P **P** **21 17 44.6 +1.3**
AML pmax pmax
comp=Z,18nm,1.6s
AAK Ala-Archa 47.06 336 P **P** **21 17 45.4 +1.7**
SNR=9.5
AAK Ala-Archa 47.06 336 LR LR 21 40 09.2
comp=Z,442nm,19.5s,baz=147,slow=39
AAK Ala-Archa 47.06 336 *ce*P **P** **21 17 44.2 +0.5**
AAK pmax pmax
comp=Z,28nm,2.5s
AAK Ala-Archa 47.06 336 P **P** **21 17 43.6 -0.1**
AAK IAmb IAmb 21 17 51.8
comp=Z,58nm,1.9s
FRU1 Bishkek 47.15 337 P **P** **21 17 44.9 +0.6**
FRU1 pmax pmax
comp=Z,78nm,2.0s
FRU1 Bishkek 47.15 337 P **P** **21 17 44.9 +0.6**
CHKK Chushkaly 47.16 339 *e*P **P** **21 17 44.1 -0.2**
CHKK Chushkaly 47.16 339 *e*P **P** **21 17 44.1 -0.2**
baz=339
EKS2 Erkin-Say 47.37 336 P **P** **21 17 47.5 +1.3**
SNR=8.9
EKS2 Erkin-Say 47.37 336 P **P** **21 17 47.8 +1.7**
EKS2 pmax pmax
comp=Z,10.0nm,1.2s
KUU Kurty 47.42 339 *e*P **P** **21 17 45.3 -1.1**
KUU pmax pmax
comp=Z,42nm,1.4s
KUU Kurty 47.42 339 *e*P **P** **21 17 45.4 -1.1**
comp=Z,42nm,1.4s,baz=339
HRA Herat 47.53 319 P **P** **21 17 46.4 -1.3**
HRA IAmb IAmb 21 18 16.0
comp=Z,20nm,1.8s
USP Ospenovka 47.58 337 P **P** **21 17 48.5 +0.7**
SNR=17
USP Ospenovka 47.58 337 P **P** **21 17 48.4 +0.7**
USP pmax pmax
comp=Z,23nm,1.2s
SGDS Sogindy 47.69 337 *e*P **P** **21 17 48.1 -0.4**
SGDS pmax pmax
comp=Z,13nm,1.9s
SGDS Sogindy 47.69 337 *e*P **P** **21 17 48.1 -0.4**
comp=Z,13nm,1.9s,baz=337
TDK Taldyqorghan 47.69 341 *e*P **P** **21 17 48.2 -0.3**
TDK pmax pmax
comp=Z,8.0nm,0.7s
TDK Taldyqorghan 47.69 341 *e*P **P** **21 17 48.2 -0.3**
comp=Z,8.3nm,0.7s,baz=341
TDK LR LR 21 38 01.1
baz=341
SONM Songino Array 47.84 8 P **P** **21 17 50.0 +0.3**
comp=Z,4.2nm,0.4s,baz=190,slow=8.8,SNR=55
SONM PcP **PcP** **21 19 18.3 -0.1**
comp=Z,1.6nm,0.8s,baz=188,slow=3.5,SNR=1.1
SONM LR LR 21 40 19.8
comp=Z,813nm,18.8s,baz=190,slow=39
SONM Songino Array 47.84 8 P **P** **21 17 49.0 -0.7**
SONM pmax pmax
comp=Z,11nm,0.7s
SONM Songino Array 47.84 8 P **P** **21 17 49.0 -0.7**
SONM IAmb IAmb 21 17 55.9
comp=Z,11nm,0.7s
ULN Ulaanbaatar 47.96 8 *de*P **P** **21 17 50.9 +0.2**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 47.96 8 P **P** **21 17 50.0 -0.7**
ULN IAmb IAmb 21 17 56.8
comp=Z,9.2nm,0.8s
MK31 Makanchi Array 48.22 346 *d* iP **P** **21 17 53.0 +0.4**
MK31 Makanchi Array 48.22 346 P **P** **21 17 52.6 0.0**
MK31 IAmb IAmb 21 17 59.2
comp=Z,23nm,1.1s
MKAR Makanchi Array 48.22 346 P **P** **21 17 52.9 +0.3**
comp=Z,10nm,0.7s,baz=157,slow=7.7,SNR=80
MKAR LR LR 21 42 13.8
comp=Z,222nm,19.8s,baz=153,slow=41
MKAR Makanchi Array 48.22 346 P **P** **21 17 52.4 -0.2**
MKAR Makanchi Array 48.22 346 P **P** **21 17 52.4 -0.2**
ZSN Zaisan 48.26 348 *e*P **P** **21 17 52.9 +0.1**
ZSN pmax pmax
comp=Z,7.0nm,1.1s
ZSN Zaisan 48.26 348 *e*P **P** **21 17 53.0 +0.1**
comp=Z,7.4nm,1.1s,baz=348
GUMO Guam 48.27 72 LR LR 21 39 46.9
comp=Z,68nm,19.6s,baz=175,slow=38
TAS Tashkent 48.30 331 P **P** **21 17 53.1 -0.2**
TAS pmax pmax
comp=Z,47nm,1.0s
TAS Tashkent 48.30 331 P **P** **21 17 53.1 -0.2**
MAKZ Makanchi 48.31 345 P **P** **21 17 53.0 -0.3**
MAKZ pmax pmax
comp=Z,17nm,1.1s
MAKZ Makanchi 48.31 345 P **P** **21 17 53.0 -0.3**
MAKZ IAmb IAmb 21 17 59.2
comp=Z,16nm,1.1s
DZA Taraz 48.59 334 *e*P **P** **21 17 55.2 -0.3**
DZA Taraz 48.59 334 *e*P **P** **21 17 55.2 -0.3**
baz=334
BBOO Buckleboo 48.77 136 P **P** **21 17 58.0 +1.0**
baz=49,SNR=7.7
BBOO Buckleboo 48.77 136 P **P** **21 17 57.7 +0.7**
KK31 Karatay Array 49.12 333 P **P** **21 17 59.2 -0.4**
KK31 pmax pmax
comp=Z,36nm,1.5s
KK31 Karatay Array 49.12 333 P **P** **21 17 59.2 -0.4**
KK31 IAmb IAmb 21 18 06.4
comp=Z,36nm,1.4s
KKAR Karatay Array 49.12 333 P **P** **21 17 59.1 -0.5**
KKAR pmax pmax
comp=Z,36nm,1.5s
KKAR Karatay Array 49.12 333 P **P** **21 17 59.1 -0.5**
KKAR IAmb IAmb 21 18 06.4
comp=Z,36nm,1.4s
KKAR Karatay Array 49.12 333 P **P** **21 17 59.3 -0.3**
BTLS Baital 49.25 338 *e*P **P** **21 18 00.0 -0.5**
BTLS Baital 49.25 338 *e*P **P** **21 18 00.1 -0.5**
baz=338
CN2 Changchun 49.71 26 *e*P **P** **21 18 01.8 -2.2**
CN2 *e*S **S** **21 25 09.6 -2.9**
CN2 LR LR
comp=Z,970nm,17.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,810nm,17.0s
ZAK Zakamensk 50.03 4 *e*P **P** **21 18 06.5 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
HTT Hallett 51.11 135 P **P** **21 18 16.2 +1.4**
baz=51,SNR=5.0
CTA Charters Tower 51.47 116 LR LR 21 44 07.5
comp=Z,414nm,18.5s,baz=278,slow=41
CTAO Charters Tower 51.47 116 P **P** **21 18 17.1 -0.6**
CTAO pmax pmax
comp=Z,20nm,1.5s
CTAO Charters Tower 51.47 116 P **P** **21 18 17.1 -0.6**
MJAR Matsushiro Arr 51.81 41 LR LR 21 43 18.8
comp=Z,158nm,18.9s,baz=232,slow=40
IRK Irkutsk 51.96 5 *e*P **P** **21 18 21.2 +0.4**
IRK pmax pmax
comp=Z,57nm,3.0s
SEM Semipalatinsk 52.08 346 *e*P **P** **21 18 21.2 -0.8**
SEM pmax pmax
comp=Z,11nm,0.8s
SEM Semipalatinsk 52.08 346 *e*P **P** **21 18 21.3 -0.8**
comp=Z,11nm,0.8s,baz=346
BNX BinXian 52.10 26⇑ P **P** **21 18 23.6 +1.7**
BNX pmax pmax
comp=Z,24nm,0.9s
BNX pmax pmax
comp=Z,1µm,3.8s
MDJ Mudanjiang 52.23 28 P **P** **21 18 24.8 +1.8**
MDJ pP pP 21 18 27.8 +0.2
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,490nm,4.3s
MDJ LR LR
comp=Z,1µm,18.5s
MDJ LR LR
comp=Z,2µm,22.1s
MDJ LR LR
comp=Z,1µm,19.2s
STKA Stephens Creek 52.25 132 P **P** **21 18 23.7 +0.3**
comp=Z,4.0nm,0.5s,baz=294,slow=8.7,SNR=11
STKA LR LR 21 42 56.2
comp=Z,379nm,21.6s,baz=299,slow=39
STKA Stephens Creek 52.25 132 P **P** **21 18 24.1 +0.7**
baz=52,SNR=9.0
STKA Stephens Creek 52.25 132 *i* P **P** **21 18 24.2 +0.8**
STKA Stephens Creek 52.25 132 P **P** **21 18 23.5 +0.2**
GEYT Alibeck 52.32 320 P **P** **21 18 24.4 +0.6**
comp=Z,4.6nm,0.9s,baz=98,slow=11,SNR=5.9
GEYT LR LR 21 43 47.8
comp=Z,148nm,18.6s,baz=157,slow=40
GEYT Alibeck 52.32 320 P **P** **21 18 23.0 -0.8**
GYA0B ALIBECK ARRAY 52.32 320 P **P** **21 18 22.9 -0.9**
KURBB Kurchatov Arra 52.72 345 LR LR 21 44 44.4
comp=Z,336nm,18.6s,baz=137,slow=40
KURK Kurchatov 52.78 345 *ce*P **P** **21 18 27.0 +0.1**
KURK pmax pmax
comp=Z,55nm,1.7s
KURK Kurchatov 52.78 345 P **P** **21 18 27.0 +0.1**
KURK IAmb IAmb 21 18 33.7
comp=Z,44nm,1.1s
USA0B Ussuriysk Arra 53.10 30 P **P** **21 18 29.3 -0.1**
USA0B pmax pmax
comp=Z,36nm,1.2s
USA0B Ussuriysk Arra 53.10 30 P **P** **21 18 29.2 -0.1**
USA0B IAmb IAmb 21 18 36.0
comp=Z,36nm,1.1s
USRK Ussuriysk Ar. 53.10 30 P **P** **21 18 29.0 -0.3**
comp=Z,11nm,0.9s,baz=232,slow=4.9,SNR=12
USRK LR LR 21 41 43.8
comp=Z,470nm,19.0s,baz=213,slow=37
CIT Chita 53.12 12 *e*P **P** **21 18 30.8 +1.4**
CIT pmax pmax
comp=Z,72nm,3.2s
BRZS Berezniki 53.94 340 *e*P **P** **21 18 34.7 -0.8**
BRZS pmax pmax
comp=Z,12nm,1.2s
BRZS Berezniki 53.94 340 *e*P **P** **21 18 34.7 -0.8**
comp=Z,12nm,1.2s,baz=340
ZAA0 Zalesovo Array 54.49 351 P **P** **21 18 39.6 +0.2**
ZALV Zalesovo Beam 54.49 351 P **P** **21 18 39.6 +0.2**
comp=Z,12nm,0.4s,baz=176,slow=5.9,SNR=117
ZALV LR LR 21 47 34.3
comp=Z,398nm,18.2s,baz=166,slow=42
ZALV Zalesovo Beam 54.49 351 P **P** **21 18 39.4 0.0**
CMSA Cobar Meteorol 55.20 130 P **P** **21 18 45.7 +0.8**
baz=55,SNR=9.2
ATD Arta Tunnel 55.80 284 LR LR 21 40 59.2
comp=Z,97nm,18.8s,baz=122,slow=34
ATD Arta Tunnel 55.80 284 P **P** **21 18 50.2 +0.6**
KLR Kul'dur 56.66 26 P **P** **21 18 55.5 +0.3**
comp=Z,13nm,0.8s,baz=229,slow=7.5,SNR=18
KLR LR LR 21 44 53.6
comp=Z,502nm,18.2s,baz=211,slow=38
KLR Kul'dur 56.66 26 *ce*P **P** **21 18 55.9 +0.8**
KLR pmax pmax
comp=Z,30nm,1.7s
BRVK Borovoye 57.34 341 *ce*P **P** **21 18 59.5 -0.3**
BRVK pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 57.34 341 P **P** **21 18 59.2 -0.6**
BRVK IAmb IAmb 21 19 00.5
comp=Z,15nm,0.8s
ZEA Zeya 58.45 20 *e*P P 21 19 15.3 +7.7
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,500nm,14.0s
ABKAR Akbulak array 58.59 332 P **P** **21 19 08.2 -0.5**
ABKAR Akbulak array 58.59 332 P **P** **21 19 08.2 -0.5**
ABKAR IAmb IAmb 21 19 14.6
comp=Z,37nm,1.1s
BOD Bodaibo 58.69 10 *e*P **P** **21 19 09.4 +0.2**
BOD pmax pmax
comp=Z,24nm,1.8s
ASAJ Asahikawa 58.88 36 LR LR 21 44 18.5
comp=Z,126nm,20.2s,baz=242,slow=36
ARMA Armidale 59.45 126 P **P** **21 19 16.1 +0.9**
baz=60
ARMA Armidale 59.45 126 P **P** **21 19 16.2 +1.0**
ARMA IAmb IAmb 21 19 17.0
comp=Z,17nm,1.2s
AKTO Aktyubinsk 60.31 332 LR LR 21 49 04.7
comp=Z,104nm,19.0s,baz=136,slow=40
YSS Yuzh-Sakhalins 60.62 34 *e*P **P** **21 19 22.8 +0.1**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,600nm,16.0s
KMBO Kilima Mbogo 60.71 269 P **P** **21 19 26.6 +2.4**
comp=Z,1.2nm,0.8s,baz=40,slow=12,SNR=1.8
KMBO LR LR 21 42 35.7
comp=Z,279nm,19.2s,baz=95,slow=33
KMBO Kilima Mbogo 60.71 269 P **P** **21 19 24.9 +0.7**
KMBO pmax pmax
comp=Z,4.0nm,1.1s
KMBO Kilima Mbogo 60.71 269 P **P** **21 19 24.9 +0.7**
MAK Makhachkala 61.84 320 *e*P **P** **21 19 28.4 -2.7**
MAK *e*S **S** **21 27 50.3 -3.9**
MAK *e*SS **SS** **21 31 53.8 -2.6**
MAK pmax pmax
comp=Z,138nm,1.0s
MAK MLR MLR
comp=Z,209nm,13.0s
GNI Garni 62.40 316 LR LR 21 48 47.5
comp=Z,88nm,20.8s,baz=120,slow=38
GNI Garni 62.40 316 *ce*P **P** **21 19 35.3 +0.2**
GNI pmax pmax
comp=Z,27nm,1.3s
GNI Garni 62.40 316 P **P** **21 19 35.5 +0.3**
LODK Lodwar 62.61 274 P **P** **21 19 37.9 +1.0**
LODK IAmb IAmb 21 19 45.2
comp=Z,9.9nm,1.2s
GROC Groznyy 63.06 320 *e*P **P** **21 19 38.6 -0.6**
GROC *e* 21 20 17.0
GROC pmax pmax
comp=Z,49nm,1.1s
GURO Guroymak-BITLI 63.68 314 P **P** **21 19 43.9 +0.3**
GURO IAmb IAmb 21 19 50.0
comp=Z,9.6nm,1.1s
SVE Sverdlovsk 63.73 338 *e*P **P** **21 19 43.1 -0.3**
SVE pmax pmax
comp=Z,54nm,1.4s
ARU Arti 64.23 337 LR LR 21 51 35.4
comp=Z,268nm,18.0s,baz=130,slow=40
ARU Arti 64.23 337 *d* iP **P** **21 19 46.1 -0.6**
ARU 21 20 21.7
ARU 21 22 04.5
ARU S **S** **21 28 25.2 +1.5**
ARU SS **SS** **21 32 31.7 -1.6**
ARU pmax pmax
comp=Z,18nm,1.1s
ARU MLR MLR
comp=Z,265nm,18.0s
ARU Arti 64.23 337 P **P** **21 19 46.1 -0.6**
ONI Oni 64.33 318 P **P** **21 19 48.2 +0.5**
ONI pmax pmax
comp=Z,17nm,1.3s
ONI Oni 64.33 318 P **P** **21 19 48.2 +0.5**
ONI IAmb IAmb 21 20 03.5
comp=Z,17nm,1.3s
NCK Nalchik 64.62 319 *i* P **P** **21 19 50.1 +0.5**
NCK pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 65.18 319 P **P** **21 19 53.7 +0.6**
comp=Z,8.6nm,0.9s,baz=128,slow=5.1,SNR=16
KBZ Khabaz 65.18 319 *ce*P **P** **21 19 53.3 +0.2**
KBZ pmax pmax
comp=Z,20nm,1.1s
SHA1 Shidzhatmaz 65.34 319 *i* P **P** **21 19 54.8 +0.3**
KIV Kislovodsk 65.42 319 *e*P **P** **21 19 54.3 -0.5**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV Kislovodsk 65.42 319 P **P** **21 19 54.8 -0.1**
YAK Yakutsk 66.01 16 LR LR 21 50 38.0
comp=Z,217nm,20.3s,baz=252,slow=38
YAK Yakutsk 66.01 16 *e*P **P** **21 19 56.9 -1.2**
YAK *e**PP **pP** **21 20 00.5 -2.4**
YAK *e*S **S** **21 28 44.6 -0.6**
YAK *e**SS sS 21 29 13.1 +20
YAK *e*SS **SS** **21 32 59.8 -0.9**
YAK pmax pmax
comp=Z,13nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,0.4s
YAK smax smax
comp=E,62nm,9.8s
YAK smax smax
comp=N,89nm,12.4s
YAK MLR MLR
comp=Z,1µm,14.0s
YAK MLR MLR
comp=N,634nm,14.0s
YAK MLR MLR
comp=E,636nm,12.0s
YAK Yakutsk 66.01 16 P **P** **21 19 57.0 -1.2**
YAK IAmb IAmb 21 20 02.9
comp=Z,27nm,1.1s
BELG Belogornoye 66.65 329 *i* P **P** **21 20 01.5 -0.9**
BELG pmax pmax

comp=Z,7,0nm,1.0s
MMAI Mount Meron Ar 66.99 306 LR LR 21 51 09.1
comp=Z,171nm,18.9s,baz=266,slow=38
MBAR Mbarara 67.21 269 LR LR 21 46 36.6
comp=Z,162nm,19.6s,baz=72,slow=33
MBAR Mbarara 67.21 269 P **P** **21 20 07.5 +0.5**
MBAR pmax pmax
comp=Z,12nm,1.2s
MBAR Mbarara 67.21 269 P **P** **21 20 07.5 +0.5**
MBAR lAmb lAmb 21 20 14.8
comp=Z,12nm,1.1s
SOC Sochi 67.23 318 *eP* **P** **21 20 04.6 -1.7**
SOC *e* 21 22 30.2
SOC *e*PPP PPP 21 24 08.2
SOC *e*S **S** **21 29 00.4 -0.4**
SOC MLR MLR
comp=Z,64nm,19.0s
BNN Bunyan 68.32 312 P **P** **21 20 13.4 -0.1**
CSS Mathiatis 69.16 307 P **P** **21 20 18.8 +0.1**
CSS lAmb lAmb 21 20 25.6
comp=Z,24nm,1.2s
NRIK Noril'sk 69.20 356 P **P** **21 20 18.1 0.0**
comp=Z,6.7nm,0.7s,baz=163,slow=7.4,SNR=7.7
NRIK LR LR 21 53 36.4
comp=Z,385nm,18.1s,baz=161,slow=38
NRIK Noril'sk 69.20 356*ce*P **P** **21 20 16.6 -1.6**
NRIK pmax pmax
comp=Z,17nm,1.0s
NRIK Noril'sk 69.20 356 P **P** **21 20 17.6 -0.5**
NRIK lAmb lAmb 21 20 23.5
comp=Z,13nm,0.9s
VRH Novokhopyorsk 69.22 326 *eP* **P** **21 20 16.0 -2.6**
VRH pmax pmax
comp=Z,20nm,0.9s
KIRV Kirov 69.37 335 LR LR 21 54 27.4
comp=Z,193nm,18.7s,baz=132,slow=39
KIRV Kirov 69.37 335*ce*P **P** **21 20 19.0 -0.4**
BR131 Keskin Array S 70.22 312 *i* P **P** **21 20 25.0 -0.2**
BR131 Keskin Array S 70.22 312 P **P** **21 20 24.7 -0.6**
BR131 lAmb lAmb 21 20 30.3
comp=Z,8.6nm,0.9s
BRTR Keskin Array B 70.22 312 P **P** **21 20 25.1 -0.2**
comp=Z,2.7nm,0.8s,baz=125,slow=6.9,SNR=23
BRTR LR LR 21 54 44.7
comp=Z,119nm,18.2s,baz=117,slow=39
BRTR Keskin Array B 70.22 312*ce*P **P** **21 20 24.7 -0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 70.22 312 P **P** **21 20 24.5 -0.7**
DZM Mont Dzumac 70.27 114 LR LR 21 54 37.3
comp=Z,164nm,18.1s,baz=284,slow=39
DZM Mont Dzumac 70.27 114 P **P** **21 20 24.7 -1.1**
LSZ Lusaka 70.59 254 LR LR 21 46 09.6
comp=Z,236nm,21.6s,baz=105,slow=31
BZK Bozkurt 70.61 315 P **P** **21 20 27.3 -0.1**
VSR Storozhevoye 70.67 325 *eP* **P** **21 20 25.9 -1.6**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VORR Voronezh 70.84 326 *eP* **P** **21 20 27.3 -1.3**
VORR pmax pmax
comp=Z,30nm,0.5s
ANTO Ankara 70.88 312 P **P** **21 20 28.9 -0.3**
ANTO pmax pmax
comp=Z,22nm,1.2s
ANTO Ankara 70.88 312 P **P** **21 20 28.9 -0.3**
ANTO lAmb lAmb 21 20 36.0
comp=Z,22nm,1.2s
BR231 Keskin MP Arra 70.89 312 P **P** **21 20 28.9 -0.4**
BR231 lAmb lAmb 21 20 34.7
comp=Z,27nm,1.4s
LPSR Galich'ya Gora 71.39 327 *eP* **P** **21 20 30.2 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,1.3s
SIM Simferopol' 71.47 318 *eP* **P** **21 20 31.9 -0.7**
SIM pmax pmax
comp=Z,42nm,1.2s
MA2 Magadan 71.76 25 LR LR 21 54 11.3
comp=Z,157nm,19.4s,baz=230,slow=38
MA2 Magadan 71.76 25 *i* P **P** **21 20 36.3 +2.3**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
PETK Petropavlovsk- 72.01 33 LR LR 21 54 00.5
comp=Z,135nm,18.1s,baz=230,slow=37
MAW Mawson 72.08 193 LR LR 21 44 54.1
comp=Z,217nm,20.9s,baz=16,slow=30
MDUB Mudurnu 72.22 313 P **P** **21 20 36.7 -0.6**
ELL Elmali 72.29 309 P **P** **21 20 37.8 0.0**
ELL pmax pmax
comp=Z,134nm,1.4s
ELL Elmali 72.29 309 P **P** **21 20 37.8 0.0**
PRGR Permogore 72.69 337 *eP* **P** **21 20 37.6 -1.9**
PRGR pmax pmax
comp=Z,15nm,0.8s
MOS Moscow 73.42 329 *eP* **P** **21 20 47.1 +3.2**
MOS pmax pmax
comp=Z,57nm,1.1s
OBN Obninsk 73.71 328 ⇓ *i* P **P** **21 20 45.3 -0.4**
OBN *i* 21 20 50.1
OBN *i* 21 23 26.4
OBN *e*S **SKiKP** **21 30 09.7 -5.4**
OBN pmax pmax
comp=Z,54nm,2.5s
OBN MLR MLR
comp=Z,160nm,17.0s
OBN Obninsk 73.71 328 P **P** **21 20 45.2 -0.4**
OBN lAmb lAmb 21 20 51.7
comp=Z,33nm,1.2s
TIXI Tiksi 73.87 10 LR LR 21 58 46.0
comp=Z,494nm,18.3s,baz=182,slow=40
TIXI Tiksi 73.87 10*ce*P **P** **21 20 44.9 -1.4**
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 73.87 10 P **P** **21 20 45.2 -1.1**
TIXI lAmb lAmb 21 20 51.6
comp=Z,12nm,1.0s
LBTB Lobatse 74.19 244 LR LR 21 49 18.9
comp=Z,92nm,21.3s,baz=84,slow=32
KARP Karpathos 74.21 307 P **P** **21 20 48.9 -0.2**
SEY Seymchan 74.23 23 LR LR 21 55 21.1
comp=Z,164nm,18.2s,baz=257,slow=37
SEY Seymchan 74.23 23 *i* P **P** **21 20 47.5 -1.1**
SEY pmax pmax
comp=Z,14nm,1.7s
KLMR Klimovskoe 74.82 334 *eP* **P** **21 20 50.4 -1.6**
KLMR pmax pmax
comp=Z,22nm,1.2s
KLMR Klimovskoe 74.82 334 *eP* **P** **21 20 50.4 -1.6**
KLMR AMP 21 20 58.0
comp=Z,22nm,1.2s
BOSA Boshof 75.02 240 P **P** **21 20 55.1 +1.1**
comp=Z,1.5nm,0.7s,baz=56,slow=5.0,SNR=5.2
BOSA LR LR 21 49 48.0
comp=Z,79nm,19.6s,baz=76,slow=32
BOSA Boshof 75.02 240 P **P** **21 20 53.7 -0.3**
BOSA pmax pmax
comp=Z,46nm,1.9s
BOSA Boshof 75.02 240 P **P** **21 20 53.7 -0.3**
BOSA lAmb lAmb 21 23 33.7
comp=Z,46nm,1.9s
MILM Milestii Mici 75.59 319 ⇑P **P** **21 20 55.2 -1.6**
MILM Milestii Mici 75.59 319 ⇑P **P** **21 20 55.2 -1.6**
IDI Anoyia 75.99 306 ⇑P **P** **21 20 0.3 +0.9**
IDI Anoyia 75.99 306 P **P** **21 20 59.8 +0.4**
IDI lAmb lAmb 21 21 06.6
comp=Z,24nm,1.4s
ALN Alexandroupoli 76.13 312 P **P** **21 20 59.3 -0.7**
ALN pmax pmax
comp=Z,26nm,1.5s
ALN Alexandroupoli 76.13 312 P **P** **21 20 59.2 -0.7**
ALN lAmb lAmb 21 21 06.1
comp=Z,26nm,1.5s
SORM Soroca 76.21 320 ⇓P **P** **21 21 00.2 -0.1**
SORM Soroca 76.21 320 ⇓P **P** **21 21 00.2 -0.1**
AKASG Malin Array Be 76.36 322 P **P** **21 21 01.1 0.0**
comp=Z,2.3nm,0.6s,baz=93,slow=4.6,SNR=6.4
AKASG Malin Array Be 76.36 322 *i* P **P** **21 21 00.7 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 76.36 322*ce*P **P** **21 21 00.7 -0.4**
AKBB Malin Array Si 76.36 322 P **P** **21 21 00.1 -1.0**
VRI Vrincioaia 76.73 317 ⇑P **P** **21 21 04.2 +0.9**
VRI Vrincioaia 76.73 317 ⇑P **P** **21 21 04.2 +0.9**
PLOR Plostina 76.78 317 ⇑P **P** **21 21 04.9 +1.3**
PLOR Plostina 76.78 317 ⇑P **P** **21 21 04.9 +1.3**
TESR Tescani 76.93 318 ⇑P **P** **21 21 04.2 -0.2**

MLR Muntele Rosu 77.18 317 ⇑P **P** **21 21 07.0 +1.1**
MLR Muntele Rosu 77.18 317 LR LR 22 00 39.2
comp=Z,81nm,19.8s,baz=70,slow=40
MLR Muntele Rosu 77.18 317 P **P** **21 21 06.0 0.0**
MLR Muntele Rosu 77.18 317 P **P** **21 21 06.0 0.0**
PGB Panagyurishte 77.83 313 *eP* P 21 21 14.7 +5.1
MMB Musomiste 77.98 312 *eP* **P** **21 21 14.7 +4.3**
ARR Arges 78.05 316 ⇓P **P** **21 21 10.4 -0.4**
RPZ Rata Peaks 78.10 135 LR LR 21 57 50.8
comp=Z,151nm,18.4s,baz=271,slow=38
RPZ Rata Peaks 78.10 135 P **P** **21 21 11.3 +0.3**
BURAR Bucovina Array 78.14 319 ⇑P **P** **21 21 12.8 +1.6**
BURAR Bucovina Array 78.14 319 ⇑P **P** **21 21 12.8 +1.6**
BURAR Bucovina Array 78.14 319 P **P** **21 21 11.6 +0.4**
BURAR lAmb lAmb 21 21 18.3
comp=Z,12nm,0.9s
BUR08 Bucovina Ar. S 78.15 319 P **P** **21 21 11.7 +0.3**
BUR08 lAmb lAmb 21 21 18.7
comp=Z,33nm,1.4s
MNK Minsk 78.22 326 *i* P **P** **21 21 10.1 -1.3**
MNK *i* 21 21 19.4
MNK *i* 21 24 06.4
MNK *i* PPP PPP 21 25 54.2
MNK *i* S **S** **21 31 05.3 -0.4**
MNK *i* 21 31 29.9
MNK *i* SS **SS** **21 36 08.1 +0.2**
MNK *i* SSS SSS 21 39 32.6
MNK pmax pmax
comp=N,11nm,1.1s
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK MLR MLR
comp=N,177nm,19.0s
MNK MLR MLR
comp=E,5.0nm,14.0s
MNK MLR MLR
comp=Z,253nm,22.0s
MNK Minsk 78.22 326 *i* P **P** **21 21 10.2 -1.3**
comp=E,2.0nm,1.1s
MNK *i* P **P** **21 21 10.2 -1.3**
comp=N,11nm,1.1s
MNK *i* P **P** **21 21 10.2 -1.3**
comp=Z,10.0nm,0.9s,baz=107
MNK *i* PP **PP** **21 24 06.4 -1.8**
MNK *i* PPP PPP 21 25 54.2
MNK *i* S **S** **21 31 05.4 -0.4**
MNK *i* SS **SS** **21 36 08.1 +0.2**
MNK *i* SSS SSS 21 39 32.7
MNK *i* LQ LQ 21 50 39.1
MNK *i* LR LR 21 55 21.2
MNK *i* LRM MLR 21 58 11.8
comp=N,177nm,19.2s
MNK *i* LRM MLR 21 58 15.0
comp=E,5.0nm,14.1s
MNK *i* LRM MLR 21 58 20.7
comp=Z,253nm,22.4s
KKB Krupnik 78.50 313 *eP* **P** **21 21 16.7 +3.4**
VTS Vitosha 78.52 313 ⇑P **P** **21 21 13.8 +0.2**
VTS Vitosha 78.52 313 P **P** **21 21 12.8 -0.8**
VTS pmax pmax
comp=Z,10.0nm,1.1s
VTS Vitosha 78.52 313 P **P** **21 21 12.8 -0.8**
VTS Vitosha 78.52 313 *eP* **P** **21 21 11.0 -2.6**
ITM Ithomi 78.65 308 P **P** **21 21 13.8 -0.4**
ITM lAmb lAmb 21 21 20.0
comp=Z,44nm,1.7s
LIT Litokhoron 78.65 311 P **P** **21 21 13.6 -0.6**
LIT pmax pmax
comp=Z,30nm,1.4s
LIT Litokhoron 78.65 311 P **P** **21 21 13.6 -0.6**
LIT lAmb lAmb 21 21 19.3
comp=Z,30nm,1.4s
NACGM Naroch 78.95 326 *eP* **P** **21 21 15.8 +0.4**
IDID Didziasalis 79.08 327 *eP* **P** **21 21 16.7 +0.6**
BLKB Belogradchik 79.10 314 ⇑P **P** **21 21 16.0 -0.6**
SUR Sutherland 79.34 237 LR LR 21 52 18.7
comp=Z,105nm,18.0s,baz=88,slow=33
GZR Gura Zlata 79.34 316 ⇓P **P** **21 21 19.3 +1.4**
GZR Gura Zlata 79.34 316 ⇓P **P** **21 21 19.3 +1.4**
DEV Deva 79.34 317 ⇑P **P** **21 21 18.6 +0.8**
DEV Deva 79.34 317 ⇑P **P** **21 21 18.6 +0.8**
LVV L'vov 79.38 321 *eP* P 21 21 22.7 +4.8
SYO Syowa Base 79.45 198 ⇓ *eP* **P** **21 21 18.4 +0.5**
HERR Herculane 79.50 316 ⇑P **P** **21 21 19.2 +0.5**
MESR Meseseni 79.55 318 ⇑P **P** **21 21 20.7 +1.8**
MDVR Moldovita 79.98 315 ⇑P **P** **21 21 26.1 +4.7**
KWP Kalwaria Pacla 80.18 320 P **P** **21 21 22.6 +0.3**
KWP pmax pmax
comp=Z,197nm,1.3s
KWP Kalwaria Pacla 80.18 320 P **P** **21 21 22.6 +0.3**
BZS Buzias 80.19 316 ⇓P **P** **21 21 22.7 +0.3**
BZS Buzias 80.19 316 ⇓P **P** **21 21 22.7 +0.3**
UZH Uzhgorod 80.26 319 *eP* **P** **21 21 26.7 +4.0**
UZH *i* 21 21 29.3
UZH *i* 21 21 34.8
PABE Paberze 80.66 326 P **P** **21 21 24.4 -0.3**
PABE lAmb lAmb 21 21 31.0
comp=Z,46nm,1.3s
PABE Paberze 80.66 326 *eP* **P** **21 21 24.4 -0.3**
SUW Suwalki 80.78 325 P **P** **21 21 24.8 -0.6**
SUW pmax pmax
comp=Z,84nm,1.6s
SUW Suwalki 80.78 325 P **P** **21 21 24.8 -0.6**
SUW Suwalki 80.78 325 *eP* **P** **21 21 25.1 -0.2**
CRVS Cervenica-Dubn 80.85 319 *eP* **P** **21 21 27.6 +1.7**
CRVS Cervenica-Dubn 80.85 319 *eP* **P** **21 21 27.6 +1.7**
TSUM Tsumeb 81.02 251 LR LR 21 54 07.9
comp=Z,79nm,19.0s,baz=107,slow=33
FIA1 FINESS Array S 81.07 332 P **P** **21 21 26.3 -0.5**
FIA1 lAmb lAmb 21 22 20.2
comp=Z,69nm,1.9s
FINES FINESS Array B 81.07 332 P **P** **21 21 26.9 +0.1**
comp=Z,2.8nm,0.5s,baz=109,slow=6.6,SNR=23
FINES LR LR 22 01 35.1
comp=Z,103nm,18.8s,baz=78,slow=39
FINES FINESS Array B 81.07 332 P **P** **21 21 26.5 -0.3**
FINES FINESS Array B 81.07 332 P **P** **21 21 26.5 -0.3**
DIVS Divibare 81.09 315 P **P** **21 21 27.1 -0.3**
DIVS lAmb lAmb 21 21 34.0
comp=Z,44nm,1.7s
BKZ Black Stump Fm 81.36 130 P **P** **21 21 29.1 +0.3**
BKZ lAmb lAmb 21 21 30.0
comp=Z,12nm,0.7s
PDG Podgorica 81.40 313 P **P** **21 21 28.1 -0.8**
BILL Bilibino 81.67 21 *eP* **P** **21 21 32.0 +2.2**
BILL pmax pmax
comp=Z,2.0nm,1.1s
PSZ Piszkesteto 81.72 318 P **P** **21 21 30.6 0.0**
PSZ pmax pmax
comp=Z,30nm,1.6s
PSZ Piszkesteto 81.72 318 P **P** **21 21 30.6 0.0**
PSZ lAmb lAmb 21 21 37.3
comp=Z,30nm,1.6s
PSZ Piszkesteto 81.72 318 P **P** **21 21 30.9 +0.3**
URZ Urewera 81.72 129 LR LR 21 59 02.6
comp=Z,216nm,20.5s,baz=212,slow=37
OJC Ojcow 82.13 321 P **P** **21 21 31.5 -1.2**
OJC pmax pmax
comp=Z,13nm,1.2s
OJC Ojcow 82.13 321 P **P** **21 21 31.5 -1.2**
OJC lAmb lAmb 21 21 38.6
comp=Z,13nm,1.2s
MORH Mrgy, Hungar 82.33 316 ⇓P **P** **21 21 34.0 +0.3**
MORH Mrgy, Hungar 82.33 316 P **P** **21 21 33.5 -0.2**
VYHS Vyhne 82.50 319 *eP* P 21 21 40.5 +5.9
VYHS Vyhne 82.50 319 *eP* P 21 21 40.5 +5.9
KOVH Kovagotottos 82.69 316 P **P** **21 21 35.3 -0.3**
OKC Ostrava-Krasne 83.13 320 *eP* P 21 21 43.5 +5.7
OKC Ostrava-Krasne 83.13 320 *ep*P pP 21 21 43.5 +0.9
MPLH Magyarpolny 83.20 317 P **P** **21 21 38.5 +0.3**
JAVC Velka Javorina 83.32 319 *eP* **P** **21 21 41.8 +2.9**
MORC Moravsky Berou 83.51 320 P **P** **21 21 39.9 0.0**
MORC pmax pmax
comp=Z,17nm,1.4s
MORC Moravsky Berou 83.51 320 P **P** **21 21 39.9 0.0**
MORC lAmb lAmb 21 21 46.8
comp=Z,17nm,1.4s
MORC Moravsky Berou 83.51 320 *eP* **P** **21 21 40.8 +0.9**
MODS Modra-Piesok 83.52 319 *eP* P 21 21 45.1 +5.2
MODS Modra-Piesok 83.52 319 *eP* P 21 21 45.1 +5.2
ARCES ARCESS Array B 83.56 340 P **P** **21 21 40.0 +0.3**

comp=Z,2.4nm,0.7s,baz=98,slow=6.5,SNR=15
ARCES LR LR 22 02 39.3
comp=Z,187nm,19.5s,baz=110,slow=38
ARCES ARCESS Array B 83.56 340 P **P** **21 21 39.6 -0.1**
ARCES pmax pmax
comp=Z,42nm,1.6s
ARCES ARCESS Array B 83.56 340 P **P** **21 21 39.6 -0.1**
KRLC Kraliky 84.04 320 *eP* **P** **21 21 43.3 +0.7**
KRLC *e* 21 21 48.4
KRLC Kraliky 84.04 320 *eP* **P** **21 21 43.3 +0.7**
KRLC *ep*P **sP** **21 21 48.4 -0.7**
VRAC Vranov 84.07 319 *eP* **P** **21 21 43.0 +0.3**
RONA Rosalia, Austr 84.10 318 P **P** **21 21 43.5 +0.6**
comp=Z,3.9nm,1.1s
KRUC Moravsky 84.17 319 *eP* **P** **21 21 43.7 +0.5**
DPC Dobruska-Polom 84.36 320 *eP* **P** **21 21 45.4 +1.2**
DPC *e* 21 21 50.0
DPC Dobruska-Polom 84.36 320 *eP* **P** **21 21 45.4 +1.2**
DPC *ep*P **sP** **21 21 50.0 -0.7**
CONA Conrad Observa 84.41 318 *eP* **P** **21 21 45.1 +0.5**
comp=Z,1.9nm,0.9s
OSTC Ostas 84.45 321 *eP* **P** **21 21 45.6 +1.0**
OSTC *ep*P **sP** **21 21 50.6 -0.6**
CHVC Chvalec 84.56 321 *eP* **P** **21 21 46.3 +1.1**
CHVC *ep*P **pP** **21 21 50.5 +0.5**
ARSA Arzberg 84.57 317 *eP* **P** **21 21 45.3 -0.1**
comp=Z,11nm,1.5s
SOKA Soboth 84.86 317 *eP* **P** **21 21 47.8 +1.0**
comp=Z,16nm,1.4s
VNDA Vanda 84.87 169 P **P** **21 21 46.5 +0.3**
comp=Z,2.1nm,1.1s,baz=317,slow=8.3,SNR=4.5
VNDA LR LR 21 54 01.7
comp=Z,157nm,20.0s,baz=318,slow=32
VNDA Vanda 84.87 169 P **P** **21 21 46.6 +0.4**
VNDA pmax pmax
comp=Z,7.0nm,1.5s
VNDA Vanda 84.87 169 P **P** **21 21 46.6 +0.4**
PRU Pruhonice 85.47 320 *eP* **P** **21 21 50.9 +1.2**
PRU Pruhonice 85.47 320 *eP* **P** **21 21 50.9 +1.2**
MOA Molln 85.47 318 P **P** **21 21 52.9 +3.1**
comp=Z,6.4nm,1.4s
CKRC Cesky Krumlov 85.52 319 *eP* **P** **21 21 50.7 +0.7**
CKRC *ep*P **sP** **21 21 55.9 -0.7**
BIOA Bad Ischl, Aus 85.89 318 *eP* **P** **21 21 56.4 +4.5**
comp=Z,3.9nm,1.2s
BRG Berggiesshubel 85.92 321 *eP* **P** **21 21 52.9 +0.9**
BRG Amp 21 21 59.7
comp=Z,7.2nm,1.2s
BRG Berggiesshubel 85.92 321 *eP* **P** **21 21 52.8 +0.9**
BRG pmax pmax
comp=Z,7.0nm,1.2s
GEC2 GERESS Array S 85.92 319 P **P** **21 21 52.1 0.0**
GEC2 lAmb lAmb 21 21 59.1
comp=Z,21nm,1.4s
GERES GERESS Array B 85.92 319 P **P** **21 21 52.7 +0.5**
comp=Z,1.1nm,0.8s,baz=113,slow=3.5,SNR=13
GERES LR LR 22 07 42.5
comp=Z,63nm,18.0s,baz=82,slow=41
GERES GERESS Array B 85.92 319 P **P** **21 21 51.5 -0.7**
GERES GERESS Array B 85.92 319 P **P** **21 21 51.5 -0.7**
KHC Kasperske Hory 86.03 319 *eP* **P** **21 21 53.1 +0.5**
KHC Kasperske Hory 86.03 319 *eP* **P** **21 21 53.1 +0.5**
KBA Koelnbreinsper 86.04 317 *eP* **P** **21 21 57.0 +4.2**
comp=Z,5.9nm,1.5s
CLL Collm 86.54 321 *eP* **P** **21 21 52.0 -3.0**
CLL Collm 86.54 321 *eP*x Px 21 21 58.0
CLL Lm MLR 22 03 00.0
comp=Z,100nm,20.0s
HFS Hagfors 86.81 330 LR LR 22 04 32.6
comp=Z,78nm,18.7s,baz=78,slow=38
CTI Castel Tesino 87.16 316 P **P** **21 21 58.1 -0.2**
CTI pmax pmax
comp=Z,8.0nm,1.0s
CTI Castel Tesino 87.16 316 P **P** **21 21 58.0 -0.2**
CTI lAmb lAmb 21 22 04.5
comp=Z,8.3nm,1.0s
WTTA Wattenberg 87.22 317 *eP* **P** **21 22 02.8 +4.2**
comp=Z,13nm,1.6s
WATA Walderalm 87.26 317 *eP* **P** **21 22 00.1 +1.3**
comp=Z,4.8nm,0.8s
GRF Grafenberg Arr 87.59 320 *eP* P 21 22 05.8 +5.6
comp=Z,54nm,2.2s,baz=107,slow=4.3
RETA Reutte 87.82 317 *eP* **P** **21 22 06.0 +4.6**
comp=Z,9.6nm,1.5s
FETA Feichten 87.83 317 *eP* P 21 22 06.6 +5.0
comp=Z,3.6nm,1.1s
SPITS Spitsbergen Ar 87.91 348 LR LR 22 07 45.3
comp=Z,192nm,21.0s,baz=188,slow=40
NB2 NORSAR Subarra 88.09 331 P **P** **21 22 02.2 -0.1**
comp=Z,14nm,1.4s,baz=86,slow=6.5
NOA NORSAR Array B 88.09 331 P **P** **21 22 02.8 +0.4**
comp=Z,2.6nm,1.0s,baz=94,slow=6.3,SNR=3.6
NOA LR LR 22 05 54.7
comp=Z,81nm,18.4s,baz=100,slow=39
DAVOX Davos/Dischmat 88.40 317 LR LR 22 08 23.5
comp=Z,35nm,20.3s,baz=80,slow=40
DAVA Dameuls 88.41 317 *eP* P 21 22 10.7 +6.4
comp=Z,9.4nm,1.1s
KEST Kesra 88.64 306 P **P** **21 22 06.4 +0.8**
comp=Z,3.0nm,0.7s,baz=248,slow=20,SNR=5.5
KEST LR LR 22 06 26.0
comp=Z,100nm,18.6s,baz=287,slow=39
KEST Kesra 88.64 306 P **P** **21 22 07.1 +1.5**
KEST lAmb lAmb 21 22 27.5
comp=Z,27nm,1.6s
QSPA South Pole Qui 90.32 180 LR LR 21 58 20.3
comp=Z,257nm,19.8s,baz=307,slow=33
QSPA South Pole Qui 90.32 180 P **P** **21 22 14.1 +1.3**
QSPA lAmb lAmb 21 22 16.5
comp=Z,22nm,1.7s
SNAA Sanae 93.74 198 LR LR 22 00 56.1
comp=Z,149nm,18.4s,baz=325,slow=33
JMIC Jan Mayen 94.98 342 LR LR 22 12 53.7
comp=Z,54nm,18.1s,baz=84,slow=40
DAG Danmarks Havn 95.56 348 *i* P **P** **21 22 34.0 -2.6**
TORD Torodi Ar. Bea 96.00 283 P **P** **21 22 40.9 +1.0**
comp=Z,4.4nm,1.0s,baz=99,slow=5.1,SNR=1.6
ESDC Sonseca Array 98.93 310 LR LR 22 13 06.1
comp=Z,47nm,19.0s,baz=91,slow=39
KDAK Kodiak Island 99.97 31 LR LR 22 12 27.8
comp=Z,139nm,18.1s,baz=348,slow=38
YKA Yellowknife Ar 112.69 16 PP **PP** **21 28 34.6 -0.2**
comp=Z,0.5nm,1.0s,baz=332,slow=7.6,SNR=3.9
NVAR Mina Array Bea 129.01 37 PKP **PKiKP** **21 28 22.3 +1.1**
comp=Z,0.5nm,0.6s,baz=16,slow=1.1,SNR=6.8
NVAR Mina Array Bea 129.01 37 **PKiKP** **21 28 21.6 +0.3**
TX31 Lajitas Ar. Si 143.96 33 PKPbc 21 28 46.9 +0.9
TXAR Lajitas Array 143.97 33 PKP PKPbc 21 28 47.0 +1.0
comp=Z,1.5nm,0.6s,baz=63,slow=0.0,SNR=16
TXAR Lajitas Array 143.97 33 PKIKP PKPbc 21 28 46.5 +0.5
TXAR Lajitas Array 143.97 33 PKPdf PKPbc 21 28 46.5 +0.5
CPUP Villa Florida 144.88 221 PKP **PKPdf** **21 28 49.9 +0.1**
comp=Z,4.8nm,1.0s,baz=75,slow=4.4,SNR=4.7
CPUP Villa Florida 144.88 221 PKIKP PKPbc 21 28 49.0 +0.1
CPUP Villa Florida 144.88 221 PKPdf PKPbc 21 28 49.0 +0.1
JCT Junction City 144.98 27 PKIKP **PKPab** **21 28 49.0 -0.2**
JCT Junction City 144.98 27 PKPdf **PKPab** **21 28 49.0 -0.2**
X48A Hartselle 145.05 7 PKPdf **PKPbc** **21 28 48.0 -1.2**

IDC **16** *21:21:19.8± 1.5, 8.°28S× 128.°88E, h0km, mb3.4/2, mb1 3.7/6, mb1mx3.4/30, mbtmp3.6/6, ML3.6/4, Error ellipse: s-maj=48.3km s-min=25.3km az=81.0*
ISC 16 21:21:24.6± 1.1, 8.°52S± 0.°09× 128.°83E± 0.°10, h35km, n7, σ1§62/11, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.37**	**251**	Pn	**Pn**		**21 22 43.8**	**+1.6**
	2.3nm,0.3s,baz=76,slow=18,SNR=3.9							
BATI				Sn	**Sn**		**21 23 42.1**	**-0.7**
	5.0nm,0.3s,baz=342,slow=19,SNR=1.9							
FITZ	**Fitzroy Crossi**	**10.01**	**198**	Pn	**Pn**		**21 23 48.1**	**+2.1**
	0.4nm,0.3s,baz=17,slow=12,SNR=14							
FITZ				Sn	**Sn**		**21 25 35.7**	**-1.5**
	baz=180,slow=9.1							
WRA	**Warramunga Arr**	**12.55**	**155**	Pn	**Pn**		**21 24 22.6**	**+1.9**
	0.4nm,0.3s,baz=332,slow=13,SNR=21							
WRA				Sn	**Sn**		**21 26 39.6**	**+0.3**
	0.5nm,0.3s,baz=329,slow=24,SNR=7.3							
ASAR	**Alice Springs**	**15.83**	**163**	Pn	**P**		**21 25 06.9**	**-1.5**
	0.2nm,0.3s,baz=338,slow=11,SNR=16							
ASAR				Sn	**Sn**		**21 27 57.3**	**-2.0**
	0.2nm,0.3s,baz=343,slow=26,SNR=5.9							
SONM	**Songino Array**	**59.52**	**343**	P	**P**		**21 31 24.6**	**+0.1**
	0.2nm,0.5s,baz=168,slow=8.8,SNR=1.8							

MKAR	**Makanchi Array**	**68.87**	**328**	P		**P**	**21 32 24.4**	**-1.3**
	0.3nm,0.5s,baz=113,slow=7.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	**127.94**	**280**	PKP		**PKiKP**	**21 40 28.4**	**+0.1**
	0.5nm,0.8s,baz=86,slow=2.1,SNR=3.6							

KRNET ***16*** *21:33:29.9±0.1, 41.05N×71.03E, h15km, mb2.7*
NNC ***16*** *21:33:29.4±2.2, 41.04N×71.12E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=19.2km s-min=7.5km az=14.0*
ISU ***16*** *21:33:30, 41.03N×71.04E, h17km, Hypocentre not reviewed by the ISC*
SOME ***16*** *21:33:30.0, 41.05N×71.15E, h15km*
ISC 16 21:33:30.3±0.8, 41.00N±0.03×70.98E±0.03, h10km, n30, σ1s61/51, 18C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MINT	**Mingtut**	**0.53**	**180**	P				21 33 41.7	
MINT				S				21 33 50.6	
TRKS	**Terek-Say**	**0.54**	**13**	⇓*i*P		**Pg**	**Sg**	**21 33 38.3**	**-2.7**
	baz=14								
TRKS				⇓*i*S		**Sg**	**Sg**	**21 33 44.5**	**-3.7**
	baz=14								
CHMI	**Chimion**	**0.84**	**150**	P				21 33 46.3	
FRG	**Fergana**	**0.87**	**135**	P				21 33 47.1	
BTK	**Batken**	**0.95**	**188**	⇑*i*P		**Pg**		**21 33 48.3**	**-0.2**
	baz=89								
BTK				⇑*i*S		**Sb**		**21 34 01.9**	**+0.4**
	baz=89								
BTK	**Batken**	**0.95**	**188**	P				21 33 47.9	
BTK				S				21 34 01.5	
CHRV	**Charvak**	**1.01**	**310**	P				21 33 49.2	
CHRV				S				21 34 03.8	
ANR	**Andizhan**	**1.07**	**103**	P				21 33 49.7	
ANR				S				21 34 05.0	
ARK	**Arkit**	**1.09**	**42**	⇑*i*P		**Pg**		**21 33 49.4**	**-1.8**
	baz=43								
ARK				⇑*i*S		**Sg**		**21 34 03.6**	**-1.8**
	baz=43								
TGS	**TashGRES**	**1.18**	**292**	P				21 33 51.8	
TGS				S				21 34 09.1	
SHAK	**Shakhimardan**	**1.19**	**151**	P				21 33 53.1	
SHAK				S				21 34 09.9	
TSTA	**Tashata**	**1.21**	**110**	P				21 33 51.8	
TSTA				S				21 34 01.9	
TAS	**Tashkent**	**1.31**	**285**	⇑*i*P		**Pn**		**21 33 54.9**	**+0.2**
	baz=83								
TAS				⇑*i*S		**Sb**		**21 34 12.7**	**+0.7**
	baz=83								
TAS	**Tashkent**	**1.31**	**285**	P				21 33 55.4	
TAS				S				21 34 14.6	
IUG	**luzhnay**	**1.35**	**328**	*e*P		**Pn**		**21 33 55.4**	**0.0**
	307nm,0.0s								
IUG				*e*S		**Sn**		**21 34 13.4**	**0.0**
	133nm,0.1s								
IUG	**luzhnay**	**1.35**	**328**	P		**Pn**		**21 33 54.9**	**-0.4**
	796nm,0.2s								
IUG				S		**Sn**		**21 34 13.4**	**0.0**
	161nm,0.2s								
OHH	**Osh**	**1.45**	**108**	⇑*i*P		**Pn**		**21 33 56.1**	**-0.6**
	baz=11								
OHH				⇑*i*S		**Sg**		**21 34 15.3**	**-1.7**
	baz=11								
DRK	**Karamyk**	**1.64**	**157**	⇑*i*P		**Pb**		**21 34 00.7**	**-0.1**
	baz=59								
DRK				⇑*i*S		**Sg**		**21 34 23.3**	**+0.2**
	baz=59								
CHM	**Chimkent**	**1.68**	**322**	*e*P		**Pb**		**21 34 01.9**	**+0.7**
	4.8nm,0.2s								
CHM				*e*S		**Sb**		**21 34 24.5**	**+2.1**
	263nm,0.1s								
DZA	**Taraz**	**1.91**	**8**	*e*P		**Pn**		**21 34 04.0**	**+1.1**
	12nm,0.0s								
DZA				*e*S		**Sn**		**21 34 28.5**	**+1.4**
	331nm,0.3s								
KK31	**Karatay Array**	**2.13**	**351**	Pn		**Pn**		**21 34 07.0**	**+1.0**
	1.3nm,0.3s,baz=178,slow=13,SNR=360								
KK31				Lg		Lg		21 34 35.6	
	17nm,0.3s,baz=163,slow=25,SNR=14								
BRLS	**Borolday**	**2.20**	**338**	*e*P		**Pn**		**21 34 07.2**	**+0.2**
	7.6nm,0.1s								
BRLS				*e*S		**Sn**		**21 34 34.2**	**-0.1**
	29nm,0.1s								
BRLS	**Borolday**	**2.20**	**338**	Pg		**Pn**		**21 34 07.1**	**+0.2**
	7.6nm,0.1s								
BRLS				Lg		Lg		21 34 34.2	
	17nm,0.2s								
MRKS	**Merke**	**2.42**	**43**	*e*P		**Pb**		**21 34 13.7**	**-0.3**
	4.0nm,0.1s								
MRKS				*e*S		**Sb**		**21 34 45.0**	**+1.1**
	20nm,0.2s								
MRKS	**Merke**	**2.42**	**43**	Pg		**Pb**		**21 34 14.0**	**0.0**
	4.1nm,0.3s								
MRKS				Lg		Lg		21 34 45.5	
	20nm,0.2s								
EKS2	**Erkin-Say**	**2.67**	**51**	⇑*e*P		**Pn**		**21 34 14.0**	**+0.5**
	baz=51								
EKS2				⇑*i*S		**Sn**		**21 34 46.0**	**0.0**
	baz=51								
UCH	**Uchtor**	**2.92**	**64**	⇓*e*P		**Pn**		**21 34 17.9**	**+0.7**
	baz=65								
UCH				⇓*i*S		**Sn**		**21 34 52.9**	**+0.3**
	baz=65								
AAK	**Ala-Archa**	**3.10**	**57**	⇑*e*P		**Pn**		**21 34 20.0**	**+0.6**
	baz=57								
AAK				⇑*i*S		**Sn**		**21 34 56.6**	**+0.1**
	baz=57								
CHMS	**Chumysh**	**3.45**	**53**	⇓*i*P		**Pn**		**21 34 24.7**	**+0.6**
	baz=54								
CHMS				⇓*i*S		**Sn**		**21 35 04.8**	**-0.2**
	baz=54								
USP	**Ospenovka**	**3.46**	**48**	⇑*i*P		**Pn**		**21 34 24.8**	**+0.5**
	baz=48								
USP				⇑*i*S		**Sn**		**21 35 05.0**	**-0.4**
	baz=48								
TKM2	**Tokmak 2**	**3.94**	**59**	⇑Pn		**Pn**		**21 34 27.2**	**-3.9**
	7.1nm,1.4s								
TKM2				⇑Lg		Lg		21 35 29.1	
	4.8nm,0.8s								
DGS	**Degeres**	**4.21**	**56**	*e*P		**Pb**		**21 34 44.8**	**+0.3**
	0.8nm,0.1s								
DGS				*e*S		**Sb**		**21 35 38.3**	**+2.9**
	4.6nm,0.4s								
KST	**Kastek**	**4.24**	**60**	*e*P		**Pb**		**21 34 45.0**	**0.0**
	0.8nm,0.1s								
KST				*e*S		**Sb**		**21 35 39.2**	**+3.0**
	4.7nm,0.1s								
KST	**Kastek**	**4.24**	**60**	Pg		**Pb**		**21 34 45.0**	**0.0**
	1.3nm,0.1s								
KST				Lg		Lg		21 35 39.2	
	6.1nm,0.5s								
KRBS	**Karabastau**	**4.40**	**51**	*e*P		**Pb**		**21 34 47.6**	**-0.1**
	0.5nm,0.1s								
KRBS				*e*S		**Sb**		**21 35 43.6**	**+2.7**
	3.3nm,0.3s								
KRBS	**Karabastau**	**4.40**	**51**	Pg		**Pb**		**21 34 47.6**	**-0.1**
	0.4nm,0.1s								
KRBS				Lg		Lg		21 35 43.0	
	3.3nm,0.3s								
BTLS	**Baital**	**4.62**	**28**	*e*P		**Pb**		**21 34 52.8**	**+1.3**
	0.5nm,0.1s								
BTLS				*e*S		**Sb**		**21 35 51.8**	**+4.6**
	2.8nm,0.1s								
KUU	**Kurty**	**4.91**	**52**	*e*P		**Pb**		**21 34 57.3**	**+1.0**
	0.3nm,0.2s								
KUU				*e*S		**Sb**		**21 35 59.3**	**+3.9**
	3.3nm,0.4s								
KUU	**Kurty**	**4.91**	**52**	Pg		**Pb**		**21 34 57.3**	**+1.0**
	0.3nm,0.2s								
KUU				Lg		Lg		21 35 59.3	
	3.3nm,0.4s								
MDOK	**Medeo**	**5.01**	**62**	Lg		Lg		21 36 03.6	
	1.7nm,0.6s								

IDC ***16*** *22:03:20.1±1.8, 33.15N×131.42E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/38, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=31.9km s-min=9.2km az=165.0*
JMA ***16*** *22:03:20.1, 33.28N×131.39E, h9km±1km, M3.4*
JMA Felt II J1.
ISC 16 22:03:22.3±0.8, 33.26N±0.05×131.41E±0.05, h10km, n11, σ2s16/14, mb3.3/4, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JBEP	**Beppuamama**	**0.08**	**357**	P			**Pg**	**22 03 22.0**	**-2.7**
JBEP				S			**Sg**	**22 03 23.6**	**-2.8**
JUS	**Usuki**	**0.34**	**124**	P			**Pg**	**22 03 27.4**	**-1.7**
JUS				S			**Sg**	**22 03 32.4**	**-1.3**
JKI	**Kunimi**	**0.40**	**19**	P			**Pg**	**22 03 28.0**	**-2.1**
JKI				S			**Sg**	**22 03 33.3**	**-2.1**
JNU	**Nakatsue**	**0.47**	**253**	Pg			**Pg**	**22 03 28.9**	**-2.6**
	102nm,0.3s,baz=76,slow=5.3,SNR=17								
JNU				Lg			Lg	22 03 35.1	
	151nm,0.3s,baz=171,slow=13,SNR=17								
KSRS	**Korea Array**	**5.06**	**327**	Pg			**Pb**	**22 04 54.2**	**+3.2**
	0.7nm,0.3s,baz=147,slow=17,SNR=6.6								
KSRS				Lg			Lg	22 06 03.7	
	1.0nm,0.3s,baz=142,slow=30,SNR=6.1								
MJAR	**Matsushiro Arr**	**6.47**	**58**	Pn			**Pn**	**22 04 59.1**	**+1.4**
	0.2nm,0.3s,baz=238,slow=13,SNR=17								
KLR	**Kul'dur**	**15.96**	**1**	Pn			**P**	**22 07 11.7**	**+1.3**
	0.1nm,0.3s,baz=160,slow=11,SNR=7.8								
SONM	**Songino Array**	**23.80**	**315**	P			**P**	**22 08 36.3**	**+1.0**
	0.5nm,0.7s,baz=125,slow=8.9,SNR=3.9								
MKAR	**Makanchi Array**	**39.34**	**305**	P			**P**	**22 10 52.2**	**+0.5**
	0.6nm,0.9s,baz=109,slow=6.6,SNR=2.6								
FINES	**FINESS Array B**	**68.15**	**330**	P			**P**	**22 14 22.0**	**-0.3**
	0.9nm,0.7s,baz=54,slow=7.1,SNR=1.7								
YKA	**Yellowknife Ar**	**71.02**	**27**	P			**P**	**22 14 39.0**	**-0.9**
	0.3nm,0.9s,baz=303,slow=6.4,SNR=5.4								

DJA ***16*** *22:10:23.1±0.8, 11°S±5°×11°9E±°, h10km, M3.3/6, MLv3.3/6*
IDC ***16*** *22:10:33.3±2.7, 9.70S×121.11E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/25, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=229.8km s-min=29.3km az=50.0*
ISC 16 22:10:22.0±1.5, 10.5S±0.1×118.83E±0.08, h10km, n6, σ2s23/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.05**	**32**	P			**Pn**	**22 10 43.2**	**+0.4**
WBSI				S			**Sn**	**22 10 57.3**	**-0.2**
BASI	**Baing, Sumba**	**1.75**	**80**	P			**Pn**	**22 10 53.0**	**+0.6**
BASI				S			**Sn**	**22 11 15.0**	**+0.2**
PLAI	**Plampang**	**1.99**	**328**	P			**Pn**	**22 10 56.6**	**+0.9**
PLAI				S			**Sn**	**22 11 19.6**	**-1.1**
WRA	**Warramunga Arr**	**17.63**	**124**	Pn			**Pn**	**22 14 24.2**	**-3.8**
	0.0nm,0.3s,baz=304,slow=14,SNR=1.8								
WRA				Sn			Sn	22 17 25.9	-19
	0.0nm,0.3s,baz=323,slow=39,SNR=2.2								
ASAR	**Alice Springs**	**19.42**	**134**	P			**P**	**22 14 51.5**	**+2.9**
	0.1nm,0.3s,baz=318,slow=13,SNR=7.1								
MKAR	**Makanchi Array**	**65.74**	**333**	P			P	22 21 21.8	+15
	0.1nm,0.3s,baz=134,slow=8.4,SNR=1.1								

IDC 16 22:21:40.3±21.0, 4.23N×123.71E, h500km±305km, mb3.0/4, mb1 3.2/4, mb1mx2.7/36, mbtmp4.0/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/19, Error ellipse: s-maj=262.8km s-min=48.6km az=60.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**9.09**	**124**	LR		LR	LR	22 27 57.6	
	comp=Z,72nm,19.2s,baz=80,slow=42								
WRA	**Warramunga Arr**	**26.19**	**157**	P			P	22 26 34.4	-0.1
	2.2nm,0.3s,baz=334,slow=9.7,SNR=43								
ASAR	**Alice Springs**	**29.45**	**161**	P			P	22 27 03.1	+0.1
	1.0nm,0.3s,baz=339,slow=7.3,SNR=25								
STKA	**Stephens Creek**	**39.74**	**156**	P			P	22 28 28.9	-0.2
	1.4nm,0.6s,baz=312,slow=5.9,SNR=3.5								
MKAR	**Makanchi Array**	**55.45**	**327**	P			P	22 30 27.0	-0.1
	0.2nm,0.3s,baz=115,slow=8.1,SNR=6.3								

IDC 16 22:23:28.5±2.2, 2.03N×125.99E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.4/3, Error ellipse: s-maj=194.4km s-min=28.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32**	**160**	P			P	22 28 37.7	-0.8
	0.9nm,0.6s,baz=338,slow=10,SNR=6.7								
ASAR	**Alice Springs**	**26.68**	**164**	P			P	22 29 10.1	+0.7
	0.2nm,0.6s,baz=348,slow=6.9,SNR=1.6								
MKAR	**Makanchi Array**	**58.53**	**326**	P			P	22 33 26.8	0.0
	0.6nm,0.8s,baz=122,slow=8.3,SNR=3.1								

MEX ***16*** *22:57:28.1±1.5, 13.88N×93.01W, h16km±315km, MD4.0*
GCG ***16*** *22:57:30.5±0.3, 14.54N×92.90W, h102km±11km, MD4.0*
ISC 16 22:57:28.6±3.1, 14.2N±0.1×92.9W±0.1, h1km±13km, n8, σ0s86/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PATR	**El Naranjo**	**1.11**	**36**	*e*P			**Pg**	**22 57 49.9**	**+0.1**
PATR				*e*S			**Sn**	**22 58 07.0**	**-0.5**
CHUJ	**Union Juarez**	**1.17**	**42**	*e*P			**Pg**	**22 57 51.1**	**+0.1**
CHUJ				*e*S			**Sn**	**22 58 07.5**	**-1.5**
PAVE	**Pavencul**	**1.20**	**36**	*e*P			**Pg**	**22 57 51.5**	**-0.1**
PAVE				*e*S			**Sn**	**22 58 10.6**	**+0.8**
STG3	**Santiaguito 3,**	**1.39**	**69**	*e*P			**Pg**	**22 57 55.2**	**0.0**
STG3				*e*S			**Sn**	**22 58 14.7**	**+0.3**
PCIG		**1.50**	**349**	*e*P			**Pn**	**22 57 55.2**	**-1.5**
FUG	**Fuego 3**	**2.02**	**83**	*e*P			**Pn**	**22 58 04.0**	**0.0**
FUG				*e*S			**Sn**	**22 58 30.1**	**+0.1**
CCIG	**Comitan**	**2.18**	**20**	*e*P			**Pb**	**22 58 09.1**	**+0.1**
CCIG				*i* S			**Sg**	**22 58 38.8**	**0.0**
TGIG		**2.55**	**355**	*e*P			**Pn**	**22 58 11.8**	**+0.6**
TGIG				*i* S			**Sn**	**22 58 44.4**	**+1.5**

IDC 16 23:04:42.6±2.3, 4.79N×126.91E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/41, mbtmp3.3/4, Error ellipse: s-maj=123.5km s-min=28.4km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.78**	**183**	P			P	23 09 47.1	+0.2
	1.0nm,0.8s,baz=6.3,slow=9.2,SNR=2.1								
WRA	**Warramunga Arr**	**25.64**	**164**	P			P	23 10 15.1	+0.9
	0.4nm,0.6s,baz=344,slow=10,SNR=4.5								
ASAR	**Alice Springs**	**29.10**	**167**	P			P	23 10 43.9	-1.3
	0.3nm,0.7s,baz=340,slow=7.2,SNR=2.1								
MKAR	**Makanchi Array**	**56.79**	**325**	P			P	23 14 28.7	0.0
	0.1nm,0.4s,baz=119,slow=7.6,SNR=1.8								

VAO ***16*** *23:11:40.4±0.5, 25.23S×69.93W, h10km, mb4.2*
IDC ***16*** *23:12:00.2±0.9, 24.17S×68.78W, h94km±6km, mb3.6/5, mb1 3.8/8, mb1mx3.6/30, mbtmp3.9/8, Error ellipse: s-maj=22.5km s-min=10.3km az=77.0*
GUC ***16*** *23:12:00.1±0.8, 24.15S×68.99W, h92km±8km, ML3.9*
NEIC ***16*** *23:12:00.7±1.7, 24.16S±0.04×68.99W±0.08, h97km±5km, mb4.3/20, ML3.9(GUC), Error ellipse: s-maj=10.4km s-min=4.7km az=100.0*
ISC 16 23:11:59.6±0.5, 24.16S±0.03×69.00W±0.05, h94km±4km, n96, σ1s53/110, mb4.1/12, 9C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**1.04**	**335**	Pn			**Pn**	**23 12 21.4**	**+1.0**
PB15				Sn			**Sn**	**23 12 37.3**	**+1.4**
PB15	**IPOC Station P**	**1.04**	**335**	⇑*i*P			**Pn**	**23 12 21.4**	**+1.0**
PB15				*e*S			**Sn**	**23 12 37.5**	**+1.6**
GO02	**Mina Guanaco**	**1.13**	**208**				**Pn**	**23 12 23.0**	**+1.5**
GO02				Sn			**Sn**	**23 12 39.8**	**+1.9**
GO02	**Mina Guanaco**	**1.13**	**208**	⇑*e*P			**Pn**	**23 12 22.8**	**+1.3**
GO02				*e*S			**Sn**	**23 12 39.7**	**+1.9**
GO02				IAML				23 12 41.3	
	comp=E,3μm,0.3s								
PB14	**IPOC Station P**	**1.36**	**250**				**Pn**	**23 12 25.2**	**+1.0**
PB14				Sn			**Sn**	**23 12 43.7**	**+1.0**
PB14	**IPOC Station P**	**1.36**	**250**	⇑*i*P			**Pn**	**23 12 25.2**	**+1.0**
PB14				*e*S			**Sn**	**23 12 43.8**	**+1.1**
PB06	**IPOC Station P**	**1.54**	**340**				**Pn**	**23 12 27.4**	**+1.1**
PB06				Sn			**Sn**	**23 12 47.6**	**+1.2**
PB06	**IPOC Station P**	**1.54**	**340**	⇑*i*P			**Pn**	**23 12 27.4**	**+1.1**
PB06				*e*S			**Sn**	**23 12 47.5**	**+1.0**
PB06				IAML				23 12 49.1	
	comp=E,2μm,0.1s								
LVC	**Limon Verde**	**1.55**	**3**	P			**Pn**	**23 12 27.6**	**+1.1**
	comp=E,37nm,0.3s,baz=165,slow=7.4,SNR=164								
LVC				S			**Sn**	**23 12 47.5**	**+0.6**
	comp=E,215nm,0.3s,baz=73,slow=22,SNR=71								
LVC	**Limon Verde**	**1.55**	**3**				**Pn**	**23 12 27.6**	**+1.1**
LVC				Sn			**Sn**	**23 12 48.2**	**+1.3**
LVC	**Limon Verde**	**1.55**	**3**	*e*P			**Pn**	**23 12 27.1**	**+0.6**
LVC				*e*S			**Sn**	**23 12 47.9**	**+1.0**
PB10	**IPOC Station P**	**1.57**	**294**				**Pn**	**23 12 27.6**	**+1.2**
PB10	**IPOC Station P**	**1.57**	**294**	⇑*i*P			**Pn**	**23 12 27.6**	**+1.2**
PB10				*e*S			**Sn**	**23 12 47.7**	**+1.0**
PB09	**IPOC Station P**	**2.37**	**354**				**Pn**	**23 12 38.8**	**+1.8**
PB09	**IPOC Station P**	**2.37**	**354**	⇑*e*P			**Pn**	**23 12 38.7**	**+1.8**
PB09				*i* S			**Sn**	**23 13 07.6**	**+2.1**
PB09				IAML				23 13 09.0	
	comp=E,412nm,0.4s								
AC01	**Pan de Azucar**	**2.45**	**216**				**Pn**	**23 12 38.0**	**+0.1**
AC01	**Pan de Azucar**	**2.45**	**216**	*e*P			**Pn**	**23 12 37.9**	**-0.1**
AC01				*e*S			**Sn**	**23 13 02.9**	**-4.4**
PB07	**IPOC Station P**	**2.56**	**341**				**Pn**	**23 12 40.0**	**+0.4**
PB07	**IPOC Station P**	**2.56**	**341**	⇑*i*P			**Pn**	**23 12 40.0**	**+0.4**
PB07				*e*S			**Sn**	**23 13 08.8**	**-1.4**
PB07				IAML				23 13 11.5	
	comp=E,544nm,0.4s								
AC02	**Maricunga**	**2.66**	**183**				**Pn**	**23 12 43.0**	**+1.8**
AC02	**Maricunga**	**2.66**	**183**	⇑*i*P			**Pn**	**23 12 43.0**	**+1.8**
PB02	**IPOC Station P**	**2.95**	**343**				**Pn**	**23 12 44.9**	**+0.2**
PB02	**IPOC Station P**	**2.95**	**343**	*e*P			**Pn**	**23 12 45.0**	**+0.2**
PB02				*e*S			**Sn**	**23 13 12.6**	**-6.8**
SLA	**San Lorenzo**	**3.23**	**101**	⇓*i*P			**Pn**	**23 12 51.4**	**+2.9**
AC06	**Mina Casimiro**	**3.41**	**201**				**Pn**	**23 12 50.1**	**-0.6**
PATCX	**Punta Patache**	**3.49**	**342**				**Pn**	**23 12 51.5**	**-0.5**
GO03	**Copiapo**	**3.59**	**198**				**Pn**	**23 12 52.9**	**-0.4**
TA01	**Diego Aracena**	**3.74**	**343**				**Pn**	**23 12 54.0**	**-1.3**
PB08	**IPOC Station P**	**4.01**	**358**				**Pn**	**23 12 59.1**	**-0.1**
PB08	**IPOC Station P**	**4.01**	**358**	⇑*i*P			**Pn**	**23 12 59.6**	**+0.4**
TA02	**Huaiquique**	**4.01**	**345**	Pn			**Pn**	**23 13 01.0**	**+2.1**
PB11	**IPOC Station P**	**4.42**	**352**				**Pn**	**23 13 04.0**	**-0.7**
PB11	**IPOC Station P**	**4.42**	**352**	*e*P			**Pn**	**23 13 03.9**	**-0.8**
AC04	**Llanos de Chal**	**4.44**	**204**	*e*P			**Pn**	**23 13 02.7**	**-1.9**
GO01	**Chusmiza**	**4.48**	**358**				**Pn**	**23 13 05.2**	**-0.4**
GO01	**Chusmiza**	**4.48**	**358**	*e*P			**Pn**	**23 13 05.8**	**+0.1**
VCA	**Vinchina**	**4.61**	**171**	*e*P			**Pn**	**23 13 09.8**	**+2.7**
LCO	**Las Campanas**	**5.06**	**197**				**Pn**	**23 13 11.2**	**-2.1**
PB16	**IPOC Station P**	**5.82**	**355**				**Pn**	**23 13 23.3**	**-0.6**
CO01	**Juntas del Tor**	**5.87**	**189**				**Pn**	**23 13 24.0**	**-0.4**
CO03	**El Pedregal**	**6.82**	**192**				**Pn**	**23 13 34.2**	**-2.9**
LPAZ	**La Paz**	**7.88**	**6**	P			**Pn**	**23 13 52.4**	**+0.3**
	comp=E,0.4nm,0.3s,baz=144,slow=16,SNR=11								
LPAZ	**La Paz**	**7.88**	**6**				**Pn**	**23 13 49.2**	**-2.9**
CPUP	**Villa Florida**	**10.78**	**104**	P			**Pn**	**23 14 28.0**	**-2.9**
	comp=E,0.1nm,0.3s,baz=260,slow=16,SNR=2.1								
SIV	**San Ignacio**	**11.02**	**44**	P			**Pn**	**23 14 31.9**	**-2.5**
	comp=E,1.4nm,0.3s,baz=237,slow=8.9,SNR=21								
SIV				S			Sn	23 16 26.0	-10
	comp=E,0.2nm,0.3s,baz=142,slow=21,SNR=2.0								
ITQB	**Itaqui**	**12.32**	**119**	*e*P			Pn	23 14 40.8	-11
H03N1	**Juan Fernandez**	**12.68**	**221**	T			T	23 27 07.9	
	baz=43,slow=72,SNR=4.0								
H03N2	**Juan Fernandez**	**12.69**	**221**	T			T	23 27 06.4	
	baz=43,slow=72,SNR=3.6								
H03N3	**Juan Fernandez**	**12.70**	**221**	T			T	23 27 05.1	
	baz=43,slow=72,SNR=4.5								
VILB	**Vilhena**	**13.92**	**38**	*e*P			**P**	**23 15 16.2**	**-1.6**
SALV	**Santo Antonio**	**14.95**	**59**	*e*P			**P**	**23 15 28.9**	**-0.4**
PLTB	**Pedras Altas**	**15.55**	**123**				**Pn**	**23 15 34.3**	**+0.6**
PLTB				IAmb			IAmb	23 15 55.8	
	comp=Z,20nm,1.4s								
PLTB	**Pedras Altas**	**15.55**	**123**	*e*P			Pn	23 15 23.1	-11
ITRB	**Itarama**	**17.85**	**79**	*e*P			**P**	**23 16 01.4**	**+0.1**
CLDB	**Colider**	**18.23**	**46**	*e*P			**Pn**	**23 16 08.7**	**+2.1**
PET01	**Itanhaem-SP**	**19.81**	**95**	*e*P			**P**	**23 16 19.4**	**-3.4**
TBTG	**Tabatinga, AM**	**19.88**	**357**	*e*P			**P**	**23 16 23.8**	**+0.3**
VAO	**Valinhos**	**20.23**	**91**	*e*P			**P**	**23 16 24.8**	**-2.6**
IPMB	**Ipameri, GO**	**20.34**	**76**	*e*P			**P**	**23 16 28.0**	**-0.6**
BDFB	**Brasilia**	**21.45**	**71**	P			**P**	**23 16 38.9**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=226,slow=12,SNR=5.6								
BDFB	**Brasilia**	**21.45**	**71**	P			**P**	**23 16 39.0**	**-1.6**
NPGB	**Novo Progresso**	**21.47**	**40**	*e*P			**P**	**23 16 43.9**	**+3.3**
JANB	**Januaria**	**24.92**	**73**	*e*P			**P**	**23 17 13.7**	**-0.5**
SDBA	**SAO DESIDERIO**	**25.64**	**67**	*e*P			**P**	**23 17 20.6**	**-0.2**
NAN01	**Guarapari, ES**	**27.64**	**82**	*e*P			**P**	**23 17 37.6**	**-1.0**
SDV	**Santo Domingo**	**32.89**	**357**	*e*P			**P**	**23 18 23.6**	**-1.5**
NBMA	**Muriti-CE**	**33.43**	**65**	*e*P			**P**	**23 18 30.0**	**+0.3**
CELP	**Cerrillos**	**42.05**	**3**	P			**P**	**23 19 41.1**	**-0.9**
V58A

comp=Z,5µm,0.4s
IBDR Badra 1.19 259 *e*Pg **Pn** **23 36 13.0 -1.5**
IBDR *e*Sg **Sb** **23 36 31.0 +1.1**
IBDR AML AML 23 36 35.1
comp=E,190nm,0.8s
IBDR AML AML 23 36 35.4
comp=N,206nm,0.5s
IBZA Bozab 1.21 22 *e*Pg **Pg** **23 36 13.9 -0.5**
IBZA *e* 23 36 38.5
comp=Z,4µm,0.3s
HSAM Samen 1.38 51 *e*Pg **Pn** **23 36 16.2 -1.3**
HSAM *e* 23 36 19.5
comp=Z,2µm,0.4s
IDHR Dehrash 1.56 331 *e*Pn **Pn** **23 36 20.2 +0.3**
IDHR *e* 23 36 21.3
comp=Z,6µm,0.2s
ILIN Lien 1.60 350 *e*Pg **Pn** **23 36 21.0 +0.5**
ILIN *e*Sg **Sg** **23 36 44.5 +1.9**
ILIN *e* 23 36 45.9
comp=Z,2µm,0.6s
SNGE Sanandaj 1.75 1 *e*Pg **Pn** **23 36 23.6 +1.1**
RAFI Al-Rafai 1.91 213 *e*Pn **Pn** **23 36 24.0 -0.5**
RAFI *e*Sn **Sn** **23 36 49.0 0.0**
RAFI AML AML 23 36 56.6
comp=E,95nm,0.4s
HAGD Aghdareh 2.11 45 *e*Pg **Pb** **23 36 29.3 -0.9**
HAGD *e* 23 36 59.9
comp=Z,2µm,0.5s
KHMZ Khomeyn 2.24 79 *e*Pn **Pb** **23 36 30.9 -1.5**
AHWZ Ahwaz 2.30 150 *e*Pn **Pn** **23 36 31.5 +1.7**
AMIS Naft Sefid 2.36 135 *e*Pn **Pn** **23 36 31.1 +0.4**
AMIS *e* 23 37 27.8
comp=Z,1µm,0.4s
BHD Baghdad 2.46 269 *e*Pn **Pn** **23 36 32.0 -0.1**
BHD *e*Sn **Sn** **23 37 03.0 +0.4**
BHD AML AML 23 37 13.3
comp=E,142nm,0.5s
ASAO Ashtian 2.55 61 *e*Pn **Pn** **23 36 35.1 +1.5**
IRAZ Razeghan 2.98 46 *e*Pn **Pn** **23 36 41.0 +1.5**
IRAZ *e* 23 37 46.5
comp=Z,495nm,0.8s
QABG Abgarm-Qazvin 3.01 38 *e*Pn **Pn** **23 36 40.3 +0.4**
QABG *e* 23 36 47.6
comp=Z,231nm,0.5s
IPIR Pirpir 3.07 101 *e*Pn **Pn** **23 36 41.3 +0.5**
IPIR *e* 23 37 36.9
comp=Z,405nm,0.5s
SHK1 Shahrekord 3.17 108 *e*Pn **Pn** **23 36 42.0 -0.1**
IKRK Kirkuk 3.21 311 *e*Pn **Pn** **23 36 42.0 -0.4**
IKRK *e*Sn **Sn** **23 37 22.0 +0.9**
QAMS Qamsar 3.43 82 *e*Pn **Pn** **23 36 46.3 +0.6**
IQOM Qom 3.46 63 *e*Pn **Pn** **23 36 46.7 +0.7**
GHVR GHOM 3.50 70 *e*Pn **Pn** **23 36 47.2 +0.7**
ZNJK Zanjan 3.51 18 *e*Pn **Pn** **23 36 48.1 +1.4**
IKLH Kolahrood 3.57 89 *e*Pn **Pn** **23 36 48.4 +0.8**
THKV Tehran--Karaj 3.90 48 *e*Pn **Pn** **23 36 53.6 +1.5**
IVRN Varamin 4.01 64 *e*Pn **Pn** **23 36 53.8 +0.3**
CHTH Charan 4.05 50 *e*Pn **Pn** **23 36 55.2 +1.0**
KRSH Karshahi 4.07 80 *e*Pn **Pn** **23 36 54.8 +0.4**
ISFB Sefidab 4.22 75 *e*Pn **Pn** **23 36 56.8 +0.4**
IZEF Zefreh 4.23 95 *e*Pn **Pn** **23 36 56.2 -0.5**
KLNJ Kolanjah 4.31 122 *e*Pn **Pn** **23 36 58.2 +0.4**
IDMV Damavand 4.49 59 *e*Pn **Pn** **23 37 01.0 +0.7**
IRAM Ramesheh 4.54 108 *e*Pn **Pn** **23 37 01.5 +0.6**
IFIR Firoozkooh 5.04 61 *e*Pn **Pn** **23 37 08.2 +0.3**

IDC ***16*** *23:36:56.4±0.7,4.˚18N×126.˚69E, h0km, mb4.0/14, mb1 4.1/15, mb1mx4.0/38, mbtmp4.0/15, ML3.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/80, Error ellipse: s-maj=37.1km s-min=14.3km az=67.0*
DJA ***16*** *23:37:00.6±0.6, 4.˚N±5.˚×12.˚7E±.˚, h10km, M4.3/13, mB4.8/7, mb4.5/13, MLv4.4/12, Mw(mB)4.1/7*
NEIC ***16*** *23:37:03.1±1.1, 4.˚05N±0.˚06×126.˚58E±0.˚08, h35km±2km, mb4.4/36, Error ellipse: s-maj=13.4km s-min=9.2km az=76.0*

ISC 16 23:37:03.4±0.4,**4.˚08N**±0.˚05×**126.˚67E**±0.˚06,**h45**km,**n81,** σ1§**41**/78,**mb4.3**/29,**2D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SGSI	**Sangihe**	**1.21**	**251**	P		**Pn**	**23**	**37**	**23.2**	**-0.6**
SGSI				S		**Sn**	**23**	**37**	**38.1**	**-0.9**
DAV	**Davao City (W)**	**3.17**	**340**	Pn		**Pn**	**23**	**37**	**50.3**	**-0.5**
TNTI	**Ternate**	**3.35**	**168**	Pn		**Pn**	**23**	**37**	**52.8**	**-0.5**
TNTI	**Ternate**	**3.35**	**168**	P		**Pn**	**23**	**37**	**55.3**	**+2.0**
CTBH	**Cotabato--PC H**	**3.95**	**322**	*e*P		**Pn**	**23**	**38**	**04.6**	**+3.1**
KMSI	**Cibinong**	**4.40**	**218**	P		**Pn**	**23**	**38**	**11.4**	**+3.8**
LBMI	**Labuha**	**4.75**	**170**	P		**Pn**	**23**	**38**	**14.5**	**+1.9**
CGP	**Cagayan de Oro**	**4.77**	**336**	*e*P		Pn	23	38	21.3	+8.5
GTOI	**Gorontalo**	**5.01**	**227**	P		**Pn**	**23**	**38**	**17.8**	**+1.8**
	0.1nm258nm25nm,1.0s									
MRSI	**Marisa**	**5.93**	**233**	P		**Pn**	**23**	**38**	**30.9**	**+2.3**
	0.4nm1µm111nm,0.6s									
SANI	**Sanana**	**6.12**	**186**	P		**Pn**	**23**	**38**	**29.3**	**-2.1**
	0.1nm17nm,0.8s									
LUWI	**Luwuk**	**6.41**	**218**	P		Pn	23	38	41.6	+6.4
	0.7nm2µm167nm,1.1s									
TOLI2	**Tolitoli**	**6.58**	**244**	Pn		**Pn**	**23**	**38**	**35.8**	**-1.8**
SWI	**Sorong**	**6.71**	**137**	P		**Pn**	**23**	**38**	**38.8**	**-0.7**
	0.1nm29nm,0.9s									
SIJI	**Sorong**	**6.72**	**137**	Pn		**Pn**	**23**	**38**	**39.1**	**-0.5**
	2.2nm,0.3s,baz=333,slow=24,SNR=3.4									
SIJI				Sn		**Sn**	**23**	**39**	**53.6**	**-1.3**
	0.6nm,0.3s,baz=178,slow=21,SNR=1.9									
SIJI				LR		LR	23	41	38.3	
	comp=Z,109nm,19.0s,baz=108,slow=42									
APSI	**Ampana**	**7.05**	**225**	P		Pn	23	38	49.8	+5.7
	0.3nm718nm86nm,1.0s									
MPSI	**Mapaga**	**7.72**	**241**	P		Pn	23	39	07.5	+14
MYLDM	**Lahad Datu**	**8.22**	**278**			**Pn**	**23**	**38**	**59.1**	**-1.0**
KAPI	**Kappang**	**11.37**	**217**	LR		LR	23	44	40.3	
	comp=Z,85nm,20.7s,baz=53,slow=40									
BBKI	**Banjar Baru**	**13.99**	**238**	P		**P**	**23**	**40**	**28.1**	**+2.1**
BATI	**Baumata**	**14.50**	**192**	Pn		**Pn**	**23**	**40**	**27.6**	**+1.6**
	0.7nm,0.3s,baz=294,slow=20,SNR=1.9									
SBUM	**Sibu**	**14.52**	**264**			**Pn**	**23**	**40**	**28.3**	**+2.1**
WBSI	**Waikabubak, Su**	**15.44**	**208**	P		**P**	**23**	**40**	**42.0**	**-0.1**
	69nm,0.8s									
PLAI	**Plampang**	**15.59**	**215**	P		**P**	**23**	**40**	**48.3**	**+4.6**
KSM	**Kuching**	**16.55**	**261**			**Pn**	**23**	**40**	**50.8**	**-1.6**
MTN	**Manton Dam**	**17.38**	**165**	Pn		**Pn**	**23**	**41**	**00.0**	**-2.8**
DLV	**T Lat**	**19.62**	**295**	P		**P**	**23**	**41**	**27.1**	**-1.3**
KNRA	**Kununurra**	**19.73**	**174**	P		**P**	**23**	**41**	**28.7**	**-0.7**
KNRA				IAmb		IAmb	23	41	38.2	
	comp=Z,19nm,0.7s									
KPJI	**Karang Pucung**	**21.02**	**237**	P		**P**	**23**	**41**	**45.5**	**+2.0**
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P		**P**	**23**	**41**	**53.9**	**-0.6**
UBPT	**Khong Chiam**	**23.65**	**300**	P		**P**	**23**	**42**	**10.4**	**-0.5**
UBPT				IAmb		IAmb	23	42	21.0	
	comp=Z,19nm,1.5s									
WB0	**Warramunga Arr**	**24.88**	**162**	P		**P**	**23**	**42**	**21.0**	**-1.1**
WRA	**Warramunga Arr**	**25.03**	**163**	P		**P**	**23**	**42**	**22.6**	**-0.8**
	comp=Z,5.4nm,0.5s,baz=343,slow=11,SNR=22									
WRA	**Warramunga Arr**	**25.03**	**163**	P		**P**	**23**	**42**	**22.9**	**-0.6**
WR0	**Warramunga Arr**	**25.11**	**162**	P		**P**	**23**	**42**	**23.8**	**-0.4**
WR0				IAmb		IAmb	23	42	31.8	
	comp=Z,23nm,1.5s									
PSA00	**Pilbara Seismi**	**26.35**	**194**	P		**P**	**23**	**42**	**33.6**	**-1.8**
PSA00				IAmb		IAmb	23	42	37.3	
	comp=Z,11nm,0.8s									
PSA00	**Pilbara Seismi**	**26.35**	**194**	P		**P**	**23**	**42**	**35.1**	**-0.3**
PSA00				IAmb		IAmb	23	42	37.3	
	comp=Z,5.6nm,1.0s									
AS31	**Alice Springs**	**28.46**	**166**	P		**P**	**23**	**42**	**53.6**	**-0.7**
ASAR	**Alice Springs**	**28.46**	**166**	P		**P**	**23**	**42**	**54.1**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=345,slow=6.9,SNR=11									
ASAR	**Alice Springs**	**28.46**	**166**	P		**P**	**23**	**42**	**54.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**30.65**	**300**	P		**P**	**23**	**43**	**13.2**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=122,slow=8.0,SNR=5.8									
CMAR	**Chiang Mai Arr**	**30.65**	**300**	P		**P**	**23**	**43**	**13.6**	**-0.2**
MORW	**Morawa**	**34.50**	**197**	P		**P**	**23**	**43**	**48.0**	**+0.7**
JMM	**Marumori**	**36.02**	**19**	P		**P**	**23**	**44**	**00.8**	**+0.4**
EIDS	**Eidsvold**	**37.66**	**142**	P		**P**	**23**	**44**	**14.3**	**-0.1**
BBOO	**Buckleboo**	**37.75**	**167**	P		**P**	**23**	**44**	**14.7**	**-0.3**
NWAO	**Narrogin (SRO)**	**37.87**	**193**	P		**P**	**23**	**44**	**16.1**	**0.0**
STKA	**Stephens Creek**	**38.47**	**159**	P		**P**	**23**	**44**	**21.6**	**+0.4**
	comp=Z,8.4nm,0.9s,baz=352,slow=9.0,SNR=12									
STKA	**Stephens Creek**	**38.47**	**159**	P		**P**	**23**	**44**	**21.4**	**+0.3**
ARMA	**Armidale**	**41.79**	**147**	P		**P**	**23**	**44**	**49.2**	**+0.4**
ARMA				IAmb		IAmb	23	44	51.6	
	comp=Z,14nm,1.2s									
KOUNC	**Koumac, New Ca**	**44.29**	**125**	P		**P**	**23**	**45**	**09.5**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CAN	**Canberra**	**44.45**	**154**			**P**	**23**	**45**	**11.8**	**+1.6**
CAN						IAmb	IAmb	23	45	12.6
	comp=Z,8.8nm,1.0s									
SONM	**Songino Array**	**46.95**	**341**	P		**P**	**23**	**45**	**29.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=167,slow=7.0,SNR=3.9									
SONM	**Songino Array**	**46.95**	**341**	P		**P**	**23**	**45**	**29.6**	**-0.3**
PETK	**Petropavlovsk-**	**55.13**	**22**	P		**P**	**23**	**46**	**28.1**	**-3.0**
	comp=Z,6.1nm,1.0s,baz=190,slow=7.2,SNR=1.8									
MK31	**Makanchi Array**	**57.24**	**325**	P		**P**	**23**	**46**	**46.5**	**+0.2**
MK31						IAmb	IAmb	23	47	08.2
	comp=Z,3.9nm,1.4s									
MKAR	**Makanchi Array**	**57.24**	**325**	P		**P**	**23**	**46**	**44.8**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=112,slow=7.0,SNR=7.4									
MKAR	**Makanchi Array**	**57.24**	**325**	P		**P**	**23**	**46**	**45.4**	**-0.9**
KDJ	**Kajisay**	**58.05**	**318**	P		**P**	**23**	**46**	**51.7**	**-0.6**
ZALV	**Zalesovo Beam**	**60.26**	**333**	P		**P**	**23**	**47**	**05.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=120,slow=8.5,SNR=2.7									
KURK	**Kurchatov**	**61.42**	**327**	P		**P**	**23**	**47**	**14.6**	**-0.4**
KURK						IAmb	IAmb	23	47	27.1
	comp=Z,2.9nm,0.7s									
KK31	**Karatay Array**	**62.94**	**317**	P		**P**	**23**	**47**	**25.0**	**-0.4**
KK31						IAmb	IAmb	23	47	42.1
	comp=Z,2.1nm,1.1s									
KKAR	**Karatay Array**	**62.94**	**317**	P		**P**	**23**	**47**	**25.2**	**-0.2**
TIXI	**Tiksi**	**67.50**	**1**	P		**P**	**23**	**47**	**56.2**	**+1.8**
TIXI						IAmb	IAmb	23	48	10.8
	comp=Z,7.8nm,1.4s									
NRIK	**Noril'sk**	**70.08**	**346**	P		**P**	**23**	**48**	**10.3**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=134,slow=3.0,SNR=1.5									
NRIK	**Noril'sk**	**70.08**	**346**	P		**P**	**23**	**48**	**11.4**	**+0.9**
ABKAR	**Akbulak array**	**71.85**	**321**	P		**P**	**23**	**48**	**22.7**	**+1.1**
IMAR	**Indian Mountai**	**82.05**	**24**	P		**P**	**23**	**49**	**19.3**	**+0.6**
H21K	**Melozitna Rive**	**82.39**	**24**	P		**P**	**23**	**49**	**21.3**	**+0.8**
H21K						IAmb	IAmb	23	49	21.6
	comp=Z,5.5nm,1.5s									
CAST	**Castle Rocks**	**82.45**	**27**	P		**P**	**23**	**49**	**21.8**	**+1.0**
CAST						IAmb	IAmb	23	49	46.7
	comp=Z,3.0nm,1.1s									
I21K	**Tanana**	**82.68**	**25**	P		**P**	**23**	**49**	**23.2**	**+1.3**
I21K						IAmb	IAmb	23	49	32.4
	comp=Z,3.5nm,0.9s									
BPAW	**Bear Paw Mtn.**	**83.00**	**26**	P		**P**	**23**	**49**	**25.0**	**+1.4**
BPAW						IAmb	IAmb	23	49	36.0
	comp=Z,2.8nm,1.1s									
VNDA	**Vanda**	**83.78**	**173**	P		**P**	**23**	**49**	**27.3**	**0.0**
	comp=Z,0.9nm,0.9s,baz=77,slow=0.6,SNR=4.8									
VNDA	**Vanda**	**83.78**	**173**	P		**P**	**23**	**49**	**27.7**	**+0.4**
VNDA						IAmb	IAmb	23	49	27.9
	comp=Z,2.8nm,1.4s									
I23K	**Minto, Yukon-K**	**83.78**	**25**	P		**P**	**23**	**49**	**28.8**	**+1.2**
TOLK	**Toolik Lake Re**	**83.95**	**21**	P		**P**	**23**	**49**	**30.2**	**+1.7**
TOLK						IAmb	IAmb	23	49	58.2
	comp=Z,2.9nm,1.2s									
H24K	**Noodor Dome**	**84.44**	**24**	P		**P**	**23**	**49**	**32.4**	**+1.3**
H24K						IAmb	IAmb	23	49	35.8
	comp=Z,5.7nm,1.5s									
ILAR	**Eielson Array**	**84.82**	**25**	P		**P**	**23**	**49**	**32.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=246,slow=6.8,SNR=2.8									
KMBO	**Kilima Mbogo**	**89.50**	**269**	P		**P**	**23**	**49**	**55.9**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=135,slow=5.6,SNR=3.9									
BRTR	**Keskin Array B**	**89.76**	**310**	P		**P**	**23**	**49**	**57.7**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=152,slow=6.5,SNR=3.8									
FINES	**FINESS Array B**	**91.50**	**332**	P		**P**	**23**	**50**	**03.8**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=38,slow=7.2,SNR=1.4									

IDC ***16*** *23:47:37.7±0.6, 0.˚41N×80.˚09W, h0km, mb4.2/18, mb1 4.4/20, mb1mx4.3/30, mbtmp4.3/20, ML4.1/2, MS3.9/2, Ms1 3.9/2, ms1mx3.8/59, Error ellipse: s-maj=22.1km s-min=12.0km az=56.0*
IGQ ***16*** *23:47:40±0.0, 0.˚N±2.˚×8.˚0W±.˚, h22km*
NEIC ***16*** *23:47:42.3±1.3, 0.˚30N±0.˚06×80.˚05W±0.˚06, h21km±4km, mb4.8/98, Error ellipse: s-maj=9.1km s-min=7.9km az=51.0*
VAO ***16*** *23:47:49.6±1.0, 0.˚16N×79.˚73W, h66km±7km, mb4.8*

ISC 16 23:47:40.9±0.9,**0.˚31N**±0.˚02×**80.˚07W**±0.˚03,**h17**km±6km, **n375,**σ1§**37**/385,**mb4.7**/58,**1C-6D,Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
APED	**Ecuador-Perden**	**0.23**	**177**	P		**Pb**	**23**	**47**	**46.0**	**-0.7**
APED				S		**Sg**	**23**	**47**	**51.0**	**+1.1**
MAG1	**Magdalena**	**0.48**	**142**	P		**Pn**	**23**	**47**	**52.0**	**-1.0**
LGCB	**Laguna Cube**	**0.50**	**81**	P		**Pb**	**23**	**47**	**51.0**	**-0.2**
ASAM	**Ecuador-Same-C**	**0.56**	**16**	P		**Pg**	**23**	**47**	**50.0**	**-1.9**
ASAM				S		**Sb**	**23**	**48**	**00.0**	**+0.1**
JAMA	**Jama**	**0.58**	**194**	S		**Sb**	**23**	**48**	**00.0**	**-0.6**
JAMA				P		**Pg**	**23**	**47**	**52.0**	**-0.4**
AATC	**Ecuador-Atacam**	**0.59**	**20**	P		**Pg**	**23**	**47**	**52.0**	**-0.6**
AATC				S		**Sb**	**23**	**48**	**02.0**	**+1.1**
AV18	**Acelerografo,**	**0.59**	**89**	P		**Pn**	**23**	**47**	**54.0**	**-0.5**
AV18				S		**Sn**	**23**	**48**	**06.0**	**+2.2**
AV21	**Acelerografo,**	**0.63**	**56**	P		**Pb**	**23**	**47**	**53.0**	**-0.5**
FLF1	**Flavio Alfaro-**	**0.69**	**161**	P		**Pb**	**23**	**47**	**55.0**	**+0.4**
FLF1				S		**Sn**	**23**	**48**	**09.0**	**+2.5**
AMA1	**Acelerografo,**	**0.71**	**29**	P		**Pb**	**23**	**47**	**55.0**	**+0.1**
AMA1				S		**Sn**	**23**	**48**	**08.0**	**+1.1**
AES1	**Ecuador-Esmera**	**0.75**	**30**	P		**Pg**	**23**	**47**	**55.0**	**-0.6**
CAB1	**Cabo Pasado-Ma**	**0.78**	**208**	P		**Pg**	**23**	**47**	**55.0**	**-1.0**
CABP	**Cabo Pasado**	**0.78**	**208**	P		**Pg**	**23**	**47**	**55.0**	**-1.0**
AES2	**Ecuador-Puerto**	**0.80**	**32**	P		**Pg**	**23**	**47**	**55.0**	**-1.5**
BV15	**Puerto Quito-O**	**0.86**	**100**	P		**Pg**	**23**	**47**	**57.0**	**-0.4**
BV15				S		**Sn**	**23**	**48**	**11.0**	**+0.6**
ASDO	**Santo Domingo**	**1.10**	**121**	P		**Pb**	**23**	**48**	**00.0**	**-1.5**
APP2	**Miler**	**1.12**	**102**	P		**Pb**	**23**	**48**	**01.0**	**-1.0**
PAC1	**Pacto, Paraso**	**1.28**	**92**	*e*P		**Pn**	**23**	**48**	**04.0**	**-0.1**
PAC1	**Pacto, Paraso**	**1.28**	**92**	P		**Pn**	**23**	**48**	**03.0**	**-1.1**
ACHO	**Acelerografo,**	**1.30**	**93**	P		**Pn**	**23**	**48**	**03.0**	**-1.4**
APR1	**Acelerografo,**	**1.50**	**103**	P		**Pn**	**23**	**48**	**07.0**	**-0.4**
HPAL	**Hacienda Las P**	**1.51**	**110**	P		**Pn**	**23**	**48**	**07.0**	**-0.5**
PINO	**Pino**	**1.53**	**107**	P		**Pn**	**23**	**48**	**08.0**	**0.0**
TERV	**Terraza Guagua**	**1.54**	**108**	P		**Pn**	**23**	**48**	**08.0**	**-0.1**
GGPT	**Toaza - Volcan**	**1.54**	**110**	P		**Pn**	**23**	**48**	**07.0**	**-1.0**
GGPC	**Guagua Pichinc**	**1.55**	**108**	P		**Pn**	**23**	**48**	**08.0**	**-0.2**
JUA2	**San Juan 2**	**1.55**	**109**	P		**Pn**	**23**	**48**	**08.0**	**-0.2**
YANA	**Yana**	**1.56**	**106**	P		**Pn**	**23**	**48**	**08.0**	**-0.3**
ALOR	**Ecuador-San Lo**	**1.57**	**51**	P		**Pn**	**23**	**48**	**08.0**	**0.0**
SNLR	**San Lorenzo-Es**	**1.57**	**51**	P		**Pb**	**23**	**48**	**09.0**	**-0.4**
PULU	**Pululahua**	**1.59**	**100**	P		**Pn**	**23**	**48**	**08.0**	**-0.7**
OTAV	**Otavalo**	**1.62**	**92**			**Pn**	**23**	**48**	**09.2**	**+0.1**
CUSE	**Cuicocha Este**	**1.67**	**90**	*i*P		**Pb**	**23**	**48**	**10.4**	**-1.1**
CUSE	**Cuicocha Este**	**1.67**	**90**	P		**Pn**	**23**	**48**	**10.0**	**+0.2**
ILLI	**Illinizas Sur**	**1.68**	**127**	P		**Pn**	**23**	**48**	**10.0**	**0.0**
CUIC	**Cuicocha-Domo**	**1.71**	**90**	P		**Pb**	**23**	**48**	**11.0**	**-1.1**
CUSW	**Cuicocha Oeste**	**1.72**	**91**	P		**Pn**	**23**	**48**	**11.0**	**+0.6**
COTA	**Cotacachi**	**1.73**	**89**	P		**Pn**	**23**	**48**	**11.0**	**+0.3**
AV11	**Acelerografo,**	**1.74**	**102**	P		**Pb**	**23**	**48**	**12.0**	**-0.5**
PAST	**Pastocalle**	**1.74**	**125**	P		**Pn**	**23**	**48**	**11.0**	**+0.3**
ALIT	**Ecuador-Imbabu**	**1.78**	**74**	P		**Pn**	**23**	**48**	**11.0**	**0.0**
LITE1	**Lita**	**1.78**	**74**	P		**Pn**	**23**	**48**	**11.0**	**0.0**
TOMA	**Boca Toma-Volc**	**1.82**	**116**	P		**Pb**	**23**	**48**	**13.0**	**-1.0**
URCU	**Urcuqui**	**1.82**	**86**	P		**Pn**	**23**	**48**	**12.0**	**+0.2**
SRAM	**San Ramn-Vol**	**1.83**	**125**	P		**Pb**	**23**	**48**	**13.0**	**-1.2**
SUCR	**Mariscal Sucre**	**1.83**	**121**	P		**Pb**	**23**	**48**	**13.0**	**-1.3**
CAMI	**Rancho Maria**	**1.84**	**122**	P		**Pn**	**23**	**48**	**13.0**	**+0.8**
AAT1	**Ecuador-Atunta**	**1.85**	**89**	P		**Pb**	**23**	**48**	**14.0**	**-0.5**
NAS2	**Nasa**	**1.86**	**121**	P		**Pb**	**23**	**48**	**14.0**	**-0.7**
BNAS	**Cotopaxi Volca**	**1.86**	**121**	P		**Pn**	**23**	**48**	**13.0**	**+0.5**
SLOR	**San Lorenzo -**	**1.88**	**123**	P		**Pb**	**23**	**48**	**14.0**	**-1.0**
BRIEF	**Cotopaxi Volca**	**1.89**	**121**	P		**Pn**	**23**	**48**	**14.0**	**-1.4**
BMOR	**Cotopaxi Volca**	**1.91**	**123**	P		**Pn**	**23**	**48**	**14.0**	**+0.8**
BVC2	**Cotopaxi Volca**	**1.91**	**120**	P		**Pn**	**23**	**48**	**14.0**	**+0.7**
VC1	**Cotopaxi 1**	**1.91**	**119**	P		**Pn**	**23**	**48**	**14.0**	**+0.8**
BRRN	**Barrancas-Volc**	**1.93**	**124**	P		**Pn**	**23**	**48**	**14.0**	**+0.7**
BTAM	**Cotopaxi Volca**	**1.93**	**120**	P		**Pb**	**23**	**48**	**15.0**	**-1.1**
AIB2	**Ibarra (Univer**	**1.96**	**89**	P		**Pb**	**23**	**48**	**16.0**	**-0.4**
TAMB	**Tambo**	**1.97**	**120**	P		**Pn**	**23**	**48**	**15.0**	**+1.0**
ANTG	**Antisana-Guama**	**1.98**	**114**	P		**Pn**	**23**	**48**	**15.0**	**+0.8**
YAHU	**Yahuarcocha**	**2.00**	**88**	P		**Pb**	**23**	**48**	**16.0**	**-1.0**
VCES	**Cotopaxi**	**2.00**	**123**	P		**Pb**	**23**	**48**	**16.0**	**-1.2**
CTUM2	**Tumaco**	**2.02**	**42**	*e*P		**Pn**	**23**	**48**	**14.1**	**-0.1**
ANTM	**Antisana-La Mi**	**2.03**	**114**	P		**Pb**	**23**	**48**	**16.0**	**-1.6**
ANTI	**Antisana**	**2.05**	**111**	P		**Pn**	**23**	**48**	**16.0**	**+0.8**
ANTS	**Antisana-Sarah**	**2.06**	**113**	P		**Pn**	**23**	**48**	**16.0**	**+0.7**
ANGU	**Angureal**	**2.08**	**97**	P		**Pg**	**23**	**48**	**19.0**	**-1.8**
CHMA	**Chilma**	**2.08**	**75**	P		**Pn**	**23**	**48**	**15.0**	**-0.3**
CAYR	**Refugio Cayamb**	**2.08**	**98**	P		**Pb**	**23**	**48**	**17.0**	**-1.6**
CAYA	**Cayambe**	**2.09**	**96**	P		**Pb**	**23**	**48**	**18.0**	**-0.7**
LNGL	**El Angel-Carch**	**2.11**	**78**	P		**Pn**	**23**	**48**	**16.0**	**+0.1**
CHSH	**Refugio Sur-Vo**	**2.15**	**146**	P		**Pn**	**23**	**48**	**17.0**	**+0.4**
ECEN	**Cerro Negro**	**2.16**	**76**	P		**Pn**	**23**	**48**	**17.0**	**+0.4**

CHL1	**Volcn Chiles**	**2.18**	**77**	P		**Pn**	**23**	**48**	**17.0**	**+0.1**
PORT	**Chimborazo Vol**	**2.18**	**144**	P		**Pn**	**23**	**48**	**17.0**	**0.0**
CHL2	**Volcn Chiles**	**2.21**	**77**	P		**Pn**	**23**	**48**	**18.0**	**+0.7**
PIAT	**Ana Tenorio**	**2.22**	**126**	P		**Pb**	**23**	**48**	**19.0**	**-1.9**
TAMH	**Tambohuasha Ch**	**2.24**	**145**	P		**Pn**	**23**	**48**	**18.0**	**+0.3**
IGUA	**Igualata**	**2.29**	**141**	P		**Pb**	**23**	**48**	**21.0**	**-1.1**
TULM	**Tulcn-Chalpat**	**2.32**	**80**			**Pb**	**23**	**48**	**20.5**	**-2.1**
TULM	**Tulcn-Chalpat**	**2.32**	**80**	*e*P		**Pb**	**23**	**48**	**21.9**	**-0.7**
CMBC	**Cumbal**	**2.33**	**74**	*e*P		**Pb**	**23**	**48**	**20.6**	**-2.1**
BIL2	**Estacion Bilba**	**2.35**	**138**	P		**Pb**	**23**	**48**	**22.0**	**-1.0**
JUI6	**Juive**	**2.35**	**137**	P		**Pb**	**23**	**48**	**21.0**	**-2.0**
BBIL	**Ulba Tungurahu**	**2.35**	**138**	P		**Pb**	**23**	**48**	**21.0**	**-2.1**
POND	**Pondoa**	**2.36**	**137**	P		**Pb**	**23**	**48**	**21.0**	**-2.1**
RETU	**Refugio**	**2.38**	**137**	P		**Pb**	**23**	**48**	**21.0**	**+1.3**
BRUN	**Tungurahua Vol**	**2.38**	**136**	P		**Pb**	**23**	**48**	**22.0**	**-1.6**
ATUL	**Tulcn**	**2.39**	**79**	P		**Pb**	**23**	**48**	**23.0**	**-0.7**
BMAS	**Trigal station**	**2.40**	**138**	P		**Pn**	**23**	**48**	**21.0**	**+1.2**
ARRY	**Arrayan**	**2.42**	**138**	P		**Pn**	**23**	**48**	**21.0**	**+1.0**
BPAT	**Tungurahua Vol**	**2.43**	**138**	P		**Pn**	**23**	**48**	**22.0**	**+1.7**
CONE	**Cono NE Rev Vo**	**2.46**	**99**	P		**Pb**	**23**	**48**	**24.0

PB11 IAmb IAmb 23 52 49.5
comp=Z,29nm,0.7s
GO01 Chusmiza 22.53 152 P **P** **23 52 40.2 -0.5**
GO01 IAmb IAmb 23 52 51.5
comp=Z,28nm,0.8s
GCPR Guaynabo City 22.56 37 P **P** **23 52 39.6 -0.9**
TA02 Huaiquique 22.65 155 P **P** **23 52 41.2 -0.1**
CBYP Canovanas 22.67 37 P **P** **23 52 41.2 -0.5**
CBYP IAmb IAmb 23 52 49.6
comp=Z,31nm,0.8s
MTP Monte Pirata 22.72 38 P **P** **23 52 42.0 -0.2**
MTP IAmb IAmb 23 52 55.7
comp=Z,63nm,1.5s
CDVI St. Croix 22.96 40 P **P** **23 52 44.9 +0.3**
PB08 IPOC Station P 22.96 153 P **P** **23 52 44.8 -0.3**
CUPR Culebra, Puert 23.05 38 P **P** **23 52 45.0 -0.5**
CUPR IAmb IAmb 23 52 54.8
comp=Z,21nm,0.8s
STVI Saint Thomas 23.28 39 P **P** **23 52 47.7 -0.2**
STVI IAmb IAmb 23 52 56.6
comp=Z,17nm,0.7s
FDF Fort de France 23.57 52 P **P** **23 52 50.0 -0.9**
PB02 IPOC Station P 23.68 156 P **P** **23 52 51.8 -0.2**
PB02 IAmb IAmb 23 53 21.4
comp=Z,25nm,0.8s
VILB Vilhena 23.70 124 *e*P **P** **23 52 52.5 +0.3**
SMRT St. Maarten 24.29 43 P **P** **23 52 57.2 -0.5**
PB09 IPOC Station P 24.38 155 P **P** **23 52 58.3 -0.3**
PB09 IAmb IAmb 23 53 37.2
comp=Z,29nm,1.0s
ITTB Itaituba 24.75 101 *e*P **P** **23 52 59.5 -2.4**
SIV San Ignacio 24.78 132 P **P** **23 53 02.4 +0.2**
comp=Z,3.0nm,0.6s,baz=299,slow=9.3,SNR=17
TLIG Tlapa 25.01 314 P **P** **23 53 03.7 -0.6**
TLIG IAmb IAmb 23 53 13.1
comp=Z,25nm,1.4s
PB06 IPOC Station P 25.05 157 P **P** **23 53 04.9 +0.2**
PB06 IAmb IAmb 23 53 33.5
comp=Z,14nm,0.8s
LVC Limon Verde 25.24 155 P **P** **23 53 07.6 +1.0**
comp=Z,8.9nm,1.0s,baz=290,slow=4.6,SNR=8.4
LVC Limon Verde 25.24 155 P **P** **23 53 06.0 -0.7**
LVC IAmb IAmb 23 53 21.0
comp=Z,41nm,1.4s
LVC Limon Verde 25.24 155 *e*P **P** **23 53 08.4 +1.8**
PB15 IPOC Station P 25.54 157 P **P** **23 53 08.3 -0.9**
PB15 IAmb IAmb 23 53 42.8
comp=Z,14nm,0.8s
NPGB Novo Progresso 25.71 107 *e*P **P** **23 53 09.1 -1.5**
MALB Monte Alegre 25.89 95 *e*P **P** **23 53 11.7 -0.5**
PTLB Pontes e Lacer 25.94 128 *e*P **P** **23 53 13.5 +0.9**
PDRB Porto dos Gac 26.03 118 *e*P **P** **23 53 12.8 -0.7**
CLDB Colider 26.56 115 *e*P **P** **23 53 18.3 0.0**
MDP Montagnes des 27.80 80 P **P** **23 53 28.8 -0.7**
comp=Z,6.5nm,0.6s,baz=264,slow=5.0,SNR=6.2
MCPB Macapa, AP 28.02 91 *e*P **P** **23 53 33.1 +1.6**
SALV Santo Antonio 28.95 125 *e*P **P** **23 53 39.7 0.0**
PP1B Ponte de Pedra 30.52 127 *e*P **P** **23 53 54.5 +0.9**
PRPB Parauapebas 30.88 103 *e*P **P** **23 53 57.1 +0.3**
SNDB Serra Nova Dou 31.06 114 *e*P **P** **23 53 58.2 -0.3**
ZAIG Zacatecas 31.27 317 P **P** **23 54 00.6 +0.1**
AQDB Aquidauana 31.55 132 *e*P **P** **23 54 01.6 -1.0**
AQDB Aquidauana 31.55 132 *e*P **P** **23 54 02.6 0.0**
TMAB Tom-Au,PA,Br 32.08 95 *e*P **P** **23 54 07.0 -0.3**
SMTB Santa Maria do 33.61 107 *e*P **P** **23 54 21.4 +0.6**
PEXB Peixe 33.86 112 *e*P **P** **23 54 22.6 -0.4**
CPUP Villa Florida 34.38 142 P **P** **23 54 24.1 -3.2**
comp=Z,1.0nm,0.6s,baz=322,slow=8.1,SNR=2.4
CPUP Villa Florida 34.38 142 P **P** **23 54 26.2 -1.1**
CPUP Villa Florida 34.38 142 *e*P **P** **23 54 27.4 +0.1**
CPCT Cooper Cave 35.21 354 P **P** **23 54 33.8 -0.5**
CPCT IAmb IAmb 23 54 48.4
comp=Z,17nm,1.0s
ITRB Iturama 35.26 126 *e*P **P** **23 54 35.8 +0.8**
JCT Junction City 35.39 330 P **P** **23 54 36.7 +0.7**
JCT IAmb IAmb 23 54 44.1
comp=Z,26nm,1.2s
BDFB Brasilia 35.40 118 P **P** **23 54 35.4 -1.0**
comp=Z,4.3nm,0.8s,baz=288,slow=14,SNR=7.5
BDFB Brasilia 35.40 118 P **P** **23 54 36.1 -0.3**
BDFB IAmb IAmb 23 54 37.5
comp=Z,11nm,1.1s
V52A Sevierville 35.51 355 P **P** **23 54 36.1 -0.8**
V52A IAmb IAmb 23 54 53.5
comp=Z,29nm,1.4s
PCMB Pacaembu 35.56 130 *e*P **P** **23 54 36.6 -1.1**
V48A Smith Brothers 35.81 351 P **P** **23 54 38.8 -0.7**
ROSB Rosrio 36.07 95 *e*P **P** **23 54 42.1 0.0**
IPMB Ipameri, GO 36.22 122 *e*P **P** **23 54 43.2 -0.1**
TXAR Lajitas Aray 36.61 324 P **P** **23 54 45.6 -0.9**
comp=Z,0.1nm,0.6s,baz=134,slow=8.9,SNR=2.0
TXAR PcP **PcP** **23 57 09.1 -0.6**
comp=Z,0.4nm,0.7s,baz=154,slow=6.7,SNR=3.7
TXAR Lajitas Aray 36.61 324 P **P** **23 54 47.1 +0.5**
WHAR Wooly Hollow 36.63 343 P **P** **23 54 45.3 -1.2**
WHAR IAmb IAmb 23 55 12.0
comp=Z,25nm,1.6s
SDBA SAO DESIDERIO 37.11 111 *e*P **P** **23 54 50.5 -0.5**
ITQB Itaqui 37.27 145 P **P** **23 54 52.0 0.0**
ITQB Itaqui 37.27 145 *e*P **P** **23 54 52.9 +0.9**
BB19B Bebedouro 37.43 127 *e*P **P** **23 54 53.4 -0.2**
U40A Yellville 37.78 343 P **P** **23 54 56.1 -0.3**
FRTB Fartura 37.83 130 *e*P **P** **23 54 57.2 +0.2**
JANB Januaria 38.50 115 *e*P **P** **23 55 01.9 -0.9**
NBPS Pedro II - PI 38.87 97 *e*P **P** **23 55 05.9 0.0**
MNTX Cornudas Mount 39.35 325 P **P** **23 55 09.6 +0.1**
TIJ01 Guaruva-PR 39.38 133 *e*P **P** **23 55 10.3 +0.3**
VAO Valinhos 39.66 128 *e*P **P** **23 55 12.8 +0.4**
CPSB Cacapava Do Su 39.68 143 *e*P **P** **23 55 11.7 -0.6**
LC01 Cunco 39.73 170 P **P** **23 55 12.3 -0.4**
PET01 Itanhaem-SP 40.13 100 *e*P **P** **23 55 16.3 +0.4**
NBMO Morrinhos-CE 40.17 95 *e*P **P** **23 55 16.8 +0.1**
BSCB Bom Sucesso 40.47 124 *e*P **P** **23 55 19.1 0.0**
PLTB Pedras Altas 40.56 144 P **P** **23 55 18.9 -0.7**
PLTB IAmb IAmb 23 55 48.7
comp=Z,19nm,1.2s
PLTB Pedras Altas 40.56 144 *e*P **P** **23 55 20.4 +0.8**
NBPB Pedra_Branca-C 40.84 99 *e*P **P** **23 55 22.4 +0.2**
PARB Paraibuna 40.90 127 *e*P **P** **23 55 22.2 -0.4**
M57A Sunshine Farm, 40.93 3 P **P** **23 55 22.5 0.0**
M57A IAmb IAmb 23 55 43.9
comp=Z,36nm,1.4s
NBPN Ponto Novo - B 41.15 107 *e*P **P** **23 55 24.7 -0.1**
TER01 Tubaro-SC 41.22 137 *e*P **P** **23 55 25.7 +0.6**
121A Cookes Peak, D 41.36 324 P **P** **23 55 26.8 +0.4**
121A IAmb IAmb 23 55 35.4
comp=Z,25nm,1.4s
ESAR Angra dos Reis 41.69 126 *e*P **P** **23 55 29.3 +0.3**
PLCA Paso Flores 41.75 169 P **P** **23 55 29.1 -0.3**
comp=Z,3.7nm,0.9s,baz=337,slow=12,SNR=5.8
PLCA Paso Flores 41.75 169 P **P** **23 55 29.2 -0.3**
PLCA Paso Flores 41.75 169 *e*P **P** **23 55 30.5 +1.1**
BINY Binghamton 41.87 5 P **P** **23 55 30.5 +0.3**
BINY IAmb IAmb 23 55 31.6
comp=Z,11nm,0.8s
NBMA Muriti-CE 41.89 101 *e*P **P** **23 55 30.8 -0.1**
NBCL Cascavel-CE 41.98 97 *e*P **P** **23 55 31.7 +0.1**
MAN01 Angra dos Reis 42.00 126 *e*P **P** **23 55 31.8 +0.2**
VAS01 Vassouras-RJ 42.15 125 *e*P **P** **23 55 33.4 +0.5**
ANMO Albuquerque 42.36 327 P **P** **23 55 35.0 +0.4**
ANMO IAmb IAmb 23 55 43.0
comp=Z,22nm,1.3s
GDU01 Guandu, BA 42.45 111 *e*P **P** **23 55 35.1 -0.3**
SJMB Sao Joao De Ma 42.60 118 *e*P **P** **23 55 35.8 -0.7**
HRV Adam Dziewonsk 42.70 9 P **P** **23 55 37.2 +0.2**
CMC01 Camacan, BA 42.98 113 *e*P **P** **23 55 39.6 -0.1**
J59A Piesco 43.26 6 P **P** **23 55 41.2 -0.3**
J59A IAmb IAmb 23 55 51.9
comp=Z,25nm,1.4s
NBLA Lagarto - SE 43.49 106 *e*P **P** **23 55 42.7 -1.1**
RIB01 Linhares ES 43.52 119 *e*P **P** **23 55 43.0 -1.0**
ALF01 Guarapari-ES 43.73 121 *e*P **P** **23 55 45.6 -0.1**
SDCO Great Sand Dun 44.02 331 P **P** **23 55 48.1 +0.1**
W18A Petrified Fore 44.33 325 P **P** **23 55 51.2 +0.7**
W18A IAmb IAmb 23 55 59.1
comp=Z,26nm,1.1s
NBPV Pedro Velho 45.18 99 *e*P **P** **23 55 57.4 0.0**
WUAZ Wupatki 45.57 324 P **P** **23 56 01.0 +0.7**
WUAZ IAmb IAmb 23 56 08.9
comp=Z,18nm,1.1s
NBRF Rio Formoso - 45.65 102 *e*P **P** **23 56 01.1 0.0**
PV13 Radium Mtn., P 46.02 328 P **P** **23 56 04.4 +0.4**
PV13 IAmb IAmb 23 56 19.8
comp=Z,10nm,0.9s
RSSD Black Hills 48.57 337 P **P** **23 56 23.6 -0.1**
RSSD IAmb IAmb 23 56 33.3
comp=Z,5.5nm,0.8s
PDAR Pinedale Array 49.87 332 P **P** **23 56 32.4 -1.2**
comp=Z,0.4nm,0.6s,baz=142,slow=7.4,SNR=2.9
PDAR Pinedale Array 49.87 332 P **P** **23 56 33.5 -0.2**
NV11 Mina Array Sit 51.58 322 P **P** **23 56 47.7 +1.1**
NV11 IAmb IAmb 23 56 54.3
comp=Z,14nm,1.4s
OMMB Old Mammoth Mi 51.62 320 **P** **23 56 47.0 -0.1**
NVAR Mina Array Bea 51.67 322 P **P** **23 56 44.6 -2.8**
comp=Z,0.9nm,0.7s,baz=54,slow=40,SNR=2.4
NVAR Mina Array Bea 51.67 322 P **P** **23 56 47.4 0.0**
HLID Hailey 52.86 329 P **P** **23 56 56.9 +0.8**
BOZ Bozeman (W) 52.99 333 P **P** **23 56 57.0 +0.1**
EFI East Falkland 55.03 163 P **P** **23 57 11.9 +0.5**
SCHQ Schefferville 55.42 9 P **P** **23 57 11.8 -2.6**
comp=Z,1.4nm,0.6s,baz=220,slow=9.2,SNR=4.9
SCHQ Schefferville 55.42 9 P **P** **23 57 12.8 -1.6**
SCHQ IAmb IAmb 23 57 14.4
comp=Z,18nm,1.4s
FFC Flin Flon 57.15 345 P **P** **23 57 26.7 +0.1**
SACV Santiago Islan 57.63 73 P **P** **23 57 29.6 -1.2**
EDM Edmonton 59.54 337 P **P** **23 57 43.0 -0.4**
PMSA Palmer Station 65.98 173 *e*P **P** **23 58 27.3 +1.3**
MACI Morro de la Ar 66.72 59 P **P** **23 58 32.4 +0.6**
YKA Yellowknife Ar 67.22 343 P **P** **23 58 33.1 -1.0**
comp=Z,2.0nm,0.8s,baz=142,slow=5.8,SNR=44
DBIC Dimbokro 75.28 83 P **P** **23 59 22.9 -0.8**
comp=Z,2.6nm,0.8s,baz=304,slow=7.1,SNR=4.5
DBIC Dimbokro 75.28 83 P **P** **23 59 23.1 -0.6**
PNCL Nicolau / Gran 75.34 51 *e*P **P** **23 59 24.9 +1.2**
PSBE So Bento 75.42 49 *e*P **P** **23 59 24.7 +0.5**
PCAS Casmilo, Conde 75.76 49 *e*P **P** **23 59 27.8 +1.8**
PMTG Montargil 75.77 50 *e*P **P** **23 59 26.4 +0.3**
PESTR Estremoz 76.21 50 *e*P **P** **23 59 30.4 +1.7**
PVIS Viseu 76.34 48 *e*P **P** **23 59 29.9 +0.5**
KOWA Kowa 76.42 75 P **P** **23 59 30.0 -0.3**
KOWA IAmb IAmb 23 59 31.7
comp=Z,9.5nm,0.8s
PCBR Castelo Branco 76.48 49 *e*P **P** **23 59 31.8 +1.6**
PBAR Barrancos 76.51 51 *e*P **P** **23 59 31.8 +1.4**
DAWY Dawson 76.76 337 P **P** **23 59 31.2 0.0**
INK Inuvik 76.92 342 P **P** **23 59 31.1 -0.9**
comp=Z,4.1nm,0.8s,baz=97,slow=3.4,SNR=16
MVO Moncorvo 77.07 48 *e*P **P** **23 59 33.8 +0.2**
BCAR Beaver Creek A 77.26 336 P **P** **23 59 34.7 +0.6**
L27K Beaver Creek, 77.28 336 P **P** **23 59 34.3 +0.1**
PBRG Braganca 77.41 47 *e*P **P** **23 59 35.9 +0.5**
EGAK Eagle 77.77 337 P **P** **23 59 37.2 +0.4**
EGAK IAmb IAmb 23 59 44.6
comp=Z,8.7nm,0.9s
PAB San Pablo 78.81 50 P **P** **23 59 43.3 0.0**
PAB IAmb IAmb 23 59 45.2
comp=Z,17nm,1.2s
ESDC Sonseca Array 79.12 50 P **P** **23 59 45.1 +0.1**
comp=Z,5.4nm,1.0s,baz=262,slow=5.4,SNR=25
ESDC Sonseca Array 79.12 50 P **P** **23 59 45.0 +0.1**
ESDC IAmb IAmb 23 59 47.0
comp=Z,16nm,1.4s
ESBB Sonseca Array 79.12 50 P **P** **23 59 45.0 +0.1**
ESBB IAmb IAmb 23 59 47.0
comp=Z,22nm,1.4s
ILAR Eielson Array 80.01 336 P **P** **23 59 48.8 -0.4**
comp=Z,0.6nm,0.9s,baz=116,slow=6.5,SNR=5.9
ILAR Eielson Array 80.01 336 P **P** **23 59 49.2 0.0**
BMAR Burnt Mountain 80.16 339 P **P** **23 59 50.1 +0.1**
BELA Belgrano 2 81.77 171 P **P** **23 59 58.5 +0.2**
BELA IAmb IAmb 00 00 06.3
comp=Z,23nm,1.8s
TOA0 Torodi Ar. Sit 81.91 77 P **P** **23 59 59.6 -0.7**
TORD Torodi Ar. Bea 81.91 77 P **P** **23 59 59.4 -1.0**
comp=Z,3.0nm,0.5s,baz=280,slow=5.8,SNR=63
TORD PP **PP** **00 03 07.8 -0.1**
comp=Z,1.3nm,1.2s,baz=292,slow=7.8,SNR=3.6
TORD Torodi Ar. Bea 81.91 77 P **P** **23 59 59.3 -1.0**
ESK Eskdalemuir 82.28 34 P **P** **00 00 01.2 -0.2**
K20K Telida 82.59 334 P **P** **00 00 02.4 -0.5**
K20K IAmb IAmb 00 00 23.8
comp=Z,18nm,1.7s
H21K Melozitna Rive 82.66 336 P **P** **00 00 02.6 -0.6**
IMAR Indian Mountai 83.12 337 P **P** **00 00 04.9 -0.7**
SNAA Sanae 86.28 162 P **P** **00 00 21.1 -0.4**
SNAA IAmb IAmb 00 00 24.6
comp=Z,12nm,1.6s
DOU Dourbes 86.33 40 *d*P **P** **00 00 22.8 +0.7**
BMRD Maredsous 86.46 40 *d*P **P** **00 00 23.2 +0.5**
BGES Gesves 86.67 40 *d*P **P** **00 00 24.1 +0.3**
WLF Walferdange 87.31 40 *d*P **P** **00 00 27.2 +0.2**
BTNL Ternell 87.34 40 *d*P **P** **00 00 27.7 +0.5**
ECH Echery 87.92 42 P **P** **00 00 29.8 -0.1**
KEST Kesra 89.35 54 P **P** **00 00 36.4 -0.7**
comp=Z,1.5nm,0.7s,baz=335,slow=3.9,SNR=5.3
KEST Kesra 89.35 54 P **P** **00 00 36.7 -0.3**
AFI Afiamalu 91.73 256 P **P** **00 00 48.1 -0.4**
comp=Z,9.8nm,0.3s,baz=34,slow=22,SNR=1.8
ZALV Zalesovo Beam 124.50 11 PKP **PKPdf** **00 06 37.4 -1.9**
comp=Z,1.1nm,0.5s,baz=276,slow=2.8,SNR=7.0
ZALV Zalesovo Beam 124.50 11 **PKPdf** **00 06 38.1 -1.2**
SONM Songino Array 131.72 354 PKP **PKPdf** **00 06 52.8 -0.6**
comp=Z,0.2nm,0.5s,baz=260,slow=0.7,SNR=2.3
ASAR Alice Springs 139.68 232 PKhKP PKPpre 00 07 00.7
comp=Z,0.2nm,0.6s,baz=107,slow=3.7,SNR=1.8
ASAR PKP **PKPdf** **00 07 06.5 -2.3**
comp=Z,0.3nm,0.5s,baz=123,slow=3.8,SNR=6.0
ASAR Alice Springs 139.68 232 PKPdf **PKPdf** **00 07 08.2 -0.6**
WRA Warramunga Arr 141.07 238 PKP **PKPdf** **00 07 08.6 -2.8**
comp=Z,1.0nm,0.8s,baz=136,slow=2.4,SNR=6.5
WRA Warramunga Arr 141.07 238 PKPdf **PKPdf** **00 07 10.5 -0.9**
GOMU GeErMu 143.37 7 PKP **PKPdf** **00 07 17.3 +1.7**
GOMU pPKP pPKPdf 00 07 20.5 -0.8
GOMU sPKP 00 07 22.3
GOMU PP **PP** **00 10 29.1 +4.0**
GOMU SKS **SKSdf** **00 14 26.3 +1.1**
XAN Xi'an 144.81 347 ⇑PKP **PKPab** **00 07 16.3 -0.3**
HYBB Hyderabad (bro 152.55 49 *e*PKKPdf 00 16 24.6
HYBB *e*SKKSac SKKSac 00 18 25.5 +15
HYBB IVMs_BB IVMs_BB 01 35 35.5
comp=Z,61μm,20.1s
PZH PanZhiHua 153.29 356 PKPbc **PKPdf** **00 07 30.6 -1.0**
CMAR Chiang Mai Arr 161.33 3 PKPab **PKPab** **00 08 24.0 -1.4**
comp=Z,1.2nm,0.7s,baz=338,slow=5.7,SNR=8.5
CMAR Chiang Mai Arr 161.33 3 **PKPab** **00 08 24.0 -1.4**

IDC ***16*** *23:47:56.3±0.7, 17.91N×147.89E, h0km, mb4.1/21, mb1 4.2/22, mb1mx4.1/48, mbtmp4.1/22, ML4.4/1, Error ellipse: s-maj=22.1km s-min=13.8km az=105.0*
NEIC ***16*** *23:47:58.3±1.2, 17.85N±0.09×147.9E±0.1, h10km±1km, mb4.5/30, Error ellipse: s-maj=21.1km s-min=13.2km az=120.0*

ISC 16 23:48:01.2±0.5, **17.80N**±0.06×**147.9E**±0.1, **h35**km, **n66, σ0.74/68, mb4.3/33, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.09**	**215**	Pn	**Pn**	**23 49 15.9**	**+0.9**
	13nm,0.3s,baz=274,slow=0.4,SNR=4.4						
GUMO				Sn	**Sn**	**23 50 10.2**	**-2.3**
	16nm,0.3s,baz=14,slow=23,SNR=2.1						
GUMO	**Guam**	**5.09**	**215**		**Pn**	**23 49 15.2**	**+0.2**
PATS	**Pohnpei**	**14.91**	**136**	Pn	**Pn**	**23 51 27.7**	**-1.9**
INU	**Inuyama**	**19.97**	**333**	P	**P**	**23 52 30.3**	**-0.1**
INU				IAmb	IAmb	23 52 57.6	
	comp=Z,47nm,1.5s						
JGF	**Kuroka**	**20.04**	**334**	P	**P**	**23 52 31.3**	**+0.1**
JGF				IAmb	IAmb	23 52 49.9	
	comp=Z,16nm,1.1s						
MJAR	**Matsushiro Arr**	**20.53**	**337**	P	**P**	**23 52 36.3**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=155,slow=16,SNR=2.9						
MJAR	**Matsushiro Arr**	**20.53**	**337**	P	**P**	**23 52 37.0**	**+0.4**
MAJO	**Matsushiro**	**20.53**	**337**	P	Pn	23 52 38.0	-0.9
MAJO				IAmb	IAmb	23 52 50.8	
	comp=Z,18nm,1.4s						
SIJI	**Sorong**	**24.73**	**223**	P	**P**	**23 53 19.6**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=54,slow=19,SNR=2.0						
KSRS	**Korea Array**	**26.28**	**322**	P	**P**	**23 53 33.2**	**-0.1**
	comp=Z,24nm,0.8s,baz=150,slow=8.2,SNR=4.3						
KLR	**Kul'dur**	**33.96**	**341**	P	**P**	**23 54 40.5**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=142,slow=8.5,SNR=4.6						
KNRA	**Kununurra**	**38.22**	**211**	P	**P**	**23 55 18.7**	**+0.7**
KNRA				IAmb	IAmb	23 55 24.0	
	comp=Z,8.2nm,1.1s						
WB0 Warramunga Arr 39.61 200 P **P** **23 55 30.3 +0.7**
WB0 IAmb IAmb 23 55 46.0
comp=Z,9.1nm,1.0s
WRA Warramunga Arr 39.79 200 P **P** **23 55 32.2 +1.2**
comp=Z,2.0nm,0.7s,baz=28,slow=8.9,SNR=13
WRA PcP **PcP** **23 57 38.3 +1.4**
comp=Z,0.4nm,0.5s,baz=17,slow=3.4,SNR=2.4
WRA Warramunga Arr 39.79 200 P **P** **23 55 31.7 +0.6**
MA2 Magadan 41.77 2 P **P** **23 55 46.0 -1.0**
comp=Z,1.3nm,0.3s,baz=198,slow=9.6,SNR=2.1
FITZ Fitzroy Crossi 41.84 213 P **P** **23 55 48.3 +0.3**
AS31 Alice Springs 43.41 199 P **P** **23 56 01.1 +0.4**
ASAR Alice Springs 43.41 199 P **P** **23 56 01.9 +1.3**
comp=Z,0.8nm,0.7s,baz=19,slow=7.5,SNR=10
ASAR PcP **PcP** **23 57 50.1 +1.3**
comp=Z,0.5nm,0.8s,baz=16,slow=2.9,SNR=4.3
ASAR Alice Springs 43.41 199 P **P** **23 56 01.5 +0.8**
SONM Songino Array 45.13 321 P **P** **23 56 14.6 +0.2**
comp=Z,2.0nm,0.8s,baz=137,slow=8.3,SNR=10.0
SONM Songino Array 45.13 321 P **P** **23 56 14.1 -0.3**
SEY Seymchan 45.20 3 P **P** **23 56 13.8 -0.7**
comp=Z,0.7nm,0.5s,baz=96,slow=21,SNR=4.2
CMAR Chiang Mai Arr 46.39 279 P **P** **23 56 24.0 -0.5**
comp=Z,1.5nm,0.9s,baz=74,slow=6.5,SNR=9.5
CMAR Chiang Mai Arr 46.39 279 P **P** **23 56 23.5 -1.1**
BBOO Buckleboo 51.57 193 P **P** **23 57 04.8 +0.8**
MORW Morawa 55.82 214 P **P** **23 57 35.9 +0.7**
ZAA0 Zalesovo Array 59.98 323 P **P** **23 58 03.2 -0.8**
ZAA0 IAmb IAmb 23 58 04.8
comp=Z,4.8nm,0.9s
ZALV Zalesovo Beam 59.98 323 P **P** **23 58 03.9 -0.1**
comp=Z,4.3nm,0.8s,baz=91,slow=6.4,SNR=15
ZALV Zalesovo Beam 59.98 323 P **P** **23 58 03.3 -0.7**
MK31 Makanchi Array 60.57 314 P **P** **23 58 07.8 -0.5**
MK31 IAmb IAmb 23 58 12.9
comp=Z,4.9nm,1.4s
MKAR Makanchi Array 60.57 314 P **P** **23 58 08.9 +0.6**
comp=Z,0.6nm,0.5s,baz=91,slow=7.7,SNR=8.9
MKAR Makanchi Array 60.57 314 P **P** **23 58 08.4 +0.1**
H21K Melozitna Rive 61.45 24 P **P** **23 58 13.0 -0.8**
I21K Tanana 61.60 25 P **P** **23 58 15.2 +0.3**
I21K IAmb IAmb 23 58 18.8
comp=Z,6.7nm,1.4s
NRIK Noril'sk 63.16 340 P **P** **23 58 25.6 +0.3**
comp=Z,1.0nm,0.4s,baz=101,slow=11,SNR=3.8
KURK Kurchatov 63.31 318 P **P** **23 58 26.5 -0.1**
IL31 63.55 26 P **P** **23 58 27.3 -0.5**
IL31 IAmb IAmb 23 58 28.9
comp=Z,4.3nm,1.2s
ILAR Eielson Array 63.55 26 P **P** **23 58 27.2 -0.7**
comp=Z,1.3nm,0.9s,baz=249,slow=5.6,SNR=8.1
TOLK Toolik Lake Re 63.67 21 P **P** **23 58 29.2 +0.5**
TOLK IAmb IAmb 23 58 40.5
comp=Z,5.1nm,1.5s
SCRK Sand Creek 64.59 27 P **P** **23 58 35.2 +0.3**
SCRK IAmb IAmb 23 58 36.0
comp=Z,3.7nm,1.3s
BOOM Boomskoye usch 64.97 309 P **P** **23 58 38.3 +0.4**
BMAR Burnt Mountain 65.12 23 P **P** **23 58 39.2 +1.0**
BRVK Borovoye 68.54 321 P **P** **23 59 00.4 +0.2**
KK31 Karatay Array 68.93 310 P **P** **23 59 03.3 +0.4**
KK31 IAmb IAmb 23 59 06.4
comp=Z,1.4nm,0.8s
KKAR Karatay Array 68.93 310 P **P** **23 59 02.6 -0.2**
INK Inuvik 69.39 23 P **P** **23 59 04.7 -0.4**
comp=Z,0.5nm,0.6s,baz=257,slow=2.9,SNR=5.9
INK Inuvik 69.39 23 P **P** **23 59 05.7 +0.6**
A36M Sachs Harbour 72.25 19 P **P** **23 59 22.8 +0.4**
A36M IAmb IAmb 23 59 37.0
comp=Z,5.0nm,0.8s
ARU Arti 74.99 325 P **P** **23 59 39.2 +0.3**
ARU IAmb IAmb 23 59 40.0
comp=Z,6.1nm,0.7s
ABKAR Akbulak array 75.40 317 P **P** **23 59 41.6 +0.2**
ABKAR Akbulak array 75.40 317 P **P** **23 59 41.7 +0.4**
ABKAR IAmb IAmb 23 59 42.3
comp=Z,3.2nm,0.9s
YKA Yellowknife Ar 77.81 28 P **P** **23 59 54.6 -0.1**
comp=Z,2.3nm,0.8s,baz=286,slow=5.6,SNR=18
YKA Yellowknife Ar 77.81 28 P **P** **23 59 54.5 -0.2**
EUNU Eureka 78.32 8 P **P** **23 59 58.3 +0.9**
EUNU IAmb IAmb 23 59 59.0
comp=Z,4.2nm,0.9s
NVAR Mina Array Bea 82.06 52 P **P** **00 00 19.3 +0.8**
comp=Z,0.7nm,0.5s,baz=264,slow=6.1,SNR=6.8
NVAR Mina Array Bea 82.06 52 P **P** **00 00 19.0 +0.5**
ARCES ARCESS Array B 83.97 343 P **P** **00 00 27.8 +0.3**
comp=Z,1.4nm,0.6s,baz=40,slow=6.3,SNR=8.2
ARCES ARCESS Array B 83.97 343 P **P** **00 00 27.7 +0.3**
HRY Holter Researc 84.08 43 P **P** **00 00 29.3 +0.6**
GCMT Greycliff 85.80 43 P **P** **00 00 38.0 +0.7**
PDAR Pinedale Array 86.97 46 P **P** **00 00 43.7 +0.4**
comp=Z,0.3nm,0.6s,baz=309,slow=5.7,SNR=2.6
PDAR Pinedale Array 86.97 46 P **P** **00 00 42.9 -0.4**
FIA1 FINESS Array S 88.55 336 P **P** **00 00 49.3 -0.8**
FINES FINESS Array B 88.55 336 P **P** **00 00 49.1 -1.0**
comp=Z,1.9nm,0.5s,baz=56,slow=4.7,SNR=27
BRTR Keskin Array B 96.21 315 P **P** **00 01 25.0 -1.2**
comp=Z,0.6nm,0.9s,baz=134,slow=8.8,SNR=4.3

UPA ***16*** *23:58:20.8±2.7, 0.96S×80.19W, h10km±999km, MW7.4*
IDC ***16*** *23:58:32.3±0.3, 0.37N×80.03W, h0km, mb5.5/33, mb1 5.6/37, mb1mx5.6/39, mbtmp5.5/37, ML3.8/3, MS7.5/46, Ms1 7.5/46, ms1mx7.3/64, Error ellipse: s-maj=9.6km s-min=7.3km az=58.0*
BJI ***16*** *23:58:33.9±0.0, 0.35N×79.95W, h10km, mB7.3/35, Ms7.8/77, Ms7 7.7/75*
MOS ***16*** *23:58:34.5±1.0, 0.38N×80.03W, h21km, mb6.9/59, MS7.3/60, Error ellipse: s-maj=5.9km s-min=4.0km az=87.6 Broadband fault plane solution: P waves. NP1: φs180.00000°, δ71.00000°, λ90.00000°. NP2: φs360.00000°, δ19.00000°, λ90.00000°. Principal axes: T Plg64.0000°, Azm90.0000°; N Plg0.0000°, Azm360.0000°; P Plg26.0000°, Azm270.0000°;*
IGQ ***16*** *23:58:34.0±0.0, 7.3N×8.0W×, h17km*
NEIC ***16*** *23:58:37.0±1.9, 0.38N±0.05×79.92W±0.05, h21km±3km, mb6.9/414, Ms_20 7.5/428, Mwc7.7/131, Mww7.8, Error ellipse: s-maj=7.6km s-min=7.3km az=69.0*
VAO ***16*** *23:58:37.9±1.2, 0.33N×79.61W, h20km±8km, mb6.7*
BGR ***16*** *23:58:38.7±0.0, 0.42N×79.85W, h20km, mb6.6, mB_BB7.6, Ms7.4*
GCMT ***16*** *23:58:56.9±0.1, 0.12S±0.01×80.25W, h22km, MW7.8/165, Moment Tensor Solution. s163,c405; s165,c833; Duration: 19s0 Moment tensor: Scale 10^20 Nm; Mrr3.41±.01; Mθθ0.03±.01; Mϕϕ-3.44±.01; Mrθ 1.22±.06; Mθϕ-0.64±.01; Mϕr-4.65±.08; Best double couple: Ms5.93300×10^20 NP1:φs27.00000°, δ21.00000°, λ124.00000°. NP2:φs171.00000°, δ73.00000°, λ78.00000°. Principal axes: T 6.0750, Plg60.0000°, Azm63.0000°; N -0.2810, Plg12.0000°, Azm174.0000°; P -5.7900, Plg27.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s. Triangular moment-rate function*
NEIC ***16*** *23:59:01.0±25.9×79.97W, h22km, Moment Tensor Solution. Duration: 48s0 Moment tensor: Scale 10^20 Nm; Mrr3.46; Mθθ0.08; Mϕϕ-3.54; Mrθ-0.10; Mθϕ-0.95; Mϕr-6.05; Fault plane solution: M07.05000×10^20 NP1:φs26.00000°, δ16.00000°, λ113.00000°. NP2:φs183.00000°, δ75.00000°, λ83.00000°. Principal axes: T 6.9695, Plg60.0000°, Azm84.0000°; N 0.1660, Plg6.0000°, Azm184.0000°; P -7.1355, Plg30.0000°, Azm278.0000°;*
NEIC ***16*** *23:59:14.9, 0.18N×79.52W, h29km, Moment Tensor Solution. Moment tensor: Scale 10^20 Nm; Mrr3.52; Mθθ-0.20; Mϕϕ-3.32; Mrθ0.03; Mθϕ-0.58; Mϕr-3.05; Fault plane solution: M04.62000×10^20 NP1:φs183.26000°, δ65.70000°, λ84.51000°. NP2:φs16.40000°, δ24.88000°, λ101.96000°. Principal axes: T 4.6959, Plg69.0000°, Azm82.0000°; N -0.1476, Plg5.0000°, Azm186.0000°; P -4.5483, Plg21.0000°, Azm277.0000°;*
ISC 16 23:58:34.5±0.4, **0.28N**±0.02×**79.98W**±0.02, **h9**km±2km, **h8**km:**pP-P, n2855, σ2.92/21/3609, mb6.8**/421, **MS7.5**/384, **463C-168D, Fault plane solution: NP1:**φs182.08165°, δ75.67201°, λ59.80

Plg24.6545°, Azm295.1200°; **Fault plane solution: NP1:**ϕ_n300.15173°,δ26.80705°,λ31.83739° **NP2:** ϕ_n181.15657°,δ76.23734°,λ113.23235°. **Principal axes:** T Plg53.0667°, Azm118.8145°; N Plg22.5281°, Azm355.3256°; P Plg27.5740°, Azm252.8158°; **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**0.41**	**149**	P	**Pb**	**23 58 45.0**	**+1.0**
AV18	**Acelerografo,**	**0.51**	**86**	P	**Pn**	**23 58 47.0**	**-1.0**
AV21	**Acelerografo,**	**0.58**	**49**	P	**Pb**	**23 58 47.0**	**+0.1**
JAMA	**Jama**	**0.58**	**202**	P	**Pg**	**23 58 45.0**	**-0.8**
FLF1	**Flavio Alfaro-**	**0.65**	**167**	P	**Pb**	**23 58 49.0**	**+0.9**
AMA1	**Acelerografo,**	**0.70**	**22**	P	**Pg**	**23 58 48.0**	**-0.1**
AMA1				S	**Sn**	**23 59 02.0**	**+0.3**
BV15	**Puerto Quito-O**	**0.77**	**99**	P	**Pb**	**23 58 50.0**	**-0.1**
CAB1	**Cabo Pasado-Ma**	**0.80**	**214**	P	**Pg**	**23 58 49.0**	**-0.9**
ASDO	**Santo Domingo**	**1.01**	**122**	P	**Pg**	**23 58 54.0**	**-0.1**
APR2	**Miler**	**1.04**	**101**	P	**Pb**	**23 58 55.0**	**+0.3**
APR1	**Acelerografo,**	**1.41**	**103**	P	**Pn**	**23 59 00.0**	**-0.8**
HPAL	**Hacienda Las P**	**1.42**	**110**	P	**Pn**	**23 59 00.0**	**-0.9**
AMNT	**Manta-Manabi**	**1.43**	**212**	P	**Pn**	**23 59 00.0**	**-0.6**
PINO	**Pino**	**1.44**	**108**	P	**Pn**	**23 59 01.0**	**-0.4**
TERV	**Terraza Guagua**	**1.45**	**108**	P	**Pn**	**23 59 01.0**	**-0.5**
GGPT	**Toaza - Volcan**	**1.45**	**110**	P	**Pn**	**23 59 01.0**	**-0.4**
GGPC	**Guagua Pichinc**	**1.46**	**108**			**23 59 01.6**	**-0.1**
GGPC	**Guagua Pichinc**	**1.46**	**108**	P	**Pn**	**23 59 01.0**	**-0.6**
JUA2	**San Juan 2**	**1.46**	**110**	P	**Pn**	**23 59 01.0**	**-0.6**
YANA	**Yana**	**1.47**	**106**	P	**Pn**	**23 59 01.0**	**-0.7**
PULU	**Pululahua**	**1.50**	**100**			**23 59 02.2**	**+0.1**
PULU	**Pululahua**	**1.50**	**100**	P	**Pn**	**23 59 02.0**	**-0.1**
OTAV	**Otavalo**	**1.53**	**92**	P	**Pn**	**23 59 02.6**	**0.0**
OTAV	**Otavalo**	**1.53**	**92**		**Pn**	**23 59 02.6**	**0.0**
SADP	**Ecuador-Quito-**	**1.56**	**100**	P	**Pn**	**23 59 03.0**	**+0.2**
CIVI	**Edificio de In**	**1.57**	**108**	P	**Pb**	**23 59 04.0**	**0.0**
EPNL	**EPN Laboratori**	**1.57**	**108**	P	**Pb**	**23 59 03.0**	**0.0**
CUSE	**Cuicocha Este**	**1.58**	**89**	⇓*i*P	**Pb**	**23 59 03.9**	**-0.4**
CUSE				*i*		23 59 33.9	
	comp=Z,583μm,0.4s						
CUSE	**Cuicocha Este**	**1.58**	**89**	P	**Pb**	**23 59 04.0**	**-0.3**
ILLI	**Illinizas Sur**	**1.60**	**128**	P	**Pn**	**23 59 03.0**	**-0.5**
CUIC	**Cuicocha-Domo**	**1.62**	**89**		**Pn**	**23 59 04.3**	**+0.6**
CUIC	**Cuicocha-Domo**	**1.62**	**89**	P	**Pn**	**23 59 04.0**	**+0.3**
CUIC				S	**Sg**	**23 59 30.0**	**+3.2**
CUSW	**Cuicocha West**	**1.63**	**90**	P	**Pn**	**23 59 04.0**	**+0.1**
COTA	**Cotacachi**	**1.65**	**88**	P	**Pb**	**23 59 05.0**	**-0.4**
AV11	**Acelerografo,**	**1.65**	**102**	P	**Pb**	**23 59 05.0**	**-0.3**
PAST	**Pastocalle**	**1.65**	**126**	P	**Pn**	**23 59 04.0**	**-0.2**
ALIT	**Ecuador-Imbabu**	**1.70**	**72**	P	**Pn**	**23 59 04.0**	**-0.6**
LITE1	**Lita**	**1.70**	**72**	P	**Pn**	**23 59 04.0**	**-0.6**
TOMA	**Boca Toma-Volc**	**1.73**	**116**	P	**Pn**	**23 59 06.0**	**+0.8**
URCU	**Urcuqui**	**1.74**	**85**	P	**Pn**	**23 59 06.0**	**+0.7**
ISUC	**Cotopaxi Ecuad**	**1.75**	**122**	P	**Pb**	**23 59 07.0**	**-0.1**
SRAM	**San Ramn-Vol**	**1.75**	**126**	P	**Pn**	**23 59 06.0**	**+0.6**
SUCR	**Mariscal Sucre**	**1.75**	**122**	P	**Pn**	**23 59 06.0**	**+0.5**
CAMI	**Rancho Maria**	**1.76**	**123**	P	**Pb**	**23 59 07.0**	**-0.3**
PITA	**Cotopaxi Volc**	**1.76**	**118**	P	**Pb**	**23 59 07.0**	**-0.3**
AAT1	**Ecuador-Atunta**	**1.77**	**88**	P	**Pb**	**23 59 07.0**	**-0.4**
NAS2	**Nasa**	**1.77**	**121**	P	**Pb**	**23 59 07.0**	**-0.5**
BNAS	**Cotopaxi Volca**	**1.77**	**122**	P	**Pb**	**23 59 07.0**	**-0.6**
SLOR	**San Lorenzo -**	**1.79**	**124**		**Pb**	**23 59 07.8**	**-0.1**
SLOR	**San Lorenzo -**	**1.79**	**124**	P	**Pn**	**23 59 07.0**	**+0.9**
BREF	**Cotopaxi Volca**	**1.81**	**121**	P	**Pb**	**23 59 08.0**	**-0.2**
ALAT	**Latacunga**	**1.82**	**131**	P	**Pb**	**23 59 08.0**	**-0.2**
BMOR	**Cotopaxi Volca**	**1.83**	**123**	P	**Pb**	**23 59 08.0**	**-0.5**
BVC2	**Cotopaxi Volca**	**1.83**	**121**	P	**Pb**	**23 59 08.0**	**-0.5**
VC1	**Cotopaxi 1**	**1.83**	**120**	P	**Pb**	**23 59 08.0**	**-0.5**
BRRN	**Barrancas-Volc**	**1.84**	**125**	P	**Pb**	**23 59 08.0**	**-0.7**
BTAM	**Cotopaxi Volca**	**1.85**	**121**	P	**Pb**	**23 59 08.0**	**-0.9**
AIB1	**Ecuador-Imbabu**	**1.86**	**88**	P	**Pb**	**23 59 09.0**	**+0.1**
AIB2	**Ibarra (Univer**	**1.88**	**88**	P	**Pb**	**23 59 09.0**	**-0.3**
TAMB	**Tambo**	**1.88**	**121**	P	**Pb**	**23 59 09.0**	**-0.5**
ANTG	**Antisana-Guama**	**1.90**	**114**	P	**Pb**	**23 59 09.0**	**-0.7**
YAHU	**Yahuarcocha**	**1.92**	**87**	P	**Pb**	**23 59 10.0**	**+0.1**
VCES	**Cotopaxi**	**1.92**	**124**	P	**Pb**	**23 59 09.0**	**-1.0**
ANTM	**Antisana-La Mi**	**1.94**	**115**	P	**Pn**	**23 59 09.0**	**+0.8**
ANTI	**Antisana**	**1.96**	**112**	P	**Pb**	**23 59 10.0**	**-0.8**
ANTS	**Antisana-Sarah**	**1.97**	**113**		**Pb**	**23 59 10.0**	**-1.0**
ANTS	**Antisana-Sarah**	**1.97**	**113**	P	**Pb**	**23 59 10.0**	**-1.0**
CTUM2	**Tumaco**	**1.98**	**39**	⇑*e*P	**Pn**	**23 59 07.4**	**-0.9**
APS4	**Papallacta**	**1.99**	**109**	P	**Pb**	**23 59 10.0**	**-1.1**
ANGU	**Angureal**	**1.99**	**97**	P	**Pb**	**23 59 11.0**	**-0.3**
CAYR	**Refugio Cayamb**	**2.00**	**98**	P	**Pn**	**23 59 10.0**	**+0.9**
CAYA	**Cayambe**	**2.00**	**96**	P	**Pb**	**23 59 11.0**	**-0.5**
CHMA	**Chilma**	**2.01**	**73**	P	**Pn**	**23 59 09.0**	**+0.1**
LNGL	**El Angel-Carch**	**2.03**	**77**	P	**Pn**	**23 59 10.0**	**+0.5**
CHSH	**Refugio Sur-Vo**	**2.08**	**148**	P	**Pn**	**23 59 11.0**	**+0.8**
ECEN	**Cerro Negro**	**2.08**	**75**	P	**Pn**	**23 59 10.0**	**-0.2**
CHL1	**Volc¡n Chiles**	**2.10**	**76**	P	**Pn**	**23 59 11.0**	**+0.6**
PORT	**Chimborazo Vol**	**2.11**	**145**		**Pn**	**23 59 11.3**	**+0.6**
PORT	**Chimborazo Vol**	**2.11**	**145**	P	**Pn**	**23 59 11.0**	**+0.4**
APSY	**Ecuador-Napo A**	**2.13**	**126**	P	**Pb**	**23 59 13.0**	**-0.5**
CHL2	**Volc¡n Chiles**	**2.13**	**76**	P	**Pn**	**23 59 11.0**	**+0.2**
PIAT	**Ana Tenorio**	**2.14**	**129**	P	**Pn**	**23 59 12.0**	**+1.2**
TAMH	**Tambohuasha Ch**	**2.17**	**146**	P	**Pn**	**23 59 12.0**	**+0.6**
IGUA	**Igualata**	**2.21**	**143**	P	**Pn**	**23 59 13.0**	**+1.0**
TULM	**Tulcn-Chalpat**	**2.24**	**79**		**Pb**	**23 59 14.0**	**-1.5**
TULM	**Tulcn-Chalpat**	**2.24**	**79**	⇓*i*P	**Pb**	**23 59 14.2**	**-1.3**
TULM				*i*		23 59 57.5	
	comp=Z,149μm,0.5s						
CMBC	**Cumbal**	**2.26**	**73**	*e*P	**Pb**	**23 59 14.4**	**-1.3**
CMBC				*i*		00 00 04.2	
	comp=Z,12900μm,0.7s						
JUI6	**Juive**	**2.27**	**138**	P	**Pn**	**23 59 14.0**	**+1.4**
BIL2	**Estacion Bilba**	**2.27**	**139**	P	**Pb**	**23 59 15.0**	**-1.0**
BBIL	**Ulba Tungurahu**	**2.28**	**139**	P	**Pn**	**23 59 14.0**	**+1.3**
POND	**Pondoa**	**2.28**	**138**	P	**Pn**	**23 59 14.0**	**+1.3**
RETU	**Refugio**	**2.31**	**138**	P	**Pn**	**23 59 15.0**	**-1.7**
BRUN	**Tungurahua Vol**	**2.31**	**137**	P	**Pn**	**23 59 14.0**	**+0.9**
ARIO	**Riobamba**	**2.31**	**146**	P	**Pb**	**23 59 16.0**	**-0.7**
ATUL	**Tulcn**	**2.31**	**78**	P	**Pb**	**23 59 16.0**	**-0.6**
BMAS	**Trigal station**	**2.32**	**140**	P	**Pn**	**23 59 15.0**	**+1.6**
ARRY	**Arrayan**	**2.34**	**139**	P	**Pn**	**23 59 15.0**	**+1.4**
AV05	**Acelerografo,**	**2.34**	**102**	P	**Pb**	**23 59 17.0**	**-0.1**
BPAT	**Tungurahua Vol**	**2.35**	**139**	P	**Pn**	**23 59 15.0**	**+1.1**
CONE	**Cono NE Rev Vo**	**2.37**	**98**	P	**Pb**	**23 59 16.0**	**-1.6**
GYE3	**Ecuador-Guayaq**	**2.42**	**178**	P	**Pn**	**23 59 13.0**	**-1.3**
AMIL	**Milagro (Trans**	**2.43**	**171**	P	**Pn**	**23 59 16.0**	**+1.5**
BONI	**La Bonita**	**2.46**	**86**	P	**Pb**	**23 59 18.0**	**-1.1**
ARDO	**Archidona, Ten**	**2.52**	**120**	P	**Pb**	**23 59 19.0**	**-1.1**
MILO	**Milagro-Astudi**	**2.58**	**170**	P	**Pn**	**23 59 15.0**	**-1.5**
APUY	**Puyo**	**2.63**	**131**	P	**Pb**	**23 59 22.0**	**0.0**
PUYO	**Puyo, Santa Ro**	**2.63**	**132**		**Pb**	**23 59 20.9**	**-1.2**
PUYO	**Puyo, Santa Ro**	**2.63**	**132**	P	**Pb**	**23 59 21.0**	**-1.0**
CASC	**Dorado de Casc**	**2.65**	**93**	P	**Pb**	**23 59 21.0**	**-1.3**
AV03	**Acelerografo,**	**2.68**	**95**	P	**Pb**	**23 59 23.0**	**+0.3**
SANGA	**Volcan Sangay**	**2.82**	**145**	P	**Pb**	**23 59 23.0**	**-2.4**
COHC	**Cochancay**	**2.82**	**165**		**Pn**	**23 59 19.2**	**-0.7**
COHC	**Cochancay**	**2.82**	**165**	P	**Pn**	**23 59 20.0**	**+0.1**
APS1	**Acelerografo,**	**3.07**	**93**	P	**Pb**	**23 59 28.0**	**-1.4**
ISPG	**Isla Puna-Puer**	**3.23**	**183**	P	**Pb**	**23 59 29.0**	**-3.2**
GR1C	**Gorgona, Isla**	**3.26**	**34**	*e*P	**Pn**	**23 59 22.3**	**-3.6**
CRUC	**La Cruz**	**3.29**	**67**	*e*P	**Pb**	**23 59 30.1**	**-3.3**
CRUC				*i*		00 00 43.1	
	comp=Z,79μm,0.5s						
ACUE	**Ecuador-Cuenca**	**3.33**	**162**	P	**Pn**	**23 59 29.0**	**+1.8**
ACH2	**Ecuador-Machal**	**3.52**	**177**	P	**Pb**	**23 59 34.0**	**-3.1**
ACH1	**Ecuador-Univer**	**3.54**	**179**	P	**Pb**	**23 59 35.0**	**-2.5**
BOSC	**San Juan Bosco**	**3.72**	**156**		**Pn**	**23 59 36.4**	**+4.0**
BOSC	**San Juan Bosco**	**3.72**	**156**	P	**Pn**	**23 59 36.0**	**+3.6**
ARNL	**Arenillas**	**3.80**	**181**		**Pn**	**23 59 34.2**	**+0.8**
ARNL	**Arenillas**	**3.80**	**181**	P	**Pn**	**23 59 35.0**	**+1.6**
SOTA	**Rioblanco**	**3.85**	**61**	⇑*i*P	**Pn**	**23 59 35.0**	**+0.6**
SOTA				*i*		00 01 13.3	
	comp=Z,60μm,0.6s						
POPC	**Popayan, Colom**	**4.00**	**56**	⇑*i*P	**Pn**	**23 59 36.4**	**+0.1**
POPC				*i*		00 00 17.8	
	comp=Z,27μm,0.6s						
PCON	**Cinco Dias**	**4.12**	**60**	*e*P	**Pn**	**23 59 40.6**	**+2.3**
PCON				*i*		00 00 19.1	
	comp=Z,48μm,0.5s						
GONZ	**Gonzanam**	**4.53**	**173**	P	**Pn**	**23 59 47.0**	**+3.3**
LOJ1	**Universidad t**	**4.54**	**159**	P	**Pn**	**23 59 45.0**	**+1.3**
MCRA	**Macar, Loja**	**4.62**	**180**		**Pn**	**23 59 47.0**	**+2.4**
MCRA	**Macar, Loja**	**4.62**	**180**	P	**Pn**	**23 59 48.0**	**+3.4**
MARP	**Paez Belalcaza**	**4.76**	**58**	⇑*e*P	**Pn**	**23 59 47.8**	**+0.9**
MARP				*i*		00 00 15.6	
	comp=Z,7μm,0.7s						
GARC	**Garzon, Huila**	**4.87**	**67**	*e*P	**Pn**	**23 59 51.7**	**+3.3**
GARC				*i*		00 00 17.3	
	comp=Z,21μm,0.4s						
BETC	**Betania**	**5.13**	**62**	*e*P	**Pn**	**23 59 54.1**	**+2.5**
BETC				*i*		00 00 31.6	
	comp=Z,17μm,0.6s						
YOTC	**Yotoco, Valle**	**5.17**	**45**	⇑*i*P	**Pn**	**23 59 50.6**	**-1.8**
YOTC				*i*		00 01 32.7	
	comp=Z,24μm,0.6s						
ZUMB	**Zumba**	**5.18**	**171**	P	**Pn**	**23 59 56.0**	**+3.6**
PTLC	**Puerto Leguiza**	**5.19**	**91**	*i* P	**Pn**	**23 59 55.1**	**+2.6**
PTLC				*i*		00 00 31.0	
	comp=Z,14μm,0.5s						
PIZC	**Pizarro, Choco**	**5.34**	**29**	⇑*i*P	**Pn**	**23 59 54.3**	**-0.3**
PIZC				*i*		00 02 22.7	
	comp=Z,23μm,0.4s						
PLMC	**San Jos del P**	**5.90**	**39**	⇑*i*P	**Pn**	**00 00 00.6**	**-1.6**
PLMC				*i*		00 01 41.4	
	comp=Z,22μm,0.6s						
ORTC	**Ortega, Tolima**	**5.95**	**53**	⇑*i*P	**Pn**	**00 00 05.6**	**+2.6**
ORTC				*i*		00 01 40.1	
	comp=Z,16μm,0.6s						
ANIL	**Santa Ana**	**6.20**	**47**	⇑*i*P	**Pn**	**00 00 06.0**	**-0.6**
ANIL				*i*		00 00 37.6	
	comp=Z,28μm,0.4s						
MACC	**Macarena, Meta**	**6.41**	**73**	⇑*i*P	**Pn**	**00 00 11.4**	**+2.1**
MACC				*i*		00 00 42.6	
	comp=Z,13μm,0.6s						
SOLC	**Bahia Solano**	**6.44**	**23**	*e*P	Pn	00 00 14.8	+5.2
SOLC				*i*		00 01 04.1	
	comp=Z,445nm,0.3s						
NIZA	**Niza - Manizal**	**6.55**	**43**	*e*P	Pn	00 00 17.4	+6.0
GUY2C	**Guyana, Caldas**	**6.74**	**43**	⇑*i*P	**Pn**	**00 00 14.4**	**+0.2**
PTAC	**Punta Ardita,**	**7.16**	**18**	⇑*i*P	**Pn**	**00 00 19.0**	**-0.6**
PTAC				*i*		00 01 57.2	
	comp=Z,1μm,0.5s						
ROSC	**El Rosal**	**7.25**	**51**	Pn	**Pn**	**00 00 21.5**	**+0.4**
	comp=Z,32nm,0.3s,baz=197,slow=5.3,SNR=64						
ROSC				Sn	**Sn**	**00 01 46.3**	**+2.5**
	baz=155,slow=22,SNR=1.0						
ROSC				LR	LR	00 03 22.5	
	comp=Z,2796μm,21.6s,baz=223,slow=40						
ROSC	**El Rosal**	**7.25**	**51**	P	**Pn**	**00 00 21.9**	**+0.8**
ROSC	**El Rosal**	**7.25**	**51**		**Pn**	**00 00 21.9**	**+0.8**
NORC	**Norcasia**	**7.32**	**44**	⇑*i*P	**Pn**	**00 00 22.0**	**+0.2**
NORC				*i*		00 01 01.9	
	comp=Z,5μm,0.6s						
VILC	**Villavicencio,**	**7.35**	**59**	*e*P	**Pn**	**00 00 23.7**	**+1.4**
HELC	**Santa Helena**	**7.37**	**37**	⇑*i*P	**Pn**	**00 00 22.3**	**-0.4**
HELC	**Santa Helena**	**7.37**	**37**	⇑*e*P	**Pn**	**00 00 23.1**	**+0.4**
AZU	**Azuero**	**7.47**	**358**	*e*P	**Pn**	**00 00 25.8**	**+2.0**
AZU	**Azuero**	**7.47**	**358**	*e*P	**Pn**	**00 00 25.8**	**+2.0**
GMAL	**Guarumal, Vera**	**7.54**	**351**	*e*P	Pn	00 00 30.4	+5.7
GMAL	**Guarumal, Vera**	**7.54**	**351**	*e*P	**Pn**	**00 00 27.9**	**+3.1**
CHIC	**Chingaza**	**7.59**	**55**	⇑*i*P	**Pn**	**00 00 26.8**	**+0.9**
CHIC				*i*		00 00 39.5	
	comp=Z,14μm,0.6s						
DBBC	**Dabeiba**	**7.68**	**29**	*e*P	Pn	00 00 32.4	+5.6
DBBC				*i*		00 03 16.5	
	comp=Z,31μm,0.8s						
GUVC	**San Jose del G**	**7.69**	**73**	*e*P	**Pn**	**00 00 30.6**	**+3.7**
SPBC	**San Pablo de B**	**7.96**	**48**	⇑*i*P	**Pn**	**00 00 30.8**	**+0.2**
SPBC				*i*		00 02 43.5	
	comp=Z,2μm,0.6s						
PNME	**Penonome**	**8.16**	**358**	⇑*e*P	Pn	00 00 38.5	+5.2
PNME	**Penonome**	**8.16**	**358**	*e*P	**Pn**	**00 00 36.7**	**+3.4**
PTBC	**PUERTO BERRIO,**	**8.31**	**41**	⇑*i*P	**Pn**	**00 00 34.1**	**-1.2**
PTBC				*i*		00 02 42.4	
	comp=Z,3μm,0.7s						
PTPM	**Petroterminale**	**8.38**	**340**	*e*P	**Pn**	**00 00 36.8**	**+0.5**
UPD2	**Meteti**	**8.45**	**13**	⇑*e*P	**Pn**	**00 00 38.9**	**+1.7**
UPD2				*i*		00 02 53.6	
	comp=Z,1μm,0.6s						
UPD2	**Meteti**	**8.45**	**13**	⇑*e*P	**Pn**	**00 00 40.1**	**+2.9**
UREC	**San Jos de Ur**	**8.65**	**31**	⇑*i*P	**Pn**	**00 00 40.4**	**+0.4**
UREC				*i*		00 01 30.2	
	comp=Z,2μm,0.5s						
UPA	**Univ. de Panam**	**8.66**	**3**	⇑*e*P	**Pn**	**00 00 41.4**	**+1.3**
UPA				*i*		00 02 28.9	
	comp=Z,261nm,0.5s						
UPA	**Univ. de Panam**	**8.66**	**3**	⇑*e*P	**Pn**	**00 00 42.8**	**+2.7**
CDITO	**Canoas**	**8.73**	**341**		**Pn**	**00 00 41.9**	**+0.8**
PIRO	**Carate, Puerto**	**8.73**	**338**	⇓*i*P	**Pn**	**00 00 42.2**	**+1.0**
PTGC	**Puerto Gaitan,**	**8.76**	**63**	⇑*i*P	**Pn**	**00 00 42.9**	**+1.4**
PTGC				*i*		00 02 00.8	
	comp=Z,6μm,0.8s						
ZARC	**Zaragoza, Cauc**	**8.80**	**35**		**Pn**	**00 00 41.6**	**-0.5**
ZARC	**Zaragoza, Cauc**	**8.80**	**35**	⇑*i*P	**Pn**	**00 00 42.2**	**+0.1**
ZARC				*i*		00 01 20.3	
	comp=Z,4μm,0.6s						
BCIP	**Isla Barro Col**	**8.83**	**1**	P	**Pn**	**00 00 42.5**	**0.0**
BCIP	**Isla Barro Col**	**8.83**	**1**		**Pn**	**00 00 42.5**	**0.0**
BCIP	**Isla Barro Col**	**8.83**	**1**	*e*P	**Pn**	**00 00 44.6**	**+2.1**
BCIP				*i*		00 01 17.5	
	comp=Z,950nm,0.7s						
BCIP	**Isla Barro Col**	**8.83**	**1**	*i* P	Pn	00 00 47.3	+4.8
BCIP				*e*S	**Sg**	**00 03 11.4**	**-6.7**
RUSC	**La Rusia**	**8.86**	**51**	⇑*i*P	**Pn**	**00 00 44.2**	**+0.8**
RUSC				*i*		00 01 27.5	
	comp=Z,2μm,0.6s						
RUSC	**La Rusia**	**8.86**	**51**	*e*P	**Pn**	**00 00 44.4**	**+1.0**
BRU2	**Volcan**	**8.88**	**342**		**Pn**	**00 00 43.3**	**0.0**
BRU2	**Volcan**	**8.88**	**342**	*e*P	**Pn**	**00 00 43.8**	**+0.5**
BRU2				*i*		00 01 28.5	
	comp=Z,646nm,0.9s						
BRU2	**Volcan**	**8.88**	**342**	*e*P	**Pn**	**00 00 45.8**	**+2.5**
EDSV	**San Vito**	**8.99**	**341**	*e*P	**Pn**	**00 00 47.9**	**+3.1**
RIOS	**Rincon, Osa**	**9.07**	**337**		**Pn**	**00 00 45.5**	**-0.3**
BARC	**Barichara**	**9.24**	**47**	*e*P	Pn	00 00 54.3	+6.0
BARC				*i*		00 01 30.1	
	comp=Z,2μm,0.6s						
LCBC	**Los crdobas,**	**9.25**	**23**	*e*P	**Pn**	**00 00 52.0**	**+3.7**
LCBC				*i*		00 01 47.9	
	comp=Z,2μm,0.7s						
DRK0	**Durika**	**9.50**	**340**		**Pn**	**00 00 51.3**	**-0.5**
DRK0	**Durika**	**9.50**	**340**	*e*P	**Pn**	**00 00 52.9**	**+1.1**
DRK0				*e*S	Sn	00 02 51.5	+13
SRBA	**San Rafael, Bu**	**9.51**	**339**		**Pn**	**00 00 52.4**	**+0.5**
EDDO	**Dominical**	**9.72**	**337**	*e*P	**Pn**	**00 00 55.7**	**+1.1**
PEZE	**Perez Zeledon,**	**9.76**	**338**		**Pn**	**00 00 55.7**	**+0.3**
PEZE	**Perez Zeledon,**	**9.76**	**338**	*e*P	**Pn**	**00 00 57.3**	**+1.9**
CDM	**Cerro de Muert**	**9.95**	**338**	*e*P	**Pn**	**00 00 59.0**	**+0.7**
PAMC	**Pamplona, Colo**	**10.10**	**46**	*e*P	**Pn**	**00 01 01.5**	**+1.2**
PAMC				*i*		00 02 11.0	
	comp=Z,2μm,0.7s						
RIMA	**Rio Macho**	**10.19**	**338**		**Pn**	**00 01 01.2**	**0.0**
RIMA	**Rio Macho**	**10.19**	**338**	*e*P	**Pn**	**00 01 01.9**	**+0.6**
TAMC	**Tame, Arauca**	**10.21**	**53**	⇑*i*P	**Pn**	**00 00 59.8**	**-1.6**
TAMC				*i*		00 02 58.9	
	comp=Z,1μm,0.8s						
LCR2	**La Lucha 2**	**10.22**	**337**	*e*P	**Pn**	**00 01 01.7**	**0.0**
BATAN	**Batan**	**10.32**	**341**		**Pn**	**00 01 04.4**	**+1.5**
OCAC	**Ocana**	**10.33**	**40**		**Pn**	**00 01 02.4**	**-0.8**
OCAC	**Ocana**	**10.33**	**40**	⇑*i*P	**Pn**	**00 01 02.1**	**-1.0**
OCAC				*i*		00 03 23.4	
	comp=Z,3μm,0.6s						
OCAC	**Ocana**	**10.33**	**40**	⇑*i*P	**Pn**	**00 01 03.7**	**+0.6**
PAYG	**Puerto Ayora**	**10.35**	**265**		**Pn**	**00 01 02.5**	**-0.8**
PAYG	**Puerto Ayora**	**10.35**	**265**	*e*P	**Pn**	**00 01 02.5**	**-0.8**
PAYG	**Puerto Ayora**	**10.35**	**265**	*e*P	**Pn**	**00 01 03.1**	**-0.2**
CVTR	**Volcan Turrial**	**10.38**	**339**		**Pn**	**00 01 04.8**	**+0.7**
JACO	**JACO, Garabito**	**10.42**	**334**		**Pn**	**00 01 03.8**	**-0.5**
JACO	**JACO, Garabito**	**10.42**	**334**	*e*P	**Pn**	**00 01 06.1**	**+1.8**
HDC	**Heredia**	**10.50**	**337**		**Pn**	**00 01 05.8**	**+0.4**
HDC	**Heredia**	**10.50**	**337**	*e*P	**Pn**	**00 01 07.1**	**+1.7**
HDC	**Heredia**	**10.50**	**337**	*e*P	**Pn**	**00 01 07.0**	**+1.5**
CAO2	**Cobano, Puntar**	**10.65**	**332**		**Pn**	**00 01 08.6**	**+1.2**
CAO2	**Cobano, Puntar**	**10.65**	**332**	*e*P	**Pn**	**00 01 07.8**	**+0.4**
LAFE	**Finca La Fe, P**	**10.66**	**333**	*e*P	**Pn**	**00 01 09.1**	**+1.5**
SJCC	**San Jacinto, C**	**10.68**	**26**	Pn	**Pn**	**00 01 08.7**	**+0.7**
SJCC	**San Jacinto, C**	**10.68**	**26**	⇑*i*P	**Pn**	**00 01 09.9**	**+2.0**
SJCC				*i*		00 02 18.7	
	comp=Z,446nm,0.6s						
SJCC	**San Jacinto, C**	**10.68**	**26**	⇑*i*P	**Pn**	**00 01 10.7**	**+2.7**
SRA1	**San Ramn**	**10.72**	**335**	*e*P	**Pn**	**00 01 11.0**	**+2.5**
CZSB	**Cruzeiro do Su**	**10.77**	**138**	*e*P	**Pn**	**00 01 10.0**	**+0.9**
INDI	**Punta indio, G**	**10.99**	**330**	*e*P	**Pn**	**00 01 14.2**	**+2.0**
TBTG	**Tabatinga, AM**	**11.00**	**114**	⇑*i*P	**Pn**	**00 01 13.1**	**+0.8**
TBTG				*i*		00 05 16.8	
	comp=Z,4μm,0.7s						
TBTG	**Tabatinga, AM**	**11.00**	**114**	*e*P	**Pn**	**00 01 13.2**	**+0.9**
JTS	**Las Juntas de**	**11.11**	**334**	Pn	**Pn**	**00 01 13.2**	**-0.5**
	comp=Z,3.5nm,0.3s,baz=220,slow=11,SNR=69						
JTS				Sn	**Sn**	**00 03 19.1**	**+0.9**
	baz=266,slow=10,SNR=1.1						
JTS	**Las Juntas de**	**11.11**	**334**	P	**Pn**	**00 01 13.9**	**+0.2**
JTS	**Las Juntas de**	**11.11**	**334**		**Pn**	**00 01 13.8**	**+0.2**
JTS	**Las Juntas de**	**11.11**	**334**	⇓*e*P	**Pn**	**00 01 13.7**	**0.0**
JTS				*i*		00 01 54.4	
	comp=Z,267nm,0.8s						
JTS	**Las Juntas de**	**11.11**	**334**	*e*P	**Pn**	**00 01 14.0**	**+0.2**
JTS	**Las Juntas de**	**11.11**	**334**	*e*P	**Pn**	**00 01 13.2**	**-0.5**
FORC	**Fortuna**	**11.14**	**335**	*e*P	**Pn**	**00 01 16.1**	**+1.9**
ARE1	**Arenal 1**	**11.16**	**335**	*e*P	**Pn**	**00 01 15.4**	**+1.0**
VCH1	**Volcn Chico**	**11.16**	**265**	P	**Pn**	**00 01 13.0**	**-1.6**
DUNO	**Dulce Nombre,**	**11.17**	**331**		**Pn**	**00 01 14.6**	**0.0**
CEDE	**Laguna Cedeo**	**11.17**	**335**	*e*P	**Pn**	**00 01 16.1**	**+1.4**
LL1C	**La Loma 1 Cana**	**11.21**	**35**	⇑*e*P	**Pn**	**00 01 16.3**	**+1.2**
LL1C				*i*		00 04 30.2	
	comp=Z,3μm,0.7s						
COVE	**Coope Vega, Sa**	**11.26**	**337**		**Pn**	**00 01 16.5**	**+0.6**
COVE	**Coope Vega, Sa**	**11.26**	**337**	*e*P	**Pn**	**00 01 18.9**	**+3.1**
SAJU	**San Juanillo,**	**11.27**	**330**	*e*P	**Pn**	**00 01 17.9**	**+1.9**
**LL5C

comp=Z,435nm,0.8s
SDD Santo Domingo 20.60 28 P P 00 03 14.2 +0.1
SDD IAmb IAmb 00 03 52.5
comp=Z,12µm,1.3s
AP01 Chacalluta 20.82 153 P P 00 03 17.6 +1.1
AP01 IAmb IAmb 00 03 40.7
comp=Z,7µm,0.8s
PB12 IPOC Station P 21.04 154 P P 00 03 18.4 -0.6
PB12 IAmb IAmb 00 03 38.0
comp=Z,7µm,1.1s
SC01 Santiago de lo 21.08 25 P P 00 03 19.5 +0.1
DR12 Loma Pena Alta 21.14 29 P P 00 03 19.4 -0.6
TRN Trinidad (W) 21.15 60 eP P 00 03 17.4 -2.8
PB16 IPOC Station P 21.17 151 P P 00 03 20.9 0.0
PCDR Punta Cana, DR 21.41 32 P P 00 03 22.4 -0.5
GRFF Grenada Fort F 21.56 56 eP P 00 03 14.4 -10
GRGR Grenville 21.67 56 P P 00 03 24.5 -1.2
GRGR IAmb IAmb 00 04 09.3
comp=Z,10µm,1.1s
GRGR Grenville 21.67 56 eP P 00 03 23.5 -2.2
CRPR Cabo Rojo, PR 21.69 35 P P 00 03 25.0 -0.9
CRPR IAmb IAmb 00 04 04.9
comp=Z,8µm,1.4s
OBIP Obispado Ponce 22.01 36 P P 00 03 28.6 -0.8
GCMP Grenada, Carri 22.04 56 eP P 00 03 26.2 -3.6
AOPR Arecibo Observ 22.17 35 P P 00 03 30.6 -0.5
TOSP Speyside 22.21 60 P P 00 03 29.3 -2.2
TOSP IAmb IAmb 00 04 12.5
comp=Z,4µm,0.9s
TOSP Speyside 22.21 60 eP P 00 03 30.9 -0.6
CMIG Matías Romero 22.24 319 P P 00 03 29.9 -1.9
comp=Z,51nm,1.0s,baz=132,slow=8.0,SNR=34
CMIG S **S 00 07 37.3 +0.4**
comp=Z,44nm,1.0s,baz=70,slow=4.7,SNR=1.0
SJG San Juan 22.34 37 P P 00 03 32.1 -0.8
comp=Z,235nm,0.7s,baz=216,slow=8.4,SNR=59
SJG S **S 00 07 40.5 +1.7**
comp=Z,123nm,1.0s,baz=248,slow=17,SNR=0.8
SJG LR LR 00 13 44.9
comp=Z,371µm,21.9s,baz=200,slow=41
SJG San Juan 22.34 37 P P 00 03 32.0 -0.9
SJG San Juan 22.34 37 P P 00 03 31.9 -0.9
SJG San Juan 22.34 37 ‖ iP P 00 03 31.9 -0.9
PB11 IPOC Station P 22.34 154 P P 00 03 33.2 +0.1
PB11 IAmb IAmb 00 04 10.7
comp=Z,7µm,0.9s
PDPR Patillas Dam, 22.34 37 P P 00 03 31.6 -1.4
PDPR IAmb IAmb 00 04 20.8
comp=Z,6µm,1.1s
GO01 Chusmiza 22.47 153 P P 00 03 35.3 +0.4
SOR Soroa 22.57 353 P P 00 03 35.7 +0.3
SOR pmax pmax
comp=Z,6µm,1.7s
SOR Soroa 22.57 353 P P 00 03 35.7 +0.3
SOR IAmb IAmb 00 04 30.7
comp=Z,6µm,1.7s
TA02 Huaiquique 22.59 155 P P 00 03 36.5 +1.0
SVB Belmont 22.61 54 P P 00 03 33.2 -2.7
SVB Belmont 22.61 54 eP P 00 03 35.5 -0.4
CBYP Canovanas 22.64 37 P P 00 03 35.0 -1.2
SVV Soufriere Volc 22.66 54 eP P 00 03 37.4 +0.9
SSV Crater Summit 22.69 54 eP P 00 03 36.2 -0.6
GRTK Grand Turk 22.80 22 P P 00 03 36.3 -1.5
GRTK IAmb IAmb 00 04 30.1
comp=Z,6µm,1.3s
TA01 Diego Aracena 22.83 156 P P 00 03 39.8 +1.7
TA01 IAmb IAmb 00 03 58.6
comp=Z,4µm,0.9s
PB08 IPOC Station P 22.90 153 P P 00 03 40.5 +1.2
CDVI St. Croix 22.93 40 P P 00 03 38.0 -1.2
CUPR Culebra, Puert 23.01 38 P P 00 03 39.1 -0.9
CUPR IAmb IAmb 00 04 09.1
comp=Z,3µm,1.0s
PATCX Punta Patache 23.07 156 P P 00 03 41.7 +1.0
MCLT Moule a Chique 23.10 54 eP P 00 03 37.7 -3.3
SLCP Castries, St. 23.23 53 eP P 00 03 37.7 -4.6
SLBI Saint Lucia, B 23.25 53 eP P 00 03 39.8 -2.6
BIM Bigot 23.45 52 P P 00 03 42.0 -2.5
BIM Bigot 23.45 52 eP P 00 03 42.6 -2.0
FDF Fort de France 23.52 52 P P 00 03 43.3 -1.9
FDF pmax pmax
comp=Z,6µm,1.0s
FDF MLR MLR
comp=Z,853µm,22.0s
FDF Fort de France 23.52 52 P P 00 03 43.3 -1.9
FDF IAmb IAmb 00 04 12.0
comp=Z,6µm,1.0s
FDF Fort de France 23.52 52 eP P 00 03 45.3 +0.1
MPOM Morne Pois Mar 23.58 53 eP P 00 03 44.4 -1.4
H05S1 Guadeloupe/Mar 23.59 53 P P 00 03 42.9 -2.9
VILB Vilhena 23.62 125 eP P 00 03 45.1 -1.1
PB02 IPOC Station P 23.62 156 P P 00 03 46.8 +0.5
PB02 IAmb IAmb 00 04 36.2
comp=Z,6µm,0.9s
MDN Morne-Daniel 23.68 50 eP P 00 03 44.8 -1.9
DSLB Salisbury 23.73 50 eP P 00 03 43.0 -4.3
ILAM Ilet Lapin Mar 23.76 52 P P 00 03 45.1 -2.4
ILAM Ilet Lapin Mar 23.76 52 eP P 00 03 45.3 -2.2
DLPL La Plaine 23.80 50 P P 00 03 46.0 -1.9
DLPL La Plaine 23.80 50 eP P 00 03 47.3 -0.6
TDBA Terre de Bas, 23.82 49 P P 00 03 46.4 -1.7
TDBA IAMs_20 IAMs_20 00 14 30.8
comp=Z,1406µm,22.0s
TDBA Terre de Bas, 23.82 49 eP P 00 03 45.7 -2.4
BCHC Barbados, Cave 23.87 57 eP P 00 03 46.6 -2.0
NVDO Nevis, Disaste 23.93 45 eP P 00 03 50.3 +1.2
SEUS St. Eustatius 23.93 43 P P 00 03 48.3 -0.8
SEUS IAmb IAmb 00 04 41.4
comp=Z,9µm,1.3s
SEUS St. Eustatius 23.93 43 eP P 00 03 49.4 +0.3
BBGH Gun Hill 23.94 57 P P 00 03 47.4 -1.9
BBGH IAmb IAmb 00 04 33.1
comp=Z,5µm,1.1s
BBGH Gun Hill 23.94 57 eP P 00 03 48.2 -1.1
SKOC St. Kitts, UWI 23.96 44 eP P 00 03 47.4 -2.1
MLYT Lee's Yard 23.97 46 eP P 00 03 50.9 +1.3
MBFL Flemmings, Mon 23.97 46 eP P 00 03 50.7 +1.1
CBE Ff, Capester 23.98 48 P P 00 03 48.2 -1.4
CBE IAMs_20 IAMs_20 00 14 35.8
comp=Z,1539µm,22.0s
CBE Ff, Capester 23.98 48 eP P 00 03 48.2 -1.4
GDHS Morne Mazeau, 23.99 48 P P 00 03 48.2 -1.6
GDHS IAmb IAmb 00 04 27.8
comp=Z,7µm,1.1s
PB07 IPOC Station P 23.99 156 P P 00 03 50.4 +0.5
PB07 IAmb IAmb 00 04 35.5
comp=Z,6µm,1.1s
BBSP Saint Philip 24.00 57 eP P 00 03 49.8 -0.1
MAGL Barre de l'Ile 24.15 49 P P 00 03 50.2 -1.1
MAGL IAMs_20 IAMs_20 00 14 41.4
comp=Z,1407µm,22.0s
MAGL Barre de l'Ile 24.15 49 eP P 00 03 47.4 -3.8
SMRT St. Maarten 24.25 42 eP P 00 03 49.4 -2.8
PB09 IPOC Station P 24.32 155 P P 00 03 53.8 +0.9
ABD La Joyeuse, An 24.32 48 P P 00 03 52.4 -0.4
ABD La Joyeuse, An 24.32 48 eP P 00 03 48.8 -4.0
ANDO Antigua, Disas 24.48 46 eP P 00 03 53.3 -1.0
ANBD Bethesda, Anti 24.49 46 eP P 00 03 52.1 -2.2
GDSD La Dsirade Is 24.53 49 P P 00 03 52.5 -2.3
GDSD IAmb IAmb 00 04 41.4
comp=Z,3µm,1.1s
GDSD IAMs_20 IAMs_20 00 14 51.7
comp=Z,1497µm,22.0s
H05N1 Guadeloupe/Mar 24.54 49 P P 00 03 51.9 -2.9
ITTB Itaituba 24.66 101 eP P 00 03 54.3 -1.7
SIV San Ignacio 24.70 132 P P 00 03 56.3 0.0
comp=Z,172nm,0.8s,baz=298,slow=9.3,SNR=78
SIV S **S 00 08 23.7 +5.3**
comp=Z,338nm,1.0s,baz=93,slow=23,SNR=0.9
SIV LR LR 00 15 17.5
comp=Z,4320µm,19.2s,baz=321,slow=41
ANWB Willy Bob 24.88 45 P P 00 03 55.8 -2.1
ANWB Willy Bob 24.88 45 eP P 00 03 55.1 -2.8
PB06 IPOC Station P 25.00 157 P P 00 03 59.4 +0.3
TLIG Tlapa 25.09 314 P P 00 03 59.4 -0.5
TLIG IAmb IAmb 00 04 53.1
comp=Z,3µm,1.4s
LVC Limon Verde 25.18 155 P P 00 04 00.8 -0.2
comp=Z,161nm,0.8s,baz=314,slow=5.8,SNR=83
LVC S **S 00 08 31.5 +4.8**
comp=Z,53nm,0.8s,baz=221,slow=23,SNR=1.0
LVC LR LR 00 15 23.0
comp=Z,5317µm,20.6s,baz=315,slow=40

LVC Limon Verde 25.18 155 P P 00 04 01.7 +0.8
LVC pmax pmax
comp=Z,16µm,1.4s
LVC MLR MLR
comp=Z,4918µm,20.0s
LVC Limon Verde 25.18 155 P P 00 04 01.7 +0.8
LVC Limon Verde 25.18 155 eP P 00 04 02.4 +1.4
PB10 IPOC Station P 25.36 159 P P 00 04 03.4 +1.2
PB10 IAmb IAmb 00 04 44.3
comp=Z,6µm,1.5s
061Z Ochoppi 25.45 358 P P 00 04 03.1 +0.2
061Z IAmb IAmb 00 04 42.2
comp=Z,6µm,1.4s
061Z Ochoppi 25.45 358 P P 00 04 05.8 +2.8
baz=178,SNR=7.5
061Z S **S 00 08 33.9 +3.7**
baz=178
PB15 IPOC Station P 25.49 157 P P 00 04 04.2 +0.6
PB15 IAmb IAmb 00 04 59.0
comp=Z,4µm,1.1s
NPGB Novo Progresso 25.62 107 eP P 00 04 02.9 -1.8
MALB Monte Alegre 25.80 95 eP P 00 04 05.3 -1.0
PDRB Porto dos Gac 25.94 118 eP P 00 04 06.8 -0.8
PB14 IPOC Station P 26.44 160 P P 00 04 13.1 +0.8
PB14 IAmb IAmb 00 05 06.4
comp=Z,4µm,1.3s
CLDB Colider 26.48 115 eP P 00 04 11.3 -1.1
060A Indiantown 26.61 359 P P 00 04 16.3 +2.9
baz=179
060A S **S 00 08 49.7 +1.3**
baz=179
UNM Universidad Na 26.70 316 P P 00 04 14.2 -0.4
UNM pmax pmax
comp=Z,5µm,1.3s
UNM MLR MLR
comp=Z,394µm,21.0s
UNM Universidad Na 26.70 316 P P 00 04 14.2 -0.4
UNM IAmb IAmb 00 04 54.1
comp=Z,5µm,1.3s
GO02 Mina Guanaco 27.22 159 P P 00 04 20.1 +0.7
GO02 IAmb IAmb 00 05 07.9
comp=Z,4µm,1.0s
DWPF Disney Wildern 27.71 357 P P 00 04 24.0 +0.7
DWPF IAmb IAmb 00 04 56.6
comp=Z,5µm,1.6s
DWPF Disney Wildern 27.71 357 P P 00 04 25.5 +2.3
baz=177
DWPF Disney Wildern 27.71 357 P P 00 04 25.9 +2.6
baz=177
DWPF S **S 00 09 08.8 +3.0**
baz=177
MDP Montagnes des 27.72 80 P P 00 04 22.9 -0.7
comp=Z,197nm,0.9s,baz=253,slow=9.0,SNR=24
MDP S **S 00 09 08.1 +1.7**
comp=Z,111nm,0.8s,baz=175,slow=17,SNR=1.3
MDP LR LR 00 15 34.4
comp=Z,1276µm,19.5s,baz=252,slow=37
AC01 Pan de Azucar 27.79 162 P P 00 04 24.6 +0.5
AC01 IAmb IAmb 00 05 16.4
comp=Z,4µm,1.6s
MCPB Macapa, AP 27.93 91 eP P 00 04 24.4 -1.1
SALV Santo Antonio 28.87 125 eP P 00 04 33.5 -0.4
AC02 Maricunga 28.91 160 P P 00 04 35.3 +0.7
AC02 IAmb IAmb 00 05 37.3
comp=Z,3µm,1.0s
AC06 Mina Casimiro 29.00 162 P P 00 04 36.3 +1.5
656A Willston 29.03 355 P P 00 04 34.8 -0.2
656A IAmb IAmb 00 05 08.1
comp=Z,3µm,1.6s
656A Willston 29.03 355 P P 00 04 37.2 +2.1
baz=175
656A S **S 00 09 31.4 +4.8**
baz=175
GO03 Copiap 29.25 162 P P 00 04 39.0 +1.8
AC04 Llanos de Chal 29.58 164 P P 00 04 41.7 +1.7
553A Crawfordville 30.04 352 P P 00 04 46.0 +2.0
baz=171
553A S **S 00 09 44.9 +2.4**
baz=171
456A Hilliard 30.34 357 P P 00 04 49.3 +2.6
baz=176
456A S **S 00 09 47.8 +0.7**
baz=176
PP1B Ponte de Pedra 30.43 127 eP P 00 04 47.4 -0.4
LCO Las Campanas 30.45 164 P P 00 04 49.5 +1.5
LCO pmax pmax
comp=Z,1µm,0.9s
LCO MLR MLR
comp=Z,2548µm,21.0s
LCO Las Campanas 30.45 164 P P 00 04 49.5 +1.5
LCO IAmb IAmb 00 05 54.0
comp=Z,1µm,0.9s
451A Vernon 30.66 350 P P 00 04 52.1 +2.5
baz=169
451A S **S 00 09 54.1 +1.9**
baz=169
PRPB Parauapebas 30.79 103 eP P 00 04 50.9 -0.1
SNDB Serra Nova Dou 30.98 114 eP P 00 04 51.9 -0.6
CO05 La Serena 31.17 165 P P 00 04 55.5 +1.5
CO05 IAmb IAmb 00 05 29.8
comp=Z,1µm,1.1s
TIGA Tifton 31.18 354 P P 00 04 55.4 +1.3
baz=173,SNR=10.0
TIGA S **S 00 10 01.3 +1.0**
baz=173
TIGA Tifton 31.18 354 P P 00 04 55.7 +1.6
baz=173,SNR=10.0
TIGA S **S 00 10 02.2 +1.9**
baz=173
545B Wilberts Farm, 31.25 342 P P 00 04 56.2 +1.5
baz=159
ZAIG Zacatecas 31.34 317 P P 00 04 55.1 -0.9
352A Blakely 31.38 352 P P 00 04 55.9 0.0
352A Blakely 31.38 352 P P 00 04 57.6 +1.7
baz=170,SNR=5.3
352A S **S 00 10 05.3 +1.8**
baz=170
BRAL Brewton 31.44 348 P P 00 04 55.8 -0.7
BRAL Brewton 31.44 348 P P 00 04 58.5 +2.1
baz=166,SNR=8.3
BRAL S **S 00 10 06.1 +1.6**
baz=166
BRAL Brewton 31.44 348 P P 00 04 58.7 +2.3
baz=166,SNR=8.3
BRAL S **S 00 10 05.7 +1.2**
baz=166
AQDB Aquidauana 31.47 132 P P 00 04 56.0 -0.8
AQDB IAmb IAmb 00 05 31.4
comp=Z,2µm,1.2s
GO04 Tololo Observa 31.52 165 P P 00 04 58.7 +1.3
CO01 Juntas del Tor 31.53 163 P P 00 04 59.3 +1.8
CO01 IAmb IAmb 00 05 34.4
comp=Z,2µm,1.4s
257A Skidaway Islan 31.54 358 P P 00 04 59.8 +2.5
baz=178
255A Hazlehurst 31.57 356 P P 00 04 59.6 +2.2
baz=175,SNR=7.4
CO06 Fray Jorge 31.79 166 P P 00 05 01.9 +2.4
TMAB Tom-Au,PA,Br 31.99 95 eP P 00 05 00.1 -1.3
250A Grady 32.08 350 P P 00 05 01.1 -1.0
250A IAmb IAmb 00 05 35.5
comp=Z,4µm,1.4s
250A Grady 32.08 350 P P 00 05 03.5 +1.5
baz=168,SNR=12
250A S **S 00 10 12.2 -2.2**
baz=168
KVTX Kingsville 32.10 329 P P 00 05 02.8 +0.5
KVTX Kingsville 32.10 329 P P 00 05 05.0 +2.8
baz=145
KVTX S **S 00 10 18.7 +3.8**
baz=145
CO03 El Pedregal 32.18 165 P P 00 05 03.6 +0.5
CO03 IAmb IAmb 00 05 46.9
comp=Z,3µm,1.4s
346A Big Creek Wild 32.22 345 P P 00 05 05.5 +2.3
baz=162
346A S **S 00 10 16.9 +0.3**
baz=162
154A Montrose 32.30 355 P P 00 05 05.1 +1.2
baz=174,SNR=33
154A S **S 00 10 17.8 +0.1**
baz=174
CO02 Combarbal 32.45 166 P P 00 05 06.5 +1.1
152A Waverly Hall 32.52 353 P P 00 05 07.8 +1.9
baz=171,SNR=35
152A S **S 00 10 21.4 +0.1**
baz=171

344A Westbrook Farm 32.63 343 P P 00 05 08.8 +1.9
baz=160,SNR=22
344A S **S 00 10 23.9 +0.9**
baz=160
NHSC New Hope 32.65 360 P P 00 05 05.7 -1.3
NHSC New Hope 32.65 360 P P 00 05 08.8 +1.8
baz=180,SNR=14
NHSC S **S 00 10 25.4 +2.1**
baz=180
NHSC New Hope 32.65 360 P P 00 05 09.6 +2.6
baz=180,SNR=14
NHSC S **S 00 10 26.4 +3.2**
baz=180
441A DeRidder 32.80 339 P P 00 05 10.2 +1.9
baz=155
441A S **S 00 10 27.2 +1.6**
baz=155
HAW Hawthorne Fire 32.94 357 S S 00 10 27.1 -0.6
baz=177
342B Flagon Creek P 33.06 340 P P 00 05 12.3 +1.7
baz=157,SNR=19
342B S **S 00 10 30.6 +0.9**
baz=157
GOGA Godfrey 33.12 355 P P 00 05 09.5 -1.6
GOGA pmax pmax
comp=Z,2µm,1.5s
GOGA MLR MLR
comp=Z,776µm,22.0s
GOGA Godfrey 33.12 355 P P 00 05 09.5 -1.6
GOGA IAmb IAmb 00 05 43.5
comp=Z,2µm,1.4s
GOGA Godfrey 33.12 355 IAMs_20 IAMs_20 00 17 56.6
comp=Z,776µm,22.0s
GOGA Godfrey 33.12 355 P P 00 05 12.3 +1.1
baz=174,SNR=11
GOGA S **S 00 10 28.5 -2.1**
baz=174
GOGA Godfrey 33.12 355 P P 00 05 12.2 +1.1
baz=174,SNR=11
GOGA S **S 00 10 31.1 +0.6**
baz=174
735A Kenedy 33.13 331 P P 00 05 12.0 +0.7
735A Kenedy 33.13 331 P P 00 05 12.6 +1.3
baz=146
735A S **S 00 10 31.1 +0.3**
baz=146
HKT Hockley 33.14 334 P P 00 05 11.6 +0.3
HKT pmax pmax
comp=Z,3µm,1.8s
HKT Hockley 33.14 334 P P 00 05 11.6 +0.3
HKT IAmb IAmb 00 05 53.8
comp=Z,3µm,1.8s
HKT Hockley 33.14 334 P P 00 05 12.9 +1.6
baz=150
HKT S **S 00 10 29.0 -1.9**
baz=150
Z51A Franklin 33.22 352 P P 00 05 10.7 -1.3
Z51A IAmb IAmb 00 05 44.3
comp=Z,4µm,1.6s
Z51A Franklin 33.22 352 P P 00 05 13.7 +1.7
baz=170,SNR=14
LRAL Lakeview Retre 33.24 349 P P 00 05 10.5 -1.7
LRAL Lakeview Retre 33.24 349 P P 00 05 13.4 +1.2
baz=167,SNR=36
LRAL S **S 00 10 31.7 -0.8**
baz=167
LRAL Lakeview Retre 33.24 349 P P 00 05 13.5 +1.2
baz=167,SNR=36
LRAL S **S 00 10 32.2 -0.3**
baz=167
VBMS Vicksburg 33.29 344 P P 00 05 12.7 +0.1
VBMS IAmb IAmb 00 05 57.3
comp=Z,2µm,1.6s
VBMS Vicksburg 33.29 344 P P 00 05 13.6 +1.0
baz=160
VBMS S **S 00 10 32.3 -0.8**
baz=160
VBMS Vicksburg 33.29 344 P P 00 05 13.8 +1.2
baz=160
VBMS S **S 00 10 34.2 +1.1**
baz=160
146A Union 33.30 346 P P 00 05 11.4 -1.3
146A IAmb IAmb 00 05 58.3
comp=Z,3µm,1.3s
146A Union 33.30 346 P P 00 05 14.4 +1.7
baz=163,SNR=21
146A S **S 00 10 33.3 -0.2**
baz=163
ZON Zonda 33.42 162 P P 00 05 14.9 +1.1
ZON pmax pmax
comp=Z,5µm,1.9s
ZON Zonda 33.42 162 P P 00 05 14.9 +1.1
ZON IAmb IAmb 00 05 47.6
comp=Z,5µm,1.9s
Y58A Scranton 33.45 0 P P 00 05 14.6 +0.7
Y58A IAmb IAmb 00 05 52.5
comp=Z,2µm,1.2s
Y58A Scranton 33.45 0 P P 00 05 16.1 +2.1
baz=180,SNR=7.4
Y58A P **P 00 05 16.1 +2.1**
baz=180,SNR=7.4
Y58A S **S 00 10 35.3 -0.4**
baz=180
Y58A S **S 00 10 35.3 -0.4**
baz=180
833A Chaparral WMA, 33.51 328 P P 00 05 15.3 +0.7
baz=143
833A S **S 00 10 36.5 -0.2**
baz=143
833A Chaparral WMA, 33.51 328 P P 00 05 16.5 +1.9
baz=143,SNR=28
833A S **S 00 10 39.4 +2.7**
baz=143
SMTB Santa Maria do 33.52 107 eP P 00 05 14.1 -0.8
Y59A Loris 33.55 2 P P 00 05 13.2 -1.6
Y59A IAmb IAmb 00 05 36.1
comp=Z,2µm,1.0s
Y59A Loris 33.55 2 P P 00 05 17.1 +2.3
baz=182,SNR=29
Y59A P **P 00 05 17.1 +2.3**
baz=182,SNR=29
Y59A S **S 00 10 39.3 +2.1**
baz=182
Y59A S **S 00 10 39.3 +2.1**
baz=182
H03N2 Juan Fernandez 33.55 178 P P 00 05 15.5 +0.9
H03N1 Juan Fernandez 33.56 178 P P 00 05 15.6 +1.0
Y57A Sumter 33.56 359 P P 00 05 17.1 +2.2
baz=179,SNR=8.2
Y57A P **P 00 05 17.1 +2.2**
baz=179,SNR=8.2
Y57A S **S 00 10 37.3 -0.1**
baz=179
Y57A S **S 00 10 37.3 -0.1**
baz=179
H03N3 Juan Fernandez 33.57 178 P P 00 05 15.4 +0.7
Y60A Bolivia 33.59 3 P P 00 05 14.6 -0.6
baz=183,SNR=9.8
Y60A P **P 00 05 14.6 -0.6**
baz=183,SNR=9.8
Y60A S **S 00 10 38.6 +0.8**
baz=183
Y60A S **S 00 10 38.6 +0.8**
baz=183
Z47A Carrollton 33.62 348 P P 00 05 16.5 +1.0
baz=165,SNR=17
Z47A S **S 00 10 37.3 -0.9**
baz=165
Y52A Lilburn 33.63 354 P P 00 05 17.0 +1.5
baz=172,SNR=12
Y52A P **P 00 05 17.0 +1.5**
baz=172,SNR=12
Y52A S **S 00 10 36.3 -2.1**
baz=172
Y52A S **S 00 10 36.3 -2.1**
baz=172
VA06 Catapilco 33.68 167 P P 00 05 17.8 +1.9
VA06 IAmb IAmb 00 05 47.2
comp=Z,2µm,1.1s
PEXB Peixe 33.77 112 eP P 00 05 15.9 -1.2
HODGE Hodges 33.84 357 P P 00 05 15.8 -1.5
HODGE IAmb IAmb 00 05 50.0
comp=Z,3µm,1.5s
HODGE Hodges 33.84 357 S S 00 10 39.5 -2.2
baz=176
JSC Jenkinsville 33.85 358 P P 00 05 16.0 -1.4

JSC pmax pmax
comp=Z,3μm,1.6s
JSC Jenkinsville 33.85 358 P P 00 05 16.0 -1.4
JSC IAmb IAmb 00 05 50.1
comp=Z,3μm,1.6s
JSC Jenkinsville 33.85 358 S S 00 10 42.2 +0.4
baz=178
H03S3 Juan Fernandez 33.94 178 P P 00 05 22.3 +4.4
Y49A Blount Mountai 33.94 350 P P 00 05 19.4 +1.1
baz=168,SNR=13
Y49A S S **00 10 42.0 -1.4**
baz=168
H03S2 Juan Fernandez 33.95 178 P P 00 05 22.4 +4.4
H03S1 Juan Fernandez 33.96 178 P P 00 05 22.3 +4.2
143A Socs Landing, 34.00 343 P P 00 05 19.5 +0.8
baz=159
143A S S **00 10 45.7 +1.5**
baz=159
VA01 Torpederas 34.04 167 P P 00 05 20.9 +1.7
VA01 IAmb IAmb 00 05 47.7
comp=Z,3μm,1.2s
VA03 San Esteban 34.05 166 P P 00 05 20.5 +1.1
X58A Rowland 34.10 1 P P 00 05 16.9 -2.8
baz=181
X58A P P **00 05 16.9 -2.8**
baz=181
X58A S S **00 10 47.1 +1.3**
baz=181
X58A S S **00 10 47.1 +1.3**
baz=181
ROC1 El Roble 34.14 166 P P 00 05 19.8 -0.5
ROC1 IAmb IAmb 00 05 53.1
comp=Z,3μm,1.2s
BIRD Birdtown, Kers 34.19 359 P P 00 05 18.8 -1.6
BIRD IAmb IAmb 00 05 53.0
comp=Z,2μm,1.5s
BIRD Birdtown, Kers 34.19 359 P P 00 05 21.6 +1.2
baz=179
BIRD S S **00 10 48.4 +1.3**
baz=179
NATX Nacogdoches 34.25 337 P P 00 05 20.3 -0.7
NATX IAmb IAmb 00 05 59.9
comp=Z,2μm,1.3s
NATX Nacogdoches 34.25 337 P P 00 05 22.5 +1.6
baz=153,SNR=19
NATX Nacogdoches 34.25 337 P P 00 05 22.6 +1.6
baz=153,SNR=19
NATX S S **00 10 49.9 +1.7**
baz=153
CPUP Villa Florida 34.31 142 P P 00 05 20.3 -1.3
comp=Z,65nm,0.8s,baz=324,slow=9.4,SNR=34
CPUP S S **00 10 53.0 +3.9**
comp=Z,53nm,0.9s,baz=71,slow=12,SNR=1.4
CPUP Villa Florida 34.31 142 P P 00 05 20.5 -1.1
CPUP pmax pmax
comp=Z,719nm,1.1s
CPUP Villa Florida 34.31 142 P P 00 05 20.5 -1.1
CPUP Villa Florida 34.31 142 eP P 00 05 20.6 -0.9
PEL Peldehue 34.38 166 P P 00 05 23.6 +1.4
PEL pmax pmax
comp=Z,5μm,1.4s
PEL Peldehue 34.38 166 P P 00 05 23.6 +1.4
MT02 Curacav 34.38 167 P P 00 05 23.3 +1.2
PAULI Pauline 34.41 357 P P 00 05 20.8 -1.5
PAULI IAmb IAmb 00 05 55.0
comp=Z,2μm,1.4s
PAULI Pauline 34.41 357 P P 00 05 23.6 +1.3
baz=177
PAULI S S **00 10 51.0 +0.6**
baz=177
X51A Calhoun 34.41 353 P P 00 05 23.3 +0.9
baz=171,SNR=13
X51A P P **00 05 23.3 +0.9**
baz=171,SNR=13
X51A S S **00 10 49.8 -0.8**
baz=171
X51A S S **00 10 49.8 -0.8**
baz=171
FPAL Fort Paine 34.49 352 P P 00 05 20.9 -2.1
FPAL IAmb IAmb 00 05 54.8
comp=Z,2μm,1.3s
Y45A Yeager Farm, C 34.59 346 P P 00 05 25.8 +1.9
baz=163,SNR=24
Y45A S S **00 10 53.2 -0.1**
baz=163
MT05 Renca 34.60 166 P P 00 05 25.9 +1.8
X48A Hartselle 34.63 350 P P 00 05 25.1 +0.9
baz=167,SNR=19
X48A S S **00 10 50.4 -3.6**
baz=167
435B Jarrell 34.63 333 P P 00 05 26.3 +1.9
baz=148,SNR=36
435B Jarrell 34.63 333 P P 00 05 26.9 +2.6
baz=148
435B S S **00 10 55.4 +1.3**
baz=148
CASEE Lake Jocassee 34.65 356 P P 00 05 25.7 +1.3
baz=175
CASEE S S **00 10 53.1 -1.1**
baz=175
VA05 Santo Domingo 34.66 168 P P 00 05 26.0 +1.5
VA05 IAmb IAmb 00 05 49.9
comp=Z,2μm,1.4s
W57A Gilead 34.70 360 P P 00 05 26.5 +1.7
baz=180,SNR=13
W57A P P **00 05 26.5 +1.7**
baz=180,SNR=13
W57A S S **00 10 55.1 +0.2**
baz=180
W57A S S **00 10 55.1 +0.2**
baz=180
KMSC Kings Mountain 34.71 358 P P 00 05 26.7 +1.8
baz=178,SNR=58
KMSC S S **00 10 56.6 +1.5**
baz=178
KMSC Kings Mountain 34.71 358 P P 00 05 26.2 +1.3
baz=178,SNR=58
KMSC S S **00 10 56.1 +1.0**
baz=178
MT03 Universidad Ad 34.76 166 P P 00 05 26.3 +0.8
MT03 IAmb IAmb 00 06 06.1
comp=Z,4μm,1.3s
W52A Murphy 34.83 354 P P 00 05 27.4 +1.4
baz=173,SNR=37
W52A S S **00 10 57.9 +0.8**
baz=173
CNNC Cliffs of the 34.84 3 P P 00 05 25.1 -0.9
CNNC Cliffs of the 34.84 3 P P 00 05 27.8 +1.9
baz=184,SNR=6.6
CNNC S S **00 10 59.5 +2.4**
baz=184
CNNC Cliffs of the 34.84 3 P P 00 05 28.1 +2.1
baz=184,SNR=6.6
CNNC S S **00 10 59.5 +2.4**
baz=184
MT09 Talagante 34.91 167 P P 00 05 27.5 +0.6
237A Washetta, Mont 34.92 336 P P 00 05 28.4 +1.6
baz=152,SNR=12
237A S S **00 10 59.4 +1.0**
baz=152
Z41A Richland Creek 34.95 341 P P 00 05 28.5 +1.5
baz=157,SNR=29
Z41A P P **00 05 28.5 +1.5**
baz=157,SNR=29
Z41A S S **00 10 57.6 -1.3**
baz=157
Z41A S S **00 10 57.6 -1.3**
baz=157
Z41A Richland Creek 34.95 341 P P 00 05 28.1 +1.1
baz=157,SNR=29
Z41A S S **00 10 58.8 -0.1**
baz=157
BBSR BB Station 35.03 23 P P 00 05 26.4 -1.3
BBSR BB Station 35.03 23 P P 00 05 29.8 +2.1
baz=207,SNR=9.0
BBSR S S **00 10 58.4 -1.7**
baz=207
W50A Signal Mountai 35.10 352 P P 00 05 29.5 +1.2
baz=171,SNR=52
W50A S S **00 11 01.3 +0.1**
baz=171
ITRB Iturama 35.18 126 eP P 00 05 28.3 -1.0
OXF Oxford 35.18 346 P P 00 05 26.8 -2.2
OXF pmax pmax
comp=Z,1μm,1.2s
OXF MLR MLR
comp=Z,386μm,20.0s
OXF Oxford 35.18 346 P P 00 05 26.8 -2.2
OXF Oxford 35.18 346 P P 00 05 28.7 -0.3
baz=163,SNR=15
OXF S S **00 11 01.5 -0.9**
baz=163
OXF Oxford 35.18 346 P P 00 05 28.9 0.0
baz=163,SNR=15
OXF S S **00 11 00.2 -2.2**
baz=163
SWET Sewanee 35.20 352 P P 00 05 27.0 -2.2
SWET IAmb IAmb 00 06 05.9
comp=Z,2μm,1.3s
BO04 La Punta 35.21 166 P P 00 05 30.2 +0.9
BO04 IAmb IAmb 00 06 24.7
comp=Z,3μm,1.4s
CCAR Cane Creek 35.24 343 P P 00 05 29.2 -0.3
CCAR IAmb IAmb 00 06 02.4
comp=Z,4μm,1.4s
CCAR Cane Creek 35.24 343 P P 00 05 31.1 +1.6
baz=159
CCAR S S **00 11 03.9 +0.5**
baz=159
CPCT Cooper Cave 35.25 354 P P 00 05 27.6 -2.0
CPCT IAmb IAmb 00 06 07.5
comp=Z,1μm,1.0s
V53A Saluda 35.31 356 P P 00 05 28.1 -2.0
V53A Saluda 35.31 356 P P 00 05 31.8 +1.6
baz=175,SNR=28
V53A P P **00 05 31.8 +1.6**
baz=175,SNR=28
V53A S S **00 11 04.7 +0.2**
baz=175
V53A S S **00 11 04.7 +0.2**
baz=175
BDFB Brasilia 35.31 118 P P 00 05 29.6 -0.9
comp=Z,265nm,0.8s,baz=284,slow=8.2,SNR=73
BDFB S S **00 10 59.8 -5.3**
comp=Z,185nm,1.1s,baz=34,slow=19,SNR=1.4
BDFB Brasilia 35.31 118 P P 00 05 29.6 -0.9
BDFB pmax pmax
comp=Z,2μm,1.2s
BDFB Brasilia 35.31 118 P P 00 05 29.6 -0.9
BDFB IAmb IAmb 00 05 49.4
comp=Z,2μm,1.2s
V58A Windy Hill, Pi 35.34 1 P P 00 05 31.7 +1.4
baz=181,SNR=28
V58A P P **00 05 31.7 +1.4**
baz=181,SNR=28
V58A S S **00 11 07.6 +2.7**
baz=181
V58A S S **00 11 07.6 +2.7**
baz=181
TKL Tuckaleechee C 35.38 355 LR LR 00 19 27.5
comp=Z,706μm,21.6s,baz=172,slow=36
TKL Tuckaleechee C 35.38 355 P P 00 05 29.0 -1.7
TKL pmax pmax
comp=Z,4μm,1.8s
TKL Tuckaleechee C 35.38 355 P P 00 05 29.0 -1.7
TKL IAmb IAmb 00 06 02.6
comp=Z,4μm,1.8s
TKL Tuckaleechee C 35.38 355 P P 00 05 31.7 +1.1
baz=173,SNR=39
TKL S S **00 11 05.0 -0.4**
baz=173
V55A Taylorsville 35.41 358 P P 00 05 32.4 +1.4
baz=178,SNR=12
V55A P P **00 05 32.4 +1.4**
baz=178,SNR=12
V55A S S **00 11 06.9 +0.9**
baz=178
V55A S S **00 11 06.9 +0.9**
baz=178
WLAR White Oak Lake 35.45 341 P P 00 05 30.1 -1.2
WLAR IAmb IAmb 00 06 04.3
comp=Z,3μm,1.5s
JCT Junction City 35.45 330 P P 00 05 30.2 -1.3
JCT pmax pmax
comp=Z,19μm,2.2s
JCT MLR MLR
comp=Z,177μm,22.0s
JCT Junction City 35.45 330 P P 00 05 30.2 -1.3
JCT Junction City 35.45 330 P P 00 05 32.8 +1.4
baz=144,SNR=114
JCT S S **00 11 09.0 +2.2**
baz=144
JCT Junction City 35.45 330 P P 00 05 33.4 +2.0
baz=144,SNR=114
JCT S S **00 11 08.6 +1.8**
baz=144
V61A Roper 35.47 5 P P 00 05 33.1 +1.7
baz=186,SNR=10
V61A P P **00 05 33.1 +1.7**
baz=186,SNR=10
V61A S S **00 11 08.1 +1.3**
baz=186
V61A S S **00 11 08.1 +1.3**
baz=186
BO01 Tunca 35.48 167 P P 00 05 31.7 +0.1
BO01 IAmb IAmb 00 06 06.5
comp=Z,5μm,1.6s
V52A Sevierville 35.54 355 P P 00 05 33.6 +1.5
baz=174,SNR=52
V52A S S **00 11 07.0 -1.0**
baz=174
V51A Loudon 35.58 354 P P 00 05 34.3 +1.9
baz=172,SNR=56
V51A S S **00 11 09.1 +0.6**
baz=172
WHTX Lake Whitney, 35.60 334 P P 00 05 34.8 +2.1
baz=149,SNR=26
WHTX S S **00 11 09.0 0.0**
baz=149
WHTX Lake Whitney, 35.60 334 P P 00 05 34.1 +1.4
baz=149,SNR=26
WHTX S S **00 11 08.9 -0.1**
baz=149
Z38A Mt. Pleasant 35.71 338 P P 00 05 32.5 -1.1
Z38A IAmb IAmb 00 06 05.5
comp=Z,3μm,1.4s
Z38A Mt. Pleasant 35.71 338 P P 00 05 35.6 +2.1
baz=154,SNR=22
Z38A S S **00 11 08.7 -1.9**
baz=154
W45A Hickory Valley 35.75 347 P P 00 05 34.5 +0.7
baz=164,SNR=14
W45A S S **00 11 07.7 -3.4**
baz=164
V48A Smith Brothers 35.85 350 P P 00 05 35.9 +1.2
baz=168,SNR=111
V48A S S **00 11 09.9 -2.8**
baz=168
MET Memphis--Engin 35.89 346 P P 00 05 34.0 -1.1
U56A King 35.89 359 P P 00 05 36.7 +1.6
baz=179,SNR=33
U56A P P **00 05 36.7 +1.6**
baz=179,SNR=33
U56A S S **00 11 14.9 +1.7**
baz=179
U56A S S **00 11 14.9 +1.7**
baz=179
GO05 Huala 35.91 169 P P 00 05 36.3 +1.0
BO02 Sierra Bellavi 35.94 167 P P 00 05 36.8 +1.2
U59A Littleton 35.95 3 P P 00 05 36.9 +1.4
baz=184,SNR=28
U59A P P **00 05 36.9 +1.4**
baz=184,SNR=28
U59A S S **00 11 15.7 +1.6**
baz=184
U59A S S **00 11 15.7 +1.6**
baz=184
X40A Basin Creek Fa 36.09 342 P P 00 05 37.5 +0.6
baz=158,SNR=28
X40A P P **00 05 37.5 +0.6**
baz=158,SNR=28
X40A S S **00 11 14.9 -1.6**
baz=158
X40A S S **00 11 14.9 -1.6**
baz=158
X40A Basin Creek Fa 36.09 342 P P 00 05 37.4 +0.6
baz=158,SNR=28
X40A S S **00 11 15.4 -1.1**
baz=158
U54A Nelsons Funny 36.10 357 P P 00 05 38.4 +1.5
baz=177,SNR=7.9
U54A P P **00 05 38.4 +1.5**
baz=177,SNR=7.9
U54A S S **00 11 17.0 +0.4**
baz=177
U54A S S **00 11 17.0 +0.4**
baz=177
IPMB Ipameri, GO 36.13 122 eP P 00 05 36.5 -1.0
HPIG 36.22 319 P P 00 05 37.0 -1.3
TZTN Tazewell 36.23 355 P P 00 05 36.1 -1.9
TZTN IAmb IAmb 00 06 15.8
comp=Z,2μm,1.2s
TZTN IAMs_20 IAMs_20 00 19 54.1
comp=Z,545μm,21.0s
TZTN Tazewell 36.23 355 P P 00 05 38.8 +0.8
baz=174,SNR=47
TZTN S S **00 11 18.7 +0.2**
baz=174
TZTN Tazewell 36.23 355 P P 00 05 38.9 +0.8
baz=174,SNR=47
TZTN S S **00 11 18.3 -0.3**
baz=174
MIAR Mount Ida 36.38 341 P P 00 05 37.5 -1.8
MIAR pmax pmax
comp=Z,884nm,1.2s
MIAR Mount Ida 36.38 341 P P 00 05 37.5 -1.8
MIAR Mount Ida 36.38 341 P P 00 05 40.3 +1.0
baz=157,SNR=32
MIAR S S **00 11 19.2 -1.7**
baz=157
MIAR Mount Ida 36.38 341 P P 00 05 40.0 +0.6
baz=157,SNR=32
MIAR S S **00 11 20.1 -0.8**
baz=157
WVT Waverly 36.41 349 P P 00 05 36.8 -2.7
WVT pmax pmax
comp=Z,933nm,1.4s
WVT MLR MLR
comp=Z,413μm,22.0s
WVT Waverly 36.41 349 P P 00 05 36.8 -2.7
WVT Waverly 36.41 349 P P 00 05 39.2 -0.3
baz=167,SNR=43
WVT S S **00 11 17.0 -4.1**
baz=167
WVT Waverly 36.41 349 P P 00 05 39.1 -0.3
baz=167
WVT S S **00 11 17.5 -3.7**
baz=167
U49A Red Boiling Sp 36.45 352 P P 00 05 40.4 +0.5
baz=170,SNR=49
U49A S S **00 11 20.3 -1.5**
baz=170
HBAR Harrisburg 36.48 345 P P 00 05 40.8 +0.7
baz=162
HBAR S S **00 11 20.0 -2.2**
baz=162
T57A Hurt 36.54 1 P P 00 05 41.6 +1.0
baz=181,SNR=29
T57A P P **00 05 41.6 +1.0**
baz=181,SNR=29
T57A S S **00 11 23.4 +0.2**
baz=181
T57A S S **00 11 23.4 +0.2**
baz=181
W41B Gary Mavity, V 36.55 343 P P 00 05 41.5 +0.7
baz=159,SNR=21
W41B S S **00 11 22.8 -0.6**
baz=159
W41B Gary Mavity, V 36.55 343 P P 00 05 41.3 +0.6
baz=159,SNR=21
W41B S S **00 11 22.7 -0.7**
baz=159
T59A Double "B" Far 36.58 3 P P 00 05 42.2 +1.3
baz=184,SNR=37
T59A P P **00 05 42.2 +1.3**
baz=184,SNR=37
T59A S S **00 11 24.8 +1.0**
baz=184
T59A S S **00 11 24.8 +1.0**
baz=184
Z35A Perchaven, San 36.67 335 P P 00 05 43.2 +1.4
baz=150,SNR=33
Z35A S S **00 11 26.9 +1.6**
baz=150
WHAR Wooly Hollow 36.67 343 P P 00 05 39.5 -2.2
TXAR Lajitas Array 36.68 324 P P 00 05 41.7 -0.3
comp=Z,16nm,1.0s,baz=142,slow=6.3,SNR=36
TXAR PcP PcP 00 08 04.9 -0.1
comp=Z,32nm,0.9s,baz=355,slow=3.1,SNR=1.4
TXAR S S **00 11 22.6 -3.1**
comp=Z,7.1nm,0.8s,baz=143,slow=4.4,SNR=1.0
TXAR LR LR 00 21 38.0
comp=Z,182μm,19.4s,baz=132,slow=38
TXAR Lajitas Array 36.68 324 P P 00 05 40.7 -1.4
TXAR Lajitas Array 36.68 324 P P 00 05 40.7 -1.4
TX31 Lajitas Ar. Si 36.68 324 P P 00 05 42.9 +0.8
baz=138,SNR=43
TX31 S S **00 11 28.2 +2.4**
baz=138
TX32 Lajitas Array 36.68 324 P P 00 05 40.9 -1.2
LNXT Lenox 36.72 347 P P 00 05 42.6 +0.5
baz=164
LNXT S S **00 11 21.8 -4.1**
baz=164
ML02 Panimavida 36.74 168 P P 00 05 43.0 +0.7
ML02 IAmb IAmb 00 06 40.8
comp=Z,3μm,1.2s
BLA Blacksburg 36.75 359 P P 00 05 40.9 -1.6
BLA pmax pmax
comp=Z,2μm,1.4s
BLA MLR MLR
comp=Z,388μm,21.0s
BLA Blacksburg 36.75 359 P P 00 05 40.9 -1.6
BLA IAmb IAmb 00 06 03.6
comp=Z,2μm,1.4s
BLA Blacksburg 36.75 359 P P 00 05 43.9 +1.4
baz=179,SNR=24
BLA S S **00 11 28.2 +1.6**
baz=179
BLA Blacksburg 36.75 359 P P 00 05 44.0 +1.6
baz=179,SNR=24
BLA S S **00 11 27.7 +1.2**
baz=179
T60A Surry 36.80 4 P P 00 05 45.1 +2.3
baz=185
T60A P P **00 05 45.1 +2.3**
baz=185
T60A S S **00 11 29.9 +2.7**
baz=185
T60A S S **00 11 29.9 +2.7**
baz=185
T50A Nancy 36.83 354 P P 00 05 43.8 +0.7
baz=172
T50A P P **00 05 43.8 +0.7**
baz=172
T50A S S **00 11 26.0 -1.7**
baz=172
T50A S S **00 11 26.0 -1.7**
baz=172
SDBA SAO DESIDERIO 37.02 111 eP P 00 05 43.9 -1.2
X37A Clayton 37.04 339 P P 00 05 47.0 +2.0
baz=154,SNR=16
X37A S S **00 11 31.5 +0.5**
baz=154
W39A Magazine 37.05 341 P P 00 05 46.6 +1.6
baz=157,SNR=35
W39A S S **00 11 31.5 +0.5**
baz=157
W39A Magazine 37.05 341 P P 00 05 46.2 +1.2
baz=157,SNR=35
W39A S S **00 11 31.4 +0.4**
baz=157
LCAR Lake Charles 37.09 345 P P 00 05 45.1 -0.3
baz=161
LCAR S S **00 11 29.2 -2.4**
baz=161
T47A Sharon Grove 37.12 351 P P 00 05 45.9 +0.3
baz=168,SNR=35
T47A S S **00 11 25.2 -6.8**
baz=168
ABTX Abilene, Hawle 37.13 332 P P 00 05 44.9 -0.9
ABTX IAmb IAmb 00 06 27.8
comp=Z,3μm,1.4s
ABTX Abilene, Hawle 37.13 332 P P 00 05 47.8 +2.0
baz=146,SNR=24
ABTX S S **00 11 33.2 +0.8**
baz=146
ABTX Abilene, Hawle 37.13 332 P P 00 05 48.3 +2.5
baz=146,SNR=24
ABTX S S **00 11 33.7 +1.3**
baz=146
FCAR Ozark Folk Cen 37.19 344 P P 00 05 43.5 -2.6

ITQB	**Itaqui**	**37.20**	**145**	P	**P**	**00 05 46.1**	**-0.2**
ITQB	**Itaqui**	**37.20**	**145**	*e*P	**P**	**00 05 46.1**	**-0.2**
SLBS	**Sierra La Lagu**	**37.23**	**311**	P	**P**	**00 05 46.1**	**-0.7**
SLBS				IAmb	IAmb	00 06 24.8	
	comp=Z,4μm,1.4s						
JSRW	**J. Sargeant Re**	**37.28**	**3**	P	**P**	**00 05 45.3**	**-1.6**
S57A	**Dark Hollow, R**	**37.31**	**1**	P	**P**	**00 05 48.2**	**+1.0**
	baz=182,SNR=10						
S57A				P	**P**	**00 05 48.2**	**+1.0**
	baz=182,SNR=10						
S57A				S	**S**	**00 11 36.6**	**+1.7**
	baz=182						
S57A				S	**S**	**00 11 36.6**	**+1.7**
	baz=182						
S51A	**Beattyville**	**37.33**	**355**	P	**P**	**00 05 48.2**	**+0.9**
	baz=174,SNR=62						
S51A				P	**P**	**00 05 48.2**	**+0.9**
	baz=174,SNR=62						
S51A				S	**S**	**00 11 35.4**	**+0.3**
	baz=174						
S51A				S	**S**	**00 11 35.4**	**+0.3**
	baz=174						
BB19B	**Bebedouro**	**37.35**	**127**	*e*P	**P**	**00 05 46.0**	**-1.8**
S54A	**Dingess, Beckl**	**37.36**	**358**	P	**P**	**00 05 48.7**	**+1.1**
	baz=178,SNR=30						
S54A				P	**P**	**00 05 48.7**	**+1.1**
	baz=178,SNR=30						
S54A				S	**S**	**00 11 35.4**	**-0.3**
	baz=178						
S54A				S	**S**	**00 11 35.4**	**-0.3**
	baz=178						
BI05	**Punta Hualpn**	**37.38**	**171**	P	**P**	**00 05 48.6**	**+0.9**
T45B	**Paducah**	**37.42**	**349**	P	**P**	**00 05 47.8**	**-0.3**
	baz=166,SNR=25						
T45B				S	**S**	**00 11 33.1**	**-3.5**
	baz=166						
S61A	**Accomac**	**37.43**	**6**	P	**P**	**00 05 48.4**	**+0.3**
	baz=187						
S61A				P	**P**	**00 05 48.4**	**+0.3**
	baz=187						
S61A				S	**S**	**00 11 40.0**	**+3.3**
	baz=187						
S61A				S	**S**	**00 11 40.0**	**+3.3**
	baz=187						
R58B	**Mineral**	**37.55**	**3**	P	**P**	**00 05 50.9**	**+1.7**
	baz=183,SNR=32						
R58B				P	**P**	**00 05 50.9**	**+1.7**
	baz=183,SNR=32						
R58B				S	**S**	**00 11 40.5**	**+2.0**
	baz=183						
R58B				S	**S**	**00 11 40.5**	**+2.0**
	baz=183						
PBMO	**Poplar Bluff**	**37.59**	**346**	P	**P**	**00 05 50.2**	**+0.7**
	baz=163,SNR=45						
PBMO				S	**S**	**00 11 37.1**	**-2.0**
	baz=163						
LPIG	**La Paz**	**37.74**	**311**	LR	LR	00 18 22.2	
	comp=Z,326μm,21.3s,baz=97,slow=32						
CBN	**Corbin Frederi**	**37.82**	**3**	P	**P**	**00 05 50.1**	**-1.3**
CBN				IAMs_20	IAMs_20	00 23 00.8	
	comp=Z,455μm,19.0s						
CBN	**Corbin Frederi**	**37.82**	**3**	P	**P**	**00 05 53.2**	**+1.7**
	baz=184,SNR=11						
CBN				S	**S**	**00 11 43.8**	**+1.2**
	baz=184						
CBN	**Corbin Frederi**	**37.82**	**3**	P	**P**	**00 05 53.3**	**+1.9**
	baz=184,SNR=11						
CBN				S	**S**	**00 11 45.2**	**+2.6**
	baz=184						
R55A	**Marlinton**	**37.82**	**360**	P	**P**	**00 05 53.1**	**+1.5**
	baz=180,SNR=30						
R55A				P	**P**	**00 05 53.1**	**+1.5**
	baz=180,SNR=30						
R55A				S	**S**	**00 11 42.0**	**-0.8**
	baz=180						
R55A				S	**S**	**00 11 42.0**	**-0.8**
	baz=180						
U40A	**Yellville**	**37.83**	**343**	P	**P**	**00 05 52.4**	**+0.7**
	baz=159,SNR=63						
U40A				P	**P**	**00 05 52.4**	**+0.7**
	baz=159,SNR=63						
U40A				S	**S**	**00 11 40.5**	**-2.4**
	baz=159						
U40A				S	**S**	**00 11 40.5**	**-2.4**
	baz=159						
U40A	**Yellville**	**37.83**	**343**	P	**P**	**00 05 52.4**	**+0.7**
	baz=159,SNR=63						
U40A				S	**S**	**00 11 42.0**	**-0.9**
	baz=159						
R53A	**Hurricane**	**37.91**	**357**	P	**P**	**00 05 53.0**	**+0.8**
	baz=177,SNR=37						
R53A				P	**P**	**00 05 53.0**	**+0.8**
	baz=177,SNR=37						
R53A				S	**S**	**00 11 44.6**	**+0.6**
	baz=177						
R53A				S	**S**	**00 11 44.6**	**+0.6**
	baz=177						
X34A	**Smith Ranch, M**	**38.01**	**336**		**P**	**00 05 53.4**	**+0.2**
X34A				IAmb	IAmb	00 06 42.0	
	comp=Z,4μm,1.7s						
R50A	**Paris**	**38.03**	**354**	P	**P**	**00 05 53.9**	**+0.7**
	baz=173,SNR=46						
R50A				P	**P**	**00 05 53.9**	**+0.7**
	baz=173,SNR=46						
R50A				S	**S**	**00 11 43.5**	**-2.3**
	baz=173						
R50A				S	**S**	**00 11 43.5**	**-2.3**
	baz=173						
HHAR	**Hobbs**	**38.09**	**342**	P	**P**	**00 05 52.2**	**-1.7**
HHAR	**Hobbs**	**38.09**	**342**	P	**P**	**00 05 55.0**	**+1.2**
	baz=157						
HHAR				S	**S**	**00 11 45.4**	**-1.5**
	baz=157						
R61A	**Willards**	**38.11**	**6**	P	**P**	**00 05 57.0**	**+3.2**
	baz=187						
R61A				P	**P**	**00 05 57.0**	**+3.2**
	baz=187						
R61A				S	**S**	**00 11 51.5**	**+4.6**
	baz=187						
R61A				S	**S**	**00 11 51.5**	**+4.6**
	baz=187						
R49A	**Shelbyville**	**38.13**	**353**	P	**P**	**00 05 54.0**	**0.0**
	baz=172,SNR=48						
R49A				P	**P**	**00 05 54.0**	**0.0**
	baz=172,SNR=48						
S44A	**Carbondale**	**38.20**	**348**	P	**P**	**00 05 55.1**	**+0.4**
	baz=165,SNR=65						
S44A				S	**S**	**00 11 45.8**	**-2.6**
	baz=165						
TUL1	**Leonard**	**38.38**	**339**	P	**P**	**00 05 57.4**	**+1.2**
	baz=154,SNR=30						
TUL1				S	**S**	**00 11 50.2**	**-1.0**
	baz=154						
TUL1	**Leonard**	**38.38**	**339**	P	**P**	**00 05 57.0**	**+0.7**
	baz=154,SNR=30						
TUL1				S	**S**	**00 11 50.5**	**-0.7**
	baz=154						
JANB	**Januaria**	**38.41**	**115**	*e*P	**P**	**00 05 55.3**	**-1.6**
WMOK	**Wichita Mounta**	**38.52**	**335**	P	**P**	**00 05 55.9**	**-1.6**
WMOK				pmax	pmax		
	comp=Z,711nm,1.1s						
WMOK				MLR	MLR		
	comp=Z,125μm,20.0s						
WMOK	**Wichita Mounta**	**38.52**	**335**	P	**P**	**00 05 55.9**	**-1.6**
WMOK	**Wichita Mounta**	**38.52**	**335**	P	**P**	**00 05 59.1**	**+1.6**
	baz=149,SNR=26						
WMOK				S	**S**	**00 11 54.5**	**+1.1**
	baz=149						
WMOK	**Wichita Mounta**	**38.52**	**335**	P	**P**	**00 05 58.8**	**+1.3**
	baz=149,SNR=26						
WMOK				S	**S**	**00 11 53.9**	**+0.5**
	baz=149						
Q54A	**Coxs Mills**	**38.53**	**359**	P	**P**	**00 05 58.3**	**+0.9**
	baz=178,SNR=34						
Q54A				P	**P**	**00 05 58.3**	**+0.9**
	baz=178,SNR=34						
Q54A				S	**S**	**00 11 53.3**	**-0.1**
	baz=178						
Q54A				S	**S**	**00 11 53.3**	**-0.1**
	baz=178						
Q52A	**Bidwell**	**38.55**	**357**	P	**P**	**00 05 58.1**	**+0.4**
	baz=176,SNR=50						
Q52A				P	**P**	**00 05 58.1**	**+0.4**
	baz=176,SNR=50						
Q52A				S	**S**	**00 11 53.5**	**-0.2**
	baz=176						
Q52A				S	**S**	**00 11 53.5**	**-0.2**
	baz=176						
Q56A	**Snyder Ridge,**	**38.58**	**1**	P	**P**	**00 05 59.6**	**+1.7**
	baz=181,SNR=29						
Q56A				P	**P**	**00 05 59.6**	**+1.7**
	baz=181,SNR=29						
Q56A				S	**S**	**00 11 56.1**	**+1.9**
	baz=181						
Q56A				S	**S**	**00 11 56.1**	**+1.9**
	baz=181						
MIDE	**Milford**	**38.65**	**6**	P	**P**	**00 06 01.9**	**+3.4**
	baz=187,SNR=7.5						
MIDE				S	**S**	**00 11 58.8**	**+3.6**
	baz=187						
Q51A	**Peebles**	**38.68**	**356**	P	**P**	**00 05 59.7**	**+0.9**
	baz=174,SNR=69						
Q51A				P	**P**	**00 05 59.7**	**+0.9**
	baz=174,SNR=69						
Q51A				S	**S**	**00 11 54.6**	**-1.1**
	baz=174						
Q51A				S	**S**	**00 11 54.6**	**-1.1**
	baz=174						
FVM	**French Village**	**38.73**	**347**	P	**P**	**00 05 59.2**	**0.0**
	baz=163,SNR=84						
FVM				S	**S**	**00 11 51.3**	**-5.2**
	baz=163						
NBPS	**Pedro II - PI**	**38.78**	**97**	*e*P	**P**	**00 05 57.9**	**-2.1**
OLIL	**Olney**	**38.99**	**350**	P	**P**	**00 06 01.3**	**0.0**
	baz=167,SNR=58						
OLIL				S	**S**	**00 11 56.6**	**-3.6**
	baz=167						
CCM	**Cathedral Cave**	**39.00**	**346**	P	**P**	**00 05 58.5**	**-2.9**
CCM				pmax	pmax		
	comp=Z,1μm,1.1s						
CCM				MLR	MLR		
	comp=Z,324μm,20.0s						
CCM	**Cathedral Cave**	**39.00**	**346**	P	**P**	**00 05 58.5**	**-2.9**
CCM	**Cathedral Cave**	**39.00**	**346**	P	**P**	**00 06 01.3**	**-0.1**
	baz=162,SNR=97						
CCM				S	**S**	**00 11 57.2**	**-3.2**
	baz=162						
CCM	**Cathedral Cave**	**39.00**	**346**	P	**P**	**00 06 01.5**	**+0.1**
	baz=162						
CCM				S	**S**	**00 11 57.4**	**-3.0**
	baz=162						
P53A	**Whipple**	**39.04**	**358**	P	**P**	**00 06 03.0**	**+1.3**
	baz=178,SNR=38						
P53A				P	**P**	**00 06 03.0**	**+1.3**
	baz=178,SNR=38						
P53A				S	**S**	**00 12 00.2**	**-0.9**
	baz=178						
P53A				S	**S**	**00 12 00.2**	**-0.9**
	baz=178						
SDMD	**Soldier's Deli**	**39.05**	**4**	P	**P**	**00 05 59.8**	**-2.0**
SDMD	**Soldier's Deli**	**39.05**	**4**	P	**P**	**00 06 02.7**	**+0.9**
	baz=185						
SDMD				S	**S**	**00 12 02.9**	**+1.7**
	baz=185						
P57A	**Homestead Farm**	**39.06**	**2**	P	**P**	**00 06 04.0**	**+2.1**
	baz=183,SNR=18						
P57A				P	**P**	**00 06 04.0**	**+2.1**
	baz=183,SNR=18						
P57A				S	**S**	**00 12 02.7**	**+1.4**
	baz=183						
P57A				S	**S**	**00 12 02.7**	**+1.4**
	baz=183						
P51A	**Williamsport**	**39.12**	**356**	P	**P**	**00 06 02.7**	**+0.3**
	baz=175,SNR=11						
P51A				P	**P**	**00 06 02.7**	**+0.3**
	baz=175,SNR=11						
P51A				S	**S**	**00 12 00.9**	**-1.3**
	baz=175						
P51A				S	**S**	**00 12 00.9**	**-1.3**
	baz=175						
MCWV	**Mont Chateau**	**39.19**	**0**	P	**P**	**00 06 01.7**	**-1.3**
MCWV	**Mont Chateau**	**39.19**	**0**	P	**P**	**00 06 04.8**	**+1.8**
	baz=180,SNR=9.1						
MCWV				S	**S**	**00 12 04.1**	**+0.8**
	baz=180						
MCWV	**Mont Chateau**	**39.19**	**0**	P	**P**	**00 06 04.5**	**+1.5**
	baz=180,SNR=9.1						
MCWV				S	**S**	**00 12 04.7**	**+1.3**
	baz=180						
S39A	**Bolivar**	**39.21**	**343**	P	**P**	**00 06 03.6**	**+0.4**
	baz=159,SNR=23						
S39A				S	**S**	**00 11 59.5**	**-4.2**
	baz=159						
P52A	**Corning**	**39.22**	**357**	IAMs_20	IAMs_20	00 21 21.0	
	comp=Z,518μm,22.0s						
P52A	**Corning**	**39.22**	**357**	P	**P**	**00 06 03.5**	**+0.2**
	baz=176,SNR=45						
P52A				S	**S**	**00 12 02.1**	**-1.7**
	baz=176						
RPN	**Rapa Nui**	**39.23**	**224**	P	**P**	**00 06 02.4**	**-1.1**
	comp=Z,26nm,0.6s,baz=58,slow=9.5,SNR=3.3						
RPN				LR	LR	00 18 00.9	
	comp=Z,3234μm,21.5s,baz=52,slow=30						
RPN	**Rapa Nui**	**39.23**	**224**	P	**P**	**00 06 03.6**	**+0.1**
RPN				pmax	pmax		
	comp=Z,7μm,1.8s						
RPN	**Rapa Nui**	**39.23**	**224**	P	**P**	**00 06 03.6**	**+0.1**
RPN				IAmb	IAmb	00 06 43.3	
	comp=Z,7μm,1.8s						
TIJ01	**Guaruva-PR**	**39.30**	**133**	*e*P	**P**	**00 06 05.0**	**+0.8**
P49A	**Miami Univ. Ec**	**39.31**	**354**	IAMs_20	IAMs_20	00 21 28.5	
	comp=Z,1008μm,22.0s						
P49A	**Miami Univ. Ec**	**39.31**	**354**	P	**P**	**00 06 03.6**	**-0.4**
	baz=172,SNR=36						
P49A				S	**S**	**00 12 00.9**	**-4.2**
	baz=172						
P49A	**Miami Univ. Ec**	**39.31**	**354**	P	**P**	**00 06 03.4**	**-0.6**
	baz=172,SNR=36						
P49A				S	**S**	**00 12 02.3**	**-2.8**
	baz=172						
P48A	**Milroy**	**39.31**	**353**	P	**P**	**00 06 04.1**	**+0.1**
	baz=171,SNR=43						
P48A				P	**P**	**00 06 04.1**	**+0.1**
	baz=171,SNR=43						
P48A				S	**S**	**00 12 00.9**	**-4.2**
	baz=171						
P48A				S	**S**	**00 12 00.9**	**-4.2**
	baz=171						
SLM	**Saint Louis**	**39.32**	**347**	P	**P**	**00 06 03.8**	**-0.3**
	baz=164,SNR=14						
SLM				S	**S**	**00 11 59.1**	**-6.1**
	baz=164						
VA02	**Isla de Pascua**	**39.32**	**224**	P	**P**	**00 06 05.2**	**+1.0**
Q44A	**Meyer Farm, Va**	**39.32**	**349**	P	**P**	**00 06 04.4**	**+0.3**
	baz=166,SNR=52						
Q44A				S	**S**	**00 12 00.5**	**-4.8**
	baz=166						
MNTX	**Cornudas Mount**	**39.42**	**325**	P	**P**	**00 06 05.3**	**+0.2**
	baz=138,SNR=192						
MNTX				S	**S**	**00 12 07.5**	**+0.5**
	baz=138						
MNTX	**Cornudas Mount**	**39.42**	**325**	P	**P**	**00 06 04.8**	**-0.2**
	baz=138,SNR=192						
MNTX				S	**S**	**00 12 10.3**	**+3.3**
	baz=138						
R40A	**Maddies Statio**	**39.48**	**345**	P	**P**	**00 06 06.2**	**+0.8**
	baz=160,SNR=61						
P61A	**Hammonton**	**39.49**	**6**	P	**P**	**00 06 08.3**	**+2.8**
	baz=188,SNR=13						
P61A				P	**P**	**00 06 08.3**	**+2.8**
	baz=188,SNR=13						
P61A				S	**S**	**00 12 11.4**	**+3.5**
	baz=188						
P61A				S	**S**	**00 12 11.4**	**+3.5**
	baz=188						
T35B	**Sooner Cattle**	**39.54**	**339**	P	**P**	**00 06 07.3**	**+1.3**
	baz=153,SNR=33						
T35B				S	**S**	**00 12 08.1**	**-0.6**
	baz=153						
GEDE	**Greenville**	**39.55**	**5**	P	**P**	**00 06 08.4**	**+2.5**
	baz=187,SNR=26						
GEDE				S	**S**	**00 12 11.0**	**+2.4**
	baz=187						
VAO	**Valinhos**	**39.58**	**128**	*e*P	**P**	**00 06 04.5**	**-2.1**
CPSB	**Cacapava Do Su**	**39.61**	**143**	*e*P	**P**	**00 06 05.5**	**-1.2**
WUPA	**West Chester U**	**39.67**	**5**	P	**P**	**00 06 05.3**	**-1.7**
MVL	**Millersville**	**39.67**	**4**	P	**P**	**00 06 06.0**	**-1.0**
O52A	**Adamsville**	**39.69**	**358**	P	**P**	**00 06 07.7**	**+0.6**
	baz=177,SNR=46						
O52A				P	**P**	**00 06 07.7**	**+0.6**
	baz=177,SNR=46						
O52A				S	**S**	**00 12 07.2**	**-3.6**
	baz=177						
O52A				S	**S**	**00 12 07.2**	**-3.6**
	baz=177						
LC01	**Cunco**	**39.69**	**170**	P	**P**	**00 06 07.8**	**+0.6**
LC01				IAmb	IAmb	00 06 40.6	
	comp=Z,4μm,1.5s						
P46A	**Rosedale**	**39.70**	**351**	P	**P**	**00 06 06.6**	**-0.6**
	baz=169,SNR=11						
P46A				S	**S**	**00 12 06.3**	**-4.7**
	baz=169						
MSTX	**Muleshoe**	**39.75**	**330**	P	**P**	**00 06 06.0**	**-1.8**
MSTX				IAmb	IAmb	00 06 49.4	
	comp=Z,3μm,1.2s						
MSTX	**Muleshoe**	**39.75**	**330**	P	**P**	**00 06 09.2**	**+1.3**
	baz=143,SNR=37						
MSTX				S	**S**	**00 12 11.4**	**-0.8**
	baz=143						
MSTX	**Muleshoe**	**39.75**	**330**	P	**P**	**00 06 07.8**	**-0.1**
	baz=143,SNR=37						
MSTX				S	**S**	**00 12 14.3**	**+2.1**
	baz=143						
O53A	**New Philadelph**	**39.80**	**359**	P	**P**	**00 06 08.4**	**+0.4**
	baz=178,SNR=65						
O53A				S	**S**	**00 12 11.4**	**-1.0**
	baz=178						
ACSO	**Alum Creek Sta**	**39.86**	**356**	IAMs_20	IAMs_20	00 22 06.0	
	comp=Z,481μm,21.0s						
ACSO	**Alum Creek Sta**	**39.86**	**356**	P	**P**	**00 06 09.0**	**+0.4**
	baz=175,SNR=52						
ACSO				S	**S**	**00 12 07.6**	**-5.8**
	baz=175						
ACSO	**Alum Creek Sta**	**39.86**	**356**	P	**P**	**00 06 08.7**	**+0.1**
	baz=175,SNR=52						
ACSO				S	**S**	**00 12 11.4**	**-2.0**
	baz=175						
O49A	**Covington**	**39.92**	**355**	P	**P**	**00 06 09.0**	**0.0**
	baz=173,SNR=41						
O49A				P	**P**	**00 06 09.0**	**0.0**
	baz=173,SNR=41						
O49A				S	**S**	**00 12 09.2**	**-5.1**
	baz=173						
O49A				S	**S**	**00 12 09.2**	**-5.1**
	baz=173						
TUPA	**Temple Univers**	**39.94**	**6**	P	**P**	**00 06 10.6**	**+1.4**
	baz=187						
TUPA				S	**S**	**00 12 16.9**	**+2.4**
	baz=187						
PET01	**Itanhaem-SP**	**40.02**	**130**	*e*P	**P**	**00 06 08.3**	**-1.9**
U32A	**Winter Ranch,**	**40.02**	**336**	P	**P**	**00 06 11.9**	**+1.8**
	baz=150,SNR=34						
U32A				S	**S**	**00 12 15.6**	**-0.4**
	baz=150						
O48B	**Farmland**	**40.07**	**354**	P	**P**	**00 06 10.4**	**+0.1**
	baz=172,SNR=66						
O48B				S	**S**	**00 12 13.1**	**-3.4**
	baz=172						
O48B	**Farmland**	**40.07**	**354**	P	**P**	**00 06 09.8**	**-0.5**
	baz=172,SNR=66						
O48B				S	**S**	**00 12 13.1**	**-3.4**
	baz=172						
NBMO	**Morrinhos-CE**	**40.08**	**95**	*e*P	**P**	**00 06 09.0**	**-1.8**
EPT	**El Paso**	**40.13**	**324**	IAMs_20	IAMs_20	00 22 36.5	
	comp=Z,524μm,18.0s						
KIDD	**KIDD Seismic O**	**40.13**	**324**	S	**S**	**00 12 20.8**	**+2.9**
	baz=136						
P43A	**Skaggs, Pawnee**	**40.13**	**349**	P	**P**	**00 06 07.9**	**-2.9**
P43A				IAmb	IAmb	00 06 42.2	
	comp=Z,3μm,1.6s						
P43A	**Skaggs, Pawnee**	**40.13**	**349**	P	**P**	**00 06 10.8**	**0.0**
	baz=185,SNR=14						
PANJ	**Princeton**	**40.20**	**6**	P	**P**	**00 06 13.4**	**+2.1**
	baz=188,SNR=49						
PANJ				S	**S**	**00 12 21.7**	**+3.3**
	baz=188						
SSPA	**Standing Stone**	**40.21**	**2**	P	**P**	**00 06 09.8**	**-1.7**
SSPA	**Standing Stone**	**40.21**	**2**	IAMs_20	IAMs_20	00 25 59.4	
	comp=Z,438μm,19.0s						
SSPA	**Standing Stone**	**40.21**	**2**	P	**P**	**00 06 13.2**	**+1.7**
	baz=183,SNR=36						
SSPA				S	**S**	**00 12 19.5**	**+0.9**
	baz=183						
SSPA	**Standing Stone**	**40.21**	**2**	P	**P**	**00 06 13.0**	**+1.5**
	baz=183						
SSPA				S	**S**	**00 12 19.9**	**+1.3**
	baz=183						
LR03	**Panguipulli**	**40.33**	**171**	P	**P**	**00 06 13.8**	**+1.3**
N53A	**Lisbon**	**40.35**	**359**	P	**P**	**00 06 13.0**	**+0.4**
	baz=179,SNR=32						
N53A				P	**P**	**00 06 13.0**	**+0.4**
	baz=179,SNR=32						
N53A				S	**S**	**00 12 18.5**	**-2.1**
	baz=179						
N53A				S	**S**	**00 12 18.5**	**-2.1**
	baz=179						
O44A	**Mansfield**	**40.43**	**350**	P	**P**	**00 06 13.2**	**-0.1**
	baz=167,SNR=12						
O44A				S	**S**	**00 12 17.2**	**-4.8**
	baz=167						
SFIN	**Lafayette**	**40.43**	**352**	P	**P**	**00 06 12.8**	**-0.5**
	baz=169,SNR=11						
SFIN				S	**S**	**00 12 27.3**	**+5.3**
	baz=169						
SFIN	**Lafayette**	**40.43**	**352**	P	**P**	**00 06 12.4**	**-0.9**
	baz=169,SNR=11						
SFIN				S	**S**	**00 12 15.6**	**-6.3**
	baz=169						
N58A	**Sunbury**	**40.48**	**4**	P	**P**	**00 06 15.2**	**+1.5**
	baz=185,SNR=31						
N58A				P	**P**	**00 06 15.2**	**+1.5**
	baz=185,SNR=31						
N58A				S	**S**	**00 12 23.3**	**+0.7**
	baz=185						
N58A				S	**S**	**00 12 23.3**	**+0.7**
	baz=185						
PLTB	**Pedras Altas**	**40.49**	**144**	P	**P**	**00 06 13.5**	**-0.4**
PLTB				IAmb	IAmb	00 06 43.0	
	comp=Z,2μm,1.1s						
PLTB	**Pedras Altas**	**40.49**	**144**	*e*P	**P**	**00 06 14.6**	**+0.7**
N54A	**Moraine State**	**40.49**	**360**	P	**P**	**00 06 15.5**	**+1.6**
	baz=180,SNR=66						
N54A				S	**S**	**00 12 21.9**	**-1.0**
	baz=180						
N54A	**Moraine State**	**40.49**	**360**	P	**P**	**00 06 15.3**	**+1.5**
	baz=180,SNR=66						
N54A				S	**S**	**00 12 21.7**	**-1.2**
	baz=180						
N51A	**Ashland**	**40.51**	**357**	P	**P**	**00 06 14.2**	**+0.2**
	baz=176,SNR=34						
N51A				P	**P**	**00 06 14.2**	**+0.2**
	baz=176,SNR=34						
N51A				S	**S**	**00 12 19.9**	**-3.2**
	baz=176						
N51A				S	**S**	**00 12 19.9**	**-3.2**
	baz=176						
BRNJ	**Basking Ridge**	**40.52**	**6**	P	**P**	**00 06 12.2**	**-1.7**
BRNJ	**Basking Ridge**	**40.52**	**6**	P	**P**	**00 06 16.6**	**+2.6**
	baz=188,SNR=8.3						
BRNJ				S	**S**	**00 12 25.7**	**+2.6**
	baz=188						
P40A	**Paris**	**40.59**	**346**	P	**P**	**00 06 14.5**	**-0.2**
	baz=161,SNR=24						
P40A				S	**S**	**00 12 20.6**	**-3.7**
	baz=161						
LPA	**La Plata**	**40.63**	**152**	*c i*P	**P**	**00 06 11.8**	**-3.2**
LPA				PP	**PP**	**00 07 49.3**	**+0.6**
LPA				pPP		00 08 09.3	
LPA				S	**S**	**00 12 26.9**	**+2.0**
LPA				SS	**SnSn**	**00 15 45.0**	**+14**
N59A	**State Game Lan**	**40.63**	**5**	P	**P**	**00 06 17.4**	**+2.4**
	baz=186,SNR=38						
N59A				S	**S**	**00 12 27.4**	**+2.5**
	baz=186						
N59A	**State Game Lan**	**40.63**	**5**	P	**P**	**00 06 16.7**	**+1.8**
	baz=186,SNR=38						
N59A				S	**S**	**00 12 27.8**	**+2.9**
	baz=186						
N49A	**Columbus Grove**	**40.63**	**355**	P	**P**	**00 06 14.9**	**0.0**
	baz=174,SNR=31						
N49A				P	**P**	**00 06 14.9**	**0.0**
	baz=174,SNR=31						
N49A				S	**S**	**00 12 22.0**	**-2.9**
	baz=174						
N49A				S	**S**	**00 12 22.0**	**-2.9**
	baz=174						
CPNY	**Central Park**	**40.69**	**7**	P	**P**	**00 06 14.2**	**-1.2**
N47A	**Urbana**	**40.74**	**353**	P	**P**	**00 06 16.0**	**+0.1**
	baz=171,SNR=41						
N47A				P	**P**	**00 06 16.0**	**+0.1**
	baz=171,SNR=41						
N47A				S	**S**	**00 12 21.6**	**-5.0**
	baz=171						
N47A				S	**S**	**00 12 21.6**	**-5.0**

baz=171
NBPB Pedra_Branca-C 40.75 99 *e*P **P** **00 06 15.8 -0.7**
FOR Fordham 40.77 7 P **P** **00 06 18.4 +2.3**
baz=189,SNR=7.1
FOR S **S** **00 12 28.9 +1.9**
baz=189
N62A Caumsett State 40.89 8 P **P** **00 06 19.3 +2.2**
baz=190
N62A P **P** **00 06 19.3 +2.2**
baz=190
N62A S **S** **00 12 30.7 +1.9**
baz=190
N62A S **S** **00 12 30.7 +1.9**
baz=190
ODNJ Ogdensburg 40.91 6 P **P** **00 06 19.5 +2.3**
baz=188,SNR=23
ODNJ S **S** **00 12 30.5 +1.5**
baz=188
PAL Palisades 40.91 7 P **P** **00 06 19.2 +2.0**
baz=189,SNR=10
PAL S **S** **00 12 31.1 +2.1**
baz=189
PAL Palisades 40.91 7 P **P** **00 06 18.6 +1.3**
baz=189,SNR=10
PAL S **S** **00 12 31.3 +2.3**
baz=189
M57A Sunshine Farm, 40.95 3 P **P** **00 06 19.9 +2.3**
baz=184,SNR=67
M57A P **P** **00 06 19.9 +2.3**
baz=184,SNR=67
M57A S **S** **00 12 30.4 +0.7**
baz=184
M57A S **S** **00 12 30.4 +0.7**
baz=184
HDIL Hopedale 40.97 349 P **P** **00 06 17.6 -0.1**
baz=166,SNR=12
HDIL S **S** **00 12 24.5 -5.4**
baz=166
HDIL Hopedale 40.97 349 P **P** **00 06 17.2 -0.5**
baz=166,SNR=12
HDIL S **S** **00 12 24.5 -5.4**
baz=166
M53A WI Miller and 40.98 359 P **P** **00 06 18.3 +0.5**
baz=179,SNR=33
M53A S **S** **00 12 27.9 -2.1**
baz=179
SRIG Santa Rosalia 41.01 314 P **P** **00 06 18.1 -0.2**
M55A Ridgway 41.02 1 P **P** **00 06 19.4 +1.2**
baz=182,SNR=25
M55A P **P** **00 06 19.4 +1.2**
baz=182,SNR=25
M55A S **S** **00 12 30.9 +0.3**
baz=182
M55A S **S** **00 12 30.9 +0.3**
baz=182
M50A Fremont 41.03 356 P **P** **00 06 18.8 +0.6**
baz=175,SNR=48
M50A P **P** **00 06 18.8 +0.6**
baz=175,SNR=48
M50A S **S** **00 12 27.6 -3.1**
baz=175
M50A S **S** **00 12 27.6 -3.1**
baz=175
NBPN Ponto Novo - B 41.06 107 *e*P **P** **00 06 17.7 -1.3**
P38A Dawn 41.07 344 P **P** **00 06 19.0 +0.4**
baz=159,SNR=13
P38A S **S** **00 12 27.2 -4.3**
baz=159
M52A Chesterland 41.09 358 P **P** **00 06 19.2 +0.4**
baz=178,SNR=13
M52A P **P** **00 06 19.2 +0.4**
baz=178,SNR=13
M52A S **S** **00 12 30.5 -1.2**
baz=178
M52A S **S** **00 12 30.5 -1.2**
baz=178
HSIG 41.12 317 P **P** **00 06 18.8 -0.4**
TER01 Tubaro-SC 41.15 137 *e*P **P** **00 06 17.5 -1.9**
ALLY Alegheny Colle 41.18 360 P **P** **00 06 20.8 +1.3**
baz=180,SNR=30
ALLY S **S** **00 12 32.3 -0.8**
baz=180
KSPA Keystone Colle 41.27 5 P **P** **00 06 18.8 -1.4**
KSPA Keystone Colle 41.27 5 P **P** **00 06 22.7 +2.6**
baz=186,SNR=56
KSPA S **S** **00 12 35.1 +0.8**
baz=186
BRNY Black Rk. Fore 41.30 7 P **P** **00 06 22.8 +2.3**
baz=189,SNR=20
BRNY S **S** **00 12 36.9 +2.1**
baz=189
121A Cookes Peak, D 41.43 323 P **P** **00 06 21.4 -0.5**
121A IAmb IAmb 00 07 01.4
comp=Z,4μm,1.3s
121A Cookes Peak, D 41.43 323 P **P** **00 06 23.3 +1.4**
baz=135,SNR=105
121A S **S** **00 12 37.6 +0.3**
baz=135
121A Cookes Peak, D 41.43 323 P **P** **00 06 22.7 +0.8**
baz=135,SNR=105
121A S **S** **00 12 41.6 +4.2**
baz=135
N41A Harden Midland 41.44 347 P **P** **00 06 21.1 -0.5**
baz=163,SNR=9.7
N41A S **S** **00 12 31.8 -5.1**
baz=163
KSU1 Kansas State U 41.53 340 P **P** **00 06 23.1 +0.7**
baz=154,SNR=48
KSU1 S **S** **00 12 38.4 0.0**
baz=154
KSU1 Kansas State U 41.53 340 P **P** **00 06 23.0 +0.6**
baz=154,SNR=48
KSU1 S **S** **00 12 38.1 -0.2**
baz=154
319A Douglas 41.55 321 P **P** **00 06 22.1 -0.7**
M63A Gales Ferry 41.56 9 P **P** **00 06 24.9 +2.3**
baz=192,SNR=38
M63A P **P** **00 06 24.9 +2.3**
baz=192,SNR=38
M63A S **S** **00 12 41.4 +2.8**
baz=192
M63A S **S** **00 12 41.4 +2.8**
baz=192
M44A Midewin, Midew 41.57 351 P **P** **00 06 21.5 -1.1**
baz=168,SNR=11
M44A S **S** **00 12 31.0 -7.8**
baz=168
LL04 Puerto Octay 41.57 171 P **P** **00 06 22.4 -0.3**
LL04 IAmb IAmb 00 06 54.3
comp=Z,3μm,1.2s
ESAR Angra dos Reis 41.60 126 *e*P **P** **00 06 22.1 -1.1**
NPNY Mohonk Preserv 41.62 7 S **S** **00 12 42.0 +2.4**
baz=189
ERPA Erie 41.65 360 P **P** **00 06 21.2 -2.1**
ERPA Erie 41.65 360 P **P** **00 06 24.5 +1.2**
baz=180,SNR=21
ERPA S **S** **00 12 38.3 -1.7**
baz=180
ERPA Erie 41.65 360 P **P** **00 06 23.6 +0.2**
baz=180,SNR=21
ERPA S **S** **00 12 38.0 -2.0**
baz=180
L48A N Adams 41.67 355 P **P** **00 06 24.1 +0.6**
baz=173,SNR=32
L48A P **P** **00 06 24.1 +0.6**
baz=173,SNR=32
L48A S **S** **00 12 35.3 -5.0**
baz=173
L48A S **S** **00 12 35.3 -5.0**
baz=173
R32A Long Quarter, 41.68 338 P **P** **00 06 25.9 +2.2**
baz=151,SNR=79
R32A S **S** **00 12 40.6 0.0**
baz=151
PLCA Paso Flores 41.71 169 P **P** **00 06 22.9 -1.1**
comp=Z,32nm,0.8s,baz=344,slow=8.9,SNR=40
PLCA S **S** **00 12 38.9 -2.2**
comp=Z,33nm,1.2s,baz=326,slow=8.6,SNR=1.3
PLCA LR LR 00 20 59.4
comp=Z,1948μm,21.8s,baz=0.0,slow=32
PLCA Paso Flores 41.71 169 P **P** **00 06 23.9 -0.1**
PLCA pmax pmax
comp=Z,2μm,1.1s
PLCA Paso Flores 41.71 169 P **P** **00 06 23.9 -0.1**
PLCA Paso Flores 41.71 169 *e*P **P** **00 06 25.0 +1.0**
L56A Greenwood 41.73 3 P **P** **00 06 25.1 +1.1**
baz=184,SNR=14
L56A P **P** **00 06 25.1 +1.1**
baz=184,SNR=14
L56A S **S** **00 12 39.7 -1.6**
baz=184
L56A S **S** **00 12 39.7 -1.6**
baz=184
LL03 Petrohue 41.80 171 P **P** **00 06 24.7 +0.2**
LL03 IAmb IAmb 00 07 32.3
comp=Z,2μm,1.0s
NBMA Muriti-CE 41.80 101 *e*P **P** **00 06 22.9 -2.1**
BINY Binghamton 41.89 4 P **P** **00 06 23.6 -1.7**
BINY Binghamton 41.89 4 P **P** **00 06 27.0 +1.7**
baz=186,SNR=44
BINY S **S** **00 12 43.9 +0.3**
baz=186
BINY Binghamton 41.89 4 P **P** **00 06 26.7 +1.4**
baz=186,SNR=44
BINY S **S** **00 12 45.5 +1.9**
baz=186
NBCL Cascavel-CE 41.90 97 *e*P **P** **00 06 25.8 0.0**
LL05 Los Muermos 41.91 173 P **P** **00 06 26.7 +1.2**
MAN01 Angra dos Reis 41.92 126 *e*P **P** **00 06 24.7 -1.2**
UCCT U. Connecticut 41.92 9 P **P** **00 06 24.1 -1.4**
BNM Barren Site 41.93 326 P **P** **00 06 25.0 -1.1**
L46A Eue Claire 41.93 353 P **P** **00 06 24.8 -0.9**
baz=170,SNR=9.5
L46A P **P** **00 06 24.8 -0.9**
baz=170,SNR=9.5
L46A S **S** **00 12 36.6 -7.5**
baz=170
L46A S **S** **00 12 36.6 -7.5**
baz=170
M65A Busby, Falmout 41.95 10 P **P** **00 06 27.8 +2.0**
baz=194
M65A S **S** **00 12 48.2 +3.8**
baz=194
WVNY West Valley, N 41.96 2 P **P** **00 06 27.1 +1.2**
baz=182,SNR=12
WVNY S **S** **00 12 41.8 -2.8**
baz=182
L59A Walton 41.96 5 P **P** **00 06 27.9 +2.0**
baz=187,SNR=30
L59A P **P** **00 06 27.9 +2.0**
baz=187,SNR=30
L59A S **S** **00 12 46.1 +1.4**
baz=187
L59A S **S** **00 12 46.1 +1.4**
baz=187
AAM Ann Arbor 41.96 356 P **P** **00 06 23.1 -2.7**
AAM pmax pmax
comp=Z,1μm,1.4s
AAM MLR MLR
comp=Z,569μm,22.0s
AAM Ann Arbor 41.96 356 P **P** **00 06 23.1 -2.7**
AAM IAMs_20 IAMs_20 00 23 33.7
comp=Z,569μm,22.0s
AAM Ann Arbor 41.96 356 P **P** **00 06 26.3 +0.5**
baz=174,SNR=11
AAM S **S** **00 12 40.6 -4.0**
baz=174
AAM Ann Arbor 41.96 356 P **P** **00 06 26.0 +0.1**
baz=174,SNR=11
AAM S **S** **00 12 41.1 -3.5**
baz=174
Y22A Socorro 41.96 326 P **P** **00 06 29.5 +3.3**
baz=137,SNR=101
Y22A S **S** **00 12 49.5 +4.2**
baz=137
Y22D IRIS PASSCAL I 42.04 326 IAMs_20 IAMs_20 00 24 16.0
comp=Z,542μm,19.0s
Y22D IRIS PASSCAL I 42.04 326 P **P** **00 06 30.4 +3.6**
baz=137
Y22D S **S** **00 12 48.8 +2.4**
baz=137
Y22D IRIS PASSCAL I 42.04 326 P **P** **00 06 31.2 +4.3**
baz=137,SNR=17
Y22D S **S** **00 12 51.1 +4.8**
baz=137
VAS01 Vassouras-RJ 42.07 125 *e*P **P** **00 06 25.7 -1.4**
N38A Joes South For 42.08 345 P **P** **00 06 26.6 -0.3**
baz=160,SNR=16
N38A S **S** **00 12 43.2 -3.3**
baz=160
L64A Middleborough 42.28 10 P **P** **00 06 30.7 +2.3**
baz=194,SNR=8.1
L64A P **P** **00 06 30.7 +2.3**
baz=194,SNR=8.1
L64A S **S** **00 12 51.0 +1.7**
baz=194
L64A S **S** **00 12 51.0 +1.7**
baz=194
MMNY Mt. Morris Dam 42.30 2 P **P** **00 06 26.3 -2.3**
L44A Lake County Fo 42.32 351 IAMs_20 IAMs_20 00 26 02.2
comp=Z,474μm,18.0s
L44A Lake County Fo 42.32 351 P **P** **00 06 27.3 -1.5**
baz=168,SNR=6.2
L44A S **S** **00 12 42.2 -7.7**
baz=168
L44A Lake County Fo 42.32 351 P **P** **00 06 27.6 -1.2**
baz=168,SNR=6.2
L44A S **S** **00 12 43.4 -6.4**
baz=168
K50A Casco 42.37 357 P **P** **00 06 29.3 +0.1**
baz=176,SNR=34
K50A P **P** **00 06 29.3 +0.1**
baz=176,SNR=34
K50A S **S** **00 12 47.1 -3.5**
baz=176
K50A S **S** **00 12 47.1 -3.5**
baz=176
QUA2 Belchertown 42.37 8 P **P** **00 06 30.8 +1.6**
baz=191
QUA2 S **S** **00 12 51.0 +0.3**
baz=191
K57A Scipio Center 42.38 4 P **P** **00 06 30.6 +1.4**
baz=185,SNR=73
K57A S **S** **00 12 49.5 -1.3**
baz=185
CBKS Cedar Bluff 42.41 337 P **P** **00 06 28.3 -1.4**
CBKS pmax pmax
comp=Z,10μm,2.0s
CBKS MLR MLR
comp=Z,217μm,21.0s
CBKS Cedar Bluff 42.41 337 P **P** **00 06 28.3 -1.4**
CBKS Cedar Bluff 42.41 337 P **P** **00 06 31.7 +1.9**
baz=150,SNR=18
CBKS S **S** **00 12 52.5 +0.9**
baz=150
CBKS Cedar Bluff 42.41 337 P **P** **00 06 31.6 +1.9**
baz=150,SNR=18
CBKS S **S** **00 12 54.9 +3.3**
baz=150
ANMO Albuquerque 42.43 327*c i* P **P** **00 06 29.8 -0.3**
ANMO pmax pmax
comp=Z,781nm,1.0s
ANMO MLR MLR
comp=Z,217μm,18.0s
ANMO Albuquerque 42.43 327 P **P** **00 06 28.7 -1.4**
ANMO IAmb IAmb 00 07 09.9
comp=Z,2μm,1.1s
ANMO Albuquerque 42.43 327 P **P** **00 06 30.9 +0.9**
baz=139,SNR=169
ANMO S **S** **00 12 54.1 +1.9**
baz=139
ANMO Albuquerque 42.43 327 P **P** **00 06 33.5 +3.5**
baz=139
ANMO S **S** **00 12 55.5 +3.3**
baz=139
L42A Oliver, Polo 42.45 349 P **P** **00 06 28.9 -0.9**
baz=166,SNR=10
L42A S **S** **00 12 46.1 -5.6**
baz=166
L61B Northampton 42.49 8 P **P** **00 06 32.1 +1.9**
baz=191,SNR=13
L61B S **S** **00 12 54.1 +1.6**
baz=191
L61B Northampton 42.49 8 P **P** **00 06 31.4 +1.2**
baz=191,SNR=13
L61B S **S** **00 12 54.3 +1.9**
baz=191
SJMB Sao Joao De Ma 42.51 118 *e*P **P** **00 06 29.1 -1.6**
HCNY Howe Caverns 42.52 6 P **P** **00 06 32.1 +1.6**
baz=188,SNR=32
HCNY S **S** **00 12 54.6 +1.7**
baz=188
WES Weston 42.64 9 P **P** **00 06 33.9 +2.6**
baz=193
WES S **S** **00 12 57.1 +2.6**
baz=193
TRY Troy 42.64 7 P **P** **00 06 33.4 +2.0**
baz=189
TRY S **S** **00 12 57.2 +2.6**
baz=189
HRV Adam Dziewonsk 42.72 9 P **P** **00 06 30.9 -1.1**
HRV pmax pmax
comp=Z,1μm,1.4s
HRV MLR MLR
comp=Z,314μm,20.0s
HRV Adam Dziewonsk 42.72 9 P **P** **00 06 30.9 -1.1**
HRV Adam Dziewonsk 42.72 9 P **P** **00 06 33.9 +1.9**
baz=192,SNR=14
HRV S **S** **00 12 57.5 +1.8**
baz=192
HRV Adam Dziewonsk 42.72 9 P **P** **00 06 34.1 +2.1**
baz=192
HRV S **S** **00 12 58.4 +2.7**
baz=192
MEDO Medina 42.72 2 P **P** **00 06 29.9 -2.1**
K62A Royalston 42.77 8 P **P** **00 06 34.4 +1.9**
baz=191,SNR=25
K62A P **P** **00 06 34.4 +1.9**
baz=191,SNR=25
K62A S **S** **00 12 59.2 +2.7**
baz=191
K62A S **S** **00 12 59.2 +2.7**
baz=191
L40A Anamosa 42.81 348 P **P** **00 06 32.6 -0.1**
baz=163,SNR=51
L40A S **S** **00 12 49.6 -7.5**
baz=163
J54A Appleton 42.82 1 P **P** **00 06 33.8 +0.9**
baz=182,SNR=13
J54A P **P** **00 06 33.8 +0.9**
baz=182,SNR=13
J54A S **S** **00 12 53.4 -3.8**
baz=182
J54A S **S** **00 12 53.4 -3.8**
baz=182
N35A Tabor 42.82 342 P **P** **00 06 33.2 +0.3**
baz=157,SNR=16
N35A S **S** **00 12 52.9 -4.5**
baz=157
J55A Hilton 42.84 2 P **P** **00 06 34.0 +1.1**
baz=183,SNR=27
J55A P **P** **00 06 34.0 +1.1**
baz=183,SNR=27
J55A S **S** **00 12 56.4 -1.1**
baz=183
J55A S **S** **00 12 56.4 -1.1**
baz=183
DUB01 Friburgo-RJ 42.87 124 *e*P **P** **00 06 32.3 -1.3**
CMC01 Camacan, BA 42.89 113 *e*P **P** **00 06 32.8 -1.1**
K43A Burlington 42.90 351 P **P** **00 06 32.3 -1.2**
baz=168,SNR=24
J56A Wolcott 42.90 3 P **P** **00 06 35.1 +1.7**
baz=184,SNR=54
J56A P **P** **00 06 35.1 +1.7**
baz=184,SNR=54
J56A S **S** **00 12 56.9 -1.4**
baz=184
J56A S **S** **00 12 56.9 -1.4**
baz=184
J47A Sunmer 42.99 355 P **P** **00 06 31.6 -2.6**
J47A Sunmer 42.99 355 P **P** **00 06 33.8 -0.4**
baz=173
J47A P **P** **00 06 33.8 -0.4**
baz=173
J47A S **S** **00 12 55.8 -3.9**
baz=173
J47A S **S** **00 12 55.8 -3.9**
baz=173
GUA01 Guaratinga, BA 43.01 115 *e*P **P** **00 06 33.5 -1.3**
LL01 San Ignacio de 43.01 172 P **P** **00 06 35.5 +1.2**
T25A Trinidad 43.07 331 P **P** **00 06 34.0 -1.3**
T25A IAmb IAmb 00 07 25.3
comp=Z,4μm,1.7s
T25A Trinidad 43.07 331 P **P** **00 06 39.0 +3.7**
baz=143,SNR=30
T25A S **S** **00 13 08.0 +6.4**
baz=143
J58A Remsen 43.10 5 P **P** **00 06 36.5 +1.3**
baz=187,SNR=45
J58A P **P** **00 06 36.5 +1.3**
baz=187,SNR=45
TUC Tucson 43.12 321 P **P** **00 06 34.1 -1.5**
TUC pmax pmax
comp=Z,1μm,1.3s
TUC MLR MLR
comp=Z,1149μm,18.0s
TUC Tucson 43.12 321 P **P** **00 06 34.1 -1.5**
TUC Tucson 43.12 321 P **P** **00 06 38.0 +2.4**
baz=132
TUC S **S** **00 13 06.0 +3.8**
baz=132
SCIA State Center 43.13 346 P **P** **00 06 32.9 -2.5**
SCIA State Center 43.13 346 P **P** **00 06 35.3 -0.1**
baz=160,SNR=16
SCIA S **S** **00 12 55.6 -6.2**
baz=160
SCIA State Center 43.13 346 P **P** **00 06 35.2 -0.2**
baz=160,SNR=16
SCIA S **S** **00 12 56.7 -5.1**
baz=160
NAN01 Guarapari, ES 43.14 117 *e*P **P** **00 06 34.3 -1.5**
J59A Piesco 43.27 6 P **P** **00 06 37.2 +0.6**
baz=188,SNR=60
J59A P **P** **00 06 37.2 +0.6**
baz=188,SNR=60
J59A S **S** **00 13 03.9 -0.1**
baz=188
J59A S **S** **00 13 03.9 -0.1**
baz=188
N33B J Bar K, Exete 43.28 341 P **P** **00 06 38.5 +1.8**
baz=154,SNR=11
N33B S **S** **00 13 02.7 -1.5**
baz=154
ACCN Adirondack Com 43.29 7 P **P** **00 06 38.2 +1.6**
baz=189,SNR=38
ACCN S **S** **00 13 06.1 +2.0**
baz=189
LL07 Hotel Espejo d 43.31 173 P **P** **00 06 36.6 -0.2**
LL07 IAmb IAmb 00 07 08.7
comp=Z,4μm,1.4s
CAM01 Campos-RJ 43.35 123 *e*P **P** **00 06 36.4 -1.1**
J61A Chester 43.39 8 P **P** **00 06 39.9 +2.4**
baz=191,SNR=34
J61A P **P** **00 06 39.9 +2.4**
baz=191,SNR=34
J61A S **S** **00 13 07.7 +2.1**
baz=191
J61A S **S** **00 13 07.7 +2.1**
baz=191
UNH University of 43.40 10 P **P** **00 06 39.2 +1.7**
baz=193,SNR=9.2
UNH S **S** **00 13 08.3 +2.6**
baz=193
NBLA Lagarto - SE 43.40 106 *e*P **P** **00 06 35.8 -2.2**
RIB01 Linhares ES 43.43 119 *e*P **P** **00 06 36.5 -1.7**
JFWS Jewell Farm 43.43 349 P **P** **00 06 34.9 -2.9**
JFWS pmax pmax
comp=Z,850nm,0.9s
JFWS Jewell Farm 43.43 349 P **P** **00 06 34.9 -2.9**
JFWS Jewell Farm 43.43 349 P **P** **00 06 37.6 -0.3**
baz=165,SNR=46
JFWS S S 00 12 56.5 -10
baz=165
JFWS Jewell Farm 43.43 349 P **P** **00 06 37.1 -0.8**
baz=165,SNR=46
JFWS S **S** **00 13 00.9 -5.4**
baz=165
I49A Point Hope 43.54 357 P **P** **00 06 39.8 +1.1**
baz=176,SNR=44
I49A P **P** **00 06 39.8 +1.1**
baz=176,SNR=44
I49A S **S** **00 13 03.8 -4.1**
baz=176
I49A S **S** **00 13 03.8 -4.1**
baz=176
GO07 Milladeo Hill, 43.57 173 P **P** **00 06 39.8 +0.9**
GO07 IAmb IAmb 00 07 11.0
comp=Z,5μm,1.4s
FFD Franklin Falls 43.64 9 P **P** **00 06 42.5 +3.0**
baz=192
FFD S **S** **00 13 10.8 +1.5**
baz=192
ALF01 Guarapari-ES 43.65 121 *e*P **P** **00 06 38.6 -1.3**

WCNY	**West Carthage**	**43.68**	**5**	P		**P**	**00 06 41.1**	**+1.3**
WCNY	baz=186,SNR=45			S		**S**	**00 13 10.4**	**+0.5**
K38A	**Parkersburg**	**43.72**	**346**	P		**P**	**00 06 40.1**	**0.0**
K38A	baz=161,SNR=32			S		**S**	**00 13 06.2**	**-4.2**
KSCO	**Kaye Shedlock'**	**43.77**	**334**	P		**P**	**00 06 43.1**	**+2.3**
KSCO	baz=146,SNR=15			S		**S**	**00 13 13.3**	**+1.6**
KSCO	**Kaye Shedlock'**	**43.77**	**334**	P		**P**	**00 06 43.1**	**+2.3**
KSCO	baz=146,SNR=15			S		**S**	**00 13 15.4**	**+3.7**
HNH	**Hanover**	**43.78**	**8**	P		**P**	**00 06 43.1**	**+2.5**
HNH	baz=191			S		**S**	**00 13 14.3**	**+3.0**
NCB	**Newcomb**	**43.80**	**6**	P		**P**	**00 06 42.0**	**+1.2**
LL02	baz=188,SNR=16 **Futaleuf**	**43.89**	**171**	P		**P**	**00 06 41.6**	**+0.1**
I45A	**Fountain**	**43.92**	**354**	P		**P**	**00 06 41.1**	**-0.6**
I45A	baz=171,SNR=9.4			P		**P**	**00 06 41.1**	**-0.6**
I45A	baz=171,SNR=9.4			S		**S**	**00 13 08.4**	**-4.9**
I45A	baz=171			S		**S**	**00 13 08.4**	**-4.9**
MCVT	baz=171 **Middlebury Col**	**43.93**	**7**	P		**P**	**00 06 44.0**	**+2.2**
MCVT	baz=190,SNR=29			S		**S**	**00 13 13.9**	**+0.4**
L34A	baz=190 **Svendsen Farm,**	**44.06**	**342**	P		**P**	**00 06 43.3**	**+0.4**
L34A	baz=156,SNR=11			S		**S**	**00 13 11.1**	**-4.4**
SDCO	baz=156 **Great Sand Dun**	**44.08**	**331**	P		**P**	**00 06 42.3**	**-1.2**
SDCO	comp=Z,2µm,1.2s			IAmb	IAmb		00 07 22.9	
SDCO	comp=Z,406µm,21.0s			IAMs_20	IAMs_20		00 26 40.9	
SDCO	**Great Sand Dun**	**44.08**	**331**	P		**P**	**00 06 45.4**	**+1.9**
SDCO	baz=142,SNR=54			S		**S**	**00 13 20.2**	**+3.7**
SDCO	baz=142 **Great Sand Dun**	**44.08**	**331**	P		**P**	**00 06 46.1**	**+2.6**
SDCO	baz=142,SNR=54			S		**S**	**00 13 20.7**	**+4.1**
I62A	baz=142 **Tamworth**	**44.09**	**9**	P		**P**	**00 06 45.1**	**+2.0**
I62A	baz=192,SNR=10			P		**P**	**00 06 45.1**	**+2.0**
I62A	baz=192,SNR=10			S		**S**	**00 13 18.1**	**+2.3**
I62A	baz=192			S		**S**	**00 13 18.1**	**+2.3**
DELO	baz=192 **Deloro Mine**	**44.10**	**2**	P		**P**	**00 06 40.9**	**-2.3**
X18A	**Snowflake**	**44.11**	**324**	P		**P**	**00 06 42.6**	**-1.1**
BGNE	**Belgrade**	**44.12**	**340**	P		**P**	**00 06 41.7**	**-1.7**
BGNE	**Belgrade**	**44.12**	**340**	P		**P**	**00 06 44.1**	**+0.7**
BGNE	baz=153,SNR=14			S		**S**	**00 13 14.7**	**-1.6**
BGNE	baz=153 **Belgrade**	**44.12**	**340**	P		**P**	**00 06 44.3**	**+0.9**
BGNE	baz=153,SNR=14			S		**S**	**00 13 14.8**	**-1.6**
I42A	baz=153 **Draeger Farm,**	**44.15**	**351**	P		**P**	**00 06 43.4**	**-0.1**
I42A	baz=167,SNR=113			S		**S**	**00 13 11.8**	**-4.8**
214A	baz=167 **Organ Pipe Nat**	**44.21**	**319**	P		**P**	**00 06 46.4**	**+2.1**
214A	baz=129,SNR=73			S		**S**	**00 13 22.6**	**+4.6**
SADO	baz=129 **Sadowa**	**44.31**	**1**	P		**P**	**00 06 41.9**	**-2.9**
VT1	**Waterbury**	**44.33**	**7**	P		**P**	**00 06 46.9**	**+1.9**
LBNH	baz=190 **Lisbon**	**44.35**	**8**	P		**P**	**00 06 44.4**	**-0.8**
LBNH	comp=Z,887nm,1.2s			pmax	pmax			
LBNH	comp=Z,248µm,19.0s			MLR	MLR			
LBNH	**Lisbon**	**44.35**	**8**	P		**P**	**00 06 44.4**	**-0.8**
LBNH	**Lisbon**	**44.35**	**8**	P		**P**	**00 06 47.3**	**+2.0**
LBNH	baz=192,SNR=26			S		**S**	**00 13 23.2**	**+3.5**
LBNH	baz=192 **Lisbon**	**44.35**	**8**	P		**P**	**00 06 47.2**	**+2.0**
LBNH	baz=192,SNR=26			S		**S**	**00 13 24.0**	**+4.3**
I63A	baz=192 **Otisfield**	**44.38**	**10**	P		**P**	**00 06 47.9**	**+2.5**
I63A	baz=193,SNR=34			P		**P**	**00 06 47.9**	**+2.5**
I63A	baz=193,SNR=34			S		**S**	**00 13 23.1**	**+3.1**
I63A	baz=193			S		**S**	**00 13 23.1**	**+3.1**
W18A	baz=193 **Petrified Fore**	**44.40**	**324**	P		**P**	**00 06 47.1**	**+1.1**
W18A	baz=135,SNR=141			S		**S**	**00 13 27.1**	**+6.1**
LONY	baz=135 **Lake Ozonia**	**44.41**	**6**	P		**P**	**00 06 43.6**	**-2.0**
LONY	comp=Z,6µm,2.7s			IAmb	IAmb		00 07 38.3	
LONY	**Lake Ozonia**	**44.41**	**6**	P		**P**	**00 06 47.0**	**+1.3**
LONY	baz=188,SNR=32			S		**S**	**00 13 21.1**	**+0.6**
RCBR	baz=188 **Riachuelo**	**44.42**	**99**	LR		LR	00 26 52.4	
RCBR	comp=Z,2967µm,18.1s,baz=54,slow=38 **Riachuelo**	**44.42**	**99**	*ce*P		**P**	**00 06 45.3**	**-1.0**
RCBR	comp=Z,170nm,1.7s			pmax	pmax			
RCBR	**Riachuelo**	**44.42**	**99**	P		**P**	**00 06 44.5**	**-1.8**
RCBR	**Riachuelo**	**44.42**	**99**	*e*P		**P**	**00 06 45.0**	**-1.3**
H43A	**Windswept, Lux**	**44.54**	**352**	P		**P**	**00 06 46.7**	**0.0**
H43A	baz=169,SNR=91			S		**S**	**00 13 15.2**	**-7.2**
GLMI	baz=169 **Grayling**	**44.55**	**355**	P		**P**	**00 06 44.0**	**-2.8**
GLMI	comp=Z,2µm,1.1s			IAmb	IAmb		00 07 22.5	
GLMI	**Grayling**	**44.55**	**355**	P		**P**	**00 06 46.7**	**0.0**
GLMI	baz=173,SNR=13			S		**S**	**00 13 16.3**	**-6.1**
GLMI	baz=173 **Grayling**	**44.55**	**355**	P		**P**	**00 06 46.4**	**-0.3**
GLMI	baz=173,SNR=13			S		**S**	**00 13 18.9**	**-3.6**
BMNY	baz=173 **Brushton-Moira**	**44.64**	**6**	P		**P**	**00 06 48.2**	**+0.8**
BMNY	baz=188,SNR=33			S		**S**	**00 13 22.5**	**-1.2**
FRNY	baz=188 **Flat Rock**	**44.73**	**6**	P		**P**	**00 06 50.3**	**+2.1**
FRNY	baz=189,SNR=23			S		**S**	**00 13 26.2**	**+1.1**
S22A	baz=189 **4UR Ranch, Cre**	**44.75**	**329**	P		**P**	**00 06 48.0**	**-0.9**
S22A	comp=Z,2µm,1.4s			IAmb	IAmb		00 07 28.1	
S22A	**4UR Ranch, Cre**	**44.75**	**329**	P		**P**	**00 06 51.1**	**+2.2**
S22A	baz=140,SNR=46			S		**S**	**00 13 31.0**	**+4.8**
H62A	baz=140 **Milan**	**44.80**	**9**	P		**P**	**00 06 51.1**	**+2.4**
H62A	baz=192,SNR=18			P		**P**	**00 06 51.1**	**+2.4**
H62A	baz=192,SNR=18			S		**S**	**00 13 29.9**	**+3.7**
H62A	baz=192			S		**S**	**00 13 29.9**	**+3.7**
G45A	baz=192 **Suttons Bay**	**44.85**	**354**	P		**P**	**00 06 49.0**	**-0.1**
G45A	baz=172,SNR=42			P		**P**	**00 06 49.0**	**-0.1**
G45A	baz=172,SNR=42			S		S	00 13 16.6	-10
G45A	baz=172			S		S	00 13 16.6	-10
	baz=172							
Q24A	**Divide**	**44.88**	**332**	P		**P**	**00 06 48.7**	**-1.1**
Q24A	comp=Z,2µm,1.7s			IAmb	IAmb		00 07 30.0	
Q24A	**Divide**	**44.88**	**332**	P		**P**	**00 06 52.0**	**+2.2**
Q24A	baz=143,SNR=38			S		**S**	**00 13 32.7**	**+4.6**
X16A	baz=143 **Lo Mia Camp, P**	**44.93**	**322**	P		**P**	**00 06 49.0**	**-1.3**
AY01	**Puyuhuapi**	**44.98**	**173**	P		**P**	**00 06 51.0**	**+0.9**
SFX	**San Felipe**	**45.03**	**316**	P		**P**	**00 06 50.7**	**-0.1**
SFX	comp=Z,2µm,1.4s			IAmb	IAmb		00 07 28.7	
WVL	**Waterville**	**45.04**	**10**	P		**P**	**00 06 53.5**	**+2.8**
WVL	baz=195			S		**S**	**00 13 32.0**	**+2.5**
NBPV	baz=195 **Pedro Velho**	**45.09**	**99**	*e*P		**P**	**00 06 51.3**	**-0.3**
OGNE	**Ogallala**	**45.15**	**336**	P		**P**	**00 06 53.5**	**+1.8**
OGNE	baz=148,SNR=11			S		**S**	**00 13 34.9**	**+3.4**
OGNE	baz=148 **Ogallala**	**45.15**	**336**	P		**P**	**00 06 53.8**	**+2.0**
OGNE	baz=148,SNR=11			S		**S**	**00 13 36.0**	**+4.5**
I37B	baz=148 **Waseca**	**45.16**	**346**	P		**P**	**00 06 50.7**	**-0.9**
MVCO	baz=161,SNR=10 **Mesa Verde**	**45.22**	**328**	P		**P**	**00 06 54.5**	**+2.0**
MVCO	baz=138,SNR=158			S		**S**	**00 13 37.5**	**+4.6**
MNTQ	baz=138 **Montreal, Queb**	**45.38**	**6**	P		**P**	**00 06 51.8**	**-1.5**
K31A	**O'Neill**	**45.41**	**341**	P		**P**	**00 06 54.5**	**+0.8**
K31A	baz=153,SNR=25			S		**S**	**00 13 34.6**	**-0.5**
G62A	baz=153 **West of Eustis**	**45.52**	**9**	P		**P**	**00 06 57.3**	**+2.7**
G62A	baz=193,SNR=66			P		**P**	**00 06 57.3**	**+2.7**
G62A	baz=193,SNR=66			S		**S**	**00 13 39.6**	**+3.0**
G62A	baz=193			S		**S**	**00 13 39.6**	**+3.0**
NBRF	baz=193 **Rio Formoso -**	**45.56**	**102**	*e*P		**P**	**00 06 53.9**	**-1.5**
Y14A	**Wickenburg**	**45.59**	**321**	P		**P**	**00 06 54.7**	**-0.6**
Y14A	comp=Z,2µm,1.4s			IAmb	IAmb		00 07 33.6	
EMMW	**East Machias**	**45.62**	**12**	IAMs_20	IAMs_20		00 27 55.8	
EMMW	comp=Z,359µm,20.0s **East Machias**	**45.62**	**12**	P		**P**	**00 06 57.6**	**+2.4**
EMMW	baz=198			S		**S**	**00 13 40.3**	**+2.4**
WUAZ	baz=198 **Wupatki**	**45.64**	**324**	P		**P**	**00 06 54.9**	**-0.9**
WUAZ	comp=Z,3µm,1.1s			IAmb	IAmb		00 07 35.4	
WUAZ	comp=Z,510µm,18.0s			IAMs_20	IAMs_20		00 25 29.4	
WUAZ	**Wupatki**	**45.64**	**324**	P		**P**	**00 06 59.6**	**+3.8**
WUAZ	baz=133,SNR=97			S		**S**	**00 13 43.7**	**+4.7**
G40A	baz=133 **Rib Lake**	**45.70**	**350**	P		**P**	**00 06 55.8**	**-0.2**
G40A	baz=166,SNR=77			S		**S**	**00 13 33.2**	**-6.0**
ECSD	baz=166 **EROS Data Cent**	**45.74**	**343**	P		**P**	**00 06 53.6**	**-2.7**
ECSD	**EROS Data Cent**	**45.74**	**343**	P		**P**	**00 06 56.1**	**-0.2**
ECSD	baz=156,SNR=52			S		**S**	**00 13 38.3**	**-1.6**
ECSD	baz=156 **EROS Data Cent**	**45.74**	**343**	P		**P**	**00 06 56.3**	**0.0**
ECSD	baz=156,SNR=52			S		**S**	**00 13 35.1**	**-4.8**
PKME	baz=156 **Peaks-Kenny Pk**	**45.78**	**11**	P		**P**	**00 06 58.7**	**+2.2**
PKME	baz=195,SNR=13			S		**S**	**00 13 42.2**	**+1.9**
PKME	baz=195 **Peaks-Kenny Pk**	**45.78**	**11**	P		**P**	**00 06 58.7**	**+2.2**
PKME	baz=195,SNR=13			S		**S**	**00 13 43.2**	**+2.9**
PKME	baz=195			S	S		00 13 50.0	+10
F42A	baz=195 **Maple Grove Fa**	**45.86**	**352**	P		**P**	**00 06 57.1**	**0.0**
F42A	baz=169,SNR=25			S		**S**	**00 13 36.3**	**-5.1**
SMCO	baz=169 **Snowmass**	**45.92**	**331**	P		**P**	**00 06 57.3**	**-0.9**
SMCO	comp=Z,3µm,1.6s			IAmb	IAmb		00 07 47.9	
SMCO	comp=Z,414µm,20.0s			IAMs_20	IAMs_20		00 29 03.5	
TRQ	**Mont Tremblant**	**46.00**	**5**	P		**P**	**00 06 56.1**	**-2.2**
E46A	**Sault Ste Mari**	**46.05**	**356**	P		**P**	**00 06 58.9**	**+0.2**
E46A	baz=174,SNR=81			S		**S**	**00 13 40.2**	**-4.0**
G65A	baz=174 **Princeton**	**46.06**	**12**	P		**P**	**00 07 01.0**	**+2.3**
G65A	baz=197,SNR=27			P		**P**	**00 07 01.0**	**+2.3**
G65A	baz=197,SNR=27			S		**S**	**00 13 48.6**	**+4.3**
G65A	baz=197			S		**S**	**00 13 48.6**	**+4.3**
GGN	baz=197 **Saint George**	**46.14**	**13**	P		**P**	**00 06 58.2**	**-1.2**
GGN	comp=Z,4µm,2.1s			IAmb	IAmb		00 07 40.5	
SPMN	**Marine on St.**	**46.17**	**347**	P		**P**	**00 06 58.9**	**-0.8**
SPMN	baz=162,SNR=27			S		**S**	**00 13 40.4**	**-5.6**
SPMN	baz=162 **Marine on St.**	**46.17**	**347**	P		**P**	**00 06 59.1**	**-0.5**
SPMN	baz=162,SNR=27			S		**S**	**00 13 40.7**	**-5.2**
COYC	baz=162 **Coyhaique**	**46.19**	**172**	P		**P**	**00 06 60.0**	**+0.3**
COYC	comp=Z,1µm,1.0s			IAmb	IAmb		00 07 31.4	
GLA	**Glamis**	**46.22**	**318**	P		**P**	**00 06 59.1**	**-1.2**
GLA	comp=Z,2µm,1.6s			pmax	pmax			
GLA	**Glamis**	**46.22**	**318**	P		**P**	**00 06 59.1**	**-1.2**
GLA	comp=Z,2µm,1.6s			IAmb	IAmb		00 07 38.4	
GLA	**Glamis**	**46.22**	**318**	P		**P**	**00 07 03.4**	**+3.1**
GLA	baz=128,SNR=18			S		**S**	**00 13 52.1**	**+5.0**
F63A	baz=128 **Nahmakanta, Br**	**46.24**	**11**	P		**P**	**00 07 02.1**	**+1.9**
F63A	baz=195,SNR=10			P		**P**	**00 07 02.1**	**+1.9**
F63A	baz=195,SNR=10			S		**S**	**00 13 49.5**	**+2.6**
F63A	baz=195			S		**S**	**00 13 49.5**	**+2.6**
F62A	baz=195 **Pittston Farm,**	**46.28**	**10**	P		**P**	**00 07 02.7**	**+2.3**
F62A	baz=194			P		**P**	**00 07 02.7**	**+2.3**
F62A	baz=194			S		**S**	**00 13 49.0**	**+1.6**
F62A	baz=194			S		**S**	**00 13 49.0**	**+1.6**
E43A	baz=194 **Lone Tree Farm**	**46.32**	**353**	P		**P**	**00 07 00.7**	**0.0**
E43A	baz=170,SNR=92			S		**S**	**00 13 45.5**	**-2.5**
COWI	baz=170 **Conover**	**46.34**	**351**	IAMs_20	IAMs_20		00 28 41.6	
COWI	comp=Z,467µm,19.0s **Conover**	**46.34**	**351**	P		**P**	**00 07 01.0**	**+0.1**
COWI	baz=167			S		**S**	**00 13 43.0**	**-5.3**
BLYC	baz=167 **Blythe**	**46.45**	**319**	P		**P**	**00 07 01.1**	**-0.9**
BLYC	comp=Z,3µm,1.8s			IAmb	IAmb		00 07 40.2	
HAL	**Halifax**	**46.51**	**16**	P		**P**	**00 07 02.3**	**+0.1**
HAL	comp=Z,4µm,2.5s			pmax	pmax			
HAL	**Halifax**	**46.51**	**16**	P		**P**	**00 07 02.2**	**+0.1**
HAL	comp=Z,4µm,2.5s			IAmb	IAmb		00 07 25.5	
F64A	**Sherman**	**46.54**	**11**	P		**P**	**00 07 04.1**	**+1.7**
F64A	baz=196,SNR=28			P		**P**	**00 07 04.1**	**+1.7**
F64A	baz=196,SNR=28			S		**S**	**00 13 52.9**	**+1.7**
F64A	baz=196			S		**S**	**00 13 52.9**	**+1.7**
PDMCI	baz=196 **Parker Dam,Lak**	**46.55**	**320**	P		**P**	**00 07 05.9**	**+3.1**
PDMCI	baz=129,SNR=15			S		**S**	**00 13 56.4**	**+4.7**
N23A	baz=129 **Red Feather La**	**46.78**	**333**	P		**P**	**00 07 06.9**	**+2.0**
N23A	baz=143			S		**S**	**00 13 58.4**	**+3.0**
RMX	baz=143 **La Rumorosa**	**46.79**	**317**	P		**P**	**00 07 04.9**	**0.0**
RMX	comp=Z,3µm,1.7s			IAmb	IAmb		00 07 42.5	
U15A	**North Rim**	**46.80**	**324**	P		**P**	**00 07 04.2**	**-0.9**
SWSC	**Sam W. Stewart**	**46.81**	**318**	P		**P**	**00 07 07.4**	**+2.6**
SWSC	baz=127,SNR=20			S		**S**	**00 14 02.4**	**+6.9**
IKP	baz=127 **In-Ko-Pah, Jac**	**46.84**	**317**	P		**P**	**00 07 08.5**	**+3.3**
IKP	baz=126,SNR=30			S		**S**	**00 14 01.5**	**+5.4**
PHWY	baz=126 **Pilot Hill**	**46.89**	**334**	P		**P**	**00 07 04.7**	**-1.1**
PHWY	comp=Z,2µm,1.8s			IAmb	IAmb		00 07 44.8	
F36A	**Milaca**	**46.94**	**347**	P		**P**	**00 07 05.1**	**-0.5**
F36A	baz=161,SNR=50			S		**S**	**00 13 50.6**	**-6.3**
BC3	baz=161 **Big Chuckawall**	**47.00**	**319**	P		**P**	**00 07 09.4**	**+2.9**
BC3	baz=128,SNR=44			S		**S**	**00 14 02.8**	**+4.3**
E63A	baz=128 **Oxbow**	**47.06**	**11**	P		**P**	**00 07 08.5**	**+2.0**
E63A	baz=196,SNR=51			P		**P**	**00 07 08.5**	**+2.0**
E63A	baz=196,SNR=51			S		**S**	**00 14 01.4**	**+2.8**
E63A	baz=196			S		**S**	**00 14 01.4**	**+2.8**
SUSD	baz=196 **Miller**	**47.10**	**341**	P		**P**	**00 07 06.9**	**0.0**
SUSD	baz=154,SNR=8.1			S		**S**	**00 13 55.6**	**-3.7**
SUSD	baz=154 **Miller**	**47.10**	**341**	P		**P**	**00 07 07.2**	**+0.3**
SUSD	baz=154,SNR=8.1			S		**S**	**00 13 56.4**	**-2.9**
IRM	baz=154 **Iron Mountain**	**47.11**	**319**	P		**P**	**00 07 10.7**	**+3.5**
IRM	baz=128,SNR=38			S		**S**	**00 14 05.3**	**+5.5**
TKX	baz=128 **Tecate**	**47.14**	**317**	P		**P**	**00 07 07.3**	**-0.2**
TKX	comp=Z,2µm,1.7s			IAmb	IAmb		00 07 48.3	
NEE2	**Needles Airpor**	**47.15**	**320**	P		**P**	**00 07 11.1**	**+3.6**
NEE2	baz=129			S		**S**	**00 14 04.5**	**+4.2**
D41A	baz=129 **Chassel**	**47.19**	**352**	P		**P**	**00 07 07.7**	**+0.1**
D41A	baz=168,SNR=58			S		**S**	**00 13 57.9**	**-2.6**
MONP2	baz=168 **Monument Peak**	**47.20**	**317**	P		**P**	**00 07 10.0**	**+1.9**
MONP2	baz=126,SNR=18			S		**S**	**00 14 07.1**	**+5.6**
E38A	baz=126 **The Farm, Brul**	**47.24**	**349**	P		**P**	**00 07 07.3**	**-0.6**
E38A	baz=164,SNR=10			S		**S**	**00 13 55.1**	**-6.1**
O20A	baz=164 **White River Ci**	**47.28**	**330**	P		**P**	**00 07 10.7**	**+2.0**
O20A	baz=140,SNR=36			S		**S**	**00 14 07.3**	**+4.9**
LMN	baz=140 **Caledonia Moun**	**47.31**	**14**	P		**P**	**00 07 07.5**	**-1.1**
LMN	comp=Z,3µm,1.7s			IAmb	IAmb		00 07 49.1	
LATQ	**La Tuque**	**47.33**	**7**	P		**P**	**00 07 06.9**	**-1.7**
KNB	**Kanab**	**47.52**	**324**	P		**P**	**00 07 10.9**	**+0.4**
KNB	comp=Z,3µm,1.6s			pmax	pmax			
KNB	**Kanab**	**47.52**	**324**	P		**P**	**00 07 10.9**	**+0.4**
KNB	comp=Z,3µm,1.6s			IAmb	IAmb		00 07 49.5	
BELC	**Belle Mtn. Jos**	**47.57**	**319**	P		**P**	**00 07 13.3**	**+2.3**
BELC	baz=127,SNR=39			S		**S**	**00 14 11.7**	**+5.1**
D62A	baz=127 **Allapoint, All**	**47.58**	**10**	P		**P**	**00 07 12.6**	**+1.9**
D62A	baz=195,SNR=53			P		**P**	**00 07 12.6**	**+1.9**
D62A	baz=195,SNR=53			S		**S**	**00 14 08.7**	**+2.7**
D62A	baz=195			S		**S**	**00 14 08.7**	**+2.7**
F33A	baz=195 **5 Mile Ranch,**	**47.59**	**345**	P		**P**	**00 07 10.1**	**-0.7**
F33A	baz=158,SNR=7.6			S		**S**	**00 14 00.5**	**-5.8**
TPFO	baz=158 **Pinon Flats**	**47.64**	**318**	P		**P**	**00 07 13.9**	**+2.4**
PFO	baz=126,SNR=29 **Pinyon Flats O**	**47.65**	**318**	LR	LR		00 25 21.3	
PFO	comp=Z,220µm,19.1s,baz=126,slow=34 **Pinyon Flats O**	**47.65**	**318**	P		**P**	**00 07 11.4**	**-0.1**
PFO	comp=Z,2µm,1.6s			pmax	pmax			
PFO	**Pinyon Flats O**	**47.65**	**318**	P		**P**	**00 07 11.4**	**-0.1**
PFO	comp=Z,2µm,1.6s			IAmb	IAmb		00 07 49.6	
PFO	**Pinyon Flats O**	**47.65**	**318**	P		**P**	**00 07 14.0**	**+2.4**
PFO	baz=126,SNR=17			S		**S**	**00 14 14.0**	**+6.3**
109C	baz=126 **Camp Elliot, M**	**47.66**	**317**	P		**P**	**00 07 14.4**	**+2.9**
109C	baz=125,SNR=19			S		**S**	**00 14 13.0**	**+5.3**
VLDQ	baz=125 **Val d'Or**	**47.69**	**2**	P		**P**	**00 07 09.3**	**-2.2**
GBN	**Guysborough**	**47.81**	**18**	P		**P**	**00 07 10.5**	**-1.9**
LMQ	**La Malbaie**	**47.83**	**9**	P		**P**	**00 07 11.1**	**-1.4**
LMQ	comp=Z,881nm,1.1s			IAmb	IAmb		00 08 43.5	
GMRC	**Granite Mounta**	**47.83**	**320**	P		**P**	**00 07 15.4**	**+2.5**
GMRC	baz=128,SNR=39			S		**S**	**00 14 14.8**	**+4.6**
RWWY	baz=128 **Rawlins**	**47.99**	**333**	IAMs_20	IAMs_20		00 29 37.3	
SZCU	comp=Z,379µm,19.0s **Shurtz Canyon**	**48.06**	**324**	P		**P**	**00 07 14.3**	**-0.5**
MURC	**Murrieta**	**48.14**	**317**	P		**P**	**00 07 18.3**	**+3.1**
MURC	baz=126,SNR=25			S		**S**	**00 14 20.6**	**+6.1**
HEC	baz=126 **Hector,Ludlow**	**48.29**	**319**	P		**P**	**00 07 20.2**	**+3.7**
HEC	baz=128,SNR=37			S		**S**	**00 14 20.7**	**+4.0**
BBRC	baz=128 **Big Bear Solar**	**48.34**	**318**	P		**P**	**00 07 20.8**	**+3.8**
BBRC	baz=126			S		**S**	**00 14 23.3**	**+5.6**
BATG	baz=126 **Bathurst New B**	**48.36**	**13**	P		**P**	**00 07 15.8**	**-0.9**
TUQ	**Turquoise Moun**	**48.40**	**320**	P		**P**	**00 07 20.8**	**+3.5**
TUQ	baz=128,SNR=14			S		**S**	**00 14 24.9**	**+6.6**
K22A	baz=128 **Casper**	**48.45**	**334**	P		**P**	**00 07 16.4**	**-1.2**
K22A	comp=Z,2µm,1.7s			IAmb	IAmb		00 09 07.8	
K22A	**Casper**	**48.45**	**334**	P		**P**	**00 07 19.6**	**+2.0**
K22A	baz=143,SNR=12			S		**S**	**00 14 21.1**	**+2.2**
K22A	baz=143 **Casper**	**48.45**	**334**	P		**P**	**00 07 19.3**	**+1.7**
K22A	baz=143,SNR=12			S		**S**	**00 14 22.6**	**+3.8**
EYMN	baz=143 **Ely**	**48.52**	**350**	P		**P**	**00 07 14.7**	**-3.2**

EYMN Ely 48.52 350 IAMs_20 IAMs_20 00 30 37.4
comp=Z,362µm,19.0s
EYMN Ely 48.52 350 P **P** **00 07 17.6 -0.3**
baz=164,SNR=10
EYMN S **S** **00 14 15.1 -4.3**
baz=164
EYMN Ely 48.52 350 P **P** **00 07 17.1 -0.8**
baz=164,SNR=10
EYMN S **S** **00 14 14.8 -4.6**
baz=164
SHPR Sheep Range 48.59 322 P **P** **00 07 17.3 -1.5**
RSSD Black Hills 48.62 337 P **P** **00 07 18.1 -0.9**
RSSD pmax pmax
comp=Z,1µm,1.2s
RSSD Black Hills 48.62 337 P **P** **00 07 18.1 -0.9**
RSSD IAmb IAmb 00 08 01.5
comp=Z,1µm,1.2s
RSSD Black Hills 48.62 337 P **P** **00 07 20.8 +1.7**
baz=147,SNR=58
RSSD S **S** **00 14 23.5 +2.2**
baz=147
RSSD Black Hills 48.62 337 P **P** **00 07 21.4 +2.3**
baz=147
RSSD S **S** **00 14 25.1 +3.7**
baz=147
SCI2 San Clemente I 48.71 316 P **P** **00 07 23.2 +3.6**
baz=124
SCI2 S **S** **00 14 27.8 +5.3**
baz=124
RRX Edison Barstow 48.76 319 P **P** **00 07 23.6 +3.6**
baz=127
RRX S **S** **00 14 28.7 +5.6**
baz=127
BFSC Mount Baldy Ra 48.82 318 P **P** **00 07 23.8 +3.1**
baz=126,SNR=21
BFSC S **S** **00 14 29.8 +5.5**
baz=126
CIS Catalina Islan 48.86 316 P **P** **00 07 24.1 +3.3**
baz=124,SNR=5.1
CIS S **S** **00 14 29.5 +4.9**
baz=124
GSC Goldstone, Bar 48.89 319 P **P** **00 07 24.9 +3.9**
baz=127,SNR=43
GSC S **S** **00 14 28.6 +3.5**
baz=127
SHOC Shoshone, Teco 48.91 320 P **P** **00 07 24.8 +3.7**
baz=128,SNR=10
SHOC S **S** **00 14 28.8 +3.5**
baz=128
FMP Fort Macarthur 48.95 317 P **P** **00 07 24.6 +3.1**
baz=125
FMP S **S** **00 14 30.2 +4.4**
baz=125
GO08 Villa O'Higgin 48.98 173 P **P** **00 07 23.1 +1.7**
D32B Dogwood Acres, 48.98 345 P **P** **00 07 21.1 -0.3**
baz=157
D32B S **S** **00 14 20.5 -5.4**
baz=157
DECC Green Verdugo 49.28 317 P **P** **00 07 27.8 +3.8**
baz=125,SNR=7.5
DECC S **S** **00 14 35.6 +5.0**
baz=125
GWY Greenwater Val 49.34 320 P **P** **00 07 24.1 -0.4**
B35A Bob, Littlefor 49.35 348 P **P** **00 07 24.2 0.0**
baz=162,SNR=24
B35A S **S** **00 14 24.6 -6.4**
baz=162
EDW2 Edwards Air Fo 49.42 318 P **P** **00 07 28.5 +3.4**
baz=126,SNR=106
EDW2 S **S** **00 14 36.1 +3.5**
baz=126
SNCC San Nicolas Is 49.54 315 P **P** **00 07 29.1 +3.1**
baz=123
SNCC S **S** **00 14 38.1 +3.9**
baz=123
TPNV Topopah Spring 49.55 321 P **P** **00 07 26.4 +0.2**
TPNV pmax pmax
comp=Z,9µm,2.7s
TPNV Topopah Spring 49.55 321 P **P** **00 07 26.4 +0.2**
TPNV IAMs_20 IAMs_20 00 26 57.0
comp=Z,355µm,21.0s
TPNV Topopah Spring 49.55 321 P **P** **00 07 30.5 +4.3**
baz=129,SNR=39
TPNV S **S** **00 14 39.3 +4.8**
baz=129
E28A Huff 49.55 341 P **P** **00 07 26.7 +0.8**
baz=152,SNR=11
E28A S **S** **00 14 32.0 -2.0**
baz=152
LRMC Laurel Mtn Rad 49.57 319 P **P** **00 07 29.7 +3.4**
baz=126,SNR=22
LRMC S **S** **00 14 40.6 +5.8**
baz=126
CCAC Calif City Air 49.59 318 P **P** **00 07 26.4 0.0**
CCAC IAmb IAmb 00 08 04.5
comp=Z,3µm,1.2s
FURC Furnace Creek, 49.63 321 P **P** **00 07 30.5 +3.9**
baz=128,SNR=40
FURC S **S** **00 14 41.7 +6.4**
baz=128
DUG Dugway, Tooele 49.70 327 P **P** **00 07 27.4 +0.1**
DUG pmax pmax
comp=Z,5µm,2.0s
DUG MLR MLR
comp=Z,605µm,18.0s
DUG Dugway, Tooele 49.70 327 P **P** **00 07 27.4 +0.1**
DUG Dugway, Tooele 49.70 327 P **P** **00 07 29.9 +2.6**
baz=135,SNR=50
DUG S **S** **00 14 40.6 +4.1**
baz=135
OSI Osito Audit: C 49.76 317 P **P** **00 07 30.8 +3.1**
baz=125
OSI S **S** **00 14 41.4 +4.2**
baz=125
AGMN Agassiz Nation 49.77 346 P **P** **00 07 27.5 +0.1**
baz=159,SNR=59
AGMN S **S** **00 14 29.9 -6.9**
baz=159
AGMN Agassiz Nation 49.77 346 P **P** **00 07 27.6 +0.1**
baz=159,SNR=59
AGMN S **S** **00 14 31.1 -5.8**
baz=159
MPMC Manual Prospec 49.79 320 P **P** **00 07 31.4 +3.4**
baz=127,SNR=26
MPMC S **S** **00 14 42.8 +4.9**
baz=127
BW06 Boulder Array 49.93 332 IAMs_20 IAMs_20 00 30 10.6
comp=Z,446µm,18.0s
BW06 Boulder Array 49.93 332 P **P** **00 07 30.9 +1.8**
baz=140
BW06 S **S** **00 14 41.8 +2.0**
baz=140
PD31 Pinedale Array 49.93 332 P **P** **00 07 27.1 -2.0**
PDAR Pinedale Array 49.93 332 P **P** **00 07 27.1 -2.0**
comp=Z,6.8nm,0.9s,baz=129,slow=8.9,SNR=27
PDAR S **S** **00 14 39.0 -0.8**
comp=Z,5.4nm,1.0s,baz=202,slow=2.4,SNR=1.0
PDAR ScS **ScS** **00 17 17.9 -3.3**
comp=Z,3.2nm,1.0s,baz=67,slow=3.9,SNR=1.1
PDAR LR LR 00 30 13.6
comp=Z,403µm,18.1s,baz=143,slow=38
PDAR PKPPKP **P'P'df** **00 38 17.6 -4.7**
comp=Z,2.3nm,0.9s,baz=276,slow=1.3,SNR=5.6
PDAR P4KPbc 00 45 01.8
comp=Z,0.7nm,0.8s,baz=146,slow=5.0,SNR=1.7
R11A Troy Canyon, C 50.04 323 P **P** **00 07 32.9 +3.0**
baz=131,SNR=31
R11A S **S** **00 14 44.8 +3.4**
baz=131
HWUT Hardware Ranch 50.05 329 P **P** **00 07 28.4 -1.5**
HWUT IAmb IAmb 00 08 11.1
comp=Z,2µm,1.5s
ARVC Arvin 50.12 318 P **P** **00 07 32.8 +2.5**
baz=125,SNR=19
ARVC S **S** **00 14 45.9 +3.7**
baz=125
ISA Isabella, Lake 50.20 319 P **P** **00 07 34.8 +3.7**
baz=126,SNR=26
ISA S **S** **00 14 48.2 +4.8**
baz=126
GRAC Grapevine Rang 50.28 321 P **P** **00 07 35.7 +4.1**
baz=128,SNR=19
GRAC S **S** **00 14 49.9 +5.5**
baz=128
SBC Santa Barbara 50.33 317 P **P** **00 07 35.1 +3.1**
baz=124
SBC S **S** **00 14 48.6 +3.5**
baz=124

MDND Maddock 50.35 343 P **P** **00 07 33.0 +1.1**
baz=154,SNR=14
MDND S **S** **00 14 43.4 -1.7**
baz=154
MDND Maddock 50.35 343 P **P** **00 07 32.8 +0.8**
baz=154,SNR=14
MDND S **S** **00 14 42.8 -2.2**
baz=154
CWC Cottonwood Cre 50.40 320 P **P** **00 07 36.0 +3.4**
baz=127
CWC S **S** **00 14 51.4 +5.0**
baz=127
PKM Mcpherson Peak 50.65 317 P **P** **00 07 36.9 +2.3**
baz=124,SNR=35
PKM S **S** **00 14 53.3 +3.3**
baz=124
VES Vestal, Richgr 50.70 319 P **P** **00 07 38.5 +3.7**
baz=125,SNR=84
VES S **S** **00 14 55.9 +5.7**
baz=125
TPH Tonopah 50.86 322 P **P** **00 07 35.9 -0.2**
TPH pmax pmax
comp=Z,9µm,1.5s
TPH Tonopah 50.86 322 P **P** **00 07 35.9 -0.2**
TIN Tinemaha, Big 50.86 320 P **P** **00 07 39.8 +3.7**
baz=127,SNR=6.8
TIN S **S** **00 14 58.3 +5.6**
baz=127
REDW Red Top Meadow 51.00 331 P **P** **00 07 37.2 +0.1**
REDW IAmb IAmb 00 08 16.5
comp=Z,4µm,1.8s
REDW IAMs_20 IAMs_20 00 30 14.9
comp=Z,482µm,19.0s
SMMC Simmler 51.01 317 P **P** **00 07 40.8 +3.6**
baz=124,SNR=23
SMMC S **S** **00 15 00.5 +5.8**
baz=124
ECR Eagle Creek 51.02 331 P **P** **00 07 36.3 -1.0**
SNOW Snow King Moun 51.03 331 IAMs_20 IAMs_20 00 30 17.7
comp=Z,311µm,18.0s
LOHW Long Hollow 51.07 332 IAMs_20 IAMs_20 00 30 06.7
comp=Z,271µm,19.0s
TPAW Teton Pass 51.14 331 IAMs_20 IAMs_20 00 30 28.7
comp=Z,416µm,18.0s
VOG Valley Oaks Go 51.18 319 P **P** **00 07 41.0 +2.7**
baz=125
VOG S **S** **00 15 00.6 +3.8**
baz=125
FXWY Fox Creek 51.29 331 IAMs_20 IAMs_20 00 30 24.6
comp=Z,275µm,18.0s
PAGB Antelope Grade 51.42 318 P **P** **00 07 40.4 +0.2**
PAGB IAmb IAmb 00 08 18.1
comp=Z,4µm,1.6s
ELK Elko 51.42 326 LR LR 00 30 24.7
comp=Z,539µm,18.2s,baz=138,slow=37
ELK Elko 51.42 326 P **P** **00 07 40.4 0.0**
ELK pmax pmax
comp=Z,3µm,1.7s
ELK MLR MLR
comp=Z,459µm,18.0s
ELK Elko 51.42 326 P **P** **00 07 40.4 0.0**
ELK IAmb IAmb 00 08 18.7
comp=Z,3µm,1.6s
ELK IAMs_20 IAMs_20 00 29 48.4
comp=Z,459µm,18.0s
FLWY Flagg Ranch 51.47 332 IAMs_20 IAMs_20 00 30 31.3
comp=Z,448µm,19.0s
MLAC Mammoth, Mammo 51.59 321 P **P** **00 07 45.5 +3.8**
baz=127,SNR=16
MLAC S **S** **00 15 07.2 +4.1**
baz=127
ULM Lac du Bonnet 51.60 347 *c i* P **P** **00 07 38.0 -3.3**
comp=Z,130nm,1.0s,baz=157,slow=7.7,SNR=31
ULM S **S** **00 14 54.6 -7.6**
comp=Z,18nm,1.0s,baz=23,slow=3.7,SNR=0.9
ULM ScS **ScS** **00 17 26.1 -5.7**
comp=Z,14nm,1.0s,baz=175,slow=20,SNR=1.2
ULM PKPPKP **P'P'df** **00 38 19.5 +0.5**
comp=Z,9.3nm,1.0s,baz=342,slow=4.0,SNR=4.0
ULM Lac du Bonnet 51.60 347 *c i* P **P** **00 07 41.4 +0.2**
ULM Lac du Bonnet 51.60 347 P **P** **00 07 37.9 -3.3**
LAO LASA Array 51.61 337 P **P** **00 07 41.1 -0.4**
LAO IAmb IAmb 00 08 22.9
comp=Z,2µm,1.6s
LAO IAMs_20 IAMs_20 00 32 58.8
comp=Z,275µm,18.0s
LAO LASA Array 51.61 337 P **P** **00 07 43.0 +1.6**
baz=146,SNR=8.5
LAO S **S** **00 15 03.7 +1.0**
baz=146
LAO LASA Array 51.61 337 P **P** **00 07 42.9 +1.4**
baz=146,SNR=8.5
LAO S **S** **00 15 03.5 +0.8**
baz=146
RLMT Red Lodge 51.62 334 P **P** **00 07 39.9 -1.9**
RLMT Red Lodge 51.62 334 P **P** **00 07 43.5 +1.7**
baz=141,SNR=41
RLMT S **S** **00 15 02.4 -0.7**
baz=141
H17A Grant Village 51.65 332 P **P** **00 07 44.5 +2.4**
baz=140,SNR=21
H17A S **S** **00 15 07.7 +4.0**
baz=140
NV11 Mina Array Sit 51.65 322 P **P** **00 07 40.8 -1.3**
NVAR Mina Array Bea 51.74 322 P **P** **00 07 41.6 -1.2**
comp=Z,38nm,0.9s,baz=138,slow=6.5,SNR=50
NVAR S **S** **00 15 04.3 -0.8**
comp=Z,3.9nm,0.9s,baz=132,slow=6.9,SNR=1.7
NVAR LR LR 00 29 23.3
comp=Z,380µm,18.8s,baz=126,slow=36
NVAR PKPPKP **P'P'df** **00 38 16.0 -4.4**
comp=Z,2.2nm,1.0s,baz=334,slow=1.6,SNR=5.1
NVAR P4KPbc 00 45 04.7
comp=Z,1.5nm,0.9s,baz=129,slow=7.1,SNR=5.6
NVAR Mina Array Bea 51.74 322 P **P** **00 07 41.9 -0.9**
GO09 Cerro Castillo 51.77 174 P **P** **00 07 43.7 +1.2**
GO09 IAmb IAmb 00 08 15.6
comp=Z,2µm,1.3s
YFT Old Faithful 51.81 332 P **P** **00 07 43.4 +0.1**
MG05 Puerto Natales 52.15 174 P **P** **00 07 47.7 +2.4**
GCMT Greycliff 52.31 334 P **P** **00 07 45.3 -1.6**
DGMT Dagmar 52.37 340 P **P** **00 07 45.8 -1.3**
DGMT Dagmar 52.37 340 P **P** **00 07 48.9 +1.9**
baz=149,SNR=14
DGMT S **S** **00 15 14.6 +1.7**
baz=149
DGMT Dagmar 52.37 340 P **P** **00 07 48.7 +1.7**
baz=149,SNR=14
DGMT S **S** **00 15 15.9 +3.0**
baz=149
QLMT Earthquake Lak 52.38 332 P **P** **00 07 47.1 -0.4**
DRLN Deer Lake 52.48 18 P **P** **00 07 46.5 -1.3**
DRLN IAmb IAmb 00 08 27.7
comp=Z,1µm,1.1s
SAO San Andreas Ge 52.80 318 P **P** **00 07 51.4 +1.0**
SAO pmax pmax
comp=Z,4µm,2.0s
SAO San Andreas Ge 52.80 318 P **P** **00 07 51.4 +1.0**
SAO IAmb IAmb 00 08 27.9
comp=Z,4µm,1.9s
SAO IAMs_20 IAMs_20 00 29 11.2
comp=Z,293µm,18.0s
HLID Hailey 52.92 329 P **P** **00 07 50.4 -1.0**
HLID Hailey 52.92 329 P **P** **00 07 53.6 +2.1**
baz=135,SNR=138
HLID S **S** **00 15 24.4 +3.5**
baz=135
BOZ Bozeman (W) 53.05 333 P **P** **00 07 50.9 -1.4**
BOZ pmax pmax
comp=Z,5µm,1.9s
BOZ MLR MLR
comp=Z,365µm,18.0s
BOZ Bozeman (W) 53.05 333 P **P** **00 07 50.9 -1.4**
BOZ IAmb IAmb 00 08 31.0
comp=Z,5µm,1.9s
BOZ IAMs_20 IAMs_20 00 32 38.0
comp=Z,365µm,18.0s
BOZ Bozeman (W) 53.05 333 P **P** **00 07 54.2 +1.9**
baz=139,SNR=83
BOZ S **S** **00 15 24.8 +2.3**
baz=139
DLMT Dillon 53.33 332 IAMs_20 IAMs_20 00 31 46.4
comp=Z,399µm,18.0s
MFID Camas Ranch 53.56 328 IAMs_20 IAMs_20 00 31 50.8
comp=Z,400µm,19.0s
GO10 Punta Arenas 53.77 173 P **P** **00 07 59.0 +1.8**
GO10 IAmb IAmb 00 09 20.1
comp=Z,2µm,1.4s
EGMT Eagleton 54.11 336 P **P** **00 07 58.8 -1.1**
EGMT IAmb IAmb 00 08 52.5
comp=Z,4µm,1.8s
EGMT Eagleton 54.11 336 P **P** **00 08 01.6 +1.7**
baz=142,SNR=39
EGMT S **S** **00 15 39.4 +2.7**
baz=142
ORV Oroville 54.41 321 P **P** **00 08 01.4 -0.8**
ORV pmax pmax
comp=Z,5µm,1.5s
ORV MLR MLR
comp=Z,220µm,19.0s
ORV Oroville 54.41 321 P **P** **00 08 01.4 -0.8**
WVOR Wild Horse Val 54.45 325 P **P** **00 08 01.1 -1.5**
WVOR pmax pmax
comp=Z,6µm,2.0s
WVOR MLR MLR
comp=Z,744µm,18.0s
WVOR Wild Horse Val 54.45 325 P **P** **00 08 01.1 -1.5**
MCCM Marconi Confer 54.51 319 P **P** **00 08 04.1 +1.2**
MCCM IAmb IAmb 00 08 40.6
comp=Z,3µm,1.3s
MCCM IAMs_20 IAMs_20 00 30 04.5
comp=Z,259µm,18.0s
MG03 Isla Dawson 54.52 173 P **P** **00 08 03.0 +0.4**
MG03 IAmb IAmb 00 09 25.6
comp=Z,2µm,1.4s
PTCN Pitcairn Islan 54.58 239 P **P** **00 08 05.3 +1.7**
PLID Pearl Lake 54.80 329 IAMs_20 IAMs_20 00 32 08.6
comp=Z,463µm,20.0s
DSPA Despedida 54.91 172 P **P** **00 08 06.3 +0.8**
EFI East Falkland 54.98 164 *c i* P **P** **00 08 05.4 -0.6**
EFI pmax pmax
comp=Z,1µm,1.0s
EFI East Falkland 54.98 164 P **P** **00 08 06.9 +0.8**
EFI IAmb IAmb 00 08 40.3
comp=Z,2µm,1.2s
O03E Paynes Creek 55.03 322 IAMs_20 IAMs_20 00 31 29.2
comp=Z,362µm,19.0s
O03E Paynes Creek 55.03 322 P **P** **00 08 09.3 +2.5**
baz=126
O03E S **S** **00 15 52.0 +2.6**
baz=126
MSO Missoula 55.04 332 IAMs_20 IAMs_20 00 33 52.7
comp=Z,415µm,18.0s
MSO Missoula 55.04 332 P **P** **00 08 08.4 +1.7**
baz=137,SNR=38
MSO S **S** **00 15 52.7 +3.3**
baz=137
MOD Modoc Plateau 55.08 324 IAMs_20 IAMs_20 00 31 37.4
comp=Z,448µm,19.0s
HOPS Hopland Field 55.10 320 IAMs_20 IAMs_20 00 30 47.1
comp=Z,354µm,19.0s
BMO Blue Mountains 55.32 328 P **P** **00 08 08.7 -0.1**
BMO pmax pmax
comp=Z,2µm,2.0s
BMO MLR MLR
comp=Z,461µm,18.0s
BMO Blue Mountains 55.32 328 P **P** **00 08 08.7 -0.1**
BMO IAmb IAmb 00 08 45.9
comp=Z,2µm,2.0s
BMO IAMs_20 IAMs_20 00 33 25.3
comp=Z,461µm,18.0s
SCHQ Schefferville 55.44 9 P **P** **00 08 06.8 -2.6**
comp=Z,47nm,1.0s,baz=188,slow=6.3,SNR=15
SCHQ S **S** **00 15 49.1 -5.1**
comp=Z,26nm,1.0s,baz=14,slow=19,SNR=1.9
SCHQ ScS **ScS** **00 17 58.8 0.0**
comp=Z,9.9nm,0.8s,baz=198,slow=7.3,SNR=1.9
SCHQ LR LR 00 34 25.3
comp=Z,173µm,19.1s,baz=199,slow=39
SCHQ PKPPKP **P'P'df** **00 38 10.6 -2.8**
comp=Z,11nm,1.0s,baz=347,slow=4.5,SNR=4.7
SCHQ P4KPbc 00 45 21.1
comp=Z,1.3nm,0.8s,baz=201,slow=3.7,SNR=1.5
SCHQ Schefferville 55.44 9 P **P** **00 08 06.6 -2.7**
SCHQ IAmb IAmb 00 08 47.4
comp=Z,2µm,1.4s
O02D Mt. Diablo Mer 55.58 321 P **P** **00 08 13.6 +2.8**
baz=124,SNR=22
O02D S **S** **00 16 00.2 +3.4**
baz=124
USHA Ushuaia 55.74 172 LR LR 00 28 51.1
comp=Z,1813µm,20.7s,baz=355,slow=33
M04C Macdoel 55.93 323 IAMs_20 IAMs_20 00 31 52.8
comp=Z,396µm,21.0s
M04C Macdoel 55.93 323 P **P** **00 08 15.3 +2.0**
baz=126
M04C S **S** **00 16 05.3 +3.9**
baz=126
MG01 Puerto William 55.96 171 P **P** **00 08 14.4 +1.4**
N02D Trinity Center 55.98 322 P **P** **00 08 15.6 +2.0**
baz=125,SNR=13
N02D S **S** **00 16 03.0 +0.8**
baz=125
I07A Izee 55.99 326 P **P** **00 08 12.1 -1.6**
KMRM Mail Ridge 56.19 320 P **P** **00 08 15.7 +0.6**
M02C Callahan 56.32 322 IAMs_20 IAMs_20 00 32 48.1
comp=Z,312µm,22.0s
M02C Callahan 56.32 322 P **P** **00 08 18.8 +2.8**
baz=125,SNR=12
M02C S **S** **00 16 05.9 -0.7**
baz=125
K04D Chiloquin, OR 56.38 324 P **P** **00 08 19.0 +2.5**
baz=127,SNR=14
K04D S **S** **00 16 11.4 +4.0**
baz=127
YBH Yreka Blue Hor 56.42 322 LR LR 00 33 13.9
comp=Z,380µm,18.2s,baz=132,slow=37
YBH Yreka Blue Hor 56.42 322 IAMs_20 IAMs_20 00 33 03.0
comp=Z,414µm,18.0s
L04D Klamath Falls 56.46 323 IAMs_20 IAMs_20 00 32 20.0
comp=Z,403µm,21.0s
L04D Klamath Falls 56.46 323 P **P** **00 08 19.1 +2.0**
baz=126,SNR=27
L04D S **S** **00 16 09.7 +1.1**
baz=126
J05D Fort Rock, OR 56.47 325 P **P** **00 08 19.7 +2.5**
baz=128,SNR=99
J05D S **S** **00 16 12.1 +3.4**
baz=128
J04D Umpqua Nationa 56.95 324 P **P** **00 08 22.9 +2.2**
baz=127,SNR=59
J04D S **S** **00 16 18.9 +3.7**
baz=127
HUMO Hull Mountain 57.08 323 P **P** **00 08 21.5 +0.1**
HUMO IAMs_20 IAMs_20 00 32 39.3
comp=Z,338µm,22.0s
I05D Terrebonne, OR 57.18 326 P **P** **00 08 24.9 +2.9**
baz=128,SNR=46
I05D S **S** **00 16 22.7 +4.9**
baz=128
FFC Flin Flon 57.19 345 P **P** **00 08 19.7 -2.1**
FFC pmax pmax
comp=Z,2µm,1.8s
FFC MLR MLR
comp=Z,295µm,18.0s
FFC Flin Flon 57.19 345 P **P** **00 08 19.7 -2.1**
FFC IAmb IAmb 00 08 39.4
comp=Z,2µm,1.8s
FFC Flin Flon 57.19 345 IAMs_20 IAMs_20 00 37 25.0
comp=Z,295µm,18.0s
L02E Cave Junction 57.21 322 IAMs_20 IAMs_20 00 33 28.9
comp=Z,409µm,21.0s
L02E Cave Junction 57.21 322 P **P** **00 08 25.2 +3.0**
baz=125,SNR=14
L02E S **S** **00 16 21.2 +3.0**
baz=125
I04A Tendick Farm, 57.46 325 P **P** **00 08 25.9 +1.8**
baz=127,SNR=21
I04A S **S** **00 16 23.6 +2.0**
baz=127
HAWA Hanford 57.51 328 P **P** **00 08 23.3 -1.0**
HAWA IAmb IAmb 00 09 02.3
comp=Z,6µm,3.0s
HAWA IAMs_20 IAMs_20 00 33 46.3
comp=Z,500µm,22.0s
DBO Dodson Butte 57.55 324 P **P** **00 08 24.4 -0.3**
DBO IAmb IAmb 00 09 02.2
comp=Z,2µm,1.6s
K02D Willamette Mer 57.56 323 P **P** **00 08 27.2 +2.4**
baz=125,SNR=31
K02D S **S** **00 16 25.4 +2.4**
baz=125
SACV Santiago Islan 57.56 72 P **P** **00 08 24.1 -1.0**
SACV IAMs_20 IAMs_20 00 33 56.0

comp=Z,371µm,20.0s
NEW Newport 57.57 331 LR LR 00 34 02.8
comp=Z,140µm,19.2s,baz=133,slow=37
NEW Newport 57.57 331 P **P** **00 08 23.6 -1.1**
NEW pmax pmax
comp=Z,2µm,1.6s
NEW MLR MLR
comp=Z,303µm,22.0s
NEW Newport 57.57 331 P **P** **00 08 23.6 -1.1**
NEW IAmb IAmb 00 09 02.8
comp=Z,2µm,1.6s
NEW Newport 57.57 331 IAMs_20 IAMs_20 00 33 18.8
comp=Z,303µm,22.0s
NEW Newport 57.57 331 P **P** **00 08 26.6 +1.9**
NEW S **S** **00 16 25.5 +2.7**
baz=134,SNR=26
G05D Wamic, OR 57.73 327 P **P** **00 08 29.1 +3.2**
baz=134
G05D S **S** **00 16 28.9 +3.9**
baz=129,SNR=30
I03D Drain, OR 57.95 324 P **P** **00 08 29.7 +2.3**
baz=129
I03D S **S** **00 16 29.8 +2.0**
baz=126,SNR=16
J01E Myrtle Point 57.99 323 IAMs_20 IAMs_20 00 33 55.3
baz=126
J01E Myrtle Point 57.99 323 P **P** **00 08 30.9 +3.2**
comp=Z,307µm,18.0s
J01E S **S** **00 16 31.8 +3.5**
baz=125,SNR=22
H04D Lebanon 58.09 325 IAMs_20 IAMs_20 00 33 39.8
baz=125
H04D Lebanon 58.09 325 P **P** **00 08 30.0 +1.7**
comp=Z,287µm,19.0s
H04D S **S** **00 16 30.2 +0.6**
baz=127,SNR=17
F05D White Salmon 58.21 327 P **P** **00 08 28.6 -0.6**
F05D White Salmon 58.21 327 P **P** **00 08 32.2 +3.0**
baz=127
F05D S **S** **00 16 36.7 +5.5**
baz=129,SNR=20
RKT Rikitea 58.24 242 *e*P **P** **00 08 32.6 +2.8**
baz=129
RKT *e*S **S** **00 16 33.3 +1.0**
comp=Z,847nm,1.1s
RKT *e*LQ LQ 00 23 08.5
comp=Z,581µm,33.2s
RKT *e*LR LR 00 25 36.4
comp=Z,2044µm,35.2s
COR Corvallis 58.45 325 P **P** **00 08 30.9 0.0**
RKT pmax pmax
comp=Z,3481µm,29.2s
COR MLR MLR
comp=Z,7µm,1.7s
COR Corvallis 58.45 325 P **P** **00 08 30.9 0.0**
COR comp=Z,281µm,20.0s
COR Corvallis 58.45 325 IAMs_20 IAMs_20 00 35 50.4
comp=Z,281µm,20.0s
I02E Swisshome, OR 58.48 324 IAMs_20 IAMs_20 00 36 00.4
comp=Z,277µm,18.0s
I02E Swisshome, OR 58.48 324 P **P** **00 08 34.1 +2.9**
baz=126,SNR=16
I02E S **S** **00 16 38.1 +3.3**
baz=126
G03D McMinnville, O 58.80 325 P **P** **00 08 35.6 +2.3**
baz=127,SNR=10
G03D S **S** **00 16 41.4 +2.5**
baz=127
H07S1 FLORES T-PHASE 59.08 43 P **P** **00 08 34.5 -0.9**
H07S1 FLORES T-PHASE 59.08 43⇑ *e*P **P** **00 08 37.1 +1.7**
F04D Rainier, OR 59.18 326 P **P** **00 08 38.9 +3.0**
baz=127,SNR=8.7
F04D S **S** **00 16 47.4 +3.6**
baz=127
C06D Leavenworth 59.21 329 P **P** **00 08 38.8 +2.6**
baz=130
C06D S **S** **00 16 48.8 +4.6**
baz=130
E04D Cinebar 59.23 327 P **P** **00 08 38.7 +2.5**
baz=128,SNR=13
E04D S **S** **00 16 47.8 +3.4**
baz=128
H07N1 FLORES T-PHASE 59.29 43 P **P** **00 08 34.8 -2.0**
H07N1 FLORES T-PHASE 59.29 43 *e*P **P** **00 08 40.8 +3.9**
FCC Fort Churchill 59.37 352 P **P** **00 08 34.1 -2.8**
FCC pmax pmax
comp=Z,984nm,1.1s
FCC Fort Churchill 59.37 352 P **P** **00 08 34.1 -2.8**
FCC IAmb IAmb 00 09 14.7
comp=Z,984nm,1.1s
D04E Lakebay 59.72 328 P **P** **00 08 42.4 +2.7**
baz=128,SNR=7.7
D04E S **S** **00 16 57.4 +6.7**
baz=128
B05A Bryant 60.05 329 P **P** **00 08 43.5 +1.7**
baz=129,SNR=29
B05A S **S** **00 16 56.8 +1.9**
baz=129
D03D Eldon 60.11 328 P **P** **00 08 44.8 +2.4**
baz=128,SNR=30
D03D S **S** **00 16 58.9 +3.1**
baz=128
NLWA Neilton Lookou 60.45 327 P **P** **00 08 44.5 -0.2**
NLWA IAMs_20 IAMs_20 00 38 35.1
comp=Z,388µm,18.0s
CALA Caldeira 60.45 45⇑ *e*P **P** **00 08 48.4 +3.5**
comp=Z,3µm,1.6s
PCED Cedros 60.47 45⇑ *e*P **P** **00 08 48.5 +3.5**
comp=Z,3µm,2.4s
HOR Horta 60.47 45 *e*P **P** **00 08 48.4 +3.4**
comp=Z,3µm,1.1s
PCAN Candelaria 60.55 45⇑ *e*P **P** **00 08 49.0 +3.5**
comp=Z,2µm,1.8s
TAOE Nuku Hiva Isla 60.60 260 *e*P **P** **00 08 48.9 +2.5**
comp=Z,3µm,1.5s
TAOE *e*S **S** **00 17 03.4 +0.1**
comp=Z,1353µm,33.0s
TAOE *e*LQ LQ 00 24 08.6
comp=Z,502µm,37.5s
TAOE *e*LR LR 00 26 40.0
comp=Z,1095µm,30.0s,baz=88
TAOE Nuku Hiva Isla 60.60 260 *e*T T 01 13 23.5
comp=Z,86nm,0.2s
TAOE Nuku Hiva Isla 60.60 260 P **P** **00 08 46.7 +0.3**
TAOE Nuku Hiva Isla 60.60 260 P P 00 08 52.1 +5.7
PICO Pico 60.61 45⇑ *e*P **P** **00 08 49.6 +3.6**
comp=Z,4µm,1.3s
A04D Lummi Island 60.65 329 P **P** **00 08 48.1 +2.1**
baz=129,SNR=36
A04D S **S** **00 17 05.4 +2.9**
baz=129
ROSA Rosais 60.83 45⇑ *e*P **P** **00 08 50.1 +2.6**
comp=Z,6µm,1.3s
ROSA Rosais 60.83 45 P **P** **00 08 47.1 -0.3**
PMAN Manadas 60.90 45⇑ *e*P **P** **00 08 51.5 +3.6**
comp=Z,2µm,2.0s
PGC Sidney 60.99 329 P **P** **00 08 48.4 +0.1**
PGC IAmb IAmb 00 09 27.0
comp=Z,2µm,1.4s
PGRA Graciosa 61.15 44⇑ *e*P **P** **00 08 52.0 +2.4**
comp=Z,4µm,1.6s
ADH Angra Heroismo 61.51 45 *e*P **P** **00 08 55.4 +3.3**
comp=Z,4µm,2.2s
PAGU Agualva, Azore 61.60 45⇑ *e*P **P** **00 08 54.5 +1.9**
comp=Z,2µm,2.2s
PSET Sete Cidades 62.26 47⇑ *e*P **P** **00 08 58.9 +1.8**
comp=Z,3µm,2.9s
PDA Ponta Delgada 62.27 47 *e*P **P** **00 09 00.2 +3.0**
comp=Z,3µm,1.6s
PSMA Santa Maria 62.37 48⇑ *e*P **P** **00 09 00.1 +2.3**
comp=Z,1µm,1.6s
CMLA Cha da Macela 62.38 47 P **P** **00 08 57.8 -0.2**
CMLA pmax pmax
comp=Z,8µm,2.3s
CMLA MLR MLR
comp=Z,174µm,20.0s
CMLA Cha da Macela 62.38 47 P **P** **00 08 57.8 -0.2**
PSMN Pico do Norte, 62.42 48⇑ *e*P **P** **00 08 59.3 +1.1**
comp=Z,1µm,1.6s
BART Pico Bartolome 62.64 47⇑ *e*P **P** **00 09 02.0 +2.2**
comp=Z,3µm,1.1s
MBO M'Bour 63.85 74 P **P** **00 09 07.4 -0.6**
FRB Frobisher Bay 63.88 6 LR LR 00 41 09.7
comp=Z,191µm,18.0s,baz=183,slow=40
FRB Frobisher Bay 63.88 6 P **P** **00 09 06.0 -1.3**
HOPE Hope Point 65.08 154 P **P** **00 09 16.4 +1.1**
HOPE pmax pmax
comp=Z,1µm,1.2s
HOPE Hope Point 65.08 154 P **P** **00 09 16.4 +1.1**
HOPE IAmb IAmb 00 09 46.9
comp=Z,1µm,1.2s
IVI Ivigtut 65.44 16 P **P** **00 09 16.5 -1.1**
IVI IAmb IAmb 00 09 55.4
comp=Z,853nm,1.3s
IVI Ivigtut 65.44 16⇑ *i*P **P** **00 09 17.4 -0.1**
IVI IVmB_BB 00 09 56.9
comp=Z,19µm,7.7s
BBB Bella Bella 65.50 330 LR LR 00 40 50.0
comp=Z,125µm,18.3s,baz=127,slow=39
H10S3 ASCENSION HYDR 65.69 100 P **P** **00 09 22.4 +2.6**
baz=200,slow=74,SNR=11
H10S2 ASCENSION HYDR 65.70 100 P **P** **00 09 22.5 +2.6**
baz=20,slow=74,SNR=13
H10N3 ASCENSION HYDR 65.77 99 P **P** **00 09 20.6 +0.4**
baz=267,slow=5.9,SNR=31
H10N2 ASCENSION HYDR 65.78 99 P **P** **00 09 20.7 +0.4**
baz=267,slow=5.9,SNR=29
H10N1 ASCENSION HYDR 65.79 99 P **P** **00 09 20.8 +0.4**
baz=267,slow=5.9,SNR=44
ESPZ Base Esperanza 65.79 169 P **P** **00 09 19.6 -0.1**
ESPZ IAmb IAmb 00 09 51.6
comp=Z,1µm,1.6s
ASCN Ascension 65.91 99 P **P** **00 09 20.7 -0.9**
PMSA Palmer Station 65.94 173 S **S** **00 18 11.7 +3.7**
comp=Z,37nm,1.0s,baz=157,slow=20,SNR=1.8
PMSA LR LR 00 34 08.8
comp=Z,625µm,19.8s,baz=345,slow=32
PMSA Palmer Station 65.94 173 P **P** **00 09 21.4 +0.7**
PMSA IAmb IAmb 00 09 55.2
comp=Z,2µm,1.6s
PMSA Palmer Station 65.94 173 *e*P **P** **00 09 20.9 +0.2**
NRS Narsarsuaq 66.20 17 P **P** **00 09 21.8 -0.6**
NRS pmax pmax
comp=Z,1µm,1.5s
NRS Narsarsuaq 66.20 17 P **P** **00 09 21.8 -0.6**
NRS IAmb IAmb 00 10 01.1
comp=Z,1µm,1.5s
NRS IAMs_20 IAMs_20 00 37 19.4
comp=Z,332µm,22.0s
NRS Narsarsuaq 66.20 17⇑ *i*P **P** **00 09 21.9 -0.6**
NRS IVmB_BB 00 10 11.3
comp=Z,28µm,19.6s
ORCD Orcadas 66.61 162 P **P** **00 09 24.8 -0.3**
ORCD IAmb IAmb 00 09 58.4
comp=Z,1µm,1.1s
MACI Morro de la Ar 66.66 59 P **P** **00 09 25.7 -0.7**
NUUK Nuuk 67.04 13⇑ *i*P **P** **00 09 27.2 -0.6**
NUUK IVmB_BB 00 10 07.1
comp=Z,24µm,18.8s
PMOZ Porto Moniz, M 67.19 54 *e*P **P** **00 09 31.1 +1.6**
comp=Z,2µm,2.2s
PMOZ Porto Moniz, M 67.19 54 *e*LQ LQ 00 27 37.5
PMOZ *e*LR LR 00 30 45.5
comp=Z,122µm,24.0s
PMOZ Porto Moniz, M 67.19 54 P **P** **00 09 28.4 -1.1**
YKA Yellowknife Ar 67.27 343 P **P** **00 09 26.9 -2.3**
comp=Z,41nm,0.9s,baz=137,slow=5.9,SNR=298
YKA PKPPKP **P'P'df** **00 37 56.7 +1.8**
comp=Z,4.5nm,1.0s,baz=313,slow=2.4,SNR=4.8
FUL Funchal 67.39 55 *e*P **P** **00 09 32.9 +2.2**
comp=Z,942nm,1.6s
PMAR Madeira 67.40 54 *e*P **P** **00 09 32.7 +1.8**
comp=Z,1µm,1.5s
PMPS Porto Santo 67.95 54 *e*P **P** **00 09 37.4 +3.2**
comp=Z,2µm,1.5s
PMPST Porto Santo, M 67.96 54 *e*P **P** **00 09 36.0 +1.7**
comp=Z,3µm,1.6s
H02S1 DAWSON INLET T 68.28 329 P **P** **00 09 35.1 -0.7**
VAH Vaihoa 68.54 254 *e*P **P** **00 09 40.0 +1.9**
comp=Z,2µm,1.4s
VAH Vaihoa 68.54 254 *e*T T 01 23 19.5
comp=Z,6.2nm,0.2s
PMOR Pomariorio Ree 68.77 254 *e*P **P** **00 09 41.6 +2.0**
comp=Z,3µm,1.4s
SMAI San Martin Ant 68.85 175 P **P** **00 09 39.6 +0.5**
SFJD Kangerlussuaq 69.70 12 P **P** **00 09 41.9 -2.5**
SFJD pmax pmax
comp=Z,596nm,1.0s
SFJD Kangerlussuaq 69.70 12 P **P** **00 09 41.9 -2.5**
SFJD Kangerlussuaq 69.70 12 IAMs_20 IAMs_20 00 46 07.8
comp=Z,252µm,19.0s
SFJD Kangerlussuaq 69.70 12⇑ *i*P **P** **00 09 42.8 -1.6**
SFJD IVmB_BB 00 10 25.6
comp=Z,13µm,33.2s
CRAG Craig 69.78 331 P **P** **00 09 44.8 -0.3**
CRAG IAmb IAmb 00 10 07.2
comp=Z,1µm,1.4s
CRAG Craig 69.78 331 P **P** **00 09 48.2 +3.0**
baz=122,SNR=7.9
CRAG S **S** **00 19 00.3 +5.8**
baz=122
WRAK Wrangell Islan 69.92 332 P **P** **00 09 46.1 +0.1**
WRAK IAmb IAmb 00 10 08.0
comp=Z,889nm,1.4s
WRAK Wrangell Islan 69.92 332 IAMs_20 IAMs_20 00 40 35.3
comp=Z,178µm,22.0s
WRAK Wrangell Islan 69.92 332 P **P** **00 09 48.7 +2.8**
baz=122,SNR=17
WRAK S **S** **00 19 01.1 +5.1**
baz=122
DLBC Dease Lake 70.01 335 LR LR 00 44 51.2
comp=Z,240µm,18.3s,baz=112,slow=40
DLBC Dease Lake 70.01 335 P **P** **00 09 45.7 -0.9**
DY2G Dye2 70.23 14⇑ *i*P **P** **00 09 47.2 -0.8**
DY2G IVmB_BB 00 10 14.9
comp=Z,21µm,4.6s
WTLY Watson Lake, Y 70.49 336 P **P** **00 09 51.5 +2.0**
baz=127
WTLY S **S** **00 19 05.7 +3.0**
baz=127
WRGLY Wrigley 70.55 341 P **P** **00 09 51.4 +1.7**
baz=133,SNR=53
WRGLY S **S** **00 19 03.3 +0.1**
baz=133
PPTF Pamatai, Papee 70.65 251 P **P** **00 09 51.0 -0.3**
PPTF IAMs_20 IAMs_20 00 35 08.4
comp=Z,244µm,19.0s
PPTF Pamatai, Papee 70.65 251 P P 00 09 58.5 +7.2
comp=Z,2µm,2.1s
PPT Papeete 70.66 251 P **P** **00 09 50.5 -0.8**
comp=Z,19nm,0.8s,baz=204,slow=20,SNR=1.0
PPT S **S** **00 19 08.7 +2.6**
comp=Z,24nm,0.9s,baz=32,slow=18,SNR=1.1
PPT LR LR 00 35 08.1
comp=Z,144µm,18.6s,baz=82,slow=31
PPT2 Papeete2 70.66 251 *e*P **P** **00 09 53.5 +2.1**
comp=Z,1µm,1.5s
PPT2 *e*S **S** **00 19 06.3 +0.1**
comp=Z,1989µm,30.8s
PPT2 Papeete2 70.66 251 *e*LR LR 00 31 19.8
comp=Z,2017µm,28.5s,baz=79
PAE Paea 70.67 251 *e*P **P** **00 09 53.7 +2.4**
comp=Z,803nm,1.4s
TGTN Hyland Airport 71.15 338 P **P** **00 09 55.8 +2.4**
baz=128,SNR=34
TGTN S **S** **00 19 14.2 +3.9**
baz=128
TBI Tubuai 71.32 245 *e*P **P** **00 09 57.8 +2.6**
comp=Z,2µm,1.4s
TBI *e*S **S** **00 19 14.0 +0.5**
comp=Z,990µm,30.0s
TBI Tubuai 71.32 245 *e*LR LR 00 31 38.5
comp=Z,2276µm,30.5s,baz=77
TBI Tubuai 71.32 245 *e*T T 01 26 25.9
comp=Z,30nm,0.3s
SIT Sitka 71.65 332 P **P** **00 10 00.1 +3.6**
SIT Sitka 71.65 332 P **P** **00 09 59.1 +2.6**
baz=120
SIT S **S** **00 19 21.7 +5.6**
baz=120
JIS Juneau Island 71.84 333 IAMs_20 IAMs_20 00 45 15.0
comp=Z,248µm,20.0s
ANGG Ammassalik, Gr 71.87 17 P **P** **00 09 56.5 -1.1**
ANGG IAMs_20 IAMs_20 00 47 10.2
comp=Z,165µm,20.0s
ANGG Ammassalik, Gr 71.87 17⇑ *i*P **P** **00 09 56.0 -1.6**
ANGG IVmB_BB 00 10 36.1
comp=Z,24µm,7.6s
H09W1 TRISTAN DA CUN 72.47 129 P **P** **00 10 00.2 -1.7**
SKAG Skagway 72.87 334 P **P** **00 10 03.5 -0.3**
SKAG Skagway 72.87 334 P **P** **00 10 05.8 +2.1**
baz=120,SNR=16
SKAG S **SKiKP** **00 19 34.6 -3.0**
baz=120
MMPY Sheldon Lake, 72.93 338 P **P** **00 10 06.7 +2.6**
baz=125,SNR=127
MMPY S **SKiKP** **00 19 34.4 -3.4**
baz=125
NUUG Nuugaatsiaq 73.20 9⇑ *i*P **P** **00 10 05.5 0.0**
NUUG IVmB_BB 00 10 44.5
comp=Z,22µm,8.1s
WHY Whitehorse 73.30 335 P **P** **00 10 05.8 -0.7**
WHY IAmb IAmb 00 10 44.4
comp=Z,2µm,1.9s
WHY Whitehorse 73.30 335 P **P** **00 10 08.0 +1.6**
baz=121,SNR=25
WHY S **SKiKP** **00 19 38.3 -0.2**
baz=121
FARO Faro, Yukon 73.52 337 P **P** **00 10 09.7 +2.1**
baz=123,SNR=31
FARO S **SKiKP** **00 19 40.7 +2.0**
baz=123
ICESG Greenland Ices 73.85 14⇑ *i*P **P** **00 10 08.5 -1.3**
ICESG IVmB_BB 00 10 46.7
comp=Z,60µm,2.9s
M31M Drury Creek, Y 73.91 337 IAMs_20 IAMs_20 00 44 50.5
comp=Z,236µm,22.0s
M31M Drury Creek, Y 73.91 337 P **P** **00 10 12.3 +2.4**
baz=122,SNR=64
M31M S **S** **00 19 44.7 +2.8**
baz=122
N31M Braeburn, Yuko 74.10 336 P **P** **00 10 10.1 -0.9**
N31M IAmb IAmb 00 10 49.4
comp=Z,2µm,1.5s
N31M IAMs_20 IAMs_20 00 45 07.5
comp=Z,219µm,20.0s
N31M Braeburn, Yuko 74.10 336 P **P** **00 10 13.3 +2.3**
baz=121,SNR=69
N31M S **S** **00 19 46.9 +2.9**
baz=121
HYT Haines Junctio 74.49 335 P **P** **00 10 13.2 -0.2**
HYT IAmb IAmb 00 10 52.3
comp=Z,2µm,1.7s
HYT Haines Junctio 74.49 335 P **P** **00 10 15.9 +2.5**
baz=119,SNR=32
HYT S **S** **00 19 51.4 +2.8**
baz=119
PNL Peninsula 74.79 333 P **P** **00 10 17.3 +2.3**
baz=117,SNR=16
PNL S **S** **00 19 56.0 +4.2**
baz=117
RES Resolute Bay 74.84 356 P **P** **00 10 13.2 -1.8**
comp=Z,28nm,1.0s,baz=177,slow=6.9,SNR=22
RES LR LR 00 44 39.6
comp=Z,236µm,18.4s,baz=164,slow=37
RES Resolute Bay 74.84 356 P **P** **00 10 11.5 -3.5**
PFVI Vila Bisbo 74.87 52 *e*P **P** **00 10 17.3 +1.4**
comp=Z,3µm,1.8s
PFVI Vila Bisbo 74.87 52 P **P** **00 10 15.0 -1.0**
PMAFR Mafra 74.89 50 *e*P **P** **00 10 17.6 +1.6**
comp=Z,2µm,1.5s
PMST Lisbon--Monsan 74.92 50 *e*P **P** **00 10 17.3 +1.1**
comp=Z,3µm,1.4s
YUK6 Outpost Mounta 74.92 334 P **P** **00 10 18.9 +2.9**
baz=118,SNR=25
YUK6 S **S** **00 19 57.3 +3.6**
baz=118
SHEL Horse Pasture 74.93 107 P **P** **00 10 16.0 -0.8**
SHEL pmax pmax
comp=Z,10µm,2.2s
SHEL MLR MLR
comp=Z,492µm,18.0s
SHEL Horse Pasture 74.93 107 P **P** **00 10 16.0 -0.8**
LIS Lisbon 74.94 50 *e*P **P** **00 10 16.4 +0.1**
LIS *e*S **S** **00 19 53.1 -1.1**
LIS IAMs_20 IAMs_20 00 36 53.5
comp=E,310µm,19.6s
LIS Lisbon 74.94 50 *e*P **P** **00 10 18.7 +2.4**
comp=E,2µm,1.8s
C36M Paulatuk 74.97 345 P **P** **00 10 15.6 -0.2**
baz=134,SNR=16
C36M S **S** **00 19 49.7 -3.6**
baz=134
LIC Lamto 75.02 84 *e*P **P** **00 10 16.4 -0.8**
comp=E,2µm,1.1s
BCPM Bancas Point 75.02 333 IAMs_20 IAMs_20 00 44 50.2
comp=Z,251µm,20.0s
PTEO Sao Teotonio 75.03 51 *e*P **P** **00 10 19.3 +2.4**
comp=Z,2µm,1.5s
TIC Toumodi 75.03 83 *e*P **P** **00 10 15.9 -1.5**
MORF Marmelete 75.04 51 *e*P **P** **00 10 17.1 0.0**
MORF *e*S **S** **00 19 54.4 -1.2**
MORF IAMs_20 IAMs_20 00 37 11.9
comp=E,444µm,31.8s
MORF Marmelete 75.04 51 *e*P **P** **00 10 17.6 +0.6**
comp=E,3µm,1.5s
M30M Minto, Yukon 75.06 336 IAMs_20 IAMs_20 00 45 37.0
comp=Z,276µm,20.0s
M30M Minto, Yukon 75.06 336 P **P** **00 10 18.4 +1.8**
baz=120,SNR=115
M30M S **S** **00 19 56.4 +1.6**
baz=120
PACT Alcochete 75.19 50 *e*P **P** **00 10 19.1 +1.4**
comp=Z,4µm,1.5s
DBIC Dimbokro 75.20 83 P **P** **00 10 17.0 -1.3**
comp=Z,290nm,1.1s,baz=279,slow=5.4,SNR=35
DBIC S **S** **00 19 56.6 -1.3**
comp=Z,11nm,1.0s,baz=98,slow=21,SNR=1.5
DBIC PKPPKP 00 37 39.4
comp=Z,5.5nm,1.0s,baz=95,slow=4.8,SNR=3.6
DBIC LR LR 00 42 00.4
comp=Z,410µm,18.5s,baz=250,slow=35
DBIC Dimbokro 75.20 83⇑ *i*P **P** **00 10 17.2 -1.0**
DBIC IAMs_20 IAMs_20 00 50 01.6
comp=Z,541µm,16.2s
DBIC Dimbokro 75.20 83 P **P** **00 10 16.8 -1.5**
DBIC pmax pmax
comp=Z,4µm,1.5s
DBIC Dimbokro 75.20 83 P **P** **00 10 16.8 -1.5**
MAYO Mayo, Yukon 75.23 337 P **P** **00 10 20.2 +2.7**
baz=121,SNR=14
MAYO S **S** **00 19 58.5 +2.0**
baz=121
YUK4 Talbot Arm 75.23 335 P **P** **00 10 20.1 +2.3**
baz=118,SNR=60
YUK4 S **S** **00 20 00.2 +3.2**
baz=118
PNCL Nicolau / Gran 75.29 51 *e*P **P** **00 10 19.8 +1.4**
comp=Z,2µm,1.2s
KIC Kosan Boka 75.30 84 *e*P **P** **00 10 17.5 -1.4**
comp=Z,1µm,0.9s
PINM Pinnacle 75.36 333 P **P** **00 10 20.9 +2.5**
baz=116
PINM S **S** **00 20 03.2 +4.9**
baz=116
PCA Pinnacle 75.37 333 P **P** **00 10 18.2 -0.3**
PCA IAmb IAmb 00 10 57.0
comp=Z,1µm,1.2s
PSBE So Bento 75.37 49 *e*P **P** **00 10 20.6 +1.7**
comp=Z,2µm,1.6s
SOEG Soedalen 75.44 17⇑ *i*P **P** **00 10 17.7 -0.8**
SOEG IVmB_BB 00 10 54.7
comp=Z,24µm,13.3s
PCVE Castro Verde 75.58 51 *e*P **P** **00 10 21.7 +1.7**
comp=Z,2µm,1.7s
PBDV Barranco-do-Ve 75.59 52 *e*P **P** **00 10 22.8 +2.6**
comp=Z,1µm,1.8s
PCAS Casmilo, Conde 75.71 49 *e*P **P** **00 10 22.2 +1.5**
comp=Z,3µm,1.8s
PMTG Montargil 75.72 50 *e*P **P** **00 10 22.2 +1.4**
comp=Z,2µm,1.7s
EVO Evora 75.78 50 *e*P **P** **00 10 22.2 +1.1**
comp=Z,1µm,1.8s
PVAQ Vaqueiros 75.79 51 *e*P **P** **00 10 22.2 +1.0**
comp=Z,1µm,1.7s
PVAQ *e*S **S** **00 20 06.4 +2.7**
PVAQ Vaqueiros 75.79 51 *e*LR LR 00 35 01.8
comp=Z,220µm,18.0s
PVAQ Vaqueiros 75.79 51 P **P** **00 10 20.3 -0.9**
PVAQ IAmb IAmb 00 10 58.4
comp=Z,1µm,1.6s
PBEJ Beja 75.79 51 *e*P **P** **00 10 21.1 -0.1**
comp=Z,219nm,1.3s
COI Coimbra 75.81 49 *e*P **P** **00 10 23.1 +1.8**
comp=Z,5µm,1.4s
COI Coimbra 75.81 49 P **P** **00 10 20.6 -0.7**
COI pmax pmax
comp=Z,4µm,1.1s
COI MLR MLR
comp=Z,171µm,21.0s
COI Coimbra 75.81 49 P **P** **00 10 20.6 -0.7**

COI IAMs_20 IAMs_20 00 43 40.4
comp=Z,171µm,21.0s
PTO Porto 75.86 48 *e*P **P 00 10 21.3 -0.2**
comp=Z,3µm,1.4s
TABL Table Mountain 75.91 333 IAMs_20 IAMs_20 00 45 06.7
comp=Z,321µm,22.0s
PUH Pauahi 75.98 290 P **P 00 10 22.2 -0.6**
PUH IAmb IAmb 00 11 05.4
comp=Z,1µm,1.1s
LOGN Logan Glacier 76.02 334 P **P 00 10 21.5 -0.7**
LOGN IAMs_20 IAMs_20 00 45 33.4
comp=Z,292µm,19.0s
HLP Hilina Pali 76.06 290 P **P 00 10 23.1 -0.1**
MLH Mauna Loa 76.15 290 P **P 00 10 23.6 -0.3**
MLH IAmb IAmb 00 11 06.8
comp=Z,2µm,1.5s
PESTR Estremoz 76.16 50 *e*P **P 00 10 24.8 +1.4**
comp=Z,3µm,1.4s
PESTR Estremoz 76.16 50 *e*PP PP 00 13 09.5 -4.9
PESTR Estremoz 76.16 50 P **P 00 10 22.4 -1.0**
PESTR IAmb IAmb 00 10 51.1
comp=Z,1µm,1.1s
YUK3 Moose Creek 76.20 335 P **P 00 10 25.7 +2.4**
baz=116,SNR=72
YUK3 S **S 00 20 09.1 +1.3**
baz=116
CTGM Chitina Glacie 76.22 334 IAMs_20 IAMs_20 00 45 29.0
comp=Z,283µm,20.0s
CTG Chitna Glacier 76.23 334 P **P 00 10 26.0 +2.5**
baz=115,SNR=43
CTG S **S 00 20 10.9 +3.0**
baz=115
PGAV Gavieira, Arco 76.28 47 *e*P **P 00 10 25.5 +1.4**
comp=Z,2µm,1.8s
PGAV Gavieira, Arco 76.28 47 *e*PP PP 00 13 17.9 +2.5
PGAV *e*S **S 00 20 09.5 +0.4**
PGAV Gavieira, Arco 76.28 47 *e*LQ LQ 00 30 54.0
PGAV *e*LR LR 00 35 39.8
comp=Z,206µm,20.0s
PVIS Viseu 76.30 48 *e*P **P 00 10 24.8 +0.7**
comp=Z,2µm,1.5s
PVIS Viseu 76.30 48 *e*PP PP 00 13 16.5 +0.9
POHA Pohakuloa 76.31 290 P **P 00 10 24.5 -0.3**
POHA IAmb IAmb 00 11 06.6
comp=Z,1µm,1.4s
POHA Pohakuloa 76.31 290 IAMs_20 IAMs_20 00 38 29.9
comp=Z,203µm,20.0s
POHA Pohakuloa 76.31 290 P P 00 10 31.4 +6.6
comp=Z,805nm,2.1s
GRNC Granite Creek 76.31 334 IAMs_20 IAMs_20 00 45 30.2
comp=Z,324µm,21.0s
KOWA Kowa 76.35 75 P **P 00 10 23.4 -1.4**
KOWA IAmb IAmb 00 10 56.3
comp=Z,2µm,1.1s
PCAB Cabril 76.40 47 *e*P **P 00 10 25.5 +0.8**
comp=Z,2µm,1.5s
PCAB Cabril 76.40 47 *e*PP PP 00 13 18.7 +2.3
BARN Barnard Glacie 76.41 334 IAMs_20 IAMs_20 00 45 34.8
comp=Z,281µm,21.0s
PMRV Marv??o 76.42 49 *e*P **P 00 10 25.9 +1.1**
comp=Z,1µm,1.4s
PMRV *e*S **S 00 20 14.3 +3.7**
PMRV Marv??o 76.42 49 *e*LR LR 00 35 20.8
comp=Z,126µm,18.0s
TULEG Thule 76.43 3 P **P 00 10 22.1 -2.0**
TULEG IAmb IAmb 00 10 54.3
comp=Z,1µm,1.5s
TULEG IAMs_20 IAMs_20 00 46 50.9
comp=Z,274µm,20.0s
TULEG Thule 76.43 3⇑ *i*P **P 00 10 23.4 -0.7**
TULEG IVmB_BB 00 10 59.7
comp=Z,20µm,11.3s
PCBR Castelo Branco 76.44 49 *e*P **P 00 10 24.3 -0.6**
comp=Z,2µm,1.6s
PCBR Castelo Branco 76.44 49 *e*PP PP 00 13 12.2 -4.5
PBAR Barrancos 76.46 51 *e*P **P 00 10 25.9 +0.9**
comp=Z,930nm,1.6s
MTE Manteigas 76.50 48 *e*P **P 00 10 26.4 +1.1**
comp=Z,1µm,1.4s
MTE *e*S **S 00 20 11.8 +0.3**
MTE Manteigas 76.50 48 *e*LQ LQ 00 30 28.3
MTE *e*LR LR 00 35 51.4
comp=Z,165µm,20.0s
MTE Manteigas 76.50 48 P **P 00 10 24.3 -1.0**
MTE IAMs_20 IAMs_20 00 45 03.7
comp=Z,190µm,20.0s
POLO Lamas de Olo 76.50 47 *e*P **P 00 10 26.0 +0.6**
comp=Z,1µm,1.4s
ISLE Juniper Island 76.52 333 IAMs_20 IAMs_20 00 45 21.7
comp=Z,277µm,22.0s
PVRL Vila Real 76.54 48 *e*P **P 00 10 27.1 +1.6**
comp=Z,2µm,1.5s
PVRL Vila Real 76.54 48 *e*PP PP 00 13 18.7 +1.1
J29M Klondike Camp 76.55 338 P **P 00 10 27.5 +2.5**
baz=119,SNR=32
J29M S **S 00 20 13.9 +2.7**
baz=119
SNH Sunshine Point 76.57 333 IAMs_20 IAMs_20 00 50 34.2
comp=Z,218µm,19.0s
BVCY Beaver Creek 76.65 335 P **P 00 10 28.3 +2.6**
baz=116,SNR=52
BVCY S **S 00 20 15.6 +3.3**
baz=116
WAX Waxell Ridge 76.69 333 P **P 00 10 26.1 +0.2**
WAX IAmb IAmb 00 10 48.2
comp=Z,2µm,1.3s
WAX IAMs_20 IAMs_20 00 47 25.2
comp=Z,231µm,18.0s
BGLC Bering Glacier 76.75 333 P **P 00 10 29.7 +3.6**
baz=113
BGLC S **S 00 20 16.7 +3.4**
baz=113
TGL Tana Glacier 76.80 333 IAMs_20 IAMs_20 00 49 06.2
comp=Z,211µm,18.0s
DAWY Dawson 76.81 337 P **P 00 10 28.1 +1.6**
baz=118,SNR=114
DAWY S **S 00 20 15.4 +1.3**
baz=118
SFS San Fernando 76.82 53 P **P 00 10 26.8 -0.3**
SFS pmax pmax
comp=Z,3µm,1.3s
SFS San Fernando 76.82 53 P **P 00 10 26.8 -0.3**
SFS IAMs_20 IAMs_20 00 42 09.5
comp=Z,193µm,22.0s
BORG Borgarnes 76.85 22 LR LR 00 44 20.4
comp=Z,77µm,18.7s,baz=242,slow=36
BORG Borgarnes 76.85 22 P **P 00 10 26.8 +0.1**
BORG pmax pmax
comp=Z,13µm,2.8s
BORG MLR MLR
comp=Z,193µm,20.0s
BORG Borgarnes 76.85 22 P **P 00 10 26.8 +0.1**
BORG Borgarnes 76.85 22 IAMs_20 IAMs_20 00 44 20.0
comp=Z,193µm,20.0s
SUCK Suckling Hills 76.96 332 IAMs_20 IAMs_20 00 48 00.5
comp=Z,287µm,18.0s
INK Inuvik 76.97 342 P **P 00 10 26.0 -1.2**
comp=Z,116nm,1.0s,baz=105,slow=5.8,SNR=128
INK S **S 00 20 14.4 -1.0**
comp=Z,23nm,1.2s,baz=208,slow=16,SNR=2.1
INK PKKPbc **PKKPbc 00 29 34.2 -4.7**
comp=Z,3.4nm,1.0s,baz=343,slow=7.8,SNR=2.0
INK Inuvik 76.97 342 P **P 00 10 29.0 +1.8**
baz=124,SNR=356
INK S **S 00 20 16.2 +0.8**
baz=124
I29M Ogilvie Camp, 77.02 339 IAMs_20 IAMs_20 00 46 43.7
comp=Z,278µm,20.0s
I29M Ogilvie Camp, 77.02 339 P **P 00 10 29.7 +2.0**
baz=119,SNR=127
I29M S **S 00 20 17.7 +1.4**
baz=119
MVO Moncorvo 77.03 48 *e*P **P 00 10 28.8 +0.5**
comp=Z,2µm,1.4s
MVO *e*S **S 00 20 19.7 +2.4**
MVO Moncorvo 77.03 48 *e*LQ LQ 00 30 55.6
MVO *e*LR LR 00 35 20.5
comp=Z,207µm,24.0s
M27K Edge Creek, AK 77.06 335 IAMs_20 IAMs_20 00 46 33.8
comp=Z,310µm,20.0s
M27K Edge Creek, AK 77.06 335 P **P 00 10 30.5 +2.4**
baz=115,SNR=75
M27K S **S 00 20 20.1 +3.2**
baz=115
A36M Sachs Harbour 77.08 347 P **P 00 10 25.6 -2.3**
A36M IAmb IAmb 00 11 05.3
comp=Z,998nm,0.9s
A36M Sachs Harbour 77.08 347 P **P 00 10 28.7 +0.9**
baz=133,SNR=185
A36M S **S 00 20 12.9 -3.6**
baz=133
MCARA McCarthy VSAT 77.14 334 P **P 00 10 31.4 +2.9**
baz=114,SNR=113
MCARA S **S 00 20 20.6 +2.9**
baz=114
KAIM Kayak Island 77.20 332 IAMs_20 IAMs_20 00 45 24.9
comp=Z,183µm,20.0s
KAIM Kayak Island 77.20 332 P **P 00 10 31.9 +3.1**
baz=112
KAIM S **S 00 20 22.6 +4.3**
baz=112
VRDI Verde Repeater 77.27 334 IAMs_20 IAMs_20 00 47 54.6
comp=Z,198µm,20.0s
HMT Hamilton 77.29 333 IAMs_20 IAMs_20 00 44 38.0
comp=Z,273µm,22.0s
BCAR Beaver Creek A 77.32 336 P **P 00 10 28.3 -1.2**
L27K Beaver Creek, 77.34 336 IAMs_20 IAMs_20 00 47 40.1
comp=Z,230µm,19.0s
L27K Beaver Creek, 77.34 336 P **P 00 10 31.9 +2.3**
baz=115,SNR=94
L27K S **S 00 20 23.4 +3.6**
baz=115
PBRG Braganca 77.36 47 *e*P **P 00 10 29.2 -0.9**
comp=Z,2µm,1.7s
PBRG Braganca 77.36 47 *e*PP PP 00 13 24.6 +0.1
XMAS Kiritimati 77.46 272 P **P 00 10 31.5 +0.4**
XMAS Kiritimati 77.46 272 P P 00 10 37.6 +6.5
comp=Z,2µm,1.7s
RAGM Ragged Mountai 77.50 333 IAMs_20 IAMs_20 00 50 03.6
comp=Z,274µm,19.0s
GLB Gilahina Butte 77.51 334 P **P 00 10 29.4 -1.2**
GLB IAmb IAmb 00 11 08.7
comp=Z,2µm,1.2s
GLB IAMs_20 IAMs_20 00 46 07.0
comp=Z,271µm,22.0s
M26K Nabesna, AK 77.55 335 IAMs_20 IAMs_20 00 46 36.8
comp=Z,291µm,20.0s
M26K Nabesna, AK 77.55 335 P **P 00 10 33.0 +2.3**
baz=114,SNR=48
M26K S **S 00 20 24.0 +1.9**
baz=114
MDT Midelt 77.57 57 PKPPKP 00 37 36.5
comp=Z,2.8nm,1.1s,baz=303,slow=4.5,SNR=3.1
MDT LR LR 00 44 21.3
comp=Z,55µm,19.1s,baz=276,slow=35
BMRM Bremner River 77.69 333 IAMs_20 IAMs_20 00 51 44.1
comp=Z,235µm,18.0s
BMRM Bremner River 77.69 333 P **P 00 10 34.0 +2.5**
baz=112,SNR=103
BMRM S **S 00 20 25.3 +1.7**
baz=112
EGAK Eagle 77.82 337 P **P 00 10 30.8 -1.3**
EGAK IAmb IAmb 00 11 10.1
comp=Z,2µm,1.1s
EGAK IAMs_20 IAMs_20 00 47 34.9
comp=Z,214µm,19.0s
EGAK Eagle 77.82 337 P **P 00 10 34.1 +2.0**
baz=116,SNR=155
EGAK S **S 00 20 28.9 +4.0**
baz=116
N25K Chitina, Valde 77.93 334 IAMs_20 IAMs_20 00 50 22.9
comp=Z,167µm,20.0s
N25K Chitina, Valde 77.93 334 P **P 00 10 35.1 +2.2**
baz=112,SNR=26
N25K S **S 00 20 27.8 +1.5**
baz=112
Q23K Middleton Isla 77.93 331 P **P 00 10 35.5 +2.7**
baz=110
Q23K S **S 00 20 29.5 +3.3**
baz=110
L26K Log Cabin Wild 77.95 335 P **P 00 10 31.7 -1.2**
L26K IAmb IAmb 00 11 10.9
comp=Z,1µm,1.5s
L26K Log Cabin Wild 77.95 335 P **P 00 10 35.0 +2.1**
baz=114,SNR=21
L26K S **S 00 20 28.5 +2.1**
baz=114
EYAK Cordova Ski Ar 78.05 333 P **P 00 10 32.8 -0.7**
EYAK IAmb IAmb 00 11 11.5
comp=Z,1µm,1.5s
EYAK Cordova Ski Ar 78.05 333 P **P 00 10 35.6 +2.1**
baz=111,SNR=29
EYAK S **S 00 20 28.5 +1.0**
baz=111
IGLA Glengowla, Co 78.31 35 *e*P **P 00 10 33.9 -1.1**
FID Port Fidalgo 78.46 333 IAMs_20 IAMs_20 00 48 47.3
comp=Z,281µm,19.0s
HARP HAARP 78.47 334 P **P 00 10 37.7 +1.9**
baz=112,SNR=25
HARP S **S 00 20 31.9 -0.1**
baz=112
KLU Klutina 78.47 333 IAMs_20 IAMs_20 00 47 01.3
comp=Z,218µm,20.0s
KLU Klutina 78.47 333 P **P 00 10 37.8 +1.9**
baz=111,SNR=51
KLU S **S 00 20 32.5 +0.3**
baz=111
SCRK Sand Creek 78.60 336 P **P 00 10 35.1 -1.5**
SCRK IAMs_20 IAMs_20 00 46 38.5
comp=Z,269µm,22.0s
SCRK Sand Creek 78.60 336 P **P 00 10 38.7 +2.1**
baz=114,SNR=78
SCRK S **S 00 20 34.8 +1.3**
baz=114
J26L Joseph Creek 78.64 337 P **P 00 10 38.8 +2.0**
baz=114,SNR=221
J26L S **S 00 20 35.1 +1.2**
baz=114
KIP Kipapa 78.75 292 *i*P **P 00 10 38.7 +0.5**
KIP pmax pmax
comp=Z,1µm,1.9s
KIP MLR MLR
comp=Z,124µm,17.0s
KIP Kipapa 78.75 292 P **P 00 10 38.5 +0.4**
KIP IAmb IAmb 00 11 19.9
comp=Z,2µm,1.6s
KIP Kipapa 78.75 292 IAMs_20 IAMs_20 00 44 19.5
comp=Z,138µm,18.0s
KIP Kipapa 78.75 292 P P 00 10 45.7 +7.5
comp=Z,763nm,2.8s
KIP Kipapa 78.75 292 P P 00 10 46.0 +7.8
comp=Z,763nm,2.8s
PAB San Pablo 78.76 50 P **P 00 10 37.3 -0.7**
PAB pmax pmax
comp=Z,2µm,1.4s
PAB MLR MLR
comp=Z,140µm,19.0s
PAB San Pablo 78.76 50 P **P 00 10 37.2 -0.7**
PAB IAmb IAmb 00 11 05.1
comp=Z,2µm,1.4s
PAB San Pablo 78.76 50 IAMs_20 IAMs_20 00 49 48.7
comp=Z,140µm,19.0s
GLI Glacier Island 78.79 333 IAMs_20 IAMs_20 00 48 54.7
comp=Z,242µm,19.0s
GLI Glacier Island 78.79 333 P **P 00 10 39.0 +1.4**
baz=110,SNR=22
GLI S **S 00 20 35.3 -0.1**
baz=110
M24K Tolsona, Glenn 78.81 334 IAMs_20 IAMs_20 00 46 47.1
comp=Z,170µm,22.0s
M24K Tolsona, Glenn 78.81 334 P **P 00 10 39.7 +2.0**
baz=111,SNR=42
M24K S **S 00 20 35.4 -0.3**
baz=111
PAX Paxson 78.82 335 P **P 00 10 39.4 +1.5**
baz=112,SNR=58
PAX S **S 00 20 36.6 +0.8**
baz=112
RIDG Independent Ri 78.86 336 P **P 00 10 39.9 +1.9**
baz=113,SNR=84
RIDG S **S 00 20 37.4 +1.2**
baz=113
ESDC Sonseca Array 79.08 50 P **P 00 10 39.1 -0.5**
comp=Z,298nm,1.0s,baz=265,slow=5.1,SNR=184
ESDC S **S 00 20 40.9 +1.5**
comp=Z,2.1nm,1.0s,baz=184,slow=0.8,SNR=2.0
ESDC PKKPbc **PKKPbc 00 29 33.1 -0.1**
comp=Z,0.8nm,0.9s,baz=90,slow=1.4,SNR=2.7
ESDC PKPPKP **P'P'df 00 37 38.0 +1.8**
comp=Z,2.4nm,1.0s,baz=52,slow=2.6,SNR=5.6
ESDC LR LR 00 43 36.9
comp=Z,80µm,21.0s,baz=238,slow=34
ESDC Sonseca Array 79.08 50 P **P 00 10 38.6 -1.1**
ESDC IAmb IAmb 00 11 16.4
comp=Z,4µm,1.9s
ESBB Sonseca Array 79.08 50 P **P 00 10 38.5 -1.1**
ESBB IAmb IAmb 00 11 16.3
comp=Z,4µm,1.8s
GUD Guadarrama 79.08 49 P **P 00 10 38.7 -1.1**
SCM Sheep Creek Mo 79.22 334 IAMs_20 IAMs_20 00 47 13.1
comp=Z,283µm,20.0s
SCM Sheep Creek Mo 79.22 334 P **P 00 10 41.2 +1.2**
baz=110,SNR=65
SCM S **S 00 20 41.0 +0.9**
baz=110
K24K Donnelly Dome 79.26 336 P **P 00 10 41.5 +1.3**
baz=112
K24K S **S 00 20 42.5 +2.0**
baz=112
PWL Port Wells 79.35 332 IAMs_20 IAMs_20 00 49 13.6
comp=Z,237µm,20.0s
PWL Port Wells 79.35 332 P **P 00 10 42.1 +1.5**
baz=109,SNR=29
PWL S **S 00 20 41.3 -0.1**
baz=109
M23K Glacier View 79.38 333 P **P 00 10 41.9 +1.1**
baz=110
M23K S **S 00 20 42.6 +0.8**
baz=110
J25K Salcha River, 79.40 337 P **P 00 10 39.4 -1.5**
J25K IAmb IAmb 00 11 18.8
comp=Z,1µm,1.5s
J25K IAMs_20 IAMs_20 00 47 02.7
comp=Z,203µm,19.0s
J25K Salcha River, 79.40 337 P **P 00 10 42.9 +1.9**
baz=112,SNR=90
J25K S **S 00 20 43.7 +1.8**
baz=112
SCO Scoresbysund 79.49 17 P **P 00 10 42.1 +1.0**
SCO pmax pmax
comp=Z,1µm,1.6s
SCO Scoresbysund 79.49 17 P **P 00 10 42.1 +1.0**
SCO IAMs_20 IAMs_20 00 47 02.5
comp=Z,180µm,21.0s
SCO Scoresbysund 79.49 17⇑ *i*P **P 00 10 40.6 -0.6**
SCO IVmB_BB 00 11 20.8
comp=Z,23µm,5.7s
IWEX Carrickbyrne, 79.58 37 *e*P **P 00 10 41.2 -0.9**
IWEX IAMs_20 IAMs_20 00 44 53.3
comp=Z,250µm,21.2s
KNK Knik Glacier 79.59 333 IAMs_20 IAMs_20 00 51 31.9
comp=Z,234µm,19.0s
KNK Knik Glacier 79.59 333 P **P 00 10 43.8 +1.8**
baz=109,SNR=41
KNK S **S 00 20 45.3 +1.4**
baz=109
SEW Seward 79.64 332 P **P 00 10 43.8 +1.6**
baz=108,SNR=17
SEW S **S 00 20 45.3 +0.9**
baz=108
WAT6 Susitna Watana 79.66 334 P **P 00 10 44.3 +1.8**
baz=110,SNR=173
WAT6 S **S 00 20 44.9 -0.1**
baz=110
SML Sawmill 79.66 333 IAMs_20 IAMs_20 00 49 30.8
comp=Z,184µm,21.0s
SML Sawmill 79.66 333 P **P 00 10 44.4 +2.0**
baz=109,SNR=72
SML S **S 00 20 45.8 +1.1**
baz=109
DHY Denali Highway 79.67 335 IAMs_20 IAMs_20 00 52 37.9
comp=Z,161µm,20.0s
DHY Denali Highway 79.67 335 P **P 00 10 44.0 +1.4**
baz=110,SNR=31
DHY S **S 00 20 46.2 +1.1**
baz=110
O22K Cooper Landing 79.88 332 IAMs_20 IAMs_20 00 46 22.7
comp=Z,212µm,20.0s
O22K Cooper Landing 79.88 332 P **P 00 10 44.9 +1.4**
baz=108
O22K S **S 00 20 47.6 +0.6**
baz=108
GHO Glory Hole Cre 79.92 333 IAMs_20 IAMs_20 00 49 39.6
comp=Z,173µm,22.0s
PMR Palmer 79.95 333 P **P 00 10 42.7 -1.1**
PMR pmax pmax
comp=Z,775nm,1.4s
PMR Palmer 79.95 333 P **P 00 10 42.7 -1.1**
PMR Palmer 79.95 333 P **P 00 10 45.5 +1.6**
baz=108,SNR=34
PMR S **S 00 20 48.4 +0.7**
baz=108
CCA1 Carnmenellis 80.05 39 *e*P **P 00 10 43.9 -0.7**
CCA1 IAMs_20 IAMs_20 00 39 16.9
comp=Z,290µm,26.4s
IL31 80.07 336 P **P 00 10 42.3 -2.1**
ILAR Eielson Array 80.07 336 P **P 00 10 42.8 -1.7**
comp=Z,6.7nm,0.9s,baz=118,slow=4.1,SNR=46
ILAR S **S 00 20 47.4 -1.4**
comp=Z,1.4nm,0.8s,baz=33,slow=2.1,SNR=1.3
ILAR PKKPbc **PKKPbc 00 29 27.9 -4.0**
comp=Z,2.4nm,1.0s,baz=292,slow=3.3,SNR=5.0
ILAR PKPPKP **P'P'df 00 37 32.3 -0.6**
comp=Z,2.8nm,1.1s,baz=320,slow=3.0,SNR=4.4
ILAR LR LR 00 48 55.6
comp=Z,214µm,18.3s,baz=114,slow=38
ILAR Eielson Array 80.07 336 P **P 00 10 42.6 -1.8**
ILAR Eielson Array 80.07 336 P **P 00 10 42.6 -1.8**
RC01 Rabbit Creek A 80.07 332 IAMs_20 IAMs_20 00 49 35.8
comp=Z,242µm,21.0s
RC01 Rabbit Creek A 80.07 332 P **P 00 10 46.5 +1.9**
baz=108,SNR=19
RC01 S **S 00 20 50.0 +1.0**
baz=108
WAT1 Susitna Watana 80.09 334 P **P 00 10 45.9 +1.2**
baz=109
WAT1 S **S 00 20 49.9 +0.7**
baz=109
BRSE Bradley Lake S 80.15 331 P **P 00 10 46.3 +1.3**
baz=106,SNR=55
BRSE S **S 00 20 50.8 +0.9**
baz=106
BMAR Burnt Mountain 80.21 339 P **P 00 10 44.0 -1.2**
ILTH Belurgan, Co L 80.21 35 *e*P **P 00 10 44.5 -0.9**
BRLK Bradley Lake 80.23 331 IAMs_20 IAMs_20 00 51 04.1
comp=Z,146µm,20.0s
FIS Fire Island 80.31 332 IAMs_20 IAMs_20 00 49 43.0
comp=Z,218µm,21.0s
CNPM China Poot 80.33 331 IAMs_20 IAMs_20 00 46 35.7
comp=Z,170µm,19.0s
CCB Clear Creek Bu 80.39 336 IAMs_20 IAMs_20 00 48 32.9
comp=Z,249µm,20.0s
POKR Poker Plat Res 80.41 337 IAMs_20 IAMs_20 00 48 49.3
comp=Z,259µm,20.0s
POKR Poker Plat Res 80.41 337 P **P 00 10 47.8 +1.5**
baz=110,SNR=22
POKR S **S 00 20 53.3 +0.8**
baz=110
RND Reindeer 80.41 335 IAMs_20 IAMs_20 00 47 43.6
comp=Z,246µm,22.0s
WRH Wood River Hil 80.45 336 IAMs_20 IAMs_20 00 48 12.4
comp=Z,282µm,21.0s
M22K Willow 80.45 333 IAMs_20 IAMs_20 00 52 07.7
comp=Z,171µm,20.0s
M22K Willow 80.45 333 P **P 00 10 47.9 +1.4**
baz=107,SNR=40
M22K S **S 00 20 54.3 +1.4**
baz=107
COLA College 80.49 336*c i*P **P 00 10 47.2 +0.5**
COLA pmax pmax
comp=Z,599nm,1.5s
COLA MLR MLR
comp=Z,233µm,16.0s
COLA College 80.49 336 P **P 00 10 45.3 -1.4**
COLA College 80.49 336 IAMs_20 IAMs_20 00 48 37.6
comp=Z,219µm,20.0s
COLA College 80.49 336 P **P 00 10 48.2 +1.5**
baz=110
TCOL CIGO, UAF Yank 80.49 336 P **P 00 10 45.2 -1.5**
TCOL IAMs_20 IAMs_20 00 48 37.6
comp=Z,228µm,20.0s
TCOL CIGO, UAF Yank 80.49 336 P **P 00 10 48.2 +1.4**
baz=110,SNR=18
TCOL S **S 00 20 53.0 -0.2**
baz=110
KDAK Kodiak Island 80.54 329 P **P 00 10 44.7 -2.4**
comp=Z,7.2nm,0.6s,baz=118,slow=5.4,SNR=20
KDAK S **S 00 20 52.6 -1.4**
comp=Z,2.3nm,0.8s,baz=221,slow=18,SNR=1.0
KDAK Kodiak Island 80.54 329*c i*P **P 00 10 47.6 +0.5**
KDAK pmax pmax
comp=Z,790nm,1.7s

KDAK MLR MLR
comp=Z,201μm,22.0s
KDAK Kodiak Island 80.54 329 P **P** **00 10 47.0 -0.1**
KDAK Kodiak Island 80.54 329 P **P** **00 10 48.8 +1.7**
baz=105
KDAK S **S** **00 20 55.6 +1.6**
baz=105
MCK McKinley 80.55 335 IAMs_20 IAMs_20 00 48 09.2
comp=Z,216μm,20.0s
MCK McKinley 80.55 335 P **P** **00 10 48.9 +1.8**
baz=109,SNR=31
MCK S **S** **00 20 55.3 +1.2**
baz=109
HOM Homer 80.56 331 P **P** **00 10 49.3 +2.1**
baz=106,SNR=9.4
HOM S **S** **00 20 55.5 +1.3**
baz=106
CLGH Cloghs, Cushen 80.58 34 *e*P **P** **00 10 46.3 -1.1**
CLGH IAMs_20 IAMs_20 00 44 57.0
comp=Z,164μm,22.0s
RAR Rarotonga 80.58 249 LR LR 00 37 20.5
comp=Z,323μm,20.2s,baz=95,slow=29
RAR Rarotonga 80.58 249 P **P** **00 10 49.0 +0.9**
RAR pmax pmax
comp=Z,4μm,2.1s
RAR Rarotonga 80.58 249 P **P** **00 10 49.0 +0.9**
RAR IAmb IAmb 00 11 21.9
comp=Z,4μm,2.0s
RAR Rarotonga 80.58 249 P P 00 10 58.4 +10
comp=Z,788nm,2.2s
CAPN Captain Cook N 80.64 332 IAMs_20 IAMs_20 00 48 58.8
comp=Z,219μm,21.0s
CAPN Captain Cook N 80.64 332 P **P** **00 10 50.5 +3.0**
baz=106
CAPN S **S** **00 20 59.2 +4.3**
baz=106
MDM Murphy Dome 80.67 336 IAMs_20 IAMs_20 00 48 43.2
comp=Z,218μm,21.0s
HTL Hartland 80.68 38 *e*P **P** **00 10 47.4 -0.6**
HTL IAMs_20 IAMs_20 00 39 18.2
comp=Z,354μm,31.2s
RSBS Rosebush, Pemb 80.71 37 *e*P **P** **00 10 46.9 -1.2**
RSBS IAMs_20 IAMs_20 00 38 31.9
comp=Z,288μm,33.0s
CUT Chulitna 80.71 334 IAMs_20 IAMs_20 00 52 30.5
comp=Z,178μm,19.0s
CUT Chulitna 80.71 334 P **P** **00 10 48.9 +1.0**
baz=107,SNR=21
CUT S **S** **00 20 55.8 +0.2**
baz=107
OHAK Old Harbor 80.77 328 P **P** **00 10 49.5 +1.2**
baz=104,SNR=20
OHAK S **S** **00 20 57.7 +1.3**
baz=104
H24K Noodor Dome 80.83 337 IAMs_20 IAMs_20 00 50 51.4
comp=Z,212μm,18.0s
H24K Noodor Dome 80.83 337 P **P** **00 10 50.1 +1.5**
baz=110,SNR=87
H24K S **S** **00 20 59.1 +2.1**
baz=110
NEA2 Nenana 80.89 336 IAMs_20 IAMs_20 00 48 35.0
comp=Z,200μm,21.0s
NEA2 Nenana 80.89 336 P **P** **00 10 49.9 +1.0**
baz=109,SNR=80
NEA2 S **S** **00 20 57.7 +0.3**
baz=109
LEWI Lewis, Hebride 80.90 31 *e*P **P** **00 10 48.4 -0.7**
LEWI IAMs_20 IAMs_20 00 47 31.3
comp=Z,167μm,18.1s
BWN Browne 80.92 335 IAMs_20 IAMs_20 00 49 50.0
comp=Z,131μm,18.0s
DYA Yadsworthy 80.92 39 *e*P **P** **00 10 48.1 -1.2**
DYA IAMs_20 IAMs_20 00 39 35.1
comp=Z,247μm,27.1s
ROSF Rostrenen 80.97 41 *e*P **P** **00 10 48.9 -0.7**
ROSF Rostrenen 80.97 41 *e*P **P** **00 10 45.8 -3.8**
ROSF pmax pmax
comp=Z,1μm,1.4s
QUIF Quistinic 80.97 42 *e*P **P** **00 10 48.6 -1.0**
QUIF pmax pmax
comp=Z,1μm,1.5s
OTSS Djebel Tessala 81.01 54 P P 00 10 56.0 +5.7
TRF Thorofare Moun 81.04 335 IAMs_20 IAMs_20 00 53 29.1
comp=Z,229μm,19.0s
TRF Thorofare Moun 81.04 335 P **P** **00 10 50.9 +0.9**
baz=108,SNR=121
TRF S **S** **00 20 59.4 -0.1**
baz=108
YRC Rhoscolyn 81.07 36 *e*P **P** **00 10 48.9 -1.2**
SII Sitkinak Islan 81.10 327 P **P** **00 10 51.0 +0.9**
SII IAmb IAmb 00 11 27.3
comp=Z,1μm,1.4s
SII Sitkinak Islan 81.10 327 P **P** **00 10 52.1 +1.9**
baz=103,SNR=8.3
SII S **S** **00 21 02.4 +2.5**
baz=103
SII Sitkinak Islan 81.10 327 P P 00 10 55.2 +5.0
comp=Z,840nm,1.7s
CART Cartagena 81.10 52 P **P** **00 10 49.9 -0.7**
WPS Cemaes, Angles 81.14 36 *e*P **P** **00 10 50.4 0.0**
WPS IAmb IAmb 00 10 53.4
comp=Z,2μm,2.1s
WPS IAMs_20 IAMs_20 00 49 12.1
comp=Z,226μm,19.7s
O20K Slope Mountain 81.16 331 P **P** **00 10 51.7 +1.2**
baz=105,SNR=39
O20K S **S** **00 21 01.1 +0.5**
baz=105
WLF1 Llynfaes 81.18 36 *e*P **P** **00 10 49.2 -1.4**
WLF1 IAmb IAmb 00 10 53.8
comp=Z,3μm,2.0s
WLF1 IAMs_20 IAMs_20 00 49 12.1
comp=Z,413μm,19.5s
I23K Minto, Yukon-K 81.19 336 IAMs_20 IAMs_20 00 51 13.8
comp=Z,223μm,18.0s
I23K Minto, Yukon-K 81.19 336 P **P** **00 10 51.5 +1.0**
baz=109,SNR=97
I23K S **S** **00 21 01.2 +0.8**
baz=109
WIM Isle of Man 81.19 35 *e*P **P** **00 10 49.6 -1.1**
LAWE Loch Awe, Argy 81.24 33 *e*P **P** **00 10 50.5 -0.3**
LAWE IAMs_20 IAMs_20 00 50 23.5
comp=Z,163μm,17.9s
USTO Oran 81.26 54 P P 00 10 57.0 +5.6
YLL Llanberis 81.29 36 *e*P **P** **00 10 50.0 -1.2**
GAL1 Galloway 81.32 34 *e*P **P** **00 10 50.1 -1.3**
GAL1 IAMs_20 IAMs_20 00 45 08.2
comp=Z,151μm,22.1s
KTH Kantishna Hill 81.34 335 IAMs_20 IAMs_20 00 53 38.1
comp=Z,194μm,19.0s
P19K Oil Pt 81.34 331 P **P** **00 10 52.7 +1.3**
baz=104
P19K S **S** **00 21 02.3 -0.1**
baz=104
KPL Plockton 81.34 32 *e*P **P** **00 10 50.8 -0.6**
KPL IAMs_20 IAMs_20 00 40 16.7
comp=Z,154μm,25.0s
Q19K Cape Douglas, 81.37 330 IAMs_20 IAMs_20 00 46 48.3
comp=Z,126μm,20.0s
Q19K Cape Douglas, 81.37 330 P **P** **00 10 52.4 +0.8**
baz=104,SNR=51
Q19K S **S** **00 21 03.0 +0.3**
baz=104
SGMF Saint Gilles 81.43 41 *e*P **P** **00 10 51.0 -1.1**
SGMF pmax pmax
comp=Z,1μm,1.4s
H23K Yukon River 81.48 337 P **P** **00 10 53.4 +1.3**
baz=109,SNR=34
H23K S **S** **00 21 04.4 +0.8**
baz=109
BPAW Bear Paw Mtn. 81.53 335 IAMs_20 IAMs_20 00 53 49.0
comp=Z,172μm,19.0s
BPAW Bear Paw Mtn. 81.53 335 P **P** **00 10 53.3 +0.9**
baz=107,SNR=203
BPAW S **S** **00 21 03.4 -0.7**
baz=107
LLW Llanuwychllyn 81.53 37 *e*P **P** **00 10 51.3 -1.3**
ODJA Bouhanifia 81.54 54 P **P** **00 10 57.0 +3.9**
KAC Achnashellach 81.57 32 *e*P **P** **00 10 50.6 -2.0**
SJPF Ste Jean 81.60 47 *e*P **P** **00 10 52.8 -0.4**
SJPF pmax pmax
comp=Z,911nm,1.2s
NEWG New Galloway 81.64 34 *e*P **P** **00 10 51.8 -1.3**
NEWG IAmb IAmb 00 10 57.6
comp=Z,1μm,1.6s
NEWG IAMs_20 IAMs_20 00 45 28.1
comp=Z,168μm,21.8s

PPLA Purkeypile 81.70 334 P **P** **00 10 54.6 +1.2**
baz=106,SNR=101
PPLA S **S** **00 21 05.3 -1.0**
baz=106
CHIR Chirikof Islan 81.72 326 P **P** **00 10 55.3 +1.8**
baz=102
CHIR S **S** **00 21 08.7 +2.3**
baz=102
BELA Belgrano 2 81.73 171 P **P** **00 10 52.6 -0.5**
LINV Loch Inver, As 81.76 31 *e*P **P** **00 10 53.0 -0.6**
LINV IAMs_20 IAMs_20 00 51 15.0
comp=Z,190μm,18.9s
MCH1 Michaelchurch 81.78 37 *e*P **P** **00 10 53.5 -0.3**
MCH1 IAmb IAmb 00 10 57.6
comp=Z,598nm,1.4s
MCH1 IAMs_20 IAMs_20 00 39 03.7
comp=Z,284μm,30.3s
CAST Castle Rocks 81.80 334 IAMs_20 IAMs_20 00 48 49.3
comp=Z,256μm,21.0s
CAST Castle Rocks 81.80 334 P **P** **00 10 54.5 +0.7**
baz=106,SNR=102
CAST S **S** **00 21 05.6 -1.4**
baz=106
FOEL Foel Wylfa 81.81 37 *e*P **P** **00 10 53.5 -0.5**
FOEL IAMs_20 IAMs_20 00 46 04.1
comp=Z,239μm,20.8s
JSA Saint Aubin 81.83 40 *e*P **P** **00 10 52.7 -1.4**
JSA IAMs_20 IAMs_20 00 40 49.0
comp=Z,357μm,26.1s
TOA0 Torodi Ar. Sit 81.83 77 P **P** **00 10 52.9 -2.0**
TOA0 IAmb IAmb 00 11 36.9
comp=Z,3μm,1.6s
TOA0 Torodi Ar. Sit 81.83 77 P **P** **00 10 55.3 +0.4**
SNR=210
TOA0 P **P** **00 10 55.3 +0.4**
SNR=210
TOA0 S **S** **00 21 00.2 -8.9**
TOA0 S **S** **00 21 00.2 -8.9**
TORD Torodi Ar. Bea 81.83 77 P **P** **00 10 53.0 -1.9**
comp=Z,223nm,1.1s,baz=280,slow=4.8,SNR=117
TORD PP **PP** **00 14 02.8 +0.6**
comp=Z,62nm,1.1s,baz=284,slow=18,SNR=2.0
TORD S **S** **00 21 06.3 -2.7**
comp=Z,6.1nm,1.1s,baz=212,slow=4.0,SNR=1.9
TORD PKKPbc **PKKPbc** **00 29 27.0 +1.1**
comp=Z,3.5nm,0.9s,baz=74,slow=1.9,SNR=13
TORD PKPPKP **P'P'df** **00 37 31.9 -0.6**
comp=Z,2.0nm,0.8s,baz=127,slow=1.0,SNR=4.5
TORD LR LR 00 48 30.5
comp=Z,428μm,18.2s,baz=246,slow=37
TORD Torodi Ar. Bea 81.83 77 P **P** **00 10 52.9 -2.0**
TORD IAmb IAmb 00 11 25.6
comp=Z,3μm,1.7s
DBG Daneborg 81.85 14 ⇑*i*P **P** **00 10 53.0 -0.8**
DBG IVmB_BB 00 11 30.2
comp=Z,26μm,13.0s
HLM1 Long Mynd 81.94 37 *e*P **P** **00 10 54.5 -0.2**
HLM1 IAMs_20 IAMs_20 00 46 40.6
comp=Z,226μm,20.9s
OJBR Djebel Berber 81.97 54 P **P** **00 10 59.0 +3.7**
O19K Port Alsworth 82.01 331 P **P** **00 10 55.6 +0.8**
baz=104
O19K S **S** **00 21 08.5 -0.6**
baz=104
INVG Invergeldie, C 82.01 33 *e*P **P** **00 10 54.4 -0.6**
INVG IAMs_20 IAMs_20 00 50 54.9
comp=Z,146μm,18.2s
CHUM Lake Minchumin 82.03 335 P **P** **00 10 55.8 +0.9**
baz=106,SNR=88
CHUM S **S** **00 21 08.6 -0.7**
baz=106
MDO Dochfour 82.05 32 *e*P **P** **00 10 53.2 -1.9**
COLD Coldfoot 82.17 338 P **P** **00 10 57.7 +2.1**
baz=108,SNR=112
COLD S **S** **00 21 13.6 +3.0**
baz=108
KESW Keswick, Cumbr 82.18 35 *e*P **P** **00 10 54.0 -1.9**
KESW IAMs_20 IAMs_20 00 48 18.9
comp=Z,183μm,19.6s
N19K Bonanza Creek 82.23 332 IAMs_20 IAMs_20 00 51 20.9
comp=Z,214μm,21.0s
N19K Bonanza Creek 82.23 332 P **P** **00 10 56.5 +0.4**
baz=103
N19K S **S** **00 21 10.1 -1.6**
baz=103
STRD Stroud 82.25 38 *e*P **P** **00 10 55.4 -0.9**
STRD IAmb IAmb 00 11 00.1
comp=Z,559nm,0.9s
STRD IAMs_20 IAMs_20 00 39 32.8
comp=Z,316μm,30.3s
I21K Tanana 82.25 336 IAMs_20 IAMs_20 00 48 52.1
comp=Z,218μm,22.0s
I21K Tanana 82.25 336 P **P** **00 10 57.0 +1.0**
baz=106
I21K S **S** **00 21 10.7 -0.8**
baz=106
ESK Eskdalemuir 82.26 34 P **P** **00 10 54.8 -1.5**
ESK pmax pmax
comp=Z,1μm,1.3s
ESK Eskdalemuir 82.26 34 P **P** **00 10 54.8 -1.5**
ESK IAmb IAmb 00 11 27.2
comp=Z,1μm,1.3s
ESK Eskdalemuir 82.26 34 IAMs_20 IAMs_20 00 45 51.2
comp=Z,194μm,21.0s
P18K Big Mountain, 82.27 330 P **P** **00 10 56.8 +0.5**
baz=102,SNR=25
P18K S **S** **00 21 10.9 -1.1**
baz=102
EKA Eskdalemuir Ar 82.29 34 LR LR 00 47 04.6
comp=Z,132μm,19.4s,baz=260,slow=35
EKA Eskdalemuir Ar 82.29 34 P **P** **00 10 57.7 +1.2**
OJGS Djebel Guires 82.29 54 P **P** **00 10 58.0 +1.0**
L20K Farewell, AK 82.35 333 P **P** **00 10 57.3 +0.6**
baz=104,SNR=111
L20K S **S** **00 21 11.3 -1.4**
baz=104
O18K Koktuh Hills 82.36 331 IAMs_20 IAMs_20 00 52 22.5
comp=Z,155μm,18.0s
O18K Koktuh Hills 82.36 331 P **P** **00 10 57.2 +0.4**
baz=103,SNR=99
O18K S **S** **00 21 13.0 +0.1**
baz=103
EDI Edinburgh 82.38 34 *e*P **P** **00 10 55.1 -1.8**
EDI IAmb IAmb 00 10 59.8
comp=Z,433nm,1.3s
EDI IAMs_20 IAMs_20 00 45 30.4
comp=Z,169μm,19.9s
TOLK Toolik Lake Re 82.40 340 IAMs_20 IAMs_20 00 49 17.7
comp=Z,304μm,22.0s
TOLK Toolik Lake Re 82.40 340 P **P** **00 10 58.3 +1.5**
baz=109,SNR=49
TOLK S **S** **00 21 14.0 +0.9**
baz=109
SWN1 Swindon 82.43 38 *e*P **P** **00 10 55.6 -1.6**
SWN1 IAmb IAmb 00 11 01.4
comp=Z,2μm,1.5s
SWN1 IAMs_20 IAMs_20 00 40 38.5
comp=Z,266μm,26.0s
EBL Broad Law 82.43 34 *e*P **P** **00 10 55.3 -1.9**
STNC Stoke 82.44 36 *e*P **P** **00 10 56.7 -0.6**
STNC IAmb IAmb 00 11 01.6
comp=Z,2μm,1.7s
STNC IAMs_20 IAMs_20 00 46 44.0
comp=Z,194μm,23.5s
M19K Big River Lodg 82.44 333 IAMs_20 IAMs_20 00 48 19.4
comp=Z,240μm,22.0s
M19K Big River Lodg 82.44 333 P **P** **00 10 58.2 +1.0**
baz=104
M19K S **S** **00 21 13.1 -0.5**
baz=104
BIGH Upper Bighouse 82.50 31 *e*P **P** **00 10 56.0 -1.4**
BIGH IAMs_20 IAMs_20 00 48 09.3
comp=Z,163μm,18.3s
ALE Alert 82.53 2 IAMs_20 IAMs_20 00 49 36.1
comp=Z,259μm,18.0s
GRR Gorron 82.57 41 *e*P **P** **00 10 56.9 -1.2**
GRR pmax pmax
comp=Z,1μm,1.4s
EDU Dundee 82.59 33 *e*P **P** **00 10 57.0 -1.1**
K20K Telida 82.65 334 IAMs_20 IAMs_20 00 53 53.8
comp=Z,208μm,19.0s
K20K Telida 82.65 334 P **P** **00 10 58.9 +0.7**
baz=104,SNR=106
K20K S **S** **00 21 14.0 -1.8**
baz=104
MCD Coleburn Disti 82.66 32 *e*P **P** **00 10 57.1 -1.3**
ESY Stoneypath 82.70 34 *e*P **P** **00 10 57.1 -1.5**

H21K Melozitna Rive 82.71 336 IAMs_20 IAMs_20 00 49 16.3
comp=Z,222μm,21.0s
H21K Melozitna Rive 82.71 336 P **P** **00 10 59.3 +0.8**
baz=106,SNR=19
H21K S **S** **00 21 15.8 -0.5**
baz=106
L19K White Mountain 82.72 333 IAMs_20 IAMs_20 00 48 28.7
comp=Z,210μm,22.0s
L19K White Mountain 82.72 333 P **P** **00 10 59.0 +0.4**
baz=103,SNR=37
L19K S **S** **00 21 15.5 -1.0**
baz=103
EPF Esparros 82.73 47 *e*P **P** **00 10 58.7 -0.4**
EPF pmax pmax
comp=Z,1μm,1.3s
MLA1 Latheron 82.75 31 *e*P **P** **00 10 57.3 -1.4**
LBWR Ladybower, Pea 82.78 36 *e*P **P** **00 10 57.8 -1.3**
LBWR IAMs_20 IAMs_20 00 46 53.4
comp=Z,197μm,20.6s
MFF Saint Martin d 82.81 43 *e*P **P** **00 10 58.4 -1.0**
MFF pmax pmax
comp=Z,947nm,1.3s
FLN La Foliniere 82.87 41 *e*P **P** **00 10 58.6 -1.0**
FLN pmax pmax
comp=Z,1μm,1.4s
N18K Kilae Creek 82.87 331 IAMs_20 IAMs_20 00 55 11.6
comp=Z,182μm,20.0s
N18K Kilae Creek 82.87 331 P **P** **00 11 00.3 +0.9**
baz=102,SNR=67
N18K S **S** **00 21 16.8 -1.3**
baz=102
EDMD Edmundbyers 82.88 35 *e*P **P** **00 10 58.1 -1.4**
EDMD IAMs_20 IAMs_20 00 39 27.8
comp=Z,167μm,28.1s
J20K Nowinta River 82.88 335 IAMs_20 IAMs_20 00 49 42.9
comp=Z,171μm,19.0s
J20K Nowinta River 82.88 335 P **P** **00 11 00.3 +0.9**
baz=104,SNR=70
J20K S **S** **00 21 16.8 -1.2**
baz=104
CWF Charnwood Fore 82.92 37 *e*P **P** **00 10 58.4 -1.4**
CWF IAMs_20 IAMs_20 00 47 31.9
comp=Z,231μm,19.4s
HPK Haverah Park 82.93 36 *e*P **P** **00 10 59.5 -0.3**
HPK IAMs_20 IAMs_20 00 50 05.2
comp=Z,230μm,19.8s
DRUM Mains of Drumt 82.95 33 *e*P **P** **00 10 57.7 -2.2**
DRUM IAMs_20 IAMs_20 00 49 36.5
comp=Z,131μm,20.8s
LDF La Druitiere 83.08 41 *e*P **P** **00 10 59.6 -1.1**
LDF pmax pmax
comp=Z,1μm,1.4s
IMAR Indian Mountai 83.17 337 P **P** **00 10 58.8 -2.0**
CHGN Chignik 83.35 327 P **P** **00 11 02.8 +0.9**
baz=99
CHGN S **S** **00 21 23.9 +1.0**
baz=99
DAG Danmarks Havn 83.39 12 P **P** **00 10 58.9 -2.8**
DAG Danmarks Havn 83.39 12 ⇑*i*P **P** **00 11 00.9 -0.8**
DAG IVmB_BB 00 11 37.6
comp=Z,28μm,12.6s
TTA Tatalina 83.41 333 P **P** **00 10 59.9 -2.3**
TTA pmax pmax
comp=Z,1μm,1.8s
TTA Tatalina 83.41 333 P **P** **00 10 59.9 -2.3**
TTA IAmb IAmb 00 11 38.6
comp=Z,1μm,1.8s
TTA Tatalina 83.41 333 P **P** **00 11 02.7 +0.5**
baz=102,SNR=36
TTA S **S** **00 21 22.0 -1.6**
baz=102
HMNX Herstmonceux 83.67 39 *e*P **P** **00 11 03.0 -0.7**
HMNX IAMs_20 IAMs_20 00 41 00.4
comp=Z,395μm,27.0s
JMIC Jan Mayen 83.76 18 ⇑*i*P **P** **00 11 05.7 +2.0**
JMIC IVmBBB 00 11 06.3
comp=Z,21μm,7.7s
JMIC *e*S **S** **00 21 26.0 -0.6**
JMIC IVMs_BB IVMs_BB 00 40 04.9
comp=Z,36μm,42.4s
RJF Les Rejaudoux 83.81 45 *e*P **P** **00 11 03.6 -1.0**
RJF pmax pmax
comp=Z,1μm,1.4s
VNA3 Neumayer Olymp 84.01 162 P **P** **00 11 04.7 -0.3**
WACR West Acre 84.08 37 *e*P **P** **00 11 04.6 -1.2**
WACR IAmb IAmb 00 11 09.6
comp=Z,922nm,1.1s
WACR IAMs_20 IAMs_20 00 47 46.1
comp=Z,262μm,20.6s
MTLF Montolieu 84.13 47 *e*P **P** **00 11 05.2 -1.1**
MTLF pmax pmax
comp=Z,1μm,1.2s
CAF Calviac 84.16 45 *e*P **P** **00 11 05.5 -1.0**
CAF pmax pmax
comp=Z,901nm,1.3s
GCSA Galena City Sc 84.17 335 P **P** **00 11 07.3 +1.3**
baz=102,SNR=20
GCSA S **S** **00 21 31.4 +0.5**
baz=102
LRW Lerwick 84.18 30 *e*P **P** **00 11 04.1 -2.0**
LRW IAmb IAmb 00 11 09.5
comp=Z,303nm,1.2s
ELSH Elham, Standar 84.20 39 *e*P **P** **00 11 05.5 -0.9**
ELSH IAMs_20 IAMs_20 00 41 16.6
comp=Z,414μm,28.6s
ELMS Elmsett, Ipswi 84.23 38 *e*P **P** **00 11 04.7 -1.8**
ELMS IAMs_20 IAMs_20 00 40 31.3
comp=Z,300μm,29.8s
VNA1 Neumayer--Stat 84.26 161 P **P** **00 11 06.2 -0.1**
SDPT Sand Point 84.36 326 P **P** **00 11 08.2 +1.1**
baz=98
SDPT S **S** **00 21 34.9 +1.8**
baz=98
TCF Toulx Ste Croi 84.39 44 *e*P **P** **00 11 06.2 -1.4**
TCF pmax pmax
comp=Z,397nm,1.2s
CLF Chambon-Foret 84.60 42 P **P** **00 11 07.0 -1.5**
CLF IAMs_20 IAMs_20 00 44 54.6
comp=Z,147μm,22.0s
VNA2 Neumayer--Watz 84.62 162 P **P** **00 11 07.6 -0.6**
baz=300,slow=6.0
BGF Bois d'Agland 84.86 43 *e*P **P** **00 11 08.8 -1.1**
BGF pmax pmax
comp=Z,2μm,1.4s
AVF Avril sur Loir 85.22 43 *e*P **P** **00 11 10.2 -1.5**
AVF pmax pmax
comp=Z,515nm,1.1s
A21K Barrow 85.47 342 P **P** **00 11 13.8 +1.5**
baz=102,SNR=20
A21K S **S** **00 21 44.8 +1.2**
baz=102
SMF Signal de Mont 85.55 43 *e*P **P** **00 11 14.9 +1.5**
SMF pmax pmax
comp=Z,1μm,1.4s
LOR Lormes 85.61 43 *e*P **P** **00 11 12.1 -1.5**
LOR pmax pmax
comp=Z,685nm,1.3s
NOR Nord 85.94 8 ⇑*i*P **P** **00 11 14.6 0.0**
NOR IVmB_BB 00 11 51.1
comp=Z,28μm,2.7s
SSB Saint Sauveur 85.94 45 P **P** **00 11 13.7 -1.7**
SSB pmax pmax
comp=Z,758nm,1.3s
SSB MLR MLR
comp=Z,100μm,19.0s
SSB Saint Sauveur 85.94 45 P **P** **00 11 13.7 -1.7**
SSB IAmb IAmb 00 11 29.2
comp=Z,758nm,1.3s
FALS False Pass 85.98 325 P **P** **00 11 15.8 +0.5**
baz=95
FALS S **S** **00 21 50.7 +1.4**
baz=95
FALS False Pass 85.98 325 P **P** **00 11 19.3 +4.1**
comp=Z,971nm,1.7s
SNF Seneffe 86.13 40 *d*P **P** **00 11 15.2 -0.9**
comp=Z,362nm,1.2s
SNF *d*PcP **pP** **00 11 18.9 -0.2**
UCC Uccle 86.20 39 P **P** **00 11 14.6 -1.8**
UCC pmax pmax
comp=Z,270nm,1.3s
UCC Uccle 86.20 39 P **P** **00 11 14.6 -1.8**
UCC Uccle 86.20 39 *d*P **P** **00 11 15.7 -0.7**
comp=Z,79nm,1.2s
UCC *d*PcP **pP** **00 11 19.3 -0.1**
SNAA Sanae 86.23 162 P **P** **00 11 16.8 +0.5**
SNAA Sanae 86.23 162 P **P** **00 11 15.9 -0.4**

comp=Z,22nm,0.7s,baz=267,slow=4.4,SNR=9.3
SNAA PP PP 00 14 37.8 +1.0
comp=Z,43nm,1.1s,baz=246,slow=6.4,SNR=1.3
SNAA PKPPKP 00 37 21.1
comp=Z,2.1nm,1.0s,baz=70,slow=1.5,SNR=1.3
SNAA LR LR 00 49 06.6
comp=Z,414µm,20.8s,baz=289,slow=35
SNAA Sanae 86.23 162 *d* P **P 00 11 13.1 -3.2**
SNAA pmax pmax
comp=Z,739nm,1.2s
SNAA MLR MLR
comp=Z,605µm,20.0s
SNAA Sanae 86.23 162 P **P 00 11 15.5 -0.8**
DOU Dourbes 86.30 40 P **P 00 11 15.9 -1.1**
DOU Dourbes 86.30 40 *d*P **P 00 11 16.1 -0.9**
comp=Z,454nm,1.2s
DOU *d*PcP **pP 00 11 20.1 +0.2**
DOU *d*PP **PP 00 14 39.0 +1.2**
DOU *d*S **S 00 21 52.7 +0.1**
BMRD Maredsous 86.42 40 *d*P **P 00 11 16.8 -0.8**
comp=Z,216nm,1.3s
BMRD *d*PcP **pP 00 11 20.4 -0.1**
BMRD *d*S **S 00 21 54.6 +0.7**
GIVF Givet 86.45 40 *e*P **P 00 11 16.7 -1.0**
GIVF pmax pmax
comp=Z,2µm,1.4s
DFRA Djebel Bou Aff 86.50 54 P **P 00 11 22.1 +3.7**
BGES Gesves 86.63 40 *b*P **P 00 11 17.7 -0.9**
comp=Z,296nm,1.2s
BGES *d*PcP **pP 00 11 21.8 +0.3**
BGES *d*S **S 00 21 57.7 +1.9**
RCHB Rochefort 86.71 40 *d*P **P 00 11 18.1 -0.9**
comp=Z,395nm,1.2s
RCHB *d*PcP **pP 00 11 22.1 +0.2**
RCHB *d*S **S 00 21 57.2 +0.6**
BCLA Clavier 86.77 40 *d*P **P 00 11 18.5 -0.8**
comp=Z,253nm,1.2s
BCLA *d*PcP **pP 00 11 22.1 -0.1**
BCLA *d*S **S 00 21 57.9 +0.6**
ORIF Oris-en-Rattie 86.87 45 *e*P **P 00 11 19.4 -0.6**
ORIF pmax pmax
comp=Z,972nm,1.9s
BSTI Sart Tilman 86.95 40 *d*P **P 00 11 19.8 -0.3**
comp=Z,120nm,1.1s
BSTI *d*PcP **pP 00 11 23.5 +0.4**
CASM Ain Smara 86.99 54 P P 00 11 25.9 +5.2
BEBN Eben Emael 87.03 39 *d*P **P 00 11 19.7 -0.9**
comp=Z,383nm,1.2s
BEBN *d*PcP **pP 00 11 23.7 +0.3**
BEBN *d*S **S 00 21 58.6 -1.1**
CABF La Chapelle 87.09 44 *e*P **P 00 11 20.0 -1.1**
CABF pmax pmax
comp=Z,916nm,1.4s
CKFL Kef-Lekhel 87.18 54 P **P 00 11 24.4 +2.7**
SUE Sulen 87.20 29⇑ *i*P **P 00 11 23.6 +2.5**
SUE *e*SKSac **SKSac 00 21 47.3 -1.4**
BHOU Houvegnez 87.22 40 *d*P **P 00 11 20.8 -0.7**
comp=Z,325nm,1.2s
BHOU *d*PcP **sP 00 11 25.1 -0.4**
BHOU *d*S **S 00 22 02.6 +1.0**
MEM Membach 87.23 40 *d*P **P 00 11 20.9 -0.6**
comp=Z,346nm,1.1s
MEM *d*PcP **pP 00 11 24.2 -0.2**
MEM *d*PP **PP 00 14 47.2 +1.8**
MEM *d*S **S 00 21 59.5 -2.1**
WLF Walferdange 87.28 40 P **P 00 11 20.0 -1.8**
WLF pmax pmax
comp=Z,2µm,1.4s
WLF MLR MLR
comp=Z,216µm,19.0s
WLF Walferdange 87.28 40 P **P 00 11 20.0 -1.8**
WLF IAMs_20 IAMs_20 00 53 35.5
comp=Z,216µm,19.0s
WLF Walferdange 87.28 40 *e*P **P 00 11 21.2 -0.5**
comp=Z,1µm,1.5s,baz=270,slow=5.2
WLF Walferdange 87.28 40 *d*P **P 00 11 21.1 -0.6**
comp=Z,443nm,1.2s
WLF *d*PcP **sP 00 11 25.6 -0.2**
BTNL Ternell 87.31 40 *d*P **P 00 11 21.0 -0.9**
comp=Z,191nm,1.6s
BTNL *d*PcP **pP 00 11 25.2 +0.3**
HAU Haudompre 87.33 42 *e*P **P 00 11 20.8 -1.3**
HAU pmax pmax
comp=Z,730nm,1.4s
FRF La Foret Royal 87.36 47 *e*P **P 00 11 21.1 -1.2**
FRF pmax pmax
comp=Z,721nm,1.8s
ASK Askoy 87.37 30 *e*P **P 00 11 23.0 +1.1**
ASK *e*SKSac **SKSac 00 21 49.9 +0.2**
FOO Floro 87.38 28⇑ *i*P **P 00 11 23.7 +1.7**
FOO *e*SKSac **SKSac 00 21 48.1 -1.5**
BER Bergen 87.44 30⇑ *i*P **P 00 11 23.3 +1.1**
BER IVmB_BB 00 11 25.6
comp=Z,6µm,1.9s
BER *e*SKSac **SKSac 00 21 48.3 -1.8**
BER IVMs_BB IVMs_BB 00 53 46.8
comp=Z,36µm,20.0s
BNI Bardonecchia 87.44 45 P **P 00 11 22.5 -0.3**
BNI Bardonecchia 87.44 45 IAMs_20 IAMs_20 00 50 21.1
comp=Z,188µm,21.0s
LPL La Plagne 87.50 45 *e*P **P 00 11 22.7 -0.5**
LPL pmax pmax
comp=Z,350nm,1.4s
LPG La Plagne 87.51 45 *e*P **P 00 11 23.0 -0.3**
LPG pmax pmax
comp=Z,716nm,1.6s
HINF Hinteralfeld 87.66 42 *e*P **P 00 11 22.2 -1.5**
HINF pmax pmax
comp=Z,514nm,1.4s
UNV Unalaska Valle 87.72 324 P **P 00 11 25.0 +1.3**
baz=92,SNR=17
UNV S **S 00 22 07.9 +1.8**
baz=92
UNV Unalaska Valle 87.72 324 P P 00 11 29.3 +5.6
CMAH Djebel Manchou 87.75 54 P **P 00 11 26.7 +2.3**
ANM Nome 87.76 334 IAMs_20 IAMs_20 00 53 03.8
comp=Z,200µm,20.0s
ANM Nome 87.76 334 P **P 00 11 25.5 +1.7**
baz=94,SNR=24
ANM S **S 00 22 08.7 +2.5**
baz=94
ABSA Djebel Ababsia 87.79 54 P **P 00 11 27.5 +2.9**
ECH Echery 87.88 42 P **P 00 11 23.6 -1.1**
ECH pmax pmax
comp=Z,1µm,1.3s
ECH Echery 87.88 42 P **P 00 11 23.6 -1.1**
ECH IAmb IAmb 00 12 03.7
comp=Z,1µm,1.3s
ECH IAMs_20 IAMs_20 00 46 54.6
comp=Z,115µm,21.0s
HYA Hoyanger 87.90 29 *e*P **P 00 11 26.0 +1.5**
HYA *e*SKSac **SKSac 00 21 51.9 -1.0**
AHRW Bad Neuenahr-A 87.91 40 *e*P **P 00 11 24.1 -0.6**
comp=Z,947nm,1.4s,baz=270,slow=5.2
SENIN Lac Senin/Sane 87.92 44 IAMs_20 IAMs_20 00 46 58.7
comp=Z,159µm,22.0s
BLS5 Blasjo 87.94 31⇑ *i*P **P 00 11 26.6 +1.8**
BLS5 IVmB_BB 00 11 28.2
comp=Z,6µm,2.4s
BLS5 IVMs_BB IVMs_BB 00 51 57.6
comp=Z,55µm,20.2s
TROLL Troll, Antarti 87.94 162 P **P 00 11 24.5 -0.2**
ODD1 Odda 88.05 30 *e*P **P 00 11 24.9 -0.5**
ODD1 *e*SKSac **SKSac 00 21 53.9 -0.2**
BUG Bochum--Univer 88.06 39 *e*P **P 00 11 25.0 -0.5**
comp=Z,919nm,1.7s,baz=270,slow=5.2
SNART Snartemo 88.28 32⇑ *i*P **P 00 11 28.4 +2.0**
SNART *e*SKSac **SKSac 00 21 55.6 +0.3**
AKN Aaknes 88.34 28⇑ *i*P **P 00 11 28.8 +2.2**
AKN IVmB_BB 00 11 30.2
comp=Z,6µm,1.6s
AKN *e*SKSac **SKSac 00 21 54.6 -1.0**
AKN IVMs_BB IVMs_BB 00 43 04.7
comp=Z,50µm,29.4s
IBBN Ibbenburen 88.39 38 *e*P **P 00 11 26.8 -0.2**
comp=Z,1µm,1.9s,baz=270,slow=5.2
HLG Helgoland 88.52 36 *e*P **P 00 11 27.1 -0.4**
comp=Z,912nm,1.5s,baz=270,slow=5.2
MOL Molde 88.61 28⇑ *i*P **P 00 11 29.3 +1.5**
BFO Black Forest 88.67 42 P **P 00 11 26.9 -1.6**
BFO pmax pmax
comp=Z,370nm,1.3s
BFO Black Forest 88.67 42 P **P 00 11 26.9 -1.6**
BFO Black Forest 88.67 42 *e*P **P 00 11 27.5 -0.9**
comp=Z,334nm,1.6s,baz=270,slow=5.2

SLE Schleitheim 88.77 42 P **P 00 11 27.9 -1.1**
KASTN Kahler Asten 88.78 39 *e*P **P 00 11 29.7 +0.7**
comp=Z,617nm,2.0s,baz=270,slow=5.2
TNS Taunus Mts 88.78 40 *e*P **P 00 11 28.5 -0.5**
comp=Z,984nm,2.0s,baz=270,slow=5.2
TNA Tin City 88.89 335 P **P 00 11 31.1 +2.0**
baz=92,SNR=23
TNA S **S 00 22 20.2 +3.3**
baz=92
SKAR Skarslia 88.92 29⇑ *i*P **P 00 11 31.9 +2.5**
SKAR *e*SKSac **SKSac 00 21 57.9 -1.3**
SKAR IVMs_BB IVMs_BB 00 48 16.0
comp=Z,43µm,23.2s
HOMB Homborsund 88.97 32⇑ *i*P **P 00 11 31.6 +2.1**
HOMB *e*SKSac **SKSac 00 22 01.2 +1.9**
NIKH Nikolski High 89.10 323 P **P 00 11 31.7 +1.4**
baz=91
NIKH S **S 00 22 21.2 +1.9**
baz=91
STU Stuttgart 89.25 41 P **P 00 11 30.5 -0.7**
STU pmax pmax
comp=Z,410nm,1.1s
STU MLR MLR
comp=Z,114µm,20.0s
STU Stuttgart 89.25 41 P **P 00 11 30.5 -0.7**
STU IAMs_20 IAMs_20 00 52 03.7
comp=Z,114µm,20.0s
STU Stuttgart 89.25 41 *e*P **P 00 11 30.7 -0.4**
comp=Z,2µm,1.7s,baz=270,slow=5.2
KEST Kesra 89.29 54 P **P 00 11 30.8 -0.9**
comp=Z,34nm,0.7s,baz=277,slow=2.3,SNR=38
KEST PP **PP 00 15 00.1 -2.3**
comp=Z,56nm,1.0s,baz=214,slow=6.2,SNR=2.1
KEST S **SKSac 00 21 55.4 -7.2**
comp=Z,7.3nm,1.1s,baz=330,slow=20,SNR=1.7
KEST PKKP **PKKPdf 00 29 02.8 -1.7**
comp=Z,6.0nm,1.0s,baz=169,slow=17,SNR=3.3
KEST PKPPKP **P'P'df 00 37 16.1 -1.7**
comp=Z,2.3nm,1.0s,baz=21,slow=18,SNR=1.8
KEST LR LR 00 53 25.8
comp=Z,109µm,18.0s,baz=224,slow=37
KEST Kesra 89.29 54 P **P 00 11 30.9 -0.9**
KEST IAmb IAmb 00 12 09.3
comp=Z,504nm,1.1s
KEST Kesra 89.29 54 P **P 00 11 30.9 -0.9**
SNR=28
KEST P **P 00 11 30.9 -0.9**
SNR=28
MUD Monsted U'grnd 89.30 34 P **P 00 11 33.7 +2.5**
MUD Monsted U'grnd 89.30 34⇑ *i*P **P 00 11 32.1 +1.0**
MUD IVmB_BB 00 12 19.1
comp=Z,25µm,8.1s
DOMB Dombas 89.31 28⇑ *i*P **P 00 11 32.7 +1.6**
DOMB IVmBBB 00 11 34.8
comp=Z,11µm,5.7s
DOMB *e*SKSac **SKSac 00 22 00.9 -0.5**
DOMB IVMs_BB IVMs_BB 00 50 33.6
comp=Z,43µm,20.3s
VSL Villasalto 89.33 51 P **P 00 11 31.0 -0.8**
VSL IAmb IAmb 00 12 14.8
comp=Z,492nm,1.1s
VSL IAMs_20 IAMs_20 00 54 08.6
comp=Z,152µm,20.0s
GOET G??ttrup 89.33 33⇑ *i*P **P 00 11 31.6 +0.3**
GOET IVmB_BB 00 11 38.0
comp=Z,17µm,7.2s
TUE Stuetta 89.34 44 P **P 00 11 30.9 -1.0**
TUE IAmb IAmb 00 12 04.8
comp=Z,1µm,1.5s
TUE IAMs_20 IAMs_20 00 52 20.2
comp=Z,176µm,20.0s
RETH Rethem/Aller, 89.38 37 *e*P **P 00 11 31.3 -0.4**
comp=Z,803nm,1.9s,baz=270,slow=5.2
JOHN Johnston Islan 89.48 287 P **P 00 11 33.8 +0.9**
JOHN Johnston Islan 89.48 287 P P 00 11 40.4 +7.5
comp=Z,1µm,1.7s
KONO Kongsberg 89.55 31*c* *i*P **P 00 11 32.4 +0.1**
KONO pmax pmax
comp=Z,109nm,1.5s
KONO MLR MLR
comp=Z,103µm,19.0s
KONO Kongsberg 89.55 31 P **P 00 11 32.8 +0.5**
KONO IAmb IAmb 00 12 09.8
comp=Z,2µm,2.6s
KONO Kongsberg 89.55 31 IAMs_20 IAMs_20 00 54 15.0
comp=Z,121µm,22.0s
KONO Kongsberg 89.55 31⇑ *i*P **P 00 11 33.7 +1.4**
DAVA Damuels 89.70 43 *e*P **P 00 11 31.8 -1.7**
comp=Z,343nm,1.5s,SNR=112
DAVA *e*P **PKKPbc 00 29 09.9 +1.3**
comp=Z,6.5nm,0.6s
DAVA *e*P **P'P'df 00 37 21.9 +5.4**
comp=Z,6.4nm,0.8s
DAVOX Davos/Dischmat 89.70 43 LR LR 00 49 19.1
comp=Z,72µm,20.7s,baz=261,slow=34
GTTG Gottingen 89.75 39 *e*P **P 00 11 33.6 +0.1**
comp=Z,551nm,2.0s,baz=270,slow=5.2
UBBA Unterbreizbach 89.78 39 *e*P **P 00 11 33.2 -0.2**
comp=Z,1µm,2.7s,baz=270,slow=5.2
NRDL Niersach Rie 89.84 38 *e*P **P 00 11 33.8 +0.2**
comp=Z,808nm,2.2s,baz=270,slow=5.2
UBR Ueberruh 89.86 43 *e*P **P 00 11 33.6 -0.5**
comp=Z,972nm,1.8s,baz=270,slow=5.2
TBLU Trondheim 89.86 27⇑ *i*P **P 00 11 36.0 +2.4**
TBLU *e*SKSac **SKSac 00 22 04.2 -0.3**
OVD Ostervraa, Den 89.87 33 *i* P **P 00 11 34.3 +0.5**
OVD IVmB_BB 00 12 21.7
comp=Z,20µm,9.7s
SPIA Saint Paul Isl 89.91 327 P **P 00 11 36.0 +2.0**
baz=90
SPIA S **S 00 22 29.5 +2.9**
baz=90
BSEG Bad Segeberg 89.95 36 *e*P **P 00 11 34.0 -0.2**
comp=Z,633nm,2.0s,baz=270,slow=5.2
CLZ Clausthal 90.00 38 *e*P **P 00 11 34.3 -0.3**
comp=Z,624nm,2.1s,baz=270,slow=5.2
KBS Kingsbay 90.10 11*c* *i*P **P 00 11 34.8 +0.3**
KBS pmax pmax
comp=Z,357nm,1.1s
KBS MLR MLR
comp=Z,130µm,20.0s
KBS Kingsbay 90.10 11 P **P 00 11 35.4 +0.8**
KBS IAmb IAmb 00 12 14.2
comp=Z,3µm,2.4s
KBS Kingsbay 90.10 11 IAMs_20 IAMs_20 00 58 16.9
comp=Z,153µm,21.0s
KBS Kingsbay 90.10 11⇑ *i*P **P 00 11 36.2 +1.7**
KBS IVmB_BB 00 12 11.8
comp=Z,25µm,2.8s
OSL Oslo 90.12 30⇑ *i*P **P 00 11 37.0 +2.1**
OSL *e*SKSac **SKSac 00 22 05.3 -0.8**
NC204 NORSAR Array S 90.12 29 P **P 00 11 35.8 +0.7**
NC204 IAmb IAmb 00 12 12.9
comp=Z,2µm,2.0s
SALO Salr 90.16 45 P **P 00 11 34.7 -0.8**
ASSE Asse, Remlinge 90.19 38 *e*P **P 00 11 36.0 +0.6**
comp=Z,632nm,2.3s,baz=270,slow=5.2
FETA Feichten 90.29 43 *e*P **P 00 11 35.4 -0.9**
comp=Z,356nm,1.5s,SNR=139
FETA *e*P **PKKPbc 00 29 05.7 -1.4**
comp=Z,1.7nm,0.6s
FETA *e*P **P'P'df 00 37 17.8 +2.4**
comp=Z,3.6nm,0.8s
RETA Reutte 90.30 43 *e*P **P 00 11 35.3 -0.9**
comp=Z,198nm,1.4s,SNR=75
QSPA South Pole Qui 90.33 180 P **P 00 11 35.0 -0.9**
comp=Z,65nm,0.7s,baz=145,slow=1.8,SNR=63
QSPA PKKPbc **PKKPdf 00 29 04.5 +0.5**
comp=Z,11nm,1.1s,baz=311,slow=0.8,SNR=3.5
QSPA LR LR 00 45 10.4
comp=Z,533µm,21.5s,baz=158,slow=31
QSPA South Pole Qui 90.33 180 P **P 00 11 35.7 -0.2**
NB2 NORSAR Subarra 90.34 29 P **P 00 11 37.9 +1.9**
comp=Z,13µm,10.0s,baz=279,slow=5.3
NB2 NORSAR Subarra 90.34 29 P **P 00 11 35.2 -0.8**
NB2 NORSAR Subarra 90.34 29 P **P 00 11 37.9 +1.9**
baz=279,slow=5.3
NOA NORSAR Array B 90.34 29 P **P 00 11 35.0 -1.0**
comp=Z,15nm,1.0s,baz=269,slow=4.6,SNR=15
NOA PP **PP 00 15 07.2 -2.8**
comp=Z,2.9nm,1.1s,baz=272,slow=6.3,SNR=1.4
NOA S **SKSac 00 22 02.1 -5.4**
comp=Z,0.8nm,0.9s,baz=40,slow=23,SNR=1.3
NOA PKKPbc **PKKPbc 00 29 06.1 -1.2**
comp=Z,3.1nm,0.9s,baz=251,slow=3.0,SNR=4.8
NOA PKPPKP **P'P'df 00 37 15.1 +0.8**
comp=Z,2.8nm,1.1s,baz=102,slow=2.1,SNR=3.3

CASP Castiglione de 90.44 47 P **P 00 11 38.0 +1.2**
CASP IAmb IAmb 00 12 12.4
comp=Z,841nm,1.5s
ZCCA Zocca 90.50 46 P **P 00 11 36.5 -0.6**
NC602 NORSAR Array S 90.51 29⇑ *e*P **P 00 11 38.3 +1.5**
GAMB Gambell 90.52 334 IAMs_20 IAMs_20 00 58 39.7
comp=Z,166µm,19.0s
GAMB Gambell 90.52 334 P **P 00 11 38.7 +2.0**
baz=88,SNR=44
GAMB S **S 00 22 33.5 +1.5**
baz=88
FLTG Flechtingen 90.53 38 *e*P **P 00 11 37.6 +0.6**
comp=Z,583nm,2.2s,baz=270,slow=5.2
MOTA Moosalm 90.54 43 *e*P **P'P'df 00 37 18.6 +3.7**
comp=Z,3.2nm,0.7s
MOTA *e*P **PKKPbc 00 29 07.6 +1.1**
comp=Z,4.7nm,0.8s
GRFO Grafenberg 90.57 40 P **P 00 11 37.2 -0.1**
GRFO pmax pmax
comp=Z,1µm,1.8s
GRFO Grafenberg 90.57 40 P **P 00 11 37.2 -0.1**
GRFO IAmb IAmb 00 12 19.5
comp=Z,1µm,1.8s
GRFO IAMs_20 IAMs_20 00 49 58.6
comp=Z,150µm,20.0s
GRA1 Grafenberg Arr 90.57 40 P **P 00 11 37.3 0.0**
GRA1 IAmb IAmb 00 12 19.5
comp=Z,1µm,1.8s
GRA1 IAMs_20 IAMs_20 00 55 45.6
comp=Z,142µm,20.0s
GRF Grafenberg Arr 90.57 40 P **P 00 11 37.3 0.0**
GRF pmax pmax
comp=Z,1µm,1.8s
GRF MLR MLR
comp=Z,142µm,20.0s
GRF Grafenberg Arr 90.57 40 *e*P **P 00 11 37.4 0.0**
comp=Z,854nm,2.1s,baz=270,slow=5.2
GRF *e*L L 00 50 09.3
comp=Z,145µm,20.6s
NSS Namsos 90.59 26⇑ *i*P **P 00 11 38.6 +1.6**
NSS *e*SKSac **SKSac 00 22 08.2 -0.5**
SQTA Sankt Quirin 90.61 43 *e*P **PKKPbc 00 29 08.4 +2.1**
comp=Z,5.2nm,0.6s
FUR Furstenfeldbru 90.64 42 *e*P **P 00 11 36.9 -0.7**
comp=Z,736nm,1.7s,baz=270,slow=5.2
OSSC Osservatorio P 90.70 47 P **P 00 11 38.5 +0.4**
MOX Moxa 90.80 40 *e*P **P 00 11 39.5 +1.1**
comp=Z,712nm,2.4s,baz=270,slow=5.2
MOX *e*L L 00 57 10.5
comp=Z,149µm,19.7s
WATA Walderalm 90.86 43 *e*P **P 00 11 37.6 -1.3**
comp=Z,170nm,1.6s
WATA *e*P **PKKPbc 00 29 06.9 +1.2**
comp=Z,1.8nm,0.3s
NVL N'lazarevskaya 90.86 161 *e*P **P 00 11 38.1 -0.1**
NVL *e*S **SKSac 00 22 11.0 +1.0**
NVL pmax pmax
comp=Z,71nm,0.5s
NEUB Neuenburg 90.89 39 *e*P **P 00 11 39.9 +1.2**
comp=Z,1µm,2.6s,baz=270,slow=5.2
WTTA Wattenberg 90.90 43 *e*P **P 00 11 38.1 -1.1**
comp=Z,237nm,1.2s,SNR=83
WTTA *e*P **PKKPbc 00 29 06.9 +1.2**
comp=Z,1.2nm,0.2s
WTTA *e*P **P'P'df 00 37 18.5 +4.2**
comp=Z,9.8nm,0.9s
CTI Castel Tesino 90.94 44 P **P 00 11 38.7 -0.6**
CTI pmax pmax
comp=Z,591nm,1.3s
CTI Castel Tesino 90.94 44 P **P 00 11 38.7 -0.6**
CTI IAmb IAmb 00 12 12.6
comp=Z,591nm,1.3s
STOK Stokkvaagen 90.96 24 *e*P **P 00 11 38.8 +0.1**
TEOL Teolo 90.97 45 P **P 00 11 37.8 -1.5**
HSPB Hornsund (broa 90.98 13 *i* P **P 00 11 40.8 +2.2**
HSPB *e*SKSac **SKSac 00 22 15.4 +4.9**
HSPB *e*S **S 00 22 36.6 +0.8**
HSPB Hornsund (broa 90.98 13⇑ *i*P **P 00 11 40.8 +2.2**
HSPB *e*SKSac **SKSac 00 22 10.1 -0.4**
HSPB IVMs_BB IVMs_BB 00 54 43.5
comp=Z,50µm,18.9s
KONS Konsvik 90.99 24 *e*P **P 00 11 38.7 -0.1**
KONS *e*SKSac **SKSac 00 22 13.0 +2.1**
LLD Lille Linde 91.03 35⇑ *i*P **P 00 11 39.6 +0.3**
LLD IVmB_BB 00 12 15.9
comp=Z,9µm,22.8s
SPA0 Spitsbergen Ar 91.04 12⇑ *i*P **P 00 11 41.1 +2.2**
SPA0 *e*SKSac **SKSac 00 22 09.3 -1.6**
SPITS Spitsbergen Ar 91.04 12 P **P 00 11 38.6 -0.4**
comp=Z,145nm,1.1s,baz=171,slow=16,SNR=20
SPITS PKKPbc **PKKPdf 00 29 00.8 -1.4**
comp=Z,5.2nm,0.8s,baz=156,slow=1.4,SNR=3.9
SPITS Spitsbergen Ar 91.04 12 P **P 00 11 39.8 +0.9**
SPITS pmax pmax
comp=Z,643nm,1.3s
SPB2 Spitsbergen Ar 91.04 12 P **P 00 11 40.1 +1.2**
SPB2 IAmb IAmb 00 12 06.5
comp=Z,2µm,2.0s
LOF Lofoten 91.06 22⇑ *i*P **P 00 11 41.2 +2.0**
LOF IVmBBB 00 11 42.5
comp=Z,11µm,5.4s
LOF *e*SKSac **SKSac 00 22 06.4 -4.8**
LOF IVMs_BB IVMs_BB 00 43 07.9
comp=Z,61µm,40.2s
NBB13 Alf Garage 91.07 23⇑ *i*P **P 00 11 41.6 +2.4**
MANZ Manzenberg 91.14 40 *e*P **P 00 11 41.5 +1.5**
comp=Z,286nm,2.5s,baz=270,slow=5.2
COP Copenhagen 91.14 34⇑ *i*P **P 00 11 39.5 -0.2**
COP IVmB_BB 00 11 46.6
comp=Z,69µm,7.8s
PLN Plauen 91.15 40 *e*P **P 00 11 41.3 +1.3**
comp=Z,616nm,2.2s,baz=270,slow=5.2
ROTZ Rotzenmuhle 91.21 40 *e*P **P 00 11 40.3 +0.1**
comp=Z,217nm,2.2s,baz=270,slow=5.2
WERD Werda 91.25 40 *e*P **P 00 11 41.5 +1.0**
comp=Z,615nm,2.2s,baz=270,slow=5.2
GUNZ Gunzen 91.27 40 *e*P **P 00 11 41.6 +1.0**
comp=Z,788nm,2.4s,baz=270,slow=5.2
WERN Wernitzgruen 91.30 40 *e*P **P 00 11 41.8 +1.0**
comp=Z,703nm,2.2s,baz=270,slow=5.2
NKC Novy Kostel 91.35 40 *e*P **P 00 11 40.6 -0.3**
NKC *e* 00 11 43.6
NKC MLR MLR
comp=Z,253µm,26.4s
NKC Novy Kostel 91.35 40⇑ *e*P **P 00 11 40.6 -0.3**
NKC *ex* x 00 11 43.6
NKC *e*S SKSac 00 22 24.8 +11
NKC AMS AMS 00 44 40.0
comp=Z,253µm,26.4s
TANN Tannenbergstha 91.35 40 *e*P **P 00 11 42.0 +1.0**
comp=Z,721nm,2.2s,baz=270,slow=5.2
ABTA Abfaltersbach 91.52 43 *e*P **P 00 11 40.8 -1.1**
comp=Z,224nm,1.5s,SNR=60
ABTA *e*P **PKKPbc 00 29 08.0 +4.1**
comp=Z,4.5nm,0.9s
ABTA *e*P **P'P'df 00 37 15.5 +2.5**
comp=Z,4.1nm,0.9s
MOR8 Moi Rana 91.54 24⇑ *i*P **P 00 11 43.2 +1.7**
MOR8 IVmBBB 00 11 45.2
comp=Z,9µm,5.5s
MOR8 *e*SKSac **SKSac 00 22 16.5 +2.4**
MOR8 IVMs_BB IVMs_BB 00 44 56.1
comp=Z,62µm,29.1s
MURB Monte Urbino 91.64 47 P **P 00 11 41.5 -1.0**
CLL Collm 91.66 39⇑ *i*P **P 00 11 43.4 +1.1**
CLL *e* 00 22 07.0
CLL *e*S **SKKSac 00 22 37.0 +5.6**
CLL pmax pmax
comp=Z,458nm,2.0s
CLL Collm 91.66 39 P **P 00 11 41.2 -1.1**
CLL IAmb IAmb 00 12 21.9
comp=Z,823nm,1.9s
CLL IAMs_20 IAMs_20 00 55 13.3
comp=Z,149µm,20.0s
CLL Collm 91.66 39⇑ *i*P **P 00 11 43.4 +1.1**
comp=Z,458nm,2.0s
CLL *e*Pmax 00 11 52.0
CLL *i* P(2) 00 12 10.9
comp=Z,636nm,1.9s
CLL *e*Plp 00 12 14.0
comp=Z,49µm,26.9s
CLL *i* Pmax 00 12 19.0
comp=Z,1µm,2.3s
CLL *e*PP **PP 00 15 21.0 +0.4**
CLL *e*PPmax 00 15 54.0
CLL *e*SKSac **SKSac 00 22 07.0 -8.3**

CLL eS SKKSac 00 22 37.0 +5.6
CLL eSmax 00 22 48.0
comp=N,38μm,31.4s
CLL eSmax 00 22 48.0
comp=E,93μm,32.2s
CLL ex x 00 23 04.0
CLL ex x 00 23 30.0
CLL ePS PS 00 23 58.0 +4.9
CLL ePPS PPS 00 24 21.0
CLL ex x 00 24 54.0
CLL eSS SS 00 28 48.0 -1.6
CLL ex x 00 28 50.0
CLL esPKKPdf 00 29 08.0
CLL ex x 00 29 21.0
CLL ex x 00 30 36.0
CLL ex x 00 31 01.0
CLL eSSS SSS 00 32 42.0
CLL ex x 00 33 36.0
CLL eSSSS 00 35 36.0
CLL ePKPPKPdf 00 37 17.0
comp=Z,96nm,2.1s
CLL ex x 00 42 21.0
CLL LmH 00 58 00.0
comp=N,89μm,19.4s
CLL LmH 00 58 00.0
comp=E,97μm,19.5s
CLL e3PKPab 00 58 27.0
CLL LmV 01 01 00.0
comp=Z,138μm,19.5s
CLL Lmax 01 01 00.0
CLL Collm 91.66 39 eP P **00 11 43.8 +1.5**
comp=Z,458nm,2.0s,baz=270,slow=5.2
STAL STALIGIAL 91.67 44 P P **00 11 41.6 -1.0**
STAL IAmb IAmb 00 12 25.0
comp=Z,1μm,1.7s
WET Wettzell 91.67 41 eP P **00 11 43.4 +0.9**
comp=Z,691nm,1.8s,baz=270,slow=5.2
RJOB Jochberg 91.67 42 eP P **00 11 42.9 +0.4**
comp=Z,285nm,1.5s,baz=270,slow=5.2
RGN Rugen 91.70 36 IAMs_20 IAMs_20 00 55 00.1
comp=Z,182μm,22.0s
RGN Rugen 91.70 36 eP P **00 11 45.6 +3.2**
comp=Z,641nm,1.9s,baz=270,slow=5.2
STEI Steigen 91.72 22⇑iP P **00 11 43.9 +1.8**
STEI eSKSac **SKSac 00 22 16.7 +1.7**
KNTN Kanton 91.75 267 P P 00 11 50.2 +6.7
comp=Z,432nm,1.5s
FAUS Fauske 91.78 23⇑iP P **00 11 44.5 +2.0**
FAUS eSKSac **SKSac 00 22 14.1 -1.2**
FAUS IVMs_BB IVMs_BB 00 44 57.8
comp=Z,84μm,32.8s
AFI Afiamalu 91.81 256 P P **00 11 43.8 0.0**
comp=Z,12nm,0.7s,baz=83,slow=8.5,SNR=1.5
AFI LR LR 00 45 39.6
comp=Z,148μm,18.8s,baz=90,slow=31
FBE Freiberg 91.90 39 eP P **00 11 45.4 +2.0**
comp=Z,614nm,2.1s,baz=270,slow=5.2
DEL Delary 91.91 34 eP P **00 11 44.8 +1.5**
KBA Koelnbreinsper 92.07 43 eP P **00 11 43.6 -1.0**
comp=Z,163nm,1.5s,SNR=80
RUE Ruedersdorf 92.08 38 eP P **00 11 44.8 +0.6**
RUE Ruedersdorf 92.08 38 eP P **00 11 46.0 +1.8**
comp=Z,433nm,1.9s,baz=270,slow=5.2
NRCA Norcia 92.09 47 P P **00 11 44.5 -0.1**
KHC Kasperske Hory 92.13 41c iP P **00 11 44.4 -0.2**
KHC pmax pmax
comp=Z,773nm,1.6s
KHC Kasperske Hory 92.13 41 P P **00 11 44.1 -0.5**
KHC Kasperske Hory 92.13 41⇑eP P **00 11 43.5 -1.1**
KHC ex x 00 11 47.0
KHC ex x 00 12 00.0
KHC ePP PP **00 15 25.8 +1.3**
KHC eS S **00 22 49.1 +1.7**
KHC ex x 00 37 13.9
KHC AMS AMS 00 45 30.0
comp=Z,280μm,25.9s
BJO1 Bjornoya 92.14 15⇑iP P **00 11 44.0 0.0**
comp=Z,9μm,4.8s
BJO1 IVmBBB 00 11 47.2
comp=Z,9μm,4.8s
BJO1 eSKSac **SKSac 00 22 17.6 +0.5**
BJO1 IVMs_BB IVMs_BB 00 52 10.6
comp=Z,37μm,19.8s
ROBS Robic 92.22 44 eP P **00 11 45.0 0.0**
GEC2 GERESS Array S 92.22 41 P P **00 11 44.0 -1.2**
GEC2 GERESS Array S 92.22 41 eP P **00 11 46.4 +1.2**
comp=Z,318nm,1.7s,baz=270,slow=5.2
GERES GERESS Array B 92.22 41 P P **00 11 43.9 -1.2**
comp=Z,15nm,0.9s,baz=251,slow=5.8,SNR=33
GERES PP **PP 00 15 24.0 -1.3**
comp=Z,3.7nm,0.9s,baz=235,slow=9.5,SNR=0.8
GERES S **SKSac 00 22 14.8 -4.1**
comp=Z,1.5nm,0.9s,baz=289,slow=4.1,SNR=1.9
GERES PKKPbc **PKKPdf 00 29 00.3 +0.6**
comp=Z,1.8nm,0.8s,baz=53,slow=5.0,SNR=2.7
GERES PKPPKP **P'P'df 00 37 09.9 -1.7**
comp=Z,0.4nm,0.7s,baz=21,slow=4.2,SNR=3.6
GERES LR LR 00 53 54.6
comp=Z,57μm,19.5s,baz=256,slow=36
GERES GERESS Array B 92.22 41 P P **00 11 44.2 -0.9**
GERES GERESS Array B 92.22 41 P P **00 11 44.2 -0.9**
BIOA Bad Ischl, Aus 92.24 42 eP P **00 11 44.0 -1.1**
comp=Z,334nm,1.4s,SNR=120
BRG Berggiesshubel 92.27 39 eP P **00 11 44.6 -0.6**
BRG Amp 00 11 46.2
comp=Z,15nm,1.3s
BRG ix x 00 11 49.0
BRG Amp 00 11 50.3
comp=Z,480nm,2.0s
BRG ex x 00 12 06.6
BRG Amp 00 12 17.4
comp=Z,564nm,1.6s
BRG ex x 00 15 48.5
BRG Amp 00 16 06.4
comp=Z,233nm,1.7s
BRG Berggiesshubel 92.27 39 SS SS 00 28 49.0 -10
BRG PKKP 00 29 19.2
BRG Amp 00 29 21.2
comp=Z,35nm,1.5s
BRG PKPPKP 00 37 13.1
BRG Amp 00 37 23.0
comp=Z,103nm,2.0s
BRG Amp 00 47 09.0
comp=Z,237nm,25.5s
BRG Amp 00 47 13.0
comp=N,60nm,26.9s
BRG Amp 00 47 23.0
comp=E,174nm,26.9s
BRG PKPPKP' 00 58 14.2
BRG Amp 00 58 33.4
comp=Z,15nm,1.6s
BRG Berggiesshubel 92.27 39 eP P **00 11 44.6 -0.6**
BRG i 00 11 49.0
BRG e 00 24 26.0
BRG Berggiesshubel 92.27 39 eP P **00 11 46.4 +1.3**
comp=Z,480nm,2.0s,baz=270,slow=5.2
MYKA Terra Mystica 92.30 43 eP P **00 11 44.5 -1.0**
comp=Z,150nm,1.6s
AQU L'Aquila 92.32 48 P P **00 11 47.8 +2.1**
AQU L'Aquila 92.32 48 IAMs_20 IAMs_20 00 58 43.6
comp=Z,146μm,18.0s
AQU L'Aquila 92.32 48⇑iP P **00 11 46.5 +0.8**
CLTB Caltabellotta 92.37 53 P P **00 11 45.0 -1.1**
CLTB IAmb IAmb 00 12 29.7
comp=Z,1μm,1.6s
CADS Cadrg 92.38 44 iP P **00 11 46.9 +1.1**
CADS ePP PP **00 15 29.3 +2.7**
CADS iSKSac **SKSac 00 22 20.3 +0.5**
TRI Trieste 92.43 44 P P **00 11 46.7 +0.7**
TRI pmax pmax
comp=Z,420nm,1.4s
TRI Trieste 92.43 44 P P **00 11 46.7 +0.7**
BSD Bornholm Skovb 92.58 35 P P **00 11 48.9 +2.4**
BSD Bornholm Skovb 92.58 35 eP P **00 11 47.5 +1.0**
BSD Bornholm Skovb 92.58 35⇑iP P **00 11 46.7 +0.2**
BSD IVmB_BB 00 12 35.2
comp=Z,7μm,9.2s
SKDS Skadanscina 92.61 45⇑iP P **00 11 48.0 +1.1**
SKDS Skadanscina 92.61 45 eP P **00 11 46.9 0.0**
CKRC Cesky Krumlov 92.63 41 eP P **00 11 45.6 -1.3**
CKRC ex x 00 11 48.7
CKRC ePP PP **00 15 29.7 +1.3**
CKRC eS SKSac **00 22 23.6 +2.6**
MOA Molln 92.66 42 eP P **00 11 46.1 -1.0**
comp=Z,326nm,1.7s,SNR=124

PVCC Panska Ves 92.69 40 eP P **00 11 47.4 +0.3**
PVCC e 00 11 51.1
PVCC e 00 15 28.5
PVCC eS SKSac **00 22 21.0 -0.2**
PVCC MLR MLR
comp=Z,214μm,25.2s
PVCC Panska Ves 92.69 40⇑eP P **00 11 47.4 +0.3**
PVCC ex x 00 11 51.1
PVCC ePP PP **00 15 28.5 -0.3**
PVCC eS SKSac **00 22 21.0 -0.2**
PVCC AMS AMS 00 47 10.0
comp=Z,214μm,25.2s
PRU Pruhonice 92.71 40 eP P **00 11 46.3 -0.9**
PRU e 00 11 50.0
PRU e 00 15 29.7
PRU eS S **00 22 54.5 +2.1**
PRU MLR MLR
comp=Z,282μm,26.0s
PRU Pruhonice 92.71 40⇑eP P **00 11 46.3 -0.9**
PRU ex x 00 11 50.0
PRU ePP PP **00 15 29.7 +0.8**
PRU eS S **00 22 54.5 +2.1**
PRU ex x 00 37 16.7
PRU AMS AMS 00 46 00.0
comp=Z,282μm,26.0s
TRO Tromso 92.85 20⇑iP P **00 11 49.3 +1.9**
TRO eSKSac **SKSac 00 22 21.1 -0.1**
CEY Cerknica 92.89 44⇑iP P **00 11 50.0 +1.8**
OBKA Obir 92.93 44 eP P **00 11 47.4 -1.0**
comp=Z,144nm,1.6s
LJU Ljubljana 92.94 44⇑iP P **00 11 50.0 +1.6**
LJU Ljubljana 92.94 44 iP P **00 11 49.4 +1.0**
LJU iPP PP **00 15 32.4 +1.5**
LJU eSKSac **SKSac 00 22 23.0 +0.2**
LJU eS **ScS 00 22 58.6 +2.0**
LJU e 00 29 45.7
LJU e 00 33 30.0
LJU IAMs_20 IAMs_20 00 50 05.6
comp=Z,111μm,22.0s
RIY Rijeka 92.95 45⇑iP P **00 11 50.1 +1.7**
VNDS Vrh nad Dolski 93.06 44 eP P **00 11 50.1 +1.2**
HOPEN Hopen 93.21 13⇑iP P **00 11 49.8 +0.8**
HOPEN IVmB_BB 00 11 52.1
comp=Z,4μm,1.4s
HOPEN eSKSac **SKSac 00 22 22.7 -0.3**
HOPEN IVMs_BB IVMs_BB 00 46 01.1
comp=Z,51μm,35.2s
SOKA Soboth 93.25 43 eP P **00 11 48.5 -1.4**
comp=Z,100nm,1.5s
SOKA eP **P'P'df 00 37 10.6 +0.8**
comp=Z,2.2nm,0.8s
PAOL Paolisi 93.26 49 P P **00 11 48.6 -1.4**
PAOL IAmb IAmb 00 12 35.1
comp=Z,861nm,2.2s
VIKU Vikbolandet 93.27 31 eP P **00 11 50.1 +0.6**
VAE Valguarnera 93.33 53 LR LR 00 52 04.4
comp=Z,90μm,20.7s,baz=162,slow=34
TREC Trest 93.37 41 eP P **00 11 49.5 -0.8**
TREC e 00 11 53.6
TREC Trest 93.37 41⇑eP P **00 11 49.5 -0.8**
TREC ex x 00 11 53.6
TREC ePP PP 00 15 21.5 -13
TREC eS **SKSac 00 22 28.8 +3.8**
TREC AMS AMS 00 46 10.0
comp=Z,268μm,27.9s
JETT Jettan, Norway 93.37 20⇑iP P **00 11 51.5 +1.6**
JETT eSKSac **SKSac 00 22 25.0 +0.7**
BOJS Bojanci 93.48 45 eP P **00 11 50.7 -0.1**
ARSA Arzberg 93.55 43 eP P **00 11 49.4 -1.7**
comp=Z,154nm,1.6s,SNR=84
GROS Grobnik 93.59 44 iP P **00 11 52.1 +0.6**
UPP Uppsala 93.59 30 eP P **00 11 50.1 -0.9**
CRES Cresnjev 93.60 44⇑iP P **00 11 53.2 +1.8**
UPC Upice 93.61 40 eP P **00 11 51.4 0.0**
UPC e 00 11 55.1
UPC eS **SKSac 00 22 29.5 +3.2**
UPC MLR MLR
comp=Z,203μm,25.7s
UPC Upice 93.61 40⇑eP P **00 11 51.4 0.0**
UPC ex x 00 11 55.1
UPC ePP PP **00 15 29.7 -6.3**
UPC eS **SKSac 00 22 29.5 +3.2**
UPC AMS AMS 00 47 40.0
comp=Z,203μm,25.7s
CHVC Chvalec 93.63 39 eP P **00 11 51.5 0.0**
CHVC ex x 00 11 55.3
CHVC ePP PP 00 15 27.4 -8.8
CHVC eS **SKSac 00 22 29.3 +2.9**
CHVC AMS AMS 00 47 40.0
comp=Z,184μm,24.9s
CONA Conrad Observa 93.72 42 eP P **00 11 51.3 -0.8**
comp=Z,234nm,1.3s,SNR=132
OSTC Ostas 93.74 39⇑eP P **00 11 51.6 -0.4**
OSTC ex x 00 11 55.9
OSTC ePP PP 00 15 23.8 -13
OSTC eS **SKSac 00 22 27.4 +0.4**
OSTC AMS AMS 00 47 50.0
comp=Z,201μm,25.2s
KSP Ksiaz 93.76 39 iP P **00 11 53.4 +1.4**
KSP ePP **PP 00 15 37.5 +0.4**
KSP eSKSac **SKSac 00 22 29.6 +2.6**
KSP Ksiaz 93.76 39 P P **00 11 51.1 -0.9**
DPC Dobruska-Polom 93.82 40 eP P **00 11 52.1 -0.3**
DPC e 00 11 56.3
DPC MLR MLR
comp=Z,197μm,24.8s
DPC Dobruska-Polom 93.82 40 eP P **00 11 52.1 -0.3**
DPC ex x 00 11 56.3
DPC ePP PP 00 15 25.8 -12
DPC eS **SKSac 00 22 31.0 +3.5**
DPC ex x 00 37 09.6
DPC AMS AMS 00 47 50.0
comp=Z,197μm,24.8s
ADK Adak 93.93 322 P P **00 11 52.5 -0.3**
ADK pmax pmax
comp=Z,1μm,1.6s
ADK Adak 93.93 322 P P **00 11 52.5 -0.3**
ADK IAmb IAmb 00 12 13.1
comp=Z,1μm,1.6s
ZAG Zagreb 93.97 44⇑iP P **00 11 55.0 +1.9**
KRUC Moravsky 93.98 41⇑iP P **00 11 52.4 -0.7**
KRUC ePP PP **00 15 39.6 +0.6**
KRUC eSKS **SKSac 00 22 26.9 -1.4**
KRUC ePKPPKP 00 37 12.6
RONA Rosalia, Austr 94.03 42 eP P **00 11 52.7 -0.8**
comp=Z,170nm,1.4s,SNR=75
VRAC Vranov 94.09 41 ⇓P P **00 11 56.6 +3.0**
VRAC Vranov 94.09 41 LR LR 00 55 21.4
comp=Z,74μm,19.4s,baz=263,slow=36
VRAC Vranov 94.09 41 ⇓P P **00 11 56.6 +3.0**
VRAC Vranov 94.09 41⇑iP P **00 11 53.1 -0.5**
VRAC ePP PP **00 15 40.3 +0.5**
VRAC eSKS **SKSac 00 22 26.9 -2.1**
VRAC ePKPPKP **P'P'df 00 37 12.8 +4.8**
KOGS Kog 94.11 44 iP P **00 11 55.3 +1.5**
GKP Gorka Klasztor 94.11 37 iP P **00 11 55.3 +1.8**
GKP ePP PP **00 15 38.7 -1.0**
GKP eSKSac **SKSac 00 22 29.0 +0.2**
GKP Gorka Klasztor 94.11 37 P P **00 11 53.7 +0.2**
GKP Gorka Klasztor 94.11 37 eP P **00 11 56.0 +2.4**
KRLC Kraliky 94.14 40 eP P **00 11 54.1 +0.2**
KRLC e 00 11 57.8
KRLC eS **SKSac 00 22 31.3 +2.0**
KRLC Kraliky 94.14 40⇑eP P **00 11 54.1 +0.2**
KRLC ex x 00 11 57.8
KRLC ePP PP 00 15 30.9 -9.3
KRLC eS **SKSac 00 22 31.3 +2.0**
KRLC ex x 00 37 07.1
KRLC AMS AMS 00 46 40.0
comp=Z,171μm,28.8s
SOP Sopron 94.21 42 P P **00 11 53.9 -0.3**
HAMF Hammerfest 94.26 19⇑iP P **00 11 54.3 +0.5**
HAMF eSKSac **SKSac 00 22 28.7 -0.2**
CEL Celeste 94.45 52 IAMs_20 IAMs_20 01 01 42.2
comp=Z,110μm,18.0s
KTK1 Kautokeino 94.47 21⇑iP P **00 11 55.4 +0.5**
KTK1 eSKSac **SKSac 00 22 33.6 +3.4**
ZST Bratislava 94.53 42 eP P **00 11 55.1 -0.5**
ZST pmax pmax
comp=Z,1μm,1.7s
MODS Modra-Piesok 94.63 42 eP P **00 11 55.3 -0.8**
MODS pmax pmax

comp=Z,591nm,1.4s
MORC Moravsky Berou 94.66 40⇑P P **00 11 57.8 +1.6**
MORC Moravsky Berou 94.66 40 P P **00 11 55.2 -1.1**
MORC pmax pmax
comp=Z,483nm,1.4s
MORC Moravsky Berou 94.66 40 P P **00 11 55.2 -1.1**
MORC IAmb IAmb 00 12 27.9
comp=Z,483nm,1.4s
MORC Moravsky Berou 94.66 40⇑iP P **00 11 56.1 -0.2**
MORC ePP PP **00 15 44.5 +0.2**
MORC eSKS **SKSac 00 22 30.4 -1.7**
MORC ePKPPKP 00 37 11.1
SMOL Smolenice 94.71 41 eP P **00 11 58.0 +1.5**
SMOL pmax pmax
comp=Z,128nm,1.8s
AAL Aland 94.73 30 eP P **00 11 52.2 -4.0**
EGYH Egyhazaskeszo 94.76 43 P P **00 11 58.0 +1.3**
JAVC Velka Javorina 94.84 41⇑iP P **00 11 57.5 +0.4**
JAVC ePP PP **00 15 47.4 +1.7**
JAVC eSKS **SKSac 00 22 31.6 -1.5**
JAVC ePKPPKP 00 37 11.5
MGRS Mrkonjic Grad 94.86 46⇑iP P **00 12 00.6 +3.3**
MATE Matera 94.90 49⇑P P **00 12 00.2 +2.7**
BLY Banja Luka 94.91 45⇑iP P **00 11 58.7 +1.3**
MPLH Magyarpolny 94.92 43 P P **00 11 59.7 +2.2**
SRKY Kupres RS 94.95 46⇑iP P **00 12 01.0 +3.2**
OKC Ostrava-Krasne 95.04 40 eP P **00 11 57.5 -0.4**
OKC e 00 12 02.1
OKC e 00 15 46.1
OKC eS S **00 23 13.6 +0.7**
OKC MLR MLR
comp=Z,176μm,25.3s
OKC Ostrava-Krasne 95.04 40⇑eP P **00 11 57.5 -0.4**
OKC ex x 00 12 02.1
OKC ePP PP **00 15 46.1 -1.1**
OKC eS S **00 23 13.6 +0.7**
OKC ex x 00 37 12.4
OKC AMS AMS 00 47 30.0
comp=Z,176μm,25.3s
RAC Raciborz 95.05 40 eP P **00 11 58.1 +0.2**
RAC Raciborz 95.05 40 eP P **00 11 58.1 +0.2**
RAC e 00 22 33.2
RAC eS S **00 23 12.0 -0.9**
RAC MLR MLR
comp=Z,183μm,20.2s
TIP Timpagrande 95.06 51 IAMs_20 IAMs_20 00 53 39.2
comp=Z,146μm,22.0s
SBA Scott Base 95.07 191 P P **00 11 58.5 +1.0**
SBA pmax pmax
comp=Z,288nm,1.2s
SBA Scott Base 95.07 191 P P **00 11 58.5 +1.0**
ARA0 ARCESS Array S 95.13 20⇑iP P **00 11 58.5 +0.6**
ARA0 eSKSac **SKSac 00 22 33.8 0.0**
ARA0 IVMs_BB IVMs_BB 00 45 49.4
comp=Z,33μm,29.6s
ARCES ARCESS Array B 95.13 20 P P **00 11 56.0 -1.9**
comp=Z,16nm,0.7s,baz=289,slow=3.7,SNR=22
ARCES PP **PP 00 15 48.4 +1.1**
comp=Z,22nm,1.1s,baz=251,slow=3.7,SNR=2.1
ARCES S **SKSac 00 22 29.2 -4.5**
comp=Z,1.7nm,0.8s,baz=242,slow=2.6,SNR=1.2
ARCES PKKPbc **PKKPdf 00 28 54.1 -0.7**
comp=Z,5.2nm,0.9s,baz=102,slow=1.9,SNR=6.7
ARCES PKPPKP **P'P'df 00 37 05.2 +0.3**
comp=Z,2.7nm,0.9s,baz=35,slow=3.3,SNR=2.8
ARCES ARCESS Array B 95.13 20 P P **00 11 56.0 -1.9**
ARCES pmax pmax
comp=Z,197nm,1.3s
ARCES ARCESS Array B 95.13 20 P P **00 11 56.0 -1.9**
TIH Tihany 95.19 43 P P **00 11 54.1 -4.6**
SRO Srobarova 95.38 42 eP P **00 12 02.1 +2.6**
SRO pmax pmax
comp=Z,302nm,1.7s
KOVH Kovagotottos 95.42 44 P P **00 11 59.5 -0.2**
RAF Rauma 95.45 29 eP P **00 11 58.6 -0.8**
STON Ston 95.45 47⇑iP P **00 12 00.9 +1.0**
KEV Kevo 95.58 20 P P **00 11 58.4 -1.5**
KEV pmax pmax
comp=Z,408nm,1.7s
KEV Kevo 95.58 20 P P **00 11 58.4 -1.5**
VYHS Vyhne 95.65 41 eP P **00 12 01.3 +0.5**
VYHS pmax pmax
comp=Z,129nm,1.6s
KLNR Kaliningrad 95.68 35c iP P **00 12 00.7 0.0**
KLNR pmax pmax
comp=Z,507nm,1.7s
KLNR MLR MLR
comp=Z,137μm,21.0s
BUD Budapest 95.89 42 P P **00 12 02.1 +0.2**
TREB Trebinje 95.94 47 eP P **00 12 03.5 +1.3**
LANS Liptovska Anna 95.98 41 eP P **00 12 02.8 +0.5**
LANS pmax pmax
comp=Z,114nm,1.4s
OJC Ojcow 96.05 40 iP P **00 12 04.7 +2.1**
OJC ePP **PP 00 15 55.2 +0.2**
OJC eL L 00 59 31.2
comp=Z,169μm,18.9s
OJC Ojcow 96.05 40 P P **00 12 00.7 -1.9**
OJC pmax pmax
comp=Z,536nm,1.5s
OJC Ojcow 96.05 40 P P **00 12 00.7 -1.9**
OJC IAmb IAmb 00 12 34.0
comp=Z,536nm,1.5s
OJC IAMs_20 IAMs_20 00 59 31.6
comp=Z,169μm,19.0s
BRY Bratogost 96.06 47 eP P **00 12 05.7 +2.7**
HCY Herceg Novi 96.08 47 eP P **00 12 05.9 +3.1**
VNDA Vanda 96.17 191 P P **00 12 03.0 +0.5**
comp=Z,4.8nm,0.8s,baz=137,slow=1.8,SNR=20
VNDA PP **PP 00 15 55.3 +0.1**
comp=Z,10nm,1.2s,baz=129,slow=6.5,SNR=1.1
VNDA S **SKSac 00 22 37.8 -1.2**
comp=Z,2.6nm,1.1s,baz=298,slow=6.0,SNR=1.1
VNDA PKKPbc **PKKPdf 00 28 53.3 +0.3**
comp=Z,2.0nm,0.8s,baz=358,slow=4.7,SNR=1.8
VNDA LR LR 00 47 48.9
comp=Z,603μm,20.1s,baz=120,slow=31
VNDA Vanda 96.17 191 P P **00 12 04.1 +1.6**
VNDA pmax pmax
comp=Z,453nm,1.8s
VNDA Vanda 96.17 191 P P **00 12 04.1 +1.6**
UPM Unac-Piva 96.30 47 eP P **00 12 07.1 +3.0**
SLIT Slitere, Latvi 96.33 32 eP P **00 12 01.8 -1.8**
MIDW Midway 96.38 298 IAMs_20 IAMs_20 00 52 34.9
comp=Z,135μm,18.0s
PSZ Piszkesteto 96.42 42⇑P P **00 12 06.0 +1.6**
PSZ Piszkesteto 96.42 42 P P **00 12 03.8 -0.6**
PSZ pmax pmax
comp=Z,1μm,1.9s
PSZ MLR MLR
comp=Z,120μm,20.0s
PSZ Piszkesteto 96.42 42 P P **00 12 03.8 -0.6**
PSZ IAmb IAmb 00 12 44.0
comp=Z,1μm,1.9s
PSZ IAMs_20 IAMs_20 00 56 58.4
comp=Z,120μm,20.0s
PSZ Piszkesteto 96.42 42 P P **00 12 04.4 +0.1**
PBUR Paburge 96.42 34 eP P **00 12 04.5 +0.4**
BEL Belsk 96.44 38 iP P **00 12 06.2 +2.0**
BEL ePP PP **00 15 58.2 +0.3**
BEL eSKSac **SKSac 00 22 42.6 +1.3**
BEL Belsk 96.44 38 P P **00 12 07.4 +3.2**
NIE Niedzica 96.48 40 iP P **00 12 08.3 +3.8**
NIE ePP PP **00 15 57.8 -0.6**
NIE eS S **00 23 25.4 -0.1**
BBLS Lazići 96.58 46⇑iP P **00 12 07.3 +2.1**
RUDO Rudo 96.59 46 eP P **00 12 07.0 +1.9**
TEKS Tekeris 96.59 45⇑iP P **00 12 07.1 +1.9**
DRME Dracevica, Mon 96.61 48⇑iP P **00 12 07.2 +1.9**
KOMG Komaggas 96.62 120 eP P 00 12 11.7 +6.1
PDG Podgorica 96.64 47 ⇑P P **00 12 08.8 +3.4**
PDG Podgorica 96.64 47 IAMs_20 IAMs_20 01 00 25.8
comp=Z,102μm,20.0s
PDG Podgorica 96.64 47⇑iP P **00 12 07.0 +1.6**
FRGS Fruska Gora 96.72 45⇑P P **00 12 04.7 -1.0**
FRGS Fruska Gora 96.72 45⇑iP P **00 12 06.2 +0.5**
BSZH Besenyszg 96.75 42⇑P P **00 12 07.7 +2.0**
BSZH Besenyszg 96.75 42 P P **00 12 07.7 +2.0**
MEF Metsahovi 96.88 29 eP P **00 12 05.5 -0.5**
MTSE Matsula 96.91 31 eP P **00 12 06.6 +0.4**
DIVS Divibare 96.98 46 IAMs_20 IAMs_20 00 58 46.5
comp=Z,97μm,19.0s
DIVS Divibare 96.98 46⇑iP P **00 12 07.7 +0.7**

RAO	Raoul Island	97.06	241	LR	LR	00 45 10.1	
	comp=Z,455µm,21.6s,baz=92,slow=29						
AMBH	Ambrzfalva	97.19	43	⇑P	Pdif	00 12 09.0	+1.1
AMBH	Ambrzfalva	97.19	43	P	Pdif	00 12 09.2	+1.3
TIR	Tirane	97.22	48	⇓P	Pdif	00 12 12.1	+4.0
TIR	Tirane	97.22	48	P	Pdif	00 12 10.2	+2.1
TIR	Tirane	97.22	48	IAMs_20	IAMs_20	00 58 21.0	
	comp=Z,106µm,20.0s						
TSUM	Tsumeb	97.24	109	LR	LR	00 56 33.6	
	comp=Z,382µm,18.1s,baz=266,slow=36						
TSUM	Tsumeb	97.24	109	⇑*i*P	Pdif	00 12 10.5	+1.6
TSUM	Tsumeb	97.24	109	P	**P**	**00 12 06.7**	**-2.1**
TSUM				IAmb	IAmb	00 12 39.0	
	comp=Z,450nm,1.2s						
CRVS	Cervenica-Dubn	97.31	41	*e*P	**P**	**00 12 07.9**	**-0.4**
CRVS				*e*		00 16 01.6	
KEK	Kerkira	97.35	50	P	Pdif	00 12 09.1	+0.3
FINES	FINESS Array B	97.39	28	P	**P**	**00 12 05.3**	**-3.0**
	comp=Z,8.9nm,0.7s,baz=264,slow=1.7,SNR=20						
FINES				PP	**PP**	**00 16 04.5**	**-0.5**
	comp=Z,15nm,1.1s,baz=316,slow=5.3,SNR=1.4						
FINES				S	**SKSac**	**00 22 40.6**	**-5.2**
	comp=Z,4.9nm,1.2s,baz=108,slow=6.2,SNR=1.1						
FINES				PKKPbc	**PKKPbc**	**00 28 46.4**	**-2.2**
	comp=Z,11nm,0.8s,baz=108,slow=6.2,SNR=8.6						
FINES				PKPPKP	**P'P'df**	**00 37 02.5**	**+1.5**
	comp=Z,2.7nm,1.0s,baz=116,slow=3.2,SNR=4.0						
FINES	FINESS Array B	97.39	28	P	**P**	**00 12 06.5**	**-1.8**
FINES	FINESS Array B	97.39	28	P	**P**	**00 12 06.5**	**-1.8**
FIA1	FINESS Array S	97.39	28	P	**P**	**00 12 06.0**	**-2.3**
SRN	Sarande	97.49	50	P	**P**	**00 12 09.1**	**-0.2**
SUW	Suwalki	97.50	35	*i* P	Pdif	00 12 10.3	+1.3
SUW				*e*SKSac	**SKSac**	**00 22 46.5**	**-0.2**
SUW	Suwalki	97.50	35	P	Pdif	00 12 09.2	+0.2
SUW				pmax	pmax		
	comp=Z,227nm,1.3s						
SUW				MLR	MLR		
	comp=Z,152µm,22.0s						
SUW	Suwalki	97.50	35	P	Pdif	00 12 09.2	+0.2
SUW				IAMs_20	IAMs_20	00 57 51.5	
	comp=Z,152µm,22.0s						
SUW	Suwalki	97.50	35	*e*P	Pdif	00 12 10.3	+1.3
PHP	Peshkopia	97.60	48	P	**P**	**00 12 09.1**	**-0.7**
BANR	Banloc	97.61	44	⇑P	Pdif	00 12 14.4	+4.7
TIM	Timisoara	97.62	44	⇓P	Pdif	00 12 15.4	+5.7
TIM	Timisoara	97.62	44	⇓P	Pdif	00 12 15.4	+5.6
PABE	Paberze	97.65	34	P	**P**	**00 12 08.4**	**-1.2**
PABE	Paberze	97.65	34	*e*P	Pdif	00 12 11.4	+1.7
IGT	Igoumenitsa	97.78	50	P	Pdif	00 12 11.4	+0.7
KOLS	Kolonicke sedl	97.84	41	*e*P	Pdif	00 12 13.7	+3.0
LTVH	Ltavrtes, Hu	97.84	42	⇑P	Pdif	00 12 15.5	+4.8
LTVH	Ltavrtes, Hu	97.84	42	P	Pdif	00 12 15.2	+4.5
SIRR	Siria	97.85	43	⇓P	**P**	**00 12 10.8**	**0.0**
UZH	Uzhgorod	97.90	41	*e*P	**P**	**00 12 10.0**	**-0.9**
UZH				*i*		00 12 12.8	
UZH				*e*		00 12 19.8	
UZH				*e*		00 16 09.2	
UZH				*e*PPP	PPP	00 18 20.7	
UZH				*e*		00 22 49.4	
UZH				*e*S	**S**	**00 23 29.9**	**-7.7**
UZH				*e*PS	PS	00 24 59.8	-2.0
CER	Ceres	97.91	124	⇑*i*P	Pdif	00 12 12.0	+0.6
CER				IAMs_20	IAMs_20	00 54 28.4	
	comp=Z,362µm,19.4s						
LSK	Leskovik	97.91	50	P	Pdif	00 12 11.4	0.0
BZS	Buzias	97.91	44	⇓P	Pdif	00 12 11.1	0.0
BZS	Buzias	97.91	44	⇓P	Pdif	00 12 11.1	0.0
OHR	Ohrid	97.94	49	*i* P	Pdif	00 12 15.2	+3.8
KEF3	Kipouria, Keph	97.95	51	P	**P**	**00 12 10.3**	**-1.1**
KBN	Korca	98.00	49	P	**P**	**00 12 10.9**	**-0.8**
KBN	Korca	98.00	49	P	Pdif	00 12 11.9	+0.2
KBN				pmax	pmax		
	comp=Z,319nm,1.3s						
KBN	Korca	98.00	49	P	Pdif	00 12 11.9	+0.2
KBN				IAmb	IAmb	00 12 34.2	
	comp=Z,319nm,1.3s						
KWP	Kalwaria Pacla	98.00	40	*i* P	Pdif	00 12 14.0	+2.6
KWP				*e*PP	**PP**	**00 16 10.3**	**+0.3**
KWP				*e*SKSac	**SKSac**	**00 22 47.9**	**-1.6**
KWP	Kalwaria Pacla	98.00	40	P	Pdif	00 12 12.2	+0.8
KWP	Kalwaria Pacla	98.00	40	P	Pdif	00 12 12.2	+0.8
MDVR	Moldovita	98.11	45	⇑P	Pdif	00 12 16.2	+4.1
LKD2	Lefkada island	98.12	51	P	**P**	**00 12 12.0**	**-0.2**
EVGI	Lefkada island	98.14	51	P	**P**	**00 12 12.0**	**-0.3**
VLS	Valsamata	98.14	52	P	**P**	**00 12 10.9**	**-1.4**
PSDA	Pessada-Kefalo	98.15	52	P	**P**	**00 12 11.4**	**-0.9**
NYDR	Nydri-Lefkada	98.16	51	P	**P**	**00 12 11.4**	**-0.9**
ELIM	Elim	98.17	125	*e*P	Pdif	00 12 15.3	+2.7
ELIM				IAMs_20	IAMs_20	00 52 30.8	
	comp=Z,864µm,22.4s						
NEST	Nestorio	98.22	49	P	**P**	**00 12 12.6**	**-0.1**
SKO	Skopje	98.31	48	*i* P	Pdif	00 12 16.2	+3.2
FNA	Florina	98.42	49	*e*P	Pdif	00 12 15.1	+1.5
FNA	Florina	98.42	49	P	**P**	**00 12 12.0**	**-1.5**
FNA	Florina	98.42	49	P	**P**	**00 12 12.8**	**-0.7**
FNA	Florina	98.42	49	P	**P**	**00 12 12.8**	**-0.7**
BILL	Bilibino	98.45	340	*d*⇓*i*P	**P**	**00 12 11.0**	**-2.0**
BILL				*i*		00 16 15.0	
BILL				*i* S	**SKSac**	**00 22 42.7**	**-8.3**
BILL				pmax	pmax		
	comp=Z,155nm,1.5s						
BILL				pmax	pmax		
	comp=Z,5µm,8.5s						
BILL	Bilibino	98.45	340	P	**P**	**00 12 11.4**	**-1.6**
BILL				IAMs_20	IAMs_20	01 01 25.9	
	comp=Z,91µm,19.0s						
VSU	Vasula	98.46	31	*c i*P	**P**	**00 12 12.8**	**-0.4**
VSU				pmax	pmax		
	comp=Z,427nm,1.6s						
VSU	Vasula	98.46	31	*e*P	**P**	**00 12 13.0**	**-0.2**
CVNA	Calvinia	98.46	122	⇑*i*P	Pdif	00 12 15.0	+1.0
CVNA				IAMs_20	IAMs_20	00 55 04.7	
	comp=Z,1063µm,18.4s						
APA	Apatity	98.50	21	⇓*i*P	**P**	**00 12 12.9**	**-0.3**
APA				*i* S	**S**	**00 23 36.0**	**-5.9**
APA				*i* PPS	PPS	00 25 53.0	
APA				pmax	pmax		
	comp=Z,14nm,0.9s						
KPRO	Kipourio	98.52	50	P	**P**	**00 12 13.2**	**-0.8**
MESR	Meseseni	98.58	42	⇑P	Pdif	00 12 17.2	+3.1
HERR	Herculane	98.58	45	⇑P	Pdif	00 12 18.0	+3.9
GZR	Gura Zlata	98.75	44	⇑P	Pdif	00 12 15.2	+0.2
GZR	Gura Zlata	98.75	44	⇑P	Pdif	00 12 15.2	+0.2
DEV	Deva	98.76	44	⇑P	Pdif	00 12 18.8	+4.0
DEV	Deva	98.76	44	⇑P	Pdif	00 12 18.8	+3.9
KZN	Kozani	98.78	49	P	**P**	**00 12 13.8**	**-1.4**
LVV	L'vov	98.81	39	*e*P	Pdif	00 12 17.0	+2.0
LVV				*i*		00 16 18.8	
LVV				*e*		00 18 30.2	
LVV				*e*		00 22 48.5	
LVV				*e*S	**S**	**00 23 43.0**	**-2.3**
LVV				*e*		00 25 19.4	
LVV				*e*		00 30 41.7	
LVV				pmax	pmax		
	comp=Z,130nm,1.4s						
LVZ	Lovozero	98.82	20	*c i*P	**P**	**00 12 12.1**	**-2.6**
LVZ				pmax	pmax		
	comp=Z,104nm,1.4s						
LVZ				MLR	MLR		
	comp=Z,83µm,18.0s						
LVZ	Lovozero	98.82	20	P	**P**	**00 12 14.3**	**-0.4**
LVZ				IAMs_20	IAMs_20	00 59 07.4	
	comp=Z,88µm,19.0s						
ISAL	Salakas	98.84	34	*e*P	Pdif	00 12 17.8	+2.8
RLS	Riolos of Patr	98.84	52	P	**P**	**00 12 15.0**	**-0.4**
BMR	Baia Mare	98.86	42	⇓P	Pdif	00 12 15.5	+0.3
BMR	Baia Mare	98.86	42	⇓P	Pdif	00 12 15.5	+0.2
STIP	Stip	98.90	48	*i* P	Pdif	00 12 19.0	+3.4
BLKB	Belogradchik	98.96	46	⇑P	Pdif	00 12 19.9	+4.0
MATJ	Matjiesfontein	98.99	124	⇑*i*P	**P**	**00 12 16.3**	**0.0**
MATJ				IAMs_20	IAMs_20	01 03 03.9	
	comp=Z,400µm,15.6s						
EVR	Evrytania	99.00	51	P	Pdif	00 12 16.7	+0.5
DRO	Drossia	99.05	52	P	**Pdif**	**00 12 16.1**	**-0.3**
THL	Klokotos Trika	99.07	50	P	**Pdif**	**00 12 15.5**	**-0.9**
CJR	Cluj-Napoca	99.09	43	⇓P	**Pdif**	**00 12 09.0**	**-7.4**
CJR	Cluj-Napoca	99.09	43	⇓P	**Pdif**	**00 12 09.0**	**-7.4**
ANX	Ano Chora	99.13	51	P	**Pdif**	**00 12 16.1**	**-0.7**
EFP	Efpalio	99.14	51	P	**Pdif**	**00 12 17.3**	**+0.6**
GRG	Griva	99.17	49	P	**Pdif**	**00 12 19.3**	**+2.4**
GRG	Griva	99.17	49	P	**Pdif**	**00 12 15.5**	**-1.4**
SRE	Strehaia	99.17	45	⇓P	**Pdif**	**00 12 20.8**	**+4.0**
SRE	Strehaia	99.17	45	⇓P	**Pdif**	**00 12 20.8**	**+4.0**
AUGR	Augrabies	99.20	119	*e*P	**Pdif**	**00 12 17.1**	**-0.2**
AUGR				IAMs_20	IAMs_20	00 56 01.8	
	comp=Z,1185µm,19.1s						
PYL	PYLOS	99.21	53	P	**Pdif**	**00 12 14.4**	**-2.7**
LAKA	Lakka	99.22	51	P	**Pdif**	**00 12 19.6**	**+2.4**
MAKR	Makrakomi, Fth	99.23	51	P	**Pdif**	**00 12 16.7**	**-0.5**
IDID	Didziasalis	99.24	34	*e*P	**Pdif**	**00 12 18.8**	**+2.1**
VAY	Valandovo	99.24	48	*i* P	**Pdif**	**00 12 20.2**	**+3.1**
SUR	Sutherland	99.27	123	LR	LR	00 56 09.1	
	comp=Z,595µm,18.5s,baz=252,slow=35						
SUR	Sutherland	99.27	123	P	**Pdif**	**00 12 07.5**	**-10**
ITM	Ithomi	99.32	52	*e*P	**Pdif**	**00 12 18.9**	**+1.3**
ITM	Ithomi	99.32	52	P	**Pdif**	**00 12 15.5**	**-2.1**
ITM	Ithomi	99.32	52		**Pdif**	**00 12 17.9**	**+0.3**
ITM				IAmb	IAmb	00 16 08.9	
	comp=Z,774nm,2.4s						
LIT	Litokhoron	99.36	49	P	**Pdif**	**00 12 16.7**	**-1.0**
LIT	Litokhoron	99.36	49	P	**Pdif**	**00 12 17.2**	**-0.5**
LIT				pmax	pmax		
	comp=Z,228nm,1.9s						
LIT	Litokhoron	99.36	49		**Pdif**	**00 12 17.1**	**-0.5**
KLV	Kalavryta, Ach	99.38	51	P	**Pdif**	**00 12 17.9**	**0.0**
AGG	Agios Georgios	99.39	50	*e*P	**Pdif**	**00 12 19.5**	**+1.6**
AGG	Agios Georgios	99.39	50	P	**Pdif**	**00 12 16.7**	**-1.2**
AGG	Agios Georgios	99.39	50	P	**Pdif**	**00 12 17.0**	**-0.9**
AGG				pmax	pmax		
	comp=Z,332nm,1.6s						
AGG	Agios Georgios	99.39	50		**Pdif**	**00 12 17.0**	**-0.9**
LOT	Lotru	99.43	44	*e*P	**Pdif**	**00 12 22.1**	**+4.1**
VTS	Vitosha	99.53	47	⇑P	**Pdif**	**00 12 21.2**	**+2.7**
VTS	Vitosha	99.53	47	P	**Pdif**	**00 12 17.5**	**-1.1**
VTS				pmax	pmax		
	comp=Z,136nm,1.5s						
VTS	Vitosha	99.53	47		**Pdif**	**00 12 17.5**	**-1.1**
VTS	Vitosha	99.53	47	*e*P	**Pdif**	**00 12 20.0**	**+1.4**
ARCR	ARCALIA	99.54	42	⇑P	**Pdif**	**00 12 18.9**	**+0.6**
VALR	Valaam	99.64	27	*c i*P	**Pdif**	**00 12 19.3**	**+0.9**
VALR				pmax	pmax		
	comp=Z,184nm,1.4s						
VALR				MLR	MLR		
	comp=Z,99µm,19.0s						
KEIM	Keimoes	99.74	119	*e*P	**Pdif**	**00 12 20.7**	**+0.9**
KEIM				IAMs_20	IAMs_20	00 55 05.8	
	comp=Z,900µm,22.7s						
HORT	Hortiatis	99.74	49	*e*P	**Pdif**	**00 12 20.9**	**+1.4**
THAL	Thalero	99.78	51	P	**Pdif**	**00 12 17.9**	**-1.7**
PUL	Pulkovo	99.87	29	*c i*P	**Pdif**	**00 12 19.9**	**+0.5**
PUL				pmax	pmax		
	comp=Z,80nm,0.8s						
PUL				MLR	MLR		
	comp=Z,119µm,20.0s						
SOH	Sokhos	99.90	49	P	**Pdif**	**00 12 17.9**	**-2.2**
LKR	Lokris	99.96	51	P	**Pdif**	**00 12 18.0**	**-2.4**
ATAL	Atalanti	99.97	51	P	**Pdif**	**00 12 17.9**	**-2.5**
XOR	Xorichti	100.00	50	P	**Pdif**	**00 12 20.8**	**+0.2**
BURAR	Bucovina Array	100.01	42	⇑P	**Pdif**	**00 12 21.0**	**+0.5**
BURAR	Bucovina Array	100.01	42	⇑P	**Pdif**	**00 12 21.0**	**+0.5**
UPI	Upington	100.02	119	⇑*i*P	**Pdif**	**00 12 22.2**	**+1.2**
UPI				IAMs_20	IAMs_20	00 56 27.4	
	comp=Z,602µm,19.0s						
LTK	Loutraki	100.02	51	P	**Pdif**	**00 12 13.8**	**-6.9**
SRS	Serrai	100.03	48	P	**Pdif**	**00 12 17.9**	**-2.8**
PLG	Polygyros	100.04	49	P	**Pdif**	**00 12 20.2**	**-0.6**
ARR	Arges	100.05	44	⇑P	**Pdif**	**00 12 22.9**	**+2.2**
MMB	Musomiste	100.06	48	*e*P	**Pdif**	**00 12 22.0**	**+1.2**
MNK	Minsk	100.08	34	*i* P	**Pdif**	**00 12 19.4**	**-1.1**
MNK				*i*		00 16 24.5	
MNK				*i* PPP	PPP	00 18 31.5	
MNK				*i* S	**SKSac**	**00 22 57.0**	**-2.6**
MNK				*i* PS	PS	00 25 17.9	-7.2
MNK				*i* SS	SS	00 31 01.3	+13
MNK				pmax	pmax		
	comp=Z,25nm,0.9s						
MNK				pmax	pmax		
	comp=E,3.0nm,1.2s						
MNK				pmax	pmax		
	comp=N,14nm,1.3s						
MNK				MLR	MLR		
	comp=Z,131µm,19.0s						
MNK				MLR	MLR		
	comp=E,18µm,22.0s						
MNK				MLR	MLR		
	comp=N,39µm,23.0s						
VLAD	Vladila	100.14	45	⇑P	**Pdif**	**00 12 25.0**	**+4.0**
VLI	Veliai	100.18	53	P	**Pdif**	**00 12 19.7**	**-1.7**
NVR	Nevrokopi	100.18	48	P	**Pdif**	**00 12 21.3**	**-0.1**
PGB	Panagyurishte	100.22	47	*e*P	**Pdif**	**00 12 24.0**	**+2.5**
KRND	KRANIDI	100.26	52	P	**Pdif**	**00 12 21.3**	**-0.4**
VILL	Villia	100.27	51	P	**Pdif**	**00 12 20.5**	**-1.4**
PAIG	Paliouri	100.29	49	P	**Pdif**	**00 12 22.1**	**+0.3**
KTHR	Kythira	100.30	53	P	**Pdif**	**00 12 21.0**	**-1.0**
URZ	Urewera	100.30	231	P	**Pdif**	**00 12 21.5**	**-0.3**
	comp=N,9.4nm,1.0s,baz=138,slow=14,SNR=1.8						
URZ				PP	**PP**	**00 16 27.7**	**-0.2**
	comp=N,7.1nm,0.8s,baz=74,slow=14,SNR=1.3						
URZ				S	**SKSac**	**00 22 59.2**	**-2.1**
	comp=N,7.2nm,0.9s,baz=121,slow=23,SNR=1.3						
DID	Didima	100.31	52	P	**Pdif**	**00 12 18.5**	**-3.5**
VOIR		100.32	44	⇑P	**Pdif**	**00 12 24.2**	**+2.3**
VOIR		100.32	44	⇑P	**Pdif**	**00 12 24.2**	**+2.3**
KTHA	Kythira Island	100.35	53	P	**Pdif**	**00 12 22.1**	**-0.1**
KOKK	Kokkinochori,	100.38	48	P	**Pdif**	**00 12 22.1**	**-0.1**
GRAN	Grantham	100.42	123	*e*P	**Pdif**	**00 12 27.0**	**+4.3**
GRAN				IAMs_20	IAMs_20	00 59 26.1	
	comp=Z,2µm,16.8s						
HUMR	Humele	100.45	45	⇑P	**Pdif**	**00 12 26.5**	**+4.1**
OUR	Ouranopolis	100.45	49	*e*P	**Pdif**	**00 12 25.1**	**+2.6**
OUR	Ouranopolis	100.45	49	P	**Pdif**	**00 12 22.1**	**-0.4**
DOPR	Dopca	100.45	43	⇑P	**Pdif**	**00 12 25.3**	**+2.8**
SYO	Syowa Base	100.51	161	⇑*e*X	**Pdif**	**00 12 18.0**	**-4.1**
SYO	Syowa Base	100.51	161	⇑*i*PP	**PP**	**00 16 26.0**	**-2.5**
SYO	Syowa Base	100.51	161	⇓*i*PKiKP	**PKiKP**	**00 16 48.6**	**0.0**
ANKY	Antikythira Is	100.59	54	P	**Pdif**	**00 12 21.3**	**-2.0**
ATHU	Athens Univers	100.67	51	P	**Pdif**	**00 12 23.8**	**+0.2**
PLD	Plovdiv	100.69	47	*e*P	**Pdif**	**00 12 29.1**	**+5.6**
PLD	Plovdiv	100.69	47	*e*P	**Pdif**	**00 12 25.0**	**+1.5**
VLY	Voula,Athens	100.69	51	P	**Pdif**	**00 12 21.5**	**-2.2**
OZUR		100.70	43	⇓P	**Pdif**	**00 12 26.8**	**+3.3**
PTL	Penteli	100.72	51	P	**Pdif**	**00 12 21.3**	**-2.5**
FUNA	Funafuti	100.74	261	IAMs_20	IAMs_20	00 47 10.8	
	comp=Z,130µm,22.0s						
DION	Dionisos Attik	100.77	51	P	**Pdif**	**00 12 22.9**	**-1.1**
RZN	Rozhen	100.77	48	*e*P	**Pdif**	**00 12 26.0**	**+1.8**
MLR	Muntele Rosu	100.93	44	⇓P	**Pdif**	**00 12 28.3**	**+3.6**
MLR	Muntele Rosu	100.93	44	⇓P	**Pdif**	**00 12 28.3**	**+3.6**
MLR	Muntele Rosu	100.93	44	IAMs_20	IAMs_20	01 01 04.9	
	comp=Z,116µm,21.0s						
PVL	Pavlikeni	100.94	46	*e*P	**Pdif**	**00 12 26.0**	**+1.4**
THAS	Thassos island	100.96	49	P	**Pdif**	**00 12 24.6**	**-0.2**
KNDR	Palaiochora Ch	100.99	54	*e*P	**Pdif**	**00 12 28.5**	**+3.5**
KNDR	Palaiochora Ch	100.99	54	P	**Pdif**	**00 12 25.1**	**+0.1**
RODP	Rodopos	101.00	54	*e*P	**Pdif**	**00 12 35.2**	**+10**
COVR	Voineasa-Covas	101.03	43	⇑P	**Pdif**	**00 12 30.9**	**+5.8**
NEHR	Nehoiu	101.18	44	⇓P	**Pdif**	**00 12 29.9**	**+4.1**
TESR	Tescani	101.20	42	⇓P	**Pdif**	**00 12 28.3**	**+2.6**
IMMV	Iera Moni Meta	101.20	54	*i* P	**Pdif**	**00 12 27.7**	**+1.7**
IMMV	Iera Moni Meta	101.20	54	P	**Pdif**	**00 12 25.4**	**-0.6**
KDZ	Kurdzhali	101.29	47	*e*P	**Pdif**	**00 12 27.0**	**+0.7**
SULR		101.31	44	⇑P	**Pdif**	**00 12 36.6**	**+10**
PLOR	Plostina	101.34	43	⇓P	**Pdif**	**00 12 30.2**	**+3.8**
PLOR	Plostina	101.34	43	⇓P	**Pdif**	**00 12 30.2**	**+3.8**
SZH	Strazhica	101.36	46	*e*P	**Pdif**	**00 12 27.0**	**+0.5**
GVD	Gavdhos	101.38	54	*e*P	**Pdif**	**00 12 28.1**	**+1.3**
VRI	Vrincioaia	101.39	43	⇑P	**Pdif**	**00 12 29.8**	**+3.2**
VRI	Vrincioaia	101.39	43	*e*P	**Pdif**	**00 12 29.5**	**+2.9**
VRI	Vrincioaia	101.39	43	⇑P	**Pdif**	**00 12 29.8**	**+3.2**
LIA	Limnos Island	101.43	49	P	**Pdif**	**00 12 25.4**	**-1.5**
RDO	Rodhopi	101.47	48	*e*P	**Pdif**	**00 12 28.2**	**+1.2**
RDO	Rodhopi	101.47	48	P	**Pdif**	**00 12 26.2**	**-0.8**
MSVF	Nonsavu	101.48	252	IAMs_20	IAMs_20	00 50 15.2	
	comp=Z,184µm,22.0s						
SMTH	Samothraki Isl	101.59	49	P	**Pdif**	**00 12 27.0**	**-0.6**
RAZG	Razgrad	101.71	45	⇑P	**Pdif**	**00 12 32.0**	**+3.9**
AKBB	Malin Array Si	101.86	38	*c i*P	**Pdif**	**00 12 28.2**	**-0.3**
AKASG	Malin Array Be	101.86	38	P	**Pdif**	**00 12 28.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=264,slow=5.2,SNR=10.0						
AKASG				PP	**PP**	**00 16 36.5**	**-2.7**
	comp=Z,20nm,1.1s,baz=286,slow=5.6,SNR=4.4						
AKASG				PKKPbc	**PKKPbc**	**00 28 34.3**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=75,slow=3.4,SNR=2.5						
AKASG				PKPPKP	**P'P'df**	**00 36 53.0**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=114,slow=0.4,SNR=3.9						
TMBK	Timbaki Herakl	101.89	54	P	**Pdif**	**00 12 29.3**	**+0.3**
ALN	Alexandroupoli	101.90	48	*e*P	**Pdif**	**00 12 32.5**	**+3.6**
ALN	Alexandroupoli	101.90	48	P	**Pdif**	**00 12 28.6**	**-0.3**
VASR	Vaslui	101.94	42	⇑P	**Pdif**	**00 12 32.5**	**+3.5**
SORM	Soroca	101.95	41	⇑P	**Pdif**	**00 12 30.3**	**+1.3**
SORM	Soroca	101.95	41	⇑P	**Pdif**	**00 12 30.3**	**+1.3**
IDI	Anoyia	101.96	54	⇑P	**Pdif**	**00 12 29.3**	**-0.2**
IDI	Anoyia	101.96	54	*e*P	**Pdif**	**00 12 30.8**	**+1.4**
IDI	Anoyia	101.96	54	P	**Pdif**	**00 12 28.6**	**-0.8**
IDI	Anoyia	101.96	54	IAMs_20	IAMs_20	01 05 59.1	
	comp=Z,128µm,19.0s						
JMB	Yambol	101.99	46	*e*P	**Pdif**	**00 12 31.0**	**+1.7**
ENEZ	Enez	102.01	48	*e*P	**Pdif**	**00 12 30.1**	**+0.7**
HRKL	Herakleio	102.13	54	P	**Pdif**	**00 12 32.9**	**+2.8**
APE	Apeiranthos	102.18	52	*e*P	**Pdif**	**00 12 31.5**	**+1.1**
SCHL	Schela	102.22	43	⇑P	**Pdif**	**00 12 34.8**	**+4.5**
EDRB	Edirne	102.23	47	*e*P	**Pdif**	**00 12 33.2**	**+2.8**
EDRB	Edirne	102.23	47	P	**Pdif**	**00 12 27.8**	**-2.6**
KROM	Kromhout	102.23	125	*e*P	**Pdif**	**00 12 37.8**	**+7.3**
KROM				IAMs_20	IAMs_20	00 54 38.2	
	comp=Z,841µm,22.9s						
ERIK	Erikli-Kesan	102.29	48	*e*P	**Pdif**	**00 12 34.2**	**+3.5**
UKOP	Uzunkopru-Edir	102.29	48	*e*P	**Pdif**	**00 12 33.5**	**+2.8**
EZN	Ezine	102.31	49	*e*P	**Pdif**	**00 12 33.5**	**+2.7**
GELI	Tayfur-Gelibol	102.31	49	*e*P	**Pdif**	**00 12 30.8**	**0.0**
VLDR	Vladesti	102.32	43	⇓P	**Pdif**	**00 12 32.4**	**+1.7**
CHOS	Chios island	102.36	51	*e*P	**Pdif**	**00 12 34.2**	**+3.0**
CHOS	Chios island	102.36	51	P	**Pdif**	**00 12 30.2**	**-1.0**
PRK	Paraskevi	102.38	50	P	**Pdif**	**00 12 31.8**	**+0.7**
PRD	Provadia	102.43	46	*e*P	**Pdif**	**00 12 32.0**	**+0.8**
CFR	Carcaliu	102.51	44	⇑P	**Pdif**	**00 12 34.5**	**+3.0**
CFR	Carcaliu	102.51	44	⇑P	**Pdif**	**00 12 34.5**	**+3.0**
ICOR	Ion Corvin	102.51	45	⇑P	**Pdif**	**00 12 33.8**	**+2.2**
LPK	Lapseki	102.53	49	*e*P	**Pdif**	**00 12 33.5**	**+1.7**
KIS	Kishinev	102.54	42	⇑*i*P	**Pdif**	**00 12 32.0**	**+0.4**
	comp=Z,1µm,4.9s						
KIS	Kishinev	102.54	42	*i* PP	**PP**	**00 16 43.0**	**-1.5**
KIS				*i* SKS		00 23 10.0	
KIS				*e*SKKS	**SKKSac**	**00 23 46.0**	**-4.9**
KIS	Kishinev	102.54	42	*c i*P	**Pdif**	**00 12 32.0**	**+0.4**
KIS				*i*		00 16 43.0	
KIS				*i*		00 23 10.0	
KIS				*e*		00 23 56.0	
KIS				pmax	pmax		
	comp=Z,1µm,4.9s						
KIS				pmax	pmax		
	comp=E,700nm,4.6s						
MILM	Milestii Mici	102.55	42	⇑*i*P	**Pdif**	**00 12 31.8**	**+0.1**
	comp=E,3µm,4.7s						
MILM	Milestii Mici	102.55	42	*i* PP	**PP**	**00 16 42.0**	**-2.6**
MILM	Milestii Mici	102.55	42	⇑P	**Pdif**	**00 12 33.3**	**+1.6**
MILM	Milestii Mici	102.55	42	*c i*P	**Pdif**	**00 12 31.8**	**+0.1**
MILM				*i*		00 16 42.0	
MILM				*e*		00 23 13.0	
MILM				pmax	pmax		
	comp=Z,3µm,4.7s						
TPGR	Topolog	102.78	44	⇑P	**Pdif**	**00 12 32.4**

CAME Cameli-Denizli 105.17 52 *e*P **Pdif 00 12 47.1 +3.3**
KSR Koster 105.29 117 *e*P **Pdif 00 12 45.4 +0.8**
KSR IAMs_20 IAMs_20 00 59 29.8
comp=Z,501µm,19.3s
GULT Gulveren 105.32 48 *e*P **Pdif 00 12 46.1 +1.8**
PRYS Parys 105.56 118⇑ *i*P **Pdif 00 12 45.6 -0.1**
PRYS IAMs_20 IAMs_20 01 02 26.7
comp=Z,917µm,17.4s
WDLM Western Deep L 105.69 117 *e*P **Pdif 00 12 47.1 +0.7**
WDLM IAMs_20 IAMs_20 01 02 39.5
comp=Z,538µm,17.9s
ELL Elmali 105.69 52 *e*P **Pdif 00 12 47.9 +1.8**
SNKL Senekal, Frees 105.74 119⇑ *i*P **Pdif 00 12 45.5 -1.0**
SNKL IAMs_20 IAMs_20 01 00 43.1
comp=Z,1369µm,18.5s
SHUT Suhut-Afyon 105.78 50 *e*P **Pdif 00 12 48.4 +1.9**
MDUB Mudurnu 105.81 48 *e*P **Pdif 00 12 48.1 +1.6**
TIXI Tiksi 105.83 351 Pdiff **Pdif 00 12 45.6 -0.1**
comp=Z,3.5nm,0.8s,baz=91,slow=23,SNR=8.9
TIXI PP **PP 00 17 10.0 +1.9**
comp=Z,18nm,1.1s,baz=87,slow=22,SNR=3.9
TIXI Tiksi 105.83 351 P **Pdif 00 12 45.3 -0.5**
TIXI Tiksi 105.83 351 Pdif **Pdif 00 12 45.3 -0.5**
PRGR Permogore 105.89 24 *e*P **Pdif 00 12 47.7 +1.5**
PRGR *e* 00 17 07.7
PRGR pmax pmax
comp=Z,55nm,1.5s
ISP Isparta 105.93 50 *e*P **Pdif 00 12 48.6 +1.5**
SEY Seymchan 105.96 338 Pdiff **Pdif 00 12 46.7 +0.2**
comp=Z,4.6nm,0.7s,baz=121,slow=8.1,SNR=12
SEY PP **PP 00 17 08.3 -1.0**
comp=Z,32nm,1.2s,baz=70,slow=9.3,SNR=3.1
SEY PKKPbc **PKKPbc 00 28 22.6 -1.2**
comp=Z,9.7nm,1.1s,baz=225,slow=17,SNR=3.5
CIFT Cifteler, Eski 105.98 49 *e*P **Pdif 00 12 49.5 +2.2**
BCK Bucak 106.06 51 *e*P **Pdif 00 12 49.5 +1.8**
ANTB Antalya 106.24 51 *e*P **Pdif 00 12 50.9 +2.6**
SVRH Sivrihisar-ESK 106.31 49 *e*P **Pdif 00 12 50.6 +1.9**
SUTC Sutluce-Ispart 106.38 51 *e*P **Pdif 00 12 48.9 -0.2**
SLR Silverton 106.55 117⇑ *i*P **Pdif 00 12 48.4 -1.8**
SLR IAMs_20 IAMs_20 01 04 39.9
comp=Z,866µm,16.8s
KURC Kurucasile-Bar 106.58 46 *e*P **Pdif 00 12 46.9 -2.9**
SIM Simferopol' 106.65 43 *e*P **Pdif 00 12 51.8 +1.8**
SIM *e*SS SS 00 32 24.9 +5.2
KIZT Kizilcal 106.72 49 *e*P **Pdif 00 12 51.3 +0.7**
LPSR Galich'ya Gora 106.92 34 *e*P **Pdif 00 12 47.4 -3.6**
LPSR pmax pmax
comp=Z,260nm,4.4s
LPSR MLR MLR
comp=Z,55µm,19.0s
TARA Tarawa 107.08 271 IAMs_20 IAMs_20 00 51 25.6
comp=Z,144µm,21.0s
LOD Lodumlu 107.12 48 *e*P **Pdif 00 12 55.3 +3.0**
ANTO Ankara 107.15 48 *e*P **Pdif 00 12 56.3 +3.9**
LADK Ladik-KONYA 107.25 50 *e*P **Pdif 00 12 54.9 +1.9**
KONT Konya--Tatoy 107.31 50 *e*P **Pdif 00 12 55.7 +2.5**
MATP Matopo 107.40 111 PKKPab PKKPab 00 28 32.8 +0.1
comp=Z,5.4nm,1.0s,baz=42,slow=9.4,SNR=2.0
VORR Voronezh 107.45 35 *e*P **Pdif 00 12 56.1 +2.7**
VORR pmax pmax
comp=Z,20nm,1.4s
BZK Bozkurt 107.46 46 *e*P **Pdif 00 12 55.8 +2.2**
AFSR Afar-Bala (An 107.47 48 *e*P **Pdif 00 12 53.9 0.0**
KULU Kulu 107.52 49 *e*P **Pdif 00 12 57.7 +3.5**
BLWY Bulawayo 107.53 111⇑ *i*P **Pdif 00 12 54.9 +0.3**
BLWY IAMs_20 IAMs_20 01 01 55.4
comp=Z,3893µm,19.1s
CHBY Cihanbeyli 107.56 49 *e*P **Pdif 00 12 56.7 +2.4**
CANT Cankiri 107.56 47 *e*P **Pdif 00 12 56.9 +2.7**
VSR Storozhevoye 107.61 35 *e*P **Pdif 00 12 51.2 -2.9**
VSR *e* 00 23 30.6
VSR pmax pmax
comp=Z,1µm,8.8s
VSR MLR MLR
comp=Z,95µm,20.0s
HDMB Hadim 107.65 51 *e*P **Pdif 00 12 56.7 +1.8**
NWCL Newcastle 107.67 119⇑ *i*P **Pdif 00 12 55.0 -0.1**
NWCL IAMs_20 IAMs_20 00 59 53.2
comp=Z,1366µm,20.8s
BRTR Keskin Array B 107.82 48 Pdiff **Pdif 00 12 54.9 -0.6**
comp=Z,0.1nm,0.4s,baz=297,slow=16,SNR=1.2
BRTR PP **PP 00 17 24.1 +0.1**
comp=Z,15nm,1.0s,baz=280,slow=4.2,SNR=5.2
BRTR PKKPbc **PKKPbc 00 28 16.1 -1.4**
comp=Z,5.4nm,1.0s,baz=136,slow=1.5,SNR=7.7
BRTR PKPPKP 00 36 45.1
comp=Z,0.9nm,1.0s,baz=95,slow=1.7,SNR=2.3
BRTR Keskin Array B 107.82 48 *i*P **Pdif 00 12 56.9 +1.4**
KAMT Kaman 107.97 48 *e*P **Pdif 00 12 57.7 +1.6**
SERE Sereflikochisa 107.97 49 *e*P **Pdif 00 13 00.1 +3.9**
MAW Mawson 108.05 166 Pdiff **Pdif 00 12 57.4 +1.7**
comp=Z,0.8nm,0.4s,baz=279,slow=12,SNR=1.5
MAW PP **PP 00 17 25.0 +0.5**
comp=Z,34nm,1.1s,baz=196,slow=2.9,SNR=4.7
MAW PKKPbc **PKKPbc 00 28 15.3 -2.1**
comp=Z,10.0nm,1.1s,baz=33,slow=17,SNR=3.5
CRLN Carolina, Mapu 108.06 117⇑ *i*P **Pdif 00 12 58.0 +1.0**
CRLN IAMs_20 IAMs_20 01 03 44.7
comp=Z,604µm,17.9s
PET Petropavlovsk 108.09 327 *e*P **Pdif 00 13 00.6 +4.4**
PET *e*PPS PPS 00 27 55.7
PET *e*SS SS 00 32 50.0 +11
PET pmax pmax
comp=Z,2µm,16.1s
PET pmax pmax
comp=Z,7µm,11.7s
YAYX Yaylak 108.16 49 *e*P **Pdif 00 12 57.4 +0.4**
TEKE Tekeli-Mersin 108.34 52 *e*P **Pdif 00 13 02.1 +4.4**
BERE Bereket-Mersin 108.38 51 *e*P **Pdif 00 13 02.1 +4.0**
CORM Corum 108.42 47 *e*P **Pdif 00 13 00.6 +2.4**
DIKM Dikmen 108.44 46 *e*P **Pdif 00 13 00.4 +2.4**
TEVE Tevekalti-Mers 108.53 51 *e*P **Pdif 00 13 02.4 +3.8**
MA2 Magadan 108.53 335 Pdiff **Pdif 00 12 58.4 +0.4**
comp=Z,1.1nm,0.3s,baz=147,slow=19,SNR=2.2
MA2 PP **PP 00 17 30.7 +2.5**
comp=Z,20nm,1.0s,baz=38,slow=5.5,SNR=4.7
MA2 PKKPbc **PKKPbc 00 28 14.2 -1.5**
comp=Z,7.2nm,0.9s,baz=203,slow=17,SNR=3.1
MA2 PKKP **PKKPdf 00 28 30.1 +0.1**
comp=Z,12nm,0.7s,baz=316,slow=1.7,SNR=5.5
MA2 Magadan 108.53 335 P **Pdif 00 12 57.1 -0.9**
MA2 Magadan 108.53 335 Pdif **Pdif 00 12 57.1 -0.9**
MA2 IAMs_20 IAMs_20 01 12 13.7
comp=Z,128µm,20.0s
PETK Petropavlovsk- 108.57 327 Pdiff **Pdif 00 12 58.9 +0.5**
comp=Z,2.8nm,0.8s,baz=3.9,slow=24,SNR=1.2
PETK PP **PP 00 17 26.7 -2.0**
comp=Z,5.4nm,0.9s,baz=243,slow=43,SNR=2.7
MSNA Messina 108.58 113⇑ *i*P **Pdif 00 12 57.5 -1.6**
MSNA IAMs_20 IAMs_20 01 01 50.9
comp=Z,698µm,18.9s
AKKU Akkuyu-Mersin 108.68 52 *e*P **Pdif 00 13 02.4 +3.2**
KEBE Keben-Mersin 108.73 51 *e*P **Pdif 00 13 02.1 +2.5**
IKL Isikli 108.77 51 *e*P **Pdif 00 13 01.9 +2.3**
CSS Mathiatis 108.80 53 *i*P **Pdif 00 13 03.5 +3.7**
LFK Lefkose 108.89 52 *e*P **Pdif 00 13 02.4 +2.2**
SILI Silifke-Mersin 108.92 51 *e*P **Pdif 00 13 04.8 +4.5**
ANN Anapa 108.93 42*c* *i*P **Pdif 00 13 00.6 +0.5**
ANN *i* 00 17 29.8
ANN *i* PPP PPP 00 19 48.7
ANN *i* 00 23 36.1
ANN *i* 00 24 16.3
ANN *i* SP SP 00 26 55.4 -0.9
ANN *i* SS **SS 00 32 53.3 +2.8**
ANN *i* SSS SSS 00 36 51.6
ANN pmax pmax
comp=Z,59nm,1.2s
ANN pmax pmax
comp=N,90nm,1.6s
ANN pmax pmax
comp=N,2µm,5.4s
ANN pmax pmax
comp=E,445nm,5.5s
ANN pmax pmax
comp=Z,6µm,5.5s
VRH Novokhopyorsk 109.08 34 *e*P **Pdif 00 13 03.2 +2.6**
VRH pmax pmax
comp=Z,1µm,7.9s
VRH MLR MLR
comp=Z,82µm,21.0s
YOZ Yozgat 109.08 48 *e*P **Pdif 00 13 03.4 +2.3**
KIRV Kirov 109.17 25 Pdiff **Pdif 00 12 59.7 -1.1**
comp=Z,3.0nm,0.6s,baz=347,slow=6.7,SNR=1.1
KIRV PP PP 00 17 42.7 +10
comp=Z,34nm,1.0s,baz=304,slow=7.4,SNR=6.2
KIRV PKKPbc **PKKPbc 00 28 12.4 -1.2**
comp=Z,6.3nm,0.4s,baz=64,slow=6.6,SNR=1.3
KVT Kavak 109.18 46 *e*P **Pdif 00 13 04.3 +2.9**
MERS Mersin 109.25 51 P **Pdif 00 13 03.7 +1.8**
EREN Erenkoy 109.33 52 *e*P **Pdif 00 13 01.8 -0.3**
POGA Pongola 109.33 119⇑ *i*P **Pdif 00 13 02.3 0.0**
POGA IAMs_20 IAMs_20 01 02 08.0
comp=Z,1279µm,19.1s
KARA Karaisali 109.56 50 *e*P **Pdif 00 13 02.8 -0.3**
MOPA Mopani 109.67 115 *e*P **Pdif 00 13 09.7 +5.8**
MOPA IAMs_20 IAMs_20 01 02 29.8
comp=Z,753µm,19.6s
BNN Bunyan 109.70 48 *e*P **Pdif 00 13 06.6 +2.7**
TOKT Tokat 109.78 47 *e*P **Pdif 00 12 58.4 -5.7**
CNG Changalane 109.93 118⇑ *i*P **Pdif 00 13 06.2 +1.2**
CNG IAMs_20 IAMs_20 01 02 36.6
comp=Z,268µm,19.1s
KRTS Karatas 109.99 51 *i* P **Pdif 00 13 05.8 +0.8**
NRIK Noril'sk 110.00 5 Pdiff **Pdif 00 13 04.5 +0.1**
comp=Z,2.0nm,0.7s,baz=5.4,slow=1.8,SNR=8.5
NRIK PKiKP **PKiKP 00 17 05.8 -0.3**
comp=Z,6.0nm,1.1s,baz=317,slow=4.9,SNR=5.3
NRIK PP **PP 00 17 37.1 -1.4**
comp=Z,11nm,1.1s,baz=334,slow=8.1,SNR=2.2
NRIK PKKP **PKKPdf 00 28 25.1 -2.2**
comp=Z,36nm,1.1s,baz=106,slow=3.5,SNR=5.9
NRIK Noril'sk 110.00 5 P **Pdif 00 13 05.1 +0.8**
NRIK Noril'sk 110.00 5 Pdif **Pdif 00 13 05.1 +0.8**
KOZT Kozan 110.09 50 *e*P **Pdif 00 13 07.2 +1.7**
CEYT Ceyhan 110.16 50 *e*P **Pdif 00 13 08.2 +2.4**
SVSK Karacayir 110.23 47 *e*P **Pdif 00 13 08.2 +2.2**
SARI SarD1z-Kayseri 110.26 49 *e*P **Pdif 00 13 09.3 +2.8**
RSDY Resadiye-TOKAT 110.32 46 *e*P **Pdif 00 13 10.2 +3.7**
SKR Severo-Kuril's 110.55 326 *i* P **Pdif 00 13 21.6 +14**
SKR *e* 00 17 04.2
SKR *e* 00 17 48.4
SKR *e*PS **PS 00 27 11.8 -1.9**
SKR *e*SS SS 00 33 21.5 +10
TAHT Tahtakopru-Hat 110.67 51 *e*P **Pdif 00 13 09.1 +1.0**
YAYL Yayladag 110.71 51 *i* P **Pdif 00 13 09.0 +0.6**
MBAR Mbarara 110.72 91 *e*P **Pdif 00 13 17.4 +8.4**
MBAR Mbarara 110.72 91 *e*P **Pdif 00 13 10.2 +1.2**
SOC Sochi 110.90 43*c* *i*P **Pdif 00 13 10.6 +1.7**
SOC *e* 00 17 46.7
SOC *e*PPP PPP 00 20 11.9
SOC *e* 00 23 49.5
SOC *e*PS PKKPbc 00 27 16.9 -51
SOC *e*SS SS 00 33 22.4 +5.4
SOC pmax pmax
comp=Z,32nm,1.0s
KSMZ Kasama 110.92 101 *i* P **Pdif 00 13 11.2 +1.4**
KSMZ *i* 00 17 40.2
KSMZ *i* 00 17 40.8
KSMZ Kasama 110.92 101 *i* P **Pdif 00 13 11.2 +1.4**
KSMZ *i* 00 17 40.2
KSMZ *i* 00 17 40.8
DARE Darende-Malaty 111.01 48 *e*P **Pdif 00 13 11.3 +1.6**
MMLI Mount Malkishu 111.11 55 *e*P **Pdif 00 13 13.2 +3.0**
ESPY Espiye-Giresun 111.16 45 *e*P **Pdif 00 13 15.0 +4.8**
UJAP Al Uja 111.27 55 *e*P **Pdif 00 13 14.5 +3.7**
EIL Elat 111.38 58 *e*P **Pdif 00 13 14.1 +2.7**
ARPR Arapgir-MALATY 111.48 47 P **Pdif 00 13 15.3 +3.5**
GHAJ Ghor Haditha 111.51 56 IAMs_20 IAMs_20 01 11 16.3
comp=Z,148µm,19.0s
BELG Belogornoye 111.72 32 Pdiff **Pdif 00 13 12.2 -0.2**
comp=Z,9.1nm,0.8s,baz=286,slow=16,SNR=1.8
BELG PP **PP 00 17 51.2 -0.3**
comp=Z,39nm,1.0s,baz=245,slow=2.1,SNR=2.1
BELG PKKPbc **PKKPbc 00 28 05.3 +0.3**
comp=Z,29nm,0.9s,baz=62,slow=3.0,SNR=5.4
BELG Belogornoye 111.72 32 *i* PKiKP **PKiKP 00 17 09.2 -0.6**
BELG pmax pmax
comp=Z,25nm,1.5s
KTUT Trabzon 111.87 45 *e*P **Pdif 00 13 16.7 +3.4**
DZM Mont Dzumac 111.89 246 Pdiff **Pdif 00 13 14.1 +0.2**
comp=Z,3.8nm,1.0s,baz=126,slow=17,SNR=1.2
DZM PP **PP 00 17 53.6 -0.5**
comp=Z,5.0nm,0.7s,baz=119,slow=14,SNR=1.5
DZM Mont Dzumac 111.89 246 *e*Pdif **Pdif 00 13 15.3 +1.4**
comp=Z,7µm,27.9s
DZM Mont Dzumac 111.89 246 *e*PP **PP 00 17 53.8 -0.3**
comp=Z,33µm,30.2s
DZM *e*SKSac **SKSac 00 23 52.4 -1.4**
comp=Z,150µm,30.1s
DZM Mont Dzumac 111.89 246 *e*PS PS 00 27 27.0 -0.5
comp=Z,376µm,32.1s
DZM *e*SS SS 00 33 32.6 +0.7
comp=Z,867µm,32.9s
DZM Mont Dzumac 111.89 246 *e*LR LR 00 50 26.5
comp=Z,779µm,28.9s
WAKE Wake Island 111.90 291 IAMs_20 IAMs_20 01 00 57.8
comp=Z,118µm,20.0s
SANVU Saraoutou 112.03 254 IAMs_20 IAMs_20 00 54 02.9
comp=Z,96µm,20.0s
KWAJ Kwajalein Atol 112.08 280 IAMs_20 IAMs_20 00 55 01.7
comp=Z,127µm,20.0s
ERZN Erzincan 112.33 47 *e*P **Pdif 00 13 18.1 +2.6**
SVRC Sivrice-ELAZID 112.43 48 *e*P **Pdif 00 13 19.2 +3.1**
GOF Gofitskoye 112.51 40⇑ *e*P **Pdif 00 13 19.0 +2.9**
GOF pmax pmax
comp=Z,8.0nm,0.7s
CHOM Cayeli-Rize 112.53 45 *e*P **Pdif 00 13 18.8 +2.5**
KIV Kislovodsk 112.74 41 *e*P **Pdif 00 13 19.9 +2.7**
KIV Kislovodsk 112.74 41 *e*P **Pdif 00 13 16.9 -0.3**
KIV *i* 00 17 11.8
KIV *i* 00 17 59.2
KIV *e* 00 23 51.8
KIV *e*PS **PS 00 27 34.7 +0.3**
KIV *e*SS SS 00 33 41.6 0.0
KIV *e*SSS SSS 00 37 49.3
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,57µm,21.0s
KVAR Kislovodsk Arr 112.74 41 PP **PP 00 18 01.2 +1.9**
comp=Z,29nm,1.2s,baz=97,slow=23,SNR=3.7
SHA1 Shidzhatmaz 112.81 41 *i* PKiKP **PKiKP 00 17 11.3 -1.2**
KBZ Khabaz 112.97 41 Pdiff **Pdif 00 13 19.8 +1.7**
comp=Z,1.1nm,0.9s,baz=276,slow=9.9,SNR=4.2
KBZ PKiKP **PKiKP 00 17 12.2 -0.2**
comp=Z,7.8nm,0.8s,baz=245,slow=0.3,SNR=4.7
KBZ PP **PP 00 18 01.0 +0.2**
comp=Z,22nm,0.9s,baz=286,slow=10,SNR=4.8
KBZ PKKPbc **PKKPbc 00 27 59.7 -0.9**
comp=Z,4.5nm,0.8s,baz=90,slow=4.0,SNR=2.6
DYBB Diyarbakir 113.19 48 *e*P **Pdif 00 13 26.6 +7.3**
BNGB Bingl 113.23 47 *e*P **Pdif 00 13 24.5 +5.0**
NCK Nalchik 113.53 41*c* *i*PKiKP **PKiKP 00 17 12.9 -0.7**
MAZI Mazidag 113.58 48 *e*P **Pdif 00 13 21.9 +0.7**
KOPR Koprukoy-ERZUR 113.71 45 *e*P **Pdif 00 13 26.6 +4.8**
VRTB Varto-Mus 113.73 46 *e*P **Pdif 00 13 26.3 +4.5**
SENK Senkaya-Erzuru 113.85 45 *e*P **Pdif 00 13 28.6 +6.2**
SVAN Silvan-Diyarba 113.91 48 *e*P **Pdif 00 13 23.6 +1.1**
YAK Yakutsk 113.92 345 Pdiff **Pdif 00 13 22.2 +0.3**
comp=Z,5.5nm,0.3s,baz=121,slow=0.5,SNR=1.4
YAK PP **PP 00 18 03.2 -3.4**
comp=Z,18nm,0.7s,baz=39,slow=6.7,SNR=4.9
YAK PKKPab **PKKPab 00 28 04.3 +0.9**
comp=Z,5.6nm,0.3s,baz=236,slow=1.7,SNR=1.4
YAK Yakutsk 113.92 345 *e*P **Pdif 00 13 22.1 +0.2**
YAK pmax pmax
comp=Z,18nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.6s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK Yakutsk 113.92 345 IAMs_20 IAMs_20 01 12 32.1
comp=Z,163µm,20.0s
AKH Akhalkalaki 114.31 44 *e*P **Pdif 00 13 25.9 +1.5**
KARS Kars 114.34 44 *e*P **Pdif 00 13 22.6 -1.9**
ARU Arti 114.35 24 Pdiff **Pdif 00 13 25.2 +1.2**
comp=Z,0.5nm,0.4s,baz=267,slow=23,SNR=1.8
ARU PKP **PKiKP 00 17 12.6 -2.1**
comp=Z,2.2nm,0.7s,baz=232,slow=6.6,SNR=4.2
ARU PP **PP 00 18 09.9 0.0**
comp=Z,2.9nm,0.8s,baz=250,slow=11,SNR=1.0
ARU Arti 114.35 24 *i* PKiKP PKPdf 00 17 14.9 +0.2
ARU pmax pmax
comp=Z,45nm,1.2s
ARU MLR MLR
comp=Z,165µm,20.0s
ARU Arti 114.35 24 IAMs_20 IAMs_20 01 06 20.4
comp=Z,157µm,20.0s
GURO Guroymak-BITLI 114.37 47 *e*P **Pdif 00 13 28.9 +4.2**
MLAZ Malazgirt-MUS 114.53 46 *e*P **Pdif 00 13 28.3 +2.9**
AGRB Hanur-Agry 114.68 46 *e*P **Pdif 00 13 30.3 +4.2**
SVE Sverdlovsk 114.89 23 *i* PKiKP PKPdf 00 17 18.2 +2.4
SVE *e* 00 18 15.4
SVE *e* 00 27 50.7
SVE *e*SSS SSS 00 38 34.4
SVE pmax pmax
comp=Z,106nm,1.8s
SVE MLR MLR
comp=Z,126µm,21.0s
GROC Groznyy 115.10 41 *i* PKiKP **PKiKP 00 17 12.2 -4.4**
GROC *e* 00 18 16.0
GROC *e* 00 24 04.6
GROC *e* 00 24 30.6
GROC pmax pmax
comp=Z,71nm,1.2s
AKDM Akdamar-Van 115.15 47 *e*P **Pdif 00 13 32.4 +4.2**
LODK Lodwar 115.28 86 *e*P **PKiKP 00 17 20.8 +2.9**
LODK Lodwar 115.28 86 *e*P **Pdif 00 13 29.3 +0.2**
LODK Lodwar 115.28 86 *e*P **Pdif 00 13 31.5 +2.4**
CLDR Calderan 115.51 46 *e*P **Pdif 00 13 35.0 +5.2**
GNI Garni 115.69 44 PKP **PKPdf 00 17 18.5 +0.5**
comp=Z,7.0nm,0.7s,baz=338,slow=5.0,SNR=4.0
GNI PP **PP 00 18 14.8 -5.6**
comp=Z,18nm,0.8s,baz=236,slow=4.3,SNR=3.8
GNI Garni 115.69 44 *i* PKiKP **PKiKP 00 17 17.5 -0.6**
GNI Garni 115.69 44 **PKiKP 00 17 15.4 -2.6**
CUKT Cukurca 116.01 48 *e*P **Pdif 00 13 35.2 +3.2**
MAK Makhachkala 116.33 41*de*P **Pdif 00 13 30.4 -2.6**
MAK *e* 00 24 00.2
MAK *e*PS **PKKPab 00 27 55.8 +2.9**
MAK *e*SS SS 00 34 20.5 -8.0
MAK pmax pmax
comp=Z,321nm,1.3s
NKL Nikolayevsk 116.94 334 *e*P **Pdif 00 13 36.0 +0.5**
NKL *e* 00 18 31.4
NKL *e*SS SS 00 34 26.0 -10
KMBO Kilima Mbogo 117.24 91 Pdiff **Pdif 00 13 37.6 -0.5**
comp=Z,0.5nm,0.6s,baz=230,slow=19,SNR=1.5
KMBO PKP **PKiKP 00 17 22.1 +0.3**
comp=Z,8.6nm,1.1s,baz=196,slow=1.5,SNR=8.9
KMBO PP **PP 00 18 31.3 -1.1**
comp=Z,11nm,1.1s,baz=253,slow=7.0,SNR=1.6
KMBO PKKPab **PKKPab 00 27 47.5 -2.0**
comp=Z,1.5nm,0.8s,baz=48,slow=12,SNR=1.1
KMBO SKKP 00 31 50.3
comp=Z,2.0nm,1.0s,baz=208,slow=1.9,SNR=4.2
KMBO Kilima Mbogo 117.24 91 PKiKP **PKPdf 00 17 21.4 -0.5**
KMBO Kilima Mbogo 117.24 91 PKPdf **PKPdf 00 17 21.4 -0.5**
KMBO Kilima Mbogo 117.24 91 *e*P **PKiKP 00 17 23.6 +1.7**
KMBO Kilima Mbogo 117.24 91 *e*P **Pdif 00 13 45.2 +7.2**
KMBO Kilima Mbogo 117.24 91 *e*P **Pdif 00 13 42.3 +4.3**
KMBO Kilima Mbogo 117.24 91 P **PKiKP 00 17 24.2 +2.4**
DILA Dilla 118.04 83 *e*P **Pdif 00 13 49.2 +7.7**
DILA Dilla 118.04 83 *e*P **Pdif 00 13 45.8 +4.3**
KUR Kuril'sk 118.08 324 *i* P **Pdif 00 13 48.1 +7.3**
KUR *i* 00 18 43.2
KUR 00 21 11.4
KUR *e*SP SP 00 28 18.2 -2.7
KUR *e*SS **SS 00 34 57.4 +6.3**
AKTO Aktyubinsk 118.13 29 Pdiff **Pdif 00 13 40.8 -0.1**
comp=Z,0.4nm,0.4s,baz=35,slow=15,SNR=1.4
AKTO PKP **PKiKP 00 17 22.9 +0.6**
comp=Z,10nm,0.8s,baz=341,slow=5.3,SNR=8.3
AKTO PP **PP 00 18 34.8 -1.8**
comp=Z,20nm,0.9s,baz=309,slow=5.8,SNR=1.2
AKTO PKKPab **PKKPab 00 27 44.0 -0.9**
comp=Z,13nm,0.8s,baz=148,slow=2.6,SNR=3.9
AKTO Aktyubinsk 118.13 29 PKiKP **PKiKP 00 17 23.0 +0.7**
FURI Furi 118.24 80 *e*P **PKiKP 00 17 25.5 +1.6**
FURI Furi 118.24 80 *e*P **Pdif 00 13 45.2 +2.7**
FURI Furi 118.24 80 *e*P **Pdif 00 13 45.4 +2.8**
AAE Adis Abeba 118.32 80 *e*P **PKiKP 00 17 25.5 +1.5**
AAE Adis Abeba 118.32 80 *e*P **Pdif 00 13 33.3 -10**
AAE Adis Abeba 118.32 80 *e*P **Pdif 00 13 47.5 +4.6**
UGL Uglegorsk 118.99 330 *e*P **Pdif 00 13 53.6 +8.9**
UGL *e* 00 18 42.0
UGL *e* 00 28 32.6
UGL *e*SS SS 00 35 00.0 -2.4
UGL pmax pmax
comp=N,6µm,9.0s
UGL pmax pmax
comp=E,10µm,9.0s
UGL pmax pmax
comp=Z,22µm,10.0s
ANKE Ethiopia-Afar 119.22 79 *e*P **Pdif 00 13 53.2 +6.3**
ANKE Ethiopia-Afar 119.22 79 *e*P **Pdif 00 13 51.7 +4.8**
HNR Honiara 119.68 259 PKP **PKiKP 00 17 26.5 +0.2**
comp=Z,24nm,0.3s,baz=290,slow=5.7,SNR=1.2
HNR PP **PP 00 18 51.4 +2.4**
comp=Z,26nm,0.3s,baz=170,slow=6.2,SNR=1.7
HNR Honiara 119.68 259 IAMs_20 IAMs_20 00 58 22.6
comp=Z,132µm,22.0s
AB31 Akbulak array 119.85 29 *i* PKiKP **PKiKP 00 17 26.9 +1.3**
ABKAR Akbulak array 119.85 29 PKPdf **PKPdf 00 17 24.8 -0.7**
YUK Yuzh-Kuril'sk 119.94 323 *e*PKiKP **PKiKP 00 17 26.1 +0.2**
YUK *i* 00 18 51.1
YUK *e* 00 24 38.2
YUK *e*SS SS 00 35 17.1 +2.0
YUK SSS SSS 00 39 54.9
YSS Yuzh-Sakhalins 119.97 328 *e*P **Pdif 00 13 53.4 +4.2**
YSS *e* 00 18 51.1
YSS *e* 00 24 16.4
YSS *e*PS **PS 00 28 44.3 +4.7**
YSS *e*SS SS 00 35 25.1 +10
YSS pmax pmax
comp=Z,120nm,1.3s
YSS pmax pmax
comp=Z,9µm,6.8s
YSS Yuzh-Sakhalins 119.97 328 IAMs_20 IAMs_20 01 11 57.2
comp=Z,106µm,20.0s
GRNR Gornyy 120.48 334 *e*PKiKP **PKPdf 00 17 23.7 -3.1**
BOD Bodaibo 121.01 351 *e*PKiKP **PKiKP 00 17 29.4 +1.8**
BOD pmax pmax
comp=Z,89nm,1.8s
BVAR Borovoye Array 121.41 20 PKP **PKPdf 00 17 27.7 -0.7**
comp=Z,6.1nm,0.7s
ZEA Zeya 121.62 341 *e*P **Pdif 00 13 58.8 +2.4**
ZEA *e* 00 19 03.0
ZEA *e*SS SS 00 35 34.9 -0.7
ZEA pmax pmax
comp=E,500nm,14.7s
ZEA pmax pmax
comp=N,500nm,15.1s
ZEA pmax pmax
comp=Z,1µm,13.4s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,40nm,1.1s
ZEA pmax pmax
comp=E,2µm,16.1s
ZEA pmax pmax
comp=N,4µm,14.8s
ZEA pmax pmax
comp=Z,11µm,13.8s
JKA Kamikawa-asahi 121.80 325 PKPdf **PKiKP 00 17 30.2 +0.6**
ASAJ Asahikawa 121.80 325 Pdiff **Pdif 00 13 56.5 -0.9**
comp=Z,8.3nm,1.1s,baz=21,slow=30,SNR=1.9
ASAJ PKP **PKiKP 00 17 29.6 0.0**
comp=Z,17nm,1.0s,baz=9.9,slow=26,SNR=3.3
ASAJ PP **PP 00 19 00.9 -1.1**
comp=Z,31nm,0.8s,baz=8.2,slow=11,SNR=1.0
ASAJ Asahikawa 121.80 325 PKiKP **PKiKP 00 17 30.2 +0.6**
ATD Arta Tunnel 122.03 76 PKKPbc PKKPbc 00 27 28.6 +0.9
comp=Z,2.7nm,0.7s,baz=199,slow=23,SNR=1.3
ATD SKKPbc SKKPbc 00 31 09.3 -7.7
comp=Z,1.3nm,0.3s,baz=75,slow=2.9,SNR=1.8
ATD Arta Tunnel 122.03 76 *e*P **PKiKP 00 17 33.1 +2.1**
ATD Arta Tunnel 122.03 76 *e*P **Pdif 00 14 05.2 +6.1**
ATD Arta Tunnel 122.03 76 *e*P **Pdif 00 14 02.0 +2.9**
CAN Canberra 122.65 227 P PKiKP 00 17 39.8 +8.2
ERM Erimo 122.72 323 IAMs_20 IAMs_20 01 17 33.7
comp=Z,98µm,20.0s
KLR Kul'dur 123.63 336 Pdiff **Pdif 00 14 05.2 -0.2**
comp=Z,0.4nm,0.5s,baz=174,slow=7.2,SNR=1.2
KLR PKP **PKPdf 00 17 31.4 -1.4**
comp=Z,9.3nm,0.8s,baz=121,slow=1.4,SNR=12
KLR PP **PP 00 19 13.6 -0.5**
comp=Z,17nm,0.8s,baz=29,slow=3.1,SNR=1.0
KLR PKKPbc **PKKPab 00 27 21.0 0.0**
comp=Z,1.4nm,0.7s,baz=241,slow=19,SNR=1.0

KLR SKKPbc SKKPbc 00 31 08.2 -4.8
comp=Z,7.3nm,1.0s,baz=13,slow=4.3,SNR=2.8
KLR Kul'dur 123.63 336 *c i* PKIKP **PKPdf 00 17 32.7 -0.1**
KLR pmax pmax
comp=Z,34nm,1.0s
TEY Ternei 124.47 329⇓ *e* PKIKP **PKiKP 00 17 36.9 +2.1**
TEY pmax pmax
comp=Z,100nm,13.0s
ZAA0 Zalesovo Array 124.51 11 PKPdf **PKPdf 00 17 33.0 -1.3**
ZALV Zalesovo Beam 124.51 11 Pdiff **Pdif 00 14 08.7 -0.6**
comp=Z,0.2nm,0.3s,baz=319,slow=5.7,SNR=1.5
ZALV PKP **PKPdf 00 17 32.9 -1.4**
comp=Z,21nm,0.5s,baz=332,slow=1.7,SNR=25
ZALV PP **PP 00 19 17.6 -2.0**
comp=Z,58nm,1.0s,baz=286,slow=2.5,SNR=1.1
ZALV PKKPbc **PKKPab 00 27 18.0 +0.7**
comp=Z,2.4nm,0.8s,baz=153,slow=1.0,SNR=3.6
ZALV SKKPbc SKKPbc 00 31 07.5 -2.7
comp=Z,5.5nm,0.9s,baz=180,slow=2.9,SNR=2.2
ZALV Zalesovo Beam 124.51 11 PKIKP **PKPdf 00 17 32.5 -1.8**
ZALV Zalesovo Beam 124.51 11 PKPdf **PKPdf 00 17 32.5 -1.8**
BRZS Berezniki 124.73 21 *e* PKIKP **PKPdf 00 17 34.4 -0.5**
BRZS *e* 00 19 21.4
BRZS Berezniki 124.73 21 *e* PKP **PKPdf 00 17 34.4 -0.5**
baz=21
BRZS *e* PP **PP 00 19 21.4 0.0**
baz=21
GEYT Alibeck 125.85 41 Pdiff **Pdif 00 14 15.8 +0.3**
comp=Z,1.4nm,0.7s,baz=356,slow=40,SNR=1.6
GEYT PKP **PKPdf 00 17 37.1 -0.4**
comp=Z,49nm,1.1s,baz=238,slow=5.1,SNR=27
GEYT PP **PP 00 19 25.2 -4.3**
comp=Z,15nm,0.8s,baz=259,slow=16,SNR=1.6
GEYT SKKPbc SKKPbc 00 31 02.6 -2.4
comp=Z,8.6nm,1.0s,baz=225,slow=14,SNR=4.0
GEYT Alibeck 125.85 41 PKPdf **PKPdf 00 17 36.2 -1.3**
GYA0B ALIBECK ARRAY 125.85 41 PKPdf **PKPdf 00 17 36.3 -1.1**
KURK Kurchatov 126.03 17 *c i* PKIKP **PKPdf 00 17 37.1 -0.2**
KURK Kurchatov 126.03 17 PKPdf **PKPdf 00 17 35.8 -1.6**
KURBB Kurchatov Arra 126.08 17 Pdiff **Pdif 00 14 16.7 +0.4**
comp=Z,0.1nm,0.3s,baz=311,slow=50,SNR=1.5
KURBB PKP **PKPdf 00 17 36.0 -1.5**
comp=Z,26nm,0.8s,baz=326,slow=2.2,SNR=28
KURBB SKKPbc SKKPbc 00 31 04.0 -0.7
comp=Z,6.7nm,0.9s,baz=146,slow=4.3,SNR=3.9
CIT Chita 126.65 350 *e* PKIKP **PKiKP 00 17 41.0 +1.9**
CIT *e* 00 19 37.8
CIT pmax pmax
comp=Z,299nm,2.4s
SEM Semipalatinsk 126.76 16 *e* PKIKP **PKPdf 00 17 37.8 -1.3**
SEM Semipalatinsk 126.76 16 *e* PKP **PKPdf 00 17 37.8 -1.3**
baz=16
SEM LR LR 01 13 08.5
comp=Z,28μm,18.3s,baz=16
USRK Ussuriysk Ar. 127.36 331 PKP **PKiKP 00 17 40.5 -0.2**
comp=Z,26nm,1.0s,baz=55,slow=0.6,SNR=11
USRK PP **PP 00 19 38.1 -0.8**
comp=Z,8.5nm,0.9s,baz=24,slow=3.0,SNR=0.7
IRK Irkutsk 127.54 357 *e* PKIKP **PKiKP 00 17 41.1 +0.3**
IRK pmax pmax
comp=Z,454nm,2.4s
KRVT Keravat (AS076 127.89 265 Pdiff **Pdif 00 14 24.4 -0.7**
comp=Z,19nm,0.6s,baz=234,slow=12,SNR=2.2
KRVT PKP **PKPdf 00 17 40.2 -1.8**
comp=Z,21nm,0.5s,baz=63,slow=4.5,SNR=3.1
MDJ Mudanjiang 128.15 333 PKP **PKiKP 00 17 43.1 +0.9**
MDJ PP **PP 00 19 47.0 +2.8**
MDJ SS SS 00 36 59.7 +1.5
MDJ LR LR
comp=Z,70μm,17.6s
MDJ LR LR
comp=Z,84μm,23.5s
MDJ LR LR
comp=Z,170μm,19.4s
BNX BinXian 128.20 336 ⇓ PKP **PKPdf 00 17 39.4 -2.3**
BNX PP **PP 00 19 48.3 +3.9**
BNX AMB AMB
comp=Z,15μm,12.0s
BNX LR LR
comp=Z,173μm,19.0s
BNX LR LR
comp=Z,125μm,17.4s
BNX LR LR
comp=Z,323μm,18.7s
VLA Vladivostok 128.21 331 *c i* PKIKP **PKPdf 00 17 41.4 -0.3**
VLA pmax pmax
comp=Z,220nm,1.3s
MOY Mondy 128.24 359 *e* PKIKP **PKiKP 00 17 43.4 +1.1**
MOY pmax pmax
comp=Z,373nm,2.6s
MSHR Mys Shultsa 128.97 331 *c i* PKIKP **PKPdf 00 17 43.4 +0.2**
MSHR pmax pmax
comp=Z,72nm,1.2s
MJAR Matsushiro Arr 129.05 320 Pdiff **Pdif 00 14 29.4 -0.5**
comp=Z,2.4nm,0.8s,baz=193,slow=31,SNR=2.0
MJAR PKP **PKPdf 00 17 41.6 -2.0**
comp=Z,4.8nm,0.5s,baz=88,slow=3.3,SNR=4.2
MJAR PP **PP 00 19 51.6 +1.0**
comp=Z,8.4nm,0.8s,baz=26,slow=8.4,SNR=2.0
MJAR Matsushiro Arr 129.05 320 PKIKP **PKiKP 00 17 44.0 -0.3**
MJAR Matsushiro Arr 129.05 320 PKPdf **PKiKP 00 17 44.0 -0.3**
MAJO Matsushiro 129.06 320 IAMs_20 IAMs_20 01 08 56.8
comp=Z,99μm,21.0s
MZR Muzera 129.19 60 *i* P **PKiKP 00 17 46.1 +1.2**
SNR=24
BTLS Baital 129.34 24 *i* PKIKP **PKiKP 00 17 45.7 +1.1**
KK31 Karatay Array 129.35 28 *i* PKIKP **PKPdf 00 17 43.5 -0.5**
ZAK Zakamensk 129.45 357 *e* PKIKP **PKiKP 00 17 45.8 +1.0**
ZAK pmax pmax
comp=Z,198nm,1.4s
STKA Stephens Creek 129.71 227 PKP **PKPdf 00 17 42.2 -2.8**
comp=Z,28nm,0.8s,baz=76,slow=2.4,SNR=19
STKA PP **PP 00 19 54.5 -0.7**
comp=Z,18nm,1.0s,baz=114,slow=8.5,SNR=0.9
STKA SKKPbc SKKPbc 00 30 52.0 +0.6
comp=Z,17nm,1.0s,baz=301,slow=5.9,SNR=4.0
STKA Stephens Creek 129.71 227 PKIKP **PKPdf 00 17 43.3 -1.7**
STKA Stephens Creek 129.71 227 PKPdf **PKPdf 00 17 43.3 -1.7**
DZA Taraz 129.90 27 *e* PKIKP **PKPdf 00 17 43.8 -1.2**
DZA Taraz 129.90 27 *e* PKP **PKPdf 00 17 43.8 -1.2**
baz=27
JHJ Hachijo jima 2 129.97 316 PKP **PKPdf 00 17 44.8 -0.7**
comp=Z,139nm,1.0s,baz=99,slow=13,SNR=1.4
JHJ PP **PP 00 19 57.7 +0.9**
comp=Z,43nm,0.3s,baz=69,slow=18,SNR=1.7
SHME Shamm 130.27 55 P **PKPdf 00 17 46.3 +0.1**
NAZ Nazwa, Dubai 130.30 56 *i* P **PKiKP 00 17 47.4 +0.3**
SNR=7.4
FAQ Al Faqa, Dubai 130.34 57 P **PKiKP 00 17 47.1 -0.1**
SNR=14
FAQ Al Faqa, Dubai 130.34 57 *i* P **PKiKP 00 17 46.8 -0.4**
SNR=8.8
BANOM Banah 130.45 55 P **PKPdf 00 17 44.9 -1.7**
BANOM Banah 130.45 55 P **PKiKP 00 17 47.9 +0.4**
MAKZ Makanchi 130.51 16 PKIKP **PKPdf 00 17 44.1 -2.0**
MAKZ Makanchi 130.51 16 PKPdf **PKPdf 00 17 44.0 -2.0**
INU Inuyama 130.55 320 IAMs_20 IAMs_20 01 06 30.2
comp=Z,83μm,22.0s
MASF Masafi 130.56 56 P **PKPdf 00 17 47.2 +0.4**
SNR=11
MSFE Esma-Masafi 130.57 56 *i* P **PKiKP 00 17 48.7 +1.1**
SNR=10.0
CN2 Changchun 130.58 336 PKP **PKPdf 00 17 46.4 +0.1**
CN2 PP PP 00 20 09.6 +10
CN2 AMB AMB
comp=Z,3μm,10.0s
CN2 LR LR
comp=Z,84μm,24.0s
CN2 LR LR
comp=Z,43μm,24.0s
CN2 LR LR
comp=Z,94μm,23.0s
MK31 Makanchi Array 130.61 16 *c i* PKIKP **PKPdf 00 17 45.9 -0.4**
MK31 Makanchi Array 130.61 16 PKPdf **PKPdf 00 17 44.8 -1.5**
MKAR Makanchi Array 130.61 16 Pdiff **Pdif 00 14 36.5 -0.1**
comp=Z,0.5nm,0.9s,baz=279,slow=34,SNR=1.5
MKAR PKhKP PKPpre 00 17 37.8
comp=Z,3.2nm,1.0s,baz=344,slow=3.9,SNR=4.3
MKAR PKP **PKPdf 00 17 44.6 -1.7**
comp=Z,20nm,0.9s,baz=333,slow=1.4,SNR=23
MKAR PP **PP 00 19 59.8 -0.2**
comp=Z,9.5nm,0.8s,baz=328,slow=4.3,SNR=0.6
MKAR SKP 00 21 18.6
comp=Z,13nm,0.9s,baz=17,slow=7.0,SNR=1.2
MKAR Makanchi Array 130.61 16 PKIKP **PKPdf 00 17 45.0 -1.3**
MKAR Makanchi Array 130.61 16 PKPdf **PKPdf 00 17 45.0 -1.3**

HRA Herat 130.62 42 PKPdf **PKiKP 00 17 47.4 -0.3**
ZSN Zaisan 130.66 14 *e* PKIKP **PKPdf 00 17 45.4 -0.9**
ZSN Zaisan 130.66 14 *e* PKP **PKPdf 00 17 45.5 -0.9**
baz=14
CTA Charters Tower 130.67 244 PKP **PKPdf 00 17 47.1 0.0**
comp=Z,31nm,1.1s,baz=127,slow=2.2,SNR=11
CTA PP **PP 00 20 01.7 -0.4**
comp=Z,22nm,1.1s,baz=94,slow=5.1,SNR=0.8
CTA SKKPbc SKKPbc 00 30 38.5 -9.2
comp=Z,36nm,1.1s,baz=280,slow=4.6,SNR=6.1
ALNE Al Ain 130.74 57 P **PKiKP 00 17 47.8 -0.3**
SNR=22
ALNE Al Ain 130.74 57 *i* P **PKiKP 00 17 48.6 +0.5**
SNR=13
UMZA Um Al Zommool 130.75 59 P **PKiKP 00 17 48.4 +0.4**
ASHO Ashiyiah 130.75 56 P **PKiKP 00 17 47.8 -0.3**
SNR=11
ASHO Ashiyiah 130.75 56 *i* P **PKiKP 00 17 48.3 +0.2**
SNR=12
HATD Hatta, Dubai 130.76 56 P **PKiKP 00 17 47.8 -0.3**
SNR=11
HATD Hatta, Dubai 130.76 56 *i* P **PKiKP 00 17 48.3 +0.2**
SNR=11
UOSS Minazif 130.77 56 P **PKiKP 00 17 47.8 -0.2**
UOSS Minazif 130.77 56 *i* P **PKiKP 00 17 48.1 0.0**
SNR=6.9
ABTO Aybut 130.79 67 P **PKiKP 00 17 48.2 -0.1**
SNR=21
SGDS Sogindy 130.89 24 *e* PKIKP **PKPdf 00 17 45.6 -1.4**
SGDS Sogindy 130.89 24 *e* PKP **PKPdf 00 17 45.6 -1.4**
baz=24
USP Ospenovka 130.99 25 P **PKPdf 00 17 46.6 -0.5**
SNR=22
TDK Taldyqorghan 131.01 20 *e* PKIKP **PKPdf 00 17 46.5 -0.6**
TDK Taldyqorghan 131.01 20 *e* PKP **PKPdf 00 17 46.5 -0.6**
baz=20
TDK LR LR 01 13 22.5
comp=Z,62μm,20.1s,baz=20
WHFO Wadi Hawf 131.07 66 P **PKiKP 00 17 48.7 -0.2**
SNR=20
EKS2 Erkin-Say 131.17 26 P **PKPdf 00 17 47.5 -0.1**
SNR=24
JCJ Chichijima 131.19 307 PP PP 00 20 05.4 +0.4
comp=Z,140nm,1.0s,baz=146,slow=12,SNR=2.3
DOK Doka 131.19 65 P **PKiKP 00 17 49.0 0.0**
SNR=20
KUU Kurty 131.21 23 *e* PKIKP **PKPdf 00 17 45.4 -2.1**
KUU Kurty 131.21 23 *e* PKP **PKPdf 00 17 45.5 -2.1**
baz=23
KUU LR LR 01 14 02.4
comp=Z,65μm,19.8s,baz=23
CHMS Chumysh 131.31 25 P **PKiKP 00 17 51.9 +3.2**
SNR=18
CHKK Chushkaly 131.49 22 *e* PKIKP **PKPdf 00 17 46.0 -2.0**
CHKK Chushkaly 131.49 22 *e* PKP **PKPdf 00 17 46.0 -2.0**
baz=22
ARXS Arharly 131.49 21 *i* PKIKP **PKiKP 00 17 50.5 +1.4**
AAK Ala-Archa 131.50 25 P **PKPdf 00 17 48.0 -0.3**
SNR=23
AAK Ala-Archa 131.50 25 Pdiff **Pdif 00 14 40.6 -0.2**
comp=Z,0.2nm,0.3s,baz=336,slow=6.7,SNR=1.6
AAK PKP **PKPdf 00 17 47.3 -1.0**
comp=Z,13nm,1.0s,baz=255,slow=1.5,SNR=9.7
AAK PP **PP 00 20 05.6 -0.5**
comp=Z,19nm,0.9s,baz=342,slow=2.6,SNR=1.1
AAK SKP 00 21 24.9
comp=Z,132nm,1.4s,baz=254,slow=3.4,SNR=2.2
AAK SKKPbc SKKPbc 00 30 30.2 -16
comp=Z,18nm,1.0s,baz=143,slow=5.1,SNR=5.3
AAK Ala-Archa 131.50 25 *c i* PKIKP **PKPdf 00 17 48.4 +0.1**
AAK Ala-Archa 131.50 25 PKPdf **PKPdf 00 17 47.5 -0.7**
AAK Ala-Archa 131.50 25 IAMs_20 IAMs_20 01 19 01.2
comp=Z,119μm,21.0s
AAK Ala-Archa 131.50 25 P **PKPdf 00 17 47.8 -0.4**
AAK Ala-Archa 131.50 25 *i* P **PKPdf 00 17 47.9 -0.4**
SNR=38
AML Almayashu 131.57 26 P **PKiKP 00 17 51.3 +1.6**
SNR=13
AML Almayashu 131.57 26 *i* P **PKiKP 00 17 50.7 +1.0**
SNR=36
RBK Rabkut 131.58 66 P **PKiKP 00 17 49.7 -0.2**
SNR=13
ULN Ulaanbaatar 131.66 354 *c i* PKIKP **PKPdf 00 17 47.6 -0.8**
ULN pmax pmax
comp=Z,101nm,2.5s
ULN Ulaanbaatar 131.66 354 PKPdf **PKPdf 00 17 46.7 -1.7**
ARQ Araqi 131.67 58 P **PKiKP 00 17 49.7 -0.2**
SNR=14
KBK Karagaybulak 131.68 25 P **PKPdf 00 17 47.4 -1.2**
SNR=17
TKM2 Tokmak 2 131.73 24 P **PKiKP 00 17 52.8 +3.0**
SNR=17
TKM2 Tokmak 2 131.73 24 PKIKP **PKPdf 00 17 48.6 -0.2**
SONM Songino Array 131.76 354 PKhKP PKPpre 00 17 42.4
comp=Z,3.0nm,0.5s,baz=2.3,slow=2.3,SNR=6.1
SONM PKP **PKPdf 00 17 48.9 +0.4**
comp=Z,26nm,1.1s,baz=325,slow=1.1,SNR=15
SONM PP **PP 00 20 07.5 +0.2**
comp=Z,15nm,0.9s,baz=349,slow=4.4,SNR=1.4
SONM SKKPbc SKKPbc 00 30 29.8 -15
comp=Z,17nm,1.2s,baz=201,slow=3.9,SNR=3.9
SONM Songino Array 131.76 354 PKIKP **PKPdf 00 17 48.5 -0.1**
SONM Songino Array 131.76 354 PKPdf **PKPdf 00 17 48.5 -0.1**
UCH Uchtor 131.84 25 P **PKiKP 00 17 54.0 +3.6**
SNR=26
AAA Alma-Ata 132.01 23 *e* PKIKP **PKPdf 00 17 47.3 -1.8**
AAA Alma-Ata 132.01 23 *e* PKP **PKPdf 00 17 47.3 -1.8**
baz=23
AAA LR LR 01 14 24.5
comp=Z,70μm,19.5s,baz=23
MDOK Medeo 132.10 23 *e* PKIKP **PKPdf 00 17 47.4 -2.0**
MDOK Medeo 132.10 23 *e* PKP **PKPdf 00 17 47.4 -2.0**
baz=23
MDOK LR LR 01 14 30.5
comp=Z,44μm,18.3s,baz=23
TNSS Tian-Shan 132.16 23 *e* PKIKP **PKPdf 00 17 48.3 -1.5**
TNSS Tian-Shan 132.16 23 *e* PKP **PKPdf 00 17 48.4 -1.5**
baz=23
DMTO DMTO 132.20 66 P **PKiKP 00 17 53.0 +1.9**
SNR=20
PMG Port Moresby 132.22 258 PKP **PKPdf 00 17 48.3 -1.8**
comp=Z,4.2nm,0.5s,baz=314,slow=24,SNR=1.5
PMG PP **PP 00 20 12.5 +0.1**
comp=Z,23nm,0.9s,baz=116,slow=8.0,SNR=1.3
PMG Port Moresby 132.22 258 IAMs_20 IAMs_20 01 07 17.9
comp=Z,116μm,20.0s
PMG Port Moresby 132.22 258 P **PKiKP 00 17 54.0 +2.8**
BOOM Boomskoye usch 132.22 24 PKIKP **PKPdf 00 17 48.0 -1.7**
BOOM Boomskoye usch 132.22 24 PKPdf **PKPdf 00 17 48.0 -1.7**
HOQ Hoqain 132.24 57 P **PKiKP 00 17 52.4 +1.4**
SNR=6.0
GAR Garm 132.36 31 **PKPdf 00 17 49.9 -0.1**
BSY Bisya 132.48 58 P **PKPdf 00 17 50.8 +0.3**
SNR=15
ULHL Ulahol 132.55 24 P **PKPdf 00 17 49.9 -0.4**
SNR=24
ZHN Zhinishke 132.61 21 *e* PKIKP **PKPdf 00 17 49.7 -0.6**
ZHN Zhinishke 132.61 21 *e* PKP **PKPdf 00 17 49.7 -0.6**
baz=22
SOCY Socotra 132.67 73 P **PKiKP 00 17 51.9 -0.4**
SNR=45
SATY Saty 132.70 22 *e* PKIKP **PKPdf 00 17 49.2 -1.3**
SATY Saty 132.70 22 *e* PKP **PKPdf 00 17 49.2 -1.3**
baz=22
SHAO Shalim 132.72 65 *i* P **PKiKP 00 17 52.8 +0.6**
SNR=11
DRK Karamyk 132.76 30 **PKPdf 00 17 49.5 -1.4**
HHU Hamhung 132.76 331 PKPbc **PKPdf 00 17 47.9 -2.6**
HHU PP **PP 00 20 16.2 +2.0**
HHU AmB
comp=Z,61nm,0.8s
HHU AMS AMS
comp=N,1μm,5.1s
HHU AMS AMS
comp=E,376nm,1.7s
HHU AMS AMS
comp=Z,464nm,2.1s
UZB Uzynbulak 132.84 21 *e* PKIKP **PKPdf 00 17 49.3 -1.5**
UZB Uzynbulak 132.84 21 *e* PKP **PKPdf 00 17 49.3 -1.5**
baz=21
BIDO Bidbid 132.95 57 P **PKiKP 00 17 52.2 -0.3**
SNR=13
SNY Shenyang 132.99 336 ⇑ PKP **PKiKP 00 17 54.7 +2.7**
SNY AMB AMB
comp=Z,36μm,17.0s
SNY LR LR
comp=Z,51μm,18.7s

SNY LR LR
comp=Z,54μm,17.0s
SNY LR LR
comp=Z,151μm,20.4s
SHLS Shalkode 132.99 21 *e* PKIKP **PKPdf 00 17 50.4 -0.6**
SHLS Shalkode 132.99 21 *e* PKP **PKPdf 00 17 50.4 -0.6**
baz=20
KDJ Kajisay 133.03 23 PKIKP **PKPdf 00 17 50.2 -1.0**
KDJ Kajisay 133.03 23 PKPdf **PKPdf 00 17 50.2 -1.0**
SMDO Samad 133.07 57 P **PKiKP 00 17 52.7 -0.1**
SNR=31
JMDO Jabal Madar 133.39 58 P **PKPdf 00 17 52.8 +0.6**
SNR=5.1
GUMO Guam 133.49 289 PKP **PKPdf 00 17 50.9 -1.6**
comp=Z,24nm,0.4s,baz=150,slow=16,SNR=1.1
GUMO PP **PP 00 20 20.2 -0.2**
comp=Z,95nm,1.0s,baz=82,slow=14,SNR=1.6
GUMO Guam 133.49 289 IAMs_20 IAMs_20 01 25 33.0
comp=Z,66μm,20.0s
WSAR Wadi Sarin 133.49 57 PKP **PKPdf 00 17 52.5 +0.2**
comp=Z,39nm,0.9s,baz=265,slow=3.3,SNR=14
WSAR PP **PP 00 20 17.9 -2.1**
comp=Z,63nm,1.2s,baz=48,slow=10,SNR=1.9
WSAR SKKPbc SKKPbc 00 30 38.0 +0.5
comp=Z,22nm,1.2s,baz=174,slow=8.9,SNR=3.7
WSAR Wadi Sarin 133.49 57 P **PKiKP 00 17 54.5 +0.9**
SNR=12
XLT XiLinHaoTe 133.73 344⇑ *i* PKP **PKiKP 00 17 53.1 -0.5**
XLT PKS 00 21 25.8
XLT SKS **SKSdf 00 25 02.0 -2.1**
XLT AMB AMB
comp=Z,8μm,8.4s
XLT LR LR
comp=Z,6μm,23.2s
XLT LR LR
comp=Z,41μm,19.8s
XLT LR LR
comp=Z,113μm,24.9s
MHTO MHTO 133.80 60 P **PKiKP 00 17 54.9 +0.7**
SNR=11
DQM DQM 133.81 62 P **PKiKP 00 17 54.5 +0.2**
SUJ Sinuiju 134.02 334 PKPbc **PKiKP 00 17 53.8 -0.4**
WBK Wadi Bani Khal 134.03 58 P **PKiKP 00 17 55.1 +0.4**
SNR=15
PYAG Pyongyang 134.29 332 PKPbc **PKiKP 00 17 55.0 +0.3**
PYAG PP **PP 00 20 29.6 +5.7**
PYAG AMS AMS
comp=N,1μm,3.6s
PYAG AMS AMS
comp=E,774nm,2.7s
PYAG AMS AMS
comp=Z,704nm,2.4s
KS19 Wonju Array Si 134.45 329 **PKPdf 00 17 52.5 -1.3**
KSRS Korea Array 134.45 329 PKhKP PKPpre 00 17 46.4
comp=Z,9.9nm,0.9s,baz=22,slow=1.9,SNR=13
KSRS SKKP 00 31 17.5
comp=Z,4.9nm,1.1s,baz=234,slow=7.4,SNR=2.6
KSAR Wonju Array Be 134.48 329 PKIKP **PKPdf 00 17 52.8 -1.0**
KSAR Wonju Array Be 134.48 329 PKPdf **PKPdf 00 17 52.8 -1.0**
JLN Jalan Bani Buh 134.59 58 P **PKiKP 00 17 56.6 +0.8**
SNR=17
KSH Kashi 134.70 26 PKP **PKPdf 00 17 48.3 -6.0**
KSH PP **PP 00 20 34.3 +7.7**
KSH AMB AMB
comp=Z,29μm,11.4s
KSH LR LR
comp=Z,45μm,23.2s
KSH LR LR
comp=Z,122μm,20.0s
KSH LR LR
comp=Z,144μm,29.8s
WMQ Urumqi 134.73 13 PKP **PKPdf 00 17 54.5 +0.3**
WMQ PP **PP 00 20 29.5 +3.1**
WMQ PKS **PKSdf 00 21 28.3 -2.2**
WMQ SS SS 00 38 18.1 0.0
WMQ AMB AMB
comp=Z,16μm,11.6s
WMQ LR LR
comp=Z,59μm,13.9s
WMQ LR LR
comp=Z,66μm,25.7s
WMQ LR LR
comp=Z,56μm,21.7s
KBL Kabul 134.83 37 P **PKPdf 00 17 55.4 +0.5**
SNR=20
INCN Inchon 135.09 330 IAMs_20 IAMs_20 01 26 32.4
comp=Z,133μm,22.0s
COEN Coen 135.18 250 PKPdf **PKPdf 00 17 53.9 -1.8**
MSEY Mahe Island 135.30 96 P **PKiKP 00 17 57.4 -0.2**
JNU Nakatsue 135.87 322 PKP **PKPdf 00 17 56.3 -0.3**
comp=Z,15nm,0.6s,baz=213,slow=6.9,SNR=0.2
BJI Beijing 137.25 342 PKP **PKiKP 00 17 59.9 -0.8**
BJI sPKP 00 18 05.7
BJI PP **PP 00 20 43.9 +1.7**
BJI PKS **PKSdf 00 21 37.6 +2.6**
BJI SKS **SKSdf 00 25 10.6 +0.5**
BJI SS **SS 00 38 45.6 -2.6**
BJI AMB AMB
comp=Z,9μm,10.1s
BJI LR LR
comp=Z,93μm,19.1s
BJI LR LR
comp=Z,54μm,20.8s
BJI LR LR
comp=Z,153μm,19.3s
BJT Baijiatuau 137.27 342 PKIKP **PKPdf 00 17 56.9 -2.0**
BJT Baijiatuau 137.27 342 **PKPdf 00 17 56.9 -2.0**
HHC Hu-ho-hao-te 137.74 347 *e* PKP **PKPdf 00 17 54.4 -5.5**
HHC PP **PP 00 20 45.6 +0.3**
HHC PKS 00 21 33.0
HHC SS SS 00 38 52.8 -1.3
HHC AMB AMB
comp=Z,13μm,9.6s
HHC LR LR
comp=Z,81μm,23.9s
HHC LR LR
comp=Z,48μm,21.6s
HHC LR LR
comp=Z,120μm,23.1s
NIL Nilore 137.91 34 PKIKP **PKPdf 00 17 58.4 -2.0**
NIL Nilore 137.91 34 **PKPdf 00 17 58.4 -2.0**
NIL Nilore 137.91 34 IAMs_20 IAMs_20 01 25 38.7
comp=Z,79μm,21.0s
BTO Baotou 138.30 349 *e* PKP **PKPdf 00 18 01.9 +0.9**
BTO LR LR
comp=Z,474μm,23.0s
FORT Forrest 139.65 219 PKPdf **PKPdf 00 18 01.7 -1.9**
AS31 Alice Springs 139.73 232 PKPdf **PKPdf 00 18 03.0 -1.0**
ASAR Alice Springs 139.73 232 PKhKP PKPpre 00 17 55.9
comp=Z,3.3nm,0.5s,baz=126,slow=3.8,SNR=21
ASAR PKP **PKPdf 00 18 02.7 -1.3**
comp=Z,19nm,0.7s,baz=122,slow=3.4,SNR=32
ASAR PP **PP 00 20 59.9 +0.9**
comp=Z,41nm,1.1s,baz=123,slow=3.4,SNR=1.4
ASAR SKPbc **SKPbc 00 21 34.2 -5.9**
comp=Z,25nm,0.9s,baz=95,slow=3.3,SNR=2.1
ASAR Alice Springs 139.73 232 PKIKP **PKPdf 00 18 02.6 -1.4**
ASAR Alice Springs 139.73 232 PKPdf **PKPdf 00 18 02.6 -1.4**
THN Thein Dam 140.19 33 *e* P **PKPdf 00 18 03.2 -1.3**
TIA Tai'an 140.36 338 PKP **PKPdf 00 18 01.6 -3.1**
TIA PP **PP 00 21 08.5 +6.9**
TIA LR LR
comp=Z,77μm,20.6s
TIA LR LR
comp=Z,73μm,21.6s
TIA LR LR
comp=Z,167μm,18.6s
GTA Gaotai 140.50 0 PKP **PKPdf 00 17 57.9 -7.2**
GTA sPKP 00 18 11.8
GTA PP **PP 00 21 04.6 +2.3**
GTA AMB AMB
comp=Z,12μm,12.3s
GTA LR LR
comp=Z,66μm,24.3s
GTA LR LR
comp=Z,67μm,22.3s
GTA LR LR
comp=Z,121μm,23.5s
WR0 Warramunga Arr 140.95 238 PKPdf **PKPdf 00 18 03.8 -2.4**
WB2 Warramunga Arr 141.12 238 PKPdf **PKPdf 00 18 05.1 -1.4**
WRAB Tennant Creek 141.13 238 PKIKP **PKPdf 00 18 04.4 -2.1**
WRAB Tennant Creek 141.13 238 **PKPdf 00 18 04.4 -2.1**
WRA Warramunga Arr 141.13 238 PKhKP PKPpre 00 17 57.5
comp=Z,9.3nm,0.8s,baz=114,slow=2.9,SNR=42
WRA PKP **PKPdf 00 18 04.4 -2.2**
comp=Z,18nm,0.6s,baz=120,slow=2.3,SNR=62

WRA				SKP		00 21 38.0		
	comp=Z,41nm,1.1s,baz=112,slow=3.7,SNR=5.8							
WRA	**Warramunga Arr**	**141.13**	**238**	PKIKP	**PKPdf**	**00 18 05.5**	**-1.1**	
WRA	**Warramunga Arr**	**141.13**	**238**		**PKPdf**	**00 18 05.5**	**-1.1**	
WB0	**Warramunga Arr**	**141.16**	**238**	PKPdf	**PKPdf**	**00 18 05.1**	**-1.5**	
BHK	**Bhakra**	**141.35**	**33**	*eP*	**PKiKP**	**00 18 10.8**	**+1.4**	
BHK				*eS*	SKPbc	00 21 25.3	-19	
JOW	**Kunigami**	**141.71**	**317**	PKP	**PKPdf**	**00 18 04.0**	**-3.4**	
	comp=Z,21nm,0.7s,baz=135,slow=23,SNR=1.9							
H01W1	**Cape Leeuwin H**	**143.12**	**200**	PKP	**PKPdf**	**00 18 08.5**	**-0.9**	
	baz=158,slow=4.7,SNR=8.8							
H01W2	**Cape Leeuwin H**	**143.12**	**200**	PKP	**PKPdf**	**00 18 08.4**	**-0.9**	
	baz=158,slow=4.7,SNR=8.7							
H01W3	**Cape Leeuwin H**	**143.13**	**200**	PKP	**PKPdf**	**00 18 08.5**	**-0.9**	
	baz=158,slow=4.7,SNR=6.0							
NJ2	**Nanjing**	**143.24**	**333** ⇑*i*	PKP	PKPab	00 18 03.8	-1.8	
NJ2				pPKP	**PKPdf**	**00 18 10.5**	**+0.6**	
NJ2				sPKP		00 18 14.7		
NJ2				PKS	**PKSdf**	**00 21 46.0**	**+0.3**	
NJ2				SKS	**SKSdf**	**00 25 13.4**	**-6.8**	
NJ2				SS	**SS**	**00 40 00.8**	**+1.9**	
NJ2				AMB	AMB			
	comp=Z,28μm,8.0s							
NJ2				LR	LR			
	comp=Z,123μm,24.5s							
NJ2				LR	LR			
	comp=Z,123μm,24.5s							
NJ2				LR	LR			
	comp=Z,149μm,19.6s							
GOMU	**GeErMu**	**143.39**	**7**	PKP	**PKPdf**	**00 18 09.6**	**-1.0**	
GOMU				pPKP	PKiKP	00 18 14.1	+0.2	
GOMU				sPKP		00 18 17.6		
GOMU				PP	**PP**	**00 21 22.8**	**+2.7**	
GOMU				SKS	**SKSdf**	**00 25 18.5**	**-2.7**	
GOMU				SKKS	**SKKSac**	**00 28 13.3**	**-2.0**	
GOMU				SS	**SS**	**00 40 00.4**	**+2.8**	
GOMU				AMB	AMB			
	comp=Z,14μm,9.8s							
GOMU				LR	LR			
	comp=Z,93μm,22.6s							
GOMU				LR	LR			
	comp=Z,36μm,21.8s							
GOMU				LR	LR			
	comp=Z,122μm,24.3s							
LYN	**LuoYang**	**143.44**	**343** ⇑*i*	PKP	PKPab	00 18 06.6	+0.2	
LYN				pPKP	sPKPdf	00 18 17.2	+2.9	
LYN				PP	**PP**	**00 21 21.8**	**+1.6**	
LYN				AMB	AMB			
	comp=Z,24μm,10.0s							
LYN				LR	LR			
	comp=Z,141μm,24.1s							
LYN				LR	LR			
	comp=Z,76μm,20.6s							
LYN				LR	LR			
	comp=Z,136μm,22.0s							
LZH	**Lanzhou**	**143.64**	**355** ⇓	PKP	PKPab	00 18 06.4	-0.9	
LZH				pPKP	sPKPdf	00 18 15.4	+0.6	
LZH				PP	**PP**	**00 21 22.0**	**+0.6**	
LZH				SKKS		00 28 08.3		
LZH				AMB	AMB			
	comp=Z,12μm,5.4s							
LZH				LR	LR			
	comp=Z,86μm,20.6s							
LZH				LR	LR			
	comp=Z,71μm,20.1s							
LZH				LR	LR			
	comp=Z,125μm,22.2s							
NWAO	**Narrogin (SRO)**	**143.70**	**205**	PKIKP	PKPbc	00 18 08.9	+0.7	
NWAO	**Narrogin (SRO)**	**143.70**	**205**		PKPbc	00 18 08.9	+0.7	
KUDL	**Kundal**	**143.84**	**37**	*eP*	**PKPdf**	**00 18 09.9**	**-1.2**	
AJM	**Ajmer**	**143.87**	**41**	*eP*	PKPbc	00 18 10.0	+1.0	
NDI	**New Delhi**	**143.87**	**35**	*eP*	**PKPdf**	**00 18 10.3**	**-0.9**	
SONA	**Sohna**	**144.12**	**36**	*eP*	**PKPdf**	**00 18 11.8**	**+0.2**	
MTN	**Manton Dam**	**146.72**	**247**	PKPdf	**PKPdf**	**00 18 14.4**	**-2.0**	
JHNI	**Jhansi**	**147.05**	**37**	*eP*	**PKPdf**	**00 18 17.4**	**+0.6**	
TATO	**Taipei**	**147.41**	**322**	IAMs_20	IAMs_20	01 36 35.4		
	comp=Z,93μm,22.0s							
TATO	**Taipei**	**147.41**	**322**	P	**PKPbc**	**00 18 18.9**	**-0.8**	
MORW	**Morawa**	**147.54**	**207**		**PKPdf**	**00 18 18.4**	**+1.0**	
YHNB	**Yeheng**	**147.70**	**322**	IAMs_20	IAMs_20	01 20 17.3		
	comp=Z,93μm,22.0s							
KNRA	**Kununurra**	**147.76**	**240**		**PKPdf**	**00 18 19.1**	**+1.0**	
BHPL	**Bhopal**	**147.92**	**42**	*eP*	**PKPdf**	**00 18 19.6**	**+1.3**	
NACB	**Ninganchiao**	**147.92**	**321**	PKPdf	**PKPdf**	**00 18 17.2**	**-1.0**	
NACB				IAMs_20	IAMs_20	01 31 53.4		
	comp=Z,80μm,22.0s							
POO	**Poona**	**148.21**	**53**	*eP*	**PKiKP**	**00 18 24.0**	**+0.1**	
POO	**Poona**	**148.21**	**53** ⇑*i*	*iP*	**PKPdf**	**00 18 17.0**	**-1.9**	
	comp=Z,650nm,1.6s							
ENH	**Enshi**	**148.31**	**344**		**PKPdf**	**00 18 16.8**	**-2.0**	
ENH				PKPbc	**pPKPdf**	**00 18 21.0**	**-0.7**	
SSLB	**Suanglung**	**148.61**	**321**		**PKPbc**	**00 18 21.3**	**-1.7**	
SSLB				IAMs_20	IAMs_20	01 15 07.4		
	comp=Z,107μm,22.0s							
YULB	**Yu-li**	**148.67**	**320**		**PKPbc**	**00 18 21.9**	**-1.3**	
YULB				IAMs_20	IAMs_20	01 14 20.3		
	comp=Z,78μm,22.0s							
SIJI	**Sorong**	**148.75**	**269**	PKPbc	**PKPdf**	**00 18 21.3**	**+1.4**	
	comp=Z,37nm,0.7s,baz=35,slow=7.2,SNR=14							
CD2	**Chengdu**	**148.78**	**354**	PKPbc	**PKPdf**	**00 18 18.1**	**-1.4**	
CD2				pPKP	PKiKP	00 18 25.4	+0.7	
CD2				PP	PP	00 21 59.9	+8.2	
CD2				SS	SS	00 41 03.8	+2.6	
CD2				AMB	AMB			
	comp=Z,16μm,10.3s							
CD2				LR	LR			
	comp=Z,7μm,21.6s							
CD2				LR	LR			
	comp=Z,57μm,21.6s							
CD2				LR	LR			
	comp=Z,82μm,23.8s							
LSA	**Lhasa**	**149.01**	**15**	PKIKP	**PKPdf**	**00 18 19.2**	**-1.2**	
LSA	**Lhasa**	**149.01**	**15**		**PKPdf**	**00 18 19.2**	**-1.2**	
LSA	**Lhasa**	**149.01**	**15**	P	**PKPdf**	**00 18 22.1**	**+1.7**	
ALBI	**Allahabad**	**149.06**	**33**	*eP*	**PKPdf**	**00 18 21.9**	**+1.9**	
CNSH	**ChangSha**	**149.11**	**337** ⇑	PKPbc	**PKPdf**	**00 18 21.5**	**+1.5**	
CNSH				LR	LR			
	comp=Z,70μm,19.7s							
CNSH				LR	LR			
	comp=Z,74μm,19.6s							
CNSH				LR	LR			
	comp=Z,134μm,18.4s							
KAD	**Karad**	**149.14**	**54**	*eP*	**PKPbc**	**00 18 23.6**	**-1.0**	
QZH	**Quanzhou**	**149.15**	**326** ⇑*i*	PKPbc	**PKPdf**	**00 18 20.7**	**+0.6**	
QZH				PKPab	**sPKPab**	**00 18 32.8**	**+0.3**	
QZH				PP	**PP**	**00 21 57.2**	**+2.7**	
QZH				LR	LR			
	comp=Z,83μm,20.8s							
QZH				LR	LR			
	comp=Z,65μm,19.8s							
QZH				LR	LR			
	comp=Z,111μm,20.3s							
TPUB	**Ta-pu**	**149.16**	**321**		**PKPdf**	**00 18 20.7**	**+0.4**	
TPUB				IAMs_20	IAMs_20	01 39 26.2		
	comp=Z,86μm,20.0s							
FITZ	**Fitzroy Crossi**	**149.21**	**233**	PKPbc	**PKPdf**	**00 18 21.8**	**+1.4**	
	comp=Z,47nm,0.9s,baz=161,slow=1.7,SNR=35							
FITZ	**Fitzroy Crossi**	**149.21**	**233**		**PKPbc**	**00 18 22.6**	**-2.0**	
TWG	**Pinlang**	**149.22**	**320**		**PKPdf**	**00 18 19.6**	**-0.7**	
TWG				IAMs_20	IAMs_20	01 34 01.9		
	comp=Z,88μm,21.0s							
AKL	**Akola**	**149.32**	**46**	*eP*	**PKPbc**	**00 18 23.8**	**-1.1**	
KNMB	**Chin-men Tao**	**149.63**	**325**		**PKPbc**	**00 18 23.7**	**-1.9**	
KNMB				IAMs_20	IAMs_20	01 32 06.9		
	comp=Z,103μm,21.0s							
GTK	**Tadong**	**150.45**	**21**	*eP*	**PKPbc**	**00 18 26.0**	**-1.7**	
GTK				IAmb	IAmb	00 18 47.6		
	comp=Z,2μm,1.3s							
PSA00	**Pilbara Seismi**	**151.32**	**221**		**PKPdf**	**00 18 26.4**	**+2.7**	
PSA00	**Pilbara Seismi**	**151.32**	**221**	PKPdf	**PKPdf**	**00 18 21.8**	**-1.9**	
H08S1	**Diego Garcia H**	**151.59**	**106**	PKPbc	**PKPbc**	**00 18 27.3**	**-2.8**	
	baz=329,slow=6.6,SNR=54							
H08S3	**Diego Garcia H**	**151.60**	**106**	PKPbc	**PKPbc**	**00 18 27.4**	**-2.8**	
	baz=329,slow=6.6,SNR=52							
H08S2	**Diego Garcia H**	**151.60**	**106**	PKPbc	**PKPbc**	**00 18 27.3**	**-2.8**	
	baz=329,slow=6.6,SNR=53							
BLSP	**Bilaspur**	**151.71**	**37**	*eP*	**PKPdf**	**00 18 26.5**	**+2.2**	
MNCY	**Minicoy**	**151.80**	**72**	*eP*	PKPab	00 18 48.1	+8.2	
ITAN	**ITANAGAR**	**152.07**	**12**	*eP*	**PKPbc**	**00 18 28.7**	**-2.5**	
ITAN				IAmb	IAmb	00 19 08.7		
	comp=Z,2μm,1.3s							
LKP	**Lekhapani**	**152.25**	**8**	*eP*	**PKPdf**	**00 18 27.3**	**+2.3**	
LKP				IAmb	IAmb	00 18 59.0		
	comp=Z,999nm,1.0s							
TEZP	**TEZPUR**	**152.37**	**14**	*eP*	**PKPdf**	**00 18 24.4**	**-0.7**	
TEZP				IAmb	IAmb	00 19 25.0		
	comp=Z,1μm,1.6s							
HYB	**Hyderabad**	**152.51**	**49**	*eP*	**PKPdf**	**00 18 28.1**	**+2.5**	
JORH	**JORHAT**	**152.57**	**11**	*eP*	**PKPbc**	**00 18 29.4**	**-3.0**	
JORH				IAmb	IAmb	00 19 01.0		
	comp=Z,6μm,1.9s							
TNTI	**Ternate**	**152.63**	**272**	IAMs_20	IAMs_20	01 14 16.8		
	comp=Z,70μm,22.0s							
GYA	**Guiyang**	**152.66**	**347** ⇑	PKPbc	**PKPdf**	**00 18 26.9**	**+1.2**	
GYA				PKPab	**PKPab**	**00 18 41.6**	**-1.5**	
GYA				PP	PP	00 22 22.1	+7.9	
GYA				AMB	AMB			
	comp=Z,21μm,12.8s							
GYA				LR	LR			
	comp=Z,50μm,21.7s							
GYA				LR	LR			
	comp=Z,50μm,23.8s							
GYA				LR	LR			
	comp=Z,109μm,28.5s							
TURI	**Tura**	**152.67**	**19**	*eP*	**PKPdf**	**00 18 28.3**	**+2.7**	
TURI				IAmb	IAmb	00 19 07.3		
	comp=Z,1μm,1.4s							
GULI	**GuiLin**	**152.68**	**339**	PKPbc	**PKPdf**	**00 18 28.7**	**+3.1**	
GULI				SS	SS	00 41 42.2	-2.7	
GULI				LR	LR			
	comp=Z,74μm,18.7s							
GULI				LR	LR			
	comp=Z,44μm,20.8s							
GULI				LR	LR			
	comp=Z,115μm,23.8s							
KAAM	**Kaadhehdhoo**	**152.97**	**88**		**PKPdf**	**00 18 29.8**	**+3.4**	
KAAM	**Kaadhehdhoo**	**152.97**	**88**	P	**PKPdf**	**00 18 28.3**	**+2.0**	
	SNR=5.9							
MOKO	**MOKOCHONG**	**153.03**	**11**	*eP*	**PKPdf**	**00 18 28.8**	**+2.5**	
MOKO				IAmb	IAmb	00 19 11.1		
	comp=Z,1μm,0.9s							
SHL	**Shillong**	**153.13**	**16**	PKIKP	**PKPdf**	**00 18 24.1**	**-2.4**	
SHL	**Shillong**	**153.13**	**16**	PKPdf	**PKPdf**	**00 18 24.1**	**-2.4**	
SHL	**Shillong**	**153.13**	**16**	P	**PKPdf**	**00 18 27.7**	**+1.2**	
	SNR=199							
PZH	**PanZhiHua**	**153.32**	**357**	PKPbc	**PKPdf**	**00 18 24.7**	**-2.0**	
PZH				PKPab	**PKPab**	**00 18 45.0**	**-0.9**	
PZH				PP	**PP**	**00 22 21.3**	**+3.5**	
PZH				SKKS		00 29 08.9		
PZH				SS	**SS**	**00 41 48.6**	**-3.1**	
PZH				AMB	AMB			
	comp=Z,14μm,11.8s							
PZH				LR	LR			
	comp=Z,89μm,26.5s							
PZH				LR	LR			
	comp=Z,104μm,25.7s							
PZH				LR	LR			
	comp=Z,99μm,23.5s							
GZH	**Guangzhou**	**153.40**	**332**	PKPbc	**PKPdf**	**00 18 27.1**	**+0.4**	
GZH				LR	LR			
	comp=Z,93μm,24.9s							
GZH				LR	LR			
	comp=Z,91μm,23.5s							
DAV	**Davao City (W)**	**153.47**	**286**	PKP	**PKPdf**	**00 18 27.2**	**+0.2**	
	comp=Z,76nm,0.3s,baz=195,slow=8.0,SNR=1.5							
KOHI	**KOHIMA**	**153.53**	**12**	*eP*	**PKPdf**	**00 18 29.2**	**+2.2**	
KOHI				IAmb	IAmb	00 19 13.9		
	comp=Z,1μm,1.0s							
PCHI	**Peechi**	**154.13**	**65** ⇑	*eP*	**PKPdf**	**00 18 28.9**	**+0.9**	
SILR	**SILCHAR**	**154.13**	**15**	*eP*	**PKPdf**	**00 18 30.2**	**+2.6**	
BATI	**Baumata**	**154.50**	**246**	PKP	**PKPdf**	**00 18 28.9**	**+0.4**	
	comp=Z,17nm,0.6s,baz=45,slow=3.4,SNR=7.0							
AGT	**Agartala**	**154.52**	**19**	*eP*	**PKPbc**	**00 18 32.5**	**-4.2**	
AGT				IAmb	IAmb	00 19 14.7		
	comp=Z,1μm,1.3s							
KMI	**Kunming**	**154.61**	**354** ⇑	PKPbc	**PKPdf**	**00 18 29.6**	**+0.9**	
KMI				PKPab	**sPKPab**	**00 18 56.7**	**+1.2**	
KMI				PP	**PP**	**00 22 31.4**	**+6.2**	
KMI				SKKS		00 29 14.9		
KMI				LR	LR			
	comp=Z,152μm,24.1s							
KMI				LR	LR			
	comp=Z,144μm,22.6s							
KMI				LR	LR			
	comp=Z,209μm,24.9s							
RAGD	**RAYAGADA**	**154.69**	**39**	*eP*	**PKPdf**	**00 18 31.4**	**+2.8**	
TGY	**Tagaytay City**	**154.84**	**305**	PKP	**PKPdf**	**00 18 28.3**	**-0.7**	
	comp=Z,82nm,0.3s,baz=325,slow=21,SNR=1.3							
BELO	**BELONIA**	**155.17**	**19**	*eP*	**PKPdf**	**00 18 32.5**	**+3.4**	
KOD	**Kodaikanal**	**155.26**	**64**	*eP*	**PKPdf**	**00 18 32.3**	**+2.4**	
BWNR	**Bhubaneshwar**	**155.27**	**33**	*eP*	**PKPdf**	**00 18 31.3**	**+1.9**	
SALM	**Salem**	**155.30**	**61**	*eP*	**PKPdf**	**00 18 30.8**	**+1.2**	
TRD	**Trivandrum**	**155.42**	**69**	*eP*	**PKPdf**	**00 18 31.7**	**+1.9**	
MDRS	**Chennai**	**156.33**	**55**	*eP*	**PKPdf**	**00 18 33.4**	**+2.5**	
QIZ	**Qiongzhong**	**158.52**	**334**	PKP	**PKPdf**	**00 18 35.0**	**+1.4**	
QIZ				PP	**PP**	**00 22 48.2**	**+1.1**	
QIZ				SS	SS	00 42 52.2	+3.8	
QIZ				AMB	AMB			
	comp=Z,37μm,17.5s							
QIZ				LR	LR			
	comp=Z,120μm,17.5s							
QIZ				LR	LR			
	comp=Z,141μm,21.6s							
QIZ				LR	LR			
	comp=Z,207μm,22.2s							
PALK	**Pallekele**	**159.33**	**68**	PKP	**PKPdf**	**00 18 34.0**	**-0.7**	
	comp=Z,27nm,1.1s,baz=338,slow=2.9							
PALK				PP	**PP**	**00 22 54.2**	**+0.9**	
	comp=Z,34nm,1.2s,baz=313,slow=5.4,SNR=2.1							
PALK	**Pallekele**	**159.33**	**68**	P	**PKPdf**	**00 18 35.0**	**+0.3**	
KAPI	**Kappang**	**159.74**	**256**	PKP	**PKPdf**	**00 18 34.8**	**-0.4**	
	comp=Z,14nm,1.0s,baz=182,slow=0.5,SNR=11							
KAPI				PP	**PP**	**00 22 57.6**	**+1.9**	
	comp=Z,9.9nm,0.8s,baz=100,slow=6.7,SNR=1.2							
KAPI	**Kappang**	**159.74**	**256**	PKIKP	**PKPdf**	**00 18 34.6**	**-0.6**	
KAPI	**Kappang**	**159.74**	**256**	PKPdf	**PKPdf**	**00 18 34.6**	**-0.6**	
CHTO	**Chiang Mai**	**161.00**	**3**	PKIKP	**PKPdf**	**00 18 34.6**	**-1.8**	
CHTO	**Chiang Mai**	**161.00**	**3**	PKPdf	**PKPdf**	**00 18 34.6**	**-1.8**	
CHTO	**Chiang Mai**	**161.00**	**3**	P	**PKPdf**	**00 18 37.8**	**+1.3**	
CM31	**Chiang Mai Arr**	**161.35**	**3**	P	**PKPdf**	**00 18 38.5**	**+1.7**	
	SNR=111							
CMAR	**Chiang Mai Arr**	**161.35**	**3**	PKP	**PKPdf**	**00 18 35.6**	**-1.2**	
	comp=Z,14nm,0.9s,baz=298,slow=1.9,SNR=46							
CMAR				PKPab	**PKPab**	**00 19 20.6**	**+0.1**	
	comp=Z,65nm,0.8s,baz=345,slow=5.7,SNR=11							
CMAR				PP	**PP**	**00 23 01.6**	**-0.3**	
	comp=Z,15nm,1.0s,baz=333,slow=2.9,SNR=2.0							
CMAR	**Chiang Mai Arr**	**161.35**	**3**	PKIKP	**PKPdf**	**00 18 35.1**	**-1.7**	
CMAR	**Chiang Mai Arr**	**161.35**	**3**	PKPdf	**PKPdf**	**00 18 35.1**	**-1.7**	
DGPR	**DIGLIPUR**	**164.90**	**27**	*eP*	**PKPdf**	**00 18 41.1**	**+0.8**	
PBA	**Port Blair**	**166.12**	**31**	*eP*	**PKPdf**	**00 18 42.8**	**+1.5**	
PBA	**Port Blair**	**166.12**	**31**	P	**PKPdf**	**00 18 43.6**	**+2.4**	
	SNR=82							
LEM	**Lembang**	**170.01**	**229**	PKP	**PKPdf**	**00 18 43.7**	**-0.5**	
	comp=Z,50nm,0.8s,baz=95,slow=2.2,SNR=20							
LEM				PP	**PP**	**00 23 48.6**	**+0.1**	
	comp=Z,15nm,0.4s,baz=163,slow=11,SNR=1.5							
PSI	**Prapat**	**176.75**	**20**	PKP	**PKPdf**	**00 18 46.0**	**-0.8**	
	comp=Z,76nm,1.2s,baz=229,slow=3.0,SNR=21							
PSI				PKPab	**PKPab**	**00 20 28.4**	**-0.3**	
	comp=Z,69nm,0.7s,baz=350,slow=9.1,SNR=10							
PSI				PP	**PP**	**00 24 20.6**	**+0.5**	
	comp=Z,13nm,1.1s,baz=318,slow=7.7,SNR=1.0							
RPSI	**Rantau Prapat**	**176.85**	**20**		**PKPab**	**00 20 28.4**	**-0.6**	
BKNI	**Bangkinang**	**178.81**	**300**		**PKPdf**	**00 18 45.8**	**-1.1**	

*JMA **16** 23:58:42.2, 32°.85N×130°.91E, h10km±1km, M3.6*
JMA Felt III J1.
*NIED **16** 23:58:42.2, 32°.85N×130°.91E, h10km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.12; $M_{\theta\theta}$=0.51; $M_{\phi\phi}$=0.62; $M_{r\theta}$=0.05; $M_{\theta\phi}$=-2.01; $M_{\phi r}$=2.43; Fault plane solution: M_0=3.30000×10^{14} NP1:ϕ_s99.00000°, δ38.00000°, λ=-160.00000°. NP2:ϕ_s352.00000°, δ78.00000°, λ=-54.00000°.*
*IDC **16** 23:58:42.3±1.9, 32°.88N×130°.74E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.1/50, mbtmp3.3/4, ML2.8/2 Error ellipse: s-maj=27.0km s-min=9.3km az=129.0*

ISC 16 23:58:43.3±0.9, 32°.85N±0°.03×130°.87E±0°.06, h12km, n9, σ0^{s}99/13, 3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.27**	**2**	Pg	**Pg**	**23 58 47.5**	**-1.4**
	334nm,0.3s,baz=221,slow=1.9,SNR=205						
JNU				Lg	Lg	23 58 51.2	
	3μm,0.3s,baz=76,slow=21,SNR=159						
JNU	**Nakatsue**	**0.27**	**2**	⇓P	**Pg**	**23 58 47.9**	**-0.9**
JNU				*eS*	**Sg**	**23 58 51.6**	**-1.0**
JTA	**Tamana**	**0.30**	**291**	⇓P	**Pg**	**23 58 49.1**	**-0.3**
JTA				*eS*	**Sg**	**23 58 53.9**	**+0.3**
JIU3	**Izumi3**	**0.31**	**189**	P	**Pg**	**23 58 48.5**	**-1.0**
JIU3				*eS*	**Sg**	**23 58 53.2**	**-0.5**
JTZ	**Takazaki**	**0.97**	**169**	⇓P	**Pg**	**23 59 00.9**	**-1.0**
KSRS	**Korea Array**	**5.18**	**333**	Pn	**Pn**	**00 00 00.1**	**-0.6**
	0.4nm,0.3s,baz=152,slow=15,SNR=4.8						
KSRS				Pg	**Pb**	**00 00 14.2**	**+0.3**
	1.1nm,0.3s,baz=153,slow=17,SNR=6.4						
KSRS				Lg	Lg	00 01 26.4	
	1.4nm,0.3s,baz=158,slow=29,SNR=5.4						
MJAR	**Matsushiro Arr**	**7.08**	**57**	Pn	**Pn**	**00 00 28.3**	**+1.7**
	0.2nm,0.3s,baz=243,slow=14,SNR=4.6						
SONM	**Songino Array**	**23.77**	**316**	P	**P**	**00 03 55.9**	**+0.1**
	0.5nm,0.8s,baz=139,slow=7.6,SNR=3.6						
BRTR	**Keskin Array B**	**74.81**	**308**	P	**P**	**00 10 24.4**	**+0.6**
	0.1nm,0.4s,baz=20,slow=4.6,SNR=3.6						

IDC 16 23:59:09.3±15.0, 14°.69S×166°.06E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/41, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=257.1km s-min=39.4km az=58.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.35**	**177**	Pn	Pn	00 00 58.1	0.0
	0.4nm,0.3s,baz=258,slow=18,SNR=1.8						
DZM				Sn	Sn	00 02 23.7	+1.4
	baz=78,slow=21,SNR=1.0						
STKA	**Stephens Creek**	**28.14**	**228**	P	P	00 05 03.4	+0.1
	0.5nm,0.3s,baz=51,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**30.70**	**256**	P	P	00 05 26.1	-0.1
	0.6nm,0.8s,baz=83,slow=6.9,SNR=2.6						
ASAR	**Alice Springs**	**31.59**	**249**	P	P	00 05 34.0	-0.1
	0.7nm,0.3s,baz=80,slow=9.0,SNR=17						

*WEL **17** 00:08:59.2±0.3, 42°.S±2°.×17°.3E±°, h9km±3km, M2.9/25, ML3.0/26, MLv2.9/25, Error ellipse: s-maj=0.0km s-min=0.0km az=113.3*
*NOU **17** 00:08:59.1, 42°.39S×172°.97E, h7km, MLv3.5/7, South Island, New Zealand*

ISC 17 00:08:58.4±1.2, 42°.33S±0°.03×173°.02E±0°.03, h6km±11km, n64, σ1^{s}51/69, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.39**	**102**	P	**Pg**	**00 09 07.8**	**+1.8**
KHZ	**Kahutara**	**0.39**	**102**	P	**Pg**	**00 09 07.9**	**+1.8**
THZ	**Tophouse**	**0.58**	**351**	P	**Pg**	**00 09 09.7**	**+0.2**
THZ				S	**Sg**	**00 09 16.2**	**-0.9**
GVZ	**Greta Valley S**	**0.63**	**179**	P	**Pn**	**00 09 13.6**	**-0.4**
GVZ				S	**Sn**	**00 09 23.7**	**-0.7**
LTZ	**Lake Taylor**	**0.71**	**231**	P	**Pb**	**00 09 13.5**	**+0.3**
AMCZ	**Amberley**	**0.89**	**198**	P	Pn	**00 09 18.1**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.89**	**46**	P	**Pg**	**00 09 15.9**	**+0.4**
MRNZ	**Matariki Terra**	**0.95**	**348**	P	**Pg**	**00 09 16.6**	**-0.2**
MRNZ				S	**Sg**	**00 09 28.2**	**-0.9**
CMWZ	**Cape Campbell**	**1.06**	**57**	P	**Pn**	**00 09 20.5**	**+0.6**
DSZ	**Denniston Nort**	**1.08**	**303**	P	**Pb**	**00 09 19.8**	**+0.2**
DSZ				S	**Sn**	**00 09 35.7**	**+0.3**
TUWZ	**Tuamarina**	**1.14**	**38**	P	**Pg**	**00 09 19.5**	**-0.7**
NNZ	**Nelson**	**1.15**	**14**	P	**Pg**	**00 09 19.1**	**-1.4**
OXZ	**Oxford**	**1.23**	**216**	P	**Pb**	**00 09 21.8**	**-0.3**
INZ	**Inchbonnie**	**1.23**	**251**	P	**Pg**	**00 09 22.3**	**+0.3**
INZ				S	**Sn**	**00 09 39.7**	**+0.6**
TKNZ	**Takaka Hill**	**1.30**	**358**	P	**Pn**	**00 09 22.3**	**-0.8**
OKCZ	**Okains Bay**	**1.39**	**179**	P	**Pn**	**00 09 24.3**	**-0.1**
MQZ	**McQueen's Vall**	**1.40**	**191**	P	**Pn**	**00 09 23.7**	**-0.8**
TCW	**Tory Channel**	**1.46**	**40**	P	**Pn**	**00 09 24.6**	**-0.8**
RACZ	**Rakaia**	**1.54**	**205**	P	**Pn**	**00 09 26.1**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.54**	**183**	P	**Pn**	**00 09 26.0**	**-0.4**
QRZ	**Quartz Range**	**1.55**	**346**	P	**Pn**	**00 09 26.8**	**+0.2**
QRZ	**Quartz Range**	**1.55**	**346**	P	**Pn**	**00 09 27.0**	**+0.4**
SNZO	**South Karori**	**1.62**	**51**	P	**Pn**	**00 09 28.8**	**+1.3**
BHW	**Baring Head**	**1.66**	**57**	P	**Pb**	**00 09 30.3**	**+0.9**
DUWZ	**D'Urville Isla**	**1.67**	**24**	P	**Pn**	**00 09 28.0**	**-0.3**
WACZ	**Wakanui South**	**1.82**	**208**	P	**Pn**	**00 09 30.1**	**-0.3**
PLWZ	**Palliser**	**1.83**	**66**	P	**Pn**

MCRA	**Macar, Loja**	**4.26**	**178**	Pn	**Pn**	**00 13 05.3**	**+0.8**
MCRA				IAML		00 14 10.4	
	comp=E,690nm,5.0s						
NNA	**Nana**	**12.26**	**165**	Pn	**Pn**	**00 14 55.6**	**+1.3**
PB16	**IPOC Station P**	**20.91**	**151**	P	**P**	**00 16 43.0**	**0.0**
GO01	**Chusmiza**	**22.21**	**152**	P	**P**	**00 16 57.4**	**+0.6**
LCO	**Las Campanas**	**30.14**	**163**	P	**P**	**00 18 09.5**	**-0.5**
Y58A	**Scranton**	**33.81**	**1**	P	**P**	**00 18 41.6**	**-0.2**
X58A	**Rowland**	**34.46**	**1**	P	**P**	**00 18 47.7**	**+0.3**
CPCT	**Cooper Cave**	**35.59**	**354**	P	**P**	**00 18 58.5**	**+1.3**

IDC ***17*** *00:15:45.9±2.9, 22°.26N×143°.04E, h204km±22km, mb4.0/10, mb1 4.1/11, mb1mx3.6/66, mbtmp4.5/11, Error ellipse: s-maj=24.8km s-min=20.7km az=132.0*

ISC 17 00:15:45.3±0.9, 22°.2N±0°.1×143°.0E±0°.2, h200km, n12, σ0§64/13, mb4.1/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.93**	**351**	P	**Pn**	**00 16 59.5**	**+0.6**
	31nm,0.3s,baz=114,slow=22,SNR=2.0						
JCJ				S	**Sn**	**00 17 56.5**	**-0.4**
	24nm,0.3s,baz=320,slow=23,SNR=2.5						
WRA	**Warramunga Arr**	**42.74**	**192**	P	**P**	**00 23 22.9**	**-0.2**
	4.9nm,0.8s,baz=9.8,slow=9.3,SNR=1.8						
ZALV	**Zalesovo Beam**	**53.73**	**321**	P	**P**	**00 24 46.9**	**+0.2**
	3.7nm,0.7s,baz=110,slow=6.0,SNR=4.5						
KDAK	**Kodiak Island**	**57.86**	**35**	P	**P**	**00 25 15.5**	**-0.4**
	3.1nm,0.5s,baz=294,slow=4.9,SNR=12						
ILAR	**Eielson Array**	**61.65**	**27**	P	**P**	**00 25 41.0**	**-0.6**
	1.9nm,0.6s,baz=260,slow=5.4,SNR=22						
INK	**Inuvik**	**67.16**	**24**	P	**P**	**00 26 16.3**	**-0.9**
	4.2nm,0.8s,baz=295,slow=6.4,SNR=12						
BELG	**Belogornoye**	**75.92**	**321**	P	**P**	**00 27 10.1**	**+0.2**
	11nm,0.6s,baz=55,slow=1.1,SNR=6.3						
YKA	**Yellowknife Ar**	**76.07**	**28**	P	**P**	**00 27 10.7**	**+0.2**
	3.1nm,0.6s,baz=292,slow=5.9,SNR=13						
ARCES	**ARCESS Array B**	**78.40**	**341**	P	**P**	**00 27 23.1**	**-0.3**
	4.6nm,1.0s,baz=71,slow=6.8,SNR=9.7						
FINES	**FINESS Array B**	**82.67**	**334**	P	**P**	**00 27 45.2**	**-0.9**
	3.9nm,1.0s,baz=58,slow=4.6,SNR=13						
NVAR	**Mina Array Bea**	**82.93**	**51**	P	**P**	**00 27 49.2**	**+1.0**
	1.4nm,0.6s,baz=278,slow=5.9,SNR=11						
TORD	**Torodi Ar. Bea**	**128.32**	**309**	PKP	**PKPdf**	**00 34 29.3**	**+0.4**
	0.1nm,0.5s,baz=93,slow=0.7,SNR=0.8						

IDC ***17*** *00:15:57.2±1.4, 0°.01S×80°.15W, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.2/35, mbtmp4.2/7, Error ellipse: s-maj=52.4km s-min=28.9km az=31.0*

NEIC ***17*** *00:16:00.1±2.4, 0°.03N±0°.06×80°.20W±0°.06, h10km±1km, mb4.7/23, Error ellipse: s-maj=10.5km s-min=9.4km az=256.0*

IGQ ***17*** *00:16:00±0.5, 0°.N±2°×8°.0W±°, h4km*

ISC 17 00:15:58.1±1.4, 0°.06N±0°.03×80°.39W±0°.04, h1km±9km, n153, σ1§68/170, mb4.6/17, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.36**	**150**	P	**Pg**	**00 16 06.0**	**+0.9**
JAMA				S	**Sg**	**00 16 11.0**	**+1.2**
MAG1	**Magdalena**	**0.62**	**102**	P	**Pg**	**00 16 10.0**	**-0.1**
FLF1	**Flavio Alfaro-**	**0.68**	**127**	P	**Pg**	**00 16 12.0**	**+0.8**
FLF1				S	**Sb**	**00 16 23.0**	**+0.2**
AV18	**Acelerografo,**	**0.94**	**74**	P	**Pb**	**00 16 18.0**	**+0.7**
AV21	**Acelerografo,**	**1.03**	**54**	P	**Pg**	**00 16 19.0**	**+1.1**
AMNT	**Manta-Manabi**	**1.05**	**199**	P	**Pg**	**00 16 18.0**	**-0.3**
AMA1	**Acelerografo,**	**1.09**	**37**	P	**Pg**	**00 16 20.0**	**+0.8**
AMA1				S	**Sn**	**00 16 37.0**	**+0.5**
BV15	**Puerto Quito-O**	**1.17**	**85**	P	**Pg**	**00 16 20.0**	**-0.5**
ASDO	**Santo Domingo**	**1.30**	**104**	P	**Pg**	**00 16 21.0**	**-2.1**
APR2	**Miler**	**1.42**	**89**	P	**Pn**	**00 16 23.0**	**-2.2**
HPAL	**Hacienda Las P**	**1.75**	**99**	P	**Pn**	**00 16 27.0**	**-3.0**
APR1	**Acelerografo,**	**1.77**	**93**	P	**Pn**	**00 16 29.0**	**-1.3**
GGPT	**Toaza - Volcan**	**1.79**	**99**	P	**Pn**	**00 16 29.0**	**-1.5**
PINO	**Pino**	**1.79**	**97**	P	**Pn**	**00 16 29.0**	**-1.8**
TERV	**Terraza Guagua**	**1.79**	**97**	P	**Pn**	**00 16 29.0**	**-1.8**
JUA2	**San Juan 2**	**1.80**	**99**	P	**Pn**	**00 16 29.0**	**-1.8**
GGPC	**Guagua Pichinc**	**1.80**	**97**	P	**Pn**	**00 16 30.0**	**-0.9**
YANA	**Yana**	**1.82**	**95**	P	**Pn**	**00 16 29.0**	**-2.1**
ILLI	**Illinizas Sur**	**1.82**	**115**	P	**Pn**	**00 16 30.0**	**-1.1**
PULU	**Pululahua**	**1.88**	**91**	P	**Pn**	**00 16 31.0**	**-0.9**
PAST	**Pastocalle**	**1.90**	**113**	P	**Pn**	**00 16 31.0**	**-1.1**
OTAV	**Otavalo**	**1.94**	**85**	Pn	**Pn**	**00 16 31.5**	**-1.2**
SRAM	**San Ramn-Vol**	**1.99**	**114**	P	**Pn**	**00 16 32.0**	**-1.3**
CUSE	**Cuicocha Este**	**2.00**	**83**	*eP*	**Pn**	**00 16 33.0**	**-0.5**
CUSE				*eS*	**Sn**	**00 16 58.6**	**-0.8**
CUSE				*i*		00 17 04.0	
	comp=Z,6µm,0.3s						
CUSE	**Cuicocha Este**	**2.00**	**83**	P	**Pn**	**00 16 33.0**	**-0.5**
SUCR	**Mariscal Sucre**	**2.01**	**110**	P	**Pn**	**00 16 34.0**	**+0.3**
CAMI	**Rancho Maria**	**2.02**	**111**	P	**Pn**	**00 16 33.0**	**-0.8**
TOMA	**Boca Toma-Volc**	**2.03**	**106**	P	**Pn**	**00 16 34.0**	**+0.1**
BNAS	**Cotopaxi Volca**	**2.04**	**111**	P	**Pn**	**00 16 34.0**	**-0.1**
CUIC	**Cuicocha-Domo**	**2.04**	**83**	P	**Pn**	**00 16 33.0**	**-1.0**
NAS2	**Nasa**	**2.04**	**110**	P	**Pn**	**00 16 34.0**	**-0.1**
SLOR	**San Lorenzo -**	**2.04**	**112**	P	**Pn**	**00 16 34.0**	**-0.1**
PITA	**Cotopaxi Volc**	**2.04**	**107**	P	**Pn**	**00 16 34.0**	**-0.2**
CUSW	**Cuicocha Oeste**	**2.05**	**84**	P	**Pn**	**00 16 33.0**	**-1.1**
COTA	**Cotacachi**	**2.07**	**82**	P	**Pn**	**00 16 33.0**	**-1.5**
BREF	**Cotopaxi Volca**	**2.07**	**110**	P	**Pn**	**00 16 35.0**	**+0.3**
BMOR	**Cotopaxi Volca**	**2.08**	**112**	P	**Pn**	**00 16 34.0**	**-0.7**
BRRN	**Barrancas-Volc**	**2.08**	**114**	P	**Pn**	**00 16 34.0**	**-0.7**
BVC2	**Cotopaxi Volca**	**2.10**	**110**	P	**Pn**	**00 16 35.0**	**0.0**
VC1	**Cotopaxi 1**	**2.10**	**109**	P	**Pn**	**00 16 35.0**	**0.0**
BTAM	**Cotopaxi Volca**	**2.12**	**110**	P	**Pn**	**00 16 36.0**	**+0.8**
TAMB	**Tambo**	**2.15**	**110**	P	**Pn**	**00 16 35.0**	**-0.7**
LITE1	**Lita**	**2.15**	**70**	P	**Pn**	**00 16 34.0**	**-1.3**
CHSH	**Refugio Sur-Vo**	**2.16**	**135**	P	**Pn**	**00 16 35.0**	**-0.8**
URCU	**Urcuqui**	**2.16**	**80**	P	**Pn**	**00 16 36.0**	**+0.3**
VCES	**Cotopaxi**	**2.16**	**113**	P	**Pn**	**00 16 36.0**	**+0.2**
ANTG	**Antisana-Guama**	**2.20**	**105**	P	**Pn**	**00 16 36.0**	**-0.4**
ANTI	**Antisana**	**2.28**	**103**	P	**Pn**	**00 16 38.0**	**+0.5**
ANTS	**Antisana-Sarah**	**2.28**	**104**	P	**Pn**	**00 16 38.0**	**+0.5**
AIB2	**Ibarra (Univer**	**2.30**	**83**	P	**Pn**	**00 16 39.0**	**+1.5**
AMIL	**Milagro (Trans**	**2.31**	**160**	P	**Pn**	**00 16 37.0**	**-0.4**
IGUA	**Igualata**	**2.33**	**131**	P	**Pn**	**00 16 38.0**	**-0.1**
YAHU	**Yahuarcocha**	**2.33**	**82**	P	**Pn**	**00 16 39.0**	**+0.9**
PIAT	**Ana Tenorio**	**2.37**	**116**	P	**Pn**	**00 16 38.0**	**-0.5**
ANGU	**Angureal**	**2.38**	**90**	P	**Pn**	**00 16 40.0**	**+1.2**
CAYR	**Refugio Cayamb**	**2.38**	**91**	P	**Pn**	**00 16 40.0**	**+1.1**
CAYA	**Cayambe**	**2.40**	**90**	P	**Pn**	**00 16 40.0**	**+1.0**
JUI6	**Juive**	**2.42**	**127**	P	**Pn**	**00 16 39.0**	**-0.1**
CTUM2	**Tumaco**	**2.42**	**43**	*eP*	**Pn**	**00 16 38.1**	**-0.7**
CTUM2				*eS*	**Sg**	**00 17 15.3**	**-0.5**
POND	**Pondoa**	**2.43**	**127**	P	**Pn**	**00 16 39.0**	**-0.3**
RETU	**Refugio**	**2.45**	**128**	P	**Pn**	**00 16 40.0**	**+0.2**
BMAS	**Trigal station**	**2.46**	**129**	P	**Pn**	**00 16 41.0**	**+1.3**
CHMA	**Chilma**	**2.46**	**71**	P	**Pn**	**00 16 39.0**	**-0.7**
BRUN	**Tungurahua Vol**	**2.46**	**127**	P	**Pn**	**00 16 41.0**	**+1.3**
MILO	**Milagro-Astudi**	**2.46**	**160**	P	**Pn**	**00 16 38.0**	**-1.5**
ARRY	**Arrayan**	**2.48**	**129**	P	**Pn**	**00 16 40.0**	**0.0**
LNGL	**El Angel-Carch**	**2.48**	**74**	P	**Pn**	**00 16 40.0**	**-0.1**
BPAT	**Tungurahua Vol**	**2.49**	**128**	P	**Pn**	**00 16 41.0**	**+0.7**
ECEN	**Cerro Negro**	**2.53**	**72**	P	**Pn**	**00 16 40.0**	**-0.9**
CHL1	**Volc¡n Chiles**	**2.55**	**73**	P	**Pn**	**00 16 41.0**	**-0.1**
CHL2	**Volc¡n Chiles**	**2.58**	**73**	P	**Pn**	**00 16 42.0**	**+0.5**
TULM	**Tulcn-Chalpat**	**2.68**	**76**	Pn	**Pn**	**00 16 44.1**	**+1.2**
TULM	**Tulcn-Chalpat**	**2.68**	**76**	*eP*	**Pn**	**00 16 44.7**	**+1.8**
TULM				*eS*	**Sb**	**00 17 19.7**	**-1.1**
TULM				*i*		00 17 43.2	
	comp=Z,286nm,0.7s						
CMBC	**Cumbal**	**2.71**	**71**	*eP*	**Pn**	**00 16 44.3**	**+1.1**
CMBC				*eS*	**Sb**	**00 17 21.2**	**-0.4**
CMBC				*i*		00 17 32.2	
	comp=Z,53µm,0.7s						
CONE	**Cono NE Rev Vo**	**2.75**	**93**	P	**Pn**	**00 16 43.0**	**-0.7**
COHC	**Cochancay**	**2.75**	**156**	P	**Pn**	**00 16 42.0**	**-1.4**
ATUL	**Tulcn**	**2.76**	**75**	P	**Pn**	**00 16 46.0**	**+2.2**
ARDO	**Archidona, Ten**	**2.79**	**112**	P	**Pn**	**00 16 45.0**	**+1.0**
BONI	**La Bonita**	**2.88**	**82**	P	**Pn**	**00 16 47.0**	**+1.5**
SANGA	**Volcan Sangay**	**2.90**	**136**	P	**Pn**	**00 16 47.0**	**+1.0**
ISPG	**Isla Puna-Puer**	**3.01**	**176**	P	**Pn**	**00 16 49.0**	**+1.9**
CASC	**Dorado de Casc**	**3.05**	**88**	P	**Pn**	**00 16 49.0**	**+1.4**
ARNL	**Arenillas**	**3.59**	**175**	Pn	**Pn**	**00 16 56.8**	**+1.8**
ARNL	**Arenillas**	**3.59**	**175**	P	**Pn**	**00 16 56.0**	**+1.0**
GR1C	**Gorgona, Isla**	**3.67**	**37**	*eP*	**Pn**	**00 16 53.2**	**-2.9**
GR1C				*eS*	**Sg**	**00 17 54.7**	**-1.5**
GR1C				*i*		00 18 08.9	
	comp=Z,2µm,0.6s						
BOSC	**San Juan Bosco**	**3.70**	**149**	Pn	**Pn**	**00 16 58.9**	**+2.3**
BOSC	**San Juan Bosco**	**3.70**	**149**	P	**Pn**	**00 16 59.0**	**+2.3**
CRUC	**La Cruz**	**3.75**	**66**	*eP*	**Pn**	**00 16 59.3**	**+1.8**
CRUC				*eS*	**Sb**	**00 17 49.5**	**-2.0**
CRUC				*i*		00 17 54.2	
	comp=Z,425nm,0.5s						
SOTA	**Rioblanco**	**4.30**	**61**	*eP*	**Pn**	**00 17 06.0**	**+0.8**
SOTA				*eS*	**Sn**	**00 18 00.4**	**+4.0**
SOTA				*i*		00 18 08.6	
	comp=Z,222nm,0.6s						
GONZ	**Gonzanam**	**4.38**	**167**	P	**Pn**	**00 17 08.0**	**+1.8**
MCRA	**Macar, Loja**	**4.42**	**174**	Pn	**Pn**	**00 17 09.1**	**+2.7**
MCRA	**Macar, Loja**	**4.42**	**174**	P	**Pn**	**00 17 08.0**	**+1.6**
POPC	**Popayan, Colom**	**4.46**	**56**	*eP*	**Pn**	**00 17 06.8**	**-0.3**
POPC				*eS*	**Sn**	**00 18 04.4**	**+4.6**
POPC				*i*		00 18 11.0	
	comp=Z,93nm,0.4s						
PCON	**Cinco Dias**	**4.58**	**60**	*eP*	**Pn**	**00 17 10.2**	**+1.1**
PCON				*eS*	**Sb**	**00 18 10.1**	**-5.6**
PCON				*i*		00 18 19.2	
	comp=Z,176nm,0.5s						
MARP	**Paez Belalcaza**	**5.22**	**58**	*eP*	**Pn**	**00 17 18.8**	**+1.1**
MARP				*eS*	**Sn**	**00 18 22.8**	**+4.0**
MARP				*i*		00 18 33.8	
	comp=Z,21nm,0.5s						
GARC	**Garzon, Huila**	**5.33**	**67**	*eP*	**Pn**	**00 17 20.1**	**+1.0**
YOTC	**Yotoco, Valle**	**5.62**	**46**	*eP*	**Pn**	**00 17 23.7**	**+0.8**
YOTC				*i*		00 18 43.5	
	comp=Z,88nm,0.5s						
PLMC	**San Jos del P**	**6.33**	**40**	*eP*	**Pn**	**00 17 34.0**	**+1.3**
PLMC				*eS*	**Sn**	**00 18 51.4**	**+5.7**
PLMC				*i*		00 19 09.9	
	comp=Z,68nm,0.4s						
ORTC	**Ortega, Tolima**	**6.41**	**53**	*eP*	**Pn**	**00 17 37.4**	**+3.6**
ORTC				*eS*	**Sn**	**00 18 54.7**	**+7.1**
ORTC				*i*		00 19 12.2	
	comp=Z,49nm,0.7s						
ANIL	**Santa Ana**	**6.65**	**48**	*eP*	**Pn**	**00 17 39.1**	**+1.8**
ANIL				*eS*	**Sn**	**00 18 57.9**	**+4.0**
ANIL				*i*		00 19 12.7	
	comp=Z,108nm,0.4s						
GUY2C	**Guyana, Caldas**	**7.18**	**44**	*eP*	**Pn**	**00 17 49.2**	**+4.4**
CBOC	**Ciudad Bolivar**	**7.24**	**37**	*eP*	**Pn**	**00 17 48.5**	**+3.3**
CBOC				*eS*	Sn	00 19 18.6	+10
CBOC				*i*		00 19 37.2	
	comp=Z,25nm,0.6s						
ROSC	**El Rosal**	**7.70**	**52**	Pn	**Pn**	**00 17 54.0**	**+2.1**
	comp=Z,4.3nm,0.3s,baz=49,slow=18,SNR=1.4						
ROSC	**El Rosal**	**7.70**	**52**	Pn	**Pn**	**00 17 51.6**	**-0.3**
ZARC	**Zaragoza, Cauc**	**9.22**	**37**	Pn	**Pn**	**00 18 14.1**	**+1.8**
NNA	**Nana**	**12.47**	**164**	Pn	**Pn**	**00 18 57.5**	**+0.5**
MTO3	**Montecristo**	**16.79**	**328**		**P**	**00 19 58.3**	**+1.0**
BIRV	**Birongo**	**17.44**	**53**		**Pn**	**00 20 03.3**	**+0.3**
LPAZ	**La Paz**	**20.25**	**144**	P	**P**	**00 20 33.7**	**-2.0**
SDDR	**Presa de Saban**	**20.82**	**25**	P	**P**	**00 20 39.2**	**-2.1**
PB16	**IPOC Station P**	**21.17**	**150**	P	**P**	**00 20 43.4**	**-2.4**
DR12	**Loma Pena Alta**	**21.52**	**30**	P	**P**	**00 20 50.1**	**+1.1**
PB11	**IPOC Station P**	**22.32**	**153**	P	**P**	**00 20 57.9**	**+0.3**
PB11				IAmb	IAmb	00 21 00.7	
	comp=Z,18nm,1.2s						
GO01	**Chusmiza**	**22.46**	**151**	P	**P**	**00 20 59.7**	**+0.3**
CBYP	**Canovanas**	**23.06**	**37**	P	**P**	**00 21 04.0**	**-1.3**
PB02	**IPOC Station P**	**23.59**	**155**	P	**P**	**00 21 10.3**	**-0.4**
PB09	**IPOC Station P**	**24.29**	**154**	P	**P**	**00 21 15.8**	**-1.7**
CPCT	**Cooper Cave**	**35.42**	**354**	P	**P**	**00 22 55.2**	**-0.7**
CPCT				IAmb	IAmb	00 22 57.5	
	comp=Z,18nm,1.1s						
V53A	**Saluda**	**35.51**	**357**	P	**P**	**00 22 55.4**	**-1.2**
V53A				IAmb	IAmb	00 23 21.3	
	comp=Z,15nm,1.2s						
TZTN	**Tazewell**	**36.42**	**356**	P	**P**	**00 23 04.3**	**-0.1**
WVT	**Waverly**	**36.55**	**350**	P	**P**	**00 23 04.3**	**-1.3**
WVT				IAmb	IAmb	00 23 25.5	
	comp=Z,12nm,1.2s						
TXAR	**Lajitas Array**	**36.63**	**325**	P	**P**	**00 23 08.5**	**+2.1**
	comp=Z,1.0nm,1.0s,baz=128,slow=5.8,SNR=1.4						
TXAR				PcP	**PcP**	**00 25 29.3**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=120,slow=5.5,SNR=2.7						
TXAR	**Lajitas Array**	**36.63**	**325**	P	**P**	**00 23 07.3**	**+0.8**
MNTX	**Cornudas Mount**	**39.37**	**325**	P	**P**	**00 23 30.2**	**+0.7**
ANMO	**Albuquerque**	**42.40**	**328**	P	**P**	**00 23 56.2**	**+1.6**
NVAR	**Mina Array Bea**	**51.67**	**322**	P	**P**	**00 25 08.2**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=135,slow=5.6,SNR=6.0						
NVAR	**Mina Array Bea**	**51.67**	**322**	P	**P**	**00 25 08.7**	**+1.6**
ULM	**Lac du Bonnet**	**51.73**	**347**	P	**P**	**00 25 05.7**	**-1.4**
	comp=Z,3.1nm,0.6s,baz=141,slow=6.5,SNR=1.6						
FCC	**Fort Churchill**	**59.53**	**352**	P	**P**	**00 26 02.0**	**-0.9**
FCC				IAmb	IAmb	00 26 25.9	
	comp=Z,17nm,1.5s						
EDM	**Edmonton**	**59.65**	**338**	P	**P**	**00 26 03.7**	**-0.3**
YKA	**Yellowknife Ar**	**67.37**	**344**	P	**P**	**00 26 53.9**	**-0.9**
	comp=Z,3.6nm,0.8s,baz=144,slow=6.0,SNR=6.8						
KOWA	**Kowa**	**76.79**	**75**	P	**P**	**00 27 50.7**	**-1.5**
INK	**Inuvik**	**77.06**	**342**	P	**P**	**00 27 52.6**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=82,slow=3.0,SNR=5.9						
INK	**Inuvik**	**77.06**	**342**	P	**P**	**00 27 52.8**	**+0.2**
INK				IAmb	IAmb	00 28 10.6	
	comp=Z,16nm,1.4s						
M27K	**Edge Creek, AK**	**77.09**	**335**	P	**P**	**00 27 54.0**	**+0.8**
A36M	**Sachs Harbour**	**77.21**	**347**	P	**P**	**00 27 52.3**	**-1.1**
BCAR	**Beaver Creek A**	**77.36**	**336**	P	**P**	**00 27 55.2**	**+0.6**
L27K	**Beaver Creek,**	**77.38**	**336**	P	**P**	**00 27 55.3**	**+0.6**
L27K				IAmb	IAmb	00 28 09.1	
	comp=Z,8.2nm,1.4s						
BMRM	**Bremner River**	**77.70**	**333**	P	**P**	**00 27 57.2**	**+0.7**
BMRM				IAmb	IAmb	00 28 10.1	
	comp=Z,14nm,1.2s						
PAB	**San Pablo**	**79.21**	**50**	P	**P**	**00 28 04.3**	**-1.1**
PAB				IAmb	IAmb	00 28 21.9	
	comp=Z,5.5nm,1.2s						
J25K	**Salcha River,**	**79.45**	**337**	P	**P**	**00 28 06.6**	**+0.5**
ESDC	**Sonseca Array**	**79.53**	**50**	P	**P**	**00 28 06.3**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=263,slow=5.7,SNR=8.2						
KNK	**Knik Glacier**	**79.61**	**333**	P	**P**	**00 28 08.7**	**+1.7**
KNK				IAmb	IAmb	00 28 17.6	
	comp=Z,8.6nm,1.1s						
TOA0	**Torodi Ar. Sit**	**82.27**	**77**	P	**P**	**00 28 20.4**	**-1.8**
TOA0				IAmb	IAmb	00 28 34.0	
	comp=Z,5.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.27**	**77**	P	**P**	**00 28 20.0**	**-2.1**
	comp=Z,0.8nm,0.5s,baz=281,slow=3.9,SNR=13						
TORD	**Torodi Ar. Bea**	**82.27**	**77**	P	**P**	**00 28 20.0**	**-2.1**
TORD				IAmb	IAmb	00 28 33.9	
	comp=Z,3.6nm,1.1s						
KURBB	**Kurchatov Arra**	**126.41**	**17**	PKP	**PKPdf**	**00 35 02.1**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=325,slow=2.3,SNR=5.1						
WB2	**Warramunga Arr**	**140.66**	**238**	PKPdf	**PKPdf**	**00 35 29.2**	**-1.5**
WRA	**Warramunga Arr**	**140.67**	**238**	PKP	**PKPdf**	**00 35 28.6**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=110,slow=2.4,SNR=1.2						
WRA	**Warramunga Arr**	**140.67**	**238**	PKPdf	**PKPdf**	**00 35 29.5**	**-1.2**
MTN	**Manton Dam**	**146.27**	**247**	PKPdf	**PKPdf**	**00 35 39.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**148.76**	**234**	PKPbc	**PKPdf**	**00 35 47.1**	**+2.5**
	comp=Z,2.8nm,1.0s,baz=90,slow=1.0,SNR=2.4						
FITZ	**Fitzroy Crossi**	**148.76**	**234**		**PKPdf**	**00 35 46.0**	**+1.4**

CNRM ***17*** *00:20:54.2, 35°.69N×3°.50W, h28km, ml3.1*

MDD ***17*** *00:20:55.1±1.1, 35°.62N×3°.61W, h34km±3km, mb_Lg1.8/4, Error ellipse: s-maj=10.2km s-min=7.5km az=38.0*

ISC 17 00:20:54.1±1.2, 35°.67N±0°.03×3°.56W±0°.04, h32km±13km, n10, σ1§09/20, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.51**	**58**	Pg	**Pn**	**00 21 05.6**	**+0.5**
EALB				Sg	**Sn**	**00 21 14.0**	**+1.3**
EALB				*i* Vmb_Lg		00 21 15.4	
PALE	**Palemas**	**0.55**	**214**	P	**Pb**	**00 21 05.2**	**-0.2**
PALE				S	**Sn**	**00 21 13.8**	**0.0**
EMEL	**Melilla**	**0.62**	**127**	Pg	**Pn**	**00 21 07.1**	**+0.4**
EMEL				Sg	**Sn**	**00 21 15.7**	**+0.2**
GOG	**Mont Gurugu**	**0.64**	**134**	P	**Pb**	**00 21 06.9**	**-0.2**
GOG				S	**Sn**	**00 21 16.8**	**+0.5**
AKLM	**AKL**	**1.18**	**192**	P	**Pb**	**00 21 15.8**	**-0.3**
AKLM				S	**Sb**	**00 21 31.4**	**+0.3**
ELGU	**Los Guajares,**	**1.20**	**358**	Pg	**Pn**	**00 21 15.5**	**+0.7**
ELGU				Sg	**Sb**	**00 21 31.7**	**+0.2**
ELGU				*i* Vmb_Lg		00 21 34.9	
TAF	**Taforalt**	**1.27**	**132**	P	**Pn**	**00 21 15.8**	**0.0**
TAF				S	**Sn**	**00 21 32.4**	**+0.7**
EMIJ	**Mijas**	**1.32**	**313**	Pn	**Pn**	**00 21 16.8**	**+0.4**
EMIJ				Sg	**Sn**	**00 21 32.9**	**-0.1**
EMIJ				*i* Vmb_Lg		00 21 34.3	
JBK	**JBK**	**1.56**	**148**	P	**Pn**	**00 21 19.6**	**-0.3**
JBK				S	**Sn**	**00 21 38.2**	**-1.0**
ENIJ	**Nijar**	**1.70**	**40**	Pn	**Pn**	**00 21 22.5**	**+0.9**
ENIJ				Sn	**Sn**	**00 21 38.6**	**-3.6**
ENIJ				*i* Vmb_Lg		00 21 40.7	

IDC ***17*** *00:29:28.1±0.5, 0°.24S×80°.36W, h0km, mb4.8/27, mb1 4.9/29, mb1mx4.9/35, mbtmp4.8/29, ML4.5/2, Error ellipse: s-maj=18.9km s-min=10.3km az=58.0*

IGQ ***17*** *00:29:28±0.6, 0°.S±2°×8°.1W±°, h7km*

NEIC ***17*** *00:29:31.4±1.8, 0°.27S±0°.05×80°.46W±0°.06, h15km±3km, mb5.5/205, Error ellipse: s-maj=8.5km s-min=7.9km az=85.0*

MOS ***17*** *00:29:31.7±1.4, 0°.25S×80°.51W, h19km, mb5.5/58, Error ellipse: s-maj=7.5km s-min=5.1km az=90.5*

VAO ***17*** *00:29:32.7±0.4, 0°.51S×80°.25W, h10km, mb5.5*

ISC 17 00:29:30.4±0.5, 0°.33S±0°.02×80°.45W±0°.02, h12km±3km, n899, σ1§74/929, mb5.4/203, 9C-16D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.25**	**73**	P	**Pg**	**00 29 36.0**	**+0.3**
FLF1	**Flavio Alfaro-**	**0.60**	**92**	P	**Pn**	**00 29 44.0**	**-0.9**
FLF1				S	**Sn**	**00 29 59.0**	**+4.3**
AMNT	**Manta-Manabi**	**0.67**	**205**	P	**Pg**	**00 29 42.0**	**-1.4**
AMNT				S	**Sb**	**00 29 53.0**	**-0.3**
MAG1	**Magdalena**	**0.72**	**69**	P	**Pb**	**00 29 45.0**	**0.0**
AV18	**Acelerografo,**	**1.16**	**56**	P	**Pb**	**00 29 52.0**	**-0.5**
BV15	**Puerto Quito-O**	**1.32**	**68**	P	**Pn**	**00 29 52.0**	**-2.7**
ASDO	**Santo Domingo**	**1.32**	**87**	P	**Pn**	**00 29 53.0**	**-1.8**
AV21	**Acelerografo,**	**1.34**	**42**	P	**Pn**	**00 29 54.0**	**-0.9**
AMA1	**Acelerografo,**	**1.45**	**30**	P	**Pn**	**00 29 53.0**	**-3.5**
AMA1				S	**Sg**	**00 30 17.0**	**-0.2**
APR2	**Miler**	**1.53**	**75**	P	**Pn**	**00 29 56.0**	**-1.7**
ILLI	**Illinizas Sur**	**1.76**	**102**	P	**Pn**	**00 30 00.0**	**-1.2**
AGUAY	**Guayaquil**	**1.78**	**164**	P	**Pg**	**00 30 04.0**	**-0.6**
HPAL	**Hacienda Las P**	**1.80**	**86**	P	**Pn**	**00 30 00.0**	**-1.6**
GGPT	**Toaza - Volcan**	**1.83**	**87**	P	**Pn**	**00 30 01.0**	**-1.1**
PAST	**Pastocalle**	**1.84**	**101**	P	**Pn**	**00 30 01.0**	**-1.3**
JUA2	**San Juan 2**	**1.85**	**86**	P	**Pn**	**00 30 02.0**	**-0.4**
PINO	**Pino**	**1.85**

MARP Paez Belalcaza 5.49 55 eP Pn 00 30 52.5 +0.2
MARP eS Sb 00 32 05.4 -7.0
GARC Garzon, Huila 5.55 63 eP Pn 00 30 54.3 +1.1
PTLC Puerto Leguiza 5.67 85 eP Pn 00 30 56.1 +1.5
PTLC eS Sb 00 32 17.8 +0.3
PTLC i 00 32 52.0
comp=Z,286nm,0.8s
BETC Betania 5.83 59 eP Pn 00 30 58.3 +1.4
BETC eS Sb 00 32 24.1 +2.0
BETC i 00 32 26.6
comp=Z,281nm,0.7s
YOTC Yotoco, Valle 5.93 44 eP Pn 00 31 00.7 +2.4
YOTC Yotoco, Valle 5.93 44 eP Sn 00 30 57.8 -0.5
YOTC eS Sn 00 32 05.7 -0.6
YOTC i 00 32 30.1
comp=Z,507nm,0.6s
PIZC Pizarro, Choco 6.10 30 eP Pb 00 31 15.3 -1.4
PIZC eS Sg 00 32 45.4 -0.9
PIZC i 00 33 05.2
comp=Z,402nm,0.7s
PLMC San Jos del P 6.66 39 eP Pn 00 31 07.8 -0.5
PLMC eS Sn 00 32 24.4 +0.2
PLMC i 00 32 46.7
comp=Z,567nm,0.8s
ORTC Ortega, Tolima 6.69 51 eP Pn 00 31 10.1 +1.4
ORTC eS Sn 00 32 31.7 +6.8
ORTC i 00 33 11.2
comp=Z,504nm,0.8s
ANIL Santa Ana 6.95 46 eP Pn 00 31 11.9 -0.6
ANIL eS Sn 00 32 35.5 +3.7
ANIL i 00 32 45.6
comp=Z,441nm,0.5s
MACC Macarena, Meta 7.04 70 eP Pn 00 31 14.9 +1.4
MACC eS Sb 00 32 56.9 -0.1
MACC i 00 33 29.7
comp=Z,256nm,0.7s
GUY2C Guyana, Caldas 7.50 43 eP Pn 00 31 22.9 +2.7
GUY2C eS Sn 00 32 49.7 +4.2
GUY2C i 00 33 05.2
comp=Z,269nm,0.7s
CBOC Ciudad Bolivar 7.58 36 eP Pn 00 31 23.6 +2.6
ROSC El Rosal 7.99 50 Pn Pn 00 31 27.8 +0.9
comp=Z,12nm,0.3s,baz=109,slow=2.8,SNR=9.4
ROSC El Rosal 7.99 50 P Pn 00 31 28.1 +1.3
ROSC El Rosal 7.99 50 Pn 00 31 28.1 +1.3
VILC Villavicencio, 8.06 57 eP Pn 00 31 28.8 +1.2
VILC eS Sb 00 33 15.4 -11
VILC i 00 33 30.9
comp=Z,5µm,0.6s
AZU Azuero 8.07 1 eP Pn 00 31 27.2 -0.4
NORC Norcasia 8.08 43 eP Pn 00 31 32.8 +5.0
NORC eS Sn 00 33 00.7 +1.4
NORC i 00 33 25.0
comp=Z,102nm,0.6s
HELC Santa Helena 8.13 37 eP Pn 00 31 32.7 +4.0
HELC eS Sn 00 33 00.7 -0.2
HELC i 00 33 33.3
comp=Z,118nm,0.7s
GUVC San Jose del G 8.32 70 eP Pn 00 31 34.6 +3.5
GUVC i 00 34 17.3
comp=Z,81nm,0.7s
CHIC Chingaza 8.32 54 eP Pn 00 31 31.7 +0.3
CHIC eS Sn 00 33 10.5 +4.8
CHIC i 00 33 48.8
comp=Z,56nm,0.7s
DBBC Dabeiba 8.44 30 eP Pn 00 31 36.2 +3.5
DBBC i 00 33 52.6
comp=Z,682nm,0.7s
SPBC San Pablo de B 8.71 47 eP Pn 00 31 35.2 -1.2
SPBC i 00 33 38.2
comp=Z,45nm,0.7s
PTBC PUERTO BERRIO, 9.07 41 eP Pn 00 31 42.3 +0.9
PTBC eS Sn 00 33 24.0 +0.4
PTBC i 00 33 29.8
comp=Z,50nm,0.6s
CDITO Canoas 9.17 345 Pn 00 31 40.3 -2.4
UPA Univ. de Panam 9.30 6 eP Pn 00 31 46.1 +1.7
BRU2 Volcan 9.34 346 Pn 00 31 43.7 -1.4
BRU2 Volcan 9.34 346 eP Pn 00 31 48.2 +3.1
UREC San Jos de Ur 9.41 31 eP Pn 00 31 47.3 +1.3
UREC eS Sn 00 33 36.2 +4.4
UREC i 00 33 39.9
comp=Z,34nm,0.7s
PTGC Puerto Gaitan, 9.45 61 eP Pn 00 31 55.2 +8.7
PTGC eS Sn 00 34 12.2 +39
PTGC i 00 34 54.6
comp=Z,72nm,0.7s
BCIP Isla Barro Col 9.46 4 P Pn 00 31 46.7 +0.1
BCIP Isla Barro Col 9.46 4 Pn 00 31 46.7 +0.1
BCIP Isla Barro Col 9.46 4 eP Pn 00 31 48.4 +1.8
RIOS Rincon, Osa 9.48 341 Pn Pn 00 31 46.6 -0.4
ZARC Zaragoza, Cauc 9.57 36 Pn Pn 00 31 49.8 +1.7
ZARC Zaragoza, Cauc 9.57 36 eP Pn 00 31 52.5 +4.4
ZARC eS Sn 00 33 37.9 +2.3
ZARC i 00 34 14.0
comp=Z,83nm,0.8s
RUSC La Rusia 9.61 50 eP Pn 00 31 52.1 +3.0
RUSC eS Sn 00 33 53.2 +16
PAYG Puerto Ayora 9.84 268 Pn Pn 00 31 49.8 -2.1
DRKO Durika 9.93 344 Pn 00 31 52.7 -0.5
SRBA San Rafael, Bu 9.94 343 Pn Pn 00 31 50.6 -2.7
PEZE Perez Zeledon, 10.17 342 Pn 00 31 57.8 +1.3
RIMA Rio Macho 10.60 341 Pn 00 32 00.9 -1.5
PAMC Pamplona, Colo 10.85 45 eP Pn 00 32 10.0 +3.8
PAMC eS Sn 00 34 17.0 +9.0
PAMC i 00 34 35.6
comp=Z,47nm,0.9s
HDC Heredia 10.90 341 Pn Pn 00 32 06.1 -0.4
TAMC Tame, Arauca 10.95 52 eP Pn 00 32 16.4 +9.3
OCAC Ocana 11.09 40 Pn 00 32 10.0 +0.9
OCAC Ocana 11.09 40 eP Pn 00 32 10.7 +1.6
OCAC eS Sn 00 34 09.7 -3.6
OCAC i 00 34 53.7
comp=Z,66nm,0.7s
TBTG Tabatinga, AM 11.20 110 eP Pn 00 32 12.8 +2.3
TBTG eS Sn 00 34 51.8 +36
SJCC San Jacinto, C 11.44 27 Pn Pn 00 32 13.6 -0.2
SJCC San Jacinto, C 11.44 27 eP Pn 00 32 14.7 +0.9
SJCC eS Sn 00 34 27.7 +6.1
SJCC i 00 34 31.1
comp=Z,8.3nm,0.7s
JTS Las Juntas de 11.47 337 Pn Pn 00 32 12.4 -1.8
comp=Z,1.0nm,0.3s,baz=192,slow=9.4,SNR=9.9
JTS Las Juntas de 11.47 337 Pn Pn 00 32 14.1 -0.1
JTS Las Juntas de 11.47 337 eP Pn 00 32 10.3 -3.9
NNA Nana 12.12 163 Pn Pn 00 32 26.2 +3.1
comp=Z,8.1nm,0.3s,baz=332,slow=12,SNR=16
NNA Sn Sn 00 34 37.1 -1.2
comp=Z,5.5nm,0.3s,baz=252,slow=22,SNR=1.3
NNA Nana 12.12 163 ceP Pn 00 32 26.2 +3.1
NNA pmax pmax
comp=Z,183nm,1.0s
NNA Nana 12.12 163 Pn 00 32 25.6 +2.5
SOCV Socops 12.83 48 eP Pn 00 32 34.2 +1.3
SOCV eS Sn 00 34 51.5 -4.3
ACON Acoyapa 13.09 339 Pn Pn 00 32 35.6 -0.8
SDV Santo Domingo 13.40 47 Pn Pn 00 32 41.3 +0.6
comp=Z,2.6nm,0.3s,baz=163,slow=10,SNR=13
SDV Santo Domingo 13.40 47 eP Pn 00 32 40.9 +0.2
SDV i 00 35 24.5
comp=Z,10nm,0.8s
SDV Santo Domingo 13.40 47 eP Pn 00 32 43.6 +2.9
PRVC Isla de Provid 13.65 356 Pn Pn 00 32 44.5 +0.5
BOAB BOACO BROADBAN 13.71 338 Pn Pn 00 32 44.6 -0.3
CNGN Cerro Negro 14.18 334 Pn Pn 00 32 50.6 -0.7
MATN Matagalpa 14.25 338 Pn 00 32 52.1 -0.3
CRIN San Cristobal 14.51 333 Pn 00 32 55.4 -0.4
URIC Uribia, Colomb 14.61 35 Pn 00 32 56.3 -0.8
URIC Uribia, Colomb 14.61 35 eP Pn 00 32 56.7 -0.5
URIC i 00 34 40.3
comp=Z,7.3nm,0.6s
URIC eS Sn 00 35 33.2 -6.0
BAUV El Baul 15.41 53 Pn 00 33 08.3 +0.3
TGUH Tegucigalpa,Un 15.81 335 Pn Pn 00 33 11.3 -2.0
TGUH IAmb IAmb 00 33 24.8
comp=Z,252nm,1.1s
HATO Hato, Curacao 16.87 42 Pn 00 33 25.9 -0.7
HATO IAmb IAmb 00 33 48.5
comp=Z,992nm,1.4s
MTO3 Montecristo 17.09 329 Pn 00 33 28.0 -1.6
ESQI Esquipulas 17.22 330 Pn 00 33 29.1 -2.0
ESQI IAmb IAmb 00 34 10.3
comp=Z,491nm,1.4s

BIRV Birongo 17.73 52 P Pn 00 33 36.5 -0.8
MTDJ Mount Denham 18.66 9 P P 00 33 44.9 -3.7
PETF Flores 19.49 332 P P 00 33 55.6 -2.0
PETF IAmb IAmb 00 34 08.2
comp=Z,1µm,2.8s
FSCY Frank Sound, G 19.54 358 P P 00 33 54.4 -3.6
FSCY IAmb IAmb 00 34 01.9
comp=Z,559nm,1.4s
MACA Manacapuru-AM 19.95 98 eP Pn 00 34 04.0 -0.3
CBCY The Bluff, Cay 19.96 2 P P 00 33 58.0 -4.6
LPAZ La Paz 19.97 143 P P 00 34 03.5 0.0
comp=Z,1.6nm,0.3s,baz=315,slow=9.4,SNR=22
LPAZ La Paz 19.97 143 eP P 00 34 04.4 +1.0
LPAZ La Paz 19.97 143 P P 00 34 04.4 +1.0
JAKH Jacmel 20.03 22 P P 00 34 00.8 -2.6
JAKH IAmb IAmb 00 34 32.0
comp=Z,502nm,1.7s
BOAV Boa Vista 20.10 82 eP Pn 00 34 06.8 +0.6
CCIG Comitan 20.14 326 P P 00 34 01.7 -3.1
LGNH Logne 20.25 22 P P 00 34 04.3 -1.5
LGNH IAmb IAmb 00 34 10.3
comp=Z,213nm,1.1s
PB12 IPOC Station P 20.71 152 P P 00 34 10.9 +0.1
GTBY Guantanamo Bay 20.80 14 P P 00 34 11.1 -0.7
PB16 IPOC Station P 20.87 150 P P 00 34 13.8 +0.7
BANI BANI 21.09 28 P P 00 34 14.2 -0.8
SDDR Presa de Saban 21.20 25 P P 00 34 15.1 -1.0
SDDR IAmb IAmb 00 34 43.6
comp=Z,232nm,1.2s
SDDR Presa de Saban 21.20 25 eP P 00 34 13.6 -2.6
SC01 Santiago de Io 21.83 25 P P 00 34 22.6 -0.3
DR12 Loma Pena Alta 21.89 29 P P 00 34 23.0 -0.6
PB11 IPOC Station P 22.01 152 P P 00 34 25.1 +0.1
PB11 IAmb IAmb 00 34 33.7
comp=Z,143nm,0.8s
GO01 Chusmiza 22.15 151 P P 00 34 27.6 +0.8
GO01 IAmb IAmb 00 34 54.0
comp=Z,313nm,1.4s
PCDR Punta Cana, DR 22.17 32 P P 00 34 26.0 -0.5
TA02 Huaiquique 22.24 154 P P 00 34 27.3 0.0
TA02 IAmb IAmb 00 34 39.8
comp=Z,181nm,1.1s
GRGR Grenville 22.39 56 P P 00 34 27.4 -1.6
GRGR IAmb IAmb 00 34 59.4
comp=Z,267nm,1.1s
CMIG Matias Romero 22.41 321 P P 00 34 27.7 -1.4
comp=Z,31nm,0.9s,baz=120,slow=7.3,SNR=19
CRPR Cabo Rojo, PR 22.46 35 P P 00 34 30.0 +0.4
CRPR IAmb IAmb 00 34 53.4
comp=Z,120nm,1.1s
MLPR Magueyes Islan 22.46 35 P P 00 34 29.2 -0.5
MLPR IAmb IAmb 00 34 37.9
comp=Z,261nm,1.3s
TA01 Diego Aracena 22.48 154 P P 00 34 30.0 +0.2
TA01 IAmb IAmb 00 34 35.3
comp=Z,112nm,1.0s
PB08 IPOC Station P 22.58 151 P P 00 34 31.2 -0.1
PB08 IAmb IAmb 00 34 56.4
comp=Z,675nm,2.1s
PRSN Puerto Rico Se 22.60 35 P P 00 34 31.0 -0.2
ICMP Isla Caja de M 22.70 36 P P 00 34 31.0 -1.2
ICMP IAmb IAmb 00 34 54.8
comp=Z,406nm,1.3s
PATCX Punta Patache 22.71 154 P P 00 34 31.6 -0.8
PATCX IAmb IAmb 00 34 38.0
comp=Z,253nm,1.4s
OBIP Obispado Ponce 22.78 36 P P 00 34 32.7 -0.3
OBIP IAmb IAmb 00 34 54.9
comp=Z,532nm,1.7s
CELP Cerrillos 22.82 36 P P 00 34 33.0 -0.5
CELP IAmb IAmb 00 34 51.0
comp=Z,191nm,1.1s
AGPR Aguadilla, PR 22.82 34 P P 00 34 33.0 -0.5
TOSP Speyside 22.91 59 P P 00 34 32.5 -2.0
TOSP IAmb IAmb 00 34 46.3
comp=Z,97nm,0.8s
AOPR Arecibo Observ 22.93 35 P P 00 34 33.6 -1.1
SJG San Juan 23.10 37 P P 00 34 34.8 -1.6
comp=Z,60nm,0.8s,baz=230,slow=5.0,SNR=24
SJG San Juan 23.10 37 P P 00 34 35.3 -1.1
PDPR Patillas Dam, 23.11 37 P P 00 34 35.9 -0.5
PDPR IAmb IAmb 00 34 57.4
comp=Z,316nm,1.4s
EMPR Esperanza - Ma 23.16 35 P P 00 34 36.1 -0.9
PB02 IPOC Station P 23.26 154 P P 00 34 38.2 0.0
PB02 IAmb IAmb 00 35 32.7
comp=Z,98nm,1.0s
GCPR Guaynabo City 23.29 37 P P 00 34 37.6 -0.8
SVB Belmont 23.34 54 P P 00 34 38.3 -0.6
SVB IAmb IAmb 00 34 49.6
comp=Z,338nm,1.6s
CBYP Canovanas 23.40 37 P P 00 34 37.8 -1.7
CBYP IAmb IAmb 00 34 55.6
comp=Z,370nm,1.4s
MTP Monte Pirata 23.45 38 P P 00 34 39.4 -0.5
GRTK Grand Turk 23.54 22 P P 00 34 40.0 -0.7
GRTK IAmb IAmb 00 35 30.3
comp=Z,493nm,1.8s
PB07 IPOC Station P 23.63 155 P P 00 34 41.8 -0.1
CDVI St. Croix 23.69 40 P P 00 34 41.4 -0.9
CUPR Culebra, Puert 23.78 38 P P 00 34 42.9 -0.2
PB09 IPOC Station P 23.97 154 P P 00 34 45.4 +0.3
PB09 IAmb IAmb 00 35 15.7
comp=Z,200nm,1.2s
STVI Saint Thomas 24.02 39 P P 00 34 45.1 -0.2
STVI IAmb IAmb 00 34 56.7
comp=Z,241nm,1.4s
BIM Bigot 24.19 52 P P 00 34 46.1 -1.0
FDF Fort de France 24.26 51 P P 00 34 46.6 -1.1
FDF pmax pmax
comp=Z,156nm,0.9s
FDF Fort de France 24.26 51 P P 00 34 46.6 -1.1
FDF IAmb IAmb 00 34 56.5
comp=Z,156nm,0.9s
SVN Savane Anatole 24.31 51 P P 00 34 47.0 -1.2
MPOM Morne Pois Mar 24.32 52 P P 00 34 46.6 -1.6
ILAM Ilet Lapin Mar 24.50 51 P P 00 34 49.2 -0.6
DLPL La Plaine 24.54 50 P P 00 34 49.9 -0.4
TDBA Terre de Bas, 24.57 48 P P 00 34 50.2 -0.2
SIV San Ignacio 24.65 130 P P 00 34 51.1 -0.2
comp=Z,29nm,0.6s,baz=304,slow=9.3,SNR=26
CBE Ff, Capester 24.73 48 P P 00 34 52.2 +0.2
CBE IAmb IAmb 00 34 56.9
comp=Z,253nm,1.2s
GDHS Morne Mazeau, 24.74 47 P P 00 34 51.6 -0.5
GDHS IAmb IAmb 00 35 11.4
comp=Z,197nm,1.0s
LVC Limon Verde 24.83 154 P P 00 34 53.6 +0.4
comp=Z,42nm,1.0s,baz=306,slow=5.0,SNR=18
LVC Limon Verde 24.83 154 eP P 00 34 54.1 +0.9
LVC Limon Verde 24.83 154 P P 00 34 53.2 0.0
LVC IAmb IAmb 00 35 29.0
comp=Z,308nm,1.6s
LVC Limon Verde 24.83 154 eP P 00 34 54.4 +1.2
ITTB Itaituba 25.01 100 eP P 00 34 54.9 +0.3
ABD La Joyeuse, An 25.07 47 P P 00 34 54.5 -0.5
ABD IAmb IAmb 00 35 45.1
comp=Z,268nm,1.3s
PB15 IPOC Station P 25.12 156 P P 00 34 56.4 +0.8
PB15 IAmb IAmb 00 35 37.9
comp=Z,139nm,1.4s
TLJG Tlapa 25.19 316 P P 00 34 54.6 -1.6
GDSD La Dsirade Is 25.28 48 P P 00 34 55.7 -1.3
ANWB Willy Bob 25.64 45 P P 00 34 59.2 -0.9
NPGB Novo Progresso 25.90 105 eP P 00 35 01.4 -1.2
PB14 IPOC Station P 26.03 159 P P 00 35 03.6 -0.5
PDRB Porto dos Gac 26.08 116 eP P 00 35 04.9 +0.7
MALB Monte Alegre 26.22 93 eP P 00 35 07.0 +1.4
CLDB Colider 26.64 114 eP P 00 35 09.7 +0.4
GO02 Mina Guanaco 26.82 158 P P 00 35 11.9 +0.8
GO02 IAmb IAmb 00 35 56.1
comp=Z,73nm,1.0s
AC01 Pan de Azucar 27.36 160 P P 00 35 15.9 +0.2
MDP Montagnes des 28.29 79 P P 00 35 23.2 -0.9
comp=Z,11nm,0.6s,baz=256,slow=8.3,SNR=15
MCPB Macapa, AP 28.39 90 eP P 00 35 25.6 +0.5
AC02 Maricunga 28.51 158 P P 00 35 26.4 -0.1
AC06 Mina Casimiro 28.56 161 P P 00 35 26.6 +0.2
AC06 IAmb IAmb 00 35 36.5
comp=Z,108nm,1.9s
PRPB Parauapebas 31.11 101 eP P 00 35 48.3 -1.0
AQDB Aquidauana 31.41 131 P P 00 35 51.0 -0.7
AQDB IAmb IAmb 00 35 55.5
comp=Z,143nm,1.1s

ZAIG Zacatecas 31.48 318 P P 00 35 52.6 0.0
154A Montrose 32.87 356 P P 00 36 03.0 -1.3
baz=175
H03N2 Juan Fernandez 32.96 178 T T 01 12 09.7
baz=354,slow=74,SNR=5.3
H03N1 Juan Fernandez 32.97 178 T T 01 11 26.7
baz=354,SNR=6.5
H03N3 Juan Fernandez 32.98 178 T T 01 12 09.4
baz=354,slow=74,SNR=6.4
152A Waverly Hall 33.07 353 P P 00 36 06.6 +0.4
baz=172
344A Westbrook Farm 33.08 344 P P 00 36 05.9 -0.3
344A IAmb IAmb 00 36 15.2
comp=Z,126nm,1.0s
344A Westbrook Farm 33.08 344 P P 00 36 06.5 +0.3
baz=161,SNR=9.2
NHSC New Hope 33.26 0 P P 00 36 09.6 +1.9
baz=180
HKT Hockley 33.50 335 P P 00 36 09.9 +0.1
HKT pmax pmax
comp=Z,26nm,1.3s
HKT Hockley 33.50 335 P P 00 36 09.9 +0.1
GOGA Godfrey 33.69 355 P P 00 36 09.3 -2.1
GOGA pmax pmax
comp=Z,23nm,0.8s
GOGA Godfrey 33.69 355 P P 00 36 09.3 -2.1
GOGA Godfrey 33.69 355 P P 00 36 12.3 +0.8
baz=175
LRAL Lakeview Retre 33.76 350 P P 00 36 11.1 -1.0
LRAL IAmb IAmb 00 36 18.2
comp=Z,47nm,0.9s
LRAL Lakeview Retre 33.76 350 P P 00 36 13.0 +0.9
baz=168,SNR=5.8
LRAL Lakeview Retre 33.76 350 P P 00 36 12.8 +0.7
baz=168,SNR=5.8
146A Union 33.79 347 P P 00 36 13.1 +0.8
baz=164
833A Chaparral WMA, 33.79 329 P P 00 36 13.6 +1.2
baz=144,SNR=11
833A Chaparral WMA, 33.79 329 P P 00 36 15.8 +3.3
baz=144,SNR=11
SMTB Santa Maria do 33.80 105 eP P 00 36 12.2 -0.6
CPUP Villa Florida 34.12 141 P P 00 36 16.3 +1.0
comp=Z,12nm,1.1s,baz=360,slow=7.2,SNR=5.0
CPUP Villa Florida 34.12 141 P P 00 36 16.3 +1.0
Z47A Carrollton 34.12 349 P P 00 36 15.7 +0.5
baz=166,SNR=5.9
HODGE Hodges 34.43 357 P P 00 36 16.7 -1.1
HODGE IAmb IAmb 00 36 24.1
comp=Z,45nm,1.0s
HODGE Hodges 34.43 357 P P 00 36 18.6 +0.8
baz=177
Y49A Blount Mountai 34.47 351 P P 00 36 18.7 +0.4
baz=170
NATX Nacogdoches 34.64 338 P P 00 36 19.9 +0.1
NATX IAmb IAmb 00 36 26.9
comp=Z,80nm,1.1s
NATX Nacogdoches 34.64 338 P P 00 36 22.9 +3.2
baz=154
BO04 La Punta 34.73 166 P P 00 36 22.0 +1.4
BO04 IAmb IAmb 00 37 11.2
comp=Z,91nm,1.4s
435B Jarrell 34.97 334 P P 00 36 25.7 +3.0
baz=149
PAULI Pauline 35.00 358 P P 00 36 22.6 -0.2
PAULI IAmb IAmb 00 36 57.4
comp=Z,94nm,1.5s
BO01 Tunca 35.00 166 P P 00 36 23.7 +0.9
BO01 IAmb IAmb 00 37 00.0
comp=Z,238nm,2.3s
FPAL Fort Paine 35.03 353 P P 00 36 20.8 -2.4
FPAL IAmb IAmb 00 36 30.5
comp=Z,53nm,0.8s
Y45A Yeager Farm, C 35.08 347 P P 00 36 27.2 +3.8
baz=164,SNR=5.4
X48A Hartselle 35.15 351 P P 00 36 23.5 -0.6
X48A Hartselle 35.15 351 P P 00 36 24.5 +0.3
baz=169,SNR=5.8
BG3 Lake Jocassee 35.22 356 P P 00 36 22.8 -1.9
BG3 IAmb IAmb 00 36 31.7
comp=Z,58nm,0.9s
CASEE Lake Jocassee 35.22 356 P P 00 36 23.3 -1.5
baz=176,SNR=12
KMSC Kings Mountain 35.30 359 P P 00 36 26.6 +1.1
baz=178
Z41A Richland Creek 35.38 342 P P 00 36 27.4 +1.2
baz=158,SNR=5.0
Z41A P P 00 36 27.4 +1.2
baz=158,SNR=5.0
Z41A Richland Creek 35.38 342 P P 00 36 28.9 +2.8
baz=158,SNR=5.0
GO05 Huala 35.40 168 P P 00 36 25.7 -0.7
BDFB Brasilia 35.44 117 P P 00 36 26.1 -1.0
comp=Z,33nm,0.9s,baz=278,slow=8.0,SNR=15
BDFB Brasilia 35.44 117 P P 00 36 25.8 -1.2
BDFB IAmb IAmb 00 36 53.1
comp=Z,204nm,1.9s
BO02 Sierra Bellavi 35.45 166 P P 00 36 27.2 +0.4
SWET Sewanee 35.74 352 P P 00 36 27.8 -1.4
SWET IAmb IAmb 00 36 34.7
comp=Z,38nm,0.8s
JCT Junction City 35.75 331 P P 00 36 29.3 -0.1
JCT pmax pmax
comp=Z,171nm,1.1s
JCT Junction City 35.75 331 P P 00 36 29.3 -0.1
JCT Junction City 35.75 331 P P 00 36 30.1 +0.7
baz=146,SNR=54
JCT Junction City 35.75 331 P P 00 36 30.3 +0.9
baz=146,SNR=54
BBSR BB Station 35.77 23 P P 00 36 29.2 -0.3
BBSR IAmb IAmb 00 36 31.9
comp=Z,74nm,1.1s
CPCT Cooper Cave 35.80 354 P P 00 36 27.6 -2.2
CPCT IAmb IAmb 00 36 36.3
comp=Z,71nm,0.9s
PLAL Pickwick Lake 35.85 349 P P 00 36 29.7 -0.5
PLAL IAmb IAmb 00 36 36.5
comp=Z,174nm,2.3s
TKL Tuckaleechee C 35.94 355 P P 00 36 30.1 -0.9
comp=Z,11nm,0.9s,baz=152,slow=11,SNR=8.5
TKL Tuckaleechee C 35.94 355 P P 00 36 29.7 -1.3
TKL pmax pmax
comp=Z,32nm,0.9s
TKL Tuckaleechee C 35.94 355 P P 00 36 29.6 -1.3
TKL Tuckaleechee C 35.94 355 P P 00 36 31.3 +0.4
baz=174
WHTX Lake Whitney, 35.95 335 P P 00 36 34.0 +2.9
baz=150
V51A Loudon 36.14 355 P P 00 36 31.7 -0.9
baz=173
ML02 Panimavida 36.24 168 P P 00 36 34.2 +0.8
ML02 IAmb IAmb 00 36 45.1
comp=Z,49nm,0.8s
V48A Smith Brothers 36.38 351 P P 00 36 33.1 -1.6
baz=169,SNR=20
ROSB Rosrio 36.39 94 eP P 00 36 37.0 +1.9
X40A Basin Creek Fa 36.53 343 P P 00 36 36.4 +0.4
baz=159
CLTN Cedars of Leba 36.65 352 P P 00 36 35.9 -1.1
TZTN Tazewell 36.80 356 P P 00 36 36.1 -2.2
TZTN IAmb IAmb 00 36 44.7
comp=Z,56nm,1.0s
TZTN Tazewell 36.80 356 P P 00 36 38.5 +0.2
baz=175
MIAR Mount Ida 36.81 342 P P 00 36 40.6 +2.2
MIAR pmax pmax
comp=Z,39nm,1.8s
MIAR Mount Ida 36.81 342 P P 00 36 39.3 +0.9
baz=158,SNR=5.4
MIAR Mount Ida 36.81 342 P P 00 36 39.1 +0.7
baz=158,SNR=5.4
TX32 Lajitas Array 36.91 325 P P 00 36 38.8 -0.6
TX32 IAmb IAmb 00 37 24.4
comp=Z,139nm,2.7s
TXAR Lajitas Array 36.91 325 P P 00 36 40.1 +0.7
comp=Z,8.2nm,1.1s,baz=143,slow=8.4,SNR=14
TXAR PcP PcP 00 39 01.4 +0.4
comp=Z,4.3nm,1.0s,baz=152,slow=5.9,SNR=2.5
TXAR Lajitas Array 36.91 325 P P 00 36 38.8 -0.6
TXAR Lajitas Array 36.91 325 P P 00 36 38.8 -0.6
WVT Waverly 36.92 350 P P 00 36 39.1 -0.2
WVT pmax pmax
comp=Z,29nm,0.9s
WVT Waverly 36.92 350 P P 00 36 36.8 -2.5
baz=168
ITQB Itaqui 36.97 144 P P 00 36 39.4 -0.4

U49A Red Boiling Sp 36.99 353 P **P** **00 36 38.0 -1.9**
U49A Red Boiling Sp 36.99 353 P **P** **00 36 39.0 -0.9**
baz=171
W41B Gary Mavity, V 37.01 344 P **P** **00 36 38.5 -1.6**
W41B Gary Mavity, V 37.01 344 P **P** **00 36 37.9 -2.1**
baz=160,SNR=6.6
W41B Gary Mavity, V 37.01 344 P **P** **00 36 40.3 +0.3**
baz=160,SNR=6.6
T57A Hurt 37.16 2 P **P** **00 36 39.4 -1.9**
T59A Double "B" Far 37.22 4 P **P** **00 36 42.4 +0.7**
baz=185
T59A P **P** **00 36 42.4 +0.7**
baz=185
SLBS Sierra La Lagu 37.29 312 P **P** **00 36 42.3 -0.5**
BLA Blacksburg 37.36 0 P **P** **00 36 42.6 -0.5**
BLA pmax pmax
comp=Z,56nm,1.2s
BLA Blacksburg 37.36 0 P **P** **00 36 42.6 -0.5**
BLA Blacksburg 37.36 0 P **P** **00 36 44.5 +1.5**
baz=180
T50A Nancy 37.39 354 P **P** **00 36 43.3 0.0**
baz=173
T50A P **P** **00 36 43.3 0.0**
baz=173
ABTX Abilene, Hawle 37.45 333 P **P** **00 36 43.9 -0.1**
baz=147,SNR=16
ABTX Abilene, Hawle 37.45 333 P **P** **00 36 46.4 +2.4**
baz=147,SNR=16
W39A Magazine 37.48 342 P **P** **00 36 42.8 -1.2**
W39A IAmb IAmb 00 36 50.5
comp=Z,70nm,0.9s
W39A Magazine 37.48 342 P **P** **00 36 44.9 +0.8**
baz=158,SNR=16
W39A Magazine 37.48 342 P **P** **00 36 45.0 +1.0**
baz=158,SNR=16
LCAR Lake Charles 37.56 346 P **P** **00 36 41.4 -3.3**
baz=162,SNR=25
T47A Sharon Grove 37.64 351 P **P** **00 36 44.4 -1.1**
baz=169
FCAR Ozark Folk Cen 37.65 344 P **P** **00 36 43.2 -2.2**
S51A Beattyville 37.90 356 P **P** **00 36 46.6 -1.0**
baz=175
S51A P **P** **00 36 46.6 -1.0**
baz=175
T45A Paducah 37.94 349 P **P** **00 36 47.2 -0.7**
PBMO Poplar Bluff 38.07 347 P **P** **00 36 47.5 -1.5**
baz=164
U40A Yellville 38.28 344 P **P** **00 36 51.6 +0.8**
baz=160,SNR=8.0
U40A P **P** **00 36 51.6 +0.8**
baz=160,SNR=8.0
U40A Yellville 38.28 344 P **P** **00 36 51.6 +0.8**
baz=160,SNR=8.0
HHAR Hobbs 38.53 342 P **P** **00 36 52.0 -0.9**
baz=158
R50A Paris 38.59 355 P **P** **00 36 53.4 0.0**
baz=174
R50A P **P** **00 36 53.4 0.0**
baz=174
TUL1 Leonard 38.79 340 **P** **00 36 53.9 -1.1**
TUL1 Leonard 38.79 340 P **P** **00 36 54.2 -0.8**
baz=155,SNR=6.9
TUL1 Leonard 38.79 340 P **P** **00 36 57.3 +2.2**
baz=155,SNR=6.9
WMOK Wichita Mounta 38.88 336 P **P** **00 36 55.3 -0.6**
WMOK pmax pmax
comp=Z,40nm,1.0s
WMOK Wichita Mounta 38.88 336 P **P** **00 36 55.3 -0.6**
WMOK Wichita Mounta 38.88 336 P **P** **00 36 56.3 +0.4**
baz=150,SNR=8.6
WMOK Wichita Mounta 38.88 336 P **P** **00 36 56.4 +0.4**
baz=150,SNR=8.6
NBPS Pedro II - PI 39.17 97 *e*P **P** **00 36 58.8 +0.1**
LC01 Cunco 39.17 169 P **P** **00 36 58.5 +0.2**
FVM French Village 39.23 347 P **P** **00 36 56.7 -2.0**
FVM pmax pmax
comp=Z,62nm,1.0s
FVM French Village 39.23 347 P **P** **00 36 56.7 -2.0**
FVM French Village 39.23 347 P **P** **00 36 56.4 -2.4**
baz=164,SNR=20
CCM Cathedral Cave 39.48 347 P **P** **00 36 58.0 -2.8**
CCM pmax pmax
comp=Z,331nm,2.3s
CCM Cathedral Cave 39.48 347 P **P** **00 36 58.0 -2.8**
CCM IAmb IAmb 00 37 07.5
comp=Z,331nm,2.3s
CCM Cathedral Cave 39.48 347 P **P** **00 36 59.1 -1.7**
baz=163,SNR=9.4
CCM Cathedral Cave 39.48 347 P **P** **00 36 59.7 -1.1**
baz=163
OLIL Olney 39.51 351 P **P** **00 37 00.8 -0.3**
baz=168,SNR=15
P53A Whipple 39.64 359 P **P** **00 37 00.9 -1.2**
baz=179
P53A P **P** **00 37 00.9 -1.2**
baz=179
MNTX Cornudas Mount 39.66 326 P **P** **00 37 01.8 -0.6**
MNTX Cornudas Mount 39.66 326 P **P** **00 37 02.1 -0.4**
baz=139,SNR=16
MNTX Cornudas Mount 39.66 326 P **P** **00 37 02.4 0.0**
baz=139,SNR=16
S39A Bolivar 39.66 344 P **P** **00 37 01.6 -0.8**
baz=160
P52A Corning 39.81 358 P **P** **00 37 03.9 +0.4**
baz=177
SLM Saint Louis 39.81 348 P **P** **00 37 01.7 -1.9**
SLM pmax pmax
comp=Z,62nm,1.0s
SLM Saint Louis 39.81 348 P **P** **00 37 01.7 -1.9**
SLM IAmb IAmb 00 37 08.7
comp=Z,62nm,0.9s
Q44A Meyer Farm, Va 39.83 350 P **P** **00 37 01.0 -2.7**
baz=167,SNR=6.3
P49A Miami Univ. Ec 39.87 355 P **P** **00 37 02.5 -1.6**
baz=173
T35B Sooner Cattle 39.94 340 P **P** **00 37 05.9 +1.1**
baz=155,SNR=12
MSTX Muleshoe 40.05 331 P **P** **00 37 05.2 -0.5**
MSTX IAmb IAmb 00 37 12.8
comp=Z,142nm,0.9s
MSTX Muleshoe 40.05 331 P **P** **00 37 06.2 +0.4**
baz=144,SNR=25
MSTX Muleshoe 40.05 331 P **P** **00 37 06.3 +0.5**
baz=144,SNR=25
PLTB Pedras Altas 40.27 143 P **P** **00 37 07.7 +0.2**
MVL Millersville 40.31 5 P **P** **00 37 07.2 -0.5**
MVL IAmb IAmb 00 38 32.0
comp=Z,136nm,1.9s
U32A Winter Ranch, 40.39 337 P **P** **00 37 10.0 +1.5**
baz=151,SNR=22
O53A New Philadelph 40.40 359 P **P** **00 37 07.6 -0.8**
baz=179
ACSO Alum Creek Sta 40.44 357 P **P** **00 37 07.8 -1.0**
ACSO Alum Creek Sta 40.44 357 P **P** **00 37 09.1 +0.3**
baz=176
O48B Farmland 40.63 354 P **P** **00 37 09.7 -0.6**
baz=173
SSPA Standing Stone 40.84 3 P **P** **00 37 10.2 -1.9**
SSPA IAmb IAmb 00 38 38.8
comp=Z,137nm,1.8s
SSPA Standing Stone 40.84 3 P **P** **00 37 13.1 +1.0**
baz=184
N53A Lisbon 40.95 360 P **P** **00 37 11.9 -1.1**
baz=179
N53A P **P** **00 37 11.9 -1.1**
baz=179
SFIN Lafayette 40.97 352 P **P** **00 37 14.2 +1.0**
baz=170
N54A Moraine State 41.10 1 P **P** **00 37 12.9 -1.4**
baz=181,SNR=7.7
N54A Moraine State 41.10 1 P **P** **00 37 14.9 +0.6**
baz=181,SNR=7.7
PLCA Paso Flores 41.20 169 P **P** **00 37 15.8 +0.6**
comp=Z,18nm,0.9s,baz=346,slow=10,SNR=19
PLCA Paso Flores 41.20 169 P **P** **00 37 15.7 +0.5**
PLCA IAmb IAmb 00 38 28.1
comp=Z,522nm,2.7s
PLCA Paso Flores 41.20 169 *e*P **P** **00 37 16.5 +1.3**
N59A State Game Lan 41.28 5 P **P** **00 37 15.4 -0.3**
baz=187
NBPN Ponto Novo - B 41.34 106 *e*P **P** **00 37 16.3 -0.3**
HDIL Hopedale 41.49 350 P **P** **00 37 15.9 -1.5**
HDIL IAmb IAmb 00 37 21.8
comp=Z,56nm,0.7s
HDIL Hopedale 41.49 350 P **P** **00 37 16.6 -0.8**
baz=167
M53A WI Miller and 41.58 360 P **P** **00 37 18.3 +0.2**
baz=180
121A Cookes Peak, D 41.65 324 P **P** **00 37 18.6 -0.5**
121A Cookes Peak, D 41.65 324 P **P** **00 37 19.9 +0.8**
baz=136,SNR=13
121A Cookes Peak, D 41.65 324 P **P** **00 37 21.5 +2.4**
baz=136,SNR=13
ALLY Alegheny Colle 41.79 0 P **P** **00 37 20.4 +0.5**
baz=180
KSPA Keystone Colle 41.91 5 P **P** **00 37 20.7 -0.2**
KSU1 Kansas State U 41.95 341 P **P** **00 37 19.8 -1.4**
KSU1 IAmb IAmb 00 37 27.4
comp=Z,107nm,0.8s
KSU1 Kansas State U 41.95 341 P **P** **00 37 22.0 +0.7**
baz=156,SNR=14
KSU1 Kansas State U 41.95 341 P **P** **00 37 22.0 +0.7**
baz=156,SNR=14
R32A Long Quarter, 42.07 338 P **P** **00 37 23.4 +1.1**
baz=152,SNR=21
NBMA Muriti-CE 42.14 101 *e*P **P** **00 37 23.6 +0.3**
Y22A Socorro 42.21 326 P **P** **00 37 24.1 +0.4**
baz=138,SNR=12
ERPA Erie 42.26 1 P **P** **00 37 22.5 -1.2**
ERPA IAmb IAmb 00 38 43.4
comp=Z,231nm,1.9s
ERPA Erie 42.26 1 P **P** **00 37 23.6 -0.1**
baz=181
BINY Binghamton 42.53 5 P **P** **00 37 24.8 -1.2**
BINY Binghamton 42.53 5 P **P** **00 37 25.3 -0.6**
baz=187
L59A Walton 42.61 6 P **P** **00 37 26.6 0.0**
baz=188
L59A P **P** **00 37 26.6 0.0**
baz=188
ANMO Albuquerque 42.70 328 *i* P **P** **00 37 27.0 -0.6**
ANMO Albuquerque 42.70 328 P **P** **00 37 26.7 -1.0**
ANMO IAmb IAmb 00 37 35.3
comp=Z,74nm,1.1s
ANMO Albuquerque 42.70 328 P **P** **00 37 28.4 +0.8**
baz=140,SNR=39
ANMO Albuquerque 42.70 328 P **P** **00 37 28.3 +0.7**
baz=140
CBKS Cedar Bluff 42.80 338 P **P** **00 37 31.0 +2.8**
baz=151,SNR=5.3
CBKS Cedar Bluff 42.80 338 P **P** **00 37 31.3 +3.1**
baz=151,SNR=5.3
MMNY Mt. Morris Dam 42.93 3 P **P** **00 37 26.5 -2.6**
L42A Oliver, Polo 42.96 350 P **P** **00 37 28.7 -0.7**
baz=166
K57A Scipio Center 43.02 4 P **P** **00 37 27.8 -2.1**
CMC01 Camacan, BA 43.08 112 *e*P **P** **00 37 31.8 +1.0**
TUC Tucson 43.30 321 P **P** **00 37 31.9 -0.6**
TUC pmax pmax
comp=Z,64nm,1.8s
TUC Tucson 43.30 321 P **P** **00 37 31.9 -0.6**
TUC Tucson 43.30 321 P **P** **00 37 34.0 +1.6**
baz=133
L40A Anamosa 43.31 348 P **P** **00 37 30.3 -1.9**
L40A Anamosa 43.31 348 P **P** **00 37 30.9 -1.4**
baz=164
T25A Trinidad 43.39 332 P **P** **00 37 33.1 -0.1**
T25A IAmb IAmb 00 37 40.9
comp=Z,104nm,1.2s
T25A Trinidad 43.39 332 P **P** **00 37 36.8 +3.6**
baz=144,SNR=26
J56A Wolcott 43.53 4 P **P** **00 37 31.8 -2.2**
RIB01 Linhares ES 43.55 118 *e*P **P** **00 37 34.3 -0.2**
SCIA State Center 43.60 346 P **P** **00 37 32.6 -2.0**
SCIA State Center 43.60 346 P **P** **00 37 37.1 +2.5**
baz=161
NBLA Lagarto - SE 43.68 106 *e*P **P** **00 37 35.4 -0.3**
JFWS Jewell Farm 43.95 350 P **P** **00 37 35.5 -1.9**
JFWS pmax pmax
comp=Z,24nm,0.7s
JFWS Jewell Farm 43.95 350 P **P** **00 37 35.5 -1.9**
JFWS Jewell Farm 43.95 350 P **P** **00 37 36.6 -0.7**
baz=166
KSCO Kaye Shedlock' 44.13 335 P **P** **00 37 43.5 +4.5**
baz=147,SNR=5.9
KSCO Kaye Shedlock' 44.13 335 P P 00 37 43.8 +4.8
baz=147,SNR=5.9
PECO Prince Edward 44.18 4 P **P** **00 37 37.2 -2.0**
PECO IAmb IAmb 00 38 41.6
comp=Z,150nm,2.0s
214A Organ Pipe Nat 44.36 319 P **P** **00 37 40.3 -0.6**
214A Organ Pipe Nat 44.36 319 P **P** **00 37 44.2 +3.3**
baz=130,SNR=8.5
SDCO Great Sand Dun 44.39 331 P **P** **00 37 40.7 -0.6**
SDCO Great Sand Dun 44.39 331 P **P** **00 37 42.0 +0.6**
baz=143,SNR=41
SDCO Great Sand Dun 44.39 331 P **P** **00 37 42.2 +0.8**
baz=143,SNR=41
BGNE Belgrade 44.54 341 P **P** **00 37 41.3 -0.9**
BGNE IAmb IAmb 00 37 50.0
comp=Z,79nm,1.1s
BGNE Belgrade 44.54 341 P **P** **00 37 43.0 +0.8**
baz=154
W18A Petrified Fore 44.63 325 P **P** **00 37 42.4 -0.8**
W18A Petrified Fore 44.63 325 P P 00 37 47.8 +4.5
baz=136,SNR=15
I42A Draeger Farm, 44.68 351 P **P** **00 37 40.3 -2.8**
baz=168,SNR=12
RCBR Riachuelo 44.80 98 P **P** **00 37 43.6 -1.1**
comp=Z,20nm,1.0s,baz=47,slow=9.2,SNR=6.7
SADO Sadowa 44.92 1 P **P** **00 37 42.7 -2.5**
SADO IAmb IAmb 00 38 44.6
comp=Z,118nm,1.7s
S22A 4UR Ranch, Cre 45.04 330 P **P** **00 37 50.4 +3.8**
baz=141,SNR=7.4
LONY Lake Ozonia 45.06 6 P **P** **00 37 45.6 -0.7**
LONY IAmb IAmb 00 38 51.3
comp=Z,102nm,1.6s
LONY Lake Ozonia 45.06 6 P **P** **00 37 45.5 -0.7**
baz=188
H43A Windswept, Lux 45.08 353 P **P** **00 37 43.5 -2.9**
baz=170,SNR=16
X16A Lo Mia Camp, P 45.14 323 P **P** **00 37 47.4 +0.1**
Q24A Divide 45.20 333 P **P** **00 37 51.6 +3.8**
baz=144,SNR=5.7
G45A Suttons Bay 45.42 355 P **P** **00 37 47.4 -1.7**
G45A IAmb IAmb 00 37 53.8
comp=Z,79nm,0.9s
G45A Suttons Bay 45.42 355 P **P** **00 37 47.9 -1.2**
baz=173,SNR=11
G45A P **P** **00 37 47.9 -1.2**
baz=173,SNR=11
MVCO Mesa Verde 45.49 328 P **P** **00 37 53.8 +3.8**
baz=139,SNR=6.3
K31A O'Neill 45.83 341 P **P** **00 37 52.0 -0.4**
WUAZ Wupatki 45.86 324 P **P** **00 37 54.9 +1.9**
baz=134,SNR=34
ISCO Idaho Springs 46.09 333 P **P** **00 37 57.2 +2.4**
baz=144
ECSD EROS Data Cent 46.20 344 P **P** **00 37 53.4 -1.9**
ECSD EROS Data Cent 46.20 344 P **P** **00 37 55.0 -0.3**
baz=157
SMCO Snowmass 46.23 331 P **P** **00 37 56.1 0.0**
SMCO IAmb IAmb 00 38 44.0
comp=Z,230nm,2.2s
GLA Glamis 46.37 319 P **P** **00 38 00.1 +3.3**
baz=129
PKME Peaks-Kenny Pk 46.47 11 P **P** **00 37 59.5 +2.2**
baz=196
PV11 David Mesa, Pa 46.50 329 P **P** **00 37 57.7 -0.2**
PV11 IAmb IAmb 00 38 04.7
comp=Z,51nm,0.8s
TRQ Mont Tremblant 46.65 6 P **P** **00 37 58.5 -0.4**
SPMN Marine on St. 46.67 348 P **P** **00 37 58.9 0.0**
baz=163
E43A Lone Tree Farm 46.87 354 P **P** **00 37 58.8 -1.6**
E43A IAmb IAmb 00 38 04.9
comp=Z,39nm,0.7s
SWSC Sam W. Stewart 46.95 318 P **P** **00 38 05.4 +4.0**
baz=128,SNR=5.2
W13A Hualapai Mount 47.08 322 P **P** **00 38 02.4 -0.2**
N23A Red Feather La 47.12 334 P P 00 38 08.5 +5.6
baz=144
BC3 Big Chuckawall 47.16 319 P P 00 38 07.7 +4.6
baz=129
IRM Iron Mountain 47.27 320 P P 00 38 08.5 +4.6
baz=129
NEE2 Needles Airpor 47.33 321 P P 00 38 09.3 +5.1
baz=130
MONP2 Monument Peak 47.33 318 P **P** **00 38 09.0 +4.4**
baz=127
O20A White River Ci 47.59 331 P **P** **00 38 10.0 +3.5**
baz=141
BELC Belle Mtn. Jos 47.73 319 P **P** **00 38 11.0 +3.4**
baz=128
D41A Chassel 47.73 353 P **P** **00 38 06.3 -0.9**
baz=169,SNR=7.1
TPFO Pinon Flats 47.78 319 P **P** **00 38 11.6 +3.6**
baz=128
PFO Pinyon Flats O 47.79 319 *i* P **P** **00 38 07.0 -1.1**
PFO pmax pmax
comp=Z,28nm,1.1s
PFO Pinyon Flats O 47.79 319 P **P** **00 38 08.3 +0.3**
PFO Pinyon Flats O 47.79 319 P **P** **00 38 11.0 +3.0**
baz=128
109C Camp Elliot, M 47.79 317 P P 00 38 12.7 +4.8
baz=126
GMRC Granite Mounta 48.00 320 P **P** **00 38 12.5 +2.8**
baz=129
HEC Hector,Ludlow 48.46 320 P P 00 38 17.8 +4.6
baz=128
LMQ La Malbaie 48.50 9 P **P** **00 38 12.2 -0.9**
LMQ IAmb IAmb 00 39 05.1
comp=Z,90nm,1.6s
BFSC Mount Baldy Ra 48.96 318 P **P** **00 38 20.7 +3.6**
baz=127
RSSD Black Hills 49.01 338 P **P** **00 38 17.6 +0.2**
RSSD pmax pmax
comp=Z,169nm,1.9s
RSSD Black Hills 49.01 338 P **P** **00 38 17.6 +0.2**
RSSD IAmb IAmb 00 38 33.6
comp=Z,169nm,1.9s
RSSD Black Hills 49.01 338 P **P** **00 38 21.7 +4.4**
baz=148
EYMN Ely 49.04 350 P **P** **00 38 19.3 +2.0**
baz=165
GSC Goldstone, Bar 49.05 320 P P 00 38 22.5 +4.8
baz=128
BATG Bathurst New B 49.06 13 P **P** **00 38 16.1 -1.3**
SHOC Shoshone, Teco 49.09 321 P **P** **00 38 20.3 +2.4**
baz=129
EDW2 Edwards Air Fo 49.57 319 P **P** **00 38 23.4 +1.7**
baz=127
TPNV Topopah Spring 49.74 322 P **P** **00 38 25.4 +2.3**
baz=130,SNR=5.7
CCAC Calif City Air 49.75 319 P **P** **00 38 23.0 0.0**
CCAC IAmb IAmb 00 38 30.4
comp=Z,44nm,1.0s
FURC Furnace Creek, 49.81 321 P **P** **00 38 25.6 +2.2**
baz=129
MPMC Manual Prospec 49.96 320 P **P** **00 38 26.7 +2.0**
baz=128
DUG Dugway, Tooele 49.97 328 P **P** **00 38 23.5 -1.2**
DUG Dugway, Tooele 49.97 328 P **P** **00 38 23.0 -1.6**
baz=136
PD31 Pinedale Array 50.25 332 P **P** **00 38 26.3 -0.6**
PD31 IAmb IAmb 00 39 25.8
comp=Z,144nm,2.2s
PDAR Pinedale Array 50.25 332 P **P** **00 38 27.4 +0.5**
comp=Z,5.0nm,1.0s,baz=135,slow=10,SNR=8.7
BW06 Boulder Array 50.25 332 P **P** **00 38 30.9 +4.0**
baz=141
AGMN Agassiz Nation 50.25 347 P **P** **00 38 26.3 -0.2**
baz=160
ARVC Arvin 50.27 319 P **P** **00 38 30.4 +3.5**
baz=126,SNR=6.4
HWUT Hardware Ranch 50.34 330 P **P** **00 38 26.5 -1.1**
HWUT IAmb IAmb 00 39 04.9
comp=Z,110nm,1.6s
ISA Isabella, Lake 50.35 319 P P 00 38 32.1 +4.5
baz=127
CWC Cottonwood Cre 50.57 320 P **P** **00 38 30.0 +0.7**
baz=128
PKM Mcpherson Peak 50.78 318 P **P** **00 38 34.6 +3.6**
baz=125
MDND Maddock 50.80 343 P **P** **00 38 34.5 +3.8**
baz=155
VES Vestal, Richgr 50.86 319 P **P** **00 38 35.4 +4.1**
baz=126,SNR=7.0
SMMC Simmler 51.15 318 P P 00 38 38.4 +4.8
baz=125
ELK Elko 51.67 326 P **P** **00 38 37.5 -0.1**
ELK pmax pmax
comp=Z,368nm,2.9s
ELK Elko 51.67 326 P **P** **00 38 37.5 -0.1**
MLAC Mammoth, Mammo 51.77 321 P **P** **00 38 41.1 +2.6**
baz=128
NVAR Mina Array Bea 51.94 322 P **P** **00 38 39.4 -0.3**
comp=Z,4.1nm,0.9s,baz=148,slow=5.8,SNR=6.5
ULM Lac du Bonnet 52.09 347 P **P** **00 38 39.5 -0.8**
comp=Z,27nm,0.5s,baz=155,slow=7.7,SNR=9.1
ULM Lac du Bonnet 52.09 347 *i* P **P** **00 38 40.5 +0.2**
ULM Lac du Bonnet 52.09 347 P **P** **00 38 38.8 -1.5**
ULM IAmb IAmb 00 38 45.2
comp=Z,34nm,0.9s
EFI East Falkland 54.53 163 *i* P **P** **00 38 58.7 +0.5**
EFI pmax pmax
comp=Z,67nm,1.0s
EFI East Falkland 54.53 163 P **P** **00 38 58.3 +0.1**
BMO Blue Mountains 55.59 329 P **P** **00 39 05.9 -0.3**
BMO pmax pmax
comp=Z,28nm,1.3s
BMO Blue Mountains 55.59 329 P **P** **00 39 05.9 -0.3**
SCHQ Schefferville 56.11 9 P **P** **00 39 06.9 -2.6**
comp=Z,15nm,1.0s,baz=195,slow=4.1,SNR=3.7
COR Corvallis 58.68 325 P **P** **00 39 31.0 +3.1**
COR pmax pmax
comp=Z,109nm,0.7s
NLWA Neilton Lookou 60.71 328 P **P** **00 39 41.9 0.0**
A04D Lummi Island 60.94 329 P **P** **00 39 47.6 +4.3**
baz=130,SNR=5.9
PGC Sidney 61.27 329 P **P** **00 39 45.8 +0.3**
HOPE Hope Point 64.74 153 P **P** **00 40 08.2 -0.3**
HOPE pmax pmax
comp=Z,155nm,1.6s
HOPE Hope Point 64.74 153 P **P** **00 40 08.2 -0.3**
IVI Ivigtut 66.15 16 P **P** **00 40 18.1 +0.5**
MACI Morro de la Ar 67.36 59 P **P** **00 40 26.0 -0.3**
YKA Yellowknife Ar 67.72 344 P **P** **00 40 24.8 -2.7**
comp=Z,3.8nm,0.6s,baz=144,slow=6.1,SNR=28
YKA Yellowknife Ar 67.72 344 P **P** **00 40 27.7 +0.2**
NUUK Nuuk 67.74 13 *i* P **P** **00 40 24.9 -2.6**
NUUK IAmb IAmb 00 40 33.3
comp=Z,22nm,0.8s
PMOZ Porto Moniz, M 67.92 54 *e*P **P** **00 40 32.4 +2.8**
PMOZ Porto Moniz, M 67.92 54 P **P** **00 40 30.6 +1.1**
PMPS Porto Santo 68.69 54 *e*P **P** **00 40 37.1 +2.9**
DLBC Dease Lake 70.36 335 P **P** **00 40 44.4 +0.3**
DLBC IAmb IAmb 00 40 51.9
comp=Z,48nm,1.1s
SFJD Kangerlussuaq 70.39 12 *i* P **P** **00 40 46.8 +2.8**
SFJD IAmb IAmb 00 40 48.7
comp=Z,6.4nm,0.8s
DY2G Dye2 70.93 14 *i* P P 00 40 42.7 -5.0
DY2G IAmb IAmb 00 40 51.8
comp=Z,16nm,0.6s
WRGLY Wrigley 70.98 341 P **P** **00 40 49.0 +1.4**
baz=134,SNR=7.7
TGTN Hyland Airport 71.54 338 P P 00 40 56.6 +5.4
baz=129,SNR=9.2
ANGG Ammassalik, Gr 72.58 17 P **P** **00 40 56.2 -1.1**
SKAG Skagway 73.21 334 P P 00 41 05.8 +4.6
baz=121
MMPY Sheldon Lake, 73.32 338 P **P** **00 41 03.3 +1.5**
baz=126,SNR=11
WHY Whitehorse 73.66 335 P **P** **00 41 06.9 +3.0**
baz=122
FARO Faro, Yukon 73.89 337 P P 00 41 10.5 +5.4
baz=124,SNR=9.6
M31M Drury Creek, Y 74.29 337 P **P** **00 41 09.1 +1.7**
baz=123,SNR=5.3
N31M Braeburn, Yuko 74.46 336 P P 00 41 13.1 +4.6
baz=121,SNR=7.1
ICESG Greenland Ices 74.55 14 *i* P **P** **00 41 04.6 -4.7**
ICESG IAmb IAmb 00 41 15.3
comp=Z,41nm,0.7s
HYT Haines Junctio 74.85 335 P **P** **00 41 12.7 +1.8**
baz=120
PNL Peninsula 75.12 333 P **P** **00 41 16.5 +4.2**
baz=118
YUK6 Outpost Mounta 75.27 335 P **P** **00 41 17.7 +4.2**
baz=119
RES Resolute Bay 75.42 356 P **P** **00 41 16.7 +3.0**
M30M Minto, Yukon 75.44 337 P **P** **00 41 16.3 +2.2**
baz=121,SNR=9.6
LIC Lamto 75.54 84 *e*P **P** **00 41 16.1 +0.4**
comp=Z,110nm,1.4s
TIC Toumodi 75.56 83 *e*P **P** **00 41 15.7 -0.1**
comp=Z,200nm,1.4s

YUK4 **Talbot Arm** 75.58 335 P P 00 41 17.3 +2.1
baz=119,SNR=6.0
PFVI **Vila Bisbo** 75.61 52 P P 00 41 15.8 +0.2
DBIC **Dimbokro** 75.73 83 P P 00 41 15.9 -0.8
comp=Z,27nm,0.9s,baz=293,slow=4.8,SNR=18
DBIC **Dimbokro** 75.73 83 P P 00 41 15.3 -1.4
DBIC pmax pmax
comp=Z,174nm,1.6s
DBIC **Dimbokro** 75.73 83 P P 00 41 15.3 -1.4
PTEO **Sao Teotonio** 75.77 51 eP P 00 41 16.2 -0.3
comp=Z,113nm,1.8s
MORF **Marmelete** 75.78 51 eP P 00 41 17.9 +1.2
MORF IAmb IAmb 00 41 20.3
comp=Z,88nm,1.1s
MORF **Marmelete** 75.78 51 eP P 00 41 18.1 +1.4
comp=Z,152nm,1.8s
MORF **Marmelete** 75.78 51 eP P 00 41 18.0 +1.4
KIC **Kosan Boka** 75.83 83 eP P 00 41 17.3 0.0
comp=Z,95nm,0.9s
PACT **Alcochete** 75.94 50 eP P 00 41 20.7 +3.3
PNCL **Nicolau / Gran** 76.04 51 eP P 00 41 19.2 +1.2
comp=Z,73nm,1.3s
PSBE **So Bento** 76.12 49 eP P 00 41 19.3 +0.8
comp=Z,86nm,1.7s
PCVE **Castro Verde** 76.32 51 eP P 00 41 20.5 +0.8
PBDV **Barranco-do-Ve** 76.33 52 eP P 00 41 21.4 +1.6
PCAS **Casmilo, Conde** 76.46 49 eP P 00 41 21.4 +1.0
comp=Z,168nm,1.6s
PMTG **Montargil** 76.46 50 eP P 00 41 20.7 +0.3
EVO **Evora** 76.52 50 eP P 00 41 21.2 +0.4
comp=Z,89nm,1.4s
PVAQ **Vaqueiros** 76.53 51 eP P 00 41 21.7 +0.9
YUK3 **Moose Creek** 76.56 335 P P 00 41 22.1 +1.3
baz=117,SNR=9.8
COI **Coimbra** 76.56 49 eP P 00 41 20.6 -0.3
comp=Z,267nm,1.6s
COI **Coimbra** 76.56 49 P P 00 41 19.7 -1.2
COI pmax pmax
comp=Z,139nm,0.9s
COI **Coimbra** 76.56 49 P P 00 41 19.7 -1.2
CTG **Chitna Glacier** 76.57 334 P P 00 41 22.7 +1.9
baz=116,SNR=5.9
PTO **Porto** 76.61 48 eP P 00 41 20.2 -1.0
comp=Z,150nm,1.6s
PESTR **Estremoz** 76.91 50 eP P 00 41 22.2 -0.8
comp=Z,133nm,1.4s
PESTR **Estremoz** 76.91 50 P P 00 41 21.9 -1.1
PESTR IAmb IAmb 00 41 32.9
comp=Z,49nm,1.1s
J29M **Klondike Camp** 76.94 338 P P 00 41 24.3 +1.7
baz=120,SNR=8.6
KOWA **Kowa** 76.95 75 P P 00 41 22.5 -1.1
BVCY **Beaver Creek** 77.01 335 P P 00 41 27.0 +3.9
baz=117,SNR=9.5
PGAV **Gavieira, Arco** 77.03 47 eP P 00 41 26.4 +2.7
PVIS **Viseu** 77.05 48 eP P 00 41 23.1 -0.7
comp=Z,98nm,1.6s
PCAB **Cabril** 77.16 47 eP P 00 41 25.3 +1.0
comp=Z,75nm,1.7s
PMRV **Marv??o** 77.17 49 eP P 00 41 26.1 +1.7
comp=Z,68nm,1.5s
PCBR **Castelo Branco** 77.19 49 eP P 00 41 24.6 +0.1
comp=Z,63nm,1.2s
DAWY **Dawson** 77.19 337 P P 00 41 23.6 -0.5
DAWY IAmb IAmb 00 41 31.5
comp=Z,36nm,0.8s
DAWY **Dawson** 77.19 337 P P 00 41 24.6 +0.5
baz=119,SNR=13
PBAR **Barrancos** 77.20 51 eP P 00 41 25.5 +0.9
comp=Z,48nm,1.6s
MTE **Mantelgas** 77.25 48 eP P 00 41 25.2 +0.3
POLO **Lamas de Olo** 77.26 47 eP P 00 41 25.5 +0.5
comp=Z,3.9nm,0.6s
INK **Inuvik** 77.41 342 P P 00 41 24.2 -0.9
INK pmax pmax
comp=Z,56nm,1.1s
INK **Inuvik** 77.41 342 P P 00 41 24.2 -0.9
INK IAmb IAmb 00 41 32.6
comp=Z,56nm,1.1s
INK **Inuvik** 77.41 342 P P 00 41 26.0 +0.9
baz=125,SNR=12
M27K **Edge Creek, AK** 77.41 335 P P 00 41 27.2 +1.7
baz=116,SNR=12
I29M **Ogilvie Camp,** 77.42 339 P P 00 41 25.8 +0.5
baz=120,SNR=27
MCARA **McCarthy VSAT** 77.49 334 P P 00 41 29.3 +3.6
baz=115,SNR=13
A36M **Sachs Harbour** 77.57 347 P P 00 41 24.7 -1.2
baz=134,SNR=28
VRDI **Verde Repeater** 77.61 334 P P 00 41 26.1 -0.6
VRDI IAmb IAmb 00 41 34.1
comp=Z,30nm,1.0s
BCAR **Beaver Creek A** 77.69 336 P P 00 41 26.3 -0.6
L27K **Beaver Creek,** 77.70 336 P P 00 41 26.0 -0.9
L27K **Beaver Creek,** 77.70 336 P P 00 41 27.9 +1.0
baz=116,SNR=9.2
MVO **Moncorvo** 77.78 48 eP P 00 41 27.3 -0.6
comp=Z,97nm,1.5s
M26K **Nabesna, AK** 77.90 335 P P 00 41 27.2 -0.9
M26K **Nabesna, AK** 77.90 335 P P 00 41 32.1 +4.0
baz=115,SNR=5.4
BMRM **Bremner River** 78.02 333 P P 00 41 29.5 +0.7
baz=113,SNR=8.0
PBRG **Braganca** 78.12 47 eP P 00 41 29.3 -0.4
comp=Z,81nm,1.8s
EGAK **Eagle** 78.21 338 P P 00 41 28.4 -1.3
EGAK IAmb IAmb 00 41 36.9
comp=Z,74nm,1.1s
EGAK **Eagle** 78.21 338 P P 00 41 30.2 +0.6
baz=117,SNR=15
N25K **Chitina, Valde** 78.27 334 P P 00 41 31.9 +1.7
baz=113
L26K **Log Cabin Wild** 78.31 336 P P 00 41 33.4 +3.1
baz=115,SNR=6.5
KLU **Klutina** 78.81 334 P P 00 41 36.0 +2.9
baz=112,SNR=11
SCRK **Sand Creek** 78.97 336 P P 00 41 36.2 +2.2
baz=114,SNR=8.3
J26L **Joseph Creek** 79.02 337 P P 00 41 35.8 +1.5
baz=115,SNR=13
M24K **Tolsona, Glenn** 79.15 334 P P 00 41 36.5 +1.5
baz=112,SNR=5.9
PAX **Paxson** 79.18 335 P P 00 41 36.1 +1.0
baz=113,SNR=7.3
RIDG **Independent Ri** 79.22 336 P P 00 41 36.9 +1.5
baz=113,SNR=6.7
PAB **San Pablo** 79.51 50 P P 00 41 35.7 -1.8
PAB pmax pmax
comp=Z,36nm,1.2s
PAB **San Pablo** 79.51 50 P P 00 41 35.6 -1.8
PAB IAmb IAmb 00 41 40.2
comp=Z,36nm,1.1s
SCM **Sheep Creek Mo** 79.56 334 P P 00 41 37.0 -0.2
baz=111,SNR=8.5
PWL **Port Wells** 79.68 333 P P 00 41 38.1 +0.3
baz=110
J25K **Salcha River,** 79.78 337 P P 00 41 41.6 +3.2
baz=113,SNR=5.3
ESDC **Sonseca Array** 79.82 50 P P 00 41 38.2 -0.9
comp=Z,16nm,1.0s,baz=261,slow=5.6,SNR=24
ESDC **Sonseca Array** 79.82 50 P P 00 41 38.7 -0.4
ESDC IAmb IAmb 00 41 43.0
comp=Z,163nm,2.0s
ESBB **Sonseca Array** 79.82 50 P P 00 41 38.6 -0.6
ESBB IAmb IAmb 00 41 43.0
comp=Z,189nm,2.1s
KNK **Knik Glacier** 79.92 333 P P 00 41 41.3 +2.2
baz=110,SNR=9.2
SML **Sawmill** 80.00 333 P P 00 41 38.6 -0.9
SML IAmb IAmb 00 41 45.8
comp=Z,45nm,0.8s
SML **Sawmill** 80.00 333 P P 00 41 39.9 +0.3
baz=110,SNR=7.4
WAT6 **Susitna Watana** 80.00 334 P P 00 41 40.4 +0.7
baz=110,SNR=12
PMR **Palmer** 80.28 333 P P 00 41 41.2 +0.2
baz=109
RC01 **Rabbit Creek A** 80.40 333 P P 00 41 41.4 -0.3
baz=108,SNR=6.0
IL31 80.44 337 P P 00 41 41.8 0.0
ILAR **Eielson Array** 80.44 337 P P 00 41 42.7 +0.8
comp=Z,13nm,0.9s,baz=129,slow=3.1,SNR=33
ILAR PP PP 00 44 48.7 +3.7
comp=Z,2.6nm,0.9s,baz=108,slow=6.9,SNR=6.1
ILAR **Eielson Array** 80.44 337 P P 00 41 41.6 -0.3
ILAR **Eielson Array** 80.44 337 P P 00 41 41.6 -0.3
WAT1 **Susitna Watana** 80.44 334 P P 00 41 42.5 +0.5
baz=110
BRSE **Bradley Lake S** 80.46 331 P P 00 41 45.7 +3.6
baz=107,SNR=6.8
BRLK **Bradley Lake** 80.53 331 P P 00 41 42.6 +0.1
BRLK IAmb IAmb 00 41 48.7
comp=Z,40nm,0.9s
BMAR **Burnt Mountain** 80.61 339 P P 00 41 42.3 -0.5
M22K **Willow** 80.78 333 P P 00 41 47.5 +3.8
baz=108,SNR=6.1
KDAK **Kodiak Island** 80.83 329 iP P 00 41 42.1 -1.9
KDAK pmax pmax
comp=Z,12nm,1.3s
COLA **College** 80.86 336ciP P 00 41 44.3 +0.2
COLA pmax pmax
comp=Z,9.0nm,0.8s
MCK **McKinley** 80.91 335 P P 00 41 48.8 +4.4
baz=110,SNR=10
OHAK **Old Harbor** 81.05 328 P P 00 41 48.3 +3.1
baz=105
CUT **Chulitna** 81.05 334 P P 00 41 47.9 +2.8
baz=108,SNR=6.2
BELA **Belgrano 2** 81.20 171 P P 00 41 44.9 -0.8
BELA IAmb IAmb 00 41 54.9
comp=Z,48nm,1.4s
H24K **Noodor Dome** 81.22 337 P P 00 41 49.3 +3.3
baz=111,SNR=8.1
NEA2 **Nenana** 81.25 336 P P 00 41 49.1 +2.9
baz=110,SNR=8.2
SII **Sitkinak Islan** 81.36 327 P P 00 41 49.8 +2.9
baz=104
TRF **Thorofare Moun** 81.39 335 P P 00 41 49.8 +2.6
baz=108
O20K **Slope Mountain** 81.46 331 P P 00 41 51.6 +4.2
baz=106,SNR=6.3
I23K **Minto, Yukon-K** 81.56 337 P P 00 41 51.6 +3.9
baz=109,SNR=9.3
P19K **Oil Pt** 81.65 331 P P 00 41 51.6 +3.2
baz=105
Q19K **Cape Douglas,** 81.66 330 P P 00 41 50.7 +2.2
baz=105
ROSF **Rostrenen** 81.73 41 eP P 00 41 48.2 -0.9
ROSF pmax pmax
comp=Z,151nm,1.8s
H23K **Yukon River** 81.86 337 P P 00 41 52.2 +2.8
baz=109
BPAW **Bear Paw Mtn.** 81.89 335 P P 00 41 50.7 +1.1
baz=108,SNR=14
PPLA **Purkeypile** 82.05 334 P P 00 41 50.6 0.0
baz=106,SNR=7.1
CAST **Castle Rocks** 82.15 334 P P 00 41 50.8 -0.2
baz=107,SNR=26
SGMF **Saint Gilles** 82.19 41 eP P 00 41 53.0 +1.5
SGMF pmax pmax
comp=Z,27nm,1.0s
SJPF **Ste Jean** 82.36 47 eP P 00 41 52.2 -0.3
SJPF pmax pmax
comp=Z,110nm,1.7s
CHUM **Lake Minchumin** 82.38 335 P P 00 41 54.8 +2.6
baz=106,SNR=5.4
TOA0 **Torodi Ar. Sit** 82.42 77 P P 00 41 51.4 -2.0
TOA0 IAmb IAmb 00 41 56.2
comp=Z,33nm,1.2s
TORD **Torodi Ar. Bea** 82.42 77 P P 00 41 50.9 -2.5
comp=Z,4.6nm,0.6s,baz=290,slow=7.1,SNR=22
TORD PP PP 00 45 01.4 -1.1
comp=Z,4.0nm,1.1s,baz=270,slow=8.9,SNR=3.5
TORD **Torodi Ar. Bea** 82.42 77 P P 00 41 51.5 -1.9
TORD IAmb IAmb 00 42 57.4
comp=Z,41nm,0.8s
N19K **Bonanza Creek** 82.54 332 P P 00 41 55.4 +2.3
baz=104
COLD **Coldfoot** 82.57 338 P P 00 41 54.9 +1.8
baz=109
I21K **Tanana** 82.62 336 P P 00 41 56.5 +3.2
baz=107
O18K **Koktuh Hills** 82.67 331 P P 00 41 56.6 +2.9
baz=103,SNR=5.7
L20K **Farewell, AK** 82.69 333 P P 00 41 53.7 -0.1
baz=105,SNR=13
M19K **Big River Lodg** 82.77 333 P P 00 41 55.1 +0.9
baz=104
TOLK **Toolik Lake Re** 82.81 340 P P 00 41 58.6 +4.3
baz=110
ETSF **Etsaut** 82.81 47 eP P 00 41 56.4 +1.4
ETSF pmax pmax
comp=Z,92nm,1.8s
K20K **Telida** 83.00 334 P P 00 41 55.1 -0.3
baz=105,SNR=11
ESK **Eskdalemuir** 83.02 34 P P 00 41 54.8 -0.8
ESK pmax pmax
comp=Z,261nm,2.3s
ESK **Eskdalemuir** 83.02 34 P P 00 41 54.8 -0.8
L19K **White Mountain** 83.05 333 P P 00 41 55.9 +0.2
baz=104,SNR=7.5
H21K **Melozitna Rive** 83.09 337 P P 00 41 59.4 +3.6
baz=106
N18K **Kilae Creek** 83.19 331 P P 00 41 56.9 +0.4
baz=103,SNR=9.8
J20K **Nowinta River** 83.24 335 P P 00 41 55.6 -1.0
J20K IAmb IAmb 00 42 02.4
comp=Z,21nm,0.9s
J20K **Nowinta River** 83.24 335 P P 00 41 57.1 +0.5
baz=105,SNR=7.7
GRR **Gorron** 83.33 41 eP P 00 41 56.5 -0.9
GRR pmax pmax
comp=Z,44nm,1.0s
EPF **Esparros** 83.48 47 eP P 00 41 59.7 +1.3
EPF pmax pmax
comp=Z,74nm,1.5s
IMAR **Indian Mountai** 83.55 337 P P 00 41 57.9 -0.2
MFF **Saint Martin d** 83.57 43 eP P 00 41 57.8 -0.9
MFF pmax pmax
comp=Z,26nm,1.1s
VNA3 **Neumayer Olymp** 83.57 162 P P 00 41 59.7 +1.5
FLN **La Foliniere** 83.63 41 eP P 00 41 58.1 -0.8
FLN pmax pmax
comp=Z,36nm,1.0s
TTA **Tatalina** 83.75 334 P P 00 41 58.9 -0.5
TTA pmax pmax
comp=Z,17nm,1.2s
TTA **Tatalina** 83.75 334 P P 00 41 58.9 -0.5
TTA **Tatalina** 83.75 334 P P 00 41 59.3 -0.1
baz=103
VNA1 **Neumayer--Stat** 83.83 161 P P 00 42 01.3 +1.8
LDF **La Druitiere** 83.84 41 eP P 00 41 59.1 -0.9
LDF pmax pmax
comp=Z,24nm,0.8s
DAG **Danmarks Havn** 84.08 12 P P 00 42 01.4 +0.8
DAG pmax pmax
comp=Z,25nm,1.2s
DAG **Danmarks Havn** 84.08 12 iP P 00 41 58.0 -2.6
DAG IAmb IAmb 00 42 05.8
comp=Z,7.5nm,0.7s
VNA2 **Neumayer--Watz** 84.19 162 P P 00 42 03.1 +1.7
baz=299,slow=5.0
GCSA **Galena City Sc** 84.53 335 P P 00 42 07.1 +4.0
baz=102
MTLF **Montolieu** 84.88 47 P P 00 42 07.1 +1.6
MTLF pmax pmax
comp=Z,32nm,2.5s
CAF **Calviac** 84.92 45 eP P 00 42 06.4 +0.7
CAF pmax pmax
comp=Z,41nm,1.5s
TCF **Toulx Ste Croi** 85.16 44 eP P 00 42 05.6 -1.2
TCF pmax pmax
comp=Z,26nm,1.3s
BGF **Bois d'Agland** 85.62 43 eP P 00 42 09.8 +0.7
BGF pmax pmax
comp=Z,108nm,1.6s
SNAA **Sanae** 85.79 162 P P 00 42 10.9 +1.4
SNAA **Sanae** 85.79 162 P P 00 42 08.6 -0.8
comp=Z,8.2nm,0.9s,baz=319,slow=4.4,SNR=12
SNAA **Sanae** 85.79 162ceP P 00 42 08.9 -0.6
SNAA pmax pmax
comp=Z,11nm,1.0s
SNAA **Sanae** 85.79 162 P P 00 42 09.3 -0.2
A21K **Barrow** 85.90 342 P P 00 42 12.9 +3.0
baz=103,SNR=5.1
AVF **Avril sur Loir** 85.99 43 eP P 00 42 09.4 -1.5
AVF pmax pmax
comp=Z,35nm,1.4s
SSF **Saint Saulge** 86.11 43 eP P 00 42 11.7 +0.2
SSF pmax pmax
comp=Z,40nm,1.6s
LOR **Lormes** 86.37 43 P P 00 42 12.6 -0.2
LOR pmax pmax
comp=Z,21nm,1.6s
BAIF **Baives** 86.81 40 eP P 00 42 15.4 +0.6
BAIF pmax pmax
comp=Z,32nm,1.4s
SNF **Seneffe** 86.89 40 dPcP PcP 00 42 16.9 -0.5
DOU **Dourbes** 87.06 40 dP P 00 42 14.7 -1.4
comp=Z,15nm,1.0s
BMRD **Maredsous** 87.19 40 dP P 00 42 16.5 -0.2
BMRD dPcP PcP 00 42 18.3 -0.4
GIVF **Givet** 87.21 40 eP P 00 42 16.0 -0.8
GIVF pmax pmax
comp=Z,47nm,1.2s
BGES **Gesves** 87.40 40 dP P 00 42 16.8 -0.9
comp=Z,12nm,1.0s
BGES dPcP PcP 00 42 19.3 -0.5
RCHB **Rochefort** 87.47 40 dP P 00 42 17.9 -0.1
comp=Z,10.0nm,1.0s
TROLL **Troll, Antarti** 87.51 162 P P 00 42 19.9 +2.0
BCLA **Clavier** 87.54 40 dP P 00 42 18.3 0.0
BCLA dPcP PcP 00 42 20.2 -0.1
BSTI **Sart Tilman** 87.72 40 dP P 00 42 19.2 0.0
BSTI dPcP PcP 00 42 21.3 +0.2
CABF **La Chapelle** 87.85 44 eP P 00 42 20.8 +0.7
CABF pmax pmax
comp=Z,51nm,1.4s
BHOU **Houvegnez** 87.98 40 dPcP PcP 00 42 22.6 +0.3
MEM **Membach** 88.00 40 P P 00 42 21.5 +0.9
MEM pmax pmax
comp=Z,23nm,1.8s
MEM **Membach** 88.00 40 dP P 00 42 21.3 +0.7
WLF **Walferdange** 88.04 40 P P 00 42 20.1 -0.7
WLF pmax pmax
comp=Z,47nm,1.2s
WLF **Walferdange** 88.04 40 P P 00 42 20.1 -0.7
WLF IAmb IAmb 00 42 49.4
comp=Z,47nm,1.2s
WLF **Walferdange** 88.04 40 dPcP PcP 00 42 22.9 +0.3
BTNL **Ternell** 88.07 40 dP P 00 42 19.7 -1.3
HAU **Haudompre** 88.09 42 eP P 00 42 22.6 +1.5
HAU pmax pmax
comp=Z,35nm,1.5s
ANM **Nome** 88.11 335 P P 00 42 26.3 +5.5
baz=95,SNR=6.5
LPG **La Plagne** 88.27 45 eP P 00 42 26.1 +3.8
LPG pmax pmax
comp=Z,24nm,1.4s
ECH **Echery** 88.64 42 P P 00 42 22.7 -1.0
ECH pmax pmax
comp=Z,39nm,1.5s
ECH **Echery** 88.64 42 P P 00 42 22.7 -1.0
ECH IAmb IAmb 00 43 26.1
comp=Z,39nm,1.5s
CDF **Champ du Feu** 88.73 42 eP P 00 42 25.2 +1.0
CDF pmax pmax
comp=Z,26nm,1.5s
KEST **Kesra** 90.02 54 P P 00 42 29.5 -1.0
comp=Z,10nm,0.9s,baz=231,slow=4.3,SNR=9.7
KEST **Kesra** 90.02 54 P P 00 42 30.9 +0.3
KEST IAmb IAmb 00 42 41.2
comp=Z,26nm,1.1s
KONO **Kongsberg** 90.31 31 iP P 00 42 32.9 +1.7
KONO pmax pmax
comp=Z,21nm,1.2s
DAVA **Damuels** 90.47 43 eP P 00 42 34.3 +1.8
comp=Z,11nm,1.1s
KBS **Kingsbay** 90.79 11ceP P 00 42 34.1 +1.0
KBS pmax pmax
comp=Z,21nm,1.0s
GAMB **Gambell** 90.86 334 P P 00 42 37.6 +4.0
baz=89,SNR=5.8
FETA **Feichten** 91.05 43 eP P 00 42 37.1 +1.9
comp=Z,15nm,1.2s
RETA **Reutte** 91.06 43 eP P 00 42 36.8 +1.7
comp=Z,10nm,1.5s
NOA **NORSAR Array B** 91.10 29 P P 00 42 34.0 -0.9
comp=Z,0.9nm,0.9s,baz=269,slow=4.7,SNR=2.5
MOTA **Moosalm** 91.30 43 eP P 00 42 38.1 +1.8
comp=Z,15nm,1.8s
SQTA **Sankt Quirin** 91.37 43 eP P 00 42 38.4 +1.7
comp=Z,16nm,1.5s
WATA **Walderalm** 91.62 43 eP P 00 42 39.9 +2.1
comp=Z,11nm,1.7s
WTTA **Wattenberg** 91.66 43 eP P 00 42 38.4 +0.3
comp=Z,15nm,1.5s
ABTA **Abfaltersbach** 92.28 43 eP P 00 42 42.3 +1.5
comp=Z,10nm,1.3s
CLL **Collm** 92.42 39 eP P 00 42 43.0 +1.8
CLL **Collm** 92.42 39 eP P 00 42 43.0 +1.8
WET **Wettzell** 92.43 41 P P 00 42 44.0 +2.6
KBA **Koelnbreinsper** 92.83 43 eP P 00 42 45.3 +1.9
comp=Z,12nm,1.6s
KBA **Koelnbreinsper** 92.83 43 P P 00 42 46.5 +3.0
KHC **Kasperske Hory** 92.89 41 iP P 00 42 43.4 -0.1
KHC pmax pmax
comp=Z,11nm,1.2s
KHC **Kasperske Hory** 92.89 41 eP P 00 42 43.9 +0.4
KHC epP sP 00 42 49.9 +1.1
GERES **GERESS Array B** 92.99 41 P P 00 42 42.7 -1.3
comp=Z,1.9nm,0.9s,baz=270,slow=4.0,SNR=8.6
GERES **GERESS Array B** 92.99 41 P P 00 42 43.9 -0.1
BIOA **Bad Ischl, Aus** 93.00 42 eP P 00 42 45.9 +1.8
comp=Z,21nm,1.4s
MOA **Molln** 93.42 42 eP P 00 42 47.4 +1.4
comp=Z,15nm,1.7s
PRU **Pruhonice** 93.47 40 eP P 00 42 45.7 -0.4
PRU e 00 42 53.1
PRU **Pruhonice** 93.47 40 eP P 00 42 45.7 -0.4
PRU epP sP 00 42 53.1 +1.8
TREC **Trest** 94.13 41 eP P 00 42 49.7 +0.5
TREC e 00 42 56.5
TREC **Trest** 94.13 41 eP P 00 42 49.7 +0.5
TREC epP sP 00 42 56.5 +2.1
ARSA **Arzberg** 94.31 43 eP P 00 42 50.7 +0.7
comp=Z,11nm,1.6s
UPC **Upice** 94.38 40 eP P 00 42 52.1 +1.9
UPC **Upice** 94.38 40 eP P 00 42 52.1 +1.9
CONA **Conrad Observa** 94.48 42 eP P 00 42 51.5 +0.5
comp=Z,10nm,1.0s
KSP **Ksiaz** 94.52 39 P P 00 42 52.2 +1.3
KSP pmax pmax
comp=Z,9.0nm,1.5s
DPC **Dobruska-Polom** 94.59 40 eP P 00 42 51.8 +0.5
DPC **Dobruska-Polom** 94.59 40 eP P 00 42 51.8 +0.5
KRUC **Moravsky** 94.75 41 P P 00 42 54.6 +2.6
KRUC pmax pmax
comp=Z,18nm,2.0s
KRUC **Moravsky** 94.75 41 eP P 00 42 53.9 +1.9
RONA **Rosalia, Austr** 94.79 42 eP P 00 42 52.8 +0.5
comp=Z,8.4nm,0.9s
VRAC **Vranov** 94.85 41 P P 00 42 53.7 +1.2
VRAC pmax pmax
comp=Z,17nm,1.7s
VRAC **Vranov** 94.85 41 eP P 00 42 54.6 +2.1
KRLC **Kraliky** 94.91 40 eP P 00 42 51.7 -1.0
KRLC **Kraliky** 94.91 40 eP P 00 42 51.7 -1.0
KRLC epP pP 00 42 55.1 -1.5
MODS **Modra-Piesok** 95.39 42 eP P 00 42 57.4 +2.4
MODS **Modra-Piesok** 95.39 42 eP P 00 42 57.4 +2.4
MORC **Moravsky Berou** 95.42 40 eP P 00 42 57.1 +2.0
VNDA **Vanda** 95.48 191 P P 00 42 55.6 +0.9
comp=Z,0.8nm,0.9s,baz=45,slow=2.4,SNR=2.6
JAVC **Velka Javorina** 95.60 41 eP P 00 42 58.0 +2.0
ARCES **ARCESS Array B** 95.86 20 P P 00 42 57.0 +0.4
comp=Z,5.7nm,1.1s,baz=309,slow=4.2,SNR=4.3
VYHS **Vyhne** 96.41 41 eP P 00 43 02.4 +2.8
VYHS **Vyhne** 96.41 41 eP P 00 43 02.4 +2.8
TSUM **Tsumeb** 97.48 109 P P 00 43 03.5 -1.7
TSUM IAmb IAmb 00 43 20.1
comp=Z,29nm,1.6s
FINES **FINESS Array B** 98.15 28 P P 00 43 06.0 -1.1
comp=Z,1.5nm,0.9s,baz=316,slow=12,SNR=2.2
FINES **FINESS Array B** 98.15 28 P P 00 43 06.0 -1.1
BZS **Buzias** 98.67 44 P Pdif 00 43 11.6 +1.7
BILL **Bilibino** 98.86 340 iP P 00 43 10.2 0.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
VSU **Vasula** 99.22 31 eP Pdif 00 43 12.6 +0.7
VSU pmax pmax
comp=Z,22nm,1.1s
APA **Apatity** 99.24 21 ||iP Pdif 00 43 15.7 +3.8
APA pmax pmax
comp=Z,2.0nm,0.8s
LVZ **Lovozero** 99.55 20 iP Pdif 00 43 12.7 -0.6
LVZ pmax pmax
comp=Z,6.0nm,1.1s

PUL	Pulkovo	100.63	29	*i* P		Pdif	00 43 18.0	-0.2
PUL				pmax	pmax			
	comp=Z,19nm,0.8s							
BRTR	Keskin Array B	108.57	48	PP		PP	00 48 24.8	-0.1
	comp=Z,0.2nm,0.4s,baz=304,slow=8.8,SNR=3.8							
KIV	Kislovodsk	113.50	41	*e*PKIKP		PKiKP	00 48 09.1	+0.1
KIV				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ARU	Arti	115.10	24	*i* PKIKP		PKiKP	00 48 11.5	0.0
ARU				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MAK	Makhachkala	117.09	41	*e*P		Pdif	00 44 27.5	-4.3
KMBO	Kilima Mbogo	117.69	91*c*	*i* PKIKP		PKPdf	00 48 18.0	-0.1
YSS	Yuzh-Sakhalins	120.24	327	*i* PKIKP		PKPdf	00 48 21.3	-0.4
YSS				pmax	pmax			
	comp=Z,6.0nm,1.1s							
BRVK	Borovoye	122.08	20	*i* PKIKP		PKPdf	00 48 23.9	-1.2
KLR	Kul'dur	123.99	335	*i* PKIKP		PKPdf	00 48 28.5	-0.4
KLR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ZALV	Zalesovo Beam	125.19	11	PKP		PKPdf	00 48 28.6	-2.4
	comp=Z,3.3nm,1.0s,baz=255,slow=2.9,SNR=8.4							
ZALV	Zalesovo Beam	125.19	11	PKPdf		PKPdf	00 48 29.0	-2.0
GEYT	Alibeck	126.61	41	PKP		PKPdf	00 48 31.9	-2.3
	comp=Z,2.3nm,0.6s,baz=235,slow=44,SNR=2.6							
KURK	Kurchatov	126.74	16*c*	*i* PKIKP		PKPdf	00 48 34.2	+0.1
KURK				pmax	pmax			
	comp=Z,8.0nm,1.7s							
STKA	Stephens Creek	128.96	227	PKP		PKPdf	00 48 36.2	-2.7
	comp=Z,1.2nm,0.6s,baz=108,slow=9.6,SNR=1.6							
MKAR	Makanchi Array	131.32	16	PKP		PKPdf	00 48 40.6	-2.4
	comp=Z,1.4nm,0.8s,baz=336,slow=2.7,SNR=7.0							
MKAR	Makanchi Array	131.32	16			PKPdf	00 48 42.2	-0.8
ULN	Ulaanbaatar	132.21	353*c*	*i* PKIKP		PKPdf	00 48 43.6	-1.2
ULN				pmax	pmax			
	comp=Z,7.0nm,1.7s							
AAK	Ala-Archa	132.25	25*c*	*i* PKIKP		PKPdf	00 48 45.1	0.0
AAK				pmax	pmax			
	comp=Z,10.0nm,1.7s							
SONM	Songino Array	132.31	354	PKP		PKPdf	00 48 45.5	+0.6
	comp=Z,1.3nm,1.0s,baz=0.1,slow=2.6,SNR=4.0							
SONM				PP		PP	00 51 08.1	+1.7
	comp=Z,1.5nm,0.9s,baz=11,slow=3.9,SNR=4.3							
GAR	Garm	133.12	31	PKPdf		PKPdf	00 48 46.6	-0.2
KDJ	Kajisay	133.77	23	PKIKP		PKPdf	00 48 47.2	-0.7
KDJ	Kajisay	133.77	23	PKPdf		PKPdf	00 48 47.2	-0.7
WMQ	Urumqi	135.43	12	*e*P		PKiKP	00 48 51.8	-0.6
WMQ				LR	LR			
	comp=N,69μm,18.9s							
WMQ				LR	LR			
	comp=E,65μm,15.9s							
WMQ				LR	LR			
	comp=Z,77μm,15.3s							
HHC	Hu-ho-hao-te	138.22	346	*e*P		PKPdf	00 48 53.8	-2.4
ASAR	Alice Springs	139.00	232	PKhKP		PKPpre	00 48 50.7	
	comp=Z,1.6nm,0.8s,baz=112,slow=2.9,SNR=8.0							
ASAR	Alice Springs	139.00	232	PKIKP		PKPdf	00 48 56.3	-1.7
ASAR	Alice Springs	139.00	232	PKPdf		PKPdf	00 48 56.3	-1.7
WB2	Warramunga Arr	140.40	237	PKPdf		PKPdf	00 48 58.8	-1.8
WRAB	Tennant Creek	140.41	237*c*	*i* PKIKP		PKPdf	00 49 00.5	-0.1
WRAB				pmax	pmax			
	comp=Z,10.0nm,1.7s							
WRA	Warramunga Arr	140.41	237	PKhKP		PKPpre	00 48 55.5	
	comp=Z,2.6nm,1.0s,baz=116,slow=1.9,SNR=12							
WRA	Warramunga Arr	140.41	237	PKIKP		PKPdf	00 48 58.5	-2.1
WRA	Warramunga Arr	140.41	237			PKPdf	00 48 58.5	-2.1
WB0	Warramunga Arr	140.45	238	PKPdf		PKPdf	00 48 59.1	-1.5
NJ2	Nanjing	143.56	332	*e*P		PKPdf	00 49 05.6	-0.3
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
GOMU	GeErMu	144.05	7	PKP		PKiKP	00 49 10.8	+0.2
GOMU				pPKP		sPKPdf	00 49 14.9	+2.4
GOMU				sPKP			00 49 23.3	
GOMU				PP		PP	00 52 23.1	+3.6
GOMU				SKS		SKSdf	00 56 19.1	+1.9
XAN	Xi'an	145.34	346	PKPbc		PKPbc	00 49 07.1	-1.6
MTN	Manton Dam	146.06	246	PKPdf		PKPdf	00 49 09.5	-1.1
MORW	Morawa	146.78	207	PKPdf		PKPdf	00 49 10.8	-0.8
KNRA	Kununurra	147.06	240	PKPbc		PKPdf	00 49 12.8	+0.5
PYUN	Piuthan	148.16	29	*e*P		PKPbc	00 49 16.3	-1.0
	comp=Z,130nm,1.4s							
DANN	Dangsing	148.30	27	*e*P		PKPdf	00 49 15.6	+1.1
	comp=Z,95nm,0.8s							
FITZ	Fitzroy Crossi	148.48	233	PKPbc		PKPdf	00 49 15.6	+1.0
	comp=Z,19nm,1.1s,baz=154,slow=4.4,SNR=19							
KOLN	Koldanda	148.72	28	*e*P		PKPdf	00 49 15.9	+0.8
	comp=Z,125nm,1.5s							
ENH	Enshi	148.76	343			PKPbc	00 49 18.3	-0.3
GKN	Gorkha	148.99	26	*e*P		PKPbc	00 49 18.1	-1.3
	comp=Z,150nm,1.5s							
KKN	Kakani	149.46	25	*e*P		PKPdf	00 49 18.4	+2.1
	comp=Z,88nm,1.2s							
DMN	Daman	149.54	26	*e*P		PKPdf	00 49 17.4	+1.0
	comp=Z,27nm,0.7s							
GUN	Gumba	149.61	24	*e*P		PKPdf	00 49 18.9	+2.2
PKIN	Phulchoki	149.69	25	*e*P		PKPdf	00 49 18.8	+2.1
	comp=Z,43nm,1.0s							
PKI	Pulchoki	149.71	25	*e*P		PKPdf	00 49 18.7	+1.9
	comp=Z,102nm,1.4s							
JIRN	Jiri	149.96	24	*e*P		PKPbc	00 49 19.8	-2.3
PSA00	Pilbara Seismi	150.56	221	PKPbc		PKPbc	00 49 22.1	-1.1
PSA00	Pilbara Seismi	150.56	221	PKPbc		PKPbc	00 49 22.9	-0.4
RAMN	Ramite	150.75	24	*e*P		PKPdf	00 49 20.6	+2.2
	comp=Z,31nm,0.6s							
TAPN	Taplejung	150.83	22	*e*P		PKPbc	00 49 21.9	-2.2
	comp=Z,40nm,0.8s							
ODAN	Odare	151.15	23	*e*P		PKPdf	00 49 20.7	+1.8
	comp=Z,18nm,0.7s							
HYBB	Hyderabad (bro	153.25	49	*e*PKiKP		PKPbc	00 49 28.7	-0.8
HYBB				ePP		PP	00 53 13.1	-1.1
PZH	PanZhiHua	153.90	356	PKPbc		PKiKP	00 49 34.8	+3.9
CMAR	Chiang Mai Arr	161.98	2	PKP		PKPdf	00 49 32.8	0.0
	comp=Z,0.6nm,0.4s,baz=308,slow=1.4,SNR=5.1							
CMAR				PKPab		PKPab	00 50 18.1	-0.4
	comp=Z,6.6nm,1.1s,baz=333,slow=5.5,SNR=9.5							
CMAR	Chiang Mai Arr	161.98	2	PKIKP		PKPdf	00 49 30.7	-2.1
CMAR	Chiang Mai Arr	161.98	2			PKPdf	00 49 30.7	-2.1

*JMA **17** 00:40:36.5, 32.°61′N×130.°72′E, h4km±1km, M3.9*
JMA Felt IV J1.
*IDC **17** 00:40:36.3±1.5, 32.°62′N×130.°63′E, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.3/56, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=25.6km s-min=10.4km az=122.0*

ISC 17 00:40:36.8±1.3, **32.°62N**±0.°04×**130.°67E**±0.°06, **h2**km±10km, **n13**, σ1§**51**/18, **mb3.5**/4, **3C**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	Izumi3	0.14	121	P	Pg	00 40 38.6	-0.9
JIU3				*e*S	Sg	00 40 40.4	-0.9
JTA	Tamana	0.36	341	⇑P	Pg	00 40 44.4	+0.7
JTA				*e*S	Sg	00 40 50.0	+1.6
JNU	Nakatsue	0.53	19	Pg	Pg	00 40 46.9	-0.1
	261nm,0.3s,baz=187,slow=6.6,SNR=127						
JNU				Lg	Lg	00 40 54.4	
	1μm,0.3s,baz=314,slow=8.4,SNR=33						
JNU	Nakatsue	0.53	19	⇑P	Pg	00 40 47.1	+0.2
JNU				*e*S	Sg	00 40 54.3	+0.5
JTZ	Takazaki	0.80	154	⇑P	Pg	00 40 52.2	+0.1
JTZ				S	Sg	00 41 02.6	+0.1
KSRS	Korea Array	5.32	336	Pn	Pn	00 41 58.7	+1.5
	0.3nm,0.3s,baz=150,slow=13,SNR=1.8						
KSRS				Pg	Pg	00 42 14.7	-4.1
	0.7nm,0.3s,baz=152,slow=16,SNR=7.1						
KSRS				Lg	Lg	00 43 23.2	
	0.7nm,0.3s,baz=149,slow=31,SNR=6.1						
JOW	Kunigami	6.13	200	Pn	Pn	00 42 09.9	+1.6
	4.1nm,0.3s,baz=86,slow=22,SNR=8.9						
MJAR	Matsushiro Arr	7.34	56	Pn	Pn	00 42 26.3	+1.3
	0.2nm,0.3s,baz=242,slow=14,SNR=6.0						
KLR	Kul'dur	16.61	2	Pn	P	00 44 34.0	+0.8
	0.1nm,0.3s,baz=188,slow=15,SNR=5.0						
SONM	Songino Array	23.83	317	P	P	00 45 51.1	-0.1
	0.6nm,0.8s,baz=134,slow=8.3,SNR=2.8						
MKAR	Makanchi Array	39.20	306	P	P	00 48 06.4	+0.2
	0.5nm,0.8s,baz=87,slow=12,SNR=2.8						
ILAR	Eielson Array	57.84	30	P	P	00 50 28.1	-1.3
	0.9nm,1.0s,baz=299,slow=8.1,SNR=2.6						
FINES	FINESS Array B	68.39	330	P	P	00 51 38.1	-1.4
	0.8nm,0.6s,baz=46,slow=4.0,SNR=5.0						

*NEIC **17** 00:43:54.6±2.3, 10.°4S±0.°1×161.°68E±0.°08, h62km±10km, mb4.1/6, Error ellipse: s-maj=18.4km s-min=7.5km az=213.0*
*IDC **17** 00:43:56.3±2.5, 10.°42S×161.°59E, h84km±20km, mb3.6/7, mb1 3.9/9, mb1mx3.5/51, mbtmp4.0/9, Error ellipse: s-maj=25.9km s-min=20.4km az=61.0*

ISC 17 00:43:54.0±0.7, **10.°42S**±0.°09×**161.°71E**±0.°09, **h61**km, **n30**, σ1§**37**/26, **mb3.9**/9, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	1.99	299	P	Pn	00 44 26.3	+1.0
	69nm,0.3s,baz=154,slow=4.0,SNR=26						
HNR				S	Sn	00 44 50.6	+1.4
	434nm,0.3s,baz=175,slow=10,SNR=18						
HNR	Honiara	1.99	299		Pn	00 44 25.6	+0.3
HNR				Sn	Sn	00 44 51.7	+2.5
SANVU	Saraoutou	7.33	134		Pn	00 45 38.8	+0.4
KOUNC	Koumac, New Ca	10.38	166	Pn	Pn	00 46 20.2	0.0
DZM	Mont Dzumac	12.45	159	P	Pn	00 46 50.2	+1.7
	0.4nm,0.3s,baz=31,slow=9.0,SNR=22						
DZM	Mont Dzumac	12.45	159		Pn	00 46 49.7	+1.2
CTA	Charters Tower	17.73	235	P	P	00 47 58.1	+1.3
	0.2nm,0.3s,baz=58,slow=17,SNR=2.0						
CTAO	Charters Tower	17.73	235	Pn	Pn	00 47 54.2	-2.5
CTAO				IAmb	IAmb	00 48 13.8	
	comp=Z,15nm,1.3s						
ARMA	Armidale	22.00	204	P	P	00 48 43.2	-0.1
WB0	Warramunga Arr	27.92	247	P	P	00 49 37.2	-1.5
WB0				IAmb	IAmb	00 49 56.0	
	comp=Z,7.8nm,1.1s						
WRA	Warramunga Arr	28.02	247	P	P	00 49 38.0	-1.5
	comp=Z,0.9nm,0.8s,baz=78,slow=8.8,SNR=2.2						
H11S2	WAKE ISLAND Hy	29.14	10	T	T	01 20 56.7	
	baz=188,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy	29.14	10	T	T	01 21 09.5	
	baz=188,slow=76,SNR=9.5						
H11S1	WAKE ISLAND Hy	29.16	10	T	T	01 20 49.8	
	baz=188,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	30.37	10	T	T	01 22 09.9	
	baz=188,slow=76,SNR=6.3						
H11N3	WAKE ISLAND Hy	30.38	10	T	T	01 22 28.5	
	baz=188,slow=76,SNR=6.5						
H11N2	WAKE ISLAND Hy	30.39	10	T	T	01 22 29.9	
	baz=188,slow=76,SNR=5.9						
FITZ	Fitzroy Crossi	35.73	254	P	P	00 50 46.4	-0.8
	comp=Z,3.3nm,0.9s,baz=41,slow=9.3,SNR=1.1						
VNDA	Vanda	67.09	180	P	P	00 54 42.3	+1.7
SONM	Songino Array	75.85	325	P	P	00 55 33.4	-0.5
	comp=Z,1.3nm,0.6s,baz=146,slow=7.0,SNR=7.7						
SONM	Songino Array	75.85	325	P	P	00 55 33.1	-0.8
SONM				IAmb	IAmb	00 55 34.8	
	comp=Z,1.1nm,0.7s						
L19K	White Mountain	79.84	19	P	P	00 55 55.7	+0.1
L19K				IAmb	IAmb	00 56 13.3	
	comp=Z,3.5nm,1.3s						
IMAR	Indian Mountai	82.93	17	P	P	00 56 11.9	0.0
ILAR	Eielson Array	84.22	20	P	P	00 56 17.9	-0.6
	comp=Z,0.6nm,0.8s,baz=249,slow=4.5,SNR=6.9						
BMAR	Burnt Mountain	86.61	18	P	P	00 56 31.7	+1.3
NVAR	Mina Array Bea	88.68	51	P	P	00 56 42.6	+1.4
	comp=Z,0.5nm,0.7s,baz=232,slow=6.5,SNR=5.6						
MKAR	Makanchi Array	90.36	318	P	P	00 56 47.0	-1.7
	comp=Z,0.3nm,0.5s,baz=91,slow=6.4,SNR=6.7						
MKAR	Makanchi Array	90.36	318	P	P	00 56 46.7	-2.0
YKA	Yellowknife Ar	96.25	28	P	P	00 57 14.4	-0.9
	comp=Z,0.3nm,0.7s,baz=259,slow=4.4,SNR=4.3						
FINES	FINESS Array B	119.70	337	PKP	PKPdf	01 02 36.2	-0.5
	comp=Z,0.9nm,0.7s,baz=48,slow=2.8,SNR=4.0						

*IGQ **17** 00:54:45±1.0, 0.°N±4.°×8.°0W±.°, h8km*
*IDC **17** 00:54:46.7±1.8, 1.°16N×79.°57W, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/43, mbtmp3.4/4, Error ellipse: s-maj=85.0km s-min=30.0km az=51.0*

ISC 17 00:54:45.6±1.1, **0.°33N**±0.°05×**80.°39W**±0.°09, **h11**km, **n32**, σ1§**09**/33, **mb3.5**/3, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMA	Jama	0.61	162	P	Pg	00 54 57.0	-0.5
MAG1	Magdalena	0.73	123	P	Pb	00 55 01.0	+0.6
FLF1	Flavio Alfaro-	0.87	141	P	Pn	00 55 04.0	+0.1
AMA1	Acelerografo,	0.90	48	P	Pg	00 55 03.0	0.0
AMA1				S	Sn	00 55 17.0	-0.3
AV18	Acelerografo,	0.92	91	P	Pn	00 55 05.0	+0.6
BV15	Puerto Quito-O	1.18	98	P	Pn	00 55 07.0	-1.1
BV15				S	Sn	00 55 25.0	+0.8
GGPT	Toaza - Volcan	1.86	107	P	Pn	00 55 17.0	-0.7
TERV	Terraza Guagua	1.86	106	P	Pn	00 55 17.0	-0.9
JUA2	San Juan 2	1.87	107	P	Pn	00 55 17.0	-0.9
YANA	Yana	1.88	104	P	Pn	00 55 17.0	-1.0
PULU	Pululahua	1.92	99	P	Pn	00 55 18.0	-0.5
ILLI	Illinizas Sur	1.96	122	P	Pn	00 55 19.0	-0.2
CUSE	Cuicocha Este	1.99	91	P	Pn	00 55 20.0	+0.4
PAST	Pastocalle	2.02	120	P	Pn	00 55 19.0	-1.1
CUIC	Cuicocha-Domo	2.03	91	P	Pn	00 55 21.0	+0.9
CUSW	Cuicocha Oeste	2.04	91	P	Pn	00 55 21.0	+0.7
COTA	Cotacachi	2.06	90	P	Pn	00 55 21.0	+0.4
ALIT	Ecuador-Imbabu	2.08	77	P	Pn	00 55 20.0	-0.6
CAMI	Rancho Maria	2.13	118	P	Pn	00 55 23.0	+1.4
URCU	Urcuqui	2.14	87	P	Pn	00 55 22.0	+0.4
AIB2	Ibarra (Univer	2.29	90	P	Pn	00 55 25.0	+1.4
YAHU	Yahuarcocha	2.32	89	P	Pn	00 55 25.0	+0.9
LNGL	El Angel-Carch	2.42	80	P	Pn	00 55 26.0	+0.3
ECEN	Cerro Negro	2.47	78	P	Pn	00 55 26.0	-0.3
CHL2	Volcn Chiles	2.52	79	P	Pn	00 55 27.0	0.0
BRUN	Tungurahua Vol	2.63	131	P	Pn	00 55 30.0	+1.6
ARRY	Arrayan	2.66	133	P	Pn	00 55 30.0	+1.3
BONI	La Bonita	2.87	127	P	Pn	00 55 34.0	+2.5
LPAZ	La Paz	20.47	144	P	Pn	00 59 29.0	+2.8
	1.3nm,0.7s,baz=325,slow=9.9,SNR=4.4						
NVAR	Mina Array Bea	51.45	322	P	P	01 03 53.5	+2.2
	0.2nm,0.5s,baz=139,slow=5.9,SNR=2.3						
YKA	Yellowknife Ar	67.11	344	P	P	01 05 37.7	-1.2
	0.3nm,1.0s,baz=126,slow=8.5,SNR=2.8						
TORD	Torodi Ar. Bea	82.22	77	P	P	01 07 05.5	-2.1
	0.2nm,0.5s,baz=282,slow=5.7,SNR=5.2						

*IDC **17** 00:55:25.3±2.4, 32.°54N×130.°88E, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.1/57, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=42.3km s-min=13.4km az=102.0*
*JMA **17** 00:55:27.7, 32.°65N×130.°73E, h9km±1km, M3.4*
JMA Felt II J1.

ISC 17 00:55:27.7±1.1, **32.°66N**±0.°07×**130.°7E**±0.°1, **h10**km±9km, **n6**, σ1§**29**/9, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	Izumi3	0.14	142	P	Pg	00 55 30.7	-0.2
JIU3				S	Sg	00 55 32.9	-0.2
JTA	Tamana	0.34	334	P	Pg	00 55 34.9	+0.5
JTA				S	Sg	00 55 39.8	+0.8
JNU	Nakatsue	0.48	17	Pg	Pg	00 55 37.1	0.0
	196nm,0.3s,baz=184,slow=10,SNR=212						
JNU				Lg	Lg	00 55 43.9	
	668nm,0.3s,baz=12,slow=21,SNR=39						
KSRS	Korea Array	5.30	335	Pn	Pn	00 56 47.1	+0.2
	0.2nm,0.3s,baz=150,slow=14,SNR=1.5						
KSRS				Pg	Pg	00 57 07.0	-2.3
	0.8nm,0.3s,baz=151,slow=17,SNR=7.0						
KSRS				Lg	Lg	00 58 14.6	
	1.3nm,0.3s,baz=153,slow=31,SNR=5.1						
MKAR	Makanchi Array	39.21	306	P	P	01 02 57.3	+1.3
	0.2nm,0.7s,baz=98,slow=12,SNR=1.6						
FINES	FINESS Array B	68.37	330	P	P	01 06 28.5	-0.6
	1.3nm,1.0s,baz=62,slow=4.2,SNR=9.3						

*MDD **17** 00:55:53.3±0.7, 35.°76N×2.°27W, h4km±4km, mb_Lg2.1/11, Error ellipse: s-maj=5.7km s-min=3.4km az=139.0*
*CNRM **17** 00:55:54.9, 35.°57N×2.°42W, h40km, ml2.9*

ISC 17 00:55:52.7±1.3, **35.°66N**±0.°03×**2.°27W**±0.°04, **h27**km±13km, **n23**, σ1§**08**/37, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMEL	Melilla	0.67	238	Pg	Pb	00 56 05.6	-0.1
EMEL				Sg	Sn	00 56 16.2	+0.4
EALB	Alboran	0.69	295	Pg	Pn	00 56 06.5	0.0
EALB				Sg	Sb	00 56 15.9	+0.7
EALB				*i* Vmb_Lg		00 56 17.6	
GOG	Mont Gurugu	0.74	234	P	Pb	00 56 06.5	-0.5
GOG				S	Sb	00 56 16.9	+0.2
TAF	Taforalt	0.85	188	P	Pn	00 56 08.9	0.0
TAF				S	Sb	00 56 19.5	-0.4
ENIJ	Nijar	1.31	2	Pg	Pn	00 56 14.9	-0.4
ENIJ				Sg	Sn	00 56 31.1	-0.8
ENIJ				*i* Vmb_Lg		00 56 32.8	
EBER	Berja	1.34	338	Pg	Pn	00 56 15.2	-0.5
EBER				Sg	Sn	00 56 32.1	-0.6
EBER				*i* Vmb_Lg		00 56 39.1	
JBK	JBK	1.34	191	P	Pb	00 56 16.5	-0.7
JBK				S	Sn	00 56 32.4	-0.4
PALE	Palemas	1.44	253	P	Pn	00 56 16.7	-0.2
PALE				S	Sn	00 56 34.5	-0.4
ELGU	Los Guajares,	1.64	318	Pn	Pn	00 56 18.9	-0.9
ELGU				Sn	Sn	00 56 38.5	-1.4
ELGU				*i* Vmb_Lg		00 56 41.6	
EGOR	Sierra Gorda,	2.08	315	Pn	Pn	00 56 27.1	+1.2
EGOR				*i* Vmb_Lg		00 57 56.8	
EMIJ	Mijas	2.22	295	Pn	Pn	00 56 28.3	+0.5
EMIJ				Sn	Sn	00 56 53.8	-0.5
EMIJ				*i* Vmb_Lg		00 56 59.1	
EMUR	La Murta	2.33	20	Pn	Pn	00 56 29.2	-0.1
EMUR				Sn	Sn	00 56 55.9	-1.2
EMUR				*i* Vmb_Lg		00 56 59.7	
SMIR	Smir Dam	2.54	271	P	Pn	00 56 32.1	+0.1
SMIR				S	Sn	00 56 58.9	-3.2
EJIF	Jimena Fronter	2.71	288	Pn	Pn	00 56 35.8	+1.3
LCRM	LCR	2.90	228	P	Pn	00 56 37.5	+0.2
ETOB	Tobarra	3.04	11	Pn	Pn	00 56 40.1	+1.1
ETOB				Sn	Sn	00 57 14.8	+0.2
ETOB				*i* Vmb_Lg		00 57 17.5	
EADA	Adamuz	3.12	324	Pn	Pn	00 56 41.8	+1.8
EADA				*i* Vmb_Lg		00 57 24.3	
MDT	Midelt	3.44	215	P	Pn	00 56 46.4	+1.9
MD31	MD31	3.46	217	P	Pn	00 56 46.6	+1.7
ECAB	El Cabril	3.50	315	Sn	Sn	00 57 26.9	+1.1
PAB	San Pablo	4.22	338	Pn	Pn	00 56 57.2	+1.9
PAB				*i* Vmb_Lg		00 59 13.8	
EIBI	Ibiza	4.43	39	Pn	Pn	00 56 58.3	+0.3
EIBI				Sn	Sn	00 57 49.1	+0.5
PVAQ	Vaqueiros	4.72	293	P	Pn	00 57 02.7	+0.6

*IDC **17** 00:58:47.8±1.2, 32.°76N×130.°54E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.3/52, mbtmp3.5/5, ML2.7/2, Error ellipse: s-maj=23.3km s-min=9.3km az=126.0*
*JMA **17** 00:58:48.0, 32.°68N×130.°77E, h10km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs8.00000°, δs89.00000°, λs152.00000°. NP2: ϕs99.00000°, δ62.00000°, λ1.00000°. Principal axes: T Plg20.0000°, Azm320.0000°; N Plg62.0000°, Azm187.0000°; P Plg19.0000°, Azm57.0000°;*
JMA Felt IV J1.

ISC 17 00:58:48.6±1.3, **32.°66N**±0.°04×**130.°72E**±0.°09, **h4**km±10km, **n11**, σ1§**40**/14, **mb3.4**/3, **3C**-**1D**, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	Izumi3	0.13	142	⇑P	Pg	00 58 51.3	+0.1
JIU3				*e*S	Sg	00 58 53.2	+0.2
JTA	Tamana	0.34	333	⇑P	Pg	00 58 55.1	-0.1
JNU	Nakatsue	0.48	16	Pg	Pg	00 58 56.8	-1.1
	242nm,0.3s,baz=195,slow=12,SNR=52						
JNU				Lg	Lg	00 59 03.1	
	3μm,0.3s,baz=186,slow=1.1,SNR=74						
JNU	Nakatsue	0.48	16	⇓P	Pg	00 58 57.0	-0.9
JNU				*e*S	Sg	00 59 03.2	-1.1
JTZ	Takazaki	0.81	157	⇑P	Pb	00 59 04.5	-0.8
KSRS	Korea Array	5.31	335	Pn	Pn	01 00 08.1	-0.5
	0.3nm,0.3s,baz=152,slow=15,SNR=2.2						
KSRS				Pg	Pb	01 00 24.4	+2.4
	1.1nm,0.3s,baz=151,slow=17,SNR=7.1						
KSRS				Lg	Lg	01 01 32.3	
	1.0nm,0.3s,baz=153,slow=28,SNR=4.1						
MJAR	Matsushiro Arr	7.29	56	Pn	Pn	01 00 37.9	+1.9
	0.1nm,0.3s,baz=233,slow=12,SNR=2.5						
KLR	Kul'dur	16.58	2	Pn	P	01 02 44.7	+0.3
	baz=239,slow=18,SNR=1.2						
WRA	Warramunga Arr	52.41	176	P	P	01 08 02.8	+0.4
	0.3nm,0.6s,baz=356,slow=8.2,SNR=1.6						
ASAR	Alice Springs	56.09	176	P	P	01 08 30.0	+1.0
	0.2nm,0.6s,baz=6.7,slow=11,

ECEN	Cerro Negro	2.45	80	P		Pn	00 59 45.0	-0.1
CHL1	Volc¡n Chiles	2.47	81	P		Pn	00 59 46.0	+0.7
TAMH	Tambohuasha Ch	2.50	140	P		Pn	00 59 46.0	+0.3
CHL2	Volc¡n Chiles	2.50	80	P		Pn	00 59 46.0	+0.3
PIAT	Ana Tenorio	2.52	123	P		Pn	00 59 47.0	+1.0
IGUA	Igualata	2.55	137	P		Pn	00 59 47.0	+0.5
CMBC	Cumbal	2.61	78	eP		Pn	00 59 48.2	+0.9
CMBC				eS		Sg	01 00 51.2	+23
CMBC				i			01 00 53.6	
	comp=Z,38µm,0.7s							
TULM	Tulcn-Chalpat	2.61	83			Pn	00 59 48.4	+1.1
TULM	Tulcn-Chalpat	2.61	83	eP		Pb	00 59 50.0	-1.8
TULM				eS		Sg	01 00 31.5	+2.8
TULM				i			01 00 39.5	
	comp=Z,426nm,0.7s							
TULM	Tulcn-Chalpat	2.61	83	P		Pn	00 59 49.0	+1.7
AMIL	Milagro (Trans	2.62	163	P		Pb	00 59 52.0	+0.3
JUI6	Juive	2.62	133	P		Pn	00 59 48.0	+0.7
BBIL	Ulba Tungurahu	2.63	134	P		Pn	00 59 49.0	+1.6
POND	Pondoa	2.63	133	P		Pn	00 59 48.0	+0.5
RETU	Refugio	2.66	133	P		Pn	00 59 49.0	+1.0
BRUN	Tungurahua Vol	2.66	132	P		Pn	00 59 49.0	+1.1
BMAS	Trigal station	2.67	135	P		Pn	00 59 49.0	+1.0
ATUL	Tulcn	2.69	82	P		Pn	00 59 48.0	-0.1
ARRY	Arrayan	2.69	134	P		Pn	00 59 49.0	+0.8
BPAT	Tungurahua Vol	2.70	134	P		Pn	00 59 49.0	+0.5
MILO	Milagro-Astudi	2.77	163	P		Pn	00 59 52.0	+3.0
BONI	La Bonita	2.85	89	P		Pn	00 59 53.0	+2.6
ISPG	Isla Puna-Puer	3.34	176	P		Pb	01 00 02.0	-1.9
GR1C	Gorgona, Isla	3.42	40	eP		Pb	01 00 04.0	-1.2
GR1C				eS		Sg	01 01 01.7	+7.4
GR1C				i			01 01 10.6	
	comp=Z,2µm,0.5s							
CRUC	La Cruz	3.62	71	eP		Pn	01 00 02.7	+1.6
CRUC				eS		Sg	01 01 04.3	+3.1
CRUC				i			01 01 20.7	
	comp=Z,279nm,0.6s							
ARNL	Arenillas	3.92	175			Pn	01 00 05.3	+0.5
BOSC	San Juan Bosco	3.98	152			Pn	01 00 05.0	-0.9
SOTA	Rioblanco	4.15	65	eP		Pn	01 00 09.5	+1.0
SOTA				eS		Sb	01 01 08.6	0.0
SOTA				i			01 01 17.0	
	comp=Z,208nm,0.7s							
POPC	Popayan, Colom	4.28	60	eP		Pn	01 00 10.7	+0.7
POPC				eS		Sg	01 01 17.0	-5.1
POPC				i			01 01 17.3	
	comp=Z,58nm,0.6s							
PCON	Cinco Dias	4.43	64	eP		Pn	01 00 13.9	+1.6
PCON				i			01 01 24.6	
	comp=Z,129nm,0.7s							
MCRA	Macar, Loja	4.74	175			Pn	01 00 16.7	+0.5
MARP	Paez Belalcaza	5.05	61	eP		Pn	01 00 21.9	+1.2
MARP				i			01 01 43.1	
	comp=Z,18nm,0.6s							
YOTC	Yotoco, Valle	5.39	48	eP		Pn	01 00 27.9	+2.7
YOTC				eS		Sb	01 01 44.3	+0.6
YOTC				i			01 01 55.3	
	comp=Z,36nm,0.6s							
BETC	Betania	5.44	65	eP		Pb	01 00 36.9	-2.9
PTLC	Puerto Leguiza	5.59	92	eP		Pn	01 00 29.7	+1.9
PTLC				eS		Sn	01 01 30.4	-1.8
PTLC				i			01 02 20.6	
	comp=Z,38nm,0.5s							
PLMC	San Jos del P	6.08	42	eP		Pn	01 00 38.5	+3.9
PLMC				eS		Sn	01 01 51.2	+6.9
PLMC				i			01 02 10.5	
	comp=Z,45nm,0.4s							
ORTC	Ortega, Tolima	6.21	56	eP		Pn	01 00 39.0	+2.6
ORTC				i			01 02 10.9	
	comp=Z,35nm,0.6s							
ANIL	Santa Ana	6.43	51	eP		Pn	01 00 45.3	+5.6
ANIL				eS		Sb	01 02 11.9	-2.0
ANIL				i			01 02 27.0	
	comp=Z,57nm,0.4s							
MACC	Macarena, Meta	6.76	75	eP		Pn	01 00 44.8	+0.9
MACC				eS		Sb	01 02 30.1	+6.9
MACC				i			01 03 26.2	
	comp=Z,29nm,0.7s							
GUY2C	Guyana, Caldas	6.94	46	eP		Pn	01 00 52.5	+5.7
GUY2C				eS		Sb	01 02 20.2	-8.6
GUY2C				i			01 02 33.8	
	comp=Z,27nm,0.5s							
CBOC	Ciudad Bolivar	6.97	39	eP		Pn	01 00 52.3	+5.3
CBOC				i			01 02 49.5	
	comp=Z,20nm,0.6s							
ROSC	El Rosal	7.50	54	Pn		Pn	01 00 54.0	-0.5
	comp=Z,1.1nm,0.3s,baz=126,slow=18,SNR=2.8							
ROSC	El Rosal	7.50	54			Pn	01 00 54.8	+0.3
ROSC	El Rosal	7.50	54	eP		Pn	01 00 59.3	+4.9
HELC	Santa Helena	7.53	40	eP		Pb	01 01 08.6	-7.0
HELC				eS		Sb	01 02 43.5	-2.2
HELC				i			01 03 12.2	
	comp=Z,8.2nm,0.6s							
NORC	Norcasia	7.53	47	eP		Pn	01 01 03.8	+9.2
NORC				eS		Sb	01 02 39.3	-6.1
NORC				i			01 02 59.7	
	comp=Z,5.3nm,0.2s							
VILC	Villavicencio,	7.64	61	eP		Pn	01 00 58.8	+2.7
DBBC	Dabeiba	7.79	32	eP		Pn	01 01 04.0	+5.8
DBBC				eS		Sb	01 02 54.2	+1.3
DBBC				i			01 03 17.8	
	comp=Z,41nm,0.7s							
CHIC	Chingaza	7.87	57	eP		Pn	01 00 59.6	+0.1
SPBC	San Pablo de B	8.19	50	eP		Pn	01 01 14.4	+11
PTBC	PUERTO BERRIO,	8.50	44	eP		Pn	01 01 11.1	+3.2
PTBC				eS			01 03 04.8	
ZARC	Zaragoza, Cauc	8.95	38	eP		Pn	01 01 26.3	+12
ZARC				eS		Sn	01 03 22.3	+27
ZARC				i			01 03 22.8	
	comp=Z,7.5nm,0.4s							
RUSC	La Rusia	9.11	53	eP		Pn	01 01 21.7	+5.1
RUSC				i			01 03 09.8	
	comp=Z,3.7nm,0.7s							
DRK0	Durika	9.27	342	Pn		Pn	01 01 19.1	+0.5
SRBA	San Rafael, Bu	9.28	341			Pn	01 01 19.7	+1.2
RIMA	Rio Macho	9.95	340			Pn	01 01 28.4	+0.6
PAYG	Puerto Ayora	9.96	264	Pn		Pn	01 01 28.2	+0.4
JTS	Las Juntas de	10.84	335	Pn		Pn	01 01 41.8	+1.8
	comp=Z,0.2nm,0.3s,baz=195,slow=16,SNR=1.9							
CZSB	Cruzeiro do Su	11.12	137	eP		Pn	01 01 39.2	-4.5
NNA	Nana	12.78	164	Pn		Pn	01 02 08.9	+2.3
	comp=Z,0.6nm,0.3s,baz=348,slow=9.3,SNR=2.1							
NNA				Sn		Sn	01 04 28.9	-0.2
	comp=Z,1.3nm,0.3s,baz=212,slow=16,SNR=1.7							
SDV	Santo Domingo	12.87	49	Pn		Pn	01 02 05.3	-2.5
	comp=Z,0.1nm,0.3s,baz=288,slow=20,SNR=1.9							
SDV	Santo Domingo	12.87	49	Pn		Pn	01 02 07.3	-0.5
SDV	Santo Domingo	12.87	49	eP		Pn	01 02 09.4	+1.5
SDV	Santo Domingo	12.87	49	eP		Pn	01 02 14.3	+6.5
URIC	Uribia, Colomb	13.99	36	Pn		Pn	01 02 22.2	-0.8
BAUV	El Baul	14.94	55	Pn		Pn	01 02 35.9	-0.1
TGUH	Tegucigalpa,Un	15.20	334	Pn		Pn	01 02 39.1	-0.5
TGUH				IAmb		IAmb	01 03 00.5	
	comp=Z,34nm,1.1s							
MTO3	Montecristo	16.52	328	Pn		Pn	01 02 57.8	+1.1
BIRV	Birongo	17.24	54			Pn	01 03 04.8	-0.9
BIRV				IAmb		IAmb	01 03 21.5	
	comp=Z,22nm,0.9s							
BOAV	Boa Vista	19.95	84	eP		P	01 03 37.6	+0.6
MACA	Manacapuru-AM	20.00	100	eP		P	01 03 36.5	-1.0
LPAZ	La Paz	20.51	144	P		P	01 03 43.7	+0.1
	comp=Z,6.0nm,0.7s,baz=328,slow=11,SNR=15							
LPAZ	La Paz	20.51	144	P		P	01 03 43.0	-0.6
DR12	Loma Pena Alta	21.24	30	P		P	01 03 50.6	-0.4
PB12	IPOC Station P	21.31	153	P		P	01 03 50.8	-0.9
PB12				IAmb		IAmb	01 03 55.5	
	comp=Z,12nm,0.6s							
PB16	IPOC Station P	21.45	151	P		P	01 03 53.5	-0.4
PB16				IAmb		IAmb	01 04 09.7	
	comp=Z,22nm,1.0s							
CMIG	Matias Romero	21.90	320	P		P	01 03 59.3	+1.2
	comp=Z,2.7nm,0.8s,baz=78,slow=4.2,SNR=2.4							
OBIP	Obispado Ponce	22.16	37	P		P	01 03 59.8	-1.1
OBIP				IAmb		IAmb	01 04 12.0	
	comp=Z,25nm,1.2s							
AOPR	Arecibo Observ	22.31	36	P		P	01 04 02.3	-0.2
AOPR				IAmb		IAmb	01 04 05.1	
	comp=Z,26nm,0.9s							
SJG	San Juan	22.49	38	P		P	01 03 59.1	-5.3
	comp=Z,2.2nm,0.2s,baz=264,slow=19,SNR=1.3							
SJG	San Juan	22.49	38	P		P	01 04 02.9	-1.5
SJG				IAmb		IAmb	01 04 23.3	
	comp=Z,14nm,1.0s							

PB11	IPOC Station P	22.61	153	P		P	01 04 05.1	-0.7
GCPR	Guaynabo City	22.68	37	P		P	01 04 04.6	-1.9
GCPR				IAmb		IAmb	01 04 08.8	
	comp=Z,24nm,1.2s							
GO01	Chusmiza	22.75	152	P		P	01 04 07.0	-0.6
GO01				IAmb		IAmb	01 04 18.2	
	comp=Z,17nm,0.9s							
CBYP	Canovanas	22.80	38	P		P	01 04 07.0	-0.6
CBYP				IAmb		IAmb	01 04 29.2	
	comp=Z,16nm,0.9s							
CDVI	St. Croix	23.10	41	P		P	01 04 11.0	+0.2
VILB	Vilhena	24.00	124	eP		P	01 04 19.3	-0.5
SIV	San Ignacio	25.06	131	P		P	01 04 29.0	-0.4
	comp=Z,1.8nm,0.7s,baz=316,slow=10,SNR=12							
LVC	Limon Verde	25.44	155	P		P	01 04 35.1	+2.0
	comp=Z,5.9nm,0.8s,baz=302,slow=11,SNR=3.8							
LVC	Limon Verde	25.44	155	P		P	01 04 33.3	+0.2
LVC	Limon Verde	25.44	155	eP		P	01 04 35.8	+2.7
MALB	Monte Alegre	26.21	95	eP		P	01 04 39.1	-0.7
PTLB	Pontes e Lacer	26.23	128	eP		P	01 04 40.0	0.0
PDRB	Porto dos Gac	26.34	118	eP		P	01 04 40.5	-0.6
CLDB	Colider	26.88	115	eP		P	01 04 45.0	-0.9
SALV	Santo Antonio	29.26	125	eP		P	01 05 06.5	-0.6
PP1B	Ponte de Pedra	30.81	127	eP		P	01 05 21.0	+0.1
SNDB	Serra Nova Dou	31.38	114	eP		P	01 05 25.2	-0.7
AQDB	Aquidauana	31.83	132	P		P	01 05 28.8	-1.1
AQDB	Aquidauana	31.83	132	eP		P	01 05 29.6	-0.2
TMAB	Tom-Au,PA,Br	32.39	95	eP		P	01 05 37.1	+2.3
SMTB	Santa Maria do	33.93	107	eP		P	01 05 47.4	-0.9
PEXB	Peixe	34.18	112	eP		P	01 05 49.6	-0.8
KMSC	Kings Mountain	34.59	359	P		P	01 05 53.2	-0.5
CPUP	Villa Florida	34.63	142	eP		P	01 05 56.8	+2.6
CPCT	Cooper Cave	35.10	354	P		P	01 05 57.8	-0.3
CPCT				IAmb		IAmb	01 06 03.8	
	comp=Z,9.6nm,0.9s							
JCT	Junction City	35.16	330	P		P	01 05 58.9	+0.1
JCT				IAmb		IAmb	01 06 27.4	
	comp=Z,8.0nm,1.4s							
BDFB	Brasilia	35.71	118	P		P	01 06 01.6	-2.2
	comp=Z,4.1nm,0.9s,baz=302,slow=12,SNR=5.2							
BDFB	Brasilia	35.71	118	P		P	01 06 01.8	-2.0
PCMB	Pacaembu	35.85	129	eP		P	01 06 04.2	-0.7
WVT	Waverly	36.23	350	P		P	01 06 06.6	-1.2
WVT				IAmb		IAmb	01 06 08.8	
	comp=Z,10nm,1.5s							
TXAR	Lajitas Array	36.36	324	P		P	01 06 10.3	+1.1
	comp=Z,0.8nm,0.9s,baz=149,slow=9.5,SNR=5.1							
TXAR				PcP		PcP	01 08 33.7	-0.1
	comp=Z,0.5nm,0.8s,baz=160,slow=5.1,SNR=3.8							
TXAR	Lajitas Array	36.36	324	P		P	01 06 09.0	-0.1
IPMB	Ipameri, GO	36.53	122	eP		P	01 06 09.6	-1.1
LCAR	Lake Charles	36.89	345	P		P	01 06 12.2	-1.2
LCAR				IAmb		IAmb	01 06 13.2	
	comp=Z,5.5nm,0.7s							
ITQB	Itaqui	37.51	145	eP		P	01 06 18.8	0.0
U40A	Yellville	37.62	343	P		P	01 06 18.9	-0.7
U40A				IAmb		IAmb	01 06 25.2	
	comp=Z,5.4nm,0.8s							
FRTB	Fartura	38.12	130	eP		P	01 06 25.2	+1.1
CCM	Cathedral Cave	38.80	346	P		P	01 06 28.1	-1.5
MNTX	Cornudas Mount	39.10	325	P		P	01 06 31.5	-0.7
CPSB	Cacapava Do Su	39.33	142	eP		P	01 06 41.7	+2.6
SSPA	Standing Stone	40.13	3	P		P	01 06 40.2	-0.4
SSPA				IAmb		IAmb	01 07 08.5	
	comp=Z,22nm,1.4s							
PLTB	Pedras Altas	40.80	144	eP		P	01 06 49.2	+2.8
121A	Cookes Peak, D	41.11	324	P		P	01 06 49.6	+0.5
121A				IAmb		IAmb	01 06 56.4	
	comp=Z,5.6nm,0.8s							
PARB	Paraibuna	41.19	127	eP		P	01 06 50.7	+0.9
PLCA	Paso Flores	41.89	169	P		P	01 06 55.0	-0.3
	comp=Z,5.1nm,0.9s,baz=334,slow=9.2,SNR=6.6							
PLCA	Paso Flores	41.89	169	P		P	01 06 54.4	-0.8
ANMO	Albuquerque	42.13	327	P		P	01 06 57.4	0.0
	comp=Z,5.2nm,1.0s,baz=150,slow=9.6,SNR=15							
ANMO	Albuquerque	42.13	327	P		P	01 06 57.7	+0.3
ANMO				IAmb		IAmb	01 07 00.1	
	comp=Z,7.0nm,1.1s							
NCB	Newcomb	43.74	6	P		P	01 07 10.4	+0.3
SDCO	Great Sand Dun	43.80	331	P		P	01 07 12.2	+1.1
SDCO				IAmb		IAmb	01 07 27.5	
	comp=Z,9.8nm,1.2s							
X16A	Lo Mia Camp, P	44.61	323	P		P	01 07 18.4	+0.9
X16A				IAmb		IAmb	01 07 24.6	
	comp=Z,5.3nm,0.7s							
MVCO	Mesa Verde	44.92	328	P		P	01 07 20.5	+0.5
K31A	O'Neill	45.18	341	P		P	01 07 21.5	-0.2
WUAZ	Wupatki	45.32	324	P		P	01 07 24.0	+0.9
WUAZ				IAmb		IAmb	01 07 46.2	
	comp=Z,8.4nm,0.9s							
ISCO	Idaho Springs	45.48	333	P		P	01 07 24.5	0.0
PV13	Radium Mtn., P	45.79	328	P		P	01 07 26.9	0.0
P17A	Butcher Ranch,	47.77	328	P		P	01 07 41.5	-0.8
P17A				IAmb		IAmb	01 07 46.9	
	comp=Z,5.0nm,1.0s							
BATG	Bathurst New B	48.35	13	P		P	01 07 46.4	+0.1
RSSD	Black Hills	48.37	337	P		P	01 07 47.1	+0.2
PDAR	Pinedale Array	49.65	332	P		P	01 07 56.9	+0.1
	comp=Z,0.2nm,0.4s,baz=141,slow=5.8,SNR=2.9							
PDAR				PcP		PcP	01 09 17.2	-0.9
	comp=Z,0.4nm,0.8s,baz=178,slow=4.2,SNR=1.5							
NV11	Mina Array Sit	51.33	322	P		P	01 08 10.0	+0.6
NV11				IAmb		IAmb	01 08 16.6	
	comp=Z,3.7nm,0.8s							
NVAR	Mina Array Bea	51.42	322	P		P	01 08 11.3	+1.2
	comp=Z,3.1nm,0.8s,baz=130,slow=7.0,SNR=21							
NVAR	Mina Array Bea	51.42	322	P		P	01 08 10.5	+0.4
KVN	Kaiserville	51.68	323	P		P	01 08 12.3	+0.3
BMN	Battle Mountai	52.03	325	P		P	01 08 14.7	0.0
BMN				IAmb		IAmb	01 08 31.5	
	comp=Z,9.2nm,1.2s							
HLID	Hailey	52.63	329	P		P	01 08 18.9	-0.2
HLID				IAmb		IAmb	01 08 25.6	
	comp=Z,4.2nm,1.0s							
BOZ	Bozeman (W)	52.77	333	P		P	01 08 20.1	0.0
HRY	Holter Researc	53.71	334	P		P	01 08 26.8	-0.2
WVOR	Wild Horse Val	54.14	326	P		P	01 08 30.2	+0.1
YBH	Yreka Blue Hor	56.10	323	P		P	01 08 42.7	-1.5
	comp=Z,0.7nm,0.5s,baz=124,slow=7.3,SNR=2.2							
EDM	Edmonton	59.35	338	P		P	01 09 05.6	-1.3
YKA	Yellowknife Ar	67.06	344	P		P	01 09 56.5	-1.2
	comp=Z,1.4nm,0.9s,baz=137,slow=6.2,SNR=22							
YKA	Yellowknife Ar	67.06	344	P		P	01 09 56.9	-0.8
DAWY	Dawson	76.56	337	P		P	01 10 55.0	+0.1
DAWY				IAmb		IAmb	01 10 56.0	
	comp=Z,3.2nm,1.1s							
KOWA	Kowa	76.70	75	P		P	01 10 56.0	-0.7
INK	Inuvik	76.75	342	P		P	01 10 55.7	-0.1
	comp=Z,4.0nm,1.0s,baz=102,slow=5.9,SNR=11							
INK	Inuvik	76.75	342	P		P	01 10 55.9	+0.1
A36M	Sachs Harbour	76.89	347	P		P	01 10 55.1	-1.4
A36M				IAmb		IAmb	01 11 07.8	
	comp=Z,5.0nm,0.8s							
BCAR	Beaver Creek A	77.06	336	P		P	01 10 57.6	-0.2
EGAK	Eagle	77.57	337	P		P	01 11 00.7	+0.1
ESDC	Sonseca Array	79.31	50	P		P	01 11 10.6	-0.2
	comp=Z,3.0nm,1.0s,baz=265,slow=5.7,SNR=12							
ILAR	Eielson Array	79.81	336	P		P	01 11 11.9	-1.0
	comp=Z,0.9nm,1.0s,baz=92,slow=3.3,SNR=5.9							
ILAR	Eielson Array	79.81	336	P		P	01 11 12.1	-0.8
BMAR	Burnt Mountain	79.97	339	P		P	01 11 13.6	-0.1
TOA0	Torodi Ar. Sit	82.19	77	P		P	01 11 25.3	-1.3
TORD	Torodi Ar. Bea	82.19	77	P		P	01 11 24.2	-2.4
	comp=Z,1.3nm,0.7s,baz=277,slow=6.8,SNR=10							
IMAR	Indian Mountai	82.92	337	P		P	01 11 28.5	-0.9
SNAA	Sanae	86.45	162	P		P	01 11 45.2	-1.9
TUE	Stuetta	89.54	44	P		P	01 12 02.6	-0.1
TUE				IAmb		IAmb	01 12 31.3	
	comp=Z,5.9nm,1.2s							
SONM	Songino Array	131.61	354	PKP		PKPdf	01 18 16.0	-2.0
	comp=Z,0.5nm,0.7s,baz=100,slow=1.8,SNR=4.1							
ASAR	Alice Springs	139.48	233	PKhKP		PKPpre	01 18 29.9	
	comp=Z,0.4nm,0.6s,baz=124,slow=1.8,SNR=7.8							
ASAR	Alice Springs	139.48	233	PKPdf		PKPdf	01 18 31.7	-1.6
WB2	Warramunga Arr	140.84	238	PKPdf		PKPdf	01 18 33.8	-2.0
WRA	Warramunga Arr	140.85	238	PKhKP		PKPpre	01 18 32.1	
	comp=Z,0.8nm,0.6s,baz=112,slow=2.1,SNR=5.2							
WRA	Warramunga Arr	140.85	238	PKPdf		PKPdf	01 18 34.5	-1.3
MTN	Manton Dam	146.40	247	PKPbc		PKPdf	01 18 46.0	+0.4
PZH	PanZhiHua	153.19	356	PKPbc		PKPdf	01 18 57.5	+1.2

*IDC **17** 01:09:13.6±0.7, 0.°02S×80.°22W, h0km, mb3.9/16,*

mb1 4.1/19, mb1mx3.9/34, mbtmp3.9/19, ML2.6/2, Error ellipse: s-maj=19.9km s-min=13.9km az=54.0
*NEIC **17** 01:09:17.1±1.7, 0.°05S±0.°04×80.°22W±0.°09, h10km±1km, mb4.3/10, Error ellipse: s-maj=15.3km s-min=5.5km az=284.0*
*IGQ **17** 01:09:17±0.4, 0.°S±2.°×8.°0W±.°, h7km*

ISC 17 01:09:15.7±1.2, 0.°03S±0.°03×80.°28W±0.°04, h11km±7km, n147, σ2s07/171, mb4.1/20, 1D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	Jama	0.24	162	P	Pg	01 09 22.0	+1.2
JAMA				S	Sg	01 09 26.0	+1.8
MAG1	Magdalena	0.51	95	P	Pg	01 09 26.0	+0.4
FLF1	Flavio Alfaro-	0.55	127	P	Pb	01 09 28.0	+0.6
FLF1				S	Sb	01 09 37.0	+1.8
AV18	Acelerografo,	0.87	67	P	Pg	01 09 33.0	+0.5
AV21	Acelerografo,	1.00	47	P	Pg	01 09 35.0	0.0
AMNT	Manta-Manabi	1.01	207	P	Pg	01 09 35.0	-0.3
BV15	Puerto Quito-O	1.07	80	P	Pg	01 09 34.0	-2.4
AMA1	Acelerografo,	1.11	30	P	Pg	01 09 37.0	0.0
AMA1				S	Sn	01 09 54.0	+1.5
ASDO	Santo Domingo	1.18	101	P	Pg	01 09 35.0	-3.4
APR2	Miler	1.32	85	P	Pn	01 09 38.0	-2.2
APR2				S	Sg	01 09 56.0	-2.1
HPAL	Hacienda Las P	1.64	97	P	Pn	01 09 43.0	-1.9
APR1	Acelerografo,	1.67	91	P	Pn	01 09 43.0	-2.3
GGPT	Toaza - Volcan	1.67	97	P	Pn	01 09 43.0	-2.3
PINO	Pino	1.68	94	P	Pn	01 09 43.0	-2.6
TERV	Terraza Guagua	1.68	95	P	Pn	01 09 44.0	-1.6
JUA2	San Juan 2	1.68	96	P	Pn	01 09 44.0	-1.6
GGPC	Guagua Pichinc	1.69	95	P	Pn	01 09 44.0	-1.8
ILLI	Illinizas Sur	1.69	114	P	Pn	01 09 44.0	-1.8
YANA	Yana	1.71	93	P	Pn	01 09 44.0	-2.0
PAST	Pastocalle	1.77	112	P	Pn	01 09 45.0	-1.7
PULU	Pululahua	1.78	88	P	Pn	01 09 45.0	-1.8
OTAV	Otavalo	1.85	82	Pn	Pn	01 09 46.6	-1.2
SRAM	San Ramn-Vol	1.86	113	P	Pn	01 09 47.0	-0.9
ISUC	Cotopaxi Ecuad	1.88	109	P	Pn	01 09 49.0	+0.6
SUCR	Mariscal Sucre	1.89	109	P	Pn	01 09 48.0	-0.4
CAMI	Rancho Maria	1.89	110	P	Pn	01 09 48.0	-0.4
TOMA	Boca Toma-Volc	1.90	104	P	Pn	01 09 48.0	-0.6
AV11	Acelerografo,	1.91	91	P	Pn	01 09 48.0	-0.5
BNAS	Cotopaxi Volca	1.91	110	P	Pn	01 09 49.0	+0.3
CUSE	Cuicocha Este	1.91	80	eP	Pn	01 09 47.9	-0.8
CUSE				eS	Sn	01 10 12.2	-0.7
CUSE				i		01 10 15.6	
	comp=Z,9µm,0.3s						
CUSE	Cuicocha Este	1.91	80	P	Pn	01 09 47.0	-1.7
NAS2	Nasa	1.91	109	P	Pn	01 09 48.0	-0.8
SLOR	San Lorenzo -	1.91	111	P	Pn	01 09 48.0	-0.8
PITA	Cotopaxi Volc	1.92	106	P	Pn	01 09 48.0	-0.8
BREF	Cotopaxi Volca	1.95	109	P	Pn	01 09 49.0	-0.3
CUIC	Cuicocha-Domo	1.95	80	P	Pn	01 09 48.0	-1.2
BMOR	Cotopaxi Volca	1.95	111	P	Pn	01 09 49.0	-0.3
BRRN	Barrancas-Volc	1.95	113	P	Pn	01 09 49.0	-0.3
CUSW	Cuicocha Oeste	1.95	81	P	Pn	01 09 48.0	-1.2
BVC2	Cotopaxi Volca	1.97	108	P	Pn	01 09 50.0	+0.4
VC1	Cotopaxi 1	1.97	108	P	Pn	01 09 50.0	+0.4
COTA	Cotacachi	1.98	79	P	Pn	01 09 48.0	-1.6
BTAM	Cotopaxi Volca	1.99	109	P	Pn	01 09 50.0	+0.1
TAMB	Tambo	2.02	109	P	Pn	01 09 50.0	-0.3
CHSH	Refugio Sur-Vo	2.03	136	P	Pn	01 09 50.0	-0.4
VCES	Cotopaxi	2.03	112	P	Pn	01 09 50.0	-0.5
PORT	Chimborazo Vol	2.07	133	P	Pn	01 09 51.0	-0.1
URCU	Urcuqui	2.08	77	P	Pn	01 09 50.0	-0.9
ANTG	Antisana-Guama	2.

	comp=Z,43nm,0.6s							
ANIL	**Santa Ana**	**6.62**	**47**	*eP*		**Pn**	**01 10 55.3**	**+1.9**
ANIL				*eS*		**Sn**	**01 12 14.0**	**+4.8**
ANIL				*i*			01 12 19.7	
	comp=Z,64nm,0.5s							
MACC	**Macarena, Meta**	**6.78**	**71**	*eP*		**Pn**	**01 10 57.0**	**+1.6**
MACC				*eS*		**Sb**	**01 12 35.2**	**+0.3**
MACC				*i*			01 13 01.9	
	comp=Z,20nm,0.7s							
GUY2C	**Guyana, Caldas**	**7.16**	**43**	*eP*		**Pn**	**01 11 00.0**	**-0.9**
GUY2C				*eS*		**Sn**	**01 12 30.1**	**+7.4**
GUY2C				*i*			01 12 42.7	
	comp=Z,30nm,0.7s							
CBOC	**Ciudad Bolivar**	**7.24**	**36**	*eP*		**Pn**	**01 11 03.0**	**+1.2**
CBOC				*eS*		**Sn**	**01 12 30.5**	**+6.3**
CBOC				*i*			01 12 46.4	
	comp=Z,20nm,0.6s							
ROSC	**El Rosal**	**7.67**	**51**	Pn		**Pn**	**01 11 05.2**	**-2.7**
	comp=Z,2.0nm,0.3s,baz=314,slow=18,SNR=2.4							
ROSC				Sn		**Sn**	**01 12 34.3**	**-0.7**
	baz=177,slow=22,SNR=1.3							
ROSC	**El Rosal**	**7.67**	**51**			**Pn**	**01 11 08.8**	**+1.0**
NORC	**Norcasia**	**7.75**	**44**	*eP*		**Pn**	**01 11 10.6**	**+2.0**
NORC				*eS*		**Sn**	**01 12 44.0**	**+7.4**
NORC				*i*			01 12 53.8	
	comp=Z,8.1nm,0.6s							
VILC	**Villavicencio,**	**7.76**	**58**	*eP*		**Pn**	**01 11 10.2**	**+1.3**
HELC	**Santa Helena**	**7.79**	**37**	*eP*		**Pn**	**01 11 12.3**	**+2.9**
HELC				*eS*		Sn	01 12 47.4	+9.5
HELC				*i*			01 13 03.4	
	comp=Z,11nm,0.6s							
CHIC	**Chingaza**	**8.01**	**55**	*eP*		**Pn**	**01 11 12.6**	**0.0**
CHIC				*eS*		**Sn**	**01 12 50.5**	**+7.0**
CHIC				*i*			01 13 05.0	
	comp=Z,9.0nm,0.7s							
DBBC	**Dabeiba**	**8.09**	**30**	*eP*		**Pn**	**01 11 17.5**	**+4.1**
DBBC				*eS*		Sb	01 13 17.0	+4.4
DBBC				*i*			01 13 26.7	
	comp=Z,39nm,0.7s							
ZARC	**Zaragoza, Cauc**	**9.22**	**36**			**Pn**	**01 11 29.7**	**+0.9**
NNA	**Nana**	**12.36**	**164**	Pn		**Pn**	**01 12 09.7**	**-2.2**
	comp=Z,1.4nm,0.3s,baz=331,slow=13,SNR=1.8							
NNA				Sn		**Sn**	**01 14 29.6**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=201,slow=11,SNR=1.8							
SDV	**Santo Domingo**	**13.07**	**47**	Pn		**Pn**	**01 12 22.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=204,slow=10,SNR=3.6							
LPAZ	**La Paz**	**20.11**	**144**	P		**P**	**01 13 50.2**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=339,slow=14,SNR=9.8							
LPAZ	**La Paz**	**20.11**	**144**	P		**P**	**01 13 51.0**	**+0.5**
PB16	**IPOC Station P**	**21.05**	**150**	P		**P**	**01 13 58.4**	**-2.2**
PB16				IAmb		IAmb	01 14 03.4	
	comp=Z,10nm,0.8s							
CMIG	**Matias Romero**	**22.28**	**321**	P		**P**	**01 14 14.6**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=172,slow=7.1,SNR=1.8							
GO01	**Chusmiza**	**22.34**	**152**	P		**P**	**01 14 13.8**	**-0.5**
GO01				IAmb		IAmb	01 14 22.2	
	comp=Z,5.0nm,0.8s							
SJG	**San Juan**	**22.76**	**37**	P		**P**	**01 14 17.7**	**-0.6**
	comp=Z,3.1nm,0.5s,baz=211,slow=18,SNR=2.3							
SJG	**San Juan**	**22.76**	**37**	IAmb		IAmb	01 14 38.5	
	comp=Z,8.6nm,0.9s							
SIV	**San Ignacio**	**24.72**	**131**	P		**P**	**01 14 37.3**	**0.0**
	comp=Z,1.1nm,0.6s,baz=323,slow=13,SNR=2.4							
MDP	**Montagnes des**	**28.07**	**79**	P		**P**	**01 15 08.3**	**+0.7**
	comp=Z,6.3nm,0.9s,baz=236,slow=11,SNR=1.5							
BDFB	**Brasilia**	**35.43**	**117**	P		**P**	**01 16 12.6**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=19,slow=6.4,SNR=5.1							
TKL	**Tuckaleechee C**	**35.65**	**355**	P		**P**	**01 16 14.3**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=183,slow=12,SNR=2.0							
TKL	**Tuckaleechee C**	**35.65**	**355**	IAmb		IAmb	01 16 17.9	
	comp=Z,7.8nm,1.1s							
ML02	**Panimavida**	**36.50**	**168**	P		**P**	**01 16 21.9**	**+0.8**
ML02				IAmb		IAmb	01 16 24.7	
	comp=Z,12nm,1.0s							
TXAR	**Lajitas Array**	**36.76**	**325**	P		**P**	**01 16 23.5**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=124,slow=8.8,SNR=2.3							
HDIL	**Hopedale**	**41.22**	**350**	P		**P**	**01 17 02.3**	**+1.6**
PLCA	**Paso Flores**	**41.47**	**169**	P		**P**	**01 17 02.5**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=349,slow=6.0,SNR=3.4							
ANMO	**Albuquerque**	**42.53**	**328**	P		**P**	**01 17 11.9**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=130,slow=9.6,SNR=1.6							
NVAR	**Mina Array Bea**	**51.80**	**322**	P		**P**	**01 18 23.7**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=125,slow=7.8,SNR=2.0							
YNR	**Norris Junctio**	**52.08**	**333**	P		**P**	**01 18 27.0**	**+0.9**
YNR				IAmb		IAmb	01 18 39.7	
	comp=Z,3.2nm,1.2s							
YKA	**Yellowknife Ar**	**67.48**	**344**	P		**P**	**01 20 10.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=140,slow=5.8,SNR=22							
PPT	**Papeete**	**70.28**	**251**	P		**P**	**01 20 30.2**	**+0.3**
	comp=Z,39nm,0.8s,baz=56,slow=15,SNR=2.2							
DBIC	**Dimbokro**	**75.53**	**83**	P		**P**	**01 20 58.7**	**-2.3**
	comp=Z,2.4nm,0.9s,baz=282,slow=4.7,SNR=2.5							
INK	**Inuvik**	**77.17**	**342**	P		**P**	**01 21 07.8**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=113,slow=5.0,SNR=3.5							
ESDC	**Sonseca Array**	**79.50**	**50**	P		**P**	**01 21 22.0**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=264,slow=6.6,SNR=6.0							
TORD	**Torodi Ar. Bea**	**82.19**	**77**	P		**P**	**01 21 36.1**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=281,slow=6.2,SNR=25							
WRA	**Warramunga Arr**	**140.72**	**238**	PKP		**PKPdf**	**01 28 45.5**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=110,slow=2.4,SNR=1.9							

*IDC **17** 01:11:48.2±15.0, 56°.03S×27°.71W, h182km±135km, mb3.4/2, mb1 3.5/2, mb1mx3.1/25, mbtmp3.8/2, Error ellipse: s-maj=77.4km s-min=29.7km az=110.0*

ISC 17 01:11:41.0±1.2, **56°.0S**±0°.2×**27°.9W**±0°.4, **h121**km, **n8, σ0°66/8, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.02**	**157**	P	**P**	**01 15 31.2**	**+0.2**
VNA2	**Neumayer--Watz**	**17.42**	**157**	P	**P**	**01 15 35.1**	**-0.4**
	baz=314,slow=13						
SNAA	**Sanae**	**18.98**	**156**	P	**P**	**01 15 52.1**	**-0.5**
VNDA	**Vanda**	**46.63**	**183**	P	**P**	**01 19 57.0**	**+0.7**
	1.1nm,0.7s,baz=187,slow=5.5,SNR=8.5						
TORD	**Torodi Ar. Bea**	**73.18**	**30**	P	**P**	**01 22 58.9**	**+0.6**
	0.4nm,0.4s,baz=197,slow=6.1,SNR=9.3						
YKA	**Yellowknife Ar**	**135.84**	**318**	PKP	**PKPdf**	**01 30 44.9**	**-0.8**
	0.1nm,0.6s,baz=130,slow=2.3,SNR=2.1						
ILAR	**Eielson Array**	**149.76**	**312**	PKPbc	**PKPbc**	**01 31 14.9**	**-0.1**
	1.0nm,0.8s,baz=141,slow=1.9,SNR=10						
SONM	**Songino Array**	**151.12**	**87**	PKPbc	**PKPbc**	**01 31 18.4**	**-0.5**
	1.0nm,0.5s,baz=216,slow=4.0,SNR=6.7						

*IDC **17** 01:19:00.7±1.1, 0°.26S×80°.36W, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.8/33, mbtmp3.9/10, ML2.6/2, Error ellipse: s-maj=28.4km s-min=18.8km az=42.0*

*NEIC **17** 01:19:02.5±2.4, 0°.13S±0°.05×80°.42W±0°.07, h10km±1km, mb4.1/7, Error ellipse: s-maj=12.8km s-min=7.8km az=286.0*

*IGQ **17** 01:19:03±0.6, 0°S±2°×8°W±°, h9km*

ISC 17 01:19:03.1±1.0, **0°.15S**±0°.03×**80°.31W**±0°.04, **h16**km±6km, **n142, σ2s21/161, mb4.0/9, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.15**	**136**	P	**Pg**	**01 19 08.0**	**+0.7**
JAMA				S	**Sg**	**01 19 12.0**	**+1.9**
FLF1	**Flavio Alfaro-**	**0.51**	**114**	P	**Pb**	**01 19 15.0**	**+1.3**
FLF1				S	**Sb**	**01 19 24.0**	**+3.1**
MAG1	**Magdalena**	**0.54**	**82**	P	**Pg**	**01 19 14.0**	**0.0**
AMNT	**Manta-Manabi**	**0.89**	**208**	P	**Pn**	**01 19 21.0**	**0.0**
AV18	**Acelerografo,**	**0.95**	**61**	P	**Pg**	**01 19 21.0**	**-0.6**
AV21	**Acelerografo,**	**1.11**	**43**	P	**Pb**	**01 19 23.0**	**-1.0**
AV21				S	**Sg**	**01 19 39.0**	**-0.2**
BV15	**Puerto Quito-O**	**1.13**	**74**	P	**Pb**	**01 19 22.0**	**-2.3**
ASDO	**Santo Domingo**	**1.19**	**95**	P	**Pn**	**01 19 23.0**	**-2.2**
AMA1	**Acelerografo,**	**1.23**	**29**	P	**Pn**	**01 19 25.0**	**-0.6**
AMA1				S	**Sn**	**01 19 43.0**	**+1.1**
APR2	**Miler**	**1.36**	**80**	P	**Pn**	**01 19 26.0**	**-1.5**
HPAL	**Hacienda Las P**	**1.66**	**92**	P	**Pn**	**01 19 30.0**	**-1.9**
ILLI	**Illinizas Sur**	**1.68**	**109**	P	**Pn**	**01 19 31.0**	**-1.3**
ILLI				S	**Sn**	**01 19 52.0**	**-1.7**
GGPT	**Toaza - Volcan**	**1.69**	**92**	P	**Pn**	**01 19 31.0**	**-1.4**
APR1	**Acelerografo,**	**1.70**	**86**	P	**Pn**	**01 19 31.0**	**-1.5**
PINO	**Pino**	**1.70**	**90**	P	**Pn**	**01 19 31.0**	**-1.7**
JUA2	**San Juan 2**	**1.71**	**92**	P	**Pn**	**01 19 31.0**	**-1.6**
TERV	**Terraza Guagua**	**1.71**	**91**	P	**Pn**	**01 19 32.0**	**-0.7**
GGPC	**Guagua Pichinc**	**1.71**	**91**	P	**Pn**	**01 19 32.0**	**-0.8**
YANA	**Yana**	**1.74**	**89**	P	**Pn**	**01 19 32.0**	**-1.1**
PAST	**Pastocalle**	**1.75**	**108**	P	**Pn**	**01 19 33.0**	**-0.3**
PULU	**Pululahua**	**1.82**	**85**	P	**Pn**	**01 19 33.0**	**-1.1**
SRAM	**San Ramn-Vol**	**1.84**	**109**	P	**Pn**	**01 19 34.0**	**-0.4**
CAMI	**Rancho Maria**	**1.88**	**106**	P	**Pn**	**01 19 35.0**	**0.0**
SUCR	**Mariscal Sucre**	**1.88**	**105**	P	**Pn**	**01 19 35.0**	**0.0**
OTAV	**Otavalo**	**1.90**	**78**	Pn	**Pn**	**01 19 34.7**	**-0.6**
BNAS	**Cotopaxi Volca**	**1.90**	**106**	P	**Pn**	**01 19 36.0**	**+0.7**
SLOR	**San Lorenzo -**	**1.90**	**108**	P	**Pn**	**01 19 36.0**	**+0.7**
NAS2	**Nasa**	**1.91**	**105**	P	**Pn**	**01 19 36.0**	**+0.6**
TOMA	**Boca Toma-Volc**	**1.91**	**100**	P	**Pn**	**01 19 36.0**	**+0.6**
PITA	**Cotopaxi Volc**	**1.92**	**102**	P	**Pn**	**01 19 36.0**	**+0.4**
BMOR	**Cotopaxi Volca**	**1.94**	**107**	P	**Pn**	**01 19 36.0**	**+0.1**
BREF	**Cotopaxi Volca**	**1.94**	**105**	P	**Pn**	**01 19 37.0**	**+1.0**
BRRN	**Barrancas-Volc**	**1.94**	**109**	P	**Pn**	**01 19 36.0**	**+0.2**
AV11	**Acelerografo,**	**1.94**	**88**	P	**Pn**	**01 19 37.0**	**+1.3**
CHSH	**Refugio Sur-Vo**	**1.96**	**133**	P	**Pn**	**01 19 37.0**	**+0.7**
BVC2	**Cotopaxi Volca**	**1.96**	**105**	P	**Pn**	**01 19 37.0**	**+0.7**
CUSE	**Cuicocha Este**	**1.97**	**77**	*eP*	**Pn**	**01 19 35.9**	**-0.2**
CUSE				*eS*	**Sn**	**01 20 00.3**	**-0.4**
CUSE				*i*		01 20 09.8	
	comp=Z,7μm,0.4s						
CUSE	**Cuicocha Este**	**1.97**	**77**	P	**Pn**	**01 19 35.0**	**-1.1**
VC1	**Cotopaxi 1**	**1.97**	**104**	P	**Pn**	**01 19 37.0**	**+0.7**
BTAM	**Cotopaxi Volca**	**1.98**	**105**	P	**Pn**	**01 19 37.0**	**+0.5**
CUIC	**Cuicocha-Domo**	**2.00**	**77**	P	**Pn**	**01 19 36.0**	**-0.6**
CUSW	**Cuicocha Oeste**	**2.01**	**78**	P	**Pn**	**01 19 36.0**	**-0.7**
PORT	**Chimborazo Vol**	**2.02**	**130**	P	**Pn**	**01 19 37.0**	**0.0**
TAMB	**Tambo**	**2.02**	**106**	P	**Pn**	**01 19 37.0**	**0.0**
VCES	**Cotopaxi**	**2.02**	**109**	P	**Pn**	**01 19 37.0**	**0.0**
COTA	**Cotacachi**	**2.03**	**76**	P	**Pn**	**01 19 37.0**	**-0.1**
TAMH	**Tambohuasha Ch**	**2.06**	**132**	P	**Pn**	**01 19 38.0**	**+0.5**
ANTG	**Antisana-Guama**	**2.09**	**100**	P	**Pn**	**01 19 39.0**	**+1.1**
AMIL	**Milagro (Trans**	**2.10**	**160**	P	**Pn**	**01 19 38.0**	**+0.4**
ANTM	**Antisana-La Mi**	**2.12**	**100**	P	**Pn**	**01 19 39.0**	**+0.6**
IGUA	**Igualata**	**2.14**	**128**	P	**Pn**	**01 19 39.0**	**+0.4**
URCU	**Urcuqui**	**2.14**	**74**	P	**Pn**	**01 19 39.0**	**+0.5**
ALIT	**Ecuador-Imbabu**	**2.17**	**64**	P	**Pn**	**01 19 38.0**	**-0.6**
ANTS	**Antisana-Sarah**	**2.17**	**99**	P	**Pn**	**01 19 40.0**	**+0.9**
ANTI	**Antisana**	**2.17**	**98**	P	**Pn**	**01 19 40.0**	**+0.9**
PIAT	**Ana Tenorio**	**2.22**	**112**	P	**Pn**	**01 19 40.0**	**+0.5**
BIL2	**Estacion Bilba**	**2.23**	**126**	P	**Pb**	**01 19 43.0**	**-0.1**
BBIL	**Ulba Tungurahu**	**2.23**	**125**	P	**Pn**	**01 19 41.0**	**+1.2**
JUI6	**Juive**	**2.23**	**124**	P	**Pn**	**01 19 40.0**	**+0.3**
MILO	**Milagro-Astudi**	**2.25**	**160**	P	**Pn**	**01 19 38.0**	**-1.6**
POND	**Pondoa**	**2.25**	**124**	P	**Pn**	**01 19 41.0**	**+1.1**
AIB2	**Ibarra (Univer**	**2.26**	**77**	P	**Pn**	**01 19 41.0**	**+0.9**
RETU	**Refugio**	**2.27**	**125**	P	**Pn**	**01 19 42.0**	**+1.6**
BMAS	**Trigal station**	**2.27**	**126**	P	**Pn**	**01 19 42.0**	**+1.7**
BRUN	**Tungurahua Vol**	**2.28**	**124**	P	**Pn**	**01 19 42.0**	**+1.6**
ARRY	**Arrayan**	**2.29**	**126**	P	**Pn**	**01 19 42.0**	**+1.4**
YAHU	**Yahuarcocha**	**2.30**	**77**	P	**Pn**	**01 19 42.0**	**+1.3**
BPAT	**Tungurahua Vol**	**2.31**	**126**	P	**Pn**	**01 19 43.0**	**+2.1**
CAYR	**Refugio Cayamb**	**2.31**	**86**	P	**Pn**	**01 19 42.0**	**+0.9**
ANGU	**Angureal**	**2.31**	**85**	P	**Pn**	**01 19 43.0**	**+1.9**
CAYA	**Cayambe**	**2.33**	**85**	P	**Pn**	**01 19 43.0**	**+1.7**
CHMA	**Chilma**	**2.46**	**66**	P	**Pn**	**01 19 43.0**	**+0.1**
LNGL	**El Angel-Carch**	**2.47**	**69**	P	**Pn**	**01 19 44.0**	**+0.8**
COHC	**Cochancay**	**2.53**	**155**	P	**Pn**	**01 19 43.0**	**-0.5**
ECEN	**Cerro Negro**	**2.53**	**68**	P	**Pn**	**01 19 45.0**	**+0.9**
CHL1	**Volcn Chiles**	**2.54**	**68**	P	**Pn**	**01 19 45.0**	**+0.8**
CHL2	**Volcn Chiles**	**2.57**	**68**	P	**Pn**	**01 19 46.0**	**+1.4**
ARDO	**Archidona, Ten**	**2.65**	**108**	P	**Pn**	**01 19 47.0**	**+1.8**
PUYO	**Puyo, Santa Ro**	**2.65**	**120**	P	**Pb**	**01 19 49.0**	**-1.2**
TULM	**Tulcn-Chalpat**	**2.67**	**71**		**Pn**	**01 19 47.8**	**+2.0**
TULM	**Tulcn-Chalpat**	**2.67**	**71**	*eP*	**Pn**	**01 19 48.9**	**+3.1**
TULM				*eS*	**Sb**	**01 20 23.3**	**-0.2**
TULM				*i*		01 20 34.8	
	comp=Z,174nm,0.5s						
TULM	**Tulcn-Chalpat**	**2.67**	**71**	P	**Pn**	**01 19 48.0**	**+2.1**
CONE	**Cono NE Rev Vo**	**2.67**	**88**	P	**Pn**	**01 19 48.0**	**+2.2**
SANGA	**Volcan Sangay**	**2.71**	**134**	P	**Pn**	**01 19 48.0**	**+1.6**
CMBC	**Cumbal**	**2.71**	**66**	*eP*	**Pn**	**01 19 49.2**	**+2.7**
CMBC				*eS*	**Sb**	**01 20 28.0**	**+3.2**
CMBC				*i*		01 20 33.8	
	comp=Z,39μm,0.6s						
ATUL	**Tulcn**	**2.75**	**70**	P	**Pn**	**01 19 49.0**	**+2.2**
ISPG	**Isla Puna-Puer**	**2.80**	**177**	P	**Pb**	**01 19 52.0**	**-0.8**
BONI	**La Bonita**	**2.85**	**78**	P	**Pn**	**01 19 51.0**	**+2.9**
CASC	**Dorado de Casc**	**2.99**	**84**	P	**Pb**	**01 19 54.0**	**-2.0**
ARNL	**Arenillas**	**3.38**	**176**	Pn	**Pn**	**01 19 55.9**	**+0.7**
BOSC	**San Juan Bosco**	**3.49**	**149**		**Pn**	**01 19 57.5**	**+0.5**
CRUZ	**La Cruz**	**3.77**	**63**	*eP*	**Pn**	**01 20 02.8**	**+1.9**
CRUC				*eS*	**Sb**	**01 20 53.9**	**-1.2**
CRUC				*i*		01 20 59.8	
	comp=Z,229nm,0.5s						
GR1C	**Gorgona, Isla**	**3.80**	**34**	*eP*	**Pn**	**01 20 00.5**	**-0.4**
GR1C				*eS*	**Sb**	**01 20 53.7**	**-1.8**
GR1C				*i*		01 21 06.4	
	comp=Z,989nm,0.5s						
MCRA	**Macar, Loja**	**4.21**	**175**	Pn	**Pn**	**01 20 07.8**	**+1.1**
SOTA	**Rioblanco**	**4.34**	**58**	*eP*	**Pn**	**01 20 10.6**	**+1.6**
SOTA				*eS*	**Sn**	**01 21 04.5**	**+5.0**
SOTA				*i*		01 21 24.9	
	comp=Z,164nm,0.6s						
POPC	**Popayan, Colom**	**4.51**	**54**	*eP*	**Pn**	**01 20 11.9**	**+0.9**
POPC				*eS*	**Sn**	**01 21 05.1**	**+1.8**
POPC				*i*		01 21 15.2	
	comp=Z,82nm,0.7s						
PCON	**Cinco Dias**	**4.62**	**58**	*eP*	**Pn**	**01 20 14.6**	**+1.7**
PCON				*eS*	**Sb**	**01 21 15.4**	**-4.5**
PCON				*i*		01 21 23.0	
	comp=Z,107nm,0.5s						
MARP	**Paez Belalcaza**	**5.27**	**56**	*eP*	**Pn**	**01 20 23.2**	**+1.6**
MARP				*eS*	**Sn**	**01 21 29.0**	**+6.8**
MARP				*i*		01 21 35.8	
	comp=Z,15nm,0.7s						
GARC	**Garzon, Huila**	**5.35**	**64**	*eP*	**Pn**	**01 20 24.1**	**+1.5**
GARC				*eS*	**Sb**	**01 21 37.3**	**-3.2**
PTLC	**Puerto Leguiza**	**5.52**	**87**	*eP*	**Pn**	**01 20 25.9**	**+1.2**
PTLC				*eS*	**Sg**	**01 21 54.5**	**-6.0**
PTLC				*i*		01 21 59.2	
	comp=Z,24nm,0.5s						
BETC	**Betania**	**5.62**	**60**	*eP*	Pn	01 20 31.8	+5.6
YOTC	**Yotoco, Valle**	**5.71**	**44**	*eP*	**Pn**	**01 20 27.7**	**+0.3**
YOTC				*eS*	**Sn**	**01 21 32.3**	**-0.3**
YOTC				*i*		01 21 45.9	
	comp=Z,71nm,0.8s						
PLMC	**San Jos del P**	**6.44**	**39**	*eP*	**Pn**	**01 20 39.2**	**+1.9**
PLMC				*eS*	**Sn**	**01 21 52.6**	**+2.1**
PLMC				*i*		01 22 14.6	
	comp=Z,50nm,0.5s						
ORTC	**Ortega, Tolima**	**6.47**	**51**	*eP*	**Pn**	**01 20 39.1**	**+1.3**
ORTC				*eS*	**Sn**	**01 21 56.8**	**+5.4**
ORTC				*i*		01 22 09.5	
	comp=Z,32nm,0.6s						
ANIL	**Santa Ana**	**6.73**	**47**	*eP*	**Pn**	**01 20 45.2**	**+3.6**
ANIL				*eS*	**Sn**	**01 22 06.0**	**+7.8**
ANIL				*i*		01 22 14.5	
	comp=Z,64nm,0.5s						
MACC	**Macarena, Meta**	**6.85**	**71**	*eP*	**Pn**	**01 20 45.4**	**+2.4**
MACC				*i*		01 22 42.6	
	comp=Z,23nm,0.8s						
GUY2C	**Guyana, Caldas**	**7.27**	**43**	*eP*	**Pn**	**01 20 52.0**	**+2.8**
GUY2C				*eS*	**Sn**	**01 22 15.0**	**+3.2**
GUY2C				*i*		01 22 32.5	
	comp=Z,26nm,0.6s						
CBOC	**Ciudad Bolivar**	**7.36**	**36**	*eP*	**Pn**	**01 20 53.3**	**+3.2**
CBOC				*eS*	**Sn**	**01 22 19.9**	**+6.6**
CBOC				*i*		01 22 41.2	
	comp=Z,18nm,0.7s						
ROSC	**El Rosal**	**7.77**	**50**	Pn	**Pn**	**01 20 57.5**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=166,slow=23,SNR=1.9						
ROSC				Sn	**Sn**	**01 22 28.7**	**+4.8**
	comp=Z,0.7nm,0.3s,baz=116,slow=19,SNR=1.0						
ROSC	**El Rosal**	**7.77**	**50**	*eP*	Pn	01 21 01.8	+5.8
ROSC				*eS*	Sn	01 22 33.3	+9.4
ROSC				*i*		01 22 48.6	
	comp=Z,8.8nm,0.6s						
VILC	**Villavicencio,**	**7.85**	**57**	*eP*	**Pn**	**01 21 01.3**	**+4.5**
VILC				*eS*	Sn	01 22 36.1	+11
NORC	**Norcasia**	**7.86**	**44**	*eP*	Pn	01 21 03.2	+6.4
NORC				*eS*	**Sn**	**01 22 33.2**	**+7.6**
NORC				*i*		01 22 43.7	
	comp=Z,7.5nm,0.6s						
HELC	**Santa Helena**	**7.91**	**37**	*eP*	**Pn**	**01 21 01.0**	**+3.2**
HELC				*eS*	**Sn**	**01 22 35.1**	**+8.0**
HELC				*i*		01 22 54.8	
	comp=Z,9.0nm,0.7s						
CHIC	**Chingaza**	**8.11**	**54**	*eP*	**Pn**	**01 21 02.7**	**+2.1**
CHIC				*eS*	Sn	01 22 42.0	+10
CHIC				*i*		01 22 52.4	
	comp=Z,7.2nm,0.5s						
DBBC	**Dabeiba**	**8.21**	**30**	*eP*	Pn	01 21 07.0	+5.2
SPBC	**San Pablo de B**	**8.49**	**47**	*eP*	**Pn**	**01 21 07.4**	**+1.8**
PTBC	**PUERTO BERRIO,**	**8.85**	**41**	*eP*	**Pn**	**01 21 12.8**	**+2.3**
PTBC				*eS*	**Sn**	**01 22 50.8**	**+0.9**
PTBC				*i*		01 23 23.4	
	comp=Z,5.2nm,0.6s						
ZARC	**Zaragoza, Cauc**	**9.34**	**35**	Pn	**Pn**	**01 21 17.3**	**+0.1**
ZARC	**Zaragoza, Cauc**	**9.34**	**35**	*eP*	Pn	01 21 24.3	+7.2
ZARC				*i*		01 23 26.3	
	comp=Z,6.2nm,0.7s						
RUSC	**La Rusia**	**9.39**	**50**	*eP*	**Pn**	**01 21 21.1**	**+2.9**
RUSC				*i*		01 23 45.2	
	comp=Z,2.3nm,0.7s						
DRK0	**Durika**	**9.80**	**343**	Pn	**Pn**	**01 21 21.0**	**-2.6**
OCAC	**Ocana**	**10.87**	**40**	Pn	**Pn**	**01 21 38.6**	**+0.4**
NNA	**Nana**	**12.25**	**164**	Pn	**Pn**	**01 21 53.8**	**-3.3**
	comp=Z,1.4nm,0.3s,baz=326,slow=12,SNR=1.9						
NNA				Sn	**Sn**	**01 24 12.7**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=239,slow=23,SNR=1.5						
SDV	**Santo Domingo**	**13.17**	**47**	Pn	**Pn**	**01 22 09.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=251,slow=18,SNR=2.4						
TGUH	**Tegucigalpa,Un**	**15.71**	**334**	Pn	**Pn**	**01 22 41.3**	**-2.7**
TGUH				IAmb	IAmb	01 22 58.1	
	comp=Z,39nm,1.4s						
LPAZ	**La Paz**	**20.04**	**144**	P	Pn	01 23 39.1	+1.2
	comp=Z,0.3nm,0.3s,baz=315,slow=8.2,SNR=9.1						
LPAZ	**La Paz**	**20.04**	**144**	P	Pn	01 23 41.7	+3.7
LPAZ				IAmb	IAmb	01 24 05.5	
	comp=Z,1.7nm,0.7s						
CMIG	**Matias Romero**	**22.35**	**321**	P	**P**	**01 24 01.6**	**+1.0**
	comp=Z,3.8nm,0.9s,baz=76,slow=4.7,SNR=5.1						
SIV	**San Ignacio**	**24.66**	**131**	P	**P**	**01 24 24.3**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=317,slow=18,SNR=2.6						
MDP	**Montagnes des**	**28.12**	**79**	P	**P**	**01 24 56.2**	**+1.5**
	comp=Z,4.5nm,0.8s,baz=231,slow=13,SNR=1.4						
GO05	**Huala**	**35.55**	**168**	P	**P**	**01 25 59.5**	**-0.1**
TXAR	**Lajitas Array**	**36.84**	**325**	P	**P**	**01 26 11.7**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=148,slow=10,SNR=2.6						
TXAR				PcP	**PcP**	**01 28 33.4**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=140,slow=4.9,SNR=6.1						
TXAR	**Lajitas Array**	**36.84**	**325**	P	**P**	**01 26 10.5**	**-0.3**
LCH	**Last Change Ra**	**50.73**	**321**	P	**P**	**01 28 02.1**	**-0.4**
LCH				IAmb	IAmb	01 28 25.2	
	comp=Z,1.9nm,0.9s				

ISC 17 01:42:10.3±1.0, 42°48N±0°02×15°22E±0°02, h19km±3km, n102, σ1§16/92, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TREM	**Isole Tremiti**	0.41	148	P	Pg	01 42 18.0	-0.9
CAFR	**Castel Frentan**	0.69	249	P	Pg	01 42 23.8	-0.2
CAFR				S	Sn	01 42 34.4	-0.9
MELA	**Melanico ??? S**	0.78	185	P	Pb	01 42 24.5	-0.6
MELA				S	Sb	01 42 35.7	+0.4
MELA				AML	AML		
	comp=E,819μm,0.6s						
MELA				AML	AML		
	comp=N,1022μm,0.3s						
MELA				AML	AML		
	comp=E,806μm,0.6s						
MELA				AML	AML		
	comp=N,1040μm,0.4s						
MELA				AML	AML		
	comp=E,822μm,0.6s						
MELA				AML	AML		
	comp=N,1020μm,0.4s						
MELA				AML	AML		
	comp=E,806μm,0.6s						
SGRT	**San Giovanni R**	0.82	151	P	Pb	01 42 24.9	-1.1
SGRT				S	Sb	01 42 35.9	-0.8
CIGN	**Sant'Elia a Pi**	0.86	196	P	Pb	01 42 26.2	-0.3
CIGN				S	Sb	01 42 38.0	+0.4
TRIV	**Trivento**	0.87	215	P	Pb	01 42 26.8	0.0
LPEL	**Lama dei Pelig**	0.88	241	P	Pn	01 42 27.4	-0.3
LPEL				S	Sn	01 42 39.7	-0.3
LPEL				AML	AML		
	comp=E,1330μm,0.3s						
LPEL				AML	AML		
	comp=N,817μm,0.9s						
LPEL				AML	AML		
	comp=N,818μm,0.9s						
MSAG	**Monte S. Angel**	0.92	146	P	Pb	01 42 27.0	-0.7
MSAG				S	Sb	01 42 39.0	-0.6
MSAG				AML	AML		
	comp=E,1285μm,0.5s						
MSAG				AML	AML		
	comp=N,1755μm,0.3s						
MSAG				AML	AML		
	comp=N,1815μm,0.3s						
MSAG				AML	AML		
	comp=E,1280μm,0.5s						
MSAG				AML	AML		
	comp=E,1365μm,0.4s						
GATE	**Gambatesa**	0.99	193	P	Pb	01 42 28.9	0.0
GATE				AML	AML		
	comp=N,328μm,1.0s						
GATE				AML	AML		
	comp=N,288μm,0.5s						
GATE				AML	AML		
	comp=E,313μm,0.4s						
GATE				AML	AML		
	comp=E,223μm,0.6s						
TRTR	**Tortoreto Alta**	1.02	289	P	Pg	01 42 30.1	0.0
VCEL	**Villa Celiera**	1.02	266	P	Pg	01 42 29.7	-0.5
BSSO	**Busso**	1.04	207	P	Pn	01 42 29.8	-0.2
BSSO				S	Sg	01 42 44.4	+0.1
T0110	**Collepietro**	1.10	257	P	Pg	01 42 30.6	-1.0
T0110				S	Sg	01 42 47.0	+1.0
MIDA	**Miranda**	1.10	221	P	Pb	01 42 30.9	+0.1
MIDA				S	Sg	01 42 46.1	-0.1
MIDA				AML	AML		
	comp=E,272μm,0.5s						
MIDA				AML	AML		
	comp=N,253μm,1.3s						
MOCO	**Biccari - m.te**	1.11	182	P	Pn	01 42 30.6	-0.3
RNI2	**Rionero Sannit**	1.11	226	P	Pg	01 42 31.2	-0.6
GUMA	**Gualdo di Mace**	1.11	302	AML	AML		
	comp=E,462μm,0.5s						
GUMA				AML	AML		
	comp=N,358μm,0.8s						
HVAR	**Hvar**	1.14	52	*e*Pg	Pg	01 42 32.6	+0.1
HVAR				Sg	Sg	01 42 49.8	+2.3
SACR	**S. Croce Del S**	1.15	200	P	Pn	01 42 31.3	-0.1
TERO	**Teramo**	1.20	277	P	Pg	01 42 32.9	-0.7
ZIRJ	**Zirje**	1.22	15	*e*Pg	Pg	01 42 33.9	0.0
ZIRJ				Sg	Sg	01 42 50.5	+0.6
GIGS	**Gran Sasso**	1.22	269	P	Pg	01 42 32.7	-1.2
GIGS				S	Sg	01 42 50.3	+0.4
PTRJ	**Pietraroja**	1.23	205	P	Pn	01 42 32.5	-0.1
PTRJ				AML	AML		
	comp=N,156μm,0.7s						
PTRJ				AML	AML		
	comp=E,196μm,1.1s						
FAGN	**Fagnano**	1.23	261	P	Pg	01 42 33.5	-0.6
FAGN				S	Sg	01 42 50.5	+0.2
FAGN				AML	AML		
	comp=E,751μm,0.6s						
FAGN				AML	AML		
	comp=N,712μm,0.4s						
CERA	**Filignano**	1.25	226	P	Pg	01 42 33.7	-0.9
SGG	**Gregorio Mates**	1.26	210	P	Pb	01 42 33.3	-0.1
LSTV	**Lastovo**	1.27	76	*e*Pg	Pg	01 42 34.7	-0.1
LSTV				Sg	Sg	01 42 53.1	+1.6
VAGA	**Valle Agricola**	1.29	215	P	Pb	01 42 34.1	0.0
VVLD	**Villa Vallelon**	1.33	243	P	Pb	01 42 34.5	-0.2
AQU	**L'Aquila**	1.35	265	AML	AML		
	comp=N,186μm,0.6s						
AQU				AML	AML		
	comp=E,186μm,1.5s						
POFI	**Posta Fibreno**	1.35	236	P	Pb	01 42 35.2	+0.1
POFI				S	Sg	01 42 54.1	0.0
MRB1	**Monte Rocchett**	1.36	188	P	Pb	01 42 34.9	-0.4
MRB1				S	Sb	01 42 52.9	+0.7
VITU	**Vitulano (BN)**	1.37	199	P	Pb	01 42 35.1	-0.2
CAPA	**Cerignola FG**	1.39	161	P	Pn	01 42 34.8	+0.1
CAPA				AML	AML		
	comp=E,310μm,1.4s						
CAPA				AML	AML		
	comp=N,266μm,1.4s						
SMA1	**SAN MARTINO**	1.40	277	P	Pg	01 42 36.2	-1.2
MORI	**Morici**	1.43	14	*e*Pg	Pg	01 42 36.9	-1.1
MORI				Sg	Sg	01 42 56.9	+0.2
MNTP	**Montappone**	1.45	298	AML	AML		
	comp=E,567μm,1.3s						
MNTP				AML	AML		
	comp=N,442μm,0.3s						
CAFE	**Carife**	1.45	179	P	Pn	01 42 35.8	+0.2
CAFE				S	Sb	01 42 55.5	+0.7
CAFE				AML	AML		
	comp=E,150μm,1.1s						
CAFE				AML	AML		
	comp=N,123μm,1.6s						
RM33	**Pellescritta (**	1.48	272	AML	AML		
	comp=E,132μm,0.7s						
RM33				AML	AML		
	comp=N,150μm,1.3s						
PP3	**Marolino**	1.48	308	P	Pg	01 42 38.0	-0.9
PIGN	**Pignataro Magg**	1.49	212	P	Pb	01 42 36.9	-0.6
PIGN				AML	AML		
	comp=N,64μm,1.4s						
PIGN				AML	AML		
	comp=E,52μm,1.0s						
DUGI	**Dugi Otok**	1.52	356	*e*Pn	Pg	01 42 38.2	-1.4
DUGI				Sg	Sg	01 42 58.9	-0.5
PAOL	**Paolisi**	1.52	199	P	Pb	01 42 37.5	-0.5
SNAL	**S. Angelo Dei**	1.55	180	P	Pn	01 42 37.1	+0.1
MAKA	**Makarska**	1.55	58	*e*Pn	Pb	01 42 38.0	-0.5
MAKA				Sn	Sg	01 42 59.7	-0.7
MRVN	**Minervino Murg**	1.59	152	P	Pn	01 42 37.5	0.0
AOI	**Ancona**	1.60	313	P	Pb	01 42 39.1	-0.1
PALZ	**Palazzo San Ge**	1.63	160	P	Pb	01 42 39.1	-0.7
MODR	**Mondragone**	1.67	217	P	Pb	01 42 40.1	-0.3
RICI	**Ricice**	1.73	53	*e*Pn	Pb	01 42 41.3	-0.2
RICI				Sn	Sg	01 43 05.3	-0.9
CING	**Cingoli**	1.73	302	AML	AML		
	comp=E,118μm,1.3s						
CING				AML	AML		
	comp=N,104μm,0.5s						
KIJV	**Kijevo**	1.76	29	*e*Pn	Pb	01 42 42.1	+0.2
KIJV				Sn	Sg	01 43 05.3	-1.6
EL6	**Elcito**	1.77	299	AML	AML		
	comp=E,206μm,0.7s						
EL6				AML	AML		
	comp=N,282μm,1.5s						
ARRO	**Arrone**	1.82	274	AML	AML		
	comp=N,66μm,1.0s						
ARRO				AML	AML		
	comp=E,52μm,1.6s						
VIRC	**Vir**	1.82	356	*e*Pn	Pb	01 42 42.4	-0.5
VIRC				Sn	Sg	01 43 07.1	-1.8
STON	**Ston**	1.87	77	*e*Pn	Pb	01 42 43.1	-0.8
AMUR	**Altamura**	1.88	146	AML	AML		
	comp=E,109μm,0.5s						
AMUR				AML	AML		
	comp=N,106μm,0.4s						
PZUN	**Potenza**	1.88	166	AML	AML		
	comp=E,36μm,1.6s						
PZUN				AML	AML		
	comp=N,42μm,1.4s						
MMUR	**Monte Murano**	1.89	301	AML	AML		
	comp=N,584μm,1.0s						
MMUR				AML	AML		
	comp=E,940μm,1.5s						
MOMA	**Monte Martano**	1.98	280	AML	AML		
	comp=N,90μm,0.4s						
MOMA				AML	AML		
	comp=E,82μm,0.3s						
ATCC	**AVT- Casa Cast**	2.02	291	AML	AML		
	comp=E,106μm,1.5s						
ATCC				AML	AML		
	comp=N,96μm,1.5s						
NVLJ	**Novalja**	2.10	353	*e*Pn	Pb	01 42 46.6	-1.1
NVLJ				Sn	Sb	01 43 14.1	+0.6
ATFO	**Monte Foce - G**	2.14	295	AML	AML		
	comp=E,128μm,0.9s						
ATFO				AML	AML		
	comp=N,70μm,0.8s						
MATE	**Matera**	2.14	148	AML	AML		
	comp=N,89μm,0.6s						
MATE				AML	AML		
	comp=E,80μm,0.4s						
DBRK	**Dubrovnik**	2.17	84	*e*Pn	Pn	01 42 46.5	+1.1
NARO	**Abbazia di Nar**	2.24	301	AML	AML		
	comp=E,47μm,1.6s						
NARO				AML	AML		
	comp=N,42μm,1.6s						
RABC	**Rab**	2.29	352	Sn	Sb	01 43 17.6	-1.4
RABC	**Rab**	2.29	352	*e*Pn	Pb	01 42 49.6	-1.4
CRAC	**Craco**	2.30	156	AML	AML		
	comp=N,144μm,0.4s						
CRAC				AML	AML		
	comp=E,133μm,1.3s						
PLIT	**Plitvice**	2.42	7	*e*Pn	Pb	01 42 51.6	-1.6
PLIT				Sn	Sb	01 43 21.4	-1.2
ORI	**Oriolo Calabro**	2.58	159	AML	AML		
	comp=E,92μm,0.5s						
ORI				AML	AML		
	comp=N,79μm,1.4s						
A250A	**Rusevo Krmpots**	2.62	355	*e*Pn	Pb	01 42 54.7	-1.9
A250A				Sn	Sb	01 43 27.4	-0.9
BRJN	**Brijuni**	2.65	337	*e*Pn	Pn	01 42 53.5	+1.5
MMN	**Mormanno**	2.65	167	AML	AML		
	comp=E,19μm,1.5s						
MMN				AML	AML		
	comp=N,36μm,1.5s						
SMRN	**Sveta Marina**	2.67	344	*e*Pn	Pn	01 42 53.5	+1.2
SMRN				Sn	Sb	01 43 26.8	-3.0
BRSN	**Barisano**	2.92	309	AML	AML		
	comp=N,300μm,1.6s						
BRSN				AML	AML		
	comp=E,425μm,1.6s						
PDG	**Podgorica**	2.99	90	AML	AML		
	comp=E,37μm,1.6s						
PDG				AML	AML		
	comp=N,88μm,1.4s						
PDG				AML	AML		
	comp=N,47μm,1.6s						
PDG				AML	AML		
	comp=E,103μm,1.6s						
BOJS	**Bojanci**	3.02	0	P	Pn	01 42 58.1	+0.9
OZLJ	**Ozalj**	3.14	3	*e*Pn	Pb	01 43 01.8	-3.7
FIR	**Firenze**	3.18	295	AML	AML		
	comp=N,388μm,0.1s						
FIR				AML	AML		
	comp=E,330μm,0.1s						
BRIS	**BRISIGHELLA**	3.18	303	AML	AML		
	comp=E,36μm,1.6s						
BRIS				AML	AML		
	comp=N,55μm,1.6s						
CELI	**Celico**	3.22	162	AML	AML		
	comp=E,86μm,1.6s						
CELI				AML	AML		
	comp=N,65μm,1.6s						
IST3	**Stromboli F**	3.67	180	AML	AML		
	comp=E,564μm,1.2s						
IST3				AML	AML		
	comp=N,924μm,1.0s						
ISTR	**Stromboli Gino**	3.69	180	AML	AML		
	comp=E,700μm,0.4s						
ISTR				AML	AML		
	comp=N,810μm,0.4s						
RAVA	**Ravarino**	3.75	309	AML	AML		
	comp=E,154μm,1.6s						
RAVA				AML	AML		
	comp=N,145μm,1.6s						
IFIL	**Filicudi i Eol**	3.94	187	AML	AML		
	comp=E,164μm,1.6s						
IFIL				AML	AML		
	comp=N,42μm,1.6s						
CRND	**Cornuda**	4.04	327	AML	AML		
	comp=E,396μm,1.6s						
CRND				AML	AML		
	comp=N,373μm,1.2s						
OBKA	**Obir**	4.06	353	*e*Pn	Pn	01 43 14.5	+3.0
	comp=N,0.5nm,0.1s						
MILZ	**Milazzo**	4.20	180	AML	AML		
	comp=N,40μm,1.1s						
MILZ				AML	AML		
	comp=E,45μm,1.1s						
GRAM	**Graiana**	4.25	300	AML	AML		
	comp=N,286μm,0.6s						
GRAM				AML	AML		
	comp=E,240μm,1.6s						
ROVR	**Rover Verones**	4.35	318	AML	AML		
	comp=N,15μm,1.1s						
ROVR				AML	AML		
	comp=E,11μm,1.2s						
DOSS	**Dosso del Somm**	4.47	321	AML	AML		
	comp=E,34μm,1.6s						
DOSS				AML	AML		
	comp=E,95μm,1.6s						
DOSS				AML	AML		
	comp=N,98μm,1.5s						
DOSS				AML	AML		
	comp=N,38μm,1.6s						
MNO	**Monte Soro**	4.56	185	AML	AML		
	comp=N,70μm,1.6s						
MNO				AML	AML		
	comp=E,51μm,1.5s						
SALO	**Salr**	4.62	314	AML	AML		
	comp=E,35μm,1.6s						
SALO				AML	AML		
	comp=N,64μm,1.3s						
MAGA	**Magasa**	4.67	317	AML	AML		
	comp=E,54μm,1.2s						
MAGA				AML	AML		
	comp=N,57μm,0.5s						
ALJA	**Alia**	4.86	194	AML	AML		
	comp=E,45μm,1.6s						
ALJA				AML	AML		
	comp=N,66μm,1.6s						
RISI	**Rein**	5.00	334	AML	AML		
	comp=E,26μm,1.6s						
RISI				AML	AML		
	comp=N,34μm,0.4s						
MEU	**Monte Lauro**	5.38	182	AML	AML		
	comp=E,55μm,1.6s						
MEU				AML	AML		
	comp=N,63μm,1.5s						
MOA	**Molln**	5.41	353	*e*Pn	Pn	01 43 32.7	+2.7
	comp=N,0.2nm,0.2s						
SQTA	**Sankt Quirin**	5.53	330	*e*Pn	Pn	01 43 34.9	+3.1
	comp=N,0.9nm,0.3s						
SQTA				*e*Sn	Sn	01 44 37.0	+2.2
	comp=N,1.6nm,0.4s						
FETA	**Feichten**	5.55	326	*e*Sn	Sn	01 44 37.9	+2.5
	comp=N,2.7nm,0.6s						
DAVA	**Damuels**	6.12	324	*e*Sn	Sn	01 44 51.1	+1.7
	comp=N,2.2nm,0.3s						

IDC 17 01:51:59.5±1.9, 5°08S×143°65E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/38, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=89.1km s-min=30.3km az=110.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	17.33	211	P	Pn	01 56 01.8	-1.3
	0.1nm,0.3s,baz=28,slow=13,SNR=3.2						
ASAR	**Alice Springs**	20.73	206	P	P	01 56 42.4	+0.5
	0.6nm,0.7s,baz=32,slow=12,SNR=6.6						
MKAR	**Makanchi Array**	74.68	321	P	P	02 03 41.6	+0.4
	0.4nm,0.6s,baz=108,slow=7.7,SNR=3.1						
ILAR	**Eielson Array**	85.97	24	P	P	02 04 41.1	-0.3
	0.5nm,0.7s,baz=261,slow=5.5,SNR=6.3						

IDC 17 01:59:12.6±0.9, 32°49N×130°72E, h0km, mb3.6/10, mb1 3.7/12, mb1mx3.6/52, mbtmp3.6/12, ML3.1/2, Error ellipse: s-maj=24.0km s-min=9.0km az=105.0
JMA 17 01:59:14.6, 32°56N×130°71E, h8km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs115.00000°, δ85.00000°, λ11.00000°. NP2: φs24.00000°, δ79.00000°, λ175.00000°. Principal axes: T Plg11.0000°, Azm340.0000°; N Plg78.0000°, Azm139.0000°; P Plg4.0000°, Azm249.0000°;
JMA Felt III J1.

ISC 17 01:59:15.2±0.9, 32°55N±0°03×130°73E±0°06, h11km±6km, n19, σ1§61/23, mb3.5/10, 3C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	0.07	90	⇓P	Pg	01 59 16.8	-0.8
JIU3				*e*S	Sg	01 59 18.3	-1.0
JZO	**Okuchi**	0.42	195	⇑P	Pg	01 59 22.8	-0.8
JZO				*e*S	Sg	01 59 28.5	-0.7
JTA	**Tamana**	0.45	338	⇑P	Pg	01 59 23.2	-0.8
JTA				*e*S	Sg	01 59 29.2	-0.7
JNU	**Nakatsue**	0.58	12	Pg	Pg	01 59 25.9	-0.8
	235nm,0.3s,baz=193,slow=9.8,SNR=105						
JNU				Lg	Lg	01 59 33.6	
	1μm,0.3s,baz=217,slow=13,SNR=30						
JTZ	**Takazaki**	0.71	155	⇑P	Pg	01 59 29.1	+0.1
KSRS	**Korea Array**	5.41	336	Pn	Pn	02 00 35.5	-0.3
	0.5nm,0.3s,baz=156,slow=15,SNR=5.2						
KSRS				Pg	Pb	02 00 53.5	+3.7
	1.6nm,0.3s,baz=153,slow=16,SNR=11						
KSRS				Lg	Lg	02 02 01.6	
	2.4nm,0.3s,baz=160,slow=28,SNR=6.1						
JOW	**Kunigami**	6.08	201	Pn	Pn	02 00 47.5	+2.3
	5.3nm,0.3s,baz=106,slow=25,SNR=18						
MJAR	**Matsushiro Arr**	7.34	55	Pn	Pn	02 01 03.8	+1.4
	0.3nm,0.3s,baz=25,slow=25,SNR=6.9						
KLR	**Kul'dur**	16.68	2	Pn	P	02 03 14.3	+3.1
	0.1nm,0.3s,baz=212,slow=19,SNR=1.6						
SONM	**Songino Array**	23.92	317	P	P	02 04 28.0	-1.3
	1.4nm,0.9s,baz=136,slow=9.1,SNR=7.1						
CMAR	**Chiang Mai Arr**	31.80	252	P	P	02 05 40.6	+0.6
	0.2nm,0.3s,baz=46,slow=7.8,SNR=2.2						
WRA	**Warramunga Arr**	52.31	176	P	P	02 08 25.3	-1.7
	0.3nm,0.5s,baz=356,slow=7.8,SNR=2.8						
ASAR	**Alice Springs**	55.98	176	P	P	02 08 52.6	-1.2
	0.3nm,0.8s,baz=11,slow=12,SNR=4.4						
ILAR	**Eielson Array**	57.88	30	P	P	02 09 06.5	-0.3
	0.2nm,0.5s,baz=272,slow=6.6,SNR=5.3						
INK	**Inuvik**	62.25	25	P	P	02 09 36.7	+0.1
	0.5nm,0.7s,baz=308,slow=3.4,SNR=2.1						
FINES	**FINESS Array B**	68.47	330	P	P	02 10 15.9	-1.1
	1.5nm,0.6s,baz=115,slow=8.6,SNR=12						
YKA	**Yellowknife Ar**	71.90	26	P	P	02 10 35.9	-2.2
	0.2nm,0.9s,baz=314,slow=5.4,SNR=3.6						
AKASG	**Malin Array Be**	72.17	319	P	P	02 10 38.7	-1.3
	0.5nm,0.4s,baz=192,slow=17,SNR=1.9						
BRTR	**Keskin Array B**	74.90	308	P	P	02 10 56.1	-0.3
	0.7nm,0.8s,baz=90,slow=3.7,SNR=5.3						

IGQ 17 02:00:36±1.3, 0°N±3°×8°OW±°, h7km
IDC 17 02:00:42.2±4.7, 0°31N×80°28W, h66km±42km, mb3.2/7, mb1 3.5/9, mb1mx3.3/34, mbtmp3.6/9, ML2.6/2, Error ellipse: s-maj=35.6km s-min=19.5km az=55.0

ISC 17 02:00:35.2±1.5, 0°30N±0°04×80°45W±0°06, h7km±9km, n102, σ1§37/113, mb3.6/6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	0.61	157	P	Pg	02 00 47.0	+0.1
JAMA				S	Sg	02 00 56.0	+1.1
MAG1	**Magdalena**	0.77	119	P	Pb	02 00 51.0	+0.1
FLF1	**Flavio Alfaro-**	0.89	137	P	Pg	02 00 53.0	+0.7
AMA1	**Acelerografo,**	0.96	49	P	Pg	02 00 54.0	+0.4
AMA1				S	Sn	02 01 09.0	-0.1
AV21	**Acelerografo,**	0.97	68	P	Pg	02 00 53.0	-0.8
AV18	**Acelerografo,**	0.97	89	P	Pg	02 00 54.0	+0.2
BV15	**Puerto Quito-O**	1.23	97	P	Pg	02 00 57.0	-1.8
APR2	**Miler**	1.49	99	P	Pn	02 01 01.0	-1.6
APR1	**Acelerografo,**	1.86	101	P	Pn	02 01 07.0	-0.9
HPAL	**Hacienda Las P**	1.87	106	P	Pn	02 01 06.0	-2.0
PINO	**Pino**	1.89	104	P	Pn	02 01 07.0	-1.6
GGPT	**Toaza - Volcan**	1.90	106	P	Pn	02 01 07.0	-1.4
TERV	**Terraza Guagua**	1.90	104	P	Pn	02 01 07.0	-1.6
GGPC	**Guagua Pichinc**	1.91	104	P	Pn	02 01 07.0	-1.7
JUA2	**San Juan 2**	1.91	105	P	Pn	02 01 07.0	-1.7
YANA	**Yana**	1.92	102	P	Pn	02 01 07.0	-1.8
PULU	**Pululahua**	1.96	98	P	Pn	02 01 08.0	-1.3
ILLI	**Illinizas Sur**	1.99	120	P	Pn	02 01 08.0	-1.8
CUSE	**Cuicocha Este**	2.05	90	*e*P	Pn	02 01 10.8	+0.3
CUSE				*e*S	Sb	02 01 40.0	+1.2
CUSE				*i*		02 01 49.2	
	comp=Z,2μm,0.4s						
CUSE	**Cuicocha Este**	2.05	90	P	Pn	02 01 10.0	-0.5
PAST	**Pastocalle**	2.06	119	P	Pn	02 01 10.0	-0.7
CUIC	**Cuicocha-Domo**	2.08	90	P	Pn	02 01 10.0	-1.0
CUSW	**Cuicocha Oeste**	2.09	90	P	Pn	02 01 11.0	-0.1
COTA	**Cotacachi**	2.11	89	P	Pn	02 01 11.0	-0.4
ALIT	**Ecuador-Imbabu**	2.14	77	P	Pn	02 01 10.0	-1.6
SRAM	**San Ramn-Vol**	2.15	119	P	Pn	02 01 11.0	-0.9
TOMA	**Boca Toma-Volc**	2.16	112	P	Pn	02 01 12.0	-0.1
SUCR	**Mariscal Sucre**	2.16	116	P	Pn	02 01 12.0	-0.1
CAMI	**Rancho Maria**	2.17	117	P	Pn	02 01 12.0	-0.2
PITA	**Cotopaxi Volc**	2.19	113	P	Pn	02 01 12.0	-0.5
NAS2	**Nasa**	2.19	115	P	Pn	02 01 12.0	-0.5
BNAS	**Cotopaxi Volca**	2.19	116	P	Pn	02 01 12.0	-0.5
URCU	**Urcuqui**	2.19	86	P	Pn	02 01 13.0	+0.5
SLOR	**San Lorenzo -**	2.20	118	P	Pn	02 01 13.0	+0.3
BREF	**Cotopaxi Volca**	2.22	116	P	Pn	02 01 13.0	-0.1
BMOR	**Cotopaxi Volca**	2.23	117	P	Pn	02 01 13.0	-0.2
BRRN	**Barrancas-Volc**	2.24	119	P	Pn	02 01 13.0	-0.3
BVC2	**Cotopaxi Volca**	2.25	115	P	Pn	02 01 13.0	-0.4
VC1	**Cotopaxi 1**	2.25	115	P	Pn	02 01 13.0	-0.4
BTAM	**Cotopaxi Volca**	2.27	115	P	Pn	02 01 14.0	+0.4
TAMB	**Tambo**	2.30	115	P	Pn	02 01 13.0	-1.1
VCES	**Cotopaxi**	2.32	118	P	Pn	02 01 14.0	-0.4
ANTG	**Antisana-Guama**	2.33	110	P	Pn	02 01 14.0	-0.5
AIB2	**Ibarra (Univer**	2.34	89	P	Pn	02 01 14.0	-0.4
ANTM	**Antisana-La Mi**	2.37	110	P	Pn	02 01 17.0	+1.9
YAHU	**Yahuarcocha**	2.38	88	P	Pn	02 01 16.0	+1.0
CHSH	**Refugio Sur-Vo**	2.38	139	P	Pn	02 01 15.0	-0.2
ANTI	**Antisana**	2.40	108	P	Pn	02 01 16.0	+0.5
ANTS	**Antisana-Sarah**	2.41	109	P	Pn	02 01 16.0	+0.4
PORT	**Chimborazo Vol**	2.42	136	P	Pn	02 01 16.0	+0.2
CHMA	**Chilma**	2.45	77	P	Pn	02 01 15.0	-0.9
ANGU	**Angureal**	2.45	96	P	Pn	02 01 16.0	-0.2
CAYR	**Refugio Cayamb**	2.46	97	P	Pn	02 01 17.0	+0.7
CAYA	**Cayambe**	2.47	95	P	Pn	02 01 17.0	+0.6
TAMH	**Tambohuasha Ch**	2.47	138	P	Pn	02 01 17.0	+0.6
LNGL	**El Angel-Carch**	2.48	80	P	Pn	02 01 16.0	-0.6
ECEN	**Cerro Negro**	2.53	78	P	Pn	02 01 17.0	-0.2
PIAT	**Ana Tenorio**	2.54	121	P	Pn	02 01 17.0	-0.2
CHL1	**Volc¡n Chiles**	2.55	79	P	Pn	02 01 17.0	-0.5
CHL2	**Volc¡n Chiles**	2.58	79	P	Pn	02 01 17.0	-0.9
JUI6	**Juive**	2.62	131	P	Pn	02 01 19.0	+0.8
BBIL	**Ulba Tungurahu**	2.62	132	P	Pn	02 01 18.0	-0.3
POND	**Pondoa**	2.62	131	P	Pn	02 01 19.0	+0.6
RETU	**Refugio**	2.65	131	P	Pn	02 01 20.0	+1.1
BRUN

ATUL	**Tulcn**	**2.76**	**80**	P		**Pn**	**02 01 22.0**	**+1.8**
BONI	**La Bonita**	**2.92**	**87**	P		**Pn**	**02 01 24.0**	**+1.6**
COHC	**Cochancay**	**2.99**	**157**	P		**Pn**	**02 01 22.0**	**-1.2**
CASC	**Dorado de Casc**	**3.11**	**93**	P		**Pb**	**02 01 29.0**	**-2.0**
GR1C	**Gorgona, Isla**	**3.52**	**40**	*eP*		**Pb**	**02 01 37.4**	**-0.6**
GR1C				*eS*		**Sg**	**02 02 29.6**	**+1.2**
GR1C				*i*			02 02 43.5	
	comp=Z,1μm,0.8s							
CRUC	**La Cruz**	**3.71**	**70**	*eP*		**Pn**	**02 01 33.9**	**+0.5**
CRUC				*eS*		**Sb**	**02 02 23.6**	**-3.2**
CRUC				*i*			02 02 38.9	
	comp=Z,94nm,0.5s							
BOSC	**San Juan Bosco**	**3.94**	**150**	P		**Pn**	**02 01 41.0**	**+4.6**
SOTA	**Rioblanco**	**4.25**	**65**	*eP*		**Pn**	**02 01 40.9**	**0.0**
SOTA				*eS*		**Sn**	**02 02 32.4**	**+1.4**
SOTA				*i*			02 03 02.5	
	comp=Z,61nm,0.7s							
POPC	**Popayan, Colom**	**4.38**	**59**	*eP*		**Pn**	**02 01 42.2**	**-0.2**
POPC				*i*			02 02 40.4	
	comp=Z,24nm,0.5s							
PCON	**Cinco Dias**	**4.52**	**63**	*eP*		**Pn**	**02 01 45.3**	**+0.6**
PCON				*eS*		**Sn**	**02 02 40.8**	**+2.9**
PCON				*i*			02 02 58.5	
	comp=Z,48nm,0.5s							
MARP	**Paez Belalcaza**	**5.15**	**61**	*eP*		**Pn**	**02 01 54.8**	**+1.7**
GARC	**Garzon, Huila**	**5.29**	**69**	*eP*		**Pn**	**02 01 55.4**	**+0.3**
YOTC	**Yotoco, Valle**	**5.49**	**48**	*eP*		**Pn**	**02 01 54.4**	**-3.3**
YOTC				*i*			02 03 33.0	
	comp=Z,14nm,0.6s							
PTLC	**Puerto Leguiza**	**5.65**	**91**	*eP*		**Pn**	**02 02 01.1**	**+1.4**
PTLC				*i*			02 03 42.8	
	comp=Z,13nm,0.6s							
PLMC	**San Jos del P**	**6.18**	**42**	*eP*		**Pn**	**02 02 06.6**	**-0.5**
PLMC				*i*			02 03 44.2	
	comp=Z,14nm,0.4s							
ORTC	**Ortega, Tolima**	**6.31**	**55**	*eP*		**Pn**	**02 02 11.3**	**+2.4**
ORTC				*eS*		**Sn**	**02 03 24.4**	**+3.1**
ORTC				*i*			02 03 54.3	
	comp=Z,14nm,0.7s							
MACC	**Macarena, Meta**	**6.85**	**74**	*eP*		**Pn**	**02 02 16.8**	**+0.6**
GUY2C	**Guyana, Caldas**	**7.05**	**46**	*eP*		**Pn**	**02 02 20.6**	**+1.2**
GUY2C				*eS*		**Sn**	**02 03 44.7**	**+4.7**
GUY2C				*i*			02 04 07.6	
	comp=Z,8.8nm,0.6s							
CBOC	**Ciudad Bolivar**	**7.08**	**39**	*eP*		**Pn**	**02 02 20.2**	**+0.6**
CBOC				*i*			02 04 20.2	
	comp=Z,4.9nm,0.7s							
ROSC	**El Rosal**	**7.60**	**54**	P		**Pn**	**02 02 26.8**	**-0.1**
	comp=Z,2.8nm,0.3s,baz=311,slow=16,SNR=3.4							
ROSC				S		**Sn**	**02 03 55.8**	**+2.3**
	comp=Z,1.0nm,0.3s,baz=6.2,slow=22,SNR=1.7							
DBBC	**Dabeiba**	**7.90**	**32**	*eP*		Pn	02 02 36.0	+5.3
DBBC				*i*			02 04 46.2	
	comp=Z,16nm,0.7s							
CHIC	**Chingaza**	**7.97**	**57**	*eP*		**Pn**	**02 02 33.1**	**+1.2**
CHIC				*i*			02 04 27.2	
	comp=Z,3.6nm,0.4s							
PTBC	**PUERTO BERRIO,**	**8.61**	**44**	*eP*		**Pn**	**02 02 42.5**	**+2.1**
PTBC				*i*			02 04 55.6	
	comp=Z,2.1nm,0.7s							
SDV	**Santo Domingo**	**12.97**	**49**	P		**Pn**	**02 03 40.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=267,slow=16,SNR=1.7							
LPAZ	**La Paz**	**20.48**	**144**	P		**P**	**02 05 15.2**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=334,slow=12,SNR=5.4							
SIV	**San Ignacio**	**25.05**	**131**	P		**P**	**02 05 59.3**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=288,slow=6.4,SNR=4.2							
TXAR	**Lajitas Array**	**36.39**	**325**	P		**P**	**02 07 42.4**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=142,slow=8.9,SNR=2.6							
NVAR	**Mina Array Bea**	**51.44**	**322**	P		**P**	**02 09 43.2**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=153,slow=7.1,SNR=4.9							
YKA	**Yellowknife Ar**	**67.12**	**344**	P		**P**	**02 11 27.1**	**-2.2**
	comp=Z,0.3nm,1.0s,baz=139,slow=6.5,SNR=4.3							
INK	**Inuvik**	**76.81**	**342**	P		**P**	**02 12 25.7**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=72,slow=3.5,SNR=2.4							
TORD	**Torodi Ar. Bea**	**82.28**	**77**	P		**P**	**02 12 56.8**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=280,slow=6.5,SNR=10							

DDA ***17*** *02:04:43.0±0.0,38˚.95N×45˚.27E, h4km, ML2.9*
ISK ***17*** *02:04:47.1,38˚.80N×44˚.61E, h5km, ML3.1/10*
AZER ***17*** *02:04:49.1±0.1,38˚.92N×44˚.65E, h5km, Error ellipse: s-maj=1.3km s-min=0.9km az=238.0*

ISC 17 02:04:48.5±1.1, 38˚.80N±0˚.03×44˚.66E±0˚.02, h6km±11km, n30, σ1§16/49, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.67**	**301**			**Pg**	**02 05 00.2**	**-1.3**
CLDR						SG	**02 05 10.6**	**+0.3**
NAX	**Nakhchivan**	**0.75**	**60**	P		**Pn**	**02 05 04.7**	**-1.0**
	SNR=42							
NAX				S		**Sn**	**02 05 16.6**	**-0.9**
SBZ	**Shahbuz**	**0.92**	**49**	P		**Pn**	**02 05 07.5**	**-0.6**
	SNR=39							
SBZ				S		**Sn**	**02 05 20.8**	**-0.8**
HYR	**Heyderabad**	**0.93**	**9**	P		**Pg**	**02 05 06.4**	**0.0**
HYR				S		**Sn**	**02 05 20.3**	**-1.6**
VANB	**Van**	**1.01**	**259**	PG		**Pg**	**02 05 06.9**	**-1.1**
VANB				SG		**Sg**	**02 05 21.9**	**+0.8**
ORD	**Ordubad**	**1.05**	**82**	P		**Pn**	**02 05 10.0**	**+0.2**
	SNR=10							
ORD				S		**Sn**	**02 05 25.8**	**+1.0**
IGDI	**IGDIR**	**1.16**	**337**	P		**Pb**	**02 05 08.9**	**-2.1**
GNI	**Garni**	**1.35**	**3**	PN		**Pb**	**02 05 13.8**	**-0.5**
GNI				SN		**Sg**	**02 05 33.7**	**+1.7**
AKDM	**Akdamar-Van**	**1.40**	**251**	PN		**Pn**	**02 05 14.2**	**-0.5**
AKDM				SN		**Sg**	**02 05 34.2**	**+0.8**
KOTA	**Agri, Merkez-K**	**1.51**	**312**	P		**Pn**	**02 05 16.0**	**-0.3**
KOTA				*i*	AML	AML	02 05 36.0	
	comp=E,86nm,1.0s							
KOTA				S		**Sg**	**02 05 40.7**	**+3.6**
KOTA				*i*	AML	AML	02 05 50.0	
	comp=N,182nm,0.6s							
AGRB	**Hanur-Agry**	**1.51**	**301**	PN		**Pn**	**02 05 16.0**	**-0.3**
MLAZ	**Malazgirt-MUS**	**1.68**	**282**	PN		**Pn**	**02 05 18.4**	**-0.2**
CUKT	**Cukurca**	**1.76**	**209**	PN		**Pn**	**02 05 19.8**	**+0.2**
PERV	**Siirt/Pervari-**	**1.87**	**244**	P		**Pg**	**02 05 24.6**	**+0.3**
EATA	**Eleskirt**	**1.99**	**303**	P		**Pb**	**02 05 25.3**	**0.0**
BLIS	**Bitlis-Merkez**	**2.03**	**260**	P		**Pb**	**02 05 24.9**	**-1.0**
EAK	**Akyaka**	**2.05**	**337**	P		**Pg**	**02 05 27.8**	**0.0**
GURO	**Guroymak-BITLI**	**2.07**	**264**	PN		**Pn**	**02 05 22.6**	**-1.3**
GDB	**GEDABAY**	**2.10**	**23**	P		**Pb**	**02 05 27.0**	**0.0**
	SNR=10							
GDB				S		**Sg**	**02 05 55.7**	**-0.3**
QRD	**Qoradiz**	**2.17**	**71**	P		**Pg**	**02 05 29.9**	**-0.3**
	SNR=3.9							
QRD				S		**Sg**	**02 06 00.4**	**+2.1**
GANJ	**Ganja**	**2.25**	**34**	P		**Pg**	**02 05 30.9**	**-0.7**
	SNR=7.8							
GANJ				S		**Sg**	**02 05 59.7**	**-1.0**
AGDM	**Agdam**	**2.30**	**55**	P		**Pg**	**02 05 32.3**	**-0.4**
	SNR=5.2							
AGDM				S		**Sg**	**02 06 02.4**	**-0.1**
QZX	**Qazax, Azerbai**	**2.32**	**13**	P		**Pb**	**02 05 31.2**	**+0.4**
	SNR=7.2							
QZX				S		**Sg**	**02 06 03.4**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**2.48**	**300**	PN		**Pn**	**02 05 30.0**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.50**	**315**	PN		**Pn**	**02 05 30.7**	**+0.8**
YRD	**Yardimli**	**2.80**	**86**	P		**Pb**	**02 05 38.5**	**-0.5**
	SNR=6.7							
YRD				S		**Sg**	**02 06 16.9**	**-1.5**
LRK	**Lerik**	**2.88**	**92**	P		**Pb**	**02 05 41.7**	**+1.3**
	SNR=4.1							
LRK				S		**Sg**	**02 06 19.7**	**-1.4**
GLBA	**Clilabad**	**2.94**	**80**	P		**Pb**	**02 05 42.5**	**+1.2**
	SNR=3.2							
GLBA				S		**Sb**	**02 06 19.8**	**+2.3**
LKRN	**Lenkeran, Azer**	**3.22**	**90**	P		**Pb**	**02 05 44.6**	**-1.5**
LKRN				S		**Sb**	**02 06 27.0**	**+1.5**
ASTR	**Astara**	**3.24**	**93**	P		**Pb**	**02 05 47.1**	**+0.7**
	SNR=3.2							
ASTR				S		**Sg**	**02 06 31.6**	**-1.0**

IDC ***17*** *02:17:56.9±0.5,0˚.10S×80˚.38W, h0km, mb4.3/24, mb1 4.5/28, mb1mx4.4/35, mbtmp4.3/28, ML2.8/3, Error ellipse: s-maj=17.1km s-min=10.5km az=54.0*
IGQ ***17*** *02:17:56±0.5,0˚S±2˚×81˚W±˚, h4km*
VAO ***17*** *02:17:59.4±0.4,0˚.26S×80˚.37W, h10km, mb5.0*
NEIC ***17*** *02:18:01.0±1.8,0˚.29S±0˚.06×80˚.30W±0˚.06, h10km±1km, mb4.8/164, Error ellipse: s-maj=10.4km s-min=9.6km az=260.0*

ISC 17 02:18:00.8±1.1, 0˚.25S±0˚.03×80˚.44W±0˚.04, h23km±7km, n469, σ1§90/433, mb4.8/103, 1C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.23**	**93**	P		**Pb**	**02 18 06.0**	**-0.7**
APED	**Ecuador-Perden**	**0.49**	**50**	P		**Pb**	**02 18 09.0**	**-1.8**
ACHN	**Ecuador-Chone-**	**0.57**	**142**	P		**Pb**	**02 18 12.0**	**-0.1**
FLF1	**Flavio Alfaro-**	**0.60**	**100**	P		**Pn**	**02 18 14.0**	**0.0**
MAG1	**Magdalena**	**0.69**	**75**	P		**Pb**	**02 18 14.0**	**-0.1**
AMNT	**Manta-Manabi**	**0.75**	**204**	P		**Pb**	**02 18 12.0**	**-3.2**
APO1	**Ecuador-Portov**	**0.78**	**182**	P		**Pb**	**02 18 14.0**	**-1.8**
APO2	**Ecuador-Portov**	**0.81**	**181**	P		**Pb**	**02 18 14.0**	**-2.2**
LGCB	**Laguna Cube**	**1.06**	**54**	P		**Pb**	**02 18 19.0**	**-1.6**
AV18	**Acelerografo,**	**1.11**	**60**	P		**Pb**	**02 18 21.0**	**-0.3**
ISPT	**Isla de la Pla**	**1.19**	**212**	P		Pn	02 18 17.0	-5.1
ASAM	**Ecuador-Same-C**	**1.20**	**26**	P		**Pn**	**02 18 19.0**	**-3.3**
AATC	**Ecuador-Atacam**	**1.24**	**27**	P		**Pn**	**02 18 20.0**	**-2.8**
AV21	**Acelerografo,**	**1.27**	**44**	P		**Pn**	**02 18 22.0**	**-1.2**
BV15	**Puerto Quito-O**	**1.28**	**71**	P		**Pn**	**02 18 22.0**	**-1.3**
ATON	**Ecuador-Tonsup**	**1.29**	**29**	P		**Pn**	**02 18 20.0**	**-3.5**
ASDO	**Santo Domingo**	**1.31**	**91**	P		**Pn**	**02 18 23.0**	**-0.8**
AMA1	**Acelerografo,**	**1.38**	**31**	P		**Pn**	**02 18 23.0**	**-1.7**
AES1	**Ecuador-Esmera**	**1.42**	**32**	P		**Pn**	**02 18 23.0**	**-2.2**
AES2	**Ecuador-Puerto**	**1.46**	**33**	P		**Pn**	**02 18 23.0**	**-2.9**
APR2	**Miler**	**1.50**	**78**	P		**Pn**	**02 18 26.0**	**-0.5**
ILLI	**Illinizas Sur**	**1.77**	**105**	P		**Pn**	**02 18 30.0**	**-0.5**
HPAL	**Hacienda Las P**	**1.79**	**89**	P		**Pn**	**02 18 30.0**	**-0.6**
ABAB	**Ecuador-Univer**	**1.80**	**149**	P		**Pn**	**02 18 30.0**	**-0.4**
GGPT	**Toaza - Volcan**	**1.82**	**89**	P		**Pn**	**02 18 31.0**	**-0.1**
PINO	**Pino**	**1.83**	**87**	P		**Pn**	**02 18 31.0**	**-0.4**
JUA2	**San Juan 2**	**1.83**	**89**	P		**Pb**	**02 18 32.0**	**-1.9**
APR1	**Acelerografo,**	**1.83**	**84**	P		**Pn**	**02 18 31.0**	**-0.3**
TERV	**Terraza Guagua**	**1.83**	**88**	P		**Pn**	**02 18 31.0**	**-0.4**
GGPC	**Guagua Pichinc**	**1.84**	**88**	P		**Pn**	**02 18 31.0**	**-0.6**
PAST	**Pastocalle**	**1.85**	**104**	P		**Pb**	**02 18 32.0**	**-2.2**
YANA	**Yana**	**1.87**	**86**	P		**Pn**	**02 18 32.0**	**+0.1**
LLOA	**Lloa**	**1.88**	**89**	P		**Pn**	**02 18 32.0**	**+0.1**
LILI	**Casa Paps Lil**	**1.90**	**91**	P		**Pn**	**02 18 33.0**	**-2.1**
VIFL	**Administracin**	**1.91**	**90**	P		**Pn**	**02 18 33.0**	**-2.2**
SANF	**Convento San F**	**1.92**	**89**	P		**Pn**	**02 18 32.0**	**-0.5**
SRAM	**San Ramn-Vol**	**1.93**	**105**	P		**Pn**	**02 18 33.0**	**+0.3**
EPNL	**EPN Laboratori**	**1.94**	**89**	P		**Pn**	**02 18 33.0**	**+0.2**
PULU	**Pululahua**	**1.95**	**82**	P		**Pn**	**02 18 33.0**	**+0.1**
CAMI	**Rancho Maria**	**1.98**	**102**	P		**Pb**	**02 18 34.0**	**-2.4**
ISUC	**Cotopaxi Ecuad**	**1.98**	**101**	P		**Pb**	**02 18 35.0**	**-1.4**
SUCR	**Mariscal Sucre**	**1.98**	**101**	P		**Pn**	**02 18 34.0**	**+0.6**
TING	**Casa Alexandra**	**1.99**	**91**	P		**Pn**	**02 18 34.0**	**+0.7**
CHSH	**Refugio Sur-Vo**	**2.00**	**128**	P		**Pb**	**02 18 35.0**	**-1.8**
SLOR	**San Lorenzo -**	**2.00**	**104**	P		**Pn**	**02 18 34.0**	**+0.4**
BNAS	**Cotopaxi Volca**	**2.00**	**102**	P		**Pb**	**02 18 35.0**	**-1.8**
NAS2	**Nasa**	**2.01**	**101**	P		**Pb**	**02 18 35.0**	**-1.9**
TOMA	**Boca Toma-Volc**	**2.02**	**97**	P		**Pb**	**02 18 35.0**	**-2.0**
PITA	**Cotopaxi Volc**	**2.03**	**99**	P		**Pb**	**02 18 35.0**	**-2.2**
BRRN	**Barrancas-Volc**	**2.03**	**105**	P		**Pb**	**02 18 35.0**	**-2.3**
BMOR	**Cotopaxi Volca**	**2.03**	**104**	P		**Pb**	**02 18 35.0**	**-2.4**
BREF	**Cotopaxi Volca**	**2.04**	**102**	P		**Pb**	**02 18 36.0**	**-1.5**
OTAV	**Otavalo**	**2.04**	**76**			**Pn**	**02 18 34.2**	**0.0**
AMIL	**Milagro (Trans**	**2.05**	**156**	P		**Pn**	**02 18 35.0**	**+1.0**
PORT	**Chimborazo Vol**	**2.05**	**126**	P		**Pn**	**02 18 35.0**	**+0.5**
BVC2	**Cotopaxi Volca**	**2.06**	**101**	P		**Pb**	**02 18 36.0**	**-1.9**
VC1	**Cotopaxi 1**	**2.07**	**101**	P		**Pb**	**02 18 36.0**	**-2.0**
AV11	**Acelerografo,**	**2.07**	**85**	P		**Pb**	**02 18 36.0**	**-1.9**
BTAM	**Cotopaxi Volca**	**2.08**	**102**	P		**Pb**	**02 18 37.0**	**-1.2**
TAMH	**Tambohuasha Ch**	**2.10**	**128**	P		**Pb**	**02 18 36.0**	**-2.4**
CUSE	**Cuicocha Este**	**2.11**	**75**	*eP*		**Pn**	**02 18 35.4**	**+0.3**
CUSE				*eS*		**Sb**	**02 19 05.5**	**+0.9**
CUSE				*i*			02 19 11.9	
	comp=Z,13μm,0.4s							
CUSE	**Cuicocha Este**	**2.11**	**75**	P		**Pn**	**02 18 35.0**	**-0.1**
VCES	**Cotopaxi**	**2.11**	**105**	P		**Pb**	**02 18 37.0**	**-1.7**
TAMB	**Tambo**	**2.11**	**102**	P		**Pb**	**02 18 37.0**	**-1.8**
CUIC	**Cuicocha-Domo**	**2.15**	**75**	P		**Pn**	**02 18 35.0**	**-0.6**
CUSW	**Cuicocha Oeste**	**2.15**	**76**	P		**Pn**	**02 18 36.0**	**+0.3**
COTA	**Cotacachi**	**2.18**	**75**	P		**Pn**	**02 18 37.0**	**+0.9**
IGUA	**Igualata**	**2.18**	**124**	P		**Pn**	**02 18 37.0**	**+0.8**
ANTG	**Antisana-Guama**	**2.19**	**97**	P		**Pb**	**02 18 38.0**	**-2.2**
MILO	**Milagro-Astudi**	**2.20**	**156**	P		**Pn**	**02 18 34.0**	**-2.0**
ANTM	**Antisana-La Mi**	**2.23**	**97**	P		**Pb**	**02 18 38.0**	**-2.8**
BIL2	**Estacion Bilba**	**2.27**	**122**	P		**Pb**	**02 18 40.0**	**-1.4**
ANTS	**Antisana-Sarah**	**2.28**	**96**	P		**Pb**	**02 18 39.0**	**-2.6**
ANTI	**Antisana**	**2.28**	**95**	P		**Pb**	**02 18 39.0**	**-2.7**
BBIL	**Ulba Tungurahu**	**2.28**	**121**	P		**Pb**	**02 18 39.0**	**-2.6**
URCU	**Urcuqui**	**2.29**	**73**	P		**Pn**	**02 18 38.0**	**+0.5**
JUI6	**Juive**	**2.29**	**121**	P		**Pb**	**02 18 39.0**	**-2.6**
APSY	**Ecuador-Napo A**	**2.29**	**108**	P		**Pb**	**02 18 39.0**	**-2.7**
PIAT	**Ana Tenorio**	**2.30**	**109**	P		**Pb**	**02 18 39.0**	**-2.8**
POND	**Pondoa**	**2.30**	**120**	P		**Pb**	**02 18 39.0**	**-2.8**
BMAS	**Trigal station**	**2.32**	**122**	P		**Pb**	**02 18 40.0**	**-2.2**
ALIT	**Ecuador-Imbabu**	**2.32**	**63**	P		**Pn**	**02 18 37.0**	**-0.8**
RETU	**Refugio**	**2.32**	**121**	P		**Pb**	**02 18 40.0**	**-2.3**
BRUN	**Tungurahua Vol**	**2.33**	**120**	P		**Pb**	**02 18 40.0**	**-2.4**
ARRY	**Arrayan**	**2.34**	**122**	P		**Pb**	**02 18 39.0**	**+0.7**
BPAT	**Tungurahua Vol**	**2.36**	**122**	P		**Pb**	**02 18 41.0**	**-1.9**
AIB2	**Ibarra (Univer**	**2.41**	**76**	P		**Pn**	**02 18 40.0**	**+0.9**
CAYR	**Refugio Cayamb**	**2.44**	**84**	P		**Pn**	**02 18 41.0**	**+1.1**
YAHU	**Yahuarcocha**	**2.44**	**75**	P		**Pb**	**02 18 42.0**	**-2.3**
ANGU	**Angureal**	**2.44**	**83**	P		**Pb**	**02 18 42.0**	**-2.5**
CAYA	**Cayambe**	**2.47**	**83**	P		**Pb**	**02 18 42.0**	**-2.8**
COHC	**Cochancay**	**2.50**	**152**	P		**Pn**	**02 18 38.0**	**-2.1**
CHMA	**Chilma**	**2.62**	**65**	P		**Pn**	**02 18 41.0**	**-1.0**
LNGL	**El Angel-Carch**	**2.62**	**68**	P		**Pn**	**02 18 43.0**	**+0.7**
ECEN	**Cerro Negro**	**2.69**	**67**	P		**Pn**	**02 18 43.0**	**-0.2**
CHL1	**Volc¡n Chiles**	**2.70**	**67**	P		**Pn**	**02 18 44.0**	**+0.7**
PUYO	**Puyo, Santa Ro**	**2.71**	**117**	P		**Pn**	**02 18 47.0**	**-1.7**
ISPG	**Isla Puna-Puer**	**2.71**	**174**	P		**Pn**	**02 18 45.0**	**+1.9**
CHL2	**Volc¡n Chiles**	**2.73**	**67**	P		**Pn**	**02 18 44.0**	**+0.3**
SANGA	**Volcan Sangay**	**2.73**	**131**	P		**Pb**	**02 18 46.0**	**-3.3**
ARDO	**Archidona, Ten**	**2.74**	**106**	P		**Pb**	**02 18 46.0**	**-3.1**
CONE	**Cono NE Rev Vo**	**2.80**	**86**	P		**Pb**	**02 18 48.0**	**-2.3**
TULM	**Tulcn-Chalpat**	**2.82**	**70**			**Pn**	**02 18 46.4**	**+1.5**
TULM	**Tulcn-Chalpat**	**2.82**	**70**	*eP*		**Pb**	**02 18 48.0**	**-2.7**
TULM				*eS*		**Sb**	**02 19 31.5**	**+6.5**
TULM				*i*			02 19 40.7	
	comp=Z,856nm,0.7s							
TULM	**Tulcn-Chalpat**	**2.82**	**70**	P		**Pn**	**02 18 47.0**	**+2.1**
ATUL	**Tulcn**	**2.90**	**69**	P		**Pn**	**02 18 48.0**	**+2.2**
BONI	**La Bonita**	**2.99**	**76**	P		**Pn**	**02 18 50.0**	**-3.5**
ACUE	**Ecuador-Cuenca**	**3.03**	**151**	P		**Pn**	**02 18 50.0**	**+2.3**
CASC	**Dorado de Casc**	**3.12**	**83**	P		**Pn**	**02 18 51.0**	**+2.2**
ARNL	**Arenillas**	**3.30**	**174**			**Pn**	**02 18 51.9**	**+0.8**
ARNL	**Arenillas**	**3.30**	**174**	P		**Pn**	**02 18 52.0**	**+0.9**
BOSC	**San Juan Bosco**	**3.47**	**146**			**Pn**	**02 18 56.9**	**+3.3**
BOSC	**San Juan Bosco**	**3.47**	**146**	P		**Pn**	**02 18 57.0**	**+3.3**
CRUC	**La Cruz**	**3.92**	**63**	*eP*		**Pn**	**02 19 02.2**	**+2.2**
CRUC				*eS*		Sb	02 20 08.7	+12
CRUC				*i*			02 20 11.1	
	comp=Z,477nm,0.6s							
GR1C	**Gorgona, Isla**	**3.95**	**35**	*eP*		**Pn**	**02 18 55.8**	**-4.2**
GONZ	**Gonzanam**	**4.09**	**165**	P		**Pn**	**02 19 06.0**	**+3.6**
MCRA	**Macar, Loja**	**4.12**	**173**			**Pn**	**02 19 04.3**	**+1.8**
MCRA	**Macar, Loja**	**4.12**	**173**	P		**Pn**	**02 19 04.0**	**+1.5**
SOTA	**Rioblanco**	**4.50**	**58**	*eP*		**Pn**	**02 19 08.8**	**+0.7**
SOTA				*eS*		**Sb**	**02 20 12.5**	**-1.0**
SOTA				*i*			02 20 18.5	
	comp=Z,458nm,0.7s							
POPC	**Popayan, Colom**	**4.67**	**54**	*eP*		**Pn**	**02 19 10.0**	**-0.2**
POPC				*eS*		**Sb**	**02 20 16.3**	**-1.8**
POPC				*i*			02 20 31.5	
	comp=Z,150nm,0.6s							
ZUMB	**Zumba**	**4.76**	**164**	P		Pn	02 19 15.0	+3.6
PCON	**Cinco Dias**	**4.78**	**58**	*eP*		**Pn**	**02 19 13.1**	**+1.1**
PCON				*eS*		**Sb**	**02 20 20.0**	**-1.7**
PCON				*i*			02 20 38.3	
	comp=Z,280nm,0.6s							
MARP	**Paez Belalcaza**	**5.43**	**56**	*eP*		**Pn**	**02 19 22.3**	**+1.6**
MARP				*eS*		**Sb**	**02 20 36.2**	**-3.8**
MARP				*i*			02 20 44.4	
	comp=Z,33nm,0.6s							
GARC	**Garzon, Huila**	**5.50**	**64**	*eP*		**Pn**	**02 19 23.7**	**+2.0**
GARC				*i*			02 21 06.3	
	comp=Z,74nm,0.7s							
PTLC	**Puerto Leguiza**	**5.65**	**86**	*eP*		**Pn**	**02 19 25.5**	**+2.0**
BETC	**Betania**	**5.78**	**60**	*eP*		**Pn**	**02 19 28.3**	**+3.0**
BETC				*i*			02 21 03.8	
	comp=Z,66nm,0.6s							
YOTC	**Yotoco, Valle**	**5.86**	**44**	*eP*		**Pn**	**02 19 28.0**	**+1.5**
YOTC				*eS*		**Sn**	**02 20 31.1**	**-2.1**
YOTC				*i*			02 21 03.5	
	comp=Z,105nm,0.6s							
PLMC	**San Jos del P**	**6.59**	**39**	*eP*		**Pn**	**02 19 36.7**	**+0.3**
PLMC				*eS*		**Sn**	**02 20 50.5**	**-0.5**
PLMC				*i*			02 21 07.0	
	comp=Z,77nm,0.5s							
ORTC	**Ortega, Tolima**	**6.63**	**51**	*eP*		**Pn**	**02 19 38.2**	**+1.2**
ORTC				*eS*		**Sn**	**02 20 59.7**	**+7.7**
ORTC				*i*			02 21 20.3	
	comp=Z,112nm,0.7s							
ANIL	**Santa Ana**	**6.89**	**47**	*eP*		**Pn**	**02 19 45.1**	**+4.3**
ANIL				*eS*		Sn	02 21 07.6	+8.9
ANIL				*i*			02 21 27.6	
	comp=Z,142nm,0.5s							
MACC	**Macarena, Meta**	**7.00**	**70**	*eP*		**Pn**	**02 19 44.1**	**+2.0**
MACC				*i*			02 21 44.8	
	comp=Z,66nm,0.7s							
GUY2C	**Guyana, Caldas**	**7.43**	**43**	*eP*		**Pn**	**02 19 52.1**	**+3.7**
GUY2C				*eS*		**Sn**	**02 21 13.2**	**+0.9**
GUY2C				*i*			02 21 33.1	
	comp=Z,57nm,0.6s							
CBOC	**Ciudad Bolivar**	**7.51**	**36**	*eP*		**Pn**	**02 19 50.8**	**+1.6**
CBOC				*eS*		**Sn**	**02 21 17.5**	**+3.7**
CBOC				*i*			02 21 53.8	
	comp=Z,52nm,0.7s							
CACAO	**El Cacao, Vera**	**7.56**	**357**	*eP*		**Pn**	**02 19 51.2**	**+1.6**
ROSC	**El Rosal**	**7.93**	**50**	Pn		**Pn**	**02 19 52.6**	**-2.5**
	comp=Z,1.2nm,0.3s,baz=218,slow=17,SNR=2.3							
ROSC					Sn	**Sn**	**02 21 22.7**	**-1.7**
	baz=53,slow=22,SNR=1.0							
ROSC	**El Rosal**	**7.93**	**50**			**Pn**	**02 19 55.9**	**+0.8**
ROSC	**El Rosal**	**7.93**	**50**	*eP*		Pn	02 20 00.6	+5.4
ROSC				*eS*		Sn	02 21 37.5	+13
ROSC				*i*			02 21 49.2	
	comp=Z,17nm,0.7s							
VILC	**Villavicencio,**	**8.01**	**57**	*eP*		**Pn**	**02 19 58.3**	**+2.2**
VILC				*eS*		Sb	02 21 44.0	-10
NORC	**Norcasia**	**8.02**	**44**	*eP*		Pn	02 20 03.8	+7.8
NORC				*eS*		**Sn**	**02

PB02	**IPOC Station P**	**23.33**	**154**	IAmb	IAmb	02 23 35.3			
	comp=Z,33nm,0.9s								
MTP	**Monte Pirata**	**23.38**	**38**	IAmb	IAmb	02 23 15.6			
	comp=Z,39nm,0.9s								
CDVI	**St. Croix**	**23.62**	**40**	P	**P**		**02 23 11.0**	**+0.6**	
VILB	**Vilhena**	**23.70**	**123**	*eP*	**P**		**02 23 11.3**	**0.0**	
CUPR	**Culebra, Puert**	**23.71**	**38**	IAmb	IAmb	02 23 20.1			
	comp=Z,25nm,1.0s								
ILAM	**Ilet Lapin Mar**	**24.44**	**52**	P	**P**		**02 23 17.5**	**-0.6**	
GDHS	**Morne Mazeau,**	**24.68**	**47**	P	**P**		**02 23 21.3**	**+1.0**	
SIV	**San Ignacio**	**24.69**	**130**	P	**P**		**02 23 20.8**	**+0.3**	
	comp=Z,11nm,0.6s,baz=302,slow=9.1,SNR=69								
LVC	**Limon Verde**	**24.90**	**154**	P	**P**		**02 23 24.2**	**+1.6**	
	comp=Z,9.6nm,0.6s,baz=315,slow=5.6,SNR=13								
LVC	**Limon Verde**	**24.90**	**154**	P	**P**		**02 23 23.9**	**+1.2**	
LVC				IAmb	IAmb	02 23 51.9			
	comp=Z,26nm,0.9s								
LVC	**Limon Verde**	**24.90**	**154**	*eP*	**P**		**02 23 23.1**	**+0.5**	
ITTB	**Itaituba**	**25.01**	**100**	*eP*	**P**		**02 23 23.0**	**-0.4**	
ANWB	**Willy Bob**	**25.57**	**45**	P	**P**		**02 23 28.6**	**+0.2**	
PTLB	**Pontes e Lacer**	**25.89**	**127**	*eP*	**P**		**02 23 31.7**	**+0.4**	
NPGB	**Novo Progresso**	**25.91**	**106**	*eP*	**P**		**02 23 30.8**	**-0.8**	
PDRB	**Porto dos Gac**	**26.11**	**116**	*eP*	**P**		**02 23 33.1**	**-0.2**	
MALB	**Monte Alegre**	**26.21**	**94**	*eP*	**P**		**02 23 34.9**	**+0.6**	
CLDB	**Colider**	**26.66**	**114**	*eP*	**P**		**02 23 38.0**	**-0.3**	
MDP	**Montagnes des**	**28.26**	**79**	P	**P**		**02 23 51.5**	**-1.2**	
	comp=Z,5.0nm,0.6s,baz=268,slow=6.7,SNR=4.5								
MCPB	**Macapa, AP**	**28.38**	**90**	*eP*	**P**		**02 23 53.4**	**-0.3**	
AC02	**Maricunga**	**28.58**	**159**	IAmb	IAmb	02 23 58.8			
	comp=Z,13nm,1.1s								
SALV	**Santo Antonio**	**28.95**	**124**	*eP*	**P**		**02 23 58.7**	**-0.1**	
PP1B	**Ponte de Pedra**	**30.49**	**126**	*eP*	**P**		**02 24 12.5**	**+0.1**	
PRPB	**Parauapebas**	**31.12**	**102**	*eP*	**P**		**02 24 17.3**	**-0.8**	
SNDB	**Serra Nova Dou**	**31.18**	**113**	*eP*	**P**		**02 24 18.3**	**-0.2**	
ZAIG	**Zacatecas**	**31.43**	**318**	P	**P**		**02 24 23.2**	**+2.3**	
ZAIG				IAmb	IAmb	02 24 27.1			
	comp=Z,12nm,1.3s								
AQDB	**Aquidauana**	**31.45**	**131**	*eP*	**P**		**02 24 20.9**	**0.0**	
TMAB	**Tom-Au,PA,Br**	**32.40**	**94**	*eP*	**P**		**02 24 29.8**	**+0.5**	
VA03	**San Esteban**	**33.66**	**165**	P	**P**		**02 24 41.3**	**+1.1**	
VA03				IAmb	IAmb	02 24 42.4			
	comp=Z,21nm,1.1s								
833A	**Chaparral WMA,**	**33.72**	**329**	P	**P**		**02 24 43.0**	**+2.3**	
833A	**Chaparral WMA,**	**33.72**	**329**	P	**P**		**02 24 45.2**	**+4.6**	
	baz=144								
SMTB	**Santa Maria do**	**33.81**	**106**	*eP*	**P**		**02 24 41.2**	**-0.5**	
PEXB	**Peixe**	**33.99**	**111**	*eP*	**P**		**02 24 42.6**	**-0.6**	
CPUP	**Villa Florida**	**34.17**	**141**	P	**P**		**02 24 44.2**	**-0.4**	
	comp=Z,3.4nm,0.9s,baz=310,slow=12,SNR=5.0								
CPUP	**Villa Florida**	**34.17**	**141**	IAmb	IAmb	02 24 45.0			
	comp=Z,13nm,1.3s								
CPUP	**Villa Florida**	**34.17**	**141**	*eP*	**P**		**02 24 44.9**	**+0.3**	
ITRB	**Iturama**	**35.24**	**125**	*eP*	**P**		**02 24 54.1**	**+0.2**	
BDFB	**Brasilia**	**35.47**	**117**	P	**P**		**02 24 55.6**	**-0.5**	
	comp=Z,15nm,1.0s,baz=272,slow=8.4,SNR=19								
BDFB	**Brasilia**	**35.47**	**117**	P	**P**		**02 24 56.1**	**0.0**	
BDFB				IAmb	IAmb	02 24 56.9			
	comp=Z,20nm,1.0s								
PCMB	**Pacaembu**	**35.50**	**129**	*eP*	**P**		**02 24 55.4**	**-0.7**	
JCT	**Junction City**	**35.68**	**331**	P	**P**		**02 24 59.4**	**+1.8**	
JCT	**Junction City**	**35.68**	**331**	P	**P**		**02 24 59.7**	**+2.1**	
	baz=145,SNR=8.2								
IPMB	**Ipameri, GO**	**36.25**	**121**	*eP*	**P**		**02 25 01.8**	**-0.8**	
ROSB	**Rosrio**	**36.39**	**95**	*eP*	**P**		**02 25 03.7**	**-0.2**	
TXAR	**Lajitas Array**	**36.84**	**325**	P	**P**		**02 25 06.8**	**-0.8**	
	comp=Z,1.0nm,1.0s,baz=140,slow=9.9,SNR=7.9								
TXAR	**Lajitas Array**	**36.84**	**325**	P	**P**		**02 25 09.7**	**+2.1**	
ITQB	**Itaqui**	**37.03**	**144**	*eP*	**P**		**02 25 09.6**	**+0.5**	
SDBA	**SAO DESIDERIO**	**37.26**	**110**	*eP*	**P**		**02 25 10.7**	**-0.6**	
ABTX	**Abilene, Hawle**	**37.39**	**333**	P	**P**		**02 25 14.1**	**+2.0**	
ABTX				IAmb	IAmb	02 25 18.3			
	comp=Z,17nm,1.1s								
ABTX	**Abilene, Hawle**	**37.39**	**333**	P	**P**		**02 25 14.9**	**+2.8**	
	baz=147								
BB19B	**Bebedouro**	**37.40**	**126**	*eP*	**P**		**02 25 11.3**	**-1.2**	
W39A	**Magazine**	**37.40**	**342**	P	**P**		**02 25 11.6**	**-0.6**	
	baz=158								
FCAR	**Ozark Folk Cen**	**37.57**	**344**	P	**P**		**02 25 15.7**	**+2.1**	
FCAR				IAmb	IAmb	02 25 16.7			
	comp=Z,18nm,1.4s								
FRTB	**Fartura**	**37.76**	**130**	*eP*	**P**		**02 25 14.3**	**-1.1**	
U40A	**Yellville**	**38.21**	**344**	P	**P**		**02 25 17.6**	**-1.3**	
	baz=160,SNR=6.2								
JANB	**Januaria**	**38.60**	**114**	*eP*	**P**		**02 25 22.0**	**-0.6**	
TUL1	**Leonard**	**38.71**	**340**	P	**P**		**02 25 25.4**	**+2.2**	
	baz=155								
WMOK	**Wichita Mounta**	**38.81**	**336**	P	**P**		**02 25 27.7**	**+3.7**	
	baz=150								
NBPS	**Pedro II - PI**	**39.17**	**97**	*eP*	**P**		**02 25 26.8**	**-0.6**	
LC01	**Cunco**	**39.26**	**169**	P	**P**		**02 25 28.6**	**+0.8**	
LC01				IAmb	IAmb	02 25 44.8			
	comp=Z,29nm,1.4s								
CCM	**Cathedral Cave**	**39.40**	**347**	P	**P**		**02 25 31.2**	**+2.2**	
CCM	**Cathedral Cave**	**39.40**	**347**	P	**P**		**02 25 31.9**	**+3.0**	
	baz=163								
CPSB	**Cacapava Do Su**	**39.47**	**142**	*eP*	**P**		**02 25 29.8**	**+0.1**	
MNTX	**Cornudas Mount**	**39.59**	**326**	P	**P**		**02 25 29.7**	**-1.0**	
	baz=139,SNR=6.6								
VAO	**Valinhos**	**39.62**	**127**	*eP*	**P**		**02 25 30.5**	**-0.6**	
MSTX	**Muleshoe**	**39.98**	**331**	IAmb	IAmb	02 25 39.0			
	comp=Z,28nm,0.9s								
MSTX	**Muleshoe**	**39.98**	**331**	P	**P**		**02 25 33.3**	**-0.7**	
	baz=144,SNR=5.9								
PET01	**Itanhaem-SP**	**40.03**	**129**	*eP*	**P**		**02 25 33.7**	**-0.7**	
PARB	**Paraibuna**	**40.86**	**127**	*eP*	**P**		**02 25 40.9**	**-0.5**	
NBPB	**Pedra_Branca-C**	**41.12**	**98**	*eP*	**P**		**02 25 43.1**	**-0.5**	
PLCA	**Paso Flores**	**41.28**	**169**	P	**P**		**02 25 45.4**	**+0.7**	
	comp=Z,9.3nm,1.0s,baz=337,slow=8.6,SNR=11								
PLCA	**Paso Flores**	**41.28**	**169**	IAmb	IAmb	02 25 51.9			
	comp=Z,20nm,1.0s								
PLCA	**Paso Flores**	**41.28**	**169**	*eP*	**P**		**02 25 45.2**	**+0.6**	
NBPN	**Ponto Novo - B**	**41.35**	**106**	*eP*	**P**		**02 25 45.1**	**-0.4**	
121A	**Cookes Peak, D**	**41.59**	**324**	IAmb	IAmb	02 25 53.7			
	comp=Z,19nm,1.2s								
121A	**Cookes Peak, D**	**41.59**	**324**	P	**P**		**02 25 50.1**	**+2.8**	
	baz=136								
ESAR	**Angra dos Reis**	**41.66**	**125**	*eP*	**P**		**02 25 48.3**	**+0.4**	
KSU1	**Kansas State U**	**41.88**	**341**	P	**P**		**02 25 49.5**	**+0.1**	
KSU1				IAmb	IAmb	02 25 54.5			
	comp=Z,15nm,0.8s								
KSU1	**Kansas State U**	**41.88**	**341**	P	**P**		**02 25 48.7**	**-0.7**	
	baz=155								
R32A	**Long Quarter,**	**42.00**	**338**	IAmb	IAmb	02 25 56.0			
	comp=Z,26nm,0.9s								
NBMA	**Muriti-CE**	**42.15**	**101**	*eP*	**P**		**02 25 51.8**	**-0.3**	
VAS01	**Vassouras-RJ**	**42.15**	**124**	*eP*	**P**		**02 25 51.7**	**-0.3**	
NBCL	**Cascavel-CE**	**42.29**	**96**	*eP*	**P**		**02 25 52.9**	**-0.2**	
GDU01	**Guandu, BA**	**42.61**	**110**	*eP*	**P**		**02 25 55.8**	**+0.1**	
ANMO	**Albuquerque**	**42.63**	**328**	P	**P**		**02 25 55.5**	**-0.3**	
ANMO				IAmb	IAmb	02 26 01.6			
	comp=Z,11nm,0.7s								
ANMO	**Albuquerque**	**42.63**	**328**	P	**P**		**02 25 55.8**	**-0.1**	
	baz=140								
SJMB	**Sao Joao De Ma**	**42.66**	**118**	*eP*	**P**		**02 25 56.0**	**-0.1**	
CBKS	**Cedar Bluff**	**42.73**	**338**	P	**P**		**02 25 57.5**	**+1.1**	
CBKS				IAmb	IAmb	02 26 15.6			
	comp=Z,24nm,1.2s								
DUB01	**Friburgo-RJ**	**42.95**	**123**	*eP*	**P**		**02 25 58.7**	**+0.2**	
CMC01	**Camacan, BA**	**43.10**	**112**	*eP*	**P**		**02 25 59.8**	**0.0**	
GUA01	**Guaratinga, BA**	**43.20**	**114**	*eP*	**P**		**02 26 00.8**	**+0.3**	
TUC	**Tucson**	**43.24**	**321**	P	**P**		**02 26 03.0**	**+2.2**	
TUC	**Tucson**	**43.24**	**321**	P	**P**		**02 26 03.5**	**+2.8**	
	baz=132								
NAN01	**Guarapari, ES**	**43.31**	**116**	*eP*	**P**		**02 26 01.4**	**0.0**	
T25A	**Trinidad**	**43.32**	**332**	IAmb	IAmb	02 26 07.7			
	comp=Z,31nm,1.4s								
T25A	**Trinidad**	**43.32**	**332**	P	**P**		**02 26 05.4**	**+4.0**	
	baz=144,SNR=7.1								
CAM01	**Campos-RJ**	**43.45**	**122**	*eP*	**P**		**02 26 02.7**	**+0.2**	
RIB01	**Linhares ES**	**43.58**	**118**	*eP*	**P**		**02 26 02.8**	**-0.7**	
NBLA	**Lagarto - SE**	**43.69**	**106**	*eP*	**P**		**02 26 04.0**	**-0.5**	
ALF01	**Guarapari-ES**	**43.77**	**120**	*eP*	**P**		**02 26 05.1**	**+0.1**	
X18A	**Snowflake**	**44.27**	**324**	IAmb	IAmb	02 26 15.0			
	comp=Z,15nm,1.4s								
214A	**Organ Pipe Nat**	**44.31**	**319**	P	**P**		**02 26 12.9**	**+3.7**	
	baz=130								
SDCO	**Great Sand Dun**	**44.32**	**331**	P	**P**		**02 26 12.4**	**+2.8**	
	baz=143,SNR=8.6								
BGNE	**Belgrade**	**44.46**	**341**	P	**P**		**02 26 13.0**	**+2.7**	
BGNE				IAmb	IAmb	02 26 20.7			
	comp=Z,15nm,0.8s								
RCBR	**Riachuelo**	**44.80**	**98**	P	**P**		**02 26 12.3**	**-1.1**	
	comp=Z,7.8nm,0.8s,baz=68,slow=8.2,SNR=4.2								
RCBR	**Riachuelo**	**44.80**	**98**	*eP*	**P**		**02 26 13.1**	**-0.3**	
S22A	**4UR Ranch, Cre**	**44.97**	**330**	IAmb	IAmb	02 26 20.8			
	comp=Z,18nm,1.4s								
S22A	**4UR Ranch, Cre**	**44.97**	**330**	P	**P**		**02 26 17.7**	**+2.9**	
	baz=141,SNR=5.3								
SFX	**San Felipe**	**45.10**	**317**	P	**P**		**02 26 17.7**	**+2.2**	
MVCO	**Mesa Verde**	**45.42**	**328**	P	**P**		**02 26 22.0**	**+3.7**	
	baz=139,SNR=6.5								
WUAZ	**Wupatki**	**45.80**	**324**	P	**P**		**02 26 21.0**	**-0.2**	
	baz=134,SNR=5.2								
ISCO	**Idaho Springs**	**46.02**	**333**	P	P	02 26 28.0	+4.9		
	baz=144								
ECSD	**EROS Data Cent**	**46.12**	**344**	P	**P**		**02 26 24.4**	**+1.0**	
	baz=157								
PV15	**Paradox Valley**	**46.27**	**329**	IAmb	IAmb	02 26 39.9			
	comp=Z,14nm,1.3s								
PV18	**Skein Mesa, Pa**	**46.41**	**329**	P	**P**		**02 26 28.9**	**+2.8**	
PV18				IAmb	IAmb	02 26 31.3			
	comp=Z,10.0nm,0.7s								
PV23	**Carpenter Ridg**	**46.62**	**329**	IAmb	IAmb	02 26 32.3			
	comp=Z,16nm,1.2s								
U15A	**North Rim**	**46.96**	**324**	IAmb	IAmb	02 26 36.0			
	comp=Z,7.8nm,1.2s								
BC3	**Big Chuckawall**	**47.10**	**319**	P	**P**		**02 26 35.5**	**+4.1**	
	baz=128								
KNB	**Kanab**	**47.68**	**325**	IAmb	IAmb	02 26 44.9			
	comp=Z,9.6nm,1.3s								
SRU	**San Rafael Swe**	**47.90**	**328**	P	**P**		**02 26 39.7**	**+2.1**	
SRU				IAmb	IAmb	02 26 42.9			
	comp=Z,10nm,1.2s								
LCMT	**Little Creek M**	**47.92**	**324**	IAmb	IAmb	02 26 53.7			
	comp=Z,12nm,0.8s								
SZCU	**Shurtz Canyon**	**48.23**	**325**	IAmb	IAmb	02 26 46.0			
	comp=Z,16nm,1.5s								
CCUT	**Cedar City**	**48.36**	**325**	IAmb	IAmb	02 26 47.5			
	comp=Z,17nm,1.5s								
SHPR	**Sheep Range**	**48.73**	**322**	IAmb	IAmb	02 26 50.8			
	comp=Z,16nm,1.5s								
RSSD	**Black Hills**	**48.93**	**338**	P	**P**		**02 26 47.5**	**+2.0**	
RSSD				IAmb	IAmb	02 26 59.3			
	comp=Z,8.1nm,1.1s								
RSSD	**Black Hills**	**48.93**	**338**	P	P	02 26 50.3	+4.8		
	baz=148								
CCAC	**Calif City Air**	**49.69**	**319**	P	**P**		**02 26 54.0**	**+2.7**	
CCAC				IAmb	IAmb	02 27 04.3			
	comp=Z,9.0nm,0.9s								
DUG	**Dugway, Tooele**	**49.90**	**328**	P	**P**		**02 26 55.4**	**+2.5**	
	baz=136								
PDAR	**Pinedale Array**	**50.18**	**332**	P	**P**		**02 26 55.2**	**+0.1**	
	comp=Z,0.5nm,0.6s,baz=127,slow=8.8,SNR=5.3								
R11A	**Troy Canyon, C**	**50.19**	**324**	P	**P**		**02 26 59.1**	**+3.9**	
	baz=132								
HWUT	**Hardware Ranch**	**50.28**	**330**	IAmb	IAmb	02 27 14.7			
	comp=Z,11nm,1.3s								
TPH	**Tonopah**	**50.99**	**323**	P	**P**		**02 27 02.6**	**+1.3**	
TPH				IAmb	IAmb	02 27 13.2			
	comp=Z,20nm,1.1s								
NV11	**Mina Array Sit**	**51.79**	**322**	IAmb	IAmb	02 27 15.4			
	comp=Z,19nm,1.5s								
NVAR	**Mina Array Bea**	**51.88**	**322**	P	**P**		**02 27 07.6**	**-0.4**	
	comp=Z,2.9nm,0.8s,baz=139,slow=8.8,SNR=14								
NVAR	**Mina Array Bea**	**51.88**	**322**	P	**P**		**02 27 10.4**	**+2.5**	
LHV	**Little Huntoon**	**51.89**	**322**	IAmb	IAmb	02 27 14.1			
	comp=Z,19nm,1.4s								
ULM	**Lac du Bonnet**	**52.01**	**347**	P	**P**		**02 27 06.2**	**-2.2**	
	comp=Z,3.6nm,0.6s,baz=158,slow=7.0,SNR=3.7								
RYN	**Ryan**	**52.14**	**322**	IAmb	IAmb	02 27 15.5			
	comp=Z,15nm,1.5s								
PNTR	**Pine Nut**	**53.08**	**322**	P	**P**		**02 27 19.0**	**+2.2**	
PNTR				IAmb	IAmb	02 27 22.0			
	comp=Z,11nm,1.4s								
HLID	**Hailey**	**53.14**	**329**	P	**P**		**02 27 21.5**	**+4.3**	
	baz=136,SNR=5.1								
BOZ	**Bozeman (W)**	**53.31**	**333**	P	**P**		**02 27 18.4**	**+0.1**	
	baz=140								
MFID	**Camas Ranch**	**53.77**	**328**	IAmb	IAmb	02 27 36.6			
	comp=Z,9.0nm,1.2s								
BEKR	**Beckworth**	**54.02**	**322**	P	**P**		**02 27 26.7**	**+3.0**	
EGMT	**Eagleton**	**54.40**	**336**	IAmb	IAmb	02 27 37.3			
	comp=Z,13nm,1.3s								
EGMT	**Eagleton**	**54.40**	**336**	P	**P**		**02 27 30.4**	**+4.2**	
	baz=143								
ORV	**Oroville**	**54.54**	**321**	IAmb	IAmb	02 27 35.4			
	comp=Z,14nm,1.3s								
O03E	**Paynes Creek**	**55.16**	**322**	P	**P**		**02 27 35.1**	**+3.2**	
	baz=126								
SCHQ	**Scheiferville**	**56.03**	**9**	P	**P**		**02 27 35.4**	**-2.3**	
	comp=Z,4.0nm,1.1s,baz=193,slow=5.6,SNR=3.8								
YBH	**Yreka Blue Hor**	**56.57**	**323**	P	**P**		**02 27 42.2**	**+0.3**	
	comp=Z,2.4nm,0.9s,baz=152,slow=2.9,SNR=5.0								
J05D	**Fort Rock, OR**	**56.64**	**325**	P	**P**		**02 27 41.8**	**-0.7**	
	baz=128,SNR=6.5								
G08A	**Pilot Rock**	**56.69**	**328**	IAmb	IAmb	02 27 51.6			
	comp=Z,14nm,1.5s								
PINE	**Pine Mountain**	**56.80**	**326**	IAmb	IAmb	02 28 03.3			
	comp=Z,13nm,1.2s								
J04D	**Umpqua Nationa**	**57.12**	**325**	IAmb	IAmb	02 27 51.0			
	comp=Z,12nm,0.8s								
J04D	**Umpqua Nationa**	**57.12**	**325**	P	**P**		**02 27 45.4**	**-0.5**	
	baz=128								
I05D	**Terrebonne, OR**	**57.36**	**326**	P	**P**		**02 27 51.9**	**+4.5**	
	baz=129								
FFC	**Flin Flon**	**57.59**	**345**	P	**P**		**02 27 51.6**	**+2.8**	
I04A	**Tendick Farm,**	**57.63**	**325**	P	**P**		**02 27 52.3**	**+2.9**	
	baz=128								
K02D	**Willamette Mer**	**57.71**	**323**	P	**P**		**02 27 53.6**	**+3.6**	
	baz=126								
NEW	**Newport**	**57.82**	**332**	P	**P**		**02 27 50.1**	**-0.4**	
	comp=Z,0.6nm,0.5s,baz=151,slow=9.1,SNR=3.8								
CMLA	**Cha da Macela**	**63.07**	**47**	P	**P**		**02 28 28.5**	**+1.9**	
MACI	**Morro de la Ar**	**67.31**	**59**	P	**P**		**02 28 55.1**	**+0.5**	
YKA	**Yellowknife Ar**	**67.65**	**344**	P	**P**		**02 28 54.1**	**-1.6**	
	comp=Z,2.4nm,0.9s,baz=136,slow=6.0,SNR=37								
DLBC	**Dease Lake**	**70.29**	**335**	P	**P**		**02 29 16.5**	**+4.1**	
DLBC				IAmb	IAmb	02 29 18.5			
	comp=Z,14nm,1.3s								
WRGLY	**Wrigley**	**70.90**	**341**	P	**P**		**02 29 15.7**	**-0.1**	
	baz=134								
TGTN	**Hyland Airport**	**71.47**	**338**	P	P	02 29 24.8	+5.3		
	baz=128								
MMPY	**Sheldon Lake,**	**73.25**	**338**	P	**P**		**02 29 30.3**	**+0.3**	
	baz=126								
ICESG	**Greenland Ices**	**74.47**	**14**	*i* P	**P**		**02 29 34.2**	**-3.2**	
ICESG				IAmb	IAmb	02 29 35.7			
	comp=Z,6.4nm,0.8s								
M30M	**Mino, Yukon**	**75.36**	**337**	P	**P**		**02 29 42.1**	**-0.2**	
	baz=121								
YUK4	**Talbot Arm**	**75.52**	**335**	P	**P**		**02 29 47.3**	**+3.8**	
	baz=119								
LIC	**Lamto**	**75.52**	**84**	*eP*	**P**		**02 29 43.7**	**-0.5**	
	comp=Z,33nm,1.3s								
TIC	**Toumodi**	**75.54**	**83**	*eP*	**P**		**02 29 43.8**	**-0.6**	
DBIC	**Dimbokro**	**75.71**	**83**	P	**P**		**02 29 43.9**	**-1.4**	
	comp=Z,9.1nm,1.0s,baz=285,slow=6.3,SNR=9.1								
DBIC	**Dimbokro**	**75.71**	**83**	P	**P**		**02 29 43.7**	**-1.6**	
MORF	**Marmelete**	**75.72**	**51**	*eP*	**P**		**02 29 46.0**	**+1.0**	
MORF				IAmb	IAmb	02 29 46.4			
	comp=Z,28nm,1.0s								
MORF	**Marmelete**	**75.72**	**51**	*eP*	**P**		**02 29 46.0**	**+1.0**	
	comp=Z,70nm,1.7s								
KIC	**Kosan Boka**	**75.81**	**83**	*eP*	**P**		**02 29 45.5**	**-0.4**	
	comp=Z,21nm,0.8s								
PNCL	**Nicolau / Gran**	**75.98**	**51**	*eP*	**P**		**02 29 47.7**	**+1.4**	
	comp=Z,49nm,1.4s								
PSBE	**So Bento**	**76.06**	**49**	*eP*	**P**		**02 29 47.6**	**+0.8**	
PCVE	**Castro Verde**	**76.26**	**51**	*eP*	**P**		**02 29 48.4**	**+0.4**	
PCAS	**Casmilo, Conde**	**76.40**	**49**	*eP*	**P**		**02 29 49.5**	**+0.8**	
	comp=Z,58nm,1.4s								
PMTG	**Montargil**	**76.40**	**50**	*eP*	**P**		**02 29 48.9**	**+0.2**	
	comp=Z,28nm,1.5s								
EVO	**Evora**	**76.46**	**50**	*eP*	**P**		**02 29 49.6**	**+0.5**	
YUK3	**Moose Creek**	**76.48**	**335**	P	**P**		**02 29 48.0**	**-1.0**	
	baz=117								
COI	**Coimbra**	**76.49**	**49**	*eP*	**P**		**02 29 50.1**	**+0.9**	
	comp=Z,86nm,1.2s								
PTO	**Porto**	**76.55**	**48**	*eP*	**P**		**02 29 50.7**	**+1.2**	
	comp=Z,75nm,1.9s								
PESTR	**Estremoz**	**76.85**	**50**	*eP*	**P**		**02 29 51.9**	**+0.6**	
	comp=Z,38nm,1.6s								
PESTR	**Estremoz**	**76.85**	**50**	P	**P**		**02 29 51.6**	**+0.3**	
KOWA	**Kowa**	**76.92**	**75**	P	**P**		**02 29 51.8**	**-0.3**	
PGAV	**Gavieira, Arco**	**76.97**	**47**	*eP*	**P**		**02 29 52.6**	**+0.6**	
PVIS	**Viseu**	**76.98**	**48**	*eP*	**P**		**02 29 51.7**	**-0.4**	
	comp=Z,36nm,1.1s								
PMRV	**Marv??o**	**77.11**	**49**	*eP*	**P**		**02 29 52.8**	**+0.1**	
DAWY	**Dawson**	**77.12**	**337**	P	**P**		**02 29 55.9**	**+3.5**	
DAWY				IAmb	IAmb	02 29 57.4			
	comp=Z,8.3nm,1.1s								
DAWY	**Dawson**	**77.12**	**337**	P	**P**		**02 29 51.7**	**-0.7**	
	baz=118								
PCBR	**Castelo Branco**	**77.12**	**49**	*eP*	**P**		**02 29 52.9**	**+0.1**	
	comp=Z,28nm,1.7s								
MTE	**Manteigas**	**77.18**	**48**	*eP*	**P**		**02 29 53.5**	**+0.3**	
	comp=Z,45nm,1.8s								
PVRL	**Vila Real**	**77.23**	**48**	*eP*	**P**		**02 29 54.0**	**+0.6**	
	comp=Z,46nm,1.7s								
INK	**Inuvik**	**77.33**	**342**	P	**P**		**02 29 52.6**	**-0.7**	
	baz=125,SNR=13								
M27K	**Edge Creek, AK**	**77.34**	**335**	P	P	02 29 58.6	+4.8		
	baz=116								
MCARA	**McCarthy VSAT**	**77.42**	**334**	P	P	02 29 59.3	+5.3		
	baz=114								
A36M	**Sachs Harbour**	**77.49**	**347**	P	**P**		**02 29 52.9**	**-1.2**	
A36M	**Sachs Harbour**	**77.49**	**347**	P	**P**		**02 29 52.8**	**-1.4**	
	baz=134,SNR=15								
L27K	**Beaver Creek,**	**77.63**	**336**	P	**P**		**02 29 57.8**	**+2.6**	
L27K				IAmb	IAmb	02 30 01.1			
	comp=Z,16nm,1.4s								
L27K	**Beaver Creek,**	**77.63**	**336**	P	**P**		**02 29 55.1**	**0.0**	
	baz=116								
MVO	**Moncorvo**	**77.72**	**48**	*eP*	**P**		**02 29 56.9**	**+0.7**	
PBRG	**Braganca**	**78.05**	**47**	*eP*	**P**		**02 29 58.6**	**+0.6**	
EGAK	**Eagle**	**78.13**	**338**	P	**P**		**02 29 57.6**	**-0.3**	
	baz=117								
L26K	**Log Cabin Wild**	**78.24**	**336**	P	**P**		**02 29 58.1**	**-0.4**	
	baz=114								
MENT	**Mentasta**	**78.36**	**335**	P	**P**		**02 30 02.5**	**+3.2**	
J26L	**Joseph Creek**	**78.95**	**337**	P	**P**		**02 30 02.2**	**-0.3**	
	baz=115								
PAX	**Paxson**	**79.11**	**335**	IAmb	IAmb	02 30 08.3			
	comp=Z,9.8nm,1.2s								
PAX	**Paxson**	**79.11**	**335**	P	**P**		**02 30 05.9**	**+2.4**	
	baz=112								
RIDG	**Independent Ri**	**79.15**	**336**	P	**P**		**02 30 07.5**	**+3.9**	
	baz=113								
PAB	**San Pablo**	**79.45**	**50**	P	**P**		**02 30 06.1**	**+0.4**	
PAB				IAmb	IAmb	02 30 07.0			
	comp=Z,14nm,1.1s								
SCM	**Sheep Creek Mo**	**79.49**	**334**	P	**P**		**02 30 09.7**	**+4.1**	
	baz=111								
J25K	**Salcha River,**	**79.70**	**337**	IAmb	IAmb	02 30 11.9			
	comp=Z,11nm,1.3s								
J25K	**Salcha River,**	**79.70**	**337**	P	**P**		**

	69nm,0.9s							
SIJI	**Sorong**	**8.15**	**19**	P		**Pn**	**02 39 49.6**	**-2.2**
	2.2nm,0.3s,baz=174,slow=22,SNR=4.7							
SIJI				S		**Sn**	**02 41 19.9**	**-4.2**
	0.4nm,0.3s,baz=221,slow=22,SNR=1.1							
SWI	**Sorong**	**8.15**	**19**	P		**Pn**	**02 39 52.2**	**+0.3**
	23nm,0.7s							
BKSI	**Bulukumba**	**8.99**	**291**	P		**Pn**	**02 40 05.7**	**+2.2**
	24nm,1.0s							
BNSI	**Bone**	**9.38**	**296**	P		**Pn**	**02 40 09.6**	**+0.7**
	27nm,1.1s							
KAPI	**Kappang**	**9.45**	**292**	P		**Pn**	**02 40 10.2**	**+0.5**
	0.4nm,0.3s,baz=230,slow=23,SNR=1.6							
FITZ	**Fitzroy Crossi**	**9.85**	**196**	P		**Pn**	**02 40 15.5**	**+0.3**
	1.1nm,0.3s,baz=21,slow=9.9,SNR=51							
FITZ				S		**Sn**	**02 42 01.5**	**-4.5**
	5.4nm,0.3s,baz=89,slow=16,SNR=9.2							
WRA	**Warramunga Arr**	**12.58**	**154**	P		**Pn**	**02 40 50.7**	**-1.9**
	0.9nm,0.3s,baz=324,slow=13,SNR=28							
WRA				S		**Sn**	**02 43 08.8**	**-4.1**
	2.0nm,0.3s,baz=330,slow=23,SNR=10.0							
ASAR	**Alice Springs**	**15.82**	**162**	P		**Pn**	**02 41 34.1**	**-2.4**
	0.5nm,0.3s,baz=332,slow=9.7,SNR=31							
ASAR				S		**Sn**	**02 44 26.9**	**-5.1**
	0.5nm,0.3s,baz=322,slow=19,SNR=9.8							
QIS	**Mount Isa**	**15.96**	**139**	P		**Pn**	**02 41 37.2**	**-1.1**
OOD	**Oodnadatta**	**20.23**	**161**	P		**P**	**02 42 30.8**	**+1.9**
MEEK	**Meekatharra**	**20.26**	**207**	P		Pn	02 42 35.1	+3.9
CTA	**Charters Tower**	**20.56**	**126**	P		**P**	**02 42 34.5**	**+2.0**
	3.4nm,0.8s,baz=299,slow=11,SNR=1.8							
FORT	**Forrest**	**22.06**	**181**	P		**P**	**02 42 52.8**	**+4.2**
MULG	**Mulgathing**	**22.17**	**167**	P		**P**	**02 42 52.9**	**+3.2**
LCRK	**Leigh Creek**	**23.53**	**159**	P		**P**	**02 43 06.5**	**+2.6**
BBOO	**Buckleboo**	**25.06**	**165**	P		**P**	**02 43 21.5**	**+3.4**
STKA	**Stephens Creek**	**26.13**	**154**	P		**P**	**02 43 28.2**	**+0.4**
	0.8nm,0.5s,baz=323,slow=11,SNR=4.5							
SONM	**Songino Array**	**59.53**	**343**	P		P	02 47 53.3	-3.9
	0.2nm,0.4s,baz=146,slow=8.3,SNR=1.7							
MKAR	**Makanchi Array**	**68.80**	**328**	P		P	02 48 52.2	-5.7
	0.2nm,0.4s,baz=126,slow=7.3,SNR=2.5							
ZALV	**Zalesovo Beam**	**72.40**	**335**	P		P	02 49 13.5	-6.2
	0.3nm,0.4s,baz=101,slow=7.5,SNR=2.2							
TORD	**Torodi Ar. Bea**	**127.70**	**280**	PKP		**PKPdf**	**02 56 58.0**	**-2.3**
	0.4nm,0.6s,baz=63,slow=1.7,SNR=3.5							
CPUP	**Villa Florida**	**144.80**	**171**	PKPbc		**PKPab**	**02 57 29.4**	**-0.9**
	1.4nm,0.8s,baz=100,slow=3.9,SNR=4.0							

IDC ***17*** *02:43:32.1±2.6,8°.12S×128°.45E, h52km±23km, mb3.5/5, mb1 3.8/7, mb1mx3.4/42, mbtmp3.9/7, ML3.8/2, Error ellipse: s-maj=27.1km s-min=15.4km az=125.0*

DJA ***17*** *02:43:33.6±0.3, 9°.2S×12°.9E±°, h43km±13km, M4.6/13, mB5.7/2, mb4.5/13, MLv4.7/11, Mw(mB)5.2/2*

ISC 17 02:43:27.4±0.7, 8°.57S±0°.06×128°.77E±0°.05, h10km, n23, σ2§67/26, mb3.9/5, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.57**	**77**	P	**Pg**	**02 44 20.4**	**+3.7**
SAUI				S	**Sg**	**02 44 49.6**	**-0.5**
BATI	**Baumata**	**5.29**	**252**	P	**Pn**	**02 44 47.3**	**+0.7**
	6.3nm,0.3s,baz=97,slow=4.2,SNR=4.2						
BATI				S	**Sn**	**02 45 45.5**	**-2.1**
	26nm,0.3s,baz=113,slow=23,SNR=4.0						
BATI	**Baumata**	**5.29**	**252**	P	**Pn**	**02 44 48.0**	**+1.4**
	0.3nm53nm,1.0s						
BATI				S	**Sn**	**02 45 47.2**	**-0.5**
	0.3nm53nm,1.0s						
NLAI	**Namlea**	**5.55**	**343**	P	**Pn**	**02 44 50.5**	**+0.4**
	0.2nm43nm,0.8s						
MMRI	**Maumere**	**6.46**	**269**	P	**Pn**	**02 45 04.5**	**+1.9**
	0.3nm95nm,1.0s						
BBSI	**Bau Bau**	**6.87**	**296**	P	**Pn**	**02 45 09.5**	**+1.2**
	0.1nm11nm,0.9s						
SIJI	**Sorong**	**8.05**	**18**	P	**Pn**	**02 45 21.9**	**-2.5**
	0.7nm,0.3s,baz=212,slow=22,SNR=1.1						
SIJI				S	**Sn**	**02 46 49.8**	**-5.9**
	1.7nm,0.3s,baz=219,slow=22,SNR=1.1						
SWI	**Sorong**	**8.05**	**18**	P	**Pn**	**02 45 24.9**	**+0.4**
	0.2nm40nm,0.7s						
BSSI	**Bau Bau, Buton**	**8.56**	**286**	P	**Pn**	**02 45 33.3**	**+1.9**
	24nm,1.1s						
BKSI	**Bulukumba**	**9.17**	**290**	P	**Pn**	**02 45 42.1**	**+2.3**
	26nm,1.0s						
WBSI	**Waikabubak, Su**	**9.32**	**263**	P	**Pn**	**02 45 44.3**	**+2.4**
	5µm45nm,0.8s						
BNSI	**Bone**	**9.55**	**295**	P	**Pn**	**02 45 45.9**	**+0.8**
	25nm,0.9s						
FITZ	**Fitzroy Crossi**	**9.94**	**197**	P	**Pn**	**02 45 51.6**	**+1.1**
	1.1nm,0.3s,baz=16,slow=9.5,SNR=13						
FITZ				S	**Sn**	**02 47 39.1**	**-3.1**
	baz=90,slow=17						
SPSI	**Sidrap Palu**	**10.05**	**297**	P	**Pn**	**02 45 52.8**	**+0.9**
	20nm,0.7s						
WRA	**Warramunga Arr**	**12.52**	**155**	P	**Pn**	**02 46 26.6**	**+0.9**
	0.6nm,0.3s,baz=326,slow=13,SNR=3.0						
WRA				S	**Sn**	**02 48 40.8**	**-4.6**
	1.2nm,0.3s,baz=327,slow=24,SNR=6.5						
ASAR	**Alice Springs**	**15.79**	**162**	P	**Pn**	**02 47 11.5**	**+1.4**
	0.5nm,0.3s,baz=330,slow=9.6,SNR=4.7						
ASAR				S	**Sn**	**02 50 00.1**	**-5.2**
	0.4nm,0.3s,baz=327,slow=19,SNR=6.9						
STKA	**Stephens Creek**	**26.07**	**155**	P	**P**	**02 49 05.5**	**+4.3**
	1.4nm,0.5s,baz=316,slow=11,SNR=3.5						
SONM	**Songino Array**	**59.55**	**343**	P	P	02 53 27.5	-3.8
	0.8nm,0.7s,baz=163,slow=5.6,SNR=3.8						
MKAR	**Makanchi Array**	**68.88**	**328**	P	P	02 54 28.0	-4.3
	0.4nm,0.5s,baz=129,slow=7.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**72.46**	**335**	P	P	02 54 48.6	-5.4
	0.3nm,0.3s,baz=119,slow=5.1,SNR=2.3						
ILAR	**Eielson Array**	**95.28**	**25**	P	P	02 56 47.1	-4.2
	0.3nm,0.9s,baz=256,slow=3.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**127.90**	**280**	PKP	**PKPdf**	**03 02 33.1**	**-1.4**
	0.6nm,0.6s,baz=56,slow=2.5,SNR=4.5						
CPUP	**Villa Florida**	**144.80**	**170**	PKPbc	**PKPab**	**03 03 04.5**	**+0.2**
	0.9nm,0.5s,baz=124,slow=2.8,SNR=3.8						

IGQ ***17*** *02:45:02±0.9, 0°.5S±4°×8°1W±°, h4km*

IDC ***17*** *02:45:05.0±2.2, 0°.74S×80°.64W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/31, mbtmp3.6/5, ML2.7/1, Error ellipse: s-maj=66.8km s-min=36.9km az=23.0*

ISC 17 02:45:03.6±1.1, 0°.23S±0°.05×80°.58W±0°.07, h10km, n86, σ1§39/88, mb3.6/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.37**	**94**	P	**Pg**	**02 45 12.0**	**+1.0**
AMNT	**Manta-Manabi**	**0.72**	**193**	P	**Pg**	**02 45 17.0**	**-0.5**
AMNT				S	**Sb**	**02 45 28.0**	**-0.2**
FLF1	**Flavio Alfaro-**	**0.74**	**99**	P	**Pg**	**02 45 19.0**	**+1.0**
FLF1				P	**Pg**	**02 45 19.0**	**+1.0**
MAG1	**Magdalena**	**0.82**	**79**	P	**Pg**	**02 45 20.0**	**+0.6**
AV18	**Acelerografo,**	**1.23**	**64**	P	**Pb**	**02 45 27.0**	**+0.1**
BV15	**Puerto Quito-O**	**1.41**	**74**	P	**Pn**	**02 45 28.0**	**-1.3**
ILLI	**Illinizas Sur**	**1.91**	**104**	P	**Pn**	**02 45 36.0**	**-0.7**
HPAL	**Hacienda Las P**	**1.93**	**90**	P	**Pn**	**02 45 36.0**	**-0.8**
GGPT	**Toaza - Volcan**	**1.96**	**90**	P	**Pn**	**02 45 37.0**	**-0.2**
PINO	**Pino**	**1.97**	**88**	P	**Pn**	**02 45 37.0**	**-0.6**
APR1	**Acelerografo,**	**1.97**	**85**	P	**Pn**	**02 45 37.0**	**-0.4**
JUA2	**San Juan 2**	**1.97**	**89**	P	**Pn**	**02 45 37.0**	**-0.5**
TERV	**Terraza Guagua**	**1.97**	**88**	P	**Pn**	**02 45 37.0**	**-0.6**
GGPC	**Guagua Pichinc**	**1.98**	**88**	P	**Pn**	**02 45 37.0**	**-0.7**
PAST	**Pastocalle**	**1.99**	**103**	P	**Pn**	**02 45 37.0**	**-0.7**
YANA	**Yana**	**2.01**	**87**	P	**Pn**	**02 45 37.0**	**-1.0**
SRAM	**San Ramn-Vol**	**2.08**	**104**	P	**Pn**	**02 45 39.0**	**+0.2**
PULU	**Pululahua**	**2.09**	**83**	P	**Pn**	**02 45 39.0**	**-0.1**
CHSH	**Refugio Sur-Vo**	**2.12**	**126**	P	**Pn**	**02 45 41.0**	**+1.4**
CAMI	**Rancho Maria**	**2.12**	**102**	P	**Pn**	**02 45 41.0**	**+1.5**
SUCR	**Mariscal Sucre**	**2.12**	**101**	P	**Pn**	**02 45 40.0**	**+0.4**
AMIL	**Milagro (Trans**	**2.13**	**153**	P	**Pn**	**02 45 40.0**	**+0.8**
SLOR	**San Lorenzo -**	**2.14**	**103**	P	**Pn**	**02 45 40.0**	**+0.2**
BNAS	**Cotopaxi Volca**	**2.14**	**102**	P	**Pn**	**02 45 41.0**	**+1.1**
NAS2	**Nasa**	**2.15**	**101**	P	**Pn**	**02 45 41.0**	**+1.0**
TOMA	**Boca Toma-Volc**	**2.16**	**97**	P	**Pn**	**02 45 41.0**	**+1.0**
PITA	**Cotopaxi Volc**	**2.17**	**99**	P	**Pn**	**02 45 41.0**	**+0.8**
BRRN	**Barrancas-Volc**	**2.17**	**105**	P	**Pn**	**02 45 41.0**	**+0.8**
BMOR	**Cotopaxi Volca**	**2.18**	**103**	P	**Pn**	**02 45 42.0**	**+1.6**
PORT	**Chimborazo Vol**	**2.18**	**124**	P	**Pn**	**02 45 41.0**	**+0.6**
BREF	**Cotopaxi Volca**	**2.18**	**101**	P	**Pn**	**02 45 42.0**	**+1.5**
BVC2	**Cotopaxi Volca**	**2.21**	**101**	P	**Pn**	**02 45 42.0**	**+1.2**
VC1	**Cotopaxi 1**	**2.21**	**101**	P	**Pn**	**02 45 42.0**	**+1.1**
TAMH	**Tambohuasha Ch**	**2.22**	**126**	P	**Pn**	**02 45 42.0**	**+1.1**
BTAM	**Cotopaxi Volca**	**2.22**	**101**	P	**Pn**	**02 45 42.0**	**+1.0**
CUSE	**Cuicocha Este**	**2.24**	**76**	*e*P	**Pn**	**02 45 40.7**	**-0.5**
CUSE				*e*S	**Sn**	**02 46 07.7**	**-1.5**
CUSE				*i*		02 46 20.2	
	comp=Z,703nm,0.7s						
CUSE	**Cuicocha Este**	**2.24**	**76**	P	**Pn**	**02 45 41.0**	**-0.2**
VCES	**Cotopaxi**	**2.25**	**104**	P	**Pn**	**02 45 42.0**	**+0.6**
TAMB	**Tambo**	**2.26**	**102**	P	**Pn**	**02 45 43.0**	**+1.5**
MILO	**Milagro-Astudi**	**2.27**	**153**	P	**Pn**	**02 45 40.0**	**-1.2**
CUIC	**Cuicocha-Domo**	**2.28**	**76**	P	**Pn**	**02 45 42.0**	**+0.3**
CUSW	**Cuicocha Oeste**	**2.29**	**77**	P	**Pn**	**02 45 42.0**	**+0.3**
IGUA	**Igualata**	**2.31**	**123**	P	**Pn**	**02 45 43.0**	**+0.8**
ANTG	**Antisana-Guama**	**2.34**	**97**	P	**Pn**	**02 45 44.0**	**+1.4**
BBIL	**Ulba Tungurahu**	**2.41**	**120**	P	**Pn**	**02 45 45.0**	**+1.5**
URCU	**Urcuqui**	**2.42**	**74**	P	**Pn**	**02 45 44.0**	**+0.4**
JUI6	**Juive**	**2.42**	**119**	P	**Pn**	**02 45 44.0**	**+0.5**
ANTS	**Antisana-Sarah**	**2.42**	**96**	P	**Pn**	**02 45 45.0**	**+1.2**
ANTI	**Antisana**	**2.43**	**95**	P	**Pn**	**02 45 45.0**	**+1.1**
POND	**Pondoa**	**2.43**	**119**	P	**Pn**	**02 45 44.0**	**+0.3**
PIAT	**Ana Tenorio**	**2.44**	**108**	P	**Pn**	**02 45 45.0**	**+1.2**
BMAS	**Trigal station**	**2.45**	**121**	P	**Pn**	**02 45 45.0**	**+1.0**
RETU	**Refugio**	**2.45**	**120**	P	**Pn**	**02 45 45.0**	**+0.9**
BRUN	**Tungurahua Vol**	**2.47**	**119**	P	**Pn**	**02 45 45.0**	**+0.8**
ARRY	**Arrayan**	**2.47**	**121**	P	**Pn**	**02 45 45.0**	**+0.7**
BPAT	**Tungurahua Vol**	**2.49**	**120**	P	**Pn**	**02 45 46.0**	**+1.4**
YAHU	**Yahuarcocha**	**2.58**	**77**	P	**Pn**	**02 45 47.0**	**+1.2**
COHC	**Cochancay**	**2.58**	**149**	P	**Pn**	**02 45 45.0**	**-0.5**
CAYR	**Refugio Cayamb**	**2.58**	**84**	P	**Pn**	**02 45 47.0**	**+0.9**
ANGU	**Angureal**	**2.58**	**84**	P	**Pn**	**02 45 48.0**	**+1.9**
CAYA	**Cayambe**	**2.60**	**83**	P	**Pn**	**02 45 46.0**	**-0.3**
CHMA	**Chilma**	**2.74**	**67**	P	**Pn**	**02 45 48.0**	**+0.1**
LNGL	**El Angel-Carch**	**2.75**	**69**	P	**Pn**	**02 45 49.0**	**+0.7**
ECEN	**Cerro Negro**	**2.81**	**68**	P	**Pn**	**02 45 49.0**	**-0.1**
CHL1	**Volc¡n Chiles**	**2.82**	**69**	P	**Pn**	**02 45 50.0**	**+0.7**
SANGA	**Volcan Sangay**	**2.85**	**129**	P	**Pn**	**02 45 51.0**	**+1.4**
CHL2	**Volc¡n Chiles**	**2.85**	**69**	P	**Pn**	**02 45 50.0**	**+0.3**
ARDO	**Archidona, Ten**	**2.88**	**105**	P	**Pn**	**02 45 53.0**	**+3.4**
CONE	**Cono NE Rev Vo**	**2.94**	**87**	P	**Pn**	**02 45 53.0**	**+2.3**
TULM	**Tulcn-Chalpat**	**2.95**	**71**	*e*P	**Pn**	**02 45 53.4**	**+2.5**
TULM				*i*		02 46 23.5	
	comp=Z,130nm,0.8s						
TULM				*e*S	**Sg**	**02 46 40.6**	**+2.2**
CMBC	**Cumbal**	**2.99**	**67**	*e*P	**Pb**	**02 45 55.7**	**-1.5**
BONI	**La Bonita**	**3.12**	**77**	P	**Pn**	**02 45 56.0**	**+2.8**
GR1C	**Gorgona, Isla**	**4.02**	**37**	*e*P	**Pn**	**02 46 08.0**	**+2.7**
SOTA	**Rioblanco**	**4.61**	**59**	*e*P	**Pn**	**02 46 15.5**	**+1.6**
SOTA				*i*		02 46 26.4	
	comp=Z,38nm,0.5s						
SOTA				*e*S	**Sb**	**02 47 17.5**	**-3.3**
POPC	**Popayan, Colom**	**4.78**	**55**	*e*P	**Pn**	**02 46 16.9**	**+1.1**
POPC				*e*S	**Sb**	**02 47 19.9**	**-5.3**
POPC				*i*		02 47 29.9	
	comp=Z,12nm,0.6s						
PCON	**Cinco Dias**	**4.89**	**59**	*e*P	**Pn**	**02 46 19.1**	**+1.4**
PCON				*i*		02 46 35.9	
	comp=Z,41nm,0.6s						
PCON				*e*S	**Sb**	**02 47 28.6**	**-0.3**
YOTC	**Yotoco, Valle**	**5.95**	**45**	*e*P	**Pn**	**02 46 33.8**	**+1.8**
CBOC	**Ciudad Bolivar**	**7.58**	**37**	*e*P	Pn	02 46 59.3	+4.9
CHIC	**Chingaza**	**8.37**	**55**	*e*P	**Pn**	**02 47 08.4**	**+2.9**
SDV	**Santo Domingo**	**13.42**	**47**	Pn	**P**	**02 48 24.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=240,slow=4.6,SNR=4.4						
PDAR	**Pinedale Array**	**50.10**	**332**	P	P	02 54 04.8	+5.5
	comp=Z,0.2nm,0.5s,baz=146,slow=6.6,SNR=1.9						
NVAR	**Mina Array Bea**	**51.78**	**322**	P	P	02 54 18.7	+6.8
	comp=Z,0.8nm,0.8s,baz=137,slow=7.1,SNR=6.9						
YKA	**Yellowknife Ar**	**67.59**	**344**	P	P	02 56 05.3	+5.1
	comp=Z,0.5nm,0.7s,baz=135,slow=6.2,SNR=11						
TORD	**Torodi Ar. Bea**	**82.53**	**77**	P	P	02 57 31.4	+4.0
	comp=Z,0.2nm,0.5s,baz=279,slow=5.4,SNR=5.5						
ASAR	**Alice Springs**	**138.95**	**232**	PKP	**PKiKP**	**03 04 33.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=132,slow=1.4,SNR=1.4						
WRA	**Warramunga Arr**	**140.36**	**238**	PKP	**PKiKP**	**03 04 37.2**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=117,slow=1.9,SNR=1.6						

VIE ***17*** *02:51:35.4±0.2, 46°.77N×12°.72E, h12km±3km, mb1.0/5, ml1.6/13, Error ellipse: s-maj=2.0km s-min=1.1km az=1.0*
7 km SSW of Lienz

ISC 17 02:51:35.6±1.0, 46°.77N±0°.03×12°.72E±0°.03, h12km±7km, n14, σ0§41/24, 2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABTA	**Abfaltersbach**	**0.14**	**260**	*i* Pg	**Pg**	**02 51 39.1**	**0.0**
	1.0nm,0.0s						
ABTA				*e*Sg	**Sg**	**02 51 41.9**	**+0.2**
	4.7nm,0.0s						
CSMI	**Casera Mimoias**	**0.26**	**190**	*e*Pg	**Pg**	**02 51 41.3**	**+0.1**
CSMI				*e*Sg	**Sg**	**02 51 45.0**	**+0.1**
ZOU	**Zoufplan**	**0.28**	**141**	||*e*Pg	**Pg**	**02 51 41.3**	**-0.1**
ZOU				*e*Sg	**Sg**	**02 51 45.2**	**-0.1**
CLUD	**Cludinico**	**0.33**	**161**	||*e*Pg	**Pg**	**02 51 42.0**	**-0.1**
CLUD				*e*Sg	**Sg**	**02 51 47.0**	**+0.1**
PLRO	**Paularo**	**0.37**	**127**	*e*Pg	**Pg**	**02 51 42.7**	**-0.3**
CIMO	**Cimolais**	**0.50**	**203**	*e*Pg	**Pg**	**02 51 45.3**	**-0.1**
CIMO				*e*Sg	**Sg**	**02 51 52.4**	**+0.3**
KBA	**Koelnbreinsper**	**0.53**	**54**	*i* Pg	**Pg**	**02 51 46.1**	**+0.1**
	0.6nm,0.1s						
KBA				*e*Sg	**Sg**	**02 51 52.7**	**-0.2**
	5.5nm,0.1s						
MYKA	**Terra Mystica**	**0.65**	**102**	*e*Pg	**Pg**	**02 51 48.1**	**-0.2**
	0.1nm,0.1s						
WTTA	**Wattenberg**	**0.89**	**304**	*e*Sg	**Sb**	**02 52 04.7**	**-0.2**
	2.2nm,0.2s						
WATA	**Walderalm**	**0.96**	**306**	*e*Pg	**Pn**	**02 51 54.5**	**-0.5**
	0.4nm,0.1s						
WATA				*e*Sg	**Sb**	**02 52 06.8**	**-0.2**
	1.9nm,0.2s						
BIOA	**Bad Ischl, Aus**	**1.11**	**34**	Sg	**Sn**	**02 52 12.9**	**+0.7**
	2.3nm,0.4s						
SQTA	**Sankt Quirin**	**1.13**	**294**	*e*Pg	**Pn**	**02 51 57.1**	**-0.2**
	0.3nm,0.1s						
SQTA				Sg	**Sn**	**02 52 12.8**	**+0.1**
	0.5nm,0.2s						
MOTA	**Moosalm**	**1.25**	**298**	Pg	**Pg**	**02 51 59.2**	**-0.3**
	0.2nm,0.2s						
MOTA				*e*Sg	**Sn**	**02 52 16.6**	**+0.9**
	0.2nm,0.2s						
MOA	**Molln**	**1.51**	**44**	*e*Pg	**Pg**	**02 52 04.1**	**-0.4**
	0.2nm,0.1s						
MOA				Sg	**Sg**	**02 52 25.0**	**+0.9**
	0.6nm,0.4s						

ISK ***17*** *02:51:43.5, 38°.96N×27°.40E, h8km, ML1.6/4*

DDA 17 02:51:43.8±0.0, 38°.96N×27°.33E, h7km±2km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEDA	**zmir-Bergama**	**0.20**	**273**	P	Pg	02 51 48.3	+0.5
ZEDA				S	Sg	02 51 51.8	+1.2
DKL	**Dikili**	**0.35**	**289**	PG	Pb	02 51 52.0	-0.4
DKL				SG	Sb	02 51 57.7	-0.5
AKHS	**Akhisar**	**0.38**	**102**	P	Pb	02 51 52.5	-0.4
AKHS				S	Sg	02 51 56.9	+0.6
STEP	**BALIKESIR_Sava**	**0.52**	**35**	P	Pg	02 51 54.3	+0.6
STEP				*i* AML	AML	02 51 55.0	
	comp=E,72nm,1.1s						
STEP				S	Sg	02 52 00.2	-0.3
BUHA	**Balikesir, Bur**	**0.58**	**340**	P	Pb	02 51 56.5	+0.2
AYVA	**Ayvalik**	**0.61**	**305**	P	Pg	02 51 55.7	+0.1
BLCB	**Balcova**	**0.61**	**202**	PG	Pb	02 51 56.3	-0.6
BLCB				SG	Sb	02 52 05.4	-0.3
URLA	**Izmir**	**0.83**	**224**	PG	Pb	02 52 00.8	+0.2
URLA				SG	Sn	02 52 13.4	-1.0
URLA	**Izmir**	**0.83**	**224**	P	Pb	02 52 00.6	0.0
ZEYE	**Izmir, Urla-Ze**	**0.97**	**222**	P	Pg	02 52 02.2	-0.2
ZEYE				S	Sb	02 52 16.6	+0.7
ZEYE				*i* AML	AML	02 52 28.0	
	comp=E,38nm,1.3s						
DGB	**zmir**	**0.97**	**202**	P	Pg	02 52 02.6	+0.2
BAYC	**CANAKKALE_Bayr**	**0.99**	**322**	P	Pn	02 52 04.1	-0.1
BAYC				S	Sb	02 52 16.7	+0.1
DEMI	**Demirci**	**1.08**	**85**	P	Pg	02 52 04.2	-0.3
DEMI				S	Sg	02 52 18.5	0.0
DEMI				*i* AML	AML	02 52 21.0	
	comp=N,15nm,0.7s						
DEMI				*i* AML	AML	02 52 37.0	
	comp=E,15nm,1.1s						
DURS	**Dursunbey**	**1.09**	**54**	P	Pg	02 52 04.8	0.0
DURS				S	Sg	02 52 18.8	-0.2
DURS				*i* AML	AML	02 52 40.0	
	comp=E,19nm,1.2s						
CHOS	**Chios island**	**1.15**	**241**	PN	Pn	02 52 06.8	+0.4
CHOS				SN	Sn	02 52 24.1	+1.7

ATH 17 02:52:51.0, 38°.42N×21°.87E, h15km±2km, ML0.8/2, Error ellipse: s-maj=3.0km s-min=1.0km az=89.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.03**	**71**	P	Pg	02 52 53.3	-0.2
EFP				S	Sg	02 52 55.1	-0.3
EFP				AML	AML	02 52 55.7	
	comp=N,144µm,0.2s						
EFP				AML	AML	02 52 55.7	
	comp=E,108µm,0.1s						
ANX	**Ano Chora**	**0.18**	**12**	P	Pg	02 52 55.3	-0.1
ANX				S	Sg	02 52 58.5	+0.2
LAKA	**Lakka**	**0.20**	**155**	P	Pg	02 52 55.7	+0.2
LAKA				S	Sg	02 52 58.6	0.0
KLV	**Kalavryta, Ach**	**0.43**	**150**	P	Pg	02 52 59.3	-0.4
DRO	**Drossia**	**0.48**	**196**	P	Pg	02 52 59.9	-0.7
DRO				S	Sg	02 53 07.3	+0.3
DRO				AML	AML	02 53 08.0	
	comp=E,25µm,0.4s						
DRO				AML	AML	02 53 08.1	
	comp=N,54µm,0.4s						
RLS	**Riolos of Patr**	**0.48**	**222**	P	Pg	02 53 00.2	-0.3
RLS				S	Sg	02 53 07.5	+0.5
EVR	**Evrytania**	**0.50**	**354**	P	Pg	02 53 00.4	-0.6

PRU ***17*** *02:53:21.5±0.0, 42°.85N×17°.70E, h0km*

BEO ***17*** *02:53:23.5±0.3, 43°.12N×18°.01E, h0km±2km, ML3.1/16*

PDG ***17*** *02:53:23.5±0.5, 43°.06N×18°.05E, h10km, MD3.4/9, ML3.3/14, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

LDG ***17*** *02:53:24.7±0.1, 43°.00N×18°.05E, h4km, Ml3.5/18, Error ellipse: s-maj=4.3km s-min=2.8km az=16.0*

RHSSO ***17*** *02:53:24.8±0.2, 43°.06N×18°.04E, h4km±1km, ML3.4/18*

IDC ***17*** *02:53:29.3±2.0, 43°.13N×17°.94E, h68km±22km, mb3.1/3, mb1 3.4/9, mb1mx3.2/57, mbtmp3.4/9, Error ellipse: s-maj=17.7km s-min=14.5km az=5.0*

ISC 17 02:53:23.9±0.8, 43°.06N±0°.02×18°.01E±0°.01, h17km±6km, n181, σ2§04/276, mb3.3/3, 14C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.29**	**230**	*e*Pg	**Pg**	**02 53 30.4**	**+0.2**
STON				*e*Sg	**Sg**	**02 53 33.7**	**-0.8**
STON	**Ston**	**0.29**	**230**	*e*Pg	**Pg**	**02 53 30.2**	**0.0**
STON				*e*Sg	**Sb**	**02 53 35.5**	**+0.2**
STON	**Ston**	**0.29**	**230**	*e*Pg	**Pg**	**02 53 30.1**	**-0.1**
STON				Sg	**Sg**	**02 53 35.1**	**+0.5**
DBRK	**Dubrovnik**	**0.41**	**165**	Sg	**Sb**	**02 53 38.6**	**0.0**
DBRK	**Dubrovnik**	**0.41**	**165**	*e*Pg	**Pg**	**02 53 31.4**	**-0.8**
BRY	**Bratogost**	**0.42**	**112**	*e*Pg	**Pg**	**02 53 32.3**	**-0.3**
BRY				*e*Sg	**Sg**	**02 53 38.2**	**-0.2**
BRY	**Bratogost**	**0.42**	**112**	||*i*Pg	**Pg**	**02 53 31.0**	**-1.6**
BRY				*i* Sg	**Sg**	**02 53 37.5**	**-0.9**
**TREB

DUGI	**Dugi Otok**	**2.34**	**294**	*e*Pn	**Pn**	02 54 02.8	+1.2		
DUGI				Sn	**Sb**	02 54 33.1	-1.1		
A252A	**Venje**	**2.38**	**357**	*e*Pn	**Pn**	02 54 03.1	+1.0		
FRGS	**Fruska Gora**	**2.46**	**31**	*e*Pn	**Pn**	02 54 03.6	+0.2		
VIRC	**Vir**	**2.47**	**301**	*e*Pn	**Pn**	02 54 05.1	+1.7		
PLIT	**Plitvice**	**2.50**	**317**	*e*Pn	**Pb**	02 54 06.8	-1.6		
PLIT				Sn	**Sb**	02 54 38.5	-0.4		
MATE	**Matera**	**2.60**	**202**	⇑P	**Pn**	02 54 05.1	-0.1		
SVIS	**Svilajnac**	**2.62**	**62**	*e*Pn	**Pn**	02 54 05.7	+0.3		
MOSL	**Moslavina**	**2.70**	**341**	*e*Pn	**Pn**	02 54 08.1	+1.5		
NVLJ	**Novalja**	**2.72**	**305**	*e*Pn	**Pn**	02 54 08.1	+1.3		
BARS	**Barje**	**2.81**	**94**	*e*Pn	**Pn**	02 54 10.1	+2.1		
BARS	**Barje**	**2.81**	**94**	*e*Pn	**Pb**	02 54 12.0	-1.6		
BARS				*e*Sn	**Sb**	02 54 49.3	+1.6		
OHR	**Ohrid**	**2.85**	**132**	*i* Pn	**Pb**	02 54 11.9	-2.5		
RABC	**Rab**	**2.88**	**307**	*e*Pn	**Pn**	02 54 10.7	+1.8		
KUBS	**Kucevo**	**2.98**	**62**	*e*Pn	**Pn**	02 54 11.5	+1.1		
A250A	**Rusevo Krmpots**	**3.01**	**313**	*e*Pn	**Pn**	02 54 12.8	+2.0		
KOVH	**Kovagotottos**	**3.03**	**1**	P	**Pn**	02 54 11.8	+0.8		
ZAG	**Zagreb**	**3.12**	**333**	*e*Pn	**Pn**	02 54 14.4	+2.1		
ZAG				*e*Sn	**Sn**	02 54 51.9	+2.7		
ZAG	**Zagreb**	**3.12**	**333**	*e*Pn	**Pn**	02 54 14.3	+2.1		
OZLJ	**Ozalj**	**3.14**	**325**	*e*Pn	**Pn**	02 54 14.9	+2.4		
BOJS	**Bojanci**	**3.14**	**322**	*i* Pn	**Pn**	02 54 15.4	+2.8		
BOJS				*i* Sn	**Sb**	02 54 54.9	-2.4		
ZAGS	**Zajecar**	**3.17**	**75**	*e*Pn	**Pn**	02 54 13.9	+0.9		
ZAGS				*e*Sn	**Sn**	02 54 51.3	+0.9		
MDVR	**Moldovita**	**3.18**	**56**	⇑P	**Pn**	02 54 14.3	+1.0		
MORH	**Mrgy, Hungar**	**3.19**	**8**	P	**Pn**	02 54 13.8	+0.6		
PTJ	**Puntijarka**	**3.20**	**334**	*e*Pn	**Pn**	02 54 14.9	+1.4		
KALN	**Kalnik**	**3.26**	**341**	*e*Pn	**Pn**	02 54 15.5	+1.1		
CRES	**Cresnjev**	**3.31**	**327**	*e*Pn	**Pn**	02 54 17.4	+2.4		
CRES				*e*Sn	**Sn**	02 54 57.1	+3.1		
BOSS	**Bosilegrad**	**3.34**	**98**	*e*Pn	**Pn**	02 54 17.0	+1.6		
BOSS				*e*Sn	**Sn**	02 54 56.5	+1.8		
STIP	**Stip**	**3.38**	**112**	*i* Pn	**Pn**	02 54 19.6	+3.7		
LOBO	**Lobor**	**3.39**	**337**	*e*Pn	**Pn**	02 54 17.7	+1.7		
RIY	**Rijeka**	**3.40**	**313**	*e*Pn	**Pn**	02 54 18.7	+2.6		
RIY				*e*Sn	**Sn**	02 54 58.9	+2.9		
RIY	**Rijeka**	**3.40**	**313**	*e*Pn	**Pn**	02 54 18.4	+2.3		
SMRN	**Sveta Marina**	**3.41**	**307**	*e*Pn	**Pn**	02 54 17.8	+1.5		
BLKB	**Belogradchik**	**3.45**	**79**	⇑P	**Pn**	02 54 17.5	+0.6		
BLKB				⇓S	**Sn**	02 55 00.2	+2.7		
AQU	**L'Aquila**	**3.47**	**260**	*e*Pn	**Pn**	02 54 19.2	+2.1		
AQU				*e*Sn	**Sn**	02 55 00.9	+3.1		
BRJN	**Brijuni**	**3.58**	**302**	*e*Pn	**Pn**	02 54 20.4	+1.7		
BZS	**Buzias**	**3.64**	**44**	⇓P	**Pn**	02 54 20.8	+1.3		
HERR	**Herculane**	**3.67**	**59**	⇑P	**Pn**	02 54 21.1	+1.2		
CEY	**Cerknica**	**3.71**	**317**	*e*Pn	**Pn**	02 54 23.0	+2.6		
CEY				*e*Sn	**Sn**	02 55 06.9	+3.2		
SKDS	**Skadanscina**	**3.79**	**312**	*e*Pn	**Pn**	02 54 23.6	+2.0		
SKDS				*e*Sn	**Sn**	02 55 08.5	+2.7		
SKDS	**Skadanscina**	**3.79**	**312**	*i* Pn	**Pn**	02 54 23.3	+1.7		
SKDS				*i* Sn	**Sn**	02 55 08.7	+2.9		
VAY	**Valandovo**	**3.81**	**116**	*i* Pn	**Pn**	02 54 24.8	+3.0		
VNDS	**Vrh nad Dolski**	**3.85**	**323**	*i* Pn	**Pn**	02 54 25.4	+3.1		
VTS	**Vitosha**	**3.87**	**95**	⇓P	**Pn**	02 54 23.5	+0.7		
LJU	**Ljubljana**	**3.88**	**321**	*e*Pn	**Pn**	02 54 25.5	+2.7		
LJU				*e*Sn	**Sn**	02 55 10.5	+2.5		
SRE	**Strehaia**	**4.08**	**65**	⇑P	**Pn**	02 54 25.8	+0.2		
MPLH	**Magyarpolny**	**4.12**	**356**	P	**Pn**	02 54 27.7	+1.6		
GZR	**Gura Zlata**	**4.14**	**54**	⇓P	**Pn**	02 54 27.3	+0.8		
SOKA	**Soboth**	**4.19**	**331**	*i* Pn	**Pn**	02 54 29.5	+2.4		
	14nm,0.3s,SNR=8.9								
SOKA				*e*Sn	**Sn**	02 55 17.1	+1.4		
	14nm,0.5s								
OBKA	**Obir**	**4.24**	**326**	*e*Pn	**Pn**	02 54 31.0	+3.3		
	4.3nm,0.3s,SNR=7.4								
OBKA	**Obir**	**4.24**	**326**	*e*Pn	**Pn**	02 54 29.8	+2.1		
OBKA				*e*Sn	**Sn**	02 55 19.3	+2.5		
GORS	**Gorjuse**	**4.33**	**320**	*i* Pn	**Pn**	02 54 31.3	+2.2		
BUD	**Budapest**	**4.48**	**9**	P	**Pn**	02 54 31.9	+0.9		
ROBS	**Robic**	**4.52**	**316**	*i* Pn	**Pn**	02 54 33.3	+1.8		
ARSA	**Arzberg**	**4.54**	**338**	*e*Pn	**Pn**	02 54 34.0	+2.1		
	17nm,0.4s,SNR=27								
ARSA	**Arzberg**	**4.54**	**338**	*e*Pn	**Pn**	02 54 33.3	+1.4		
ARSA				*e*Sn	**Sn**	02 55 25.9	+1.6		
MYKA	**Terra Mystica**	**4.73**	**320**	*e*Pn	**Pn**	02 54 36.7	+2.2		
	2.4nm,0.4s								
SRO	**Srobarova**	**4.76**	**2**	*e*PN	**Pn**	02 54 38.0	+3.2		
RONA	**Rosalia, Austr**	**4.79**	**346**	*e*Pn	**Pn**	02 54 37.4	+2.0		
	4.4nm,0.4s,SNR=7.7								
RONA				*e*Sn	**Sn**	02 55 31.2	+0.8		
	3.0nm,0.4s								
PSZ	**Piszkesteto**	**5.04**	**15**	⇑P	**Pn**	02 54 39.0	+0.3		
PSZ	**Piszkesteto**	**5.04**	**15**	P	**Pn**	02 54 38.8	+0.1		
CONA	**Conrad Observa**	**5.09**	**344**	*e*Pn	**Pn**	02 54 41.9	+2.4		
	1.7nm,0.3s,SNR=11								
CONA				*e*Sn	**Sn**	02 55 37.7	-0.3		
	6.9nm,0.6s								
ZST	**Bratislava**	**5.17**	**353**	*e*PN	**Pn**	02 54 42.2	+1.7		
ZST				*e*SN	**Sn**	02 55 40.6	+0.8		
KBA	**Koelnbreinsper**	**5.20**	**322**	*e*Sn	**Sn**	02 55 43.8	+3.2		
	8.0nm,0.5s								
ARR	**Arges**	**5.29**	**62**	⇑P	**Pn**	02 54 43.5	+1.3		
MODS	**Modra-Piesok**	**5.34**	**355**	*e*PN	**Pn**	02 54 44.4	+1.6		
MODS				*e*SN	**Sn**	02 55 44.6	+0.7		
ABTA	**Abfaltersbach**	**5.37**	**315**	*e*Pn	**Pn**	02 54 45.2	+1.9		
	2.3nm,0.4s,SNR=7.4								
CJR	**Cluj-Napoca**	**5.39**	**45**	⇓P	**Pn**	02 54 44.2	+0.6		
MOA	**Molin**	**5.46**	**333**	*i* Pn	**Pn**	02 54 47.5	+3.0		
	3.1nm,0.2s,SNR=25								
MOA				*e*Sn	**Sn**	02 55 48.2	+1.2		
	18nm,0.5s								
VYHS	**Vyhne**	**5.46**	**6**	*e*PN	**Pn**	02 54 46.1	+1.6		
VYHS				*e*SN	**Sn**	02 55 48.5	+1.5		
SMOL	**Smolenice**	**5.47**	**356**	*e*PN	**Pn**	02 54 46.0	+1.4		
SMOL				*e*SN	**Sn**	02 55 46.7	-0.4		
KOLL	**Kolacno**	**5.52**	**3**	*e*PN	**Pn**	02 54 46.9	+1.6		
KOLL				*e*SN	**Sn**	02 55 47.2	-1.2		
BIOA	**Bad Ischl, Aus**	**5.56**	**328**	*e*Pn	**Pn**	02 54 48.2	+2.4		
	4.2nm,0.3s,SNR=13								
VOIR		**5.59**	**62**	⇑P	**Pn**	02 54 46.9	+0.6		
KECS	**Kecovo**	**5.69**	**17**	*e*PN	**Pn**	02 54 49.9	+2.2		
KECS				*e*SN	**Sn**	02 55 51.6	-1.0		
KRUC	**Moravsky**	**6.11**	**350**	*e*PN	**Pn**	02 54 53.7	+0.4		
KRUC				*e*SN	**Sn**	02 56 05.3	+2.6		
WTTA	**Wattenberg**	**6.16**	**315**	*e*Pn	**Pn**	02 54 57.0	+2.8		
	4.0nm,0.3s								
LANS	**Liptovska Anna**	**6.17**	**9**	*e*PN	**Pn**	02 54 57.3	+3.0		
MLR	**Muntele Rosu**	**6.19**	**64**	⇑P	**Pn**	02 54 55.2	+0.5		
MLR	**Muntele Rosu**	**6.19**	**64**	P	**Pn**	02 54 59.1	+4.4		
	baz=320,slow=12								
MLR				S	**Sn**	02 56 08.4	+3.3		
	baz=227,slow=19								
WATA	**Walderalm**	**6.24**	**315**	*e*Pn	**Pn**	02 54 57.9	+2.6		
	2.7nm,0.2s,SNR=10.0								
CKRC	**Cesky Krumlov**	**6.31**	**337**	*e*PN	**Pn**	02 54 56.5	+0.4		
CKRC				*e*SN	**Sn**	02 56 07.5	-0.3		
VRAC	**Vranov**	**6.32**	**352**	P	**Pn**	02 54 58.3	+2.0		
	0.3nm,0.3s,baz=160,slow=12,SNR=1.7								
VRAC				S	**Sn**	02 56 08.7	+0.6		
	0.5nm,0.3s,baz=172,slow=7.9,SNR=2.1								
SQTA	**Sankt Quirin**	**6.36**	**313**	*e*Pn	**Pn**	02 54 59.8	+2.9		
	3.3nm,0.4s,SNR=10								
MOTA	**Moosalm**	**6.49**	**314**	*e*Pn	**Pn**	02 55 00.6	+1.9		
	2.3nm,0.3s,SNR=8.6								
GERES	**GERESS Array B**	**6.51**	**334**	P	**Pn**	02 55 02.1	+3.1		
	1.2nm,0.3s,baz=156,slow=14,SNR=26								
GERES				S	**Sn**	02 56 14.2	+1.2		
	1.9nm,0.3s,baz=135,slow=23,SNR=14								
PGF	**Pioggiola**	**6.64**	**269**	*e*Pn	**Pn**	02 55 02.9	+2.0		
MORC	**Moravsky Berou**	**6.72**	**357**	⇑P	**Pn**	02 55 02.3	+0.4		
RETA	**Reutte**	**6.76**	**313**	*e*Pn	**Pn**	02 55 05.1	+2.7		
	0.8nm,0.3s								
KHC	**Kasperske Hory**	**6.80**	**335**	*e*PN	**Pn**	02 55 03.2	+0.2		
KHC				*e*SN	**Sn**	02 56 19.7	-0.3		
BURAR	**Bucovina Array**	**6.82**	**46**	⇑P	**Pn**	02 55 05.4	+2.2		
DAVOX	**Davos/Dischmat**	**6.86**	**306**	P	**Pn**	02 55 05.8	+1.9		
	0.3nm,0.3s,baz=136,slow=15,SNR=3.2								
DAVOX				S	**Sn**	02 56 22.9	+1.2		
	0.5nm,0.3s,baz=119,slow=20,SNR=1.7								
DPC	**Dobruska-Polom**	**7.38**	**352**	*e*PN	**Pn**	02 55 11.4	+0.5		
DPC				*e*SN	**Sn**	02 56 34.8	+0.6		
OSTC	**Ostas**	**7.60**	**351**	*e*SN	**Sn**	02 56 40.6	+1.1		
SBF	**Sospel**	**7.73**	**280**	*e*Pn	**Pn**	02 55 17.3	+1.6		
SBF				*e*Sn	**Sn**	02 56 39.0	-3.9		
	4.7nm,0.4s								
MBDF	**Montbardon**	**8.28**	**285**	*e*Pn	**Pn**	02 55 25.0	+1.6		
MBDF	**Montbardon**	**8.28**	**285**	*e*P	Pn	02 55 29.5	+6.1		
MBDF				*e*Sn	**Sn**	02 56 51.7	-4.9		
	4.6nm,0.5s								

BRG	**Berggiesshubel**	**8.29**	**342**	(Sg)	Sn	02 57 07.8	+11		
BRG				Amp		02 57 34.9			
	comp=Z,2.3nm,0.7s								
FRF	**La Foret Royal**	**8.30**	**277**	*e*Pn	**Pn**	02 55 25.0	+1.5		
FRF				*e*Sn	**Sn**	02 56 53.9	-2.9		
	comp=Z,0.7nm,0.3s								
LMR	**La Mourre**	**8.41**	**276**	*e*Pn	**Pn**	02 55 23.9	-1.0		
LMR				*e*Sn	**Sn**	02 56 57.8	-1.6		
	comp=Z,0.9nm,0.3s								
LPG	**La Plagne**	**8.44**	**291**	*e*Pn	**Pn**	02 55 26.0	+0.4		
LPG				*e*Sn	**Sn**	02 56 54.7	-5.8		
	comp=Z,11nm,0.6s								
LPL	**La Plagne**	**8.45**	**291**	*e*Pn	**Pn**	02 55 26.7	+1.0		
LPL	**La Plagne**	**8.45**	**291**	*e*P	Pn	02 55 31.1	+5.4		
LPL				*e*Sn	**Sn**	02 56 54.2	-6.6		
	comp=Z,6.5nm,0.4s								
ORIF	**Oris-en-Rattie**	**8.94**	**286**	*e*Pn	**Pn**	02 55 32.4	+0.1		
ORIF	**Oris-en-Rattie**	**8.94**	**286**	*e*P	Pn	02 55 38.2	+5.9		
ORIF				*e*Sn	**Sn**	02 57 07.6	-5.0		
	comp=Z,3.6nm,0.4s								
SMRF	**Simiane la Rot**	**9.08**	**280**	*e*Pn	Pn	02 55 39.2	+5.0		
HINF	**Hinteld**	**9.17**	**305**	*e*Sn	**Sn**	02 57 12.6	-5.5		
	comp=Z,1.7nm,0.3s								
CDF	**Champ du Feu**	**9.21**	**309**	*e*Pn	**Pn**	02 55 37.6	+1.6		
IDI	**Anoyia**	**9.42**	**143**	⇑P	**Pn**	02 55 38.7	-0.3		
HAU	**Haudompre**	**9.55**	**305**	*e*Pn	**Pn**	02 55 38.1	-2.6		
HAU				*e*Sn	**Sn**	02 57 21.9	-5.7		
	comp=Z,11nm,0.6s								
VIVF	**Saint-Julien-l**	**9.78**	**285**	*e*Pn	**Pn**	02 55 43.6	-0.2		
VIVF	**Saint-Julien-l**	**9.78**	**285**	*e*P	Pn	02 55 49.5	+5.7		
VIVF				*e*Sn	**Sn**	02 57 25.6	-7.6		
	comp=Z,0.8nm,0.3s								
KEST	**Kesra**	**9.92**	**225**	P	**Pn**	02 55 49.8	+4.0		
	comp=Z,0.1nm,0.3s,baz=334,slow=14,SNR=4.0								
SMF	**Signal de Mont**	**10.68**	**294**	*e*Pn	**Pn**	02 55 55.2	-0.8		
SMF				*e*Sn	**Sn**	02 57 48.8	-6.3		
	comp=Z,3.5nm,0.5s								
LOR	**Lormes**	**10.84**	**298**	*e*Pn	**Pn**	02 55 56.4	-1.8		
	baz=115								
LOR				*e*Sn	**Sn**	02 57 51.8	-7.2		
	comp=Z,5.1nm,0.4s								
SSF	**Saint Saulge**	**11.01**	**296**	*e*Pn	**Pn**	02 56 03.3	+2.8		
SSF				*e*Sn	**Sn**	02 57 55.1	-8.1		
	comp=Z,3.2nm,0.5s								
AVF	**Avril sur Loir**	**11.04**	**295**	*e*Pn	**Pn**	02 56 01.3	+0.4		
AVF				*e*Sn	Sn	02 57 54.5	-9.4		
	comp=Z,0.7nm,0.4s								
BGF	**Bois d'Agland**	**11.32**	**293**	*e*Pn	**Pn**	02 56 02.2	-2.6		
BGF				*e*Sn	**Sn**	02 58 04.8	-6.1		
	comp=Z,2.9nm,0.4s								
TCF	**Toulx Ste Croi**	**11.70**	**291**	*e*Sn	**Sn**	02 58 12.4	-7.8		
	comp=Z,0.4nm,0.2s								
FINES	**FINESS Array B**	**19.03**	**12**	P	**Pn**	02 57 45.3	-0.3		
	comp=Z,0.1nm,0.3s,baz=197,slow=10.0,SNR=6.9								
TORD	**Torodi Ar. Bea**	**32.97**	**210**	P	**P**	02 59 57.5	-0.3		
	comp=Z,0.2nm,0.7s,baz=19,slow=8.7,SNR=2.1								
YKA	**Yellowknife Ar**	**68.15**	**338**	P	**P**	03 04 21.8	-0.8		
	comp=Z,0.1nm,0.4s,baz=38,slow=5.4,SNR=2.2								
CMAR	**Chiang Mai Arr**	**71.11**	**82**	P	**P**	03 04 40.6	-1.0		
	comp=Z,0.4nm,0.3s,baz=307,slow=7.9,SNR=4.4								

ATH 17 02:54:39.9, 38°.42N×21°.90E, h8km±2km, ML1.3/2, Error ellipse: s-maj=9.0km s-min=1.0km az=260.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.01**	**32**	P	Pg	02 54 41.2	-0.2
EFP				S	Sg	02 54 42.4	-0.1
EFP				AML	AML	02 54 42.8	
	comp=E,980μm,0.1s						
EFP				AML	AML	02 54 42.8	
	comp=N,2927μm,0.2s						
ANX	**Ano Chora**	**0.18**	**6**	P	Pg	02 54 43.5	-0.2
ANX				S	Sg	02 54 46.4	+0.2
ANX				AML	AML	02 54 46.9	
	comp=E,209μm,0.1s						
ANX				AML	AML	02 54 47.3	
	comp=N,173μm,0.4s						
LAKA	**Lakka**	**0.19**	**160**	P	Pg	02 54 43.8	+0.1
LAKA				S	Sg	02 54 46.7	+0.3
KLV	**Kalavryta, Ach**	**0.42**	**152**	P	Pg	02 54 47.8	-0.4
KLV				S	Sg	02 54 53.7	0.0

*NEIC **17** 03:05:33.9±1.7, 0°.32N±0°.05×80°.25W±0°.06, h10km±1km, mb4.6/46, Error ellipse: s-maj=10.9km s-min=8.9km az=279.0*
*IGQ **17** 03:05:34±0.6, 0°N±2°×8°W±°, h8km*
*IDC **17** 03:05:38.0±3.0, 0°.30N×80°.19W, h56km±28km, mb3.8/15, mb1 4.0/17, mb1mx3.9/32, mbtmp4.1/17, ML3.0/2, Error ellipse: s-maj=23.2km s-min=12.2km az=57.0*
*VAO **17** 03:05:49.7±1.4, 0°.03N×79°.42W, h100km, mb4.6*

ISC 17 03:05:33.3±1.2, 0°.34N±0°.03×80°.33W±0°.04, h15km±7km, n207, σ1°73/221, mb4.4/29, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.61**	**168**	P	**Pg**	03 05 45.0	-0.3
JAMA				S	**Sg**	03 05 55.0	+1.5
MAG1	**Magdalena**	**0.69**	**126**	P	**Pg**	03 05 47.0	+0.2
AV21	**Acelerografo,**	**0.84**	**68**	P	**Pg**	03 05 49.0	-0.8
AMA1	**Acelerografo,**	**0.84**	**46**	P	**Pg**	03 05 49.0	-0.8
AMA1				S	**Sn**	03 06 04.0	+1.1
FLF1	**Flavio Alfaro-**	**0.84**	**145**	P	**Pg**	03 05 50.0	+0.2
FLF1				S	**Sn**	03 06 05.0	+2.0
AV18	**Acelerografo,**	**0.85**	**92**	P	**Pg**	03 05 50.0	+0.1
BV15	**Puerto Quito-O**	**1.12**	**99**	P	**Pg**	03 05 53.0	-2.0
BV15				S	**Sn**	03 06 11.0	+1.3
ASDO	**Santo Domingo**	**1.34**	**116**	P	**Pn**	03 05 56.0	-1.7
APR2	**Miler**	**1.39**	**101**	P	**Pn**	03 05 57.0	-1.3
APR1	**Acelerografo,**	**1.76**	**103**	P	**Pn**	03 06 03.0	-0.6
HPAL	**Hacienda Las P**	**1.77**	**108**	P	**Pn**	03 06 03.0	-0.7
PINO	**Pino**	**1.79**	**106**	P	**Pn**	03 06 04.0	-0.3
GGPT	**Toaza - Volcan**	**1.80**	**108**	P	**Pn**	03 06 03.0	-1.2
GGPT				S	**Sn**	03 06 28.0	+1.0
TERV	**Terraza Guagua**	**1.80**	**106**	P	**Pn**	03 06 04.0	-0.3
GGPC	**Guagua Pichinc**	**1.81**	**107**	P	**Pn**	03 06 04.0	-0.5
JUA2	**San Juan 2**	**1.81**	**108**	P	**Pn**	03 06 04.0	-0.4
YANA	**Yana**	**1.81**	**104**	P	**Pn**	03 06 04.0	-0.5
PULU	**Pululahua**	**1.85**	**100**	P	**Pn**	03 06 05.0	0.0
OTAV	**Otavalo**	**1.88**	**93**		**Pn**	03 06 05.5	+0.1
ILLI	**Illinizas Sur**	**1.91**	**123**	P	**Pn**	03 06 05.0	-0.9
EPNL	**EPN Laboratori**	**1.92**	**107**	P	**Pn**	03 06 06.0	+0.2
CUSE	**Cuicocha Este**	**1.93**	**91**	*e*P	**Pn**	03 06 06.7	+0.6
CUSE				*e*S	**Sb**	03 06 33.6	+1.0
CUSE				*i*		03 06 39.1	
	comp=Z,18μm,0.4s						
CUSE	**Cuicocha Este**	**1.93**	**91**	P	**Pn**	03 06 06.0	0.0
CUIC	**Cuicocha-Domo**	**1.97**	**91**	P	**Pn**	03 06 07.0	+0.5
PAST	**Pastocalle**	**1.97**	**121**	P	**Pn**	03 06 06.0	-0.7
CUSW	**Cuicocha Oeste**	**1.98**	**92**	P	**Pn**	03 06 07.0	+0.3
COTA	**Cotacachi**	**1.99**	**90**	P	**Pn**	03 06 07.0	0.0
AV11	**Acelerografo,**	**2.00**	**102**	P	**Pn**	03 06 08.0	+1.1
ALIT	**Ecuador-Imbabu**	**2.02**	**77**	P	**Pn**	03 06 06.0	-1.0
LITE1	**Lita**	**2.02**	**77**	P	**Pn**	03 06 07.0	0.0
SRAM	**San Ramn-Vol**	**2.07**	**122**	P	**Pn**	03 06 08.0	+0.1
TOMA	**Boca Toma-Volc**	**2.07**	**114**	P	**Pn**	03 06 08.0	0.0
URCU	**Urcuqui**	**2.08**	**87**	P	**Pn**	03 06 08.0	0.0
SUCR	**Mariscal Sucre**	**2.08**	**118**	P	**Pn**	03 06 08.0	-0.1
CAMI	**Rancho Maria**	**2.08**	**119**	P	**Pn**	03 06 09.0	+0.8
PITA	**Cotopaxi Volc**	**2.10**	**115**	P	**Pn**	03 06 09.0	+0.6
NAS2	**Nasa**	**2.10**	**118**	P	**Pn**	03 06 09.0	+0.5
BNAS	**Cotopaxi Volca**	**2.10**	**119**	P	**Pn**	03 06 09.0	+0.5
SLOR	**San Lorenzo -**	**2.12**	**120**	P	**Pn**	03 06 09.0	+0.3
BREF	**Cotopaxi Volca**	**2.14**	**118**	P	**Pn**	03 06 10.0	+0.9
BMOR	**Cotopaxi Volca**	**2.15**	**120**	P	**Pn**	03 06 10.0	+0.8
BVC2	**Cotopaxi Volca**	**2.16**	**117**	P	**Pn**	03 06 10.0	+0.7
VC1	**Cotopaxi 1**	**2.16**	**117**	P	**Pn**	03 06 10.0	+0.7
BRRN	**Barrancas-Volc**	**2.16**	**121**	P	**Pn**	03 06 10.0	+0.7
BTAM	**Cotopaxi Volca**	**2.18**	**118**	P	**Pn**	03 06 10.0	+0.4
TAMB	**Tambo**	**2.21**	**118**	P	**Pn**	03 06 11.0	+1.0
AIB2	**Ibarra (Univer**	**2.22**	**90**	P	**Pn**	03 06 11.0	+1.0
ANTG	**Antisana-Guama**	**2.24**	**112**	P	**Pn**	03 06 11.0	+0.6
VCES	**Cotopaxi**	**2.24**	**120**	P	**Pn**	03 06 11.0	+0.6
YAHU	**Yahuarcocha**	**2.26**	**89**	P	**Pn**	03 06 12.0	+1.5
ANTM	**Antisana-La Mi**	**2.28**	**112**	P	**Pn**	03 06 12.0	+1.1
ANTI	**Antisana**	**2.30**	**110**	P	**Pn**	03 06 12.0	+0.7
ANTS	**Antisana-Sarah**	**2.31**	**111**	P	**Pn**	03 06 12.0	+0.5
CHMA	**Chilma**	**2.32**	**77**	P	**Pn**	03 06 11.0	-0.4
CHSH	**Refugio Sur-Vo**	**2.33**	**141**	P	**Pn**	03 06 12.0	+0.3
ANGU	**Angureal**	**2.34**	**97**	P	**Pn**	03 06 14.0	+2.2
CAYR	**Refugio Cayamb**	**2.34**	**98**	P	**Pn**	03 06 13.0	+1.1
CAYA	**Cayambe**	**2.35**	**96**	P	**Pn**	03 06 13.0	+1.0
LNGL	**El Angel-Carch**	**2.36**	**80**	P	**Pn**	03 06 12.0	0.0
PORT	**Chimborazo Vol**	**2.37**	**139**	P	**Pn**	03 06 12.0	-0.3
ECEN	**Cerro Negro**	**2.41**	**78**	P	**Pn**	03 06 13.0	+0.3
CHL1	**Volc¡n Chiles**	**2.42**	**79**	P	**Pn**	03 06 13.0	0.0
TAMH	**Tambohuasha Ch**	**2.43**	**140**	P	**Pn**	03 06 13.0	+0.1
CHL2	**Volc¡n Chiles**	**2.45**	**79**	P	**Pn**	03 06 13.0	-0.3
PIAT	**Ana Tenorio**	**2.46**	**123**	P	**Pn**	03 06 14.0	+0.7
IGUA	**Igualata**	**2.48**	**137**	P	**Pn**	03 06 14.0	+0.2
BIL2	**Estacion Bilba**	**2.55**	**134**	P	**Pn**	03 06 16.0	+1.5
JUI6	**Juive**	**2.56**	**133**	P	**Pn**	03 06 15.0	+0.5
BBIL	**Ulba Tungurahu**	**2.56**	**134**	P	**Pn**	03 06 15.0	+0.4
POND	**Pondoa**	**2.56**	**133**	P	**Pn**	03 06 15.0	+0.3
AMIL	**Milagro (Trans**	**2.56**	**163**	P	**Pn**	03 06 15.0	+0.6
TULM	**Tulcn-Chalpat**	**2.57**	**82**	Pn	**Pn**	03 06 16.2	+1.3
TULM	**Tulcn-Chalpat**	**2.57**	**82**	*e*P	**Pn**	03 06 17.4	+2.5
TULM				*e*S	**Sb**	03 06 52.2	+1.2
TULM				*i*		03 07 01.6	
	comp=Z,996nm,0.6s						
TULM	**Tulcn-Ch

SNDB	**Serra Nova Dou**	**31.32**	**114**	*eP*	**P**	**03 11 52.5**	**-0.8**
AQDB	**Aquidauana**	**31.76**	**132**	P	**P**	**03 11 56.9**	**-0.4**
AQDB				IAmb	IAmb	03 12 11.0	
	comp=Z,15nm,1.4s						
AQDB	**Aquidauana**	**31.76**	**132**	*eP*	**P**	**03 11 56.9**	**-0.4**
PEXB	**Peixe**	**34.11**	**112**	*eP*	**P**	**03 12 17.2**	**-0.8**
BDFB	**Brasilia**	**35.65**	**118**	P	**P**	**03 12 28.9**	**-2.3**
	comp=Z,5.0nm,0.8s,baz=310,slow=10,SNR=9.5						
BDFB	**Brasilia**	**35.65**	**118**	P	**P**	**03 12 30.8**	**-0.5**
BDFB				IAmb	IAmb	03 12 46.9	
	comp=Z,5.9nm,0.9s						
HBAR	**Harrisburg**	**36.33**	**346**	P	**P**	**03 12 38.0**	**+1.2**
TXAR	**Lajitas Array**	**36.43**	**324**	P	**P**	**03 12 38.8**	**+1.1**
	comp=Z,0.9nm,1.1s,baz=116,slow=14,SNR=4.0						
TXAR				PcP	**PcP**	**03 15 00.8**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=73,slow=6.0,SNR=4.0						
IPMB	**Ipameri, GO**	**36.46**	**122**	*eP*	**P**	**03 12 37.2**	**-0.9**
SDBA	**SAO DESIDERIO**	**37.36**	**111**	*eP*	**P**	**03 12 44.6**	**-1.3**
BB19B	**Bebedouro**	**37.66**	**126**	*eP*	**P**	**03 12 46.4**	**-1.9**
U40A	**Yellville**	**37.68**	**343**	P	**P**	**03 12 48.0**	**-0.2**
JANB	**Januaria**	**38.75**	**115**	*eP*	**P**	**03 12 56.0**	**-1.6**
MNTX	**Cornudas Mount**	**39.17**	**325**	P	**P**	**03 13 01.7**	**+0.9**
PLCA	**Paso Flores**	**41.84**	**169**	P	**P**	**03 13 22.0**	**-0.8**
	comp=Z,5.9nm,1.0s,baz=344,slow=10,SNR=6.8						
PLCA	**Paso Flores**	**41.84**	**169**	IAmb	IAmb	03 13 24.1	
	comp=Z,9.1nm,1.1s						
ANMO	**Albuquerque**	**42.19**	**327**	P	**P**	**03 13 27.0**	**+1.0**
GDU01	**Guandu, BA**	**42.71**	**111**	*eP*	**P**	**03 13 29.9**	**-0.4**
T25A	**Trinidad**	**42.85**	**331**	IAmb	IAmb	03 13 36.5	
	comp=Z,9.3nm,1.2s						
NBLA	**Lagarto - SE**	**43.75**	**106**	*eP*	**P**	**03 13 37.1**	**-1.6**
RIB01	**Linhares ES**	**43.76**	**119**	*eP*	**P**	**03 13 36.4**	**-2.3**
SDCO	**Great Sand Dun**	**43.86**	**331**	P	**P**	**03 13 40.8**	**+1.2**
X16A	**Lo Mia Camp, P**	**44.68**	**323**	P	**P**	**03 13 48.2**	**+2.2**
WUAZ	**Wupatki**	**45.39**	**324**	IAmb	IAmb	03 13 55.5	
	comp=Z,6.2nm,1.0s						
PV11	**David Mesa, Pa**	**45.99**	**328**	P	**P**	**03 13 58.0**	**+1.5**
PV11				IAmb	IAmb	03 13 59.6	
	comp=Z,10.0nm,1.3s						
TKX	**Tecate**	**46.86**	**317**	P	**P**	**03 14 04.2**	**+1.1**
PDAR	**Pinedale Array**	**49.72**	**332**	P	**P**	**03 14 25.1**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=110,slow=11,SNR=2.9						
PDAR				PcP	**PcP**	**03 15 45.0**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=127,slow=2.4,SNR=2.5						
PDAR	**Pinedale Array**	**49.72**	**332**	P	**P**	**03 14 25.5**	**+0.2**
HWUT	**Hardware Ranch**	**49.83**	**329**	IAmb	IAmb	03 14 26.6	
	comp=Z,3.2nm,0.6s						
NV11	**Mina Array Sit**	**51.39**	**322**	P	**P**	**03 14 39.4**	**+1.4**
NVAR	**Mina Array Bea**	**51.48**	**322**	P	**P**	**03 14 40.2**	**+1.5**
	comp=Z,2.9nm,1.1s,baz=131,slow=6.5,SNR=14						
KVN	**Kaiserville**	**51.74**	**323**	P	**P**	**03 14 42.1**	**+1.5**
YKA	**Yellowknife Ar**	**67.12**	**344**	P	**P**	**03 16 25.3**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=133,slow=6.0,SNR=18						
DBIC	**Dimbokro**	**75.53**	**83**	P	P	03 17 14.6	-3.4
	comp=Z,6.4nm,1.2s,baz=284,slow=7.8,SNR=3.2						
DBIC	**Dimbokro**	**75.53**	**83**	P	**P**	**03 17 15.7**	**-2.3**
KOWA	**Kowa**	**76.66**	**75**	P	**P**	**03 17 24.3**	**-0.1**
INK	**Inuvik**	**76.81**	**342**	P	**P**	**03 17 24.5**	**+0.4**
INK				IAmb	IAmb	03 17 24.8	
	comp=Z,4.4nm,1.1s						
A36M	**Sachs Harbour**	**76.94**	**347**	P	**P**	**03 17 23.9**	**-0.9**
A36M				IAmb	IAmb	03 17 30.3	
	comp=Z,4.8nm,1.1s						
BCAR	**Beaver Creek A**	**77.12**	**336**	P	**P**	**03 17 26.8**	**+0.7**
EGAK	**Eagle**	**77.63**	**337**	P	**P**	**03 17 29.2**	**+0.4**
EGAK				IAmb	IAmb	03 17 30.9	
	comp=Z,8.2nm,1.3s						
ESDC	**Sonseca Array**	**79.30**	**50**	P	**P**	**03 17 39.0**	**+0.2**
	comp=Z,2.8nm,1.0s,baz=266,slow=6.2,SNR=14						
ESDC	**Sonseca Array**	**79.30**	**50**	P	**P**	**03 17 38.8**	**0.0**
ESDC				IAmb	IAmb	03 17 40.2	
	comp=Z,7.4nm,1.3s						
IL31		**79.88**	**336**	P	**P**	**03 17 42.6**	**+1.5**
ILAR	**Eielson Array**	**79.88**	**336**	P	**P**	**03 17 40.5**	**-0.8**
	comp=Z,0.8nm,1.0s,baz=119,slow=4.2,SNR=5.5						
TOA0	**Torodi Ar. Sit**	**82.15**	**77**	P	**P**	**03 17 53.5**	**-0.9**
TOA0				IAmb	IAmb	03 18 21.9	
	comp=Z,3.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.15**	**77**	P	**P**	**03 17 53.4**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=279,slow=6.7,SNR=14						
TORD	**Torodi Ar. Bea**	**82.15**	**77**	P	**P**	**03 17 53.4**	**-1.0**
TORD				IAmb	IAmb	03 17 54.0	
	comp=Z,2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**124.51**	**11**	PKP	**PKPdf**	**03 24 31.3**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=143,slow=0.7,SNR=5.3						
MKAR	**Makanchi Array**	**130.65**	**16**	PKP	**PKPdf**	**03 24 42.1**	**-2.0**
	comp=Z,0.9nm,0.9s,baz=170,slow=0.7,SNR=4.0						
ASAR	**Alice Springs**	**139.50**	**233**	PKP	**PKPdf**	**03 24 59.2**	**-2.1**
	comp=Z,0.3nm,0.7s,baz=128,slow=2.2,SNR=2.1						
WRA	**Warramunga Arr**	**140.87**	**238**	PKP	**PKPdf**	**03 25 03.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=108,slow=2.4,SNR=12						
PZH	**PanZhiHua**	**153.24**	**356**	PKPbc	**PKPdf**	**03 25 22.9**	**-1.4**

*JMA **17** 03:09:31.9, 33.°60N × 132.°09E, h66km ± 1km, M3.9*
Broadband fault plane solution: P waves. NP1:
ϕ_s173.00000°, δ60.00000°, λ-92.00000°. NP2:
ϕ_s358.00000°, δ30.00000°, λ-86.00000°. Principal axes:
T Plg15.0000°, Azm265.0000°; N Plg2.0000°,
Azm174.0000°; P Plg75.0000°, Azm77.0000°;

JMA Felt II J1.

*IDC **17** 03:09:32.3 ± 0.5, 33.°63N × 131.°96E, h73km ± 5km, mb3.5/13,*
mb1 3.8/17, mb1mx3.5/52, mbtmp3.9/17 Error ellipse:
s-maj=10.7km s-min=7.6km az=140.0

ISC 17 03:09:31.7 ± 0.6, **33.°56N** ± 0.°04 × **132.°05E** ± 0.°04, **h69** km ± 5km,
n30, σ **1°22/49**, **mb3.8**/13, **8C-2D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNA	**Nagahama**	**0.36**	**91**	↑P	**Pn**	**03 09 42.8**	**-0.4**
JNA				S	**Sn**	**03 09 50.8**	**-0.8**
JKI	**Kunimi**	**0.41**	**280**	↓P	**Pn**	**03 09 43.9**	**+0.3**
JKI				S	**Sn**	**03 09 52.3**	**0.0**
JKD	**Kudamatsu**	**0.51**	**344**	↓P	**Pn**	**03 09 44.2**	**-0.4**
JKD				S	**Sn**	**03 09 53.0**	**-1.0**
UWA2	**Uwa jima 2**	**0.60**	**126**	↑P	**Pn**	**03 09 45.2**	**-0.3**
UWA2				S	**Sn**	**03 09 54.8**	**-0.7**
JHM	**Kurahashi**	**0.70**	**35**	↑P	**Pn**	**03 09 46.1**	**-0.5**
JHM				S	**Sn**	**03 09 56.4**	**-1.1**
JET	**Tanbara**	**0.86**	**75**	↑P	**Pn**	**03 09 47.9**	**-0.6**
JET				S	**Sn**	**03 10 00.0**	**-0.9**
JKU	**Kubokawa**	**0.89**	**106**	↑P	**Pn**	**03 09 48.3**	**-0.5**
JKU				S	**Sn**	**03 10 00.7**	**-0.7**
JTO	**Tosashimizu**	**0.94**	**138**	↑P	**Pn**	**03 09 49.3**	**-0.2**
JTO				S	**Sn**	**03 10 01.6**	**-1.1**
JNU	**Nakatsue**	**1.07**	**246**	P	**Pn**	**03 09 51.7**	**+0.6**
	125nm,0.3s,baz=182,slow=6.2,SNR=24						
JNU				S	**Sn**	**03 10 06.2**	**+0.6**
	303nm,0.3s,baz=38,slow=4.9,SNR=29						
JHT	**Toyohira**	**1.14**	**16**	↑P	**Pn**	**03 09 51.9**	**-0.1**
JHT				S	**Sn**	**03 10 06.1**	**-1.0**
JMN	**Monobe**	**1.54**	**83**	↑P	**Pn**	**03 09 56.2**	**-1.0**
JGT2	**ShimaneMisato**	**1.54**	**14**	P	**Pn**	**03 09 56.9**	**-0.3**
JGT2				S	**Sn**	**03 10 15.1**	**-1.4**
KSRS	**Korea Array**	**5.14**	**320**	P	**Pn**	**03 10 46.6**	**+0.6**
	1.9nm,0.3s,baz=140,slow=14,SNR=27						
KSRS				S	**Sn**	**03 11 42.8**	**-1.1**
	3.4nm,0.3s,baz=148,slow=24,SNR=7.5						
MJAR	**Matsushiro Arr**	**5.86**	**58**	P	**Pn**	**03 10 57.0**	**+1.0**
	1.8nm,0.3s,baz=245,slow=15,SNR=44						
MJAR				S	**Sn**	**03 12 05.9**	**+4.1**
	baz=13,slow=17,SNR=0.6						
JHJ	**Hachijo jima 2**	**6.49**	**92**	P	**Pn**	**03 11 04.2**	**-0.4**
	100nm,0.3s,baz=345,slow=11,SNR=16						
JOW	**Kunigami**	**7.46**	**207**	P	**Pn**	**03 11 18.0**	**+0.1**
	baz=172,slow=9.9,SNR=1.2						
JOW				S	**Sn**	**03 12 37.0**	**-4.1**
	1.1nm,0.3s,baz=172,slow=15,SNR=1.3						
KLR	**Kul'dur**	**15.65**	**359**	P	**P**	**03 13 12.1**	**+1.2**
	0.2nm,0.3s,baz=144,slow=8.4,SNR=4.8						
SONM	**Songino Array**	**23.97**	**314**	P	**P**	**03 14 39.1**	**-0.6**
	1.4nm,0.7s,baz=133,slow=11,SNR=8.4						
SONM				pP	**pP**	**03 14 54.8**	**-1.0**
	1.1nm,0.7s,baz=129,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**39.61**	**305**	P	**P**	**03 16 55.5**	**-1.0**
	0.3nm,0.7s,baz=87,slow=9.8,SNR=1.9						
MKAR				pP	**pP**	**03 17 14.1**	**+0.8**
	0.5nm,0.7s,baz=95,slow=9.9,SNR=3.5						
WRA	**Warramunga Arr**	**53.25**	**177**	P	**P**	**03 18 43.6**	**+0.2**
	0.8nm,0.7s,baz=355,slow=7.8,SNR=8.6						
WRA				pP	**pP**	**03 19 01.9**	**+0.9**
	0.5nm,0.8s,baz=354,slow=7.9,SNR=2.4						
ILAR	**Eielson Array**	**56.44**	**31**	P	**P**	**03 19 06.0**	**+0.1**
	1.2nm,1.1s,baz=290,slow=7.4,SNR=6.5						
ASAR	**Alice Springs**	**56.94**	**178**	P	**P**	**03 19 10.2**	**+0.3**
	1.5nm,0.8s,baz=11,slow=13,SNR=31						
ASAR				pP	**pP**	**03 19 29.8**	**+2.1**
	0.6nm,0.6s,baz=12,slow=12,SNR=3.7						
ARCES	**ARCESS Array B**	**64.44**	**338**	P	**P**	**03 19 59.2**	**-1.2**
	2.7nm,1.0s,baz=54,slow=8.2,SNR=6.1						
STKA	**Stephens Creek**	**65.71**	**171**	P	**P**	**03 20 09.7**	**+0.7**
	1.9nm,0.9s,baz=304,slow=4.6,SNR=3.1						
FINES	**FINESS Array B**	**68.15**	**330**	P	**P**	**03 20 23.4**	**-0.7**
	1.0nm,0.3s,baz=56,slow=5.4,SNR=19						
YKA	**Yellowknife Ar**	**70.50**	**27**	P	**P**	**03 20 38.5**	**-0.2**
	0.5nm,0.8s,baz=321,slow=5.6,SNR=8.6						
YKA				pP	**pP**	**03 20 57.0**	**0.0**
	0.5nm,0.8s,baz=305,slow=6.2,SNR=7.4						
NOA	**NORSAR Array B**	**74.19**	**334**	P	**P**	**03 20 59.4**	**-1.3**
	0.3nm,0.6s,baz=83,slow=19,SNR=1.6						
NVAR	**Mina Array Bea**	**83.10**	**48**	P	**P**	**03 21 51.9**	**+1.6**
	0.7nm,0.6s,baz=317,slow=5.5,SNR=8.4						
ELK	**Elko**	**83.52**	**45**	P	**P**	**03 21 54.1**	**+1.6**
	1.3nm,0.7s,baz=286,slow=7.4						
PDAR	**Pinedale Array**	**85.42**	**41**	P	**P**	**03 22 02.0**	**0.0**
	0.4nm,0.6s,baz=294,slow=1.5,SNR=5.4						

*IDC **17** 03:09:32.7 ± 1.0, 0.°16S × 80.°22W, h0km, mb3.7/5, mb1 3.9/6,*
mb1mx3.6/28, mbtmp3.7/6, ML2.8/1, Error ellipse:
s-maj=37.1km s-min=24.7km az=65.0

*IGQ **17** 03:09:35 ± 0.5, 0.°S ± 2.°× 8.°0W ± .°, h9km*

ISC 17 03:09:35.1 ± 1.3, **0.°02S** ± 0.°03 × **80.°29W** ± 0.°05, **h12** km ± 8km,
n97, σ **1°35/107**, **mb3.6/5, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.25**	**162**	P	**Pb**	**03 09 41.0**	**-0.7**
JAMA				S	**Sg**	**03 09 45.0**	**+0.9**
MAG1	**Magdalena**	**0.51**	**96**	P	**Pg**	**03 09 46.0**	**+0.8**
FLF1	**Flavio Alfaro-**	**0.56**	**127**	P	**Pb**	**03 09 47.0**	**+0.1**
FLF1				S	**Sb**	**03 09 57.0**	**+2.2**
AV18	**Acelerografo,**	**0.87**	**68**	P	**Pg**	**03 09 52.0**	**0.0**
AV18				S	**Sn**	**03 10 06.0**	**+0.1**
AV21	**Acelerografo,**	**1.00**	**48**	P	**Pg**	**03 09 54.0**	**-0.4**
AV21				S	**Sb**	**03 10 09.0**	**+1.4**
AMNT	**Manta-Manabi**	**1.02**	**206**	P	**Pn**	**03 09 55.0**	**-0.3**
BV15	**Puerto Quito-O**	**1.08**	**81**	P	**Pg**	**03 09 54.0**	**-1.9**
AMA1	**Acelerografo,**	**1.10**	**31**	P	**Pg**	**03 09 56.0**	**-0.3**
AMA1				S	**Sn**	**03 10 13.0**	**+1.4**
ASDO	**Santo Domingo**	**1.19**	**102**	P	**Pb**	**03 09 55.0**	**-2.6**
APR2	**Miler**	**1.32**	**86**	P	**Pn**	**03 09 57.0**	**-2.5**
HPAL	**Hacienda Las P**	**1.65**	**97**	P	**Pn**	**03 10 02.0**	**-2.2**
APR1	**Acelerografo,**	**1.67**	**91**	P	**Pn**	**03 10 03.0**	**-1.6**
GGPT	**Toaza - Volcan**	**1.68**	**97**	P	**Pn**	**03 10 03.0**	**-1.7**
PINO	**Pino**	**1.68**	**95**	P	**Pn**	**03 10 04.0**	**-1.0**
TERV	**Terraza Guagua**	**1.69**	**95**	P	**Pn**	**03 10 04.0**	**-1.0**
JUA2	**San Juan 2**	**1.69**	**97**	P	**Pn**	**03 10 04.0**	**-1.0**
GGPC	**Guagua Pichinc**	**1.69**	**95**	P	**Pn**	**03 10 04.0**	**-1.1**
ILLI	**Illinizas Sur**	**1.70**	**114**	P	**Pn**	**03 10 03.0**	**-2.2**
YANA	**Yana**	**1.72**	**93**	P	**Pn**	**03 10 04.0**	**-1.3**
PAST	**Pastocalle**	**1.77**	**112**	P	**Pn**	**03 10 05.0**	**-1.1**
PULU	**Pululahua**	**1.78**	**89**	P	**Pn**	**03 10 05.0**	**-1.2**
SRAM	**San Ramn-Vol**	**1.86**	**113**	P	**Pn**	**03 10 06.0**	**-1.3**
SUCR	**Mariscal Sucre**	**1.89**	**109**	P	**Pn**	**03 10 08.0**	**+0.2**
CAMI	**Rancho Maria**	**1.90**	**110**	P	**Pn**	**03 10 08.0**	**+0.2**
TOMA	**Boca Toma-Volc**	**1.91**	**104**	P	**Pn**	**03 10 08.0**	**+0.1**
CUSE	**Cuicocha Este**	**1.91**	**80**	*eP*	**Pn**	**03 10 07.7**	**-0.2**
CUSE				*eS*	**Sn**	**03 10 30.1**	**-2.1**
CUSE	**Cuicocha Este**	**1.91**	**80**	P	**Pn**	**03 10 07.0**	**-1.0**
AV11	**Acelerografo,**	**1.91**	**92**	P	**Pn**	**03 10 08.0**	**+0.2**
BNAS	**Cotopaxi Volca**	**1.92**	**110**	P	**Pn**	**03 10 08.0**	**-0.1**
NAS2	**Nasa**	**1.92**	**109**	P	**Pn**	**03 10 08.0**	**-0.2**
SLOR	**San Lorenzo -**	**1.92**	**112**	P	**Pn**	**03 10 08.0**	**-0.1**
PITA	**Cotopaxi Volc**	**1.93**	**106**	P	**Pn**	**03 10 08.0**	**-0.2**
CUIC	**Cuicocha-Domo**	**1.95**	**81**	P	**Pn**	**03 10 08.0**	**-0.5**
BREF	**Cotopaxi Volca**	**1.95**	**109**	P	**Pn**	**03 10 09.0**	**+0.3**
CUSW	**Cuicocha Oeste**	**1.96**	**81**	P	**Pn**	**03 10 08.0**	**-0.6**
BMOR	**Cotopaxi Volca**	**1.96**	**111**	P	**Pn**	**03 10 08.0**	**-0.7**
BRRN	**Barrancas-Volc**	**1.96**	**113**	P	**Pn**	**03 10 08.0**	**-0.7**
BVC2	**Cotopaxi Volca**	**1.98**	**109**	P	**Pn**	**03 10 09.0**	**0.0**
COTA	**Cotacachi**	**1.98**	**80**	P	**Pn**	**03 10 08.0**	**-1.0**
VC1	**Cotopaxi 1**	**1.98**	**108**	P	**Pn**	**03 10 10.0**	**+1.0**
BTAM	**Cotopaxi Volca**	**2.00**	**109**	P	**Pn**	**03 10 09.0**	**-0.3**
TAMB	**Tambo**	**2.03**	**109**	P	**Pn**	**03 10 10.0**	**+0.3**
CHSH	**Refugio Sur-Vo**	**2.04**	**136**	P	**Pn**	**03 10 10.0**	**+0.2**
VCES	**Cotopaxi**	**2.04**	**112**	P	**Pn**	**03 10 10.0**	**+0.1**
URCU	**Urcuqui**	**2.08**	**77**	P	**Pn**	**03 10 10.0**	**-0.3**
PORT	**Chimborazo Vol**	**2.08**	**134**	P	**Pn**	**03 10 10.0**	**-0.5**
ALIT	**Ecuador-Imbabu**	**2.09**	**67**	P	**Pn**	**03 10 10.0**	**-0.1**
ANTG	**Antisana-Guama**	**2.09**	**103**	P	**Pn**	**03 10 11.0**	**+0.5**
ANTM	**Antisana-La Mi**	**2.12**	**104**	P	**Pn**	**03 10 11.0**	**0.0**
TAMH	**Tambohuasha Ch**	**2.13**	**135**	P	**Pn**	**03 10 11.0**	**-0.1**
ANTI	**Antisana**	**2.17**	**101**	P	**Pn**	**03 10 12.0**	**+0.4**
ANTS	**Antisana-Sarah**	**2.17**	**103**	P	**Pn**	**03 10 12.0**	**+0.4**
IGUA	**Igualata**	**2.20**	**132**	P	**Pn**	**03 10 12.0**	**-0.1**
AIB2	**Ibarra (Univer**	**2.21**	**81**	P	**Pn**	**03 10 14.0**	**+2.1**
AMIL	**Milagro (Trans**	**2.21**	**162**	P	**Pn**	**03 10 12.0**	**+0.3**
PIAT	**Ana Tenorio**	**2.24**	**116**	P	**Pn**	**03 10 13.0**	**+0.5**
YAHU	**Yahuarcocha**	**2.25**	**80**	P	**Pn**	**03 10 13.0**	**+0.5**
ANGU	**Angureal**	**2.28**	**88**	P	**Pn**	**03 10 15.0**	**+1.8**
CAYR	**Refugio Cayamb**	**2.28**	**89**	P	**Pn**	**03 10 14.0**	**+0.8**
BIL2	**Estacion Bilba**	**2.28**	**129**	P	**Pn**	**03 10 14.0**	**+0.4**
JUI6	**Juive**	**2.29**	**128**	P	**Pn**	**03 10 14.0**	**+0.9**
BBIL	**Ulba Tungurahu**	**2.29**	**128**	P	**Pn**	**03 10 14.0**	**+0.9**
CAYA	**Cayambe**	**2.30**	**88**	P	**Pn**	**03 10 14.0**	**+0.6**
POND	**Pondoa**	**2.30**	**127**	P	**Pn**	**03 10 14.0**	**+0.7**
RETU	**Refugio**	**2.33**	**128**	P	**Pn**	**03 10 14.0**	**+0.3**
BMAS	**Trigal station**	**2.33**	**129**	P	**Pn**	**03 10 14.0**	**+0.3**
BRUN	**Tungurahua Vol**	**2.33**	**127**	P	**Pn**	**03 10 14.0**	**+0.3**
ARRY	**Arrayan**	**2.35**	**129**	P	**Pn**	**03 10 14.0**	**0.0**
BPAT	**Tungurahua Vol**	**2.37**	**129**	P	**Pn**	**03 10 15.0**	**+0.7**
CHMA	**Chilma**	**2.39**	**68**	P	**Pn**	**03 10 15.0**	**+0.6**
LNGL	**El Angel-Carch**	**2.40**	**72**	P	**Pn**	**03 10 16.0**	**+1.2**
ECEN	**Cerro Negro**	**2.46**	**70**	P	**Pn**	**03 10 16.0**	**+0.4**
CHL1	**Volcn Chiles**	**2.47**	**71**	P	**Pn**	**03 10 16.0**	**+0.2**
CHL2	**Volcn Chiles**	**2.50**	**71**	P	**Pn**	**03 10 17.0**	**+0.8**
TULM	**Tulcn-Chalpat**	**2.60**	**74**	*eP*	**Pb**	**03 10 20.9**	**-1.2**
TULM				*eS*	**Sb**	**03 10 54.0**	**-0.1**
TULM				*i*		03 10 58.1	
	comp=Z,132nm,0.5s						
COHC	**Cochancay**	**2.64**	**157**	P	**Pn**	**03 10 16.0**	**-1.6**
CONE	**Cono NE Rev Vo**	**2.64**	**91**	P	**Pn**	**03 10 20.0**	**+2.0**
ARDO	**Archidona, Ten**	**2.67**	**111**	P	**Pn**	**03 10 20.0**	**+2.0**
PUYO	**Puyo, Santa Ro**	**2.69**	**123**	P	**Pn**	**03 10 21.0**	**+2.5**
SANGA	**Volcan Sangay**	**2.78**	**137**	P	**Pn**	**03 10 21.0**	**+1.0**
BONI	**La Bonita**	**2.79**	**80**	P	**Pn**	**03 10 22.0**	**+2.0**
CASC	**Dorado de Casc**	**2.95**	**87**	P	**Pn**	**03 10 25.0**	**+3.0**
ARNL	**Arenillas**	**3.51**	**176**	P	**Pn**	**03 10 31.0**	**+1.4**
BOSC	**San Juan Bosco**	**3.59**	**150**	P	**Pn**	**03 10 34.0**	**+3.2**
GR1C	**Gorgona, Isla**	**3.67**	**35**	*eP*	**Pn**	**03 10 29.9**	**-1.9**
GR1C				*i*		03 11 12.0	
	comp=Z,474nm,0.7s						
GR1C				*eS*	**Sb**	**03 11 25.3**	**+0.7**
CRUC	**La Cruz**	**3.69**	**65**	*eP*	**Pn**	**03 10 34.6**	**+2.3**
CRUC				*eS*	**Sn**	**03 11 18.5**	**+2.5**
CRUC				*i*		03 11 29.3	
	comp=Z,138nm,0.8s						
SOTA	**Rioblanco**	**4.25**	**60**	*eP*	**Pn**	**03 10 43.1**	**+2.8**
SOTA				*eS*	**Sn**	**03 11 33.4**	**+3.3**
SOTA				*i*		03 11 44.1	
	comp=Z,67nm,0.6s						
MCRA	**Macar, Loja**	**4.33**	**176**	P	**Pn**	**03 10 44.0**	**+3.0**
YOTC	**Yotoco, Valle**	**5.59**	**45**	*eP*	**Pn**	**03 10 59.3**	**+0.9**
CBOC	**Ciudad Bolivar**	**7.24**	**36**	*eP*	**Pn**	**03 11 24.3**	**+3.3**
ROSC	**El Rosal**	**7.67**	**51**	Pn	**Pn**	**03 11 28.1**	**+1.1**
	comp=Z,3.1nm,0.3s,baz=33,slow=19,SNR=1.9						
CMIG	**Matias Romero**	**22.27**	**320**	P	**P**	**03 14 32.8**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=123,slow=14,SNR=3.0						
PLCA	**Paso Flores**	**41.48**	**169**	P	**P**	**03 17 20.1**	**-2.1**
	comp=Z,2.3nm,1.1s,baz=347,slow=13,SNR=5.0						
NVAR	**Mina Array Bea**	**51.79**	**322**	P	**P**	**03 18 44.2**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=136,slow=6.1,SNR=4.6						
YKA	**Yellowknife Ar**	**67.47**	**344**	P	**P**	**03 20 30.8**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=137,slow=6.1,SNR=12						
TORD	**Torodi Ar. Bea**	**82.19**	**77**	P	**P**	**03 21 55.9**	**-1.0**
	comp=Z,0.3nm,0.9s,baz=284,slow=5.2,SNR=4.3						
FITZ	**Fitzroy Crossi**	**148.80**	**233**	PKPbc	**PKPbc**	**03 29 23.1**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=146,slow=2.7,SNR=6.7						

*GCG **17** 03:20:35.8 ± 0.5, 14.°55N × 92.°89W, h111km ± 16km, MD4.2*
*IDC **17** 03:20:36.3 ± 3.6, 14.°40N × 92.°55W, h0km, mb3.4/3,*
mb1 3.8/5, mb1mx3.5/38, mbtmp3.4/5, ML3.4/2, Error
ellipse: s-maj=117.9km s-min=30.2km az=42.0

*MEX **17** 03:20:37.9 ± 1.4, 14.°16N × 93.°10W, h20km ± 451km, MD4.0*

ISC 17 03:20:37.8 ± 3.8, **14.°30N** ± 0.°09 × **92.°91W** ± 0.°05, **h11** km ± 24km,
n15, σ **1°70/24**, **mb3.5**/3, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.86**	**46**	*eP*	**Pb**	**03 20 54.2**	**-0.6**
THIG				*i S*	**Sb**	**03 21 07.2**	**+0.8**
PATR	**El Naranjo**	**1.04**	**39**	*eP*	**Pb**	**03 20 57.2**	**-0.8**
PATR				*i S*	**Sb**	**03 21 12.8**	**+1.0**
CHUJ	**Union Juarez**	**1.10**	**44**	*eP*	**Pb**	**03 20 58.0**	**-1.1**
PAVE	**Pavencul**	**1.13**	**38**	*eP*	**Pn**	**03 20 58.7**	**-1.2**
PAVE				*i S*	**Sb**	**03 21 15.6**	**+1.2**
STG3	**Santiaguito 3,**	**1.36**	**72**	*eP*	**Pn**	**03 21 00.9**	**-2.0**
STG3				*eS*	**Sn**	**03 21 20.9**	**-0.1**
PCIG		**1.43**	**348**	*eP*	**Pn**	**03 21 02.2**	**-1.5**
PCIG				*eS*	**Sn**	**03 21 18.8**	**-3.7**
FUG	**Fuego 3**	**2.00**	**86**	*eP*	**Pn**	**03 21 09.8**	**-2.1**
FUG				*eS*	**Sn**	**03 21 35.8**	**-1.2**
CCIG	**Comitan**	**2.10**	**21**	*eP*	**Pb**	**03 21 16.1**	**-0.1**
CCIG				*eS*	**Sb**	**03 21 44.5**	**+2.2**
TGIG		**2.47**	**355**	*eP*	**Pn**	**03 21 19.8**	**+1.6**
TGIG				*eS*	**Sb**	**03 21 52.0**	**-0.8**
NBG	**Las Nubes**	**2.50**	**83**	*eP*	**Pn**	**03 21 19.6**	**+0.9**
CMIG	**Matias Romero**	**3.37**	**326**	Pn	**Pn**	**03 21 30.9**	**+0.5**
	1.8nm,0.3s,baz=143,slow=12,SNR=18						
CMIG				Sn	**Sb**	**03 22 16.3**	**-2.2**
	5.9nm,0.3s,baz=64,slow=22,SNR=7.1				

mb1 3.7/15,mb1mx3.5/46,mbtmp3.8/15,ML3.3/1,Error ellipse: s-maj=20.4km s-min=12.9km az=71.0
JMA 17 03:23:16.3±0.1,24.72N×124.16E,h67km±2km,M3.9
JMA Felt I J1
ISC 17 03:23:15.7±0.7,24.73N±0.07×124.16E±0.04,h70km±6km, n33,σ0.94/46,mb3.8/14,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JISG	**Ishigakijimahi**	**0.20**	**137**	P	**Pn**	**03 23 26.6**	**+0.3**
JISG				S	**Sn**	**03 23 34.1**	**+0.1**
JIJ	**Ishigaki jima**	**0.36**	**183**	P	**Pn**	**03 23 27.4**	**0.0**
JIJ				S	**Sn**	**03 23 35.5**	**-0.4**
JTJ	**Tarama**	**0.50**	**100**	P	**Pn**	**03 23 29.1**	**+0.6**
JTJ				S	**Sn**	**03 23 38.6**	**+0.7**
JKRS	**Kuro-shima**	**0.51**	**196**	P	**Pn**	**03 23 29.1**	**+0.5**
JKRS				S	**Sn**	**03 23 38.6**	**+0.5**
IRIF	**Iriomote-Funau**	**0.56**	**225**	P	**Pn**	**03 23 29.4**	**+0.3**
IRIF				S	**Sn**	**03 23 39.4**	**+0.5**
HATJ	**Hateruma jima**	**0.75**	**206**	P	**Pn**	**03 23 31.6**	**+0.5**
HATJ				S	**Sn**	**03 23 43.4**	**+0.9**
JIRB	**Irabujima**	**0.92**	**84**	P	**Pn**	**03 23 33.6**	**+0.4**
JIRB				S	**Sn**	**03 23 46.7**	**+0.5**
JIKM	**Ikemajima**	**1.00**	**79**	P	**Pn**	**03 23 34.9**	**+0.7**
JIKM				S	**Sn**	**03 23 48.7**	**+0.7**
JMJ	**Miyako jima 2**	**1.03**	**85**	P	**Pn**	**03 23 36.1**	**+1.5**
JMJ2	**Miyako jima3**	**1.06**	**89**	P	**Pn**	**03 23 35.7**	**+0.8**
JMJ2				S	**Sn**	**03 23 50.6**	**+1.3**
YOJ	**Yonaguni jima**	**1.08**	**256**	P	**Pn**	**03 23 35.9**	**+0.7**
YOJ				S	**Sn**	**03 23 49.8**	**0.0**
YOJ	**Yonaguni jima**	**1.08**	**256**	P	**Pn**	**03 23 36.1**	**+0.9**
JOGS	**Gusukube**	**1.13**	**88**	P	**Pn**	**03 23 36.5**	**+0.6**
JOGS				S	**Sn**	**03 23 52.4**	**+1.5**
JYNG	**Yonagunijimaku**	**1.14**	**256**	P	**Pn**	**03 23 36.7**	**+0.7**
JYNG				*e*S	**Sn**	**03 23 51.6**	**+0.4**
YHNB	**Yeheng**	**2.54**	**269**	P	**Pn**	**03 23 57.6**	**+2.9**
SSLB	**Suanglung**	**3.08**	**253**	P	**Pn**	**03 24 02.8**	**+0.8**
TPUB	**Ta-pu**	**3.53**	**247**	P	**Pn**	**03 24 09.9**	**+1.7**
JOW	**Kunigami**	**4.26**	**60**	P	**Pn**	**03 24 18.0**	**-0.1**
	3.6nm,0.3s,baz=143,slow=24,SNR=13						
JOW				S	**Sn**	**03 25 08.0**	**+1.4**
	5.6nm,0.3s,baz=132,slow=24,SNR=1.6						
NJ2	**Nanjing**	**8.66**	**329**	*e*P	Pn	03 25 06.8	-11
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**24.25**	**260**	P	**P**	**03 28 26.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=49,slow=8.5,SNR=1.4						
SONM	**Songino Array**	**27.02**	**333**	P	**P**	**03 28 49.4**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=144,slow=7.6,SNR=2.2						
MKAR	**Makanchi Array**	**39.87**	**314**	P	**P**	**03 30 41.8**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=100,slow=9.0,SNR=21						
ZALV	**Zalesovo Beam**	**41.30**	**325**	P	**P**	**03 30 53.0**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=111,slow=8.4,SNR=5.4						
FITZ	**Fitzroy Crossi**	**42.59**	**178**	P	**P**	**03 31 04.4**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=1.9,slow=8.7,SNR=6.8						
KURBB	**Kurchatov Arra**	**43.47**	**319**	P	**P**	**03 31 10.9**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=113,slow=8.5,SNR=7.1						
WRA	**Warramunga Arr**	**45.49**	**167**	P	**P**	**03 31 28.3**	**0.0**
	comp=Z,2.3nm,0.7s,baz=348,slow=8.8,SNR=14						
ASAR	**Alice Springs**	**49.03**	**168**	P	**P**	**03 31 56.5**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=355,slow=7.4,SNR=13						
ASAR				PcP	**PcP**	**03 33 18.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=339,slow=3.1,SNR=4.5						
STKA	**Stephens Creek**	**58.70**	**163**	P	**P**	**03 33 06.4**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=332,slow=7.9,SNR=5.2						
ILAR	**Eielson Array**	**67.48**	**28**	P	**P**	**03 34 04.9**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=283,slow=5.2,SNR=6.5						
FINES	**FINESS Array B**	**72.34**	**330**	P	**P**	**03 34 32.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=48,slow=2.8,SNR=6.0						
BRTR	**Keskin Array B**	**75.02**	**307**	P	**P**	**03 34 50.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=73,slow=4.1,SNR=3.9						
YKA	**Yellowknife Ar**	**81.40**	**24**	P	**P**	**03 35 24.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=302,slow=5.4,SNR=10						
GERES	**GERESS Array B**	**84.13**	**322**	P	**P**	**03 35 39.3**	**0.0**
	comp=Z,0.2nm,0.4s,baz=352,slow=2.7,SNR=4.6						

IDC 17 03:25:37.0±2.0,30.49N×71.93W,h0km,mb3.8/1, mb1 3.8/3,mb1mx3.5/26,mbtmp3.8/3,ML3.4/2,Error ellipse: s-maj=100.5km s-min=39.5km az=103.0
GUC 17 03:25:38.6±0.8,30.47S×72.03W,h37km±5km,ML3.3
ISC 17 03:25:36.3±1.8,30.50S±0.04×72.13W±0.07,h7km±11km, n26,σ1.47/32,2C-5D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.46**	**112**	↓*i*P	**Pn**	**03 25 48.0**	**-1.4**
CO06				IAML		03 25 58.8	
	comp=N,4μm,0.8s						
CO05	**La Serena**	**0.97**	**53**	↓*i*P	**Pb**	**03 25 55.1**	**-0.3**
CO05				*i* S	**Sg**	**03 26 08.3**	**+0.9**
CO05				IAML		03 26 10.2	
	comp=N,2μm,0.4s						
GO04	**Tololo Observa**	**1.20**	**75**	↓*i*P	**Pb**	**03 25 59.2**	**-0.3**
GO04				*i* S	**Sn**	**03 26 15.5**	**-0.8**
CO02	**Combarbal**	**1.20**	**126**	↓*i*P	**Pg**	**03 26 00.4**	**+1.0**
CO02				*i* S	**Sn**	**03 26 16.4**	**+0.1**
CO03	**El Pedregal**	**1.29**	**106**	↓*i*P	**Pg**	**03 26 01.1**	**+0.1**
CO03				IAML		03 26 24.9	
	comp=N,1μm,0.7s						
CO01	**Juntas del Tor**	**1.84**	**74**	*e*P	**Pb**	**03 26 09.8**	**-0.6**
CO01				*i* S	**Sb**	**03 26 33.0**	**-0.8**
CO01				IAML		03 26 40.0	
	comp=N,299nm,0.4s						
LCO	**Las Campanas**	**1.94**	**40**	↑*i*P	**Pn**	**03 26 09.8**	**-0.1**
LCO				*i* S	**Sn**	**03 26 33.3**	**-1.3**
VA06	**Catapilco**	**2.18**	**161**	↑*i*P	**Pb**	**03 26 14.6**	**-1.4**
VA06				*i* S	**Sn**	**03 26 40.2**	**+0.1**
VA03	**San Esteban**	**2.63**	**150**	*e*P	**Pb**	**03 26 22.4**	**-1.4**
GO03	**Copiap**	**3.34**	**30**	*e*P	**Pn**	**03 26 29.0**	**0.0**
MT09	**Talagante**	**3.41**	**164**	*e*P	**Pb**	**03 26 33.3**	**-3.8**
BO04	**La Punta**	**3.71**	**160**	*e*P	**Pn**	**03 26 37.2**	**+3.1**
VCA	**Vinchina**	**3.84**	**64**	*e*P	**Pb**	**03 26 40.5**	**-4.1**
H03N1	**Juan Fernandez**	**6.46**	**241**	Pn	**Pn**	**03 27 11.7**	**+0.1**
	baz=2.6,slow=73,SNR=48						
H03N1				T	T	03 34 12.2	
	baz=71,slow=72,SNR=241						
H03N2	**Juan Fernandez**	**6.48**	**241**	Pn	**Pn**	**03 27 11.6**	**-0.1**
	baz=2.6,slow=73,SNR=38						
H03N2				T	T	03 34 15.6	
	baz=71,slow=72,SNR=279						
H03N3	**Juan Fernandez**	**6.48**	**241**	Pn	**Pn**	**03 27 12.0**	**+0.1**
	baz=2.6,slow=73,SNR=59						
H03N3				T	T	03 34 14.2	
	baz=71,slow=72,SNR=264						
H03S3	**Juan Fernandez**	**6.63**	**238**	Pn	**Pn**	**03 27 13.5**	**-0.5**
	SNR=3.7						
H03S1	**Juan Fernandez**	**6.64**	**238**	Pn	**Pn**	**03 27 13.3**	**-0.7**
	SNR=5.5						
H03S2	**Juan Fernandez**	**6.65**	**238**	Pn	**Pn**	**03 27 13.2**	**-1.0**
	SNR=7.5						
PLCA	**Paso Flores**	**10.29**	**173**	Pn	**Pn**	**03 28 06.3**	**+1.9**
	comp=N,0.1nm,0.3s,baz=350,slow=14,SNR=1.4						
LPAZ	**La Paz**	**14.61**	**15**	Pn	**P**	**03 29 09.7**	**-1.0**
	comp=N,0.1nm,0.3s,baz=198,slow=5.3,SNR=4.1						
SIV	**San Ignacio**	**17.64**	**38**	P	**P**	**03 29 43.9**	**+0.2**
	comp=N,0.1nm,0.3s,baz=229,slow=13,SNR=11						
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	**03 38 03.6**	**+0.4**
	comp=N,0.7nm,0.9s,baz=236,slow=4.9,SNR=4.2						
KURBB	**Kurchatov Arra**	**150.29**	**39**	PKPbc	**PKiKP**	**03 45 29.4**	**+0.7**
	comp=N,0.4nm,0.8s,baz=296,slow=3.3,SNR=4.2						
AAK	**Ala-Archa**	**150.78**	**56**	PKPbc	**PKiKP**	**03 45 31.2**	**+1.1**
	comp=N,0.6nm,0.4s,baz=182,slow=6.7,SNR=3.7						
ZALV	**Zalesovo Beam**	**151.26**	**29**	PKPbc	**PKiKP**	**03 45 31.2**	**+0.6**
	comp=N,2.1nm,0.8s,baz=316,slow=4.1,SNR=7.8						

IDC 17 03:27:24.4±1.3,32.99N×131.44E,h0km,mb3.5/4, mb1 3.7/6,mb1mx3.4/48,mbtmp3.6/6,ML3.6/2,Error ellipse: s-maj=25.5km s-min=10.1km az=26.0
JMA 17 03:27:28.0,32.79N×130.78E,h17km±1km,M4.0 Broadband fault plane solution: P waves. NP1: φs138.00000°,δ84.00000°,λ-25.00000°. NP2: φs231.00000°,δ65.00000°,λ-173.00000°. Principal axes: T Plg13.0000°, Azm187.0000°; N Plg64.0000°, Azm305.0000°; P Plg22.0000°, Azm92.0000°;
JMA Felt III J1.
ISC 17 03:27:27.7±1.0,32.84N±0.05×130.9E±0.1,h12km,n9, σ1.66/12,mb3.5/4,1C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.28**	**354**	Pg	**Pb**	**03 27 34.7**	**-0.1**
	1μm,0.3s,baz=191,slow=9.0,SNR=2206						
JNU				Lg	Lg	03 27 39.6	
	baz=299,slow=18						
JIU3	**Izumi3**	**0.30**	**196**	↑P	**Pg**	**03 27 33.5**	**-0.4**
JIU3				S	**Sg**	**03 27 37.4**	**-0.6**
JTA	**Tamana**	**0.34**	**291**	↓P	**Pg**	**03 27 33.9**	**-0.8**
JTA				S	**Sg**	**03 27 37.8**	**-1.5**
KSRS	**Korea Array**	**5.21**	**333**	Pn	**Pn**	**03 28 46.5**	**+1.0**
	0.2nm,0.3s,baz=159,slow=14,SNR=1.8						
KSRS				Pg	**Pb**	**03 29 02.1**	**+3.3**
	0.8nm,0.3s,baz=157,slow=15,SNR=8.0						
KSRS				Lg	Lg	03 30 07.1	
	2.3nm,0.3s,baz=153,slow=28,SNR=5.2						
JOW	**Kunigami**	**6.41**	**202**	Pn	**Pn**	**03 29 04.0**	**+1.9**
	6.4nm,0.3s,baz=102,slow=21,SNR=8.9						
KURBB	**Kurchatov Arra**	**41.98**	**311**	P	**P**	**03 35 17.6**	**-0.9**
	0.3nm,0.5s,baz=99,slow=8.8,SNR=2.5						
WRA	**Warramunga Arr**	**52.59**	**176**	P	**P**	**03 36 39.8**	**-1.6**
	0.3nm,0.6s,baz=355,slow=8.0,SNR=2.2						
ASAR	**Alice Springs**	**56.26**	**177**	P	**P**	**03 37 08.2**	**+0.1**
	0.3nm,0.6s,baz=8.5,slow=14,SNR=7.4						
FINES	**FINESS Array B**	**68.30**	**330**	P	**P**	**03 38 26.8**	**-1.6**
	1.3nm,0.9s,baz=90,slow=7.6,SNR=4.3						

MEX 17 03:42:19.4±1.0,14.05N×92.79W,h98km±45km,MD4.2
GCG 17 03:42:21.1±0.3,14.23N×92.97W,h47km±56km,MD3.9
ISC 17 03:42:20.9±3.5,14.2N±0.1×92.87W±0.08,h14km±16km,n9, σ0.98/18,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.91**	**40**	*e*P	**Pb**	**03 42 38.0**	**-0.4**
THIG				*i* S	**Sn**	**03 42 52.1**	**0.0**
PATR	**El Naranjo**	**1.09**	**35**	*e*P	**Pb**	**03 42 40.5**	**-1.2**
PATR				*e*S	**Sn**	**03 42 57.5**	**+0.4**
CHUJ	**Union Juarez**	**1.15**	**40**	*e*P	**Pn**	**03 42 41.2**	**-1.5**
CHUJ				*e*S	**Sg**	**03 42 59.1**	**+1.1**
PAVE	**Pavencul**	**1.19**	**35**	*e*P	**Pn**	**03 42 42.1**	**-1.2**
PAVE				*e*S	**Sb**	**03 42 58.8**	**+0.1**
STG3	**Santiaguito 3,**	**1.36**	**68**	*e*P	**Pn**	**03 42 45.4**	**-0.2**
STG3				*e*S	**Sb**	**03 43 04.3**	**+0.8**
PCIG		**1.52**	**347**	*e*P	**Pn**	**03 42 46.9**	**-0.8**
PCIG				*i* S	**Sb**	**03 43 08.4**	**+0.4**
FUG	**Fuego 3**	**1.98**	**83**	*e*P	**Pn**	**03 42 54.1**	**-0.1**
FUG				*e*S	**Sn**	**03 43 19.9**	**+0.9**
CCIG	**Comitan**	**2.18**	**19**	*e*P	**Pn**	**03 42 55.9**	**-1.0**
CCIG				*i* S	**Sn**	**03 43 23.7**	**-0.1**
TGIG		**2.56**	**355**	*e*P	**Pn**	**03 43 03.0**	**+0.9**
TGIG				*e*S	**Sn**	**03 43 34.6**	**+1.5**

IDC 17 03:46:43.3±5.2,18.84N×46.34W,h0km,mb3.4/4, mb1 3.8/4,mb1mx3.4/41,mbtmp3.4/4,Error ellipse: s-maj=219.7km s-min=33.6km az=23.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N3	**ASCENSION HYDR**	**41.09**	**127**	T	T	04 37 55.1	
	baz=310,slow=75,SNR=38						
H10N2	**ASCENSION HYDR**	**41.09**	**127**	T	T	04 37 56.7	
	baz=310,slow=75,SNR=38						
H10N1	**ASCENSION HYDR**	**41.11**	**127**	T	T	04 37 56.8	
	baz=310,slow=75,SNR=49						
H10S3	**ASCENSION HYDR**	**41.70**	**129**	T	T	04 38 56.5	
	baz=272,SNR=15						
H10S2	**ASCENSION HYDR**	**41.71**	**129**	T	T	04 38 56.3	
	baz=308						
TORD	**Torodi Ar. Bea**	**46.41**	**90**	P	P	03 55 11.9	-0.2
	0.8nm,1.1s,baz=292,slow=7.2,SNR=4.1						
PDAR	**Pinedale Array**	**57.90**	**309**	P	P	03 56 37.7	+0.2
	0.1nm,0.3s,baz=85,slow=10.0,SNR=2.0						
YKA	**Yellowknife Ar**	**63.44**	**331**	P	P	03 57 14.1	-0.6
	0.3nm,0.8s,baz=106,slow=7.8,SNR=4.5						
ILAR	**Eielson Array**	**77.55**	**334**	P	P	03 58 41.2	+0.4
	0.6nm,0.8s,baz=85,slow=4.6,SNR=7.9						

IDC 17 03:52:28.3±8.6,37.68N×72.16E,h185km±54km,mb2.4/1, mb1 2.9/4,mb1mx2.7/51,mbtmp3.4/4,Error ellipse: s-maj=117.6km s-min=77.6km az=110.0
ISC 17 03:52:23.6±2.6,37.5N±0.2×71.8E±0.2,h150km,n11, σ1.38/12,2C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.88**	**16**	P	**Pn**	**03 53 37.0**	**+1.2**
	SNR=118						
UCH	**Uchtor**	**5.19**	**22**	P	**Pn**	**03 53 41.2**	**+1.3**
	SNR=53						
EKS2	**Erkin-Say**	**5.41**	**15**	P	**Pn**	**03 53 44.1**	**+1.7**
	SNR=6.2						
AAK	**Ala-Archa**	**5.56**	**21**	P	**Pn**	**03 53 46.1**	**+1.6**
	SNR=19						
AAK	**Ala-Archa**	**5.56**	**21**	P	**Pn**	**03 53 46.0**	**+1.6**
	4.1nm,0.3s,baz=189,slow=6.5,SNR=42						
AAK				S	**Sn**	**03 54 46.9**	**-0.9**
	0.7nm,0.3s,baz=315,slow=14,SNR=4.6						
KK31	**Karatay Array**	**5.74**	**350**	↑Pn	**Pn**	**03 53 46.9**	**+0.2**
	2.4nm,0.2s,baz=173,slow=13,SNR=97						
KK31				↓Sn	**Sn**	**03 54 50.7**	**-1.0**
	9.2nm,0.3s,baz=181,slow=24,SNR=26						
CHMS	**Chumysh**	**5.97**	**21**	P	**Pn**	**03 53 51.4**	**+1.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**6.17**	**27**	↑Pn	Pn	03 53 59.5	+6.9
	2.4nm,0.5s						
TKM2				↓Sn	Sn	03 55 16.9	+15
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**12.12**	**36**	P	**Pn**	**03 55 10.4**	**-1.0**
	0.1nm,0.3s,baz=218,slow=15,SNR=2.3						
ZALV	**Zalesovo Beam**	**18.77**	**24**	P	**P**	**03 56 31.0**	**+0.1**
	0.6nm,0.3s,baz=223,slow=11,SNR=10.0						
YKA	**Yellowknife Ar**	**80.26**	**3**	P	**P**	**04 04 16.1**	**-1.0**
	0.1nm,0.6s,baz=344,slow=5.4,SNR=2.2						

IDC 17 03:53:42.5±1.6,6.12N×126.60E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/42,mbtmp3.7/5,MS4.3/1,Ms1 4.3/1, ms1mx3.7/78,Error ellipse: s-maj=121.7km s-min=22.4km az=71.0
MAN 17 03:53:44.3,5.13N×125.11E,h115km,mb4.5,ML3.4, MS3.2,Hypocentre not reviewed by the ISC
ISC 17 03:53:49.4±1.3,5.9N±0.2×126.8E±0.2,h50km,n9,σ2.3/34/8, mb3.4/5,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.69**	**314**	Sn	**Sn**	**03 54 39.0**	**+2.0**
	32nm,0.3s,baz=230,slow=23,SNR=1.3						
GSPH	**General Santos**	**1.86**	**276**	*e*P	**Pn**	**03 54 17.6**	**-1.3**
KCP	**Kidapawan**	**2.03**	**303**	*e*P	**Pn**	**03 54 23.0**	**+1.7**
FITZ	**Fitzroy Crossi**	**23.87**	**183**	P	**P**	**03 58 60.0**	**+1.6**
	0.6nm,0.5s,baz=18,slow=6.4,SNR=2.0						
JCJ	**Chichijima**	**25.67**	**33**	LR	LR	04 08 41.0	
	comp=Z,648nm,20.8s,baz=50,slow=35						
WRA	**Warramunga Arr**	**26.72**	**164**	P	**P**	**03 59 27.3**	**+3.0**
	0.4nm,0.6s,baz=342,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**30.18**	**167**	P	**P**	**03 59 56.1**	**+0.9**
	0.2nm,0.7s,baz=339,slow=7.6,SNR=2.2						
MKAR	**Makanchi Array**	**55.84**	**324**	P	**P**	**04 03 20.3**	**-1.6**
	0.5nm,0.5s,baz=114,slow=6.7,SNR=8.3						
ARCES	**ARCESS Array B**	**88.46**	**340**	P	**P**	**04 06 34.0**	**-2.1**
	2.3nm,1.0s,baz=81,slow=5.9,SNR=4.3						

IDC 17 04:02:05.8±0.6,0.17S×80.68W,h0km,mb4.4/22, mb1 4.5/24,mb1mx4.4/45,mbtmp4.4/24,ML3.3/2,MS4.7/2, Ms1 4.7/2,ms1mx4.0/63,Error ellipse: s-maj=21.6km s-min=11.3km az=57.0
IGQ 17 04:02:06.0±0.4,0.3S±2.8°1W±°,h10km
VAO 17 04:02:08.3±0.5,0.18S×80.52W,h10km,mb4.8
NEIC 17 04:02:08.8±1.6,0.26S±0.02×80.62W±0.06,h10km±1km, mb4.8/159,Error ellipse: s-maj=10.7km s-min=3.0km az=253.0
ISC 17 04:02:08.8±0.3,0.18S±0.03×80.76W±0.04,h21km±3km, n389,σ1.70/365,mb4.8/92,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.56**	**99**	P	**Pb**	**04 02 18.0**	**-2.0**
JAMA				S	**Sb**	**04 02 28.0**	**+0.4**
APED	**Ecuador-Perden**	**0.74**	**71**	P	**Pb**	**04 02 21.0**	**-2.0**
APED				S	**Sb**	**04 02 33.0**	**+0.4**

AMNT	**Manta-Manabi**	**0.76**	**178**	P	**Pb**	**04 02 21.0**	**-2.3**
AMNT				S	**Sb**	**04 02 32.0**	**-1.2**
FLF1	**Flavio Alfaro-**	**0.93**	**101**	P	**Pb**	**04 02 26.0**	**-0.2**
FLF1				S	**Sn**	**04 02 43.0**	**+3.6**
MAG1	**Magdalena**	**0.99**	**84**	P	**Pb**	**04 02 26.0**	**-1.2**
ASAM	**Ecuador-Same-C**	**1.32**	**40**	P	**Pn**	**04 02 28.0**	**-4.0**
PPLP	**Puerto Lpez**	**1.36**	**181**	P	**Pn**	**04 02 30.0**	**-2.6**
PPLP				S	**Sn**	**04 02 48.0**	**-2.0**
AATC	**Ecuador-Atacam**	**1.36**	**41**	P	**Pn**	**04 02 30.0**	**-2.6**
AV18	**Acelerografo,**	**1.37**	**69**	P	**Pn**	**04 02 32.0**	**-0.7**
AV21	**Acelerografo,**	**1.47**	**55**	P	**Pn**	**04 02 32.0**	**-2.1**
AMA1	**Acelerografo,**	**1.51**	**43**	P	**Pn**	**04 02 33.0**	**-1.7**
AES1	**Ecuador-Esmera**	**1.55**	**43**	P	**Pn**	**04 02 34.0**	**-1.3**
BV15	**Puerto Quito-O**	**1.57**	**78**	P	**Pn**	**04 02 33.0**	**-2.5**
AES2	**Ecuador-Puerto**	**1.60**	**44**	P	**Pn**	**04 02 33.0**	**-3.0**
ASDO	**Santo Domingo**	**1.63**	**93**	P	**Pn**	**04 02 34.0**	**-2.4**
AMTV	**Ecuador-Monte**	**1.77**	**179**	P	**Pn**	**04 02 37.0**	**-1.2**
APR2	**Miler**	**1.81**	**82**	P	**Pn**	**04 02 37.0**	**-1.8**
ABAB	**Ecuador-Univer**	**2.04**	**142**	P	**Pn**	**04 02 41.0**	**-0.9**
ILLI	**Illinizas Sur**	**2.10**	**105**	P	**Pn**	**04 02 42.0**	**-1.2**
HPAL	**Hacienda Las P**	**2.10**	**91**	P	**Pn**	**04 02 42.0**	**-1.1**
GGPT	**Toaza - Volcan**	**2.13**	**91**	P	**Pn**	**04 02 42.0**	**-1.6**
APR1	**Acelerografo,**	**2.15**	**87**	P	**Pn**	**04 02 42.0**	**-1.7**
PINO	**Pino**	**2.15**	**89**	P	**Pn**	**04 02 42.0**	**-2.0**
JUA2	**San Juan 2**	**2.15**	**91**	P	**Pn**	**04 02 43.0**	**-0.9**
TERV	**Terraza Guagua**	**2.15**	**90**	P	**Pn**	**04 02 43.0**	**-1.0**
GGPC	**Guagua Pichinc**	**2.16**	**90**	P	**Pn**	**04 02 43.0**	**-1.1**
PAST	**Pastocalle**	**2.17**	**104**	P	**Pn**	**04 02 43.0**	**-1.2**
YANA	**Yana**	**2.18**	**88**	P	**Pn**	**04 02 43.0**	**-1.4**
SRAM	**San Ramn-Vol**	**2.26**	**105**	P	**Pn**	**04 02 45.0**	**-0.3**
PULU	**Pululahua**	**2.26**	**85**	P	**Pn**	**04 02 44.0**	**-1.4**
AMIL	**Milagro (Trans**	**2.26**	**149**	P	**Pn**	**04 02 45.0**	**-0.0**
CHSH	**Refugio Sur-Vo**	**2.29**	**125**	P	**Pn**	**04 02 46.0**	**0.0**
CAMI	**Rancho Maria**	**2.30**	**102**	P	**Pn**	**04 02 46.0**	**0.0**
SUCR	**Mariscal Sucre**	**2.31**	**101**	P	**Pn**	**04 02 46.0**	**0.0**
SLOR	**San Lorenzo -**	**2.32**	**104**	P	**Pn**	**04 02 47.0**	**+0.7**
BNAS	**Cotopaxi Volca**	**2.33**	**102**	P	**Pn**	**04 02 47.0**	**+0.7**
NAS2	**Nasa**	**2.33**	**101**	P	**Pn**	**04 02 47.0**	**+0.6**
OTAV	**Otavalo**	**2.34**	**80**			**04 02 45.5**	**-1.0**
TOMA	**Boca Toma-Volc**	**2.34**	**98**	P	**Pn**	**04 02 47.0**	**+0.5**
PITA	**Cotopaxi Volc**	**2.35**	**99**	P	**Pn**	**04 02 47.0**	**+0.3**
BRRN	**Barrancas-Volc**	**2.36**	**105**	P	**Pn**	**04 02 47.0**	**+0.3**
PORT	**Chimborazo Vol**	**2.36**	**123**	P	**Pn**	**04 02 46.0**	**-0.8**
BMOR	**Cotopaxi Volca**	**2.36**	**103**	P	**Pn**	**04 02 47.0**	**+0.1**
BREF	**Cotopaxi Volca**	**2.37**	**102**	P	**Pn**	**04 02 48.0**	**+1.0**
AV11	**Acelerografo,**	**2.38**	**87**	P	**Pn**	**04 02 47.0**	**+0.1**
BVC2	**Cotopaxi Volca**	**2.39**	**101**	P	**Pn**	**04 02 48.0**	**+0.7**
TAMH	**Tambohuasha Ch**	**2.40**	**124**	P	**Pn**	**04 02 47.0**	**-0.3**
VC1	**Cotopaxi 1**	**2.40**	**101**	P	**Pn**	**04 02 48.0**	**+0.7**
CUSE	**Cuicocha Este**	**2.40**	**78**	*e*P	**Pn**	**04 02 46.5**	**-0.9**
CUSE				*e*S	**Sn**	**04 02 56.8**	**+0.3**
CUSE				*i*		04 03 26.6	
	comp=Z,42μm,1.0s						
CUSE	**Cuicocha Este**	**2.40**	**78**	P	**Pn**	**04 02 46.0**	**-1.3**
MILO	**Milagro-Astudi**	**2.41**	**150**	P	**Pn**	**04 02 45.0**	**-2.0**
BTAM	**Cotopaxi Volca**	**2.41**	**102**	P	**Pn**	**04 02 48.0**	**+0.5**
VCES	**Cotopaxi**	**2.44**	**105**	P	**Pn**	**04 02 48.0**	**+0.1**
CUIC	**Cuicocha-Domo**	**2.44**	**79**	P	**Pn**	**04 02 47.0**	**-0.8**
TAMB	**Tambo**	**2.44**	**102**	P	**Pn**	**04 02 48.0**	**0.0**
CUSW	**Cuicocha Oeste**	**2.45**	**79**	P	**Pn**	**04 02 47.0**	**-0.9**
COTA	**Cotacachi**	**2.47**	**78**	P	**Pn**	**04 02 48.0**	**-0.3**
MORR	**Playas El Morr**	**2.48**	**170**	P	**Pn**	**04 02 49.0**	**+1.0**
IGUA	**Igualata**	**2.48**	**122**	P	**Pn**	**04 02 49.0**	**+0.4**

comp=Z,33nm,0.8s
SPBC San Pablo de B 8.84 49 eP Pn 04 04 18.4 +2.9
CDITO Canoas 8.95 346 Pn 04 04 19.9 +3.0
BRU2 Volcan 9.12 348 Pn Pn 04 04 21.6 +2.2
PTBC PUERTO BERRIO, 9.17 43 eP Pn 04 04 21.3 +1.3
PTBC eS Sn 04 05 54.3 -8.3
RIOS Rincon, Osa 9.24 343 Pn Pn 04 04 24.3 +3.3
BCIP Isla Barro Col 9.33 6 Pn Pn 04 04 25.1 +3.0
PAYG Puerto Ayora 9.54 267 Pn Pn 04 04 29.5 +4.4
ZARC Zaragoza, Cauc 9.62 38 Pn Pn 04 04 27.8 +1.6
ZARC Zaragoza, Cauc 9.62 38 eP Pn 04 04 37.7 +11
PTGC Puerto Gaitan, 9.65 63 eP Pn 04 04 29.5 +2.9
DRKO Durika 9.70 345 Pn 04 04 30.2 +2.8
SRBA San Rafael, Bu 9.70 345 Pn 04 04 30.1 +2.8
RUSC La Rusia 9.75 52 eP Pn 04 04 30.8 +2.4
PEZE Perez Zeledon, 9.93 343 Pn 04 04 33.6 +3.1
RIMA Rio Macho 10.35 343 Pn Pn 04 04 38.4 +2.1
HDC Heredia 10.65 342 Pn Pn 04 04 42.5 +2.1
CZSB Cruzeiro do Su 10.98 133 eP Pn 04 04 44.8 -0.1
OCAC Ocana 11.17 41 Pn 04 04 49.1 +1.6
JTS Las Juntas de 11.21 338 Pn Pn 04 04 49.3 +1.3
comp=Z,0.5nm,0.3s,baz=185,slow=9.3,SNR=6.8
JTS Las Juntas de 11.21 338 Pn Pn 04 04 50.8 +2.8
COVE Coope Vega, Sa 11.42 342 Pn Pn 04 04 53.8 +3.1
SJCC San Jacinto, C 11.44 29 Pn Pn 04 04 52.5 +1.3
SJCC San Jacinto, C 11.44 29 eP Pn 04 04 54.2 +3.0
ORTG Ortega, Santa 11.47 336 Pn Pn 04 04 55.1 +3.5
TBTG Tabatinga, AM 11.54 110 eP Pn 04 04 51.3 -1.2
NNA Nana 12.36 162 Pn Pn 04 05 05.6 +1.9
comp=Z,3.4nm,0.3s,baz=301,slow=8.9,SNR=5.4
NNA Sn Sn 04 07 16.7 -4.2
comp=Z,2.7nm,0.3s,baz=248,slow=16,SNR=2.8
NNA Nana 12.36 162 Pn 04 05 02.5 -1.2
ACON Acoyapa 12.84 340 Pn Pn 04 05 12.6 +2.4
BOAB BOACO BROADBAND 13.46 339 Pn 04 05 21.3 +2.6
SDV Santo Domingo 13.52 48 Pn Pn 04 05 19.6 0.0
comp=Z,0.8nm,0.3s,baz=232,slow=12,SNR=14
SDV Santo Domingo 13.52 48 Pn Pn 04 05 20.1 +0.4
SDV Santo Domingo 13.52 48 eP Pn 04 05 19.3 -0.4
SDV Santo Domingo 13.52 48 eP Pn 04 05 18.9 -0.8
MATN Matagalpa 14.00 339 Pn 04 05 29.2 +3.1
CRIN San Cristobal 14.24 334 Pn Pn 04 05 31.0 +1.6
URIC Uribia, Colomb 14.66 36 Pn Pn 04 05 34.4 -0.8
TGUH Tegucigalpa,Un 15.55 336 Pn P 04 05 49.1 -2.1
TGUH IAmb IAmb 04 05 55.2
comp=Z,79nm,1.2s
BAUV El Baul 15.57 54 Pn 04 05 47.3 0.0
BAUV IAmb IAmb 04 05 53.9
comp=Z,34nm,0.8s
SNET Serv Nac Est T 16.13 329 Pn P 04 05 57.2 -0.5
SNET IAmb IAmb 04 06 01.1
comp=Z,71nm,0.8s
MTO3 Montecristo 16.80 330 P 04 06 04.9 -0.4
ESQI Esquipulas 16.93 330 P 04 06 06.5 0.0
HATO Hato, Curacao 16.97 43 Pn Pn 04 06 04.2 -0.9
PETF Flores 19.21 333 P Pn 04 06 31.8 -0.8
CCIG Comitan 19.84 326 P Pn 04 06 41.3 +1.0
MACA Manacapuru-AM 20.28 99 eP P 04 06 41.7 -1.6
LPAZ La Paz 20.28 143 P P 04 06 44.9 +0.9
comp=Z,16nm,0.6s,baz=320,slow=7.6,SNR=58
LPAZ La Paz 20.28 143 P P 04 06 43.0 -0.9
LPAZ La Paz 20.28 143 eP P 04 06 43.5 -0.5
BOAV Boa Vista 20.39 83 eP P 04 06 44.0 -0.5
PB12 IPOC Station P 20.99 151 P P 04 06 50.0 -1.0
PB16 IPOC Station P 21.16 149 P P 04 06 53.8 +0.4
PB16 IAmb IAmb 04 07 08.4
comp=Z,34nm,0.9s
SDDR Presa de Saban 21.19 26 P P 04 06 54.0 +0.9
SDDR IAmb IAmb 04 07 22.6
comp=Z,48nm,1.2s
SC01 Santiago de lo 21.82 26 P P 04 07 01.3 +1.4
SC01 IAmb IAmb 04 07 05.3
comp=Z,65nm,1.1s
DR12 Loma Pena Alta 21.91 30 P P 04 07 01.8 +0.9
CMIG Matias Romero 22.10 322 P P 04 07 03.5 +0.6
comp=Z,7.0nm,1.0s,baz=140,slow=8.2,SNR=5.6
PB11 IPOC Station P 22.29 151 P P 04 07 05.0 -0.1
PB11 IAmb IAmb 04 07 09.5
comp=Z,45nm,0.8s
GO01 Chusmiza 22.44 150 P P 04 07 07.4 +0.3
GO01 IAmb IAmb 04 07 19.7
comp=Z,55nm,1.1s
CRPR Cabo Rojo, PR 22.51 36 P P 04 07 07.6 +0.3
TA02 Huaiquique 22.51 153 P P 04 07 06.7 -0.6
TA02 IAmb IAmb 04 07 10.2
comp=Z,34nm,0.7s
MLPR Magueyes Islan 22.52 36 P P 04 07 06.8 -0.5
MLPR IAmb IAmb 04 07 18.3
comp=Z,47nm,1.2s
PRSN Puerto Rico Se 22.65 35 P P 04 07 09.4 +0.6
TA01 Diego Aracena 22.75 154 P P 04 07 09.1 -0.7
TA01 IAmb IAmb 04 07 16.0
comp=Z,52nm,1.1s
ICMP Isla Caja de M 22.76 37 P P 04 07 10.8 +0.8
OBIP Obispado Ponce 22.84 37 P P 04 07 11.2 +0.4
OBIP IAmb IAmb 04 07 30.2
comp=Z,50nm,1.3s
PB08 IPOC Station P 22.86 151 P P 04 07 10.9 -0.5
PB08 IAmb IAmb 04 07 33.7
comp=Z,35nm,1.0s
CELP Cerrillos 22.88 37 P P 04 07 11.7 +0.6
CELP IAmb IAmb 04 07 40.9
comp=Z,51nm,1.3s
AOPR Arecibo Observ 22.98 36 P P 04 07 12.5 +0.2
PATCX Punta Patache 22.98 154 P P 04 07 11.7 -0.7
PATCX IAmb IAmb 04 07 15.2
comp=Z,46nm,1.1s
SJG San Juan 23.16 38 P P 04 07 15.2 +1.1
comp=Z,27nm,1.0s,baz=215,slow=8.6,SNR=11
SJG LR LR 04 17 41.4
comp=Z,869nm,19.6s,baz=306,slow=40
SJG San Juan 23.16 38 P P 04 07 14.4 +0.3
SJG IAmb IAmb 04 07 16.3
comp=Z,40nm,1.1s
PDPR Patillas Dam, 23.17 38 P P 04 07 14.7 +0.5
PDPR IAmb IAmb 04 07 20.8
comp=Z,39nm,1.1s
GCPR Guaynabo City 23.36 37 IAmb IAmb 04 07 28.0
comp=Z,37nm,0.9s
MTP Monte Pirata 23.52 39 IAmb IAmb 04 07 39.6
comp=Z,56nm,1.2s
PB02 IPOC Station P 23.54 154 P P 04 07 18.6 +0.7
PB02 IAmb IAmb 04 07 22.5
comp=Z,34nm,1.0s
CDVI St. Croix 23.77 41 P P 04 07 20.5 +0.5
CUPR Culebra, Puert 23.85 39 P P 04 07 20.4 -0.4
CUPR IAmb IAmb 04 07 23.1
comp=Z,22nm,0.8s
PB07 IPOC Station P 23.90 154 P P 04 07 19.9 -1.6
PB07 IAmb IAmb 04 07 26.1
comp=Z,45nm,1.5s
VILB Vilhena 24.01 123 eP P 04 07 21.8 -0.6
STVI Saint Thomas 24.09 39 P P 04 07 23.3 +0.2
STVI IAmb IAmb 04 07 47.2
comp=Z,33nm,1.1s
PB09 IPOC Station P 24.24 153 P P 04 07 25.3 +0.6
PB09 IAmb IAmb 04 07 53.8
comp=Z,28nm,1.0s
GDHS Morne Mazeau, 24.86 48 P P 04 07 31.4 +1.2
TLIG Tlapa 24.86 316 P P 04 07 32.8 +2.5
SIV San Ignacio 24.98 130 P P 04 07 31.3 0.0
comp=Z,7.1nm,0.7s,baz=295,slow=9.1,SNR=50
LVC Limon Verde 25.10 153 P P 04 07 33.3 +0.6
comp=Z,13nm,0.7s,baz=317,slow=5.8,SNR=12
LVC Limon Verde 25.10 153 P P 04 07 32.8 +0.1
LVC IAmb IAmb 04 07 36.6
comp=Z,25nm,0.9s
LVC Limon Verde 25.10 153 eP P 04 07 33.1 +0.4
SMRT St. Maarten 25.11 43 P P 04 07 31.7 -0.7
SMRT IAmb IAmb 04 07 44.4
comp=Z,32nm,1.2s
ABD La Joyeuse, An 25.20 48 P P 04 07 34.5 +1.3
ITTB Itaituba 25.34 100 eP P 04 07 33.4 -1.1
PB15 IPOC Station P 25.38 155 P P 04 07 35.5 +0.4
ANWB Willy Bob 25.75 46 P P 04 07 37.4 -0.8
PTLB Pontes e Lacer 26.19 126 eP P 04 07 41.9 -0.3
NPGB Novo Progresso 26.23 106 eP P 04 07 41.0 -1.7
PDRB Porto dos Gac 26.42 116 eP P 04 07 43.9 -0.5
MALB Monte Alegre 26.54 94 eP P 04 07 44.8 -0.6
CLDB Colider 26.98 114 eP P 04 07 48.5 -0.9
MDP Montagnes des 28.56 79 P P 04 08 03.1 -0.5
comp=Z,5.6nm,0.7s,baz=263,slow=9.5,SNR=2.1
MCPB Macapa, AP 28.70 90 eP P 04 08 03.0 -1.9

AC02 Maricunga 28.77 158 P P 04 08 05.2 -0.6
AC06 Mina Casimiro 28.81 161 P P 04 08 06.2 +0.5
AC06 IAmb IAmb 04 08 17.4
comp=Z,22nm,1.3s
SALV Santo Antonio 29.25 123 eP P 04 08 09.6 -0.1
PP1B Ponte de Pedra 30.79 126 eP P 04 08 23.1 -0.2
ZAIG Zacatecas 31.16 318 P P 04 08 29.3 +2.5
PRPB Parauapebas 31.45 102 eP P 04 08 27.4 -1.8
SNDB Serra Nova Dou 31.50 113 eP P 04 08 28.6 -1.0
AQDB Aquidauana 31.74 131 P P 04 08 30.2 -1.5
AQDB IAmb IAmb 04 08 32.2
comp=Z,17nm,1.0s
AQDB Aquidauana 31.74 131 eP P 04 08 30.4 -1.2
H03N2 Juan Fernandez 33.13 177 T T 04 44 27.8
baz=356,slow=74,SNR=2.4
H03N1 Juan Fernandez 33.13 177 T T 04 44 29.6
baz=356,slow=74,SNR=6.9
H03N3 Juan Fernandez 33.15 177 T T 04 43 48.3
baz=356,SNR=3.4
ROC1 El Roble 33.89 165 P P 04 08 49.0 -1.5
SMTB Santa Maria do 34.14 106 eP P 04 08 52.3 -0.4
PEXB Peixe 34.32 111 eP P 04 08 53.9 -0.3
CPUP Villa Florida 34.43 141 P P 04 08 54.1 -0.9
comp=Z,1.0nm,0.5s,baz=16,slow=7.4,SNR=2.5
CPUP Villa Florida 34.43 141 eP P 04 08 54.8 -0.2
FPAL Fort Paine 34.84 353 IAmb IAmb 04 08 59.0
comp=Z,12nm,1.0s
Z41A Richland Creek 35.14 342 P P 04 09 03.0 +1.9
Z41A IAmb IAmb 04 09 28.7
comp=Z,16nm,0.9s
W57A Gilead 35.16 1 P P 04 09 02.7 +1.6
W57A IAmb IAmb 04 09 22.6
comp=Z,24nm,1.2s
CCAR Cane Creek 35.46 344 P P 04 09 06.8 +3.0
CPCT Cooper Cave 35.62 355 IAmb IAmb 04 09 06.7
comp=Z,14nm,0.9s
WLAR White Oak Lake 35.63 342 P P 04 09 07.5 +2.2
WHTX Lake Whitney, 35.68 335 P P 04 09 07.5 +1.7
WHTX IAmb IAmb 04 09 14.6
comp=Z,25nm,1.2s
V53A Saluda 35.72 357 P P 04 09 08.3 +2.3
V53A IAmb IAmb 04 09 30.9
comp=Z,19nm,1.4s
BDFB Brasilia 35.79 117 P P 04 09 06.0 -1.0
comp=Z,18nm,1.1s,baz=295,slow=6.6,SNR=8.6
BDFB Brasilia 35.79 117 P P 04 09 06.6 -0.5
PCMB Pacaembu 35.80 128 eP P 04 09 06.0 -0.9
V55A Taylorsville 35.85 359 P P 04 09 09.0 +1.8
Z38A Mt. Pleasant 35.86 339 P P 04 09 09.6 +2.3
V51A Loudon 35.95 355 P P 04 09 09.4 +1.4
V51A IAmb IAmb 04 09 11.7
comp=Z,22nm,1.3s
W45A Hickory Valley 36.02 348 P P 04 09 08.2 -0.4
IPMB Ipameri, GO 36.56 121 eP P 04 09 12.4 -1.1
TX32 Lajitas Array 36.60 325 P P 04 09 15.2 +1.3
TXAR Lajitas Array 36.60 325 P P 04 09 13.9 +0.1
TX31 Lajitas Ar. Si 36.60 325 IAmb IAmb 04 09 28.9
comp=Z,16nm,1.2s
ROSB Rosario 36.71 95 eP P 04 09 14.6 -0.3
W41B Gary Mavity, V 36.77 344 P P 04 09 16.5 +1.4
ABTX Abilene, Hawle 37.18 333 P P 04 09 20.8 +2.2
ABTX IAmb IAmb 04 09 27.0
comp=Z,38nm,1.4s
W39A Magazine 37.24 342 IAmb IAmb 04 09 25.2
comp=Z,12nm,0.8s
ITQB Itaqui 37.27 144 eP P 04 09 19.6 +0.2
LCAR Lake Charles 37.34 346 IAmb IAmb 04 09 26.4
comp=Z,12nm,0.8s
SDBA SAO DESIDERIO 37.58 110 eP P 04 09 21.3 -0.9
BB19B Bebedouro 37.70 125 eP P 04 09 21.5 -1.7
FRTB Fartura 38.05 129 eP P 04 09 24.6 -1.6
TUL1 Leonard 38.54 340 P P 04 09 31.1 +1.1
MGMO Mountain Grove 38.65 345 IAmb IAmb 04 09 35.8
comp=Z,23nm,1.3s
JANB Januaria 38.92 114 eP P 04 09 32.0 -1.6
CCM Cathedral Cave 39.26 347 P P 04 09 37.7 +1.7
OLIL Olney 39.31 351 IAmb IAmb 04 09 37.0
comp=Z,16nm,0.8s
LC01 Cunco 39.38 169 P P 04 09 36.4 -0.7
NBPS Pedro II - PI 39.49 97 eP P 04 09 37.2 -1.2
Q44A Meyer Farm, Va 39.62 350 IAmb IAmb 04 09 48.3
comp=Z,15nm,0.8s
T35A Sooner Cattle 39.69 340 P P 04 09 41.8 +2.2
CPSB Cacapava Do Su 39.72 142 eP P 04 09 39.6 -0.4
R40A Maddies Statio 39.72 346 P P 04 09 40.0 +0.2
VAO Valinhos 39.92 127 eP P 04 09 41.4 -0.4
U32A Winter Ranch, 40.13 337 P P 04 09 44.9 +1.6
PLTB Pedras Altas 40.58 143 eP P 04 09 47.3 +0.2
HDIL Hopedale 41.28 350 P P 04 09 52.6 -0.1
HDIL IAmb IAmb 04 10 01.5
comp=Z,13nm,0.8s
PLCA Paso Flores 41.42 168 P P 04 09 54.1 +0.1
comp=Z,4.5nm,0.8s,baz=343,slow=10.0,SNR=12
PLCA Paso Flores 41.42 168 IAmb IAmb 04 10 00.7
comp=Z,6.9nm,0.9s
PLCA Paso Flores 41.42 168 eP P 04 09 55.0 +1.1
319A Douglas 41.42 322 P P 04 09 52.2 -1.9
NBPB Pedra_Branca-C 41.45 98 eP P 04 09 53.6 -1.0
NBPN Ponto Novo - B 41.67 106 eP P 04 09 55.5 -0.8
KSU1 Kansas State U 41.71 341 P P 04 09 56.4 +0.2
KSU1 IAmb IAmb 04 10 05.8
comp=Z,20nm,0.8s
R32A Long Quarter, 41.81 339 P P 04 09 58.7 +1.6
ESAR Angra dos Reis 41.96 125 eP P 04 09 59.3 +0.7
NBMA Muriti-CE 42.47 101 eP P 04 10 02.0 -1.0
CMC01 Camacan, BA 43.42 112 eP P 04 10 10.0 -0.6
RIB01 Linhares ES 43.89 118 eP P 04 10 13.2 -1.1
NBLA Lagarto - SE 44.02 106 eP P 04 10 13.9 -1.5
H43A Windswept, Lux 44.89 353 IAmb IAmb 04 10 30.9
comp=Z,12nm,0.9s
Q24A Divide 44.92 333 P P 04 10 23.5 +0.9
RCBR Riachuelo 45.12 98 LR LR 04 29 31.8
comp=Z,2µm,20.3s,baz=170,slow=36
NBAN Anadia - AL 45.25 103 eP P 04 10 23.7 -1.6
E28A Huff 49.74 342 P P 04 11 01.4 +1.8
NVAR Mina Array Bea 51.63 322 P P 04 11 15.8 +1.5
comp=Z,2.0nm,0.8s,baz=111,slow=9.8,SNR=4.7
ULM Lac du Bonnet 51.88 348 P P 04 11 14.9 -0.7
comp=Z,3.0nm,0.5s,baz=166,slow=9.4,SNR=4.1
ULM Lac du Bonnet 51.88 348 IAmb IAmb 04 11 36.5
comp=Z,16nm,1.5s
YHL Hebgen Lake 52.33 333 IAmb IAmb 04 11 27.0
comp=Z,30nm,1.5s
BOZ Bozeman (W) 53.10 333 IAmb IAmb 04 11 32.5
comp=Z,11nm,1.2s
ORV Oroville 54.28 322 P P 04 11 35.8 +2.2
ORV IAmb IAmb 04 11 40.8
comp=Z,11nm,1.1s
MSO Missoula 55.08 333 P P 04 11 41.7 +2.2
SCHQ Schefferville 56.01 10 P P 04 11 45.0 -0.8
comp=Z,21nm,0.9s,baz=194,slow=5.2,SNR=2.8
SCHQ Schefferville 56.01 10 IAmb IAmb 04 11 57.5
comp=Z,9.3nm,1.2s
YBH Yreka Blue Hor 56.32 323 P P 04 11 47.4 -0.9
comp=Z,2.7nm,1.0s,baz=194,slow=5.0,SNR=3.3
G08A Pilot Rock 56.46 328 P P 04 11 50.6 +1.3
G08A IAmb IAmb 04 11 55.8
comp=Z,10nm,1.1s
PINE Pine Mountain 56.56 326 IAmb IAmb 04 11 54.9
comp=Z,11nm,1.0s
J04D Umpqua Nationa 56.88 325 P P 04 11 53.7 +1.2
F07A Phinny Hill Vi 57.37 328 P P 04 11 56.9 +1.3
F07A IAmb IAmb 04 12 23.1
comp=Z,6.7nm,0.8s
NEW Newport 57.61 332 P P 04 11 58.0 +0.7
comp=Z,1.9nm,0.9s,baz=106,slow=4.6,SNR=2.9
H04A Detroit Lake 57.81 326 IAmb IAmb 04 12 12.8
comp=Z,8.7nm,1.0s
FCC Fort Churchill 59.70 352 IAmb IAmb 04 12 11.9
comp=Z,7.2nm,1.0s
EDM Edmonton 59.73 338 IAmb IAmb 04 12 41.1
comp=Z,16nm,1.3s
GRNB Grenville Isla 67.38 331 P P 04 13 04.9 +2.4
YKA Yellowknife Ar 67.49 344 P P 04 13 03.1 +0.2
comp=Z,2.2nm,0.8s,baz=136,slow=6.2,SNR=37
YKA Yellowknife Ar 67.49 344 P P 04 13 03.5 +0.5
MACI Morro de la Ar 67.55 59 P P 04 13 05.3 +0.9
DLBC Dease Lake 70.09 335 P P 04 13 21.6 +2.2
comp=Z,4.7nm,1.0s,baz=129,slow=3.8,SNR=5.8
DLBC Dease Lake 70.09 335 IAmb IAmb 04 13 24.2
comp=Z,11nm,1.2s
ICESG Greenland Ices 74.48 14 i P P 04 13 42.9 -2.8
LIC Lamto 75.83 84 eP P 04 13 54.1 -0.1
comp=Z,19nm,1.0s

TIC Toumodi 75.85 83 eP P 04 13 53.8 -0.6
DBIC Dimbokro 76.02 83 P P 04 13 54.9 -0.4
comp=Z,6.8nm,0.9s,baz=239,slow=4.1,SNR=10.0
DBIC Dimbokro 76.02 83 P P 04 13 55.3 0.0
DBIC IAmb IAmb 04 13 55.5
comp=Z,12nm,1.1s
KIC Kosan Boka 76.12 83 eP P 04 13 55.5 -0.4
comp=Z,20nm,0.8s
PNCL Nicolau / Gran 76.18 51 eP P 04 13 56.9 +1.2
comp=Z,28nm,2.1s
PCAS Casmilo, Conde 76.59 49 eP P 04 13 59.3 +1.3
PMTG Montargil 76.60 50 eP P 04 13 58.9 +0.8
comp=Z,19nm,1.6s
EVO Evora 76.66 50 eP P 04 13 59.1 +0.7
comp=Z,32nm,1.8s
COI Coimbra 76.68 49 eP P 04 14 00.0 +1.5
PESTR Estremoz 77.05 50 eP P 04 14 01.7 +1.0
comp=Z,22nm,1.8s
M27K Edge Creek, AK 77.14 335 IAmb IAmb 04 14 08.2
comp=Z,14nm,1.4s
I29M Ogilvie Camp, 77.17 339 IAmb IAmb 04 14 07.8
comp=Z,9.2nm,1.0s
INK Inuvik 77.17 342 P P 04 14 01.2 +0.5
comp=Z,3.9nm,0.8s,baz=114,slow=5.9,SNR=19
INK Inuvik 77.17 342 IAmb IAmb 04 14 06.4
comp=Z,5.3nm,0.8s
PVIS Viseu 77.17 48 eP P 04 14 02.1 +0.7
comp=Z,31nm,1.9s
KOWA Kowa 77.21 75 P P 04 14 02.2 +0.2
MCARA McCarthy VSAT 77.21 334 P P 04 14 03.9 +2.8
PCBR Castelo Branco 77.32 49 eP P 04 14 02.9 +0.8
EGAK Eagle 77.95 338 IAmb IAmb 04 14 08.5
comp=Z,14nm,1.2s
PBRG Braganca 78.24 47 eP P 04 14 08.2 +0.9
comp=Z,25nm,1.6s
DOT Dot Lake 78.60 336 P P 04 14 11.2 +2.4
SCRK Sand Creek 78.70 336 P P 04 14 11.2 +1.7
PAX Paxson 78.91 335 IAmb IAmb 04 14 16.3
comp=Z,18nm,1.5s
RIDG Independent Ri 78.95 336 P P 04 14 13.3 +2.5
ESDC Sonseca Array 79.96 50 P P 04 14 17.0 +0.2
comp=Z,2.7nm,0.8s,baz=266,slow=6.1,SNR=23
ESDC Sonseca Array 79.96 50 P P 04 14 17.7 +1.0
ILAR Eielson Array 80.18 337 P P 04 14 17.9 +0.6
comp=Z,1.6nm,1.0s,baz=124,slow=3.4,SNR=9.1
ILAR Eielson Array 80.18 337 P P 04 14 18.8 +1.5
BRLK Bradley Lake 80.25 331 P P 04 14 19.7 +1.8
BRLK IAmb IAmb 04 14 21.2
comp=Z,23nm,1.3s
H24K Noodor Dome 80.95 337 P P 04 14 22.8 +1.2
H24K IAmb IAmb 04 14 27.7
comp=Z,10nm,1.4s
NEA2 Nenana 80.99 336 P P 04 14 22.4 +0.7
TRF Thorofare Moun 81.12 335 IAmb IAmb 04 14 29.2
comp=Z,14nm,1.2s
BPAW Bear Paw Mtn. 81.62 335 IAmb IAmb 04 14 28.3
comp=Z,7.3nm,1.1s
PPLA Purkeypile 81.77 334 IAmb IAmb 04 14 32.4
comp=Z,10.0nm,0.9s
CAST Castle Rocks 81.88 334 IAmb IAmb 04 14 32.5
comp=Z,8.6nm,1.0s
N19K Bonanza Creek 82.26 332 P P 04 14 30.1 +1.4
I21K Tanana 82.36 336 IAmb IAmb 04 14 35.2
comp=Z,5.8nm,1.1s
TOA0 Torodi Ar. Sit 82.69 77 P P 04 14 30.7 -1.0
TOA0 IAmb IAmb 04 14 50.8
comp=Z,12nm,1.4s
TORD Torodi Ar. Bea 82.69 77 P P 04 14 31.0 -0.7
comp=Z,2.0nm,0.8s,baz=304,slow=5.7,SNR=12
TORD Torodi Ar. Bea 82.69 77 IAmb IAmb 04 14 50.9
comp=Z,11nm,1.4s
K20K Telida 82.72 334 IAmb IAmb 04 14 36.9
comp=Z,12nm,1.2s
J20K Nowinta River 82.97 335 IAmb IAmb 04 14 36.6
comp=Z,6.8nm,1.1s
IMAR Indian Mountai 83.29 337 P P 04 14 34.1 +0.4
VNA3 Neumayer Olymp 83.81 162 P P 04 14 36.5 +0.2
DAG Danmarks Havn 83.99 12 i P P 04 14 36.0 -1.1
VNA2 Neumayer--Watz 84.43 162 P P 04 14 39.4 -0.1
baz=291,slow=6.0
SNAA Sanae 86.03 162 P P 04 14 47.5 -0.1
VNDA Vanda 95.57 191 P P 04 15 32.9 +0.9
comp=Z,0.4nm,0.7s,baz=172,slow=1.3,SNR=3.8
TSUM Tsumeb 97.82 109 P P 04 15 43.4 -0.3
H11S2 WAKE ISLAND Hyl 11.39 290 T T 06 21 26.8
baz=85,slow=75,SNR=7.5
H11S1 WAKE ISLAND Hyl 11.39 290 T T 06 21 27.8
baz=85,slow=75,SNR=5.5
H11S3 WAKE ISLAND Hyl 11.41 290 T T 06 21 22.5
baz=85,slow=75,SNR=4.5
STKA Stephens Creek 128.84 227 PKP PKPdf 04 21 14.8 -0.7
comp=Z,2.0nm,0.8s,baz=318,slow=1.8,SNR=3.9
ASAR Alice Springs 138.85 232 PKP PKPdf 04 21 34.6 +0.1
comp=Z,1.2nm,0.7s,baz=104,slow=2.3,SNR=8.8
WRA Warramunga Arr 140.24 238 PKP PKPdf 04 21 36.0 -1.1
comp=Z,1.9nm,0.7s,baz=118,slow=1.6,SNR=13
WRA Warramunga Arr 140.24 238 PKPdf PKPdf 04 21 36.8 -0.4
GOMU GeErMu 143.93 6 PKP PKPab 04 21 40.8 -0.1
GOMU pPKP PKiKP 04 21 45.8 -1.4
GOMU sPKP 04 21 53.4
GOMU PP PP 04 24 53.9 -1.8
GOMU SKS SKSdf 04 28 46.9 -5.9
LZH Lanzhou 144.02 354 ePKP PKPdf 04 21 45.0 +1.3
LZH sPKP 04 21 58.5
MTN Manton Dam 145.84 247 PKPdf PKPab 04 21 48.0 -0.1
PZH PanZhiHua 153.72 355 PKPbc PKPdf 04 21 58.3 -1.2
CMAR Chiang Mai Arr 161.83 1 PKPab PKPab 04 22 53.8 -1.0
comp=Z,0.3nm,0.3s,baz=352,slow=4.6,SNR=1.5

IDC 17 04:02:33.9$_{\pm}$3.5,6°91S×125°18E,h525$^{km}_{\pm}$47^{km},mb2.6/1, mb1 2.8/5,mb1mx2.6/43,mbtmp3.6/5,Error ellipse: s-maj=114.2km s-min=25.6km az=55.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	3.60	205	P	P	04 03 52.6	+1.6
	13nm,0.3s,baz=116,slow=3.4,SNR=8.9						
BATI				S	S	04 04 53.2	-0.6
	4.2nm,0.3s,baz=124,slow=21,SNR=2.1						
FITZ	**Fitzroy Crossi**	11.13	178	P	P	04 05 03.5	+0.3
	0.1nm,0.3s,baz=355,slow=7.8,SNR=7.4						
WRA	**Warramunga Arr**	15.71	146	P	P	04 05 49.3	-1.9
	0.2nm,0.3s,baz=324,slow=10,SNR=15						
ASAR	**Alice Springs**	18.65	154	P	P	04 06 19.6	+0.6
	0.4nm,0.3s,baz=337,slow=9.2,SNR=28						
MKAR	**Makanchi Array**	65.61	329	P	P	04 12 25.5	-0.3
	0.2nm,0.5s,baz=131,slow=5.8,SNR=1.9						

*ANF **17** 04:06:23.6±0.4,36°54N×114°00W,h5^{km},ML4.0/39, ML4.0/39,Error ellipse: s-maj=3.2km s-min=2.9km az=70.0*
*REN **17** 04:06:23.9±1.6,36°47N±0°03×113°97W±0°03,h5$^{km}_{\pm}$6^{km}, Error ellipse: s-maj=3.9km s-min=2.9km az=161.0*
*NEIC **17** 04:06:24.4±1.4,36°49N±0°03×114°00W±0°02,h5$^{km}_{\pm}$1^{km}, ML3.8/152,ML3.7/6(REN),Error ellipse: s-maj=4.4km s-min=3.3km az=344.0*
*IDC **17** 04:06:24.7±0.7,36°44N×114°09W,h0^{km},mb3.1/1, mb1 3.7/7,mb1mx3.5/55,mbtmp3.4/7,ML3.6/6,Error ellipse: s-maj=9.3km s-min=8.1km az=63.0*

ISC 17 04:06:24.6±0.6,36°47N±0°02×114°00W±0°02,h10^{km}, n171,σ1§72/227,Western Arizona

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ICU	**Indian Springs**	0.68	5		Pg	04 06 37.0	-0.8
ICU					Sg	04 06 46.2	-0.5
LCMT	**Little Creek M**	0.81	48		Pg	04 06 39.1	-1.2
LCMT				Sg	Sg	04 06 49.3	-1.6
LCMT				IAML		04 06 49.7	
	comp=E,2µm,0.2s						
SHPR	**Sheep Range**	0.94	272		Pg	04 06 41.6	-1.1
SHPR				Sg	Sg	04 06 54.1	-0.9
SHPR				IAML		04 06 57.1	
	comp=E,2µm,0.4s						
KNB	**Kanab**	1.09	60		Pg	04 06 44.4	-1.2
KNB				Sg	Sg	04 06 57.9	-1.9
KNB				IAML		04 06 58.5	
	comp=E,4µm,0.7s						
KNB				IAML		04 06 58.8	
	comp=N,3µm,0.7s						
CCUT	**Cedar City**	1.19	25		Pb	04 06 46.3	-1.1
CCUT				Sg	Sg	04 07 01.3	-1.7

PRN	**Pahroc Range**	**1.26**	**318**		**Pn**	**04 06 47.6**	**-0.8**
PRN				Sg	**Sb**	**04 07 03.4**	**-1.4**
SZCU	**Shurtz Canyon**	**1.34**	**33**	Pn	**Pn**	**04 06 48.8**	**-0.7**
SZCU				Sg	**Sb**	**04 07 05.4**	**-1.8**
W13A	**Hualapai Mount**	**1.37**	**176**	Pn	**Pn**	**04 06 50.0**	**-0.1**
U15A	**North Rim**	**1.38**	**91**	Pn	**Pb**	**04 06 50.1**	**-0.5**
U15A				Sg	**Sb**	**04 07 07.3**	**-1.1**
U15A				IAML		04 07 08.3	
	comp=N,2µm,0.6s						
PKCU	**Pink Cliffs**	**1.66**	**54**	Pn	**Pb**	**04 06 55.0**	**-0.5**
NEE2	**Needles Airpor**	**1.77**	**197**	P	**Pn**	**04 06 54.8**	**-0.6**
	baz=17,SNR=22						
NEE2				Sb	**Sg**	**04 07 22.1**	**+0.4**
	baz=17						
S11A	**Rachel**	**1.82**	**310**		**Pn**	**04 06 55.9**	**-0.3**
TPNV	**Topopah Spring**	**1.87**	**285**		**Pn**	**04 06 57.0**	**+0.1**
TPNV	**Topopah Spring**	**1.87**	**285**	P	**Pn**	**04 06 57.0**	**+0.1**
	baz=104,SNR=1000						
TUQ	**Turquoise Moun**	**1.87**	**237**	Pn	**Pn**	**04 06 56.7**	**-0.2**
	baz=56,SNR=223						
TUQ				Pb	**Pb**	**04 06 59.2**	**+0.2**
	baz=56						
TUQ				Sb	**Sg**	**04 07 24.1**	**-0.8**
	baz=56						
SHOC	**Shoshone, Teco**	**1.93**	**253**	Pn	**Pn**	**04 06 57.8**	**+0.3**
	baz=72,SNR=313						
SHOC				Pb	**Pb**	**04 06 60.0**	**0.0**
	baz=72						
PSUT	**Pine Spring**	**2.06**	**3**		**Pn**	**04 07 00.3**	**+0.8**
PSUT				IAML		04 07 31.2	
	comp=N,656nm,0.9s						
PSUT				IAML		04 07 35.2	
	comp=E,807nm,0.5s						
MTPU	**Mount Pierson**	**2.13**	**42**		**Pb**	**04 07 02.5**	**-1.1**
MTPU				IAML		04 07 32.1	
	comp=N,1µm,0.6s						
MTPU				IAML		04 07 32.3	
	comp=E,792nm,0.3s						
GMRC	**Granite Mounta**	**2.16**	**219**	P	**Pn**	**04 07 00.6**	**-0.3**
	baz=39,SNR=74						
GMRC				Sb	**Sg**	**04 07 33.9**	**-0.2**
	baz=39						
PDMCI	**Parker Dam,Lak**	**2.17**	**183**	Pg	**Pg**	**04 07 07.3**	**+1.1**
	baz=3.6						
PDMCI				Sb	**Sg**	**04 07 33.9**	**-0.4**
	baz=3.6						
GWY	**Greenwater Val**	**2.18**	**263**		**Pn**	**04 07 01.1**	**+0.1**
GWY				IAML		04 07 16.6	
	comp=N,714nm,0.6s						
GWY				IAML		04 07 16.7	
	comp=E,588nm,0.7s						
R11A	**Troy Canyon, C**	**2.26**	**326**		**Pn**	**04 07 01.7**	**-0.6**
R11A				IAML		04 07 37.9	
	comp=N,547nm,0.4s						
R11A				IAML		04 07 38.0	
	comp=E,528nm,0.4s						
R11A	**Troy Canyon, C**	**2.26**	**326**	Pn	**Pn**	**04 07 01.6**	**-0.6**
	baz=145,SNR=643						
R11A				Pb	**Pb**	**04 07 05.3**	**-0.4**
	baz=145						
R11A				Sb	**Sb**	**04 07 34.2**	**+0.5**
	baz=145						
FURC	**Furnace Creek,**	**2.31**	**271**	Pb	**Pb**	**04 07 04.9**	**-1.4**
	baz=89,SNR=495						
FURC				Pg	**Pg**	**04 07 07.3**	**-1.6**
	baz=89						
WUAZ	**Wupatki**	**2.33**	**113**	Pn	**Pn**	**04 07 04.5**	**+1.3**
WUAZ	**Wupatki**	**2.33**	**113**	Pn	**Pn**	**04 07 04.5**	**+1.3**
	baz=295,SNR=555						
WUAZ				Pb	**Pb**	**04 07 07.0**	**+0.1**
	baz=295						
WUAZ				Sb	**Sb**	**04 07 36.5**	**+0.7**
	baz=295						
QSM	**Queen of Sheba**	**2.38**	**259**		**Pn**	**04 07 03.8**	**+0.1**
QSM				IAML		04 07 45.7	
	comp=E,549nm,1.0s						
QSM				IAML		04 07 47.6	
	comp=N,519nm,0.8s						
TCRU	**Three Creeks R**	**2.46**	**30**		**Pn**	**04 07 06.4**	**+1.3**
TCRU				IAML		04 07 42.3	
	comp=E,584nm,0.8s						
TCRU				IAML		04 07 45.6	
	comp=N,395nm,0.6s						
IRM	**Iron Mountain**	**2.49**	**202**	P	**Pn**	**04 07 05.7**	**+0.4**
	baz=22,SNR=20						
IRM				Sb	**Sg**	**04 07 43.6**	**-1.2**
	baz=22						
MSU	**Marysvale**	**2.50**	**35**		**Pn**	**04 07 06.8**	**+1.3**
HEC	**Hector,Ludlow**	**2.51**	**230**	Pn	**Pn**	**04 07 05.5**	**-0.1**
	baz=49,SNR=25						
HEC				Pg	**Pg**	**04 07 12.0**	**-0.8**
	baz=49						
HEC				Sb	**Sg**	**04 07 45.3**	**0.0**
	baz=49						
GSC	**Goldstone, Bar**	**2.56**	**244**	Pn	**Pn**	**04 07 06.4**	**+0.1**
GSC				IAML		04 07 54.3	
	comp=E,444nm,0.8s						
GSC				IAML		04 07 54.7	
	comp=N,386nm,0.8s						
GSC	**Goldstone, Bar**	**2.56**	**244**	Pn	**Pn**	**04 07 06.6**	**+0.3**
	baz=62,SNR=27						
GSC				Pb	**Pb**	**04 07 11.6**	**+0.8**
	baz=62						
GSC				S	**Sn**	**04 07 38.9**	**+1.3**
	baz=62						
Y14A	**Wickenburg**	**2.66**	**162**		**Pn**	**04 07 08.3**	**+0.7**
Y14A				IAML		04 07 49.9	
	comp=N,365nm,0.9s						
Y14A				IAML		04 07 54.6	
	comp=E,305nm,0.9s						
BLYC	**Blythe**	**2.75**	**189**	Pn	**Pn**	**04 07 10.1**	**+1.3**
BLYC				IAML		04 07 59.4	
	comp=E,234nm,0.8s						
BLYC				IAML		04 07 59.9	
	comp=N,179nm,0.6s						
GRAC	**Grapevine Rang**	**2.76**	**282**		**Pn**	**04 07 09.6**	**+0.7**
GRAC				IAML		04 08 00.9	
	comp=E,575nm,0.7s						
GRAC				IAML		04 08 01.4	
	comp=N,539nm,0.6s						
GRAC	**Grapevine Rang**	**2.76**	**282**	Pn	**Pn**	**04 07 10.0**	**+1.0**
	baz=100,SNR=142						
GRAC				Pg	**Pg**	**04 07 15.4**	**-2.0**
	baz=100						
MPMC	**Manual Prospec**	**2.85**	**263**	Pn	**Pn**	**04 07 10.4**	**0.0**
	baz=81,SNR=66						
MPMC				Pb	**Pb**	**04 07 14.4**	**-1.3**
	baz=81						
MPMC				Pg	**Pg**	**04 07 16.9**	**-2.3**
	baz=81						
RRX	**Edison Barstow**	**2.92**	**238**	P	**Pn**	**04 07 11.9**	**+0.8**
	baz=56						
RRX				Sb	**Sg**	**04 07 57.2**	**-1.1**
	baz=56						
X16A	**Lo Mia Camp, P**	**2.92**	**134**		**Pn**	**04 07 12.8**	**+1.4**
X16A				IAML		04 08 09.3	
	comp=N,187nm,0.9s						
X16A				IAML		04 08 10.7	
	comp=E,180nm,0.9s						
BELC	**Belle Mtn. Jos**	**2.96**	**214**	P	**Pn**	**04 07 12.2**	**+0.4**
	baz=33						
BELC				Sb	**Sg**	**04 07 59.6**	**-0.1**
	baz=33						
LCH	**Last Change Ra**	**3.02**	**286**		**Pn**	**04 07 12.4**	**-0.2**
LCH				IAML		04 08 07.8	
	comp=E,151nm,0.6s						
TPH	**Tonopah**	**3.03**	**303**		**Pn**	**04 07 12.5**	**-0.3**
BC3	**Big Chuckawall**	**3.05**	**203**	P	**Pn**	**04 07 13.5**	**+0.4**
	baz=23,SNR=10						
BC3				Sb	**Sg**	**04 08 02.7**	**-0.1**
	baz=23						
BBRC	**Big Bear Solar**	**3.25**	**228**	Pn	**Pn**	**04 07 16.3**	**+0.4**
	baz=47						
BBRC				Pg	**Pg**	**04 07 25.9**	**-1.1**
	baz=47						
BBRC				S	**Sn**	**04 07 55.7**	**+0.9**
	baz=47						
Q16A	**Castle Valley**	**3.31**	**42**		**Pn**	**04 07 17.7**	**+1.0**
Q16A				IAML		04 08 31.8	
	comp=E,185nm,0.8s						
Q16A				IAML		04 08 36.3	
	comp=N,147nm,0.9s						
TIN	**Tinemaha, Big**	**3.45**	**281**	Pg	**Pg**	**04 07 28.6**	**-2.1**
	baz=98,SNR=13						
Q09A	**Carvers**	**3.46**	**314**		**Pn**	**04 07 18.6**	**0.0**
GLA	**Glamis**	**3.48**	**192**		**Pn**	**04 07 18.7**	**-0.2**
GLA				IAML		04 08 32.6	
	comp=N,163nm,0.8s						
GLA	**Glamis**	**3.48**	**192**	Sb	**Sg**	**04 08 14.1**	**-2.3**
	baz=11						
PFO	**Pinyon Flats O**	**3.50**	**216**	Pn	**Pn**	**04 07 19.4**	**+0.2**
	comp=N,2.1nm,0.3s,baz=21,slow=13,SNR=27						
PFO				Lg	Lg	04 08 14.4	
	comp=N,12nm,0.3s,baz=293,slow=16,SNR=8.8						
PFO	**Pinyon Flats O**	**3.50**	**216**	Pn	**Pn**	**04 07 18.7**	**-0.5**
PFO	**Pinyon Flats O**	**3.50**	**216**	P	**Pn**	**04 07 19.3**	**+0.2**
	baz=35						
PFO				Sb	**Sg**	**04 08 14.5**	**-2.4**
	baz=35						
CCAC	**Calif City Air**	**3.52**	**249**		**Pn**	**04 07 19.4**	**0.0**
CCAC				IAML		04 08 30.9	
	comp=E,268nm,1.2s						
CCAC				IAML		04 08 35.4	
	comp=N,187nm,1.6s						
TMUT	**Trail Mountain**	**3.58**	**37**		**Pn**	**04 07 20.4**	**-0.1**
TMUT				IAML		04 08 18.1	
	comp=N,252nm,0.6s						
TMUT				IAML		04 08 22.6	
	comp=E,253nm,0.6s						
EDW2	**Edwards Air Fo**	**3.62**	**245**	P	**Pn**	**04 07 21.0**	**+0.2**
	baz=63,SNR=22						
EDW2				Sn	**Sn**	**04 08 02.9**	**-0.8**
	baz=63						
EDW2				Sb	**Sg**	**04 08 17.6**	**-3.3**
	baz=63						
113A	**Mohawk Valley,**	**3.70**	**177**		**Pn**	**04 07 22.0**	**+0.2**
113A				IAML		04 08 33.4	
	comp=E,132nm,0.9s						
ISA	**Isabella, Lake**	**3.72**	**259**	Pn	**Pn**	**04 07 21.7**	**-0.4**
ISA	**Isabella, Lake**	**3.72**	**259**	Pn	**Pn**	**04 07 22.4**	**+0.3**
	baz=76,SNR=21						
ISA				Pg	**Pg**	**04 07 33.2**	**-2.6**
	baz=76						
ISA				Sb	**Sg**	**04 08 20.2**	**-3.7**
	baz=76						
W18A	**Petrified Fore**	**3.72**	**110**	Pn	**Pn**	**04 07 22.5**	**+0.2**
W18A	**Petrified Fore**	**3.72**	**110**	Pg	**Pg**	**04 07 33.8**	**-2.1**
	baz=293,SNR=32						
W18A				Sb	**Sb**	**04 08 18.5**	**+2.8**
	baz=293						
BFSC	**Mount Baldy Ra**	**3.73**	**234**	P	**Pn**	**04 07 23.5**	**+1.1**
	baz=52						
BFSC				Sb	**Sg**	**04 08 21.9**	**-2.5**
	baz=52						
NLU	**North Lily Min**	**3.79**	**23**	Pn	**Pn**	**04 07 23.6**	**+0.3**
SRU	**San Rafael Swe**	**3.81**	**45**		**Pn**	**04 07 23.8**	**+0.3**
SRU				IAML		04 08 32.2	
	comp=N,214nm,0.9s						
SRU				IAML		04 08 37.0	
	comp=E,228nm,0.8s						
X18A	**Snowflake**	**3.83**	**119**		**Pn**	**04 07 24.8**	**+1.0**
DUG	**Dugway, Tooele**	**3.83**	**14**	Pn	**Pn**	**04 07 23.8**	**0.0**
DUG				IAML		04 08 34.9	
	comp=E,83nm,1.0s						
DUG				IAML		04 08 39.9	
	comp=E,105nm,1.4s						
DUG	**Dugway, Tooele**	**3.83**	**14**	Pg	**Pg**	**04 07 36.3**	**-1.8**
	baz=194,SNR=20						
NV11	**Mina Array Sit**	**3.84**	**302**		**Pn**	**04 07 23.9**	**-0.1**
NV11				IAML		04 08 28.6	
	comp=N,105nm,0.7s						
NV11				IAML		04 08 34.5	
	comp=E,83nm,1.0s						
MURC	**Murrieta**	**3.88**	**223**	P	**Pn**	**04 07 25.4**	**+1.0**
	baz=42,SNR=11						
MURC				S	**Sn**	**04 08 12.1**	**+1.9**
	baz=42						
NVAR	**Mina Array Bea**	**3.94**	**301**	Pn	**Pn**	**04 07 25.6**	**+0.1**
	comp=E,18nm,0.3s,baz=127,slow=15,SNR=289						
NVAR				Pg	**Pb**	**04 07 34.7**	**+0.3**
	comp=E,32nm,0.3s,baz=118,slow=17,SNR=22						
NVAR				Lg	Lg	04 08 28.0	
	comp=E,7.9nm,0.3s,baz=296,slow=41,SNR=1.2						
NVAR	**Mina Array Bea**	**3.94**	**301**		**Pn**	**04 07 23.6**	**-1.9**
P17A	**Butcher Ranch,**	**3.95**	**40**		**Pn**	**04 07 25.5**	**0.0**
P17A				IAML		04 08 37.3	
	comp=N,103nm,0.7s						
P17A				IAML		04 08 43.6	
	comp=E,78nm,0.9s						
ELS	**Elsinore Mount**	**3.98**	**226**		**Pn**	**04 07 25.8**	**0.0**
ELS				IAML		04 08 32.9	
	comp=N,67nm,1.0s						
LHV	**Little Huntoon**	**4.00**	**298**		**Pn**	**04 07 26.0**	**-0.1**
LHV				IAML		04 08 37.6	
	comp=N,177nm,0.7s						
MLAC	**Mammoth, Mammo**	**4.04**	**288**	Pn	**Pn**	**04 07 27.6**	**+0.8**
	baz=105						
MLAC				Pg	**Pg**	**04 07 42.4**	**+0.3**
	baz=105						
MONP2	**Monument Peak**	**4.09**	**210**	P	**Pn**	**04 07 28.0**	**+0.6**
	baz=29						
MONP2				Sb	**Sg**	**04 08 33.5**	**-2.6**
	baz=29						
PASC	**Pasadena Art C**	**4.12**	**237**		**Pn**	**04 07 27.8**	**+0.1**
PASC				IAML		04 08 39.1	
	comp=N,64nm,1.0s						
YUH	**Yuha Desert**	**4.13**	**203**		**Pn**	**04 07 28.5**	**+0.7**
KVN	**Kaiserville**	**4.15**	**310**	Pn	**Pn**	**04 07 28.3**	**+0.1**
KVN				IAML		04 08 37.5	
	comp=E,101nm,1.1s						
KVN				IAML		04 08 56.1	
	comp=N,70nm,0.8s						
ARVC	**Arvin**	**4.15**	**253**	P	**Pn**	**04 07 29.0**	**+0.9**
	baz=70						
OMMB	**Old Mammoth Mi**	**4.16**	**287**	Pn	**Pn**	**04 07 28.1**	**-0.4**
VES	**Vestal, Richgr**	**4.17**	**263**	P	**Pn**	**04 07 30.7**	**+2.5**
	baz=80						
DECC	**Green Verdugo**	**4.18**	**239**	P	**Pn**	**04 07 30.3**	**+1.8**
	baz=57						
DECC				S	**Sn**	**04 08 18.5**	**+1.1**
	baz=57						
RYN	**Ryan**	**4.19**	**302**		**Pn**	**04 07 28.6**	**-0.1**
RYN				IAML		04 08 39.0	
	comp=E,153nm,0.9s						
RYN				IAML		04 08 45.8	
	comp=N,125nm,0.7s						
IKP	**In-Ko-Pah, Jac**	**4.19**	**205**	P	**Pn**	**04 07 29.5**	**+0.8**
	baz=24						
MDPB	**Devils Postpil**	**4.23**	**287**		**Pn**	**04 07 29.2**	**-0.1**
P18A	**Preston Nutter**	**4.32**	**42**		**Pn**	**04 07 31.3**	**+0.6**
P18A				IAML		04 08 42.2	
	comp=E,148nm,0.8s						
P18A				IAML		04 09 02.6	
	comp=N,112nm,0.8s						
ELK	**Elko**	**4.38**	**348**	Pn	**Pn**	**04 07 31.4**	**0.0**
	comp=N,1.7nm,0.3s,baz=173,slow=11,SNR=39						
ELK				Pg	**Pb**	**04 07 43.8**	**+2.1**
	comp=N,4.7nm,0.3s,baz=184,slow=8.1,SNR=23						
ELK				Lg	Lg	04 08 40.2	
	comp=N,20nm,0.3s,baz=53,slow=18,SNR=16						
ELK	**Elko**	**4.38**	**348**	Pn	**Pn**	**04 07 31.0**	**-0.4**
ELK				IAML		04 08 44.2	
	comp=N,72nm,0.6s						
BAR	**Barrett**	**4.38**	**211**	Pn	**Pn**	**04 07 31.6**	**+0.3**
PV10	**Paradox Valley**	**4.38**	**63**		**Pn**	**04 07 32.2**	**+0.8**
109C	**Camp Elliot, M**	**4.40**	**217**	Sb	**Sg**	**04 08 41.5**	**-4.3**
	baz=35						
PV23	**Carpenter Ridg**	**4.43**	**62**	Pn	**Pn**	**04 07 33.9**	**+1.8**
PV13	**Radium Mtn., P**	**4.46**	**66**		**Pn**	**04 07 33.0**	**+0.5**
PV11	**David Mesa, Pa**	**4.47**	**64**		**Pn**	**04 07 33.7**	**+1.1**
MVCO	**Mesa Verde**	**4.47**	**79**	Pn	**Pn**	**04 07 33.2**	**+0.5**
MVCO	**Mesa Verde**	**4.47**	**79**	P	**Pn**	**04 07 35.1**	**+2.4**
	baz=262,SNR=24						
MVCO				Sb	**Sb**	**04 08 41.7**	**+4.3**
	baz=262						
BGU	**Big Grassy Mou**	**4.51**	**9**	Pn	**Pn**	**04 07 33.0**	**-0.1**
BGU				IAML		04 08 54.5	
	comp=E,61nm,1.0s						
CTU	**Camp Tracy**	**4.57**	**22**	Pn	**Pn**	**04 07 33.6**	**-0.3**
JLU	**Jordanelle**	**4.58**	**25**	Pn	**Pn**	**04 07 33.3**	**-0.9**
214A	**Organ Pipe Nat**	**4.61**	**167**	Pn	**Pn**	**04 07 34.7**	**+0.3**
214A				IAML		04 09 04.0	
	comp=E,78nm,1.2s						
214A				IAML		04 09 17.9	
	comp=N,54nm,1.1s						
214A	**Organ Pipe Nat**	**4.61**	**167**	P	**Pn**	**04 07 35.8**	**+1.4**
	baz=348						
214A				Sb	**Sg**	**04 08 50.1**	**-2.6**
	baz=348						
BCW	**Bitter Crk WRg**	**4.67**	**252**	Pn	**Pn**	**04 07 34.3**	**-0.9**
BCW				IAML		04 09 20.0	
	comp=N,64nm,2.0s						
BCW				IAML		04 09 22.8	
	comp=E,66nm,1.8s						
PV07	**Paradox Valley**	**4.69**	**64**		**Pn**	**04 07 36.5**	**+0.8**
BMN	**Battle Mountai**	**4.69**	**328**		**Pn**	**04 07 35.4**	**-0.2**
BMN				IAML		04 08 52.0	
	comp=E,103nm,0.6s						
BMN				IAML		04 08 54.1	
	comp=N,114nm,0.4s						
CIS	**Catalina Islan**	**4.75**	**231**	P	**Pn**	**04 07 36.6**	**+0.3**
	baz=49						
CIS				Sb	**Sg**	**04 08 54.2**	**-2.9**
	baz=49						
PV15	**Paradox Valley**	**4.77**	**65**		**Pn**	**04 07 37.6**	**+0.8**
YERR	**Yerington**	**4.85**	**303**		**Pn**	**04 07 37.8**	**-0.1**
YERR				IAML		04 09 01.5	
	comp=N,75nm,0.6s						
YERR				IAML		04 09 06.1	
	comp=E,111nm,0.6s						
TUC	**Tucson**	**4.93**	**146**	Pn	**Pn**	**04 07 39.5**	**+0.7**
TUC	**Tucson**	**4.93**	**146**	P	**Pn**	**04 07 40.3**	**+1.5**
	baz=329						
TUC				Sb	**Sg**	**04 08 57.5**	**-5.4**
	baz=329						
SMMC	**Simmler**	**5.00**	**258**	Pg	**Pg**	**04 07 58.3**	**-2.2**
	baz=75						
PAGB	**Antelope Grade**	**5.12**	**264**	Pn	**Pn**	**04 07 41.5**	**+0.2**
PAGB				IAML		04 09 14.9	
	comp=E,48nm,3.0s						
PAGB				IAML		04 09 17.2	
	comp=N,62nm,1.8s						
PNTR	**Pine Nut**	**5.15**	**302**		**Pn**	**04 07 42.2**	**+0.2**
VCNR	**Virginia City**	**5.29**	**304**		**Pn**	**04 07 44.0**	**+0.2**
CMB	**Columbia Colle**	**5.33**	**289**	Pn	**Pn**	**04 07 44.4**	**+0.1**
PAHR	**Pah Rah Range**	**5.34**	**309**		**Pn**	**04 07 45.0**	**+0.5**
PAHR				IAML		04 09 19.2	
	comp=E,39nm,2.3s						
PAHR				IAML		04 09 20.2	
	comp=N,30nm,1.8s						
RDMU	**Red Mountain**	**5.37**	**39**		**Pn**	**04 07 45.4**	**+0.4**
RDMU				IAML		04 09 21.7	
	comp=N,41nm,0.8s						
RDMU				IAML		04 09 27.1	
	comp=E,58nm,1.1s						
HVU	**Hansel Valley**	**5.38**	**10**		**Pn**	**04 07 46.1**	**+1.0**
HVU				IAML		04 09 19.0	
	comp=E,63nm,0.7s						
HVU				IAML		04 09 19.3	
	comp=N,86nm,0.8s						
EMB	**Emerald Bay**	**5.45**	**299**	Pn	**Pn**	**04 07 46.5**	**+0.4**
HWUT	**Hardware Ranch**	**5.46**	**20**	Pn	**Pn**	**04 07 46.5**	**+0.2**
PMPB	**Monarch Peak**	**5.50**	**269**		**Pn**	**04 07 47.0**	**+0.4**
MPK	**Martis Peak**	**5.54**	**302**	Pn	**Pn**	**04 07 47.9**	**+0.4**
BBGB	**Big Mountain B**	**5.67**	**273**		**Pn**	**04 07 49.7**	**+0.6**
O20A	**White River Ci**	**5.82**	**49**		**Pn**	**04 07 51.9**	**+0.7**
O20A	**White River Ci**	**5.82**	**49**	Pn	**Pn**	**04 07 55.0**	**+3.8**
	baz=233,SNR=6.1						
O20A				Pg	**Pg**	**04 08 13.2**	**-2.8**
	baz=233						
O20A				Sb	**Sb**	**04 09 20.9**	**+4.8**
	baz=233						
S22A	**4UR Ranch, Cre**	**5.87**	**75**	Pn	**Pn**	**04 07 52.6**	**+0.7**
S22A	**4UR Ranch, Cre**	**5.87**	**75**	Pn	**Pn**	**04 07 54.4**	**+2.5**
	baz=260,SNR=9.5						
S22A				Pg	**Pg**	**04 08 14.3**	**-2.7**
	baz=260						
S22A				Sb	**Sb**	**04 09 24.0**	**+6.3**
	baz=260						
SAO	**San Andreas Ge**	**6.00**	**275**	Pn	**Pn**	**04 07 54.2**	**+0.7**
BEKR	**Beckworth**	**6.05**	**306**	Pn	**Pn**	**04 07 55.3**	**+1.0**
Y22D	**IRIS PASSCAL I**	**6.26**	**110**	Pn	**Pn**	**04 07 58.4**	**+1.2**
ANMO	**Albuquerque**	**6.32**	**102**	Pn	**Pn**	**04 08 00.3**	**+2.2**
	comp=N,1.4nm,0.3s,baz=285,slow=13,SNR=32						
ANMO				Pg	**Pg**	**04 08 21.9**	**-3.8**
	comp=N,1.6nm,0.3s,baz=286,slow=12,SNR=12						
ANMO				Lg	Lg	04 09 38.1	
	comp=N,3.0nm,0.3s,baz=160,slow=16,SNR=9.0						
ANMO	**Albuquerque**	**6.32**	**102**	Pn	**Pn**	**04 07 59.2**	**+1.1**
ANMO	**Albuquerque**	**6.32**	**102**	Pn	**Pn**	**04 08 00.3**	**+2.2**
	baz=286						
ANMO				Pg	**Pg**	**04 08 23.9**	**-1.8**
	baz=286						
ANMO				Sb	**Sb**	**04 09 37.8**	**+7.2**
	baz=286						
319A	**Douglas**	**6.42**	**141**		**Pn**	**04 08 00.6**	**+1.3**
BNM	**Barren Site**	**6.46**	**109**	Pn	**Pn**	**04 08 00.5**	**+0.6**
121A	**Cookes Peak, D**	**6.46**	**126**	Pn	**Pn**	**04 07 59.8**	**-0.1**
121A	**Cookes Peak, D**	**6.46**	**126**	Pg	**Pg**	**04 08 24.3**	**-4.0**
	baz=309						
121A				Sb	**Sg**	**04 09 45.4**	**-6.7**
	baz=309						
ORV	**Oroville**	**6.67**	**300**	Pn	**Pn**	**04 08 03.1**	**+0.4**
SDCO	**Great Sand Dun**	**6.91**	**77**		**Pn**	**04 08 07.2**	**+1.0**
SDCO	**Great Sand Dun**	**6.91**	**77**	P	**Pn**	**04 08 08.7**	**+2.5**
	baz=262						
SDCO				Sb	**Sg**	**04 09 58.9**	**-7.5**
	baz=262						
WVOR	**Wild Horse Val**	**6.95**	**330**	Pn	**Pn**	**04 08 06.6**	**0.0**
MFID	**Camas Ranch**	**7.08**	**349**	Pn	**Pn**	**04 08 07.8**	**-0.6**
HLID	**Hailey**	**7.09**	**358**	Pn	**Pn**	**04 08 08.2**	**-0.4**
PD31	**Pinedale Array**	**7.16**	**27**		**Pn**	**04 08 10.5**	**+0.9**
PDAR	**Pinedale Array**	**7.16**	**27**	Pn	**Pn**	**04 08 13.0**	**+3.4**
	comp=N,0.1nm,0.3s,baz=186,slow=12,SNR=8.2						
PDAR				Lg	Lg	04 10 13.2	
	comp=N,0.4nm,0.3s,baz=230,slow=15,SNR=1.7						
PDAR	**Pinedale Array**	**7.16**	**27**	Pn	**Pn**	**04 08 10.0**	**+0.4**
O03E	**Paynes Creek**	**7.22**	**304**	Pn	**Pn**	**04 08 10.3**	**0.0**
O03E	**Paynes Creek**	**7.22**	**304**	P	**Pn**	**04 08 12.8**	**+2.5**
	baz=119						
TPAW	**Teton Pass**	**7.39**	**18**	Pn	**Pn**	**04 08 12.9**	**+0.1**
Q24A	**Divide**	**7.44**	**68**		**Pn**	**04 08 12.9**	**-0.7**
Q24A	**Divide**	**7.44**	**68**	P	**Pn**	**04 08 16.3**	**+2.7**
	baz=253						
MOOW	**Moose Ponds**	**7.68**	**18**	Pn	**Pn**	**04 08 16.6**	**-0.1**
J08A	**Circle Bar Ran**	**7.69**	**335**	Pn	**Pn**	**04 08 17.2**	**+0.5**
N23A	**Red Feather La**	**7.69**	**53**	Pn	**Pn**	**04 08 16.3**	**-0.7**
N23A	**Red Feather La**	**7.69**	**53**	Pg	**Pg**	**04 08 49.6**	**-2.3**
	baz=237						
T25A	**Trinidad**	**7.72**	**82**	Pn	**Pn**	**04 08 17.5**	**+0.3**
T25A	**Trinidad**	**7.72**	**82**	Pg	**Pg**	**04 08 49.6**	**-2.8**
	baz=268						
T25A				Sb	Sg	04 10 22.6	-10
	baz=268						
BCYI	**Bear Canyon**	**7.84**	**3**	Pn	**Pn**	**04 08 18.7**	**-0.2**
M04C	**Macdoel**	**8.08**	**313**	Pn	**Pn**	**04 08 22.4**	**+0.3**
K05A	**Summer Lake**	**8.20**	**322**	Pn	**Pn**	**04 08 24.6**	**+0.8**
H17A	**Grant Village**	**8.33**	**17**	Pn	**Pn**	**04 08 24.8**	**-0.9**
**K22

JUS	**Usuki**	**0.55**	**79**	‖P		**Pg**	**04 14 08.4**	**-1.7**
JUS				S		**Sg**	**04 14 16.5**	**-0.9**
JSU	**Suzuyama**	**1.55**	**201**			**Pb**	**04 14 27.5**	**-0.5**
JTU	**Tsushima**	**2.11**	**318**			**Pn**	**04 14 34.6**	**+0.1**
JMN	**Monobe**	**2.44**	**71**			**Pb**	**04 14 42.0**	**-1.3**
JHS	**Saijyo**	**2.63**	**39**			**Pb**	**04 14 43.9**	**-2.6**
TJN	**Taejon**	**4.60**	**319**	Pn		**Pn**	**04 15 08.8**	**+0.1**
KSRS	**Korea Array**	**5.19**	**331**	Pn		**Pn**	**04 15 17.0**	**+0.3**
	0.4nm,0.3s,baz=145,slow=15,SNR=4.2							
KSRS				Pg		**Pb**	**04 15 33.0**	**+3.1**
	1.1nm,0.3s,baz=147,slow=16,SNR=5.7							
KSRS				Lg		Lg	04 16 43.9	
	3.1nm,0.3s,baz=149,slow=29,SNR=8.3							
KSAR	**Wonju Array Be**	**5.19**	**330**	Pn		**Pn**	**04 15 17.0**	**+0.1**
KS19	**Wonju Array Si**	**5.25**	**331**	Pn		**Pn**	**04 15 18.3**	**+0.6**
INU	**Inuyama**	**5.45**	**62**	Pn		**Pn**	**04 15 22.4**	**+2.0**
JGF	**Kuroka**	**5.81**	**61**	Pn		**Pn**	**04 15 27.3**	**+1.9**
JOW	**Kunigami**	**6.58**	**203**	Pn		**Pn**	**04 15 37.8**	**+1.8**
MJB9	**Matsu-Tunnel**	**6.85**	**57**			**Pn**	**04 15 42.4**	**+2.8**
MAJO	**Matsushiro**	**6.85**	**57**	Pn		**Pn**	**04 15 42.4**	**+2.8**
MJAR	**Matsushiro Arr**	**6.85**	**57**	Pn		**Pn**	**04 15 41.8**	**+2.1**
	0.5nm,0.3s,baz=237,slow=13,SNR=25							
KLR	**Kul'dur**	**16.26**	**2**	Pn		**P**	**04 17 51.0**	**+0.5**
	0.1nm,0.3s,baz=158,slow=9.8,SNR=19							
ULN	**Ulaanbaatar**	**23.47**	**316**	P		**P**	**04 19 09.7**	**+0.7**
ULN				IAmb		IAmb	04 19 14.5	
	comp=Z,8.3nm,1.1s							
SONM	**Songino Array**	**23.84**	**316**	P		**P**	**04 19 12.9**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=127,slow=11,SNR=6.4							
SONM	**Songino Array**	**23.84**	**316**	P		**P**	**04 19 13.0**	**+0.5**
LSA	**Lhasa**	**34.15**	**275**	P		**P**	**04 20 42.6**	**-2.3**
SHL	**Shillong**	**34.85**	**268**	P		**P**	**04 20 49.8**	**-0.9**
SHL				IAmb		IAmb	04 21 07.2	
	comp=Z,3.6nm,1.1s							
ZALV	**Zalesovo Beam**	**38.73**	**317**	P		**P**	**04 21 23.5**	**+0.4**
MK31	**Makanchi Array**	**39.31**	**305**	P		**P**	**04 21 26.9**	**-1.2**
MKAR	**Makanchi Array**	**39.31**	**305**	P		**P**	**04 21 28.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=101,slow=10,SNR=4.2							
MKAR				PcP		**PcP**	**04 23 36.5**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=74,slow=4.4,SNR=4.5							
KURK	**Kurchatov**	**41.98**	**311**	P		**P**	**04 21 50.9**	**+0.8**
KURK				IAmb		IAmb	04 21 54.2	
	comp=Z,5.5nm,1.1s							
NRIK	**Noril'sk**	**43.74**	**339**	P		**P**	**04 22 04.6**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=112,slow=8.4,SNR=4.2							
NRIK	**Noril'sk**	**43.74**	**339**	P		**P**	**04 22 04.8**	**+0.7**
BRVK	**Borovoye**	**47.23**	**314**	P		**P**	**04 22 32.7**	**+0.7**
BRVK				IAmb		IAmb	04 22 35.6	
	comp=Z,2.8nm,0.7s							
NIL	**Nilore**	**47.80**	**288**	P		**P**	**04 22 36.5**	**-0.3**
KK31	**Karatay Array**	**47.86**	**301**	P		**P**	**04 22 37.7**	**+0.6**
KK31				IAmb		IAmb	04 22 39.3	
	comp=Z,4.2nm,0.8s							
KKAR	**Karatay Array**	**47.86**	**301**	P		**P**	**04 22 37.5**	**+0.4**
WRA	**Warramunga Arr**	**52.69**	**176**	P		**P**	**04 23 12.2**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=358,slow=8.0,SNR=4.8							
ARU	**Arti**	**53.82**	**319**	P		**P**	**04 23 20.7**	**-1.0**
ABKAR	**Akbulak array**	**54.06**	**310**	P		**P**	**04 23 24.5**	**+0.9**
ASAR	**Alice Springs**	**56.37**	**177**	P		**P**	**04 23 40.4**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=9.8,slow=14,SNR=12							
ILAR	**Eielson Array**	**57.36**	**30**	P		**P**	**04 23 47.5**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=274,slow=8.2,SNR=4.4							
INK	**Inuvik**	**61.74**	**25**	P		**P**	**04 24 17.2**	**0.0**
	comp=Z,0.5nm,0.6s,baz=344,slow=3.1,SNR=3.9							
INK	**Inuvik**	**61.74**	**25**	IAmb		IAmb	04 24 44.7	
	comp=Z,3.4nm,1.4s							
KLMR	**Klimovskoe**	**62.57**	**327**	*e*P		**P**	**04 24 23.1**	**+0.2**
KLMR				AMP			04 24 26.6	
	comp=Z,9.0nm,1.2s							
KLMR				*e*PP		**PP**	**04 26 41.2**	**+1.1**
C36M	**Paulatuk**	**64.54**	**22**	P		**P**	**04 24 36.7**	**+1.0**
C36M				IAmb		IAmb	04 24 44.5	
	comp=Z,2.2nm,0.7s							
KBZ	**Khabaz**	**66.92**	**308**	P		**P**	**04 24 52.2**	**+0.6**
	comp=Z,7.1nm,0.9s,baz=144,slow=2.9,SNR=10							
FINES	**FINESS Array B**	**68.28**	**330**	P		**P**	**04 24 59.0**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=72,slow=8.9,SNR=5.1							
YKA	**Yellowknife Ar**	**71.40**	**27**	P		**P**	**04 25 19.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=304,slow=6.0,SNR=15							
AKASG	**Malin Array Be**	**72.07**	**319**	P		**P**	**04 25 21.6**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=50,slow=4.1,SNR=4.3							
AKBB	**Malin Array Si**	**72.07**	**319**	P		**P**	**04 25 25.1**	**+1.8**
AKBB				IAmb		IAmb	04 25 26.8	
	comp=Z,2.7nm,0.7s							
BRTR	**Keskin Array B**	**74.91**	**308**	P		**P**	**04 25 40.8**	**+0.4**
	comp=Z,3.2nm,0.9s,baz=96,slow=5.0,SNR=16							
BRTR	**Keskin Array B**	**74.91**	**308**	P		**P**	**04 25 39.8**	**-0.6**
BURAR	**Bucovina Array**	**75.94**	**318**	P		**P**	**04 25 46.8**	**+0.7**
BURAR				IAmb		IAmb	04 25 49.1	
	comp=Z,3.6nm,1.2s							

*ANF **17** 04:22:47.1±0.4,36°.52N×114°.03W,h2km,ML2.9/17, ML2.8/17,Error ellipse: s-maj=3.3km s-min=3.0km az=57.0*
*REN **17** 04:22:47.0±1.4,36°.48N±0°.02×113°.98W±0°.03,h2km±7km, Error ellipse: s-maj=3.7km s-min=3.1km az=115.0*
*NEIC **17** 04:22:47.2±1.6,36°.47N±0°.03×113°.97W±0°.02,h5km±8km, ML2.6/91,ML2.3/7(REN),Error ellipse: s-maj=4.5km s-min=1.8km az=181.0*

ISC 17 04:22:46.7±0.8,36°.47N±0°.02×113°.95W±0°.02,h10km,n67, σ1ᵍ45/77,Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.68**	**2**		**Pg**	**04 23 00.1**	**+0.3**
ICU					**Sg**	**04 23 09.1**	**+0.3**
LCMT	**Little Creek M**	**0.78**	**46**		**Pg**	**04 23 02.3**	**+0.5**
LCMT	**Little Creek M**	**0.78**	**46**	IAML		04 23 19.3	
	comp=E,154nm,0.2s						
SHPR	**Sheep Range**	**0.97**	**272**		**Pg**	**04 23 04.8**	**-0.7**
KNB	**Kanab**	**1.06**	**59**		**Pg**	**04 23 07.5**	**+0.4**
KNB	**Kanab**	**1.06**	**59**	IAML		04 23 21.6	
	comp=E,148nm,0.6s						
KNB				IAML		04 23 21.9	
	comp=N,140nm,0.7s						
CCUT	**Cedar City**	**1.18**	**23**		**Pb**	**04 23 09.2**	**0.0**
PRN	**Pahroc Range**	**1.28**	**317**		**Pg**	**04 23 11.4**	**0.0**
SZCU	**Shurtz Canyon**	**1.32**	**31**		**Pn**	**04 23 11.8**	**+0.4**
SZCU				IAML		04 23 31.7	
	comp=N,153nm,0.2s						
U15A	**North Rim**	**1.34**	**91**		**Pn**	**04 23 12.4**	**+0.6**
U15A				IAML		04 23 31.4	
	comp=N,141nm,0.6s						
U15A				IAML		04 23 34.6	
	comp=E,151nm,0.8s						
W13A	**Hualapai Mount**	**1.37**	**178**	Pn	**Pb**	**04 23 12.9**	**+0.3**
W13A				IAML		04 23 34.4	
	comp=E,74nm,0.6s						
W13A				IAML		04 23 35.2	
	comp=N,71nm,0.6s						
PKCU	**Pink Cliffs**	**1.63**	**53**		**Pb**	**04 23 17.6**	**+0.5**
S11A	**Rachel**	**1.85**	**310**		**Pb**	**04 23 20.1**	**-0.7**
TUQ	**Turquoise Moun**	**1.91**	**238**	Pb	**Pb**	**04 23 22.3**	**+0.6**
	baz=56,SNR=14						
TUQ				Sb	**Sg**	**04 23 47.4**	**-0.6**
	baz=56						
TPNV	**Topopah Spring**	**1.91**	**285**		**Pn**	**04 23 20.2**	**+0.8**
TPNV				IAML		04 23 48.0	
	comp=N,47nm,0.4s						
TPNV				IAML		04 23 48.4	
	comp=N,37nm,0.3s						
TPNV	**Topopah Spring**	**1.91**	**285**	Pn	**Pn**	**04 23 20.2**	**+0.8**
	baz=104,SNR=48						
TPNV				Pg	**Pg**	**04 23 22.6**	**-0.7**
	baz=104						
TPNV				Sb	**Sg**	**04 23 47.2**	**-0.9**
	baz=104						
SHOC	**Shoshone, Teco**	**1.96**	**254**	Pg	**Pg**	**04 23 23.6**	**-0.8**
	baz=72						
PSUT	**Pine Spring**	**2.06**	**2**		**Pb**	**04 23 24.7**	**+0.4**
PSUT				IAML		04 23 55.8	
	comp=E,32nm,0.7s						
MTPU	**Mount Pierson**	**2.11**	**41**	Pn	**Pb**	**04 23 24.6**	**-0.7**
MTPU				IAML		04 23 55.2	
	comp=N,59nm,0.5s						
MTPU				IAML		04 23 57.2	
	comp=E,60nm,0.4s						
GMRC	**Granite Mounta**	**2.18**	**220**	Pn	**Pn**	**04 23 23.7**	**+0.5**
	baz=38						
GMRC				Pg	**Pg**	**04 23 28.2**	**-0.4**
	baz=38						
GWY	**Greenwater Val**	**2.21**	**263**		**Pn**	**04 23 25.0**	**+1.4**
GWY				IAML		04 23 38.5	
	comp=E,37nm,0.7s						
GWY				IAML		04 23 41.0	
	comp=N,38nm,0.6s						
R11A	**Troy Canyon, C**	**2.28**	**326**	Pn	**Pb**	**04 23 26.8**	**-1.3**
R11A				IAML		04 24 00.9	
	comp=N,25nm,0.4s						
R11A	**Troy Canyon, C**	**2.28**	**326**	Pn	**Pn**	**04 23 25.8**	**+1.2**
	baz=145						
R11A				Pg	**Pg**	**04 23 30.1**	**-0.4**
	baz=145,SNR=30						
R11A				Sb	**Sb**	**04 23 57.8**	**+1.3**
	baz=145						
WUAZ	**Wupatki**	**2.30**	**114**	Pn	**Pn**	**04 23 27.2**	**+2.4**
WUAZ	**Wupatki**	**2.30**	**114**	Pb	**Pg**	**04 23 30.3**	**-0.5**
	baz=295,SNR=14						
WUAZ				Sb	**Sb**	**04 23 59.5**	**+2.7**
	baz=295						
FURC	**Furnace Creek,**	**2.35**	**271**	Pg	**Pg**	**04 23 30.4**	**-1.3**
	baz=89						
QSM	**Queen of Sheba**	**2.41**	**259**	Pn	**Pn**	**04 23 27.8**	**+1.6**
TCRU	**Three Creeks R**	**2.45**	**29**	Pn	**Pn**	**04 23 27.6**	**+0.6**
TCRU				IAML		04 24 05.7	
	comp=E,29nm,0.6s						
TCRU				IAML		04 24 06.0	
	comp=N,32nm,0.7s						
MSU	**Marysvale**	**2.48**	**34**	Pn	**Pn**	**04 23 28.8**	**+1.5**
IRM	**Iron Mountain**	**2.51**	**203**	Pb	**Pg**	**04 23 33.8**	**-0.9**
	baz=22						
IRM				Sb	**Sg**	**04 24 06.8**	**-0.4**
	baz=22						
HEC	**Hector,Ludlow**	**2.54**	**231**	Pn	**Pn**	**04 23 29.0**	**+0.9**
	baz=48						
HEC				Pg	**Pg**	**04 23 35.0**	**-0.4**
	baz=48,SNR=7.8						
HEC				Sg	**Sg**	**04 24 09.1**	**+0.7**
	baz=48						
GSC	**Goldstone, Bar**	**2.59**	**244**		**Pn**	**04 23 29.8**	**+0.9**
GSC				IAML		04 24 16.8	
	comp=N,22nm,0.9s						
GSC				IAML		04 24 23.2	
	comp=E,20nm,2.5s						
GSC	**Goldstone, Bar**	**2.59**	**244**	Pg	**Pg**	**04 23 35.0**	**-1.4**
	baz=62,SNR=12						
Y14A	**Wickenburg**	**2.64**	**163**		**Pn**	**04 23 30.5**	**+1.0**
Y14A				IAML		04 24 14.2	
	comp=N,23nm,0.6s						
Y14A				IAML		04 24 14.5	
	comp=E,24nm,0.8s						
BLYC	**Blythe**	**2.75**	**190**	Pn	**Pn**	**04 23 33.2**	**+2.2**
BLYC				IAML		04 24 19.5	
	comp=E,25nm,1.4s						
BLYC				IAML		04 24 19.6	
	comp=N,16nm,0.8s						
MPMC	**Manual Prospec**	**2.89**	**263**	Pb	**Pb**	**04 23 37.6**	**-0.9**
	baz=80						
MPMC				Pg	**Pg**	**04 23 40.3**	**-1.8**
	baz=80,SNR=14						
X16A	**Lo Mia Camp, P**	**2.90**	**134**		**Pn**	**04 23 34.6**	**+1.5**
BELC	**Belle Mtn. Jos**	**2.98**	**215**	Sb	**Sg**	**04 24 21.6**	**-0.9**
	baz=33						
LCH	**Last Change Ra**	**3.06**	**285**		**Pn**	**04 23 35.6**	**+0.3**
TPH	**Tonopah**	**3.06**	**303**	Pn	**Pn**	**04 23 35.9**	**+0.5**
BC3	**Big Chuckawall**	**3.07**	**204**	Sb	**Sg**	**04 24 26.2**	**+0.9**
	baz=23						
Q16A	**Castle Valley**	**3.29**	**41**	Pn	**Pn**	**04 23 40.3**	**+1.8**
Q16A				IAML		04 24 31.5	
	comp=E,9.7nm,0.4s						
GLA	**Glamis**	**3.49**	**192**	Sb	**Sg**	**04 24 37.8**	**-0.9**
	baz=11						
PFO	**Pinyon Flats O**	**3.52**	**217**	Pn	**Pn**	**04 23 42.7**	**+1.1**
PFO				IAML		04 24 42.4	
	comp=E,8.4nm,3.1s						
PFO	**Pinyon Flats O**	**3.52**	**217**	Sb	**Sg**	**04 24 37.9**	**-1.9**
	baz=34						
CCAC	**Calif City Air**	**3.56**	**249**	Pn	**Pn**	**04 23 43.3**	**+1.3**
CCAC				IAML		04 24 40.4	
	comp=N,15nm,3.5s						
CCAC				IAML		04 24 58.4	
	comp=E,20nm,3.5s						
TMUT	**Trail Mountain**	**3.56**	**37**	Pn	**Pn**	**04 23 43.4**	**+1.1**
TMUT				IAML		04 24 39.4	
	comp=N,19nm,0.4s						
TMUT				IAML		04 24 45.7	
	comp=E,18nm,0.7s						
EDW2	**Edwards Air Fo**	**3.65**	**245**	P	**Pn**	**04 23 44.3**	**+0.9**
	baz=63						
113A	**Mohawk Valley,**	**3.70**	**178**	Pn	**Pn**	**04 23 44.9**	**+1.0**
113A				IAML		04 24 51.4	
	comp=N,8.2nm,1.0s						
113A				IAML		04 24 56.6	
	comp=E,12nm,1.1s						
NLU	**North Lily Min**	**3.78**	**22**	Pn	**Pn**	**04 23 46.4**	**+1.1**
SRU	**San Rafael Swe**	**3.78**	**45**	Pn	**Pn**	**04 23 46.3**	**+1.0**
SRU				IAML		04 24 49.1	
	comp=E,18nm,0.8s						
SRU				IAML		04 24 51.6	
	comp=N,10nm,0.9s						
X18A	**Snowflake**	**3.80**	**120**	Pn	**Pn**	**04 23 45.6**	**+0.2**
DUG	**Dugway, Tooele**	**3.82**	**13**	Pn	**Pn**	**04 23 47.5**	**+1.7**
DUG				IAML		04 24 57.8	
	comp=N,6.3nm,2.0s						
DUG				IAML		04 24 58.5	
	comp=N,7.4nm,3.3s						
DUG	**Dugway, Tooele**	**3.82**	**13**	Pg	**Pg**	**04 23 59.7**	**-0.3**
	baz=194						
NV11	**Mina Array Sit**	**3.88**	**302**	Pn	**Pn**	**04 23 47.1**	**+0.6**
NV11				IAML		04 24 54.4	
	comp=N,9.3nm,3.7s						
NV11				IAML		04 25 31.7	
	comp=E,6.5nm,5.0s						
NVAR	**Mina Array Bea**	**3.98**	**301**	Pn	**Pn**	**04 23 47.9**	**0.0**
LHV	**Little Huntoon**	**4.04**	**297**	Pn	**Pn**	**04 23 49.0**	**+0.5**
LHV				IAML		04 25 04.5	
	comp=E,13nm,0.8s						
KVN	**Kaiserville**	**4.18**	**309**	Pn	**Pn**	**04 23 50.4**	**-0.3**
KVN				IAML		04 25 02.1	
	comp=E,8.2nm,2.7s						
RYN	**Ryan**	**4.22**	**302**	Pn	**Pn**	**04 23 51.8**	**+0.5**
RYN				IAML		04 25 01.6	
	comp=E,9.3nm,0.8s						
RYN				IAML		04 25 09.0	
	comp=N,8.2nm,0.9s						
P18A	**Preston Nutter**	**4.30**	**42**	Pn	**Pn**	**04 23 53.4**	**+0.9**
P18A				IAML		04 25 11.4	
	comp=E,9.2nm,1.7s						
ELK	**Elko**	**4.38**	**347**	Pn	**Pn**	**04 23 54.2**	**+0.6**
MVCO	**Mesa Verde**	**4.43**	**79**		**Pn**	**04 23 56.3**	**+2.0**
MVCO	**Mesa Verde**	**4.43**	**79**	Sb	**Sg**	**04 25 05.5**	**-3.7**
	baz=262						
214A	**Organ Pipe Nat**	**4.60**	**168**	Sb	**Sg**	**04 25 13.3**	**-1.2**
	baz=348						
PV07	**Paradox Valley**	**4.65**	**63**	Pn	**Pn**	**04 23 58.4**	**+1.2**
PNTR	**Pine Nut**	**5.18**	**302**	Pn	**Pn**	**04 24 07.1**	**+2.6**
ANMO	**Albuquerque**	**6.28**	**102**	Sb	**Sg**	**04 26 01.1**	**-7.4**
	baz=286						

*IDC **17** 04:24:36.7±0.9,49°.01S×8°.88W,h0km,mb4.1/12, mb1 4.1/12,mb1mx4.0/29,mbtmp4.1/12,Error ellipse: s-maj=30.0km s-min=17.6km az=159.0*
*NEIC **17** 04:24:38.5±1.4,49°.15S±0°.06×8°.91W±0°.2,h10km±1km, mb4.6/19,Error ellipse: s-maj=20.9km s-min=6.4km az=109.0*

ISC 17 04:24:38.2±0.5,49°.02S±0°.08×8°.91W±0°.10,h10km,n45, σ1ᵍ42/33,mb4.2/17,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**12.21**	**347**	Pn	**Pn**	**04 27 31.9**	**-0.1**
HOPE	**Hope Point**	**17.84**	**242**	Pn	**Pn**	**04 28 44.5**	**-1.8**
HOPE				IAmb	IAmb	04 29 09.9	
	comp=Z,93nm,1.2s						
VNA1	**Neumayer--Stat**	**21.70**	**179**	P	**P**	**04 29 35.1**	**+6.2**
VNA1	**Neumayer--Stat**	**21.70**	**179**	P	**P**	04 29 43.7	+15
VNA2	**Neumayer--Watz**	**21.98**	**179**	P	**P**	**04 29 32.5**	**+0.6**
VNA3	**Neumayer Olymp**	**22.30**	**181**	P	**P**	**04 29 37.5**	**+2.2**
SNAA	**Sanae**	**22.89**	**175**	P	**P**	**04 29 41.8**	**+0.1**
SNAA	**Sanae**	**22.89**	**175**	P	**P**	**04 29 40.6**	**-1.1**
SNAA				IAmb	IAmb	04 30 05.1	
	comp=Z,17nm,1.3s						
SUR	**Sutherland**	**27.76**	**64**	P	**P**	**04 30 27.3**	**+0.2**
BELA	**Belgrano 2**	**30.55**	**190**	P	**P**	**04 30 50.7**	**-0.6**
BOSA	**Boshof**	**33.12**	**65**	P	**P**	**04 31 14.0**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=196,slow=14,SNR=1.9						
USHA	**Ushuaia**	**36.18**	**238**	P	**P**	**04 31 41.2**	**+0.7**
	comp=Z,8.7nm,0.9s,baz=52,slow=17,SNR=1.6						
TSUM	**Tsumeb**	**36.59**	**45**	P	**P**	**04 31 44.2**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=206,slow=11,SNR=3.6						
TSUM	**Tsumeb**	**36.59**	**45**	IAmb	IAmb	04 31 49.9	
	comp=Z,7.7nm,1.2s						
H10S2	**ASCENSION HYDR**	**40.22**	**351**	T	T	05 15 18.6	
	baz=174,slow=74,SNR=18						
H10S3	**ASCENSION HYDR**	**40.23**	**351**	T	T	05 15 19.2	
	baz=46,slow=74,SNR=50						
QSPA	**South Pole Qui**	**41.23**	**180**	P	**P**	**04 32 21.1**	**-1.9**
MATP	**Matopo**	**41.27**	**60**	P	**P**	**04 32 23.6**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=198,slow=3.6,SNR=2.9						
PLCA	**Paso Flores**	**43.37**	**257**	P	**P**	**04 32 40.5**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=90,slow=6.1,SNR=3.0						
PLCA	**Paso Flores**	**43.37**	**257**	IAmb	IAmb	04 32 49.5	
	comp=Z,4.5nm,1.1s						
CPUP	**Villa Florida**	**43.60**	**283**	P	**P**	**04 32 42.9**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=100,slow=9.0,SNR=2.8						
CPUP	**Villa Florida**	**43.60**	**283**	IAmb	IAmb	04 33 02.4	
	comp=Z,12nm,1.4s						
LSZ	**Lusaka**	**45.26**	**55**	P	**P**	**04 32 56.3**	**+0.3**
LSZ				IAmb	IAmb	04 33 07.2	
	comp=Z,7.2nm,1.5s						
BDFB	**Brasilia**	**46.07**	**302**	P	**P**	**04 33 02.0**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=134,slow=13,SNR=5.0						
BDFB	**Brasilia**	**46.07**	**302**	IAmb	IAmb	04 33 03.6	
	comp=Z,4.2nm,0.9s						
AQDB	**Aquidauana**	**46.82**	**290**	P	**P**	**04 33 08.9**	**+0.8**
AQDB				IAmb	IAmb	04 33 16.7	
	comp=Z,4.1nm,0.7s						
MT09	**Talagante**	**47.68**	**265**	P	**P**	**04 33 14.7**	**-0.2**
GO02	**Mina Guanaco**	**52.38**	**274**	P	**P**	**04 33 51.6**	**+0.7**
GO02				IAmb	IAmb	04 34 02.7	
	comp=Z,7.4nm,0.9s						
SIV	**San Ignacio**	**53.53**	**289**	P	**P**	**04 33 59.2**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=154,slow=6.4,SNR=5.9						
VNDA	**Vanda**	**53.60**	**178**	P	**P**	**04 33 58.7**	**-0.1**
	comp=Z,1.4nm,1.1s,baz=233,slow=8.9,SNR=4.1						
PB15	**IPOC Station P**	**53.66**	**276**	P	**P**	**04 34 00.3**	**+0.1**
LVC	**Limon Verde**	**53.71**	**277**	P	**P**	**04 34 01.1**	**+0.3**
	comp=Z,6.9nm,1.0s,baz=167,slow=6.0,SNR=4.1						
LVC	**Limon Verde**	**53.71**	**277**	P	**P**	**04 34 02.6**	**+1.9**
LVC				IAmb	IAmb	04 34 10.2	
	comp=Z,9.3nm,0.8s						
PB07	**IPOC Station P**	**54.97**	**277**	P	**P**	**04 34 09.8**	**+0.1**
LPAZ	**La Paz**	**57.77**	**283**	P	**P**	**04 34 29.5**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=188,slow=7.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**62.60**	**12**	P	**P**	**04 35 02.7**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=200,slow=6.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**62.60**	**12**	IAmb	IAmb	04 35 05.8	
	comp=Z,1.5nm,0.9s						
H01W2	**Cape Leeuwin H**	**82.31**	**136**	T	T	06 08 41.8	
	baz=214,slow=75,SNR=9.0						
H01W1	**Cape Leeuwin H**	**82.33**	**136**	T	T	06 08 42.8	
	baz=214,slow=75,SNR=8.0						
H01W3	**Cape Leeuwin H**	**82.33**	**136**	T	T	06 08 50.4	
	baz=214,slow=75,SNR=10.0						
ESBB	**Sonseca Array**	**88.43**	**4**	P	**P**	**04 37 30.2**	**+0.2**
ESBB				IAmb	IAmb	04 37 33.1	
	comp=Z,6.6nm,1.2s						
YKA	**Yellowknife Ar**	**138.54**	**318**	PKHKP	**PKPdf**	**04 44 03.8**	**+1.1**
	comp=Z,0.4nm,1.0s,baz=106,slow=4.1,SNR=2.2						
YKA	**Yellowknife Ar**	**138.54**	**318**	PKPpre	**PKPab**	04 43 58.4	
INK	**Inuvik**	**146.92**	**326**	PKPbc	**PKPab**	**04 44 20.2**	**-0.6**
ILAR	**Eielson Array**	**152.84**	**321**	PKPbc	**PKiKP**	**04 44 34.5**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=9.7,slow=0.6,SNR=4.8						

*IDC **17** 04:25:28.7±2.6,1°.08S×80°.62W,h0km,mb3.9/5,mb1 4.2/7, mb1mx3.8/32,mbtmp4.0/7,ML2.6/2,Error ellipse: s-maj=62.3km s-min=30.1km az=14.0*
*IGQ **17** 04:25:34±0.4,0°.S±2°×8°.0W±°,h8km*
*NEIC **17** 04:25:35.1±1.4,0°.39S±0°.05×80°.31W±0°.07,h10km±1km, mb4.4/14,Error ellipse: s-maj=12.5km s-min=6.8km az=64.0*

ISC 17 04:25:33.2±1.3,0°.46S±0°.03×80°.42W±0°.05,h9km±9km, n129,σ1ᵍ66/136,mb4.2/12,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.29**	**47**	P	**Pg**	**04 25 40.0**	**+0.9**
JAMA				S	**Sb**	**04 25 45.0**	**-0.7**
FLF1	**Flavio Alfaro-**	**0.58**	**80**	P	**Pn**	**04 25 47.0**	**-0.8**
FLF1				S	**Sn**	**04 25 57.0**	**-0.5**
APED	**Ecuador-Perden**	**0.64**	**35**	P	**Pg**	**04 25 45.0**	**-0.6**
MAG1	**Magdalena**	**0.75**	**59**	P	**Pb**	**04 25 49.0**	**+0.5**
PPLP	**Puerto Lpez**	**1.14**	**198**	P	**Pg**	**04 25 54.0**	**-1.1**
AV18	**Acelerografo,**	**1.21**	**51**	P	**Pb**	**04 25 56.0**	**-0.4**
ASDO	**Santo Domingo**	**1.31**	**81**	P	**Pn**	**04 25 56.0**	**-1.8**
BV15	**Puerto Quito-O**	**1.34**	**63**	P	**Pn**	**04 25 56.0**	**-2

SANGA	Volcan Sangay	2.59	128	P		Pn	04 26 17.0	+1.3
ARDO	Archidona, Ten	2.67	101	P		Pn	04 26 19.0	+2.5
LNGL	El Angel-Carch	2.69	64	P		Pn	04 26 18.0	+0.7
CHMA	Chilma	2.70	61	P		Pn	04 26 17.0	-0.1
ECEN	Cerro Negro	2.76	62	P		Pn	04 26 19.0	+0.8
CHL1	Volc¡n Chiles	2.77	63	P		Pn	04 26 19.0	+0.7
CHL2	Volc¡n Chiles	2.80	63	P		Pn	04 26 20.0	+1.3
CONE	Cono NE Rev Vo	2.80	82	P		Pn	04 26 19.0	+0.4
TULM	Tulcn-Chalpat	2.88	66	Pn		Pn	04 26 20.6	+0.9
TULM	Tulcn-Chalpat	2.88	66	eP		Pn	04 26 22.6	+2.8
TULM				eS		Sn	04 26 57.4	+2.6
TULM				i			04 27 06.4	
	comp=Z,155nm,0.6s							
TULM	Tulcn-Chalpat	2.88	66	P		Pn	04 26 22.0	+2.2
CMBC	Cumbal	2.94	62	eP		Pn	04 26 22.7	+2.1
CMBC				eS		Sb	04 27 04.7	+2.2
CMBC				i			04 27 15.0	
	comp=Z,14µm,0.4s							
BONI	La Bonita	3.03	73	P		Pn	04 26 24.0	+2.4
ARNL	Arenillas	3.09	173	Pn		Pn	04 26 25.3	+3.1
ARNL	Arenillas	3.09	173	P		Pn	04 26 24.0	+1.8
CASC	Dorado de Casc	3.14	79	P		Pn	04 26 26.0	+3.0
BOSC	San Juan Bosco	3.29	144			Pn	04 26 27.4	+2.2
BOSC	San Juan Bosco	3.29	144	P		Pn	04 26 28.0	+2.8
MCRA	Macar, Loja	3.91	173			Pn	04 26 36.4	+2.8
MCRA	Macar, Loja	3.91	173	P		Pn	04 26 35.0	+1.4
ZUMB	Zumba	4.56	164	P		Pn	04 26 46.0	+3.4
SOTA	Rioblanco	4.60	56	eP		Pn	04 26 45.6	+2.1
SOTA				eS		Sn	04 27 42.7	+5.4
SOTA				i			04 27 56.6	
	comp=Z,82nm,0.6s							
POPC	Popayan, Colom	4.78	51	eP		Pn	04 26 46.1	+0.4
POPC				eS		Sn	04 27 45.9	+4.4
POPC				i			04 27 51.9	
PCON	Cinco Dias	4.88	55	eP		Pn	04 26 49.5	+2.1
PCON				eS		Sb	04 27 51.8	-6.6
PCON				i			04 28 01.8	
	comp=Z,45nm,0.5s							
MARP	Paez Belalcaza	5.54	54	eP		Pn	04 26 59.5	+3.3
PTLC	Puerto Leguiza	5.66	84	eP		Pn	04 27 00.5	+3.0
YOTC	Yotoco, Valle	6.00	43	eP		Pn	04 27 02.1	-0.3
YOTC				eS		Sn	04 28 14.3	+2.9
YOTC				i			04 28 25.4	
	comp=Z,20nm,0.4s							
PLMC	San Jos del P	6.74	38	eP		Pn	04 27 12.0	-0.5
PLMC				eS		Sn	04 28 25.2	-4.4
PLMC				i			04 28 42.7	
	comp=Z,23nm,0.6s							
ORTC	Ortega, Tolima	6.75	50	eP		Pn	04 27 18.1	+5.5
ORTC				i			04 29 07.4	
	comp=Z,8.9nm,0.6s							
ANIL	Santa Ana	7.02	45	eP		Pn	04 27 18.6	+2.1
GUY2C	Guyana, Caldas	7.57	42	eP		Pn	04 27 27.7	+3.3
ROSC	El Rosal	8.05	49	Pn		Pn	04 27 36.1	+5.3
	comp=Z,3.1nm,0.3s,baz=219,slow=7.5,SNR=7.9							
ROSC	El Rosal	8.05	49			Pn	04 27 30.7	-0.1
HELC	Santa Helena	8.21	36	eP		Pn	04 27 39.0	+5.9
ZARC	Zaragoza, Cauc	9.65	35	Pn		Pn	04 27 52.0	-0.4
SDV	Santo Domingo	13.46	46	Pn		P	04 28 50.8	-3.4
	comp=Z,0.1nm,0.3s,baz=205,slow=16,SNR=2.6							
SDV	Santo Domingo	13.46	46	Pn		Pn	04 28 45.1	+0.3
PB12	IPOC Station P	20.58	152	P		P	04 30 12.3	-0.4
PB12				IAmb		IAmb	04 30 16.9	
	comp=Z,13nm,1.0s							
CMIG	Matias Romero	22.52	321	P		P	04 30 35.5	+1.9
	comp=Z,3.1nm,1.1s,baz=150,slow=12,SNR=3.2							
LCAR	Lake Charles	37.69	346	P		P	04 32 49.0	-0.1
LCAR				IAmb		IAmb	04 32 49.4	
	comp=Z,7.2nm,0.7s							
MNTX	Cornudas Mount	39.77	326	P		P	04 33 08.0	+1.2
KSU1	Kansas State U	42.08	341	P		P	04 33 26.2	+0.6
KSU1				IAmb		IAmb	04 33 26.7	
	comp=Z,9.3nm,0.7s							
ANMO	Albuquerque	42.82	328	P		P	04 33 32.3	+0.4
ANMO				IAmb		IAmb	04 33 34.5	
	comp=Z,3.7nm,0.7s							
X16A	Lo Mia Camp, P	45.26	323	P		P	04 33 52.5	+1.0
X16A				IAmb		IAmb	04 33 54.4	
	comp=Z,2.1nm,1.0s							
WUAZ	Wupatki	45.98	324	P		P	04 33 58.5	+1.3
WUAZ				IAmb		IAmb	04 34 00.5	
	comp=Z,4.5nm,1.0s							
PV13	Radium Mtn., P	46.49	329	P		P	04 34 02.1	+0.9
PV13				IAmb		IAmb	04 34 03.4	
	comp=Z,3.8nm,0.7s							
YUH	Yuha Desert	46.96	318	P		P	04 34 06.3	+1.6
HWUT	Hardware Ranch	50.47	330	P		P	04 34 32.5	+0.7
HWUT				IAmb		IAmb	04 34 34.1	
	comp=Z,3.2nm,1.1s							
NVAR	Mina Array Bea	52.05	322	P		P	04 34 44.8	+0.9
	comp=Z,1.3nm,0.8s,baz=134,slow=7.5,SNR=11							
ULM	Lac du Bonnet	52.22	347	P		P	04 34 43.7	-0.8
	comp=Z,7.4nm,0.6s,baz=147,slow=7.7,SNR=6.2							
ULM	Lac du Bonnet	52.22	347	IAmb		IAmb	04 34 44.4	
	comp=Z,6.8nm,0.6s							
YKA	Yellowknife Ar	67.85	344	P		P	04 36 30.9	-0.8
	comp=Z,0.6nm,0.9s,baz=139,slow=5.7,SNR=9.8							
TORD	Torodi Ar. Bea	82.42	77	P		P	04 37 55.7	-1.0
	comp=Z,0.5nm,0.7s,baz=275,slow=5.7,SNR=7.4							

*IDC **17** 04:30:40.4±2.0,0.°18N×80.°23W, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.5/5, ML2.2/1, Error ellipse: s-maj=58.9km s-min=29.8km az=64.0*

*IGQ **17** 04:30:42±0.5,0.°S×2.°×8.°W±.°, h5km*

ISC 17 04:30:41.3±1.7, 0.°05S±0.°04×80.°39W±0.°06, h9km±10km, n98, σ1°39/102, mb3.5/3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	Jama	0.28	139	P	Pg	04 30 48.0	+1.2
APED	Ecuador-Perden	0.35	70	P	Pb	04 30 50.0	+0.3
APED				S	Sb	04 30 57.0	+1.7
MAG1	Magdalena	0.61	92	P	Pb	04 30 55.0	+0.8
FLF1	Flavio Alfaro-	0.62	119	P	Pb	04 30 55.0	+0.6
AV18	Acelerografo,	0.98	68	P	Pn	04 31 02.0	+0.8
ASAM	Ecuador-Same-C	1.01	28	P	Pn	04 31 02.0	+0.4
AATC	Ecuador-Atacam	1.05	30	P	Pn	04 31 02.0	-0.2
AATC				S	Sn	04 31 17.0	+0.1
AV21	Acelerografo,	1.10	50	P	Pn	04 31 03.0	+0.1
BV15	Puerto Quito-O	1.18	80	P	Pn	04 31 04.0	0.0
AMA1	Acelerografo,	1.18	34	P	Pn	04 31 05.0	+0.9
AES1	Ecuador-Esmera	1.22	35	P	Pn	04 31 06.0	+1.4
AES2	Ecuador-Puerto	1.27	36	P	Pn	04 31 06.0	+0.7
AES2				S	Sn	04 31 26.0	+3.5
APR2	Miler	1.42	85	P	Pn	04 31 07.0	-0.4
PPLP	Puerto Lpez	1.53	195	P	Pn	04 31 07.0	-1.9
HPLL	Hacienda Las P	1.74	95	P	Pn	04 31 11.0	-1.1
APR1	Acelerografo,	1.77	96	P	Pn	04 31 13.0	+0.5
GGPT	Toaza - Volcan	1.77	96	P	Pn	04 31 12.0	-0.5
PINO	Pino	1.78	93	P	Pn	04 31 13.0	+0.2
ILLI	Illinizas Sur	1.78	112	P	Pn	04 31 13.0	+0.2
TERV	Terraza Guagua	1.79	94	P	Pn	04 31 13.0	+0.2
JUA2	San Juan 2	1.79	95	P	Pn	04 31 13.0	+0.2
GGPC	Guagua Pichinc	1.79	94	P	Pn	04 31 13.0	0.0
YANA	Yana	1.82	92	P	Pn	04 31 13.0	-0.2
PAST	Pastocalle	1.86	110	P	Pn	04 31 14.0	+0.3
PULU	Pululahua	1.89	88	P	Pb	04 31 15.0	-1.1
SRAM	San Ramn-Vol	1.95	111	S	Sn	04 31 40.0	+0.3
SRAM				P	Pn	04 31 15.0	+0.1
SUCR	Mariscal Sucre	1.98	107	P	Pn	04 31 16.0	+0.6
TOMA	Boca Toma-Volc	2.00	103	P	Pn	04 31 17.0	+1.3
SLOR	San Lorenzo -	2.00	110	P	Pn	04 31 17.0	+1.2
NAS2	Nasa	2.01	107	P	Pn	04 31 16.0	+0.2
PITA	Cotopaxi Volc	2.02	104	P	Pn	04 31 17.0	+1.1
CUSE	Cuicocha Este	2.02	80	eP	Pn	04 31 17.5	-0.9
CUSE				eS	Sg	04 31 44.0	-2.3
CUSE	Cuicocha Este	2.02	80	P	Pn	04 31 16.0	+0.1
BREF	Cotopaxi Volca	2.04	107	P	Pb	04 31 18.0	-0.9
BMOR	Cotopaxi Volca	2.04	109	P	Pn	04 31 17.0	+0.6
BRRN	Barrancas-Volc	2.04	111	P	Pn	04 31 17.0	+0.7
CUIC	Cuicocha-Domo	2.06	80	P	Pn	04 31 17.0	+0.6
CUSW	Cuicocha Oeste	2.06	81	P	Pn	04 31 17.0	+0.5
BVC2	Cotopaxi Volca	2.06	107	P	Pn	04 31 18.0	+1.3
VC1	Cotopaxi 1	2.07	106	P	Pn	04 31 18.0	+1.3
BTAM	Cotopaxi Volca	2.08	107	P	Pn	04 31 18.0	+1.1
COTA	Cotacachi	2.08	79	P	Pb	04 31 18.0	-1.6
CHSH	Refugio Sur-Vo	2.09	133	P	Pn	04 31 17.0	0.0
TAMB	Tambo	2.12	108	P	Pn	04 31 18.0	+0.6
VCES	Cotopaxi	2.12	110	P	Pn	04 31 19.0	+1.5
PORT	Chimborazo Vol	2.14	131	P	Pn	04 31 18.0	+0.3
ANTG	Antisana-Guama	2.18	102	P	Pn	04 31 19.0	+0.8
TAMH	Tambohuasha Ch	2.18	133	P	Pn	04 31 19.0	+0.7
URCU	Urcuqui	2.19	77	P	Pb	04 31 20.0	-1.3
ALIT	Ecuador-Imbabu	2.19	67	P	Pb	04 31 19.0	-2.2
ANTM	Antisana-La Mi	2.22	103	P	Pn	04 31 20.0	+1.3
ANTI	Antisana	2.26	100	P	Pn	04 31 21.0	+1.6
ANTS	Antisana-Sarah	2.26	101	P	Pn	04 31 21.0	+1.6
AIB2	Ibarra (Univer	2.31	80	P	Pb	04 31 22.0	-1.4
PIAT	Ana Tenorio	2.32	114	P	Pn	04 31 21.0	+0.9
JUI6	Juive	2.35	125	P	Pn	04 31 21.0	+0.6
YAHU	Yahuarcocha	2.35	80	P	Pb	04 31 24.0	-0.1
MILO	Milagro-Astudi	2.36	159	P	Pn	04 31 18.0	-2.3
POND	Pondoa	2.36	125	P	Pn	04 31 22.0	+1.4
ANGU	Angureal	2.38	88	P	Pb	04 31 24.0	-0.7
CAYR	Refugio Cayamb	2.38	88	P	Pb	04 31 23.0	-1.7
RETU	Refugio	2.39	126	P	Pn	04 31 23.0	+1.9
BMAS	Trigal station	2.39	127	P	Pn	04 31 22.0	+1.0
BRUN	Tungurahua Vol	2.40	125	P	Pn	04 31 22.0	+0.9
CAYA	Cayambe	2.40	87	P	Pb	04 31 24.0	-1.0
ARRY	Arrayan	2.41	127	P	Pn	04 31 22.0	+0.7
BPAT	Tungurahua Vol	2.43	126	P	Pn	04 31 22.0	+0.4
CHMA	Chilma	2.50	69	P	Pn	04 31 23.0	+0.6
LNGL	El Angel-Carch	2.51	72	P	Pn	04 31 24.0	+1.2
ECEN	Cerro Negro	2.57	70	P	Pn	04 31 25.0	+1.4
CHL1	Volc¡n Chiles	2.58	71	P	Pn	04 31 25.0	+1.2
CHL2	Volc¡n Chiles	2.61	71	P	Pb	04 31 26.0	-2.6
COHC	Cochancay	2.65	155	P	Pn	04 31 23.0	-1.3
TULM	Tulcn-Chalpat	2.71	74	eP	Pb	04 31 28.9	-1.3
ARDO	Archidona, Ten	2.75	110	P	Pn	04 31 28.0	+2.3
BONI	La Bonita	2.90	80	P	Pb	04 31 32.0	-1.4
ISPG	Isla Puna-Puer	2.91	176	P	Pb	04 31 33.0	-0.3
CASC	Dorado de Casc	3.05	86	P	Pb	04 31 35.0	-0.9
ARNL	Arenillas	3.49	175	P	Pn	04 31 37.0	+1.2
BOSC	San Juan Bosco	3.61	148	P	Pn	04 31 41.0	+3.4
MCRA	Macar, Loja	4.31	174	P	Pn	04 31 48.0	+0.9
SOTA	Rioblanco	4.36	60	eP	Pn	04 31 50.5	+2.3
SOTA				eS	Sb	04 32 49.7	-1.6
SOTA				i		04 33 10.6	
	comp=Z,63nm,0.7s						
POPC	Popayan, Colom	4.51	55	eP	Pn	04 31 52.2	+2.1
POPC				eS	Sn	04 32 43.6	+0.6
POPC				i		04 32 59.6	
	comp=Z,21nm,0.7s						
PCON	Cinco Dias	4.64	59	eP	Pn	04 31 54.4	+2.3
PCON				eS	Sb	04 32 59.4	0.0
PCON				i		04 33 12.5	
	comp=Z,31nm,0.6s						
ZUMB	Zumba	4.94	165	P	Pn	04 31 59.0	+3.1
MARP	Paez Belalcaza	5.28	57	eP	Pn	04 32 03.6	+2.9
GARC	Garzon, Huila	5.37	66	eP	Pn	04 32 05.0	+3.1
YOTC	Yotoco, Valle	5.69	45	eP	Pn	04 32 08.7	+2.5
YOTC				eS	Sn	04 33 10.5	-1.3
PLMC	San Jos del P	6.41	40	eP	Pn	04 32 17.8	+1.7
ANIL	Santa Ana	6.72	48	eP	Pn	04 32 27.9	+7.4
GUY2C	Guyana, Caldas	7.25	44	eP	Pn	04 32 33.5	+5.5
GUY2C				eS	Sb	04 34 03.2	-11
CBOC	Ciudad Bolivar	7.32	37	eP	Pn	04 32 34.3	+5.6
ROSC	El Rosal	7.77	51	Pn	Pn	04 32 32.1	-2.8
	comp=Z,0.9nm,0.3s,baz=224,slow=23,SNR=1.8						
CHIC	Chingaza	8.11	55	eP	Pn	04 32 45.0	+5.3
LPAZ	La Paz	20.16	144	P	Pn	04 35 20.1	+1.4
	comp=Z,1.4nm,0.7s,baz=301,slow=8.1,SNR=5.6						
SIV	San Ignacio	24.78	131	P	P	04 36 03.1	-0.7
	comp=Z,0.7nm,0.5s,baz=301,slow=12,SNR=2.9						
YKA	Yellowknife Ar	67.47	344	P	P	04 41 36.8	-0.5
	comp=Z,0.1nm,0.7s,baz=145,slow=6.4,SNR=3.4						
TORD	Torodi Ar. Bea	82.30	77	P	P	04 43 03.5	-0.6
	comp=Z,0.4nm,1.0s,baz=277,slow=5.9,SNR=5.4						

*IDC **17** 04:38:50.6±0.9, 32.°72N×130.°63E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.6/43, mbtmp3.5/10, ML2.9/2, Error ellipse: s-maj=22.0km s-min=8.0km az=122.0*

*JMA **17** 04:38:51.3, 32.°71N×130.°78E, h10km±1km, M3.8*

JMA Felt III J1.

ISC 17 04:38:52.2±1.0, 32.°68N±0.°05×130.°71E±0.°08, h9km±7km, n15, σ1°39/19, mb3.5/8, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	Izumi3	0.15	146	⇑P	Pg	04 38 54.9	-0.7
JIU3				S	Sg	04 38 57.5	-0.4
JTA	Tamana	0.32	333	P	Pg	04 38 58.0	-0.7
JTA				S	Sg	04 39 02.8	-0.2
JNU	Nakatsue	0.47	18	Pg	Pg	04 38 59.6	-1.8
	581nm,0.3s,baz=183,slow=7.1,SNR=142						
JNU				Lg	Lg	04 39 05.4	
	3µm,0.3s,baz=277,slow=19,SNR=77						
JTZ	Takazaki	0.84	157	P	Pg	04 39 08.1	-0.3
JTZ				S	Sg	04 39 18.5	-0.7
KSRS	Korea Array	5.29	335	Pn	Pn	04 40 11.5	+0.2
	0.4nm,0.3s,baz=152,slow=15,SNR=2.1						
KSRS				Pg	Pb	04 40 28.1	+3.4
	1.1nm,0.3s,baz=149,slow=17,SNR=5.4						
KSRS				Lg	Lg	04 41 32.6	
	0.9nm,0.3s,baz=147,slow=29,SNR=2.3						
MJAR	Matsushiro Arr	7.29	56	Pn	Pn	04 40 40.7	+1.9
	0.2nm,0.3s,baz=241,slow=13,SNR=4.3						
KLR	Kul'dur	16.56	2	Pn	P	04 42 47.8	+0.8
	0.2nm,0.3s,baz=170,slow=6.0,SNR=15						
SONM	Songino Array	23.81	317	P	P	04 44 05.3	-0.2
	0.8nm,0.7s,baz=99,slow=8.9,SNR=3.5						
MKAR	Makanchi Array	39.20	306	P	P	04 46 20.5	0.0
	0.7nm,0.9s,baz=112,slow=9.3,SNR=4.9						
KURBB	Kurchatov Arra	41.96	311	P	P	04 46 42.0	-1.2
	0.4nm,0.5s,baz=97,slow=9.3,SNR=5.4						
WRA	Warramunga Arr	52.44	176	P	P	04 48 04.2	-0.9
	0.5nm,0.8s,baz=355,slow=8.0,SNR=2.9						
ASAR	Alice Springs	56.11	176	P	P	04 48 33.4	+1.4
	0.3nm,0.6s,baz=9.9,slow=13,SNR=6.6						
FINES	FINESS Array B	68.36	330	P	P	04 49 52.2	-1.4
	0.7nm,0.4s,baz=75,slow=5.5,SNR=22						
YKA	Yellowknife Ar	71.80	26	P	P	04 50 13.5	-1.2
	0.1nm,0.6s,baz=305,slow=5.9,SNR=5.8						
BRTR	Keskin Array B	74.81	308	P	P	04 50 32.7	-0.4
	0.8nm,0.8s,baz=69,slow=8.1,SNR=5.1						

IDC 17 04:46:46.2±1.8, 0.°01S±79.°95W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/36, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=166.6km s-min=23.8km az=53.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	19.94	145	P	P	04 51 21.0	+0.5
	0.1nm,0.3s,baz=310,slow=10,SNR=4.4						
SIV	San Ignacio	24.48	131	P	P	04 52 07.0	-0.3
	1.3nm,0.7s,baz=302,slow=8.9,SNR=7.5						
NVAR	Mina Array Bea	51.99	322	P	P	04 55 57.5	-0.3
	0.5nm,0.8s,baz=143,slow=6.2,SNR=5.0						
YKA	Yellowknife Ar	67.56	343	P	P	04 57 44.4	+0.2
	0.4nm,0.8s,baz=132,slow=5.9,SNR=4.9						

*IDC **17** 04:55:24.8±1.2, 62.°03N×149.°85W, h46km±13km, mb3.5/9, mb1 3.7/13, mb1mx3.5/60, mbtmp3.7/13, ML3.7/4, Error ellipse: s-maj=17.2km s-min=9.9km az=108.0*

*NEIC **17** 04:55:26.3±1.0, 62.°00N±0.°03×149.°57W±0.°02, h49km±5km, Error ellipse: s-maj=3.8km s-min=1.1km az=179.0*

*AEIC **17** 04:55:26±1.1, 61.°99N±0.°02×149.°56W±0.°07, h42km±5km, ML4.0, mb3.9/9(NEIC), ML4.2/168(NEIC), Error ellipse: s-maj=4.6km s-min=3.4km az=75.0*

ISC 17 04:55:25.4±0.7, 61.°99N±0.°02×149.°57W±0.°03, h48km±6km, n284, σ1°16/293, mb3.9/14, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.35	228		Pn	04 55 35.0	+0.1
M22K				Sn	Sn	04 55 42.6	+1.0
M22K				IAML		04 55 43.3	
	comp=E,24µm,0.6s						
M22K				IAML		04 55 45.2	
	comp=N,17µm,0.5s						
M22K	Willow	0.35	228	P	Pn	04 55 34.9	+0.1
	baz=47						
M22K				S	Sn	04 55 42.8	+1.2
	baz=47						
GHO	Glory Hole Cre	0.38	126		Pn	04 55 35.6	+0.4
GHO					Sn	04 55 43.4	+1.1
GHO	Glory Hole Cre	0.38	126	IAML		04 55 44.2	
	comp=E,26µm,0.3s						
PMR	Palmer	0.45	152	Pn	Pn	04 55 35.9	0.0
PMR				Sn	Sn	04 55 43.9	+0.4
PMR				IAML		04 55 44.4	
	comp=E,13µm,0.3s						
PMR	Palmer	0.45	152	P	Pn	04 55 35.8	-0.2
	baz=333						
PMR				S	Sn	04 55 44.0	+0.6
	baz=333						
CUT	Chulitna	0.53	322		Pn	04 55 37.2	+0.4
CUT				Sn	Sn	04 55 46.4	+1.3
CUT	Chulitna	0.53	322	P	Pn	04 55 37.2	+0.4
	baz=141						
CUT				S	Sn	04 55 46.4	+1.3
	baz=141						
SML	Sawmill	0.61	107		Pn	04 55 38.1	0.0
SML				Sn	Sn	04 55 48.0	+0.9
SML				IAML		04 55 50.9	
	comp=N,8µm,0.4s						
SML	Sawmill	0.61	107	P	Pn	04 55 38.0	0.0
	baz=289						
SML				S	Sn	04 55 48.2	+1.0
	baz=289						
KNK	Knik Glacier	0.79	137		Pn	04 55 40.6	+0.3
KNK				Sn	Sn	04 55 52.1	+1.1
KNK				IAML		04 55 54.4	
	comp=N,7µm,0.4s						
KNK	Knik Glacier	0.79	137	P	Pn	04 55 40.5	+0.3
	baz=319						
KNK				S	Sn	04 55 52.2	+1.1
	baz=319						
FIS	Fire Island	0.91	200		Pn	04 55 42.9	+1.2
FIS				IAML		04 55 58.4	
	comp=N,11µm,0.8s						
FIS				IAML		04 56 00.9	
	comp=E,12µm,0.5s						
RC01	Rabbit Creek A	0.91	185	Pn	Pn	04 55 42.1	+0.3
RC01				IAML		04 55 57.6	
	comp=E,7µm,0.3s						
RC01				IAML		04 55 57.7	
	comp=N,13µm,0.3s						
RC01	Rabbit Creek A	0.91	185	P	Pn	04 55 42.2	+0.3
	baz=5.1						
WAT1	Susitna Watana	0.96	29		Pn	04 55 42.9	+0.3
WAT1					Sn	04 55 55.9	+0.6
WAT1	Susitna Watana	0.96	29	P	Pn	04 55 42.9	+0.3
	baz=210						
WAT1				S	Sn	04 55 55.9	+0.6
	baz=210						
WAT6	Susitna Watana	1.04	55		Pn	04 55 43.8	+0.1
WAT6	Susitna Watana	1.04	55	P	Pn	04 55 43.8	+0.1
	baz=236						
SCM	Sheep Creek Mo	1.07	98		Pn	04 55 44.6	+0.5
SCM				IAML		04 56 01.8	
	comp=N,7µm,0.5s						
SCM				IAML		04 56 02.4	
	comp=E,9µm,0.2s						
STLK	Strandline Lak	1.19	246		Pn	04 55 46.2	+0.5
PWL	Port Wells	1.28	152		Pn	04 55 47.7	+0.7
PWL					Sn	04 56 05.1	+2.2
SPCG	Spurr Capps Gl	1.36	240		Pn	04 55 49.0	+0.9
CAPN	Captain Cook N	1.45	213		Pn	04 55 51.1	+2.0
CAPN	Captain Cook N	1.45	213	P	Pn	04 55 51.6	+2.6
	baz=31						
RND	Reindeer	1.46	13	Pn	Pn	04 55 49.5	+0.2
RND				IAML		04 56 15.3	
	comp=N,2µm,0.5s						
CKN	Chakachatna No	1.47	239		Pn	04 55 50.2	+0.8
DHY	Denali Highway	1.49	42		Pn	04 55 50.3	+0.4
DHY					Sn	04 56 10.5	+2.3
DHY	Denali Highway	1.49	42	IAML		04 56 12.9	
	comp=N,3µm,0.4s						
DHY	Denali Highway	1.49	42	P	Pn	04 55 50.3	+0.4
	baz=224						
DHY				S	Sn	04 56 10.5	+2.3
	baz=224						
TRF	Thorofare Moun	1.50	348		Pn	04 55 50.9	+0.8
TRF				IAML		04 56 12.9	
	comp=N,2µm,0.4s						
TRF	Thorofare Moun	1.50	348	P	Pn	04 55 50.8	+0.8
	baz=167						
O22K	Cooper Landing	1.52	183		Pn	04 55 50.5	+0.4
O22K	Cooper Landing	1.52	183	P	Pn	04 55 50.5	+0.4
	baz=2.8						
PPLA	Purkeypile	1.52	308		Pn	04 55 50.8	+0.6
PPLA	Purkeypile	1.52	308		Sn	04 56 10.7	+1.8
PPLA	Purkeypile	1.52	308	P	Pn	04 55 51.1	+0.8
	baz=125						
PPLA				S	Sn	04 56 10.7	+1.8
	baz=125						
SLKM	Skilak Lake	1.52	192		Pn	04 55 50.9	+0.7
SPWE	Spurr West	1.60	244		Pn	04 55 52.7	+1.4
M24K	Tolsona, Glenn	1.60	84		Pn	04 55 52.8	+1.5
M24K	Tolsona, Glenn	1.60	84	P	Pn	04 55 53.0	+1.7
	baz=268						
GLI	Glacier Island	1.63	132		Pn	04 55 52.5	+0.9
GLI	Glacier Island	1.63	132	P	Pn	04 55 52.5	+0.9
	baz=314						
KTH	K

BRLK					IAML			04 56 37.6
	comp=N,858nm,0.3s							
BRLK					IAML			04 56 37.9
	comp=E,842nm,0.5s							
BRSE	**Bradley Lake S**	**2.33**	**195**			**Pn**	**04 56 01.6 +0.3**
BRSE	**Bradley Lake S**	**2.33**	**195**	P		**Pn**	**04 56 01.5 +0.3**
	baz=14						
EYAK	**Cordova Ski Ar**	**2.35**	**126**			**Pn**	**04 56 02.0 +0.6**
EYAK	**Cordova Ski Ar**	**2.35**	**126**	P		**Pn**	**04 56 02.0 +0.6**
	baz=310						
N25K	**Chitina, Valde**	**2.39**	**97**			**Pn**	**04 56 03.1 +1.0**
N25K	**Chitina, Valde**	**2.39**	**97**	IAML			04 56 38.1
	comp=N,1μm,0.7s						
N25K				IAML			04 56 40.2
	comp=E,996nm,0.6s						
N25K	**Chitina, Valde**	**2.39**	**97**	P		**Pn**	**04 56 03.1 +1.0**
	baz=282						
O20K	**Slope Mountain**	**2.43**	**219**			**Pn**	**04 56 04.2 +1.6**
O20K	**Slope Mountain**	**2.43**	**219**	P		**Pn**	**04 56 04.2 +1.6**
	baz=36						
K20K	**Telida**	**2.49**	**305**			**Pn**	**04 56 04.0 +0.7**
K20K	**Telida**	**2.49**	**305**	P		**Pn**	**04 56 04.0 +0.7**
	baz=121						
L19K	**White Mountain**	**2.49**	**277**			**Pn**	**04 56 04.0 +0.5**
L19K				IAML			04 56 36.1
	comp=E,690nm,0.5s						
L19K				IAML			04 56 54.0
	comp=N,672nm,0.6s						
L19K	**White Mountain**	**2.49**	**277**	P		**Pn**	**04 56 04.3 +0.9**
	baz=92						
HOM	**Homer**	**2.55**	**204**			**Pn**	**04 56 05.6 +1.3**
HOM	**Homer**	**2.55**	**204**	P		**Pn**	**04 56 05.5 +1.2**
	baz=23						
WRH	**Wood River Hil**	**2.58**	**14**			**Pn**	**04 56 05.2 +0.6**
BMRM	**Bremner River**	**2.59**	**111**			**Pn**	**04 56 05.2 +0.3**
BMRM	**Bremner River**	**2.59**	**111**	IAML			04 56 46.7
	comp=E,1μm,0.4s						
BMRM				IAML			04 56 49.7
	comp=N,1μm,0.4s						
BMRM	**Bremner River**	**2.59**	**111**	P		**Pn**	**04 56 05.2 +0.3**
	baz=296						
IVE	**Iliamna Volcan**	**2.60**	**222**			**Pn**	**04 56 06.1 +1.1**
CNPM	**China Poot**	**2.61**	**199**			**Pn**	**04 56 06.5 +1.5**
CNPM	**China Poot**	**2.61**	**199**	IAML			04 56 46.2
	comp=N,1μm,0.4s						
CNPM				IAML			04 56 47.4
	comp=E,1μm,0.5s						
NEA2	**Nenana**	**2.62**	**5**			**Pn**	**04 56 05.6 +0.5**
NEA2	**Nenana**	**2.62**	**5**	P		**Pn**	**04 56 05.6 +0.5**
	baz=185						
N19K	**Bonanza Creek**	**2.64**	**246**			**Pn**	**04 56 06.5 +0.9**
N19K	**Bonanza Creek**	**2.64**	**246**	P		**Pn**	**04 56 06.5 +0.9**
	baz=61						
CCB	**Clear Creek Bu**	**2.78**	**16**			**Pn**	**04 56 07.9 +0.6**
CCB	**Clear Creek Bu**	**2.78**	**16**	IAML			04 56 47.5
	comp=E,671nm,0.3s						
RIDG	**Independent Ri**	**2.79**	**49**			**Pn**	**04 56 08.4 +0.9**
RIDG	**Independent Ri**	**2.79**	**49**	P		**Pn**	**04 56 09.3 +1.8**
	baz=233						
GLB	**Gilahina Butte**	**2.80**	**99**			**Pn**	**04 56 08.5 +0.8**
GLB	**Gilahina Butte**	**2.80**	**99**	IAML			04 56 50.9
	comp=E,919nm,0.5s						
GLB				IAML			04 56 51.4
	comp=N,2μm,0.6s						
PS08	**TAPS Pump Stn8**	**2.84**	**25**			**Pn**	**04 56 09.5 +1.2**
OPT	**Oil Point**	**2.96**	**219**			**Pn**	**04 56 11.6 +1.8**
OPT	**Oil Point**	**2.96**	**219**	P		**Pn**	**04 56 11.6 +1.8**
	baz=36						
P19K	**Oil Pt**	**2.96**	**219**			**Pn**	**04 56 10.8 +0.9**
P19K				IAML			04 56 54.0
	comp=E,1μm,0.5s						
P19K				IAML			04 57 01.9
	comp=N,843nm,0.6s						
TCOL	**CIGO, UAF Yank**	**2.99**	**14**			**Pn**	**04 56 11.1 +0.9**
TCOL	**CIGO, UAF Yank**	**2.99**	**14**	P		**Pn**	**04 56 11.1 +0.9**
	baz=196						
COLA	**College**	**2.99**	**14**			**Pn**	**04 56 11.1 +0.8**
SVW2	**Sparrevohn**	**3.02**	**255**			**Pn**	**04 56 11.2 +0.6**
Q23K	**Middleton Isla**	**3.02**	**147**	Pn		**Pn**	**04 56 11.9 +1.3**
Q23K				IAML			04 57 01.4
	comp=E,786nm,0.6s						
Q23K				IAML			04 57 09.8
	comp=N,689nm,0.8s						
VRDI	**Verde Repeater**	**3.02**	**102**			**Pn**	**04 56 11.0 +0.2**
VRDI				IAML			04 56 56.3
	comp=N,856nm,0.8s						
VRDI				IAML			04 56 56.4
	comp=E,492nm,0.7s						
J20K	**Nowinta River**	**3.02**	**318**			**Pn**	**04 56 11.6 +0.9**
J20K	**Nowinta River**	**3.02**	**318**	IAML			04 56 47.9
	comp=N,644nm,0.6s						
J20K				IAML			04 56 48.6
	comp=E,537nm,0.5s						
J20K	**Nowinta River**	**3.02**	**318**	P		**Pn**	**04 56 11.6 +0.9**
	baz=134						
MID	**Middleton Isla**	**3.02**	**147**	Pn		**Pn**	**04 56 11.7 +1.1**
MID				IAML			04 57 01.4
	comp=E,797nm,0.6s						
MID				IAML			04 57 02.9
	comp=N,704nm,0.5s						
DOT	**Dot Lake**	**3.02**	**54**			**Pn**	**04 56 12.0 +1.3**
MDM	**Murphy Dome**	**3.04**	**11**			**Pn**	**04 56 11.3 +0.4**
IL31		**3.04**	**22**			**Pn**	**04 56 11.4 +0.6**
ILAR	**Eielson Array**	**3.04**	**22**	P		**Pn**	**04 56 11.4 +0.5**
	comp=N,11nm,0.3s,baz=204,slow=14,SNR=278						
ILAR					S	**Sn**	**04 56 46.9 +0.9**
	comp=N,76nm,0.3s,baz=208,slow=23,SNR=3.3						
HMT	**Hamilton**	**3.06**	**121**			**Pn**	**04 56 11.9 +0.6**
L26K	**Log Cabin Wild**	**3.07**	**68**			**Pn**	**04 56 13.0 +1.7**
L26K	**Log Cabin Wild**	**3.07**	**68**	IAML			04 57 09.2
	comp=N,1μm,0.3s						
L26K	**Log Cabin Wild**	**3.07**	**68**	P		**Pn**	**04 56 13.0 +1.7**
	baz=253						
M26K	**Nabesna, AK**	**3.11**	**80**			**Pn**	**04 56 12.8 +0.9**
M26K	**Nabesna, AK**	**3.11**	**80**	IAML			04 57 06.7
	comp=N,594nm,0.5s						
M26K				IAML			04 57 09.1
	comp=E,530nm,0.5s						
M26K	**Nabesna, AK**	**3.11**	**80**	P		**Pn**	**04 56 12.8 +0.9**
	baz=265						
TT01	**Tatalina**	**3.13**	**290**			**Pn**	**04 56 12.5 +0.3**
TTA	**Tatalina**	**3.14**	**290**			**Pn**	**04 56 12.5 +0.2**
TTA	**Tatalina**	**3.14**	**290**	IAML			04 57 07.1
	comp=E,380nm,0.8s						
TTA	**Tatalina**	**3.14**	**290**	P		**Pn**	**04 56 12.5 +0.2**
	baz=104						
I23K	**Minto, Yukon-K**	**3.17**	**2**			**Pn**	**04 56 13.7 +1.0**
MCARA	**McCarthy VSAT**	**3.18**	**98**			**Pn**	**04 56 13.8 +1.0**
MCARA	**McCarthy VSAT**	**3.18**	**98**	P		**Pn**	**04 56 13.8 +1.0**
	baz=284						
AU22	**Augustine Moun**	**3.22**	**217**			**Pn**	**04 56 15.7 +2.3**
SCRK	**Sand Creek**	**3.23**	**50**			**Pn**	**04 56 14.5 +0.8**
SCRK	**Sand Creek**	**3.23**	**50**	IAML			04 56 56.8
	comp=N,562nm,0.4s						
SCRK				IAML			04 57 08.2
	comp=E,437nm,0.8s						
SCRK	**Sand Creek**	**3.23**	**50**	P		**Pn**	**04 56 14.5 +0.8**
	baz=234						
AUL	**Augustine Lava**	**3.24**	**218**			**Pn**	**04 56 16.4 +2.8**
NICHA	**Nichawak Mount**	**3.24**	**120**			**Pn**	**04 56 14.5 +0.8**
J25K	**Salcha River,**	**3.24**	**34**			**Pn**	**04 56 14.8 +1.0**
J25K	**Salcha River,**	**3.24**	**34**	IAML			04 56 58.0
	comp=N,709nm,0.6s						
J25K	**Salcha River,**	**3.24**	**34**	P		**Pn**	**04 56 14.8 +1.0**
	baz=218						
AUQ	**Augustine Qik'**	**3.25**	**217**			**Pn**	**04 56 15.7 +1.9**
AUH	**Augustine H**	**3.25**	**218**			**Pn**	**04 56 16.5 +2.5**
BERG	**Berg Lake**	**3.26**	**117**			**Pn**	**04 56 15.0 +1.0**
POKR	**Poker Plat Res**	**3.28**	**16**	Pn		**Pn**	**04 56 15.1 +1.0**
POKR				IAML			04 56 54.3
	comp=N,366nm,0.5s						
POKR				IAML			04 57 12.6
	comp=E,342nm,0.8s						
POKR	**Poker Plat Res**	**3.28**	**16**	P		**Pn**	**04 56 15.2 +1.0**
	baz=198						
N18K	**Kilae Creek**	**3.32**	**249**			**Pn**	**04 56 15.3 +0.5**
N18K	**Kilae Creek**	**3.32**	**249**	P		**Pn**	**04 56 15.1 +0.4**
	baz=64						
I21K	**Tanana**	**3.38**	**342**			**Pn**	**04 56 16.1 +0.6**
I21K	**Tanana**	**3.38**	**342**	P		**Pn**	**04 56 16.3 +0.8**
	baz=160						
PS07	**TAPS Pump Stn7**	**3.38**	**9**			**Pn**	**04 56 16.9 +1.3**
SUCK	**Suckling Hills**	**3.41**	**122**			**Pn**	**04 56 16.6 +0.5**
SUCK				IAML			04 57 11.4
	comp=E,628nm,1.0s						
KHIT	**Khitrov Hills**	**3.43**	**114**			**Pn**	**04 56 17.1 +0.7**
TGL	**Tana Glacier**	**3.47**	**108**			**Pn**	**04 56 17.8 +0.8**
GRIN	**Grindle Hills**	**3.48**	**117**			**Pn**	**04 56 18.2 +1.2**
O18K	**Koktuh Hills**	**3.49**	**235**			**Pn**	**04 56 17.2 +0.1**
O18K				IAML			04 57 28.1
	comp=N,252nm,0.9s						
O18K	**Koktuh Hills**	**3.49**	**235**	P		**Pn**	**04 56 17.8 +0.7**
	baz=50						
PTPK	**Patty Peak**	**3.49**	**100**			**Pn**	**04 56 18.2 +0.9**
BALM	**Baldy**	**3.59**	**102**			**Pn**	**04 56 19.1 +0.4**
WAX	**Waxell Ridge**	**3.60**	**113**			**Pn**	**04 56 19.5 +0.8**
KIAG	**Kiagna River**	**3.62**	**104**			**Pn**	**04 56 19.2 +0.1**
M27K	**Edge Creek, AK**	**3.62**	**81**			**Pn**	**04 56 20.9 +1.8**
M27K				IAML			04 57 22.7
	comp=N,232nm,1.3s						
M27K	**Edge Creek, AK**	**3.62**	**81**	P		**Pn**	**04 56 20.6 +1.5**
	baz=268						
Q19K	**Cape Douglas,**	**3.68**	**215**			**Pn**	**04 56 20.7 +1.0**
Q19K	**Cape Douglas,**	**3.68**	**215**	P		**Pn**	**04 56 21.1 +1.4**
	baz=32						
J26L	**Joseph Creek**	**3.70**	**45**	P		**Pn**	**04 56 21.1 +1.0**
	baz=230						
SNH	**Sunshine Point**	**3.74**	**116**	Pn		**Pn**	**04 56 22.2 +1.6**
SNH				IAML			04 57 18.8
	comp=E,359nm,0.4s						
SNH				IAML			04 57 23.8
	comp=N,395nm,0.5s						
L27K	**Beaver Creek,**	**3.75**	**70**			**Pn**	**04 56 21.6 +1.0**
L27K	**Beaver Creek,**	**3.75**	**70**	P		**Pn**	**04 56 21.6 +1.0**
	baz=257						
ISLE	**Juniper Island**	**3.76**	**109**			**Pn**	**04 56 21.5 +0.6**
ISLE	**Juniper Island**	**3.76**	**109**	IAML			04 57 21.1
	comp=N,633nm,0.9s						
ISLE				IAML			04 57 21.7
	comp=E,610nm,0.8s						
BC03		**3.76**	**70**			**Pn**	**04 56 21.9 +1.0**
BCAR	**Beaver Creek A**	**3.76**	**70**	Pn		**Pn**	**04 56 21.5 +0.6**
P18K	**Big Mountain,**	**3.81**	**229**			**Pn**	**04 56 22.3 +0.7**
H23K	**Yukon River**	**3.85**	**0**			**Pn**	**04 56 22.8 +0.8**
H23K	**Yukon River**	**3.85**	**0**	P		**Pn**	**04 56 22.8 +0.8**
	baz=180						
PS06	**TAPS Pump Stn6**	**3.88**	**359**			**Pn**	**04 56 23.6 +1.2**
BARN	**Barnard Glacie**	**3.90**	**100**			**Pn**	**04 56 23.6 +0.7**
BARN				IAML			04 57 22.8
	comp=N,423nm,0.5s						
BARN				IAML			04 57 24.4
	comp=E,479nm,0.5s						
BAGL	**Bagley Icefiel**	**3.92**	**109**			**Pn**	**04 56 23.6 +0.7**
H24K	**Noodor Dome**	**3.93**	**10**	Pn		**Pn**	**04 56 23.8 +0.6**
H24K				IAML			04 57 36.7
	comp=E,206nm,0.7s						
H24K	**Noodor Dome**	**3.93**	**10**	P		**Pn**	**04 56 24.2 +1.0**
	baz=192						
H21K	**Melozitna Rive**	**3.95**	**340**			**Pn**	**04 56 24.1 +0.7**
H21K	**Melozitna Rive**	**3.95**	**340**	P		**Pn**	**04 56 24.1 +0.7**
	baz=157						
GRNC	**Granite Creek**	**3.97**	**105**			**Pn**	**04 56 24.5 +0.6**
GRNC	**Granite Creek**	**3.97**	**105**	IAML			04 57 27.4
	comp=E,264nm,0.9s						
GRNC				IAML			04 57 29.6
	comp=N,413nm,0.8s						
CTG	**Chitna Glacier**	**4.08**	**101**	P		**Pn**	**04 56 26.3 +1.0**
	baz=288						
CTGM	**Chitina Glacie**	**4.08**	**101**			**Pn**	**04 56 26.1 +0.7**
CTGM				IAML			04 57 27.7
	comp=N,350nm,0.7s						
CTGM				IAML			04 57 31.2
	comp=E,192nm,0.5s						
BVCY	**Beaver Creek**	**4.10**	**80**			**Pn**	**04 56 26.8 +1.3**
BVCY	**Beaver Creek**	**4.10**	**80**	P		**Pn**	**04 56 26.8 +1.3**
	baz=268						
YUK2	**White River**	**4.13**	**89**			**Pn**	**04 56 27.2 +1.2**
LOGN	**Logan Glacier**	**4.28**	**102**			**Pn**	**04 56 28.7 +0.6**
LOGN				IAML			04 57 40.3
	comp=N,247nm,0.8s						
LOGN				IAML			04 57 44.7
	comp=E,232nm,1.1s						
GCSA	**Galena City Sc**	**4.30**	**313**			**Pn**	**04 56 29.2 +1.1**
GCSA	**Galena City Sc**	**4.30**	**313**	P		**Pn**	**04 56 29.2 +1.1**
	baz=127						
YUK3	**Moose Creek**	**4.32**	**89**			**Pn**	**04 56 29.6 +0.9**
YUK3	**Moose Creek**	**4.32**	**89**	P		**Pn**	**04 56 29.6 +0.9**
	baz=277						
TABL	**Table Mountain**	**4.36**	**107**			**Pn**	**04 56 30.0 +0.8**
TABL				IAML			04 57 36.0
	comp=E,191nm,0.8s						
TABL				IAML			04 57 41.9
	comp=N,219nm,0.7s						
IM03		**4.41**	**337**			**Pn**	**04 56 30.4 +0.8**
IMAR	**Indian Mountai**	**4.41**	**337**	Pn		**Pn**	**04 56 30.4 +0.7**
KDAK	**Kodiak Island**	**4.49**	**201**	P		**Pn**	**04 56 30.0 -0.8**
	comp=N,9.6nm,0.3s,baz=68,slow=12,SNR=151						
KDAK					S	**Sn**	**04 57 21.3 -0.3**
	comp=N,11nm,0.3s,baz=146,slow=22,SNR=7.2						
KDAK	**Kodiak Island**	**4.49**	**201**	Pn		**Pn**	**04 56 30.5 -0.3**
KDAK				IAML			04 57 42.5
	comp=N,135nm,1.0s						
KDAK				IAML			04 57 57.3
	comp=N,126nm,1.0s						
EGAK	**Eagle**	**4.70**	**50**			**Pn**	**04 56 33.7 0.0**
EGAK				IAML			04 57 53.4
	comp=N,315nm,0.8s						
ANCK	**Angle Creek**	**4.82**	**221**			**Pn**	**04 56 37.0 +1.6**
PS05	**TAPS Pump Stn5**	**4.86**	**355**			**Pn**	**04 56 37.5 +1.6**
CAHL	**Cahill**	**4.89**	**219**			**Pn**	**04 56 38.0 +1.7**
PCA	**Pinnacle**	**4.91**	**109**			**Pn**	**04 56 37.8 +1.2**
DAWY	**Dawson**	**5.08**	**61**			**Pn**	**04 56 39.8 +0.9**
DAWY	**Dawson**	**5.08**	**61**	IAML			04 58 12.7
	comp=E,139nm,0.6s						
DAWY				IAML			04 58 24.1
	comp=N,127nm,0.7s						
DAWY	**Dawson**	**5.08**	**61**	P		**Pn**	**04 56 39.8 +0.9**
	baz=250						
OHAK	**Old Harbor**	**5.14**	**203**	Pn		**Pn**	**04 56 39.1 -0.7**
OHAK				IAML			04 57 57.7
	comp=N,76nm,0.5s						
OHAK				IAML			04 57 59.9
	comp=E,98nm,0.6s						
YUK4	**Talbot Arm**	**5.25**	**92**	P		**Pn**	**04 56 43.0 +1.6**
	baz=281						
BCPM	**Bancas Point**	**5.25**	**109**			**Pn**	**04 56 40.4 -0.9**
BCPM				IAML			04 58 00.4
	comp=E,225nm,0.8s						
BCPM				IAML			04 58 08.4
	comp=N,226nm,1.2s						
COLD	**Coldfoot**	**5.26**	**357**	Pn		**Pn**	**04 56 42.1 +0.7**
COLD	**Coldfoot**	**5.26**	**357**	P		**Pn**	**04 56 42.5 +1.1**
	baz=177						
YUK6	**Outpost Mounta**	**5.47**	**96**			**Pn**	**04 56 45.6 +1.1**
YUK6	**Outpost Mounta**	**5.47**	**96**	P		**Pn**	**04 56 45.6 +1.1**
	baz=286						
PNL	**Peninsula**	**5.49**	**111**			**Pn**	**04 56 46.0 +1.4**
YUK7	**Dusty Glacier**	**5.71**	**100**			**Pn**	**04 56 48.7 +1.0**
BM03	**Burnt Mountain**	**5.85**	**19**			**Pn**	**04 56 50.5 +1.0**
BMAR	**Burnt Mountain**	**5.86**	**19**	Pn		**Pn**	**04 56 50.7 +1.1**
HYT	**Haines Junctio**	**5.91**	**96**			**Pn**	**04 56 51.3 +0.9**
HYT	**Haines Junctio**	**5.91**	**96**	P		**Pn**	**04 56 51.3 +0.9**
	baz=287						
SII	**Sitkinak Islan**	**5.94**	**205**	Pn		**Pn**	**04 56 50.1 -0.6**
M30M	**Minto, Yukon**	**5.99**	**79**	Pn		**Pn**	**04 56 52.3 +0.9**
I29M	**Ogilvie Camp,**	**6.04**	**51**			**Pn**	**04 56 52.8 +0.7**
N31M	**Braeburn, Yuko**	**6.57**	**88**	Pn		**Pn**	**04 57 00.6 +1.2**
TOLK	**Toolik Lake Re**	**6.68**	**360**			**Pn**	**04 57 02.5 +1.7**
M31M	**Drury Creek, Y**	**7.13**	**82**			**Pn**	**04 57 08.1 +1.1**
WHY	**Whitehorse**	**7.19**	**94**			**Pn**	**04 57 08.3 +0.4**
CHGN	**Chignik**	**7.29**	**222**	Pn		**Pn**	**04 57 08.9 -0.3**
SKAG	**Skagway**	**7.43**	**104**			**Pn**	**04 57 11.8 +0.8**
ANM	**Nome**	**7.57**	**297**	Pn		**Pn**	**04 57 14.2 +1.2**
BESE	**Bessie Mountai**	**8.07**	**109**	Pn		**Pn**	**04 57 20.8 +1.0**
JIS	**Juneau Island**	**8.44**	**109**			**Pn**	**04 57 25.4 +0.6**
SIT	**Sitka**	**8.76**	**118**	Pn		**Pn**	**04 57 29.0 -0.2**
TNA	**Tin City**	**8.87**	**302**	Pn		**Pn**	**04 57 31.7 +1.1**
INK	**Inuvik**	**9.23**	**40**	P		**Pn**	**04 57 38.6 +3.0**
	comp=N,2.4nm,0.3s,baz=225,slow=16,SNR=107						
INK					S	**Sn**	**04 59 20.5 +2.5**
	comp=N,2.6nm,0.3s,baz=209,slow=9.7,SNR=9.1						
INK	**Inuvik**	**9.23**	**40**	Pn		**Pn**	**04 57 37.7 +2.0**
GAMB	**Gambell**	**10.24**	**290**			**Pn**	**04 57 50.8 +1.2**
DLBC	**Dease Lake**	**10.34**	**101**	P		**Pn**	**04 57 50.5 -0.4**
	comp=N,0.4nm,0.3s,baz=324,slow=8.6,SNR=7.5						
DLBC	**Dease Lake**	**10.34**	**101**	Pn		**Pn**	**04 57 51.4 +0.4**
WRAK	**Wrangell Islan**	**10.43**	**115**	Pn		**Pn**	**04 57 53.0 +0.9**
DIB	**Dawson Inlet,**	**12.67**	**126**	Pn		**Pn**	**04 58 23.5 +0.8**
C36M	**Paulatuk**	**12.74**	**44**			**Pn**	**04 58 23.2 -0.2**
A36M	**Sachs Harbour**	**13.68**	**33**			**Pn**	**04 58 34.8 -1.4**
YKA	**Yellowknife Ar**	**16.18**	**73**	P		**Pn**	**04 59 07.6 -1.4**
	comp=N,0.1nm,0.3s,baz=285,slow=10,SNR=14						
YKA				ScP		**ScP**	**05 07 30.6 -0.6**
	comp=N,0.0nm,0.3s,baz=281,slow=1.8,SNR=5.6						
YKA	**Yellowknife Ar**	**16.18**	**73**	Pn		**Pn**	**04 59 08.6 -0.5**
EDM	**Edmonton**	**21.03**	**98**	P		**P**	**05 00 07.7 +2.9**
B08A	**Colville Reser**	**21.74**	**115**	P		**P**	**05 00 11.3 -1.1**
RES	**Resolute Bay**	**22.72**	**34**	P		**P**	**05 00 20.6 -1.9**
	comp=N,0.6nm,0.6s,baz=229,slow=16,SNR=2.8						
RES	**Resolute Bay**	**22.72**	**34**	P		**P**	**05 00 21.3 -1.2**
RES				IAmb		IAmb	05 00 32.2
	comp=Z,4.7nm,1.4s						
EUNU	**Eureka**	**25.15**	**21**	P		**P**	**05 00 46.7 +1.3**
EUNU				IAmb		IAmb	05 01 01.5
	comp=Z,3.5nm,1.0s						
BMO	**Blue Mountains**	**25.37**	**118**	P		**P**	**05 00 48.5 +0.7**
SEY	**Seymchan**	**26.08**	**298**	P		**P**	**05 00 52.0 -1.9**
	comp=Z,0.4nm,0.3s,baz=38,slow=19,SNR=1.6						
N02D	**Trinity Center**	**26.53**	**130**	P		**P**	**05 00 60.0 +1.6**
N02D				IAmb		IAmb	05 01 25.9
	comp=Z,3.7nm,1.0s						
FCC	**Fort Churchill**	**26.90**	**72**	P		**P**	**05 01 01.3 0.0**
FCC				IAmb		IAmb	05 01 07.6
	comp=Z,5.1nm,1.2s						
PDAR	**Pinedale Array**	**30.38**	**111**	P		**P**	**05 01 34.3 +1.5**
	comp=Z,0.1nm,0.5s,baz=284,slow=3.6,SNR=1.8						
PDAR	**Pinedale Array**	**30.38**	**111**	P		**P**	**05 01 32.8 +0.1**
NVAR	**Mina Array Bea**	**30.39**	**126**	P		**P**	**05 01 34.0 +1.1**
	comp=Z,1.3nm,0.8s,baz=312,slow=9.9,SNR=8.8						
NVAR				PcP		**PcP**	**05 04 31.9 +0.4**
	comp=Z,0.3nm,0.6s,baz=338,slow=1.6,SNR=3.9						
NVAR	**Mina Array Bea**	**30.39**	**126**	P		**P**	**05 01 32.8 0.0**
NV11	**Mina Array Sit**	**30.45**	**126**	P		**P**	**05 01 34.1 +0.8**
NV11				IAmb		IAmb	05 01 35.1
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**54.95**	**307**	P		**P**	**05 04 50.9 -0.3**
	comp=Z,0.7nm,0.6s,baz=46,slow=7.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**56.73**	**325**	P		**P**	**05 05 01.9 -1.6**
	comp=Z,0.8nm,0.5s,baz=22,slow=6.2,SNR=4.0						
FINES	**FINESS Array B**	**56.84**	**2**	P		**P**	**05 05 04.4 +0.1**
	comp=Z,2.3nm,1.0s,baz=348,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**63.88**	**323**	P		**P**	**05 05 50.5 -2.1**
	comp=Z,0.3nm,0.5s,baz=34,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**63.88**	**323**	P		**P**	**05 05 50.9 -1.7**
ABKAR	**Akbulak array**	**66.62**	**339**	P		**P**	**05 06 09.1 -1.1**
ABKAR	**Akbulak array**	**66.62**	**339**	P		**P**	**05 06 10.3 0.0**
ABKAR				IAmb		IAmb	05 06 23.8
	comp=Z,2.1nm,0.8s						
ESDC	**Sonseca Array**	**74.93**	**27**	pP		pP	05 07 15.3 +0.1
	comp=Z,1.0nm,0.7s,baz=342,slow=6.1,SNR=8.7						
CMAR	**Chiang Mai Arr**	**83.50**	**297**	P		**P**	**05 07 46.0 -1.9**
	comp=Z,0.5nm,0.3s,baz=358,slow=5.8,SNR=2.2						
CMAR	**Chiang Mai Arr**	**83.50**	**297**	P		**P**	**05 07 46.0 -1.9**

*DJA **17** 05:00:41.1±0.8, 9˚S±4˚×11˚5E±˚, h20km±6km, M3.9/12, MLv3.9/12*
*IDC **17** 05:00:47.5±3.0, 10˚60S×115˚54E, h0km, mb3.0/2, mb1 3.5/3, mb1mx3.0/48, mbtmp3.3/3, Error ellipse: s-maj=135.9km s-min=36.8km az=45.0*

ISC 17 05:00:41.3±1.1, 9˚50S±0˚07×115˚24E±0˚06, h35km, n18, σ1§24/17, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.69**	**352**	P		**Pn**	**Pn**	**05 00 53.8**	**-0.7**
IGBI				S		**Sn**	**Sn**	**05 01 02.6**	**-1.3**
DNP	**Denpasar**	**0.82**	**358**	P		**Pn**	**Pn**	**05 00 56.1**	**-0.2**
DNP				S		**Sn**	**Sn**	**05 01 06.4**	**-0.8**
SRBI	**Singaraja**	**1.41**	**359**	P		**Pn**	**Pn**	**05 01 05.2**	**+0.8**
SRBI				S		**Sn**	**Sn**	**05 01 22.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**1.48**	**314**	P		**Pn**	**Pn**	**05 01 04.9**	**-0.6**
JAGI				S		**Sn**	**Sn**	**05 01 21.7**	**-1.9**
ABJI	**Asem Bagus**	**1.96**	**330**	P		**Pn**	**Pn**	**05 01 13.6**	**+1.5**
GMJI	**Gumukmas**	**2.15**	**304**	P		**Pn**	**Pn**	**05 01 14.8**	**+0.1**
BLJI	**Banyuglugur**	**2.38**	**317**	P		**Pn**	**Pn**	**05 01 18.7**	**+0.8**
PLAI	**Plampang**	**2.59**	**75**	P		**Pn**	**Pn**	**05 01 22.0**	**+1.2**
PWJI	**Pagerwojo**	**3.70**	**293**	P		**Pn**	**Pn**	**05 01 37.1**	**+1.2**
WBSI	**Waikabubak, Su**	**4.10**	**92**	P		**Pn**	**Pn**	**05 01 40.5**	**-1.0**
PCJI	**Pacitan**	**4.22**	**288**

Q51A				IAmb	IAmb	05 27 30.9		
	comp=Z,16nm,1.1s							
BOAB	**BOACO BROADBAN**	**38.32**	**267**	P	**P**	**05 27 14.2**	**+0.2**
BOAB				IAmb	IAmb	05 27 16.2		
	comp=Z,28nm,1.2s							
T50A	**Nancy**	**38.35**	**307**	P	**P**	**05 27 14.4**	**+0.3**
AQDB	**Aquidauana**	**39.91**	**194**	P	**P**	**05 27 27.2**	**+0.1**
AQDB	**Aquidauana**	**39.91**	**194**	*eP*	**P**	**05 27 28.6**	**+1.5**
MDT	**Midelt**	**39.91**	**61**	P	**P**	**05 27 28.1**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=260,slow=11,SNR=3.6							
PCMB	**Pacaembu**	**40.26**	**187**	*eP*	**P**	**05 27 31.2**	**+1.2**
N47A	**Urbana**	**40.29**	**312**	P	**P**	**05 27 30.8**	**+0.6**
N47A				IAmb	IAmb	05 27 50.9		
	comp=Z,15nm,1.1s							
BLO	**Bloomington**	**40.29**	**309**	P	**P**	**05 27 30.9**	**+0.7**
PLAL	**Pickwick Lake**	**40.35**	**302**	P	**P**	**05 27 30.7**	**0.0**
PLAL				IAmb	IAmb	05 27 32.9		
	comp=Z,18nm,1.2s							
WVT	**Waverly**	**40.42**	**304**	P	**P**	**05 27 30.8**	**-0.5**
KOWA	**Kowa**	**40.71**	**89**	P	**P**	**05 27 34.3**	**+0.4**
LPAZ	**La Paz**	**40.77**	**213**	P	**P**	**05 27 35.0**	**0.0**
	comp=Z,4.0nm,0.9s,baz=25,slow=7.2,SNR=9.7							
LPAZ	**La Paz**	**40.77**	**213**	P	**P**	**05 27 34.6**	**-0.5**
LPAZ	**La Paz**	**40.77**	**213**	*eP*	**P**	**05 27 35.2**	**+0.1**
USIN	**University of**	**40.78**	**307**	P	**P**	**05 27 34.4**	**+0.1**
USIN				IAmb	IAmb	05 27 36.3		
	comp=Z,21nm,1.0s							
H10N3	**ASCENSION HYDR**	**40.95**	**127**	T	T	06 11 12.6		
	baz=310,slow=75,SNR=166							
H10N2	**ASCENSION HYDR**	**40.95**	**127**	T	T	06 11 14.2		
	baz=310,slow=75,SNR=197							
H10N1	**ASCENSION HYDR**	**40.97**	**127**	T	T	06 11 14.1		
	baz=310,slow=75,SNR=192							
SFIN	**Lafayette**	**41.11**	**311**	P	**P**	**05 27 36.7**	**-0.2**
SFIN				IAmb	IAmb	05 27 38.9		
	comp=Z,15nm,1.1s							
L46A	**Eue Claire**	**41.13**	**313**	P	**P**	**05 27 37.0**	**0.0**
L46A				IAmb	IAmb	05 27 39.1		
	comp=Z,22nm,1.1s							
H10S3	**ASCENSION HYDR**	**41.55**	**129**	T	T	06 11 58.0		
	baz=309,slow=74,SNR=57							
H10S2	**ASCENSION HYDR**	**41.57**	**129**	T	T	06 11 59.3		
	baz=271,slow=74,SNR=15							
MET	**Memphis--Engin**	**41.87**	**302**	P	**P**	**05 27 43.1**	**-0.2**
SIUC	**Southern Illin**	**41.90**	**306**	P	**P**	**05 27 44.3**	**+0.9**
S44A	**Carbondale**	**41.92**	**306**	P	**P**	**05 27 44.5**	**+0.9**
S44A				IAmb	IAmb	05 27 45.9		
	comp=Z,27nm,1.2s							
O44A	**Mansfield**	**42.03**	**310**	P	**P**	**05 27 45.3**	**+0.8**
O44A				IAmb	IAmb	05 27 46.5		
	comp=Z,17nm,1.1s							
Q44A	**Meyer Farm, Va**	**42.06**	**308**	P	**P**	**05 27 44.5**	**-0.3**
ESDC	**Sonseca Array**	**42.07**	**51**	P	**P**	**05 27 44.6**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=284,slow=10,SNR=2.9							
DBIC	**Dimbokro**	**42.07**	**101**	P	**P**	**05 27 44.4**	**-0.8**
	comp=Z,4.8nm,0.8s,baz=314,slow=8.2,SNR=8.3							
DBIC				LR	LR	05 44 30.4		
	comp=Z,238nm,18.7s,baz=181,slow=35							
HDIL	**Hopedale**	**42.75**	**310**	P	**P**	**05 27 50.7**	**+0.3**
HDIL				IAmb	IAmb	05 27 52.4		
	comp=Z,23nm,1.1s							
FVM	**French Village**	**42.89**	**306**	P	**P**	**05 27 52.0**	**+0.5**
FVM				IAmb	IAmb	05 27 53.5		
	comp=Z,14nm,0.8s							
SLM	**Saint Louis**	**42.91**	**307**	P	**P**	**05 27 52.9**	**+1.2**
SLM				IAmb	IAmb	05 27 53.1		
	comp=Z,13nm,0.7s							
342A	**Flagon Creek P**	**43.28**	**296**	P	**P**	**05 27 55.9**	**+1.1**
342A				IAmb	IAmb	05 27 56.9		
	comp=Z,14nm,0.9s							
L42A	**Oliver, Polo**	**43.48**	**312**	P	**P**	**05 27 55.6**	**-0.6**
L42A				IAmb	IAmb	05 27 58.2		
	comp=Z,14nm,0.8s							
CCM	**Cathedral Cave**	**43.53**	**306**	P	**P**	**05 27 57.3**	**+0.6**
CCM				IAmb	IAmb	05 27 58.6		
	comp=Z,14nm,1.1s							
FCAR	**Ozark Folk Cen**	**43.77**	**303**	P	**P**	**05 27 58.5**	**-0.1**
WHAR	**Wooly Hollow**	**43.79**	**302**	P	**P**	**05 27 59.0**	**+0.1**
N41A	**Harden Midland**	**43.93**	**310**	P	**P**	**05 27 59.9**	**0.0**
MGMO	**Mountain Grove**	**44.13**	**304**	P	**P**	**05 28 01.7**	**+0.1**
MGMO				IAmb	IAmb	05 28 02.4		
	comp=Z,11nm,1.1s							
JFWS	**Jewell Farm**	**44.18**	**313**	P	**P**	**05 28 01.8**	**-0.1**
JFWS				IAmb	IAmb	05 28 03.3		
	comp=Z,12nm,0.8s							
R40A	**Maddies Statio**	**44.37**	**306**	P	**P**	**05 28 03.3**	**-0.2**
R40A				IAmb	IAmb	05 28 04.7		
	comp=Z,13nm,1.0s							
U40A	**Yellville**	**44.44**	**303**	P	**P**	**05 28 04.0**	**0.0**
PB11	**IPOC Station P**	**44.47**	**212**	P	**P**	**05 28 03.4**	**-1.1**
P40A	**Paris**	**44.50**	**308**	P	**P**	**05 28 04.3**	**-0.2**
P40A				IAmb	IAmb	05 28 05.9		
	comp=Z,19nm,1.1s							
L40A	**Anamosa**	**44.60**	**312**	P	**P**	**05 28 05.0**	**-0.2**
L40A				IAmb	IAmb	05 28 07.5		
	comp=Z,14nm,1.1s							
G40A	**Rib Lake**	**44.97**	**316**	P	**P**	**05 28 09.0**	**+0.8**
G40A				IAmb	IAmb	05 28 10.6		
	comp=Z,12nm,1.4s							
S39A	**Bolivar**	**45.06**	**305**	P	**P**	**05 28 09.0**	**0.0**
S39A				IAmb	IAmb	05 28 10.1		
	comp=Z,11nm,1.2s							
NATX	**Nacogdoches**	**45.31**	**296**	P	**P**	**05 28 11.4**	**+0.4**
P38A	**Dawn**	**45.64**	**308**	P	**P**	**05 28 13.2**	**-0.3**
P38A				IAmb	IAmb	05 28 14.4		
	comp=Z,8.5nm,0.7s							
CPUP	**Villa Florida**	**45.93**	**194**	P	**P**	**05 28 15.9**	**+0.1**
	comp=Z,8.8nm,0.9s,baz=24,slow=8.9,SNR=18							
CPUP	**Villa Florida**	**45.93**	**194**	P	**P**	**05 28 15.1**	**-0.7**
CPUP				IAmb	IAmb	05 28 16.7		
	comp=Z,9.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**46.42**	**89**	P	**P**	**05 28 19.6**	**-0.4**
	comp=Z,4.9nm,1.2s,baz=290,slow=6.5,SNR=13							
TORD	**Torodi Ar. Bea**	**46.42**	**89**	P	**P**	**05 28 19.5**	**-0.5**
LVC	**Limon Verde**	**46.53**	**209**	P	**P**	**05 28 20.3**	**-0.7**
	comp=Z,7.0nm,0.9s,baz=24,slow=9.8							
LVC	**Limon Verde**	**46.53**	**209**	P	**P**	**05 28 18.8**	**-2.3**
LVC				IAmb	IAmb	05 28 21.5		
	comp=Z,8.9nm,0.9s							
LVC	**Limon Verde**	**46.53**	**209**	*eP*	**P**	**05 28 21.0**	**-0.1**
FRB	**Frobisher Bay**	**47.58**	**347**	P	**P**	**05 28 28.1**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=140,slow=8.4,SNR=7.3							
KSU1	**Kansas State U**	**47.86**	**306**	P	**P**	**05 28 30.3**	**-0.7**
L34A	**Svendsen Farm,**	**48.27**	**310**	P	**P**	**05 28 34.0**	**-0.2**
ECSD	**EROS Data Cent**	**48.86**	**312**	P	**P**	**05 28 38.5**	**-0.1**
ECSD				IAmb	IAmb	05 28 47.9		
	comp=Z,11nm,1.6s							
ITQB	**Itaqui**	**49.01**	**192**	P	**P**	**05 28 39.5**	**-0.2**
GO02	**Mina Guanaco**	**49.04**	**208**	P	**P**	**05 28 39.4**	**-1.1**
R32A	**Long Quarter,**	**49.38**	**305**	P	**P**	**05 28 42.2**	**-0.5**
BGNE	**Belgrade**	**49.45**	**309**	P	**P**	**05 28 43.0**	**-0.2**
AC04	**Llanos de Chal**	**52.33**	**208**	P	**P**	**05 29 05.0**	**+0.1**
LCO	**Las Campanas**	**52.86**	**207**	P	**P**	**05 29 07.9**	**-1.3**
FCC	**Fort Churchill**	**52.91**	**331**	P	**P**	**05 29 08.9**	**+0.1**
FCC				IAmb	IAmb	05 29 15.7		
	comp=Z,16nm,1.4s							
TXAR	**Lajitas Array**	**53.01**	**293**	P	**P**	**05 29 08.1**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=101,slow=6.6,SNR=3.8							
T25A	**Trinidad**	**53.74**	**303**	IAmb	IAmb	05 29 23.5		
	comp=Z,12nm,1.4s							
ISCO	**Idaho Springs**	**54.86**	**306**	IAmb	IAmb	05 29 32.3		
	comp=Z,10nm,1.3s							
FFC	**Flin Flon**	**55.33**	**324**	P	**P**	**05 29 26.4**	**-0.2**
FFC				IAmb	IAmb	05 29 27.4		
	comp=Z,6.3nm,0.9s							
S22A	**4UR Ranch, Cre**	**55.69**	**303**	P	**P**	**05 29 29.8**	**0.0**
S22A				IAmb	IAmb	05 29 39.0		
	comp=Z,11nm,1.6s							
SMCO	**Snowmass**	**55.87**	**305**	P	**P**	**05 29 31.2**	**-0.1**
SMCO				IAmb	IAmb	05 29 39.3		
	comp=Z,7.8nm,1.2s							
GEC2	**GERESS Array S**	**56.57**	**43**	P	**P**	**05 29 36.1**	**+0.4**
GERES	**GERESS Array B**	**56.57**	**43**	P	**P**	**05 29 36.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=228,slow=12,SNR=4.0							
GERES	**GERESS Array B**	**56.57**	**43**	P	**P**	**05 29 35.9**	**+0.2**
MVCO	**Mesa Verde**	**57.00**	**303**	IAmb	IAmb	05 29 47.6		
	comp=Z,18nm,1.6s							
PDAR	**Pinedale Array**	**58.04**	**309**	P	**P**	**05 29 46.0**	**-0.5**
	comp=Z,2.2nm,1.0s,baz=93,slow=7.4,SNR=14							
BW06	**Boulder Array**	**58.05**	**309**	IAmb	IAmb	05 29 53.2		
	comp=Z,8.7nm,1.2s							
TPAW	**Teton Pass**	**59.11**	**310**	IAmb	IAmb	05 30 01.2		
	comp=Z,8.5nm,1.2s							
WUAZ	**Wupatki**	**59.34**	**301**	P	**P**	**05 29 54.1**	**-1.3**
WUAZ				IAmb	IAmb	05 29 57.6		
	comp=Z,7.5nm,0.9s							
JLU	**Jordanelle**	**59.37**	**307**	IAmb	IAmb	05 30 03.4		
	comp=Z,8.1nm,1.3s							
X16A	**Lo Mia Camp, P**	**59.43**	**299**	IAmb	IAmb	05 29 58.5		
	comp=Z,7.7nm,1.4s							
EDM	**Edmonton**	**61.57**	**321**	IAmb	IAmb	05 30 10.9		
	comp=Z,4.1nm,0.8s							
ELK	**Elko**	**62.25**	**307**	P	**P**	**05 30 15.4**	**+0.1**
PLCA	**Paso Flores**	**63.18**	**200**	P	**P**	**05 30 20.2**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=58,slow=8.1,SNR=6.0							
YKA	**Yellowknife Ar**	**63.64**	**331**	P	**P**	**05 30 21.7**	**-2.1**
	comp=Z,2.1nm,0.9s,baz=99,slow=7.7,SNR=24							
H09N1	**TRISTAN DA CUN**	**64.00**	**150**	T	T	06 40 11.4		
	SNR=9.2							
H09W1	**TRISTAN DA CUN**	**64.02**	**150**	T	T	06 40 04.0		
	SNR=6.5							
OMMB	**Old Mammoth Mi**	**65.34**	**303**	P	**P**	**05 30 37.6**	**+1.8**
OMMB				IAmb	IAmb	05 30 37.8		
	comp=Z,7.1nm,1.5s							
FINES	**FINESS Array B**	**65.43**	**30**	P	**P**	**05 30 35.6**	**0.0**
	comp=Z,3.0nm,1.1s,baz=223,slow=5.7,SNR=2.3							
KARP	**Karpathos**	**66.22**	**59**	P	**P**	**05 30 41.6**	**+0.4**
KARP				IAmb	IAmb	05 30 44.6		
	comp=Z,10nm,1.2s							
ARCES	**ARCESS Array B**	**66.37**	**21**	P	**P**	**05 30 40.7**	**-0.8**
	comp=Z,2.3nm,1.0s,baz=295,slow=16,SNR=4.5							
YBH	**Yreka Blue Hor**	**67.81**	**308**	LR	LR	05 58 13.8		
	comp=Z,206nm,21.8s,baz=316,slow=34							
ELL	**Elmali**	**68.28**	**57**	P	**P**	**05 30 54.2**	**-0.2**
BRTR	**Keskin Array B**	**70.78**	**54**	P	**P**	**05 31 10.5**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=250,slow=3.7,SNR=5.4							
BCAR	**Beaver Creek A**	**76.03**	**332**	P	**P**	**05 31 40.2**	**+0.1**
ILAR	**Eielson Array**	**77.75**	**334**	P	**P**	**05 31 49.5**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=72,slow=4.7,SNR=29							
ILAR	**Eielson Array**	**77.75**	**334**	P	**P**	**05 31 49.9**	**+0.2**
WRH	**Wood River Hil**	**78.34**	**334**	P	**P**	**05 31 53.2**	**+0.2**
BOSA	**Boshof**	**83.56**	**123**	P	**P**	**05 32 21.6**	**0.0**
	comp=Z,3.3nm,0.9s,baz=279,slow=1.2,SNR=4.5							
BOSA	**Boshof**	**83.56**	**123**	P	**P**	**05 32 20.9**	**-0.8**

IDC 17 05:23:42.7±1.8, 0.°05N×80.°98W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.5/30, mbtmpg3.7/5, ML2.1/2, Error ellipse: s-maj=44.3km s-min=30.9km az=40.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**8.18**	**54**	Pn		Pn	05 25 44.1	+1.0
	0.7nm,0.3s,baz=229,slow=20,SNR=1.9							
ROSC				Sn		Sn	05 27 09.5	-7.0
	0.8nm,0.3s,baz=120,slow=22,SNR=1.6							
SDV	**Santo Domingo**	**13.54**	**49**	Pn		Pn	05 26 57.3	+0.9
	0.1nm,0.3s,baz=286,slow=19,SNR=1.1							
LPAZ	**La Paz**	**20.59**	**143**	P		P	05 28 24.3	+0.1
	0.9nm,0.6s,baz=326,slow=10.0,SNR=1.8							
NVAR	**Mina Array Bea**	**51.32**	**322**	P		P	05 32 50.6	+1.4
	1.2nm,0.7s,baz=138,slow=7.7,SNR=11							
YKA	**Yellowknife Ar**	**67.22**	**344**	P		P	05 34 36.7	-1.9
	0.5nm,0.9s,baz=140,slow=5.9,SNR=6.1							

IDC 17 05:28:28.6±1.4, 0.°03N×80.°51W, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.5/30, mbtmp3.5/8, ML1.8/2, Error ellipse: s-maj=41.4km s-min=21.6km az=54.0
IGQ 17 05:28:30±0.6, 0.°S±2.°×8.°1W±.°, h5km
ISC 17 05:28:29.6±1.6, 0.°14S±0.°04×80.°60W±0.°05, h7km±10km, n101, σ1°§43/109, mb3.4/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.41**	**107**	P		**Pg**	**05 28 38.0**	**+0.3**
JAMA				S		**Sg**	**05 28 44.0**	**+0.9**
APED	**Ecuador-Perden**	**0.58**	**69**	P		**Pg**	**05 28 41.0**	**+0.2**
APED				S		**Sb**	**05 28 50.0**	**-0.6**
FLF1	**Flavio Alfaro-**	**0.79**	**106**	P		**Pb**	**05 28 46.0**	**+0.3**
FLF1				S		**Sn**	**05 28 59.0**	**-0.3**
MAG1	**Magdalena**	**0.83**	**86**	P		**Pg**	**05 28 46.0**	**+0.4**
AV18	**Acelerografo,**	**1.21**	**68**	P		**Pn**	**05 28 54.0**	**+1.1**
AATC	**Ecuador-Atacam**	**1.24**	**37**	P		**Pg**	**05 28 53.0**	**-0.4**
AV21	**Acelerografo,**	**1.32**	**53**	P		**Pn**	**05 28 54.0**	**-0.5**
AMA1	**Acelerografo,**	**1.38**	**39**	P		**Pg**	**05 28 57.0**	**+0.9**
BV15	**Puerto Quito-O**	**1.41**	**78**	P		**Pn**	**05 28 54.0**	**-1.7**
PPLP	**Puerto Lpez**	**1.41**	**187**	P		**Pn**	**05 28 54.0**	**-1.7**
AES1	**Ecuador-Esmera**	**1.42**	**40**	P		**Pb**	**05 28 57.0**	**+0.5**
AES2	**Ecuador-Puerto**	**1.47**	**40**	P		**Pn**	**05 28 57.0**	**+0.4**
APR2	**Miler**	**1.65**	**83**	P		**Pn**	**05 28 58.0**	**-1.1**
HPAL	**Hacienda Las P**	**1.95**	**92**	P		**Pn**	**05 29 02.0**	**-1.5**
ILLI	**Illinizas Sur**	**1.96**	**107**	P		**Pn**	**05 29 02.0**	**-1.7**
GGPT	**Toaza - Volcan**	**1.98**	**92**	P		**Pn**	**05 29 03.0**	**-1.0**
APR1	**Acelerografo,**	**1.99**	**87**	P		**Pn**	**05 29 03.0**	**-1.0**
PINO	**Pino**	**1.99**	**91**	P		**Pn**	**05 29 03.0**	**-1.3**
JUA2	**San Juan 2**	**2.00**	**92**	P		**Pn**	**05 29 04.0**	**-0.2**
TERV	**Terraza Guagua**	**2.00**	**91**	P		**Pn**	**05 29 03.0**	**-1.3**
GGPC	**Guagua Pichinc**	**2.00**	**91**	P		**Pn**	**05 29 04.0**	**-0.4**
YANA	**Yana**	**2.03**	**89**	P		**Pn**	**05 29 04.0**	**-0.7**
PAST	**Pastocalle**	**2.04**	**106**	P		**Pn**	**05 29 04.0**	**-0.7**
PULU	**Pululahua**	**2.10**	**86**	P		**Pn**	**05 29 05.0**	**-0.6**
SRAM	**San Ramn-Vol**	**2.12**	**107**	P		**Pn**	**05 29 06.0**	**+0.1**
CAMI	**Rancho Maria**	**2.16**	**104**	P		**Pn**	**05 29 07.0**	**+0.5**
SUCR	**Mariscal Sucre**	**2.17**	**103**	P		**Pn**	**05 29 07.0**	**+0.5**
SLOR	**San Lorenzo -**	**2.19**	**106**	P		**Pn**	**05 29 07.0**	**+0.2**
BNAS	**Cotopaxi Volca**	**2.19**	**104**	P		**Pn**	**05 29 07.0**	**+0.1**
NAS2	**Nasa**	**2.19**	**103**	P		**Pn**	**05 29 08.0**	**+1.1**
CHSH	**Refugio Sur-Vo**	**2.19**	**128**	P		**Pn**	**05 29 07.0**	**0.0**
TOMA	**Boca Toma-Volc**	**2.20**	**99**	P		**Pn**	**05 29 07.0**	**+0.1**
PITA	**Cotopaxi Volc**	**2.21**	**101**	P		**Pn**	**05 29 08.0**	**+0.9**
BRRN	**Barrancas-Volc**	**2.22**	**107**	P		**Pn**	**05 29 07.0**	**-0.3**
BMOR	**Cotopaxi Volca**	**2.22**	**105**	P		**Pn**	**05 29 07.0**	**-0.4**
BREF	**Cotopaxi Volca**	**2.22**	**104**	P		**Pn**	**05 29 08.0**	**+0.5**
CUSE	**Cuicocha Este**	**2.25**	**79**	*eP*		**Pn**	**05 29 08.3**	**+0.7**
CUSE				*eS*		**Sn**	**05 29 35.9**	**+0.1**
CUSE	**Cuicocha Este**	**2.25**	**79**	P		**Pn**	**05 29 07.0**	**-0.6**
BVC2	**Cotopaxi Volca**	**2.25**	**103**	P		**Pn**	**05 29 08.0**	**+0.2**
PORT	**Chimborazo Vol**	**2.25**	**126**	P		**Pn**	**05 29 08.0**	**+0.2**
VC1	**Cotopaxi 1**	**2.25**	**103**	P		**Pn**	**05 29 09.0**	**+1.2**
BTAM	**Cotopaxi Volca**	**2.27**	**104**	P		**Pn**	**05 29 08.0**	**0.0**
CUIC	**Cuicocha-Domo**	**2.28**	**79**	P		**Pn**	**05 29 08.0**	**-0.1**
CUSW	**Cuicocha Oeste**	**2.29**	**79**	P		**Pn**	**05 29 08.0**	**-0.2**
TAMH	**Tambohuasha Ch**	**2.29**	**127**	P		**Pn**	**05 29 09.0**	**+0.7**
TAMB	**Tambo**	**2.30**	**104**	P		**Pn**	**05 29 09.0**	**+0.5**
VCES	**Cotopaxi**	**2.30**	**107**	P		**Pn**	**05 29 09.0**	**+0.5**
COTA	**Cotacachi**	**2.31**	**78**	P		**Pn**	**05 29 08.0**	**-0.6**
ANTG	**Antisana-Guama**	**2.37**	**99**	P		**Pn**	**05 29 10.0**	**+0.5**
ANTM	**Antisana-La Mi**	**2.41**	**99**	P		**Pn**	**05 29 11.0**	**+1.0**
URCU	**Urcuqui**	**2.41**	**76**	P		**Pn**	**05 29 11.0**	**+1.1**
ALIT	**Ecuador-Imbabu**	**2.42**	**68**	P		**Pn**	**05 29 09.0**	**-0.8**
ANTS	**Antisana-Sarah**	**2.46**	**98**	P		**Pn**	**05 29 11.0**	**+0.3**
ANTI	**Antisana**	**2.46**	**97**	P		**Pn**	**05 29 12.0**	**+1.3**
BBIL	**Ulba Tungurahu**	**2.48**	**122**	P		**Pn**	**05 29 12.0**	**+1.2**
JUI6	**Juive**	**2.49**	**121**	P		**Pn**	**05 29 11.0**	**+0.2**
PIAT	**Ana Tenorio**	**2.49**	**110**	P		**Pn**	**05 29 11.0**	**+0.1**
POND	**Pondoa**	**2.50**	**121**	P		**Pn**	**05 29 11.0**	**0.0**
BMAS	**Trigal station**	**2.52**	**123**	P		**Pn**	**05 29 12.0**	**+0.7**
RETU	**Refugio**	**2.52**	**121**	P		**Pn**	**05 29 12.0**	**+0.5**
BRUN	**Tungurahua Vol**	**2.53**	**120**	P		**Pn**	**05 29 11.0**	**-0.5**
ARRY	**Arrayan**	**2.54**	**122**	P		**Pn**	**05 29 12.0**	**+0.4**
AIB2	**Ibarra (Univer**	**2.54**	**79**	P		**Pn**	**05 29 13.0**	**+1.4**
BPAT	**Tungurahua Vol**	**2.56**	**122**	P		**Pn**	**05 29 12.0**	**+0.1**
YAHU	**Yahuarcocha**	**2.58**	**79**	P		**Pn**	**05 29 14.0**	**+1.8**
ANGU	**Angureal**	**2.60**	**86**	P		**Pn**	**05 29 15.0**	**+2.4**
CAYR	**Refugio Cayamb**	**2.60**	**87**	P		**Pn**	**05 29 14.0**	**+1.3**
CAYA	**Cayambe**	**2.62**	**85**	P		**Pn**	**05 29 14.0**	**+1.2**
COHC	**Cochancay**	**2.68**	**150**	P		**Pn**	**05 29 12.0**	**-1.1**
CHMA	**Chilma**	**2.73**	**69**	P		**Pn**	**05 29 14.0**	**-0.1**
LNGL	**El Angel-Carch**	**2.74**	**71**	P		**Pn**	**05 29 15.0**	**+0.5**
ECEN	**Cerro Negro**	**2.80**	**70**	P		**Pn**	**05 29 16.0**	**+0.7**
CHL1	**Volcn Chiles**	**2.81**	**71**	P		**Pn**	**05 29 16.0**	**+0.5**
CHL2	**Volcn Chiles**	**2.84**	**71**	P		**Pn**	**05 29 16.0**	**+0.1**
ISPG	**Isla Puna-Puer**	**2.84**	**171**	P		**Pn**	**05 29 18.0**	**+2.5**
ARDO	**Archidona, Ten**	**2.93**	**107**	P		**Pn**	**05 29 19.0**	**+2.3**
TULM	**Tulcn-Chalpat**	**2.94**	**73**	*eP*		**Pn**	**05 29 20.1**	**+3.0**
TULM				*eS*		**Sb**	**05 29 59.0**	**0.0**
TULM				*i*			05 30 15.2	
	comp=Z,67nm,0.3s							
TULM	**Tulcn-Chalpat**	**2.94**	**73**	P		**Pn**	**05 29 19.0**	**+1.8**
CONE	**Cono NE Rev Vo**	**2.96**	**89**	P		**Pn**	**05 29 20.0**	**+2.6**
BONI	**La Bonita**	**3.13**	**79**	P		**Pn**	**05 29 22.0**	**+2.4**
CASC	**Dorado de Casc**	**3.27**	**85**	P		**Pb**	**05 29 26.0**	**-2.1**
ARNL	**Arenillas**	**3.43**	**171**	P		**Pn**	**05 29 26.0**	**+2.5**
BOSC	**San Juan Bosco**	**3.66**	**145**	P		**Pn**	**05 29 30.0**	**+3.2**
MCRA	**Macar, Loja**	**4.25**	**171**	P		**Pn**	**05 29 35.0**	**+0.1**
SOTA	**Rioblanco**	**4.59**	**60**	*eP*		**Pn**	**05 29 41.7**	**+1.8**
SOTA				*eS*		**Sb**	**05 30 45.5**	**-1.0**
SOTA				*i*			05 30 56.1	
	comp=Z,42nm,0.6s							
POPC	**Popayan, Colom**	**4.74**	**56**	*eP*		**Pn**	**05 29 42.5**	**+0.7**
POPC				*eS*		**Sb**	**05 30 45.5**	**-5.2**
POPC				*i*			05 30 54.2	
	comp=Z,18nm,0.5s							
PCON	**Cinco Dias**	**4.86**	**60**	*eP*		**Pn**	**05 29 46.3**	**+2.5**
PCON				*eS*		**Sb**	**05 30 53.2**	**-1.3**
PCON				*i*			05 31 02.2	
	comp=Z,48nm,0.6s							
GARC	**Garzon, Huila**	**5.61**	**66**	*eP*		**Pn**	**05 29 55.0**	**+1.3**
PTLC	**Puerto Leguiza**	**5.81**	**87**	*eP*		**Pn**	**05 29 57.6**	**+1.2**
YOTC	**Yotoco, Valle**	**5.90**	**46**	*eP*		**Pn**	**05 29 59.0**	**+1.3**
YOTC				*i*			05 31 25.8	
	comp=Z,13nm,0.6s							
PLMC	**San Jos del P**	**6.61**	**41**	*eP*		**Pn**	**05 30 08.8**	**+1.5**
PLMC				*i*			05 31 46.8	
	comp=Z,16nm,0.6s							
ORTC	**Ortega, Tolima**	**6.69**	**53**	*eP*		Pn	05 30 13.6	+5.1
ORTC				*eS*		**Sn**	**05 31 29.4**	**+4.4**
ORTC				*i*			05 31 49.7	
	comp=Z,12nm,0.6s							
ROSC	**El Rosal**	**7.99**	**52**	Pn		**Pn**	**05 30 23.8**	**-2.8**
	comp=Z,1.0nm,0.3s,baz=70,slow=23,SNR=2.2							
ROSC				Sn		**Sn**	**05 32 01.4**	**+4.0**
	comp=Z,0.9nm,0.3s,baz=244,slow=23,SNR=1.3							
JTS	**Las Juntas de**	**11.23**	**337**	Pn		**Pn**	**05 31 10.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=348,slow=23,SNR=1.8							
SDV	**Santo Domingo**	**13.38**	**48**	Pn		**Pn**	**05 31 38.1**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=266,slow=18,SNR=1.0							
LPAZ	**La Paz**	**20.22**	**143**	P		Pn	05 33 07.7	-0.3
	comp=Z,2.3nm,0.8s,baz=327,slow=12,SNR=7.7							
SIV	**San Ignacio**	**24.89**	**130**	P		**P**	**05 33 52.9**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=302,slow=9.1,SNR=8.4							
NVAR	**Mina Array Bea**	**51.69**	**322**	P		**P**	**05 37 38.4**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=199,slow=14,SNR=2.0							
YKA	**Yellowknife Ar**	**67.49**	**344**	P		**P**	**05 39 23.

PUYO Puyo, Santa Ro 3.00 127 P Pn 05 43 40.0 +2.1
COHC Cochancay 3.01 157 P Pn 05 43 37.0 -0.8
CASC Dorado de Casc 3.09 93 P Pn 05 43 42.0 +2.9
ISPG Isla Puna-Puer 3.28 176 P Pb 05 43 46.0 -2.2
GR1C Gorgona, Isla 3.49 40 eP Pb 05 43 52.9 +1.1
GR1C eS Sg 05 44 43.4 +1.7
GR1C i 05 44 59.9
comp=Z,3μm,0.8s
ARNL Arenillas 3.86 175 Pn 05 43 50.6 +1.0
BOSC San Juan Bosco 3.95 151 Pn 05 43 52.9 +1.9
BOSC San Juan Bosco 3.95 151 P Pn 05 43 55.0 +4.0
SOTA Rioblanco 4.22 65 eP Pn 05 43 56.2 +1.2
SOTA eS Sn 05 44 48.3 +3.3
SOTA i 05 45 09.7
comp=Z,248nm,0.6s
POPC Popayan, Colom 4.35 60 eP Pn 05 43 56.5 0.0
POPC eS Sn 05 44 47.0 -0.8
POPC i 05 45 03.1
comp=Z,2μm,1.2s
PCON Cinco Dias 4.49 64 eP Pn 05 44 01.5 +2.7
PCON eS Sn 05 44 53.5 +1.6
PCON i 05 45 16.7
comp=Z,183nm,0.6s
GONZ Gonzanam 4.64 167 P Pb 05 44 07.0 -4.7
MCRA Macar, Loja 4.68 174 Pn Pn 05 44 01.9 +1.0
MCRA Macar, Loja 4.68 174 P Pn 05 44 06.0 +5.0
MARP Paez Belalcaza 5.12 61 eP Pn 05 44 09.8 +2.7
MARP eS Sn 05 45 10.6 +3.6
MARP i 05 45 46.4
comp=Z,7.6nm,0.6s
ZUMB Zumba 5.31 166 P Pn 05 44 14.0 +4.4
YOTC Yotoco, Valle 5.46 48 eP Pb 05 44 18.7 -6.8
YOTC eS Sb 05 45 29.7 -1.8
PTLC Puerto Leguiza 5.63 92 eP Pn 05 44 15.7 +1.8
PTLC i 05 46 13.2
comp=Z,58nm,0.7s
PLMC San Jos del P 6.15 42 eP Pn 05 44 21.8 +0.6
PLMC eS Sn 05 45 35.1 +3.1
ORTC Ortega, Tolima 6.28 55 eP Pn 05 44 20.4 +1.4
ORTC eS Sn 05 45 40.7 +5.4
GUY2C Guyana, Caldas 7.02 46 eP Pn 05 44 35.8 +2.4
GUY2C eS Sb 05 46 12.3 -4.3
CBOC Ciudad Bolivar 7.05 39 eP Pn 05 44 40.6 +7.0
ROSC El Rosal 7.57 54 Pn Pn 05 44 40.4 -0.5
comp=Z,1.8nm,0.3s,baz=152,slow=21,SNR=2.9
ROSC Sn Sn 05 46 06.9 -0.6
baz=94,slow=23,SNR=1.2
ROSC El Rosal 7.57 54 Pn 05 44 42.5 +1.6
ROSC El Rosal 7.57 54 eP Pn 05 44 48.5 +7.5
HELC Santa Helena 7.61 40 eP Pn 05 44 50.2 +8.8
HELC eS Sn 05 46 18.6 +10
VILC Villavicencio, 7.71 61 eP Pn 05 44 48.1 +5.5
CHIC Chingaza 7.94 57 eP Pn 05 44 50.7 +4.7
SPBC San Pablo de B 8.26 50 eP Pn 05 44 55.6 +5.4
CDITO Canoas 8.55 343 Pn Pn 05 44 55.5 +1.4
PTBC PUERTO BERRIO, 8.58 44 eP Pn 05 44 58.6 +4.1
BRU2 Volcan 8.71 345 Pn Pn 05 44 57.4 +1.0
BCIP Isla Barro Col 8.81 4 Pn Pn 05 44 57.9 +0.3
ZARC Zaragoza, Cauc 9.03 38 Pn Pn 05 45 01.8 +1.2
RUSC La Rusia 9.18 53 eP Pn 05 45 10.5 +7.3
DRK0 Durika 9.31 343 Pn Pn 05 45 05.1 +0.4
SRBA San Rafael, Bu 9.32 342 Pn 05 45 06.2 +1.4
PEZE Perez Zeledon, 9.57 340 Pn Pn 05 45 07.2 -0.9
PAYG Puerto Ayora 9.91 264 Pn Pn 05 45 13.0 +0.3
RIMA Rio Macho 9.99 340 Pn Pn 05 45 14.3 +0.4
HDC Heredia 10.29 339 Pn Pn 05 45 20.0 +1.9
CAO2 Cobano, Puntar 10.41 334 Pn Pn 05 45 20.3 +0.8
OCAC Ocana 10.58 42 Pn Pn 05 45 21.4 -0.7
JTS Las Juntas de 10.88 336 Pn Pn 05 45 26.8 +0.8
comp=Z,0.2nm,0.3s,baz=261,slow=22,SNR=1.7
COVE Coope Vega, Sa 11.06 339 Pn Pn 05 45 28.4 0.0
CZSB Cruzeiro do Su 11.10 136 eP Pn 05 45 30.8 +1.8
TBTG Tabatinga, AM 11.42 113 eP Pn 05 45 33.2 -0.2
NNA Nana 12.74 164 Pn Sn 05 45 54.0 +2.6
comp=Z,2.5nm,0.3s,baz=346,slow=12,SNR=6.6
NNA Sn Sn 05 48 13.8 -0.1
comp=Z,0.6nm,0.3s,baz=76,slow=22,SNR=1.5
NNA Nana 12.74 164 Pn 05 45 50.3 -1.1
SDV Santo Domingo 12.94 49 Pn Pn 05 45 55.1 +0.7
comp=Z,0.2nm,0.3s,baz=53,slow=20,SNR=2.2
SDV Santo Domingo 12.94 49 Pn 05 45 54.6 +0.2
SDV Santo Domingo 12.94 49 eP Pn 05 46 03.1 +8.7
BAUV El Baul 15.01 55 Pn 05 46 23.9 +1.3
BAUV IAmb IAmb 05 47 23.1
comp=Z,16nm,0.8s
TGUH Tegucigalpa,Un 15.24 334 Pn 05 46 26.3 +0.7
TGUH IAmb IAmb 05 46 33.8
comp=Z,32nm,1.2s
MTO3 Montecristo 16.55 328 Pn 05 46 42.5 -0.2
BIRV Birongo 17.32 54 P 05 46 53.5 -0.2
ETMB Extrema 17.36 126 eP Pn 05 46 51.6 -1.2
CCIG Comitan 19.62 325 P P 05 47 19.3 +0.1
CCIG IAmb IAmb 05 47 52.2
comp=Z,42nm,1.9s
BOAV Boa Vista 20.00 84 eP P 05 47 23.9 +0.6
MACA Manacapuru-AM 20.03 100 eP P 05 47 22.4 -1.2
LPAZ La Paz 20.48 144 P P 05 47 30.7 +1.6
comp=Z,5.0nm,0.7s,baz=328,slow=9.7,SNR=25
LPAZ S Sn 05 51 27.1 +4.3
comp=Z,1.0nm,0.8s,baz=185,slow=8.6,SNR=2.1
LPAZ La Paz 20.48 144 P P 05 47 28.6 -0.5
LPAZ La Paz 20.48 144 eP P 05 47 29.3 +0.2
BANI BANI 20.50 28 P P 05 47 29.7 +1.0
DR12 Loma Pena Alta 21.31 30 P P 05 47 38.5 +1.0
PB16 IPOC Station P 21.42 150 P P 05 47 39.1 -0.1
CMIG Matias Romero 21.92 320 P P 05 47 44.4 +0.5
comp=Z,1.9nm,0.8s,baz=77,slow=2.0,SNR=3.3
AOPR Arecibo Observ 22.39 36 P P 05 47 49.5 +0.5
SJG San Juan 22.57 38 P P 05 47 50.8 -0.1
comp=Z,5.9nm,0.8s,baz=236,slow=5.2,SNR=5.4
SJG San Juan 22.57 38 P P 05 47 51.8 +0.9
SJG IAmb IAmb 05 47 54.2
comp=Z,19nm,1.2s
PB11 IPOC Station P 22.58 153 P P 05 47 51.0 -0.1
PB11 IAmb IAmb 05 48 15.1
comp=Z,16nm,0.8s
GO01 Chusmiza 22.71 152 P P 05 47 52.4 -0.5
GO01 IAmb IAmb 05 48 19.1
comp=Z,17nm,0.8s
GCPR Guaynabo City 22.76 37 P P 05 47 52.9 0.0
GCPR IAmb IAmb 05 48 30.2
comp=Z,37nm,1.3s
CBYP Canovanas 22.87 38 P P 05 47 55.0 +0.8
CBYP IAmb IAmb 05 48 28.5
comp=Z,21nm,1.1s
PB08 IPOC Station P 23.14 152 IAmb IAmb 05 48 43.0
comp=Z,35nm,1.5s
VILB Vilhena 24.00 124 eP P 05 48 05.0 -0.5
SMRT St. Maarten 24.52 43 P P 05 48 09.8 -0.4
SMRT IAmb IAmb 05 48 24.1
comp=Z,14nm,0.9s
SIV San Ignacio 25.05 131 P P 05 48 15.1 +0.1
comp=Z,3.6nm,0.7s,baz=298,slow=9.0,SNR=18
ITTB Itaituba 25.10 101 eP P 05 48 13.8 -1.7
LVC Limon Verde 25.40 155 P P 05 48 21.2 +2.7
comp=Z,6.0nm,0.9s,baz=342,slow=8.7,SNR=4.4
LVC Limon Verde 25.40 155 P P 05 48 19.5 +1.0
LVC Limon Verde 25.40 155 eP P 05 48 20.5 +1.9
NPGB Novo Progresso 26.05 107 eP P 05 48 23.1 -1.1
PTLB Pontes e Lacer 26.23 128 eP P 05 48 26.0 +0.3
MALB Monte Alegre 26.25 95 eP P 05 48 25.7 -0.2
PDRB Porto dos Gac 26.35 118 eP P 05 48 26.6 -0.3
CLDB Colider 26.89 115 eP P 05 48 31.0 -0.8
MDP Montagnes des 28.15 80 P P 05 48 43.7 +0.6
comp=Z,6.0nm,0.9s,baz=263,slow=8.1,SNR=1.4
SNDB Serra Nova Dou 31.40 114 eP P 05 49 10.9 -0.9
JCT Junction City 35.20 330 P P 05 49 46.3 +1.5
JCT IAmb IAmb 05 49 47.4
comp=Z,6.8nm,1.1s
BDFB Brasilia 35.72 118 P P 05 49 48.6 -1.0
comp=Z,2.1nm,0.8s,baz=326,slow=7.5,SNR=3.1
BDFB LR LR 06 04 35.3
comp=Z,457nm,19.4s,baz=154,slow=36
BDFB Brasilia 35.72 118 P P 05 49 49.1 -0.5
BDFB IAmb IAmb 05 50 06.9
comp=Z,5.2nm,0.9s
TXAR Lajitas Array 36.39 324 P P 05 49 54.8 -0.3
comp=Z,0.8nm,0.8s,baz=190,slow=10.0,SNR=2.5
IPMB Ipameri, GO 36.53 122 eP P 05 49 55.6 -0.9
SDBA SÃO DESIDERIO 37.45 111 eP P 05 50 03.2 -1.1
MGMO Mountain Grove 38.25 345 P P 05 50 10.6 -0.1
MGMO IAmb IAmb 05 50 32.8
comp=Z,17nm,1.5s

MNTX Cornudas Mount 39.13 325 P P 05 50 19.3 +1.1
PLCA Paso Flores 41.84 169 P P 05 50 40.8 +0.2
comp=Z,2.1nm,0.9s,baz=346,slow=11,SNR=4.6
PLCA Paso Flores 41.84 169 P P 05 50 41.2 +0.7
ANMO Albuquerque 42.16 328 P P 05 50 44.3 +0.9
ANMO IAmb IAmb 05 50 46.1
comp=Z,13nm,1.2s
SDCO Great Sand Dun 43.83 331 P P 05 50 57.4 +0.3
SDCO IAmb IAmb 05 50 59.6
comp=Z,8.9nm,1.3s
NBLA Lagarto - SE 43.84 106 eP P 05 50 56.1 -1.1
WUAZ Wupatki 45.34 324 P P 05 51 09.0 0.0
SRU San Rafael Swe 47.42 328 IAmb IAmb 05 51 27.5
comp=Z,4.1nm,1.2s
PDAR Pinedale Array 49.68 332 P P 05 51 42.3 -0.5
comp=Z,0.4nm,1.0s,baz=145,slow=9.7,SNR=1.9
PDAR PcP PcP 05 53 02.3 -1.8
comp=Z,0.8nm,0.9s,baz=102,slow=5.1,SNR=4.0
REDW Red Top Meadow 50.75 332 IAmb IAmb 05 51 53.3
comp=Z,15nm,1.6s
NVAR Mina Array Bea 51.44 322 P P 05 51 56.8 +0.7
comp=Z,2.8nm,0.8s,baz=135,slow=7.2,SNR=20
LHV Little Huntoon 51.45 322 IAmb IAmb 05 52 11.6
comp=Z,8.4nm,1.2s
ULM Lac du Bonnet 51.46 347 P P 05 51 55.0 -0.8
comp=Z,1.0nm,0.4s,baz=97,slow=4.0,SNR=3.1
ULM Lac du Bonnet 51.46 347 IAmb IAmb 05 53 15.3
comp=Z,14nm,1.6s
YHL Hebgen Lake 52.04 333 IAmb IAmb 05 52 15.9
comp=Z,13nm,1.5s
HLID Hailey 52.66 329 P P 05 52 04.7 -0.4
MCMT McKenzie Canyo 52.80 331 P P 05 52 04.8 -1.3
WVOR Wild Horse Val 54.17 326 IAmb IAmb 05 52 17.8
comp=Z,5.2nm,1.2s
SCHQ Schefferville 55.47 10 P P 05 52 24.5 -0.7
comp=Z,1.4nm,0.8s,baz=333,slow=4.3,SNR=2.1
YBH Yreka Blue Hor 56.12 323 P P 05 52 29.4 -0.8
comp=Z,1.6nm,1.1s,baz=119,slow=6.3,SNR=1.8
YKA Yellowknife Ar 57.11 344 P P 05 53 43.5 -0.4
comp=Z,1.1nm,0.9s,baz=136,slow=6.6,SNR=18
DLBC Dease Lake 69.78 335 P P 05 54 01.1 +0.3
comp=Z,3.0nm,1.0s,baz=149,slow=4.7,SNR=3.4
DLBC Dease Lake 69.78 335 P P 05 54 00.8 +0.1
KOWA Kowa 76.76 75 P P 05 54 42.0 -0.8
KOWA IAmb IAmb 05 54 44.3
comp=Z,6.7nm,1.0s
INK Inuvik 76.80 342 P P 05 54 42.1 +0.3
comp=Z,4.4nm,1.0s,baz=121,slow=7.3,SNR=12
INK Inuvik 76.80 342 P P 05 54 41.1 -0.8
INK IAmb IAmb 05 54 43.3
comp=Z,8.9nm,1.2s
A36M Sachs Harbour 76.94 347 P P 05 54 41.5 -1.2
A36M IAmb IAmb 05 54 54.9
comp=Z,3.6nm,0.8s
ESDC Sonseca Array 79.39 50 P P 05 54 57.6 +0.6
comp=Z,2.5nm,1.0s,baz=268,slow=5.0,SNR=9.9
ILAR Eielson Array 79.85 336 P P 05 54 57.3 -1.6
comp=Z,1.1nm,1.0s,baz=117,slow=3.8,SNR=5.1
TORD Torodi Ar. Bea 82.25 77 P P 05 55 12.2 -0.5
comp=Z,0.7nm,0.7s,baz=297,slow=4.5,SNR=7.2
TORD Torodi Ar. Bea 82.25 77 P P 05 55 11.8 -0.9
SNAA Sanae 86.40 162 P P 05 55 33.1 +0.3
ASAR Alice Springs 139.41 233 PKP PKPdf 06 02 17.7 -1.3
comp=Z,0.6nm,0.9s,baz=123,slow=2.6,SNR=2.5
ASAR Alice Springs 139.41 233 PKPdf 06 02 18.2 -0.8
WRA Warramunga Arr 140.78 238 PKP PKPdf 06 02 20.3 -1.3
comp=Z,0.9nm,0.9s,baz=106,slow=2.4,SNR=5.0
PZH PanZhiHua 153.25 356 PKPbc PKPdf 06 02 41.6 -0.6

*IDC **17** 05:48:13.7±1.2, 14°.32S×166°.49E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/52, mbtmp3.9/12, ML3.7/1, Error ellipse: s-maj=37.1km s-min=20.3km az=119.0*
*NEIC **17** 05:48:16.7±0.5, 14°.2S±0°.1×166°.6E±0°.0, h24km±8km, mb4.3/7, Error ellipse: s-maj=19.4km s-min=6.7km az=209.0*
ISC 17 05:48:19.0±0.7, 14°.29S±0°.08×166°.5E±0°.1, h35km, n26, σ1s00/27, mb3.9/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	Saraoutou	1.35	149		Pn	05 48 40.7	-0.7
SANVU					Sn	05 48 59.8	+1.8
KOUNC	Koumac, New Ca	6.57	198	Pn	Pn	05 49 54.0	+0.7
DZM	Mont Dzumac	7.74	180	Pn	Pn	05 50 08.9	-0.5
	1.0nm,0.3s,baz=356,slow=11,SNR=14						
DZM				Sn	Sn	05 51 36.4	+0.4
	baz=128,slow=15,SNR=1.4						
DZM	Mont Dzumac	7.74	180	Pn	Pn	05 50 09.6	+0.2
OUENC	Ouen Island, N	8.10	178	Pn	Pn	05 50 14.3	+0.2
CTAO	Charters Tower	20.16	251	P	P	05 52 50.5	0.0
CTAO				IAmb	IAmb	05 53 00.1	
	comp=Z,18nm,1.2s						
THZ	Tophouse	27.94	170	P	P	05 54 05.4	-0.7
STKA	Stephens Creek	28.71	228	P	P	05 54 13.7	+0.6
	comp=Z,0.7nm,0.4s,baz=5.7,slow=10,SNR=1.6						
WB0	Warramunga Arr	31.13	255	P	P	05 54 33.7	-1.0
WB0				IAmb	IAmb	05 54 35.1	
	comp=Z,5.5nm,1.1s						
WB2	Warramunga Arr	31.19	255	P	P	05 54 34.6	-0.6
WRA	Warramunga Arr	31.20	255	P	P	05 54 33.9	-1.4
	comp=Z,0.7nm,0.8s,baz=85,slow=8.4,SNR=5.8						
ASAR	Alice Springs	32.13	248	P	P	05 54 41.9	-1.5
	comp=Z,0.7nm,0.6s,baz=73,slow=9.4,SNR=14						
MTN	Manton Dam	34.38	268	P	P	05 55 02.7	-0.4
FITZ	Fitzroy Crossi	39.35	259	P	P	05 55 44.6	-0.8
	comp=Z,2.1nm,0.8s,baz=96,slow=8.9						
MORW	Morawa	48.78	244	P	P	05 57 01.2	+0.3
CMAR	Chiang Mai Arr	74.08	294	P	P	05 59 53.6	+1.5
	comp=Z,0.2nm,0.3s,baz=106,slow=4.6,SNR=4.7						
CMAR	Chiang Mai Arr	74.08	294	P	P	05 59 50.7	-1.4
QSPA	South Pole Qui	75.74	180	P	P	06 00 00.1	-0.9
QSPA				IAmb	IAmb	06 00 26.2	
	comp=Z,4.8nm,1.1s						
SEY	Seymchan	77.76	353	P	P	06 00 13.7	+1.6
	comp=Z,0.7nm,0.7s,baz=106,slow=7.4,SNR=6.8						
SONM	Songino Array	81.69	324	P	P	06 00 35.4	+1.4
	comp=Z,0.7nm,1.0s,baz=134,slow=8.3,SNR=2.0						
ILAR	Eielson Array	86.34	18	P	P	06 00 56.4	-0.7
	comp=Z,0.8nm,0.6s,baz=239,slow=4.4,SNR=5.2						
MKAR	Makanchi Array	96.36	317	P	P	06 01 44.8	+0.5
	comp=Z,0.5nm,0.7s,baz=109,slow=6.6,SNR=3.9						
MKAR	Makanchi Array	96.36	317	P	P	06 01 43.6	-0.7
ZALV	Zalesovo Beam	96.59	324	P	P	06 01 44.1	-1.0
	comp=Z,0.3nm,0.4s,baz=108,slow=3.2,SNR=4.9						
ZALV	Zalesovo Beam	96.59	324	P	P	06 01 44.4	-0.7
YKA	Yellowknife Ar	97.50	27	P	Pdif	06 01 47.3	-1.9
	comp=Z,0.1nm,0.6s,baz=249,slow=4.8,SNR=1.4						

*IDC **17** 05:50:36.2±2.3, 59°.87N×153°.43W, h84km±35km, mb3.6/1, mb1 3.3/6, mb1mx3.0/57, mbtmp3.4/6, Error ellipse: s-maj=37.8km s-min=16.4km az=106.0*
*NEIC **17** 05:50:37.6±1.0, 59°.84N±0°.02×152°.90W±0°.07, h106km±3km, Error ellipse: s-maj=5.2km s-min=3.1km az=114.0*
*AEIC **17** 05:50:38±1.0, 59°.83N±0°.03×152°.91W±0°.07, h102km±3km, ML2.7, ML3.0/116(NEIC), Error ellipse: s-maj=5.0km s-min=4.6km az=122.0*
ISC 17 05:50:37.6±1.0, 59°.84N±0°.03×152°.89W±0°.03, h108km±6km, n127, σ0s75/139, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVE	Iliamna Volcan	0.19	340		Pn	05 50 52.5	-0.4
IVE					Sn	05 51 03.7	-0.6
OPT	Oil Point	0.26	223		Pn	05 50 52.9	-0.1
P19K	Oil Pt	0.26	223		Pn	05 50 52.8	-0.2
P19K					Sn	05 51 03.6	-0.8
O20K	Slope Mountain	0.28	29		Pn	05 50 53.0	0.0
AU22	Augustine Moun	0.53	207		Pn	05 50 54.4	0.0
AU22					Sn	05 51 06.8	-0.1
AU2	Augustine Isla	0.53	208		Pn	05 50 54.8	+0.4
AUL	Augustine Lava	0.54	211		Pn	05 50 55.0	+0.5
AUL					Sn	05 51 07.4	+0.3
AUH	Augustine H	0.56	211		Pn	05 50 54.9	+0.2
AUQ	Augustine Qik'	0.56	209		Pn	05 50 54.7	+0.1
RED	Redoubt Volcan	0.58	6		Pn	05 50 54.7	-0.2
RED					Sn	05 51 07.2	-0.7
RSO	Redoubt South	0.63	6		Pn	05 50 55.3	-0.1
RDWB	Redoubt West	0.65	2		Pn	05 50 55.1	-0.3
HOM	Homer	0.66	106		Pn	05 50 55.5	+0.2
HOM				IAML		05 51 11.6	
	comp=E,1μm,0.3s						
NCT	North Crescent	0.72	358		Pn	05 50 55.9	-0.2
RDJH	Redoubt Jeurge	0.75	3		Pn	05 50 56.2	-0.1
DFR	Drift River	0.76	7		Pn	05 50 56.2	-0.2
O19K	Port Alsworth	0.80	297		Pn	05 50 56.4	-0.2
O19K					Sn	05 51 10.5	-0.4
O19K				IAML		05 51 11.3	
	comp=N,867nm,0.4s						
CNPM	China Poot	0.90	110		Pn	05 50 57.6	+0.1
CNPM				IAML		05 51 13.0	
	comp=N,779nm,0.3s						
Q19K	Cape Douglas,	0.99	203		Pn	05 50 58.2	-0.3
Q19K				IAML		05 51 18.7	
	comp=E,211nm,0.7s						
BRLK	Bradley Lake	1.01	93		Pn	05 50 58.6	-0.1
BRLK					Sn	05 51 14.1	-0.6
BRLK				IAML		05 51 15.6	
	comp=N,711nm,0.1s						
BRSE	Bradley Lake S	1.09	94		Pn	05 50 59.5	-0.1
O18K	Koktuh Hills	1.17	272		Pn	05 51 00.3	-0.2
N19K	Bonanza Creek	1.26	322		Pn	05 51 01.4	-0.1
N19K				IAML		05 51 19.8	
	comp=N,135nm,0.7s						
CAPN	Captain Cook N	1.27	42		Pn	05 51 03.3	+1.9
P18K	Big Mountain,	1.27	250		Pn	05 51 01.1	-0.5
P18K					Sn	05 51 18.8	-1.0
SPWE	Spurr West	1.45	6		Pn	05 51 04.3	+0.6
SLKM	Skilak Lake	1.49	62		Pn	05 51 04.1	-0.1
SLKM					Sn	05 51 23.9	-0.5
SPCG	Spurr Capps Gl	1.52	16		Pn	05 51 04.8	+0.2
O22K	Cooper Landing	1.71	67		Pn	05 51 07.0	+0.3
N18K	Kilae Creek	1.72	301	Pn	Pn	05 51 06.7	-0.2
STLK	Strandline Lak	1.74	17		Pn	05 51 07.7	+0.4
SEW	Seward	1.75	80		Pn	05 51 07.2	-0.1
SEW	Seward	1.75	80		Sn	05 51 28.5	-1.3
SVW2	Sparrevohn	1.84	315		Pn	05 51 08.1	-0.3
RC01	Rabbit Creek A	2.00	50		Pn	05 51 10.7	+0.3
RC01				IAML		05 51 36.2	
	comp=N,141nm,0.3s						
RC01				IAML		05 51 37.0	
	comp=E,142nm,0.3s						
KDAK	Kodiak Island	2.07	176	P	Pn	05 51 10.4	-1.0
	comp=E,7.7nm,0.3s,baz=47,slow=9.8,SNR=62						
KDAK				S	Sn	05 51 36.3	-0.8
	comp=E,12nm,0.3s,baz=331,slow=23,SNR=27						
KDAK	Kodiak Island	2.07	176		Pn	05 51 10.7	-0.6
KDAK	Kodiak Island	2.07	176	Sn	Sn	05 51 36.5	-0.5
KDAK				IAML		05 51 38.1	
	comp=E,109nm,0.3s						
KDAK				IAML		05 51 39.7	
	comp=E,90nm,0.4s						
CAHL	Cahill	2.19	216		Pn	05 51 13.5	+0.6
M19K	Big River Lodg	2.20	341		Pn	05 51 13.3	+0.3
M19K					Sn	05 51 40.2	+0.2
PWL	Port Wells	2.48	64		Pn	05 51 16.8	+0.1
L19K	White Mountain	2.54	339		Pn	05 51 17.5	+0.1
PMR	Palmer	2.55	45		Pn	05 51 17.8	+0.3
PMR				IAML		05 51 48.4	
	comp=N,37nm,0.3s						
PMR				IAML		05 51 54.5	
	comp=E,31nm,0.6s						
OHAK	Old Harbor	2.63	185		Pn	05 51 17.7	-0.9
OHAK				IAML		05 51 48.8	
	comp=N,60nm,0.6s						
OHAK				IAML		05 51 49.8	
	comp=E,94nm,0.4s						
L20K	Farewell, AK	2.69	350		Pn	05 51 19.9	+0.4
KNK	Knik Glacier	2.69	52		Pn	05 51 19.9	+0.5
KNK				IAML		05 51 52.2	
	comp=E,72nm,0.3s						
KNK				IAML		05 51 52.8	
	comp=N,69nm,0.5s						
GHO	Glory Hole Cre	2.74	43		Pn	05 51 21.0	+0.9
GHO				IAML		05 51 53.8	
	comp=N,64nm,0.3s						
GHO				IAML		05 51 54.0	
	comp=E,73nm,0.3s						
SML	Sawmill	2.98	47		Pn	05 51 22.9	-0.3
SML				IAML		05 51 58.1	
	comp=E,36nm,0.7s						
SML				IAML		05 52 09.4	
	comp=N,30nm,0.6s						
GLI	Glacier Island	3.06	68		Pn	05 51 24.0	-0.3
GLI				IAML		05 51 59.0	
	comp=N,44nm,0.5s						
GLI				IAML		05 51 59.8	
	comp=E,69nm,0.4s						
PPLA	Purkeypile	3.08	6		Pn	05 51 25.8	+1.1
FID	Port Fidalgo	3.32	71		Pn	05 51 26.7	-0.9
JPK	Jack Peak	3.34	66		Pn	05 51 27.6	-0.5
Q23K	Middleton Isla	3.34	94	Pn	Pn	05 51 28.1	+0.1
MID	Middleton Isla	3.35	94	Pn	Pn	05 51 28.1	0.0
SII	Sitkinak Islan	3.36	192		Pn	05 51 27.0	-1.4
SII				IAML		05 52 06.4	
	comp=E,61nm,0.4s						
SCM	Sheep Creek Mo	3.38	51		Pn	05 51 28.4	-0.2
SCM				IAML		05 52 09.0	
	comp=E,28nm,0.4s						
SCM				IAML		05 52 11.2	
	comp=N,25nm,0.9s						
TT01	Tatalina	3.43	335		Pn	05 51 28.9	-0.2
TTA	Tatalina	3.45	335		Pn	05 51 29.0	-0.4
K20K	Telida	3.57	351		Pn	05 51 31.5	+0.4
CAST	Castle Rocks	3.61	6		Pn	05 51 31.8	+0.1
EYAK	Cordova Ski Ar	3.63	76		Pn	05 51 31.2	-0.6
WAT1	Susitna Watana	3.65	33		Pn	05 51 32.1	-0.2
WAT6	Susitna Watana	3.71	40		Pn	05 51 32.8	-0.3
DIV	Divide	3.75	67		Pn	05 51 33.5	0.0
KLU	Klutina	3.81	61		Pn	05 51 33.9	-0.4
KLU				IAML		05 52 20.1	
	comp=E,26nm,0.4s						
TRF	Thorofare Moun	3.83	18		Pn	05 51 35.0	+0.3
TRF				IAML		05 52 21.3	
	comp=N,18nm,0.6s						
TRF				IAML		05 52 48.7	
	comp=E,16nm,3.2s						
KTH	Kantishna Hill	3.84	13		Pn	05 51 34.6	-0.2
M24K	Tolsona, Glenn	3.98	52	Pn	Pn	05 51 37.1	+0.4
M24K				IAML		05 52 45.7	
	comp=N,33nm,2.8s						
M24K				IAML		05 53 30.8	
	comp=E,35nm,4.1s						
RND	Reindeer	4.06	27		Pn	05 51 38.0	+0.3
RND				IAML		05 52 24.7	
	comp=E,12nm,0.3s						
CHUM	Lake Minchumin	4.07	4		Pn	05 51 38.0	+0.3
DHY	Denali Highway	4.18	37		Pn	05 51 39.4	0.0
DHY				IAML		05 52 28.4	
	comp=N,20nm,1.1s						
DHY				IAML		05 52 28.8	
	comp=E,22nm,0.5s						
BMRM	Bremner River	4.26	71		Pn	05 51 39.7	-0.7
BMRM				IAML		05 52 30.6	
	comp=N,16nm,0.5s						
BMRM				IAML		05 52 33.5	
	comp=E,18nm,0.5s						
CHIR	Chirikof Islan	4.29	201	Pn	Pn	05 51 39.4	-1.3
MCK	McKinley	4.33	24		Pn	05 51 41.6	+0.3
MCK				IAML		05 52 31.3	
	comp=E,11nm,1.6s						
MCK				IAML		05 52 38.4	
	comp=N,9.9nm,3.1s						
BPAW	Bear Paw Mtn.	4.37	11		Pn	05 51 41.7	-0.1
BPAW				IAML		05 52 29.0	
	comp=E,7.7nm,3.5s						
J20K	Nowinta River	4.39	353		Pn	05 51 42.5	+0.4
J20K				IAML		05 53 34.5	
	comp=E,7.0nm,3.9s						
N25K	Chitina, Valde	4.44	63		Pn	05 51 43.1	+0.3
N25K				IAML		05 52 33.9	
	comp=E,9.3nm,0.4s						
N25K				IAML		05 52 35.0	
	comp=N,12nm,0.5s						
NICHA	Nichawak Mount	4.49	81		Pn	05 51 43.8	+0.3
BERG	Berg Lake	4.63	79	Pn	Pn	05 51 45.5	+0.2
BWN	Browne	4.64	19		Pn	05 51 45.9	+0.5
BWN				IAML		05 52 42.1	
	comp=E,18nm,3.0s						
BWN				IAML		05 53 55.2	
	comp=N,21nm,3.4s						
GLB	Gilahina Butte	4.75	66		Pn	05 51 46.7	-0.2
GLB				IAML		05 52 58.7	
	comp=E,8.7nm,2.9s						
G

	comp=N,11nm,4.5s							
PAX	**Paxson**	**4.75**	**45**			**Pn**	**05 51 47.3**	**+0.3**
GRIN	**Grindle Hills**	**4.81**	**81**			**Pn**	**05 51 47.9**	**+0.1**
VRDI	**Verde Repeater**	**4.86**	**69**			**Pn**	**05 51 48.1**	**-0.5**
VRDI					IAML		05 53 25.3	
	comp=E,9.0nm,4.2s							
VRDI					IAML		05 54 36.1	
	comp=N,10nm,5.0s							
WAX	**Waxell Ridge**	**5.05**	**79**			**Pn**	**05 51 51.1**	**0.0**
SNH	**Sunshine Point**	**5.05**	**82**	Pn		**Pn**	**05 51 51.8**	**+0.7**
TGL	**Tana Glacier**	**5.09**	**75**			**Pn**	**05 51 51.7**	**+0.2**
TGL					IAML		05 52 48.5	
	comp=N,15nm,0.8s							
TGL					IAML		05 53 07.4	
	comp=E,13nm,3.1s							
NEA2	**Nenana**	**5.09**	**19**			**Pn**	**05 51 51.2**	**-0.3**
NEA2					IAML		05 52 40.0	
	comp=N,7.5nm,4.8s							
NEA2					IAML		05 53 43.8	
	comp=E,6.3nm,3.9s							
MCARA	**McCarthy VSAT**	**5.10**	**68**	Pn		**Pn**	**05 51 52.3**	**+0.7**
MCARA					IAML		05 52 56.1	
	comp=E,15nm,1.7s							
WRH	**Wood River Hil**	**5.16**	**24**			**Pn**	**05 51 52.0**	**-0.4**
WRH					IAML		05 52 44.0	
	comp=N,6.9nm,4.9s							
WRH					IAML		05 52 49.3	
	comp=E,7.3nm,4.2s							
ISLE	**Juniper Island**	**5.31**	**77**	Pn		**Pn**	**05 51 54.8**	**+0.1**
PTPK	**Patty Peak**	**5.32**	**71**			**Pn**	**05 51 55.4**	**+0.6**
KIAG	**Kiagna River**	**5.33**	**74**			**Pn**	**05 51 55.7**	**+0.7**
BALM	**Baldy**	**5.36**	**73**			**Pn**	**05 51 55.1**	**-0.1**
CCB	**Clear Creek Bu**	**5.38**	**24**			**Pn**	**05 51 54.6**	**-0.7**
CCB					IAML		05 53 16.8	
	comp=E,5.4nm,3.8s							
CCB					IAML		05 53 28.4	
	comp=N,4.2nm,5.0s							
I21K	**Tanana**	**5.38**	**4**			**Pn**	**05 51 55.3**	**0.0**
I21K					IAML		05 53 55.4	
	comp=E,7.5nm,3.6s							
I21K					IAML		05 55 31.7	
	comp=N,9.4nm,4.4s							
BAGL	**Bagley Icefiel**	**5.43**	**78**			**Pn**	**05 51 57.1**	**+1.1**
M26K	**Nabesna, AK**	**5.44**	**58**			**Pn**	**05 51 57.2**	**+0.9**
RIDG	**Independent Ri**	**5.46**	**41**			**Pn**	**05 51 57.2**	**+0.7**
TCOL	**CIGÖ, UAF Yank**	**5.56**	**23**	Pn		**Pn**	**05 51 57.8**	**-0.1**
COLA	**College**	**5.57**	**23**			**Pn**	**05 51 57.9**	**0.0**
I23K	**Minto, Yukon-K**	**5.57**	**16**			**Pn**	**05 51 57.9**	**-0.1**
MDM	**Murphy Dome**	**5.57**	**21**			**Pn**	**05 51 57.8**	**-0.3**
GRNC	**Granite Creek**	**5.61**	**76**	Pn		**Pn**	**05 51 59.4**	**+0.6**
DOT	**Dot Lake**	**5.67**	**44**	Pn		**Pn**	**05 52 00.6**	**+1.2**
IL31		**5.68**	**27**			**Pn**	**05 51 59.0**	**-0.5**
ILAR	**Eielson Array**	**5.68**	**27**	P		**Pn**	**05 51 59.0**	**-0.5**
	comp=N,0.4nm,0.3s,baz=220,slow=14,SNR=18							
ILAR				S		**Sn**	**05 52 58.8**	**-4.5**
	comp=N,0.6nm,0.3s,baz=165,slow=32,SNR=8.4							
ILAR	**Eielson Array**	**5.68**	**27**	Pn		**Pn**	**05 51 58.7**	**-0.8**
BARN	**Barnard Glacie**	**5.69**	**73**			**Pn**	**05 51 59.6**	**-0.2**
CTGM	**Chitina Glacie**	**5.84**	**74**			**Pn**	**05 52 02.1**	**+0.4**
H21K	**Melozitna Rive**	**5.84**	**0**	Pn		**Pn**	**05 52 02.4**	**+0.8**
TABL	**Table Mountain**	**5.90**	**79**	Pn		**Pn**	**05 52 03.4**	**+0.8**
SCRK	**Sand Creek**	**5.91**	**42**	Pn		**Pn**	**05 52 03.2**	**+0.6**
J25K	**Salcha River,**	**5.94**	**33**			**Pn**	**05 52 02.6**	**-0.4**
LOGN	**Logan Glacier**	**5.99**	**75**			**Pn**	**05 52 04.7**	**+0.9**
IM03		**6.18**	**357**			**Pn**	**05 52 06.5**	**+0.4**
IMAR	**Indian Mountai**	**6.18**	**357**	Pn		**Pn**	**05 52 06.5**	**+0.3**
H23K	**Yukon River**	**6.20**	**13**			**Pn**	**05 52 06.8**	**+0.3**
BCAR	**Beaver Creek A**	**6.23**	**54**	Pn		**Pn**	**05 52 07.6**	**+0.7**
PCA	**Pinnacle**	**6.35**	**82**			**Pn**	**05 52 09.4**	**+0.8**
H24K	**Noodor Dome**	**6.44**	**19**	Pn		**Pn**	**05 52 09.5**	**-0.3**
PNL	**Peninsula**	**6.82**	**86**			**Pn**	**05 52 15.9**	**+1.0**
BMAR	**Burnt Mountain**	**8.46**	**22**	Pn		**Pn**	**05 52 35.6**	**-1.5**
DLBC	**Dease Lake**	**11.81**	**87**	P		**Pn**	**05 53 25.7**	**+3.3**
	comp=N,0.2nm,0.3s,baz=279,slow=6.4,SNR=9.1							
INK	**Inuvik**	**11.93**	**37**	P		**Pn**	**05 53 25.6**	**+1.8**
	comp=N,0.0nm,0.3s,baz=279,slow=4.4,SNR=2.7							
YKA	**Yellowknife Ar**	**18.47**	**65**	P		**P**	**05 54 45.6**	**+0.9**
	comp=N,0.0nm,0.3s,baz=277,slow=10.0,SNR=2.2							
ZALV	**Zalesovo Beam**	**57.54**	**324**	P		**P**	**06 00 15.4**	**+0.2**
	comp=N,0.9nm,0.6s,baz=23,slow=6.8,SNR=4.1							

*IDC **17** 05:54:09.4±2.1,20°.66S×177°.52W,h521km±24km, mb3.2/11,mb1 3.5/14,mb1mx3.2/44,mbtmp4.2/14,Error ellipse: s-maj=32.0km s-min=13.2km az=149.0*
*NEIC **17** 05:54:09.2±1.2,20°.2S±0°.2×177°.4W±0°.1,h524km±9km, mb4.0/15,Error ellipse: s-maj=26.6km s-min=11.0km az=160.0*

ISC 17 05:54:08.2±0.7,20°.4S±0°.1×177°.5W±0°.1,h500km,n40, σ1§34/40,mb3.8/18,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.46**	**41**	P	**P**		**05 56 12.1** **+2.5**
	3.7nm,0.3s,baz=211,slow=12,SNR=4.0						
AFI				S	**S**		**05 57 47.9** **-1.3**
	2.7nm,0.3s,baz=216,slow=23,SNR=1.9						
MARNC	**Mare, Loyalty**	**13.59**	**263**	P	**P**		**05 57 05.6** **+2.0**
PINNC	**Pines Island,**	**14.20**	**258**	P	**P**		**05 57 12.2** **+2.1**
DZM	**Mont Dzumac**	**15.08**	**261**	P	**P**		**05 57 20.1** **+0.7**
	0.4nm,0.3s,baz=123,slow=13,SNR=2.8						
DZM	**Mont Dzumac**	**15.08**	**261**	P	**P**		**05 57 19.3** **-0.1**
URZ	**Urewera**	**18.38**	**194**	P	**P**		**05 57 48.5** **-3.3**
	1.2nm,0.3s,baz=134,slow=20,SNR=12						
QRZ	**Quartz Range**	**22.05**	**201**	P	**P**		**05 58 26.9** **+1.8**
EIDS	**Eidsvold**	**29.34**	**254**	P	**P**		**05 59 30.1** **+0.2**
EIDS				IAmb	IAmb	05 59 44.2	
	comp=Z,4.9nm,1.1s						
ARMA	**Armidale**	**29.54**	**244**	P	**P**		**05 59 33.0** **+1.3**
ARMA				IAmb	IAmb	05 59 57.5	
	comp=Z,12nm,1.2s						
CTA	**Charters Tower**	**33.99**	**264**	P	**P**		**06 00 09.7** **-0.1**
	comp=Z,6.1nm,0.4s,baz=88,slow=10,SNR=16						
CTAO	**Charters Tower**	**33.99**	**264**	P	**P**		**06 00 09.8** **0.0**
CTAO				IAmb	IAmb	06 00 10.4	
	comp=Z,7.4nm,0.7s						
STKA	**Stephens Creek**	**38.26**	**244**	P	**P**		**06 00 44.9** **-0.1**
	comp=Z,1.2nm,0.5s,baz=91,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**38.26**	**244**	P	**P**		**06 00 46.1** **+1.1**
BBOO	**Buckleboo**	**43.02**	**243**	P	**P**		**06 01 22.9** **-0.2**
WR0	**Warramunga Arr**	**44.91**	**262**	P	**P**		**06 01 37.5** **-0.4**
WR0				IAmb	IAmb	06 01 45.7	
	comp=Z,7.8nm,1.4s						
AS31	**Alice Springs**	**45.01**	**257**	P	**P**		**06 01 38.4** **-0.4**
ASAR	**Alice Springs**	**45.02**	**257**	P	**P**		**06 01 38.4** **-0.4**
	comp=Z,1.9nm,0.7s,baz=88,slow=8.5,SNR=20						
ASAR				PcP	**PcP**		**06 03 08.3** **-1.1**
	comp=Z,0.6nm,0.8s,baz=101,slow=4.6,SNR=4.1						
ASAR				S	S	06 07 32.6	-8.1
	comp=Z,1.1nm,0.9s,baz=101,slow=14,SNR=8.1						
ASAR	**Alice Springs**	**45.02**	**257**	P	**P**		**06 01 37.9** **-0.8**
WB0	**Warramunga Arr**	**45.08**	**262**	P	**P**		**06 01 38.3** **-1.0**
WB0				IAmb	IAmb	06 01 40.7	
	comp=Z,8.6nm,1.5s						
WB2	**Warramunga Arr**	**45.09**	**262**	P	**P**		**06 01 38.6** **-0.7**
WB2				IAmb	IAmb	06 01 49.1	
	comp=Z,3.3nm,1.1s						
WRAB	**Tennant Creek**	**45.09**	**262**	P	**P**		**06 01 38.4** **-0.9**
WRAB				IAmb	IAmb	06 01 42.6	
	comp=Z,7.1nm,1.3s						
WRA	**Warramunga Arr**	**45.10**	**262**	P	**P**		**06 01 38.6** **-0.8**
	comp=Z,1.1nm,0.3s,baz=97,slow=7.5,SNR=62						
WRA				S	S	06 07 34.5	-7.4
	comp=Z,0.7nm,1.0s,baz=89,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**45.10**	**262**	P	**P**		**06 01 38.6** **-0.8**
FITZ	**Fitzroy Crossi**	**53.53**	**262**	P	P	06 02 38.9	-2.9
	comp=Z,1.9nm,0.8s,baz=117,slow=2.3,SNR=6.1						
QSPA	**South Pole Qui**	**69.64**	**180**	P	**P**		**06 04 27.2** **+0.5**
QSPA				IAmb	IAmb	06 04 35.0	
	comp=Z,4.9nm,1.4s						
YBH	**Yreka Blue Hor**	**79.93**	**38**	P	**P**		**06 05 26.6** **+1.8**
	comp=Z,1.3nm,0.7s,baz=164,slow=3.9,SNR=5.2						
YBH	**Yreka Blue Hor**	**79.93**	**38**	P	**P**		**06 05 22.3** **-2.4**
YBH				IAmb	IAmb	06 05 32.0	
	comp=Z,3.8nm,1.4s						
NVAR	**Mina Array Bea**	**80.64**	**43**	P	**P**		**06 05 30.2** **+1.5**
	comp=Z,0.8nm,0.8s,baz=229,slow=6.9,SNR=5.8						
SEY	**Seymchan**	**86.42**	**347**	P	**P**		**06 05 55.2** **-1.4**
	comp=Z,0.3nm,0.4s,baz=126,slow=4.8,SNR=3.8						
ILAR	**Eielson Array**	**88.14**	**13**	P	**P**		**06 06 03.8** **-0.9**
	comp=Z,0.6nm,0.6s,baz=217,slow=5.4,SNR=8.6						
PDAR	**Pinedale Array**	**98.57**	**43**	P	**P**		**06 06 08.5** **+1.0**
	comp=Z,0.6nm,0.7s,baz=194,slow=2.2,SNR=6.2						
CMAR	**Chiang Mai Arr**	**90.56**	**289**	P	**P**		**06 06 16.2** **-0.8**

	comp=Z,0.3nm,0.3s,baz=130,slow=2.8,SNR=2.1							
MKAR	**Makanchi Array**	**111.51**	**313**	PKiKP	**PKiKP**		**06 11 43.4**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=27,slow=5.7,SNR=2.0							
MKAR	**Makanchi Array**	**111.51**	**313**		**PKiKP**		**06 11 44.0**	**-1.3**
FINES	**FINESS Array B**	**135.84**	**344**	PKP	**PKPdf**		**06 12 31.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=126,slow=9.8,SNR=3.5							
AKASG	**Malin Array Be**	**143.19**	**332**	PKhKP	PKPpre		06 12 40.9	
	comp=Z,1.8nm,0.5s,baz=37,slow=4.2,SNR=6.0							
BRTR	**Keskin Array B**	**147.16**	**313**	PKPbc	**PKPdf**		**06 12 53.2**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=142,slow=6.3,SNR=4.2							
BRTR	**Keskin Array B**	**147.16**	**313**		**PKPdf**		**06 12 53.5**	**+1.5**
CLL	**Collm**	**148.10**	**348**	i PKPbc	**PKPbc**		**06 12 56.2**	**-0.8**
	comp=Z,6.0nm,0.7s							
GERES	**GERESS Array B**	**150.26**	**345**	PKPbc	**PKPbc**		**06 13 01.4**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=331,slow=1.7,SNR=5.0							

*IDC **17** 06:05:47.6±1.3,0°.38S×81°.02W,h0km,mb3.6/5,mb1 3.9/6, mb1mx3.6/31,mbtmp3.7/6,ML2.7/1,Error ellipse: s-maj=38.3km s-min=21.1km az=60.0*
*IGQ **17** 06:05:47±1.0,0°.5±6°×8°1W±°,h7km*
*VAO **17** 06:06:00.5±1.0,0°.22N×79°.06W,h10km,mb4.2*

ISC 17 06:05:50.2±1.6,0°.09S±0°.04×80°.61W±0°.07,h17km±8km, n45,σ2§53/53,mb3.7/4,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.44**	**113**	P	**Pg**	**06 05 58.0**	**-1.1**
JAMA				S	**Sg**	**06 06 06.0**	**+0.8**
FLF1	**Flavio Alfaro-**	**0.81**	**109**	P	**Pg**	**06 06 06.0**	**0.0**
FLF1				S	**Sn**	**06 06 22.0**	**+3.5**
MAG1	**Magdalena**	**0.84**	**89**	P	**Pb**	**06 06 07.0**	**+0.8**
AV18	**Acelerografo,**	**1.20**	**70**	P	**Pg**	**06 06 13.0**	**-0.4**
AMA1	**Acelerografo,**	**1.35**	**41**	P	**Pg**	**06 06 15.0**	**-1.2**
BV15	**Puerto Quito-O**	**1.41**	**80**	P	**Pn**	**06 06 15.0**	**0.0**
BV15				S	**Sg**	**06 06 36.0**	**+0.3**
APR2	**Miler**	**1.65**	**84**	P	**Pn**	**06 06 17.0**	**-1.4**
HPAL	**Hacienda Las P**	**1.96**	**94**	P	**Pn**	**06 06 23.0**	**+0.1**
GGPT	**Toaza - Volcan**	**1.99**	**94**	P	**Pn**	**06 06 23.0**	**-0.4**
YANA	**Yana**	**2.04**	**91**	P	**Pn**	**06 06 24.0**	**-0.1**
PULU	**Pululahua**	**2.11**	**87**	P	**Pn**	**06 06 25.0**	**0.0**
CUSE	**Cuicocha Este**	**2.25**	**80**	*e*P	**Pn**	**06 06 27.8**	**+0.8**
CUSE				*e*S	**Sn**	**06 06 57.2**	**+2.7**
CUSE				*i*		06 07 02.6	
	comp=Z,2μm,0.2s						
AMIL	**Milagro (Trans**	**2.27**	**153**	P	**Pn**	**06 06 27.0**	**+0.1**
CUIC	**Cuicocha-Domo**	**2.28**	**80**	P	**Pn**	**06 06 28.0**	**+0.6**
TULM	**Tulcn-Chalpat**	**2.93**	**74**	*e*P	**Pb**	**06 06 40.5**	**-1.8**
TULM				*e*S	**Sb**	**06 07 19.9**	**+1.8**
TULM				*i*		06 07 38.2	
	comp=Z,85nm,0.6s						
GR1C	**Gorgona, Isla**	**3.92**	**38**	*e*P	**Pn**	**06 06 47.9**	**-1.8**
GR1C				*e*S	**Sn**	**06 07 35.7**	**+0.4**
GR1C				*i*		06 07 39.5	
	comp=Z,731nm,0.5s						
SOTA	**Rioblanco**	**4.57**	**61**	*e*P	**Pn**	**06 07 02.0**	**+3.1**
SOTA				*e*Sn	**Sb**	**06 08 07.0**	**+1.7**
SOTA				*i*		06 08 16.7	
	comp=Z,80nm,0.6s						
POPC	**Popayan, Colom**	**4.72**	**56**	*e*P	**Pn**	**06 07 02.9**	**+2.0**
POPC				*e*S	**Sb**	**06 08 06.2**	**-3.1**
POPC				*i*		06 08 14.4	
	comp=Z,19nm,0.7s						
PCON	**Cinco Dias**	**4.85**	**60**	*e*P	**Pn**	**06 07 07.3**	**+4.5**
PCON				*e*S	**Sb**	**06 08 10.6**	**-2.7**
PCON				*i*		06 08 26.0	
	comp=Z,40nm,0.6s						
MARP	**Paez Belalcaza**	**5.49**	**58**	*e*P	Pb	06 07 19.5	-6.3
GARC	**Garzon, Huila**	**5.59**	**66**	*e*P	**Pn**	**06 07 16.4**	**+3.6**
YOTC	**Yotoco, Valle**	**5.88**	**46**	*e*P	**Pn**	**06 07 21.1**	**+4.5**
YOTC				*e*S	**Sn**	**06 08 32.3**	**+8.6**
YOTC				*i*		06 08 44.4	
	comp=Z,21nm,0.6s						
PLMC	**San Jos del P**	**6.58**	**41**	*e*Pn	**Pn**	**06 07 30.9**	**+4.6**
PLMC				*e*Sn	**Sn**	**06 08 39.8**	**-1.2**
PLMC				*i*		06 08 58.9	
	comp=Z,15nm,0.1s						
CBOC	**Ciudad Bolivar**	**7.49**	**38**	*e*P	Pn	06 07 48.1	+9.3
ROSC	**El Rosal**	**7.97**	**52**	Pn	Pn	06 07 53.0	+7.4
	comp=Z,2.0nm,0.3s,baz=81,slow=8.7,SNR=4.2						
ROSC				Sn	Sn	06 09 29.4	+14
	comp=Z,0.3nm,0.3s,baz=187,slow=21,SNR=1.5						
CHIC	**Chingaza**	**8.32**	**56**	*e*P	Pn	06 07 56.3	+5.9
CZSB	**Cruzeiro do Su**	**10.94**	**134**	*e*P	**Pn**	**06 08 25.5**	**-0.5**
NNA	**Nana**	**12.40**	**163**	Pn	**Pn**	**06 08 47.0**	**+1.1**
	comp=Z,3.5nm,0.3s,baz=350,slow=15,SNR=6.3						
NNA				Sn	**Sn**	**06 11 04.2**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=233,slow=19,SNR=1.4						
SDV	**Santo Domingo**	**13.35**	**48**	Pn	**P**	**06 09 10.2**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=119,slow=19,SNR=3.3						
SDV				Sn	**S**	**06 11 45.2**	**-6.2**
	comp=Z,0.1nm,0.3s,baz=347,slow=11,SNR=3.1						
SDV	**Santo Domingo**	**13.35**	**48**	*e*P	Pn	06 08 51.5	-7.6
ETMB	**Extrema**	**17.28**	**124**	*e*P	**Pn**	**06 09 49.0**	**-1.8**
BOAV	**Boa Vista**	**20.23**	**83**	*e*P	**P**	**06 10 19.0**	**-5.7**
LPAZ	**La Paz**	**20.26**	**143**	P	**P**	**06 10 26.2**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=312,slow=9.0,SNR=11						
VILB	**Vilhena**	**23.93**	**123**	P	**P**	**06 11 04.7**	**+1.1**
SIV	**San Ignacio**	**24.93**	**130**	P	**P**	**06 11 13.1**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=299,slow=8.3,SNR=16						
LVC	**Limon Verde**	**25.11**	**154**	P	**P**	**06 11 14.8**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=319,slow=9.3,SNR=3.3						
ITTB	**Itaituba**	**25.21**	**100**	*e*P	**P**	**06 11 14.1**	**-1.1**
NPGB	**Novo Progresso**	**26.12**	**106**	*e*P	**P**	**06 11 22.5**	**-1.0**
PTLB	**Pontes e Lacer**	**26.13**	**127**	*e*P	**P**	**06 11 24.1**	**+0.6**
PDRB	**Porto dos Gac**	**26.33**	**117**	*e*P	**P**	**06 11 25.3**	**-0.2**
CLDB	**Colider**	**26.89**	**114**	*e*P	**P**	**06 11 30.3**	**-0.2**
MCPB	**Macapa, AP**	**28.55**	**91**	*e*P	**P**	**06 11 42.2**	**-3.2**
SNDB	**Serra Nova Dou**	**31.40**	**113**	*e*P	**P**	**06 12 10.5**	**-0.1**
NVAR	**Mina Array Bea**	**51.65**	**322**	P	**P**	**06 14 56.5**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=154,slow=5.0,SNR=3.5						
YKA	**Yellowknife Ar**	**67.45**	**344**	P	**P**	**06 16 45.5**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=142,slow=5.2,SNR=4.5						

*IDC **17** 06:32:36.9±0.9,13°.99N×91°.87W,h0km,mb4.2/14, mb1 4.4/16,mb1mx4.2/41,mbtmp4.2/16,ML3.7/2,MS4.0/1, Ms1 4.1/1,ms1mx3.2/54,Error ellipse: s-maj=34.1km s-min=14.0km az=48.0*
*MEX **17** 06:32:38.6±1.7,13°.61N×92°.53W,h12km±565km,MD4.5*
*NEIC **17** 06:32:41.7±2.2,13°.81N±0°.04×92°.38W±0°.04,h33km±4km, mb4.5/139,Md4.4/46(MEX),Error ellipse: s-maj=5.7km s-min=4.9km az=151.0*
*UCR **17** 06:32:41.1±0.7,14°.47N×92°.10W,h20km±999km,ML3.8, mb4.5(NEIC)*
*SNET **17** 06:32:41.1±0.7,14°.46N×92°.07W,h15km±999km,ML4.0*
*GCG **17** 06:32:52.1±1.8,14°.37N×91°.67W,h44km±232km,MD4.5*

ISC 17 06:32:41.1±0.6,13°.70N±0°.05×92°.38W±0°.04,h36km±2km, n264,σ1§52/240,mb4.5/71,1C-1D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**1.05**	**39**	Pn	**Pn**	**06 32 58.3**	**-1.2**
RTAL				Sg	**Sn**	**06 33 12.8**	**-0.1**
THIG		**1.20**	**5**		**Pn**	**06 32 59.5**	**-1.9**
THIG					**Sn**	**06 33 15.3**	**-1.2**
THIG		**1.20**	**5**	*e*P	**Pn**	**06 32 59.5**	**-1.9**
THIG				*e*S	**Sn**	**06 33 14.1**	**-2.4**
STG3	**Santiaguito 3,**	**1.27**	**38**	*e*P	**Pn**	**06 33 01.7**	**-0.9**
CHUJ	**Union Juarez**	**1.41**	**11**	*e*P	**Pn**	**06 33 02.1**	**-2.4**
CHUJ				*e*S	**Sn**	**06 33 21.4**	**-0.5**
PATR	**El Naranjo**	**1.41**	**6**	*e*P	**Pn**	**06 33 02.2**	**-2.3**
PATR				*e*S	**Sn**	**06 33 20.9**	**-1.1**
PAVE	**Pavencul**	**1.50**	**8**	*e*P	**Pn**	**06 33 03.7**	**-2.0**
PAVE				*e*S	**Sn**	**06 33 23.5**	**-0.6**
FUG	**Fuego 3**	**1.67**	**63**	i *e*P	**Pn**	**06 33 07.4**	**-0.6**
HUEH	**Huehuetenango**	**1.82**	**28**		**Pn**	**06 33 10.0**	**-0.1**
PCG	**Pacaya**	**1.85**	**68**	*e*P	**Pn**	**06 33 09.9**	**-0.7**
PCIG		**2.15**	**338**		**Pn**	**06 33 11.5**	**-2.9**
PCIG					**Sn**	**06 33 38.0**	**-1.9**
PCIG		**2.15**	**338**	*e*P	**Pn**	**06 33 11.5**	**-2.9**
PCIG				*i* S	**Sn**	**06 33 38.0**	**-1.9**
NBG	**Las Nubes**	**2.16**	**66**	*e*P	**Pn**	**06 33 15.9**	**+1.0**
CCIG	**Comitan**	**2.58**	**5**		**Sn**	**06 33 53.6**	**+2.9**
CCIG	**Comitan**	**2.58**	**5**		**Pn**	**06 33 20.9**	**+0.4**
CCIG	**Comitan**	**2.58**	**5**	*e*P	**Pn**	**06 33 21.1**	**+0.6**
CCIG				*e*S	**Sn**	**06 33 53.0**	**+2.3**
CEVE	**Cerro Verde**	**2.68**	**87**	*e*P	**Pn**	**06 33 21.4**	**-0.6**
CEVE				*e*S	**Sn**	**06 33 52.3**	**-1.1**
CEVE				IAML		06 33 59.2	
	comp=Z,984nm,0.3s						
JAYA	**Jayaque - finc**	**2.85**	**91**	*e*P	**Pn**	**06 33 22.7**	**-1.5**
JAYA				*e*S	**Sn**	**06 33 56.4**	**-1.1**
JAYA				IAML		06 34 04.9	
	comp=Z,548nm,0.2s						
JAYA	**Jayaque - finc**	**2.85**	**91**	*e*P	**Pn**	**06 33 22.7**	**-1.5**
JAYA				*e*S	**Sn**	**06 33 56.4**	**-1.1**
JAYA				IAML		06 34 04.9	
	comp=Z,548nm,0.2s						
CARR	**Arriaga**	**2.93**	**330**	*e*P	**Pn**	**06 33 22.4**	**-2.8**
CARR				*e*S	**Sn**	**06 33 56.3**	**-2.9**
MRL	**Marmol**	**2.95**	**62**	*e*P	**Pn**	**06 33 28.7**	**+3.0**
MTO3	**Montecristo**	**3.01**	**76**		**Pn**	**06 33 25.6**	**-0.9**
UEES	**Universidad Ev**	**3.05**	**89**	*e*S	**Sn**	**06 34 01.4**	**-0.9**
UEES	**Universidad Ev**	**3.05**	**89**	*e*S	**Sn**	**06 34 01.4**	**-0.9**
SNET	**Serv Nac Est T**	**3.06**	**90**		**Pn**	**06 33 26.9**	**-0.2**
ESQI	**Esquipulas**	**3.07**	**74**		**Pn**	**06 33 26.4**	**-0.9**
TGIG		**3.14**	**347**		**Pn**	**06 33 27.1**	**-1.0**
TGIG					**Sn**	**06 34 00.5**	**-4.0**
TGIG		**3.14**	**347**	*e*P	**Pn**	**06 33 27.1**	**-1.0**
TGIG				*e*S	**Sn**	**06 34 00.5**	**-4.0**
PAVA	**Las Pavas**	**3.35**	**89**	*e*P	**Pn**	**06 33 30.1**	**-1.0**
PAVA	**Las Pavas**	**3.35**	**89**	*e*P	**Pn**	**06 33 30.1**	**-1.0**
COEG	**Centro de Oper**	**3.40**	**91**	*e*P	**Pn**	**06 33 31.5**	**-0.3**
COEG	**Centro de Oper**	**3.40**	**91**	*e*P	**Pn**	**06 33 31.5**	**-0.3**
SCLA	**Alcaldia de Sa**	**3.55**	**90**	*e*P	**Pn**	**06 33 33.2**	**-0.6**
SCLA	**Alcaldia de Sa**	**3.55**	**90**	*e*P	**Pn**	**06 33 33.2**	**-0.6**
COEB	**Comit de Eme**	**3.75**	**93**	*e*P	**Pn**	**06 33 36.1**	**-0.5**
COEB	**Comit de Eme**	**3.75**	**93**	*e*P	**Pn**	**06 33 36.1**	**-0.5**
UXUV	**UXUV**	**3.98**	**335**	*e*P	**Pn**	**06 33 40.1**	**+0.5**
UXUV				*i* S	**Sn**	**06 34 24.7**	**-0.3**
PETF	**Flores**	**4.01**	**37**		**Pn**	**06 33 40.5**	**+0.4**
CMIG	**Matias Romero**	**4.14**	**325**	Pn	**Pn**	**06 33 40.6**	**-1.3**
	comp=Z,3.2nm,0.3s,baz=166,slow=13,SNR=42						
CMIG				Sn	**Sn**	**06 34 33.3**	**+4.1**
	comp=Z,14nm,0.3s,baz=142,slow=11,SNR=5.6						
CMIG	**Matias Romero**	**4.14**	**325**		**Pn**	**06 33 40.2**	**-1.7**
CMIG					Sn	06 34 20.6	-8.6
CMIG	**Matias Romero**	**4.14**	**325**	*e*P	**Pn**	**06 33 40.2**	**-1.7**
CMIG				*e*S	Sn	06 34 20.6	-8.6
HUIG	**Huatulco**	**4.15**	**300**		**Pn**	**06 33 38.9**	**-3.1**
HUIG					Sn	06 34 20.1	-9.1
HUIG	**Huatulco**	**4.15**	**300**	*e*P	**Pn**	**06 33 38.9**	**-3.1**
HUIG				*e*S	Sn	06 34 20.1	-9.1
TGUH	**Tegucigalpa,Un**	**4.97**	**85**	Pn	**Pn**	**06 33 53.2**	**-0.2**
PEIG	**Puerto Escondi**	**5.14**	**297**	*e*P	**Pn**	**06 33 53.0**	**-2.7**
PEIG				*e*S	**Sn**	**06 34 47

MNTX	Cornudas Mount	21.52	328	P		P	06 37 27.8	+0.6
	baz=143,SNR=13							
FPAL	Fort Paine	21.63	15	P		P	06 37 27.2	-1.1
FPAL				IAmb		IAmb	06 37 28.3	
	comp=Z,31nm,1.3s							
WMOK	Wichita Mounta	21.73	346	P		P	06 37 29.4	0.0
	baz=163,SNR=6.3							
W35A	Tecumseh	21.74	350	P		P	06 37 28.2	-1.3
SDV	Santo Domingo	21.85	100	P		P	06 37 28.7	-2.3
	comp=Z,4.4nm,0.8s,baz=5.1,slow=9.4,SNR=4.8							
SDV	Santo Domingo	21.85	100	P		P	06 37 28.8	-2.3
SDV	Santo Domingo	21.85	100	eP		P	06 37 25.3	-5.7
FNO	Franklin	21.93	349	P		P	06 37 30.0	-1.6
PTGC	Puerto Gaitan,	22.10	113	eP		P	06 37 34.7	+1.2
MSTX	Muleshoe	22.27	337	IAmb		IAmb	06 37 36.8	
	comp=Z,21nm,0.9s							
MSTX	Muleshoe	22.27	337	P		P	06 37 35.1	-0.3
	baz=152,SNR=12							
TUL1	Leonard	22.32	353	P		P	06 37 33.9	-1.9
	baz=171							
V48A	Smith Brothers	22.51	12	IAmb		IAmb	06 37 37.2	
	comp=Z,18nm,1.1s							
WVT	Waverly	22.70	10	P		P	06 37 37.5	-2.2
	baz=192							
U38A	Gravette	22.71	356	IAmb		IAmb	06 37 43.9	
	comp=Z,9.9nm,0.8s							
PBMO	Poplar Bluff	23.05	4	P		P	06 37 41.2	-2.1
PAULI	Pauline	23.09	23	P		P	06 37 43.1	-0.8
PAULI				IAmb		IAmb	06 37 54.7	
	comp=Z,18nm,1.1s							
V51A	Loudon	23.16	17	P		P	06 37 43.2	-1.3
V51A				IAmb		IAmb	06 37 44.0	
	comp=Z,33nm,1.4s							
TKL	Tuckaleechee C	23.20	18	P		P	06 37 42.9	-1.9
	comp=Z,11nm,1.0s,baz=201,slow=14,SNR=3.7							
TKL	Tuckaleechee C	23.20	18	P		P	06 37 44.2	-0.6
TKL				IAmb		IAmb	06 38 01.0	
	comp=Z,27nm,1.2s							
T35A	Sooner Cattle	23.41	352	IAmb		IAmb	06 37 46.5	
	comp=Z,13nm,0.7s							
V52A	Sevierville	23.42	18	IAmb		IAmb	06 37 48.1	
	comp=Z,33nm,1.3s							
121A	Cookes Peak, D	23.44	326	IAmb		IAmb	06 37 51.0	
	comp=Z,12nm,1.0s							
121A	Cookes Peak, D	23.44	326	P		P	06 37 49.4	+1.9
	baz=140							
319A	Douglas	23.46	321	IAmb		IAmb	06 37 50.8	
	comp=Z,27nm,1.4s							
U49A	Red Boiling Sp	23.47	13	IAmb		IAmb	06 37 46.3	
	comp=Z,20nm,1.1s							
T47A	Sharon Grove	23.66	11	IAmb		IAmb	06 37 47.9	
	comp=Z,20nm,1.1s							
S44A	Carbondale	24.05	6	IAmb		IAmb	06 37 52.0	
	comp=Z,15nm,0.7s							
SIUC	Southern Illin	24.08	6	IAmb		IAmb	06 37 52.1	
	comp=Z,17nm,0.7s							
TZTN	Tazewell	24.08	18	P		P	06 37 51.8	-1.5
	baz=201							
T50A	Nancy	24.18	15	IAmb		IAmb	06 38 11.8	
	comp=Z,26nm,1.5s							
CCM	Cathedral Cave	24.28	2	P		P	06 37 53.5	-1.6
CCM				IAmb		IAmb	06 37 58.0	
	comp=Z,18nm,1.5s							
CCM	Cathedral Cave	24.28	2	P		P	06 37 53.3	-1.7
	baz=183							
BAUV	El Baul	24.32	99	P		P	06 37 55.0	-0.7
BAUV				IAmb		IAmb	06 37 56.5	
	comp=Z,16nm,0.8s							
ANMO	Albuquerque	24.68	331	P		P	06 37 60.0	+1.0
	comp=Z,2.0nm,0.7s,baz=148,slow=12,SNR=8.7							
ANMO	Albuquerque	24.68	331	P		P	06 37 59.8	+0.8
ANMO	Albuquerque	24.68	331	P		P	06 38 00.5	+1.5
	baz=146							
R32A	Long Quarter,	25.25	348	IAmb		IAmb	06 38 05.3	
	comp=Z,12nm,0.8s							
KSU1	Kansas State U	25.57	352	IAmb		IAmb	06 38 22.8	
	comp=Z,7.8nm,0.7s							
T25A	Trinidad	25.70	337	IAmb		IAmb	06 38 13.2	
	comp=Z,14nm,0.8s							
T25A	Trinidad	25.70	337	P		P	06 38 10.2	+2.0
	baz=152,SNR=9.5							
P48A	Milroy	26.38	12	IAmb		IAmb	06 38 12.1	
	comp=Z,16nm,0.9s							
Q51A	Peebles	26.46	16	IAmb		IAmb	06 38 14.6	
	comp=Z,20nm,1.1s							
SDCO	Great Sand Dun	26.64	336	P		P	06 38 16.9	0.0
SDCO	Great Sand Dun	26.64	336	P		P	06 38 18.4	+1.5
	baz=150,SNR=8.3							
S22A	4UR Ranch, Cre	27.18	334	IAmb		IAmb	06 38 25.2	
	comp=Z,11nm,1.2s							
S22A	4UR Ranch, Cre	27.18	334	P		P	06 38 23.7	+2.0
	baz=148,SNR=9.6							
MVCO	Mesa Verde	27.48	331	IAmb		IAmb	06 38 28.2	
	comp=Z,13nm,1.1s							
MVCO	Mesa Verde	27.48	331	P		P	06 38 26.0	+1.7
	baz=144,SNR=9.3							
PV15	Paradox Valley	28.39	333	IAmb		IAmb	06 38 35.9	
	comp=Z,13nm,1.2s							
PV13	Radium Mtn., P	28.40	332	IAmb		IAmb	06 38 38.6	
	comp=Z,11nm,1.1s							
PV07	Paradox Valley	28.55	333	IAmb		IAmb	06 38 37.0	
	comp=Z,17nm,1.3s							
BC3	Big Chuckawall	28.88	317	P		P	06 38 38.2	+1.6
	baz=128							
PHWY	Pilot Hill	29.77	340	IAmb		IAmb	06 38 46.8	
	comp=Z,19nm,1.4s							
Q16A	Castle Valley	30.11	330	IAmb		IAmb	06 38 50.7	
	comp=Z,5.8nm,1.0s							
RDMU	Red Mountain	30.71	334	IAmb		IAmb	06 38 55.9	
	comp=Z,9.8nm,1.3s							
HWUT	Hardware Ranch	32.42	333	IAmb		IAmb	06 39 11.5	
	comp=Z,4.8nm,1.1s							
PDAR	Pinedale Array	32.54	336	P		P	06 39 09.6	+0.6
	comp=Z,1.8nm,1.0s,baz=134,slow=8.6,SNR=7.3							
HVU	Hansel Valley	33.11	332	IAmb		IAmb	06 39 19.9	
	comp=Z,7.1nm,1.1s							
AHID	Auburn Hatcher	33.16	334	P		P	06 39 15.0	+0.5
AHID				IAmb		IAmb	06 39 37.9	
	comp=Z,3.8nm,0.8s							
REDW	Red Top Meadow	33.55	335	P		P	06 39 18.0	+0.1
NV11	Mina Array Sit	33.58	322	IAmb		IAmb	06 39 21.2	
	comp=Z,5.4nm,1.0s							
NVAR	Mina Array Bea	33.67	322	P		P	06 39 21.8	+2.8
	comp=Z,3.8nm,0.8s,baz=137,slow=9.0,SNR=33							
NVAR				PcP		PcP	06 41 59.9	+1.5
	comp=Z,0.7nm,0.9s,baz=160,slow=2.9,SNR=4.2			LR		LR	06 56 02.9	
NVAR								
	comp=Z,250nm,18.2s,baz=240,slow=42							
KVN	Kaiserville	33.95	323	IAmb		IAmb	06 39 24.5	
	comp=Z,5.8nm,1.2s							
YMR	Madison River	34.69	336	IAmb		IAmb	06 39 30.5	
	comp=Z,8.4nm,1.0s							
YHH	Holmes Hill	34.75	337	IAmb		IAmb	06 39 33.3	
	comp=Z,5.4nm,1.2s							
PNTR	Pine Nut	34.87	321	IAmb		IAmb	06 39 32.3	
	comp=Z,2nm,1.1s							
YHL	Hebgen Lake	34.93	336	IAmb		IAmb	06 39 36.4	
	comp=Z,14nm,1.5s							
QLMT	Earthquake Lak	35.01	336	P		P	06 39 30.3	-0.1
HLID	Hailey	35.26	332	P		P	06 39 32.7	+0.1
HLID				IAmb		IAmb	06 39 40.3	
	comp=Z,5.7nm,0.9s							
HLID	Hailey	35.26	332	P		P	06 39 34.3	+1.7
	baz=141,SNR=13							
BCYI	Bear Canyon	35.40	334	P		P	06 39 33.2	-0.7
BOZ	Bozeman (W)	35.72	337	P		P	06 39 37.5	+1.0
	baz=147							
EGMT	Eagleton	37.14	341	IAmb		IAmb	06 39 49.9	
	comp=Z,4.9nm,0.7s							
EGMT	Eagleton	37.14	341	P		P	06 39 49.2	+0.7
	baz=151							
PLID	Pearl Lake	37.16	332	IAmb		IAmb	06 39 59.7	
	comp=Z,4.5nm,0.9s							
MSO	Missoula	37.65	336	IAmb		IAmb	06 39 54.8	
	comp=Z,14nm,1.4s							
MSO	Missoula	37.65	336	P		P	06 39 54.0	+1.1
	baz=144,SNR=7.2							
LPAZ	La Paz	38.24	140	P		P	06 39 57.9	-0.8
	comp=Z,0.7nm,0.8s,baz=359,slow=11,SNR=1.6							
JTMT	Jette	38.53	336	IAmb		IAmb	06 40 02.1	
	comp=Z,5.8nm,0.9s							
H04A	Detroit Lake	39.95	326	IAmb		IAmb	06 40 14.1	
	comp=Z,7.5nm,1.0s							
C09A	Chrisman Ranch	40.24	333	IAmb		IAmb	06 40 17.4	
	comp=Z,6.3nm,0.8s							
SIV	San Ignacio	42.76	133	P		P	06 40 35.0	-0.5
	comp=Z,2.8nm,1.0s,baz=336,slow=7.3,SNR=9.2							
EDM	Edmonton	42.80	342	P		P	06 40 34.8	-0.5
EDM				IAmb		IAmb	06 40 36.2	
	comp=Z,5.9nm,0.5s							
PB15	IPOC Station P	42.99	148	P		P	06 40 37.3	-0.2
SCHQ	Schefferville	45.63	20	P		P	06 40 54.0	-3.9
	comp=Z,3.8nm,1.1s,baz=223,slow=6.6,SNR=4.4							
SCHQ				PcP		PcP	06 42 34.2	-1.6
	comp=Z,3.1nm,0.8s,baz=292,slow=4.3,SNR=4.4							
YKA	Yellowknife Ar	51.23	347	P		P	06 41 40.5	-0.4
	comp=Z,9.1nm,0.7s,baz=150,slow=7.4,SNR=202							
YKA				PcP		PcP	06 42 56.0	+0.3
	comp=Z,1.3nm,0.7s,baz=151,slow=4.0,SNR=9.7							
YKA	Yellowknife Ar	51.23	347	P		P	06 41 40.9	0.0
DLBC	Dease Lake	52.77	336	P		P	06 41 54.2	+1.6
TGTN	Hyland Airport	54.27	340	P		P	06 42 05.5	+1.9
	baz=135							
MMPY	Sheldon Lake,	56.05	340	P		P	06 42 17.9	+1.6
	baz=133,SNR=7.4							
WHY	Whitehorse	56.10	336	P		P	06 42 17.8	+1.1
	baz=128							
FARO	Faro, Yukon	56.52	338	P		P	06 42 20.8	+1.1
	baz=130							
N31M	Braeburn, Yuko	56.95	337	P		P	06 42 24.0	+1.3
	baz=127							
PNL	Peninsula	57.38	334	P		P	06 42 27.6	+1.9
	baz=122							
MAYO	Mayo, Yukon	58.28	339	P		P	06 42 33.3	+1.3
	baz=129							
C36M	Paulatuk	59.10	347	P		P	06 42 37.6	0.0
	baz=144							
BCAR	Beaver Creek A	60.16	337	P		P	06 42 45.5	+0.4
L27K	Beaver Creek,	60.17	336	P		P	06 42 44.9	-0.3
L27K				IAmb		IAmb	06 42 48.2	
	comp=Z,5.0nm,0.9s							
L27K	Beaver Creek,	60.17	336	P		P	06 42 46.3	+1.1
	baz=122,SNR=6.2							
N25K	Chitina, Valde	60.57	334	P		P	06 42 50.0	+2.1
	baz=118							
INK	Inuvik	60.62	344	P		P	06 42 48.5	+0.5
	comp=Z,8.2nm,0.9s,baz=120,slow=7.4,SNR=26							
INK	Inuvik	60.62	344	P		P	06 42 48.5	+0.5
	baz=133,SNR=11							
L26K	Log Cabin Wild	60.75	336	P		P	06 42 50.5	+1.4
	baz=120							
EGAK	Eagle	60.85	338	IAmb		IAmb	06 42 50.8	
	comp=Z,2.7nm,0.8s							
EGAK	Eagle	60.85	338	P		P	06 42 49.8	+0.2
	baz=123							
A36M	Sachs Harbour	61.47	349	P		P	06 42 53.7	0.0
	baz=143							
SCRK	Sand Creek	61.48	337	P		P	06 42 55.9	+1.8
	baz=120							
PAX	Paxson	61.57	335	IAmb		IAmb	06 42 56.4	
	comp=Z,3.8nm,0.9s							
PAX	Paxson	61.57	335	P		P	06 42 55.2	+0.5
	baz=118							
J26L	Joseph Creek	61.58	337	P		P	06 42 56.3	+1.5
	baz=121,SNR=6.5							
RIDG	Independent Ri	61.69	336	P		P	06 42 56.4	+0.9
	baz=119							
K24K	Donnelly Dome	62.09	336	P		P	06 42 59.2	+1.1
	baz=118							
J25K	Salcha River,	62.32	337	IAmb		IAmb	06 43 01.0	
	comp=Z,6.6nm,1.3s							
J25K	Salcha River,	62.32	337	P		P	06 43 00.3	+0.6
	baz=119							
WAT6	Susitna Watana	62.33	335	P		P	06 43 01.4	+1.5
	baz=115,SNR=8.0							
PMR	Palmer	62.51	333	P		P	06 43 03.8	+3.0
	baz=114							
IL31		62.97	337	IAmb		IAmb	06 43 05.5	
	comp=Z,5.2nm,0.9s							
ILAR	Eielson Array	62.97	337	P		P	06 43 04.2	+0.2
	comp=Z,4.0nm,0.9s,baz=132,slow=4.8,SNR=26							
MCK	McKinley	63.31	335	P		P	06 43 06.8	+0.6
	baz=115							
NEA2	Nenana	63.73	336	P		P	06 43 09.6	+0.7
	baz=115							
TRF	Thorofare Moun	63.75	335	P		P	06 43 09.8	+0.5
	baz=113							
H24K	Noodor Dome	63.82	338	IAmb		IAmb	06 43 10.8	
	comp=Z,6.3nm,1.0s							
H24K	Noodor Dome	63.82	338	P		P	06 43 10.3	+0.7
	baz=117,SNR=5.7							
I23K	Minto, Yukon-K	64.08	337	P		P	06 43 12.1	+0.9
	baz=115,SNR=7.9							
BPAW	Bear Paw Mtn.	64.29	335	IAmb		IAmb	06 43 13.9	
	comp=Z,4.4nm,1.0s							
BPAW	Bear Paw Mtn.	64.29	335	P		P	06 43 13.0	+0.3
	baz=113							
CAST	Castle Rocks	64.48	335	P		P	06 43 14.0	0.0
	baz=112,SNR=6.3							
L20K	Farewell, AK	64.92	333	P		P	06 43 17.0	+0.2
	baz=109							
M19K	Big River Lodg	64.96	333	P		P	06 43 17.8	+0.7
	baz=109							
I21K	Tanana	65.10	336	P		P	06 43 18.2	+0.3
	baz=112							
COLD	Coldfoot	65.27	339	IAmb		IAmb	06 43 21.6	
	comp=Z,7.6nm,1.3s							
COLD	Coldfoot	65.27	339	P		P	06 43 20.0	+1.0
	baz=115							
K20K	Telida	65.30	334	P		P	06 43 19.4	+0.2
	baz=110,SNR=5.2							
H21K	Melozitna Rive	65.60	337	P		P	06 43 21.1	-0.1
	baz=112							
J20K	Nowinta River	65.61	335	P		P	06 43 21.3	+0.1
	baz=110							
TOLK	Toolik Lake Re	65.67	340	IAmb		IAmb	06 43 38.3	
	comp=Z,4.3nm,1.1s							
TOLK	Toolik Lake Re	65.67	340	P		P	06 43 22.2	+0.6
	baz=116							
TTA	Tatalina	66.00	333	P		P	06 43 23.0	-0.8
TTA	Tatalina	66.00	333	P		P	06 43 23.6	-0.3
	baz=108							
IMAR	Indian Mountai	66.08	337	P		P	06 43 24.1	-0.2
ESDC	Sonseca Array	80.19	52	P		P	06 44 46.0	-2.1
	comp=Z,1.1nm,0.8s,baz=289,slow=6.1,SNR=9.1							
ESDC	Sonseca Array	80.19	52	P		P	06 44 46.2	-2.0
ARCES	ARCESS Array B	86.53	18	P		P	06 45 18.9	-1.3
	comp=Z,2.7nm,1.0s,baz=316,slow=2.5,SNR=5.6							
TORD	Torodi Ar. Bea	90.81	76	P		P	06 45 40.0	-1.5
	comp=Z,0.5nm,0.8s,baz=305,slow=5.1,SNR=3.1							
TORD	Torodi Ar. Bea	90.81	76	P		P	06 45 40.3	-1.1
BOSA	Boshof	120.57	115	PKP		PKiKP	06 51 32.1	+2.2
	comp=Z,2.8nm,0.9s,baz=239,slow=4.9,SNR=3.1							
WRA	Warramunga Arr	134.96	255	PKP		PKiKP	06 51 60.0	+1.1
	comp=Z,0.5nm,0.9s,baz=93,slow=3.5,SNR=3.2							
PZH	PanZhiHua	137.74	341	PKP		PKPdf	06 52 02.0	-0.6
CMAR	Chiang Mai Arr	146.15	340	PKPbc		PKPab	06 52 19.1	0.0
	comp=Z,6.1nm,0.8s,baz=343,slow=4.2,SNR=28							

IDC 17 06:35:28.9±1.6, 14°.64S×166°.74E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/35, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=57.1km s-min=29.9km az=106.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	7.40	182	Pn	Pn	06 37 18.9	+0.6
	0.3nm,0.3s,baz=304,slow=23,SNR=8.7						
DZM				Sn	Sn	06 38 42.2	-0.9
	0.1nm,0.3s,baz=162,slow=18,SNR=1.6						
ASAR	Alice Springs	32.23	249	P	P	06 41 59.2	-0.1
	0.2nm,0.3s,baz=73,slow=9.8,SNR=4.4						
ILAR	Eielson Array	86.60	18	P	P	06 48 13.5	-0.3
	0.3nm,0.6s,baz=235,slow=6.4,SNR=5.6						
ARCES	ARCESS Array B	120.04	345	PKP	PKiKP	06 54 21.3	+0.1
	1.7nm,0.8s,baz=90,slow=1.8,SNR=1.8						

IDC 17 06:43:06.0±1.4, 0°.47S×80°.95W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/34, mbtmp3.7/6, ML2.5/2, Error ellipse: s-maj=36.1km s-min=23.7km az=55.0

ISC 17 06:43:07.3±1.3, 0°.6S±0°.1×81°.0W±0°.1, h10km, n6, σ1°35/7, mb3.7/3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	El Rosal	8.53	51	Pn	Pn	06 45 10.4	-1.0
	1.1nm,0.3s,baz=98,slow=20,SNR=2.1						
ROSC				Sn	Sn	06 46 48.7	+0.7
	baz=349,slow=22,SNR=0.9						
SDV	Santo Domingo	13.93	47	Pn	Pn	06 46 25.5	+0.4
	0.2nm,0.3s,baz=275,slow=10,SNR=3.8						
LPAZ	La Paz	20.10	142	P	Pn	06 47 44.2	+0.4
	1.8nm,0.8s,baz=326,slow=14,SNR=6.8						
SIV	San Ignacio	24.89	129	P	P	06 48 30.5	-0.1
	1.1nm,0.6s,baz=291,slow=9.7,SNR=7.5						
NVAR	Mina Array Bea	51.81	323	P	P	06 52 17.4	+1.5
	0.2nm,0.6s,baz=145,slow=6.6,SNR=2.2						
YKA	Yellowknife Ar	67.80	344	P	P	06 54 03.5	-1.7
	1.9nm,1.3s,baz=144,slow=5.6,SNR=5.4						

TRN 17 06:44:26.3, 14°.80N×59°.34W, h23km, MD3.9, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAM	Ilet Lapin Mar	1.49	269	eP	Pn	06 44 52.3	+0.6
ILAM				eS	Sb	06 45 12.3	+0.5
MPOM	Morne Pois Mar	1.51	257	eP	Pb	06 44 53.1	-0.6
MPOM				eS	Sb	06 45 13.4	+0.8
MVM	Montagne Vaucl	1.53	261	eP	Pb	06 44 53.5	-0.5
LPMF	Morne Lapointe	1.59	262	eP	Pn	06 44 54.0	+0.9
ZAM	Aeronautique	1.65	262	eP	Pn	06 44 54.8	+0.9
BBGH	Gun Hill	1.66	187	eP	Pn	06 44 54.9	+0.9
BBGH				eS	Sb	06 45 16.5	-0.2
TRMF	Trois Ilets	1.68	261	eP	Pb	06 44 55.7	-0.9
BBSP	Saint Philip	1.69	184	eP	Pb	06 44 57.1	+0.4
BBSP				eS	Sb	06 45 17.7	+0.2
BIM	Bigot	1.70	261	eP	Pb	06 44 56.1	-0.9
BIM				eS	Sb	06 45 17.6	-0.4
BAMF	Morne Balai	1.75	271	eP	Pb	06 44 56.8	-1.0
FDF	Fort de France	1.75	268	eP	Pb	06 44 56.9	-1.0
FDF				eS	Sb	06 45 18.4	-1.2
SLBI	Saint Lucia, B	1.76	244	eP	Pn	06 44 56.3	+0.8
SLBI				eS	Sn	06 45 18.4	+1.2
GBMF	Grand Be	1.77	270	eP	Pn	06 44 57.0	-1.1
SVN	Savane Anatole	1.77	272	eP	Pb	06 44 57.0	-1.2
SLCP	Castries, St.	1.78	244	e	Pb	06 44 59.1	+0.8
SLCP				eS	Sb	06 45 19.2	-1.1
PML	Morne Lenard	1.79	270	eP	Pb	06 44 57.2	-1.2
PCM	Pelee Case Pet	1.81	271	eP	Pb	06 44 57.7	-1.1
MCLT	Moule a Chique	1.89	235	eP	Pn	06 44 58.1	+0.9
MCLT				eS	Sn	06 45 20.6	+0.1
MDN	Morne-Daniel	2.05	285	eP	Pn	06 45 00.0	+0.6
MDN				eS	Sb	06 45 26.8	-1.2
DSLB	Salisbury	2.11	288	eP	Pn	06 45 02.0	+1.7
DSLB				eS	Sb	06 45 28.1	-1.6
MAGL	Barre de l'ile	2.20	302	eP	Pn	06 45 02.8	+1.4
MAGL				eS	Sn	06 45 29.5	+1.5
SSV	Crater Summit	2.32	231	eP	Pn	06 45 04.0	+0.8
SSV				eS	Sn	06 45 31.2	+0.1
SVV	Soufriere Volc	2.34	231	eP	Pn	06 45 04.9	+1.5
SVV				eS	Sn	06 45 33.0	+1.5
SVB	Belmont	2.40	231	eP	Pn	06 45 05.5	+1.3
SVB				eS	Sn	06 45 33.7	+0.8
TDBA	Terre de Bas,	2.45	296	eP	Pn	06 45 07.0	+2.1
TDBA				eS	Sn	06 45 36.6	+2.4
TBG	Guadaloupe-3	2.46	296	eP	Pn	06 45 06.8	+1.8
TBG				eS	Sn	06 45 36.4	+1.9
CBE	Ff, Capester	2.53	300	eP	Pn	06 45 08.0	+1.9
CBE				eS	Sn	06 45 38.2	+2.1
GCMP	Grenada, Carri	3.07	222	eP	Pn	06 45 14.6	+1.2
GCMP				eS	Sn	06 45 50.5	+1.2
ANBD	Bethesda, Anti	3.23	314	eP	Pn	06 45 16.8	+1.1
ANBD				eS	Sn	06 45 54.3	+0.8
MBFL	Flemmings, Mon	3.38	305	eP	Pn	06 45 19.3	+1.6
MBFL				eS	Sn	06 45 58.0	+0.9
GRHS	Sauteurs	3.40	222	eS	Sn	06 45 58.3	+0.7
GRGR	Grenville	3.48	221	eP	Pn	06 45 21.1	+2.1
GRGR				eS	Sn	06 46 01.3	+1.8
GRFF	Grenada Fort F	3.59	221	eS	Sn	06 46 03.4	+1.0
TOSP	Speyside	3.67	199	eP	Pn	06 45 23.3	+1.7
ANWB	Willy Bob	3.70	321	eP	Pn	06 45 21.9	-0.1
ANWB				eS	Sn	06 46 05.3	+0.4
TRN	Trinidad (W)	4.59	206	eP	Pn	06 45 36.7	+2.4

JMA 17 06:57:14.0, 32°.63N×130°.73E, h7km±1km, M3.7, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	Izumi3	0.11	139	↑↑P	Pg	06 57 16.6	+0.2
JIU3				S	Sg	06 57 18.5	+0.5
JTA	Tamana	0.37	334	↑↑P	Pg	06 57 21.5	+0.2
JTA				eS	Sg	06 57 26.8	+0.6
JZO	Okuchi	0.50	193	P	Pg	06 57 23.9	+0.2
JZO				S	Sg	06 57 30.7	+0.5
JTZ	Takazaki	0.79	157	↑↑P	Pb	06 57 29.9	-0.1
JTZ				S	Sb	06 57 40.5	-0.4

IDC 17 06:58:37.5±1.6, 14°.02S×166°.56E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/27, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=45.5km s-min=30.0km az=112.0
NOU 17 06:58:49.2, 14°.61S×167°.12E, h0km, MLv4.4/6, Vanuatu Islands

ISC 17 06:58:44.0±1.2, 14°.1S±0°.1×166°.7E±0°.2, h50km, n7, σ1°44/8, mb3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	Saraoutou	1.42	158	P	Pn	06 59 05.3	-2.1
DVP	Devils Point	3.87	158	P	Pn	06 59 41.5	+0.5
DZM	Mont Dzumac	7.91	181	Pn	Pn	07 00 36.3	-0.2
	1.0nm,0.3s,baz=312,slow=22,SNR=10						
DZM				Sn	Sn	07 02 06.0	+1.4
	0.4nm,0.3s,baz=275,slow=23,SNR=1.5						
WRA	Warramunga Arr	31.40	255	P	P	07 05 00.1	-0.5
	0.5nm,0.8s,baz=85,slow=9.4,SNR=

JTZ S Sg 07 09 19.1 +0.3

IDC ***17*** *07:13:54.7±0.4,0.˚56S×80.˚60W, h0km, mb5.3/28, mb1 5.4/31,mb1mx5.3/36,mbtmp5.3/31,ML4.1/3,MS5.3/54, Ms1 5.3/54,ms1mx5.3/65,Error ellipse: s-maj=15.5km s-min=10.5km az=62.0*

IGQ ***17*** *07:13:57±0.3,0.˚S×2.˚×8.˚0W×.˚, h8km*

MOS ***17*** *07:13:57.5±0.9,0.˚37S×80.˚31W, h19km, mb5.8/99, MS5.0/13,Error ellipse: s-maj=7.1km s-min=4.8km az=75.6*

VAO ***17*** *07:13:58.1±0.3,0.˚39S×80.˚12W, h10km, mb5.7*

NEIC ***17*** *07:14:00.8±1.9,0.˚39S±0.˚04×80.˚20W±0.˚04, h24km±3km, mb5.6/734,Ms_20 5.3/293,Mww5.8,Error ellipse: s-maj=7.5km s-min=3.7km az=130.0*

GCMT ***17*** *07:14:02.8±0.4,0.˚51S±0.˚02×80.˚70W±0.˚02, h37km, MW6.0/103,Moment Tensor Solution. s40,c45; s103,c145; Duration: 2e4 Moment tensor: Scale 1018 Nm; Mrr1.30±.06; Mθθ-0.39±.03; Mϕϕ-0.91±.03; Mrθ0.05±.03; Mθϕ-0.06±.02; Mϕr-0.51±.03; Best double couple: Mo1.22400×1018 NP1:ϕs8.00000°,δ33.00000°, λ95.00000°. NP2:ϕs182.00000°,δ57.00000°,λ87.00000°. Principal axes: T 1.4140, Plg77.0000°, Azm81.0000°; N -0.3840, Plg3.0000°, Azm183.0000°; P -1.0340, Plg12.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***17*** *07:14:02,0.˚34S×80.˚77W, h40km,Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 1017Nm; Mrr6.66; Mθθ-0.33; Mϕϕ-6.33; Mrθ-0.04; Mθϕ-0.51; Mϕr-1.92; Fault plane solution: Mo6.79000×1017 NP1: ϕs6.00000°,δ37.00000°,λ92.00000°. NP2:ϕs184.00000°, δ53.00000°,λ89.00000°. Principal axes: T 6.9353, Plg82.0000°, Azm88.0000°; N -0.2908, Plg1.0000°, Azm185.0000°; P -6.6445, Plg8.0000°, Azm275.0000°;*

BGR ***17*** *07:14:04.3±0.0,0.˚41S×80.˚15W, h33km, mb5.9*

ISC 17 07:13:58.1±0.6, 0.˚45S±0.˚02×80.˚35W±0.˚03, h17km±3km, n1868, σ1˚75/1691, mb5.6/539, MS5.3/230, 43C-35D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAB1	**Cabo Pasado-Ma**	**0.10**	**310**	P		**Pg**	**07 14 02.0**	**+0.4**
JAMA	**Jama**	**0.24**	**37**	P		**Pg**	**07 14 03.0**	**-0.5**
JAMA				S		**Sb**	**07 14 08.0**	**0.0**
FLF1	**Flavio Alfaro-**	**0.51**	**79**	P		**Pn**	**07 14 10.0**	**-0.7**
AMNT	**Manta-Manabi**	**0.62**	**219**	P		**Pg**	**07 14 09.0**	**-1.3**
AMNT				S		**Sg**	**07 14 18.0**	**-0.6**
MAG1	**Magdalena**	**0.69**	**57**	P		**Pb**	**07 14 12.0**	**+0.3**
AV18	**Acelerografo,**	**1.16**	**49**	P		**Pn**	**07 14 19.0**	**-0.6**
AV18				S		**Sg**	**07 14 38.0**	**+2.4**
ASDO	**Santo Domingo**	**1.24**	**81**	P		**Pn**	**07 14 19.0**	**-1.7**
BV15	**Puerto Quito-O**	**1.28**	**62**	P		**Pn**	**07 14 19.0**	**-2.2**
BV15				S		**Sn**	**07 14 38.0**	**0.0**
AV21	**Acelerografo,**	**1.37**	**36**	P		**Pn**	**07 14 22.0**	**-0.4**
AV21				S		**Sb**	**07 14 41.0**	**+0.5**
APR2	**Miler**	**1.48**	**69**	P		**Pn**	**07 14 23.0**	**-1.1**
AMA1	**Acelerografo,**	**1.51**	**24**	P		**Pn**	**07 14 23.0**	**-1.5**
AGUAY	**Guayaquil**	**1.64**	**166**	P		**Pb**	**07 14 29.0**	**+1.1**
ILLI	**Illinizas Sur**	**1.64**	**99**	P		**Pn**	**07 14 26.0**	**-0.7**
HPAL	**Hacienda Las P**	**1.71**	**82**	P		**Pn**	**07 14 26.0**	**-1.5**
PAST	**Pastocalle**	**1.72**	**98**	P		**Pn**	**07 14 27.0**	**-0.7**
GGPT	**Toaza - Volcan**	**1.74**	**82**	P		**Pn**	**07 14 27.0**	**-1.0**
GYE3	**Ecuador-Guayaq**	**1.75**	**165**	P		**Pn**	**07 14 27.0**	**-0.7**
JUA2	**San Juan 2**	**1.76**	**82**	P		**Pn**	**07 14 28.0**	**-0.3**
PINO	**Pino**	**1.77**	**80**	P		**Pn**	**07 14 27.0**	**-1.5**
TERV	**Terraza Guagua**	**1.77**	**81**	P		**Pn**	**07 14 27.0**	**-1.4**
GGPC	**Guagua Pichinc**	**1.77**	**81**	P		**Pn**	**07 14 28.0**	**-0.5**
APR1	**Acelerografo,**	**1.78**	**77**	P		**Pn**	**07 14 28.0**	**-0.5**
ALAT	**Latacunga**	**1.79**	**105**	P		**Pn**	**07 14 29.0**	**+0.4**
CHSH	**Refugio Sur-Vo**	**1.80**	**125**	P		**Pn**	**07 14 30.0**	**+1.0**
SRAM	**San Ramn-Vol**	**1.81**	**99**	P		**Pn**	**07 14 29.0**	**+0.2**
YANA	**Yana**	**1.81**	**79**	P		**Pn**	**07 14 28.0**	**-1.0**
AMIL	**Milagro (Trans**	**1.83**	**156**	P		**Pn**	**07 14 29.0**	**+0.2**
ALIBE	**La Libertad**	**1.84**	**196**	P		**Pn**	**07 14 30.0**	**+1.0**
CAMI	**Rancho Maria**	**1.86**	**97**	P		**Pn**	**07 14 30.0**	**+0.4**
ISUC	**Cotopaxi Ecuad**	**1.86**	**96**	P		**Pb**	**07 14 31.0**	**-1.0**
SUCR	**Mariscal Sucre**	**1.86**	**96**	P		**Pn**	**07 14 30.0**	**+0.3**
PORT	**Chimborazo Vol**	**1.87**	**122**	P		**Pn**	**07 14 30.0**	**+0.2**
SLOR	**San Lorenzo -**	**1.87**	**98**	P		**Pn**	**07 14 30.0**	**+0.2**
CIVI	**Edificio de In**	**1.87**	**83**	P		**Pn**	**07 14 30.0**	**+0.3**
EPNL	**EPN Laboratori**	**1.87**	**83**	P		**Pn**	**07 14 30.0**	**+0.3**
BNAS	**Cotopaxi Volca**	**1.88**	**97**	P		**Pn**	**07 14 31.0**	**+1.0**
NAS2	**Nasa**	**1.89**	**96**	P		**Pn**	**07 14 31.0**	**+0.9**
BRRN	**Barrancas-Volc**	**1.90**	**106**	P		**Pn**	**07 14 31.0**	**+0.8**
TAMH	**Tambohuasha Ch**	**1.90**	**125**	P		**Pn**	**07 14 31.0**	**+0.7**
PUU	**Pululahua**	**1.91**	**76**	P		**Pn**	**07 14 29.0**	**-1.2**
BMOR	**Cotopaxi Volca**	**1.91**	**98**	P		**Pn**	**07 14 31.0**	**+0.6**
TOMA	**Boca Toma-Volc**	**1.91**	**91**	P		**Pn**	**07 14 31.0**	**+0.6**
AAM2	**Ambato 2 (Merc**	**1.92**	**115**	P		**Pn**	**07 14 31.0**	**+0.7**
PITA	**Cotopaxi Volc**	**1.92**	**93**	P		**Pn**	**07 14 31.0**	**+0.6**
BREF	**Cotopaxi Volca**	**1.92**	**96**	P		**Pb**	**07 14 32.0**	**-1.1**
CRPG	**Carapungo - Pi**	**1.93**	**80**	P		**Pn**	**07 14 31.0**	**+0.6**
BVC2	**Cotopaxi Volca**	**1.95**	**96**	P		**Pn**	**07 14 32.0**	**+1.1**
SADP	**Ecuador-Quito-**	**1.95**	**77**	P		**Pn**	**07 14 31.0**	**+0.2**
VC1	**Cotopaxi 1**	**1.95**	**95**	P		**Pn**	**07 14 32.0**	**+1.0**
BTAM	**Cotopaxi Volca**	**1.96**	**96**	P		**Pn**	**07 14 32.0**	**+0.8**
VCES	**Cotopaxi**	**1.98**	**100**	P		**Pn**	**07 14 32.0**	**+0.6**
TAMB	**Tambo**	**1.99**	**97**	P		**Pn**	**07 14 32.0**	**+0.4**
IGUA	**Igualata**	**2.00**	**121**	P		**Pn**	**07 14 32.0**	**+0.4**
AV11	**Acelerografo,**	**2.01**	**79**	P		**Pn**	**07 14 33.0**	**+1.4**
OTAV	**Otavalo**	**2.02**	**70**	P		**Pn**	**07 14 31.3**	**-0.5**
OTAV	**Otavalo**	**2.02**	**70**			**Pn**	**07 14 31.3**	**-0.5**
CUSE	**Cuicocha Este**	**2.09**	**69**	*eP*		**Pn**	**07 14 33.0**	**+0.2**
CUSE				eS		**Sn**	**07 14 58.5**	**-0.1**
CUSE	**Cuicocha Este**	**2.09**	**69**	P		**Pn**	**07 14 32.0**	**-0.8**
ANTG	**Antisana-Guama**	**2.09**	**91**	P		**Pn**	**07 14 34.0**	**+1.1**
BIL2	**Estacion Bilba**	**2.10**	**118**	P		**Pn**	**07 14 34.0**	**+1.2**
BBIL	**Ulba Tungurahu**	**2.11**	**118**	P		**Pn**	**07 14 33.0**	**+0.1**
JUI6	**Juive**	**2.11**	**117**	P		**Pn**	**07 14 34.0**	**+1.0**
CUIC	**Cuicocha-Domo**	**2.12**	**69**	P		**Pn**	**07 14 33.0**	**-0.2**
POND	**Pondoa**	**2.12**	**117**	P		**Pn**	**07 14 34.0**	**+0.8**
ANTM	**Antisana-La Mi**	**2.13**	**92**	P		**Pn**	**07 14 34.0**	**+0.6**
CUSW	**Cuicocha Oeste**	**2.13**	**70**	P		**Pn**	**07 14 33.0**	**-0.3**
BMAS	**Trigal station**	**2.14**	**119**	P		**Pn**	**07 14 34.0**	**+0.6**
RETU	**Refugio**	**2.14**	**118**	P		**Pn**	**07 14 35.0**	**+1.4**
APSY	**Ecuador-Napo A**	**2.15**	**104**	P		**Pn**	**07 14 35.0**	**+1.4**
PIAT	**Ana Tenorio**	**2.15**	**105**	P		**Pn**	**07 14 34.0**	**+0.4**
COTA	**Cotacachi**	**2.16**	**69**	P		**Pn**	**07 14 33.0**	**-0.8**
BRUN	**Tungurahua Vol**	**2.16**	**116**	P		**Pn**	**07 14 35.0**	**+1.3**
ARRY	**Arrayan**	**2.16**	**119**	P		**Pn**	**07 14 35.0**	**+1.3**
ANTS	**Antisana-Sarah**	**2.18**	**91**	P		**Pn**	**07 14 35.0**	**+0.9**
BPAT	**Tungurahua Vol**	**2.18**	**119**	P		**Pn**	**07 14 35.0**	**+0.9**
ANTI	**Antisana**	**2.19**	**90**	P		**Pn**	**07 14 35.0**	**+0.7**
AOTA	**Otavalo**	**2.20**	**72**	P		**Pn**	**07 14 35.0**	**+0.8**
APS4	**Papallacta**	**2.24**	**88**	P		**Pn**	**07 14 36.0**	**+1.2**
AAT1	**Ecuador-Atunta**	**2.27**	**70**	P		**Pn**	**07 14 36.0**	**+0.8**
URCU	**Urcuqui**	**2.27**	**67**	P		**Pn**	**07 14 35.0**	**-0.3**
COHC	**Cochancay**	**2.28**	**151**	P		**Pn**	**07 14 35.0**	**0.0**
ALIT	**Ecuador-Imbabu**	**2.34**	**58**	P		**Pn**	**07 14 35.0**	**-1.0**
LITE1	**Lita**	**2.34**	**58**	P		**Pn**	**07 14 36.0**	**0.0**
AIB1	**Ecuador-Imbabu**	**2.36**	**70**	P		**Pn**	**07 14 38.0**	**+1.6**
AIB2	**Ibarra (Univer**	**2.38**	**71**	P		**Pn**	**07 14 38.0**	**+1.4**
CAYR	**Refugio Cayamb**	**2.39**	**79**	P		**Pn**	**07 14 38.0**	**+0.9**
ANGU	**Angureal**	**2.39**	**78**	P		**Pn**	**07 14 39.0**	**+1.9**
CAYA	**Cayambe**	**2.42**	**78**	P		**Pn**	**07 14 38.0**	**+0.6**
YAHU	**Yahuarcocha**	**2.42**	**70**	P		**Pn**	**07 14 39.0**	**+1.7**
ISPG	**Isla Puna-Puer**	**2.50**	**176**	P		**Pn**	**07 14 40.0**	**+1.8**
PUYO	**Puyo, Santa Ro**	**2.54**	**114**	P		**Pn**	**07 14 42.0**	**-1.4**
APUY	**Puyo**	**2.56**	**113**	P		**Pb**	**07 14 43.0**	**-0.6**
ARDO	**Archidona, Ten**	**2.60**	**102**	P		**Pn**	**07 14 42.0**	**+2.5**
LNGL	**El Angel-Carch**	**2.63**	**63**	P		**Pn**	**07 14 41.0**	**+0.7**
CHMA	**Chilma**	**2.63**	**60**	P		**Pn**	**07 14 39.0**	**-1.2**
ECEN	**Cerro Negro**	**2.69**	**62**	P		**Pn**	**07 14 42.0**	**+0.8**
CHL1	**Volcn Chiles**	**2.70**	**63**	P		**Pn**	**07 14 41.0**	**-0.3**
CHL2	**Volcn Chiles**	**2.73**	**63**	P		**Pn**	**07 14 42.0**	**+0.3**
CONE	**Cono NE Rev Vo**	**2.73**	**82**	P		**Pn**	**07 14 44.0**	**+2.5**
ACUE	**Ecuador-Cuenca**	**2.81**	**150**	P		**Pn**	**07 14 44.0**	**+1.4**
TULM	**Tulcn-Chalpat**	**2.81**	**66**			**Pn**	**07 14 43.0**	**+0.2**
TULM	**Tulcn-Chalpat**	**2.81**	**66**	*eP*		**Pb**	**07 14 46.1**	**-2.1**
TULM				eS		**Sb**	**07 15 23.6**	**+1.0**
TULM	**Tulcn-Chalpat**	**2.81**	**66**	P		**Pn**	**07 14 44.0**	**+1.2**
ACH2	**Ecuador-Machal**	**2.84**	**169**	P		**Pn**	**07 14 45.0**	**+2.2**
ACH1	**Ecuador-Univer**	**2.85**	**171**	P		**Pb**	**07 14 46.0**	**-2.5**
ATUL	**Tulcn**	**2.89**	**65**	P		**Pb**	**07 14 47.0**	**-2.5**
BONI	**La Bonita**	**2.96**	**72**	P		**Pn**	**07 14 47.0**	**+2.4**
CASC	**Dorado de Casc**	**3.07**	**79**	P		**Pn**	**07 14 48.0**	**+2.1**
AV03	**Acelerografo,**	**3.07**	**81**	P		**Pb**	**07 14 51.0**	**-1.4**
ARNL	**Arenillas**	**3.09**	**175**			**Pn**	**07 14 47.5**	**+1.4**
ARNL	**Arenillas**	**3.09**	**175**	P		**Pn**	**07 14 47.0**	**+0.9**
BOSC	**San Juan Bosco**	**3.26**	**145**			**Pb**	**07 14 52.5**	**-3.1**
BOSC	**San Juan Bosco**	**3.26**	**145**	P		**Pn**	**07 14 52.0**	**+3.4**
APS1	**Acelerografo,**	**3.47**	**81**	P		**Pn**	**07 14 54.0**	**+2.5**
GONZ	**Gonzanam**	**3.88**	**166**	P		**Pn**	**07 15 01.0**	**+3.6**
MCRA	**Macar, Loja**	**3.91**	**174**			**Pn**	**07 14 58.7**	**+1.2**
MCRA	**Macar, Loja**	**3.91**	**174**	P		**Pn**	**07 14 59.0**	**+1.5**
CRUC	**La Cruz**	**3.95**	**59**	*eP*		**Pn**	**07 15 00.3**	**+2.1**
CRUC				eS		**Sb**	**07 15 54.2**	**-1.0**
LOJ1	**Universidad t**	**4.04**	**151**	P		**Pn**	**07 14 59.0**	**-0.3**
GR1C	**Gorgona, Isla**	**4.07**	**32**	*eP*		**Pn**	**07 14 57.0**	**-2.6**
GR1C				eS		**Sn**	**07 15 50.0**	**+3.1**
SOTA	**Rioblanco**	**4.54**	**55**	*iP*		**Pn**	**07 15 07.0**	**+0.4**
SOTA				eS		**Sn**	**07 16 04.8**	**+5.6**
ZUMB	**Zumba**	**4.54**	**165**	P		**Pn**	**07 15 09.0**	**+2.7**
POPC	**Popayan, Colom**	**4.72**	**51**	*eP*		**Pn**	**07 15 10.7**	**+1.8**
PCON	**Cinco Dias**	**4.82**	**55**	*eP*		**Pn**	**07 15 13.2**	**+2.7**
RAC02	**Cali,SGC**	**5.39**	**45**	*eP*		**Pn**	**07 15 21.0**	**+3.2**
RAC02				eS		**Sn**	**07 16 22.5**	**+2.9**
MARP	**Paez Belalcaza**	**5.48**	**53**	*iP*		**Pn**	**07 15 20.0**	**+0.7**
MARP				eS		**Sn**	**07 16 27.6**	**+5.4**
GARC	**Garzon, Huila**	**5.52**	**62**	*iP*		**Pn**	**07 15 21.6**	**+1.8**
GARC				eS		**Sn**	**07 16 28.8**	**+5.8**
PTLC	**Puerto Leguiza**	**5.58**	**84**	*eP*		**Pn**	**07 15 22.6**	**+2.1**
PTLC				eS		**Sn**	**07 16 29.9**	**+5.5**
BETC	**Betania**	**5.81**	**58**	*eP*		**Pn**	**07 15 26.0**	**+2.4**
BETC				eS		**Sn**	**07 16 35.5**	**+5.5**
YOTC	**Yotoco, Valle**	**5.95**	**42**	*eP*		**Pn**	**07 15 25.5**	**-0.2**
YOTC				eS		**Sn**	**07 16 34.1**	**+0.5**
PIZC	**Pizarro, Choco**	**6.16**	**29**	*eP*		**Pb**	**07 15 43.7**	**-1.2**
ORTC	**Ortega, Tolima**	**6.69**	**50**	*eP*		**Pn**	**07 15 39.6**	**+3.9**
PLMC	**San Jos del P**	**6.70**	**37**	*eP*		**Pn**	**07 15 36.6**	**+0.8**
ANIL	**Santa Ana**	**6.97**	**45**	*eP*		**Pn**	**07 15 41.5**	**+1.7**
ANIL				eS		**Sn**	**07 17 05.8**	**+6.9**
MACC	**Macarena, Meta**	**6.99**	**68**	*iP*		**Pn**	**07 15 41.9**	**+2.1**
MACC				eS		**Sn**	**07 17 06.3**	**+7.1**
SOLC	**Bahia Solano**	**7.26**	**24**	*eP*		**Pn**	**07 15 46.9**	**+3.5**
CMAN1	**Manizales, Cal**	**7.30**	**41**	*eP*		Pn	07 15 50.8	+6.4
GUY2C	**Guyana, Caldas**	**7.52**	**41**	*eP*		**Pn**	**07 15 49.1**	**+1.6**
GUY2C				eS		**Sn**	**07 17 19.2**	**+6.5**
CBOC	**Ciudad Bolivar**	**7.62**	**35**	*eP*		**Pn**	**07 15 50.8**	**+2.1**
CBOC				eS		**Sn**	**07 17 23.6**	**+8.8**
ROSC	**El Rosal**	**8.00**	**49**	Pn		**Pn**	**07 15 55.7**	**+1.7**
	17nm,0.3s,baz=198,slow=6.5,SNR=42							
ROSC				Sn		**Sn**	**07 17 31.1**	**+6.9**
	12nm,0.3s,baz=259,slow=18,SNR=3.6							
ROSC				LR		LR	07 19 12.1	
	comp=Z,28μm,18.9s,baz=239,slow=38							
ROSC	**El Rosal**	**8.00**	**49**	P		**Pn**	**07 15 53.2**	**-0.8**
ROSC	**El Rosal**	**8.00**	**49**			**Pn**	**07 15 53.2**	**-0.8**
ROSC	**El Rosal**	**8.00**	**49**	*eP*		**Pn**	**07 15 55.9**	**+1.9**
ROSC				eS		**Sn**	**07 17 32.3**	**+8.0**
NORC	**Norcasia**	**8.10**	**42**	*eP*		**Pn**	**07 15 58.3**	**+3.1**
NORC				eS		**Sn**	**07 17 22.1**	**-4.4**
HELC	**Santa Helena**	**8.17**	**36**	*eP*		**Pn**	**07 16 00.8**	**+4.5**
HELC				eS		**Sn**	**07 17 31.3**	**+2.8**
GUVC	**San Jose del G**	**8.27**	**69**	*iP*		**Pn**	**07 16 00.1**	**+2.6**
GUVC				eS		Sb	07 18 09.6	+10
CHIC	**Chingaza**	**8.32**	**53**	*eP*		**Pn**	**07 15 59.0**	**+0.6**
CHIC				eS		**Sn**	**07 17 31.8**	**-0.5**
SPBC	**San Pablo de B**	**8.72**	**46**	*eP*		**Pn**	**07 16 02.6**	**-1.0**
SPBC				eP		**Pn**	**07 16 05.5**	**+1.8**
SPBC				eS		**Sn**	**07 17 50.5**	**+8.8**
PTBC	**PUERTO BERRIO,**	**9.10**	**40**	*eP*		**Pn**	**07 16 12.4**	**+3.6**
CDITO	**Canoas**	**9.31**	**344**			**Pn**	**07 16 14.8**	**+3.1**
UPA	**Univ. de Panam**	**9.41**	**5**	*iP*		**Pn**	**07 16 16.0**	**+3.0**
UPA				eS		Sn	07 18 46.0	+47
PTGC	**Puerto Gaitan,**	**9.42**	**61**	*eP*		**Pn**	**07 16 17.4**	**+4.2**
UREC	**San Jos de Ur**	**9.46**	**30**	*eP*		**Pn**	**07 16 16.6**	**+2.8**
UREC				eS		**Sn**	**07 18 06.7**	**+6.9**
BRU2	**Volcan**	**9.48**	**346**			**Pn**	**07 16 15.9**	**+1.7**
BCIP	**Isla Barro Col**	**9.57**	**3**	P		**Pn**	**07 16 16.9**	**+1.7**
BCIP	**Isla Barro Col**	**9.57**	**3**			**Pn**	**07 16 16.9**	**+1.7**
ZARC	**Zaragoza, Cauc**	**9.61**	**35**	Pn		**Pn**	**07 16 15.2**	**-0.6**
ZARC	**Zaragoza, Cauc**	**9.61**	**35**	*eP*		**Pn**	**07 16 17.4**	**+1.6**
ZARC				eS		**Sn**	**07 18 07.5**	**+4.1**
RUSC	**La Rusia**	**9.61**	**49**	*eP*		**Pn**	**07 16 17**	**-0.5**
RUSC				eS		Sn	07 18 24.6	+20
RIOS	**Rincon, Osa**	**9.63**	**341**			**Pn**	**07 16 18.2**	**+2.2**
PAYG	**Puerto Ayora**	**9.94**	**269**	Pn		**Pn**	**07 16 21.1**	**+0.8**
BARC	**Barichara**	**10.01**	**45**	*eP*		**Pn**	**07 16 25.7**	**+4.3**
BARC				eS		**Sn**	**07 18 18.3**	**+4.8**
LCBC	**Los crdobas,**	**10.06**	**23**	*eP*		**Pn**	**07 16 24.1**	**+2.1**
DRK0	**Durika**	**10.07**	**343**			**Pn**	**07 16 23.4**	**+1.1**
SRBA	**San Rafael, Bu**	**10.08**	**343**			**Pn**	**07 16 24.8**	**+2.4**
PEZE	**Perez Zeledon,**	**10.32**	**341**			**Pn**	**07 16 28.6**	**+3.0**
CZSB	**Cruzeiro do Su**	**10.50**	**134**	*eP*		**Pn**	**07 16 29.1**	**+1.1**
RIMA	**Rio Macho**	**10.74**	**341**	Pn		**Pn**	**07 16 34.1**	**+2.6**
PAMC	**Pamplona, Colo**	**10.87**	**44**	*eP*		**Pn**	**07 16 37.1**	**+3.6**
JACO	**JACO, Garabito**	**10.93**	**337**			**Pn**	**07 16 34.6**	**+0.8**
CVTR	**Volcan Turrial**	**10.95**	**342**			**Pn**	**07 16 38.2**	**+3.7**
HDC	**Heredia**	**11.04**	**340**			**Pn**	**07 16 38.4**	**+2.9**
TBTG	**Tabatinga, AM**	**11.07**	**110**	*iP*		**Pn**	**07 16 35.6**	**-0.2**
TBTG				*i* S		Sn	07 17 02.7	+23
TBTG	**Tabatinga, AM**	**11.07**	**110**	*eP*		**Pn**	**07 16 34.7**	**-1.1**
OCAC	**Ocana**	**11.12**	**39**			**Pn**	**07 16 36.2**	**-0.4**
OCAC	**Ocana**	**11.12**	**39**	*eP*		**Pn**	**07 16 38.2**	**+1.5**
OCAC				eS		**Sn**	**07 18 48.2**	**+7.5**
CAO2	**Cobano, Puntar**	**11.13**	**335**			**Pn**	**07 16 38.0**	**+1.3**
SJCC	**San Jacinto, C**	**11.50**	**26**	Pn		**Pn**	**07 16 42.8**	**+1.0**
SJCC	**San Jacinto, C**	**11.50**	**26**	*eP*		**Pn**	**07 16 42.1**	**+0.4**
JTS	**Las Juntas de**	**11.62**	**337**	Pn		**Pn**	**07 16 45.6**	**+2.3**
	0.6nm,0.3s,baz=205,slow=5.5,SNR=39							
JTS				LR		LR	07 20 19.9	
	comp=Z,23μm,19.8s,baz=216,slow=33							
JTS	**Las Juntas de**	**11.62**	**337**	*eP*		**Pn**	**07 16 44.6**	**+1.3**
JTS	**Las Juntas de**	**11.62**	**337**	Pn		**Pn**	**07 16 44.6**	**+1.3**
DUNO	**Dulce Nombre,**	**11.65**	**334**			**Pn**	**07 16 45.3**	**+1.6**
COVE	**Coope Vega, Sa**	**11.81**	**340**			**Pn**	**07 16 48.2**	**+2.3**
ORTG	**Ortega, Santa**	**11.89**	**335**	Pn		**Pn**	**07 16 50.1**	**+3.0**
NNA	**Nana**	**11.97**	**163**	Pn		**Pn**	**07 16 50.5**	**+2.3**
	34nm,0.3s,baz=338,slow=11,SNR=94							
NNA				Sn		**Sn**	**07 19 02.5**	**+0.9**
	51nm,0.3s,baz=223,slow=19,SNR=11							
NNA				LR		LR	07 21 52.7	
	comp=Z,11μm,18.0s,baz=332,slow=40							
NNA	**Nana**	**11.97**	**163**	*deP*		**Pn**	**07 16 49.9**	**+1.7**
NNA				pmax		pmax		
	comp=Z,1μm,1.0s							
LL1C	**La Loma 1 Cana**	**12.02**	**34**	*eP*		**Pn**	**07 16 52.8**	**+4.0**
HZTE	**Horizontes, Gu**	**12.26**	**335**			**Pn**	**07 16 53.1**	**+1.0**
LL6C	**La Loma 6 Bece**	**12.33**	**35**	*eP*		**Pn**	**07 16 54.3**	**+1.2**
SOCV	**Socops**	**12.84**	**47**	*eP*		**Pn**	**07 17 00.6**	**+0.5**
SMRC	**Santa Marta, M**	**13.05**	**28**	*eP*		**Pn**	**07 17 01.6**	**-1.3**
ESPN	**Las Esperanzas**	**13.16**	**343**			**Pn**	**07 17 05.4**	**+0.9**
ACON	**Acoyapa**	**13.24**	**339**			**Pn**	**07 17 07.1**	**+1.6**
SDV	**Santo Domingo**	**13.41**	**46**	Pn		**Pn**	**07 17 09.0**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=219,slow=10,SNR=32							
SDV				Sn		**Sn**	**07 19 44.8**	**+7.9**
	comp=Z,1.5nm,0.3s,baz=269,slow=21,SNR=2.0							
SDV				LR		LR	07 23 35.4	
	comp=Z,21μm,19.2s,baz=226,slow=42							
SDV	**Santo Domingo**	**13.41**	**46**	Pn		**Pn**	**07 17 05.8**	**-2.1**
SDV	**Santo Domingo**	**13.41**	**46**	*eP*		**Pn**	**07 17 06.3**	**-1.7**
PRVC	**Isla de Provid**	**13.78**	**356**	Pn		**Pn**	**07 17 13.8**	**+1.0**
BOAB	**BOACO BROADBAN**	**13.86**	**338**	Pn		**Pn**	**07 17 15.2**	**+1.2**
CNGN	**Cerro Negro**	**14.33**	**334**			**Pn**	**07 17 22.1**	**+1.6**
MATN	**Matagalpa**	**14.40**	**338**			**Pn**	**07 17 21.6**	**+0.1**
URIC	**Uribia, Colomb**	**14.65**	**34**			**Pn**	**07 17 23.7**	**-1.1**
URIC	**Uribia, Colomb**	**14.65**	**34**	*eP*		**Pn**	**07 17 22.3**	**-2.5**
URIC				eS		**S**	**07 20 18.3**	**-7.5**
CRIN	**San Cristobal**	**14.66**	**333**			**Pn**	**07 17 26.0**	**+1.0**
BAUV	**El Baul**	**15.41**	**52**	Pn		**Pn**	**07 17 31.3**	**-3.6**
BAUV				IAmb		IAmb	07 17 52.3	
	comp=Z,319nm,0.8s							
TGUH	**Tegucigalpa,Un**	**15.97**	**335**	Pn		**Pn**	**07 17 43.6**	**+1.4**
TGUH				IAmb		IAmb	07 17 53.3	
	comp=Z,765nm,1.4s							
SNET	**Serv Nac Est T**	**16.58**	**328**	IAmb		IAmb	07 18 15.6	
	comp=Z,708nm,1.3s							
ETMB	**Extrema**	**16.86**	**124**	*eP*		**Pn**	**07 17 50.1**	**-3.4**
HATO	**Hato, Curacao**	**16.89**	**42**	P		**Pn**	**07 17 54.0**	**0.0**
BIRV	**Birongo**	**17.72**	**52**	P		**Pn**	**07 18 03.4**	**-0.9**
RTAL	**Retalhuleu**	**18.64**	**323**	P		**P**	**07 18 12.9**	**-2.4**
MTDJ	**Mount Denham**	**18.77**	**8**	P		**P**	**07 18 16.6**	**0.0**
MTDJ	**Mount Denham**	**18.77**	**8**	*eP*		**P**	**07 18 16.3**	**-0.3**
HUEH	**Huehuetenango**	**19.16**	**325**	P		**Pn**	**07 18 22.9**	**+0.8**
PETF	**Flores**	**19.65**	**332**	P		**Pn**	**07 18 27.8**	**+0.1**
PETF				IAmb		IAmb	07 18 39.0	
	comp=Z,234nm,1.0s							
FSCY	**Frank Sound, G**	**19.66**	**358**	P		**P**	**07 18 22.6**	**-3.7**
FSCY	**Frank Sound, G**	**19.66**	**358**	*eP*		**P**	**07 18 21.9**	**-4.5**
LPAZ	**La Paz**	**19.82**	**143**	P		**Pn**	**07 18 29.8**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=321,slow=8.8,SNR=90							
LPAZ	**La Paz**	**19.82**	**143**	*eP*		**Pn**	**07 18 30.0**	**-0.3**
LPAZ	**La Paz**	**19.82**	**143**	P		**Pn**	**07 18 30.1**	**-0.3**
LPAZ				IAmb		IAmb	07 19 20.1	
	comp=Z,276nm,1.1s							
LPAZ	**La Paz**	**19.82**	**143**	*eP*		**Pn**	**07 18 29.7

ANWB Willy Bob 25.66 45 P P 07 19 26.3 -0.9
ANWB Willy Bob 25.66 45 eP P 07 19 23.3 -4.0
NPGB Novo Progresso 25.77 105 eP P 07 19 26.9 -1.5
PDRB Porto dos Gac 25.94 116 eP P 07 19 29.1 -0.8
MALB Monte Alegre 26.11 93 eP P 07 19 30.5 -1.0
061Z Ochoppi 26.17 359 P P 07 19 31.7 -0.1
CLDB Colider 26.50 114 eP P 07 19 34.4 -0.6
UNM Universidad Na 26.98 318 IAMs_20 IAMs_20 07 28 08.0
comp=Z,9µm,20.0s
AC01 Pan de Azucar 27.22 161 P P 07 19 41.8 +0.4
MDP Montagnes des 28.22 78 P P 07 19 50.1 -0.3
comp=Z,40nm,0.6s,baz=265,slow=9.8,SNR=15
MDP LR LR 07 31 35.5
comp=Z,35µm,21.6s,baz=268,slow=37
MCPB Macapa, AP 28.29 90 eP P 07 19 49.8 -1.3
AC06 Mina Casimiro 28.42 161 P P 07 19 53.0 +1.0
AC06 IAmb IAmb 07 20 27.8
comp=Z,108nm,1.1s
DWPF Disney Wildern 28.42 358 P P 07 19 53.0 +1.0
baz=177
GO03 Copiap 28.68 161 IAmb IAmb 07 21 00.2
comp=Z,120nm,1.3s
SALV Santo Antonio 28.76 123 eP P 07 19 56.6 +1.4
AC04 Llanos de Chal 28.99 163 P P 07 19 58.0 +0.9
AC04 IAmb IAmb 07 20 00.3
comp=Z,123nm,1.4s
LCO Las Campanas 29.86 163 P P 07 20 05.7 +0.6
LCO pmax pmax
comp=Z,94nm,1.0s
LCO Las Campanas 29.86 163 P P 07 20 05.7 +0.6
LCO IAmb IAmb 07 20 51.4
comp=Z,94nm,0.9s
PP1B Ponte de Pedra 30.30 126 eP P 07 20 10.1 +1.3
CO05 La Serena 30.56 164 IAmb IAmb 07 20 14.2
comp=Z,115nm,1.2s
GO04 Tololo Observa 30.92 164 P P 07 20 15.4 +0.9
GO04 IAmb IAmb 07 20 17.8
comp=Z,161nm,1.1s
PRPB Parauapebas 30.99 101 eP P 07 20 14.6 -0.5
SNDB Serra Nova Dou 31.02 113 eP P 07 20 15.6 +0.3
AQDB Aquidauana 31.25 131 IAmb IAmb 07 20 19.0
comp=Z,156nm,1.2s
AQDB Aquidauana 31.25 131 eP P 07 20 17.7 +0.4
CO03 El Pedregal 31.58 164 IAmb IAmb 07 20 23.5
comp=Z,155nm,1.2s
ZAIG Zacatecas 31.64 318 P P 07 20 22.6 +1.7
ZAIG IAmb IAmb 07 20 31.5
comp=Z,93nm,1.4s
TIGA Tifton 31.87 355 IAmb IAmb 07 20 30.6
comp=Z,64nm,0.8s
TIGA Tifton 31.87 355 P P 07 20 23.0 +0.5
baz=174
BRAL Brewton 32.09 349 P P 07 20 24.6 +0.2
BRAL Brewton 32.09 349 S S 07 25 35.5 -0.5
baz=167
TMAB Tom-Au,PA,Br 32.30 94 eP P 07 20 26.8 +0.3
KVTX Kingsville 32.55 330 IAMs_20 IAMs_20 07 33 54.1
comp=Z,6µm,22.0s
250A Grady 32.74 351 P P 07 20 30.8 +0.6
baz=169,SNR=11
346A Big Creek Wild 32.83 346 P P 07 20 31.3 +0.4
ZON Zonda 32.84 161 P P 07 20 32.2 +1.1
ZON pmax pmax
comp=Z,140nm,1.3s
ZON Zonda 32.84 161 P P 07 20 32.2 +1.1
ZON IAmb IAmb 07 20 34.8
comp=Z,140nm,1.3s
H03N2 Juan Fernandez 32.84 178 T T 07 55 02.8
baz=354,slow=76,SNR=7.5
H03N1 Juan Fernandez 32.84 178 T T 07 55 03.3
baz=354,slow=76,SNR=9.0
H03N3 Juan Fernandez 32.85 178 T T 07 55 02.6
baz=354,slow=76,SNR=8.2
154A Montrose 32.99 356 P P 07 20 32.1 -0.2
baz=175,SNR=11
VA06 Catapilco 33.06 166 IAmb IAmb 07 20 36.2
comp=Z,140nm,1.2s
152A Waverly Hall 33.20 353 IAmb IAmb 07 20 42.6
comp=Z,76nm,0.9s
152A Waverly Hall 33.20 353 P P 07 20 34.2 +0.1
baz=172,SNR=20
344A Westbrook Farm 33.23 344 P P 07 20 35.2 +0.9
baz=161,SNR=9.0
NHSC New Hope 33.38 0 P P 07 20 35.4 -0.3
baz=180,SNR=5.9
NHSC New Hope 33.38 0 P P 07 20 35.8 +0.1
baz=180,SNR=5.9
VA01 Torpederas 33.42 167 IAmb IAmb 07 20 39.2
comp=Z,129nm,1.1s
ROC1 El Roble 33.52 166 P P 07 20 36.5 -0.8
342A Flagon Creek P 33.63 341 IAmb IAmb 07 20 47.5
comp=Z,161nm,1.4s
342B Flagon Creek P 33.63 341 P P 07 20 38.8 +0.9
baz=158
HKT Hockley 33.65 335 eP P 07 20 38.1 +0.1
HKT pmax pmax
comp=Z,37nm,1.4s
HAW Hawthorne Fire 33.66 358 P P 07 20 38.1 0.0
baz=178,SNR=11
SMTB Santa Maria do 33.67 105 eP P 07 20 38.5 0.0
MT02 Curacav 33.76 166 P P 07 20 39.9 +0.9
MT02 IAmb IAmb 07 20 42.6
comp=Z,106nm,1.2s
GOGA Godfrey 33.81 355 P P 07 20 38.3 -1.2
GOGA pmax pmax
comp=Z,90nm,1.1s
GOGA Godfrey 33.81 355 IAmb IAmb 07 20 47.8
comp=Z,60nm,0.9s
GOGA Godfrey 33.81 355 P P 07 20 39.0 -0.4
baz=174,SNR=12
GOGA Godfrey 33.81 355 P P 07 20 39.6 +0.1
baz=174,SNR=12
GOGA S S 07 26 00.3 -2.5
baz=174
PEXB Peixe 33.84 111 eP P 07 20 39.8 -0.2
VBMS Vicksburg 33.89 344 IAmb IAmb 07 21 05.7
comp=Z,88nm,1.2s
VBMS Vicksburg 33.89 344 P P 07 20 40.9 +0.7
baz=161
VBMS Vicksburg 33.89 344 P P 07 20 40.8 +0.7
baz=161
VBMS S S 07 26 02.5 -1.5
baz=161
LRAL Lakeview Retre 33.90 350 IAmb IAmb 07 20 48.7
comp=Z,84nm,0.9s
LRAL Lakeview Retre 33.90 350 P P 07 20 39.6 -0.6
baz=168,SNR=22
LRAL Lakeview Retre 33.90 350 P P 07 20 39.7 -0.5
baz=168,SNR=22
LRAL S S 07 26 01.4 -2.8
baz=168
Z51A Franklin 33.90 353 IAmb IAmb 07 20 48.8
comp=Z,87nm,1.0s
Z51A Franklin 33.90 353 P P 07 20 40.5 +0.2
baz=171,SNR=13
146A Union 33.92 347 IAmb IAmb 07 20 48.9
comp=Z,107nm,1.0s
146A Union 33.92 347 P P 07 20 41.4 +0.9
baz=164,SNR=8.5
833A Chaparral WMA, 33.94 329 IAmb IAmb 07 20 50.4
comp=Z,128nm,1.3s
833A Chaparral WMA, 33.94 329 P P 07 20 41.8 +1.1
baz=144,SNR=12
833A Chaparral WMA, 33.94 329 P P 07 20 41.8 +1.1
baz=144,SNR=12
833A S S 07 26 05.5 +0.5
baz=144
CPUP Villa Florida 33.96 141 P P 07 20 40.4 -0.5
comp=Z,22nm,1.0s,baz=323,slow=9.2,SNR=29
CPUP LR LR 07 37 01.1
comp=Z,18µm,18.9s,baz=334,slow=41
CPUP Villa Florida 33.96 141 P P 07 20 40.4 -0.5
CPUP pmax pmax
comp=Z,61nm,1.9s
CPUP Villa Florida 33.96 141 IAmb IAmb 07 20 42.2
comp=Z,84nm,1.3s
CPUP Villa Florida 33.96 141 eP P 07 20 41.1 +0.3
VA05 Santo Domingo 34.03 167 IAmb IAmb 07 20 44.2
comp=Z,76nm,1.1s
MT03 Universidad Ad 34.14 165 IAmb IAmb 07 21 29.7
comp=Z,124nm,1.1s
Z47A Carrollton 34.26 348 IAmb IAmb 07 20 51.7
comp=Z,106nm,1.1s
Z47A Carrollton 34.26 348 P P 07 20 43.4 0.0
baz=166,SNR=11
Y57A Sumter 34.29 360 P P 07 20 43.5 -0.1
baz=180,SNR=6.4
Y57A P P 07 20 43.5 -0.1
baz=180,SNR=6.4
Y52A Lilburn 34.31 355 P P 07 20 43.3 -0.6
baz=173,SNR=10
Y52A P P 07 20 43.3 -0.6
baz=173,SNR=10
HODGE Hodges 34.55 357 IAmb IAmb 07 20 54.3
comp=Z,104nm,1.0s
HODGE Hodges 34.55 357 P P 07 20 46.0 +0.2
baz=176,SNR=14
JSC Jenkinsville 34.56 359 IAmb IAmb 07 20 47.3
comp=Z,120nm,1.2s
JSC Jenkinsville 34.56 359 P P 07 20 45.9 -0.1
baz=178,SNR=12
BO04 La Punta 34.59 166 IAmb IAmb 07 21 33.5
comp=Z,130nm,1.1s
143A Socs Landing, 34.59 343 IAmb IAmb 07 20 57.5
comp=Z,73nm,1.0s
Y49A Blount Mountai 34.60 351 IAmb IAmb 07 20 54.4
comp=Z,56nm,1.0s
Y49A Blount Mountai 34.60 351 P P 07 20 45.7 -0.6
baz=169,SNR=6.9
NATX Nacogdoches 34.79 338 P P 07 20 49.1 +1.1
NATX IAmb IAmb 07 20 57.2
comp=Z,125nm,1.4s
NATX Nacogdoches 34.79 338 S S 07 26 17.6 -0.4
baz=154
BIRD Birdtown, Kers 34.92 360 IAmb IAmb 07 20 50.1
comp=Z,136nm,1.5s
BIRD Birdtown, Kers 34.92 360 P P 07 20 48.7 -0.3
baz=180,SNR=9.0
ITRB Iturama 35.05 125 eP P 07 20 50.2 -0.2
X51A Calhoun 35.09 354 IAmb IAmb 07 20 58.8
comp=Z,88nm,1.0s
X51A Calhoun 35.09 354 P P 07 20 49.8 -0.8
baz=172,SNR=7.9
X51A P P 07 20 49.8 -0.8
baz=172,SNR=7.9
PAULI Pauline 35.12 358 IAmb IAmb 07 20 59.4
comp=Z,81nm,1.0s
PAULI Pauline 35.12 358 P P 07 20 50.7 -0.1
baz=177,SNR=9.5
435B Jarrell 35.12 334 IAmb IAmb 07 21 01.4
comp=Z,85nm,1.4s
435B Jarrell 35.12 334 S S 07 26 22.9 -0.3
baz=149
Y45A Yeager Farm, C 35.22 347 P P 07 20 51.8 +0.2
baz=164,SNR=19
GO05 Huala 35.27 168 IAmb IAmb 07 20 54.7
comp=Z,88nm,1.0s
X48A Hartselle 35.29 350 IAmb IAmb 07 21 00.2
comp=Z,62nm,0.8s
X48A Hartselle 35.29 350 P P 07 20 51.4 -0.9
baz=168,SNR=15
BDFB Brasilia 35.30 117 P P 07 20 53.3 +0.5
comp=Z,31nm,0.5s,baz=286,slow=11,SNR=51
BDFB LR LR 07 36 14.0
comp=Z,21µm,19.2s,baz=295,slow=38
BDFB Brasilia 35.30 117 P P 07 20 52.5 -0.3
BDFB pmax pmax
comp=Z,234nm,1.4s
BDFB Brasilia 35.30 117 P P 07 20 52.5 -0.3
PCMB Pacaembu 35.31 128 eP P 07 20 52.3 -0.3
BO02 Sierra Bellavi 35.31 166 IAmb IAmb 07 20 55.7
comp=Z,113nm,1.1s
BG3 Lake Jocassee 35.35 356 IAmb IAmb 07 21 01.4
comp=Z,110nm,0.9s
CASEE Lake Jocassee 35.35 356 P P 07 20 53.0 +0.2
baz=175,SNR=17
KMSC Kings Mountain 35.42 359 IAmb IAmb 07 20 54.7
comp=Z,138nm,1.2s
KMSC Kings Mountain 35.42 359 P P 07 20 53.0 -0.4
baz=178,SNR=21
KMSC Kings Mountain 35.42 359 P P 07 20 53.0 -0.4
baz=178,SNR=21
KMSC S S 07 26 26.2 -1.5
baz=178
W57A Gilead 35.42 1 IAmb IAmb 07 20 54.4
comp=Z,100nm,1.2s
W57A Gilead 35.42 1 P P 07 20 53.4 0.0
baz=180,SNR=6.6
W57A P P 07 20 53.4 0.0
baz=180,SNR=6.6
W52A Murphy 35.52 355 IAmb IAmb 07 21 02.7
comp=Z,87nm,0.9s
W52A Murphy 35.52 355 P P 07 20 53.7 -0.6
baz=174,SNR=13
Z41A Richland Creek 35.53 342 P P 07 20 55.4 +1.1
baz=158
Z41A P P 07 20 55.4 +1.1
baz=158
Z41A Richland Creek 35.53 342 P P 07 20 55.0 +0.7
baz=158
Z41A S S 07 26 27.4 -1.9
baz=158
CNNC Cliffs of the 35.58 3 P P 07 20 55.4 +0.7
baz=184
CNNC Cliffs of the 35.58 3 P P 07 20 54.2 -0.5
baz=184
CNNC S S 07 26 29.7 -0.4
baz=184
W50A Signal Mountai 35.77 353 IAmb IAmb 07 21 04.6
comp=Z,106nm,1.1s
W50A Signal Mountai 35.77 353 P P 07 20 55.9 -0.6
baz=171,SNR=20
OXF Oxford 35.80 347 IAmb IAmb 07 21 05.0
comp=Z,131nm,1.1s
OXF Oxford 35.80 347 P P 07 20 56.4 -0.3
baz=164,SNR=7.8
OXF Oxford 35.80 347 P P 07 20 55.1 -1.6
baz=164,SNR=7.8
OXF S S 07 26 30.0 -3.5
baz=164
SWET Sewanee 35.87 352 P P 07 20 56.2 -1.1
SWET IAmb IAmb 07 21 05.2
comp=Z,106nm,0.9s
JCT Junction City 35.90 331 P P 07 20 58.6 +0.9
baz=145,SNR=89
JCT Junction City 35.90 331 P P 07 20 58.9 +1.3
baz=145,SNR=89
JCT S S 07 26 36.4 +1.1
baz=145
PLAL Pickwick Lake 35.99 349 P P 07 20 57.0 -1.2
PLAL IAmb IAmb 07 21 06.0
comp=Z,87nm,1.2s
V53A Saluda 36.01 357 IAmb IAmb 07 21 06.8
comp=Z,48nm,0.9s
V53A Saluda 36.01 357 P P 07 20 58.5 -0.1
baz=176,SNR=9.3
V53A P P 07 20 58.5 -0.1
baz=176,SNR=9.3
IPMB Ipameri, GO 36.07 121 eP P 07 20 59.1 -0.2
TKL Tuckaleechee C 36.07 355 P P 07 20 58.0 -1.0
baz=174
V58A Windy Hill, Pi 36.08 2 IAmb IAmb 07 21 00.1
comp=Z,93nm,1.2s
V58A Windy Hill, Pi 36.08 2 P P 07 20 58.7 -0.3
baz=182,SNR=7.3
V58A P P 07 20 58.7 -0.3
baz=182,SNR=7.3
WHTX Lake Whitney, 36.10 335 P P 07 20 59.7 +0.4
WHTX IAmb IAmb 07 21 09.5
comp=Z,144nm,1.6s
WHTX Lake Whitney, 36.10 335 P P 07 21 00.7 +1.4
baz=150
WHTX S S 07 26 37.2 -1.0
baz=150
V55A Taylorsville 36.13 359 IAmb IAmb 07 21 00.9
comp=Z,180nm,1.7s
V55A Taylorsville 36.13 359 P P 07 20 58.8 -0.7
baz=178,SNR=6.8
V55A P P 07 20 58.8 -0.7
baz=178,SNR=6.8
V52A Sevierville 36.24 356 P P 07 20 58.3 -2.1
baz=174,SNR=19
Z38A Mt. Pleasant 36.26 339 IAmb IAmb 07 21 10.5
comp=Z,114nm,1.1s
V51A Loudon 36.27 354 IAmb IAmb 07 21 09.0
comp=Z,129nm,1.1s
V51A Loudon 36.27 354 P P 07 20 59.9 -0.7
baz=173,SNR=13
ROSB Rosrio 36.29 94 eP P 07 20 57.8 -3.3
W45A Hickory Valley 36.38 348 P P 07 21 00.9 -0.7
baz=165,SNR=9.1
MET Memphis--Engin 36.51 347 P P 07 21 02.8 +0.1
V48A Smith Brothers 36.51 351 P P 07 21 01.6 -1.1
baz=169,SNR=32
U56A King 36.62 360 IAmb IAmb 07 21 05.2
comp=Z,149nm,1.3s
U56A King 36.62 360 P P 07 21 04.0 +0.4
baz=180,SNR=12
U56A P P 07 21 04.0 +0.4
baz=180,SNR=12
X40A Basin Creek Fa 36.68 343 P P 07 21 03.5 -0.6
baz=159
X40A S S 07 26 43.6 -3.3
baz=159
U59A Littleton 36.70 3 P P 07 21 04.5 +0.3
baz=184,SNR=6.8
U59A P P 07 21 04.5 +0.3
baz=184,SNR=6.8
CLTN Cedars of Leba 36.78 352 IAmb IAmb 07 21 13.0
comp=Z,73nm,1.0s
UALR University of 36.80 343 IAmb IAmb 07 21 13.5
comp=Z,88nm,1.1s
ITQB Itaqui 36.81 144 eP P 07 21 05.9 +0.5
U54A Nelsons Funny 36.81 358 IAmb IAmb 07 21 06.5
comp=Z,189nm,1.5s
U54A Nelsons Funny 36.81 358 P P 07 21 04.7 -0.7
baz=177,SNR=7.8
U54A P P 07 21 04.7 -0.7
baz=177,SNR=7.8
TZTN Tazewell 36.93 356 IAmb IAmb 07 21 07.2
comp=Z,199nm,1.4s
TZTN Tazewell 36.93 356 P P 07 21 05.8 -0.5
baz=174,SNR=14
TZTN Tazewell 36.93 356 P P 07 21 06.1 -0.2
baz=174,SNR=14
TZTN S S 07 26 48.2 -2.6
baz=174
MIAR Mount Ida 36.96 342 P P 07 21 07.0 +0.5
MIAR pmax pmax
comp=Z,37nm,1.1s
MIAR Mount Ida 36.96 342 P P 07 21 06.2 -0.3
baz=158,SNR=9.5
MIAR Mount Ida 36.96 342 P P 07 21 06.0 -0.6
baz=158,SNR=9.5
MIAR S S 07 26 48.4 -2.8
baz=158
WVT Waverly 37.06 350 P P 07 21 05.7 -1.6
WVT pmax pmax
comp=Z,51nm,0.8s
WVT MLR MLR
comp=Z,3µm,22.0s
WVT Waverly 37.06 350 P P 07 21 05.7 -1.6
WVT IAmb IAmb 07 21 14.5
comp=Z,51nm,0.8s
WVT Waverly 37.06 350 P P 07 21 05.5 -1.8
baz=167,SNR=21
WVT Waverly 37.06 350 P P 07 21 05.4 -2.0
baz=167
WVT S S 07 26 47.6 -5.1
baz=167
TXAR Lajitas Array 37.06 325 P P 07 21 08.0 +0.4
comp=Z,3.0nm,0.8s,baz=150,slow=9.2,SNR=12
TXAR PcP PcP 07 23 28.2 -0.1
comp=Z,5.5nm,0.9s,baz=148,slow=3.1,SNR=4.6
TXAR LR LR 07 35 24.5
comp=Z,2µm,18.9s,baz=140,slow=35
TX31 Lajitas Ar. Si 37.06 325 IAmb IAmb 07 21 17.2
comp=Z,113nm,1.4s
TX31 Lajitas Ar. Si 37.06 325 P P 07 21 09.8 +2.2
baz=139,SNR=20
HBAR Harrisburg 37.09 346 P P 07 21 07.8 +0.1
SDBA SAO DESIDERIO 37.10 110 eP P 07 21 07.5 -0.7
U49A Red Boiling Sp 37.12 353 IAmb IAmb 07 21 08.5
comp=Z,201nm,1.6s
U49A Red Boiling Sp 37.12 353 P P 07 21 06.5 -1.4
baz=171,SNR=15
HALT Halls 37.14 348 P P 07 21 07.5 -0.5
HALT IAmb IAmb 07 21 15.6
comp=Z,129nm,1.0s
W41B Gary Mavity, V 37.15 344 P P 07 21 07.1 -1.1
baz=160,SNR=16
W41B Gary Mavity, V 37.15 344 P P 07 21 08.0 -0.1
baz=160,SNR=16
W41B S S 07 26 51.3 -2.8
baz=160
Z35A Perchaven, San 37.19 336 IAmb IAmb 07 21 18.0
comp=Z,287nm,2.0s
BB19B Bebedouro 37.21 125 eP P 07 21 08.2 -0.8
WHAR Wooly Hollow 37.27 344 IAmb IAmb 07 21 17.4
comp=Z,78nm,1.0s
T57A Hurt 37.28 1 IAmb IAmb 07 21 16.9
comp=Z,68nm,1.0s
T57A Hurt 37.28 1 P P 07 21 09.0 -0.2
baz=182,SNR=11
T57A P P 07 21 09.0 -0.2
baz=182,SNR=11
T59A Double "B" Far 37.33 4 IAmb IAmb 07 21 10.9
comp=Z,88nm,1.2s
T59A Double "B" Far 37.33 4 P P 07 21 09.7 0.0
baz=184,SNR=7.7
T59A P P 07 21 09.7 0.0
baz=184,SNR=7.7
GNAR Gosnell 37.34 347 IAmb IAmb 07 21 17.9
comp=Z,164nm,1.1s
SLBS Sierra La Lagu 37.44 312 P P 07 21 11.8 +0.9
SLBS IAmb IAmb 07 21 21.8
comp=Z,107nm,1.1s
PEBM Pemiscott Bayo 37.44 347 P P 07 21 10.4 -0.2
BLA Blacksburg 37.48 360 IAmb IAmb 07 21 12.4
comp=Z,136nm,1.4s
BLA Blacksburg 37.48 360 P P 07 21 10.5 -0.4
baz=180,SNR=8.9
BLA Blacksburg 37.48 360 P P 07 21 10.6 -0.4
baz=180,SNR=8.9
BLA S S 07 26 57.6 -1.5
baz=180
T50A Nancy 37.52 354 IAmb IAmb 07 21 11.8
comp=Z,125nm,1.6s
X37A Clayton 37.59 339 P P 07 21 12.6 +0.7
baz=155,SNR=7.5
ABTX Abilene, Hawle 37.61 333 P P 07 21 13.8 +1.6
baz=147,SNR=6.4
ABTX Abilene, Hawle 37.61 333 P P 07 21 13.6 +1.5
baz=147,SNR=6.4
ABTX S S 07 27 00.7 -0.5
baz=147
W39A Magazine 37.62 342 IAmb IAmb 07 21 21.2
comp=Z,114nm,1.1s
W39A Magazine 37.62 342 P P 07 21 12.3 0.0
baz=158,SNR=20
W39A Magazine 37.62 342 P P 07 21 12.2 0.0
baz=158,SNR=20
W39A S S 07 26 59.6 -1.7
baz=158
LCAR Lake Charles 37.70 346 P P 07 21 11.5 -1.4
baz=162,SNR=36
T47A Sharon Grove 37.78 351 IAmb IAmb 07 21 20.4
comp=Z,67nm,0.9s
T47A Sharon Grove 37.78 351 P P 07 21 11.6 -1.8
baz=169,SNR=15
FCAR Ozark Folk Cen 37.79 344 IAmb IAmb 07 21 21.4
comp=Z,70nm,1.0s
LPIG La Paz 37.95 312 LR LR 07 33 53.8
comp=Z,2µm,19.4s,baz=108,slow=32
S51A Beattyville 38.02 356 IAmb IAmb 07 21 23.5
comp=Z,86nm,1.0s
S51A Beattyville 38.02 356 P P 07 21 14.9 -0.6
baz=174,SNR=19
S51A P P 07 21 14.9 -0.6
baz=174,SNR=19
S57A Dark Hollow, R 38.05 2 IAmb IAmb 07 21 16.8
comp=Z,96nm,1.5s
T45B Paducah 38.07 349 P P 07 21 14.3 -1.6
baz=166,SNR=26
S54A Dingess, Beckl 38.08 359 IAmb IAmb 07 21 17.0
comp=Z,200nm,1.4s
S54A Dingess, Beckl 38.08 359 P P 07 21 15.6 -0.4
baz=178,SNR=11
S54A P P 07 21 15.6 -0.4
baz=178,SNR=11
PBMO Poplar Bluff 38.21 347 IAmb IAmb 07 21 24.9
comp=Z,102nm,1.2s
PBMO Poplar Bluff 38.21 347 P P 07 21 15.7 -1.4
baz=163,SNR=30
R58B Mineral 38.30 3 IAmb IAmb 07 21 19.2
comp=Z,116nm,1.4s
R58B Mineral 38.30 3 P P 07 21 18.2 +0.4
baz=184,SNR=6.6
R58B P P 07 21 18.2 +0.4
baz=184,SNR=6.6
U40A Yellville 38.42 344 IAmb IAmb 07 21 27.4
comp=Z,111nm,1.0s
U40A Yellville 38.42 344 P P 07 21 18.1 -0.8

baz=159,SNR=29
U40A P P 07 21 18.1 -0.8
baz=159,SNR=29
U40A Yellville 38.42 344 P P 07 21 17.9 -1.0
baz=159,SNR=29
U40A S S 07 27 10.4 -3.1
baz=159
JANB Januaria 38.44 114 eP P 07 21 17.4 -2.1
RPN Rapa Nui 38.45 224 LR LR 07 32 52.2
comp=Z,8µm,21.7s,baz=46,slow=30
R55A Marlinton 38.55 0 IAmb IAmb 07 21 21.5
R55A Marlinton 38.55 0 P P 07 21 19.7 -0.3
baz=180,SNR=7.2
R55A P P 07 21 19.7 -0.3
baz=180,SNR=7.2
CBN Corbin Frederi 38.57 4 P P 07 21 21.2 +1.2
baz=184
CBN Corbin Frederi 38.57 4 P P 07 21 19.6 -0.5
baz=184
R53A Hurricane 38.62 358 IAmb IAmb 07 21 21.2
comp=Z,120nm,1.2s
R53A Hurricane 38.62 358 P P 07 21 19.9 -0.7
baz=177,SNR=9.3
R53A P P 07 21 19.9 -0.7
baz=177,SNR=9.3
HHAR Hobbs 38.67 342 P P 07 21 21.0 -0.1
baz=158
R50A Paris 38.72 355 P P 07 21 20.6 -0.8
R50A IAmb IAmb 07 21 28.6
comp=Z,92nm,1.1s
R50A Paris 38.72 355 P P 07 21 20.3 -1.1
baz=173,SNR=15
R50A P P 07 21 20.3 -1.1
baz=173,SNR=15
R49A Shelbyville 38.81 354 IAmb IAmb 07 21 29.7
comp=Z,100nm,1.1s
R49A Shelbyville 38.81 354 P P 07 21 20.8 -1.3
baz=172,SNR=12
R49A P P 07 21 20.8 -1.3
baz=172,SNR=12
USIN University of 38.82 351 P P 07 21 20.9 -1.4
S44A Carbondale 38.84 349 IAmb IAmb 07 21 30.0
comp=Z,148nm,0.9s
S44A Carbondale 38.84 349 P P 07 21 21.2 -1.2
baz=168,SNR=22
SIUC Southern Illin 38.85 349 IAmb IAmb 07 21 30.1
comp=Z,161nm,0.9s
TUL1 Leonard 38.93 340 IAmb IAmb 07 21 34.6
comp=Z,112nm,1.1s
TUL1 Leonard 38.93 340 P P 07 21 23.4 +0.1
baz=155,SNR=15
TUL1 Leonard 38.93 340 P P 07 21 23.3 +0.1
baz=155,SNR=15
TUL1 S S 07 27 19.3 -1.9
baz=155
MGMO Mountain Grove 39.02 345 IAmb IAmb 07 21 32.2
comp=Z,178nm,1.1s
WMOK Wichita Mounta 39.03 336 P P 07 21 23.8 -0.3
baz=150
WMOK S S 07 27 21.5 -1.2
baz=150
LC01 Cunco 39.04 169 IAmb IAmb 07 21 39.0
comp=Z,158nm,1.2s
NBPS Pedro II - PI 39.05 96 eP P 07 21 23.6 -1.1
TIJ01 Guaruva-PR 39.08 132 eP P 07 21 24.9 +0.1
Q54A Coxs Mills 39.25 359 P P 07 21 25.1 -0.8
baz=179,SNR=10
Q54A P P 07 21 25.1 -0.8
baz=179,SNR=10
CPSB Cacapava Do Su 39.25 142 eP P 07 21 25.5 -0.5
Q52A Bidwell 39.27 358 IAmb IAmb 07 21 26.6
comp=Z,173nm,1.3s
Q52A Bidwell 39.27 358 P P 07 21 25.3 -0.7
baz=177,SNR=14
Q52A P P 07 21 25.3 -0.7
baz=177,SNR=14
Q56A Snyder Ridge, 39.32 1 IAmb IAmb 07 21 28.1
comp=Z,127nm,1.4s
Q56A Snyder Ridge, 39.32 1 P P 07 21 26.8 +0.4
baz=182
Q56A P P 07 21 26.8 +0.4
baz=182
FVM French Village 39.36 347 IAmb IAmb 07 21 35.1
comp=Z,152nm,0.9s
FVM French Village 39.36 347 P P 07 21 25.9 -0.9
baz=164,SNR=43
Q51A Peebles 39.38 356 IAmb IAmb 07 21 34.8
comp=Z,105nm,1.1s
Q51A Peebles 39.38 356 P P 07 21 26.1 -0.9
baz=175,SNR=16
Q51A P P 07 21 26.1 -0.9
baz=175,SNR=16
VAO Valinhos 39.43 127 eP P 07 21 26.4 -1.2
CCM Cathedral Cave 39.62 346 P P 07 21 28.3 -0.6
CCM pmax pmax
comp=Z,138nm,1.2s
CCM Cathedral Cave 39.62 346 P P 07 21 28.3 -0.6
CCM IAmb IAmb 07 21 36.5
comp=Z,138nm,1.1s
CCM Cathedral Cave 39.62 346 P P 07 21 27.4 -1.5
baz=163,SNR=36
CCM Cathedral Cave 39.62 346 P P 07 21 27.1 -1.8
baz=163
CCM S S 07 27 25.7 -5.6
baz=163
OLIL Olney 39.64 350 P P 07 21 27.4 -1.7
baz=168,SNR=38
P53A Whipple 39.76 359 IAmb IAmb 07 21 30.9
comp=Z,164nm,1.4s
P53A Whipple 39.76 359 P P 07 21 29.0 -1.1
baz=178,SNR=14
P53A P P 07 21 29.0 -1.1
baz=178,SNR=14
S39A Bolivar 39.80 344 P P 07 21 29.6 -0.9
baz=159,SNR=28
MNTX Cornudas Mount 39.81 326 IAmb IAmb 07 21 39.9
comp=Z,110nm,1.2s
MNTX Cornudas Mount 39.81 326 P P 07 21 30.7 +0.1
baz=138,SNR=100
MNTX S S 07 27 35.7 +1.2
baz=138
P51A Williamsport 39.82 357 P P 07 21 29.3 -1.2
baz=176,SNR=10
P51A P P 07 21 29.3 -1.2
baz=176,SNR=10
PET01 Itanhaem-SP 39.84 129 eP P 07 21 29.7 -1.3
BLO Bloomington 39.84 353 IAmb IAmb 07 21 37.4
comp=Z,91nm,0.9s
MCWV Mont Chateau 39.92 1 IAmb IAmb 07 21 32.6
comp=Z,154nm,1.9s
MCWV IAMs_20 IAMs_20 07 36 51.0
comp=Z,4µm,22.0s
MCWV Mont Chateau 39.92 1 P P 07 21 30.8 -0.6
baz=181
MCWV S S 07 27 34.3 -1.6
baz=181
P52A Corning 39.93 358 IAmb IAmb 07 21 31.8
comp=Z,103nm,1.1s
P52A Corning 39.93 358 P P 07 21 30.6 -0.9
baz=177,SNR=13
P52A S S 07 27 31.4 -4.5
baz=177
SLM Saint Louis 39.95 348 IAmb IAmb 07 21 39.2
comp=Z,136nm,0.9s
Q44A Meyer Farm, Va 39.97 349 P P 07 21 30.4 -1.4
baz=166,SNR=14
P48A Milroy 39.99 354 IAmb IAmb 07 21 38.8
comp=Z,88nm,1.1s
P48A Milroy 39.99 354 P P 07 21 29.7 -2.3
baz=172,SNR=16
P48A P P 07 21 29.7 -2.3
baz=172,SNR=16
P49A Miami Univ. Ec 40.00 355 IAmb IAmb 07 21 38.3
comp=Z,90nm,1.1s
P49A IAMs_20 IAMs_20 07 39 00.2
comp=Z,5µm,18.0s
P49A Miami Univ. Ec 40.00 355 P P 07 21 30.3 -1.8
baz=173,SNR=9.7
P49A Miami Univ. Ec 40.00 355 P P 07 21 30.2 -1.8
baz=173,SNR=9.7
P49A S S 07 27 31.8 -5.2
baz=173
R40A Maddies Statio 40.09 345 P P 07 21 31.4 -1.4
baz=161,SNR=21
T35A Sooner Cattle 40.09 340 IAmb IAmb 07 21 41.9
comp=Z,220nm,1.4s
T35B Sooner Cattle 40.09 340 P P 07 21 32.8 0.0
baz=154,SNR=25
PLTB Pedras Altas 40.11 143 P P 07 21 33.4 +0.3
PLTB Pedras Altas 40.11 143 eP P 07 21 33.2 0.0
LPA La Plata 40.16 151 deP P 07 21 32.3 -1.2
LPA pPP 07 23 24.8
LPA SS SS 07 30 37.7 0.0
LPA SCS ScS 07 31 45.1 +5.2
MSTX Muleshoe 40.20 331 P P 07 21 34.4 +0.5
baz=144,SNR=18
MSTX S S 07 27 40.4 +0.1
baz=144
P46A Rosedale 40.37 352 P P 07 21 32.9 -2.2
baz=169,SNR=11
NBMO Morrinhos-CE 40.38 95 eP P 07 21 34.0 -1.6
O52A Adamsville 40.40 358 P P 07 21 34.0 -1.4
baz=178,SNR=12
O52A P P 07 21 34.0 -1.4
baz=178,SNR=12
EPT El Paso 40.51 325 IAMs_20 IAMs_20 07 37 23.8
comp=Z,4µm,19.0s
O53A New Philadelph 40.52 359 IAmb IAmb 07 21 36.9
comp=Z,141nm,1.3s
O53A IAMs_20 IAMs_20 07 39 29.8
comp=Z,4µm,21.0s
O53A New Philadelph 40.52 359 P P 07 21 35.6 -0.8
baz=178,SNR=18
U32A Winter Ranch, 40.54 337 P P 07 21 37.9 +1.2
baz=150,SNR=7.6
ACSO Alum Creek Sta 40.56 357 IAmb IAmb 07 21 44.3
comp=Z,108nm,1.1s
ACSO Alum Creek Sta 40.56 357 P P 07 21 35.7 -1.0
baz=176,SNR=20
ACSO Alum Creek Sta 40.56 357 P P 07 21 35.6 -1.2
baz=176,SNR=20
O49A Covington 40.61 355 P P 07 21 35.8 -1.3
baz=174,SNR=12
O49A P P 07 21 35.8 -1.3
baz=174,SNR=12
PARB Paraibuna 40.67 127 eP P 07 21 37.5 -0.4
O48B Farmland 40.76 354 P P 07 21 36.4 -1.9
baz=172,SNR=19
O48B S S 07 27 42.2 -6.1
baz=172
P43A Skaggs, Pawnee 40.78 349 IAmb IAmb 07 21 45.9
comp=Z,159nm,1.0s
P43A Skaggs, Pawnee 40.78 349 P P 07 21 36.5 -1.9
baz=166,SNR=23
TER01 Tubaro-SC 40.87 136 eP P 07 21 38.1 -1.3
LL04 Puerto Octay 40.91 171 IAmb IAmb 07 21 41.9
comp=Z,103nm,1.1s
SSPA Standing Stone 40.96 3 P P 07 21 40.0 0.0
SSPA Standing Stone 40.96 3 P P 07 21 39.9 -0.1
baz=184,SNR=7.7
SSPA Standing Stone 40.96 3 P P 07 21 40.0 0.0
baz=184
NBPB Pedra_Branca-C 41.01 98 eP P 07 21 39.3 -1.5
PLCA Paso Flores 41.07 169 P P 07 21 40.7 -0.3
comp=Z,95nm,1.0s,baz=342,slow=9.4,SNR=76
PLCA LR LR 07 35 53.1
comp=Z,3µm,22.0s,baz=6.0,slow=32
PLCA Paso Flores 41.07 169 P P 07 21 41.8 +0.8
PLCA pmax pmax
comp=Z,139nm,1.1s
PLCA Paso Flores 41.07 169 P P 07 21 41.8 +0.8
PLCA IAmb IAmb 07 21 44.4
comp=Z,139nm,1.1s
PLCA Paso Flores 41.07 169 eP P 07 21 42.1 +1.1
N53A Lisbon 41.07 359 P P 07 21 39.9 -1.0
baz=179,SNR=7.7
N53A P P 07 21 39.9 -1.0
baz=179,SNR=7.7
O44A Mansfield 41.09 351 IAmb IAmb 07 21 48.0
comp=Z,116nm,1.1s
O44A Mansfield 41.09 351 P P 07 21 39.0 -2.0
baz=167,SNR=19
SFIN Lafayette 41.10 352 IAmb IAmb 07 21 47.8
comp=Z,123nm,1.3s
SFIN Lafayette 41.10 352 P P 07 21 39.9 -1.3
baz=170
SFIN Lafayette 41.10 352 P P 07 21 39.0 -2.2
baz=170
LUPA Lehigh Univers 41.11 6 IAmb IAmb 07 21 43.2
comp=Z,142nm,1.4s
P40A Paris 41.21 346 P P 07 21 40.8 -1.3
baz=162,SNR=9.3
N51A Ashland 41.22 358 IAmb IAmb 07 21 42.1
comp=Z,164nm,1.4s
N51A Ashland 41.22 358 P P 07 21 40.9 -1.2
baz=177,SNR=12
N51A P P 07 21 40.9 -1.2
baz=177,SNR=12
N54A Moraine State 41.22 0 IAmb IAmb 07 21 42.9
comp=Z,126nm,1.2s
N54A Moraine State 41.22 0 P P 07 21 41.8 -0.4
baz=180,SNR=13
N54A Moraine State 41.22 0 P P 07 21 41.7 -0.5
baz=180,SNR=13
N54A S S 07 27 51.4 -3.9
baz=180
N58A Sunbury 41.23 4 P P 07 21 41.1 -1.1
baz=185,SNR=5.2
N58A P P 07 21 41.1 -1.1
baz=185,SNR=5.2
N49A Columbus Grove 41.33 356 P P 07 21 41.8 -1.2
baz=174,SNR=7.0
N49A P P 07 21 41.8 -1.2
baz=174,SNR=7.0
N59A State Game Lan 41.39 5 P P 07 21 44.5 +1.0
baz=187,SNR=6.1
N59A State Game Lan 41.39 5 P P 07 21 43.9 +0.4
baz=187,SNR=6.1
HSIG 41.41 318 P P 07 21 45.1 +1.2
N47A Urbana 41.43 354 IAmb IAmb 07 21 50.5
comp=Z,101nm,1.1s
N47A Urbana 41.43 354 P P 07 21 41.6 -2.2
baz=172,SNR=23
N47A P P 07 21 41.6 -2.2
baz=172,SNR=23
ESAR Angra dos Reis 41.47 125 eP P 07 21 44.5 +0.1
HDIL Hopedale 41.62 350 IAmb IAmb 07 21 52.2
comp=Z,129nm,0.8s
HDIL IAMs_20 IAMs_20 07 42 25.5
comp=Z,3µm,20.0s
HDIL Hopedale 41.62 350 P P 07 21 43.5 -2.0
baz=166,SNR=28
HDIL Hopedale 41.62 350 P P 07 21 43.7 -1.7
baz=166,SNR=28
HDIL S S 07 27 55.1 -6.0
baz=166
M57A Sunshine Farm, 41.70 4 IAmb IAmb 07 21 47.6
comp=Z,169nm,1.4s
M57A Sunshine Farm, 41.70 4 P P 07 21 45.0 -1.1
baz=185,SNR=10
M57A P P 07 21 45.0 -1.1
baz=185,SNR=10
M53A WI Miller and 41.70 360 IAmb IAmb 07 21 46.5
comp=Z,110nm,1.4s
M53A IAMs_20 IAMs_20 07 42 27.1
comp=Z,3µm,19.0s
M53A WI Miller and 41.70 360 P P 07 21 44.5 -1.6
baz=179,SNR=7.7
M50A Fremont 41.73 357 IAmb IAmb 07 21 53.7
comp=Z,139nm,1.1s
M50A Fremont 41.73 357 P P 07 21 45.5 -0.8
baz=176,SNR=14
M50A P P 07 21 45.5 -0.8
baz=176,SNR=14
M55A Ridgway 41.75 2 P P 07 21 45.3 -1.2
baz=182,SNR=6.2
M55A P P 07 21 45.3 -1.2
baz=182,SNR=6.2
TRNY Table Rock, Ra 41.78 7 IAmb IAmb 07 22 13.5
comp=Z,212nm,1.9s
MAN01 Angra dos Reis 41.79 125 eP P 07 21 46.6 -0.6
121A Cookes Peak, D 41.80 324 IAmb IAmb 07 21 57.9
comp=Z,120nm,1.1s
121A Cookes Peak, D 41.80 324 P P 07 21 49.0 +1.7
baz=136,SNR=21
121A Cookes Peak, D 41.80 324 P P 07 21 48.9 +1.7
baz=136,SNR=21
121A S S 07 28 08.2 +3.8
baz=136
M52A Chesterland 41.81 359 IAmb IAmb 07 21 47.1
comp=Z,120nm,1.5s
M52A Chesterland 41.81 359 P P 07 21 46.3 -0.7
baz=178,SNR=5.8
M52A P P 07 21 46.3 -0.7
baz=178,SNR=5.8
ALLY Alegheny Colle 41.91 0 P P 07 21 47.0 -0.8
baz=180,SNR=8.3
VAS01 Vassouras-RJ 41.96 124 eP P 07 21 48.4 -0.1
KSPA Keystone Colle 42.02 5 P P 07 21 49.5 +0.8
baz=187,SNR=7.7
NBMA Muriti-CE 42.02 100 eP P 07 21 48.4 -0.8
N41A Harden Midland 42.07 348 IAmb IAmb 07 21 56.1
comp=Z,109nm,0.9s
N41A Harden Midland 42.07 348 P P 07 21 47.5 -1.6
baz=164,SNR=19
KSU1 Kansas State U 42.10 341 IAmb IAmb 07 21 58.0
comp=Z,161nm,1.0s
KSU1 Kansas State U 42.10 341 P P 07 21 48.6 -0.8
baz=155,SNR=36
KSU1 S S 07 28 06.2 -2.1
baz=155
NBCL Cascavel-CE 42.18 96 eP P 07 21 49.6 -0.8
R32A Long Quarter, 42.22 338 P P 07 21 50.9 +0.5
baz=152,SNR=22
M44A Midewin, Midew 42.23 351 P P 07 21 48.5 -1.8
baz=168,SNR=5.9
M63A Gales Ferry 42.34 9 P P 07 21 52.6 +1.4
baz=192,SNR=5.5
M63A P P 07 21 52.6 +1.4
baz=192,SNR=5.5
Y22A Socorro 42.36 326 P P 07 21 53.2 +1.4
baz=138,SNR=37
L48A N Adams 42.37 355 P P 07 21 50.0 -1.5
baz=174,SNR=11
L48A P P 07 21 50.0 -1.5
baz=174,SNR=11
ERPA Erie 42.38 0 IAmb IAmb 07 21 51.8
comp=Z,117nm,1.4s
ERPA IAMs_20 IAMs_20 07 40 17.0
comp=Z,4µm,20.0s
ERPA Erie 42.38 0 P P 07 21 51.0 -0.6
baz=180,SNR=8.7
ERPA Erie 42.38 0 P P 07 21 50.3 -1.3
baz=180,SNR=8.7
Y22D IRIS PASSCAL I 42.44 327 IAMs_20 IAMs_20 07 39 12.3
comp=Z,4µm,20.0s
Y22D IRIS PASSCAL I 42.44 327 P P 07 21 59.3 +6.9
baz=138
GDU01 Guandu, BA 42.45 110 eP P 07 21 52.0 -0.7
L56A Greenwood 42.47 3 IAmb IAmb 07 21 53.3
comp=Z,128nm,1.5s
L56A Greenwood 42.47 3 P P 07 21 52.0 -0.4
baz=184,SNR=7.5
L56A P P 07 21 52.0 -0.4
baz=184,SNR=7.5
SJMB Sao Joao De Ma 42.49 118 eP P 07 21 51.8 -1.0
L46A Eue Claire 42.61 353 P P 07 21 51.5 -2.0
baz=171
L46A P P 07 21 51.5 -2.0
baz=171
BINY Binghamton 42.64 5 IAmb IAmb 07 21 55.2
comp=Z,141nm,1.4s
BINY Binghamton 42.64 5 P P 07 21 53.2 -0.6
baz=186,SNR=10.0
BINY Binghamton 42.64 5 P P 07 21 53.8 0.0
baz=186,SNR=10.0
AAM Ann Arbor 42.66 356 IAMs_20 IAMs_20 07 38 26.8
comp=Z,4µm,21.0s
AAM Ann Arbor 42.66 356 P P 07 21 53.3 -0.6
baz=175,SNR=9.7
AAM Ann Arbor 42.66 356 P P 07 21 52.4 -1.5
baz=175,SNR=9.7
AAM S S 07 28 11.3 -5.2
baz=175
WVNY West Valley, N 42.70 2 IAmb IAmb 07 21 55.1
comp=Z,117nm,1.4s
WVNY West Valley, N 42.70 2 P P 07 21 54.1 -0.1
baz=182,SNR=7.8
N38A Joes South For 42.70 346 IAmb IAmb 07 22 01.8
comp=Z,182nm,1.1s
N38A Joes South For 42.70 346 P P 07 21 53.4 -0.8
baz=161,SNR=18
L59A Walton 42.72 6 IAmb IAmb 07 21 56.1
comp=Z,147nm,1.6s
DUB01 Friburgo-RJ 42.77 123 eP P 07 21 55.0 -0.2
ANMO Albuquerque 42.85 328 LR LR 07 40 01.0
comp=Z,3µm,18.2s,baz=134,slow=37
ANMO Albuquerque 42.85 328 ceP P 07 21 56.4 +0.6
ANMO pmax pmax
comp=Z,23nm,1.0s
ANMO Albuquerque 42.85 328 P P 07 21 56.8 +1.0
ANMO IAmb IAmb 07 22 05.8
comp=Z,104nm,1.1s
ANMO Albuquerque 42.85 328 P P 07 21 56.6 +0.8
baz=140,SNR=44
ANMO Albuquerque 42.85 328 P P 07 21 56.4 +0.6
baz=140
ANMO S S 07 28 20.2 +0.4
baz=140
CMC01 Camacan, BA 42.94 112 eP P 07 21 55.6 -1.0
CBKS Cedar Bluff 42.95 338 P P 07 21 57.3 +1.0
baz=151,SNR=9.3
CBKS Cedar Bluff 42.95 338 P P 07 21 57.4 +1.1
baz=151,SNR=9.3
CBKS S S 07 28 22.1 +1.2
baz=151
L44A Lake County Fo 42.98 352 IAMs_20 IAMs_20 07 41 49.4
comp=Z,3µm,20.0s
L44A Lake County Fo 42.98 352 P P 07 21 54.2 -2.3
baz=169
GUA01 Guaratinga, BA 43.04 114 eP P 07 21 56.0 -1.3
K50A Casco 43.08 358 IAmb IAmb 07 22 04.5
comp=Z,139nm,1.1s
K50A Casco 43.08 358 P P 07 21 56.0 -1.3
baz=176,SNR=11
K50A P P 07 21 56.0 -1.3
baz=176,SNR=11
L42A Oliver, Polo 43.09 350 IAmb IAmb 07 22 04.2
comp=Z,102nm,1.1s
L42A Oliver, Polo 43.09 350 P P 07 21 55.4 -2.0
baz=166,SNR=15
K57A Scipio Center 43.13 4 IAmb IAmb 07 21 58.6
comp=Z,163nm,1.4s
K57A Scipio Center 43.13 4 P P 07 21 57.4 -0.3
baz=185,SNR=11
NAN01 Guarapari, ES 43.14 116 eP P 07 21 57.4 -0.8
CAM01 Campos-RJ 43.27 122 eP P 07 21 58.7 -0.4
RIB01 Linhares ES 43.41 118 eP P 07 21 58.7 -1.6
N35A Tabor 43.41 343 IAmb IAmb 07 22 08.0
comp=Z,97nm,1.1s
N35A Tabor 43.41 343 P P 07 21 59.3 -0.6
baz=157
L40A Anamosa 43.45 348 IAmb IAmb 07 22 07.4
comp=Z,150nm,1.1s
L40A Anamosa 43.45 348 P P 07 21 57.8 -2.4
baz=164,SNR=30
TUC Tucson 43.46 321 P P 07 22 01.8 +1.2
TUC pmax pmax
comp=Z,54nm,1.1s
TUC Tucson 43.46 321 P P 07 22 01.8 +1.2
TUC Tucson 43.46 321 P P 07 22 02.0 +1.4
baz=132
HRV Adam Dziewonsk 43.49 9 P P 07 22 00.4 -0.2
HRV pmax pmax
comp=Z,80nm,1.3s
HRV MLR MLR
comp=Z,2µm,21.0s
HRV Adam Dziewonsk 43.49 9 P P 07 22 00.4 -0.2
T25A Trinidad 43.54 332 IAmb IAmb 07 22 12.5
comp=Z,125nm,1.4s
T25A Trinidad 43.54 332 P P 07 22 03.1 +1.7
baz=144,SNR=10
T25A S S 07 28 33.6 +3.7
baz=144
K62A Royalston 43.54 9 IAmb IAmb 07 22 02.7
comp=Z,111nm,1.6s
NBLA Lagarto - SE 43.55 105 eP P 07 22 00.0 -1.5
K43A Burlington 43.56 351 IAmb IAmb 07 22 07.6
comp=Z,112nm,1.1s
K43A Burlington 43.56 351 P P 07 21 58.4 -2.8
baz=168,SNR=14
J55A Hilton 43.58 3 P P 07 22 00.4 -0.9
baz=183,SNR=8.1
J55A P P 07 22 00.4 -0.9
baz=183,SNR=8.1
ALF01 Guarapari-ES 43.59 120 eP P 07 22 01.5 -0.3
J56A Wolcott 43.65 4 IAmb IAmb 07 22 02.5
comp=Z,202nm,1.6s
J56A Wolcott 43.65 4 P P 07 22 00.6 -1.2
baz=185,SNR=10
J56A P P 07 22 00.6 -1.2
baz=185,SNR=10

J47A	**Sunmer**	**43.68**	**355**	IAmb	IAmb	07 22 09.2		
	comp=Z,119nm,1.1s							
J47A	**Sunmer**	**43.68**	**355**	P	**P**	**07 22 00.4**	**-1.7**	
	baz=173,SNR=11							
J47A				P	**P**	**07 22 00.4**	**-1.7**	
	baz=173,SNR=11							
SCIA	**State Center**	**43.74**	**346**	P	**P**	**07 22 01.4**	**-1.2**	
	baz=161,SNR=20							
SCIA	**State Center**	**43.74**	**346**	P	**P**	**07 22 01.3**	**-1.3**	
	baz=161,SNR=20							
SCIA				S	**S**	**07 28 26.1**	**-6.2**	
	baz=161							
N33B	**J Bar K, Exete**	**43.85**	**341**	P	**P**	**07 22 04.3**	**+0.7**	
	baz=155,SNR=21							
J58A	**Remsen**	**43.85**	**5**	P	**P**	**07 22 01.4**	**-2.1**	
	baz=187,SNR=5.7							
J58A				P	**P**	**07 22 01.4**	**-2.1**	
	baz=187,SNR=5.7							
ACCN	**Adirondack Com**	**44.05**	**7**	IAmb	IAmb	07 22 32.0		
	comp=Z,184nm,1.9s							
ACCN	**Adirondack Com**	**44.05**	**7**	P	**P**	**07 22 05.5**	**+0.4**	
	baz=189,SNR=6.3							
JFWS	**Jewell Farm**	**44.08**	**350**	IAmb	IAmb	07 22 12.3		
	comp=Z,81nm,0.8s							
JFWS	**Jewell Farm**	**44.08**	**350**	P	**P**	**07 22 03.1**	**-2.2**	
	baz=166,SNR=26							
JFWS	**Jewell Farm**	**44.08**	**350**	P	**P**	**07 22 03.4**	**-2.0**	
	baz=166,SNR=26							
JFWS				S	**S**	**07 28 30.3**	**-7.0**	
	baz=166							
J61A	**Chester**	**44.16**	**8**	IAmb	IAmb	07 22 34.0		
	comp=Z,97nm,1.5s							
I49A	**Point Hope**	**44.25**	**357**	P	**P**	**07 22 05.5**	**-1.2**	
	baz=176,SNR=14							
I49A				P	**P**	**07 22 05.5**	**-1.2**	
	baz=176,SNR=14							
KSCO	**Kaye Shedlock'**	**44.28**	**335**	P	**P**	**07 22 09.3**	**+2.1**	
	baz=147							
KSCO				S	**S**	**07 28 42.5**	**+2.0**	
	baz=147							
PECO	**Prince Edward**	**44.29**	**3**	IAmb	IAmb	07 22 07.4		
	comp=Z,108nm,1.6s							
AY01	**Puyuhuapi**	**44.31**	**172**	P	**P**	**07 22 08.3**	**+1.2**	
AY01				IAmb	IAmb	07 22 26.2		
	comp=Z,75nm,1.2s							
K38A	**Parkersburg**	**44.34**	**347**	IAmb	IAmb	07 22 14.5		
	comp=Z,105nm,0.9s							
K38A	**Parkersburg**	**44.34**	**347**	P	**P**	**07 22 05.8**	**-1.7**	
	baz=162,SNR=12							
WCNY	**West Carthage**	**44.44**	**5**	P	**P**	**07 22 08.3**	**+0.1**	
	baz=186,SNR=9.7							
X18A	**Snowflake**	**44.49**	**324**	IAmb	IAmb	07 22 19.1		
	comp=Z,81nm,1.2s							
214A	**Organ Pipe Nat**	**44.52**	**319**	IAmb	IAmb	07 22 19.2		
	comp=Z,91nm,1.2s							
214A	**Organ Pipe Nat**	**44.52**	**319**	P	**P**	**07 22 10.8**	**+1.7**	
	baz=130,SNR=20							
SDCO	**Great Sand Dun**	**44.54**	**331**	IAmb	IAmb	07 22 19.6		
	comp=Z,81nm,1.2s							
SDCO	**Great Sand Dun**	**44.54**	**331**	P	**P**	**07 22 10.8**	**+1.3**	
	baz=143,SNR=6.6							
SDCO	**Great Sand Dun**	**44.54**	**331**	P	**P**	**07 22 10.9**	**+1.4**	
	baz=143,SNR=6.6							
SDCO				S	**S**	**07 28 47.6**	**+2.8**	
	baz=143							
I45A	**Fountain**	**44.61**	**354**	IAmb	IAmb	07 22 16.1		
	comp=Z,107nm,1.1s							
I45A	**Fountain**	**44.61**	**354**	P	**P**	**07 22 08.2**	**-1.3**	
	baz=171,SNR=5.8							
I45A				P	**P**	**07 22 08.2**	**-1.3**	
	baz=171,SNR=5.8							
L34A	**Svendsen Farm,**	**44.64**	**343**	IAmb	IAmb	07 22 17.5		
	comp=Z,59nm,0.8s							
RCBR	**Riachuelo**	**44.68**	**98**	LR	LR	07 41 56.7		
	comp=Z,26µm,18.5s,baz=58,slow=38							
RCBR	**Riachuelo**	**44.68**	**98**	P	**P**	**07 22 09.7**	**-1.0**	
RCBR				pmax	pmax			
	comp=Z,93nm,0.9s							
RCBR				MLR	MLR			
	comp=Z,30µm,19.0s							
RCBR	**Riachuelo**	**44.68**	**98**	P	**P**	**07 22 09.7**	**-1.0**	
RCBR				IAmb	IAmb	07 22 11.3		
	comp=Z,93nm,0.8s							
RCBR	**Riachuelo**	**44.68**	**98**	*e*P	**P**	**07 22 10.1**	**-0.6**	
BGNE	**Belgrade**	**44.69**	**341**	P	**P**	**07 22 10.3**	**+0.1**	
	baz=154,SNR=7.1							
BGNE	**Belgrade**	**44.69**	**341**	P	**P**	**07 22 10.4**	**+0.1**	
	baz=154,SNR=7.1							
BGNE				S	**S**	**07 28 43.9**	**-2.3**	
	baz=154							
MCVT	**Middlebury Col**	**44.70**	**8**	P	**P**	**07 22 10.6**	**+0.3**	
	baz=190,SNR=5.8							
W18A	**Petrified Fore**	**44.78**	**325**	P	**P**	**07 22 14.1**	**+2.8**	
	baz=136,SNR=5.3							
W18A				S	**S**	**07 28 51.8**	**+3.7**	
	baz=136							
NBAN	**Anadia - AL**	**44.79**	**103**	*e*P	**P**	**07 22 10.6**	**-0.9**	
I42A	**Draeger Farm,**	**44.81**	**351**	P	**P**	**07 22 09.1**	**-2.1**	
	baz=168,SNR=42							
DELO	**Deloro Mine**	**44.84**	**3**	IAmb	IAmb	07 22 11.5		
	comp=Z,96nm,1.4s							
SADO	**Sadowa**	**45.04**	**1**	LR	LR	07 40 54.7		
	comp=Z,2µm,21.0s,baz=184,slow=36							
SADO	**Sadowa**	**45.04**	**1**	IAmb	IAmb	07 22 12.7		
	comp=Z,72nm,1.3s							
I40A	**Norwalk**	**45.09**	**350**	IAmb	IAmb	07 22 20.4		
	comp=Z,108nm,1.1s							
I40A	**Norwalk**	**45.09**	**350**	P	**P**	**07 22 11.6**	**-1.8**	
	baz=165							
LBNH	**Lisbon**	**45.13**	**9**	P	**P**	**07 22 14.7**	**+1.1**	
	baz=192							
LBNH				S	**S**	**07 28 54.1**	**+1.6**	
	baz=192							
LONY	**Lake Ozonia**	**45.17**	**6**	P	**P**	**07 22 13.7**	**-0.3**	
	baz=188,SNR=6.2							
S22A	**4UR Ranch, Cre**	**45.19**	**330**	P	**P**	**07 22 16.2**	**+1.5**	
	baz=141,SNR=9.0							
S22A				S	**S**	**07 28 56.4**	**+2.2**	
	baz=141							
H43A	**Windswept, Lux**	**45.22**	**353**	P	**P**	**07 22 12.4**	**-2.0**	
	baz=169,SNR=43							
GLMI	**Grayling**	**45.24**	**356**	IAmb	IAmb	07 22 21.2		
	comp=Z,96nm,1.0s							
GLMI				IAMs_20	IAMs_20	07 40 17.0		
	comp=Z,3µm,20.0s							
GLMI	**Grayling**	**45.24**	**356**	P	**P**	**07 22 13.2**	**-1.4**	
	baz=174,SNR=7.8							
GLMI	**Grayling**	**45.24**	**356**	P	**P**	**07 22 13.2**	**-1.4**	
	baz=174,SNR=7.8							
GLMI				S	**S**	**07 28 48.1**	**-6.0**	
	baz=174							
SFX	**San Felipe**	**45.31**	**317**	IAmb	IAmb	07 22 25.2		
	comp=Z,86nm,1.3s							
NBPV	**Pedro Velho**	**45.34**	**99**	*e*P	**P**	**07 22 14.9**	**-1.0**	
Q24A	**Divide**	**45.35**	**333**	P	**P**	**07 22 17.5**	**+1.6**	
	baz=144,SNR=7.5							
Q24A				S	**S**	**07 28 59.9**	**+3.4**	
	baz=144							
BMNY	**Brushton-Moira**	**45.40**	**6**	P	**P**	**07 22 15.1**	**-0.6**	
	baz=188,SNR=6.4							
FRNY	**Flat Rock**	**45.49**	**7**	IAmb	IAmb	07 22 17.8		
	comp=Z,92nm,1.6s							
FRNY	**Flat Rock**	**45.49**	**7**	P	**P**	**07 22 16.5**	**-0.1**	
	baz=189,SNR=6.9							
COYC	**Coyhaique**	**45.52**	**172**	P	**P**	**07 22 18.0**	**+1.3**	
COYC				IAmb	IAmb	07 22 36.1		
	comp=Z,125nm,1.4s							
G45A	**Suttons Bay**	**45.54**	**355**	P	**P**	**07 22 15.0**	**-1.9**	
	baz=172,SNR=15							
G45A				P	**P**	**07 22 15.0**	**-1.9**	
	baz=172,SNR=15							
MVCO	**Mesa Verde**	**45.64**	**328**	P	**P**	**07 22 19.0**	**+0.8**	
	baz=139,SNR=34							
MVCO				S	**S**	**07 29 02.0**	**+1.5**	
	baz=139							
113A	**Mohawk Valley,**	**45.66**	**320**	IAmb	IAmb	07 22 27.9		
	comp=Z,76nm,1.2s							
OGNE	**Ogallala**	**45.67**	**337**	P	**P**	**07 22 18.3**	**+0.1**	
	baz=149							
NBRF	**Rio Formoso -**	**45.77**	**102**	*e*P	**P**	**07 22 18.1**	**-1.1**	
I37A	**Lemond, Waseca**	**45.78**	**347**	IAmb	IAmb	07 22 25.8		
	comp=Z,67nm,0.9s							
I37B	**Waseca**	**45.78**	**347**	P	**P**	**07 22 17.4**	**-1.5**	
	baz=162,SNR=7.4							
K31A	**O'Neill**	**45.97**	**341**	P	**P**	**07 22 20.7**	**+0.3**	
	baz=154,SNR=32							
WUAZ	**Wupatki**	**46.01**	**324**	P	**P**	**07 22 22.4**	**+1.3**	
	baz=134,SNR=32							
WUAZ				S	**S**	**07 29 09.9**	**+4.0**	
	baz=134							
MNTQ	**Montreal, Queb**	**46.15**	**7**	IAmb	IAmb	07 22 22.7		
	comp=Z,121nm,1.6s							
G62A	**West of Eustis**	**46.30**	**10**	P	**P**	**07 22 24.3**	**+1.3**	
	baz=193,SNR=21							
G62A				P	**P**	**07 22 24.3**	**+1.3**	
	baz=193,SNR=21							
ECSD	**EROS Data Cent**	**46.34**	**344**	P	**P**	**07 22 22.4**	**-0.9**	
ECSD				IAmb	IAmb	07 22 30.9		
	comp=Z,56nm,1.1s							
ECSD	**EROS Data Cent**	**46.34**	**344**	P	**P**	**07 22 21.7**	**-1.6**	
	baz=157,SNR=30							
ECSD	**EROS Data Cent**	**46.34**	**344**	P	**P**	**07 22 22.0**	**-1.3**	
	baz=157,SNR=30							
ECSD				S	**S**	**07 29 04.0**	**-5.9**	
	baz=157							
G40A	**Rib Lake**	**46.36**	**350**	IAmb	IAmb	07 22 30.6		
	comp=Z,77nm,1.1s							
G40A	**Rib Lake**	**46.36**	**350**	P	**P**	**07 22 21.9**	**-1.5**	
	baz=166,SNR=20							
SMCO	**Snowmass**	**46.38**	**331**	IAmb	IAmb	07 22 37.3		
	comp=Z,70nm,1.2s							
SMCO				IAMs_20	IAMs_20	07 42 57.1		
	comp=Z,3µm,20.0s							
PV15	**Paradox Valley**	**46.48**	**329**	IAmb	IAmb	07 22 37.9		
	comp=Z,127nm,1.3s							
PV13	**Radium Mtn., P**	**46.52**	**329**	IAmb	IAmb	07 22 34.7		
	comp=Z,112nm,1.1s							
GLA	**Glamis**	**46.53**	**319**	IAmb	IAmb	07 22 34.8		
	comp=Z,80nm,1.3s							
GLA	**Glamis**	**46.53**	**319**	P	**P**	**07 22 27.5**	**+2.5**	
	baz=129							
F42A	**Maple Grove Fa**	**46.53**	**352**	IAmb	IAmb	07 22 31.5		
	comp=Z,96nm,1.1s							
F42A	**Maple Grove Fa**	**46.53**	**352**	P	**P**	**07 22 23.4**	**-1.3**	
	baz=169,SNR=14							
PKME	**Peaks-Kenny Pk**	**46.57**	**11**	P	**P**	**07 22 26.1**	**+1.1**	
	baz=195,SNR=7.5							
PKME	**Peaks-Kenny Pk**	**46.57**	**11**	P	**P**	**07 22 25.9**	**+0.9**	
	baz=195,SNR=7.5							
PKME				S	**S**	**07 29 14.2**	**+1.1**	
	baz=195							
PV07	**Paradox Valley**	**46.64**	**329**	IAmb	IAmb	07 22 39.5		
	comp=Z,44nm,0.9s							
PV11	**David Mesa, Pa**	**46.65**	**329**	IAmb	IAmb	07 22 38.8		
	comp=Z,69nm,0.8s							
E46A	**Sault Ste Mari**	**46.76**	**356**	IAmb	IAmb	07 22 33.5		
	comp=Z,79nm,1.1s							
E46A	**Sault Ste Mari**	**46.76**	**356**	P	**P**	**07 22 24.7**	**-1.8**	
	baz=174,SNR=17							
TRQ	**Mont Tremblant**	**46.76**	**6**	IAmb	IAmb	07 22 27.0		
	comp=Z,101nm,1.7s							
SPMN	**Marine on St.**	**46.80**	**348**	IAmb	IAmb	07 22 33.8		
	comp=Z,85nm,1.1s							
SPMN	**Marine on St.**	**46.80**	**348**	P	**P**	**07 22 24.7**	**-2.2**	
	baz=163,SNR=19							
SPMN	**Marine on St.**	**46.80**	**348**	P	**P**	**07 22 24.8**	**-2.2**	
	baz=163,SNR=19							
G65A	**Princeton**	**46.85**	**12**	IAmb	IAmb	07 22 29.4		
	comp=Z,103nm,1.2s							
G65A	**Princeton**	**46.85**	**12**	P	**P**	**07 22 27.9**	**+0.7**	
	baz=197,SNR=7.1							
G65A				P	**P**	**07 22 27.9**	**+0.7**	
	baz=197,SNR=7.1							
PDMCI	**Parker Dam,Lak**	**46.88**	**321**	P	**P**	**07 22 30.8**	**+3.1**	
	baz=130							
GGN	**Saint George**	**46.93**	**13**	IAmb	IAmb	07 22 30.1		
	comp=Z,123nm,1.4s							
E43A	**Lone Tree Farm**	**47.00**	**354**	IAmb	IAmb	07 22 35.6		
	comp=Z,98nm,1.1s							
E43A	**Lone Tree Farm**	**47.00**	**354**	P	**P**	**07 22 26.5**	**-1.9**	
	baz=171,SNR=21							
COWI	**Conover**	**47.00**	**352**	IAmb	IAmb	07 24 01.9		
	comp=Z,71nm,1.4s							
YUH	**Yuha Desert**	**47.01**	**318**	IAmb	IAmb	07 22 38.8		
	comp=Z,74nm,1.4s							
F62A	**Pittston Farm,**	**47.06**	**10**	IAmb	IAmb	07 22 29.8		
	comp=Z,84nm,1.4s							
F62A	**Pittston Farm,**	**47.06**	**10**	P	**P**	**07 22 28.4**	**-0.5**	
	baz=194,SNR=5.8							
F62A				P	**P**	**07 22 28.4**	**-0.5**	
	baz=194,SNR=5.8							
SWSC	**Sam W. Stewart**	**47.10**	**318**	P	**P**	**07 22 32.1**	**+2.6**	
	baz=128,SNR=10							
IKP	**In-Ko-Pah, Jac**	**47.13**	**318**	P	**P**	**07 22 31.2**	**+1.4**	
	baz=127,SNR=9.7							
N23A	**Red Feather La**	**47.27**	**334**	P	**P**	**07 22 35.3**	**+4.3**	
	baz=144,SNR=8.6							
BC3	**Big Chuckawall**	**47.31**	**319**	P	**P**	**07 22 33.3**	**+2.1**	
	baz=128,SNR=17							
F64A	**Sherman**	**47.32**	**11**	IAmb	IAmb	07 22 32.9		
	comp=Z,111nm,1.4s							
F64A	**Sherman**	**47.32**	**11**	P	**P**	**07 22 31.4**	**+0.5**	
	baz=196,SNR=8.4							
F64A				P	**P**	**07 22 31.4**	**+0.5**	
	baz=196,SNR=8.4							
IRM	**Iron Mountain**	**47.43**	**320**	P	**P**	**07 22 34.0**	**+2.0**	
	baz=129,SNR=13							
NEE2	**Needles Airpor**	**47.48**	**321**	P	**P**	**07 22 34.8**	**+2.4**	
	baz=130							
MONP2	**Monument Peak**	**47.49**	**318**	P	P	07 22 38.2	+5.4	
	baz=127							
F36A	**Milaca**	**47.57**	**348**	IAmb	IAmb	07 22 39.7		
	comp=Z,45nm,0.9s							
F36A	**Milaca**	**47.57**	**348**	P	**P**	**07 22 30.9**	**-1.9**	
	baz=162,SNR=23							
SUSD	**Miller**	**47.67**	**342**	P	**P**	**07 22 33.1**	**-0.6**	
	baz=154							
SUSD	**Miller**	**47.67**	**342**	P	**P**	**07 22 32.9**	**-0.8**	
	baz=154							
O20A	**White River Ci**	**47.74**	**331**	P	**P**	**07 22 35.8**	**+1.3**	
	baz=141,SNR=7.7							
E63A	**Oxbow**	**47.85**	**11**	P	**P**	**07 22 35.9**	**+1.0**	
	baz=196,SNR=9.3							
E63A				P	**P**	**07 22 35.9**	**+1.0**	
	baz=196,SNR=9.3							
D41A	**Chassel**	**47.86**	**352**	P	**P**	**07 22 34.1**	**-1.0**	
	baz=169,SNR=14							
BELC	**Belle Mtn. Jos**	**47.88**	**319**	P	**P**	**07 22 37.6**	**+1.9**	
	baz=128,SNR=5.7							
E38A	**The Farm, Brul**	**47.89**	**350**	IAmb	IAmb	07 22 42.4		
	comp=Z,56nm,1.1s							
E38A	**The Farm, Brul**	**47.89**	**350**	P	**P**	**07 22 34.0**	**-1.3**	
	baz=165,SNR=8.8							
KNB	**Kanab**	**47.89**	**325**	IAmb	IAmb	07 23 02.8		
	comp=Z,81nm,1.3s							
109C	**Camp Elliot, M**	**47.95**	**317**	P	**P**	**07 22 37.2**	**+1.2**	
109C				IAmb	IAmb	07 22 45.7		
	comp=Z,86nm,1.2s							
109C	**Camp Elliot, M**	**47.95**	**317**	P	**P**	**07 22 38.1**	**+2.1**	
	baz=126							
PFO	**Pinyon Flats O**	**47.95**	**319**	LR	LR	07 40 57.5		
	comp=Z,3µm,19.1s,baz=129,slow=34							
PFO	**Pinyon Flats O**	**47.95**	**319**	*e*P	**P**	**07 22 35.9**	**-0.3**	
PFO				pmax	pmax			
	comp=Z,18nm,1.5s							
PFO	**Pinyon Flats O**	**47.95**	**319**	P	**P**	**07 22 37.3**	**+1.2**	
PFO	**Pinyon Flats O**	**47.95**	**319**	IAMs_20	IAMs_20	07 40 36.2		
	comp=Z,4µm,19.0s							
PFO	**Pinyon Flats O**	**47.95**	**319**	P	**P**	**07 22 38.2**	**+2.1**	
	baz=127							
SRU	**San Rafael Swe**	**48.12**	**328**	IAmb	IAmb	07 22 46.9		
	comp=Z,74nm,1.2s							
GMRC	**Granite Mounta**	**48.15**	**320**	P	**P**	**07 22 39.0**	**+1.3**	
	baz=129							
F33A	**5 Mile Ranch,**	**48.20**	**345**	IAmb	IAmb	07 22 45.0		
	comp=Z,58nm,1.1s							
F33A	**5 Mile Ranch,**	**48.20**	**345**	P	**P**	**07 22 35.8**	**-2.0**	
	baz=158,SNR=20							
Q16A	**Castle Valley**	**48.32**	**328**	IAmb	IAmb	07 22 51.8		
	comp=Z,58nm,1.4s							
P18A	**Preston Nutter**	**48.36**	**329**	IAmb	IAmb	07 23 03.8		
	comp=Z,54nm,1.3s							
D62A	**Allapoint, All**	**48.36**	**10**	P	**P**	**07 22 39.5**	**+0.5**	
D62A	**Allapoint, All**	**48.36**	**10**	P	**P**	**07 22 39.5**	**+0.5**	
	baz=195,SNR=26							
D62A				P	**P**	**07 22 39.5**	**+0.5**	
	baz=195,SNR=26							
MURC	**Murrieta**	**48.43**	**318**	P	**P**	**07 22 41.7**	**+1.9**	
	baz=127,SNR=6.7							
SZCU	**Shurtz Canyon**	**48.45**	**325**	IAmb	IAmb	07 22 50.0		
	comp=Z,53nm,1.1s							
RWWY	**Rawlins**	**48.48**	**333**	IAmb	IAmb	07 22 49.9		
	comp=Z,64nm,1.2s							
P17A	**Butcher Ranch,**	**48.50**	**328**	IAmb	IAmb	07 22 49.8		
	comp=Z,75nm,1.2s							
CCUT	**Cedar City**	**48.57**	**325**	IAmb	IAmb	07 22 51.4		
	comp=Z,66nm,1.2s							
LMQ	**La Malbaie**	**48.60**	**9**	P	**P**	**07 22 40.7**	**-0.1**	
LMQ				IAmb	IAmb	07 22 42.0		
	comp=Z,76nm,1.3s							
HEC	**Hector,Ludlow**	**48.61**	**320**	P	**P**	**07 22 43.5**	**+2.3**	
	baz=128							
GBN	**Guysborough**	**48.62**	**18**	P	**P**	**07 22 41.1**	**+0.2**	
GBN				IAmb	IAmb	07 22 42.5		
	comp=Z,82nm,1.3s							
RDMU	**Red Mountain**	**48.72**	**330**	IAmb	IAmb	07 22 54.4		
	comp=Z,122nm,1.5s							
TUQ	**Turquoise Moun**	**48.73**	**321**	P	**P**	**07 22 44.3**	**+2.1**	
	baz=129							
TCRU	**Three Creeks R**	**48.79**	**326**	IAmb	IAmb	07 22 55.5		
	comp=Z,74nm,1.3s							
SHPR	**Sheep Range**	**48.94**	**322**	IAmb	IAmb	07 22 53.8		
	comp=Z,75nm,1.4s							
K22A	**Casper**	**48.95**	**334**	IAmb	IAmb	07 22 56.1		
	comp=Z,60nm,1.4s							
K22A	**Casper**	**48.95**	**334**	P	**P**	**07 22 45.3**	**+1.5**	
	baz=144							
K22A				S	**S**	**07 29 49.4**	**+2.0**	
	baz=144							
BFSC	**Mount Baldy Ra**	**49.12**	**318**	P	**P**	**07 22 48.9**	**+3.7**	
	baz=127,SNR=5.5							
BATG	**Bathurst New B**	**49.15**	**13**	IAmb	IAmb	07 22 46.9		
	comp=Z,97nm,1.2s							
RSSD	**Black Hills**	**49.15**	**338**	P	**P**	**07 22 46.0**	**+0.6**	
RSSD				pmax	pmax			
	comp=Z,60nm,1.0s							
RSSD				MLR	MLR			
	comp=Z,1µm,19.0s							
RSSD	**Black Hills**	**49.15**	**338**	P	**P**	**07 22 46.0**	**+0.6**	
RSSD				IAmb	IAmb	07 22 58.1		
	comp=Z,60nm,1.0s							
RSSD	**Black Hills**	**49.15**	**338**	P	**P**	**07 22 46.2**	**+0.8**	
	baz=148,SNR=17							
RSSD	**Black Hills**	**49.15**	**338**	P	**P**	**07 22 46.7**	**+1.3**	
	baz=148							
RSSD				S	**S**	**07 29 53.0**	**+2.6**	
	baz=148							
EYMN	**Ely**	**49.17**	**350**	IAmb	IAmb	07 22 51.7		
	comp=Z,42nm,1.1s							
EYMN	**Ely**	**49.17**	**350**	IAMs_20	IAMs_20	07 47 26.3		
	comp=Z,3µm,22.0s							
EYMN	**Ely**	**49.17**	**350**	P	**P**	**07 22 43.3**	**-1.9**	
	baz=165,SNR=9.9							
EYMN				S	**S**	**07 29 43.4**	**-6.7**	
	baz=165							
GSC	**Goldstone, Bar**	**49.21**	**320**	P	**P**	**07 22 47.9**	**+2.1**	
	baz=128,SNR=7.0							
SHOC	**Shoshone, Teco**	**49.24**	**321**	P	**P**	**07 22 48.0**	**+2.0**	
	baz=129							
PASC	**Pasadena Art C**	**49.43**	**318**	IAmb	IAmb	07 22 57.3		
	comp=Z,100nm,1.4s							
PASC	**Pasadena Art C**	**49.43**	**318**	IAMs_20	IAMs_20	07 41 20.7		
	comp=Z,3µm,20.0s							
DECC	**Green Verdugo**	**49.58**	**318**	P	**P**	**07 22 50.7**	**+2.1**	
	baz=126							
JLU	**Jordanelle**	**49.70**	**329**	IAmb	IAmb	07 22 59.2		
	comp=Z,57nm,1.2s							
EDW2	**Edwards Air Fo**	**49.72**	**319**	P	**P**	**07 22 51.3**	**+1.6**	
	baz=127,SNR=18							
LRMC	**Laurel Mtn Rad**	**49.88**	**320**	P	**P**	**07 22 53.0**	**+2.0**	
	baz=128							
TPNV	**Topopah Spring**	**49.90**	**322**	P	**P**	**07 22 53.2**	**+2.1**	
	baz=130,SNR=31							
CCAC	**Calif City Air**	**49.90**	**319**	IAmb	IAmb	07 23 00.9		
	comp=Z,84nm,0.9s							
CTU	**Camp Tracy**	**49.92**	**329**	IAmb	IAmb	07 23 03.8		
	comp=Z,66nm,1.2s							
FURC	**Furnace Creek,**	**49.97**	**321**	P	**P**	**07 22 52.7**	**+1.3**	
	baz=129,SNR=17							
B35A	**Bob, Littlefor**	**49.99**	**348**	P	**P**	**07 22 49.6**	**-1.8**	
	baz=162,SNR=12							
S11A	**Rachel**	**50.04**	**323**	IAmb	IAmb	07 23 04.7		
	comp=Z,56nm,1.2s							
OSI	**Osito Audit: C**	**50.05**	**318**	P	**P**	**07 22 54.8**	**+2.6**	
	baz=126							
MPMC	**Manual Prospec**	**50.11**	**320**	P	**P**	**07 22 54.2**	**+1.3**	
	baz=128							
DUG	**Dugway, Tooele**	**50.12**	**328**	P	**P**	**07 22 54.3**	**+1.6**	
DUG				pmax	pmax			
	comp=Z,32nm,1.5s							
DUG	**Dugway, Tooele**	**50.12**	**328**	IAmb	IAmb	07 23 18.3		
	comp=Z,77nm,1.6s							
DUG	**Dugway, Tooele**	**50.12**	**328**	P	**P**	**07 22 54.8**	**+2.1**	
	baz=136,SNR=7.2							
E28A	**Huff**	**50.13**	**342**	P	**P**	**07 22 52.6**	**0.0**	
	baz=153,SNR=26							
AGMN	**Agassiz Nation**	**50.39**	**347**	P	**P**	**07 22 53.0**	**-1.4**	
	baz=160,SNR=42							
PDAR	**Penedad Array**	**50.40**	**332**	P	**P**	**07 22 54.2**	**-0.7**	
	comp=Z,0.7nm,0.5s,baz=131,slow=6.7,SNR=12							
PDAR				LR	LR	07 44 58.0		
	comp=Z,4µm,19.2s,baz=148,slow=37							
BW06	**Boulder Array**	**50.40**	**332**	IAMs_20	IAMs_20	07 44 36.7		
	comp=Z,4µm,20.0s							
BW06	**Boulder Array**	**50.40**	**332**	P	**P**	**07 22 55.5**	**+0.5**	
	baz=141,SNR=6.0							
R11A	**Troy Canyon, C**	**50.41**	**324**	P	**P**	**07 22 56.6**	**+1.6**	
	baz=131,SNR=30							
R11A				S	**S**	**07 30 10.4**	**+2.4**	
	baz=131							
ARVC	**Arvin**	**50.42**	**319**	P	**P**	**07 22 57.1**	**+2.2**	
	baz=126,SNR=7.9							
HWUT	**Hardware Ranch**	**50.50**	**330**	IAmb	IAmb	07 23 09.9		
	comp=Z,76nm,1.2s							
ISA	**Isabella, Lake**	**50.51**	**319**	P	**P**	**07 22 57.1**	**+1.4**	
ISA				pmax	pmax			
	comp=Z,52nm,1.

	comp=Z,67nm,1.1s						
NVAR	**Mina Array Bea**	**52.09**	**322**	P	**P**	**07 23 08.0**	**+0.3**
	comp=Z,9.3nm,1.0s,baz=137,slow=6.6,SNR=41						
NVAR				LR	LR	07 43 10.4	
	comp=Z,3µm,21.6s,baz=130,slow=34						
LHV	**Little Huntoon**	**52.10**	**322**	IAmb	IAmb	07 23 17.9	
	comp=Z,84nm,1.2s						
RLMT	**Red Lodge**	**52.11**	**334**	P	**P**	**07 23 08.1**	**+0.4**
	baz=142						
H17A	**Grant Village**	**52.13**	**333**	IAmb	IAmb	07 23 22.7	
	comp=Z,111nm,1.8s						
H17A	**Grant Village**	**52.13**	**333**	P	**P**	**07 23 11.9**	**+4.0**
	baz=140,SNR=9.3						
LAO	**LASA Array**	**52.15**	**338**	IAmb	IAmb	07 23 16.7	
	comp=Z,105nm,1.6s						
LAO				IAMs_20	IAMs_20	07 47 18.5	
	comp=Z,3µm,20.0s						
LAO	**LASA Array**	**52.15**	**338**	P	**P**	**07 23 08.1**	**+0.4**
	baz=146,SNR=8.1						
LAO	**LASA Array**	**52.15**	**338**	P	**P**	**07 23 08.5**	**+0.7**
	baz=146,SNR=8.1						
LAO				S	**S**	**07 30 31.1**	**-0.3**
	baz=146						
ULM	**Lac du Bonnet**	**52.23**	**347**	P	**P**	**07 23 06.4**	**-1.8**
	comp=Z,42nm,0.5s,baz=157,slow=7.7,SNR=43						
ULM	**Lac du Bonnet**	**52.23**	**347**	*ce*P	**P**	**07 23 07.2**	**-1.0**
ULM	**Lac du Bonnet**	**52.23**	**347**	IAmb	IAmb	07 23 15.7	
	comp=Z,110nm,1.0s						
RYN	**Ryan**	**52.35**	**322**	IAmb	IAmb	07 23 19.4	
	comp=Z,84nm,1.5s						
PMPB	**Monarch Peak**	**52.36**	**318**	IAmb	IAmb	07 23 19.0	
	comp=Z,127nm,1.3s						
BBGB	**Big Mountain B**	**52.73**	**319**	IAmb	IAmb	07 23 26.6	
	comp=Z,74nm,1.0s						
BMN	**Battle Mountai**	**52.73**	**325**	P	**P**	**07 23 13.4**	**+1.1**
BMN				pmax	pmax		
	comp=Z,128nm,1.2s						
BMN	**Battle Mountai**	**52.73**	**325**	P	**P**	**07 23 13.4**	**+1.1**
BMN				IAmb	IAmb	07 23 22.0	
	comp=Z,128nm,1.2s						
YHL	**Hebgen Lake**	**52.76**	**333**	IAmb	IAmb	07 23 25.9	
	comp=Z,146nm,1.3s						
DGMT	**Dagmar**	**52.93**	**340**	IAmb	IAmb	07 23 23.0	
	comp=Z,56nm,0.9s						
DGMT	**Dagmar**	**52.93**	**340**	P	**P**	**07 23 14.5**	**+1.0**
	baz=149,SNR=11						
DGMT				S	**S**	**07 30 42.3**	**+0.2**
	baz=149						
YERR	**Yerington**	**53.01**	**322**	IAmb	IAmb	07 23 24.4	
	comp=Z,116nm,1.6s						
SAO	**San Andreas Ge**	**53.10**	**319**	IAMs_20	IAMs_20	07 43 57.8	
	comp=Z,3µm,20.0s						
CMB	**Columbia Colle**	**53.15**	**321**	IAMs_20	IAMs_20	07 44 25.1	
	comp=Z,2µm,20.0s						
DRLN	**Deer Lake**	**53.28**	**18**	P	**P**	**07 23 16.1**	**+0.1**
DRLN				IAmb	IAmb	07 23 17.4	
	comp=Z,73nm,1.1s						
PNTR	**Pine Nut**	**53.30**	**322**	IAmb	IAmb	07 23 26.6	
	comp=Z,120nm,1.8s						
HLID	**Hailey**	**53.36**	**330**	P	**P**	**07 23 17.4**	**+0.5**
	baz=136,SNR=16						
HLID				S	**S**	**07 30 51.5**	**+3.1**
	baz=136						
VCNR	**Virginia City**	**53.45**	**322**	IAmb	IAmb	07 23 30.8	
	comp=Z,73nm,1.6s						
BOZ	**Bozeman (W)**	**53.53**	**333**	IAmb	IAmb	07 23 27.6	
	comp=Z,82nm,1.1s						
BOZ				IAMs_20	IAMs_20	07 46 17.4	
	comp=Z,3µm,22.0s						
BOZ	**Bozeman (W)**	**53.53**	**333**	P	**P**	**07 23 19.0**	**+0.8**
	baz=140,SNR=99						
PAHR	**Pah Rah Range**	**53.55**	**323**	IAmb	IAmb	07 23 28.4	
	comp=Z,156nm,2.0s						
MPK	**Martis Peak**	**53.69**	**322**	IAmb	IAmb	07 23 29.6	
	comp=Z,65nm,1.2s						
DLMT	**Dillon**	**53.80**	**332**	IAMs_20	IAMs_20	07 46 31.9	
	comp=Z,3µm,20.0s						
MFID	**Camas Ranch**	**53.99**	**328**	IAmb	IAmb	07 23 31.1	
	comp=Z,76nm,1.2s						
MFID				IAMs_20	IAMs_20	07 47 02.7	
	comp=Z,3µm,19.0s						
BEKR	**Beckworth**	**54.24**	**322**	IAmb	IAmb	07 23 33.2	
	comp=Z,54nm,1.1s						
EFI	**East Falkland**	**54.39**	**163**	*ce*P	**P**	**07 23 26.5**	**+2.5**
EFI				pmax	pmax		
	comp=Z,146nm,1.7s						
HRY	**Holter Researc**	**54.47**	**334**	P	**P**	**07 23 25.2**	**+0.2**
EGMT	**Eagleton**	**54.62**	**336**	P	**P**	**07 23 26.7**	**+0.7**
EGMT				IAmb	IAmb	07 23 35.1	
	comp=Z,63nm,1.0s						
EGMT	**Eagleton**	**54.62**	**336**	P	**P**	**07 23 26.9**	**+1.0**
	baz=143,SNR=13						
ORV	**Oroville**	**54.75**	**321**	IAmb	IAmb	07 23 37.0	
	comp=Z,96nm,1.1s						
ORV				IAMs_20	IAMs_20	07 45 09.5	
	comp=Z,3µm,21.0s						
MCCM	**Marconi Confer**	**54.82**	**319**	IAMs_20	IAMs_20	07 45 01.4	
	comp=Z,3µm,19.0s						
WVOR	**Wild Horse Val**	**54.85**	**326**	P	**P**	**07 23 28.8**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,96nm,1.4s						
USHA	**Ushuaia**	**55.08**	**172**	P	**P**	**07 23 29.1**	**+0.2**
	comp=Z,23nm,1.0s,baz=327,slow=5.5,SNR=4.5						
USHA				LR	LR	07 44 28.5	
	comp=Z,2µm,19.0s,baz=3.0,slow=33						
PLID	**Pearl Lake**	**55.25**	**330**	P	**P**	**07 23 30.9**	**+0.2**
J08A	**Circle Bar Ran**	**55.36**	**327**	P	**P**	**07 23 31.6**	**+0.2**
O03E	**Paynes Creek**	**55.38**	**322**	P	**P**	**07 23 31.9**	**+0.3**
O03E				IAmb	IAmb	07 23 40.1	
	comp=Z,50nm,1.1s						
O03E				IAMs_20	IAMs_20	07 45 31.7	
	comp=Z,4µm,21.0s						
O03E	**Paynes Creek**	**55.38**	**322**	P	**P**	**07 23 32.2**	**+0.6**
	baz=126,SNR=6.7						
MOD	**Modoc Plateau**	**55.46**	**324**	IAMs_20	IAMs_20	07 46 32.0	
	comp=Z,3µm,21.0s						
MSO	**Missoula**	**55.51**	**333**	IAmb	IAmb	07 23 44.8	
	comp=Z,73nm,1.2s						
MSO	**Missoula**	**55.51**	**333**	P	**P**	**07 23 33.6**	**+1.1**
	baz=138,SNR=13						
BMO	**Blue Mountains**	**55.75**	**329**	IAMs_20	IAMs_20	07 48 06.3	
	comp=Z,3µm,19.0s						
O02D	**Mt. Diablo Mer**	**55.92**	**321**	IAMs_20	IAMs_20	07 45 21.4	
	comp=Z,2µm,21.0s						
O02D	**Mt. Diablo Mer**	**55.92**	**321**	P	**P**	**07 23 35.9**	**+0.4**
	baz=125,SNR=6.9						
SCHQ	**Schefferville**	**56.21**	**9**	P	**P**	**07 23 36.2**	**-0.9**
	comp=Z,41nm,1.1s,baz=193,slow=6.3,SNR=26						
SCHQ				LR	LR	07 49 22.1	
	comp=Z,2µm,19.5s,baz=202,slow=38						
SCHQ	**Schefferville**	**56.21**	**9**	IAmb	IAmb	07 23 37.6	
	comp=Z,110nm,1.4s						
M04C	**Macdoel**	**56.29**	**323**	IAmb	IAmb	07 23 47.4	
	comp=Z,51nm,1.0s						
M04C				IAMs_20	IAMs_20	07 46 37.7	
	comp=Z,3µm,22.0s						
M04C	**Macdoel**	**56.29**	**323**	P	**P**	**07 23 39.3**	**+1.1**
	baz=127,SNR=6.3						
N02D	**Trinity Center**	**56.33**	**322**	P	**P**	**07 23 41.5**	**+3.1**
	baz=126						
F10A	**Beach Ranch, E**	**56.48**	**330**	P	**P**	**07 23 40.0**	**+0.6**
M02C	**Callahan**	**56.67**	**323**	IAMs_20	IAMs_20	07 46 47.8	
	comp=Z,2µm,22.0s						
M02C	**Callahan**	**56.67**	**323**	P	P	07 23 45.8	+5.0
	baz=126,SNR=7.9						
K04D	**Chiloquin, OR**	**56.75**	**324**	P	**P**	**07 23 43.0**	**+1.6**
	baz=128						
K04D				S	**S**	**07 31 35.0**	**+1.1**
	baz=128						
YBH	**Yreka Blue Hor**	**56.78**	**323**	LR	LR	07 48 10.5	
	comp=Z,2µm,18.2s,baz=138,slow=36						
YBH	**Yreka Blue Hor**	**56.78**	**323**	IAMs_20	IAMs_20	07 46 54.1	
	comp=Z,2µm,21.0s						
L04D	**Klamath Falls**	**56.83**	**324**	IAMs_20	IAMs_20	07 47 53.3	
	comp=Z,3µm,18.0s						
L04D	**Klamath Falls**	**56.83**	**324**	P	**P**	**07 23 42.6**	**+0.6**
	baz=127,SNR=12						
J05D	**Fort Rock, OR**	**56.86**	**325**	P	**P**	**07 23 43.6**	**+1.4**
	baz=128,SNR=20						
G08A	**Pilot Rock**	**56.91**	**328**	IAmb	IAmb	07 23 51.8	
	comp=Z,83nm,1.2s						
E09A	**Wood Farm, Sta**	**57.32**	**330**	P	**P**	**07 23 45.9**	**+0.7**
E09A				IAmb	IAmb	07 23 54.4	
	comp=Z,46nm,1.0s						
J04D	**Umpqua Nationa**	**57.34**	**325**	P	**P**	**07 23 46.2**	**+0.6**
	baz=128,SNR=7.2						
J04D				S	**S**	**07 31 43.5**	**+1.8**
	baz=128						
HUMO	**Hull Mountain**	**57.45**	**324**	IAMs_20	IAMs_20	07 48 59.7	
	comp=Z,3µm,20.0s						
L02E	**Cave Junction**	**57.57**	**323**	IAmb	IAmb	07 23 56.3	
	comp=Z,61nm,1.2s						
L02E				IAMs_20	IAMs_20	07 47 51.0	
	comp=Z,4µm,20.0s						
L02E	**Cave Junction**	**57.57**	**323**	P	P	07 23 53.2	+6.1
	baz=126						
I05D	**Terrebonne, OR**	**57.58**	**326**	P	**P**	**07 23 48.9**	**+1.7**
	baz=129,SNR=10						
FFC	**Flin Flon**	**57.80**	**345**	P	**P**	**07 23 48.5**	**+0.1**
FFC				pmax	pmax		
	comp=Z,88nm,1.2s						
FFC				MLR	MLR		
	comp=Z,2µm,20.0s						
FFC	**Flin Flon**	**57.80**	**345**	P	**P**	**07 23 48.5**	**+0.1**
FFC				IAmb	IAmb	07 23 57.4	
	comp=Z,88nm,1.2s						
FFC				IAMs_20	IAMs_20	07 49 15.8	
	comp=Z,2µm,20.0s						
I04A	**Tendick Farm,**	**57.85**	**325**	P	**P**	**07 23 49.4**	**+0.4**
	baz=128,SNR=14						
DBO	**Dodson Butte**	**57.92**	**324**	IAmb	IAmb	07 24 06.8	
	comp=Z,80nm,1.4s						
K02D	**Willamette Mer**	**57.92**	**323**	P	**P**	**07 23 51.4**	**+1.7**
	baz=126,SNR=12						
HAWA	**Hanford**	**57.94**	**329**	P	**P**	**07 23 50.2**	**+0.6**
HAWA				IAMs_20	IAMs_20	07 48 33.3	
	comp=Z,2µm,20.0s						
NEW	**Newport**	**58.04**	**332**	LR	LR	07 49 40.9	
	comp=Z,3µm,18.0s,baz=138,slow=37						
NEW	**Newport**	**58.04**	**332**	P	**P**	**07 23 51.2**	**+0.9**
NEW				pmax	pmax		
	comp=Z,30nm,1.3s						
NEW	**Newport**	**58.04**	**332**	IAMs_20	IAMs_20	07 49 20.7	
	comp=Z,3µm,18.0s						
NEW	**Newport**	**58.04**	**332**	P	**P**	**07 23 51.1**	**+0.8**
	baz=135,SNR=5.2						
NEW				S	**S**	**07 31 50.7**	**+0.3**
	baz=135						
D08A	**Wollman Farm,**	**58.08**	**330**	P	**P**	**07 23 51.4**	**+0.9**
SACV	**Santiago Islan**	**58.13**	**72**	P	**P**	**07 23 50.7**	**-0.7**
SACV				IAMs_20	IAMs_20	07 52 56.2	
	comp=Z,2µm,19.0s						
G05D	**Wamic, OR**	**58.14**	**327**	P	**P**	**07 23 53.5**	**+2.5**
	baz=129,SNR=6.7						
G05D				S	**S**	**07 31 54.0**	**+2.3**
	baz=129						
C09A	**Chrisman Ranch**	**58.27**	**331**	P	**P**	**07 23 52.5**	**+0.7**
C09A				IAmb	IAmb	07 24 04.3	
	comp=Z,71nm,1.7s						
H04A	**Detroit Lake**	**58.27**	**326**	IAmb	IAmb	07 24 00.9	
	comp=Z,62nm,1.1s						
I03D	**Drain, OR**	**58.33**	**324**	P	**P**	**07 23 54.1**	**+1.7**
	baz=127,SNR=7.3						
J01E	**Myrtle Point**	**58.35**	**324**	IAMs_20	IAMs_20	07 48 52.4	
	comp=Z,3µm,19.0s						
J01E	**Myrtle Point**	**58.35**	**324**	P	**P**	**07 23 55.0**	**+2.5**
	baz=126,SNR=5.5						
H04D	**Lebanon**	**58.48**	**326**	IAmb	IAmb	07 24 02.0	
	comp=Z,61nm,1.2s						
H04D				IAMs_20	IAMs_20	07 47 38.5	
	comp=Z,2µm,20.0s						
H04D	**Lebanon**	**58.48**	**326**	P	P	07 23 59.5	+6.2
	baz=128,SNR=7.4						
F05D	**White Salmon**	**58.63**	**327**	IAmb	IAmb	07 24 04.5	
	comp=Z,53nm,1.0s						
F05D	**White Salmon**	**58.63**	**327**	P	**P**	**07 23 56.6**	**+2.2**
	baz=130,SNR=6.4						
COR	**Corvallis**	**58.84**	**325**	P	**P**	**07 23 57.4**	**+1.5**
COR				pmax	pmax		
	comp=Z,125nm,1.6s						
COR	**Corvallis**	**58.84**	**325**	IAMs_20	IAMs_20	07 49 21.0	
	comp=Z,2µm,18.0s						
I02E	**Swisshome, OR**	**58.87**	**325**	IAMs_20	IAMs_20	07 47 10.7	
	comp=Z,2µm,19.0s						
I02E	**Swisshome, OR**	**58.87**	**325**	P	**P**	**07 23 58.3**	**+2.2**
	baz=126,SNR=7.2						
LTY	**Liberty**	**59.10**	**329**	IAmb	IAmb	07 24 07.2	
	comp=Z,42nm,1.1s						
B08A	**Colville Reser**	**59.17**	**331**	IAmb	IAmb	07 24 37.8	
	comp=Z,50nm,1.4s						
F04A	**Amboy**	**59.17**	**327**	IAmb	IAmb	07 24 07.4	
	comp=Z,40nm,1.0s						
G03D	**McMinnville, O**	**59.20**	**326**	IAMs_20	IAMs_20	07 49 08.4	
	comp=Z,3µm,20.0s						
G03D	**McMinnville, O**	**59.20**	**326**	P	P	07 24 05.8	+7.5
	baz=128,SNR=5.8						
F04D	**Rainier, OR**	**59.59**	**327**	P	**P**	**07 24 03.2**	**+2.2**
	baz=128,SNR=5.4						
E04D	**Cinebar**	**59.65**	**327**	P	P	07 24 09.2	+7.7
	baz=129,SNR=6.7						
C06D	**Leavenworth**	**59.65**	**330**	P	**P**	**07 24 03.4**	**+1.9**
	baz=131						
H07S1	**FLORES T-PHASE**	**59.87**	**43**	*eP*	**P**	**07 24 03.6**	**+0.5**
TAOE	**Nuku Hiva Isla**	**60.11**	**260**	*eS*	**S**	**07 32 19.6**	**+1.1**
TAOE				*e*LR	LR	07 41 50.9	
	comp=Z,5µm,27.7s						
D04E	**Lakebay**	**60.15**	**328**	P	P	07 24 11.3	+6.4
	comp=Z,5µm,22.6s						
B06A	**Marblemount**	**60.34**	**330**	IAmb	IAmb	07 24 15.2	
	baz=129,SNR=6.9						
B05A	**Bryant**	**60.48**	**329**	P	**P**	**07 24 08.0**	**+0.8**
	comp=Z,37nm,0.9s						
D03D	**Eldon**	**60.54**	**328**	P	**P**	**07 24 08.3**	**+0.8**
	baz=130,SNR=6.9						
NLWA	**Neilton Lookou**	**60.86**	**328**	IAmb	IAmb	07 24 19.9	
	comp=Z,56nm,0.9s						
A04D	**Lummi Island**	**61.09**	**329**	P	**P**	**07 24 12.7**	**+1.5**
	baz=130,SNR=7.6						
PCED	**Cedros**	**61.24**	**44**	*eP*	**P**	**07 24 13.2**	**+0.7**
	comp=Z,159nm,2.3s						
HOR	**Horta**	**61.25**	**45**	*eP*	**P**	**07 24 14.0**	**+1.5**
	comp=Z,152nm,1.7s						
PCAN	**Candelaria**	**61.32**	**45**	*eP*	**P**	**07 24 14.3**	**+1.2**
	comp=Z,187nm,2.5s						
PICO	**Pico**	**61.38**	**45**	*eP*	**P**	**07 24 14.9**	**+1.4**
	comp=Z,243nm,2.2s						
PGC	**Sidney**	**61.43**	**329**	IAmb	IAmb	07 24 23.4	
	comp=Z,39nm,0.9s						
ROSA	**Rosais**	**61.60**	**45**	*eP*	**P**	**07 24 16.1**	**+1.1**
	comp=Z,352nm,1.5s						
PMAN	**Manadas**	**61.67**	**45**	*eP*	**P**	**07 24 15.9**	**+0.5**
	comp=Z,208nm,2.0s						
LLLB	**Lillooet**	**61.91**	**331**	IAmb	IAmb	07 24 26.7	
	comp=Z,66nm,1.2s						
PGRA	**Graciosa**	**61.92**	**44**	*eP*	**P**	**07 24 17.9**	**+0.8**
	comp=Z,324nm,2.0s						
ADH	**Angra Heroismo**	**62.29**	**45**	*eP*	**P**	**07 24 20.7**	**+1.2**
	comp=Z,249nm,1.9s						
PSET	**Sete Cidades**	**63.02**	**46**	*eP*	**P**	**07 24 24.9**	**+0.4**
CMLA	**Cha da Macela**	**63.14**	**47**	IAMs_20	IAMs_20	07 46 50.5	
	comp=Z,2µm,22.0s						
PSMN	**Pico do Norte,**	**63.18**	**48**	*eP*	**P**	**07 24 24.8**	**-0.7**
CBB	**Campbell River**	**63.27**	**329**	IAmb	IAmb	07 24 36.3	
	comp=Z,50nm,1.0s						
FRB	**Frobisher Bay**	**64.64**	**6**	LR	LR	07 56 23.0	
	comp=Z,1µm,18.1s,baz=184,slow=39						
FRB	**Frobisher Bay**	**64.64**	**6**	P	**P**	**07 24 32.3**	**-2.3**
FRB				pmax	pmax		
	comp=Z,39nm,1.7s						
PMSA	**Palmer Station**	**65.27**	**172**	*eP*	**P**	**07 24 40.0**	**+1.4**
IVI	**Ivigtut**	**66.24**	**16**	P	**P**	**07 24 45.1**	**+0.2**
IVI				IAmb	IAmb	07 24 46.5	
	comp=Z,92nm,1.4s						
NRS	**Narsarsuaq**	**67.01**	**18**	P	**P**	**07 24 49.9**	**0.0**
NRS				pmax	pmax		
	comp=Z,54nm,1.6s						
NRS	**Narsarsuaq**	**67.01**	**18**	IAmb	IAmb	07 24 50.6	
	comp=Z,86nm,1.3s						
MACI	**Morro de la Ar**	**67.34**	**59**	P	**P**	**07 24 53.2**	**+0.3**
NUUK	**Nuuk**	**67.83**	**13**	*i* P	**P**	**07 24 53.6**	**-1.4**
NUUK				IAmb	IAmb	07 24 54.7	
	comp=Z,17nm,0.8s						
YKA	**Yellowknife Ar**	**67.87**	**344**	P	**P**	**07 24 54.0**	**-1.3**
	comp=Z,14nm,1.0s,baz=137,slow=6.5,SNR=119						
PMOZ	**Porto Moniz, M**	**67.91**	**54**	*eP*	**P**	**07 24 56.2**	**-0.2**
	comp=Z,185nm,1.0s						
PMOZ	**Porto Moniz, M**	**67.91**	**54**	P	**P**	**07 24 57.1**	**+0.8**
VAH	**Vaihoa**	**67.98**	**254**	*eP*	**P**	**07 24 58.2**	**+1.3**
	comp=Z,156nm,1.2s						
PMAR	**Madeira**	**68.12**	**54**	*eP*	**P**	**07 24 59.1**	**+1.4**
	comp=Z,117nm,1.4s						
SMAI	**San Martin Ant**	**68.16**	**175**	IAmb	IAmb	07 24 60.0	
	comp=Z,51nm,1.1s						
PMOR	**Pomariorio Ree**	**68.22**	**254**	*eP*	**P**	**07 24 59.7**	**+1.3**
	comp=Z,336nm,1.4s						
PMPS	**Porto Santo**	**68.67**	**54**	*eP*	**P**	**07 25 00.6**	**-0.4**
	comp=Z,214nm,1.6s						
PMPST	**Porto Santo, M**	**68.68**	**54**	*eP*	**P**	**07 25 01.6**	**+0.6**
	comp=Z,223nm,1.9s						
PPT2	**Papeete2**	**70.08**	**252**	*eP*	**P**	**07 25 11.5**	**+1.4**
	comp=Z,177nm,1.4s						
PPT2				*eS*	**S**	**07 34 21.7**	**+0.8**
	comp=Z,6µm,26.0s						
PPT2	**Papeete2**	**70.08**	**252**	*e*LR	LR	07 46 29.7	
	comp=Z,6µm,24.8s						
PAE	**Paea**	**70.10**	**251**	*eP*	**P**	**07 25 11.6**	**+1.6**
	comp=Z,60nm,1.2s						
SFJD	**Kangerlussuaq**	**70.48**	**12**	LR	LR	07 55 29.5	
	comp=Z,1µm,22.0s,baz=206,slow=35						
SFJD	**Kangerlussuaq**	**70.48**	**12**	P	**P**	**07 25 10.7**	**-0.8**
SFJD				pmax	pmax		
	comp=Z,147nm,1.7s						
SFJD				MLR	MLR		
	comp=Z,1µm,19.0s						
SFJD	**Kangerlussuaq**	**70.48**	**12**	P	**P**	**07 25 10.7**	**-0.8**
SFJD	**Kangerlussuaq**	**70.48**	**12**	IAMs_20	IAMs_20	07 59 19.7	
	comp=Z,1µm,19.0s						
DLBC	**Dease Lake**	**70.51**	**335**	LR	LR	07 57 33.2	
	comp=Z,2µm,20.5s,baz=118,slow=37						
DLBC	**Dease Lake**	**70.51**	**335**	IAmb	IAmb	07 25 21.8	
	comp=Z,47nm,1.0s						
TBI	**Tubuai**	**70.69**	**245**	*eS*	**S**	**07 34 28.2**	**+0.6**
	comp=Z,2µm,30.0s						
TBI	**Tubuai**	**70.69**	**245**	*e*LR	LR	07 46 46.4	
	comp=Z,5µm,26.5s						
DY2G	**Dye2**	**71.02**	**14**	*i* P	**P**	**07 25 12.6**	**-2.5**
DY2G				IAmb	IAmb	07 25 26.3	
	comp=Z,18nm,0.7s						
WRGLY	**Wrigley**	**71.12**	**341**	P	**P**	**07 25 16.5**	**+1.1**
	baz=134,SNR=22						
TGTN	**Hyland Airport**	**71.69**	**338**	P	**P**	**07 25 20.7**	**+1.7**
	baz=128,SNR=6.5						
TANT	**Tantan**	**71.92**	**60**	P	**P**	**07 25 24.0**	**+3.0**
BESE	**Bessie Mountai**	**72.70**	**333**	IAmb	IAmb	07 25 44.9	
	comp=Z,141nm,1.8s						
SKAG	**Skagway**	**73.36**	**334**	P	**P**	**07 25 30.1**	**+1.2**
	baz=121						
MMPY	**Sheldon Lake,**	**73.47**	**338**	P	**P**	**07 25 30.8**	**+1.3**
	baz=126,SNR=22						
MMPY				S	**S**	**07 34 59.8**	**+1.4**
	baz=126						
WHY	**Whitehorse**	**73.81**	**335**	P	**P**	**07 25 33.1**	**+1.5**
	baz=122						
EAH	**EAH**	**73.93**	**57**	P	**P**	**07 25 35.0**	**+2.2**
NUUG	**Nuugaatsiaq**	**73.98**	**9**	*i* P	**P**	**07 25 29.6**	**-2.6**
NUUG				IAmb	IAmb	07 25 40.0	
	comp=Z,12nm,0.9s						
FARO	**Faro, Yukon**	**74.04**	**337**	P	**P**	**07 25 34.2**	**+1.3**
	baz=124,SNR=10.0						
FARO				S	**S**	**07 35 06.5**	**+1.8**
	baz=124						
M31M	**Drury Creek, Y**	**74.44**	**337**	IAmb	IAmb	07 26 02.5	
	comp=Z,76nm,1.9s						
M31M				IAMs_20	IAMs_20	08 02 44.3	
	comp=Z,2µm,18.0s						
M31M	**Drury Creek, Y**	**74.44**	**337**	P	**P**	**07 25 36.6**	**+1.4**
	baz=123,SNR=8.9						
M31M				S	**S**	**07 35 10.5**	**+1.4**
	baz=123						
N31M	**Braeburn, Yuko**	**74.61**	**336**	IAMs_20	IAMs_20	08 00 42.1	
	comp=Z,2µm,20.0s						
N31M	**Braeburn, Yuko**	**74.61**	**336**	P	**P**	**07 25 37.6**	**+1.4**
	baz=121,SNR=7.3						
ICESG	**Greenland Ices**	**74.64**	**14**	*i* P	**P**	**07 25 34.2**	**-2.5**
ICESG				IAmb	IAmb	07 25 43.6	
	comp=Z,37nm,0.9s						
TTIG	**Tnine Tigouga,**	**74.70**	**58**	P	**P**	**07 25 39.0**	**+1.5**
HYT	**Haines Junctio**	**75.00**	**335**	P	**P**	**07 25 40.7**	**+2.1**
	baz=119						
PNL	**Peninsula**	**75.27**	**333**	P	**P**	**07 25 42.3**	**+2.2**
	baz=117						
OUK	**Oukaimeden**	**75.30**	**58**	P	**P**	**07 25 43.0**	**+1.8**
YUK6	**Outpost Mounta**	**75.42**	**335**	P	**P**	**07 25 43.7**	**+2.5**
	baz=119,SNR=9.0						
LIC	**Lamto**	**75.46**	**83**	*eP*	**P**	**07 25 42.5**	**+0.5**
	comp=Z,280nm,1.1s						
TIC	**Toumodi**	**75.48**	**83**	*eP*	**P**	**07 25 42.0**	**-0.2**
SRHM	**Skhour des Reh**	**75.48**	**56**	P	**P**	**07 25 43.0**	**+1.1**
BCPM	**Bancas Point**	**75.51**	**333**	IAmb	IAmb	07 25 52.7	
	comp=Z,112nm,1.6s						
RES	**Resolute Bay**	**75.55**	**356**	P	**P**	**07 25 39.7**	**-1.6**
RES				pmax	pmax		
	comp=Z,25nm,1.5s						
C36M	**Paulatuk**	**75.58**	**345**	IAMs_20	IAMs_20	08 02 59.7	
	comp=Z,2µm,21.0s						
C36M	**Paulatuk**	**75.58**	**345**	P	**P**	**07 25 40.8**	**-0.8**
	baz=134,SNR=5.0						
M30M	**Minto, Yukon**	**75.59**	**337**	IAMs_20	IAMs_20	08 00 40.7	
	comp=Z,2µm,18.0s						
M30M	**Minto, Yukon**	**75.59**	**337**	P	**P**	**07 25 43.0**	**+1.2**
	baz=120,SNR=19						
DBIC	**Dimbokro**	**75.64**	**83**	P	**P**	**07 25 42.6**	**-0.5**
	comp=Z,117nm,1.0s,baz=277,slow=5.0,SNR=97						
DBIC				LR	LR	07 56 18.2	
	comp=Z,4µm,20.4s,baz=277,slow=34						
DBIC	**Dimbokro**	**75.64**	**83**	P	**P**	**07 25 42.3**	**-0.8**
DBIC				pmax	pmax		
	comp=Z,346nm,1.3s						
DBIC	**Dimbokro**	**75.64**	**83**	P	**P**	**07 25 42.3**	**-0.8**
PMST	**Lisbon--Monsan**	**

PESTR **Estremoz** **76.91 50** IAmb IAmb 07 25 51.8
comp=Z,86nm,1.1s
PESTR **Estremoz** **76.91 50** P **P** **07 25 50.8 +1.0**
ZGR **Zagora** **77.04 59** P **P** **07 25 53.0 +2.1**
PGAV **Gavieira, Arco** **77.04 47** *eP* **P** **07 25 51.7 +1.1**
comp=Z,136nm,1.9s
PVIS **Viseu** **77.05 48** *eP* **P** **07 25 50.6 -0.1**
comp=Z,132nm,1.9s
J29M **Klondike Camp** **77.08 338** P **P** **07 25 51.7 +1.3**
baz=120,SNR=8.3
BVCY **Beaver Creek** **77.16 335** P **P** **07 25 52.2 +1.4**
baz=117,SNR=6.1
BVCY S **S** **07 35 42.2 +2.9**
baz=117
PCAB **Cabril** **77.16 47** *eP* **P** **07 25 51.5 +0.3**
comp=Z,115nm,1.6s
PMRV **Marv??o** **77.17 49** *eP* **P** **07 25 51.9 +0.6**
comp=Z,97nm,1.3s
WAX **Waxell Ridge** **77.17 333** IAmb IAmb 07 26 03.1
comp=Z,109nm,1.6s
TZRR **Tazzarine** **77.18 58** P **P** **07 25 54.0 +2.3**
TULEG **Thule** **77.18 3** IAmb IAmb 07 25 59.7
comp=Z,119nm,1.5s
TULEG IAMs_20 IAMs_20 07 59 58.9
comp=Z,2µm,20.0s
PCBR **Castelo Branco** **77.19 49** *eP* **P** **07 25 51.3 -0.1**
comp=Z,131nm,2.1s
PBAR **Barrancos** **77.20 51** *eP* **P** **07 25 51.9 +0.4**
comp=Z,63nm,1.7s
MTE **Manteigas** **77.25 48** *eP* **P** **07 25 51.7 -0.1**
comp=Z,91nm,2.2s
MTE **Manteigas** **77.25 48** IAmb IAmb 07 25 53.3
comp=Z,58nm,0.9s
MTE IAMs_20 IAMs_20 08 01 16.0
comp=Z,2µm,19.0s
POLO **Lamas de Olo** **77.26 47** *eP* **P** **07 25 52.1 +0.2**
comp=Z,64nm,1.8s
TGL **Tana Glacier** **77.29 333** IAmb IAmb 07 26 00.5
comp=Z,59nm,1.2s
TGL IAMs_20 IAMs_20 08 00 50.1
comp=Z,2µm,18.0s
DAWY **Dawson** **77.34 337** P **P** **07 25 51.4 -0.4**
DAWY **Dawson** **77.34 337** P **P** **07 25 52.5 +0.8**
baz=118,SNR=17
DAWY S **S** **07 35 41.4 +0.2**
baz=118
EPYK **Eagle Plains** **77.52 340** IAMs_20 IAMs_20 08 02 10.2
comp=Z,1µm,19.0s
BERG **Berg Lake** **77.53 333** IAmb IAmb 07 26 02.2
comp=Z,49nm,1.1s
INK **Inuvik** **77.55 342** LR LR 08 03 45.6
comp=Z,3µm,18.3s,baz=112,slow=39
INK **Inuvik** **77.55 342** P **P** **07 25 52.5 -0.3**
INK pmax pmax
comp=Z,61nm,2.2s
INK **Inuvik** **77.55 342** P **P** **07 25 54.0 +1.2**
baz=125,SNR=47
INK S **S** **07 35 43.3 +0.2**
baz=125
M27K **Edge Creek, AK** **77.56 335** IAmb IAmb 07 26 02.1
comp=Z,52nm,1.3s
M27K **Edge Creek, AK** **77.56 335** P **P** **07 25 54.6 +1.5**
baz=116,SNR=12
M27K S **S** **07 35 44.9 +1.0**
baz=116
I29M **Ogilvie Camp,** **77.57 339** IAmb IAmb 07 26 03.4
comp=Z,58nm,1.4s
I29M **Ogilvie Camp,** **77.57 339** P **P** **07 25 53.9 +0.9**
baz=120,SNR=23
I29M S **S** **07 35 44.2 +0.6**
baz=120
MCARA **McCarthy VSAT** **77.64 334** IAmb IAmb 07 26 25.0
comp=Z,46nm,1.0s
MCARA IAMs_20 IAMs_20 08 00 52.3
comp=Z,2µm,20.0s
MCARA **McCarthy VSAT** **77.64 334** P **P** **07 25 55.5 +2.1**
baz=114,SNR=8.8
MCARA S **S** **07 35 46.3 +1.9**
baz=114
BORG **Borgarnes** **77.66 22** LR LR 07 56 29.3
comp=Z,858nm,21.3s,baz=240,slow=33
A36M **Sachs Harbour** **77.71 347** P **P** **07 25 52.9 -0.7**
A36M IAmb IAmb 07 25 54.3
comp=Z,74nm,1.1s
A36M **Sachs Harbour** **77.71 347** P **P** **07 25 52.5 -1.1**
baz=134,SNR=62
A36M S **S** **07 35 40.3 -4.5**
baz=134
VRDI **Verde Repeater** **77.76 334** IAMs_20 IAMs_20 08 00 31.6
comp=Z,2µm,21.0s
MVO **Moncorvo** **77.79 48** *eP* **P** **07 25 54.0 -0.8**
comp=Z,174nm,1.6s
GOLM **Goulmima** **77.83 58** P **P** **07 25 57.0 +1.7**
BCAR **Beaver Creek A** **77.84 336** P **P** **07 25 55.8 +1.3**
L27K **Beaver Creek,** **77.85 336** IAMs_20 IAMs_20 08 02 58.7
comp=Z,2µm,18.0s
L27K **Beaver Creek,** **77.85 336** P **P** **07 25 56.1 +1.5**
baz=116,SNR=21
L27K S **S** **07 35 49.4 +2.7**
baz=116
SICH **Sidi Chahed** **77.88 55** P **P** **07 25 58.0 +2.6**
CZD **Col de Zad** **77.95 56** P **P** **07 25 58.0 +1.8**
GLB **Gilahina Butte** **78.01 334** IAmb IAmb 07 26 04.4
comp=Z,55nm,1.2s
GLB IAMs_20 IAMs_20 08 00 51.1
comp=Z,2µm,20.0s
CHEFC **Chefchaouen** **78.02 54** P **P** **07 25 58.1 +1.9**
M26K **Nabesna, AK** **78.05 335** P **P** **07 25 56.7 +0.9**
baz=115,SNR=9.3
SMIR **Smir Dam** **78.08 53** P **P** **07 25 58.6 +2.2**
PBRG **Braganca** **78.12 47** *eP* **P** **07 25 56.9 +0.3**
comp=Z,125nm,1.8s
BMRM **Bremner River** **78.17 333** IAmb IAmb 07 26 21.5
comp=Z,71nm,1.3s
BMRM IAMs_20 IAMs_20 08 02 32.4
comp=Z,2µm,20.0s
BMRM **Bremner River** **78.17 333** P **P** **07 25 57.5 +1.0**
baz=113,SNR=7.0
BMRM S **S** **07 35 50.9 +0.7**
baz=113
LCRM **LCR** **78.20 56** P **P** **07 25 59.0 +1.7**
MDT **Midelt** **78.28 56** P **P** **07 25 58.6 +0.8**
comp=Z,24nm,0.9s,baz=285,slow=5.8,SNR=42
MDT LR LR 08 00 15.2
comp=Z,1µm,18.3s,baz=274,slow=35
MDT **Midelt** **78.28 56** P **P** **07 25 59.5 +1.8**
EGAK **Eagle** **78.36 338** IAmb IAmb 07 26 07.7
comp=Z,78nm,1.3s
EGAK **Eagle** **78.36 338** P **P** **07 25 58.2 +0.9**
baz=117
N25K **Chitina, Valde** **78.42 334** IAmb IAmb 07 26 08.7
comp=Z,74nm,1.9s
N25K IAMs_20 IAMs_20 08 01 03.9
comp=Z,2µm,19.0s
N25K **Chitina, Valde** **78.42 334** P **P** **07 25 59.0 +1.1**
baz=113
L26K **Log Cabin Wild** **78.46 336** P **P** **07 25 59.1 +1.1**
baz=114,SNR=19
L26K S **S** **07 35 54.7 +1.4**
baz=114
FID **Port Fidalgo** **78.94 333** IAMs_20 IAMs_20 08 05 45.0
comp=Z,2µm,19.0s
KLU **Klutina** **78.96 334** IAMs_20 IAMs_20 08 01 48.3
comp=Z,1µm,20.0s
KLU **Klutina** **78.96 334** P **P** **07 26 02.2 +1.4**
baz=112,SNR=10.0
HARP **HAARP** **78.97 335** P **P** **07 26 02.1 +1.3**
baz=113
SCRK **Sand Creek** **79.12 336** P **P** **07 26 02.5 +0.8**
baz=114,SNR=13
SCRK S **S** **07 36 00.8 +0.3**
baz=114
J26L **Joseph Creek** **79.17 337** P **P** **07 26 03.0 +1.1**
baz=114,SNR=22
J26L S **S** **07 36 01.7 +0.9**
baz=114
PALE **Palemas** **79.17 54** P **P** **07 26 04.1 +1.6**
GLI **Glacier Island** **79.27 333** IAmb IAmb 07 26 10.7
comp=Z,33nm,0.5s
GLI IAMs_20 IAMs_20 08 03 54.5
comp=Z,2µm,18.0s
M24K **Tolsona, Glenn** **79.30 334** P **P** **07 26 04.4 +1.7**
baz=112,SNR=8.4
PAX **Paxson** **79.33 335** IAmb IAmb 07 26 12.9
comp=Z,58nm,1.4s
PAX **Paxson** **79.33 335** P **P** **07 26 03.2 +0.4**
baz=112,SNR=17
PAX S **S** **07 36 01.9 -0.8**
baz=112
RIDG **Independent Ri** **79.37 336** IAmb IAmb 07 26 04.9
comp=Z,64nm,1.5s
RIDG **Independent Ri** **79.37 336** P **P** **07 26 03.9 +0.9**
baz=113,SNR=11
RIDG S **S** **07 36 02.1 -0.9**
baz=113
PAB **San Pablo** **79.51 50** P **P** **07 26 04.2 -0.1**
PAB pmax pmax
comp=Z,56nm,1.1s
PAB MLR MLR
comp=Z,1µm,18.0s
PAB **San Pablo** **79.51 50** P **P** **07 26 04.2 -0.1**
PAB IAmb IAmb 07 26 06.2
comp=Z,56nm,1.1s
PAB **San Pablo** **79.51 50** IAMs_20 IAMs_20 08 03 58.8
comp=Z,1µm,18.0s
PAB **San Pablo** **79.51 50** P **P** **07 26 05.7 +1.3**
SCM **Sheep Creek Mo** **79.71 334** IAmb IAmb 07 26 18.2
comp=Z,51nm,1.0s
SCM IAMs_20 IAMs_20 08 04 08.1
comp=Z,1µm,19.0s
SCM **Sheep Creek Mo** **79.71 334** P **P** **07 26 05.9 +1.0**
baz=111,SNR=9.9
K24K **Donnelly Dome** **79.78 336** P **P** **07 26 06.3 +1.1**
baz=112
ESDC **Sonseca Array** **79.82 50** P **P** **07 26 06.0 -0.1**
comp=Z,28nm,0.9s,baz=268,slow=5.5,SNR=126
ESDC LR LR 08 00 31.2
comp=Z,920nm,18.8s,baz=240,slow=35
ESDC **Sonseca Array** **79.82 50** IAmb IAmb 07 26 08.1
comp=Z,66nm,1.2s
ESBB **Sonseca Array** **79.83 50** IAmb IAmb 07 26 08.0
comp=Z,60nm,1.1s
PWL **Port Wells** **79.83 333** IAMs_20 IAMs_20 08 04 12.3
comp=Z,2µm,20.0s
PWL **Port Wells** **79.83 333** P **P** **07 26 05.9 +0.4**
baz=110
M23K **Glacier View** **79.87 334** P **P** **07 26 06.5 +0.8**
baz=110
M23K S **S** **07 36 07.0 -1.3**
baz=110
J25K **Salcha River,** **79.93 337** P **P** **07 26 06.7 +0.7**
J25K **Salcha River,** **79.93 337** P **P** **07 26 06.8 +0.7**
baz=113,SNR=16
J25K S **S** **07 36 08.8 -0.1**
baz=113
RAR **Rarotonga** **79.98 249** LR LR 07 54 09.6
comp=Z,2µm,18.9s,baz=97,slow=30
KNK **Knik Glacier** **80.07 333** P **P** **07 26 07.4 +0.6**
KNK IAmb IAmb 07 26 15.2
comp=Z,48nm,1.0s
KNK IAMs_20 IAMs_20 08 05 49.7
comp=Z,2µm,21.0s
KNK **Knik Glacier** **80.07 333** P **P** **07 26 07.7 +0.9**
baz=110,SNR=15
KNK S **S** **07 36 09.3 -1.1**
baz=110
SEW **Seward** **80.11 332** P **P** **07 26 07.7 +0.8**
baz=108
SEW S **S** **07 36 09.5 -1.2**
baz=108
SML **Sawmill** **80.15 333** IAmb IAmb 07 26 24.6
comp=Z,66nm,1.1s
SML IAMs_20 IAMs_20 08 01 59.1
comp=Z,2µm,21.0s
SML **Sawmill** **80.15 333** P **P** **07 26 08.0 +0.7**
baz=110,SNR=18
SML S **S** **07 36 10.2 -1.1**
baz=110
WAT6 **Susitna Watana** **80.16 334** P **P** **07 26 08.0 +0.6**
baz=110,SNR=16
WAT6 S **S** **07 36 09.5 -2.0**
baz=110
JBK **JBK** **80.17 55** P **P** **07 26 10.0 +1.8**
DHY **Denali Highway** **80.17 335** IAMs_20 IAMs_20 08 02 43.2
comp=Z,2µm,19.0s
DHY **Denali Highway** **80.17 335** P **P** **07 26 07.9 +0.3**
baz=111
O22K **Cooper Landing** **80.35 332** IAMs_20 IAMs_20 08 04 36.3
comp=Z,1µm,20.0s
TAF **Taforalt** **80.36 55** P **P** **07 26 11.0 +2.0**
GHO **Glory Hole Cre** **80.40 333** IAMs_20 IAMs_20 08 06 08.4
comp=Z,1µm,21.0s
PMR **Palmer** **80.44 333** IAmb IAmb 07 26 28.9
comp=Z,111nm,2.0s
PMR **Palmer** **80.44 333** P **P** **07 26 09.2 +0.5**
baz=109
PMR S **S** **07 36 13.7 -0.4**
baz=109
TDRA **Tendrara** **80.46 57** P **P** **07 26 12.0 +2.2**
EUNU **Eureka** **80.50 359** IAmb IAmb 07 26 18.3
comp=Z,110nm,1.9s
RC01 **Rabbit Creek A** **80.55 333** IAmb IAmb 07 26 34.4
comp=Z,75nm,1.3s
RC01 IAMs_20 IAMs_20 08 06 23.5
comp=Z,1µm,20.0s
RC01 **Rabbit Creek A** **80.55 333** P **P** **07 26 10.4 +1.1**
baz=108,SNR=12
RC01 S **S** **07 36 13.8 -1.6**
baz=108
ILAR **Eielson Array** **80.59 337** P **P** **07 26 09.5 0.0**
comp=Z,9.3nm,1.1s,baz=123,slow=3.2,SNR=36
ILAR PP PP **07 29 14.7 +1.6**
comp=Z,4.7nm,1.1s,baz=114,slow=7.2,SNR=4.8
ILAR LR LR 08 03 33.4
comp=Z,2µm,19.7s,baz=161,slow=37
WAT1 **Susitna Watana** **80.59 334** P **P** **07 26 10.1 +0.4**
baz=110
WAT1 S **S** **07 36 14.1 -1.8**
baz=110
BRLK **Bradley Lake** **80.69 331** IAmb IAmb 07 26 18.3
comp=Z,60nm,1.1s
CCA1 **Carmenellis** **80.85 39** *eP* **P** **07 26 11.1 -0.1**
CCA1 IAmb IAmb 07 26 12.7
comp=Z,176nm,1.3s
RND **Reindeer** **80.92 335** IAMs_20 IAMs_20 08 03 13.9
comp=Z,1µm,18.0s
POKR **Poker Plat Res** **80.93 337** P **P** **07 26 12.7 +1.3**
baz=111
M22K **Willow** **80.94 333** IAmb IAmb 07 26 36.0
comp=Z,88nm,1.2s
M22K IAMs_20 IAMs_20 08 06 24.5
comp=Z,1µm,20.0s
M22K **Willow** **80.94 333** P **P** **07 26 12.4 +1.1**
baz=108,SNR=9.6
KDAK **Kodiak Island** **80.98 329** LR LR 08 01 37.3
comp=Z,1µm,18.9s,baz=133,slow=35
KDAK **Kodiak Island** **80.98 329**‖ *eP* **P** **07 26 14.8 +3.1**
KDAK pmax pmax
comp=Z,33nm,1.8s
FIGM **Figuig** **81.00 58** P **P** **07 26 14.0 +1.4**
COLA **College** **81.01 336** *deP* **P** **07 26 11.8 +0.1**
COLA pmax pmax
comp=Z,25nm,1.7s
COLA **College** **81.01 336** P **P** **07 26 11.7 +0.1**
COLA **College** **81.01 336** S **S** **07 36 17.6 -2.4**
baz=111
TCOL **CIGO, UAF Yank** **81.02 336** P **P** **07 26 12.4 +0.6**
baz=111
ILTH **Belurgan, Co L** **81.02 35** *eP* **P** **07 26 11.6 -0.3**
MCK **McKinley** **81.06 335** IAMs_20 IAMs_20 08 03 38.6
comp=Z,2µm,19.0s
MCK **McKinley** **81.06 335** P **P** **07 26 12.6 +0.5**
baz=109,SNR=7.1
MCK S **S** **07 36 19.2 -1.5**
baz=109
BELA **Belgrano 2** **81.07 171** IAmb IAmb 07 26 14.0
comp=Z,81nm,1.3s
CUT **Chulitna** **81.20 334** IAMs_20 IAMs_20 08 07 17.5
comp=Z,1µm,20.0s
CUT **Chulitna** **81.20 334** P **P** **07 26 13.2 +0.4**
baz=108
H24K **Noodor Dome** **81.36 337** IAmb IAmb 07 26 24.0
comp=Z,55nm,1.2s
H24K IAMs_20 IAMs_20 08 04 13.4
comp=Z,2µm,20.0s
H24K **Noodor Dome** **81.36 337** P **P** **07 26 14.4 +0.7**
baz=111,SNR=22
H24K S **S** **07 36 23.3 -0.6**
baz=111
CLGH **Cloghs, Cushen** **81.39 34** *eP* **P** **07 26 13.2 -0.7**
NEA2 **Nenana** **81.41 336** IAmb IAmb 07 26 23.0
comp=Z,58nm,1.4s
NEA2 IAMs_20 IAMs_20 08 03 56.6
comp=Z,2µm,19.0s
NEA2 **Nenana** **81.41 336** P **P** **07 26 14.3 +0.4**
baz=109,SNR=16
NEA2 S **S** **07 36 20.9 -3.3**
baz=109
BWN **Browne** **81.43 336** IAMs_20 IAMs_20 08 04 16.5
comp=Z,1µm,19.0s
RSBS **Rosebush, Pemb** **81.51 37** *eP* **P** **07 26 14.1 -0.6**
TRF **Thorofare Moun** **81.54 335** IAmb IAmb 07 26 25.7
comp=Z,56nm,1.4s
TRF IAMs_20 IAMs_20 08 08 32.4
comp=Z,2µm,20.0s
TRF **Thorofare Moun** **81.54 335** P **P** **07 26 15.6 +0.8**
baz=108,SNR=7.9
TRF S **S** **07 36 23.2 -2.8**
baz=108
O20K **Slope Mountain** **81.62 331** P **P** **07 26 16.3 +1.1**
baz=106,SNR=8.3
I23K **Minto, Yukon-K** **81.71 337** P **P** **07 26 16.1 +0.7**
baz=109,SNR=21
I23K S **S** **07 36 25.8 -1.4**
baz=109
DYA **Yadsworthy** **81.71 39** *eP* **P** **07 26 15.2 -0.6**
DYA IAmb IAmb 07 26 17.1
comp=Z,132nm,1.5s
QUIF **Quistinic** **81.75 42** *eP* **P** **07 26 15.8 -0.2**
QUIF pmax pmax
comp=Z,137nm,1.6s
ROSF **Rostrenen** **81.76 41** *eP* **P** **07 26 15.8 -0.3**
ROSF pmax pmax
comp=Z,167nm,1.5s
P19K **Oil Pt** **81.80 331** P **P** **07 26 16.9 +0.8**
baz=105
Q19K **Cape Douglas,** **81.82 330** P **P** **07 26 16.9 +0.7**
baz=104
CART **Cartagena** **81.83 52** IAMs_20 IAMs_20 07 56 37.4
comp=Z,1µm,22.0s
KTH **Kantishna Hill** **81.84 335** IAMs_20 IAMs_20 08 08 52.4
comp=Z,1µm,19.0s
YRC **Rhoscolyn** **81.87 36** *eP* **P** **07 26 16.6 +0.1**
WLF1 **Llynfaes** **81.98 36** *eP* **P** **07 26 16.1 -1.0**
WIM **Isle of Man** **82.00 35** *eP* **P** **07 26 17.6 +0.4**
WIM IAmb IAmb 07 26 18.6
comp=Z,172nm,1.4s
H23K **Yukon River** **82.00 337** P **P** **07 26 17.7 +0.7**
baz=109,SNR=6.6
H23K S **S** **07 36 28.8 -1.6**
baz=109
BPAW **Bear Paw Mtn.** **82.04 335** P **P** **07 26 17.3 +0.1**
BPAW IAmb IAmb 07 26 26.9
comp=Z,152nm,1.9s
BPAW IAMs_20 IAMs_20 08 07 18.4
comp=Z,1µm,19.0s
BPAW **Bear Paw Mtn.** **82.04 335** P **P** **07 26 17.5 +0.2**
baz=108,SNR=25
BPAW S **S** **07 36 27.0 -3.8**
baz=108
LAWE **Loch Awe, Argy** **82.05 33** *eP* **P** **07 26 16.9 -0.4**
WME **Myndd Eilian** **82.06 36** *eP* **P** **07 26 16.6 -1.0**
IOMK **Kirk Michael** **82.08 35** *eP* **P** **07 26 16.8 -0.8**
YLL **Llanberis** **82.09 36** *eP* **P** **07 26 17.4 -0.3**
GAL1 **Galloway** **82.13 34** *eP* **P** **07 26 16.0 -1.8**
GAL1 IAmb IAmb 07 26 18.8
comp=Z,164nm,1.2s
PPLA **Purkeypile** **82.20 334** P **P** **07 26 18.6 +0.3**
baz=106,SNR=12
PPLA S **S** **07 36 29.4 -3.4**
baz=106
SGMF **Saint Gilles** **82.21 41** *eP* **P** **07 26 18.1 -0.4**
SGMF pmax pmax
comp=Z,136nm,1.4s
CAST **Castle Rocks** **82.30 334** IAMs_20 IAMs_20 08 09 48.5
comp=Z,1µm,20.0s
CAST **Castle Rocks** **82.30 334** P **P** **07 26 18.6 0.0**
baz=106,SNR=21
LLW **Llanuwchllyn** **82.33 37** *eP* **P** **07 26 18.7 -0.2**
TORD **Torodi Ar. Bea** **82.35 77** P **P** **07 26 18.8 -1.1**
comp=Z,37nm,1.0s,baz=281,slow=4.2,SNR=159
TORD PP **PP** **07 29 25.1 -3.8**
comp=Z,15nm,1.2s,baz=278,slow=7.8,SNR=5.3
TORD LR LR 08 00 24.5
comp=Z,7µm,21.6s,baz=249,slow=34
TORD **Torodi Ar. Bea** **82.35 77** P **P** **07 26 19.1 -0.8**
SJPF **Ste Jean** **82.37 47** *eP* **P** **07 26 19.6 +0.2**
SJPF pmax pmax
comp=Z,219nm,1.8s
KAC **Achnashellach** **82.38 32** *eP* **P** **07 26 18.7 -0.4**
NEWG **New Galloway** **82.45 34** *eP* **P** **07 26 18.7 -0.9**
NEWG IAmb IAmb 07 26 20.6
comp=Z,213nm,1.3s
PGBU **Glenifferbraes** **82.45 34** *eP* **P** **07 26 19.4 -0.1**
PGBU IAmb IAmb 07 26 20.5
comp=Z,138nm,1.3s
O19K **Port Alsworth** **82.47 331** IAMs_20 IAMs_20 08 07 44.3
comp=Z,1µm,20.0s
O19K **Port Alsworth** **82.47 331** P **P** **07 26 18.0 -1.5**
baz=104
O19K S **S** **07 36 32.1 -3.1**
baz=104
CHUM **Lake Minchumin** **82.53 335** P **P** **07 26 19.9 +0.1**
baz=106,SNR=9.9
CHUM S **S** **07 36 30.8 -5.0**
baz=106
MCH1 **Michaelchurch** **82.58 37** *eP* **P** **07 26 20.0 -0.3**
MCH1 IAmb IAmb 07 26 21.2
comp=Z,105nm,1.3s
SBD1 **Bryn Du** **82.58 37** *eP* P 07 26 12.8 -7.6
FOEL **Foel Wylfa** **82.62 37** *eP* **P** **07 26 19.9 -0.5**
FOEL IAmb IAmb 07 26 21.4
comp=Z,146nm,1.3s
JSA **Saint Aubin** **82.62 40** *eP* **P** **07 26 20.2 -0.3**
JSA IAmb IAmb 07 26 21.9
comp=Z,67nm,1.1s
N19K **Bonanza Creek** **82.70 332** IAMs_20 IAMs_20 08 08 33.3
comp=Z,2µm,20.0s
N19K **Bonanza Creek** **82.70 332** P **P** **07 26 21.1 +0.3**
baz=104,SNR=8.6
N19K S **S** **07 36 34.6 -3.2**
baz=104
COLD **Coldfoot** **82.71 338** IAmb IAmb 07 26 30.9
comp=Z,47nm,1.4s
COLD **Coldfoot** **82.71 338** P **P** **07 26 22.0 +1.3**
baz=109,SNR=11
COLD S **S** **07 36 37.9 +0.3**
baz=109
P18K **Big Mountain,** **82.72 330** P **P** **07 26 21.2 +0.3**
baz=103
I21K **Tanana** **82.77 336** IAMs_20 IAMs_20 08 07 04.7
comp=Z,1µm,18.0s
I21K **Tanana** **82.77 336** P **P** **07 26 21.2 +0.2**
baz=107,SNR=11
O18K **Koktuh Hills** **82.82 331** P **P** **07 26 21.9 +0.6**
baz=103
ETSF **Etsaut** **82.82 47** P **P** **07 26 22.0 +0.1**
ETSF pmax pmax
comp=Z,155nm,2.1s
L20K **Farewell, AK** **82.84 333** P **P** **07 26 21.3 -0.1**
baz=105,SNR=26
L20K S **S** **07 36 33.6 -5.4**
baz=105
M19K **Big River Lodg** **82.92 333** IAMs_20 IAMs_20 08 04 47.5
comp=Z,1µm,19.0s
M19K **Big River Lodg** **82.92 333** P **P** **07 26 22.2 +0.3**
baz=104
M19K S **S** **07 36 35.5 -4.4**
baz=104
TOLK **Toolik Lake Re** **82.96 340** IAMs_20 IAMs_20 08 06 37.2
comp=Z,2µm,20.0s
TOLK **Toolik Lake Re** **82.96 340** P **P** **07 26 22.1 +0.1**
baz=110,SNR=6.1
KESW **Keswick, Cumbr** **82.99 35** *eP* **P** **07 26 21.7 -0.7**
KESW IAmb IAmb 07 26 23.4
comp=Z,177nm,1.3s
STRD **Stroud** **83.05 38** *eP* **P** **07 26 22.2 -0.5**
STRD IAmb IAmb 07 26 23.2
comp=Z,118nm,1.0s
ESK **Eskdalemuir** **83.07 34** P **P** **07 26 22.5 -0.2**
ESK pmax pmax
comp=Z,134nm,1.3s
ESK **Eskdalemuir** **83.07 34** P **P** **07 26 22.5 -0.2**
EKA **Eskdalemuir Ar** **83.09 34** P **P** **07 26 22.7 -0.1**
comp=Z,51nm,1.0s,baz=252,slow=4.4,SNR=6.1
EKA LR LR 08 00 56.2
comp=Z,840nm,20.9s,baz=260,slow=34
K20K **Telida** **83.15 334** IAmb IAmb 07 26 31.8
comp=Z,54nm,1.1s
K20K IAMs_20 IAMs_20 08 04 41.9
comp=Z,2µm,22.0s
K20K **Telida** **83.15 334** P **P** **07 26 23.1 +0.1**
baz=105,SNR=18

K20K S S 07 36 38.2 -4.0
baz=105
L19K White Mountain 83.20 333 IAMs_20 IAMs_20 08 02 04.5
comp=Z,1µm,21.0s
L19K White Mountain 83.20 333 P P 07 26 23.3 -0.1
baz=104,SNR=12
H21K Melozitna Rive 83.24 337 IAMs_20 IAMs_20 08 05 03.0
comp=Z,2µm,20.0s
H21K Melozitna Rive 83.24 337 P P 07 26 23.3 -0.1
baz=106,SNR=7.0
STNC Stoke 83.24 36 *e*P P 07 26 23.4 -0.3
ALE Alert 83.28 2 IAMs_20 IAMs_20 08 04 38.0
comp=Z,2µm,20.0s
SVW2 Sparrevohn 83.28 332 IAmb IAmb 07 26 32.9
comp=Z,99nm,1.9s
N18K Kilae Creek 83.34 331 P P 07 26 23.8 -0.3
N18K IAmb IAmb 07 26 32.8
comp=Z,33nm,0.9s
N18K IAMs_20 IAMs_20 08 10 17.2
comp=Z,1µm,19.0s
N18K Kilae Creek 83.34 331 P P 07 26 24.0 -0.1
baz=103,SNR=10.0
N18K S S 07 36 40.1 -4.1
baz=103
GRR Gorron 83.36 41 *e*P P 07 26 24.0 -0.4
GRR pmax pmax
comp=Z,144nm,1.3s
J20K Nowinta River 83.39 335 IAmb IAmb 07 26 33.0
comp=Z,44nm,1.1s
J20K IAMs_20 IAMs_20 08 08 09.2
comp=Z,2µm,19.0s
J20K Nowinta River 83.39 335 P P 07 26 24.3 +0.1
baz=105,SNR=28
EDU Dundee 83.40 33 *e*P P 07 26 24.6 +0.1
VNA3 Neumayer Olymp 83.43 162 P P 07 26 24.8 +0.5
MCD Coleburn Disti 83.47 32 *e*P P 07 26 24.6 -0.2
EPF Esparros 83.50 47 *e*P P 07 26 25.4 +0.1
EPF pmax pmax
comp=Z,135nm,1.5s
ESY Stoneypath 83.51 34 *e*P P 07 26 24.9 -0.1
WOL Wolverton 83.55 38 *e*P P 07 26 25.0 -0.4
LBWR Ladybower, Pea 83.58 36 *e*P P 07 26 25.3 -0.1
LBWR IAmb IAmb 07 26 26.9
comp=Z,177nm,1.1s
MFF Saint Martin d 83.59 43 *e*P P 07 26 25.3 -0.3
MFF pmax pmax
comp=Z,179nm,1.6s
FLN La Foliniere 83.66 41 *e*P P 07 26 25.7 -0.2
FLN pmax pmax
comp=Z,184nm,1.4s
EDMD Edmundbyers 83.68 35 *e*P P 07 26 25.0 -1.0
EDMD IAmb IAmb 07 26 26.9
comp=Z,210nm,1.7s
VNA1 Neumayer--Stat 83.69 161 P P 07 26 26.8 +1.2
CWF Charnwood Fore 83.72 37 *e*P P 07 26 25.4 -0.8
LDF La Druitiere 83.87 41 *e*P P 07 26 26.6 -0.4
LDF pmax pmax
comp=Z,167nm,1.5s
TTA Tatalina 83.90 334 IAmb IAmb 07 26 36.3
comp=Z,54nm,1.7s
TTA Tatalina 83.90 334 P P 07 26 27.2 +0.2
baz=103,SNR=9.1
LFF La Frestale 84.00 45 *e*P P 07 26 27.4 -0.4
LFF pmax pmax
comp=Z,177nm,1.6s
VNA2 Neumayer--Watz 84.04 162 P P 07 26 27.8 +0.3
baz=288,slow=4.0
DAG Danmarks Havn 84.17 12 P P 07 26 27.0 -1.0
DAG pmax pmax
comp=Z,55nm,1.3s
DAG Danmarks Havn 84.17 12 *i* P P 07 26 25.9 -2.1
DAG IAmb IAmb 07 26 27.7
comp=Z,11nm,0.9s
LMK Market Rasen 84.42 36 *e*P P 07 26 29.5 -0.2
JMIC Jan Mayen 84.57 18 LR LR 08 01 22.4
comp=Z,703nm,21.9s,baz=246,slow=34
RJF Les Rejaudoux 84.59 45 *e*P P 07 26 30.4 -0.4
RJF pmax pmax
comp=Z,149nm,1.5s
GCSA Galena City Sc 84.67 335 P P 07 26 31.6 +0.9
baz=102
GCSA S S 07 36 55.4 -1.9
baz=102
SDPT Sand Point 84.75 326 P P 07 26 37.4 +6.1
baz=98
MTLF Montolieu 84.89 47 P P 07 26 32.1 -0.3
MTLF pmax pmax
comp=Z,80nm,1.6s
CAF Calviac 84.94 45 *e*P P 07 26 32.2 -0.4
CAF pmax pmax
comp=Z,110nm,1.6s
ELMS Elmsett, Ipswi 85.03 38 *e*P P 07 26 31.9 -0.9
ELMS IAmb IAmb 07 26 33.9
comp=Z,197nm,1.4s
TCF Toulx Ste Croi 85.17 44 *e*P P 07 26 33.0 -0.7
TCF pmax pmax
comp=Z,153nm,1.7s
CLF Chambon-Foret 85.38 42 IAMs_20 IAMs_20 08 05 57.8
comp=Z,1µm,21.0s
BGF Bois d'Agland 85.64 43 *e*P P 07 26 35.6 -0.4
BGF pmax pmax
comp=Z,249nm,1.5s
SNAA Sanae 85.65 162 P P 07 26 36.0 +0.4
SNAA Sanae 85.65 162 *de*P P 07 26 36.4 +0.8
SNAA pmax pmax
comp=Z,69nm,1.7s
SNAA Sanae 85.65 162 P P 07 26 35.2 -0.4
AVF Avril sur Loir 86.00 43 *e*P P 07 26 37.0 -0.8
AVF pmax pmax
comp=Z,82nm,1.3s
A21K Barrow 86.04 342 P P 07 26 38.5 +1.0
baz=103,SNR=9.2
A21K S S 07 37 09.5 -1.1
baz=103
SSF Saint Saulge 86.13 43 *e*P P 07 26 37.6 -0.9
SSF pmax pmax
comp=Z,108nm,1.5s
LOR Lormes 86.39 43 P P 07 26 39.2 -0.5
LOR pmax pmax
comp=Z,55nm,2.1s
NOR Nord 86.71 8 P P 07 26 40.5 -0.1
NOR pmax pmax
comp=Z,67nm,1.9s
NOR Nord 86.71 8 *i* P P 07 26 38.0 -2.6
NOR IAmb IAmb 07 26 48.6
comp=Z,11nm,1.0s
SSB Saint Sauveur 86.71 45 IAmb IAmb 07 26 43.5
comp=Z,73nm,1.4s
SSB Saint Sauveur 86.71 45 IAMs_20 IAMs_20 08 04 00.3
comp=Z,1µm,20.0s
VIVF Saint-Julien-l 86.78 45 *e*P P 07 26 41.6 -0.1
VIVF pmax pmax
comp=Z,157nm,2.1s
BAIF Baives 86.84 40 *e*P P 07 26 41.4 -0.4
BAIF pmax pmax
comp=Z,137nm,1.8s
SNF Seneffe 86.92 40 *d*P P 07 26 42.5 +0.3
UCC Uccle 86.99 39 *d*P P 07 26 43.1 +0.5
DOU Dourbes 87.09 40 *d*P P 07 26 43.5 +0.4
comp=Z,35nm,1.3s
BMRD Maredsous 87.22 40 *d*P P 07 26 44.0 +0.3
comp=Z,21nm,1.5s
GIVF Givet 87.24 40 *e*P P 07 26 43.6 -0.2
GIVF pmax pmax
comp=Z,332nm,1.6s
TROLL Troll, Antarti 87.36 162 P P 07 26 44.7 +0.6
BGES Gesves 87.43 40 *d*P P 07 26 44.6 -0.1
comp=Z,26nm,1.4s
RCHB Rochefort 87.50 40 *d*P P 07 26 45.2 +0.2
comp=Z,28nm,1.4s
BCLA Clavier 87.57 40 *d*P P 07 26 45.8 +0.5
comp=Z,24nm,1.5s
ORIF Oris-en-Rattie 87.64 45 *e*P P 07 26 46.1 +0.1
ORIF pmax pmax
comp=Z,214nm,2.1s
BSTI Sart Tilman 87.75 40 *d*P P 07 26 47.0 +0.8
BEBN Eben Emael 87.83 39 *d*P P 07 26 46.4 -0.1
CABF La Chapelle 87.87 44 *e*P P 07 26 46.7 -0.3
CABF pmax pmax
comp=Z,103nm,1.4s
BHOU Houvegnez 88.01 40 *d*P P 07 26 48.0 +0.5
comp=Z,24nm,1.5s
MEM Membach 88.03 40 P P 07 26 47.4 -0.1
MEM pmax pmax
comp=Z,67nm,1.7s
MEM Membach 88.03 40 *d*P P 07 26 48.2 +0.7
comp=Z,24nm,1.3s
WLF Walferdange 88.07 40 P P 07 26 48.1 +0.3
WLF pmax pmax
comp=Z,91nm,1.9s
WLF Walferdange 88.07 40 IAMs_20 IAMs_20 08 03 57.9
comp=Z,994nm,20.0s
WLF Walferdange 88.07 40 *e*P P 07 26 48.4 +0.6
comp=Z,239nm,1.6s,baz=270,slow=4.7
WLF Walferdange 88.07 40 *d*P P 07 26 48.3 +0.6
comp=Z,36nm,1.4s
BTNL Ternell 88.10 40 *d*P P 07 26 48.4 +0.4
comp=Z,18nm,1.5s
HAU Haudompre 88.12 42 *e*P P 07 26 47.5 -0.6
HAU pmax pmax
comp=Z,112nm,1.6s
FRF La Foret Royal 88.13 47 *e*P P 07 26 47.5 -0.7
FRF pmax pmax
comp=Z,40nm,1.2s
BNI Bardonecchia 88.21 45 P P 07 26 49.0 +0.2
BNI pmax pmax
comp=Z,26nm,2.5s
BNI Bardonecchia 88.21 45 IAmb IAmb 07 26 51.0
comp=Z,31nm,1.3s
BNI IAMs_20 IAMs_20 08 08 58.9
comp=Z,2µm,20.0s
BER Bergen 88.25 30 P P 07 26 44.4 -3.9
BER pmax pmax
comp=Z,78nm,1.5s
ANM Nome 88.26 335 IAmb IAmb 07 26 58.2
comp=Z,32nm,1.0s
ANM IAMs_20 IAMs_20 08 12 33.0
comp=Z,1µm,20.0s
ANM Nome 88.26 335 P P 07 26 50.0 +1.6
baz=94,SNR=9.0
ANM S S 07 37 31.7 -0.6
baz=94
MBDF Montbardon 88.26 45 *e*P P 07 26 48.8 -0.2
MBDF pmax pmax
comp=Z,35nm,1.5s
LPL La Plagne 88.27 45 *e*P P 07 26 49.3 +0.2
LPL pmax pmax
comp=Z,62nm,1.5s
LPG La Plagne 88.28 45 *e*P P 07 26 49.6 +0.3
LPG pmax pmax
comp=Z,57nm,1.4s
ISO Isola 88.44 46 P P 07 26 49.4 -0.4
ISO pmax pmax
comp=Z,28nm,1.5s
HINF Hinteralfeld 88.45 42 *e*P P 07 26 48.9 -0.8
HINF pmax pmax
comp=Z,82nm,1.6s
ECH Echery 88.67 42 P P 07 26 50.8 +0.1
ECH pmax pmax
comp=Z,92nm,1.3s
ECH Echery 88.67 42 P P 07 26 50.8 +0.1
SENIN Lac Senin/Sane 88.70 44 IAMs_20 IAMs_20 08 10 49.6
comp=Z,1µm,19.0s
AHRW Bad Neuenahr-A 88.70 40 *e*P P 07 26 51.4 +0.6
comp=Z,177nm,1.6s,baz=270,slow=4.7
SBF Sospel 88.71 46 *e*P P 07 26 50.1 -0.9
SBF pmax pmax
comp=Z,42nm,1.2s
CDF Champ du Feu 88.75 42 *e*P P 07 26 50.6 -0.6
CDF pmax pmax
comp=Z,72nm,1.4s
SAOF Saorge 88.80 46 P P 07 26 51.3 -0.1
SAOF pmax pmax
comp=Z,25nm,0.9s
BUG Bochum--Univer 88.86 39 P P 07 26 51.5 +0.1
BUG pmax pmax
comp=Z,43nm,2.6s
BUG Bochum--Univer 88.86 39 *e*P P 07 26 51.9 +0.5
comp=Z,248nm,2.1s,baz=270,slow=4.7
IBBN Ibbenburen 89.19 38 *e*P P 07 26 53.8 +0.8
comp=Z,181nm,2.0s,baz=270,slow=4.7
TNA Tin City 89.40 335 P P 07 26 55.2 +1.5
TNA IAmb IAmb 07 27 03.9
comp=Z,50nm,1.1s
TNA Tin City 89.40 335 P P 07 26 54.5 +0.8
baz=92
TNA S S 07 37 43.1 +0.2
baz=92
BFO Black Forest 89.45 42 P P 07 26 54.8 +0.4
BFO pmax pmax
comp=Z,47nm,1.7s
BFO Black Forest 89.45 42 P P 07 26 54.8 +0.4
BFO IAmb IAmb 07 26 57.7
comp=Z,47nm,1.7s
BFO Black Forest 89.45 42 *e*P P 07 26 54.3 -0.1
comp=Z,40nm,1.6s,baz=270,slow=4.7
SLE Schleitheim 89.55 42 P P 07 26 54.7 -0.2
SLE pmax pmax
comp=Z,50nm,1.8s
TNS Taunus Mts 89.57 40 P P 07 26 54.9 0.0
TNS pmax pmax
comp=Z,28nm,1.8s
TNS Taunus Mts 89.57 40 *e*P P 07 26 54.9 0.0
comp=Z,108nm,1.8s,baz=270,slow=4.7
KASTN Kahler Asten 89.57 39 *e*P P 07 26 55.4 +0.5
comp=Z,140nm,2.3s,baz=270,slow=4.7
QSPA South Pole Qui 89.60 180 P P 07 26 55.4 +0.7
KEST Kesra 90.01 54 P P 07 26 57.4 0.0
comp=Z,17nm,1.0s,baz=304,slow=4.0,SNR=10
KEST LR LR 08 09 28.5
comp=Z,2µm,18.1s,baz=212,slow=37
STU Stuttgart 90.04 41 P P 07 26 57.2 +0.2
STU pmax pmax
comp=Z,72nm,1.4s
STU Stuttgart 90.04 41 P P 07 26 57.2 +0.2
STU IAmb IAmb 07 26 58.9
comp=Z,72nm,1.4s
STU Stuttgart 90.04 41 *e*P P 07 26 57.3 +0.2
comp=Z,222nm,1.6s,baz=270,slow=4.7
RETH Rethem/Aller, 90.18 37 *e*P P 07 26 58.3 +0.7
comp=Z,153nm,2.2s,baz=270,slow=4.7
KONO Kongsberg 90.36 311 *e*P P 07 26 57.9 -0.4
KONO pmax pmax
comp=Z,20nm,1.4s
DAVOX Davos/Dischmat 90.48 43 P P 07 27 00.2 +0.8
comp=Z,16nm,0.9s,baz=270,slow=3.6,SNR=26
DAVOX LR LR 08 06 39.7
comp=Z,789nm,18.8s,baz=268,slow=35
DAVA Damuels 90.49 43 *i* P P 07 26 60.0 +0.6
comp=Z,36nm,1.1s,SNR=14
GTTG Gottingen 90.55 39 *e*P P 07 26 60.0 +0.6
comp=Z,224nm,2.6s,baz=270,slow=4.7
UBBA Unterbreizbach 90.57 39 *e*P P 07 26 60.0 +0.6
comp=Z,172nm,2.6s,baz=270,slow=4.7
NRDL Niedersach Rie 90.64 38 *e*P P 07 27 00.4 +0.8
comp=Z,189nm,2.8s,baz=270,slow=4.7
UBR Ueberruh 90.64 43 *e*P P 07 27 00.0 0.0
comp=Z,161nm,1.7s,baz=270,slow=4.7
BSEG Bad Segeberg 90.76 36 *e*P P 07 27 01.0 +0.7
comp=Z,122nm,2.2s,baz=270,slow=4.7
CLZ Clausthal 90.80 38 *e*P P 07 27 01.3 +0.7
comp=Z,184nm,2.7s,baz=270,slow=4.7
KBS Kingsbay 90.89 111 *e*P P 07 27 02.5 +2.1
KBS pmax pmax
comp=Z,24nm,1.0s
KBS Kingsbay 90.89 11 IAMs_20 IAMs_20 08 05 49.7
comp=Z,1µm,22.0s
ASSE Asse, Remlinge 90.98 38 *e*P P 07 27 02.0 +0.8
comp=Z,245nm,2.7s,baz=270,slow=4.7
GAMB Gambell 91.01 334 IAMs_20 IAMs_20 08 13 32.7
comp=Z,1µm,22.0s
GAMB Gambell 91.01 334 P P 07 27 02.2 +1.0
baz=89
FETA Feichten 91.07 43 *e*P P 07 27 02.2 +0.1
comp=Z,56nm,1.3s,SNR=19
RETA Reutte 91.08 43 *e*P P 07 27 02.0 -0.1
comp=Z,20nm,1.3s,SNR=10
NB2 NORSAR Subarra 91.16 29 P P 07 27 01.5 -0.5
comp=Z,153nm,2.5s,baz=270,slow=4.8
NB2 NORSAR Subarra 91.16 29 P P 07 27 01.5 -0.5
baz=270,slow=4.8
NOA NORSAR Array B 91.16 29 P P 07 27 01.4 -0.6
comp=Z,3.4nm,1.0s,baz=269,slow=4.3,SNR=5.7
NOA LR LR 08 03 54.1
comp=Z,422nm,21.8s,baz=270,slow=33
ZCCA Zocca 91.26 46 IAmb IAmb 07 27 04.5
comp=Z,42nm,1.0s
AFI Afiamalu 91.28 256 LR LR 07 58 18.1
comp=Z,2µm,19.3s,baz=93,slow=29
MOTA Moosalm 91.32 43 *e*P P 07 27 03.4 +0.1
comp=Z,45nm,1.4s,SNR=17
FLTG Flechtingen 91.33 38 *e*P P 07 27 03.4 +0.4
baz=270,slow=4.7
GRFO Grafenberg 91.36 40 P P 07 27 03.3 +0.1
GRFO pmax pmax
comp=Z,87nm,1.7s
GRFO Grafenberg 91.36 40 P P 07 27 03.3 +0.1
GRFO IAMs_20 IAMs_20 08 04 31.0
comp=Z,1µm,22.0s
GRA1 Grafenberg Arr 91.36 40 P P 07 27 03.0 -0.2
GRA1 IAMs_20 IAMs_20 08 04 31.0
comp=Z,1µm,22.0s
GRF Grafenberg Arr 91.36 40 P P 07 27 03.0 -0.2
GRF pmax pmax
comp=Z,83nm,1.7s
GRF Grafenberg Arr 91.36 40 *e*P P 07 27 03.7 +0.4
comp=Z,115nm,1.9s,baz=270,slow=4.7
SQTA Sankt Quirin 91.39 43 *e*P P 07 27 03.9 +0.3
comp=Z,52nm,1.4s,SNR=15
FUR Furstenfeldbru 91.42 42 P P 07 27 03.3 -0.3
FUR pmax pmax
comp=Z,56nm,1.8s
FUR Furstenfeldbru 91.42 42 *e*P P 07 27 04.0 +0.4
comp=Z,177nm,1.7s,baz=270,slow=4.7
MOX Moxa 91.60 40 P P 07 27 04.4 +0.1
MOX pmax pmax
comp=Z,19nm,2.5s
MOX Moxa 91.60 40 *e*P P 07 27 05.2 +0.9
comp=Z,81nm,1.9s,baz=270,slow=4.7
WATA Walderalm 91.64 43 *i* P P 07 27 04.6 -0.1
comp=Z,42nm,1.5s,SNR=7.1
WTTA Wattenberg 91.68 43 *e*P P 07 27 05.2 +0.2
comp=Z,37nm,1.4s,SNR=11
WTTA Wattenberg 91.68 43 P P 07 27 05.1 +0.1
WTTA pmax pmax
comp=Z,41nm,1.7s
NEUB Neuenburg 91.69 39 *e*P P 07 27 05.7 +1.0
comp=Z,72nm,1.7s,baz=270,slow=4.7
TEOL Teolo 91.74 45 P P 07 27 04.7 -0.3
SPITS Spitsbergen Ar 91.82 12 LR LR 08 08 18.4
comp=Z,637nm,21.9s,baz=13,slow=36
MANZ Manzenberg 91.93 40 *e*P P 07 27 06.4 +0.5
comp=Z,27nm,1.9s,baz=270,slow=4.7
PLN Plauen 91.95 40 *e*P P 07 27 06.5 +0.5
comp=Z,75nm,1.7s,baz=270,slow=4.7
ROTZ Rotzenmuhle 92.00 40 *e*P P 07 27 06.8 +0.6
comp=Z,22nm,1.6s,baz=270,slow=4.7
WERD Werda 92.04 40 *e*P P 07 27 07.1 +0.7
comp=Z,54nm,1.5s,baz=270,slow=4.7
GUNZ Gunzen 92.06 40 *e*P P 07 27 07.5 +1.1
comp=Z,111nm,1.9s,baz=270,slow=4.7
WERN Wernitzgruen 92.09 40 *e*P P 07 27 07.2 +0.5
comp=Z,108nm,1.8s,baz=270,slow=4.7
NKC Novy Kostel 92.14 40 *e*P P 07 27 07.6 +0.8
NKC *e*SKS **SKSac** 07 37 41.7 +2.2
NKC AMS AMS 08 05 30.0
TANN Tannenbergstha 92.14 40 *e*P P 07 27 07.2 +0.3
comp=Z,92nm,1.7s,baz=270,slow=4.7
ABTA Abfaltersbach 92.29 43 *e*P P 07 27 07.7 0.0
comp=Z,30nm,1.3s,SNR=14
HFS Hagfors 92.41 30 LR LR 08 07 24.5
comp=Z,417nm,19.3s,baz=268,slow=35
STAL STALIGIAL 92.45 44 P P 07 27 08.7 +0.3
CLL Collm 92.45 39 *i* P P 07 27 08.8 +0.6
CLL *e* 07 37 42.0
CLL *e*S **S** 07 38 10.0 -1.5
CLL pmax pmax
comp=Z,92nm,1.9s
CLL Collm 92.45 39 P P 07 27 08.0 -0.2
CLL IAmb IAmb 07 27 09.4
comp=Z,32nm,1.5s
CLL IAMs_20 IAMs_20 08 09 38.8
comp=Z,1µm,20.0s
CLL Collm 92.45 39 *i* P P 07 27 08.8 +0.6
comp=Z,92nm,1.9s
CLL *e*PP **PP** 07 30 46.0 -3.2
CLL *e*SKSac **SKSac** 07 37 42.0 +0.9
CLL *e*S **S** 07 38 10.0 -1.5
CLL *ex* x 07 38 55.0
CLL *e*PS PnS 07 39 28.0 +2.5
CLL *e*PPS PPS 07 39 55.0
CLL *e*SS **SS** 07 44 30.0 +7.4
CLL Collm 92.45 39 *e*P P 07 27 08.9 +0.6
comp=Z,92nm,1.9s,baz=270,slow=4.7
RJOB Jochberg 92.45 42 *e*P P 07 27 08.2 -0.2
comp=Z,246nm,2.7s,baz=270,slow=4.7
WET Wettzell 92.46 41 P P 07 27 08.8 +0.4
WET pmax pmax
comp=Z,48nm,1.6s
WET Wettzell 92.46 41 *e*P P 07 27 08.7 +0.4
comp=Z,117nm,1.5s,baz=270,slow=4.7
RGN Rugen 92.50 36 IAMs_20 IAMs_20 08 08 24.0
comp=Z,2µm,19.0s
FBE Freiberg 92.69 39 *e*P P 07 27 10.2 +0.9
comp=Z,129nm,1.9s,baz=270,slow=4.7
KBA Koelnbreinsper 92.85 43 *e*P P 07 27 10.4 -0.1
comp=Z,22nm,1.4s,SNR=10
KBA Koelnbreinsper 92.85 43 P P 07 27 10.3 -0.1
KBA pmax pmax
comp=Z,20nm,1.4s
KHC Kasperske Hory 92.92 41 *c* *i* P P 07 27 10.6 +0.1
KHC pmax pmax
comp=Z,52nm,1.2s
KHC Kasperske Hory 92.92 41 *e*P P 07 27 11.1 +0.6
KHC *ex* x 07 38 07.3
KHC AMS AMS 08 01 00.0
comp=Z,2µm,32.0s
GEC2 GERESS Array S 93.01 41 IAmb IAmb 07 27 12.8
comp=Z,30nm,1.3s
GEC2 GERESS Array S 93.01 41 *e*P P 07 27 11.0 0.0
comp=Z,44nm,1.6s,baz=270,slow=4.7
GERES GERESS Array B 93.01 41 P P 07 27 11.4 +0.4
comp=Z,6.1nm,1.0s,baz=243,slow=5.8,SNR=28
GERES LR LR 08 08 49.3
comp=Z,647nm,19.4s,baz=254,slow=35
BIOA Bad Ischl, Aus 93.03 42 *e*P P 07 27 10.8 -0.1
comp=Z,64nm,1.5s,SNR=24
BRG Berggiesshubel 93.07 39 *e*P P 07 27 12.3 +1.2
BRG Amp 07 27 14.3
comp=Z,88nm,1.8s
BRG Berggiesshubel 93.07 39 *e*P P 07 27 12.2 +1.2
BRG pmax pmax
comp=Z,88nm,1.8s
BRG Berggiesshubel 93.07 39 *e*P P 07 27 11.2 +0.1
comp=Z,88nm,1.8s,baz=270,slow=4.7
MYKA Terra Mystica 93.08 44 *e*P P 07 27 11.2 -0.1
comp=Z,24nm,1.2s,SNR=11
AQU L'Aquila 93.08 48 IAMs_20 IAMs_20 08 13 46.0
comp=Z,968nm,20.0s
CADS Cadrg 93.16 44 *i* P P 07 27 11.7 0.0
CKRC Cesky Krumlov 93.42 41 *e*P P 07 27 13.0 +0.2
CKRC *e*SKS **SKSac** 07 37 46.1 -0.5
MOA Molln 93.44 42 *e*P P 07 27 13.0 +0.1
comp=Z,40nm,1.5s,SNR=16
PVCC Panska Ves 93.48 40 *e*P P 07 27 14.6 +1.6
PVCC AMS AMS 08 04 20.0
comp=Z,2µm,24.6s
PRU Pruhonice 93.50 40 P P 07 27 14.4 +1.3
PRU pmax pmax
comp=Z,27nm,1.9s
PRU Pruhonice 93.50 40 *e*P P 07 27 14.6 +1.5
PRU *e*SKS **SKSac** 07 37 50.5 +3.6
PRU AMS AMS 08 05 40.0
comp=Z,1µm,19.9s
OBKA Obir 93.71 44 *e*P P 07 27 14.1 -0.2
comp=Z,15nm,1.4s
LJU Ljubljana 93.72 44 *i* P P 07 27 14.5 +0.3
SOKA Soboth 94.03 43 *e*P P 07 27 15.2 -0.5
comp=Z,12nm,1.1s,SNR=6.4
VAE Valguarnera 94.06 53 P P 07 27 16.6 +0.6
comp=Z,12nm,1.0s,baz=314,slow=4.1,SNR=6.7
VAE LR LR 08 13 23.3
comp=Z,1µm,18.1s,baz=248,slow=38
PERS Pernice 94.09 43 *i* P P 07 27 15.7 -0.3
TREC Trest 94.16 41 AMS AMS 08 06 20.0
comp=Z,1µm,21.2s
SBA Scott Base 94.28 191 P P 07 27 17.5 +1.4
SBA pmax pmax
comp=Z,22nm,1.2s
SBA Scott Base 94.28 191 P P 07 27 17.5 +1.4
SBA IAmb IAmb 07 27 26.9
comp=Z,22nm,1.2s
ARSA Arzberg 94.33 43 *e*P P 07 27 16.5 -0.5
comp=Z,21nm,1.2s,SNR=13
UPC Upice 94.40 40 *e*P P 07 27 17.8 +0.6
UPC *e*SKS **SKSac** 07 37 50.5 -1.4
UPC AMS AMS 08 04 50.0
comp=Z,1µm,24.4s
CHVC Chvalec 94.42 39 *e*P P 07 27 17.8 +0.4

CHVC AMS AMS 08 05 00.0
comp=Z,900nm,19.3s
CONA Conrad Observa 94.51 42 *e*P **P 07 27 17.7 -0.2**
comp=Z,45nm,1.4s,SNR=19
OSTC Ostas 94.53 39 *e*P **P 07 27 18.2 +0.4**
OSTC *e*SKS **SKSac 07 37 48.3 -4.8**
OSTC AMS AMS 08 05 40.0
comp=Z,1μm,21.9s
KSP Ksiaz 94.55 39 *e*P **P 07 27 18.7 +0.8**
KSP Ksiaz 94.55 39 P **P 07 27 19.3 +1.4**
KSP pmax pmax
comp=Z,29nm,2.2s
DPC Dobruska-Polom 94.61 40 *e*P **P 07 27 19.0 +0.7**
DPC *e*SKS **SKSac 07 37 48.3 -4.8**
DPC AMS AMS 08 05 10.0
comp=Z,1μm,24.1s
KRUC Moravsky 94.77 41 P **P 07 27 20.3 +1.4**
KRUC pmax pmax
comp=Z,48nm,1.7s
KRUC Moravsky 94.77 41 *e*P **P 07 27 19.0 +0.1**
RONA Rosalia, Austr 94.82 42 *e*P **P 07 27 19.6 +0.4**
comp=Z,22nm,1.2s,SNR=8.5
VRAC Vranov 94.88 41 ⇑P **P 07 27 20.0 +0.5**
VRAC Vranov 94.88 41 P **P 07 27 20.8 +1.3**
comp=Z,21nm,1.1s,baz=266,slow=6.3,SNR=34
VRAC LR LR 08 07 43.3
comp=Z,781nm,21.9s,baz=252,slow=34
VRAC Vranov 94.88 41 ⇑P **P 07 27 20.0 +0.5**
VRAC Vranov 94.88 41 *e*P **P 07 27 19.3 -0.2**
KRLC Kraliky 94.93 40 P **P 07 27 21.6 +1.9**
KRLC pmax pmax
comp=Z,39nm,1.6s
KRLC Kraliky 94.93 40 *e*P **P 07 27 20.9 +1.2**
KRLC *e*S SKSac 07 37 37.3 -18
KRLC AMS AMS 08 10 50.0
comp=Z,800nm,16.6s
CEL Celeste 95.19 52 IAMs_20 IAMs_20 08 16 17.9
comp=Z,919nm,19.0s
ZST Bratislava 95.31 42 *e*P **P 07 27 22.5 +1.1**
ZST Bratislava 95.31 42 *e*PDIFF **P 07 27 22.5 +1.1**
VNDA Vanda 95.38 191 P **P 07 27 20.5 -0.6**
comp=Z,5.4nm,1.2s,baz=118,slow=4.1,SNR=13
VNDA Vanda 95.38 191 P **P 07 27 22.3 +1.1**
VNDA Vanda 95.38 191 P **P 07 27 22.3 +1.1**
MODS Modra-Piesok 95.41 42 *e*P **P 07 27 22.8 +0.9**
MODS Modra-Piesok 95.41 42 *e*PDIFF **P 07 27 22.8 +0.9**
MORC Moravsky Berou 95.45 40 ⇑P **P 07 27 22.9 +0.8**
MORC Moravsky Berou 95.45 40 ⇑P **P 07 27 22.9 +0.8**
MORC Moravsky Berou 95.45 40 P **P 07 27 23.0 +0.8**
MORC IAmb IAmb 07 27 24.7
comp=Z,44nm,1.3s
MORC Moravsky Berou 95.45 40 *e*P **P 07 27 22.3 +0.2**
JAVC Velka Javorina 95.63 41 *e*P **P 07 27 24.0 +1.1**
TIP Timpagrande 95.80 51 IAMs_20 IAMs_20 08 12 29.5
comp=Z,875nm,21.0s
OKC Ostrava-Krasne 95.83 40 *e*P **P 07 27 25.1 +1.3**
OKC *ex* x 07 38 27.9
OKC AMS AMS 08 07 00.0
comp=Z,900nm,24.9s
ARCES ARCESS Array B 95.94 20 P **P 07 27 22.9 -0.9**
comp=Z,6.7nm,1.0s,baz=305,slow=4.3,SNR=8.3
ARCES ARCESS Array B 95.94 20 IAmb IAmb 07 27 24.4
comp=Z,40nm,1.4s
RAO Raoul Island 96.39 241 LR LR 08 00 23.8
comp=Z,2μm,21.6s,baz=96,slow=29
VYHS Vyhne 96.43 41 *e*P **P 07 27 28.1 +1.5**
VYHS Vyhne 96.43 41 *e*PDIFF **P 07 27 28.1 +1.5**
KLNR Kaliningrad 96.49 35⇓ *e*P **P 07 27 26.9 +0.3**
KLNR pmax pmax
comp=Z,72nm,1.4s
LANS Liptovska Anna 96.77 41 *e*P **P 07 27 30.9 +2.8**
LANS Liptovska Anna 96.77 41 *e*PDIFF **P 07 27 30.9 +2.8**
OJC Ojcow 96.85 40 *e*P **P 07 27 28.3 -0.1**
OJC Ojcow 96.85 40 P **P 07 27 29.0 +0.6**
OJC pmax pmax
comp=Z,82nm,1.7s
OJC Ojcow 96.85 40 P **P 07 27 29.0 +0.6**
PSZ Piszkesteto 97.21 42 ⇑P Pdif 07 27 30.8 +0.5
PSZ Piszkesteto 97.21 42 ⇑P Pdif 07 27 30.8 +0.6
PSZ Piszkesteto 97.21 42 IAmb IAmb 07 27 33.8
comp=Z,40nm,1.4s
PSZ Piszkesteto 97.21 42 P Pdif 07 27 30.7 +0.4
OUL Oulu 97.22 24 P **P 07 27 29.6 -0.1**
OUL pmax pmax
comp=Z,28nm,1.8s
NIE Niedzica 97.27 40 *e*P Pdif 07 27 32.4 +1.9
NIE Niedzica 97.27 40 P Pdif 07 27 33.4 +2.9
NIE pmax pmax
comp=Z,12nm,1.8s
TSUM Tsumeb 97.34 109 LR LR 08 07 28.2
comp=Z,4μm,21.8s,baz=321,slow=33
TSUM Tsumeb 97.34 109 P **P 07 27 31.1 -0.4**
PDG Podgorica 97.40 47 ⇑P Pdif 07 27 32.4 +1.3
PDG Podgorica 97.40 47 IAMs_20 IAMs_20 08 08 09.3
comp=Z,1μm,22.0s
FRGS Fruska Gora 97.49 45 ⇑P Pdif 07 27 32.0 +0.5
DIVS Divibare 97.75 46 IAmb IAmb 07 27 34.8
comp=Z,21nm,1.3s
DIVS IAMs_20 IAMs_20 08 07 37.2
comp=Z,964nm,22.0s
TIR Tirane 97.97 48 IAMs_20 IAMs_20 08 08 43.3
comp=Z,773nm,20.0s
CRVS Cervenica-Dubn 98.10 41 *e*P Pdif 07 27 35.5 +1.4
CRVS Cervenica-Dubn 98.10 41 *e*PDIFF Pdif 07 27 35.5 +1.4
FINES FINESS Array B 98.21 28 P **P 07 27 33.4 -0.9**
comp=Z,9.2nm,1.0s,baz=318,slow=5.1,SNR=12
FINES LR LR 08 07 44.1
comp=Z,747nm,21.9s,baz=290,slow=33
FIA1 FINESS Array S 98.21 28 IAmb IAmb 07 27 34.8
comp=Z,23nm,1.3s
MSF Maaselka 98.25 23 P **P 07 27 34.3 0.0**
MSF pmax pmax
comp=Z,23nm,2.1s
SUW Suwalki 98.30 35 IAMs_20 IAMs_20 08 16 20.3
comp=Z,1μm,19.0s
UZH Uzhgorod 98.69 41 *e*P Pdif 07 27 37.6 +0.9
UZH *i* 07 27 41.3
UZH *i* 07 27 47.4
UZH *i* 07 38 17.3
UZH *i* 07 38 57.8
BZS Buzias 98.69 44 ⇓P Pdif 07 27 38.1 +1.3
BZS Buzias 98.69 44 ⇓P Pdif 07 27 38.1 +1.3
KBN Korca 98.75 49 IAmb IAmb 07 27 39.8
comp=Z,36nm,1.3s
BILL Bilibino 99.01 340⇑ *e*P Pdif 07 27 36.2 -1.5
BILL *i* 07 27 43.0
BILL *i* 07 31 36.1
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL MLR MLR
comp=Z,558nm,20.0s
BILL Bilibino 99.01 340 07 27 37.5
BILL IAmb IAmb 07 27 47.4
comp=Z,20nm,1.5s
FNA Florina 99.17 49 P **Pdif 07 27 40.1 +1.0**
FNA pmax pmax
comp=Z,14nm,1.6s
SUR Sutherland 99.18 123 LR LR 08 10 58.5
comp=Z,2μm,18.7s,baz=247,slow=34
VSU Vasula 99.27 31⇓ *e*P **Pdif 07 27 39.6 +0.6**
VSU pmax pmax
comp=Z,19nm,1.0s
APA Apatity 99.31 21⇓ *i*P **Pdif 07 27 36.7 -2.3**
APA pmax pmax
comp=Z,4.0nm,0.9s
GZR Gura Zlata 99.53 44 ⇑P **Pdif 07 27 41.5 +0.9**
GZR Gura Zlata 99.53 44 ⇑P **Pdif 07 27 41.5 +0.9**
URZ Urewera 99.56 231 LR LR 08 02 30.6
comp=Z,2μm,21.1s,baz=132,slow=29
BLKB Belogradchik 99.73 46 ⇑P **Pdif 07 27 42.7 +1.2**
SYO Syowa Base 99.93 162⇓ *e*Pdiff **Pdif 07 27 40.4 -1.4**
AGG Agios Georgios 100.13 51 P **Pdif 07 27 44.4 +1.0**
AGG pmax pmax
comp=Z,15nm,1.6s
NACGM Naroch 100.17 34 *e*P **Pdif 07 27 43.7 +0.6**
SOH Sokhos 100.65 49 P **Pdif 07 27 46.8 +1.1**
SOH pmax pmax
comp=Z,6.0nm,1.7s
BURAR Bucovina Array 100.80 42 ⇑P **Pdif 07 27 48.3 +2.0**
BURAR Bucovina Array 100.80 42 ⇑P **Pdif 07 27 48.3 +2.0**
ARR Arges 100.83 44 ⇑P **Pdif 07 27 47.9 +1.5**
MNK Minsk 100.89 34 *i* P **Pdif 07 27 49.0 +2.7**
MNK *i* 07 31 55.6
MNK *i* PPP PPP 07 34 03.0
MNK *i* S **SKSac 07 38 28.0 +3.2**
MNK *i* PS **PS 07 40 56.8 +0.7**
MNK *i* SS **SS 07 46 22.6 +1.2**
MNK *i* SSS SSS 07 50 13.0
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,20nm,0.9s
MNK MLR MLR
comp=Z,1μm,20.0s
MNK MLR MLR
comp=E,144nm,20.0s
MNK MLR MLR
comp=N,495nm,19.0s
MNK Minsk 100.89 34 *i* P **Pdif 07 27 49.1 +2.7**
comp=E,2.0nm,0.9s
MNK *i* P **Pdif 07 27 49.1 +2.7**
comp=N,20nm,0.9s
MNK *i* P **Pdif 07 27 49.1 +2.7**
comp=Z,6.0nm,0.9s,baz=285
MNK *i* PP **PP 07 31 55.6 +1.5**
MNK *i* PPP PPP 07 34 03.1
MNK *i* SKS 07 37 10.2
MNK *i* S **SKSac 07 38 28.0 +3.2**
MNK *i* PS **PS 07 40 56.8 +0.7**
MNK *i* SS **SS 07 46 22.6 +1.2**
MNK *i* SSS SSS 07 50 13.0
MNK *i* LQ LQ 08 02 21.2
MNK *i* LR LR 08 04 49.4
MNK *i* LRM MLR 08 11 43.9
comp=Z,1μm,19.5s
MNK *i* LRM MLR 08 11 52.6
comp=E,144nm,19.5s
MNK *i* LRM MLR 08 14 40.9
comp=N,495nm,19.4s
PAIG Palidouri 101.04 49 P **Pdif 07 27 48.2 +0.9**
PAIG pmax pmax
comp=Z,12nm,1.2s
VOIR 101.10 44 ⇑P **Pdif 07 27 50.9 +3.3**
VOIR 101.10 44 P **Pdif 07 27 48.3 +0.7**
VOIR pmax pmax
comp=Z,8.0nm,2.6s
MLR Muntele Rosu 101.71 44 ⇑P **Pdif 07 27 51.8 +1.4**
MLR Muntele Rosu 101.71 44 P **Pdif 07 27 50.7 +0.3**
comp=Z,0.8nm,0.3s,baz=354,slow=2.9,SNR=7.1
MLR Muntele Rosu 101.71 44 ⇑P **Pdif 07 27 51.8 +1.4**
IDI Anoyia 102.68 54 ⇑P **Pdif 07 27 55.9 +1.1**
IDI Anoyia 102.68 54 IAMs_20 IAMs_20 08 21 17.5
comp=Z,968nm,19.0s
SORM Soroca 102.74 41 ⇑P **Pdif 07 27 55.8 +1.1**
SORM Soroca 102.74 41 ⇑P **Pdif 07 27 55.8 +1.1**
KIS Kishinev 103.32 42 *e*P **Pdif 07 27 58.0 +0.7**
KIS eLR LR 08 07 21.0
comp=Z,300nm,22.5s
KIS Kishinev 103.32 42 *e*P **Pdif 07 27 58.0 +0.7**
MILM Milestii Mici 103.34 42 *e*P **Pdif 07 27 57.0 -0.4**
MILM Milestii Mici 103.34 42 *e*PP **PKiKP 07 32 12.0 -4.6**
MILM *e*SKS 07 38 32.0
MILM *e*S **SKKSac 07 39 25.0 +7.1**
MILM *e*LR LR 08 02 02.0
comp=Z,700nm,17.5s
MILM Milestii Mici 103.34 42 *e*P **Pdif 07 27 57.0 -0.4**
MILM *e* 07 32 12.0
MILM *e* 07 38 32.0
MILM *e*S **SKKSac 07 39 25.0 +7.1**
MILM *e* 07 39 40.0
MILM *e* 07 41 21.0
KLMR Klimovskoe 104.52 26 *e*P **Pdif 07 28 00.3 -2.0**
KLMR *e* 07 32 19.5
KLMR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 104.52 26 *e*Pdif **Pdif 07 28 00.3 -2.0**
KLMR AMP 07 28 03.1
comp=Z,10.0nm,0.9s
KLMR *e*PP **PKiKP 07 32 19.6 +1.3**
KLMR *e*PKKP **PKKPbc 07 43 54.4 +4.1**
OBN Obninsk 105.46 32 *i* P **Pdif 07 28 12.2 +5.6**
OBN pmax pmax
comp=Z,3μm,0.7s
OBN MLR MLR
comp=Z,373nm,18.0s
TIXI Tiksi 106.49 351 IAMs_20 IAMs_20 08 22 49.4
comp=Z,1μm,22.0s
BRTR Keskin Array B 108.57 48 PP **PP 07 32 47.7 -4.2**
comp=Z,1.7nm,1.0s,baz=288,slow=9.0,SNR=4.8
MA2 Magadan 109.04 335 IAMs_20 IAMs_20 08 22 34.2
comp=Z,1μm,22.0s
DZM Mont Dzumac 111.26 246 *e*LR LR 08 05 35.1
comp=Z,2μm,22.9s
SOC Sochi 111.68 43 *i* PKIKP **PKiKP 07 32 30.2 -2.0**
SOC *e* 07 33 10.4
SOC *e*PPP PPP 07 35 33.4
SOC *e* 07 39 12.1
SOC *e*PS **PS 07 42 43.9 -2.9**
SOC *e*SS SS 07 48 45.7 -3.2
SOC MLR MLR
comp=Z,474nm,20.0s
H11S2 WAKE ISLAND Hyl 111.87 290 T T 09 33 45.6
baz=85,slow=75,SNR=48
H11S1 WAKE ISLAND Hyl 111.87 290 T T 09 33 46.0
baz=85,slow=75,SNR=32
H11S3 WAKE ISLAND Hyl 111.88 290 T T 09 33 42.5
baz=85,slow=75,SNR=33
BELG Belogornoye 112.54 32⇑ *i*PKIKP **PKiKP 07 32 31.7 -1.8**
KIV Kislovodsk 113.52 41 *i* PKIKP **PKiKP 07 32 34.3 -1.6**
KIV *e* 07 33 25.5
KIV *e*PS **PS 07 43 02.5 -1.5**
KIV *e*SS SS 07 49 13.8 +0.3
KIV *e*SSS SSS 07 53 28.4
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,311nm,21.0s
KBZ Khabaz 113.76 41 PKP **PKiKP 07 32 36.3 +0.2**
comp=Z,1.6nm,0.7s,baz=330,slow=3.4,SNR=3.7
KBZ Khabaz 113.76 41⇑ *i*PKIKP **PKiKP 07 32 37.0 +0.9**
ARU Arti 115.17 24 *i* PKIKP **PKiKP 07 32 36.7 -1.8**
ARU 07 39 48.9
ARU SP SP 07 43 12.6 -2.5
ARU Arti 115.17 24 IAMs_20 IAMs_20 08 27 55.5
comp=Z,1μm,18.0s
LODK Lodwar 115.69 86 **PKiKP 07 32 40.9 +0.1**
MAK Makhachkala 117.12 41 *e*P **Pdif 07 28 50.4 -8.4**
MAK *e* 07 39 33.2
MAK *e*PS **PS 07 43 37.7 +1.2**
MAK pmax pmax
comp=Z,311nm,1.3s
AKTO Aktyubinsk 118.95 29 PKP **PKPdf 07 32 45.9 -0.1**
comp=Z,4.7nm,0.9s,baz=301,slow=2.3,SNR=8.5
AB31 Akbulak array 120.66 29 *i* PKIKP **PKPdf 07 32 49.0 -0.3**
ABKAR Akbulak array 120.66 29 PKPdf **PKPdf 07 32 49.2 -0.1**
ABKAR Akbulak array 120.66 29 PKPdf **PKPdf 07 32 49.0 -0.3**
BRVK Borovoye 122.16 20*c* *i*PKIKP **PKPdf 07 32 51.8 -0.3**
BRVK pmax pmax
comp=Z,24nm,2.5s
BRVK Borovoye 122.16 20 IAMs_20 IAMs_20 08 29 48.3
comp=Z,1μm,21.0s
BVAR Borovoye Array 122.22 20 PKP **PKPdf 07 32 51.8 -0.4**
comp=Z,4.2nm,0.9s
KLR Kul'dur 124.14 335⇑ *i*PKIKP **PKPdf 07 32 55.7 -0.3**
KLR pmax pmax
comp=Z,21nm,2.5s
ZAA0 Zalesovo Array 125.29 11 PKPdf **PKPdf 07 32 58.1 +0.1**
ZALV Zalesovo Beam 125.29 11 PKP **PKPdf 07 32 57.2 -0.8**
comp=Z,37nm,1.0s,baz=318,slow=2.0,SNR=76
ZALV Zalesovo Beam 125.29 11 PKIKP **PKPdf 07 32 57.6 -0.5**
ZALV Zalesovo Beam 125.29 11 PKPdf **PKPdf 07 32 57.6 -0.5**
BRZS Berezniki 125.54 21 *e*PKIKP **PKPdf 07 32 56.6 -2.1**
BRZS Berezniki 125.54 21 *e*PKP **PKPdf 07 32 56.6 -2.1**
baz=21
GEYT Alibeck 126.64 41 PKP **PKPdf 07 33 01.2 0.0**
comp=Z,11nm,0.9s,baz=318,slow=2.0,SNR=17
GEYT Alibeck 126.64 41 PKPdf **PKiKP 07 33 01.6 -0.1**
GYA0B ALIBECK ARRAY 126.64 41 PKPdf **PKiKP 07 33 01.4 -0.2**
KURK Kurchatov 126.83 17*c* *i*PKIKP **PKPdf 07 33 00.9 -0.2**
KURK pmax pmax
comp=Z,52nm,1.3s
KURK Kurchatov 126.83 17 PKPdf **PKPdf 07 33 01.2 +0.1**
OTUK Ortayu 126.85 23 PKIKP **PKPdf 07 33 00.9 -0.4**
KURBB Kurchatov Arra 126.89 17 PKP **PKPdf 07 33 00.5 -0.7**
comp=Z,24nm,1.0s,baz=326,slow=2.4,SNR=93
KURBB Kurchatov Arra 126.89 17 PKIKP **PKPdf 07 33 00.3 -0.9**
SEM Semipalatinsk 127.56 16 *e*PKIKP **PKPdf 07 33 00.4 -2.4**
SEM Semipalatinsk 127.56 16 *e*PKP **PKPdf 07 33 00.5 -2.4**
baz=16
USRK Ussuriysk Ar. 127.82 331 PKP **PKPdf 07 33 02.3 -0.9**
comp=Z,9.9nm,1.0s,baz=48,slow=0.4,SNR=10
BNX BinXian 128.71 335 PKP **PKPdf 07 33 03.8 -1.0**
BNX AMB AMB
comp=Z,1μm,3.9s
STKA Stephens Creek 128.95 227 PKP **PKPdf 07 33 06.0 +0.2**
comp=Z,4.9nm,0.8s,baz=129,slow=4.1,SNR=7.1
STKA Stephens Creek 128.95 227⇓ *i*PKIKP **PKiKP 07 33 06.1 -0.3**
STKA Stephens Creek 128.95 227 PKPdf **PKiKP 07 33 06.1 -0.3**
CTA Charters Tower 130.02 243 PKP **PKPdf 07 33 08.3 +0.3**
comp=Z,18nm,1.2s,baz=198,slow=6.4,SNR=3.2
BTLS Baital 130.16 24 *e*PKIKP **PKPdf 07 33 06.0 -1.6**
BTLS Baital 130.16 24 *e*PKP **PKPdf 07 33 06.1 -1.6**
baz=24
ZAK Zakamensk 130.16 357 *e*PKIKP **PKPdf 07 33 06.5 -1.1**
ZAK pmax pmax
comp=Z,20nm,1.4s
KK31 Karatay Array 130.17 28 PKIKP **PKiKP 07 33 08.3 -0.2**
KK31 Karatay Array 130.17 28 PKPdf **PKiKP 07 33 08.3 -0.2**
KKAR Karatay Array 130.17 28 PKIKP **PKiKP 07 33 08.2 -0.4**
KKAR Karatay Array 130.17 28 **PKiKP 07 33 08.2 -0.4**
KKAR Karatay Array 130.17 28 PKPdf **PKiKP 07 33 08.4 -0.1**
CHM Chimkent 130.33 29 PKIKP **PKiKP 07 33 11.8 +2.9**
IUG luzhnay 130.67 29 *e*PKIKP **PKPdf 07 33 06.6 -2.2**
IUG *e* 07 35 20.7
IUG luzhnay 130.67 29 *e*PKP **PKPdf 07 33 06.7 -2.2**
baz=29
IUG *e*PP **PP 07 35 20.8 -2.4**
baz=29
DZA Taraz 130.71 27 *e*PKIKP **PKPdf 07 33 07.7 -1.1**
DZA Taraz 130.71 27 *e*PKP **PKPdf 07 33 07.8 -1.1**
baz=27
MAKZ Makanchi 131.31 16 PKIKP **PKPdf 07 33 09.8 0.0**
MAKZ Makanchi 131.31 16 PKPdf **PKPdf 07 33 09.8 0.0**
MAKZ IAMs_20 IAMs_20 08 34 36.2
comp=Z,903nm,21.0s
HRA Herat 131.40 42 PKPdf **PKPdf 07 33 11.0 +0.4**
MK31 Makanchi Array 131.41 16*c* *i*PKIKP **PKPdf 07 33 09.4 -0.6**
MK31 Makanchi Array 131.41 16 PKPdf **PKPdf 07 33 09.7 -0.2**
MKAR Makanchi Array 131.41 16 PKP **PKPdf 07 33 08.9 -1.0**
comp=Z,22nm,1.0s,baz=333,slow=1.9,SNR=68
MKAR SKPbc **SKPbc 07 36 34.5 0.0**
comp=Z,5.5nm,1.2s,baz=344,slow=4.8,SNR=6.4
MKAR Makanchi Array 131.41 16 PKIKP **PKPdf 07 33 09.6 -0.4**
MKAR Makanchi Array 131.41 16 PKPdf **PKPdf 07 33 09.6 -0.4**
ZSN Zaisan 131.45 13 *e*PKIKP **PKPdf 07 33 08.2 -1.8**
ZSN Zaisan 131.45 13 *e*PKP **PKPdf 07 33 08.3 -1.8**
baz=13
SGDS Sogindy 131.70 24 *e*PKIKP **PKPdf 07 33 09.1 -1.6**
SGDS Sogindy 131.70 24 *e*PKP **PKPdf 07 33 09.2 -1.6**
baz=24
USP Ospenovka 131.80 25 P **PKiKP 07 33 12.0 +0.1**
SNR=28
TDK Taldyqorghan 131.82 20 *e*PKIKP **PKPdf 07 33 09.4 -1.4**
TDK Taldyqorghan 131.82 20 *e*PKP **PKPdf 07 33 09.4 -1.4**
baz=20
EKS2 Erkin-Say 131.99 26 P **PKiKP 07 33 12.7 +0.3**
SNR=40
KUU Kurty 132.02 23 *e*PKIKP **PKPdf 07 33 09.6 -1.6**
KUU Kurty 132.02 23 *e*PKP **PKPdf 07 33 09.7 -1.6**
baz=23
CHMS Chumysh 132.13 25 P **PKiKP 07 33 12.8 +0.2**
SNR=9.7
CHKK Chushkaly 132.30 22 *e*PKIKP **PKPdf 07 33 10.4 -1.3**
CHKK Chushkaly 132.30 22 *e*PKP **PKPdf 07 33 10.4 -1.3**
baz=22
AAK Ala-Archa 132.31 25 P **PKiKP 07 33 14.1 +1.0**
SNR=27
AAK Ala-Archa 132.31 25 PKP **PKPdf 07 33 12.5 +0.4**
comp=Z,30nm,1.1s,baz=208,slow=1.1,SNR=49
AAK SKPbc **SKPab 07 36 39.2 +0.1**
comp=Z,9.6nm,1.1s,baz=305,slow=2.6,SNR=16
AAK Ala-Archa 132.31 25*c* *i*PKIKP **PKPdf 07 33 12.1 +0.1**
AAK pmax pmax
comp=Z,53nm,1.3s
AAK Ala-Archa 132.31 25 PKPdf **PKiKP 07 33 12.7 -0.4**
AAK Ala-Archa 132.31 25 IAMs_20 IAMs_20 08 40 33.2
comp=Z,708nm,20.0s
ULN Ulaanbaatar 132.34 353⇓ *i*PKIKP **PKPdf 07 33 12.2 +0.3**
ULN Ulaanbaatar 132.34 353 PKPdf **PKPdf 07 33 12.3 +0.3**
AML Almayashu 132.38 26 P **PKiKP 07 33 13.7 +0.1**
SNR=20
SONM Songino Array 132.44 354 PKP **PKPdf 07 33 11.2 -0.9**
comp=Z,10nm,1.1s,baz=328,slow=0.3,SNR=30
SONM Songino Array 132.44 354 PKIKP **PKiKP 07 33 12.6 -0.5**
SONM Songino Array 132.44 354 PKPdf **PKiKP 07 33 12.6 -0.5**
KBK Karagaybulak 132.49 25 P **PKiKP 07 33 13.6 +0.2**
SNR=9.7
TKM2 Tokmak 2 132.54 24 P **PKPdf 07 33 12.5 0.0**
SNR=24
TKM2 Tokmak 2 132.54 24 PKIKP **PKiKP 07 33 13.1 -0.5**
BTK Batken 132.64 30 PKIKP **PKPdf 07 33 13.1 +0.5**
BTK Batken 132.64 30 PKPdf **PKPdf 07 33 13.1 +0.5**
UCH Uchtor 132.66 25 P **PKiKP 07 33 14.8 +0.7**
SNR=41
CHGR Chuyangaron 132.81 33 PKPdf **PKiKP 07 33 13.6 -0.5**
AAA Alma-Ata 132.82 23 *e*PKIKP **PKPdf 07 33 10.9 -1.9**
AAA Alma-Ata 132.82 23 *e*PKP **PKPdf 07 33 10.9 -1.9**
baz=23
MDOK Medeo 132.91 23 *e*PKIKP **PKPdf 07 33 11.1 -2.0**
MDOK Medeo 132.91 23 *e*PKP **PKPdf 07 33 11.1 -2.0**
baz=23
TNSS Tian-Shan 132.98 23 *e*PKIKP **PKPdf 07 33 11.7 -1.8**
TNSS Tian-Shan 132.98 23 *e*PKP **PKPdf 07 33 11.8 -1.8**
baz=23
GAR Garm 133.17 32 **PKiKP 07 33 14.7 -0.2**
KPKS Kokpek 133.25 21 *e*PKIKP **PKPdf 07 33 12.2 -1.5**
KPKS Kokpek 133.25 21 *e*PKP **PKPdf 07 33 12.2 -1.5**
baz=21
ULHL Ulahol 133.37 24 P **PKiKP 07 33 15.8 +0.5**
SNR=32
SATY Saty 133.51 21 *e*PKIKP **PKPdf 07 33 12.9 -1.3**
SATY Saty 133.51 21 *e*PKP **PKPdf 07 33 12.9 -1.3**
baz=22
UZB Uzynbulak 133.65 21 *e*PKIKP **PKPdf 07 33 12.3 -2.2**
UZB Uzynbulak 133.65 21 *e*PKP **PKPdf 07 33 12.4 -2.2**
baz=21
PDGK Podgornoye 133.66 20 PKIKP **PKPdf 07 33 14.7 +0.2**
SHLS Shalkode 133.80 20 *e*PKIKP **PKPdf 07 33 13.1 -1.6**
SHLS Shalkode 133.80 20 *e*PKP **PKPdf 07 33 13.2 -1.6**
baz=20
KDJ Kajisay 133.84 23 PKIKP **PKiKP 07 33 16.0 -0.2**
KDJ Kajisay 133.84 23 PKPdf **PKiKP 07 33 15.9 -0.2**
WSAR Wadi Sarin 134.19 57 PKP **PKiKP 07 33 16.6 -0.7**
comp=Z,24nm,1.2s,baz=126,slow=4.3,SNR=4.4
XLT XiLinHaoTe 134.33 343⇓ *i*PKP **PKPdf 07 33 15.3 -0.4**
XLT PP **PP 07 35 50.8 +4.6**
XLT AMB AMB
comp=Z,380nm,5.7s
XLT LR LR
comp=Z,72nm,18.7s
XLT LR LR
comp=Z,700nm,16.7s
XLT LR LR
comp=Z,1μm,20.7s
KSRS Korea Array 134.88 328 PKP **PKPdf 07 33 16.8 0.0**
comp=Z,5.5nm,0.7s,baz=359,slow=1.3,SNR=14
KSH Kashi 135.51 26 PKP **PKiKP 07 33 20.0 +0.4**
KSH PP **PP 07 35 57.4 +3.4**
KSH PKS **PKSdf 07 36 51.0 -3.5**
KSH SKS **SKSdf 07 40 27.3 -1.5**
KSH LR LR
comp=Z,670nm,22.8s
KSH LR LR
comp=Z,950nm,20.3s
KSH LR LR
comp=Z,1μm,31.7s
WMQ Urumqi 135.52 12 *e*PKP **PKiKP 07 33 19.0 -0.4**
WMQ PP **PP 07 36 00.5 +6.9**
WMQ PKS **PKSdf 07 36 50.8 -3.4**
WMQ SS SS 07 53 54.4 +5.3
WMQ AMB AMB
comp=Z,300nm,6.3s
WMQ LR LR
comp=Z,890nm,19.9s
WMQ LR LR
comp=Z,1μm,19.7s
WMQ LR LR
comp=Z,910nm,20.3s
KBL Kabul 135.63 37 PKIKP **PKPdf 07 33 18.9 +0.3**
KBL Kabul 135.63 37 PKPdf **PKPdf 07 33 18.9 +0.3**
BJI Beijing 137.82 341 PKP **PKPdf 07 33 22.3 +0.2**

BJI				PP	**PP**	07 36 08.5	+0.5	
BJI				SS	SS	07 54 18.3	+1.8	
BJI				AMB	AMB			
	comp=Z,160nm,4.5s							
BJI				LR	LR			
	comp=Z,470nm,23.5s							
BJI				LR	LR			
	comp=Z,480nm,24.1s							
BJI				LR	LR			
	comp=Z,1µm,26.1s							
HHC	**Hu-ho-hao-te**	**138.36**	**346**	*e*PKP	**PKPdf**	**07 33 22.6**	**-0.7**	
HHC				LR	LR			
	comp=Z,730nm,18.4s							
HHC				LR	LR			
	comp=Z,540nm,17.1s							
HHC				LR	LR			
	comp=Z,1µm,19.0s							
NIL	**Nilore**	**138.72**	**34**	PKIKP	**PKPdf**	**07 33 23.6**	**-0.4**	
NIL	**Nilore**	**138.72**	**34**		**PKPdf**	**07 33 23.6**	**-0.4**	
BTO	**Baotou**	**138.94**	**348**	*e*PKP	**PKiKP**	**07 33 33.9**	**+7.4**	
AS31	**Alice Springs**	**139.00**	**232**	PKPdf	**PKPdf**	**07 33 25.2**	**+0.3**	
ASAR	**Alice Springs**	**139.00**	**232**	PKhKP	PKPpre	07 33 15.4		
	comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=9.7							
ASAR				PKP	**PKPdf**	**07 33 25.0**	**+0.2**	
	comp=Z,8.2nm,1.0s,baz=127,slow=2.9,SNR=25							
ASAR	**Alice Springs**	**139.00**	**232**	PKIKP	**PKPdf**	**07 33 23.1**	**-1.7**	
ASAR	**Alice Springs**	**139.00**	**232**	PKPdf	**PKPdf**	**07 33 23.1**	**-1.7**	
WR0	**Warramunga Arr**	**140.25**	**237**	PKPdf	**PKPdf**	**07 33 27.1**	**-0.1**	
WB2	**Warramunga Arr**	**140.42**	**237**	PKPdf	**PKPdf**	**07 33 27.5**	**0.0**	
WRAB	**Tennant Creek**	**140.43**	**237**	⇓*i*PKIKP	**PKPdf**	**07 33 27.3**	**-0.1**	
WRAB				pmax	pmax			
	comp=Z,17nm,1.3s							
WRAB	**Tennant Creek**	**140.43**	**237**		**PKPdf**	**07 33 27.4**	**-0.1**	
WRA	**Warramunga Arr**	**140.43**	**237**	PKhKP	PKPpre	07 33 21.6		
	comp=Z,2.8nm,0.9s,baz=99,slow=2.7,SNR=11							
WRA				PKP	**PKPdf**	**07 33 27.0**	**-0.5**	
	comp=Z,9.5nm,1.0s,baz=106,slow=2.3,SNR=40							
WRA	**Warramunga Arr**	**140.43**	**237**	PKIKP	**PKPdf**	**07 33 27.4**	**-0.1**	
WRA	**Warramunga Arr**	**140.43**	**237**	PKPdf	**PKPdf**	**07 33 27.4**	**-0.1**	
HNS	**HongShan**	**140.69**	**341**	⇓PKP	PKPpre	07 33 21.6		
HNS				PP	**PP**	**07 36 29.8**	**+4.0**	
HNS				LR	LR			
	comp=Z,840nm,18.8s							
HNS				LR	LR			
	comp=Z,1µm,20.4s							
TIA	**Tai'an**	**140.90**	**337**	*e*PKP	PKPpre	07 33 18.5		
TIA				PP	PP	07 35 26.3	-61	
GTA	**Gaotai**	**141.23**	**360**	PKP	**PKPdf**	**07 33 29.1**	**+0.5**	
GTA				PKS	**PKSdf**	**07 37 06.3**	**+1.7**	
GTA				AMB	AMB			
	comp=Z,480nm,10.0s							
GTA				LR	LR			
	comp=Z,350nm,22.3s							
GTA				LR	LR			
	comp=Z,510nm,23.3s							
GTA				LR	LR			
	comp=Z,1µm,24.9s							
SMLA	**Simla**	**142.78**	**33**	*e*P	**PKPdf**	**07 33 26.5**	**-4.8**	
SMLA				IAmb	IAmb	07 33 32.4		
	comp=Z,94nm,1.5s							
NJ2	**Nanjing**	**143.71**	**332**	*e*PKP	**PKPdf**	**07 33 32.5**	**-0.5**	
LYN	**LuoYang**	**144.02**	**342**	⇓*i*PKP	**PKPab**	**07 33 30.1**	**-0.7**	
LYN				sPKP		07 33 44.8		
LYN				AMB	AMB			
	comp=Z,390nm,5.5s							
LYN				LR	LR			
	comp=Z,830nm,19.6s							
LYN				LR	LR			
	comp=Z,560nm,18.0s							
LYN				LR	LR			
	comp=Z,950nm,18.1s							
GOMU	**GeErMu**	**144.15**	**7**	PKP	PKPbc	07 33 32.3	+0.2	
GOMU				pPKP	PKiKP	07 33 36.0	-1.7	
GOMU				sPKP		07 33 38.0		
GOMU				SKS	**SKSdf**	**07 40 41.8**	**-1.8**	
GOMU				SKKS	**SKKSac**	**07 43 33.8**	**-7.2**	
GOMU				AMB	AMB			
	comp=Z,490nm,9.9s							
GOMU				LR	LR			
	comp=Z,400nm,22.7s							
GOMU				LR	LR			
	comp=Z,340nm,19.2s							
GOMU				LR	LR			
	comp=Z,590nm,23.1s							
LZH	**Lanzhou**	**144.33**	**354**	⇓PKP	PKPbc	07 33 32.6	+0.2	
LZH				pPKP	pPKPdf	07 33 40.6	+0.7	
LZH				AMB	AMB			
	comp=Z,260nm,5.4s							
LZH				LR	LR			
	comp=Z,1µm,18.4s							
LZH				LR	LR			
	comp=Z,700nm,17.9s							
LZH				LR	LR			
	comp=Z,1µm,18.4s							
XAN	**Xi'an**	**145.48**	**346**	PKPbc	**PKPbc**	**07 33 34.4**	**-1.6**	
XAN				pPKP	pPKPdf	07 33 42.8	+1.0	
XAN				AMB	AMB			
	comp=Z,480nm,9.5s							
XAN				LR	LR			
	comp=Z,850nm,23.4s							
XAN				LR	LR			
	comp=Z,650nm,24.6s							
XAN				LR	LR			
	comp=Z,1µm,21.0s							
MTN	**Manton Dam**	**146.10**	**246**	PKPdf	**PKPdf**	**07 33 37.4**	**-0.1**	
MORW	**Morawa**	**146.72**	**207**	PKPdf	**PKPdf**	**07 33 38.9**	**+0.6**	
WHN	**Wuhan**	**146.98**	**336**	PKPbc	**PKPdf**	**07 33 39.5**	**+0.9**	
WHN				AMB	AMB			
	comp=Z,880nm,4.0s							
WHN				LR	LR			
	comp=Z,3µm,21.9s							
KNRA	**Kununurra**	**147.08**	**240**	PKPdf	**PKPdf**	**07 33 39.7**	**+0.6**	
KNRA				PKPbc	**PKPab**	**07 33 42.5**	**-0.3**	
PYUN	**Piuthan**	**148.21**	**29**	*e*P	**PKPdf**	**07 33 41.3**	**+0.3**	
	comp=Z,1µm,1.6s							
DANN	**Dangsing**	**148.36**	**27**	*e*P	**PKPdf**	**07 33 42.1**	**+0.7**	
	comp=Z,790nm,1.1s							
BHPL	**Bhopal**	**148.71**	**42**	*e*P	**PKPdf**	**07 33 42.2**	**+0.5**	
BHPL				IAmb	IAmb	07 33 49.6		
	comp=Z,156nm,1.2s							
KOLN	**Koldanda**	**148.78**	**28**	*e*P	**PKPdf**	**07 33 42.0**	**0.0**	
	comp=Z,619nm,1.4s							
SSLB	**Suanglung**	**148.94**	**320**	PKPdf	**PKPdf**	**07 33 42.5**	**+0.4**	
POO	**Poona**	**148.94**	**53**	*e*P	**PKPdf**	**07 33 38.0**	**-4.2**	
POO				*e*P	**PKPbc**	**07 33 43.2**	**-3.0**	
POO				IAmb	IAmb	07 33 50.8		
	comp=Z,165nm,1.4s							
GKN	**Gorkha**	**149.06**	**26**	*e*P	**PKPdf**	**07 33 42.6**	**+0.2**	
	comp=Z,906nm,1.3s							
CD2	**Chengdu**	**149.46**	**353**	⇓PKPbc	**PKPdf**	**07 33 43.6**	**+0.8**	
KKN	**Kakani**	**149.53**	**26**	*e*P	**PKPdf**	**07 33 43.3**	**+0.1**	
	comp=Z,305nm,1.2s							
QZH	**Quanzhou**	**149.53**	**324**	⇑*i*PKPbc	**PKPab**	**07 33 54.0**	**+1.7**	
QZH				PP	PP	07 37 31.3	+12	
QZH				LR	LR			
	comp=N,540nm,17.1s							
QZH				LR	LR			
	comp=E,450nm,15.9s							
QZH				LR	LR			
	comp=Z,730nm,18.1s							
DMN	**Daman**	**149.60**	**26**	*e*P	**PKPdf**	**07 33 43.5**	**+0.1**	
	comp=Z,703nm,1.4s							
CNSH	**ChangSha**	**149.64**	**336**	*e*PKPbc	**PKPdf**	**07 33 43.3**	**+0.3**	
GUN	**Gumba**	**149.67**	**25**	*e*P	**PKPdf**	**07 33 43.8**	**+0.2**	
	comp=Z,1µm,1.3s							
PKIN	**Phulchoki**	**149.76**	**26**	*e*P	**PKPdf**	**07 33 43.3**	**-0.3**	
	comp=Z,476nm,1.3s							
PKI	**Pulchoki**	**149.77**	**26**	*e*P	**PKPdf**	**07 33 43.4**	**-0.3**	
	comp=Z,532nm,1.2s							
LSA	**Lhasa**	**149.81**	**15**	PKPbc	**PKPdf**	**07 33 44.3**	**+0.4**	
JIRN	**Jiri**	**150.02**	**24**	*e*P	**PKPdf**	**07 33 44.5**	**+0.3**	
	comp=Z,123nm,1.3s							
PSA00	**Pilbara Seismi**	**150.54**	**221**	PKPdf	**PKPdf**	**07 33 44.5**	**-0.1**	
PSA00				PKPbc	**PKPbc**	**07 33 50.0**	**0.0**	
RAMN	**Ramite**	**150.82**	**24**	*e*P	**PKPdf**	**07 33 45.0**	**-0.3**	
	comp=Z,96nm,0.6s							
TAPN	**Taplejung**	**150.90**	**22**	*e*P	**PKPdf**	**07 33 45.5**	**0.0**	
	comp=Z,625nm,1.5s							
ODAN	**Odare**	**151.22**	**23**	*e*P	**PKPdf**	**07 33 45.7**	**-0.2**	
	comp=Z,397nm,1.2s							
GTK	**Tadong**	**151.26**	**21**	*e*P	**PKPdf**	**07 33 47.0**	**+1.2**	
GTK				IAmb	IAmb	07 33 53.2		
	comp=Z,198nm,1.0s							
DHUB	**DHUBRI**	**152.93**	**19**	*e*P	**PKPdf**	**07 33 48.6**	**+0.5**	
DHUB				IAmb	IAmb	07 33 55.7		
	comp=Z,179nm,1.4s							
TEZP	**TEZPUR**	**153.16**	**14**	*e*P	**PKPdf**	**07 33 48.0**	**-0.4**	
TEZP				IAmb	IAmb	07 33 56.9		
	comp=Z,15nm,0.4s							
GULI	**GuiLin**	**153.23**	**338**	PKPbc	**PKPdf**	**07 33 49.6**	**+1.0**	
GULI				LR	LR			
	comp=Z,410nm,24.5s							
GULI				LR	LR			
	comp=Z,1µm,23.9s							
GULI				LR	LR			
	comp=Z,2µm,23.9s							
HYBB	**Hyderabad (bro**	**153.25**	**50**	*e*PKPdf	**PKPdf**	**07 33 47.9**	**-1.0**	
HYBB				*e*PKiKP	**PKPbc**	**07 33 56.4**	**+0.1**	
HYBB				*es*PKiKP	**PKPab**	**07 34 07.6**	**-0.4**	
HYBB				*e*PP	**PP**	**07 37 41.0**	**-0.1**	
HYBB				*e*SKSdf	**SKSdf**	**07 40 54.4**	**-1.4**	
GYA	**Guiyang**	**153.28**	**346**	⇓PKPbc	**PKPdf**	**07 33 48.9**	**+0.1**	
GYA				sPKP		07 33 55.5		
GYA				PKPab	**sPKPbc**	**07 34 04.3**	**+0.3**	
GYA				PP	**PP**	**07 37 40.8**	**+0.8**	
GYA				AMB	AMB			
	comp=Z,400nm,9.8s							
GUWA	**GUWAHATI**	**153.28**	**16**	*e*P	**PKPdf**	**07 33 48.8**	**+0.1**	
GUWA				IAmb	IAmb	07 33 56.0		
	comp=Z,106nm,1.2s							
JORH	**JORHAT**	**153.35**	**11**	*e*P	**PKPdf**	**07 33 48.8**	**+0.1**	
TURI	**Tura**	**153.48**	**19**	*e*P	**PKPdf**	**07 33 49.5**	**+0.6**	
TURI				IAmb	IAmb	07 33 57.0		
	comp=Z,109nm,1.3s							
MOKO	**MOKOCHONG**	**153.81**	**10**	*e*P	**PKPdf**	**07 33 50.8**	**+1.2**	
MOKO				IAmb	IAmb	07 33 59.8		
	comp=Z,157nm,1.2s							
SHL	**Shillong**	**153.93**	**16**	PKIKP	**PKPdf**	**07 33 49.5**	**-0.3**	
SHL						07 33 57.7		
SHL						07 34 10.4		
SHL	**Shillong**	**153.93**	**16**	PKPdf	**PKPdf**	**07 33 49.5**	**-0.3**	
SHL				PKPbc	**PKPbc**	**07 33 57.7**	**-0.1**	
SHL				PKPab	**PKPab**	**07 34 10.4**	**-0.4**	
SHL	**Shillong**	**153.93**	**16**	*e*P	**PKPdf**	**07 33 49.5**	**-0.3**	
SHL				IAmb	IAmb	07 33 57.6		
	comp=Z,90nm,1.3s							
PZH	**PanZhiHua**	**154.02**	**356**	PKPbc	**PKPdf**	**07 33 49.8**	**-0.1**	
PZH				sPKP		07 33 57.6		
PZH				PKPab	**PKPab**	**07 34 10.0**	**-1.1**	
PZH				PP	**PP**	**07 37 46.8**	**+2.8**	
PZH				SKKS		07 44 32.4		
PZH				AMB	AMB			
	comp=Z,290nm,11.2s							
PZH				LR	LR			
	comp=Z,590nm,21.8s							
PZH				LR	LR			
	comp=Z,440nm,20.0s							
PZH				LR	LR			
	comp=Z,570nm,21.1s							
KOHI	**KOHIMA**	**154.32**	**12**	*e*P	**PKPdf**	**07 33 51.3**	**+1.0**	
KOHI				IAmb	IAmb	07 33 59.8		
	comp=Z,78nm,1.2s							
PCHI	**Peechi**	**154.76**	**66**	*e*P	**PKPdf**	**07 33 50.4**	**-0.6**	
PCHI				*ex*	x	07 51 04.1		
KMI	**Kunming**	**155.29**	**353**	⇑PKP	**PKPdf**	**07 33 50.8**	**-1.0**	
KMI				sPKP		07 33 57.9		
QIZ	**Qiongzhong**	**159.01**	**332**	PKP	**PKPdf**	**07 33 56.5**	**+0.1**	
QIZ				PP	**PP**	**07 38 14.5**	**+2.5**	
QIZ				SS	SS	07 58 18.5	+3.4	
QIZ				LR	LR			
	comp=Z,940nm,17.9s							
QIZ				LR	LR			
	comp=Z,730nm,21.8s							
QIZ				LR	LR			
	comp=Z,1µm,19.0s							
PALK	**Pallekele**	**159.93**	**70**	PKP	**PKPdf**	**07 33 57.7**	**+0.1**	
	comp=Z,8.4nm,1.0s,baz=217,slow=3.5,SNR=4.8							
CHTO	**Chiang Mai**	**161.74**	**2**	PKIKP	**PKPdf**	**07 33 58.1**	**-1.3**	
CHTO						07 34 43.6		
CHTO	**Chiang Mai**	**161.74**	**2**	PKPdf	**PKPdf**	**07 33 58.0**	**-1.3**	
CHTO				PKPab	**PKPab**	**07 34 43.6**	**-0.7**	
CMAR	**Chiang Mai Arr**	**162.09**	**2**	PKP	**PKPdf**	**07 34 00.1**	**+0.3**	
	comp=Z,14nm,1.1s,baz=302,slow=2.3,SNR=59							
CMAR				PKPab	**PKPab**	**07 34 45.6**	**-0.2**	
	comp=Z,7.4nm,0.8s,baz=341,slow=5.6,SNR=15							
CMAR	**Chiang Mai Arr**	**162.09**	**2**	PKIKP	**PKPdf**	**07 33 59.4**	**-0.4**	
CMAR						07 34 45.9		
CMAR	**Chiang Mai Arr**	**162.09**	**2**		**PKPdf**	**07 33 59.4**	**-0.4**	
CMAR				PKPab	**PKPab**	**07 34 45.9**	**0.0**	
DGPR	**DIGLIPUR**	**165.71**	**28**	*e*P	**PKPdf**	**07 34 02.7**	**-0.4**	
DGPR				IAmb	IAmb	07 34 03.8		
	comp=Z,108nm,1.4s							
KSM	**Kuching**	**169.30**	**276**		**PKPdf**	**07 34 04.5**	**-1.2**	
KULM	**Kulim**	**175.09**	**348**		**PKPdf**	**07 34 07.5**	**-0.9**	
KULM				PKPab	**PKPab**	**07 35 42.7**	**-0.7**	
IPM	**Ipoh**	**175.77**	**341**		**PKPdf**	**07 34 07.5**	**-1.1**	
IPM				PKPab	**PKPab**	**07 35 45.6**	**-0.9**	

IDC ***17*** *07:21:35.6±1.3, 1°.04N×96°.87E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/61, mbtmp3.5/8, ML3.6/2, Error ellipse: s-maj=21.5km s-min=20.9km az=115.0*

DJA ***17*** *07:21:36.2±1.1, 1°.1N±6°×9°.7E±°, h10km, M3.8/5, MLv3.8/5*

ISC 17 07:21:36.9±1.2, 1°.07N±0°.09×96°.88E±0°.08, h10km±n14, σ0s97/14, mb3.6/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.73**	**71**	P	**Pg**	**07 21 50.1**	**-0.9**
GSI				S	**Sg**	**07 22 01.0**	**+0.4**
KCSI	**Kotacane, Aceh**	**2.60**	**20**	P	**Pn**	**07 22 17.6**	**-1.4**
KCSI				S	**Sb**	**07 22 57.2**	**+1.6**
PSI	**Prapat**	**2.67**	**50**	Pn	**Pn**	**07 22 18.9**	**-1.2**
	3.0nm,0.3s,baz=219,slow=7.1,SNR=8.9						
PSI				Sn	**Sn**	**07 22 53.1**	**+0.4**
	2.7nm,0.3s,baz=200,slow=23,SNR=1.5						
PSI				Lg	Lg	07 22 59.9	
	2.7nm,0.3s,baz=40,slow=24,SNR=5.6						
MNSI	**Mandailing Nat**	**2.71**	**96**	P	**Pn**	**07 22 20.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**17.40**	**7**	P	**Pn**	**07 25 40.0**	**+0.1**
	0.2nm,0.3s,baz=190,slow=10,SNR=4.3						
H01W3	**Cape Leeuwin H**	**39.24**	**157**	T	T	08 10 43.4	
	baz=333,slow=76,SNR=8.7						
H01W2	**Cape Leeuwin H**	**39.26**	**157**	T	T	08 10 44.5	
	baz=333,slow=76,SNR=8.6						
H01W1	**Cape Leeuwin H**	**39.26**	**157**	T	T	08 10 44.7	
	baz=333,slow=76,SNR=8.1						
WRA	**Warramunga Arr**	**42.23**	**122**	P	**P**	**07 29 30.3**	**-0.3**
	0.4nm,0.7s,baz=302,slow=9.0,SNR=5.9						
ASAR	**Alice Springs**	**43.57**	**127**	P	**P**	**07 29 42.0**	**+0.6**
	0.2nm,0.4s,baz=296,slow=7.6,SNR=4.1						
MKAR	**Makanchi Array**	**47.30**	**346**	P	**P**	**07 30 12.0**	**+1.4**
	0.7nm,0.5s,baz=165,slow=9.3,SNR=11						
SONM	**Songino Array**	**47.31**	**9**	P	**P**	**07 30 10.8**	**0.0**
	0.4nm,0.6s,baz=188,slow=8.7,SNR=2.5						
KURBB	**Kurchatov Arra**	**51.78**	**345**	P	**P**	**07 30 44.0**	**-0.6**
	0.3nm,0.4s,baz=170,slow=5.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**53.64**	**351**	P	**P**	**07 30 58.9**	**+0.5**
	0.9nm,0.5s,baz=179,slow=6.8,SNR=5.3						

IDC ***17*** *07:22:23.5±0.9, 0°.03S×80°.14W, h0km, mb3.9/8, mb1 4.3/9, mb1mx4.0/36, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=46.0km s-min=19.5km az=62.0*

NEIC ***17*** *07:22:25.2±1.5, 0°.40S±0°.06×80°.32W±0°.09, h10km±1km, mb4.6/25, Error ellipse: s-maj=15.3km s-min=9.6km az=283.0*

ISC 17 07:22:25.4±0.5, 0°.28S±0°.05×80°.23W±0°.06, h14km, n51, σ1s63/55, mb4.5/19, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**1.85**	**74**		**Pn**	**07 22 56.0**	**-1.2**
CUSE	**Cuicocha Este**	**1.92**	**72**	*e*P	**Pn**	**07 22 56.9**	**-1.2**
CUSE				*e*S	Sg	07 23 40.1	+13
TULM	**Tulcn-Chalpat**	**2.63**	**68**	Pn	**Pn**	**07 23 09.5**	**+1.6**
TULM	**Tulcn-Chalpat**	**2.63**	**68**	*e*P	**Pg**	**07 23 16.2**	**+0.3**
ARNL	**Arenillas**	**3.25**	**177**	Pn	**Pn**	**07 23 12.6**	**-3.5**
BOSC	**San Juan Bosco**	**3.34**	**149**	Pn	**Pn**	**07 23 18.1**	**+0.7**
GR1C	**Gorgona, Isla**	**3.85**	**32**	*e*P	**Pn**	**07 23 25.2**	**+0.9**
MCRA	**Macar, Loja**	**4.08**	**176**	Pn	**Pn**	**07 23 23.6**	**-3.9**
SOTA	**Rioblanco**	**4.34**	**56**	*e*P	**Pn**	**07 23 29.6**	**-1.9**
SOTA				*e*S	**Sb**	**07 24 34.2**	**-0.1**
POPC	**Popayan, Colom**	**4.52**	**52**	*e*P	**Pn**	**07 23 31.2**	**-2.5**
POPC				*e*S	**Sb**	**07 24 33.1**	**-6.0**
PCON	**Cinco Dias**	**4.62**	**56**	*e*P	**Pn**	**07 23 34.1**	**-1.3**
PCON				*e*S	**Sb**	**07 24 41.6**	**-0.8**
YOTC	**Yotoco, Valle**	**5.74**	**42**	*e*P	Pn	07 23 44.6	-5.8
YOTC				*e*S	**Sn**	**07 24 56.3**	**+0.1**
CBOC	**Ciudad Bolivar**	**7.41**	**35**	*e*P	**Pn**	**07 24 14.8**	**+1.4**
NNA	**Nana**	**12.11**	**164**	Pn	**Pn**	**07 25 21.0**	**+3.2**
	1.1nm,0.3s,baz=292,slow=19,SNR=1.9						
NNA				Sn	**Sn**	**07 27 33.0**	**+0.2**
	1.8nm,0.3s,baz=206,slow=18,SNR=4.6						
PRVC	**Isla de Provid**	**13.61**	**355**	Pn	**Pn**	**07 25 39.3**	**+1.1**
LPAZ	**La Paz**	**19.89**	**144**	P	**Pn**	**07 27 00.6**	**+1.7**
	6.7nm,0.7s,baz=40,slow=18,SNR=0.9						
PB11	**IPOC Station P**	**21.96**	**152**	P	**P**	**07 27 18.5**	**-0.7**
PB11				IAmb	IAmb	07 27 45.0	
	comp=Z,28nm,1.1s						
GO01	**Chusmiza**	**22.10**	**151**	P	**P**	**07 27 19.2**	**-1.8**
GO01				IAmb	IAmb	07 27 46.2	
	comp=Z,33nm,1.2s						
ICMP	**Isla Caja de M**	**22.52**	**36**	P	**P**	**07 27 25.6**	**+0.6**
SJG	**San Juan**	**22.92**	**36**	P	**P**	**07 27 30.9**	**+1.7**
SJG				IAmb	IAmb	07 27 37.4	
	comp=Z,32nm,1.4s						
CBYP	**Canovanas**	**23.22**	**37**	P	**P**	**07 27 34.7**	**+2.2**
CBYP				IAmb	IAmb	07 27 48.3	
	comp=Z,37nm,1.4s						
JCT	**Junction City**	**35.81**	**330**	P	**P**	**07 29 24.2**	**-0.4**
JCT				IAmb	IAmb	07 29 27.7	
	comp=Z,14nm,1.2s						
TXAR	**Lajitas Array**	**36.99**	**325**	P	**P**	**07 29 32.1**	**-2.7**
	comp=Z,0.7nm,0.8s,baz=143,slow=9.1,SNR=2.3						
TXAR	**Lajitas Array**	**36.99**	**325**	P	**P**	**07 29 35.4**	**+0.6**
USIN	**University of**	**38.67**	**351**	P	**P**	**07 29 49.8**	**+1.1**
MNTX	**Cornudas Mount**	**39.73**	**325**	P	**P**	**07 29 57.2**	**-0.6**
MSTX	**Muleshoe**	**40.10**	**330**	P	**P**	**07 30 01.3**	**+0.3**
MSTX				IAmb	IAmb	07 30 03.4	
	comp=Z,12nm,1.1s						
PLCA	**Paso Flores**	**41.22**	**169**	P	**P**	**07 30 10.6**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=329,slow=5.9,SNR=5.0						
PLCA	**Paso Flores**	**41.22**	**169**	P	**P**	**07 30 08.8**	**-1.2**
121A	**Cookes Peak, D**	**41.73**	**324**	P	**P**	**07 30 14.8**	**+0.4**
ANMO	**Albuquerque**	**42.76**	**328**	P	**P**	**07 30 21.7**	**-1.2**
SDCO	**Great Sand Dun**	**44.45**	**331**	P	**P**	**07 30 36.9**	**+0.3**
RCBR	**Riachuelo**	**44.58**	**98**	P	**P**	**07 30 37.9**	**+0.2**
113A	**Mohawk Valley,**	**45.60**	**319**	P	**P**	**07 30 45.6**	**+0.2**
WUAZ	**Wupatki**	**45.94**	**324**	P	**P**	**07 30 48.2**	**-0.1**
WUAZ				IAmb	IAmb	07 30 52.0	
	comp=Z,8.6nm,1.1s						
PV13	**Radium Mtn., P**	**46.43**	**329**	P	**P**	**07 30 50.8**	**-1.4**
PV13				IAmb	IAmb	07 30 54.9	
	comp=Z,13nm,1.3s						
PV03	**Paradox Valley**	**46.52**	**329**	P	**P**	**07 30 52.0**	**-0.8**
PV03				IAmb	IAmb	07 30 54.9	
	comp=Z,5.0nm,0.8s						
TPH	**Tonopah**	**51.14**	**322**	P	**P**	**07 31 28.8**	**+0.4**
NV11	**Mina Array Sit**	**51.94**	**322**	P	**P**	**07 31 34.7**	**+0.4**
NV11				IAmb	IAmb	07 31 37.1	
	comp=Z,6.5nm,1.4s						
NVAR	**Mina Array Bea**	**52.03**	**322**	P	**P**	**07 31 35.5**	**+0.5**
	comp=Z,3.3nm,1.0s,baz=137,slow=7.4,SNR=11						
NVAR	**Mina Array Bea**	**52.03**	**322**	P	**P**	**07 31 35.4**	**+0.3**
WVOR	**Wild Horse Val**	**54.77**	**326**	P	**P**	**07 31 55.0**	**0.0**
WVOR				IAmb	IAmb	07 31 57.4	
	comp=Z,5.3nm,1.1s						
YKA	**Yellowknife Ar**	**67.73**	**344**	P	**P**	**07 33 20.6**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=135,slow=6.2,SNR=5.9						
YKA	**Yellowknife Ar**	**67.73**	**344**	P	**P**	**07 33 22.4**	**+0.1**
A36M	**Sachs Harbour**	**77.56**	**347**	P	**P**	**07 34 19.1**	**-1.4**
ESDC	**Sonseca Array**	**79.62**	**50**	P	**P**	**07 34 30.4**	**-2.3**
	comp=Z,0.3nm,0.8s,baz=153,slow=40,SNR=2.8						
ILAR	**Eielson Array**	**80.48**	**336**	P	**P**	**07 34 37.2**	**+0.5**
	comp=Z,0.7nm,1.0s,baz=96,slow=5.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**82.19**	**77**	P	**P**	**07 34 47.5**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=286,slow=4.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**82.19**	**77**	P	**P**	**07 34 46.5**	**-0.4**
TORD				IAmb	IAmb	07 35 09.8	
	comp=Z,5.2nm,1.4s						
SNAA	**Sanae**	**85.78**	**162**	P	**P**	**07 35 04.4**	**+0.3**
SNAA				IAmb	IAmb	07 35 06.5	
	comp=Z,4.6nm,1.3s						
QSPA	**South Pole Qui**	**89.78**	**180**	P	**P**	**07 35 23.8**	**+0.3**

NOU ***17*** *07:30:55.3, 23°.65S×173°.95W, h2km, ML5.8/94, Tonga Islands Region*

IDC ***17*** *07:30:57.9±0.3, 23°.50S×174°.50W, h0km, mb5.4/24, mb1 5.6/27, mb1mx5.5/28, mbtmp5.4/27, ML5.1/3, MS5.0/54, Ms1 5.0/54, ms1mx5.0/65, Error ellipse: s-maj=14.0km s-min=12.1km az=148.0*

BJI ***17*** *07:30:59.1±0.0, 22°.99S×173°.88W, h16km, mb5.7/59, mB6.1/56, Ms5.6/61, Ms7 5.3/58*

MOS ***17*** *07:30:59.1±0.9, 23°.52S×174°.53W, h16km, mb5.8/56, MS5.3/10, Error ellipse: s-maj=8.0km s-min=7.6km az=111.0*

NEIC ***17*** *07:31:00.0±2.4, 23°.50S±0°.07×174°.25W±0°.07, h10

RAR	Rarotonga	13.76	82	Pn	Pn	07 34 08.7	-6.7		
RAR	Rarotonga	13.76	82	P	Pn	07 34 07.8	-7.5		
WMGZ	Waiomatatini S	15.30	202	P	Pn	07 34 30.5	-5.5		
WMGZ				S	Sn	07 37 15.1	-9.2		
OUZ	Omahuta	15.46	220	Pn	Pn	07 34 38.6	+0.4		
OUZ	Omahuta	15.46	220	P	Pn	07 34 38.9	+0.8		
HAZ	Te Kaha	15.47	204	P	Pn	07 34 30.8	-7.4		
HAZ				S	Sn	07 37 22.4	-6.1		
PKGZ	Pakihiroa	15.48	203	P	Pn	07 34 31.6	-6.8		
PKGZ				S	Sn	07 37 14.9	-14		
WCZ	Waipu Caves	15.55	216	P	Pn	07 34 39.8	+0.4		
PUZ	Puketiti	15.58	202	P	Pn	07 34 32.1	-7.6		
PUZ				S	Sn	07 37 19.7	-11		
RUGZ	Raukumara Rang	15.69	204	P	Pn	07 34 35.0	-6.3		
RUGZ				S	Sn	07 37 20.0	-14		
TWGZ	Tauwhareparae	15.77	203	P	Pn	07 34 37.0	-5.2		
TWGZ				S	Sn	07 37 24.2	-12		
WIAZ	Waiheke Island	15.80	212	P	P	07 34 45.0	-1.1		
CNGZ	Carnagh Statio	15.97	202	P	Pn	07 34 37.9	-6.8		
CNGZ				S	Sn	07 37 34.3	-6.3		
TKGZ	Te Karaka	16.05	203	P	Pn	07 34 39.5	-6.2		
TKGZ				S	Sn	07 37 31.1	-12		
MWZ	Matawai	16.07	204	P	Pn	07 34 39.4	-6.7		
MWZ				S	Sn	07 37 33.1	-10		
URZ	Urewera	16.16	205	Pn	Pn	07 34 47.2	0.0		
	comp=Z,1.5nm,0.3s,baz=256,slow=4.6,SNR=9.5								
URZ				Sn	Sn	07 37 36.0	-9.3		
	comp=Z,8.1nm,0.3s,baz=113,slow=2.5,SNR=9.0								
URZ	Urewera	16.16	205	P	Pn	07 34 37.6	-10		
RAGZ	Rawiri	16.26	204	P	Pn	07 34 42.2	-6.3		
RAGZ				S	Sn	07 37 38.5	-9.2		
RIGZ	Rimuhau	16.32	202	P	Pn	07 34 42.9	-6.3		
RIGZ				S	Sn	07 37 37.5	-12		
FUNA	Funafuti	16.35	337	Pn	Pn	07 34 45.8	-3.9		
MARNC	Mare, Loyalty	16.38	275		Pn	07 34 51.1	+1.0		
MARNC	Mare, Loyalty	16.38	275	P	P	07 34 52.1	-0.5		
TOZ	Tahuroa Road	16.39	210	P	P	07 34 56.4	+3.9		
PRGZ	Paritu Road	16.47	202	P	Pn	07 34 47.1	-4.0		
PRGZ				S	Sn	07 37 40.9	-12		
MUGZ	Murupara	16.48	205	P	Pn	07 34 51.4	+0.2		
MUGZ				S	Sn	07 37 43.9	-9.3		
RTZ	Ruatahuna	16.52	204	P	Pn	07 34 45.1	-6.8		
RTZ				S	Sn	07 37 42.3	-12		
SNGZ	Shannon Statio	16.54	203	P	Pn	07 34 47.4	-4.5		
SNGZ				S	Sn	07 37 42.9	-12		
HRRZ	Handcock Road	16.60	206	P	Pn	07 34 52.0	-0.5		
KNZ	Kokohu	16.63	202	P	Pn	07 34 51.3	-1.8		
KNZ				S	Sn	07 37 43.3	-13		
MHGZ	Mahia Peninsul	16.67	201	P	Pn	07 34 48.9	-4.8		
MHGZ				S	Sn	07 37 42.2	-16		
PINNC	Pines Island,	16.73	270		P	07 34 56.1	-0.3		
RAHZ	Arahi	16.75	204	P	Pn	07 34 55.2	+0.5		
RAHZ				S	Sn	07 37 48.5	-11		
MRHZ	Matea Rd	16.93	205	P	P	07 34 58.0	-0.7		
MRHZ				S	Sn	07 37 50.4	-14		
ARHZ	Aropaoanui	17.09	203	P	Pn	07 34 57.0	-1.8		
RTV	Rentapao	17.12	287	P	P	07 35 02.2	+1.4		
BKZ	Black Stump Fm	17.19	205	P	P	07 35 02.3	+0.8		
BKZ	Black Stump Fm	17.19	205	P	Pn	07 34 53.1	-7.1		
BKZ	Black Stump Fm	17.19	205	P	Pn	07 34 59.0	-1.2		
LIFNC	LIFOU	17.25	276	P	Pn	07 35 01.3	+0.2		
LIFNC				IAmb	IAmb	07 35 06.0			
	comp=Z,583nm,0.9s								
LIFNC	LIFOU	17.25	276	P	P	07 35 03.4	+1.2		
OUENC	Ouen Island, N	17.31	271		Pn	07 35 01.8	0.0		
OUENC	Ouen Island, N	17.31	271	P	P	07 35 04.5	+1.6		
HIZ	Hauiti	17.32	209	P	Pn	07 35 01.3	-0.4		
YATNC	Mamie plateau,	17.32	272	P	P	07 35 03.8	+0.8		
KATZ	Kakaramea	17.34	207	P	P	07 35 04.7	+1.4		
DVP	Devils Point	17.36	287	P	P	07 35 05.5	+2.1		
MCHZ	McNeill Hill	17.36	204	P	Pn	07 34 57.2	-4.9		
KWHZ	Kaweka Forest	17.44	204	P	Pn	07 35 00.3	-3.0		
NTVZ	North Tongariro	17.45	207	P	Pn	07 34 59.6	-4.0		
TMVZ	Te Maari	17.46	206	P	Pn	07 35 01.6	-2.0		
ETVZ	East Tongariro	17.47	206	P	Pn	07 35 01.0	-2.8		
WTVZ	West Tongariro	17.50	207	P	P	07 35 05.1	+0.1		
NNVZ	North Ngauruho	17.51	207	P	P	07 35 06.5	+1.3		
NGZ	Ngauruhoe	17.55	207	P	Pn	07 35 05.0	+0.3		
KAHZ	Kahuranaki	17.60	203	P	Pn	07 35 01.4	-3.8		
BHHZ	Black Hill Sta	17.63	205	P	Pn	07 35 03.6	-2.1		
KRHZ	Kereru	17.65	204	P	Pn	07 35 02.6	-3.2		
MOVZ	Moawhango	17.68	206	P	Pn	07 35 05.2	-1.1		
ONTNC	Ouen Toro	17.68	271	P	Pn	07 35 06.3	0.0		
ONTNC	Ouen Toro	17.68	271	P	P	07 35 08.3	+1.3		
DZM	Mont Dzumac	17.73	272	P	Pn	07 35 06.8	-0.2		
	comp=Z,6.7nm,0.3s,baz=79,slow=17,SNR=63								
DZM				LR	LR	07 40 51.5			
	comp=Z,7μm,19.1s,baz=101,slow=34								
DZM	Mont Dzumac	17.73	272	*e*Pn	P	07 35 07.7	+0.1		
	comp=Z,446nm,0.8s								
DZM				*e*LR	LR	07 39 15.9			
	comp=Z,20μm,27.8s								
DZM	Mont Dzumac	17.73	272	P	P	07 35 07.4	-0.3		
DZM	Mont Dzumac	17.73	272	P	P	07 35 08.8	+1.2		
PKVZ	Pokaka	17.75	207	P	P	07 35 08.1	+0.4		
MTVZ	Mangateitei	17.78	207	P	Pn	07 35 07.7	+0.2		
PXZ	Pawanui	17.81	202	P	Pn	07 35 03.3	-4.5		
NOUC	Port Laguerre	17.85	272	P	P	07 35 10.0	+1.1		
VRZ	Vera Road	17.86	208	P	Pn	07 35 07.8	-0.7		
PNHZ	Pukenui	17.95	204	P	Pn	07 35 04.5	-5.0		
WPHZ	Waipukurau	17.99	203	P	Pn	07 35 08.2	-1.8		
TSZ	Takapari Road	18.17	204	P	Pn	07 35 09.0	-3.2		
NEZ	North Egmont	18.28	210	P	Pn	07 35 15.5	+1.9		
DVHZ	Dannevirke	18.30	204	P	P	07 35 11.5	-2.2		
ANWZ	Angora Road	18.33	203	P	P	07 35 14.1	+0.1		
KHEZ	Kahui Hut	18.33	210	P	Pn	07 35 19.4	+5.1		
NBEZ	Newall Road No	18.38	210	P	Pn	07 35 11.4	+3.3		
POWZ	Post Office Ro	18.53	204	P	P	07 35 15.1	-1.1		
PRWZ	Pori Road	18.60	204	P	P	07 35 13.8	-3.1		
BFZ	Birch Farm	18.61	203	P	P	07 35 13.1	-3.9		
BFZ	Birch Farm	18.61	203	P	P	07 35 15.4	-1.7		
TIWZ	Tintock	18.82	203	P	P	07 35 18.4	-1.1		
CPWZ	Castlepoint	18.83	203	P	P	07 35 19.7	+0.3		
HOWZ	Holdsworth Sta	19.06	204	P	P	07 35 18.6	-3.5		
TMWZ	Te Maipa	19.11	203	P	P	07 35 18.8	-3.8		
OGWZ	Otaki Gorge	19.12	205	P	P	07 35 20.1	-2.6		
SANVU	Saraoutou	19.19	292	P	P	07 35 22.9	-0.7		
SANVU	Saraoutou	19.19	292	P	P	07 35 23.4	-0.2		
KIW	Kapiti Island	19.26	205	P	P	07 35 21.5	-2.7		
MTW	Mount Morrison	19.30	204	P	P	07 35 22.0	-2.6		
TRWZ	Traveller	19.44	203	P	Pn	07 35 27.2	-0.3		
PAWZ	Paruwai Farm	19.52	203	P	Pn	07 35 28.8	+0.3		
MSWZ	Moikau Station	19.61	204	P	Pn	07 35 30.3	+0.7		
SNZO	South Karori	19.73	205	P	Pn	07 35 30.4	-0.5		
PLWZ	Palliser	19.75	204	P	Pn	07 35 31.1	-0.1		
BHW	Baring Head	19.75	204	P	P	07 35 30.2	+0.7		
BHW	Baring Head	19.75	204	P	P	07 35 29.6	+0.1		
KOUNC	Koumac, New Ca	20.00	275		P	07 35 33.2	+0.8		
KOUNC	Koumac, New Ca	20.00	275	P	Pn	07 35 33.6	-0.7		
TUWZ	Tuamarina	20.13	206	P	P	07 35 34.0	+0.4		
QRZ	Quartz Range	20.24	210	P	P	07 35 35.6	+0.7		
CMWZ	Cape Campbell	20.29	205	P	Pn	07 35 39.0	+1.4		
BSWZ	Blackbirch Sta	20.40	206	P	P	07 35 37.6	+1.0		
BSWZ	Blackbirch Sta	20.40	206	P	Pn	07 35 38.6	-0.2		
THZ	Tophouse	20.84	208	P	P	07 35 41.7	+0.3		
KNTN	Kanton	21.03	7	P	P	07 35 40.4	-3.2		
KHZ	Kahutara	21.12	205	P	P	07 35 45.1	+0.7		
KHZ	Kahutara	21.12	205	P	P	07 35 42.0	-2.4		
LTZ	Lake Taylor	21.94	207	P	P	07 35 55.6	+2.3		
TBI	Tubuai	22.86	94	*e*P	P	07 36 02.2	-1.0		
	comp=Z,474nm,1.1s								
TBI				*e*S	S	07 40 05.8	-4.7		
	comp=Z,4μm,26.6s								
TBI				*e*LQ	LQ	07 40 25.5			
	comp=Z,20μm,27.0s								
TBI				*e*LR	LR	07 41 24.7			
	comp=Z,23μm,28.2s,baz=266								
TBI	Tubuai	22.86	94	*e*T	T	07 59 22.0			
	comp=Z,18nm,0.4s								
RPZ	Rata Peaks	23.22	208	P	P	07 36 05.2	-1.4		
	comp=Z,32nm,0.7s,baz=316,slow=3.5,SNR=16								
RPZ				S	S	07 40 09.3	-6.9		
	comp=Z,5.9nm,0.7s,baz=114,slow=18,SNR=1.4								
RPZ				LR	LR	07 45 42.4			
	comp=Z,3μm,18.3s,baz=20,slow=38								
RPZ	Rata Peaks	23.22	208	P	P	07 36 05.4	-1.3		
PAE	Paea	23.98	80	*e*P	P	07 36 12.0	-2.1		
	comp=Z,28nm,1.0s								
PAE	Paea	23.98	80	*e*T	T	08 00 35.6			
	comp=Z,28nm,0.3s								
PPT2	Papeete2	24.00	80	*e*P	P	07 36 12.5	-2.0		
	comp=Z,141nm,1.2s								
PPT2				*e*S	S	07 40 23.6	-5.8		
	comp=Z,3μm,23.2s								
PPT2				*e*LQ	LQ	07 40 45.0			
	comp=Z,24μm,26.0s								
PPT2				*e*LR	LR	07 41 50.9			
	comp=Z,25μm,26.8s,baz=250								
PPT2	Papeete2	24.00	80	*e*T	T	08 00 38.8			
	comp=Z,32nm,0.4s								
PPT	Papeete	24.01	80	P	P	07 36 13.2	-1.3		
	comp=Z,116nm,0.9s,baz=71,slow=7.4,SNR=8.7								
PPT				LR	LR	07 43 05.0			
	comp=Z,4μm,20.5s,baz=262,slow=30								
PPT	Papeete	24.01	80	P	P	07 36 13.2	-1.3		
PPTF	Pamatai, Papee	24.01	80	P	P	07 36 12.4	-2.2		
PPTF				IAmb	IAmb	07 36 23.2			
	comp=Z,204nm,1.0s								
ODZ	Otahua Downs	24.47	206	P	P	07 36 20.1	+1.7		
ODZ	Otahua Downs	24.47	206	P	P	07 36 19.8	+1.4		
LHI	Lord Howe Isla	24.70	246	P	P	07 36 22.1	+1.4		
	baz=25,SNR=4.3								
LHI	Lord Howe Isla	24.70	246	P	P	07 36 22.9	+2.2		
VAH	Vaihoa	26.59	76	*e*P	P	07 36 36.3	-1.6		
	comp=Z,99nm,1.1s								
HNR	Honiara	28.35	296	P	P	07 36 48.1	-5.5		
	comp=Z,60nm,0.4s,baz=208,slow=6.0,SNR=10								
HNR				LR	LR	07 48 08.0			
	comp=Z,3μm,18.2s,baz=150,slow=37								
HNR	Honiara	28.35	296	P	P	07 36 51.0	-2.7		
HNR				pmax	pmax				
	comp=Z,578nm,1.2s								
HNR				MLR	MLR				
	comp=Z,3μm,18.0s								
HNR	Honiara	28.35	296	P	P	07 36 51.0	-2.7		
XMAS	Kiritimati	30.50	35	P	P	07 37 10.3	-2.4		
XMAS				IAmb	IAmb	07 37 16.2			
	comp=Z,120nm,1.1s								
ARMA	Armidale	30.88	250	P	P	07 37 16.9	+0.8		
	baz=31,SNR=14								
ARMA	Armidale	30.88	250	P	P	07 37 17.2	+1.1		
ARMA	Armidale	30.88	250	P	P	07 37 16.4	+0.3		
EIDS	Eidsvold	31.39	260	P	P	07 37 19.1	-1.3		
	baz=31,SNR=15								
EIDS	Eidsvold	31.39	260	P	P	07 37 19.4	-1.1		
EIDS	Eidsvold	31.39	260	P	P	07 37 19.2	-1.3		
MGCD	Mangrove Creek	31.62	245	P	P	07 37 23.9	+1.4		
	baz=32,SNR=16								
MGCD	Mangrove Creek	31.62	245	P	P	07 37 23.6	+1.1		
SYDH	Sydney Hard Ro	32.01	244	P	P	07 37 27.2	+1.3		
CNB	Canberra Magne	33.39	241	P	P	07 37 39.1	+1.1		
	baz=34,SNR=9.5								
CNB	Canberra Magne	33.39	241	P	P	07 37 39.9	+1.9		
RMQ	Roma	33.40	258	P	P	07 37 38.0	-0.1		
	baz=34,SNR=24								
RMQ	Roma	33.40	258	P	P	07 37 39.7	+1.6		
	comp=Z,89nm,0.8s								
CAN	Canberra	33.68	242	P	P	07 37 42.2	+1.6		
CAN				pmax	pmax				
	comp=Z,147nm,2.0s								
CAN				MLR	MLR				
	comp=Z,6μm,18.0s								
CAN	Canberra	33.68	242	P	P	07 37 42.2	+1.6		
CAN				IAmb	IAmb	07 37 45.9			
	comp=Z,147nm,2.0s								
CAN				IAMs_20	IAMs_20	07 51 05.0			
	comp=Z,6μm,18.0s								
CAN	Canberra	33.68	242	P	P	07 37 42.4	+1.8		
GLAD	Gladstone	35.76	232	P	P	07 38 00.7	+2.3		
TAOE	Nuku Hiva Isla	35.94	71	*e*LR	LR	07 47 15.9			
	comp=Z,7μm,27.6s,baz=244								
TAOE	Nuku Hiva Isla	35.94	71	*e*T	T	08 15 27.0			
	comp=Z,23nm,0.3s								
TAOE	Nuku Hiva Isla	35.94	71	P	P	07 37 58.2	-2.0		
TAOE				IAmb	IAmb	07 38 13.7			
	comp=Z,108nm,1.0s								
CMSA	Cobar Meteorol	36.03	249	P	P	07 38 00.7	-0.2		
	baz=36,SNR=37								
CMSA	Cobar Meteorol	36.03	249	P	P	07 38 00.7	-0.2		
CTA	Charters Tower	36.61	268	P	P	07 38 04.8	-1.2		
	comp=Z,261nm,0.6s,baz=96,slow=9.9,SNR=117								
CTA				LR	LR	07 51 40.7			
	comp=Z,2μm,18.8s,baz=104,slow=34								
CTA	Charters Tower	36.61	268	P	P	07 38 05.0	-0.9		
CTAO	Charters Tower	36.61	268	P	P	07 38 04.7	-1.2		
CTAO				pmax	pmax				
	comp=Z,239nm,0.6s								
CTAO				MLR	MLR				
	comp=Z,4μm,19.0s								
CTAO	Charters Tower	36.61	268	P	P	07 38 04.7	-1.2		
MOO	Moorlands	36.79	230	P	P	07 38 09.3	+2.2		
	baz=37,SNR=20								
MOO	Moorlands	36.79	230	P	P	07 38 09.4	+2.2		
KWAJ	Kwajalein Atol	36.84	329	P	P	07 38 06.0	-1.8		
KWAJ				pmax	pmax				
	comp=Z,710nm,1.3s								
KWAJ	Kwajalein Atol	36.84	329	P	P	07 38 06.0	-1.8		
TAU	Tasmania Unive	36.84	229	P	P	07 38 09.8	+2.2		
TAU				pmax	pmax				
	comp=Z,66nm,0.8s								
TAU				MLR	MLR				
	comp=Z,7μm,18.0s								
TAU	Tasmania Unive	36.84	229	P	P	07 38 09.8	+2.2		
TAU	Tasmania Unive	36.84	229	IAMs_20	IAMs_20	07 54 20.3			
	comp=Z,7μm,18.0s								
TAU	Tasmania Unive	36.84	229	P	P	07 38 09.6	+2.0		
TOO	Toolangi	36.86	239	P	P	07 38 09.3	+1.4		
	baz=37,SNR=14								
TOO	Toolangi	36.86	239	P	P	07 38 09.5	+1.6		
TOO				pmax	pmax				
	comp=Z,30nm,0.9s								
TOO	Toolangi	36.86	239	P	P	07 38 09.5	+1.6		
TOO	Toolangi	36.86	239	P	P	07 38 08.2	+0.3		
QLP	Quilpie	37.43	257	P	P	07 38 11.9	-0.9		
	baz=38,SNR=16								
QLP	Quilpie	37.43	257	P	P	07 38 12.3	-0.5		
RABL	Rabaul	37.66	296	P	P	07 38 13.7	-1.2		
RABL				IAmb	IAmb	07 38 37.9			
	comp=Z,90nm,0.6s								
RABL	Rabaul	37.66	296	P	P	07 38 15.6	+0.7		
BRAT	Ballarat	38.08	239	P	P	07 38 18.7	+0.6		
MTSU	Mount Surprise	38.86	270	P	P	07 38 23.6	-1.4		
	baz=39,SNR=116								
MTSU	Mount Surprise	38.86	270	P	P	07 38 23.7	-1.3		
PMG	Port Moresby	39.36	285	LR	LR	07 52 58.0			
	comp=Z,4μm,18.1s,baz=124,slow=34								
PMG	Port Moresby	39.36	285	*c i*P	P	07 38 27.2	-2.0		
PMG				pmax	pmax				
	comp=Z,167nm,0.8s								
PMG				MLR	MLR				
	comp=Z,7μm,16.0s								
PMG	Port Moresby	39.36	285	P	P	07 38 27.4	-1.8		
PMG				IAmb	IAmb	07 38 29.7			
	comp=Z,150nm,0.8s								
PMG	Port Moresby	39.36	285	P	P	07 38 28.1	-1.1		
PMG	Port Moresby	39.36	285	P	P	07 38 27.9	-1.3		
STKA	Stephens Creek	39.53	248	P	P	07 38 30.1	-0.2		
	comp=Z,24nm,0.6s,baz=97,slow=11,SNR=50								
STKA				LR	LR	07 53 46.2			
	comp=Z,3μm,18.4s,baz=81,slow=35								
STKA	Stephens Creek	39.53	248	P	P	07 38 30.2	-0.2		
	baz=40,SNR=36								
STKA	Stephens Creek	39.53	248	P	P	07 38 30.4	0.0		
STKA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
STKA	Stephens Creek	39.53	248	P	P	07 38 30.4	0.0		
STKA	Stephens Creek	39.53	248	P	P	07 38 30.3	-0.1		
ARPS	Mount Arapiles	39.63	241	P	P	07 38 32.3	+1.1		
	baz=40,SNR=17								
ARPS	Mount Arapiles	39.63	241	P	P	07 38 31.7	+0.5		
PTCN	Pitcairn Islan	40.23	101	IAMs_20	IAMs_20	07 49 53.4			
	comp=Z,6μm,21.0s								
INKA	Innaminka	40.43	255	P	P	07 38 38.6	+0.7		
PATS	Pohnpei	40.44	315	P	P	07 38 36.9	-1.2		
	baz=40,SNR=5.5								
PATS	Pohnpei	40.44	315	P	P	07 38 35.8	-2.2		
PATS				IAMs_20	IAMs_20	07 51 12.0			
	comp=Z,7μm,21.0s								
COEN	Coen	41.18	276	P	P	07 38 43.6	-0.7		
COEN	Coen	41.18	276	P	P	07 38 44.0	-0.3		
HTT	Hallett	41.81	246	P	P	07 38 49.2	0.0		
	baz=42,SNR=55								
HTT	Hallett	41.81	246	P	P	07 38 49.5	+0.3		
TWOA	Tennyson Woods	42.14	243	P	P	07 38 52.1	+0.3		
NAPP	Napperby	42.45	246	P	P	07 38 55.6	+1.2		
LCRK	Leigh Creek	42.46	250	P	P	07 38 53.9	-0.6		
QIS	Mount Isa	42.58	265	P	P	07 38 54.6	-1.1		
	baz=43,SNR=21								
QIS	Mount Isa	42.58	265	P	P	07 38 55.2	-0.5		
MANU	Manus Island	42.83	295	P	P	07 38 57.4	-0.3		
BBOO	Buckleboo	44.21	247	P	P	07 39 07.7	-1.0		
	baz=44,SNR=37								
BBOO	Buckleboo	44.21	247	P	P	07 39 07.9	-0.8		
BBOO	Buckleboo	44.21	247	P	P	07 39 07.9	-0.8		
OOD	Oodnadatta	44.88	254	P	P	07 39 13.7	-0.4		
MULG	Mulgathing	46.05	250	P	P	07 39 22.7	-0.6		
WAKE	Wake Island	46.61	335	P	P	07 39 26.4	-1.2		
AS31	Alice Springs	47.11	259	P	P	07 39 30.6	-1.1		
ASAR	Alice Springs	47.11	259	P	P	07 39 30.1	-1.6		
	comp=Z,18nm,0.5s,baz=81,slow=6.1,SNR=81								
ASAR				S	S	07 46 18.9	-3.1		
	comp=Z,2.5nm,0.9s,baz=93,slow=9.8,SNR=7.2								
ASAR				LR	LR	07 58 10.9			
	comp=Z,4μm,18.5s,baz=118,slow=35								
ASAR	Alice Springs	47.11	259	P	P	07 39 30.6	-1.1		
ASAR	Alice Springs	47.11	259	P	P	07 39 30.6	-1.1		
HPAH	Hawaii Prepara	47.20	24	P	P	07 39 30.5	-1.8		
WR0	Warramunga Arr	47.34	264	P	P	07 39 32.0	-1.5		
WR0				IAmb	IAmb	07 39 47.5			
	comp=Z,42nm,0.8s								
WB2	Warramunga Arr	47.52	264	P	P	07 39 33.5	-1.4		
WB2				IAmb	IAmb	07 39 35.5			
	comp=Z,82nm,0.6s								
WRAB	Tennant Creek	47.52	264	*ce*P	P	07 39 33.4	-1.5		
WRAB				pmax	pmax				
	comp=Z,53nm,0.9s								
WRAB	Tennant Creek	47.52	264	P	P	07 39 33.5	-1.4		
WRAB				IAmb	IAmb	07 39 35.4			
	comp=Z,69nm,0.6s								
WRAB	Tennant Creek	47.52	264	IAMs_20	IAMs_20	08 00 41.4			
	comp=Z,4μm,18.0s								
WRAB	Tennant Creek	47.52	264	P	P	07 39 33.1	-1.8		
WB0	Warramunga Arr	47.52	264	P	P	07 39 33.7	-1.2		
WB0				IAmb	IAmb	07 39 36.1			
	comp=Z,83nm,0.7s								
WRA	Warramunga Arr	47.53	264	P	P	07 39 33.0	-2.0		
	comp=Z,55nm,0.5s,baz=103,slow=8.0,SNR=205								
WRA				S	S	07 46 22.5	-5.4		
	comp=Z,7.9nm,0.9s,baz=102,slow=14,SNR=7.6								
WRA				LR	LR	07 58 37.0			
	comp=Z,2μm,18.0s,baz=99,slow=35								
WRA	Warramunga Arr	47.53	264	P	P	07 39 33.6	-1.4		
WRA				pmax	pmax				
	comp=Z,7.0nm,0.7s								
WRA	Warramunga Arr	47.53	264	P	P	07 39 33.6	-1.4		
KIP	Kipapa	47.67	21	*e*P	P	07 39 34.5	-1.3		
KIP				pmax	pmax				
	comp=Z,222nm,1.7s								
GENI	Genyem	48.68	289	P	P	07 39 43.6	-0.3		
	comp=Z,114nm,1.3s								
SMPI	Sarmi	50.24	288	P	P	07 39 56.6	+0.8		
	comp=Z,2μmcomp=Z,31nm,0.7s								
FORT	Forrest	51.15	249	P	P	07 40 01.9	-0.6		
	baz=51,SNR=61								
FORT	Forrest	51.15	249	P	P	07 40 02.1	-0.5		
FORT				IAmb	IAmb	07 40 05.5			
	comp=Z,109nm,0.6s								
FORT	Forrest	51.15	249	P	P	07 40 01.9	-0.6		
KDU	Kakadu	51.40	273	P	P	07 40 02.4	-2.1		
	baz=51,SNR=35								
WRKA	Warakurna	51.86	256	P	P	07 40 06.7	-1.3		
	baz=52,SNR=302								
WRKA	Warakurna	51.86	256	P	P	07 40 06.7	-1.3		
MTN	Manton Dam	52.57	272	P	P	07 40 11.3	-2.0		
	baz=53,SNR=32								
MTN	Manton Dam	52.57	272	P	P	07 40 12.1	-1.2		
MTN				IAmb	IAmb	07 40 14.0			
	comp=Z,70nm,0.8s								
MTN	Manton Dam	52.57	272	P	P	07 40 11.5	-1.8		
KNRA	Kununurra	53.82	268	P	P	07 40 21.1	-1.3		
	baz=54,SNR=132								
KNRA	Kununur

CASY Casey 62.48 206 P P 07 41 24.5 +2.2
CASY IAmb IAmb 07 41 27.1
comp=Z,48nm,0.8s
BASI Baing, Sumba 63.16 270 P P 07 41 38.9 +11
KMSI Cibinong 64.44 283 P P 07 41 45.0 +8.9
WBSI Waikabubak, Su 64.46 270 P P **07 41 40.9 +4.6**
BSSI Bau Bau, Buton 64.79 274 P P 07 41 45.0 +6.6
LUWI Luwuk 64.81 281 P P **07 41 38.2 -0.3**
LUWI IAmb IAmb 07 42 17.6
comp=Z,103nm,1.0s
LUWI Luwuk 64.81 281 P P **07 41 42.0 +3.5**
GIRL Giralia 64.92 255 P P **07 41 40.9 +1.8**
baz=65,SNR=18
GIRL Giralia 64.92 255 P P **07 41 40.3 +1.2**
GIRL Giralia 64.92 255 P P **07 41 41.1 +2.0**
GTOI Gorontalo 65.33 282 P P **07 41 44.1 +2.2**
comp=Z,555nmcomp=Z,40nm,0.7s
BKSI Bulukumba 65.45 275 P P **07 41 42.3 -0.3**
comp=Z,1µmcomp=Z,79nm,0.8s
JCJ Chichijima 65.69 318 LR LR 08 08 12.7
comp=Z,931nm,18.7s,baz=141,slow=34
JCJ Chichijima 65.69 318 P P **07 41 43.9 0.0**
BNSI Bone 65.83 276 P P **07 41 45.8 +0.7**
comp=Z,2µmcomp=Z,89nm,0.7s
KAPI Kappang 65.91 275 LR LR 08 10 53.8
comp=Z,681nm,20.0s,baz=111,slow=36
KAPI Kappang 65.91 275*d iP* P **07 41 45.0 -0.6**
KAPI pmax pmax
comp=Z,18nm,0.8s
KAPI Kappang 65.91 275 P P **07 41 45.3 -0.3**
KAPI Kappang 65.91 275 P P **07 41 46.7 +1.1**
comp=Z,38nm,1.2s
DAV Davao City (W) 66.09 290 LR LR 08 09 32.7
comp=Z,600nm,18.8s,baz=116,slow=35
MRSI Marisa 66.22 282 P P **07 41 47.2 -0.4**
comp=Z,1µmcomp=Z,46nm,0.7s
PLAI Plampang 66.24 271 P P **07 41 48.4 +0.6**
comp=Z,3µmcomp=Z,194nm,0.8s
PLAI Plampang 66.24 271 P P **07 41 47.6 -0.2**
SPSI Sidrap Palu 66.31 276 P P **07 41 47.6 -0.6**
comp=Z,890nmcomp=Z,41nm,0.8s
QSPA South Pole Qui 66.32 180 P P **07 41 50.3 +2.7**
comp=Z,83nm,0.8s,baz=42,slow=1.6,SNR=231
QSPA LR LR 08 08 26.2
comp=Z,1µm,18.2s,baz=115,slow=34
QSPA South Pole Qui 66.32 180 P P **07 41 49.6 +2.0**
QSPA IAMs_20 IAMs_20 08 11 08.4
comp=Z,3µm,19.0s
TTSI Tana Toraja 66.64 277 P P 07 41 58.0 +7.7
TOLI2 Tolitoli 67.54 282 P P **07 41 55.0 -1.1**
TOLI2 IAmb IAmb 07 42 09.8
comp=Z,47nm,0.7s
TOLI2 Tolitoli 67.54 282 P P **07 41 55.9 -0.1**
MPSI Mapaga 68.00 281 P P **07 41 58.3 -0.6**
comp=Z,1µmcomp=Z,86nm,0.9s
IGBI Denpasar 68.66 270 P P **07 42 04.0 +1.0**
comp=Z,4µmcomp=Z,360nm,0.9s
SRBI Singaraja 68.87 270 P P **07 42 05.4 +1.0**
comp=Z,4µmcomp=Z,236nm,0.9s
JAGI Jajag, Banyuwa 69.70 270 P P **07 42 08.8 -0.7**
JAGI Jajag, Banyuwa 69.70 270 P P **07 42 09.5 0.0**
comp=Z,3µmcomp=Z,245nm,1.0s
JAGI Jajag, Banyuwa 69.70 270 P P **07 42 08.6 -0.9**
ABJI Asem Bagus 69.88 270 P P **07 42 12.9 +2.3**
comp=Z,3µmcomp=Z,227nm,1.1s
KMMI Kalianget 70.40 271 P P **07 42 14.4 +0.6**
comp=Z,5µmcomp=Z,387nm,1.0s
GMJI Gumukmas 70.42 269 P P **07 42 15.5 +1.6**
comp=Z,3µmcomp=Z,191nm,0.9s
BLJI Banyuglugur 70.48 270 P P **07 42 15.4 +1.1**
comp=Z,3µmcomp=Z,215nm,0.8s
BBKI Banjar Baru 71.01 275 P P **07 42 19.4 +1.9**
comp=Z,82nm,1.3s
JHJ Hachijo jima 2 71.46 321 LR LR 08 06 55.9
comp=Z,615nm,21.0s,baz=76,slow=30
GRJI Gresik 71.82 270 P P **07 42 23.9 +1.5**
comp=Z,4µmcomp=Z,515nm,0.9s
MTKI Muara Teweh, K 71.99 277 P P **07 42 26.3 +2.9**
comp=Z,39nm,0.4s
PWJI Pagerwojo 72.02 269 P P **07 42 24.2 +0.6**
comp=Z,3µmcomp=Z,196nm,0.9s
PCJI Pacitan 72.53 269 P P **07 42 27.6 +1.0**
comp=Z,6µmcomp=Z,428nm,1.0s
UGM Wanagama 73.23 269 P P **07 42 31.4 +0.5**
UGM Wanagama 73.23 269 P P **07 42 33.4 +2.5**
comp=Z,4µmcomp=Z,190nm,1.2s
UGM Wanagama 73.23 269 P P **07 42 31.4 +0.5**
UWJI Ujung Watu 73.41 270 P P **07 42 34.6 +2.7**
comp=Z,5µmcomp=Z,238nm,0.9s
TGY Tagaytay City 73.54 294 LR LR 08 13 01.4
comp=Z,853nm,19.7s,baz=114,slow=34
SMRI Semarang 73.64 269 P P **07 42 36.4 +3.2**
comp=Z,226nm,1.2s
KKM Kota Kinabalu 73.81 284 P P **07 42 34.7 +0.3**
KKM IAmb IAmb 07 42 36.8
comp=Z,75nm,0.7s
PBKI Pangkalan Bun 74.21 274 P P **07 42 39.8 +3.2**
SMAI San Martin Ant 74.36 158 P P **07 42 38.4 +1.9**
JOW Kunigami 74.81 309 LR LR 08 14 26.4
comp=Z,935nm,18.8s,baz=128,slow=35
MJAR Matsushiro Arr 74.82 322 P P **07 42 38.4 -1.2**
comp=Z,14nm,0.5s,baz=147,slow=6.9,SNR=31
MJAR LR LR 08 16 48.1
comp=Z,430nm,18.1s,baz=112,slow=37
MJAR Matsushiro Arr 74.82 322 IAmb IAmb 07 42 40.8
comp=Z,111nm,1.5s
MAJO Matsushiro 74.82 322*deP* P **07 42 39.4 -0.2**
MAJO pmax pmax
comp=Z,66nm,0.8s
MAJO Matsushiro 74.82 322 P P **07 42 39.0 -0.6**
MJB9 Matsu-Tunnel 74.82 322 P P **07 42 39.1 -0.5**
MJB9 IAmb IAmb 07 42 41.2
comp=Z,214nm,1.6s
KPJI Karang Pucung 74.91 269 P P **07 42 41.2 +0.6**
comp=Z,3µmcomp=Z,187nm,1.4s
CMJI Cimerak 75.18 268 P P **07 42 43.6 +1.4**
comp=Z,2µmcomp=Z,192nm,1.1s
ADK Adak 75.35 359 P P **07 42 40.7 -1.5**
STKI Sintang 75.51 277 P P **07 42 45.2 +1.1**
comp=Z,8µmcomp=Z,105nm,1.0s
SBUM Sibu 75.83 279 P P **07 42 46.3 +0.3**
SBUM IAmb IAmb 07 42 49.2
comp=Z,97nm,1.4s
JCJI Jatiwangi 75.84 269 P P **07 42 48.2 +2.2**
comp=Z,523nm,1.1s
BELA Belgrano 2 75.89 172 P P **07 42 46.2 +1.0**
BELA IAmb IAmb 07 42 48.3
comp=Z,194nm,1.7s
JSU Suzuyama 76.18 314 P P **07 42 47.9 +0.3**
LEM Lembang 76.31 269 LR LR 08 17 30.9
comp=Z,673nm,20.1s,baz=136,slow=37
CNJI Cibinong 76.57 268 P P **07 42 52.3 +2.2**
comp=Z,4µmcomp=Z,275nm,1.1s
XMIS Christmas Isla 76.72 264 P P **07 42 52.3 +1.2**
XMIS IAmb IAmb 07 42 54.7
comp=Z,103nm,0.8s
PMSA Palmer Station 76.96 156 LR LR 08 12 16.1
comp=Z,459nm,18.4s,baz=294,slow=32
KSM Kuching 77.16 277 P P **07 42 53.6 +0.2**
CBJI Citeko 77.17 269 P P **07 42 55.7 +2.2**
comp=Z,224nm,0.5s
DBJI Dramaga 77.21 268 P P **07 42 55.1 +1.3**
comp=Z,15µmcomp=Z,188nm,1.3s
SCI2 San Clemente I 77.58 45 P P **07 42 56.5 +1.2**
baz=231
UNV Unalaska Valle 77.59 5 P P **07 42 54.1 -0.8**
baz=187
CIS Catalina Islan 77.93 45 P P **07 42 57.7 +0.4**
baz=231
PKM Mcpherson Peak 77.98 43 P P **07 42 58.9 +1.1**
baz=230,SNR=9.3
SMMC Simmler 78.14 43 P P **07 42 59.8 +1.4**
baz=230,SNR=13
CGJI Cibinong 78.15 268 P P **07 42 58.9 -0.1**
comp=Z,4µmcomp=Z,285nm,0.9s
ASAJ Asahikawa 78.20 330 LR LR 08 11 08.4
comp=Z,817nm,21.2s,baz=155,slow=31
FMP Fort Macarthur 78.20 45 P P **07 43 00.1 +1.4**
baz=231
LPIG La Paz 78.28 57 LR LR 08 10 22.3
comp=Z,968nm,18.6s,baz=244,slow=30
BBGB Big Mountain B 78.33 41 IAmb IAmb 07 43 02.6
comp=Z,121nm,1.2s
109C Camp Elliot, M 78.47 46 IAMs_20 IAMs_20 08 17 44.1
comp=Z,2µm,19.0s
109C Camp Elliot, M 78.47 46 P P **07 43 00.7 +0.5**
baz=232

OSI Osito Audit: C 78.49 44 P P **07 43 01.4 +0.9**
baz=230
DECC Green Verdugo 78.52 45 P P **07 43 01.0 +0.4**
baz=231
TPUB Ta-pu 78.54 302 P P **07 42 59.4 -1.5**
TPUB Ta-pu 78.54 302 P P **07 43 00.1 -0.8**
SSLB Suanglung 78.54 302 P P **07 43 00.1 -0.8**
BAR Barrett 78.63 47 P P **07 43 00.8 -0.4**
YHNB Yeheng 78.69 303 P P **07 43 01.6 -0.2**
YHNB IAmb IAmb 07 43 04.0
comp=Z,161nm,1.0s
YHNB IAMs_20 IAMs_20 08 13 27.1
comp=Z,2µm,22.0s
YHNB Yeheng 78.69 303 P P **07 43 00.9 -0.9**
MG05 Puerto Natales 78.70 142 P P **07 43 03.4 +2.0**
MG05 IAmb IAmb 07 43 05.9
comp=Z,185nm,1.4s
ARVC Arvin 78.75 44 P P **07 43 01.9 +0.1**
baz=230,SNR=12
TATO Taipei 78.77 304 P P **07 43 01.6 -0.5**
TATO Taipei 78.77 304 IAMs_20 IAMs_20 08 13 10.3
comp=Z,2µm,20.0s
MURC Murrieta 78.85 46 P P **07 43 02.4 0.0**
baz=232,SNR=22
SFX San Felipe 78.88 49 P P **07 43 02.2 -0.3**
MONP2 Monument Peak 78.92 47 P P **07 43 03.1 0.0**
baz=232,SNR=16
BFSC Mount Baldy Ra 78.94 45 P P **07 43 02.8 -0.2**
baz=231,SNR=12
KCPM Cahto Peak 78.94 38 IAmb IAmb 07 43 05.6
comp=Z,80nm,1.4s
IKP In-Ko-Pah, Jac 78.98 47 P P **07 43 03.4 +0.2**
baz=233,SNR=12
BLSI Bandar Lampung 79.04 269 P P **07 43 04.6 +0.7**
comp=Z,3µmcomp=Z,154nm,1.3s
VES Vestal, Richgr 79.05 43 P P **07 43 03.3 -0.1**
baz=230,SNR=31
EDW2 Edwards Air Fo 79.13 44 P P **07 43 04.2 +0.2**
baz=231,SNR=60
KMPM Mount Pierce 79.15 37 P P **07 43 04.4 +0.4**
VOG Valley Oaks Go 79.17 42 P P **07 43 03.8 -0.2**
baz=230
ISA Isabella, Lake 79.32 43 P P **07 43 05.4 +0.4**
baz=230,SNR=42
PFO Pinyon Flats O 79.34 46 LR LR 08 12 39.4
comp=Z,1µm,18.0s,baz=227,slow=32
PFO Pinyon Flats O 79.34 46*d iP* P **07 43 05.1 -0.1**
PFO pmax pmax
comp=Z,80nm,1.4s
PFO Pinyon Flats O 79.34 46 P P **07 43 05.3 +0.1**
PFO IAmb IAmb 07 43 07.4
comp=Z,184nm,1.9s
PFO Pinyon Flats O 79.34 46 P P **07 43 05.3 +0.1**
baz=232,SNR=14
SWSC Sam W. Stewart 79.37 47 P P **07 43 05.5 +0.3**
baz=233,SNR=14
BBRC Big Bear Solar 79.44 45 P P **07 43 06.4 +0.5**
baz=232
PPBI Pangkal Pinang 79.49 272 P P **07 43 07.5 +1.1**
comp=Z,142nm,1.4s
USHA Ushuaia 79.57 146 LR LR 08 10 27.9
comp=Z,924nm,19.3s,baz=265,slow=30
MAW Mawson 79.61 199 P P **07 43 08.6 +2.6**
comp=Z,56nm,0.8s,baz=133,slow=7.4,SNR=53
MAW LR LR 08 13 07.3
comp=Z,942nm,22.0s,baz=234,slow=32
MAW Mawson 79.61 199 P P **07 43 07.5 +1.5**
baz=80,SNR=41
MAW Mawson 79.61 199 P P **07 43 08.8 +2.8**
MAW pmax pmax
comp=Z,17nm,1.0s
MAW Mawson 79.61 199 P P **07 43 08.8 +2.8**
KASI Kota Agung 79.67 268 P P **07 43 07.2 -0.1**
comp=Z,3µmcomp=Z,173nm,1.1s
CMB Columbia Colle 79.68 40 P P **07 43 06.5 -0.4**
CMB pmax pmax
comp=Z,36nm,0.9s
CMB Columbia Colle 79.68 40 P P **07 43 06.5 -0.4**
SDPT Sand Point 79.69 8 P P **07 43 05.3 -1.1**
baz=193
LRMC Laurel Mtn Rad 79.70 44 P P **07 43 07.7 +0.5**
baz=231
O02D Mt. Diablo Mer 79.72 38 P P **07 43 08.0 +0.9**
baz=227,SNR=24
RRX Edison Barstow 79.76 45 P P **07 43 07.9 +0.5**
baz=232
BELC Belle Mtn. Jos 79.88 46 P P **07 43 08.5 +0.3**
baz=232,SNR=34
BC3 Big Chuckawall 80.03 47 P P **07 43 09.4 +0.4**
baz=233,SNR=38
CWC Cottonwood Cre 80.06 43 P P **07 43 09.4 +0.3**
baz=231
GLA Glamis 80.09 47 P P **07 43 09.2 0.0**
GLA pmax pmax
comp=Z,108nm,1.3s
GLA Glamis 80.09 47 P P **07 43 09.2 0.0**
GLA IAmb IAmb 07 43 12.8
comp=Z,108nm,1.2s
GLA Glamis 80.09 47 P P **07 43 09.8 +0.6**
baz=233,SNR=14
GSC Goldstone, Bar 80.15 44 P P **07 43 09.7 +0.2**
baz=232,SNR=30
HEC Hector,Ludlow 80.16 45 P P **07 43 09.6 -0.1**
baz=232,SNR=46
MPMC Manual Prospec 80.19 44 P P **07 43 10.2 +0.3**
baz=231,SNR=44
LWLI Liwa 80.27 269 P P **07 43 11.8 +1.1**
comp=Z,243nm,0.7s
PEA0B Petropavlovsk- 80.31 343*ceP* P **07 43 10.1 +0.3**
PEA0B Petropavlovsk- 80.31 343 P P **07 43 10.8 +1.0**
PEA0B IAmb IAmb 07 43 15.8
comp=Z,174nm,1.4s
PETK Petropavlovsk- 80.31 343 P P **07 43 09.1 -0.8**
comp=Z,13nm,0.7s,baz=142,slow=7.5,SNR=14
PETK LR LR 08 12 46.6
comp=Z,498nm,21.7s,baz=120,slow=31
PETK Petropavlovsk- 80.31 343 P P **07 43 10.4 +0.6**
PETK Petropavlovsk- 80.31 343 P P **07 43 10.4 +0.6**
N02D Trinity Center 80.31 37 P P **07 43 10.8 +0.5**
baz=227,SNR=18
YSS Yuzh-Sakhalins 80.32 332*eP* P **07 43 10.5 +0.5**
YSS *e* 07 46 17.5
YSS *eS* **S 07 53 16.8 +3.7**
YSS pmax pmax
comp=Z,150nm,1.1s
YSS pmax pmax
comp=Z,1µm,5.9s
MLAC Mammoth, Mammc 80.35 42 P P **07 43 11.2 +0.4**
baz=230,SNR=17
TIN Tinemaha, Big 80.35 42 P P **07 43 11.0 +0.4**
baz=230
O03E Paynes Creek 80.36 38 P P **07 43 10.2 -0.3**
baz=228,SNR=20
MDSI Maura Dua 80.36 269 P P **07 43 10.3 -0.8**
comp=Z,1µmcomp=Z,72nm,0.9s
M02C Callahan 80.52 37 IAmb IAmb 07 43 14.3
comp=Z,193nm,1.9s
M02C Callahan 80.52 37 P P **07 43 11.9 +0.6**
baz=227,SNR=19
IRM Iron Mountain 80.54 46 P P **07 43 12.0 +0.4**
baz=233,SNR=35
GMRC Granite Mounta 80.58 45 P P **07 43 12.1 +0.2**
baz=232,SNR=30
113A Mohawk Valley, 80.64 48 IAmb IAmb 07 43 14.5
comp=Z,162nm,1.9s
L02E Cave Junction 80.64 36 IAmb IAmb 07 43 14.8
comp=Z,137nm,1.9s
L02E Cave Junction 80.64 36 P P **07 43 12.6 +0.7**
baz=226
MPK Martis Peak 80.71 40 IAmb IAmb 07 43 15.1
comp=Z,234nm,1.5s
TUQ Turquoise Moun 80.80 45 P P **07 43 13.3 +0.3**
baz=232
214A Organ Pipe Nat 80.82 49 IAmb IAmb 07 43 16.7
comp=Z,98nm,1.5s
214A Organ Pipe Nat 80.82 49 P P **07 43 13.4 +0.3**
baz=235,SNR=27
LCH Last Change Ra 80.83 43 P P **07 43 12.8 -0.4**
YBH Yreka Blue Hor 80.83 37 LR LR 08 17 37.4
comp=Z,679nm,18.0s,baz=196,slow=35
YBH Yreka Blue Hor 80.83 37 P P **07 43 13.4 +0.4**
YBH pmax pmax
comp=Z,27nm,0.9s
YBH Yreka Blue Hor 80.83 37 P P **07 43 13.4 +0.4**
PNTR Pine Nut 80.83 40 P P **07 43 13.8 +0.5**
PNTR IAmb IAmb 07 43 15.7
comp=Z,95nm,0.9s

FURC Furnace Creek, 80.84 44 P P **07 43 13.2 +0.2**
baz=232,SNR=20
GRAC Grapevine Rang 80.85 43 IAmb IAmb 07 43 17.0
comp=Z,91nm,1.1s
GRAC Grapevine Rang 80.85 43 P P **07 43 13.9 +0.7**
baz=231,SNR=29
SHOC Shoshone, Teco 80.86 44 P P **07 43 14.1 +0.9**
baz=232
CHIR Chirikof Islan 80.87 11 IAmb IAmb 07 43 15.3
comp=Z,182nm,1.4s
CHIR Chirikof Islan 80.87 11 P P **07 43 12.2 -0.6**
baz=197
CHGN Chignik 80.90 9 P P **07 43 11.9 -0.9**
baz=195
VCNR Virginia City 80.94 40 IAmb IAmb 07 43 16.2
comp=Z,228nm,1.8s
QZH Quanzhou 80.98 302*i iP* P **07 43 14.8 +0.7**
QZH S **S 07 53 23.9 +2.9**
QZH pmax pmax
comp=Z,100nm,1.3s
QZH pmax pmax
comp=Z,670nm,7.3s
QZH LR LR
comp=Z,710nm,18.4s
QZH LR LR
comp=Z,840nm,18.2s
QZH LR LR
comp=Z,1µm,19.4s
K02D Willamette Mer 80.98 35 P P **07 43 14.2 +0.4**
baz=226,SNR=8.6
J01E Myrtle Point 81.17 35 IAmb IAmb 07 43 18.6
comp=Z,53nm,0.9s
J01E IAMs_20 IAMs_20 08 18 15.9
comp=Z,2µm,18.0s
J01E Myrtle Point 81.17 35 P P **07 43 15.1 +0.4**
baz=226,SNR=7.4
RYN Ryan 81.18 41 IAmb IAmb 07 43 17.5
comp=Z,126nm,1.7s
NVAR Mina Array Bea 81.18 41 P P **07 43 15.4 +0.3**
comp=Z,39nm,0.7s,baz=224,slow=7.7,SNR=219
NVAR PKKPbc **PKKPbc 08 01 54.0 +1.5**
comp=Z,0.4nm,0.7s,baz=72,slow=2.9,SNR=4.2
NVAR LR LR 08 13 26.3
comp=Z,952nm,18.9s,baz=182,slow=31
TJN Taejon 81.22 316*ceP* P **07 43 15.8 +0.7**
NEE2 Needles Airpor 81.25 46 P P **07 43 16.4 +1.1**
baz=233
PDMCI Parker Dam,Lak 81.29 47 P P **07 43 16.1 +0.6**
baz=234,SNR=14
M04C Macdoel 81.34 37 P P **07 43 15.9 +0.1**
baz=227,SNR=16
L04D Klamath Falls 81.38 36 P P **07 43 16.4 +0.3**
baz=227,SNR=16
COYC Coyhaique 81.49 136 IAmb IAmb 07 43 21.5
comp=Z,123nm,1.3s
TPNV Topopah Spring 81.52 43 P P **07 43 17.4 +0.5**
baz=232,SNR=30
KSRS Korea Array 81.54 317 P P **07 43 17.4 +0.7**
comp=Z,18nm,0.6s,baz=128,slow=6.5,SNR=50
KSRS PP **PP 07 46 24.1 +0.4**
comp=Z,4.3nm,1.1s,baz=128,slow=8.1,SNR=4.6
KSAR Wonju Array Be 81.56 317 P P **07 43 17.3 +0.5**
KSAR Wonju Array Be 81.56 317 P P **07 43 17.3 +0.5**
DSRI Dabo 81.59 273 P P **07 43 18.8 +1.2**
comp=Z,1µmcomp=Z,45nm,1.3s
KS19 Wonju Array Si 81.60 317 IAmb IAmb 07 45 37.3
comp=Z,296nm,2.0s
AY01 Puyuhuapi 81.61 135 P P **07 43 18.9 +1.7**
SII Sitkinak Islan 81.82 11 P P **07 43 17.6 -0.2**
SII Sitkinak Islan 81.82 11 P P **07 43 17.4 -0.4**
baz=199
SII Sitkinak Islan 81.82 11 P P **07 43 17.1 -0.7**
Y14A Wickenburg 81.84 48 IAmb IAmb 07 43 20.9
comp=Z,249nm,2.0s
I03D Drain, OR 81.84 35 P P **07 43 18.5 +0.3**
baz=226,SNR=8.6
W13A Hualapai Mount 81.93 46 IAmb IAmb 07 43 21.9
comp=Z,111nm,1.7s
K04D Chiloquin, OR 81.96 36 P P **07 43 19.3 +0.2**
baz=227
Q09A Carvers 82.12 42 P P **07 43 20.2 +0.2**
Q09A IAmb IAmb 07 43 23.4
comp=Z,88nm,1.2s
KSI Kapahiang 82.15 269 P P **07 43 20.6 0.0**
comp=Z,6µmcomp=Z,183nm,0.7s
J04D Umpqua Nationa 82.19 36 IAmb IAmb 07 43 22.8
comp=Z,133nm,1.3s
J04D Umpqua Nationa 82.19 36 P P **07 43 20.8 +0.5**
baz=227,SNR=13
TPRI Tanjung Pinang 82.20 274 P P 07 43 27.7 +6.9
MOD Modoc Plateau 82.28 38 IAmb IAmb 07 43 22.9
comp=Z,189nm,1.9s
BUCK Buck Mountain 82.38 35 IAmb IAmb 07 43 23.8
comp=Z,105nm,1.4s
I04A Tendick Farm, 82.40 35 P P **07 43 21.2 -0.1**
baz=227,SNR=16
TUC Tucson 82.44 50 P P **07 43 22.1 +0.4**
TUC pmax pmax
comp=Z,55nm,1.0s
TUC MLR MLR
comp=Z,2µm,18.0s
TUC Tucson 82.44 50 P P **07 43 22.1 +0.4**
TUC IAmb IAmb 07 43 24.6
comp=Z,55nm,0.9s
TUC Tucson 82.44 50 IAMs_20 IAMs_20 08 21 56.4
comp=Z,2µm,18.0s
TUC Tucson 82.44 50 P P **07 43 22.7 +0.9**
baz=236
COR Corvallis 82.49 34 P P **07 43 22.8 +1.2**
COR pmax pmax
comp=Z,261nm,1.9s
COR MLR MLR
comp=Z,3µm,18.0s
COR Corvallis 82.49 34 P P **07 43 22.8 +1.2**
K05A Summer Lake 82.50 37 P P **07 43 22.6 +0.7**
K05A IAmb IAmb 07 43 24.5
comp=Z,106nm,1.2s
PRN Pahroc Range 82.56 44 IAmb IAmb 07 43 26.4
comp=Z,113nm,1.3s
OHAK Old Harbor 82.61 11 IAmb IAmb 07 43 23.8
comp=Z,186nm,1.9s
OHAK Old Harbor 82.61 11 P P **07 43 21.3 -0.6**
baz=199,SNR=7.2
LL02 Futaleuf 82.66 134 IAmb IAmb 07 43 29.3
comp=Z,72nm,1.1s
MASI Maura Aman, Be 82.67 270 P P **07 43 24.7 +1.3**
comp=Z,4µmcomp=Z,240nm,0.8s
J05D Fort Rock, OR 82.69 36 P P **07 43 23.3 +0.4**
baz=228,SNR=62
H04D Lebanon 82.73 34 IAmb IAmb 07 43 25.4
comp=Z,93nm,1.3s
H04D Lebanon 82.73 34 P P **07 43 23.1 +0.3**
baz=226,SNR=12
R11A Troy Canyon, C 82.80 43 P P **07 43 23.7 +0.1**
baz=232,SNR=46
VLA Vladivostok 82.88 324*ij eP* P **07 43 24.2 +0.6**
VLA pmax pmax
comp=Z,53nm,1.0s
MSHR Mys Shultsa 82.92 323*ij eP* P **07 43 23.9 +0.1**
MSHR pmax pmax
comp=Z,55nm,1.0s
G03D McMinnville, O 82.94 34 IAmb IAmb 07 43 26.5
comp=Z,154nm,1.4s
G03D McMinnville, O 82.94 34 P P **07 43 24.5 +0.6**
baz=226,SNR=8.0
319A Douglas 82.99 51 IAmb IAmb 07 43 27.4
comp=Z,92nm,0.9s
BMN Battle Mountai 83.10 40 IAmb IAmb 07 43 27.4
comp=Z,150nm,1.7s
H04A Detroit Lake 83.13 35 IAmb IAmb 07 43 27.9
comp=Z,194nm,1.8s
X16A Lo Mia Camp, P 83.17 48 IAmb IAmb 07 43 28.1
comp=Z,57nm,0.9s
PINE Pine Mountain 83.19 36 IAmb IAmb 07 43 28.1
comp=Z,83nm,1.0s
KDAK Kodiak Island 83.27 12 LR LR 08 14 17.5
comp=Z,833nm,21.0s,baz=138,slow=31
KDAK Kodiak Island 83.27 12*i iP* P **07 43 24.8 -0.5**
KDAK pmax pmax
comp=Z,51nm,1.2s
KDAK Kodiak Island 83.27 12 P P **07 43 25.1 -0.2**
KDAK IAmb IAmb 07 43 28.2
comp=Z,194nm,1.8s
KDAK Kodiak Island 83.27 12 P P **07 43 27.3 +2.0**
baz=200
83.33 57 P P **07 43 26.3 -0.3**
HPIG IAmb IAmb 07 43 28.1

comp=Z,47nm,0.9s
I05D Terrebonne, OR 83.34 35 P P 07 43 26.5 +0.4
baz=228,SNR=23
TYV Tymovskoe 83.40 334 *e*P P 07 43 25.8 -0.3
TYV pmax pmax
comp=Z,74nm,1.6s
TYV pmax pmax
comp=Z,900nm,5.7s
LCMT Little Creek M 83.48 45 IAmb IAmb 07 43 31.0
comp=Z,104nm,1.3s
USA0B Ussuriysk Arra 83.54 324 P P 07 43 27.0 0.0
USA0B pmax pmax
comp=Z,159nm,1.2s
USA0B Ussuriysk Arra 83.54 324 P P 07 43 27.0 0.0
USRK Ussuriysk Ar. 83.54 324 P P 07 43 27.5 +0.5
comp=Z,43nm,0.7s,baz=124,slow=3.0,SNR=61
USRK LR LR 08 13 41.5
comp=Z,723nm,20.0s,baz=98,slow=31
USRK Ussuriysk Ar. 83.54 324 P P 07 43 27.7 +0.7
USRK Ussuriysk Ar. 83.54 324 P P 07 43 27.7 +0.7
F04D Rainier, OR 83.67 33 P P 07 43 28.8 +1.2
baz=226
ZAIG Zacatecas 83.72 62 P P 07 43 28.7 -0.1
ZAIG IAmb IAmb 07 43 31.7
comp=Z,88nm,1.5s
CCUT Cedar City 83.72 44 IAmb IAmb 07 43 32.7
comp=Z,142nm,1.4s
U15A North Rim 83.76 46 IAmb IAmb 07 43 32.9
comp=Z,133nm,1.2s
HOOD Mount Hood Mea 83.84 34 IAmb IAmb 07 43 32.0
comp=Z,59nm,1.1s
WUAZ Wupatki 83.84 47 IAmb IAmb 07 43 33.1
comp=Z,86nm,1.1s
WUAZ IAMs_20 IAMs_20 08 18 32.4
comp=Z,2μm,18.0s
WUAZ Wupatki 83.84 47 P P 07 43 29.8 +0.8
baz=235,SNR=38
LR03 Panguipulli 83.86 131 IAmb IAmb 07 43 32.2
comp=Z,94nm,1.4s
F04A Amboy 83.87 34 IAmb IAmb 07 43 30.8
comp=Z,134nm,1.3s
SZCU Shurtz Canyon 83.92 44 IAmb IAmb 07 43 33.5
comp=Z,145nm,1.4s
G05D Wamic, OR 83.96 35 P P 07 43 29.4 +0.1
baz=227,SNR=12
PSUT Pine Spring 83.99 43 IAmb IAmb 07 43 33.5
comp=Z,81nm,1.4s
I07A Izee 84.15 36 IAmb IAmb 07 43 32.1
comp=Z,36nm,0.9s
Q19K Cape Douglas, 84.16 11 IAmb IAmb 07 43 32.2
comp=Z,129nm,1.4s
Q19K Cape Douglas, 84.16 11 P P 07 43 29.3 -0.7
baz=199
NLWA Neilton Lookou 84.17 32 IAmb IAmb 07 43 32.9
comp=Z,72nm,1.1s
NLWA IAMs_20 IAMs_20 08 19 01.1
comp=Z,2μm,19.0s
GZH Guangzhou 84.21 298 P P 07 43 30.8 -0.1
GZH pmax pmax
comp=Z,120nm,0.9s
E04D Cinebar 84.22 33 P P 07 43 31.3 +0.8
baz=226,SNR=22
J08A Circle Bar Ran 84.25 37 IAmb IAmb 07 43 33.0
comp=Z,62nm,1.1s
SYO Syowa Base 84.25 192⇓ *i*P P 07 43 32.0 +1.6
SYO Syowa Base 84.25 192⇑ *e*pP pP 07 43 36.4 -2.7
F05D White Salmon 84.33 34 P P 07 43 30.9 -0.2
baz=227
P18K Big Mountain, 84.35 10 P P 07 43 29.4 -1.4
baz=198
TROLL Troll, Antarti 84.46 179 P P 07 43 33.4 +1.8
ELK Elko 84.47 41 LR LR 08 14 59.9
comp=Z,1μm,18.7s,baz=196,slow=31
LC01 Cunco 84.51 130 IAmb IAmb 07 43 35.9
comp=Z,200nm,1.9s
NJ2 Nanjing 84.52 308 ⇓P P 07 43 32.8 +0.5
NJ2 pP **sP** 07 43 43.1 -1.3
NJ2 sP **pwP** 07 43 46.0 -3.6
NJ2 SKS **SKSac** 07 53 54.9 +1.1
NJ2 S **S** 07 54 00.6 +3.8
NJ2 sS **sS** 07 54 13.6 +2.1
NJ2 pmax pmax
comp=Z,63nm,0.7s
NJ2 pmax pmax
comp=Z,450nm,4.3s
NJ2 LR LR
comp=Z,620nm,12.0s
NJ2 LR LR
comp=Z,1μm,14.1s
NJ2 LR LR
comp=Z,2μm,18.2s
D04E Lakebay 84.55 32 P P 07 43 33.5 +1.4
baz=226,SNR=11
PLCA Paso Flores 84.61 132 P P 07 43 35.1 +2.2
comp=Z,13nm,0.9s,baz=217,slow=5.3,SNR=17
PLCA PKKPbc **PKKPbc** 08 01 42.3 -0.8
comp=Z,3.0nm,1.0s,baz=194,slow=4.4,SNR=3.7
PLCA LR LR 08 13 01.2
comp=Z,2μm,21.6s,baz=269,slow=30
PLCA Paso Flores 84.61 132 P P 07 43 34.5 +1.6
PLCA IAmb IAmb 07 43 37.2
comp=Z,71nm,1.6s
PLCA Paso Flores 84.61 132 *e*P P 07 43 37.3 +4.3
TLIG Tlapa 84.62 68 IAmb IAmb 07 43 37.3
comp=Z,64nm,1.2s
SNAA Sanae 84.64 177 P P 07 43 33.7 +1.3
SNAA Sanae 84.64 177 LR LR 08 19 16.2
comp=Z,2μm,18.7s,baz=237,slow=34
SNAA Sanae 84.64 177⇓ *e*P P 07 43 33.9 +1.5
SNAA pmax pmax
comp=Z,69nm,1.3s
SNAA Sanae 84.64 177 P P 07 43 33.7 +1.3
D03D Eldon 84.64 32 P P 07 43 33.1 +0.5
baz=226,SNR=19
VNA3 Neumayer Olymp 84.65 175 P P 07 43 33.7 +1.2
121A Cookes Peak, D 84.68 51 IAmb IAmb 07 43 36.4
comp=Z,80nm,1.2s
121A Cookes Peak, D 84.68 51 P P 07 43 34.2 +0.8
baz=238
121A Cookes Peak, D 84.68 51 P P 07 43 34.3 +0.9
baz=238
W18A Petrified Fore 84.73 48 P P 07 43 34.6 +1.1
baz=236,SNR=33
O18K Koktuh Hills 84.79 10 P P 07 43 32.4 -0.7
baz=198
DIB Dawson Inlet, 84.84 24 IAmb IAmb 07 43 35.0
comp=Z,44nm,1.0s
P19K Oil Pt 84.92 11 P P 07 43 33.2 -0.6
baz=199
TCRU Three Creeks R 84.92 44 IAmb IAmb 07 43 38.8
comp=Z,76nm,1.2s
CLRS Cowichan Lake 85.05 31 IAmb IAmb 07 43 37.0
comp=Z,51nm,1.1s
MDJ Mudanjiang 85.11 324 P P 07 43 35.5 +0.6
MDJ Mudanjiang 85.11 324 P P 07 43 36.1 +1.1
MDJ S S 07 54 07.3 +5.2
F07A Phinny Hill Vi 85.12 35 IAmb IAmb 07 43 37.2
comp=Z,41nm,1.0s
VNA2 Neumayer–Watz 85.12 176 P P 07 43 36.4 +1.6
baz=190,slow=3.0
CNPM China Poot 85.15 12 IAmb IAmb 07 43 37.6
comp=Z,81nm,1.3s
KIDD KIDD Seismic O 85.20 52 P P 07 43 36.1 +0.1
baz=238
HOM Homer 85.20 11 P P 07 43 35.4 +0.3
baz=201
QIZ Qiongzhong 85.22 293 P P 07 43 38.8 +2.7
QIZ S S 07 54 03.3 -1.0
QIZ SS **SS** 07 59 43.8 +4.5
QIZ pmax pmax
comp=Z,580nm,4.9s
QIZ LR LR
comp=Z,700nm,19.6s
QIZ LR LR
comp=Z,610nm,19.6s
QIZ LR LR
comp=Z,1μm,25.5s
G08A Pilot Rock 85.24 36 P P 07 43 35.7 -0.1
G08A IAmb IAmb 07 43 37.9
comp=Z,86nm,0.9s
PGC Sidney 85.25 31 P P 07 43 34.0 -1.6
PGC IAmb IAmb 07 43 37.8
comp=Z,54nm,1.0s
O19K Port Alsworth 85.26 10 P P 07 43 34.5 -0.8
baz=198
VNA1 Neumayer–Stat 85.33 175 P P 07 43 37.5 +1.7
CBB Campbell River 85.35 29 P P 07 43 35.4 -0.6
CBB IAmb IAmb 07 43 38.7
comp=Z,146nm,1.4s
O20K Slope Mountain 85.43 11 P P 07 43 35.1 -1.1
baz=200
BRSE Bradley Lake S 85.44 12 P P 07 43 35.9 -0.4
baz=202,SNR=10
N18K Kilae Creek 85.48 9 P P 07 43 35.3 -1.2
baz=197
E07A Sunnyside 85.60 34 IAmb IAmb 07 43 40.9
comp=Z,53nm,1.0s
DUG Dugway, Tooele 85.62 43 IAmb IAmb 07 43 40.1
comp=Z,76nm,1.9s
DUG Dugway, Tooele 85.62 43 P P 07 43 37.8 -0.1
baz=234,SNR=9.6
NVL N'lazarevskaya 85.62 182 *e*P P 07 43 40.6 +3.3
NVL *e*S S 07 54 07.0 +0.4
NVL pmax pmax
comp=Z,8.0nm,0.5s
B05A Bryant 85.63 32 P P 07 43 37.8 +0.3
baz=227,SNR=26
A04D Lummi Island 85.65 31 P P 07 43 38.2 +0.7
baz=226,SNR=12
LTY Liberty 85.65 33 IAmb IAmb 07 43 39.7
comp=Z,87nm,1.6s
HAWA Hanford 85.66 35 IAmb IAmb 07 43 40.0
comp=Z,186nm,1.9s
BBB Bella Bella 85.75 27 LR LR 08 16 31.8
comp=Z,593nm,18.6s,baz=153,slow=32
N19K Bonanza Creek 85.82 10 IAmb IAmb 07 43 39.3
comp=Z,207nm,1.9s
N19K Bonanza Creek 85.82 10 P P 07 43 36.9 -1.4
baz=198,SNR=16
BMO Blue Mountains 85.85 37 IAMs_20 IAMs_20 08 22 32.9
comp=Z,1μm,18.0s
Q16A Castle Valley 85.92 44 IAmb IAmb 07 43 43.7
comp=Z,158nm,1.7s
SVW2 Sparrevohn 85.93 9 IAmb IAmb 07 43 40.0
comp=Z,102nm,2.0s
MNTX Cornudas Mount 85.98 53 P P 07 43 39.3 -0.3
MNTX IAmb IAmb 07 43 41.8
comp=Z,89nm,0.9s
MNTX Cornudas Mount 85.98 53 P P 07 43 39.8 +0.1
baz=239,SNR=173
MNTX Cornudas Mount 85.98 53 P P 07 43 40.0 +0.3
baz=239
C06D Leavenworth 85.99 33 P P 07 43 39.2 -0.1
baz=228
Y22A Socorro 86.01 50 P P 07 43 40.4 +0.5
baz=238,SNR=12
SEW Seward 86.03 12 P P 07 43 38.8 -0.3
baz=203
TX31 Lajitas Ar. Si 86.06 56 P P 07 43 40.2 0.0
baz=240
TXAR Lajitas Array 86.06 56 P P 07 43 40.7 +0.4
comp=Z,54nm,0.9s,baz=213,slow=6.7,SNR=162
TXAR LR LR 08 16 40.0
comp=Z,842nm,18.2s,baz=222,slow=32
Y22D IRIS PASSCAL I 86.11 50 IAMs_20 IAMs_20 08 20 43.7
comp=Z,2μm,18.0s
GRNB Grenville Isla 86.29 25 IAmb IAmb 07 43 44.9
comp=Z,55nm,0.9s
O22K Cooper Landing 86.33 12 IAmb IAmb 07 44 26.5
comp=Z,184nm,1.8s
O22K Cooper Landing 86.33 12 P P 07 43 40.9 +0.3
baz=202
DL2 Dalian 86.39 315 P P 07 43 37.3 -4.2
DL2 S **SKSac** 07 54 07.5 +2.3
DL2 pmax pmax
comp=Z,77nm,1.1s
DL2 pmax pmax
comp=Z,710nm,4.8s
DL2 LR LR
comp=Z,750nm,22.9s
DL2 LR LR
comp=Z,630nm,24.7s
DL2 LR LR
comp=Z,1μm,33.9s
CRAG Craig 86.41 22 IAmb IAmb 07 43 45.1
comp=Z,56nm,1.1s
CRAG Craig 86.41 22 P P 07 43 41.6 +0.4
baz=217
D08A Wollman Farm, 86.41 34 IAmb IAmb 07 43 43.7
comp=Z,228nm,2.0s
SRU San Rafael Swe 86.44 44 IAmb IAmb 07 43 45.4
comp=Z,72nm,1.2s
E09A Wood Farm, Sta 86.47 35 IAmb IAmb 07 43 43.4
comp=Z,126nm,1.8s
P17A Butcher Ranch, 86.51 44 IAmb IAmb 07 43 46.0
comp=Z,80nm,1.3s
EFI East Falkland 86.53 146⇓ *e*P P 07 43 43.8 +1.7
EFI pmax pmax
comp=Z,95nm,1.0s
EFI East Falkland 86.53 146 P P 07 43 43.7 +1.7
F10A Beach Ranch, E 86.61 36 IAmb IAmb 07 43 44.1
comp=Z,166nm,1.9s
MNSI Mandailing Nat 86.67 272 P P 07 43 43.5 0.0
comp=Z,42nm,0.7s
HLID Hailey 86.68 39 P P 07 43 41.6 -1.4
HLID Hailey 86.68 39 P P 07 43 43.2 +0.2
baz=233,SNR=24
JLU Jordanelle 86.71 43 IAmb IAmb 07 43 46.7
comp=Z,92nm,1.8s
MVCO Mesa Verde 86.71 47 P P 07 43 42.4 -1.0
MVCO IAMs_20 IAMs_20 08 20 30.3
comp=Z,2μm,19.0s
MVCO Mesa Verde 86.71 47 P P 07 43 43.6 +0.2
baz=237,SNR=13
IPM Ipoh 86.83 276 P P 07 43 46.2 +1.9
SNY Shenyang 86.85 319 ⇓P P 07 43 41.8 -1.8
SNY S S 07 54 24.8 +5.6
SNY pmax pmax
comp=Z,850nm,9.9s
SNY LR LR
comp=Z,570nm,16.0s
SNY LR LR
comp=Z,900nm,20.1s
SNY LR LR
comp=Z,2μm,43.6s
M19K Big River Lodg 86.87 9 IAmb IAmb 07 43 44.8
comp=Z,105nm,2.0s
M19K Big River Lodg 86.87 9 P P 07 43 41.9 -1.4
baz=198
RC01 Rabbit Creek A 86.89 12 IAmb IAmb 07 43 45.1
comp=Z,141nm,1.8s
RC01 Rabbit Creek A 86.89 12 P P 07 43 42.6 -0.7
baz=202,SNR=6.1
ANMO Albuquerque 86.90 50 LR LR 08 16 52.9
comp=Z,2μm,18.1s,baz=238,slow=32
ANMO Albuquerque 86.90 50 *d*iP P 07 43 44.6 +0.2
ANMO pmax pmax
comp=Z,140nm,1.3s
ANMO Albuquerque 86.90 50 P P 07 43 44.5 +0.2
ANMO Albuquerque 86.90 50 P P 07 43 44.6 +0.2
baz=238,SNR=166
ANMO Albuquerque 86.90 50 P P 07 43 45.2 +0.8
baz=238
P18A Preston Nutter 86.91 44 P P 07 43 44.2 -0.2
CN2 Changchun 86.92 321 *e*P P 07 43 44.0 0.0
CN2 *e*S S 07 54 20.4 +0.5
CN2 pmax pmax
comp=Z,70nm,1.2s
CN2 pmax pmax
comp=Z,800nm,3.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,900nm,18.0s
PWL Port Wells 86.94 12 P P 07 43 42.6 -1.0
PWL Port Wells 86.94 12 P P 07 43 43.0 -0.7
baz=204
SIT Sitka 86.96 20 P P 07 43 44.8 +1.0
baz=215
CNSH ChangSha 86.98 302 ⇓P P 07 43 45.0 +0.4
PV10 Paradox Valley 86.99 46 IAmb IAmb 07 43 46.9
comp=Z,104nm,1.5s
BNX BinXian 87.02 323 ⇑P P 07 43 44.3 -0.1
BNX pmax pmax
comp=Z,420nm,1.3s
BNX pmax pmax
comp=Z,2μm,5.9s
PV13 Radium Mtn., P 87.02 46 IAmb IAmb 07 43 47.1
comp=Z,70nm,1.4s
VA05 Santo Domingo 87.02 125 IAmb IAmb 07 43 47.8
comp=Z,119nm,1.5s
KLR Kul'dur 87.04 328 P P 07 43 44.5 +0.1
comp=Z,7.4nm,0.7s,baz=106,slow=12,SNR=17
KLR LR LR 08 15 55.0
comp=Z,1μm,21.6s,baz=108,slow=31
KLR Kul'dur 87.04 328⇑ *e*P P 07 43 45.0 +0.6
KLR pmax pmax
comp=Z,57nm,1.7s
WHN Wuhan 87.05 305 ⇑P P 07 43 46.0 +1.1
WHN S **SKSac** 07 54 13.5 +3.8
WHN pmax pmax
comp=Z,3μm,4.5s
WHN LR LR
comp=Z,6μm,22.2s
WHN LR LR
comp=Z,680nm,14.5s
WHN LR LR
comp=Z,3μm,19.2s
PV23 Carpenter Ridg 87.05 46 IAmb IAmb 07 43 47.5
comp=Z,166nm,1.8s
B08A Colville Reser 87.06 33 IAmb IAmb 07 43 46.1
comp=Z,109nm,1.8s
PV11 David Mesa, Pa 87.06 46 IAmb IAmb 07 43 47.4
comp=Z,132nm,1.6s
L19K White Mountain 87.07 9 P P 07 43 43.8 -0.5
baz=198,SNR=16
BO01 Tunca 87.08 126 IAmb IAmb 07 43 48.5
comp=Z,61nm,1.7s
BO02 Sierra Bellavi 87.13 127 IAmb IAmb 07 43 48.8
comp=Z,125nm,1.9s
EYAK Cordova Ski Ar 87.19 14 P P 07 43 44.6 -0.2
baz=206
GLI Glacier Island 87.21 13 P P 07 43 44.5 -0.5
baz=205,SNR=6.9
C09A Chrisman Ranch 87.23 34 IAmb IAmb 07 43 47.4
comp=Z,147nm,1.9s
GAMB Gambell 87.28 1 IAmb IAmb 07 43 48.6
comp=Z,71nm,1.2s
GAMB Gambell 87.28 1 P P 07 43 45.7 +0.5
baz=182,SNR=11
PV07 Paradox Valley 87.28 46 IAmb IAmb 07 43 48.4
comp=Z,63nm,1.5s
UBPT Khong Chiam 87.33 288 IAmb IAmb 07 43 50.2
comp=Z,60nm,1.4s
LLLB Lillooet 87.34 30 IAmb IAmb 07 43 48.0
comp=Z,99nm,1.5s
KNK Knik Glacier 87.43 12 IAmb IAmb 07 43 49.0
comp=Z,114nm,1.6s
KNK Knik Glacier 87.43 12 P P 07 43 45.7 -0.3
baz=204,SNR=8.7
WRAK Wrangell Islan 87.43 22 IAmb IAmb 07 43 48.9
comp=Z,87nm,1.3s
WRAK Wrangell Islan 87.43 22 P P 07 43 46.9 +0.8
baz=218,SNR=7.0
M22K Willow 87.43 11 IAmb IAmb 07 44 40.2
comp=Z,88nm,1.1s
M22K Willow 87.43 11 P P 07 43 45.7 -0.2
baz=202,SNR=9.6
MT09 Talagante 87.43 126 IAmb IAmb 07 43 50.1
comp=Z,76nm,1.6s
PMR Palmer 87.46 12 IAmb IAmb 07 43 48.9
comp=Z,137nm,1.7s
PMR Palmer 87.46 12 P P 07 43 45.6 -0.5
baz=203,SNR=14
L20K Farewell, AK 87.50 9 P P 07 43 45.2 -1.1
baz=199,SNR=11
KULM Kulim 87.50 277 IAmb IAmb 07 43 54.0
comp=Z,35nm,0.9s
MT02 Curacav 87.56 125 IAmb IAmb 07 43 51.0
comp=Z,80nm,1.7s
CMIG Matias Romero 87.57 70 LR LR 08 15 04.1
comp=Z,602nm,19.2s,baz=246,slow=30
BO04 La Punta 87.62 126 P P 07 43 47.8 0.0
BO04 IAmb IAmb 07 43 50.9
comp=Z,64nm,1.9s
TTA Tatalina 87.63 8 IAmb IAmb 07 43 50.1
comp=Z,138nm,1.6s
TTA Tatalina 87.63 8 P P 07 43 47.1 +0.1
baz=197,SNR=40
GULI GuiLin 87.64 299 ⇑P P 07 43 49.8 +1.9
GHO Glory Hole Cre 87.67 12 IAmb IAmb 07 43 50.1
comp=Z,81nm,1.4s
DIV Divide 87.71 13 IAmb IAmb 07 43 50.3
comp=Z,47nm,1.2s
SML Sawmill 87.81 12 IAmb IAmb 07 43 49.7
comp=Z,89nm,1.6s
SML Sawmill 87.81 12 P P 07 43 48.5 +0.6
baz=204,SNR=6.1
BMRM Bremner River 87.82 14 P P 07 43 47.7 -0.2
baz=207,SNR=12
MA2 Magadan 87.84 343 LR LR 08 18 09.4
comp=Z,553nm,21.4s,baz=96,slow=32
MA2 Magadan 87.84 343 *de*P P 07 43 46.4 -1.5
MA2 pmax pmax
comp=Z,66nm,1.7s
MA2 Magadan 87.84 343 P P 07 43 46.5 -1.5
MA2 IAmb IAmb 07 43 50.4
comp=Z,85nm,1.7s
MA2 Magadan 87.84 343 IAMs_20 IAMs_20 08 30 23.8
comp=Z,1μm,19.0s
M23K Glacier View 87.92 12 P P 07 43 48.5 +0.2
baz=204
TIA Tai'an 87.93 311 ⇓P P 07 43 49.4 +0.4
TIA pmax pmax
comp=Z,69nm,1.2s
TIA LR LR
comp=Z,570nm,26.5s
TIA LR LR
comp=Z,870nm,26.0s
TIA LR LR
comp=Z,2μm,38.2s
PNL Peninsula 87.96 17 P P 07 43 49.0 +0.4
baz=212
KLU Klutina 88.01 13 P P 07 43 48.1 -0.8
KLU IAmb IAmb 07 43 52.1
comp=Z,149nm,1.9s
KLU Klutina 88.01 13 P P 07 43 48.5 -0.4
baz=206,SNR=6.1
CUT Chulitna 88.01 11 P P 07 43 47.7 -1.0
CUT Chulitna 88.01 11 P P 07 43 47.6 -1.1
baz=202,SNR=15
SCM Sheep Creek Mo 88.03 12 P P 07 43 48.8 -0.2
SCM pmax pmax
comp=Z,199nm,1.6s
SCM Sheep Creek Mo 88.03 12 P P 07 43 48.8 -0.2
SCM Sheep Creek Mo 88.03 12 P P 07 43 48.6 -0.4
baz=205,SNR=11
TGL Tana Glacier 88.04 15 P P 07 43 48.8 -0.3
PINM Pinnacle 88.10 16 P P 07 43 50.8 +1.5
baz=211
S22A 4UR Ranch, Cre 88.12 47 IAmb IAmb 07 43 54.0
comp=Z,58nm,1.1s
S22A 4UR Ranch, Cre 88.12 47 P P 07 43 50.6 +0.3
baz=238,SNR=44
NEW Newport 88.12 34 LR LR 08 17 35.1
comp=Z,2μm,18.8s,baz=182,slow=32
NEW Newport 88.12 34 P P 07 43 49.2 -0.5
NEW pmax pmax
comp=Z,19nm,1.2s
NEW MLR MLR
comp=Z,2μm,18.0s
NEW Newport 88.12 34 P P 07 43 49.2 -0.5
NEW Newport 88.12 34 P P 07 43 49.1 -0.5
baz=230,SNR=11
PPLA Purkeypile 88.15 10 IAmb IAmb 07 43 51.1
comp=Z,58nm,1.8s
PPLA Purkeypile 88.15 10 P P 07 43 48.3 -1.3
baz=200
K20K Telida 88.30 9 P P 07 43 49.6 -0.6
baz=198,SNR=25
VRDI Verde Repeater 88.31 14 IAmb IAmb 07 43 53.7
comp=Z,98nm,1.4s
ANM Nome 88.32 4 IAmb IAmb 07 43 53.7
comp=Z,51nm,1.8s
ANM Nome 88.32 4 P P 07 43 50.3 +0.1
baz=188
MCMT McKenzie Canyo 88.34 39 P P 07 43 50.2 -0.9
N25K Chitina, Valde 88.39 14 P P 07 43 50.6 -0.1
baz=207,SNR=14
O20A White River Ci 88.47 45 IAmb IAmb 07 43 55.6
comp=Z,61nm,1.6s
O20A White River Ci 88.47 45 P P 07 43 51.4 -0.3
baz=237,SNR=10.0
M24K Tolsona, Glenn 88.51 13 P P 07 43 51.1 -0.1
baz=206,SNR=11
LOGN Logan Glacier 88.54 16 IAmb IAmb 07 43 54.7
comp=Z,150nm,1.7s
MCARA McCarthy VSAT 88.55 15 P P 07 43 51.5 +0.1
baz=208,SNR=14
CTG Chitna Glacier 88.58 15 P P 07 43 51.6 -0.1

baz=210,SNR=11
CTGM Chitina Glacie 88.58 15 IAmb IAmb 07 43 54.9
comp=Z,122nm,1.5s
CO02 Combarbal 88.58 124 IAmb IAmb 07 43 54.2
comp=Z,39nm,0.8s
WAT6 Susitna Watana 88.64 12 P **P** **07 43 51.4 -0.5**
baz=204,SNR=28
REDW Red Top Meadow 88.66 41 IAmb IAmb 07 43 57.3
comp=Z,65nm,1.6s
CAST Castle Rocks 88.66 10 IAmb IAmb 07 43 52.2
comp=Z,103nm,1.7s
CAST Castle Rocks 88.66 10 P **P** **07 43 50.0 -1.9**
baz=200,SNR=25
TPAW Teton Pass 88.67 41 IAmb IAmb 07 43 57.7
comp=Z,71nm,1.8s
TSI Tuntungan 88.68 274 P **P** **07 43 57.5 +4.4**
GSI Gunungsitoli 88.71 272 P **P** **07 43 55.2 +1.9**
comp=Z,192nm,0.8s
WAT1 Susitna Watana 88.71 12 P **P** **07 43 51.6 -0.5**
baz=204
SNOW Snow King Moun 88.77 41 IAmb IAmb 07 43 58.1
comp=Z,170nm,2.0s
SMCO Snowmass 88.78 46 IAMs_20 IAMs_20 08 24 03.2
comp=Z,1µm,18.0s
833A Chaparral WMA, 88.86 58 P **P** **07 43 53.1 -0.5**
baz=242,SNR=18
833A Chaparral WMA, 88.86 58 P **P** **07 43 53.9 +0.3**
baz=242,SNR=18
MSO Missoula 88.92 37 IAMs_20 IAMs_20 08 23 12.1
comp=Z,2µm,18.0s
MSO Missoula 88.92 37 P **P** **07 43 52.8 -0.8**
baz=233
SKAG Skagway 88.93 19 P **P** **07 43 54.4 +1.2**
baz=215,SNR=29
MOOW Moose Ponds 88.94 41 IAmb IAmb 07 43 57.6
comp=Z,66nm,1.9s
TRF Thorofare Moun 88.98 11 IAmb IAmb 07 43 55.1
comp=Z,46nm,1.0s
TRF Thorofare Moun 88.98 11 P **P** **07 43 52.5 -1.0**
baz=202,SNR=32
HARP HAARP 88.99 13 P **P** **07 43 53.5 +0.1**
baz=206
SDCO Great Sand Dun 89.02 48 P **P** **07 43 53.8 -0.7**
SDCO IAMs_20 IAMs_20 08 21 55.4
comp=Z,2µm,18.0s
SDCO Great Sand Dun 89.02 48 P **P** **07 43 54.5 0.0**
baz=239,SNR=29
SDCO Great Sand Dun 89.02 48 P **P** **07 43 54.8 +0.4**
baz=239,SNR=29
MSTX Muleshoe 89.02 52 P **P** **07 43 54.2 -0.2**
baz=240
MSTX Muleshoe 89.02 52 P **P** **07 43 54.4 0.0**
baz=240,SNR=29
CHUM Lake Minchumin 89.06 10 P **P** **07 43 52.1 -1.5**
baz=200,SNR=15
J20K Nowinta River 89.07 9 IAmb IAmb 07 43 56.6
comp=Z,103nm,1.5s
J20K Nowinta River 89.07 9 P **P** **07 43 53.4 -0.3**
baz=198,SNR=29
BW06 Boulder Array 89.10 42 IAmb IAmb 07 43 56.1
comp=Z,93nm,2.0s
BW06 Boulder Array 89.10 42 P **P** **07 43 54.3 -0.4**
baz=236,SNR=5.0
PDAR Pinedale Array 89.10 42 P **P** **07 43 54.0 -0.8**
comp=Z,6.5nm,0.7s,baz=203,slow=3.8,SNR=55
PDAR PKKPbc **PKKPbc** **08 01 32.9 -0.9**
comp=Z,0.3nm,0.6s,baz=76,slow=4.9,SNR=4.3
PDAR PKPPKP P'P'df 08 09 48.0 +10
comp=Z,0.6nm,0.9s,baz=5.7,slow=1.5,SNR=5.0
PDAR LR LR 08 18 10.3
comp=Z,508nm,18.8s,baz=214,slow=32
DHY Denali Highway 89.16 12 IAmb IAmb 07 43 57.2
comp=Z,128nm,1.7s
DHY Denali Highway 89.16 12 P **P** **07 43 53.7 -0.7**
baz=204,SNR=20
TNA Tin City 89.18 3 P **P** **07 43 54.1 -0.1**
baz=186,SNR=7.5
RND Reindeer 89.19 11 IAmb IAmb 07 43 57.1
comp=Z,101nm,1.2s
GO04 Tololo Observa 89.21 123 IAmb IAmb 07 44 01.0
comp=Z,39nm,1.1s
GCSA Galena City Sc 89.27 7 P **P** **07 43 54.7 +0.1**
baz=196
YUK6 Outpost Mounta 89.32 17 P **P** **07 43 55.6 +0.3**
baz=213,SNR=6.4
H17A Grant Village 89.41 40 P **P** **07 43 57.4 +1.2**
baz=235
KCSI Kotacane, Aceh 89.42 274 P **P** **07 43 57.8 +1.2**
comp=Z,2µmcomp=Z,50nm,0.8s
PAX Paxson 89.44 13 IAmb IAmb 07 43 58.2
comp=Z,85nm,1.6s
PAX Paxson 89.44 13 P **P** **07 43 55.1 -0.5**
baz=206,SNR=16
HYT Haines Junctio 89.45 17 IAmb IAmb 07 43 59.5
comp=Z,119nm,1.8s
HYT Haines Junctio 89.45 17 P **P** **07 43 56.3 +0.6**
baz=213,SNR=12
T25A Trinidad 89.45 49 P **P** **07 43 56.7 +0.2**
baz=239,SNR=14
M26K Nabesna, AK 89.45 14 IAmb IAmb 07 43 59.1
comp=Z,84nm,1.2s
M26K Nabesna, AK 89.45 14 P **P** **07 43 55.5 -0.1**
baz=208,SNR=33
BPAW Bear Paw Mtn. 89.47 10 P **P** **07 43 54.5 -1.2**
baz=201,SNR=7.8
MCK McKinley 89.48 11 IAmb IAmb 07 43 58.2
comp=Z,69nm,1.0s
MCK McKinley 89.48 11 P **P** **07 43 55.2 -0.5**
baz=203,SNR=37
BOZ Bozeman (W) 89.49 39 P **P** **07 43 56.6 +0.2**
baz=235,SNR=28
YUK3 Moose Creek 89.50 15 P **P** **07 43 56.4 +0.3**
baz=211,SNR=33
JCT Junction City 89.55 56 P **P** **07 43 55.7 -1.2**
JCT pmax pmax
comp=Z,323nm,2.0s
JCT MLR MLR
comp=Z,1µm,18.0s
JCT Junction City 89.55 56 P **P** **07 43 55.7 -1.2**
JCT IAMs_20 IAMs_20 08 24 40.4
comp=Z,1µm,18.0s
JCT Junction City 89.55 56 P **P** **07 43 56.1 -0.7**
baz=242,SNR=24
JCT Junction City 89.55 56 P **P** **07 43 56.6 -0.2**
baz=242,SNR=24
YUK4 Talbot Arm 89.58 16 P **P** **07 43 57.2 +0.7**
baz=212,SNR=9.3
LKWY Lake 89.61 40 IAMs_20 IAMs_20 08 27 46.4
comp=Z,2µm,18.0s
CCIG Comitan 89.61 72 P **P** **07 43 56.5 -1.1**
CCIG IAmb IAmb 07 44 00.9
comp=Z,151nm,1.7s
M27K Edge Creek, AK 89.67 15 P **P** **07 43 57.0 +0.2**
baz=209,SNR=42
HUEH Huehuetenango 89.77 73 IAmb IAmb 07 44 02.1
comp=Z,52nm,0.9s
MENT Mentasta 89.77 13 IAmb IAmb 07 44 00.6
comp=Z,122nm,1.7s
DLBC Dease Lake 89.79 22 IAmb IAmb 07 44 00.1
comp=Z,57nm,1.2s
YMP Mirror Lake Pl 89.85 40 IAmb IAmb 07 44 05.6
comp=Z,77nm,1.9s
Q24A Divide 89.88 47 IAmb IAmb 07 44 01.9
comp=Z,68nm,1.4s
Q24A Divide 89.88 47 P **P** **07 43 59.4 +0.8**
baz=239,SNR=22
L26K Log Cabin Wild 89.93 14 IAmb IAmb 07 44 01.3
comp=Z,47nm,1.2s
L26K Log Cabin Wild 89.93 14 P **P** **07 43 57.9 +0.1**
baz=208,SNR=23
BVCY Beaver Creek 89.95 15 P **P** **07 43 58.3 +0.4**
baz=210,SNR=22
RWWY Rawlins 89.97 44 IAmb IAmb 07 44 00.5
comp=Z,50nm,1.4s
RWWY IAMs_20 IAMs_20 08 18 24.3
comp=Z,1µm,20.0s
WHY Whitehorse 90.04 18 IAmb IAmb 07 44 02.2
comp=Z,86nm,1.6s
WHY Whitehorse 90.04 18 P **P** **07 43 59.0 +0.5**
baz=216,SNR=19
K24K Donnelly Dome 90.12 12 P **P** **07 43 59.0 +0.3**
baz=206
ZON Zonda 90.19 125 IAmb IAmb 07 44 03.6
comp=Z,80nm,1.8s
HNS HongShan 90.20 311 ⇓P **P** **07 44 00.3 +0.7**
HNS SKS **SKSac** **07 54 30.8 +2.6**
HNS pmax pmax
comp=Z,40nm,1.4s
HNS LR LR
comp=Z,870nm,23.5s
HNS LR LR
comp=Z,1µm,24.9s
NEA2 Nenana 90.25 11 P **P** **07 43 58.2 -1.1**
baz=203,SNR=10
RIDG Independent Ri 90.25 13 IAmb IAmb 07 44 02.3
comp=Z,78nm,1.4s
RIDG Independent Ri 90.25 13 P **P** **07 43 59.2 -0.1**
baz=207,SNR=19
WALA Waterton Lakes 90.28 35 P **P** **07 43 59.3 -0.6**
WALA IAmb IAmb 07 44 02.8
comp=Z,80nm,1.6s
L27K Beaver Creek, 90.29 14 IAmb IAmb 07 44 02.9
comp=Z,56nm,1.4s
L27K Beaver Creek, 90.29 14 P **P** **07 43 59.8 +0.3**
baz=210,SNR=20
WRH Wood River Hil 90.30 11 IAmb IAmb 07 44 01.0
comp=Z,77nm,1.0s
SEY Seymchan 90.33 345⇑ *e*P **P** **07 43 59.4 -0.2**
SEY pmax pmax
comp=Z,52nm,1.5s
I21K Tanana 90.33 9 P **P** **07 43 59.2 -0.4**
baz=200,SNR=12
735A Kenedy 90.35 59 P **P** **07 44 00.1 -0.4**
baz=243,SNR=8.5
N23A Red Feather La 90.36 45 P **P** **07 44 01.2 +0.5**
baz=238
LYN LuoYang 90.39 308⇓ *i*P **P** **07 44 01.6 +1.0**
LYN SKS **SKSac** **07 54 31.9 +2.4**
LYN S **S** **07 54 58.3 +5.3**
LYN SS **SS** **08 00 57.9 +3.5**
LYN pmax pmax
comp=Z,50nm,0.8s
LYN pmax pmax
comp=Z,900nm,4.1s
LYN LR LR
comp=Z,1µm,17.8s
LYN LR LR
comp=Z,1µm,18.8s
LYN LR LR
comp=Z,2µm,16.5s
N31M Braeburn, Yuko 90.47 17 IAmb IAmb 07 44 03.9
comp=Z,155nm,1.7s
N31M Braeburn, Yuko 90.47 17 P **P** **07 44 00.8 +0.5**
baz=215,SNR=20
BJT Baijiatuau 90.55 314 P **P** **07 44 01.2 0.0**
BJT pmax pmax
comp=Z,114nm,1.7s
BJT Baijiatuau 90.55 314 P **P** **07 44 01.2 0.0**
BJT IAmb IAmb 07 44 04.9
comp=Z,114nm,1.7s
BJI Beijing 90.55 314 P **P** **07 44 01.9 +0.7**
BJI S **S** **07 54 57.3 +3.1**
BJI pmax pmax
comp=Z,29nm,0.6s
BJI pmax pmax
comp=Z,750nm,5.2s
BJI LR LR
comp=Z,530nm,15.7s
BJI LR LR
comp=Z,630nm,18.6s
BJI LR LR
comp=Z,800nm,17.9s
RLMT Red Lodge 90.59 40 P **P** **07 44 02.0 +0.4**
baz=236,SNR=7.0
ENH Enshi 90.62 303 P **P** **07 44 01.8 0.0**
SCRK Sand Creek 90.64 13 IAmb IAmb 07 44 04.5
comp=Z,52nm,1.3s
SCRK Sand Creek 90.64 13 P **P** **07 44 01.1 -0.1**
baz=208,SNR=30
H21K Melozitna Rive 90.67 9 IAmb IAmb 07 44 03.3
comp=Z,65nm,1.6s
H21K Melozitna Rive 90.67 9 P **P** **07 44 01.0 -0.1**
baz=200,SNR=14
ABTX Abilene, Hawle 90.67 55 P **P** **07 44 01.5 -0.5**
baz=242,SNR=14
ABTX Abilene, Hawle 90.67 55 P **P** **07 44 02.3 +0.3**
baz=242,SNR=14
I23K Minto, Yukon-K 90.71 10 IAmb IAmb 07 44 03.7
comp=Z,72nm,1.6s
I23K IAMs_20 IAMs_20 08 18 54.9
comp=Z,1µm,21.0s
I23K Minto, Yukon-K 90.71 10 P **P** **07 44 01.1 -0.2**
baz=203,SNR=13
TCOL CIGO, UAF Yank 90.71 11 IAmb IAmb 07 44 03.7
comp=Z,78nm,0.8s
TCOL CIO, UAF Yank 90.71 11 P **P** **07 44 00.8 -0.5**
baz=204,SNR=15
COLA College 90.72 11 *d* *i*P **P** **07 43 59.7 -1.6**
COLA pmax pmax
comp=Z,41nm,1.0s
COLA College 90.72 11 P **P** **07 44 00.9 -0.4**
COLA IAmb IAmb 07 44 03.7
comp=Z,42nm,0.8s
COLA College 90.72 11 P **P** **07 44 00.9 -0.4**
baz=204
MDM Murphy Dome 90.73 11 P **P** **07 44 00.4 -1.1**
MDM IAmb IAmb 07 44 02.7
comp=Z,72nm,1.3s
IL31 90.79 11 P **P** **07 44 01.1 -0.6**
IL31 IAmb IAmb 07 44 03.1
comp=Z,174nm,1.9s
ILAR Eielson Array 90.79 11 P **P** **07 44 00.8 -0.9**
comp=Z,17nm,0.9s,baz=219,slow=4.9,SNR=71
ILAR PKKPbc **PKKPdf** **08 01 28.0 +0.9**
comp=Z,0.7nm,0.7s,baz=356,slow=2.1,SNR=7.7
ILAR PKPPKP **P'P'df** **08 09 39.4 +6.8**
comp=Z,0.3nm,0.8s,baz=63,slow=0.2,SNR=2.6
K22A Casper 90.92 43 P **P** **07 44 03.2 +0.1**
baz=238
K22A Casper 90.92 43 P **P** **07 44 03.0 -0.1**
baz=238
J25K Salcha River, 90.93 12 IAmb IAmb 07 44 04.3
comp=Z,29nm,0.8s
J25K Salcha River, 90.93 12 P **P** **07 44 02.5 0.0**
baz=206,SNR=42
POKR Poker Plat Res 91.01 11 P **P** **07 44 02.2 -0.6**
baz=204,SNR=7.2
M30M Minto, Yukon 91.10 16 IAmb IAmb 07 44 06.4
comp=Z,99nm,1.8s
M30M Minto, Yukon 91.10 16 P **P** **07 44 03.4 +0.1**
baz=214,SNR=18
GYA Guiyang 91.15 298⇑ *i*P **P** **07 44 05.6 +1.1**
GYA PP **PP** **07 47 38.9 -3.0**
GYA SKS **SKSac** **07 54 37.3 +2.8**
GYA S **S** **07 55 01.5 +0.9**
GYA pmax pmax
comp=Z,70nm,1.2s
GYA pmax pmax
comp=Z,710nm,5.6s
GYA LR LR
comp=Z,2µm,23.3s
J26L Joseph Creek 91.19 13 P **P** **07 44 04.3 +0.6**
baz=208,SNR=88
MTO3 Montecristo 91.28 75 IAmb IAmb 07 44 08.3
comp=Z,48nm,1.1s
435B Jarrell 91.39 57 IAmb IAmb 07 44 07.4
comp=Z,45nm,0.9s
435B IAMs_20 IAMs_20 08 21 56.1
comp=Z,1µm,20.0s
435B Jarrell 91.39 57 P **P** **07 44 04.8 -0.5**
baz=243,SNR=13
435B Jarrell 91.39 57 P **P** **07 44 05.5 +0.1**
baz=243
M31M Drury Creek, Y 91.43 18 P **P** **07 44 04.6 -0.2**
baz=216,SNR=12
WTLY Watson Lake, Y 91.48 21 P **P** **07 44 06.3 +1.1**
baz=221
H24K Noodor Dome 91.59 11 P **P** **07 44 03.9 -1.7**
baz=204
KSCO Kaye Shedlock' 91.60 48 P **P** **07 44 06.0 -0.3**
baz=240,SNR=8.5
KSCO Kaye Shedlock' 91.60 48 P **P** **07 44 06.7 +0.4**
baz=240,SNR=8.5
DAWY Dawson 91.72 15 P **P** **07 44 05.9 -0.3**
DAWY IAmb IAmb 07 44 09.6
comp=Z,51nm,1.2s
DAWY Dawson 91.72 15 P **P** **07 44 06.6 +0.5**
baz=212,SNR=27
FARO Faro, Yukon 91.75 18 P **P** **07 44 06.4 +0.1**
baz=217,SNR=11
PETF Flores 91.85 72 IAmb IAmb 07 44 10.2
comp=Z,104nm,1.7s
EGMT Eagleton 91.93 37 IAmb IAmb 07 44 10.6
comp=Z,46nm,1.1s
EGMT IAMs_20 IAMs_20 08 25 07.7
comp=Z,1µm,18.0s
EGMT Eagleton 91.93 37 P **P** **07 44 07.7 +0.1**
baz=236,SNR=20
TIY Taiyuan 91.93 311 ⇑P **P** **07 44 08.9 +1.1**
TIY SKS **SKSac** **07 54 35.9 -2.4**
TIY S **S** **07 55 05.5 -1.6**
TIY pmax pmax
comp=Z,52nm,0.8s
TIY pmax pmax
comp=Z,560nm,6.1s
TIY LR LR
comp=Z,480nm,20.6s
TIY LR LR
comp=Z,640nm,15.8s
TIY LR LR
comp=Z,810nm,18.6s
EGAK Eagle 91.94 14 IAmb IAmb 07 44 10.3
comp=Z,52nm,1.3s
EGAK Eagle 91.94 14 P **P** **07 44 07.2 +0.1**
baz=210,SNR=24
NNA Nana 92.02 104 LR LR 08 15 39.8
comp=Z,3µm,21.4s,baz=224,slow=29
WHTX Lake Whitney, 92.03 56 P **P** **07 44 07.8 -0.5**
baz=243
WHTX Lake Whitney, 92.03 56 P **P** **07 44 08.3 0.0**
baz=243
AC02 Maricunga 92.04 120 IAmb IAmb 07 44 12.7
comp=Z,47nm,1.7s
ZEA Zeya 92.11 330 *e*P **P** **07 44 06.6 -1.5**
ZEA pmax pmax
comp=Z,20nm,1.9s
ZEA pmax pmax
comp=Z,300nm,9.7s
MAYO Mayo, Yukon 92.17 16 P **P** **07 44 09.1 +0.9**
baz=215,SNR=7.8
WMOK Wichita Mounta 92.29 53 IAmb IAmb 07 44 11.0
comp=Z,68nm,1.5s
WMOK Wichita Mounta 92.29 53 P **P** **07 44 08.7 -0.8**
baz=243,SNR=17
WMOK Wichita Mounta 92.29 53 P **P** **07 44 09.1 -0.4**
baz=243
MCRA Macar, Loja 92.32 96 IAmb IAmb 07 44 13.8
comp=Z,37nm,1.4s
J29M Klondike Camp 92.32 15 P **P** **07 44 09.8 +0.9**
baz=213,SNR=12
HKT Hockley 92.38 58 *d* *i*P **P** **07 44 09.7 -0.1**
HKT pmax pmax
comp=Z,49nm,1.3s
HKT Hockley 92.38 58 P **P** **07 44 10.5 +0.7**
HKT Hockley 92.38 58 P **P** **07 44 10.0 +0.2**
baz=244
GO02 Mina Guanaco 92.45 119 P **P** **07 44 11.3 +0.3**
COLD Coldfoot 92.51 9 P **P** **07 44 09.7 0.0**
baz=202,SNR=13
XLT XiLinHaoTe 92.59 317⇑ *i*P **P** **07 44 10.8 +0.1**
XLT pP sP 07 44 21.3 -1.4
XLT PP **PP** **07 47 49.3 -3.6**
XLT S **S** **07 55 13.4 +0.6**
XLT pmax pmax
comp=Z,30nm,1.2s
XLT pmax pmax
comp=Z,560nm,5.1s
XLT LR LR
comp=Z,73nm,19.2s
XLT LR LR
comp=Z,700nm,16.7s
XLT LR LR
comp=Z,980nm,19.7s
BILL Bilibino 92.64 353 *i* P **P** **07 44 08.7 -1.6**
BILL *i* 07 44 17.2
BILL *i* 07 47 49.1
BILL pmax pmax
comp=Z,23nm,1.2s
BILL MLR MLR
comp=Z,519nm,17.0s
BILL Bilibino 92.64 353 P **P** **07 44 09.5 -0.8**
BILL IAmb IAmb 07 44 12.9
comp=Z,126nm,2.0s
MMPY Sheldon Lake, 92.65 18 P **P** **07 44 10.9 +0.4**
baz=219,SNR=11
TGTN Hyland Airport 92.72 20 P **P** **07 44 11.6 +0.7**
baz=221,SNR=9.3
Z35A Perchaven, San 92.78 55 P **P** **07 44 11.5 -0.2**
Z35A Perchaven, San 92.78 55 P **P** **07 44 10.9 -0.8**
baz=244,SNR=17
U32A Winter Ranch, 92.88 51 P **P** **07 44 12.2 0.0**
baz=243,SNR=26
OGNE Ogallala 92.94 46 IAMs_20 IAMs_20 08 23 20.4
comp=Z,2µm,18.0s
TGUH Tegucigalpa,Un 92.99 76 IAmb IAmb 07 44 16.8
comp=Z,30nm,1.1s
DUNO Dulce Nombre, 93.01 80 IAmb IAmb 07 44 16.4
comp=Z,61nm,1.6s
I29M Ogilvie Camp, 93.07 14 IAmb IAmb 07 46 51.0
comp=Z,15nm,0.6s
I29M Ogilvie Camp, 93.07 14 P **P** **07 44 12.1 -0.2**
baz=213
ORTG Ortega, Santa 93.15 80 P **P** **07 44 14.7 +0.7**
ORTG IAmb IAmb 07 44 17.4
comp=Z,40nm,1.2s
HZTE Horizontes, Gu 93.17 80 IAmb IAmb 07 44 31.1
comp=Z,71nm,1.1s
LAO LASA Array 93.22 40 IAmb IAmb 07 44 17.4
comp=Z,68nm,1.1s
LAO LASA Array 93.22 40 P **P** **07 44 13.8 +0.2**
baz=238
LAO LASA Array 93.22 40 P **P** **07 44 14.4 +0.9**
baz=238,SNR=18
RSSD Black Hills 93.23 43 P **P** **07 44 12.7 -1.1**
RSSD pmax pmax
comp=Z,23nm,1.0s
RSSD Black Hills 93.23 43 P **P** **07 44 12.7 -1.1**
RSSD IAmb IAmb 07 44 17.5
comp=Z,23nm,0.9s
RSSD Black Hills 93.23 43 IAMs_20 IAMs_20 08 22 09.5
comp=Z,1µm,19.0s
RSSD Black Hills 93.23 43 P **P** **07 44 13.0 -0.8**
baz=240
RSSD Black Hills 93.23 43 P **P** **07 44 13.6 -0.2**
baz=240
HIA Hailar 93.29 323⇑ *e*P **P** **07 44 14.8 +1.1**
HIA pmax pmax
comp=Z,10.0nm,1.4s
HIA Hailar 93.29 323 IAMs_20 IAMs_20 08 33 30.7
comp=Z,1µm,21.0s
237A Washetta, Mont 93.29 57 P **P** **07 44 13.9 -0.2**
baz=244
PB15 IPOC Station P 93.45 117 P **P** **07 44 17.9 +2.5**
CBKS Cedar Bluff 93.49 49 IAmb IAmb 07 44 18.4
comp=Z,88nm,1.4s
CBKS Cedar Bluff 93.49 49 P **P** **07 44 14.4 -0.6**
baz=242,SNR=6.3
CBKS Cedar Bluff 93.49 49 P **P** **07 44 15.1 +0.2**
baz=242
JTS Las Juntas de 93.58 80 LR LR 08 15 19.4
comp=Z,509nm,21.0s,baz=299,slow=28
JTS Las Juntas de 93.58 80 P **P** **07 44 16.8 +0.9**
JTS pmax pmax
comp=Z,75nm,1.3s
JTS Las Juntas de 93.58 80 P **P** **07 44 16.8 +0.9**
JTS IAmb IAmb 07 44 19.3
comp=Z,75nm,1.2s
PB06 IPOC Station P 93.59 117 IAmb IAmb 07 44 21.2
comp=Z,99nm,2.0s
JACO JACO, Garabito 93.60 81 IAmb IAmb 07 44 19.5
comp=Z,42nm,1.1s
KMI Kunming 93.78 296 ⇓P **P** **07 44 18.4 +1.6**
KMI pP sP 07 44 29.0 0.0
KMI SKS **SKSac** **07 54 53.8 +4.3**
KMI S **S** **07 55 25.4 +1.0**
KMI pmax pmax
comp=Z,50nm,1.0s
KMI pmax pmax
comp=Z,480nm,7.8s
KMI LR LR
comp=Z,330nm,18.1s
KMI LR LR
comp=Z,550nm,18.1s
KMI LR LR
comp=Z,2µm,33.3s
TOLK Toolik Lake Re 93.92 9 IAmb IAmb 07 44 19.3
comp=Z,52nm,1.8s
TOLK Toolik Lake Re 93.92 9 P **P** **07 44 16.1 -0.1**
baz=203,SNR=9.3
HHC Hu-ho-hao-te 94.01 313 *e*P **P** **07 44 16.1 -1.3**
HHC S **S** **07 55 24.4 -1.1**
HHC pmax pmax

	comp=Z,32nm,0.6s								
HHC					pmax	pmax			
	comp=Z,400nm,4.6s								
HHC					LR	LR			
	comp=Z,750nm,16.5s								
HHC					LR	LR			
	comp=Z,720nm,16.5s								
HHC					LR	LR			
	comp=Z,1µm,17.8s								
R32A	**Long Quarter,**	**94.02**	**50**	P	**P**		**07 44 17.3**	**-0.1**	
	baz=243,SNR=42								
NATX	**Nacogdoches**	**94.06**	**57**	IAmb	IAmb		07 44 20.9		
NATX	comp=Z,73nm,1.4s			IAMs_20	IAMs_20		08 20 54.0		
	comp=Z,1µm,18.0s								
NATX	**Nacogdoches**	**94.06**	**57**	P	**P**		**07 44 17.8**	**+0.1**	
	baz=245								
LVC	**Limon Verde**	**94.18**	**117**	PKKPbc	PKKPbc		08 01 19.6	+0.1	
	comp=Z,2.8nm,0.6s,baz=47,slow=2.8,SNR=6.9								
LVC				LR	LR		08 17 07.5		
	comp=Z,2µm,21.2s,baz=266,slow=29								
LVC	**Limon Verde**	**94.18**	**117**	P	**P**		**07 44 18.5**	**-0.5**	
LVC				pmax	pmax				
	comp=Z,39nm,1.5s								
LVC	**Limon Verde**	**94.18**	**117**	P	**P**		**07 44 18.5**	**-0.5**	
LVC				IAmb	IAmb		07 44 24.1		
	comp=Z,39nm,1.4s								
LVC	**Limon Verde**	**94.18**	**117**	*e*P	**P**		**07 44 22.4**	**+3.4**	
RIOS	**Rincon, Osa**	**94.26**	**82**	IAmb	IAmb		07 44 22.1		
	comp=Z,34nm,1.0s								
EPYK	**Eagle Plains**	**94.27**	**14**	IAmb	IAmb		07 44 20.9		
	comp=Z,68nm,1.6s								
EPYK	**Eagle Plains**	**94.27**	**14**	P	**P**		**07 44 17.7**	**-0.1**	
	baz=214								
CM31	**Chiang Mai Arr**	**94.33**	**288**	IAmb	IAmb		07 44 23.2		
	comp=Z,63nm,1.2s								
CMAR	**Chiang Mai Arr**	**94.33**	**288**	P	**P**		**07 44 20.8**	**+1.6**	
	comp=Z,19nm,0.9s,baz=131,slow=3.2,SNR=56								
CMAR				PP	**PP**		**07 48 05.8**	**-1.0**	
	comp=Z,0.3nm,0.3s,baz=108,slow=5.8,SNR=2.3								
CMAR				PKKPbc	**PKKPdf**		**08 01 18.2**	**-0.6**	
	comp=Z,0.8nm,0.7s,baz=292,slow=5.3,SNR=4.4								
CMAR				PKPPKP	**P'P'df**		**08 09 32.4**	**+1.0**	
	comp=Z,0.3nm,0.4s,baz=284,slow=3.6,SNR=4.1								
CMAR				LR	LR		08 24 01.1		
	comp=Z,470nm,21.9s,baz=110,slow=34								
PEZE	**Perez Zeledon,**	**94.38**	**82**	IAmb	IAmb		07 44 24.2		
	comp=Z,59nm,1.5s								
Z38A	**Mt. Pleasant**	**94.46**	**56**	IAmb	IAmb		07 44 21.9		
	comp=Z,53nm,1.2s								
CHTO	**Chiang Mai**	**94.47**	**288**	P	**P**		**07 44 21.4**	**+1.5**	
CHTO				pmax	pmax				
	comp=Z,31nm,0.9s								
CHTO	**Chiang Mai**	**94.47**	**288**	P	**P**		**07 44 21.4**	**+1.5**	
CHTO				IAmb	IAmb		07 44 23.5		
	comp=Z,31nm,0.9s								
CHTO	**Chiang Mai**	**94.47**	**288**	P	**P**		**07 44 19.3**	**-0.5**	
CVTR	**Volcan Turrial**	**94.55**	**81**	IAmb	IAmb		07 44 24.6		
	comp=Z,54nm,1.4s								
X37A	**Clayton**	**94.74**	**54**	IAmb	IAmb		07 44 24.1		
	comp=Z,38nm,1.0s								
X37A	**Clayton**	**94.74**	**54**	P	**P**		**07 44 19.9**	**-0.8**	
	baz=244,SNR=15								
CDITO	**Canoas**	**94.79**	**83**	IAmb	IAmb		07 44 26.2		
	comp=Z,91nm,1.5s								
PB11	**IPOC Station P**	**94.87**	**114**	P	**P**		**07 44 23.7**	**+1.7**	
PB11				IAmb	IAmb		07 44 26.1		
	comp=Z,75nm,1.9s								
T35B	**Sooner Cattle**	**94.91**	**52**	P	**P**		**07 44 20.8**	**-0.6**	
	baz=244,SNR=25								
BTO	**Baotou**	**94.94**	**312**	*e*P	**P**		**07 44 22.5**	**+0.9**	
BTO				LR	LR				
	comp=Z,2µm,14.3s								
BTO				LR	LR				
	comp=Z,3µm,21.8s								
TUL1	**Leonard**	**95.00**	**53**	P	**P**		**07 44 21.6**	**-0.3**	
	baz=244,SNR=16								
TUL1	**Leonard**	**95.00**	**53**	P	**P**		**07 44 22.0**	**+0.2**	
	baz=244								
BRU2	**Volcan**	**95.04**	**83**	IAmb	IAmb		07 44 26.4		
	comp=Z,43nm,1.3s								
PZH	**PanZhiHua**	**95.17**	**297**	P	**P**		**07 44 23.8**	**+0.8**	
PZH				pP	**sP**		**07 44 34.3**	**-0.9**	
PZH				S	**S**		**07 55 40.1**	**+3.9**	
PZH				SS	**SS**		**08 02 03.3**	**-0.2**	
PZH				pmax	pmax				
	comp=Z,20nm,1.1s								
PZH				pmax	pmax				
	comp=Z,330nm,5.7s								
PZH				LR	LR				
	comp=Z,1µm,31.8s								
PZH				LR	LR				
	comp=Z,3µm,31.4s								
PZH				LR	LR				
	comp=Z,5µm,30.9s								
DGMT	**Dagmar**	**95.31**	**39**	P	**P**		**07 44 23.5**	**+0.4**	
DGMT				IAmb	IAmb		07 44 25.4		
	comp=Z,55nm,1.0s								
DGMT	**Dagmar**	**95.31**	**39**	P	**P**		**07 44 22.9**	**-0.2**	
	baz=240,SNR=18								
DGMT	**Dagmar**	**95.31**	**39**	P	**P**		**07 44 23.5**	**+0.4**	
	baz=240,SNR=18								
CD2	**Chengdu**	**95.34**	**301**	P	**P**		**07 44 25.3**	**+1.7**	
CD2				S	**S**		**07 55 35.4**	**-2.0**	
CD2				SS	**SS**		**08 02 09.8**	**+4.1**	
CD2				pmax	pmax				
	comp=Z,10.0nm,1.1s								
CD2				pmax	pmax				
	comp=Z,450nm,5.8s								
CD2				LR	LR				
	comp=Z,1µm,24.9s								
CD2				LR	LR				
	comp=Z,2µm,27.7s								
WRGLY	**Wrigley**	**95.50**	**21**	P	**P**		**07 44 23.3**	**-0.1**	
	baz=226								
OTAV	**Otavalo**	**95.54**	**92**	IAMs_20	IAMs_20		08 17 22.7		
	comp=Z,1µm,19.0s								
A21K	**Barrow**	**95.64**	**6**	IAmb	IAmb		07 44 26.6		
	comp=Z,43nm,1.6s								
A21K	**Barrow**	**95.64**	**6**	P	**P**		**07 44 24.7**	**+0.8**	
	baz=196								
PB16	**IPOC Station P**	**95.64**	**113**	IAmb	IAmb		07 44 32.2		
	comp=Z,36nm,1.6s								
BGNE	**Belgrade**	**95.75**	**47**	IAmb	IAmb		07 44 28.4		
	comp=Z,48nm,1.1s								
BGNE	**Belgrade**	**95.75**	**47**	P	**P**		**07 44 25.8**	**+0.6**	
	baz=244								
KSU1	**Kansas State U**	**95.79**	**50**	IAmb	IAmb		07 44 28.4		
	comp=Z,30nm,1.1s								
KSU1	**Kansas State U**	**95.79**	**50**	P	**P**		**07 44 25.0**	**-0.5**	
	baz=244,SNR=5.8								
KSU1	**Kansas State U**	**95.79**	**50**	P	**P**		**07 44 25.5**	**+0.1**	
	baz=244								
K31A	**O'Neill**	**95.90**	**46**	P	**P**		**07 44 25.4**	**-0.5**	
	baz=243,SNR=9.3								
WLAR	**White Oak Lake**	**96.06**	**56**	IAmb	IAmb		07 44 29.6		
	comp=Z,35nm,1.1s								
MIAR	**Mount Ida**	**96.06**	**55**	IAmb	IAmb		07 44 29.6		
	comp=Z,57nm,1.8s								
MIAR				IAMs_20	IAMs_20		08 25 42.7		
	comp=Z,1µm,18.0s								
MIAR	**Mount Ida**	**96.06**	**55**	P	**P**		**07 44 26.6**	**-0.2**	
	baz=246								
W39A	**Magazine**	**96.18**	**54**	IAmb	IAmb		07 44 30.3		
	comp=Z,27nm,1.2s								
W39A	**Magazine**	**96.18**	**54**	P	**P**		**07 44 26.8**	**-0.5**	
	baz=245								
YAK	**Yakutsk**	**96.40**	**337**	LR	LR		08 22 46.7		
	comp=Z,802nm,21.8s,baz=76,slow=32								
YAK	**Yakutsk**	**96.40**	**337**‖	*e*P	**P**		**07 44 26.0**	**-1.6**	
YAK				pmax	pmax				
	comp=Z,10.0nm,1.0s								
YAK	**Yakutsk**	**96.40**	**337**	IAMs_20	IAMs_20		08 22 00.9		
	comp=Z,1µm,22.0s								
E28A	**Huff**	**96.48**	**42**	IAmb	IAmb		07 44 29.8		
	comp=Z,30nm,0.9s								
E28A	**Huff**	**96.48**	**42**	P	**P**		**07 44 27.6**	**-0.8**	
	baz=242,SNR=5.4								
HHAR	**Hobbs**	**96.51**	**53**	IAmb	IAmb		07 44 31.4		
	comp=Z,54nm,1.5s								
HHAR	**Hobbs**	**96.51**	**53**	P	**P**		**07 44 29.4**	**+0.6**	
	baz=246								
INK	**Inuvik**	**96.57**	**14**	P	**P**		**07 44 27.4**	**-0.8**	
	comp=Z,4.1nm,0.8s,baz=201,slow=5.1,SNR=18								
INK	**Inuvik**	**96.57**	**14**	P	**P**		**07 44 27.2**	**-1.1**	
INK	**Inuvik**	**96.57**	**14**	P	**P**		**07 44 27.4**	**-0.8**	
	baz=217								
SUSD	**Miller**	**96.59**	**44**	P	**P**		**07 44 28.8**	**-0.1**	
	baz=243								
X40A	**Basin Creek Fa**	**96.60**	**55**	IAMs_20	IAMs_20		08 23 10.9		
	comp=Z,1µm,20.0s								
W41B	**Gary Mavity, V**	**97.31**	**55**	IAmb	IAmb		07 44 34.4		
	comp=Z,61nm,1.9s								
W41B	**Gary Mavity, V**	**97.31**	**55**	P	Pdif		07 44 33.3	+0.8	
	baz=246								
U40A	**Yellville**	**97.34**	**54**	IAmb	IAmb		07 44 35.2		
	comp=Z,21nm,1.1s								
U40A	**Yellville**	**97.34**	**54**	P	**P**		**07 44 31.9**	**-0.6**	
	baz=246								
U40A				P	**P**		**07 44 31.9**	**-0.6**	
	baz=246								
U40A	**Yellville**	**97.34**	**54**	P	**P**		**07 44 32.1**	**-0.5**	
	baz=246								
LZH	**Lanzhou**	**97.39**	**306**	⇑P	Pdif		07 44 35.1	+2.1	
LZH				pP	sP		07 44 45.3	+0.2	
LZH				SKS	**SKSac**		**07 55 12.6**	**+4.6**	
LZH				S	**S**		**07 55 54.3**	**-0.8**	
LZH				pmax	pmax				
	comp=Z,24nm,1.4s								
LZH				pmax	pmax				
	comp=Z,260nm,5.4s								
LZH				LR	LR				
	comp=Z,650nm,15.7s								
LZH				LR	LR				
	comp=Z,1µm,16.8s								
LZH				LR	LR				
	comp=Z,2µm,15.7s								
S39A	**Bolivar**	**97.54**	**52**	IAmb	IAmb		07 44 35.9		
	comp=Z,18nm,1.1s								
S39A	**Bolivar**	**97.54**	**52**	P	**P**		**07 44 32.5**	**-0.9**	
	baz=246								
MDND	**Maddock**	**97.72**	**41**	IAmb	IAmb		07 44 37.0		
	comp=Z,32nm,0.9s								
MDND	**Maddock**	**97.72**	**41**	P	**P**		**07 44 33.6**	**-0.3**	
	baz=243								
LPAZ	**La Paz**	**97.75**	**112**	P	Pdif		07 44 38.6	+3.0	
	comp=Z,2.6nm,0.8s,baz=261,slow=5.0,SNR=11								
LPAZ	**La Paz**	**97.75**	**112**	*e*P	Pdif		07 44 39.0	+3.4	
ECSD	**EROS Data Cent**	**97.79**	**46**	IAmb	IAmb		07 44 35.9		
	comp=Z,17nm,1.1s								
ECSD	**EROS Data Cent**	**97.79**	**46**	P	**P**		**07 44 34.1**	**-0.3**	
	baz=245,SNR=9.7								
ECSD	**EROS Data Cent**	**97.79**	**46**	P	Pdif		07 44 34.6	+0.2	
	baz=245								
MGMO	**Mountain Grove**	**98.09**	**53**	IAmb	IAmb		07 44 37.4		
	comp=Z,22nm,1.1s								
YKA	**Yellowknife Ar**	**98.10**	**24**	P	**P**		**07 44 34.4**	**-0.8**	
	comp=Z,4.7nm,0.8s,baz=234,slow=4.4,SNR=57								
YKA				PP	PP		07 48 25.8	-9.3	
	comp=Z,1.2nm,0.9s,baz=235,slow=8.2,SNR=6.2								
YKA				PKiKP	**PKiKP**		**07 49 08.6**	**+0.5**	
	comp=Z,0.7nm,0.6s,baz=263,slow=1.2,SNR=15								
YKA				PKKPbc	**PKKPbc**		**08 01 09.2**	**-1.2**	
	comp=Z,1.4nm,0.7s,baz=40,slow=2.7,SNR=19								
YKA				PKPPKP	**P'P'df**		**08 09 26.1**	**+6.4**	
	comp=Z,0.1nm,0.8s,baz=45,slow=2.5,SNR=3.9								
YKA				LR	LR		08 22 13.1		
	comp=Z,396nm,19.5s,baz=175,slow=31								
P38A	**Dawn**	**98.18**	**50**	IAmb	IAmb		07 44 37.4		
	comp=Z,21nm,1.1s								
P38A	**Dawn**	**98.18**	**50**	P	**P**		**07 44 35.8**	**-0.4**	
	baz=246								
N38A	**Joes South For**	**98.86**	**49**	IAmb	IAmb		07 44 40.7		
	comp=Z,23nm,1.1s								
F33A	**5 Mile Ranch,**	**98.89**	**44**	IAmb	IAmb		07 44 41.9		
	comp=Z,62nm,1.6s								
F33A	**5 Mile Ranch,**	**98.89**	**44**	P	Pdif		07 44 39.4	+0.1	
	baz=245								
CCM	**Cathedral Cave**	**99.20**	**53**	IAMs_20	IAMs_20		08 26 40.4		
	comp=Z,1µm,18.0s								
OXF	**Oxford**	**99.20**	**56**	IAMs_20	IAMs_20		08 24 08.0		
	comp=Z,1µm,19.0s								
SCIA	**State Center**	**99.31**	**48**	IAMs_20	IAMs_20		08 27 29.0		
	comp=Z,1µm,18.0s								
FFC	**Flin Flon**	**99.55**	**34**	IAMs_20	IAMs_20		08 29 54.2		
	comp=Z,1µm,19.0s								
C36M	**Paulatuk**	**99.62**	**16**	IAmb	IAmb		07 44 44.8		
	comp=Z,24nm,1.6s								
C36M				IAMs_20	IAMs_20		08 24 50.4		
	comp=Z,922nm,20.0s								
C36M	**Paulatuk**	**99.62**	**16**	P	**Pdif**		**07 44 41.1**	**-0.8**	
	baz=226								
ULN	**Ulaanbaatar**	**100.01**	**318**⇑	*e*P	**Pdif**		**07 44 43.8**	**-0.6**	
ULN				pmax	pmax				
	comp=Z,13nm,1.5s								
ULN	**Ulaanbaatar**	**100.01**	**318**	IAMs_20	IAMs_20		08 31 57.0		
	comp=Z,1µm,22.0s								
PLAL	**Pickwick Lake**	**100.40**	**56**	IAMs_20	IAMs_20		08 28 14.6		
	comp=Z,1µm,18.0s								
SONM	**Songino Array**	**100.40**	**318**	P	**Pdif**		**07 44 46.4**	**+0.3**	
	comp=Z,1.4nm,0.6s,baz=142,slow=4.9,SNR=6.4								
SONM				PP	**PP**		**07 48 47.9**	**-5.2**	
	comp=Z,7.7nm,1.2s,baz=133,slow=6.0,SNR=8.0								
SONM				PKKPbc	**PKKPbc**		**08 01 00.8**	**-2.6**	
	comp=Z,0.8nm,0.6s,baz=329,slow=2.5,SNR=3.9								
ULM	**Lac du Bonnet**	**100.97**	**40**⇑	*e*P	**Pdif**		**07 44 47.0**	**-1.4**	
WVT	**Waverly**	**101.00**	**55**	IAMs_20	IAMs_20		08 27 54.6		
	comp=Z,1µm,20.0s								
A36M	**Sachs Harbour**	**101.21**	**14**	P	**Pdif**		**07 44 48.6**	**-0.3**	
	baz=225								
CPUP	**Villa Florida**	**101.38**	**125**	P	**Pdif**		**07 44 53.3**	**+2.4**	
	comp=Z,0.4nm,0.4s,baz=238,slow=1.2,SNR=3.0								
CPUP				PKKPbc	**PKKPbc**		**08 00 58.5**	**-0.9**	
	comp=Z,1.8nm,0.8s,baz=325,slow=2.0,SNR=3.9								
HDIL	**Hopedale**	**101.54**	**51**	IAMs_20	IAMs_20		08 29 37.1		
	comp=Z,1µm,18.0s								
GTA	**Gaotai**	**101.61**	**308**	*e*P	**Pdif**		**07 44 54.4**	**+2.7**	
GTA				sP	sPdif		07 45 02.3	-1.5	
GTA				pmax	pmax				
	comp=Z,9.0nm,1.4s								
EYMN	**Ely**	**102.74**	**43**	IAMs_20	IAMs_20		08 32 24.3		
	comp=Z,1µm,19.0s								
ZAK	**Zakamensk**	**103.27**	**319**	*e*P	**Pdif**		**07 44 59.7**	**+1.0**	
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.5s								
COWI	**Conover**	**103.60**	**46**	IAMs_20	IAMs_20		08 31 40.3		
	comp=Z,1µm,18.0s								
SIV	**San Ignacio**	**103.84**	**115**	PKKPbc	PKKPbc		08 00 52.0	0.0	
	comp=Z,1.2nm,0.6s,baz=94,slow=6.5,SNR=7.4								
GOMU	**GeErMu**	**104.23**	**303**	Pdif	**Pdif**		**07 45 07.5**	**+3.8**	
GOMU				PP	**PP**		**07 49 20.0**	**-2.5**	
GOMU				AMB	AMB				
	comp=Z,120nm,4.3s								
GOMU				LR	LR				
	comp=Z,280nm,19.4s								
GOMU				LR	LR				
	comp=Z,310nm,18.9s								
GOMU				LR	LR				
	comp=Z,180nm,16.3s								
AAM	**Ann Arbor**	**106.11**	**51**	IAMs_20	IAMs_20		08 28 04.2		
	comp=Z,1µm,18.0s								
GLMI	**Grayling**	**106.20**	**48**	IAMs_20	IAMs_20		08 33 25.3		
	comp=Z,1µm,18.0s								
BLA	**Blacksburg**	**106.98**	**56**	IAMs_20	IAMs_20		08 32 32.9		
	comp=Z,937nm,19.0s								
O53A	**New Philadelph**	**107.27**	**53**	IAMs_20	IAMs_20		08 30 48.2		
	comp=Z,1µm,20.0s								
DGAR	**Diego Garcia**	**107.81**	**253**	IAMs_20	IAMs_20		08 38 38.5		
	comp=Z,4µm,22.0s								
WMQ	**Urumqi**	**111.58**	**310**	*e*PKP	**PKiKP**		**07 49 34.5**	**+0.9**	
WMQ				AMB	AMB				
	comp=Z,400nm,8.1s								
WMQ				LR	LR				
	comp=Z,810nm,17.9s								
WMQ				LR	LR				
	comp=Z,1µm,17.9s								
WMQ				LR	LR				
	comp=Z,910nm,21.5s								
BINY	**Binghamton**	**111.58**	**52**	IAMs_20	IAMs_20		08 35 19.1		
	comp=Z,1µm,18.0s								
HYBB	**Hyderabad (bro**	**112.07**	**280**	*e*PKiKP	**PKiKP**		**07 49 35.6**	**+0.4**	
HYBB				*e*PP	**PP**		**07 50 19.1**	**-0.6**	
HYBB				*e*SKSac	**SKSac**		**07 56 17.7**	**+2.4**	
HYBB				*e*SKKSac	**SKKSac**		**07 57 19.2**	**-0.5**	
HYBB				*e*PS	**PS**		**07 59 53.2**	**-0.1**	
HYBB				*e*PKKSbc	PKKSbc		08 04 10.9	-1.0	
HMDM	**Hanimaadhoo**	**113.20**	**267**	IAMs_20	IAMs_20		08 42 34.6		
	comp=Z,3µm,19.0s								
WSPT	**Westport, CT**	**113.30**	**54**	IAMs_20	IAMs_20		08 35 26.4		
	comp=Z,1µm,19.0s								
L61B	**Northampton**	**114.03**	**53**	IAMs_20	IAMs_20		08 35 33.0		
	comp=Z,1µm,19.0s								
ZSN	**Zaisan**	**114.21**	**313**	*e*PKIKP	PKPdf		07 49 36.7	-1.7	
ZSN	**Zaisan**	**114.21**	**313**	*e*PKP	PKPdf		07 49 36.8	-1.6	
	baz=313								
BDFB	**Brasilia**	**114.60**	**121**	PKP	**PKiKP**		**07 49 40.6**	**+0.3**	
	comp=Z,1.6nm,0.8s,baz=334,slow=7.8,SNR=3.2								
BDFB				PKKPbc	**PKKPbc**		**08 00 17.3**	**-0.6**	
	comp=Z,1.5nm,0.9s,baz=229,slow=8.7,SNR=3.1								
NRIK	**Noril'sk**	**114.85**	**337**	PKP	**PKiKP**		**07 49 38.5**	**-0.4**	
	comp=Z,5.0nm,0.6s,baz=95,slow=2.3,SNR=14								
NRIK	**Noril'sk**	**114.85**	**337**‖	*i*PKiKP	**PKiKP**		**07 49 38.4**	**-0.5**	
HRV	**Adam Dziewonsk**	**114.86**	**53**	IAMs_20	IAMs_20		08 32 58.9		
	comp=Z,1µm,21.0s								
ZALV	**Zalesovo Beam**	**115.12**	**320**	PKP	**PKiKP**		**07 49 39.0**	**-0.9**	
	comp=Z,9.6nm,0.6s,baz=155,slow=1.2,SNR=38								
ZALV				PKKPbc	**PKKPbc**		**08 00 17.3**	**+0.5**	
	comp=Z,1.3nm,0.7s,baz=253,slow=4.4,SNR=5.6								
ZALV	**Zalesovo Beam**	**115.12**	**320**	PKiKP	**PKiKP**		**07 49 39.0**	**-0.9**	
MK31	**Makanchi Array**	**115.86**	**312**	PKiKP	**PKPdf**		**07 49 40.9**	**-0.7**	
MK31	**Makanchi Array**	**115.86**	**312**		**PKPdf**		**07 49 40.9**	**-0.7**	
MKAR	**Makanchi Array**	**115.86**	**312**	PKP	**PKPdf**		**07 49 40.9**	**-0.7**	
	comp=Z,6.6nm,0.6s,baz=87,slow=1.0,SNR=46								
MKAR				PKKPbc	**PKKPbc**		**08 00 14.8**	**+0.6**	
	comp=Z,1.4nm,0.7s,baz=282,slow=3.4,SNR=8.7								
MKAR	**Makanchi Array**	**115.86**	**312**		**PKPdf**		**07 49 40.9**	**-0.7**	
MAKZ	**Makanchi**	**116.07**	**312**	⇑PKiKP	**PKPdf**		**07 49 41.4**	**-0.6**	
MAKZ	**Makanchi**	**116.07**	**312**		**PKPdf**		**07 49 41.4**	**-0.6**	
TULEG	**Thule**	**116.57**	**15**		**PKiKP**		**07 49 42.1**	**0.0**	
TULEG	**Thule**	**116.57**	**15**	*i* P	**PKPdf**		**07 49 40.8**	**-1.3**	
PDGK	**Podgornoye**	**117.36**	**308**	PKiKP	**PKPdf**		**07 49 43.7**	**-1.1**	
SEM	**Semipalatinsk**	**117.59**	**316**	*e*PKiKP	**PKPdf**		**07 49 43.1**	**-2.0**	
SEM	**Semipalatinsk**	**117.59**	**316**	*e*PKP	**PKPdf**		**07 49 43.2**	**-2.0**	
	baz=316								
UZB	**Uzynbulak**	**117.67**	**308**	*e*PKiKP	**PKPdf**		**07 49 43.2**	**-2.2**	
UZB	**Uzynbulak**	**117.67**	**308**	*e*PKP	**PKPdf**		**07 49 43.2**	**-2.2**	
	baz=308								
KPKS	**Kokpek**	**117.96**	**308**	*e*PKiKP	**PKPdf**		**07 49 44.1**	**-1.7**	
KPKS	**Kokpek**	**117.96**	**308**	*e*PKP	**PKPdf**		**07 49 44.2**	**-1.7**	
	baz=308								
SATY	**Saty**	**118.11**	**307**	*e*PKiKP	**PKPdf**		**07 49 44.9**	**-1.3**	
SATY	**Saty**	**118.11**	**307**	*e*PKP	**PKPdf**		**07 49 44.9**	**-1.3**	
	baz=308								
TDK	**Taldyqorghan**	**118.33**	**310**	*e*PKiKP	**PKPdf**		**07 49 45.4**	**-1.0**	
TDK	**Taldyqorghan**	**118.33**	**310**	*e*PKP	**PKPdf**		**07 49 45.4**	**-1.0**	
	baz=310								
TARG	**Taragay, Kyrgy**	**118.38**	**306**		**PKPdf**		**07 49 46.8**	**-0.3**	
KURK	**Kurchatov**	**118.65**	**316**	*d* iPKiKP	**PKPdf**		**07 49 46.5**	**-0.3**	
KURK				pmax	pmax				
	comp=Z,25nm,1.3s								
KURK	**Kurchatov**	**118.65**	**316**	PKPdf	**PKPdf**		**07 49 46.4**	**-0.3**	
KURK	**Kurchatov**	**118.65**	**316**	IAMs_20	IAMs_20		08 36 18.2		
	comp=Z,1µm,20.0s								
ARXS	**Arharly**	**118.66**	**309**	*e*PKiKP	**PKPdf**		**07 49 46.3**	**-0.9**	
KURBB	**Kurchatov Arra**	**118.70**	**316**	PKiKP	**PKPdf**		**07 49 45.5**	**-1.4**	
KDJ	**Kajisay**	**118.89**	**306**	PKiKP	**PKPdf**		**07 49 47.2**	**-0.6**	
KDJ	**Kajisay**	**118.89**	**306**	PKPdf	**PKPdf**		**07 49 47.2**	**-0.6**	
MDOK	**Medeo**	**119.11**	**307**	PKiKP	**PKPdf**		**07 49 47.1**	**-1.1**	
MDOK	**Medeo**	**119.11**	**307**	*e*PKP	**PKPdf**		**07 49 46.5**	**-1.6**	
	baz=308								
SCHQ	**Schefferville**	**119.13**	**39**	PKKPbc	PKKPbc		08 00 00.6	-2.0	
	comp=Z,2.0nm,0.7s,baz=79,slow=3.5,SNR=5.0								
AAA	**Alma-Ata**	**119.21**	**307**	*e*PKiKP	**PKPdf**		**07 49 47.6**	**-0.7**	
AAA	**Alma-Ata**	**119.21**	**307**	*e*PKP	**PKPdf**		**07 49 47.6**	**-0.7**	
	baz=308								
CHKK	**Chushkaly**	**119.22**	**308**	*e*PKiKP	**PKPdf**		**07 49 46.8**	**-1.4**	
CHKK	**Chushkaly**	**119.22**	**308**	*e*PKP	**PKPdf**		**07 49 46.9**	**-1.3**	
	baz=308								
KSH	**Kashi**	**119.47**	**303**	PKP	**PKiKP**		**07 49 52.6**	**+3.6**	
KSH				PP	**PP**		**07 51 13.8**	**+2.4**	
KSH				AMB	AMB				
	comp=Z,430nm,9.2s								
ULHL	**Ulahol**	**119.60**	**306**	P	**PKPdf**		**07 49 46.8**	**-2.5**	
	SNR=12								
KUU	**Kurty**	**119.70**	**308**	*e*PKiKP	**PKPdf**		**07 49 47.3**	**-1.8**	
KUU	**Kurty**	**119.70**	**308**	*e*PKP	**PKPdf**		**07 49 47.4**	**-1.8**	
	baz=308								
TKM2	**Tokmak 2**	**120.14**	**307**	P	**PKPdf**		**07 49

HAMF Hammerfest 131.93 352 ePKPdf PKPdf 07 50 10.9 -0.7
KEV Kevo 132.27 350 PKIKP PKPdf 07 50 11.8 -0.5
KEV Kevo 132.27 350 PKPdf PKPdf 07 50 11.8 -0.5
ARA0 ARCESS Array S 132.70 351 ePKPdf PKPdf 07 50 12.6 -0.5
ARCES ARCESS Array B 132.70 351 PKP PKPdf 07 50 13.0 -0.1
comp=Z,12nm,0.6s,baz=38,slow=1.6,SNR=18
ARCES ARCESS Array B 132.70 351 PKPdf 07 50 12.9 -0.3
SOCY Socotra 132.76 265 PKPdf PKPdf 07 50 15.2 +0.3
APA Apatity 132.93 346 ⇓iPKIKP PKPdf 07 50 13.6 0.0
APA pmax pmax
comp=Z,15nm,0.7s
GEYT Alibeck 133.33 300 PKP PKPdf 07 50 15.8 +0.4
comp=Z,5.1nm,0.6s,baz=47,slow=33,SNR=4.3
JETT Jettan, Norway 133.35 353 ePKPdf PKPdf 07 50 14.8 +0.4
PRGR Permogore 133.40 335 ePKIKP PKPdf 07 50 13.0 -1.6
PRGR e 07 52 37.4
PRGR pmax pmax
comp=Z,10.0nm,0.5s
TRO Tromso 133.43 354 ePKPdf PKPdf 07 50 14.1 -0.4
KIRV Kirov 133.45 330 ⇓iPKIKP PKPdf 07 50 15.3 +0.5
KTK1 Kautokeino 133.50 351 ePKPdf PKPdf 07 50 13.6 -1.0
SOHO SOHO 133.67 281 iPKPdf PKPdf 07 50 15.8 -0.5
SNR=8.1
HATD Hatta, Dubai 134.15 282 PKPdf PKPdf 07 50 16.6 -0.7
ASHO Ashiyiah 134.19 282 PKiKP PKiKP 07 50 18.1 -0.6
STEI Steigen 135.43 355 ePKPdf PKPdf 07 50 17.0 -1.2
FAUS Fauske 135.96 355 ePKPdf PKPdf 07 50 18.0 -1.2
KLMR Klimovskoe 136.19 337 ePKIKP PKPdf 07 50 17.6 -2.3
KLMR e 07 52 56.0
KLMR pmax pmax
comp=Z,54nm,1.5s
KLMR Klimovskoe 136.19 337 ePKPdf PKPdf 07 50 17.7 -2.2
KLMR AMP 07 50 24.2
comp=Z,54nm,1.5s
KLMR ePP PP 07 52 56.0 -4.1
KLMR e 07 54 20.6
KONS Konsvik 137.00 356 ePKPdf PKPdf 07 50 21.7 +0.5
STOK Stokkvaagen 137.17 356 ePKPdf PKPdf 07 50 21.0 -0.5
BELG Belogornoye 137.20 323 dPKIKP PKiKP 07 50 23.7 -0.1
VALR Valaam 138.62 342 ⇑iPKIKP PKPdf 07 50 24.5 +0.2
NSS Namsos 139.03 356 ePKPdf PKPdf 07 50 24.3 -0.7
FINES FINESS Array B 139.81 345 PKhKP PKPpre 07 50 17.1
comp=Z,3.3nm,0.6s,baz=74,slow=1.6,SNR=18
FINES PKP PKPdf 07 50 26.8 +0.3
comp=Z,10nm,0.5s,baz=35,slow=3.4,SNR=13
PUL Pulkovo 140.06 341 ⇑iPKIKP PKiKP 07 50 29.3 -0.2
PUL pmax pmax
comp=Z,91nm,0.6s
KMBO Kilima Mbogo 140.53 236 PKhKP PKPpre 07 50 24.1
comp=Z,6.9nm,0.8s,baz=76,slow=4.4,SNR=16
KMBO Kilima Mbogo 140.53 236 ⇓iPKIKP PKiKP 07 50 32.1 -0.1
KMBO Kilima Mbogo 140.53 236 eP PKPpre 07 50 22.8
KMBO Kilima Mbogo 140.53 236 eP PKPpre 07 50 17.4
KMBO Kilima Mbogo 140.53 236 eP PKPpre 07 50 22.8
KMBO Kilima Mbogo 140.53 236 iPKPdf PKPpre 07 50 24.5
SNR=6.5
MAK Makhachkala 140.60 309 eP Pdif 07 47 44.4 -0.4
MAK i 07 50 29.4
MAK e 07 53 25.6
MAK eSSS SSS 08 17 06.0
MAK pmax pmax
comp=Z,155nm,0.4s
VRH Novokhopyorsk 141.00 324 ePKIKP PKPdf 07 50 25.1 -3.9
VRH pmax pmax
comp=Z,30nm,1.5s
OBN Obninsk 141.20 332 iPKIKP PKPdf 07 50 28.8 -0.4
OBN pmax pmax
comp=Z,24nm,1.1s
MEF Metsahovi 141.28 345 eP PKPdf 07 50 26.1 -3.1
AKN Aaknes 141.59 359 ePKPdf PKPdf 07 50 25.8 -4.0
DOMB Dombas 141.67 357 ePKPdf PKPdf 07 50 26.4 -3.5
LPSR Galich'ya Gora 141.67 327 ePKHKP PKPpre 07 50 22.8
LPSR pmax pmax
comp=Z,9.0nm,0.9s
VORR Voronezh 142.07 326 ePKIKP PKPdf 07 50 27.9 -3.0
VORR pmax pmax
comp=Z,30nm,1.2s
FOO Floro 142.19 0 ePKPdf PKPdf 07 50 27.1 -3.7
VSU Vasula 142.20 342 cePKIKP PKPdf 07 50 29.4 -1.5
VSU Vasula 142.20 342 eP PKPdf 07 50 29.4 -1.5
AAL Aland 142.25 348 eP PKPpre 07 50 25.6
VSR Storozhevoye 142.35 325 ePKIKP PKPdf 07 50 29.0 -2.4
VSR pmax pmax
comp=Z,20nm,1.1s
VORD Divnogorie 142.42 325 ePKIKP PKPdf 07 50 27.1 -4.4
VORD pmax pmax
comp=Z,50nm,1.8s
NB2 NORSAR Subarra 142.55 356 PKPdf PKPpre 07 50 26.3
comp=Z,67nm,2.0s,baz=6.6,slow=1.8
NB2 NORSAR Subarra 142.55 356 PKPdf PKPpre 07 50 26.3
baz=6.6,slow=1.8
NOA NORSAR Array B 142.55 356 PKhKP PKPpre 07 50 28.5
comp=Z,5.2nm,0.7s,baz=13,slow=3.9,SNR=13
ATD Arta Tunnel 142.60 258 eP PKPdf 07 50 28.7 -4.3
ATD Arta Tunnel 142.60 258 eP PKPpre 07 50 26.0
ATD Arta Tunnel 142.60 258 eP PKPdf 07 50 28.7 -4.3
MTE Matsula 142.75 344 eP PKPdf 07 50 30.2 -1.7
NC60 NORSAR Array S 142.82 355 ePKPdf PKPdf 07 50 27.4 -4.6
NORES NORESS Array B 142.82 355 PKIKP PKPdf 07 50 31.9 -0.1
UPP Uppsala 142.96 350 eP PKPpre 07 50 26.6
SKAR Skarslia 143.06 358 ePKPdf PKPbc 07 50 29.4 +0.1
GNI Garni 143.33 306 P PKPbc 07 50 31.9 +1.0
GNI Garni 143.33 306 cePKIKP PKPbc 07 50 31.9 +1.0
GNI Garni 143.33 306 PKPdf PKPdf 07 50 32.7 -1.0
GNI Garni 143.33 306 PKPdf PKPbc 07 50 31.4 +0.5
KBZ Khabaz 143.55 312 PKP PKPdf 07 50 32.8 -1.0
comp=Z,9.9nm,1.0s,baz=195,slow=3.1,SNR=10
KBZ PP PP 07 53 42.5 -3.5
comp=Z,3.0nm,0.9s,baz=96,slow=6.1,SNR=3.6
KBZ Khabaz 143.55 312 ⇓ePKIKP PKPab 07 50 30.0 -0.2
KIV Kislovodsk 143.61 313 ⇓P PKPbc 07 50 32.6 +1.1
KIV Kislovodsk 143.61 313 iPKIKP PKPbc 07 50 31.9 +0.4
KIV e 07 53 40.8
KIV eSS SS 08 12 17.8 -8.7
KIV eSSS SSS 08 17 43.4
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,699nm,24.0s
KIV Kislovodsk 143.61 313 IAMs_20 IAMs_20 08 53 55.0
comp=Z,599nm,21.0s
KIV Kislovodsk 143.61 313 iPKPdf PKPbc 07 50 31.8 +0.3
SNR=6.6
ODD1 Odda 143.87 359 ePKPdf PKPab 07 50 30.6 -0.4
AKH Akhalkalaki 143.90 308 ⇓P PKPdf 07 50 33.7 -1.0
AKH Akhalkalaki 143.90 308 PKIKP PKPdf 07 50 33.7 -1.0
KONO Kongsberg 144.03 357 ⇓PKIKP PKPab 07 50 31.5 -0.1
KONO Kongsberg 144.03 357 ePKPdf PKPbc 07 50 32.4 +0.3
CLDR Caldiran 144.19 305 P PKPab 07 50 32.9 -0.3
BLS5 Blasjo 144.37 359 ePKPdf PKPab 07 50 32.4 -0.5
VIKU Vikbolandet 144.40 350 eP PKPab 07 50 32.5 -0.5
KARS Kars 144.42 307 P PKPbc 07 50 34.6 +0.4
KARS Kars 144.42 307 PKIKP PKPdf 07 50 35.2 -0.5
KARS Kars 144.42 307 PKPdf PKPdf 07 50 35.1 -0.5
CHVG Ch'k'valeri 144.47 311 ⇓P PKPbc 07 50 34.6 +0.6
CHVG Ch'k'valeri 144.47 311 ⇓PKIKP PKPbc 07 50 34.6 +0.6
KMY Karmoy 144.58 0 ePKPdf PKPab 07 50 32.9 -0.7
AGRB Hanur-Agry 144.78 306 P PKPab 07 50 34.6 -0.7
ISAL Salakas 144.80 340 eP PKPdf 07 50 35.8 +0.2
IDID Didziasalis 144.82 339 eP PKPdf 07 50 35.3 -0.3
CUKT Cukurca 144.84 301 P PKPab 07 50 35.1 -0.4
LODK Lodwar 144.86 239 eP PKPdf 07 50 37.8 +0.7
LODK Lodwar 144.86 239 ⇓eP PKPab 07 50 34.7 -1.4
LODK Lodwar 144.86 239 eP PKPdf 07 50 37.8 +0.7
MLA1 Latheron 144.90 8 eP PKPab 07 50 34.3 -0.5
SENK Senkaya-Erzuru 144.97 307 P PKPdf 07 50 36.5 -0.2
MNK Minsk 145.09 337 iPKIKP PKPbc 07 50 33.7 -1.9
MNK i 07 53 49.1
MNK i 07 57 43.0
MNK iSS SS 08 12 42.8 +1.2
MNK pmax pmax
comp=N,24nm,1.1s
MNK pmax pmax
comp=E,4.0nm,1.1s
MNK pmax pmax
comp=Z,80nm,1.1s
MNK Minsk 145.09 337 iPKP PKPbc 07 50 33.7 -1.9
comp=E,4.0nm,1.1s
MNK iPKP PKPbc 07 50 33.7 -1.9
comp=N,24nm,1.1s
MNK iPKP PKPbc 07 50 33.7 -1.9
comp=Z,80nm,1.1s,baz=37
MNK iPP PP 07 53 19.0 -35
MNK iPPP PPP 07 56 39.6
MNK iSKS SKSdf 07 57 43.0 +0.5
MNK iSKKS SKKPbc 08 02 20.4 +5.9
MNK iSS SS 08 12 42.9 +1.2
MNK iSSS SSS 08 19 15.2
MNK iLR LR 08 45 10.3
MNK iLRM MLR 09 01 18.3
comp=Z,457nm,19.8s
MNK iLRM MLR 09 02 35.0
comp=N,612nm,20.1s
MNK iLRM MLR 09 04 07.5
comp=E,71nm,19.8s
AAE Adis Abeba 145.09 251 eP PKPdf 07 50 39.1 +1.4
AAE Adis Abeba 145.09 251 eP PKPab 07 50 37.4 +0.1
AAE Adis Abeba 145.09 251 eP PKPdf 07 50 39.1 +1.4
FURI Furi 145.10 250 eP PKPdf 07 50 39.6 +1.9
FURI Furi 145.10 250 eP PKPab 07 50 37.4 0.0
FURI Furi 145.10 250 eP PKPdf 07 50 39.6 +1.9
BATM Batumi 145.12 309 ⇑P PKPdf 07 50 36.5 -0.1
BATM Batumi 145.12 309 P PKPbc 07 50 34.8 -1.4
BATM Batumi 145.12 309 ⇑PKIKP PKPdf 07 50 36.5 -0.1
NACGM Naroch 145.14 339 ePKP PKPab 07 50 35.9 +0.1
H07N1 FLORES T-PHASE 145.24 54 ePKP PKPbc 07 50 35.5 -1.1
H07S1 FLORES T-PHASE 145.26 55 ePKP PKPab 07 50 36.9 0.0
KAC Achnashellach 145.39 10 eP PKPbc 07 50 36.1 -0.4
SNART Snartemo 145.44 359 ePKPbc PKPbc 07 50 35.9 -0.7
HOMB Homborsund 145.47 357 ePKPbc PKPdf 07 50 36.4 -0.2
KPL Plockton 145.48 11 eP PKPdf 07 50 36.4 -0.3
KOPR Koprukoy-ERZUR 145.50 307 P PKPdf 07 50 36.5 -1.1
PABE Paberze 145.51 342 eP PKPbc 07 50 36.8 -0.1
MBAR Mbarara 145.61 229 dePKP2 PKPab 07 50 39.9 +0.9
MBAR Mbarara 145.61 229 ⇓eP PKiKP 07 50 41.0 -1.6
MBAR Mbarara 145.61 229 eP PKPbc 07 50 38.7 0.0
MBAR Mbarara 145.61 229 ⇓eP PKiKP 07 50 41.0 -1.6
MCD Coleburn Disti 145.62 8 eP PKPdf 07 50 36.5 -0.4
PBUR Paburge 145.62 344 eP PKPdf 07 50 36.8 -0.1
SOC Sochi 145.74 314 ePKP2 PKPdf 07 50 35.7 -1.9
SOC i 07 50 39.7
SOC e 07 53 56.3
SOC eSS SS 08 12 50.3 -0.3
SOC eSSS SSS 08 18 19.3
GURO Guroymak-BITLI 145.76 304 P PKPab 07 50 38.9 0.0
ERZM Erzurum 145.89 307 P PKPab 07 50 40.3 +0.8
CHGM Cayeli-Rize 145.95 309 P PKPbc 07 50 38.0 -0.1
DRUM Mains of Drumt 146.37 8 eP PKPbc 07 50 38.0 -0.4
SVAN Silvan-Diyarba 146.50 304 P PKPab 07 50 41.3 -0.3
LAWE Loch Awe, Argy 146.56 11 eP PKPdf 07 50 39.0 +0.4
INVG Invergeldie, C 146.62 10 eP PKPbc 07 50 39.5 -0.8
BAYT Aydıntepe-Bayb 146.62 308 P PKPab 07 50 41.7 -0.5
EDU Dundee 146.65 9 eP PKPbc 07 50 40.0 -0.3
BNGB Bingl 146.66 305 P PKPbc 07 50 41.6 +0.5
KTUT Trabzon 146.69 309 ⇑P PKPbc 07 50 41.1 +0.1
KTUT Trabzon 146.69 309 P PKPbc 07 50 40.9 -0.1
DEL Delary 146.78 352 eP PKPdf 07 50 39.4 +0.5
MARD Mardin 147.03 302 PKPdf PKPdf 07 50 40.6 +0.4
MARD PKPab 07 50 43.1 -0.7
SUW Suwalki 147.03 341 ePKP PKPab 07 50 42.7 -0.4
SUW Suwalki 147.03 341 eP PKPbc 07 50 41.7 +0.2
ERZN Erzincan 147.19 307 P PKPbc 07 50 42.9 +0.3
MUD Monsted U'grnd 147.24 356 iP PKPbc 07 50 41.0 -1.0
MAZI Mazidag 147.25 303 P PKPbc 07 50 42.3 -0.6
ESY Stoneypath 147.32 9 eP PKPbc 07 50 40.9 +1.0
KLNR Kaliningrad 147.33 344 cePKP2 PKPbc 07 50 42.0 -0.3
PCED Cedros 147.35 55 ePKP PKPab 07 50 44.5 -0.3
DYBB Diyarbakir 147.36 304 P PKPbc 07 50 43.4 +0.3
EBL Broad Law 147.40 9 eP PKPbc 07 50 41.5 -1.0
HOR Horta 147.43 55 ePKP PKiKP 07 50 46.3 +1.0
ESPY Espiye-Giresun 147.45 310 P PKPbc 07 50 42.0 -1.2
AKASG Malin Array Be 147.47 332 PKPbc PKPbc 07 50 41.8 -1.0
comp=E,26nm,0.6s,baz=38,slow=4.8,SNR=35
AKBB Malin Array Si 147.47 332 cePKIKP PKPdf 07 50 40.3 0.0
AKBB Malin Array Si 147.47 332 PKPdf PKPdf 07 50 39.9 -0.3
AKBB PKPbc PKPbc 07 50 42.4 -0.4
KIEV Kiev 147.48 332 PKIKP PKPdf 07 50 40.0 -0.3
PCAN Candelaria 147.56 55 ePKP PKiKP 07 50 44.6 -1.0
PICO Pico 147.59 55 ePKP PKPbc 07 50 44.3 +0.6
ROSA Rosais 147.66 55 ePKP PKPbc 07 50 44.2 +0.4
SRBC Serra Branca 147.72 54 ePKP PKPdf 07 50 40.2 -0.3
COP Copenhagen 147.72 353 iP PKPbc 07 50 43.2 +0.1
PGRA Graciosa 147.76 54 ePKP PKPbc 07 50 44.1 +0.1
PMAN Manadas 147.80 55 ePKP PKPbc 07 50 44.5 +0.3
EKA Eskdalemuir Ar 147.81 9 PKPbc PKPbc 07 50 42.6 -1.0
comp=E,13nm,0.7s,baz=304,slow=1.2,SNR=26
ESK Eskdalemuir 147.82 9 PKP2 PKPbc 07 50 43.5 -0.1
ESK Eskdalemuir 147.82 9 PKPbc 07 50 43.5 -0.1
NEWG New Galloway 147.85 11 eP PKPdf 07 50 42.1 +1.4
SVRC Sivrice-ELAZIĞ 147.87 305 P PKiKP 07 50 45.6 -0.9
BSD Bornholm Skovb 147.94 350 eP PKPdf 07 50 42.2 +1.3
BSD Bornholm Skovb 147.94 350 iP PKPdf 07 50 42.0 +1.1
GAL1 Galloway 148.00 11 eP PKPdf 07 50 42.3 +1.3
ARPR Arapgir-MALATY 148.37 307 P PKPbc 07 50 46.6 +0.7
PAGU Agualva, Azore 148.44 54 ePKP PKiKP 07 50 46.7 -0.7
EDM Edmundbyers 148.47 8 eP PKPbc 07 50 45.0 -0.2
KESW Keswick, Cumbr 148.54 10 eP PKPbc 07 50 45.0 -0.6
IOMK Kirk Michael 148.61 11 eP PKPdf 07 50 43.4 +1.4
SIM Simferopol' 148.63 319 ePKP2 PKPbc 07 50 45.0 -1.1
SIM pmax pmax
comp=Z,426nm,0.7s
RSDY Resadiye-TOKAT 148.63 310 P PKPbc 07 50 46.9 +0.6
WIM Isle of Man 148.69 12 eP PKPbc 07 50 44.7 -1.2
SVSK Karacayir 149.05 309 P PKPbc 07 50 47.9 +0.6
DARE Darende-Malaty 149.17 306 P PKPdf 07 50 44.8 +1.2
TOKT Tokat 149.22 310 P PKPbc 07 50 46.3 -1.5
GKP Gorka Klasztor 149.25 346 ePKPdf PKPdf 07 50 44.7 +1.6
GKP ePKPbc PKPbc 07 50 47.6 +0.2
GKP Gorka Klasztor 149.25 346 eP PKPdf 07 50 43.5 +0.4
HPK Haverah Park 149.36 8 eP PKPdf 07 50 44.6 +1.3
WPS Cemaes, Angles 149.44 12 eP PKPbc 07 50 46.9 -1.0
DIKM Dikmen 149.54 313 ⇑P PKiKP 07 50 46.3 -0.4
DIKM Dikmen 149.54 313 P PKPdf 07 50 45.5 +1.5
BEL Belsk 149.65 341 ePKPdf PKPdf 07 50 44.7 +1.0
BEL ePKPbc PKiKP 07 50 49.3 -0.2
BSEG Bad Segeberg 149.66 354 ePKPdf PKPbc 07 50 46.5 -1.9
BSEG ePKPbc PKiKP 07 50 50.6 +1.2
SORM Soroca 149.72 329 ⇑P PKPdf 07 50 43.5 -0.5
SORM Soroca 149.72 329 ⇑PKHKP PKPpre 07 50 43.5
YLL Llanberis 149.75 12 eP PKiKP 07 50 49.4 -0.2
HORU Horodok 149.78 332 PKIKP PKPdf 07 50 41.3 -2.8
PDA Ponta Delgada 149.90 55 ePKP PKPdf 07 50 46.5 +1.9
SARI SarD1z-Kayseri 150.01 306 P PKPdf 07 50 44.8 -0.3
STNC Stoke 150.12 9 eP PKPbc 07 50 49.7 +0.2
FOEL Foel Wylfa 150.16 11 eP PKPdf 07 50 44.8 +0.2
BZK Bozkurt 150.23 314 ⇑P PKPbc 07 50 50.4 +0.3
BZK Bozkurt 150.23 314 P PKPdf 07 50 46.9 +1.9
BZK Bozkurt 150.23 314 PKPdf PKPdf 07 50 44.8 -0.2
BZK PKiKP 07 50 50.8 -0.2
KMPD K-Podol'skiy 150.26 332 PKIKP PKPdf 07 50 44.0 -0.8
LVV L'vov 150.27 336 iPKP2 PKPbc 07 50 49.4 -0.6
LVV e 07 54 24.0
LVV e 07 57 50.0
BNN Bunyan 150.27 308 P PKPdf 07 50 46.9 +1.5
BNN Bunyan 150.27 308 PKPdf PKPdf 07 50 45.4 0.0
KIS Kishinev 150.28 327 ePKP PKPdf 07 50 44.0 -0.9
KIS comp=Z,3μm,5.3s eLR LR 08 50 51.0
comp=Z,300nm,23.0s
KIS Kishinev 150.28 327 ePKIKP PKPdf 07 50 44.0 -0.9
KIS pmax pmax
comp=Z,300nm,5.3s
MILM Milestii Mici 150.34 327 iPKP PKPdf 07 50 44.0 -1.0
comp=Z,900nm,4.0s
MILM eLR LR 08 44 04.0
comp=Z,500nm,22.0s
MILM Milestii Mici 150.34 327 ⇑P PKPbc 07 50 50.1 -0.2
MILM Milestii Mici 150.34 327 iPKIKP PKPdf 07 50 44.0 -1.0
MILM pmax pmax
comp=Z,900nm,4.0s
YOZ Yozgat 150.35 309 P PKPdf 07 50 47.6 +2.1
PSMA Santa Maria 150.53 56 ePKP PKPdf 07 50 46.9 +1.2
PSMN Pico do Norte, 150.58 56 ePKP PKiKP 07 50 52.6 +0.7
CORM Corum 150.61 311 P PKPdf 07 50 46.0 +0.1
RUE Ruedersdorf 150.66 350 eP PKPdf 07 50 47.3 +2.0
RUE Ruedersdorf 150.66 350 ePKPdf PKPdf 07 50 47.0 +1.7
RUE ePKPbc PKiKP 07 50 51.4 -0.1
RSBS Rosebush, Pemb 150.76 13 eP PKPbc 07 50 49.4 -1.7
KOZT Kozan 150.76 305 P PKPdf 07 50 46.1 +0.1
TAHT Tahtakopru-Hat 150.83 303 eP PKPbc 07 50 51.9 +0.1
RETH Rethem/Aller, 150.93 355 ePKPdf PKPdf 07 50 47.0 +1.2
RETH ePKPbc PKiKP 07 50 52.1 +0.1
CEYT Ceyhan 150.97 304 eP PKiKP 07 50 52.4 -0.3
YAYL Yayladag 150.99 302 eP PKPbc 07 50 51.9 -0.4
VASR Vaslui 151.04 327 ⇑P PKPbc 07 50 51.9 0.0
KSV Kosov 151.05 333 PKIKP PKPdf 07 50 44.6 -1.5
MCH1 Michaelchurch 151.05 11 eP PKPdf 07 50 47.1 +1.1
NRDL Niedersach Rie 151.11 354 ePKPdf PKPdf 07 50 47.2 +1.2
NRDL ePKPbc PKiKP 07 50 52.3 0.0
FLTG Flechtingen 151.16 353 ePKPdf PKPdf 07 50 47.2 +1.1
FLTG ePKPbc PKiKP 07 50 52.7 +0.1
CMRD Camardi-Nigde 151.32 306 eP PKPbc 07 50 52.9 -0.2
OJC Ojcow 151.37 341 ePKPdf PKPdf 07 50 46.3 -0.3
OJC ePKPbc PKPbc 07 50 52.2 -0.3
OJC ePKPab PKPab 07 51 00.4 -0.3
OJC Ojcow 151.37 341 PKIKP PKPdf 07 50 45.4 -1.1
OJC 07 50 53.2
OJC Ojcow 151.37 341 PKPdf PKPdf 07 50 45.4 -1.1
OJC PKPbc PKiKP 07 50 53.2 +0.1
OJC PKPab pPKPbc 07 51 02.0 +0.4
KRTS Karatas 151.39 303 eP PKiKP 07 50 53.3 -0.2
KARA Karaisali 151.41 305 eP PKPbc 07 50 53.1 0.0
ASSE Asse, Remlinge 151.42 353 ePKPdf PKPdf 07 50 47.4 +1.0
ASSE ePKPbc PKiKP 07 50 53.3 +0.3
VLDR Vladesti 151.44 326 ⇑P PKiKP 07 50 53.5 +0.1
IBBN Ibbenburen 151.46 357 ePKPdf PKPdf 07 50 47.7 +1.1
IBBN ePKPbc PKiKP 07 50 53.5 +0.4
BR131 Keskin Array S 151.49 311 cePKIKP PKPdf 07 50 46.8 -0.5
BR131 Keskin Array S 151.49 311 PKPdf PKPdf 07 50 46.6 -0.6
BR131 PKPbc PKPbc 07 50 53.3 -0.1
BRTR Keskin Array B 151.49 311 PKP PKPdf 07 50 47.1 -0.1
comp=Z,1.6nm,0.6s,baz=147,slow=2.7,SNR=13
BRTR PKPbc PKPbc 07 50 53.3 -0.1
comp=Z,16nm,0.8s,baz=142,slow=4.4,SNR=30
BRTR PP PP 07 54 31.3 -1.6
comp=Z,0.3nm,0.4s,baz=314,slow=29,SNR=4.0
BRTR Keskin Array B 151.49 311 eP PKPbc 07 50 52.7 -0.7
BRTR Keskin Array B 151.49 311 PKPdf PKPdf 07 50 46.0 -1.3
BRTR PKPbc 07 50 53.6 +0.2
TLCR 151.50 324 ⇑P PKPdf 07 50 47.4 +0.5
TLCR 151.50 324 ⇑PKIKP PKPdf 07 50 47.4 +0.5
BUR08 Bucovina Ar. S 151.51 332 PKPdf PKPdf 07 50 46.0 -1.0
BURAR Bucovina Array 151.52 332 ⇑P PKPdf 07 50 47.3 +0.3
BURAR Bucovina Array 151.52 332 ⇑PKIKP PKPdf 07 50 47.3 +0.3
BURAR Bucovina Array 151.52 332 PKPdf PKPdf 07 50 45.9 -1.1
SCTR Scanteiesti 151.60 326 ⇑P PKiKP 07 50 54.3 +0.6
GHRR 151.63 327 ⇑P PKPdf 07 50 50.1 +3.0
KOLS Kolonicke sedl 151.65 337 ePKIKP PKPdf 07 50 48.9 +1.9
KOLS e 07 50 54.7
KOLS Kolonicke sedl 151.65 337 ePKP PKPdf 07 50 48.9 +1.9
KOLS e 07 50 54.7
TESR Tescani 151.69 328 ⇓P PKPdf 07 50 48.3 +1.2
YAYX Yaylak 151.70 309 eP PKPbc 07 50 53.3 -0.6
SWN1 Swindon 151.72 10 eP PKPbc 07 50 52.1 -1.2
KSP Ksiaz 151.73 346 ePKPdf PKPdf 07 50 49.3 +2.2
KSP ePKPbc PKiKP 07 50 54.3 +0.5
KSP ePKPab PKPab 07 51 02.0 -0.3
KSP Ksiaz 151.73 346 PKIKP PKPdf 07 50 47.7 +0.6
CLZ Clausthal 151.73 354 ePKPdf PKPdf 07 50 47.4 +0.3
CLZ ePKPbc PKiKP 07 50 53.9 0.0
CLZ ePKPab pPKPbc 07 51 03.2 +0.7
JURR Jurilovca 151.74 324 ⇑P PKPbc 07 50 50.8 -2.7
CFR Carcaliu 151.87 325 ⇑P PKPdf 07 50 47.3 -0.1
CFR Carcaliu 151.87 325 ⇑PKIKP PKPdf 07 50 47.3 -0.1
SERE Serefiikochisa 151.87 309 eP PKPbc 07 50 52.3 -2.0
BHL Bhannes 151.89 298 eP PKPdf 07 50 46.5 -1.5
UZH Uzhgorod 151.89 336 ePKIKP PKPdf 07 50 45.8 -1.5
UZH e 07 50 49.1
UZH i 07 50 54.1
UZH i 07 50 59.8
NIE Niedzica 151.91 339 ePKPdf PKPdf 07 50 48.8 +1.3
NIE ePKPbc PKiKP 07 50 54.5 +0.2
CLL Collm 151.92 350 PKIKP PKPdf 07 50 47.1 -0.3
CLL 07 50 53.9
CLL Collm 151.92 350 PKPdf PKPdf 07 50 47.0 -0.3
CLL PKPbc PKPbc 07 50 53.9 +0.1
CLL IAMs_20 IAMs_20 09 08 33.5
comp=Z,685nm,20.0s
CLL Collm 151.92 350 ePKPdf PKPdf 07 50 47.0 -0.3
CLL ⇓iPKPbc PKiKP 07 50 54.0 -0.2
comp=Z,128nm,1.0s
CLL ePKPab pPKPbc 07 51 02.0 -0.9
comp=Z,72nm,1.6s
CLL ex x 07 51 10.0
CLL eP PP 07 54 36.0 +2.0
CLL eSSS SSS 08 19 48.0
CLL e(SSSS) 08 23 06.0
CLL Lm MLR 09 08 00.0
comp=Z,700nm,20.8s
CLL Collm 151.92 350 ePKPdf PKPdf 07 50 47.9 +0.6
CLL ePKPbc PKiKP 07 50 54.1 0.0
TPUR Topolog 151.93 324 ⇑P PKPbc 07 50 51.5 -2.6
SHBL Chebaa 151.94 297 eP PKPbc 07 50 47.6 -0.6
MERS Mersin 151.95 304 P PKPdf 07 50 48.0 +0.1
CRVS Cervenica-Dubn 151.97 337 ePKIKP PKPdf 07 50 49.0 +1.5
CRVS e 07 50 54.7
CRVS Cervenica-Dubn 151.97 337 ePKP PKPdf 07 50 49.0 +1.5
CRVS e 07 50 54.7
AFSR Afar-Bala (An 152.01 310 eP PKPbc 07 50 53.9 -0.7
OSTC Ostas 152.01 346 ePKPDF PKPdf 07 50 47.9 +0.4
OSTC ⇑ePKP PKiKP 07 50 55.0 +0.6
ANTO Ankara 152.01 311 eP PKPbc 07 50 53.9 -0.6
ANTO Ankara 152.01 311 PKIKP PKPdf 07 50 46.9 -1.1
ANTO 07 50 46.9
ANTO Ankara 152.01 311 PKPdf PKPdf 07 50 46.9 -1.1
ANTO PKiKP 07 50 55.2 +0.3
ANTO PKPab PKPab 07 51 04.5 +0.5
CHVC Chvalec 152.02 346 ePKPDF PKPdf 07 50 47.9 +0.4
CHVC ⇑ePKP PKiKP 07 50 54.5 0.0
GTTG Gottingen 152.06 354 ePKPdf PKPdf 07 50 48.1 +0.6
GTTG ePKPbc PKiKP 07 50 54.4 -0.1
GTTG ePKPab PKPab 07 51 04.7 +1.1
TRSU Trosnyk 152.08 335 PKIKP PKPdf 07 50 45.1 -2.5
UPC Upice 152.10 346 ePKIKP PKPdf 07 50 47.8 +0.2
UPC e 07 50 54.3
UPC Upice 152.10 346 ePKPDF PKPdf 07 50 47.8 +0.2
UPC ⇑ePKP PKPbc 07 50 54.3 0.0
VRI Vrincioaia 152.11 327 ⇑P PKPbc 07 50 54.1 -0.3
VRI Vrincioaia 152.11 327 ⇑PKIKP PKPbc 07 50 54.1 -0.3
PLOR Plostina 152.16 327 ⇑P PKPbc 07 50 53.4 -1.2
PLOR Plostina 152.16 327 ⇑PKIKP PKPbc 07 50 53.4 -1.2
BRG Berggiesshubel 152.18 349 iPKIKP PKPdf 07 50 48.4 +0.7
BRG i 07 50 54.9
BRG pmax pmax
comp=Z,23nm,1.2s
BRG pmax pmax
comp=Z,112nm,0.6s
BRG Berggiesshubel 152.18 349 ePKPdf PKPdf 07 50 48.1 +0.4
BRG ePKPbc PKiKP 07 50 54.6 -0.1
BRG Berggiesshubel 152.18 349 ⇓iPKPf PKPdf 07 50 48.5 +0.7
BRG Berggiesshubel 152.18 349 Amp 07 50 52.1
comp=Z,23nm,1.2s
BRG Berggiesshubel 152.18 349 ⇑iPKP PKiKP 07 50 55.0 +0.2
BRG Berggiesshubel 152.18 349 Amp 07 50 56.7
comp=Z,112nm,0.6s
BRG Berggiesshubel 152.18 349 ePKPab PKPab 07 51 05.3 +1.2
BRG Berggiesshubel 152.18 349 Amp 07 51 06.1
comp=Z,35nm,0.7s
BRG Berggiesshubel 152.18 349 ex x 07 51 11.8
BRG Berggiesshubel 152.18 349 Amp 07 51 14.1
comp=Z,32nm,0.8s
BRG Berggiesshubel 152.18 349 Amp 08 03 08.0
comp=N,0.4nm,22.8s
BRG Berggiesshubel 152.18 349 Amp 08 03 51.0
comp=E,1.2nm,27.8s
BRG Berggiesshubel 152.18 349 Amp 08 03 56.0
comp=Z,1.6nm,22.6s
DPC Dobruska-Polom 152.18 345 ePKIKP PKPdf 07 50 48.5 +0.7
DPC e 07 50 54.9
DPC Dobruska-Polom 152.18 345 ePKPDF PKPdf 07 50 48.5 +0.7
DPC ⇑ePKP PKiKP 07 50 54.9 +0.1
OKC Ostrava-Krasne 152.19 342 ePKIKP PKPdf 07 50 48.5 +0.7
OKC e 07 50 54.4
OKC Ostrava-Krasne 152.19 342 ePKPDF PKPdf 07 50 48.5 +0.7
OKC ⇑ePKP PKPbc 07 50 54.4 -0.1
NEUB Neuenburg 152.19 352 ePKPdf PKPdf 07 50 48.8 +1.1
NEUB ePKPbc PKiKP 07 50 54.6 -0.1
NEUB ePKPab PKPab 07 51 05.0 +0.9
YESY Yesilyurt 152.20 307 eP PKPbc 07 50 54.1 -1.0
KULU Kulu 152.23 310 eP PKPbc 07 50 54.8 -0.3
FBE Freiberg 152.23 349 ePKPdf PKPdf 07 50 48.6 +0.8
FBE ePKPbc PKiKP 07 50 54.9 +0.1
MMAI Mount Meron Ar 152.29 296 PKPbc PKiKP 07 50 55.8 +0.2
comp=Z,5.0nm,0.5s,baz=157,slow=11,SNR=4.7

HARR	**Harsova**	**152.30**	**324**	∥P	**PKPdf**	07 50 48.8	+0.7
HARR	**Harsova**	**152.30**	**324**	∥PKIKP	**PKPdf**	07 50 48.8	+0.7
ARCR	**ARCALIA**	**152.31**	**332**	∥P	**PKPdf**	07 50 50.2	+2.1
KRLC	**Kraliky**	**152.32**	**344**	*e*PKIKP	**PKPdf**	07 50 48.6	+0.6
KRLC				*e*		07 50 54.7	
KRLC	**Kraliky**	**152.32**	**344**	*e*PKPDF	**PKPdf**	07 50 48.6	+0.6
KRLC				⇑*e*PKP	**PKPbc**	07 50 54.7	-0.1
TLBR	**Topalu**	**152.33**	**324**	⇑P	**PKPdf**	07 50 49.2	+1.0
BUG	**Bochum--Univer**	**152.34**	**358**	*e*PKPdf	**PKPdf**	07 50 49.5	+1.6
BUG				*e*PKPbc	**PKPbc**	07 50 54.6	-0.1
COVR	**Voineasa-Covas**	**152.38**	**328**	⇑P	**PKPbc**	07 50 52.5	-2.6
PVCC	**Panska Ves**	**152.39**	**348**	*e*PKIKP	**PKPdf**	07 50 49.4	+1.3
PVCC				*e*		07 50 54.6	
PVCC	**Panska Ves**	**152.39**	**348**	*e*PKPDF	**PKPdf**	07 50 49.4	+1.3
PVCC				⇑*e*PKP	**PKPbc**	07 50 54.6	-0.3
OZUR		**152.40**	**329**	⇑P	**PKPdf**	07 50 49.9	+1.6
MORC	**Moravsky Berou**	**152.40**	**343**	⇑P	**PKPdf**	07 50 48.7	+0.5
MORC	**Moravsky Berou**	**152.40**	**343**	⇑PKIKP	**PKPdf**	07 50 48.7	+0.5
MORC	**Moravsky Berou**	**152.40**	**343**	PKPdf	**PKPdf**	07 50 47.4	-0.8
MORC				PKPbc	**PKiKP**	07 50 56.0	+0.7
MORC	**Moravsky Berou**	**152.40**	**343**	*e*PKP	**PKPdf**	07 50 48.5	+0.3
MORC				*e*		07 50 55.5	
MORC				*e*PP	**PP**	07 54 36.6	-0.3
LANS	**Liptovska Anna**	**152.41**	**340**	*e*PKIKP	**PKPdf**	07 50 50.7	+2.5
LANS				*e*		07 50 56.4	
LANS	**Liptovska Anna**	**152.41**	**340**	*e*PKP	**PKPdf**	07 50 50.7	+2.5
LANS				*e*		07 50 56.4	
ELSH	**Elham, Standar**	**152.45**	**6**	*e*P	**PKPbc**	07 50 55.0	0.0
CHBY	**Cihanbeyli**	**152.50**	**309**	*e*P	**PKPbc**	07 50 54.4	-1.3
MANR	**Mangalia**	**152.50**	**322**	∥P	**PKPdf**	07 50 50.3	+1.9
YUVA	**Yuva-Kibriscik**	**152.52**	**313**	*e*P	**PKPbc**	07 50 54.8	-0.9
KASTN	**Kahler Asten**	**152.53**	**356**	*e*PKPdf	**PKPdf**	07 50 49.3	+1.0
KASTN				*e*PKPbc	**PKPbc**	07 50 55.3	+0.1
EREN	**Erenkoy**	**152.64**	**302**	*e*P	**PKPbc**	07 50 55.9	0.0
DOPR	**Dopca**	**152.68**	**329**	⇑P	**PKPdf**	07 50 49.4	+0.7
KEBE	**Keben-Mersin**	**152.70**	**304**	*e*P	**PKPdf**	07 50 48.9	-0.2
MLR	**Muntele Rosu**	**152.76**	**328**	⇑P	**PKPdf**	07 50 48.4	-0.6
MLR				⇑P	**PKPdf**	07 50 49.6	+0.6
MLR	**Muntele Rosu**	**152.76**	**328**	PKP	**PKPdf**	07 50 48.8	-0.2
	comp=Z,6.9nm,0.9s,baz=344,slow=4.5,SNR=11						
MLR	**Muntele Rosu**	**152.76**	**328**	⇑PKIKP	**PKPdf**	07 50 49.6	+0.6
MOX	**Moxa**	**152.76**	**352**	PKIKP	**PKPdf**	07 50 48.8	+0.2
MOX	**Moxa**	**152.76**	**352**	*e*PKPdf	**PKPdf**	07 50 49.5	+0.9
MOX				*e*PKPbc	**PKPbc**	07 50 55.8	0.0
MOX				*e*L	L	08 56 23.1	
	comp=Z,418nm,19.7s						
UBBA	**Unterbreizbach**	**152.78**	**354**	*e*PKPdf	**PKPdf**	07 50 50.2	+1.7
UBBA				*e*PKPbc	**PKiKP**	07 50 56.0	+0.2
UBBA				*e*PKPab	**PKPab**	07 51 05.8	-0.7
IKL	**Isikli**	**152.79**	**304**	*e*P	**PKPdf**	07 50 48.0	-1.1
MDUB	**Mudurnu**	**152.81**	**314**	*e*P	**PKPbc**	07 50 55.0	-1.3
MDUB	**Mudurnu**	**152.81**	**314**	PKPab	**PKPab**	07 51 08.8	+1.5
PSN	**Preselentsi**	**152.81**	**322**	*e*P	**PKPdf**	07 50 48.0	-0.9
PLN	**Plauen**	**152.84**	**351**	*e*PKPdf	**PKPdf**	07 50 50.7	+1.9
PLN				*e*PKPbc	**PKiKP**	07 50 56.0	-0.1
WERD	**Werda**	**152.86**	**351**	*e*PKPdf	**PKPdf**	07 50 50.2	+1.4
WERD				*e*PKPbc	**PKiKP**	07 50 56.3	+0.1
TANN	**Tannenbergstha**	**152.87**	**350**	*e*PKPdf	**PKPdf**	07 50 50.0	+1.1
TANN				*e*PKPbc	**PKiKP**	07 50 56.3	0.0
PRU	**Pruhonice**	**152.91**	**347**	*e*PKIKP	**PKPdf**	07 50 48.6	-0.2
PRU				*e*		07 50 55.8	
PRU	**Pruhonice**	**152.91**	**347**	*e*PKPDF	**PKPdf**	07 50 48.6	-0.2
PRU				⇑*e*PKP	**PKPbc**	07 50 55.8	-0.3
TEVE	**Tevekalti-Mers**	**152.91**	**304**	*e*P	**PKPdf**	07 50 49.3	+0.2
CJR	**Cluj-Napoca**	**152.92**	**332**	∥P	**PKPbc**	07 50 53.8	-2.5
CJR	**Cluj-Napoca**	**152.92**	**332**	∥PKIKP	**PKPbc**	07 50 53.8	-2.5
AKKU	**Akkuyu-Mersin**	**152.92**	**304**	⁺P	**PKPdf**	07 50 47.1	-2.2
GUNZ	**Gunzen**	**152.94**	**351**	*e*PKPdf	**PKPdf**	07 50 50.2	+1.3
GUNZ				*e*PKPbc	**PKiKP**	07 50 56.7	+0.4
GUNZ				*e*PKPab	**PKPab**	07 51 06.6	-0.7
WERN	**Wernitzgruen**	**153.00**	**350**	*e*PKPdf	**PKPdf**	07 50 49.8	+0.7
WERN				*e*PKPbc	**PKiKP**	07 50 57.2	+0.7
WERN				*e*PKPab	**PKPab**	07 51 07.2	-0.4
SECR		**153.03**	**327**	⇑P	**PKPbc**	07 50 54.3	-2.3
LADK	**Ladik-KONYA**	**153.04**	**309**	*e*P	**PKPbc**	07 50 54.8	-2.1
NKC	**Novy Kostel**	**153.05**	**350**	*e*PKIKP	**PKiKP**	07 50 56.9	+0.3
NKC				*e*		07 51 06.7	
NKC	**Novy Kostel**	**153.05**	**350**	⇑*e*PKP	**PKiKP**	07 50 56.9	+0.3
NKC				*e*PKPAB	**PKPab**	07 51 06.7	-1.1
SVRH	**Sivrihisar-ESK**	**153.08**	**312**	*e*P	**PKPdf**	07 50 49.4	-0.2
VRAC	**Vranov**	**153.08**	**344**	⇑P	**PKPdf**	07 50 49.4	+0.3
VRAC	**Vranov**	**153.08**	**344**	PKP	**PKPdf**	07 50 49.2	+0.1
	comp=Z,5.1nm,0.9s,baz=8.4,slow=0.8,SNR=12						
VRAC	**Vranov**	**153.08**	**344**	⇑PKIKP	**PKPdf**	07 50 49.4	+0.3
VRAC	**Vranov**	**153.08**	**344**	*e*PKP	**PKPdf**	07 50 49.3	+0.2
VRAC				*e*		07 50 56.9	
VRAC				*e*PP	**PP**	07 54 39.0	-1.7
KIZT	**Kizilcal**	**153.09**	**310**	*e*P	**PKPdf**	07 50 49.1	-0.5
BERE	**Bereket-Mersin**	**153.11**	**304**	*e*P	**PKPbc**	07 50 53.9	-3.3
KONT	**Konya--Tatoy**	**153.15**	**308**	*e*P	**PKPdf**	07 50 52.8	+3.2
EIL	**Elat**	**153.18**	**289**	PKPbc	**PKPbc**	07 50 56.0	-1.3
	comp=Z,36nm,1.0s,baz=133,slow=4.6,SNR=17						
EIL				PKPab	**sPKPbc**	07 51 09.6	+0.1
	comp=Z,40nm,0.8s,baz=203,slow=3.1,SNR=11						
VYHS	**Vyhne**	**153.19**	**340**	*e*PKIKP	**PKPdf**	07 50 50.3	+1.0
VYHS				*e*		07 50 57.2	
VYHS	**Vyhne**	**153.19**	**340**	*e*PKP	**PKPdf**	07 50 50.3	+1.0
VYHS				*e*		07 50 57.2	
JAVC	**Velka Javorina**	**153.20**	**342**	*e*PKP	**PKPdf**	07 50 50.8	+1.4
JAVC				*e*		07 50 58.4	
MEM	**Membach**	**153.20**	**359**	*d*PKiKP	**PKPbc**	07 50 56.6	-0.1
MEM				*d*PKPab	**PKPab**	07 51 08.0	-0.5
LFK	**Lefkose**	**153.22**	**302**	*e*P	**PKPdf**	07 50 53.5	+3.7
BTNL	**Ternell**	**153.23**	**359**	*d*PKPdf	**PKPdf**	07 50 49.0	-0.4
BTNL				*d*PKiKP	**PKPbc**	07 50 56.5	-0.3
BSTI	**Sart Tilman**	**153.23**	**0**	*d*PKiKP	**PKiKP**	07 50 57.2	+0.3
BSTI				*d*PKPab	**PKPab**	07 51 07.4	-1.1
VOIR		**153.23**	**329**	∥P	**PKPdf**	07 50 50.4	+0.8
VOIR		**153.23**	**329**	∥PKIKP	**PKPdf**	07 50 50.4	+0.8
AHRW	**Bad Neuenahr-A**	**153.25**	**358**	*e*PKPbc	**PKiKP**	07 50 57.4	+0.5
AHRW				*e*PKPab	**PKPab**	07 51 07.2	-1.3
TEKE	**Tekeli-Mersin**	**153.26**	**304**	*e*P	**PKPbc**	07 50 53.7	-3.6
SNF	**Seneffe**	**153.29**	**2**	*d*PKiKP	**PKiKP**	07 50 57.0	0.0
MANZ	**Manzenberg**	**153.34**	**351**	*e*PKPdf	**PKPdf**	07 50 51.2	+1.6
MANZ				*e*PKPbc	**PKiKP**	07 50 57.4	+0.2
MANZ				*e*PKPab	**PKPab**	07 51 08.2	-0.9
PSZ	**Piszkesteto**	**153.35**	**338**	∥P	**PKPdf**	07 50 49.3	-0.3
PSZ	**Piszkesteto**	**153.35**	**338**	∥PKIKP	**PKPdf**	07 50 49.3	-0.3
PSZ	**Piszkesteto**	**153.35**	**338**	PKPab	**PKPab**	07 51 10.1	+0.9
PSZ	**Piszkesteto**	**153.35**	**338**	PKP	**PKPdf**	07 50 51.1	+1.5
KRUC	**Moravsky**	**153.36**	**344**	PKIKP	**PKPdf**	07 50 49.8	+0.3
KRUC	**Moravsky**	**153.36**	**344**	*e*PKP	**PKPdf**	07 50 49.6	+0.1
KRUC				*e*		07 50 57.3	
KRUC				*e*PP	**PP**	07 54 40.4	-1.9
TREC	**Trest**	**153.36**	**345**	*e*PKIKP	**PKPdf**	07 50 50.8	+1.2
TREC				*e*		07 50 57.3	
TREC	**Trest**	**153.36**	**345**	*e*PKPDF	**PKPdf**	07 50 50.8	+1.2
TREC				⇑*e*PKP	**PKiKP**	07 50 57.3	0.0
BCLA	**Clavier**	**153.40**	**0**	*d*PKPdf	**PKPdf**	07 50 50.8	+1.3
BCLA				*d*PKiKP	**pPKPdf**	07 50 58.0	-0.6
BCLA				*dp*PKPdf	**sPKPdf**	07 51 01.0	-0.8
BCLA				*d*PKPab	**PKPab**	07 51 07.8	-1.4
BGES	**Gesves**	**153.43**	**1**	*d*PKiKP	**PKPbc**	07 50 56.9	-0.3
BGES				*d*PKP	**PKPab**	07 51 08.3	-1.0
BHOU	**Houvegnez**	**153.46**	**359**	*d*PKPdf	**PKPdf**	07 50 49.1	-0.5
BHOU				*d*PKiKP	**PKiKP**	07 50 57.7	+0.3
BHOU				*d*PKPab	**PKPab**	07 51 08.9	-0.6
CSS	**Mathiatis**	**153.47**	**301**	*e*P	**PKPbc**	07 50 55.7	-2.1
ARR	**Arges**	**153.48**	**329**	⇑P	**PKPdf**	07 50 50.3	+0.4
TNS	**Taunus Mts**	**153.50**	**356**	*e*PKPbc	**PKiKP**	07 50 58.3	+0.8
TNS				*e*PKPab	**sPKPbc**	07 51 09.4	-0.3
BMRD	**Maredsous**	**153.50**	**1**	*d*PKPdf	**PKPdf**	07 50 50.0	+0.3
BMRD				*d*PKiKP	**PKiKP**	07 50 57.6	+0.1
BMRD				*d*PKPab	**pPKPbc**	07 51 07.9	+1.5
BMRD				*dx*	x	07 51 16.3	
ROTZ	**Rotzenmuhle**	**153.54**	**350**	*e*PKPdf	**PKPdf**	07 50 50.7	+0.9
ROTZ				*e*PKPbc	**PKiKP**	07 50 58.1	+0.5
PRD	**Provadia**	**153.56**	**322**	*e*P	**PKPdf**	07 50 49.0	-1.0
SMOL	**Smolenice**	**153.59**	**342**	*e*PKIKP	**PKPdf**	07 50 51.6	+1.7
SMOL				*e*		07 50 58.4	
SMOL	**Smolenice**	**153.59**	**342**	*e*PKP	**PKPdf**	07 50 51.6	+1.7
SMOL				*e*		07 50 58.4	
HRT	**Hereke**	**153.62**	**316**	*e*P	**PKPdf**	07 50 50.4	+0.2
RCHB	**Rochefort**	**153.66**	**1**	*d*PKPdf	**PKPdf**	07 50 50.2	+0.3
RCHB				*d*PKiKP	**PKiKP**	07 50 57.8	0.0
DOU	**Dourbes**	**153.71**	**1**	*d*PKiKP	**PKPbc**	07 50 57.7	-0.1
DOU				*dp*PKPdf	**sPKPdf**	07 51 01.6	-0.6
GRF	**Grafenberg Arr**	**153.75**	**352**	*e*PKPdf	**PKPdf**	07 50 50.7	+0.6
GRF				*e*PKPbc	**pPKPdf**	07 50 59.1	-0.2
GRF				*e*PKPab	**PKPab**	07 51 10.6	-0.2
GRF				*e*L	L	08 56 41.4	
	comp=Z,367nm,21.5s						
MODS	**Modra-Piesok**	**153.75**	**342**	*e*PKIKP	**PKPdf**	07 50 50.8	+0.7
MODS				*e*		07 50 58.4	
MODS	**Modra-Piesok**	**153.75**	**342**	*e*PKP	**PKPdf**	07 50 50.8	+0.7
MODS				*e*		07 50 58.4	
ADVT	**Abdulvahap**	**153.78**	**315**	*e*P	**PKPbc**	07 50 57.9	-0.4
GAZI	**Gazipasa**	**153.83**	**304**	*e*P	**PKPbc**	07 50 57.9	-0.7
JVM	**Valle D.L. Mar**	**153.87**	**12**	*e*P	**PKPbc**	07 50 57.6	-0.5
JSA	**Saint Aubin**	**153.90**	**12**	*e*P	**PKiKP**	07 50 58.3	0.0
KHC	**Kasperske Hory**	**153.92**	**348**	PKIKP	**PKPdf**	07 50 49.9	-0.5
KHC						07 50 58.7	
KHC	**Kasperske Hory**	**153.92**	**348**	PKPdf	**PKPdf**	07 50 49.9	-0.5
KHC				PKPbc	**PKiKP**	07 50 58.7	+0.3
KHC	**Kasperske Hory**	**153.92**	**348**	*e*PKPDF	**PKPdf**	07 50 49.3	-1.1
KHC				⇑*e*PKP	**PKPbc**	07 50 58.0	-0.4
YLV	**Yalova**	**153.94**	**316**	P	**PKPdf**	07 50 46.5	-4.2
WET	**Wettzell**	**154.03**	**349**	PKIKP	**PKPdf**	07 50 50.6	+0.1
WET	**Wettzell**	**154.03**	**349**	*e*PKPdf	**PKPdf**	07 50 51.2	+0.6
WET				*e*PKPbc	**pPKPdf**	07 50 59.3	-0.4
CKRC	**Cesky Krumlov**	**154.07**	**347**	*e*PKPDF	**PKPdf**	07 50 50.6	0.0
CKRC				⇑*e*PKP	**PKPbc**	07 50 58.5	-0.2
WLF	**Walferdange**	**154.15**	**359**	*e*PKPbc	**PKiKP**	07 50 59.8	+0.9
WLF	**Walferdange**	**154.15**	**359**	*d*PKPdf	**PKPdf**	07 50 49.9	-0.7
WLF				*d*PKiKP	**PKPbc**	07 50 58.7	-0.1
GEC2	**GERESS Array S**	**154.17**	**348**	PKPdf	**PKPdf**	07 50 49.8	-1.0
GEC2	**GERESS Array S**	**154.17**	**348**	*e*PKPdf	**PKPdf**	07 50 51.4	+0.6
GEC2				*e*PKPbc	**pPKPdf**	07 50 60.0	0.0
GEC2				*e*PKPab	**PKPab**	07 51 13.8	+1.1
GERES	**GERESS Array B**	**154.17**	**348**	PKP	**PKPdf**	07 50 50.8	0.0
	comp=Z,3.3nm,0.9s,baz=218,slow=1.5,SNR=25						
GERES				PKPbc	**PKPbc**	07 50 58.7	-0.3
	comp=Z,5.2nm,0.6s,baz=95,slow=3.1,SNR=22						
GERES				PKPab	**PKPab**	07 51 12.7	0.0
	comp=Z,2.8nm,0.6s,baz=0.0,slow=4.5,SNR=4.3						
GERES	**GERESS Array B**	**154.17**	**348**	PKPdf	**PKPdf**	07 50 50.1	-0.7
GERES				PKPbc	**pPKPdf**	07 50 59.6	-0.3
GZR	**Gura Zlata**	**154.31**	**331**	⇑P	**PKPdf**	07 50 50.7	-0.4
GZR	**Gura Zlata**	**154.31**	**331**	⇑PKIKP	**PKPdf**	07 50 50.7	-0.4
SUTC	**Sutluce-Ispart**	**154.32**	**308**	*e*P	**PKPdf**	07 50 49.8	-1.6
SZH	**Strazhica**	**154.32**	**324**	*e*P	**PKPdf**	07 50 50.0	-1.1
TVSB	**Tavsanli**	**154.47**	**313**	*e*P	**PKPbc**	07 50 58.6	-1.3
ROSF	**Rostrenen**	**154.49**	**14**	*e*PKIKP	**PKPdf**	07 50 52.4	+1.3
ROSF				pmax	pmax		
	comp=Z,57nm,1.4s						
JMB	**Yambol**	**154.50**	**322**	*e*P	**PKPdf**	07 50 50.0	-1.3
CONA	**Conrad Observa**	**154.54**	**344**	*e*P	**PKPdf**	07 50 50.7	-0.7
	comp=Z,28nm,1.7s,SNR=11						
FLN	**La Foliniere**	**154.59**	**9**	*e*PKIKP	**PKPdf**	07 50 53.6	+2.3
FLN				pmax	pmax		
	comp=Z,35nm,0.8s						
BZS	**Buzias**	**154.63**	**333**	⇑P	**PKPdf**	07 50 51.6	+0.2
BZS	**Buzias**	**154.63**	**333**	⇑PKIKP	**PKPdf**	07 50 51.6	+0.2
RONA	**Rosalia, Austr**	**154.64**	**343**	*e*P	**PKPdf**	07 50 51.2	-0.3
	comp=Z,16nm,1.0s						
SGMF	**Saint Gilles**	**154.72**	**13**	*e*PKIKP	**PKPdf**	07 50 54.6	+3.1
SGMF				pmax	pmax		
	comp=Z,37nm,1.0s						
EDRB	**Edirne**	**154.80**	**321**	P	**PKPdf**	07 50 49.8	-2.0
LDF	**La Druitiere**	**154.81**	**9**	*e*PKIKP	**PKPdf**	07 50 54.1	+2.5
LDF				pmax	pmax		
	comp=Z,34nm,1.0s						
HERR	**Herculane**	**154.87**	**331**	⇑P	**PKPdf**	07 50 52.7	+0.9
STU	**Stuttgart**	**154.88**	**354**		**PKPdf**	07 50 51.6	-0.1
STU					**pPKPdf**	07 51 00.9	+0.1
STU	**Stuttgart**	**154.88**	**354**	*e*PKPdf	**PKPdf**	07 50 51.8	+0.2
STU				*e*PKPbc	**PKPbc**	07 50 60.0	-0.4
STU				*e*PKPab	**PKPab**	07 51 15.1	-0.5
QUIF	**Quistinic**	**154.91**	**14**	*e*PKIKP	**PKPdf**	07 50 53.5	+1.8
QUIF				pmax	pmax		
	comp=Z,35nm,1.2s						
KORT	**Korkueli**	**154.99**	**308**	*e*P	**PKPdf**	07 50 52.3	-0.1
MOA	**Molln**	**155.00**	**346**	*e*P	**PKPdf**	07 50 51.3	-0.6
	comp=Z,13nm,1.4s,SNR=7.4						
FUR	**Furstenfeldbru**	**155.24**	**351**	*e*PKPbc	PKPdf	07 51 01.9	+10
FUR				*e*PKPab	**PKPab**	07 51 16.2	-1.0
MDVR	**Moldovita**	**155.26**	**332**	⇑P	**PKPdf**	07 50 52.2	-0.2
ARSA	**Arzberg**	**155.26**	**344**	*e*P	**PKPdf**	07 50 51.3	-1.0
	comp=Z,10nm,1.0s,SNR=8.9						
BIOA	**Bad Ischl, Aus**	**155.28**	**347**	*e*P	**PKPdf**	07 50 51.5	-0.8
	comp=Z,30nm,1.6s,SNR=10						
BFO	**Black Forest**	**155.39**	**356**	*e*PKPdf	**PKPdf**	07 50 52.1	-0.3
BFO				*e*PKPbc	**pPKPdf**	07 51 01.9	+0.3
BFO				*e*PKPab	**PKPab**	07 51 17.0	-0.8
RJOB	**Jochberg**	**155.40**	**348**	*e*PKPdf	**PKPdf**	07 50 51.6	-0.9
RJOB				*e*PKPbc	**pPKPdf**	07 51 02.6	+0.9
RJOB				*e*PKPab	**PKPab**	07 51 17.9	-0.1
ELL	**Elmali**	**155.42**	**307**	*e*P	**PKPdf**	07 50 54.6	+1.6
KOVH	**Kovagotottos**	**155.55**	**339**	PKP	**PKPdf**	07 50 52.8	+0.1
ECH	**Echery**	**155.57**	**357**	PKP2	**PKPab**	07 51 17.8	-0.8
ECH	**Echery**	**155.57**	**357**	PKPab	**PKPab**	07 51 17.8	-0.8
KDZ	**Kurdzhali**	**155.69**	**322**	*e*P	**PKPdf**	07 50 51.0	-2.0
BLKB	**Belogradchik**	**155.72**	**329**	⇑P	**PKPdf**	07 50 52.4	-0.6
FRKS	**Fruska Gora**	**155.73**	**335**	⇑P	**PKPdf**	07 50 51.2	-0.8
PGB	**Panagyurishte**	**155.75**	**325**	*e*P	**PKPdf**	07 50 52.0	-1.1
PLD	**Plovdiv**	**155.78**	**324**	*e*P	**PKPdf**	07 50 52.0	-1.1
KOGS	**Kog**	**155.80**	**342**	*e*PKPdf	**PKPdf**	07 50 52.1	-0.8
KOGS				*e*PKPab	**PKPab**	07 51 19.1	-0.5
ALN	**Alexandroupoli**	**155.80**	**320**	P	**PKPdf**	07 50 51.4	-1.8
ALN	**Alexandroupoli**	**155.80**	**320**	PKP2	**PKPab**	07 51 20.9	+1.1
ALN	**Alexandroupoli**	**155.80**	**320**	PKPab	**PKPab**	07 51 20.9	+1.1
HAU	**Haudompre**	**155.81**	**359**	*e*PKIKP	**PKPdf**	07 50 53.7	+0.7
HAU				pmax	pmax		
	comp=Z,50nm,1.6s						
ENEZ	**Enez**	**155.84**	**319**	P	**PKPdf**	07 50 49.8	-3.4
UBR	**Ueberruh**	**155.87**	**353**	*e*PKPdf	**PKPdf**	07 50 51.8	-1.3
UBR				*e*PKPbc	**pPKPdf**	07 51 02.3	0.0
UBR				*e*PKPab	**PKPab**	07 51 19.4	-0.5
SOKA	**Soboth**	**155.91**	**344**	*e*P	**PKPdf**	07 50 52.2	-1.1
	comp=Z,20nm,1.4s,SNR=15						
KBA	**Koelnbreinsper**	**155.93**	**347**	*i* P	**PKPdf**	07 50 52.3	-1.0
	comp=Z,14nm,1.2s,SNR=10						
RDO	**Rodhopi**	**155.94**	**321**	P	**PKPdf**	07 50 52.9	-0.4
RETA	**Reutte**	**155.97**	**351**	*e*P	**PKPdf**	07 50 52.7	-0.6
	comp=Z,2.9nm,0.7s						
HINF	**Hinteralfeld**	**155.98**	**358**	*e*PKIKP	**PKPdf**	07 50 53.3	0.0
HINF				pmax	pmax		
	comp=Z,18nm,1.4s						
WATA	**Walderalm**	**156.00**	**350**	*e*P	**PKPdf**	07 50 52.6	-0.9
	comp=Z,12nm,1.3s						
RZN		**156.05**	**323**	*e*P	**PKPdf**	07 50 52.0	-1.7
WTTA	**Wattenberg**	**156.06**	**350**	*e*P	**PKPdf**	07 50 53.0	-0.6
	comp=Z,10nm,0.9s						
WTTA	**Wattenberg**	**156.06**	**350**	PKIKP	**PKPdf**	07 50 53.4	-0.2
MOTA	**Moosalm**	**156.06**	**351**	*i* P	**PKPdf**	07 50 52.9	-0.7
	comp=Z,11nm,0.8s						
SQTA	**Sankt Quirin**	**156.17**	**351**	*e*P	**PKPdf**	07 50 53.1	-0.5
	comp=Z,7.0nm,0.7s,SNR=6.4						
VTS	**Vitosha**	**156.19**	**326**	∥P	**PKPdf**	07 50 53.0	-0.8
VTS	**Vitosha**	**156.19**	**326**	∥PKIKP	**PKPdf**	07 50 53.1	-0.8
VTS	**Vitosha**	**156.19**	**326**	PKPdf	**PKPdf**	07 50 53.1	-0.8
VTS				PKPab	**PKPab**	07 51 23.7	+2.1
VTS	**Vitosha**	**156.19**	**326**	*e*P	**PKPdf**	07 50 52.0	-1.8
OBKA	**Obir**	**156.19**	**345**	*e*P	**PKPdf**	07 50 52.3	-1.4
	comp=Z,11nm,1.0s						
DAVA	**Damuels**	**156.28**	**353**	*e*P	**PKPdf**	07 50 53.2	-0.6
	comp=Z,4.3nm,0.9s						
MYKA	**Terra Mystica**	**156.29**	**346**	*e*P	**PKPdf**	07 50 52.7	-1.0
	comp=Z,16nm,1.3s,SNR=6.7						
ABTA	**Abfaltersbach**	**156.41**	**348**	*e*P	**PKPdf**	07 50 52.7	-1.2
	comp=Z,28nm,1.4s,SNR=15						
FETA	**Feichten**	**156.44**	**351**	*e*P	**PKPdf**	07 50 53.5	-0.5
	comp=Z,17nm,0.8s,SNR=14						
LOR	**Lormes**	**156.51**	**3**	*e*PKIKP	**PKPdf**	07 50 54.8	+0.9
LOR				pmax	pmax		
	comp=Z,23nm,1.2s						
LJU	**Ljubljana**	**156.63**	**344**	*e*PKPdf	**PKPdf**	07 50 53.8	-0.4
BLCB	**Balcova**	**156.64**	**314**	P	**PKPdf**	07 50 52.9	-1.4
MMB	**Musomiste**	**156.66**	**324**	*e*P	**PKPdf**	07 50 52.0	-2.3
SSF	**Saint Saulge**	**156.70**	**4**	*e*PKIKP	**PKPdf**	07 50 55.2	+1.0
SSF				pmax	pmax		
	comp=Z,12nm,1.0s						
THAS	**Thassos island**	**156.76**	**321**	P	**PKPdf**	07 50 54.4	0.0
DAVOX	**Davos/Dischmat**	**156.78**	**353**	PKP	**PKPdf**	07 50 54.0	-0.6
	comp=Z,11nm,0.9s,baz=239,slow=2.2,SNR=9.5						
DAVOX				PKPab	**PKPab**	07 51 23.9	-0.2
	comp=Z,5.7nm,0.5s,baz=343,slow=1.8,SNR=7.5						
DAVOX	**Davos/Dischmat**	**156.78**	**353**	PKIKP	**PKPdf**	07 50 54.0	-0.6
KKB	**Krupnik**	**156.81**	**325**	*e*P	**PKPdf**	07 50 54.0	-0.5
AVF	**Avril sur Loir**	**156.96**	**4**	*e*PKIKP	**PKPdf**	07 50 57.8	+3.3
AVF				pmax	pmax		
	comp=Z,10.0nm,1.1s						
DAT	**Datca**	**157.10**	**309**	P	**PKPdf**	07 50 52.9	-2.3
SMF	**Signal de Mont**	**157.13**	**3**	*e*PKIKP	**PKPdf**	07 50 57.8	+3.1
SMF				pmax	pmax		
	comp=Z,18nm,1.4s						
BODT	**Bodrum**	**157.13**	**310**	P	**PKPdf**	07 50 53.7	-1.4
TUE	**Stuetta**	**157.15**	**353**	PKPdf	**PKPdf**	07 50 54.8	-0.3
CTI	**Castel Tesino**	**157.24**	**349**	PKIKP	**PKPdf**	07 50 54.2	-0.8
CTI	**Castel Tesino**	**157.24**	**349**	PKPdf	**PKPdf**	07 50 54.2	-0.8
CHOS	**Chios island**	**157.28**	**315**	P	**PKPdf**	07 50 54.4	-0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.04**	**254**	*eP*	**Pg**	**07 53 19.8**	**-0.1**
	7.4nm,0.1s						
ZHN				*eS*	**Sg**	**07 53 21.4**	**+0.5**
	182nm,0.1s						
SATY	**Saty**	**0.13**	**205**	*eP*	**Pg**	**07 53 20.6**	**-0.5**
	26nm,0.1s						
SATY				*eS*	**Sg**	**07 53 23.1**	**-0.1**
	107nm,0.1s						
SATY	**Saty**	**0.13**	**205**	P	**Pg**	**07 53 20.6**	**-0.5**
	1µm,0.1s						
SATY				S	**Sg**	**07 53 23.1**	**-0.1**
	107nm,0.1s						
KPKS	**Kokpek**	**0.32**	**27**	*eP*	**Pg**	**07 53 24.2**	**-0.5**
	1.4nm,0.2s						
KPKS				*eS*	**Sg**	**07 53 29.1**	**+0.1**
	8.1nm,0.2s						
KURS	**Kuram**	**0.38**	**324**	*eP*	**Pg**	**07 53 25.3**	**-0.6**
	0.8nm,0.1s						
KURS				*eS*	**Sg**	**07 53 30.9**	**-0.1**
	0.9nm,0.3s						
UZB	**Uzynbulak**	**0.40**	**94**	*eP*	**Pg**	**07 53 25.8**	**-0.3**
	2.9nm,0.1s						
UZB				*eS*	**Sg**	**07 53 31.5**	**+0.1**
	9.6nm,0.1s						
UZB	**Uzynbulak**	**0.40**	**94**	P	**Pg**	**07 53 25.8**	**-0.3**
	2.9nm,0.1s						
UZB				S	**Sg**	**07 53 31.4**	**+0.1**
	9.6nm,0.1s						
PDGK	**Podgornoye**	**0.75**	**78**	⇑P	**Pg**	**07 53 32.7**	**-0.1**
	1.9nm,1.0s						
PDGK				⇑S	**Sg**	**07 53 42.5**	**-0.1**
	1.3nm,0.7s						
MDOK	**Medeo**	**1.05**	**270**	⇑P	**Pb**	**07 53 38.7**	**-0.3**
	4.1nm,1.1s						
MDOK				⇓S	**Sb**	**07 53 53.4**	**+0.4**
	1.4nm,0.6s						
TKM2	**Tokmak 2**	**2.13**	**264**	⇓Pg	**Pn**	**07 53 55.1**	**+0.6**
	3.5nm,1.1s						
TKM2				⇑Lg	Lg	07 54 25.0	
	1.4nm,0.8s						

*IDC **17** 07:57:11.3±1.6, 1°.05S×80°.71W, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/26, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=42.6km s-min=29.2km az=36.0*
*IGQ **17** 07:57:16±0.5, 0°.5±2°×8°.0W±°, h7km*
ISC 17 07:57:16.0±0.8, 0°.45S±0°.03×80°.30W±0°.05, h16km, n87,
σ1f23/86, mb3.5/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.21**	**26**	P	**Pb**	**07 57 22.0**	**+0.5**
JAMA				S	**Sb**	**07 57 26.0**	**+0.8**
FLF1	**Flavio Alfaro-**	**0.46**	**79**	P	**Pn**	**07 57 28.0**	**0.0**
APED	**Ecuador-Perden**	**0.57**	**25**	P	**Pb**	**07 57 27.0**	**-0.6**
APED				S	**Sn**	**07 57 37.0**	**-1.5**
MAG1	**Magdalena**	**0.64**	**54**	P	**Pn**	**07 57 31.0**	**+0.5**
AV18	**Acelerografo,**	**1.12**	**47**	P	**Pg**	**07 57 38.0**	**+0.4**
BV15	**Puerto Quito-O**	**1.23**	**61**	P	**Pn**	**07 57 38.0**	**-0.6**
AV21	**Acelerografo,**	**1.33**	**34**	S	**Sg**	**07 58 01.0**	**+1.8**
AV21				P		**07 57 41.0**	**-0.7**
AATC	**Ecuador-Atacam**	**1.37**	**18**	P	**Pb**	**07 57 41.0**	**-0.3**
APR2	**Miler**	**1.43**	**69**	P	**Pn**	**07 57 41.0**	**-0.4**
AMA1	**Acelerografo,**	**1.49**	**23**	P	**Pg**	**07 57 44.0**	**-0.7**
AES1	**Ecuador-Esmera**	**1.53**	**23**	P	**Pb**	**07 57 44.0**	**0.0**
ABAB	**Ecuador-Univer**	**1.56**	**150**	P	**Pb**	**07 57 45.0**	**+0.6**
AES2	**Ecuador-Puerto**	**1.57**	**24**	P	**Pb**	**07 57 44.0**	**-0.7**
ILLI	**Illinizas Sur**	**1.59**	**100**	P	**Pn**	**07 57 44.0**	**0.0**
HPAL	**Hacienda Las P**	**1.66**	**82**	P	**Pn**	**07 57 44.0**	**-0.8**
PAST	**Pastocalle**	**1.67**	**98**	P	**Pn**	**07 57 46.0**	**+0.9**
GGPT	**Toaza - Volcan**	**1.69**	**82**	P	**Pn**	**07 57 45.0**	**-0.3**
JUA2	**San Juan 2**	**1.71**	**82**	P	**Pn**	**07 57 46.0**	**+0.4**
PINO	**Pino**	**1.71**	**80**	P	**Pn**	**07 57 46.0**	**+0.2**
TERV	**Terraza Guagua**	**1.71**	**81**	P	**Pn**	**07 57 46.0**	**+0.3**
GGPC	**Guagua Pichinc**	**1.72**	**81**	P	**Pn**	**07 57 46.0**	**+0.1**
SRAM	**San Ramn-Vol**	**1.76**	**100**	P	**Pn**	**07 57 47.0**	**+0.8**
YANA	**Yana**	**1.76**	**79**	P	**Pn**	**07 57 46.0**	**-0.3**
CHSH	**Refugio Sur-Vo**	**1.77**	**126**	P	**Pb**	**07 57 48.0**	**-0.4**
CAMI	**Rancho Maria**	**1.81**	**97**	P	**Pb**	**07 57 49.0**	**0.0**
SUCR	**Mariscal Sucre**	**1.81**	**96**	P	**Pb**	**07 57 49.0**	**-0.1**
AMIL	**Milagro (Trans**	**1.82**	**157**	P	**Pb**	**07 57 49.0**	**+0.1**
SLOR	**San Lorenzo -**	**1.82**	**99**	P	**Pb**	**07 57 49.0**	**-0.3**
PORT	**Chimborazo Vol**	**1.83**	**123**	P	**Pg**	**07 57 51.0**	**-0.2**
NAS2	**Nasa**	**1.84**	**96**	P	**Pb**	**07 57 49.0**	**-0.6**
BRRN	**Barrancas-Volc**	**1.85**	**100**	P	**Pn**	**07 57 49.0**	**+1.4**
PULU	**Pululahua**	**1.85**	**75**	P	**Pn**	**07 57 48.0**	**+0.5**
BMOR	**Cotopaxi Volca**	**1.86**	**99**	P	**Pn**	**07 57 49.0**	**+1.3**
TOMA	**Boca Toma-Volc**	**1.86**	**92**	P	**Pn**	**07 57 49.0**	**+1.3**
TAMH	**Tambohuasha Ch**	**1.87**	**126**	P	**Pn**	**07 57 49.0**	**+1.2**
PITA	**Cotopaxi Volc**	**1.87**	**93**	P	**Pn**	**07 57 49.0**	**+1.2**
BREF	**Cotopaxi Volca**	**1.87**	**97**	P	**Pb**	**07 57 50.0**	**-0.2**
BVC2	**Cotopaxi Volca**	**1.90**	**96**	P	**Pb**	**07 57 50.0**	**-0.6**
VC1	**Cotopaxi 1**	**1.90**	**96**	P	**Pb**	**07 57 50.0**	**-0.7**
BTAM	**Cotopaxi Volca**	**1.91**	**97**	P	**Pn**	**07 57 50.0**	**+1.5**
VCES	**Cotopaxi**	**1.93**	**100**	P	**Pn**	**07 57 50.0**	**+1.3**
TAMB	**Tambo**	**1.94**	**97**	P	**Pb**	**07 57 51.0**	**-0.4**
IGUA	**Igualata**	**1.95**	**122**	P	**Pb**	**07 57 51.0**	**-0.6**
CUSE	**Cuicocha Este**	**2.04**	**68**	P	**Pn**	**07 57 50.0**	**-0.1**
ANTG	**Antisana-Guama**	**2.04**	**92**	P	**Pn**	**07 57 52.0**	**+1.7**
BBIL	**Ulba Tungurahu**	**2.06**	**119**	P	**Pn**	**07 57 52.0**	**+1.6**
JUI6	**Juive**	**2.07**	**118**	P	**Pn**	**07 57 52.0**	**+1.6**
ANTM	**Antisana-La Mi**	**2.08**	**92**	P	**Pn**	**07 57 52.0**	**+1.3**
CUIC	**Cuicocha-Domo**	**2.08**	**69**	P	**Pn**	**07 57 51.0**	**+0.4**
CUSW	**Cuicocha Oeste**	**2.08**	**69**	P	**Pn**	**07 57 51.0**	**+0.4**
POND	**Pondoa**	**2.08**	**118**	P	**Pn**	**07 57 52.0**	**+1.4**
BMAS	**Trigal station**	**2.10**	**120**	P	**Pb**	**07 57 53.0**	**-0.9**
RETU	**Refugio**	**2.10**	**118**	P	**Pb**	**07 57 53.0**	**-1.1**
PIAT	**Ana Tenorio**	**2.11**	**105**	P	**Pb**	**07 57 53.0**	**-1.1**
COTA	**Cotacachi**	**2.11**	**68**	P	**Pb**	**07 57 53.0**	**-1.2**
BRUN	**Tungurahua Vol**	**2.12**	**117**	P	**Pn**	**07 57 52.0**	**+0.9**
ARRY	**Arrayan**	**2.12**	**120**	P	**Pn**	**07 57 53.0**	**+1.8**
ANTS	**Antisana-Sarah**	**2.13**	**91**	P	**Pn**	**07 57 53.0**	**+1.5**
ANTI	**Antisana**	**2.14**	**90**	P	**Pn**	**07 57 53.0**	**+1.4**
BPAT	**Tungurahua Vol**	**2.14**	**119**	P	**Pn**	**07 57 53.0**	**+1.5**
MORR	**Playas El Morr**	**2.18**	**181**	P	**Pn**	**07 57 52.0**	**+0.4**
URCU	**Urcuqui**	**2.22**	**67**	P	**Pn**	**07 57 54.0**	**+1.4**
COHC	**Cochancay**	**2.26**	**153**	P	**Pn**	**07 57 54.0**	**+1.3**
AIB2	**Ibarra (Univer**	**2.33**	**70**	P	**Pn**	**07 57 56.0**	**+2.0**
CAYR	**Refugio Cayamb**	**2.34**	**79**	P	**Pb**	**07 57 57.0**	**-1.2**
ANGU	**Angureal**	**2.34**	**78**	P	**Pb**	**07 57 58.0**	**-0.2**
YAHU	**Yahuarcocha**	**2.37**	**70**	P	**Pb**	**07 57 57.0**	**-1.6**
ISPG	**Isla Puna-Puer**	**2.51**	**177**	P	**Pb**	**07 57 58.0**	**-2.7**
ARDO	**Archidona, Ten**	**2.56**	**102**	P	**Pb**	**07 58 01.0**	**-0.5**
LNGL	**El Angel-Carch**	**2.58**	**63**	P	**Pn**	**07 58 00.0**	**+2.4**
CHMA	**Chilma**	**2.59**	**60**	P	**Pn**	**07 57 59.0**	**+1.5**
ECEN	**Cerro Negro**	**2.65**	**61**	P	**Pn**	**07 58 01.0**	**+2.4**
CHL1	**Volcn Chiles**	**2.66**	**62**	P	**Pn**	**07 58 01.0**	**+2.3**
CHL2	**Volcn Chiles**	**2.68**	**62**	P	**Pn**	**07 58 01.0**	**+1.9**
BONI	**La Bonita**	**2.91**	**72**	P	**Pb**	**07 58 06.0**	**-1.7**
CASC	**Dorado de Casc**	**3.02**	**79**	P	**Pb**	**07 58 08.0**	**-1.4**
BOSC	**San Juan Bosco**	**3.23**	**146**	P	**Pb**	**07 58 12.0**	**-1.2**
MCRA	**Macar, Loja**	**3.91**	**175**	P	**Pn**	**07 58 16.0**	**+0.5**
ZUMB	**Zumba**	**4.53**	**165**	P	**Pn**	**07 58 28.0**	**+3.8**
ROSC	**El Rosal**	**7.95**	**49**	Pn	Pn	07 59 19.6	+8.2
	2.1nm,0.3s,baz=11,slow=6.7,SNR=4.9						
ROSC				Sn	Sb	08 00 58.5	-10
	0.3nm,0.3s,baz=182,slow=22,SNR=1.8						
SIV	**San Ignacio**	**24.46**	**130**	P	**P**	**08 02 32.0**	**-2.5**
	0.6nm,0.6s,baz=168,slow=18,SNR=2.3						
NVAR	**Mina Array Bea**	**52.12**	**322**	P	**P**	**08 06 26.9**	**+1.0**
	0.6nm,0.9s,baz=148,slow=5.2,SNR=4.4						
YKA	**Yellowknife Ar**	**67.88**	**344**	P	**P**	**08 08 12.7**	**-0.7**
	0.1nm,0.6s,baz=142,slow=6.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**82.30**	**77**	P	**P**	**08 09 38.1**	**+0.5**
	0.5nm,0.7s,baz=284,slow=5.8,SNR=4.7						
H11S2	**WAKE ISLAND Hyl**	**11.91**	**290**	T	T	10 16 56.9	
	baz=86						
H11S1	**WAKE ISLAND Hyl**	**11.92**	**290**	T	T	10 16 57.0	
	baz=86						
H11S3	**WAKE ISLAND Hyl**	**11.93**	**290**	T	T	10 16 59.4	
	baz=86						

*IDC **17** 08:13:36.4±2.5, 8°.64S×116°.12E, h108km±26km, mb3.3/4, mb1 3.6/7, mb1mx3.2/43, mbtmp3.9/7, Error ellipse: s-maj=35.1km s-min=17.8km az=44.0*
ISC 17 08:13:36.6±0.9, 8°.6S±0°.1×116°.2E±0°.1, h103km, n8,
σ0f99/10, mb3.5/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.01**	**46**	P	**Pn**	**08 14 50.2**	**+0.7**
	1.0nm,0.3s,baz=233,slow=15,SNR=4.6						
BATI	**Baumata**	**7.59**	**103**	P	**Pn**	**08 15 24.5**	**-0.1**
	3.8nm,0.3s,baz=284,slow=11,SNR=2.2						
BATI				S	Sn	08 16 37.7	-11
	3.8nm,0.3s,baz=319,slow=20,SNR=1.9						
LEM	**Lembang**	**8.63**	**281**	P	**Pn**	**08 15 39.1**	**+0.2**
	9.3nm,0.3s,baz=50,slow=18,SNR=1.7						
FITZ	**Fitzroy Crossi**	**13.24**	**137**	P	**P**	**08 16 47.9**	**+1.4**
FITZ				S	**Sn**	**08 19 05.8**	**-0.4**
	0.2nm,0.3s,baz=307,slow=18,SNR=2.1						
WRA	**Warramunga Arr**	**20.93**	**125**	P	**P**	**08 18 09.4**	**-1.7**
	0.5nm,0.4s,baz=294,slow=12,SNR=16						
WRA				S	**S**	**08 21 59.5**	**+0.7**
	0.2nm,0.6s,baz=314,slow=23,SNR=1.6						
ASAR	**Alice Springs**	**22.69**	**134**	P	**P**	**08 18 29.7**	**-0.1**
	0.9nm,0.3s,baz=308,slow=9.2,SNR=24						
SONM	**Songino Array**	**56.80**	**352**	P	**P**	**08 23 09.3**	**-0.9**
	0.7nm,0.5s,baz=156,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**62.81**	**335**	P	**P**	**08 23 51.2**	**-0.1**
	0.2nm,0.3s,baz=142,slow=6.2,SNR=5.3						

*IDC **17** 08:28:50.5±0.8, 49°.53S×125°.98E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.0/36, mbtmp4.1/9, Error ellipse: s-maj=42.0km s-min=15.7km az=95.0*
*NEIC **17** 08:28:52.5±1.8, 49°.6S±0°.1×126°.1E±0°.1, h9km±5km, mb4.3/19, Error ellipse: s-maj=17.6km s-min=9.4km az=156.0*
ISC 17 08:28:52.2±0.6, 49°.53S±0°.08×126°.1E±0°.1, h10km, n38,
σ1f63/34, mb4.2/13, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**16.09**	**74**	Pn	**Pn**	**08 32 38.4**	**+0.1**
H01W1	**Cape Leeuwin H**	**17.05**	**325**	T	T	08 50 17.9	
	baz=151,slow=74,SNR=59						
H01W2	**Cape Leeuwin H**	**17.06**	**325**	T	T	08 50 31.2	
	baz=151,slow=74,SNR=52						
H01W3	**Cape Leeuwin H**	**17.07**	**325**	T	T	08 50 18.4	
	baz=151,slow=74,SNR=48						
NWAO	**Narrogin (SRO)**	**17.85**	**335**		**Pn**	**08 32 58.8**	**-1.7**
NWAO				IAmb	IAmb	08 33 14.6	
	comp=Z,26nm,1.1s						
BBOO	**Buckleboo**	**18.28**	**28**	P	**Pn**	**08 33 05.8**	**-0.1**
BBOO				IAmb	IAmb	08 33 17.2	
	comp=Z,30nm,1.4s						
TOO	**Toolangi**	**18.39**	**57**	P	**P**	**08 33 03.9**	**-3.3**
TOO				IAmb	IAmb	08 33 11.7	
	comp=Z,22nm,1.1s						
FORT	**Forrest**	**18.79**	**5**	P	**P**	**08 33 09.5**	**-2.0**
FORT				IAmb	IAmb	08 33 24.8	
	comp=Z,21nm,0.9s						
STKA	**Stephens Creek**	**21.12**	**39**	P	**P**	**08 33 37.2**	**+0.2**
	comp=Z,6.2nm,1.0s,baz=208,slow=8.5,SNR=7.2						
STKA	**Stephens Creek**	**21.12**	**39**	P	**P**	**08 33 37.1**	**+0.1**
MORW	**Morawa**	**21.82**	**336**	P	**P**	**08 33 45.1**	**+0.6**
ASAR	**Alice Springs**	**26.53**	**16**	P	**P**	**08 34 29.9**	**-0.1**
	comp=Z,5.4nm,0.9s,baz=192,slow=8.6,SNR=33						
ASAR				PcP	**PcP**	**08 37 59.0**	**+4.4**
	comp=Z,0.2nm,0.7s,baz=186,slow=1.9,SNR=1.6						
ASAR	**Alice Springs**	**26.53**	**16**	P	**P**	**08 34 31.3**	**+1.3**
AS31	**Alice Springs**	**26.54**	**16**	P	**P**	**08 34 30.4**	**+0.3**
WRA	**Warramunga Arr**	**30.25**	**16**	P	**P**	**08 35 02.5**	**-0.6**
	comp=Z,1.6nm,1.0s,baz=190,slow=11,SNR=7.8						
WRA				PcP	**PcP**	**08 38 09.3**	**+5.6**
	comp=Z,0.3nm,0.7s,baz=192,slow=2.9,SNR=1.9						
WRA	**Warramunga Arr**	**30.25**	**16**	P	**P**	**08 35 03.6**	**+0.5**
WB2	**Warramunga Arr**	**30.25**	**16**	P	**P**	**08 35 04.0**	**+0.9**
WB2				IAmb	IAmb	08 35 06.3	
	comp=Z,6.7nm,1.2s						
WR0	**Warramunga Arr**	**30.27**	**16**	P	**P**	**08 35 03.8**	**+0.5**
WR0				IAmb	IAmb	08 35 06.2	
	comp=Z,7.6nm,1.4s						
WB0	**Warramunga Arr**	**30.43**	**16**	P	**P**	**08 35 05.8**	**+1.0**
WB0				IAmb	IAmb	08 35 18.3	
	comp=Z,3.1nm,1.0s						
VNDA	**Vanda**	**31.20**	**166**	P	**P**	**08 35 10.1**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=314,slow=9.5,SNR=9.2						
VNDA	**Vanda**	**31.20**	**166**	P	**P**	**08 35 10.4**	**-0.6**
VNDA				IAmb	IAmb	08 35 12.8	
	comp=Z,2.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**31.35**	**359**	P	**P**	**08 35 12.6**	**-0.3**
	comp=Z,1.1nm,0.9s						
SBA	**Scott Base**	**32.22**	**165**	P	**P**	**08 35 20.4**	**+0.4**
COEN	**Coen**	**38.14**	**28**	P	**P**	**08 36 11.8**	**+0.3**
QSPA	**South Pole Qui**	**40.59**	**180**	P	**P**	**08 36 31.8**	**0.0**
	comp=Z,3.9nm,1.1s,baz=317,slow=2.5,SNR=6.0						
QSPA	**South Pole Qui**	**40.59**	**180**	P	**P**	**08 36 30.9**	**-0.9**
QSPA				IAmb	IAmb	08 36 40.8	
	comp=Z,9.6nm,1.4s						
BELA	**Belgrano 2**	**52.31**	**185**	P	**P**	**08 38 02.7**	**-0.6**
BELA				IAmb	IAmb	08 38 28.4	
	comp=Z,8.0nm,1.4s						
SNAA	**Sanae**	**53.84**	**198**	P	**P**	**08 38 14.3**	**-0.4**
	comp=Z,4.5nm,0.9s,baz=146,slow=7.5,SNR=8.8						
SNAA	**Sanae**	**53.84**	**198**	P	**P**	**08 38 13.8**	**-1.0**
SNAA				IAmb	IAmb	08 38 19.0	
	comp=Z,5.3nm,1.0s						
PSI	**Prapat**	**57.16**	**327**	P	**P**	**08 38 37.5**	**-1.8**
	comp=Z,1.9nm,0.4s,baz=185,slow=12,SNR=1.7						
H08S2	**Diego Garcia H**	**61.08**	**294**	T	T	09 45 08.5	
	baz=144,slow=76						
H08S1	**Diego Garcia H**	**61.09**	**294**	T	T	09 45 07.8	
	baz=144						
H08S3	**Diego Garcia H**	**61.10**	**294**	T	T	09 45 12.3	
	baz=144,slow=76						
CMAR	**Chiang Mai Arr**	**71.84**	**333**	P	**P**	**08 40 15.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=182,slow=5.4,SNR=1.8						
SHL	**Shillong**	**80.72**	**329**	P	**P**	**08 41 06.4**	**+0.8**
ESDC	**Sonseca Array**	**143.70**	**274**	PKP	**PKPdf**	**08 48 28.0**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=90,slow=1.3,SNR=2.9						
YKA	**Yellowknife Ar**	**145.08**	**45**	PKPbc	**PKPdf**	**08 48 28.6**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=267,slow=3.7,SNR=19						
YKA	**Yellowknife Ar**	**145.08**	**45**		**PKPdf**	**08 48 29.0**	**+0.6**

*IDC **17** 08:29:26.1±1.5, 32°.68N×130°.53E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.1/51, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=23.6km s-min=10.2km az=129.0*
*JMA **17** 08:29:27.7, 32°.74N×130°.59E, h12km±1km, M3.6*
JMA Felt II J1.
ISC 17 08:29:27.9±0.8, 32°.72N±0°.06×130°.6E±0°.1, h11km, n8,
σ0f89/12, mb3.3/3, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.24**	**133**	⇑P	**Pg**	**08 29 33.3**	**+0.4**
JIU3				S	**Sg**	**08 29 37.2**	**+0.9**
JTA	**Tamana**	**0.25**	**347**	⇑P	**Pg**	**08 29 32.7**	**-0.4**
JTA				S	**Sg**	**08 29 36.0**	**-0.6**
JNU	**Nakatsue**	**0.47**	**30**	Pg	**Pg**	**08 29 36.7**	**-0.3**
	255nm,0.3s,baz=271,slow=6.3,SNR=57						
JNU				Lg	Lg	08 29 43.1	
	727nm,0.3s,baz=151,slow=19,SNR=29						
JTZ	**Takazaki**	**0.91**	**153**	P	**Pb**	**08 29 45.5**	**-0.2**
JTZ				S	**Sb**	**08 29 58.0**	**+0.2**
KSRS	**Korea Array**	**5.21**	**336**	Pn	**Pn**	**08 30 45.4**	**-0.4**
	0.2nm,0.3s,baz=153,slow=14,SNR=2.1						
KSRS				Pg	**Pb**	**08 31 00.8**	**+1.9**
	1.3nm,0.3s,baz=151,slow=17,SNR=12						
KSRS				Lg	Lg	08 32 10.6	
	1.2nm,0.3s,baz=159,slow=32,SNR=4.5						
MKAR	**Makanchi Array**	**39.10**	**306**	P	**P**	**08 36 55.8**	**+0.7**
	0.3nm,0.6s,baz=103,slow=6.4,SNR=2.5						
WRA	**Warramunga Arr**	**52.48**	**176**	P	**P**	**08 38 39.8**	**-1.1**
	0.3nm,0.8s,baz=356,slow=7.9,SNR=2.0						
FINES	**FINESS Array B**	**68.28**	**330**	P	**P**	**08 40 28.1**	**-0.3**
	1.0nm,0.6s,baz=72,slow=8.2,SNR=5.6						

*CNRM **17** 08:36:46.8, 35°.43N×3°.75W, h21km, ml2.8*
*SFS **17** 08:36:48.4, 35°.57N×4°.14W, h1km, ML2.5, ALBORAN SUR*
*INMG **17** 08:36:49.9±1.5, 35°.42N×3°.92W, h32km±16km, ML2.0, Error ellipse: s-maj=7.1km s-min=6.4km az=143.0*
ISC 17 08:36:46.3±1.1, 35°.48N±0°.04×3°.80W±0°.03, h24km±10km,
n29, σ2f00/44, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**203**	P	**Pb**	**08 36 52.7**	**-0.3**
PALE				S	**Sb**	**08 36 57.1**	**-0.5**
PVLZ	**Peæn de**	**0.51**	**234**	P	**Pb**	**08 36 56.8**	**+0.1**
PVLZ				S	**Sb**	**08 37 04.0**	**+0.4**
GOG	**Mont Gurugu**	**0.71**	**111**	P	**Pb**	**08 37 00.4**	**+0.4**
GOG				S	**Sb**	**08 37 08.0**	**-1.4**
SMIR	**Smir Dam**	**1.30**	**280**	P	**Pn**	**08 37 08.8**	**-0.3**
CHEFC	**Chefchaouen**	**1.31**	**254**	P	**Pb**	**08 37 11.5**	**+1.1**
TAF	**Taforalt**	**1.31**	**120**	P	**Pn**	**08 37 10.1**	**+0.8**
CEU	**Ceuta**	**1.35**	**289**	P	**Pn**	**08 37 07.0**	**-2.6**
CEU				S	**Sn**	**08 37 21.8**	**-5.0**
EMAL	**Malaga-Limoner**	**1.38**	**339**	P	**Pn**	**08 37 12.0**	**+1.9**
EMAL				S	**Sn**	**08 37 27.7**	**0.0**
JBK	**JBK**	**1.52**	**138**	P	**Pn**	**08 37 11.6**	**-0.7**
JBK				S	**Sn**	**08 37 29.5**	**-2.0**
LCRM	**LCR**	**1.99**	**206**	P	**Pn**	**08 37 21.2**	**+2.5**
CZD	**Col de Zad**	**2.65**	**203**	P	**Pn**	**08 37 29.8**	**+2.0**
MD31	**MD31**	**2.72**	**197**	P	**Pn**	**08 37 30.3**	**+1.7**
MD31				S	**Sn**	**08 38 01.3**	**+0.4**
MDT	**Midelt**	**2.74**	**194**	P	**Pn**	**08 37 30.3**	**+1.4**
PVAQ	**Vaqueiros**	**3.70**	**303**	*eP*	**Pn**	**08 37 43.8**	**+1.8**
PVAQ				*eS*	**Sn**	**08 38 22.3**	**-2.5**
PVAQ				A	A	08 38 25.9	
	3.0nm,0.6s						
PVAQ	**Vaqueiros**	**3.70**	**303**	P	**Pn**	**08 37 43.5**	**+1.5**
PBAR	**Barrancos**	**3.74**	**317**	*eP*	**Pn**	**08 37 44.4**	**+1.8**
PBAR				*eS*	**Sn**	**08 38 25.4**	**-0.5**
PBAR				A	A	08 38 37.8	
	1.2nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.77**	**299**	*eP*	**Pn**	**08 37 44.2**	**+1.2**
PBDV				*eS*	**Sn**	**08 38 24.7**	**-2.0**
PBDV				A	A	08 38 49.5	
	2.9nm,0.5s						
PCVE	**Castro Verde**	**4.03**	**303**	*eP*	**Pn**	**08 37 48.0**	**+1.4**
PCVE				*eS*	**Sn**	**08 38 32.2**	**-0.9**
PCVE				A	A	08 38 35.7	
	1.5nm,0.6s						
PFVI	**Vila Bisbo**	**4.38**	**294**	*eP*	**Pn**	**08 37 53.2**	**+1.8**
PFVI				*eS*	**Sn**	**08 38 39.8**	**-1.9**
PFVI				A	A	08 38 54.2	
	4.6nm,0.7s						
PFVI	**Vila Bisbo**	**4.38**	**294**	P	**Pn**	**08 37 52.9**	**+1.5**
PTEO	**Sao Teotonio**	**4.47**	**299**	*eP*	**Pn**	**08 37 50.8**	**-1.8**
PESTR	**Estremoz**	**4.54**	**319**	*eP*	**Pn**	**08 37 53.0**	**-0.6**
PESTR				*eS*	**Sn**	**08 38 43.0**	**-2.6**
PESTR				A	A	08 39 01.8	
	2.0nm,0.7s						
EVO	**Evora**	**4.54**	**313**	*eP*	**Pn**	**08 37 56.3**	**+2.7**
EVO				*eS*	**Sn**	**08 38 43.6**	**-2.1**
EVO				A	A	08 38 58.9	
	1.4nm,0.4s						
PNCL	**Nicolau / Gran**	**4.62**	**306**	*eP*	**Pn**	**08 37 56.9**	**+2.3**
PNCL				*eS*	**Sn**	**08 38 46.4**	**-1.1**
PNCL				A	A	08 38 52.4	
	1.5nm,0.6s						
PMRV	**Marv??o**	**4.87**	**325**	*eP*	**Pn**	**08 38 00.1**	**+2.0**
PMRV				*eS*	Sn	08 38 45.4	-8.4
PMRV				A	A	08 39 04.8	
	1.2nm,0.9s						
PMTG	**Montargil**	**5.03**	**317**	*eP*	**Pn**	**08 38 04.1**	**+3.8**
OUZM	**OUZ**	**5.18**	**209**	P	**Pn**	**08 38 03.8**	**+1.2**
PACT	**Alcochete**	**5.19**	**311**	*eP*	**Pn**	**08 38 05.9**	**+3.4**
PSBE	**So Bento**	**5.66**	**317**	*eP*	**Pn**	**08 38 11.8**	**+2.8**

*NAO **17** 08:45:01.1±2.5, 64°.91N×5°.34E, ML3.1*
*BER **17** 08:45:03.8±2.6, 64°.94N×4°.78E, h23km±12km, ML2.3, ML3.1(NAO), Confirmed Earthquake*
*DNK **17** 08:45:03.3±0.6, 64°.97N×5°.50E, h0km, ML2.5(UPP), Suspected explosion*
*IDC **17** 08:45:03.3±4.0, 64°.99N×5°.62E, h0km, mb1 3.1/3, mb1

N2SV				IAML			08 46 56.6	
	comp=Z,14nm,0.2s							
NBB28	**Valnes**	**4.41**	**55**	*eP*	**Pn**	**08 46 08.8**	**+2.8**
NBB28				*eS*	**Sn**	**08 46 56.4**	**-1.3**
NBB28				IAML		08 46 58.3	
	comp=Z,33nm,0.2s						
NC204	**NORSAR Array S**	**4.48**	**143**	*eP*	**Pn**	**08 46 10.0**	**+3.0**
NC204				*eS*	**Sn**	**08 46 59.9**	**+0.3**
ASK	**Askoy**	**4.48**	**180**	*eP*	**Pn**	**08 46 08.3**	**+1.3**
ASK				*eS*	**Sn**	**08 46 55.5**	**-4.2**
ASK				IAML		08 46 56.6	
	comp=Z,11nm,0.9s						
NOD	**Norderasen**	**4.50**	**105**	*eP*	Pn	08 46 11.4	+4.1
NOD				*eS*	**Sn**	**08 47 00.6**	**+0.5**
NOD	**Norderasen**	**4.50**	**105**	P	Pn	08 46 11.6	+4.2
NOD				S	**Sn**	**08 47 00.9**	**+0.9**
NOD	**Norderasen**	**4.50**	**105**	*eP*	Pn	08 46 11.6	+4.2
NOD				*eS*	**Sn**	**08 47 00.9**	**+0.9**
SKAR	**Skarslia**	**4.52**	**160**	*eP*	**Pn**	**08 46 09.9**	**+2.3**
SKAR				*eS*	**Sn**	**08 46 57.8**	**-2.8**
NBB08	**Skaug oppvekst**	**4.55**	**53**	*eS*	**Sn**	**08 47 00.8**	**-0.6**
BER	**Bergen**	**4.58**	**179**	*eS*	**Sn**	**08 46 57.8**	**-4.3**
BER				IAML		08 47 01.6	
	comp=Z,6.3nm,0.4s						
LOF	**Lofoten**	**4.63**	**43**	*eP*	**Pn**	**08 46 10.6**	**+1.6**
LOF				*eS*	**Sn**	**08 46 59.5**	**-3.7**
LOF				IAML		08 47 04.0	
	comp=Z,10nm,0.4s						
NB2	**NORSAR Subarra**	**4.79**	**142**	Pn	**Pn**	**08 46 14.6**	**+3.1**
	baz=322,slow=14						
NB2				Sn	**Sn**	**08 47 06.4**	**-1.0**
	baz=316,slow=22						
NB2	**NORSAR Subarra**	**4.79**	**142**	Pn	**Pn**	**08 46 14.6**	**+3.1**
	baz=322,slow=14						
NB2				Sn	**Sn**	**08 47 06.4**	**-1.0**
	baz=316,slow=22						
NOA	**NORSAR Array B**	**4.79**	**142**	Pn	**Pn**	**08 46 14.6**	**+3.1**
	comp=Z,0.0nm,0.3s,baz=330,slow=13,SNR=2.2						
NOA				Sn	**Sn**	**08 47 07.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=274,slow=19,SNR=3.3						
N2ST	**Straumen**	**4.87**	**56**	*eS*	**Sn**	**08 47 08.6**	**-0.6**
N2ST				IAML		08 47 14.6	
	comp=Z,45nm,0.3s						
STEI	**Steigen**	**5.03**	**49**	*eP*	**Pn**	**08 46 16.8**	**+2.3**
STEI				*eS*	**Sn**	**08 47 10.7**	**-2.3**
STEI				IAML		08 47 16.1	
	comp=Z,4.5nm,0.2s						
ODD1	**Odda**	**5.10**	**172**	*eP*	**Pn**	**08 46 17.9**	**+2.3**
ODD1				*eS*	**Sn**	**08 47 11.5**	**-3.5**
ODD1				IAML		08 47 18.5	
	comp=Z,3.8nm,1.1s						
NRA0	**NORESS Array S**	**5.14**	**142**	Pn	**Pn**	**08 46 17.9**	**+1.8**
	baz=323,slow=14						
NRA0				Sn	**Sn**	**08 47 13.9**	**-1.9**
	baz=322,slow=28						
NRA0	**NORESS Array S**	**5.14**	**142**	Pn	**Pn**	**08 46 17.9**	**+1.8**
	baz=323,slow=14						
NRA0				Sn	**Sn**	**08 47 13.9**	**-1.9**
	baz=322,slow=28						
SOLU	**Sollefteaa**	**5.57**	**102**	P	**Pn**	**08 46 25.4**	**+3.4**
SOLU				S	**Sn**	**08 47 25.6**	**-0.8**
SOLU	**Sollefteaa**	**5.57**	**102**	P	**Pn**	**08 46 25.4**	**+3.4**
SOLU				S	**Sn**	**08 47 25.6**	**-0.8**
SOLU	**Sollefteaa**	**5.57**	**102**	*eP*	**Pn**	**08 46 25.4**	**+3.4**
SOLU				*eS*	**Sn**	**08 47 25.6**	**-0.8**
BLS5	**Blasjo**	**5.58**	**173**	*eP*	**Pn**	**08 46 24.1**	**+1.9**
BLS5				*eS*	**Sn**	**08 47 23.2**	**-3.5**
LRW	**Lerwick**	**5.65**	**214**	*eP*	**Pn**	**08 46 24.7**	**+1.6**
LRW				*eS*	**Sn**	**08 47 22.3**	**-6.0**
LRW				IAML		08 47 30.9	
	comp=Z,4.4nm,0.5s						
KONO	**Kongsberg**	**5.71**	**157**	*eP*	**Pn**	**08 46 27.0**	**+3.1**
KONO				*eS*	**Sn**	**08 47 27.0**	**-2.7**
KMY	**Karmoy**	**5.76**	**180**	*eP*	**Pn**	**08 46 25.5**	**+0.9**
KMY				*eS*	**Sn**	**08 47 25.8**	**-5.3**
KMY				IAML		08 47 38.3	
	comp=Z,6.9nm,0.7s						
HASU	**Hassela**	**5.83**	**113**	P	**Pn**	**08 46 29.1**	**+3.5**
HASU	**Hassela**	**5.83**	**113**	P	**Pn**	**08 46 29.1**	**+3.5**
HASU	**Hassela**	**5.83**	**113**	*eP*	**Pn**	**08 46 29.1**	**+3.5**
BREU	**Bredtraesk**	**5.91**	**94**	P	**Pn**	**08 46 29.6**	**+3.0**
BREU	**Bredtraesk**	**5.91**	**94**	P	**Pn**	**08 46 29.6**	**+3.0**
BREU	**Bredtraesk**	**5.91**	**94**	*eP*	**Pn**	**08 46 29.6**	**+3.0**
SALU	**Saltoluokta**	**5.93**	**60**	P	**Pn**	**08 46 30.7**	**+3.7**
SALU	**Saltoluokta**	**5.93**	**60**	*eP*	**Pn**	**08 46 30.4**	**+3.4**
SALU				*eS*	**Sn**	**08 47 33.9**	**-1.4**
SALU	**Saltoluokta**	**5.93**	**60**	P	**Pn**	**08 46 30.7**	**+3.7**
SALU	**Saltoluokta**	**5.93**	**60**	*eP*	**Pn**	**08 46 30.7**	**+3.7**
ROTU	**Roteberg**	**5.98**	**121**	P	**Pn**	**08 46 31.5**	**+3.9**
ROTU	**Roteberg**	**5.98**	**121**	P	**Pn**	**08 46 31.5**	**+3.9**
ROTU	**Roteberg**	**5.98**	**121**	*eP*	**Pn**	**08 46 31.5**	**+3.9**
HEMU	**Hemsoen**	**6.14**	**106**	P	**Pn**	**08 46 33.0**	**+3.3**
HEMU	**Hemsoen**	**6.14**	**106**	P	**Pn**	**08 46 33.0**	**+3.3**
HEMU	**Hemsoen**	**6.14**	**106**	*eP*	**Pn**	**08 46 33.0**	**+3.3**
SVAU	**Svanoeiden**	**6.19**	**88**	P	**Pn**	**08 46 33.6**	**+3.1**
SVAU	**Svanoeiden**	**6.19**	**88**	P	**Pn**	**08 46 33.6**	**+3.1**
SVAU	**Svanoeiden**	**6.19**	**88**	*eP*	**Pn**	**08 46 33.6**	**+3.1**
LILU	**Lilltraesk**	**6.21**	**80**	P	**Pn**	**08 46 33.7**	**+3.0**
LILU	**Lilltraesk**	**6.21**	**80**	P	**Pn**	**08 46 33.7**	**+3.0**
LILU	**Lilltraesk**	**6.21**	**80**	*eP*	**Pn**	**08 46 33.7**	**+3.0**
HUSU	**Husum**	**6.36**	**98**	P	**Pn**	**08 46 36.3**	**+3.5**
HUSU	**Husum**	**6.36**	**98**	P	**Pn**	**08 46 36.3**	**+3.5**
HUSU	**Husum**	**6.36**	**98**	*eP*	**Pn**	**08 46 36.3**	**+3.5**
ODEU	**Stanfors**	**6.69**	**88**	P	**Pn**	**08 46 40.5**	**+3.1**
ODEU	**Stanfors**	**6.69**	**88**	P	**Pn**	**08 46 40.5**	**+3.1**
ODEU	**Stanfors**	**6.69**	**88**	*eP*	**Pn**	**08 46 40.5**	**+3.1**
TRO	**Tromso**	**7.09**	**42**	*eS*	**Sn**	**08 47 59.9**	**-3.9**
TRO				IAML		08 48 20.5	
	comp=Z,1.7nm,0.6s						
KIF	**Kilpisjarvi**	**7.35**	**49**	Pn	**Pn**	**08 46 50.2**	**+3.9**
KIF				Sn	**Sn**	**08 48 09.1**	**-0.9**
KIF	**Kilpisjarvi**	**7.35**	**49**	*eP*	**Pn**	**08 46 50.0**	**+3.7**
KIF				*eS*	**Sn**	**08 48 07.3**	**-2.7**
KIF				MSG		08 48 16.2	
	comp=Z,1.0nm,0.1s						
KIF	**Kilpisjarvi**	**7.35**	**49**	*eP*	**Pn**	**08 46 50.0**	**+3.7**
KIF				*eS*	**Sn**	**08 48 07.4**	**-2.6**
KIF				MSN		08 48 13.5	
	comp=Z,3.0nm,0.2s						
LANU	**Lannavaara**	**7.40**	**58**	*eP*	**Pn**	**08 46 50.5**	**+3.4**
LANU				*eS*	**Sn**	**08 48 08.8**	**-2.6**
LANU	**Lannavaara**	**7.40**	**58**	*eP*	**Pn**	**08 46 50.5**	**+3.4**
LANU				*eS*	**Sn**	**08 48 08.8**	**-2.6**
JETT	**Jettan, Norway**	**7.49**	**45**	*eP*	**Pn**	**08 46 50.8**	**+2.5**
JETT				*eS*	**Sn**	**08 48 12.1**	**-1.5**
JETT				IAML		08 48 42.6	
	comp=Z,4.3nm,0.8s						
BIGH	**Upper Bighouse**	**7.77**	**218**	*eP*	**Pn**	**08 46 50.4**	**-1.8**
BIGH				*eS*	Sn	08 48 10.0	-11
VAF	**Ylistaro**	**7.92**	**96**	*eP*	**Pn**	**08 46 57.0**	**+2.7**
VAF				*eS*	**Sn**	**08 48 20.7**	**-3.5**
VAF				MSG		08 48 28.2	
	comp=Z,2.3nm,0.1s						
VAF	**Ylistaro**	**7.92**	**96**	*eP*	**Pn**	**08 46 57.0**	**+2.7**
VAF				*eS*	**Sn**	**08 48 20.7**	**-3.5**
VAF				MSN		08 48 28.9	
	comp=Z,4.4nm,0.2s						
TOF	**Tornio**	**8.03**	**73**	*eP*	**Pn**	**08 46 57.2**	**+1.4**
TOF				*eS*	**Sn**	**08 48 23.1**	**-3.9**
TOF	**Tornio**	**8.03**	**73**	*eP*	**Pn**	**08 46 57.2**	**+1.4**
TOF				*eS*	**Sn**	**08 48 23.1**	**-3.9**
HEF	**Hetta**	**8.10**	**56**	*eP*	**Pn**	**08 46 59.4**	**+2.7**
HEF				*eS*	**Sn**	**08 48 24.5**	**-4.1**
HEF				MSG		08 48 29.1	
	comp=Z,2.5nm,0.1s						
HEF	**Hetta**	**8.10**	**56**	*eP*	**Pn**	**08 46 59.7**	**+3.0**
HEF				*eS*	**Sn**	**08 48 24.8**	**-3.9**
HEF				MSN		08 48 29.2	
	comp=Z,3.8nm,0.2s						
KTK1	**Kautokeino**	**8.15**	**52**	*eP*	**Pn**	**08 47 00.2**	**+2.8**
KTK1				*eS*	**Sn**	**08 48 26.5**	**-3.4**
KTK1				IAML		08 48 29.8	
	comp=Z,3.2nm,0.4s						
OBF0	**Syolatti, Pyha**	**8.17**	**85**	*eP*	**Pn**	**08 46 59.7**	**+2.1**
OBF0				*eS*	**Sn**	**08 48 25.2**	**-5.0**
OBF0	**Syolatti, Pyha**	**8.17**	**85**	*eP*	**Pn**	**08 46 59.7**	**+2.1**
OBF0				*eS*	**Sn**	**08 48 25.2**	**-5.0**
OUF	**Merijarvi**	**8.41**	**85**	*eP*	**Pn**	**08 47 02.4**	**+1.5**
OUF				*eS*	**Sn**	**08 48 31.5**	**-4.6**
OUF	**Merijarvi**	**8.41**	**85**	*eP*	**Pn**	**08 47 02.4**	**+1.5**
OUF				*eS*	**Sn**	**08 48 31.5**	**-4.6**
RAF	**Rauma**	**8.51**	**110**	*eP*	**Pn**	**08 47 05.0**	**+2.8**
RAF				*eS*	**Sn**	**08 48 33.8**	**-4.8**
RAF	**Rauma**	**8.51**	**110**	*eP*	**Pn**	**08 47 05.0**	**+2.8**
RAF				*eS*	**Sn**	**08 48 33.8**	**-4.8**
ARA0	**ARCESS Array S**	**9.09**	**51**	Pn	**Pn**	**08 47 12.2**	**+1.8**
	baz=241,slow=14						
ARA0				Sn	**Sn**	**08 48 48.8**	**-4.3**
	baz=241,slow=22						
ARA0	**ARCESS Array S**	**9.09**	**51**	Pn	**Pn**	**08 47 12.2**	**+1.8**
	baz=241,slow=14						
ARA0				IAML		08 48 52.3	
	comp=Z,2.6nm,0.5s						
ARCES	**ARCESS Array B**	**9.09**	**51**	Pn	**Pn**	**08 47 12.2**	**+1.9**
	baz=243,slow=13,SNR=12						
ARCES				Sn	**Sn**	**08 48 49.6**	**-3.4**
	baz=243,slow=22,SNR=12						
KEF	**Keuruu**	**9.21**	**99**	*eP*	**Pn**	**08 47 14.2**	**+2.3**
KEF				*eS*	**Sn**	**08 48 50.7**	**-5.1**
KEF	**Keuruu**	**9.21**	**99**	*eP*	**Pn**	**08 47 14.2**	**+2.3**
KEF				*eS*	**Sn**	**08 48 50.7**	**-5.1**
SUF	**Sumiainen**	**9.52**	**94**	*eP*	**Pn**	**08 47 18.2**	**+2.0**
SUF				*eS*	**Sn**	**08 48 57.0**	**-6.5**
SUF	**Sumiainen**	**9.52**	**94**	*eP*	**Pn**	**08 47 18.2**	**+2.0**
SUF				*eS*	**Sn**	**08 48 57.0**	**-6.5**
KEV	**Kevo**	**9.66**	**50**	*eP*	**Pn**	**08 47 21.1**	**+3.0**
KEV	**Kevo**	**9.66**	**50**	*eP*	**Pn**	**08 47 21.1**	**+3.0**
KEV				*eS*	**Sn**	**08 49 02.4**	**-4.5**
KAF	**Kangasniemi**	**9.84**	**97**	*eP*	**Pn**	**08 47 21.8**	**+1.3**
KAF				*eS*	**Sn**	**08 49 04.7**	**-6.6**
KAF	**Kangasniemi**	**9.84**	**97**	*eP*	**Pn**	**08 47 21.8**	**+1.3**
KAF				*eS*	**Sn**	**08 49 04.7**	**-6.6**
FIA0	**FINESS Array S**	**10.06**	**101**	Pn	**Pn**	**08 47 23.1**	**-0.4**
FIA0				Sn	**Sn**	**08 49 11.8**	**-4.8**
	baz=320,slow=22						
FINES	**FINESS Array B**	**10.06**	**101**	Pn	**Pn**	**08 47 25.6**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=306,slow=11,SNR=10						
FINES				Sn	**Sn**	**08 49 12.7**	**-3.9**
	comp=Z,0.5nm,0.3s,baz=300,slow=20,SNR=9.4						

IDC ***17*** *08:45:02.5±1.9,0°.38S×81°.21W,h0km,mb3.4/3,mb1 3.7/4, mb1mx3.4/26,mbtmp3.6/4,ML2.5/1,Error ellipse: s-maj=44.3km s-min=33.9km az=65.0*
IGQ ***17*** *08:45:04.0±0.7,0°.S±2°.x8°1W±°,h6km*
ISC 17 08:45:04.1±1.8,**0°.14S**±0°.04×**80°.56W**±0°.06,**h4**km±11km,
n103,σ1§**52**/113**,Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JAMA	**Jama**	**0.37**	**109**	P	**Pg**	**08 45 12.0**	**+0.6**
JAMA				S	**Sb**	**08 45 18.0**	**-1.5**
APED	**Ecuador-Perden**	**0.54**	**68**	P	**Pg**	**08 45 15.0**	**+0.5**
APED				S	**Sb**	**08 45 26.0**	**+1.8**
FLF1	**Flavio Alfaro-**	**0.75**	**107**	P	**Pb**	**08 45 20.0**	**+0.3**
MAG1	**Magdalena**	**0.79**	**85**	P	**Pg**	**08 45 20.0**	**+0.8**
AV18	**Acelerografo,**	**1.17**	**68**	P	**Pg**	**08 45 27.0**	**+0.4**
AV21	**Acelerografo,**	**1.28**	**52**	P	**Pn**	**08 45 28.0**	**-0.8**
AMA1	**Acelerografo,**	**1.35**	**38**	P	**Pg**	**08 45 31.0**	**+0.9**
BV15	**Puerto Quito-O**	**1.37**	**78**	P	**Pn**	**08 45 28.0**	**-2.0**
AES1	**Ecuador-Esmera**	**1.39**	**38**	P	**Pg**	**08 45 32.0**	**+1.1**
AES2	**Ecuador-Puerto**	**1.44**	**39**	P	**Pn**	**08 45 31.0**	**0.0**
APR2	**Miler**	**1.60**	**82**	P	**Pn**	**08 45 32.0**	**-1.3**
HPAL	**Hacienda Las P**	**1.91**	**92**	P	**Pn**	**08 45 36.0**	**-1.7**
ILLI	**Illinizas Sur**	**1.92**	**107**	P	**Pn**	**08 45 37.0**	**-1.0**
GGPT	**Toaza - Volcan**	**1.94**	**93**	P	**Pn**	**08 45 37.0**	**-1.2**
APR1	**Acelerografo,**	**1.95**	**87**	P	**Pn**	**08 45 38.0**	**-0.3**
PINO	**Pino**	**1.95**	**91**	P	**Pn**	**08 45 37.0**	**-1.5**
TERV	**Terraza Guagua**	**1.95**	**91**	P	**Pn**	**08 45 37.0**	**-1.5**
JUA2	**San Juan 2**	**1.95**	**92**	P	**Pn**	**08 45 38.0**	**-0.5**
GGPC	**Guagua Pichinc**	**1.96**	**91**	P	**Pn**	**08 45 38.0**	**-0.7**
YANA	**Yana**	**1.99**	**89**	P	**Pn**	**08 45 38.0**	**-0.9**
PAST	**Pastocalle**	**1.99**	**106**	P	**Pn**	**08 45 38.0**	**-1.0**
PULU	**Pululahua**	**2.06**	**86**	P	**Pn**	**08 45 39.0**	**-0.9**
SRAM	**San Ramn-Vol**	**2.08**	**107**	P	**Pn**	**08 45 39.0**	**-1.2**
SUCR	**Mariscal Sucre**	**2.12**	**104**	P	**Pn**	**08 45 41.0**	**+0.2**
SLOR	**San Lorenzo -**	**2.14**	**106**	P	**Pn**	**08 45 41.0**	**-0.1**
BNAS	**Cotopaxi Volca**	**2.14**	**104**	P	**Pn**	**08 45 41.0**	**-0.1**
NAS2	**Nasa**	**2.15**	**104**	P	**Pn**	**08 45 42.0**	**+0.8**
TOMA	**Boca Toma-Volc**	**2.15**	**100**	P	**Pn**	**08 45 41.0**	**-0.2**
CHSH	**Refugio Sur-Vo**	**2.16**	**129**	P	**Pn**	**08 45 41.0**	**-0.4**
PITA	**Cotopaxi Volc**	**2.17**	**101**	P	**Pn**	**08 45 41.0**	**-0.4**
BRRN	**Barrancas-Volc**	**2.18**	**107**	P	**Pn**	**08 45 41.0**	**-0.6**
BMOR	**Cotopaxi Volca**	**2.18**	**106**	P	**Pn**	**08 45 41.0**	**-0.7**
BREF	**Cotopaxi Volca**	**2.18**	**104**	P	**Pn**	**08 45 42.0**	**+0.2**
CUSE	**Cuicocha Este**	**2.20**	**79**	*eP*	**Pn**	**08 45 42.0**	**+0.2**
CUSE				*eS*	**Sn**	**08 46 08.6**	**-1.1**
CUSE	**Cuicocha Este**	**2.20**	**79**	P	**Pn**	**08 45 41.0**	**-0.9**
AMIL	**Milagro (Trans**	**2.21**	**154**	P	**Pn**	**08 45 41.0**	**-0.5**
BVC2	**Cotopaxi Volca**	**2.21**	**104**	P	**Pn**	**08 45 42.0**	**-0.1**
VC1	**Cotopaxi 1**	**2.21**	**103**	P	**Pn**	**08 45 43.0**	**+0.9**
PORT	**Chimborazo Vol**	**2.22**	**126**	P	**Pn**	**08 45 41.0**	**-1.2**
BTAM	**Cotopaxi Volca**	**2.23**	**104**	P	**Pn**	**08 45 42.0**	**-0.3**
CUIC	**Cuicocha-Domo**	**2.24**	**79**	P	**Pn**	**08 45 42.0**	**-0.3**
CUSW	**Cuicocha Oeste**	**2.25**	**79**	P	**Pn**	**08 45 42.0**	**-0.4**
TAMB	**Tambo**	**2.26**	**104**	P	**Pn**	**08 45 43.0**	**+0.3**
TAMH	**Tambohuasha Ch**	**2.26**	**128**	P	**Pn**	**08 45 43.0**	**+0.3**
VCES	**Cotopaxi**	**2.26**	**107**	P	**Pn**	**08 45 43.0**	**+0.2**
COTA	**Cotacachi**	**2.27**	**78**	P	**Pn**	**08 45 43.0**	**+0.1**
ANTG	**Antisana-Guama**	**2.33**	**99**	P	**Pn**	**08 45 44.0**	**+0.3**
IGUA	**Igualata**	**2.34**	**125**	P	**Pn**	**08 45 44.0**	**+0.1**
MILO	**Milagro-Astudi**	**2.35**	**155**	P	**Pn**	**08 45 41.0**	**-2.5**
ANTM	**Antisana-La Mi**	**2.37**	**100**	P	**Pn**	**08 45 45.0**	**+0.8**
URCU	**Urcuqui**	**2.37**	**76**	P	**Pn**	**08 45 45.0**	**+0.8**
ANTS	**Antisana-Sarah**	**2.41**	**99**	P	**Pn**	**08 45 45.0**	**+0.1**
ANTI	**Antisana**	**2.42**	**97**	P	**Pn**	**08 45 46.0**	**+1.1**
BBIL	**Ulba Tungurahu**	**2.45**	**122**	P	**Pn**	**08 45 46.0**	**+0.8**
JUI6	**Juive**	**2.45**	**122**	P	**Pn**	**08 45 45.0**	**-0.2**
PIAT	**Ana Tenorio**	**2.45**	**110**	P	**Pn**	**08 45 45.0**	**-0.2**
POND	**Pondoa**	**2.46**	**121**	P	**Pn**	**08 45 45.0**	**-0.4**
BMAS	**Trigal station**	**2.48**	**123**	P	**Pn**	**08 45 46.0**	**+0.3**
RETU	**Refugio**	**2.48**	**122**	P	**Pn**	**08 45 46.0**	**+0.2**
BRUN	**Tungurahua Vol**	**2.50**	**121**	P	**Pn**	**08 45 45.0**	**-0.8**
AIB2	**Ibarra (Univer**	**2.50**	**79**	P	**Pn**	**08 45 47.0**	**+1.2**
ARRY	**Arrayan**	**2.50**	**123**	P	**Pn**	**08 45 46.0**	**0.0**
BPAT	**Tungurahua Vol**	**2.52**	**123**	P	**Pn**	**08 45 46.0**	**-0.3**
YAHU	**Yahuarcocha**	**2.54**	**79**	P	**Pn**	**08 45 47.0**	**+0.6**
ANGU	**Angureal**	**2.56**	**86**	P	**Pn**	**08 45 48.0**	**+1.1**
CAYR	**Refugio Cayamb**	**2.56**	**87**	P	**Pn**	**08 45 48.0**	**+1.1**
COHC	**Cochancay**	**2.66**	**151**	P	**Pn**	**08 45 46.0**	**-1.7**
CHMA	**Chilma**	**2.68**	**68**	P	**Pn**	**08 45 48.0**	**-0.4**
LNGL	**El Angel-Carch**	**2.70**	**71**	P	**Pn**	**08 45 49.0**	**+0.2**
ECEN	**Cerro Negro**	**2.76**	**70**	P	**Pn**	**08 45 50.0**	**+0.4**
CHL1	**Volc¡n Chiles**	**2.77**	**71**	P	**Pn**	**08 45 50.0**	**+0.2**
CHL2	**Volc¡n Chiles**	**2.80**	**71**	P	**Pn**	**08 45 50.0**	**-0.2**
ISPG	**Isla Puna-Puer**	**2.84**	**172**	P	**Pn**	**08 45 51.0**	**+0.7**
ARDO	**Archidona, Ten**	**2.88**	**107**	P	**Pn**	**08 45 53.0**	**+2.1**
SANGA	**Volcan Sangay**	**2.90**	**131**	P	**Pn**	**08 45 52.0**	**+0.5**
TULM	**Tulcn-Chalpat**	**2.90**	**73**	*eP*	**Pn**	**08 45 53.9**	**+2.5**
TULM				*eS*	**Sn**	**08 46 28.2**	**+1.3**
TULM	**Tulcn-Chalpat**	**2.90**	**73**	P	**Pn**	**08 45 54.0**	**+2.5**
CONE	**Cono NE Rev Vo**	**2.92**	**89**	P	**Pn**	**08 45 54.0**	**+2.4**
CMBC	**Cumbal**	**2.93**	**69**	*eP*	**Pn**	**08 45 53.2**	**+1.3**
CMBC				*eS*	**Sb**	**08 46 33.4**	**-0.3**
BONI	**La Bonita**	**3.08**	**79**	P	**Pn**	**08 45 56.0**	**+2.2**
CASC	**Dorado de Casc**	**3.23**	**85**	P	**Pb**	**08 45 59.0**	**-3.1**
ARNL	**Arenillas**	**3.42**	**172**	P	**Pn**	**08 45 58.0**	**-0.3**
BOSC	**San Juan Bosco**	**3.64**	**145**	P	**Pn**	**08 46 03.0**	**+1.6**
CRUC	**La Cruz**	**3.98**	**65**	*eP*	**Pn**	**08 46 07.8**	**+1.5**
CRUC				*eS*	**Sn**	**08 46 56.7**	**+3.0**
MCRA	**Macar, Loja**	**4.25**	**172**	P	**Pn**	**08 46 09.0**	**-0.7**
SOTA	**Rioblanco**	**4.55**	**60**	*eP*	**Pn**	**08 46 15.4**	**+1.2**
SOTA				*eS*	**Sb**	**08 47 17.4**	**-2.8**
POPC	**Popayan, Colom**	**4.70**	**56**	*eP*	**Pn**	**08 46 16.4**	**+0.2**
POPC				*eS*	**Sn**	**08 47 12.4**	**+1.2**
PCON	**Cinco Dias**	**4.83**	**60**	*eP*	**Pn**	**08 46 18.8**	**+0.7**
PCON				*eS*	**Sb**	**08 47 23.0**	**-5.3**
ZUMB	**Zumba**	**4.90**	**163**	P	**Pn**	**08 46 20.0**	**+1.2**
MARP	**Paez Belalcaza**	**5.47**	**57**	*eP*	**Pn**	**08 46 28.4**	**+1.7**
GARC	**Garzon, Huila**	**5.56**	**65**	*eP*	**Pn**	**08 46 30.0**	**+2.0**
PTLC	**Puerto Leguiza**	**5.77**	**87**	*eP*	**Pn**	**08 46 30.9**	**+0.3**
YOTC	**Yotoco, Valle**	**5.87**	**46**	*eP*	**Pn**	**08 46 31.1**	**-1.0**
YOTC				*eS*	**Sn**	**08 47 34.2**	**-5.7**
PLMC	**San Jos del P**	**6.58**	**40**	*eP*	**Pn**	**08 46 42.6**	**+0.8**
PLMC				*eS*	**Sn**	**08 47 55.4**	**-1.9**
ORTC	**Ortega, Tolima**	**6.66**	**53**	*eP*	**Pn**	**08 46 47.1**	**+4.3**
ORTC				*eS*	**Sn**	**08 48 01.6**	**+2.4**
ANIL	**Santa Ana**	**6.90**	**48**	*eP*	Pn	08 46 52.9	+6.5
ANIL				*eS*	**Sn**	**08 48 06.4**	**+0.9**
MACC	**Macarena, Meta**	**7.08**	**71**	*eP*	**Pn**	**08 46 49.9**	**+1.3**
GUY2C	**Guyana, Caldas**	**7.43**	**44**	*eP*	Pn	08 46 59.2	+5.3
GUY2C				*eS*	**Sn**	**08 48 20.9**	**+2.0**
CBOC	**Ciudad Bolivar**	**7.49**	**37**	*eP*	Pn	08 46 59.6	+5.2
CBOC				*eS*	**Sn**	**08 48 16.0**	**-4.0**
ROSC	**El Rosal**	**7.95**	**51**	Pn	Pn	08 47 09.8	+8.9
	1.3nm,0.3s,baz=252,slow=20,SNR=2.2						
ROSC				Sn	Sb	08 48 47.1	-11
	0.3nm,0.3s,baz=253,slow=19,SNR=1.5						
LPAZ	**La Paz**	**20.20**	**143**	P	Pn	08 49 41.5	-1.0
	1.2nm,0.7s,baz=332,slow=9.5						
YKA	**Yellowknife Ar**	**67.50**	**344**	P	**P**	**08 56 00.3**	**-0.8**
	0.2nm,0.7s,baz=133,slow=7.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**82.48**	**77**	P	**P**	**08 57 31.6**	**+2.9**
	0.4nm,0.8s,baz=286,slow=5.1,SNR=5.3						

WEL 17 08:51:35.5±1.5,**32°S**±33°×**17°9E**±8°1,**h416**km±72km,
M4.4/5,mB4.2/2,ML4.5/9,MLv4.4/5,Mw(mB)3.3/2,Error ellipse: s-maj=0.1km s-min=0.0km az=109.8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
HAZ	**Te Kaha**	**6.04**	**186**	P	P	08 53 10.2		+1.6
HAZ				S	S	08 54 25.1		-0.1
RUGZ	**Raukumara Rang**	**6.25**	**186**	P	P	08 53 12.6		+1.5
RUGZ				S	S	08 54 30.7		+1.1
URZ	**Urewera**	**6.61**	**190**	P	P	08 53 12.8		-2.6
URZ				S	S	08 54 37.5		+1.0
MWZ	**Matawai**	**6.63**	**187**	P	P	08 53 15.6		-0.1
MWZ				S	S	08 54 36.2		-0.9
MTHZ	**Maungataniwha**	**7.24**	**191**	P	P	08 53 17.2		-5.0
NMHZ	**Naumai**	**7.48**	**191**	P	P	08 53 26.6		+1.6
NMHZ				S	S	08 54 53.4		-0.8
BKZ	**Black Stump Fm**	**7.60**	**192**	P	P	08 53 27.5		+1.2
BKZ				S	S	08 54 57.2		+0.6
NTVZ	**North Tongarir**	**7.71**	**197**	P	P	08 53 26.6		-1.6
KRVZ	**Karewarewa**	**7.71**	**197**	P	P	08 53 27.1		-0.6
TMVZ	**Te Maari**	**7.72**	**197**	P	P	08 53 26.9		-0.8
OTVZ	**Oturere**	**7.77**	**197**	P	P	08 53 30.0		+1.7

IDC ***17*** *08:52:24.

GUY2C				eS		Sn	08 55 38.6	-6.4
CBOC	**Ciudad Bolivar**	**7.66**	**37**	eP		Pn	08 54 24.5	+5.5
CBOC				eS		Sn	**08 55 46.3**	**+0.4**
ROSC	**El Rosal**	**8.12**	**51**	Pn		Pn	**08 54 28.1**	**+2.6**
	1.2nm,0.3s,baz=202,slow=16,SNR=2.2							
ROSC				Sn		Sn	**08 55 58.4**	**+0.7**
	0.6nm,0.3s,baz=157,slow=22,SNR=1.9							
ROSC	**El Rosal**	**8.12**	**51**			Pn	**08 54 28.0**	**+2.5**
ROSC	**El Rosal**	**8.12**	**51**	eP		Pn	08 54 34.7	+9.2
CHIC	**Chingaza**	**8.47**	**55**	eP		Pn	**08 54 31.9**	**+1.6**
SPBC	**San Pablo de B**	**8.83**	**48**	eP		Pn	**08 54 38.1**	**+3.1**
CDITO	**Canoas**	**9.04**	**346**	Pn		Pn	08 54 39.4	+1.7
PTBC	**PUERTO BERRIO,**	**9.17**	**43**	eP		Pn	**08 54 42.6**	**+3.0**
PTBC				eS		Sn	**08 56 22.9**	**-0.1**
PAYG	**Puerto Ayora**	**9.61**	**267**	Pn		Pn	08 54 44.8	-0.8
ZARC	**Zaragoza, Cauc**	**9.64**	**37**	Pn		Pn	**08 54 48.4**	**+2.4**
ZARC	**Zaragoza, Cauc**	**9.64**	**37**	eP		Pn	08 54 52.3	+6.3
RUSC	**La Rusia**	**9.74**	**51**	eP		Pn	**08 54 51.4**	**+3.6**
DRK0	**Durika**	**9.79**	**345**	Pn		Pn	**08 54 48.6**	**+0.4**
SRBA	**San Rafael, Bu**	**9.79**	**344**	Pn		Pn	**08 54 48.6**	**+0.4**
HDC	**Heredia**	**10.74**	**342**	Pn		Pn	**08 55 04.7**	**+3.4**
CZSB	**Cruzeiro do Su**	**10.88**	**133**	eP		Pn	**08 55 01.8**	**-1.2**
OCAC	**Ocana**	**11.18**	**41**	Pn		Pn	**08 55 09.4**	**+2.2**
JTS	**Las Juntas de**	**11.30**	**338**	Pn		Pn	**08 55 07.5**	**-1.3**
	0.3nm,0.3s,baz=175,slow=12,SNR=2.0							
TBTG	**Tabatinga, AM**	**11.45**	**110**	eP		Pn	**08 55 12.1**	**+1.3**
NNA	**Nana**	**12.27**	**162**	Pn		Pn	**08 55 21.2**	**-0.8**
	0.8nm,0.3s,baz=303,slow=14,SNR=2.7							
NNA				Sn		Sn	**08 57 34.6**	**-4.3**
	1.6nm,0.3s,baz=234,slow=18,SNR=4.1							
SDV	**Santo Domingo**	**13.51**	**48**	Pn		Pn	**08 55 40.9**	**+1.7**
	0.2nm,0.3s,baz=203,slow=9.7,SNR=4.4							
SDV	**Santo Domingo**	**13.51**	**48**	Pn		Pn	**08 55 41.1**	**+1.9**
SDV	**Santo Domingo**	**13.51**	**48**	eP		Pn	08 55 43.8	+4.6
ETMB	**Extrema**	**17.25**	**124**	eP		Pn	**08 56 27.1**	**-1.2**
BIRV	**Birongo**	**17.86**	**53**	P		P	**08 56 38.3**	**+1.7**
CCIG	**Comitan**	**19.94**	**326**	P		P	**08 57 02.0**	**+2.4**
CCIG				IAmb		IAmb	08 57 04.8	
	comp=Z,22nm,1.4s							
JAKH	**Jacmel**	**20.05**	**23**	P		Pn	**08 57 04.6**	**+2.2**
MACA	**Manacapuru-AM**	**20.20**	**98**	eP		P	**08 57 04.0**	**+1.8**
BOAV	**Boa Vista**	**20.32**	**82**	eP		P	**08 57 04.2**	**+0.5**
BANI	**BANI**	**21.12**	**28**	P		P	**08 57 13.3**	**+0.9**
SC01	**Santiago de lo**	**21.86**	**26**	P		P	**08 57 23.7**	**+3.6**
DR12	**Loma Pena Alta**	**21.94**	**30**	P		P	**08 57 21.3**	**+0.3**
PB11	**IPOC Station P**	**22.19**	**152**	P		P	**08 57 22.2**	**-1.7**
PB11				IAmb		IAmb	08 57 26.9	
	comp=Z,35nm,1.5s							
GO01	**Chusmiza**	**22.34**	**150**	P		P	**08 57 23.1**	**-2.7**
OBIP	**Obispado Ponce**	**22.85**	**37**	P		P	**08 57 35.1**	**+4.4**
OBIP				IAmb		IAmb	08 57 40.2	
	comp=Z,15nm,1.1s							
CELP	**Cerrillos**	**22.89**	**37**	P		P	**08 57 34.2**	**+3.0**
CELP				IAmb		IAmb	08 57 40.2	
	comp=Z,12nm,1.0s							
SJG	**San Juan**	**23.18**	**37**	P		P	**08 57 34.7**	**+0.6**
	comp=Z,7.9nm,0.8s,baz=218,slow=8.0,SNR=3.5							
CUPR	**Culebra, Puert**	**23.86**	**39**	IAmb		IAmb	08 57 43.6	
	comp=Z,7.3nm,0.8s							
VILB	**Vilhena**	**23.91**	**123**	eP		P	**08 57 40.8**	**-0.6**
PB06	**IPOC Station P**	**24.80**	**155**	P		P	**08 57 48.0**	**-1.7**
PB06				IAmb		IAmb	08 58 40.0	
	comp=Z,7.3nm,0.7s							
SIV	**San Ignacio**	**24.88**	**130**	P		P	**08 57 49.9**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=299,slow=8.7,SNR=15							
LVC	**Limon Verde**	**25.00**	**154**	P		P	**08 57 51.4**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=304,slow=8.4,SNR=3.2							
LVC	**Limon Verde**	**25.00**	**154**	P		P	**08 57 49.7**	**-2.0**
LVC				IAmb		IAmb	08 58 26.7	
	comp=Z,8.6nm,1.1s							
LVC	**Limon Verde**	**25.00**	**154**	eP		P	**08 57 49.3**	**-2.4**
ITTB	**Itaituba**	**25.25**	**100**	eP		P	**08 57 53.0**	**-0.7**
PTLB	**Pontes e Lacer**	**26.09**	**126**	eP		P	**08 58 01.0**	**-0.3**
PDRB	**Porto dos Gac**	**26.33**	**116**	eP		P	**08 58 02.7**	**-0.8**
MALB	**Monte Alegre**	**26.46**	**94**	eP		P	**08 58 04.8**	**+0.1**
CLDB	**Colider**	**26.89**	**114**	eP		P	**08 58 08.7**	**+0.2**
MCPB	**Macapa, AP**	**28.62**	**90**	eP		P	**08 58 25.5**	**+1.4**
SNDB	**Serra Nova Dou**	**31.41**	**113**	eP		P	**08 58 48.1**	**-0.6**
AQDB	**Aquidauana**	**31.64**	**131**	eP		P	**08 58 50.2**	**-0.5**
SMTB	**Santa Maria do**	**34.05**	**105**	eP		P	**08 59 11.4**	**-0.4**
PEXB	**Peixe**	**34.22**	**111**	eP		P	**08 59 13.9**	**+0.6**
W50A	**Signal Mountai**	**35.53**	**353**	P		P	**08 59 25.6**	**+1.1**
JCT	**Junction City**	**35.57**	**331**	P		P	**08 59 25.1**	**+0.3**
JCT				IAmb		IAmb	08 59 28.8	
	comp=Z,5.9nm,0.8s							
BDFB	**Brasilia**	**35.69**	**117**	P		P	**08 59 26.8**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=59,slow=8.5,SNR=2.8							
BDFB	**Brasilia**	**35.69**	**117**	P		P	**08 59 25.1**	**-1.1**
BDFB				IAmb		IAmb	08 59 30.6	
	comp=Z,6.7nm,1.3s							
IPMB	**Ipameri, GO**	**36.46**	**121**	eP		P	**08 59 31.5**	**-1.1**
MIAR	**Mount Ida**	**36.66**	**342**	P		P	**08 59 34.9**	**+0.8**
MIAR				IAmb		IAmb	09 00 12.3	
	comp=Z,18nm,1.6s							
TXAR	**Lajitas Array**	**36.71**	**325**	P		P	**08 59 34.3**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=134,slow=10,SNR=1.9							
TXAR	**Lajitas Array**	**36.71**	**325**	P		P	**08 59 35.8**	**+1.2**
TX31	**Lajitas Ar. Si**	**36.71**	**325**	P		P	**08 59 34.2**	**-0.5**
TX31				IAmb		IAmb	09 00 00.7	
	comp=Z,12nm,1.5s							
TX32	**Lajitas Array**	**36.71**	**325**	P		P	**08 59 33.9**	**-0.8**
TX32				IAmb		IAmb	09 00 40.2	
	comp=Z,13nm,1.9s							
JANB	**Januaria**	**38.83**	**114**	eP		P	**08 59 53.3**	**+0.6**
MNTX	**Cornudas Mount**	**39.46**	**326**	P		P	**08 59 57.2**	**-0.5**
MSTX	**Muleshoe**	**39.86**	**331**	P		P	**09 00 01.2**	**0.0**
MSTX				IAmb		IAmb	09 00 04.9	
	comp=Z,7.0nm,0.9s							
PLCA	**Paso Flores**	**41.33**	**168**	P		P	**09 00 13.4**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=328,slow=3.3,SNR=3.4							
PLCA	**Paso Flores**	**41.33**	**168**	P		P	09 00 10.9	-2.3
PLCA				IAmb		IAmb	09 01 07.7	
	comp=Z,14nm,1.4s							
ANMO	**Albuquerque**	**42.50**	**328**	P		P	**09 00 23.1**	**0.0**
113A	**Mohawk Valley,**	**45.29**	**320**	P		P	**09 00 45.2**	**0.0**
MVCO	**Mesa Verde**	**45.29**	**328**	P		P	**09 00 45.1**	**-0.4**
Y14A	**Wickenburg**	**45.56**	**321**	P		P	**09 00 47.1**	**-0.4**
Y14A				IAmb		IAmb	09 00 54.4	
	comp=Z,8.5nm,1.7s							
WUAZ	**Wupatki**	**45.66**	**324**	P		P	**09 00 48.3**	**0.0**
K31A	**O'Neill**	**45.68**	**341**	P		P	**09 00 48.6**	**+0.4**
PV13	**Radium Mtn., P**	**46.18**	**329**	P		P	**09 00 52.2**	**-0.3**
PV13				IAmb		IAmb	09 00 57.0	
	comp=Z,4.1nm,0.8s							
PDAR	**Pinedale Array**	**50.07**	**332**	P		P	**09 01 21.1**	**-1.3**
	comp=Z,0.1nm,0.5s,baz=151,slow=8.2,SNR=1.6							
NVAR	**Mina Array Bea**	**51.73**	**322**	P		P	**09 01 34.4**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=139,slow=7.2,SNR=8.8							
YKA	**Yellowknife Ar**	**67.58**	**344**	P		P	09 03 21.3	-2.2
	comp=Z,0.5nm,0.7s,baz=134,slow=6.2,SNR=15							
KOWA	**Kowa**	**77.16**	**75**	P		P	**09 04 21.4**	**-0.3**
KOWA				IAmb		IAmb	09 04 24.8	
	comp=Z,3.9nm,0.7s							
INK	**Inuvik**	**77.26**	**342**	P		P	**09 04 20.4**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=98,slow=5.8,SNR=7.1							
INK	**Inuvik**	**77.26**	**342**	P		P	**09 04 20.7**	**-0.5**
INK				IAmb		IAmb	09 04 32.8	
	comp=Z,4.8nm,1.2s							
ESDC	**Sonseca Array**	**79.95**	**50**	P		P	**09 04 35.9**	**-0.9**
	comp=Z,0.8nm,1.0s,baz=258,slow=6.4,SNR=3.5							
ILAR	**Eielson Array**	**80.27**	**337**	P		P	**09 04 36.2**	**-1.7**
	comp=Z,0.8nm,1.1s,baz=134,slow=6.4,SNR=3.3							
BMAR	**Burnt Mountain**	**80.46**	**339**	P		P	**09 04 38.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.63**	**77**	P		P	**09 04 49.9**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=275,slow=5.3,SNR=5.8							
TORD	**Torodi Ar. Bea**	**82.63**	**77**	P		P	**09 04 50.2**	**-1.3**
SNAA	**Sanae**	**85.94**	**162**	P		P	**09 05 06.0**	**-1.1**
QSPA	**South Pole Qui**	**89.80**	**180**	P		P	**09 05 25.2**	**-0.7**
ASAR	**Alice Springs**	**138.86**	**232**	PKhKP		PKPpre	09 11 47.0	
	comp=Z,0.2nm,0.8s,baz=101,slow=3.9,SNR=1.3							
ASAR				PKP		**PKPdf**	**09 11 52.5**	**-2.2**
	comp=Z,0.2nm,0.8s,baz=117,slow=3.9,SNR=1.3							
WRA	**Warramunga Arr**	**140.26**	**238**	PKP		**PKPdf**	**09 11 55.1**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=103,slow=2.4,SNR=3.4							
FITZ	**Fitzroy Crossi**	**148.34**	**233**	PKPbc		**PKPdf**	**09 12 11.0**	**-0.4**
	baz=346,slow=4.2							
PZH	**PanZhiHua**	**153.80**	**355**	PKPbc		**PKPdf**	**09 12 18.0**	**-1.7**

*UCR **17** 09:00:20.6±1.8, 11°.99N×86°.92W, h35km±12km, MW3.5*
*INET **17** 09:00:20.5±0.6, 12°.00N×86°.87W, h63km±3km, MW3.3*
*SNET **17** 09:00:22.0±1.0, 12°.09N×87°.08W, h15km±7km, ML2.8*
ISC 17 09:00:20.5±1.3, **12°.07N**±0°.07×**86°.81W**±0°.05, **h69**km±11km,
n46,σ1**9**04/71, **Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.24**	**62**	eP		**Pn**		**09 00 31.1**	**-0.1**
MOMN	**Momotombo**	**0.43**	**38**	eP		**Pn**		**09 00 32.7**	**+0.1**
MOMN				eS		**Sn**		**09 00 42.2**	**+0.6**
TEL3	**Telica 3**	**0.50**	**356**	eP		**Pn**		**09 00 33.6**	**+0.3**
TISN	**Laguna Tiscapa**	**0.53**	**82**	eP		**Pn**		**09 00 32.8**	**-0.8**
TELN	**Telica**	**0.53**	**358**	eP		**Pn**		**09 00 34.1**	**+0.4**
TELN				eS		**Sn**		**09 00 44.4**	**+1.0**
MGAN	**Managua**	**0.56**	**82**	eP		**Pn**		**09 00 34.0**	**+0.2**
CRIN	**San Cristobal**	**0.67**	**339**	eP		**Pn**		**09 00 35.3**	**+0.2**
CRIN				eS		**Sn**		**09 00 47.4**	**+1.5**
HUEN		**0.68**	**67**	eP		**Pn**		**09 00 35.4**	**+0.3**
HUEN				eS		**Sn**		**09 00 47.5**	**+1.7**
BRAN	**Las Pilas**	**0.79**	**35**	eP		Pn		09 00 32.4	-4.0
BRAN				eS		**Sn**		**09 00 42.4**	**-5.7**
CSGN	**Cosiguina Volc**	**1.16**	**321**	eP		**Pn**		**09 00 41.0**	**-0.1**
BOAB	**BOACO BROADBAN**	**1.18**	**71**	eP		**Pn**		**09 00 41.6**	**+0.4**
CONN	**Concepcion**	**1.26**	**113**	eP		**Pn**		**09 00 42.0**	**-0.3**
ACON	**Acoyapa**	**1.60**	**93**	eP		**Pn**		**09 00 46.7**	**-0.1**
LCND	**La Caada**	**1.62**	**320**	eP		**Pn**		**09 00 46.8**	**-0.3**
LCND				eS		**Sn**		**09 01 07.1**	**-0.1**
LCND	**La Caada**	**1.62**	**320**	eP		**Pn**		**09 00 46.8**	**-0.3**
LCND				eS		**Sn**		**09 01 07.1**	**-0.1**
LCND				IAML				09 01 11.7	
	comp=Z,184nm,0.3s								
JUCU	**Jucuarįn**	**1.83**	**310**	eP		**Pn**		**09 00 49.8**	**-0.1**
JUCU				eS		**Sn**		**09 01 11.4**	**-0.9**
JUCU	**Jucuarįn**	**1.83**	**310**	eP		**Pn**		**09 00 49.8**	**-0.1**
JUCU				eS		**Sn**		**09 01 11.4**	**-0.9**
JUCU				IAML				09 01 15.3	
	comp=Z,145nm,0.1s								
LAPC	**Finca la Perla**	**1.87**	**134**	*i* P		**Pn**		**09 00 50.7**	**+0.3**
VSM	**San Miguel**	**1.97**	**314**	eP		**Pn**		**09 00 52.9**	**+1.0**
VSM	**San Miguel**	**1.97**	**314**	eP		**Pn**		**09 00 52.9**	**+1.0**
RANC	**El Ranchito**	**1.98**	**313**	eP		**Pn**		**09 00 52.3**	**+0.3**
RANC				eS		**Sn**		**09 01 16.0**	**0.0**
RANC	**El Ranchito**	**1.98**	**313**	eP		**Pn**		**09 00 52.3**	**+0.3**
RANC				eS		**Sn**		**09 01 16.0**	**0.0**
RANC				IAML				09 01 24.1	
	comp=Z,132nm,0.2s								
TGUH	**Tegucigalpa,Un**	**2.03**	**347**	eP		**Pn**		**09 00 51.8**	**-0.9**
TGUH	**Tegucigalpa,Un**	**2.03**	**347**	eP		**Pn**		**09 00 54.0**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.03**	**347**	eP		**Pn**		**09 00 54.0**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.03**	**347**	eP		**Pn**		**09 00 54.1**	**+1.5**
CUI	**Cuipilapa**	**2.14**	**131**	*i* P		**Pn**		**09 00 54.2**	**+0.2**
CUI				*i* S		**Sn**		**09 01 20.2**	**+0.5**
GUAI	**GUAI**	**2.19**	**144**	*i* P		**Pn**		**09 00 55.4**	**+0.7**
PQSS	**Presa 15 de Se**	**2.31**	**312**	eP		**Pn**		**09 00 56.7**	**+0.4**
PQSS				eS		**Sn**		**09 01 23.8**	**+0.2**
PQSS	**Presa 15 de Se**	**2.31**	**312**	eP		**Pn**		**09 00 56.7**	**+0.4**
PQSS				eS		**Sn**		**09 01 23.8**	**+0.2**
PQSS				IAML				09 01 31.5	
	comp=Z,19nm,0.2s								
SCLA	**Alcaldia de Sa**	**2.48**	**311**	eP		**Pn**		**09 00 59.4**	**+0.7**
SCLA				eS		**Sn**		**09 01 28.9**	**+1.0**
SCLA	**Alcaldia de Sa**	**2.48**	**311**	eP		**Pn**		**09 00 59.4**	**+0.7**
SCLA				eS		**Sn**		**09 01 28.9**	**+1.0**
SJTE	**Alcalda de S**	**2.64**	**306**	eP		**Pn**		**09 01 00.6**	**-0.2**
SJTE				eS		**Sn**		**09 01 30.7**	**-1.2**
SJTE	**Alcalda de S**	**2.64**	**306**	eP		**Pn**		**09 01 00.6**	**-0.2**
SJTE				eS		**Sn**		**09 01 30.7**	**-1.2**
SJTE				IAML				09 01 37.1	
	comp=Z,40nm,0.2s								
PAVA	**Las Pavas**	**2.64**	**308**	eP		**Pn**		**09 01 00.6**	**-0.4**
PAVA	**Las Pavas**	**2.64**	**308**	eP		**Pn**		**09 01 00.6**	**-0.4**
LFRS	**El Faro**	**2.69**	**305**	eP		**Pn**		**09 01 02.3**	**+0.7**
LFRS				eS		**Sn**		**09 01 33.0**	**-0.1**
LFRS	**El Faro**	**2.69**	**305**	eP		**Pn**		**09 01 02.3**	**+0.7**
LFRS				eS		**Sn**		**09 01 33.0**	**-0.1**
PMON	**Piamonte**	**2.94**	**304**	eP		**Pn**		**09 01 05.3**	**+0.4**
PMON				eS		**Sn**		**09 01 38.9**	**-0.3**
PMON	**Piamonte**	**2.94**	**304**	eP		**Pn**		**09 01 05.3**	**+0.4**
PMON				eS		**Sn**		**09 01 38.9**	**-0.3**
JAYA	**Jayaque - finc**	**3.02**	**302**	eP		**Pn**		**09 01 06.2**	**+0.1**
JAYA				eS		**Sn**		**09 01 39.7**	**-1.5**
JAYA	**Jayaque - finc**	**3.02**	**302**	eP		**Pn**		**09 01 06.2**	**+0.1**
JAYA				eS		**Sn**		**09 01 39.7**	**-1.5**
JAYA				IAML				09 01 44.8	
	comp=Z,104nm,0.2s								
MTO3	**Montecristo**	**3.40**	**313**	eP		**Pn**		**09 01 12.8**	**+1.5**
MTO3	**Montecristo**	**3.40**	**313**	eP		**Pn**		**09 01 12.8**	**+1.5**
NUBE	**Las Nubes**	**3.42**	**303**	eP		**Pn**		**09 01 11.4**	**-0.2**
NUBE				eS		**Sn**		**09 01 49.8**	**-1.3**
NUBE	**Las Nubes**	**3.42**	**303**	eP		**Pn**		**09 01 11.4**	**-0.2**
NUBE				eS		**Sn**		**09 01 49.8**	**-1.3**

*BGR **17** 09:18:43.1±0.0, 17°.72S×178°.20W, h33km, mb5.0*
*NOU **17** 09:19:38.7, 17°.53S×178°.45W, h537km, mb5.1/80, Fiji Islands Region*
*NEIC **17** 09:19:39.5±2.4, 17°.52S±0°.06×178°.53W±0°.10, h539km±6km, mb4.9/65, Error ellipse: s-maj=16.1km s-min=2.9km az=124.0*
*IDC **17** 09:19:41.5±0.8, 17°.51S×178°.65W, h569km±7km, mb3.8/18, mb1 3.9/20, mb1mx3.8/46, mbtmp4.7/20, Error ellipse: s-maj=12.7km s-min=9.4km az=149.0*
ISC 17 09:19:39.4±0.3, **17°.49S**±0°.06×**178°.54W**±0°.06, **h547**km, **n325**,σ0**6**96/335, **mb4.9**/55, **7C-20D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.26**	**265**	P		**P**	**P**	**09 20 57.8**	**+1.8**
	39nm,0.3s,baz=98,slow=4.6,SNR=78								
MSVF				S		**S**	**S**	**09 22 02.8**	**+4.5**
	1.2nm,0.3s,baz=111,slow=16,SNR=8.4								
MSVF	**Nonsavu**	**3.26**	**265**	P		**P**	**P**	**09 20 57.5**	**+1.5**
AFI	**Afiamalu**	**7.42**	**62**	P		**P**	**P**	**09 21 28.9**	**-2.6**
	44nm,0.3s,baz=359,slow=2.0,SNR=42								
NIUE	**Niue**	**8.33**	**102**	P		**P**	**P**	**09 21 41.6**	**+1.2**
FUNA	**Funafuti**	**9.18**	**346**	P		**P**	**P**	**09 21 47.8**	**-1.3**
RAO	**Raoul Island**	**11.72**	**177**	P		**P**	**P**	**09 22 12.8**	**-2.1**
	209nm,0.3s,baz=243,slow=23,SNR=4.4								
DVP	**Devils Point**	**12.66**	**267**	P		**P**	**P**	**09 22 24.6**	**-0.2**
MARNC	**Mare, Loyalty**	**13.27**	**250**	P		**P**	**P**	**09 22 30.5**	**-0.6**
MARNC	**Mare, Loyalty**	**13.27**	**250**	P		**P**	**P**	**09 22 30.5**	**-0.6**
SANVU	**Saraoutou**	**13.83**	**276**	P		**P**	**P**	**09 22 36.3**	**-0.7**
SANVU	**Saraoutou**	**13.83**	**276**	P		**P**	**P**	**09 22 36.5**	**-0.4**
LIFNC	**LIFOU**	**13.83**	**254**	P		**P**	**P**	**09 22 35.6**	**-1.3**
LIFNC	**LIFOU**	**13.83**	**254**	P		**P**	**P**	**09 22 35.5**	**-1.3**
PINNC	**Pines Island,**	**14.12**	**247**	P		**P**	**P**	**09 22 40.0**	**+0.2**
PINNC	**Pines Island,**	**14.12**	**247**	P		**P**	**P**	**09 22 39.7**	**-0.1**
YATNC	**Mamie plateau,**	**14.45**	**249**	P		**P**	**P**	**09 22 43.5**	**+0.2**
OUENC	**Ouen Island, N**	**14.59**	**248**	P		**P**	**P**	**09 22 44.3**	**-0.4**
OUENC	**Ouen Island, N**	**14.59**	**248**	P		**P**	**P**	**09 22 44.3**	**-0.4**
DZM	**Mont Dzumac**	**14.85**	**250**	P		**P**	**P**	**09 22 46.1**	**-1.4**
	4.0nm,0.3s,baz=84,slow=21,SNR=26								
DZM	**Mont Dzumac**	**14.85**	**250**	P		**P**	**P**	**09 22 46.8**	**-0.7**
DZM	**Mont Dzumac**	**14.85**	**250**	P		**P**	**P**	**09 22 46.9**	**-0.6**
ONTNC	**Ouen Toro**	**14.90**	**249**	P		**P**	**P**	**09 22 47.4**	**-0.5**
ONTNC	**Ouen Toro**	**14.90**	**249**	P		**P**	**P**	**09 22 47.7**	**-0.3**
NOUC	**Port Laguerre**	**14.98**	**250**	P		**P**	**P**	**09 22 48.2**	**-0.6**
KOUNC	**Koumac, New Ca**	**16.52**	**257**	P		**P**	**P**	**09 23 04.6**	**+0.6**
KOUNC	**Koumac, New Ca**	**16.52**	**257**	P		**P**	**P**	**09 23 04.4**	**+0.4**
NFK	**Norfolk Island**	**16.91**	**225**	P		**P**	**P**	**09 23 07.6**	**+0.2**
OUZ	**Omahuta**	**19.00**	**200**	P		**P**	**P**	**09 23 28.2**	**+1.8**
OUZ	**Omahuta**	**19.00**	**200**	P		**P**	**P**	**09 23 28.6**	**+2.2**
TARA	**Tarawa**	**20.53**	**335**	P		**P**	**P**	**09 23 40.7**	**+0.1**
URZ	**Urewera**	**21.04**	**190**	P		**P**	**P**	**09 23 42.7**	**-2.2**
	7.5nm,0.3s,baz=271,slow=1.8,SNR=23								
URZ	**Urewera**	**21.04**	**190**	P		**P**	**P**	**09 23 42.7**	**-2.2**
URZ				IAmb		IAmb	IAmb	09 23 55.2	
	comp=Z,21nm,0.9s								
URZ	**Urewera**	**21.04**	**190**	P		**P**	**P**	**09 23 42.7**	**-2.2**
BKZ	**Black Stump Fm**	**22.02**	**190**	P		**P**	**P**	**09 23 52.3**	**-1.5**
BFZ	**Birch Farm**	**23.54**	**190**	P		**P**	**P**	**09 24 05.4**	**-1.9**
SNZO	**South Karori**	**24.44**	**192**	P		**P**	**P**	**09 24 13.9**	**-1.2**
SNZO				IAmb		IAmb	IAmb	09 24 21.1	
	comp=Z,52nm,1.1s								
SNZO	**South Karori**	**24.44**	**192**	P		**P**	**P**	**09 24 14.8**	**-0.3**
QRZ	**Quartz Range**	**24.50**	**197**	P		**P**	**P**	**09 24 15.8**	**+0.1**
NNZ	**Nelson**	**24.65**	**195**	P		**P**	**P**	**09 24 16.0**	**-1.0**
NNZ				IAmb		IAmb	IAmb	09 24 21.8	
	comp=Z,29nm,0.9s								
TUWZ	**Tuamarina**	**24.72**	**194**	P		**P**	**P**	**09 24 16.5**	**-1.1**
THZ	**Tophouse**	**25.28**	**195**	P		**P**	**P**	**09 24 21.6**	**-1.1**
THZ				IAmb		IAmb	IAmb	09 24 23.2	
	comp=Z,18nm,1.0s								
KHZ	**Kahutara**	**25.75**	**194**	P		**P**	**P**	**09 24 25.1**	**-1.6**
LTZ	**Lake Taylor**	**26.39**	**195**	P		**P**	**P**	**09 24 31.4**	**-1.0**
LTZ				IAmb		IAmb	IAmb	09 24 33.2	
	comp=Z,26nm,0.6s								
OXZ	**Oxford**	**26.96**	**195**	P		**P**	**P**	**09 24 36.9**	**-0.5**
OXZ				IAmb		IAmb	IAmb	09 24 37.2	
	comp=Z,40nm,0.9s								
RPZ	**Rata Peaks**	**27.58**	**196**	P		**P**	**P**	**09 24 41.4**	**-1.5**
	comp=Z,8.0nm,0.4s,baz=305,slow=1.0,SNR=12								
RPZ	**Rata Peaks**	**27.58**	**196**	P		**P**	**P**	**09 24 41.4**	**-1.5**
PPT	**Papeete**	**27.61**	**95**	P		**P**	**P**	**09 24 43.9**	**+0.4**
	comp=Z,39nm,0.7s,baz=93,slow=6.3,SNR=4.8								
FOZ	**Fox Glacier**	**27.77**	**198**	P		**P**	**P**	**09 24 43.3**	**-1.2**
FOZ				IAmb		IAmb	IAmb	09 24 45.0	
	comp=Z,75nm,1.2s								
ODZ	**Otahua Downs**	**28.93**	**196**	P		**P**	**P**	**09 24 53.3**	**-1.2**
WKZ	**Wanaka**	**29.19**	**198**	P		**P**	**P**	**09 24 55.7**	**-1.1**
EIDS	**Eidsvold**	**29.30**	**249**	P		**P**	**P**	**09 24 57.8**	**-0.3**
EIDS				IAmb		IAmb	IAmb	09 24 58.6	
	comp=Z,41nm,0.8s								
EIDS	**Eidsvold**	**29.30**	**249**	P		**P**	**P**	**09 24 58.1**	**+0.1**
MLZ	**Mavora Lakes**	**29.95**	**199**	P		**P**	**P**	**09 25 03.6**	**+0.2**
ARMA	**Armidale**	**30.04**	**239**	P		**P**	**P**	**09 25 05.4**	**+0.8**
ARMA	**Armidale**	**30.04**	**239**	P		**P**	**P**	**09 25 05.5**	**+0.9**
WHZ	**Wether Hill Ro**	**30.47**	**199**	P		**P**	**P**	**09 25 08.5**	**+0.6**
WHZ				IAmb		IAmb	IAmb	09 25 09.4	
	comp=Z,49nm,1.0s								
NTLH	**Newcastle Hard**	**30.85**	**235**	P		**P**	**P**	**09 25 12.8**	**+1.5**
MGCD	**Mangrove Creek**	**31.43**	**234**	P		**P**	**P**	**09 25 17.4**	**+1.1**
RMQ	**Roma**	**31.54**	**248**	P		**P**	**P**	**09 25 18.1**

SBA				X		09 29 20.8	
VNDA	**Vanda**	**60.85**	**185**	P	**P**	**09 28 59.8**	**+1.3**
	comp=Z,2.9nm,0.6s,baz=352,slow=7.3,SNR=30						
VNDA	**Vanda**	**60.85**	**185**	P	**P**	**09 28 59.4**	**+0.9**
KAPI	**Kappang**	**61.54**	**274**	P	**P**	**09 29 04.4**	**+0.3**
	comp=Z,9.9nm,0.5s,baz=216,slow=2.1,SNR=8.9						
KAPI	**Kappang**	**61.54**	**274**	P	**P**	**09 29 04.3**	**+0.2**
KAPI	**Kappang**	**61.54**	**274**	P	**P**	**09 29 04.4**	**+0.3**
	comp=Z,24nm,1.2s						
PLAI	**Plampang**	**62.38**	**269**	P	**P**	**09 29 09.7**	**+0.2**
TOLI2	**Tolitoli**	**62.52**	**281**	P	**P**	**09 29 10.3**	**-0.2**
TOLI2	**Tolitoli**	**62.52**	**281**	P	**P**	**09 29 10.7**	**+0.3**
GIRL	**Giralia**	**62.90**	**253**	P	**P**	**09 29 13.3**	**+0.6**
GIRL	**Giralia**	**62.90**	**253**	P	**P**	**09 29 13.8**	**+1.0**
CCD	**Concordia, Ant**	**65.24**	**194**	P	**P**	**09 29 27.8**	**+0.6**
CCD				X		09 29 54.6	
CCD				pP	**pP**	**09 31 13.2**	**-3.8**
JAGI	**Jajag, Banyuwa**	**65.93**	**268**	P	**P**	**09 29 31.2**	**-0.9**
JAGI				IAmb	IAmb	09 29 31.8	
	comp=Z,55nm,0.8s						
CASY	**Casey**	**66.46**	**205**	P	**P**	**09 29 34.4**	**-0.1**
CASY				IAmb	IAmb	09 29 35.8	
	comp=Z,29nm,1.1s						
CASY	**Casey**	**66.46**	**205**	P	**P**	**09 29 34.8**	**+0.4**
CASY				X		09 29 49.9	
MAJO	**Matsushiro**	**67.50**	**323**	P	**P**	**09 29 41.2**	**-0.1**
MAJO				IAmb	IAmb	09 30 01.8	
	comp=Z,36nm,1.4s						
KKM	**Kota Kinabalu**	**68.52**	**284**	P	**P**	**09 29 48.4**	**+0.3**
KKM				IAmb	IAmb	09 29 49.0	
	comp=Z,19nm,0.5s						
KKM	**Kota Kinabalu**	**68.52**	**284**	P	**P**	**09 29 48.8**	**+0.7**
UGM	**Wanagama**	**69.54**	**268**	P	**P**	**09 29 54.3**	**+0.1**
UGM	**Wanagama**	**69.54**	**268**	P	**P**	**09 29 54.4**	**+0.2**
JKA	**Kamikawa-asahi**	**70.85**	**331**	P	**P**	**09 30 02.6**	**+1.3**
JKA				IAmb	IAmb	09 30 30.4	
	comp=Z,63nm,1.4s						
ASAJ	**Asahikawa**	**70.86**	**331**	P	**P**	**09 30 01.4**	**+0.1**
	comp=Z,9.1nm,0.9s,baz=145,slow=6.7,SNR=5.1						
SBUM	**Sibu**	**71.02**	**279**	P	**P**	**09 30 02.9**	**0.0**
KSM	**Kuching**	**72.51**	**277**	P	**P**	**09 30 12.6**	**+1.0**
KSM				IAmb	IAmb	09 30 13.5	
	comp=Z,39nm,0.9s						
QSPA	**South Pole Qui**	**72.56**	**180**	P	**P**	**09 30 11.7**	**+0.6**
QSPA				IAmb	IAmb	09 30 13.0	
	comp=Z,21nm,0.8s						
PETK	**Petropavlovsk-**	**73.25**	**345**	P	**P**	**09 30 14.7**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=130,slow=8.9,SNR=1.3						
KSRS	**Korea Array**	**74.31**	**318**	P	**P**	**09 30 22.4**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=126,slow=6.4,SNR=4.4						
USRK	**Ussuriysk Ar.**	**76.20**	**326**	P	**P**	**09 30 31.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=160,slow=5.1,SNR=4.1						
OHAK	**Old Harbor**	**77.36**	**14**	P	**P**	**09 30 37.6**	**0.0**
NJ2	**Nanjing**	**77.58**	**309**	*eP*	**P**	**09 30 41.4**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MNAI	**Manna**	**77.75**	**269**	P	**P**	**09 30 41.1**	**+0.3**
KDAK	**Kodiak Island**	**78.03**	**14**	P	**P**	**09 30 41.9**	**+0.6**
NVAR	**Mina Array Bea**	**79.21**	**44**	P	**P**	**09 30 48.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=222,slow=8.2,SNR=5.1						
O18K	**Koktuh Hills**	**79.37**	**12**	P	**P**	**09 30 48.6**	**+0.2**
O19K	**Port Alsworth**	**79.86**	**12**	P	**P**	**09 30 51.2**	**+0.3**
BELA	**Belgrano 2**	**82.59**	**173**	P	**P**	**09 31 05.1**	**+0.2**
BELA				IAmb	IAmb	09 31 05.9	
	comp=Z,20nm,0.7s						
CAST	**Castle Rocks**	**83.25**	**12**	P	**P**	**09 31 06.8**	**-1.5**
SEY	**Seymchan**	**83.34**	**347**	P	**P**	**09 31 08.7**	**+0.1**
	comp=Z,6.5nm,0.6s,baz=138,slow=6.2,SNR=28						
BJI	**Beijing**	**83.40**	**315**	P	**P**	**09 31 10.3**	**+0.8**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAW	**Mawson**	**84.21**	**200**	P	**P**	**09 31 13.4**	**+0.4**
	comp=Z,14nm,0.6s,baz=138,slow=5.4,SNR=22						
MAW	**Mawson**	**84.21**	**200**	P	**P**	**09 31 13.9**	**+0.9**
BCAR	**Beaver Creek A**	**85.28**	**16**	P	**P**	**09 31 18.9**	**+0.6**
IMAR	**Indian Mountai**	**85.30**	**10**	P	**P**	**09 31 18.5**	**+0.3**
IL31		**85.51**	**13**	P	**P**	**09 31 18.1**	**-1.1**
ILAR	**Eielson Array**	**85.51**	**13**	P	**P**	**09 31 18.5**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=225,slow=5.2,SNR=23						
ILAR	**Eielson Array**	**85.51**	**13**	P	**P**	**09 31 18.7**	**-0.6**
HHC	**Hu-ho-hao-te**	**86.89**	**314**	*eP*	**P**	**09 31 28.5**	**+2.0**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,6.3s						
PDAR	**Pinedale Array**	**87.14**	**43**	P	**P**	**09 31 28.5**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=222,slow=2.4,SNR=5.1						
PDAR	**Pinedale Array**	**87.14**	**43**	P	**P**	**09 31 28.0**	**+0.2**
BMAR	**Burnt Mountain**	**88.28**	**12**	P	**P**	**09 31 33.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**88.63**	**290**	P	**P**	**09 31 35.6**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=107,slow=2.9,SNR=22						
SYO	**Syowa Base**	**89.53**	**193**[0]	*eP*	**P**	**09 31 36.8**	**-1.4**
TROLL	**Troll, Antarti**	**90.72**	**180**	PcP	**P**	**09 31 44.2**	**+0.3**
SNAA	**Sanae**	**91.01**	**179**	PcP	**P**	**09 31 45.1**	**-0.1**
SNAA	**Sanae**	**91.01**	**179**	P	**P**	**09 31 45.0**	**-0.1**
VNA3	**Neumayer Olymp**	**91.16**	**176**	PcP	**PcP**	**09 31 46.2**	**-0.2**
INK	**Inuvik**	**91.52**	**15**	P	**P**	**09 31 46.8**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=246,slow=8.5,SNR=4.9						
INK	**Inuvik**	**91.52**	**15**	P	**P**	**09 31 46.9**	**-0.3**
VNA2	**Neumayer--Watz**	**91.60**	**177**	PcP	**PcP**	**09 31 48.0**	**-0.2**
	baz=180,slow=3.0						
VNA1	**Neumayer--Stat**	**91.83**	**177**	PcP	**PcP**	**09 31 49.7**	**+0.5**
SONM	**Songino Array**	**93.16**	**319**	P	**P**	**09 31 55.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=149,slow=5.0,SNR=3.8						
YKA	**Yellowknife Ar**	**94.01**	**25**	P	**P**	**09 31 58.3**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=246,slow=4.4,SNR=17						
ZALV	**Zalesovo Beam**	**107.83**	**322**	PKiKP	**PKiKP**	**09 37 03.2**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=46,slow=26,SNR=3.8						
MKAR	**Makanchi Array**	**108.76**	**314**	Pdiff	**Pdif**	**09 33 06.4**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=99,slow=4.5,SNR=1.8						
MKAR				PKiKP	**PKiKP**	**09 37 05.6**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=108,slow=0.4,SNR=10						
KURBB	**Kurchatov Arra**	**111.49**	**318**	PKiKP	**PKiKP**	**09 37 09.7**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=90,slow=1.9,SNR=8.4						
EMPR	**Esperanza - Ma**	**115.69**	**78**		**PKiKP**	**09 37 20.6**	**+0.1**
ARCES	**ARCESS Array B**	**125.89**	**350**	PKP	**PKPdf**	**09 37 38.9**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=354,slow=1.9,SNR=14						
FINES	**FINESS Array B**	**132.76**	**344**	PKP	**PKPdf**	**09 37 49.5**	**-2.4**
	comp=Z,1.2nm,0.6s,baz=93,slow=3.8,SNR=6.6						
FINES				SKP	**SKPab**	**09 40 30.4**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=98,slow=3.9,SNR=4.2						
FINES	**FINESS Array B**	**132.76**	**344**		**PKPdf**	**09 37 52.3**	**+0.4**
NOA	**NORSAR Array B**	**135.95**	**353**	PKP	**PKPdf**	**09 37 57.7**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=14,slow=4.1,SNR=3.3						
RGN	**Rugen**	**141.90**	**349**	*e*PKPbc	**PKPdf**	**09 38 06.7**	**-2.2**
	baz=17,slow=2.9						
HLG	**Helgoland**	**143.04**	**354**	*e*PKPbc	PKPbc	09 38 09.8	+0.9
	baz=17,slow=2.9						
BNN	**Bunyan**	**143.28**	**312**		PKPbc	09 38 10.7	+0.2
VASR	**Vaslui**	**143.69**	**329**	⇓P	**PKPdf**	**09 38 11.8**	**-0.5**
RUE	**Ruedersdorf**	**143.76**	**347**	*e*PKPbc	**PKPdf**	**09 38 11.9**	**-0.3**
	baz=17,slow=2.9						
BUR08	**Bucovina Ar. S**	**144.18**	**332**		**PKPdf**	**09 38 14.3**	**+1.0**
OJC	**Ojcow**	**144.18**	**340**	*e*PKP	**PKPdf**	**09 38 13.1**	**0.0**
OJC	**Ojcow**	**144.18**	**340**		PKPbc	09 38 12.8	+0.1
BURAR	**Bucovina Array**	**144.19**	**332**	⇑P	**PKPdf**	**09 38 14.0**	**+0.7**
BURAR	**Bucovina Array**	**144.19**	**332**		**PKPdf**	**09 38 14.1**	**+0.8**
TESR	**Tescani**	**144.34**	**330**	⇓P	**PKPab**	**09 38 13.8**	**+0.1**
KOLS	**Kolonicke sedl**	**144.38**	**336**	*e*PKP	**PKPab**	**09 38 14.3**	**+0.5**
FLTG	**Flechtingen**	**144.39**	**350**	*e*PKPbc	**PKPdf**	**09 38 13.3**	**0.0**
	comp=Z,15nm,0.8s,baz=17,slow=2.9						
BR131	**Keskin Array S**	**144.40**	**315**		**PKPdf**	**09 38 14.1**	**+0.1**
BRTR	**Keskin Array B**	**144.40**	**315**	PKP	**PKPdf**	**09 38 14.1**	**+0.1**
	comp=Z,6.6nm,0.8s,baz=124,slow=4.0,SNR=37						
BRTR	**Keskin Array B**	**144.40**	**315**		**PKPab**	**09 38 14.5**	**+0.1**
NRDL	**Niedersach Rie**	**144.42**	**351**	*e*PKPbc	**PKPdf**	**09 38 13.4**	**+0.1**
	comp=Z,7.8nm,0.9s,baz=17,slow=2.9						
CFR	**Carcaliu**	**144.47**	**327**	⇑P	**PKPdf**	**09 38 11.7**	**-2.1**
TPGR	**Topolog**	**144.59**	**326**	⇓P	**PKPab**	**09 38 14.9**	**+0.1**
KSP	**Ksiaz**	**144.68**	**344**	*e*PKP	**PKPab**	**09 38 15.1**	**+0.3**
NIE	**Niedzica**	**144.69**	**339**	*e*PKP	**PKPab**	**09 38 16.1**	**+1.1**
PLOR	**Plostina**	**144.81**	**329**	⇓P	**PKPab**	**09 38 15.8**	**+0.2**
TIRR	**Tirgusor**	**144.86**	**326**	⇓P	PKPbc	09 38 14.8	-0.1
TIRR	**Tirgusor**	**144.86**	**326**	PKPdf	**PKPdf**	**09 38 14.4**	**+0.1**
IBBN	**Ibbenburen**	**144.91**	**353**	*e*PKPbc	**PKPab**	**09 38 15.5**	**-0.1**
	comp=Z,16nm,0.8s,baz=17,slow=2.9						
HARR	**Harsova**	**144.96**	**326**	⇑P	**PKPab**	**09 38 16.1**	**0.0**
OSTC	**Ostas**	**144.96**	**344**	*e*PKP	PKPbc	09 38 15.3	+0.2
CHVC	**Chvalec**	**144.97**	**344**	*e*PKP	**PKPab**	**09 38 15.7**	**-0.3**
CLZ	**Clausthal**	**145.01**	**350**	*e*PKPbc	**PKPbc**	**09 38 15.2**	**-0.1**
	comp=Z,6.4nm,0.7s,baz=17,slow=2.9						
CLL	**Collm**	**145.03**	**347**		**PKPbc**	**09 38 15.6**	**+0.4**
CLL	**Collm**	**145.03**	**347**	⇓ *i* PKPbc	**PKPbc**	**09 38 15.5**	**+0.3**
	comp=Z,17nm,0.7s						
CLL	**Collm**	**145.03**	**347**	*e*PKPbc	**PKPbc**	**09 38 15.3**	**+0.1**
	baz=17,slow=2.9						
OKC	**Ostrava-Krasne**	**145.04**	**341**	*e*PKP	**PKPbc**	**09 38 15.7**	**+0.4**
UPC	**Upice**	**145.06**	**344**	*e*PKP	**PKPab**	**09 38 16.2**	**-0.1**
DPC	**Dobruska-Polom**	**145.12**	**343**	*e*PKP	**PKPab**	**09 38 16.3**	**-0.3**
LANS	**Liptovska Anna**	**145.21**	**339**	*e*PKP	**PKPab**	**09 38 17.5**	**+0.5**
BRG	**Berggiesshubel**	**145.23**	**346**	*i* PKP	**PKPab**	**09 38 16.6**	**-0.3**
BRG				Amp		09 38 17.3	
	comp=Z,8.9nm,0.8s						
BRG	**Berggiesshubel**	**145.23**	**346**	*e*PKPbc	**PKPab**	**09 38 16.4**	**-0.5**
	comp=Z,5.5nm,0.8s,baz=17,slow=2.9						
KRLC	**Kraliky**	**145.24**	**343**	*e*PKP	**PKPab**	**09 38 16.9**	**-0.2**
MORC	**Moravsky Berou**	**145.28**	**342**	⇑P	**PKPab**	**09 38 16.6**	**+0.4**
MORC	**Moravsky Berou**	**145.28**	**342**	*e*PKP	**PKPab**	**09 38 16.7**	**-0.6**
FBE	**Freiberg**	**145.32**	**347**	*e*PKPbc	**PKPbc**	**09 38 16.3**	**+0.2**
	comp=Z,9.1nm,0.7s,baz=17,slow=2.9						
DOPR	**Dopca**	**145.34**	**330**	⇓P	**PKPab**	**09 38 17.6**	**0.0**
GTTG	**Gottingen**	**145.36**	**351**	*e*PKPbc	**PKPbc**	**09 38 16.7**	**+0.5**
	comp=Z,9.4nm,0.8s,baz=17,slow=2.9						
NEUB	**Neuenburg**	**145.37**	**349**	*e*PKPbc	**PKPbc**	**09 38 16.5**	**+0.2**
	comp=Z,12nm,0.7s,baz=17,slow=2.9						
PVCC	**Panska Ves**	**145.41**	**345**	*e*PKP	**PKPab**	**09 38 17.3**	**-0.4**
MLR	**Muntele Rosu**	**145.41**	**329**		**PKPbc**	**09 38 17.1**	**+0.3**
BUG	**Bochum--Univer**	**145.81**	**354**	*e*PKPbc	**PKPbc**	**09 38 18.1**	**+0.6**
	baz=17,slow=2.9						
KASTN	**Kahler Asten**	**145.91**	**352**	*e*PKPbc	**PKPbc**	**09 38 17.9**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=17,slow=2.9						
PRU	**Pruhonice**	**145.91**	**345**	*e*PKP	**PKPbc**	**09 38 17.7**	**-0.2**
MOX	**Moxa**	**145.94**	**348**	*e*PKPbc	**PKPbc**	**09 38 17.8**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=17,slow=2.9						
VRAC	**Vranov**	**145.98**	**342**	⇑P	**PKPdf**	**09 38 17.0**	**+0.8**
VRAC	**Vranov**	**145.98**	**342**	*e*PKP	**PKPbc**	**09 38 18.8**	**+0.7**
VYHS	**Vyhne**	**145.99**	**339**	*e*PKP	**PKPbc**	**09 38 19.0**	**+0.9**
TANN	**Tannenbergstha**	**145.99**	**347**	*e*PKPbc	**PKPbc**	**09 38 18.3**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=17,slow=2.9						
WERD	**Werda**	**145.99**	**348**	*e*PKPbc	**PKPbc**	**09 38 18.5**	**+0.4**
	comp=Z,5.9nm,0.8s,baz=17,slow=2.9						
JAVC	**Velka Javorina**	**146.05**	**341**	*e*PKP	**PKPab**	**09 38 20.1**	**-0.3**
GUNZ	**Gunzen**	**146.06**	**348**	*e*PKPbc	**PKPbc**	**09 38 18.3**	**0.0**
	comp=Z,4.8nm,0.7s,baz=17,slow=2.9						
PSZ	**Piszkesteto**	**146.10**	**338**	⇓P	**PKPbc**	**09 38 18.2**	**-0.3**
WERN	**Wernitzgruen**	**146.13**	**347**	*e*PKPbc	**PKPbc**	**09 38 19.0**	**+0.5**
	baz=17,slow=2.9						
ARR	**Arges**	**146.14**	**330**	⇑P	**PKPab**	**09 38 20.1**	**-0.7**
KRUC	**Moravsky**	**146.26**	**342**	*e*PKP	**PKPbc**	**09 38 19.5**	**+0.7**
TREC	**Trest**	**146.30**	**343**	*e*PKP	**PKPdf**	**09 38 17.6**	**+0.9**
MANZ	**Manzenberg**	**146.47**	**348**	*e*PKPbc	**PKPbc**	**09 38 19.5**	**0.0**
	comp=Z,0.6nm,0.8s,baz=17,slow=2.9						
MODS	**Modra-Piesok**	**146.60**	**341**	*e*PKP	**PKPbc**	**09 38 20.4**	**+0.6**
ROTZ	**Rotzenmuhle**	**146.66**	**347**	*e*PKPbc	**PKPbc**	**09 38 20.3**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=17,slow=2.9						
AHRW	**Bad Neuenahr-A**	**146.72**	**353**	*e*PKPbc	**PKPbc**	**09 38 20.5**	**+0.4**
	baz=17,slow=2.9						
MEM	**Membach**	**146.76**	**355**	*d*PKP	**PKPbc**	**09 38 21.0**	**+0.8**
BTNL	**Ternell**	**146.77**	**355**	*d*PKP	**PKPbc**	**09 38 20.6**	**+0.4**
BSTI	**Sart Tilman**	**146.82**	**355**	*d*PKP	**PKPbc**	**09 38 20.8**	**+0.5**
TNS	**Taunus Mts**	**146.87**	**352**	*e*PKPbc	**PKPbc**	**09 38 20.8**	**+0.2**
	comp=Z,5.0nm,0.6s,baz=17,slow=2.9						
GRF	**Grafenberg Arr**	**146.93**	**348**	*e*PKPbc	**PKPbc**	**09 38 21.0**	**+0.4**
	baz=17,slow=2.9						
KHC	**Kasperske Hory**	**146.94**	**345**	*e*PKP	**PKPbc**	**09 38 21.3**	**+0.5**
GZR	**Gura Zlata**	**146.97**	**332**	⇓P	**PKPbc**	**09 38 21.1**	**+0.1**
CKRC	**Cesky Krumlov**	**147.05**	**344**	*e*PKP	**PKiKP**	**09 38 22.0**	**-0.9**
WET	**Wettzell**	**147.10**	**346**	*e*PKPbc	**PKPbc**	**09 38 21.3**	**+0.1**
	baz=17,slow=2.9						
BMRD	**Maredsous**	**147.16**	**356**	*d*PKP	**PKPbc**	**09 38 21.5**	**+0.3**
GEC2	**GERESS Array S**	**147.18**	**345**	*e*PKPbc	**PKPbc**	**09 38 21.9**	**+0.4**
	comp=Z,5.4nm,0.8s,baz=17,slow=2.9						
GERES	**GERESS Array B**	**147.18**	**345**	PKPbc	**PKPbc**	**09 38 21.9**	**+0.4**
	comp=Z,5.3nm,0.7s,baz=29,slow=3.0,SNR=25						
GERES	**GERESS Array B**	**147.18**	**345**		**PKPbc**	**09 38 21.7**	**+0.2**
BZS	**Buzias**	**147.31**	**333**	⇓P	**PKPbc**	**09 38 22.0**	**+0.2**
DOU	**Dourbes**	**147.38**	**356**	*d*PKP	**PKPbc**	**09 38 22.2**	**+0.4**
CONA	**Conrad Observa**	**147.43**	**342**	*e*P	**PKPbc**	**09 38 22.9**	**+0.7**
	comp=Z,7.5nm,0.7s						
RONA	**Rosalia, Austr**	**147.50**	**341**	*e*P	**PKPbc**	**09 38 22.9**	**+0.7**
	comp=Z,5.7nm,0.6s,baz=8.0						
HERR	**Herculane**	**147.53**	**332**	⇓P	**PKPbc**	**09 38 22.6**	**+0.2**
WLF	**Walferdange**	**147.68**	**354**	*e*PKPbc	**PKiKP**	**09 38 23.6**	**-0.5**
	comp=Z,16nm,0.8s,baz=17,slow=2.9						
WLF	**Walferdange**	**147.68**	**354**	*d*PKiKP	**PKiKP**	**09 38 23.6**	**-0.5**
MOA	**Molln**	**147.95**	**344**	*e*P	**PKPbc**	**09 38 23.6**	**+0.2**
	comp=Z,10.0nm,1.2s						
STU	**Stuttgart**	**148.17**	**350**	*e*PKPbc	**PKiKP**	**09 38 24.9**	**-0.2**
	comp=Z,22nm,0.8s,baz=17,slow=2.9						
BLKB	**Belogradchik**	**148.37**	**330**	⇓P	**PKPbc**	**09 38 24.9**	**+0.3**
FRGS	**Fruska Gora**	**148.43**	**335**	⇓P	**PKPbc**	**09 38 24.2**	**-0.5**
RJOB	**Jochberg**	**148.43**	**345**	*e*PKPbc	**PKiKP**	**09 38 25.2**	**-0.6**
	baz=17,slow=2.9						
BFO	**Black Forest**	**148.74**	**351**	*e*PKPbc	**PKiKP**	**09 38 26.1**	**-0.3**
	comp=Z,8.5nm,0.9s,baz=17,slow=2.9						
SOKA	**Soboth**	**148.80**	**342**	*i* P	**PKPbc**	**09 38 25.5**	**-0.2**
	comp=Z,3.3nm,0.6s						
VTS	**Vitosha**	**148.84**	**328**	⇓P	**PKiKP**	**09 38 26.5**	**-0.4**
AKAS	**Kas**	**148.89**	**312**		**PKPbc**	**09 38 25.8**	**-0.4**
KBA	**Koelnbreinsper**	**148.91**	**344**	*i* P	**PKPbc**	**09 38 25.5**	**-0.5**
	comp=Z,4.5nm,0.5s,SNR=8.5						
UBR	**Ueberruh**	**149.07**	**349**	*e*PKPbc	**PKiKP**	**09 38 27.0**	**-0.1**
	comp=Z,14nm,1.1s,baz=17,slow=2.9						
WATA	**Walderalm**	**149.09**	**347**	*e*P	**PKPbc**	**09 38 26.4**	**0.0**
	comp=Z,4.4nm,0.5s,SNR=8.1						
RETA	**Reutte**	**149.12**	**348**	*e*P	**PKPbc**	**09 38 26.4**	**0.0**
	comp=Z,4.3nm,0.7s						
WTTA	**Wattenberg**	**149.15**	**346**	*i* P	**PKPbc**	**09 38 26.8**	**+0.2**
	comp=Z,8.1nm,0.4s,SNR=16						
MOTA	**Moosalm**	**149.19**	**347**	*i* P	**PKPbc**	**09 38 26.7**	**0.0**
	comp=Z,15nm,1.1s,SNR=6.5						
MYKA	**Terra Mystica**	**149.24**	**343**	*e*P	**PKPbc**	**09 38 26.1**	**-0.5**
	comp=Z,5.0nm,0.4s,SNR=4.1						
SQTA	**Sankt Quirin**	**149.28**	**347**	*i* P	**PKPbc**	**09 38 27.0**	**+0.2**
	comp=Z,5.9nm,0.5s,SNR=7.8						
VNDS	**Vrh nad Dolski**	**149.42**	**342**	*i* PKPbc	**PKPbc**	**09 38 27.0**	**0.0**
ABTA	**Abfaltersbach**	**149.43**	**345**	*i* P	**PKPbc**	**09 38 26.7**	**-0.4**
	comp=Z,12nm,0.6s,SNR=8.9						
DAVA	**Damuels**	**149.49**	**349**	*i* P	**PKiKP**	**09 38 28.0**	**-0.1**
	comp=Z,5.4nm,0.7s,SNR=5.4						
LJU	**Ljubljana**	**149.53**	**342**	*i* PKPbc	**PKPbc**	**09 38 27.4**	**+0.2**
FETA	**Feichten**	**149.57**	**347**	*i* P	**PKPbc**	**09 38 27.9**	**+0.3**
	comp=Z,11nm,1.0s						
STAL	**STALIGIAL**	**149.83**	**344**		**PKPbc**	**09 38 27.5**	**-0.5**
TUE	**Stuetta**	**150.37**	**349**		**PKiKP**	**09 38 30.1**	**+0.1**
KARP	**Karpathos**	**150.95**	**313**		**PKPbc**	**09 38 30.5**	**-0.4**
LIT	**Litokhoron**	**151.04**	**325**		**PKPbc**	**09 38 30.5**	**-0.5**
FNA	**Florina**	**151.13**	**328**		**PKPbc**	**09 38 31.0**	**-0.3**
IDI	**Anoyia**	**152.64**	**315**		**PKiKP**	**09 38 35.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**175.68**	**183**	PKP	**PKPdf**	**09 38 47.1**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=6.5,slow=4.2,SNR=4.4						
TORD				PKPab	**PKPab**	**09 40 29.4**	**0.0**
	comp=Z,1.3nm,0.8s,baz=173,slow=3.5,SNR=6.0						
TORD				PP	**PP**	**09 44 21.6**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=168,slow=3.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**175.68**	**183**	PKPdf	**PKPdf**	**09 38 47.0**	**-0.7**
TORD				PKPab	**PKPab**	**09 40 29.0**	**-0.3**

IDC ***17*** *09:23:38.2◦0.5,0.˝18S×80.˝66W, h0km, mb4.9/24, mb1 5.0/26,mb1mx4.9/34,mbtmp4.9/26,ML3.0/3,MS5.0/52, Ms1 5.0/52,ms1mx4.9/67,Error ellipse: s-maj=17.6km s-min=10.5km az=52.0*

MOS ***17*** *09:23:39.8◦0.9,0.˝12S×80.˝62W, h15km, mb5.7/53,Error ellipse: s-maj=8.5km s-min=5.9km az=93.1*

IGQ ***17*** *09:23:39◦0.8,0.˝3S×8.˝1W±˝, h7km*

NEIC ***17*** *09:23:40.9,0.˝26S×80.˝73W, h12km,Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr1.22; Mθθ0.43; Mϕϕ-1.65; Mrθ-0.02; Mθϕ0.20; Mϕr-2.34; Fault plane solution: M=2.78000×1017 NP1:φs180.22000°, δ74.26000°, λ94.32000°. NP2:φs344.67000°, δ16.31000°, λ75.05000°. Principal axes: T 2.5400, Plg61.0000°, Azm96.0000°; N 0.4334, Plg4.0000°, Azm359.0000°; P -2.9734, Plg29.0000°, Azm267.0000°;*

VAO ***17*** *09:23:41.2◦0.4,0.˝25S×80.˝48W, h10km, mb5.2*

NEIC ***17*** *09:23:41.0◦2.2,0.˝23S×0.˝05×80.˝69W±0.˝06, h10km±1km, mb5.6/245,Ms_20 5.2/173,Mwb5.6/61,Error ellipse: s-maj=10.2km s-min=9.2km az=256.0*

GCMT ***17*** *09:23:43.0◦0.3,0.˝30S×0.˝03×81.˝03W±0.˝02, h18km±1km, MW5.7/107,Moment Tensor Solution. s24,c25; s107,c168; Duration: 187 Moment tensor: Scale 1017 Nm; Mrr3.00±.21; Mθθ-0.54±.11; Mϕϕ-2.46±.13; Mrθ-0.55±.27; Mrϕ-0.38±.06; Mθϕ-3.40±.36; Best double couple: M=4.41700×1017 NP1:φs11.00000°, δ19.00000°, λ92.00000°. NP2:φs190.00000°, δ71.00000°, λ89.00000°.*

Principal axes: T 4.6520, Plg64.0000°, Azm99.0000°; N -0.4690, Plg1.0000°, Azm190.0000°; P -4.1820, Plg26.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 17 09:23:39.5±0.2, 0˙24S±0˙03×80˙71W±0˙03, h9km, n1335, σ1s98/1549, mb5.5/213, MS5.1/149, 100C-112D, Fault plane solution: NP1:φs200.60861°, δ87.94939°, λ95.57550°. NP2:φs310.73895°, δ5.93952°, λ20.23020°.

Principal axes: T Plg46.7702°, Azm116.3653°; N Plg5.5719°, Azm20.4085°; P Plg42.6883°, Azm285.2457°;

Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.50**	**92**	P	**Pb**	**09 23 51.0**	**+0.5**
JAMA				S	**Sn**	**09 24 01.0**	**-0.7**
FLF1	**Flavio Alfaro-**	**0.87**	**97**	P	**Pn**	**09 23 59.0**	**+1.0**
FLF1				S	**Sn**	**09 24 16.0**	**+5.2**
MAG1	**Magdalena**	**0.95**	**80**	P	**Pb**	**09 23 59.0**	**0.0**
AV18	**Acelerografo,**	**1.35**	**66**	P	**Pb**	**09 24 05.0**	**+0.1**
AV21	**Acelerografo,**	**1

GUVC San Jose del G 8.54 71 eP Pn 09 25 43.4 0.0
PNME Penonome 8.68 2 eP Pn 09 25 45.3 0.0
SPBC San Pablo de B 8.84 48 eP Pn 09 25 51.1 +3.4
CDITO Canoas 9.02 346 Pn Pn 09 25 54.0 +4.0
UPD2 Meteti 9.14 17 eP Pn 09 25 53.9 +2.3
PTBC PUERTO BERRIO, 9.18 43 eP Pn 09 25 52.0 -0.2
BRU2 Volcan 9.19 348 Pn 09 25 55.1 +2.6
UPA Univ. de Panam 9.24 7 eP Pn 09 25 54.9 +1.9
RIOS Rincon, Osa 9.31 343 Pn 09 25 54.9 +0.8
BCIP Isla Barro Col 9.39 5 P Pn 09 25 57.5 +2.4
BCIP Isla Barro Col 9.39 5 Pn 09 25 57.5 +2.4
BCIP Isla Barro Col 9.39 5 eP Pn 09 25 58.5 +3.5
BCIP Isla Barro Col 9.39 5 P Pn 09 25 58.0 +2.9
URIC San Jos de Ur 9.47 33 eP Pn 09 25 57.8 +1.6
PAYG Puerto Ayora 9.59 267 Pn 09 25 58.4 +0.6
PAYG Puerto Ayora 9.59 267 eP Pn 09 25 56.8 -1.0
PAYG Puerto Ayora 9.59 267 P Pn 09 25 58.0 +0.2
PTGC Puerto Gaitan, 9.64 63 eP Pn 09 25 57.8 -0.7
ZARC Zaragoza, Cauc 9.65 37 Pn Pn 09 26 01.0 +2.4
ZARC Zaragoza, Cauc 9.65 37 eP Pn 09 26 01.6 +3.0
RUSC La Rusia 9.75 51 eP Pn 09 26 11.2 +11
DRK0 Durika 9.78 345 Pn Pn 09 26 01.3 +0.7
SRBA San Rafael, Bu 9.78 344 Pn Pn 09 25 60.0 -0.5
PEZE Perez Zeledon, 10.01 343 Pn Pn 09 26 05.0 +1.4
LCBC Los crdobas, 10.02 25 eP Pn 09 26 04.5 +0.8
RIMA Rio Macho 10.43 343 Pn Pn 09 26 10.6 +1.0
CVTR Volcan Turrial 10.64 343 Pn 09 26 15.2 +2.6
HDC Heredia 10.73 342 Pn 09 26 16.3 +2.8
CZSB Cruzeiro do Su 10.91 133 eP Pn 09 26 16.3 +0.4
PAMC Pamplona, Colo 10.98 47 eP Pn 09 26 21.8 +4.5
TAMC Tame, Arauca 11.10 53 eP Pn 09 26 17.0 -1.6
OCAC Ocana 11.19 41 Pn 09 26 23.9 +4.0
OCAC Ocana 11.19 41 eP Pn 09 26 18.9 -1.0
JTS Las Juntas de 11.29 338 Pn Pn 09 26 22.2 +1.1
0.7nm,0.3s,baz=189,slow=6.3,SNR=14
JTS LR LR 09 29 28.3
comp=Z,5µm,20.5s,baz=220,slow=31
JTS Las Juntas de 11.29 338 eP Pn 09 26 23.0 +1.9
JTS Las Juntas de 11.29 338 Pn 09 26 23.0 +1.9
JTS Las Juntas de 11.29 338 eP Pn 09 26 18.9 -2.2
DUNO Dulce Nombre, 11.31 335 Pn 09 26 23.3 +1.9
TBTG Tabatinga, AM 11.48 110 eP Pn 09 26 21.8 -1.9
TBTG Tabatinga, AM 11.48 110 eP Pn 09 26 23.1 -0.6
SJCC San Jacinto, C 11.48 28 Pn Pn 09 26 25.7 +2.0
SJCC San Jacinto, C 11.48 28 eP Pn 09 26 23.7 -0.1
COVE Coope Vega, Sa 11.49 341 Pn 09 26 26.7 +2.7
ORTG Ortega, Santa 11.55 336 Pn Pn 09 26 27.0 +2.3
HZTE Horizontes, Gu 11.92 336 Pn 09 26 33.0 +3.2
LL1C La Loma 1 Cana 12.05 36 eP Pn 09 26 33.3 +1.7
LL5C La Loma 5 El P 12.12 35 eP Pn 09 26 33.3 +0.8
NNA Nana 12.28 162 Pn Pn 09 26 37.5 +2.7
4.1nm,0.3s,baz=343,slow=11,SNR=8.9
NNA Sn Sn 09 28 48.7 -3.2
1.8nm,0.3s,baz=154,slow=20,SNR=1.1
NNA LR LR 09 31 47.5
comp=Z,3µm,21.8s,baz=338,slow=40
NNA Nana 12.28 162 eP Pn 09 26 35.2 +0.4
NNA pmax pmax
comp=Z,53nm,1.6s
LL6C La Loma 6 Bece 12.37 37 eP Pn 09 26 35.2 -0.8
ESPN Las Esperanzas 12.86 344 Pn 09 26 46.4 +3.8
ACON Acoyapa 12.92 340 Pn 09 26 45.1 +1.7
SOCV Socops 12.97 49 eP Pn 09 26 47.7 +3.5
SMRC Santa Marta, M 13.04 29 eP Pn 09 26 43.8 -1.2
SDV Santo Domingo 13.53 48 Pn Pn 09 26 50.3 -1.6
comp=Z,0.7nm,0.3s,baz=233,slow=11,SNR=30
SDV LR LR 09 32 43.6
comp=Z,12µm,18.9s,baz=215,slow=41
SDV Santo Domingo 13.53 48 Pn Pn 09 26 52.4 +0.5
SDV Santo Domingo 13.53 48 eP Pn 09 26 55.3 +3.4
SDV Santo Domingo 13.53 48 eP Pn 09 26 52.0 +0.1
BOAB BOACO BROADBAND 13.54 339 Pn Pn 09 26 53.6 +1.7
CRJC Cerrejon, Guaj 13.63 35 eP Pn 09 26 51.7 -1.5
MATN Matagalpa 14.07 339 Pn 09 27 01.1 +1.8
CRIN San Cristobal 14.32 334 Pn 09 27 02.6 0.0
URIC Uribia, Colomb 14.69 36 Pn Pn 09 27 07.7 0.0
URIC Uribia, Colomb 14.69 36 eP Pn 09 27 05.9 -1.8
DABV Dabajuro 14.94 42 eP Pn 09 27 09.1 -1.9
BAUV El Baul 15.57 54 Pn 09 27 18.9 -0.5
BAUV IAmb IAmb 09 27 47.2
comp=Z,952nm,1.8s
TGUH Tegucigalpa,Un 15.63 336 Pn Pn 09 27 21.8 +1.5
TGUH Tegucigalpa,Un 15.63 336 eP Pn 09 27 21.2 +1.0
SNET Serv Nac Est T 16.21 329 P P 09 27 29.4 -1.5
SNET IAmb IAmb 09 27 34.2
comp=Z,909nm,1.6s
MTO3 Montecristo 16.88 330 P P 09 27 37.5 -1.0
MTO3 IAmb IAmb 09 27 43.4
comp=Z,717nm,1.8s
HATO Hato, Curacao 16.98 43 P P 09 27 39.4 +0.1
HATO IAmb IAmb 09 28 00.6
comp=Z,750nm,1.2s
ESQI Esquipulas 17.01 330 P P 09 27 40.6 +0.8
ETMB Extrema 17.27 124 eP Pn 09 27 38.4 -2.7
BIRV Birongo 17.88 53 P Pn 09 27 48.7 0.0
BIRV IAmb IAmb 09 27 57.0
comp=Z,711nm,1.7s
MTDJ Mount Denham 18.62 9 Pn 09 27 58.8 +1.0
MTDJ IAmb IAmb 09 28 19.8
comp=Z,782nm,1.6s
MTDJ Mount Denham 18.62 9 eP P 09 27 56.7 -0.8
MTDJ Mount Denham 18.62 9 eP Pn 09 27 58.6 +0.8
MTDJ IVmB_BB 09 31 41.4
comp=Z,5µm,4.5s
MTDJ IVmB_BB 09 31 52.2
comp=Z,5µm,4.5s
HUEH Huehuetenango 18.79 326 P Pn 09 28 01.2 +1.2
PETF Flores 19.30 333 P Pn 09 28 05.4 -0.5
FSCY Frank Sound, G 19.44 359 P P 09 28 03.9 -2.5
FSCY Frank Sound, G 19.44 359 eP P 09 27 59.1 -7.3
LCCY Blossom Villag 19.80 2 P Pn 09 28 11.2 -0.6
CBCY The Bluff, Cay 19.88 3 P P 09 28 08.7 -2.5
CBCY IAmb IAmb 09 28 28.0
comp=Z,686nm,1.7s
CCIG Comitan 19.92 326 P Pn 09 28 12.9 -0.6
CCIG IAmb IAmb 09 28 39.8
comp=Z,402nm,1.6s
JAKH Jacmel 20.05 23 P Pn 09 28 14.6 -0.3
JAKH IAmb IAmb 09 28 22.6
comp=Z,283nm,1.3s
MACA Manacapuru-AM 20.22 98 eP P 09 28 14.5 -0.5
LGNH Logne 20.27 23 P Pn 09 28 18.0 +0.6
LGNH IAmb IAmb 09 28 44.9
comp=Z,652nm,1.4s
LGNH Logne 20.27 23 eP Pn 09 28 16.7 -0.7
LGNH IVmB_BB 09 32 17.8
comp=E,4µm,7.2s
LGNH IVmB_BB 09 32 22.3
comp=N,3µm,4.2s
BOAV Boa Vista 20.35 82 eP P 09 28 16.0 -0.4
LMGC Las Mercedes 20.51 10 eP P 09 28 18.0 0.0
LMGC IVmB_BB 09 32 37.3
comp=E,6µm,7.3s
LMGC IVmB_BB 09 33 16.3
comp=N,3µm,6.7s
RCC Rio Carpintero 20.70 13 eP P 09 28 20.1 -0.1
GTBY Guantanamo Bay 20.78 15 Pn 09 28 23.2 -0.3
GTBY Guantanamo Bay 20.78 15 eP P 09 28 17.8 -3.2
GTBY Guantanamo Bay 20.78 15 eP P 09 28 18.3 -2.7
PB12 IPOC Station P 20.91 151 P P 09 28 21.4 -1.2
PB12 IAmb IAmb 09 28 33.5
comp=Z,612nm,2.0s
GTMO Guantanamo 20.92 15 eP P 09 28 22.9 +0.4
BANI BANI 21.13 28 P P 09 28 26.5 +1.5
SDDR Presa de Saban 21.23 25 P P 09 28 27.1 +1.1
SDDR IAmb IAmb 09 29 19.1
comp=Z,724nm,1.7s
SDDR Presa de Saban 21.23 25 eP P 09 28 26.7 +0.8
MASC Masc 21.26 17 eP P 09 28 26.6 +0.4
SDD Santo Domingo 21.40 29 P P 09 28 28.7 +1.0
SDD IAmb IAmb 09 28 30.6
comp=Z,597nm,1.4s
HLGC Holguin 21.49 12 eP P 09 28 29.6 +0.9
HLGC IVmB_BB 09 32 46.0
comp=E,7µm,11.4s
HLGC IVmB_BB 09 34 21.5
comp=N,5µm,7.8s
CCCC Cccc 21.51 8 eP P 09 28 29.1 +0.2
CCCC IVmB_BB 09 32 42.1
comp=N,3µm,6.4s
CCCC IVmB_BB 09 32 44.6
comp=E,6µm,8.9s
MOAC Moa 21.52 15 eP P 09 28 30.4 +1.4

SC01 Santiago de lo 21.86 26 P P 09 28 34.9 +2.2
DR12 Loma Pena Alta 21.94 30 P P 09 28 34.0 +0.4
TRN Trinidad (W) 22.04 60 eP P 09 28 34.3 -0.3
CMIG Matias Romero 22.18 322 P P 09 28 36.1 0.0
comp=E,24nm,1.0s,baz=137,slow=8.7,SNR=18
CMIG LR LR 09 35 24.3
comp=E,4µm,19.6s,baz=156,slow=32
PB11 IPOC Station P 22.21 151 P P 09 28 37.2 +0.5
PB11 IAmb IAmb 09 28 44.4
comp=Z,352nm,1.3s
MGV Manicaragua 22.23 2 eP P 09 28 20.5 -16
MGV IVmB_BB 09 33 00.3
comp=N,3µm,7.5s
MGV IVmB_BB 09 33 00.8
comp=E,2µm,8.9s
PCDR Punta Cana, DR 22.23 32 P P 09 28 37.9 +1.3
GO01 Chusmiza 22.36 150 P P 09 28 39.9 +1.4
TA02 Huaiquique 22.43 153 P P 09 28 37.9 -0.9
CRPR Cabo Rojo, PR 22.54 36 P P 09 28 40.5 +0.6
CRPR IAmb IAmb 09 28 48.4
comp=Z,574nm,1.9s
MLPR Mageyes Islan 22.54 36 P P 09 28 39.8 -0.2
GRGR Grenville 22.56 56 IAMs_20 IAMs_20 09 38 55.2
comp=Z,7µm,18.0s
TA01 Diego Aracena 22.67 154 P P 09 28 41.9 +0.6
TA01 IAmb IAmb 09 28 49.0
comp=Z,256nm,1.3s
PRSN Puerto Rico Se 22.68 35 P P 09 28 43.0 +1.5
ICMP Isla Caja de M 22.79 37 P P 09 28 42.5 -0.1
OBIP Obispado Ponce 22.86 37 P P 09 28 43.8 +0.4
AGPR Aguadilla, PR 22.90 35 P P 09 28 44.3 +0.5
CELP Cerrillos 22.90 37 P P 09 28 44.4 +0.6
PATCX Punta Patache 22.91 154 P P 09 28 44.7 +0.8
SOR Soroa 23.01 355 eP P 09 28 44.9 +0.1
SOR IVmB_BB 09 33 10.4
comp=N,4µm,8.8s
SOR IVmB_BB 09 33 39.7
comp=E,5µm,7.1s
AOPR Arecibo Observ 23.01 36 P P 09 28 45.0 +0.1
TOSP Speyside 23.09 60 P P 09 28 45.6 -0.2
TOSP IAmb IAmb 09 29 07.1
comp=Z,488nm,1.7s
TOSP Speyside 23.09 60 eP P 09 28 40.5 -5.3
SJG San Juan 23.19 37 P P 09 28 46.8 0.0
comp=Z,168nm,1.2s,baz=229,slow=5.5,SNR=56
SJG LR LR 09 40 18.7
comp=Z,4µm,18.1s,baz=204,slow=43
SJG San Juan 23.19 37 P P 09 28 46.3 -0.5
SJG pmax pmax
comp=Z,628nm,1.6s
SJG San Juan 23.19 37 P P 09 28 46.2 -0.5
SJG San Juan 23.19 37 eP P 09 28 42.8 -4.0
GCPR Guaynabo City 23.38 37 P P 09 28 48.9 +0.2
SVB Belmont 23.50 54 eP P 09 28 46.1 -3.9
MTP Monte Pirata 23.54 38 P P 09 28 50.4 +0.1
GRTK Grand Turk 23.56 23 eP P 09 28 50.8 +0.4
CDVI St. Croix 23.79 40 P P 09 28 52.4 -0.3
CUPR Culebra, Puert 23.87 39 P P 09 28 53.2 -0.2
CUPR IAmb IAmb 09 28 59.1
comp=Z,157nm,1.4s
VILB Vilhena 23.93 123 eP P 09 28 54.5 +0.3
STVI Saint Thomas 24.11 39 P P 09 28 55.6 -0.1
SLBI Saint Lucia, B 24.14 53 eP P 09 28 49.1 -6.9
BIM Bigot 24.34 52 eP P 09 28 55.2 -2.8
FDF Fort de France 24.41 52 eP P 09 28 55.2 -3.3
SVN Savane Anatole 24.45 51 P P 09 28 59.9 +0.9
MPOM Morne Pois Mar 24.47 53 P P 09 28 58.3 -0.8
MPOM Morne Pois Mar 24.47 53 eP P 09 28 52.9 -6.2
MDN Morne-Daniel 24.56 50 eP P 09 28 56.0 -4.0
DSLB Salisbury 24.61 50 eP P 09 28 57.1 -3.3
ILAM Ilet Lapin Mar 24.65 52 P P 09 29 00.5 -0.2
ILAM Ilet Lapin Mar 24.65 52 eP P 09 28 57.5 -3.2
DLPL La Plaine 24.68 50 eP P 09 28 57.1 -4.0
TDBA Terre de Bas, 24.70 49 eP P 09 28 57.7 -3.5
SEUS St. Eustatius 24.80 44 eP P 09 28 59.6 -2.5
BBGH Gun Hill 24.83 57 eP P 09 29 00.6 -1.7
MBFL Flemmings, Mon 24.85 46 eP P 09 29 02.3 -0.3
CBE Ff, Capester 24.86 48 eP P 09 29 00.2 -2.5
SIV San Ignacio 24.90 130 P P 09 29 03.7 +0.6
comp=Z,22nm,0.8s,baz=308,slow=8.9,SNR=111
SIV LR LR 09 39 20.8
comp=Z,10µm,21.2s,baz=316,slow=38
LVC Limon Verde 25.02 153 P P 09 29 06.2 +1.8
comp=Z,40nm,1.1s,baz=321,slow=6.5,SNR=34
LVC LR LR 09 40 29.6
comp=Z,3µm,18.6s,baz=316,slow=40
LVC Limon Verde 25.02 153 P P 09 29 06.1 +1.6
LVC IAmb IAmb 09 29 12.9
comp=Z,232nm,1.4s
LVC Limon Verde 25.02 153 eP P 09 29 05.2 +0.7
MAGL Barre de l'ile 25.03 49 eP P 09 29 00.3 -3.9
SMRT St. Maarten 25.12 43 P P 09 29 03.9 -1.2
SMRT St. Maarten 25.12 43 eP P 09 29 01.7 -3.3
ABD La Joyeuse, An 25.20 48 eP P 09 29 02.9 -2.8
ITTB Itaituba 25.28 100 eP P 09 29 06.0 -0.5
ANBD Bethesda, Anti 25.37 46 eP P 09 28 59.2 -8.0
ANWB Willy Bob 25.76 45 P P 09 29 10.2 -0.6
ANWB Willy Bob 25.76 45 eP P 09 29 06.3 -4.5
PTLB Pontes e Lacer 26.12 126 eP P 09 29 14.6 +0.6
NPGB Novo Progresso 26.17 106 eP P 09 29 13.7 -0.9
PDRB Porto dos Gac 26.35 116 eP P 09 29 15.8 -0.5
MALB Monte Alegre 26.48 94 eP P 09 29 17.1 -0.4
UNM Universidad Na 26.58 318 IAMs_20 IAMs_20 09 36 50.7
comp=Z,5µm,19.0s
CLDB Colider 26.91 114 eP P 09 29 20.8 -0.5
DWPF Disney Wildern 28.20 359 S S 09 34 20.6 +2.1
baz=178
MDP Montagnes des 28.53 79 P P 09 29 35.4 -0.4
comp=Z,9.8nm,0.7s,baz=268,slow=6.5,SNR=5.8
MDP LR LR 09 41 35.0
comp=Z,9µm,21.4s,baz=265,slow=38
MCPB Macapa, AP 28.65 90 eP P 09 29 35.9 -0.9
AC06 Mina Casimiro 28.73 161 P P 09 29 38.8 +1.4
AC06 IAmb IAmb 09 29 40.8
comp=Z,187nm,1.9s
GO03 Copiap 28.99 161 P P 09 29 41.1 +1.3
SALV Santo Antonio 29.18 123 eP P 09 29 41.5 0.0
PP1B Ponte de Pedra 30.71 126 eP P 09 29 55.4 +0.3
ZAIG Zacatecas 31.24 318 P P 09 30 01.5 +1.5
PRPB Parauapebas 31.39 101 eP P 09 30 00.3 -0.9
SNDB Serra Nova Dou 31.43 113 eP P 09 30 01.4 0.0
CO06 Fray Jorge 31.47 165 P P 09 30 02.7 +1.1
TIGA Tifton 31.63 355 P P 09 30 05.1 +2.2
baz=174
AQDB Aquidauana 31.66 131 P P 09 30 03.5 +0.1
AQDB Aquidauana 31.66 131 eP P 09 30 03.5 +0.1
BRAL Brewton 31.82 350 P P 09 30 06.4 +1.7
baz=168
BRAL Brewton 31.82 350 P P 09 30 06.3 +1.7
baz=168
250A Grady 32.48 351 P P 09 30 10.5 +0.1
baz=170
250A S S 09 35 23.8 -1.7
baz=170
TMAB Tom-Au,PA,Br 32.67 94 eP P 09 30 13.5 +1.1
154A Montrose 32.76 356 P P 09 30 12.5 -0.4
baz=176
154A S S 09 35 29.6 -0.2
baz=176
344A Westbrook Farm 32.93 344 P P 09 30 15.1 +0.7
baz=161,SNR=6.9
152A Waverly Hall 32.95 354 P P 09 30 15.1 +0.5
baz=173
152A S S 09 35 30.6 -2.3
baz=173
441A DeRidder 33.03 340 S S 09 35 34.7 +0.6
baz=157
NHSC New Hope 33.18 1 P P 09 30 18.9 +2.4
baz=181
HKT Hockley 33.31 336 eP P 09 30 19.0 +1.4
HKT pmax pmax
comp=Z,65nm,1.7s
HKT Hockley 33.31 336 P P 09 30 19.2 +1.6
HKT IAmb IAmb 09 30 27.4
comp=Z,131nm,1.8s
HKT Hockley 33.31 336 S S 09 35 38.3 0.0
baz=152
342A Flagon Creek P 33.32 342 P P 09 30 18.9 +1.2
342B Flagon Creek P 33.32 342 P P 09 30 17.4 -0.4
baz=159,SNR=5.9
HAW Hawthorne Fire 33.44 359 S S 09 35 38.5 -1.8
baz=178
GOGA Godfrey 33.58 356 P P 09 30 20.4 +0.4
GOGA pmax pmax
comp=Z,88nm,1.5s
GOGA Godfrey 33.58 356 P P 09 30 20.4 +0.4
GOGA IAmb IAmb 09 30 46.4
comp=Z,88nm,1.5s
GOGA Godfrey 33.58 356 S S 09 35 39.8 -2.7
baz=175
GOGA Godfrey 33.58 356 P P 09 30 19.8 -0.2
baz=175
GOGA S S 09 35 41.0 -1.5
baz=175
833A Chaparral WMA, 33.58 329 P P 09 30 21.8 +1.6
833A IAmb IAmb 09 30 34.7
comp=Z,76nm,1.4s
833A Chaparral WMA, 33.58 329 P P 09 30 21.3 +1.2
baz=145,SNR=7.2
833A S S 09 35 42.8 +0.1
baz=145
833A Chaparral WMA, 33.58 329 P P 09 30 21.7 +1.6
baz=145,SNR=7.2
833A S S 09 35 43.1 +0.4
baz=145
VBMS Vicksburg 33.59 345 P P 09 30 22.2 +2.0
baz=162
LRAL Lakeview Retre 33.63 350 P P 09 30 20.3 -0.2
LRAL IAmb IAmb 09 30 39.2
comp=Z,116nm,1.6s
LRAL Lakeview Retre 33.63 350 P P 09 30 20.7 +0.2
baz=169,SNR=17
LRAL S S 09 35 37.0 -6.3
baz=169
LRAL Lakeview Retre 33.63 350 P P 09 30 20.1 -0.3
baz=169,SNR=17
LRAL S S 09 35 41.0 -2.4
baz=169
146A Union 33.64 347 P P 09 30 20.9 +0.3
baz=165,SNR=6.4
146A S S 09 35 41.8 -1.8
baz=165
Z51A Franklin 33.65 353 P P 09 30 20.4 -0.2
baz=172
Z51A S S 09 35 41.7 -1.9
baz=172
VA03 San Esteban 33.73 164 P P 09 30 22.1 +0.6
VA03 IAmb IAmb 09 30 24.9
comp=Z,219nm,1.9s
Z47A Carrollton 33.98 349 S S 09 35 46.1 -2.7
baz=167
SMTB Santa Maria do 34.07 105 eP P 09 30 24.7 +0.1
Y52A Lilburn 34.08 355 S S 09 35 48.0 -2.2
baz=174
Y52A S S 09 35 48.0 -2.2
baz=174
Y57A Sumter 34.08 0 S S 09 35 48.9 -1.5
baz=180
Y57A S S 09 35 48.9 -1.5
baz=180
PEXB Peixe 34.25 111 eP P 09 30 25.8 -0.4
MT05 Renca 34.28 165 P P 09 30 27.1 +0.9
MT05 IAmb IAmb 09 30 29.2
comp=Z,218nm,1.8s
143A Socs Landing, 34.29 344 P P 09 30 27.1 +0.9
143A IAmb IAmb 09 30 35.9
comp=Z,151nm,1.6s
143A Socs Landing, 34.29 344 S S 09 35 49.3 -4.3
baz=161
HODGE Hodges 34.33 358 P P 09 30 26.2 -0.3
HODGE IAmb IAmb 09 30 30.2
comp=Z,97nm,1.5s
HODGE Hodges 34.33 358 P P 09 30 26.5 0.0
baz=177,SNR=9.7
HODGE S S 09 35 52.5 -1.6
baz=177
CPUP Villa Florida 34.35 141 P P 09 30 26.2 -0.6
comp=Z,11nm,1.2s,baz=317,slow=9.8,SNR=8.3
CPUP LR LR 09 46 41.9
comp=Z,3µm,18.8s,baz=324,slow=40
CPUP Villa Florida 34.35 141 P P 09 30 26.9 +0.1
CPUP pmax pmax
comp=Z,91nm,1.8s
CPUP Villa Florida 34.35 141 P P 09 30 26.9 +0.1
CPUP IAmb IAmb 09 30 28.5
comp=Z,91nm,1.8s
JSC Jenkinsville 34.35 359 P P 09 30 27.0 +0.3
baz=179
NATX Nacogdoches 34.47 339 P P 09 30 29.6 +1.8
baz=155
BIRD Birdtown, Kers 34.71 0 S S 09 35 58.8 -1.2
baz=180
435B Jarrell 34.78 334 P P 09 30 31.9 +1.4
baz=150
435B S S 09 36 00.4 -0.8
baz=150
X51A Calhoun 34.85 354 P P 09 30 30.7 -0.3
baz=173
X51A P P 09 30 30.7 -0.3
baz=173
X51A S S 09 36 00.9 -1.2
baz=173
X51A S S 09 36 00.9 -1.2
baz=173
PAULI Pauline 34.90 358 S S 09 36 00.2 -2.7
baz=178
Y45A Yeager Farm, C 34.93 347 P P 09 30 31.9 +0.2
baz=164,SNR=21
Y45A S S 09 36 02.3 -1.1
baz=164
X48A Hartselle 35.02 351 P P 09 30 31.4 -1.1
baz=169
X48A S S 09 36 02.2 -2.6
baz=169
CASEE Lake Jocassee 35.12 357 P P 09 30 33.6 +0.2
baz=176,SNR=11
BO01 Tunca 35.15 166 P P 09 30 34.4 +0.7
KMSC Kings Mountain 35.21 359 P P 09 30 34.0 -0.1
baz=179,SNR=11
KMSC S S 09 36 05.7 -2.0
baz=179
KMSC Kings Mountain 35.21 359 P P 09 30 34.0 -0.1
baz=179,SNR=11
KMSC S S 09 36 05.9 -1.8
baz=179
Z41A Richland Creek 35.22 342 P P 09 30 35.1 +0.9
baz=159,SNR=7.6
Z41A P P 09 30 35.1 +0.9
baz=159,SNR=7.6
Z41A Richland Creek 35.22 342 P P 09 30 35.2 +1.0
baz=159,SNR=7.6
Z41A S S 09 36 08.1 +0.3
baz=159
W57A Gilead 35.22 1 S S 09 36 06.0 -1.8
baz=181
W57A S S 09 36 06.0 -1.8
baz=181
W52A Murphy 35.28 355 P P 09 30 35.3 +0.4
baz=174,SNR=5.2
W52A S S 09 36 05.8 -3.1
baz=174
CNNC Cliffs of the 35.40 4 IAMs_20 IAMs_20 09 44 50.8
comp=Z,4µm,19.0s
ITRB Iturama 35.47 125 eP P 09 30 36.5 -0.1
OXF Oxford 35.52 348 P P 09 30 36.2 -0.7
baz=165
OXF S S 09 36 09.9 -2.6
baz=165
OXF Oxford 35.52 348 P P 09 30 39.1 +2.3
baz=165
OXF S S 09 36 09.9 -2.6
baz=165
W50A Signal Mountai 35.52 354 P P 09 30 36.4 -0.5
baz=172
W50A S S 09 36 10.9 -1.8
baz=172
CCAR Cane Creek 35.53 344 P P 09 30 37.2 +0.2
CCAR Cane Creek 35.53 344 P P 09 30 38.5 +1.6
baz=161,SNR=6.8
CCAR S S 09 36 11.1 -1.7
baz=161
JCT Junction City 35.55 331 P P 09 30 38.1 +0.9
JCT pmax pmax
comp=Z,249nm,1.4s
JCT Junction City 35.55 331 P P 09 30 38.1 +0.9
JCT Junction City 35.55 331 P P 09 30 38.5 +1.4
baz=146,SNR=41
JCT S S 09 36 13.9 +0.8
baz=146
JCT Junction City 35.55 331 P P 09 30 38.5 +1.4
baz=146,SNR=41
JCT S S 09 36 14.4 +1.3

baz=146
SWET Sewanee 35.61 353 P P 09 30 36.8 -0.9
SWET IAmb IAmb 09 30 41.5
comp=Z,61nm,1.1s
CPCT Cooper Cave 35.69 355 P P 09 30 37.8 -0.5
CPCT IAmb IAmb 09 30 43.1
comp=Z,54nm,0.9s
WLAR White Oak Lake 35.71 342 P P 09 30 39.5 +1.0
BDFB Brasilia 35.72 117 P P 09 30 38.7 -0.2
comp=Z,29nm,1.2s,baz=283,slow=10,SNR=14
BDFB LR LR 09 47 49.2
comp=Z,5µm,19.4s,baz=291,slow=41
BDFB Brasilia 35.72 117 P P 09 30 38.7 -0.2
BDFB pmax pmax
comp=Z,108nm,1.5s
BDFB Brasilia 35.72 117 P P 09 30 38.7 -0.2
BDFB IAmb IAmb 09 30 43.2
comp=Z,108nm,1.5s
PLAL Pickwick Lake 35.72 350 P P 09 30 37.8 -0.7
PLAL IAmb IAmb 09 30 52.1
comp=Z,86nm,1.6s
PCMB Pacaembu 35.72 128 eP P 09 30 38.1 -0.6
WHTX Lake Whitney, 35.76 335 S S 09 36 14.4 -1.9
baz=151
WHTX Lake Whitney, 35.76 335 S S 09 36 15.7 -0.6
baz=151
V53A Saluda 35.78 357 S S 09 36 09.2 -7.5
baz=176
V53A S S 09 36 09.2 -7.5
baz=176
TKL Tuckaleechee C 35.83 356 LR LR 09 44 17.0
comp=Z,3µm,21.9s,baz=180,slow=35
TKL Tuckaleechee C 35.83 356 P P 09 30 39.1 -0.4
TKL pmax pmax
comp=Z,72nm,1.3s
TKL Tuckaleechee C 35.83 356 P P 09 30 39.1 -0.4
TKL IAmb IAmb 09 30 54.4
comp=Z,72nm,1.2s
TKL Tuckaleechee C 35.83 356 P P 09 30 38.2 -1.3
baz=175
TKL S S 09 36 14.5 -2.9
baz=175
V58A Windy Hill, Pi 35.88 2 P P 09 30 39.2 -0.7
baz=183
V58A P P 09 30 39.2 -0.7
baz=183
V58A S S 09 36 17.1 -0.9
baz=183
V58A S S 09 36 17.1 -0.9
baz=183
V55A Taylorsville 35.91 359 P P 09 30 39.7 -0.5
baz=179
V55A P P 09 30 39.7 -0.5
baz=179
V55A S S 09 36 17.0 -1.5
baz=179
V55A S S 09 36 17.0 -1.5
baz=179
Z38A Mt. Pleasant 35.94 339 P P 09 30 40.4 0.0
baz=155,SNR=5.4
Z38A S S 09 36 18.9 0.0
baz=155
V52A Sevierville 36.00 356 P P 09 30 41.0 0.0
baz=175,SNR=11
V52A S S 09 36 18.2 -1.7
baz=175
V51A Loudon 36.02 355 P P 09 30 41.3 +0.2
baz=174,SNR=5.8
V51A S S 09 36 18.2 -2.0
baz=174
W45A Hickory Valley 36.10 348 P P 09 30 42.1 +0.4
baz=166,SNR=6.6
W45A S S 09 36 18.4 -3.0
baz=166
V48A Smith Brothers 36.25 352 P P 09 30 42.5 -0.6
baz=170,SNR=23
V48A S S 09 36 20.3 -3.4
baz=170
X40A Basin Creek Fa 36.37 343 P P 09 30 44.7 +0.6
X40A Basin Creek Fa 36.37 343 P P 09 30 44.2 +0.1
baz=159
X40A P P 09 30 44.2 +0.1
baz=159
X40A S S 09 36 21.0 -4.5
baz=159
X40A S S 09 36 21.0 -4.5
baz=159
X40A Basin Creek Fa 36.37 343 P P 09 30 46.1 +2.0
baz=159
X40A S S 09 36 22.9 -2.6
baz=159
ML02 Panimavida 36.38 167 P P 09 30 45.0 +0.8
ML02 IAmb IAmb 09 31 24.6
comp=Z,255nm,1.9s
U56A King 36.41 0 P P 09 30 44.9 +0.5
U56A IAmb IAmb 09 30 48.6
comp=Z,89nm,1.4s
U56A King 36.41 0 P P 09 30 44.9 +0.5
baz=180,SNR=7.4
U56A P P 09 30 44.9 +0.5
baz=180,SNR=7.4
U56A S S 09 36 25.4 -0.7
baz=180
U56A S S 09 36 25.4 -0.7
baz=180
IPMB Ipameri, GO 36.48 121 eP P 09 30 44.9 -0.5
UALR University of 36.50 344 P P 09 30 45.2 0.0
UALR IAmb IAmb 09 30 54.8
comp=Z,168nm,1.6s
U59A Littleton 36.51 4 S S 09 36 27.9 +0.3
baz=185
U59A S S 09 36 27.9 +0.3
baz=185
CLTN Cedars of Leba 36.53 352 P P 09 30 44.6 -0.8
U54A Nelsons Funny 36.59 358 S S 09 36 27.5 -1.5
baz=178
U54A S S 09 36 27.5 -1.5
baz=178
MIAR Mount Ida 36.65 342 P P 09 30 46.3 -0.2
MIAR pmax pmax
comp=Z,118nm,1.5s
MIAR Mount Ida 36.65 342 P P 09 30 46.2 -0.2
MIAR IAmb IAmb 09 30 56.3
comp=Z,118nm,1.5s
MIAR Mount Ida 36.65 342 P P 09 30 46.5 0.0
baz=158,SNR=9.1
MIAR S S 09 36 26.9 -2.8
baz=158
MIAR Mount Ida 36.65 342 P P 09 30 46.9 +0.4
baz=158,SNR=9.1
MIAR S S 09 36 28.3 -1.5
baz=158
ROSB Rosrio 36.66 94 eP P 09 30 46.1 -0.8
TXAR Lajitas Array 36.69 325 P P 09 30 48.1 +1.1
comp=Z,4.2nm,1.0s,baz=144,slow=9.2,SNR=25
TXAR PcP **PcP 09 33 10.6 +0.7**
comp=Z,5.5nm,1.1s,baz=151,slow=2.9,SNR=5.0
TXAR Lajitas Array 36.69 325 P P 09 30 47.0 0.0
TXAR Lajitas Array 36.69 325 P P 09 30 47.0 0.0
TX31 Lajitas Ar. Si 36.69 325 P P 09 30 47.6 +0.6
TX31 IAmb IAmb 09 31 32.1
comp=Z,180nm,1.7s
TX31 Lajitas Ar. Si 36.69 325 P P 09 30 47.9 +0.9
baz=139,SNR=11
TZTN Tazewell 36.70 356 IAMs_20 IAMs_20 09 44 21.2
comp=Z,3µm,20.0s
TZTN Tazewell 36.70 356 P P 09 30 46.6 -0.4
baz=175,SNR=7.9
TZTN S S 09 36 28.4 -2.1
baz=175
TZTN Tazewell 36.70 356 P P 09 30 46.5 -0.4
baz=175,SNR=7.9
TZTN S S 09 36 28.4 -2.1
baz=175
WVT Waverly 36.79 350 P P 09 30 47.0 -0.7
WVT pmax pmax
comp=Z,60nm,1.5s
WVT Waverly 36.79 350 P P 09 30 47.0 -0.7
WVT Waverly 36.79 350 P P 09 30 45.8 -1.8
baz=168,SNR=7.0
WVT S S 09 36 27.7 -4.2
baz=168
WVT Waverly 36.79 350 P P 09 30 45.9 -1.8
baz=168
WVT S S 09 36 27.8 -4.2
baz=168
HBAR Harrisburg 36.80 346 P P 09 30 48.1 +0.4
HBAR IAmb IAmb 09 30 53.2
comp=Z,185nm,1.5s
HBAR Harrisburg 36.80 346 S S 09 36 29.8 -2.3
baz=163
W41B Gary Mavity, V 36.85 344 P P 09 30 48.2 0.0
baz=161,SNR=16
W41B S S 09 36 27.7 -5.1
baz=161
W41B Gary Mavity, V 36.85 344 P P 09 30 48.1 0.0
baz=161,SNR=16
W41B S S 09 36 30.5 -2.3
baz=161
Z35A Perchaven, San 36.85 337 P P 09 30 49.3 +1.1
Z35A IAmb IAmb 09 30 58.9
comp=Z,268nm,1.8s
U49A Red Boiling Sp 36.87 353 P P 09 30 47.9 -0.5
baz=172,SNR=11
U49A S S 09 36 29.7 -3.5
baz=172
SLBS Sierra La Lagu 37.04 312 P P 09 30 51.8 +1.7
GNAR Gosnell 37.05 347 P P 09 30 50.7 +0.8
GNAR IAmb IAmb 09 30 59.5
comp=Z,224nm,1.5s
T57A Hurt 37.08 2 P P 09 30 50.1 -0.1
T57A Hurt 37.08 2 P P 09 30 49.8 -0.3
baz=182
T57A P P 09 30 49.8 -0.3
baz=182
T57A S S 09 36 34.5 -1.8
baz=182
T57A S S 09 36 34.5 -1.8
baz=182
T59A Double "B" Far 37.14 4 S S 09 36 36.7 -0.5
baz=185
T59A S S 09 36 36.7 -0.5
baz=185
ITQB Itaqui 37.19 144 P P 09 30 52.0 +0.9
ITQB Itaqui 37.19 144 eP P 09 30 51.8 +0.6
ABTX Abilene, Hawle 37.26 333 P P 09 30 52.9 +1.1
baz=148,SNR=29
ABTX S S 09 36 38.7 -0.5
baz=148
ABTX Abilene, Hawle 37.26 333 P P 09 30 52.3 +0.6
baz=148,SNR=29
ABTX S S 09 36 39.1 -0.1
baz=148
BLA Blacksburg 37.27 0 IAMs_20 IAMs_20 09 48 49.3
comp=Z,4µm,21.0s
BLA Blacksburg 37.27 0 P P 09 30 51.7 -0.1
baz=180
BLA S S 09 36 38.0 -1.3
baz=180
BLA Blacksburg 37.27 0 P P 09 30 51.7 -0.1
baz=180
BLA S S 09 36 38.9 -0.4
baz=180
X37A Clayton 37.27 340 P P 09 30 53.3 +1.5
baz=155,SNR=12
T50A Nancy 37.27 355 P P 09 30 51.1 -0.7
baz=173
T50A P P 09 30 51.1 -0.7
baz=173
T50A S S 09 36 36.3 -3.0
baz=173
T50A S S 09 36 36.3 -3.0
baz=173
W39A Magazine 37.31 342 P P 09 30 52.4 +0.3
baz=158,SNR=23
W39A S S 09 36 38.2 -1.7
baz=158
W39A Magazine 37.31 342 P P 09 30 52.6 +0.5
baz=158,SNR=23
W39A S S 09 36 39.1 -0.8
baz=158
LCAR Lake Charles 37.41 346 P P 09 30 52.4 -0.6
LCAR IAmb IAmb 09 30 57.2
comp=Z,71nm,1.0s
LCAR Lake Charles 37.41 346 P P 09 30 52.2 -0.8
baz=163,SNR=54
LCAR S S 09 36 38.0 -3.4
baz=163
FCAR Ozark Folk Cen 37.49 345 P P 09 30 52.8 -0.8
SDBA SAO DESIDERIO 37.51 110 eP P 09 30 53.6 -0.6
T47A Sharon Grove 37.52 352 P P 09 30 52.5 -1.3
baz=170,SNR=12
T47A S S 09 36 39.1 -3.8
baz=170
LPIG La Paz 37.55 312 LR LR 09 42 47.8
comp=Z,766nm,21.9s,baz=115,slow=31
BB19B Bebedouro 37.63 125 eP P 09 30 54.4 -0.7
S51A Beattyville 37.79 356 P P 09 30 55.7 -0.5
baz=175
S51A P P 09 30 55.7 -0.5
baz=175
S51A S S 09 36 43.9 -3.2
baz=175
S51A S S 09 36 43.9 -3.2
baz=175
T45B Paducah 37.80 350 P P 09 30 54.7 -1.5
baz=167,SNR=10
T45B S S 09 36 43.3 -3.8
baz=167
S57A Dark Hollow, R 37.85 2 S S 09 36 47.2 -0.8
baz=183
S57A S S 09 36 47.2 -0.8
baz=183
S54A Dingess, Beckl 37.86 359 P P 09 30 56.5 -0.2
baz=179
S54A P P 09 30 56.5 -0.2
baz=179
S54A S S 09 36 45.0 -3.2
baz=179
S54A S S 09 36 45.0 -3.2
baz=179
PBMO Poplar Bluff 37.92 347 P P 09 30 56.5 -0.8
baz=164
PBMO S S 09 36 45.9 -3.2
baz=164
R58B Mineral 38.11 4 S S 09 36 51.8 -0.1
baz=185
R58B S S 09 36 51.8 -0.1
baz=185
U40A Yellville 38.12 344 P P 09 30 58.2 -0.8
baz=160,SNR=34
U40A P P 09 30 58.2 -0.8
baz=160,SNR=34
U40A S S 09 36 50.6 -1.7
baz=160
U40A S S 09 36 50.6 -1.7
baz=160
U40A Yellville 38.12 344 P P 09 30 58.8 -0.2
baz=160,SNR=34
U40A S S 09 36 50.9 -1.4
baz=160
R55A Marlinton 38.34 1 S S 09 36 54.2 -1.4
baz=181
R55A S S 09 36 54.2 -1.4
baz=181
RPN Rapa Nui 38.35 223 LR LR 09 42 52.3
comp=Z,3µm,18.6s,baz=51,slow=30
RPN Rapa Nui 38.35 223 IAMs_20 IAMs_20 09 42 32.4
comp=Z,4µm,18.0s
HHAR Hobbs 38.37 343 P P 09 30 59.5 -1.6
baz=158
CBN Corbin Frederi 38.38 4 S S 09 36 56.6 +0.5
baz=185
CBN Corbin Frederi 38.38 4 S S 09 36 56.7 +0.7
baz=185
R53A Hurricane 38.40 358 P P 09 31 00.4 -0.9
baz=178
R53A P P 09 31 00.4 -0.9
baz=178
R50A Paris 38.48 355 P P 09 31 01.2 -0.8
baz=174,SNR=10
R50A P P 09 31 01.2 -0.8
baz=174,SNR=10
R50A S S 09 36 53.1 -4.5
baz=174
R50A S S 09 36 53.1 -4.5
baz=174
R49A Shelbyville 38.57 354 P P 09 31 01.5 -1.2
baz=173,SNR=12
R49A P P 09 31 01.5 -1.2
baz=173,SNR=12
R49A S S 09 36 50.2 -8.6
baz=173
R49A S S 09 36 50.2 -8.6
baz=173
S44A Carbondale 38.57 349 P P 09 31 01.5 -1.2
baz=166,SNR=6.5
S44A S S 09 36 55.8 -3.0
baz=166
TUL1 Leonard 38.62 340 P P 09 31 02.9 -0.2
TUL1 Leonard 38.62 340 P P 09 31 03.0 -0.2
baz=155,SNR=8.8
TUL1 S S 09 36 58.0 -1.6
baz=155
TUL1 Leonard 38.62 340 P P 09 31 03.2 +0.1
baz=155,SNR=8.8
TUL1 S S 09 36 58.7 -1.0
baz=155
WMOK Wichita Mounta 38.69 336 P P 09 31 04.7 +0.9
baz=150,SNR=20
WMOK S S 09 37 00.8 -0.1
baz=150
WMOK Wichita Mounta 38.69 336 P P 09 31 04.0 +0.2
baz=150,SNR=20
WMOK S S 09 37 01.1 +0.2
baz=150
JANB Januaria 38.85 114 eP P 09 31 03.8 -1.8
Q54A Coxs Mills 39.04 360 P P 09 31 06.4 -0.2
baz=180
Q54A P P 09 31 06.4 -0.2
baz=180
Q54A S S 09 37 03.0 -2.9
baz=180
Q54A S S 09 37 03.0 -2.9
baz=180
Q52A Bidwell 39.04 358 S S 09 37 02.3 -3.7
baz=178
Q52A S S 09 37 02.3 -3.7
baz=178
FVM French Village 39.08 348 P P 09 31 06.6 -0.4
FVM pmax pmax
comp=Z,245nm,1.8s
FVM French Village 39.08 348 P P 09 31 06.6 -0.4
FVM IAmb IAmb 09 31 20.6
comp=Z,245nm,1.8s
FVM French Village 39.08 348 P P 09 31 06.8 -0.3
baz=164,SNR=23
FVM S S 09 37 01.1 -5.6
baz=164
Q56A Snyder Ridge, 39.12 2 P P 09 31 08.1 +0.7
Q56A Snyder Ridge, 39.12 2 S S 09 37 07.2 0.0
baz=182
Q56A S S 09 37 07.2 0.0
baz=182
Q51A Peebles 39.16 357 P P 09 31 06.9 -0.7
baz=176,SNR=9.6
Q51A P P 09 31 06.9 -0.7
baz=176,SNR=9.6
Q51A S S 09 37 04.2 -3.5
baz=176
Q51A S S 09 37 04.2 -3.5
baz=176
CCM Cathedral Cave 39.33 347 P P 09 31 09.0 -0.1
CCM pmax pmax
comp=Z,97nm,1.3s
CCM Cathedral Cave 39.33 347 P P 09 31 09.0 -0.1
CCM Cathedral Cave 39.33 347 P P 09 31 08.4 -0.6
baz=163,SNR=18
CCM S S 09 37 06.7 -3.7
baz=163
CCM Cathedral Cave 39.33 347 P P 09 31 08.1 -1.0
baz=163
CCM S S 09 37 06.7 -3.7
baz=163
OLIL Olney 39.38 351 P P 09 31 09.0 -0.5
OLIL Olney 39.38 351 P P 09 31 08.6 -0.9
baz=168,SNR=21
OLIL S S 09 37 06.4 -4.7
baz=168
MNTX Cornudas Mount 39.44 326 P P 09 31 10.4 +0.3
MNTX Cornudas Mount 39.44 326 P P 09 31 10.4 +0.3
baz=139,SNR=60
MNTX S S 09 37 14.2 +2.0
baz=139
MNTX Cornudas Mount 39.44 326 P P 09 31 10.4 +0.3
baz=139,SNR=60
MNTX S S 09 37 13.6 +1.4
baz=139
NBPS Pedro II - PI 39.44 97 eP P 09 31 09.8 -0.7
S39A Bolivar 39.51 344 P P 09 31 10.5 -0.1
S39A IAmb IAmb 09 31 28.8
comp=Z,113nm,1.2s
S39A Bolivar 39.51 344 P P 09 31 09.9 -0.7
baz=160,SNR=32
S39A S S 09 37 09.8 -3.2
baz=160
P53A Whipple 39.55 359 P P 09 31 10.3 -0.5
baz=179
P53A P P 09 31 10.3 -0.5
baz=179
P53A S S 09 37 08.7 -4.8
baz=179
P53A S S 09 37 08.7 -4.8
baz=179
P51A Williamsport 39.59 357 S S 09 37 11.4 -2.9
baz=176
P51A S S 09 37 11.4 -2.9
baz=176
P57A Homestead Farm 39.61 3 S S 09 37 15.3 +0.7
baz=184
P57A S S 09 37 15.3 +0.7
baz=184
SDMD Soldier's Deli 39.62 5 S S 09 37 14.4 -0.3
baz=186
CPSB Cacapava Do Su 39.64 142 eP P 09 31 11.6 -0.2
SLM Saint Louis 39.67 348 S S 09 37 11.6 -3.8
baz=165
Q44A Meyer Farm, Va 39.70 350 P P 09 31 11.2 -1.0
baz=167,SNR=17
Q44A S S 09 37 10.7 -5.1
baz=167
P52A Corning 39.71 358 P P 09 31 11.8 -0.4
baz=178
P52A S S 09 37 11.8 -4.2
baz=178
MCWV Mont Chateau 39.72 1 S S 09 37 15.1 -1.0
baz=181
P48A Milroy 39.75 354 P P 09 31 08.0 -4.5
baz=173
P48A P P 09 31 08.0 -4.5
baz=173
P48A S S 09 37 08.2 -8.4
baz=173
P48A S S 09 37 08.2 -8.4
baz=173
P49A Miami Univ. Ec 39.76 355 IAMs_20 IAMs_20 09 46 17.4
comp=Z,4µm,22.0s
P49A Miami Univ. Ec 39.76 355 S S 09 37 08.4 -8.3
baz=174
P49A Miami Univ. Ec 39.76 355 P P 09 31 10.6 -2.0
baz=174
P49A S S 09 37 12.6 -4.1
baz=174
T35B Sooner Cattle 39.77 340 P P 09 31 12.9 +0.1
baz=155,SNR=24
T35B S S 09 37 15.2 -1.9
baz=155
R40A Maddies Statio 39.80 346 P P 09 31 11.8 -1.2
baz=162,SNR=21
R40A S S 09 37 12.8 -4.5
baz=162
VAO Valinhos 39.84 127 eP P 09 31 13.0 -0.6
MSTX Muleshoe 39.84 331 P P 09 31 14.6 +1.0
baz=144,SNR=38
MSTX S S 09 37 19.7 +1.3
baz=144
MSTX Muleshoe 39.84 331 P P 09 31 14.3 +0.8
baz=144,SNR=38
MSTX S S 09 37 19.7 +1.3
baz=144
GEDE Greenville 40.13 6 S S 09 37 21.7 -0.6
baz=188
O52A Adamsville 40.18 359 S S 09 37 19.7 -3.4
baz=178
O52A S S 09 37 19.7 -3.4
baz=178
U32A Winter Ranch, 40.21 337 P P 09 31 16.6 +0.1
baz=151,SNR=8.4
U32A S S 09 37 22.1 -1.5
baz=151
PET01 Itanhaem-SP 40.25 129 eP P 09 31 17.5 +0.5
MVL Millersville 40.25 5 P P 09 31 16.8 +0.1
WUPA West Chester U 40.26 6 P P 09 31 17.5 +0.7

O53A	**New Philadelph**	**40.30**	**359**		IAMs_20	IAMs_20	09 51 08.8		
	comp=Z,3µm,21.0s								
O53A	**New Philadelph**	**40.30**	**359**		P	**P**	**09 31 15.1**	**-2.0**	
O53A	baz=179				S	**S**	**09 37 22.1**	**-2.8**	
	baz=179								
ACSO	**Alum Creek Sta**	**40.34**	**357**		P	**P**	**09 31 16.9**	**-0.5**	
ACSO	baz=176				S	**S**	**09 37 21.7**	**-3.7**	
	baz=176								
O49A	**Covington**	**40.38**	**356**		S	**S**	**09 37 20.0**	**-6.0**	
O49A	baz=174				S	**S**	**09 37 20.0**	**-6.0**	
	baz=174								
PAGS	**Pennsylvania G**	**40.44**	**5**		P	**P**	**09 31 19.3**	**+1.0**	
PAGS	comp=Z,120nm,1.4s				IAmb	IAmb	09 31 22.3		
PLTB	**Pedras Altas**	**40.49**	**143**		P	**P**	**09 31 19.6**	**+0.7**	
PLTB	comp=Z,303nm,1.9s				IAmb	IAmb	09 31 20.8		
PLTB	**Pedras Altas**	**40.49**	**143**	*eP*		**P**	**09 31 19.4**	**+0.5**	
P43A	**Skaggs, Pawnee**	**40.51**	**350**		P	**P**	**09 31 18.6**	**-0.3**	
P43A	comp=Z,128nm,1.4s				IAmb	IAmb	09 31 37.2		
P43A	**Skaggs, Pawnee**	**40.51**	**350**		P	**P**	**09 31 17.9**	**-0.9**	
P43A	baz=166,SNR=7.2				S	**S**	**09 37 21.9**	**-6.0**	
	baz=166								
O48B	**Farmland**	**40.51**	**355**		P	**P**	**09 31 17.2**	**-1.6**	
O48B	baz=173				S	**S**	**09 37 22.2**	**-5.8**	
	baz=173								
O48B	**Farmland**	**40.51**	**355**		P	**P**	**09 31 17.3**	**-1.6**	
O48B	baz=173				S	**S**	**09 37 22.2**	**-5.8**	
	baz=173								
TUPA	**Temple Univers**	**40.53**	**7**		S	**S**	**09 37 28.9**	**+0.6**	
	baz=188								
NBMO	**Morrinhos-CE**	**40.75**	**95**	*eP*		**P**	**09 31 20.2**	**-1.1**	
SSPA	**Standing Stone**	**40.77**	**3**		P	**P**	**09 31 21.2**	**+0.2**	
SSPA	**Standing Stone**	**40.77**	**3**		P	**P**	**09 31 20.7**	**-0.3**	
	baz=184								
PANJ	**Princeton**	**40.80**	**7**		S	**S**	**09 37 33.5**	**+1.3**	
	baz=189								
O44A	**Mansfield**	**40.83**	**351**		P	**P**	**09 31 20.8**	**-0.7**	
O44A	comp=Z,188nm,1.6s				IAmb	IAmb	09 31 35.2		
O44A	**Mansfield**	**40.83**	**351**		P	**P**	**09 31 19.5**	**-1.9**	
	baz=168								
O44A					S	**S**	**09 37 27.6**	**-5.1**	
	baz=168								
SFIN	**Lafayette**	**40.85**	**353**		P	**P**	**09 31 20.8**	**-0.9**	
SFIN	**Lafayette**	**40.85**	**353**		P	**P**	**09 31 18.7**	**-3.0**	
	baz=170								
SFIN					S	**S**	**09 37 25.2**	**-7.8**	
	baz=170								
SFIN	**Lafayette**	**40.85**	**353**		P	**P**	**09 31 19.6**	**-2.1**	
	baz=170								
SFIN					S	**S**	**09 37 25.9**	**-7.2**	
	baz=170								
N53A	**Lisbon**	**40.86**	**360**		P	**P**	**09 31 21.3**	**-0.4**	
N53A	**Lisbon**	**40.86**	**360**		P	**P**	**09 31 20.7**	**-1.1**	
	baz=180								
N53A					P	**P**	**09 31 20.7**	**-1.1**	
	baz=180								
P40A	**Paris**	**40.92**	**347**		S	**S**	**09 37 30.0**	**-4.1**	
	baz=163								
N51A	**Ashland**	**41.00**	**358**		P	**P**	**09 31 22.0**	**-0.9**	
N51A	**Ashland**	**41.00**	**358**		P	**P**	**09 31 22.0**	**-0.9**	
	baz=177,SNR=7.8								
N51A					P	**P**	**09 31 22.0**	**-0.9**	
	baz=177,SNR=7.8								
N51A					S	**S**	**09 37 30.2**	**-5.1**	
	baz=177								
N51A					S	**S**	**09 37 30.2**	**-5.1**	
	baz=177								
HSIG		**41.01**	**318**		P	**P**	**09 31 23.6**	**+0.4**	
N54A	**Moraine State**	**41.02**	**1**		P	**P**	**09 31 22.8**	**-0.3**	
N54A	comp=Z,4µm,20.0s				IAMs_20	IAMs_20	09 51 13.8		
N54A	**Moraine State**	**41.02**	**1**		P	**P**	**09 31 22.6**	**-0.5**	
	baz=181,SNR=11								
N54A					S	**S**	**09 37 32.4**	**-3.2**	
	baz=181								
N54A	**Moraine State**	**41.02**	**1**		P	**P**	**09 31 22.3**	**-0.8**	
	baz=181,SNR=11								
N54A					S	**S**	**09 37 32.7**	**-2.9**	
	baz=181								
N58A	**Sunbury**	**41.05**	**5**		P	**P**	**09 31 23.1**	**-0.3**	
	baz=186								
N58A					P	**P**	**09 31 23.1**	**-0.3**	
	baz=186								
PARB	**Paraibuna**	**41.08**	**126**	*eP*		**P**	**09 31 23.3**	**-0.6**	
LL04	**Puerto Octay**	**41.17**	**170**		P	**P**	**09 31 24.5**	**+0.2**	
N47A	**Urbana**	**41.18**	**354**		P	**P**	**09 31 23.9**	**-0.5**	
N47A	**Urbana**	**41.18**	**354**		P	**P**	**09 31 22.4**	**-2.0**	
	baz=172								
N47A					P	**P**	**09 31 22.4**	**-2.0**	
	baz=172								
N59A	**State Game Lan**	**41.21**	**6**		P	**P**	**09 31 24.6**	**-0.1**	
	baz=188								
N59A					S	**S**	**09 37 38.9**	**+0.4**	
	baz=188								
N59A	**State Game Lan**	**41.21**	**6**		P	**P**	**09 31 24.1**	**-0.6**	
	baz=188								
N59A					S	**S**	**09 37 38.9**	**+0.4**	
	baz=188								
TER01	**Tubaro-SC**	**41.27**	**136**	*eP*		**P**	**09 31 26.1**	**+0.7**	
PLCA	**Paso Flores**	**41.34**	**168**		P	**P**	**09 31 26.5**	**+0.7**	
	comp=Z,10nm,0.9s,baz=340,slow=9.3,SNR=11								
PLCA	**Paso Flores**	**41.34**	**168**	*eP*		**P**	**09 31 26.7**	**+0.8**	
PLCA	**Paso Flores**	**41.34**	**168**		P	**P**	**09 31 26.6**	**+0.8**	
PLCA	comp=Z,131nm,1.7s				IAmb	IAmb	09 31 28.4		
PLCA	**Paso Flores**	**41.34**	**168**	*eP*		**P**	**09 31 27.1**	**+1.3**	
HDIL	**Hopedale**	**41.35**	**350**		P	**P**	**09 31 23.7**	**-2.1**	
	baz=167								
HDIL	**Hopedale**	**41.35**	**350**		P	**P**	**09 31 24.2**	**-1.6**	
	baz=167								
HDIL					S	**S**	**09 37 34.4**	**-6.1**	
	baz=167								
P38A	**Dawn**	**41.38**	**345**		P	**P**	**09 31 25.4**	**-0.6**	
	baz=160								
P38A					S	**S**	**09 37 36.4**	**-4.5**	
	baz=160								
FOR	**Fordham**	**41.38**	**8**		S	**S**	**09 37 42.1**	**+1.2**	
	baz=190								
NBPB	**Pedra_Branca-C**	**41.39**	**98**	*eP*		**P**	**09 31 25.6**	**-1.0**	
121A	**Cookes Peak, D**	**41.42**	**324**		P	**P**	**09 31 28.6**	**+1.9**	
	baz=137,SNR=29								
121A					S	**S**	**09 37 45.4**	**+3.2**	
	baz=137								
121A	**Cookes Peak, D**	**41.42**	**324**		P	**P**	**09 31 28.5**	**+1.7**	
	baz=137,SNR=29								
121A					S	**S**	**09 37 45.4**	**+3.2**	
	baz=137								
M53A	**WI Miller and**	**41.49**	**0**		P	**P**	**09 31 26.4**	**-0.5**	
	baz=180								
M53A					S	**S**	**09 37 38.9**	**-3.7**	
	baz=180								
319A	**Douglas**	**41.50**	**322**		P	**P**	**09 31 28.1**	**+0.8**	
319A	comp=Z,154nm,1.6s				IAmb	IAmb	09 31 46.5		
ODNJ	**Ogdensburg**	**41.51**	**7**		S	**S**	**09 37 41.4**	**-1.3**	
	baz=189								
M50A	**Fremont**	**41.51**	**357**		P	**P**	**09 31 26.0**	**-1.1**	
	baz=176								
M50A					P	**P**	**09 31 26.0**	**-1.1**	
	baz=176								
M50A					S	**S**	**09 37 37.7**	**-5.1**	
	baz=176								
M50A					S	**S**	**09 37 37.7**	**-5.1**	
	baz=176								
M57A	**Sunshine Farm,**	**41.52**	**4**		P	**P**	**09 31 27.0**	**-0.1**	
M57A	comp=Z,230nm,1.9s				IAmb	IAmb	09 31 50.7		
M57A	**Sunshine Farm,**	**41.52**	**4**		P	**P**	**09 31 27.6**	**+0.5**	
	baz=185,SNR=6.8								
M57A					P	**P**	**09 31 27.6**	**+0.5**	
	baz=185,SNR=6.8								
M57A					S	**S**	**09 37 37.4**	**-5.5**	
	baz=185								
M57A					S	**S**	**09 37 37.4**	**-5.5**	
	baz=185								
M55A	**Ridgway**	**41.56**	**2**		P	**P**	**09 31 26.4**	**-1.1**	
	baz=183								
M55A					P	**P**	**09 31 26.4**	**-1.1**	
	baz=183								
M55A					S	**S**	**09 37 40.9**	**-2.7**	
	baz=183								
M55A					S	**S**	**09 37 40.9**	**-2.7**	
	baz=183								
M52A	**Chesterland**	**41.60**	**359**		S	**S**	**09 37 39.8**	**-4.4**	
	baz=179								
M52A					S	**S**	**09 37 39.8**	**-4.4**	
	baz=179								
NBPN	**Ponto Novo - B**	**41.61**	**106**	*eP*		**P**	**09 31 27.6**	**-0.7**	
ALLY	**Alegheny Colle**	**41.70**	**1**		P	**P**	**09 31 27.6**	**-1.1**	
	baz=181								
ALLY					S	**S**	**09 37 42.3**	**-3.4**	
	baz=181								
WSPT	**Westport, CT**	**41.76**	**8**		IAMs_20	IAMs_20	09 48 38.2		
	comp=Z,2µm,20.0s								
KSU1	**Kansas State U**	**41.78**	**341**		P	**P**	**09 31 29.5**	**+0.1**	
	baz=156,SNR=24								
KSU1					S	**S**	**09 37 45.9**	**-1.1**	
	baz=156								
KSU1	**Kansas State U**	**41.78**	**341**		P	**P**	**09 31 29.5**	**+0.1**	
	baz=156,SNR=24								
KSU1					S	**S**	**09 37 46.5**	**-0.5**	
	baz=156								
N41A	**Harden Midland**	**41.79**	**348**		S	**S**	**09 37 39.5**	**-7.6**	
	baz=165								
KSPA	**Keystone Colle**	**41.85**	**6**		S	**S**	**09 37 45.4**	**-2.5**	
	baz=187								
R32A	**Long Quarter,**	**41.89**	**339**		P	**P**	**09 31 31.4**	**+1.0**	
	baz=152,SNR=41								
R32A					S	**S**	**09 37 50.5**	**+1.8**	
	baz=152								
BRNY	**Black Rk. Fore**	**41.91**	**8**		S	**S**	**09 37 48.8**	**+0.1**	
	baz=190								
BNM	**Barren Site**	**41.97**	**327**		P	**P**	**09 31 32.4**	**+1.1**	
M44A	**Midewin, Midew**	**41.97**	**352**		S	**S**	**09 37 41.9**	**-7.8**	
	baz=169								
Y22A	**Socorro**	**41.99**	**327**		P	**P**	**09 31 32.2**	**+0.8**	
	baz=139,SNR=23								
Y22A					S	**S**	**09 37 53.3**	**+2.7**	
	baz=139								
L48A	**N Adams**	**42.13**	**356**		S	**S**	**09 37 46.2**	**-5.8**	
	baz=174								
L48A					S	**S**	**09 37 46.2**	**-5.8**	
	baz=174								
ERPA	**Erie**	**42.17**	**1**		IAMs_20	IAMs_20	09 51 50.3		
	comp=Z,3µm,20.0s								
ERPA	**Erie**	**42.17**	**1**		P	**P**	**09 31 31.5**	**-1.0**	
	baz=181								
ERPA					S	**S**	**09 37 48.9**	**-3.7**	
	baz=181								
M63A	**Gales Ferry**	**42.19**	**10**		S	**S**	**09 37 53.6**	**+0.7**	
	baz=193								
M63A					S	**S**	**09 37 53.6**	**+0.7**	
	baz=193								
MAN01	**Angra dos Reis**	**42.21**	**125**	*eP*		**P**	**09 31 33.1**	**0.0**	
NPNY	**Mohonk Preserv**	**42.23**	**7**		S	**S**	**09 37 53.7**	**+0.3**	
	baz=190								
L56A	**Greenwood**	**42.28**	**3**		P	**P**	**09 31 32.7**	**-0.8**	
	baz=185								
L56A					P	**P**	**09 31 32.7**	**-0.8**	
	baz=185								
L56A					S	**S**	**09 37 52.3**	**-2.1**	
	baz=185								
L56A					S	**S**	**09 37 52.3**	**-2.1**	
	baz=185								
L46A	**Eue Claire**	**42.37**	**354**		S	**S**	**09 37 47.7**	**-7.7**	
	baz=172								
L46A					S	**S**	**09 37 47.7**	**-7.7**	
	baz=172								
VAS01	**Vassouras-RJ**	**42.38**	**124**	*eP*		**P**	**09 31 34.4**	**-0.1**	
N38A	**Joes South For**	**42.41**	**346**		P	**P**	**09 31 33.8**	**-0.6**	
	baz=161								
N38A					S	**S**	**09 37 51.9**	**-4.2**	
	baz=161								
NBMA	**Muriti-CE**	**42.41**	**101**	*eP*		**P**	**09 31 34.7**	**-0.3**	
AAM	**Ann Arbor**	**42.44**	**357**		IAMs_20	IAMs_20	09 48 02.2		
	comp=Z,4µm,21.0s								
AAM	**Ann Arbor**	**42.44**	**357**		P	**P**	**09 31 33.8**	**-0.8**	
	baz=176								
AAM					S	**S**	**09 37 51.7**	**-4.7**	
	baz=176								
BINY	**Binghamton**	**42.47**	**5**		P	**P**	**09 31 35.1**	**+0.2**	
BINY	**Binghamton**	**42.47**	**5**		P	**P**	**09 31 35.1**	**+0.2**	
	baz=187,SNR=7.1								
BINY					S	**S**	**09 37 53.4**	**-3.6**	
	baz=187								
BINY	**Binghamton**	**42.47**	**5**		P	**P**	**09 31 35.0**	**0.0**	
	baz=187,SNR=7.1								
BINY					S	**S**	**09 37 55.2**	**-1.7**	
	baz=187								
ANMO	**Albuquerque**	**42.48**	**328**		LR	LR	09 49 24.9		
	comp=Z,1µm,19.4s,baz=138,slow=36								
ANMO	**Albuquerque**	**42.48**	**328**	*deP*		**P**	**09 31 36.7**	**+1.3**	
ANMO	comp=Z,27nm,0.9s				pmax	pmax			
ANMO	**Albuquerque**	**42.48**	**328**		P	**P**	**09 31 36.6**	**+1.2**	
ANMO	**Albuquerque**	**42.48**	**328**		P	**P**	**09 31 37.0**	**+1.6**	
	baz=140,SNR=76								
ANMO	**Albuquerque**	**42.48**	**328**		P	**P**	**09 31 36.6**	**+1.2**	
	baz=140								
ANMO					S	**S**	**09 37 59.6**	**+1.7**	
	baz=140								
WVNY	**West Valley, N**	**42.50**	**2**		P	**P**	**09 31 34.9**	**-0.3**	
WVNY	comp=Z,127nm,1.6s				IAmb	IAmb	09 31 38.0		
WVNY	**West Valley, N**	**42.50**	**2**		P	**P**	**09 31 34.9**	**-0.3**	
	baz=183,SNR=7.6								
WVNY					S	**S**	**09 37 54.3**	**-3.2**	
	baz=183								
L59A	**Walton**	**42.55**	**6**		P	**P**	**09 31 35.7**	**+0.1**	
L59A	comp=Z,154nm,1.8s				IAmb	IAmb	09 31 55.2		
NBCL	**Cascavel-CE**	**42.56**	**96**	*eP*		**P**	**09 31 35.9**	**-0.2**	
CBKS	**Cedar Bluff**	**42.62**	**338**		P	**P**	**09 31 40.0**	**+3.7**	
	baz=151,SNR=7.3								
CBKS					S	**S**	**09 38 01.4**	**+2.0**	
	baz=151								
L44A	**Lake County Fo**	**42.73**	**352**		IAMs_20	IAMs_20	09 52 07.9		
	comp=Z,3µm,20.0s								
L44A	**Lake County Fo**	**42.73**	**352**		S	**S**	**09 37 53.1**	**-7.7**	
	baz=169								
L42A	**Oliver, Polo**	**42.83**	**350**		P	**P**	**09 31 36.8**	**-1.1**	
	baz=167								
L42A					S	**S**	**09 37 55.6**	**-6.7**	
	baz=167								
K50A	**Casco**	**42.86**	**358**		S	**S**	**09 37 58.1**	**-4.6**	
	baz=177								
K50A					S	**S**	**09 37 58.1**	**-4.6**	
	baz=177								
GDU01	**Guandu, BA**	**42.86**	**110**	*eP*		**P**	**09 31 38.1**	**-0.5**	
SJMB	**Sao Joao De Ma**	**42.91**	**118**	*eP*		**P**	**09 31 38.9**	**0.0**	
K57A	**Scipio Center**	**42.95**	**5**		S	**S**	**09 38 00.3**	**-3.7**	
	baz=186								
TUC	**Tucson**	**43.07**	**322**		P	**P**	**09 31 40.6**	**+0.5**	
TUC	comp=Z,44nm,1.3s				pmax	pmax			
TUC	**Tucson**	**43.07**	**322**		P	**P**	**09 31 40.6**	**+0.5**	
TUC	**Tucson**	**43.07**	**322**		IAMs_20	IAMs_20	09 47 21.2		
	comp=Z,3µm,21.0s								
TUC	**Tucson**	**43.07**	**322**		P	**P**	**09 31 40.9**	**+0.8**	
	baz=133								
TUC					S	**S**	**09 38 06.5**	**+0.2**	
	baz=133								
N35A	**Tabor**	**43.11**	**343**		P	**P**	**09 31 39.9**	**-0.3**	
N35A	**Tabor**	**43.11**	**343**		P	**P**	**09 31 39.4**	**-0.7**	
	baz=158,SNR=5.5								
N35A					S	**S**	**09 38 02.3**	**-4.2**	
	baz=158								
HCNY	**Howe Caverns**	**43.12**	**7**		S	**S**	**09 38 07.0**	**+0.4**	
	baz=189								
L40A	**Anamosa**	**43.17**	**349**		P	**P**	**09 31 39.5**	**-1.1**	
L40A	comp=Z,120nm,1.4s				IAmb	IAmb	09 31 53.7		
L40A	**Anamosa**	**43.17**	**349**		P	**P**	**09 31 39.0**	**-1.6**	
	baz=165,SNR=16								
L40A					S	**S**	**09 38 00.6**	**-6.7**	
	baz=165								
DUB01	**Friburgo-RJ**	**43.19**	**123**	*eP*		**P**	**09 31 41.1**	**0.0**	
T25A	**Trinidad**	**43.19**	**332**		P	**P**	**09 31 43.2**	**+2.1**	
	baz=144,SNR=48								
T25A					S	**S**	**09 38 12.6**	**+4.5**	
	baz=144								
WES	**Weston**	**43.27**	**10**		IAMs_20	IAMs_20	09 49 29.1		
	comp=Z,2µm,18.0s								
HRV	**Adam Dziewonsk**	**43.35**	**10**		S	**S**	**09 38 11.5**	**+1.6**	
	baz=193								
CMC01	**Camacan, BA**	**43.35**	**112**	*eP*		**P**	**09 31 42.5**	**0.0**	
J47A	**Sunmer**	**43.45**	**356**		P	**P**	**09 31 42.4**	**-0.4**	
SCIA	**State Center**	**43.45**	**346**		P	**P**	**09 31 42.6**	**-0.3**	
SCIA	comp=Z,131nm,1.5s				IAmb	IAmb	09 31 51.9		
SCIA	**State Center**	**43.45**	**346**		P	**P**	**09 31 42.1**	**-0.8**	
	baz=162								
SCIA					S	**S**	**09 38 07.1**	**-4.4**	
	baz=162								
J56A	**Wolcott**	**43.46**	**4**		P	**P**	**09 31 43.0**	**+0.1**	
LL02	**Futaleuf**	**43.49**	**171**		P	**P**	**09 31 43.4**	**+0.2**	
N33B	**J Bar K, Exete**	**43.54**	**341**		P	**P**	**09 31 44.2**	**+0.5**	
	baz=155,SNR=15								
N33A	**J Bar K, Exete**	**43.54**	**341**		P	**P**	**09 31 44.0**	**+0.3**	
NAN01	**Guarapari, ES**	**43.56**	**116**	*eP*		**P**	**09 31 44.0**	**-0.2**	
CAM01	**Campos-RJ**	**43.68**	**122**	*eP*		**P**	**09 31 44.8**	**-0.3**	
JFWS	**Jewell Farm**	**43.81**	**350**		P	**P**	**09 31 44.2**	**-1.6**	
	baz=166,SNR=8.4								
JFWS	**Jewell Farm**	**43.81**	**350**		P	**P**	**09 31 44.4**	**-1.4**	
	baz=166,SNR=8.4								
JFWS					S	**S**	**09 38 10.3**	**-6.4**	
	baz=166								
RIB01	**Linhares ES**	**43.82**	**118**	*eP*		**P**	**09 31 45.5**	**-0.7**	
KSCO	**Kaye Shedlock'**	**43.94**	**335**		P	**P**	**09 31 48.5**	**+1.4**	
	baz=148,SNR=10								
KSCO	**Kaye Shedlock'**	**43.94**	**335**		P	**P**	**09 31 48.6**	**+1.6**	
	baz=148,SNR=10								
KSCO					S	**S**	**09 38 21.3**	**+2.4**	
	baz=148								
NBLA	**Lagarto - SE**	**43.96**	**106**	*eP*		**P**	**09 31 46.8**	**-0.6**	
ALF01	**Guarapari-ES**	**44.01**	**120**	*eP*		**P**	**09 31 47.5**	**-0.2**	
X18A	**Snowflake**	**44.11**	**325**		P	**P**	**09 31 50.0**	**+1.4**	
214A	**Organ Pipe Nat**	**44.12**	**320**		P	**P**	**09 31 49.2**	**+0.7**	
214A	comp=Z,121nm,1.4s				IAmb	IAmb	09 31 59.4		
214A	**Organ Pipe Nat**	**44.12**	**320**		P	**P**	**09 31 49.9**	**+1.3**	
	baz=130,SNR=29								
214A					S	**S**	**09 38 24.5**	**+2.8**	
	baz=130								
SDCO	**Great Sand Dun**	**44.19**	**332**		P	**P**	**09 31 50.0**	**+0.7**	
SDCO	comp=Z,162nm,1.5s				IAmb	IAmb	09 31 55.0		
SDCO	**Great Sand Dun**	**44.19**	**332**		P	**P**	**09 31 50.8**	**+1.5**	
	baz=143,SNR=55								
SDCO	**Great Sand Dun**	**44.19**	**332**		P	**P**	**09 31 50.6**	**+1.4**	
	baz=143,SNR=55								
SDCO					S	**S**	**09 38 26.0**	**+3.1**	
	baz=143								
WCNY	**West Carthage**	**44.26**	**5**		P	**P**	**09 31 49.4**	**0.0**	
	baz=187,SNR=5.2								
FFD	**Franklin Falls**	**44.27**	**9**		IAMs_20	IAMs_20	09 49 46.5		
	comp=Z,2µm,19.0s								
BGNE	**Belgrade**	**44.37**	**341**		P	**P**	**09 31 50.4**	**+0.1**	
	baz=155,SNR=7.4								
BGNE	**Belgrade**	**44.37**	**341**		P	**P**	**09 31 51.0**	**+0.6**	
	baz=155,SNR=7.4								
BGNE					S	**S**	**09 38 23.7**	**-1.2**	
	baz=155								
W18A	**Petrified Fore**	**44.41**	**325**		P	**P**	**09 31 52.7**	**+1.7**	
	baz=136,SNR=14								
W18A					S	**S**	**09 38 29.3**	**+3.2**	
	baz=136								
I42A	**Draeger Farm,**	**44.55**	**352**		P	**P**	**09 31 49.8**	**-1.8**	
	baz=168,SNR=20								
S22A	**4UR Ranch, Cre**	**44.83**	**330**		P	**P**	**09 31 56.1**	**+1.6**	
	baz=141,SNR=36								
S22A					S	**S**	**09 38 34.7**	**+2.3**	
	baz=141								
SADO	**Sadowa**	**44.84**	**2**		LR	LR	09 50 45.9		
	comp=Z,2µm,18.9s,baz=184,slow=36								
SADO	**Sadowa**	**44.84**	**2**		P	**P**	**09 31 53.3**	**-0.7**	
SFX	**San Felipe**	**44.91**	**317**		P	**P**	**09 31 56.1**	**+1.3**	
SFX	comp=Z,132nm,1.5s				IAmb	IAmb	09 32 05.2		
VT1	**Waterbury**	**44.94**	**8**		P	**P**	**09 31 55.0**	**+0.2**	
VT1	comp=Z,2µm,19.0s				IAMs_20	IAMs_20	09 50 12.1		
H43A	**Windswept, Lux**	**44.96**	**353**		P	**P**	**09 31 54.5**	**-0.4**	
H43A	comp=Z,98nm,1.2s				IAmb	IAmb	09 32 08.7		
H43A	**Windswept, Lux**	**44.96**	**353**		P	**P**	**09 31 53.4**	**-1.6**	
	baz=170,SNR=19								
LBNH	**Lisbon**	**44.98**	**9**		S	**S**	**09 38 35.5**	**+1.9**	
	baz=192								
LONY	**Lake Ozonia**	**45.00**	**6**		P	**P**	**09 31 54.3**	**-1.0**	
	baz=189								
Q24A	**Divide**	**45.00**	**333**		P	**P**	**09 31 57.2**	**+1.4**	
	baz=144,SNR=28								
Q24A					S	**S**	**09 38 38.6**	**+3.8**	
	baz=144								
GLMI	**Grayling**	**45.01**	**356**		P	**P**	**09 31 55.1**	**-0.2**	
	baz=174								
GLMI					S	**S**	**09 38 29.0**	**-5.1**	
	baz=174								
RCBR	**Riachuelo**	**45.06**	**98**		LR	LR	09 51 36.9		
	comp=Z,8µm,19.0s,baz=67,slow=37								
NBAN	**Anadia - AL**	**45.19**	**103**	*eP*		**P**	**09 31 56.9**	**-0.4**	
BMNY	**Brushton-Moira**	**45.23**	**6**		P	**P**	**09 31 56.2**	**-0.9**	
	baz=189								
113A	**Mohawk Valley,**	**45.27**	**320**		P	**P**	**09 31 58.1**	**+0.5**	
113A	comp=Z,79nm,1.3s				IAmb	IAmb	09 32 08.2		
MVCO	**Mesa Verde**	**45.27**	**328**		P	**P**	**09 31 59.3**	**+1.4**	
	baz=139,SNR=36								
MVCO					S	**S**	**09 38 40.8**	**+2.2**	
	baz=139								
G45A	**Suttons Bay**	**45.30**	**355**		P	**P**	**09 31 55.8**	**-1.8**	
	baz=173								
G45A					P	**P**	**09 31 55.8**	**-1.8**	
	baz=173								
OGNE	**Ogallala**	**45.34**	**337**		P	**P**	**09 32 02.3**	**+4.1**	
	baz=149								
OGNE					S	**S**	**09 38 41.7**	**+2.5**	
	baz=149								
WUAZ	**Wupatki**	**45.63**	**324**		IAMs_20	IAMs_20	09 50 01.0		
	comp=Z,3µm,19.0s								
WUAZ	**Wupatki**	**45.63**	**324**		P	**P**	**09 32 02.5**	**+1.8**	
	baz=135,SNR=53								
WUAZ					S	**S**	**09 38 47.9**	**+4.1**	
	baz=135								
K31A	**O'Neill**	**45.66**	**341**		P	**P**	**09 32 01.1**	**+0.5**	
	baz=154,SNR=41								
SMCO	**Snowmass**	**46.03**	**331**		P	**P**	**09 32 04.4**	**+0.4**	
SMCO	comp=Z,126nm,1.4s				IAmb	IAmb	09 32 15.2		
SMCO					IAMs_20	IAMs_20	09 53 41.3		
	comp=Z,2µm,18.0s								
ECSD	**EROS Data Cent**	**46.04**	**344**		P	**P**	**09 32 03.4**	**-0.2**	
ECSD	comp=Z,55nm,1.2s				IAmb	IAmb	09 32 17.1		
ECSD	**EROS Data Cent**	**46.04**	**344**		P	**P**	**09 32 02.7**	**-0.9**	
	baz=158,SNR=14	

BC3 Big Chuckawall 46.92 319 P **P** **09 32 12.1 +1.4**
baz=129,SNR=11
N23A Red Feather La 46.92 334 P **P** **09 32 12.2 +1.4**
baz=144,SNR=9.2
N23A S **S** **09 39 04.1 +1.8**
baz=144
IRM Iron Mountain 47.04 320 P **P** **09 32 13.1 +1.5**
baz=130,SNR=27
MONP2 Monument Peak 47.09 318 P **P** **09 32 13.7 +1.5**
baz=127,SNR=10
F64A Sherman 47.19 12 P **P** **09 32 13.9 +1.5**
F36A Milaca 47.28 348 P **P** **09 32 12.6 -0.7**
SUSD Miller 47.37 342 P **P** **09 32 13.6 -0.3**
SUSD Miller 47.37 342 P **P** **09 32 15.8 +1.9**
baz=155
SUSD S **S** **09 39 04.8 -3.1**
baz=155
O20A White River Ci 47.38 331 P **P** **09 32 15.7 +1.3**
baz=141,SNR=19
BELC Belle Mtn. Jos 47.49 319 P **P** **09 32 16.3 +1.1**
baz=128,SNR=24
PKCU Pink Cliffs 47.52 326 P **P** **09 32 17.1 +1.5**
109C Camp Elliot, M 47.55 317 P **P** **09 32 16.7 +1.2**
baz=127,SNR=7.6
PFO Pinyon Flats O 47.55 319 P **P** **09 32 17.4 +1.7**
comp=Z,10nm,1.0s,baz=132,slow=7.5,SNR=15
PFO LR LR 09 50 33.5
comp=Z,1µm,18.8s,baz=134,slow=34
PFO Pinyon Flats O 47.55 319 *ce*P **P** **09 32 16.8 +1.1**
PFO pmax pmax
comp=Z,112nm,1.8s
PFO Pinyon Flats O 47.55 319 P **P** **09 32 16.9 +1.1**
PFO IAmb IAmb 09 32 20.3
comp=Z,134nm,1.8s
PFO Pinyon Flats O 47.55 319 P **P** **09 32 16.8 +1.1**
baz=128,SNR=10
D41A Chassel 47.61 353 P **P** **09 32 15.3 -0.4**
E38A The Farm, Brul 47.62 350 P **P** **09 32 15.6 -0.2**
E38A IAmb IAmb 09 32 29.1
comp=Z,61nm,1.6s
E63A Oxbow 47.71 11 P **P** **09 32 17.2 +0.6**
baz=197
E63A P **P** **09 32 17.2 +0.6**
baz=197
GMRC Granite Mounta 47.76 320 P **P** **09 32 18.7 +1.4**
baz=129,SNR=9.2
F33A 5 Mile Ranch, 47.91 345 P **P** **09 32 17.0 -1.1**
baz=159
LMN Caledonia Moun 48.00 15 P **P** **09 32 18.7 -0.1**
PQI Presque Isle 48.03 12 IAMs_20 IAMs_20 09 51 54.0
comp=Z,2µm,20.0s
MURC Murrieta 48.03 318 P **P** **09 32 20.8 +1.4**
baz=127,SNR=16
RWWY Rawlins 48.13 333 IAMs_20 IAMs_20 09 53 39.6
comp=Z,2µm,19.0s
HEC Hector,Ludlow 48.22 320 P **P** **09 32 22.4 +1.6**
baz=129
VLDQ Val d'Or 48.25 3 P **P** **09 32 20.4 -0.2**
SHPR Sheep Range 48.56 323 P **P** **09 32 24.3 +0.8**
SHPR IAmb IAmb 09 32 29.1
comp=Z,110nm,1.6s
K22A Casper 48.60 335 P **P** **09 32 24.8 +1.0**
baz=145,SNR=6.1
K22A Casper 48.60 335 P **P** **09 32 24.7 +1.0**
baz=145,SNR=6.1
RRX Edison Barstow 48.68 320 P **P** **09 32 26.0 +1.7**
baz=128
BFSC Mount Baldy Ra 48.73 318 P **P** **09 32 26.2 +1.4**
baz=127,SNR=11
CIS Catalina Islan 48.74 317 P **P** **09 32 24.7 -0.1**
baz=126
GSC Goldstone, Bar 48.82 320 P **P** **09 32 27.1 +1.7**
baz=129,SNR=18
RSSD Black Hills 48.82 338 P **P** **09 32 26.8 +1.3**
RSSD pmax pmax
comp=Z,118nm,1.6s
RSSD Black Hills 48.82 338 P **P** **09 32 26.8 +1.3**
RSSD IAmb IAmb 09 32 44.2
comp=Z,118nm,1.6s
RSSD Black Hills 48.82 338 P **P** **09 32 26.7 +1.3**
baz=148,SNR=12
RSSD Black Hills 48.82 338 P **P** **09 32 26.7 +1.3**
baz=148
RSSD S **S** **09 39 32.5 +3.4**
baz=148
EYMN Ely 48.91 350 S **S** **09 39 23.9 -5.7**
baz=166
BATG Bathurst New B 49.03 13 P **P** **09 32 27.4 +0.7**
BATG IAmb IAmb 09 32 27.8
comp=Z,88nm,1.5s
PASC Pasadena Art C 49.03 318 P **P** **09 32 28.7 +1.7**
PRN Pahroc Range 49.09 324 P **P** **09 32 28.3 +0.8**
PRN IAmb IAmb 09 32 34.5
comp=Z,76nm,1.9s
PSUT Pine Spring 49.16 325 P **P** **09 32 29.1 +1.0**
DECC Green Verdugo 49.18 318 P **P** **09 32 29.7 +1.5**
baz=126,SNR=9.0
EDW2 Edwards Air Fo 49.33 319 P **P** **09 32 30.5 +1.2**
baz=127,SNR=35
EDW2 S **S** **09 39 37.9 +1.7**
baz=127
LRMC Laurel Mtn Rad 49.49 320 P **P** **09 32 31.8 +1.2**
baz=128,SNR=11
TPNV Topopah Spring 49.51 322 P **P** **09 32 32.6 +1.8**
baz=130,SNR=12
FURC Furnace Creek, 49.58 321 P **P** **09 32 32.8 +1.7**
baz=129,SNR=11
OSI Osito Audit: C 49.66 318 P **P** **09 32 33.5 +1.7**
baz=126
MPMC Manual Prospec 49.72 321 P **P** **09 32 32.7 +0.3**
baz=128,SNR=13
DUG Dugway, Tooele 49.75 328 IAMs_20 IAMs_20 09 52 49.8
comp=Z,3µm,20.0s
DUG Dugway, Tooele 49.75 328 P **P** **09 32 34.2 +1.7**
baz=136,SNR=25
DUG S **S** **09 39 45.4 +3.4**
baz=136
E28A Huff 49.82 342 P **P** **09 32 33.6 +0.8**
baz=154,SNR=26
ARVC Arvin 50.03 319 P **P** **09 32 35.5 +0.9**
baz=126,SNR=20
R11A Troy Canyon, C 50.03 324 P **P** **09 32 36.2 +1.4**
baz=132,SNR=19
R11A S **S** **09 39 49.0 +3.0**
baz=132
BW06 Boulder Array 50.05 332 P **P** **09 32 35.3 +0.4**
BW06 IAMs_20 IAMs_20 09 54 41.6
comp=Z,2µm,18.0s
BW06 Boulder Array 50.05 332 P **P** **09 32 35.2 +0.4**
baz=141,SNR=22
BW06 S **S** **09 39 47.0 +0.7**
baz=141
PD31 Pinedale Array 50.05 332 P **P** **09 32 35.3 +0.4**
PDAR Pinedale Array 50.05 332 P **P** **09 32 34.8 -0.1**
comp=Z,13nm,1.3s,baz=144,slow=5.3,SNR=18
PDAR LR LR 09 54 18.6
comp=Z,2µm,18.1s,baz=140,slow=37
PDAR Pinedale Array 50.05 332 P **P** **09 32 35.3 +0.4**
AGMN Agassiz Nation 50.11 347 P **P** **09 32 35.3 +0.4**
AGMN Agassiz Nation 50.11 347 P **P** **09 32 34.1 -0.8**
baz=160
AGMN S **S** **09 39 41.3 -5.2**
baz=160
ISA Isabella, Lake 50.11 319 P **P** **09 32 36.4 +1.1**
ISA pmax pmax
comp=Z,139nm,1.7s
ISA Isabella, Lake 50.11 319 P **P** **09 32 36.4 +1.1**
ISA IAmb IAmb 09 32 40.9
comp=Z,139nm,1.7s
ISA Isabella, Lake 50.11 319 P **P** **09 32 36.2 +0.9**
baz=127,SNR=30
ISA S **S** **09 39 50.4 +3.2**
baz=127
HWUT Hardware Ranch 50.14 330 P **P** **09 32 35.9 +0.4**
HWUT IAmb IAmb 09 32 54.8
comp=Z,130nm,1.4s
HWUT IAMs_20 IAMs_20 09 53 26.9
comp=Z,2µm,20.0s
GRAC Grapevine Rang 50.23 322 P **P** **09 32 37.7 +1.6**
baz=129,SNR=13
CWC Cottonwood Cre 50.33 321 P **P** **09 32 37.7 +0.6**
baz=128
PKM Mcpherson Peak 50.54 318 P **P** **09 32 39.8 +1.1**
baz=125,SNR=13
VES Vestal, Richgr 50.62 319 P **P** **09 32 40.0 +1.0**
baz=127,SNR=42
VES S **S** **09 39 58.4 +4.4**
baz=127
MDND Maddock 50.64 344 P **P** **09 32 39.8 +0.8**
baz=155,SNR=14
MDND S **S** **09 39 51.0 -3.0**
baz=155
AHID Auburn Hatcher 50.78 331 IAMs_20 IAMs_20 09 54 19.9
comp=Z,2µm,19.0s
TPH Tonopah 50.83 323 P **P** **09 32 41.4 +0.6**
TPH pmax pmax
comp=Z,277nm,1.4s
TPH Tonopah 50.83 323 P **P** **09 32 41.4 +0.6**
SMMC Simmler 50.91 318 P **P** **09 32 42.9 +1.6**
baz=125,SNR=11
REDW Red Top Meadow 51.11 332 IAMs_20 IAMs_20 09 54 21.6
comp=Z,2µm,20.0s
TPAW Teton Pass 51.26 332 IAMs_20 IAMs_20 09 54 26.4
comp=Z,2µm,22.0s
PAGB Antelope Grade 51.32 318 P **P** **09 32 45.3 +0.9**
PAGB IAmb IAmb 09 32 49.0
comp=Z,168nm,1.6s
MOOW Moose Ponds 51.36 332 IAMs_20 IAMs_20 09 55 02.1
comp=Z,2µm,19.0s
ELK Elko 51.45 327 LR LR 09 54 27.0
comp=Z,2µm,18.7s,baz=148,slow=36
ELK Elko 51.45 327 P **P** **09 32 46.5 +1.0**
ELK pmax pmax
comp=Z,114nm,1.6s
ELK Elko 51.45 327 P **P** **09 32 46.5 +1.0**
ELK IAmb IAmb 09 32 50.7
comp=Z,114nm,1.6s
ELK IAMs_20 IAMs_20 09 54 05.9
comp=Z,2µm,18.0s
MLAC Mammoth, Mammo 51.54 321 P **P** **09 32 47.1 +0.9**
baz=128
FLWY Flagg Ranch 51.59 333 P **P** **09 32 47.1 +0.6**
FLWY IAmb IAmb 09 33 06.4
comp=Z,140nm,1.5s
FLWY IAMs_20 IAMs_20 09 55 21.4
comp=Z,2µm,18.0s
NV11 Mina Array Sit 51.62 322 P **P** **09 32 47.1 +0.4**
NV11 IAmb IAmb 09 32 52.4
comp=Z,162nm,1.6s
NVAR Mina Array Bea 51.71 322 P **P** **09 32 48.0 +0.6**
comp=Z,27nm,1.2s,baz=137,slow=7.0,SNR=48
NVAR LR LR 09 52 31.2
comp=Z,1µm,21.6s,baz=132,slow=34
NVAR Mina Array Bea 51.71 322 P **P** **09 32 48.6 +1.2**
RLMT Red Lodge 51.77 334 P **P** **09 32 47.9 +0.1**
baz=143,SNR=5.8
RLMT S **S** **09 40 09.5 -0.6**
baz=143
H17A Grant Village 51.78 333 P **P** **09 32 52.6 +4.7**
baz=141,SNR=11
LAO LASA Array 51.82 338 IAMs_20 IAMs_20 09 53 53.3
comp=Z,2µm,20.0s
LAO LASA Array 51.82 338 P **P** **09 32 48.4 +0.5**
baz=147,SNR=7.9
LAO LASA Array 51.82 338 P **P** **09 32 48.3 +0.3**
baz=147,SNR=7.9
LAO S **S** **09 40 09.5 -0.8**
baz=147
ULM Lac du Bonnet 51.95 348 P **P** **09 32 47.3 -1.4**
comp=Z,9.3nm,0.7s,baz=162,slow=6.3,SNR=7.9
ULM LR LR 09 57 03.8
comp=Z,963nm,18.6s,baz=160,slow=39
ULM Lac du Bonnet 51.95 348 *di*P **P** **09 32 46.6 -2.1**
YMR Madison River 52.17 333 P **P** **09 32 52.2 +1.5**
YMR IAmb IAmb 09 33 10.3
comp=Z,94nm,1.5s
BMN Battle Mountai 52.36 325 P **P** **09 32 53.0 +0.8**
BMN pmax pmax
comp=Z,238nm,1.5s
BMN Battle Mountai 52.36 325 P **P** **09 32 53.0 +0.8**
DGMT Dagmar 52.61 340 P **P** **09 32 54.7 +0.9**
baz=150,SNR=5.9
DGMT Dagmar 52.61 340 P **P** **09 32 54.5 +0.7**
baz=150,SNR=5.9
DGMT S **S** **09 40 21.6 +0.4**
baz=150
SAO San Andreas Ge 52.71 319 P **P** **09 32 52.4 -2.2**
HLID Hailey 53.00 330 IAMs_20 IAMs_20 09 55 11.6
comp=Z,2µm,19.0s
HLID Hailey 53.00 330 P **P** **09 32 58.1 +1.2**
baz=136,SNR=44
HLID S **S** **09 40 28.7 +1.8**
baz=136
BCYI Bear Canyon 53.05 331 P **P** **09 32 57.9 +0.6**
BOZ Bozeman (W) 53.18 333 P **P** **09 32 59.0 +0.8**
baz=140,SNR=78
BOZ S **S** **09 40 29.4 +0.1**
baz=140
DRLN Deer Lake 53.20 19 P **P** **09 32 58.4 +0.4**
DRLN IAmb IAmb 09 32 59.5
comp=Z,152nm,1.5s
DLMT Dillon 53.45 332 IAMs_20 IAMs_20 09 55 53.3
comp=Z,2µm,19.0s
MFID Camas Ranch 53.62 329 IAMs_20 IAMs_20 09 56 17.1
comp=Z,1µm,18.0s
EGMT Eagleton 54.29 336 P **P** **09 33 06.8 +0.6**
baz=143,SNR=14
EGMT S **S** **09 40 44.0 0.0**
baz=143
WVOR Wild Horse Val 54.47 326 IAMs_20 IAMs_20 09 55 46.7
comp=Z,2µm,19.0s
O03E Paynes Creek 54.99 322 IAMs_20 IAMs_20 09 52 53.5
comp=Z,2µm,21.0s
O03E Paynes Creek 54.99 322 P **P** **09 33 11.8 +0.4**
baz=127,SNR=8.8
O03E S **S** **09 40 55.2 +1.4**
baz=127
MOD Modoc Plateau 55.08 325 IAMs_20 IAMs_20 09 56 18.8
comp=Z,2µm,20.0s
MSO Missoula 55.16 333 P **P** **09 33 12.8 +0.3**
baz=138,SNR=31
O02D Mt. Diablo Mer 55.53 321 P **P** **09 33 15.6 +0.3**
baz=126
M04C Macdoel 55.91 324 P **P** **09 33 18.3 +0.2**
baz=128,SNR=18
N02D Trinity Center 55.95 322 P **P** **09 33 17.8 -0.5**
baz=126,SNR=5.9
SCHQ Schefferville 56.07 10 P **P** **09 33 16.9 -1.8**
comp=Z,22nm,1.2s,baz=210,slow=7.6,SNR=10
SCHQ LR LR 09 57 29.2
comp=Z,868nm,19.6s,baz=213,slow=36
SCHQ Schefferville 56.07 10 P **P** **09 33 18.6 -0.2**
SCHQ IAmb IAmb 09 33 19.1
comp=Z,121nm,1.9s
M02C Callahan 56.28 323 P **P** **09 33 22.8 +2.2**
baz=126
K04D Chiloquin, OR 56.37 324 P **P** **09 33 23.3 +1.9**
baz=128,SNR=6.1
K04D S **S** **09 41 13.9 +1.7**
baz=128
YBH Yreka Blue Hor 56.40 323 P **P** **09 33 20.8 -0.7**
comp=Z,17nm,1.2s,baz=135,slow=5.7,SNR=12
YBH LR LR 09 57 58.6
comp=Z,1µm,19.5s,baz=138,slow=36
L04D Klamath Falls 56.45 324 P **P** **09 33 22.2 +0.3**
baz=127,SNR=18
J05D Fort Rock, OR 56.48 325 P **P** **09 33 23.1 +1.0**
baz=129,SNR=44
WALA Waterton Lakes 56.83 335 P **P** **09 33 25.2 +0.8**
WALA IAmb IAmb 09 34 24.4
comp=Z,66nm,1.6s
J04D Umpqua Nationa 56.96 325 P **P** **09 33 26.7 +1.2**
baz=128,SNR=14
HUMO Hull Mountain 57.07 324 IAMs_20 IAMs_20 09 54 47.4
comp=Z,1µm,20.0s
L02E Cave Junction 57.19 323 P **P** **09 33 27.2 +0.2**
baz=126,SNR=7.3
L02E S **S** **09 41 24.4 +1.6**
baz=126
I05D Terrebonne, OR 57.21 326 P **P** **09 33 28.7 +1.6**
baz=129,SNR=40
I04A Tendick Farm, 57.47 325 P **P** **09 33 29.2 +0.2**
baz=128,SNR=16
FFC Flin Flon 57.51 346 *e*P **P** **09 33 29.6 +0.6**
FFC Flin Flon 57.51 346 P **P** **09 33 29.6 +0.6**
K02D Willamette Mer 57.54 323 P **P** **09 33 30.6 +1.0**
baz=126,SNR=28
K02D S **S** **09 41 28.8 +1.3**
baz=126
DBO Dodson Butte 57.54 324 P **P** **09 33 30.4 +0.8**
HAWA Hanford 57.58 329 P **P** **09 33 30.8 +1.1**
HAWA IAMs_20 IAMs_20 09 56 36.7
comp=Z,1µm,19.0s
NEW Newport 57.69 332 LR LR 09 58 42.3
comp=Z,1µm,19.0s,baz=148,slow=36
NEW Newport 57.69 332 IAMs_20 IAMs_20 09 57 22.6
comp=Z,2µm,21.0s
NEW Newport 57.69 332 P **P** **09 33 31.1 +0.7**
baz=135,SNR=15
NEW S **S** **09 41 30.5 +1.3**
baz=135
G05D Wamic, OR 57.77 327 P **P** **09 33 33.1 +2.1**
baz=130,SNR=8.8
G05D S **S** **09 41 35.5 +5.1**
baz=130
H04A Detroit Lake 57.90 326 P **P** **09 33 32.3 +0.4**
H04A IAmb IAmb 09 33 36.5
comp=Z,129nm,1.5s
I03D Drain, OR 57.95 325 P **P** **09 33 33.6 +1.2**
baz=127,SNR=17
I03D S **S** **09 41 33.7 +1.0**
baz=127
J01E Myrtle Point 57.98 324 P **P** **09 33 34.6 +2.2**
baz=126,SNR=10
J01E S **S** **09 41 35.1 +2.1**
baz=126
H04D Lebanon 58.10 326 P **P** **09 33 35.8 +2.4**
baz=128,SNR=6.6
F05D White Salmon 58.26 328 P **P** **09 33 37.0 +2.6**
baz=130,SNR=7.6
COR Corvallis 58.46 325 P **P** **09 33 37.6 +1.7**
COR pmax pmax
comp=Z,300nm,1.5s
COR Corvallis 58.46 325 P **P** **09 33 37.6 +1.7**
I02E Swisshome, OR 58.49 325 P **P** **09 33 37.1 +1.1**
I02E Swisshome, OR 58.49 325 P **P** **09 33 37.7 +1.7**
baz=127
I02E S **S** **09 41 41.8 +2.1**
baz=127
LTY Liberty 58.74 329 P **P** **09 33 38.8 +1.0**
LTY IAmb IAmb 09 33 42.9
comp=Z,68nm,1.4s
G03D McMinnville, O 58.82 326 P **P** **09 33 40.5 +2.1**
baz=128
F04D Rainier, OR 59.22 327 P **P** **09 33 45.2 +4.1**
baz=128
E04D Cinebar 59.28 328 P **P** **09 33 42.5 +1.0**
baz=129,SNR=7.2
FCC Fort Churchill 59.78 352 P **P** **09 33 43.5 -1.2**
FCC pmax pmax
comp=Z,65nm,1.3s
FCC Fort Churchill 59.78 352 P **P** **09 33 43.5 -1.2**
FCC IAmb IAmb 09 33 47.5
comp=Z,64nm,1.3s
TAOE Nuku Hiva Isla 59.80 260 *e*S **S** **09 41 52.2 -5.6**
comp=Z,3µm,25.7s
TAOE *e*LQ LQ 09 48 44.5
comp=Z,947nm,26.8s
TAOE *e*LR LR 09 51 14.5
comp=Z,2µm,23.6s,baz=82
B06A Marblemount 59.98 330 P **P** **09 33 48.0 +1.8**
B06A IAmb IAmb 09 33 50.9
comp=Z,99nm,1.5s
B05A Bryant 60.12 329 P **P** **09 33 48.6 +1.3**
baz=130,SNR=8.3
D03D Eldon 60.17 328 P **P** **09 33 48.2 +0.6**
baz=129,SNR=13
WISH Wishkah 60.27 328 P **P** **09 33 49.7 +1.4**
NLWA Neilton Lookou 60.50 328 P **P** **09 33 52.1 +2.1**
NLWA IAmb IAmb 09 33 55.6
comp=Z,111nm,1.4s
B04A Port Angeles 60.72 328 P **P** **09 33 53.1 +1.8**
B04A IAmb IAmb 09 33 57.0
comp=Z,94nm,1.4s
A04D Lummi Island 60.73 329 P **P** **09 33 53.0 +1.6**
baz=130,SNR=6.9
PGC Sidney 61.06 329 P **P** **09 33 56.6 +2.9**
PGC IAmb IAmb 09 33 58.4
comp=Z,86nm,1.5s
CLRS Cowichan Lake 61.52 329 P **P** **09 33 58.4 +1.6**
LLLB Lillooet 61.55 332 P **P** **09 33 58.8 +1.7**
ROSA Rosais 61.71 45 P **P** **09 33 60.0 +1.6**
CBB Campbell River 62.91 329 P **P** **09 34 07.4 +1.3**
FRB Frobisher Bay 64.47 6 LR LR 10 05 14.9
comp=Z,1µm,18.9s,baz=191,slow=39
FRB Frobisher Bay 64.47 6 P **P** **09 34 15.8 -0.3**
BBB Bella Bella 65.58 330 LR LR 10 03 46.4
comp=Z,884nm,19.3s,baz=142,slow=37
NRS Narsarsuaq 66.92 18 *i* P P 09 34 37.7 +5.8
NRS IAmb IAmb 09 34 44.5
comp=Z,20nm,0.7s
MACI Morro de la Ar 67.54 59 P **P** **09 34 37.5 +0.7**
YKA Yellowknife Ar 67.56 344 P **P** **09 34 35.3 -0.7**
comp=Z,28nm,1.2s,baz=138,slow=5.7,SNR=48
YKA Yellowknife Ar 67.56 344 P **P** **09 34 35.7 -0.4**
YKA Yellowknife Ar 67.56 344 P **P** **09 34 35.7 -0.4**
NUUK Nuuk 67.71 13 *i* P P **09 34 35.4 -1.5**
NUUK IAmb IAmb 09 34 40.7
comp=Z,8.8nm,0.7s
PMOZ Porto Moniz, M 68.08 54 *e*P **P** **09 34 40.7 +0.6**
comp=Z,186nm,1.9s
PMOZ *e*S **S** **09 43 46.2 +5.9**
PMOZ Porto Moniz, M 68.08 54 *e*LR LR 09 54 22.1
comp=Z,492nm,18.0s
PMPS Porto Santo 68.84 54 *e*P **P** **09 34 46.1 +1.4**
comp=Z,246nm,2.0s
PMPST Porto Santo, M 68.85 54 *e*P **P** **09 34 45.2 +0.4**
comp=Z,261nm,2.2s
PPT Papeete 69.81 251 LR LR 09 57 36.2
comp=Z,2µm,18.9s,baz=66,slow=29
PPT2 Papeete2 69.81 251 *e*S **S** **09 43 56.3 -4.9**
comp=Z,830nm,28.2s
PPT2 *e*LQ LQ 09 52 57.0
comp=Z,878nm,24.5s
PPT2 *e*LR LR 09 55 53.3
comp=Z,2µm,23.2s,baz=76
WRAK Wrangell Islan 70.04 332 P **P** **09 34 55.3 +3.7**
baz=124
DLBC Dease Lake 70.17 335 LR LR 10 09 46.5
comp=Z,761nm,18.6s,baz=122,slow=40
DLBC Dease Lake 70.17 335 P **P** **09 34 53.8 +1.3**
DLBC IAmb IAmb 09 34 57.9
comp=Z,96nm,1.4s
SFJD Kangerlussuaq 70.36 12 P **P** **09 34 52.7 -0.6**
SFJD pmax pmax
comp=Z,55nm,1.4s
SFJD Kangerlussuaq 70.36 12 P **P** **09 34 52.7 -0.6**
SFJD IAmb IAmb 09 34 53.3
comp=Z,55nm,1.4s
SFJD Kangerlussuaq 70.36 12 *i* P **P** **09 34 52.1 -1.2**
SFJD IAmb IAmb 09 34 52.7
comp=Z,2.6nm,0.8s
TBI Tubuai 70.44 245 *e*S **S** **09 44 04.2 -4.1**
comp=Z,1µm,25.0s
TBI *e*LQ LQ 09 53 14.1
comp=Z,555nm,30.2s
TBI *e*LR LR 09 56 11.7
comp=Z,2µm,27.2s,baz=76
WRGLY Wrigley 70.81 341 P **P** **09 34 56.7 +0.6**
baz=134,SNR=33
DY2G Dye2 70.90 14 *i* P **P** **09 34 54.7 -2.3**
DY2G IAmb IAmb 09 35 01.0
comp=Z,13nm,0.7s
JIS Juneau Island 71.98 333 P **P** **09 35 05.6 +2.3**
JIS IAmb IAmb 09 35 08.7
comp=Z,59nm,1.4s
SKAG Skagway 73.02 334 P **P** **09 35 10.2 +0.7**
baz=122,SNR=8.0
MMPY Sheldon Lake, 73.14 338 P **P** **09 35 11.4 +1.1**
baz=126,SNR=26
MMPY S **S** **09 44 40.1 +2.0**
baz=126
WHY Whitehorse 73.47 335 P **P** **09 35 12.3 0.0**
baz=122,SNR=7.0
FARO Faro, Yukon 73.71 337 P **P** **09 35 14.5 +0.9**
baz=124,SNR=12
FARO S **S** **09 44 46.7 +2.2**
baz=124
M31M Drury Creek, Y 74.10 337 P **P** **09 35 16.9 +1.0**
baz=123,SNR=14
M31M S **S** **09 44 51.7 +2.8**
baz=123
N31M Braeburn, Yuko 74.28 336 IAMs_20 IAMs_20 10 07 35.2
comp=Z,1µm,20.0s
N31M Braeburn, Yuko 74.28 336 P **P** **09 35 17.7 +0.7**
baz=122,SNR=6.9
N31M S **S** **09 44 53.7 +2.8**
baz=122
ICESG Greenland Ices 74.53 14 *i* P **P** **09 35 16.2 -2.4**
ICESG IAmb IAmb 09 35 23.1
comp=Z,10.0nm,0.7s

HYT Haines Junctio 74.66 335 P **P** **09 35 21.0 +1.7**
baz=120,SNR=9.9
TTIG Tnine Tigouga, 74.89 58 P **P** **09 35 23.1 +1.8**
PNL Peninsula 74.92 333 P **P** **09 35 24.1 +3.4**
baz=118
YUK6 Outpost Mounta 75.08 335 P **P** **09 35 23.2 +1.3**
baz=119,SNR=12
M30M Minto, Yukon 75.25 337 IAMs_20 IAMs_20 10 10 16.9
comp=Z,1µm,19.0s
M30M Minto, Yukon 75.25 337 P **P** **09 35 23.3 +0.7**
baz=121,SNR=35
M30M S **S** **09 45 02.8 +1.1**
baz=121
C36M Paulatuk 75.29 345 S **S** **09 44 58.2 -3.5**
baz=135
RES Resolute Bay 75.31 356 LR LR 10 07 50.4
comp=Z,1µm,21.7s,baz=160,slow=35
RES Resolute Bay 75.31 356 P **P** **09 35 22.5 -0.1**
RES pmax pmax
comp=Z,30nm,1.5s
RES Resolute Bay 75.31 356 P **P** **09 35 22.5 -0.1**
YUK4 Talbot Arm 75.39 335 P **P** **09 35 24.9 +1.2**
baz=119,SNR=26
MAYO Mayo, Yukon 75.44 338 P **P** **09 35 24.9 +1.3**
baz=122,SNR=9.7
MAYO S **S** **09 45 06.4 +2.7**
baz=122
OUK Oukaimeden 75.49 58 P **P** **09 35 27.0 +2.0**
PINM Pinnacle 75.50 334 P **P** **09 35 28.1 +4.0**
baz=117
SRHM Skhour des Reh 75.67 56 P **P** **09 35 28.0 +2.3**
PFVI Vila Bisbo 75.76 52 *eP* **P** **09 35 26.9 +0.9**
comp=Z,222nm,1.9s
LIC Lamto 75.79 84 *eP* **P** **09 35 25.7 -0.9**
comp=Z,186nm,2.1s
PMST Lisbon--Monsan 75.81 50 *eP* **P** **09 35 26.8 +0.6**
comp=Z,118nm,2.4s
TIC Toumodi 75.81 83 *eP* **P** **09 35 25.8 -1.0**
LIS Lisbon 75.83 50 *eP* **P** **09 35 27.3 +1.0**
LIS IAMs_20 IAMs_20 10 08 26.6
comp=Z,4µm,56.1s
LIS Lisbon 75.83 50 *eP* **P** **09 35 26.9 +0.6**
comp=Z,214nm,1.7s
LIS Lisbon 75.83 50 *eP* **P** **09 35 27.3 +1.0**
PTEO Sao Teotonio 75.92 51 *eP* **P** **09 35 27.8 +0.9**
comp=Z,103nm,2.1s
MORF Marmelete 75.93 51 *eP* **P** **09 35 28.0 +1.0**
MORF *eS* **S** **09 45 11.8 +1.6**
MORF IAMs_20 IAMs_20 10 21 32.4
comp=Z,751nm,13.9s
MORF Marmelete 75.93 51 *eP* **P** **09 35 27.7 +0.7**
comp=Z,170nm,1.7s
MORF Marmelete 75.93 51 *eP* **P** **09 35 28.0 +1.0**
DBIC Dimbokro 75.98 83 P **P** **09 35 27.6 -0.1**
comp=Z,36nm,1.2s,baz=277,slow=6.8,SNR=28
DBIC PKKP **PKKPdf** **09 54 34.0 +3.1**
comp=Z,1.5nm,0.5s,baz=306,slow=4.8,SNR=3.0
DBIC LR LR 10 06 30.8
comp=Z,1µm,20.3s,baz=264,slow=34
DBIC Dimbokro 75.98 83 P **P** **09 35 27.6 -0.1**
DBIC pmax pmax
comp=Z,255nm,1.7s
DBIC Dimbokro 75.98 83 P **P** **09 35 27.6 -0.1**
KIC Kosan Boka 76.08 83 *eP* **P** **09 35 27.0 -1.3**
comp=Z,169nm,1.5s
LOGN Logan Glacier 76.17 334 P **P** **09 35 29.8 +1.8**
LOGN IAmb IAmb 09 35 33.4
comp=Z,94nm,1.5s
PNCL Nicolau / Gran 76.18 51 *eP* **P** **09 35 28.9 +0.5**
comp=Z,79nm,1.7s
AVE Averroes 76.20 56 P **P** **09 35 30.9 +2.2**
PSBE So Bento 76.26 49 *eP* **P** **09 35 29.3 +0.5**
comp=Z,117nm,1.7s
YUK3 Moose Creek 76.36 335 P **P** **09 35 29.9 +0.8**
baz=117,SNR=19
YUK3 S **S** **09 45 15.8 +1.4**
baz=117
CTGM Chitina Glacie 76.37 334 IAMs_20 IAMs_20 10 09 22.8
comp=Z,1µm,20.0s
CTG Chitina Glacier 76.38 334 P **P** **09 35 29.5 +0.4**
baz=116,SNR=11
CTG S **S** **09 45 17.0 +2.6**
baz=116
OUZM OUZ 76.38 58 P **P** **09 35 32.0 +2.2**
PCVE Castro Verde 76.47 51 *eP* **P** **09 35 31.1 +1.1**
comp=Z,84nm,1.8s
PBDV Barranco-do-Ve 76.48 52 *eP* **P** **09 35 30.7 +0.6**
comp=Z,87nm,1.7s
BARN Barnard Glacie 76.56 334 P **P** **09 35 32.4 +2.2**
BARN IAmb IAmb 09 35 35.6
comp=Z,91nm,1.4s
BARN IAMs_20 IAMs_20 10 09 32.6
comp=Z,1µm,20.0s
PCAS Casmilo, Conde 76.60 49 *eP* **P** **09 35 31.3 +0.6**
comp=Z,182nm,1.9s
PMTG Montargil 76.61 50 *eP* **P** **09 35 31.1 +0.4**
comp=Z,85nm,1.7s
ISLE Juniper Island 76.66 334 P **P** **09 35 33.6 +2.9**
ISLE IAmb IAmb 09 35 36.5
comp=Z,80nm,1.4s
ISLE IAMs_20 IAMs_20 10 09 28.3
comp=Z,1µm,21.0s
EVO Evora 76.66 50 *eP* **P** **09 35 31.4 +0.3**
comp=Z,82nm,1.8s
PBEJ Beja 76.68 51 *eP* **P** **09 35 32.7 +1.5**
comp=Z,14nm,1.5s
PVAQ Vaqueiros 76.68 51 *eP* **P** **09 35 31.5 +0.3**
comp=Z,77nm,1.8s
PVAQ Vaqueiros 76.68 51 *eLR* LR 09 59 58.2
comp=Z,598nm,20.0s
PVAQ Vaqueiros 76.68 51 P **P** **09 35 31.9 +0.6**
PVAQ IAmb IAmb 09 35 35.1
comp=Z,76nm,1.9s
COI Coimbra 76.69 49 *eP* **P** **09 35 31.7 +0.5**
comp=Z,304nm,1.8s
COI Coimbra 76.69 49 P **P** **09 35 33.0 +1.8**
COI pmax pmax
comp=Z,409nm,1.8s
COI Coimbra 76.69 49 P **P** **09 35 33.0 +1.8**
COI IAMs_20 IAMs_20 10 09 26.5
comp=Z,940nm,19.0s
J29M Klondike Camp 76.75 338 P **P** **09 35 32.0 +0.8**
baz=120,SNR=11
J29M S **S** **09 45 20.4 +2.1**
baz=120
BVCY Beaver Creek 76.83 336 P **P** **09 35 32.2 +0.7**
baz=117,SNR=6.7
BVCY S **S** **09 45 21.8 +2.7**
baz=117
ZHG ZHG 76.87 56 P **P** **09 35 34.0 +1.5**
TULEG Thule 76.99 3 P **P** **09 35 32.1 -0.1**
DAWY Dawson 77.01 337 P **P** **09 35 32.4 -0.2**
DAWY IAmb IAmb 09 35 37.0
comp=Z,67nm,1.4s
DAWY Dawson 77.01 337 P **P** **09 35 32.5 -0.1**
baz=119,SNR=31
DAWY S **S** **09 45 22.6 +1.5**
baz=119
PESTR Estremoz 77.05 50 *eP* **P** **09 35 34.0 +0.7**
comp=Z,172nm,1.6s
PESTR Estremoz 77.05 50 P **P** **09 35 33.7 +0.4**
PESTR IAmb IAmb 09 35 35.5
comp=Z,97nm,1.6s
PGAV Gavieira, Arco 77.16 47 *eP* **P** **09 35 34.6 +0.6**
comp=Z,119nm,1.8s
PGAV *eS* **S** **09 45 28.6 +4.9**
PGAV Gavieira, Arco 77.16 47 *eLR* LR 09 59 31.9
comp=Z,557nm,18.0s
KOWA Kowa 77.18 75 P **P** **09 35 34.7 +0.3**
KOWA Kowa 77.18 75 P **P** **09 35 34.9 +0.4**
PVIS Viseu 77.18 48 *eP* **P** **09 35 35.0 +1.0**
comp=Z,100nm,1.9s
EPYK Eagle Plains 77.20 340 P **P** **09 35 34.6 +1.0**
EPYK IAmb IAmb 09 35 38.6
comp=Z,104nm,1.4s
EPYK Eagle Plains 77.20 340 P **P** **09 35 34.1 +0.5**
baz=122
EPYK S **S** **09 45 24.8 +1.7**
baz=122
M27K Edge Creek, AK 77.22 335 P **P** **09 35 35.0 +1.1**
M27K IAmb IAmb 09 35 39.0
comp=Z,65nm,1.3s
M27K Edge Creek, AK 77.22 335 P **P** **09 35 34.8 +0.9**
baz=116,SNR=23
M27K S **S** **09 45 26.4 +2.8**
baz=116
ZGR Zagora 77.24 59 P **P** **09 35 37.0 +2.3**

I29M Ogilvie Camp, 77.25 339 IAMs_20 IAMs_20 10 15 59.6
comp=Z,1µm,19.0s
I29M Ogilvie Camp, 77.25 339 P **P** **09 35 34.1 +0.3**
baz=120,SNR=49
I29M S **S** **09 45 24.1 +0.6**
baz=120
INK Inuvik 77.25 342 P **P** **09 35 33.9 +0.3**
comp=Z,64nm,1.2s,baz=113,slow=6.1,SNR=24
INK LR LR 10 12 09.0
comp=Z,1µm,18.8s,baz=110,slow=38
INK Inuvik 77.25 342 P **P** **09 35 34.2 +0.5**
INK pmax pmax
comp=Z,149nm,1.5s
INK Inuvik 77.25 342 P **P** **09 35 34.2 +0.5**
INK Inuvik 77.25 342 P **P** **09 35 34.0 +0.3**
baz=125,SNR=84
INK S **S** **09 45 25.1 +1.8**
baz=125
MCARA McCarthy VSAT 77.29 334 P **P** **09 35 35.3 +1.1**
MCARA IAmb IAmb 09 35 39.5
comp=Z,115nm,1.4s
MCARA IAMs_20 IAMs_20 10 09 51.0
comp=Z,1µm,20.0s
MCARA McCarthy VSAT 77.29 334 P **P** **09 35 36.9 +2.8**
baz=115,SNR=8.7
MCARA S **S** **09 45 27.0 +2.8**
baz=115
PMRV Marv??o 77.31 50 *eP* **P** **09 35 34.9 +0.2**
comp=Z,94nm,1.7s
PMRV *eS* **S** **09 45 26.9 +1.7**
PMRV Marv??o 77.31 50 *eLR* LR 10 00 11.4
comp=Z,706nm,20.0s
PCBR Castelo Branco 77.32 49 *eP* **P** **09 35 35.1 +0.3**
comp=Z,76nm,1.7s
PBAR Barrancos 77.35 51 *eP* **P** **09 35 35.5 +0.5**
comp=Z,46nm,1.7s
TZRR Tazzarine 77.37 58 P **P** **09 35 38.0 +2.6**
MTE Manteigas 77.38 49 *eP* **P** **09 35 35.3 +0.1**
comp=Z,71nm,1.7s
MTE *eS* **S** **09 45 27.5 +1.5**
MTE Manteigas 77.38 49 *eLR* LR 09 59 58.2
comp=Z,857nm,18.0s
MTE Manteigas 77.38 49 IAMs_20 IAMs_20 10 09 55.7
comp=Z,963nm,19.0s
POLO Lamas de Olo 77.39 47 *eP* **P** **09 35 35.5 +0.3**
comp=Z,53nm,1.8s
VRDI Verde Repeater 77.42 334 IAMs_20 IAMs_20 10 09 53.3
comp=Z,964nm,21.0s
A36M Sachs Harbour 77.42 347 P **P** **09 35 33.6 -1.0**
baz=134,SNR=44
A36M S **S** **09 45 22.3 -2.9**
baz=134
PVRL Vila Real 77.43 48 *eP* **P** **09 35 36.5 +1.1**
comp=Z,122nm,1.9s
L27K Beaver Creek, 77.51 336 P **P** **09 35 35.8 +0.3**
baz=116,SNR=13
L27K S **S** **09 45 29.6 +3.0**
baz=116
BORG Borgarnes 77.60 22 LR LR 10 05 52.9
comp=Z,699nm,21.4s,baz=249,slow=33
GLB Gilahina Butte 77.66 334 IAMs_20 IAMs_20 10 10 02.8
comp=Z,997nm,20.0s
SFS San Fernando 77.71 53 IAMs_20 IAMs_20 10 06 29.6
comp=Z,1µm,22.0s
M26K Nabesna, AK 77.71 335 IAMs_20 IAMs_20 10 07 27.1
comp=Z,933nm,20.0s
M26K Nabesna, AK 77.71 335 P **P** **09 35 36.9 +0.4**
baz=115,SNR=9.6
M26K S **S** **09 45 30.5 +1.7**
baz=115
BMRM Bremner River 77.82 333 P **P** **09 35 38.0 +0.8**
baz=113,SNR=12
BMRM S **S** **09 45 31.4 +1.4**
baz=113
MVO Moncorvo 77.91 48 *eP* **P** **09 35 38.6 +0.5**
comp=Z,84nm,1.8s
MVO *eS* **S** **09 45 32.8 +1.0**
MVO Moncorvo 77.91 48 *eLR* LR 10 00 37.8
comp=Z,741nm,20.0s
GOLM Goulmima 78.02 58 P **P** **09 35 42.0 +2.9**
EGAK Eagle 78.03 338 P **P** **09 35 38.0 -0.2**
EGAK Eagle 78.03 338 P **P** **09 35 38.6 +0.5**
baz=117
EGAK S **S** **09 45 33.0 +1.1**
baz=117
SICH Sidi Chahed 78.06 55 P **P** **09 35 42.0 +3.0**
N25K Chitina, Valde 78.07 334 P **P** **09 35 39.8 +1.2**
baz=113,SNR=11
N25K S **S** **09 45 33.6 +0.8**
baz=113
L26K Log Cabin Wild 78.12 336 IAMs_20 IAMs_20 10 12 28.9
comp=Z,978nm,18.0s
L26K Log Cabin Wild 78.12 336 P **P** **09 35 39.2 +0.4**
baz=115,SNR=11
L26K S **S** **09 45 35.2 +2.1**
baz=115
CZD Col de Zad 78.13 56 P **P** **09 35 42.0 +2.2**
EYAK Cordova Ski Ar 78.18 333 P **P** **09 35 41.7 +2.6**
baz=112
CHEFC Chefchaouen 78.19 54 P **P** **09 35 43.0 +3.1**
SMIR Smir Dam 78.24 54 P **P** **09 35 43.0 +3.0**
PBRG Braganca 78.25 47 *eP* **P** **09 35 40.5 +0.5**
comp=Z,87nm,1.8s
LCRM LCR 78.38 56 P **P** **09 35 44.0 +3.0**
MDT Midelt 78.46 57 LR LR 10 09 49.6
comp=Z,620nm,18.8s,baz=278,slow=35
MDT Midelt 78.46 57 P **P** **09 35 43.1 +1.7**
KLU Klutina 78.61 334 P **P** **09 35 42.4 +0.8**
baz=112,SNR=7.1
KLU S **S** **09 45 38.7 +0.1**
baz=112
HARP HAARP 78.63 335 P **P** **09 35 44.0 +2.4**
baz=113,SNR=5.2
SCRK Sand Creek 78.78 336 P **P** **09 35 42.9 +0.4**
baz=114,SNR=14
SCRK S **S** **09 45 41.9 +1.5**
baz=114
J26L Joseph Creek 78.83 337 P **P** **09 35 43.5 +0.7**
baz=115,SNR=7.7
J26L S **S** **09 45 42.7 +1.9**
baz=115
M24K Tolsona, Glenn 78.96 334 P **P** **09 35 43.9 +0.5**
baz=112,SNR=9.1
M24K S **S** **09 45 41.7 -0.5**
baz=112
PAX Paxson 78.99 335 P **P** **09 35 43.8 +0.2**
baz=113,SNR=31
PAX S **S** **09 45 42.4 -0.1**
baz=113
RIDG Independent Ri 79.03 336 IAMs_20 IAMs_20 10 11 32.9
comp=Z,1µm,18.0s
RIDG Independent Ri 79.03 336 P **P** **09 35 44.3 +0.4**
baz=114,SNR=19
RIDG S **S** **09 45 43.8 +0.9**
baz=114
PALE Palemas 79.34 54 P **P** **09 35 48.1 +2.0**
SCM Sheep Creek Mo 79.36 334 P **P** **09 35 47.4 +1.7**
SCM pmax pmax
comp=Z,123nm,1.5s
SCM Sheep Creek Mo 79.36 334 P **P** **09 35 47.4 +1.7**
SCM IAmb IAmb 09 35 50.1
comp=Z,123nm,1.5s
SCM Sheep Creek Mo 79.36 334 P **P** **09 35 45.9 +0.1**
baz=111,SNR=8.0
SCM S **S** **09 45 45.2 -1.3**
baz=111
K24K Donnelly Dome 79.44 336 P **P** **09 35 46.5 +0.4**
baz=113
PWL Port Wells 79.48 333 P **P** **09 35 46.3 +0.1**
baz=110,SNR=8.5
PWL S **S** **09 45 46.0 -1.6**
baz=110
M23K Glacier View 79.53 334 P **P** **09 35 46.7 +0.2**
baz=111
M23K S **S** **09 45 47.6 -0.5**
baz=111
J25K Salcha River, 79.59 337 P **P** **09 35 47.5 +0.7**
J25K IAmb IAmb 09 35 50.8
comp=Z,64nm,1.4s
J25K Salcha River, 79.59 337 P **P** **09 35 47.1 +0.2**
baz=113,SNR=13
J25K S **S** **09 45 48.8 -0.1**
baz=113
PAB San Pablo 79.65 50 P **P** **09 35 47.8 0.0**
PAB pmax pmax
comp=Z,65nm,1.7s
PAB San Pablo 79.65 50 P **P** **09 35 47.8 0.0**

RAR Rarotonga 79.72 249 LR LR 10 02 01.4
comp=Z,833nm,20.6s,baz=90,slow=29
KNK Knik Glacier 79.72 333 P **P** **09 35 48.5 +0.9**
KNK IAmb IAmb 09 35 52.0
comp=Z,118nm,1.4s
KNK IAMs_20 IAMs_20 10 10 16.3
comp=Z,1µm,22.0s
KNK Knik Glacier 79.72 333 P **P** **09 35 48.5 +0.9**
baz=110,SNR=15
KNK S **S** **09 45 50.6 +0.3**
baz=110
SEW Seward 79.75 332 P **P** **09 35 49.7 +2.0**
SEW IAmb IAmb 09 35 51.0
comp=Z,81nm,1.4s
SEW Seward 79.75 332 P **P** **09 35 49.5 +1.8**
baz=109,SNR=5.4
SEW S **S** **09 45 49.8 -0.7**
baz=109
SML Sawmill 79.80 333 P **P** **09 35 49.4 +1.3**
SML Sawmill 79.80 333 P **P** **09 35 49.4 +1.3**
SML IAmb IAmb 09 35 52.3
comp=Z,120nm,1.4s
SML IAMs_20 IAMs_20 10 11 21.3
comp=Z,1µm,20.0s
SML Sawmill 79.80 333 P **P** **09 35 48.2 +0.1**
baz=110,SNR=12
SML S **S** **09 45 51.6 +0.5**
baz=110
WAT6 Susitna Watana 79.81 334 P **P** **09 35 48.3 +0.1**
baz=111,SNR=41
WAT6 S **S** **09 45 50.1 -1.3**
baz=111
DHY Denali Highway 79.83 335 P **P** **09 35 50.0 +1.7**
baz=111,SNR=7.6
DHY S **S** **09 45 50.4 -1.2**
baz=111
ESDC Sonseca Array 79.96 50 P **P** **09 35 50.0 +0.6**
comp=Z,12nm,1.2s,baz=272,slow=4.9,SNR=36
ESDC LR LR 10 10 33.3
comp=Z,498nm,18.1s,baz=257,slow=35
ESDC Sonseca Array 79.96 50 P **P** **09 35 49.6 +0.2**
ESDC IAmb IAmb 09 35 52.0
comp=Z,149nm,1.9s
ESBB Sonseca Array 79.96 50 P **P** **09 35 50.0 +0.6**
ESBB IAmb IAmb 09 35 51.9
comp=Z,117nm,1.8s
GHO Glory Hole Cre 80.06 333 IAMs_20 IAMs_20 10 11 29.0
comp=Z,1µm,21.0s
PMR Palmer 80.09 333 P **P** **09 35 51.0 +1.6**
baz=109,SNR=7.2
PMR S **S** **09 45 53.5 -0.5**
baz=109
RC01 Rabbit Creek A 80.20 333 P **P** **09 35 52.7 +2.5**
baz=109,SNR=6.0
RC01 S **S** **09 45 55.0 -0.2**
baz=109
WAT1 Susitna Watana 80.25 334 P **P** **09 35 50.2 -0.2**
baz=110
WAT1 S **S** **09 45 53.2 -2.5**
baz=110
BRSE Bradley Lake S 80.25 331 P **P** **09 35 52.6 +2.1**
baz=108,SNR=7.2
ILAR Eielson Array 80.25 337 P **P** **09 35 50.5 +0.1**
comp=Z,21nm,1.2s,baz=127,slow=2.3,SNR=19
ILAR PP **PP** **09 38 57.7 +4.8**
comp=Z,3.0nm,1.1s,baz=123,slow=6.3,SNR=5.3
ILAR LR LR 10 13 47.5
comp=Z,722nm,18.1s,baz=120,slow=38
ILAR Eielson Array 80.25 337 P **P** **09 35 50.7 +0.3**
ILAR Eielson Array 80.25 337 P **P** **09 35 50.7 +0.3**
BRLK Bradley Lake 80.33 331 P **P** **09 35 51.1 +0.2**
BRLK IAmb IAmb 09 35 55.0
comp=Z,116nm,1.4s
JBK JBK 80.35 55 P **P** **09 35 54.0 +2.2**
BMAR Burnt Mountain 80.44 339 P **P** **09 35 52.1 +0.8**
RND Reindeer 80.58 335 IAMs_20 IAMs_20 10 12 42.8
comp=Z,1µm,18.0s
CCB Clear Creek Bu 80.58 336 IAMs_20 IAMs_20 10 12 07.7
comp=Z,1µm,20.0s
M22K Willow 80.59 333 IAMs_20 IAMs_20 10 12 09.1
comp=Z,969nm,21.0s
M22K Willow 80.59 333 P **P** **09 35 54.6 +2.5**
baz=108,SNR=8.1
M22K S **S** **09 45 58.8 -0.3**
baz=108
POKR Poker Plat Res 80.60 337 P **P** **09 35 52.6 +0.3**
POKR IAMs_20 IAMs_20 10 12 56.3
comp=Z,1µm,20.0s
POKR Poker Plat Res 80.60 337 P **P** **09 35 55.4 +3.2**
baz=111
POKR S **S** **09 45 58.5 -0.8**
baz=111
KDAK Kodiak Island 80.61 329 LR LR 10 12 32.2
comp=Z,498nm,18.1s,baz=129,slow=36
COLA College 80.68 337‖ *eP* **P** **09 35 52.3 -0.3**
COLA pmax pmax
comp=Z,37nm,1.5s
COLA College 80.68 337 P **P** **09 35 53.3 +0.7**
COLA College 80.68 337 P **P** **09 35 55.4 +2.8**
baz=111
TCOL CIGO, UAF Yank 80.68 337 P **P** **09 35 53.3 +0.6**
TCOL CIGO, UAF Yank 80.68 337 S **S** **09 45 58.0 -2.1**
baz=111
MCK McKinley 80.72 335 P **P** **09 35 53.9 +1.0**
MCK pmax pmax
comp=Z,49nm,1.4s
MCK McKinley 80.72 335 P **P** **09 35 53.9 +1.0**
MCK McKinley 80.72 335 P **P** **09 35 52.9 0.0**
baz=110,SNR=6.3
MCK S **S** **09 45 59.0 -1.7**
baz=110
OHAK Old Harbor 80.83 328 P **P** **09 35 56.2 +2.6**
OHAK IAmb IAmb 09 35 58.1
comp=Z,96nm,1.5s
OHAK Old Harbor 80.83 328 P **P** **09 35 54.0 +0.4**
baz=105,SNR=6.4
MDM Murphy Dome 80.86 337 IAMs_20 IAMs_20 10 12 49.2
comp=Z,842nm,20.0s
CUT Chulitna 80.86 334 P **P** **09 35 53.6 0.0**
CUT Chulitna 80.86 334 P **P** **09 35 54.1 +0.5**
baz=108,SNR=21
CUT S **S** **09 46 00.8 -1.2**
baz=108
H24K Noodor Dome 81.03 337 IAMs_20 IAMs_20 10 15 37.8
comp=Z,1µm,20.0s
H24K Noodor Dome 81.03 337 P **P** **09 35 54.8 +0.2**
baz=111,SNR=38
H24K S **S** **09 46 04.8 +0.9**
baz=111
NEA2 Nenana 81.07 336 P **P** **09 35 54.4 -0.3**
baz=110,SNR=33
NEA2 S **S** **09 46 01.8 -2.4**
baz=110
BWN Browne 81.09 336 IAMs_20 IAMs_20 10 10 18.5
comp=Z,798nm,21.0s
SII Sitkinak Islan 81.14 328 P **P** **09 35 58.4 +3.0**
baz=104
FIGM Figuig 81.19 58 P **P** **09 35 58.0 +1.7**
TRF Thorofare Moun 81.20 335 IAMs_20 IAMs_20 10 13 14.2
comp=Z,1µm,20.0s
TRF Thorofare Moun 81.20 335 P **P** **09 35 55.9 +0.2**
baz=108,SNR=10
TRF S **S** **09 46 04.6 -1.4**
baz=108
O20K Slope Mountain 81.26 331 P **P** **09 35 56.3 +0.4**
baz=106,SNR=8.3
O20K S **S** **09 46 06.4 -0.1**
baz=106
BELA Belgrano 2 81.33 171 P **P** **09 35 55.9 -0.1**
BELA IAmb IAmb 09 36 11.8
comp=Z,96nm,2.0s
I23K Minto, Yukon-K 81.37 337 IAMs_20 IAMs_20 10 13 04.8
comp=Z,837nm,20.0s
I23K Minto, Yukon-K 81.37 337 P **P** **09 35 56.4 +0.1**
baz=110,SNR=31
I23K S **S** **09 46 06.2 -1.0**
baz=110
Q19K Cape Douglas, 81.46 330 P **P** **09 35 58.5 +1.5**
baz=105
H23K Yukon River 81.67 337 IAMs_20 IAMs_20 10 13 50.7
comp=Z,946nm,20.0s
H23K Yukon River 81.67 337 P **P** **09 35 57.9 -0.1**
baz=110,SNR=22
H23K S **S** **09 46 10.3 -0.2**
baz=110
BPAW Bear Paw Mtn. 81.70 335 P **P** **09 35 57.9 -0.3**
baz=108,SNR=43

BPAW S **S** **09 46 07.9 -2.9**
baz=108
PPLA **Purkeypile** **81.85 334** P **P** **09 35 58.9 -0.3**
baz=107,SNR=30
PPLA S **S** **09 46 09.7 -3.0**
baz=107
CAST **Castle Rocks** **81.96 334** P **P** **09 35 59.0 -0.5**
baz=107,SNR=40
O19K **Port Alsworth** **82.11 331** P **P** **09 36 02.1 +1.8**
baz=104
O19K S **S** **09 46 12.7 -2.3**
baz=104
CHUM **Lake Minchumin** **82.19 335** P **P** **09 36 00.3 -0.4**
baz=107,SNR=19
CHUM S **S** **09 46 14.1 -1.7**
baz=107
SGMF **Saint Gilles** **82.29 41** *e*P **P** **09 36 02.8 +1.3**
SGMF pmax pmax
comp=Z,69nm,1.6s
N19K **Bonanza Creek** **82.34 332** P **P** **09 36 03.0 +1.4**
baz=104,SNR=12
N19K S **S** **09 46 14.7 -3.0**
baz=104
P18K **Big Mountain,** **82.36 330** S **S** **09 46 14.8 -3.0**
baz=104
COLD **Coldfoot** **82.39 338** P **P** **09 36 02.2 +0.6**
baz=109,SNR=8.1
COLD S **S** **09 46 18.2 +0.5**
baz=109
I21K **Tanana** **82.43 336** IAMs_20 IAMs_20 10 11 05.8
comp=Z,841nm,21.0s
I21K **Tanana** **82.43 336** P **P** **09 36 01.5 -0.4**
baz=107,SNR=18
I21K S **S** **09 46 16.0 -2.3**
baz=107
O18K **Koktuh Hills** **82.46 331** P **P** **09 36 01.8 -0.4**
baz=104,SNR=7.6
O18K S **S** **09 46 17.0 -1.7**
baz=104
L20K **Farewell, AK** **82.49 333** P **P** **09 36 01.0 -1.4**
baz=105,SNR=26
L20K S **S** **09 46 16.1 -3.0**
baz=105
M19K **Big River Lodg** **82.57 333** P **P** **09 36 03.1 +0.4**
M19K IAmb IAmb 09 36 06.8
comp=Z,47nm,1.4s
M19K IAMs_20 IAMs_20 10 12 58.6
comp=Z,1µm,21.0s
M19K **Big River Lodg** **82.57 333** P **P** **09 36 02.3 -0.5**
baz=105
M19K S **S** **09 46 18.2 -1.7**
baz=105
TOLK **Toolik Lake Re** **82.64 340** P **P** **09 36 04.2 +1.2**
TOLK IAMs_20 IAMs_20 10 15 30.0
comp=Z,1µm,19.0s
TOLK **Toolik Lake Re** **82.64 340** P **P** **09 36 02.9 -0.1**
baz=110,SNR=8.9
TOA0 **Torodi Ar. Sit** **82.66 77** P **P** **09 36 02.8 -1.3**
TORD **Torodi Ar. Bea** **82.66 77** P **P** **09 36 03.4 -0.7**
comp=Z,23nm,1.3s,baz=271,slow=2.3,SNR=51
TORD LR LR 10 10 36.1
comp=Z,1µm,21.3s,baz=224,slow=34
TORD **Torodi Ar. Bea** **82.66 77** P **P** **09 36 03.5 -0.6**
K20K **Telida** **82.80 334** IAMs_20 IAMs_20 10 13 18.6
comp=Z,877nm,20.0s
K20K **Telida** **82.80 334** P **P** **09 36 03.3 -0.6**
baz=105,SNR=34
K20K S **S** **09 46 19.0 -3.1**
baz=105
L19K **White Mountain** **82.85 333** P **P** **09 36 04.7 +0.4**
L19K IAmb IAmb 09 36 07.7
comp=Z,43nm,1.3s
L19K IAMs_20 IAMs_20 10 13 09.0
comp=Z,1µm,21.0s
L19K **White Mountain** **82.85 333** P **P** **09 36 03.6 -0.6**
baz=104,SNR=20
H21K **Melozitna Rive** **82.90 337** IAMs_20 IAMs_20 10 16 25.2
comp=Z,993nm,21.0s
H21K **Melozitna Rive** **82.90 337** P **P** **09 36 05.5 +1.1**
baz=106,SNR=6.4
N18K **Kilae Creek** **82.98 331** P **P** **09 36 04.3 -0.6**
baz=103,SNR=12
J20K **Nowinta River** **83.05 335** P **P** **09 36 04.3 -0.8**
baz=105,SNR=26
J20K S **S** **09 46 22.2 -2.4**
baz=105
ALE **Alert** **83.08 2** IAMs_20 IAMs_20 10 10 59.5
comp=Z,1µm,22.0s
IMAR **Indian Mountai** **83.37 337** P **P** **09 36 05.8 -0.9**
GRR **Gorron** **83.44 41** *e*P **P** **09 36 07.4 -0.1**
GRR pmax pmax
comp=Z,82nm,1.6s
TTA **Tatalina** **83.55 334** P **P** **09 36 07.1 -0.8**
baz=103,SNR=9.5
EPF **Esparros** **83.61 47** *e*P **P** **09 36 09.2 +0.6**
EPF pmax pmax
comp=Z,110nm,1.8s
MFF **Saint Martin d** **83.68 43** *e*P **P** **09 36 08.9 +0.1**
MFF pmax pmax
comp=Z,104nm,1.8s
FLN **La Foliniere** **83.73 41** *e*P **P** **09 36 09.1 +0.1**
FLN pmax pmax
comp=Z,94nm,1.7s
LDF **La Druitiere** **83.95 41** *e*P **P** **09 36 10.1 0.0**
LDF pmax pmax
comp=Z,80nm,1.6s
DAG **Danmarks Havn** **84.04 12** *i* P **P** **09 36 07.1 -2.9**
DAG IAmb IAmb 09 36 21.9
comp=Z,3.2nm,0.8s
GCSA **Galena City Sc** **84.33 335** P **P** **09 36 12.1 +0.4**
baz=103,SNR=8.8
GCSA S **S** **09 46 37.1 -0.3**
baz=103
RJF **Les Rejaudoux** **84.69 45** *e*P **P** **09 36 13.9 -0.1**
RJF pmax pmax
comp=Z,56nm,1.5s
MTLF **Montolieu** **85.01 47** *e*P **P** **09 36 15.6 0.0**
MTLF pmax pmax
comp=Z,117nm,1.9s
CAF **Calviac** **85.04 45** *e*P **P** **09 36 15.8 0.0**
CAF pmax pmax
comp=Z,77nm,1.8s
TCF **Toulx Ste Croi** **85.27 44** *e*P **P** **09 36 16.6 -0.3**
TCF pmax pmax
comp=Z,75nm,2.0s
A21K **Barrow** **85.73 342** IAMs_20 IAMs_20 10 18 47.8
comp=Z,906nm,18.0s
A21K **Barrow** **85.73 342** P **P** **09 36 18.9 +0.3**
baz=103,SNR=14
A21K S **S** **09 46 50.2 -0.9**
baz=103
BGF **Bois d'Agland** **85.73 43** *e*P **P** **09 36 19.1 -0.1**
BGF pmax pmax
comp=Z,100nm,1.7s
SNAA **Sanae** **85.96 162** *c i*P **P** **09 36 19.5 -0.3**
SNAA pmax pmax
comp=Z,19nm,1.3s
SNAA **Sanae** **85.96 162** P **P** **09 36 19.8 0.0**
SNAA IAmb IAmb 09 36 21.5
comp=Z,53nm,1.5s
AVF **Avril sur Loir** **86.10 43** *e*P **P** **09 36 20.5 -0.4**
AVF pmax pmax
comp=Z,39nm,1.6s
SSF **Saint Saulge** **86.22 43** *e*P **P** **09 36 21.1 -0.5**
SSF pmax pmax
comp=Z,45nm,1.7s
SMF **Signal de Mont** **86.42 43** *e*P **P** **09 36 22.3 -0.3**
SMF pmax pmax
comp=Z,95nm,1.9s
LOR **Lormes** **86.48 43** *e*P **P** **09 36 22.4 -0.5**
LOR pmax pmax
comp=Z,52nm,1.6s
SNF **Seneffe** **86.99 40** *d*P **P** **09 36 25.5 +0.3**
DOU **Dourbes** **87.16 40** *d*P **P** **09 36 26.2 +0.1**
comp=Z,11nm,1.5s
BMRD **Maredsous** **87.29 40** *d*P **P** **09 36 27.2 +0.5**
GIVF **Givet** **87.31 40** *e*P **P** **09 36 26.9 +0.1**
GIVF pmax pmax
comp=Z,90nm,1.5s
RCHB **Rochefort** **87.57 40** *d*P **P** **09 36 28.3 +0.2**
comp=Z,8.6nm,1.6s
BCLA **Clavier** **87.64 40** *d*P **P** **09 36 28.9 +0.6**
comp=Z,7.2nm,1.3s
ORIF **Oris-en-Rattie** **87.75 45** *e*P **P** **09 36 29.8 +0.6**
ORIF pmax pmax
comp=Z,62nm,1.8s
BSTI **Sart Tilman** **87.81 40** *d*P **P** **09 36 29.9 +0.7**

ANM **Nome** **87.92 335** P **P** **09 36 32.3 +2.9**
baz=95
ANM S **S** **09 47 12.9 +0.3**
baz=95
BHOU **Houvegnez** **88.08 40** *d*P **P** **09 36 31.0 +0.5**
comp=Z,9.8nm,1.5s
MEM **Membach** **88.09 40** *d*P **P** **09 36 30.6 0.0**
MEM *d*P **PcP** **09 36 31.0 -1.3**
WLF **Walferdange** **88.14 40** *d*P **P** **09 36 31.6 +0.7**
comp=Z,9.7nm,1.5s
BTNL **Ternell** **88.17 40** *d*P **P** **09 36 31.2 +0.2**
comp=Z,6.6nm,1.4s
HAU **Haudompre** **88.20 42** *e*P **P** **09 36 31.0 -0.2**
HAU pmax pmax
comp=Z,40nm,1.6s
BNI **Bardonecchia** **88.32 45** IAMs_20 IAMs_20 10 15 49.9
comp=Z,970nm,20.0s
LPL **La Plagne** **88.37 45** *e*P **P** **09 36 36.3 +4.0**
LPL pmax pmax
comp=Z,44nm,1.7s
LPG **La Plagne** **88.39 45** *e*P **P** **09 36 33.2 +0.8**
LPG pmax pmax
comp=Z,64nm,1.8s
HINF **Hinteralfeld** **88.53 42** *e*P **P** **09 36 32.4 -0.4**
HINF pmax pmax
comp=Z,31nm,1.6s
ECH **Echery** **88.75 42** P **P** **09 36 33.5 -0.3**
ECH pmax pmax
comp=Z,42nm,1.5s
ECH **Echery** **88.75 42** P **P** **09 36 33.5 -0.3**
ECH IAmb IAmb 09 36 35.6
comp=Z,42nm,1.5s
SENIN **Lac Senin/Sane** **88.79 44** P **P** **09 36 34.5 +0.3**
SENIN IAmb IAmb 09 36 36.7
comp=Z,63nm,2.0s
CDF **Champ du Feu** **88.84 42** *e*P **P** **09 36 34.1 -0.1**
CDF pmax pmax
comp=Z,54nm,1.9s
TNA **Tin City** **89.06 335** S **S** **09 47 24.4 +1.1**
baz=93
QSPA **South Pole Qui** **89.81 180** P **P** **09 36 38.6 +0.2**
STU **Stuttgart** **90.12 41** IAMs_20 IAMs_20 10 11 35.3
comp=Z,635nm,20.0s
KEST **Kesra** **90.18 54** P **P** **09 36 41.3 +0.5**
comp=Z,18nm,1.2s,baz=208,slow=7.8,SNR=4.3
KEST LR LR 10 14 59.4
comp=Z,400nm,19.5s,baz=218,slow=34
DAVA **Damuels** **90.58 43** *e*P **P** **09 36 42.9 +0.4**
comp=Z,18nm,1.6s,SNR=5.6
GAMB **Gambell** **90.66 334** P **P** **09 36 45.0 +2.8**
baz=89
AFI **Afiamalu** **90.98 256** LR LR 10 08 04.9
comp=Z,798nm,20.8s,baz=80,slow=29
NOA **NORSAR Array B** **91.15 29** LR LR 10 12 56.5
comp=Z,407nm,21.6s,baz=280,slow=32
FETA **Feichten** **91.16 43** *e*P **P** **09 36 45.6 +0.3**
comp=Z,14nm,1.5s,SNR=6.2
RETA **Reutte** **91.17 43** *e*P **P** **09 36 45.2 +0.1**
comp=Z,14nm,1.7s
MOTA **Moosalm** **91.41 43** *e*P **P** **09 36 46.4 0.0**
comp=Z,14nm,1.6s
SQTA **Sankt Quirin** **91.48 43** *e*P **P** **09 36 46.9 +0.3**
comp=Z,7.2nm,1.2s,SNR=5.4
SPITS **Spitsbergen Ar** **91.69 12** LR LR 10 19 47.0
comp=Z,445nm,19.2s,baz=32,slow=37
WATA **Walderalm** **91.73 43** *i* P **P** **09 36 47.9 +0.1**
comp=Z,7.9nm,1.3s
WTTA **Wattenberg** **91.77 43** *e*P **P** **09 36 48.0 -0.1**
comp=Z,17nm,1.5s,SNR=6.4
ABTA **Abfaltersbach** **92.39 43** *e*P **P** **09 36 51.3 +0.5**
comp=Z,13nm,1.4s
CLL **Collm** **92.52 39** *e*P **P** **09 36 52.0 +0.8**
CLL MLR MLR
comp=Z,500nm,19.8s
CLL **Collm** **92.52 39** *e*P **P** **09 36 52.0 +0.8**
CLL *e*PP **PP** **09 40 32.0 -0.3**
comp=Z,29nm,1.9s
CLL *e*SKSac **SKSac** **09 47 22.0 -3.0**
CLL *e*S **S** **09 47 59.0 +3.5**
comp=N,700nm,22.5s
CLL *e*S **S** **09 47 59.0 +3.5**
comp=E,600nm,18.1s
CLL *e*PS PnS 09 49 11.0 +2.3
CLL *e*SS **SS** **09 54 06.0 -0.9**
CLL *e*SSS SSS 09 57 42.0
CLL *e*SSSS 10 01 06.0
CLL LmH 10 23 00.0
comp=N,200nm,19.0s
CLL LmH 10 23 00.0
comp=E,500nm,19.2s
CLL LmV 10 24 00.0
comp=Z,500nm,19.8s
KBA **Koelnbreinsper** **92.94 43** *e*P **P** **09 36 53.4 -0.1**
comp=Z,13nm,1.6s
KHC **Kasperske Hory** **93.00 41** *ce*P **P** **09 36 53.6 +0.1**
KHC pmax pmax
comp=Z,14nm,1.4s
KHC **Kasperske Hory** **93.00 41** *e*P **P** **09 36 54.1 +0.6**
KHC *e*x x 09 37 15.5
GEC2 **GERESS Array S** **93.09 41** P **P** **09 36 54.5 +0.5**
GERES **GERESS Array B** **93.09 41** P **P** **09 36 54.7 +0.6**
comp=Z,1.5nm,1.1s,baz=212,slow=9.2,SNR=7.6
GERES LR LR 10 15 21.9
comp=Z,352nm,22.0s,baz=268,slow=33
GERES **GERESS Array B** **93.09 41** P **P** **09 36 53.2 -0.8**
GERES **GERESS Array B** **93.09 41** P **P** **09 36 53.2 -0.8**
BIOA **Bad Ischl, Aus** **93.11 42** *e*P **P** **09 36 54.3 +0.2**
comp=Z,0.8nm,0.4s,SNR=7.7
BRG **Berggiesshubel** **93.13 39** *e*P **P** **09 36 54.4 +0.3**
BRG Amp 09 36 57.9
comp=Z,14nm,1.6s
BRG **Berggiesshubel** **93.13 39** *e*P **P** **09 36 54.3 +0.3**
BRG pmax pmax
comp=Z,14nm,1.6s
MYKA **Terra Mystica** **93.17 43** *e*P **P** **09 36 54.6 +0.2**
comp=Z,1.4nm,0.5s
MOA **Molln** **93.53 42** *e*P **P** **09 36 56.1 +0.1**
comp=Z,15nm,1.6s
PRU **Pruhonice** **93.57 40** *e*P **P** **09 36 56.2 +0.1**
OBKA **Obir** **93.80 44** *e*P **P** **09 36 57.5 +0.1**
comp=Z,10nm,1.6s
VNDS **Vrh nad Dolski** **93.94 44** *e*P **P** **09 36 58.3 +0.4**
SOKA **Soboth** **94.12 43** *e*P **P** **09 36 58.5 -0.4**
comp=Z,6.5nm,1.5s
VAE **Valguarnera** **94.22 53** LR LR 10 15 39.1
comp=Z,667nm,21.9s,baz=319,slow=33
ARSA **Arzberg** **94.42 43** *e*P **P** **09 37 00.1 0.0**
comp=Z,7.4nm,1.4s
GROS **Grobnik** **94.46 44** *i* P **P** **09 37 00.5 +0.1**
CONA **Conrad Observa** **94.59 42** *e*P **P** **09 37 01.1 +0.2**
comp=Z,15nm,1.7s,SNR=7.2
OSTC **Ostas** **94.60 39** *e*P **P** **09 37 01.5 +0.7**
DPC **Dobruska-Polom** **94.68 40** *e*P **P** **09 37 01.3 0.0**
KRUC **Moravsky** **94.85 41** *e*P **P** **09 37 02.0 0.0**
RONA **Rosalia, Austr** **94.90 42** *e*P **P** **09 37 02.6 +0.3**
comp=Z,5.6nm,1.0s
VRAC **Vranov** **94.95 41** LR LR 10 16 18.9
comp=Z,449nm,21.7s,baz=272,slow=33
VRAC **Vranov** **94.95 41** *e*P **P** **09 37 02.8 +0.3**
MODS **Modra-Piesok** **95.50 42** *e*P **P** **09 37 06.5 +1.5**
MODS **Modra-Piesok** **95.50 42** *e*PDIFF **P** **09 37 06.5 +1.5**
VNDA **Vanda** **95.52 191** P **P** **09 37 06.6 +2.2**
comp=Z,2.3nm,1.2s,baz=155,slow=1.6,SNR=4.2
VNDA LR LR 10 12 04.0
comp=Z,413nm,21.5s,baz=132,slow=30
VNDA **Vanda** **95.52 191** P **P** **09 37 04.0 -0.5**
VNDA pmax pmax
comp=Z,23nm,2.0s
VNDA **Vanda** **95.52 191** P **P** **09 37 04.0 -0.5**
MORC **Moravsky Berou** **95.52 40** P **P** **09 37 06.0 +0.9**
MORC **Moravsky Berou** **95.52 40** *e*P **P** **09 37 05.5 +0.4**
JAVC **Velka Javorina** **95.70 41** *e*P **P** **09 37 07.7 +1.7**
RAO **Raoul Island** **96.18 241** LR LR 10 13 08.6
comp=Z,413nm,18.1s,baz=64,slow=31
KOVH **Kovagotottos** **96.29 44** P **P** **09 37 09.0 +0.4**
VYHS **Vyhne** **96.51 41** *e*P **P** **09 37 11.1 +1.5**
VYHS **Vyhne** **96.51 41** *e*PDIFF **P** **09 37 11.1 +1.5**
PSZ **Piszkesteto** **97.29 42** P Pdif 09 37 14.1 +0.8
TSUM **Tsumeb** **97.75 109** LR LR 10 20 35.3
comp=Z,2µm,19.7s,baz=310,slow=35
FINES **FINESS Array B** **98.19 28** LR LR 10 17 07.4
comp=Z,625nm,21.3s,baz=289,slow=33
BILL **Bilibino** **98.69 340** *i* P Pdif 09 37 19.1 +0.1
BILL pmax pmax
comp=Z,8.0nm,1.4s
URZ **Urewera** **99.41 231** LR LR 10 14 25.6
comp=Z,1µm,19.5s,baz=178,slow=31
SUR **Sutherland** **99.60 123** LR LR 10 20 22.5
comp=Z,1µm,18.9s,baz=260,slow=34
NACGM **Naroch** **100.20 34** *e*P **Pdif** **09 37 26.3 +0.3**
SYO **Syowa Base** **100.24 162** ⇓ *i*Pdiff **Pdif** **09 37 22.6 -3.2**
SYO **Syowa Base** **100.24 162** ⇑ *ep*Pdiff pPdif 09 37 29.7 +0.9
MNK **Minsk** **100.92 34** *i* P **Pdif** **09 37 27.2 -1.9**
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,5.0nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.9s
MNK **Minsk** **100.92 34** *i* P **Pdif** **09 37 27.3 -1.9**
comp=E,1.0nm,0.9s
MNK *i* P **Pdif** **09 37 27.3 -1.9**
comp=N,5.0nm,0.9s
MNK *i* P **Pdif** **09 37 27.3 -1.9**
comp=Z,5.0nm,0.9s,baz=285
MNK *i* PP PP 09 41 03.4 -34
MNK *i* PPP PPP 09 43 25.9
MNK *i* S **SKSac** **09 48 06.5 -2.1**
MNK *i* SSS SSS 09 59 49.8
MNK *i* LQ LQ 10 15 44.2
MNK *i* LR LR 10 21 13.7
MNK *i* LRM MLR 10 25 44.6
comp=N,330nm,19.9s
MNK *i* LRM MLR 10 26 50.8
comp=Z,816nm,19.4s
MNK *i* LRM MLR 10 29 35.5
comp=E,83nm,19.4s
TIXI **Tiksi** **106.23 351** IAMs_20 IAMs_20 10 29 48.4
comp=Z,807nm,21.0s
DZM **Mont Dzumac** **111.02 246** *e*PS PS 09 52 19.5 -4.9
comp=Z,618nm,26.9s
DZM **Mont Dzumac** **111.02 246** *e*LR LR 10 14 58.0
comp=Z,512nm,22.1s
SOC **Sochi** **111.77 42** *i* PKIKP **PKiKP** **09 42 13.9 -1.2**
KIV **Kislovodsk** **113.60 41** *i* PKIKP **PKiKP** **09 42 17.2 -1.5**
KIV pmax pmax
comp=Z,4.0nm,1.1s
YAK **Yakutsk** **114.23 345** IAMs_20 IAMs_20 10 36 50.8
comp=Z,745nm,20.0s
BRVK **Borovoye** **122.09 20** ⇓ *i*PKIKP **PKiKP** **09 42 34.8 0.0**
ZAA0 **Zalesovo Array** **125.15 10** PKPdf **PKPdf** **09 42 40.5 +0.1**
ZALV **Zalesovo Beam** **125.15 10** PKP **PKPdf** **09 42 40.0 -0.5**
comp=Z,10nm,1.3s,baz=232,slow=1.7,SNR=12
ZALV **Zalesovo Beam** **125.15 10** PKIKP **PKPdf** **09 42 39.8 -0.7**
ZALV **Zalesovo Beam** **125.15 10** **PKPdf** **09 42 39.8 -0.7**
KURK **Kurchatov** **126.73 16** ⇑ *i*PKIKP **PKiKP** **09 42 45.8 +1.7**
KURK **Kurchatov** **126.73 16** IAMs_20 IAMs_20 10 42 36.3
comp=Z,497nm,19.0s
KURBB **Kurchatov Arra** **126.79 16** PKP **PKPdf** **09 42 43.2 -0.5**
comp=Z,2.7nm,1.0s,baz=326,slow=2.5,SNR=8.9
STKA **Stephens Creek** **128.83 227** PKP **PKPdf** **09 42 47.6 -0.6**
comp=Z,6.3nm,1.0s,baz=338,slow=2.0,SNR=6.8
STKA **Stephens Creek** **128.83 227** ⇓ *i*PKIKP **PKPdf** **09 42 48.2 0.0**
STKA **Stephens Creek** **128.83 227** **PKiKP** **09 42 49.4 +0.5**
KNGR **Kungurtug, Tuv** **129.80 1** ⇓ *i*PKIKP **PKiKP** **09 42 50.8 +0.4**
ZAK **Zakamensk** **129.93 357** *e*PKIKP **PKPdf** **09 42 44.1 -5.8**
ZAK pmax pmax
comp=Z,9.0nm,1.5s
CN2 **Changchun** **130.76 335** *e*PKP **PKPdf** **09 42 49.4 -2.1**
MAKZ **Makanchi** **131.21 16** PKIKP **PKPdf** **09 42 52.2 -0.1**
MAKZ **Makanchi** **131.21 16** **PKPdf** **09 42 52.2 -0.1**
MK31 **Makanchi Array** **131.31 16** ⇓ *i*PKIKP **PKiKP** **09 42 54.3 +0.8**
MKAR **Makanchi Array** **131.31 16** PKP **PKPdf** **09 42 50.9 -1.6**
comp=Z,2.0nm,1.0s,baz=320,slow=3.2,SNR=9.7
MKAR **Makanchi Array** **131.31 16** PKIKP **PKPdf** **09 42 51.5 -1.0**
MKAR **Makanchi Array** **131.31 16** **PKPdf** **09 42 51.5 -1.0**
PMG **Port Moresby** **131.40 257** ⇑ *i*PKIKP **PKiKP** **09 42 55.4 +0.9**
UOSS **Minazif** **131.66 56** IAMs_20 IAMs_20 10 44 49.0
comp=Z,574nm,20.0s
ULN **Ulaanbaatar** **132.09 353** ⇑ *i*PKIKP **PKPdf** **09 42 54.4 +0.3**
SONM **Songino Array** **132.20 354** PKP **PKPdf** **09 42 54.2 -0.1**
comp=Z,4.0nm,1.2s,baz=131,slow=6.7,SNR=10
SONM PP **PP** **09 45 16.3 +1.2**
comp=Z,0.9nm,0.9s,baz=349,slow=4.5,SNR=4.4
AAK **Ala-Archa** **132.28 25** PKP **PKiKP** **09 42 55.4 -0.3**
comp=Z,0.7nm,0.3s,baz=35,slow=5.1,SNR=6.6
AAK **Ala-Archa** **132.28 25** *c i*PKIKP **PKPdf** **09 42 54.9 +0.2**
AAK **Ala-Archa** **132.28 25** PKPdf **PKPdf** **09 42 56.5 +0.7**
KSRS **Korea Array** **134.51 328** PKP **PKPdf** **09 42 59.0 +0.2**
comp=Z,2.1nm,0.9s,baz=90,slow=1.3,SNR=5.5
WMQ **Urumqi** **135.39 12** *e*PKP **PKiKP** **09 43 01.5 -0.4**
WMQ LR LR
comp=Z,420nm,18.1s
WMQ LR LR
comp=Z,510nm,15.7s
WMQ LR LR
comp=Z,390nm,23.7s
KSH **Kashi** **135.48 26** PKP **PKiKP** **09 43 03.1 +0.8**
KSH PP **PP** **09 45 37.5 +1.1**
KSH SS SS 10 03 36.5 +3.7
KSH LR LR
comp=Z,320nm,19.0s
KSH LR LR
comp=Z,330nm,20.3s
HHC **Hu-ho-hao-te** **138.07 346** *e*PKP **PKPdf** **09 43 01.1 -4.4**
HHC LR LR
comp=Z,730nm,14.0s
HHC LR LR
comp=Z,320nm,14.6s
HHC LR LR
comp=Z,890nm,15.9s
NIL **Nilore** **138.75 34** IAMs_20 IAMs_20 10 50 09.1
comp=Z,446nm,22.0s
AS31 **Alice Springs** **138.84 232** **PKPdf** **09 43 07.5 +0.2**
ASAR **Alice Springs** **138.84 232** PKhKP PKPpre 09 43 03.3
comp=Z,1.8nm,1.0s,baz=120,slow=3.8,SNR=5.1
ASAR **Alice Springs** **138.84 232** PKIKP **PKPdf** **09 43 08.0 +0.7**
ASAR **Alice Springs** **138.84 232** PKPdf **PKPdf** **09 43 08.0 +0.7**
WB2 **Warramunga Arr** **140.23 238** **PKPdf** **09 43 09.4 -0.5**
WRAB **Tennant Creek** **140.24 238** ⇑ *i*PKIKP **PKiKP** **09 43 11.2 -1.1**
WRA **Warramunga Arr** **140.24 238** PKhKP PKPpre 09 43 05.1
comp=Z,8.4nm,1.1s,baz=109,slow=1.7,SNR=11
WRA **Warramunga Arr** **140.24 238** PKIKP **PKPdf** **09 43 09.6 -0.2**
WRA **Warramunga Arr** **140.24 238** **PKPdf** **09 43 09.6 -0.2**
WB0 **Warramunga Arr** **140.27 238** **PKPdf** **09 43 09.2 -0.7**
HNS **HongShan** **140.38 341** ⇓ PKP **PKiKP** **09 43 11.4 -0.7**
HNS LR LR
comp=Z,430nm,17.3s
HNS LR LR
comp=Z,600nm,20.6s
GTA **Gaotai** **141.02 359** *e*PKP **PKiKP** **09 43 12.8 -0.8**
NJ2 **Nanjing** **143.36 332** *e*PKP **PKPdf** **09 43 15.3 +0.2**
LYN **LuoYang** **143.71 341** ⇓ PKP **PKPdf** **09 43 17.3 +1.7**
LYN PP **PP** **09 46 34.0 +7.3**
LYN SS SS 10 05 08.8 0.0
LYN AMB AMB
comp=Z,270nm,5.4s
LYN LR LR
comp=Z,510nm,18.4s
LYN LR LR
comp=Z,550nm,19.6s
GOMU **GeErMu** **143.99 6** PKP PKPab 09 43 12.8 -1.0
GOMU pPKP PKPdf 09 43 17.1 +0.5
GOMU sPKP 09 43 20.5
GOMU SKS **SKSdf** **09 50 23.3 -3.6**
GOMU SKKS **SKKSac** **09 53 17.4 -6.2**
GOMU AMB AMB
comp=Z,300nm,5.2s
GOMU LR LR
comp=Z,320nm,22.4s
GOMU LR LR
comp=Z,250nm,16.7s
GOMU LR LR
comp=Z,250nm,22.2s
LZH **Lanzhou** **144.09 354** ⇓ PKP PKPbc 09 43 14.3 -0.1
LZH pPKP sPKPdf 09 43 20.8 +0.2
LZH AMB AMB
comp=Z,110nm,4.9s
LZH LR LR
comp=Z,740nm,17.4s
LZH LR LR
comp=Z,480nm,16.8s
LZH LR LR
comp=Z,910nm,16.3s
XAN **Xi'an** **145.19 346** ⇑ *i*PKPbc **PKPbc** **09 43 16.3 -1.5**
XAN pPKP sPKPdf 09 43 25.3 +2.9
XAN AMB AMB
comp=Z,510nm,7.3s
XAN LR LR
comp=Z,480nm,17.1s
XAN LR LR

	comp=Z,460nm,22.8s							
XAN					LR	LR		
	comp=Z,810nm,17.8s							
MORW	**Morawa**	**146.75**	**207**			**PKPbc**	**09 43 22.3**	**-0.4**
KNRA	**Kununurra**	**146.88**	**240**		PKPab	**PKPbc**	**09 43 24.0**	**+0.6**
SIJI	**Sorong**	**148.01**	**268**		PKPbc	**PKPdf**	**09 43 24.1**	**+0.5**
	comp=Z,2.0nm,0.2s,baz=45,slow=5.5,SNR=7.9							
FITZ	**Fitzroy Crossi**	**148.32**	**233**		PKPbc	**PKPdf**		
	comp=Z,20nm,1.1s,baz=88,slow=2.0,SNR=8.6							
FITZ	**Fitzroy Crossi**	**148.32**	**233**			**PKPdf**	**09 43 22.9**	**-0.9**
SSLB	**Suanglung**	**148.54**	**320**			**PKPdf**	**09 43 25.1**	**+0.9**
ENH	**Enshi**	**148.60**	**343**			**PKPdf**	**09 43 24.9**	**+0.7**
TPUB	**Ta-pu**	**149.10**	**319**			**PKiKP**	**09 43 30.2**	**-0.2**
POO	**Poona**	**149.10**	**53**	*e*P		**PKPdf**	**09 43 24.0**	**-1.2**
CD2	**Chengdu**	**149.21**	**352**		PKPbc	**PKPdf**	**09 43 24.8**	**-0.3**
CD2					PP	**PP**	**09 47 03.3**	**+4.2**
CD2					SS	SS	10 06 11.4	+0.5
CD2					AMB	AMB		
	comp=Z,410nm,7.3s							
CD2					LR	LR		
	comp=Z,550nm,21.6s							
CD2					LR	LR		
	comp=Z,450nm,22.9s							
CNSH	**ChangSha**	**149.30**	**336**	*e*PKPbc		**PKPbc**	**09 43 28.3**	**-1.2**
LSA	**Lhasa**	**149.70**	**14**		PKPbc	**PKPbc**	**09 43 30.0**	**-1.1**
PSA00	**Pilbara Seismi**	**150.46**	**222**			**PKPbc**	**09 43 32.2**	**-0.4**
PSA00	**Pilbara Seismi**	**150.46**	**222**		PKPdf	**PKPdf**	**09 43 28.0**	**+0.8**
GULI	**GuiLin**	**152.90**	**338**	⇑P		**PKiKP**	**09 43 40.3**	**+2.1**
GYA	**Guiyang**	**152.99**	**345**		PKPbc	**PKPdf**	**09 43 31.5**	**+0.4**
HYBB	**Hyderabad (bro**	**153.39**	**49**	*e*PKPdf		**PKPdf**	**09 43 31.6**	**-0.2**
HYBB				*e*PKiKP		**PKiKP**	**09 43 39.6**	**+0.1**
HYBB				*e*PKPab		**PKPab**	**09 43 50.8**	**-0.6**
HYBB				*e*SKSdf		**SKSdf**	**09 50 38.6**	**-0.9**
HYBB				*e*SKKSac		**SKKSac**	**09 54 14.8**	**-1.3**
PCHI	**Peechi**	**155.00**	**65**	*e*P		**PKPdf**	**09 43 34.1**	**0.0**
PCHI				*ex*		x	10 02 14.5	
KMI	**Kunming**	**155.04**	**353**	⇑PKP		**PKPdf**	**09 43 33.5**	**-0.7**
KMI				pPKP		pPKPdf	09 43 36.6	-0.6
QIZ	**Qiongzhong**	**158.65**	**332**	PKP		**PKPdf**	**09 43 37.4**	**-1.2**
QIZ				PP		**PP**	**09 47 53.0**	**+0.2**
QIZ				SS		SS	10 07 57.0	+2.1
QIZ				LR		LR		
	comp=Z,470nm,16.7s							
QIZ				LR		LR		
	comp=Z,500nm,18.6s							
QIZ				LR		LR		
	comp=Z,400nm,16.2s							
KAPI	**Kappang**	**158.91**	**255**		IAMs_20	IAMs_20	11 05 28.6	
	comp=Z,360nm,20.0s							
CHTO	**Chiang Mai**	**161.54**	**1**	PKIKP		**PKPdf**	**09 43 40.1**	**-1.8**
CHTO	**Chiang Mai**	**161.54**	**1**			**PKPdf**	**09 43 40.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**161.90**	**1**	PKP		**PKPdf**	**09 43 42.1**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=308,slow=2.2,SNR=10							
CMAR					PKPab	**PKPab**	**09 44 26.1**	**-1.6**
	comp=Z,4.4nm,1.1s,baz=336,slow=4.4,SNR=8.6							
CMAR	**Chiang Mai Arr**	**161.90**	**1**	PKIKP		**PKPdf**	**09 43 41.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**161.90**	**1**			**PKPdf**	**09 43 41.1**	**-1.2**
CMAR						**PKPab**	**09 44 26.6**	**-1.1**

LDG ***17*** *09:24:34.6±0.2, 42°.99N×1°.19W, h2km, Md1.4/2, Ml1.6/1*
Error ellipse: s-maj=4.0km s-min=1.1km az=37.0
MDD ***17*** *09:24:35.5±2.5, 43°.06N×1°.15W, h10km±43km, mb_Lg2.5/2,*
Error ellipse: s-maj=11.4km s-min=5.2km az=15.0

ISC 17 09:24:35.2±1.7**, 43°.07N**±0°.06×**1°.13W**±0°.04**, h8**km±16km**, n5, σ0°27/10, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.09**	**303**	*e*Pg	**Pg**	**09 24 37.3**	**-0.1**
SJPF				*e*Sg	**Sg**	**09 24 39.0**	**+0.1**
	44nm,0.2s						
EORO	**Oroz-Betelu**	**0.22**	**218**	Pg	**Pg**	**09 24 39.7**	**+0.1**
EORO				Sg	**Sg**	**09 24 42.5**	**-0.1**
EORO				*i* Vmb_Lg		09 24 44.2	
EALK	**Alkurruntz**	**0.32**	**299**	Pg	**Pg**	**09 24 41.4**	**-0.1**
EALK				Sg	**Sg**	**09 24 45.7**	**0.0**
EALK				*i* Vmb_Lg		09 24 49.1	
ETSF	**Etsaut**	**0.45**	**112**	*e*Pg	**Pg**	**09 24 43.5**	**-0.4**
ETSF				*e*Sg	**Sg**	**09 24 50.0**	**+0.2**
	3.9nm,0.3s						
EPF	**Esparros**	**1.07**	**91**	*e*Pg	**Pg**	**09 24 55.8**	**0.0**
EPF				*e*Sg	**Sg**	**09 25 10.2**	**+0.4**
	1.1nm,0.2s						

IDC ***17*** *09:24:58.5±1.4, 32°.85N×130°.25E, h0km, mb3.8/3,*
mb1 3.9/3, mb1mx3.2/56, mbtmp3.8/3, ML2.3/1, MS4.2/1,
Ms1 4.2/1, ms1mx3.0/92, Error ellipse: s-maj=22.4km
s-min=10.1km az=162.0
JMA ***17*** *09:25:03.1, 33°.27N×131°.36E, h10km±1km, M3.3*
JMA Felt III J1.

ISC 17 09:25:02.8±1.0**, 33°.26N**±0°.05×**131°.37E**±0°.05**, h10**km**, n10, σ1°94/10, mb4.3/3, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.09**	**22**	P	**Pg**	**09 25 05.3**	**0.0**
JBEP				S	**Sg**	**09 25 07.1**	**+0.1**
JUS	**Usuki**	**0.37**	**121**	P	**Pg**	**09 25 10.5**	**+0.3**
JUS				S	**Sg**	**09 25 15.7**	**+0.6**
JNU	**Nakatsue**	**0.43**	**252**	Pg	**Pg**	**09 25 11.4**	**+0.1**
	109nm,0.3s,baz=117,slow=6.0,SNR=41						
JNU				Lg	Lg	09 25 16.9	
	106nm,0.3s,baz=122,slow=6.5,SNR=21						
JTA	**Tamana**	**0.76**	**248**	P	**Pg**	**09 25 17.6**	**+0.1**
JIU3	**Izumi3**	**0.85**	**214**	P	**Pg**	**09 25 19.4**	**+0.3**
KSRS	**Korea Array**	**5.05**	**327**	Pn	**Pn**	**09 26 16.5**	**-2.0**
	0.1nm,0.3s,baz=13,slow=9.2,SNR=2.4						
KSRS				Pg	**Pb**	**09 26 35.1**	**+4.0**
	0.4nm,0.3s,baz=146,slow=17,SNR=4.7						
KSRS				Lg	Lg	09 27 37.3	
	0.5nm,0.3s,baz=142,slow=29,SNR=4.1						
WRA	**Warramunga Arr**	**52.98**	**176**	P	P	09 34 14.4	-5.3
	0.4nm,0.8s,baz=358,slow=9.9,SNR=1.2						
GEYT	**Alibeck**	**58.33**	**297**	LR	LR	10 02 48.5	
	comp=Z,201nm,18.7s,baz=330,slow=39						
ARCES	**ARCESS Array B**	**64.51**	**338**	P	**P**	**09 35 36.9**	**-2.4**
	1.7nm,0.8s,baz=79,slow=8.8,SNR=5.0						
FINES	**FINESS Array B**	**68.13**	**330**	P	P	09 35 57.8	-4.8
	2.5nm,1.0s,baz=48,slow=2.8,SNR=5.1						

KRSC 17 09:26:04.1±0.9**, 55°.22N**×**162°.39E, h77**km±19km**, ML4.0,**
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.76**	**210**	*e*P	Pn	09 26 21.8	+1.6
MKZ				*e*S	Sn	09 26 33.9	+1.9
KBTR	**Krutoberegovo**	**1.02**	**14**	*e*P	Pn	09 26 24.7	+1.5
KBTR				*e*S	Sn	09 26 38.5	+1.0
KBG	**Krutoberegovo**	**1.06**	**10**	*e*P	Pn	09 26 25.0	+1.4
KBG				*e*S	Sn	09 26 38.9	+0.7
TUMD	**Tumrok D**	**1.14**	**270**	*e*P	Pn	09 26 26.3	+1.6
TUMD				*e*S	Sn	09 26 41.5	+1.4
BZGR	**Bezymyannyi-Gr**	**1.20**	**308**	*e*P	Pn	09 26 27.5	+1.9
BZGR				*e*S	Sn	09 26 43.7	+2.0
ZLN	**Zelenaya**	**1.20**	**312**	*e*P	Pn	09 26 27.6	+2.0
ZLN				*e*S	Sn	09 26 44.1	+2.4
TUMR	**Tumrok**	**1.28**	**274**	*e*P	Pn	09 26 28.7	+2.1
TUMR				*e*S	Sn	09 26 44.9	+1.4
BZWR	**Bezymyannyi-We**	**1.31**	**306**	*e*P	Pn	09 26 28.1	+1.1
KMNR	**Kamenistaya**	**1.34**	**295**	*e*P	Pn	09 26 29.2	+1.9
KMNR				*e*S	Sn	09 26 46.9	+2.2
KIRR	**Kirishev**	**1.38**	**303**	*e*P	Pn	09 26 30.3	+2.5
KRSR	**Krestovskiy**	**1.44**	**315**	*e*P	Pn	09 26 30.4	+1.8
KRSR				*e*S	Sn	09 26 47.9	+0.9
KPT	**Kopyto**	**1.44**	**302**	*e*P	Pn	09 26 30.2	+1.6
SMKR	**Semkarok**	**1.46**	**340**	*e*P	Pn	09 26 30.6	+1.7
SMKR				*e*S	Sn	09 26 49.2	+1.7
KLY	**Klyuchi**	**1.47**	**319**	*e*P	Pn	09 26 29.8	+0.9
KLY				*e*S	Sn	09 26 47.6	0.0
BDR	**Baidarnaya**	**1.51**	**334**	*e*P	Pn	09 26 31.7	+2.2
BDR				*e*S	Sn	09 26 51.1	+2.5
SRKR	**Sorokina**	**1.60**	**335**	*e*P	Pn	09 26 32.6	+2.0
KOZ	**Kozyrevsk**	**1.66**	**302**	*e*P	Pn	09 26 33.7	+2.4
KOZ				*e*S	Sn	09 26 55.0	+3.0
BKI	**Bering**	**2.05**	**89**	*e*P	Pn	09 26 38.7	+2.1
BKI				*e*S	Sn	09 27 02.3	+1.0
KII	**Karymskiy**	**2.08**	**237**	*e*P	Pn	09 26 39.6	+2.6
KII				*e*S	Sn	09 27 04.7	+2.6
ESO	**Esso**	**2.21**	**290**	*e*P	Pn	09 26 39.5	+0.8
ESO				*e*S	Sn	09 27 04.8	-0.4
SPN	**Mys Shipunski**	**2.54**	**214**	*e*P	Pn	09 26 44.5	+1.4
SPN				*e*S	Sn	09 27 12.6	-0.4
NLC	**Nalytchevo**	**2.72**	**222**	*e*P	Pn	09 26 48.3	+2.8
NLC				*e*S	Sn	09 27 19.6	+2.2
SDLR	**Sedlovina**	**2.83**	**228**	*e*P	Pn	09 26 50.2	+3.0
SDLR				*e*S	Sn	09 27 22.1	+1.9
KRER	**Koryakskii**	**2.87**	**230**	*e*P	Pn	09 26 50.8	+3.0
SMAR	**Somma**	**2.87**	**229**	*e*P	Pn	09 26 50.7	+2.8
SMAR				*e*S	Sn	09 27 23.3	+1.8
AVH	**Avacha**	**2.90**	**229**	*e*P	Pn	09 26 51.6	+3.5
AVH				*e*S	Sn	09 27 24.6	+2.7
UGLR	**Uglovaya**	**2.90**	**228**	*e*P	Pn	09 26 50.9	+2.8
UGLR				*e*S	Sn	09 27 23.6	+1.6
KOK	**Koryaka**	**2.93**	**230**	*e*P	Pn	09 26 51.7	+3.2
GNL	**Ganaly**	**3.01**	**241**	*e*P	Pn	09 26 52.7	+3.1
DALK	**Dalny**	**3.06**	**226**	*e*P	Pn	09 26 52.9	+2.7
DALK				*e*S	Sn	09 27 27.0	+1.3
PET	**Petropavlovsk**	**3.11**	**227**	*e*P	Pn	09 26 53.8	+3.0
PET				*e*S	Sn	09 27 28.6	+1.8
KRMR	**Karymshinskiy**	**3.47**	**228**	*e*P	Pn	09 26 59.2	+3.5
KRMR				*e*S	Sn	09 27 38.8	+3.2
RUS	**Russkaya**	**3.61**	**221**	*e*P	Pn	09 27 00.4	+2.7
RUS				*e*S	Sn	09 27 39.7	+0.6
GRL	**Gorelyy**	**3.69**	**225**	*e*P	Pn	09 27 02.9	+4.0
MTVR	**Mutnovka**	**3.70**	**224**	*e*P	Pn	09 27 02.1	+3.1
MTVR				*e*S	Sn	09 27 43.6	+2.1
APC	**Apacha**	**3.84**	**235**	*e*P	Pn	09 27 05.1	+4.3
ASAK	**Asacha**	**3.89**	**225**	*e*P	Pn	09 27 05.8	+4.3
ASAK				*e*S	Sn	09 27 48.5	+2.5
KDTR	**Khodutka, Kamc**	**4.27**	**219**	*e*P	Pn	09 27 09.3	+2.6
KDTR				*e*S	Sn	09 27 54.4	-0.8

INMG ***17*** *09:31:44.3±1.2, 35°.74N×2°.21W, h0km, ML2.0, Error*
ellipse: s-maj=4.3km s-min=2.7km az=117.0
SFS ***17*** *09:31:44.0, 35°.70N×2°.20W, ML2.9, ALBORAN SUR*
MDD ***17*** *09:31:46.6±2.5, 36°.17N×2°.41W, h0km, mb_Lg2.4/2, Error*
ellipse: s-maj=36.8km s-min=14.3km az=110.0
CNRM ***17*** *09:31:46.4, 35°.58N×2°.28W, h30km, ml2.6*

ISC 17 09:31:44.6±1.3**, 35°.66N**±0°.04×**2°.21W**±0°.04**, h30**km±14km**,**
n23, σ1°73/37, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOG	**Mont Gurugu**	**0.78**	**236**	P	**Pn**	**09 31 59.4**	**-0.2**
GOG				S	**Sb**	**09 32 09.8**	**-0.2**
TAF	**Taforalt**	**0.86**	**191**	P	**Pb**	**09 32 01.7**	**+0.6**
TAF				S	**Sn**	**09 32 11.9**	**-0.4**
JBK	**JBK**	**1.35**	**193**	P	**Pb**	**09 32 09.2**	**-0.3**
JBK				S	**Sn**	**09 32 25.4**	**+0.7**
PALE	**Palemas**	**1.48**	**253**	P	**Pn**	**09 32 09.5**	**+0.3**
PALE				S	**Sn**	**09 32 28.3**	**+0.7**
PVLZ	**Peæn de**	**1.78**	**255**	P	**Pn**	**09 32 13.2**	**-0.1**
PVLZ				S	**Sn**	**09 32 34.0**	**-0.8**
EMAL	**Malaga-Limoner**	**2.11**	**302**	P	**Pb**	**09 32 21.2**	**-0.9**
EMAL				S	**Sn**	**09 32 38.5**	**-4.4**
CART	**Cartagena**	**2.16**	**26**	P	**Pn**	**09 32 19.5**	**+1.0**
CART				S	**Sn**	**09 32 42.5**	**-1.6**
CART	**Cartagena**	**2.16**	**26**	P	**Pn**	**09 32 19.3**	**+0.8**
EZAR	**Zarzadilla de**	**2.25**	**10**	Pg	**Pn**	**09 32 20.9**	**+1.0**
EZAR				Sg	**Sn**	**09 32 45.9**	**-0.8**
EMUR	**La Murta**	**2.31**	**19**	Pg	**Pn**	**09 32 20.9**	**+0.2**
EMUR				Sg	**Sn**	**09 32 47.2**	**-1.0**
EMUR				*i* Vmb_Lg		09 32 53.1	
SMIR	**Smir Dam**	**2.58**	**271**	P	**Pn**	**09 32 26.3**	**+1.9**
CEU	**Ceuta**	**2.58**	**276**	P	**Pn**	**09 32 27.8**	**+3.5**
CEU				S	**Sn**	**09 32 51.0**	**-3.7**
TDRA	**Tendrara**	**2.62**	**177**	P	**Pb**	**09 32 29.1**	**-1.9**
ETOB	**Tobarra**	**3.03**	**10**	Pg	**Pn**	**09 32 32.1**	**+1.5**
ETOB				Sg	**Sn**	**09 33 06.8**	**+1.0**
ETOB				*i* Vmb_Lg		09 33 08.3	
PBAR	**Barrancos**	**4.61**	**304**	*e*Pn	**Pn**	**09 32 54.9**	**+2.6**
PBAR				*e*Sn	**Sn**	**09 33 44.1**	**-0.7**
PBAR				A	A	09 33 48.4	
	0.8nm,0.5s						
PVAQ	**Vaqueiros**	**4.76**	**293**	*e*Pn	**Pn**	**09 32 56.0**	**+1.6**
PVAQ				*e*Sn	**Sn**	**09 33 47.9**	**-0.6**
PVAQ				A	A	09 33 49.4	
	1.7nm,0.3s						
PVAQ	**Vaqueiros**	**4.76**	**293**	P	**Pn**	**09 32 56.5**	**+2.2**
PBDV	**Barranco-do-Ve**	**4.88**	**291**	*e*Pn	**Pn**	**09 32 57.8**	**+1.9**
PCVE	**Castro Verde**	**5.08**	**294**	*e*Pn	**Pn**	**09 33 00.3**	**+1.6**
PESTR	**Estremoz**	**5.35**	**308**	*e*Pn	**Pn**	**09 33 04.0**	**+1.5**
PMRV	**Marv??o**	**5.58**	**314**	*e*Pn	**Pn**	**09 33 07.1**	**+1.6**
PNCL	**Nicolau / Gran**	**5.63**	**298**	*e*Pn	**Pn**	**09 33 08.0**	**+1.8**
PNCL				*e*Sn	**Sn**	**09 34 10.3**	**+0.6**
PSBE	**So Bento**	**6.49**	**308**	*e*Pn	**Pn**	**09 33 19.9**	**+1.8**

TEH ***17*** *09:43:23.5, 35°.75N×52°.04E, h9km, ML3.4*
AZER ***17*** *09:43:28.6±0.2, 35°.12N×49°.63E, h10km, Error ellipse:*
s-maj=18.7km s-min=2.5km az=263.0

ISC 17 09:43:24.2±1.0**, 35°.75N**±0°.02×**52°.03E**±0°.02**, h9**km±8km**,**
n57, σ1°83/67, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAMV	**Damavand**	**0.13**	**203**	*e*Pg	**Pg**	**09 43 27.4**	**0.0**
IDMV	**Damavand**	**0.17**	**180**	*e*Pg	**Pg**	**09 43 28.1**	**0.0**
IDMV				*e*Sg	**Sg**	**09 43 31.5**	**+0.8**
IDMV				*e*		09 43 32.0	
	comp=Z,31μm,0.1s						
TEHA	**Amirabad Tehra**	**0.53**	**270**	*e*Pg	**Pb**	**09 43 34.5**	**-1.2**
TEHA				*e*		09 43 53.4	
	comp=Z,47μm,0.8s						
TEH	**Tehran**	**0.53**	**269**	*e*Pg	**Pg**	**09 43 34.4**	**-0.2**
TEH				*e*Sg	**Sb**	**09 43 42.3**	**-1.3**
TEH				*e*		09 43 50.1	
	comp=Z,39μm,0.7s						
IPRN	**Peran**	**0.55**	**27**	*e*Pg	**Pg**	**09 43 34.7**	**-0.2**
IPRN				*e*Sg	**Sb**	**09 43 43.1**	**-1.1**
IPRN				*e*		09 43 48.2	
	comp=Z,35μm,0.4s						
IFIR	**Firoozkooh**	**0.60**	**100**	*e*Pg	**Pg**	**09 43 35.5**	**-0.3**
IFIR				*e*Sg	**Sg**	**09 43 43.8**	**+0.1**
IFIR				*e*		09 43 46.5	
	comp=Z,36μm,0.4s						
IHSB	**Hasanabad**	**0.69**	**243**	*e*Pg	**Pb**	**09 43 37.5**	**-1.0**
CHTH	**Charan**	**0.75**	**282**	*e*Pg	**Pg**	**09 43 38.3**	**-0.5**
IVRN	**Varamin**	**0.79**	**198**	*e*Pg	**Pb**	**09 43 39.9**	**-0.3**
IVRN				*e*Sg	**Sb**	**09 43 51.4**	**+0.3**
IVRN				*e*		09 43 54.6	
	comp=Z,12μm,0.3s						
ILAS	**Lasjerd**	**0.84**	**116**	*e*Pg	**Pb**	**09 43 40.1**	**-1.0**
ILAS				*e*		09 43 53.9	
	comp=Z,16μm,0.2s						
ISHM	**Shahmirzad**	**1.02**	**86**	*e*Pg	**Pg**	**09 43 43.2**	**-0.8**
ISHM				*e*Sg	**Sn**	**09 43 58.2**	**-1.5**
ISHM				*e*		09 44 07.7	
	comp=Z,22μm,0.3s						
IMHD	**Mahdasht**	**1.11**	**267**	*e*Pg	**Pb**	**09 43 45.2**	**-0.5**
IMHD				*e*		09 43 46.9	
	comp=Z,17μm,0.1s						
IQOM	**Qom**	**1.20**	**221**	*e*Pg	**Pb**	**09 43 46.4**	**-0.9**
IQOM				*e*Sg	**Sn**	**09 44 03.3**	**-0.7**
IQOM				*e*		09 44 10.6	
	comp=Z,13μm,0.2s						
QALM	**Alamut, Qazvin**	**1.31**	**302**	*e*Pg	**Pn**	**09 43 47.7**	**-1.3**
QALM				*e*		09 43 52.4	
	comp=Z,5μm,0.4s						
GHVR	**GHOM**	**1.41**	**206**	*e*Pg	**Pg**	**09 43 50.5**	**-0.7**
ISFB	**Sefidab**	**1.41**	**173**	*e*Pg	**Pg**	**09 43 50.6**	**-0.6**
ISFB				*e*		09 44 11.3	
	comp=Z,4μm,0.3s						
IANJ	**Anjilo**	**1.56**	**100**	*e*Pg	**Pg**	**09 43 53.2**	**-1.0**
IANJ				*e*		09 44 17.7	
	comp=Z,10μm,0.3s						
IGZV	**Ghazvin**	**1.60**	**294**	*e*Pg	**Pg**	**09 43 54.0**	**-1.0**
IGZV				*e*		09 44 24.1	
	comp=Z,4μm,0.7s						
IGLO	**Ghaloghah**	**1.64**	**62**	*e*Pg	**Pb**	**09 43 54.3**	**-0.4**
IGLO				*e*		09 43 59.0	
	comp=Z,9μm,0.6s						
QCNT	**Qazvin**	**1.73**	**289**	*e*Pn	**Pb**	**09 43 55.9**	**-0.3**
IRAZ	**Razeghan**	**1.75**	**259**	*e*Pn	**Pb**	**09 43 55.8**	**-0.8**
IRAZ				*e*		09 44 24.2	
	comp=Z,8μm,0.4s						
KRSH	**Karshahi**	**1.78**	**177**	*e*Pn	**Pb**	**09 43 56.4**	**-0.7**
QABG	**Abgarm-Qazvin**	**2.00**	**270**	*e*Pn	**Pn**	**09 43 58.2**	**-0.1**
QABG				*e*		09 44 29.1	
	comp=Z,4μm,0.2s						
ASAO	**Ashtian**	**2.04**	**234**	*e*Pn	**Pb**	**09 44 00.7**	**-0.8**
JIR1	**Jirandeh**	**2.04**	**299**	*e*Pn	**Pb**	**09 44 00.5**	**-1.1**
QAMS	**Qamsar**	**2.08**	**195**	*e*Pn	**Pb**	**09 44 00.9**	**-1.3**
LHJ2	**Lahijan - Gila**	**2.13**	**312**	*e*Pn	**Pb**	**09 44 02.0**	**-0.9**
IKLH	**Kolahrood**	**2.45**	**189**	*e*		09 44 41.7	
	comp=Z,3μm,0.2s						
IKLH				*e*Pn	**Pb**	**09 44 06.4**	**-2.3**
HAGD	**Aghdareh**	**2.54**	**249**	*e*		09 44 55.6	
	comp=Z,1μm,0.4s						
HAGD				*e*Pn	**Pb**	**09 44 07.4**	**-2.8**
KHMZ	**Khomeyn**	**2.63**	**221**	*e*Pn	**Pb**	**09 44 09.1**	**-2.6**
IZEF	**Zefreh**	**2.86**	**175**	*e*Pn	**Pn**	**09 44 12.0**	**+1.8**
IZEF				*e*		09 45 04.3	
	comp=Z,898nm,0.4s						
ZNJK	**Zanjan**	**2.86**	**290**	*e*Pn	**Pn**	**09 44 12.0**	**+1.8**
ANAR	**Anarak**	**2.91**	**151**	*e*Pn	**Pb**	**09 44 13.1**	**-3.3**
NASN	**Na'in**	**3.01**	**167**	*e*Pn	**Pb**	**09 44 15.0**	**-3.2**
IMND	**Minoodasht**	**3.11**	**60**	*e*Pn	**Pn**	**09 44 14.6**	**+1.2**
IPIR	**Pirpir**	**3.20**	**198**	*e*		09 45 11.2	
	comp=Z,897nm,0.7s						
HSAM	**Samen**	**3.21**	**242**	*e*Pn	**Pn**	**09 44 17.5**	**+2.5**
HSAM				*e*		09 45 08.0	
	comp=Z,738nm,0.6s						
SHRO	**Shahrood**	**3.24**	**85**	*e*Pn	**Pb**	**09 44 18.4**	**-3.6**
IGAR	**Gharneh**	**3.34**	**180**	*e*		09 45 14.3	
	comp=Z,433nm,0.6s						
MRVT	**Maraveh tapeh**	**3.77**	**58**	*e*Pn	**Pn**	**09 44 25.3**	**+2.6**
ASTR	**Astara**	**3.82**	**318**	P	**Pn**	**09 44 25.1**	**+1.9**
ASTR				S	**Sn**	**09 45 10.1**	**+2.0**
LKRN	**Lenkeran, Azer**	**3.93**	**320**	P	**Pn**	**09 44 27.3**	**+2.6**
LKRN				S	**Sn**	**09 45 13.3**	**+2.3**
IRAM	**Ramesheh**	**3.94**	**176**	*e*Pn	**Pn**	**09 44 27.7**	**+2.6**
YZKH	**Yazd**	**3.97**	**147**	*e*Pn	**Pn**	**09 44 28.0**	**+2.7**
LRK	**Lerik**	**4.13**	**315**	P	**Pn**	**09 44 29.5**	**+1.9**
LRK				S	**Sn**	**09 45 13.6**	**-2.4**
YRD	**Yardimli**	**4.37**	**317**	P	**Pn**	**09 44 32.5**	**+1.5**
YRD				S	**Sn**	**09 45 21.8**	**-0.4**
GRMI	**Germi**	**4.50**	**314**	*e*Pn	**Pn**	**09 44 35.0**	**+2.4**
GLBA	**Clilabad**	**4.53**	**321**	P	**Pn**	**09 44 35.0**	**+2.1**
GLBA				S	**Sn**	**09 45 27.1**	**+1.3**
SBZV	**Sabzevar**	**4.56**	**80**	*e*Pn	**Pn**	**09 44 36.2**	**+2.6**
AMIS	**Naft Sefid**	**4.67**	**210**	*e*Pn	**Pn**	**09 44 36.9**	**+1.9**
TABS	**Tabas**	**4.68**	**115**	*e*Pn	**Pn**	**09 44 37.7**	**+2.5**
TKDS	**Koohdasht(Taba**	**4.70**	**115**	*e*Pn	**Pn**	**09 44 37.8**	**+2.3**
TPRV	**Parvadeh(Tabas**	**4.71**	**124**	*e*Pn	**Pn**	**09 44 37.4**	**+1.9**
BJRD	**Bojnurd**	**4.74**	**64**	*e*Pn	**Pn**	**09 44 38.5**	**+2.6**
IBAF	**Bafgh**	**5.09**	**144**	*e*Pn	**Pn**	**09 44 43.3**	**+2.5**
BSRN	**Basiran**	**7.00**	**121**	*e*Pn	**Pn**	**09 45 09.9**	**+2.8**
SHRT	**Shahrakht**	**7.12**	**105**	*e*Pn	**Pn**	**09 45 11.7**	**+3.1**

IDC ***17*** *09:52:48.0±0.8, 36°.33N×71°.39E, h117km±7km, mb3.5/13,*
mb1 3.7/17, mb1mx3.5/48, mbtmp4.1/17, Error ellipse:
s-maj=16.8km s-min=12.2km az=72.0
NEIC ***17*** *09:52:47.5±1.3, 36°.38N±0°.06×71°.21E±0°.09, h110km±6km,*
mb4.2/20, Error ellipse: s-maj=10.6km s-min=8.7km
az=93.0
NNC ***17*** *09:52:50.3±3.7, 37°.06N×70°.94E, h0km, mb5.0, mpv4.8,*
Error ellipse: s-maj=29.9km s-min=21.3km az=177.0
SOME ***17*** *09:52:57.7, 38°.32N×71°.40E, h15km, MS3.5*

ISC 17 09:52:46.5±0.5**, 36°.34N**±0°.04×**71°.29E**±0°.05**, h114**km**, n124,**
σ2°41/144, mb3.9/19, 4C-5D, Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.56**	**168**	P	**Pn**	**09 53

GEYT				S		Sn	09 57 07.8	-4.9
	comp=N,2.4nm,0.3s,baz=225,slow=57,SNR=4.1							
GEYT	**Alibeck**	**10.63**	**283**	Pn		**Pn**	**09 55 14.6**	**-1.0**
GYA0B	**ALIBECK ARRAY**	**10.63**	**283**	Pn		**Pn**	**09 55 15.4**	**-0.2**
JHNI	**Jhansi**	**12.49**	**148**	*eP*		**Pn**	**09 55 37.8**	**-2.6**
JHNI				*eS*		Sn	09 57 45.6	-12
PYUN	**Piuthan**	**12.86**	**126**	*eP*		**Pn**	**09 55 42.0**	**-3.4**
	comp=N,17nm,0.3s							
MAKZ	**Makanchi**	**13.16**	**34**			**Pn**	**09 55 49.3**	**+0.4**
DANN	**Dangsing**	**13.21**	**124**	*eP*		**Pn**	**09 55 47.0**	**-2.9**
	comp=N,11nm,0.2s							
MK31	**Makanchi Array**	**13.29**	**35**			**Pn**	**09 55 51.4**	**+0.8**
MKAR	**Makanchi Array**	**13.29**	**35**	P		**Pn**	**09 55 49.9**	**-0.7**
	comp=N,0.1nm,0.3s,baz=221,slow=13,SNR=17							
MKAR	**Makanchi Array**	**13.29**	**35**			**Pn**	**09 55 51.2**	**+0.6**
KOLN	**Koldanda**	**13.48**	**126**	*eP*		**Pn**	**09 55 50.5**	**-2.9**
	comp=N,6.3nm,0.3s							
GKN	**Gorkha**	**14.02**	**123**	*eP*		**Pn**	**09 55 57.8**	**-2.5**
	comp=N,20nm,0.3s							
BHPL	**Bhopal**	**14.09**	**156**	*eP*		**Pn**	**09 56 00.3**	**-0.8**
BHPL				IAmb		IAmb	09 56 01.2	
	comp=Z,82nm,0.2s							
BHPL				*eS*		Sn	09 58 26.6	-10
DMN	**Daman**	**14.59**	**123**	*eP*		**Pn**	**09 56 06.0**	**-1.7**
	comp=Z,13nm,0.3s							
PKIN	**Phulchoki**	**14.81**	**122**	*eP*		**Pn**	**09 56 07.9**	**-2.6**
	comp=Z,19nm,0.4s							
PKI	**Pulchoki**	**14.82**	**122**	*eP*		**Pn**	**09 56 09.0**	**-1.7**
	comp=Z,14nm,0.4s							
GUN	**Gumba**	**14.94**	**120**	*eP*		**Pn**	**09 56 09.2**	**-3.0**
	comp=Z,12nm,0.3s							
KURBB	**Kurchatov Arra**	**15.20**	**18**	P		**Pn**	**09 56 12.3**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=217,slow=12,SNR=4.4							
JIRN	**Jiri**	**15.31**	**120**	*eP*		**Pn**	**09 56 14.8**	**-2.0**
	comp=Z,2.8nm,0.3s							
KURK	**Kurchatov**	**15.31**	**18**	P		**Pn**	**09 56 14.6**	**-1.7**
AB31	**Akbulak array**	**15.34**	**331**	P		**Pn**	**09 56 15.3**	**-1.4**
	comp=Z,6.8nm,0.4s,baz=138,slow=13,SNR=286							
AB31				⇑S		**Sn**	**09 58 58.3**	**-7.9**
	comp=Z,5.1nm,0.8s,baz=152,slow=23,SNR=9.1							
ABKAR	**Akbulak array**	**15.34**	**331**	P		**Pn**	**09 56 15.3**	**-1.3**
ABKAR	**Akbulak array**	**15.34**	**331**	P		**Pn**	**09 56 15.5**	**-1.1**
RAMN	**Ramite**	**16.04**	**121**	*eP*		**Pn**	**09 56 23.8**	**-2.0**
	comp=Z,22nm,0.5s							
TAPN	**Taplejung**	**16.57**	**118**	*eP*		**Pn**	**09 56 30.7**	**-1.7**
	comp=Z,12nm,0.3s							
ODAN	**Odare**	**16.64**	**120**	*eP*		**Pn**	**09 56 32.2**	**-1.0**
	comp=Z,15nm,0.5s							
BRVK	**Borovoye**	**16.73**	**358**			**Pn**	**09 56 35.3**	**+1.4**
BRVK				IAmb		IAmb	09 56 37.5	
	comp=Z,6.6nm,0.8s							
AKTO	**Aktyubinsk**	**17.04**	**330**	P		**P**	**09 56 38.6**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=140,slow=14,SNR=27							
AKTO	**Aktyubinsk**	**17.04**	**330**	⇑P		**P**	**09 56 38.1**	**+0.5**
	comp=Z,11nm,0.6s							
AKTO				⇓S		**Sn**	**09 59 40.8**	**-6.2**
	comp=Z,5.7nm,0.9s							
ZAA0	**Zalesovo Array**	**19.97**	**24**	P		**P**	**09 57 10.6**	**+1.1**
ZAA0				IAmb		IAmb	09 57 11.4	
	comp=Z,6.3nm,0.8s							
ZALV	**Zalesovo Beam**	**19.97**	**24**	P		**P**	**09 57 10.0**	**+0.5**
	comp=Z,3.5nm,0.3s,baz=210,slow=10.0,SNR=58							
ZALV	**Zalesovo Beam**	**19.97**	**24**	P		**P**	**09 57 10.4**	**+0.8**
ARU	**Arti**	**21.86**	**341**	P		**P**	**09 57 31.1**	**+1.3**
	comp=Z,1.6nm,0.4s,baz=112,slow=5.0,SNR=7.7							
ARU	**Arti**	**21.86**	**341**	P		**P**	**09 57 30.8**	**+1.0**
ARU				IAmb		IAmb	09 57 35.3	
	comp=Z,10.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**30.18**	**119**	P		**P**	**09 58 47.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=87,slow=28,SNR=2.3							
CMAR	**Chiang Mai Arr**	**30.18**	**119**	P		**P**	**09 58 48.8**	**+2.8**
AKASG	**Malin Array Be**	**33.23**	**309**	P		**P**	**09 59 13.7**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=88,slow=6.2,SNR=4.6							
FIA1	**FINESS Array S**	**37.74**	**326**	P		**P**	**09 59 53.5**	**+2.6**
FINES	**FINESS Array B**	**37.75**	**326**	P		**P**	**09 59 53.4**	**+2.5**
	comp=Z,1.2nm,0.4s,baz=117,slow=8.9,SNR=17							
FINES	**FINESS Array B**	**37.75**	**326**	P		**P**	**09 59 54.0**	**+3.1**
ARA0	**ARCESS Array S**	**41.38**	**338**	*eP*		**P**	**10 00 23.8**	**+2.8**
ARCES	**ARCESS Array B**	**41.38**	**338**	P		**P**	**10 00 23.2**	**+2.3**
	comp=Z,1.3nm,0.5s,baz=116,slow=8.4,SNR=20							
ARCES	**ARCESS Array B**	**41.38**	**338**	P		**P**	**10 00 22.9**	**+1.9**
KTK1	**Kautokeino**	**41.86**	**336**	*eP*		**P**	**10 00 27.3**	**+2.4**
HAMF	**Hammerfest**	**42.46**	**339**	*eP*		**P**	**10 00 32.9**	**+3.2**
JETT	**Jettan, Norway**	**43.00**	**336**	*eP*		**P**	**10 00 36.5**	**+2.4**
TRO	**Tromso**	**43.51**	**336**	*eP*		**P**	**10 00 39.7**	**+1.6**
FAUS	**Fauske**	**44.05**	**333**	*eP*		**P**	**10 00 45.5**	**+3.0**
MOR8	**Moi Rana**	**44.07**	**331**	*eP*		**P**	**10 00 44.7**	**+2.0**
STEI	**Steigen**	**44.22**	**333**	*eP*		**P**	**10 00 47.3**	**+3.4**
NC405	**NORSAR Array S**	**44.41**	**323**	P		**P**	**10 00 47.3**	**+1.8**
NC602	**NORSAR Array S**	**44.46**	**323**	*eP*		**P**	**10 00 47.1**	**+1.2**
NB2	**NORSAR Subarra**	**44.65**	**323**	P		**P**	**10 00 49.4**	**+2.0**
	comp=Z,1.3nm,0.4s,baz=96,slow=7.9							
NB2	**NORSAR Subarra**	**44.65**	**323**	P		**P**	**10 00 49.4**	**+2.0**
	baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.65**	**323**	P		**P**	**10 00 49.4**	**+2.0**
	comp=Z,1.4nm,0.5s,baz=105,slow=7.2,SNR=15							
KONS	**Konsvik**	**44.66**	**331**	*eP*		**P**	**10 00 50.0**	**+2.6**
LOF	**Lofoten**	**44.89**	**333**	*eP*		**P**	**10 00 51.4**	**+2.2**
KONO	**Kongsberg**	**45.36**	**321**	*eP*		**P**	**10 00 53.5**	**+0.5**
TIXI	**Tiksi**	**45.84**	**22**	P		**P**	**10 00 57.9**	**+1.3**
TOA0	**Torodi Ar. Sit**	**65.94**	**269**	P		**P**	**10 03 20.6**	**-0.2**
TOA0				IAmb		IAmb	10 03 23.8	
	comp=Z,2.5nm,1.2s							
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P		**P**	**10 03 20.7**	**0.0**
	comp=Z,0.4nm,0.3s,baz=48,slow=5.9,SNR=12							
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P		**P**	**10 03 20.8**	**0.0**
TOLK	**Toolik Lake Re**	**71.02**	**15**	P		**P**	**10 03 52.8**	**+1.2**
TOLK				IAmb		IAmb	10 03 56.5	
	comp=Z,5.3nm,1.5s							
BMAR	**Burnt Mountain**	**73.04**	**14**	P		**P**	**10 04 04.8**	**+1.2**
C36M	**Paulatuk**	**74.02**	**6**	P		**P**	**10 04 10.3**	**+1.1**
C36M				IAmb		IAmb	10 04 11.1	
	comp=Z,3.4nm,0.5s							
INK	**Inuvik**	**74.03**	**9**	P		**P**	**10 04 11.3**	**+2.1**
	comp=Z,0.7nm,0.4s,baz=333,slow=5.5,SNR=17							
INK	**Inuvik**	**74.03**	**9**	P		**P**	**10 04 10.8**	**+1.5**
INK				IAmb		IAmb	10 04 35.9	
	comp=Z,3.8nm,1.5s							
LBTB	**Lobatse**	**74.71**	**222**	P		**P**	**10 04 16.1**	**+2.2**
ILAR	**Eielson Array**	**74.87**	**16**	P		**P**	**10 04 14.7**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=320,slow=5.0,SNR=2.8							
ILAR	**Eielson Array**	**74.87**	**16**	P		**P**	**10 04 15.8**	**+1.6**
KTH	**Kantishna Hill**	**74.95**	**18**	P		**P**	**10 04 15.7**	**+0.9**
KTH				IAmb		IAmb	10 04 31.0	
	comp=Z,3.9nm,1.0s							
BOSA	**Boshof**	**77.77**	**220**	P		**P**	**10 04 32.8**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=73,slow=5.1,SNR=4.3							
BOSA	**Boshof**	**77.77**	**220**	P		**P**	**10 04 33.0**	**+1.8**
YKA	**Yellowknife Ar**	**81.39**	**3**	P		**P**	**10 04 51.5**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=350,slow=5.5,SNR=34							
YKA				pP		**pP**	**10 05 21.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=351,slow=5.3,SNR=4.1							
YKA	**Yellowknife Ar**	**81.39**	**3**	P		**P**	**10 04 51.6**	**+1.4**
WRA	**Warramunga Arr**	**81.71**	**122**	P		**P**	**10 04 52.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=325,slow=5.0,SNR=11							
WRA				pP		**pP**	**10 05 23.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=323,slow=5.0,SNR=5.4							
WRA	**Warramunga Arr**	**81.71**	**122**	P		**P**	**10 04 52.4**	**-0.2**
WB2	**Warramunga Arr**	**81.72**	**122**	P		**P**	**10 04 53.2**	**+0.7**
WB2				IAmb		IAmb	10 05 10.7	
	comp=Z,9.2nm,1.4s							
WR0	**Warramunga Arr**	**81.86**	**122**	P		**P**	**10 04 54.4**	**+1.1**
WR0				IAmb		IAmb	10 05 08.1	
	comp=Z,7.3nm,1.4s							
ASAR	**Alice Springs**	**83.97**	**125**	P		**P**	**10 05 04.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=309,slow=4.7,SNR=11							
ASAR				pP		**pP**	**10 05 35.1**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=327,slow=5.7,SNR=5.0							
ASAR	**Alice Springs**	**83.97**	**125**	P		**P**	**10 05 04.6**	**+0.5**

*ANF **17** 09:59:16.2±0.2, 36.°43N×98.°14W, h8km, ML3.5/8, Error ellipse: s-maj=2.9km s-min=1.7km az=1.0*
*TUL **17** 09:59:16.2±1.0, 36.°42N±0.°01×98.°14W±0.°01, h8km±4km, ML3.2, mb_Lg3.0/67(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=182.0*
*NEIC **17** 09:59:16.2±0.7, 36.°41N±0.°01×98.°125W±0.°008, h3km±6km, Error ellipse: s-maj=1.9km s-min=1.0km az=177.0*
ISC 17 09:59:15.7±1.3, 36.°41N±0.°03×98.°12W±0.°03, h1km±16km, n58, σ0.973/43, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.71**	**268**	Pg		**Pg**	**09 59 29.4**	**0.0**
U32A				Sg		**Sg**	**09 59 39.1**	**+0.4**
U32A	**Winter Ranch,**	**0.71**	**268**	P		**Pg**	**09 59 29.5**	**+0.2**
	baz=87,SNR=191							
U32A				S		**Sg**	**09 59 39.4**	**+0.7**
	baz=87							
FNO	**Franklin**	**1.29**	**153**	Pn		**Pb**	**09 59 40.1**	**-0.5**
FNO				Sg		**Sg**	**09 59 57.7**	**+0.7**
T35A	**Sooner Cattle**	**1.39**	**68**	Pn		**Pg**	**09 59 42.2**	**0.0**
T35B	**Sooner Cattle**	**1.39**	**68**	P		**Pb**	**09 59 42.0**	**-0.4**
	baz=250,SNR=164							
T35B				S		**Sg**	**10 00 01.0**	**+0.7**
	baz=250							
W35A	**Tecumseh**	**1.61**	**141**	Pn		**Pb**	**09 59 45.2**	**-0.9**
WMOK	**Wichita Mounta**	**1.75**	**198**			**Pb**	**09 59 47.3**	**-1.3**
WMOK	**Wichita Mounta**	**1.75**	**198**	P		**Pb**	**09 59 48.3**	**-0.3**
	baz=17							
X34A	**Smith Ranch, M**	**1.82**	**173**			**Pb**	**09 59 49.3**	**-0.4**
TUL1	**Leonard**	**1.94**	**104**	Pn		**Pn**	**09 59 50.0**	**+0.2**
TUL1				IAmb_Lg			10 00 21.3	
	comp=Z,101nm,1.0s							
TUL1	**Leonard**	**1.94**	**104**	P		**Pb**	**09 59 50.5**	**-1.4**
	baz=286,SNR=44							
TUL1				Sb		**Sg**	**10 00 18.0**	**-0.2**
	baz=286							
R32A	**Long Quarter,**	**2.07**	**347**	Pn		**Pn**	**09 59 51.9**	**+0.3**
R32A	**Long Quarter,**	**2.07**	**347**	P		**Pb**	**09 59 53.0**	**-1.0**
	baz=167,SNR=66							
R32A				Sb		**Sg**	**10 00 21.0**	**-1.1**
	baz=167							
CBKS	**Cedar Bluff**	**2.73**	**332**	Pn		**Pn**	**10 00 01.1**	**+0.4**
X37A	**Clayton**	**2.88**	**128**			**Pn**	**10 00 03.3**	**+0.6**
KSU1	**Kansas State U**	**2.94**	**23**			**Pn**	**10 00 04.2**	**+0.6**
KSU1				IAmb_Lg			10 00 51.9	
	comp=Z,44nm,0.8s							
Z35A	**Perchaven, San**	**3.15**	**167**			**Pn**	**10 00 06.1**	**-0.3**
HHAR	**Hobbs**	**3.37**	**91**			**Pn**	**10 00 10.6**	**+1.0**
HHAR				IAmb_Lg			10 01 02.8	
	comp=Z,36nm,1.1s							
W39A	**Magazine**	**3.72**	**108**			**Pn**	**10 00 15.4**	**+1.1**
W39A				IAmb_Lg			10 01 18.8	
	comp=Z,34nm,0.8s							
W39A	**Magazine**	**3.72**	**108**	S		**Sg**	**10 01 14.5**	**-0.7**
	baz=290							
ABTX	**Abilene, Hawle**	**3.98**	**199**			**Pn**	**10 00 18.8**	**+0.9**
S39A	**Bolivar**	**4.04**	**70**	Pg		**Pb**	**10 00 28.8**	**+1.1**
S39A				IAmb_Lg			10 01 25.5	
	comp=Z,36nm,0.7s							
S39A	**Bolivar**	**4.04**	**70**	P		**Pb**	**10 00 28.7**	**+1.0**
	baz=253							
Z38A	**Mt. Pleasant**	**4.06**	**140**	IAmb_Lg			10 01 30.5	
	comp=Z,29nm,0.7s							
MIAR	**Mount Ida**	**4.14**	**115**	IAmb_Lg			10 01 31.1	
	comp=Z,33nm,0.8s							
U40A	**Yellville**	**4.25**	**89**			**Pn**	**10 00 21.3**	**-0.2**
U40A				IAmb_Lg			10 01 34.9	
	comp=Z,30nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.42**	**307**			**Pn**	**10 00 25.6**	**+1.6**
KSCO				IAmb_Lg			10 01 44.5	
	comp=Z,22nm,0.8s							
WHTX	**Lake Whitney,**	**4.44**	**173**	P		**Pn**	**10 00 24.5**	**+0.4**
	baz=353,SNR=11							
MSTX	**Muleshoe**	**4.52**	**239**			**Pn**	**10 00 25.8**	**+0.3**
X40A	**Basin Creek Fa**	**4.72**	**112**			**Pn**	**10 00 28.4**	**+0.4**
X40A				IAmb_Lg			10 01 48.0	
	comp=Z,29nm,0.8s							
P38A	**Dawn**	**4.84**	**47**			**Pn**	**10 00 29.2**	**-0.4**
P38A				IAmb_Lg			10 02 01.2	
	comp=Z,21nm,0.8s							
WHAR	**Wooly Hollow**	**4.86**	**102**			**Pn**	**10 00 29.3**	**-0.7**
WHAR				IAmb_Lg			10 01 52.6	
	comp=Z,20nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.88**	**94**			**Pn**	**10 00 29.5**	**-0.6**
WLAR	**White Oak Lake**	**4.92**	**122**			**Pn**	**10 00 30.5**	**-0.2**
WLAR				IAmb_Lg			10 01 53.6	
	comp=Z,24nm,0.7s							
W41B	**Gary Mavity, V**	**4.93**	**103**			**Pn**	**10 00 30.4**	**-0.4**
W41B				IAmb_Lg			10 01 56.2	
	comp=Z,20nm,0.8s							
UALR	**University of**	**4.98**	**107**	IAmb_Lg			10 01 57.0	
	comp=Z,44nm,1.2s							
BGNE	**Belgrade**	**5.00**	**360**			**Pn**	**10 00 31.4**	**-0.4**
BGNE				IAmb_Lg			10 02 03.2	
	comp=Z,25nm,0.8s							
R40A	**Maddies Statio**	**5.02**	**66**			**Pn**	**10 00 32.4**	**+0.2**
T25A	**Trinidad**	**5.11**	**280**			**Pn**	**10 00 33.7**	**+0.2**
T25A				IAmb_Lg			10 01 56.9	
	comp=Z,23nm,0.8s							
Z41A	**Richland Creek**	**5.38**	**124**	IAmb_Lg			10 02 20.7	
	comp=Z,20nm,1.0s							
OGNE	**Ogallala**	**5.47**	**327**			**Pn**	**10 00 38.3**	**-0.1**
P40A	**Paris**	**5.72**	**55**	IAmb_Lg			10 02 26.2	
	comp=Z,26nm,0.8s							
CCM	**Cathedral Cave**	**5.72**	**71**	IAmb_Lg			10 02 20.3	
	comp=Z,18nm,0.7s							
CCAR	**Cane Creek**	**5.76**	**114**	IAmb_Lg			10 02 30.0	
	comp=Z,25nm,0.8s							
Q24A	**Divide**	**6.13**	**297**	IAmb_Lg			10 02 37.5	
	comp=Z,30nm,1.1s							
PBMO	**Poplar Bluff**	**6.20**	**84**	IAmb_Lg			10 02 34.5	
	comp=Z,20nm,0.7s							
SLM	**Saint Louis**	**6.65**	**68**	IAmb_Lg			10 02 46.0	
	comp=Z,18nm,0.8s							
143A	**Socs Landing,**	**6.66**	**122**	IAmb_Lg			10 03 00.3	
	comp=Z,20nm,0.9s							
OXF	**Oxford**	**7.35**	**102**	IAmb_Lg			10 03 09.8	
	comp=Z,19nm,0.8s							
W45A	**Hickory Valley**	**7.37**	**97**	IAmb_Lg			10 03 10.2	
	comp=Z,22nm,0.9s							
K38A	**Parkersburg**	**7.47**	**32**	IAmb_Lg			10 03 32.9	
	comp=Z,24nm,0.7s							
Y22D	**IRIS PASSCAL I**	**7.57**	**255**	IAmb_Lg			10 03 37.9	
	comp=Z,12nm,0.7s							
N23A	**Red Feather La**	**7.59**	**309**	IAmb_Lg			10 03 21.7	
	comp=Z,20nm,0.8s							
Q44A	**Meyer Farm, Va**	**7.64**	**68**	IAmb_Lg			10 03 26.7	
	comp=Z,13nm,0.9s							
L40A	**Anamosa**	**7.78**	**41**	IAmb_Lg			10 03 25.4	
	comp=Z,21nm,0.9s							
O44A	**Mansfield**	**8.46**	**61**	IAmb_Lg			10 04 01.5	
	comp=Z,19nm,0.8s							
L42A	**Oliver, Polo**	**8.61**	**47**	IAmb_Lg			10 03 55.2	
	comp=Z,19nm,0.8s							
F33A	**5 Mile Ranch,**	**9.52**	**8**	IAmb_Lg			10 04 24.2	
	comp=Z,8.2nm,1.1s							

JMA 17 10:00:08.3, 32.°74N×130.°58E, h12km±1km, M3.7, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTA	**Tamana**	**0.23**	**350**	⇑P		Pg	10 00 13.3	+0.2
JTA				S		Sg	10 00 16.7	+0.3
JIU3	**Izumi3**	**0.27**	**134**	⇑P		Pg	10 00 13.9	-0.1
JIU3				S		Sg	10 00 17.8	+0.1
JTZ	**Takazaki**	**0.94**	**153**	S		Sg	10 00 38.7	0.0

ECGS 17 10:13:35.9, 1.°3S±0.°2×29.°35E±0.°04, h19km±8km, ML2.9, Error ellipse: s-maj=31.2km s-min=3.8km az=171.2, smi:local/e6e0e2b0-19ad-49c4-bba4-de3a20cbcb37
Note: Depth/Latitude/Longitude errors are calculated from covariance matrix as 1D marginal (Lon/Lat errors as great circle degrees) while OriginUncertainty min/max horizontal errors are calculated from 2D error ellipsoid and are therefore seemingly higher compared to 1D errors. Error estimates can be reconstructed from the following original NonLinLoc error statistics line:STATISTICS ExpectX 36.7175 Y 43.6726 Z 15.261 CovXX 16.0227 XY -62.8953 XZ 17.9053 YY 413.792 YZ -102.199 ZZ 68.1606 EllAz1 82.0543 Dip1 -3.33021 Len1 4.67528 Az2 4.15037 Dip2 74.481 Len2 11.9148 Len3 3.992535e+01, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGO	**Tongo**	**0.09**	**299**	*i* P		Pg	10 13 36.4	-3.5
RGB	**Rumangabo**	**0.10**	**170**	*i* S		Sg	10 13 46.6	+3.8
RGB	**Rumangabo**	**0.10**	**170**	*i* P		Pg	10 13 39.8	-0.2
BUTK	**Butaka**	**0.29**	**171**	*i* P		Pg	10 13 42.3	-0.3
KTSH	**Kitshanga**	**0.30**	**272**	*i* S		Sg	10 13 43.2	-4.1
KTSH	**Kitshanga**	**0.30**	**272**	*i* P		Pg	10 13 37.4	-5.3
KBTI	**Kibati**	**0.33**	**192**	*i* P		Pg	10 13 42.8	-0.4
SAHA	**Sahara**	**0.36**	**147**	*i* P		Pg	10 13 43.4	-0.4
RSY	**Rusayo**	**0.37**	**207**	*i* P		Pg	10 13 43.4	-0.5
GOM	**Goma**	**0.45**	**196**	*i* P		Pg	10 13 44.9	-0.4
IDJ	**Idjwi**	**0.86**	**200**	*i* P		Pb	10 13 51.5	-0.9
LWI	**Lwiro**	**1.12**	**209**	*i* P		Pn	10 13 56.1	-0.8
MBAR	**Mbarara**	**1.53**	**65**	*i* P		Pn	10 13 55.5	-6.9
BUJA	**Bujumbura/Buru**	**2.13**	**179**	*i* P		Pg	10 14 16.2	-0.8
BUJA				*i* S		Sg	10 14 48.9	+4.2
TEBE	**Entebbe**	**3.38**	**67**	*eP*		Pn	10 14 22.0	-5.9
TEBE				*eS*		Sn	10 15 09.8	+2.2

*CNRM **17** 10:19:54.8, 35.°61N×2.°28W, h44km, ml2.8*
*MDD **17** 10:19:54.0±0.7, 35.°79N×2.°28W, h20km±4km, mb_Lg2.8/8, Error ellipse: s-maj=5.7km s-min=3.3km az=141.0*
*SFS **17** 10:19:54.0, 35.°70N×2.°20W, h20km, ML2.8, ALBORAN SUR*
*INMG **17** 10:19:55.2±1.4, 35.°77N×2.°29W, h18km±4km, ML2.0, Error ellipse: s-maj=5.6km s-min=3.0km az=116.0*
ISC 17 10:19:53.8±1.1, 35.°69N±0.°03×2.°28W±0.°03, h32km±12km, n36, σ1.972/58, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EALB	**Alboran**	**0.66**	**292**	Pg		**Pn**	**10 20 07.5**	**+0.6**
EALB				Sg		**Sn**	**10 20 17.5**	**+1.3**
EALB				*i* Vmb_Lg			10 20 18.7	
EMEL	**Melilla**	**0.68**	**235**	Pg		**Pb**	**10 20 07.0**	**-0.2**
EMEL				Sg		**Sb**	**10 20 17.9**	**+1.5**
GOG	**Mont Gurugu**	**0.75**	**232**	P		**Pb**	**10 20 07.9**	**-0.6**
GOG				S		**Sb**	**10 20 18.8**	**+0.3**
TAF	**Taforalt**	**0.88**	**187**	P		**Pb**	**10 20 10.2**	**-0.5**
TAF				S		**Sb**	**10 20 21.4**	**-0.8**
ENIJ	**Nijar**	**1.28**	**3**	Pg		**Pb**	**10 20 16.0**	**-1.3**
ENIJ				Sg		**Sn**	**10 20 32.3**	**+0.7**
ENIJ				*i* Vmb_Lg			10 20 36.2	
EBER	**Berja**	**1.30**	**338**	Pg		**Pb**	**10 20 17.0**	**-0.8**
EBER				Sg		**Sn**	**10 20 34.1**	**+1.8**
EBER				*i* Vmb_Lg			10 20 53.1	
JBK	**JBK**	**1.38**	**190**	P		**Pn**	**10 20 16.9**	**0.0**
JBK				S		**Sn**	**10 20 33.9**	**-0.2**
PALE	**Palemas**	**1.44**	**251**	P		**Pn**	**10 20 19.4**	**+1.7**
ELGU	**Los Guajares,**	**1.60**	**318**	Pn		**Pn**	**10 20 20.6**	**+0.7**
ELGU				Sn		**Sn**	**10 20 39.9**	**+0.3**
ELGU				*i* Vmb_Lg			10 20 42.2	
PVLZ	**Peæn de**	**1.73**	**253**	P		**Pn**	**10 20 22.4**	**+0.8**
PVLZ				S		**Sn**	**10 20 42.7**	**+0.1**
AKLM	**AKL**	**1.75**	**228**	P		**Pn**	**10 20 23.9**	**+1.8**
AKLM				S		**Sn**	**10 20 42.2**	**-1.2**
EMAL	**Malaga-Limoner**	**2.04**	**302**	P		**Pn**	**10 20 28.0**	**+2.1**
EMAL				S		**Sn**	**10 20 49.7**	**-0.6**
EGOR	**Sierra Gorda,**	**2.05**	**314**	Pn		**Pb**	**10 20 28.2**	**-2.2**
CART	**Cartagena**	**2.15**	**28**	P		**Pn**	**10 20 28.2**	**+0.8**
CART				S		**Sn**	**10 20 51.1**	**-1.9**
CART	**Cartagena**	**2.15**	**28**	P		**Pn**	**10 20 27.7**	**+0.3**
EMIJ	**Mijas**	**2.20**	**294**	Pn		**Pn**	**10 20 29.5**	**+1.4**
EMIJ				Sn		**Sn**	**10 20 53.9**	**-0.4**
EMIJ				*i* Vmb_Lg			10 21 00.7	
EMUR	**La Murta**	**2.30**	**21**	Pn		**Pn**	**10 20 30.4**	**+0.9**
EMUR				Sn		**Sn**	**10 20 55.2**	**-1.6**
EMUR				*i* Vmb_Lg			10 21 04.4	
SMIR	**Smir Dam**	**2.53**	**271**	P		**Pn**	**10 20 33.2**	**+0.6**
TDRA	**Tendrara**	**2.65**	**175**	P		**Pn**	**10 20 35.2**	**+0.7**
ETOB	**Tobarra**	**3.00**	**11**	Pn		**Pn**	**10 20 41.7**	**+2.5**
ETOB				Sn		**Sn**	**10 21 16.2**	**+2.1**
ETOB				*i* Vmb_Lg			10 21 26.0	
MDT	**Midelt**	**3

4.7nm,0.3s,baz=155,slow=16,SNR=15
KSRS Lg Lg 10 26 28.4
12nm,0.3s,baz=150,slow=30,SNR=3.1
KSAR Wonju Array Be 5.28 335 P **Pn** **10 25 01.6 +1.1**
KSAR Wonju Array Be 5.28 335 **Pn** **10 25 01.6 +1.1**
KS19 Wonju Array Si 5.34 336 **Pn** **10 25 00.9 -0.4**
INCN Inchon 5.83 327 P **Pn** **10 25 08.9 +0.8**
INCN Inchon 5.83 327 Pn **Pn** **10 25 08.9 +0.8**
INU Inuyama 5.94 61 Pn **Pn** **10 25 11.6 +2.0**
JOW Kunigami 6.16 200 Pn **Pn** **10 25 12.4 -0.3**
JGF Kuroka 6.29 60 Pn **Pn** **10 25 15.7 +1.2**
MAJO Matsushiro 7.34 56⇑ *e*P **Pn** **10 25 27.8 -1.1**
MAJO pmax pmax
comp=Z,8.0nm,0.8s
MAJO Matsushiro 7.34 56 Pn **Pn** **10 25 29.6 +0.7**
MJB9 Matsu-Tunnel 7.34 56 Pn **Pn** **10 25 29.3 +0.4**
MJAR Matsushiro Arr 7.34 56 Pn **Pn** **10 25 31.0 +2.1**
comp=Z,0.2nm,0.3s,baz=234,slow=13,SNR=8.4
MJAR Matsushiro Arr 7.34 56 P **Pn** **10 25 30.7 +1.8**
MJAR Matsushiro Arr 7.34 56 Pn **Pn** **10 25 30.7 +1.8**
NJ2 Nanjing 9.99 270 *e*P **Pn** **10 26 05.1 -0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 LR LR
comp=Z,660nm,14.3s
NJ2 LR LR
comp=Z,410nm,14.3s
NJ2 LR LR
comp=Z,740nm,16.9s
USRK Ussuriysk Ar. 11.57 5 Pn **Pn** **10 26 30.0 +3.2**
baz=183,slow=14,SNR=6.5
USRK LR LR 10 30 25.4
comp=Z,337nm,20.6s,baz=54,slow=35
CN2 Changchun 11.85 341 *e*P Pn 10 26 49.8 +19
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,1μm,16.0s
CN2 LR LR
comp=E,2μm,16.0s
CN2 LR LR
comp=Z,900nm,15.0s
HNS HongShan 13.88 294 ⇑P **P** **10 27 04.3 -2.4**
HNS LR LR
comp=Z,300nm,12.2s
HNS LR LR
comp=Z,680nm,12.6s
HNS LR LR
comp=Z,550nm,15.1s
LYN LuoYang 15.26 282 ⇓P **Pn** **10 27 19.3 +2.2**
LYN S **Sn** **10 30 10.0 +3.9**
LYN pmax pmax
comp=Z,190nm,4.3s
LYN LR LR
comp=Z,510nm,11.3s
LYN LR LR
comp=Z,780nm,16.1s
LYN LR LR
comp=Z,830nm,13.3s
KLR Kul'dur 16.58 3 Pn **P** **10 27 37.4 +0.9**
comp=Z,0.2nm,0.3s,baz=156,slow=8.6,SNR=21
HHC Hu-ho-hao-te 17.31 304 *e*P **Pn** **10 27 42.4 -1.1**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,260nm,5.5s
HHC LR LR
comp=Z,650nm,11.4s
HHC LR LR
comp=Z,770nm,12.0s
HHC LR LR
comp=Z,670nm,11.1s
ENH Enshi 18.20 268 P **P** **10 27 56.8 +2.2**
KUR Kuril'sk 18.32 42⇑ *e*P **Pn** **10 27 55.4 -0.2**
KUR pmax pmax
comp=Z,124nm,1.1s
ZEA Zeya 21.21 354 *e*P P 10 28 12.9 -14
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,0.9s
GYA Guiyang 21.73 260 ⇓P **P** **10 28 35.6 +2.4**
GYA pmax pmax
comp=Z,14nm,0.8s
GYA LR LR
comp=Z,470nm,13.2s
LZH Lanzhou 22.36 286 *e*P **P** **10 28 41.0 +1.1**
LZH sP sP 10 28 48.1 +3.2
LZH pmax pmax
comp=Z,16nm,1.5s
LZH LR LR
comp=Z,460nm,9.8s
LZH LR LR
comp=Z,400nm,10.3s
LZH LR LR
comp=Z,440nm,10.4s
CD2 Chengdu 22.90 273 P **P** **10 28 46.6 +1.0**
CD2 S **S** **10 32 50.3 -5.0**
CD2 pmax pmax
comp=Z,30nm,1.3s
CD2 LR LR
comp=Z,850nm,11.2s
CD2 LR LR
comp=Z,1μm,12.6s
ULN Ulaanbaatar 23.42 317⇑ *e*P **P** **10 28 51.3 +0.4**
ULN pmax pmax
comp=Z,15nm,1.0s
SONM Songino Array 23.79 317 P **P** **10 28 54.5 +0.1**
comp=Z,6.2nm,1.0s,baz=130,slow=8.5,SNR=15
SONM Songino Array 23.79 317 P **P** **10 28 54.7 +0.3**
GTA Gaotai 25.74 294 *e*P **P** **10 29 13.4 +1.0**
GTA pP sP 10 29 18.3 +0.8
GTA pmax pmax
comp=Z,13nm,0.8s
GTA pmax pmax
comp=Z,93nm,8.0s
GTA LR LR
comp=Z,440nm,14.7s
GTA LR LR
comp=Z,320nm,17.5s
GTA LR LR
comp=Z,310nm,21.9s
PZH PanZhiHua 25.82 264 P **P** **10 29 14.9 +1.7**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,120nm,5.1s
ZAK Zakamensk 26.85 319 *e*P **P** **10 29 22.0 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
GOMU GeErMu 29.66 287 P **P** **10 29 49.1 +1.3**
GOMU pP sP 10 29 52.9 0.0
GOMU S **S** **10 34 40.4 -3.0**
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU LR LR
comp=Z,170nm,16.3s
GOMU LR LR
comp=Z,250nm,14.2s
GOMU LR LR
comp=Z,100nm,13.1s
CHTO Chiang Mai 31.57 252 P **P** **10 30 04.5 +0.1**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 31.57 252 P **P** **10 30 04.5 +0.1**
CHTO IAmb IAmb 10 30 10.7
comp=Z,5.7nm,0.9s
CMAR Chiang Mai Arr 31.76 251 P **P** **10 30 05.9 -0.1**
comp=Z,2.6nm,1.0s,baz=43,slow=6.1,SNR=13
CMAR Chiang Mai Arr 31.76 251 *i* P **P** **10 30 07.1 +1.1**
CMAR pmax pmax
comp=Z,3.0nm,1.0s
CMAR Chiang Mai Arr 31.76 251 P **P** **10 30 06.2 +0.2**
SEY Seymchan 33.28 18⇓ *e*P **P** **10 30 20.6 +1.7**
SEY pmax pmax
comp=Z,5.0nm,1.1s
SHL Shillong 34.45 268 P **P** **10 30 29.5 -0.2**
WMQ Urumqi 35.16 301 *e*P **P** **10 30 36.8 +1.2**
WMQ sP sP 10 30 44.4 +3.6
WMQ pmax pmax
comp=Z,31nm,0.7s
WMQ LR LR
comp=Z,290nm,14.7s
WMQ LR LR
comp=Z,300nm,15.1s
WMQ LR LR

comp=Z,260nm,14.3s
JIRN Jiri 38.55 275 *e*P **P** **10 31 05.6 +0.7**
comp=Z,6.3nm,1.0s
ZALV Zalesovo Beam 38.68 317 P **P** **10 31 04.5 -0.7**
comp=Z,2.9nm,1.0s,baz=97,slow=12,SNR=5.6
ZALV Zalesovo Beam 38.68 317 P **P** **10 31 05.2 0.0**
GUN Gumba 38.73 275 *e*P **P** **10 31 06.9 +0.5**
comp=Z,42nm,0.9s
TIXI Tiksi 39.06 359⇓ *e*P **P** **10 31 06.8 -1.4**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 39.16 306⇑ *e*P **P** **10 31 09.1 -0.3**
MK31 Makanchi Array 39.16 306 P **P** **10 31 08.4 -1.0**
MKAR Makanchi Array 39.16 306 P **P** **10 31 09.1 -0.3**
comp=Z,2.4nm,0.9s,baz=94,slow=9.7,SNR=13
MKAR Makanchi Array 39.16 306 P **P** **10 31 08.4 -1.0**
DANN Dangsing 40.37 277 *e*P **P** **10 31 20.4 +0.4**
comp=Z,30nm,0.9s
KOLN Koldanda 40.69 276 *e*P **P** **10 31 23.3 +0.8**
BILL Bilibino 40.93 20 *i* P **P** **10 31 26.0 +2.2**
BILL *i* 10 33 21.7
BILL pmax pmax
comp=Z,6.0nm,1.1s
PYUN Piuthan 41.09 277 *e*P **P** **10 31 25.9 0.0**
comp=Z,36nm,1.0s
KURK Kurchatov 41.88 311 *c i*P **P** **10 31 31.8 0.0**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 41.88 311 P **P** **10 31 31.5 -0.3**
KURK IAmb IAmb 10 31 32.5
comp=Z,11nm,1.1s
TARG Taragay, Kyrgy 42.48 298 P **P** **10 31 37.3 0.0**
NRIK Noril'sk 43.88 340 P **P** **10 31 47.4 -0.4**
comp=Z,5.4nm,0.8s,baz=112,slow=6.5,SNR=7.8
NRIK Noril'sk 43.88 340 *de*P **P** **10 31 47.2 -0.6**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
NRIK Noril'sk 43.88 340 P **P** **10 31 47.2 -0.6**
AAK Ala-Archa 44.83 300⇓ *e*P **P** **10 31 56.0 +0.1**
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 44.83 300 P **P** **10 31 56.2 +0.3**
BRVK Borovoye 47.16 314 *d i*P **P** **10 32 13.7 -0.2**
BRVK pmax pmax
comp=Z,14nm,1.7s
BRVK Borovoye 47.16 314 P **P** **10 32 13.9 0.0**
BRVK IAmb IAmb 10 32 15.0
comp=Z,8.1nm,1.1s
KK31 Karatay Array 47.67 301 P **P** **10 32 18.5 +0.4**
KK31 pmax pmax
comp=Z,16nm,1.1s
KK31 Karatay Array 47.67 301 P **P** **10 32 18.5 +0.4**
KKAR Karatay Array 47.67 301 P **P** **10 32 18.3 +0.2**
KKAR pmax pmax
comp=Z,16nm,1.1s
KKAR Karatay Array 47.67 301 P **P** **10 32 18.3 +0.2**
KKAR Karatay Array 47.67 301 P **P** **10 32 18.5 +0.4**
KKAR IAmb IAmb 10 32 19.5
comp=Z,16nm,1.1s
COEN Coen 47.88 163 P **P** **10 32 20.2 +0.4**
COEN IAmb IAmb 10 32 48.3
comp=Z,14nm,1.2s
KNRA Kununurra 48.09 182 P **P** **10 32 21.8 +0.3**
KNRA IAmb IAmb 10 32 33.1
comp=Z,6.0nm,1.0s
GAR Garm 48.55 295 P **P** **10 32 25.1 +0.1**
GAR IAmb IAmb 10 32 26.3
comp=Z,9.9nm,1.0s
CHGR Chuyangaron 49.50 295 P **P** **10 32 31.8 -0.5**
CHGR pmax pmax
comp=Z,15nm,0.7s
CHGR Chuyangaron 49.50 295 P **P** **10 32 31.9 -0.5**
FITZ Fitzroy Crossi 50.69 186 P **P** **10 32 41.4 +0.1**
WB0 Warramunga Arr 52.25 176 P **P** **10 32 52.0 -1.0**
WRAB Tennant Creek 52.41 176 P **P** **10 32 53.5 -0.7**
WRAB pmax pmax
comp=Z,3.0nm,1.0s
WRAB Tennant Creek 52.41 176 P **P** **10 32 53.5 -0.7**
WRA Warramunga Arr 52.42 176 P **P** **10 32 51.9 -2.4**
comp=Z,1.2nm,0.8s,baz=347,slow=8.0,SNR=7.7
WRA Warramunga Arr 52.42 176 *i* P **P** **10 32 52.9 -1.4**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 52.42 176 P **P** **10 32 52.6 -1.6**
WB2 Warramunga Arr 52.42 176 P **P** **10 32 53.9 -0.3**
WR0 Warramunga Arr 52.45 175 P **P** **10 32 55.1 +0.7**
ARU Arti 53.79 319 *c i*P **P** **10 33 04.1 +0.1**
ARU 10 35 03.6
ARU S **S** **10 40 40.6 +2.4**
ARU SS **SS** **10 44 19.7 +1.1**
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 53.79 319 P **P** **10 33 04.0 0.0**
ARU IAmb IAmb 10 33 04.6
comp=Z,8.3nm,1.1s
ABKAR Akbulak array 53.96 310 P **P** **10 33 05.1 -0.2**
ABKAR Akbulak array 53.96 310 P **P** **10 33 05.1 -0.2**
ABKAR IAmb IAmb 10 33 08.3
comp=Z,4.2nm,0.8s
J20K Nowinta River 54.75 31 P **P** **10 33 12.1 +1.1**
J20K IAmb IAmb 10 33 15.4
comp=Z,5.6nm,1.1s
IMAR Indian Mountai 54.84 29 P **P** **10 33 11.4 -0.2**
AS31 Alice Springs 56.09 176 P **P** **10 33 20.7 -0.3**
ASAR Alice Springs 56.09 176 P **P** **10 33 20.6 -0.4**
comp=Z,1.9nm,0.9s,baz=1.7,slow=6.3,SNR=13
ASAR Alice Springs 56.09 176 P **P** **10 33 20.9 -0.1**
BPAW Bear Paw Mtn. 56.14 31 P **P** **10 33 22.4 +1.4**
KDAK Kodiak Island 56.16 39⇑ *i*P **P** **10 33 19.0 -2.1**
KDAK pmax pmax
comp=Z,23nm,1.3s
H23K Yukon River 56.58 29 P **P** **10 33 24.7 +0.7**
H23K IAmb IAmb 10 33 29.3
comp=Z,16nm,1.4s
NEA2 Nenana 56.91 30 P **P** **10 33 26.4 0.0**
NEA2 IAmb IAmb 10 33 30.9
comp=Z,7.6nm,1.0s
RND Reindeer 57.17 32 P **P** **10 33 28.0 -0.3**
RND pmax pmax
comp=Z,12nm,1.0s
RND Reindeer 57.17 32 P **P** **10 33 28.0 -0.3**
RND IAmb IAmb 10 33 32.0
comp=Z,12nm,1.0s
MDM Murphy Dome 57.23 30 P **P** **10 33 29.2 +0.6**
MDM IAmb IAmb 10 33 33.2
comp=Z,12nm,1.0s
H24K Noodor Dome 57.26 29 P **P** **10 33 29.8 +1.0**
H24K IAmb IAmb 10 33 34.0
comp=Z,8.0nm,1.2s
PMR Palmer 57.31 34 P **P** **10 33 29.9 +0.7**
PMR pmax pmax
comp=Z,6.0nm,1.0s
PMR Palmer 57.31 34 P **P** **10 33 29.9 +0.7**
PMR IAmb IAmb 10 33 32.8
comp=Z,6.2nm,1.0s
COLA College 57.40 30⇑ *e*P **P** **10 33 31.5 +1.7**
COLA pmax pmax
comp=Z,7.0nm,1.9s
KNK Knik Glacier 57.66 34 P **P** **10 33 33.1 +1.3**
ILAR Eielson Array 57.82 30 P **P** **10 33 32.1 -0.6**
comp=Z,1.2nm,0.7s,baz=274,slow=7.2,SNR=5.5
ILAR Eielson Array 57.82 30 P **P** **10 33 32.6 -0.2**
BMAR Burnt Mountain 58.33 27 P **P** **10 33 37.0 +0.6**
KIRV Kirov 58.34 323⇑ *e*P **P** **10 33 36.2 -0.3**
SCRK Sand Creek 59.20 31 P **P** **10 33 42.2 -0.4**
SCRK IAmb IAmb 10 33 45.7
comp=Z,6.7nm,0.9s
MENT Mentasta 59.54 32 P **P** **10 33 45.5 +0.7**
MENT IAmb IAmb 10 33 52.8
comp=Z,7.0nm,0.8s
BMRM Bremner River 59.57 34 P **P** **10 33 46.2 +1.1**
L26K Log Cabin Wild 59.69 32 P **P** **10 33 46.2 +0.4**
L26K IAmb IAmb 10 33 49.9
comp=Z,4.9nm,0.8s
M26K Nabesna, AK 59.99 32 P **P** **10 33 48.6 +0.6**
M26K IAmb IAmb 10 33 52.4
comp=Z,9.4nm,1.0s
EGAK Eagle 60.23 30 P **P** **10 33 50.6 +1.2**
EGAK IAmb IAmb 10 34 00.6
comp=Z,5.1nm,1.3s
BCAR Beaver Creek A 60.37 32 P **P** **10 33 51.1 +0.6**
M27K Edge Creek, AK 60.51 32 P **P** **10 33 51.7 +0.1**
M27K IAmb IAmb 10 33 55.9
comp=Z,6.6nm,0.9s

EPYK Eagle Plains 61.59 27 P **P** **10 33 58.8 0.0**
INK Inuvik 62.18 25 P **P** **10 34 02.6 0.0**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 62.18 25 P **P** **10 34 02.6 0.0**
INK IAmb IAmb 10 34 06.5
comp=Z,5.3nm,1.1s
KLMR Klimovskoe 62.60 327 *e*P **P** **10 34 04.0 -1.5**
KLMR pmax pmax
comp=Z,10.0nm,1.3s
KLMR Klimovskoe 62.60 327 *e*P **P** **10 34 04.1 -1.5**
KLMR AMP 10 34 19.8
comp=Z,10.0nm,1.3s
M30M Minto, Yukon 62.71 31 P **P** **10 34 07.8 +1.4**
M30M IAmb IAmb 10 34 10.7
comp=Z,3.2nm,0.8s
HYT Haines Junctio 62.95 33 P **P** **10 34 08.9 +0.8**
HYT IAmb IAmb 10 34 12.4
comp=Z,6.2nm,0.9s
A36M Sachs Harbour 63.49 20 P **P** **10 34 11.5 +0.3**
WHY Whitehorse 64.22 33 P **P** **10 34 18.4 +2.0**
WHY IAmb IAmb 10 34 20.7
comp=Z,4.1nm,0.9s
ARCES ARCESS Array B 64.83 338 P **P** **10 34 20.8 +0.6**
comp=Z,3.4nm,1.0s,baz=58,slow=12,SNR=4.2
ARCES ARCESS Array B 64.83 338 P **P** **10 34 19.6 -0.6**
ARCES pmax pmax
comp=Z,23nm,1.5s
ARCES ARCESS Array B 64.83 338 P **P** **10 34 19.6 -0.6**
C36M Paulatuk 64.96 22 P **P** **10 34 20.9 -0.1**
C36M IAmb IAmb 10 34 24.8
comp=Z,6.9nm,0.8s
STKA Stephens Creek 65.02 170 P **P** **10 34 21.2 -0.5**
comp=Z,1.2nm,0.7s,baz=332,slow=12,SNR=2.9
STKA Stephens Creek 65.02 170 P **P** **10 34 22.8 +1.1**
OBN Obninsk 66.10 321 *i* P **P** **10 34 27.3 -1.2**
OBN *i* 10 34 55.7
OBN pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 66.80 308 P **P** **10 34 33.6 +0.4**
comp=Z,7.3nm,1.0s,baz=96,slow=2.9,SNR=9.6
KBZ Khabaz 66.80 308 *ce*P **P** **10 34 34.2 +1.0**
KIV Kislovodsk 66.85 308 *e*P **P** **10 34 33.9 +0.2**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV Kislovodsk 66.85 308 P **P** **10 34 33.2 -0.5**
FIA1 FINESS Array S 68.34 330 P **P** **10 34 42.2 -0.5**
FINES FINESS Array B 68.34 330 P **P** **10 34 41.3 -1.4**
comp=Z,2.0nm,0.5s,baz=68,slow=6.9,SNR=21
FINES FINESS Array B 68.34 330 *i* P **P** **10 34 41.2 -1.5**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 68.34 330 P **P** **10 34 42.0 -0.7**
RES Resolute Bay 68.86 12 P **P** **10 34 45.7 0.0**
RES pmax pmax
comp=Z,4.0nm,0.9s
RES Resolute Bay 68.86 12 P **P** **10 34 45.7 0.0**
RES IAmb IAmb 10 34 49.2
comp=Z,4.2nm,0.9s
DAG Danmarks Havn 69.17 353 P **P** **10 34 47.0 -0.6**
DAG pmax pmax
comp=Z,9.0nm,1.6s
VSU Vasula 69.49 327⇑ *e*P **P** **10 34 48.2 -1.7**
VSU pmax pmax
comp=Z,49nm,1.1s
NACGM Naroch 71.23 324 *e*P **P** **10 35 00.1 -0.5**
YKA Yellowknife Ar 71.84 26 P **P** **10 35 03.9 -0.3**
comp=Z,0.9nm,0.8s,baz=304,slow=5.8,SNR=16
YKA Yellowknife Ar 71.84 26 *i* P **P** **10 35 06.6 +2.5**
YKA pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 72.04 319 P **P** **10 35 04.7 -0.8**
comp=Z,1.8nm,0.5s,baz=51,slow=5.4,SNR=9.0
AKASG Malin Array Be 72.04 319 *i* P **P** **10 35 04.6 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 72.04 319⇑ *e*P **P** **10 35 04.7 -0.9**
AKBB Malin Array Si 72.04 319 P **P** **10 35 04.5 -1.1**
AKBB IAmb IAmb 10 35 08.9
comp=Z,5.6nm,0.7s
SOCY Socotra 72.36 273 P **P** **10 35 05.9 -2.2**
SOCY IAmb IAmb 10 35 07.0
comp=Z,8.0nm,1.0s
NB2 NORSAR Subarra 74.49 334 P **P** **10 35 18.3 -1.6**
comp=Z,4.8nm,0.9s,baz=50,slow=5.9
NOA NORSAR Array B 74.49 334 P **P** **10 35 18.2 -1.6**
comp=Z,2.7nm,0.8s,baz=49,slow=5.7,SNR=8.8
NC204 NORSAR Array S 74.50 334 P **P** **10 35 19.9 -0.1**
BR131 Keskin Array S 74.78 308 *ce*P **P** **10 35 21.7 -0.4**
BR131 Keskin Array S 74.78 308 P **P** **10 35 21.7 -0.4**
BR131 IAmb IAmb 10 35 22.8
comp=Z,8.1nm,0.9s
BRTR Keskin Array B 74.78 308 P **P** **10 35 21.4 -0.7**
comp=Z,3.5nm,0.9s,baz=94,slow=5.2,SNR=19
BRTR Keskin Array B 74.78 308 *i* P **P** **10 35 22.0 -0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 74.78 308 P **P** **10 35 21.8 -0.4**
BUR08 Bucovina Ar. S 75.89 318 P **P** **10 35 28.7 +0.4**
BUR08 IAmb IAmb 10 35 29.8
comp=Z,7.0nm,1.1s
BURAR Bucovina Array 75.90 318 P **P** **10 35 28.3 0.0**
BURAR pmax pmax
comp=Z,4.0nm,0.9s
BURAR Bucovina Array 75.90 318 P **P** **10 35 28.3 0.0**
BURAR IAmb IAmb 10 35 30.1
comp=Z,4.4nm,0.9s
VRI Vrincioaia 75.97 316 P **P** **10 35 29.0 +0.3**
VRI pmax pmax
comp=Z,7.0nm,1.6s
BORA Eskisehir 76.81 309 P **P** **10 35 33.4 -0.3**
BORA IAmb IAmb 10 35 33.9
comp=Z,5.2nm,0.8s
OJC Ojcow 77.36 322 P **P** **10 35 36.2 -0.3**
OJC pmax pmax
comp=Z,14nm,0.9s
OJC Ojcow 77.36 322 P **P** **10 35 36.1 -0.3**
MORC Moravsky Berou 78.79 323 P **P** **10 35 44.6 +0.1**
MORC pmax pmax
comp=Z,8.0nm,1.1s
MORC Moravsky Berou 78.79 323 P **P** **10 35 44.6 +0.1**
MORC IAmb IAmb 10 35 45.5
comp=Z,8.5nm,1.1s
ELL Elmali 78.83 306 P **P** **10 35 45.0 0.0**
ELL pmax pmax
comp=Z,33nm,1.2s
ELL Elmali 78.83 306 P **P** **10 35 45.0 0.0**
VYHS Vyhne 78.90 321 *e*P **P** **10 35 45.6 +0.6**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 78.90 321 *e*P **P** **10 35 45.6 +0.6**
DPC Dobruska-Polom 79.06 324 *e*P **P** **10 35 45.7 -0.2**
DPC Dobruska-Polom 79.06 324 *e*P **P** **10 35 45.7 -0.2**
SMOL Smolenice 79.63 322 *e*P **P** **10 35 49.8 +0.8**
SMOL pmax pmax
comp=Z,5.0nm,0.9s
SMOL Smolenice 79.63 322 *e*P **P** **10 35 49.8 +0.8**
MODS Modra-Piesok 79.79 322 *e*P **P** **10 35 50.6 +0.7**
MODS pmax pmax
comp=Z,25nm,1.3s
MODS Modra-Piesok 79.79 322 *e*P **P** **10 35 50.6 +0.7**
CLL Collm 80.07 326⇓ *i*P **P** **10 35 50.7 -0.6**
CLL *i* 10 35 53.5
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 80.07 326 P **P** **10 35 51.1 -0.2**
CLL IAmb IAmb 10 35 51.8
comp=Z,11nm,1.0s
CLL Collm 80.07 326⇓ *i*P **P** **10 35 50.7 -0.6**
comp=Z,11nm,1.0s
CLL *i* x x 10 35 53.5
PRU Pruhonice 80.17 324 *e*P **P** **10 35 51.8 -0.1**
PRU Pruhonice 80.17 324 *e*P **P** **10 35 51.8 -0.1**
RONA Rosalia, Austr 80.73 321 *e*P **P** **10 35 55.7 +0.7**
comp=Z,6.7nm,1.0s
CONA Conrad Observa 80.81 322 *e*P **P** **10 35 56.3 +0.8**
comp=Z,5.0nm,0.9s,SNR=5.8
CKRC Cesky Krumlov 81.04 323 *e*P **P** **10 35 55.7 -0.9**
NKC Novy Kostel 81.04 325 *e*P **P** **10 35 55.8 -0.8**
NKC Novy Kostel 81.04 325 *e*P **P** **10 35 55.8 -0.8**
KHC Kasperske Hory 81.21 324 *d i*P **P** **10 35 57.0 -0.5**
KHC pmax pmax
comp=Z,7.0nm,1.0s
KHC Kasperske Hory 81.21 324 P **P** **10 35 57.2 -0.3**
KHC Kasperske Hory 81.21 324 *e*P **P** **10 35 57.2 -0.3**

GERES	**GERESS Array B**	**81.33**	**323**	P		**P**	**10 35 57.5**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=33,slow=3.2,SNR=12							
GERES	**GERESS Array B**	**81.33**	**323**	P		**P**	**10 35 57.7**	**-0.5**
FCC	**Fort Churchill**	**81.60**	**22**	P		**P**	**10 35 58.8**	**-0.5**
FCC				pmax	pmax			
	comp=Z,8.0nm,1.0s							
FCC	**Fort Churchill**	**81.60**	**22**	P		**P**	**10 35 58.8**	**-0.5**
FCC				IAmb	IAmb		10 36 02.4	
	comp=Z,8.0nm,1.0s							
MOA	**Molln**	**81.69**	**322**	*eP*		**P**	**10 35 59.0**	**-1.1**
	comp=Z,2.8nm,1.1s							
GRF	**Grafenberg Arr**	**81.99**	**325**	*eP*		**P**	**10 36 02.0**	**+0.3**
	comp=Z,15nm,1.1s,baz=54,slow=4.9							
SOKA	**Soboth**	**82.04**	**321**	*eP*		**P**	**10 36 02.2**	**+0.2**
	comp=Z,5.6nm,0.8s,SNR=5.5							
ABTA	**Abfaltersbach**	**83.31**	**322**	*eP*		**P**	**10 36 07.7**	**-0.9**
	comp=Z,2.2nm,0.6s							
WATA	**Walderalm**	**83.40**	**323**	*eP*		**P**	**10 36 08.7**	**-0.4**
	comp=Z,4.1nm,1.0s							
WTTA	**Wattenberg**	**83.42**	**323**	*eP*		**P**	**10 36 08.9**	**-0.4**
	comp=Z,5.0nm,1.0s							
MOTA	**Moosalm**	**83.63**	**323**	*eP*		**P**	**10 36 09.4**	**-0.9**
	comp=Z,3.8nm,0.9s							
SQTA	**Sankt Quirin**	**83.66**	**323**	*eP*		**P**	**10 36 09.9**	**-0.5**
	comp=Z,3.1nm,0.7s							
RETA	**Reutte**	**83.70**	**324**	*eP*		**P**	**10 36 10.1**	**-0.5**
	comp=Z,5.7nm,0.9s							
MEM	**Membach**	**83.77**	**328**	*dP*		**P**	**10 36 09.7**	**-1.1**
	comp=Z,5.3nm,0.9s							
ITM	**Ithomi**	**83.86**	**310**	P		**P**	**10 36 10.0**	**-1.5**
ITM				IAmb	IAmb		10 36 10.1	
	comp=Z,6.4nm,1.0s							
FETA	**Feichten**	**84.04**	**323**	*eP*		**P**	**10 36 12.2**	**-0.2**
	comp=Z,3.3nm,0.8s							
CTI	**Castel Tesino**	**84.22**	**322**	P		**P**	**10 36 12.1**	**-1.3**
CTI				pmax	pmax			
	comp=Z,11nm,1.2s							
CTI	**Castel Tesino**	**84.22**	**322**	P		**P**	**10 36 12.1**	**-1.3**
DAVA	**Damuels**	**84.28**	**324**	*eP*		**P**	**10 36 13.3**	**-0.3**
	comp=Z,6.5nm,0.8s,SNR=5.2							
BFO	**Black Forest**	**84.31**	**325**	P		**P**	**10 36 13.3**	**-0.4**
BFO				pmax	pmax			
	comp=Z,11nm,0.9s							
BFO	**Black Forest**	**84.31**	**325**	P		**P**	**10 36 13.3**	**-0.4**
KVN	**Kaiserville**	**84.33**	**47**	P		**P**	**10 36 14.6**	**+0.4**
KVN				pmax	pmax			
	comp=Z,9.0nm,1.5s							
KVN	**Kaiserville**	**84.33**	**47**	P		**P**	**10 36 14.6**	**+0.4**
KVN				IAmb	IAmb		10 36 18.1	
	comp=Z,8.6nm,1.5s							
RCHB	**Rochefort**	**84.45**	**328**	*dP*		**P**	**10 36 13.1**	**-1.1**
	comp=Z,3.5nm,0.8s							
BMRD	**Maredsous**	**84.54**	**329**	*dP*		**P**	**10 36 13.6**	**-1.1**
	comp=Z,5.8nm,1.1s							
NVAR	**Mina Array Bea**	**84.58**	**47**	P		**P**	**10 36 15.1**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=303,slow=5.1,SNR=11							
NVAR	**Mina Array Bea**	**84.58**	**47**	P		**P**	**10 36 15.4**	**0.0**
ECH	**Echery**	**84.95**	**326**	P		**P**	**10 36 15.8**	**-1.1**
ECH				pmax	pmax			
	comp=Z,8.0nm,1.1s							
ECH	**Echery**	**84.95**	**326**	P		**P**	**10 36 15.8**	**-1.1**
ECH				IAmb	IAmb		10 36 17.1	
	comp=Z,7.9nm,1.1s							
TUE	**Stuetta**	**85.11**	**324**	P		**P**	**10 36 17.0**	**-0.9**
TPH	**Tonopah**	**85.47**	**47**	P		**P**	**10 36 19.8**	**-0.1**
TPH				pmax	pmax			
	comp=Z,13nm,0.8s							
TPH	**Tonopah**	**85.47**	**47**	P		**P**	**10 36 19.8**	**-0.1**
BW06	**Boulder Array**	**86.87**	**40**	P		**P**	**10 36 27.6**	**+0.8**
PD31	**Pinedale Array**	**86.87**	**40**	P		**P**	**10 36 26.1**	**-0.7**
PDAR	**Pinedale Array**	**86.87**	**40**	P		**P**	**10 36 25.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=45,slow=0.7,SNR=9.4							
PDAR	**Pinedale Array**	**86.87**	**40**	P		**P**	**10 36 25.4**	**-1.4**
ULM	**Lac du Bonnet**	**87.76**	**28**	P		**P**	**10 36 29.2**	**-1.4**
	comp=Z,5.5nm,0.9s,baz=316,slow=3.1,SNR=3.9							
B35A	**Bob, Littlefor**	**90.12**	**28**	P		**P**	**10 36 42.6**	**+0.8**
PV13	**Radium Mtn., P**	**90.43**	**43**	P		**P**	**10 36 43.8**	**+0.1**
PV13				IAmb	IAmb		10 36 47.6	
	comp=Z,5.1nm,1.2s							

*KOLA **17** 10:39:35.3, 67.56N×34.00E, h0km, ML1.9*
HEL 17 10:39:34.6±0.7, 67.76N×34.14E, h0km, ML2.0, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.24**	**55**	P	Pg	10 39 42.8	+3.7
LVZ				S	Sg	10 39 48.1	+5.9
APA	**Apatity**	**0.34**	**235**	P	Pg	10 39 39.4	-1.7
APA				S	Sg	10 39 42.5	-3.0
APA0	**Apatity Array**	**0.46**	**251**	P	Pg	10 39 41.9	-1.6
APA0				S	Sg	10 39 47.1	-2.4
VRF	**Varrio**	**1.72**	**272**	PG	Pn	10 40 05.5	-0.3
VRF				MSG		10 40 25.9	
	comp=Z,11nm,0.2s						
VRF				SB	Sn	10 40 26.4	-2.1
PRVG	**Vayda Guba**	**2.12**	**341**	P	Pg	10 40 14.9	-0.1
PRVG				S	Sg	10 40 42.5	+0.1
OLKF	**Oulanka, Finla**	**2.35**	**234**	PB	Pn	10 40 15.2	+0.8
	baz=50						
OLKF				SN	Sn	10 40 44.1	+0.1
KU6	**Riekki**	**2.42**	**226**	PB	Pn	10 40 15.8	+0.5
KU6				SN	Sn	10 40 45.7	+0.1
KU6				MSG		10 40 46.1	
	comp=Z,6.5nm,0.2s						
MSF	**Maaselka**	**2.74**	**230**	PB	Pn	10 40 21.6	+1.9
MSF				SB	Sn	10 40 55.4	+1.8
KEV	**Kevo**	**3.28**	**311**	PB	Pn	10 40 29.0	+1.9
KEV				SB	Sn	10 41 08.8	+2.1
RNF	**Rovaniemi**	**3.37**	**254**	PN	Pn	10 40 28.3	-0.1
RNF				SN	Sn	10 41 08.1	-0.9
ARCES	**ARCESS Array B**	**3.62**	**303**	P	Pn	10 40 32.6	+0.8
ARCES				S	Sn	10 41 16.0	+0.7
HEF	**Hetta**	**3.98**	**284**	SN	Sn	10 41 23.7	-0.4
TOF	**Tornio**	**4.21**	**251**	PG	Pb	10 40 49.3	-0.2
PAJU	**Pajala**	**4.32**	**265**	PG	Pb	10 40 51.4	+0.1
PAJU				SN	Sn	10 41 30.9	-1.5
LANU	**Lannavaara**	**4.60**	**279**	PN	Pn	10 40 45.1	-0.1
KALU	**Kalix**	**4.67**	**251**	PG	Pb	10 40 56.8	-0.4

IDC 17 10:43:13.8±2.0, 18.49S×176.74W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/31, mbtmp4.0/4, MS4.6/1, Ms1 4.6/1, ms1mx3.1/63, Error ellipse: s-maj=51.2km s-min=46.5km az=42.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.09**	**260**	P	P	10 51 40.2	+0.2
	1.1nm,0.4s,baz=96,slow=7.7,SNR=62						
ASAR	**Alice Springs**	**46.16**	**255**	P	P	10 51 40.4	-0.3
	1.8nm,0.6s,baz=93,slow=7.8,SNR=42						
BATI	**Baumata**	**58.11**	**269**	LR	LR	11 18 29.1	
	comp=Z,440nm,18.9s,baz=281,slow=36						
VNDA	**Vanda**	**60.01**	**185**	P	P	10 53 21.8	-0.1
	0.5nm,0.6s,baz=18,slow=4.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**90.57**	**289**	P	P	10 56 18.1	-0.5
	0.4nm,0.5s,baz=102,slow=1.8,SNR=4.1						
GERES	**GERESS Array B**	**148.56**	**347**	PKPbc	PKPbc	11 03 02.3	-0.5
	0.3nm,0.8s,baz=312,slow=3.4,SNR=3.5						

*IDC **17** 10:54:41.4±3.0, 43.89S×74.16W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/22, mbtmp3.7/4, ML3.9/1, MS3.4/2, Ms1 3.3/2, ms1mx3.0/52, Error ellipse: s-maj=83.6km s-min=45.4km az=158.0*
*NEIC **17** 10:54:48.1±1.5, 43.11S±0.05×74.54W±0.04, h15km±6km, mb4.0/3, ML3.9(GUC), Error ellipse: s-maj=7.4km s-min=3.9km az=187.0*
*GUC **17** 10:54:49.6±0.6, 43.18S×74.36W, h9km±4km, ML3.9*
ISC 17 10:54:47.6±1.9, 43.14S±0.04×74.49W±0.08, h16km±10km, n32, σ1§29/39, mb3.9/4, 3C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.60**	**88**		**Pb**	**10 55 00.3**	**+0.5**
GO07	**Milladeo Hill,**	**0.60**	**88**	⇓*iP*	**Pg**	**10 55 00.1**	**+0.6**
GO07				*i* S	**Sg**	**10 55 05.9**	**-1.7**
GO07				IAML		10 55 08.8	
	comp=E,21μm,0.5s						
LL07	**Hotel Espejo d**	**0.80**	**68**		**Pg**	**10 55 03.8**	**+0.5**
LL07	**Hotel Espejo d**	**0.80**	**68**	*i* P	**Pg**	**10 55 03.7**	**+0.5**
LL07				*i* S	**Sg**	**10 55 13.1**	**-0.7**
LL07				IAML		10 55 14.6	
	comp=E,14μm,0.3s						
LL06	**Loncomilla**	**1.12**	**35**	⇑*iP*	**Pb**	**10 55 09.1**	**+0.6**
LL06				*i* S	**Sb**	**10 55 23.4**	**+0.5**
LL06				IAML		10 55 27.0	
	comp=N,4μm,0.8s						
LL01	**San Ignacio de**	**1.71**	**64**		**Pn**	**10 55 17.1**	**+0.4**
LL01	**San Ignacio de**	**1.71**	**64**	*eP*	**Pn**	**10 55 16.9**	**+0.2**
LL01				*eS*	**Sn**	**10 55 37.1**	**-1.0**
AY01	**Puyuhuapi**	**1.85**	**135**	Pn	**Pn**	**10 55 19.6**	**+0.9**
AY01	**Puyuhuapi**	**1.85**	**135**	*eP*	**Pn**	**10 55 19.1**	**+0.4**
AY01				*eS*	**Sn**	**10 55 41.4**	**-0.3**
AY01				IAML		10 55 48.6	
	comp=E,2μm,0.4s						
LL05	**Los Muermos**	**1.89**	**24**	Pn	**Pb**	**10 55 21.1**	**-0.6**
LL05	**Los Muermos**	**1.89**	**24**	*eP*	**Pb**	**10 55 21.4**	**-0.2**
LL05				*eS*	**Sb**	**10 55 46.4**	**+1.4**
LL05				IAML		10 55 53.5	
	comp=N,932nm,0.2s						
LL02	**Futaleuf**	**1.93**	**93**		**Pn**	**10 55 20.4**	**+0.6**
LL02	**Futaleuf**	**1.93**	**93**	⇑*iP*	**Pn**	**10 55 20.4**	**+0.6**
LL02				*i* S	**Sn**	**10 55 44.0**	**+0.2**
LL03	**Petrohue**	**2.53**	**39**	Pn	**Pn**	**10 55 29.0**	**+1.0**
LL03	**Petrohue**	**2.53**	**39**	*eP*	**Pn**	**10 55 28.9**	**+0.9**
LL03				IAML		10 56 07.2	
	comp=E,1μm,0.3s						
LL04	**Puerto Octay**	**2.71**	**36**	*eP*	**Pn**	**10 55 31.0**	**+0.5**
LL04				*eS*	**Sn**	**10 56 00.5**	**-2.5**
LL04				IAML		10 56 06.9	
	comp=N,500nm,0.2s						
COYC	**Coyhaique**	**2.99**	**145**	Pn	**Pb**	**10 55 38.2**	**-2.2**
COYC	**Coyhaique**	**2.99**	**145**	*eS*	**Sn**	**10 56 11.7**	**+1.9**
COYC				IAML		10 56 24.5	
	comp=E,204nm,0.5s						
PLCA	**Paso Flores**	**3.79**	**52**	Pn	**Pn**	**10 55 47.0**	**+1.5**
	comp=E,1.5nm,0.3s,baz=231,slow=12,SNR=70						
PLCA				Lg	Lg	10 56 40.0	
	comp=E,3.0nm,0.3s,baz=92,slow=24,SNR=4.1						
PLCA				LR	LR	10 56 46.6	
	comp=E,114nm,18.8s,baz=290,slow=30						
PLCA	**Paso Flores**	**3.79**	**52**		**Pn**	**10 55 47.6**	**+2.1**
PLCA	**Paso Flores**	**3.79**	**52**	⇑*iP*	**Pn**	**10 55 47.4**	**+1.9**
LR03	**Panguipulli**	**3.85**	**25**	Pn	**Pn**	**10 55 47.7**	**+1.5**
GO05	**Huala**	**8.36**	**15**	Pn	**Pn**	**10 56 48.7**	**+0.6**
BO01	**Tunca**	**9.13**	**18**	Pn	**Pn**	**10 56 57.7**	**-0.9**
MT02	**Curacav**	**10.21**	**16**	Pn	**Pn**	**10 57 12.3**	**-1.1**
AC02	**Maricunga**	**16.84**	**17**		**Pn**	**10 58 44.1**	**+1.0**
AC02				IAmb	IAmb	10 58 55.4	
	comp=Z,13nm,1.5s						
CPUP	**Villa Florida**	**21.84**	**45**	P	**P**	**10 59 38.8**	**-0.5**
	comp=Z,4.2nm,0.7s,baz=228,slow=10.0,SNR=11						
CPUP	**Villa Florida**	**21.84**	**45**	P	**P**	**10 59 39.5**	**+0.1**
CPUP				IAmb	IAmb	10 59 40.8	
	comp=Z,4.9nm,0.7s						
SNAA	**Sanae**	**44.01**	**154**	P	**P**	**11 02 55.5**	**+1.5**
SNAA				IAmb	IAmb	11 03 17.2	
	comp=Z,7.0nm,1.4s						
TXAR	**Lajitas Array**	**76.94**	**334**	P	**P**	**11 06 40.1**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=164,slow=10.0,SNR=1.6						
TSUM	**Tsumeb**	**78.60**	**106**	LR	LR	11 36 30.0	
	comp=Z,77nm,21.7s,baz=138,slow=32						
TORD	**Torodi Ar. Bea**	**89.07**	**71**	P	**P**	**11 07 38.7**	**-3.4**
	comp=Z,0.2nm,0.4s,baz=205,slow=6.4,SNR=2.0						

*SJA **17** 11:07:40.5±0.7, 21.12S×68.75W, h145km±3km, ML4.1, MW4.0*
*IDC **17** 11:07:42.4±1.0, 21.16S×68.33W, h118km±10km, mb3.8/6, mb1 3.9/9, mb1mx3.6/34, mbtmp4.3/9, Error ellipse: s-maj=24.1km s-min=13.9km az=117.0*
*VAO **17** 11:07:42.0±0.4, 21.10S×68.72W, h131km±4km, mb4.2*
*GUC **17** 11:07:42.5±0.7, 21.13S×68.64W, h124km±5km, ML4.1*
*NEIC **17** 11:07:42.4±2.2, 21.15S±0.04×68.62W±0.08, h124km±5km, Error ellipse: s-maj=11.5km s-min=5.5km az=85.0*
ISC 17 11:07:42.2±0.5, 21.14S±0.03×68.75W±0.04, h130km±5km, n125, σ1§49/174, mb4.2/12, 7C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.80**	**215**		**Pn**	**11 08 04.1**	**+0.5**
PB09				Sn	**Sn**	**11 08 20.2**	**+0.5**
PB09	**IPOC Station P**	**0.80**	**215**	⇑*iP*	**Pn**	**11 08 03.8**	**+0.2**
PB09				*i* S	**Sn**	**11 08 20.0**	**+0.2**
PB09				IAML		11 08 21.4	
	comp=N,4μm,0.5s						
PB09	**IPOC Station P**	**0.80**	**215**	*eP*	**Pn**	**11 08 03.0**	**-0.6**
PB09				*eP*	**Pn**	**11 08 04.1**	**+0.5**
PB09				*eS*	Sn	11 08 09.9	-10
PB09				*eS*	**Sn**	**11 08 13.4**	**-6.3**
PB09				IAML		11 08 21.0	
	comp=Z,5μm,0.4s						
PB09				*eS*	**Sn**	**11 08 21.6**	**+1.8**
PB08	**IPOC Station P**	**1.06**	**339**		**Pn**	**11 08 06.5**	**+0.3**
PB08				Sn	**Sn**	**11 08 23.9**	**-0.4**
PB08	**IPOC Station P**	**1.06**	**339**	⇑*iP*	**Pn**	**11 08 06.1**	**0.0**
PB08				*i* S	**Sn**	**11 08 24.0**	**-0.3**
PB08				IAML		11 08 26.4	
	comp=E,2μm,0.3s						
PB08	**IPOC Station P**	**1.06**	**339**	*eP*	**Pn**	**11 08 06.2**	**0.0**
PB08				*eS*	**Sn**	**11 08 25.1**	**+0.8**
PB08				IAML		11 08 27.1	
	comp=Z,1μm,1.0s						
PB02	**IPOC Station P**	**1.08**	**260**	⇓*iP*	**Pn**	**11 08 06.3**	**+0.3**
PB02				*i* S	**Sn**	**11 08 24.3**	**+0.2**
PB02				IAML		11 08 27.2	
	comp=N,8μm,0.3s						
PB02	**IPOC Station P**	**1.08**	**260**	*eP*	**Pn**	**11 08 06.3**	**+0.3**
PB02				*eS*	**Sn**	**11 08 25.1**	**+1.1**
PB02				*eS*	**Sn**	**11 08 25.2**	**+1.1**
PB02				IAML		11 08 28.3	
	comp=Z,5μm,0.3s						
PB07	**IPOC Station P**	**1.21**	**241**	⇓*iP*	**Pn**	**11 08 07.6**	**+0.3**
PB07				*i* S	**Sn**	**11 08 26.5**	**0.0**
PB07				IAML		11 08 29.9	
	comp=E,4μm,0.3s						
PB07	**IPOC Station P**	**1.21**	**241**	*eP*	**Pn**	**11 08 07.7**	**+0.3**
PB07				*eP*	**Pn**	**11 08 09.9**	**+2.6**
PB07				*eP*	**Pn**	**11 08 10.9**	**+3.6**
PB07				*eS*	**Sn**	**11 08 27.1**	**+0.6**
PB07				*eS*	**Sn**	**11 08 27.6**	**+1.1**
PB07				IAML		11 08 28.1	
	comp=Z,2μm,0.4s						
PATCX	**Punta Patache**	**1.35**	**283**		**Pn**	**11 08 09.6**	**+0.8**
PATCX	**Punta Patache**	**1.35**	**283**	⇓*iP*	**Pn**	**11 08 09.1**	**+0.4**
PATCX				*i* S	**Sn**	**11 08 29.4**	**+0.5**
PATCX				IAML		11 08 31.2	
	comp=E,3μm,0.5s						
PATCX	**Punta Patache**	**1.35**	**283**	*eP*	**Pn**	**11 08 09.0**	**+0.2**
PATCX				*eP*	**P**	**11 08 09.4**	**+0.7**
PATCX				*eP*	**P**	**11 08 09.4**	**+0.7**
PATCX				*eS*	**Sn**	**11 08 29.8**	**+0.8**
PATCX				IAML		11 08 32.0	
	comp=Z,2μm,0.4s						
HMBC	**Humberstone**	**1.37**	**309**	⇓*iP*	**Pn**	**11 08 08.8**	**-0.2**
HMBC				*i* S	**Sn**	**11 08 29.1**	**-0.2**
HMBC				IAML		11 08 30.0	
	comp=N,5μm,0.6s						
TA01	**Diego Aracena**	**1.46**	**293**		**Pn**	**11 08 10.5**	**+0.6**
TA01	**Diego Aracena**	**1.46**	**293**	*eP*	**Pn**	**11 08 09.8**	**0.0**
TA01				*i* S	**Sn**	**11 08 30.9**	**+0.1**
TA01				IAML		11 08 34.3	
	comp=E,2μm,0.6s						
TA01	**Diego Aracena**	**1.46**	**293**	*eP*	**Pn**	**11 08 09.9**	**+0.1**
TA01				*eS*	**Sn**	**11 08 31.8**	**+1.0**
TA01				IAML		11 08 34.1	
	comp=Z,1μm,0.5s						
LVC	**Limon Verde**	**1.47**	**186**	P	**Pn**	**11 08 10.6**	**+0.2**
	comp=Z,232nm,0.3s,baz=14,slow=10,SNR=2784						
LVC				S	**Sn**	**11 08 31.8**	**0.0**
	comp=Z,123nm,0.3s,baz=97,slow=23,SNR=48						
LVC	**Limon Verde**	**1.47**	**186**	*eP*	**Pn**	**11 08 10.6**	**+0.2**
LVC				*eS*	**Sn**	**11 08 33.0**	**+1.1**
LVC	**Limon Verde**	**1.47**	**186**	*eP*	**Pn**	**11 08 10.4**	**0.0**
GO01	**Chusmiza**	**1.52**	**344**		**Pn**	**11 08 11.0**	**-0.1**
GO01	**Chusmiza**	**1.52**	**344**	⇑*iP*	**Pn**	**11 08 11.0**	**-0.1**
GO01				*i* S	**Sn**	**11 08 32.5**	**-0.5**
GO01				IAML		11 08 35.1	
	comp=E,3μm,0.3s						
GO01	**Chusmiza**	**1.52**	**344**	*eP*	**Pn**	**11 08 10.9**	**-0.1**
GO01				*eS*	**Sn**	**11 08 33.0**	**0.0**
TA02	**Huaiquique**	**1.56**	**304**		**Pn**	**11 08 11.0**	**+0.1**
TA02	**Huaiquique**	**1.56**	**304**	*eP*	**Pn**	**11 08 11.1**	**+0.1**
TA02				*eS*	**Sn**	**11 08 32.5**	**-0.3**
TA02				IAML		11 08 36.0	
	comp=N,3μm,0.4s						
TA02	**Huaiquique**	**1.56**	**304**	*eP*	**Pn**	**11 08 10.9**	**+0.1**
TA02				*eS*	**Sn**	**11 08 33.6**	**+0.8**
TA02				IAML		11 08 35.6	
	comp=Z,707nm,0.3s						
PB11	**IPOC Station P**	**1.61**	**328**	⇑*iP*	**Pn**	**11 08 11.4**	**-0.4**
PB11				*i* S	**Sn**	**11 08 33.7**	**-0.7**
PB11				IAML		11 08 34.5	
	comp=N,2μm,0.4s						
PB11	**IPOC Station P**	**1.61**	**328**	*eP*	**Pn**	**11 08 11.5**	**-0.4**
PB11				*eS*	**Sn**	**11 08 34.4**	**+0.1**
PB11				IAML		11 08 37.7	
	comp=Z,966nm,0.3s						
PB06	**IPOC Station P**	**1.73**	**206**	⇑*iP*	**Pn**	**11 08 13.4**	**+0.2**
PB06				*i* S	**Sn**	**11 08 37.0**	**+0.1**
PB06				IAML		11 08 38.0	
	comp=E,3μm,0.4s						
PB06	**IPOC Station P**	**1.73**	**206**	*eP*	**Pn**	**11 08 13.4**	**+0.2**
PB06				*eS*	**Sn**	**11 08 37.6**	**+0.8**
PB06				IAML		11 08 38.3	
	comp=Z,1μm,0.5s						
PB15	**IPOC Station P**	**2.16**	**198**	⇑*iP*	**Pn**	**11 08 18.5**	**+0.1**
PB15				*i* S	**Sn**	**11 08 46.6**	**+0.4**
PB15	**IPOC Station P**	**2.16**	**198**	*eP*	**Pn**	**11 08 18.6**	**+0.1**
PB15				*eS*	**Sn**	**11 08 47.1**	**+0.9**
PB15				IAML		11 08 53.7	
	comp=Z,2μm,0.1s						
PB10	**IPOC Station P**	**2.89**	**215**	*eP*	**Pn**	**11 08 27.4**	**-0.1**
PB10				IAML		11 09 25.2	
	comp=N,237nm,0.5s						
PB10	**IPOC Station P**	**2.89**	**215**	*eP*	**Pn**	**11 08 27.3**	**-0.1**
PB10				*eP*	**Pn**	**11 08 27.6**	**+0.1**
PB10				*eS*	**Sn**	**11 09 01.7**	**-0.7**
PB12	**IPOC Station P**	**2.92**	**329**	Pn	**Pn**	**11 08 27.5**	**-0.5**
PB12	**IPOC Station P**	**2.92**	**329**	⇑*iP*	**Pn**	**11 08 26.5**	**-1.4**
PB12				*i* S	**Sn**	**11 09 00.6**	**-2.6**
PB12				IAML		11 09 09.4	
	comp=N,680nm,0.4s						
PB12	**IPOC Station P**	**2.92**	**329**	*eP*	**Pn**	**11 08 27.1**	**-0.9**
PB12				*eP*	**Pn**	**11 08 27.1**	**-0.9**
PB12				*eS*	**Sn**	**11 09 02.5**	**-0.7**
PB12				IAML		11 09 08.5	
	comp=Z,362nm,0.5s						
YJA	**Yavi**	**3.18**	**109**	*eP*	**Pn**	**11 08 32.0**	**+0.4**
YJA				*eS*	**Sn**	**11 09 10.7**	**+0.9**
HJA	**Humahuaca**	**3.72**	**124**	*eP*	**Pn**	**11 08 39.0**	**+0.4**
HJA				*eP*	**Pn**	**11 08 39.5**	**+0.9**
HJA				*eS*	**Sn**	**11 09 28.1**	**+5.9**
GO02	**Mina Guanaco**	**4.08**	**191**	Pn	**Pn**	**11 08 42.1**	**-1.2**
GO02	**Mina Guanaco**	**4.08**	**191**	*eP*	**Pn**	**11 08 42.2**	**-1.2**
GO02	**Mina Guanaco**	**4.08**	**191**	*eP*	**Pn**	**11 08 42.6**	**-0.7**
GO02				*eS*	**Sn**	**11 09 29.8**	**-0.9**
LPAZ	**La Paz**	**4.86**	**7**	P	**Pn**	**11 08 54.5**	**+0.4**
	comp=Z,10nm,0.3s,baz=202,slow=4.5,SNR=227						
LPAZ	**La Paz**	**4.86**	**7**	*eP*	**Pn**	**11 08 54.4**	**+0.3**
AC01	**Pan de Azucar**	**5.27**	**198**	Pn	**Pn**	**11 08 57.2**	**-1.7**
AC01	**Pan de Azucar**	**5.27**	**198**	*eP*	**Pn**	**11 08 57.0**	**-1.9**
AC01				*eS*	**Sn**	**11 09 54.5**	**-4.1**
AC02	**Maricunga**	**5.68**	**183**	*eP*	**Pn**	**11 09 04.2**	**-0.7**
AC02				*eS*	**Sn**	**11 10 09.4**	**+0.1**
GO03	**Copiap**	**6.57**	**192**		**Pn**	**11 09 13.6**	**-2.8**
GO03	**Copiap**	**6.57**	**192**	*eP*	**Pn**	**11 09 13.7**	**-2.7**
GO03				*eS*	**Sn**	**11 10 27.1**	**-3.0**
VCA	**Vinchina**	**7.58**	**176**	*eP*	**Pn**	**11 09 29.0**	**-1.2**
LCO	**Las Campanas**	**8.03**	**192**	Pn	**Pn**	**11 09 32.1**	**-4.3**
LCO	**Las Campanas**	**8.03**	**192**	*eP*	**Pn**	**11 09 33.0**	**-3.4**
ACLC	**CERRO LA CRUZ**	**8.41**	**169**	*eP*	**Pn**	**11 09 39.0**	**-2.3**
ACLC				*eP*	**Pn**	**11 09 39.5**	**-1.8**
CO01	**Juntas del Tor**	**8.88**	**188**		**Pn**	**11 09 45.6**	**-2.1**
CO01	**Juntas del Tor**	**8.88**	**188**	*eP*	**Pn**	**11 09 46.0**	**-1.8**
SIV	**San Ignacio**	**8.90**	**56**	P	**Pn**	**11 09 43.3**	**-4.6**
	comp=Z,20nm,0.3s,baz=249,slow=10.0,SNR=273						
ACDV	**Cuesta del Vie**	**9.00**	**182**	*eP*	**Pn**	**11 09 47.0**	**-2.3**
APLL	**PUNTA DE LOS L**	**9.43**	**168**	*eP*	**Pn**	**11 09 52.0**	**-3.0**
APLL				*eP*	**Pn**	**11 09 53.0**	**-2.0**
PTLB	**Pontes e Lacer**	**10.74**	**60**	*eP*	**Pn**	**11 10 08.1**	**-4.5**
VILB	**Vilhena**	**11.53**	**46**	*eP*	**Pn**	**11 10 20.2**	**-3.0**
CPUP	**Villa Florida**	**11.66**	**118**	*eP*	**Pn**	**11 10 25.0**	**-0.3**
AQDB	**Aquidauana**	**12.22**	**89**	*eP*	**Pn**	**11 10 32.1

ASAR	**Alice Springs**	**130.30**	**208**	PKP		**PKiKP**	**11**	**26**	**39.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=128,slow=1.8,SNR=12									
WRA	**Warramunga Arr**	**133.34**	**210**	PKP		**PKiKP**	**11**	**26**	**45.2**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=168,slow=1.8,SNR=16									
WRA	**Warramunga Arr**	**133.34**	**210**			**PKiKP**	**11**	**26**	**45.4**	**+0.4**
ZALV	**Zalesovo Beam**	**141.56**	**25**	PKP		**PKPdf**	**11**	**26**	**59.0**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=262,slow=1.6,SNR=5.0									
ZALV	**Zalesovo Beam**	**141.56**	**25**			**PKPdf**	**11**	**26**	**58.4**	**+0.6**
MKAR	**Makanchi Array**	**145.25**	**36**	PKPbc		**PKPab**	**11**	**27**	**05.8**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=316,slow=3.3,SNR=26									
MKAR	**Makanchi Array**	**145.25**	**36**			**PKPab**	**11**	**27**	**05.6**	**+0.9**
PZH	**PanZhiHua**	**169.79**	**57**	PKP		**PKPdf**	**11**	**27**	**35.1**	**0.0**

*IDC **17** 11:11:27.9±1.2, 14.°18S×166.°36E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/36, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=35.8km s-min=27.6km az=93.0*
*NOU **17** 11:11:32.0, 14.°36S×166.°58E, h0km, MLv4.7/12, Vanuatu Islands*
*NEIC **17** 11:11:33.3±2.6, 14.°24S±0.°02×166.°6E±0.°1, h35km±2km, mb4.4/14, Error ellipse: s-maj=18.7km s-min=3.9km az=93.0*

ISC 17 11:11:32.7±0.7, **14.°26S**±0.°08×**166.°6E**±0.°1, **h35**km, **n36**, σ1§**60**/38, **mb4.2**/13, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.33**	**152**	Pn		**Pn**		**11 11 54.2**	**-0.6**
SANVU	**Saraoutou**	**1.33**	**152**	P		**Pn**		**11 11 54.3**	**-0.5**
DVP	**Devils Point**	**3.78**	**156**	P		**Pn**		**11 12 30.6**	**+2.1**
KOUNC	**Koumac, New Ca**	**6.62**	**199**			**Pn**		**11 13 08.7**	**+1.2**
KOUNC	**Koumac, New Ca**	**6.62**	**199**	P		**Pn**		**11 13 09.2**	**+1.6**
YATNC	**Mamie plateau,**	**7.76**	**178**	P		**Pn**		**11 13 24.4**	**+1.2**
DZM	**Mont Dzumac**	**7.77**	**181**	Pn		**Pn**		**11 13 23.0**	**-0.4**
	1.9nm,0.3s,baz=60,slow=8.4,SNR=18								
DZM					Sn	**Sn**		**11 14 47.1**	**-3.1**
	0.3nm,0.3s,baz=319,slow=20,SNR=1.5								
DZM	**Mont Dzumac**	**7.77**	**181**			**Pn**		**11 13 23.1**	**-0.2**
DZM	**Mont Dzumac**	**7.77**	**181**	P		**Pn**		**11 13 23.3**	**-0.1**
NOUC	**Port Laguerre**	**7.80**	**182**	P		**Pn**		**11 13 25.9**	**+2.2**
ONTNC	**Ouen Toro**	**8.00**	**181**	Pn		**Pn**		**11 13 27.6**	**+1.1**
OUENC	**Ouen Island, N**	**8.12**	**178**	P		**Pn**		**11 13 30.4**	**+2.3**
PINNC	**Pines Island,**	**8.35**	**174**	P		**Pn**		**11 13 33.2**	**+2.0**
BKZ	**Black Stump Fm**	**26.30**	**162**	P		**P**		**11 17 05.7**	**+0.6**
BKZ					IAmb	IAmb		11 17 30.6	
	comp=Z,18nm,1.4s								
MLZ	**Mavora Lakes**	**31.03**	**178**	P		**P**		**11 17 45.6**	**-1.6**
WR0	**Warramunga Arr**	**31.09**	**255**	P		**P**		**11 17 45.0**	**-3.0**
WB0	**Warramunga Arr**	**31.22**	**255**	P		**P**		**11 17 46.3**	**-2.8**
WB0					IAmb	IAmb		11 18 04.7	
	comp=Z,6.8nm,1.4s								
WB2	**Warramunga Arr**	**31.27**	**255**	P		**P**		**11 17 49.4**	**-0.2**
WB2					IAmb	IAmb		11 18 03.2	
	comp=Z,4.8nm,1.2s								
WRA	**Warramunga Arr**	**31.28**	**255**	P		**P**		**11 17 47.7**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=87,slow=7.8,SNR=5.3								
WRA	**Warramunga Arr**	**31.28**	**255**	P		**P**		**11 17 48.0**	**-1.7**
ASAR	**Alice Springs**	**32.21**	**248**	P		**P**		**11 17 56.3**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=74,slow=9.5,SNR=14								
ASAR					PcP	**PcP**		**11 20 45.7**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=73,slow=3.1,SNR=2.2								
ASAR	**Alice Springs**	**32.21**	**248**	P		**P**		**11 17 56.6**	**-1.1**
BBOO	**Buckleboo**	**33.33**	**231**	P		**P**		**11 18 07.7**	**+0.2**
KNRA	**Kununurra**	**36.52**	**263**	P		**P**		**11 18 35.7**	**+0.6**
KNRA					IAmb	IAmb		11 18 37.9	
	comp=Z,11nm,1.2s								
XMAS	**Kiritimati**	**39.16**	**68**	P		**P**		**11 18 55.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**39.43**	**259**	P		**P**		**11 18 58.7**	**-1.1**
VNDA	**Vanda**	**63.31**	**181**	P		**P**		**11 21 59.1**	**+1.5**
	comp=Z,1.1nm,0.9s,baz=8.3,slow=5.9,SNR=7.3								
VNDA	**Vanda**	**63.31**	**181**	P		**P**		**11 21 59.6**	**+1.9**
VNDA					IAmb	IAmb		11 22 02.7	
	comp=Z,2.7nm,1.1s								
SBA	**Scott Base**	**63.60**	**180**			**P**		**11 22 02.6**	**+3.0**
SBA					IAmb	IAmb		11 22 03.3	
	comp=Z,4.5nm,0.8s								
CASY	**Casey**	**63.70**	**202**	P		**P**		**11 22 01.1**	**+0.8**
CASY					IAmb	IAmb		11 22 24.2	
	comp=Z,14nm,1.5s								
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P		**P**		**11 23 06.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=126,slow=5.7,SNR=5.2								
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P		**P**		**11 23 05.0**	**-1.1**
QSPA	**South Pole Qui**	**75.76**	**180**	P		**P**		**11 23 15.7**	**+0.9**
QSPA					IAmb	IAmb		11 23 16.7	
	comp=Z,3.0nm,0.9s								
IMAR	**Indian Mountai**	**85.30**	**15**	P		**P**		**11 24 06.9**	**+1.3**
ILAR	**Eielson Array**	**86.30**	**18**	P		**P**		**11 24 10.4**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=242,slow=5.0,SNR=6.5								
MKAR	**Makanchi Array**	**96.40**	**317**	P		**P**		**11 24 58.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=98,slow=5.1,SNR=4.0								

*IDC **17** 11:30:04.3±1.8, 32.°73N×130.°82E, h0km, mb3.2/1, mb1 3.5/2, mb1mx3.1/42, mbtmp3.2/2, ML2.3/1, Error ellipse: s-maj=36.9km s-min=11.0km az=93.0*
*JMA **17** 11:30:08.3, 32.°98N×131.°09E, h11km±1km, M3.5*
JMA Felt II J1.

ISC 17 11:30:09.8±1.3, **32.°96N**±0.°06×**131.°06E**±0.°08, **h10**km, **n6**, σ1§**68**/6, **1D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.22**	**317**	Pg		**Pg**		**11 30 12.7**	**-1.8**
	900nm,0.3s,baz=106,slow=7.0,SNR=186								
JNU				Lg		Lg		11 30 16.4	
	1um,0.3s,baz=297,slow=19,SNR=40								
JTA	**Tamana**	**0.44**	**271**	⇓P		**Pg**		**11 30 17.6**	**-0.9**
JTA					*e*S	**Sg**		**11 30 24.3**	**0.0**
JIU3	**Izumi3**	**0.46**	**207**	P		**Pg**		**11 30 17.8**	**-0.9**
KSRS	**Korea Array**	**5.17**	**331**	Pg		**Pb**		**11 31 42.1**	**+1.9**
	baz=146,slow=16,SNR=3.1								
KSRS					Lg	Lg		11 32 50.8	
	0.7nm,0.3s,baz=157,slow=29,SNR=4.3								
MJAR	**Matsushiro Arr**	**6.88**	**57**	Pn		**Pn**		**11 31 50.5**	**-0.2**
	0.1nm,0.3s,baz=229,slow=9.2,SNR=1.4								
WRA	**Warramunga Arr**	**52.69**	**176**	P		P		11 39 17.8	-6.8
	0.2nm,0.7s,baz=358,slow=7.5,SNR=1.7								

*IDC **17** 11:34:40.6±1.3, 35.°73N×140.°31E, h65km±12km, mb3.6/20, mb1 3.8/23, mb1mx3.7/42, mbtmp3.9/23, MS3.3/1, Ms1 3.5/1, ms1mx2.6/85, Error ellipse: s-maj=14.9km s-min=7.5km az=73.0*
*NIED **17** 11:34:41.2, 35.°81N×140.°20E, h59km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr1.65; Mθθ-0.19; Mφφ-1.46; Mrθ-0.11; Mθφ-0.09; Mφr1.37; Fault plane solution: M0 2.08000×10^15^ NP1: φs188.00000°, δ25.00000°, λ99.00000°. NP2: φs359.00000°, δ66.00000°, λ86.00000°.*
*NEIC **17** 11:34:41.4±1.8, 35.°82N±0.°05×140.°22E±0.°09, h60km±4km, mb4.4/38 Error ellipse: s-maj=10.2km s-min=7.0km az=105.0*
*JMA **17** 11:34:41.1±0.1, 35.°81N×140.°20E, h59km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φs10.00000°, δ79.00000°, λ91.00000°. NP2: φs185.00000°, δ11.00000°, λ85.00000°. Principal axes: T Plg56.0000°, Azm281.0000°; N Plg1.0000°, Azm190.0000°; P Plg34.0000°, Azm99.0000°;*
JMA Felt II J1.

ISC 17 11:34:40.7±0.7, **35.°77N**±0.°04×**140.°28E**±0.°05, **h62**km±6km, **n116**, σ1§**20**/120, **mb4.2**/40, **3C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.19**	**133**	⇑P		**Pn**		**11 34 51.5**	**+1.1**
JIHU	**Itakohorinouch**	**0.28**	**46**	⇑P		**Pn**		**11 34 51.6**	**+0.7**
TOK	**Tokyo**	**0.43**	**258**	P		**Pn**		**11 34 53.1**	**+1.0**
JYT	**Yasato**	**0.46**	**351**	⇑P		**Pn**		**11 34 52.2**	**-0.2**
JYT				S		**Sn**		**11 35 00.6**	**-0.4**
JYT	**Yasato**	**0.46**	**351**			**Pn**		**11 34 52.4**	**-0.1**
JAG	**Ashikaga**	**0.93**	**314**	⇓P		**Pn**		**11 34 57.7**	**-0.3**
JAG				S		**Sn**		**11 35 09.9**	**-0.8**
BSO3	**Boso 3**	**0.99**	**169**	P		**Pn**		**11 34 59.0**	**+0.6**
BSO3					*e*S	**Sn**		**11 35 13.2**	**+1.6**
JOD2	**Odawara 2**	**1.10**	**243**	⇓P		**Pn**		**11 34 59.6**	**-0.5**
JOD2				S		**Sn**		**11 35 13.2**	**-1.4**
JRY	**Ryogami san**	**1.14**	**283**	⇓P		**Pn**		**11 35 00.8**	**+0.1**
JIM2	**Oshima 3**	**1.26**	**214**	P		**Pn**		**11 35 01.7**	**-0.6**
JIM2				S		**Sn**		**11 35 16.6**	**-1.8**
JKT	**Katashina**	**1.29**	**320**	⇓P		**Pn**		**11 35 02.5**	**-0.3**
JKT				*e*S		**Sn**		**11 35 19.0**	**-0.3**
MJAR	**Matsushiro Arr**	**1.84**	**295**	P		**Pn**		**11 35 09.6**	**-0.5**
	12nm,0.3s,baz=87,slow=10,SNR=394								
MJAR				S		**Sn**		**11 35 33.7**	**+1.3**
	8.3nm,0.3s,baz=197,slow=25,SNR=2.9								
MAJO	**Matsushiro**	**1.84**	**295**			**Pn**		**11 35 10.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**1.85**	**295**			**Pn**		**11 35 10.2**	**+0.1**
JMM	**Marumori**	**2.13**	**11**			**Pn**		**11 35 14.3**	**+0.4**
JGF	**Kuroka**	**2.38**	**267**			**Pn**		**11 35 18.0**	**+0.5**
JHJ	**Hachijo jima 2**	**2.68**	**189**	P		**Pn**		**11 35 22.1**	**+0.6**
	120nm,0.3s,baz=112,slow=3.5,SNR=17								
JHJ				S		**Sn**		**11 35 51.9**	**-0.9**
	190nm,0.3s,baz=80,slow=22,SNR=12								
JHJ2	**Mitsune**	**2.68**	**188**			**Pn**		**11 35 22.5**	**+1.0**
INU	**Inuyama**	**2.69**	**262**			**Pn**		**11 35 21.9**	**+0.3**
JSD	**Sado**	**2.78**	**325**	Pn		**Pn**		**11 35 23.3**	**+0.5**
JTM	**Tenmabayashi**	**5.04**	**7**	Pn		**Pn**		**11 35 54.5**	**+0.8**
JHS	**Saijyo**	**5.90**	**265**	Pn		**Pn**		**11 36 06.5**	**+1.0**
JEW	**Eniwo**	**7.11**	**7**	Pn		**Pn**		**11 36 22.9**	**+0.8**
ASAJ	**Asahikawa**	**8.52**	**11**	P		**Pn**		**11 36 39.8**	**-1.5**
	1.0nm,0.3s,baz=226,slow=13,SNR=11								
ASAJ				S		**Sn**		**11 38 09.7**	**-6.1**
	0.6nm,0.3s,baz=332,slow=32,SNR=1.1								
JKA	**Kamikawa-asahi**	**8.52**	**11**	Pn		**Pn**		**11 36 39.9**	**-1.5**
JCJ	**Chichijima**	**8.80**	**169**	P		Pn		11 36 41.4	-3.9
	14nm,0.3s,baz=312,slow=20,SNR=8.4								
JCJ				S		Sn		11 38 12.1	-11
	9.7nm,0.3s,baz=308,slow=24,SNR=2.5								
JCJ	**Chichijima**	**8.80**	**169**	Pn		**Pn**		**11 36 42.6**	**-2.7**
KSRS	**Korea Array**	**10.07**	**283**	P		**Pn**		**11 37 06.0**	**+3.4**
	0.6nm,0.3s,baz=97,slow=14,SNR=18								
KSAR	**Wonju Array Be**	**10.10**	**283**	Pn		**Pn**		**11 37 05.4**	**+2.5**
KS19	**Wonju Array Si**	**10.12**	**283**	Pn		**Pn**		**11 37 04.6**	**+1.4**
USRK	**Ussuriysk Ar.**	**10.54**	**325**	P		**Pn**		**11 37 10.6**	**+1.6**
	baz=130,slow=13,SNR=2.6								
USRK	**Ussuriysk Ar.**	**10.54**	**325**			**Pn**		**11 37 08.4**	**-0.5**
NJ2	**Nanjing**	**18.16**	**264**	*e*P		**Pn**		**11 38 49.0**	**+0.5**
NJ2					pmax	pmax			
	comp=Z,6.0nm,0.5s								
BJI	**Beijing**	**19.47**	**290**	P		**P**		**11 39 02.3**	**-0.1**
BJI					pmax	pmax			
	comp=Z,5.0nm,0.7s								
HHC	**Hu-ho-hao-te**	**23.04**	**291**	*e*P		**P**		**11 39 40.8**	**+0.1**
HHC					pmax	pmax			
	comp=Z,14nm,0.8s								
HHC					pmax	pmax			
	comp=Z,190nm,5.7s								
MA2	**Magadan**	**24.78**	**13**	P		**P**		**11 39 57.4**	**+1.0**
	comp=Z,2.5nm,0.6s,baz=196,slow=7.9,SNR=5.3								
MA2	**Magadan**	**24.78**	**13**	P		**P**		**11 39 57.0**	**+0.6**
ENH	**Enshi**	**26.33**	**267**	P		**P**		**11 40 09.4**	**-1.4**
SONM	**Songino Array**	**27.76**	**306**	P		**P**		**11 40 22.3**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=110,slow=9.7,SNR=4.4								
SONM	**Songino Array**	**27.76**	**306**	P		**P**		**11 40 22.3**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**28.34**	**117**	T		T		12 09 56.9	
	baz=309,slow=75,SNR=15								
H11N1	**WAKE ISLAND Hy**	**28.35**	**117**	T		T		12 09 59.1	
	baz=309,slow=75,SNR=18								
H11N3	**WAKE ISLAND Hy**	**28.36**	**117**	T		T		12 09 57.4	
	baz=309,slow=75,SNR=14								
H11S1	**WAKE ISLAND Hy**	**28.99**	**119**	T		T		12 10 41.7	
	baz=317,slow=74,SNR=12								
H11S3	**WAKE ISLAND Hy**	**28.99**	**119**	T		T		12 10 38.8	
	baz=317,slow=74,SNR=8.8								
H11S2	**WAKE ISLAND Hy**	**29.01**	**119**	T		T		12 10 39.4	
	baz=317								
PZH	**PanZhiHua**	**34.07**	**265**	P		**P**		**11 41 21.0**	**+1.6**
PZH					pmax	pmax			
	comp=Z,10.0nm,0.6s								
PZH					pmax	pmax			
	comp=Z,170nm,6.0s								
TIXI	**Tiksi**	**36.44**	**354**	P		**P**		**11 41 38.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=90,slow=23,SNR=5.1								
TIXI	**Tiksi**	**36.44**	**354**	P		**P**		**11 41 37.8**	**-1.1**
TIXI					IAmb	IAmb		11 41 41.5	
	comp=Z,2.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**40.30**	**256**	P		**P**		**11 42 11.5**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=53,slow=7.6,SNR=1.8								
CMAR					LR	LR		11 59 18.6	
	comp=Z,37nm,18.4s,baz=170,slow=37								
WMQ	**Urumqi**	**40.60**	**298**	*e*P		**P**		**11 42 16.6**	**+2.2**
ZAA0	**Zalesovo Array**	**42.10**	**313**	P		**P**		**11 42 26.3**	**-0.1**
ZAA0					IAmb	IAmb		11 42 28.6	
	comp=Z,2.9nm,0.6s								
ZALV	**Zalesovo Beam**	**42.10**	**313**	P		**P**		**11 42 26.5**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=100,slow=7.9,SNR=8.4								
ZALV					PcP	**PcP**		**11 44 19.4**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=90,slow=1.4,SNR=3.5								
MK31	**Makanchi Array**	**44.02**	**303**	P		**P**		**11 42 42.3**	**+0.2**
MKAR	**Makanchi Array**	**44.02**	**303**	P		**P**		**11 42 42.0**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=89,slow=10,SNR=22								
MKAR					PcP	**PcP**		**11 44 26.7**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=94,slow=5.5,SNR=2.4								
MKAR	**Makanchi Array**	**44.02**	**303**	P		**P**		**11 42 42.7**	**+0.6**
MAKZ	**Makanchi**	**44.23**	**303**	P		**P**		**11 42 43.3**	**-0.4**
MAKZ					IAmb	IAmb		11 42 44.8	
	comp=Z,4.1nm,0.9s								
SAUI	**Saumlaki**	**44.34**	**193**	P		**P**		**11 42 45.1**	**+0.3**
KURK	**Kurchatov**	**46.00**	**309**	P		**P**		**11 42 57.5**	**-0.1**
A21K	**Barrow**	**47.97**	**23**	P		**P**		**11 43 14.6**	**+2.0**
A21K					IAmb	IAmb		11 43 15.2	
	comp=Z,4.1nm,0.8s								
TARG	**Taragay, Kyrgy**	**48.15**	**297**	P		**P**		**11 43 16.4**	**+1.4**
TARG					IAmb	IAmb		11 43 22.6	
	comp=Z,4.3nm,0.8s								
KDJ	**Kajisay**	**48.50**	**298**	P		**P**		**11 43 17.1**	**-0.3**
KDJ					IAmb	IAmb		11 43 25.8	
	comp=Z,5.0nm,1.4s								
MTN	**Manton Dam**	**49.12**	**192**	P		**P**		**11 43 21.8**	**-0.3**
MTN					IAmb	IAmb		11 43 22.2	
	comp=Z,7.1nm,0.9s								
BOOM	**Boomskoye usch**	**49.30**	**298**	P		**P**		**11 43 24.1**	**+0.6**
BOOM					IAmb	IAmb		11 43 41.2	
	comp=Z,5.0nm,1.1s								
COEN	**Coen**	**49.54**	**176**	P		**P**		**11 43 26.6**	**+1.3**
KSH	**Kashi**	**50.09**	**295**	P		**P**		**11 43 32.6**	**+3.1**
MDM	**Murphy Dome**	**50.47**	**32**	P		**P**		**11 43 34.0**	**+2.1**
MDM					IAmb	IAmb		11 43 51.6	
	comp=Z,3.1nm,0.8s								
ILAR	**Eielson Array**	**51.05**	**32**	P		**P**		**11 43 35.0**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=261,slow=6.3,SNR=5.1								
ILAR	**Eielson Array**	**51.05**	**32**	P		**P**		**11 43 35.8**	**-0.5**
BMAR	**Burnt Mountain**	**51.87**	**28**	P		**P**		**11 43 43.4**	**+1.0**
KNRA	**Kununurra**	**52.32**	**194**	P		**P**		**11 43 46.0**	**-0.2**
KK31	**Karatay Array**	**52.97**	**301**	P		**P**		**11 43 50.5**	**-0.4**
KK31					IAmb	IAmb		11 43 54.0	
	comp=Z,6.6nm,1.4s								
KKAR	**Karatay Array**	**52.97**	**301**	P		**P**		**11 43 51.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**55.34**	**197**	P		**P**		**11 44 08.3**	**+0.1**
FITZ					IAmb	IAmb		11 44 08.5	
	comp=Z,2.9nm,0.8s								
WB0	**Warramunga Arr**	**55.52**	**187**	P		**P**		**11 44 09.8**	**+0.3**
WB0					IAmb	IAmb		11 44 27.1	
	comp=Z,6.5nm,0.8s								
WRAB	**Tennant Creek**	**55.69**	**187**	P		**P**		**11 44 10.4**	**-0.2**
WR0	**Warramunga Arr**	**55.70**	**187**	P		**P**		**11 44 09.9**	**-0.8**
WR0					IAmb	IAmb		11 44 12.1	
	comp=Z,4.3nm,0.7s								
WB2	**Warramunga Arr**	**55.70**	**187**	P		**P**		**11 44 10.5**	**-0.2**
WB2					IAmb	IAmb		11 44 28.3	
	comp=Z,7.1nm,1.0s								
WRA	**Warramunga Arr**	**55.70**	**187**	P		**P**		**11 44 09.7**	**-1.1**
	comp=Z,3.1nm,0.6s,baz=0.0,slow=7.5,SNR=58								
WRA	**Warramunga Arr**	**55.70**	**187**	P		**P**		**11 44 10.5**	**-0.2**
HYT	**Haines Junctio**	**55.85**	**36**	P		**P**		**11 44 13.2**	**+1.6**
HYT					IAmb	IAmb		11 44 37.0	
	comp=Z,6.2nm,1.2s								
INK	**Inuvik**	**55.92**	**27**	P		**P**		**11 44 12.0**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=285,slow=7.2,SNR=3.5								
INK	**Inuvik**	**55.92**	**27**	P		**P**		**11 44 12.9**	**+1.2**
INK					IAmb	IAmb		11 44 20.4	
	comp=Z,1.9nm,1.1s								
ARU	**Arti**	**56.70**	**319**	P		**P**		**11 44 17.0**	**-0.6**
A36M	**Sachs Harbour**	**57.77**	**22**	P		**P**		**11 44 27.1**	**+2.3**
A36M					IAmb	IAmb		11 44 28.6	
	comp=Z,3.1nm,0.8s								
ABKAR	**Akbulak array**	**58.05**	**310**	P		**P**		**11 44 27.3**	**+0.1**
ABKAR					IAmb	IAmb		11 44 27.7	
	comp=Z,5.5nm,1.2s								
ABKAR	**Akbulak array**	**58.05**	**310**	P		**P**		**11 44 27.2**	**0.0**
AS31	**Alice Springs**	**59.42**	**187**	P		**P**		**11 44 38.4**	**+1.5**
ASAR	**Alice Springs**	**59.42**	**187**	P		**P**		**11 44 36.6**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=20,slow=11,SNR=29								
ASAR	**Alice Springs**	**59.42**	**187**	P		**P**		**11 44 37.8**	**+0.8**
EUNU	**Eureka**	**61.56**	**8**	P		**P**		**11 44 51.5**	**+0.6**
RES	**Resolute Bay**	**64.04**	**14**	P		**P**		**11 45 08.5**	**+1.2**
RES					IAmb	IAmb		11 45 36.9	
	comp=Z,2.6nm,1.3s								
YKA	**Yellowknife Ar**	**65.35**	**30**	P		**P**		**11 45 16.3**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=296,slow=6.5,SNR=5.6								
YKA	**Yellowknife Ar**	**65.35**	**30**	P		**P**		**11 45 16.5**	**+0.5**
FORT	**Forrest**	**67.19**	**191**	P		**P**		**11 45 29.5**	**+1.4**
STKA	**Stephens Creek**	**67.31**	**179**	P		**P**		**11 45 28.8**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=354,slow=19,SNR=3.5								
STKA	**Stephens Creek**	**67.31**	**179**	P		**P**		**11 45 29.1**	**+0.3**
FINES	**FINESS Array B**	**69.50**	**332**	P		**P**		**11 45 41.5**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=90,slow=9.5,SNR=6.0								
FINES	**FINESS Array B**	**69.50**	**332**	P		**P**		**11 45 42.8**	**+0.6**
KBZ	**Khabaz**	**71.02**	**311**	P		**P**		**11 45 52.1**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=117,slow=9.3,SNR=4.0								
AKASG	**Malin Array Be**	**74.73**	**322**	P		**P**		**11 46 13.0**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=47,slow=5.6,SNR=4.9								
NC204	**NORSAR Array S**	**74.95**	**337**	P		**P**		**11 46 14.3**	**-0.6**
NB2	**NORSAR Subarra**	**74.99**	**337**	P		**P**		**11 46 14.8**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=41,slow=5.9								
NOA	**NORSAR Array B**	**74.99**	**337**	P		**P**		**11 46 14.2**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=40,slow=5.8,SNR=5.5								
NVAR	**Mina Array Bea**	**76.48**	**52**	P		**P**		**11 46 23.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=305,slow=5.2,SNR=4.6								
NVAR	**Mina Array Bea**	**76.48**	**52**	P		**P**		**11 46 25.7**	**+1.5**
BURAR	**Bucovina Array**	**78.72**	**321**	P		**P**		**11 46 36.4**	**0.0**
BRTR	**Keskin Array B**	**78.99**	**311**	P		**P**		**11 46 38.2**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=85,slow=3.1,SNR=4.3								
BW06	**Boulder Array**	**79.20**	**45**	P		**P**		**11 46 40.0**	**+0.7**
PDAR	**Pinedale Array**	**79.20**	**45**	P		**P**		**11 46 39.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=270,slow=2.4,SNR=5.1								
PDAR	**Pinedale Array**	**79.20**	**45**	P		**P**		**11 46 39.9**	**+0.6**
SOCY	**Socotra**	**80.01**	**278**	P		**P**		**11 46 42.2**	**-1.6**
SOCY					IAmb	IAmb		11 46 42.8	
	comp=Z,4.6nm,0.9s								
GERES	**GERESS Array B**	**83.29**	**328**	P		**P**		**11 46 59.3**	**-1.4**
TXAR	**Lajitas Array**	**91.62**	**52**	P		**P**		**11 47 42.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=283,slow=2.9,SNR=4.5								
TORD	**Torodi Ar. Bea**	**117.55**	**313**	PKP		**PKPdf**		**11 53 18.7**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=345,slow=3.3,SNR=1.5								
LPAZ	**La Paz**	**148.12**	**60**	PKPbc		**PKPbc**		**11 54 20.0**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=35,slow=5.6,SNR=4.3								

*IDC **17** 11:40:22.8±1.0, 7.°03N×73.°19W, h152km±22km

MSVF	**Nonsavu**	**4.82**	**238**	P		**Pn**	**12 02 38.2**	**-0.5**
	6.1nm,0.3s,baz=74,slow=11,SNR=10							
DZM	**Mont Dzumac**	**16.52**	**243**	P		**P**	**12 04 48.8**	**+1.3**
	0.2nm,0.3s,baz=131,slow=13,SNR=2.5							
URZ	**Urewera**	**23.44**	**190**	P		**P**	**12 05 52.7**	**-1.2**
	7.1nm,0.8s,baz=173,slow=11,SNR=1.5							
STKA	**Stephens Creek**	**40.60**	**239**	P		**P**	**12 08 21.9**	**+0.5**
	0.5nm,0.4s,baz=54,slow=8.7,SNR=3.6							
WRA	**Warramunga Arr**	**45.87**	**257**	P		**P**	**12 09 02.5**	**-0.7**
	0.4nm,0.6s,baz=85,slow=6.4,SNR=25							
ASAR	**Alice Springs**	**46.25**	**252**	P		**P**	**12 09 06.5**	**+0.4**
	5.1nm,0.3s,baz=85,slow=8.4,SNR=146							
NVAR	**Mina Array Bea**	**76.99**	**44**	P		**P**	**12 12 28.6**	**-0.1**
	0.3nm,0.6s,baz=217,slow=4.3,SNR=2.4							
ILAR	**Eielson Array**	**83.09**	**13**	P		**P**	**12 12 58.6**	**-1.5**
	0.2nm,0.4s,baz=221,slow=5.9,SNR=4.7							
TXAR	**Lajitas Array**	**83.95**	**58**	P		**P**	**12 13 07.1**	**+1.7**
	0.2nm,0.6s,baz=236,slow=6.4,SNR=2.9							

IDC ***17*** *12:02:01.9±1.3, 0.˚35N×80.˚48W, h0km, mb3.4/8, mb1 3.7/9, mb1mx3.5/38, mbtmp3.5/9, ML2.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/33, Error ellipse: s-maj=49.7km s-min=21.3km az=48.0*

IGQ ***17*** *12:02:02±0.9, 0.˚N±5.˚×8.˚1W±.˚, h5km*

ISC 17 12:02:03.6±0.8, 0˚31N±0˚05×80˚68W±0˚07, h11km, n36, σ1§60/37, mb3.4/7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.74**	**140**	S	**Sn**	**12 02 30.0**	**-1.3**
JAMA				P	**Pb**	**12 02 18.0**	**-0.5**
MAG1	**Magdalena**	**0.98**	**113**	P	**Pg**	**12 02 22.0**	**-0.5**
MAG1				S	**Sn**	**12 02 39.0**	**+1.8**
FLF1	**Flavio Alfaro-**	**1.06**	**128**	P	**Pn**	**12 02 25.0**	**+0.5**
FLF1				S	**Sn**	**12 02 43.0**	**+3.7**
AV21	**Acelerografo,**	**1.19**	**73**	S	**Sb**	**12 02 41.0**	**-0.5**
AV21				P	**Pn**	**12 02 25.0**	**-1.1**
PINO	**Pino**	**2.12**	**103**	P	**Pn**	**12 02 39.0**	**-0.6**
GGPT	**Toaza - Volcan**	**2.12**	**104**	P	**Pn**	**12 02 39.0**	**-0.4**
CUSE	**Cuicocha Este**	**2.28**	**90**	*eP*	**Pn**	**12 02 40.8**	**-0.8**
CUSW	**Cuicocha Oeste**	**2.33**	**90**	P	**Pn**	**12 02 42.0**	**-0.2**
SUCR	**Mariscal Sucre**	**2.38**	**113**	P	**Pn**	**12 02 44.0**	**+1.0**
URCU	**Urcuqui**	**2.43**	**87**	P	**Pn**	**12 02 44.0**	**+0.4**
PORT	**Chimborazo Vol**	**2.59**	**133**	P	**Pn**	**12 02 47.0**	**+1.0**
YAHU	**Yahuarcocha**	**2.61**	**89**	P	**Pn**	**12 02 47.0**	**+0.9**
CHMA	**Chilma**	**2.67**	**78**	P	**Pn**	**12 02 45.0**	**-1.9**
CHL1	**Volc¡n Chiles**	**2.77**	**80**	P	**Pn**	**12 02 48.0**	**-0.5**
TULM	**Tulcn-Chalpat**	**2.92**	**82**	*eP*	**Pn**	**12 02 51.3**	**+0.8**
GR1C	**Gorgona, Isla**	**3.67**	**43**	*eP*	**Pb**	**12 03 10.3**	**+1.8**
CRUC	**La Cruz**	**3.93**	**71**	*eP*	**Pn**	**12 03 05.4**	**+1.2**
SOTA	**Rioblanco**	**4.46**	**66**	*eP*	**Pn**	**12 03 12.2**	**+0.6**
POPC	**Popayan, Colom**	**4.58**	**61**	*eP*	**Pn**	**12 03 11.2**	**-1.8**
PCON	**Cinco Dias**	**4.73**	**65**	*eP*	**Pn**	**12 03 19.0**	**+3.6**
MARP	**Paez Belalcaza**	**5.35**	**62**	*eP*	Pn	12 03 28.6	+4.9
YOTC	**Yotoco, Valle**	**5.66**	**50**	*eP*	**Pn**	**12 03 28.6**	**+0.7**
PLMC	**San Jos del P**	**6.34**	**44**	*eP*	Pb	12 03 48.9	-5.1
ORTC	**Ortega, Tolima**	**6.50**	**57**	*eP*	Pn	12 03 47.9	+8.6
MACC	**Macarena, Meta**	**7.07**	**75**	*eP*	**Pn**	**12 03 48.9**	**+1.8**
CBOC	**Ciudad Bolivar**	**7.22**	**40**	*eP*	**Pb**	**12 04 08.2**	**-1.0**
ROSC	**El Rosal**	**7.79**	**55**	Pn	**Pn**	**12 04 00.4**	**+3.2**
	1.1nm,0.3s,baz=84,slow=22,SNR=1.4						
SDV	**Santo Domingo**	**13.14**	**49**	Pn	**Pn**	**12 05 07.6**	**-2.9**
	0.1nm,0.3s,baz=38,slow=20,SNR=1.4						
LPAZ	**La Paz**	**20.62**	**144**	P	**P**	**12 06 42.7**	**-1.1**
	1.1nm,0.7s,baz=325,slow=18,SNR=5.0						
SIV	**San Ignacio**	**25.24**	**131**	P	**P**	**12 07 29.1**	**-0.8**
	0.3nm,0.4s,baz=310,slow=19,SNR=1.7						
SIV				LR	LR	12 18 47.0	
	comp=Z,124nm,18.5s,baz=70,slow=40						
TXAR	**Lajitas Array**	**36.25**	**325**	P	**P**	**12 09 06.0**	**-1.2**
	0.6nm,1.0s,baz=133,slow=4.0,SNR=3.8						
NVAR	**Mina Array Bea**	**51.29**	**322**	P	**P**	**12 11 10.2**	**+2.1**
	0.4nm,0.8s,baz=142,slow=11,SNR=3.3						
YKA	**Yellowknife Ar**	**67.05**	**344**	P	**P**	**12 12 56.9**	**+0.3**
	0.2nm,0.7s,baz=137,slow=6.1,SNR=5.2						
INK	**Inuvik**	**76.73**	**342**	P	**P**	**12 13 55.1**	**+0.5**
	0.7nm,1.0s,baz=111,slow=6.2,SNR=3.3						
ESDC	**Sonseca Array**	**79.59**	**50**	P	**P**	**12 14 11.6**	**+0.5**
	0.5nm,0.8s,baz=265,slow=5.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**82.50**	**77**	P	**P**	**12 14 24.7**	**-2.5**
	0.9nm,1.1s,baz=289,slow=4.4,SNR=3.0						

IDC ***17*** *12:04:29.4±1.1, 24.˚16S×69.˚54E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/41, mbtmp3.6/7, MS3.7/7, Ms1 3.6/7, ms1mx3.1/71, Error ellipse: s-maj=34.8km s-min=27.3km az=54.0*

ISC 17 12:04:31.1±1.1, 24˚25±0˚2×69˚5E±0˚2, h10km, n20, σ0§72/7, mb3.7/7, MS3.5/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.66**	**10**	T	T	12 25 23.1	
	baz=190,slow=76,SNR=22						
H08S2	**Diego Garcia H**	**16.66**	**10**	T	T	12 25 23.5	
	baz=190,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**16.68**	**10**	T	T	12 25 26.0	
	baz=190,slow=76,SNR=16						
PALK	**Pallekele**	**33.09**	**21**	LR	LR	12 21 25.1	
	comp=Z,99nm,20.1s,baz=294,slow=31						
BOSA	**Boshof**	**39.74**	**254**	LR	LR	12 25 16.5	
	comp=Z,144nm,21.8s,baz=49,slow=31						
LSZ	**Lusaka**	**39.79**	**275**	LR	LR	12 26 49.0	
	comp=Z,51nm,18.2s,baz=211,slow=34						
LBTB	**Lobatse**	**39.83**	**259**	LR	LR	12 25 44.1	
	comp=Z,67nm,18.5s,baz=114,slow=32						
H01W2	**Cape Leeuwin H**	**39.97**	**116**	T	T	12 54 28.7	
	baz=268						
H01W3	**Cape Leeuwin H**	**39.97**	**116**	T	T	12 54 27.9	
	baz=268						
H01W1	**Cape Leeuwin H**	**39.99**	**116**	T	T	12 54 28.7	
	baz=268						
TSUM	**Tsumeb**	**48.30**	**265**	LR	LR	12 31 23.5	
	comp=Z,54nm,19.4s,baz=148,slow=33						
CMAR	**Chiang Mai Arr**	**52.16**	**37**	P	**P**	**12 13 34.9**	**+0.3**
	0.5nm,0.7s,baz=209,slow=7.1,SNR=1.8						
ASAR	**Alice Springs**	**58.35**	**104**	P	**P**	**12 14 26.6**	**-0.4**
	0.6nm,0.6s,baz=252,slow=6.3,SNR=24						
WRA	**Warramunga Arr**	**59.75**	**100**	P	**P**	**12 14 36.2**	**-0.5**
	0.5nm,0.7s,baz=255,slow=7.4,SNR=7.1						
VNDA	**Vanda**	**67.10**	**166**	P	**P**	**12 15 24.6**	**+0.3**
	1.1nm,1.0s,baz=271,slow=6.6,SNR=5.4						
MKAR	**Makanchi Array**	**71.56**	**9**	P	**P**	**12 15 51.4**	**-0.8**
	0.3nm,0.6s,baz=190,slow=10,SNR=3.6						
TORD	**Torodi Ar. Bea**	**75.89**	**292**	P	**P**	**12 16 18.2**	**-0.1**
	0.7nm,0.9s,baz=90,slow=4.5,SNR=4.2						
DBIC	**Dimbokro**	**78.62**	**283**	LR	LR	12 47 31.6	
	comp=Z,56nm,21.3s,baz=145,slow=33						
SONM	**Songino Array**	**78.95**	**24**	P	**P**	**12 16 35.8**	**+0.9**
	0.5nm,0.8s,baz=214,slow=4.9,SNR=4.6						
NRIK	**Noril'sk**	**94.14**	**6**	LR	LR	12 59 44.3	
	comp=Z,53nm,18.2s,baz=58,slow=35						

IDC ***17*** *12:15:23.4±0.6, 8.˚32S×124.˚40E, h0km, mb4.4/14, mb1 4.4/18, mb1mx4.2/40, mbtmp4.4/18, ML4.2/4, MS3.6/17, Ms1 3.6/17, ms1mx3.3/69, Error ellipse: s-maj=23.2km s-min=13.4km az=59.0*

DJA ***17*** *12:15:26.5±0.2, 8.˚S±2.˚×12.˚5E±.˚, h10km, M4.5/24, mb4.8/24, mB5.1/11, MLv4.6/16, Mw(mB)4.4/11*

NEIC ***17*** *12:15:28.6±2.2, 8.˚25S±0.˚07×124.˚48E±0.˚07, h28km±4km, mb4.6/31, Error ellipse: s-maj=11.4km s-min=8.7km az=51.0*

BJI ***17*** *12:15:29.0±0.0, 8.˚42S×124.˚06E, h39km, mb4.6/38, mB5.0/20, Ms4.8/4, Ms7 4.5/4*

ISC 17 12:15:26.5±0.3, 8˚30S±0˚04×124˚48E±0˚05, h20km, n129, σ2§97/120, mb4.6/36, MS3.7/11, 1C-1D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.05**	**203**	Pn	**Pb**	**12 16 03.8**	**+0.6**
	102nm,0.3s,baz=46,slow=0.3,SNR=112						
BATI				Sn	**Sb**	**12 16 29.0**	**+0.7**
	80nm,0.3s,baz=322,slow=9.9,SNR=4.6						
BATI				LR	LR	12 16 52.8	
	comp=Z,541nm,18.9s,baz=245,slow=44						
BATI	**Baumata**	**2.05**	**203**	P	**Pb**	**12 16 04.3**	**+1.1**
BATI				S	**Sb**	**12 16 35.3**	**+7.0**
MMRI	**Maumere**	**2.24**	**261**		**Pb**	**12 16 04.0**	**-2.3**
MMRI	**Maumere**	**2.24**	**261**	P	**Pb**	**12 16 04.4**	**-1.9**
MMRI	**Maumere**	**2.24**	**261**	P	**Pb**	**12 16 04.3**	**-2.0**
BBSI	**Bau Bau**	**3.38**	**326**	P	**Pn**	**12 16 17.7**	**-0.5**
BASI	**Baing, Sumba**	**4.29**	**243**	P	**Pn**	**12 16 32.7**	**+1.9**
BSSI	**Bau Bau, Buton**	**4.50**	**298**	P	**Pn**	**12 16 33.8**	**+0.2**
WBSI	**Waikabubak, Su**	**5.20**	**255**	P	Pn	12 16 47.1	+3.9
	0.5nm1µm156nm,0.8s						
BKSI	**Bulukumba**	**5.24**	**304**	P	**Pn**	**12 16 43.1**	**-0.7**
	0.4nm1µm98nm,0.7s						
NLAI	**Namlea**	**5.67**	**28**	P	Pn	12 16 53.3	+3.6
	0.3nm1µm79nm,0.8s						
KAPI	**Kappang**	**5.72**	**305**	Pn	**Pn**	**12 16 50.8**	**+0.5**
	5.7nm,0.3s,baz=134,slow=9.8,SNR=13						
KAPI				Sn	**Sn**	**12 17 53.8**	**-1.7**
	1.1nm,0.3s,baz=216,slow=13,SNR=1.3						
KAPI				LR	LR	12 18 41.3	
	comp=Z,451nm,21.4s,baz=113,slow=35						
KAPI	**Kappang**	**5.72**	**305**	Pn	**Pn**	**12 16 51.5**	**+1.1**
KAPI	**Kappang**	**5.72**	**305**	P	**Pn**	**12 16 51.8**	**+1.4**
BNSI	**Bone**	**5.82**	**311**	P	**Pn**	**12 16 52.2**	**+0.4**
	0.3nm1µm90nm,0.8s						
SPSI	**Sidrap Palu**	**6.36**	**312**	P	**Pn**	**12 17 00.0**	**+0.8**
	0.2nm687nm65nm,0.8s						
SANI	**Sanana**	**6.39**	**14**	P	**Pn**	**12 17 00.9**	**+1.3**
	0.2nm685nm30nm,0.7s						
SANI	**Sanana**	**6.39**	**14**	P	**Pn**	**12 17 01.1**	**+1.5**
PLAI	**Plampang**	**6.65**	**265**	P	**Pn**	**12 17 06.4**	**+3.3**
	0.4nm986nm120nm,0.8s						
PLAI	**Plampang**	**6.65**	**265**	P	**Pn**	**12 17 05.0**	**+1.9**
TTSI	**Tana Toraja**	**6.98**	**318**	P	Pb	12 17 17.3	-10
LUWI	**Luwuk**	**7.41**	**347**	Pn	**Pn**	**12 17 13.5**	**-0.2**
LUWI	**Luwuk**	**7.41**	**347**	P	**Pn**	**12 17 13.7**	**+0.1**
	0.5nm118nm,1.3s						
LUWI	**Luwuk**	**7.41**	**347**	P	**Pn**	**12 17 14.8**	**+1.2**
APSI	**Ampana**	**7.87**	**339**	P	**Pn**	**12 17 19.9**	**0.0**
	0.1nm39nm,1.0s						
MTN	**Manton Dam**	**7.95**	**125**	Pn	**Pn**	**12 17 23.0**	**+2.0**
MTN	**Manton Dam**	**7.95**	**125**	P	**Pn**	**12 17 23.4**	**+2.4**
KNRA	**Kununurra**	**8.44**	**151**	Pn	**Pn**	**12 17 28.0**	**+0.2**
KNRA	**Kununurra**	**8.44**	**151**	P	**Pn**	**12 17 28.6**	**+0.8**
KDU	**Kakadu**	**8.99**	**120**	P	**Pn**	**12 17 36.3**	**+1.0**
GTOI	**Gorontalo**	**9.00**	**351**	P	Pn	12 17 39.5	+4.0
	8.8nm,0.8s						
MRSI	**Marisa**	**9.08**	**344**	P	**Pn**	**12 17 37.0**	**+0.4**
	451nm32nm,1.2s						
MPSI	**Mapaga**	**9.72**	**332**	P	**Pn**	**12 17 45.8**	**+0.4**
	27nm,0.7s						
FITZ	**Fitzroy Crossi**	**9.80**	**173**	Pn	**Pn**	**12 17 45.9**	**-0.5**
	2.0nm,0.3s,baz=353,slow=9.5,SNR=104						
FITZ				Sn	**Sn**	**12 19 30.8**	**-5.2**
	3.0nm,0.3s,baz=86,slow=21,SNR=13						
FITZ				LR	LR	12 21 37.2	
	comp=Z,201nm,20.2s,baz=352,slow=38						
SIJI	**Sorong**	**10.01**	**43**	Pn	**Pn**	**12 17 49.3**	**-0.1**
	1.4nm,0.3s,baz=208,slow=14,SNR=6.6						
SWI	**Sorong**	**10.02**	**43**	P	Pn	12 18 02.5	+13
TOLI2	**Tolitoli**	**10.05**	**338**	Pn	**Pn**	**12 17 51.0**	**+1.1**
BBKI	**Banjar Baru**	**10.72**	**296**	P	Pn	12 18 06.1	+7.0
PSA00	**Pilbara Seismi**	**13.93**	**198**	Pn	**Pn**	**12 18 43.3**	**+0.4**
PSA00	**Pilbara Seismi**	**13.93**	**198**	Pn	**Pn**	**12 18 43.8**	**+0.9**
PSA00	**Pilbara Seismi**	**13.93**	**198**	P	**Pn**	**12 18 43.5**	**+0.6**
WB0	**Warramunga Arr**	**14.90**	**141**	Pn	**Pn**	**12 18 53.1**	**-3.1**
WRAB	**Tennant Creek**	**15.00**	**141**		**Pn**	**12 18 55.0**	**-2.5**
WRAB				IAmb	IAmb	12 18 58.2	
	comp=Z,44nm,0.8s						
WRA	**Warramunga Arr**	**15.00**	**142**	Pn	**Pn**	**12 18 54.7**	**-2.9**
	comp=Z,2.3nm,0.3s,baz=319,slow=13,SNR=206						
WRA				Sn	**Sn**	**12 21 34.6**	**-8.7**
	comp=Z,1.4nm,0.3s,baz=312,slow=23,SNR=13						
WRA				LR	LR	12 25 37.0	
	comp=Z,392nm,21.5s,baz=334,slow=41						
WRA	**Warramunga Arr**	**15.00**	**142**		**Pn**	**12 18 53.8**	**-3.7**
WB2	**Warramunga Arr**	**15.01**	**141**	Pn	**Pn**	**12 18 55.1**	**-2.6**
WR0	**Warramunga Arr**	**15.14**	**141**	Pn	**Pn**	**12 18 56.3**	**-3.1**
WR0				IAmb	IAmb	12 19 00.7	
	comp=Z,43nm,0.9s						
SBUM	**Sibu**	**16.23**	**311**	P	**Pn**	**12 19 12.2**	**-1.4**
LEM	**Lembang**	**16.78**	**274**	LR	LR	12 26 30.5	
	comp=Z,301nm,20.0s,baz=24,slow=40						
KSM	**Kuching**	**17.14**	**304**	P	**P**	**12 19 24.9**	**-1.8**
AS31	**Alice Springs**	**17.75**	**150**	Pn	**P**	**12 19 31.6**	**-1.8**
ASAR	**Alice Springs**	**17.75**	**150**	P	**Pn**	**12 19 30.9**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=314,slow=11,SNR=70						
ASAR				S	**Sn**	**12 22 41.0**	**-9.0**
	comp=Z,0.3nm,0.3s,baz=320,slow=21,SNR=8.9						
ASAR				LR	LR	12 27 11.0	
	comp=Z,190nm,20.6s,baz=330,slow=40						
SKJI	**Sukabumi**	**17.81**	**273**	P	**P**	**12 19 34.6**	**+0.6**
	comp=Z,5µmcomp=Z,358nm,0.5s						
QIS	**Mount Isa**	**19.03**	**131**	P	**Pn**	**12 19 48.2**	**-0.1**
COEN	**Coen**	**19.18**	**109**	P	**Pn**	**12 19 49.8**	**-0.3**
MTSU	**Mount Surprise**	**21.62**	**119**	P	**P**	**12 20 17.0**	**+1.3**
OOD	**Oodnadatta**	**22.09**	**153**	P	**P**	**12 20 22.2**	**+1.6**
MORW	**Morawa**	**22.13**	**200**	P	**P**	**12 20 21.9**	**+0.9**
	comp=Z,12nm,1.2s						
PMG	**Port Moresby**	**22.44**	**95**	P	**P**	**12 20 26.4**	**+2.0**
	comp=Z,20nm,0.8s,baz=220,slow=10.0,SNR=3.6						
PMG				LR	LR	12 31 37.7	
	comp=Z,83nm,20.1s,baz=292,slow=43						
PMG	**Port Moresby**	**22.44**	**95**	P	**P**	**12 20 26.7**	**+2.3**
PMG	**Port Moresby**	**22.44**	**95**	P	**P**	**12 20 25.5**	**+1.1**
PMG	**Port Moresby**	**22.44**	**95**	P	**P**	**12 20 25.6**	**+1.1**
FORT	**Forrest**	**22.61**	**172**	P	**P**	**12 20 26.3**	**+0.2**
FORT				IAmb	IAmb	12 20 48.1	
	comp=Z,30nm,0.8s						
FORT	**Forrest**	**22.61**	**172**	P	**P**	**12 20 28.1**	**+2.0**
RGRI	**Rengat**	**23.43**	**289**	P	**P**	12 20 44.1	+9.4
MULG	**Mulgathing**	**23.64**	**159**	P	**P**	**12 20 38.0**	**+1.5**
CTA	**Charters Tower**	**24.11**	**121**	P	**P**	**12 20 41.6**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=279,slow=13,SNR=2.9						
CTA				LR	LR	12 32 05.4	
	comp=Z,150nm,18.1s,baz=264,slow=42						
CTAO	**Charters Tower**	**24.11**	**121**	P	**P**	**12 20 43.4**	**+2.3**
CTAO				IAmb	IAmb	12 20 49.3	
	comp=Z,15nm,1.1s						
INKA	**Innaminka**	**24.70**	**144**	P	**P**	**12 20 49.6**	**+3.1**
NWAO	**Narrogin (SRO)**	**25.40**	**194**	P	**P**	**12 20 54.6**	**+1.8**
NWAO				IAmb	IAmb	12 21 21.3	
	comp=Z,16nm,1.1s						
LCRK	**Leigh Creek**	**25.51**	**152**	P	**P**	**12 20 55.8**	**+2.1**
QLP	**Quilpie**	**26.11**	**137**	P	**P**	**12 21 00.9**	**+1.6**
BBOO	**Buckleboo**	**26.64**	**158**	P	**P**	**12 21 04.2**	**+0.2**
BBOO				IAmb	IAmb	12 21 05.9	
	comp=Z,25nm,1.4s						
KULM	**Kulim**	**27.33**	**299**	P	**P**	**12 21 11.7**	**+1.3**
PSI	**Prapat**	**27.77**	**292**	LR	LR	12 32 46.1	
	comp=Z,260nm,19.1s,baz=128,slow=38						
STKA	**Stephens Creek**	**28.35**	**148**	P	**P**	**12 21 20.4**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=321,slow=9.5,SNR=7.8						
STKA				LR	LR	12 33 56.9	
	comp=Z,201nm,18.5s,baz=9.2,slow=39						
STKA	**Stephens Creek**	**28.35**	**148**	P	**P**	**12 21 21.1**	**+1.8**
STKA	**Stephens Creek**	**28.35**	**148**	P	**P**	**12 21 20.4**	**+1.1**
CMSA	**Cobar Meteorol**	**30.41**	**142**	P	**P**	**12 21 39.9**	**+2.3**
NACB	**Ninganchiao**	**32.40**	**355**	P	**P**	**12 21 50.7**	**-4.4**
ARMA	**Armidale**	**33.59**	**135**	P	**P**	**12 22 06.8**	**+1.0**
ARMA				IAmb	IAmb	12 22 11.4	
	comp=Z,15nm,1.2s						
CMAR	**Chiang Mai Arr**	**36.63**	**317**	P	**P**	**12 22 33.0**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=145,slow=6.8,SNR=29						
CMAR				LR	LR	12 39 09.5	
	comp=Z,82nm,18.7s,baz=120,slow=39						
CMAR	**Chiang Mai Arr**	**36.63**	**317**	P	**P**	**12 22 31.7**	**-0.2**
CHTO	**Chiang Mai**	**36.88**	**317**	P	**P**	**12 22 34.2**	**+0.2**
CHTO				IAmb	IAmb	12 22 36.1	
	comp=Z,7.2nm,1.0s						
KMI	**Kunming**	**39.40**	**328**	⇑P	**P**	**12 22 57.3**	**+1.9**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NJ2	**Nanjing**	**40.49**	**353**	*eP*	**P**	**12 23 06.5**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH	**PanZhiHua**	**41.04**	**328**	P	**P**	**12 23 09.8**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,5.1s						
CD2	**Chengdu**	**43.76**	**334**	P	**P**	**12 23 31.8**	**+0.9**
CD2				pmax	pmax		
	comp=Z,20nm,1.3s						
XAN	**Xi'an**	**44.62**	**342**	P	**P**	**12 23 40.4**	**+2.6**
XAN				pP	sP	12 23 50.3	+3.7
XAN				sP	pP	12 23 54.3	+10
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KSRS	**Korea Array**	**45.63**	**4**	P	**P**	**12 23 45.6**	**0.0**
	comp=Z,1.8nm,1.0s,baz=177,slow=9.5,SNR=2.3						
SHL	**Shillong**	**46.25**	**318**	P	**P**	**12 23 50.9**	**-0.1**
SHL				IAmb	IAmb	12 23 54.2	
	comp=Z,9.4nm,0.8s						
LZH	**Lanzhou**	**48.24**	**338**	⇓P	**P**	**12 24 07.6**	**+1.3**
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
HHC	**Hu-ho-hao-te**	**50.34**	**347**	*eP*	P	12 24 25.6	+3.4
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.7s						
GOMU	**GeErMu**	**52.32**	**330**	P	**P**	**12 24 38.4**	**+0.9**
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,77nm,5.0s						
GTA	**Gaotai**	**52.70**	**336**	*eP*	**P**	**12 24 40.4**	**+0.5**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.70**	**7**	P	**P**	**12 24 40.3**	**+0.7**
	comp=Z,5.0nm,0.7s,baz=187,slow=7.6,SNR=10						
MDJ	**Mudanjiang**	**52.88**	**5**	P	**P**	**12 24 41.1**	**+0.1**
TUWZ	**Tuamarina**	**54.67**	**136**	P	**P**	**12 24 54.8**	**+0.5**
ULN	**Ulaanbaatar**	**58.01**	**346**	P	**P**	**12 25 19.0**	**+0.9**
ULN				IAmb	IAmb	12 25 22.2	
	comp=Z,8.6nm,1.2s						
SONM	**Songino Array**	**58.14**	**346**	P	**P**	**12 25 18.8**	**-0.1**
	comp=Z,3.7nm,1.1s,baz=167,slow=7.3,SNR=8.1						
SONM	**Songino Array**	**58.14**	**346**	P	**P**	**12 25 19.6**	**+0.6**
SONM				IAmb	IAmb	12 25 23.7	
	comp=Z,7.7nm,1.4s						
WMQ	**Urumqi**	**61.66**	**330**	*eP*	P	12 25 46.9	+3.8
WMQ				pP	sP	12 25 56.5	+4.4
WMQ				pmax	pmax		
	comp=Z,31nm,1.1s						
MK31	**Makanchi Array**	**66.45**	**330**	P	**P**	**12 26 14.5**	**0.0**
MK31				IAmb	IAmb	12 26 18.4	
	comp=Z,4.4nm,0.9s						
MKAR	**Makanchi Array**	**66.45**	**330**	P	**P**	**12 26 14.5**	**0.0**
	comp=Z,4.1nm,0.8s,baz=134,slow=7.7,SNR=23						
MKAR				LR	LR	12 55 55.1	
	comp=Z,38nm,20.1s,baz=88,slow=37						
MAKZ	**Makanchi**	**66.61**	**330**	P	**P**	**12 26 16.9**	**+1.3**
MAKZ				IAmb	IAmb	12 26 19.3	
	comp=Z,4.9nm,1.1s						
PETK	**Petropavlovsk-**	**67.38**	**21**	P	**P**	**12 26 21.0**	**+0.7**
	comp=Z,16nm,1.1s,baz=215,slow=4.6,SNR=2.7						
PETK	**Petropavlovsk-**	**67.38**	**21**	P	**P**	**12 26 20.0**	**-0.3**
ZAA0	**Zalesovo Array**	**70.45**	**336**	P	**P**	**12 26 38.2**	**-1.1**
ZALV	**Zalesovo Beam**	**70.45**	**336**	P	**P**	**12 26 38.0**	**-1.4**
	comp=Z,9.5nm,1.0s,baz=116,slow=5.1,SNR=28						
ZALV	**Zalesovo Beam**	**70.45**	**336**	P	**P**	**12 26 38.1**	**-1.2**
KURK	**Kurchatov**	**70.89**	**331**	P	**P**	**12 26 42.2**	**+0.1**
KURK				IAmb	IAmb	12 26 52.0	
	comp=Z,5.4nm,0.8s						
VNDA	**Vanda**	**71.87**	**172**	P	**P**	**12 26 48.4**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=310,slow=8.5,SNR=2.6						
VNDA				LR	LR	12 56 09.0	
	comp=Z,47nm,20.6s,baz=333,slow=34						
VNDA	**Vanda**	**71.87**	**172**	P	**P**	**12 26 49.8**	**+2.1**
VNDA				IAmb	IAmb	12 27 02.6	
	comp=Z,4.5nm,1.4s						
SOCY	**Socotra**	**72.96**	**285**	P	**P**	**12 26 54.6**	**-0.7**
SOCY				IAmb	IAmb	12 26 59.4	
	comp=

	1.0nm,0.3s,baz=3.8,slow=1.4,SNR=5.3						
RPZ	**Rata Peaks**	**19.00 200**	P	**P**	**12 31 52.7**	**+1.0**
RPZ	**Rata Peaks**	**19.00 200**	P	**P**	**12 31 51.8**	**+0.1**
ARMA	**Armidale**	**25.22 254**	P	**P**	**12 32 48.6**	**+0.5**
ARMA			IAmb	IAmb	12 32 50.4	
	comp=Z,9.5nm,0.9s					
EIDS	**Eidsvold**	**25.93 265**	P	**P**	**12 32 54.8**	**+0.5**
EIDS	**Eidsvold**	**25.93 265**	P	**P**	**12 32 54.8**	**+0.5**
RK1H	**Rockhampton Ha**	**26.80 269**	P	**P**	**12 33 02.1**	**+0.2**
	comp=Z,20nm,0.8s					
RMQ	**Roma**	**27.87 262**	P	**P**	**12 33 11.6**	**+0.2**
CAN	**Canberra**	**28.01 243**	P	**P**	**12 33 14.3**	**+1.8**
CAN			IAmb	IAmb	12 33 20.5	
	comp=Z,20nm,1.2s					
CMSA	**Cobar Meteorol**	**30.36 252**	P	**P**	**12 33 32.9**	**-0.1**
CTA	**Charters Tower**	**31.44 274**	P	**P**	**12 33 42.8**	**+0.4**
	comp=Z,28nm,0.9s,baz=98,slow=10.0,SNR=31					
CTA	**Charters Tower**	**31.44 274**	P	**P**	**12 33 42.9**	**+0.5**
CTAO	**Charters Tower**	**31.44 274**	P	**P**	**12 33 43.1**	**+0.7**
QLP	**Quilpie**	**31.89 261**	P	**P**	**12 33 46.7**	**+0.6**
STKA	**Stephens Creek**	**33.86 251**	P	**P**	**12 34 02.8**	**0.0**
	comp=Z,2.6nm,0.7s,baz=98,slow=12,SNR=8.6					
STKA	**Stephens Creek**	**33.86 251**	P	**P**	**12 34 03.2**	**+0.4**
COEN	**Coen**	**36.41 282**	P	**P**	**12 34 24.4**	**+0.1**
COEN			IAmb	IAmb	12 34 25.5	
	comp=Z,19nm,1.2s					
BBOO	**Buckleboo**	**38.53 249**	P	**P**	**12 34 40.9**	**-0.6**
BBOO			IAmb	IAmb	12 35 04.0	
	comp=Z,18nm,1.4s					
AS31	**Alice Springs**	**41.61 263**	P	**P**	**12 35 06.2**	**-0.3**
AS31			IAmb	IAmb	12 35 07.7	
	comp=Z,3.6nm,0.5s					
ASAR	**Alice Springs**	**41.62 263**	P	**P**	**12 35 06.0**	**-0.4**
	comp=Z,6.3nm,0.4s,baz=90,slow=7.7,SNR=177					
ASAR			S	**S**	**12 40 46.4**	**0.0**
	comp=Z,1.5nm,0.8s,baz=99,slow=16,SNR=11					
ASAR	**Alice Springs**	**41.62 263**	P	**P**	**12 35 05.5**	**-1.0**
WR0	**Warramunga Arr**	**42.01 269**	P	**P**	**12 35 08.9**	**-0.7**
WR0			IAmb	IAmb	12 35 09.8	
	comp=Z,13nm,1.5s					
WRAB	**Tennant Creek**	**42.19 269**	P	**P**	**12 35 10.3**	**-0.7**
WRAB			IAmb	IAmb	12 35 11.7	
	comp=Z,6.9nm,1.1s					
WRA	**Warramunga Arr**	**42.19 269**	P	**P**	**12 35 10.1**	**-0.9**
	comp=Z,2.9nm,0.4s,baz=104,slow=7.7,SNR=96					
WRA			S	**S**	**12 40 52.4**	**-2.4**
	comp=Z,1.1nm,1.0s,baz=99,slow=14,SNR=6.6					
WRA	**Warramunga Arr**	**42.19 269**	P	**P**	**12 35 10.1**	**-0.9**
WB0	**Warramunga Arr**	**42.20 269**	P	**P**	**12 35 10.2**	**-0.9**
WB0			IAmb	IAmb	12 35 10.5	
	comp=Z,5.0nm,0.8s					
FORT	**Forrest**	**45.48 252**	P	**P**	**12 35 35.0**	**-1.4**
FORT			IAmb	IAmb	12 35 36.1	
	comp=Z,13nm,0.7s					
MTN	**Manton Dam**	**47.55 276**	P	**P**	**12 35 52.2**	**-0.2**
MTN			IAmb	IAmb	12 36 12.2	
	comp=Z,20nm,1.4s					
KNRA	**Kununurra**	**48.60 272**	P	**P**	**12 36 00.2**	**0.0**
FITZ	**Fitzroy Crossi**	**50.59 267**	P	**P**	**12 36 14.3**	**-0.5**
FITZ			IAmb	IAmb	12 36 16.7	
	comp=Z,6.7nm,0.7s					
MBWA	**Marble Bar**	**54.91 262**	P	**P**	**12 36 45.0**	**-0.9**
MBWA			IAmb	IAmb	12 36 45.9	
	comp=Z,12nm,1.4s					
MORW	**Morawa**	**56.05 251**	P	**P**	**12 36 52.9**	**-0.7**
CASY	**Casey**	**58.11 206**	P	**P**	**12 37 07.1**	**0.0**
GIRL	**Giralia**	**59.33 258**	P	**P**	**12 37 16.0**	**-0.1**
QSPA	**South Pole Qui**	**64.00 180**	P	**P**	**12 37 47.8**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=6.1,slow=0.9,SNR=10					
QSPA	**South Pole Qui**	**64.00 180**	P	**P**	**12 37 47.2**	**+1.1**
BELA	**Belgrano 2**	**74.29 173**	P	**P**	**12 38 48.1**	**+0.5**
KS19	**Wonju Array Si**	**79.92 320**	P	**P**	**12 39 18.7**	**-0.2**
KS19			IAmb	IAmb	12 39 42.2	
	comp=Z,29nm,1.1s					
PEA0B	**Petropavlovsk-**	**81.19 347**	P	**P**	**12 39 24.6**	**-0.5**
PETK	**Petropavlovsk-**	**81.19 347**	P	**P**	**12 39 25.7**	**+0.5**
CHGN	**Chignik**	**84.11 12**	P	**P**	**12 39 38.4**	**-1.3**
CHGN			IAmb	IAmb	12 39 53.3	
	comp=Z,14nm,1.1s					
NVAR	**Mina Array Bea**	**86.40 44**	P	**P**	**12 39 51.6**	**0.0**
	comp=Z,1.2nm,0.7s,baz=220,slow=8.4,SNR=12					
PINE	**Pine Mountain**	**88.17 38**	P	**P**	**12 40 00.5**	**+0.7**
PINE			IAmb	IAmb	12 40 01.6	
	comp=Z,4.1nm,0.8s					
CMAR	**Chiang Mai Arr**	**90.18 290**	P	**P**	**12 40 10.4**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=134,slow=4.1,SNR=4.0					
TXAR	**Lajitas Array**	**91.68 58**	P	**P**	**12 40 16.4**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=201,slow=6.7,SNR=7.5					
NB2	**NORSAR Subarra**	**144.21 351**	PKP	PKPbc	12 46 39.2	-0.8
	comp=Z,1.8nm,1.0s,baz=17,slow=2.6					
NOA	**NORSAR Array B**	**144.21 351**	PKP	PKPbc	12 46 38.4	-1.6
	comp=Z,1.0nm,0.8s,baz=8.0,slow=3.7,SNR=2.7					
BRTR	**Keskin Array B**	**148.76 304**	PKPbc	**PKiKP**	**12 46 54.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=158,slow=1.6,SNR=2.0					
BRTR	**Keskin Array B**	**148.76 304**	PKPdf	**PKPdf**	**12 46 50.6**	**+1.8**
BRTR			PKPbc	**PKiKP**	**12 46 54.7**	**+0.3**
BRTR				**PKPab**	**12 46 58.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**167.01 188**	PKPab	**PKPab**	**12 48 18.0**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=180,slow=0.9,SNR=1.4					
TORD	**Torodi Ar. Bea**	**167.01 188**	PKPdf	**PKPdf**	**12 47 11.8**	**+0.6**
TORD				**PKPab**	**12 48 17.6**	**-0.7**

*ISK **17** 12:35:37.4,39.06N×37.27E,h0km,ML2.5/6, Suspected Mining explosion.*
*DDA **17** 12:35:38.0±0.0,39.08N×37.33E,h7km±4km,ML1.8*
ISC 17 12:35:36.5±0.9,**39.03N**±0.03×**37.25E**±0.03,**h0km**,**n15**, σ0.5**0**/23,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUGUR	**Gurin_SVAS**	**0.30**	**176**	P	**Pb**	**12 35 44.2**	**-0.6**
CUGUR				S	**Sb**	**12 35 51.5**	**+1.1**
CUKAN	**kangal_SIVAS**	**0.34**	**30**	P	**Pg**	**12 35 42.8**	**-0.2**
CUKAN				S	**Sg**	**12 35 47.9**	**+0.6**
CUKAN				*i* AML	AML	12 35 58.0	
	comp=N,120nm,0.5s						
CUAYA	**Sivas-Altinyay**	**0.46**	**302**	P	**Pb**	**12 35 47.0**	**-0.6**
CUAYA				S	**Sb**	**12 35 55.6**	**+0.7**
DARE	**Darende-Malaty**	**0.49**	**158**	PG	**Pb**	**12 35 47.5**	**-0.5**
DARE				SG	**Sb**	**12 35 55.9**	**+0.1**
ELBS	**KAHRAMANMARAS**	**0.70**	**187**	P	**Pn**	**12 35 53.7**	**-0.1**
ELBS				*i* AML	AML	12 36 15.0	
	comp=E,47nm,1.0s						
ARPR	**Arapgir-MALATY**	**0.85**	**85**	PG	**Pb**	**12 35 53.7**	**-0.5**
ARPR				SG	**Sb**	**12 36 05.9**	**-0.3**
CUSAR	**Sarkisla-SIVAS**	**0.87**	**297**	P	**Pn**	**12 35 55.9**	**-0.2**
CUSAR				S	**Sn**	**12 36 10.4**	**+0.7**
CUSAR				*i* AML	AML	12 36 15.0	
	comp=N,25nm,0.6s						
SARI	**SarD1z-Kayseri**	**0.90**	**227**	PG	**Pn**	**12 35 55.8**	**-0.7**
SVSK	**Karacayir**	**0.91**	**348**	PG	**Pb**	**12 35 54.9**	**-0.3**
SVSK				SG	**Sb**	**12 36 07.9**	**+0.1**
KEMA	**Kemaliye**	**1.00**	**75**	P	**Pg**	**12 35 55.6**	**0.0**
KEMA				S	**Sg**	**12 36 08.6**	**+0.1**
KEMA				*i* AML	AML	12 36 14.0	
	comp=N,32nm,0.7s						
KEMA				*i* AML	AML	12 36 15.0	
	comp=E,30nm,0.5s						
BNN	**Bunyan**	**1.11**	**261**	PN	**Pn**	**12 35 59.4**	**0.0**
MALT	**Malatya**	**1.17**	**127**	PN	**Pn**	**12 36 00.0**	**-0.1**
ELZG	**Elazig**	**1.46**	**111**	P	**Pb**	**12 36 05.0**	**+0.5**
ELZG				*i* AML	AML	12 36 31.0	
	comp=E,25nm,0.5s						
ELZG				*i* AML	AML	12 36 32.0	
	comp=N,22nm,0.5s						
YOZ	**Yozgat**	**1.62**	**293**	PN	**Pn**	**12 36 06.1**	**-0.3**
KELT	**Kelkit**	**1.92**	**53**	P	**Pb**	**12 36 12.0**	**-0.4**
KELT				*i* AML	AML	12 36 44.0	
	comp=E,5.6nm,0.6s						
KELT				*i* AML	AML	12 36 45.0	
	comp=N,8.5nm,0.8s						

*IDC **17** 12:36:47.1±1.5,32.83N×130.90E,h0km,mb3.0/2, mb1 3.2/4,mb1mx2.9/49,mbtmp3.1/4,ML2.5/2,Error ellipse: s-maj=32.9km s-min=9.2km az=87.0*
*JMA **17** 12:36:48.7,32.96N×131.06E,h11km±1km,M3.4*
JMA Felt II J1.
ISC 17 12:36:47.7±0.9,**33.00N**±0.05×**131.15E**±0.05,**h12**km,**n9**, σ1**55**/13,**Kyushu**

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

JNU	**Nakatsue**	**0.25 298**		Pg	**Pg**	**12 36 52.8**	**-0.2**
	345nm,0.3s,baz=97,slow=6.6,SNR=114						
JNU				Lg	Lg	12 36 56.6	
	2μm,0.3s,baz=202,slow=22,SNR=78						
JNU	**Nakatsue**	**0.25 298**		P	**Pg**	**12 36 53.6**	**+0.6**
JNU				*e*S	**Sg**	**12 36 56.8**	**+0.2**
JUS	**Usuki**	**0.51**	**83**	P	**Pn**	**12 36 59.7**	**-1.1**
JUS				S	**Sb**	**12 37 08.2**	**+2.2**
JTA	**Tamana**	**0.52 266**		P	**Pg**	**12 36 57.5**	**-0.3**
JTA				S	**Sg**	**12 37 03.4**	**-1.3**
JIU3	**Izumi3**	**0.53 212**		P	**Pg**	**12 36 57.7**	**-0.4**
JIU3				S	**Sg**	**12 37 04.6**	**-0.6**
KSRS	**Korea Array**	**5.16 330**		Pn	**Pn**	**12 38 05.4**	**+0.6**
	0.1nm,0.3s,baz=147,slow=16,SNR=1.7						
KSRS				Pg	**Pg**	**12 38 23.8**	**-2.8**
	0.3nm,0.3s,baz=144,slow=16,SNR=4.1						
KSRS				Lg	Lg	12 39 30.9	
	0.8nm,0.3s,baz=156,slow=30,SNR=8.1						
MJAR	**Matsushiro Arr**	**6.80**	**57**	Pn	Pn	12 38 32.5	+5.3
	0.1nm,0.3s,baz=241,slow=13,SNR=4.9						
SONM	**Songino Array**	**23.83 316**		P	**P**	**12 42 03.3**	**+2.6**
	0.2nm,1.5s,baz=112,slow=8.2,SNR=2.1						
ASAR	**Alice Springs**	**56.41 177**		P	**P**	**12 46 28.4**	**-0.7**
	0.2nm,0.8s,baz=9.2,slow=13,SNR=1.7						

IDC 17 12:40:18.4±2.3,**2.50N**×**128.18E**,**h0**km,**mb3.3**/3, **mb1 3.4**/3,**mb1mx3.0**/40,**mbtmp3.3**/3,**Error ellipse: s-maj=155.6km s-min=27.4km az=68.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.11**	**165**	P	P	12 45 26.8	+0.6
	0.3nm,0.7s,baz=345,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**26.60**	**168**	P	P	12 45 57.8	-0.9
	0.1nm,0.9s,baz=346,slow=8.5,SNR=1.8						
MKAR	**Makanchi Array**	**59.38**	**325**	P	P	12 50 22.9	+0.1
	0.3nm,0.3s,baz=110,slow=8.0,SNR=4.5						

*IDC **17** 13:00:08.3±1.1,32.88N×131.10E,h0km,mb3.2/6, mb1 3.3/8,mb1mx3.2/48,mbtmp3.1/8,ML2.4/2,MS3.1/1, Ms1 3.1/1,ms1mx2.5/22,Error ellipse: s-maj=32.4km s-min=7.3km az=54.0*
*JMA **17** 13:00:09.7,32.96N×131.11E,h9km±1km,M3.4*
JMA Felt II J1.
ISC 17 13:00:10.3±0.9,**33.06N**±0.09×**131.11E**±0.04,**h12**km,**n13**, σ1**37**/14,**mb3.2/6,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.21 288**		Pg	**Pg**	**13 00 14.5**	**-0.3**
	712nm,0.3s,baz=178,slow=22,SNR=172						
JNU				Lg	Lg	13 00 18.1	
	980nm,0.3s,baz=223,slow=19,SNR=32						
JNU	**Nakatsue**	**0.21 288**		P	**Pg**	**13 00 14.9**	**+0.1**
JNU				*e*S	**Sg**	**13 00 18.5**	**+0.6**
JTA	**Tamana**	**0.50 259**		P	**Pg**	**13 00 19.1**	**-0.9**
JUS	**Usuki**	**0.54**	**89**	P	**Pg**	**13 00 20.0**	**-0.8**
KSRS	**Korea Array**	**5.10 330**		Pn	**Pn**	**13 01 28.3**	**+1.8**
	0.2nm,0.3s,baz=145,slow=15,SNR=1.9						
KSRS				Pg	**Pg**	**13 01 45.3**	**-2.7**
	0.5nm,0.3s,baz=146,slow=18,SNR=4.2						
KSRS				Lg	Lg	13 02 53.1	
	0.5nm,0.3s,baz=153,slow=29,SNR=3.9						
MJAR	**Matsushiro Arr**	**6.79**	**57**	Pn	**Pn**	**13 01 51.6**	**+1.8**
	0.1nm,0.3s,baz=235,slow=12,SNR=0.8						
SONM	**Songino Array**	**23.77 316**		P	**P**	**13 05 22.4**	**-0.3**
	0.3nm,0.6s,baz=122,slow=8.5,SNR=2.4						
ZALV	**Zalesovo Beam**	**38.66 317**		LR	LR	13 24 27.4	
	comp=Z,26nm,19.4s,baz=50,slow=38						
MKAR	**Makanchi Array**	**39.25 305**		P	**P**	**13 07 39.6**	**+0.9**
	0.3nm,0.7s,baz=92,slow=10,SNR=2.0						
KURBB	**Kurchatov Arra**	**41.97 311**		P	**P**	**13 08 00.8**	**-0.2**
	0.3nm,0.6s,baz=99,slow=9.5,SNR=1.7						
WRA	**Warramunga Arr**	**52.79 176**		P	**P**	**13 09 24.0**	**-1.4**
	0.5nm,1.1s,baz=356,slow=8.0,SNR=2.1						
ASAR	**Alice Springs**	**56.47 177**		P	**P**	**13 09 50.8**	**-1.3**
	0.2nm,0.7s,baz=0.9,slow=7.4,SNR=4.2						
YKA	**Yellowknife Ar**	**71.31 27**		P	**P**	**13 11 29.9**	**+0.5**
	0.1nm,0.6s,baz=299,slow=6.2,SNR=3.0						

*IDC **17** 13:05:54.1±1.1,32.92N×131.13E,h0km,mb3.1/4, mb1 3.4/6,mb1mx3.2/37,mbtmp3.1/6,ML2.6/2,Error ellipse: s-maj=29.7km s-min=7.4km az=45.0*
*NIED **17** 13:05:55.8,32.96N×131.07E,h12km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.93; Mθθ2.43; Mφφ-3.36; Mrθ1.06; Mθφ0.46; Mφr2.07; Fault plane solution: Mo3.75000×10¹⁴ NP1: ϕs131.00000°,δ49.00000°,λ10.00000°. NP2:ϕs35.00000°, δ83.00000°,λ138.00000°*
*JMA **17** 13:05:55.7,32.96N×131.07E,h12km±1km,M3.5*
JMA Felt II J1.
ISC 17 13:05:56.1±0.8,**32.93N**±0.05×**131.08E**±0.04,**h12**km,**n11**, σ1**20**/15,**mb3.2/4,2C-1D,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.25 319**		Pg	**Pg**	**13 06 00.1**	**-1.3**
	776nm,0.3s,baz=93,slow=3.5,SNR=188						
JNU				Lg	Lg	13 06 03.5	
	3μm,0.3s,baz=197,slow=22,SNR=77						
JNU	**Nakatsue**	**0.25 319**	⇑	P	**Pg**	**13 06 00.6**	**-0.8**
JNU				*e*S	**Sg**	**13 06 03.9**	**-1.1**
JIU3	**Izumi3**	**0.44 210**	⇑	P	**Pg**	**13 06 04.7**	**-0.1**
JIU3				*e*S	**Sb**	**13 06 11.5**	**-0.8**
JTA	**Tamana**	**0.46 274**		P	**Pg**	**13 06 04.5**	**-0.6**
JTA				*e*S	**Sg**	**13 06 10.6**	**-0.6**
JUS	**Usuki**	**0.58**	**76**	⇓ P	**Pg**	**13 06 06.6**	**-0.8**
KSRS	**Korea Array**	**5.20 331**		Pn	**Pn**	**13 07 13.4**	**-0.3**
	0.4nm,0.3s,baz=149,slow=15,SNR=4.3						
KSRS				Pg	**Pb**	**13 07 30.1**	**+3.2**
	0.6nm,0.3s,baz=148,slow=17,SNR=5.8						
KSRS				Lg	Lg	13 08 38.9	
	1.4nm,0.3s,baz=155,slow=30,SNR=8.3						
MJAR	**Matsushiro Arr**	**6.89**	**56**	Pn	**Pn**	**13 07 37.2**	**+0.3**
	0.1nm,0.3s,baz=244,slow=14,SNR=3.3						
SONM	**Songino Array**	**23.84 316**		P	**P**	**13 11 09.4**	**+0.2**
	0.2nm,0.5s,baz=117,slow=8.3,SNR=1.8						
WRA	**Warramunga Arr**	**52.67 176**		P	**P**	**13 15 09.9**	**-0.5**
	0.4nm,0.9s,baz=345,slow=7.8,SNR=2.4						
ASAR	**Alice Springs**	**56.34 177**		P	**P**	**13 15 36.6**	**-0.4**
	0.2nm,0.7s,baz=9.0,slow=12,SNR=4.5						
YKA	**Yellowknife Ar**	**71.44 27**		P	**P**	**13 17 15.3**	**-0.6**
	0.2nm,0.8s,baz=282,slow=6.3,SNR=2.1						

*NEIC **17** 13:09:46.9±0.9,30.31S±0.03×71.65W±0.08,h28km±12km, Error ellipse: s-maj=11.1km s-min=2.1km az=107.0*
*GUC **17** 13:09:47.5±0.8,30.33S×71.62W,h25km±2km,ML3.8*
ISC 17 13:09:46.6±1.1,**30.32S**±0.03×**71.70W**±0.06,**h28**km±9km, **n36**,σ1**16**/48,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.35**	**172**		**Pb**	**13 09 54.8**	**+0.2**
CO06				Sg	**Sb**	**13 09 59.5**	**-0.6**
CO06	**Fray Jorge**	**0.35**	**172**	*e*P	**Pb**	**13 09 55.0**	**+0.3**
CO06				*i* S	**Sb**	**13 10 00.6**	**+0.5**
CO05	**La Serena**	**0.56**	**44**	Pn	**Pb**	**13 09 58.0**	**0.0**
CO05					**Sb**	**13 10 04.9**	**-0.8**
CO05	**La Serena**	**0.56**	**44**	*e*P	**Pb**	**13 09 58.1**	**0.0**
CO05				*i* S	**Sb**	**13 10 05.4**	**-0.3**
CO05				IAML		13 10 06.4	
	comp=N,12μm,0.4s						
GO04	**Tololo Observa**	**0.79**	**79**	Pn	**Pb**	**13 10 01.6**	**-0.3**
GO04				Sn	**Sb**	**13 10 12.0**	**-0.3**
GO04	**Tololo Observa**	**0.79**	**79**	*e*P	**Pb**	**13 10 01.6**	**-0.3**
GO04				*i* S	**Sn**	**13 10 12.6**	**-0.5**
GO04				IAML		13 10 15.9	
	comp=E,10μm,0.4s						
CO03	**El Pedregal**	**1.01**	**121**	Pn	**Pn**	**13 10 04.7**	**-0.3**
CO03	**El Pedregal**	**1.01**	**121**	*e*P	**Pn**	**13 10 04.8**	**-0.1**
CO03				*i* S	**Sb**	**13 10 17.5**	**-0.9**
CO03				IAML		13 10 19.1	
	comp=N,4μm,0.3s						
CO02	**Combarbal**	**1.06**	**146**	Pn	**Pn**	**13 10 05.8**	**+0.1**
CO02				Sn	**Sb**	**13 10 19.0**	**-1.0**
CO02	**Combarbal**	**1.06**	**146**	*e*P	**Pn**	**13 10 06.1**	**+0.3**
CO02				*i* S	**Sn**	**13 10 20.1**	**+0.5**
CO02				IAML		13 10 21.7	
	comp=N,7μm,0.4s						

CO01	**Juntas del Tor**	**1.43**	**76**	Pn	**Pb**	**13 10 12.1**	**-0.6**
CO01	**Juntas del Tor**	**1.43**	**76**	*e*P	**Pb**	**13 10 12.1**	**-0.6**
CO01				*i* S	**Sb**	**13 10 30.1**	**-0.5**
CO01				IAML		13 10 33.3	
	comp=N,2μm,0.4s						
LCO	**Las Campanas**	**1.57**	**34**	Pn	**Pn**	**13 10 12.8**	**0.0**
LCO	**Las Campanas**	**1.57**	**34**	*e*P	**Pn**	**13 10 14.0**	**+1.1**
LCO				*e*S	**Sb**	**13 10 34.1**	**-0.5**
AC04	**Llanos de Chal**	**2.18**	**15**		**Pn**	**13 10 20.9**	**-0.1**
AC04	**Llanos de Chal**	**2.18**	**15**	*i* S	**Sb**	**13 10 50.4**	**-1.6**
VA06	**Catapilco**	**2.26**	**171**		**Pn**	**13 10 22.4**	**+0.4**
VA06	**Catapilco**	**2.26**	**171**	*i* S	**Sb**	**13 10 52.7**	**-1.4**
VA03	**San Esteban**	**2.62**	**158**		**Pn**	**13 10 28.2**	**+1.0**
VA03	**San Esteban**	**2.62**	**158**	*e*P	**Pn**	**13 10 29.3**	**+2.1**
VA03				*i* S	**Sn**	**13 11 01.4**	**+3.3**
VA03				IAML		13 11 15.1	
	comp=N,502nm,0.6s						
ZON	**Zonda**	**2.86**	**116**	Pn	**Pn**	**13 10 31.6**	**+1.2**
GO03	**Copiap**	**3.01**	**26**		**Pn**	**13 10 32.2**	**-0.2**
MT05	**Renca**	**3.17**	**165**		**Pn**	**13 10 35.0**	**+0.3**
MT05	**Renca**	**3.17**	**165**	*e*P	**Pb**	**13 10 39.6**	**-2.6**
AC06	**Mina Casimiro**	**3.18**	**22**	Pn	**Pn**	**13 10 34.9**	**+0.1**
AC06	**Mina Casimiro**	**3.18**	**22**	*i* S	**Sn**	**13 11 15.8**	**+3.9**
MT03	**Universidad Ad**	**3.32**	**163**		**Pn**	**13 10 36.8**	**+0.1**
VCA	**Vinchina**	**3.43**	**63**	*e*S	**Sb**	**13 11 26.1**	**-1.9**
MT09	**Talagante**	**3.49**	**170**		**Pn**	**13 10 40.1**	**+0.9**
BO04	**La Punta**	**3.77**	**166**		**Pn**	**13 10 43.5**	**+0.6**
BO01	**Tunca**	**4.09**	**173**		**Pn**	**13 10 47.9**	**+0.6**
AC01	**Pan de Azucar**	**4.27**	**13**	Pn	**Pn**	**13 10 48.1**	**-1.7**
GO05	**Huala**	**4.68**	**182**	Pn	**Pn**	**13 10 54.6**	**-0.7**
GO02	**Mina Guanaco**	**5.47**	**20**	Pn	**Pn**	**13 11 06.3**	**-0.3**
PB15	**IPOC Station P**	**7.36**	**16**	Pn	**Pn**	**13 11 32.2**	**-0.2**
PB06	**IPOC Station P**	**7.82**	**15**	Pn	**Pn**	**13 11 39.1**	**+0.4**

*CNRM **17** 13:10:22.7,35.45N×3.86W,h23km,ml2.8*
*MDD **17** 13:10:23.1±0.5,35.41N×3.75W,h21km±7km,mb_Lg2.5/12, Error ellipse: s-maj=8.4km s-min=2.3km az=166.0*
*SFS **17** 13:10:23.0,35.41N×3.74W,h21km,ML2.5,ALBORAN SUR*
*INMG **17** 13:10:23.2±1.4,35.45N×3.74W,h22km±5km,ML2.1,Error ellipse: s-maj=2.9km s-min=2.5km az=135.0*
ISC 17 13:10:21.7±1.0,**35.49N**±0.02×**3.80W**±0.02,**h17**km±8km, **n55**,σ1**21**/99,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.30**	**202**	P	**Pb**	**13 10 28.6**	**0.0**
PALE				S	**Sg**	**13 10 32.7**	**+0.1**
PVLZ	**Peæn de**	**0.52**	**232**	P	**Pb**	**13 10 42.4**	**+0.1**
PVLZ				S	**Sg**	**13 10 39.5**	**+0.5**
GOG	**Mont Gurugu**	**0.71**	**112**	P	**Pn**	**13 10 36.8**	**-0.3**
GOG				S	**Sg**	**13 10 43.7**	**-1.5**
EMEL	**Melilla**	**0.72**	**105**	Pg	**Pb**	**13 10 35.7**	**0.0**
EMEL				Sg	**Sg**	**13 10 44.2**	**-1.2**
EALB	**Alboran**	**0.77**	**54**	Pg	**Pb**	**13 10 36.9**	**+0.3**
EALB				Sg	**Sb**	**13 10 47.4**	**+0.6**
EALB				*i* Vmb_Lg		13 10 48.1	
SMIR	**Smir Dam**	**1.30**	**279**	P	**Pn**	**13 10 44.4**	**-0.7**
SMIR				S	**Sb**	**13 10 59.7**	**-2.3**
CHEFC	**Chefchaouen**	**1.31**	**253**	P	**Pg**	**13 10 47.5**	**+0.4**
TAF	**Taforalt**	**1.32**	**120**	P	**Pn**	**13 10 45.5**	**0.0**
TAF				S	**Sn**	**13 11 03.0**	**+0.3**
EMIJ	**Mijas**	**1.33**	**324**	Pn	**Pn**	**13 10 45.5**	**0.0**
EMIJ				Sn	**Sb**	**13 11 02.1**	**-0.8**
EMIJ				*i* Vmb_Lg		13 11 06.2	
CEU	**Ceuta**	**1.34**	**288**	P	**Pn**	**13 10 45.0**	**-0.7**
CEU				S	**Sn**	**13 10 58.4**	**-4.6**
ECEU	**Ceuta**	**1.34**	**288**	Pn	**Pn**	**13 10 45.8**	**+0.2**
ECEU				Sn	**Sn**	**13 11 02.2**	**-0.9**
ECEU				*i* Vmb_Lg		13 11 03.0	
EMAL	**Malaga-Limoner**	**1.36**	**338**	P	**Pb**	**13 10 47.4**	**+0.6**
EMAL				S	**Sb**	**13 11 04.8**	**+0.9**
ELGU	**Los Guajares,**	**1.38**	**6**	Pn	**Pn**	**13 10 46.0**	**-0.3**
ELGU				Sn	**Sn**	**13 11 03.7**	**-0.4**
ELGU				*i* Vmb_Lg		13 11 06.6	
JBK	**JBK**	**1.54**	**138**	P	**Pg**	**13 10 50.7**	**-0.6**
JBK				S	**Sn**	**13 11 07.5**	**-0.7**
EBER	**Berja**	**1.59**	**28**	Pn	**Pn**	**13 10 49.3**	**+0.1**
EBER				Sn	**Sn**	**13 11 09.1**	**-0.3**
EBER				*i* Vmb_Lg		13 11 11.3	
EGOR	**Sierra Gor

PNCL	**Nicolau / Gran**	**4.61**	**306**	*e*Pn	**Pn**	**13 11 31.6**	**+1.1**
PNCL				*e*Sn	**Sn**	**13 12 22.9**	**-0.7**
PNCL				A	A	13 12 29.4	
	1.6nm,0.4s						
PMRV	**Marv??o**	**4.86**	**325**	*e*Pn	**Pn**	**13 11 35.8**	**+1.8**
PMRV				*e*Sn	**Sn**	**13 12 28.8**	**-1.0**
PMRV				A	A	13 12 44.7	
	1.1nm,0.6s						
PMTG	**Montargil**	**5.02**	**317**	*e*Pn	**Pn**	**13 11 37.8**	**+1.6**
PMTG				A	A	13 12 32.4	
	1.4nm,0.7s						
PMTG				*e*Sn	**Sn**	**13 12 33.1**	**-0.6**
OUZM	**OUZ**	**5.20**	**209**	P	**Pn**	**13 11 37.5**	**-1.3**
PSBE	**So Bento**	**5.64**	**317**	*e*Pn	**Pn**	**13 11 46.8**	**+2.0**

ATH ***17*** *13:12:32.5,41˚.30N×24˚.06E,h8km±2km,ML2.5/16,Error ellipse: s-maj=3.0km s-min=0.8km az=321.0*
THE ***17*** *13:12:32.3,41˚.32N×24˚.08E,h2km±1km,ML2.5/14,Error ellipse: s-maj=1.6km s-min=0.4km az=197.0*
SKO ***17*** *13:12:33.1,41˚.28N×24˚.12E,h0km*
ISK ***17*** *13:12:34.0,41˚.29N×24˚.28E,h2km,ML2.7/9*
BEO ***17*** *13:12:34.2±1.1,41˚.33N×24˚.03E,h8km±4km,ML2.7/7*
DDA ***17*** *13:12:38.9±0.0,40˚.90N×24˚.20E,h11km±3km,ML2.6*

ISC 17 13:12:32.1±0.9**, 41˚32N**±0˚.02×**24˚.09E**±0˚.01**, h9**km±7km, **n66,** σ0**s84**/111**, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVR	**Nevrokopi**	**0.17**	**280**	P	**Pg**	**13 12 35.5**	**-0.2**
NVR				S	**Sg**	**13 12 38.1**	**-0.1**
NVR				AML	AML	13 12 41.5	
	comp=N,5416μm,0.9s						
NVR				AML	AML	13 12 42.2	
	comp=E,4442μm,0.8s						
NVR	**Nevrokopi**	**0.17**	**280**	P	**Pg**	**13 12 35.5**	**-0.2**
NVR				S	**Sg**	**13 12 38.1**	**-0.1**
	comp=E,2μm,0.8s						
SRS	**Serrai**	**0.42**	**242**	P	**Pg**	**13 12 40.1**	**-0.2**
SRS				S	**Sg**	**13 12 46.6**	**+0.7**
SRS				AML	AML	13 12 47.0	
	comp=N,2508μm,0.6s						
SRS				AML	AML	13 12 48.8	
	comp=E,2650μm,0.4s						
SRS	**Serrai**	**0.42**	**242**	P	**Pg**	**13 12 40.1**	**-0.2**
SRS				S	**Sg**	**13 12 46.6**	**+0.7**
	comp=E,1μm,0.5s						
SRS	**Serrai**	**0.42**	**242**	*i* Pg	**Pg**	**13 12 40.1**	**-0.2**
SRS				*i* Sg	**Sg**	**13 12 46.8**	**+0.9**
KVLA	**Kavala**	**0.45**	**149**	P	**Pg**	**13 12 41.2**	**+0.5**
KVLA				S	**Sg**	**13 12 47.3**	**+0.7**
KVLA				AML	AML	13 12 48.7	
	comp=N,1059μm,0.3s						
KVLA				AML	AML	13 12 50.0	
	comp=E,1348μm,0.3s						
KAVA	**Kavala**	**0.46**	**135**	P	**Pg**	**13 12 41.1**	**+0.2**
KAVA				S	**Sg**	**13 12 47.4**	**+0.4**
KAVA				AML	AML	13 12 51.6	
	comp=N,1027μm,0.2s						
KAVA				AML	AML	13 12 53.6	
	comp=E,800μm,0.2s						
KAVA	**Kavala**	**0.46**	**135**	P	**Pg**	**13 12 41.1**	**+0.2**
KAVA				S	**Sg**	**13 12 47.4**	**+0.4**
	comp=E,362nm,0.2s						
KOKK	**Kokkinochori,**	**0.51**	**187**	P	**Pg**	**13 12 42.0**	**+0.2**
KOKK	**Kokkinochori,**	**0.51**	**187**	P	**Pg**	**13 12 42.0**	**+0.2**
KOKK				S	**Sg**	**13 12 49.3**	**+0.8**
	comp=E,515nm,0.4s						
SOH	**Sokhos**	**0.74**	**228**	P	**Pg**	**13 12 46.1**	**-0.3**
SOH				AML	AML	13 12 57.4	
	comp=N,1008μm,0.4s						
SOH				AML	AML	13 12 57.8	
	comp=E,1231μm,0.5s						
SOH	**Sokhos**	**0.74**	**228**	P	**Pg**	**13 12 46.1**	**-0.3**
SOH				S	**Sb**	**13 12 56.8**	**-0.7**
	comp=E,450nm,0.4s						
SOH	**Sokhos**	**0.74**	**228**	*i* Pg	**Pg**	**13 12 46.1**	**-0.3**
SOH				*i* Sg	**Sb**	**13 12 56.8**	**-0.7**
THAS	**Thassos island**	**0.86**	**146**	P	**Pg**	**13 12 48.6**	**0.0**
THAS				AML	AML	13 13 03.7	
	comp=E,3054μm,0.3s						
THAS				AML	AML	13 13 04.0	
	comp=N,3393μm,0.3s						
THAS	**Thassos island**	**0.86**	**146**	P	**Pg**	**13 12 48.6**	**0.0**
THAS				S	**Sb**	**13 13 01.0**	**+0.2**
	comp=N,2μm,0.3s						
PLD	**Plovdiv**	**0.91**	**30**	PG	**Pn**	**13 12 51.5**	**+0.4**
PLD				S	**Sn**	**13 13 04.6**	**+0.2**
PLD	**Plovdiv**	**0.91**	**30**	*i* Pg	**Pn**	**13 12 51.4**	**+0.4**
PLD				*i* Sg	**Sn**	**13 13 05.0**	**+0.6**
OUR	**Ouranopolis**	**0.99**	**185**	P	**Pg**	**13 12 51.2**	**+0.1**
OUR				S	**Sg**	**13 13 03.0**	**-0.8**
OUR				AML	AML	13 13 07.6	
	comp=E,2689μm,0.3s						
OUR				AML	AML	13 13 08.0	
	comp=N,2562μm,0.3s						
OUR	**Ouranopolis**	**0.99**	**185**	P	**Pb**	**13 12 51.7**	**+0.3**
OUR				S	**Sn**	**13 13 05.7**	**-0.5**
	comp=N,1μm,0.2s						
HORT	**Hortiatis**	**1.04**	**226**	P	**Pg**	**13 12 51.6**	**-0.4**
HORT				S	**Sg**	**13 13 04.3**	**-1.2**
HORT				AML	AML	13 13 07.6	
	comp=N,324μm,0.7s						
HORT				AML	AML	13 13 10.0	
	comp=E,421μm,0.5s						
HORT	**Hortiatis**	**1.04**	**226**	P	**Pg**	**13 12 51.6**	**-0.4**
HORT				S	**Sb**	**13 13 06.4**	**+0.4**
	comp=E,185nm,0.6s						
PLG	**Polygyros**	**1.06**	**207**	P	**Pg**	**13 12 52.2**	**-0.3**
PLG				S	**Sg**	**13 13 05.5**	**-0.7**
PLG				AML	AML	13 13 10.4	
	comp=N,1050μm,0.4s						
PLG				AML	AML	13 13 11.1	
	comp=E,968μm,0.6s						
PLG	**Polygyros**	**1.06**	**207**	P	**Pg**	**13 12 52.2**	**-0.3**
PLG				S	**Sn**	**13 13 08.4**	**+0.2**
	comp=E,505nm,0.5s						
THE	**Thessaloniki**	**1.09**	**231**	P	**Pb**	**13 12 53.3**	**+0.2**
THE				AML	AML	13 13 09.6	
	comp=E,319μm,0.4s						
THE				AML	AML	13 13 12.2	
	comp=N,399μm,0.4s						
THE	**Thessaloniki**	**1.09**	**231**	P	**Pb**	**13 12 53.3**	**+0.2**
THE	**Thessaloniki**	**1.09**	**231**	*i* Pg	**Pn**	**13 12 53.5**	**0.0**
THE				*i* Sg	**Sb**	**13 13 07.5**	**0.0**
RDO	**Rodhopi**	**1.11**	**99**	P	**Pg**	**13 12 53.3**	**-0.1**
RDO				S	**Sn**	**13 13 09.3**	**+0.1**
RDO				AML	AML	13 13 12.3	
	comp=E,785μm,0.2s						
RDO				AML	AML	13 13 12.5	
	comp=N,575μm,0.2s						
RDO	**Rodhopi**	**1.11**	**99**	P	**Pg**	**13 12 53.3**	**-0.1**
RDO				S	**Sn**	**13 13 09.3**	**+0.1**
	comp=N,325nm,0.2s						
RDO	**Rodhopi**	**1.11**	**99**	PG	**Pg**	**13 12 53.2**	**-0.1**
RDO				SG	**Sg**	**13 13 07.6**	**-0.1**
VAY	**Valandovo**	**1.14**	**271**	*e*Pg	**Pn**	**13 12 54.8**	**+0.5**
VAY				*e*Sg	**Sb**	**13 13 09.0**	**+0.1**
VAY	**Valandovo**	**1.14**	**271**	*i* Pg	**Pn**	**13 12 55.0**	**+0.7**
VAY				*i* Sg	**Sn**	**13 13 12.3**	**+2.3**
VAY				*e*Lg	Lg	13 13 12.4	
	comp=N,120nm,0.6s						
GRG	**Griva**	**1.32**	**255**	P	**Pb**	**13 12 57.0**	**-0.1**
GRG				AML	AML	13 13 16.6	
	comp=E,166μm,0.4s						
GRG				AML	AML	13 13 16.7	
	comp=N,300μm,0.4s						
GRG	**Griva**	**1.32**	**255**	P	**Pb**	**13 12 57.0**	**-0.1**
GRG				S	**Sn**	**13 13 15.5**	**+0.9**
	comp=N,122nm,0.5s						
GRG	**Griva**	**1.32**	**255**	*i* Pg	**Pn**	**13 12 56.9**	**+0.1**
GRG				*i* Sg	**Sn**	**13 13 14.9**	**+0.3**
SMTH	**Samothraki Isl**	**1.39**	**127**	P	**Pb**	**13 12 57.9**	**-0.3**
SMTH				AML	AML	13 13 22.9	
	comp=N,109μm,0.4s						
SMTH				AML	AML	13 13 24.9	
	comp=E,70μm,0.6s						
SMTH	**Samothraki Isl**	**1.39**	**127**	P	**Pb**	**13 12 57.9**	**-0.3**
SMTH				S	**Sg**	**13 13 18.1**	**+1.5**
	comp=E,48nm,0.5s						
PAIG	**Paliouri**	**1.43**	**193**	P	**Pn**	**13 12 58.0**	**-0.1**
PAIG				AML	AML	13 13 17.4	
	comp=N,170μm,0.3s						
PAIG				AML	AML	13 13 21.4	
	comp=E,245μm,0.3s						
PAIG	**Paliouri**	**1.43**	**193**	P	**Pn**	**13 12 58.0**	**-0.1**
VTS	**Vitosha**	**1.44**	**334**	*e*Pg	**Pg**	**13 12 59.6**	**-0.2**
VTS				*e*Sg	**Sg**	**13 13 19.2**	**+0.7**
VTS	**Vitosha**	**1.44**	**334**	*i* Pg	**Pg**	**13 12 59.8**	**0.0**
VTS				*i* Sg	**Sg**	**13 13 20.3**	**+1.8**
STIP	**Stip**	**1.48**	**285**	*i* Pg	**Pn**	**13 12 56.2**	**-2.6**
STIP				*i* Sg	**Sn**	**13 13 15.2**	**-3.1**
STIP				*e*Lg	Lg	13 13 15.9	
	comp=E,33nm,0.4s						
ALN	**Alexandroupoli**	**1.54**	**105**	P	**Pb**	**13 13 00.8**	**0.0**
ALN				AML	AML	13 13 31.0	
	comp=N,172μm,1.2s						
ALN				AML	AML	13 13 31.2	
	comp=E,240μm,0.6s						
ALN	**Alexandroupoli**	**1.54**	**105**	P	**Pb**	**13 13 00.8**	**0.0**
ALN				S	**Sg**	**13 13 21.7**	**+0.1**
	comp=E,102nm,0.5s						
ALN	**Alexandroupoli**	**1.54**	**105**	PN	**Pg**	**13 13 01.3**	**-0.3**
ALN				SN	**Sg**	**13 13 21.1**	**-0.5**
LIA	**Limnos Island**	**1.65**	**149**	P	**Pn**	**13 13 01.4**	**+0.2**
LIA				AML	AML	13 13 27.4	
	comp=E,408μm,0.7s						
LIA				AML	AML	13 13 28.0	
	comp=N,387μm,0.6s						
LIA	**Limnos Island**	**1.65**	**149**	P	**Pn**	**13 13 01.4**	**+0.2**
LIA				S	**Sb**	**13 13 23.6**	**+0.1**
	comp=N,200nm,0.7s						
ENEZ	**Enez**	**1.67**	**110**	PN	**Pg**	**13 13 03.5**	**-0.6**
ENEZ				SN	**Sb**	**13 13 24.4**	**+0.3**
BOSS	**Bosilegrad**	**1.68**	**315**	*e*Pg	**Pg**	**13 13 04.2**	**-0.1**
BOSS				*e*Sg	**Sg**	**13 13 25.8**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**1.70**	**111**	P	**Pg**	**13 13 06.2**	**+1.6**
CAVK				S	**Sb**	**13 13 25.1**	**+0.2**
LIT	**Litokhoron**	**1.72**	**225**	P	**Pn**	**13 13 02.5**	**+0.3**
LIT	**Litokhoron**	**1.72**	**225**	P	**Pn**	**13 13 02.5**	**+0.3**
UKOP	**Uzunkopru-Edir**	**1.93**	**95**	PN	**Pb**	**13 13 06.7**	**-0.7**
ERIK	**Erikli-Kesan**	**1.95**	**109**	PN	**Pb**	**13 13 07.4**	**-0.3**
KESN	**Edirne-Kesan**	**2.02**	**103**	P	**Pg**	**13 13 11.4**	**+0.5**
KESN				S	**Sg**	**13 13 38.0**	**+0.9**
KESN				*i* AML	AML	13 13 45.0	
	comp=N,64nm,0.4s						
KESN				*i* AML	AML	13 13 49.0	
	comp=N,65nm,0.3s						
GELI	**Tayfur-Gelibol**	**2.03**	**116**	PN	**Pb**	**13 13 08.3**	**-0.9**
EDRB	**Edirne**	**2.06**	**74**	PN	**Pb**	**13 13 08.5**	**-1.2**
LPK	**Lapseki**	**2.24**	**114**	PN	**Pb**	**13 13 11.6**	**-1.1**
BARS	**Barje**	**2.26**	**312**	*e*Pn	**Pn**	**13 13 11.0**	**+1.4**
BARS				*e*Sn	**Sb**	**13 13 39.3**	**-1.8**
KIRK	**Kırklareli**	**2.31**	**77**	P	**Pg**	**13 13 16.4**	**+0.1**
KIRK				S	**Sg**	**13 13 45.6**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**2.45**	**129**	P	**Pn**	**13 13 13.8**	**+1.5**
BAYC				S	**Sn**	**13 13 41.2**	**-1.2**
GZKV	**Gazikoy-Tekird**	**2.52**	**102**	PN	**Pb**	**13 13 16.1**	**-1.3**
ARMN	**Kirklareli, Me**	**2.57**	**77**	P	**Pg**	**13 13 21.3**	**0.0**
ARMN				S	**Sg**	**13 13 53.2**	**-1.2**
VIZE	**Kirklareli, Vi**	**2.83**	**84**	P	**Pg**	**13 13 24.6**	**-1.8**
VIZE				S	**Sg**	**13 14 01.9**	**-1.2**
VIZE				*i* AML	AML	13 14 08.0	
	comp=N,24nm,0.7s						
VIZE				*i* AML	AML	13 14 10.0	
	comp=N,18nm,0.6s						
ZAGS	**Zajecar**	**2.84**	**332**	*e*Pn	**Pn**	**13 13 19.8**	**+2.2**
ZAGS				*e*Sn	**Sn**	**13 13 54.1**	**+2.1**
SELS	**Selova**	**2.91**	**312**	*e*Pn	**Pn**	**13 13 19.5**	**+0.9**
GRUS	**Gruza**	**3.57**	**317**	*e*Pn	**Pn**	**13 13 28.2**	**+0.5**

IDC ***17*** *13:39:18.4±1.0,5˚.02S×102˚.86E,h0km,mb4.1/12, mb1 4.2/13,mb1mx3.9/49,mbtmp4.1/13,ML4.0/1,MS3.3/4, Ms1 3.3/4,ms1mx2.8/80,Error ellipse: s-maj=44.2km s-min=13.8km az=51.0*
DJA ***17*** *13:39:25.6±0.6,5˚.3S×10˚.3E, h37km±10km,M4.4/18, mb4.2/7,mB5.2/1,MLv4.5/18,Mw(mB)4.5/1*
NEIC ***17*** *13:39:27.0±0.9,4˚.91S±0˚.09×103˚.0E±0˚.1,h58km±6km, mb4.4/33,Error ellipse: s-maj=17.9km s-min=8.9km az=51.0*

ISC 17 13:39:25.8±1.1**, 5˚07S**±0˚.07×**102˚.95E**±0˚.06**, h55**km±9km, **n98,** σ1**s21**/99**, mb4.4**/34**, MS3.3**/3**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.70**	**1**	Pn	**Pn**	**13 39 39.9**	**+0.1**
MNAI	**Manna**	**0.70**	**1**	P	**Pn**	**13 39 40.2**	**+0.4**
MNAI				S	**Sn**	**13 39 50.9**	**+0.9**
LWLI	**Liwa**	**1.11**	**88**	P	**Pn**	**13 39 45.1**	**-0.1**
LWLI				S	**Sn**	**13 39 59.2**	**-0.5**
KASI	**Kota Agung**	**1.61**	**106**	P	**Pn**	**13 39 51.6**	**-0.3**
KASI				S	**Sn**	**13 40 10.3**	**-1.3**
KLI	**Kotabumi**	**1.91**	**84**	P	**Pn**	**13 39 57.3**	**+1.3**
MASI	**Maura Aman, Be**	**2.04**	**340**	P	**Pn**	**13 39 57.4**	**-0.4**
MASI				S	**Sn**	**13 40 24.7**	**+2.6**
BLSI	**Bandar Lampung**	**2.31**	**98**	P	**Pn**	**13 40 01.7**	**+0.3**
BLSI				S	**Sn**	**13 40 31.0**	**+2.3**
PMBI	**Palembang**	**2.80**	**41**	Pn	**Pn**	**13 40 10.4**	**+2.3**
PMBI	**Palembang**	**2.80**	**41**	P	**Pn**	**13 40 09.5**	**+1.3**
CGJI	**Cibinong**	**3.13**	**119**	P	**Pn**	**13 40 13.1**	**+0.4**
CGJI				S	**Sn**	**13 40 48.7**	**-0.3**
KRJI	**Kerinci**	**3.31**	**333**	P	**Pn**	**13 40 16.9**	**+1.7**
JMBI	**JAMBI**	**3.48**	**12**	P	**Pn**	**13 40 16.9**	**-0.6**
PPSI	**Pulau Pagai**	**3.72**	**308**	P	**Pn**	**13 40 22.0**	**+1.3**
PPSI				S	**Sn**	**13 41 02.6**	**-0.7**
CBJI	**Citeko**	**4.11**	**109**	P	**Pn**	**13 40 29.3**	**+3.2**
CNJI	**Cibinong**	**4.72**	**118**	P	**Pn**	**13 40 34.6**	**+0.1**
DSRI	**Dabo**	**4.84**	**20**	P	**Pn**	**13 40 37.4**	**+1.3**
LEM	**Lembang**	**4.96**	**11**	Pn	**Pn**	**13 40 37.8**	**-0.2**
	6.1nm,0.3s,baz=194,slow=19,SNR=2.9						
LEM				Lg	Lg	13 41 54.3	
	2.8nm,0.3s,baz=323,slow=20,SNR=1.6						
LEM				LR	LR	13 42 36.7	
	comp=Z,97nm,20.8s,baz=158,slow=39						
PPI	**Padang Panjang**	**5.24**	**331**	P	**Pn**	**13 40 44.9**	**+3.3**
SISI	**Saibi**	**5.35**	**314**	P	**Pn**	**13 40 43.5**	**+0.4**
XMIS	**Christmas Isla**	**6.01**	**154**		Pn	13 40 45.7	-6.5
CMJI	**Cimerak**	**6.10**	**117**	P	**Pn**	**13 40 53.6**	**+0.2**
	0.2nm40nm,0.5s						
MNSI	**Mandailing Nat**	**6.72**	**330**	P	**Pn**	**13 41 01.8**	**-0.2**
	0.3nm24nm,0.5s						
MYKOM	**Kota Tinggi**	**6.87**	**8**	Pn	**Pn**	**13 41 02.4**	**-1.6**
UGM	**Wanagama**	**8.04**	**111**	Pn	**Pn**	**13 41 21.1**	**+1.0**
GSI	**Gunungsitoli**	**8.30**	**320**	Pn	**Pn**	**13 41 22.5**	**-1.1**
GSI	**Gunungsitoli**	**8.30**	**320**	P	**Pn**	**13 41 22.8**	**-0.8**
JAGI	**Jajag, Banyuwa**	**11.63**	**108**	Pn	**Pn**	**13 42 09.6**	**+0.5**
SPSI	**Sidrap Palu**	**16.81**	**87**	P	**Pn**	**13 43 18.1**	**+0.5**
	4.9nm,0.9s						
BKSI	**Bulukumba**	**17.11**	**92**	P	**P**	**13 43 22.6**	**+0.3**
	11nm,1.4s						
MPSI	**Mapaga**	**17.76**	**73**	P	**P**	**13 43 31.9**	**+2.4**
MYLDM	**Lahad Datu**	**18.57**	**57**	P	**P**	**13 43 36.8**	**-1.6**
MYLDM				IAmb	IAmb	13 44 02.1	
	comp=Z,14nm,1.1s						
TOLI2	**Tolitoli**	**18.84**	**71**	Pn	**Pn**	**13 43 42.2**	**-0.3**
TOLI2				IAmb	IAmb	13 43 53.8	
	comp=Z,12nm,0.9s						
UBPT	**Khong Chiam**	**20.37**	**7**	P	**P**	**13 43 56.8**	**-1.2**
CM31	**Chiang Mai Arr**	**23.71**	**351**	P	**P**	**13 44 31.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**23.71**	**351**	P	**P**	**13 44 31.9**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=180,slow=9.1,SNR=28						
CMAR				PcP	**PcP**	**13 48 16.8**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=193,slow=3.5,SNR=1.5						
CMAR				LR	LR	13 53 28.1	
	comp=Z,53nm,20.4s,baz=205,slow=36						
CMAR	**Chiang Mai Arr**	**23.71**	**351**	P	**P**	**13 44 31.5**	**-1.4**
CHTO	**Chiang Mai**	**24.05**	**351**	P	**P**	**13 44 34.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**25.68**	**122**	P	**P**	**13 44 50.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=311,slow=7.3,SNR=9.2						
KNRA	**Kununurra**	**27.46**	**115**	P	**P**	**13 45 06.8**	**-0.1**
KNRA				IAmb	IAmb	13 45 33.3	
	comp=Z,18nm,1.4s						
H08S2	**Diego Garcia H**	**30.37**	**264**	T	T	14 17 46.5	
	baz=86,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**30.38**	**264**	T	T	14 17 48.2	
	baz=86,slow=76,SNR=9.6						
H08S1	**Diego Garcia H**	**30.39**	**264**	T	T	14 17 48.8	
	baz=86,slow=76,SNR=29						
PZH	**PanZhiHua**	**31.40**	**358**	P	**P**	**13 45 45.0**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
H01W3	**Cape Leeuwin H**	**31.43**	**162**	T	T	14 18 55.7	
	baz=340,slow=76,SNR=22						
H01W2	**Cape Leeuwin H**	**31.44**	**162**	T	T	14 18 55.2	
	baz=340,slow=76,SNR=8.1						
H01W1	**Cape Leeuwin H**	**31.44**	**162**	T	T	14 18 53.8	
	baz=340,slow=76,SNR=23						
SHL	**Shillong**	**32.29**	**341**	P	**P**	**13 45 48.9**	**-0.8**
SHL				IAmb	IAmb	13 45 49.7	
	comp=Z,3.1nm,0.6s						
WB0	**Warramunga Arr**	**33.91**	**118**	P	**P**	**13 46 04.0**	**+0.1**
WB0				IAmb	IAmb	13 46 04.5	
	comp=Z,3.1nm,0.7s						
WRA	**Warramunga Arr**	**33.93**	**119**	P	**P**	**13 46 04.0**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=299,slow=8.9,SNR=19						
WRA	**Warramunga Arr**	**33.93**	**119**	P	**P**	**13 46 04.1**	**+0.1**
WRAB	**Tennant Creek**	**33.94**	**119**	P	**P**	**13 46 04.0**	**-0.1**
WRAB				IAmb	IAmb	13 46 04.8	
	comp=Z,4.5nm,0.8s						
WB2	**Warramunga Arr**	**33.94**	**119**	P	**P**	**13 46 04.1**	**0.0**
WB2				IAmb	IAmb	13 46 04.8	
	comp=Z,4.1nm,0.8s						
WR0	**Warramunga Arr**	**34.11**	**119**	P	**P**	**13 46 05.7**	**0.0**
WR0				IAmb	IAmb	13 46 06.3	
	comp=Z,3.9nm,0.6s						
ASAR	**Alice Springs**	**35.09**	**125**	P	**P**	**13 46 14.7**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=305,slow=8.1,SNR=19						
ASAR				PcP	**PcP**	**13 48 44.6**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=306,slow=2.6,SNR=2.4						
ASAR				LR	LR	14 02 28.8	
	comp=Z,47nm,18.5s,baz=136,slow=40						
JIRN	**Jiri**	**36.34**	**334**	*e*P	**P**	**13 46 23.7**	**-1.3**
	comp=Z,4.7nm,0.7s						
GUN	**Gumba**	**36.69**	**334**	*e*P	**P**	**13 46 26.7**	**-1.3**
	comp=Z,16nm,0.5s						
KOLN	**Koldanda**	**37.61**	**331**	*e*P	**P**	**13 46 36.1**	**+0.5**
	comp=Z,14nm,0.8s						
DANN	**Dangsing**	**38.02**	**332**	*e*P	**P**	**13 46 38.9**	**-0.3**
	comp=Z,19nm,0.5s						
PYUN	**Piuthan**	**38.18**	**331**	*e*P	**P**	**13 46 41.7**	**+1.3**
GOMU	**GeErMu**	**41.75**	**350**	P	**P**	**13 47 08.3**	**-1.8**
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,40nm,4.7s						
STKA	**Stephens Creek**	**44.93**	**131**	P	**P**	**13 47 36.0**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=307,slow=9.5,SNR=6.7						
STKA	**Stephens Creek**	**44.93**	**131**	P	**P**	**13 47 36.6**	**+1.1**
HHC	**Hu-ho-hao-te**	**46.37**	**9**	*e*P	**P**	**13 47 50.6**	**+3.9**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,6.2s						
NIL	**Nilore**	**47.67**	**326**	P	**P**	**13 47 55.9**	**-1.0**
NIL				IAmb	IAmb	13 48 12.6	
	comp=Z,8.6nm,0.8s						
KSAR	**Wonju Array Be**	**48.25**	**27**	P	**P**	**13 47 58.9**	**-2.4**
KSRS	**Korea Array**	**48.28**	**27**	P	**P**	**13 48 00.2**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=220,slow=8.2,SNR=5.5						
KS19	**Wonju Array Si**	**48.30**	**27**	P	**P**	**13 47 59.4**	**-2.2**
WMQ	**Urumqi**	**50.57**	**346**	*e*P	**P**	**13 48 20.9**	**+1.9**
KSH	**Kashi**	**50.87**	**333**	P	**P**	**13 48 20.6**	**-0.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KDJ	**Kajisay**	**52.51**	**336**	P	**P**	**13 48 33.0**	**-0.6**
KDJ				IAmb	IAmb	13 48 34.8	
	comp=Z,5.6nm,0.7s						
SONM	**Songino Array**	**52.76**	**3**	P	**P**	**13 48 35.4**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=183,slow=8.7,SNR=11						
SONM				PcP	**PcP**	**13 49 44.0**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=188,slow=4.6,SNR=4.4						
SONM	**Songino Array**	**52.76**	**3**	P	**P**	**13 48 34.4**	**-0.9**
SONM				IAmb	IAmb	13 48 36.6	
	comp=Z,2.5nm,1.0s						
MAJO	**Matsushiro**	**52.91**	**36**	P	**P**	**13 48 35.9**	**-0.6**
MJB9	**Matsu-Tunnel**	**52.91**	**36**	P	**P**	**13 48 35.9**	**-0.6**
MK31	**Makanchi Array**	**54.78**	**343**	P	**P**	**13 48 49.5**	**-0.5**
MK31				IAmb	IAmb	13 48 50.2	
	comp=Z,2.3nm,0.6s						
MKAR	**Makanchi Array**	**54.78**	**343**	P	**P**	**13 48 49.6**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=146,slow=7.9,SNR=42						
MKAR	**Makanchi Array**	**54.78**	**343**	P	**P**	**13 48 49.4**	**-0.6**
KK31	**Karatay Array**	**56.22**	**332**	P	**P**	**13 49 00.3**	**0.0**
KKAR	**Karatay Array**	**56.22**	**332**	P	**P**	**13 49 00.2**	**-0.1**
ZAA0	**Zalesovo Array**	**60.74**	**348**	P	**P**	**13 49 30.9**	**-0.6**
ZAA0				IAmb	IAmb	13 49 32.6	
	comp=Z,3.9nm,1.1s						
ZALV	**Zalesovo Beam**	**60.74**	**348**	P	**P**	**13 49 30.7**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=155,slow=5.7,SNR=14						
KOUNC	**Koumac, New Ca**	**61.42**	**111**	P	**P**	**13 49 36.3**	**-0.6**
BRVK	**Borovoye**	**64.14**	**339**	P	**P**	**13 49 53.8**	**-0.5**
BRVK				IAmb	IAmb	13 50 14.0	
	comp=Z,2.3nm,0.7s						
ABKAR	**Akbulak array**	**65.73**	**331**	P	**P**	**

PB07 IPOC Station P 1.92 199 *e*P **Pn** **13 51 04.5 +0.6**
PB07 *e*S **Sn** **13 51 28.6 +0.3**
PB07 IAML 13 51 37.7
comp=E,421nm,0.2s
LVC Limon Verde 2.71 174 P **Pn** **13 51 16.2 +1.9**
comp=E,4.4nm,0.3s,baz=14,slow=10,SNR=46
LVC S **Sn** **13 51 48.2 +1.4**
comp=E,11nm,0.3s,baz=21,slow=8.6,SNR=7.4
PB06 IPOC Station P 2.81 187 *e*P **Pn** **13 51 16.3 +0.8**
PB06 *e*S **Sn** **13 51 47.9 -1.0**
PB06 IAML 13 52 00.6
comp=E,120nm,0.4s
PB15 IPOC Station P 3.30 184 *e*P **Pn** **13 51 23.6 +1.6**
PB15 *e*S **Sn** **13 51 59.4 -1.2**
PB15 IAML 13 52 16.3
comp=E,478nm,0.3s
LPAZ La Paz 3.74 16 P **Pn** **13 51 30.9 +2.6**
comp=E,1.2nm,0.3s,baz=192,slow=7.8,SNR=26
LPAZ S **Sn** **13 52 12.8 +1.0**
comp=E,0.3nm,0.3s,baz=219,slow=6.5,SNR=1.7
SIV San Ignacio 8.67 65 P **Pn** **13 52 32.5 -2.1**
comp=E,0.9nm,0.3s,baz=266,slow=19,SNR=26
TORD Torodi Ar. Bea 77.09 71 P **P** **14 02 11.6 -2.7**
comp=E,1.1nm,1.2s,baz=246,slow=6.0,SNR=1.9
YKA Yellowknife Ar 89.59 341 P **P** **14 03 18.2 +1.0**
comp=E,0.4nm,0.7s,baz=138,slow=4.7,SNR=11

IDC ***17*** *13:54:46.7±0.8,37˚.85N×23˚.35E,h0km,mb4.0/18, mb1 4.1/23,mb1mx3.9/66,mbtmp4.0/23,ML3.7/5,MS3.3/9, Ms1 3.3/9,ms1mx2.8/93,Error ellipse: s-maj=16.5km s-min=14.3km az=158.0*
ISK ***17*** *13:54:46.9,37˚.82N×23˚.49E,h3km,ML4.1/14*
MOS ***17*** *13:54:48.8±1.1,37˚.83N×23˚.53E,h23km,mb4.4/21,Error ellipse: s-maj=6.3km s-min=3.8km az=96.1*
ATH ***17*** *13:54:49.1,37˚.81N×23˚.48E,h14km,Mw3.8,Moment Tensor Solution. s8 Moment tensor: Mrr=5.79; Mθθ=5.78; Mθθ=0.01; Mrθ=0.20; Mθφ=1.00; Mφr=1.60; Fault plane solution: NP1:ϕ=274.00000°,δ=45.00000°,λ=-69.00000°. NP2:ϕ=66.00000°,δ=49.00000°,λ=-109.00000°.*
THE ***17*** *13:54:49.1,37˚.82N×23˚.48E,h13km,ML4.0/9 Error ellipse: s-maj=0.9km s-min=0.4km az=125.0*
DDA ***17*** *13:54:50.5±0.0,37˚.93N×23˚.67E,h7km,6km,MW4.1*
NEIC ***17*** *13:54:50.2±1.7,37˚.85N±0˚.05×23˚.49E±0˚.07,h16km±1km, mb4.5/66,Error ellipse: s-maj=7.9km s-min=7.5km az=213.0*
ISC 17 13:54:49.1±0.7,37˚.83N±0˚.02×23˚.47E±0˚.01,h13km±4km, n340,σ1°04/381,mb4.4/62,MS3.2/5,17C-10D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
ATH	**Athens Observa**	**0.24**	**54**	P	**Pg**		**13 54 54.3**	**0.0**
ATH				S	**Sg**		**13 54 58.3**	**+0.4**
ATH				AML	AML		13 54 59.1	
	comp=N,89853µm,0.4s							
ATH				AML	AML		13 55 02.5	
	comp=E,64279µm,0.4s							
ATH	**Athens Observa**	**0.24**	**54**	P	**Pg**		**13 54 54.3**	**0.0**
ATH				S	**Sg**		**13 54 58.2**	**+0.4**
	comp=E,39µm,0.4s							
ATH	**Athens Observa**	**0.24**	**54**	P	**Pg**		**13 54 54.3**	**0.0**
ATH				S	**Sg**		**13 54 58.2**	**+0.4**
VLY	**Voula,Athens**	**0.26**	**85**	P	**Pg**		**13 54 54.4**	**-0.2**
VLY				S	**Sg**		**13 54 58.8**	**+0.5**
	comp=E,28µm,0.8s							
ATHU	**Athens Univers**	**0.28**	**61**	P	**Pg**		**13 54 54.6**	**-0.4**
ATHU				S	**Sg**		**13 54 59.2**	**+0.1**
ATHU				AML	AML		13 55 03.1	
	comp=N,17386µm,0.6s							
ATHU				AML	AML		13 55 04.2	
	comp=E,11585µm,0.5s							
ATHU	**Athens Univers**	**0.28**	**61**	P	**Pg**		**13 54 54.8**	**-0.3**
ATHU				S	**Sg**		**13 54 59.1**	**+0.1**
	comp=E,7µm,0.5s							
EPID	**Epidavros**	**0.35**	**232**	P	**Pg**		**13 54 55.5**	**-0.8**
EPID				S	**Sg**		**13 55 01.7**	**+0.6**
EPID	**Epidavros**	**0.35**	**232**	P	**Pg**		**13 54 55.7**	**-0.6**
EPID				S	**Sg**		**13 55 01.1**	**0.0**
	comp=E,67µm,0.3s							
VILL	**Villia**	**0.35**	**340**	P	**Pg**		**13 54 56.3**	**-0.1**
VILL				S	**Sb**		**13 55 03.0**	**+0.1**
	comp=E,35µm,0.4s							
PTL	**Penteli**	**0.38**	**55**	P	**Pg**		**13 54 56.7**	**-0.2**
PTL				S	**Sg**		**13 55 02.6**	**+0.6**
PTL				AML	AML		13 55 07.2	
	comp=E,22510µm,0.6s							
PTL				AML	AML		13 55 10.5	
	comp=N,20862µm,0.8s							
PTL	**Penteli**	**0.38**	**55**	P	**Pg**		**13 54 56.6**	**-0.2**
PTL				S	**Sb**		**13 55 03.1**	**-0.5**
VIL2	**Platees**	**0.41**	**337**	P	**Pg**		**13 54 56.3**	**-1.1**
VIL2				S	**Sg**		**13 55 03.0**	**0.0**
VIL2				AML	AML		13 55 05.9	
	comp=E,71726µm,0.5s							
VIL2				AML	AML		13 55 07.3	
	comp=N,47987µm,0.6s							
DION	**Dionisos Attik**	**0.44**	**56**	P	**Pg**		**13 54 57.8**	**-0.2**
DION				S	**Sg**		**13 55 04.5**	**+0.6**
DION				AML	AML		13 55 10.3	
	comp=E,22651µm,0.6s							
DION				AML	AML		13 55 12.9	
	comp=N,29780µm,0.8s							
DION	**Dionisos Attik**	**0.44**	**56**	P	**Pg**		**13 54 57.8**	**-0.2**
DION				S	**Sb**		**13 55 05.0**	**-0.3**
	comp=N,21µm,0.7s							
KRND	**KRANIDI**	**0.51**	**210**	P	**Pg**		**13 54 58.5**	**-0.7**
KRND				S	**Sb**		**13 55 06.9**	**-0.5**
KRND				AML	AML		13 55 07.6	
	comp=E,80187µm,0.6s							
KRND				AML	AML		13 55 07.8	
	comp=N,47723µm,0.5s							
KRND	**KRANIDI**	**0.51**	**210**	P	**Pg**		**13 54 58.6**	**-0.7**
KRND				S	**Sb**		**13 55 07.0**	**-0.4**
	comp=N,32µm,0.5s							
THAL	**Thalero**	**0.67**	**288**	P	**Pg**		**13 55 02.0**	**-0.2**
THAL				S	**Sb**		**13 55 11.7**	**-0.1**
THAL				AML	AML		13 55 19.3	
	comp=E,40179µm,0.8s							
THAL				AML	AML		13 55 19.8	
	comp=N,35611µm,0.5s							
THAL	**Thalero**	**0.67**	**288**	P	**Pg**		**13 55 01.9**	**-0.3**
THAL				S	**Sb**		**13 55 11.8**	**-0.1**
	comp=N,21µm,0.6s							
KARY	**Karystos**	**0.79**	**75**	P	**Pg**		**13 55 04.3**	**-0.2**
KARY	**Karystos**	**0.79**	**75**	P	**Pg**		**13 55 04.0**	**-0.5**
KARY				S	**Sb**		**13 55 15.4**	**0.0**
LKR	**Lokris**	**0.90**	**336**	P	**Pg**		**13 55 05.6**	**-0.9**
LKR				S	**Sn**		**13 55 19.9**	**-0.4**
LKR				AML	AML		13 55 22.2	
	comp=N,32315µm,0.6s							
LKR				AML	AML		13 55 23.6	
	comp=E,22039µm,0.3s							
LKR	**Lokris**	**0.90**	**336**	P	**Pg**		**13 55 05.4**	**-1.1**
LKR				S	**Sn**		**13 55 19.6**	**-0.7**
ATAL	**Atalanti**	**0.93**	**338**	P	**Pb**		**13 55 06.0**	**-1.1**
ATAL				S	**Sn**		**13 55 21.5**	**+0.4**
ATAL				AML	AML		13 55 22.1	
	comp=N,24606µm,0.9s							
ATAL				AML	AML		13 55 23.0	
	comp=E,27013µm,0.8s							
ATAL	**Atalanti**	**0.93**	**338**	P	**Pb**		**13 55 06.0**	**-1.1**
ATAL				S	**Sn**		**13 55 20.9**	**-0.2**
KYMI	**Kymi, Euboea I**	**0.94**	**32**	P	**Pb**		**13 55 06.6**	**-0.8**
KYMI				S	**Sn**		**13 55 20.6**	**-0.8**
KYMI				AML	AML		13 55 23.4	
	comp=N,17727µm,0.6s							
KYMI				AML	AML		13 55 26.2	
	comp=E,16635µm,0.6s							
KYMI	**Kymi, Euboea I**	**0.94**	**32**	P	**Pb**		**13 55 06.8**	**-0.5**
KYMI				S	**Sb**		**13 55 20.0**	**+0.3**
	comp=E,9µm,0.6s							
KLV	**Kalavryta, Ach**	**1.06**	**282**	P	**Pb**		**13 55 09.2**	**-0.2**
KLV				S	**Sn**		**13 55 24.6**	**+0.1**
KLV				AML	AML		13 55 26.5	
	comp=E,14816µm,0.7s							
KLV				AML	AML		13 55 27.1	
	comp=N,13564µm,0.7s							
KLV	**Kalavryta, Ach**	**1.06**	**282**	P	**Pb**		**13 55 08.6**	**-0.8**
KLV				S	**Sn**		**13 55 24.4**	**-0.1**
VLI	**Veliai**	**1.19**	**201**	P	**Pn**		**13 55 10.6**	**-0.9**
VLI				S	**Sb**		**13 55 26.8**	**0.0**

LAKA	**Lakka**	**1.25**	**290**	P	**Pn**	**13 55 11.7**	**-0.5**
SKY	**Skiros Island**	**1.35**	**39**	P	**Pn**	**13 55 13.1**	**-0.5**
MHLO	**Agia Marina, M**	**1.36**	**147**	P	**Pb**	**13 55 14.1**	**-0.3**
ITM	**Ithomi**	**1.39**	**243**	P	**Pn**	**13 55 14.6**	**+0.4**
ITM	**Ithomi**	**1.39**	**243**	PN	**Pn**	**13 55 14.2**	**0.0**
ITM				SN	**Sg**	**13 55 33.7**	**-0.2**
ITM	**Ithomi**	**1.39**	**243**	Pn	**Pn**	**13 55 14.5**	**+0.3**
NEO	**Neokhori**	**1.49**	**353**	P	**Pn**	**13 55 15.7**	**+0.1**
AGG	**Agios Georgios**	**1.49**	**323**	P	**Pn**	**13 55 15.6**	**0.0**
AGG				S	**Sb**	**13 55 35.4**	**-0.1**
AGG	**Agios Georgios**	**1.49**	**323**	P	**Pn**	**13 55 15.9**	**+0.3**
AGG	**Agios Georgios**	**1.49**	**323**	PN	**Pn**	**13 55 15.4**	**-0.2**
AGG				SN	**Sg**	**13 55 36.6**	**-0.5**
AGG	**Agios Georgios**	**1.49**	**323**		**Pn**	**13 55 15.9**	**+0.3**
AGG	**Agios Georgios**	**1.49**	**323**	P	**Pn**	**13 55 16.2**	**+0.6**
AGG				S	**Sg**	**13 55 38.2**	**+1.1**
XOR	**Xorichti**	**1.55**	**352**	P	**Pn**	**13 55 16.5**	**+0.1**
KTHA	**Kythira Island**	**1.60**	**192**	P	**Pn**	**13 55 16.7**	**-0.5**
EVR	**Evrytania**	**1.70**	**310**	P	**Pn**	**13 55 18.9**	**+0.4**
APE	**Apeiranthos**	**1.81**	**114**	⇑P	**Pn**	**13 55 19.6**	**-0.5**
APE				⇑S	**Sb**	**13 55 44.1**	**-0.5**
APE	**Apeiranthos**	**1.81**	**114**	P	**Pn**	**13 55 19.4**	**-0.6**
APE	**Apeiranthos**	**1.81**	**114**	*c* iP	**Pn**	**13 55 19.4**	**-0.6**
APE	**Apeiranthos**	**1.81**	**114**	PN	**Pn**	**13 55 19.7**	**-0.3**
APE	**Apeiranthos**	**1.81**	**114**	P	**Pn**	**13 55 19.5**	**-0.5**
APE				S	**Sn**	**13 55 43.6**	**+0.7**
THL	**Klokotos Trika**	**2.07**	**327**	P	**Pn**	**13 55 23.8**	**+0.2**
PAIG	**Paliouri**	**2.10**	**4**	P	**Pn**	**13 55 24.0**	**0.0**
CHOS	**Chios island**	**2.11**	**74**	P	**Pn**	**13 55 23.8**	**-0.4**
CHOS	**Chios island**	**2.11**	**74**	PN	**Pn**	**13 55 24.1**	**-0.1**
RODP	**Rodopos**	**2.28**	**174**	PN	**Pn**	**13 55 25.9**	**-0.5**
LIT	**Litokhoron**	**2.39**	**342**	P	**Pn**	**13 55 28.2**	**+0.2**
LIT	**Litokhoron**	**2.39**	**342**	Pn	**Pn**	**13 55 28.2**	**+0.2**
LIT	**Litokhoron**	**2.39**	**342**	P	**Pn**	**13 55 28.5**	**+0.5**
IMMV	**Iera Moni Meta**	**2.40**	**170**	PN	**Pn**	**13 55 27.9**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**2.43**	**79**	P	**Pn**	**13 55 28.1**	**-0.4**
ZEYE				S	**Sg**	**13 56 07.4**	**+0.1**
URLA	**Izmir**	**2.52**	**77**	PN	**Pn**	**13 55 30.1**	**+0.3**
URLA	**Izmir**	**2.52**	**77**	P	**Pn**	**13 55 29.8**	**0.0**
URLA				S	**Sg**	**13 56 12.1**	**+1.9**
OUR	**Ouranopolis**	**2.53**	**9**	PN	**Pn**	**13 55 29.9**	**0.0**
KNDR	**Palaiochora Ch**	**2.60**	**176**	PN	**Pn**	**13 55 31.1**	**+0.3**
KOCA	**Canakkale, Ayv**	**2.67**	**51**	P	**Pn**	**13 55 33.0**	**+1.1**
KOCA				S	**Sg**	**13 56 15.4**	**+0.3**
DGB	**zmir**	**2.71**	**84**	P	**Pn**	**13 55 31.6**	**-0.7**
HORT	**Hortiatis**	**2.78**	**354**	PN	**Pn**	**13 55 33.9**	**+0.5**
IDI	**Anoyia**	**2.78**	**155**	⇑P	**Pn**	**13 55 33.3**	**-0.2**
IDI				⇑S	**Sn**	**13 56 06.5**	**-0.5**
IDI	**Anoyia**	**2.78**	**155**	PN	**Pn**	**13 55 33.4**	**-0.1**
IDI	**Anoyia**	**2.78**	**155**	Pn	**Pn**	**13 55 33.0**	**-0.4**
THE	**Thessaloniki**	**2.83**	**352**	P	**Pb**	**13 55 39.4**	**0.0**
HRKL	**Herakleio**	**2.84**	**152**	PN	**Pn**	**13 55 34.6**	**+0.5**
BOZC	**Bozcaada**	**2.85**	**44**	P	**Pn**	**13 55 33.6**	**-0.6**
BLCB	**Balcova**	**2.87**	**78**	P	**Pg**	**13 55 43.2**	**-1.0**
BLCB				S	**Sg**	**13 56 21.2**	**-0.2**
AYVA	**Ayvalik**	**2.92**	**59**	P	**Pg**	**13 55 44.4**	**-0.8**
GCAM	**G?zelcaml?**	**2.99**	**91**	P	**Pn**	**13 55 35.4**	**-0.7**
SOH	**Sokhos**	**2.99**	**358**	P	**Pn**	**13 55 37.1**	**+0.9**
EZN	**Ezine**	**2.99**	**47**	P	**Pn**	**13 55 35.9**	**-0.3**
DDIM	**Aydin, Didim**	**3.02**	**96**	P	**Pg**	**13 55 45.0**	**-2.0**
DDIM				S	**Sg**	**13 56 27.4**	**+1.3**
GVD	**Gavdhos**	**3.03**	**170**	PN	**Pn**	**13 55 37.6**	**+0.9**
ZEDA	**zmir-Bergama**	**3.05**	**67**	P	**Pg**	**13 55 49.0**	**+1.3**
ECEA	**Canakkale, Ece**	**3.06**	**43**	P	**Pg**	**13 55 46.6**	**-1.1**
BAYC	**CANAKKALE_Bayr**	**3.07**	**51**	P	**Pn**	**13 55 37.2**	**-0.1**
BODT	**Bodrum**	**3.15**	**103**	P	**Pn**	**13 55 39.2**	**+0.7**
BODT				S	**Sg**	**13 56 29.9**	**-1.5**
GRG	**Griva**	**3.23**	**345**	P	**Pn**	**13 55 40.4**	**+0.9**
GRG	**Griva**	**3.23**	**345**	PN	**Pn**	**13 55 40.3**	**+0.8**
BDRM	**Kayabasi**	**3.25**	**102**	P	**Pn**	**13 55 40.3**	**+0.4**
BUHA	**Balikesir, Bur**	**3.28**	**58**	P	**Pn**	**13 55 42.3**	**+2.1**
SRS	**Serrai**	**3.28**	**2**	P	**Pn**	**13 55 40.8**	**+0.5**
FNA	**Florina**	**3.37**	**332**	P	**Pn**	**13 55 41.5**	**0.0**
FNA	**Florina**	**3.37**	**332**	PN	**Pn**	**13 55 42.5**	**+1.1**
FNA	**Florina**	**3.37**	**332**		**Pn**	**13 55 41.5**	**0.0**
AYDN	**Tasoluk**	**3.50**	**91**	P	**Pn**	**13 55 43.8**	**+0.5**
ZKR	**Zakros**	**3.50**	**140**	PN	**Pn**	**13 55 44.0**	**+0.8**
CAVK	**Edirne/Enez-Ca**	**3.54**	**35**	P	**Pn**	**13 55 42.6**	**-1.1**
VAY	**Valandovo**	**3.55**	**349**	P	**Pn**	**13 55 45.6**	**+1.6**
VAY	**Valandovo**	**3.55**	**349**	*i* Pn	**Pn**	**13 55 45.6**	**+1.6**
VAY				*i* Sn	**Sn**	**13 56 26.1**	**+0.2**
ALN	**Alexandroupoli**	**3.66**	**32**	P	**Pn**	**13 55 44.1**	**-1.2**
ALN	**Alexandroupoli**	**3.66**	**32**	Pn	**Pn**	**13 55 44.1**	**-1.2**
ALN	**Alexandroupoli**	**3.66**	**32**	P	**Pn**	**13 55 45.6**	**+0.3**
ALN				S	**Sg**	**13 55 43.8**	**-2.7**
STEP	**BALIKESIR_Sava**	**3.67**	**64**	P	**Pg**	**13 55 59.1**	**-0.4**
KARP	**Karpathos**	**3.74**	**126**		**Pn**	**13 55 47.5**	**+0.9**
BALY	**Balya**	**3.76**	**58**	P	**Pb**	**13 55 51.6**	**-3.8**
OHR	**Ohrid**	**3.87**	**329**	P	**Pn**	**13 55 52.5**	**+4.1**
OHR	**Ohrid**	**3.87**	**329**	*i* Pn	**Pn**	**13 55 51.2**	**+2.8**
YER	**Yerkesik**	**3.89**	**99**	P	**Pn**	**13 55 49.9**	**+1.2**
YER	**Yerkesik**	**3.89**	**99**	P	**Pn**	**13 55 48.3**	**-0.3**
YER				S	**Sg**	**13 56 58.8**	**+4.6**
STIP	**Stip**	**3.98**	**346**	*i* Pn	**Pn**	**13 55 51.4**	**+1.5**
STIP				*i* Sn	**Sn**	**13 56 33.2**	**-3.2**
TAVA	**DENIZLI_Tavas**	**4.34**	**93**	P	**Pn**	**13 55 55.2**	**+0.4**
PLD	**Plovdiv**	**4.37**	**12**	P	**Pn**	**13 55 57.7**	**+2.5**
SKO	**Skopje**	**4.42**	**340**	*i* Pn	**Pn**	**13 55 57.4**	**+1.5**
SCTE	**Santa Cesarea**	**4.50**	**301**	Pn	**Pn**	**13 55 57.8**	**+0.9**
VTS	**Vitosha**	**4.79**	**358**	P	**Pn**	**13 56 02.1**	**+1.1**
VTS	**Vitosha**	**4.79**	**358**	P	**Pn**	**13 56 01.1**	**+0.1**
VTS	**Vitosha**	**4.79**	**358**	Pn	**Pn**	**13 56 01.1**	**+0.1**
GDZ	**Gediz**	**4.88**	**73**	P	**Pn**	**13 56 04.2**	**+1.9**
AKAS	**Kas**	**5.16**	**106**	Pn	**Pn**	**13 56 06.8**	**+0.6**
ELL	**Elmali**	**5.25**	**100**	P	**Pn**	**13 56 07.6**	**+0.2**
ELL	**Elmali**	**5.25**	**100**	Pn	**Pn**	**13 56 07.5**	**+0.2**
ULC	**Ulcinj**	**5.25**	**323**	P	**Pn**	**13 56 11.4**	**+4.1**
DRME	**Dracevica, Mon**	**5.45**	**324**	*e*Pn	**Pn**	**13 56 12.5**	**+2.4**
PDG	**Podgorica**	**5.61**	**326**	⇑P	**Pn**	**13 56 13.2**	**+1.0**
PDG				⇑S	**Sn**	**13 57 19.8**	**+3.2**
PDG	**Podgorica**	**5.61**	**326**	Pn	**Pn**	**13 56 12.8**	**+0.5**
PDG	**Podgorica**	**5.61**	**326**	*e*Pn	**Pn**	**13 56 13.8**	**+1.5**
BLKB	**Belogradchik**	**5.82**	**354**	⇑P	**Pn**	**13 56 16.5**	**+1.4**
MATE	**Matera**	**5.96**	**300**	⇑P	**Pn**	**13 56 18.0**	**+1.1**
HCY	**Herceg Novi**	**5.98**	**322**	*e*Pn	**Pn**	**13 56 16.6**	**-0.7**
TREB	**Trebinje**	**6.25**	**323**	*e*Pn	**Pn**	**13 56 20.4**	**-0.7**
BRY	**Bratogost**	**6.31**	**325**	*e*Pn	**Pn**	**13 56 22.0**	**0.0**
UPM	**Unac-Piva**	**6.39**	**328**	*e*Pn	**Pn**	**13 56 24.6**	**+1.4**
RUDO	**Rudo**	**6.56**	**333**	*e*Pn	**Pn**	**13 56 25.6**	**+0.3**
STON	**Ston**	**6.69**	**321**	*e*Pn	**Pn**	**13 56 29.1**	**+0.7**
BBLS	**Lazići**	**6.77**	**334**	*e*Pn	**Pn**	**13 56 29.4**	**+1.7**
DIVS	**Divibare**	**6.79**	**338**	Pn	**Pn**	**13 56 29.2**	**+0.7**
DIVS	**Divibare**	**6.79**	**338**	*e*Pn	**Pn**	**13 56 29.5**	**+1.0**
MDVR	**Moldovita**	**7.07**	**350**	⇑P	**Pn**	**13 56 32.5**	**+0.2**
HERR	**Herculane**	**7.09**	**354**	⇑P	**Pn**	**13 56 32.7**	**+0.2**
SGRT	**San Giovanni R**	**7.12**	**306**	Pn	**Pn**	**13 56 33.3**	**+0.2**
VAE	**Valguarnera**	**7.19**	**270**	Pn	**Pn**	13 56 41.6	**+7.6**
	comp=N,1.4nm,0.3s,baz=188,slow=11,SNR=3.7						
VAE				Sn	**Sn**	**13 57 58.0**	**+2.3**
	comp=N,0.8nm,0.3s,baz=263,slow=23,SNR=1.1						
ARR	**Arges**	**7.58**	**6**	⇓P	**Pn**	**13 56 40.0**	**+0.7**
PAOL	**Paolisi**	**7.59**	**298**		**Pn**	**13 56 41.0**	**+1.5**
TIRR	**Tirgusor**	**7.60**	**28**	P	**Pn**	**13 56 38.4**	**-1.1**
TIRR	**Tirgusor**	**7.60**	**28**	Pn	**Pn**	**13 56 38.4**	**-1.1**
VOIR		**7.69**	**8**	⇑P	**Pn**	**13 56 42.0**	**+1.2**
VOIR		**7.69**	**8**	P	**Pn**	**13 56 41.6**	**+0.7**
VOIR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MLR	**Muntele Rosu**	**7.87**	**13**	⇑P	**Pn**	**13 56 44.7**	**+1.3**
MLR	**Muntele Rosu**	**7.87**	**13**	Pn	**Pn**	**13 56 44.7**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=322,slow=20,SNR=9.6						
MLR				LR	LR	14 00 27.5	
	comp=Z,113nm,18.0s,baz=288,slow=43						
MLR	**Muntele Rosu**	**7.87**	**13**	Pn	**Pn**	**13 56 42.1**	**-1.3**
BZS	**Buzias**	**7.90**	**351**	⇓P	**Pn**	**13 56 44.4**	**+0.7**
BZS	**Buzias**	**7.90**	**351**	P	**Pn**	**13 56 46.3**	**+2.6**
BZS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MGRS	**Mrkonjic Grad**	**8.15**	**326**	*e*Pn	**Pn**	**13 56 47.3**	**+0.2**
BR131	**Keskin Array S**	**8.17**	**73**	⇓*e*P	**Pn**	**13 56 49.8**	**+2.3**
BR131	**Keskin Array S**	**8.17**	**73**		**Pn**	**13 56 47.7**	**+0.2**
BRTR	**Keskin Array B**	**8.17**	**73**	Pn	**Pn**	**13 56 50.6**	**+3.2**
	comp=Z,0.3nm,0.3s,baz=260,slow=13,SNR=15						
BRTR	**Keskin Array B**	**8.17**	**73**	P	**Pn**	**13 56 48.0**	**+0.5**
BRTR	**Keskin Array B**	**8.17**	**73**	Pn	**Pn**	**13 56 48.0**	**+0.5**
BLY	**Banja Luka**	**8.37**	**328**	*e*Pn	**Pn**	**13 56 50.6**	**+0.5**
VRI	**Vrincioaia**	**8.39**	**16**	⇓P	**Pn**	**13 56 51.7**	**+1.4**
VRI	**Vrincioaia**	**8.39**	**16**	P	**Pn**	**13 56 52.7**	**+2.3**
VRI				pmax	pmax		
	comp=Z,9.0nm,0.6s						

MORH	**Mrgy, Hungar**	**9.11**	**338**	⇑P	**Pn**	**13 57 01.5**	**+1.3**
MORH	**Mrgy, Hungar**	**9.11**	**338**	*e*Pn	**Pn**	**13 57 01.4**	**+1.2**
MORH	**Mrgy, Hungar**	**9.11**	**338**	P	**Pn**	**13 57 01.4**	**+1.2**
KOVH	**Kovagotottos**	**9.17**	**336**	P	**Pn**	**13 57 00.1**	**-0.9**
NRCA	**Norcia**	**9.35**	**306**		**Pn**	**13 57 04.4**	**+0.8**
BURAR	**Bucovina Array**	**9.86**	**7**	P	**Pn**	**13 57 10.8**	**+0.2**
BURAR	**Bucovina Array**	**9.86**	**7**	Pn	**Pn**	**13 57 10.8**	**+0.2**
BUR08	**Bucovina Ar. S**	**9.89**	**7**	Pn	**Pn**	**13 57 11.3**	**+0.3**
MURB	**Monte Urbino**	**9.94**	**307**	Pn	**Pn**	**13 57 11.7**	**0.0**
MMAI	**Mount Meron Ar**	**10.86**	**113**	Pn	**Pn**	**13 57 24.4**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=302,slow=14,SNR=1.7						
ARSA	**Arzberg**	**11.08**	**331**	Pn	**Pn**	**13 57 26.2**	**-1.1**
	comp=Z,2.6nm,0.6s						
CONA	**Conrad Observa**	**11.52**	**334**	*e*Pn	**Pn**	**13 57 35.3**	**+2.0**
	comp=Z,3.8nm,0.9s						
MOA	**Molln**	**12.07**	**329**	*e*Pn	**Pn**	**13 57 40.1**	**-0.7**
	comp=Z,3.4nm,0.8s						
BIOA	**Bad Ischl, Aus**	**12.21**	**327**	Pn	**Pn**	**13 57 43.9**	**+1.3**
	comp=Z,2.2nm,0.8s						
VRAC	**Vranov**	**12.50**	**339**	LR	LR	14 03 28.7	
	comp=Z,70nm,19.5s,baz=200,slow=42						
EIL	**Eilat**	**12.54**	**127**	Pn	**Pn**	**13 57 46.1**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=18,slow=8.6,SNR=2.7						
ANN	**Anapa**	**12.59**	**52**	*e*P	**Pn**	**13 57 46.2**	**-1.6**
ANN				*e*S	**Sn**	**14 00 07.9**	**+0.1**
ANN				pmax	pmax		
	comp=Z,52nm,1.3s						
WATA	**Walderalm**	**12.91**	**321**	*e*Pn	**Pn**	**13 57 54.2**	**+1.9**
	comp=Z,2.6nm,0.6s						
SQTA	**Sankt Quirin**	**13.02**	**320**	Pn	**Pn**	**13 57 54.0**	**+0.2**
	comp=Z,0.9nm,0.6s						
GERES	**GERESS Array B**	**13.09**	**330**	Pn	**Pn**	**13 57 54.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=145,slow=14,SNR=5.5						
GERES				LR	LR	14 04 09.3	
	comp=Z,111nm,19.3s,baz=153,slow=43						
GERES	**GERESS Array B**	**13.09**	**330**	P	**Pn**	**13 57 55.4**	**+0.6**
GERES	**GERESS Array B**	**13.09**	**330**	Pn	**Pn**	**13 57 55.4**	**+0.6**
FETA	**Feichten**	**13.13**	**318**	*e*Pn	**Pn**	**13 57 57.5**	**+2.0**
	comp=Z,3.4nm,0.9s						
KRLC	**Kraliky**	**13.15**	**341**	*e*P	P	13 58 12.5	+6.9
MOTA	**Moosalm**	**13.15**	**320**	Pn	**Pn**	**13 57 59.3**	**+3.6**
	comp=Z,4.0nm,1.0s						
KHC	**Kasperske Hory**	**13.37**	**331**	⇓*e*P	**Pn**	**13 57 58.3**	**-0.2**
KHC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KHC	**Kasperske Hory**	**13.37**	**331**	Pn	**Pn**	**13 57 59.0**	**+0.4**
KHC	**Kasperske Hory**	**13.37**	**331**	*e*P	**Pn**	**13 57 59.3**	**+0.8**
DAVOX	**Davos/Dischmat**	**13.44**	**316**	LR	LR	14 04 55.5	
	comp=Z,58nm,18.1s,baz=86,slow=46						
DPC	**Dobruska-Polom**	**13.52**	**340**	*e*P	**P**	**13 58 10.3**	**+0.6**
DPC	**Dobruska-Polom**	**13.52**	**340**	*e*P	**P**	**13 58 10.3**	**+0.6**
SOC	**Sochi**	**13.59**	**60**	*e*P	**Pn**	**13 58 00.7**	**-0.8**
SOC				*e*		14 00 33.3	
SOC				MLR	MLR		
	comp=Z,47nm,17.0s						
**

NC303	**NORSAR Array S**	**24.62**	**346**	P	**P**	**14 00 08.2**	**-0.7**
NC303				IAmb	IAmb	14 00 33.1		
	comp=Z,12nm,1.2s							
PVAQ	**Vaqueiros**	**24.65**	**279**	*e*P	**P**	**14 00 08.9**	**-0.6**
	comp=Z,22nm,1.7s							
PVAQ	**Vaqueiros**	**24.65**	**279**	P	**P**	**14 00 08.3**	**-1.1**
PVAQ				IAmb	IAmb	14 00 11.6		
	comp=Z,7.6nm,0.9s							
NC204	**NORSAR Array S**	**24.78**	**345**	P	**P**	**14 00 09.4**	**-1.1**
NC204				IAmb	IAmb	14 00 15.7		
	comp=Z,26nm,1.2s							
EKA	**Eskdalemuir Ar**	**25.08**	**323**	P	**P**	**14 00 12.3**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=113,slow=9.5,SNR=8.9							
KLMR	**Klimovskoe**	**25.16**	**19**	*e*P	**P**	**14 00 13.6**	**-0.2**
KLMR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KLMR	**Klimovskoe**	**25.16**	**19**	*e*P	**P**	**14 00 13.6**	**-0.2**
KLMR				AMP		14 00 15.9		
	comp=Z,7.0nm,0.8s							
KIRV	**Kirov**	**26.72**	**31**‖	*e*P	**P**	**14 00 28.6**	**+0.7**
TOA0	**Torodi Ar. Sit**	**31.31**	**224**	P	**P**	**14 01 08.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**31.31**	**224**	P	**P**	**14 01 09.1**	**0.0**
	comp=Z,1.8nm,0.6s,baz=37,slow=9.3,SNR=30							
TORD	**Torodi Ar. Bea**	**31.31**	**224**	P	**P**	**14 01 08.7**	**-0.4**
ARCES	**ARCESS Array B**	**31.78**	**1**	P	**P**	**14 01 11.9**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=194,slow=9.9,SNR=11							
ARCES				LR	LR	14 15 02.0		
	comp=Z,49nm,18.4s,baz=125,slow=38							
KOWA	**Kowa**	**33.67**	**234**	P	**P**	**14 01 29.8**	**0.0**
JMIC	**Jan Mayen**	**37.14**	**343**	LR	LR	14 18 49.2		
	comp=Z,20nm,18.2s,baz=56,slow=39							
DBIC	**Dimbokro**	**40.29**	**227**	P	**P**	**14 02 25.0**	**-1.1**
	comp=Z,3.8nm,0.7s,baz=60,slow=9.6,SNR=5.7							
DBIC	**Dimbokro**	**40.29**	**227**	P	**P**	**14 02 25.9**	**-0.2**
DBIC				pmax	pmax			
	comp=Z,5.0nm,0.9s							
DBIC	**Dimbokro**	**40.29**	**227**	P	**P**	**14 02 25.9**	**-0.2**
DBIC				IAmb	IAmb	14 02 26.5		
	comp=Z,5.3nm,0.9s							
SCO	**Scoresbysund**	**40.36**	**338**	P	**P**	**14 02 26.6**	**+0.6**
SCO				pmax	pmax			
	comp=Z,46nm,1.5s							
SCO	**Scoresbysund**	**40.36**	**338**	P	**P**	**14 02 26.6**	**+0.6**
TIC	**Toumodi**	**40.40**	**227**	*e*P	**P**	**14 02 26.7**	**-0.4**
KIC	**Kosan Boka**	**40.47**	**226**	*e*P	**P**	**14 02 27.3**	**-0.3**
	comp=Z,14nm,1.0s							
KURBB	**Kurchatov Arra**	**40.56**	**53**	P	**P**	**14 02 28.8**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=278,slow=8.8,SNR=18							
KURK	**Kurchatov**	**40.62**	**53**	P	**P**	**14 02 28.8**	**+0.3**
KURK	**Kurchatov**	**40.62**	**53**	P	**P**	**14 02 28.8**	**+0.3**
KURK				IAmb	IAmb	14 02 30.6		
	comp=Z,8.1nm,1.4s							
LIC	**Lamto**	**40.75**	**227**	*e*P	**P**	**14 02 30.3**	**+0.4**
	comp=Z,6.4nm,0.4s							
MAKZ	**Makanchi**	**43.28**	**59**	P	**P**	**14 02 50.5**	**+0.2**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MAKZ	**Makanchi**	**43.28**	**59**	P	**P**	**14 02 50.5**	**+0.2**
MK31	**Makanchi Array**	**43.50**	**59***d*	*i*P	**P**	**14 02 52.4**	**+0.3**
MK31	**Makanchi Array**	**43.50**	**59**	P	**P**	**14 02 52.4**	**+0.3**
MK31				IAmb	IAmb	14 02 53.3		
	comp=Z,4.8nm,0.7s							
MKAR	**Makanchi Array**	**43.50**	**59**	P	**P**	**14 02 52.7**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=281,slow=6.9,SNR=73							
MKAR	**Makanchi Array**	**43.50**	**59**	P	**P**	**14 02 52.4**	**+0.3**
MKAR	**Makanchi Array**	**43.50**	**59**	P	**P**	**14 02 52.4**	**+0.3**
ZAA0	**Zalesovo Array**	**44.19**	**48**	P	**P**	**14 02 57.5**	**0.0**
ZALV	**Zalesovo Beam**	**44.19**	**48**	P	**P**	**14 02 57.8**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=277,slow=9.3,SNR=16							
ZALV	**Zalesovo Beam**	**44.19**	**48**	P	**P**	**14 02 57.4**	**-0.1**
NRIK	**Noril'sk**	**46.07**	**26**‖	*e*P	**P**	**14 03 12.3**	**+0.1**
NRIK				pmax	pmax			
	comp=Z,8.0nm,2.0s							
WMQ	**Urumqi**	**47.88**	**61**	*e*P	**P**	**14 03 29.8**	**+2.9**
GOMU	**GeErMu**	**55.67**	**68**	P	**P**	**14 04 26.9**	**+1.4**
GOMU				pP	pP	14 04 30.4	+0.7	
GOMU				sP	sP	14 04 31.6	+0.3	
GOMU				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GOMU				pmax	pmax			
	comp=Z,100nm,6.1s							
ZAK	**Zakamensk**	**56.02**	**49**	*e*P	**P**	**14 04 26.8**	**-0.7**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.4s							
TSUM	**Tsumeb**	**57.00**	**187**	LR	LR	14 29 40.3		
	comp=Z,35nm,18.6s,baz=148,slow=37							
SONM	**Songino Array**	**58.87**	**51**	P	**P**	**14 04 46.4**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=289,slow=6.5,SNR=5.5							
SONM	**Songino Array**	**58.87**	**51**	P	**P**	**14 04 47.8**	**+0.2**
SONM				pmax	pmax			
	comp=Z,4.0nm,1.4s							
SONM	**Songino Array**	**58.87**	**51**	P	**P**	**14 04 47.8**	**+0.2**
SONM				IAmb	IAmb	14 04 52.3		
	comp=Z,4.0nm,1.4s							
TIXI	**Tiksi**	**59.16**	**21**	P	**P**	**14 04 48.5**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=270,slow=23,SNR=1.7							
TIXI	**Tiksi**	**59.16**	**21**‖	*e*P	**P**	**14 04 48.6**	**-0.4**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.2s							
TIXI	**Tiksi**	**59.16**	**21**	IAmb	IAmb	14 04 51.2		
	comp=Z,6.1nm,1.4s							
ULN	**Ulaanbaatar**	**59.26**	**51**‖	*e*P	**P**	**14 04 49.9**	**-0.5**
ULN				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SCHQ	**Schefferville**	**60.28**	**318**	P	**P**	**14 04 55.6**	**-1.5**
	comp=Z,3.9nm,0.8s,baz=54,slow=7.1,SNR=6.7							
SCHQ	**Schefferville**	**60.28**	**318**	P	**P**	**14 04 56.7**	**-0.4**
SCHQ				IAmb	IAmb	14 05 04.1		
	comp=Z,3.7nm,0.8s							
RES	**Resolute Bay**	**60.74**	**344**	P	**P**	**14 05 00.5**	**+0.7**
RES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
RES	**Resolute Bay**	**60.74**	**344**	P	**P**	**14 05 00.5**	**+0.7**
LMN	**Caledonia Moun**	**63.03**	**308**	P	**P**	**14 05 15.4**	**-0.4**
HHC	**Hu-ho-hao-te**	**65.30**	**57**	*e*P	**P**	**14 05 31.3**	**+0.4**
HHC				pmax	pmax			
	comp=Z,13nm,0.8s							
HHC				pmax	pmax			
	comp=Z,220nm,5.6s							
PZH	**PanZhiHua**	**65.46**	**75**	P	**P**	**14 05 33.0**	**+0.8**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,5.0s							
KMI	**Kunming**	**66.95**	**75**	⇑P	**P**	**14 05 40.9**	**-1.0**
KMI				pmax	pmax			
	comp=Z,8.0nm,1.0s							
A36M	**Sachs Harbour**	**68.29**	**350**	P	**P**	**14 05 49.4**	**+0.2**
TRQ	**Mont Tremblant**	**68.73**	**312**	P	**P**	**14 05 53.2**	**+0.7**
TRQ				IAmb	IAmb	14 06 01.2		
	comp=Z,4.8nm,0.9s							
PECO	**Prince Edward**	**71.43**	**311**	P	**P**	**14 06 09.9**	**+0.8**
KSPA	**Keystone Colle**	**72.05**	**309**	P	**P**	**14 06 13.8**	**+1.0**
SADO	**Sadowa**	**72.21**	**313**	P	**P**	**14 06 14.5**	**+0.8**
SADO				IAmb	IAmb	14 06 15.3		
	comp=Z,3.6nm,0.7s							
N59A	**State Game Lan**	**72.41**	**308**	P	**P**	**14 06 16.5**	**+1.4**
INK	**Inuvik**	**72.78**	**351**	P	**P**	**14 06 16.3**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=29,slow=9.5,SNR=7.0							
INK	**Inuvik**	**72.78**	**351**	P	**P**	**14 06 16.3**	**-0.4**
INK				IAmb	IAmb	14 06 23.4		
	comp=Z,2.8nm,1.1s							
L56A	**Greenwood**	**72.81**	**310**	P	**P**	**14 06 18.7**	**+1.3**
M57A	**Sunshine Farm,**	**73.01**	**309**	P	**P**	**14 06 19.5**	**+1.0**
N58A	**Sunbury**	**73.04**	**309**	P	**P**	**14 06 19.9**	**+1.2**
WVNY	**West Valley, N**	**73.28**	**311**	P	**P**	**14 06 21.0**	**+0.9**
WVNY				IAmb	IAmb	14 06 24.0		
	comp=Z,7.5nm,0.9s							
SSPA	**Standing Stone**	**73.89**	**309**	P	**P**	**14 06 25.1**	**+1.4**
SSPA				IAmb	IAmb	14 06 25.7		
	comp=Z,6.7nm,0.8s							
M55A	**Ridgway**	**73.93**	**310**	P	**P**	**14 06 24.9**	**+0.9**
YKA	**Yellowknife Ar**	**74.49**	**341**	P	**P**	**14 06 26.6**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=33,slow=5.2,SNR=14							
BMAR	**Burnt Mountain**	**74.67**	**355**	P	**P**	**14 06 28.8**	**+0.9**
EPYK	**Eagle Plains**	**75.01**	**352**	P	**P**	**14 06 29.8**	**-0.1**
EPYK				IAmb	IAmb	14 06 30.4		
	comp=Z,3.0nm,0.9s							
R55A	**Marlinton**	**76.68**	**308**	P	**P**	**14 06 40.8**	**+0.8**
H21K	**Melozitna Rive**	**76.80**	**358**	P	**P**	**14 06 40.8**	**+0.8**
H21K				IAmb	IAmb	14 06 44.1		
	comp=Z,4.8nm,1.4s							
ILAR	**Eielson Array**	**77.45**	**356**	P	**P**	**14 06 43.4**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=355,slow=3.0,SNR=3.1							
DAWY	**Dawson**	**77.54**	**352**	P	**P**	**14 06 44.0**	**-0.3**
DAWY				IAmb	IAmb	14 07 06.6		
	comp=Z,5.0nm,1.4s							
WRH	**Wood River Hil**	**77.82**	**356**	P	**P**	**14 06 45.0**	**-0.8**
WRH				IAmb	IAmb	14 06 51.5		
	comp=Z,7.8nm,1.4s							
SCRK	**Sand Creek**	**78.04**	**354**	P	**P**	**14 06 47.4**	**+0.2**
SCRK				IAmb	IAmb	14 06 48.8		
	comp=Z,4.8nm,1.4s							
J20K	**Nowinta River**	**78.31**	**359**	P	**P**	**14 06 48.1**	**-0.4**
J20K				IAmb	IAmb	14 06 50.3		
	comp=Z,5.5nm,1.4s							
M31M	**Drury Creek, Y**	**78.72**	**350**	P	**P**	**14 06 51.6**	**+0.8**
M31M				IAmb	IAmb	14 06 52.1		
	comp=Z,1.9nm,0.8s							
BCAR	**Beaver Creek A**	**78.75**	**353**	P	**P**	**14 06 51.7**	**+0.7**
L27K	**Beaver Creek,**	**78.76**	**353**	P	**P**	**14 06 51.6**	**+0.6**
L27K				IAmb	IAmb	14 07 06.3		
	comp=Z,2.9nm,1.1s							
PDPR	**Patillas Dam,**	**78.79**	**284**	P	**P**	**14 06 52.1**	**+0.2**
PDPR				IAmb	IAmb	14 06 53.5		
	comp=Z,4.2nm,0.7s							
RND	**Reindeer**	**78.92**	**356**	P	**P**	**14 06 50.9**	**-1.1**
RND				pmax	pmax			
	comp=Z,3.0nm,1.0s							
RND	**Reindeer**	**78.92**	**356**	P	**P**	**14 06 50.9**	**-1.1**
RND				IAmb	IAmb	14 07 09.6		
	comp=Z,3.4nm,1.0s							
TRF	**Thorofare Moun**	**78.94**	**357**	P	**P**	**14 06 51.8**	**-0.4**
TRF				IAmb	IAmb	14 07 10.2		
	comp=Z,8.4nm,1.4s							
CAST	**Castle Rocks**	**79.03**	**358**	P	**P**	**14 06 52.8**	**+0.3**
PPLA	**Purkeypile**	**79.56**	**358**	P	**P**	**14 06 54.0**	**-1.6**
TTA	**Tatalina**	**79.58**	**360**	P	**P**	**14 06 55.9**	**+0.3**
TTA				pmax	pmax			
	comp=Z,3.0nm,1.4s							
TTA	**Tatalina**	**79.58**	**360**	P	**P**	**14 06 55.9**	**+0.3**
L19K	**White Mountain**	**80.32**	**359**	P	**P**	**14 06 59.8**	**+0.2**
L19K				IAmb	IAmb	14 07 06.0		
	comp=Z,5.1nm,1.4s							
SML	**Sawmill**	**80.49**	**356**	P	**P**	**14 06 59.9**	**-0.6**
SML	**Sawmill**	**80.49**	**356**	P	**P**	**14 06 59.9**	**-0.6**
SML				IAmb	IAmb	14 07 01.1		
	comp=Z,8.0nm,1.2s							
EDM	**Edmonton**	**81.90**	**335**	P	**P**	**14 07 08.0**	**-0.2**
EDM				pmax	pmax			
	comp=Z,12nm,1.5s							
EDM	**Edmonton**	**81.90**	**335**	P	**P**	**14 07 08.0**	**-0.2**
EDM				IAmb	IAmb	14 07 29.5		
	comp=Z,12nm,1.5s							
RSO	**Redoubt South**	**82.01**	**358**	P	**P**	**14 07 08.4**	**-0.3**
CCM	**Cathedral Cave**	**83.48**	**314**	P	**P**	**14 07 16.6**	**0.0**
CCM				pmax	pmax			
	comp=Z,3.0nm,0.7s							
CCM	**Cathedral Cave**	**83.48**	**314**	P	**P**	**14 07 16.6**	**0.0**
CCM				IAmb	IAmb	14 07 17.8		
	comp=Z,2.9nm,0.7s							
NEW	**Newport**	**87.39**	**335**	P	**P**	**14 07 36.1**	**+0.1**
NEW				pmax	pmax			
	comp=Z,2.0nm,0.7s							
NEW	**Newport**	**87.39**	**335**	P	**P**	**14 07 36.0**	**+0.1**
NEW				IAmb	IAmb	14 07 36.8		
	comp=Z,2.1nm,0.7s							
PDAR	**Pinedale Array**	**89.12**	**327**	P	**P**	**14 07 42.2**	**-2.3**
	comp=Z,0.2nm,0.7s,baz=53,slow=4.6,SNR=2.4							
YBH	**Yreka Blue Hor**	**95.01**	**335**	LR	LR	14 56 42.3		
	comp=Z,91nm,20.5s,baz=290,slow=39							

IDC ***17*** *13:56:33.0±1.2, 32.˚58N×130.˚74E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.2/61, mbtmp3.2/6, ML2.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/40, Error ellipse: s-maj=27.8km s-min=9.5km az=100.0*

NIED ***17*** *13:56:34.7, 32.˚65N×130.˚72E, h7km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.16; $M_{\theta\theta}$4.86; $M_{\phi\phi}$-4.70; $M_{r\theta}$1.25; $M_{\theta\phi}$3.22; $M_{\phi r}$-0.66; Fault plane solution: $M_0$5.94000×10^{14} NP1:$\phi_0$28.00000°, δ76.00000°, λ-179.00000°. NP2:$\phi_0$298.00000°, δ89.00000°, λ-14.00000°.*

JMA ***17*** *13:56:34.7, 32.˚65N×130.˚72E, h7km±1km, M3.8*

JMA Felt IV J1.

ISC 17 13:56:34.6±1.0, 32.˚57N±0.˚04×130.˚69E±0.˚08, h10km±8km, n11, σ1°06/15, mb3.3/4, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.11**	**102**	⇑P	**Pg**	**13 56 37.6**	**+0.2**
JIU3				*e*S	**Sg**	**13 56 39.3**	**0.0**
JTA	**Tamana**	**0.41**	**342**	⇑P	**Pg**	**13 56 41.9**	**-0.8**
JTA				*e*S	**Sg**	**13 56 46.9**	**-1.3**
JZO	**Okuchi**	**0.44**	**190**	P	**Pb**	**13 56 44.5**	**0.0**
JZO				*e*S	**Sb**	**13 56 51.7**	**+0.6**
JNU	**Nakatsue**	**0.57**	**17**	Pg	**Pg**	**13 56 44.3**	**-1.5**
	216nm,0.3s,baz=339,slow=4.7,SNR=165						
JNU				Lg	Lg	13 56 50.6	
	551nm,0.3s,baz=90,slow=22,SNR=28						
JTZ	**Takazaki**	**0.75**	**153**	⇑P	**Pn**	**13 56 50.9**	**-0.4**
KSRS	**Korea Array**	**5.37**	**336**	Pn	**Pn**	**13 57 55.0**	**+0.2**
	0.2nm,0.3s,baz=154,slow=14,SNR=2.0						
KSRS				Pg	**Pb**	**13 58 10.5**	**+2.0**
	0.3nm,0.3s,baz=153,slow=15,SNR=4.5						
KSRS				Lg	Lg	13 59 21.7	
	0.9nm,0.3s,baz=162,slow=29,SNR=6.2						
KSRS				LR	LR	14 00 04.7	
	comp=Z,132nm,20.7s,baz=175,slow=39						
MJAR	**Matsushiro Arr**	**7.36**	**55**	Pn	**Pn**	**13 58 22.0**	**-0.2**
	0.0nm,0.3s,baz=233,slow=13,SNR=1.2						
SONM	**Songino Array**	**23.87**	**317**	P	**P**	**14 01 48.5**	**+0.2**
	0.5nm,0.9s,baz=108,slow=7.7,SNR=1.8						
WRA	**Warramunga Arr**	**52.33**	**176**	P	**P**	**14 05 45.6**	**-1.1**
	0.6nm,1.1s,baz=1.6,slow=7.8,SNR=2.4						
ASAR	**Alice Springs**	**56.01**	**176**	P	**P**	**14 06 12.7**	**-0.8**
	0.2nm,1.1s,baz=1.5,slow=1.5,SNR=2.7						
FINES	**FINESS Array B**	**68.43**	**330**	P	**P**	**14 07 37.5**	**+1.2**
	1.8nm,0.9s,baz=90,slow=7.4,SNR=4.4						

IDC ***17*** *14:02:21.5±7.0, 51.˚60N×178.˚32E, h0km, mb3.3/6, mb1 3.7/7, mb1mx3.4/63, mbtmp3.4/7, ML3.8/1, Error ellipse: s-maj=132.9km s-min=55.4km az=82.0*

AEIC ***17*** *14:02:48±2.4, 52.˚1N±0.˚2×179.˚7E±0.˚3, h190km±8km, Error ellipse: s-maj=38.2km s-min=18.6km az=152.0*

NEIC ***17*** *14:02:50.5±0.8, 52.˚3N±0.˚3×180.˚0E±0.˚3, h175km±21km, mb4.0/33, ML2.9(AEIC), Error ellipse: s-maj=49.1km s-min=20.4km az=163.0*

ISC 17 14:02:50.1±1.8, 52.˚1N±0.˚2×179.˚9E±0.˚2, h200km, n55, σ1°37/53, mb3.9/17, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GANO	**Gareloi North**	**0.86**	**111**		**Pn**	**14 03 16.3**	**-2.7**
GALAA	**Gareloi Lava P**	**0.90**	**114**		**Pn**	**14 03 17.2**	**-2.1**
TASE	**Tanaga Southea**	**1.31**	**102**		**Pn**	**14 03 20.2**	**-2.0**
TAFP	**Tanaga Falls P**	**1.33**	**99**		**Pn**	**14 03 20.2**	**-2.1**
TAPA	**Tanaga Point A**	**1.45**	**102**		**Pn**	**14 03 21.4**	**-2.0**
KIKV	**Kanaga Island**	**1.83**	**97**		**Pn**	**14 03 25.3**	**-1.5**
KIWB	**Kanaga Island**	**1.84**	**98**	Pn	**Pn**	**14 03 25.2**	**-1.8**
ADK	**Adak**	**2.12**	**95**	Pn	**Pn**	**14 03 28.0**	**-1.8**
GSCK	**Great Sitkin C**	**2.43**	**91**		**Pn**	**14 03 31.8**	**-1.4**
GSTD	**Great Sitkin T**	**2.44**	**90**		**Pn**	**14 03 31.7**	**-1.7**
GSTR	**Great Sitkin T**	**2.49**	**89**	Pn	**Pn**	**14 03 32.5**	**-1.4**
GSMY	**Great Sitkin M**	**2.50**	**91**		**Pn**	**14 03 32.5**	**-1.4**
NIKH	**Nikolski High**	**6.91**	**79**	Pn	**Pn**	**14 04 27.1**	**-1.9**
CHGN	**Chignik**	**13.34**	**63**	P	**P**	**14 05 53.4**	**-0.8**
OHAK	**Old Harbor**	**16.26**	**61**	P	**P**	**14 06 25.4**	**-1.1**
OHAK				IAmb	IAmb	14 06 40.9	
	comp=Z,18nm,1.4s						
KDAK	**Kodiak Island**	**16.71**	**59**	P	**Pn**	**14 06 31.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=294,slow=12,SNR=13						
KDAK	**Kodiak Island**	**16.71**	**59**	IAmb	IAmb	14 06 36.6	
	comp=Z,18nm,1.4s						
P19K	**Oil Pt**	**16.75**	**53**		**Pn**	**14 06 32.6**	**-0.5**
L19K	**White Mountain**	**16.87**	**44**	P	**P**	**14 06 32.2**	**-1.1**
L19K				IAmb	IAmb	14 06 48.5	
	comp=Z,8.1nm,1.4s						
HOM	**Homer**	**17.53**	**53**	Pn	**Pn**	**14 06 42.3**	**+0.1**
CNPM	**China Poot**	**17.71**	**54**		**Pn**	**14 06 43.7**	**-0.7**
CNPM				IAmb	IAmb	14 07 07.6	
	comp=Z,18nm,1.4s						
BRLK	**Bradley Lake**	**17.93**	**53**		**Pn**	**14 06 45.6**	**-1.4**
SEW	**Seward**	**18.71**	**53**	P	**P**	**14 06 53.2**	**0.0**
H21K	**Melozitna Rive**	**19.32**	**35**	P	**Pn**	**14 07 00.1**	**-3.2**
PWL	**Port Wells**	**19.41**	**51**	P	**P**	**14 07 00.8**	**0.0**
GLI	**Glacier Island**	**20.00**	**51**	P	**P**	**14 07 07.5**	**+0.3**
NEA2	**Nenana**	**20.24**	**40**	P	**P**	**14 07 10.1**	**+0.5**
FID	**Port Fidalgo**	**20.28**	**52**	P	**P**	**14 07 10.1**	**+0.1**
DHY	**Denali Highway**	**20.41**	**45**	P	**P**	**14 07 12.1**	**+0.4**
DHY				IAmb	IAmb	14 07 14.4	
	comp=Z,3.3nm,1.0s						
MDM	**Murphy Dome**	**20.71**	**39**	P	Pn	14 07 16.1	-4.3
MDM				IAmb	IAmb	14 07 22.0	
	comp=Z,5.3nm,1.4s						
IL31		**21.17**	**41**	P	**P**	**14 07 20.0**	**+0.5**
ILAR	**Eielson Array**	**21.17**	**41**	P	**P**	**14 07 19.4**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=238,slow=8.3,SNR=9.1						
H24K	**Noodor Dome**	**21.20**	**37**	P	**P**	**14 07 21.0**	**+1.1**
PAX	**Paxson**	**21.22**	**46**	P	**P**	**14 07 20.6**	**+0.5**
RIDG	**Independent Ri**	**21.70**	**44**	P	**P**	**14 07 24.2**	**-0.7**
RIDG				IAmb	IAmb	14 07 49.4	
	comp=Z,6.8nm,1.5s						
VRDI	**Verde Repeater**	**21.81**	**51**	P	**P**	**14 07 26.7**	**+0.4**
VRDI				IAmb	IAmb	14 07 38.4	
	comp=Z,4.0nm,1.1s						
TOLK	**Toolik Lake Re**	**21.99**	**30**	P	**P**	**14 07 28.4**	**+0.6**
TOLK				IAmb	IAmb	14 07 29.0	
	comp=Z,2.3nm,0.6s						
DOT	**Dot Lake**	**22.01**	**44**	P	**P**	**14 07 28.6**	**+0.6**
SCRK	**Sand Creek**	**22.13**	**44**	P	**P**	**14 07 28.3**	**-0.9**
GRNC	**Granite Creek**	**22.57**	**53**	P	**P**	**14 07 34.9**	**+1.4**
GRNC				IAmb	IAmb	14 07 36.9	
	comp=Z,15nm,1.5s						
BARN	**Barnard Glacie**	**22.65**	**52**	P	**P**	**14 07 35.5**	**+1.4**
BARN				IAmb	IAmb	14 07 42.2	
	comp=Z,5.5nm,1.2s						
CTGM	**Chitina Glacie**	**22.80**	**52**	P	**P**	**14 07 36.8**	**+1.4**
CTGM				IAmb	IAmb	14 07 38.9	
	comp=Z,9.9nm,1.2s						
TABL	**Table Mountain**	**22.85**	**53**	P	**P**	**14 07 37.0**	**+1.0**
L27K	**Beaver Creek,**	**22.86**	**47**	P	**P**	**14 07 37.4**	**+1.6**
L27K				IAmb	IAmb	14 07 38.6	
	comp=Z,3.9nm,1.1s						
BCAR	**Beaver Creek A**	**22.88**	**47**	P	**P**	**14 07 38.0**	**+2.0**
LOGN	**Logan Glacier**	**22.95**	**52**	P	**P**	**14 07 37.9**	**+1.1**
LOGN				IAmb	IAmb	14 08 01.2	
	comp=Z,8.9nm,1.2s						
BMAR	**Burnt Mountain**	**23.06**	**35**	P	**P**	**14 07 38.7**	**+1.1**
EGAK	**Eagle**	**23.52**	**42**	P	**P**	**14 07 42.3**	**+0.7**
EGAK				IAmb	IAmb	14 07 43.6	
	comp=Z,3.2nm,0.8s						
INK	**Inuvik**	**27.31**	**36**	P	**P**	**14 08 16.4**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=246,slow=7.2,SNR=1.7						
A36M	**Sachs Harbour**	**30.82**	**30**	P	**P**	**14 08 47.8**	**+1.2**
A36M				IAmb	IAmb	14 08 48.9	
	comp=Z,1.4nm,0.8s						
C36M	**Paulatuk**	**30.86**	**35**	P	**P**	**14 08 47.6**	**+0.6**
C36M				IAmb	IAmb	14 09 08.1	
	comp=Z,3.4nm,1.5s						
YKA	**Yellowknife Ar**	**35.30**	**47**	P	**P**	**14 09 26.5**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=284,slow=8.1,SNR=3.7						
NVAR	**Mina Array Bea**	**44.26**	**83**	P	**P**	**14 10 41.7**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=302,slow=5.2,SNR=2.6						
PDAR	**Pinedale Array**	**46.84**	**72**	P	**P**	**14 11 01.0**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=321,slow=2.3,SNR=3.5						
TXAR	**Lajitas Array**	**59.33**	**81**	P	**P**	**14 12 32.6**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=318,slow=3.9,SNR=4.5						

IDC ***17*** *14:04:15.2±1.9, 2.˚32N×95.˚92E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.3/49, mbtmp3.4/6, ML3.2/1, Error ellipse: s-maj=48.0km s-min=23.5km az=45.0*

ISC 17 14:04:19.6±1.5, 2.˚4N±0.˚2×96.˚1E±0.˚1, h25km, n12, σ0°73/7, mb3.4/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.85**	**83**	Pn	**Pn**	**14 05 04.5**	**+0.8**
	3.1nm,0.3s,baz=270,slow=8.1,SNR=12						
PSI				Sn	**Sb**	**14 05 44.0**	**-0.4**
	1.4nm,0.3s,baz=176,slow=13,SNR=4.0						
H08S2	**Diego Garcia H**	**25.59**	**247**	T	T

DZM	**Mont Dzumac**	**7.27**	**184**	P		**Pn**	**14 23 20.6**	**-0.6**
	1.8nm,0.3s,baz=15,slow=20,SNR=30							
DZM				S		**Sn**	**14 24 44.5**	**+2.0**
	0.9nm,0.3s,baz=121,slow=19,SNR=1.3							
DZM				LR		LR	14 25 41.3	
	comp=Z,134nm,18.1s,baz=40,slow=35							
DZM	**Mont Dzumac**	**7.27**	**184**			**Pn**	**14 23 20.6**	**-0.6**
DZM						**Sn**	**14 24 44.5**	**+2.0**
ONTNC	**Ouen Toro**	**7.51**	**184**	Pn		**Pn**	**14 23 24.6**	**+0.3**
OUENC	**Ouen Island, N**	**7.60**	**181**	Pn		**Pn**	**14 23 24.8**	**-0.8**
CTAO	**Charters Tower**	**20.43**	**252**	P		**P**	**14 26 08.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**74.69**	**294**	P		P	14 33 21.5	+10
	0.3nm,0.6s,baz=119,slow=5.6,SNR=1.6							
SEY	**Seymchan**	**78.29**	**353**	P		**P**	**14 33 35.0**	**+4.1**
	1.0nm,0.7s,baz=232,slow=10,SNR=4.8							
SEY	**Seymchan**	**78.29**	**353**	P		**P**	**14 33 35.0**	**+4.1**
SONM	**Songino Array**	**82.35**	**324**	P		P	14 34 01.9	+8.7
	0.2nm,0.5s,baz=121,slow=5.8,SNR=2.1							
H21K	**Melozitna Rive**	**85.67**	**16**	P		**P**	**14 34 08.6**	**-1.0**
IMAR	**Indian Mountai**	**85.69**	**15**	P		**P**	**14 34 09.7**	**0.0**
CCB	**Clear Creek Bu**	**86.30**	**18**	P		**P**	**14 34 11.6**	**-1.1**
CCB				IAmb		IAmb	14 34 27.7	
	comp=Z,1.3nm,1.0s							
IL31		**86.67**	**18**	P		**P**	**14 34 13.2**	**-1.2**
IL31				IAmb		IAmb	14 34 27.1	
	comp=Z,5.5nm,1.4s							
ILAR	**Eielson Array**	**86.67**	**18**	P		**P**	**14 34 13.3**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=242,slow=4.7,SNR=14							
ILAR	**Eielson Array**	**86.67**	**18**	P		**P**	**14 34 12.7**	**-1.8**
TOLK	**Toolik Lake Re**	**88.78**	**15**	P		**P**	**14 34 25.4**	**+0.8**
TOLK				IAmb		IAmb	14 34 26.2	
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**97.03**	**316**	P		Pdif	14 35 09.0	+5.8
	comp=Z,0.4nm,0.6s,baz=96,slow=5.0,SNR=5.1							
MKAR	**Makanchi Array**	**97.03**	**316**	P		**P**	**14 35 02.0**	**-1.1**
YKA	**Yellowknife Ar**	**97.73**	**27**	P		**P**	**14 35 04.7**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=260,slow=4.7,SNR=2.3							
YKA	**Yellowknife Ar**	**97.73**	**27**	P		**P**	**14 35 04.7**	**-1.1**
ARCES	**ARCESS Array B**	**120.22**	**345**	PKP		**PKiKP**	**14 40 21.5**	**0.0**
	comp=Z,1.3nm,0.5s,baz=57,slow=3.3,SNR=9.4							

*IDC **17** 14:23:05.6±3.2, 6.°42S×147.°07E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/41, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=64.0km s-min=34.5km az=75.0*

ISC 17 14:23:13.4±1.3, 6.°6S±0.°1×147.°0E±0.°1, h49km, n14, σ1♀43/15, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.84**	**176**	Pn	**Pn**	**14 23 54.9**	**-1.5**
	17nm,0.3s,baz=0.0,slow=9.1,SNR=36						
PMG				Sn	**Sn**	**14 24 29.5**	**+0.1**
	16nm,0.3s,baz=264,slow=21,SNR=6.5						
PMG	**Port Moresby**	**2.84**	**176**	P	**Pn**	**14 23 55.1**	**-1.2**
RABL	**Rabaul**	**5.69**	**66**	P	**Pn**	**14 24 36.1**	**+0.7**
COEN	**Coen**	**8.25**	**207**	P	**Pn**	**14 25 10.9**	**+0.4**
MTSU	**Mount Surprise**	**11.80**	**192**	P	**Pn**	**14 25 58.1**	**-1.0**
WRAB	**Tennant Creek**	**18.08**	**221**	P	**Pn**	**14 27 22.6**	**+1.4**
WRA	**Warramunga Arr**	**18.10**	**221**	P	**P**	**14 27 20.1**	**-1.2**
	0.2nm,0.3s,baz=48,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.15**	**215**	P	**P**	**14 27 54.2**	**-0.3**
	1.4nm,0.7s,baz=38,slow=12,SNR=22						
INKA	**Innaminka**	**21.89**	**195**	P	**P**	**14 28 04.4**	**+2.1**
	15nm,1.2s						
OOD	**Oodnadatta**	**23.68**	**206**	P	**P**	**14 28 23.4**	**+2.7**
	5.9nm,2.9s						
FITZ	**Fitzroy Crossi**	**23.75**	**239**	P	**P**	**14 28 21.9**	**+0.5**
	0.5nm,0.4s,baz=54,slow=8.0,SNR=2.0						
LCRK	**Leigh Creek**	**25.15**	**198**	P	**P**	**14 28 35.2**	**+1.1**
STKA	**Stephens Creek**	**25.69**	**191**	P	**P**	**14 28 38.8**	**-0.2**
	1.2nm,0.5s,baz=0.7,slow=7.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**145.19**	**284**	PKPbc	**PKPbc**	**14 42 44.7**	**-1.6**
	0.9nm,0.7s,baz=98,slow=2.8,SNR=2.4						

*NOU **17** 14:28:11.0, 32.°28S×177.°19W, h320km, mb4.2/6, South of Kermadec Islands*

*WEL **17** 14:29:00.2±1.0, 35.°5S±5.°×17.°9E±1.°1, h33km, M3.8/13, mB4.2/1, ML4.1/23, MLv3.8/13, Mw(mB)3.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=91.2*

ISC 17 14:28:59.3±3.8, 34.°7S±0.°2×179.°2E±0.°2, h150km, n47, σ1♀62/58, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**3.17**	**192**	P	**Pn**	**14 29 51.2**	**+2.5**
WMGZ				S	**Sn**	**14 30 29.3**	**+2.3**
HAZ	**Te Kaha**	**3.25**	**201**	P	**Pn**	**14 29 51.6**	**+1.9**
HAZ				S	**Sn**	**14 30 29.5**	**+0.6**
PKGZ	**Pakihiroa**	**3.30**	**196**	P	**Pn**	**14 29 52.4**	**+1.9**
PKGZ				S	**Sn**	**14 30 29.6**	**-0.6**
PUZ	**Puketiti**	**3.44**	**193**	P	**Pn**	**14 29 53.6**	**+1.4**
PUZ				S	**Sn**	**14 30 34.5**	**+1.1**
RUGZ	**Raukumara Rang**	**3.48**	**201**	P	**Pn**	**14 29 54.3**	**+1.5**
RUGZ				S	**Sn**	**14 30 33.7**	**-0.6**
KUZ	**Kuaotunu**	**3.50**	**234**	P	**Pn**	**14 29 53.7**	**+0.8**
TWGZ	**Tauwhareparae**	**3.60**	**196**	S	**Sn**	**14 30 38.2**	**+1.2**
CNGZ	**Carnagh Statio**	**3.85**	**192**	P	**Pn**	**14 29 58.8**	**+1.3**
MWZ	**Matawai**	**3.86**	**200**	P	**Pn**	**14 29 58.8**	**+1.1**
MWZ				S	**Sn**	**14 30 42.6**	**-0.5**
TKGZ	**Te Karaka**	**3.88**	**196**	P	**Pn**	**14 29 58.6**	**+0.7**
TKGZ				S	**Sn**	**14 30 43.7**	**+0.3**
URZ	**Urewera**	**3.92**	**205**	P	**Pn**	**14 29 59.2**	**+0.7**
URZ				S	**Sn**	**14 30 45.4**	**+0.9**
URZ	**Urewera**	**3.92**	**205**	P	**Pn**	**14 29 59.3**	**+0.8**
RAGZ	**Rawiri**	**4.04**	**201**	P	**Pn**	**14 30 01.3**	**+1.2**
MKAZ	**Moumakai**	**4.07**	**233**	P	**Pn**	**14 30 01.9**	**+1.5**
RIGZ	**Rimuhau**	**4.15**	**196**	P	**Pn**	**14 30 02.1**	**+0.7**
WCZ	**Waipu Caves**	**4.17**	**252**	P	**Pn**	**14 30 00.9**	**-0.8**
MUGZ	**Murupara**	**4.24**	**207**	P	**Pn**	**14 30 03.6**	**+1.0**
MUGZ				S	**Sn**	**14 30 53.9**	**+1.9**
RTZ	**Ruatahuna**	**4.29**	**204**	P	**Pn**	**14 30 02.8**	**-0.5**
RTZ				S	**Sn**	**14 30 52.5**	**-0.7**
SNGZ	**Shannon Statio**	**4.33**	**200**	P	**Pn**	**14 30 04.0**	**+0.2**
SNGZ				S	**Sn**	**14 30 54.3**	**+0.2**
PRGZ	**Paritu Road**	**4.33**	**194**	P	**Pn**	**14 30 04.1**	**+0.2**
PRGZ				S	**Sn**	**14 30 54.8**	**+0.6**
KNZ	**Kokohu**	**4.47**	**196**	P	**Pn**	**14 30 05.2**	**-0.4**
OUZ	**Omahuta**	**4.65**	**262**	P	**Pn**	**14 30 07.4**	**-0.6**
MRHZ	**Matea Rd**	**4.69**	**208**	P	**Pn**	**14 30 08.4**	**-0.2**
ARHZ	**Aropaoanui**	**4.88**	**201**	P	**Pn**	**14 30 10.1**	**-0.9**
BKZ	**Black Stump Fm**	**4.95**	**205**	P	**Pn**	**14 30 11.3**	**-0.7**
BKZ	**Black Stump Fm**	**4.95**	**205**	P	**Pn**	**14 30 11.5**	**-0.5**
MCHZ	**McNeill Hill**	**5.13**	**202**	P	**Pn**	**14 30 13.8**	**-0.6**
HIZ	**Hauiti**	**5.17**	**222**	P	**Pn**	**14 30 17.0**	**+2.1**
HIZ	**Hauiti**	**5.17**	**222**	P	**Pn**	**14 30 16.9**	**+2.1**
KWHZ	**Kaweka Forest**	**5.21**	**205**	P	**Pn**	**14 30 13.9**	**-1.5**
NTVZ	**North Tongarir**	**5.22**	**212**	P	**Pn**	**14 30 15.3**	**-0.3**
TMVZ	**Te Maari**	**5.22**	**212**	P	**Pn**	**14 30 15.1**	**-0.5**
OTVZ	**Oturere**	**5.27**	**212**	P	**Pn**	**14 30 15.4**	**-1.0**
SNVZ	**South Ngauruho**	**5.30**	**212**	P	**Pn**	**14 30 16.2**	**-0.7**
BHHZ	**Black Hill Sta**	**5.39**	**207**	P	**Pn**	**14 30 16.8**	**-1.1**
KAHZ	**Kahuranaki**	**5.40**	**200**	P	**Pn**	**14 30 16.6**	**-1.4**
KRHZ	**Kereru**	**5.42**	**204**	P	**Pn**	**14 30 16.3**	**-1.9**
PNHZ	**Pukenui**	**5.72**	**204**	P	**Pn**	**14 30 20.1**	**-2.1**
PRHZ	**Porangahau**	**5.91**	**200**	P	**Pn**	**14 30 22.5**	**-2.2**
TSZ	**Takapari Road**	**5.93**	**205**	P	**Pn**	**14 30 22.9**	**-2.2**
ANWZ	**Angora Road**	**6.13**	**200**	P	**Pn**	**14 30 25.9**	**-1.8**
BFZ	**Birch Farm**	**6.41**	**201**	P	**Pn**	**14 30 28.3**	**-3.0**
BFZ	**Birch Farm**	**6.41**	**201**	P	**Pn**	**14 30 28.1**	**-3.2**
MRZ	**Mangatainoka R**	**6.60**	**205**	P	**Pn**	**14 30 29.9**	**-4.0**
TIWZ	**Tintock**	**6.60**	**203**	P	**Pn**	**14 30 30.5**	**-3.5**
TMWZ	**Te Maipa**	**6.90**	**201**	P	**Pn**	**14 30 34.3**	**-3.7**
KHZ	**Kahutara**	**8.88**	**208**	P	Pn	14 30 58.7	-5.6

*IDC **17** 14:31:24.2±0.7, 32.°43N×139.°96E, h116km±7km, mb3.3/8, mb1 3.4/11, mb1mx3.2/46, mbtmp3.7/11, Error ellipse: s-maj=51.6km s-min=10.1km az=71.0*

*JMA **17** 14:31:25.7±0.1, 32.°62N×140.°01E, h127km±1km, M3.3*

ISC 17 14:31:25.0±0.8, 32.°48N±0.°05×140.°04E±0.°09, h127km±6km, n32, σ1♀00/37, mb3.6/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**0.23**	**267**	P	**Pn**	**14 31 43.4**	**+0.8**
JAOM				S	**Sn**	**14 31 56.7**	**+0.8**
JHCJ	**Hachijojimakas**	**0.63**	**341**	P	**Pn**	**14 31 44.4**	**-0.1**
JHCJ				S	**Sn**	**14 31 58.5**	**-0.9**
JHJ2	**Mitsune**	**0.66**	**343**	P	**Pn**	**14 31 44.7**	**0.0**
JHJ2				S	**Sn**	**14 31 58.9**	**-0.8**
JHJ	**Hachijo jima 2**	**0.68**	**341**	P	**Pn**	**14 31 44.9**	**0.0**
	184nm,0.3s,baz=115,slow=21,SNR=70						
JHJ				S	**Sn**	**14 31 58.0**	**-1.9**
	94nm,0.3s,baz=89,slow=18,SNR=6.6						
JIM2	**Oshima 3**	**2.29**	**347**	P	**Pn**	**14 32 02.4**	**0.0**
BSO1	**Boso 1**	**2.31**	**20**	P	**Pn**	**14 32 01.9**	**-0.1**
BSO1				eS	**Sn**	**14 32 29.7**	**-0.9**
BSO3	**Boso 3**	**2.35**	**9**	P	**Pn**	**14 32 02.6**	**-0.2**
BSO3				S	**Sn**	**14 32 31.7**	**-0.3**
TKO2	**Tokai 2**	**2.41**	**308**	P	**Pn**	**14 32 03.4**	**-0.2**
TTO2	**TONANKAI O.B.S**	**2.82**	**297**	P	**Pn**	**14 32 08.4**	**-0.5**
JOD2	**Odawara 2**	**2.89**	**344**	P	**Pn**	**14 32 10.1**	**+0.1**
JYN	**Shimob**	**3.26**	**338**	P	**Pn**	**14 32 15.1**	**+0.2**
JIE	**Ise**	**3.38**	**305**	P	**Pn**	**14 32 15.6**	**-0.8**
JRY	**Ryogami san**	**3.65**	**345**	P	**Pn**	**14 32 20.3**	**+0.2**
JRY				S	**Sn**	**14 33 01.4**	**-1.4**
JTNC	**Tanabenakahech**	**3.95**	**291**	P	**Pn**	**14 32 23.5**	**-0.5**
JAG	**Ashikaga**	**3.97**	**353**	P	**Pn**	**14 32 22.7**	**-1.5**
MJAR	**Matsushiro Arr**	**4.33**	**340**	P	**Pn**	**14 32 28.6**	**-0.4**
	0.3nm,0.3s,baz=171,slow=14,SNR=13						
MJAR				S	**Sn**	**14 33 18.3**	**-0.5**
	0.2nm,0.3s,baz=158,slow=28,SNR=1.4						
JCJ	**Chichijima**	**5.68**	**160**	P	**Pn**	**14 32 46.1**	**-1.1**
	3.1nm,0.3s,baz=34,slow=23,SNR=8.4						
JCJ				S	**Sn**	**14 33 48.2**	**-3.0**
	3.8nm,0.3s,baz=304,slow=12,SNR=2.2						
KSRS	**Korea Array**	**11.11**	**300**	P	**Pn**	**14 34 01.2**	**+1.1**
	0.1nm,0.3s,baz=112,slow=12,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**27.17**	**111**	T	T	15 06 11.1	
	baz=306,slow=75,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**27.17**	**111**	T	T	15 06 03.9	
	baz=306,slow=75,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**27.18**	**111**	T	T	15 06 09.1	
	baz=306,slow=75,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**27.70**	**114**	T	T	15 06 15.2	
	baz=303,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.70**	**114**	T	T	15 06 11.6	
	baz=303,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.71**	**114**	T	T	15 06 11.7	
	baz=303						
ZALV	**Zalesovo Beam**	**44.27**	**316**	P	**P**	**14 39 20.7**	**-1.0**
	0.3nm,0.4s,baz=108,slow=9.3,SNR=2.4						
ZALV				PcP	**PcP**	**14 41 04.0**	**+0.3**
	0.7nm,0.4s,baz=114,slow=3.5,SNR=5.0						
MKAR	**Makanchi Array**	**45.72**	**306**	P	**P**	**14 39 33.0**	**-0.3**
	0.4nm,0.4s,baz=87,slow=9.7,SNR=10						
WRA	**Warramunga Arr**	**52.41**	**187**	P	**P**	**14 40 24.2**	**-0.1**
	0.2nm,0.4s,baz=1.2,slow=7.5,SNR=10						
WRA				PcP	**PcP**	**14 41 35.7**	**+2.2**
	0.2nm,0.5s,baz=360,slow=4.3,SNR=1.6						
ASAR	**Alice Springs**	**56.14**	**187**	P	**P**	**14 40 51.7**	**+0.4**
	0.1nm,0.5s,baz=4.6,slow=6.3,SNR=5.5						
ARCES	**ARCESS Array B**	**67.86**	**340**	P	**P**	**14 42 10.6**	**+1.5**
	3.1nm,0.9s,baz=52,slow=7.3,SNR=2.2						
FINES	**FINESS Array B**	**72.32**	**333**	P	**P**	**14 42 36.5**	**+0.2**
	0.7nm,0.6s,baz=72,slow=4.5,SNR=6.0						
AKASG	**Malin Array Be**	**77.21**	**322**	P	**P**	**14 43 04.2**	**-0.5**
	0.6nm,0.3s,baz=51,slow=5.2,SNR=2.4						
BRTR	**Keskin Array B**	**81.02**	**311**	P	**P**	**14 43 26.3**	**+0.4**
	0.7nm,0.6s,baz=80,slow=3.2,SNR=4.5						

IDC 17 14:47:39.5±16.0, 38.°05S×77.°90E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.2/46, mbtmp3.6/3, MS3.5/6, Ms1 3.4/6, ms1mx3.0/55, Error ellipse: s-maj=548.0km s-min=51.4km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**29.19**	**95**	T	T	15 23 47.2	
	baz=253,slow=75,SNR=120						
H01W3	**Cape Leeuwin H**	**29.20**	**95**	T	T	15 23 50.2	
	baz=253,slow=75,SNR=84						
H01W1	**Cape Leeuwin H**	**29.21**	**95**	T	T	15 23 51.0	
	baz=253,slow=75,SNR=122						
H08S2	**Diego Garcia H**	**30.66**	**349**	T	T	15 25 40.9	
	baz=171,slow=76,SNR=213						
H08S1	**Diego Garcia H**	**30.66**	**349**	T	T	15 25 41.2	
	baz=171,slow=76,SNR=282						
H08S3	**Diego Garcia H**	**30.68**	**349**	T	T	15 25 42.3	
	baz=171,slow=76,SNR=300						
LEM	**Lembang**	**41.12**	**48**	LR	LR	15 08 20.0	
	comp=Z,78nm,19.9s,baz=194,slow=30						
BOSA	**Boshof**	**44.47**	**266**	LR	LR	15 10 26.9	
	comp=Z,35nm,18.8s,baz=182,slow=31						
LBTB	**Lobatse**	**45.88**	**271**	LR	LR	15 12 06.0	
	comp=Z,64nm,18.4s,baz=130,slow=32						
SUR	**Sutherland**	**46.36**	**259**	LR	LR	15 11 40.7	
	comp=Z,46nm,19.5s,baz=145,slow=31						
ASAR	**Alice Springs**	**49.48**	**90**	P	P	14 56 31.4	-0.4
	0.9nm,1.0s,baz=236,slow=7.7,SNR=5.4						
KAPI	**Kappang**	**50.27**	**60**	LR	LR	15 15 17.9	
	comp=Z,26nm,19.6s,baz=306,slow=33						
WRA	**Warramunga Arr**	**51.78**	**86**	P	P	14 56 49.4	+0.2
	1.3nm,1.1s,baz=237,slow=7.2,SNR=5.4						
VNDA	**Vanda**	**51.89**	**164**	LR	LR	15 16 42.8	
	comp=Z,53nm,19.6s,baz=270,slow=34						
MKAR	**Makanchi Array**	**84.56**	**3**	P	P	15 00 14.1	0.0
	0.4nm,0.8s,baz=191,slow=6.9,SNR=3.6						

*NEIC **17** 14:50:59.0±1.3, 18.°6S±0.°1×177.°5W±0.°1, h591km±9km, mb4.2/54, Error ellipse: s-maj=20.4km s-min=5.6km az=140.0*

*IDC **17** 14:51:01.5±2.0, 18.°54S×177.°70W, h619km±23km, mb3.4/8, mb1 3.6/10, mb1mx3.2/41, mbtmp4.4/10, Error ellipse: s-maj=70.9km s-min=15.4km az=149.0*

ISC 17 14:50:59.7±0.6, 18.°62S±0.°09×177.°61W±0.°09, h600km, n72, σ0♀80/73, mb4.3/34, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.29**	**95**	P	**P**	**14 52 51.1**	**-1.4**
AFI	**Afiamalu**	**7.30**	**51**	P	**P**	**14 52 55.3**	**+2.6**
	5.4nm,0.3s,baz=346,slow=0.9,SNR=7.8						
FUNA	**Funafuti**	**10.51**	**342**	P	**P**	**14 53 22.8**	**-0.8**
MARNC	**Mare, Loyalty**	**13.79**	**256**	P	**P**	**14 53 56.5**	**0.0**
LIFNC	**LIFOU**	**14.43**	**259**	P	**P**	**14 54 03.0**	**+0.4**
PINNC	**Pines Island,**	**14.54**	**252**	P	**P**	**14 54 04.4**	**+0.7**
SANVU	**Saraoutou**	**14.86**	**280**	P	**P**	**14 54 07.3**	**+0.6**
DZM	**Mont Dzumac**	**15.34**	**254**	P	**P**	**14 54 13.1**	**+2.0**
	1.0nm,0.3s,baz=85,slow=19,SNR=12						
DZM	**Mont Dzumac**	**15.34**	**254**	IAmb	IAmb	14 54 38.1	
	comp=Z,19nm,1.2s						
KNTN	**Kanton**	**16.78**	**21**	P	**P**	**14 54 23.3**	**-1.0**
KNTN				IAmb	IAmb	14 54 46.2	
	comp=Z,32nm,1.1s						
KOUNC	**Koumac, New Ca**	**17.16**	**261**	P	**P**	**14 54 28.1**	**+0.3**
NNZ	**Nelson**	**23.80**	**197**	P	**P**	**14 55 26.5**	**-0.7**
TUWZ	**Tuamarina**	**23.85**	**196**	P	**P**	**14 55 27.1**	**-0.5**
FOZ	**Fox Glacier**	**27.00**	**200**	P	**P**	**14 55 55.1**	**-0.2**
WHZ	**Wether Hill Ro**	**29.71**	**201**	P	**P**	**14 56 19.2**	**+0.5**
EIDS	**Eidsvold**	**29.75**	**251**	P	**P**	**14 56 18.7**	**-0.7**
EIDS				IAmb	IAmb	14 56 20.6	
	comp=Z,7.2nm,0.9s						
ARMA	**Armidale**	**30.25**	**241**	P	**P**	**14 56 24.1**	**+0.3**
ARMA				IAmb	IAmb	14 56 25.5	
	comp=Z,6.4nm,0.8s						
CAN	**Canberra**	**33.88**	**234**	P	**P**	**14 56 54.9**	**+0.6**
CTA	**Charters Tower**	**34.08**	**262**	P	**P**	**14 56 56.3**	**+0.1**
	comp=Z,9.5nm,0.4s,baz=92,slow=9.0,SNR=15						
CTAO	**Charters Tower**	**34.08**	**262**	P	**P**	**14 56 56.3**	**+0.1**
PMG	**Port Moresby**	**35.33**	**280**	P	**P**	**14 57 07.7**	**+1.1**
TOO	**Toolangi**	**37.32**	**232**	P	**P**	**14 57 22.9**	**+0.4**
TOO				IAmb	IAmb	14 57 23.5	
	comp=Z,19nm,1.1s						
COEN	**Coen**	**37.87**	**271**	P	**P**	**14 57 28.1**	**+0.8**
TAU	**Tasmania Unive**	**38.23**	**223**	P	**P**	**14 57 31.2**	**+1.4**
STKA	**Stephens Creek**	**38.96**	**242**	P	**P**	**14 57 36.5**	**+0.7**
	comp=Z,3.7nm,0.4s,baz=78,slow=10,SNR=16						
STKA	**Stephens Creek**	**38.96**	**242**	P	**P**	**14 57 36.3**	**+0.4**
BBOO	**Buckleboo**	**43.73**	**242**	P	**P**	**14 58 13.3**	**-0.2**
BBOO				IAmb	IAmb	14 58 13.8	
	comp=Z,8.4nm,0.6s						
WR0	**Warramunga Arr**	**45.06**	**260**	P	**P**	**14 58 23.0**	**-0.9**
WR0				IAmb	IAmb	14 58 24.4	
	comp=Z,5.3nm,0.6s						
WB0	**Warramunga Arr**	**45.22**	**260**	P	**P**	**14 58 24.4**	**-0.7**
WB2	**Warramunga Arr**	**45.24**	**260**	P	**P**	**14 58 24.5**	**-0.7**
WB2				IAmb	IAmb	14 58 25.4	
	comp=Z,23nm,1.2s						
WRAB	**Tennant Creek**	**45.24**	**260**	P	**P**	**14 58 24.5**	**-0.7**
WRAB				IAmb	IAmb	14 58 25.3	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**45.25**	**260**	P	**P**	**14 58 24.8**	**-0.5**
	comp=Z,6.7nm,0.3s,baz=98,slow=6.7,SNR=417						
WRA				PcP	**PcP**	**14 59 51.7**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=95,slow=3.1,SNR=3.2						
WRA	**Warramunga Arr**	**45.25**	**260**	P	**P**	**14 58 24.6**	**-0.7**
AS31	**Alice Springs**	**45.33**	**255**	P	**P**	**14 58 25.6**	**-0.3**
ASAR	**Alice Springs**	**45.33**	**255**	P	**P**	**14 58 25.8**	**-0.1**
	comp=Z,12nm,0.7s,baz=88,slow=8.3,SNR=313						
ASAR				PcP	**PcP**	**14 59 51.8**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=96,slow=4.0,SNR=5.4						
MTN	**Manton Dam**	**49.54**	**269**	P	**P**	**14 58 56.8**	**-0.5**
MTN				IAmb	IAmb	14 58 57.6	
	comp=Z,6.9nm,0.7s						
FORT	**Forrest**	**50.39**	**245**	P	**P**	**14 59 02.4**	**-1.0**
FORT				IAmb	IAmb	14 59 03.7	
	comp=Z,14nm,0.8s						
KNRA	**Kununurra**	**51.17**	**265**	P	**P**	**14 59 08.6**	**-0.5**
KNRA				IAmb	IAmb	14 59 09.6	
	comp=Z,9.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.66**	**261**	P	**P**	**14 59 26.8**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=129,slow=6.5,SNR=38						
FITZ	**Fitzroy Crossi**	**53.66**	**261**	P	**P**	**14 59 26.5**	**-0.3**
PSA00	**Pilbara Seismi**	**58.46**	**256**	P	**P**	**14 59 58.6**	**-1.2**
PSA00	**Pilbara Seismi**	**58.46**	**256**	P	**P**	**14 59 59.1**	**-0.7**
PSA00				IAmb	IAmb	14 59 59.5	
	comp=Z,5.4nm,0.5s						
MBWA	**Marble Bar**	**58.64**	**256**	P	**P**	**15 00 00.3**	**-0.8**
MBWA				IAmb	IAmb	15 00 25.3	
	comp=Z,8.7nm,1.2s						
MMRI	**Maumere**	**59.06**	**271**	P	**P**	**15 00 03.7**	**-0.2**
MMRI				IAmb	IAmb	15 00 08.5	
	comp=Z,17nm,0.8s						
NWAO	**Narrogin (SRO)**	**59.55**	**242**	P	**P**	**15 00 06.4**	**-0.5**
NWAO				IAmb	IAmb	15 00 31.3	
	comp=Z,31nm,1.4s						
SBA	**Scott Base**	**59.76**	**184**	P	**P**	**15 00 08.9**	**+1.4**
VNDA	**Vanda**	**59.80**	**185**	P	**P**	**15 00 08.9**	**+1.1**
MORW	**Morawa**	**60.89**	**247**	P	**P**	**15 00 14.8**	**-1.0**
GIRL	**Giralia**	**63.42**	**254**	P	**P**	**15 00 32.8**	**+0.6**
TOLI2	**Tolitoli**	**63.59**	**281**	P	**P**	**15 00 33.4**	**-0.1**
TOLI2				IAmb	IAmb	15 00 54.7	
	comp=Z,10.0nm,1.0s						
JAGI	**Jajag, Banyuwa**	**66.78**	**269**	P	**P**	**15 00 51.7**	**-1.7**
UGM	**Wanagama**	**70.38**	**268**	P	**P**	**15 01 14.4**	**-0.7**
QSPA	**South Pole Qui**	**71.43**	**180**	P	**P**	**15 01 20.6**	**+0.2**
PAGB	**Antelope Grade**	**76.61**	**45**	P	**P**	**15 01 49.2**	**-0.8**
PAGB				IAmb	IAmb	15 02 15.3	
	comp=Z,11nm,1.2s						
OHAK	**Old Harbor**	**78.25**	**13**	P	**P**	**15 01 58.6**	**+0.5**
OHAK				IAmb	IAmb	15 02 19.3	
	comp=Z,15nm,1.3s						
NVAR	**Mina Array Bea**	**79.42**	**43**	P	**P**	**15 02 05.6**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=232,slow=6.7,SNR=2.2						
O18K	**Koktuh Hills**	**80.30**	**11**	P	**P**	**15 02 09.0**	**0.0**
O18K				IAmb	IAmb	15 02 23.1	
	comp=Z,13nm,1.4s						
TTA	**Tatalina**	**83.04**	**10**	P	**P**

comp=E,13µm,0.4s
LCO Las Campanas 1.88 24 Pn 15 00 15.3 +0.6
LCO Las Campanas 1.88 24 *eP* **Pn 15 00 15.3 +0.6**
LCO *eS* **Sn 15 00 38.8 +1.5**
LCO Las Campanas 1.88 24 *eP* **Pn 15 00 15.0 +0.3**
AROD Rodeo 1.89 73 *eP* **Pn 15 00 17.0 +2.0**
ACCO Cerro Coronel 2.16 87 *eP* **Pn 15 00 21.0 +2.4**
ACCO *eP* **Pn 15 00 21.0 +2.4**
ACDV Cuesta del Vie 2.19 76 *eP* **Pn 15 00 21.0 +2.2**
ACDV IAML 15 00 58.4
comp=Z,2µm,0.4s
VA03 San Esteban 2.20 157 Pn 15 00 19.8 +0.9
VA03 San Esteban 2.20 157 ǁ *eP* **Sn 15 00 19.6 +0.7**
VA03 *eS* **Sn 15 00 45.2 +0.2**
VA03 IAML 15 00 51.9
comp=E,11µm,0.4s
VA03 San Esteban 2.20 157 *eP* **Pn 15 00 19.6 +0.7**
VA03 *eP* **Pn 15 00 20.0 +1.1**
VA03 *eS* **Sn 15 00 50.0 +5.0**
VA03 IAML 15 00 51.8
comp=Z,4µm,0.3s
RTLS Leoncito 2.21 119 *eP* **Pn 15 00 21.0 +1.7**
RTLS *eP* **Pn 15 00 21.8 +2.5**
RTLS *eS* **Sn 15 00 49.6 +4.0**
RTLS IAML 15 00 51.6
comp=Z,4µm,0.5s
VA01 Torpederas 2.28 182 ⇑ *iP* **Pn 15 00 19.6 -0.3**
VA01 Torpederas 2.28 182 ⇑ *iP* **Pn 15 00 20.0 0.0**
VA01 *eS* **Sn 15 00 46.9 +0.1**
VA01 Torpederas 2.28 182 *eP* **Pn 15 00 20.0 0.0**
AUSP Uspallata 2.38 129 *eP* **Pn 15 00 23.0 +1.4**
AUSP *eP* **Pn 15 00 23.8 +2.2**
AC04 Llanos de Chal 2.56 10 Pn **Pn 15 00 24.8 +1.0**
AC04 Llanos de Chal 2.56 10 ⇑ *iP* **Pn 15 00 24.9 +1.0**
AC04 *eS* **Sn 15 00 55.5 +1.7**
AC04 IAML 15 01 18.5
comp=N,3µm,0.5s
AC04 Llanos de Chal 2.56 10 *eP* **Pn 15 00 24.9 +1.0**
AC04 *eS* Sn 15 00 41.4 -12
AC04 IAML 15 01 08.8
comp=Z,3µm,0.8s
ZON Zonda 2.60 109 Pn 15 00 26.4 +1.9
ZON Zonda 2.60 109 *eP* **Pn 15 00 26.7 +2.2**
ZON *eS* **Sn 15 01 00.3 +5.5**
ZON IAML 15 01 20.8
comp=Z,3µm,0.5s
RTLL Cerro Villicun 2.72 103 *eP* **Pn 15 00 27.6 +1.6**
RTLL *eS* **Sn 15 01 03.2 +5.5**
MT05 Renca 2.74 165 Pn **Pn 15 00 27.4 +1.1**
MT05 Renca 2.74 165 *eP* **Pn 15 00 27.4 +1.1**
MT05 *eS* **Sn 15 00 59.4 +1.2**
MT05 IAML 15 01 17.7
comp=E,10µm,0.5s
MT05 Renca 2.74 165 *eP* **Pn 15 00 27.2 +0.9**
MT05 *eS* **Sn 15 01 00.5 +2.3**
MT05 IAML 15 01 13.8
comp=Z,2µm,1.4s
FCH Farellones 2.80 158 *eP* **Pn 15 00 29.0 +1.6**
FCH *eS* **Sn 15 01 00.1 0.0**
MT03 Universidad Ad 2.89 162 *eP* **Pn 15 00 29.8 +1.4**
MT03 Universidad Ad 2.89 162 ⇑ *eP* **Pn 15 00 29.9 +1.5**
MT03 *eS* **Sn 15 01 02.1 +0.1**
MT03 IAML 15 01 16.6
comp=N,8µm,0.3s
MT03 Universidad Ad 2.89 162 *eP* **Pn 15 00 29.9 +1.5**
MT03 *eS* **Sn 15 01 06.5 +4.5**
MT03 IAML 15 01 21.4
comp=Z,3µm,0.6s
VA05 Santo Domingo 2.91 181 Pn 15 00 28.5 -0.1
VA05 Santo Domingo 2.91 181 ⇑ *eP* **Pn 15 00 28.5 -0.1**
VA05 *eS* **Sn 15 01 02.7 +0.3**
VA05 IAML 15 01 23.2
comp=E,4µm,0.4s
MT09 Talagante 3.07 171 Pn 15 00 31.8 +0.8
MT09 Talagante 3.07 171 ⇑ *iP* **Pn 15 00 31.8 +0.8**
MT09 *iS* **Sn 15 01 07.7 +1.2**
MT09 IAML 15 01 19.3
comp=N,4µm,0.4s
ARCO CERRO ARCO 3.07 134 *eP* **Pn 15 00 34.0 +3.0**
ARCO *eS* **Sn 15 01 13.5 +6.9**
ARCO IAML 15 01 24.7
comp=Z,1µm,0.6s
AAGR Agrelo 3.30 136 *eP* **Pn 15 00 37.0 +2.9**
AAGR *eS* Sn 15 01 27.6 +15
BO04 La Punta 3.34 166 Pn 15 00 35.2 +0.7
BO04 La Punta 3.34 166 ⇑ *iP* **Pn 15 00 35.7 +1.1**
BO04 *eS* **Sn 15 01 13.3 +0.2**
BO04 IAML 15 01 29.1
comp=E,2µm,0.3s
GO03 Copiap 3.34 21 Pn 15 00 35.5 +0.9
GO03 Copiap 3.34 21 ⇑ *eP* **Pn 15 00 35.7 +1.0**
GO03 *eS* **Sn 15 01 13.1 0.0**
GO03 IAML 15 01 31.7
comp=N,3µm,0.5s
GO03 Copiap 3.34 21 *eP* **Pn 15 00 35.9 +1.2**
GO03 *eS* **Sn 15 01 13.0 -0.2**
AC06 Mina Casimiro 3.53 18 Pn **Pn 15 00 38.0 +0.8**
AC06 Mina Casimiro 3.53 18 ⇑ *eP* **Pn 15 00 38.2 +1.0**
AC06 *eS* **Sn 15 01 18.1 +0.3**
AC06 IAML 15 01 35.1
comp=E,2µm,0.4s
VCA Vinchina 3.54 57 *eP* **Pn 15 00 40.9 +3.5**
VCA *eS* **Sn 15 01 21.0 +2.9**
VCA IAML 15 01 34.8
comp=Z,3µm,0.6s
AVFE Valle Fertil 3.54 90 *eP* **Pn 15 00 38.3 +0.9**
AVFE *eS* Sn 15 01 32.5 +14
AVFE IAML 15 01 45.3
comp=Z,1µm,0.6s
BO01 Tunca 3.67 174 Pn **Pn 15 00 39.1 +0.1**
BO01 Tunca 3.67 174 ǁ *eP* **Pn 15 00 39.3 +0.3**
BO01 *eS* **Sn 15 01 21.2 +0.2**
BO01 Tunca 3.67 174 *eP* **Pn 15 00 39.0 0.0**
BO01 *eP* **Pn 15 00 39.5 +0.5**
BO01 *eS* **Sn 15 01 16.5 -4.5**
BO01 IAML 15 01 38.5
comp=Z,674nm,0.5s
BO03 Pichilemu 3.76 185 ⇑ *eP* **Pn 15 00 39.5 -0.8**
BO03 *eS* **Sn 15 01 20.6 -2.7**
ACLC CERRO LA CRUZ 4.21 73 *eP* **Pn 15 00 48.3 +1.7**
ACLC *eS* **Sn 15 01 36.5 +1.9**
ACLC IAML 15 01 46.1
comp=Z,2µm,0.7s
GO05 Huala 4.27 184 Pn 15 00 46.3 -1.0
GO05 Huala 4.27 184 *eP* **Pn 15 00 46.5 -0.8**
GO05 *eS* **Sn 15 01 39.5 +3.5**
APLL PUNTA DE LOS L 4.36 87 *eP* **Pn 15 00 49.0 +0.4**
AC02 Maricunga 4.44 29 Pn 15 00 50.1 0.0
AC02 Maricunga 4.44 29 *eP* **Pn 15 00 51.7 +1.6**
AC02 Maricunga 4.44 29 *eP* **Pn 15 00 52.1 +2.0**
AC02 *eS* **Sn 15 01 42.0 +1.2**
AC02 *eS* Sn 15 01 51.0 +10
AC02 IAML 15 02 04.5
comp=Z,887nm,1.1s
AC01 Pan de Azucar 4.65 11 Pn 15 00 51.6 -0.9
AC01 Pan de Azucar 4.65 11 *eP* **Pn 15 00 51.7 -0.9**
AC01 Pan de Azucar 4.65 11 *eP* **Pn 15 00 51.7 -0.9**
AC01 IAML 15 02 11.9
comp=Z,593nm,0.6s
RFA San Rafael 4.79 148 *eP* **Pn 15 00 55.8 +1.2**
ML02 Panimavida 5.01 179 Pn 15 00 56.0 -1.5
MRA San Martin 5.26 110 *eS* **Sn 15 02 01.8 +1.2**
GO02 Mina Guanaco 5.82 18 Pn **Pn 15 01 08.0 -1.0**
BI05 Punta Hualpn 6.14 192 Pn **Pn 15 01 11.2 -1.9**
FSA Cafayete 6.74 48 *eP* **Pn 15 01 23.0 +1.6**
H03N1 Juan Fernandez 6.79 245 T T 15 08 13.6
baz=73,slow=72,SNR=1929
H03N3 Juan Fernandez 6.80 245 T T 15 08 13.4
baz=73,slow=72,SNR=1390
H03N2 Juan Fernandez 6.81 245 T T 15 08 13.9
baz=73,slow=72,SNR=1851
PB10 IPOC Station P 7.25 7 Pn **Pn 15 01 28.0 -0.3**
PB15 IPOC Station P 7.73 14 Pn 15 01 33.6 -1.4
LC01 Cunco 8.14 182 Pn **Pn 15 01 38.8 -1.7**
PB06 IPOC Station P 8.20 13 Pn **Pn 15 01 39.2 -2.2**
LVC Limon Verde 8.44 17 Pn **Pn 15 01 42.7 -2.2**
comp=Z,1.4nm,0.3s,baz=218,slow=12,SNR=12
LVC Sn **Sn 15 03 18.4 -0.6**
comp=Z,5.7nm,0.3s,baz=120,slow=5.8,SNR=3.5
LVC LR LR 15 05 01.9
comp=Z,198nm,18.8s,baz=204,slow=38
LVC Limon Verde 8.44 17 Pn 15 01 42.3 -2.5

LVC Limon Verde 8.44 17 *eP* **Pn 15 01 47.1 +2.2**
LR03 Panguipulli 8.90 184 Pn **Pn 15 01 48.8 -2.0**
PB07 IPOC Station P 9.10 10 Pn **Pn 15 01 52.7 -1.1**
PB09 IPOC Station P 9.15 14 Pn **Pn 15 01 53.0 -1.4**
PB02 IPOC Station P 9.50 9 Pn **Pn 15 01 57.0 -2.2**
PLCA Paso Flores 10.01 176 Pn **Pn 15 02 06.0 -0.1**
comp=Z,0.4nm,0.3s,baz=334,slow=8.9,SNR=6.9
PLCA LR LR 15 05 54.7
comp=Z,152nm,20.4s,baz=340,slow=38
PLCA Paso Flores 10.01 176 Pn **Pn 15 02 06.3 +0.2**
LL04 Puerto Octay 10.17 184 Pn **Pn 15 02 06.2 -2.0**
LL03 Petrohue 10.40 184 Pn **Pn 15 02 08.5 -2.8**
PB16 IPOC Station P 12.49 9 Pn **Pn 15 02 39.5 -1.0**
ITQB Itaqui 12.97 89 Pn **Pn 15 02 43.3 -3.2**
CPUP Villa Florida 13.26 74 Pn **Pn 15 02 46.3 -4.2**
comp=Z,0.8nm,0.3s,baz=254,slow=11,SNR=9.4
CPUP Sn **Sn 15 05 10.8 -5.8**
comp=Z,0.5nm,0.3s,baz=275,slow=15,SNR=1.7
CPUP LR LR 15 08 19.7
comp=Z,282nm,19.5s,baz=236,slow=40
CPUP Villa Florida 13.26 74 Pn **Pn 15 02 47.0 -3.5**
LPAZ La Paz 14.72 13 Pn **Pn 15 03 11.8 +0.8**
comp=Z,0.3nm,0.3s,baz=192,slow=7.6,SNR=25
LPAZ La Paz 14.72 13 Pn **Pn 15 03 11.9 +0.9**
LPAZ La Paz 14.72 13 *eP* **Pn 15 03 12.7 +1.7**
PLTB Pedras Altas 15.40 98 Pn **Pn 15 03 15.0 -4.2**
CPSB Cacapava Do Su 15.62 93 *eP* **Pn 15 03 19.4 -2.7**
SIV San Ignacio 17.54 36 P **Pn 15 03 45.8 -0.6**
comp=Z,0.6nm,0.3s,baz=209,slow=11,SNR=15
SIV LR LR 15 11 01.8
comp=Z,92nm,21.8s,baz=268,slow=39
AQDB Aquidauana 17.56 58 *eP* **P 15 03 48.8 +1.5**
PTLB Pontes e Lacer 19.01 40 *eP* **P 15 04 03.1 -0.1**
NNA Nana 19.29 344 LR LR 15 10 07.9
comp=Z,79nm,20.3s,baz=180,slow=33
TER01 Tubaro-SC 19.62 89 *eP* **P 15 04 09.4 -0.5**
PP1B Ponte de Pedra 20.04 53 *eP* **P 15 04 13.9 -0.5**
PCMB Pacaembu 20.34 68 *eP* **P 15 04 16.7 -1.1**
VILB Vilhena 20.58 33 *eP* **P 15 04 21.0 +0.7**
SALV Santo Antonio 20.71 48 *eP* **P 15 04 22.8 +1.1**
FRTB Fartura 20.91 75 *eP* **P 15 04 23.4 -0.6**
ETMB Extrema 21.41 15 *eP* **P 15 04 30.1 +0.9**
ITRB Iturama 22.07 65 *eP* **P 15 04 35.5 -0.8**
CZSB Cruzeiro do Su 22.92 357 *eP* **P 15 04 46.7 +1.4**
VAO Valinhos 23.23 77 *eP* **P 15 04 48.9 +0.4**
PDRB Porto dos Gac 23.48 39 *eP* **P 15 04 50.7 -0.2**
USHA Ushuaia 24.18 176 P **P 15 04 57.6 +0.4**
comp=Z,33nm,1.1s,baz=5.2,slow=6.8,SNR=5.4
IPMB Ipameri, GO 24.71 64 *eP* **P 15 05 01.6 -0.8**
BDFB Brasilia 26.27 60 P **P 15 05 15.6 -1.0**
comp=Z,8.2nm,0.6s,baz=234,slow=8.8,SNR=18
BDFB LR LR 15 16 55.1
comp=Z,233nm,18.5s,baz=302,slow=40
BDFB Brasilia 26.27 60 P **P 15 05 16.0 -0.6**
NPGB Novo Progresso 28.04 36 *eP* **P 15 05 34.9 +2.5**
JANB Januaria 29.45 64 *eP* **P 15 05 44.3 -0.7**
ALF01 Guarapari-ES 29.48 77 *eP* **P 15 05 44.4 -0.7**
RPN Rapa Nui 33.15 267 LR LR 15 15 40.6
comp=Z,190nm,18.1s,baz=354,slow=29
PMSA Palmer Station 34.38 174 LR LR 15 21 48.2
comp=Z,55nm,18.9s,baz=297,slow=39
ZARC Zaragoza, Cauc 38.14 355 P **P 15 07 00.4 +0.1**
SDV Santo Domingo 39.41 1 P **P 15 07 09.7 -1.3**
BAUV El Baul 39.60 5 P **P 15 07 12.0 -0.4**
BAUV IAmb IAmb 15 07 13.4
comp=Z,15nm,0.8s
MDP Montagnes des 39.97 30 LR LR 15 23 09.9
comp=Z,52nm,18.4s,baz=280,slow=35
RCBR Riachuelo 41.65 61 LR LR 15 26 27.1
comp=Z,124nm,18.7s,baz=333,slow=39
ICMP Isla Caja de M 48.59 6 P **P 15 08 24.0 -0.3**
MLPR Mayeyes Islan 48.62 6 P **P 15 08 24.4 -0.2**
OBIP Obispado Ponce 48.73 6 P **P 15 08 25.2 -0.3**
PDPR Patillas Dam, 48.77 7 P **P 15 08 25.0 -0.7**
SJG San Juan 48.85 7 P **P 15 08 25.8 -0.5**
TRIS Tristan da Cun 48.90 114 P **P 15 08 26.1 -0.6**
AOPR Arecibo Observ 49.02 6 P **P 15 08 27.1 -0.6**
CUPR Culebra, Puert 49.14 8 P **P 15 08 28.1 -0.5**
VNA3 Neumayer Olymp 52.23 159 P **P 15 08 51.1 -0.2**
VNA2 Neumayer--Watz 52.87 158 P **P 15 08 55.7 -0.4**
baz=274,slow=8.0
SNAA Sanae 54.46 159 P **P 15 09 07.6 -0.2**
SNAA Sanae 54.46 159 P **P 15 09 07.1 -0.6**
comp=Z,1.8nm,0.6s,baz=280,slow=8.1,SNR=9.9
SNAA Sanae 54.46 159 P **P 15 09 07.6 -0.2**
SNAA IAmb IAmb 15 09 21.2
comp=Z,5.7nm,0.8s
TROLL Troll, Antarti 56.17 159 P **P 15 09 20.2 0.0**
QSPA South Pole Qui 59.49 180 P **P 15 09 44.1 +0.6**
comp=Z,5.4nm,1.0s,baz=193,slow=0.7,SNR=22
QSPA South Pole Qui 59.49 180 P **P 15 09 44.0 +0.5**
QSPA IAmb IAmb 15 09 45.2
comp=Z,10nm,1.2s
QSPA South Pole Qui 59.49 180 P **P 15 09 44.4 +0.8**
QSPA pP **pP 15 09 57.2 +1.6**
JCT Junction City 66.54 334 P **P 15 10 31.8 +1.2**
JCT IAmb IAmb 15 10 33.0
comp=Z,7.9nm,0.6s
TXAR Lajitas Array 67.11 330 P **P 15 10 35.6 +1.3**
comp=Z,2.0nm,0.6s,baz=154,slow=8.8,SNR=24
TXAR Lajitas Array 67.11 330 P **P 15 10 35.0 +0.7**
TX31 Lajitas Ar. Si 67.11 330 P **P 15 10 34.8 +0.5**
TX31 IAmb IAmb 15 10 36.8
comp=Z,8.1nm,0.8s
TX32 Lajitas Array 67.11 330 P **P 15 10 35.4 +1.2**
V52A Sevierville 67.19 349 P **P 15 10 34.4 -0.1**
V51A Loudon 67.27 349 P **P 15 10 35.8 +0.8**
V51A IAmb IAmb 15 10 36.2
comp=Z,8.2nm,0.8s
VNDA Vanda 67.37 191 P **P 15 10 36.6 +1.3**
comp=Z,0.8nm,0.9s,baz=112,slow=6.1,SNR=4.8
TZTN Tazewell 67.87 350 P **P 15 10 38.7 -0.1**
CLTN Cedars of Leba 67.91 347 P **P 15 10 40.0 +1.0**
CLTN IAmb IAmb 15 10 40.5
comp=Z,8.7nm,0.8s
U49A Red Boiling Sp 68.22 348 P **P 15 10 41.4 +0.4**
WVT Waverly 68.25 346 P **P 15 10 41.6 +0.4**
WVT IAmb IAmb 15 10 42.6
comp=Z,14nm,1.1s
WVT Waverly 68.25 346 P **P 15 10 41.6 +0.4**
WVT pP **pP 15 10 53.3 -0.1**
W41B Gary Mavity, V 68.39 342 P **P 15 10 42.4 +0.3**
W41B IAmb IAmb 15 10 53.3
comp=Z,11nm,1.4s
ABTX Abilene, Hawle 68.40 335 P **P 15 10 42.8 +0.6**
ABTX IAmb IAmb 15 10 44.5
comp=Z,6.5nm,0.8s
S57A Dark Hollow, R 68.49 354 P **P 15 10 42.9 +0.2**
WHAR Wooly Hollow 68.51 342 P **P 15 10 43.2 +0.3**
WHAR IAmb IAmb 15 10 58.2
comp=Z,16nm,1.5s
SYO Syowa Base 68.75 159 ǁ *eX* **P 15 10 46.2 +2.2**
S54A Dingess, Beckl 68.79 352 P **P 15 10 44.5 -0.1**
W39A Magazine 68.84 341 P **P 15 10 46.1 +1.3**
T47A Sharon Grove 68.93 347 P **P 15 10 45.5 +0.1**
T47A IAmb IAmb 15 11 01.6
comp=Z,21nm,1.4s
S51A Beattyville 68.95 350 P **P 15 10 46.1 +0.6**
S51A IAmb IAmb 15 11 03.4
comp=Z,18nm,1.2s
LCAR Lake Charles 68.96 343 P **P 15 10 46.0 +0.4**
LCAR IAmb IAmb 15 10 47.0
comp=Z,8.8nm,0.6s
FCAR Ozark Folk Cen 69.03 342 P **P 15 10 47.0 +0.9**
R55A Marlinton 69.13 353 P **P 15 10 47.5 +0.8**
X34A Smith Ranch, M 69.55 337 P **P 15 10 49.5 +0.2**
X34A IAmb IAmb 15 10 51.5
comp=Z,15nm,1.0s
U40A Yellville 69.67 342 P **P 15 10 49.9 -0.1**
U40A IAmb IAmb 15 10 51.3
comp=Z,5.8nm,0.7s
MNTX Cornudas Mount 69.89 330 P **P 15 10 51.2 -0.3**
HHAR Hobbs 69.90 341 P **P 15 10 52.0 +0.5**
HHAR IAmb IAmb 15 10 53.1
comp=Z,9.5nm,0.8s
Q54A Coxs Mills 69.90 352 P **P 15 10 51.6 +0.2**
TUL1 Leonard 70.10 339 P **P 15 10 53.3 +0.6**
TUL1 IAmb IAmb 15 10 54.2
comp=Z,12nm,0.8s
FVM French Village 70.60 344 P **P 15 10 55.8 +0.1**
FVM IAmb IAmb 15 10 57.3
comp=Z,12nm,1.1s
P52A Corning 70.70 351 P **P 15 10 56.3 0.0**
MSTX Muleshoe 70.78 333 P **P 15 10 57.4 +0.4**

MSTX IAmb IAmb 15 10 59.0
comp=Z,9.2nm,0.8s
CCM Cathedral Cave 70.86 344 P **P 15 10 57.7 +0.4**
CCM IAmb IAmb 15 10 59.0
comp=Z,9.6nm,0.8s
CCM Cathedral Cave 70.86 344 P **P 15 10 58.3 +1.0**
CCM pP **pP 15 11 11.3 +1.7**
P48A Milroy 71.02 349 P **P 15 10 58.0 -0.2**
P48A IAmb IAmb 15 10 58.7
comp=Z,8.4nm,0.7s
S39A Bolivar 71.05 342 P **P 15 10 59.0 +0.6**
S39A IAmb IAmb 15 11 00.2
comp=Z,18nm,1.3s
T35A Sooner Cattle 71.25 339 P **P 15 11 00.0 +0.4**
T35A IAmb IAmb 15 11 01.7
comp=Z,15nm,1.2s
SSPA Standing Stone 71.26 355 P **P 15 10 60.0 +0.4**
R40A Maddies Statio 71.34 343 P **P 15 11 00.8 +0.7**
ACSO Alum Creek Sta 71.40 351 P **P 15 11 00.9 +0.4**
ACSO IAmb IAmb 15 11 01.6
comp=Z,9.4nm,0.7s
121A Cookes Peak, D 71.67 328 P **P 15 11 04.2 +1.7**
121A IAmb IAmb 15 11 05.9
comp=Z,12nm,1.1s
M55A Ridgway 72.16 354 P **P 15 11 05.9 +0.9**
M55A IAmb IAmb 15 11 18.4
comp=Z,18nm,1.2s
N49A Columbus Grove 72.25 350 P **P 15 11 05.8 +0.3**
N49A IAmb IAmb 15 11 06.4
comp=Z,9.7nm,0.6s
N47A Urbana 72.45 349 P **P 15 11 06.4 -0.3**
N47A IAmb IAmb 15 11 06.9
comp=Z,9.4nm,0.6s
P40A Paris 72.46 344 P **P 15 11 07.5 +0.6**
L56A Greenwood 72.72 355 P **P 15 11 08.5 0.0**
L56A IAmb IAmb 15 11 10.3
comp=Z,16nm,1.1s
P38A Dawn 72.92 342 P **P 15 11 09.5 -0.1**
P38A IAmb IAmb 15 11 11.0
comp=Z,8.8nm,0.8s
ANMO Albuquerque 73.13 331 P **P 15 11 11.4 +0.2**
214A Organ Pipe Nat 73.59 324 P **P 15 11 14.1 +0.3**
214A IAmb IAmb 15 11 17.1
comp=Z,8.3nm,1.1s
DBIC Dimbokro 73.77 72 P **P 15 11 15.1 -0.1**
comp=Z,3.9nm,0.6s,baz=248,slow=4.0,SNR=9.0
DBIC LR LR 15 40 49.5
comp=Z,54nm,20.2s,baz=160,slow=34
DBIC Dimbokro 73.77 72 P **P 15 11 15.0 -0.1**
DBIC IAmb IAmb 15 11 28.4
comp=Z,15nm,1.4s
L40A Anamosa 74.67 345 P **P 15 11 19.9 +0.1**
I49A Point Hope 75.03 352 P **P 15 11 21.8 0.0**
I49A IAmb IAmb 15 11 23.1
comp=Z,14nm,1.1s
SADO Sadowa 75.46 354 P **P 15 11 24.7 +0.4**
SADO IAmb IAmb 15 11 42.0
comp=Z,8.9nm,1.1s
WUAZ Wupatki 75.79 327 P **P 15 11 27.8 +1.2**
WUAZ IAmb IAmb 15 11 30.6
comp=Z,8.6nm,1.1s
SUR Sutherland 76.06 119 LR LR 15 42 09.0
comp=Z,30nm,19.6s,baz=192,slow=34
Q24A Divide 76.07 334 P **P 15 11 29.7 +1.3**
Q24A IAmb IAmb 15 11 31.3
comp=Z,7.7nm,1.0s
I37A Lemond, Waseca 77.03 344 P **P 15 11 33.7 +0.5**
K31A O'Neill 77.17 340 P **P 15 11 34.5 +0.4**
ECSD EROS Data Cent 77.58 342 P **P 15 11 36.4 +0.1**
ECSD IAmb IAmb 15 11 38.0
comp=Z,12nm,0.8s
E46A Sault Ste Mari 77.61 351 P **P 15 11 36.6 +0.2**
E43A Lone Tree Farm 78.02 349 P **P 15 11 39.1 +0.5**
PHWY Pilot Hill 78.22 335 P **P 15 11 41.1 +0.8**
PHWY IAmb IAmb 15 11 56.1
comp=Z,12nm,1.5s
O20A White River Ci 78.29 332 P **P 15 11 41.7 +1.1**
O20A IAmb IAmb 15 12 01.5
comp=Z,16nm,1.5s
SHPR Sheep Range 78.39 325 P **P 15 11 43.0 +1.8**
P18A Preston Nutter 78.70 331 P **P 15 11 44.4 +1.4**
P18A IAmb IAmb 15 11 58.9
comp=Z,8.9nm,1.1s
F36A Milaca 78.80 345 P **P 15 11 43.0 0.0**
F36A IAmb IAmb 15 11 43.7
comp=Z,5.5nm,0.6s
KOWA Kowa 78.93 66 P **P 15 11 45.1 +0.7**
KOWA IAmb IAmb 15 11 56.9
comp=Z,11nm,1.1s
D41A Chassel 78.94 348 P **P 15 11 44.8 +1.0**
TSUM Tsumeb 79.73 106 LR LR 15 43 02.7
comp=Z,40nm,18.1s,baz=160,slow=33
R11A Troy Canyon, C 80.06 326 P **P 15 11 50.7 +0.4**
EYMN Ely 80.34 347 P **P 15 11 52.1 +0.7**
HWUT Hardware Ranch 80.90 331 P **P 15 11 55.3 +0.6**
HWUT pP **pP 15 12 08.0 +0.8**
PDAR Pinedale Array 81.05 333 P **P 15 11 56.5 +0.9**
comp=Z,0.6nm,0.6s,baz=136,slow=8.4,SNR=8.4
PDAR Pinedale Array 81.05 333 P **P 15 11 55.8 +0.2**
B35A Bob, Littlefor 81.21 345 P **P 15 11 56.3 +0.3**
B35A IAmb IAmb 15 11 57.0
comp=Z,6.4nm,0.7s
BOSA Boshof 81.23 118 P **P 15 11 56.8 -0.2**
comp=Z,2.3nm,0.9s,baz=286,slow=1.8,SNR=3.7
BOSA LR LR 15 46 53.0
comp=Z,20nm,18.1s,baz=194,slow=35
LHV Little Huntoon 81.41 324 P **P 15 11 59.0 +1.8**
NVAR Mina Array Bea 81.45 325 P **P 15 11 59.2 +1.5**
comp=Z,1.0nm,0.8s,baz=148,slow=4.1,SNR=7.7
AGMN Agassiz Nation 81.64 344 P **P 15 11 58.4 +0.1**
AGMN IAmb IAmb 15 11 59.1
comp=Z,5.1nm,0.7s
ELK Elko 81.81 328 P **P 15 11 59.9 +0.3**
KVN Kaiserville 81.83 325 P **P 15 12 00.8 +1.1**
TOA0 Torodi Ar. Sit 82.72 70 P **P 15 12 04.6 -0.1**
TOA0 IAmb IAmb 15 12 17.1
comp=Z,6.6nm,0.9s
TORD Torodi Ar. Bea 82.72 70 P **P 15 12 04.4 -0.3**
comp=Z,1.5nm,0.7s,baz=271,slow=5.1,SNR=22
TORD Torodi Ar. Bea 82.72 70 P **P 15 12 04.3 -0.4**
TORD IAmb IAmb 15 12 17.1
comp=Z,5.5nm,0.9s
RLMT Red Lodge 82.93 334 P **P 15 12 06.4 +1.1**
YHH Holmes Hill 83.25 333 P **P 15 12 08.1 +0.9**
CASY Casey 83.28 181 P **P 15 12 06.9 +0.2**
CASY IAmb IAmb 15 12 20.7
comp=Z,6.2nm,0.9s
LBTB Lobatse 83.31 115 LR LR 15 45 03.2
comp=Z,50nm,18.1s,baz=186,slow=33
LBTB Lobatse 83.31 115 P **P 15 12 07.4 -0.5**
LBTB IAmb IAmb 15 12 21.0
comp=Z,4.3nm,0.8s
ULM Lac du Bonnet 83.47 345 P **P 15 12 07.7 0.0**
comp=Z,3.4nm,0.6s,baz=167,slow=4.0,SNR=4.5
ULM Lac du Bonnet 83.47 345 P **P 15 12 07.1 -0.5**
ULM pP **pP 15 12 20.5 +0.2**
ULM IAmb IAmb 15 12 21.8
comp=Z,12nm,1.1s
HLID Hailey 83.71 330 P **P 15 12 10.4 +1.1**
DGMT Dagmar 84.09 339 P **P 15 12 10.8 -0.2**
DGMT pP **pP 15 12 24.4 +0.8**
J08A Circle Bar Ran 85.35 328 P **P 15 12 18.9 +1.4**
J08A IAmb IAmb 15 12 33.3
comp=Z,6.6nm,1.0s
PLID Pearl Lake 85.61 330 P **P 15 12 19.8 +0.8**
PLID IAmb IAmb 15 12 34.1
comp=Z,4.2nm,0.9s
LTZ Lake Taylor 86.29 221 P **P 15 12 24.3 +1.8**
I07A Izee 86.38 328 P **P 15 12 24.0 +1.3**
I07A IAmb IAmb 15 12 38.5
comp=Z,5.4nm,1.3s
NNZ Nelson 86.63 223 P **P 15 12 25.0 +0.9**
PINE Pine Mountain 86.83 327 P **P 15 12 26.3 +1.3**
PINE IAmb IAmb 15 12 40.9
comp=Z,7.9nm,1.2s
JTMT Jette 87.04 333 P **P 15 12 26.5 +0.6**
YKA Yellowknife Ar 99.11 341 P **Pdif 15 13 20.8 -0.1**
comp=Z,0.4nm,0.7s,baz=144,slow=4.6,SNR=8.2
ASAR Alice Springs 120.64 207 PKP **PKPdf 15 18 31.1 -1.7**
comp=Z,0.2nm,0.9s,baz=146,slow=1.6,SNR=1.1
WRA Warramunga Arr 123.79 210 PKP **PKPdf 15 18 37.9 -1.0**
comp=Z,0.4nm,0.6s,baz=157,slow=1.7,SNR=12
H11S2 WAKE ISLAND Hyl 26.16 271 T T 17 37 28.0
baz=115,slow=75,SNR=463
H11S1 WAKE ISLAND Hyl 26.17 271 T T 17 37 27.9

baz=115,slow=75,SNR=412
H11S3 WAKE ISLAND Hyl 26.18 271 T T 17 37 29.3
baz=115,slow=75,SNR=281
YAK Yakutsk 145.78 342 PKPbc **PKPdf** **15 19 18.9 +0.8**
comp=Z,12nm,0.7s,baz=139,slow=0.4,SNR=13
YAK Yakutsk 145.78 342 PKPdf **PKPdf** **15 19 18.2 +0.1**
ZALV Zalesovo Beam 151.23 29 PKPbc **PKPbc** **15 19 33.2 -0.1**
comp=Z,8.5nm,0.7s,baz=302,slow=3.1,SNR=33
ZALV Zalesovo Beam 151.23 29 PKPbc **PKPbc** **15 19 32.8 -0.5**
MKAR Makanchi Array 154.24 44 PKPbc **PKPbc** **15 19 39.4 -0.8**
comp=Z,0.5nm,0.7s,baz=332,slow=1.5,SNR=5.7
MKAR Makanchi Array 154.24 44 **PKPbc** **15 19 39.0 -1.2**
PZH PanZhiHua 172.76 124 PKP **PKPdf** **15 19 48.9 -1.1**

*IDC **17** 15:10:50.9±2.2, 32.52N×130.59E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/35, mbtmp3.5/4, ML2.7/2, MS3.6/6, Ms1 3.6/6, ms1mx2.9/95, Error ellipse: s-maj=30.4km s-min=13.1km az=127.0*
*NIED **17** 15:10:51.8, 32.54N×130.65E, h7km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr1.68; Mθθ2.15; Mφφ-3.83; Mrθ3.07; Mrφ2.95; Mθφ0.66; Fault plane solution: M0 5.41000×10^{14} NP1:φs119.00000°, δ60.00000°, λ155.00000°. NP2:φs119.00000°, δ69.00000°, λ32.00000°.*
*JMA **17** 15:10:51.8, 32.54N×130.65E, h7km±2km, M3.9*
JMA Felt III J1.
ISC 17 15:10:52.1±0.8, 32.54N±0.03×130.60E±0.06, h10km, n16, σ1s72/15, MS3.6/6, 3C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.18**	**86**	⇓P		**Pg**	**15 10 54.6**	**-1.3**
JIU3				eS		**Sg**	**15 10 56.9**	**-1.6**
JZO	**Okuchi**	**0.40**	**181**	⇑P		**Pg**	**15 10 59.5**	**-0.4**
JZO				eS		**Sg**	**15 11 05.1**	**-0.1**
JTA	**Tamana**	**0.43**	**352**	⇑P		**Pg**	**15 11 00.5**	**0.0**
JTA				eS		**Sg**	**15 11 06.9**	**+0.7**
JNU	**Nakatsue**	**0.63**	**22**	Pg		**Pg**	**15 11 03.8**	**-0.5**
	204nm,0.3s,baz=240,slow=3.9,SNR=102							
JNU				Lg		Lg	15 11 12.2	
	697nm,0.3s,baz=273,slow=22,SNR=26							
JTZ	**Takazaki**	**0.76**	**147**	⇑P		**Pb**	**15 11 06.4**	**-0.9**
JTZ				S		**Sg**	**15 11 16.2**	**-0.4**
KSRS	**Korea Array**	**5.38**	**337**	Pn		**Pn**	**15 12 13.1**	**+0.8**
	0.2nm,0.3s,baz=154,slow=14,SNR=2.5							
KSRS				Pg		**Pg**	**15 12 30.9**	**-4.1**
	1.1nm,0.3s,baz=152,slow=17,SNR=11							
KSRS				Lg		Lg	15 13 41.9	
	0.9nm,0.3s,baz=151,slow=28,SNR=6.7							
MJAR	**Matsushiro Arr**	**7.44**	**55**	Pn		**Pn**	**15 12 42.5**	**+1.8**
	0.1nm,0.3s,baz=243,slow=14,SNR=4.5							
KLR	**Kul'dur**	**16.70**	**3**	Pn		**P**	**15 14 51.2**	**+2.8**
	0.2nm,0.3s,baz=162,slow=7.6,SNR=3.6							
SONM	**Songino Array**	**23.85**	**317**	P		**P**	**15 16 06.3**	**+0.7**
	1.1nm,0.6s,baz=132,slow=11,SNR=6.9							
GEYT	**Ailbeck**	**58.08**	**297**	LR		LR	15 46 56.7	
	comp=Z,49nm,19.1s,baz=274,slow=37							
KIRV	**Kirov**	**58.41**	**323**	LR		LR	15 47 48.7	
	comp=Z,48nm,18.8s,baz=54,slow=38							
BELG	**Belogornoye**	**60.90**	**316**	LR		LR	15 48 23.1	
	comp=Z,65nm,18.2s,baz=47,slow=37							
ARCES	**ARCESS Array B**	**64.93**	**338**	LR		LR	15 52 40.6	
	comp=Z,33nm,19.9s,baz=106,slow=39							
FINES	**FINESS Array B**	**68.43**	**330**	P		**P**	**15 21 53.5**	**-0.4**
	0.7nm,0.5s,baz=66,slow=4.6,SNR=5.3							
NOA	**NORSAR Array B**	**74.58**	**334**	LR		LR	15 57 22.3	
	comp=Z,17nm,18.4s,baz=35,slow=37							
VRAC	**Vranov**	**79.64**	**323**	LR		LR	15 59 44.0	
	comp=Z,50nm,18.7s,baz=50,slow=37							

*THE **17** 15:50:54.2, 35.03N×26.67E, h8km±4km, ML2.9/4, Error ellipse: s-maj=4.5km s-min=0.9km az=337.0*
*ISK **17** 15:50:54.9, 35.21N×26.59E, h5km, ML3.1/20*
*IDC **17** 15:50:55.4±1.7, 35.30N×26.43E, h0km, mb3.5/3, mb1 3.3/4, mb1mx3.2/40, mbtmp3.3/4, ML2.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.4/61, Error ellipse: s-maj=345.5km s-min=26.6km az=141.0*
*ATH **17** 15:50:55.9, 35.18N×26.61E, h10km±3km, ML3.0/6, Error ellipse: s-maj=6.1km s-min=1.3km az=157.0*
*DDA **17** 15:50:59.0±0.0, 35.07N×26.77E, h16km, ML2.5*
ISC 17 15:50:55.4±1.2, 35.14N±0.06×26.58E±0.03, h8km±9km, n54, σ1s60/65, mb3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.30**	**265**	P		**Pg**	**15 51 02.0**	**+0.8**
ZKR				S		**Sg**	**15 51 07.6**	**+2.3**
ZKR				AML		AML	15 51 10.3	
	comp=E,6367μm,0.3s							
ZKR				AML		AML	15 51 10.6	
	comp=N,3538μm,0.4s							
ZKR	**Zakros**	**0.30**	**265**	P		**Pg**	**15 51 01.9**	**+0.6**
ZKR				S		**Sb**	**15 51 08.2**	**0.0**
	comp=N,2μm,0.3s							
ZKR	**Zakros**	**0.30**	**265**	PG		**Pg**	**15 51 02.1**	**+0.8**
ZKR				SG		**Sb**	**15 51 08.2**	**0.0**
KARP	**Karpathos**	**0.62**	**49**	P		**Pg**	**15 51 06.9**	**-0.5**
KARP				S		**Sb**	**15 51 15.6**	**-1.9**
KARP				AML		AML	15 51 20.8	
	comp=N,5742μm,0.4s							
KARP				AML		AML	15 51 21.5	
	comp=E,9356μm,0.3s							
KARP	**Karpathos**	**0.62**	**49**	P		**Pg**	**15 51 06.6**	**-0.8**
KARP				S		**Sb**	**15 51 16.9**	**-0.6**
	comp=E,4μm,0.4s							
KARP	**Karpathos**	**0.62**	**49**	PG		**Pg**	**15 51 06.7**	**-0.7**
KARP				SG		**Sb**	**15 51 16.8**	**-0.7**
FRMA	**Ierapetra Chan**	**0.71**	**260**	P		**Pg**	**15 51 07.2**	**-1.8**
FRMA				S		**Sg**	**15 51 17.5**	**-0.7**
FRMA				AML		AML	15 51 21.3	
	comp=N,6173μm,0.4s							
FRMA				AML		AML	15 51 24.7	
	comp=E,4200μm,0.5s							
FRMA	**Ierapetra Chan**	**0.71**	**260**	P		**Pg**	**15 51 07.0**	**-2.0**
FRMA				S		**Sg**	**15 51 17.0**	**-1.2**
	comp=E,882nm,0.4s							
HRKL	**Herakleio**	**1.22**	**278**	PN		**Pg**	**15 51 20.1**	**+1.2**
KSTL	**Kastelli Herak**	**1.25**	**278**	P		**Pn**	**15 51 15.6**	**-3.6**
KSTL				AML		AML	15 51 40.1	
	comp=E,869μm,0.6s							
KSTL				AML		AML	15 51 47.0	
	comp=N,1591μm,0.6s							
KSTL	**Kastelli Herak**	**1.25**	**278**	P		**Pn**	**15 51 15.5**	**-3.6**
KSTL				S		**Sb**	**15 51 29.7**	**-5.8**
	comp=N,205nm,0.6s							
IDI	**Anoyia**	**1.39**	**276**	P		**Pb**	**15 51 21.9**	**+0.2**
IDI				AML		AML	15 51 54.6	
	comp=N,647μm,0.7s							
IDI				AML		AML	15 52 01.3	
	comp=E,518μm,0.6s							
IDI	**Anoyia**	**1.39**	**276**	PN		**Pg**	**15 51 22.6**	**+0.5**
IDI				SN		**Sg**	**15 51 42.6**	**+2.4**
SNT5	**Nea Kammeni, S**	**1.59**	**323**	P		**Pb**	**15 51 25.0**	**+0.1**
KOSK	**Kos Island**	**1.64**	**11**	P		**Pn**	**15 51 24.5**	**0.0**
KOSK	**Kos Island**	**1.64**	**11**	PN		**Pb**	**15 51 25.1**	**-0.7**
ARG	**Arkhangelos**	**1.65**	**49**	P		**Pb**	**15 51 25.2**	**-0.9**
ARG				AML		AML	15 51 58.5	
	comp=E,951μm,0.5s							
ARG				AML		AML	15 52 03.0	
	comp=N,583μm,0.9s							
ARG	**Arkhangelos**	**1.65**	**49**	PN		**Pb**	**15 51 25.7**	**-0.4**
ARG				SN		**Sg**	**15 51 47.9**	**-0.6**
DAT	**Datca**	**1.78**	**27**	PN		**Pb**	**15 51 27.2**	**-1.1**
DAT	**Datca**	**1.78**	**27**	P		**Pb**	**15 51 27.6**	**-0.7**
DAT				*i* AML		AML	15 52 01.0	
	comp=N,53nm,0.6s							
DAT				*i* AML		AML	15 52 04.0	
	comp=N,44nm,0.5s							
BODT	**Bodrum**	**2.00**	**17**	PN		**Pb**	**15 51 30.7**	**-1.4**
BDRM	**Kayabasi**	**2.04**	**20**	P		**Pb**	**15 51 32.5**	**-0.2**
BDRM				*i* AML		AML	15 52 06.0	
	comp=N,24nm,0.5s							
BDRM				*i* AML		AML	15 52 13.0	
	comp=N,24nm,0.5s							
GVD	**Gavdhos**	**2.07**	**262**	P		**Pb**	**15 51 33.6**	**+0.4**
GVD	**Gavdhos**	**2.07**	**262**	PN		**Pb**	**15 51 32.9**	**-0.3**
APE	**Apeiranthos**	**2.10**	**336**	P		**Pn**	**15 51 32.1**	**+1.1**
APE	**Apeiranthos**	**2.10**	**336**	PN		**Pn**	**15 51 31.9**	**+0.9**
TURN	**Turunc**	**2.12**	**39**	PN		**Pb**	**15 51 32.1**	**-1.9**
TURN	**Turunc**	**2.12**	**39**	P		**Pb**	**15 51 32.4**	**-1.6**
TURN				*i* AML		AML	15 52 09.0	
	comp=N,40nm,0.6s							
TURN				*i* AML		AML	15 52 11.0	
	comp=N,44nm,0.5s							
IMMV	**Iera Moni Meta**	**2.15**	**279**	P		**Pb**	**15 51 34.1**	**-0.5**
IMMV	**Iera Moni Meta**	**2.15**	**279**	PN		**Pb**	**15 51 33.5**	**-1.1**
RODP	**Rodopos**	**2.35**	**281**	PN		**Pn**	**15 51 36.1**	**+1.8**
MLSB	**Milas**	**2.36**	**24**	PN		**Pn**	**15 51 35.5**	**+1.1**
DALY	**Dalyan (Mula)**	**2.37**	**45**	PN		**Pb**	**15 51 35.9**	**-2.4**
KNDR	**Palaiochora Ch**	**2.38**	**273**	PN		**Pb**	**15 51 37.3**	**-1.1**
YER	**Yerkesik**	**2.42**	**34**	PN		**Pn**	**15 51 36.4**	**+1.1**
FETY	**Fethiye**	**2.52**	**53**	PN		**Pn**	**15 51 37.9**	**+1.2**
FETY	**Fethiye**	**2.52**	**53**	P		**Pn**	**15 51 37.3**	**+0.7**
FETY				*i* AML		AML	15 52 30.0	
	comp=N,30nm,0.6s							
FETY				*i* AML		AML	15 52 31.0	
	comp=N,38nm,1.4s							
MULA	**Mugla, Merkez-**	**2.54**	**33**	P		**Pb**	**15 51 39.0**	**-2.3**
MULA				*i* AML		AML	15 52 24.0	
	comp=N,14nm,0.8s							
MULA				*i* AML		AML	15 52 25.0	
	comp=N,41nm,0.8s							
GCAM	**G?zelcaml?**	**2.61**	**11**	PN		**Pn**	**15 51 39.1**	**+1.3**
AKAS	**Kas**	**2.69**	**65**	PN		**Pn**	**15 51 40.1**	**+1.0**
AKAS	**Kas**	**2.69**	**65**	P		**Pn**	**15 51 39.4**	**+0.2**
AKAS				S		**Sn**	**15 52 11.3**	**-0.7**
AKAS				*i* AML		AML	15 52 13.0	
	comp=N,28nm,0.5s							
AKAS				*i* AML		AML	15 52 16.0	
	comp=N,51nm,0.4s							
AYDN	**Tasoluk**	**2.72**	**22**	P		**Pb**	**15 51 41.6**	**-2.7**
AYDN				*i* AML		AML	15 52 21.0	
	comp=N,18nm,0.7s							
AYDN				*i* AML		AML	15 52 32.0	
	comp=N,19nm,0.9s							
CAME	**Cameli-Denizli**	**2.84**	**50**	PN		**Pn**	**15 51 42.7**	**+1.4**
TAVA	**DENIZLI_Tavas**	**2.99**	**38**	P		**Pn**	**15 51 44.2**	**+1.0**
TAVA				S		**Sb**	**15 52 24.3**	**-1.3**
TAVA				*i* AML		AML	15 52 35.0	
	comp=N,20nm,0.6s							
TAVA				*i* AML		AML	15 52 42.0	
	comp=N,23nm,0.5s							
ELL	**Elmali**	**3.14**	**58**	PN		**Pn**	**15 51 46.8**	**+1.5**
GOLH	**Golhisar**	**3.19**	**48**	P		**Pn**	**15 51 47.9**	**+1.9**
URLA	**Izmir**	**3.21**	**0**	PN		**Pn**	**15 51 46.9**	**+0.7**
CHOS	**Chios island**	**3.27**	**353**	PN		**Pn**	**15 51 47.7**	**+0.7**
BRTR	**Keskin Array B**	**7.24**	**49**	Pn		**Pn**	**15 52 44.1**	**+2.4**
	comp=N,0.1nm,0.3s,baz=214,slow=15,SNR=2.2							
ATD	**Arta Tunnel**	**27.76**	**144**	LR		LR	16 07 17.6	
	comp=N,30nm,19.5s,baz=106,slow=35							
TORD	**Torodi Ar. Bea**	**31.38**	**232**	P		**P**	**15 57 18.0**	**+1.1**
	comp=N,0.3nm,0.5s,baz=43,slow=8.3,SNR=3.0							
MKAR	**Makanchi Array**	**42.81**	**57**	P		**P**	**15 58 55.0**	**+1.3**
	comp=N,0.4nm,0.6s,baz=272,slow=7.8,SNR=6.7							
ZALV	**Zalesovo Beam**	**44.17**	**46**	P		**P**	**15 59 05.5**	**+1.0**
	comp=N,0.4nm,0.4s,baz=265,slow=6.6,SNR=1.9							
LSZ	**Lusaka**	**50.16**	**178**	LR		LR	16 20 40.4	
	comp=N,34nm,19.1s,baz=133,slow=36							

*CNRM **17** 15:54:02.6, 35.71N×2.27W, h28km, ml3.1*
*SFS **17** 15:54:03.0, 35.60N×2.20W, h22km, ML2.5, ALBORAN SUR*
*MDD **17** 15:54:03.5±0.6, 35.66N×2.24W, h22km±5km, mb_Lg2.5/12, Error ellipse: s-maj=4.6km s-min=2.6km az=165.0*
*INMG **17** 15:54:04.2±1.4, 35.71N×2.29W, h22km±7km, ML2.2, Error ellipse: s-maj=5.5km s-min=5.0km az=159.0*
ISC 17 15:54:03.2±1.4, 35.72N±0.02×2.31W±0.03, h34km±3km, n43, σ2s09/76, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.63**	**291**	Pg		**Pn**	**15 54 15.9**	**+0.2**
EALB				Sg		**Sn**	**15 54 25.7**	**+1.2**
EALB				*i* Vmb_Lg			15 54 27.5	
EMEL	**Melilla**	**0.67**	**232**	Pg		**Pn**	**15 54 15.8**	**-0.5**
EMEL				Sg		**Sn**	**15 54 25.7**	**+0.1**
GOG	**Mont Gurugu**	**0.75**	**229**	P		**Pn**	**15 54 16.7**	**-0.7**
GOG				S		**Sn**	**15 54 28.5**	**+0.8**
TAF	**Taforalt**	**0.91**	**185**	P		**Pn**	**15 54 19.2**	**-0.4**
TAF	**Taforalt**	**0.91**	**185**	P		**Pn**	**15 54 19.4**	**-0.2**
TAF				S		**Sn**	**15 54 31.4**	**-0.1**
ENIJ	**Nijar**	**1.25**	**4**	Pn		**Pn**	**15 54 24.9**	**+0.5**
ENIJ				Sn		**Sn**	**15 54 40.5**	**+0.4**
ENIJ				*i* Vmb_Lg			15 54 41.8	
EBER	**Berja**	**1.27**	**338**	Pn		**Pn**	**15 54 25.2**	**+0.5**
EBER				Sn		**Sb**	**15 54 42.0**	**-0.7**
EBER				*i* Vmb_Lg			15 54 50.8	
JBK	**JBK**	**1.40**	**189**	P		**Pn**	**15 54 26.2**	**-0.3**
JBK	**JBK**	**1.40**	**189**	P		**Pn**	**15 54 26.5**	**0.0**
JBK				S		**Sb**	**15 54 46.5**	**+0.2**
ELGU	**Los Guajares,**	**1.57**	**318**	Pn		**Pn**	**15 54 29.2**	**+0.4**
ELGU				Sn		**Sn**	**15 54 48.9**	**+1.0**
ELGU				*i* Vmb_Lg			15 54 51.3	
PVLZ	**Peæn de**	**1.71**	**252**	P		**Pn**	**15 54 32.1**	**+1.5**
PVLZ				S		**Sn**	**15 54 51.8**	**+0.4**
EQUE	**Quentar**	**1.74**	**329**	Pn		**Pb**	**15 54 33.1**	**-1.5**
EQUE				Sn		**Sn**	**15 54 53.4**	**+1.1**
EQUE				*i* Vmb_Lg			15 55 02.6	
AKLM	**AKL**	**1.75**	**227**	P		**Pb**	**15 54 36.0**	**+1.2**
AKLM	**AKL**	**1.75**	**227**	P		**Pn**	**15 54 32.7**	**+1.4**
AKLM				S		**Sn**	**15 54 52.8**	**+0.3**
EMAL	**Malaga-Limoner**	**2.01**	**302**	P		**Pb**	**15 54 38.4**	**-0.6**
EMAL				S		**Sn**	**15 55 00.0**	**+1.4**
EGOR	**Sierra Gorda,**	**2.01**	**314**	Pn		**Pn**	**15 54 36.6**	**+1.7**
EGOR				Sn		**Sn**	**15 55 00.2**	**+1.3**
EGOR				*i* Vmb_Lg			15 55 04.4	
CART	**Cartagena**	**2.14**	**29**	P		**Pn**	**15 54 36.6**	**+0.1**
CART				S		**Sn**	**15 54 60.0**	**-2.0**
CART	**Cartagena**	**2.14**	**29**	P		**Pn**	**15 54 36.6**	**+0.1**
CART				S		**Sn**	**15 55 01.6**	**-0.4**
EMIJ	**Mijas**	**2.17**	**294**	Pn		**Pn**	**15 54 38.0**	**+1.1**
EMIJ				Sn		**Sn**	**15 55 02.6**	**-0.1**
EMIJ				*i* Vmb_Lg			15 55 07.2	
EZAR	**Zarzadilla de**	**2.21**	**13**	Pn		**Pn**	**15 54 38.8**	**+1.2**
EZAR				Sn		**Sn**	**15 55 04.3**	**+0.6**
EMUR	**La Murta**	**2.29**	**22**	Pn		**Pn**	**15 54 39.5**	**+0.9**
EMUR				Sn		**Sn**	**15 55 05.2**	**-0.5**
EMUR				*i* Vmb_Lg			15 55 13.6	
CEU	**Ceuta**	**2.50**	**275**	P		**Pn**	**15 54 44.0**	**+2.6**
CEU				S		**Sn**	**15 55 05.5**	**-5.2**
TDRA	**Tendrara**	**2.68**	**175**	P		**Pn**	**15 54 46.6**	**+2.4**
ETOB	**Tobarra**	**2.98**	**12**	Pn		**Pn**	**15 54 49.7**	**+1.5**
ETOB				Sn		**Sn**	**15 55 24.5**	**+1.6**
ETOB				*i* Vmb_Lg			15 55 25.5	
EADA	**Adamuz**	**3.05**	**324**	Pn		**Pn**	**15 54 50.9**	**+1.2**
EADA				Sn		**Sn**	**15 55 25.8**	**+1.5**
EADA				*i* Vmb_Lg			15 55 38.5	
EBEN2	**Beniarda presa**	**3.40**	**29**	Pn		**Pn**	**15 54 54.7**	**+0.8**
EBEN2				Sn		**Sn**	**15 55 31.5**	**-1.6**
EBEN2				*i* Vmb_Lg			15 57 10.7	
ECAB	**El Cabril**	**3.43**	**314**	Pn		**Pn**	**15 54 55.5**	**+1.2**
ECAB				Sn		**Sn**	**15 55 34.2**	**+0.4**
MDT	**Midelt**	**3.46**	**214**	P		**Pn**	**15 54 56.2**	**+1.3**
MDT	**Midelt**	**3.46**	**214**	P		**Pn**	**15 54 56.2**	**+1.3**
PAB	**San Pablo**	**4.15**	**338**	Pn		**Pn**	**15 55 07.4**	**+3.2**
PAB				Sn		**Sn**	**15 55 50.4**	**-1.2**
EIBI	**Ibiza**	**4.40**	**40**	Pn		**Pn**	**15 55 07.6**	**0.0**
EIBI				Sn		**Sn**	**15 55 56.5**	**-1.2**
EGRO	**El Granado**	**4.54**	**295**	Pn		**Pn**	**15 55 11.3**	**+1.8**
EGRO				Sn		**Sn**	**15 56 01.2**	**+0.1**
PVAQ	**Vaqueiros**	**4.67**	**293**	*e*Pn		**Pn**	**15 55 12.8**	**+1.5**
PVAQ				*e*Sn		**Sn**	**15 55 59.4**	**-4.9**
PVAQ				A		A	15 56 08.9	
	2.1nm,0.4s							
PVAQ	**Vaqueiros**	**4.67**	**293**	P		**Pn**	**15 55 13.2**	**+1.9**
PVAQ	**Vaqueiros**	**4.67**	**293**	P		**Pn**	**15 55 13.2**	**+1.9**
PBDV	**Barranco-do-Ve**	**4.78**	**290**	*e*Pn		**Pn**	**15 55 14.6**	**+1.8**
PBDV				*e*Sn		**Sn**	**15 56 03.6**	**-3.5**
PBDV				A		A	15 56 12.3	
	1.7nm,0.5s							
EBAD	**Badajoz**	**4.83**	**310**	Pn		**Pn**	**15 55 15.2**	**+1.8**
EBAD				Sn		**Sn**	**15 56 08.9**	**+0.8**
PCVE	**Castro Verde**	**4.99**	**294**	*e*Pn		**Pn**	**15 55 18.1**	**+2.5**
PCVE				*e*Sn		**Sn**	**15 56 08.0**	**-4.1**
PESTR	**Estremoz**	**5.25**	**308**	*e*Pn		**Pn**	**15 55 21.9**	**+2.5**
PESTR				*e*Sn		**Sn**	**15 56 13.2**	**-5.6**
PTEO	**Sao Teotonio**	**5.47**	**291**	*e*Pn		**Pn**	**15 55 24.6**	**+2.3**
PTEO				*e*Sn		**Sn**	**15 56 18.7**	**-5.4**
PTEO				A		A	15 56 27.5	
	4.0nm,0.8s							
PMRV	**Marv??o**	**5.48**	**314**	*e*Pn		**Pn**	**15 55 25.3**	**+2.9**
PNCL	**Nicolau / Gran**	**5.53**	**297**	*e*Pn		**Pn**	**15 55 26.9**	**+3.8**
PNCL				*e*Sn		**Sn**	**15 56 19.3**	**-6.1**
PNCL				A		A	15 56 38.4	
	1.1nm,0.6s							
PMTG	**Montargil**	**5.78**	**307**	*e*Pn		**Pn**	**15 55 28.4**	**+1.9**

*IDC **17** 16:11:42.9±2.1, 6.80S×129.84E, h152km±27km, mb3.1/1, mb1 3.0/6, mb1mx2.9/34, mbtmp3.5/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/19, Error ellipse: s-maj=38.6km s-min=19.8km az=95.0*
ISC 17 16:11:41.2±0.9, 6.88S±0.07×129.9E±0.1, h150km, n7, σ3s48/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.12**	**13**	P		**Pn**	**16 13 10.8**	**+1.3**
	0.7nm,0.3s,baz=164,slow=20,SNR=23							
SIJI				S		**Sn**	**16 14 14.8**	**-3.8**
	0.7nm,0.3s,baz=229,slow=23,SNR=10							
BATI	**Baumata**	**7.03**	**242**	P		**Pn**	**16 13 23.1**	**+1.4**
	1.3nm,0.3s,baz=106,slow=7.4,SNR=1.7							
BATI				S		**Sn**	**16 14 37.0**	**-3.6**
	0.8nm,0.3s,baz=351,slow=18,SNR=1.6							
FITZ	**Fitzroy Crossi**	**11.91**	**200**	P		**Pn**	**16 14 28.3**	**+2.0**
	0.1nm,0.3s,baz=23,slow=11,SNR=12							
FITZ				S		Sn	16 16 30.8	-7.3
	0.1nm,0.3s,baz=150,slow=11,SNR=1.0							
WRA	**Warramunga Arr**	**13.67**	**162**	P		**Pn**	**16 14 50.1**	**+1.2**
	0.1nm,0.3s,baz=344,slow=13,SNR=12							
WRA				S		**Sn**	**16 17 15.7**	**-4.7**
	0.1nm,0.3s,baz=323,slow=28,SNR=2.0							
DAV	**Davao City (W)**	**14.53**	**342**	LR		LR	16 21 31.8	
	comp=Z,32nm,18.3s,baz=306,slow=41							
ASAR	**Alice Springs**	**17.12**	**168**	P		**Pn**	**16 15 35.3**	**+3.8**
	0.1nm,0.3s,baz=347,slow=10,SNR=20							
MKAR	**Makanchi Array**	**68.10**	**327**	P		**P**	**16 22 25.5**	**+0.7**
	0.2nm,0.4s,baz=118,slow=7.9,SNR=4.9							

*BGR **17** 16:17:12.2±0.0, 68.93N×55.17W, h10km, mb4.7*
*IDC **17** 16:17:14.7±0.5, 69.12N×53.64W, h0km, mb4.1/25, mb1 4.3/29, mb1mx4.2/42, mbtmp4.1/29, ML3.7/4, MS3.7/48, Ms1 3.7/48, ms1mx3.5/90, Error ellipse: s-maj=13.6km s-min=9.1km az=176.0*
*DNK **17** 16:17:14.3±4.5, 69.15N×54.09W, h7km±23km, ML3.8, MW4.2, Fault plane solution: NP1:φs53.00000°, δ77.00000°, λ27.00000°., Probable volcanic*
*OTT **17** 16:17:16.3±0.1, 69.18N×53.83W, h18km, ML4.4/5, Western Greenland. 457km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone.*
*NEIC **17** 16:17:17.4±1.8, 69.13N±0.06×53.5W±0.1, h14km±4km, mb4.5/114, ML4.4(OTT), Error ellipse: s-maj=9.5km s-min=5.4km az=181.0*
ISC 17 16:17:15.7±0.7, 69.20N±0.04×53.80W±0.03, h9km±4km, n265, σ2s00/257, mb4.4/94, MS3.7/44, 2C-14D, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ILULI	**Ilulissat**	**0.96**	**88**	Pg		**Pg**	**16 17 34.2**	**0.0**
ILULI				Sg		**Sb**	**16 17 47.0**	**-0.3**
ILULI				Trac			16 17 51.6	
	comp=Z,4μm,0.3s							
ILULI	**Ilulissat**	**0.96**	**88**	PG		**Pg**	**16 17 34.2**	**0.0**
ILULI				SG		**Sb**	**16 17 47.0**	**-0.3**
ILULI				Trac			16 17 51.6	
	comp=Z,4μm,0.3s							
NUUG	**Nuugaatsiaq**	**2.36**	**5**	⇓*i* P		**Pn**	**16 17 54.5**	**+0.1**
NUUG				*i* S		**Sn**	**16 18 23.0**	**-0.5**
NUUG				IAML			16 18 35.7	
	comp=Z,507nm,0.6s							
SFJD	**Kangerlussuaq**	**2.52**	**150**	Pn		**Pn**	**16 17 55.4**	**-1.2**
	comp=Z,61nm,0.3s,baz=335,slow=16,SNR=343							
SFJD				LR		LR	16 18 21.4	
	comp=Z,295nm,19.5s,baz=327,slow=28							
SFJD				Sn		**Sn**	**16 18 26.3**	**-1.1**
	comp=Z,561nm,0.3s,baz=43,slow=10,SNR=21							
SFJD	**Kangerlussuaq**	**2.52**	**150**	⇓*i* P		**Pn**	**16 17 55.8**	**-0.9**
SFJD				*i* S		**Sn**	**16 18 25.8**	**-1.5**
SFJD				IAML			16 18 33.4	
	comp=Z,3μm,0.8s							
SFJD	**Kangerlussuaq**	**2.52**	**150**	PN		**Pn**	**16 17 55.7**	**-0.9**
SFJD				SN		**Sn**	**16 18 25.6**	**-1.8**
SFJD				Trac			16 18 33.6	
	comp=Z,420nm,0.7s							
DY2G	**Dye2**	**3.96**	**130**	⇑*i* P		**Pn**	**16 18 15.7**	**-1.0**
DY2G				IAML			16 19 17.2	
	comp=Z,1μm,0.7s							
NUUK	**Nuuk**	**5.11**	**170**	*i* P		**Pn**	**16 18 33.1**	**+0.9**

SCHQ Schefferville 15.60 209 Pn **Pn** 16 20 54.0 -1.5
SCHQ IAmb IAmb 16 21 05.4
comp=Z,23nm,1.1s

KBS Kingsbay 19.13 33 P **P** 16 21 36.7 -1.8
KBS IAmb IAmb 16 22 01.1
comp=Z,61nm,1.4s

FCC Fort Churchill 20.09 259 P **P** 16 21 48.7 -0.3
DRLN Deer Lake 20.09 187 P Pn 16 21 50.5 -0.4
SPITS Spitsbergen Ar 20.12 34 P **P** 16 21 49.3 0.0
comp=Z,3.0nm,0.7s,baz=241,slow=6.6,SNR=1.8

SPB2 Spitsbergen Ar 20.13 34 Pn 16 21 51.5 +0.3
SPB2 IAmb IAmb 16 21 55.9
comp=Z,18nm,1.1s

A36M Sachs Harbour 22.62 310 P **P** 16 22 17.9 +1.7
A36M IAmb IAmb 16 22 29.0
comp=Z,11nm,0.9s

BATG Bathurst New B 22.82 202 P **P** 16 22 19.5 +1.0
BATG IAmb IAmb 16 22 20.9
comp=Z,24nm,1.2s

C36M Paulatuk 23.64 304 P **P** 16 22 28.6 +2.0
LMN Caledonia Moun 24.07 199 P **P** 16 22 29.9 -1.0
LMN IAmb IAmb 16 22 30.6
comp=Z,10nm,0.9s

GBN Guysborough 24.18 193 P **P** 16 22 30.7 -1.1
F64A Sherman 24.53 205 P **P** 16 22 34.6 -0.5
F64A IAmb IAmb 16 22 48.0
comp=Z,19nm,1.3s

YKA Yellowknife Ar 24.75 284 P **P** 16 22 37.0 +0.1
comp=Z,0.8nm,0.7s,baz=47,slow=10,SNR=16
YKA S **S** 16 27 02.7 +4.0
comp=Z,1.1nm,0.9s,baz=47,slow=20,SNR=4.3
YKA LR LR 16 32 17.5
comp=Z,418nm,20.2s,baz=21,slow=36

F63A Nahmakanta, Br 24.80 206 P **P** 16 22 37.0 -0.6
F63A IAmb IAmb 16 22 47.2
comp=Z,25nm,1.5s

GGN Saint George 25.05 202 P **P** 16 22 38.9 -0.8
PKME Peaks-Kenny Pk 25.26 206 P **P** 16 22 41.6 -0.1
TRQ Mont Tremblant 25.30 215 P **P** 16 22 41.5 -0.6
TRQ IAmb IAmb 16 22 48.2
comp=Z,21nm,1.3s

FFC Flin Flon 25.97 261 P **P** 16 22 49.5 +1.3
ARCES ARCESS Array B 26.15 52 P **P** 16 22 50.0 +0.4
comp=Z,6.4nm,0.7s,baz=302,slow=8.4,SNR=16
ARCES LR LR 16 31 48.8
comp=Z,71nm,21.4s,baz=305,slow=33

ARCES ARCESS Array B 26.15 52 P **P** 16 22 49.8 +0.2
EKA Eskdalemuir Ar 26.37 96 P **P** 16 22 51.2 -0.5
comp=Z,1.3nm,0.6s,baz=332,slow=9.0,SNR=3.3
EKA LR LR 16 31 57.3
comp=Z,198nm,20.5s,baz=356,slow=34

KEV Kevo 26.43 51 P **P** 16 22 52.4 +0.3
INK Inuvik 27.03 306 P **P** 16 22 58.2 +0.8
comp=Z,0.9nm,0.5s,baz=46,slow=11,SNR=7.4
INK LR LR 16 33 17.3
comp=Z,193nm,21.8s,baz=27,slow=36

INK Inuvik 27.03 306 P **P** 16 22 58.3 +0.8
NOA NORSAR Array B 27.21 75 P **P** 16 22 59.2 0.0
comp=Z,1.2nm,1.0s,baz=310,slow=8.3,SNR=2.7
NOA LR LR 16 33 04.8
comp=Z,88nm,19.0s,baz=315,slow=35

E46A Sault Ste Mari 27.51 230 P **P** 16 23 02.7 +0.7
E46A IAmb IAmb 16 23 09.6
comp=Z,15nm,1.1s

ULM Lac du Bonnet 27.58 248 P **P** 16 23 02.5 -0.1
comp=Z,3.4nm,0.5s,baz=25,slow=9.0,SNR=5.1
ULM LR LR 16 33 55.6
comp=Z,217nm,18.4s,baz=47,slow=36

ULM Lac du Bonnet 27.58 248 P **P** 16 23 03.1 +0.5
HFS Hagfors 28.71 74 LR LR 16 33 31.0
comp=Z,152nm,21.3s,baz=302,slow=34

AGMN Agassiz Nation 29.27 246 P **P** 16 23 18.4 +0.8
AGMN IAmb IAmb 16 23 22.4
comp=Z,8.2nm,1.1s

I29M Ogilvie Camp, 30.42 304 P **P** 16 23 29.0 +1.2
I29M IAmb IAmb 16 23 41.9
comp=Z,6.5nm,1.2s

BMAR Burnt Mountain 30.71 311 P **P** 16 23 32.0 +1.7
TOLK Toolik Lake Re 31.14 315 P **P** 16 23 36.1 +2.0
EGAK Eagle 31.68 305 P **P** 16 23 40.4 +1.6
EGAK IAmb IAmb 16 23 45.2
comp=Z,6.7nm,1.2s

DAWY Dawson 31.68 303 P **P** 16 23 41.1 +2.2
DAWY IAmb IAmb 16 23 46.8
comp=Z,12nm,1.2s

FIA1 FINESS Array S 31.86 64 P **P** 16 23 41.1 +0.7
FINES FINESS Array B 31.86 64 P **P** 16 23 40.4 -0.1
comp=Z,5.9nm,0.9s,baz=320,slow=9.2,SNR=16
FINES PcP **PcP** 16 26 30.3 -0.3
comp=Z,1.6nm,1.0s,baz=298,slow=3.0,SNR=1.6
FINES LR LR 16 35 26.5
comp=Z,142nm,18.6s,baz=352,slow=34

FINES FINESS Array B 31.86 64 P **P** 16 23 40.8 +0.4
COLD Coldfoot 32.34 314 P **P** 16 23 46.2 +1.6
O53A New Philadelph 32.45 221 P **P** 16 23 47.0 +1.2
DLBC Dease Lake 32.95 290 LR LR 16 37 02.5
comp=Z,163nm,20.9s,baz=65,slow=36

BCAR Beaver Creek A 33.15 304 P **P** 16 23 54.9 +3.1
L27K Beaver Creek, 33.16 304 P **P** 16 23 54.7 +2.8
L27K IAmb IAmb 16 23 57.8
comp=Z,8.5nm,1.4s

BGES Gesves 33.31 94 *d*PnPn PnPn 16 25 01.4 -2.0
ILAR Eielson Array 33.31 309 P **P** 16 25 55.3 +2.2
comp=Z,1.4nm,0.8s,baz=37,slow=7.3,SNR=13
ILAR PcP **PcP** 16 26 34.8 +0.1
comp=Z,0.4nm,0.7s,baz=355,slow=3.3,SNR=5.5
ILAR LR LR 16 37 07.4
comp=Z,125nm,19.9s,baz=66,slow=36

DOT Dot Lake 33.37 306 P **P** 16 23 55.9 +2.2
DOT IAmb IAmb 16 23 59.3
comp=Z,7.2nm,1.2s

DOU Dourbes 33.38 94 *d*P **P** 16 23 53.9 +0.1
comp=Z,3.2nm,1.1s

MEM Membach 33.45 92 *d*PnPn PnPn 16 25 03.5 -1.6
BTNL Ternell 33.52 92 *dx* **P** 16 23 55.4 +0.4
RIDG Independent Ri 33.53 306 P **P** 16 23 57.3 +2.2
RIDG IAmb IAmb 16 24 03.1
comp=Z,11nm,1.3s

RCHB Rochefort 33.55 94 *d*P **P** 16 23 54.8 -0.6
RCHB *dp*P **pP** 16 23 58.6 +0.5
RCHB *ds*P **sP** 16 24 00.2 +1.0
ECSD EROS Data Cent 33.55 243 P **P** 16 23 57.6 +2.2
ECSD IAmb IAmb 16 24 02.0
comp=Z,6.7nm,1.1s

BHOU Houvegnez 33.66 93 *d*P **P** 16 23 55.0 -1.3
BHOU *dp*P **sP** 16 23 60.0 -0.3
BHOU *ds*P **pP** 16 24 01.8 +2.7
BHOU *d*PnPn **PnPn** 16 25 06.1 -1.8
I23K Minto, Yukon-K 33.70 311 P **P** 16 23 59.1 +2.7
I23K IAmb IAmb 16 24 01.9
comp=Z,5.3nm,1.1s

M27K Edge Creek, AK 33.71 303 P **P** 16 23 59.8 +3.0
M27K IAmb IAmb 16 24 22.4
comp=Z,5.6nm,1.3s

IMAR Indian Mountai 34.21 314 P **P** 16 24 03.7 +2.8
H21K Melozitna Rive 34.22 313 P **P** 16 24 04.6 +3.6
RND Reindeer 34.92 308 P **P** 16 24 08.6 +1.4
N25K Chitina, Valde 35.11 304 P **P** 16 24 11.2 +2.4
N25K IAmb IAmb 16 24 12.6
comp=Z,6.0nm,0.9s

TRF Thorofare Moun 35.29 309 P **P** 16 24 13.3 +2.9
TRF IAmb IAmb 16 24 15.1
comp=Z,7.6nm,1.2s

CLL Collm 35.37 85 P **P** 16 24 11.2 +0.2
CLL Collm 35.37 85 *j/P* **P** 16 24 11.2 +0.2
comp=Z,9.0nm,0.8s
CLL *i* Pmax 16 24 13.6
comp=Z,12nm,0.8s

CLL *e*S S 16 30 00.0 +15
CLL *e*SS **SS** 16 32 30.0 +12
CLL LmH 16 39 00.0
comp=N,100nm,19.1s

CLL LmH 16 39 00.0
comp=E,100nm,20.7s

KLU Klutina 35.59 305 P **P** 16 24 15.0 +2.0
KLU IAmb IAmb 16 24 38.1
comp=Z,12nm,1.4s

RSSD Black Hills 35.66 252 P **P** 16 24 16.2 +2.3
RSSD IAmb IAmb 16 24 19.4
comp=Z,10nm,1.0s

ECH Echery 35.87 94 P **P** 16 24 15.6 +0.2
ECH IAmb IAmb 16 24 16.8
comp=Z,5.3nm,0.9s

SML Sawmill 36.04 306 P **P** 16 24 18.7 +1.9
NKC Novy Kostel 36.06 87 *eP* **P** 16 24 17.5 +0.5

BRG Berggiesshubel 36.06 85 *eP* **P** 16 24 17.6 +0.6
BRG Amp 16 24 21.2
comp=Z,3.9nm,0.8s

GRF Grafenberg Arr 36.08 88 *eP* **P** 16 24 18.3 +1.1
comp=Z,18nm,1.1s,baz=326,slow=8.3

T50A Nancy 36.40 224 P **P** 16 24 20.5 +0.5
T50A IAmb IAmb 16 24 23.9
comp=Z,16nm,1.2s

KLMR Klimovskoe 36.45 55 *eP* **P** 16 24 18.9 -1.3
KLMR AMP 16 24 24.1
comp=Z,9.0nm,1.0s

KLMR *e*PcP **PcP** 16 26 43.1 -0.7
PVCC Panska Ves 36.57 85 *eP* **P** 16 24 22.1 +0.7
NEW Newport 36.67 269 LR LR 16 39 38.0
comp=Z,236nm,18.3s,baz=19,slow=37

PRU Pruhonice 37.02 85 *eP* **P** 16 24 25.9 +0.8
CHVC Chvalec 37.05 83 *eP* **P** 16 24 26.0 +0.5
LRM Limekiln Ridge 37.09 262 P **P** 16 24 29.4 +3.3
UPC Upice 37.10 83 *eP* **P** 16 24 26.5 +0.6
OSTC Ostas 37.14 83 *eP* **P** 16 24 26.2 0.0
NACGM Naroch 37.23 70 *eP* **P** 16 24 27.5 +0.7
BBB Bella Bella 37.30 282 LR LR 16 40 25.7
comp=Z,346nm,18.5s,baz=57,slow=37

DPC Dobruska-Polom 37.34 83 *eP* **P** 16 24 28.1 +0.1
KHC Kasperske Hory 37.39 87 P **P** 16 24 28.6 +0.3
KHC IAmb IAmb 16 24 33.4
comp=Z,15nm,1.1s

KHC Kasperske Hory 37.39 87 *eP* **P** 16 24 29.5 +1.1
YHH Holmes Hill 37.43 259 P **P** 16 24 31.5 +2.5
SENIN Lac Senin/Sane 37.50 95 P **P** 16 24 30.5 +0.9
QLMT Earthquake Lak 37.59 260 P **P** 16 24 32.8 +2.5
DAVA Damuels 37.63 92 *eP* **P** 16 24 31.5 +0.9
comp=Z,2.6nm,0.6s

CLTN Cedars of Leba 37.65 225 P **P** 16 24 32.7 +2.1
CLTN IAmb IAmb 16 24 34.7
comp=Z,18nm,1.4s

MTE Manteigas 37.66 115 P **P** 16 24 31.7 +0.9
H17A Grant Village 37.67 259 P **P** 16 24 34.8 +3.7
GEC2 GERESS Array S 37.67 87 P **P** 16 24 31.6 +0.8
GEC2 IAmb IAmb 16 24 35.7
comp=Z,14nm,1.3s

GERES GERESS Array B 37.67 87 P **P** 16 24 31.6 +0.8
comp=Z,1.7nm,0.8s,baz=309,slow=6.7,SNR=12
GERES LR LR 16 41 05.0
comp=Z,138nm,18.3s,baz=325,slow=38

KRLC Kraliky 37.74 83 *eP* **P** 16 24 31.9 +0.6
RETA Reutte 37.77 91 *eP* **P** 16 24 32.8 +1.1
comp=Z,3.9nm,0.9s

CKRC Cesky Krumlov 37.91 86 *eP* **P** 16 24 33.2 +0.4
MOTA Moosalm 38.02 91 *eP* **P** 16 24 35.1 +1.3
comp=Z,5.3nm,0.9s

DAVOX Davos/Dischmat 38.06 92 LR LR 16 39 38.1
comp=Z,118nm,19.7s,baz=266,slow=35

SQTA Sankt Quirin 38.16 91 *eP* **P** 16 24 36.4 +1.5
comp=Z,4.5nm,1.0s

WATA Walderalm 38.19 90 *eP* **P** 16 24 36.5 +1.2
comp=Z,4.9nm,0.6s

MORC Moravsky Berou 38.26 83 P **P** 16 24 36.0 +0.3
MORC IAmb IAmb 16 24 40.2
comp=Z,13nm,1.2s

MORC Moravsky Berou 38.26 83 *eP* **P** 16 24 36.3 +0.6
MGMO Mountain Grove 38.27 233 P **P** 16 24 38.6 +2.8
MGMO IAmb IAmb 16 24 39.2
comp=Z,9.2nm,1.1s

WTTA Wattenberg 38.28 90 *eP* **P** 16 24 37.3 +1.2
comp=Z,4.7nm,0.8s

MOOW Moose Ponds 38.30 259 P **P** 16 24 38.8 +2.5
VRAC Vranov 38.31 84 LR LR 16 40 13.8
comp=Z,79nm,18.2s,baz=328,slow=36

VRAC Vranov 38.31 84 *eP* **P** 16 24 36.7 +0.6
LOHW Long Hollow 38.37 258 P **P** 16 24 39.3 +2.4
OKC Ostrava-Krasne 38.42 82 *eP* **P** 16 24 37.6 +0.6
KRUC Moravsky 38.45 84 *eP* **P** 16 24 37.5 +0.2
REDW Red Top Meadow 38.67 258 P **P** 16 24 41.8 +2.4
REDW IAmb IAmb 16 24 44.9
comp=Z,14nm,1.4s

OJC Ojcow 38.68 80 P **P** 16 24 39.5 +0.3
MOA Molln 38.72 87 *eP* **P** 16 24 40.5 +1.0
comp=Z,4.3nm,1.1s

BW06 Boulder Array 38.75 257 P **P** 16 24 40.9 +0.8
BW06 IAmb IAmb 16 24 44.7
comp=Z,16nm,1.5s

PD31 Pinedale Array 38.75 257 P **P** 16 24 41.1 +0.9
PD31 IAmb IAmb 16 24 44.7
comp=Z,8.8nm,1.2s

PDAR Pinedale Array 38.75 257 P **P** 16 24 41.6 +1.5
comp=Z,1.7nm,0.6s,baz=44,slow=7.4,SNR=20
PDAR LR LR 16 40 54.6
comp=Z,177nm,18.3s,baz=30,slow=37

PDAR Pinedale Array 38.75 257 P **P** 16 24 41.0 +0.9
PLID Pearl Lake 38.99 265 P **P** 16 24 43.7 +1.6
ABTA Abfaltersbach 39.03 90 *eP* **P** 16 24 43.8 +1.5
comp=Z,4.1nm,1.1s

KBA Koelnbreinsper 39.05 89 *eP* **P** 16 24 44.3 +1.8
comp=Z,10nm,1.0s

JAVC Velka Javorina 39.08 83 *eP* **P** 16 24 44.0 +1.4
N23A Red Feather La 39.17 251 P **P** 16 24 46.5 +2.8
CONA Conrad Observa 39.22 86 *eP* **P** 16 24 46.8 +3.0
comp=Z,5.7nm,1.4s

NRIK Noril'sk 39.27 20 P **P** 16 24 44.6 +0.8
comp=Z,2.9nm,0.7s,baz=10,slow=5.3,SNR=7.2

NRIK Noril'sk 39.27 20 P **P** 16 24 44.7 +0.9
SMOL Smolenice 39.28 84 *eP* **P** 16 24 45.7 +1.5
CTI Castel Tesino 39.32 91 P **P** 16 24 45.7 +1.0
MODS Modra-Piesok 39.35 84 *eP* **P** 16 24 45.9 +1.1
LANS Liptovska Anna 39.47 82 *eP* **P** 16 24 47.7 +1.9
ESBB Sonseca Array 39.49 112 P **P** 16 24 46.3 +0.2
ESDC Sonseca Array 39.49 112 P **P** 16 24 46.2 +0.2
comp=Z,2.7nm,0.9s,baz=334,slow=7.4,SNR=16
ESDC LR LR 16 39 34.2
comp=Z,46nm,19.7s,baz=352,slow=34

ESDC Sonseca Array 39.49 112 P **P** 16 24 46.3 +0.2
MYKA Tel'Mystica 39.53 89 *eP* **P** 16 24 47.9 +1.5
comp=Z,15nm,1.5s

RONA Rosalia, Austr 39.57 86 *eP* **P** 16 24 47.5 +0.8
comp=Z,7.4nm,1.4s

ARSA Arzberg 39.67 87 *eP* **P** 16 24 48.0 +0.5
comp=Z,3.2nm,1.1s

VYHS Vyhne 39.80 83 *e* **P** 16 24 52.5 +4.0
TEOL Teolo 39.92 92 P **P** 16 24 50.4 +0.8
SOKA Soboth 39.99 88 *eP* **P** 16 24 51.2 +0.9
comp=Z,5.6nm,1.0s

MSSA Maissana 40.06 95 P **P** 16 24 51.9 +1.1
W41B Gary Mavity, V 40.11 232 P **P** 16 24 52.1 +0.9
W41B IAmb IAmb 16 24 56.5
comp=Z,9.6nm,1.1s

KDAK Kodiak Island 40.58 306 LR LR 16 40 35.1
comp=Z,96nm,21.1s,baz=49,slow=34

O20A White River Ci 40.63 253 P **P** 16 24 57.9 +2.1
O20A IAmb IAmb 16 25 00.6
comp=Z,7.3nm,1.0s

PSZ Piszkesteto 40.66 82 P **P** 16 24 56.2 +0.4
PSZ IAmb IAmb 16 25 00.8
comp=Z,16nm,1.2s

PSZ Piszkesteto 40.66 82 P **P** 16 24 57.1 +1.3
AKASG Malin Array Be 41.55 72 P **P** 16 25 02.6 -0.2
comp=Z,1.0nm,0.4s,baz=333,slow=8.9,SNR=5.4

MORH Mrgy, Hungar 41.67 85 P **P** 16 25 04.6 +0.6
SRU San Rafael Swe 42.33 255 P **P** 16 25 11.4 +1.8
SRU IAmb IAmb 16 25 14.2
comp=Z,9.7nm,1.3s

ELK Elko 42.52 261 LR LR 16 43 01.7
comp=Z,214nm,20.9s,baz=40,slow=36

NRCA Norcia 42.63 92 P **P** 16 25 12.4 +0.5
BUR08 Bucovina Ar. S 42.76 78 P **P** 16 25 13.7 +0.7
BURAR Bucovina Array 42.79 78 P **P** 16 25 12.8 -0.4
MSU Marysvale 43.44 256 P **P** 16 25 21.1 +2.4
TCRU Three Creeks R 43.44 257 P **P** 16 25 21.3 +2.5
TCRU IAmb IAmb 16 25 25.5
comp=Z,13nm,1.2s

PSUT Pine Spring 44.00 258 P **P** 16 25 24.9 +1.7
PSUT IAmb IAmb 16 25 31.4
comp=Z,9.5nm,1.5s

YBH Yreka Blue Hor 44.31 269 LR LR 16 44 40.8
comp=Z,85nm,21.0s,baz=1.0,slow=37

ABTX Abilene, Hawle 44.67 239 P **P** 16 25 29.0 +0.6
ABTX IAmb IAmb 16 25 32.8
comp=Z,14nm,1.3s

ANMO Albuquerque 44.72 248 LR LR 16 44 44.4
comp=Z,200nm,18.3s,baz=36,slow=37

ANMO Albuquerque 44.72 248 P **P** 16 25 30.2 +1.3
MLR Muntele Rosu 44.88 79 LR LR 16 44 57.6
comp=Z,147nm,18.9s,baz=336,slow=37

KNB Kanab 45.00 256 P **P** 16 25 33.2 +2.0
KNB IAmb IAmb 16 25 38.5
comp=Z,13nm,1.3s

LCMT Little Creek M 45.15 256 P **P** 16 25 34.3 +2.0
LCMT IAmb IAmb 16 25 39.8
comp=Z,11nm,1.4s

MDT Midelt 45.55 117 LR LR 16 43 24.6
comp=Z,34nm,18.3s,baz=340,slow=34

NVAR Mina Array Bea 45.66 262 P **P** 16 25 37.7 +1.3
comp=Z,0.4nm,0.6s,baz=34,slow=6.7,SNR=2.9
NVAR LR LR 16 45 19.0
comp=Z,297nm,19.1s,baz=353,slow=37

MNTX Cornudas Mount 47.34 245 P **P** 16 25 50.6 +1.2
MNTX IAmb IAmb 16 25 56.1
comp=Z,6.8nm,1.4s

FNA Florina 47.38 86 P **P** 16 25 49.7 0.0
KEST Kesra 47.60 101 P **P** 16 25 51.5 -0.1
comp=Z,9.9nm,1.0s,baz=296,slow=7.0,SNR=5.8

KEST Kesra 47.60 101 P **P** 16 25 51.4 -0.1
VAE Valguarnera 47.83 95 LR LR 16 44 56.0
comp=Z,120nm,18.7s,baz=328,slow=35

TX31 Lajitas Ar. Si 48.98 242 P **P** 16 26 02.9 +0.7
TX31 IAmb IAmb 16 26 06.7
comp=Z,6.5nm,1.0s

TX32 Lajitas Array 48.98 242 P **P** 16 26 03.0 +0.8
TXAR Lajitas Array 48.98 242 P **P** 16 26 03.5 +1.2
comp=Z,1.4nm,0.9s,baz=58,slow=6.4,SNR=7.8
TXAR LR LR 16 47 18.2
comp=Z,157nm,18.2s,baz=16,slow=37

TXAR Lajitas Array 48.98 242 P **P** 16 26 03.4 +1.1
PFO Pinyon Flats O 49.34 258 LR LR 16 46 36.7
comp=Z,113nm,19.6s,baz=10.0,slow=36

AKTO Aktyubinsk 50.71 50 LR LR 16 46 47.0
comp=Z,42nm,20.6s,baz=27,slow=35

MTP Monte Pirata 51.61 194 P **P** 16 26 23.4 +1.4
MTP IAmb IAmb 16 26 23.5
comp=Z,8.8nm,0.8s

SJG San Juan 51.65 195 LR LR 16 49 08.6
comp=Z,14nm,18.1s,baz=308,slow=37

MANT Manisa 51.96 81 P **P** 16 26 24.4 -0.4
KBZ Khabaz 52.18 66 P **P** 16 26 27.5 +1.4
comp=Z,1.1nm,0.6s,baz=320,slow=9.5,SNR=2.7
KBZ LR LR 16 47 10.8
comp=Z,54nm,20.5s,baz=274,slow=34

ABKAR Akbulak array 52.31 49 P **P** 16 26 27.4 +0.4
ABKAR IAmb IAmb 16 26 31.5
comp=Z,5.7nm,1.2s

ABKAR Akbulak array 52.31 49 P **P** 16 26 27.2 +0.2
BR131 Keskin Array S 52.64 76 P **P** 16 26 30.1 +0.4
BR131 IAmb IAmb 16 26 31.8
comp=Z,4.7nm,0.8s

BRTR Keskin Array B 52.64 76 P **P** 16 26 30.9 +1.1
comp=Z,2.5nm,0.8s,baz=342,slow=5.3,SNR=16
BRTR LR LR 16 49 29.1
comp=Z,104nm,20.2s,baz=324,slow=37

BRTR Keskin Array B 52.64 76 P **P** 16 26 30.1 +0.4
ZAA0 Zalesovo Array 53.49 29 P **P** 16 26 35.6 0.0
ZALV Zalesovo Beam 53.49 29 P **P** 16 26 36.1 +0.5
comp=Z,1.9nm,0.6s,baz=340,slow=8.1,SNR=11
ZALV LR LR 16 53 04.9
comp=Z,29nm,18.2s,baz=64,slow=40

ZALV Zalesovo Beam 53.49 29 P **P** 16 26 35.4 -0.2
KURBB Kurchatov Arra 55.47 35 LR LR 16 57 01.5
comp=Z,68nm,18.4s,baz=13,slow=43

LPIG La Paz 55.98 247 LR LR 16 52 06.3
comp=Z,123nm,18.6s,baz=33,slow=37

GNI Garni 56.00 66 LR LR 16 51 15.1
comp=Z,72nm,18.5s,baz=331,slow=36

CSS Mathiatis 56.80 79 P **P** 16 27 00.1 +0.2
CSS IAmb IAmb 16 27 01.1
comp=Z,8.0nm,1.0s

GEVA Gevas 57.10 68 P **P** 16 27 03.8 +1.6
GEVA IAmb IAmb 16 27 04.8
comp=Z,5.6nm,1.0s

CMIG Matias Romero 57.97 228 LR LR 16 53 09.9
comp=Z,30nm,20.6s,baz=12,slow=37

MAKZ Makanchi 59.80 34 P **P** 16 27 20.5 -0.1
MK31 Makanchi Array 59.88 33 P **P** 16 27 21.2 0.0
MKAR Makanchi Array 59.88 33 P **P** 16 27 21.7 +0.5
comp=Z,1.4nm,0.6s,baz=350,slow=6.1,SNR=17
MKAR LR LR 16 56 15.6
comp=Z,54nm,18.1s,baz=31,slow=39

MKAR Makanchi Array 59.88 33 P **P** 16 27 21.0 -0.2
KK31 Karatay Array 60.76 44 P **P** 16 27 28.0 +0.7
KKAR Karatay Array 60.76 44 P **P** 16 27 28.0 +0.7
KKAR Karatay Array 60.76 44 P **P** 16 27 27.8 +0.6
KKAR IAmb IAmb 16 27 32.2
comp=Z,2.4nm,1.1s

BAUV El Baul 60.90 196 P **P** 16 27 27.8 -0.7
SDV Santo Domingo 61.24 199 LR LR 16 52 23.9
comp=Z,28nm,20.2s,baz=138,slow=34

AAK Ala-Archa 62.16 41 LR LR 16 58 40.4
comp=Z,47nm,18.6s,baz=4.5,slow=40

AAK Ala-Archa 62.16 41 P **P** 16 27 37.5 +0.6
AAK IAmb IAmb 16 27 39.5
comp=Z,6.3nm,1.1s

JTS Las Juntas de 62.19 215 LR LR 16 54 15.3
comp=Z,23nm,19.1s,baz=51,slow=36

GEYT Alibeck 62.20 56 LR LR 16 54 58.7
comp=Z,49nm,20.3s,baz=302,slow=36

SONM Songino Array 62.37 15 P **P** 16 27 39.6 +1.4
comp=Z,1.8nm,0.7s,baz=332,slow=6.8,SNR=13

SONM Songino Array 62.37 15 P **P** 16 27 39.5 +1.3
SONM IAmb IAmb 16 27 43.5
comp=Z,4.5nm,1.2s

ULN Ulaanbaatar 62.40 14 P **P** 16 27 39.9 +1.5
KOWA Kowa 62.89 124 P **P** 16 27 41.1 -0.8
KOWA IAmb IAmb 16 27 46.0
comp=Z,8.2nm,1.4s

KDJ Kajisay 63.26 39 P **P** 16 27 45.0 +0.7
KDJ IAmb IAmb 16 27 48.7
comp=Z,3.0nm,0.9s

BTK Batken 63.70 45 P **P** 16 27 48.0 +0.9
WMQ Urumqi 63.76 30 *eP* **P** 16 27 50.9 +3.5
GAR Garm 64.58 46 P **P** 16 27 53.8 +0.9
CHGR Chuyangaron 64.60 47 P **P** 16 27 53.4 +0.4
KSH Kashi 65.47 41 P **P** 16 28 02.4 +3.7
KSH PcP **PcP** 16 28 33.4 +2.9
KSH pmax pmax
comp=Z,9.0nm,0.6s

TOA0 Torodi Ar. Sit 65.91 118 P **P** 16 28 00.2 -1.4
TORD Torodi Ar. Bea 65.91 118 P **P** 16 28 00.4 -1.2
comp=Z,0.8nm,0.7s,baz=332,slow=7.5,SNR=5.9

TORD Torodi Ar. Bea 65.91 118 P **P** 16 27 60.0 -1.6
ASAJ Asahikawa 66.35 347 LR LR 16 58 12.7
comp=Z,44nm,18.1s,baz=33,slow=37

HHC Hu-ho-hao-te 69.73 12 *eP* **P** 16 28 26.1 +0.5
GTA Gaotai 69.96 21 *eP* **P** 16 28 28.3 +1.3
GTA pP sP 16 28 33.8 +2.8
GTA pmax pmax
comp=Z,3.0nm,0.9s

DBIC Dimbokro 70.08 127 P **P** 16 28 26.6 -1.2
comp=Z,3.4nm,0.9s,baz=315,slow=8.7,SNR=2.4
DBIC LR LR 16 55 10.8
comp=Z,78nm,20.9s,baz=340,slow=32

GOMU GeErMu 72.39 26 P **P** 16 28 42.8 +0.7
GOMU pP sP 16 28 47.8 +1.7
GOMU sP pP 16 28 49.9 +4.9
GOMU PcP **PcP** 16 29 03.0 +3.0
GOMU pmax pmax
comp=Z,2.0nm,0.8s

GOMU pmax pmax
comp=Z,93nm,6.7s

NJ2 Nanjing 78.90 6 *eP* **P** 16 29 19.8 +0.9
NJ2 pmax pmax
comp=Z,6.0nm,0.5s

PZH PanZhiHua 82.92 22 P **P** 16 29 42.8 +2.2
PZH pmax pmax
comp=Z,10.0nm,0.5s

PZH pmax pmax
comp=Z,240nm,5.1s

SOCY Socotra 84.88 69 P **P** 16 29 48.6 -2.1
MBAR Mbarara 88.61 95 LR LR 17 10 45.6
comp=Z,49nm,18.6s,baz=346,slow=36

CHTO Chiang Mai 90.08 26 P **P** 16 30 15.9 +0.2
CHTO IAmb IAmb 16 30 16.2
comp=Z,2.9nm,0.8s

CMAR Chiang Mai Arr 90.43 26 P **P** 16 30 17.8 +0.5
comp=Z,2.0nm,0.8s,baz=328,slow=5.9,SNR=18

ASAR Alice Springs 134.22 350 PKP **PKPdf** 16 36 33.0 -0.1
comp=Z,0.2nm,0.7s,baz=341,slow=2.2,SNR=1.9

SNAA Sanae 144.58 155 PKP PKPbc 16 36 49.7 +0.4
comp=Z,1.7nm,0.8s,baz=349,slow=5.2,SNR=2.8

TROLL Troll, Antarti 145.72 153 PKPdf **PKPbc** 16 36 53.3 +0.3

*IDC **17** 17:15:52.0±1.7,0.01N×80.34W,h0km,mb3.5/4,mb1 3.9/4,*

mb1mx3.5/42,mbtmp3.6/4,MS4.0/2,Ms1 4.0/2, ms1mx3.1/39,Error ellipse: s-maj=143.3km s-min=23.2km az=53.0

IGQ ***17*** *17:15:52.5±1.2,0˚S±3˚×81W±˚, h9km*

ISC 17 17:15:52.7±0.9,**0˚31S**±0.05×**80˚84W**±0.07,**h10km**,**n86**, σ1§07/83,**mb3.8**/3,**Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.63**	**86**	P	**Pg**	**17 16 05.0**	**0.0**
JAMA				S	**Sb**	**17 16 16.0**	**+1.1**
APED	**Ecuador-Perden**	**0.87**	**64**	P	**Pg**	**17 16 08.0**	**-1.4**
FLF1	**Flavio Alfaro-**	**1.00**	**93**	P	**Pb**	**17 16 12.0**	**-0.1**
MAG1	**Magdalena**	**1.09**	**78**	P	**Pn**	**17 16 14.0**	**0.0**
AV18	**Acelerografo,**	**1.49**	**66**	P	**Pb**	**17 16 20.0**	**-0.5**
BV15	**Puerto Quito-O**	**1.68**	**74**	P	**Pn**	**17 16 20.0**	**-2.2**
PAC1	**Pacto, Paraso**	**2.12**	**74**	*eP*	**Pn**	**17 16 27.3**	**-1.1**
PAC1	**Pacto, Paraso**	**2.12**	**74**	P	**Pn**	**17 16 27.0**	**-1.4**
ILLI	**Illinizas Sur**	**2.15**	**101**	P	**Pn**	**17 16 28.0**	**-1.0**
HPAL	**Hacienda Las P**	**2.19**	**88**	P	**Pn**	**17 16 28.0**	**-1.5**
AMIL	**Milagro (Trans**	**2.20**	**146**	P	**Pn**	**17 16 29.0**	**-0.3**
GGPT	**Toaza - Volcan**	**2.22**	**88**	P	**Pn**	**17 16 29.0**	**-0.9**
PAST	**Pastocalle**	**2.23**	**100**	P	**Pn**	**17 16 29.0**	**-1.1**
JUA2	**San Juan 2**	**2.23**	**88**	P	**Pn**	**17 16 29.0**	**-1.2**
PINO	**Pino**	**2.24**	**86**	P	**Pn**	**17 16 29.0**	**-1.3**
TERV	**Terraza Guagua**	**2.24**	**87**	P	**Pn**	**17 16 29.0**	**-1.3**
GGPC	**Guagua Pichinc**	**2.25**	**87**	P	**Pn**	**17 16 29.0**	**-1.4**
YANA	**Yana**	**2.27**	**85**	P	**Pn**	**17 16 30.0**	**-0.8**
CHSH	**Refugio Sur-Vo**	**2.29**	**121**	P	**Pn**	**17 16 31.0**	**-0.1**
SRAM	**San Ramn-Vol**	**2.31**	**101**	P	**Pn**	**17 16 31.0**	**-0.2**
PULU	**Pululahua**	**2.36**	**82**	P	**Pn**	**17 16 31.0**	**-0.8**
CAMI	**Rancho Maria**	**2.36**	**99**	P	**Pn**	**17 16 32.0**	**+0.1**
PORT	**Chimborazo Vol**	**2.36**	**119**	P	**Pn**	**17 16 31.0**	**-1.0**
SUCR	**Mariscal Sucre**	**2.37**	**98**	P	**Pn**	**17 16 32.0**	**0.0**
MORR	**Playas El Morr**	**2.37**	**168**	P	**Pn**	**17 16 33.0**	**+1.4**
SLOR	**San Lorenzo -**	**2.38**	**100**	P	**Pn**	**17 16 32.0**	**-0.2**
BNAS	**Cotopaxi Volca**	**2.38**	**99**	P	**Pn**	**17 16 32.0**	**-0.3**
NAS2	**Nasa**	**2.39**	**98**	P	**Pn**	**17 16 33.0**	**+0.6**
TAMH	**Tambohuasha Ch**	**2.40**	**121**	P	**Pn**	**17 16 32.0**	**-0.4**
BRRN	**Barrancas-Volc**	**2.41**	**101**	P	**Pn**	**17 16 33.0**	**+0.4**
BMOR	**Cotopaxi Volca**	**2.42**	**100**	P	**Pn**	**17 16 33.0**	**+0.2**
PITA	**Cotopaxi Volc**	**2.42**	**96**	P	**Pn**	**17 16 33.0**	**+0.3**
BREF	**Cotopaxi Volca**	**2.42**	**99**	P	**Pn**	**17 16 33.0**	**0.0**
BVC2	**Cotopaxi Volca**	**2.45**	**98**	P	**Pn**	**17 16 34.0**	**+0.7**
VC1	**Cotopaxi 1**	**2.46**	**98**	P	**Pn**	**17 16 34.0**	**+0.7**
BTAM	**Cotopaxi Volca**	**2.47**	**98**	P	**Pn**	**17 16 34.0**	**+0.5**
IGUA	**Igualata**	**2.49**	**118**	P	**Pn**	**17 16 34.0**	**+0.2**
VCES	**Cotopaxi**	**2.49**	**101**	P	**Pn**	**17 16 34.0**	**+0.2**
TAMB	**Tambo**	**2.50**	**99**	P	**Pn**	**17 16 34.0**	**+0.1**
CUSE	**Cuicocha Este**	**2.51**	**76**	*eP*	**Pn**	**17 16 34.2**	**+0.2**
CUSE	**Cuicocha Este**	**2.51**	**76**	P	**Pn**	**17 16 33.0**	**-1.0**
CUIC	**Cuicocha-Domo**	**2.55**	**76**	P	**Pn**	**17 16 33.0**	**-1.5**
CUSW	**Cuicocha Oeste**	**2.56**	**77**	P	**Pn**	**17 16 34.0**	**-0.6**
ANTG	**Antisana-Guama**	**2.59**	**94**	P	**Pn**	**17 16 35.0**	**-0.2**
BBIL	**Ulba Tungurahu**	**2.61**	**116**	P	**Pn**	**17 16 36.0**	**+0.8**
JUI6	**Juive**	**2.62**	**115**	P	**Pn**	**17 16 36.0**	**+0.7**
ANTM	**Antisana-La Mi**	**2.62**	**95**	P	**Pn**	**17 16 36.0**	**+0.4**
POND	**Pondoa**	**2.63**	**115**	P	**Pn**	**17 16 36.0**	**+0.5**
BMAS	**Trigal station**	**2.64**	**117**	P	**Pn**	**17 16 36.0**	**+0.3**
RETU	**Refugio**	**2.65**	**115**	P	**Pn**	**17 16 36.0**	**+0.1**
ARRY	**Arrayan**	**2.66**	**117**	P	**Pn**	**17 16 36.0**	**0.0**
COHC	**Cochancay**	**2.66**	**144**	P	**Pn**	**17 16 33.0**	**-2.7**
PIAT	**Ana Tenorio**	**2.67**	**105**	P	**Pn**	**17 16 36.0**	**-0.1**
ANTS	**Antisana-Sarah**	**2.67**	**94**	P	**Pn**	**17 16 37.0**	**+0.6**
ANTI	**Antisana**	**2.68**	**93**	P	**Pn**	**17 16 37.0**	**+0.6**
BPAT	**Tungurahua Vol**	**2.68**	**116**	P	**Pn**	**17 16 37.0**	**+0.6**
URCU	**Urcuqui**	**2.69**	**74**	P	**Pn**	**17 16 36.0**	**-0.4**
ISPG	**Isla Puna-Puer**	**2.73**	**166**	P	**Pb**	**17 16 40.0**	**-1.6**
YAHU	**Yahuarcocha**	**2.85**	**76**	P	**Pn**	**17 16 40.0**	**+1.4**
CAYR	**Refugio Cayamb**	**2.85**	**84**	P	**Pn**	**17 16 40.0**	**+1.2**
CHMA	**Chilma**	**3.01**	**67**	P	**Pn**	**17 16 40.0**	**-0.7**
SANGA	**Volcan Sangay**	**3.01**	**125**	P	**Pn**	**17 16 41.0**	**+0.1**
LNGL	**El Angel-Carch**	**3.02**	**70**	P	**Pn**	**17 16 41.0**	**-0.1**
PUYO	**Puyo, Santa Ro**	**3.05**	**113**	P	**Pn**	**17 16 43.0**	**+1.9**
ECEN	**Cerro Negro**	**3.08**	**69**	P	**Pn**	**17 16 41.0**	**-0.9**
CHL1	**Volc¡n Chiles**	**3.09**	**69**	P	**Pn**	**17 16 41.0**	**-1.1**
ARDO	**Archidona, Ten**	**3.11**	**103**	P	**Pn**	**17 16 44.0**	**+2.1**
CHL2	**Volc¡n Chiles**	**3.12**	**69**	P	**Pn**	**17 16 42.0**	**-0.5**
BONI	**La Bonita**	**3.44**	**77**	P	**Pn**	**17 16 48.0**	**+2.0**
GR1C	**Gorgona, Isla**	**4.24**	**39**	*eP*	**Pb**	**17 17 59.5**	**+1.9**
CRUC	**La Cruz**	**4.31**	**64**	*eP*	**Pn**	**17 17 01.0**	**+2.3**
SOTA	**Rioblanco**	**4.88**	**60**	*eP*	Pn	17 17 11.2	+4.6
POPC	**Popayan, Colom**	**5.03**	**56**	*eP*	**Pn**	**17 17 07.4**	**-1.1**
PCON	**Cinco Dias**	**5.16**	**59**	*eP*	**Pn**	**17 17 10.2**	**-0.2**
MARP	**Paez Belalcaza**	**5.80**	**57**	*eP*	**Pn**	**17 17 20.8**	**+1.7**
PTLC	**Puerto Leguiza**	**6.06**	**85**	*eP*	**Pn**	**17 17 24.6**	**+2.2**
YOTC	**Yotoco, Valle**	**6.19**	**46**	*eP*	**Pn**	**17 17 25.6**	**+1.2**
PLMC	**San Jos del P**	**6.89**	**41**	*eP*	**Pn**	**17 17 36.1**	**+2.1**
ORTC	**Ortega, Tolima**	**6.99**	**53**	*eP*	Pn	17 17 41.8	+6.7
GUY2C	**Guyana, Caldas**	**7.75**	**45**	*eP*	Pn	17 17 54.3	+8.2
JTS	**Las Juntas de**	**11.30**	**339**	LR	LR	17 22 00.0	
	comp=Z,2µm,21.7s,baz=50,slow=33						
LPAZ	**La Paz**	**20.23**	**142**	P	**P**	**17 20 29.5**	**+0.7**
	1.3nm,0.7s,baz=319,slow=9.0,SNR=4.9						
LPAZ				LR	LR	17 30 01.3	
	comp=Z,202nm,18.4s,baz=299,slow=42						
SIV	**San Ignacio**	**24.96**	**130**	P	**P**	**17 21 15.8**	**-0.9**
	2.0nm,0.8s,baz=291,slow=9.3,SNR=10						
NVAR	**Mina Array Bea**	**51.68**	**322**	P	**P**	**17 25 01.4**	**+1.2**
	0.7nm,0.9s,baz=140,slow=7.1,SNR=3.8						
YKA	**Yellowknife Ar**	**67.59**	**344**	P	**P**	**17 26 49.2**	**0.0**
	0.6nm,1.0s,baz=136,slow=6.1,SNR=7.1						
WRA	**Warramunga Arr**	**140.10**	**238**	PKP	**PKPdf**	**17 35 22.8**	**+0.2**
	0.3nm,0.8s,baz=115,slow=1.5,SNR=2.0						

IDC ***17*** *17:17:51.4±0.8,0˚71S×136˚22E,h0km,mb4.0/10, mb1 4.2/12,mb1mx3.9/48,mbtmp4.0/12,ML3.8/2,MS3.1/3, Ms1 3.1/3,ms1mx2.7/66,Error ellipse: s-maj=31.7km s-min=15.4km az=71.0*

ISC 17 17:17:55.5±0.9,**0.7S**±0˚1×**136˚2E**±0.1,**h29km**,**n14**, σ0§82/15,**mb4.1**/9,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.92**	**268**	Pn	**Pn**	**17 19 06.5**	**-1.1**
	1.8nm,0.3s,baz=45,slow=16,SNR=12						
SIJI				Sn	**Sn**	**17 20 04.2**	**+0.5**
	0.9nm,0.3s,baz=130,slow=24,SNR=1.6						
SIJI				LR	LR	17 20 54.6	
	comp=Z,158nm,19.6s,baz=140,slow=37						
BATI	**Baumata**	**15.62**	**232**	Pn	**P**	**17 21 37.6**	**0.0**
	2.6nm,0.3s,baz=18,slow=0.7,SNR=7.9						
WRA	**Warramunga Arr**	**19.19**	**185**	P	**P**	**17 22 16.5**	**-0.6**
	0.5nm,0.3s,baz=5.3,slow=11,SNR=41						
FITZ	**Fitzroy Crossi**	**20.14**	**210**	P	**P**	**17 22 28.6**	**+1.1**
	1.3nm,0.6s,baz=52,slow=8.1,SNR=7.1						
FITZ				LR	LR	17 31 20.9	
	comp=Z,50nm,18.2s,baz=96,slow=40						
CTA	**Charters Tower**	**21.62**	**154**	P	**P**	**17 22 43.5**	**0.0**
	7.2nm,0.8s,baz=343,slow=14,SNR=1.8						
CTA				LR	LR	17 32 39.8	
	comp=Z,81nm,18.8s,baz=254,slow=41						
ASAR	**Alice Springs**	**22.92**	**185**	P	**P**	**17 22 57.0**	**-0.4**
	4.3nm,0.5s,baz=14,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**31.41**	**171**	P	**P**	**17 24 13.7**	**-0.5**
	2.5nm,0.7s,baz=336,slow=8.4,SNR=6.6						
CMAR	**Chiang Mai Arr**	**41.27**	**299**	P	**P**	**17 25 38.6**	**+0.1**
	0.7nm,0.5s,baz=117,slow=7.0,SNR=8.0						
MKAR	**Makanchi Array**	**66.69**	**323**	P	**P**	**17 28 44.9**	**+1.1**
	1.2nm,0.6s,baz=114,slow=7.4,SNR=17						
ZALV	**Zalesovo Beam**	**68.97**	**330**	P	**P**	**17 28 57.5**	**-0.5**
	0.6nm,0.4s,baz=131,slow=6.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**70.66**	**325**	P	**P**	**17 29 09.4**	**+1.0**
	2.0nm,0.6s,baz=116,slow=6.1,SNR=11						
VNDA	**Vanda**	**77.98**	**174**	P	**P**	**17 29 51.4**	**+0.8**
	1.0nm,0.6s,baz=329,slow=6.1,SNR=9.2						
ILAR	**Eielson Array**	**85.09**	**25**	P	**P**	**17 30 27.5**	**-0.9**
	0.7nm,0.8s,baz=265,slow=4.1,SNR=1.4						
LPAZ	**La Paz**	**150.65**	**126**	PKPbc	**PKiKP**	**17 37 48.3**	**+1.0**
	2.0nm,0.9s,baz=228,slow=4.1,SNR=5.9						

GCG ***17*** *17:18:57.3±1.7, 12˚68N×88˚39W,h186km±304km, MD4.7*
UCR ***17*** *17:18:58.2±1.4, 12˚60N×88˚29W,h23km±8km, ML4.5, MW4.6, mb4.9(NEIC)*
IDC ***17*** *17:18:58.5±0.6, 12˚91N×87˚77W,h53km±4km, mb4.3/23, mb1 4.4/25,mb1mx4.3/46,mbtmp4.5/25,MS3.8/42, Ms1 3.8/42,ms1mx3.7/59,Error ellipse: s-maj=20.8km s-min=7.6km az=54.0*
SNET ***17*** *17:18:59.1±1.1, 12˚67N×88˚23W,h55km, ML5.0,ML4.6*

INET ***17*** *17:18:59.4±1.6, 12˚67N×88˚14W,h30km±12km, MW4.7, Fault plane solution: NP1:φs164.60000°, δ4.80000°, λ149.50000°.*
NEIC ***17*** *17:19:00.9±2.2, 12˚67N±0˚06×88˚04W±0˚06,h66km±5km, mb4.9/246,Md5.0(SNET),Error ellipse: s-maj=10.3km s-min=6.8km az=216.0*

ISC 17 17:18:58.0±0.4,**12˚63N**±0˚04×**88˚16W**±0˚03,**h56km**±3km, **h56km**:**pP-P,n670,**σ1§35/664,**mb4.8**/135,**MS3.9**/43, **13C-28D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuar¡n**	**0.62**	**352**	*eP*	**Pn**	**17 19 11.3**	**+0.2**
JUCU				*eS*	**Sn**	**17 19 21.0**	**+0.3**
JUCU				IAML		17 19 25.3	
	comp=Z,40µm,0.4s						
JUCU	**Jucuar¡n**	**0.62**	**352**	*eP*	**Pn**	**17 19 11.3**	**+0.2**
JUCU				*eS*	**Sn**	**17 19 21.0**	**+0.3**
JUCU				IAML		17 19 25.3	
	comp=Z,40µm,0.4s						
LCND	**La Caada**	**0.72**	**21**	*iP*	**Pn**	**17 19 13.1**	**+0.8**
LCND				IAML		17 19 28.5	
	comp=Z,32µm,0.4s						
JUCU	**Jucuar¡n**	**0.62**	**352**	*eP*	**Pn**	**17 19 11.4**	**+0.2**
CSGN	**Cosiguina Volc**	**0.67**	**60**	*eP*	**Pn**	**17 19 12.2**	**+0.4**
LCND	**La Caada**	**0.72**	**21**	*iP*	**Pn**	**17 19 13.1**	**+0.8**
LCND				IAML		17 19 28.5	
	comp=Z,32µm,0.4s						
LCND	**La Caada**	**0.72**	**21**	*iP*	**Pn**	**17 19 13.1**	**+0.8**
LCND				IAML		17 19 28.5	
	comp=Z,32µm,0.4s						
LCY	**Lacayo**	**0.80**	**350**	*iP*	**Pn**	**17 19 13.9**	**+0.6**
LCY	**Lacayo**	**0.80**	**350**	*iP*	**Pn**	**17 19 13.9**	**+0.6**
PACA	**Pacayal**	**0.85**	**349**	*eP*	**Pn**	**17 19 14.8**	**+0.8**
PACA	**Pacayal**	**0.85**	**349**	*eP*	**Pn**	**17 19 14.8**	**+0.8**
COEB	**Comit de Eme**	**0.93**	**337**	*eP*	**Pn**	**17 19 15.4**	**+0.3**
COEB				*eS*	**Sn**	**17 19 28.3**	**+0.6**
COEB				IAML		17 19 28.8	
	comp=Z,21µm,0.4s						
COEB	**Comit de Eme**	**0.93**	**337**	*eP*	**Pn**	**17 19 15.4**	**+0.3**
COEB				*eS*	**Sn**	**17 19 28.3**	**+0.6**
COEB				IAML		17 19 28.8	
	comp=Z,21µm,0.4s						
COEB	**Comit de Eme**	**0.93**	**337**	*eP*	**Pn**	**17 19 15.6**	**+0.5**
PQSS	**Presa 15 de Se**	**1.06**	**338**	*eP*	**Pn**	**17 19 17.5**	**+0.8**
PQSS				*eS*	**Sn**	**17 19 31.9**	**+1.4**
PQSS	**Presa 15 de Se**	**1.06**	**338**	*eP*	**Pn**	**17 19 17.5**	**+0.8**
PQSS				*eS*	**Sn**	**17 19 31.9**	**+1.4**
CRIN	**San Cristobal**	**1.08**	**86**		**Pn**	**17 19 18.0**	**+1.0**
CRIN	**San Cristobal**	**1.08**	**86**	*eP*	**Pn**	**17 19 18.1**	**+1.1**
CRIN				*eS*	**Sn**	**17 19 33.7**	**+2.6**
CAHU	**Cacacuatique**	**1.13**	**357**	*eP*	**Pn**	**17 19 20.0**	**+2.1**
CAHU	**Cacacuatique**	**1.13**	**357**	*eP*	**Pn**	**17 19 20.0**	**+2.1**
SNVI	**San Vicente**	**1.18**	**326**	*eP*	**Pn**	**17 19 18.6**	**+0.1**
SNVI	**San Vicente**	**1.18**	**326**	*eP*	**Pn**	**17 19 18.6**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.20**	**332**	*eP*	**Pn**	**17 19 19.4**	**+0.8**
SCLA				*eS*	**Sn**	**17 19 35.5**	**+1.6**
SCLA				IAML		17 19 37.6	
	comp=Z,9µm,0.5s						
SCLA	**Alcaldia de Sa**	**1.20**	**332**	*eP*	**Pn**	**17 19 19.4**	**+0.8**
SCLA				*eS*	**Sn**	**17 19 35.5**	**+1.6**
SCLA				IAML		17 19 37.6	
	comp=Z,9µm,0.5s						
COEG	**Centro de Oper**	**1.21**	**324**	*eP*	**Pn**	**17 19 18.8**	**+0.1**
COEG				*eS*	**Sn**	**17 19 34.3**	**+0.1**
COEG				IAML		17 19 37.8	
	comp=Z,18µm,0.4s						
COEG	**Centro de Oper**	**1.21**	**324**	*eP*	**Pn**	**17 19 18.8**	**+0.1**
COEG				*eS*	**Sn**	**17 19 34.3**	**+0.1**
COEG				IAML		17 19 37.8	
	comp=Z,18µm,0.4s						
COEG	**Centro de Oper**	**1.21**	**324**	*eP*	**Pn**	**17 19 18.9**	**+0.1**
SJTE	**Alcalda de S**	**1.28**	**320**	*eP*	**Pn**	**17 19 20.0**	**+0.3**
SJTE				IAML		17 19 43.4	
	comp=Z,10µm,0.4s						
SJTE	**Alcalda de S**	**1.28**	**320**	*eP*	**Pn**	**17 19 20.0**	**+0.3**
SJTE				IAML		17 19 43.4	
	comp=Z,10µm,0.4s						
TEL3	**Telica 3**	**1.28**	**93**	*eP*	**Pn**	**17 19 20.1**	**+0.4**
TELN	**Telica**	**1.29**	**91**	*eP*	**Pn**	**17 19 20.3**	**+0.4**
PAVA	**Las Pavas**	**1.31**	**325**	*eP*	**Pn**	**17 19 20.6**	**+0.4**
PAVA				IAML		17 19 39.8	
	comp=Z,15µm,0.4s						
PAVA	**Las Pavas**	**1.31**	**325**	*eP*	**Pn**	**17 19 20.6**	**+0.4**
PAVA				IAML		17 19 39.8	
	comp=Z,15µm,0.4s						
PAVA	**Las Pavas**	**1.31**	**325**	*eP*	**Pn**	**17 19 20.9**	**+0.6**
PAVA				AMPN		17 19 23.2	
	comp=Z,55µm,0.3s						
PAVA				*eS*	**Sn**	**17 19 37.2**	**+0.4**
PAVA				AMSN		17 19 38.4	
	comp=N,317µm,0.7s						
LFRS	**El Faro**	**1.32**	**318**	*iP*	**Pn**	**17 19 20.2**	**-0.1**
LFRS	**El Faro**	**1.32**	**318**	*iP*	**Pn**	**17 19 20.2**	**-0.1**
LBRS	**La Brisas**	**1.40**	**322**	*eP*	**Pn**	**17 19 22.1**	**+0.8**
LBRS	**La Brisas**	**1.40**	**322**	*eP*	**Pn**	**17 19 22.1**	**+0.8**
CNGN	**Cerro Negro**	**1.43**	**95**		**Pn**	**17 19 20.7**	**-1.0**
CNGN	**Cerro Negro**	**1.43**	**95**	*eP*	**Pn**	**17 19 20.8**	**-0.8**
LFU	**La Fuente**	**1.45**	**320**	*eP*	**Pn**	**17 19 22.4**	**+0.4**
LFU	**La Fuente**	**1.45**	**320**	*eP*	**Pn**	**17 19 22.4**	**+0.4**
SNET	**Serv Nac Est T**	**1.48**	**315**		**Pn**	**17 19 22.5**	**+0.1**
SNET	**Serv Nac Est T**	**1.48**	**315**	*eP*	**Pn**	**17 19 22.5**	**+0.1**
SNET				IAML		17 19 45.6	
	comp=Z,7µm,0.4s						
SNET	**Serv Nac Est T**	**1.48**	**315**	*eP*	**Pn**	**17 19 22.5**	**+0.1**
SNET				IAML		17 19 45.6	
	comp=Z,7µm,0.4s						
SNET	**Serv Nac Est T**	**1.48**	**315**	*eP*	**Pn**	**17 19 22.5**	**+0.1**
UEES	**Universidad Ev**	**1.51**	**316**	*eP*	**Pn**	**17 19 23.0**	**+0.2**
UEES				IAML		17 19 47.3	
	comp=Z,8µm,0.6s						
UEES	**Universidad Ev**	**1.51**	**316**	*eP*	**Pn**	**17 19 23.0**	**+0.2**
UEES				IAML		17 19 47.3	
	comp=Z,8µm,0.6s						
BOQS	**Boqueron**	**1.55**	**315**	*eP*	**Pn**	**17 19 23.9**	**+0.4**
BOQS	**Boqueron**	**1.55**	**315**	*eP*	**Pn**	**17 19 23.9**	**+0.4**
COPN	**Copaltepe**	**1.59**	**106**	*eP*	**Pn**	**17 19 23.9**	**0.0**
MOMN	**Momotombo**	**1.59**	**98**	*eP*	**Pn**	**17 19 24.1**	**+0.2**
JAYA	**Jayaque - finc**	**1.62**	**309**	*eP*	**Pn**	**17 19 24.1**	**-0.3**
JAYA				IAML		17 19 49.6	
	comp=Z,8µm,0.4s						
JAYA	**Jayaque - finc**	**1.62**	**309**	*eP*	**Pn**	**17 19 24.1**	**-0.3**
JAYA				IAML		17 19 49.6	
	comp=Z,8µm,0.4s						
TGUH	**Tegucigalpa,Un**	**1.66**	**31**	Pn	**Pn**	**17 19 26.7**	**+1.9**
TGUH	**Tegucigalpa,Un**	**1.66**	**31**	*eP*	**Pn**	**17 19 26.6**	**+1.8**
TGUH	**Tegucigalpa,Un**	**1.66**	**31**	*eP*	**Pn**	**17 19 26.6**	**+1.8**
TGUH	**Tegucigalpa,Un**	**1.66**	**31**	*eP*	**Pn**	**17 19 26.9**	**+2.0**
CEDA	**San Andres**	**1.68**	**314**	*eP*	**Pn**	**17 19 25.3**	**+0.3**
CEDA				IAML		17 20 03.7	
	comp=Z,13µm,0.5s						
CEDA	**San Andres**	**1.68**	**314**	*eP*	**Pn**	**17 19 25.3**	**+0.3**
CEDA				IAML		17 20 03.7	
	comp=Z,13µm,0.5s						
CEDA	**San Andres**	**1.68**	**314**	*eP*	**Pn**	**17 19 25.3**	**+0.3**
BRAN	**Las Pilas**	**1.76**	**87**	*eP*	**Pn**	**17 19 27.5**	**+1.3**
BRAN				AMPN		17 19 28.0	
	comp=Z,31µm,0.2s						
BRAN				AMSN		17 19 51.4	
	comp=E,103µm,0.2s						
APYN	**Apoyeque**	**1.81**	**103**	*eP*	**Pn**	**17 19 26.3**	**-0.5**
CEVE	**Cerro Verde**	**1.86**	**310**	*eP*	**Pn**	**17 19 28.2**	**+0.5**
CEVE	**Cerro Verde**	**1.86**	**310**	*eP*	**Pn**	**17 19 28.2**	**+0.5**
SBLS	**San Blas**	**1.86**	**310**	*eP*	**Pn**	**17 19 28.2**	**+0.4**
SBLS	**San Blas**	**1.86**	**310**	*eP*	**Pn**	**17 19 28.2**	**+0.4**
SNJE	**San Jose**	**1.87**	**311**	*eP*	**Pn**	**17 19 28.4**	**+0.6**
SNJE	**San Jose**	**1.87**	**311**	*eP*	**Pn**	**17 19 28.4**	**+0.6**
TISN	**Laguna Tiscapa**	**1.91**	**105**	*eP*	**Pn**	**17 19 27.6**	**-0.6**
RTR	**El Retiro**	**1.92**	**311**	*eP*	**Pn**	**17 19 29.2**	**+0.8**
RTR	**El Retiro**	**1.92**	**311**	*eP*	**Pn**	**17 19 29.2**	**+0.8**
MGAN	**Managua**	**1.93**	**104**	*eP*	**Pn**	**17 19 28.7**	**+0.3**
HUEN		**1.96**	**98**	*eP*	**Pn**	**17 19 29.4**	**+0.6**
NUBE	**Las Nubes**	**2.02**	**309**	*eP*	**Pn**	**17 19 30.2**	**+0.4**
NUBE				*eS*	**Sn**	**17 19 54.2**	**+0.1**
NUBE	**Las Nubes**	**2.02**	**309**	*eP*	**Pn**	**17 19 30.2**	**+0.4**
NUBE				*eS*	**Sn**	**17 19 54.2**	**+0.1**
MASN	**Masaya**	**2.06**	**108**	*eP*	**Pn**	**17 19 30.5**	**+0.2**
SLOZ	**Alcaldia de Sa**	**2.10**	**311**	*eP*	**Pn**	**17 19 31.9**	**+1.0**
MTO3	**Montecristo**	**2.11**	**326**		**Pn**	**17 19 32.1**	**+1.0**
MTO3	**Montecristo**	**2.11**	**326**	*eP*	**Pn**	**17 19 32.1**	**+1.0**
MTO3				IAML		17 19 55.3	
	comp=Z,1µm,0.6s						
MTO3	**Montecristo**	**2.11**	**326**	*eP*	**Pn**	**17 19 32.1**	**+1.0**
MTO3				IAML		17 19 55.3	
	comp=Z,1µm,0.6s						
MTO3	**Montecristo**	**2.11**	**326**	*eP*	**Pn**	**17 19 32.2**	**+1.0**
MATN	**Matagalpa**	**2.19**	**82**		**Pn**	**17 19 32.8**	**+0.6**
MATN	**Matagalpa**	**2.19**	**82**	*eP*	**Pn**	**17 19 32.8**	**+0.6**
ESQI	**Esquipulas**	**2.23**	**329**		**Pn**	**17 19 34.2**	**+1.5**
ESQI	**Esquipulas**	**2.23**	**329**	*eP*	**Pn**	**17 19 34.2**	**+1.5**
ESQI				IAML		17 20 08.4	
	comp=Z,2µm,0.5s						
BOAB	**BOACO BROADBAN**	**2.44**	**94**	Pn	**Pn**	**17 19 35.5**	**+0.1**
BOAB	**BOACO BROADBAN**	**2.44**	**94**	*eP*	**Pn**	**17 19 35.7**	**+0.3**
BOAB				AMPN		17 19 36.0	
	comp=Z,11µm,0.4s						
BOAB				AMSN		17 19 57.4	
	comp=E,19µm,0.3s						
CONN	**Concepcion**	**2.69**	**113**	*eP*	**Pn**	**17 19 39.3**	**+0.4**
MRL	**Marmol**	**2.85**	**329**	*eP*	**Pn**	**17 19 43.7**	**+2.4**
MRL				*eS*	Sn	17 20 25.1	+11
NBG	**Las Nubes**	**2.88**	**313**	*eP*	**Pn**	**17 19 44.0**	**+2.3**
ACON	**Acoyapa**	**2.99**	**102**		**Pn**	**17 19 42.7**	**-0.3**
HZTE	**Horizontes, Gu**	**3.15**	**127**		**Pn**	**17 19 46.4**	**+1.2**
FUG	**Fuego 3**	**3.17**	**305**	*eP*	**Pn**	**17 19 47.2**	**+1.5**
FUG				*eS*	**Sn**	**17 20 25.5**	**+3.0**
GPS2	**Hotel Rincn d**	**3.32**	**124**	*iP*	**Pn**	**17 19 50.5**	**+2.9**
ORTG	**Ortega, Santa**	**3.48**	**130**	Pn	**Pn**	**17 19 50.7**	**+1.0**
HORNC	**Hornillas**	**3.49**	**123**	*iP*	**Pn**	**17 19 52.1**	**+2.3**
CUI	**Cuipilapa**	**3.53**	**124**	*iP*	**Pn**	**17 19 51.3**	**+0.9**
DUNO	**Dulce Nombre,**	**3.64**	**134**		**Pn**	**17 19 53.1**	**+1.1**
DUNO	**Dulce Nombre,**	**3.64**	**134**	*eP*	**Pn**	**17 19 53.1**	**+1.1**
ESPN	**Las Esperanzas**	**3.79**	**96**		**Pn**	**17 19 54.5**	**+0.5**
ESPN	**Las Esperanzas**	**3.79**	**96**	*eP*	**Pn**	**17 19 54.4**	**+0.5**
STG3	**Santiaguito 3,**	**3.91**	**302**	*eP*	**Pn**	**17 19 57.6**	**+1.9**
STG3				*eS*	**Sn**	**17 20 39.8**	**-0.7**
JTS	**Las Juntas de**	**3.91**	**126**	P	**Pn**	**17 19 55.6**	**0.0**
	comp=E,18nm,0.3s,baz=0.9,slow=17,SNR=39						
JTS				S	**Sn**	**17 20 38.6**	**-1.7**
	comp=E,169nm,0.

HODGE **Hodges** 22.16 13 P P 17 23 51.5 +2.2
X40A Basin Creek Fa 22.17 350 P P 17 23 50.2 +0.8
X40A Basin Creek Fa 22.17 350 P P 17 23 52.6 +3.2
baz=168
CBYP Canovanas 22.20 73 P P 17 23 50.8 +0.9
Z35A Perchaven, San 22.22 340 P P 17 23 51.4 +1.5
Z35A IAmb IAmb 17 24 11.7
comp=Z,51nm,0.9s
PLAL Pickwick Lake 22.25 0 P P 17 23 51.5 +1.2
MIAR Mount Ida 22.36 348 P P 17 23 53.2 +1.8
MIAR IAmb IAmb 17 24 08.3
comp=Z,34nm,0.8s
MIAR Mount Ida 22.36 348 P P 17 23 53.4 +1.9
baz=166,SNR=21
UALR University of 22.37 351 P P 17 23 53.6 +2.1
UALR IAmb IAmb 17 23 55.6
comp=Z,36nm,0.6s
Y57A Sumter 22.43 17 P P 17 23 54.3 +2.1
JSC Jenkinsville 22.45 15 P P 17 23 54.2 +1.9
JSC IAmb IAmb 17 23 56.1
comp=Z,53nm,0.8s
MTP Monte Pirata 22.45 73 P P 17 23 52.8 +0.2
MTP IAmb IAmb 17 23 54.8
comp=Z,19nm,0.6s
ABTX Abilene, Hawle 22.51 334 P P 17 23 55.2 +2.1
ABTX IAmb IAmb 17 24 10.4
comp=Z,26nm,0.7s
ABTX Abilene, Hawle 22.51 334 P P 17 23 55.6 +2.4
baz=149,SNR=17
SWET Sewanee 22.57 5 P P 17 23 54.9 +1.2
W50A Signal Mountai 22.61 6 P P 17 23 55.2 +1.0
CUPR Culebra, Puert 22.74 73 P P 17 23 55.3 -0.4
CUPR IAmb IAmb 17 23 58.0
comp=Z,16nm,0.5s
W41B Gary Mavity, V 22.74 351 P P 17 23 57.4 +1.9
W41B Gary Mavity, V 22.74 351 P P 17 23 57.1 +1.6
baz=169,SNR=8.6
BG3 Lake Jocassee 22.76 11 P P 17 23 57.9 +2.2
BG3 IAmb IAmb 17 24 13.9
comp=Z,35nm,0.9s
X37A Clayton 22.82 345 P P 17 23 58.0 +1.7
X37A IAmb IAmb 17 24 23.5
comp=Z,44nm,1.1s
PAULI Pauline 22.83 14 P P 17 23 58.5 +2.1
WHAR Wooly Hollow 22.86 351 P P 17 23 58.5 +1.7
WHAR IAmb IAmb 17 24 13.5
comp=Z,34nm,0.8s
CPCT Cooper Cave 22.95 8 P P 17 23 59.2 +1.6
BIRD Birdtown, Kers 23.00 16 P P 17 24 00.1 +1.9
W39A Magazine 23.03 348 P P 17 24 00.4 +1.9
W39A IAmb IAmb 17 24 21.5
comp=Z,33nm,0.9s
W39A Magazine 23.03 348 P P 17 24 00.5 +1.9
baz=166,SNR=17
V48A Smith Brothers 23.04 3 P P 17 23 59.4 +0.9
STVI Saint Thomas 23.06 73 P P 17 23 58.9 0.0
Y60A Bolivia 23.12 21 P P 17 24 00.8 +1.5
KMSC Kings Mountain 23.25 14 P P 17 24 02.4 +1.9
KMSC Kings Mountain 23.25 14 P P 17 24 02.5 +2.0
baz=197,SNR=19
X58A Rowland 23.25 19 P P 17 24 01.9 +1.4
TKL Tuckaleechee C 23.26 9 P P 17 24 02.1 +1.4
comp=Z,36nm,0.9s,baz=184,slow=10,SNR=28
TKL Tuckaleechee C 23.26 9 P P 17 24 02.1 +1.4
TKL IAmb IAmb 17 24 03.5
comp=Z,33nm,0.9s
V51A Loudon 23.32 8 P P 17 24 02.4 +1.1
WVT Waverly 23.40 1 P P 17 24 01.6 -0.4
WVT Waverly 23.40 1 P P 17 24 02.2 +0.3
baz=181
SLBS Sierra La Lagu 23.40 301 P P 17 24 04.6 +2.4
CLTN Cedars of Leba 23.41 4 P P 17 24 02.9 +0.7
FCAR Ozark Folk Cen 23.43 352 P P 17 24 02.9 +0.6
FCAR IAmb IAmb 17 24 20.4
comp=Z,27nm,0.8s
V53A Saluda 23.44 11 P P 17 24 04.1 +1.7
V53A IAmb IAmb 17 24 06.6
comp=Z,38nm,0.7s
V52A Sevierville 23.47 9 P P 17 24 03.6 +0.9
LCAR Lake Charles 23.49 354 P P 17 24 03.1 +0.3
X34A Smith Ranch, M 23.57 340 P 17 24 05.8 +2.2
W57A Gilead 23.61 17 P P 17 24 05.2 +1.3
W57A IAmb IAmb 17 24 06.4
comp=Z,50nm,0.7s
U49A Red Boiling Sp 23.87 5 P P 17 24 07.0 +0.7
V55A Taylorsville 23.95 14 P P 17 24 08.7 +1.6
V55A IAmb IAmb 17 24 11.5
comp=Z,29nm,0.9s
U40A Yellville 24.00 351 P P 17 24 08.7 +1.1
U40A IAmb IAmb 17 24 25.1
comp=Z,52nm,0.8s
U40A Yellville 24.00 351 P P 17 24 08.8 +1.3
baz=168,SNR=28
WMOK Wichita Mounta 24.03 338 P P 17 24 08.6 +0.8
WMOK Wichita Mounta 24.03 338 P P 17 24 08.8 +0.9
baz=154,SNR=14
FNO Franklin 24.03 341 P 17 24 09.2 +1.3
HHAR Hobbs 24.12 349 P P 17 24 10.0 +1.4
HHAR IAmb IAmb 17 24 13.2
comp=Z,35nm,0.6s
PBMO Poplar Bluff 24.13 356 P P 17 24 09.1 +0.4
TZTN Tazewell 24.17 9 P P 17 24 10.3 +1.2
TZTN IAmb IAmb 17 24 33.9
comp=Z,33nm,0.9s
TZTN Tazewell 24.17 9 P P 17 24 10.3 +1.2
baz=191
TUL1 Leonard 24.18 345 P 17 24 09.9 +0.7
TUL1 IAmb IAmb 17 24 38.0
comp=Z,33nm,0.9s
TUL1 Leonard 24.18 345 P P 17 24 10.1 +0.9
baz=161
T47A Sharon Grove 24.27 2 P P 17 24 10.2 +0.2
T47A IAmb IAmb 17 24 11.2
comp=Z,38nm,0.7s
U54A Nelsons Funny 24.46 12 P P 17 24 12.8 +1.0
V58A Windy Hill, Pi 24.46 18 P P 17 24 13.1 +1.4
TBTG Tabatinga, AM 24.66 132 eP P 17 24 14.6 +0.9
MGMO Mountain Grove 24.69 352 P P 17 24 14.9 +1.1
MGMO IAmb IAmb 17 24 33.5
comp=Z,33nm,1.1s
MNTX Cornudas Mount 24.72 323 P P 17 24 15.3 +1.1
MNTX Cornudas Mount 24.72 323 P P 17 24 15.2 +1.1
baz=136,SNR=16
S44A Carbondale 24.98 358 P P 17 24 16.5 +0.1
SIUC Southern Illin 25.00 358 P P 17 24 17.0 +0.4
SIUC IAmb IAmb 17 24 17.9
comp=Z,22nm,0.8s
MSTX Muleshoe 25.07 330 P P 17 24 18.2 +0.8
MSTX Muleshoe 25.07 330 P P 17 24 18.3 +0.9
baz=144,SNR=36
S51A Beattyville 25.23 9 P P 17 24 19.5 +0.8
S39A Bolivar 25.38 350 P P 17 24 21.1 +1.0
CZSB Cruzeiro do Su 25.40 142 eP P 17 24 22.0 +1.6
BLA Blacksburg 25.44 14 P P 17 24 22.3 +1.6
baz=198
CCM Cathedral Cave 25.47 354 P P 17 24 21.3 +0.4
CCM IAmb IAmb 17 24 22.3
comp=Z,18nm,0.7s
CCM PcP PcP 17 27 52.5 +0.9
CCM Cathedral Cave 25.47 354 P P 17 24 21.5 +0.7
baz=173
T57A Hurt 25.54 17 P P 17 24 22.8 +1.3
T57A IAmb IAmb 17 24 23.9
comp=Z,26nm,0.8s
S54A Dingess, Beckl 25.80 13 P P 17 24 24.8 +0.9
S54A IAmb IAmb 17 24 26.6
comp=Z,20nm,0.6s
T59A Double "B" Far 26.04 20 P P 17 24 26.9 +0.9
T59A IAmb IAmb 17 24 28.2
comp=Z,17nm,0.7s
R55A Marlinton 26.53 14 P P 17 24 31.9 +1.4
R55A IAmb IAmb 17 24 33.4
comp=Z,34nm,0.7s
121A Cookes Peak, D 26.76 321 P P 17 24 35.9 +3.1
121A Cookes Peak, D 26.76 321 P P 17 24 35.4 +2.6
baz=133,SNR=11
NNA Nana 26.91 155 LR LR 17 34 07.0
comp=Z,64nm,18.8s,baz=334,slow=34
P49A Miami Univ. Ec 26.97 6 P P 17 24 33.7 -0.6
P49A Miami Univ. Ec 26.97 6 P P 17 24 34.2 -0.1
baz=187
Q54A Coxs Mills 27.04 13 P P 17 24 36.3 +1.2
CBN Corbin Frederi 27.22 19 P P 17 24 38.5 +1.9
baz=203

R32A Long Quarter, 27.35 342 P P 17 24 37.0 -0.9
R32A IAmb IAmb 17 24 56.9
comp=Z,27nm,1.2s
KSU1 Kansas State U 27.41 346 P P 17 24 40.6 +2.2
baz=162
P53A Whipple 27.41 11 IAmb IAmb 17 24 40.5
comp=Z,28nm,0.7s
P52A Corning 27.41 10 P P 17 24 39.1 +0.8
P52A IAmb IAmb 17 24 41.6
comp=Z,22nm,0.6s
P52A Corning 27.41 10 P P 17 24 39.2 +0.8
baz=193,SNR=5.9
Q56A Snyder Ridge, 27.48 15 P P 17 24 41.0 +1.9
Q56A IAmb IAmb 17 24 41.7
comp=Z,27nm,0.7s
O48B Farmland 27.64 5 P P 17 24 40.3 -0.2
baz=186
O49A Covington 27.65 6 P P 17 24 40.6 +0.1
O49A IAmb IAmb 17 24 41.8
comp=Z,15nm,0.7s
SFIN Lafayette 27.65 2 P P 17 24 40.1 -0.4
baz=182
ANMO Albuquerque 27.72 326 P P 17 24 43.3 +1.9
comp=Z,3.2nm,0.7s,baz=133,slow=9.2,SNR=9.4
ANMO PcP PcP 17 27 58.9 +1.7
comp=Z,2.4nm,0.6s,baz=79,slow=1.5,SNR=5.9
ANMO LR LR 17 37 28.2
comp=Z,65nm,19.9s,baz=128,slow=40
ANMO Albuquerque 27.72 326 P P 17 24 42.0 +0.5
ANMO PcP 17 27 58.9 +1.7
ANMO Albuquerque 27.72 326 P P 17 24 43.8 +2.4
baz=139
ACSO Alum Creek Sta 27.87 8 P P 17 24 43.1 +0.6
ACSO IAmb IAmb 17 24 44.3
comp=Z,25nm,0.7s
ACSO Alum Creek Sta 27.87 8 P P 17 24 43.2 +0.7
baz=191,SNR=8.0
MCWV Mont Chateau 27.90 14 P P 17 24 44.3 +1.6
MCWV Mont Chateau 27.90 14 P P 17 24 44.4 +1.6
baz=197,SNR=9.2
O52A Adamsville 27.94 10 P P 17 24 43.8 +0.7
O52A IAmb IAmb 17 24 44.5
comp=Z,19nm,0.8s
CBKS Cedar Bluff 28.03 341 P P 17 24 44.7 +0.8
baz=155
O53A New Philadelph 28.18 11 P P 17 24 46.1 +0.9
baz=194,SNR=7.3
P57A Homestead Farm 28.21 17 P P 17 24 47.2 +1.7
P57A IAmb IAmb 17 24 48.2
comp=Z,35nm,0.7s
N49A Columbus Grove 28.39 6 IAmb IAmb 17 24 48.9
comp=Z,20nm,0.6s
T25A Trinidad 28.42 332 IAmb IAmb 17 24 51.5
comp=Z,18nm,0.7s
T25A Trinidad 28.42 332 P P 17 24 50.0 +2.3
baz=145,SNR=22
TUC Tucson 28.54 317 P P 17 24 55.1 +6.5
baz=128
TUC Tucson 28.54 317 P P 17 24 55.0 +6.4
N54A Moraine State 29.11 13 P P 17 24 54.5 +0.9
baz=196,SNR=11
BOAV Boa Vista 29.19 108 eP P 17 24 52.4 -2.1
KSCO Kaye Shedlock' 29.24 337 P P 17 24 56.6 +1.8
baz=150
PAGS Pennsylvania G 29.27 18 P P 17 24 56.5 +1.6
SSPA Standing Stone 29.32 16 P P 17 24 56.5 +1.2
SSPA IAmb IAmb 17 24 57.2
comp=Z,16nm,0.7s
SSPA Standing Stone 29.32 16 P P 17 24 56.5 +1.2
baz=201
SSPA Standing Stone 29.32 16 P P 17 24 56.5 +1.2
SSPA pP pP 17 25 11.7 +2.3
WUPA West Chester U 29.36 20 P P 17 24 56.2 +0.5
SDCO Great Sand Dun 29.42 331 P P 17 24 58.7 +2.1
SDCO Great Sand Dun 29.42 331 P P 17 24 58.6 +2.0
baz=144,SNR=10
M53A WI Miller and 29.43 11 P P 17 24 57.5 +1.1
baz=195,SNR=5.2
AAM Ann Arbor 29.82 7 P P 17 25 00.1 +0.4
baz=189
M55A Ridgway 29.88 14 P P 17 25 01.1 +0.8
M55A IAmb IAmb 17 25 01.8
comp=Z,14nm,0.7s
BGNE Belgrade 29.97 345 P P 17 25 02.1 +1.0
baz=160
LUPA Lehigh Univers 30.04 20 P P 17 25 02.6 +0.9
S22A 4UR Ranch, Cre 30.06 330 P P 17 25 04.5 +2.2
S22A PcP PcP 17 28 05.1 +1.9
S22A 4UR Ranch, Cre 30.06 330 P P 17 25 04.5 +2.2
baz=141,SNR=22
M57A Sunshine Farm, 30.18 17 P P 17 25 04.3 +1.4
M57A IAmb IAmb 17 25 05.3
comp=Z,26nm,0.7s
N59A State Game Lan 30.20 19 P P 17 25 04.8 +1.7
baz=204,SNR=8.3
ERPA Erie 30.22 12 P P 17 25 04.3 +1.0
baz=196
Q24A Divide 30.25 333 P P 17 25 05.2 +1.2
baz=146
BRNJ Basking Ridge 30.38 21 P P 17 25 06.2 +1.5
MVCO Mesa Verde 30.51 327 P P 17 25 09.0 +2.8
baz=138
OGNE Ogallala 30.72 339 P P 17 25 10.7 +2.8
baz=153
ODNJ Ogdensburg 30.73 20 P P 17 25 08.8 +1.1
ODNJ IAmb IAmb 17 25 09.6
comp=Z,18nm,0.7s
KSPA Keystone Colle 30.78 18 P P 17 25 09.2 +1.0
KSPA IAmb IAmb 17 25 30.0
comp=Z,17nm,1.0s
WVNY West Valley, N 30.80 14 P P 17 25 08.9 +0.5
WVNY IAmb IAmb 17 25 10.6
comp=Z,24nm,0.7s
PAL Palisades 30.90 21 P P 17 25 10.2 +0.9
PAL IAmb IAmb 17 25 11.8
comp=Z,24nm,0.6s
PAL Palisades 30.90 21 P P 17 25 10.6 +1.3
baz=208
WUAZ Wupatki 30.96 321 P P 17 25 11.9 +1.8
baz=132
ETMB Extrema 31.19 135 eP P 17 25 12.9 +0.8
SMCO Snowmass 31.25 331 P P 17 25 14.4 +1.4
SMCO IAmb IAmb 17 25 15.8
comp=Z,12nm,0.8s
SMCO PcP PcP 17 28 08.4 +1.9
BINY Binghamton 31.30 18 P P 17 25 14.1 +1.2
baz=203,SNR=5.2
L59A Walton 31.58 19 P P 17 25 16.1 +0.7
L59A IAmb IAmb 17 25 17.9
comp=Z,21nm,0.7s
KSCT Kent School, K 31.69 21 P P 17 25 17.2 +1.0
KSCT IAmb IAmb 17 25 19.1
comp=Z,12nm,0.6s
ECSD EROS Data Cent 31.84 348 P P 17 25 17.4 -0.1
ECSD IAmb IAmb 17 25 34.8
comp=Z,14nm,1.0s
ECSD EROS Data Cent 31.84 348 P P 17 25 17.2 -0.3
baz=164,SNR=12
PDMCI Parker Dam,Lak 31.98 317 P P 17 25 21.1 +2.2
baz=126
N23A Red Feather La 32.19 334 P P 17 25 22.9 +1.9
N23A Red Feather La 32.19 334 P P 17 25 22.9 +1.9
baz=146,SNR=7.9
G45A Suttons Bay 32.37 3 P P 17 25 21.7 -0.4
J57A Williamstown 32.41 17 P P 17 25 22.8 +0.2
J57A IAmb IAmb 17 25 39.0
comp=Z,14nm,0.8s
J58A Remsen 32.57 18 P P 17 25 24.6 +0.6
J58A IAmb IAmb 17 25 41.0
comp=Z,11nm,0.6s
L61B Northampton 32.61 21 P P 17 25 25.1 +0.9
L61B IAmb IAmb 17 25 25.8
comp=Z,18nm,0.7s
L61B Northampton 32.61 21 P P 17 25 24.9 +0.6
baz=209
O20A White River Ci 32.61 331 P P 17 25 27.0 +2.4
baz=142,SNR=24
PECO Prince Edward 32.63 15 P P 17 25 25.2 +0.7
SAML Samuel 32.79 130 P P 17 25 26.1 -0.2
SAML pP pP 17 25 39.5 -0.8
J59A Piesco 32.90 18 P P 17 25 27.2 +0.3
SADO Sadowa 32.94 12 LR LR 17 39 29.5
comp=Z,150nm,18.7s,baz=200,slow=38
SADO Sadowa 32.94 12 P P 17 25 27.1 -0.1
SADO IAmb IAmb 17 25 45.6
comp=Z,16nm,0.7s

SRU San Rafael Swe 32.99 327 P P 17 25 29.6 +1.7
SUSD Miller 33.02 346 P P 17 25 28.5 +0.5
baz=160
DELO Deloro Mine 33.03 14 P P 17 25 28.2 +0.3
DELO IAmb IAmb 17 25 30.1
comp=Z,11nm,0.6s
PFO Pinyon Flats O 33.18 314 LR LR 17 39 37.4
comp=Z,135nm,19.2s,baz=112,slow=37
P18A Preston Nutter 33.22 328 P P 17 25 32.3 +2.2
P18A IAmb IAmb 17 25 46.6
comp=Z,14nm,1.2s
GMRC Granite Mounta 33.28 316 P P 17 25 33.2 +2.8
baz=125
COWI Conover 33.37 359 P P 17 25 30.2 -0.7
COWI IAmb IAmb 17 25 31.0
comp=Z,16nm,0.6s
F36A Milaca 33.43 353 P P 17 25 30.6 -0.8
F36A IAmb IAmb 17 25 33.1
comp=Z,14nm,1.1s
E43A Lone Tree Farm 33.65 1 P P 17 25 32.2 -1.1
E43A IAmb IAmb 17 25 35.1
comp=Z,10nm,0.8s
F33A 5 Mile Ranch, 33.81 350 P P 17 25 34.5 -0.2
K22A Casper 33.89 335 P P 17 25 37.6 +1.9
baz=146
LONY Lake Ozonia 33.93 17 P P 17 25 35.8 0.0
LONY IAmb IAmb 17 25 36.6
comp=Z,11nm,0.8s
LONY Lake Ozonia 33.93 17 P P 17 25 36.4 +0.6
baz=204,SNR=5.5
RSSD Black Hills 34.22 339 P P 17 25 39.5 +1.0
RSSD IAmb IAmb 17 25 43.3
comp=Z,12nm,0.5s
RSSD Black Hills 34.22 339 P P 17 25 40.2 +1.6
baz=152
RSSD Black Hills 34.22 339 P P 17 25 40.3 +1.8
RSSD pP pP 17 25 54.6 +2.0
I62A Tamworth 34.33 22 P P 17 25 40.3 +1.1
JLU Jordanelle 34.56 328 P P 17 25 41.1 -0.6
LPAZ La Paz 34.90 145 P P 17 25 47.2 +2.1
comp=Z,1.3nm,0.4s,baz=342,slow=6.1,SNR=7.5
LPAZ LR LR 17 39 42.3
comp=Z,228nm,21.5s,baz=311,slow=36
LPAZ La Paz 34.90 145 P P 17 25 45.9 +0.7
LPAZ La Paz 34.90 145 eP P 17 25 45.0 -0.1
TPNV Topopah Spring 34.92 319 P P 17 25 47.8 +3.1
baz=127
EDW2 Edwards Air Fo 34.93 314 P P 17 25 47.0 +2.3
baz=122
DUG Dugway, Tooele 34.99 326 P P 17 25 47.9 +2.6
baz=135
MPMC Manual Prospec 35.23 317 P P 17 25 48.9 +1.6
baz=124
BW06 Boulder Array 35.29 332 P P 17 25 48.9 +1.0
BW06 IAmb IAmb 17 25 49.7
comp=Z,7.2nm,0.7s
BW06 Boulder Array 35.29 332 P P 17 25 48.6 +0.8
baz=142,SNR=15
PD31 Pinedale Array 35.29 332 P P 17 25 49.0 +1.1
PDAR Pinedale Array 35.29 332 P P 17 25 48.7 +0.8
comp=Z,6.8nm,0.6s,baz=125,slow=11,SNR=80
PDAR PcP PcP 17 28 17.8 +0.3
comp=Z,2.1nm,0.5s,baz=143,slow=5.3,SNR=8.2
PDAR LR LR 17 41 54.3
comp=Z,92nm,21.2s,baz=131,slow=39
PDAR Pinedale Array 35.29 332 P P 17 25 49.0 +1.1
EYMN Ely 35.31 356 P P 17 25 46.9 -0.9
EYMN IAmb IAmb 17 25 47.1
comp=Z,8.0nm,0.6s
EYMN Ely 35.31 356 P P 17 25 46.8 -0.9
baz=174
HWUT Hardware Ranch 35.36 329 P P 17 25 50.1 +1.6
HWUT PcP PcP 17 28 19.0 +1.3
R11A Troy Canyon, C 35.37 321 P P 17 25 50.9 +2.4
baz=129
TRQ Mont Tremblant 35.40 16 P P 17 25 47.4 -1.2
GRAC Grapevine Rang 35.68 318 P P 17 25 53.7 +2.6
baz=125
G62A West of Eustis 35.78 21 P P 17 25 52.6 +0.8
G62A IAmb IAmb 17 25 53.7
comp=Z,22nm,0.9s
PB16 IPOC Station P 35.85 149 P P 17 25 55.1 +1.8
PB16 IAmb IAmb 17 26 00.5
comp=Z,7.5nm,0.7s
B35A Bob, Littlefor 35.92 354 P P 17 25 52.1 -0.8
B35A IAmb IAmb 17 26 10.8
comp=Z,12nm,1.1s
AGMN Agassiz Nation 36.13 351 P P 17 25 54.5 -0.2
AGMN Agassiz Nation 36.13 351 P P 17 25 54.6 -0.2
baz=167,SNR=24
PKME Peaks-Kenny Pk 36.28 23 P P 17 25 56.8 +0.8
PKME IAmb IAmb 17 26 13.3
comp=Z,25nm,1.0s
PKME Peaks-Kenny Pk 36.28 23 P P 17 25 57.0 +1.1
baz=212
ECR Eagle Creek 36.35 331 P P 17 25 58.4 +1.5
ITTB Itaituba 36.38 116 eP P 17 25 56.5 -0.7
SNOW Snow King Moun 36.38 332 P P 17 25 58.9 +1.7
MDND Maddock 36.39 347 P P 17 25 57.5 +0.6
baz=161
LOHW Long Hollow 36.43 332 P P 17 25 59.2 +1.7
TPAW Teton Pass 36.49 332 P P 17 26 00.0 +1.8
MOOW Moose Ponds 36.60 332 P P 17 26 00.3 +1.3
MOOW PcP PcP 17 28 21.9 +0.6
ELK Elko 36.72 325 LR LR 17 41 41.4
comp=Z,86nm,20.4s,baz=153,slow=37
FLWY Flagg Ranch 36.84 333 P P 17 26 02.9 +1.9
NV11 Mina Array Sit 37.02 319 P P 17 26 04.4 +1.8
H17A Grant Village 37.02 333 P P 17 26 04.7 +2.0
baz=142,SNR=14
RLMT Red Lodge 37.05 335 P P 17 26 04.1 +1.3
RLMT Red Lodge 37.05 335 P P 17 26 04.1 +1.3
baz=144,SNR=34
NVAR Mina Array Bea 37.11 319 P P 17 26 05.7 +2.2
comp=Z,4.2nm,0.6s,baz=130,slow=7.3,SNR=30
NVAR PcP PcP 17 28 24.9 +1.9
comp=Z,6.3nm,0.6s,baz=130,slow=3.9,SNR=27
NVAR pPcP 17 28 39.7
comp=Z,3.4nm,0.5s,baz=150,slow=2.6,SNR=10
NVAR ScP ScP 17 32 04.7 -0.8
comp=Z,0.3nm,0.8s,baz=130,slow=2.8,SNR=1.6
NVAR LR LR 17 42 55.8
comp=Z,220nm,18.3s,baz=132,slow=39
NVAR Mina Array Bea 37.11 319 P P 17 26 05.9 +2.4
YMP Mirror Lake Pl 37.11 334 P P 17 26 05.2 +1.7
LHV Little Huntoon 37.14 319 P P 17 26 06.3 +2.9
LHV IAmb IAmb 17 26 09.0
comp=Z,5.9nm,0.6s
YHH Holmes Hill 37.45 333 IAmb IAmb 17 26 24.5
comp=Z,18nm,0.9s
VILB Vilhena 37.61 132 eP P 17 26 08.2 +0.5
D62A Allapoint, All 37.91 21 IAmb IAmb 17 26 26.8
comp=Z,21nm,0.9s
NPGB Novo Progresso 38.01 119 eP P 17 26 09.8 -1.3
ULM Lac du Bonnet 38.04 352 P P 17 26 10.0 -0.8
comp=Z,20nm,0.6s,baz=168,slow=8.3,SNR=20
ULM pP pP 17 26 24.1 -1.1
comp=Z,12nm,0.7s,baz=180,slow=10,SNR=6.2
ULM PcP PcP 17 28 24.9 -0.3
comp=Z,3.8nm,0.6s,baz=255,slow=2.8,SNR=3.2
ULM LR LR 17 44 17.3
comp=Z,55nm,19.0s,baz=127,slow=40
DGMT Dagmar 38.14 343 P P 17 26 13.1 +1.3
baz=154,SNR=17
HLID Hailey 38.23 329 P P 17 26 13.5 +0.7
HLID Hailey 38.23 329 P P 17 26 14.2 +1.4
baz=136,SNR=10
MCMT McKenzie Canyo 38.39 331 P P 17 26 16.8 +2.6
BOZ Bozeman (W) 38.43 333 P P 17 26 16.3 +1.9
BOZ Bozeman (W) 38.43 333 P P 17 26 16.3 +1.9
baz=141,SNR=53
DLMT Dillon 38.68 332 P P 17 26 18.7 +2.1
PB09 IPOC Station P 38.93 151 P P 17 26 19.5 +0.7
PB09 IAmb IAmb 17 26 30.4
comp=Z,12nm,1.1s
SIV San Ignacio 39.07 136 P P 17 26 20.7 +0.7
comp=Z,36nm,0.7s,baz=303,slow=7.9,SNR=150
SIV PcP PcP 17 28 30.1 +1.0
comp=Z,2.6nm,0.6s,baz=257,slow=4.7,SNR=4.8
SIV LR LR 17 42 15.5
comp=Z,132nm,20.3s,baz=296,slow=36
BATG Bathurst New B 39.20 24 P P 17 26 20.7 +0.1
BATG IAmb IAmb 17 26 22.2
comp=Z,17nm,0.8s
PDRB Porto dos Gac 39.41 126 eP P 17 26 22.0 -0.8
EGMT Eagleton 39.62 337 P P 17 26 25.7 +1.5

EGMT Eagleton 39.62 337 P **P** **17 26 25.6 +1.4**
baz=146,SNR=37
CLDB Colider 39.72 125 *e*P **P** **17 26 24.6 -0.8**
LVC Limon Verde 39.78 152 P **P** **17 26 27.9 +1.7**
comp=Z,2.4nm,0.7s,baz=290,slow=5.2,SNR=3.0
LVC LR LR 17 42 40.7
comp=Z,117nm,18.6s,baz=309,slow=36
LVC Limon Verde 39.78 152 *e*P **P** **17 26 26.8 +0.7**
PTLB Pontes e Lacer 40.04 133 *e*P **P** **17 26 28.0 0.0**
PLID Pearl Lake 40.11 329 P **P** **17 26 29.2 +0.6**
O03E Paynes Creek 40.40 319 P **P** **17 26 32.8 +1.9**
baz=123
MSO Missoula 40.41 333 P **P** **17 26 31.6 +0.8**
MSO Missoula 40.41 333 P **P** **17 26 32.0 +1.2**
baz=139,SNR=16
BMO Blue Mountains 40.61 328 P **P** **17 26 33.1 +0.5**
JTMT Jette 41.25 333 P **P** **17 26 39.0 +1.2**
JTMT IAmb IAmb 17 26 53.9
comp=Z,15nm,1.0s
M04C Macdoel 41.26 321 P **P** **17 26 39.3 +1.3**
baz=125
YBH Yreka Blue Hor 41.77 320 LR LR 17 45 33.3
comp=Z,192nm,21.8s,baz=142,slow=38
WALA Waterton Lakes 42.10 335 P **P** **17 26 46.2 +1.5**
WALA IAmb IAmb 17 26 46.9
comp=Z,15nm,0.7s
KRPM Rodgers 42.29 319 P **P** **17 26 47.7 +1.4**
KRPM IAmb IAmb 17 27 05.8
comp=Z,34nm,1.1s
SALV Santo Antonio 42.84 131 *e*P **P** **17 26 50.5 -0.4**
NEW Newport 42.92 332 LR LR 17 48 34.3
comp=Z,54nm,19.4s,baz=137,slow=41
NEW Newport 42.92 332 P **P** **17 26 51.2 0.0**
NEW Newport 42.92 332 P **P** **17 26 51.8 +0.5**
baz=136,SNR=12
H04A Detroit Lake 43.17 324 P **P** **17 26 54.1 +0.8**
I03D Drain, OR 43.27 322 P **P** **17 26 55.3 +1.2**
baz=125
FFC Flin Flon 43.38 348 P **P** **17 26 55.4 +0.6**
FFC IAmb IAmb 17 27 10.3
comp=Z,11nm,0.7s
FFC Flin Flon 43.38 348 P **P** **17 26 55.2 +0.4**
FFC pP **pP** **17 27 09.8 +0.6**
H04D Lebanon 43.39 324 P **P** **17 26 56.1 +1.1**
baz=126
I02E Swisshome, OR 43.80 323 P **P** **17 26 59.7 +1.4**
SNDB Serra Nova Dou 44.00 122 *e*P **P** **17 27 00.2 -0.1**
B08A Colville Reser 44.03 330 P **P** **17 27 00.3 0.0**
DRLN Deer Lake 44.41 29 P **P** **17 27 02.9 -0.2**
DRLN IAmb IAmb 17 27 30.8
comp=Z,46nm,1.4s
PP1B Ponte de Pedra 44.52 132 *e*P **P** **17 27 04.5 +0.1**
RPN Rapa Nui 44.55 207 LR LR 17 40 55.3
comp=Z,137nm,20.9s,baz=26,slow=29
EDM Edmonton 45.19 339 P **P** **17 27 10.0 +0.7**
SCHQ Schefferville 45.30 17 P **P** **17 27 09.6 -0.6**
comp=Z,29nm,0.6s,baz=217,slow=6.2,SNR=48
SCHQ Schefferville 45.30 17 P **P** **17 27 09.6 -0.6**
B05A Bryant 45.35 328 P **P** **17 27 10.3 -0.3**
baz=130
D03D Eldon 45.41 327 P **P** **17 27 11.4 +0.3**
baz=128
SMTB Santa Maria do 45.61 116 *e*P **P** **17 27 10.5 -2.8**
NLWA Neilton Lookou 45.74 326 P **P** **17 27 13.9 +0.1**
NLWA IAmb IAmb 17 27 29.9
comp=Z,21nm,1.2s
AQDB Aquidauana 45.84 135 *e*P **P** **17 27 14.9 0.0**
DVLD Doverlandia 45.95 128 *e*P **P** **17 27 15.7 -0.2**
A04D Lummi Island 45.95 328 P **P** **17 27 16.0 +0.6**
baz=130
FCC Fort Churchill 46.26 356 P **P** **17 27 17.4 -0.2**
PGC Sidney 46.29 328 P **P** **17 27 17.7 -0.3**
PGC IAmb IAmb 17 27 33.9
comp=Z,11nm,0.8s
PEXB Peixe 46.56 120 *e*P **P** **17 27 21.1 +0.5**
LLLB Lillooet 46.78 331 P **P** **17 27 23.5 +1.5**
BDFB Brasilia 46.65 124 P **P** **17 27 36.7 -0.2**
comp=Z,3.7nm,0.5s,baz=283,slow=2.3,SNR=9.4
BDFB PcP **PcP** **17 29 02.7 +0.9**
comp=Z,5.6nm,0.7s,baz=287,slow=5.3,SNR=6.4
BDFB Brasilia 48.65 124 P **P** **17 27 36.7 -0.2**
BDFB **PcP** **17 29 02.9 +1.1**
CPUP Villa Florida 48.98 142 P **P** **17 27 38.8 -0.3**
comp=Z,2.6nm,0.6s,baz=338,slow=10.0,SNR=8.7
CPUP LR LR 17 48 39.5
comp=Z,74nm,19.1s,baz=336,slow=36
CPUP Villa Florida 48.98 142 P **P** **17 27 38.2 -0.9**
CPUP Villa Florida 48.98 142 *e*P **P** **17 27 38.9 -0.3**
ITRB Iturama 49.17 130 *e*P **P** **17 27 40.4 -0.3**
PCMB Pacaembu 49.69 133 *e*P **P** **17 27 44.3 -0.4**
IPMB Ipameri, GO 49.79 127 *e*P **P** **17 27 44.4 -1.2**
GO05 Huala 49.82 163 P **P** **17 27 45.4 0.0**
GO05 IAmb IAmb 17 28 03.0
comp=Z,25nm,1.3s
BBB Bella Bella 50.81 329 LR LR 17 52 35.8
comp=Z,130nm,18.2s,baz=152,slow=40
PTGB Pitanga 51.17 137 *e*P **P** **17 27 55.0 -0.9**
BB19B Bebedouro 51.35 130 *e*P **P** **17 27 56.7 -0.6**
JANB Januaria 51.39 121 *e*P **P** **17 27 57.9 +0.2**
ITQB Itaqui 51.90 145 *e*P **P** **17 28 01.9 +0.7**
FRTB Fartura 52.01 133 *e*P **P** **17 28 01.8 -0.4**
FRB Frobisher Bay 52.87 11 LR LR 17 51 31.7
comp=Z,205nm,20.3s,baz=196,slow=37
RCLB Rio Claro- Sao 52.91 131 *e*P **P** **17 28 08.5 -0.4**
YKA Yellowknife Ar 53.26 345 P **P** **17 28 10.4 -0.3**
comp=Z,9.1nm,0.6s,baz=132,slow=8.7,SNR=258
YKA pP **pP** **17 28 24.4 -1.2**
comp=Z,15nm,0.8s,baz=149,slow=6.8,SNR=14
YKA PcP **PcP** **17 29 17.3 -0.6**
comp=Z,3.0nm,0.5s,baz=148,slow=3.8,SNR=9.2
YKA pPcP 17 29 32.1
comp=Z,2.2nm,0.8s,baz=145,slow=4.1,SNR=4.5
YKA LR LR 17 52 45.8
comp=Z,108nm,19.5s,baz=255,slow=38
YKA PKP2bc **P'P'bc** **17 58 47.6 -3.1**
comp=Z,0.2nm,1.0s,baz=352,slow=2.5,SNR=3.5
YKA Yellowknife Ar 53.26 345 P **P** **17 28 10.3 -0.4**
DIAM Diamantina, MG 53.57 124 *e*P **P** **17 28 13.7 -0.2**
VAO Valinhos 53.67 131 *e*P **P** **17 28 14.0 -0.4**
PET01 Itanhaem-SP 54.23 133 *e*P **P** **17 28 17.9 -0.5**
CPSB Cacapava Do Su 54.29 143 *e*P **P** **17 28 18.7 0.0**
RCBR Riachuelo 55.07 106 LR LR 17 53 31.5
comp=Z,77nm,19.9s,baz=78,slow=38
PLTB Pedras Altas 55.18 144 P **P** **17 28 25.1 -0.1**
PLTB IAmb IAmb 17 28 26.3
comp=Z,9.0nm,0.8s
PLTB Pedras Altas 55.18 144 *e*P **P** **17 28 25.8 +0.6**
DLBC Dease Lake 55.45 335 LR LR 17 55 50.3
comp=Z,173nm,18.0s,baz=120,slow=40
DLBC Dease Lake 55.45 335 P **P** **17 28 28.3 +1.5**
PLCA Paso Flores 55.55 164 P **P** **17 28 28.8 +1.1**
comp=Z,3.1nm,0.6s,baz=333,slow=7.8,SNR=16
PLCA LR LR 17 46 38.0
comp=Z,48nm,21.7s,baz=344,slow=30
PLCA Paso Flores 55.55 164 P **P** **17 28 28.6 +0.9**
PLCA Paso Flores 55.55 164 *e*P **P** **17 28 29.0 +1.3**
SJMB Sao Joao De Ma 55.80 123 *e*P **P** **17 28 29.8 -0.1**
TAOE Nuku Hiva Isla 55.89 250 *e*LR LR 17 44 41.3
comp=Z,242nm,25.4s
TAOE Nuku Hiva Isla 55.89 250 *e*T T 18 28 30.6
comp=Z,18nm,0.2s
WRGLY Wrigley 56.32 342 P **P** **17 28 32.8 -0.1**
baz=137,SNR=5.1
TGTN Hyland Airport 56.74 338 P **P** **17 28 36.7 +0.7**
baz=131
RIB01 Linhares ES 56.76 123 *e*P **P** **17 28 36.1 -0.5**
CAM01 Campos-RJ 57.04 127 *e*P **P** **17 28 39.0 +0.3**
ALF01 Guarapari-ES 57.15 125 *e*P **P** **17 28 39.7 +0.3**
BESE Bessie Mountai 57.60 333 P **P** **17 28 42.7 +0.6**
RKT Rikitea 57.99 232 *e*T T 18 31 03.8
comp=Z,3.5nm,0.3s
MMPY Sheldon Lake, 58.52 338 P **P** **17 28 49.5 +1.0**
baz=128,SNR=12
WHY Whitehorse 58.76 335 P **P** **17 28 50.5 +0.2**
baz=124
FARO Faro, Yukon 59.05 337 P **P** **17 28 52.1 -0.1**
baz=126
M31M Drury Creek, Y 59.44 337 P **P** **17 28 54.5 -0.3**
M31M IAmb IAmb 17 29 10.8
comp=Z,11nm,1.3s
M31M Drury Creek, Y 59.44 337 P **P** **17 28 55.2 +0.4**
baz=125
N31M Braeburn, Yuko 59.58 336 P **P** **17 28 56.4 +0.6**
baz=123,SNR=7.3
HYT Haines Junctio 59.93 335 P **P** **17 28 58.9 +0.5**
HYT IAmb IAmb 17 29 14.9
comp=Z,11nm,1.0s
HYT Haines Junctio 59.93 335 P **P** **17 28 59.3 +1.0**
baz=121
YUK6 Outpost Mounta 60.35 334 P **P** **17 29 02.3 +0.9**
baz=120
M30M Minto, Yukon 60.58 336 P **P** **17 29 02.3 -0.3**
M30M IAmb IAmb 17 29 18.3
comp=Z,8.0nm,0.9s
M30M Minto, Yukon 60.58 336 P **P** **17 29 02.7 +0.1**
baz=123
YUK4 Talbot Arm 60.68 335 P **P** **17 29 04.2 +0.7**
baz=120
MAYO Mayo, Yukon 60.80 338 P **P** **17 29 04.9 +0.8**
baz=124
C36M Paulatuk 61.08 346 P **P** **17 29 04.8 -1.0**
baz=139
LOGN Logan Glacier 61.42 334 P **P** **17 29 08.7 +0.2**
LOGN IAmb IAmb 17 29 25.5
comp=Z,10.0nm,0.8s
CTGM Chitina Glacie 61.63 334 P **P** **17 29 09.9 0.0**
CTGM IAmb IAmb 17 29 26.4
comp=Z,9.8nm,0.7s
CTG Chitna Glacier 61.64 334 P **P** **17 29 10.9 +1.0**
baz=117,SNR=5.3
YUK3 Moose Creek 61.64 335 P **P** **17 29 10.6 +0.5**
baz=119
GRNC Granite Creek 61.71 333 P **P** **17 29 10.9 +0.3**
BARN Barnard Glacie 61.82 334 P **P** **17 29 11.3 +0.1**
BARN IAmb IAmb 17 29 12.8
comp=Z,8.3nm,0.6s
BVCY Beaver Creek 62.12 335 P **P** **17 29 13.4 +0.3**
baz=118,SNR=7.6
RES Resolute Bay 62.15 358 LR LR 17 57 38.7
comp=Z,89nm,19.2s,baz=94,slow=38
RES Resolute Bay 62.15 358 P **P** **17 29 12.2 -0.7**
RES IAmb IAmb 17 29 12.9
comp=Z,7.6nm,0.6s
TGL Tana Glacier 62.20 333 P **P** **17 29 14.1 +0.5**
DAWY Dawson 62.36 337 P **P** **17 29 14.3 -0.4**
baz=121
BERG Berg Lake 62.43 332 P **P** **17 29 16.0 +0.9**
M27K Edge Creek, AK 62.51 335 P **P** **17 29 16.4 +0.7**
baz=117
MCARA McCarthy VSAT 62.55 334 P **P** **17 29 17.2 +1.3**
baz=116
I29M Ogilvie Camp, 62.64 339 P **P** **17 29 16.2 -0.2**
baz=122,SNR=9.1
EPYK Eagle Plains 62.66 340 P **P** **17 29 16.7 +0.1**
EPYK Eagle Plains 62.66 340 P **P** **17 29 16.6 +0.1**
baz=124,SNR=5.9
L27K Beaver Creek, 62.82 336 IAmb IAmb 17 29 33.7
comp=Z,14nm,0.8s
L27K Beaver Creek, 62.82 336 P **P** **17 29 18.2 +0.5**
baz=118,SNR=13
INK Inuvik 62.83 343 LR LR 17 59 18.8
comp=Z,109nm,20.0s,baz=123,slow=39
INK Inuvik 62.83 343 IAmb IAmb 17 29 34.0
comp=Z,16nm,0.9s
INK Inuvik 62.83 343 P **P** **17 29 17.6 0.0**
baz=129,SNR=9.5
GLB Gilahina Butte 62.92 334 IAmb IAmb 17 29 34.7
comp=Z,15nm,0.9s
M26K Nabesna, AK 62.99 335 P **P** **17 29 19.0 +0.1**
baz=116
BMRM Bremner River 63.07 333 P **P** **17 29 20.4 +1.0**
baz=114,SNR=5.7
N25K Chitina, Valde 63.33 334 IAmb IAmb 17 29 37.6
comp=Z,14nm,0.7s
N25K Chitina, Valde 63.33 334 P **P** **17 29 22.1 +0.9**
baz=114,SNR=8.5
A36M Sachs Harbour 63.34 348 IAmb IAmb 17 29 20.7
comp=Z,15nm,1.3s
A36M Sachs Harbour 63.34 348 P **P** **17 29 19.9 -1.0**
baz=139,SNR=11
EGAK Eagle 63.38 337 P **P** **17 29 21.5 +0.2**
baz=119
L26K Log Cabin Wild 63.42 335 P **P** **17 29 22.1 +0.5**
baz=116
EYAK Cordova Ski Ar 63.42 332 P **P** **17 29 22.9 +1.3**
baz=113
KLU Klutina 63.87 333 P **P** **17 29 25.2 +0.5**
baz=113,SNR=8.3
HARP HAARP 63.90 334 P **P** **17 29 25.3 +0.5**
baz=114
SCRK Sand Creek 64.10 336 P **P** **17 29 26.7 +0.5**
baz=116,SNR=6.4
GLI Glacier Island 64.16 332 P **P** **17 29 27.4 +0.9**
baz=112
J26L Joseph Creek 64.17 337 P **P** **17 29 27.3 +0.7**
baz=117,SNR=14
ICESG Greenland Ices 64.21 17 *i*P **P** **17 29 25.0 -2.2**
M24K Tolsona, Glenn 64.22 334 P **P** **17 29 27.7 +0.7**
baz=113
PAX Paxson 64.27 335 P **P** **17 29 27.4 0.0**
baz=114,SNR=9.1
RIDG Independent Ri 64.34 336 P **P** **17 29 28.2 +0.5**
baz=115,SNR=8.1
SCM Sheep Creek Mo 64.62 333 P **P** **17 29 29.9 +0.2**
baz=112
PWL Port Wells 64.72 332 P **P** **17 29 30.0 -0.2**
baz=110
K24K Donnelly Dome 64.74 336 P **P** **17 29 30.8 +0.5**
baz=114
M23K Glacier View 64.78 333 P **P** **17 29 30.4 -0.2**
baz=112
J25K Salcha River, 64.92 336 P **P** **17 29 31.8 +0.3**
baz=115,SNR=16
KNK Knik Glacier 64.97 333 P **P** **17 29 31.9 +0.1**
baz=111,SNR=5.5
SML Sawmill 65.05 333 P **P** **17 29 32.5 +0.1**
baz=111
WAT6 Susitna Watana 65.08 334 P **P** **17 29 33.0 +0.3**
baz=112
DHY Denali Highway 65.11 334 P **P** **17 29 33.3 +0.4**
baz=112
PMOR Pomariorio Ree 65.20 247 *e*T T 18 40 22.6
comp=Z,3.2nm,0.2s
PMR Palmer 65.33 333 IAmb IAmb 17 29 49.5
comp=Z,8.6nm,0.7s
PMR Palmer 65.33 333 P **P** **17 29 34.0 -0.1**
baz=110,SNR=7.3
RC01 Rabbit Creek A 65.44 332 P **P** **17 29 35.1 +0.3**
baz=109,SNR=7.7
WAT1 Susitna Watana 65.52 334 P **P** **17 29 34.9 -0.5**
baz=111
ILAR Eielson Array 65.58 336 P **P** **17 29 35.2 -0.4**
comp=Z,4.9nm,0.8s,baz=164,slow=4.9,SNR=82
ILAR pP **pP** **17 29 49.8 -1.2**
comp=Z,10nm,0.9s,baz=110,slow=4.8,SNR=19
ILAR LR LR 18 00 53.4
comp=Z,118nm,21.5s,baz=176,slow=38
M22K Willow 65.83 333 P **P** **17 29 37.5 +0.2**
baz=109
KDAK Kodiak Island 65.84 328 LR LR 17 59 21.2
comp=Z,42nm,20.1s,baz=162,slow=37
KDAK Kodiak Island 65.84 328 P **P** **17 29 38.2 +0.7**
baz=105
POKR Poker Plat Res 65.93 337 P **P** **17 29 37.8 -0.1**
baz=113
COLA College 66.00 336 P **P** **17 29 37.8 -0.5**
COLA pP **pP** **17 29 52.6 -1.0**
TCOL CIGO, UAF Yank 66.00 336 P **P** **17 29 38.4 0.0**
baz=113
MCK McKinley 66.00 335 IAmb IAmb 17 29 54.1
comp=Z,16nm,0.9s
MCK McKinley 66.00 335 P **P** **17 29 38.7 +0.2**
baz=111,SNR=6.0
CUT Chulitna 66.11 333 P **P** **17 29 39.3 +0.2**
baz=109
NEA2 Nenana 66.37 336 P **P** **17 29 41.1 +0.3**
baz=111,SNR=7.7
H24K Noodor Dome 66.38 337 IAmb IAmb 17 29 56.6
comp=Z,7.4nm,0.8s
H24K Noodor Dome 66.38 337 P **P** **17 29 41.2 +0.3**
baz=113,SNR=8.4
TRF Thorofare Moun 66.47 334 P **P** **17 29 41.7 0.0**
baz=110,SNR=9.8
P19K Oil Pt 66.67 330 P **P** **17 29 43.1 +0.3**
baz=105
Q19K Cape Douglas, 66.68 329 P **P** **17 29 43.1 +0.2**
baz=105
I23K Minto, Yukon-K 66.69 336 P **P** **17 29 42.9 +0.1**
baz=111,SNR=13
KTH Kantishna Hill 66.78 334 IAmb IAmb 17 29 58.7
comp=Z,15nm,0.8s
BPAW Bear Paw Mtn. 66.98 335 IAmb IAmb 17 29 60.0
comp=Z,16nm,0.8s
BPAW Bear Paw Mtn. 66.98 335 P **P** **17 29 44.4 -0.4**
baz=109,SNR=13
H23K Yukon River 67.01 337 P **P** **17 29 45.0 +0.2**
baz=111
PPLA Purkeypile 67.11 333 P **P** **17 29 45.2 -0.5**
baz=108
CAST Castle Rocks 67.23 334 IAmb IAmb 17 30 01.0
comp=Z,9.8nm,0.8s
CAST Castle Rocks 67.23 334 P **P** **17 29 45.4 -0.8**
baz=108,SNR=7.4
O19K Port Alsworth 67.34 330 P **P** **17 29 46.7 -0.2**
baz=105
CHUM Lake Minchumin 67.47 334 P **P** **17 29 46.9 -0.8**
baz=108
N19K Bonanza Creek 67.57 331 IAmb IAmb 17 30 03.7
comp=Z,13nm,0.8s
N19K Bonanza Creek 67.57 331 P **P** **17 29 48.3 -0.3**
baz=105
PPT2 Papeete2 67.66 245 *e*LR LR 17 50 13.1
comp=Z,262nm,26.2s,baz=64
O18K Koktuh Hills 67.69 330 P **P** **17 29 48.9 -0.4**
O18K IAmb IAmb 17 30 04.8
comp=Z,14nm,0.8s
O18K Koktuh Hills 67.69 330 P **P** **17 29 49.0 -0.2**
baz=104,SNR=6.2
L20K Farewell, AK 67.74 333 P **P** **17 29 49.0 -0.5**
baz=106,SNR=9.2
I21K Tanana 67.74 336 P **P** **17 29 49.2 -0.3**
I21K Tanana 67.74 336 P **P** **17 29 49.2 -0.3**
baz=109
COLD Coldfoot 67.77 338 IAmb IAmb 17 30 06.9
comp=Z,15nm,1.1s
COLD Coldfoot 67.77 338 P **P** **17 29 50.7 +1.0**
baz=111,SNR=10
M19K Big River Lodg 67.81 332 P **P** **17 29 49.4 -0.6**
M19K IAmb IAmb 17 30 05.4
comp=Z,7.9nm,0.8s
M19K Big River Lodg 67.81 332 P **P** **17 29 49.9 -0.1**
baz=105
K20K Telida 68.06 334 IAmb IAmb 17 30 06.6
comp=Z,11nm,0.9s
K20K Telida 68.06 334 P **P** **17 29 50.9 -0.7**
baz=106
TOLK Toolik Lake Re 68.08 340 IAmb IAmb 17 29 52.5
comp=Z,6.2nm,0.6s
TOLK Toolik Lake Re 68.08 340 P **P** **17 29 51.8 +0.1**
baz=112,SNR=6.8
L19K White Mountain 68.09 332 P **P** **17 29 51.6 -0.2**
baz=105
SVW2 Sparrevohn 68.16 331 P **P** **17 29 51.6 -0.6**
N18K Kilae Creek 68.21 331 P **P** **17 29 52.3 -0.2**
baz=103
H21K Melozitna Rive 68.22 336 P **P** **17 29 51.8 -0.7**
baz=108
J20K Nowinta River 68.33 334 P **P** **17 29 52.7 -0.5**
baz=106,SNR=6.8
CHGN Chignik 68.64 326 P **P** **17 29 55.3 +0.1**
baz=99
IMAR Indian Mountai 68.69 336 P **P** **17 29 54.6 -0.8**
TTA Tatalina 68.80 333 P **P** **17 29 55.2 -1.1**
TTA Tatalina 68.80 333 P **P** **17 29 55.4 -0.8**
baz=104
TBI Tubuai 69.81 239 *e*LR LR 17 51 14.8
comp=Z,249nm,29.2s
ALE Alert 70.68 3 P **P** **17 30 04.7 -2.7**
ALE pP **pP** **17 30 20.2 -2.6**
UNV Unalaska Valle 73.03 323 P **P** **17 30 22.1 +0.2**
DAG Danmarks Havn 73.13 13 *i*P **P** **17 30 20.0 -2.1**
EKA Eskdalemuir Ar 76.88 36 P **P** **17 30 41.1 -3.0**
comp=Z,0.5nm,0.7s,baz=270,slow=5.7,SNR=4.7
ESDC Sonseca Array 77.62 52 P **P** **17 30 46.0 -2.7**
comp=Z,0.4nm,0.5s,baz=286,slow=5.2,SNR=5.0
ADK Adak 79.28 321 P **P** **17 30 57.8 +0.4**
SPITS Spitsbergen Ar 80.67 12 LR LR 18 07 00.8
comp=Z,121nm,21.6s,baz=358,slow=36
DBIC Dimbokro 82.06 85 P **P** **17 31 12.4 -0.7**
comp=Z,2.4nm,0.8s,baz=252,slow=3.2,SNR=1.3
DBIC LR LR 18 04 09.4
comp=Z,42nm,19.6s,baz=298,slow=33
NOA NORSAR Array B 83.54 29 P **P** **17 31 18.8 -1.2**
comp=Z,1.0nm,0.8s,baz=290,slow=5.3,SNR=2.0
BILL Bilibino 84.10 339 P **P** **17 31 22.3 -0.3**
BILL IAmb IAmb 17 31 23.2
comp=Z,7.0nm,0.7s
HFS Hagfors 84.96 29 LR LR 18 05 10.8
comp=Z,30nm,21.9s,baz=4.0,slow=33
ARCES ARCESS Array B 86.23 19 P **P** **17 31 30.9 -2.4**
comp=Z,2.0nm,0.8s,baz=289,slow=3.7,SNR=6.6
ARCES LR LR 18 09 45.9
comp=Z,37nm,18.5s,baz=65,slow=36
AFI Afiamalu 86.94 255 LR LR 18 01 21.4
comp=Z,60nm,19.5s,baz=287,slow=29
TORD Torodi Ar. Bea 87.04 77 P **P** **17 31 34.6 -3.7**
comp=Z,0.3nm,0.4s,baz=290,slow=6.3,SNR=2.5
GERES GERESS Array B 88.24 40 sP **sP** **17 32 03.8 -1.8**
comp=Z,0.6nm,0.9s,baz=332,slow=3.3,SNR=2.7
GERES LR LR 18 07 19.7
comp=Z,44nm,19.5s,baz=43,slow=33
VRAC Vranov 89.91 39 LR LR 18 08 44.6
comp=Z,67nm,19.4s,baz=2.0,slow=33
FINES FINESS Array B 90.11 26 P **P** **17 31 52.1 +0.3**
comp=Z,0.9nm,0.7s,baz=250,slow=2.8,SNR=3.5
FINES LR LR 18 11 15.5
comp=Z,65nm,21.6s,baz=55,slow=35
SEY Seymchan 91.51 337 LR LR 18 17 19.8
comp=Z,39nm,21.8s,baz=344,slow=38
VAE Valguarnera 92.14 51 LR LR 18 07 43.6
comp=Z,63nm,19.3s,baz=328,slow=32
TIXI Tiksi 92.33 349 P **P** **17 32 00.4 -1.5**
comp=Z,3.3nm,0.8s,baz=79,slow=16,SNR=20
TIXI Tiksi 92.33 349 P **P** **17 32 01.2 -0.7**
TIXI IAmb IAmb 17 32 02.4
comp=Z,6.6nm,1.1s
MA2 Magadan 93.98 334 P **P** **17 32 09.5 -0.2**
comp=Z,2.8nm,0.6s,baz=93,slow=7.0,SNR=4.2
MA2 LR LR 18 23 28.3
comp=Z,39nm,20.3s,baz=255,slow=41
NRIK Noril'sk 98.18 2 LR LR 18 17 38.0
comp=Z,82nm,22.0s,baz=56,slow=36
YAK Yakutsk 99.89 343 LR LR 18 26 11.4
comp=Z,79nm,18.1s,baz=88,slow=40
ZALV Zalesovo Beam 113.41 5 PKiKP **PKiKP** **17 37 29.4 -0.2**
comp=Z,1.0nm,0.5s,baz=288,slow=1.4,SNR=5.7
ZALV PP **PP** **17 38 18.8 -1.4**
comp=Z,1.1nm,0.8s,baz=19,slow=5.2,SNR=4.4
BOSA Boshof 116.39 116 PKP **PKiKP** **17 37 36.7 +0.4**
comp=Z,3.1nm,0.7s,baz=244,slow=2.7,SNR=8.0
BOSA Boshof 116.39 116 **PKiKP** **17 37 37.1 +0.8**
LBTB Lobatse 116.62 112 PKP **PKiKP** **17 37 37.2 +0.5**
comp=Z,1.9nm,0.6s,baz=286,slow=4.1,SNR=5.3
LSZ Lusaka 118.36 101 PKP **PKiKP** **17 37 41.1 +0.7**
comp=Z,1.1nm,0.3s,baz=349,slow=0.3,SNR=5.2
SONM Songino Array 118.42 349 PKP **PKPdf** **17 37 39.2 -0.5**
comp=Z,1.1nm,0.6s,baz=187,slow=0.3,SNR=9.7
SONM PKKPbc **PKKPbc** **17 47 57.7 -1.1**
comp=Z,0.4nm,0.6s,baz=190,slow=2.1,SNR=4.0
MATP Matopo 119.08 106 PKP **PKPdf** **17 37 41.4 -0.3**
comp=Z,3.6nm,0.6s,baz=269,slow=1.4,SNR=14
MATP pPKP **pPKPdf** **17 37 56.9 -1.3**
comp=Z,2.1nm,0.7s,baz=259,slow=5.4,SNR=3.2
KSRS Korea Array 119.75 327 PKP **PKiKP** **17 37 43.1 +0.7**
comp=Z,4.3nm,0.6s,baz=5.5,slow=1.9,SNR=24
KSRS pPKP **pPKPdf** **17 37 58.5 -0.4**
comp=Z,3.7nm,0.6s,baz=6.4,slow=1.8,SNR=9.9
MKAR Makanchi Array 120.23 8 PKP **PKPdf** **17 37 41.4 -1.7**
comp=Z,0.3nm,0.3s,baz=305,slow=3.1,SNR=9.4
MAW Mawson 121.87 167 PKP **PKiKP** **17 37 45.9 +0.3**
comp=Z,1.7nm,0.6s,baz=311,slow=11,SNR=1.5
STKA Stephens Creek 130.60 239 PKP **PKiKP** **17 38 04.5 +0.5**
comp=Z,2.0nm,0.5s,baz=117,slow=6.5,SNR=9.6
WRA Warramunga Arr 138.66 254 PKP **PKiKP** **17 38 20.0 -0.8**
comp=Z,2.9nm,0.6s,baz=88,slow=2.5,SNR=17
ASAR Alice Springs 138.70 249 PKhKP PKPpre 17 38 08.9
comp=Z,1.0nm,0.6s,baz=92,slow=2.5,SNR=18
ASAR PKP **PKiKP** **17 38 20.4 -0.3**
comp=Z,2.2nm,0.6s,baz=91,slow=1.8,SNR=12
PZH PanZhiHua 139.93 346 PKP **PKPdf** **17 38 21.0 0.0**
HYBB Hyderabad (bro 147.38 24 *e*PKiKP **PKiKP** **17 38 40.0 +1.2**
HYBB *e*PKiKP **sPKPdf** **17 38 56.1 -0.6**
CHTO Chiang Mai 147.98 347 PKPbc **PKPbc** **17 38 38.0 -0.1**
CMAR Chiang Mai Arr 148.32 347 PKPbc **PKPdf** **17 38 36.6 +1.1**
comp=Z,9.2nm,0.7s,baz=326,slow=2.5,SNR=39
CMAR Chiang Mai Arr 148.32 347 PKPbc **PKPbc** **17 38 39.2 +0.2**
UBPT Khong Chiam 149.16 334 **PKiKP** **17 38 42.0 -0.4**
PSA00 Pilbara Seismi 151.84 248 **PKiKP** **17 38 47.8 0.0**
PSI Prapat 163.13 335 PKP **PKPdf** **17 38 55.5 0.0**
comp=Z,2.7nm,0.3s,baz=327,slow=8.2,SNR=5.6

IDC ***17*** *17:27:20.6±1.1,28˚.21N×87˚.85E,h0km,mb3.8/8, mb1 3.9/11,mb1mx3.6/58,mbtmp3.8/11,ML3.6/3,Error ellipse: s-maj=34.1km s-min=19.1km az=53.0*
DMN ***17*** *17:27:29.2±0.0,28˚.51N×88˚.01E,h60km,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 17 17:27:31.8±1.0,**28˚.34N**±0˚.09×**87˚.80E**±0˚.06,**h96**km±12km, **n25**,σ1§**13**/39,**mb3.8**/8,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**0.99**	**185**	*e*Pg	**Pn**	**17 27 51.1**	**-1.2**
TAPN				*e*Sg	**Sn**	**17 28 07.0**	**-0.5**
	6µm,0.4s						
ODAN	**Odare**	**1.52**	**194**	*e*Pg	**Pn**	**17 27 57.7**	**-0.7**
ODAN				*e*Sg	**Sn**	**17 28 18.7**	**+0.2**
	2µm,0.3s						
JIRN	**Jiri**	**1.58**	**245**	*e*Pg	**Pn**	**17 27 59.7**	**+0.4**
JIRN				*e*Sg	**Sn**	**17 28 21.6**	**+1.6**
	227nm,0.3s						
RAMN	**Ramite**	**1.75**	**218**	*e*Pg	**Pn**	**17 28 00.8**	**-0.5**
RAMN				*e*Sg	**Sn**	**17 28 25.2**	**+1.5**
	457nm,0.2s						
GUN	**Gumba**	**1.75**	**256**	*e*Pg	**Pn**	**17 28 01.8**	**+0.4**
GUN				*e*Sg	**Sn**	**17 28 24.0**	**+0.1**
	764nm,0.3s						
PKI	**Pulchoki**	**2.25**	**251**	*e*Pg	**Pn**	**17 28 08.1**	**+0.2**
PKI				*e*Sg	**Sn**	**17 28 35.7**	**+0.3**
	787nm,0.4s						
PKIN	**Phulchoki**	**2.26**	**251**	*e*Pg	**Pn**	**17 28 08.2**	**+0.3**
PKIN				*e*Sg	**Sn**	**17 28 35.6**	**+0.1**
	867nm,0.3s						
KKN	**Kakani**	**2.30**	**257**	*e*Pg	**Pn**	**17 28 08.5**	**+0.1**
KKN				*e*Sg	**Sn**	**17 28 37.2**	**+0.9**
	448nm,0.2s						
DMN	**Daman**	**2.49**	**254**	*e*Pg	**Pn**	**17 28 11.1**	**+0.1**
DMN				*e*Sg	**Sn**	**17 28 41.4**	**+0.4**
	452nm,0.3s						
GKN	**Gorkha**	**2.81**	**264**	*e*Pg	**Pn**	**17 28 14.4**	**-0.8**
GKN				*e*Sg	**Sn**	**17 28 48.2**	**-0.3**
	577nm,0.2s						
DANN	**Dangsing**	**3.56**	**271**	*e*Pg	**Pn**	**17 28 23.3**	**-2.0**
DANN				*e*Sg	**Sn**	**17 29 05.0**	**-1.7**
	701nm,0.3s						
KOLN	**Koldanda**	**3.76**	**262**	*e*Pg	**Pn**	**17 28 26.6**	**-1.3**
KOLN				*e*Sg	**Sn**	**17 29 10.5**	**-0.8**
	596nm,0.3s						
PYUN	**Piuthan**	**4.25**	**268**	*e*Pg	**Pn**	**17 28 33.5**	**-1.1**
PYUN				*e*Sg	**Sn**	**17 29 22.3**	**-1.0**
	579nm,0.4s						
JBP	**Jabalpur**	**8.73**	**236**	*e*P	**Pn**	**17 29 34.0**	**-1.3**
JBP				*ex*	**Pn**	**17 29 34.0**	**-1.3**
JBP				*e*S	**Sn**	**17 31 09.4**	**-2.6**
CMAR	**Chiang Mai Arr**	**14.18**	**132**	Pn	Pn	17 30 41.9	-6.4
	0.1nm,0.3s,baz=310,slow=13,SNR=4.2						
AAK	**Ala-Archa**	**17.88**	**326**	P	**P**	**17 31 34.2**	**+0.4**
	0.1nm,0.3s,baz=160,slow=10,SNR=7.0						
MKAR	**Makanchi Array**	**18.92**	**348**	P	**Pn**	**17 31 44.9**	**-1.8**
	0.3nm,0.3s,baz=158,slow=10.0,SNR=13						
KURBB	**Kurchatov Arra**	**23.34**	**345**	P	**P**	**17 32 31.9**	**+0.5**
	2.4nm,0.2s,baz=166,slow=8.9,SNR=6.1						
SONM	**Songino Array**	**24.23**	**32**	P	**P**	**17 32 39.9**	**+0.1**
	1.3nm,0.8s,baz=219,slow=8.9,SNR=9.7						
ZALV	**Zalesovo Beam**	**25.68**	**356**	P	**P**	**17 32 54.7**	**+2.1**
	0.4nm,0.4s,baz=167,slow=8.1,SNR=2.6						
KSRS	**Korea Array**	**34.68**	**64**	P	**P**	**17 34 10.8**	**-1.4**
	0.6nm,0.6s,baz=266,slow=9.2,SNR=1.7						
FINES	**FINESS Array B**	**52.06**	**328**	P	**P**	**17 36 32.2**	**+0.8**
	2.0nm,0.9s,baz=98,slow=8.6,SNR=4.5						
ARCES	**ARCESS Array B**	**54.11**	**337**	P	**P**	**17 36 47.3**	**+0.9**
	2.5nm,0.9s,baz=103,slow=7.8,SNR=1.7						
WRA	**Warramunga Arr**	**65.78**	**132**	P	**P**	**17 38 07.4**	**+0.5**
	1.2nm,0.6s,baz=326,slow=6.3,SNR=13						
TORD	**Torodi Ar. Bea**	**80.50**	**280**	P	**P**	**17 39 34.9**	**+1.1**
	0.3nm,0.8s,baz=49,slow=5.9,SNR=2.1						

IDC ***17*** *17:51:55.6±1.6,11˚.34N×126˚.42E,h0km,mb3.9/6, mb1 4.1/6,mb1mx3.6/43,mbtmp3.9/6,MS3.6/2,Ms1 3.6/2, ms1mx2.7/82,Error ellipse: s-maj=193.0km s-min=20.2km az=69.0*
MAN ***17*** *17:52:04.3,11˚.03N×125˚.69E,h45km,mb4.3,ML3.1, MS2.8,Hypocentre not reviewed by the ISC*
ISC 17 17:52:03.5±1.0,**11˚.02N**±0˚.06×**125˚.77E**±0˚.08,**h50**km,**n19**, σ1§**64**/**22**,**mb3.8**/6,**2C-5D**,**Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.26**	**225**	ǁ*e*P	**Pn**	**17 52 25.7**	**+1.0**
MSLP				*i* S	**Sn**	**17 52 42.6**	**+2.0**
SCPH	**Surigao**	**1.26**	**193**	ǁ*e*P	**Pn**	**17 52 26.2**	**+1.3**
SCPH				*e*S	**Sn**	**17 52 26.2**	**+1.3**
LLP	**Lapu-Lapu**	**1.91**	**249**	ǁ*e*P	**Pn**	**17 52 32.9**	**-0.7**
LLP				*i* S	**Sn**	**17 52 55.9**	**-0.6**
TBP	**Tagbilaran**	**2.30**	**235**	*e*P	**Pn**	**17 52 40.1**	**+1.1**
TBP				*e*S	**Sn**	**17 53 01.5**	**-4.6**
SNPH	**Sibulan**	**3.00**	**236**	ǁ*e*P	**Pn**	**17 52 49.5**	**+0.8**
SNPH				*e*S	**Sn**	**17 53 26.5**	**+3.0**
RCP	**Roxas**	**3.02**	**280**	⫛*e*P	**Pn**	**17 52 49.9**	**+1.1**
RCP				*e*S	**Sn**	**17 53 25.2**	**+1.4**
CNOP	**Candoni, Negro**	**3.30**	**249**	ǁ*e*P	**Pn**	**17 52 53.0**	**+0.3**
GQP	**Guinayangan**	**4.33**	**312**	ǁ*e*P	**Pn**	**17 53 08.4**	**+1.6**
WRA	**Warramunga Arr**	**31.91**	**165**	P	**P**	**17 58 23.6**	**-0.9**
	0.3nm,0.6s,baz=343,slow=9.2,SNR=2.4						
WRA				PcP	**PcP**	**18 01 14.1**	**-0.1**
	0.3nm,0.9s,baz=339,slow=2.7,SNR=1.6						
ASAR	**Alice Springs**	**35.38**	**167**	P	**P**	**17 58 55.0**	**+0.4**
	0.4nm,0.3s,baz=348,slow=6.8,SNR=24						
ASAR				PcP	**PcP**	**18 01 24.0**	**0.0**
	0.2nm,0.4s,baz=335,slow=3.0,SNR=4.0						
HNR	**Honiara**	**39.60**	**120**	LR	LR	18 14 36.7	
	comp=Z,70nm,21.8s,baz=70,slow=35						
H11N1	**WAKE ISLAND Hy**	**40.49**	**73**	T	T	18 43 13.1	
	baz=265,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.50**	**73**	T	T	18 43 12.1	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**40.51**	**73**	T	T	18 43 16.0	
	baz=265,slow=74						
MKAR	**Makanchi Array**	**51.13**	**323**	P	**P**	**18 01 01.6**	**+0.1**
	0.3nm,0.4s,baz=129,slow=8.4,SNR=7.9						
ZALV	**Zalesovo Beam**	**53.73**	**331**	P	**P**	**18 01 19.7**	**-0.8**
	0.5nm,0.4s,baz=116,slow=6.5,SNR=3.4						
AFI	**Afiamalu**	**66.70**	**110**	LR	LR	18 28 03.5	
	comp=Z,54nm,19.1s,baz=298,slow=33						
ARCES	**ARCESS Array B**	**83.32**	**340**	P	**P**	**18 04 24.6**	**-0.2**
	6.1nm,1.1s,baz=91,slow=6.7,SNR=2.5						
FINES	**FINESS Array B**	**85.00**	**332**	P	**P**	**18 04 31.9**	**-1.5**
	1.7nm,0.9s,baz=64,slow=3.2,SNR=6.5						

IDC 17 17:57:43.2±2.2,**16˚.01S**×**74˚.61W**,**h0**km,**mb3.4**/2, **mb1 3.8**/3,**mb1mx3.5**/21,**mbtmp3.6**/3,**ML4.1**/1,**Error ellipse: s-maj=96.5km s-min=34.4km az=12.0,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.24**	**93**	Pn	Pn	17 59 19.1	+2.0
	2.2nm,0.3s,baz=275,slow=10,SNR=39						
LPAZ				Sn	Sn	18 00 32.2	+2.8
	baz=191,slow=25,SNR=1.1						
H03N1	**Juan Fernandez**	**17.78**	**192**	T	T	18 20 22.6	
	baz=15,slow=74,SNR=55						
H03N2	**Juan Fernandez**	**17.79**	**192**	T	T	18 20 33.2	
	baz=15,slow=74,SNR=60						
H03N3	**Juan Fernandez**	**17.80**	**192**	T	T	18 20 22.8	
	baz=15,slow=74,SNR=49						
TORD	**Torodi Ar. Bea**	**80.81**	**73**	P	P	18 09 57.7	-1.7
	0.5nm,0.6s,baz=260,slow=5.4,SNR=4.3						
YKA	**Yellowknife Ar**	**84.30**	**343**	P	P	18 10 17.6	+1.0
	0.1nm,0.5s,baz=134,slow=4.5,SNR=2.4						
H11N3	**WAKE ISLAND Hy**	**121.60**	**284**	T	T	20 30 19.4	
	baz=98						
H11N2	**WAKE ISLAND Hy**	**121.61**	**284**	T	T	20 30 20.8	
	baz=98						
H11N1	**WAKE ISLAND Hy**	**121.61**	**284**	T	T	20 30 22.3	
	baz=98						
H11S2	**WAKE ISLAND Hy**	**121.63**	**282**	T	T	20 30 24.6	
	baz=98,slow=74,SNR=25						
H11S1	**WAKE ISLAND Hy**	**121.64**	**282**	T	T	20 30 20.1	
	baz=98,slow=74,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**121.65**	**282**	T	T	20 30 23.8	
	baz=98,slow=74,SNR=10						
ASAR	**Alice Springs**	**131.71**	**216**	PKP	PKPdf	18 16 59.3	+0.2
	0.1nm,0.6s,baz=148,slow=1.9,SNR=1.4						

IDC ***17*** *18:05:40.0±3.4,0˚.81N×98˚.32E,h0km,mb3.3/5,mb1 3.4/6, mb1mx3.3/36,mbtmp3.3/6,ML3.6/1,Error ellipse: s-maj=135.4km s-min=21.5km az=59.0*
DJA ***17*** *18:05:56.1±0.5,1˚.N±4˚×9˚.9E±˚,h78km±8km,M3.1/6, MLv3.1/6*
ISC 17 18:05:54.6±0.9,**1˚.29N**±0˚.07×**98˚.87E**±0˚.10,**h100**km,**n15**, σ1§**15**/**12**,**mb3.2**/5,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.86**	**125**	P	**Pn**	**18 08 14.7**	**+1.0**
GSI	**Gunungsitoli**	**1.29**	**271**	P	**Pn**	**18 08 19.6**	**+1.2**
TSI	**Tuntungan**	**2.22**	**352**	P	**Pn**	**18 08 31.1**	**+1.0**
PPI	**Padang Panjang**	**2.31**	**139**	P	**Pn**	**18 08 32.7**	**+1.4**
KCSI	**Kotacane, Aceh**	**2.47**	**334**	P	**Pn**	**18 08 33.2**	**-0.3**
SISI	**Saibi**	**2.61**	**175**	P	**Pn**	**18 08 35.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**17.06**	**0**	P	**Pn**	**18 09 47.2**	**+0.1**
	0.1nm,0.3s,baz=191,slow=11,SNR=3.0						
H08S2	**Diego Garcia H**	**27.76**	**251**	T	T	18 39 14.8	
	baz=72						
H08S3	**Diego Garcia H**	**27.77**	**251**	T	T	18 39 18.1	
	baz=72						
H08S1	**Diego Carcia H**	**27.78**	**251**	T	T	18 39 08.8	
	baz=72						
WRA	**Warramunga Arr**	**40.68**	**123**	P	**P**	**18 13 23.9**	**-1.7**
	0.3nm,0.4s,baz=302,slow=9.2,SNR=23						
ASAR	**Alice Springs**	**42.13**	**128**	P	**P**	**18 13 36.0**	**-1.4**
	0.1nm,0.6s,baz=303,slow=7.6,SNR=4.3						
SONM	**Songino Array**	**46.82**	**7**	P	**P**	**18 14 15.5**	**+1.0**
	0.1nm,0.4s,baz=182,slow=5.8,SNR=1.6						
MKAR	**Makanchi Array**	**47.58**	**345**	P	**P**	**18 14 20.2**	**-0.1**
	0.1nm,0.3s,baz=158,slow=8.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**53.75**	**350**	P	**P**	**18 15 06.2**	**-0.3**
	0.6nm,0.3s,baz=148,slow=7.4,SNR=3.5						

INET 17 18:07:30.6±0.2,**12˚.00N**×**86˚.16W**,**h2**km,**ML1.8**,**MW2.5**, **Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.01**	**153**	*e*P	Pg	18 07 31.6	+0.5

IDC ***17*** *18:13:22.9±2.4,7˚.14S×129˚.78E,h119km±29km,mb3.2/1, mb1 3.2/6,mb1mx2.9/43,mbtmp3.6/6,MS3.7/1,Ms1 3.7/1, ms1mx2.6/22,Error ellipse: s-maj=39.9km s-min=22.2km az=92.0*
ISC 17 18:13:22.2±0.9,**7˚.17S**±0˚.06×**129˚.76E**±0˚.09,**h100**km,**n13**, σ4§**34**/**16**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.73**	**118**	P	Pn	18 13 58.9	+7.6
MTN	**Manton Dam**	**5.80**	**167**	P	**Pn**	**18 14 50.6**	**+4.7**
KDU	**Kakadu**	**6.10**	**154**	P	**Pn**	**18 14 54.0**	**+4.1**
SIJI	**Sorong**	**6.43**	**14**	P	**Pn**	**18 14 55.2**	**+0.7**
	0.7nm,0.3s,baz=222,slow=16,SNR=1.2						
SIJI				S	**Sn**	**18 16 01.5**	**-5.0**
	0.6nm,0.3s,baz=103,slow=24,SNR=1.4						
BATI	**Baumata**	**6.75**	**243**	P	**Pn**	**18 15 00.0**	**+1.3**
	1.2nm,0.3s,baz=35,slow=2.7,SNR=2.2						
BATI				S	**Sn**	**18 16 14.2**	**0.0**
	1.2nm,0.3s,baz=335,slow=19,SNR=2.8						
KNRA	**Kununurra**	**8.52**	**187**	P	**Pn**	**18 15 25.2**	**+2.4**
FITZ	**Fitzroy Crossi**	**11.59**	**200**	P	**Pn**	**18 16 04.2**	**-0.3**
	0.2nm,0.3s,baz=22,slow=11,SNR=21						
FITZ				S	**Sn**	**18 18 05.4**	**-6.5**
	0.2nm,0.3s,baz=131,slow=14,SNR=1.8						
WRA	**Warramunga Arr**	**13.46**	**161**	P	**Pn**	**18 16 28.9**	**-0.2**
	0.3nm,0.3s,baz=347,slow=12,SNR=15						
WRA				S	**Sn**	**18 18 50.2**	**-7.1**
	0.3nm,0.3s,baz=335,slow=22,SNR=7.9						
DAV	**Davao City (W)**	**14.74**	**343**	LR	LR	18 22 52.5	
	comp=Z,303nm,19.6s,baz=348,slow=39						
ASAR	**Alice Springs**	**16.88**	**167**	P	**P**	**18 17 13.9**	**+1.0**
	0.2nm,0.3s,baz=348,slow=9.5,SNR=23						
ASAR				S	**Sn**	**18 20 15.1**	**-5.1**
	0.1nm,0.3s,baz=358,slow=27,SNR=5.0						
WRKA	**Warakurna**	**17.83**	**184**	P	**Pn**	**18 17 25.8**	**+1.8**
OOD	**Oodnadatta**	**21.27**	**165**	P	**P**	**18 18 07.5**	**+6.9**
MKAR	**Makanchi Array**	**68.23**	**327**	P	**P**	**18 24 10.7**	**-1.5**
	0.2nm,0.4s,baz=116,slow=6.7,SNR=5.6						

IDC ***17*** *18:17:08.9±2.1,7˚.62S×128˚.23E,h145km±29km,mb2.8/1, mb1 3.4/6,mb1mx3.0/43,mbtmp3.8/6,Error ellipse: s-maj=34.2km s-min=22.4km az=96.0*
ISC 17 18:17:07.5±0.9,**7˚.78S**±0˚.06×**128˚.40E**±0˚.09,**h150**km,**n6**, σ3§**15**/**11**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.26**	**242**	P	**Pn**	**18 18 25.3**	**+0.9**
	9.9nm,0.3s,baz=91,slow=5.2,SNR=34						
BATI				S	**Sn**	**18 19 22.4**	**-2.0**
	10nm,0.3s,baz=90,slow=23,SNR=8.5						
SIJI	**Sorong**	**7.44**	**23**	P	**Pn**	**18 18 53.8**	**+0.3**
	0.7nm,0.3s,baz=286,slow=8.8,SNR=4.1						
SIJI				S	**Sn**	**18 20 13.8**	**-2.8**
	0.6nm,0.3s,baz=192,slow=22,SNR=1.6						
FITZ	**Fitzroy Crossi**	**10.60**	**194**	P	**Pn**	**18 19 37.8**	**+2.4**
	0.4nm,0.3s,baz=22,slow=11,SNR=2.4						
FITZ				S	**Sn**	**18 21 28.0**	**-4.7**
	1.0nm,0.3s,baz=273,slow=23,SNR=8.4						
WRA	**Warramunga Arr**	**13.39**	**155**	P	**P**	**18 20 15.1**	**-0.8**
	1.0nm,0.3s,baz=329,slow=14,SNR=11						
WRA				S	**Sn**	**18 22 36.7**	**-3.3**
	1.3nm,0.3s,baz=328,slow=22,SNR=9.9						
ASAR	**Alice Springs**	**16.66**	**162**	P	**Pn**	**18 20 57.4**	**+5.1**
	0.2nm,0.3s,baz=342,slow=11,SNR=17						
ASAR				S	**S**	**18 23 56.7**	**-0.8**
	0.3nm,0.3s,baz=343,slow=27,SNR=6.2						
MKAR	**Makanchi Array**	**68.02**	**328**	P	**P**	**18 27 51.1**	**+0.5**
	0.1nm,0.5s,baz=115,slow=6.2,SNR=1.9						

WEL 17 18:18:32.7±1.2,**35˚S**±16˚×**17˚9E**±1˚6,**h310**km±19km, **M3.5**/6,**MLv3.5**/6,**Error ellipse: s-maj=0.0km s-min=0.0km az=43.1,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.87**	**185**	P	Pn	18 19 27.2	-0.6
WMGZ				S	S	18 20 13.5	+1.0
HAZ	**Te Kaha**	**2.90**	**195**	P	Pn	18 19 27.9	-0.1
HAZ				S	S	18 20 11.9	-0.5
GRZ	**Great Barrier**	**2.97**	**243**	S	S	18 20 14.6	+0.9
PKGZ	**Pakihiroa**	**2.98**	**190**	P	Pn	18 19 29.2	+0.3
RUGZ	**Raukumara Rang**	**3.13**	**196**	P	Pn	18 19 29.4	-1.0
RUGZ				S	S	18 20 16.5	-0.1
PUZ	**Puketiti**	**3.14**	**187**	P	Pn	18 19 29.9	-0.5
PUZ				S	S	18 20 16.5	-0.1
TWGZ	**Tauwhareparae**	**3.27**	**191**	P	Pn	18 19 33.2	+1.4
TWGZ				S	S	18 20 20.1	+1.0
MWZ	**Matawai**	**3.51**	**196**	P	Pn	18 19 33.9	-0.3
MWZ				S	S	18 20 24.8	+1.3
CNGZ	**Carnagh Statio**	**3.55**	**187**	P	Pn	18 19 34.3	-0.2
URZ	**Urewera**	**3.55**	**201**	P	Pn	18 19 33.7	-0.9
URZ				S	S	18 20 24.2	0.0
TKGZ	**Te Karaka**	**3.55**	**191**	P	Pn	18 19 35.2	+0.6
RAGZ	**Rawiri**	**3.69**	**196**	P	Pn	18 19 36.4	+0.3
RIGZ	**Rimuhau**	**3.83**	**192**	P	Pn	18 19 36.9	-0.6
RIGZ				S	S	18 20 30.7	+1.2
RTZ	**Ruatahuna**	**3.92**	**201**	P	Pn	18 19 38.0	-0.6
RTZ				S	S	18 20 30.4	-1.0
MTHZ	**Maungataniwha**	**4.18**	**201**	P	Pn	18 19 42.3	+1.0
NMHZ	**Naumai**	**4.42**	**200**	P	Pn	18 19 45.0	+1.0
BKZ	**Black Stump Fm**	**4.57**	**202**	P	Pn	18 19 45.3	-0.4
BKZ				S	S	18 20 44.7	+0.3
HIZ	**Hauiti**	**4.73**	**220**	P	Pn	18 19 49.8	+2.4
KWHZ	**Kaweka Forest**	**4.83**	**202**	P	Pn	18 19 48.6	0.0
KWHZ				S	S	18 20 48.7	-1.0
OTVZ	**Oturere**	**4.87**	**209**	P	Pn	18 19 49.4	+0.3
SNVZ	**South Ngauruho**	**4.90**	**209**	P	Pn	18 19 49.7	+0.1
KRHZ	**Kereru**	**5.05**	**201**	P	Pn	18 19 50.7	-0.3
KRHZ				S	S	18 20 54.5	+0.3
KAHZ	**Kahuranaki**	**5.06**	**197**	P	Pn	18 19 51.1	0.0
KAHZ				S	S	18 20 57.2	+2.8
PXZ	**Pawanui**	**5.28**	**196**	P	Pn	18 19 53.5	-0.2
PXZ				S	S	18 20 58.5	-0.5
PNHZ	**Pukenui**	**5.35**	**201**	P	Pn	18 19 53.6	-1.0
PNHZ				S	S	18 20 59.4	-1.1
PRHZ	**Porangahau**	**5.56**	**197**	P	Pn	18 19 57.1	+0.1
ANWZ	**Angora Road**	**5.78**	**197**	P	Pn	18 19 59.5	0.0
ANWZ				S	S	18 21 09.9	+0.2
BFZ	**Birch Farm**	**6.05**	**198**	P	Pn	18 20 02.4	-0.4
BFZ				S	S	18 21 15.4	0.0
MRZ	**Mangatainoka R**	**6.22**	**203**	P	Pn	18 20 03.1	-1.7
MRZ				S	S	18 21 16.7	-2.5

IDC ***17*** *18:21:22.4±0.7,8˚.60N×126˚.42E,h0km,mb3.9/12, mb1 4.1/14,mb1mx3.8/48,mbtmp4.0/14,ML4.5/2,Error ellipse: s-maj=24.2km s-min=11.2km az=98.0*
MAN ***17*** *18:21:24.8,8˚.52N×126˚.27E,h13km,mb4.7,ML3.6,MS3.5, Hypocentre not reviewed by the ISC*
ISC 17 18:21:23.6±1.8,**8˚.61N**±0˚.05×**126˚.36E**±0˚.08,**h8**km±11km, **n36**,σ1§**16**/43,**mb4.2**/19,**3C-4D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.45**	**324**	ǁ*e*P	**Pg**	**18 21 51.2**	**-0.3**
SCPH				*i* S	**Sg**	**18 22 10.4**	**+0.1**
DAV	**Davao City (W)**	**1.71**	**207**	Pn	**Pn**	**18 21 54.5**	**+0.6**
	119nm,0.3s,baz=33,slow=3.4,SNR=14						
DAV				Lg	Lg	18 22 18.5	
	100nm,0.3s,baz=252,slow=21,SNR=2.2						
KCP	**Kidapawan**	**2.03**	**219**	⫛*i* P	**Pn**	**18 21 57.4**	**-0.8**
KCP				*i* S	**Sn**	**18 22 23.9**	**+0.1**
MSLP	**Maasin**	**2.12**	**316**	*e*P	**Pn**	**18 21 58.8**	**-0.7**
CTBH	**Cotabato--PC H**	**2.51**	**237**	ǁ*i* P	**Pn**	**18 22 03.7**	**-1.1**
CTBH				*i* S	**Sn**	**18 22 33.4**	**-2.2**
TBP	**Tagbilaran**	**2.69**	**294**	ǁ*e*P	**Pn**	**18 22 07.7**	**+0.4**
TBP				*i* S	**Sn**	**18 22 40.8**	**+0.6**
LLP	**Lapu-Lapu**	**2.91**	**306**	ǁ*e*P	**Pn**	**18 22 11.0**	**+0.7**
LLP				*e*S	**Sn**	**18 22 47.0**	**+1.4**
PAGZ	**Pagadian**	**3.04**	**256**	*e*P	**Pn**	**18 22 14.9**	**+2.7**
SNPH	**Sibulan**	**3.17**	**284**	*i* P	**Pn**	**18 22 11.6**	**-2.4**
SNPH				*e*S	**Sn**	**18 22 50.6**	**-1.5**
CNOP	**Candoni, Negro**	**3.87**	**289**	ǁ*e*P	**Pn**	**18 22 24.0**	**+0.5**
LQP	**Lukban**	**7.23**	**320**	ǁ*e*P	**Pn**	**18 23 07.2**	**-2.7**
SIJI	**Sorong**	**10.61**	**152**	Pn	**Pn**	**18 23 56.5**	**+0.4**
	2.1nm,0.3s,baz=339,slow=14,SNR=14						
BATI	**Baumata**	**18.88**	**188**	P	**Pn**	**18 25 45.7**	**+0.5**
	2.4nm,0.3s,baz=101,slow=0.5,SNR=5.7						
FITZ	**Fitzroy Crossi**	**26.55**	**182**	P	**P**	**18 27 01.1**	**-1.1**
	2.1nm,0.9s,baz=15,slow=8.2,SNR=3.3						
CMAR	**Chiang Mai Arr**	**28.36**	**293**	P	**P**	**18 27 19.5**	**+0.9**
	1.5nm,0.9s,baz=100,slow=7.1,SNR=10						
WRA	**Warramunga Arr**	**29.44**	**165**	P	**P**	**18 27 27.6**	**-0.5**
	0.4nm,0.9s,baz=346,slow=9.7,SNR=2.1						
ASAR	**Alice Springs**	**32.91**	**167**	P	**P**	**18 27 57.9**	**-0.8**
	0.2nm,0.4s,baz=336,slow=7.3,SNR=5.4						
USRK	**Ussuriysk Ar.**	**35.79**	**7**	P	**P**	**18 28 25.0**	**+1.6**
	2.6nm,0.7s,baz=188,slow=5.8,SNR=5.2						
KLR	**Kul'dur**	**40.74**	**5**	P	**P**	**18 29 06.5**	**+1.5**
	0.7nm,0.4s,baz=162,slow=16,SNR=2.5						
TAPN	**Taplejung**	**40.99**	**302**	*e*P	**P**	**18 29 08.9**	**+1.1**
ODAN	**Odare**	**41.09**	**301**	*e*P	**P**	**18 29 09.6**	**+1.0**
	29nm,0.9s						
GUN	**Gumba**	**42.70**	**302**	*e*P	**P**	**18 29 23.1**	**+1.2**
	26nm,0.8s						
PKI	**Pulchoki**	**42.99**	**301**	*e*P	**P**	**18 29 24.7**	**+0.5**
	12nm,0.9s						
KKN	**Kakani**	**43.17**	**302**	*e*P	**P**	**18 29 26.1**	**+0.6**
	13nm,0.9s						
GKN	**Gorkha**	**43.78**	**302**	*e*P	**P**	**18 29 30.8**	**+0.5**
KOLN	**Koldanda**	**44.58**	**301**	*e*P	**P**	**18 29 37.8**	**+0.9**
	32nm,0.9s						
DANN	**Dangsing**	**44.62**	**302**	*e*P	**P**	**18 29 37.4**	**+0.1**
	24nm,0.8s						
PYUN	**Piuthan**	**45.20**	**301**	*e*P	**P**	**18 29 42.8**	**+1.1**
	44nm,1.0s						
MKAR	**Makanchi Array**	**53.40**	**323**	P	**P**	**18 30 44.0**	**-0.1**
	1.8nm,0.8s,baz=122,slow=8.1,SNR=18						
MKAR				PcP	**PcP**	**18 31 50.5**	**-0.7**
	0.5nm,0.7s,baz=108,slow=4.7,SNR=3.7						
ZALV	**Zalesovo Beam**	**56.12**	**332**	P	**P**	**18 31 03.3**	**-0.3**
	0.8nm,0.8s,baz=105,slow=11,SNR=3.8						
TIXI	**Tiksi**	**63.00**	**1**	P

KNRA				IAmb	IAmb	18 28 07.7
	comp=Z,16nm,0.8s					
KNRA	**Kununurra**	**16.39**	**161**	P	**P**	**18 28 04.3 +1.7**
FITZ	**Fitzroy Crossi**	**18.05**	**173**	P	**P**	**18 28 21.6 +0.7**
	comp=Z,2.1nm,0.3s,baz=8.3,slow=6.9,SNR=39					
FITZ	**Fitzroy Crossi**	**18.05**	**173**	P	**P**	**18 28 21.9 +1.0**
DSRI	**Dabo**	**18.82**	**269**	P	**P**	**18 28 29.7 +0.3**
	comp=Z,29nm,0.8s					
TPRI	**Tanjung Pinang**	**18.89**	**273**	P	**P**	**18 28 31.7 +1.5**
	comp=Z,25nm,1.0s					
WB0	**Warramunga Arr**	**22.34**	**152**	P	**P**	**18 29 06.9 +0.1**
WB0				IAmb	IAmb	18 29 08.9
	comp=Z,9.8nm,0.8s					
WRAB	**Tennant Creek**	**22.47**	**152**	P	**P**	**18 29 07.9 0.0**
WRAB				IAmb	IAmb	18 29 09.7
	comp=Z,8.8nm,0.7s					
WRAB	**Tennant Creek**	**22.47**	**152**	P	**P**	**18 29 08.5 +0.6**
WRA	**Warramunga Arr**	**22.47**	**152**	P	**P**	**18 29 08.4 +0.4**
	comp=Z,5.6nm,0.5s,baz=332,slow=10,SNR=84					
WRA				S	**S**	**18 33 01.9 -1.6**
	comp=Z,1.1nm,0.8s,baz=315,slow=23,SNR=5.5					
WRA				ScP	**ScP**	**18 36 20.6 0.0**
	comp=Z,0.2nm,0.4s,baz=335,slow=2.4,SNR=5.3					
WRA	**Warramunga Arr**	**22.47**	**152**	P	**P**	**18 29 07.1 -0.8**
WB2	**Warramunga Arr**	**22.48**	**152**	P	**P**	**18 29 08.2 +0.2**
WB2				IAmb	IAmb	18 29 09.7
	comp=Z,9.3nm,0.7s					
WR0	**Warramunga Arr**	**22.58**	**152**	P	**P**	**18 29 09.0 0.0**
WR0				IAmb	IAmb	18 29 18.2
	comp=Z,11nm,0.7s					
IPM	**Ipoh**	**22.80**	**282**	P	**P**	**18 29 11.6 +0.5**
QIZ	**Qiongzhong**	**23.18**	**326**	P	**P**	**18 29 16.0 +1.5**
KULM	**Kulim**	**23.33**	**284**	P	**P**	**18 29 16.5 +0.5**
KULM				IAmb	IAmb	18 29 17.4
	comp=Z,14nm,0.8s					
UBPT	**Khong Chiam**	**23.38**	**312**	P	**P**	**18 29 17.4 +1.1**
UBPT				IAmb	IAmb	18 29 18.6
	comp=Z,14nm,0.9s					
TPUB	**Ta-pu**	**23.39**	**354**	P	**P**	**18 29 15.3 -1.1**
TPUB	**Ta-pu**	**23.39**	**354**	P	**P**	**18 29 18.8 +2.4**
SSLB	**Suanglung**	**23.84**	**354**	P	**P**	**18 29 20.3 -0.2**
SSLB				IAmb	IAmb	18 29 23.1
	comp=Z,15nm,0.7s					
COEN	**Coen**	**23.96**	**126**	P	**P**	**18 29 22.6 +0.9**
COEN				IAmb	IAmb	18 29 45.2
	comp=Z,26nm,1.1s					
COEN	**Coen**	**23.96**	**126**	P	**P**	**18 29 23.4 +1.7**
WRKA	**Warakurna**	**25.27**	**170**	P	**P**	**18 29 34.6 +1.1**
AS31	**Alice Springs**	**25.58**	**157**	P	**P**	**18 29 37.2 +0.9**
ASAR	**Alice Springs**	**25.58**	**157**	P	**P**	**18 29 37.0 +0.6**
	comp=Z,1.7nm,0.6s,baz=346,slow=12,SNR=17					
ASAR				PcP	**PcP**	**18 33 04.1 +0.5**
	comp=Z,1.1nm,0.4s,baz=350,slow=2.4,SNR=10					
ASAR				ScP	**ScP**	**18 36 28.9 -0.1**
	comp=Z,0.1nm,0.5s,baz=339,slow=2.9,SNR=4.4					
ASAR	**Alice Springs**	**25.58**	**157**	P	**P**	**18 29 37.6 +1.3**
ASAR					**PcP**	**18 33 04.0 +0.4**
QIS	**Mount Isa**	**25.81**	**143**	P	**P**	**18 29 40.0 +1.6**
RABL	**Rabaul**	**29.04**	**98**	P	**P**	**18 30 10.4 +3.1**
OOD	**Oodnadatta**	**29.98**	**158**	P	**P**	**18 30 16.3 +0.9**
CMAR	**Chiang Mai Arr**	**30.27**	**309**	P	**P**	**18 30 18.6 +0.4**
	comp=Z,3.2nm,0.7s,baz=134,slow=6.9,SNR=35					
CMAR				PcP	**PcP**	**18 33 15.5 +0.4**
	comp=Z,0.9nm,0.7s,baz=157,slow=2.4,SNR=9.4					
CMAR	**Chiang Mai Arr**	**30.27**	**309**	P	**P**	**18 30 19.4 +1.3**
CHTO	**Chiang Mai**	**30.47**	**309**	P	**P**	**18 30 20.1 +0.2**
CHTO				IAmb	IAmb	18 30 23.0
	comp=Z,7.3nm,0.8s					
CHTO	**Chiang Mai**	**30.47**	**309**	P	**P**	**18 30 21.5 +1.6**
FORT	**Forrest**	**30.86**	**172**	P	**P**	**18 30 22.5 -0.6**
BLDU	**Ballidu**	**31.03**	**191**	P	**P**	**18 30 24.4 -0.2**
MULG	**Mulgathing**	**31.71**	**162**	P	**P**	**18 30 31.9 +1.3**
INKA	**Innaminka**	**32.16**	**150**	P	**P**	**18 30 36.5 +2.0**
JCJ	**Chichijima**	**32.50**	**32**	P	**P**	**18 30 37.1 -0.5**
	comp=Z,82nm,0.6s,baz=250,slow=6.4,SNR=13					
JCJ	**Chichijima**	**32.50**	**32**	P	**P**	**18 30 37.0 -0.5**
JCJ	**Chichijima**	**32.50**	**32**	P	**P**	**18 30 37.6 0.0**
LCRK	**Leigh Creek**	**33.34**	**156**	P	**P**	**18 30 47.9 +3.1**
	comp=Z,10nm,1.1s					
PZH	**PanZhiHua**	**33.66**	**323**	P	**P**	**18 30 50.4 +2.6**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.8s					
PZH				pmax	pmax	
	comp=Z,100nm,5.0s					
BBOO	**Buckleboo**	**34.68**	**161**	P	**P**	**18 30 57.1 +0.7**
STKA	**Stephens Creek**	**36.02**	**153**	P	**P**	**18 31 09.0 +1.2**
	comp=Z,2.7nm,0.7s,baz=320,slow=8.1,SNR=7.1					
STKA	**Stephens Creek**	**36.02**	**153**	P	**P**	**18 31 08.6 +0.8**
HTT	**Hallett**	**36.25**	**158**	P	**P**	**18 31 11.8 +2.0**
XAN	**Xi'an**	**36.55**	**340**	P	**P**	**18 31 13.0 +0.7**
XAN				pmax	pmax	
	comp=Z,7.0nm,0.8s					
KSRS	**Korea Array**	**37.58**	**6**	P	**P**	**18 31 20.9 0.0**
	comp=Z,2.7nm,0.7s,baz=181,slow=9.3,SNR=10					
CMSA	**Cobar Meteorol**	**37.75**	**148**	P	**P**	**18 31 24.7 +2.2**
MAJO	**Matsushiro**	**38.94**	**19**	P	**P**	**18 31 29.9 -2.5**
MAJO				IAmb	IAmb	18 31 32.9
	comp=Z,7.8nm,0.8s					
MAJO	**Matsushiro**	**38.94**	**19**	P	**P**	**18 31 32.9 +0.5**
MJAR	**Matsushiro Arr**	**38.94**	**19**	P	**P**	**18 31 30.8 -1.6**
	comp=Z,7.7nm,0.5s,baz=179,slow=10,SNR=13					
MJAR	**Matsushiro Arr**	**38.94**	**19**	P	**P**	**18 31 29.7 -2.7**
MJAR				IAmb	IAmb	18 31 31.0
	comp=Z,5.8nm,1.0s					
ARMA	**Armidale**	**40.39**	**141**	P	**P**	**18 31 45.2 +0.6**
ARMA				IAmb	IAmb	18 31 54.4
	comp=Z,8.9nm,1.2s					
ARMA	**Armidale**	**40.39**	**141**	P	**P**	**18 31 47.4 +2.9**
JMM	**Marumori**	**41.02**	**21**	P	**P**	**18 31 49.6 +0.1**
HHC	**Hu-ho-hao-te**	**42.13**	**347**	*eP*	**P**	**18 32 00.0 +1.4**
CAN	**Canberra**	**42.42**	**148**	P	**P**	**18 32 02.9 +1.9**
CAN	**Canberra**	**42.42**	**148**	P	**P**	**18 32 03.7 +2.7**
CN2	**Changchun**	**43.72**	**2**	*eP*	**P**	**18 32 11.1 -0.1**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
JTM	**Tenmabayashi**	**43.73**	**19**	P	**P**	**18 32 10.4 -0.9**
ODAN	**Odare**	**43.77**	**311**	*eP*	**P**	**18 32 12.2 0.0**
	comp=Z,22nm,0.7s					
TAPN	**Taplejung**	**43.79**	**311**	*eP*	**P**	**18 32 12.6 +0.2**
	comp=Z,16nm,0.6s					
RAMN	**Ramite**	**44.42**	**310**	*eP*	**P**	**18 32 18.3 +0.9**
	comp=Z,31nm,0.5s					
USRK	**Ussuriysk Ar.**	**44.74**	**9**	P	**P**	**18 32 18.5 -0.8**
	comp=Z,2.0nm,0.5s,baz=215,slow=4.8,SNR=8.2					
GOMU	**GeErMu**	**44.80**	**327**	P	P	18 32 25.8 +5.4
GOMU				pmax	pmax	
	comp=Z,85nm,7.9s					
GTA	**Gaotai**	**44.83**	**334**	*eP*	**P**	**18 32 21.3 +1.0**
GTA				pmax	pmax	
	comp=Z,8.0nm,0.8s					
MDJ	**Mudanjiang**	**44.84**	**6**	P	**P**	**18 32 20.3 +0.2**
MDJ				IAmb	IAmb	18 32 48.1
	comp=Z,14nm,1.3s					
JIRN	**Jiri**	**45.10**	**311**	*eP*	**P**	**18 32 23.1 +0.2**
	comp=Z,18nm,0.8s					
GUN	**Gumba**	**45.46**	**311**	*eP*	**P**	**18 32 26.1 +0.4**
	comp=Z,48nm,0.7s					
PKI	**Pulchoki**	**45.65**	**310**	*eP*	**P**	**18 32 27.0 -0.1**
	comp=Z,13nm,0.6s					
PKIN	**Phulchoki**	**45.66**	**310**	*eP*	**P**	**18 32 27.1 -0.1**
	comp=Z,10nm,0.5s					
KKN	**Kakani**	**45.85**	**310**	*eP*	**P**	**18 32 28.8 +0.2**
	comp=Z,14nm,0.6s					
GKN	**Gorkha**	**46.45**	**310**	*eP*	**P**	**18 32 33.1 -0.2**
	comp=Z,22nm,0.5s					
KOLN	**Koldanda**	**47.13**	**309**	*eP*	**P**	**18 32 39.2 +0.6**
	comp=Z,53nm,0.7s					
ASAJ	**Asahikawa**	**47.21**	**19**	P	**P**	**18 32 39.1 +0.5**
	comp=Z,13nm,0.8s,baz=234,slow=9.5,SNR=5.7					
DANN	**Dangsing**	**47.30**	**310**	*eP*	**P**	**18 32 40.3 +0.3**
	comp=Z,71nm,0.7s					
PYUN	**Piuthan**	**47.77**	**309**	*eP*	**P**	**18 32 44.2 +0.7**
	comp=Z,83nm,0.8s					
KLR	**Kul'dur**	**49.64**	**7**	P	**P**	**18 32 55.8 -1.3**
	comp=Z,1.7nm,0.6s,baz=187,slow=6.4,SNR=8.1					
ULN	**Ulaanbaatar**	**49.82**	**346**	P	**P**	**18 32 58.8 0.0**
ULN				IAmb	IAmb	18 32 59.8
	comp=Z,4.7nm,0.6s					
SONM	**Songino Array**	**49.96**	**345**	P	**P**	**18 32 58.5 -1.2**
	comp=Z,4.5nm,0.7s,baz=161,slow=8.9,SNR=38					
SONM				PcP	**PcP**	**18 34 16.5 -1.2**
	comp=Z,0.3nm,0.6s,baz=175,slow=3.2,SNR=3.6					
SONM	**Songino Array**	**49.96**	**345**	P	**P**	**18 32 59.1 -0.6**
WMQ	**Urumqi**	**54.06**	**329**	*eP*	**P**	**18 33 32.3 +2.2**
KSH	**Kashi**	**58.49**	**318**	P	**P**	**18 34 02.0 +0.3**
KSH				pmax	pmax	
	comp=Z,3.0nm,0.6s					
MK31	**Makanchi Array**	**58.88**	**328**	P	**P**	**18 34 02.8 -1.3**
MKAR	**Makanchi Array**	**58.88**	**328**	P	**P**	**18 34 03.0 -1.1**
	comp=Z,1.1nm,0.4s,baz=121,slow=8.9,SNR=26					
MKAR				pP	**pP**	**18 34 38.9 -0.8**
	comp=Z,0.3nm,0.4s,baz=130,slow=8.7,SNR=2.1					
MKAR				PcP	**PcP**	**18 34 50.4 -1.5**
	comp=Z,1.1nm,0.5s,baz=161,slow=3.2,SNR=10.0					
MAKZ	**Makanchi**	**59.06**	**328**	P	**P**	**18 34 03.7 -1.6**
KDJ	**Kajisay**	**59.08**	**321**	P	**P**	**18 34 04.1 -1.7**
PETK	**Petropavlovsk-**	**60.20**	**23**	P	**P**	**18 34 13.1 +0.1**
	comp=Z,3.8nm,0.7s,baz=158,slow=5.3,SNR=2.7					
YAK	**Yakutsk**	**62.13**	**3**	P	**P**	**18 34 24.5 -1.2**
	comp=Z,9.2nm,0.7s,baz=258,slow=0.6,SNR=18					
YAK	**Yakutsk**	**62.13**	**3**	P	**P**	**18 34 25.5 -0.2**
ZALV	**Zalesovo Beam**	**62.54**	**335**	P	**P**	**18 34 27.2 -1.5**
	comp=Z,1.3nm,0.4s,baz=118,slow=5.5,SNR=7.7					
MA2	**Magadan**	**63.20**	**15**	P	**P**	**18 34 33.4 +0.5**
KURK	**Kurchatov**	**63.24**	**330**	P	**P**	**18 34 31.9 -1.4**
KURK				IAmb	IAmb	18 34 32.6
	comp=Z,3.1nm,0.7s					
TIXI	**Tiksi**	**71.69**	**2**	P	**P**	**18 35 24.2 -1.8**
	comp=Z,2.9nm,0.5s,baz=268,slow=22,SNR=27					
TIXI	**Tiksi**	**71.69**	**2**	P	**P**	**18 35 24.5 -1.6**
TIXI				IAmb	IAmb	18 35 25.8
	comp=Z,5.9nm,0.8s					
NRIK	**Noril'sk**	**73.35**	**347**	P	**P**	**18 35 33.3 -2.6**
	comp=Z,3.4nm,0.6s,baz=118,slow=6.2,SNR=6.0					
KDAK	**Kodiak Island**	**86.86**	**32**	P	**P**	**18 36 48.8 +0.3**
	comp=Z,3.1nm,0.7s,baz=270,slow=2.0,SNR=4.7					
BRTR	**Keskin Array B**	**89.86**	**310**	P	**P**	**18 37 00.6 -2.7**
	comp=Z,0.3nm,0.7s,baz=113,slow=3.3,SNR=2.7					
ILAR	**Eielson Array**	**89.95**	**25**	P	**P**	**18 37 00.6 -2.4**
	comp=Z,0.3nm,0.6s,baz=242,slow=5.4,SNR=9.3					
FINES	**FINESS Array B**	**93.57**	**331**	P	**P**	**18 37 16.8 -2.9**
	comp=Z,2.5nm,1.1s,baz=57,slow=5.3,SNR=2.2					
YKA	**Yellowknife Ar**	**104.31**	**24**	PKiKP	**PKiKP**	**18 42 22.1 -1.6**
	comp=Z,0.1nm,0.4s,baz=297,slow=1.4,SNR=2.0					
YKA				PKKPbc	**PKKPbc**	**18 53 53.2 -4.1**
	comp=Z,0.1nm,0.5s,baz=124,slow=3.6,SNR=4.9					
NVAR	**Mina Array Bea**	**111.91**	**48**	PKiKP	**PKiKP**	**18 42 40.1 +1.1**
	comp=Z,0.6nm,0.9s,baz=241,slow=1.9,SNR=2.1					
TORD	**Torodi Ar. Bea**	**120.81**	**285**	PKP	**PKPdf**	**18 42 55.2 -1.2**
	comp=Z,0.5nm,0.5s,baz=96,slow=1.9,SNR=7.9					
TORD				pPKP	**pPKPdf**	**18 43 38.2 +2.5**
	comp=Z,0.4nm,1.1s,baz=48,slow=2.1,SNR=1.8					
TXAR	**Lajitas Array**	**126.55**	**53**	PKP	**PKiKP**	**18 43 08.1 +0.4**
	comp=Z,0.3nm,0.7s,baz=204,slow=2.7,SNR=4.5					
TXAR				pPKP	**pPKPdf**	**18 43 47.8 +1.7**
	comp=Z,0.2nm,0.7s,baz=48,slow=1.9,SNR=2.2					

*IDC **17** 18:41:13.1±1.6,9.°21S×123.°35E,h133km±21km, mb3.3/2, mb1 2.9/5,mb1mx2.6/35,mbtmp3.3/5, Error ellipse: s-maj=129.7km s-min=29.2km az=59.0*

ISC 17 18:41:11.1±1.3,9.°0S±0.°1×124.°1E±0.°2,h100km,n6, σ3°72/9,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.30**	**199**	P	**Pn**	**18 41 36.2**	**+1.3**
	10nm,0.3s,baz=20,slow=2.6,SNR=1.7						
BATI				S	**Sn**	**18 41 55.0**	**+2.1**
	35nm,0.3s,baz=58,slow=2.6,SNR=3.5						
FITZ	**Fitzroy Crossi**	**9.20**	**171**	P	**Pn**	**18 43 20.2**	**-0.6**
	0.2nm,0.3s,baz=357,slow=11,SNR=2.1						
FITZ				S	**Sn**	**18 44 57.1**	**-5.5**
	0.9nm,0.3s,baz=183,slow=6.1,SNR=12						
WRA	**Warramunga Arr**	**14.74**	**139**	P	**Pn**	**18 44 39.4**	**+4.8**
	0.1nm,0.3s,baz=319,slow=12,SNR=1.2						
WRA				S	Sn	18 47 13.8	-3.5
	0.2nm,0.3s,baz=315,slow=24,SNR=5.8						
ASAR	**Alice Springs**	**17.37**	**148**	P	**P**	**18 45 09.8**	**+2.7**
	0.0nm,0.3s,baz=322,slow=12,SNR=1.8						
ASAR				S	**Sn**	**18 48 18.7**	**-2.0**
	0.1nm,0.3s,baz=311,slow=21,SNR=5.7						
MKAR	**Makanchi Array**	**66.83**	**330**	P	**P**	**18 51 50.4**	**-1.8**
	0.5nm,0.7s,baz=125,slow=7.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**70.91**	**337**	P	**P**	**18 52 14.3**	**-2.9**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=2.5						

ATH 17 18:41:16.4,38.°87N×21.°16E,h15km±3km,ML1.2/2,Error ellipse: s-maj=4.4km s-min=0.9km az=354.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYDR	**Nydri-Lefkada**	**0.39**	**247**	P	Pg	18 41 23.4	-0.8
NYDR				S	Sg	18 41 29.8	+0.2
TSLK	**Tsoukalades, L**	**0.39**	**264**	P	Pb	18 41 24.8	-0.2
TSLK				S	Sg	18 41 30.3	+0.5
LKD2	**Lefkada island**	**0.40**	**259**	P	Pg	18 41 23.9	-0.5
LKD2				S	Sb	18 41 30.4	-0.6
LKD2				AML	AML	18 41 35.6	
	comp=N,86μm,0.4s						
LKD2				AML	AML	18 41 36.1	
	comp=E,86μm,0.3s						
EVGI	**Lefkada island**	**0.46**	**238**	P	Pg	18 41 24.6	-1.0
EVGI				S	Sg	18 41 31.4	-0.4
FSK	**Fiskardo**	**0.62**	**229**	P	Pg	18 41 28.3	-0.2
FSK				S	Sb	18 41 37.2	0.0
ANX	**Ano Chora**	**0.66**	**114**	P	Pg	18 41 28.6	-0.7
ANX				S	Sb	18 41 38.6	0.0
ANX				AML	AML	18 41 41.3	
	comp=E,39μm,0.5s						
ANX				AML	AML	18 41 41.9	
	comp=N,52μm,0.5s						
EFP	**Efpalio**	**0.73**	**126**	P	Pg	18 41 30.3	-0.3
EFP				S	Sb	18 41 40.6	-0.1
RLS	**Riolos of Patr**	**0.84**	**163**	P	Pb	18 41 31.4	-1.3
LAKA	**Lakka**	**0.90**	**134**	P	Pb	18 41 33.2	-0.4
LAKA				S	Sg	18 41 45.9	+0.3
DRO	**Drossia**	**1.01**	**154**	P	Pb	18 41 34.6	-1.0

*TIR **17** 18:41:55.3,40.°50N×18.°86E,h20km±2km,Md3.1,Ml2.5*

ISC 17 18:41:55.3±1.3,40.°58N±0.°05×18.°78E±0.°03,h19km±4km, n14,σ1°32/25,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCTE	**Santa Cesarea**	**0.56**	**206**	P	**Pg**	**18 42 05.8**	**-0.7**
	baz=216						
SCTE				S	**Sb**	**18 42 14.1**	**+0.2**
	baz=216						
TIR	**Tirane**	**1.12**	**46**	P	**Pn**	**18 42 17.4**	**+1.5**
	baz=41						
TIR				S	**Sn**	**18 42 33.6**	**+2.8**
	baz=41						
TIR				AMP			
	comp=E,0.3nm,0.5s,baz=41						
SRN	**Sarande**	**1.16**	**126**	P	**Pb**	**18 42 16.0**	**-0.8**
	baz=124						
SRN				S	**Sb**	**18 42 30.9**	**-0.4**
	baz=124						
SRN				AMP			
	comp=N,0.5nm,0.6s,baz=124						
NOCI	**Noci**	**1.32**	**280**	P	**Pg**	**18 42 19.9**	**-1.0**
	baz=283						
NOCI				S	**Sg**	**18 42 41.1**	**+2.9**
	baz=283						
OHR	**Ohrid**	**1.62**	**70**	*i* Pn	**Pg**	**18 42 25.5**	**-1.0**
PHP	**Peshkopia**	**1.67**	**48**	P	**Pb**	**18 42 25.6**	**+0.2**
	baz=44						
PHP				S	**Sg**	**18 42 48.5**	**-0.7**
	baz=44						
DBRK	**Dubrovnik**	**2.14**	**347**	*e*Pn	**Pn**	**18 42 29.4**	**-0.6**
STON	**Ston**	**2.43**	**341**	*e*Pn	**Pn**	**18 42 33.5**	**-0.4**
STON				Sn	**Sn**	**18 43 04.3**	**+1.3**
RICI	**Ricice**	**3.16**	**338**	*e*Pn	**Pn**	**18 42 43.7**	**-0.3**
RICI				Sn	**Sn**	**18 43 21.0**	**-0.2**
KIJV	**Kijevo**	**3.85**	**334**	*e*Pn	**Pn**	**18 42 53.6**	**+0.2**
KIJV				Sn	**Sn**	**18 43 39.0**	**+0.9**
ZIRJ	**Zirje**	**3.86**	**324**	*e*Pn	**Pn**	**18 42 54.3**	**+0.7**
ZIRJ				Sn	**Sn**	**18 43 36.5**	**-1.8**
MORI	**Morici**	**4.00**	**326**	*e*Pn	**Pn**	**18 42 56.5**	**+1.0**
MORI				Sn	**Sn**	**18 43 40.5**	**-1.3**
VIRC	**Vir**	**4.62**	**325**	*e*Pn	**Pn**	**18 43 05.1**	**+1.1**
NVLJ	**Novalja**	**4.92**	**325**	*e*Pn	**Pn**	**18 43 07.8**	**-0.2**
NVLJ				Sn	**Sn**	**18 44 02.7**	**-1.7**

*IDC **17** 19:00:25.5±2.9,31.°43N×138.°93E,h134km±48km, mb2.8/4, mb1 3.0/7,mb1mx2.9/52,mbtmp3.4/7, Error ellipse:*

s-maj=80.9km s-min=15.7km az=72.0

*JMA **17** 19:00:30.3±0.6,31.°90N×139.°95E,h185km±4km,M4.1*

ISC 17 19:00:27.0±0.8,31.°71N±0.°06×140.°1E±0.°1,h200km,n21, σ1°58/27,mb2.9/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.41**	**352**	P	**Pn**	**19 01 00.3**	**+0.4**
JHJ	**Hachijo jima 2**	**1.42**	**351**	P	**Pn**	**19 00 59.6**	**-0.4**
	9.2nm,0.3s,baz=70,slow=22,SNR=11						
JHJ				S	**Sn**	**19 01 22.3**	**-3.6**
	32nm,0.3s,baz=2.0,slow=23,SNR=6.1						
BSO1	**Boso 1**	**3.04**	**15**	P	**Pn**	**19 01 17.8**	**+1.3**
BSO1				*e*S	**Sn**	**19 01 55.3**	**-0.1**
BSO3	**Boso 3**	**3.11**	**7**	P	**Pn**	**19 01 18.4**	**+0.8**
BSO3				S	**Sn**	**19 01 54.6**	**-2.8**
BSO4	**Boso 4**	**3.28**	**4**	P	**Pn**	**19 01 20.8**	**+1.0**
BSO4				S	**Sn**	**19 02 00.3**	**-1.1**
JOD2	**Odawara 2**	**3.63**	**347**	P	**Pn**	**19 01 25.2**	**+0.9**
JOD2				*e*S	**Sn**	**19 02 08.0**	**-1.3**
HMMJ	**Hamamatsu 2**	**3.69**	**329**	P	**Pn**	**19 01 25.2**	**+0.2**
JIE	**Ise**	**3.88**	**315**	P	**Pn**	**19 01 27.3**	**+0.1**
JAO	**Obara**	**4.25**	**327**	P	**Pn**	**19 01 32.6**	**+0.7**
JRY	**Ryogami san**	**4.40**	**348**	P	**Pn**	**19 01 34.5**	**+0.7**
JYT	**Yasato**	**4.51**	**1**	P	**Pn**	**19 01 34.3**	**-0.8**
JAG	**Ashikaga**	**4.73**	**354**	P	**Pn**	**19 01 37.1**	**-0.8**
CBIJ	**Chichi jima**	**4.96**	**157**	P	**Pn**	**19 01 40.6**	**-0.4**
JCJ	**Chichijima**	**4.96**	**157**	P	**Pn**	**19 01 40.4**	**-0.6**
	8.6nm,0.3s,baz=12,slow=18,SNR=24						
JCJ				S	**Sn**	**19 02 35.6**	**-3.6**
	3.2nm,0.3s,baz=70,slow=23,SNR=0.9						
MJAR	**Matsushiro Arr**	**5.06**	**343**	P	**Pn**	**19 01 40.1**	**-2.0**
	0.3nm,0.3s,baz=142,slow=19,SNR=9.6						
ASAJ	**Asahikawa**	**12.55**	**8**	P	**Pn**	**19 03 19.2**	**+0.5**
	0.4nm,0.3s,baz=2.8,slow=22,SNR=1.1						
KLR	**Kul'dur**	**18.59**	**343**	P	**Pn**	**19 04 31.4**	**-0.3**
	0.2nm,0.3s,baz=127,slow=11,SNR=5.1						
SONM	**Songino Array**	**30.17**	**312**	P	**P**	**19 06 19.4**	**+0.9**
	0.2nm,0.4s,baz=106,slow=6.2,SNR=2.3						
MKAR	**Makanchi Array**	**46.18**	**306**	P	**P**	**19 08 31.2**	**-0.5**
	0.4nm,0.6s,baz=88,slow=9.3,SNR=5.0						
WRA	**Warramunga Arr**	**51.65**	**187**	P	**P**	**19 09 15.8**	**+2.4**
	0.1nm,0.5s,baz=2.4,slow=7.6,SNR=1.5						
ASAR	**Alice Springs**	**55.38**	**187**	P	**P**	**19 09 42.7**	**+2.2**
	0.1nm,0.6s,baz=353,slow=6.7,SNR=4.7						

*NEIC **17** 19:00:33.5±2.3,9.°23N±0.°07×80.°64W±0.°05,h10km±1km, mb4.4/20, Error ellipse: s-maj=12.0km s-min=8.0km az=184.0*

*IDC **17** 19:00:36.1±1.0,9.°06N×80.°74W,h51km±6km,mb3.6/10, mb1 4.0/13,mb1mx3.8/39,mbtmp4.0/13,MS3.3/9, Ms1 3.3/9,ms1mx2.9/61, Error ellipse: s-maj=28.7km s-min=12.8km az=16.0*

*UPA **17** 19:00:36.3±0.8,9.°19N×80.°68W,h42km±4km,MW4.2*

*INET **17** 19:00:37.6±1.4,9.°43N×80.°74W,h15km±9km,MW3.5*

ISC 17 19:00:36.0±0.6,9.°21N±0.°04×80.°65W±0.°02,h44km±5km, n153,σ1°19/186,mb4.1/15,MS3.3/4,19C-7D,Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNME	**Penonome**	**0.79**	**156**	*e*P	**Pn**	**19 00 50.1**	**-0.6**
PNME	**Penonome**	**0.79**	**156**	⇓*i*P	**Pn**	**19 00 50.6**	**-0.1**
PNME				*e*S	**Sn**	**19 01 01.1**	**-0.3**
MLIR	**Monte Lirio**	**0.79**	**87**	⇓*i*P	**Pn**	**19 00 51.5**	**+0.8**
MLIR				*e*S	**Sn**	**19 01 01.4**	**-0.1**
VTON	**El Valle, Cocl**	**0.80**	**138**	⇓*i*P	**Pn**	**19 00 51.0**	**+0.1**
VTON				*e*S	**Sn**	**19 01 01.8**	**+0.1**
SAFE3	**Santa Fe, Vera**	**0.80**	**211**	⇑*i*P	**Pn**	**19 00 50.7**	**-0.2**
SAFE3				*e*S	**Sn**	**19 01 01.1**	**-0.7**
BCIP	**Isla Barro Col**	**0.81**	**93**		**Pn**	**19 00 51.4**	**+0.4**
BCIP				Sn	**Sn**	**19 01 02.0**	**+0.2**
BCIP	**Isla Barro Col**	**0.81**	**93**	⇓*e*P	**Pn**	**19 00 51.6**	**+0.6**
BCIP				*e*S	**Sn**	**19 01 02.2**	**+0.4**
BCIP				*i*		19 01 03.6	
	comp=Z,15μm,0.3s						
BCIP	**Isla Barro Col**	**0.81**	**93**	⇓*i*P	**Pn**	**19 00 51.6**	**+0.6**
BCIP				*e*S		**19 01 02.3**	**+0.4**
ZANG	**Zanguen

JTS	Las Juntas de	4.37	285	*eP*		Pn	19 01 39.0	-0.9
JTS	Las Juntas de	4.37	285	⇑*iP*		Pn	19 01 41.1	+1.2
JTS				*eS*		Sn	19 02 32.0	+2.4
ESPN	Las Esperanzas	4.65	310	Pn		Pn	19 01 43.7	-0.1
DUNO	Dulce Nombre,	4.85	281	Pn		Pn	19 01 48.4	+1.9
DBBC	Dabeiba	4.91	116	*eP*		Pn	19 01 48.6	+1.3
ACON	Acoyapa	5.22	302			Pn	19 01 51.8	+0.2
UREC	San Jos de Ur	5.27	106	*eP*		Pn	19 01 50.6	-1.7
SJCC	San Jacinto, C	5.44	82	Pn		Pn	19 01 55.7	+1.1
SJCC	San Jacinto, C	5.44	82	*eP*		Pn	19 01 56.3	+1.6
SJCC	San Jacinto, C	5.44	82	*i P*		Pn	19 01 55.8	+1.1
SJCC				*eS*		Sn	19 02 53.7	-2.5
CBOC	Ciudad Bolivar	5.67	125	*eP*		Pn	19 01 58.2	+0.3
BOAB	BOACO BROADBAN	5.88	304	Pn		Pn	19 02 01.0	+0.3
HELC	Santa Helena	5.90	120	*eP*		Pn	19 02 00.2	-1.0
HELC	Santa Helena	5.90	120	⇑*iP*		Pn	19 02 01.7	+0.5
HELC				*eS*		Sn	19 03 08.7	+1.0
ZARC	Zaragoza, Cauc	5.98	106	Pn		Pn	19 02 02.4	+0.4
ZARC	Zaragoza, Cauc	5.98	106	*eP*		Pn	19 02 01.1	-0.9
PLMC	San Jos del P	6.09	134	*eP*		Pn	19 02 02.1	-1.5
MATN	Matagalpa	6.36	306	Pn		Pn	19 02 07.7	+0.3
GUY2C	Guyana, Caldas	6.57	127	*eP*		Pn	19 02 10.7	+0.2
PTBC	PUERTO BERRIO,	6.69	113	*eP*		Pn	19 02 11.7	-0.1
YOTC	Yotoco, Valle	6.73	140	*eP*		Pn	19 02 07.8	-4.5
CNGN	Cerro Negro	6.78	299	Pn		Pn	19 02 13.6	+0.6
NORC	Norcasia	6.78	122	*eP*		Pn	19 02 13.6	+0.5
LL6C	La Loma 6 Bece	7.30	85	*eP*		Pn	19 02 21.3	+1.1
OCAC	Ocana	7.31	97			Pn	19 02 19.8	-0.7
OCAC	Ocana	7.31	97	*eP*		Pn	19 02 19.4	-1.1
SPBC	San Pablo de B	7.42	118	*eP*		Pn	19 02 20.3	-1.6
ROSC	El Rosal	7.64	124	P		Pn	19 02 27.0	+1.9
	comp=Z,5.3nm,0.3s,baz=61,slow=13,SNR=6.8							
ROSC				LR		LR	19 05 48.7	
	comp=Z,357nm,18.7s,baz=238,slow=41							
POPC	Popayan, Colom	7.71	149	*eP*		Pn	19 02 27.0	+1.0
MARP	Paez Belalcaza	7.86	143	*eP*		Pn	19 02 28.9	+0.9
PCON	Cinco Dias	8.04	148	*eP*		Pn	19 02 34.7	+3.9
PAMC	Pamplona, Colo	8.09	103	*eP*		Pn	19 02 31.8	+0.5
SOTA	Rioblanco	8.10	150	*eP*		Pn	19 02 32.8	+1.3
RUSC	La Rusia	8.20	113	*eP*		Pn	19 02 32.8	-0.1
VILC	Villavicencio,	8.57	126	*eP*		Pn	19 02 38.5	+0.9
URIC	Uribia, Colomb	8.87	73			Pn	19 02 41.7	0.0
MTDJ	Mount Denham	9.46	18	Pn		Pn	19 02 50.2	+0.4
SOCV	Socops	9.73	95	*eP*		Pn	19 02 52.0	-1.5
SDV	Santo Domingo	9.90	91	P		Pn	19 02 56.4	+0.4
	comp=Z,4.9nm,0.3s,baz=275,slow=7.1,SNR=32							
SDV				S		Sn	19 04 40.8	-5.2
	comp=Z,8.9nm,0.3s,baz=99,slow=24,SNR=8.6							
SDV				LR		LR	19 07 47.2	
	comp=Z,90nm,20.5s,baz=284,slow=43							
SDV	Santo Domingo	9.90	91	Pn		Pn	19 02 56.2	+0.2
GTBY	Guantanamo Bay	11.93	26	Pn		Pn	19 03 24.1	+0.6
JAKH	Jacmel	11.96	40			Pn	19 03 23.8	-0.1
BAUV	El Baul	12.46	90	Pn		Pn	19 03 28.6	-2.2
SDDR	Presa de Saban	13.29	42	Pn		Pn	19 03 43.1	+0.8
BIRV	Birongo	14.23	84	Pn		Pn	19 03 53.8	-1.2
DR12	Loma Pena Alta	14.49	48			Pn	19 03 56.0	-2.5
CMIG	Matias Romero	15.91	301	LR		LR	19 10 34.0	
	comp=Z,145nm,21.9s,baz=173,slow=38							
CELP	Cerrillos	16.26	56	Pn		Pn	19 04 20.1	-1.3
SJG	San Juan	16.63	56	P		P	19 04 27.5	-0.5
	comp=Z,0.8nm,0.3s,baz=337,slow=18,SNR=1.6							
SJG				LR		LR	19 10 46.9	
	comp=Z,39nm,19.3s,baz=278,slow=36							
MTP	Monte Pirata	17.12	57	Pn		Pn	19 04 31.5	-0.7
Y49A	Blount Mountai	25.10	349	P		P	19 05 58.9	+2.3
MDP	Montagnes des	28.08	96	LR		LR	19 18 24.0	
	comp=Z,102nm,20.4s,baz=289,slow=38							
LPAZ	La Paz	28.20	154	LR		LR	19 18 06.1	
	comp=Z,76nm,21.6s,baz=359,slow=37							
TXAR	Lajitas Array	29.43	316	P		P	19 06 35.2	-0.5
	comp=Z,0.6nm,0.9s,baz=126,slow=6.4,SNR=4.6							
CCM	Cathedral Cave	30.27	343	P		P	19 06 43.9	+1.1
CCM				IAmb		IAmb	19 06 58.2	
	comp=Z,13nm,1.5s							
SIV	San Ignacio	31.67	142	LR		LR	19 20 10.0	
	comp=Z,120nm,20.0s,baz=300,slow=37							
ANMO	Albuquerque	34.83	321	LR		LR	19 23 17.2	
	comp=Z,25nm,20.6s,baz=202,slow=39							
SDCO	Great Sand Dun	36.19	326	P		P	19 07 36.8	+2.0
PV13	Radium Mtn., P	38.38	323	P		P	19 07 55.0	+1.6
PDAR	Pinedale Array	41.93	328	P		P	19 08 23.3	+0.7
	comp=Z,1.0nm,0.8s,baz=126,slow=12,SNR=12							
PDAR	Pinedale Array	41.93	328	P		P	19 08 21.9	-0.7
REDW	Red Top Meadow	43.02	327	P		P	19 08 32.5	+1.0
REDW				IAmb		IAmb	19 08 48.9	
	comp=Z,11nm,1.5s							
NVAR	Mina Array Bea	44.58	317	P		P	19 08 44.9	+0.8
	comp=Z,0.9nm,0.6s,baz=127,slow=6.9,SNR=9.4							
NVAR	Mina Array Bea	44.58	317	P		P	19 08 45.2	+1.1
LRM	Limekiln Ridge	45.54	329	P		P	19 08 52.5	+0.9
SCHQ	Schefferville	46.82	11	P		P	19 09 01.9	+0.6
	comp=Z,5.3nm,0.8s,baz=210,slow=3.7,SNR=7.0							
SCHQ	Schefferville	46.82	11	P		P	19 09 02.6	+1.4
SCHQ				IAmb		IAmb	19 09 03.5	
	comp=Z,4.1nm,0.7s							
YKA	Yellowknife Ar	58.60	342	P		P	19 10 27.8	-0.3
	comp=Z,1.5nm,0.7s,baz=134,slow=7.3,SNR=39							
YKA				pP		pP	19 10 42.7	+2.2
	comp=Z,1.0nm,0.8s,baz=132,slow=7.6,SNR=8.4							
RES	Resolute Bay	65.95	356	P		P	19 11 16.4	-0.7
	comp=Z,0.8nm,0.7s,baz=180,slow=9.2,SNR=4.5							
INK	Inuvik	68.34	341	P		P	19 11 32.6	+0.2
	comp=Z,1.3nm,0.6s,baz=73,slow=4.6,SNR=11							
INK				pP		sP	19 11 47.4	-2.4
	comp=Z,1.8nm,1.1s,baz=144,slow=8.7,SNR=3.2							
INK	Inuvik	68.34	341	P		P	19 11 32.6	+0.2
INK				IAmb		IAmb	19 11 33.9	
	comp=Z,2.1nm,0.8s							
BCAR	Beaver Creek A	68.99	335	P		P	19 11 37.9	+1.3
J25K	Salcha River,	71.02	336	P		P	19 11 49.7	+0.6
J25K				IAmb		IAmb	19 11 50.7	
	comp=Z,2.2nm,1.0s							
BMAR	Burnt Mountain	71.69	339	P		P	19 11 53.8	+0.8
ILAR	Eielson Array	71.69	336	P		P	19 11 53.0	-0.1
	comp=Z,0.7nm,0.8s,baz=106,slow=4.4,SNR=7.4							
ILAR	Eielson Array	71.69	336	P		P	19 11 53.4	+0.4
RND	Reindeer	72.12	334	P		P	19 11 56.9	+1.1
TRF	Thorofare Moun	72.76	334	P		P	19 11 60.0	+0.3
KTH	Kantishna Hill	73.06	334	P		P	19 12 01.7	+0.3
BPAW	Bear Paw Mtn.	73.22	334	P		P	19 12 02.4	+0.2
BPAW				IAmb		IAmb	19 12 03.8	
	comp=Z,4.4nm,0.8s							
PPLA	Purkeypile	73.47	333	P		P	19 12 04.1	+0.2
ESDC	Sonseca Array	73.95	51	P		P	19 12 07.8	+0.8
	comp=Z,1.9nm,0.9s,baz=274,slow=6.0,SNR=11							
ESDC	Sonseca Array	73.95	51	P		P	19 12 08.6	+1.6
O18K	Koktuh Hills	74.34	330	P		P	19 12 08.8	0.0
O18K				IAmb		IAmb	19 12 09.3	
	comp=Z,5.3nm,0.8s							
IMAR	Indian Mountai	74.78	336	P		P	19 12 10.8	-0.4
TORD	Torodi Ar. Bea	80.56	78	P		P	19 12 44.2	-0.2
	comp=Z,0.2nm,0.4s,baz=280,slow=6.3,SNR=2.5							
MKAR	Makanchi Array	122.21	14	PKP		PKPdf	19 19 24.6	-1.7
	comp=Z,0.1nm,0.4s,baz=336,slow=2.1,SNR=1.1							
SONM	Songino Array	122.87	354	PKP		PKPdf	19 19 26.6	-1.1
	comp=Z,0.2nm,0.5s,baz=32,slow=0.4,SNR=2.8							
HHC	Hu-ho-hao-te	128.93	348	*eP*		PKPdf	19 19 35.9	-3.6
ASAR	Alice Springs	143.99	242	PKP		PKPab	19 20 04.8	-0.1
	comp=Z,2.0nm,0.8s,baz=114,slow=3.9,SNR=24							
WRA	Warramunga Arr	144.57	249	PKP		PKPab	19 20 07.3	+0.1
	comp=Z,2.7nm,0.9s,baz=92,slow=3.0,SNR=16							
CMAR	Chiang Mai Arr	152.51	1	PKPbc		PKPbc	19 20 28.1	-0.3
	comp=Z,1.7nm,0.5s,baz=322,slow=3.2,SNR=16							
CMAR				pPKPbc		pPKPbc	19 20 42.5	+0.5
	comp=Z,1.2nm,0.7s,baz=326,slow=2.8,SNR=5.3							
FITZ	Fitzroy Crossi	153.00	248	PKPbc		PKPbc	19 20 28.6	-1.0
	comp=Z,1.0nm,0.8s,baz=304,slow=3.6,SNR=2.0							

*MDD **17** 19:07:22.2±0.9, 35˚.63N×2˚.37W, h57km±20km, Mb2.8/9, M_mb1.8/10, Error ellipse: s-maj=5.4km s-min=4.7km az=17.0*

*CNRM **17** 19:07:22.3, 35˚.45N×2˚.56W, h80km, ml1.8*

ISC 17 19:07:21.9±1.3, **35˚.67N**±0˚.03×**2˚.35W**±0˚.05, **h35**km, **n12,** σ1**90**/23, **8C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.61**	**296**	Pg	**Pn**	**19 07 35.2**	**+1.1**
EALB				⇑*iVmb_V*		19 07 36.6	
	737nm,SNR=2.7						
EALB				Sg	**Sn**	**19 07 44.6**	**+1.7**
EMEL	**Melilla**	**0.62**	**233**	Pg	**Pn**	**19 07 34.6**	**+0.4**
EMEL				Sg	**Sn**	**19 07 43.2**	**+0.3**
GOG	**Mont Gurugu**	**0.69**	**230**	P	**Pn**	**19 07 35.0**	**-0.3**
GOG				S	**Sn**	**19 07 46.2**	**+1.4**
TAF	**Taforalt**	**0.86**	**183**	P	**Pn**	**19 07 37.6**	**0.0**
TAF				S	**Sn**	**19 07 49.5**	**+0.6**
EBER	**Berja**	**1.30**	**341**	Pn	**Pn**	**19 07 44.6**	**+0.8**
EBER				⇑*iVmb_V*		19 07 45.3	
	152nm,SNR=1.1						
EBER				Sn	**Sn**	**19 07 59.7**	**-0.3**
ENIJ	**Nijar**	**1.30**	**5**	Pn	**Pn**	**19 07 44.6**	**+0.9**
ENIJ				⇑*iVmb_V*		19 07 45.4	
	136nm,SNR=1.1						
ENIJ				Sn	**Sn**	**19 07 59.7**	**-0.1**
JBK	**JBK**	**1.35**	**188**	P	**Pn**	**19 07 44.5**	**+0.1**
JBK				S	**Sn**	**19 07 59.9**	**-1.3**
ELGU	**Los Guajares,**	**1.58**	**320**	Pn	**Pn**	**19 07 47.7**	**+0.2**
ELGU				⇑*iVmb_V*		19 07 48.7	
	110nm,SNR=1.5						
ELGU				Sn	**Sn**	**19 08 05.0**	**-1.6**
EGOR	**Sierra Gorda,**	**2.02**	**316**	⇑*iVmb_V*		19 07 55.3	
	30nm,SNR=0.6						
EGOR				Sn	**Sn**	**19 08 16.4**	**-1.2**
EMIJ	**Mijas**	**2.15**	**295**	Pn	**Pn**	**19 07 55.0**	**-0.3**
EMIJ				⇑*iVmb_V*		19 07 57.3	
	44nm,SNR=1.0						
EMIJ				Sn	**Sn**	**19 08 18.7**	**-2.1**
EMUR	**La Murta**	**2.34**	**22**	Pn	**Pn**	**19 07 58.6**	**+0.7**
EMUR				⇑*iVmb_V*		19 08 01.0	
	65nm,SNR=0.6						
EMUR				Sn	**Sn**	**19 08 24.6**	**-0.9**
ETOB	**Tobarra**	**3.03**	**12**	Pn	**Pn**	**19 08 07.7**	**+0.2**
ETOB				⇑*iVmb_V*		19 08 10.9	
	25nm,SNR=0.3						
ETOB				Sn	**Sn**	**19 08 42.2**	**-0.4**

*REY **17** 19:07:18.5, 62˚.41N×25˚.09W, h10km*

*IDC **17** 19:07:21.5±0.8, 62˚.75N×25˚.25W, h0km, mb3.6/13, mb1 3.8/15, mb1mx3.7/46, mbtmp3.6/15, ML3.9/2, MS3.5/31, Ms1 3.5/31, ms1mx3.3/84, Error ellipse: s-maj=25.3km s-min=15.6km az=27.0*

ISC 17 19:07:22.8±0.7, **62.73N**±0˚.07×**25˚.09W**±0˚.07, **h10**km, **n69,** σ1**65**/56, **mb3.6**/13, **MS3.5**/25, **Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**1.53**	**44**	S	**Sn**	**19 08 10.1**	**0.0**
IRNE	baz=36			P	**Pn**	**19 07 47.1**	**-3.0**
	baz=36						
INYL	**Nylenda**	**1.63**	**39**	P	**Pn**	**19 07 49.4**	**-2.2**
INYL	baz=33			S	**Sb**	**19 08 13.6**	**-0.1**
	baz=33						
IGRV	**Grindav??k**	**1.64**	**45**	P	**Pn**	**19 07 49.5**	**-2.1**
IGRV	baz=38			S	**Sn**	**19 08 12.7**	**0.0**
	baz=38						
IVOG	**Vogar**	**1.73**	**43**	P	**Pn**	**19 07 51.2**	**-1.8**
IVOG	baz=37			S	**Sb**	**19 08 16.9**	**+0.4**
	baz=37						
IKRI	**Krysuvik**	**1.78**	**48**	S	**Sn**	**19 08 16.3**	**+0.1**
IKRI	baz=42			P	**Pn**	**19 07 51.3**	**-2.3**
	baz=42						
IKAS	**Kald??rsel**	**1.95**	**47**	P	**Pn**	**19 07 54.0**	**-1.9**
IKAS	baz=41			S	**Sb**	**19 08 22.2**	**-0.5**
	baz=41						
ISAN	**Sandskeio**	**2.06**	**48**	P	**Pn**	**19 07 55.4**	**-2.1**
ISAN	baz=42			S	**Sn**	**19 08 24.6**	**+1.3**
	baz=42						
IBJA	**Bjarnastaoir**	**2.10**	**53**	P	**Pn**	**19 07 55.6**	**-2.3**
ISOL	**Solvholt**	**2.22**	**55**	P	**Pn**	**19 07 57.0**	**-2.6**
	baz=49						
IKRO	**Krokur**	**2.25**	**51**	P	**Pn**	**19 07 57.9**	**-2.1**
	baz=45						
IASM	**Asmuli**	**2.30**	**59**	P	**Pn**	**19 07 58.4**	**-2.4**
	baz=53						
ISAU	**Saurbar**	**2.45**	**57**	P	**Pn**	**19 08 00.4**	**-2.4**
	baz=51						
IMID	**Miomork**	**2.53**	**66**	P	**Pn**	**19 08 01.2**	**-2.7**
	baz=60						
IHAU	**Haukadalur**	**2.62**	**59**	P	**Pn**	**19 08 02.8**	**-2.4**
	baz=54						
BORG	**Borgarnes**	**2.62**	**38**	Pn	**Pn**	**19 08 04.3**	**-0.9**
	69nm,0.3s,baz=238,slow=6.5,SNR=258						
BORG				Sn	**Sb**	**19 08 42.0**	**0.0**
	6.6nm,0.3s,baz=253,slow=23,SNR=1.6						
BORG				LR	LR	19 08 50.5	
	comp=Z,77nm,20.9s,baz=187,slow=34						
IASB	**`sbjarnarst**	**2.62**	**38**	P	**Pn**	**19 08 04.3**	**-0.9**
	baz=34						
IGYG	**Gygjarholskot**	**2.68**	**52**	P	**Pn**	**19 08 04.3**	**-1.6**
	baz=47						
IMJO	**Mjoaskard**	**2.72**	**61**	P	**Pn**	**19 08 04.5**	**-2.1**
	baz=56						
IFED	**Fedgar**	**2.75**	**60**	P	**Pn**	**19 08 05.1**	**-1.9**
	baz=54						
IGOD	**Go??abunga**	**2.77**	**68**	P	**Pn**	**19 08 04.5**	**-2.9**
	baz=62						
IALF	**Alftagrof**	**2.79**	**72**	P	**Pn**	**19 08 04.0**	**-3.4**
	baz=65						
ISLY	**Slysaalda**	**2.91**	**65**	P	**Pn**	**19 08 07.2**	**-1.9**
	baz=60						
IHVO	**Lagu-Hvolar**	**2.94**	**72**	P	**Pn**	**19 08 07.1**	**-2.5**
	baz=66						
ISNB	**Snabyli**	**3.09**	**68**	P	**Pn**	**19 08 09.4**	**-2.2**
	baz=63						
IVAT	**Vatnsfell**	**3.13**	**59**	P	**Pn**	**19 08 10.8**	**-1.4**
	baz=55						
ISTE	**Stelbrattur**	**3.22**	**46**	P	**Pn**	**19 08 13.2**	**-0.3**
	baz=42						
IIEY	**Innrieyrar**	**3.42**	**63**	P	**Pn**	**19 08 14.9**	**-1.2**
	baz=59						
ISKR	**Skrokkalda**	**3.50**	**56**	P	**Pn**	**19 08 16.9**	**-0.5**
	baz=51						
IHUS	**Husbondi**	**3.68**	**62**	P	**Pn**	**19 08 19.0**	**-0.8**
	baz=57						
IVON	**Vonarskard**	**3.80**	**56**	P	**Pn**	**19 08 20.9**	**-0.5**
	baz=52						
IDYN	**Dyngjuhals**	**4.00**	**56**	P	**Pn**	**19 08 23.6**	**-0.6**
	baz=52						
JMIC	**Jan Mayen**	**10.49**	**31**	LR	LR	19 13 08.5	
	comp=Z,62nm,21.0s,baz=271,slow=33						
SFJD	**Kangerlussuaq**	**11.61**	**303**	LR	LR	19 13 51.2	
	comp=Z,307nm,20.3s,baz=93,slow=34						
EKA	**Eskdalemuir Ar**	**13.45**	**113**	Pn	**Pn**	**19 10 34.1**	**+0.6**
	baz=315,slow=12,SNR=2.9						
EKA				LR	LR	19 14 60.0	
	comp=Z,224nm,19.1s,baz=343,slow=34						
NOA	**NORSAR Array B**	**17.05**	**79**	LR	LR	19 17 05.5	
	comp=Z,73nm,21.0s,baz=305,slow=34						
HFS	**Hagfors**	**18.53**	**81**	LR	LR	19 17 48.3	
	comp=Z,106nm,19.3s,baz=279,slow=34						
FRB	**Frobisher Bay**	**19.32**	**292**	LR	LR	19 18 29.3	
	comp=Z,227nm,19.1s,baz=82,slow=35						
ARCES	**ARCESS Array B**	**20.97**	**49**	LR	LR	19 18 06.1	
	comp=Z,67nm,20.4s,baz=38,slow=31						
SCHQ	**Schefferville**	**22.66**	**269**	LR	LR	19 20 08.0	
	comp=Z,124nm,18.2s,baz=202,slow=34						
FINES	**FINESS Array B**	**23.48**	**70**	LR	LR	19 20 07.7	
	comp=Z,45nm,20.3s,baz=40,slow=32						
DAVOX	**Davos/Dischmat**	**25.29**	**113**	LR	LR	19 21 51.3	
	comp=Z,47nm,21.4s,baz=268,slow=34						
GERES	**GERESS Array B**	**25.37**	**105**	P	**P**	**19 12 50.4**	**+0.5**
	0.2nm,0.5s,baz=319,slow=11,SNR=1.4						
GERES				LR	LR	19 22 49.3	
	comp=Z,83nm,20.8s,baz=335,slow=36						
RES	**Resolute Bay**	**26.11**	**325**	LR	LR	19 22 34.2	
	comp=Z,64nm,21.5s,baz=76,slow=35						
VRAC	**Vranov**	**26.33**	**101**	LR	LR	19 24 05.9	
	comp=Z,80nm,18.1s,baz=340,slow=38						
ESDC	**Sonseca Array**	**26.36**	**141**	P	**P**	**19 12 58.9**	**0.0**
	0.4nm,0.3s,baz=343,slow=8.2,SNR=2.4						
ESDC				LR	LR	19 21 59.9	
	comp=Z,58nm,21.2s,baz=18,slow=33						
MLR	**Muntele Rosu**	**33.42**	**97**	LR	LR	19 30 04.9	
	comp=Z,55nm,18.3s,baz=30,slow=41						
KEST	**Kesra**	**34.40**	**125**	LR	LR	19 27 35.4	
	comp=Z,74nm,18.8s,baz=351,slow=35						
KIRV	**Kirov**	**34.86**	**62**	LR	LR	19 27 43.2	
	comp=Z,86nm,19.3s,baz=41,slow=35						
VAE	**Valguarnera**	**34.86**	**118**	LR	LR	19 27 14.9	
	comp=Z,62nm,18.7s,baz=2.0,slow=34						
SADO	**Sadowa**	**35.36**	**265**	LR	LR	19 27 02.9	
	comp=Z,103nm,18.1s,baz=124,slow=34						
YKA	**Yellowknife Ar**	**38.01**	**311**	P	**P**	**19 14 40.0**	**-0.5**
	0.6nm,0.8s,baz=47,slow=8.7,SNR=11						
YKA				PcP	**PcP**	**19 16 55.7**	**+0.1**
	0.4nm,0.8s,baz=38,slow=3.2,SNR=8.5						
YKA				LR	LR	19 29 29.4	
	comp=Z,120nm,18.1s,baz=340,slow=35						
ULM	**Lac du Bonnet**	**38.94**	**285**	LR	LR	19 29 02.2	
	comp=Z,88nm,18.2s,baz=79,slow=34						
INK	**Inuvik**	**39.66**	**326**	LR	LR	19 31 02.2	
	comp=Z,58nm,19.5s,baz=132,slow=36						
ARU	**Arti**	**39.97**	**59**	LR	LR	19 30 30.8	
	comp=Z,62nm,18.2s,baz=66,slow=35						
BRTR	**Keskin Array B**	**41.46**	**95**	P	**P**	**19 15 11.2**	**+1.6**
	0.6nm,0.8s,baz=309,slow=6.5,SNR=3.3						
KBZ	**Khabaz**	**42.56**	**84**	P	**P**	**19 15 19.6**	**+1.2**
	0.9nm,0.7s,baz=210,slow=22,SNR=2.0						
KBZ				LR	LR	19 32 57.1	
	comp=Z,82nm,21.1s,baz=26,slow=36						
AKTO	**Aktyubinsk**	**44.13**	**66**	LR	LR	19 33 42.1	
	comp=Z,66nm,18.9s,baz=75,slow=36						
TKL	**Tuckaleechee C**	**44.76**	**261**	LR	LR	19 32 50.4	
	comp=Z,85nm,18.5s,baz=12,slow=34						
ILAR	**Eielson Array**	**45.74**	**329**	P	**P**	**19 15 43.5**	**-0.1**
	0.6nm,1.0s,baz=20,slow=7.1,SNR=4.7						
ILAR				PcP	**PcP**	**19 17 21.6**	**+0.5**
	0.6nm,0.8s,baz=341,slow=2.2,SNR=7.4						
ILAR				LR	LR	19 34 59.0	
	comp=Z,45nm,18.1s,baz=350,slow=36						
GNI	**Garni**	**46.23**	**85**	LR	LR	19 36 26.4	
	comp=Z,46nm,18.1s,baz=56,slow=38						
PDAR	**Pinedale Array**	**50.71**	**289**	P	**P**	**19 16 21.6**	**-0.9**
	0.4nm,0.6s,baz=60,slow=7.4,SNR=3.9						
PDAR				LR	LR	19 36 26.9	
	comp=Z,86nm,18.7s,baz=54,slow=34						
TORD	**Torodi Ar. Bea**	**53.05**	**147**	P	**P**	**19 16 40.5**	**+0.6**
	0.8nm,0.8s,baz=340,slow=7.6,SNR=5.7						
ELK	**Elko**	**54.82**	**292**	LR	LR	19 38 52.6	
	comp=Z,114nm,19.4s,baz=36,slow=34						
MKAR	**Makanchi Array**	**56.60**	**52**	P	**P**	**19 17 05.9**	**+0.5**
	0.9nm,0.9s,baz=319,slow=4.2,SNR=5.1						
NVAR	**Mina Array Bea**	**58.05**	**292**	P	**P**	**19 17 15.3**	**-0.7**
	0.1nm,0.3s,baz=61,slow=7.3,SNR=2.1						
NVAR				LR	LR	19 42 16.1	
	comp=Z,135nm,18.3s,baz=22,slow=36						
SONM	**Songino Array**	**63.23**	**34**	P	**P**	**19 17 50.9**	**-0.2**
	1.0nm,1.1s,baz=344,slow=4.7,SNR=2.9						
KLR	**Kul'dur**	**66.88**	**16**	P	**P**	**19 18 14.9**	**+0.4**
	0.7nm,0.5s,baz=343,slow=12,SNR=2.2						
CMAR	**Chiang Mai Arr**	**88.01**	**52**	P	**P**	**19 20 14.3**	**+1.2**
	0.5nm,0.7s,baz=325,slow=6.3,SNR=6.9						
ASAR	**Alice Springs**	**138.46**	**30**	PKP	**PKPdf**	**19 26 45.9**	**-2.3**
	0.3nm,1.0s,baz=14,slow=1.5,SNR=2.0						

*DJA **17** 19:07:38.4±0.4, 1˚.N×3˚×12˚.7E±˚, h28km±3km, M4.4/21, mB5.0/8, mb4.8/21, MLv4.5/17, Mw(mB)4.2/8*

*NEIC **17** 19:07:39.4±1.1, 1˚.19N±0˚.08×126˚.93E±0˚.08, h56km±7km, mb4.4/22, Error ellipse: s-maj=14.7km s-min=8.5km az=222.0*

*IDC **17** 19:07:40.8±1.9, 1˚.10N×126˚.83E, h73km±17km, mb3.9/11, mb1 4.0/15, mb1mx3.8/38, mbtmp4.2/15, MS3.3/2, Ms1 3.3/2, ms1mx2.7/74, Error ellipse: s-maj=27.5km s-min=8.9km az=76.0*

ISC 17 19:07:40.8±0.5, **1˚.10N**±0˚.05×**126˚.83E**±0˚.06, **h72**km, **n76,** σ1**09**/82, **mb4.3**/24, **1C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.62**	**122**		**Pn**	**19 07 52.8**	**-2.3**
TNTI	**Ternate**	**0.62**	**122**	P	**Pn**	**19 07 53.0**	**-2.1**
TNTI				S	**Sn**	**19 08 03.7**	**-1.9**
LBMI	**Labuha**	**1.85**	**159**	P	**Pn**	**19 08 10.4**	**-0.2**
LBMI				S	**Sn**	**19 08 34.1**	**+1.0**
KMSI	**Cibinong**	**2.90**	**260**	P	**Pn**	**19 08 23.9**	**-0.8**
SANI	**Sanana**	**3.24**	**195**	P	**Pn**	**19 08 27.8**	**-1.6**
GTOI	**Gorontalo**	**3.85**	**263**	P	**Pn**	**19 08 37.7**	**0.0**
NLAI	**Namlea**	**4.32**	**176**	P	**Pn**	**19 08 44.0**	**-0.1**
LUWI	**Luwuk**	**4.59**	**242**	Pn	**Pn**	**19 08 48.6**	**+0.9**

comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.9s
STKA Stephens Creek 35.66 158 P **P** 19 14 32.0 -0.1
comp=Z,1.2nm,0.6s,baz=342,slow=8.3,SNR=6.5
STKA Stephens Creek 35.66 158 P **P** 19 14 31.7 -0.4
KSRS Korea Array 36.19 1 P **P** 19 14 36.4 -0.1
comp=Z,2.6nm,0.8s,baz=187,slow=10.0,SNR=8.0
CD2 Chengdu 36.84 326 P **P** 19 14 42.0 -0.2
CD2 LR LR
comp=N,30nm,22.9s
CD2 LR LR
comp=E,340nm,17.5s
CD2 LR LR
comp=Z,260nm,20.2s
ARMA Armidale 39.25 145 P **P** 19 15 02.3 -0.3
BJT Baijiatuau 39.93 347 P **P** 19 15 08.5 +0.5
CAN Canberra 41.74 152 P **P** 19 15 23.5 +0.5
HHC Hu-ho-hao-te 41.92 343 *eP* **P** 19 15 25.8 +1.4
USRK Ussuriysk Ar. 43.16 5 P **P** 19 15 33.9 -0.4
comp=Z,2.1nm,0.8s,baz=208,slow=4.8,SNR=4.7
GOMU GeErMu 45.82 323 P **P** 19 15 57.0 +0.8
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU pmax pmax
comp=Z,35nm,4.2s
KLR Kul'dur 48.13 4 P **P** 19 16 12.4 -1.1
comp=Z,1.3nm,0.7s,baz=123,slow=2.5,SNR=4.7
ULN Ulaanbaatar 49.64 343 P **P** 19 16 25.0 -0.3
SONM Songino Array 49.81 342 P **P** 19 16 27.0 +0.5
comp=Z,2.0nm,0.6s,baz=154,slow=8.0,SNR=21
SONM Songino Array 49.81 342 P **P** 19 16 26.7 +0.2
SONM IAmb IAmb 19 16 28.3
comp=Z,4.6nm,1.1s
WMQ Urumqi 54.94 326 *eP* **P** 19 17 07.0 +2.5
MK31 Makanchi Array 59.77 326 P **P** 19 17 38.5 +0.1
MK31 IAmb IAmb 19 18 01.5
comp=Z,2.2nm,1.2s
MKAR Makanchi Array 59.77 326 P **P** 19 17 38.1 -0.3
comp=Z,1.2nm,0.5s,baz=121,slow=8.2,SNR=24
MKAR Makanchi Array 59.77 326 P **P** 19 17 37.6 -0.8
MAKZ Makanchi 59.95 326 P **P** 19 17 39.1 -0.6
MAKZ IAmb IAmb 19 17 41.9
comp=Z,1.8nm,0.8s
ZALV Zalesovo Beam 62.97 334 P **P** 19 17 59.3 -0.5
comp=Z,1.6nm,0.5s,baz=116,slow=6.9,SNR=9.2
ZALV Zalesovo Beam 62.97 334 P **P** 19 17 58.9 -0.9
GAR Garm 63.78 314 P **P** 19 18 04.7 -1.0
GAR IAmb IAmb 19 18 15.2
comp=Z,5.7nm,1.0s
KURK Kurchatov 64.01 328 P **P** 19 18 06.9 +0.2
KURK IAmb IAmb 19 18 08.0
comp=Z,6.4nm,0.7s
BRVK Borovoye 69.64 328 P **P** 19 18 42.7 +0.2
BRVK IAmb IAmb 19 18 43.9
comp=Z,5.6nm,1.0s
TIXI Tiksi 70.45 1 P **P** 19 18 46.8 -0.3
TIXI IAmb IAmb 19 19 11.6
comp=Z,4.9nm,1.5s
NRIK Noril'sk 72.99 346 P **P** 19 19 01.8 -0.6
comp=Z,1.7nm,0.6s,baz=148,slow=4.2,SNR=2.2
ABKAR Akbulak array 74.25 321 P **P** 19 19 09.9 -0.2
VNDA Vanda 80.82 173 P **P** 19 19 46.8 +0.5
comp=Z,1.8nm,1.0s,baz=326,slow=6.1,SNR=9.1

IDC 17 19:16:46.1±1.9,2°**90N**×**126°09E**, **h0**km, **mb3.2**/5, **mb1 3.4**/5, **mb1mx3.2**/49, **mbtmp3.2**/5, **Error ellipse: s-maj=120.0km s-min=26.8km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.87**	**181**	P		P	19 21 29.7	-0.2
	1.0nm,1.0s,baz=10,slow=9.5,SNR=1.3							
WRA	**Warramunga Arr**	**24.10**	**161**	P		P	19 22 04.7	+1.0
	0.4nm,0.5s,baz=340,slow=11,SNR=3.9							
ASAR	**Alice Springs**	**27.48**	**164**	P		P	19 22 34.7	+0.4
	0.1nm,0.7s,baz=341,slow=8.1,SNR=1.3							
STKA	**Stephens Creek**	**37.59**	**158**	P		P	19 24 01.8	-0.8
	0.5nm,0.6s,baz=320,slow=11,SNR=1.4							
KURBB	**Kurchatov Arra**	**62.09**	**328**	P		P	19 27 08.2	-0.5
	0.1nm,0.3s,baz=120,slow=5.5,SNR=1.7							

IDC ***17*** *19:24:36.8±0.6,31°.50S×71°.61W,h0km,mb4.2/7, mb1 4.1/12,mb1mx4.0/29,mbtmp4.0/12,ML3.9/5,MS3.2/3, Ms1 3.2/3,ms1mx3.0/51,Error ellipse: s-maj=24.3km s-min=16.5km az=127.0*
SJA ***17*** *19:24:36.4±0.8,31°.43S×72°.00W,h6km±3km,ML4.2, MW3.8*
NEIC ***17*** *19:24:42.4±1.7,31°.46S±0°.03×71°.88W±0°.03,h35km±2km, mb4.2/4,ML4.4(GUC),Error ellipse: s-maj=5.0km s-min=4.4km az=195.0*
GUC ***17*** *19:24:43.4±0.7,31°.62S×71°.85W,h46km±5km,ML4.4*
ISC 17 19:24:37.3±1.2, **31°48S**±0°.02×**71°78W**±0°.03, **h7**km±7km, **n105**, σ**1s88**/144, **mb4.2**/6, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO02	**Combarbal**	**0.72**	**68**			**Pn**	**19 24 54.3**	**+0.3**
CO02	**Combarbal**	**0.72**	**68**	*eP*		**Pn**	**19 24 54.0**	**0.0**
CO02				*eS*		**Sn**	**19 25 06.8**	**+1.4**
CO02				IAML			19 25 07.5	
comp=Z,7μm,0.2s								
CO06	**Fray Jorge**	**0.81**	**9**			**Pn**	**19 24 57.1**	**+2.0**
CO06				Sn		**Sn**	**19 25 07.9**	**+0.4**
CO03	**El Pedregal**	**1.13**	**56**			**Pn**	**19 25 00.9**	**+1.3**
CO03	**El Pedregal**	**1.13**	**56**	*eP*		**Pn**	**19 25 01.0**	**+1.3**
CO03				*eP*		**Pn**	**19 25 01.5**	**+1.9**
CO03				*eS*		**Sn**	**19 25 16.1**	**+0.6**
CO03				IAML			19 25 18.2	
comp=Z,3μm,0.7s								
VA06	**Catapilco**	**1.15**	**159**			**Pn**	**19 25 02.0**	**+2.3**
VA06				Sn		**Sn**	**19 25 16.2**	**+0.5**
VA06	**Catapilco**	**1.15**	**159**	*eP*		**Pn**	**19 25 02.1**	**+2.3**
VA06				*i* S		**Sn**	**19 25 16.1**	**+0.3**
VA06				IAML			19 25 20.9	
comp=E,18μm,0.4s								
VA01	**Torpederas**	**1.54**	**176**			**Pg**	**19 25 07.7**	**+0.9**
VA01	**Torpederas**	**1.54**	**176**	*eP*		**Pg**	**19 25 08.0**	**+1.2**
GO04	**Tololo Observa**	**1.55**	**33**			**Pg**	**19 25 08.1**	**+1.0**
GO04	**Tololo Observa**	**1.55**	**33**	*eP*		**Pg**	**19 25 08.0**	**+0.9**
GO04				*i* S		**Sg**	**19 25 27.8**	**+0.6**
GO04	**Tololo Observa**	**1.55**	**33**	*eP*		**Pg**	**19 25 08.0**	**+0.9**
GO04				*eS*		**Sg**	**19 25 29.2**	**+1.9**
CO05	**La Serena**	**1.63**	**17**			**Pg**	**19 25 08.8**	**+0.4**
VA03	**San Esteban**	**1.65**	**141**			**Pg**	**19 25 09.8**	**+0.9**
VA03	**San Esteban**	**1.65**	**141**	*eP*		**Pg**	**19 25 10.0**	**+1.1**
VA03				*i* S		**Sg**	**19 25 30.7**	**+0.4**
VA03				IAML			19 25 32.8	
comp=E,13μm,0.1s								
VA03	**San Esteban**	**1.65**	**141**	*eP*		**Pg**	**19 25 10.0**	**+1.1**
VA03				*eS*		**Sg**	**19 25 32.0**	**+1.7**
VA03				IAML			19 25 33.5	
comp=Z,5μm,0.3s								
CO01	**Juntas del Tor**	**2.09**	**45**			**Pb**	**19 25 16.4**	**+0.8**
CO01	**Juntas del Tor**	**2.09**	**45**	*eP*		**Pn**	**19 25 10.7**	**-2.2**
CO01				*eP*		**Pb**	**19 25 16.0**	**+0.4**
CO01				*eP*		**Pb**	**19 25 16.4**	**+0.8**
CO01				*eS*		**Sb**	**19 25 43.5**	**+1.6**
CO01				IAML			19 25 52.2	
comp=Z,2μm,0.5s								
MT05	**Renca**	**2.10**	**155**			**Pb**	**19 25 16.4**	**+0.7**
MT05	**Renca**	**2.10**	**155**	*eP*		**Pb**	**19 25 16.2**	**+0.5**
MT05				*i* S		**Sn**	**19 25 40.9**	**+1.6**
MT05				IAML			19 25 49.9	
comp=N,5μm,0.3s								
MT05	**Renca**	**2.10**	**155**	*eP*		**Pn**	**19 25 10.7**	**-2.2**
MT05				*eP*		**Pb**	**19 25 16.0**	**+0.3**
MT05				*eS*		**Sg**	**19 25 46.3**	**+1.6**
MT05				IAML			19 25 48.1	
comp=Z,2μm,0.2s								
RTLS	**Leoncito**	**2.14**	**99**	*eP*		**Pg**	**19 25 18.0**	**-0.3**
RTLS				*eS*		**Sn**	**19 25 41.7**	**+1.0**
AUSP	**Uspallata**	**2.17**	**111**	*eP*		**Pb**	**19 25 18.0**	**+1.0**
AUSP				*eP*		**Pg**	**19 25 18.7**	**-0.1**
AUSP				*eS*		**Sg**	**19 25 47.0**	**+0.1**
VA05	**Santo Domingo**	**2.17**	**176**			**Pb**	**19 25 16.8**	**-0.2**
VA05	**Santo Domingo**	**2.17**	**176**	*eP*		**Pb**	**19 25 16.5**	**-0.4**
VA05				*i* S		**Sn**	**19 25 41.7**	**+0.7**
VA05				IAML			19 25 55.0	
comp=N,4μm,0.2s								
FCH	**Farellones**	**2.23**	**146**	*eP*		**Pb**	**19 25 18.4**	**+0.3**
FCH				*i* S		**Sb**	**19 25 46.2**	**+0.1**
FCH				IAML			19 25 57.1	
comp=E,2μm,0.2s								
MT03	**Universidad Ad**	**2.28**	**152**			**Pb**	**19 25 19.0**	**+0.3**
MT03	**Universidad Ad**	**2.28**	**152**	*eP*		**Pb**	**19 25 18.9**	**+0.2**
MT03				*i* S		**Sn**	**19 25 45.6**	**+1.9**
MT03				IAML			19 25 56.2	
comp=N,6μm,0.1s								
AROD	**Rodeo**	**2.38**	**57**	*eP*		**Pg**	**19 25 22.0**	**-0.9**
AROD				*eS*		**Sg**	**19 25 53.3**	**-0.5**
MT09	**Talagante**	**2.38**	**164**			**Pb**	**19 25 20.6**	**0.0**
MT09	**Talagante**	**2.38**	**164**	*eP*		**Pb**	**19 25 20.3**	**-0.3**
MT09				*i* S		**Sn**	**19 25 47.5**	**+1.0**
MT09				IAML			19 25 57.9	
comp=N,2μm,0.4s								
ACCO	**Cerro Coronel**	**2.50**	**70**	*eP*		**Pb**	**19 25 23.9**	**+1.3**
ACCO				*eS*		**Sg**	**19 25 58.9**	**+1.4**
ACCO				IAML			19 26 01.8	
comp=Z,1μm,3.9s								
LCO	**Las Campanas**	**2.63**	**21**			**Pb**	**19 25 23.0**	**-1.9**
LCO	**Las Campanas**	**2.63**	**21**	*eP*		**Pb**	**19 25 23.0**	**-1.9**
ZON	**Zonda**	**2.65**	**92**			**Pb**	**19 25 26.0**	**+0.8**
ZON	**Zonda**	**2.65**	**92**	*eP*		**Pb**	**19 25 25.9**	**+0.8**
ZON				IAML			19 26 16.2	
comp=Z,773nm,0.8s								
BO04	**La Punta**	**2.69**	**159**			**Pb**	**19 25 24.4**	**-1.3**
ASAL	**Salagasta**	**2.74**	**115**	*eP*		**Pb**	**19 25 27.6**	**+1.1**
ASAL				*eP*		**Pg**	**19 25 28.0**	**-1.7**
ASAL				*eS*		**Sg**	**19 26 03.7**	**-1.5**
ASAL				IAML			19 26 15.9	
comp=Z,573nm,0.6s								
ARCO	**CERRO ARCO**	**2.77**	**120**	*eP*		**Pb**	**19 25 29.0**	**+1.8**
ARCO				*eP*		**Pg**	**19 25 29.2**	**-1.2**
ARCO				IAML			19 26 13.4	
comp=Z,617nm,0.3s								
RTCV	**Cerro Valdivia**	**2.79**	**99**	*eP*		**Pb**	**19 25 28.0**	**+0.6**
RTCV				*eS*		**Sg**	**19 26 08.2**	**+1.3**
RTLL	**Cerro Villicun**	**2.83**	**88**	*eP*		**Pb**	**19 25 28.0**	**-0.2**
RTLL				*eS*		**Sb**	**19 26 05.2**	**+2.1**
BO01	**Tunca**	**2.96**	**169**	Pn		**Pb**	**19 25 27.9**	**-2.5**
BO01	**Tunca**	**2.96**	**169**	*eP*		**Pb**	**19 25 28.1**	**-2.2**
BO01				*i* S		**Sb**	**19 26 06.4**	**-0.3**
BO01				IAML			19 26 13.9	
comp=N,471nm,0.6s								
BO01	**Tunca**	**2.96**	**169**	*eP*		**Pb**	**19 25 28.0**	**-2.3**
BO01				*eS*		**Sb**	**19 26 06.2**	**-0.6**
BO01				IAML			19 26 17.4	
comp=Z,458nm,0.3s								
AAGR	**Agrelo**	**2.97**	**123**	*eP*		**Pb**	**19 25 30.9**	**+0.4**
AAGR				*eS*		**Sg**	**19 26 14.0**	**+1.3**
AAGR				IAML			19 26 28.6	
comp=Z,554nm,1.2s								
BO03	**Pichilemu**	**3.01**	**183**	*eP*		**Pn**	**19 25 27.3**	**+2.0**
AC04	**Llanos de Chal**	**3.32**	**11**	Pn		**Pn**	**19 25 31.1**	**+1.5**
AC04	**Llanos de Chal**	**3.32**	**11**	*i* S		**Sb**	**19 26 16.1**	**-1.1**
AC04	**Llanos de Chal**	**3.32**	**11**	*eP*		**Pn**	**19 25 31.8**	**+2.1**
AC04				*eS*		**Sn**	**19 26 10.7**	**+1.3**
AC04				IAML			19 26 32.3	
comp=Z,484nm,0.6s								
GO05	**Huala**	**3.52**	**182**			**Pn**	**19 25 34.4**	**+2.0**
GO05	**Huala**	**3.52**	**182**	*eP*		**Pn**	**19 25 28.7**	**-3.7**
GO05				*eP*		Pb	19 25 34.0	-5.9
GO05				*eS*		**Sg**	**19 26 28.7**	**-1.7**
AVFE	**Valle Fertil**	**3.80**	**79**	*eP*		**Pn**	**19 25 40.4**	**+4.1**
AVFE				*eS*		**Sb**	**19 26 32.6**	**+1.6**
AVFE				IAML			19 26 35.1	
comp=Z,714nm,0.5s								
GO03	**Copiap**	**4.10**	**20**			**Pn**	**19 25 42.8**	**+2.4**
GO03	**Copiap**	**4.10**	**20**	*eP*		**Pn**	**19 25 38.2**	**-2.3**
GO03				*eP*		Pb	19 25 43.3	-6.5
GO03				*eS*		**Sn**	**19 26 33.2**	**+4.4**
VCA	**Vinchina**	**4.13**	**49**	*eP*		**Pb**	**19 25 46.8**	**-3.6**
VCA				*eP*		**Pb**	**19 25 47.0**	**-3.4**
VCA				*eP*		**Pb**	**19 25 47.1**	**-3.4**
VCA				*eS*		**Sb**	**19 26 38.2**	**-2.5**
AC06	**Mina Casimiro**	**4.29**	**17**	Pn		**Pn**	**19 25 44.9**	**+1.8**
RFA	**San Rafael**	**4.30**	**141**	*eP*		**Pn**	**19 25 47.9**	**+4.8**
RFA				*eS*		**Sg**	**19 26 52.2**	**-3.2**
RFA				IAML			19 26 58.3	
comp=Z,190nm,1.5s								
ACHE	**Chepes**	**4.39**	**87**	*eP*		**Pn**	**19 25 49.2**	**+4.8**
ACHE				*eS*		**Sb**	**19 26 47.1**	**-1.0**
ACLC	**CERRO LA CRUZ**	**4.64**	**65**	*eS*		**Sn**	**19 26 47.1**	**+4.8**
AC02	**Maricunga**	**5.18**	**27**	Pn		**Pn**	**19 25 58.0**	**+2.4**
MRA	**San Martin**	**5.24**	**102**	*eS*		**Sb**	**19 27 05.6**	**-6.8**
BI05	**Punta Hualpn**	**5.38**	**192**	Pn		**Pn**	**19 25 59.0**	**+1.1**
AC01	**Pan de Azucar**	**5.42**	**11**			**Pn**	**19 25 58.6**	**+0.1**
TCA	**Tanti**	**6.14**	**91**	*eS*		**Sb**	**19 27 33.2**	**-5.3**
H03N1	**Juan Fernandez**	**6.34**	**250**	Pn		**Pn**	**19 26 13.9**	**+3.1**
baz=120,slow=20,SNR=40								
H03N1				T		T	19 32 52.1	
baz=78,slow=72,SNR=2630								
H03N3	**Juan Fernandez**	**6.35**	**250**	Pn		**Pn**	**19 26 14.0**	**+3.0**
baz=120,slow=20,SNR=26								
H03N3				T		T	19 32 54.8	
baz=78,slow=72,SNR=2201								
H03N2	**Juan Fernandez**	**6.35**	**250**	Pn		**Pn**	**19 26 14.6**	**+3.6**
baz=120,slow=20,SNR=20								
H03N2				T		T	19 32 54.7	
baz=78,slow=72,SNR=2416								
H03S3	**Juan Fernandez**	**6.45**	**247**	Pn		**Pn**	**19 26 14.3**	**+1.9**
baz=15								
H03S3				T		T	19 33 15.0	
baz=70								
H03S1	**Juan Fernandez**	**6.45**	**247**	Pn		**Pn**	**19 26 14.3**	**+1.9**
baz=15								
H03S1				T		T	19 33 08.1	
baz=70								
H03S2	**Juan Fernandez**	**6.47**	**247**	Pn		**Pn**	**19 26 14.4**	**+1.8**
baz=15								
H03S2				T		T	19 33 11.9	
baz=70								
GO02	**Mina Guanaco**	**6.58**	**18**			**Pn**	**19 26 15.3**	**+0.5**
LC01	**Cunco**	**7.40**	**181**			**Pn**	**19 26 27.4**	**+1.7**
LVC	**Limon Verde**	**9.20**	**17**	Pn		**Pn**	**19 26 49.6**	**-1.1**
comp=Z,0.4nm,0.3s,baz=212,slow=19,SNR=1.6								
LVC				Sn		Sn	19 28 47.0	+12
comp=Z,2.0nm,0.3s,baz=187,slow=4.2,SNR=2.5								
LVC				LR		LR	19 30 43.9	
comp=Z,216nm,20.4s,baz=212,slow=40								
PLCA	**Paso Flores**	**9.29**	**174**	Pn		**Pn**	**19 26 53.3**	**+1.7**
comp=Z,0.4nm,0.3s,baz=332,slow=11,SNR=18								
PLCA				LR		LR	19 31 03.9	
comp=Z,102nm,19.9s,baz=324,slow=42								
PLCA	**Paso Flores**	**9.29**	**174**	Pn		**Pn**	**19 26 54.8**	**+3.2**
PB16	**IPOC Station P**	**13.25**	**9**	Pn		P	19 27 51.6	-4.9
CPUP	**Villa Florida**	**13.66**	**72**	Pn		**Pn**	**19 27 49.9**	**-1.5**
comp=Z,0.2nm,0.3s,baz=66,slow=19,SNR=2.5								
CPUP				Sn		**Sn**	**19 30 20.7**	**-2.7**
comp=Z,0.2nm,0.3s,baz=286,slow=17,SNR=1.7								
CPUP				LR		LR	19 33 40.9	
comp=Z,120nm,18.1s,baz=216,slow=40								
LPAZ	**La Paz**	**15.49**	**13**	P		**P**	**19 28 16.9**	**+0.2**
comp=Z,0.1nm,0.3s,baz=189,slow=7.9,SNR=5.0								
LPAZ	**La Paz**	**15.49**	**13**	P		**P**	**19 28 19.2**	**-2.1**
SIV	**San Ignacio**	**18.25**	**35**	P		**Pn**	**19 28 50.3**	**-0.9**
comp=Z,0.3nm,0.3s,baz=224,slow=11,SNR=5.6								
BDFB	**Brasilia**	**26.80**	**59**	P		**P**	**19 30 17.8**	**-0.5**
comp=Z,9.8nm,1.1s,baz=255,slow=6.5,SNR=6.6								
BDFB	**Brasilia**	**26.80**	**59**	P		**P**	**19 30 18.2**	**-0.1**
BDFB				IAmb		IAmb	19 30 32.2	
comp=Z,7.6nm,0.8s								
SNAA	**Sanae**	**53.84**	**159**	P		**P**	**19 34 00.0**	**-0.4**
comp=Z,1.8nm,1.0s,baz=281,slow=11,SNR=2.2								
SNAA	**Sanae**	**53.84**	**159**	P		**P**	**19 34 01.8**	**+1.3**
QSPA	**South Pole Qui**	**58.75**	**180**	P		**P**	**19 34 35.8**	**+0.2**
comp=Z,1.3nm,0.8s,baz=24,slow=6.6								
TXAR	**Lajitas Array**	**67.66**	**330**	P		**P**	**19 35 36.1**	**+1.1**
comp=Z,0.1nm,0.5s,baz=148,slow=8.6,SNR=3.6								
DBIC	**Dimbokro**	**74.18**	**72**	P		**P**	**19 36 14.8**	**-0.2**
comp=Z,2.6nm,0.5s,baz=252,slow=8.6,SNR=6.0								
TORD	**Torodi Ar. Bea**	**83.15**	**70**	P		**P**	**19 37 04.4**	**0.0**
comp=Z,4.3nm,0.8s,baz=258,slow=4.3,SNR=27								
YKA	**Yellowknife Ar**	**99.75**	**341**	P		**Pdif**	**19 38 21.1**	**-0.2**
comp=Z,0.1nm,0.6s,baz=154,slow=3.5,SNR=3.4								
ASAR	**Alice Springs**	**119.90**	**207**	PKP		**PKPdf**	**19 43 28.2**	**-0.9**
comp=Z,0.3nm,1.0s,baz=137,slow=1.7,SNR=2.0								
ARCES	**ARCESS Array B**	**121.64**	**24**	PKP		**PKPdf**	**19 43 30.6**	**-0.2**
comp=Z,6.1nm,1.2s,baz=294,slow=2.9,SNR=1.9								
WRA	**Warramunga Arr**	**123.06**	**210**	PKP		**PKPdf**	**19 43 34.7**	**-0.4**
comp=Z,0.4nm,0.7s,baz=158,slow=1.6,SNR=6.1								
H11S2	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	22 02 36.4	
baz=116,slow=75,SNR=50								
H11S1	**WAKE ISLAND Hyl**	**26.00**	**271**	T		T	22 02 28.7	
baz=116,slow=75,SNR=45								
H11S3	**WAKE ISLAND Hyl**	**26.01**	**271**	T		T	22 02 27.6	
baz=116,slow=75,SNR=49								
H11N3	**WAKE ISLAND Hyl**	**26.34**	**272**	T		T	22 02 52.3	
baz=117,slow=75,SNR=36								
H11N1	**WAKE ISLAND Hyl**	**26.35**	**272**	T		T	22 02 53.0	
baz=117,slow=75,SNR=11								
H11N2	**WAKE ISLAND Hyl**	**26.36**	**272**	T		T	22 02 53.3	
baz=117,slow=75,SNR=60								
KVAR	**Kislovodsk Arr**	**127.96**	**56**	PKP		**PKPdf**	**19 43 43.9**	**+0.1**
comp=Z,2.0nm,0.6s,baz=240,slow=21,SNR=1.9								
ARU	**Arti**	**137.68**	**39**	PKP		**PKPdf**	**19 43 59.7**	**-1.8**
comp=Z,0.6nm,0.3s,baz=78,slow=19,SNR=1.7								
BVAR	**Borovoye Array**	**145.26**	**41**	PKPbc		**PKPdf**	**19 44 16.4**	**+1.1**
KURBB	**Kurchatov Arra**	**150.85**	**40**	PKPbc		**PKiKP**	**19 44 31.0**	**+0.2**
comp=Z,3.0nm,0.8s,baz=299,slow=3.1,SNR=30								
ZALV	**Zalesovo Beam**	**151.96**	**30**	PKP		**PKPdf**	**19 44 27.2**	**+1.2**
comp=Z,0.4nm,0.3s,baz=299,slow=6.1,SNR=4.0								
ZALV				PKPbc		**PKiKP**	**19 44 33.4**	**+0.4**
comp=Z,12nm,0.4s,baz=306,slow=3.1,SNR=66								
MKAR	**Makanchi Array**	**154.89**	**45**	PKP		**PKPdf**	**19 44 30.8**	**+0.3**
comp=Z,0.3nm,0.8s,baz=305,slow=3.0,SNR=2.6								
MKAR				PKPbc		**PKiKP**	**19 44 39.8**	**+0.5**
comp=Z,0.9nm,0.7s,baz=344,slow=1.2,SNR=10								
MKAR				PKPab		**PKPab**	**19 44 54.9**	**+0.3**
comp=Z,0.6nm,0.7s,baz=285,slow=2.2,SNR=5.0								
PZH	**PanZhiHua**	**172.47**	**130**	PKP		**PKPdf**	**19 44 48.0**	**+0.5**

NAO ***17*** *19:26:06.9±2.0,79°.63N×2°.92E,ML3.1*
IDC ***17*** *19:26:09.0±1.3,79°.59N×3°.13E,h0km,mb3.8/5,mb1 3.7/9, mb1mx3.4/61,mbtmp3.7/9,ML3.2/4, Error ellipse: s-maj=29.8km s-min=19.0km az=41.0*
BER ***17*** *19:26:09.4±2.9,79°.49N×3°.03E,h10km,ML2.5, ML3.1(NAO),Confirmed Earthquake*
DNK ***17*** *19:26:09.8±2.4,79°.45N×3°.24E,h36km±33km,ML2.4*
IEPN ***17*** *19:26:13.0,79°.26N×4°.20E,h10km*
ISC 17 19:26:08.9±0.8, **79°42N**±0°.06×**3°17E**±0°.05, **h10**km, **n38**, σ**2s96**/58, **mb3.8**/5, **3C, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**1.73**	**102**	Pn		**Pn**	**19 26 38.1**	**-0.8**
KBS				Sn		**Sn**	**19 26 57.8**	**-3.1**
KBS	**Kingsbay**	**1.73**	**102**	*i* P		**Pn**	**19 26 37.2**	**-1.7**
KBS				*i* S		**Sn**	**19 26 56.5**	**-4.5**
KBS				IAML			19 27 09.2	
comp=Z,224nm,0.9s								
KBS	**Kingsbay**	**1.73**	**102**	⇑*i* P		**Pn**	**19 26 38.1**	**-0.8**
KBS				*eS*		**Sn**	**19 26 57.5**	**-3.5**
KBS				IAML			19 27 00.5	
comp=Z,84nm,0.3s								
KBS	**Kingsbay**	**1.73**	**102**	⇑*i* P		**Pn**	**19 26 38.0**	**-0.9**
KBS				*i* S		**Sn**	**19 26 57.3**	**-3.7**
BRBB	**Barentsburg B**	**2.54**	**116**	Pn		**Pn**	**19 26 50.2**	**+0.2**
BRBB				Sn		**Sn**	**19 27 19.0**	**-1.9**
BRBB	**Barentsburg B**	**2.54**	**116**	*eP*		**Pn**	**19 26 51.0**	**+1.0**
BRBB				*eS*		**Sn**	**19 27 18.4**	**-2.6**
BRBA	**Barentsburg A**	**2.56**	**117**	Pn		**Pn**	**19 26 51.2**	**+1.0**
BRBA	**Barentsburg A**	**2.56**	**117**	*eP*		**Pn**	**19 26 51.3**	**+1.0**
BRBA				*eS*		**Sn**	**19 27 18.5**	**-2.9**
BRBA				IAML			19 27 24.7	
comp=Z,44nm,0.6s								
SPA0	**Spitsbergen Ar**	**2.86**	**109**	Pn		**Pn**	**19 26 55.0**	**+0.6**
baz=313,slow=11								
SPA0				Sn		**Sn**	**19 27 26.8**	**-2.1**
baz=321,slow=28								
SPA0	**Spitsbergen Ar**	**2.86**	**109**	Pn		**Pn**	**19 26 55.0**	**+0.6**
baz=313,slow=11								
SPA0				Sn		**Sn**	**19 27 26.8**	**-2.1**
baz=321,slow=28								
SPA0	**Spitsbergen Ar**	**2.86**	**109**	⇑*i* P		**Pn**	**19 26 54.7**	**+0.3**
SPA0				*i* S		**Sn**	**19 27 25.7**	**-3.1**
SPITS	**Spitsbergen Ar**	**2.86**	**109**	Pn		**Pn**	**19 26 55.0**	**+0.6**
baz=261,slow=5.7,SNR=28								
SPITS				Sn		**Sn**	**19 27 28.1**	**-0.7**
baz=1.6,slow=14,SNR=7.2								
HSPB	**Hornsund (broa**	**3.51**	**128**	Pn		**Pn**	**19 27 03.5**	**+0.2**
HSPB	**Hornsund (broa**	**3.51**	**128**	*eP*		**Pn**	**19 27 03.7**	**+0.4**
HSPB				*eS*		**Sn**	**19 27 42.7**	**-2.1**
HSPB				IAML			19 27 44.1	
comp=Z,25nm,0.4s								
HSPB	**Hornsund (broa**	**3.51**	**128**	*eP*		**Pn**	**19 27 03.7**	**+0.4**
HSPB				*eS*		**Sn**	**19 27 40.3**	**-4.4**
NOR	**

	13nm,0.5s,baz=186,slow=24,SNR=5.7						
KBK	**Karagaybulak**	**7.25**	**22**	P	**Pn**	**19 29 59.6**	**+3.5**
	SNR=7.1						
ULHL	**Ulahol**	**7.36**	**30**	P	**Pn**	**19 30 00.2**	**+2.6**
	SNR=9.7						
CHMS	**Chumysh**	**7.51**	**20**	P	**Pn**	**19 30 01.3**	**+1.8**
	SNR=26						
CHMS	**Chumysh**	**7.51**	**20**	⇑P	**Pn**	**19 30 01.1**	**+1.6**
	28nm,0.8s						
CHMS				⇑S	**Sn**	**19 31 18.9**	**-4.3**
	19nm,0.9s						
USP	**Ospenovka**	**7.69**	**18**	P	**Pn**	**19 30 03.2**	**+1.2**
	SNR=18						
TKM2	**Tokmak 2**	**7.70**	**25**	P	**Pn**	**19 30 04.3**	**+2.0**
	SNR=24						
TKM2	**Tokmak 2**	**7.70**	**25**	⇑P	**Pn**	**19 30 04.1**	**+1.9**
	7.2nm,0.5s						
TKM2				⇓S	**Sn**	**19 31 29.3**	**+1.1**
	5.6nm,0.7s						
MDOK	**Medeo**	**8.45**	**30**	⇓P	**Pn**	**19 30 14.4**	**+1.8**
	4.9nm,0.9s						
MDOK				⇓S	**Sn**	**19 31 48.4**	**+1.8**
	5.6nm,0.7s						
PDGK	**Podgornoye**	**9.71**	**38**	⇑P	**Pn**	**19 30 31.1**	**+1.5**
	6.2nm,1.1s						
PDGK				⇑S	**Sn**	**19 32 22.5**	**+5.2**
	7.2nm,0.8s						
GEYT	**Alibeck**	**10.67**	**284**	P	**Pn**	**19 30 44.5**	**+1.8**
	0.4nm,0.3s,baz=113,slow=11,SNR=6.3						
GEYT				S	**Sn**	**19 32 36.4**	**-4.3**
	1.2nm,0.3s,baz=100,slow=15,SNR=4.0						
OTUK	**Ortayu**	**12.27**	**4**	⇓P	**Pn**	**19 31 02.5**	**-2.1**
	4.0nm,0.7s						
OTUK				⇑S	**Sn**	**19 33 13.1**	**-6.7**
	5.1nm,0.7s						
PYUN	**Piuthan**	**12.70**	**125**	*e*Pn	**P**	**19 31 17.6**	**-3.0**
PYUN				*e*Sn	**Sn**	**19 33 31.6**	**+0.8**
	77nm,0.8s						
DANN	**Dangsing**	**13.06**	**122**	*e*Pn	**P**	**19 31 21.8**	**-2.9**
DANN				*e*Sn	**Sn**	**19 33 39.5**	**-0.2**
	47nm,0.7s						
KOLN	**Koldanda**	**13.32**	**125**	*e*Pn	**P**	**19 31 26.2**	**-1.3**
KOLN				*e*Sn	**Sn**	**19 33 46.3**	**+0.4**
	18nm,0.6s						
MKAR	**Makanchi Array**	**13.60**	**34**	P	**Pn**	**19 31 22.6**	**-0.2**
	0.1nm,0.3s,baz=224,slow=15,SNR=6.9						
GKN	**Gorkha**	**13.88**	**121**	*e*Pn	**P**	**19 31 32.9**	**-0.8**
GKN				*e*Sn	**Sn**	**19 33 57.2**	**-2.3**
	28nm,0.4s						
DMN	**Daman**	**14.45**	**121**	*e*Pn	**P**	**19 31 40.9**	**+0.8**
KKN	**Kakani**	**14.46**	**120**	*e*Pn	**P**	**19 31 40.4**	**+0.2**
KKN				*e*Sn	**Sn**	**19 34 10.7**	**-2.9**
	25nm,0.6s						
PKIN	**Phulchoki**	**14.67**	**121**	*e*Pn	**P**	**19 31 43.5**	**+0.9**
PKIN				*e*Sn	**Sn**	**19 34 16.0**	**-2.9**
	17nm,0.4s						
PKI	**Pulchoki**	**14.69**	**121**	*e*Pn	**P**	**19 31 43.2**	**+0.4**
PKI				*e*Sn	**Sn**	**19 34 16.3**	**-3.0**
GUN	**Gumba**	**14.81**	**119**	*e*Pn	**P**	**19 31 43.9**	**-0.3**
GUN				*e*Sn	**Sn**	**19 34 19.2**	**-3.1**
JIRN	**Jiri**	**15.18**	**119**	*e*Pn	**P**	**19 31 49.9**	**+1.6**
KURBB	**Kurchatov Arra**	**15.55**	**18**	P	**Pn**	**19 31 46.3**	**-2.0**
	0.0nm,0.3s,baz=214,slow=12,SNR=3.8						
AB31	**Akbulak array**	**15.62**	**332**	⇑P	**Pn**	**19 31 46.6**	**-2.6**
	0.4nm,0.2s,baz=139,slow=12,SNR=45						
AB31				⇓S	**Sn**	**19 34 29.5**	**-12**
	2.2nm,0.6s,baz=151,slow=23,SNR=6.1						
RAMN	**Ramite**	**15.90**	**120**	*e*Pn	**P**	**19 32 00.5**	**+4.3**
TAPN	**Taplejung**	**16.45**	**117**	*e*Pn	**P**	**19 32 06.7**	**+4.3**
TAPN				*e*Sn	**Sn**	**19 34 55.9**	**-6.2**
	16nm,0.8s						
ODAN	**Odare**	**16.51**	**119**	*e*Pn	**P**	**19 32 06.8**	**+3.8**
BVAR	**Borovoye Array**	**17.04**	**358**	P	**Pn**	**19 32 06.3**	**-0.9**
AKTO	**Aktyubinsk**	**17.31**	**331**	P	**Pn**	**19 32 10.3**	**-0.2**
	0.3nm,0.3s,baz=136,slow=12,SNR=3.0						
AKTO	**Aktyubinsk**	**17.31**	**331**	⇑P	**Pn**	**19 32 10.1**	**-0.5**
	4.4nm,0.6s						
AKTO				⇓S	**Sn**	**19 35 11.4**	**-11**
	3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**20.30**	**24**	P	**P**	**19 32 43.1**	**-1.0**
	3.1nm,0.3s,baz=212,slow=9.9,SNR=17						
ARU	**Arti**	**22.17**	**341**	P	**P**	**19 33 05.3**	**+1.2**
	1.6nm,0.5s,baz=175,slow=10,SNR=6.6						
BELG	**Belogornoye**	**23.40**	**322**	P	**P**	**19 33 18.1**	**+1.3**
	11nm,1.1s,baz=280,slow=17,SNR=2.0						
AKASG	**Malin Array Be**	**33.41**	**309**	P	**P**	**19 34 48.5**	**+2.3**
	1.8nm,0.5s,baz=98,slow=8.6,SNR=5.3						
FINES	**FINESS Array B**	**38.01**	**326**	P	**P**	**19 35 26.6**	**+1.1**
	1.0nm,0.4s,baz=123,slow=9.1,SNR=20						
ARCES	**ARCESS Array B**	**41.68**	**338**	P	**P**	**19 35 57.0**	**+1.1**
	1.2nm,0.4s,baz=115,slow=9.0,SNR=24						
HFS	**Hagfors**	**43.58**	**322**	P	**P**	**19 36 12.6**	**+1.3**
	1.8nm,0.5s,baz=29,slow=46,SNR=2.3						
NB2	**NORSAR Subarra**	**44.89**	**323**	P	**P**	**19 36 23.6**	**+1.6**
	comp=Z,1.1nm,0.5s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.89**	**323**	P	**P**	**19 36 22.4**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=96,slow=7.7,SNR=8.9						
TIXI	**Tiksi**	**46.18**	**22**	P	**P**	**19 36 31.7**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=300,slow=3.9,SNR=11						
TORD	**Torodi Ar. Bea**	**65.89**	**269**	P	**P**	**19 38 54.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=52,slow=6.1,SNR=6.6						
INK	**Inuvik**	**74.38**	**9**	P	**P**	**19 39 45.1**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=360,slow=8.3,SNR=4.3						
ILAR	**Eielson Array**	**75.22**	**16**	P	**P**	**19 39 48.4**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=322,slow=5.7,SNR=5.4						
WRA	**Warramunga Arr**	**81.57**	**122**	P	**P**	**19 40 24.2**	**-1.0**
	comp=Z,0.1nm,0.7s,baz=328,slow=4.8,SNR=1.2						
YKA	**Yellowknife Ar**	**81.74**	**3**	P	**P**	**19 40 25.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=351,slow=5.4,SNR=19						
ASAR	**Alice Springs**	**83.81**	**125**	P	**P**	**19 40 35.6**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=316,slow=4.8,SNR=1.7						

FUNV ***17*** *19:33:08.4,10.20N×62.98W,h5km,MW3.6*
TRN ***17*** *19:33:08.6, 10.00N×63.25W, h91km,MD3.6*

ISC 17 19:33:09.4±2.2, 10.09N±0.06×63.10W±0.04, h16km±15km, n17,σ0.89/29, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.60**	**347**		*e*S	**Pn**	**19 33 23.5**	**+0.3**
COAV	**Cumanacoa**	**0.72**	**275**		*e*P	**Pb**	**19 33 23.9**	**+0.1**
CUMV	**Cumana_UDO**	**1.13**	**287**		*e*P	**Pn**	**19 33 31.2**	**+0.6**
CUMV					*e*S	**Sn**	**19 33 47.1**	**+1.2**
PCRV	**Puerto La Cruz**	**1.52**	**273**		*e*P	**Pb**	**19 33 36.6**	**-0.6**
PCRV					*e*S	**Sg**	**19 33 58.1**	**-0.3**
TRN	**Trinidad (W)**	**1.76**	**71**		*e*P	**Pn**	**19 33 39.9**	**+0.7**
TRN					*e*S	**Sb**	**19 34 03.3**	**+0.2**
PRGV	**PARIAGUAN**	**2.02**	**229**		*e*P	**Pn**	**19 33 44.4**	**+1.5**
PRGV					*e*S	**Sb**	**19 34 10.9**	**+0.1**
GRFF	**Grenada Fort F**	**2.36**	**34**		*e*P	**Pn**	**19 33 48.4**	**+0.8**
TOSP	**Speyside**	**2.79**	**64**		*e*P	**Pn**	**19 33 54.5**	**+1.1**
TOSP					*e*S	**Sn**	**19 34 27.0**	**+0.2**
GCMP	**Grenada, Carri**	**2.89**	**34**		*e*P	**Pn**	**19 33 54.6**	**-0.2**
GCMP					*e*S	**Sn**	**19 34 29.4**	**+0.1**
BIRV	**Birongo**	**3.15**	**277**		*e*P	**Pn**	**19 33 58.8**	**+0.4**
BIRV					*e*S	**Sn**	**19 34 36.5**	**+0.8**
MERV	**Las Mercedes**	**3.26**	**255**		*e*P	**Pn**	**19 34 00.6**	**+0.6**
MERV					*e*S	**Sn**	**19 34 39.5**	**+0.9**
CACV	**CAICARA DEL OR**	**4.23**	**234**		*e*P	Pn	19 34 08.5	-4.8
CACV					*e*S	Sn	19 34 54.1	-8.3
BENV	**Beln**	**4.44**	**269**		*e*P	**Pn**	**19 34 16.9**	**+0.7**
BENV					*e*S	**Sn**	**19 35 07.1**	**-0.5**
TURV	**Turiamo**	**4.68**	**275**		*e*P	**Pn**	**19 34 19.5**	**0.0**
TURV					*e*S	**Sn**	**19 35 12.4**	**-1.2**
BAUV	**El Baul**	**5.01**	**257**		*e*P	**Pn**	**19 34 24.4**	**+0.5**
BAUV					*e*S	**Sn**	**19 35 22.3**	**+0.7**
MAPV	**Macapo**	**5.29**	**268**		*e*P	**Pn**	**19 34 28.1**	**+0.3**
MAPV					*e*S	**Sn**	**19 35 27.8**	**-0.7**
PAYV	**Puerto Ayacuch**	**6.48**	**225**		*e*P	**Pn**	**19 34 43.5**	**-0.7**
PAYV					*e*S	**Sn**	**19 35 55.2**	**-2.6**

IDC ***17*** *19:33:38.1±0.3,57.95S×25.32W, h0km,mb5.0/20, mb1 5.0/21,mb1mx4.9/23,mbtmp5.0/21,ML5.5/1,MS4.9/40, Ms1 4.9/40,ms1mx4.9/42, Error ellipse: s-maj=15.0km s-min=12.0km az=37.0*
NEIC ***17*** *19:33:45.5±1.6,58.0S±0.1×25.3W±0.2,h47km±5km, mb5.2/55, Error ellipse: s-maj=17.3km s-min=11.0km az=221.0*
BJI ***17*** *19:33:47.0±0.0,58.00S×25.40W,h60km,mB5.3/5, Ms5.5/16,Ms7 5.3/16*
GCMT ***17*** *19:33:48.5±0.1,58.14S±0.01×24.63W±0.01,h37km,*

MW5.5/133, Moment Tensor Solution. s119,c201; s133,c231; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr2.27±.04; Mtt0.28±.03; Mpp-2.55±.03; Mrt-0.27±.04; Mrp0.46±.02; Mtp1.09±.04; Best double couple: M2.69200×10^17 NP1:ϕs174.00000°,δ33.00000°, λ94.00000°. NP2:ϕs349.00000°,δ57.00000°,λ87.00000°. Principal axes: T 2.5170, Plg78.0000°, Azm250.0000°; N 0.3460, Plg2.0000°, Azm350.0000°; P -2.8670, Plg12.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

MOS ***17*** *19:33:48.3±1.2,58.06S×25.48W,h43km,mb5.2/7 Error ellipse: s-maj=22.0km s-min=11.0km az=107.2*

ISC 17 19:33:45.6±0.5, 58.09S±0.05×25.27W±0.06, h51km±4km, h51km:pP-P,n458,σ1s38/450, mb5.1/40, MS5.0/52, 14C-8D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.33**	**297**		*e*P	**Pn**	**19 35 33.5**	**+3.7**
HOPE	**Hope Point**	**7.33**	**297**			**Pn**	**19 35 33.5**	**+3.7**
VNA1	**Neumayer--Stat**	**14.50**	**157**	P		**Pn**	**19 37 07.4**	**-0.1**
VNA1				S		Sn	19 39 37.4	-9.2
VNA3	**Neumayer Olymp**	**14.71**	**160**	P		**Pn**	**19 37 09.5**	**-0.7**
VNA3				S		Sn	19 39 36.8	-15
VNA2	**Neumayer--Watz**	**14.90**	**157**	P		**Pn**	**19 37 11.8**	**-0.9**
	baz=328,slow=13							
VNA2				S		Sn	19 39 44.6	-12
SNAA	**Sanae**	**16.44**	**155**	P		**Pn**	**19 37 33.1**	**+0.7**
SNAA	**Sanae**	**16.44**	**155**	Pn		**Pn**	**19 37 33.5**	**+1.0**
	18nm,0.3s,baz=321,slow=14,SNR=425							
SNAA				Sn		Sn	19 40 21.6	-12
	1.1nm,0.3s,baz=337,slow=12,SNR=1.6							
SNAA				LR		LR	19 42 25.2	
	comp=Z,5μm,21.9s,baz=316,slow=32							
SNAA	**Sanae**	**16.44**	**155**	*ce*P		**P**	**19 37 34.1**	**-0.4**
SNAA				pmax		pmax		
	comp=Z,179nm,1.3s							
SNAA	**Sanae**	**16.44**	**155**			**Pn**	**19 37 33.3**	**+0.8**
SNAA				lAmb		lAmb	19 37 55.2	
	comp=Z,175nm,1.0s							
TROLL	**Troll, Antarti**	**17.95**	**152**	P		**P**	**19 37 51.8**	**+0.6**
EFI	**East Falkland**	**19.78**	**275**	*e*P		**P**	**19 38 11.7**	**+0.5**
EFI				pmax		pmax		
	comp=Z,191nm,1.7s							
NVL	**N'lazarevskaya**	**19.98**	**144**	*e*P		**Pn**	**19 38 17.0**	**+1.7**
NVL				*e*S		**S**	**19 41 51.4**	**-3.4**
NVL				pmax		pmax		
	comp=Z,14nm,0.5s							
BELA	**Belgrano 2**	**20.12**	**186**	P		**P**	**19 38 14.6**	**-0.2**
BELA				lAmb		lAmb	19 38 21.2	
	comp=Z,126nm,1.2s							
USHA	**Ushuaia**	**23.76**	**259**	P		**P**	**19 38 51.8**	**-1.2**
	comp=Z,14nm,0.8s,baz=354,slow=18,SNR=3.1							
USHA				LR		LR	19 45 59.9	
	comp=Z,9μm,21.2s,baz=108,slow=31							
MG05	**Puerto Natales**	**27.43**	**263**	P		**P**	**19 39 26.0**	**-0.1**
MG05				lAmb		lAmb	19 39 29.0	
	comp=Z,47nm,0.9s							
GO08	**Villa O'Higgin**	**29.29**	**268**	P		**P**	**19 39 43.7**	**+1.0**
SYO	**Syowa Base**	**29.34**	**138**	*i*P		**P**	**19 39 41.2**	**-1.8**
AY01	**Puyuhuapi**	**31.93**	**274**	P		**P**	**19 40 06.3**	**+0.4**
AY01				lAmb		lAmb	19 40 27.8	
	comp=Z,29nm,0.8s							
QSPA	**South Pole Qui**	**32.15**	**180**	P		**P**	**19 40 09.2**	**+1.2**
	comp=Z,27nm,0.7s,baz=217,slow=1.0,SNR=82							
QSPA				LR		LR	19 53 06.7	
	comp=Z,3μm,19.4s,baz=185,slow=36							
QSPA	**South Pole Qui**	**32.15**	**180**	P		**P**	**19 40 09.2**	**+1.2**
QSPA	**South Pole Qui**	**32.15**	**180**	P		**P**	**19 40 09.5**	**+1.5**
LL02	**Futaleuf**	**32.34**	**277**	P		**P**	**19 40 09.6**	**-0.1**
LL02				lAmb		lAmb	19 40 34.2	
	comp=Z,32nm,1.1s							
PLTB	**Pedras Altas**	**32.64**	**311**	P		**P**	**19 40 11.3**	**-1.1**
PLTB				lAmb		lAmb	19 40 13.5	
	comp=Z,28nm,0.5s							
PLTB	**Pedras Altas**	**32.64**	**311**	*e*P		**P**	**19 40 11.7**	**-0.7**
PLCA	**Paso Flores**	**33.41**	**281**	P		**P**	**19 40 18.2**	**-0.9**
	comp=Z,18nm,0.9s,baz=147,slow=5.9,SNR=36							
PLCA				PcP		**PcP**	**19 42 59.9**	**+0.4**
	comp=Z,4.6nm,0.9s,baz=146,slow=4.1,SNR=2.3							
PLCA				LR		LR	19 54 14.4	
	comp=Z,2μm,18.1s,baz=128,slow=37							
PLCA	**Paso Flores**	**33.41**	**281**	P		**P**	**19 40 18.3**	**-0.9**
PLCA				lAmb		lAmb	19 40 38.5	
	comp=Z,36nm,0.9s							
PLCA						**PcP**	**19 42 59.8**	**+0.4**
PLCA	**Paso Flores**	**33.41**	**281**	P		**P**	**19 40 19.4**	**+0.3**
PLCA				X			19 40 27.5	
PLCA				pP		**sP**	**19 40 37.5**	**+0.5**
CPSB	**Cacapava Do Su**	**33.78**	**313**	*e*P		**P**	**19 40 22.8**	**+0.4**
LL04	**Puerto Octay**	**34.25**	**279**	P		**P**	**19 40 24.6**	**-1.8**
LL04				lAmb		lAmb	19 40 45.4	
	comp=Z,30nm,0.9s							
LC01	**Cunco**	**35.45**	**282**	P		**P**	**19 40 36.0**	**-0.7**
LC01				lAmb		lAmb	19 40 57.1	
	comp=Z,34nm,1.0s							
ITQB	**Itaqui**	**35.70**	**309**	P		**P**	**19 40 37.2**	**-1.7**
ITQB	**Itaqui**	**35.70**	**309**	*e*P		**P**	**19 40 38.1**	**-0.8**
ESAR	**Angra dos Reis**	**37.66**	**330**	*e*P		**P**	**19 40 57.0**	**+1.4**
PARB	**Paraibuna**	**37.68**	**328**	*e*P		**P**	**19 40 57.3**	**+1.5**
MAN01	**Angra dos Reis**	**37.69**	**331**	*e*P		**P**	**19 40 57.7**	**+1.8**
BI05	**Punta Hualpn**	**37.76**	**283**	P		**P**	**19 40 56.0**	**-0.3**
MAW	**Mawson**	**37.89**	**141**	P		**P**	**19 40 57.5**	**+0.4**
	comp=Z,11nm,0.4s,baz=231,slow=8.3,SNR=45							
MAW				PcP		**PcP**	**19 43 13.4**	**+1.4**
	comp=Z,4.5nm,0.7s,baz=255,slow=13,SNR=1.9							
MAW				LR		LR	19 54 28.8	
	comp=Z,2μm,20.2s,baz=248,slow=33							
MAW	**Mawson**	**37.89**	**141**	P		**P**	**19 40 57.4**	**+0.4**
DUB01	**Friburgo-RJ**	**38.05**	**334**	*e*P		**P**	**19 41 00.3**	**+1.4**
VAS01	**Vassouras-RJ**	**38.11**	**332**	*e*P		**P**	**19 41 01.0**	**+1.5**
CAM01	**Campos-RJ**	**38.13**	**335**	*e*P		**P**	**19 41 01.0**	**+1.5**
VAO	**Valinhos**	**38.38**	**327**	*e*P		**P**	**19 41 02.2**	**+0.5**
PTGB	**Pitanga**	**38.42**	**319**	*e*P		**P**	**19 41 01.5**	**-0.6**
GO05	**Huala**	**38.45**	**286**	P		**P**	**19 41 01.5**	**-0.7**
GO05				lAmb		lAmb	19 41 11.3	
	comp=Z,28nm,1.2s							
BO01	**Tunca**	**38.51**	**288**	P		**P**	**19 41 02.3**	**-0.4**
BO01				lAmb		lAmb	19 41 20.5	
	comp=Z,35nm,1.4s							
BO04	**La Punta**	**38.59**	**289**	P		**P**	**19 41 02.9**	**-0.5**
FRTB	**Fartura**	**38.85**	**323**	*e*P		**P**	**19 41 06.1**	**+0.4**
CPUP	**Villa Florida**	**38.95**	**311**	P		**P**	**19 41 04.4**	**-2.0**
	comp=Z,6.5nm,0.5s,baz=149,slow=7.6,SNR=20							
CPUP				PcP		**PcP**	**19 43 15.8**	**-0.2**
	comp=Z,7.5nm,0.9s,baz=87,slow=5.2,SNR=2.4							
CPUP				LR		LR	19 56 08.8	
	comp=Z,920nm,19.5s,baz=160,slow=35							
CPUP	**Villa Florida**	**38.95**	**311**	P		**P**	**19 41 04.6**	**-1.8**
CPUP				pmax		pmax		
	comp=Z,29nm,1.2s							
CPUP	**Villa Florida**	**38.95**	**311**	P		**P**	**19 41 04.6**	**-1.8**
CPUP				lAmb		lAmb	19 41 23.3	
	comp=Z,29nm,1.1s							
CPUP	**Villa Florida**	**38.95**	**311**	*e*P		**P**	**19 41 04.3**	**-2.0**
ALF01	**Guarapari-ES**	**39.09**	**337**	*e*P		**P**	**19 41 08.3**	**+0.7**
RCLB	**Rio Claro- Sao**	**39.09**	**326**	*e*P		**P**	**19 41 08.1**	**+0.3**
BSCB	**Bom Sucesso**	**39.68**	**331**	*e*P		**P**	**19 41 12.8**	**+0.1**
SUR	**Sutherland**	**40.25**	**71**	P		**P**	**19 41 17.8**	**+0.4**
	comp=Z,7.2nm,0.8s,baz=244,slow=12,SNR=2.3							
SUR				LR		LR	19 53 52.3	
	comp=Z,4μm,21.1s,baz=215,slow=30							
RIB01	**Linhares ES**	**40.29**	**338**	*e*P		**P**	**19 41 18.8**	**+1.2**
BB19B	**Bebedouro**	**40.67**	**326**	*e*P		**P**	**19 41 20.6**	**-0.2**
PCMB	**Pacaembu**	**41.02**	**322**	*e*P		**P**	**19 41 23.6**	**0.0**
SJMB	**Sao Joao De Ma**	**41.05**	**337**	*e*P		**P**	**19 41 23.9**	**0.0**
CO01	**Juntas del Tor**	**41.58**	**293**	P		**P**	**19 41 28.3**	**-0.1**
NAN01	**Guarapari, ES**	**41.67**	**338**	*e*P		**P**	**19 41 28.6**	**-0.4**
GO04	**Tololo Observa**	**41.76**	**292**	P		**P**	**19 41 28.9**	**-1.1**
DIAM	**Diamantina, MG**	**42.00**	**333**	*e*P		**P**	**19 41 32.2**	**+0.4**
ITRB	**Iturama**	**42.51**	**324**	*e*P		**P**	**19 41 36.1**	**+0.2**
GUA01	**Guaratinga, BA**	**42.83**	**339**	*e*P		**P**	**19 41 38.2**	**-0.2**
IPMB	**Ipameri, GO**	**43.49**	**327**	*e*P		**P**	**19 41 44.3**	**+0.5**
MC01	**Montes Claros**	**43.59**	**334**	*e*P		**P**	**19 41 43.7**	**-0.9**
AQDB	**Aquidauana**	**43.61**	**316**	P		**P**	**19 41 42.5**	**-2.2**
AQDB				lAmb		lAmb	19 42 01.5	
	comp=Z,23nm,0.7s							
AQDB	**Aquidauana**	**43.61**	**316**	*e*P		**P**	**19 41 43.2**	**-1.5**
AC02	**Maricunga**	**43.73**	**296**	P		**P**	**19 41 45.1**	**-1.1**
CMC01	**Camacan, BA**	**43.98**	**340**	*e*P		**P**	**19 41 48.4**	**+0.8**
SBA	**Scott Base**	**44.10**	**184**	P		**P**	**19 41 50.8**	**+2.8**
SBA				pmax		pmax		
	comp=Z,54nm,1.9s							
SBA	**Scott Base**	**44.10**	**184**	⇑P		**P**	**19 41 50.2**	**+2.2**
VNDA	**Vanda**	**44.57**	**182**	P		**P**	**19 41 53.5**	**+1.8**
	comp=Z,25nm,0.7s,baz=185,slow=6.6,SNR=116							
VNDA	**Vanda**	**44.57**	**182**	P		**P**	**19 41 53.6**	**+1.8**
VNDA				pmax		pmax		
	comp=Z,32nm,0.8s							
VNDA	**Vanda**	**44.57**	**182**	P		**P**	**19 41 53.6**	**+1.8**
VNDA				lAmb		lAmb	19 41 56.2	
	comp=Z,32nm,0.8s							
JANB	**Januaria**	**45.27**	**334**	*e*P		**P**	**19 41 57.3**	**-0.7**
GO02	**Mina Guanaco**	**45.36**	**297**	P		**P**	**19 41 57.3**	**-1.7**
CCD	**Concordia, Ant**	**45.47**	**169**	⇑P		**P**	**19 42 00.1**	**+0.7**
BOSA	**Boshof**	**45.53**	**72**	P		**P**	**19 41 59.0**	**-1.1**
	comp=Z,7.7nm,0.7s,baz=220,slow=6.5,SNR=16							
BOSA				LR		LR	19 56 58.6	
	comp=Z,3μm,21.8s,baz=228,slow=31							
BOSA	**Boshof**	**45.53**	**72**	P		**P**	**19 41 59.8**	**-0.3**
BOSA				pmax		pmax		
	comp=Z,53nm,1.5s							
BOSA	**Boshof**	**45.53**	**72**	P		**P**	**19 41 59.8**	**-0.3**
BOSA				lAmb		lAmb	19 42 16.8	
	comp=Z,53nm,1.5s							
GDU01	**Guandu, BA**	**45.59**	**340**	*e*P		**P**	**19 42 00.3**	**-0.2**
BDFB	**Brasilia**	**45.66**	**329**	P		**P**	**19 41 59.8**	**-1.4**
	comp=Z,6.3nm,0.3s,baz=146,slow=5.8,SNR=20							
BDFB				LR		LR	19 59 52.5	
	comp=Z,1μm,20.7s,baz=147,slow=35							
BDFB	**Brasilia**	**45.66**	**329**	P		**P**	**19 42 00.8**	**-0.4**
BDFB				pmax		pmax		
	comp=Z,20nm,1.0s							
BDFB	**Brasilia**	**45.66**	**329**	P		**P**	**19 42 00.8**	**-0.4**
DVLD	**Doverlandia**	**45.96**	**323**	*e*P		**P**	**19 42 02.9**	**-0.5**
PP1B	**Ponte de Pedra**	**45.97**	**319**	*e*P		**P**	**19 42 03.1**	**-0.4**
PB15	**IPOC Station P**	**46.98**	**299**	P		**P**	**19 42 12.5**	**+0.9**
LVC	**Limon Verde**	**47.23**	**300**	P		**P**	**19 42 11.9**	**-1.8**
	comp=Z,6.2nm,0.4s,baz=158,slow=7.7,SNR=4.9							
LVC				LR		LR	20 03 24.9	
	comp=Z,1μm,19.5s,baz=172,slow=38							
LVC	**Limon Verde**	**47.23**	**300**	*e*P		**P**	**19 42 14.3**	**+0.5**
LVC	**Limon Verde**	**47.23**	**300**	P		**P**	**19 42 14.3**	**+0.5**
LVC	**Limon Verde**	**47.23**	**300**	*e*P		**P**	**19 42 11.7**	**-2.0**
SALV	**Santo Antonio**	**47.83**	**319**	*e*P		**P**	**19 42 17.3**	**-0.7**
NBLA	**Lagarto - SE**	**47.96**	**343**	*e*P		**P**	**19 42 19.2**	**+0.2**
SDBA	**SAO DESIDERIO**	**47.96**	**334**	*e*P		**P**	**19 42 18.5**	**-0.6**
PB09	**IPOC Station P**	**48.09**	**300**	P		**P**	**19 42 19.9**	**-0.3**
PB09				lAmb		lAmb	19 42 30.3	
	comp=Z,46nm,1.5s							
PB07	**IPOC Station P**	**48.44**	**299**	P		**P**	**19 42 21.7**	**-1.2**
PB07				lAmb		lAmb	19 42 44.0	
	comp=Z,13nm,0.6s							
NBPN	**Ponto Novo - B**	**48.51**	**340**	*e*P		**P**	**19 42 23.6**	**+0.4**
LBTB	**Lobatse**	**48.67**	**70**	P		**P**	**19 42 24.1**	**-0.4**
	comp=Z,13nm,0.8s,baz=214,slow=8.7,SNR=9.0							
LBTB				LR		LR	19 59 18.3	
	comp=Z,3μm,19.1s,baz=210,slow=32							
PB02	**IPOC Station P**	**48.80**	**299**	P		**P**	**19 42 24.0**	**-1.6**
PB02				lAmb		lAmb	19 42 42.7	
	comp=Z,14nm,0.7s							
NBAN	**Anadia - AL**	**49.05**	**346**	*e*P		**P**	**19 42 28.0**	**+0.6**
PEXB	**Peixe**	**49.11**	**330**

MBAR Mbarara 72.20 61⇑ *e*P P 19 45 03.3 -1.9
SOTA Rioblanco 72.53 305 *e*P P 19 45 09.4 +1.8
PCON Cinco Dias 72.61 305 *e*P P 19 45 09.4 +1.2
POPC Popayan, Colom 72.92 305 *e*P P 19 45 08.4 -1.2
VILC Villavicencio, 73.07 309 *e*P P 19 45 09.4 -1.0
ORTC Ortega, Tolima 73.54 307 *e*P P 19 45 11.3 -1.7
CHIC Chingaza 73.55 309 *e*P P 19 45 11.3 -2.2
ROSC El Rosal 73.99 308 P P 19 45 15.4 -0.6
comp=Z,15nm,0.7s,baz=153,slow=14,SNR=7.2
ROSC LR LR 20 18 02.6
comp=Z,619nm,21.4s,baz=198,slow=36
YOTC Yotoco, Valle 74.07 306 *e*P P 19 45 13.2 -3.0
TOA0 Torodi Ar. Sit 74.36 27 P P 19 45 17.7 +0.1
TOA0 IAmb IAmb 19 45 20.0
comp=Z,28nm,0.8s
TORD Torodi Ar. Bea 74.36 27 P P 19 45 17.4 -0.3
comp=Z,26nm,0.7s,baz=198,slow=5.7,SNR=98
TORD Torodi Ar. Bea 74.36 27 P P 19 45 17.3 -0.3
TORD IAmb IAmb 19 45 39.1
comp=Z,30nm,0.9s
GUY2C Guyana, Caldas 74.77 308 *e*P P 19 45 18.0 -2.7
KMBO Kilima Mbogo 74.84 67 LR LR 20 16 00.4
comp=Z,2µm,18.5s,baz=241,slow=34
KMBO Kilima Mbogo 74.84 67 P P 19 45 21.8 +1.0
KMBO pmax pmax
comp=Z,12nm,1.8s
PLMC San Jos del P 74.87 307 *e*P P 19 45 19.9 -0.9
BAUV El Baul 75.27 316 P P 19 45 22.9 0.0
PTBC PUERTO BERRIO, 75.58 309 *e*P P 19 45 18.9 -5.8
PAMC Pamplona, Colo 75.59 311 *e*P P 19 45 21.8 -3.6
CBOC Ciudad Bolivar 75.62 307 *e*P P 19 45 21.8 -3.4
SOCV Socops 75.72 313 *e*P P 19 45 25.6 +0.1
GRGR Grenville 76.04 323 P P 19 45 27.3 0.0
BIRV Birongo 76.04 318 P P 19 45 27.6 +0.3
SDV Santo Domingo 76.19 314 LR LR 20 20 28.7
comp=Z,1µm,20.1s,baz=164,slow=37
SDV Santo Domingo 76.19 314 *e*P P 19 45 28.5 +0.1
SDV Santo Domingo 76.19 314 *e*P P 19 45 28.5 +0.1
ZARC Zaragoza, Cauc 76.61 309 *e*P P 19 45 25.6 -4.9
DBBC Dabeiba 76.74 308 *e*P P 19 45 27.6 -3.9
UREC San Jos de Ur 77.12 309 *e*P P 19 45 29.5 -4.0
RPZ Rata Peaks 77.65 192 LR LR 20 17 08.6
comp=Z,475nm,19.8s,baz=171,slow=34
KHZ Kahutara 78.63 194 P P 19 45 44.2 +2.6
SJCC San Jacinto, C 78.91 310 *e*P P 19 45 41.9 -1.5
THZ Tophouse 79.35 194 P P 19 45 47.1 +1.4
THZ Tophouse 79.35 194 P P 19 45 47.7 +2.1
DSZ Denniston Nort 79.51 193 P P 19 45 45.7 -0.7
TUWZ Tuamarina 79.55 195 P P 19 45 52.6 +6.0
SMRC Santa Marta, M 79.67 311 *e*P P 19 45 46.7 -0.8
TCW Tory Channel 79.72 195 P P 19 45 49.4 +1.9
MRNZ Matariki Terra 79.73 194 P P 19 45 48.0 +0.4
NNZ Nelson 79.83 194 P P 19 45 48.6 +0.4
BFZ Birch Farm 79.95 196 P P 19 45 50.8 +1.9
TKNZ Takaka Hill 80.06 194 P P 19 45 44.8 -4.7
MRZ Mangatainoka R 80.07 196 P P 19 45 44.7 -4.8
DUWZ D'Urville Isla 80.17 195 P P 19 45 50.9 +0.9
QRZ Quartz Range 80.32 194 P P 19 45 47.9 -3.0
WNVZ Wahianoa 81.38 196 P P 19 45 58.8 +2.1
SNVZ South Ngauruho 81.51 196 P P 19 46 01.0 +3.6
OTVZ Oturere 81.53 196 P P 19 45 58.5 +1.0
NNVZ North Ngauruho 81.57 196 P P 19 46 00.9 +3.2
URZ Urewera 82.19 198 LR LR 20 17 51.1
comp=Z,406nm,21.8s,baz=210,slow=32
MTP Monte Pirata 82.89 322 P P 19 46 03.4 -1.0
MTP IAmb IAmb 19 46 05.7
comp=Z,19nm,0.8s
STVI Saint Thomas 82.93 322 P P 19 46 03.7 -1.0
PDPR Patillas Dam, 82.97 321 P P 19 46 03.4 -1.5
CUPR Culebra, Puert 83.00 322 P P 19 46 04.5 -0.5
SJG San Juan 83.10 321 LR LR 20 22 10.2
comp=Z,262nm,22.0s,baz=166,slow=35
JTS Las Juntas de 83.48 301 LR LR 20 24 06.2
comp=Z,200nm,19.8s,baz=216,slow=36
TBI Tubuai 86.58 230 *e*S **SKSac 19 56 48.3 +2.8**
comp=Z,329nm,25.8s
TBI Tubuai 86.58 230 *e*LR LR 20 13 45.4
comp=Z,569nm,24.0s,baz=158
ATD Arta Tunnel 88.53 65 LR LR 20 24 27.1
comp=Z,2µm,19.1s,baz=184,slow=34
STKA Stephens Creek 89.70 169 P P 19 46 38.2 +0.3
comp=Z,5.1nm,0.8s,baz=153,slow=10,SNR=11
STKA LR LR 20 27 00.2
comp=Z,1µm,18.2s,baz=194,slow=36
STKA Stephens Creek 89.70 169⇑ *e*P P 19 46 38.8 +0.9
RAO Raoul Island 90.02 204 LR LR 20 20 06.4
comp=Z,564nm,22.0s,baz=58,slow=31
PPT2 Papeete2 91.78 232 *e*S S 19 57 38.0 -6.8
comp=Z,514nm,30.2s
PPT2 Papeete2 91.78 232 *e*LR LR 20 16 12.1
comp=Z,2µm,22.0s,baz=153
PPT Papeete 91.80 232 LR LR 20 19 41.9
comp=Z,936nm,19.8s,baz=156,slow=30
MDT Midelt 92.21 17 LR LR 20 24 23.7
comp=Z,629nm,18.8s,baz=192,slow=33
RAR Rarotonga 92.44 222 LR LR 20 25 19.6
comp=Z,380nm,18.0s,baz=183,slow=34
CMIG Matias Romero 94.05 296 LR LR 20 23 46.9
comp=Z,356nm,21.9s,baz=156,slow=32
TAOE Nuku Hiva Isla 95.23 244 *e*LR LR 20 17 44.4
comp=Z,1µm,28.0s
ASAR Alice Springs 96.72 161 P P 19 47 09.7 -0.8
comp=Z,5.0nm,0.8s,baz=184,slow=3.5,SNR=46
ASAR PP PP 19 51 05.6 +1.0
comp=Z,0.8nm,1.0s,baz=204,slow=7.2,SNR=4.2
ASAR LR LR 20 28 31.3
comp=Z,1µm,19.5s,baz=202,slow=34
ASAR Alice Springs 96.72 161 P P 19 47 09.8 -0.6
ASAR Alice Springs 96.72 161 P P 19 47 09.8 -0.6
AS31 Alice Springs 96.72 161 P P 19 47 10.7 +0.3
KEST Kesra 97.88 28 P P 19 47 14.2 -1.0
comp=Z,3.2nm,1.0s,baz=186,slow=22,SNR=2.2
KEST LR LR 20 26 45.5
comp=Z,689nm,19.8s,baz=162,slow=33
ESDC Sonseca Array 99.03 16 P **Pdif 19 47 18.3 -1.8**
comp=Z,0.3nm,0.6s,baz=199,slow=3.7,SNR=2.9
ESDC LR LR 20 27 53.7
comp=Z,248nm,20.2s,baz=182,slow=33
DZM Mont Dzumac 99.55 191 LR LR 20 29 50.5
comp=Z,383nm,19.8s,baz=196,slow=34
DZM Mont Dzumac 99.55 191 *e*LR LR 20 19 43.3
comp=Z,576nm,23.2s
WRA Warramunga Arr 100.43 161 P **Pdif 19 47 26.7 -0.3**
comp=Z,1.4nm,0.8s,baz=190,slow=3.8,SNR=11
WRA PP PP 19 51 33.7 +0.7
comp=Z,0.9nm,0.9s,baz=194,slow=6.8,SNR=4.6
WRAB Tennant Creek 100.44 161⇑ *e*P **Pdif 19 47 25.0 -2.1**
WRAB pmax pmax
comp=Z,2.0nm,1.0s
TXAR Lajitas Array 108.64 295 PKiKP **PKiKP 19 52 09.2 +0.9**
comp=Z,0.2nm,0.5s,baz=131,slow=2.5,SNR=2.6
BRTR Keskin Array B 109.14 44 PP PP 19 52 37.7 -1.1
comp=Z,0.6nm,0.8s,baz=190,slow=7.3,SNR=3.6
BRTR PKKPbc **PKKPbc 20 03 14.6 0.0**
comp=Z,0.9nm,0.8s,baz=71,slow=4.0,SNR=5.8
ANN Anapa 114.94 44 *e*P **Pdif 19 48 38.5 +7.8**
ANN pmax pmax
comp=Z,20nm,0.8s
ANN MLR MLR
comp=Z,345nm,22.0s
ANN MLR MLR
comp=N,342nm,22.0s
NEY Neytrino 115.66 49⇓ *i*PKiKP **PKPdf 19 52 20.3 -1.0**
KIV Kislovodsk 116.24 48 *i*PKiKP **PKPdf 19 52 22.1 -0.2**
KIV *e* 19 53 28.9
KIV *e*PS **PKKPdf 20 03 11.4 -5.4**
KIV pmax pmax
comp=Z,3.0nm,1.1s
MAK Makhachkala 117.38 52 *e*P **Pdif 19 48 36.4 -5.2**
MAK *i* 19 52 23.7
MAK *e* 19 52 41.7
MAK *e* 19 53 36.4
MAK *e* 19 59 10.8
MAK *e*SS SS 20 09 37.7 -6.0
MAK pmax pmax
comp=Z,112nm,1.2s
MAK MLR MLR
comp=Z,562nm,18.0s
MNK Minsk 120.17 33 *i*PKiKP **PKPdf 19 52 28.9 -0.4**
MNK *i* 19 52 53.2
MNK *i* 19 53 54.9
MNK *i*PPP PPP 19 56 28.0
MNK *i* 19 59 35.5
MNK *i*SP SP 20 03 38.4 -1.2
MNK *i*PS **PS 20 03 45.8 +0.2**
MNK *i*SS **SS 20 10 19.2 -0.1**
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=Z,3.0nm,1.0s
MNK Minsk 120.17 33 *i*PKP **PKPdf 19 52 28.9 -0.4**
comp=E,1.0nm,1.0s
MNK *i*PKP **PKPdf 19 52 28.9 -0.4**
comp=N,11nm,1.0s
MNK *i*PKP **PKPdf 19 52 28.9 -0.4**
comp=Z,3.0nm,1.0s,baz=210
MNK *i*pPKP **sPKPdf 19 52 46.5 -2.1**
MNK *i*sPKP 19 52 53.2
MNK *i*PP **PP 19 53 55.0 -1.2**
MNK *i*PPP PPP 19 56 28.1
MNK *i*SKS **SKSdf 19 59 35.5 -0.8**
MNK *i*SKKS **SKKSac 20 00 53.8 +3.9**
MNK *i*SP SP 20 03 38.5 -1.2
MNK *i*PS **PS 20 03 45.8 +0.2**
MNK *i*SS **SS 20 10 19.3 -0.1**
MNK *i*SSS SSS 20 14 19.1
MNK *i*LR LR 20 35 44.7
MNK *i*LRM MLR 20 38 48.7
comp=Z,267nm,19.9s
MNK *i*LRM MLR 20 40 02.2
comp=E,50nm,20.0s
MNK *i*LRM MLR 20 40 04.8
comp=N,186nm,20.0s
EDW2 Edwards Air Fo 120.21 288 P **PKiKP 19 52 31.1 +0.8**
baz=142
K22A Casper 120.82 302 P **PKiKP 19 52 33.1 +1.7**
baz=142
AGMN Agassiz Nation 120.86 313 P **PKPdf 19 52 30.4 -0.5**
baz=144
MPMC Manual Prospec 120.88 289 P **PKiKP 19 52 32.7 +1.0**
baz=142
RSSD Black Hills 120.89 305 P **PKPdf 19 52 31.0 -0.4**
baz=143
TPNV Topopah Spring 120.96 291 P **PKiKP 19 52 31.9 +0.1**
baz=142
ISA Isabella, Lake 121.06 288 P **PKiKP 19 52 33.2 +1.3**
baz=142
CWC Cottonwood Cre 121.47 289 P **PKiKP 19 52 34.1 +1.2**
baz=142
R11A Troy Canyon, C 121.72 292 P **PKiKP 19 52 34.7 +1.4**
baz=141
DUG Dugway, Tooele 121.82 296 P **PKiKP 19 52 34.1 +0.8**
baz=141
VRH Novokhopyorsk 121.87 43 *e*PKiKP **PKPdf 19 52 31.5 -1.2**
VRH pmax pmax
comp=Z,6.0nm,0.9s
NB2 NORSAR Subarra122.17 20 PKPdf **PKiKP 19 52 33.9 +0.7**
comp=Z,3.7nm,1.1s,baz=202,slow=1.9
NOA NORSAR Array B122.17 20 PKP **PKPdf 19 52 32.1 -0.9**
comp=Z,1.4nm,0.9s,baz=196,slow=1.9,SNR=3.6
PDAR Pinedale Array 122.30 300 PKP **PKPdf 19 52 32.5 -1.6**
comp=Z,0.8nm,0.4s,baz=131,slow=4.9,SNR=5.5
ULM Lac du Bonnet 122.44 314 PKP **PKPdf 19 52 32.1 -1.8**
comp=Z,2.5nm,0.5s,baz=153,slow=2.3,SNR=4.1
ULM Lac du Bonnet 122.44 314⇑ *i*PKiKP **PKPdf 19 52 33.8 -0.1**
PYUN Piuthan 122.96 89 *e*P **PKPdf 19 52 36.0 +0.1**
comp=Z,14nm,0.8s
KOLN Koldanda 123.02 90 *e*P **PKPdf 19 52 35.9 -0.1**
comp=Z,24nm,0.8s
NVAR Mina Array Bea 123.13 291 PKP **PKPdf 19 52 35.6 -0.3**
comp=Z,2.0nm,0.9s,baz=152,slow=3.9,SNR=10
CMAR Chiang Mai Arr 123.37 110 PKP **PKPdf 19 52 36.4 -0.3**
comp=Z,1.5nm,0.8s,baz=232,slow=3.8,SNR=58
CMAR Chiang Mai Arr 123.37 110 PKiKP **PKPdf 19 52 36.7 0.0**
CMAR Chiang Mai Arr 123.37 110 PKPdf **PKPdf 19 52 36.7 0.0**
DANN Dangsing 123.57 89 *e*P **PKPdf 19 52 36.0 -1.1**
comp=Z,37nm,0.8s
CHTO Chiang Mai 123.67 110 PKiKP **PKiKP 19 52 38.3 +0.8**
CHTO Chiang Mai 123.67 110 PKPdf **PKiKP 19 52 38.3 +0.8**
DMN Daman 123.69 91 *e*P **PKiKP 19 52 37.9 +0.3**
comp=Z,15nm,0.8s
GKN Gorkha 123.76 90 *e*P **PKPdf 19 52 36.9 -0.4**
comp=Z,17nm,0.8s
PKIN Phulchoki 123.82 91 *e*P **PKPdf 19 52 37.3 -0.3**
comp=Z,12nm,0.7s
PKI Pulchoki 123.82 91 *e*P **PKPdf 19 52 37.4 -0.3**
comp=Z,14nm,0.8s
KKN Kakani 123.93 91 *e*P **PKPdf 19 52 37.0 -0.8**
comp=Z,12nm,0.8s
RAMN Ramite 123.96 93 *e*P **PKiKP 19 52 38.2 0.0**
RLMT Red Lodge 123.99 302 P **PKiKP 19 52 37.7 +0.1**
baz=140
ODAN Odare 124.30 94 *e*P **PKPdf 19 52 38.7 +0.2**
comp=Z,23nm,0.8s
JIRN Jiri 124.31 92 *e*P **PKPdf 19 52 38.7 0.0**
GUN Gumba 124.34 92 *e*P **PKPdf 19 52 37.6 -1.1**
comp=Z,28nm,0.9s
TAPN Taplejung 124.87 94 *e*P **PKPdf 19 52 39.2 -0.5**
BOZ Bozeman (W) 125.43 301 P **PKiKP 19 52 40.7 +0.3**
baz=140
FINES FINESS Array B 125.71 28 PKP **PKPdf 19 52 39.0 -0.8**
comp=Z,3.1nm,0.5s,baz=176,slow=2.3,SNR=44
FINES FINESS Array B 125.71 28 PKiKP **PKPdf 19 52 39.2 -0.5**
FINES FINESS Array B 125.71 28 PKPdf 19 52 39.2 -0.5
O03E Paynes Creek 126.30 289 P **PKPdf 19 52 42.0 +0.2**
baz=139
EGMT Eagleton 126.42 304 P **PKiKP 19 52 42.5 +0.4**
baz=139
O02D Mt. Diablo Mer 126.71 289 P **PKiKP 19 52 43.2 +0.2**
baz=139
N02D Trinity Center 127.26 289 P **PKiKP 19 52 45.2 +1.1**
baz=139
ICESG Greenland Ices 127.31 354 *i*P **PKiKP 19 52 47.4 +3.8**
MSO Missoula 127.41 300 P **PKiKP 19 52 45.1 +0.9**
baz=138
M02C Callahan 127.65 290 P **PKiKP 19 52 47.2 +2.4**
baz=138
AB31 Akbulak array 127.67 56 *i*PKiKP **PKPdf 19 52 44.1 +0.2**
ABKAR Akbulak array 127.67 56 PKPdf **PKPdf 19 52 43.5 -0.4**
AKTO Aktyubinsk 127.71 53 PKiKP **PKPdf 19 52 44.0 0.0**
L04D Klamath Falls 127.99 291 P **PKiKP 19 52 46.0 +0.4**
baz=138
KK31 Karatay Array 128.03 68 *i*PKiKP **PKPdf 19 52 44.8 -0.1**
KSH Kashi 128.10 75 PKP **PKiKP 19 52 46.3 +0.4**
KSH LR LR
comp=Z,380nm,15.2s
KSH LR LR
comp=Z,200nm,17.1s
KSH LR LR
comp=Z,350nm,18.4s
J05D Fort Rock, OR 128.25 292 P **PKiKP 19 52 46.3 +0.3**
baz=138
KLMR Klimovskoe 128.91 35 *e*PKiKP **PKPdf 19 52 46.1 +0.2**
KLMR pmax pmax
comp=Z,47nm,1.5s
KLMR Klimovskoe 128.91 35 *e*PKPdf **PKPdf 19 52 46.1 +0.2**
KLMR AMP 19 53 01.9
comp=Z,47nm,1.5s
KLMR *e*SKP 19 56 19.7
K02D Willamette Mer 129.02 290 P **PKiKP 19 52 48.8 +1.3**
baz=138
I05D Terrebonne, OR 129.08 293 P **PKiKP 19 52 49.4 +1.8**
baz=137
QIZ Qiongzhong 129.09 121 PKP **PKPdf 19 52 47.3 -0.3**
QIZ SS SS 20 12 13.0 +1.3
QIZ LR LR
comp=Z,520nm,17.8s
QIZ LR LR
comp=Z,360nm,17.8s
QIZ LR LR
comp=Z,570nm,16.7s
I04A Tendick Farm, 129.21 292 P **PKiKP 19 52 48.2 +0.4**
baz=137
EKS2 Erkin-Say 129.32 70 P **PKiKP 19 52 48.9 +0.7**
SNR=14
UCH Uchtor 129.38 71 P **PKPdf 19 52 48.1 +0.1**
SNR=6.2
AAK Ala-Archa 129.67 71 P **PKiKP 19 52 49.6 +0.7**
SNR=10
AAK Ala-Archa 129.67 71 *c* *i*PKiKP **PKiKP 19 52 48.9 0.0**
AAK pmax pmax
comp=Z,7.0nm,0.7s
H04D Lebanon 129.90 292 P **PKiKP 19 52 50.9 +1.8**
baz=137
KBK Karagaybulak 129.91 71 P **PKiKP 19 52 49.8 +0.4**
SNR=5.4
USP Ospenovka 130.13 70 P **PKiKP 19 52 50.0 +0.3**
SNR=7.3
KIRV Kirov 130.42 42 *d* *i*PKiKP **PKiKP 19 52 49.8 +0.2**
KMI Kunming 130.86 109⇑ PKP **PKiKP 19 52 51.6 -0.4**
KMI LR LR
comp=Z,160nm,20.4s
KMI LR LR
comp=Z,470nm,20.4s
KMI LR LR
comp=Z,360nm,16.1s
MDOK Medeo 131.34 72 PKiKP **PKPdf 19 52 49.4 -1.9**
PRGR Permogore 131.41 37 *e*PKiKP **PKPdf 19 52 50.3 -0.3**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
PZH PanZhiHua 131.50 107 PKP **PKPdf 19 52 52.4 +0.3**
B05A Bryant 132.26 296 P **PKiKP 19 52 54.9 +1.2**
baz=135
ARU Arti 132.29 48 *i*PKiKP **PKiKP 19 52 58.1 +4.6**
ARU MLR MLR
comp=Z,402nm,21.0s
ARCES ARCESS Array B 132.46 22 PKP **PKPdf 19 52 52.2 -0.2**
comp=Z,4.0nm,0.7s,baz=214,slow=1.8,SNR=18
ARCES SKPbc **SKPab 19 56 19.1 +3.1**
comp=Z,3.9nm,1.0s,baz=247,slow=1.9,SNR=1.9
ARCES ARCESS Array B 132.46 22 PKiKP **PKPdf 19 52 52.6 +0.2**
ARCES ARCESS Array B 132.46 22 PKPdf 19 52 52.6 +0.2
OTUK Ortayu 132.63 64 PKiKP **PKPdf 19 52 49.5 -3.9**
PDGK Podgornoye 132.69 74 PKiKP **PKPdf 19 52 53.1 -0.7**
SVE Sverdlovsk 133.39 49 *e*PKiKP **PKiKP 19 53 02.2 +6.5**
SVE pmax pmax
comp=Z,31nm,1.9s
DAG Danmarks Havn 134.67 2 *i*P **PKPdf 19 52 56.0 -0.4**
BRVK Borovoye 134.96 58⇓ *i*PKiKP **PKPdf 19 52 57.4 -0.2**
BRVK pmax pmax
comp=Z,12nm,2.5s
BVAR Borovoye Array 134.98 58 PKP **PKPdf 19 52 57.5 -0.2**
comp=Z,2.8nm,0.7s
GOMU GeErMu 135.53 93 PKP **PKiKP 19 53 02.3 +1.0**
GOMU PP **PP 19 55 40.8 +2.9**
GOMU AMB AMB
comp=Z,85nm,4.4s
GOMU LR LR
comp=Z,220nm,16.9s
GOMU LR LR
comp=Z,190nm,15.7s
GOMU LR LR
comp=Z,360nm,17.8s
MK31 Makanchi Array 136.53 72⇓ *e*PKiKP **PKPdf 19 53 00.2 -0.6**
MKAR Makanchi Array 136.53 72 PKhKP PKPpre 19 52 50.0
comp=Z,0.8nm,0.6s,baz=220,slow=1.0,SNR=9.4
MKAR PKP **PKPdf 19 53 00.2 -0.6**
comp=Z,2.7nm,0.7s,baz=250,slow=3.6,SNR=9.8
MKAR SKPbc **SKiKP 19 56 33.6 -0.3**
comp=Z,0.5nm,0.8s,baz=222,slow=1.9,SNR=2.2
KURBB Kurchatov Arra 137.21 66 PKiKP PKPpre 19 52 56.3
WMQ Urumqi 137.28 79 *e*PKP **PKPdf 19 53 02.9 +0.6**
WMQ LR LR
comp=Z,360nm,16.3s
WMQ LR LR
comp=Z,360nm,23.9s
KURK Kurchatov 137.32 66⇓ *e*PKiKP **PKPdf 19 53 01.3 -0.7**
YKA Yellowknife Ar 138.38 316 PKhKP PKPpre 19 52 52.9
comp=Z,1.2nm,0.7s,baz=122,slow=3.0,SNR=16
YKA PKP **PKPdf 19 53 03.2 -0.4**
comp=Z,11nm,0.7s,baz=130,slow=2.0,SNR=65
YKA PP **PP 19 55 53.7 -1.3**
comp=Z,1.0nm,0.8s,baz=121,slow=6.4,SNR=4.0
YKA SKPbc **SKPbc 19 56 34.1 +0.7**
comp=Z,2.4nm,0.7s,baz=131,slow=3.4,SNR=6.5
YKA PKKP **PKKPdf 20 02 34.1 -0.3**
comp=Z,0.3nm,0.8s,baz=297,slow=2.4,SNR=4.2
YKA SKKPbc **SKKPbc 20 05 18.8 +2.0**
comp=Z,0.4nm,0.9s,baz=310,slow=5.5,SNR=4.4
LZH Lanzhou 140.20 101 *e*PKP **PKiKP 19 53 12.1 +1.6**
GTA Gaotai 140.56 94 *e*PKP **PKPdf 19 53 07.0 -1.5**
ZALV Zalesovo Beam 142.31 65 PKhKP PKPpre 19 53 05.2
comp=Z,1.4nm,0.4s,baz=226,slow=4.2,SNR=8.8
TGTN Hyland Airport 143.22 309 P PKPbc 19 53 10.6 +0.9
baz=120
LYN LuoYang 143.40 111⇑ PKP **PKiKP 19 53 21.9 +5.0**
LYN LR LR
comp=N,430nm,20.6s
LYN LR LR
comp=E,570nm,17.3s
LYN LR LR
comp=Z,700nm,19.2s
NJ2 Nanjing 144.38 121 *e*PKP **PKPdf 19 53 15.8 +0.4**
BESE Bessie Mountai 144.59 302 PKPdf PKPbc 19 53 14.2 +0.3
MMPY Sheldon Lake, 144.98 309 P PKPbc 19 53 14.7 -0.3
baz=117,SNR=27
C36M Paulatuk 145.19 322 PKPbc 19 53 14.6 -0.7
C36M Paulatuk 145.19 322 P **PKPbc 19 53 14.0 -1.3**
baz=113,SNR=20
SKAG Skagway 145.24 303 PKPab 19 53 16.4 +0.5
SKAG Skagway 145.24 303 P **PKPbc 19 53 15.5 -0.3**
baz=119
WHY Whitehorse 145.61 305 P **PKPdf 19 53 16.5 -0.2**
baz=118
FARO Faro, Yukon 145.67 308 P **PKPab 19 53 17.9 +0.3**
baz=116,SNR=17
M31M Drury Creek, Y 146.10 307 P **PKPdf 19 53 17.9 +0.5**
baz=116,SNR=26
N31M Braeburn, Yuko 146.38 306 P **PKPbc 19 53 18.8 -0.5**
baz=116,SNR=32
A36M Sachs Harbour 146.50 326 PKPdf **PKPbc 19 53 19.1 -0.2**
A36M Sachs Harbour 146.50 326 P **PKPbc 19 53 18.9 -0.4**
baz=109,SNR=70
HNS HongShan 146.76 111⇑ PKPbc **PKPab 19 53 22.0 -0.4**
BTO Baotou 146.79 102 *e*PKPbc **PKPbc 19 53 21.9 +0.6**
HYT Haines Junctio 146.84 304 PKPdf **PKPbc 19 53 20.8 +0.1**
HYT Haines Junctio 146.84 304 P **PKPbc 19 53 19.9 -0.8**
baz=116,SNR=16
TIA Tai'an 147.00 115 *e*PKPbc **PKPab 19 53 23.3 -0.1**
PNL Peninsula 147.17 301 P **PKPbc 19 53 21.5 0.0**
baz=117
YUK6 Outpost Mounta 147.26 304 P **PKPbc 19 53 22.2 +0.1**
baz=115,SNR=8.2
M30M Minto, Yukon 147.27 307 P **PKPbc 19 53 21.2 -0.6**
baz=114
MAYO Mayo, Yukon 147.30 309 P **PKPbc 19 53 22.5 +0.7**
baz=113
YUK4 Talbot Arm 147.56 304 P **PKPbc 19 53 22.9 +0.1**
baz=114,SNR=29
PINM Pinnacle 147.74 302 P **PKPbc 19 53 23.4 +0.2**
baz=116
HHC Hu-ho-hao-te 147.77 103 *e*PKPbc **PKiKP 19 53 25.0 -0.9**
INK Inuvik 148.04 318 PKPbc **PKPbc 19 53 22.3 -1.3**
comp=Z,29nm,0.7s,baz=45,slow=3.0,SNR=73
INK Inuvik 148.04 318 P **PKPbc 19 53 23.0 -0.6**
baz=108
YUK3 Moose Creek 148.53 305 P **PKPbc 19 53 24.5 -0.9**
baz=113,SNR=18
CTG Chitna Glacier 148.59 303 P **PKPbc 19 53 25.4 -0.1**
baz=114,SNR=16
I29M Ogilvie Camp, 148.91 312 P **PKPbc 19 53 25.1 -1.0**
baz=109
DAWY Dawson 148.92 309 P **PKPbc 19 53 25.3 -0.8**
baz=110
BVCY Beaver Creek 148.95 306 P **PKPbc 19 53 25.9 -0.3**
baz=112
M27K Edge Creek, AK 149.37 305 P **PKPbc 19 53 26.9 -0.5**
baz=111
MCARA McCarthy VSAT 149.51 303 P **PKPbc 19 53 27.7 +0.1**
baz=112,SNR=11
KAIM Kayak Island 149.57 300 P **PKPbc 19 53 28.2 +0.5**
baz=114
L27K Beaver Creek, 149.59 306 PKPbc 19 53 27.8 0.0
L27K Beaver Creek, 149.59 306 P **PKPbc 19 53 27.7 -0.2**
baz=110
ZAK Zakamensk 149.63 82 *e*PKP2 **PKPbc 19 53 27.8 -0.6**
ZAK pmax pmax
comp=Z,84nm,1.6s
ZAK pmax pmax
comp=Z,19nm,1.4s
SONM Songino Array 149.77 89 PKP **PKPdf 19 53 23.7 -0.4**
comp=Z,2.1nm,0.6s,baz=215,slow=2.6,SNR=9.4
SONM PKPbc **PKPbc 19 53 28.1 -0.7**
comp=Z,20nm,0.8s,baz=227,slow=3.0,SNR=44
SONM Songino Array 149.77 89 PKP2 **PKPbc 19 53 28.7 -0.1**
SONM Songino Array 149.77 89 PKPbc 19 53 28.7 -0.1
M26K Nabesna, AK 149.87 305 P **PKPbc 19 53 28.7 +0.2**
baz=110
EGAK Eagle 149.88 310 P **PKPbc 19 53 28.5 +0.1**
baz=108
NRIK Noril'sk 149.91 41 PKPbc **PKPbc 19 53 27.2 -1.1**
comp=Z,8.8nm,0.8s,baz=192,slow=0.8,SNR=11
NRIK Noril'sk 149.91 41 *c* *i*PKP2 **PKiKP 19 53 29.0 -0.2**
BMRM Bremner River 150.06 302 P **PKPbc 19 53 29.3 +0.2**

	baz=112,SNR=20							
L26K	**Log Cabin Wild**	**150.24**	**306**	P		**PKPbc**	19 53 29.4	**+0.1**
	baz=109							
N25K	**Chitina, Valde**	**150.29**	**303**	P		**PKPbc**	19 53 29.7	**+0.1**
	baz=111,SNR=18							
EYAK	**Cordova Ski Ar**	**150.43**	**300**	P		**PKPbc**	19 53 30.2	**+0.4**
	baz=112							
J26L	**Joseph Creek**	**150.78**	**309**	P		**PKPbc**	19 53 30.8	**+0.1**
	baz=107							
SCRK	**Sand Creek**	**150.81**	**308**	P		**PKPbc**	19 53 31.0	**+0.2**
	baz=107							
HARP	**HAARP**	**150.81**	**304**	P		**PKiKP**	19 53 31.1	**-0.2**
	baz=109							
KLU	**Klutina**	**150.85**	**302**	P		**PKiKP**	19 53 31.5	**0.0**
	baz=110,SNR=22							
RIDG	**Independent Ri**	**151.10**	**307**	P		**PKPbc**	19 53 31.5	**+0.1**
	baz=107							
PAX	**Paxson**	**151.13**	**305**	P		**PKPbc**	19 53 31.7	**+0.1**
	baz=108							
GLI	**Glacier Island**	**151.17**	**300**	P		**PKPbc**	19 53 31.7	**+0.1**
	baz=111,SNR=8.4							
M24K	**Tolsona, Glenn**	**151.17**	**303**	P		**PKiKP**	19 53 32.8	**+0.7**
	baz=109							
IRK	**Irkutsk**	**151.18**	**80**	*e*PKIKP		**PKPbc**	19 53 30.5	**-1.4**
IRK				pmax		pmax		
	comp=Z,130nm,2.2s							
DL2	**Dalian**	**151.30**	**117**	PKPbc		**PKPbc**	19 53 32.4	**-0.1**
K24K	**Donnelly Dome**	**151.51**	**307**	P		**PKiKP**	19 53 32.7	**0.0**
	baz=106							
J25K	**Salcha River,**	**151.56**	**308**	P		**PKPbc**	19 53 32.7	**+0.2**
	baz=105							
SCM	**Sheep Creek Mo**	**151.59**	**302**	P		**PKiKP**	19 53 32.9	**-0.2**
	baz=109,SNR=18							
PWL	**Port Wells**	**151.73**	**300**	P		**PKPbc**	19 53 32.8	**-0.1**
	baz=110							
M23K	**Glacier View**	**151.76**	**302**	P		**PKiKP**	19 53 33.2	**-0.1**
	baz=109							
BMAR	**Burnt Mountain**	**151.88**	**314**			**PKiKP**	19 53 33.3	**-0.1**
KNK	**Knik Glacier**	**151.97**	**301**	P		**PKiKP**	19 53 33.8	**+0.1**
	baz=109,SNR=8.9							
SEW	**Seward**	**151.98**	**298**	P		**PKiKP**	19 53 33.6	**-0.1**
	baz=111							
DHY	**Denali Highway**	**152.00**	**305**	P		**PKiKP**	19 53 34.3	**+0.4**
	baz=107							
WAT6	**Susitna Watana**	**152.01**	**304**	P		**PKiKP**	19 53 33.9	**-0.1**
	baz=107							
SML	**Sawmill**	**152.04**	**302**	P		**PKPbc**	19 53 33.5	**-0.1**
	baz=108,SNR=17							
ILAR	**Eielson Array**	**152.24**	**308**	PKP		**PKPdf**	19 53 26.4	**-0.7**
	comp=Z,1.3nm,1.0s,baz=183,slow=3.7,SNR=7.6							
ILAR				PKPbc		**PKPbc**	19 53 33.1	**-0.7**
	comp=Z,23nm,0.8s,baz=141,slow=1.8,SNR=58							
XLT	**XiLinHaoTe**	**152.29**	**104**	*e*PKPbc		**PKPbc**	19 53 34.3	**-0.5**
XLT				pPKP		PKPab	19 53 44.1	-0.9
PMR	**Palmer**	**152.33**	**301**	P		**PKiKP**	19 53 35.0	**+0.6**
	baz=108,SNR=7.0							
WAT1	**Susitna Watana**	**152.44**	**304**	P		**PKiKP**	19 53 35.0	**+0.3**
	baz=106							
RC01	**Rabbit Creek A**	**152.45**	**300**	P		**PKiKP**	19 53 35.1	**+0.4**
	baz=109							
BRSE	**Bradley Lake S**	**152.46**	**297**	P		**PKiKP**	19 53 34.8	**0.0**
	baz=111							
BRLK	**Bradley Lake**	**152.54**	**297**			**PKiKP**	19 53 35.5	**+0.5**
KDAK	**Kodiak Island**	**152.62**	**292**	PKPbc		**PKPbc**	19 53 34.9	**0.0**
	comp=Z,32nm,0.7s,baz=184,slow=2.0,SNR=38							
KDAK	**Kodiak Island**	**152.62**	**292**			**PKiKP**	19 53 35.3	**+0.2**
KDAK	**Kodiak Island**	**152.62**	**292**	P		**PKPbc**	19 53 34.8	**0.0**
	baz=113							
COLA	**College**	**152.66**	**308**	P		**PKiKP**	19 53 35.2	**+0.2**
	baz=103							
OHAK	**Old Harbor**	**152.74**	**291**	P		**PKPbc**	19 53 35.2	**0.0**
	baz=114							
M22K	**Willow**	**152.83**	**301**	P		**PKiKP**	19 53 36.1	**+0.7**
	baz=107,SNR=19							
MCK	**McKinley**	**152.85**	**306**	P		**PKiKP**	19 53 36.3	**+0.8**
	baz=104							
H24K	**Noodor Dome**	**152.87**	**310**			**PKiKP**	19 53 35.1	**-0.2**
H24K	**Noodor Dome**	**152.87**	**310**	P		**PKPbc**	19 53 35.3	**0.0**
	baz=101							
SII	**Sitkinak Islan**	**152.91**	**289**	P		**PKiKP**	19 53 35.9	**+0.1**
	baz=115							
KSRS	**Korea Array**	**152.91**	**128**	PKPbc		**PKPbc**	19 53 35.4	**-0.8**
	comp=Z,3.6nm,0.8s,baz=197,slow=2.2,SNR=10.0							
KSRS				PKPab		**PKPab**	19 53 45.8	**-1.8**
	comp=Z,9.8nm,0.9s,baz=207,slow=3.1,SNR=12							
CUT	**Chulitna**	**153.09**	**303**	P		**PKiKP**	19 53 37.1	**+1.2**
	baz=106,SNR=7.9							
NEA2	**Nenana**	**153.11**	**308**	P		**PKiKP**	19 53 35.8	**0.0**
	baz=103							
CHIR	**Chirikof Islan**	**153.32**	**287**	P		**PKiKP**	19 53 36.7	**0.0**
	baz=116							
I23K	**Minto, Yukon-K**	**153.35**	**309**	P		**PKPbc**	19 53 35.6	**-0.7**
	baz=101							
TRF	**Thorofare Moun**	**153.37**	**305**	P		**PKiKP**	19 53 37.0	**+0.2**
	baz=104							
H23K	**Yukon River**	**153.55**	**310**	P		**PKiKP**	19 53 37.2	**+0.3**
	baz=100							
Q19K	**Cape Douglas,**	**153.56**	**294**	P		**PKiKP**	19 53 37.5	**+0.4**
	baz=111							
P19K	**Oil Pt**	**153.62**	**296**	P		**PKiKP**	19 53 37.5	**+0.3**
	baz=110							
BPAW	**Bear Paw Mtn.**	**153.82**	**306**	P		**PKPbc**	19 53 37.2	**-0.2**
	baz=102							
TOLK	**Toolik Lake Re**	**153.90**	**317**	P		**PKPbc**	19 53 37.4	**-0.1**
	baz=94							
COLD	**Coldfoot**	**154.01**	**313**	P		**PKiKP**	19 53 38.6	**+0.8**
	baz=96							
PPLA	**Purkeypile**	**154.07**	**303**	P		**PKiKP**	19 53 40.5	**+2.3**
	baz=104							
CAST	**Castle Rocks**	**154.14**	**304**	P		**PKPbc**	19 53 37.3	**-0.8**
	baz=103,SNR=14							
O19K	**Port Alsworth**	**154.31**	**296**	P		**PKiKP**	19 53 39.0	**+0.5**
	baz=108							
CHUM	**Lake Minchumin**	**154.34**	**305**	P		**PKPbc**	19 53 38.2	**-0.3**
	baz=102							
I21K	**Tanana**	**154.44**	**308**	P		**PKPbc**	19 53 38.4	**-0.3**
	baz=99							
N19K	**Bonanza Creek**	**154.57**	**298**	P		**PKPbc**	19 53 38.4	**-0.8**
	baz=106							
O18K	**Koktuh Hills**	**154.63**	**295**	P		**PKiKP**	19 53 39.9	**+0.6**
	baz=108							
L20K	**Farewell, AK**	**154.73**	**302**	P		**PKiKP**	19 53 41.8	**+2.4**
	baz=104							
M19K	**Big River Lodg**	**154.82**	**300**	P		**PKiKP**	19 53 39.5	**-0.1**
	baz=104							
H21K	**Melozitna Rive**	**154.85**	**309**	P		**PKPbc**	19 53 39.5	**0.0**
	baz=98							
K20K	**Telida**	**155.00**	**304**	P		PKPdf	19 53 42.2	+11
	baz=102,SNR=5.6							
BOD	**Bodaibo**	**158.62**	**73**	*e*PKP2		**PKPab**	19 54 11.3	**-0.3**
BOD				pmax		pmax		
	comp=Z,12nm,1.4s							
USRK	**Ussuriysk Ar.**	**160.22**	**125**	PKPab		**PKPab**	19 54 18.7	**-0.1**
	comp=Z,7.2nm,0.9s,baz=188,slow=7.8,SNR=8.1							
KLR	**Kul'dur**	**163.82**	**113**	PKPab		**PKPab**	19 54 33.8	**-0.7**
	comp=Z,4.3nm,0.8s,baz=280,slow=4.1,SNR=7.4							
YAK	**Yakutsk**	**166.93**	**62**	PKPab		**PKPab**	19 54 48.5	**+0.6**
	comp=Z,2.2nm,0.4s,baz=12,slow=3.6,SNR=5.7							

*IDC **17** 19:44:25.1±1.2,32.°59N×130.°67E,h0km,mb3.5/4, mb1 3.6/7,mb1mx3.4/42,mbtmp3.5/7,ML2.7/3,MS3.6/1, Ms1 3.6/1,ms1mx2.7/68,Error ellipse: s-maj=25.2km s-min=9.5km az=106.0*

*JMA **17** 19:44:27.4,32.°68N×130.°71E,h11km±1km,M3.7 Broadband fault plane solution: P waves. NP1: ϕ_s285.00000°,δ51.00000°,λ-73.00000°. NP2:ϕ_s79.00000°, δ43.00000°,λ-110.00000°. Principal axes: T Plg4.0000°, Azm3.0000°; N Plg13.0000°, Azm94.0000°; P Plg76.0000°, Azm256.0000°;*

JMA Felt IV J1.

*NIED **17** 19:44:27.4,32.°68N×130.°71E,h11km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.94; $M_{\theta\theta}$0.94; $M_{\phi\phi}$-0.00; $M_{r\theta}$0.53; $M_{\theta\phi}$-0.25; $M_{\phi r}$-0.39; Fault plane solution: $M_0$1.17000×10^{15} NP1:ϕ_s91.00000°, δ30.00000°,λ-112.00000°. NP2:ϕ_s296.00000°, δ62.00000°,λ-78.00000°.*

ISC 17 19:44:27.4±1.1,32.°64N±0.°05×130.°71E±0.°09,h14km±7km, n12,σ1°802/16,mb3.4/4,3C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.12**	**136**	⇑P	**Pg**	**19 44 31.1**	**+0.3**
JIU3				eS	**Sb**	**19 44 33.9**	**-0.4**
JTA	**Tamana**	**0.36**	**335**	⇑P	**Pg**	**19 44 33.9**	**-0.8**
JTA				*e*S	**Sg**	**19 44 38.2**	**-1.5**
JNU	**Nakatsue**	**0.50**	**16**	Pg	**Pg**	**19 44 36.5**	**-0.9**
	264nm,0.3s,baz=197,slow=8.3,SNR=278						
JNU				Lg	Lg	19 44 42.9	
	626nm,0.3s,baz=280,slow=22,SNR=19						
JTZ	**Takazaki**	**0.80**	**156**	⇑P	**Pn**	**19 44 44.2**	**-0.1**
JTZ				S	**Sn**	**19 44 55.4**	**-0.6**
KSRS	**Korea Array**	**5.32**	**335**	Pn	**Pn**	**19 45 46.9**	**+0.5**
	0.2nm,0.3s,baz=154,slow=14,SNR=1.9						
KSRS				Pg	**Pb**	**19 46 02.6**	**+2.5**
	0.9nm,0.3s,baz=151,slow=16,SNR=7.3						
KSRS				Lg	Lg	19 47 13.9	
	1.5nm,0.3s,baz=154,slow=29,SNR=6.8						
MJAR	**Matsushiro Arr**	**7.31**	**56**	Pn	**Pn**	**19 46 14.4**	**+0.6**
	0.1nm,0.3s,baz=237,slow=12,SNR=2.0						
KLR	**Kul'dur**	**16.59**	**2**	Pn	**P**	**19 48 21.8**	**-0.2**
	0.1nm,0.3s,baz=290,slow=1.1,SNR=1.8						
KLR				LR		19 54 06.7	
	comp=Z,204nm,18.9s,baz=173,slow=35						
SONM	**Songino Array**	**23.84**	**317**	P	**P**	**19 49 40.4**	**+0.2**
	1.0nm,1.1s,baz=134,slow=8.4,SNR=4.4						
AML	**Almayashu**	**45.54**	**299**	P	**P**	**19 52 47.5**	**+0.4**
	SNR=14						
WRA	**Warramunga Arr**	**52.40**	**176**	P	**P**	**19 53 38.5**	**-0.9**
	0.4nm,0.9s,baz=357,slow=8.2,SNR=2.3						
ASAR	**Alice Springs**	**56.07**	**176**	P	**P**	**19 54 05.4**	**-0.7**
	0.3nm,0.7s,baz=6.7,slow=14,SNR=1.8						
FINES	**FINESS Array B**	**68.39**	**330**	P	**P**	**19 55 27.9**	**-0.3**
	1.3nm,0.8s,baz=92,slow=8.3,SNR=1.6						

NNC 17 19:45:11.2±16.0,38.°19N×72.°05E,h0km,mb3.8,mpv3.4, 3C-2D,Error ellipse: s-maj=128.1km s-min=90.1km az=173.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.05**	**347**	Pn	Pn	19 46 31.1	+2.9
	1.7nm,0.2s,baz=177,slow=13,SNR=95						
KK31				⇓Sn	Sn	19 47 30.0	+2.8
	14nm,0.4s,baz=178,slow=24,SNR=44						
CHMS	**Chumysh**	**5.23**	**22**	⇑Pn	Pn	19 46 31.4	+0.8
	5.6nm,0.8s						
CHMS				⇓Sn	Sn	19 47 30.2	-1.4
	2.8nm,0.6s						
TKM2	**Tokmak 2**	**5.45**	**29**	⇑Pn	Pn	19 46 32.3	-1.5
	1.8nm,0.8s						
TKM2				⇑Sn	Sn	19 47 37.2	-0.1
	1.1nm,0.5s						

*UCR **17** 20:21:56.4±1.2,12.°15N×86.°57W,h153km±13km,MW3.7, mb4.2(NEIC)*

*IDC **17** 20:21:58.9±1.4,11.°79N×86.°58W,h141km±30km,mb3.3/1, mb1 3.8/3,mb1mx3.1/45,mbtmp3.9/3,Error ellipse: s-maj=163.3km s-min=24.9km az=41.0*

*NEIC **17** 20:21:59.6±1.3,12.°09N±0.°06×86.°41W±0.°08,h138km±4km, mb4.2/7,Error ellipse: s-maj=12.5km s-min=6.9km az=55.0*

*INET **17** 20:21:59.1±0.6,12.°07N×86.°43W,h143km±5km,MD3.3, MW3.2*

*SNET **17** 20:22:02.8±1.0,11.°72N×87.°12W,h0km±307km,ML3.2*

ISC 17 20:21:58.8±0.8,12.°08N±0.°05×86.°49W±0.°06,h146km±6km, n59,σ1°844/72,mb4.2/6,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.14**	**314**	*e*P	**Pn**	**20 22 18.3**	**-0.1**
CNGN	**Cerro Negro**	**0.47**	**334**		**Pn**	**20 22 18.8**	**-0.8**
CNGN	**Cerro Negro**	**0.47**	**334**	*e*P	**Pn**	**20 22 18.8**	**-0.8**
BRAN	**Las Pilas**	**0.65**	**12**	*e*P	**Pn**	**20 22 18.7**	**-1.8**
CRIN	**San Cristobal**	**0.83**	**318**		**Pn**	**20 22 22.5**	**+0.7**
CRIN	**San Cristobal**	**0.83**	**318**	*e*P	**Pn**	**20 22 22.5**	**+0.7**
BOAB	**BOACO BROADBAN**	**0.88**	**65**		**Pn**	**20 22 22.0**	**-0.1**
BOAB	**BOACO BROADBAN**	**0.88**	**65**	*e*P	**Pn**	**20 22 21.9**	**-0.2**
BOAB				*e*S	**Sn**	**20 22 39.5**	**-0.4**
CONN	**Concepcion**	**0.98**	**121**	*e*P	**Pn**	**20 22 22.6**	**-0.4**
CONN				*e*S	**Sn**	**20 22 41.0**	**-0.5**
MATN	**Matagalpa**	**1.01**	**33**		**Pn**	**20 22 23.7**	**+0.4**
ACON	**Acoyapa**	**1.29**	**95**		**Pn**	**20 22 25.4**	**-0.5**
ACON	**Acoyapa**	**1.29**	**95**	*e*P	**Pn**	**20 22 25.3**	**-0.5**
CSGN	**Cosiguina Volc**	**1.38**	**311**	*e*P	**Pn**	**20 22 27.3**	**+0.5**
HZTE	**Horizontes, Gu**	**1.61**	**147**		**Pn**	**20 22 28.8**	**-0.5**
HZTE	**Horizontes, Gu**	**1.61**	**147**	*e*P	**Pn**	**20 22 29.0**	**-0.3**
GB1A	**Borinquen Arri**	**1.64**	**139**	*i* P	**Pn**	**20 22 29.2**	**-0.5**
GB1A				*i* S	**Sn**	**20 22 54.5**	**+1.2**
BUEV	**Buena Vista**	**1.65**	**140**	*i* P	**Pn**	**20 22 29.5**	**-0.2**
BUEV				*i* S	**Sn**	**20 22 54.5**	**+1.0**
GPS2	**Hotel Rincn d**	**1.72**	**140**	*i* P	**Pn**	**20 22 30.3**	**-0.2**
GPS2				*i* S	**Sn**	**20 22 56.4**	**+1.5**
COLC	**Colonia**	**1.88**	**138**	*i* P	**Pn**	**20 22 32.0**	**-0.4**
COLC				*i* S	**Sn**	**20 23 00.6**	**+2.6**
CUI	**Cuipilapa**	**1.92**	**137**	*i* P	**Pn**	**20 22 32.5**	**-0.3**
CUI				*i* S	**Sn**	**20 23 01.5**	**+2.7**
ORTG	**Ortega, Santa**	**1.98**	**149**		**Pn**	**20 22 33.5**	**-0.1**
JUCU	**Jucuar¡n**	**2.08**	**304**	*e*P	**Pn**	**20 22 36.5**	**+1.9**
JUCU				*e*S	**Sn**	**20 23 02.8**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.11**	**339**		**Pn**	**20 22 36.9**	**+1.8**
ESPN	**Las Esperanzas**	**2.14**	**87**	Pn	**Pn**	**20 22 34.9**	**-0.4**
VSM	**San Miguel**	**2.20**	**308**	*e*P	**Pn**	**20 22 39.3**	**+3.0**
DUNO	**Dulce Nombre,**	**2.21**	**154**		**Pn**	**20 22 36.3**	**+0.1**
DUNO	**Dulce Nombre,**	**2.21**	**154**	*e*P	**Pn**	**20 22 36.1**	**-0.1**
RANC	**El Ranchito**	**2.22**	**308**	*e*P	**Pn**	**20 22 38.2**	**+1.8**
JTS	**Las Juntas de**	**2.33**	**140**	P	**Pn**	**20 22 36.8**	**-0.8**
	24nm,0.3s,baz=359,slow=23,SNR=81						
JTS				S	**Sn**	**20 23 04.3**	**-3.1**
	45nm,0.3s,baz=13,slow=23,SNR=23						
JTS	**Las Juntas de**	**2.33**	**140**	*e*P	**Pn**	**20 22 36.8**	**-0.8**
JTS	**Las Juntas de**	**2.33**	**140**	*e*P	**Pn**	**20 22 37.0**	**-0.6**
INDI	**Punta indio, G**	**2.40**	**156**	*e*P	**Pn**	**20 22 38.2**	**-0.3**
PQSS	**Presa 15 de Se**	**2.54**	**307**	*e*P	**Pn**	**20 22 42.0**	**+1.8**
PQSS				IAML		20 23 21.1	
	comp=Z,74nm,0.1s						
LAFE	**Finca La Fe, P**	**2.74**	**145**	*e*P	**Pn**	**20 22 42.3**	**-0.3**
JACO	**JACO, Garabito**	**3.00**	**143**		**Pn**	**20 22 45.9**	**0.0**
JACO	**JACO, Garabito**	**3.00**	**143**	*e*P	**Pn**	**20 22 46.0**	**0.0**
PMON	**Piamonte**	**3.20**	**301**	*e*P	**Pn**	**20 22 50.8**	**+2.1**
PMON				*e*S	**Sn**	**20 23 27.8**	**+0.6**
JAYA	**Jayaque - finc**	**3.29**	**299**	*e*P	**Pn**	**20 22 51.5**	**+1.7**
JAYA				*e*S	**Sn**	**20 23 28.6**	**-0.7**
RIMA	**Rio Macho**	**3.45**	**131**		**Pn**	**20 22 52.1**	**+0.2**
MTO3	**Montecristo**	**3.63**	**310**		**Pn**	**20 22 56.2**	**+1.9**
CDM	**Cerro de Muert**	**3.67**	**133**	*e*P	**Pn**	**20 22 56.1**	**+1.1**
NUBE	**Las Nubes**	**3.69**	**300**	*e*P	**Pn**	**20 22 56.8**	**+1.8**
NUBE				*e*S	**Sn**	**20 23 39.2**	**+0.6**
NUBE				IAML		20 23 43.0	
	comp=Z,83nm,0.5s						
SRBA	**San Rafael, Bu**	**4.17**	**132**		**Pn**	**20 23 01.3**	**-0.1**
DRK0	**Durika**	**4.24**	**131**		**Pn**	**20 23 02.5**	**+0.3**
RIOS	**Rincon, Osa**	**4.45**	**139**	Pn	**Pn**	**20 23 05.1**	**+0.2**
CMIG	**Matias Romero**	**9.53**	**303**	P	**Pn**	**20 24 13.7**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=161,slow=8.6,SNR=19						
CMIG				S	**Sn**	**20 25 53.2**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=98,slow=8.1,SNR=1.8						
MARP	**Paez Belalcaza**	**13.89**	**131**	*e*P	**P**	**20 25 11.8**	**-1.5**
MACC	**Macarena, Meta**	**15.95**	**127**	*e*P	**P**	**20 25 35.6**	**-0.3**
CPCT	**Cooper Cave**	**23.34**	**4**	P	**P**	**20 26 53.7**	**-0.3**
CPCT				IAmb	IAmb	20 27 04.1	
	comp=Z,11nm,1.2s						
TXAR	**Lajitas Array**	**23.46**	**320**	P	**P**	**20 26 57.3**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=141,slow=9.5,SNR=21						
TXAR	**Lajitas Array**	**23.46**	**320**	P	**P**	**20 26 56.5**	**+1.1**
TX31	**Lajitas Ar. Si**	**23.46**	**320**	P	**P**	**20 26 57.0**	**+1.6**
TX31				IAmb	IAmb	20 26 58.1	
	comp=Z,4.1nm,0.6s						
TX32	**Lajitas Array**	**23.46**	**320**	P	**P**	**20 26 57.6**	**+2.2**
W57A	**Gilead**	**23.72**	**13**	P	**P**	**20 26 57.2**	**-0.2**
W57A				IAmb	IAmb	20 27 17.1	
	comp=Z,8.3nm,0.9s						
V53A	**Saluda**	**23.72**	**7**	P	**P**	**20 26 58.1**	**+0.6**
V53A				IAmb	IAmb	20 27 01.1	
	comp=Z,8.0nm,1.0s						
V55A	**Taylorsville**	**24.14**	**11**	P	**P**	**20 27 03.3**	**+2.0**
V55A				IAmb	IAmb	20 27 16.6	
	comp=Z,9.5nm,1.1s						
LONY	**Lake Ozonia**	**34.00**	**15**	P	**P**	**20 28 28.1**	**-0.5**
ASAR	**Alice Springs**	**140.00**	**248**	PKhKP	PKPpre	20 41 02.7	
	comp=Z,0.1nm,0.3s,baz=110,slow=4.0,SNR=4.2						
ASAR				PKP	**PKiKP**	**20 41 10.4**	**-2.8**
	comp=Z,0.4nm,0.6s,baz=102,slow=2.0,SNR=6.7						
WRA	**Warramunga Arr**	**140.07**	**253**	PKhKP	PKPpre	20 41 03.7	
	comp=Z,0.3nm,0.9s,baz=91,slow=3.3,SNR=1.6						
WRA				PKP	**PKiKP**	**20 41 10.5**	**-2.9**
	comp=Z,0.7nm,0.6s,baz=89,slow=2.5,SNR=15						

*REY **17** 20:22:08.6,62.°40N×24.°99W,h10km*

*IDC **17** 20:22:11.5±1.4,62.°83N×24.°96W,h0km,mb3.4/4, mb1 3.7/5,mb1mx3.3/60,mbtmp3.4/5,ML3.7/1,Error ellipse: s-maj=29.7km s-min=28.1km az=171.0*

ISC 17 20:22:12.6±1.0,62.°72N±0.°09×24.°86W±0.°08,h10km,n37, σ1°810/45,mb3.4/4,Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRNE	**Reykjanes**	**1.47**	**41**	S	**Sg**	**20 22 59.5**	**-0.2**
	baz=35						
IGRV	**Grindav??k**	**1.57**	**43**	P	**Pn**	**20 22 39.0**	**-1.5**
	baz=37						
IGRV				S	**Sg**	**20 23 02.5**	**-0.6**
	baz=37						
INYL	**Nylenda**	**1.58**	**36**	S	**Sg**	**20 23 03.2**	**-0.1**
	baz=32						
INYL				P	**Pn**	**20 22 39.3**	**-1.3**
	baz=32						
IVOG	**Vogar**	**1.67**	**40**	P	**Pn**	**20 22 40.8**	**-1.1**
	baz=36						
IVOG				S	**Sg**	**20 23 06.2**	**-0.1**
	baz=36						
IKRI	**Krysuvik**	**1.71**	**46**	P	**Pn**	**20 22 41.0**	**-1.3**
	baz=40						
IKRI				S	**Sb**	**20 23 06.0**	**+0.4**
	baz=40						
IKAS	**Kald??rsel**	**1.88**	**45**	P	**Pn**	**20 22 43.7**	**-1.0**
	baz=40						
IKAS				S	**Sg**	**20 23 11.4**	**-1.5**
	baz=40						
ISAN	**Sandskeio**	**2.00**	**46**	P	**Pn**	**20 22 45.1**	**-1.2**
	baz=42						
ISAN				S	**Sb**	**20 23 14.3**	**+0.5**
	baz=42						
IBJA	**Bjarnastaoir**	**2.02**	**51**	P	**Pn**	**20 22 45.4**	**-1.3**
	baz=46						
ISOL	**Solvholt**	**2.14**	**54**	P	**Pn**	**20 22 46.8**	**-1.5**
	baz=48						
IKRO	**Krokur**	**2.17**	**49**	P	**Pn**	**20 22 47.5**	**-1.2**
	baz=44						
IASM	**Asmuli**	**2.22**	**58**	P	**Pn**	**20 22 47.8**	**-1.6**
	baz=52						
ISAU	**Saurbar**	**2.37**	**56**	P	**Pn**	**20 22 50.0**	**-1.5**
	baz=50						
IMID	**Miomork**	**2.44**	**65**	P	**Pn**	**20 22 50.8**	**-1.6**
	baz=59						
IHAU	**Haukadalur**	**2.54**	**58**	P	**Pn**	**20 22 52.5**	**-1.2**
	baz=53						
BORG	**Borgarnes**	**2.57**	**36**	Pn	**Pn**	**20 22 52.3**	**-1.8**
	15nm,0.3s,baz=218,slow=11,SNR=37						
BORG				Sn	**Sn**	**20 23 26.8**	**+1.4**
	4.4nm,0.3s,baz=55,slow=23,SNR=1.5						
IASB	**`sbjarnarst**	**2.57**	**36**	P	**Pn**	**20 22 54.2**	**0.0**
	baz=33						
IESK	**Eystri-Skogar**	**2.58**	**69**	P	**Pn**	**20 22 52.7**	**-1.7**
	baz=64						
IMJO	**Mjoaskard**	**2.63**	**60**	P	**Pn**	**20 22 54.2**	**-1.0**
	baz=55						
IFED	**Fedgar**	**2.67**	**58**	P	**Pn**	**20 22 54.8**	**-0.8**
	baz=54						
IALF	**Alftagrof**	**2.69**	**71**	P	**Pn**	**20 22 54.0**	**-1.9**
	baz=65						
ISLY	**Slysaalda**	**2.82**	**64**	P	**Pn**	**20 22 56.4**	**-1.3**
	baz=59						
IRJU	**Rjupnafell**	**2.94**	**70**	P	**Pn**	**20 22 57.9**	**-1.5**
	baz=64						
IVAT	**Vatnsfell**	**3.04**	**59**	P	**Pn**	**20 23 00.6**	**-0.2**
	baz=54						
ISTE	**Stelbrattur**	**3.16**	**45**	P	**Pn**	**20 23 02.8**	**+0.4**
	baz=42						
IIEY	**Innrieyrar**	**3.33**	**63**	P	**Pn**	**20 23 04.5**	**-0.2**
	baz=58						
IJOK	**Jokulheimar**	**3.37**	**59**	P	**Pn**	**20 23 05.5**	**+0.2**
	baz=55						
ISKR	**Skrokkalda**	**3.42**	**55**	P	**Pn**	**20 23 06.8**	**+0.8**
	baz=51						
IKAL	**Kalfafell**	**3.46**	**66**	P	**Pn**	**20 23 06.0**	**-0.4**
	baz=62						
IHUS	**Husbondi**	**3.59**	**61**	P	**Pn**	**20 23 08.5**	**+0.1**
	baz=57						
IVON	**Vonarskard**	**3.72**	**55**	P	**Pn**	**20 23 10.2**	**+0.1**
	baz=52						
IHAE	**Haedir**	**3.77**	**66**	P	**Pn**	**20 23 10.3**	**-0.4**
	baz=62

VC1	Cotopaxi 1	2.00	129	P		Pn	20 24 36.0	+1.3
BVC2	Cotopaxi Volca	2.00	130	P		Pn	20 24 36.0	+1.2
CHL1	Volcán Chiles	2.01	86	P		Pn	20 24 35.0	+0.2
CMBC	Cumbal	2.14	82	*eP*		Pn	20 24 38.0	+1.4
CMBC				*i*			20 25 21.2	
	comp=Z,126μm,0.6s							
TULM	Tulcn-Chalpat	2.16	88			Pb	20 24 38.8	-1.8
TULM	Tulcn-Chalpat	2.16	88	*eP*		Pn	20 24 38.4	+1.5
GR1C	Gorgona, Isla	2.95	37	⇑*iP*		Pn	20 24 44.8	-2.5
GR1C				*eS*		Sb	20 25 38.6	+9.2
CRUC	La Cruz	3.13	73	⇓*iP*		Pn	20 24 52.4	+2.2
CRUC				*i*			20 25 48.0	
	comp=Z,955nm,0.5s							
SOTA	Rioblanco	3.66	66	*eP*		Pn	20 24 58.4	+0.9
POPC	Popayan, Colom	3.78	60	⇑*iP*		Pn	20 24 59.8	+0.9
PCON	Cinco Dias	3.93	65	*eP*		Pn	20 25 03.0	+1.7
BOSC	San Juan Bosco	4.03	159			Pn	20 25 06.7	+4.4
ARNL	Arenillas	4.16	182			Pn	20 25 04.6	+0.6
GARC	Garzon, Huila	4.71	71	*eP*		Pn	20 25 13.8	+1.9
YOTC	Yotoco, Valle	4.90	47	*eP*		Pn	20 25 10.9	-3.4
BETC	Betania	4.94	66	*eP*		Pb	20 25 22.6	-5.3
MCRA	Macar, Loja	4.97	180			Pn	20 25 16.0	+0.8
PTLC	Puerto Leguiza	5.17	95	⇑*iP*		Pn	20 25 20.9	+3.0
PLMC	San Jos del P	5.60	41	*eP*		Pn	20 25 26.1	+2.3
ORTC	Ortega, Tolima	5.71	55	*eP*		Pn	20 25 27.2	+1.8
GUY2C	Guyana, Caldas	6.46	45	*eP*		Pn	20 25 40.6	+4.6
CBOC	Ciudad Bolivar	6.51	37	*eP*		Pn	20 25 39.9	+3.4
CBOC				*eS*		Sb	20 27 06.9	-5.3
ROSC	El Rosal	7.00	53	Pn		Pn	20 25 46.5	+3.1
	comp=Z,4.3nm,0.3s,baz=190,slow=6.1,SNR=6.8							
ROSC				Sn		Sn	20 27 08.4	+5.9
	comp=Z,3.7nm,0.3s,baz=121,slow=20,SNR=1.4							
ROSC				LR	LR		20 28 47.8	
	comp=Z,1μm,18.5s,baz=218,slow=42							
ROSC	El Rosal	7.00	53			Pn	20 25 44.2	+0.7
ROSC	El Rosal	7.00	53	*eP*		Pn	20 25 45.3	+1.9
NORC	Norcasia	7.05	46	*eP*		Pn	20 25 50.8	+7.1
HELC	Santa Helena	7.06	39	*eP*		Pn	20 25 52.6	+8.3
VILC	Villavicencio,	7.14	61	*eP*		Pn	20 25 49.2	+4.1
CHIC	Chingaza	7.37	57	*eP*		Pn	20 25 56.1	+7.6
SPBC	San Pablo de B	7.70	50	*eP*		Pn	20 25 53.9	+1.2
PTBC	PUERTO BERRIO,	8.03	43	*eP*		Pn	20 26 05.2	+8.0
UREC	San Jos de Ur	8.33	32	*eP*		Pn	20 26 03.5	+2.2
ZARC	Zaragoza, Cauc	8.49	37	Pn		Pn	20 26 06.7	+3.1
ZARC	Zaragoza, Cauc	8.49	37	*eP*		Pn	20 26 08.2	+4.7
BRU2	Volcan	8.55	341			Pn	20 26 08.1	+3.5
RUSC	La Rusia	8.61	53	*eP*		Pn	20 26 09.2	+3.5
BARC	Barichara	8.97	49	*eP*		Pn	20 26 15.2	+4.8
DRK0	Durika	9.18	339			Pn	20 26 16.0	+2.9
SRBA	San Rafael, Bu	9.19	338	Pn		Pn	20 26 16.6	+3.3
CZSB	Cruzeiro do Su	11.01	139	*eP*		Pn	20 26 37.3	-0.8
TBTG	Tabatinga, AM	11.12	116	*eP*		Pn	20 26 40.1	+0.5
SOCV	Socops	11.82	50	*eP*		Pn	20 26 51.2	+2.0
SDV	Santo Domingo	12.38	48	Pn		Pn	20 26 58.0	+1.1
	comp=Z,0.9nm,0.3s,baz=228,slow=10.0,SNR=6.8							
SDV				Sn		Sn	20 29 06.6	-7.8
	comp=Z,0.3nm,0.3s,baz=254,slow=12,SNR=1.4							
SDV				LR	LR		20 31 54.3	
	comp=Z,586nm,21.7s,baz=206,slow=39							
SDV	Santo Domingo	12.38	48	*eP*		Pn	20 26 59.4	+2.4
NNA	Nana	12.91	166	Pn		Pn	20 27 07.2	+3.1
	comp=Z,1.2nm,0.3s,baz=322,slow=12,SNR=4.1							
NNA				Sn		Sn	20 29 24.2	-3.1
	comp=Z,1.4nm,0.3s,baz=237,slow=15,SNR=1.9							
NNA				LR	LR		20 33 20.3	
	comp=Z,331nm,18.2s,baz=351,slow=43							
BAUV	El Baul	14.44	55	Pn		Pn	20 27 26.0	+1.0
BIRV	Birongo	16.75	54	P		Pn	20 27 53.8	-1.3
BIRV				IAmb	IAmb		20 28 02.6	
	comp=Z,27nm,0.9s							
BOAV	Boa Vista	19.50	85	*eP*		Pn	20 28 29.9	+1.0
MACA	Manacapuru-AM	19.62	101	*eP*		Pn	20 28 30.0	-0.4
LPAZ	La Paz	20.46	146	P		P	20 28 38.9	+0.1
	comp=Z,2.8nm,0.6s,baz=328,slow=9.4,SNR=12							
LPAZ	La Paz	20.46	146	P		P	20 28 38.5	-0.2
LPAZ	La Paz	20.46	146	*eP*		P	20 28 37.1	-1.6
DR12	Loma Pena Alta	20.81	29	P		P	20 28 41.3	-0.5
CELP	Cerrillos	21.75	36	P		P	20 28 52.1	+0.3
CELP				IAmb	IAmb		20 29 02.0	
	comp=Z,35nm,1.1s							
CMIG	Matias Romero	21.99	319	LR	LR		20 35 00.3	
	comp=Z,486nm,18.2s,baz=130,slow=30							
TOSP	Speyside	22.00	60	P		P	20 28 53.5	-1.1
SJG	San Juan	22.03	37	P		P	20 28 54.1	-0.8
	comp=Z,8.1nm,0.8s,baz=337,slow=23,SNR=3.2							
SJG				LR	LR		20 39 04.4	
	comp=Z,156nm,19.6s,baz=170,slow=41							
SJG	San Juan	22.03	37	P		P	20 28 55.0	0.0
SJG				IAmb	IAmb		20 29 03.9	
	comp=Z,33nm,0.9s							
PDPR	Patillas Dam,	22.04	38	P		P	20 28 55.2	+0.2
GCPR	Guaynabo City	22.22	37	P		P	20 28 57.0	0.0
PB11	IPOC Station P	22.64	154	P		P	20 29 02.9	+1.2
PB11				IAmb	IAmb		20 29 27.6	
	comp=Z,20nm,1.0s							
CUPR	Culebra, Puert	22.71	39	P		P	20 29 03.1	+0.9
VILB	Vilhena	23.79	125	*eP*		P	20 29 14.0	+0.9
ITTB	Itaituba	24.70	102	*eP*		P	20 29 21.2	-0.3
SIV	San Ignacio	24.91	132	P		P	20 29 23.9	+0.5
	comp=Z,4.9nm,0.8s,baz=295,slow=9.9,SNR=20							
SIV				LR	LR		20 39 36.7	
	comp=Z,657nm,18.1s,baz=320,slow=38							
LVC	Limon Verde	25.48	156	LR	LR		20 41 26.5	
	comp=Z,199nm,19.1s,baz=330,slow=41							
LVC	Limon Verde	25.48	156	*eP*		P	20 29 26.6	-2.3
NPGB	Novo Progresso	25.69	108	*eP*		P	20 29 29.6	-0.9
MALB	Monte Alegre	25.80	96	*eP*		P	20 29 31.9	+0.5
PTLB	Pontes e Lacer	26.05	129	*eP*		P	20 29 34.3	+0.6
PDRB	Porto dos Gac	26.08	119	*eP*		P	20 29 34.1	+0.1
CLDB	Colider	26.59	116	*eP*		P	20 29 38.0	-0.7
MDP	Montagnes des	27.62	80	P		P	20 29 47.5	-0.4
	comp=Z,14nm,1.1s,baz=257,slow=8.0,SNR=4.4							
MDP				LR	LR		20 40 27.6	
	comp=Z,282nm,21.1s,baz=252,slow=36							
PRPB	Parauapebas	30.83	103	*eP*		P	20 30 18.1	+1.6
SNDB	Serra Nova Dou	31.09	115	*eP*		P	20 30 18.1	-0.6
AQDB	Aquidauana	31.68	133	*eP*		P	20 30 24.2	+0.3
DVLD	Doverlandia	32.33	123	*eP*		P	20 30 30.0	+0.4
SMTB	Santa Maria do	33.59	107	*eP*		P	20 30 40.2	-0.5
CPUP	Villa Florida	34.56	143	P		P	20 30 48.2	-0.8
	comp=Z,1.9nm,0.7s,baz=310,slow=7.7,SNR=4.1							
CPUP				LR	LR		20 47 56.3	
	comp=Z,188nm,18.3s,baz=335,slow=42							
CPUP	Villa Florida	34.56	143	P		P	20 30 47.9	-1.0
BDFB	Brasilia	35.45	119	P		P	20 30 56.5	-0.4
	comp=Z,3.5nm,0.5s,baz=271,slow=17,SNR=5.7							
BDFB				LR	LR		20 48 10.8	
	comp=Z,120nm,19.2s,baz=323,slow=41							
BDFB	Brasilia	35.45	119	P		P	20 30 56.2	-0.6
BDFB				IAmb	IAmb		20 30 57.4	
	comp=Z,5.4nm,0.8s							
PCMB	Pacaembu	35.68	130	*eP*		P	20 30 58.0	-0.7
IPMB	Ipameri, GO	36.29	122	*eP*		P	20 31 03.8	-0.2
TXAR	Lajitas Array	36.42	324	P		P	20 31 04.6	-0.3
	comp=Z,0.2nm,0.8s,baz=112,slow=9.8,SNR=1.7							
TXAR				PcP		PcP	20 33 29.6	+0.5
	comp=Z,0.5nm,0.8s,baz=127,slow=5.8,SNR=4.5							
PTGB	Pitanga	36.94	135	*eP*		P	20 31 09.6	+0.1
SDBA	SAO DESIDERIO	37.11	112	*eP*		P	20 31 10.7	-0.4
ITQB	Itaqui	37.47	145	*eP*		P	20 31 13.4	-0.3
BB19B	Bebedouro	37.53	127	*eP*		P	20 31 14.1	-0.4
FRTB	Fartura	37.95	131	*eP*		P	20 31 17.1	-0.9
JANB	Januaria	38.53	115	*eP*		P	20 31 22.3	-0.7
MC01	Montes Claros	39.46	118	*eP*		P	20 31 30.4	-0.4
RPN	Rapa Nui	39.51	223	LR	LR		20 43 10.9	
	comp=Z,130nm,21.9s,baz=103,slow=29							
CPSB	Cacapava Do Su	39.87	143	*eP*		P	20 31 33.5	-0.5
PET01	Itanhaem-SP	40.22	130	*eP*		P	20 31 37.2	+0.2
DIAM	Diamantina, MG	40.32	120	*eP*		P	20 31 37.4	-0.7
BSCB	Bom Sucesso	40.55	124	*eP*		P	20 31 39.2	-0.6
PLTB	Pedras Altas	40.75	145	*eP*		P	20 31 40.9	-0.4
PLCA	Paso Flores	42.05	169	P		P	20 31 53.0	+1.1
	comp=Z,3.4nm,0.9s,baz=354,slow=12,SNR=6.8							
PLCA	Paso Flores	42.05	169	P		P	20 31 51.4	-0.5
PLCA				IAmb	IAmb		20 31 58.2	
	comp=Z,8.9nm,1.1s							
PLCA	Paso Flores	42.05	169	*eP*		P	20 31 50.4	-1.5
ANMO	Albuquerque	42.15	327	P		P	20 31 53.4	+0.4
	comp=Z,4.4nm,0.9s,baz=146,slow=10,SNR=12							
ANMO	Albuquerque	42.15	327	P		P	20 31 53.2	+0.3
RCBR	Riachuelo	44.44	99	LR	LR		20 51 16.1	
	comp=Z,216nm,19.6s,baz=63,slow=37							
PV13	Radium Mtn., P	45.81	328	P		P	20 32 23.0	+0.7
PV13				IAmb	IAmb		20 32 24.8	
	comp=Z,5.4nm,0.9s							
PDAR	Pinedale Array	49.64	331	P		P	20 32 51.0	-0.9
	comp=Z,0.5nm,1.0s,baz=127,slow=6.1,SNR=3.6							
PDAR	Pinedale Array	49.64	331	P		P	20 32 52.6	+0.7
NVAR	Mina Array Bea	51.49	321	P		P	20 33 06.6	+0.6
	comp=Z,1.3nm,0.8s,baz=140,slow=7.0,SNR=8.3							
YKA	Yellowknife Ar	66.94	343	P		P	20 34 51.8	-0.5
	comp=Z,1.8nm,0.9s,baz=136,slow=6.2,SNR=31							
PPT	Papeete	70.81	251	LR	LR		20 59 06.5	
	comp=Z,224nm,19.1s,baz=28,slow=30							
LIC	Lamto	74.94	84	*eP*		P	20 35 41.3	-0.5
	comp=Z,15nm,1.3s							
TIC	Toumodi	74.95	83	*eP*		P	20 35 40.9	-1.0
DBIC	Dimbokro	75.12	83	LR	LR		21 05 54.4	
	comp=Z,73nm,20.3s,baz=304,slow=34							
KIC	Kosan Boka	75.23	84	*eP*		P	20 35 42.9	-0.6
	comp=Z,10nm,0.8s							
INK	Inuvik	76.65	342	P		P	20 35 50.0	-0.4
	comp=Z,3.9nm,1.1s,baz=99,slow=6.5,SNR=10.0							
A36M	Sachs Harbour	76.75	347	P		P	20 35 50.4	-0.6
A36M				IAmb	IAmb		20 35 51.1	
	comp=Z,3.8nm,0.8s							
MDT	Midelt	77.35	57	P		P	20 35 56.1	+0.9
	comp=Z,1.9nm,0.9s,baz=280,slow=4.8,SNR=3.6							
ESDC	Sonseca Array	78.82	50	P		P	20 36 03.8	+0.5
	comp=Z,2.0nm,1.0s,baz=267,slow=5.5,SNR=12							
ILAR	Eielson Array	79.76	336	P		P	20 36 08.1	+0.3
	comp=Z,0.7nm,0.9s,baz=92,slow=2.3,SNR=4.6							
TORD	Torodi Ar. Bea	81.72	77	P		P	20 36 19.1	-0.2
	comp=Z,1.5nm,0.5s,baz=280,slow=6.3,SNR=28							
TORD	Torodi Ar. Bea	81.72	77	P		P	20 36 18.7	-0.6
GERES	GERESS Array B	91.94	41	P		P	20 37 10.3	+1.5
	comp=Z,0.1nm,0.3s,baz=261,slow=1.9,SNR=3.7							
TSUM	Tsumeb	97.32	109	LR	LR		21 19 25.7	
	comp=Z,81nm,19.0s,baz=306,slow=34							
SUR	Sutherland	99.43	123	LR	LR		21 20 26.7	
	comp=Z,76nm,18.4s,baz=313,slow=34							
ZALV	Zalesovo Beam	124.15	11	PKP		PKPdf	20 42 58.7	+0.1
	comp=Z,0.8nm,0.8s,baz=338,slow=3.4,SNR=4.0							
ASAR	Alice Springs	139.98	233	PKhKP	PKPpre		20 43 21.0	
	comp=Z,0.4nm,1.0s,baz=107,slow=2.6,SNR=2.0							
ASAR				PKP		PKPdf	20 43 30.5	+1.1
	comp=Z,0.4nm,0.8s,baz=106,slow=3.0,SNR=2.9							
WRA	Warramunga Arr	141.35	238	PKhKP	PKPpre		20 43 26.1	
	comp=Z,0.5nm,1.1s,baz=109,slow=2.4,SNR=2.0							
WRA				PKP		PKPdf	20 43 31.3	-0.5
	comp=Z,0.5nm,0.7s,baz=107,slow=3.7,SNR=3.5							
PZH	PanZhiHua	152.97	357	PKPbc		PKPdf	20 43 52.0	+0.9
CMAR	Chiang Mai Arr	161.00	3	PKPab		PKPab	20 44 42.9	-0.9
	comp=Z,0.5nm,0.9s,baz=340,slow=4.9,SNR=4.3							

*SNET **17** 20:31:03.1±5.9, 12.°65N×90.°45W, h14km, ML3.7, ML3.6*
*IDC **17** 20:31:09.5±2.0, 14.°06N×89.°22W, h0km, mb3.1/3, mb1 3.6/5, mb1mx3.4/38, mbtmp3.2/5, ML3.1/2, Error ellipse: s-maj=95.1km s-min=24.1km az=43.0*
ISC 17 20:31:10.7±1.1, **12.°93N**±0.°08×**90.°12W**±0.°06, **h29**km, **n21**, σ1s**51**/24, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	0.97	42	*eP*		P	Pb	20 31 28.8	-0.3
JAYA				IAML				20 31 47.5	
	comp=Z,1μm,0.2s								
CEVE	Cerro Verde	1.01	28	*eP*		P	Pb	20 31 29.2	-0.7
CEVE				IAML				20 31 50.5	
	comp=Z,1μm,0.3s								
NUBE	Las Nubes	1.02	19	*eP*		P	Pb	20 31 28.8	-1.2
NUBE				*eS*		P	Sb	20 31 44.2	+1.1
SBLS	San Blas	1.02	28	*eP*		P	Pb	20 31 29.5	-0.5
SNJE	San Jose	1.06	28	*eP*		P	Pb	20 31 29.8	-0.8
RTR	El Retiro	1.06	26	*eP*		P	Pb	20 31 30.1	-0.6
RTR				IAML				20 31 55.0	
	comp=Z,375nm,0.4s								
SLOZ	Alcaldia de Sa	1.14	17	*eP*		P	Pb	20 31 30.5	-1.3
SLOZ				*eS*		P	Sb	20 31 47.8	+1.6
BOQS	Boqueron	1.14	46	*eP*		P	Pb	20 31 31.9	-0.2
BOQS				IAML				20 31 52.8	
	comp=Z,301nm,0.3s								
LFRS	El Faro	1.24	56	*eP*		P	Pb	20 31 33.1	-0.5
LFRS				IAML				20 31 54.4	
	comp=Z,1μm,0.5s								
SJTE	Alcalda de S	1.28	58	*eP*		P	Pb	20 31 33.0	-1.3
COEG	Centro de Oper	1.39	60	*eP*		P	Pb	20 31 34.5	-1.6
COEG				IAML				20 31 35.9	
	comp=Z,419nm,0.3s								
COEG				*eS*		P	Sb	20 31 55.7	+2.2
SCLA	Alcaldia de Sa	1.56	60	*eP*		P	Pb	20 31 37.5	-1.4
MTO3	Montecristo	1.64	27	*eP*		P	Pb	20 31 38.3	-2.1
PQSS	Presa 15 de Se	1.67	65	*eP*		P	Pb	20 31 38.6	-2.2
CAHU	Cacacuatique	2.04	66	*eP*		Pn		20 31 33.1	-10
LCND	La Caada	2.21	80	*eP*		Pn		20 31 46.4	+1.0
JTS	Las Juntas de	5.70	117	Pn		Pn		20 32 35.1	+1.6
	comp=Z,1.1nm,0.3s,baz=310,slow=7.9,SNR=6.1								
JTS				Sn		Sn		20 33 38.5	+0.4
	comp=Z,0.7nm,0.3s,baz=191,slow=22,SNR=2.1								
CMIG	Matias Romero	6.19	313	Pn		Pn		20 32 42.2	+2.1
	comp=Z,0.2nm,0.3s,baz=114,slow=12,SNR=1.6								
TXAR	Lajitas Array	20.61	324	P		P		20 35 47.3	-0.5
	comp=Z,0.3nm,0.7s,baz=149,slow=12,SNR=2.1								
NVAR	Mina Array Bea	35.65	320	P		P		20 38 06.5	0.0
	comp=Z,0.3nm,0.6s,baz=134,slow=9.1,SNR=3.7								
YKA	Yellowknife Ar	52.49	346	P		P		20 40 17.6	-3.2
	comp=Z,0.2nm,0.3s,baz=135,slow=7.3,SNR=7.0								

*NEIC **17** 20:32:45.6±2.5, 16.°26N×07.°97W±0.°03, h13km±5km, Error ellipse: s-maj=11.5km s-min=2.9km az=199.0*
*IDC **17** 20:32:45.6±2.7, 16.°34N×97.°83W, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/37, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=61.7km s-min=21.4km az=25.0*
*MEX **17** 20:32:47.7±1.5, 16.°22N×98.°01W, h16km±17km, MD4.3*
ISC 17 20:32:45.2±0.9, **16.°21N**±0.°04×**98.°00W**±0.°02, **h17**km±6km, **n72**, σ1s**69**/104, **mb4.0**/14, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.22	327				Pg	20 32 50.6	+0.3
PNIG							Sg	20 32 53.9	0.0
PNIG	Pinotepa	0.22	327	*eP*			Pg	20 32 50.6	+0.3
PNIG				*eS*			Sg	20 32 53.9	0.0
YOIG	Yosondua	0.78	34	*i P*			Pb	20 32 59.8	-0.6
YOIG				*eS*			Sb	20 33 09.5	-1.4
PEIG	Puerto Escondi	0.85	104	*eP*			Pg	20 33 01.2	-0.5
PEIG				*eS*			Sb	20 33 12.5	-0.1
TXIG	Tlaxiaco	1.06	12	*i P*			Pg	20 33 04.2	-1.6
TXIG				*eS*			Sg	20 33 17.7	-2.2
MGIG	Malinaltepec	1.19	329	*eP*			Pb	20 33 06.1	-1.2
MGIG				*eS*			Sb	20 33 20.4	-2.0
CRIG	Cruz Grande	1.20	296				Pn	20 33 05.5	-1.7
CRIG							Sb	20 33 19.9	-2.9
CRIG	Cruz Grande	1.20	296	*eP*			Pn	20 33 05.5	-1.7
CRIG				*eS*			Sb	20 33 19.9	-2.9
TLIG	Tlapa	1.45	338				Pn	20 33 10.2	-0.5
TLIG	Tlapa	1.45	338	*eP*			Pn	20 33 10.2	-0.5
TLIG				*eS*			Sn	20 33 26.7	-2.8
VHO	Vista Hermosa	1.49	55	*i P*			Pn	20 33 11.0	-0.4
VHO				*eS*			Sb	20 33 30.1	-1.2
HLIG	Huajuapan de L	1.62	7	*eP*			Pn	20 33 13.0	-0.2
HLIG				*eS*			Sn	20 33 32.3	-1.5
FTIG	Fresnillo de T	1.69	356	*eP*			Pn	20 33 13.9	-0.2
FTIG				*eS*			Sn	20 33 33.8	-1.6
DAIG	Los Arroyos	1.77	297				Pn	20 33 13.7	-1.3
DAIG							Sn	20 33 34.4	-2.9
DAIG	Los Arroyos	1.77	297	*eP*			Pn	20 33 13.7	-1.3
DAIG				*eS*			Sn	20 33 34.4	-2.9
HUIG	Huatulco	1.88	103				Pn	20 33 15.9	-0.6
HUIG							Sn	20 33 37.3	-2.4
HUIG	Huatulco	1.88	103	*eP*			Pn	20 33 15.9	-0.6
HUIG				*eS*			Sn	20 33 37.3	-2.4
TOIG	Toxpalan	2.08	25	*eP*			Pn	20 33 19.4	0.0
TOIG				*eS*			Sn	20 33 43.7	-1.3
MEIG	Mezcala	2.30	318				Pn	20 33 23.8	+1.4
MEIG							Sn	20 33 49.8	-0.6
MEIG	Mezcala	2.30	318	*eP*			Pn	20 33 23.8	+1.4
MEIG				*eS*			Sn	20 33 49.8	-0.6
CAIG	El Cayaco	2.33	291				Pn	20 33 22.3	-0.4
CAIG							Sn	20 33 46.8	-4.0
CAIG	El Cayaco	2.33	291	*eP*			Pn	20 33 22.3	-0.4
CAIG				*eS*			Sn	20 33 46.8	-4.0
PLIG	Platanillo	2.60	327				Pn	20 33 28.6	+2.1
PLIG							Sn	20 33 57.8	0.0
PLIG	Platanillo	2.60	327	*eP*			Pn	20 33 28.6	+2.1
PLIG				*eS*			Sn	20 33 57.8	0.0
ARIG	Puente Sto Nin	3.04	313				Pn	20 33 34.5	+1.9
ARIG							Sn	20 34 07.3	-1.3
ARIG	Puente Sto Nin	3.04	313	*eP*			Pn	20 33 34.5	+1.9
ARIG				*eS*			Sn	20 34 07.3	-1.3
CMIG	Matias Romero	3.12	73	Pn			Pn	20 33 33.1	-0.4
	14nm,0.3s,baz=256,slow=14,SNR=98								
CMIG				Sn			Sn	20 34 09.5	-0.9
	28nm,0.3s,baz=0.0,slow=20,SNR=4.4								
UNM	Universidad Na	3.30	340	Pn			Pn	20 33 36.3	0.0
ZIIG	Zihuatanejo	3.59	293				Pn	20 33 43.5	+3.5
ZIIG							Sn	20 34 22.9	+0.7
ZIIG	Zihuatanejo	3.59	293	*eP*			Pn	20 33 43.5	+3.5
ZIIG				*eS*			Sn	20 34 22.9	+0.7
PCIG		4.63	96				Pn	20 33 53.6	-0.8
PCIG							Sn	20 34 46.5	-1.2
PCIG		4.63	96	*eP*			Pn	20 33 53.6	-0.8
PCIG				*eS*			Sn	20 34 46.5	-1.2
TGIG		4.72	82				Pn	20 33 56.6	+1.0
TGIG							Sn	20 34 48.7	-1.3
TGIG		4.72	82	*eP*			Pn	20 33 56.6	+1.0
TGIG				*eS*			Sn	20 34 48.7	-1.3
CCIG	Comitan	5.64	88				Pn	20 34 08.5	+0.1
CCIG	Comitan	5.64	88	*eP*			Pn	20 34 08.9	+0.5
CCIG				*eS*			Sn	20 35 09.9	-2.9
ACON	Acoyapa	13.14	107	Pn			Pn	20 35 50.3	-0.8
TXAR	Lajitas Array	14.06	339	Pn			Pn	20 36 06.7	+2.9
	baz=155,slow=13,SNR=2.1								
JACO	JACO, Garabito	14.54	115	Pn			Pn	20 36 09.8	-0.4
SOR	Soroa	15.58	63	Pn			Pn	20 36 22.9	-1.1
DRK0	Durika	15.96	114	Pn			Pn	20 36 28.2	-1.0
ABTX	Abilene, Hawle	16.41	355	Pn			Pn	20 36 36.1	+1.3
ABTX				IAmb	IAmb			20 36 39.8	
	comp=Z,13nm,0.9s								
MNTX	Cornudas Mount	16.82	338	Pn			Pn	20 36 39.6	-0.3
HSIG		17.45	319	Pn			Pn	20 36 48.0	+0.2
MSTX	Muleshoe	18.20	347	Pn			Pn	20 36 56.5	-0.6
BNM	Barren Site	19.48	338	P			P	20 37 12.5	+0.9
LENM	Lemitar	19.62	337	P			P	20 37 14.4	+1.4
TUL1	Leonard	19.72	5	P			P	20 37 11.9	-2.0
TUL1				IAmb	IAmb			20 37 38.5	
	comp=Z,7.0nm,0.8s								
ANMO	Albuquerque	20.14	339	P			Pn	20 37 20.9	+0.3
	comp=Z,0.4nm,0.5s,baz=145,slow=14,SNR=1.6								
ANMO	Albuquerque	20.14	339	P			P	20 37 20.2	+1.5
X18A	Snowflake	21.16	332	P			P	20 37 29.8	0.0
X18A				IAmb	IAmb			20 37 34.3	
	comp=Z,9.6nm,1.3s								
T25A	Trinidad	21.61	346	P			P	20 37 36.1	+1.5

DGS					*eS*	**Sg**	**20 40 03.5**	**-0.7**
	4.8nm,0.1s								
DGS	**Degeres**	**3.04**	**65**	Pg	**Pg**	**Pg**	**20 39 24.3**	**-0.4**
	1.5nm,0.3s								
DGS					Lg	Lg	20 40 03.5		
	4.8nm,0.1s								
KST	**Kastek**	**3.10**	**69**	*eP*	**Pg**	**20 39 25.4**	**-0.5**		
	0.7nm,0.1s								
KST					*eS*	**Sg**	**20 40 04.8**	**-1.4**	
	6.0nm,0.4s								
KST	**Kastek**	**3.10**	**69**	Pg	**Pg**	**20 39 25.4**	**-0.5**		
	0.7nm,0.1s								
KST					Lg	Lg	20 40 04.8		
	6.0nm,0.4s								
KRBS	**Karabastau**	**3.19**	**57**	*eP*	**Pg**	**20 39 26.5**	**-0.9**		
	0.4nm,0.1s								
KRBS					*eS*	**Sg**	**20 40 06.5**	**-2.3**	
	2.3nm,0.8s								
KRBS	**Karabastau**	**3.19**	**57**	Pg	**Pg**	**20 39 26.5**	**-0.9**		
	0.4nm,0.1s								
KRBS					Lg	Lg	20 40 06.4		
	2.3nm,0.8s								
BTLS	**Baital**	**3.39**	**25**	*eP*	**Pg**	**20 39 30.6**	**-0.7**		
	0.5nm,0.0s								
BTLS					*eS*	**Sg**	**20 40 13.7**	**-1.4**	
	1.4nm,0.1s								
BTLS	**Baital**	**3.39**	**25**	Pg	**Pg**	**20 39 30.6**	**-0.7**		
	0.5nm,0.0s								
BTLS					Lg	Lg	20 40 13.7		
	1.4nm,0.1s								
MTBS	**Maitube**	**3.46**	**69**	*eP*	**Pg**	**20 39 32.2**	**-0.4**		
	0.7nm,0.3s								
MTBS					*eS*	**Sg**	**20 40 16.4**	**-1.0**	
	2.2nm,0.2s								
MTBS	**Maitube**	**3.46**	**69**	Pg	**Pg**	**20 39 32.2**	**-0.4**		
	0.7nm,0.3s								
MTBS					Lg	Lg	20 40 16.4		
	2.2nm,0.2s								
KUU	**Kurty**	**3.70**	**58**	*eP*	**Pg**	**20 39 36.6**	**-0.7**		
	1.0nm,0.1s								
KUU					*eS*	**Sg**	**20 40 23.6**	**-1.7**	
	2.0nm,0.1s								
KUU	**Kurty**	**3.70**	**58**	Pg	**Pg**	**20 39 36.6**	**-0.7**		
	1.0nm,0.1s								
KUU					Lg	Lg	20 40 23.6		
	2.0nm,0.1s								
KTBS	**Karatobe**	**3.84**	**62**	*eP*	**Pg**	**20 39 39.1**	**-0.8**		
	0.4nm,0.2s								
KTBS					*eS*	**Sg**	**20 40 28.0**	**-1.7**	
	3.4nm,0.4s								
KTBS	**Karatobe**	**3.84**	**62**	Pg	**Pg**	**20 39 39.1**	**-0.8**		
	0.4nm,0.2s								
KTBS					Lg	Lg	20 40 28.0		
	3.4nm,0.4s								
MDOK	**Medeo**	**3.90**	**71**	*eP*	**Pg**	**20 39 40.5**	**-0.6**		
	0.7nm,0.3s								
MDOK					*eS*	**Sg**	**20 40 30.3**	**-1.3**	
	1.4nm,0.6s								
MDOK	**Medeo**	**3.90**	**71**	Pg	**Pg**	**20 39 40.5**	**-0.6**		
	0.7nm,0.3s								
MDOK					Lg	Lg	20 40 30.3		
	1.4nm,0.6s								
KOTS	**Kotyrbulak**	**3.96**	**70**	*eP*	**Pg**	**20 39 41.3**	**-1.0**		
	0.6nm,0.1s								
KOTS					*eS*	**Sg**	**20 40 31.9**	**-1.8**	
	2.7nm,0.3s								
KOTS	**Kotyrbulak**	**3.96**	**70**	Pg	**Pg**	**20 39 41.3**	**-1.0**		
	0.6nm,0.1s								
KOTS					Lg	Lg	20 40 31.9		
	2.7nm,0.3s								

IDC ***17*** *20:46:57.8±1.6,59˚.74N×153˚.21W,h101km±22km,mb3.7/5, mb1 3.8/9,mb1mx3.4/44,mbtmp4.0/9,MS4.1/2,Ms1 4.1/2, ms1mx3.0/97,Error ellipse: s-maj=25.7km s-min=14.7km az=114.0*

NEIC ***17*** *20:46:58.6±1.3,59˚.74N±0˙.05×153˚.09W±0˙.09, h111km±4km,Error ellipse: s-maj=7.7km s-min=6.9km az=166.0*

AEIC ***17*** *20:46:59±1.5,59˚.75N±0˙.05×153˚.09W±0˙.04,h104km±4km, ML3.5,mb3.9/3(NEIC),ML3.6/118(NEIC),Error ellipse: s-maj=7.6km s-min=3.1km az=189.0*

ISC 17 20:46:58.5±0.7,59˚.74N±0˙.03×153˚.02W±0˙.04, h115km±5km,n256,c0s83/253,mb4.0/5,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.14**	**231**		**Pn**	**20 47 14.2**	**-0.2**
OPT	**Oil Point**	**0.14**	**231**	P	**Pn**	**20 47 14.2**	**-0.2**
	baz=38						
P19K	**Oil Pt**	**0.14**	**230**		**Pn**	**20 47 13.9**	**-0.5**
P19K					**Sn**	**20 47 25.7**	**-0.6**
P19K	**Oil Pt**	**0.14**	**230**	P	**Pn**	**20 47 13.9**	**-0.5**
	baz=38						
P19K				S	**Sn**	**20 47 25.7**	**-0.6**
	baz=38						
IVE	**Iliamna Volcan**	**0.28**	**0**		**Pn**	**20 47 14.2**	**-0.7**
IVE					**Sn**	**20 47 26.3**	**-1.0**
O20K	**Slope Mountain**	**0.40**	**30**		**Pn**	**20 47 15.2**	**-0.2**
O20K					**Sn**	**20 47 27.8**	**-0.4**
O20K	**Slope Mountain**	**0.40**	**30**	P	**Pn**	**20 47 15.2**	**-0.2**
	baz=215						
O20K				S	**Sn**	**20 47 27.8**	**-0.4**
	baz=215						
AU22	**Augustine Moun**	**0.41**	**205**		**Pn**	**20 47 15.0**	**-0.3**
AU22					**Sn**	**20 47 27.1**	**-0.8**
AU2	**Augustine Isla**	**0.41**	**206**		**Pn**	**20 47 15.1**	**-0.3**
AUL	**Augustine Lava**	**0.42**	**211**		**Pn**	**20 47 15.2**	**-0.3**
AUQ	**Augustine Qik'**	**0.44**	**208**		**Pn**	**20 47 15.3**	**-0.3**
RED	**Redoubt Volcan**	**0.69**	**10**		**Pn**	**20 47 17.0**	**-0.4**
HOM	**Homer**	**0.70**	**96**		**Pn**	**20 47 17.8**	**+0.4**
HOM	**Homer**	**0.70**	**96**	IAML		20 47 33.5	
	comp=N,2μm,0.4s						
HOM				IAML		20 47 33.9	
	comp=E,3μm,0.7s						
HOM	**Homer**	**0.70**	**96**	P	**Pn**	**20 47 17.7**	**+0.4**
	baz=278						
RDWB	**Redoubt West**	**0.76**	**7**		**Pn**	**20 47 17.6**	**-0.3**
RDWB					**Sn**	**20 47 31.6**	**-1.1**
O19K	**Port Alsworth**	**0.80**	**305**		**Pn**	**20 47 17.6**	**-0.5**
O19K	**Port Alsworth**	**0.80**	**305**	IAML		20 47 32.0	
	comp=N,3μm,0.5s						
O19K				IAML		20 47 32.7	
	comp=E,2μm,0.4s						
O19K	**Port Alsworth**	**0.80**	**305**	P	**Pn**	**20 47 17.6**	**-0.5**
	baz=126						
NCT	**North Crescent**	**0.82**	**3**		**Pn**	**20 47 18.2**	**-0.3**
RDJH	**Redoubt Jeurge**	**0.86**	**7**		**Pn**	**20 47 18.7**	**-0.2**
RDJH					**Sn**	**20 47 33.4**	**-0.9**
DFR	**Drift River**	**0.87**	**11**		**Pn**	**20 47 18.5**	**-0.4**
Q19K	**Cape Douglas,**	**0.88**	**202**		**Pn**	**20 47 18.6**	**-0.4**
Q19K	**Cape Douglas,**	**0.88**	**202**	IAML		20 47 38.5	
	comp=N,3μm,0.8s						
Q19K				IAML		20 47 40.5	
	comp=E,2μm,0.9s						
Q19K	**Cape Douglas,**	**0.88**	**202**	P	**Pn**	**20 47 18.6**	**-0.4**
	baz=19						
CNPM	**China Poot**	**0.93**	**103**		**Pn**	**20 47 19.5**	**0.0**
CNPM					**Sn**	**20 47 35.1**	**-0.2**
CNPM	**China Poot**	**0.93**	**103**	IAML		20 47 36.2	
	comp=N,1μm,0.3s						
BRLK	**Bradley Lake**	**1.08**	**88**		**Pn**	**20 47 20.9**	**0.0**
BRLK	**Bradley Lake**	**1.08**	**88**	IAML		20 47 39.2	
	comp=E,2μm,0.3s						
BRLK				IAML		20 47 39.3	
	comp=N,2μm,0.1s						
O18K	**Koktuh Hills**	**1.11**	**277**		**Pn**	**20 47 20.3**	**-0.9**
O18K	**Koktuh Hills**	**1.11**	**277**	P	**Pn**	**20 47 20.3**	**-0.9**
	baz=95						
BRSE	**Bradley Lake S**	**1.15**	**89**		**Pn**	**20 47 21.7**	**0.0**
BRSE	**Bradley Lake S**	**1.15**	**89**	P	**Pn**	**20 47 21.7**	**0.0**
	baz=271						
N19K	**Bonanza Creek**	**1.30**	**327**		**Pn**	**20 47 22.9**	**-0.5**
N19K					**Sn**	**20 47 41.0**	**-1.3**
N19K	**Bonanza Creek**	**1.30**	**327**	P	**Pn**	**20 47 22.9**	**-0.5**
	baz=146						
N19K				S	**Sn**	**20 47 41.0**	**-1.3**
	baz=146						
CAPN	**Captain Cook N**	**1.39**	**41**		**Pn**	**20 47 26.4**	**+2.2**
CAPN	**Captain Cook N**	**1.39**	**41**	P	**Pn**	**20 47 26.4**	**+2.2**
	baz=224						
CKN	**Chakachatna No**	**1.54**	**15**		**Pn**	**20 47 26.6**	**+0.4**
SPWE	**Spurr West**	**1.56**	**8**		**Pn**	**20 47 26.9**	**+0.5**
SLKM	**Skilak Lake**	**1.60**	**60**		**Pn**	**20 47 27.0**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.63**	**17**		**Pn**	**20 47 27.5**	**+0.3**
SPCG					**Sn**	**20 47 50.3**	**+1.1**
N18K	**Kilae Creek**	**1.71**	**305**		**Pn**	**20 47 27.3**	**-0.9**
N18K	**Kilae Creek**	**1.71**	**305**	P	**Pn**	**20 47 27.3**	**-0.9**
	baz=123						
O22K	**Cooper Landing**	**1.81**	**64**		**Pn**	**20 47 29.9**	**+0.7**
O22K	**Cooper Landing**	**1.81**	**64**	P	**Pn**	**20 47 29.9**	**+0.7**
	baz=248						
SEW	**Seward**	**1.83**	**77**		**Pn**	**20 47 29.7**	**+0.2**
SEW	**Seward**	**1.83**	**77**	P	**Pn**	**20 47 29.7**	**+0.2**
	baz=260						
STLK	**Strandline Lak**	**1.86**	**18**		**Pn**	**20 47 30.3**	**+0.3**
SVW2	**Sparrevohn**	**1.86**	**318**		**Pn**	**20 47 29.3**	**-0.7**
SVW2					**Sn**	**20 47 52.1**	**-1.8**
KELA	**Mount Kelaz**	**1.92**	**228**		**Pn**	**20 47 30.4**	**-0.3**
KDAK	**Kodiak Island**	**1.98**	**173**	P	**Pn**	**20 47 30.6**	**-0.7**
	comp=N,21nm,0.3s,baz=32,slow=8.7,SNR=298						
KDAK				S	**Sn**	**20 47 55.3**	**-1.2**
	comp=N,67nm,0.3s,baz=314,slow=23,SNR=39						
KDAK	**Kodiak Island**	**1.98**	**173**		**Pn**	**20 47 30.7**	**-0.7**
KDAK					**Sn**	**20 47 54.8**	**-1.7**
KDAK	**Kodiak Island**	**1.98**	**173**	IAML		20 47 57.0	
	comp=N,480nm,0.3s						
KDAK	**Kodiak Island**	**1.98**	**173**	S	**Sn**	**20 47 54.8**	**-1.7**
	baz=353						
FIS	**Fire Island**	**1.98**	**43**		**Pn**	**20 47 32.8**	**+1.5**
FIS	**Fire Island**	**1.98**	**43**	IAML		20 48 03.1	
	comp=N,868nm,0.3s						
FIS				IAML		20 48 06.3	
	comp=E,727nm,0.4s						
ANCK	**Angle Creek**	**2.01**	**221**		**Pn**	**20 47 31.9**	**0.0**
CAHL	**Cahill**	**2.07**	**216**		**Pn**	**20 47 32.6**	**+0.1**
RC01	**Rabbit Creek A**	**2.12**	**49**		**Pn**	**20 47 33.5**	**+0.4**
RC01					**Sn**	**20 47 59.2**	**-0.5**
RC01	**Rabbit Creek A**	**2.12**	**49**	IAML		20 48 02.0	
	comp=E,838nm,0.3s						
RC01	**Rabbit Creek A**	**2.12**	**49**	P	**Pn**	**20 47 33.5**	**+0.4**
	baz=232						
RC01				S	**Sn**	**20 47 59.2**	**-0.5**
	baz=232						
KJL	**Kejulik**	**2.15**	**219**		**Pn**	**20 47 34.0**	**+0.4**
M19K	**Big River Lodg**	**2.27**	**343**		**Pn**	**20 47 34.8**	**-0.3**
M19K	**Big River Lodg**	**2.27**	**343**	P	**Pn**	**20 47 34.8**	**-0.3**
	baz=163						
M22K	**Willow**	**2.47**	**34**		**Pn**	**20 47 38.5**	**+0.9**
M22K	**Willow**	**2.47**	**34**	P	**Pn**	**20 47 38.5**	**+0.9**
	baz=217						
OHAK	**Old Harbor**	**2.53**	**183**	Pn	**Pn**	**20 47 37.2**	**-1.3**
OHAK				IAML		20 48 09.1	
	comp=N,140nm,0.3s						
OHAK				IAML		20 48 09.2	
	comp=E,164nm,0.4s						
PWL	**Port Wells**	**2.59**	**62**		**Pn**	**20 47 38.9**	**-0.3**
L19K	**White Mountain**	**2.61**	**341**		**Pn**	**20 47 39.1**	**-0.3**
L19K					**Sn**	**20 48 09.8**	**-1.2**
L19K	**White Mountain**	**2.61**	**341**	P	**Pn**	**20 47 39.1**	**-0.3**
	baz=160						
L19K				S	**Sn**	**20 48 09.8**	**-1.2**
	baz=160						
PMR	**Palmer**	**2.67**	**44**		**Pn**	**20 47 39.8**	**-0.4**
PMR					**Sn**	**20 48 10.3**	**-1.9**
PMR	**Palmer**	**2.67**	**44**	IAML		20 48 13.3	
	comp=N,194nm,0.2s						
PMR				IAML		20 48 15.8	
	comp=E,188nm,0.4s						
PMR	**Palmer**	**2.67**	**44**	P	**Pn**	**20 47 39.8**	**-0.4**
	baz=228						
PMR				S	**Sn**	**20 48 10.3**	**-1.9**
	baz=228						
PLK1	**Peulik 1**	**2.70**	**225**		**Pn**	**20 47 40.8**	**+0.2**
L20K	**Farewell, AK**	**2.78**	**352**		**Pn**	**20 47 41.9**	**+0.2**
L20K	**Farewell, AK**	**2.78**	**352**	P	**Pn**	**20 47 41.9**	**+0.2**
	baz=172						
KNK	**Knik Glacier**	**2.81**	**51**		**Pn**	**20 47 41.8**	**-0.2**
KNK	**Knik Glacier**	**2.81**	**51**	P	**Pn**	**20 47 41.8**	**-0.2**
	baz=236						
GHO	**Glory Hole Cre**	**2.86**	**43**		**Pn**	**20 47 42.5**	**-0.3**
GHO					**Sn**	**20 48 15.2**	**-1.8**
GHO	**Glory Hole Cre**	**2.86**	**43**	IAML		20 48 18.2	
	comp=N,282nm,0.3s						
GHO				IAML		20 48 23.4	
	comp=E,323nm,0.5s						
CUT	**Chulitna**	**2.99**	**25**		**Pn**	**20 47 44.2**	**-0.2**
CUT	**Chulitna**	**2.99**	**25**	IAML		20 48 26.4	
	comp=E,236nm,0.2s						
CUT				IAML		20 48 47.4	
	comp=N,227nm,0.8s						
CUT	**Chulitna**	**2.99**	**25**	P	**Pn**	**20 47 44.2**	**-0.2**
	baz=208						
SML	**Sawmill**	**3.10**	**46**		**Pn**	**20 47 45.6**	**-0.3**
SML	**Sawmill**	**3.10**	**46**	IAML		20 48 26.8	
	comp=N,160nm,0.5s						
SML				IAML		20 48 30.0	
	comp=E,206nm,0.6s						
SML	**Sawmill**	**3.10**	**46**	P	**Pn**	**20 47 45.6**	**-0.3**
	baz=230						
GLI	**Glacier Island**	**3.16**	**66**		**Pn**	**20 47 46.4**	**-0.3**
GLI					**Sn**	**20 48 21.8**	**-2.1**
GLI	**Glacier Island**	**3.16**	**66**	P	**Pn**	**20 47 46.4**	**-0.3**
	baz=252						
GLI				S	**Sn**	**20 48 21.8**	**-2.1**
	baz=252						
PPLA	**Purkeypile**	**3.19**	**7**		**Pn**	**20 47 48.2**	**+1.0**
PPLA	**Purkeypile**	**3.19**	**7**	P	**Pn**	**20 47 48.2**	**+1.0**
	baz=188						
SII	**Sitkinak Islan**	**3.25**	**191**		**Pn**	**20 47 46.5**	**-1.4**
SII	**Sitkinak Islan**	**3.25**	**191**	IAML		20 48 24.4	
	comp=N,119nm,0.7s						
SII				IAML		20 48 25.9	
	comp=E,168nm,0.4s						
SII	**Sitkinak Islan**	**3.25**	**191**	P	**Pn**	**20 47 46.5**	**-1.4**
	baz=9.8						
Q23K	**Middleton Isla**	**3.41**	**92**		**Pn**	**20 47 50.3**	**+0.4**
Q23K	**Middleton Isla**	**3.41**	**92**	IAML		20 48 32.8	
	comp=E,175nm,1.3s						
Q23K				IAML		20 48 34.4	
	comp=N,155nm,0.9s						
Q23K	**Middleton Isla**	**3.41**	**92**	P	**Pn**	**20 47 50.3**	**+0.4**
	baz=278						
FID	**Port Fidalgo**	**3.42**	**70**		**Pn**	**20 47 49.0**	**-1.1**
JPK	**Jack Peak**	**3.45**	**65**		**Pn**	**20 47 50.1**	**-0.5**
TT01	**Tatalina**	**3.49**	**337**		**Pn**	**20 47 50.6**	**-0.4**
SCM	**Sheep Creek Mo**	**3.49**	**51**		**Pn**	**20 47 51.1**	**0.0**
SCM	**Sheep Creek Mo**	**3.49**	**51**	IAML		20 48 33.9	
	comp=E,219nm,0.9s						
SCM				IAML		20 48 35.9	
	comp=N,179nm,0.8s						
TTA	**Tatalina**	**3.51**	**337**		**Pn**	**20 47 50.7**	**-0.6**
TTA	**Tatalina**	**3.51**	**337**	P	**Pn**	**20 47 50.7**	**-0.6**
	baz=155						
K20K	**Telida**	**3.66**	**353**		**Pn**	**20 47 53.4**	**+0.1**
K20K	**Telida**	**3.66**	**353**	P	**Pn**	**20 47 53.4**	**+0.1**
	baz=172						
CAST	**Castle Rocks**	**3.72**	**7**	Pn	**Pn**	**20 47 54.3**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.73**	**74**		**Pn**	**20 47 54.0**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.73**	**74**	P	**Pn**	**20 47 54.0**	**-0.2**
	baz=261						
WAT1	**Susitna Watana**	**3.77**	**33**		**Pn**	**20 47 55.0**	**+0.1**
WAT1	**Susitna Watana**	**3.77**	**33**	P	**Pn**	**20 47 55.0**	**+0.1**
	baz=217						
WAT6	**Susitna Watana**	**3.83**	**40**		**Pn**	**20 47 55.5**	**-0.2**
WAT6	**Susitna Watana**	**3.83**	**40**	P	**Pn**	**20 47 55.5**	**-0.2**
	baz=225						
DIV	**Divide**	**3.85**	**66**		**Pn**	**20 47 56.5**	**+0.5**
KLU	**Klutina**	**3.91**	**60**		**Pn**	**20 47 56.6**	**-0.2**
KLU	**Klutina**	**3.91**	**60**	P	**Pn**	**20 47 56.6**	**-0.2**
	baz=247						
TRF	**Thorofare Moun**	**3.94**	**18**		**Pn**	**20 47 57.1**	**-0.2**
TRF	**Thorofare Moun**	**3.94**	**18**	IAML		20 49 06.6	
	comp=N,57nm,0.5s						
TRF				IAML		20 49 07.9	
	comp=E,46nm,0.7s						
TRF	**Thorofare Moun**	**3.94**	**18**	P	**Pn**	**20 47 57.1**	**-0.2**
	baz=201						
KTH	**Kantishna Hill**	**3.96**	**14**		**Pn**	**20 47 57.1**	**-0.2**
KTH	**Kantishna Hill**	**3.96**	**14**	IAML		20 49 07.6	
	comp=N,34nm,0.8s						
KTH				IAML		20 49 09.2	
	comp=E,32nm,0.9s						
M24K	**Tolsona, Glenn**	**4.10**	**52**		**Pn**	**20 47 59.7**	**+0.5**
M24K	**Tolsona, Glenn**	**4.10**	**52**	IAML		20 48 48.3	
	comp=N,147nm,0.9s						
M24K				IAML		20 48 54.4	
	comp=E,144nm,0.6s						
M24K	**Tolsona, Glenn**	**4.10**	**52**	P	**Pn**	**20 47 59.7**	**+0.5**
	baz=238						
CHUM	**Lake Minchumin**	**4.17**	**4**		**Pn**	**20 48 00.4**	**+0.3**
CHUM	**Lake Minchumin**	**4.17**	**4**	P	**Pn**	**20 48 00.4**	**+0.3**
	baz=185						
RND	**Reindeer**	**4.18**	**27**		**Pn**	**20 48 00.5**	**+0.1**
RND	**Reindeer**	**4.18**	**27**	IAML		20 49 08.3	
	comp=E,26nm,0.8s						
RND				IAML		20 49 17.2	
	comp=N,23nm,0.8s						
RAGM	**Ragged Mountai**	**4.23**	**78**		**Pn**	**20 48 01.1**	**+0.1**
DHY	**Denali Highway**	**4.31**	**37**		**Pn**	**20 48 02.0**	**-0.1**
DHY	**Denali Highway**	**4.31**	**37**	IAML		20 48 54.0	
	comp=E,52nm,0.3s						
DHY				IAML		20 48 55.1	
	comp=N,69nm,0.3s						
DHY	**Denali Highway**	**4.31**	**37**	P	**Pn**	**20 48 02.0**	**-0.1**
	baz=222						
BMRM	**Bremner River**	**4.36**	**70**		**Pn**	**20 48 02.9**	**+0.2**
BMRM	**Bremner River**	**4.36**	**70**	IAML		20 48 55.6	
	comp=N,116nm,0.5s						
BMRM				IAML		20 48 56.3	
	comp=E,99nm,0.4s						
BMRM	**Bremner River**	**4.36**	**70**	P	**Pn**	**20 48 02.9**	**+0.2**
	baz=258						
PS11	**TAPS Pump St11**	**4.37**	**54**		**Pn**	**20 48 03.0**	**+0.3**
HMT	**Hamilton**	**4.43**	**78**		**Pn**	**20 48 03.9**	**+0.2**
MCK	**McKinley**	**4.45**	**24**		**Pn**	**20 48 04.2**	**+0.3**
MCK	**McKinley**	**4.45**	**24**	IAML		20 49 15.8	
	comp=N,27nm,0.7s						
MCK				IAML		20 49 34.2	
	comp=E,20nm,1.1s						
MCK	**McKinley**	**4.45**	**24**	P	**Pn**	**20 48 04.2**	**+0.3**
	baz=208						
BPAW	**Bear Paw Mtn.**	**4.48**	**12**		**Pn**	**20 48 03.5**	**-0.8**
BPAW	**Bear Paw Mtn.**	**4.48**	**12**	P	**Pn**	**20 48 03.5**	**-0.8**
	baz=194						
J20K	**Nowinta River**	**4.48**	**354**		**Pn**	**20 48 04.3**	**0.0**
J20K	**Nowinta River**	**4.48**	**354**	P	**Pn**	**20 48 04.3**	**0.0**
	baz=173						
CHGN	**Chignik**	**4.49**	**222**	Pn	**Pn**	**20 48 04.3**	**0.0**
CHGN				IAML		20 48 56.2	
	comp=N,56nm,0.1s						
CHGN				IAML		20 48 57.0	
	comp=E,88nm,0.1s						
N25K	**Chitina, Valde**	**4.54**	**62**		**Pn**	**20 48 05.2**	**0.0**
N25K	**Chitina, Valde**	**4.54**	**62**	IAML		20 48 58.4	
	comp=N,115nm,0.4s						
N25K				IAML		20 48 58.8	
	comp=E,116nm,0.5s						
N25K	**Chitina, Valde**	**4.54**	**62**	P	**Pn**	**20 48 05.2**	**0.0**
	baz=250						
NICHA	**Nichawak Mount**	**4.57**	**80**		**Pn**	**20 48 05.6**	**+0.1**
HARP	**HAARP**	**4.66**	**52**		**Pn**	**20 48 07.0**	**+0.3**
HARP	**HAARP**	**4.66**	**52**	P	**Pn**	**20 48 07.0**	**+0.3**
	baz=239						
SUCK	**Suckling Hills**	**4.67**	**82**	Pn	**Pn**	**20 48 07.9**	**+1.1**
SUCK				IAML		20 49 02.0	
	comp=N,88nm,0.6s						
SUCK				IAML		20 49 05.2	
	comp=E,48nm,0.5s						
BERG	**Berg Lake**	**4.71**	**78**		**Pn**	**20 48 07.5**	**0.0**
BWN	**Browne**	**4.75**	**19**		**Pn**	**20 48 08.4**	**+0.5**
BWN	**Browne**	**4.75**	**19**	IAML		20 49 06.4	
	comp=E,35nm,1.1s						
BWN				IAML		20 49 11.1	
	comp=N,34nm,2.0s						
GLB	**Gilahina Butte**	**4.85**	**65**		**Pn**	**20 48 09.2**	**-0.1**
GLB	**Gilahina Butte**	**4.85**	**65**	IAML		20 49 06.0	
	comp=E,88nm,0.4s						
PAX	**Paxson**	**4.87**	**45**		**Pn**	**20 48 09.7**	**+0.1**
PAX	**Paxson**	**4.87**	**45**	P	**Pn**	**20 48 09.6**	**+0.1**
	baz=232						
GRIN	**Grindle Hills**	**4.90**	**79**		**Pn**	**20 48 10.6**	**+0.7**
KHIT	**Khitrov Hills**	**4.94**	**78**		**Pn**	**20 48 10.4**	**-0.2**
VRDI	**Verde Repeater**	**4.96**	**68**		**Pn**	**20 48 10.7**	**-0.3**
VRDI	**Verde Repeater**	**4.96**	**68**	IAML		20 49 06.7	
	comp=N,76nm,0.4s						
VRDI				IAML		20 49 06.9	
	comp=E,38nm,0.4s						
PS10	**TAPS Pump St10**	**5.06**	**40**		**Pn**	**20 48 12.1**	**0.0**
SNH	**Sunshine Point**	**5.14**	**81**	Pn	**Pn**	**20 48 14.3**	**+1.1**
SNH				IAML		20 49 13.4	
	comp=N,77nm,0.4s						
SNH				IAML		20 49 16.3	
	comp=E,71nm,0.9s						
WAX	**Waxell Ridge**	**5.14**	**78**		**Pn**	**20 48 13.3**	**+0.1**
TGL	**Tana Glacier**	**5.18**	**74**		**Pn**	**20 48 13.8**	**0.0**
TGL	**Tana Glacier**	**5.18**	**74**	IAML		20 49 13.2	
	comp=N,81nm,0.5s						
MCARA	**McCarthy VSAT**	**5.20**	**67**	Pn	**Pn**	**20 48 15.1**	**+1.2**
NEA2	**Nenana**	**5.21**	**19**		**Pn**	**20 48 13.3**	**-0.8**
NEA2	**Nenana**	**5.21**	**19**	P	**Pn**	**20 48 13.3**	**-0.8**
	baz=203						
WRH	**Wood River Hil**	**5.28**	**24**		**Pn**	**20 48 14.5**	**-0.5**
WRH	**Wood River Hil**	**5.28**	**24**	IAML		20 49 33.1	
	comp=N,11nm,4.3s						
ISLE	**Juniper Island**	**5.40**	**76**		**Pn**	**20 48 17.2**	**+0.4**
PTPK	**Patty Peak**	**5.42**	**70**		**Pn**	**20 48 17.6**	**+0.5**
KIAG	**Kiagna River**	**5.43**	**73**		**Pn**	**20 48 17.8**	**+0.5**
BALM	**Baldy**	**5.45**	**72**		**Pn**	**20 48 17.5**	**0.0**
I21K	**Tanana**	**5.48**	**5**		**Pn**	**20 48 17.5**	**-0.2**
I21K	**Tanana**	**5.48**	**5**	P	**Pn**	**20 48 17.5**	**-0.2**
	baz=186						
CCB	**Clear Creek Bu**	**5.49**	**24**		**Pn**	**20 48 16.9**	**-1.0**
BAGL	**Bagley Icefiel**	**5.52**	**77**		**Pn**	**20 48 19.2**	**+1.0**
M26K	**Nabesna, AK**	**5.55**	**57**		**Pn**	**20 48 19.1**	**+0.4**
M26K	**Nabesna, AK**	**5.55**	**57**	P	**Pn**	**20 48 19.1**	**+0.4**
	baz=246

H24K	**Noodor Dome**	**6.55**	**19**	P		**Pn**	**20 48 31.7**	**-0.6**
	baz=204								
BCPM	**Bancas Point**	**6.75**	**82**			**Pn**	**20 48 36.6**	**+1.7**
PNL	**Peninsula**	**6.89**	**85**			**Pn**	**20 48 37.4**	**+0.5**
EGAK	**Eagle**	**7.49**	**43**			**Pn**	**20 48 44.0**	**-0.8**
COLD	**Coldfoot**	**7.62**	**8**	Pn		**Pn**	**20 48 46.1**	**-0.5**
DAWY	**Dawson**	**7.75**	**50**	Pn		**Pn**	**20 48 48.8**	**+0.3**
HYT	**Haines Junctio**	**7.79**	**75**	Pn		**Pn**	**20 48 51.2**	**+2.1**
M30M	**Minto, Yukon**	**8.34**	**63**	Pn		**Pn**	**20 48 57.6**	**+1.1**
BMAR	**Burnt Mountain**	**8.57**	**22**	Pn		**Pn**	**20 48 58.4**	**-1.1**
I29M	**Ogilvie Camp,**	**8.81**	**44**	Pn		**Pn**	**20 49 04.0**	**+1.2**
SKAG	**Skagway**	**8.97**	**84**	Pn		**Pn**	**20 49 07.4**	**+2.4**
TOLK	**Toolik Lake Re**	**9.06**	**8**	Pn		**Pn**	**20 49 07.0**	**+0.8**
WHY	**Whitehorse**	**9.08**	**76**	Pn		**Pn**	**20 49 08.0**	**+1.5**
M31M	**Drury Creek, Y**	**9.38**	**67**	Pn		**Pn**	**20 49 11.8**	**+1.3**
BESE	**Bessie Mountai**	**9.40**	**89**	Pn		**Pn**	**20 49 13.4**	**+2.6**
SIT	**Sitka**	**9.67**	**98**	Pn		**Pn**	**20 49 14.5**	**+0.2**
JIS	**Juneau Island**	**9.72**	**91**	Pn		**Pn**	**20 49 17.2**	**+2.1**
DLBC	**Dease Lake**	**11.88**	**86**	P		**Pn**	**20 49 46.4**	**+2.2**
	comp=N,1.6nm,0.3s,baz=258,slow=10.0,SNR=16								
INK	**Inuvik**	**12.05**	**36**	P		**Pn**	**20 49 45.8**	**-0.3**
	comp=N,0.2nm,0.3s,baz=233,slow=16,SNR=6.6								
C36M	**Paulatuk**	**15.55**	**40**	Pn		**Pn**	**20 50 29.6**	**-1.4**
C36M				IAmb		IAmb	20 50 36.9		
	comp=Z,16nm,1.9s								
A36M	**Sachs Harbour**	**16.48**	**31**	Pn		**Pn**	**20 50 42.7**	**+0.1**
A36M				IAmb		IAmb	20 50 45.5		
	comp=Z,4.9nm,0.8s								
YKA	**Yellowknife Ar**	**18.57**	**65**	P		**Pn**	**20 51 07.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=277,slow=9.9,SNR=48								
YKA				PcP		**PcP**	**20 55 31.0**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=277,slow=1.5,SNR=3.2								
YKA	**Yellowknife Ar**	**18.57**	**65**	P		**P**	**20 51 05.7**	**-0.4**
USRK	**Ussuriysk Ar.**	**46.10**	**285**	LR		LR	21 16 21.6		
	comp=Z,254nm,19.9s,baz=24,slow=38								
KSRS	**Korea Array**	**53.23**	**283**	P		**P**	**20 56 05.7**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=36,slow=6.4,SNR=2.2								
SONM	**Songino Array**	**54.93**	**306**	P		**P**	**20 56 18.0**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=41,slow=6.3,SNR=14								
SONM	**Songino Array**	**54.93**	**306**	P		**P**	**20 56 18.1**	**+0.9**
SONM				IAmb		IAmb	20 56 18.9		
	comp=Z,1.5nm,0.7s								
ZALV	**Zalesovo Beam**	**57.58**	**324**	P		**P**	**20 56 36.0**	**+0.4**
	comp=Z,2.9nm,0.4s,baz=33,slow=6.6,SNR=18								
ZALV	**Zalesovo Beam**	**57.58**	**324**	P		**P**	**20 56 35.9**	**+0.2**
MKAR	**Makanchi Array**	**64.63**	**321**	P		**P**	**20 57 23.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=45,slow=7.5,SNR=11								
MKAR				LR		LR	21 27 36.0		
	comp=Z,146nm,20.1s,baz=40,slow=38								
CMAR	**Chiang Mai Arr**	**82.96**	**295**	P		**P**	**20 59 10.1**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=9.5,slow=5.8,SNR=4.4								
BOSA	**Boshof**	**148.86**	**3**	PKPbc		**PKPbc**	**21 06 32.0**	**-0.2**
	comp=Z,3.5nm,1.1s,baz=37,slow=14,SNR=2.1								

*KRNET **17** 21:15:47.6±0.1, 40.91N×78.35E, mb2.9*
*NNC **17** 21:15:48.5±1.2, 41.02N×78.56E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=8.0km s-min=5.7km az=166.0
*SOME **17** 21:15:50.5, 41.12N×78.57E, h5km*
ISC 17 21:15:49.2±2.1, 41.04N±0.10×78.55E±0.05, h10km, n52, σ1§27/79, 15C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.50**	**317**	⇑*i*P	**Pn**	**21 16 15.3**	**-1.0**
KDJ	baz=25			⇑*i*S	**Sn**	**21 16 36.0**	**+0.1**
	baz=25						
ANVS	**Anan'yevo**	**1.86**	**340**	⇑*i*P	**Pb**	**21 16 23.5**	**+0.1**
ANVS	baz=45			⇑*i*S	**Sg**	**21 16 49.4**	**+0.4**
	baz=45						
SATY	**Saty**	**2.02**	**357**	*e*P	**Pg**	**21 16 28.0**	**+0.1**
	20nm,0.3s						
SATY				*e*S	**Sg**	**21 16 55.2**	**+1.1**
	33nm,0.2s						
SATY	**Saty**	**2.02**	**357**	Pg	**Pb**	**21 16 26.4**	**+0.4**
	20nm,0.3s						
SATY				Lg	Lg	21 16 54.1	
	31nm,0.3s						
ULHL	**Ulahol**	**2.11**	**306**	⇓*i*P	**Pn**	**21 16 25.1**	**+0.4**
	baz=11						
ULHL				⇓*i*S	**Sn**	**21 16 52.3**	**+1.3**
	baz=11						
ZHN	**Zhinishke**	**2.13**	**358**	*e*P	**Pg**	**21 16 30.1**	**+0.1**
	15nm,0.2s						
ZHN				*e*S	**Sg**	**21 16 58.3**	**+0.8**
	51nm,0.3s						
ZHN	**Zhinishke**	**2.13**	**358**	Pg	**Pb**	**21 16 28.7**	**+0.8**
	15nm,0.2s						
ZHN				Lg	Lg	21 16 57.8	
	51nm,0.3s						
UZB	**Uzynbulak**	**2.13**	**9**	*e*P	**Pb**	**21 16 28.9**	**+0.9**
	7.4nm,0.6s						
UZB				*e*S	**Sg**	**21 16 56.8**	**-1.0**
	24nm,0.4s						
UZB	**Uzynbulak**	**2.13**	**9**	Pg	**Pb**	**21 16 27.5**	**-0.5**
	5.3nm,0.5s						
UZB				Lg	Lg	21 16 56.0	
	25nm,0.6s						
SHLS	**Shalkode**	**2.22**	**18**	*e*P	**Pg**	**21 16 32.6**	**+0.8**
	7.0nm,0.2s						
SHLS				*e*S	**Sg**	**21 17 03.0**	**+2.4**
	45nm,0.5s						
SHLS	**Shalkode**	**2.22**	**18**	Pg	**Pg**	**21 16 31.6**	**-0.2**
	7.0nm,0.2s						
SHLS				Lg	Lg	21 17 03.0	
	45nm,0.5s						
TNSS	**Tian-Shan**	**2.32**	**330**	*e*P	**Pg**	**21 16 33.4**	**-0.3**
	7.4nm,0.3s						
TNSS				*e*S	**Sg**	**21 17 04.4**	**+0.5**
	15nm,0.4s						
TNSS	**Tian-Shan**	**2.32**	**330**	Pg	**Pb**	**21 16 32.1**	**+0.7**
	4.1nm,0.1s						
TNSS				Lg	Lg	21 17 03.9	
	15nm,0.4s						
PDGK	**Podgornoye**	**2.39**	**17**	Pg	**Pb**	**21 16 31.2**	**-1.2**
	2.1nm,0.3s						
PDGK				Lg	Lg	21 17 02.3	
	14nm,0.7s						
PDGK	**Podgornoye**	**2.39**	**17**	⇓Pg	**Pb**	**21 16 31.2**	**-1.2**
	7.6nm,0.8s						
PDGK				⇑Lg	Lg	21 17 04.3	
	19nm,0.6s						
MDOK	**Medeo**	**2.40**	**333**	*e*P	**Pg**	**21 16 34.6**	**-0.4**
	12nm,0.3s						
MDOK				*e*S	**Sg**	**21 17 06.5**	**+0.3**
	44nm,0.6s						
MDOK	**Medeo**	**2.40**	**333**	⇑Pg	**Pb**	**21 16 33.0**	**+0.5**
	6.1nm,0.4s						
MDOK				Lg	Lg	21 17 06.4	
	39nm,0.6s						
MDOK	**Medeo**	**2.40**	**333**	Pg	**Pb**	**21 16 33.0**	**+0.5**
	7.2nm,0.2s						
MDOK				Lg	Lg	21 17 05.1	
	44nm,0.6s						
KPKS	**Kokpek**	**2.42**	**2**	*e*P	**Pg**	**21 16 34.6**	**-1.0**
	13nm,0.5s						
KPKS				*e*S	**Sg**	**21 17 06.3**	**-0.8**
	70nm,0.6s						
BOOM	**Boomskoye usch**	**2.43**	**307**	⇑*i*P	**Pn**	**21 16 29.7**	**+0.6**
	baz=12						
BOOM				⇑*i*S	**Sn**	**21 17 00.3**	**+1.4**
	baz=12						
KOTS	**Kotyrbulak**	**2.44**	**335**	*e*P	**Pg**	**21 16 35.4**	**-0.5**
	13nm,0.2s						
KOTS				*e*S	**Sg**	**21 17 07.7**	**+0.2**
	46nm,0.4s						
KOTS	**Kotyrbulak**	**2.44**	**335**	Pg	**Pb**	**21 16 34.4**	**+1.3**
	13nm,0.2s						
KOTS				Lg	Lg	21 17 07.7	
	46nm,0.4s						
KURS	**Kuram**	**2.46**	**354**	*e*P	**Pg**	**21 16 35.9**	**-0.4**
	23nm,0.6s						
KURS				*e*S	**Sg**	**21 17 08.5**	**+0.2**
	24nm,0.7s						
KURS	**Kuram**	**2.46**	**354**	Pg	**Pb**	**21 16 34.9**	**+1.3**
	23nm,0.6s						
KURS				Lg	Lg	21 17 08.5	
	24nm,0.7s						
KNDC	**Almaty**	**2.47**	**332**	⇓Pg	**Pg**	**21 16 36.5**	**-0.1**
	20nm,0.7s						
KNDC				⇑Lg	Lg	21 17 09.5	
	84nm,0.6s						
AAA	**Alma-Ata**	**2.48**	**331**	*e*P	**Pg**	**21 16 36.6**	**-0.2**
	20nm,0.2s						
AAA				*e*S	**Sg**	**21 17 09.8**	**+0.8**
	55nm,0.4s						
AAA	**Alma-Ata**	**2.48**	**331**	Pg	**Pg**	**21 16 35.7**	**-1.1**
	18nm,0.2s						
AAA				Lg	Lg	21 17 09.9	
	55nm,0.4s						
MTBS	**Maitube**	**2.62**	**324**	*e*P	**Pb**	**21 16 38.1**	**+1.9**
	2.6nm,0.3s						
MTBS				*e*S	**Sg**	**21 17 12.4**	**-0.8**
	21nm,0.4s						
MTBS	**Maitube**	**2.62**	**324**	Pg	**Pb**	**21 16 37.1**	**+0.9**
	2.5nm,0.2s						
MTBS				Lg	Lg	21 17 12.2	
	21nm,0.4s						
KST	**Kastek**	**2.78**	**317**	*e*P	**Pb**	**21 16 40.8**	**+1.9**
	2.4nm,0.1s						
KST				*e*S	**Sg**	**21 17 17.2**	**-1.2**
	19nm,0.4s						
KST	**Kastek**	**2.78**	**317**	Pg	**Pb**	**21 16 39.4**	**+0.5**
	2.5nm,0.3s						
KST				Lg	Lg	21 17 16.4	
	19nm,0.4s						
TKM2	**Tokmak 2**	**2.89**	**311**	⇑*e*P	**Pn**	**21 16 36.4**	**+0.9**
	baz=15						
TKM2				⇑*i*S	**Sn**	**21 17 11.9**	**+1.5**
	baz=15						
TKM2	**Tokmak 2**	**2.89**	**311**	⇑Pg	**Pb**	**21 16 40.6**	**-0.3**
	2.6nm,0.8s						
TKM2				⇓Lg	Lg	21 17 22.0	
	9.2nm,0.6s						
KTBS	**Karatobe**	**3.00**	**333**	*e*P	**Pb**	**21 16 44.9**	**+2.1**
	5.2nm,0.4s						
KTBS				*e*S	**Sg**	**21 17 24.1**	**-1.6**
	19nm,0.6s						
KTBS	**Karatobe**	**3.00**	**333**	Pg	**Pb**	**21 16 43.9**	**+1.1**
	5.2nm,0.4s						
KTBS				Lg	Lg	21 17 24.1	
	19nm,0.6s						
DGS	**Degeres**	**3.02**	**318**	*e*P	**Pb**	**21 16 45.3**	**+2.3**
	5.0nm,0.5s						
DGS				*e*S	**Sg**	**21 17 24.9**	**-1.1**
	9.6nm,0.6s						
DGS	**Degeres**	**3.02**	**318**	Pg	**Pb**	**21 16 43.5**	**+0.5**
	5.2nm,0.5s						
DGS				Lg	Lg	21 17 23.5	
	9.6nm,0.6s						
CHKK	**Chushkaly**	**3.04**	**338**	*e*P	**Pb**	**21 16 45.2**	**+1.9**
	3.4nm,0.3s						
CHKK				*e*S	**Sg**	**21 17 24.9**	**-1.8**
	36nm,0.3s						
CHKK	**Chushkaly**	**3.04**	**338**	Pg	**Pb**	**21 16 44.5**	**+1.1**
	3.4nm,0.3s						
CHKK				Lg	Lg	21 17 24.9	
	40nm,0.8s						
BLB	**Baldybastay**	**3.05**	**359**	*e*P	**Pg**	**21 16 45.7**	**-2.0**
	41nm,0.4s						
BLB				*e*S	**Sg**	**21 17 25.4**	**-1.9**
	26nm,0.3s						
BLB	**Baldybastay**	**3.05**	**359**	Pg	**Pb**	**21 16 44.7**	**+1.0**
	41nm,0.4s						
BLB				Lg	Lg	21 17 25.4	
	26nm,0.3s						
ARXS	**Arharly**	**3.21**	**351**	*e*P	**Pg**	**21 16 48.7**	**-2.1**
	9.1nm,0.5s						
ARXS				*e*S	**Sg**	**21 17 30.4**	**-2.0**
	26nm,0.6s						
ARXS	**Arharly**	**3.21**	**351**	Pg	**Pb**	**21 16 47.5**	**+1.1**
	9.1nm,0.5s						
ARXS				Lg	Lg	21 17 30.4	
	26nm,0.6s						
UCH	**Uchtor**	**3.25**	**293**	⇑*e*P	**Pn**	**21 16 40.5**	**-0.1**
	baz=96						
UCH				⇑*i*S	**Sn**	**21 17 19.0**	**-0.5**
	baz=96						
KUU	**Kurty**	**3.29**	**331**	*e*P	**Pb**	**21 16 49.6**	**+2.1**
	1.5nm,0.8s						
KUU				*e*S	**Sg**	**21 17 32.0**	**-2.7**
	18nm,0.8s						
KUU	**Kurty**	**3.29**	**331**	Pg	**Pb**	**21 16 48.2**	**+0.6**
	1.8nm,0.4s						
KUU				Lg	Lg	21 17 31.4	
	18nm,0.8s						
KRBS	**Karabastau**	**3.40**	**322**	*e*P	**Pb**	**21 16 52.1**	**+2.5**
	2.3nm,0.3s						
KRBS				*e*S	**Sg**	**21 17 36.0**	**-2.3**
	5.7nm,0.3s						
KRBS	**Karabastau**	**3.40**	**322**	Pg	**Pb**	**21 16 49.6**	**0.0**
	2.1nm,0.5s						
KRBS				Lg	Lg	21 17 33.7	
	6.2nm,0.5s						
DJR	**Jarkent**	**3.41**	**15**	*e*P	**Pb**	**21 16 51.7**	**+1.9**
	2.0nm,0.3s						
DJR				*e*S	**Sg**	**21 17 35.5**	**-3.3**
	10nm,0.5s						
DJR	**Jarkent**	**3.41**	**15**	Pg	**Pb**	**21 16 50.6**	**+0.8**
	2.0nm,0.3s						
DJR				Lg	Lg	21 17 35.5	
	10nm,0.5s						
AAK	**Ala-Archa**	**3.42**	**299**	⇓*i*P	**Pn**	**21 16 42.8**	**+0.1**
	baz=2.0						
AAK				⇓*i*S	**Sn**	**21 17 23.4**	**0.0**
	baz=2.0						
CHMS	**Chumysh**	**3.44**	**306**	⇓Pg	**Pb**	**21 16 49.4**	**-0.8**
	2.9nm,1.1s						
CHMS				⇑Lg	Lg	21 17 37.7	
	3.7nm,0.6s						

*CNRM **17** 21:20:10.8, 35.51N×3.62W, h26km, ml2.6*
*INMG **17** 21:20:12.2±2.0, 35.40N×3.59W, h21km±9km, ML2.2, Error ellipse: s-maj=7.3km s-min=5.0km az=141.0*
*MDD **17** 21:20:12.2±0.4, 35.29N×3.60W, h23km, mb_Lg2.4/21, Error ellipse: s-maj=4.1km s-min=2.1km az=167.0*
*SFS **17** 21:20:12.0, 35.29N×3.60W, h23km, ML2.4, ANOUAL (MARRUECOS)*
ISC 17 21:20:12.1±1.0, 35.43N±0.02×3.64W±0.02, h25km±9km, n63, σ1§65/112, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.32**	**230**	P	**Pb**	**21 20 19.4**	**0.0**
PALE	**Palemas**	**0.32**	**230**	P	**Pb**	**21 20 19.2**	**-0.2**
PALE				S	**Sb**	**21 20 25.2**	**+0.8**
GOG	**Mont Gurugu**	**0.56**	**111**	P	**Pb**	**21 20 22.2**	**-1.2**
GOG				S	**Sb**	**21 20 31.1**	**0.0**
GOG	**Mont Gurugu**	**0.56**	**111**	P	**Pb**	**21 20 22.3**	**-1.1**
GOG				S	**Sb**	**21 20 29.9**	**-1.2**
EMEL	**Melilla**	**0.57**	**102**	Pg	**Pb**	**21 20 22.4**	**-1.1**
EMEL				Sg	**Sb**	**21 20 29.5**	**-1.7**
PVLZ	**Peæn de**	**0.60**	**245**	P	**Pb**	**21 20 24.1**	**+0.3**
PVLZ				S	**Sb**	**21 20 32.2**	**+0.3**
EALB	**Alboran**	**0.71**	**44**	Pg	**Pb**	**21 20 24.7**	**-1.1**
EALB				Sg	**Sb**	**21 20 34.7**	**-0.5**
EALB				*i* Vmb_Lg		21 20 35.4	
AKLM	**AKL**	**0.93**	**191**	P	**Pn**	**21 20 30.2**	**+0.5**
AKLM	**AKL**	**0.93**	**191**	P	**Pn**	**21 20 30.2**	**+0.5**
AKLM				S	**Sn**	**21 20 43.2**	**+1.0**
TAF	**Taforalt**	**1.18**	**121**	P	**Pn**	**21 20 32.0**	**-1.0**
JBK	**JBK**	**1.40**	**141**	P	**Pb**	**21 20 39.0**	**+1.3**
JBK	**JBK**	**1.40**	**141**	P	**Pn**	**21 20 35.4**	**-0.8**
JBK				S	**Sn**	**21 20 54.0**	**-0.1**
CHEFC	**Chefchaouen**	**1.43**	**258**	P	**Pb**	**21 20 38.0**	**-0.1**
CHEFC	**Chefchaouen**	**1.43**	**258**	P	**Pb**	**21 20 37.5**	**-0.6**
CHEFC				S	**Sn**	**21 20 54.2**	**-0.3**
ELGU	**Los Guajares,**	**1.44**	**0**	Pn	**Pn**	**21 20 35.7**	**-1.0**
ELGU				Sn	**Sn**	**21 20 52.9**	**-1.9**
ELGU				*i* Vmb_Lg		21 20 54.6	
SMIR	**Smir Dam**	**1.44**	**281**	P	**Pn**	**21 20 34.9**	**-1.7**
SMIR				S	**Sn**	**21 20 52.9**	**-1.9**
EMIJ	**Mijas**	**1.46**	**321**	Pn	**Pn**	**21 20 36.1**	**-0.9**
EMIJ				Sn	**Sn**	**21 20 53.3**	**-2.0**
EMIJ				*i* Vmb_Lg		21 20 57.9	
CEU	**Ceuta**	**1.49**	**289**	P	**Pn**	**21 20 34.6**	**-2.6**
CEU				S	**Sn**	**21 20 49.1**	**-6.7**
ECEU	**Ceuta**	**1.49**	**289**	Pn	**Pn**	**21 20 36.2**	**-1.1**
ECEU				Sn	**Sn**	**21 20 53.4**	**-2.6**
ECEU				*i* Vmb_Lg		21 20 54.9	
EBER	**Berja**	**1.59**	**22**	Pn	**Pn**	**21 20 37.9**	**-1.0**
EBER				Sn	**Sn**	**21 20 58.8**	**+0.1**
EBER				*i* Vmb_Lg		21 21 01.0	
EGOR	**Sierra Gorda,**	**1.72**	**347**	Pn	**Pn**	**21 20 40.9**	**+0.2**
EGOR				Sn	**Sn**	**21 21 02.6**	**+0.6**
EGOR				*i* Vmb_Lg		21 21 06.0	
EQUE	**Quentar**	**1.78**	**5**	Pn	**Pb**	**21 20 43.1**	**-1.1**
EQUE				Sn	**Sn**	**21 21 02.4**	**-1.0**
EQUE				*i* Vmb_Lg		21 21 05.8	

EJIF	**Jimena Fronter**	**1.80**	**305**	Pn		**Pn**	**21 20 42.3**	**+0.7**
ENIJ	**Nijar**	**1.93**	**36**	Pn		**Pn**	**21 20 43.3**	**0.0**
ENIJ				Sn		**Sn**	**21 21 05.1**	**-1.8**
ENIJ				*i* Vmb_Lg			21 21 09.4		
LCRM	**LCR**	**2.00**	**210**	P		**Pb**	**21 20 46.5**	**-1.5**
LCRM				S		**Sb**	**21 21 13.0**	**+0.5**
ESPR	**Espera**	**2.30**	**309**	Sn		**Sb**	**21 21 20.9**	**+0.1**
ESPR				*i* Vmb_Lg			21 21 24.5		
MD31	**MD31**	**2.71**	**200**	P		**Pn**	**21 20 55.1**	**+0.8**
MD31				S		**Sn**	**21 21 27.4**	**+1.1**
MDT	**Midelt**	**2.73**	**197**	P		**Pn**	**21 20 54.6**	**+0.2**
MDT				S		**Sn**	**21 21 27.1**	**+0.5**
EADA	**Adamuz**	**2.84**	**345**	Pn		**Pn**	**21 20 57.4**	**+1.5**
EADA				Sn		**Sn**	**21 21 28.9**	**-0.4**
EADA				*i* Vmb_Lg			21 21 35.7		
ECAB	**El Cabril**	**3.01**	**332**	Pn		**Pn**	**21 20 59.2**	**+1.1**
ECAB				Sn		**Sn**	**21 21 35.3**	**+1.8**
ECAB				*i* Vmb_Lg			21 21 43.9		
EMUR	**La Murta**	**3.09**	**38**	Pn		**Pn**	**21 21 01.0**	**+1.7**
EMUR				Sn		**Sn**	**21 21 32.7**	**-2.8**
EMIN	**Mina Concepcio**	**3.38**	**315**	Pn		**Pn**	**21 21 03.4**	**+0.1**
EMIN				Sn		**Sn**	**21 21 43.2**	**+0.6**
EMIN				*i* Vmb_Lg			21 21 47.9		
ETOB	**Tobarra**	**3.62**	**27**	Pn		**Pn**	**21 21 07.8**	**+1.1**
ETOB				Sn		**Sn**	**21 21 49.2**	**+0.5**
ETOB				*i* Vmb_Lg			21 21 51.3		
EGRO	**El Granado**	**3.75**	**305**	Pn		**Pn**	**21 21 08.4**	**+0.1**
EGRO				Sn		**Sn**	**21 21 50.4**	**-1.2**
EGRO				*i* Vmb_Lg			21 21 53.5		
PVAQ	**Vaqueiros**	**3.84**	**302**	*e*Pn		**Pn**	**21 21 09.6**	**+0.1**
PVAQ				*e*Sn		**Sn**	**21 21 52.5**	**-1.3**
PVAQ				A		A	21 22 08.2		
	3.1nm,0.9s								
PVAQ	**Vaqueiros**	**3.84**	**302**	P		**Pn**	**21 21 08.0**	**-1.6**
PBAR	**Barrancos**	**3.87**	**316**	*e*Pn		**Pn**	**21 21 10.4**	**+0.4**
PBAR				*e*Sn		**Sn**	**21 21 54.1**	**-0.6**
PBAR				A		A	21 21 57.4		
	1.9nm,0.5s								
PBDV	**Barranco-do-Ve**	**3.91**	**299**	*e*Pn		**Pn**	**21 21 10.9**	**+0.3**
PBDV				*e*Sn		**Sn**	**21 21 54.3**	**-1.4**
PBDV				A		A	21 21 59.8		
	3.6nm,0.7s								
PAB	**San Pablo**	**4.15**	**352**	Pn		**Pn**	**21 21 15.6**	**+1.7**
PAB				Sn		**Sn**	**21 22 00.5**	**-1.2**
PAB				*i* Vmb_Lg			21 22 17.9		
PCVE	**Castro Verde**	**4.17**	**303**	*e*Pn		**Pn**	**21 21 14.7**	**+0.5**
PCVE				*e*Sn		**Sn**	**21 22 01.1**	**-1.0**
PCVE				A		A	21 22 07.2		
	2.8nm,0.4s								
ESDC	**Sonseca Array**	**4.25**	**357**	Pn		**Pn**	**21 21 16.6**	**+1.4**
ESDC				Sn		**Sn**	**21 22 02.6**	**-1.5**
ESDC				Sg		**Sb**	**21 22 19.8**	**+2.8**
ESDC				*i* Vmb_Lg			21 22 20.8		
EBAD	**Badajoz**	**4.28**	**322**	Pn		**Pn**	**21 21 16.0**	**+0.4**
EBAD				Sn		**Sn**	**21 22 04.3**	**-0.6**
MORF	**Marmelete**	**4.46**	**296**	*e*Pn		**Pn**	**21 21 19.6**	**+1.4**
MORF				*e*Sn		**Sn**	**21 22 08.9**	**-0.4**
MORF				A		A	21 22 14.5		
	2.5nm,0.3s								
PFVI	**Vila Bisbo**	**4.52**	**294**	*e*Pn		**Pn**	**21 21 21.3**	**+2.3**
PFVI				*e*Sn		**Sn**	**21 22 09.7**	**-1.1**
PFVI				A		A	21 22 22.3		
	5.1nm,0.7s								
PTEO	**Sao Teotonio**	**4.61**	**299**	*e*Pn		**Pn**	**21 21 22.7**	**+2.5**
PTEO				*e*Sn		**Sn**	**21 22 13.3**	**+0.4**
PESTR	**Estremoz**	**4.67**	**319**	*e*Pn		**Pn**	**21 21 22.5**	**+1.5**
PESTR				*e*Sn		**Sn**	**21 22 12.2**	**-2.1**
PESTR				A		A	21 22 21.6		
	1.9nm,0.6s								
PESTR	**Estremoz**	**4.67**	**319**	P		**Pn**	**21 21 19.4**	**-1.6**
EVO	**Evora**	**4.68**	**313**	*e*Pn		**Pn**	**21 21 22.1**	**+1.0**
EVO				*e*Sn		**Sn**	**21 22 12.3**	**-2.3**
PNCL	**Nicolau / Gran**	**4.75**	**306**	*e*Pn		**Pn**	**21 21 22.3**	**+0.2**
PNCL				*e*Sn		**Sn**	**21 22 14.8**	**-1.6**
PNCL				A		A	21 22 19.0		
	1.8nm,0.5s								
UCM	**Universidad Co**	**4.88**	**4**	P		**Pn**	**21 21 25.6**	**+1.6**
UCM				S		**Sn**	**21 22 18.2**	**-1.6**
PMRV	**Marv??o**	**4.99**	**324**	*e*Pn		**Pn**	**21 21 27.0**	**+1.6**
PMRV				*e*Sn		**Sn**	**21 22 19.1**	**-3.2**
PMRV				A		A	21 22 48.7		
	2.6nm,0.6s								
PMTG	**Montargil**	**5.16**	**316**	*e*Pn		**Pn**	**21 21 29.1**	**+1.4**
PMTG				*e*Sn		**Sn**	**21 22 24.4**	**-2.0**
PMTG				A		A	21 22 49.0		
	1.6nm,0.6s								
OUZM	**OUZ**	**5.21**	**211**	P		**Pn**	**21 21 30.2**	**+1.7**
GUD	**Guadarrama**	**5.23**	**356**	Pn		**Pn**	**21 21 30.2**	**+1.4**
GUD				*i* Vmb_Lg			21 22 52.6		
PACT	**Alcochete**	**5.33**	**310**	*e*Pn		**Pn**	**21 21 31.4**	**+1.4**
PCBR	**Castelo Branco**	**5.36**	**326**	*e*Pn		**Pn**	**21 21 31.8**	**+1.4**
PCBR				*e*Sn		**Sn**	**21 22 28.9**	**-2.4**
EIBI	**Ibiza**	**5.36**	**46**	Pn		**Pn**	**21 21 30.3**	**-0.2**
EIBI				Sn		**Sn**	**21 22 30.6**	**-0.8**
EIBI				*i* Vmb_Lg			21 23 34.1		
ETOR	**Torete**	**5.53**	**13**

ABAB	Ecuador-Univer	1.31	130	P		Pn	21 35 39.0	-1.1	
GYE3	Ecuador-Guayaq	1.35	153	P		Pn	21 35 40.0	-0.6	
AMIL	Milagro (Trans	1.50	142	P		Pn	21 35 44.0	+1.4	
BV15	Puerto Quito-O	1.69	50	P		Pn	21 35 44.0	-1.3	
MORR	Playas El Morr	1.69	174	P		Pn	21 35 46.0	+0.7	
CHSH	Refugio Sur-Vo	1.73	108	P		Pn	21 35 47.0	+0.6	
ILLI	Illinizas Sur	1.80	83	P		Pn	21 35 47.0	-0.2	
PORT	Chimborazo Vol	1.81	107	Pn		Pn	21 35 48.2	+0.7	
PORT	Chimborazo Vol	1.81	107	P		Pn	21 35 48.0	+0.5	
TAMH	Tambohuasha Ch	1.83	109	P		Pn	21 35 48.0	+0.4	
AV21	Acelerografo,	1.86	31	P		Pn	21 35 49.0	+1.3	
PAST	Pastocalle	1.89	82	P		Pn	21 35 48.0	-0.4	
IGUA	Igualata	1.95	106	P		Pn	21 35 50.0	+0.6	
SRAM	San Ramn-Vol	1.96	84	P		Pn	21 35 49.0	-0.3	
COHC	Cochancay	1.97	140	P		Pn	21 35 49.0	-0.1	
HPAL	Hacienda Las P	2.00	69	P		Pn	21 35 48.0	-1.8	
GGPT	Toaza - Volcan	2.02	69	P		Pn	21 35 49.0	-1.2	
AMA1	Acelerografo,	2.03	23	P		Pn	21 35 50.0	+0.1	
CAMI	Rancho Maria	2.03	82	P		Pn	21 35 51.0	+0.7	
SLOR	San Lorenzo -	2.03	84	Pn		Pn	21 35 49.5	-0.8	
SLOR					Sn	Sn	21 36 12.9	-3.1	
SLOR	San Lorenzo -	2.03	84	P		Pn	21 35 51.0	+0.7	
ISPG	Isla Puna-Puer	2.04	170	P		Pn	21 35 52.0	+1.9	
SUCR	Mariscal Sucre	2.04	82	P		Pn	21 35 51.0	+0.5	
JUA2	San Juan 2	2.04	69	P		Pn	21 35 50.0	-0.5	
BRRN	Barrancas-Volc	2.04	86	P		Pn	21 35 51.0	+0.4	
BNAS	Cotopaxi Volca	2.05	82	P		Pn	21 35 51.0	+0.3	
TERV	Terraza Guagua	2.06	68	P		Pn	21 35 50.0	-0.8	
PINO	Pino	2.06	68	P		Pn	21 35 50.0	-0.9	
GGPC	Guagua Pichinc	2.06	68	P		Pn	21 35 51.0	+0.1	
AES1	Ecuador-Esmera	2.06	24	P		Pn	21 35 52.0	+1.6	
BMOR	Cotopaxi Volca	2.06	84	P		Pn	21 35 52.0	+1.1	
NAS2	Nasa	2.07	82	P		Pn	21 35 52.0	+1.1	
BIL2	Estacion Bilba	2.07	104	P		Pb	21 35 54.0	+0.4	
BBIL	Ulba Tungurahu	2.09	104	P		Pn	21 35 52.0	+1.0	
BREF	Cotopaxi Volca	2.09	83	P		Pn	21 35 52.0	+0.7	
APR1	Acelerografo,	2.10	65	P		Pn	21 35 51.0	-0.2	
JUI6	Juive	2.10	103	P		Pn	21 35 53.0	+1.8	
PAC1	Pacto, Paraso	2.10	55	eP		Pn	21 35 51.3	+0.2	
PAC1	Pacto, Paraso	2.10	55	P		Pn	21 35 50.0	-1.0	
ACHO	Acelerografo,	2.10	56	P		Pn	21 35 51.0	0.0	
BMAS	Trigal station	2.11	105	P		Pn	21 35 53.0	+1.6	
YANA	Yana	2.11	67	P		Pn	21 35 51.0	-0.5	
AES2	Ecuador-Puerto	2.11	24	P		Pn	21 35 52.0	+1.0	
POND	Pondoa	2.12	103	P		Pn	21 35 53.0	+1.6	
PITA	Cotopaxi Volc	2.12	80	P		Pn	21 35 52.0	+0.5	
BVC2	Cotopaxi Volca	2.12	82	P		Pn	21 35 53.0	+1.3	
VCES	Cotopaxi	2.12	86	P		Pn	21 35 53.0	+1.3	
RETU	Refugio	2.13	104	P		Pn	21 35 53.0	+1.2	
ARRY	Arrayan	2.13	105	P		Pn	21 35 53.0	+1.3	
VC1	Cotopaxi 1	2.13	82	P		Pn	21 35 53.0	+1.2	
BTAM	Cotopaxi Volca	2.13	83	P		Pn	21 35 53.0	+1.1	
BPAT	Tungurahua Vol	2.15	105	P		Pn	21 35 53.0	+0.9	
BRUN	Tungurahua Vol	2.15	103	P		Pb	21 35 55.0	0.0	
TAMB	Tambo	2.16	83	P		Pn	21 35 54.0	+1.8	
PULU	Pululahua	2.23	65	P		Pn	21 35 53.0	0.0	
APSY	Ecuador-Napo A	2.25	91	P		Pb	21 35 57.0	+0.3	
PIAT	Ana Tenorio	2.25	91	P		Pn	21 35 55.0	+1.7	
ANTG	Antisana-Guama	2.30	79	P		Pn	21 35 55.0	+0.8	
AV11	Acelerografo,	2.31	68	P		Pb	21 35 57.0	-0.6	
ANTM	Antisana-La Mi	2.33	80	P		Pn	21 35 56.0	+1.5	
OTAV	Otavalo	2.37	60			Pn	21 35 55.1	0.0	
ANTS	Antisana-Sarah	2.38	79	P		Pn	21 35 57.0	+1.6	
ANTI	Antisana	2.40	78	P		Pn	21 35 57.0	+1.4	
SANGA	Volcan Sangay	2.41	117	P		Pn	21 35 57.0	+1.5	
CUSE	Cuicocha Este	2.45	60	eP		Pn	21 35 56.9	+0.7	
CUSE					eS	Sn	21 36 29.1	+2.7	
CUSE	Cuicocha Este	2.45	60	P		Pn	21 35 56.0	-0.1	
CUIC	Cuicocha-Domo	2.48	60	P		Pn	21 35 56.0	-0.6	
CUSW	Cuicocha Oeste	2.48	61	P		Pn	21 35 57.0	+0.5	
ACUE	Ecuador-Cuenca	2.50	142	P		Pb	21 36 00.0	-0.8	
COTA	Cotacachi	2.52	60	P		Pn	21 35 57.0	-0.1	
PUYO	Puyo, Santa Ro	2.55	102	P		Pn	21 36 00.0	+2.8	
ARNL	Arenillas	2.62	170	Pn		Pn	21 35 59.9	+1.8	
ARNL	Arenillas	2.62	170	P		Pn	21 35 59.0	+0.9	
URCU	Urcuqui	2.64	59	P		Pn	21 35 59.0	+0.2	
CAYR	Refugio Cayamb	2.68	69	P		Pn	21 36 02.0	+2.5	
ARDO	Archidona, Ten	2.71	91	P		Pb	21 36 03.0	-1.4	
CAYA	Cayambe	2.72	68	P		Pn	21 36 02.0	+2.1	
ALIT	Ecuador-Imbabu	2.76	51	P		Pn	21 36 02.0	+1.9	
YAHU	Yahuarcocha	2.77	62	P		Pb	21 36 04.0	-1.5	
BOSC	San Juan Bosco	2.98	137	Pn		Pn	21 36 04.0	+0.8	
BOSC	San Juan Bosco	2.98	137	P		Pn	21 36 07.0	+3.8	
CONE	Cono NE Rev Vo	3.00	73	P		Pn	21 36 06.0	+2.4	
LNGL	El Angel-Carch	3.00	56	P		Pn	21 36 06.0	+2.0	
CHMA	Chilma	3.04	54	P		Pn	21 36 06.0	+1.9	
ECEN	Cerro Negro	3.09	55	P		Pn	21 36 07.0	+2.0	
CHL1	Volcn Chiles	3.09	56	P		Pn	21 36 07.0	+1.9	
CHL2	Volcn Chiles	3.12	56	P		Pn	21 36 07.0	+1.6	
TULM	Tulcn-Chalpat	3.19	59	Pn		Pn	21 36 07.0	+0.7	
TULM	Tulcn-Chalpat	3.19	59	eP		Pb	21 36 10.9	-1.7	
TULM	Tulcn-Chalpat	3.19	59	P		Pn	21 36 10.0	+3.7	
BONI	La Bonita	3.29	65	P		Pn	21 36 10.0	+2.5	
CASC	Dorado de Casc	3.35	71	P		Pn	21 36 11.0	+2.8	
MCRA	Macar, Loja	3.45	171				21 36 10.1	+0.6	
MCRA	Macar, Loja	3.45	171	P		Pn	21 36 11.0	+1.5	
GONZ	Gonzanam	3.46	161	P		Pn	21 36 13.0	+3.1	
ZUMB	Zumba	4.13	161	P		Pn	21 36 23.0	+4.1	
CRUC	La Cruz	4.35	55	eP		Pn	21 36 25.0	+2.9	
GR1C	Gorgona, Isla	4.57	31	eP		Pn	21 36 29.4	+4.5	
SOTA	Rioblanco	4.96	52	eP		Pn	21 36 33.1	+2.4	
POPC	Popayan, Colom	5.17	48	eP		Pn	21 36 34.0	+0.7	
PCON	Cinco Dias	5.24	52	eP		Pn	21 36 37.2	+2.5	
PTLC	Puerto Leguiza	5.82	79	eP		Pn	21 36 44.0	+1.9	
MARP	Paez Belalcaza	5.91	50	eP		Pn	21 36 46.3	+2.7	
YOTC	Yotoco, Valle	6.43	40	eP		Pn	21 36 49.0	-1.5	
ORTC	Ortega, Tolima	7.14	47	eP		Pn	21 37 06.4	+6.2	
PLMC	San Jos del P	7.18	36	eP		Pn	21 36 59.9	-1.0	
MACC	Macarena, Meta	7.34	65	eP		Pn	21 37 06.6	+3.6	
CBOC	Ciudad Bolivar	8.12	34	eP		Pn	21 37 18.8	+4.9	
CBOC					eS	Sn	21 38 53.0	+7.1	
CBOC					i		21 39 08.0		
	comp=Z,20nm,0.7s								
ROSC	El Rosal	8.44	47	P		Pn	21 37 24.4	+6.0	
	comp=Z,5.5nm,0.3s,baz=97,slow=9.0,SNR=14								
ROSC					S	Sn	21 39 04.4	+10	
	comp=Z,2.6nm,0.3s,baz=82,slow=19,SNR=1.9								
ROSC	El Rosal	8.44	47			Pn	21 37 20.1	+1.6	
ZARC	Zaragoza, Cauc	10.10	34	Pn		Pn	21 37 40.4	-0.5	
CZSB	Cruzeiro do Su	10.30	131	eP		Pn	21 37 43.6	0.0	
TBTG	Tabatinga, AM	11.07	107	eP		Pn	21 37 56.6	+2.4	
NNA	Nana	11.56	162	P		Pn	21 38 03.5	+2.6	
	comp=Z,3.1nm,0.3s,baz=333,slow=13,SNR=5.7								
NNA					S	Sn	21 40 10.1	-0.2	
	comp=Z,4.3nm,0.3s,baz=232,slow=20,SNR=11								
NNA					LR	LR	21 42 33.5		
	comp=Z,113nm,20.5s,baz=338,slow=37								
NNA	Nana	11.56	162			Pn	21 38 01.0	+0.1	
JTS	Las Juntas de	12.00	339	LR		LR	21 41 50.4		
	comp=Z,274nm,19.5s,baz=214,slow=32								
SDV	Santo Domingo	13.87	45	P		P	21 38 39.6	-1.4	
	comp=Z,0.6nm,0.3s,baz=216,slow=17,SNR=9.5								
SDV					LR	LR	21 44 53.1		
	comp=Z,268nm,21.1s,baz=222,slow=41								
SDV	Santo Domingo	13.87	45	Pn		Pn	21 38 32.0	-0.5	
MATN	Matagalpa	14.79	339	Pn		P	21 38 49.4	-1.8	
URIC	Uribia, Colomb	15.15	34	Pn		Pn	21 38 48.7	-1.2	
URIC					IAmb	IAmb	21 38 57.8		
	comp=Z,12nm,0.7s								
LPAZ	La Paz	19.53	142	P		Pn	21 39 46.5	+1.1	
	comp=Z,0.3nm,0.3s,baz=319,slow=6.6,SNR=15								
LPAZ					LR	LR	21 48 46.8		
	comp=Z,177nm,21.1s,baz=300,slow=41								
LPAZ	La Paz	19.53	142	P		P	21 39 43.2	-0.9	
LPAZ	La Paz	19.53	142	eP		Pn	21 39 46.5	+1.1	
MACA	Manacapuru-AM	19.94	97	eP		P	21 39 48.9	+0.9	
PB16	IPOC Station P	20.38	149	P		P	21 39 52.8	-0.5	
PB16					IAmb	IAmb	21 40 02.9		
	comp=Z,16nm,1.1s								
PB11	IPOC Station P	21.51	151	P		P	21 40 04.0	-1.1	
PB11					IAmb	IAmb	21 40 14.8		
	comp=Z,24nm,1.1s								
GO01	Chusmiza	21.66	150	P		P	21 40 06.5	-0.6	
CMIG	Matias Romero	22.84	322	LR		LR	21 47 50.5		
	comp=Z,97nm,19.1s,baz=10,slow=33								
VILB	Vilhena	23.40	122	eP		P	21 40 26.4	+1.4	
SJG	San Juan	23.63	36	P		P	21 40 28.0	+0.9	
	comp=Z,4.9nm,0.3s,baz=183,slow=6.2,SNR=7.4								
SJG					LR	LR	21 51 01.4		
	comp=Z,70nm,21.5s,baz=246,slow=39								
SJG	San Juan	23.63	36	P		P	21 40 27.8	+0.6	
	comp=Z,14nm,0.8s								
SJG					IAmb	IAmb	21 40 28.9		
CBYP	Canovanas	23.93	36	P		P	21 40 30.0	-0.1	
CBYP					IAmb	IAmb	21 40 32.4		
	comp=Z,17nm,0.8s								
CUPR	Culebra, Puert	24.30	37	P		P	21 40 34.0	+0.5	
CUPR					IAmb	IAmb	21 40 35.8		
	comp=Z,12nm,0.9s								
SIV	San Ignacio	24.31	129	P		P	21 40 34.4	+0.7	
	comp=Z,3.9nm,0.9s,baz=304,slow=15,SNR=9.0								
SIV					LR	LR	21 51 08.9		
	comp=Z,493nm,18.9s,baz=312,slow=39								
LVC	Limon Verde	24.31	153	LR		LR	21 50 19.5		
	comp=Z,108nm,18.5s,baz=323,slow=37								
ITTB	Itaituba	24.98	98	eP		P	21 40 39.5	-0.3	
PTLB	Pontes e Lacer	25.55	125	eP		P	21 40 46.9	+2.0	
NPGB	Novo Progresso	25.80	104	eP		P	21 40 48.4	+1.1	
PDRB	Porto dos Gac	25.88	115	eP		P	21 40 49.0	+1.1	
MDP	Montagnes des	28.48	78	LR		LR	21 52 32.5		
	comp=Z,404nm,19.1s,baz=236,slow=36								
AQDB	Aquidauana	31.06	130	eP		P	21 41 34.1	0.0	
SMTB	Santa Maria do	33.71	105	eP		P	21 41 58.0	+0.6	
BDFB	Brasilia	35.23	116	P		P	21 42 13.0	+2.3	
	comp=Z,2.3nm,0.7s,baz=299,slow=9.5,SNR=3.7								
BDFB					LR	LR	21 57 21.3		
	comp=Z,197nm,19.5s,baz=354,slow=37								
BDFB	Brasilia	35.23	116	P		P	21 42 08.4	-2.4	
BDFB					IAmb	IAmb	21 42 15.0		
	comp=Z,5.1nm,1.2s								
JCT	Junction City	36.25	331	P		P	21 42 21.9	+2.7	
TKL	Tuckaleechee C	36.54	356	LR		LR	21 58 37.6		
	comp=Z,107nm,18.1s,baz=312,slow=38								
TXAR	Lajitas Array	37.37	326	PcP		PcP	21 44 47.1	-0.8	
	comp=Z,0.4nm,0.8s,baz=165,slow=3.7,SNR=4.2								
ABTX	Abilene, Hawle	37.97	333	P		P	21 42 37.2	+3.4	
ABTX					IAmb	IAmb	21 42 43.0		
	comp=Z,18nm,1.4s								
RPN	Rapa Nui	37.99	224	LR		LR	21 53 45.7		
	comp=Z,90nm,21.0s,baz=108,slow=29								
MSTX	Muleshoe	40.54	331	P		P	21 42 57.8	+2.4	
MSTX					IAmb	IAmb	21 43 03.5		
	comp=Z,6.7nm,0.9s								
PLCA	Paso Flores	40.62	168	P		P	21 42 55.0	-1.0	
	comp=Z,3.0nm,0.9s,baz=329,slow=7.3,SNR=4.9								
PLCA	Paso Flores	40.62	168	P		P	21 42 53.9	-2.0	
PLCA					IAmb	IAmb	21 42 58.0		
	comp=Z,5.8nm,1.1s								
PLCA	Paso Flores	40.62	168	eP		P	21 42 57.3	+1.4	
NBMA	Muriti-CE	42.10	100	eP		P	21 43 09.1	+0.6	
ANMO	Albuquerque	43.17	328	P		P	21 43 17.9	+0.8	
	comp=Z,0.7nm,0.4s,baz=177,slow=5.4,SNR=3.2								
ANMO	Albuquerque	43.17	328	P		P	21 43 19.0	+2.0	
ANMO					IAmb	IAmb	21 43 27.1		
	comp=Z,4.7nm,0.9s								
T25A	Trinidad	43.89	332	P		P	21 43 24.6	+1.8	
T25A					IAmb	IAmb	21 43 34.2		
	comp=Z,4.1nm,1.0s								
RCBR	Riachuelo	44.78	97	LR		LR	22 03 43.8		
	comp=Z,309nm,18.1s,baz=87,slow=38								
X16A	Lo Mia Camp, P	45.58	323	P		P	21 43 37.9	+1.6	
PV13	Radium Mtn., P	46.85	329	P		P	21 43 47.9	+1.6	
PV13					IAmb	IAmb	21 43 54.9		
	comp=Z,6.2nm,1.1s								
RSSD	Black Hills	49.54	338	P		P	21 44 07.5	+0.5	
RSSD					IAmb	IAmb	21 44 15.6		
	comp=Z,4.8nm,1.0s								
MOOW	Moose Ponds	52.06	332	P		P	21 44 26.6	+0.6	
NVAR	Mina Array Bea	52.38	323	P		P	21 44 26.2	-2.2	
	comp=Z,0.2nm,0.6s,baz=144,slow=8.5,SNR=1.9								
YHL	Hebgen Lake	53.11	333	P		P	21 44 35.2	+1.4	
YHL					IAmb	IAmb	21 44 42.4		
	comp=Z,11nm,1.4s								
YKA	Yellowknife Ar	68.29	344	P		P	21 46 15.6	-1.0	
	comp=Z,1.2nm,1.1s,baz=134,slow=6.5,SNR=10								
YKA	Yellowknife Ar	68.29	344	P		P	21 46 17.9	+1.3	
PPT	Papeete	69.77	252	LR		LR	22 08 36.0		
	comp=Z,124nm,18.6s,baz=34,slow=29								
LIC	Lamto	75.68	83	eP		P	21 47 00.5	-1.5	
	comp=Z,18nm,1.4s								
TIC	Toumodi	75.70	83	eP		P	21 47 01.0	-1.1	
DBIC	Dimbokro	75.87	83	P		P	21 47 02.1	-0.9	
	comp=Z,5.4nm,0.8s,baz=289,slow=6.7,SNR=6.4								
DBIC					LR	LR	22 18 09.2		
	comp=Z,52nm,18.2s,baz=289,slow=34								
DBIC	Dimbokro	75.87	83	P		P	21 47 01.7	-1.4	
KIC	Kosan Boka	75.97	83	eP		P	21 47 01.8	-1.8	
	comp=Z,20nm,0.7s								
ESDC	Sonseca Array	80.27	50	P		P	21 47 26.6	-0.5	
	comp=Z,0.4nm,0.8s,baz=272,slow=5.0,SNR=2.3								
ILAR	Eielson Array	80.97	337	P		P	21 47 29.1	-1.2	
	comp=Z,1.2nm,1.1s,baz=143,slow=3.2,SNR=2.9								
TORD	Torodi Ar. Bea	82.63	77	P		P	21 47 38.8	-1.1	
	comp=Z,0.8nm,0.8s,baz=278,slow=6.8,SNR=5.2								
TORD	Torodi Ar. Bea	82.63	77	P		P	21 47 38.0	-2.0	
DAVOX	Davos/Dischmat	90.95	43	LR		LR	22 25 15.8		
	comp=Z,42nm,19.0s,baz=84,slow=33								
H11S2	WAKE ISLAND Hyl	11.88	289	T		T	23 54 54.6		
	baz=86								
H11S1	WAKE ISLAND Hyl	11.88	289	T		T	23 54 54.6		
	baz=86								
H11S3	WAKE ISLAND Hyl	11.89	289	T		T	23 54 54.6		
	baz=86								
ZALV	Zalesovo Beam	125.80	11	PKP		PKPdf	21 54 15.7	-2.0	
	comp=Z,0.3nm,0.3s,baz=0.0,slow=1.4,SNR=3.7								

DDA ***17*** *21:43:30.6±0.0,38.84N×26.43E,h7km×1km,ML2.7*
THE ***17*** *21:43:30.9,38.82N×26.47E,h7km×4km,ML2.8/7,Error ellipse: s-maj=4.5km s-min=0.6km az=242.0*
ISK ***17*** *21:43:30.6,38.86N×26.43E,h8km,ML3.0/37*
ATH ***17*** *21:43:31.5,38.84N×26.44E,h18km±5km,ML2.9/3, Error ellipse: s-maj=6.5km s-min=1.1km az=31.0*

ISC 17 21:43:31.1±0.9, 38.85N±0.01×26.43E±0.02, h11km±8km, n75,σ0970/106, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FOCM	Foa	0.27	119	PG	Pg	Pg	21 43 36.7	0.0
FOCM				SG	Sg	Sg	21 43 40.8	+0.4
PRK	Paraskevi	0.42	343	P	Pb	Pb	21 43 40.5	0.0
PRK				S	Sb	Sb	21 43 46.1	-0.7
PRK	Paraskevi	0.42	343	P	Pb	Pb	21 43 40.5	0.0
PRK				S	Sb	Sb	21 43 46.1	-0.7
	3µm,0.3s							
DKL	Dikili	0.44	59	PG	Pg	Pg	21 43 39.6	-0.1
DKL				SG	Sg	Sg	21 43 45.8	+0.3
URLA	Izmir	0.50	165	PG	Pg	Pg	21 43 40.6	-0.3
URLA				SG	Sb	Sb	21 43 48.7	-0.6
URLA	Izmir	0.50	165	P	Pg	Pg	21 43 40.6	-0.3
URLA				S	Sg	Sg	21 43 48.3	+0.7
URLA				i	AML	AML	21 43 49.0	
	comp=E,588nm,0.3s							
URLA				i	AML	AML	21 43 49.0	
	comp=N,557nm,0.6s							
AYVA	Ayvalik	0.51	24	P		Pg	21 43 40.6	-0.4
AYVA				S		Sg	21 43 47.9	+0.2
AYVA				i	AML	AML	21 43 50.0	
	comp=E,312nm,0.5s							
AYVA				i	AML	AML	21 43 50.0	
	comp=N,588nm,0.2s							
ZEDA	zmir-Bergama	0.52	76	P		Pg	21 43 41.0	-0.3
ZEDA				S		Sg	21 43 48.5	+0.3
ZEDA				i	AML	AML	21 43 49.0	
	comp=N,287nm,0.2s							
ZEDA				i	AML	AML	21 43 49.0	
	comp=E,216nm,0.3s							
CHOS	Chios island	0.54	212	P		Pg	21 43 41.9	+0.2
CHOS				S		Sg	21 43 49.1	+0.2
CHOS					AML	AML	21 43 53.3	
	comp=N,1567µm,0.2s							
CHOS					AML	AML	21 43 54.2	
	comp=E,2722µm,0.2s							
CHOS	Chios island	0.54	212	P		Pg	21 43 41.9	+0.2
CHOS				S		Sg	21 43 49.1	+0.2
	comp=E,1µm,0.2s							
CHOS	Chios island	0.54	212	PG		Pg	21 43 41.9	+0.2
ZEYE	Izmir, Urla-Ze	0.61	174	P		Pg	21 43 42.5	-0.5
ZEYE				S		Sb	21 43 52.8	+0.6
ZEYE				i	AML	AML	21 43 55.0	
	comp=E,896nm,0.3s							
ZEYE				i	AML	AML	21 43 55.0	
	comp=E,1µm,0.2s							
GPNR	Gulpinar-Canak	0.65	340	PG		Pg	21 43 43.5	-0.2
GPNR				SG		Sg	21 43 52.9	+0.6
BLCB	Balcova	0.67	133	P		Pg	21 43 43.6	-0.4
BLCB				S		Sg	21 43 51.8	-1.0
BLCB	Balcova	0.67	133	PG		Pg	21 43 43.8	-0.2
KOCA	Canakkale, Ayv	0.69	341	P		Pg	21 43 44.7	+0.1
KOCA				i	AML	AML	21 43 54.0	
	comp=E,411nm,0.5s							
KOCA				S		Sb	21 43 54.5	-0.2
KOCA				i	AML	AML	21 43 57.0	
	comp=E,571nm,0.4s							
PSRA	Psara	0.74	246	P		Pb	21 43 45.8	-0.1
PSRA				S		Sb	21 43 56.1	+0.1
PSRA					AML	AML	21 43 59.7	
	comp=N,2445µm,0.2s							
PSRA					AML	AML	21 44 00.0	
	comp=E,2465µm,0.2s							
BUHA	Balikesir, Bur	0.83	38	P		Pg	21 43 46.5	-0.6
BUHA				S		Sb	21 43 58.7	+0.1
BUHA				i	AML	AML	21 44 00.0	
	comp=E,272nm,0.5s							
BUHA				i	AML	AML	21 44 01.0	
	comp=E,629nm,0.5s							
DGB	zmir	0.87	156	P		Pg	21 43 47.1	-0.8
DGB				S		Sg	21 43 59.3	+0.1
DGB				i	AML	AML	21 44 02.0	
	comp=E,166nm,0.2s							
DGB				i	AML	AML	21 44 03.0	
	comp=E,156nm,0.5s							
BAYC	CANAKKALE_Bayr	0.90	6	P		Pg	21 43 48.1	-0.4
BAYC				S		Sg	21 44 00.1	-0.1
BAYC				i	AML	AML	21 44 02.0	
	comp=E,298nm,0.2s							
BAYC				i	AML	AML	21 44 03.0	
	comp=E,289nm,0.2s							
EZN	Ezine	0.98	355	P		Pg	21 43 49.3	-0.7
EZN				S		Sb	21 44 03.9	+0.9
	comp=E,498nm,0.4s							
EZN	Ezine	0.98	355	PG		Pg	21 43 49.4	-0.6
EZN				SG		Sb	21 44 03.7	+0.7
BOZC	Bozcaada	1.04	344	PG		Pg	21 43 50.6	-0.5
BOZC				SG		Sb	21 44 05.4	+0.8
BOZC	Bozcaada	1.04	344	P		Pg	21 43 50.4	-0.6
BOZC				S		Sg	21 44 04.5	0.0
BOZC				i	AML	AML	21 44 05.0	
	comp=E,345nm,0.3s							
BOZC				i	AML	AML	21 44 06.0	
	comp=E,349nm,0.3s							
AKS	Akhisar	1.08	88	PG		Pb	21 43 51.7	-0.1
AKS				SG		Sn	21 44 07.0	-0.2
AKHS	Akhisar	1.08	88	P		Pb	21 43 51.5	-0.3
AKHS				S		Sn	21 44 07.0	-0.2
AKHS				i	AML	AML	21 44 10.0	
	comp=E,124nm,0.5s							
STEP	BALIKESIR_Sava	1.14	62	P		Pb	21 43 52.6	-0.1
STEP				S		Sn	21 44 08.2	-0.3
STEP				i	AML	AML	21 44 09.0	
	comp=E,623nm,0.4s							
STEP				i	AML	AML	21 44 10.0	
	comp=E,452nm,0.3s							
GOMA	Golmarmara-Man	1.17	96	PN		Pn	21 43 53.4	0.0
SMG	Samos	1.18	164	P		Pb	21 43 52.7	-0.8
SMG				S		Sb	21 44 08.2	-0.6
SMG					AML	AML	21 44 12.0	
	comp=E,1094µm,0.4s							
SMG					AML	AML	21 44 13.9	
	comp=N,1080µm,0.2s							
SMG	Samos	1.18	164	P		Pb	21 43 52.7	-0.8
SMG				S		Sb	21 44 08.2	-0

NAS2	**Nasa**	**2.45**	**97**	P		**Pn**	**22 21 59.0**	**-0.4**
BRRN	**Barrancas-Volc**	**2.46**	**100**	P		**Pn**	**22 21 59.0**	**-0.5**
BMOR	**Cotopaxi Volca**	**2.47**	**99**	P		**Pn**	**22 21 59.0**	**-0.7**
PITA	**Cotopaxi Volc**	**2.48**	**95**	P		**Pn**	**22 21 59.0**	**-0.7**
BREF	**Cotopaxi Volca**	**2.48**	**97**	P		**Pn**	**22 22 00.0**	**+0.1**
BVC2	**Cotopaxi Volca**	**2.51**	**97**	P		**Pn**	**22 22 00.0**	**-0.2**
VC1	**Cotopaxi 1**	**2.52**	**97**	P		**Pn**	**22 22 00.0**	**-0.3**
BTAM	**Cotopaxi Volca**	**2.53**	**97**	P		**Pn**	**22 22 00.0**	**-0.4**
IGUA	**Igualata**	**2.53**	**117**	P		**Pn**	**22 22 01.0**	**+0.5**
VCES	**Cotopaxi**	**2.55**	**100**	P		**Pn**	**22 22 00.0**	**-0.7**
TAMB	**Tambo**	**2.56**	**98**	P		**Pn**	**22 22 01.0**	**+0.1**
CUSE	**Cuicocha Este**	**2.58**	**76**	*eP*		**Pn**	**22 22 01.1**	**0.0**
CUSE	**Cuicocha Este**	**2.58**	**76**	P		**Pn**	**22 21 59.0**	**-2.1**
CUIC	**Cuicocha-Domo**	**2.62**	**76**	P		**Pn**	**22 21 59.0**	**-2.6**
CUSW	**Cuicocha Oeste**	**2.63**	**76**	P		**Pn**	**22 22 00.0**	**-1.7**
ANTG	**Antisana-Guama**	**2.65**	**93**	P		**Pn**	**22 22 02.0**	**-0.2**
COTA	**Cotacachi**	**2.65**	**75**	P		**Pn**	**22 22 01.0**	**-1.1**
JUI6	**Juive**	**2.66**	**114**	P		**Pn**	**22 22 03.0**	**+1.0**
POND	**Pondoa**	**2.67**	**114**	P		**Pn**	**22 22 02.0**	**-0.3**
COHC	**Cochancay**	**2.67**	**142**	P		**Pn**	**22 22 00.0**	**-2.0**
BMAS	**Trigal station**	**2.68**	**115**	P		**Pn**	**22 22 03.0**	**+0.6**
ANTM	**Antisana-La Mi**	**2.69**	**94**	P		**Pn**	**22 22 02.0**	**-0.6**
RETU	**Refugio**	**2.69**	**114**	P		**Pn**	**22 22 03.0**	**+0.3**
ARRY	**Arrayan**	**2.71**	**115**	P		**Pn**	**22 22 03.0**	**+0.3**
ISPG	**Isla Puna-Puer**	**2.71**	**164**	P		**Pb**	**22 22 06.0**	**-1.4**
BRUN	**Tungurahua Vol**	**2.71**	**113**	P		**Pn**	**22 22 02.0**	**-0.8**
PIAT	**Ana Tenorio**	**2.72**	**104**	P		**Pn**	**22 22 03.0**	**+0.1**
BPAT	**Tungurahua Vol**	**2.72**	**115**	P		**Pn**	**22 22 03.0**	**-0.1**
ANTS	**Antisana-Sarah**	**2.74**	**93**	P		**Pn**	**22 22 03.0**	**-0.4**
ANTI	**Antisana**	**2.74**	**92**	P		**Pn**	**22 22 03.0**	**-0.4**
URCU	**Urcuqui**	**2.76**	**74**	P		**Pn**	**22 22 02.0**	**-1.5**
CAYR	**Refugio Cayamb**	**2.92**	**83**	P		**Pn**	**22 22 06.0**	**+0.1**
YAHU	**Yahuarcocha**	**2.92**	**76**	P		**Pn**	**22 22 06.0**	**+0.3**
SANGA	**Volcan Sangay**	**3.04**	**124**	P		**Pn**	**22 22 08.0**	**+0.5**
CHMA	**Chilma**	**3.08**	**67**	P		**Pn**	**22 22 05.0**	**-2.9**
PUYO	**Puyo, Santa Ro**	**3.10**	**112**	P		**Pn**	**22 22 10.0**	**+2.1**
ECEN	**Cerro Negro**	**3.15**	**68**	P		**Pn**	**22 22 07.0**	**-2.0**
CHL1	**Volcın Chiles**	**3.16**	**69**	P		**Pn**	**22 22 08.0**	**-1.2**
ARDO	**Archidona, Ten**	**3.17**	**102**	P		**Pn**	**22 22 09.0**	**+0.2**
CHL2	**Volcın Chiles**	**3.19**	**69**	P		**Pn**	**22 22 08.0**	**-1.6**
ARNL	**Arenillas**	**3.29**	**165**	P		**Pn**	**22 22 11.0**	**+0.6**
BONI	**La Bonita**	**3.46**	**77**	P		**Pn**	**22 22 14.0**	**+0.9**
CASC	**Dorado de Casc**	**3.59**	**82**	P		**Pn**	**22 22 18.0**	**+3.2**
BOSC	**San Juan Bosco**	**3.68**	**139**	P		**Pn**	**22 22 18.0**	**+2.0**
GR1C	**Gorgona, Isla**	**4.30**	**39**	*eP*		**Pb**	**22 22 34.7**	**+0.1**
POPC	**Popayan, Colom**	**5.11**	**56**	*eP*		**Pn**	**22 22 34.5**	**-1.1**
MARP	**Paez Belalcaza**	**5.87**	**57**	*eP*		**Pn**	**22 22 45.9**	**-0.3**
PTLC	**Puerto Leguiza**	**6.13**	**85**	*eP*		**Pn**	**22 22 48.9**	**-0.6**
YOTC	**Yotoco, Valle**	**6.26**	**47**	*eP*		Pn	22 22 57.8	+6.3
ORTC	**Ortega, Tolima**	**7.06**	**53**	*eP*		Pn	22 23 10.0	+7.7
GUY2C	**Guyana, Caldas**	**7.82**	**45**	*eP*		Pn	22 23 22.8	+10
ROSC	**El Rosal**	**8.35**	**52**	Pn		**Pn**	**22 23 21.6**	**+1.2**
	1.6nm,0.3s,baz=69,slow=15,SNR=2.5							
ROSC				Sn		**Sn**	**22 24 56.9**	**+1.9**
	1.2nm,0.3s,baz=109,slow=19,SNR=1.5							
SDV	**Santo Domingo**	**13.74**	**48**	Pn		**Pn**	**22 24 35.3**	**+1.3**
	0.2nm,0.3s,baz=282,slow=17,SNR=1.6							
LPAZ	**La Paz**	**20.24**	**142**	P		Pn	22 25 55.8	-1.2
	2.0nm,0.7s,baz=310,slow=9.1,SNR=7.6							
LPAZ				LR		LR	22 35 27.2	
	comp=Z,107nm,18.4s,baz=336,slow=42							
SIV	**San Ignacio**	**24.99**	**129**	P		**P**	**22 26 42.5**	**-0.6**
	1.4nm,0.7s,baz=286,slow=9.4,SNR=5.6							
CPUP	**Villa Florida**	**34.40**	**141**	LR		LR	22 44 17.8	
	comp=Z,60nm,19.9s,baz=320,slow=40							
PDAR	**Pinedale Array**	**50.05**	**333**	LR		LR	22 54 51.5	
	comp=Z,27nm,18.3s,baz=118,slow=40							
NVAR	**Mina Array Bea**	**51.67**	**323**	P		**P**	**22 30 27.6**	**+1.3**
	0.7nm,0.9s,baz=141,slow=8.7,SNR=4.2							
YKA	**Yellowknife Ar**	**67.61**	**344**	P		**P**	**22 32 16.9**	**+1.5**
	0.7nm,1.0s,baz=134,slow=7.4,SNR=8.5							
TORD	**Torodi Ar. Bea**	**82.87**	**77**	P		**P**	**22 33 43.1**	**-1.3**
	0.5nm,0.8s,baz=253,slow=3.9,SNR=3.3							

ISK ***17*** *22:37:13.7, 37.˝79N× 26.˝85E, h14km, ML3.0/17*
DDA ***17*** *22:37:14.6± 0.0, 37.˝82N× 26.˝91E, h7km± 2km, ML2.3*
THE ***17*** *22:37:14.2, 37.˝85N× 26.˝87E, h0km± 1km, ML2.8/4, Error ellipse: s-maj=2.2km s-min=0.6km az=60.0*
ATH ***17*** *22:37:15.8, 37.˝76N× 26.˝74E, h8km± 4km, ML2.9/2, Error ellipse: s-maj=6.4km s-min=1.2km az=61.0*

ISC 17 22:37:14.7±0.8, 37.81N±0.02× 26.88E±0.02, h12km±5km, n48, σ0 75/69, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMG	**Samos**	**0.11**	**199**	P		**Pg**	**22 37 17.7**	**+0.1**
SMG				S		**Sg**	**22 37 19.8**	**+0.1**
SMG				AML	AML		22 37 20.1	
	comp=N,28019μm,0.2s							
SMG				AML	AML		22 37 20.1	
	comp=E,24309μm,0.2s							
SMG	**Samos**	**0.11**	**199**	P		**Pg**	**22 37 17.7**	**+0.1**
SMG				S		**Sg**	**22 37 19.9**	**+0.1**
	comp=E,13μm,0.2s							
DGB	**zmir**	**0.24**	**0**	P		**Pg**	**22 37 19.8**	**0.0**
DGB				S		**Sg**	**22 37 23.5**	**+0.3**
DGB				*i* AML	AML		22 37 24.0	
	comp=E,486nm,0.3s							
DGB				*i* AML	AML		22 37 24.0	
	comp=E,537nm,0.2s							
GCAM	**G?zelcaml?**	**0.30**	**111**	PG		**Pg**	**22 37 20.7**	**-0.1**
GCAM				SG		**Sg**	**22 37 25.8**	**+0.9**
DDIM	**Aydin, Didim**	**0.45**	**141**	P		**Pg**	**22 37 23.8**	**+0.1**
DDIM				*i* AML	AML		22 37 30.0	
	comp=E,689nm,0.4s							
DDIM				*i* AML	AML		22 37 30.0	
	comp=E,876nm,0.4s							
DDIM				S		**Sg**	**22 37 30.3**	**+0.7**
DIDI	**Didim-Aydin**	**0.52**	**146**	PG		**Pg**	**22 37 24.4**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**0.52**	**325**	P		**Pg**	**22 37 24.8**	**-0.1**
ZEYE				S		**Sb**	**22 37 32.7**	**-0.5**
ZEYE				*i* AML	AML		22 37 35.0	
	comp=E,657nm,0.2s							
BLCB	**Balcova**	**0.59**	**12**	PG		**Pg**	**22 37 25.9**	**-0.3**
BLCB				SG		**Sb**	**22 37 35.1**	**-0.1**
URLA	**Izmir**	**0.59**	**338**	PG		**Pg**	**22 37 26.0**	**-0.3**
URLA				SG		**Sb**	**22 37 34.9**	**-0.5**
YKAV	**Yalikavak-Bodr**	**0.76**	**155**	PG		**Pg**	**22 37 28.5**	**-0.8**
BODT	**Bodrum**	**0.82**	**155**	P		**Pg**	**22 37 30.2**	**-0.3**
BODT				S		**Sn**	**22 37 44.1**	**0.0**
BOD	**Bodrum**	**0.82**	**155**	PG		**Pg**	**22 37 29.0**	**-0.7**
CHOS	**Chios island**	**0.87**	**312**	P		**Pg**	**22 37 31.0**	**-0.5**
CHOS				S		**Sb**	**22 37 43.2**	**-0.2**
CHOS				AML	AML		22 37 44.4	
	comp=N,1211μm,0.3s							
CHOS				AML	AML		22 37 44.9	
	comp=E,1721μm,0.3s							
CHOS	**Chios island**	**0.87**	**312**	P		**Pg**	**22 37 31.0**	**-0.5**
CHOS				S		**Sb**	**22 37 43.1**	**-0.2**
	comp=E,730nm,0.3s							
CHOS	**Chios island**	**0.87**	**312**	PG		**Pg**	**22 37 30.9**	**-0.5**
MLSB	**Milas**	**0.88**	**126**	PG		**Pg**	**22 37 30.9**	**-0.7**
FOCM	**Foa**	**0.91**	**353**	PG		**Pg**	**22 37 31.9**	**-0.3**
KOSK	**Kos Island**	**1.06**	**176**	P		**Pg**	**22 37 35.0**	**0.0**
KOSK	**Kos Island**	**1.06**	**176**	P		**Pg**	**22 37 35.0**	**0.0**
KOSK				S		**Sn**	**22 37 51.9**	**+2.0**
	comp=E,210nm,0.4s							
KOSK	**Kos Island**	**1.06**	**176**	PG		**Pg**	**22 37 34.2**	**-0.9**
ZEDA	**zmir-Bergama**	**1.17**	**8**	P		**Pg**	**22 37 35.5**	**-1.6**
ZEDA				S		**Sn**	**22 37 53.8**	**+1.2**
ZEDA				*i* AML	AML		22 37 55.0	
	comp=E,92nm,0.5s							
ZEDA				*i* AML	AML		22 37 55.0	
	comp=E,64nm,0.3s							
GOMA	**Golmarmara-Man**	**1.21**	**42**	PN		**Pb**	**22 37 37.2**	**-0.3**
NISR	**Nisiros**	**1.21**	**171**	P		**Pg**	**22 37 38.3**	**+0.3**
NISR	**Nisiros**	**1.21**	**171**	P		**Pb**	**22 37 37.8**	**+0.3**
DAT	**Datca**	**1.21**	**152**	PN		**Pb**	**22 37 36.5**	**-1.1**
DAT	**Datca**	**1.21**	**152**	P		**Pb**	**22 37 36.5**	**-1.1**
DAT				*i* AML	AML		22 37 57.0	
	comp=E,64nm,0.8s							
DAT				*i* AML	AML		22 37 59.0	
	comp=E,47nm,0.5s							
DKL	**Dikili**	**1.26**	**1**	PN		**Pn**	**22 37 37.3**	**-0.8**
PSRA	**Psara**	**1.27**	**306**	P		**Pg**	**22 37 38.8**	**-0.2**
MULA	**Mugla, Merkez-**	**1.27**	**115**	P		**Pn**	**22 37 37.9**	**-0.5**
MULA				S		**Sb**	**22 37 54.0**	**-0.9**
MULA				*i* AML	AML		22 38 00.0	
	comp=E,96nm,0.4s							
MULA				*i* AML	AML		22 38 01.0	
	comp=E,51nm,0.3s							

AKS	**Akhisar**	**1.29**	**34**	PN		**Pn**	**22 37 38.6**	**0.0**
APE	**Apeiranthos**	**1.30**	**236**	P		**Pn**	**22 37 38.5**	**-0.2**
APE	**Apeiranthos**	**1.30**	**236**	P		**Pn**	**22 37 38.5**	**-0.2**
APE				S		**Sn**	**22 37 57.6**	**+1.5**
APE	**Apeiranthos**	**1.30**	**236**	PN		**Pn**	**22 37 37.9**	**-0.8**
YER	**Yerkesik**	**1.30**	**121**	PN		**Pn**	**22 37 38.3**	**-0.4**
TNSA	**Tinos**	**1.39**	**259**	P		**Pn**	**22 37 38.6**	**-1.2**
MANT	**Manisa**	**1.49**	**62**	P		**Pg**	**22 37 43.2**	**-0.1**
MANT				S		**Sn**	**22 38 00.9**	**+0.1**
MANT				*i* AML	AML		22 38 03.0	
	comp=E,46nm,0.3s							
MANT				*i* AML	AML		22 38 06.0	
	comp=E,45nm,0.4s							
TURN	**Turunc**	**1.50**	**133**	PN		**Pn**	**22 37 40.4**	**-1.0**
PRK	**Paraskevi**	**1.51**	**342**	P		**Pg**	**22 37 44.3**	**+0.6**
PRK	**Paraskevi**	**1.51**	**342**	P		**Pn**	**22 37 41.6**	**+0.1**
PRK				S		**Sb**	**22 38 02.2**	**+0.5**
	comp=E,360nm,0.6s							
KULA	**Kula-Manisa**	**1.57**	**63**	PN		**Pn**	**22 37 42.3**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.65**	**101**	P		**Pn**	**22 37 43.1**	**-0.4**
TAVA				*i* AML	AML		22 38 16.0	
	comp=E,31nm,0.9s							
TAVA				*i* AML	AML		22 38 17.0	
	comp=E,18nm,0.8s							
BUHA	**Balikesir, Bur**	**1.70**	**5**	P		**Pn**	**22 37 42.9**	**-1.2**
BUHA				S		**Sg**	**22 38 09.8**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.70**	**23**	P		**Pb**	**22 37 45.7**	**-0.1**
STEP				S		**Sg**	**22 38 09.4**	**+0.1**
STEP				*i* AML	AML		22 38 14.0	
	comp=E,78nm,0.5s							
STEP				*i* AML	AML		22 38 16.0	
	comp=E,74nm,0.7s							
DALY	**Dalyan (Mula)**	**1.73**	**124**	PN		**Pn**	**22 37 44.1**	**-0.4**
KOCA	**Canakkale, Ayv**	**1.79**	**341**	P		**Pn**	**22 37 44.6**	**-0.7**
KOCA				S		**Sg**	**22 38 13.7**	**+1.6**
ARG	**Arkhangelos**	**1.88**	**148**	PN		**Pn**	**22 37 45.9**	**-0.7**
FETY	**Fethiye**	**2.11**	**123**	P		**Pn**	**22 37 50.8**	**+1.0**
FETY				S		**Sn**	**22 38 18.5**	**+2.5**
ALN	**Alexandroupoli**	**3.15**	**348**	P		**Pn**	**22 38 03.5**	**-0.6**

JMA ***17*** *22:49:16.8, 33.˝00N× 131.˝10E, h12km± 1km, M3.7*
JMA Felt II J1.
NIED ***17*** *22:49:16.8, 33.˝00N× 131.˝10E, h12km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10 14 Nm; Mrr 2.07; Mθθ 4.84; Mϕϕ -2.77; Mrθ 1.29; Mϕθ -1.14; Mϕr 0.32; Fault plane solution: M0 4.21000×10 14 NP1: ϕs 142.00000°, δ 63.00000°, λ -14.00000°. NP2: ϕs 238.00000°, δ 78.00000°, λ -153.00000°.*
IDC ***17*** *22:49:17.2± 2.0, 32.˝93N× 131.˝01E, h0km, mb2.8/1, mb1 3.4/2, mb1mx3.0/58, mbtmp3.2/2, ML2.4/1 Error ellipse: s-maj=29.4km s-min=11.1km az=55.0*

ISC 17 22:49:19.7±1.1, 32.97N±0.04× 131.00E±0.08, h12km, n7, σ2 0 7/10, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**0.18**	**326**	Pg		**Pg**	**22 49 21.2**	**-2.6**
	971nm,0.3s,baz=147,slow=4.1,SNR=1240							
JNU				Lg		Lg	22 49 24.7	
	2μm,0.3s,baz=214,slow=22,SNR=74							
JNU	**Nakatsue**	**0.18**	**326**	P		**Pg**	**22 49 21.6**	**-2.2**
JNU				S		**Sg**	**22 49 25.0**	**-1.7**
JTA	**Tamana**	**0.39**	**269**	P		**Pg**	**22 49 26.1**	**-1.5**
JTA				S		**Sg**	**22 49 32.7**	**-0.1**
JIU3	**Izumi3**	**0.45**	**201**	P		**Pg**	**22 49 26.7**	**-1.9**
JIU3				S		**Sg**	**22 49 34.0**	**-0.6**
KSRS	**Korea Array**	**5.13**	**331**	Pg		**Pb**	**22 50 52.3**	**+2.9**
	0.3nm,0.3s,baz=142,slow=17,SNR=5.1							
KSRS				Lg		Lg	22 51 58.8	
	0.7nm,0.3s,baz=153,slow=31,SNR=5.7							
MJAR	**Matsushiro Arr**	**6.92**	**57**	Pn		**Pn**	**22 51 01.1**	**+0.1**
	0.1nm,0.3s,baz=238,slow=13,SNR=3.6							
SONM	**Songino Array**	**23.77**	**316**	P		**P**	**22 54 33.2**	**+1.1**
	0.2nm,0.6s,baz=120,slow=8.7,SNR=1.7							

JMA ***17*** *22:53:35.1, 32.˝63N× 130.˝68E, h8km± 1km, M3.8*
JMA Felt III J1.
NIED ***17*** *22:53:35.1, 32.˝63N× 130.˝68E, h8km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10 14 Nm; Mrr 1.11; Mθθ 3.54; Mϕϕ -4.65; Mrθ -0.16; Mϕθ 0.05; Mϕr 1.76; Fault plane solution: M0 4.35000×10 14 NP1: ϕs 226.00000°, δ 76.00000°, λ -172.00000°. NP2: ϕs 134.00000°, δ 82.00000°, λ -14.00000°.*
IDC ***17*** *22:53:37.6± 2.8, 32.˝75N× 130.˝60E, h0km, mb3.1/1, mb1 3.4/3, mb1mx3.1/51, mbtmp3.2/3, ML2.7/2 Error ellipse: s-maj=30.0km s-min=13.8km az=144.0*

ISC 17 22:53:36.5±0.9, 32.62N±0.04× 130.75E±0.09, h10km, n8, σ1 9 72/11, 3C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIU3	**Izumi3**	**0.09**	**140**	⇓P		**Pg**	**22 53 38.2**	**-0.7**
JIU3				S		**Sg**	**22 53 40.5**	**-0.2**
JTA	**Tamana**	**0.39**	**333**	⇑P		**Pg**	**22 53 42.3**	**-1.9**
JTA				S		**Sg**	**22 53 47.4**	**-2.0**
JZO	**Okuchi**	**0.49**	**195**	⇑P		**Pg**	**22 53 44.8**	**-1.3**
JNU	**Nakatsue**	**0.52**	**12**	Pg		**Pg**	**22 53 45.1**	**-1.5**
	150nm,0.3s,baz=176,slow=7.4,SNR=22							
JNU				Lg		Lg	22 53 52.8	
	1μm,0.3s,baz=296,slow=22,SNR=52							
JTZ	**Takazaki**	**0.77**	**158**	⇑P		**Pb**	**22 53 51.2**	**-0.8**
JTZ				S		**Sg**	**22 54 01.2**	**-0.1**
KSRS	**Korea Array**	**5.35**	**335**	Pn		**Pn**	**22 54 56.6**	**+0.2**
	0.3nm,0.3s,baz=154,slow=15,SNR=2.3							
KSRS				Pg		**Pb**	**22 55 11.9**	**+1.8**
	0.5nm,0.3s,baz=150,slow=16,SNR=4.3							
KSRS				Lg		Lg	22 56 19.8	
	1.0nm,0.3s,baz=161,slow=30,SNR=4.3							
MJAR	**Matsushiro Arr**	**7.29**	**55**	Pn		Pn	22 55 27.6	+4.4
	0.2nm,0.3s,baz=240,slow=13,SNR=2.4							
SONM	**Songino Array**	**23.88**	**317**	P		**P**	**22 58 53.0**	**+2.7**
	0.5nm,0.8s,baz=132,slow=8.0,SNR=2.8							

IASPEI ***17*** *23:12:29.5± 0.8, 23.˝16N± 0.˝01× 121.˝03E± 0.˝01, h7km± 5km, Error ellipse: s-maj=2.0km s-min=1.8km az=114.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
NEIC ***17*** *23:12:29.5± 0.9, 23.˝174N± 0.˝008× 121.˝06E± 0.˝02, h10km± 1km, ML4.2(TAP), Error ellipse: s-maj=3.0km s-min=2.7km az=273.0*
TAP ***17*** *23:12:29.2, 23.˝16N× 121.˝01E, h4km, ML4.0, B*

ISC 17 23:12:29.5±0.8, 23.16N±0.01× 121.03E±0.01, h5km±5km, n129, σ0 9 95/221, 24C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ELDTW	**Lidau**	**0.03**	**336**	⇑*i*P		**Pg**	**23 12 30.5**	**-0.2**
	baz=23							
ELDTW				*i* S		**Sg**	**23 12 31.2**	**-0.4**
	baz=23							
ECS	**Chishang**	**0.19**	**111**	P		**Pg**	**23 12 34.2**	**+1.0**
	baz=110							
ECS				S		**Sg**	**23 12 37.6**	**+1.9**
	baz=110							
STYH	**Taoyuan**	**0.23**	**272**	⇑*i*P		**Pg**	**23 12 34.1**	**+0.1**
	baz=272							
STYH				*i* S		**Sg**	**23 12 37.2**	**0.0**
	baz=272							
FULB	**Fuli**	**0.25**	**82**	⇑*i*P		**Pg**	**23 12 35.6**	**+1.3**
	baz=72							
FULB				*i* S		**Sg**	**23 12 40.0**	**+2.5**
	baz=72							
STYT	**Tauyuan**	**0.25**	**270**	⇑*i*P		**Pg**	**23 12 34.5**	**+0.1**
	baz=270							
STYT				*i* S		**Sg**	**23 12 37.8**	**+0.1**
	baz=270							
LONT	**Longtian**	**0.27**	**160**	⇓*i*P		**Pg**	**23 12 35.4**	**+0.6**
	baz=158							
LONT				S		**Sg**	**23 12 39.3**	**+0.9**
	baz=158							
TWF1	**Yuli**	**0.31**	**53**	⇑*i*P		**Pg**	**23 12 36.0**	**+0.4**
	baz=55							
TWF1				*i* S		**Sg**	**23 12 39.9**	**+0.3**
	baz=55							
CHKT	**Chengkung**	**0.32**	**102**	⇓*i*P		**Pb**	**23 12 37.3**	**-0.3**
	baz=101							
CHKT				*i* S		**Sb**	**23 12 43.1**	**+0.1**
	baz=101							
EDH	**Donghe**	**0.32**	**127**	P		**Pb**	**23 12 36.9**	**-0.7**
	baz=135							
EDH				S		**Sb**	**23 12 42.1**	**-1.0**
	baz=135							
EYUL	**Yuli**	**0.32**	**55**	⇑*i*P		**Pg**	**23 12 36.3**	**+0.5**
	baz=57							
EYUL				*i* S		**Sg**	**23 12 40.6**	**+0.6**
	baz=57							
YULB	**Yu-li**	**0.34**	**47**	Pg		**Pg**	**23 12 35.9**	**-0.1**
YULB				Sg		**Sg**	**23 12 40.1**	**-0.3**
YULB	**Yu-li**	**0.34**	**47**	⇑*i*P		**Pg**	**23 12 36.1**	**+0.1**
	baz=48							
YULB				*i* S		**Sg**	**23 12 40.3**	**-0.2**
	baz=48							
TWG	**Pinlang**	**0.34**	**173**			**Pg**	**23 12 36.4**	**+0.2**
TWG				Sg		**Sg**	**23 12 41.3**	**+0.6**
TWG	**Pinlang**	**0.34**	**173**	⇓*i*P		**Pg**	**23 12 36.5**	**+0.4**
	baz=162							
TWG				*i* S		**Sg**	**23 12 41.3**	**+0.6**
	baz=162							
TWGBT	**Beinan**	**0.35**	**172**	⇓*i*P		**Pg**	**23 12 36.5**	**+0.3**
	baz=162							
TWGBT				*i* S		**Sg**	**23 12 41.1**	**+0.3**
	baz=162							
WTP	**Ta-pu**	**0.39**	**282**	⇑*i*P		**Pg**	**23 12 37.6**	**+0.6**
	baz=283							
WTP				*i* S		**Sg**	**23 12 43.4**	**+1.2**
	baz=283							
TPUB	**Ta-pu**	**0.39**	**290**			**Pg**	**23 12 37.6**	**+0.5**
TPUB				Sg		**Sg**	**23 12 43.3**	**+1.0**
TPUB	**Ta-pu**	**0.39**	**290**	⇑*i*P		**Pg**	**23 12 37.7**	**+0.7**
	baz=302							
TPUB				*i* S		**Sg**	**23 12 43.4**	**+1.2**
	baz=302							
ALS	**Alishan**	**0.40**	**329**	⇓*i*P		**Pg**	**23 12 37.7**	**+0.4**
	baz=331							
ALS				*i* S		**Sg**	**23 12 43.3**	**+0.6**
	baz=331							
ECBN	**Changbin**	**0.42**	**69**	P		**Pb**	**23 12 39.2**	**-0.1**
	baz=55							
ECBN				S		**Sb**	**23 12 46.5**	**+0.6**
	baz=55							
SGST	**Jiashian**	**0.42**	**259**	⇑*i*P		**Pg**	**23 12 37.2**	**-0.3**
	baz=251							
SGST				*i* S		**Sg**	**23 12 43.2**	**+0.1**
	baz=251							
TTN	**Taitung**	**0.42**	**165**	*e*P		**Pb**	**23 12 39.0**	**-0.4**
	baz=163							
TTN				S		**Sb**	**23 12 46.2**	**+0.1**
	baz=163							
EHY	**Hungye**	**0.43**	**38**	⇑*i*P		**Pg**	**23 12 37.9**	**0.0**
	baz=40							
EHY				*i* S		**Sg**	**23 12 43.4**	**-0.2**
	baz=40							
CHN4	**Tsaushan**	**0.44**	**295**	⇑*i*P		**Pb**	**23 12 38.9**	**-0.8**
	baz=306							
CHN4				*i* S		**Sb**	**23 12 45.7**	**-1.0**
	baz=306							
CHN1	**Nanshi**	**0.46**	**273**	⇑*i*P		**Pb**	**23 12 39.4**	**-0.7**
	baz=273							
CHN1				S		**Sb**	**23 12 46.7**	**-0.5**
	baz=273							
HGSD	**Ruisui**	**0.49**	**48**	⇑*i*P		**Pb**	**23 12 39.7**	**-0.9**
	baz=37							
HGSD				S		**Sb**	**23 12 47.1**	**-0.9**
	baz=37							
SNST	**Tainan City**	**0.49**	**277**	P		**Pb**	**23 12 40.1**	**-0.6**
	baz=277							
SNST				S		**Sb**	**23 12 48.0**	**-0.1**
	baz=277							
TWK	**Hsinying**	**0.51**	**282**	⇑*i*P		**Pb**	**23 12 40.3**	**-0.7**
	baz=282							
TWK				S		**Sb**	**23 12 48.4**	**-0.3**
	baz=282							
CHN5	**Tsauling**	**0.54**	**323**	⇑*i*P		**Pb**	**23 12 40.6**	**-0.8**
	baz=324							
CHN5				S		**Sg**	**23 12 47.9**	**+1.0**
	baz=324							
SSD	**Sandimen**	**0.55**	**221**	⇑*i*P		**Pg**	**23 12 39.7**	**-0.4**
	baz=215							
SSD				*i* S		**Sg**	**23 12 46.3**	**-1.0**
	baz=215							
SCST	**Cishan**	**0.56**	**241**	⇑P		**Pb**	**23 12 41.2**	**-0.7**

SCLT	**Jiali**	**0.77**	**271**	*e*P	**Pn**	**23 12 46.5**	**-0.5**
	baz=271							
SCLT				*e*S	**Sn**	**23 12 58.7**	**-0.2**
	baz=271							
CHN8	**Yiju**	**0.77**	**284**	P	**Pb**	**23 12 45.4**	**0.0**
	baz=284							
CHN8				S	**Sn**	**23 12 58.1**	**-1.0**
	baz=284							
WTK	**Tuku**	**0.79**	**312**	*e*P	**Pb**	**23 12 46.0**	**+0.4**
	baz=312							
WTK				*e*S	**Sn**	**23 12 58.4**	**-1.0**
	baz=312							
EAST	**Anshuo**	**0.80**	**192**	⇑*i*P	**Pg**	**23 12 44.6**	**-0.1**
	baz=191							
EAST				S	**Sb**	**23 12 56.8**	**0.0**
	baz=191							
OWD	**Renai**	**0.80**	**10**	*e*P	**Pg**	**23 12 43.8**	**-1.0**
	baz=20							
OWD				*e*S	**Sg**	**23 12 55.2**	**0.0**
	baz=20							
SSPT	**Xinbi**	**0.80**	**212**	P	**Pg**	**23 12 44.8**	**0.0**
	baz=208							
SSPT				S	**Sb**	**23 12 56.3**	**-0.7**
	baz=208							
TAW	**Tawu**	**0.81**	**189**	P	**Pg**	**23 12 44.9**	**-0.2**
	baz=197							
WSL	**Shuilin Townsh**	**0.82**	**296**	*e*P	**Pb**	**23 12 46.2**	**0.0**
	baz=296							
WSL				*e*S	**Sn**	**23 12 59.5**	**-0.6**
	baz=296							
WUSB	**Renai**	**0.83**	**6**	P	**Pg**	**23 12 44.3**	**-1.1**
	baz=355							
TAWH	**Dawu Township**	**0.83**	**189**	*e*P	**Pg**	**23 12 45.4**	**0.0**
	baz=188							
SCZT	**Fangliau**	**0.87**	**206**	*e*P	**Pg**	**23 12 45.4**	**-0.8**
	baz=204							
WSF	**Szhu**	**0.88**	**303**	*e*P	**Pb**	**23 12 47.2**	**0.0**
	baz=303							
WSF				S	**Sn**	**23 13 00.3**	**-1.4**
	baz=303							
KAU	**Kaohsiung**	**0.89**	**228**	*e*P	**Pn**	**23 12 48.8**	**+0.1**
	baz=227							
WCS	**Beigang Elemen**	**0.90**	**353**	*e*P	**Pg**	**23 12 46.7**	**0.0**
	baz=1.0							
WCS				*e*S	**Sb**	**23 13 00.3**	**+0.5**
	baz=1.0							
CHGB	**Renai**	**0.90**	**8**	P	**Pg**	**23 12 45.8**	**-1.0**
	baz=19							
CHGB				*e*S	**Sn**	**23 13 02.0**	**-0.6**
	baz=19							
WRL	**Guolierlin Hig**	**0.95**	**321**	*e*P	**Pb**	**23 12 48.6**	**+0.2**
	baz=321							
WRL				*e*S	**Sb**	**23 13 01.6**	**+0.3**
	baz=321							
SLIU	**Shizi**	**0.97**	**193**	*e*P	**Pg**	**23 12 47.8**	**-0.2**
	baz=192							
HWA	**Hwalien**	**0.97**	**33**	*e*P	**Pb**	**23 12 48.8**	**+0.1**
	baz=34							
WTCT	**Ta-ch'eng**	**0.98**	**316**	*e*S	**Sn**	**23 13 03.0**	**-1.1**
	baz=316							
WHF	**Hehuan Shan**	**1.00**	**12**	P	**Pg**	**23 12 47.5**	**-1.2**
	baz=13							
WHF				*e*S	**Sb**	**23 13 03.2**	**0.0**
	baz=13							
WLCH	**Liuqiu**	**1.01**	**217**	*e*P	**Pn**	**23 12 52.1**	**+1.9**
	baz=215							
WCHH	**Zhanghua**	**1.01**	**335**	*e*P	**Pn**	**23 12 49.8**	**-0.5**
	baz=335							
WCHH				*e*S	**Sn**	**23 13 04.3**	**-0.6**
	baz=335							
TWD	**Chiawan**	**1.05**	**30**	*e*P	**Pg**	**23 12 49.0**	**-0.7**
	baz=18							
TWD				*e*S	**Sg**	**23 13 02.6**	**-0.7**
	baz=18							
WHP	**Taichung City**	**1.11**	**356**	*e*P	**Pn**	**23 12 51.9**	**+0.1**
	baz=4.0							
ETLH	**Xiulin Townshi**	**1.12**	**22**	*e*P	**Pg**	**23 12 50.3**	**-0.6**
	baz=22							
ETLH				*e*S	**Sb**	**23 13 05.9**	**-0.4**
	baz=22							
NACB	**Ninganchiao**	**1.13**	**27**		**Pg**	**23 12 50.4**	**-0.8**
NACB					**Sg**	**23 13 05.0**	**-0.9**
NACB	**Ninganchiao**	**1.13**	**27**	*e*P	**Pg**	**23 12 50.3**	**-0.9**
	baz=27							
NACB				*e*S	**Sg**	**23 13 05.2**	**-0.6**
	baz=27							
HEN	**Hengchun**	**1.18**	**193**	*e*P	**Pn**	**23 12 53.0**	**+0.4**
	baz=193							
HEN				*e*S	**Sn**	**23 13 12.3**	**+3.1**
	baz=193							
TWQ1	**Liyutan**	**1.20**	**349**	*e*P	**Pn**	**23 12 54.1**	**+1.2**
	baz=350							
TWQ1				*e*S	**Sn**	**23 13 12.7**	**+3.0**
	baz=350							
LAY	**Lan-yu**	**1.22**	**157**	*e*P	**Pg**	**23 12 51.2**	**-1.6**
	baz=156							
TWK1	**Hengchun**	**1.23**	**190**	*e*P	**Pb**	**23 12 53.0**	**-0.2**
	baz=178							
WDJ	**Dajia District**	**1.23**	**343**	*e*P	**Pn**	**23 12 54.3**	**+1.0**
	baz=332							
WDJ				*e*S	**Sn**	**23 13 12.8**	**+2.4**
	baz=332							
TWKBT	**Hengchun**	**1.23**	**189**	*e*P	**Pg**	**23 12 53.7**	**+0.5**
	baz=177							
TWKBT				*e*S	**Sn**	**23 13 13.8**	**+3.4**
	baz=177							
TSEB	**Hengchuen, Pin**	**1.26**	**185**	*e*P	**Pg**	**23 12 55.0**	**+1.3**
	baz=175							
WDGT	**Dungji**	**1.26**	**275**	⇑P	**Pn**	**23 12 53.0**	**-0.8**
	baz=276							
WDGT				S	**Sb**	**23 13 09.8**	**-0.5**
	baz=276							
LYUB	**Lan-yu**	**1.27**	**156**	*e*P	**Pn**	**23 12 50.7**	**-3.0**
	baz=156							
NSY	**Sanyi**	**1.27**	**349**	*e*P	**Pg**	**23 12 54.9**	**+1.1**
	baz=350							
NSY				*e*S	**Sn**	**23 13 14.5**	**+3.1**
	baz=350							
NNSB	**Datong**	**1.30**	**14**	*e*P	**Pn**	**23 12 53.1**	**-1.3**
	baz=26							
NNS	**Nan Shan**	**1.31**	**14**	P	**Pn**	**23 12 53.8**	**-0.8**
	baz=25							
NNS				S	**Sn**	**23 13 13.8**	**+1.3**
	baz=25							
PHUB	**P'eng-hu**	**1.38**	**285**	P	**Pn**	**23 12 54.5**	**-0.9**
	baz=286							
PHUB				S	**Sb**	**23 13 12.4**	**-1.4**
	baz=286							
NMLH	**Miaoli**	**1.39**	**351**	*e*P	**Pg**	**23 12 56.9**	**+0.9**
	baz=352							
PNG	**Penghu**	**1.41**	**287**	*e*P	**Pn**	**23 12 55.0**	**-0.8**
	baz=287							
PNG				S	**Sb**	**23 13 14.0**	**-0.7**
	baz=287							
ENA	**Nanau**	**1.42**	**27**	*e*P	**Pb**	**23 12 55.9**	**-0.5**
	baz=27							
ENA				*e*S	**Sg**	**23 13 15.6**	**+0.5**
	baz=27							
LATG	**Datong**	**1.44**	**18**	*e*P	**Pn**	**23 12 56.1**	**-0.2**
	baz=32							
LATG				*e*S	**Sb**	**23 13 14.6**	**-1.0**
	baz=32							
EWUT	**Wuta**	**1.45**	**28**	*e*P	**Pb**	**23 12 56.6**	**-0.3**
	baz=28							
EWUT				*e*S	**Sb**	**23 13 15.5**	**-0.2**
	baz=28							
NSTT	**Nanjuang**	**1.46**	**359**	*e*P	**Pg**	**23 12 58.4**	**+0.9**
	baz=346							
NSTT				*e*S	**Sg**	**23 13 18.7**	**+2.2**
	baz=346							
NFF	**Wufeng Townshi**	**1.46**	**3**	*e*P	**Pg**	**23 12 58.4**	**+0.8**
	baz=15							
NFF				*e*S	**Sg**	**23 13 19.2**	**+2.6**
	baz=15							
LIOB	**Emei**	**1.48**	**360**	*e*P	**Pg**	**23 12 58.9**	**+1.1**
	baz=346							
LIOB				*e*S	**Sg**	**23 13 19.3**	**+2.4**
	baz=346							
NDT	**Datong Townshi**	**1.50**	**17**	*e*P	**Pb**	**23 12 57.5**	**-0.3**
	baz=26							
NDT				*e*S	**Sg**	**23 13 19.8**	**+2.1**
	baz=26							
YHNB	**Yeheng**	**1.53**	**12**		**Pn**	**23 12 57.1**	**-0.4**
YHNB				Sn	**Sg**	**23 13 18.2**	**-0.6**
YHNB	**Yeheng**	**1.53**	**12**	P	**Pb**	**23 12 58.3**	**-0.1**
	baz=12							
YHNB				*e*S	**Sn**	**23 13 17.5**	**-0.5**
	baz=12							
NSK	**Sanguang**	**1.54**	**11**	P	**Pn**	**23 12 57.6**	**0.0**
	baz=12							
NSK				*e*S	**Sg**	**23 13 18.3**	**-0.5**
	baz=12							
ENTT	**Nioudou**	**1.55**	**18**	P	**Pb**	**23 12 58.4**	**-0.3**
	baz=32							
ENTT				*e*S	**Sg**	**23 13 20.1**	**+0.8**
	baz=32							
NDS	**Dongshan**	**1.59**	**23**	*e*P	**Pb**	**23 12 59.1**	**-0.3**
	baz=42							
SBCB	**Hsinchu**	**1.62**	**359**	*e*P	**Pg**	**23 13 00.4**	**-0.2**
	baz=1.0							
TWC	**Suao**	**1.62**	**27**	*e*P	**Pg**	**23 12 60.0**	**-0.6**
	baz=40							
TWE	**Neicheng**	**1.66**	**20**	⇓P	**Pg**	**23 13 00.7**	**-0.6**
	baz=39							
TWE				S	**Sg**	**23 13 22.9**	**+0.1**
	baz=39							
NWLT	**Wulai**	**1.66**	**15**	*e*P	**Pg**	**23 13 01.1**	**-0.3**
	baz=25							
FUSB	**Fushanzhiwuyua**	**1.67**	**18**	*e*P	**Pg**	**23 13 01.0**	**-0.5**
	baz=38							
NCUH	**Zhongli**	**1.80**	**5**	*e*P	**Pg**	**23 13 04.5**	**+0.4**
	baz=7.0							
NTC	**Toucheng**	**1.84**	**23**	*e*P	**Pg**	**23 13 04.1**	**-0.6**
	baz=41							
NHDH	**Xindian Distri**	**1.85**	**14**	*e*P	**Pg**	**23 13 04.7**	**-0.2**
	baz=37							
TATO	**Taipei**	**1.85**	**13**		**Pn**	**23 13 00.8**	**-1.1**
TATO					**Sb**	**23 13 27.8**	**+0.5**
TWA	**Mucha**	**1.88**	**16**	⇑P	**Pg**	**23 13 05.4**	**-0.1**
	baz=31							
TWA				*e*S	**Sg**	**23 13 30.8**	**+0.9**
	baz=31							
TIPB	**Shuangxi**	**1.94**	**22**	*e*P	**Pg**	**23 13 06.2**	**-0.6**
	baz=39							
TWS1	**Kuangyinshan**	**1.96**	**10**	*e*P	**Pg**	**23 13 08.3**	**+1.3**
	baz=21							
TWS1				*e*S	**Sg**	**23 13 32.8**	**+0.2**
	baz=21							
NWF	**Wu-fen Shan**	**2.02**	**20**	*e*P	**Pg**	**23 13 07.5**	**-0.7**
	baz=39							
TWB1	**Santiao Chiao**	**2.04**	**25**	*e*P	**Pg**	**23 13 07.5**	**-1.0**
	baz=40							
YM01	**YM01**	**2.04**	**14**	*e*P	**Pg**	**23 13 08.0**	**-0.6**
	baz=35							
YM01				*e*S	**Sg**	**23 13 34.9**	**-0.1**
	baz=35							
SXI1	**Grass Mountain**	**2.07**	**22**	*e*P	**Pg**	**23 13 08.7**	**-0.5**
	baz=39							
YOJ	**Yonaguni jima**	**2.23**	**54**	Pn	**Pn**	**23 13 06.2**	**-0.8**
VWUC	**VWUC**	**2.32**	**322**	*e*P	**Pn**	**23 13 08.6**	**+0.2**
	baz=321							
PTMZ	**Houxiangcun**	**2.56**	**317**	*e*P	**Pn**	**23 13 10.4**	**-1.2**
	baz=316							
KNMB	**Chin-men Tao**	**2.74**	**299**	Pn	**Pn**	**23 13 12.3**	**-1.8**
ZPLA	**Ao Xicun**	**3.10**	**285**	*e*P	**Pn**	**23 13 18.6**	**-0.5**
	baz=286							
AXDP	**Jialang**	**3.29**	**302**	*e*P	**Pn**	**23 13 21.0**	**-0.7**
	baz=301							
LYJJ	**Jianjiangzhen**	**3.56**	**341**	*e*P	**Pn**	**23 13 26.9**	**+1.5**
	baz=339							

TAP 17 23:12:55.6, 23.16°N × 121.00°E, h2 km, ML3.5, 5C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.03**	**23**	⇑*i*P	Pg	23 12 56.9	+0.5
	baz=38						
ELDTW				*i* S	Sg	23 12 57.4	+0.5
	baz=38						
ECS	**Chishang**	**0.21**	**108**	P	Pg	23 13 00.6	+1.0
	baz=108						
ECS				S	Sg	23 13 04.0	+1.7
	baz=108						
STYH	**Taoyuan**	**0.21**	**273**	⇑*i*P	Pg	23 13 00.5	+0.9
	baz=272						
STYH				*i* S	Sg	23 13 03.5	+1.1
	baz=272						
STYT	**Tauyuan**	**0.23**	**271**	⇑*i*P	Pg	23 13 00.8	+0.9
	baz=269						
STYT				*i* S	Sg	23 13 04.2	+1.2
	baz=269						
FULB	**Fuli**	**0.27**	**82**	⇑*i*P	Pg	23 13 01.9	+1.1
	baz=82						
FULB				*i* S	Sb	23 13 06.4	-1.8
	baz=82						
LONT	**Longtian**	**0.28**	**155**	⇓*i*P	Pg	23 13 01.8	+0.8
	baz=155						
LONT				S	Sg	23 13 05.7	+1.1
	baz=155						
TWF1	**Yuli**	**0.33**	**55**	⇑*i*P	Pg	23 13 02.2	+0.3
	baz=56						
TWF1				*i* S	Sg	23 13 06.2	0.0
	baz=56						
EDH	**Donghe**	**0.33**	**124**	*e*P	Pb	23 13 03.3	-1.0
	baz=137						
EDH				*e*S	Sb	23 13 09.3	-0.8
	baz=137						
CHKT	**Chengkung**	**0.34**	**100**	P	Pb	23 13 03.9	-0.4
	baz=100						
CHKT				S	Sb	23 13 09.6	-0.6
	baz=100						
EYUL	**Yuli**	**0.34**	**57**	P	Pg	23 13 02.5	+0.3
	baz=58						
EYUL				S	Sg	23 13 07.8	+1.1
	baz=58						
TWG	**Pinlang**	**0.34**	**170**	*e*P	Pg	23 13 03.1	+0.9
	baz=167						
TWG				*e*S	Sg	23 13 07.5	+0.8
	baz=167						
TWGBT	**Beinan**	**0.35**	**168**	P	Pg	23 13 03.1	+0.8
	baz=167						
TWGBT				*e*S	Sg	23 13 07.4	+0.6
	baz=167						
YULB	**Yu-li**	**0.35**	**49**	*e*P	Pg	23 13 02.5	+0.1
	baz=50						
YULB				*e*S	Sg	23 13 06.6	-0.5
	baz=50						
WTP	**Ta-pu**	**0.37**	**283**	P	Pb	23 13 04.2	-0.7
	baz=283						
WTP				S	Sb	23 13 10.0	-1.1
	baz=283						
TPUB	**Ta-pu**	**0.37**	**292**	P	Pb	23 13 04.1	-0.8
	baz=304						
TPUB				S	Sb	23 13 09.7	-1.5
	baz=304						
ALS	**Alishan**	**0.39**	**332**	*e*P	Pg	23 13 04.0	+0.8
	baz=334						
ALS				*e*S	Sg	23 13 09.9	+1.5
	baz=334						
SGST	**Jiashian**	**0.40**	**259**	*e*P	Pg	23 13 03.7	+0.5
	baz=257						
SGST				*e*S	Sg	23 13 09.7	+1.4
	baz=257						
CHN4	**Tsaushan**	**0.42**	**297**	*e*P	Pb	23 13 05.4	-0.4
	baz=308						
CHN4				*e*S	Sb	23 13 11.8	-0.8
	baz=308						
CHN1	**Nanshi**	**0.44**	**273**	*e*P	Pb	23 13 06.0	-0.1
	baz=273						
CHN1				*e*S	Sb	23 13 12.9	-0.2
	baz=273						
ECBN	**Changbin**	**0.44**	**69**	*e*P	Pb	23 13 05.5	-0.5
	baz=57						
ECBN				*e*S	Sb	23 13 12.5	-0.6
	baz=57						
EHY	**Hungye**	**0.45**	**40**	*e*P	Pg	23 13 04.5	+0.2
	baz=41						
EHY				*e*S	Sg	23 13 09.7	-0.4
	baz=41						
TWK	**Hsinying**	**0.49**	**283**	*e*P	Pb	23 13 06.4	-0.5
	baz=282						
TWK				*e*S	Sb	23 13 14.9	+0.4
	baz=282						
SSD	**Sandimen**	**0.54**	**220**	*e*P	Pg	23 13 06.0	+0.1
	baz=210						
SSD				*e*S	Sg	23 13 13.0	+0.2
	baz=210						
ECL	**Taimali**	**0.56**	**185**	*e*P	Pg	23 13 06.8	+0.4
	baz=183						
ECL				*e*S	Sg	23 13 13.5	-0.2
	baz=183						

NIED ***17*** *23:24:18.5, 37.07°N × 141.19°E, h51 km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr 0.92; Mθθ 0.01; Mφφ -0.93; Mrθ 0.74; Mrφ -0.11; Mθφ 1.16; Fault plane solution: Mo 1.66000×10^15 NP1: φs 170.00000°, δ 20.00000°, λ 55.00000°. NP2: φs 27.00000°, δ 74.00000°, λ 102.00000°.*

JMA ***17*** *23:24:18.4±0.1, 37.07°N × 141.19°E, h51 km ± 1 km, M4.2 Broadband fault plane solution: P waves. NP1: φs 21.00000°, δ 64.00000°, λ 92.00000°. NP2: φs 196.00000°, δ 26.00000°, λ 86.00000°. Principal axes: T Plg 71.0000°, Azm 295.0000°; N Plg 2.0000°, Azm 200.0000°; P Plg 19.0000°, Azm 109.0000°;*

JMA Felt III J1.

NEIC ***17*** *23:24:18.5±2.0, 37.04°N±0.04° × 141.3°E±0.1, h44 km ± 9 km, mb4.4/18 Error ellipse: s-maj=11.9km s-min=5.4km az=98.0*

IDC ***17*** *23:24:19.1±1.6, 37.05°N × 141.28°E, h52 km ± 15 km, mb3.7/23, mb1 3.9/28, mb1mx3.8/51, mbtmp4.0/28, ML3.9/4, MS3.0/3, Ms1 3.0/3, ms1mx2.5/89, Error ellipse: s-maj=12.6km s-min=10.0km az=107.0*

ISC 17 23:24:17.7±1.0, 37.05N±0.04° × 141.32E±0.06, h40 km ± 8 km, n94, σ0 897/97, mb4.1/36, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.42**	**277**	P	**Pn**	**23 24 27.8**	**+0.3**
ONAJ				S	**Sn**	**23 24 34.1**	**-0.2**
JFK	**Kawauchi**	**0.48**	**312**	⇓P	**Pn**	**23 24 28.3**	**+0.1**
JFK				S	**Sn**	**23 24 35.2**	**-0.4**
JFFD	**Fukushimafurud**	**0.61**	**274**	⇓P	**Pn**	**23 24 29.7**	**-0.3**
JFFD				S	**Sn**	**23 24 37.6**	**-1.1**
JHO	**Hitachi**	**0.75**	**234**	⇓P	**Pn**	**23 24 31.5**	**-0.3**
JHO				S	**Sn**	**23 24 40.7**	**-1.2**
JFT	**Otama**	**0.92**	**301**	P	**Pn**	**23 24 34.6**	**+0.5**
JFT				S	**Sn**	**23 24 45.9**	**-0.2**
JMM	**Marumori**	**0.92**	**333**	⇓P	**Pn**	**23 24 34.1**	**0.0**
JMM				S	**Sn**	**23 24 45.3**	**-0.8**
JMM	**Marumori**	**0.92**	**333**		**Pn**	**23 24 34.1**	**0.0**
JMM				Sn	**Sn**	**23 24 45.5**	**-0.6**
JYT	**Yasato**	**1.22**	**228**		**Pn**	**23 24 37.7**	**-0.6**
JYT				Sn	**Sn**	**23 24 52.0**	**-1.6**
JFY	**Yanaizu**	**1.34**	**286**	⇓P	**Pn**	**23 24 39.9**	**0.0**
JIO	**Ouri**	**1.40**	**1**	⇓P	**Pn**	**23 24 41.1**	**+0.3**
JIO				S	**Sn**	**23 24 57.1**	**-0.9**
JOU	**Okura**	**1.41**	**339**	P	**Pn**	**23 24 41.2**	**+0.2**
JOU				S	**Sn**	**23 24 58.9**	**+0.5**
JYS	**Shirataka**	**1.54**	**320**	⇓P	**Pn**	**23 24 43.1**	**+0.5**
JYS				S	**Sn**	**23 25 01.8**	**+0.4**
JAG	**Ashikaga**	**1.63**	**248**	⇓P	**Pn**	**23 24 43.7**	**-0.1**
MJAR	**Matsushiro Arr**	**2.55**	**259**	P	**Pn**	**23 24 56.7**	**+0.2**
	6.3nm,0.3s,baz=80,slow=16,SNR=69						
MJAR				S	**Sn**	**23 25 28.5**	**+2.2**
	5.4nm,0.3s,baz=267,slow=28,SNR=8.8						
MJAR				LR	LR	23 26 24.6	
	comp=Z,265nm,18.9s,baz=93,slow=50						
MJAR	**Matsushiro Arr**	**2.55**	**259**		**Pn**	**23 24 57.3**	**+0.7**
MAJO	**Matsushiro**	**2.55**	**260**		**Pn**	**23 24 57.5**	**+1.0**
MAJO				Sn	**Sn**	**23 25 28.1**	**+1.7**
MJB9	**Matsu-Tunnel**	**2.55**	**260**		**Pn**	**23 24 57.2**	**+0.6**
MJB9					**Sn**	**23 25 28.7**	**+2.3**
JSD	**Sado**	**2.63**	**293**		**Pn**	**23 24 57.1**	**-0.5**
JGF	**Kuroka**	**3.51**	**247**		**Pn**	**23 25 11.5**	**+1.7**
JTM	**Tenmabayashi**	**3.74**	**357**	Pn	**Pn**	**23 25 14.0**	**+1.2**
INU	**Inuyama**	**3.87**	**245**		**Pn**	**23 25 15.7**	**+1.0**
JHJ2	**Mitsune**	**4.12**	**198**	Pn	**Pn**	**23 25 19.1**	**+1.0**
JHJ	**Hachijo jima 2**	**4.12**	**198**	P	**Pn**	**23 25 19.6**	**+1.5**
	49nm,0.3s,baz=88,slow=22,SNR=14						
JHJ				S	**Sn**	**23 26 05.2**	**+0.2**
	47nm,0.3s,baz=224,slow=23,SNR=7.4						
JHS	**Saijyo**	**6.96**	**255**	Pn	**Pn**	**23 25 59.6**	**+2.5**
ASAJ	**Asahikawa**	**7.13**	**7**	P	**Pn**	**23 26 00.0**	**+0.7**
	3.5nm,0.3s,baz=232,slow=11,SNR=8.7						
ASAJ				S	**Sn**	**23 27 17.1**	**-1.9**
	0.5nm,0.3s,baz=160,slow=28,SNR=1.0						
JCJ	**Chichijima**	**9.95**	**176**	Pn	**Pn**	**23 26 37.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**10.06**	**318**	P	**Pn**	**23 26 41.2**	**+1.6**
	baz=137,slow=13,SNR=19						
USRK				LR	LR	23 30 05.8	
	comp=Z,92nm,20.3s,baz=153,slow=34						
USRK	**Ussuriysk Ar.**	**10.06**	**318**	Pn	Pn	23 26 44.2	+4.7
KSRS	**Korea Array**	**10.69**	**276**	P	**Pn**	**23 26 49.5**	**+1.3**
	0.4nm,0.3s,baz=92,slow=13,SNR=2.4						
KLR	**Kul'dur**	**14.02**	**333**	LR	LR	23 32 33.6	
	comp=Z,64nm,19.1s,baz=192,slow=35						
SEY	**Seymchan**	**26.79**	**11**	P	**P**	**23 29 53.8**	**+0.2**
	1.5nm,0.7s,baz=196,slow=9.1,SNR=5.3						
ULN	**Ulaanbaatar**	**27.29**	**304**	P	**P**	**23 29 57.2**	**-1.2**
ULN				IAmb	IAmb	23 30 01.4	
	comp=Z,7.4nm,1.4s						
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**23 30 00.6**	**-1.6**
	comp=Z,1.8nm,0.5s,baz=100,slow=8.9,SNR=12						
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**23 30 01.4**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	00 00 22.6	
	baz=314,slow=75,SNR=141						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	00 00 26.0	
	baz=314,slow=75,SNR=144						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	00 00 25.3	
	baz=314,slow=75,SNR=129						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	00 00 56.8	
	baz=314,slow=75,SNR=86						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	00 00 55.7	
	baz=314,slow=75,SNR=81						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	00 01 01.2	
	baz=314,slow=75,SNR=59						
ZAA0	**Zalesovo Array**	**41.85**	**312**	P	**P**	**23 32 03.3**	**-0.2**
ZAA0				IAmb	IAmb	23 32 04.0	
	comp=Z,4.8nm,0.7s						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**23 32 03.4**	**-0.2**
	comp=Z,4.9nm,0.5s,baz=93,slow=7.2,SNR=22						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**23 32 03.6**	**0.0**
MK31	**Makanchi Array**	**44.05**	**302**	P	**P**	**23 32 21.4**	**-0.1**
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**23 32 21.1**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=86,slow=10,SNR=18						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**23 32 21.2**	**-0.3**
MAKZ	**Makanchi**	**44.26**	**302**	P	**P**	**23 32 22.6**	**-0.6**
KURK	**Kurchatov**	**45.87**	**308**	P	**P**	**23 32 35.1**	**-0.7**
KURK				IAmb	IAmb	23 32 37.6	
	comp=Z,4.8nm,0.8s						
L19K	**White Mountain**	**45.94**	**36**	P	**P**	**23 32 37.0**	**+0.7**
L19K				IAmb	IAmb	23 32 42.7	
	comp=Z,4.0nm,1.2s						
K20K	**Telida**	**46.36**	**34**	P	**P**	**23 32 41.2**	**+1.6**
K20K				IAmb	IAmb	23 32 42.8	
	comp=Z,3.0nm,0.9s						
RAMN	**Ramite**	**46.93**	**274**	*e*P	**P**	**23 32 44.4**	**-0.4**
JIRN	**Jiri**	**46.94**	**275**	*e*P	**P**	**23 32 45.1**	**0.0**
	comp=Z,9.0nm,1.0s						
GUN	**Gumba**	**47.08**	**276**	*e*P	**P**	**23 32 45.9**	**-0.2**
	comp=Z,10nm,0.5s						
KDAK	**Kodiak Island**	**47.14**	**42**	P	**P**	**23 32 46.4**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=115,slow=20,SNR=1.4						
KKN	**Kakani**	**47.61**	**276**	*e*P	**P**	**23 32 49.7**	**-0.4**
PKIN	**Phulchoki**	**47.61**	**275**	*e*P	**P**	**23 32 49.8**	**-0.

comp=Z,3.5nm,0.8s,baz=50,slow=9.5,SNR=1.3
ASAR Alice Springs 60.79 188 P **P** 23 34 25.6 **-0.1**
comp=Z,0.4nm,0.7s,baz=12,slow=6.6,SNR=2.6
HRA Herat 62.44 294 P **P** 23 34 37.0 **-0.1**
HRA IAmb IAmb 23 34 37.2
comp=Z,2.6nm,0.7s
RES Resolute Bay 62.60 14 P **P** 23 34 37.5 **+0.2**
comp=Z,0.4nm,0.5s,baz=30,slow=16,SNR=3.1
RES Resolute Bay 62.60 14 P **P** 23 34 37.1 **-0.1**
RES IAmb IAmb 23 34 39.7
comp=Z,1.9nm,1.1s
GEYT Alibeck 63.76 299 P **P** 23 34 45.3 **-0.3**
comp=Z,1.5nm,0.6s,baz=60,slow=9.3,SNR=2.8
YKA Yellowknife Ar 63.83 30 P **P** 23 34 45.9 **+0.3**
comp=Z,0.4nm,0.7s,baz=301,slow=6.6,SNR=9.0
ARCES ARCESS Array B 63.96 339 P **P** 23 34 46.1 **-0.2**
comp=Z,1.3nm,0.8s,baz=56,slow=7.5,SNR=6.4
FINES FINESS Array B 68.77 332 P **P** 23 35 16.4 **-0.8**
comp=Z,1.7nm,0.6s,baz=46,slow=11,SNR=7.1
KBZ Khabaz 70.84 311 P **P** 23 35 29.8 **-0.4**
comp=Z,1.5nm,0.7s,baz=13,slow=3.5,SNR=6.2
NB2 NORSAR Subarra 74.14 337 P **P** 23 35 48.9 **-0.8**
comp=Z,2.7nm,0.9s,baz=39,slow=5.9
NOA NORSAR Array B 74.14 337 P **P** 23 35 49.2 **-0.5**
comp=Z,1.1nm,0.8s,baz=38,slow=5.9,SNR=4.1
NVAR Mina Array Bea 75.04 53 P **P** 23 35 56.4 **+0.9**
comp=Z,0.2nm,0.6s,baz=310,slow=5.8,SNR=2.4
PDAR Pinedale Array 77.71 45 P **P** 23 36 10.8 **+0.2**
comp=Z,0.2nm,0.6s,baz=318,slow=4.9,SNR=2.5
BRTR Keskin Array B 78.79 311 P **P** 23 36 16.0 **-0.5**
comp=Z,0.9nm,0.8s,baz=105,slow=4.1,SNR=6.7
GERES GERESS Array B 82.66 328 P **P** 23 36 36.3 **-0.6**
comp=Z,0.3nm,0.3s,baz=46,slow=7.6,SNR=4.5
TXAR Lajitas Array 90.17 52 P **P** 23 37 15.2 **+1.1**
comp=Z,0.3nm,0.7s,baz=325,slow=3.1,SNR=4.5
LPAZ La Paz 146.75 59 PKPbc **PKPab** 23 43 57.1 **-0.7**
comp=Z,1.3nm,0.7s,baz=18,slow=3.0,SNR=7.2
H03N2 Juan Fernandez 147.10 96 T T 02 28 53.4
baz=291,slow=76,SNR=4.0
H03N3 Juan Fernandez 147.11 96 T T 02 28 53.6
baz=291,slow=76,SNR=3.4
H03N1 Juan Fernandez 147.11 96 T T 02 28 57.0
baz=291,slow=76,SNR=4.5

IDC ***17*** *23:30:49.6±2.3, 48.°50S×104.°83E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/25, mbtmp3.7/3, MS3.7/16, Ms1 3.7/16, ms1mx3.4/50, Error ellipse: s-maj=121.4km s-min=43.7km az=135.0*

ISC 17 23:30:50.3±2.4, 48.°8S±0.°6×105.°0E±0.°5, h10km, n22, σ0°51/6, mb3.6/3, MS3.7/16, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.46**	**29**	T	T	23 49 54.3	
	baz=206,slow=74,SNR=210						
H01W1	**Cape Leeuwin H**	**15.47**	**29**	T	T	23 49 54.4	
	baz=206,slow=74,SNR=69						
H01W3	**Cape Leeuwin H**	**15.48**	**29**	T	T	23 49 55.4	
	baz=206,slow=74,SNR=224						
MAW	**Mawson**	**28.24**	**213**	LR	LR	23 46 08.2	
	comp=Z,139nm,19.3s,baz=54,slow=32						
STKA	**Stephens Creek**	**32.24**	**72**	P	**P**	**23 37 18.5**	**-0.3**
	0.7nm,0.5s,baz=210,slow=14,SNR=3.0						
STKA				LR	LR	23 48 14.1	
	comp=Z,96nm,20.2s,baz=208,slow=32						
ASAR	**Alice Springs**	**33.90**	**53**	P	**P**	**23 37 33.5**	**+0.2**
	0.2nm,0.3s,baz=211,slow=8.2,SNR=5.2						
ASAR				LR	LR	23 49 45.9	
	comp=Z,141nm,18.5s,baz=188,slow=34						
FITZ	**Fitzroy Crossi**	**34.91**	**36**	LR	LR	23 50 00.3	
	comp=Z,113nm,20.9s,baz=202,slow=33						
VNDA	**Vanda**	**35.81**	**162**	LR	LR	23 51 34.4	
	comp=Z,122nm,19.7s,baz=288,slow=34						
WRA	**Warramunga Arr**	**37.21**	**50**	P	**P**	**23 38 02.0**	**+0.3**
	1.1nm,0.9s,baz=214,slow=9.3,SNR=7.1						
WRA				LR	LR	23 51 42.3	
	comp=Z,127nm,19.7s,baz=112,slow=34						
QSPA	**South Pole Qui**	**41.33**	**180**	LR	LR	23 54 59.9	
	comp=Z,117nm,18.3s,baz=256,slow=35						
LEM	**Lembang**	**41.90**	**4**	LR	LR	23 53 37.5	
	comp=Z,62nm,19.2s,baz=190,slow=33						
KAPI	**Kappang**	**45.41**	**21**	LR	LR	23 57 47.8	
	comp=Z,30nm,18.1s,baz=158,slow=36						
SNAA	**Sanae**	**49.63**	**203**	LR	LR	23 59 24.6	
	comp=Z,98nm,18.3s,baz=168,slow=34						
PSI	**Prapat**	**51.67**	**352**	LR	LR	23 58 53.2	
	comp=Z,29nm,18.4s,baz=52,slow=33						
BOSA	**Boshof**	**62.54**	**257**	LR	LR	00 04 03.8	
	comp=Z,48nm,18.1s,baz=182,slow=32						
SUR	**Sutherland**	**62.83**	**251**	LR	LR	00 03 17.2	
	comp=Z,44nm,18.2s,baz=142,slow=31						
PMSA	**Palmer Station**	**66.44**	**185**	LR	LR	00 09 19.4	
	comp=Z,72nm,19.2s,baz=112,slow=35						
AFI	**Afiamalu**	**75.24**	**94**	LR	LR	00 09 37.9	
	comp=Z,167nm,18.8s,baz=339,slow=31						
PLCA	**Paso Flores**	**90.75**	**183**	LR	LR	00 24 07.4	
	comp=Z,54nm,18.3s,baz=166,slow=35						
NVAR	**Mina Array Bea**	**147.39**	**92**	PKPbc	**PKPab**	**23 50 36.1**	**+0.1**
	1.1nm,0.7s,baz=225,slow=6.0,SNR=8.8						
TXAR	**Lajitas Array**	**150.72**	**121**	PKPbc	**PKiKP**	**23 50 43.7**	**+0.5**
	0.6nm,0.9s,baz=197,slow=3.9,SNR=4.6						
YKA	**Yellowknife Ar**	**154.30**	**43**	PKPbc	**PKPbc**	**23 50 48.8**	**-0.6**
	0.1nm,0.5s,baz=294,slow=2.4,SNR=4.6						

MOS ***17*** *23:35:41.6±0.8, 32.°84N×130.°79E, h12km, mb4.6/18, Error ellipse: s-maj=10.1km s-min=5.1km az=116.7*

IDC ***17*** *23:35:41.1±0.6, 32.°81N×130.°72E, h0km, mb4.1/14, mb1 4.2/17, mb1mx4.0/54, mbtmp4.1/17, ML3.6/3, MS3.4/5, Ms1 3.4/5, ms1mx2.9/95, Error ellipse: s-maj=14.4km s-min=6.0km az=118.0*

JMA ***17*** *23:35:43.0, 32.°87N×130.°87E, h10km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs98.00000°, δ60.00000°, λ-100.00000°. NP2: φs297.00000°, δ32.00000°, λ-73.00000°. Principal axes: T Plg14.0000°, Azm195.0000°; N Plg9.0000°, Azm103.0000°; P Plg73.0000°, Azm342.0000°;*

JMA Felt IV J1.

NIED ***17*** *23:35:43.0, 32.°87N×130.°87E, h10km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-2.08; Mθθ1.44; Mφφ0.64; Mrθ-1.31; Mθφ-0.80; Mφr-0.51; Fault plane solution: M₀2.41000×10¹⁵ NP1: φs318.00000°, δ36.00000°, λ-56.00000°. NP2:φs98.00000°, δ61.00000°, λ-112.00000°.*

NEIC ***17*** *23:35:43.6±1.3, 32.°85N±0.°03×130.°71E±0.°06, h10km±1km, mb4.6/78 Error ellipse: s-maj=8.9km s-min=4.0km az=281.0*

ISC 17 23:35:43.4±0.8, 32.°87N±0.°02×130.°77E±0.°03, h10km±5km, n226, σ0°97/238, mb4.5/75, MS3.6/5, 43C-15D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.22**	**295**	⇑P	**Pb**	**23 35 49.2**	**+1.2**
JTA				S	**Sg**	**23 35 53.8**	**+2.7**
JNU	**Nakatsue**	**0.27**	**19**	LR	LR	23 35 44.1	
	comp=Z,334nm,19.0s,baz=262,slow=8.8						
JNU				Pg	**Pg**	**23 35 48.1**	**-0.7**
	2μm,0.3s,baz=189,slow=11,SNR=172						
JNU				Lg	Lg	23 35 52.0	
	12μm,0.3s,baz=23,slow=22,SNR=78						
JNU	**Nakatsue**	**0.27**	**19**	⇑P	**Pg**	**23 35 48.3**	**-0.5**
JNU				S	**Sg**	**23 35 52.0**	**-0.5**
JNU	**Nakatsue**	**0.27**	**19**		**Pg**	**23 35 48.4**	**-0.5**
JNU					**Sg**	**23 35 52.1**	**-0.3**
JIU3	**Izumi3**	**0.32**	**174**	⇑P	**Pg**	**23 35 49.5**	**-0.4**
JIU3				S	**Sg**	**23 35 54.4**	**+0.2**
JTZ	**Takazaki**	**1.00**	**165**	⇑P	**Pg**	**23 36 01.9**	**-0.8**
JTZ				S	**Sg**	**23 36 14.9**	**-0.8**
JSU	**Suzuyama**	**1.39**	**191**		**Pn**	**23 36 08.2**	**-0.7**
JSU				Sn	**Sg**	**23 36 27.9**	**-0.2**
JTU	**Tsushima**	**2.01**	**326**		**Pn**	**23 36 17.0**	**-0.4**
JTU				Sg	**Sg**	**23 36 47.0**	**-1.0**
JMN	**Monobe**	**2.74**	**71**		**Pn**	**23 36 28.6**	**+1.1**
JMN				Sg	**Sg**	**23 37 12.7**	**+1.3**
JHS	**Saijyo**	**2.88**	**42**	Pn	**Pn**	**23 36 30.1**	**+0.7**
JHS				Sg	**Sg**	**23 37 13.1**	**-2.9**
TJN	**Taejon**	**4.49**	**322**	*de*P	**Pn**	**23 36 51.6**	**+0.1**
TJN	**Taejon**	**4.49**	**322**		**Pn**	**23 36 52.1**	**+0.6**
KSRS	**Korea Array**	**5.13**	**334**	Pn	**Pn**	**23 37 00.0**	**-0.3**
	1.1nm,0.3s,baz=147,slow=13,SNR=6.0						
KSRS				Pg	**Pb**	**23 37 14.6**	**+1.3**
	1.7nm,0.3s,baz=152,slow=17,SNR=13						
KSRS				Lg	Lg	23 38 24.9	
	6.5nm,0.3s,baz=152,slow=31,SNR=12						
KSRS				LR	LR	23 39 20.0	
	comp=Z,274nm,18.4s,baz=145,slow=42						
KS19	**Wonju Array Si**	**5.20**	**334**	Pn	**Pn**	**23 37 00.8**	**-0.4**
INCN	**Inchon**	**5.71**	**325**	P	**Pn**	**23 37 08.2**	**-0.2**
INCN	**Inchon**	**5.71**	**325**	Pn	**Pn**	**23 37 08.2**	**-0.2**
INU	**Inuyama**	**5.74**	**63**	Pn	**Pn**	**23 37 08.2**	**-0.5**
JGF	**Kuroka**	**6.09**	**62**	Pn	**Pn**	**23 37 13.5**	**-0.1**
JOW	**Kunigami**	**6.40**	**200**	Pn	**Pn**	**23 37 20.8**	**+3.1**
	9.3nm,0.3s,baz=77,slow=12,SNR=18						
JOW	**Kunigami**	**6.40**	**200**		**Pn**	**23 37 18.2**	**+0.4**
MJB9	**Matsu-Tunnel**	**7.13**	**57**	Pn	**Pn**	**23 37 28.9**	**+1.1**
MAJO	**Matsushiro**	**7.13**	**57**	⇓*e*P	**Pn**	**23 37 29.0**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**7.13**	**57**	Pn	**Pn**	**23 37 28.1**	**+0.2**
MJAR	**Matsushiro Arr**	**7.13**	**57**	Pn	**Pn**	**23 37 28.4**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=232,slow=13,SNR=7.5						
MJAR				Lg	Lg	23 39 30.5	
	comp=Z,0.1nm,0.3s,baz=153,slow=28,SNR=1.7						
MJAR				LR	LR	23 40 15.6	
	comp=Z,160nm,19.9s,baz=246,slow=38						
MJAR	**Matsushiro Arr**	**7.13**	**57**	Pn	**Pn**	**23 37 28.1**	**+0.3**
JHJ	**Hachijo jima 2**	**7.57**	**86**	Pn	**Pn**	**23 37 33.4**	**-0.5**
	comp=Z,16nm,0.3s,baz=224,slow=23,SNR=4.7						
JHJ				LR	LR	23 40 33.7	
	comp=Z,195nm,18.8s,baz=84,slow=38						
MSHR	**Mys Shultsa**	**9.70**	**2**	⇓*e*P	**Pn**	**23 38 06.2**	**+3.2**
MSHR				pmax	pmax		
	comp=Z,27nm,1.7s						
NJ2	**Nanjing**	**10.10**	**269**	*e*P	**Pn**	**23 38 07.6**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
USRK	**Ussuriysk Ar.**	**11.35**	**4**	Pn	**Pn**	**23 38 27.9**	**+2.2**
	baz=179,slow=15,SNR=4.7						
BJI	**Beijing**	**13.75**	**305**	P	**Pn**	**23 38 55.3**	**-3.0**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HNS	**HongShan**	**13.90**	**293**	⇓P	**P**	**23 39 10.9**	**+2.2**
HNS				S	**S**	**23 41 56.4**	**-0.5**
HNS				LR	LR		
	comp=N,410nm,13.5s						
HNS				LR	LR		
	comp=E,520nm,13.2s						
HNS				LR	LR		
	comp=Z,360nm,13.7s						
KLR	**Kul'dur**	**16.36**	**2**	Pn	**P**	**23 39 37.9**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=170,slow=8.7,SNR=31						
KLR	**Kul'dur**	**16.36**	**2**	⇓*e*P	**P**	**23 39 37.5**	**+1.5**
KLR				pmax	pmax		
	comp=Z,17nm,0.9s						
HIA	**Hailar**	**18.34**	**337**	P	**Pn**	**23 39 57.4**	**-0.4**
HIA				pmax	pmax		
	comp=Z,17nm,1.2s						
HIA	**Hailar**	**18.34**	**337**	P	**Pn**	**23 39 57.4**	**-0.4**
ZEA	**Zeya**	**21.01**	**354**	*e*P	**P**	**23 40 29.1**	**+2.1**
ZEA				pmax	pmax		
	comp=N,20nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.0s						
LZH	**Lanzhou**	**22.40**	**286**	*e*P	**P**	**23 40 43.6**	**+1.3**
LZH				pP	sP	23 40 49.1	+2.7
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
LZH				LR	LR		
	comp=N,400nm,11.9s						
LZH				LR	LR		
	comp=E,330nm,11.9s						
LZH				LR	LR		
	comp=Z,380nm,13.6s						
ULN	**Ulaanbaatar**	**23.34**	**317**	*d i*P	**P**	**23 40 53.0**	**+1.0**
ULN				pmax	pmax		
	comp=Z,14nm,1.0s						
ULN	**Ulaanbaatar**	**23.34**	**317**	P	**P**	**23 40 52.0**	**+0.1**
ULN				IAmb	IAmb	23 40 54.4	
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**23.71**	**316**	P	**P**	**23 40 56.0**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=125,slow=8.9,SNR=20						
SONM	**Songino Array**	**23.71**	**316**	P	**P**	**23 40 55.5**	**-0.1**
SONM				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SONM	**Songino Array**	**23.71**	**316**	P	**P**	**23 40 55.5**	**-0.1**
PZH	**PanZhiHua**	**25.96**	**263**	P	**P**	**23 41 16.5**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.0s						
ZAK	**Zakamensk**	**26.76**	**319**	*e*P	**P**	**23 41 23.5**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
YAK	**Yakutsk**	**29.18**	**359**	⇑*e*P	**P**	**23 41 44.0**	**-0.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MA2	**Magadan**	**29.83**	**20**	LR	LR	23 54 32.4	
	comp=Z,84nm,18.1s,baz=312,slow=38						
CHTO	**Chiang Mai**	**31.74**	**252**	P	**P**	**23 42 07.4**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SEY	**Seymchan**	**33.04**	**18**	LR	LR	23 56 22.6	
	comp=Z,121nm,18.3s,baz=318,slow=38						
SEY	**Seymchan**	**33.04**	**18**	⇓*e*P	**P**	**23 42 18.9**	**+0.2**
SEY				pmax	pmax		
	comp=Z,4.0nm,1.3s						
WMQ	**Urumqi**	**35.15**	**301**	*e*P	**P**	**23 42 38.3**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,13nm,1.1s						
ZAA0	**Zalesovo Array**	**38.60**	**317**	P	**P**	**23 43 05.6**	**-0.9**
ZALV	**Zalesovo Beam**	**38.60**	**317**	P	**P**	**23 43 05.8**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=97,slow=12,SNR=4.0						
ZALV				PcP	**PcP**	**23 45 17.4**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=100,slow=1.7,SNR=5.7						
ZALV	**Zalesovo Beam**	**38.60**	**317**	P	**P**	**23 43 06.2**	**-0.3**
TIXI	**Tiksi**	**38.85**	**359**	⇑*e*P	**P**	**23 43 06.8**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
MK31	**Makanchi Array**	**39.13**	**305**	*i*P	**P**	**23 43 10.9**	**-0.2**
MK31	**Makanchi Array**	**39.13**	**305**	P	**P**	**23 43 10.4**	**-0.7**
MKAR	**Makanchi Array**	**39.13**	**305**	P	**P**	**23 43 10.3**	**-0.8**
	comp=Z,2.0nm,1.0s,baz=96,slow=10,SNR=12						
MKAR	**Makanchi Array**	**39.13**	**305**	P	**P**	**23 43 10.1**	**-1.0**
MAKZ	**Makanchi**	**39.34**	**305**	P	**P**	**23 43 12.2**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MAKZ	**Makanchi**	**39.34**	**305**	P	**P**	**23 43 12.2**	**-0.7**
BILL	**Bilibino**	**40.69**	**20**	*i*P	**P**	**23 43 23.3**	**-0.4**
BILL				*i*		23 43 29.1	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BILL	**Bilibino**	**40.69**	**20**	P	**P**	**23 43 23.8**	**+0.1**
BILL				IAmb	IAmb	23 43 30.5	
	comp=Z,14nm,1.5s						
KURK	**Kurchatov**	**41.82**	**311**	*ce*P	**P**	**23 43 33.5**	**+0.3**
KURK				pmax	pmax		
	comp=Z,12nm,1.7s						
KURK	**Kurchatov**	**41.82**	**311**	P	**P**	**23 43 32.6**	**-0.6**
KURK				IAmb	IAmb	23 43 34.2	
	comp=Z,9.1nm,1.1s						
TARG	**Taragay, Kyrgy**	**42.48**	**298**	P	**P**	**23 43 38.7**	**-0.5**
GSTR	**Great Sitkin T**	**42.58**	**47**	P	**P**	**23 43 39.5**	**0.0**
KDJ	**Kajisay**	**42.90**	**298**	P	**P**	**23 43 41.8**	**-0.6**
KDJ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KDJ	**Kajisay**	**42.90**	**298**	P	**P**	**23 43 41.8**	**-0.6**
NRIK	**Noril'sk**	**43.72**	**339**	P	**P**	**23 43 48.0**	**-0.4**
	comp=Z,3.3nm,0.4s,baz=118,slow=9.0,SNR=10						
NRIK	**Noril'sk**	**43.72**	**339**	*ce*P	**P**	**23 43 48.6**	**+0.2**
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NRIK	**Noril'sk**	**43.72**	**339**	P	**P**	**23 43 48.1**	**-0.3**
FRU1	**Bishkek**	**44.70**	**300**	P	**P**	**23 43 56.3**	**-0.4**
FRU1				pmax	pmax		
	comp=Z,13nm,1.3s						
FRU1	**Bishkek**	**44.70**	**300**	P	**P**	**23 43 56.3**	**-0.4**
FRU1				IAmb	IAmb	23 43 58.5	
	comp=Z,13nm,1.2s						
AAK	**Ala-Archa**	**44.82**	**299**	⇑*e*P	**P**	**23 43 58.5**	**+0.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AAK	**Ala-Archa**	**44.82**	**299**	P	**P**	**23 43 57.3**	**-0.5**
BRVK	**Borovoye**	**47.09**	**314**	*de*P	**P**	**23 44 15.3**	**0.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**47.09**	**314**	P	**P**	**23 44 15.0**	**-0.3**
BRVK				IAmb	IAmb	23 44 16.5	
	comp=Z,6.5nm,0.9s						
DRK	**Karamyk**	**47.33**	**296**	P	**P**	**23 44 16.9**	**-0.8**
DRK				IAmb	IAmb	23 44 25.2	
	comp=Z,4.2nm,1.1s						
KK31	**Karatay Array**	**47.66**	**301**	P	**P**	**23 44 20.1**	**+0.1**
KK31				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KK31	**Karatay Array**	**47.66**	**301**	P	**P**	**23 44 20.1**	**+0.1**
KKAR	**Karatay Array**	**47.66**	**301**	P	**P**	**23 44 20.3**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KKAR	**Karatay Array**	**47.66**	**301**	P	**P**	**23 44 20.3**	**+0.4**
BTK	**Batken**	**47.96**	**297**	P	**P**	**23 44 21.7**	**-0.7**
BTK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BTK	**Batken**	**47.96**	**297**	P	**P**	**23 44 21.7**	**-0.7**
BTK				IAmb	IAmb	23 44 24.3	
	comp=Z,7.4nm,1.4s						
KNRA	**Kununurra**	**48.31**	**183**	P	**P**	**23 44 24.9**	**-0.2**
GAR	**Garm**	**48.55**	**295**	P	**P**	**23 44 26.4**	**-0.7**
GAR				IAmb	IAmb	23 44 28.2	
	comp=Z,5.8nm,0.8s						
CHGR	**Chuyangaron**	**49.51**	**295**	P	**P**	**23 44 34.4**	**0.0**
CHGR				pmax	pmax		
	comp=Z,14nm,1.0s						
CHGR	**Chuyangaron**	**49.51**	**295**	P	**P**	**23 44 34.4**	**0.0**
WRA	**Warramunga Arr**	**52.63**	**176**	*ce*P	**P**	**23 44 56.4**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=352,slow=8.1,SNR=7.1						
WRA	**Warramunga Arr**	**52.63**	**176**	*ce*P	**P**	**23 44 59.7**	**+2.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**53.70**	**319**	*d i*P	**P**	**23 45 05.3**	**0.0**
ARU						23 47 06.4	
ARU				S	**S**	**23 52 42.6**	**+3.5**
ARU				SS	**SS**	**23 56 23.6**	**+4.2**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ABKAR	**Akbulak array**	**53.90**	**310**	P	**P**	**23 45 06.4**	**-0.5**
ABKAR	**Akbulak array**	**53.90**	**310**	P	**P**	**23 45 06.8**	**0.0**
ABKAR				IAmb	IAmb	23 45 08.0	
	comp=Z,5.0nm,0.9s						
O18K	**Koktuh Hills**	**54.32**	**37**	P	**P**	**23 45 10.7**	**+0.9**
O18K				IAmb	IAmb	23 45 12.4	
	comp=Z,1.1nm,1.0s						
J20K	**Nowinta River**	**54.51**	**31**	P	**P**	**23 45 11.2**	**+0.1**
J20K				IAmb	IAmb	23 45 12.1	
	comp=Z,4.8nm,1.1s						
K20K	**Telida**	**54.59**	**32**	P	**P**	**23 45 12.2**	**+0.4**
IMAR	**Indian Mountai**	**54.60**	**29**	P	**P**	**23 45 11.9**	**+0.2**
PSA00	**Pilbara Seismi**	**55.13**	**192**	P	**P**	**23 45 16.4**	**+0.4**
HRA	**Herat**	**56.05**	**292**	P	**P**	**23 45 23.2**	**+0.2**
AS31	**Alice Springs**	**56.30**	**177**	P	**P**	**23 45 25.4**	**+1.0**
ASAR	**Alice Springs**	**56.30**	**177**	P	**P**	**23 45 23.6**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=4.7,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**56.30**	**177**	P	**P**	**23 45 25.2**	**+0.8**
H23K	**Yukon River**	**56.34**	**29**	P	**P**	**23 45 24.6**	**+0.3**
H23K				IAmb	IAmb	23 45 26.0	
	comp=Z,4.8nm,0.8s						
MDM	**Murphy Dome**	**56.98**	**30**	P	**P**	**23 45 28.7**	**-0.2**
MDM				IAmb	IAmb	23 45 30.6	
	comp=Z,6.6nm,1.0s						
ILAR	**Eielson Array**	**57.58**	**30**	P	**P**	**23 45 32.4**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=288,slow=8.9,SNR=9.0						
SCRK	**Sand Creek**	**58.96**	**31**	P	**P**	**23 45 42.4**	**-0.5**
SCRK				IAmb	IAmb	23 45 43.1	
	comp=Z,3.8nm,0.9s						
DOT	**Dot Lake**	**59.00**	**31**	P	**P**	**23 45 42.1**	**-0.9**
DOT				IAmb	IAmb	23 45 43.0	
	comp=Z,2.6nm,0.8s						
N25K	**Chitina, Valde**	**59.19**	**34**	P	**P**	**23 45 44.4**	**0.0**
N25K				IAmb	IAmb	23 45 46.4	
	comp=Z,2.8nm,0.8s						
MENT	**Mentasta**	**59.30**	**32**	P	**P**	**23 45 45.5**	**+0.4**
MENT				IAmb	IAmb	23 45 52.7	
	comp=Z,4.1nm,0.6s						
M26K	**Nabesna, AK**	**59.75**	**33**	P	**P**	**23 45 48.5**	**+0.2**
M26K				IAmb	IAmb	23 45 49.4	
	comp=Z,5.1nm,0.9s						
L27K	**Beaver Creek,**	**60.11**	**32**	P	**P**	**23 45 51.4**	**+0.7**
L27K				IAmb	IAmb	23 45 52.0	
	comp=Z,3.2nm,0.8s						
BCAR	**Beaver Creek A**	**60.13**	**32**	P	**P**	**23 45 50.8**	**-0.1**
WAX	**Waxell Ridge**	**60.30**	**35**	P	**P**	**23 45 53.1**	**+1.0**
INK	**Inuvik**	**61.94**	**25**	P	**P**	**23 46 03.0**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	**61.94**	**25**	P	**P**	**23 46 03.0**	**+0.1**
A36M	**Sachs Harbour**	**63.25**	**20**	P	**P**	**23 46 11.3**	**-0.3**
A36M				IAmb	IAmb	23 46 12.8	
	comp=Z,5.0nm,1.1s						
FORT	**Forrest**	**63.36**	**183**	P	**P**	**23 46 13.6**	**+0.8**
C36M	**Paulatuk**	**64.72**	**22**	P	**P**	**23 46 20.5**	**-0.9**
C36M				IAmb	IAmb	23 46 21.9	
	comp=Z,6.1nm,0.9s						
STKA	**Stephens Creek**	**65.21**	**170**	P	**P**	**23 46 23.9**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=176,slow=7.4,SNR=2.6						
VORR	**Voronezh**	**65.90**	**317**	*e*P	**P**	**23 46 29.3**	**0.0**
VORR				pmax	pmax		
	comp=Z,20nm,0.4s						
OBN	**Obninsk**	**66.00**	**321**	*i*P	**P**	**23 46 29.2**	**-0.7**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,55nm,16.0s						
KKO	**Keanakako`i**	**66.56**	**81**	P	**P**	**23 46 33.8**	**-0.4**
HLP	**Hilina Pali**	**66.57**	**82**	P	**P**	**23 46 32.8**	**-1.4**

TPGR	**Topolog**	**75.42**	**314**	⇓P		**P**	**23**	**47**	**28.0**	**+0.5**
CFR	**Carcaliu**	**75.42**	**315**	⇑P		**P**	**23**	**47**	**27.2**	**-0.2**
CFR	**Carcaliu**	**75.42**	**315**	⇑P		**P**	**23**	**47**	**27.2**	**-0.2**
TESR	**Tescani**	**75.59**	**316**	⇑P		**P**	**23**	**47**	**28.3**	**-0.1**
BUR08	**Bucovina Ar. S**	**75.81**	**318**	P		**P**	**23**	**47**	**29.5**	**-0.2**
BUR08				IAmb		IAmb	23	47	30.5	
	comp=Z,3.2nm,0.8s									
BURAR	**Bucovina Array**	**75.81**	**318**	⇑P		**P**	**23**	**47**	**30.0**	**+0.2**
BURAR	**Bucovina Array**	**75.81**	**318**	⇑P		**P**	**23**	**47**	**30.0**	**+0.2**
BURAR	**Bucovina Array**	**75.81**	**318**	P		**P**	**23**	**47**	**29.2**	**-0.6**
BURAR				IAmb		IAmb	23	47	30.9	
	comp=Z,4.8nm,0.8s									
VRI	**Vrincioaia**	**75.89**	**316**	⇑P		**P**	**23**	**47**	**29.7**	**-0.5**
VRI	**Vrincioaia**	**75.89**	**316**	⇑P		**P**	**23**	**47**	**29.7**	**-0.5**
PLOR	**Plostina**	**75.95**	**316**	⇑P		**P**	**23**	**47**	**33.4**	**+2.9**
PLOR	**Plostina**	**75.95**	**316**	⇑P		**P**	**23**	**47**	**33.4**	**+2.9**
MDUB	**Mudurnu**	**75.97**	**309**	P		**P**	**23**	**47**	**30.4**	**-0.4**
OZUR		**76.32**	**316**	⇑P		**P**	**23**	**47**	**33.3**	**+0.7**
MLR	**Muntele Rosu**	**76.56**	**316**	⇓P		**P**	**23**	**47**	**34.5**	**+0.4**
MLR	**Muntele Rosu**	**76.56**	**316**	P		**P**	**23**	**47**	**33.7**	**-0.4**
MLR				pmax		pmax				
	comp=Z,7.0nm,1.2s									
MLR	**Muntele Rosu**	**76.56**	**316**	P		**P**	**23**	**47**	**33.7**	**-0.4**
MLR				IAmb		IAmb	23	47	35.6	
	comp=Z,6.6nm,1.2s									
ARCR	**ARCALIA**	**76.60**	**318**	⇑P		**P**	**23**	**47**	**35.2**	**+1.1**
DOPR	**Dopca**	**76.62**	**316**	⇑P		**P**	**23**	**47**	**34.2**	**-0.2**
BORA	**Eskisehir**	**76.76**	**309**	P		**P**	**23**	**47**	**34.1**	**-1.2**
BORA				IAmb		IAmb	23	47	36.4	
	comp=Z,4.7nm,1.0s									
VOIR		**77.11**	**316**	⇑P		**P**	**23**	**47**	**38.8**	**+1.6**
VOIR		**77.11**	**316**	⇑P		**P**	**23**	**47**	**38.8**	**+1.6**
OJC	**Ojcow**	**77.26**	**322**	P		**P**	**23**	**47**	**37.0**	**-0.8**
OJC				pmax		pmax				
	comp=Z,7.0nm,0.8s									
OJC	**Ojcow**	**77.26**	**322**	P		**P**	**23**	**47**	**37.0**	**-0.8**
OJC				IAmb		IAmb	23	47	38.7	
	comp=Z,7.0nm,0.8s									
CSS	**Mathiatis**	**77.37**	**303**	P		**P**	**23**	**47**	**38.2**	**-0.6**
CSS				IAmb		IAmb	23	47	39.2	
	comp=Z,5.6nm,0.9s									
ARR	**Arges**	**77.40**	**316**	⇑P		**P**	**23**	**47**	**39.3**	**+0.6**
LANS	**Liptovska Anna**	**78.07**	**321**	*e*P		**P**	**23**	**47**	**43.3**	**+0.8**
LANS	**Liptovska Anna**	**78.07**	**321**	*e*P		**P**	**23**	**47**	**43.2**	**+0.8**
GZR	**Gura Zlata**	**78.46**	**317**	⇓P		**P**	**23**	**47**	**45.1**	**+0.4**
GZR	**Gura Zlata**	**78.46**	**317**	⇓P		**P**	**23**	**47**	**45.1**	**+0.4**
PSZ	**Piszkesteto**	**78.58**	**320**	⇑P		**P**	**23**	**47**	**45.7**	**+0.4**
PSZ	**Piszkesteto**	**78.58**	**320**	⇑P		**P**	**23**	**47**	**45.7**	**+0.4**
MORC	**Moravsky Berou**	**78.69**	**323**	P		**P**	**23**	**47**	**45.2**	**-0.6**
MORC				pmax		pmax				
	comp=Z,3.0nm,0.9s									
MORC	**Moravsky Berou**	**78.69**	**323**	P		**P**	**23**	**47**	**45.2**	**-0.6**
MANT	**Manisa**	**78.75**	**309**	P		**P**	**23**	**47**	**45.0**	**-1.6**
MANT				IAmb		IAmb	23	47	47.6	
	comp=Z,7.5nm,1.2s									
ELL	**Elmali**	**78.79**	**306**	P		**P**	**23**	**47**	**46.7**	**-0.1**
ELL				pmax		pmax				
	comp=Z,28nm,1.2s									
ELL	**Elmali**	**78.79**	**306**	P		**P**	**23**	**47**	**46.6**	**-0.1**
VYHS	**Vyhne**	**78.80**	**321**	*e*P		**P**	**23**	**47**	**46.8**	**+0.4**
VYHS	**Vyhne**	**78.80**	**321**	*e*P		**P**	**23**	**47**	**46.8**	**+0.4**
KRLC	**Kraliky**	**78.89**	**323**	*e*P		**P**	**23**	**47**	**46.4**	**-0.5**
KRLC	**Kraliky**	**78.89**	**323**	*e*P		**P**	**23**	**47**	**46.4**	**-0.5**
DPC	**Dobruska-Polom**	**78.95**	**324**	*e*P		**P**	**23**	**47**	**47.4**	**+0.1**
DPC	**Dobruska-Polom**	**78.95**	**324**	*e*P		**P**	**23**	**47**	**47.4**	**+0.1**
HERR	**Herculane**	**78.96**	**317**	⇓P		**P**	**23**	**47**	**47.6**	**+0.3**
BZS	**Buzias**	**78.99**	**318**	⇑P		**P**	**23**	**47**	**47.2**	**-0.3**
BZS	**Buzias**	**78.99**	**318**	⇑P		**P**	**23**	**47**	**47.2**	**-0.3**
MDVR	**Moldovita**	**79.43**	**317**	⇓P		**P**	**23**	**47**	**50.2**	**+0.2**
VRAC	**Vranov**	**79.47**	**323**	⇑P		**P**	**23**	**47**	**50.5**	**+0.5**
VRAC	**Vranov**	**79.47**	**323**	⇑P		**P**	**23**	**47**	**50.5**	**+0.5**
MODS	**Modra-Piesok**	**79.70**	**322**	*e*P		**P**	**23**	**47**	**52.2**	**+0.9**
MODS	**Modra-Piesok**	**79.70**	**322**	*e*P		**P**	**23**	**47**	**52.2**	**+0.9**
VTS	**Vitosha**	**79.79**	**314**	⇑P		**P**	**23**	**47**	**52.7**	**+0.6**
VTS	**Vitosha**	**79.79**	**314**	P		**P**	**23**	**47**	**52.0**	**-0.1**
VTS				pmax		pmax				
	comp=Z,6.0nm,1.0s									
VTS	**Vitosha**	**79.79**	**314**	P		**P**	**23**	**47**	**52.0**	**-0.1**
VTS				IAmb		IAmb	23	47	53.5	
	comp=Z,5.9nm,1.0s									
CLL	**Collm**	**79.96**	**326**	P		**P**	**23**	**47**	**51.4**	**-1.2**
CLL				pmax		pmax				
	comp=Z,6.0nm,1.1s									
CLL	**Collm**	**79.96**	**326**	P		**P**	**23**	**47**	**51.4**	**-1.2**
CLL				IAmb		IAmb	23	47	53.0	
	comp=Z,6.1nm,1.1s									
CLL	**Collm**	**79.96**	**326**	*i* P		**P**	**23**	**47**	**51.7**	**-0.9**
	comp=Z,7.0nm,1.2s									
FRGS	**Fruska Gora**	**80.29**	**318**	⇑P		**P**	**23**	**47**	**53.8**	**-0.8**
KHC	**Kasperske Hory**	**81.10**	**324**	*e*P		**P**	**23**	**47**	**58.2**	**-0.7**
KHC	**Kasperske Hory**	**81.10**	**324**	*e*P		**P**	**23**	**47**	**58.2**	**-0.7**
GERES	**GERESS Array B**	**81.23**	**323**	P		**P**	**23**	**47**	**58.2**	**-1.4**
	comp=Z,1.3nm,1.0s,baz=180,slow=1.3,SNR=6.5									
GERES	**GERESS Array B**	**81.23**	**323**	P		**P**	**23**	**47**	**58.6**	**-1.1**
LIT	**Litokhoron**	**81.72**	**313**	P		**P**	**23**	**48**	**01.4**	**-0.9**
LIT				pmax		pmax				
	comp=Z,5.0nm,1.0s									
LIT	**Litokhoron**	**81.72**	**313**	P		**P**	**23**	**48**	**01.4**	**-0.9**
LIT				IAmb		IAmb	23	48	03.1	
	comp=Z,5.0nm,1.0s									
GRA1	**Grafenberg Arr**	**81.88**	**325**	P		**P**	**23**	**48**	**02.9**	**-0.1**
GRA1				IAmb		IAmb	23	48	04.8	
	comp=Z,12nm,1.2s									
GRF	**Grafenberg Arr**	**81.88**	**325**	P		**P**	**23**	**48**	**02.9**	**-0.1**
GRF				pmax		pmax				
	comp=Z,12nm,1.2s									
GRFO	**Grafenberg**	**81.88**	**325**	P		**P**	**23**	**48**	**03.5**	**+0.5**
GRFO				pmax		pmax				
	comp=Z,12nm,1.2s									
GRFO	**Grafenberg**	**81.88**	**325**	P		**P**	**23**	**48**	**03.5**	**+0.5**
GRFO				IAmb		IAmb	23	48	04.7	
	comp=Z,12nm,1.2s									
ATD	**Arta Tunnel**	**82.12**	**279**	P		**P**	**23**	**48**	**04.7**	**-0.1**
IDI	**Anoyia**	**82.98**	**308**	P		**P**	**23**	**48**	**06.4**	**-2.6**
IDI				IAmb		IAmb	23	48	07.9	
	comp=Z,3.8nm,1.2s									
ITM	**Ithomi**	**83.80**	**311**	P		**P**	**23**	**48**	**11.8**	**-1.4**
BFO	**Black Forest**	**84.20**	**326**	P		**P**	**23**	**48**	**14.5**	**-0.5**
BFO				pmax		pmax				
	comp=Z,10.0nm,1.3s									
BFO	**Black Forest**	**84.20**	**326**	P		**P**	**23**	**48**	**14.5**	**-0.5**
TUE	**Stuetta**	**85.00**	**324**	P		**P**	**23**	**48**	**18.4**	**-1.0**
NRCA	**Norcia**	**85.49**	**319**	P		**P**	**23**	**48**	**21.2**	**-0.5**

MEX ***17*** *23:39:17.0±1.7, 16.85N×101.46W, h8km, MD4.4*
NEIC ***17*** *23:39:17.7±2.1, 16.95N±0.04×101.18W±0.05, h10km±1km, mb4.5/264, Md4.5/101(MEX), Error ellipse: s-maj=8.9km s-min=7.4km az=285.0*
IDC ***17*** *23:39:22.6±3.6, 16.92N×101.12W, h66km±32km, mb3.9/12, mb1 4.1/15, mb1mx3.9/35, mbtmp4.1/15, ML3.6/3, MS3.6/28, Ms1 3.6/28, ms1mx3.4/68, Error ellipse: s-maj=28.8km s-min=11.7km az=51.0*
ISC 17 23:39:16.3±1.5, 16.91N±0.05×101.33W±0.05, h11km±9km, n398, σ1§71/356, mb4.5/92, MS3.7/23, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res	ISC
ZIIG	**Zihuatanejo**	**0.71**	**349**				**Pg**	**23 39 29.5**	**-0.6**	
ZIIG							**Sg**	**23 39 39.7**	**+0.3**	
ZIIG	**Zihuatanejo**	**0.71**	**349**	*e*P			**Pg**	**23 39 29.5**	**-0.6**	
ZIIG				*e*S			**Sg**	**23 39 39.7**	**+0.3**	
ATYC	**Atoyac**	**0.91**	**70**	*i* P			**Pn**	**23 39 34.3**	**-0.7**	
ATYC				*i* S			**Sn**	**23 39 48.3**	**+0.2**	
CAIG	**El Cayaco**	**1.02**	**82**				**Pb**	**23 39 35.6**	**-0.5**	
CAIG							**Sn**	**23 39 49.8**	**-1.2**	
CAIG	**El Cayaco**	**1.02**	**82**	*i* P			**Pb**	**23 39 35.6**	**-0.5**	
CAIG				*e*S			**Sn**	**23 39 49.8**	**-1.2**	
UON	**La Union**	**1.16**	**336**	*e*P			Pn	23 39 35.2	-3.2	
UON				*e*S			**Sb**	**23 39 49.8**	**-3.5**	
ACP2	**Acapulco**	**1.38**	**91**				**Pn**	**23 39 40.6**	**-1.0**	
ACP2							**Sn**	**23 39 58.0**	**-1.8**	
ACP2	**Acapulco**	**1.38**	**91**	*e*P			**Pn**	**23 39 40.6**	**-1.0**	
ACP2				*i* S			**Sn**	**23 39 58.0**	**-1.8**	
DAIG	**Los Arroyos**	**1.61**	**86**				**Pn**	**23 39 44.1**	**-0.6**	
DAIG							**Sn**	**23 40 03.9**	**-1.6**	
DAIG	**Los Arroyos**	**1.61**	**86**	*i* P			**Pn**	**23 39 44.1**	**-0.6**	
DAIG				*i* S			**Sn**	**23 40 03.9**	**-1.6**	
ARIG	**Puente Sto Nin**	**1.66**	**34**				**Pn**	**23 39 45.3**	**-0.1**	
ARIG							**Sb**	**23 40 07.3**	**-0.5**	
ARIG	**Puente Sto Nin**	**1.66**	**34**	*e*P			**Pn**	**23 39 45.3**	**-0.1**	
ARIG				*e*S			**Sb**	**23 40 07.3**	**-0.5**	
MEIG	**Mezcala**	**1.92**	**58**				**Pn**	**23 39 49.5**	**+0.4**	
MEIG							**Sn**	**23 40 12.6**	**-0.7**	
MEIG	**Mezcala**	**1.92**	**58**	*e*P			**Pn**	**23 39 49.5**	**+0.4**	
MEIG				*i* S			**Sn**	**23 40 12.6**	**-0.7**	
CRIG	**Cruz Grande**	**2.11**	**94**				**Pn**	**23 39 50.8**	**-0.8**	
CRIG							**Sn**	**23 40 14.7**	**-3.1**	
CRIG	**Cruz Grande**	**2.11**	**94**	*i* P			**Pn**	**23 39 50.8**	**-0.8**	
CRIG				*i* S			**Sn**	**23 40 14.7**	**-3.1**	
PLIG	**Platanillo**	**2.28**	**49**	*i* P			**Pn**	**23 39 54.7**	**+0.6**	
PLIG				*i*				23 40 28.7		
MMIG	**Aquila**	**2.37**	**306**	*e*P			Pn	23 39 50.1	-5.0	
MMIG				*e*S			Sn	23 40 13.7	-10	
MGIG	**Malinaltepec**	**2.60**	**82**	*i* P			**Pn**	**23 39 58.9**	**+0.5**	
MGIG				*i*				23 40 30.4		
MAVM	**Malinalco, Edo**	**2.69**	**40**	*e*			**Pn**	**23 39 59.6**	**-0.1**	
TLIG	**Tlapa**	**2.72**	**76**				**Pn**	**23 39 59.7**	**-0.3**	
TLIG	**Tlapa**	**2.72**	**76**	*i*			**Pn**	**23 40 00.8**	**+0.7**	
TLIG				*e*				23 40 33.0		
YAIG	**Yautepec**	**2.90**	**48**	*i*			**Pn**	**23 40 02.6**	**0.0**	
YAIG				*i*				23 40 41.0		
INVM	**La Marquesa**	**3.01**	**38**	*e*			**Pn**	**23 40 04.6**	**+0.3**	
AOVM	**Tlapan**	**3.03**	**39**	*e*			**Pn**	**23 40 05.0**	**+0.4**	
TLVM	**San Miguel Top**	**3.09**	**42**	*i*			**Pn**	**23 40 06.2**	**+0.8**	
PNIG	**Pinotepa**	**3.11**	**99**	*i*			**Pn**	**23 40 04.9**	**-0.5**	
PNIG				*i*				23 40 38.1		
CJVM	**Cuajimalpa**	**3.12**	**38**	*e*			**Pn**	**23 40 05.9**	**+0.1**	
XCVM	**Xochimilco**	**3.14**	**42**	*i*			**Pn**	**23 40 06.8**	**+0.7**	
UNM	**Universidad Na**	**3.16**	**40**				**Pn**	**23 40 06.5**	**+0.2**	
ATVM	**ATLACOMULCO**	**3.17**	**26**	*e*			**Pn**	**23 40 05.9**	**-0.6**	
COIG	**Colima**	**3.19**	**316**	*e*			Pn	23 40 03.1	-3.4	
COIG				*e*				23 40 34.5		
FTIG	**Fresnillo de T**	**3.21**	**71**	*i*			**Pn**	**23 40 07.7**	**+0.9**	
FTIG				*i*				23 40 46.5		
CDAR	**Ciudad de Arme**	**3.26**	**309**	*e*			Pn	23 40 02.9	-4.5	
CDAR				*e*				23 40 35.3		
THVM	**De Xico**	**3.28**	**43**	*i*			**Pn**	**23 40 08.5**	**+0.6**	
AMVM	**AMECAMECA**	**3.28**	**47**	*e*			**Pn**	**23 40 07.9**	**0.0**	
AZVM	**Cuida Lopez Ma**	**3.30**	**36**	*e*			**Pn**	**23 40 07.8**	**-0.4**	
PBVM	**Pinon**	**3.30**	**40**	*i*			**Pn**	**23 40 08.4**	**+0.4**	
GMVM	**Gustavo A Made**	**3.33**	**39**	*e*			**Pn**	**23 40 08.7**	**+0.1**	
EZ5V		**3.35**	**320**	*i*			**Pn**	**23 40 07.5**	**-1.4**	
EZ5V				*i*				23 40 40.0		
PPM	**Popocatepetl**	**3.35**	**50**	*i*			**Pn**	**23 40 09.5**	**+0.4**	
PPM				*i*				23 40 52.0		
MNGA	**Volcan de Coli**	**3.35**	**320**	*i*			**Pn**	**23 40 07.5**	**-1.5**	
MNGA				*i*				23 40 41.7		
ACIG	**Acambay**	**3.35**	**24**	*e*			**Pn**	**23 40 08.7**	**-0.1**	
JUBC	**Volcan de Coli**	**3.36**	**321**	*i*			**Pn**	**23 40 07.7**	**-1.3**	
JUBC				*i*				23 40 43.2		
R15V		**3.38**	**312**	*i*			Pn	23 40 05.6	-3.6	
R15V				*i*				23 40 38.9		
PTVM	**Pico Tres Padr**	**3.40**	**38**	*i*			**Pn**	**23 40 09.7**	**+0.1**	
TXIG	**Tlaxiaco**	**3.42**	**84**	*e*P			**Pn**	**23 40 10.8**	**+0.9**	
TXIG				*i*				23 40 45.0		
HLIG	**Huajuapan de L**	**3.49**	**74**	*e*P			**Pn**	**23 40 11.6**	**+0.8**	
HLIG				*i*				23 40 53.9		
ZUVM	**ZUMPANGO**	**3.61**	**36**	*i*			**Pn**	**23 40 12.3**	**-0.1**	
YOIG	**Yosondua**	**3.62**	**90**	*e*P			**Pn**	**23 40 13.4**	**+0.7**	
YOIG				*i*				23 40 52.5		
VTVM	**Tizayuca**	**3.74**	**40**	*e*			**Pn**	**23 40 13.6**	**-0.7**	
IGIG	**Irapuato, Guan**	**3.83**	**360**	*e*			**Pb**	**23 40 21.4**	**-2.6**	
IGIG				*i*				23 40 58.8		
DEIG	**Demacu**	**4.02**	**32**	*e*			**Pn**	**23 40 17.5**	**-0.5**	
DEIG				*i*				23 41 11.2		
PEIG	**Puerto Escondi**	**4.11**	**102**	*i*			**Pn**	**23 40 13.3**	**+0.2**	
PEIG				*e*				23 41 01.7		
VHO	**Vista Hermosa**	**4.40**	**87**	*i*			**Pn**	**23 40 24.4**	**+1.1**	
VHO				*i*				23 41 11.6		
CXUV	**Coxquihui**	**4.81**	**47**	*e*			**Pn**	**23 40 28.2**	**-0.5**	
JAUV	**Jalcomulco**	**4.95**	**60**	*e*			**Pn**	**23 40 30.5**	**-0.2**	
JAUV				*e*				23 41 33.8		
HUIG	**Huatulco**	**5.14**	**102**	*e*			**Pn**	**23 40 33.6**	**+0.3**	
HUIG				*e*				23 41 23.4		
NEUV	**Arroyo Zacate**	**5.34**	**81**	*e*			**Pn**	**23 40 37.0**	**+1.0**	
NEUV				*e*				23 41 37.5		
ZAIG	**Zacatecas**	**5.95**	**349**				**Pn**	**23 40 45.3**	**+0.6**	
ZAIG	**Zacatecas**	**5.95**	**349**	*e*			**Pn**	**23 40 41.8**	**-2.8**	
ZAIG				*e*				23 41 48.3		
CMIG	**Matias Romero**	**6.17**	**87**	P			**Pn**	**23 40 47.8**	**+0.3**	
	12nm,0.3s,baz=253,slow=13,SNR=64									
CMIG						S	**Sn**	**23 41 55.9**	**-2.1**	
	baz=67,slow=19,SNR=1.0									
CMIG						LR	LR	23 43 15.5		
	comp=Z,705nm,21.0s,baz=272,slow=39									
CMIG	**Matias Romero**	**6.17**	**87**				**Pn**	**23 40 47.7**	**+0.3**	
CMIG							**Sn**	**23 41 54.5**	**-3.5**	
CMIG	**Matias Romero**	**6.17**	**87**	*e*			**Pn**	**23 40 47.7**	**+0.3**	
CMIG				*e*				23 41 54.5		
UXUV	**UXUV**	**6.88**	**86**	*e*			**Pn**	**23 40 57.2**	**0.0**	
UXUV				*i*				23 42 06.2		
TGIG		**7.86**	**90**	*e*			**Pn**	**23 41 11.9**	**+1.2**	
PCIG		**7.88**	**98**	*e*			**Pn**	**23 41 12.1**	**+1.2**	
PCIG				*e*				23 42 32.1		
CCIG	**Comitan**	**8.83**	**93**				**Pn**	**23 41 24.0**	**-0.2**	
CCIG	**Comitan**	**8.83**	**93**	*e*			**Pn**	**23 41 23.3**	**-0.9**	
RTAL	**Retalhuleu**	**9.57**	**103**			Pn	**Pn**	**23 41 33.6**	**-0.6**	
HUEH	**Huehuetenango**	**9.57**	**98**			Pn	**Pn**	**23 41 33.9**	**-0.5**	
SLBS	**Sierra La Lagu**	**10.53**	**311**				**Pn**	**23 41 47.2**	**0.0**	
HPIG		**10.76**	**339**			Pn	**Pn**	**23 41 51.1**	**+0.5**	
PETF	**Flores**	**10.97**	**88**				**Pn**	**23 41 52.3**	**-1.0**	
LPIG	**La Paz**	**11.04**	**312**			LR	LR	23 46 08.4		
	comp=Z,43nm,20.3s,baz=52,slow=36									
833A	**Chaparral WMA,**	**11.50**	**9**			Pn	**Pn**	**23 42 00.6**	**0.0**	
833A	**Chaparral WMA,**	**11.50**	**9**	P		Pn	**Pn**	**23 42 04.6**	**+4.0**	
	baz=187									
ESQI	**Esquipulas**	**11.77**	**100**			Pn	**Pn**	**23 42 05.5**	**+1.1**	
MTO3	**Montecristo**	**11.79**	**101**				**Pn**	**23 42 06.3**	**+1.5**	
TXAR	**Lajitas Array**	**12.55**	**351**	P			**Pn**	**23 42 18.9**	**+3.8**	
	0.0nm,0.3s,baz=172,slow=13,SNR=2.3									
TXAR						LR	LR	23 47 45.4		
	comp=Z,327nm,19.4s,baz=163,slow=40									
TXAR	**Lajitas Array**	**12.55**	**351**			Pn	**Pn**	**23 42 18.4**	**+3.3**	
TX31	**Lajitas Ar. Si**	**12.56**	**351**			Pn	**Pn**	**23 42 16.9**	**+1.8**	
TX32	**Lajitas Array**	**12.56**	**351**			Pn	**Pn**	**23 42 16.5**	**+1.4**	
JCT	**Junction City**	**13.58**	**6**				**Pn**	**23 42 28.7**	**-0.4**	
JCT	**Junction City**	**13.58**	**6**	P			**P**	**23 42 37.9**	**-0.2**	
	baz=184,SNR=5.0									
TGUH	**Tegucigalpa,Un**	**13.84**	**100**			Pn	**Pn**	**23 42 34.4**	**+1.7**	
435B	**Jarrell**	**14.23**	**13**				**Pn**	**23 42 38.0**	**+0.1**	
435B	**Jarrell**	**14.23**	**13**	P			**P**	**23 42 45.5**	**+0.3**	
	baz=193									
CRIN	**San Cristobal**	**14.42**	**105**				**Pn**	**23 42 42.8**	**+2.1**	
CNGN	**Cerro Negro**	**14.81**	**105**				**Pn**	**23 42 47.2**	**+1.3**	
HSIG		**14.95**	**325**			Pn	**Pn**	**23 42 47.8**	**+0.1**	
MNTX	**Cornudas Mount**	**15.18**	**347**				**Pn**	**23 42 52.1**	**+1.3**	
MNTX	**Cornudas Mount**	**15.18**	**347**	P			**P**	**23 42 56.2**	**+0.3**	
	baz=163									
MATN	**Matagalpa**	**15.40**	**103**				**Pn**	**23 42 55.0**	**+1.2**	
WHTX	**Lake Whitney,**	**15.42**	**12**			Pn	**Pn**	**23 42 55.6**	**+1.7**	
WHTX						IAmb	IAmb	23 42 59.6		
	comp=Z,20nm,0.8s									
WHTX	**Lake Whitney,**	**15.42**	**12**	P			**P**	**23 42 58.8**	**+0.3**	
	baz=193									
441A	**DeRidder**	**15.65**	**27**				**Pn**	**23 42 57.9**	**+1.0**	
ABTX	**Abilene, Hawle**	**15.72**	**5**	P			**Pn**	**23 43 00.6**	**+2.7**	
ABTX						IAmb	IAmb	23 43 02.6		
	comp=Z,26nm,0.7s									
ABTX	**Abilene, Hawle**	**15.72**	**5**	P			**P**	**23 43 01.6**	**-0.3**	
	baz=184,SNR=15									
BOAB	**BOACO BROADBAN**	**15.78**	**104**				**P**	**23 43 01.1**	**-1.5**	
237A	**Washetta, Mont**	**15.84**	**17**	P			**P**	**23 43 02.9**	**-0.2**	
NATX	**Nacogdoches**	**15.98**	**21**	P			**P**	**23 43 04.6**	**-0.1**	
NATX	**Nacogdoches**	**15.98**	**21**	P			**P**	**23 43 05.1**	**+0.5**	
	baz=203,SNR=7.1									
ACON	**Acoyapa**	**16.39**	**105**				**Pn**	**23 43 06.6**	**+0.1**	
ACON						IAmb	IAmb	23 43 25.2		
	comp=Z,46nm,1.2s									
HZTE	**Horizontes, Gu**	**16.47**	**110**			Pn	**Pn**	**23 43 07.2**	**-0.3**	
342A	**Flagon Creek P**	**16.57**	**28**				**Pn**	**23 43 08.2**	**-0.5**	
121A	**Cookes Peak, D**	**16.62**	**341**			Pn	**Pn**	**23 43 10.9**	**+1.4**	
ORTG	**Ortega, Santa**	**16.73**	**111**				**Pn**	**23 43 10.7**	**-0.2**	
DUNO	**Dulce Nombre,**	**16.82**	**112**				**Pn**	**23 43 11.4**	**-0.6**	
MSTX	**Muleshoe**	**17.04**	**356**				**Pn**	**23 43 14.9**	**+0.2**	
MSTX	**Muleshoe**	**17.04**	**356**	P			**Pn**	**23 43 15.4**	**+0.6**	
	baz=174									
ESPN	**Las Esperanzas**	**17.13**	**104**				**Pn**	**23 43 15.6**	**-0.3**	
ESPN						IAmb	IAmb	23 43 32.1		
	comp=Z,40nm,1.1s									
JTS	**Las Juntas de**	**17.21**	**110**	P			**P**	**23 43 23.9**	**+5.4**	
	comp=Z,4.7nm,0.3s,baz=41,slow=16,SNR=16									
JTS						LR	LR	23 48 50.7		
	comp=Z,90nm,21.5s,baz=2.5,slow=33									
JTS	**Las Juntas de**	**17.21**	**110**				**Pn**	**23 43 15.5**	**-1.5**	
Z38A	**Mt. Pleasant**	**17.26**	**18**				**Pn**	**23 43 16.2**	**-1.1**	
Z38A						IAmb	IAmb	23 43 20.2		
	comp=Z,30nm,0.8s									
CAO2	**Cobano, Puntar**	**17.33**	**112**	P			**P**	**23 43 23.6**	**+3.9**	
344A	**Westbrook Farm**	**17.39**	**32**				**Pn**	**23 43 17.7**	**-1.4**	
344A						IAmb	IAmb	23 43 22.1		
	comp=Z,43nm,0.8s									
COVE	**Coope Vega, Sa**	**17.54**	**108**				**Pn**	**23 43 21.0**	**0.0**	
COVE						IAmb	IAmb	23 43 30.2		
	comp=Z,30nm,0.8s									
TUC	**Tucson**	**17.57**	**333**	P			**Pn**	**23 43 23.1**	**+1.8**	
JACO	**JACO, Garabito**	**17.74**	**112**				**P**	**23 43 24.1**	**-0.2**	
JACO						IAmb	IAmb	23 43 41.0		
	comp=Z,37nm,0.7s									
BNM	**Barren Site**	**17.82**	**346**	P			**Pn**	**23 43 25.9**	**+1.3**	
X34A	**Smith Ranch, M**	**17.90**	**9**				**Pn**	**23 43 25.6**	**+0.3**	
X34A						IAmb	IAmb	23 43 40.7		
	comp=Z,19nm,0.7s									
WMOK	**Wichita Mounta**	**17.90**	**7**	P			**Pn**	**23 43 24.7**	**-0.7**	
	baz=187,SNR=6.6									
LENM	**Lemitar**	**17.92**	**345**				**Pn**	**23 43 26.8**	**+1.0**	
Z41A	**Richland Creek**	**18.00**	**24**	P			**Pn**	**23 43 26.0**	**-0.6**	
Z41A						IAmb	IAmb	23 43 29.8	

baz=138
PV07 Paradox Valley 22.39 345 lAmb lAmb 23 44 34.1
comp=Z,17nm,1.0s
KNB Kanab 22.46 335 P **P** **23 44 19.1 +3.3**
KNB lAmb lAmb 23 44 35.6
comp=Z,15nm,1.1s
PV23 Carpenter Ridg 22.50 344 **P** **23 44 20.8 +4.5**
PV23 lAmb lAmb 23 44 35.0
comp=Z,14nm,0.9s
FPAL Fort Paine 22.50 36 P **P** **23 44 14.9 -1.1**
FPAL lAmb lAmb 23 44 19.3
comp=Z,12nm,1.0s
WVT Waverly 22.59 29 P **P** **23 44 15.8 -1.1**
WVT lAmb lAmb 23 44 17.6
comp=Z,10nm,0.7s
WVT Waverly 22.59 29 P **P** **23 44 16.3 -0.6**
baz=215
LCMT Little Creek M 22.63 335 P **P** **23 44 22.9 +5.4**
PKCU Pink Cliffs 22.64 337 lAmb lAmb 23 44 29.5
comp=Z,19nm,1.1s
SMCO Snowmass 22.73 349 lAmb lAmb 23 44 39.0
comp=Z,16nm,1.1s
SWET Sewanee 22.83 34 P **P** **23 44 18.3 -1.2**
SWET lAmb lAmb 23 44 21.4
comp=Z,11nm,1.0s
CCM Cathedral Cave 22.86 21 P **P** **23 44 18.6 -1.1**
CCM Cathedral Cave 22.86 21 P **P** **23 44 18.6 -1.1**
baz=205
Y52A Lilburn 22.93 39 lAmb lAmb 23 44 26.1
comp=Z,12nm,0.7s
GSC Goldstone, Bar 22.94 326 **P** **23 44 22.0 +1.3**
GSC lAmb lAmb 23 44 41.7
comp=Z,14nm,1.2s
SHPR Sheep Range 23.05 331 **P** **23 44 22.8 +0.8**
SZCU Shurtz Canyon 23.07 336 P **P** **23 44 21.7 -0.5**
FVM French Village 23.08 22 P **P** **23 44 19.8 -2.2**
ISCO Idaho Springs 23.11 352 P **P** **23 44 23.4 +0.8**
ISCO Idaho Springs 23.11 352 P **P** **23 44 24.4 +1.7**
baz=168
MTPU Mount Pierson 23.12 338 lAmb lAmb 23 44 35.0
comp=Z,25nm,1.1s
CCUT Cedar City 23.14 335 P **P** **23 44 23.6 +0.7**
W50A Signal Mountai 23.16 35 P **P** **23 44 20.1 -2.8**
W50A lAmb lAmb 23 44 25.6
comp=Z,17nm,1.1s
S44A Carbondale 23.28 25 P **P** **23 44 22.9 -1.1**
S44A lAmb lAmb 23 44 40.9
comp=Z,12nm,0.8s
CLTN Cedars of Leba 23.29 32 P **P** **23 44 24.0 -0.2**
CLTN lAmb lAmb 23 44 26.4
comp=Z,16nm,1.1s
SIUC Southern Illin 23.31 25 P **P** **23 44 23.5 -0.8**
SIUC lAmb lAmb 23 44 25.5
comp=Z,17nm,0.9s
QSM Queen of Sheba 23.48 327 P **P** **23 44 26.9 +0.9**
QSM lAmb lAmb 23 44 46.3
comp=Z,16nm,1.3s
MSU Marysvale 23.53 338 P **P** **23 44 28.5 +1.6**
SRU San Rafael Swe 23.54 342 P **P** **23 44 27.7 +0.9**
GWY Greenwater Val 23.54 328 P **P** **23 44 27.9 +1.0**
LRMC Laurel Mtn Rad 23.55 325 P **P** **23 44 29.3 +2.4**
baz=136
Q16A Castle Valley 23.56 341 lAmb lAmb 23 44 38.7
comp=Z,14nm,1.2s
T47A Sharon Grove 23.63 29 lAmb lAmb 23 44 38.1
comp=Z,10nm,0.7s
P38A Dawn 23.63 15 P **P** **23 44 27.4 -0.1**
PRN Pahroc Range 23.74 332 P **P** **23 44 30.5 +1.7**
W52A Murphy 23.86 37 P **P** **23 44 29.1 -0.8**
W52A lAmb lAmb 23 44 32.3
comp=Z,12nm,0.7s
MPMC Manual Prospec 23.88 326 P **P** **23 44 32.2 +2.0**
baz=137
U49A Red Boiling Sp 23.90 32 P **P** **23 44 27.4 -2.8**
U49A lAmb lAmb 23 44 52.6
comp=Z,30nm,1.8s
O20A White River Ci 23.91 347 P **P** **23 44 30.7 +0.2**
O20A lAmb lAmb 23 44 49.5
comp=Z,36nm,1.8s
O20A White River Ci 23.91 347 P **P** **23 44 35.5 +5.0**
baz=162
TMUT Trail Mountain 23.92 341 P **P** **23 44 30.7 0.0**
TMUT lAmb lAmb 23 44 41.1
comp=Z,19nm,1.2s
TPNV Topopah Spring 23.93 329 P **P** **23 44 31.2 +0.5**
TPNV Topopah Spring 23.93 329 P **P** **23 44 32.9 +2.2**
baz=141,SNR=5.7
P17A Butcher Ranch, 23.93 342 P **P** **23 44 32.1 +1.4**
P17A lAmb lAmb 23 44 48.4
comp=Z,12nm,1.4s
P18A Preston Nutter 23.93 343 P **P** **23 44 31.8 +1.0**
P18A lAmb lAmb 23 44 49.5
comp=Z,18nm,1.3s
N33A J Bar K, Exete 23.98 7 P **P** **23 44 30.1 -0.8**
ISA Isabella, Lake 24.12 324 P **P** **23 44 34.4 +2.1**
ISA Isabella, Lake 24.12 324 P P 23 44 42.3 +10
baz=135
BCW Bitter Crk WRg 24.16 321 P **P** **23 44 34.8 +2.1**
BCW lAmb lAmb 23 44 55.0
comp=Z,24nm,1.5s
USIN University of 24.18 27 P **P** **23 44 32.1 -0.6**
PSUT Pine Spring 24.18 335 P **P** **23 44 34.6 +1.6**
PSUT lAmb lAmb 23 44 45.2
comp=Z,9.9nm,0.9s
N23A Red Feather La 24.24 351 lAmb lAmb 23 45 10.3
comp=Z,17nm,1.4s
N23A Red Feather La 24.24 351 P **P** **23 44 34.5 +0.9**
baz=168
S11A Rachel 24.25 331 P **P** **23 44 34.3 +0.7**
S11A lAmb lAmb 23 44 48.2
comp=Z,22nm,1.3s
TKL Tuckaleechee C 24.35 37 P **P** **23 44 32.6 -1.7**
comp=Z,8.8nm,0.8s,baz=199,slow=12,SNR=7.1
TKL Tuckaleechee C 24.35 37 P **P** **23 44 34.8 +0.4**
TKL lAmb lAmb 23 44 36.5
comp=Z,11nm,0.9s
BG3 Lake Jocassee 24.38 39 lAmb lAmb 23 44 37.4
comp=Z,11nm,0.7s
PHWY Pilot Hill 24.57 353 P **P** **23 44 37.1 +0.4**
PHWY lAmb lAmb 23 44 47.7
comp=Z,18nm,1.6s
OLIL Olney 24.64 25 P **P** **23 44 37.4 +0.5**
RDMU Red Mountain 24.64 345 P **P** **23 44 39.0 +1.8**
RDMU lAmb lAmb 23 44 54.8
comp=Z,15nm,0.9s
MPU Maple Canyon 24.71 341 P **P** **23 44 38.7 +0.9**
R11A Troy Canyon, C 24.75 332 P **P** **23 44 39.8 +1.6**
R11A Troy Canyon, C 24.75 332 P **P** **23 44 40.9 +2.6**
baz=144
T50A Nancy 24.77 33 lAmb lAmb 23 44 37.8
comp=Z,8.0nm,0.7s
NLU North Lily Min 24.79 340 P **P** **23 44 40.7 +2.1**
LCH Last Change Ra 24.85 328 P **P** **23 44 39.9 +0.9**
P43A Skaggs, Pawnee 24.88 22 P **P** **23 44 38.2 -0.9**
P43A lAmb lAmb 23 44 39.7
comp=Z,13nm,0.9s
V53A Saluda 24.92 38 P **P** **23 44 39.7 +0.2**
V53A lAmb lAmb 23 44 41.3
comp=Z,9.9nm,0.8s
PAULI Pauline 24.95 41 P **P** **23 44 39.2 -0.6**
JSC Jenkinsville 24.96 42 P **P** **23 44 39.4 -0.5**
NHSC New Hope 24.97 46 P **P** **23 44 40.3 +0.3**
NHSC New Hope 24.97 46 P **P** **23 44 41.7 +1.7**
baz=235,SNR=5.7
GTBY Guantanamo Bay 25.05 79 P **P** **23 44 40.4 -0.4**
DUG Dugway, Tooele 25.26 339 P **P** **23 44 43.8 +1.1**
DUG lAmb lAmb 23 44 54.6
comp=Z,9.5nm,1.1s
DUG Dugway, Tooele 25.26 339 P **P** **23 44 47.0 +4.4**
baz=152
TPH Tonopah 25.29 330 P **P** **23 44 44.1 +1.0**
CTU Camp Tracy 25.36 341 P **P** **23 44 45.0 +1.4**
Y57A Sumter 25.36 44 P **P** **23 44 43.3 -0.2**
N41A Harden Midland 25.39 19 P **P** **23 44 42.8 -0.9**
N41A lAmb lAmb 23 44 45.2
comp=Z,12nm,0.8s
KMSC Kings Mountain 25.46 41 P **P** **23 44 44.6 +0.2**
KMSC lAmb lAmb 23 44 47.4
comp=Z,10nm,0.8s
KMSC Kings Mountain 25.46 41 P **P** **23 44 45.0 +0.6**
baz=229
BLO Bloomington 25.68 27 P **P** **23 44 45.4 -0.9**
K31A O'Neill 25.73 4 P **P** **23 44 46.2 -0.5**
HDIL Hopedale 25.77 21 P **P** **23 44 45.9 -1.2**
Y58A Scranton 25.78 45 P **P** **23 44 47.2 -0.1**

OMMB Old Mammoth Mi 25.84 326 P **P** **23 44 49.4 +1.2**
MDPB Devils Postpil 25.90 326 P **P** **23 44 49.8 +1.1**
MDPB lAmb lAmb 23 45 09.6
comp=Z,10.0nm,1.2s
BGU Big Grassy Mou 25.98 339 P **P** **23 44 50.7 +1.4**
NV11 Mina Array Sit 26.03 329 P **P** **23 44 51.6 +1.9**
NV11 lAmb lAmb 23 45 09.7
comp=Z,16nm,1.2s
K22A Casper 26.04 351 P **P** **23 44 51.0 +1.2**
K22A lAmb lAmb 23 45 10.8
comp=Z,16nm,1.2s
K22A Casper 26.04 351 P **P** **23 44 53.1 +3.3**
baz=167
LHV Little Huntoon 26.07 328 P **P** **23 44 52.5 +2.7**
NVAR Mina Array Bea 26.10 329 P **P** **23 44 53.0 +2.6**
comp=Z,4.7nm,0.8s,baz=149,slow=9.9,SNR=27
NVAR LR LR 23 55 14.9
comp=Z,114nm,20.7s,baz=188,slow=36
NVAR Mina Array Bea 26.10 329 P **P** **23 44 53.3 +2.9**
HWUT Hardware Ranch 26.14 342 **P** **23 44 53.1 +2.3**
HWUT lAmb lAmb 23 45 03.6
comp=Z,11nm,0.9s
W57A Gilead 26.32 42 P **P** **23 44 51.8 -0.4**
RYN Ryan 26.36 329 P **P** **23 44 54.1 +1.4**
Y59A Loris 26.37 46 P **P** **23 44 52.8 +0.2**
SFIN Lafayette 26.44 25 lAmb lAmb 23 44 54.4
comp=Z,11nm,1.0s
SFIN Lafayette 26.44 25 P **P** **23 44 52.9 -0.4**
baz=211
KVN Kaiserville 26.48 330 P **P** **23 44 54.9 +1.0**
KVN lAmb lAmb 23 45 16.6
comp=Z,14nm,1.1s
L40A Anamosa 26.53 17 P **P** **23 44 52.7 -1.3**
L40A lAmb lAmb 23 44 54.4
comp=Z,7.2nm,0.7s
ELK Elko 26.63 336 LR LR 23 55 54.3
comp=Z,197nm,18.5s,baz=142,slow=37
ELK Elko 26.63 336 **P** **23 44 60.0 +4.8**
HVU Hansel Valley 26.67 341 P **P** **23 44 56.3 +0.8**
K38A Parkersburg 26.68 14 P **P** **23 44 54.9 -0.4**
BW06 Boulder Array 26.72 346 P **P** **23 44 57.3 +1.3**
BW06 lAmb lAmb 23 45 08.1
comp=Z,8.1nm,0.9s
PD31 Pinedale Array 26.72 346 lAmb lAmb 23 45 08.1
comp=Z,7.3nm,0.9s
PDAR Pinedale Array 26.72 346 P **P** **23 44 56.8 +0.8**
comp=Z,1.5nm,0.8s,baz=146,slow=11,SNR=13
PDAR LR LR 23 56 44.9
comp=Z,245nm,19.7s,baz=180,slow=39
PDAR Pinedale Array 26.72 346 P **P** **23 44 57.4 +1.4**
P49A Miami Univ. Ec 26.79 29 P **P** **23 44 55.3 -1.1**
baz=217
U56A King 26.83 40 P **P** **23 44 56.4 -0.4**
CMB Columbia Colle 26.89 325 P **P** **23 44 59.9 +2.5**
ECSD EROS Data Cent 27.04 8 lAmb lAmb 23 45 10.6
comp=Z,12nm,1.6s
ECSD EROS Data Cent 27.04 8 P **P** **23 44 58.8 +0.2**
baz=189
AHID Auburn Hatcher 27.09 344 P **P** **23 45 01.6 +2.2**
AHID lAmb lAmb 23 45 16.8
comp=Z,9.0nm,1.1s
O48B Farmland 27.17 28 P **P** **23 44 58.6 -1.2**
baz=215
PNTR Pine Nut 27.26 328 P **P** **23 45 01.8 +0.9**
PNTR lAmb lAmb 23 45 22.1
comp=Z,6.5nm,0.9s
R53A Hurricane 27.28 35 P **P** **23 45 00.6 -0.3**
ECR Eagle Creek 27.43 344 P **P** **23 45 03.9 +1.5**
ZARC Zaragoza, Cauc 27.48 107 P **P** **23 45 03.1 +0.3**
O49A Covington 27.49 29 lAmb lAmb 23 45 02.9
comp=Z,9.3nm,0.8s
P51A Williamsport 27.55 32 lAmb lAmb 23 45 03.2
comp=Z,9.6nm,0.8s
REDW Red Top Meadow 27.59 345 lAmb lAmb 23 45 21.7
comp=Z,10nm,1.0s
MPK Martis Peak 27.63 328 P **P** **23 45 05.6 +1.3**
MPK lAmb lAmb 23 45 11.7
comp=Z,6.2nm,0.9s
SNOW Snow King Moun 27.66 345 P **P** **23 45 07.7 +3.3**
SNOW lAmb lAmb 23 45 19.9
comp=Z,8.1nm,0.8s
TPAW Teton Pass 27.73 345 P **P** **23 45 05.9 +0.7**
TPAW lAmb lAmb 23 45 35.3
comp=Z,8.6nm,1.0s
LOHW Long Hollow 27.76 345 P **P** **23 45 07.1 +1.8**
LOHW lAmb lAmb 23 45 16.3
comp=Z,8.6nm,1.1s
MOOW Moose Ponds 27.92 345 P **P** **23 45 07.8 +1.0**
P52A Corning 28.14 33 P **P** **23 45 06.3 -2.2**
BEKR Beckworth 28.23 328 P **P** **23 45 11.7 +2.2**
ORV Oroville 28.59 326 P **P** **23 45 14.6 +2.0**
HLID Hailey 28.80 340 P **P** **23 45 17.3 +2.8**
baz=152
F36A Milaca 29.60 11 lAmb lAmb 23 45 54.2
comp=Z,16nm,1.6s
MOD Modoc Plateau 29.76 331 P 23 45 29.1 +6.0
MOD lAmb lAmb 23 45 47.5
comp=Z,9.6nm,1.4s
BOZ Bozeman (W) 29.88 345 P **P** **23 45 27.4 +3.4**
BOZ lAmb lAmb 23 45 42.4
comp=Z,9.7nm,1.5s
J08A Circle Bar Ran 30.12 335 P **P** **23 45 28.0 +1.7**
J08A lAmb lAmb 23 45 38.7
comp=Z,8.9nm,1.1s
LRM Limekiln Ridge 30.29 344 P **P** **23 45 29.3 +1.5**
PLID Pearl Lake 30.68 339 P **P** **23 45 31.7 +0.4**
PLID lAmb lAmb 23 45 49.9
comp=Z,7.1nm,1.3s
YBH Yreka Blue Hor 30.81 328 LR LR 23 57 00.6
comp=Z,83nm,21.3s,baz=166,slow=34
SDV Santo Domingo 30.93 101 P **P** **23 45 33.5 -0.2**
SDV lAmb lAmb 23 45 46.3
comp=Z,5.0nm,0.9s
MSO Missoula 31.62 343 P **P** **23 45 42.4 +3.1**
MSO lAmb lAmb 23 45 49.6
comp=Z,11nm,1.4s
AGMN Agassiz Nation 31.63 7 lAmb lAmb 23 45 57.4
comp=Z,7.4nm,0.8s
AGMN Agassiz Nation 31.63 7 P **P** **23 45 39.1 -0.1**
baz=189
EGMT Eagleton 31.80 349 P **P** **23 45 44.0 +3.1**
F10A Beach Ranch, E 31.87 339 lAmb lAmb 23 45 52.2
comp=Z,5.8nm,0.7s
G08A Pilot Rock 31.93 336 lAmb lAmb 23 45 52.7
comp=Z,7.1nm,1.0s
M57A Sunshine Farm, 32.04 36 P **P** **23 45 40.8 -2.2**
SADO Sadowa 33.46 29 LR LR 00 01 25.7
comp=Z,98nm,18.8s,baz=198,slow=40
SJG San Juan 33.54 83 LR LR 23 58 43.4
comp=Z,59nm,19.6s,baz=287,slow=35
ULM Lac du Bonnet 33.55 6 P **P** **23 45 54.2 -1.9**
comp=Z,2.0nm,0.5s,baz=200,slow=12,SNR=3.1
ULM LR LR 00 01 48.4
comp=Z,84nm,18.6s,baz=140,slow=40
ULM Lac du Bonnet 33.55 6 lAmb lAmb 23 46 13.2
comp=Z,12nm,1.4s
NEW Newport 33.84 341 LR LR 23 59 28.2
comp=Z,140nm,20.1s,baz=160,slow=36
EDM Edmonton 37.44 348 lAmb lAmb 23 46 40.0
comp=Z,12nm,1.0s
NNA Nana 37.55 138 LR LR 23 59 02.1
comp=Z,68nm,18.3s,baz=318,slow=32
FFC Flin Flon 37.75 359 P **P** **23 46 32.4 +0.3**
FFC lAmb lAmb 23 46 33.1
comp=Z,6.8nm,0.9s
BBB Bella Bella 41.07 335 LR LR 00 06 07.0
comp=Z,115nm,21.1s,baz=123,slow=39
SCHQ Schefferville 46.19 27 P **P** **23 47 40.8 -0.3**
comp=Z,11nm,1.0s,baz=226,slow=5.2,SNR=7.9
SCHQ LR LR 00 09 46.0
comp=Z,45nm,20.2s,baz=89,slow=40
LPAZ La Paz 46.47 134 P **P** **23 47 44.0 -0.4**
comp=Z,3.1nm,0.9s,baz=334,slow=9.4,SNR=10
LPAZ LR LR 00 04 57.7
comp=Z,44nm,19.7s,baz=332,slow=33
LPAZ La Paz 46.47 134 P **P** **23 47 44.3 -0.1**
LPAZ lAmb lAmb 23 47 44.5
comp=Z,3.6nm,0.9s
YKA Yellowknife Ar 46.48 352 P **P** **23 47 41.8 -1.4**
comp=Z,1.6nm,0.8s,baz=161,slow=7.3,SNR=20
YKA PcP **PcP** **23 49 16.4 -1.2**
comp=Z,0.5nm,0.9s,baz=155,slow=3.4,SNR=4.0
YKA LR LR 00 09 07.7
comp=Z,136nm,20.6s,baz=283,slow=38
DLBC Dease Lake 46.57 340 LR LR 00 08 40.4
comp=Z,141nm,19.6s,baz=150,slow=38

MDP Montagnes des 49.08 98 LR LR 00 08 48.1
comp=Z,31nm,21.0s,baz=304,slow=36
MMPY Sheldon Lake, 50.22 343 P **P** **23 48 14.5 +2.3**
baz=141
PAX Paxson 55.18 337 P **P** **23 48 50.2 +1.3**
baz=125
INK Inuvik 55.28 346 P **P** **23 48 50.3 +0.9**
baz=141
WAT6 Susitna Watana 55.82 336 P **P** **23 48 54.9 +1.2**
baz=122
J25K Salcha River, 56.12 339 P **P** **23 48 58.4 +2.8**
baz=126
ILAR Eielson Array 56.74 339 P **P** **23 48 60.0 0.0**
comp=Z,1.7nm,0.9s,baz=153,slow=5.7,SNR=14
ILAR LR LR 00 15 41.8
comp=Z,68nm,19.3s,baz=358,slow=38
A36M Sachs Harbour 56.84 351 P P 23 49 05.4 +4.9
A36M lAmb lAmb 23 49 17.7
comp=Z,5.1nm,0.8s
MCK McKinley 56.91 337 P **P** **23 49 03.5 +2.4**
baz=122
TRF Thorofare Moun 57.27 336 P **P** **23 49 03.8 -0.1**
baz=120
MDM Murphy Dome 57.32 338 P **P** **23 49 06.8 +2.7**
MDM lAmb lAmb 23 49 16.1
comp=Z,3.6nm,1.0s
NEA2 Nenana 57.42 338 lAmb lAmb 23 49 07.5
comp=Z,8.6nm,1.4s
H24K Noodor Dome 57.70 339 P **P** **23 49 09.7 +2.9**
H24K Noodor Dome 57.70 339 P **P** **23 49 07.2 +0.5**
baz=124
N19K Bonanza Creek 57.77 332 P **P** **23 49 06.9 -0.5**
baz=114
I23K Minto, Yukon-K 57.83 338 P **P** **23 49 09.4 +1.8**
baz=122
RES Resolute Bay 57.90 2 LR LR 00 15 55.4
comp=Z,7nm,18.4s,baz=42,slow=38
CAST Castle Rocks 57.96 336 P **P** **23 49 08.0 -0.6**
baz=118
M19K Big River Lodg 58.20 334 P **P** **23 49 12.1 +1.8**
baz=115
L20K Farewell, AK 58.24 334 P **P** **23 49 10.8 +0.2**
baz=116
H23K Yukon River 58.26 339 P **P** **23 49 12.9 +2.2**
baz=122
PPT Papeete 58.57 237 LR LR 00 07 14.2
comp=Z,50nm,21.7s,baz=60,slow=28
K20K Telida 58.72 335 P **P** **23 49 15.6 +1.7**
baz=116
I21K Tanana 58.79 338 P **P** **23 49 15.1 +0.8**
baz=119
J20K Nowinta River 59.12 336 P **P** **23 49 18.6 +1.9**
baz=117
COLD Coldfoot 59.25 340 P **P** **23 49 17.3 -0.2**
baz=122
H21K Meloziina Rive 59.33 338 P **P** **23 49 18.4 +0.3**
baz=119
SFJD Kangerlussuaq 59.73 21 LR LR 00 19 06.0
comp=Z,52nm,19.0s,baz=270,slow=40
CPUP Villa Florida 60.62 134 P **P** **23 49 25.9 -1.6**
comp=Z,3.7nm,0.8s,baz=312,slow=6.8,SNR=8.9
CPUP Villa Florida 60.62 134 lAmb lAmb 23 49 27.0
comp=Z,4.5nm,0.8s
BDFB Brasilia 61.73 119 P **P** **23 49 34.0 -1.4**
comp=Z,2.2nm,0.6s,baz=225,slow=4.7,SNR=4.2
PLCA Paso Flores 64.08 154 P **P** **23 49 48.7 -1.8**
comp=Z,3.6nm,1.0s,baz=318,slow=9.3,SNR=4.4
RCBR Riachuelo 68.47 103 LR LR 00 21 02.9
comp=Z,46nm,18.6s,baz=3.0,slow=37
RAR Rarotonga 68.69 239 LR LR 00 13 36.0
comp=Z,90nm,19.9s,baz=134,slow=30
PAB San Pablo 84.64 50 P **P** **23 51 51.9 +1.4**
NAO01 NORSAR Array S 85.71 27 P **P** **23 51 55.6 +0.4**
MDT Midelt 86.47 57 LR LR 00 26 35.4
comp=Z,36nm,19.4s,baz=336,slow=33
WRA Warramunga Arr 127.30 258 PKP **PKPdf** **23 58 19.8 -2.1**
comp=Z,1.0nm,0.8s,baz=83,slow=3.0,SNR=6.0
ASAR Alice Springs 128.02 253 PKP **PKPdf** **23 58 21.1 -2.1**
comp=Z,1.0nm,0.8s,baz=82,slow=1.7,SNR=5.1
PZH PanZhiHua 131.37 332 PKP **PKiKP** **23 58 36.0 +5.3**

*IDC **17**23:44:48.9±2.7,6.72S×131.39E,h57km±27km,mb3.7/2, mb1 4.4/7,mb1mx3.6/39,mbtmp4.4/7,ML4.6/5,Error ellipse: s-maj=46.0km s-min=23.9km az=90.0*
*NEIC **17**23:44:49.5±2.5,6.65S±0.06×131.4E±0.1,h103km±4km, mb4.0/5,Error ellipse: s-maj=15.6km s-min=9.3km az=95.0*
*DJA **17**23:44:50.3±0.4,7.3S×13.1E±°,h107km±8km,M4.6/11, mb4.6/7,mB5.2/7,MLv4.7/11,Mw(mB)4.6/7*

ISC 17 23:44:49.4±0.6,6.64S±0.04×131.32E±0.07,h100km,n45, σ2.81/50,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.33**	**181**		**Pn**	**23 45 16.2**	**+2.5**
SAUI	**Saumlaki**	**1.33**	**181**	P	**Pn**	**23 45 16.7**	**+3.0**
SAUI				S	**Sn**	**23 45 35.5**	**+3.4**
SAUI	**Saumlaki**	**1.33**	**181**	P	**Pn**	**23 45 17.0**	**+3.3**
BNDI	**Bandanaira**	**2.53**	**326**	P	**Pn**	**23 45 31.5**	**+2.5**
MSAI	**Masohi**	**4.05**	**324**	P	**Pn**	**23 45 51.6**	**+2.3**
MSAI				S	**Sn**	**23 46 35.4**	**-0.3**
AAI	**Ambon**	**4.28**	**313**	P	**Pn**	**23 45 54.4**	**+2.0**
NLAI	**Namlea**	**5.39**	**309**	P	**Pn**	**23 46 09.6**	**+2.1**
	0.3nm55nm,0.5s						
SIJI	**Sorong**	**5.73**	**359**	P	**Pn**	**23 46 12.2**	**0.0**
	6.9nm,0.3s,baz=20,slow=22,SNR=16						
SIJI				S	**Sn**	**23 47 11.2**	**-5.4**
	24nm,0.3s,baz=84,slow=24,SNR=20						
SWI	**Sorong**	**5.74**	**359**	P	**Pn**	**23 46 13.4**	**+1.2**
KDU	**Kakadu**	**6.12**	**169**	P	**Pn**	**23 46 19.5**	**+2.2**
MTN	**Manton Dam**	**6.17**	**182**		**Pn**	**23 46 20.0**	**+2.0**
MTN				Sn	**Sn**	**23 47 25.9**	**-1.3**
MTN	**Manton Dam**	**6.17**	**182**	P	**Pn**	**23 46 20.4**	**+2.4**
SANI	**Sanana**	**7.00**	**310**	P	**Pn**	**23 46 32.3**	**+2.9**
	0.2nm946nm45nm,0.4s						
SANI	**Sanana**	**7.00**	**310**	P	**Pn**	**23 46 32.5**	**+3.1**
LBMI	**Labuha**	**7.08**	**327**	P	**Pn**	**23 46 29.2**	**-1.2**
	0.2nm28nm,0.5s						
BATI	**Baumata**	**8.36**	**244**	P	**Pn**	**23 46 49.8**	**+1.9**
	29nm,0.3s,baz=132,slow=3.2,SNR=12						
BATI				S	**Sn**	**23 48 18.8**	**-2.0**
	15nm,0.3s,baz=94,slow=23,SNR=8.5						
BATI	**Baumata**	**8.36**	**244**	P	**Pn**	**23 46 50.5**	**+2.6**
	53nm,0.5s						
MMRI	**Maumere**	**9.22**	**257**	P	Pn	23 47 04.7	+5.1
KNRA	**Kununurra**	**9.33**	**195**		**Pn**	**23 47 02.0**	**+1.0**
KNRA	**Kununurra**	**9.33**	**195**	P	**Pn**	**23 47 03.4**	**+2.4**
FITZ	**Fitzroy Crossi**	**12.67**	**205**	P	**Pn**	**23 47 44.6**	**-1.4**
	8.6nm,0.3s,baz=35,slow=10,SNR=121						
FITZ				S	**Sn**	**23 49 58.0**	**-7.3**
	4.5nm,0.3s,baz=99,slow=20,SNR=11						
FITZ	**Fitzroy Crossi**	**12.67**	**205**	Pn	**Pn**	**23 47 44.4**	**-1.6**
WB0	**Warramunga Arr**	**13.39**	**167**		**Pn**	**23 47 53.9**	**-1.6**
WRAB	**Tennant Creek**	**13.54**	**168**		**Pn**	**23 47 56.1**	**-1.3**
WRAB	**Tennant Creek**	**13.54**	**168**	P	**Pn**	**23 47 58.8**	**+1.3**
WRA	**Warramunga Arr**	**13.55**	**168**	P	**Pn**	**23 47 55.8**	**-1.8**
	1.5nm,0.3s,baz=347,slow=14,SNR=48						
WRA				S	Sn	23 50 17.4	-9.2
	3.7nm,0.3s,baz=340,slow=21,SNR=7.8						
WRA	**Warramunga Arr**	**13.55**	**168**	P	**Pn**	**23 47 55.0**	**-2.6**
WB2	**Warramunga Arr**	**13.55**	**168**		**Pn**	**23 47 56.0**	**-1.6**
PLAI	**Plampang**	**13.60**	**260**	P	**Pn**	**23 48 01.8**	**+3.6**
WR0	**Warramunga Arr**	**13.61**	**167**		**Pn**	**23 47 57.1**	**-1.2**
COEN	**Coen**	**13.74**	**123**	Pn	**Pn**	**23 47 59.4**	**-0.7**
COEN	**Coen**	**13.74**	**123**	P	**Pn**	**23 47 59.5**	**-0.6**
QIS	**Mount Isa**	**16.00**	**151**	P	**P**	**23 48 29.4**	**-0.9**
MTSU	**Mount Surprise**	**17.06**	**133**	P	**P**	**23 48 42.6**	**+0.5**
AS31	**Alice Springs**	**17.11**	**172**		**Pn**	**23 48 41.6**	**-0.9**
AS31				lAmb	lAmb	23 49 17.5	
	comp=Z,2.7nm,0.4s						
ASAR	**Alice Springs**	**17.11**	**172**	P	**P**	**23 48 44.0**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=355,slow=14,SNR=17						
ASAR				S	**Sn**	**23 51 43.2**	**-10**
	comp=Z,0.8nm,0.3s,baz=355,slow=25,SNR=11						
ASAR	**Alice Springs**	**17.11**	**172**	P	**Pn**	**23 48 41.7**	**-0.8**
MBWA	**Marble Bar**	**18.28**	**217**	P	**Pn**	**23 48 57.3**	**+0.7**
MBWA				lAmb	lAmb	23 49 37.0	
	comp=Z,26nm,1.6s						
WRKA	**Warakurna**	**18.52**	**189**	P	**Pn**	**23 49 01.4**	**+1.9**
PSA00	**Pilbara Seismi**	**18.54**	**216**	P	**Pn**	**23 49 01.1**	**+1.5**
PSA00	**Pilbara Seismi**	**18.54**	**216**	P	**P**	**23 48 58.0**	**-0.2**
PSA00				lAmb	lAmb	23 49 38.5	
	comp=Z,2.6nm,1.0s						
MULG	**Mulgathing**	**23.66**	**174**	P	**P**	**23 49 55.0**	**+3.1**

MKAR	Makanchi Array	68.65	326	P		P	23 55 47.1	+5.1
	comp=Z,1.2nm,0.4s,baz=128,slow=7.9,SNR=20							
KURBB	Kurchatov Array	72.90	328	P		P	23 56 12.2	+4.6
	comp=Z,0.6nm,0.6s,baz=128,slow=4.8,SNR=6.2							
GSTR	Great Sitkin T	73.64	31	P		P	23 56 11.4	-0.5

NIED ***17*** *23:48:45.7,26.10N×125.37E,h4km,MW4.4,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=3.46; Mθθ2.69; Mϕϕ0.77; Mrθ-2.13; Mθϕ0.82; Mϕr-1.46; Fault plane solution: M₀4.13000×10¹⁵ NP1: ϕs255.00000°,δ26.00000°,λ-78.00000°. NP2:ϕs62.00000°, δ64.00000°,λ-96.00000°.*

JMA ***17*** *23:48:45.7±0.4,26.10N×125.37E,h4km±4km,M3.7*

IDC ***17*** *23:48:52.7±2.8,26.08N×125.40E,h48km±29km,mb3.8/11, mb1 4.0/13,mb1mx3.7/46,mbtmp4.0/13,ML3.5/2,MS3.6/23, Ms1 3.6/23,ms1mx3.2/89,Error ellipse: s-maj=23.3km s-min=13.9km az=62.0*

ISC 17 23:48:48.7±2.0,25.96N±0.06×125.44E±0.06,h16km±14km, n46,σ1§07/34,mb4.0/12,MS3.5/21,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKM	Ikemajima	1.05	190	P		Pb	23 49 08.0	-0.5
JIKM				S		Sn	23 49 23.5	+0.4
JIRB	Irabujima	1.16	192	P		Pn	23 49 09.7	-0.5
JIRB				eS		Sg	23 49 26.7	+0.5
JOGS	Gusukube	1.20	181	P		Pn	23 49 10.5	-0.3
JOGS				eS		Sg	23 49 27.7	+0.2
JMJ2	Miyako jima3	1.22	185	P		Pn	23 49 11.2	+0.1
JMJ2				eS		Sg	23 49 28.5	+0.2
JKE	Kume jima 2	1.26	73	P		Pn	23 49 09.6	-2.1
JKE				eS		Sb	23 49 27.2	-0.9
JISG	Ishigakijimahi	1.71	217	P		Pn	23 49 17.2	-0.6
JAGN	Aguni-jima	1.73	69	P		Pn	23 49 17.4	-0.7
JIJ	Ishigaki jima	1.98	217	P		Pn	23 49 21.8	+0.2
JNTH	Nagotoyohara	2.38	76	P		Pn	23 49 27.5	+0.4
JNTH				eS		Sb	23 49 58.5	-1.9
JIH	Iheya	2.50	64	P		Pn	23 49 29.1	+0.4
JOW	Kunigami	2.69	71	P		Pn	23 49 32.4	+1.1
	13nm,0.3s,baz=160,slow=28,SNR=19							
JOW				S		Sn	23 50 05.7	+2.3
	16nm,0.3s,baz=102,slow=18,SNR=4.1							
JOW	Kunigami	2.69	71	P		Pn	23 49 32.2	+0.9
JYRO	Yoronjima	2.90	68	P		Pn	23 49 34.4	+0.3
KSRS	Korea Array	11.65	10	P		Pn	23 51 35.0	+0.7
	0.3nm,0.3s,baz=185,slow=13,SNR=2.1							
CN2	Changchun	17.80	0	eP		P	23 52 58.5	+2.2
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
DAV	Davao City (W)	18.79	180	LR		LR	00 02 07.2	
	comp=Z,67nm,18.0s,baz=48,slow=42							
USRK	Ussuriysk Ar.	18.95	15	LR		LR	00 00 02.5	
	comp=Z,117nm,19.6s,baz=177,slow=36							
GUMO	Guam	22.00	120	LR		LR	23 59 44.5	
	comp=Z,53nm,21.8s,baz=74,slow=30							
KLR	Kul'dur	23.74	10	P		P	23 53 59.8	-0.3
	comp=Z,2.8nm,0.8s,baz=261,slow=7.9,SNR=6.2							
KLR				LR		LR	00 02 58.5	
	comp=Z,130nm,19.3s,baz=200,slow=36							
GTA	Gaotai	25.29	308	eP		P	23 54 15.3	+0.7
GTA				pP		pP	23 54 19.3	+0.4
GTA				sP		pwP	23 54 22.5	+1.1
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
SONM	Songino Array	26.48	330	P		P	23 54 23.8	-1.4
	comp=Z,3.2nm,0.9s,baz=144,slow=8.3,SNR=12							
SONM				LR		LR	00 05 47.5	
	comp=Z,222nm,18.5s,baz=117,slow=38							
KAPI	Kappang	31.29	191	LR		LR	00 07 37.8	
	comp=Z,39nm,20.9s,baz=45,slow=36							
BATI	Baumata	35.99	183	LR		LR	00 11 57.9	
	comp=Z,56nm,18.4s,baz=177,slow=38							
YAK	Yakutsk	36.17	3	LR		LR	00 11 40.7	
	comp=Z,49nm,19.4s,baz=74,slow=38							
MA2	Magadan	37.91	21	LR		LR	00 11 14.4	
	comp=Z,44nm,21.1s,baz=180,slow=36							
MKAR	Makanchi Array	39.86	313	P		P	23 56 21.2	-0.3
	comp=Z,2.2nm,0.6s,baz=101,slow=10,SNR=13							
ZALV	Zalesovo Beam	40.68	224	P		P	23 56 28.9	-1.6
	comp=Z,2.3nm,0.7s,baz=110,slow=8.1,SNR=9.8							
ZALV				LR		LR	00 14 40.3	
	comp=Z,70nm,19.4s,baz=120,slow=38							
PMG	Port Moresby	41.02	146	LR		LR	00 10 47.5	
	comp=Z,63nm,21.9s,baz=300,slow=32							
KURBB	Kurchatov Array	43.33	317	P		P	23 56 48.9	-1.0
	comp=Z,4.6nm,0.8s,baz=108,slow=8.0,SNR=25							
FITZ	Fitzroy Crossi	43.80	180	P		P	23 56 54.2	+0.3
	comp=Z,2.4nm,0.8s,baz=77,slow=2.9,SNR=4.6							
AAK	Ala-Archa	44.57	305	LR		LR	00 18 45.5	
	comp=Z,98nm,18.1s,baz=89,slow=40							
WRA	Warramunga Arr	46.44	168	P		P	23 57 15.6	+0.6
	comp=Z,2.0nm,0.8s,baz=351,slow=8.0,SNR=9.7							
WRA				LR		LR	00 16 47.1	
	comp=Z,38nm,20.0s,baz=28,slow=36							
NRIK	Noril'sk	48.76	343	LR		LR	00 20 20.6	
	comp=Z,116nm,20.6s,baz=151,slow=39							
ASAR	Alice Springs	50.01	170	P		P	23 57 43.7	+1.2
	comp=Z,12nm,0.8s,baz=355,slow=8.9,SNR=12							
CTA	Charters Tower	50.04	154	LR		LR	00 18 22.3	
	comp=Z,34nm,20.1s,baz=71,slow=35							
ARU	Arti	56.05	322	LR		LR	00 24 27.1	
	comp=Z,133nm,19.7s,baz=84,slow=38							
AKTO	Aktyubinsk	56.24	315	LR		LR	00 24 23.4	
	comp=Z,83nm,18.7s,baz=60,slow=38							
GEYT	Alibeck	57.25	300	LR		LR	00 25 52.1	
	comp=Z,56nm,18.9s,baz=322,slow=39							
STKA	Stephens Creek	59.55	164	LR		LR	00 26 52.5	
	comp=Z,33nm,18.1s,baz=26,slow=38							
KIRV	Kirov	61.00	324	LR		LR	00 28 30.3	
	comp=Z,57nm,18.3s,baz=89,slow=39							
KBZ	Khabaz	67.38	309	P		P	23 59 43.8	+0.6
	comp=Z,2.1nm,0.8s,baz=98,slow=3.9,SNR=4.6							
YKA	Yellowknife Ar	79.81	24	P		P	00 00 54.5	-1.5
	comp=Z,1.7nm,0.8s,baz=304,slow=5.2,SNR=34							
RPZ	Rata Peaks	80.98	148	LR		LR	00 33 59.9	
	comp=Z,66nm,21.3s,baz=253,slow=33							
EKA	Eskdalemuir Ar	87.91	333	LR		LR	00 44 11.5	
	comp=Z,72nm,19.5s,baz=5.5,slow=38							
NVAR	Mina Array Bea	92.48	45	P		P	00 01 59.8	+0.3
	comp=Z,0.2nm,0.5s,baz=311,slow=5.5,SNR=2.4							
ESDC	Sonseca Array	99.45	323	LR		LR	00 50 47.2	
	comp=Z,54nm,19.0s,baz=30,slow=37							

THE 18 00:14:14.7,35.36N×22.71E,h0km±3km,ML1.2/5,Error ellipse: s-maj=5.0km s-min=0.9km az=231.0,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANKY	Antikythira Is	0.70	43	P		Pg	00 14 28.2	0.0
ANKY				S		Sg	00 14 38.2	+0.9
	32nm,0.5s							
KNDR	Palaiochora Ch	0.81	98	P		Pg	00 14 28.9	-1.2
KNDR				S		Sg	00 14 40.7	+0.1
	15nm,0.5s							
RODP	Rodopos	0.88	76	P		Pg	00 14 31.7	+0.2
RODP				S		Sb	00 14 44.8	-0.3
	7.5nm,0.4s							
KTHR	Kythira	0.94	15	P		Pg	00 14 32.3	-0.3
KTHR				S		Sb	00 14 45.9	-0.9
	25nm,0.4s							
KTHA	Kythira Island	0.94	17	P		Pg	00 14 33.1	+0.3
KTHA				S		Sb	00 14 46.4	-0.6
	20nm,0.5s							
IMMV	Iera Moni Meta	1.04	84	P		Pg	00 14 33.6	-1.1
VLI	Veliai	1.37	8	P		Pg	00 14 40.0	-1.0

ISK 18 00:15:04.3,35.33N×23.70E,h14km,ML1.0/3,Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KNDR	Palaiochora Ch	0.10	185	PG		Pg	00 15 07.8	+0.4
KNDR				SG		Sg	00 15 10.4	+0.9
RODP	Rodopos	0.23	12	PG		Pg	00 15 09.7	+0.3
RODP				SG		Sb	00 15 13.7	-0.7
IMMV	Iera Moni Meta	0.27	61	PG		Pg	00 15 10.3	+0.4
GVD	Gavdhos	0.59	147	PG		Pb	00 15 16.2	-0.2

IDC ***18*** *00:18:53.1±4.3,6.97N×94.65E,h102km±40km,mb3.4/7, mb1 3.6/8,mb1mx3.2/56,mbtmp3.8/8,Error ellipse: s-maj=43.3km s-min=19.5km az=51.0*

ISC 18 00:18:52.9±0.8,7.70N±0.2×94.66E±0.2,h100km,n8,σ0§77/9, mb3.7/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	Prapat	5.98	134	P		Pn	00 20 19.9	+0.8
	0.8nm,0.3s,baz=322,slow=7.0,SNR=5.7							
MKAR	Makanchi Array	41.04	347	P		P	00 26 26.8	+0.3
	0.2nm,0.4s,baz=181,slow=8.6,SNR=2.8							
WRA	Warramunga Arr	47.37	125	P		P	00 27 16.8	-0.6
	0.5nm,0.4s,baz=306,slow=8.3,SNR=10							
ASAR	Alice Springs	48.99	130	P		P	00 27 29.2	-0.6
	0.4nm,0.4s,baz=305,slow=8.0,SNR=7.6							
ASAR				pP		pwP	00 27 55.2	-0.8
	0.1nm,0.3s,baz=304,slow=6.6,SNR=1.4							
BRTR	Keskin Array B	63.36	311	P		P	00 29 11.1	-0.8
	0.3nm,0.8s,baz=94,slow=5.8,SNR=2.6							
FINES	FINESS Array B	73.70	332	P		P	00 30 15.9	+0.2
	1.4nm,0.5s,baz=95,slow=5.1,SNR=12							
BOSA	Boshof	75.52	238	P		P	00 30 27.4	+0.4
	1.5nm,0.8s,baz=45,slow=5.7,SNR=3.7							
ARCES	ARCESS Array B	76.25	340	P		P	00 30 30.9	+0.7
	3.5nm,1.0s,baz=108,slow=7.7,SNR=2.1							

IDC ***18*** *00:38:50.8±0.9,0.34N×80.03W,h0km,mb3.8/11, mb1 4.0/13,mb1mx3.9/29,mbtmp3.8/13,ML2.9/2,MS3.4/15, Ms1 3.4/15,ms1mx3.2/66,Error ellipse: s-maj=30.3km s-min=15.9km az=63.0*

IGQ ***18*** *00:38:53±1.7,0.7N×5.5×8.0W±.°,h6km*

NEIC ***18*** *00:38:54.3±3.0,0.27N±0.05×80.19W±0.06,h10km±1km, mb4.4/40,Error ellipse: s-maj=10.3km s-min=9.1km az=260.0*

VAO ***18*** *00:39:17.4±2.2,0.31S×78.80W,h132km±9km,mb4.3*

ISC 18 00:38:53.2±0.5,0.28N±0.04×80.14W±0.04,h10km,n157, σ1§90/157,mb4.3/26,MS3.4/13,3C,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FLF1	Flavio Alfaro-	0.70	155	S		Sn	00 39 22.0	+1.8
FLF1				P		Pn	00 39 09.0	-0.3
BV15	Puerto Quito-O	0.93	98	S		Sn	00 39 27.0	+1.3
BV15				P		Pg	00 39 11.0	-0.1
GGPT	Toaza - Volcan	1.60	108	P		Pn	00 39 22.0	0.0
GGPC	Guagua Pichinc	1.61	106	P		Pn	00 39 22.0	-0.3
PULU	Pululahua	1.66	99			Pn	00 39 23.2	+0.4
PULU	Pululahua	1.66	99	P		Pn	00 39 22.0	-0.8
OTAV	Otavalo	1.69	91	Pn		Pn	00 39 23.9	+0.6
ILLI	Illinizas Sur	1.73	125	P		Pn	00 39 24.0	+0.2
CUSE	Cuicocha Este	1.74	89	eP		Pn	00 39 25.0	+1.0
CUSE				eS		Sg	00 39 50.9	+1.5
CUSE	Cuicocha Este	1.74	89	P		Pn	00 39 24.0	0.0
CUIC	Cuicocha-Domo	1.78	89	P		Pn	00 39 25.0	+0.5
CUSW	Cuicocha Oeste	1.79	90	P		Pn	00 39 25.0	+0.4
TOMA	Boca Toma-Volc	1.88	114	P		Pn	00 39 27.0	+1.2
SRAM	San Ramn-Vol	1.88	123	P		Pn	00 39 27.0	+1.2
SUCR	Mariscal Sucre	1.89	119	P		Pn	00 39 27.0	+1.0
URCU	Urcuqui	1.89	85	P		Pn	00 39 27.0	+1.0
SLOR	San Lorenzo -	1.93	121	Pn		Pn	00 39 27.7	+1.1
SLOR	San Lorenzo -	1.93	121	P		Pn	00 39 28.0	+1.5
BMOR	Cotopaxi Volca	1.96	121	P		Pn	00 39 28.0	+0.9
BRRN	Barrancas-Volc	1.97	122	P		Pb	00 39 29.0	-0.6
ANTG	Antisana-Guama	2.04	112	P		Pn	00 39 29.0	+0.8
VCES	Cotopaxi	2.05	122	P		Pn	00 39 30.0	+1.7
YAHU	Yahuarcocha	2.07	88	P		Pb	00 39 31.0	-0.2
ANTM	Antisana-La Mi	2.08	113	P		Pn	00 39 30.0	+1.2
ANTS	Antisana-Sarah	2.12	111	P		Pn	00 39 31.0	+1.7
CHMA	Chilma	2.16	74	P		Pn	00 39 30.0	+0.4
CAYA	Cayambe	2.16	96	P		Pn	00 39 32.0	+2.2
CHSH	Refugio Sur-Vo	2.17	144	P		Pn	00 39 31.0	+0.9
LNGL	El Angel-Carch	2.19	78	P		Pn	00 39 31.0	+0.8
PORT	Chimborazo Vol	2.21	142	Pn		Pn	00 39 31.6	+1.1
CHL1	Volcn Chiles	2.25	77	P		Pn	00 39 32.0	+0.9
TAMH	Tambohuasha Ch	2.27	143	P		Pn	00 39 32.0	+0.8
TULM	Tulcn-Chalpat	2.39	80	Pn		Pn	00 39 35.6	+2.6
TULM	Tulcn-Chalpat	2.39	80	eP		Pn	00 39 35.5	+2.6
TULM				eS		Sb	00 40 07.0	+0.5
TULM	Tulcn-Chalpat	2.39	80	P		Pn	00 39 35.0	+2.0
BRUN	Tungurahua Vol	2.42	134	P		Pn	00 39 35.0	+1.8
COHC	Cochancay	2.87	162	Pn		Pn	00 39 39.5	+0.4
GR1C	Gorgona, Isla	3.35	36	eP		Pn	00 39 42.5	-3.2
GR1C				eS		Sg	00 40 38.7	-2.2
CRUC	La Cruz	3.44	68	eP		Pn	00 39 49.2	+2.0
CRUC				eS		Sb	00 40 36.6	+0.1
BOSC	San Juan Bosco	3.79	154			Pn	00 39 55.2	+3.4
ARNL	Arenillas	3.81	179			Pn	00 39 53.1	+1.1
SOTA	Rioblanco	3.98	62	eP		Pn	00 39 57.1	+2.2
SOTA				eS		Sn	00 40 46.3	+4.4
POPC	Popayan, Colom	4.13	57	eP		Pn	00 39 56.8	+0.2
POPC				eS		Sn	00 40 47.0	+1.9
PCON	Cinco Dias	4.26	61	eP		Pn	00 40 00.6	+1.9
PCON				eS		Sn	00 40 49.8	+1.0
MCRA	Macar, Loja	4.62	178			Pn	00 40 05.2	+2.0
MARP	Paez Belalcaza	4.90	59	eP		Pn	00 40 09.6	+2.4
MARP				eS		Sb	00 41 13.6	-4.9
GARC	Garzon, Huila	5.02	68	eP		Pn	00 40 11.3	+2.4
BETC	Betania	5.27	63	eP		Pn	00 40 15.3	+3.1
YOTC	Yotoco, Valle	5.28	46	eP		Pn	00 40 11.9	-0.5
YOTC				eS		Sn	00 41 09.5	-3.9
PTLC	Puerto Leguiza	5.35	91⇑	eP		Pn	00 40 15.9	+2.7
PTLC				eS		Sn	00 41 11.8	-3.1
PLMC	San Jos del P	6.00	40	eP		Pn	00 40 26.5	+4.3
ORTC	Ortega, Tolima	6.08	54	eP		Pn	00 40 26.5	+3.2
MACC	Macarena, Meta	6.56	74	eP		Pn	00 40 32.4	+2.5
GUY2C	Guyana, Caldas	6.84	44	eP		Pn	00 40 37.0	+2.8
GUY2C				eS		Sn	00 41 53.7	+1.2
CBOC	Ciudad Bolivar	6.91	37	eP		Pn	00 40 38.7	+3.9
ROSC	El Rosal	7.37	52	Pn		Pn	00 40 45.0	+3.7
	12nm,0.3s,baz=338,slow=3.3,SNR=12							
ROSC				Sn		Sn	00 42 09.6	+4.3
	1.5nm,0.3s,baz=79,slow=21,SNR=1.3							
ROSC	El Rosal	7.37	52	eP		Pn	00 40 45.1	+3.8
NORC	Norcasia	7.43	45	eP		Pn	00 40 47.6	+5.7
HELC	Santa Helena	7.46	38	eP		Pn	00 40 47.2	+4.7
VILC	Villavicencio,	7.48	59	eP		Pn	00 40 45.6	+2.9
CHIC	Chingaza	7.72	56⇑	eP		Pn	00 40 51.5	+5.3
SPBC	San Pablo de B	8.07	49	eP		Pn	00 40 54.4	+3.6
PTBC	PUERTO BERRIO,	8.42	42⇑	eP		Pn	00 40 59.2	+3.8
BRU2	Volcan	8.83	343	Pn		Pn	00 41 02.5	+1.4
ZARC	Zaragoza, Cauc	8.89	36			Pn	00 41 04.1	+2.2
ZARC	Zaragoza, Cauc	8.89	36	eP		Pn	00 41 07.0	+5.1
RUSC	La Rusia	8.98	52	eP		Pn	00 41 05.8	+2.2
DRK0	Durika	9.44	341			Pn	00 41 10.6	+1.0
SRBA	San Rafael, Bu	9.45	340			Pn	00 41 10.9	+1.2
PAYG	Puerto Ayora	10.19	265	Pn		Pn	00 41 20.6	+1.0
JACO	JACO, Garabito	10.35	334	Pn		Pn	00 41 23.6	+1.8
OCAC	Ocana	10.43	41	Pn		Pn	00 41 24.4	+1.3
SJCC	San Jacinto, C	10.75	27	Pn		Pn	00 41 29.9	+2.4
CZSB	Cruzeiro do Su	10.88	137	eP		Pn	00 41 30.3	+1.1
JTS	Las Juntas de	11.04	334	LR		LR	00 44 54.0	
	comp=Z,161nm,20.6s,baz=228,slow=33							
COVE	Coope Vega, Sa	11.20	338	Pn		Pn	00 41 33.9	+0.3
NNA	Nana	12.62	165	Pn		Pn	00 41 51.3	-1.7
	0.5nm,0.3s,baz=200,slow=17,SNR=1.8							
NNA				Sn		Sn	00 44 15.2	+1.4
	1.1nm,0.3s,baz=102,slow=14,SNR=1.7							
NNA				LR		LR	00 47 40.0	
	comp=Z,59nm,19.7s,baz=338,slow=42							
NNA	Nana	12.62	165			Pn	00 41 54.4	+1.3
SDV	Santo Domingo	12.76	48	Pn		Pn	00 41 52.5	-2.5
	0.1nm,0.3s,baz=50,slow=19,SNR=1.6							
SDV	Santo Domingo	12.76	48			Pn	00 41 57.8	+2.8
SDV	Santo Domingo	12.76	48	eP		Pn	00 42 07.6	+13
BAUV	El Baul	14.81	54	Pn		Pn	00 42 24.7	+1.8
ETMB	Extrema	17.11	126	eP		Pn	00 42 53.0	+0.2
BIRV	Birongo	17.11	53			P	00 42 54.9	+0.5
SAML	Samuel	19.22	119			P	00 43 17.9	+0.2
LPAZ	La Paz	20.29	145	P		P	00 43 30.6	+0.7
	3.5nm,0.7s,baz=325,slow=8.7,SNR=14							
LPAZ				LR		LR	00 53 18.5	
	comp=Z,136nm,18.9s,baz=316,slow=43							
LPAZ	La Paz	20.29	145	P		P	00 43 31.2	+1.2
LPAZ	La Paz	20.29	145	eP		P	00 43 29.8	-0.2
PB16	IPOC Station P	21.25	151	P		P	00 43 40.7	+0.4
CRPR	Cabo Rojo, PR	21.78	35	P		P	00 43 46.8	+1.4
CRPR				IAmb		IAmb	00 44 00.2	
	comp=Z,17nm,1.1s							
MLPR	Magueyes Islan	21.79	36	P		P	00 43 45.8	+0.3
MLPR				IAmb		IAmb	00 44 01.5	
	comp=Z,15nm,1.3s							
CMIG	Matias Romero	22.13	320	LR		LR	00 50 29.5	
	comp=Z,73nm,20.1s,baz=156,slow=32							
CELP	Cerrillos	22.14	36			P	00 43 51.4	+2.0
CELP				IAmb		IAmb	00 43 59.9	
	comp=Z,14nm,1.4s							
TOSP	Speyside	22.34	60	P		P	00 43 50.4	-1.1
PB11	IPOC Station P	22.41	153	P		P	00 43 53.3	+0.9
PB11				IAmb		IAmb	00 44 12.4	
	comp=Z,8.9nm,0.8s							
SJG	San Juan	22.43	37	P		P	00 43 51.5	-0.9
	comp=Z,2.5nm,0.3s,baz=223,slow=5.7,SNR=3.6							
SJG				LR		LR	00 54 19.3	
	comp=Z,65nm,20.0s,baz=202,slow=42							
PDPR	Patillas Dam,	22.44	37	P		P	00 43 53.2	+0.7
GO01	Chusmiza	22.55	152	P		P	00 43 56.1	+2.0
CBYP	Canovanas	22.73	37	P		P	00 44 00.1	+4.4
CBYP				IAmb		IAmb	00 44 07.6	
	comp=Z,9.8nm,0.9s							
CUPR	Culebra, Puert	23.11	38	P		P	00 43 59.3	-0.2
FDF	Fort de France	23.64	52	P		P	00 44 05.7	+0.7
VILB	Vilhena	23.75	124	eP		P	00 44 03.9	-2.1
SIV	San Ignacio	24.82	132	P		P	00 44 14.3	-1.6
	comp=Z,1.6nm,0.7s,baz=296,slow=9.7,SNR=7.7							
SIV				LR		LR	00 54 39.7	
	comp=Z,155nm,18.7s,baz=314,slow=38							
ITTB	Itaituba	24.82	101	eP		P	00 44 14.6	-1.3
LVC	Limon Verde	25.25	155	LR		LR	00 55 50.8	
	comp=Z,62nm,21.2s,baz=322,slow=40							
NPGB	Novo Progresso	25.77	107	eP		P	00 44 21.0	-3.6
MALB	Monte Alegre	25.96	95	eP		P	00 44 25.4	-0.9
PTLB	Pontes e Lacer	25.98	128	eP		P	00 44 26.9	+0.5
PDRB	Porto dos Gac	26.09	118	eP		P	00 44 25.3	-2.1
CLDB	Colider	26.62	115	eP		P	00 44 30.1	-2.2
MDP	Montagnes des	27.88	80	LR		LR	00 56 19.2	
	comp=Z,98nm,19.1s,baz=212,slow=38							
AC02	Maricunga	28.97	159	P		P	00 44 54.2	+0.5
AC02				IAmb		IAmb	00 45 12.2	
	comp=Z,11nm,1.2s							
SNDB	Serra Nova Dou	31.12	114	eP		P	00 45 11.6	-0.7
PEXB	Peixe	33.92	112	eP		P	00 45 36.1	-0.8
CPUP	Villa Florida	34.41	142	LR		LR	01 02 47.4	
	comp=Z,73nm,19.2s,baz=320,slow=42							
CPCT	Cooper Cave	35.23	354	P		P	00 45 51.2	+3.3
BDFB	Brasília	35.45	118	P		P	00 45 48.1	-2.2
	comp=Z,2.6nm,0.7s,baz=287,slow=11,SNR=4.5							
BDFB	Brasilia	35.45	118	P		P	00 45 49.6	-0.7
BDFB				IAmb		IAmb	00 46 06.4	
	comp=Z,7.2nm,1.2s							
IPMB	Ipameri, GO	36.27	122	eP		P	00 45 55.9	-1.3
TXAR	Lajitas Array	36.59	324	PcP		PcP	00 48 21.2	-1.9
	comp=Z,0.4nm,1.0s,baz=162,slow=3.4,SNR=1.9							
SDBA	SAO DESIDERIO	37.17	111	eP		P	00 46 03.9	-1.0
JANB	Januaria	38.56	115	eP		P	00 46 14.8	-1.9
PLTB	Pedras Altas	40.58	144	P		P	00 46 32.5	-0.7
PLTB				IAmb		IAmb	00 46 47.6	
	comp=Z,7.7nm,1.2s							
PLCA	Paso Flores	41.74	169	P		P	00 46 41.9	-0.8
	comp=Z,1.2nm,0.7s,baz=343,slow=10,SNR=2.8							
ANMO	Albuquerque	42.34	327	LR		LR	01 03 59.2	
	comp=Z,25nm,19.7s,baz=172,slow=36							
NBLA	Lagarto - SE	43.56	106	eP		P	00 46 55.5	-2.2
RIB01	Linhares ES	43.57	119	eP		P	00 46 56.4	-1.5
ALF01	Guarapari-ES	43.78	121	eP		P	00 46 58.1	-1.4
NCB	Newcomb	43.82	6	P		P	00 46 58.8	-0.6
NCB				IAmb		IAmb	00 47 01.3	
	comp=Z,11nm,1.3s							
I62A	Tamworth	44.11	9	P		P	00 47 02.4	+0.7
RCBR	Riachuelo	44.58	99	LR		LR	01 07 02.9	
	comp=Z,169nm,19.2s,baz=72,slow=38							
PFO	Pinyon Flats O	47.54	318	LR		LR	01 06 01.5	
	comp=Z,66nm,18.7s,baz=244,slow=34							
BATG	Bathurst New B	48.39	13	P		P	00 47 35.1	-0.3
PDAR	Pinedale Array	49.85	332	P		P	00 47 46.6	-0.4
	comp=Z,0.2nm,0.7s,baz=115,slow=6.4,SNR=2.2		

MKAR	**Makanchi Array**	**39.78**	**313**	P	**P**	**01 01 04.7**	**-0.3**
	0.5nm,0.8s,baz=104,slow=8.9,SNR=7.0						
MKAR				LR	LR	01 18 33.5	
	comp=Z,60nm,19.2s,baz=92,slow=38						
ZALV	**Zalesovo Beam**	**40.87**	**324**	P	**P**	**01 01 13.1**	**-0.7**
	0.2nm,0.4s,baz=128,slow=32,SNR=1.3						
ZALV				LR	LR	01 20 37.2	
	comp=Z,46nm,18.1s,baz=111,slow=40						
AAK	**Ala-Archa**	**44.50**	**305**	LR	LR	01 23 29.5	
	comp=Z,93nm,18.2s,baz=78,slow=40						
WRA	**Warramunga Arr**	**46.55**	**168**	P	**P**	**01 01 58.9**	**-1.0**
	0.3nm,0.8s,baz=352,slow=8.5,SNR=1.9						
ARU	**Arti**	**55.96**	**322**	LR	LR	01 29 01.7	
	comp=Z,51nm,19.5s,baz=77,slow=38						
KIRV	**Kirov**	**60.91**	**324**	LR	LR	01 32 34.2	
	comp=Z,85nm,19.9s,baz=79,slow=38						
HFS	**Hagfors**	**77.78**	**332**	LR	LR	01 43 55.3	
	comp=Z,60nm,18.3s,baz=49,slow=39						
EIL	**Elat**	**77.95**	**297**	LR	LR	01 45 36.9	
	comp=Z,22nm,19.6s,baz=70,slow=40						
YKA	**Yellowknife Ar**	**79.71**	**24**	P	**P**	**01 05 39.0**	**-0.6**
	0.7nm,1.0s,baz=306,slow=5.2,SNR=8.7						

*IDC **18** 01:54:44.2±1.4,25°.88N×125°.39E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/55, mbtmp3.4/5, ML2.7/1, MS3.5/2, Ms1 3.6/2, ms1mx2.8/53, Error ellipse: s-maj=32.8km s-min=27.3km az=18.0*

*JMA **18** 01:54:45.9±0.3, 26°.06N×125°.43E, h0km, M3.0*

ISC 18 01:54:45.0±2.4, 26°.02N±0°.07×125°.40E±0°.09, h2km±15km, n13, σ1°17/16, mb3.4/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.10**	**187**	P		**Pn**	**01 55 08.2**	**+0.7**
JIKM				*eS*		**Sn**	**01 55 23.2**	**-0.2**
JIRB	**Irabujima**	**1.21**	**190**	P		**Pn**	**01 55 09.6**	**+0.6**
JIRB				*eS*		**Sn**	**01 55 26.7**	**+0.7**
JKE	**Kume jima 2**	**1.28**	**76**	P		**Pg**	**01 55 09.6**	**+0.1**
JKE				*eS*		**Sg**	**01 55 26.7**	**+0.6**
JMJ2	**Miyako jima3**	**1.28**	**183**	P		**Pn**	**01 55 11.2**	**+1.2**
JMJ2				*eS*		**Sn**	**01 55 29.4**	**+1.7**
JIH	**Iheya**	**2.51**	**66**	P		**Pb**	**01 55 30.5**	**-0.3**
JOW	**Kunigami**	**2.70**	**72**	Pn		**Pn**	**01 55 31.1**	**+1.6**
	2.2nm,0.3s,baz=120,slow=22,SNR=5.8							
JOW				Sn		**Sn**	**01 56 03.0**	**+0.2**
	2.8nm,0.3s,baz=278,slow=12,SNR=5.4							
JOW	**Kunigami**	**2.70**	**72**	P		**Pb**	**01 55 32.2**	**-1.9**
CMAR	**Chiang Mai Arr**	**25.59**	**258**	LR		LR	02 11 16.4	
	comp=Z,68nm,19.8s,baz=70,slow=39							
SONM	**Songino Array**	**26.41**	**330**	P		**P**	**02 00 24.1**	**+0.9**
	0.8nm,0.9s,baz=146,slow=10,SNR=3.3							
MKAR	**Makanchi Array**	**39.79**	**313**	P		**P**	**02 02 19.5**	**0.0**
	0.3nm,0.7s,baz=90,slow=8.6,SNR=2.9							
WRA	**Warramunga Arr**	**46.51**	**168**	P		**P**	**02 03 12.3**	**-1.8**
	0.4nm,0.8s,baz=350,slow=8.4,SNR=2.5							
GNI	**Garni**	**66.91**	**305**	LR		LR	02 36 06.6	
	comp=Z,46nm,21.2s,baz=75,slow=37							
YKA	**Yellowknife Ar**	**79.77**	**24**	P		**P**	**02 06 54.2**	**-0.2**
	0.3nm,0.9s,baz=304,slow=5.0,SNR=5.1							

NOU 18 01:55:50.2, 14°.25S×166°.74E, h0km, MLv4.5/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.27**	**159**	P		Pg	01 56 13.4	-1.2
KOUNC	**Koumac, New Ca**	**6.69**	**200**	P		Pn	01 57 29.3	-0.5
DZM	**Mont Dzumac**	**7.78**	**182**	P		Pn	01 57 45.0	+0.1

*IDC **18** 01:57:22.8±0.9, 3°.70N×64°.04E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.6/60, mbtmp3.7/9, MS3.8/3, Ms1 3.8/3, ms1mx2.8/83, Error ellipse: s-maj=29.3km s-min=23.2km az=56.0*

ISC 18 01:57:26.2±1.0, 3°.7N±0°.2×64°.0E±0°.2, h23km, n15, σ0°64/10, mb3.6/9, MS3.8/3, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**34.86**	**90**	LR		LR	02 17 12.7	
	comp=Z,99nm,18.0s,baz=30,slow=34							
MATP	**Matopo**	**42.30**	**234**	P		**P**	**02 05 18.4**	**-0.3**
	1.6nm,0.7s,baz=37,slow=11,SNR=3.0							
BRTR	**Keskin Array B**	**45.20**	**327**	P		**P**	**02 05 42.5**	**+0.8**
	0.2nm,0.4s,baz=121,slow=7.2,SNR=3.6							
MKAR	**Makanchi Array**	**45.77**	**17**	P		**P**	**02 05 45.7**	**-0.3**
	0.3nm,0.7s,baz=203,slow=5.6,SNR=2.6							
AKTO	**Aktyubinsk**	**46.86**	**355**	P		**P**	**02 05 55.0**	**+0.5**
	1.3nm,0.6s,baz=175,slow=10,SNR=4.7							
AKTO				LR		LR	02 26 55.8	
	comp=Z,128nm,18.2s,baz=78,slow=38							
BELG	**Belogornoye**	**50.42**	**347**	LR		LR	02 29 43.2	
	comp=Z,98nm,20.4s,baz=27,slow=38							
ZALV	**Zalesovo Beam**	**52.92**	**15**	P		**P**	**02 06 39.3**	**-1.1**
	0.6nm,0.7s,baz=219,slow=8.9,SNR=2.4							
SONM	**Songino Array**	**57.05**	**33**	P		**P**	**02 07 10.4**	**-0.2**
	0.4nm,0.6s,baz=216,slow=6.2,SNR=3.6							
H01W3	**Cape Leeuwin H**	**60.68**	**134**	T		T	03 13 19.9	
	baz=300,slow=75,SNR=11							
H01W2	**Cape Leeuwin H**	**60.68**	**134**	T		T	03 13 21.1	
	baz=300,slow=75,SNR=10							
H01W1	**Cape Leeuwin H**	**60.70**	**134**	T		T	03 13 23.4	
	baz=300,slow=75,SNR=12							
ESDC	**Sonseca Array**	**70.77**	**311**	P		**P**	**02 08 40.6**	**-0.4**
	0.4nm,0.8s,baz=91,slow=5.5,SNR=2.4							
WRA	**Warramunga Arr**	**72.87**	**112**	P		**P**	**02 08 54.5**	**+0.5**
	1.5nm,0.8s,baz=290,slow=5.5,SNR=10							
ASAR	**Alice Springs**	**73.19**	**116**	P		**P**	**02 08 56.0**	**+0.2**
	0.9nm,0.8s,baz=286,slow=7.0,SNR=8.0							
TXAR	**Lajitas Array**	**145.11**	**341**	PKPbc		**PKPdf**	**02 17 02.8**	**+0.1**
	0.2nm,0.7s,baz=100,slow=3.8,SNR=2.0							

*IDC **18** 01:58:36.4±1.1, 44°.93N×111°.96W, h0km, mb1 3.3/2, mb1mx3.1/56, mbtmp2.9/2, ML3.0/2, Error ellipse: s-maj=15.3km s-min=7.5km az=49.0*

*NEIC **18** 01:58:39.3±1.2, 45°.01N±0°.02×111°.88W±0°.02, h1km±6km, Error ellipse: s-maj=3.3km s-min=2.0km az=208.0*

*BUT **18** 01:58:39.2±1.0, 45°.04N±0°.02×111°.87W±0°.02, h2km±7km, ML3.2/28, ML2.9/62(NEIC), Error ellipse: s-maj=3.5km s-min=2.1km az=209.0*

ISC 18 01:58:39.1±1.1, 45°.03N±0°.03×111°.87W±0°.02, h7km±12km, n80, σ1°01/84, Montana

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
QLMT	**Earthquake Lak**	**0.37**	**122**			**Pg**	**01 58 46.4**	**0.0**
QLMT					Sg	**Sg**	**01 58 51.8**	**+0.5**
YHL	**Hebgen Lake**	**0.52**	**110**			**Pg**	**01 58 49.0**	**-0.2**
YHL	**Hebgen Lake**	**0.52**	**110**	IAML			01 58 58.2	
	comp=E,1μm,0.4s							
YHL				IAML			01 58 58.4	
	comp=N,612nm,0.6s							
CMI	**Centennial Mou**	**0.53**	**161**			**Pg**	**01 58 49.6**	**+0.2**
YPDC	**Denny Creek**	**0.55**	**125**			**Pg**	**01 58 49.8**	**0.0**
YHB	**Horse Butte**	**0.56**	**120**			**Pg**	**01 58 49.9**	**+0.1**
GCR	**Grayling Creek**	**0.59**	**113**			**Pg**	**01 58 50.9**	**+0.4**
BOZ	**Bozeman (W)**	**0.59**	**17**			**Pg**	**01 58 50.1**	**-0.4**
BOZ					Sg	**Sg**	**01 58 58.0**	**-0.3**
BOZ				IAML			01 59 00.2	
	comp=N,621nm,0.3s							
BOZ				IAML			01 59 05.1	
	comp=N,555nm,0.3s							
DLMT	**Dillon**	**0.61**	**303**			**Pg**	**01 58 51.1**	**+0.1**
DLMT					Sg	**Sg**	**01 58 59.6**	**+0.6**
DLMT				IAML			01 59 00.2	
	comp=N,373nm,0.3s							
YMC	**Maple Creek**	**0.67**	**113**			**Pg**	**01 58 52.2**	**+0.1**
YPWB	**West Boundary**	**0.69**	**127**			**Pg**	**01 58 52.9**	**+0.4**
MCMT	**McKenzie Canyo**	**0.72**	**254**			**Pg**	**01 58 53.0**	**-0.1**
YMR	**Madison River**	**0.74**	**119**			**Pg**	**01 58 53.2**	**-0.1**
YMR					Sg	**Sg**	**01 59 03.0**	**+0.1**
YMR				IAML			01 59 05.7	
	comp=E,753nm,0.3s							
YMR				IAML			01 59 09.0	
	comp=N,692nm,0.6s							
PZCI	**Patelzick Cree**	**0.76**	**205**			**Pg**	**01 58 54.1**	**+0.4**
YHH	**Holmes Hill**	**0.76**	**108**	Pg		**Pg**	**01 58 53.5**	**-0.4**
YHH					Sg	**Sg**	**01 59 03.6**	**-0.2**
YHH				IAML			01 59 06.4	
	comp=N,315nm,0.4s							
YHH				IAML			01 59 07.0	
	comp=E,271nm,0.7s							
YPM	**Purple Mountai**	**0.80**	**117**			**Pg**	**01 58 55.1**	**+0.5**
YMV	**Mammoth Vault**	**0.84**	**93**			**Pg**	**01 58 55.1**	**-0.1**
LRM	**Limekiln Ridge**	**0.89**	**333**			**Pg**	**01 58 56.2**	**-0.1**
YNR	**Norris Junctio**	**0.90**	**110**			**Pg**	**01 58 56.3**	**-0.2**
YNR				IAML			01 58 59.6	
	comp=E,284nm,0.2s							
YNR				Sg		**Sg**	**01 59 07.8**	**-0.4**
YNR				IAML			01 59 11.8	
	comp=N,208nm,0.2s							
YFT	**Old Faithful**	**0.94**	**128**			**Pg**	**01 58 56.9**	**-0.2**
YFT					Sg	**Sg**	**01 59 09.2**	**0.0**
YML	**Mary Lake**	**0.97**	**115**			**Pg**	**01 58 58.1**	**+0.3**
MCID	**Moose Creek**	**0.97**	**149**			**Pg**	**01 58 57.9**	**+0.1**
YUF	**Upper Falls**	**1.02**	**108**	Pg		**Pg**	**01 58 58.5**	**-0.1**
ICI	**Italian Canyon**	**1.04**	**228**			**Pg**	**01 58 58.5**	**-0.5**
YPP	**Pitchstone Pla**	**1.07**	**135**			**Pg**	**01 58 59.9**	**+0.1**
YLT	**Little Thumb C**	**1.09**	**123**			**Pn**	**01 59 01.5**	**+0.6**
YJC	**Joseph's Coat**	**1.11**	**104**			**Pg**	**01 59 01.1**	**+0.6**
H17A	**Grant Village**	**1.12**	**124**			**Pg**	**01 59 00.9**	**+0.3**
LKWY	**Lake**	**1.15**	**113**	Pg		**Pg**	**01 59 01.2**	**+0.1**
EMI	**Eightmile Cany**	**1.22**	**219**			**Pg**	**01 59 01.8**	**-0.6**
YMS	**Mount Sheridan**	**1.23**	**128**			**Pg**	**01 59 02.7**	**0.0**
YPSB	**Soda Butte**	**1.23**	**96**			**Pg**	**01 59 02.4**	**-0.3**
YMP	**Mirror Lake Pl**	**1.25**	**103**			**Pb**	**01 59 03.7**	**+0.5**
YMP				IAML			01 59 25.5	
	comp=E,215nm,0.5s							
YMP				IAML			01 59 27.2	
	comp=N,202nm,0.3s							
YPLA	**Lake Butte**	**1.25**	**114**			**Pg**	**01 59 03.5**	**+0.4**
FLWY	**Flagg Ranch**	**1.26**	**138**			**Pg**	**01 59 02.8**	**-0.5**
FLWY				IAML			01 59 21.5	
	comp=N,174nm,0.7s							
FLWY				IAML			01 59 21.5	
	comp=N,157nm,0.7s							
YTP	**The Promontory**	**1.30**	**119**			**Pg**	**01 59 03.6**	**-0.4**
BCYI	**Bear Canyon**	**1.31**	**237**			**Pg**	**01 59 03.4**	**-0.8**
MOOW	**Moose Ponds**	**1.51**	**147**			**Pn**	**01 59 06.7**	**-0.1**
FXWY	**Fox Creek**	**1.52**	**156**	Pn		**Pn**	**01 59 06.8**	**-0.1**
TPAW	**Teton Pass**	**1.68**	**156**			**Pn**	**01 59 09.8**	**+0.7**
TPAW				IAML			01 59 36.7	
	comp=N,179nm,0.6s							
HRY	**Holter Researc**	**1.68**	**1**			**Pn**	**01 59 09.6**	**+0.6**
LOHW	**Long Hollow**	**1.68**	**147**			**Pn**	**01 59 09.8**	**+0.7**
LOHW				IAML			01 59 33.3	
	comp=N,141nm,0.4s							
LOHW				IAML			01 59 33.4	
	comp=N,149nm,0.6s							
GCMT	**Greycliff**	**1.73**	**63**			**Pn**	**01 59 10.4**	**+0.7**
SNOW	**Snow King Moun**	**1.76**	**153**			**Pn**	**01 59 11.4**	**+1.2**
SNOW				IAML			01 59 36.6	
	comp=N,110nm,0.3s							
SNOW				IAML			01 59 41.0	
	comp=N,151nm,0.7s							
REDW	**Red Top Meadow**	**1.82**	**156**			**Pn**	**01 59 12.3**	**+1.3**
REDW				IAML			01 59 38.6	
	comp=N,137nm,0.4s							
REDW				IAML			01 59 41.1	
	comp=N,140nm,0.6s							
RLMT	**Red Lodge**	**1.85**	**86**			**Pn**	**01 59 12.8**	**+1.5**
ECR	**Eagle Creek**	**2.01**	**169**	Pn		**Pn**	**01 59 14.9**	**+1.3**
MSO	**Missoula**	**2.31**	**322**	Pn		**Pn**	**01 59 18.1**	**+0.5**
MSO				IAML			01 59 52.9	
	comp=N,97nm,0.5s							
AHID	**Auburn Hatcher**	**2.33**	**166**	Pn		**Pn**	**01 59 19.5**	**+1.5**
AHID				IAML			01 59 54.5	
	comp=N,71nm,0.4s							
AHID				IAML			01 59 55.6	
	comp=N,77nm,1.6s							
HLID	**Hailey**	**2.34**	**232**			**Pn**	**01 59 19.7**	**+1.6**
HLID				IAML			01 59 54.4	
	comp=N,93nm,0.5s							
PD31	**Pinedale Array**	**2.81**	**143**	Pn		**Pn**	**01 59 25.5**	**+0.8**
PDAR	**Pinedale Array**	**2.81**	**143**	Pg		**Pb**	**01 59 27.9**	**-1.8**
	comp=N,2.4nm,0.3s,baz=336,slow=15,SNR=58							
PDAR				Lg		Lg	02 00 03.9	
	comp=N,1.9nm,0.3s,baz=338,slow=28,SNR=10.0							
PDAR	**Pinedale Array**	**2.81**	**143**	Pn		**Pn**	**01 59 26.5**	**+1.9**
PLID	**Pearl Lake**	**2.93**	**273**	Pn		**Pn**	**01 59 27.5**	**+1.2**
PLID				IAML			02 00 14.7	
	comp=N,52nm,0.4s							
JTMT	**Jette**	**3.19**	**329**	Pn		**Pn**	**01 59 30.6**	**+0.8**
MFID	**Camas Ranch**	**3.27**	**242**	Pn		**Pn**	**01 59 32.1**	**+1.2**
EGMT	**Eagleton**	**3.33**	**25**	Pn		**Pn**	**01 59 32.5**	**+0.8**
HWUT	**Hardware Ranch**	**3.43**	**176**	Pn		**Pn**	**01 59 32.9**	**-0.2**
BMO	**Blue Mountains**	**3.86**	**269**	Pn		**Pn**	**01 59 39.4**	**+0.4**
BMO				IAML			02 00 42.3	
	comp=N,17nm,0.5s							
BMO				IAML			02 00 42.9	
	comp=N,21nm,0.4s							
F10A	**Beach Ranch, E**	**3.88**	**286**	Pn		**Pn**	**01 59 40.7**	**+1.4**
WALA	**Waterton Lakes**	**4.27**	**342**	Pn		**Pn**	**01 59 47.4**	**+2.9**
WALA				IAML			02 01 01.6	
	comp=N,19nm,0.9s							
LAO	**LASA Array**	**4.28**	**65**	Pn		**Pn**	**01 59 44.7**	**0.0**
NEW	**Newport**	**4.85**	**314**	Pn		**Pn**	**01 59 52.5**	**0.0**
	comp=N,0.5nm,0.3s,baz=134,slow=12,SNR=6.2							
NEW				Lg		Lg	02 01 09.9	
	comp=N,1.9nm,0.3s,baz=65,slow=20,SNR=7.6							
NEW	**Newport**	**4.85**	**314**	Pn		**Pn**	**01 59 52.9**	**+0.4**
NEW				IAML			02 01 15.2	
	comp=N,11nm,0.7s							
NEW				IAML			02 01 25.4	
	comp=N,12nm,1.0s							
ELK	**Elko**	**4.95**	**211**	Pg		Pb	02 00 01.1	-5.0
	comp=N,0.6nm,0.3s,baz=29,slow=15,SNR=12							
ELK				Lg		Lg	02 01 08.1	
	comp=N,0.3nm,0.3s,baz=298,slow=22,SNR=1.4							
G08A	**Pilot Rock**	**5.02**	**275**	Pn		**Pn**	**01 59 56.1**	**+1.2**
J08A	**Circle Bar Ran**	**5.03**	**253**	Pn		**Pn**	**01 59 56.5**	**+1.4**
I07A	**Izee**	**5.54**	**263**			**Pn**	**02 00 03.9**	**+1.9**
WVOR	**Wild Horse Val**	**5.55**	**244**	Pn		**Pn**	**02 00 04.1**	**+2.0**
E07A	**Sunnyside**	**5.79**	**288**	Pn		**Pn**	**02 00 06.4**	**+1.0**
B08A	**Colville Reser**	**6.12**	**306**	Pn		**Pn**	**02 00 09.9**	**+0.1**
LTY	**Liberty**	**6.51**	**293**	Pn		**Pn**	**02 00 17.3**	**+2.0**
PV11	**David Mesa, Pa**	**7.09**	**161**	Pn		**Pn**	**02 00 26.6**	**+3.2**
PV13	**Radium Mtn., P**	**7.24**	**161**	Pn		**Pn**	**02 00 27.9**	**+2.5**
CCUT	**Cedar City**	**7.56**	**189**	Pn		**Pn**	**02 00 31.2**	**+1.4**
PKCU	**Pink Cliffs**	**7.59**	**183**	Pn		**Pn**	**02 00 31.0**	**+0.7**
BUCK	**Buck Mountain**	**7.98**	**268**	Pn		**Pn**	**02 00 35.4**	**0.0**
NVAR	**Mina Array Bea**	**8.16**	**218**	Pg		Pb	02 00 53.9	-6.9
	comp=N,0.1nm,0.3s,baz=39,slow=16,SNR=2.1							
S22A	**4UR Ranch, Cre**	**8.20**	**151**	Pn		**Pn**	**02 00 39.5**	**+0.8**
YKA	**Yellowknife Ar**	**17.57**	**356**	P		**Pn**	**02 02 42.0**	**-2.1**
	comp=N,0.0nm,0.3s,baz=182,slow=13,SNR=4.1							

*IDC **18** 02:06:58.6±1.5, 36°.09N×141°.74E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/58, mbtmp3.5/7, ML3.2/2, MS2.3/1, Ms1 2.3/1, ms1mx2.2/60, Error ellipse: s-maj=28.6km s-min=24.3km az=92.0*

*JMA **18** 02:07:03.3±0.2, 36°.32N×141°.73E, h51km±5km, M3.2*

ISC 18 02:07:03.9±1.1, 36°.27N±0°.05×141°.76E±0°.10, h35km, n23, σ0°90/18, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.93**	**232**	P		**Pn**	**02 07 20.5**	**+0.1**
JHYU	**Hitachinakayam**	**0.95**	**274**	P		**Pn**	**02 07 20.5**	**-0.2**
JHO	**Hitachi**	**1.02**	**290**	P		**Pn**	**02 07 21.1**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.13**	**317**	P		**Pn**	**02 07 22.1**	**-1.2**
JFK	**Kawauchi**	**1.30**	**327**	P		**Pn**	**02 07 24.6**	**-1.0**
JFT	**Otama**	**1.69**	**318**	P		**Pn**	**02 07 31.2**	**+0.3**
BSO1	**Boso 1**	**1.74**	**202**	P		**Pn**	**02 07 31.0**	**0.0**
JMM	**Marumori**	**1.77**	**334**	P		**Pn**	**02 07 31.4**	**-0.6**
BSO3	**Boso 3**	**1.79**	**215**	P		**Pn**	**02 07 32.3**	**+0.3**
JAG	**Ashikaga**	**1.87**	**275**	P		**Pn**	**02 07 33.6**	**+0.2**
MJAR	**Matsushiro Arr**	**2.88**	**276**	Pn		**Pn**	**02 07 47.1**	**-0.1**
	1.2nm,0.3s,baz=147,slow=17,SNR=15							
MJAR				Sn		**Sn**	**02 08 21.2**	**+0.5**
	0.7nm,0.3s,baz=158,slow=12,SNR=4.8							
MJAR				LR		LR	02 08 55.1	
	comp=Z,56nm,19.3s,baz=216,slow=40							
JHJ	**Hachijo jima 2**	**3.54**	**208**	Pn		Pn	02 07 50.8	-5.6
	18nm,0.3s,baz=72,slow=17,SNR=1.7							
JHJ				Sn		**Sn**	**02 08 34.8**	**-2.3**
	24nm,0.3s,baz=68,slow=24,SNR=1.6							
H11N2	**WAKE ISLAND Hy**	**27.52**	**120**	T		T	02 41 25.5	
	baz=312,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**27.53**	**120**	T		T	02 41 24.1	
	baz=312,slow=75,SNR=8.6							
H11N3	**WAKE ISLAND Hy**	**27.54**	**120**	T		T	02 41 26.9	
	baz=312,slow=75,SNR=9.0							
H11S1	**WAKE ISLAND Hy**	**28.21**	**122**	T		T	02 42 16.4	
	baz=314,slow=75,SNR=9.9							
H11S3	**WAKE ISLAND Hy**	**28.21**	**122**	T		T	02 42 17.5	
	baz=314,slow=75,SNR=9.0							
H11S2	**WAKE ISLAND Hy**	**28.23**	**122**	T		T	02 42 17.5	
	baz=314,slow=75,SNR=7.9							
SONM	**Songino Array**	**28.45**	**305**	P		**P**	**02 12 55.7**	**+0.2**
	0.5nm,0.7s,baz=101,slow=8.0,SNR=3.8							
ZALV	**Zalesovo Beam**	**42.64**	**313**	P		**P**	**02 14 57.3**	**+0.7**
	0.3nm,0.3s,baz=109,slow=8.6,SNR=1.8							
MKAR	**Makanchi Array**	**44.76**	**303**	P		**P**	**02 15 13.8**	**-0.1**
	0.3nm,0.6s,baz=94,slow=7.0,SNR=4.3							
WRA	**Warramunga Arr**	**56.35**	**188**	P		**P**	**02 16 40.5**	**-0.9**
	0.9nm,1.2s,baz=5.2,slow=7.4,SNR=2.5							
YKA	**Yellowknife Ar**	**64.33**	**30**	P		**P**	**02 17 36.8**	**+1.4**
	0.1nm,0.6s,baz=303,slow=6.4,SNR=1.8							

*IGQ **18** 02:09:26.0±0.5, 1°.S±3°.×8°.1W±°, h5km*

*NEIC **18** 02:09:27.5±2.9, 0°.80S±0°.08×80°.96W±0°.02, h10km±2km, Error ellipse: s-maj=13.0km s-min=3.1km az=4.0*

ISC 18 02:09:25.7±1.7, 0°.74S±0°.04×80°.99W±0°.06, h1km±11km, n89, σ1°59/96, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AMNT	**Manta-Manabi**	**0.32**	**128**	P		**Pg**	**02 09 32.0**	**+0.1**
JAMA	**Jama**	**0.92**	**59**	P		**Pg**	**02 09 43.0**	**-0.3**
JAMA				S		**Sg**	**02 09 57.0**	**+1.8**
FLF1	**Flavio Alfaro-**	**1.21**	**72**	P		**Pb**	**02 09 49.0**	**-0.4**
FLF1				S		**Sn**	**02 10 09.0**	**+2.2**
MAG1	**Magdalena**	**1.38**	**61**	P		**Pn**	**02 09 52.0**	**-0.2**
AMIL	**Milagro (Trans**	**1.96**	**135**	P		**Pn**	**02 10 00.0**	**+0.1**
BV15	**Puerto Quito-O**	**1.98**	**63**	P		**Pn**	**02 09 59.0**	**-1.4**
CHSH	**Refugio Sur-Vo**	**2.25**	**109**	P		**Pn**	**02 10 05.0**	**+0.4**
ILLI	**Illinizas Sur**	**2.26**	**89**	P		**Pn**	**02 10 04.0**	**-0.7**
ILLI				S		**Sn**	**02 10 34.0**	**+0.5**
PORT	**Chimborazo Vol**	**2.33**	**108**	Pn		**Pn**	**02 10 05.6**	**0.0**
PORT	**Chimborazo Vol**	**2.33**	**108**	P		**Pn**	**02 10 05.0**	**-0.7**
PORT				S		**Sb**	**02 10 37.0**	**-1.3**
PAST	**Pastocalle**	**2.34**	**89**	P		**Pn**	**02 10 06.0**	**+0.2**
TAMH	**Tambohuasha Ch**	**2.34**	**110**	P		**Pn**	**02 10 06.0**	**+0.1**
ISPG	**Isla Puna-Puer**	**2.36**	**160**	P		**Pn**	**02 10 06.0**	**+0.4**
HPAL	**Hacienda Las P**	**2.39**	**77**	P		**Pn**	**02 10 05.0**	**-1.4**
SRAM	**San Ramn-Vol**	**2.42**	**90**	P		**Pn**	**02 10 07.0**	**+0.2**
GGPT	**Toaza - Volcan**	**2.42**	**78**	P		**Pn**	**02 10 06.0**	**-0.8**
GGPT				S		**Sn**	**02 10 38.0**	**+0.6**
COHC	**Cochancay**	**2.44**	**135**	Pn		**Pn**	**02 10 05.3**	**-1.3**
JUA2	**San Juan 2**	**2.44**	**78**	P		**Pn**	**02 10 06.0**	**-1.1**
TERV	**Terraza Guagua**	**2.45**	**77**	P		**Pn**	**02 10 06.0**	**-1.3**
PINO	**Pino**	**2.45**	**76**	P		**Pn**	**02 10 06.0**	**-1.4**
GGPC	**Guagua Pichinc**	**2.46**	**77**	P		**Pn**	**02 10 06.0**	**-1.4**
CAMI	**Rancho Maria**	**2.48**	**89**	P		**Pn**	**02 10 08.0**	**+0.3**
SLOR	**San Lorenzo -**	**2.49**	**90**	Pn		**Pn**	**02 10 08.4**	**+0.6**
SLOR	**San Lorenzo -**	**2.49**	**90**	P		**Pn**	**02 10 08.0**	**+0.2**
SUCR	**Mariscal Sucre**	**2.49**	**88**	P		**Pn**	**02 10 08.0**	**+0.1**
YANA	**Yana**	**2.49**	**76**	P		**Pn**	**02 10 07.0**	**-0.9**
BNAS	**Cotopaxi Volca**	**2.51**	**88**	P		**Pn**	**02 10 08.0**	**-0.1**
BRRN	**Barrancas-Volc**	**2.51**	**91**	P		**Pn**	**02 10 08.0**	**-0.1**
NAS2	**Nasa**	**2.52**	**88**	P		**Pn**	**02 10 09.0**	**+0.7**
BMOR	**Cotopaxi Volca**	**2.53**	**90**	P		**Pn**	**02 10 09.0**	**+0.6**
BREF	**Cotopaxi Volca**	**2.55**	**88**	P		**Pn**	**02 10 09.0**	**+0.2**
PITA	**Cotopaxi Volc**	**2.56**	**86**	P		**Pn**	**02 10 09.0**	**+0.2**
TOMA	**Boca Toma-Volc**	**2.56**	**85**

PB02					IAML		02 19 44.0	
	comp=E,982nm,0.5s							
PB09	**IPOC Station P**	**2.01**	**53**	*eP*	**Pn**	**02 19 09.5**	**+0.2**	
PB09				*i* S	**Sb**	**02 19 37.6**	**+0.6**	
PB09				IAML		02 19 42.9		
	comp=N,948nm,0.3s							
PATCX	**Punta Patache**	**2.32**	**19**	*eP*	**Pn**	**02 19 12.3**	**-1.1**	
GO02	**Mina Guanaco**	**2.47**	**150**	⇑*iP*	**Pn**	**02 19 16.1**	**+0.4**	
GO02				IAML		02 19 47.0		
	comp=N,591nm,0.4s							
TA01	**Diego Aracena**	**2.56**	**17**	IAML		02 20 02.4		
	comp=N,352nm,0.6s							
HMBC	**Humberstone**	**2.91**	**20**	IAML		02 20 21.8		
	comp=E,240nm,0.5s							
PB08	**IPOC Station P**	**3.33**	**31**	*eP*	**Pn**	**02 19 30.4**	**+2.8**	
PB08				IAML		02 20 25.3		
	comp=E,113nm,0.3s							
PB11	**IPOC Station P**	**3.47**	**21**	IAML		02 20 31.8		
	comp=N,201nm,0.5s							
GO01	**Chusmiza**	**3.73**	**27**	*eP*	**Pn**	**02 19 34.2**	**+1.1**	
GO01				IAML		02 20 40.2		
	comp=E,97nm,0.3s							
AC02	**Maricunga**	**4.14**	**157**	*eP*	**Pn**	**02 19 39.7**	**+0.9**	
LPAZ	**La Paz**	**7.22**	**22**	Pn	**Pn**	**02 20 24.0**	**+2.7**	
	comp=E,0.4nm,0.3s,baz=207,slow=7.6,SNR=11							
SIV	**San Ignacio**	**11.66**	**55**	Pn	**Pn**	**02 21 19.6**	**-2.1**	
	comp=E,0.4nm,0.3s,baz=247,slow=13,SNR=9.9							
H03N1	**Juan Fernandez**	**12.51**	**212**	T	T	02 34 15.0		
	baz=39,slow=72,SNR=36							
H03N2	**Juan Fernandez**	**12.52**	**212**	T	T	02 34 17.0		
	baz=39,slow=72,SNR=30							
H03N3	**Juan Fernandez**	**12.53**	**212**	T	T	02 34 18.2		
	baz=39,slow=72,SNR=23							
TORD	**Torodi Ar. Bea**	**79.66**	**71**	P	**P**	**02 30 42.3**	**-0.9**	
	comp=E,0.7nm,0.8s,baz=257,slow=5.0,SNR=7.2							
YKA	**Yellowknife Ar**	**92.00**	**341**	P	**P**	**02 31 43.9**	**+0.4**	
	comp=E,0.2nm,0.8s,baz=143,slow=4.4,SNR=2.6							

IDC ***18*** *02:20:12.1±2.7,24°.56S×179°.87E,h502km±28km,mb3.3/8, mb1 3.5/10,mb1mx3.1/35,mbtmp4.2/10,Error ellipse: s-maj=28.2km s-min=20.7km az=178.0*

NEIC ***18*** *02:20:12.9±1.9,24°.6S±0°.1×179°.9E±0°.2,h507km±10km, mb4.0/19,Error ellipse: s-maj=21.2km s-min=18.9km az=46.0*

ISC 18 02:20:11.9±0.7,24°.55S±0°.09×180°.0E±0°.1,h500km,n35, σ1§06/37,mb4.0/17,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.01**	**345**	P	**P**	**P**	**02 21 58.4**	**0.0**
DZM	**Mont Dzumac**	**12.65**	**279**	P	**P**	**P**	**02 22 58.8**	**+1.3**
	0.1nm,0.3s,baz=98,slow=19,SNR=1.6							
DZM	**Mont Dzumac**	**12.65**	**279**	P	**P**	**P**	**02 23 00.0**	**+2.5**
URZ	**Urewera**	**13.88**	**189**	P	**P**	**P**	**02 23 11.8**	**+1.6**
	0.9nm,0.3s,baz=117,slow=19,SNR=2.3							
URZ				S		**S**	**02 25 36.8**	**-0.3**
	0.8nm,0.3s,baz=211,slow=21,SNR=7.3							
URZ	**Urewera**	**13.88**	**189**	P	**P**	**P**	**02 23 11.4**	**+1.3**
BKZ	**Black Stump Fm**	**14.86**	**191**	P	**P**	**P**	**02 23 18.6**	**-2.0**
NNZ	**Nelson**	**17.50**	**197**	P	**P**	**P**	**02 23 48.8**	**+1.3**
RPZ	**Rata Peaks**	**20.46**	**199**	P	**P**	**P**	**02 24 13.7**	**-0.9**
	5.0nm,0.6s,baz=0.0,slow=4.0,SNR=2.0							
RPZ	**Rata Peaks**	**20.46**	**199**	P	**P**	**P**	**02 24 14.4**	**-0.1**
EIDS	**Eidsvold**	**26.17**	**262**	P	**P**	**P**	**02 25 06.4**	**+0.6**
EIDS				IAmb		IAmb	02 25 17.9	
	comp=Z,8.9nm,1.1s							
CTA	**Charters Tower**	**31.44**	**271**	P	**P**	**P**	**02 25 51.7**	**-0.1**
	comp=Z,7.1nm,0.4s,baz=96,slow=11,SNR=16							
CTAO	**Charters Tower**	**31.44**	**271**	P	**P**	**P**	**02 25 52.0**	**+0.1**
STKA	**Stephens Creek**	**34.44**	**249**	P	**P**	**P**	**02 26 17.3**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=99,slow=11,SNR=4.8							
STKA	**Stephens Creek**	**34.44**	**249**	P	**P**	**P**	**02 26 17.3**	**+0.1**
BBOO	**Buckleboo**	**39.15**	**248**	P	**P**	**P**	**02 26 55.2**	**-0.8**
BBOO				IAmb		IAmb	02 27 10.8	
	comp=Z,4.2nm,1.0s							
AS31	**Alice Springs**	**41.89**	**261**	P	**P**	**P**	**02 27 18.3**	**+0.2**
ASAR	**Alice Springs**	**41.89**	**261**	P	**P**	**P**	**02 27 17.4**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=92,slow=7.4,SNR=14							
WR0	**Warramunga Arr**	**42.13**	**267**	P	**P**	**P**	**02 27 18.5**	**-1.6**
WR0				IAmb		IAmb	02 27 19.4	
	comp=Z,6.9nm,1.3s							
WB2	**Warramunga Arr**	**42.31**	**267**	P	**P**	**P**	**02 27 20.2**	**-1.2**
WB2				IAmb		IAmb	02 27 20.5	
	comp=Z,3.9nm,0.5s							
WRAB	**Tennant Creek**	**42.31**	**267**	P	**P**	**P**	**02 27 20.1**	**-1.3**
WRAB				IAmb		IAmb	02 27 44.4	
	comp=Z,6.6nm,1.4s							
WB0	**Warramunga Arr**	**42.32**	**267**	P	**P**	**P**	**02 27 20.4**	**-1.1**
WB0				IAmb		IAmb	02 27 20.8	
	comp=Z,3.9nm,0.6s							
WRA	**Warramunga Arr**	**42.32**	**267**	P	**P**	**P**	**02 27 19.9**	**-1.6**
	comp=Z,3.2nm,0.5s,baz=100,slow=7.9,SNR=94							
WRA				ScP		**ScP**	**02 32 06.8**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=103,slow=3.7,SNR=7.1							
WRA	**Warramunga Arr**	**42.32**	**267**	P	**P**	**P**	**02 27 20.2**	**-1.3**
FORT	**Forrest**	**46.05**	**250**	P	**P**	**P**	**02 27 48.9**	**-1.4**
KNRA	**Kununurra**	**48.64**	**270**	P	**P**	**P**	**02 28 09.3**	**-0.7**
KNRA				IAmb		IAmb	02 28 10.5	
	comp=Z,14nm,1.4s							
FITZ	**Fitzroy Crossi**	**50.74**	**266**	P	**P**	**P**	**02 28 24.3**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=124,slow=8.6,SNR=15							
FITZ	**Fitzroy Crossi**	**50.74**	**266**	P	**P**	**P**	**02 28 24.8**	**-0.6**
FITZ				IAmb		IAmb	02 28 26.0	
	comp=Z,2.7nm,0.7s							
MORW	**Morawa**	**56.61**	**250**	P	**P**	**P**	**02 29 05.8**	**-1.2**
MORW				IAmb		IAmb	02 29 06.1	
	comp=Z,2.6nm,0.6s							
QSPA	**South Pole Qui**	**65.54**	**180**	P	**P**	**P**	**02 30 06.5**	**+1.3**
QSPA				IAmb		IAmb	02 30 20.9	
	comp=Z,3.8nm,1.1s							
BELA	**Belgrano 2**	**75.80**	**173**	P	**P**	**P**	**02 31 05.4**	**-0.2**
SLBS	**Sierra La Lagu**	**83.16**	**60**	P	**P**	**P**	**02 31 45.5**	**+0.1**
SLBS				IAmb		IAmb	02 31 54.8	
	comp=Z,16nm,1.4s							
NVAR	**Mina Array Bea**	**85.25**	**44**	P	**P**	**P**	**02 31 55.4**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=203,slow=6.7,SNR=2.3							
TXAR	**Lajitas Array**	**90.81**	**58**	P	**P**	**P**	**02 32 22.0**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=233,slow=3.2,SNR=6.4							
TXAR	**Lajitas Array**	**90.81**	**58**	P	**P**	**P**	**02 32 21.7**	**-0.1**
BRTR	**Keskin Array B**	**147.93**	**306**	PKPbc		**PKPbc**	**02 39 00.9**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=30,slow=23,SNR=3.9							

KRNET ***18*** *02:27:27.2±0.1,41°.25N×70°.14E,h30km,mb2.5*

ISC 18 02:27:28.2±1.3,41°.34N±0°.06×70°.08E±0°.05,h35km,n6, σ1§13/11,9C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.59**	**269**	⇑*iP*		**Pn**	**02 27 40.2**	**+0.1**
	baz=78							
TAS				⇑*iS*		**Sn**	**02 27 49.6**	**+1.0**
	baz=78							
TRKS	**Terek-Say**	**0.82**	**76**	⇑*iP*		**Pn**	**02 27 42.9**	**-0.5**
	baz=74							
TRKS				⇑*eS*		**Sn**	**02 27 54.2**	**-0.2**
	baz=74							
BTK	**Batken**	**1.40**	**156**	⇑*iP*		**Pn**	**02 27 50.7**	**-0.5**
	baz=56							
BTK				⇑*iS*		**Sn**	**02 28 07.9**	**-0.6**
	baz=56							
ARK	**Arkit**	**1.48**	**71**	⇓*iP*		**Pn**	**02 27 53.3**	**+0.8**
	baz=68							
ARK				⇓*iS*		**Sn**	**02 28 12.6**	**+1.9**
	baz=68							
KK31	**Karatay Array**	**1.79**	**10**	⇑Pg		**Sn**	**02 28 16.2**	**-2.0**
	0.4nm,0.3s,baz=166,slow=17,SNR=17							
KK31				Lg		Lg	02 28 46.9	
	5.2nm,0.3s,baz=164,slow=28,SNR=24							
OHH	**Osh**	**2.20**	**111**	⇑*iP*		**Pn**	**02 28 02.5**	**+0.2**
	baz=9.0							
OHH				⇑*iS*		**Sn**	**02 28 28.4**	**0.0**
	baz=9.0							

IDC ***18*** *03:37:26.6±1.1,32°.60N×130°.79E,h0km,mb3.4/7, mb1 3.6/8,mb1mx3.5/46,mbtmp3.4/8,ML2.8/1,MS3.0/2, Ms1 3.0/2,ms1mx2.5/55,Error ellipse: s-maj=34.8km s-min=18.4km az=67.0*

NIED ***18*** *03:37:27.8,32°.53N×130°.66E,h7km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.73; Mθθ4.47; Mφφ-3.74; Mrθ-0.85; Mθφ4.80; Mφr-1.35; Fault plane solution: M₀6.50000×10¹⁴ NP1:*

φs290.00000°,δ76.00000°,λ0.00000°. NP2:φs200.00000°, δ90.00000°,λ166.00000°

JMA ***18*** *03:37:27.7,32°.53N×130°.66E,h7km±2km,M3.9*

JMA Felt III J1.

ISC 18 03:37:28.2±0.9,32°.52N±0°.03×130°.73E±0°.07,h11km±6km, n13,σ0§83/17,mb3.6/7,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.07**	**65**	P	P	**Pg**	**03 37 30.4**	**-0.2**
JIU3				S		**Sg**	**03 37 32.6**	**+0.3**
JZO	**Okuchi**	**0.39**	**197**	P	P	**Pg**	**03 37 35.5**	**-0.5**
JZO				S		**Sg**	**03 37 40.9**	**-0.3**
JTA	**Tamana**	**0.48**	**339**	P	P	**Pg**	**03 37 36.6**	**-0.9**
JTA				S		**Sg**	**03 37 42.4**	**-1.4**
JTZ	**Takazaki**	**0.68**	**154**	P	P	**Pb**	**03 37 42.3**	**+0.2**
JTZ				S		**Sb**	**03 37 51.8**	**+0.2**
KSRS	**Korea Array**	**5.44**	**336**	Pg	P	**Pb**	**03 39 05.1**	**+1.9**
	1.0nm,0.3s,baz=154,slow=18,SNR=7.2							
KSRS				Lg	Lg	03 40 17.1		
	1.1nm,0.3s,baz=159,slow=32,SNR=5.0							
KSRS				LR	LR	03 41 01.2		
	comp=Z,133nm,19.4s,baz=165,slow=40							
MJAR	**Matsushiro Arr**	**7.36**	**55**	Pn		**Pn**	**03 39 15.0**	**-0.6**
	0.2nm,0.3s,baz=258,slow=18,SNR=2.4							
MJAR				LR	LR	03 42 19.0		
	comp=Z,130nm,20.9s,baz=214,slow=40							
SONM	**Songino Array**	**23.94**	**317**	P	P	**P**	**03 42 42.7**	**+0.2**
	1.1nm,0.6s,baz=130,slow=10,SNR=6.8							
MKAR	**Makanchi Array**	**39.30**	**306**	P	P	**P**	**03 44 57.6**	**+0.5**
	0.3nm,0.7s,baz=98,slow=10,SNR=2.5							
WRA	**Warramunga Arr**	**52.28**	**176**	P	P	**P**	**03 46 40.1**	**+0.4**
	0.2nm,0.8s,baz=355,slow=7.8,SNR=1.9							
ASAR	**Alice Springs**	**55.95**	**176**	P	P	**P**	**03 47 07.1**	**+0.6**
	0.2nm,0.3s,baz=0.0,slow=7.6,SNR=1.5							
FINES	**FINESS Array B**	**68.50**	**330**	P	P	**P**	**03 48 29.4**	**-0.8**
	1.1nm,0.5s,baz=72,slow=6.2,SNR=6.0							
YKA	**Yellowknife Ar**	**71.93**	**26**	P	P	**P**	**03 48 50.9**	**-0.3**
	0.1nm,0.6s,baz=304,slow=5.9,SNR=1.7							
BRTR	**Keskin Array B**	**74.92**	**308**	P	P	**P**	**03 49 09.7**	**+0.2**
	0.4nm,0.6s,baz=76,slow=6.1,SNR=3.1							

TAP ***18*** *03:42:46.7,24°.58N×121°.83E,h72km,ML3.9,B*

JMA ***18*** *03:42:46.5±0.1,24°.56N×121°.84E,h72km±2km,M3.1*

ISC 18 03:42:46.3±1.2,24°.61N±0°.03×121°.83E±0°.02,h79km±5km, n104,σ0§87/170,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.02**	**94**	P	P	**Pn**	**03 42 57.7**	**+0.2**
	baz=61							
TWC				S		**Sn**	**03 43 05.6**	**-0.2**
	baz=61							
NDS	**Dongshan**	**0.11**	**282**	*eP*		**Pn**	**03 42 57.9**	**+0.2**
	baz=289							
NDS				*eS*		**Sn**	**03 43 06.0**	**0.0**
	baz=289							
EWUT	**Wuta**	**0.17**	**196**	*eP*		**Pn**	**03 42 57.9**	**0.0**
	baz=198							
EWUT				S		**Sn**	**03 43 06.0**	**-0.3**
	baz=198							
ILA	**Ilan**	**0.17**	**334**	*eP*		**Pn**	**03 42 58.7**	**+0.9**
	baz=330							
ILA				*eS*		**Sn**	**03 43 07.5**	**+1.2**
	baz=330							
TWE	**Neicheng**	**0.19**	**306**	P		**Pn**	**03 42 58.3**	**+0.4**
	baz=310							
TWE				*eS*		**Sn**	**03 43 07.0**	**+0.6**
	baz=310							
ENA	**Nanau**	**0.20**	**204**	*eP*		**Pn**	**03 42 58.0**	**0.0**
	baz=212							
ENA				*eS*		**Sn**	**03 43 06.5**	**0.0**
	baz=212							
ENTT	**Nioudou**	**0.24**	**277**	P		**Pn**	**03 42 58.4**	**+0.2**
	baz=275							
NTC	**Toucheng**	**0.24**	**360**	*eP*		**Pn**	**03 42 58.5**	**+0.3**
	baz=352							
NTC				*eS*		**Sn**	**03 43 06.7**	**-0.2**
	baz=352							
EGS		**0.25**	**21**	*eP*		**Pn**	**03 42 59.0**	**+0.8**
	baz=22							
FUSB	**Fushanzhiwuyua**	**0.27**	**304**	P		**Pn**	**03 42 58.6**	**+0.2**
	baz=297							
FUSB				*eS*		**Sn**	**03 43 06.6**	**-0.6**
	baz=297							
LATG	**Datong**	**0.29**	**255**	P		**Pn**	**03 42 58.6**	**+0.1**
	baz=269							
LATG				*eS*		**Sn**	**03 43 07.2**	**-0.3**
	baz=269							
NDT	**Datong Townshi**	**0.29**	**269**	P		**Pn**	**03 42 58.5**	**+0.1**
	baz=274							
NDT				S		**Sn**	**03 43 06.8**	**-0.5**
	baz=274							
NWLT	**Wulai**	**0.34**	**299**	*eP*		**Pn**	**03 42 58.8**	**0.0**
	baz=303							
NWLT				*eS*		**Sn**	**03 43 07.0**	**-0.9**
	baz=303							
TIPB	**Shuangxi**	**0.36**	**359**	P		**Pn**	**03 42 59.3**	**+0.4**
	baz=351							
TIPB				S		**Sn**	**03 43 08.1**	**-0.1**
	baz=351							
YHNB	**Yeheng**	**0.42**	**278**	P		**Pn**	**03 42 59.5**	**+0.1**
YHNB	**Yeheng**	**0.42**	**278**	P		**Pn**	**03 42 59.3**	**0.0**
	baz=292							
YHNB				S		**Sn**	**03 43 08.1**	**-0.9**
	baz=292							
TWB1	**Santiao Chiao**	**0.42**	**20**	P		**Pn**	**03 42 59.5**	**+0.2**
	baz=28							
TWB1				S		**Sn**	**03 43 08.6**	**-0.3**
	baz=28							
TWA	**Mucha**	**0.43**	**329**	P		**Pn**	**03 42 59.7**	**+0.3**
	baz=323							
TWA				S		**Sn**	**03 43 09.2**	**+0.1**
	baz=323							
NSK	**Sanguang**	**0.44**	**279**	P		**Pn**	**03 42 59.4**	**-0.1**
	baz=293							
NSK				*eS*		**Sn**	**03 43 08.7**	**-0.6**
	baz=293							
NNSB	**Datong**	**0.45**	**246**	P		**Pn**	**03 42 59.9**	**+0.3**
	baz=243							
NNSB				S		**Sn**	**03 43 09.2**	**-0.3**
	baz=243							
NHDH	**Xindian Distri**	**0.45**	**322**	P		**Pn**	**03 42 59.7**	**+0.2**
	baz=314							
NHDH				S		**Sn**	**03 43 09.0**	**-0.3**
	baz=314							
NNS	**Nan Shan**	**0.45**	**248**	P		**Pn**	**03 43 00.0**	**+0.3**
	baz=245							
NNS				*eS*		**Sn**	**03 43 09.2**	**-0.4**
	baz=245							
NWF	**Wu-fen Shan**	**0.46**	**354**	*eP*		**Pn**	**03 43 00.1**	**+0.3**
	baz=355							
NWF				*eS*		**Sn**	**03 43 10.0**	**+0.4**
	baz=355							
SXI1	**Grass Mountain**	**0.48**	**5**	*eP*		**Pn**	**03 43 00.1**	**+0.2**
	baz=5.0							
SXI1				*eS*		**Sn**	**03 43 10.0**	**+0.1**
	baz=5.0							
NACB	**Ninganchiao**	**0.48**	**206**	*eP*		**Pn**	**03 42 59.2**	**-0.6**
	baz=208							
NACB				*eS*		**Sn**	**03 43 08.4**	**-1.4**
	baz=208							
ETL	**Fush Village**	**0.49**	**203**	*eP*		**Pn**	**03 42 59.4**	**-0.5**
	baz=212							
ETLH	**Xiulin Townshi**	**0.51**	**219**	*eP*		**Pn**	**03 42 59.9**	**-0.3**
	baz=228							
ETLH				*eS*		**Sn**	**03 43 09.1**	**-1.3**
	baz=228							
TAP	**Taipei**	**0.52**	**325**	*eP*		**Pn**	**03 43 00.5**	**+0.4**
	baz=320							
TAP				*eS*		**Sn**	**03 43 10.4**	**+0.1**
	baz=320							
TWD	**Chiawan**	**0.57**	**202**	*eP*		**Pn**	**03 43 00.1**	**-0.5**
	baz=211							
TWD				*eS*		**Sn**	**03 43 09.8**	**-1.3**
	baz=211							
YM01	**YM01**	**0.58**	**336**	P		**Pn**	**03 43 01.1**	**+0.3**
	baz=330							
YM01				*eS*		**Sn**	**03 43 11.5**	**0.0**
	baz=330							
TWS1	**Kuangyinshan**	**0.62**	**322**	*eP*		**Pn**	**03 43 01.6**	**+0.6**
	baz=316							
TWS1				*eS*		**Sn**	**03 43 12.6**	**+0.7**
	baz=316							
ANP	**Anpu**	**0.64**	**334**	*eP*		**Pn**	**03 43 01.6**	**+0.2**
	baz=328							
FUSS	**Fushou**	**0.65**	**236**	*eP*		**Pn**	**03 43 01.0**	**-0.6**
	baz=232							
FUSS				*eS*		**Sn**	**03 43 11.5**	**-1.4**
	baz=232							
NFF	**Wufeng Townshi**	**0.65**	**272**	P		**Pn**	**03 43 01.6**	**+0.2**
	baz=284							
NFF				S		**Sn**	**03 43 12.0**	**-0.6**
	baz=284							
HWA	**Hwalien**	**0.66**	**198**	*eP*		**Pn**	**03 43 02.1**	**+0.6**
	baz=208							
NCU	**National Centr**	**0.69**	**302**	P		**Pn**	**03 43 02.2**	**+0.4**
	baz=294							
NCU				*eS*		**Sn**	**03 43 13.5**	**+0.3**
	baz=294							
NCUH	**Zhongli**	**0.69**	**301**	*eP*		**Pn**	**03 43 02.1**	**+0.4**
	baz=294							
NCUH				*eS*		**Sn**	**03 43 13.2**	**0.0**
	baz=294							
WHF	**Hehuan Shan**	**0.69**	**228**	*eP*		**Pn**	**03 43 02.5**	**+0.2**
	baz=229							
WHF				*eS*		**Sn**	**03 43 14.0**	**-0.1**
	baz=229							
TWY	**Chenhua**	**0.69**	**342**	*eP*		**Pn**	**03 43 02.6**	**+0.8**
	baz=335							
LIOB	**Emei**	**0.74**	**273**	*eP*		**Pn**	**03 43 02.7**	**+0.4**
	baz=274							
LIOB				*eS*		**Sn**	**03 43 14.4**	**+0.1**
	baz=274							
NSTT	**Nanjuang**	**0.76**	**272**	*eP*		**Pn**	**03 43 02.7**	**+0.3**
	baz=281							
NSTT				*eS*		**Sn**	**03 43 14.3**	**-0.2**
	baz=281							
SBCB	**Hsinchu**	**0.79**	**283**	*eP*		**Pn**	**03 43 03.5**	**+0.6**
	baz=284							
SBCB				*eS*		**Sn**	**03 43 15.0**	**-0.2**
	baz=284							
HSN	**Hsinchu**	**0.81**	**284**	*eS*		**Sn**	**03 43 15.1**	**-0.4**
	baz=287							
CHGB	**Renai**	**0.81**	**228**	*eP*		**Pn**	**03 43 04.1**	**+0.7**
	baz=229							
CHGB				*eS*		**Sn**	**03 43 15.9**	**0.0**
	baz=229							
ESL	**Shilin**	**0.87**	**205**	*eP*		**Pn**	**03 43 02.9**	**-0.9**
	baz=204							
WHP	**Taichung City**	**0.87**	**248**	*eP*		**Pn**	**03 43 05.0**	**+1.1**
	baz=259							
WHP				*eS*		**Sn**	**03 43 17.6**	**+0.7**
	baz=259							
OWD	**Renai**	**0.89**	**223**	*eP*		**Pn**	**03 43 04.5**	**+0.3**
	baz=219							
OWD				*eS*		**Sn**	**03 43 17.1**	**-0.3**
	baz=219							
WUSB	**Renai**	**0.90**	**227**	P		**Pn**	**03 43 04.9**	**+0.6**
	baz=228							
WUSB				*eS*		**Sn**	**03 43 17.7**	**+0.2**
	baz=228							
NMLH	**Miaoli**	**0.95**	**266**	P		**Pn**	**03 43 05.2**	**+0.5**
	baz=267							
NMLH				S		**Sn**	**03 43 18.5**	**+0.1**
	baz=267							
NSY	**Sanyi**	**0.99**	**259**	*eP*		**Pn**	**03 43 06.2**	**+0.9**
	baz=260							
NSY				*eS*		**Sn**	**03 43 20.2**	**+0.8**
	baz=260							
TWQ1	**Liyutan**	**1.00**	**255**	*eP*		**Pn**	**03 43 06.0**	**+0.7**
	baz=256							
WCS	**Beigang Elemen**	**1.00**	**237**	*eP*		**Pn**	**03 43 06.3**	**+1.0**
	baz=247							
WCS				*eS*		**Sn**	**03 43 20.3**	**+0.7**
	baz=247							
EGFH	**Guangfu**	**1.01**	**202**	*eP*		**Pn**	**03 43 06.0**	**+0.6**
	baz=207							
JYNG	**Yonaguni jima**	**1.03**	**99**	P		**Pn**	**03 43 05.7**	**+0.1**
JYNG				S		**Sn**	**03 43 19.4**	**-0.6**
VWDT	**VWDT**	**1.06**	**217**	*eP*		**Pn**	**03 43 06.7**	**+0.7**
	baz=212							
VWDT				*eS*		**Sn**	**03 43 21.6**	**+0.9**
	baz=212							
YOJ	**Yonaguni jima**	**1.08**	**98**	P		**Pn**	**03 43 06.3**	**0.0**
YOJ				S		**Sn**	**03 43 20.5**	**-0.8**
YOJ	**Yonaguni jima**	**1.08**	**98**	P		**Pn**	**03 43 06.5**	**+0.2**
WDJ	**Dajia District**	**1.12**	**257**	*eP*		**Pn**	**03 43 07.4**	**+0.7**
	baz=258							
WDJ				*eS*		**Sn**	**03 43 22.2**	**+0.3**
	baz=258							
SMLT	**Sun Moon Lake**	**1.12**	**230**	*eP*		**Pn**	**03 43 08.0**	**+1.2**
	baz=230							
SSLB	**Suanglung**	**1.15**	**225**	P		**Pn**	**03 43 08.7**	**+1.6**
SSLB	**Suanglung**	**1.15**	**225**	*eP*		**Pn**	**03 43 08.3**	**+1.2**
	baz=229							
SSLB				*eS*		**Sn**	**03 43 24.1**	**+1.4**
	baz=229							
HGSD	**Ruisui**	**1.17**	**199**	*eP*		**Pn**	**03 43 07.5**	**+0.1**
	baz=206							
EHY	**Hungye**	**1.19**	**203**	*eP*		**Pn**	**03 43 06.4**	**-1.3**
	baz=202							
WCHH	**Zhanghua**	**1.28**	**246**	*eS*		**Sn**	**03 43 26.0**	**+0.5**
	baz=246							
WJS	**Zhushan**	**1.28**	**232**	*eS*		**Sn**	**03 43 27.0**	**+1.4**
	baz=244							
YULB	**Yu-li**	**1.31**	**202**	*eP*		**Pn**	**03 43 09.3**	**+0.1**
	baz=201							
EYUL	**Yuli**	**1.34**	**201**	*eP*		**Pn**	**03 43 10.9**	**+1.3**
	baz=205							
ALS	**Alishan**	**1.44**	**221**	*eP*		**Pn**	**03 43 12.8**	**+1.6**
	baz=231							
ALS				*eS*		**Sn**	**03 43 32.1**	**+2.3**
	baz=231							
FULB	**Fuli**	**1.49**	**199**	*eP*		**Pn**	**03 43 12.7**	**+1.2**
	baz=203							
WDLH	**Douliu**	**1.50**	**232**	*eP*		**Pn**	**03 43 12.5**	**+0.9**
	baz=244							
WDLH				*eS*		**Sn**	**03 43 31.1**	**+0.5**
	baz=244							
WRL	**Guolierlin Hig**	**1.50**	**242**	*eP*		**Pn**	**03 43 11.9**	**+0.3**
	baz=252							
WRL				*eS*		**Sn**	**03 43 30.5**	**-0.3**
	baz=252							
WTK	**Tuku**	**1.61**	**235**	*eP*		**Pn**	**03 43 13.7**	**+0

JISG				*e*S	**Sn**	03 43 48.9	+0.3	
MASBT	**Mashibuluo**	**2.27 209**		*e*P	**Pn**	03 43 24.3	+2.4	
	baz=208							
MATB	**Ma-tsu**	**2.29 312**		*e*P	**Pn**	03 43 21.8	-0.3	
	baz=310							
PNG	**Penghu**	**2.33 244**		*e*P	**Pn**	03 43 22.1	-0.5	
	baz=244							
PNG				*e*S	**Sn**	03 43 48.1	-2.2	
	baz=244							
PHUB	**P'eng-hu**	**2.34 243**		*e*P	**Pn**	03 43 22.2	-0.5	
	baz=243							
PHUB				*e*S	**Sn**	03 43 48.6	-1.9	
	baz=243							
WDGT	**Dungji**	**2.40 236**		*e*P	**Pn**	03 43 23.6	+0.1	
	baz=237							
WDGT				*e*S	**Sn**	03 43 50.6	-1.4	
	baz=237							
VCHM	**Qimei**	**2.60 238**		*e*P	**Pn**	03 43 26.1	-0.2	
	baz=238							
VCHM				*e*S	**Sn**	03 43 55.2	-1.8	
	baz=238							
JTJ	**Tarama**	**2.61**	**89**	P	**Pn**	03 43 27.5	+1.1	
JTJ				*e*S	**Sn**	03 43 58.1	+0.9	
XPSS	**Dashiqiu**	**2.74 328**		*e*P	**Pn**	03 43 28.2	0.0	
	baz=326							
MHZQ	**Yeshan**	**2.94 301**		*e*P	**Pn**	03 43 30.6	-0.2	
	baz=298							
KNM	**Kinmen**	**3.10 267**		*e*P	**Pn**	03 43 34.5	+1.5	
	baz=267							
KNMB	**Chin-men Tao**	**3.14 268**		*e*P	**Pn**	03 43 33.1	-0.4	
	baz=268							
AXDP	**Jialang**	**3.52 275**		*e*P	**Pn**	03 43 38.9	+0.1	
	baz=273							
AXDP				*e*S	**Sn**	03 44 17.0	-2.3	
	baz=273							

*HLW **18** 03:43:13.2, 35°.26N×32°.39E, h10km±12km, Md3.7, Ml3.9*
*NIC **18** 03:43:15.0±0.0, 35°.40N×32°.45E, h44km±2km, Ml3.6/5*
*ISK **18** 03:43:15.5, 35°.39N×32°.59E, h22km, ML3.4/20*
*DDA **18** 03:43:15.0±0.0, 35°.42N×32°.58E, h24km, ML2.7*
*GII **18** 03:43:18.1±0.4, 35°.04N×32°.52E, h40km, MD3.1/2, Mm3.1/3*

ISC 18 03:43:14.9±1.2, 35°27N±0°.02×32°46E±0°.03, h60km±7km, n70, σ1°17/108, 1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.16**	**135**	P	**Pn**	**03 43 23.6**	**-0.6**
ALFC				S	**Sn**	**03 43 29.8**	**-1.1**
ALFC				AML	AML	03 43 29.9	
	28nm,0.2s						
ALFC				AML	AML	03 43 29.9	
	28nm,0.2s						
ALFC				AML	AML	03 43 31.3	
	33nm,0.2s						
ALFC				AML	AML	03 43 31.3	
	33nm,0.2s						
AKMS	**Akamas**	**0.27**	**203**	P	**Pn**	**03 43 24.8**	**0.0**
AKMS				S	**Sn**	**03 43 32.2**	**+0.2**
AKMS				AML	AML	03 43 32.9	
	7.8nm,0.2s						
AKMS				AML	AML	03 43 32.9	
	7.8nm,0.2s						
AKMS				AML	AML	03 43 35.5	
	10nm,0.4s						
AKMS				AML	AML	03 43 35.5	
	10nm,0.4s						
NATA	**Nata**	**0.50**	**170**	P	**Pn**	**03 43 27.6**	**+0.8**
NATA				S	**Sn**	**03 43 37.8**	**+2.3**
NATA				AML	AML	03 43 41.1	
	7.6nm,0.3s						
NATA				AML	AML	03 43 41.1	
	7.6nm,0.3s						
NATA				AML	AML	03 43 46.2	
	12nm,0.5s						
NATA				AML	AML	03 43 46.2	
	12nm,0.5s						
SZAC	**Souni**	**0.62**	**146**	P	**Pn**	**03 43 29.0**	**+0.8**
SZAC				S	**Sn**	**03 43 40.1**	**+2.2**
SZAC				AML	AML	03 43 40.9	
	7.2nm,0.5s						
SZAC				AML	AML	03 43 40.9	
	7.2nm,0.5s						
SZAC				AML	AML	03 43 42.4	
	9.3nm,0.2s						
SZAC				AML	AML	03 43 42.4	
	9.3nm,0.2s						
CSS	**Mathiatis**	**0.77**	**113**	PG	**Pn**	**03 43 30.5**	**+0.5**
CSS	**Mathiatis**	**0.77**	**113**	P	**Pn**	**03 43 30.6**	**+0.6**
CSS				S	**Sn**	**03 43 32.2**	**+2.0**
ATHAL	**Athalassa**	**0.77**	**99**	P	**Pn**	**03 43 29.9**	**-0.1**
ASGA	**Asgata**	**0.80**	**127**	P	**Pn**	**03 43 31.0**	**+0.6**
ASGA				S	**Sn**	**03 43 43.6**	**+1.8**
ASGA				AML	AML	03 43 45.5	
	7.5nm,0.4s						
ASGA				AML	AML	03 43 45.5	
	7.5nm,0.4s						
AKIN	**Akıncılar- Kıb**	**0.86**	**107**	PG	**Pn**	**03 43 31.8**	**+0.7**
LFK	**Lefkose**	**0.87**	**89**	PG	**Pn**	**03 43 31.2**	**-0.1**
LFK				SG	**Sn**	**03 43 42.7**	**-0.8**
BOZY	**Bozyazi-Mersin**	**0.94**	**26**	PG	**Pn**	**03 43 31.3**	**-0.7**
BOZY				SG	**Sn**	**03 43 42.9**	**-1.8**
GAZI	**Gazipasa**	**0.97**	**353**	P	**Pn**	**03 43 31.6**	**-0.9**
GAZI				S	**Sn**	**03 43 43.8**	**-1.9**
GAZI				*i* AML	AML	03 43 44.0	
	comp=N,259nm,0.2s						
GAZI				*i* AML	AML	03 43 44.0	
	comp=E,392nm,0.4s						
MVOU	**Mavrovouni**	**0.99**	**104**	P	**Pn**	**03 43 33.5**	**+0.8**
TEKE	**Tekeli-Mersin**	**1.02**	**31**	PG	**Pn**	**03 43 32.7**	**-0.5**
TEKE				SG	**Sn**	**03 43 45.4**	**-1.3**
YORU	**Yoruktepe-Mers**	**1.17**	**41**	PG	**Pn**	**03 43 34.7**	**-0.5**
YORU				SG	**Sn**	**03 43 48.9**	**-1.4**
AKK1	**Akkuyu-Mersin**	**1.24**	**45**	PN	**Pn**	**03 43 35.6**	**-0.4**
AKK1				SN	**Sn**	**03 43 50.7**	**-1.1**
AKK2	**Akkuyu-Mersin**	**1.24**	**45**	PN	**Pn**	**03 43 34.9**	**-1.1**
OREN	**Orenkoy-Mersin**	**1.24**	**41**	PN	**Pn**	**03 43 35.9**	**-0.1**
OREN				SN	**Sn**	**03 43 50.7**	**-1.1**
BERE	**Bereket-Mersin**	**1.24**	**30**	PN	**Pn**	**03 43 36.1**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.25**	**45**	PN	**Pn**	**03 43 35.8**	**-0.4**
AKKU				SN	**Sn**	**03 43 51.2**	**-1.0**
GULN	**MERSIN_Gulnar**	**1.27**	**44**	P	**Pn**	**03 43 35.8**	**-0.6**
GULN				S	**Sn**	**03 43 51.4**	**-1.2**
GULN				*i* AML	AML	03 43 52.0	
	comp=N,139nm,0.6s						
GULN				*i* AML	AML	03 43 52.0	
	comp=E,90nm,0.4s						
PARAL	**Paralimni**	**1.32**	**102**	P	**Pn**	**03 43 39.6**	**+2.5**
TISA	**Tisan-Mersin**	**1.33**	**48**	PN	**Pn**	**03 43 36.8**	**-0.5**
YESI	**Yesilovacik-Me**	**1.33**	**46**	PN	**Pn**	**03 43 37.1**	**-0.2**
YESI				SN	**Sn**	**03 43 52.9**	**-1.2**
KARG	**Kargicak-Mersi**	**1.38**	**47**	PN	**Pn**	**03 43 38.1**	**+0.2**
KARG				SN	**Sn**	**03 43 54.1**	**-1.1**
IKL	**Isikli**	**1.39**	**45**	PN	**Pn**	**03 43 37.7**	**-0.3**
IKL				SN	**Sn**	**03 43 54.3**	**-1.1**
TEVE	**Tevekalti-Mers**	**1.41**	**34**	PN	**Pn**	**03 43 38.6**	**+0.2**
EREN	**Erenkoy**	**1.42**	**79**	PN	**Pn**	**03 43 39.4**	**+1.0**
ERMK	**Ermenek**	**1.42**	**15**	P	**Pn**	**03 43 39.1**	**+0.4**
ERMK				S	**Sn**	**03 43 57.4**	**+1.0**
ERMK				*i* AML	AML	03 43 58.0	
	comp=N,176nm,0.4s						
ERMK				*i* AML	AML	03 44 00.0	
	comp=E,176nm,0.2s						
KEBE	**Keben-Mersin**	**1.55**	**40**	PN	**Pn**	**03 43 40.6**	**+0.3**
SILI	**Silifke-Mersin**	**1.61**	**47**	PN	**Pn**	**03 43 41.6**	**+0.5**
HDMB	**Hadim**	**1.69**	**1**	PN	**Pn**	**03 43 43.1**	**+0.7**
KEPZ	**Antalya-Kepez**	**1.77**	**337**	P	**Pn**	**03 43 43.6**	**+0.3**
KEPZ				S	**Sn**	**03 44 04.4**	**-0.4**
KKBE	**Karaman, Kazim**	**1.98**	**11**	P	**Pn**	**03 43 47.3**	**+1.1**
KKBE				S	**Sn**	**03 44 12.4**	**+2.3**
KKBE				*i* AML	AML	03 44 14.0	
	comp=E,72nm,1.4s						
KKBE				*i* AML	AML	03 44 16.0	
	comp=N,40nm,0.4s						
KRMN	**Karaman**	**2.01**	**19**	PN	**Pn**	**03 43 47.9**	**+1.4**
OSC1	**CSNet OBS 1**	**2.02**	**209**	P	**Pn**	**03 43 46.3**	**-0.2**
OSC1				S	**Sn**	**03 44 10.7**	**0.0**
SEDI	**Konya, Seydise**	**2.25**	**345**	P	**Pn**	**03 43 52.1**	**+2.2**
SEDI				S	**Sn**	**03 44 19.9**	**+3.2**
SEDI				*i* AML	AML	03 44 21.0	
	comp=N,99nm,0.5s						
SEDI				*i* AML	AML	03 44 22.0	
	comp=E,120nm,0.6s						
MERS	**Mersin**	**2.31**	**46**	PN	**Pn**	**03 43 50.6**	**0.0**
KMER	**Konya-Meram**	**2.50**	**358**	P	**Pn**	**03 43 55.0**	**+1.8**
KMER				S	**Sn**	**03 44 25.5**	**+3.0**
KMER				*i* AML	AML	03 44 28.0	
	comp=E,42nm,0.4s						
KMER				*i* AML	AML	03 44 34.0	
	comp=N,49nm,0.6s						
HWQ	**Hawqa**	**3.03**	**108**	*e*P	**Pn**	**03 44 00.8**	**+0.3**
HNTI	**Hanita**	**3.13**	**133**	Pn	**Pn**	**03 44 02.0**	**+0.2**
HNTI				Sn	**Sn**	**03 44 37.5**	**-0.4**
RCY	**Rachaya**	**3.30**	**121**	*e*P	**Pn**	**03 44 04.3**	**+0.1**
MMC7	**Mount Meron ar**	**3.30**	**132**	Pn	**Pn**	**03 44 04.9**	**+0.7**
MMA0B	**Mount Meron ar**	**3.31**	**132**	Pn	**Pn**	**03 44 05.0**	**+0.6**
MMA0B				Sn	**Sn**	**03 44 42.0**	**-0.6**
SHBL	**Chebaa**	**3.32**	**124**	*e*P	**Pn**	**03 44 05.2**	**+0.7**
GEM	**Giv'at Ha'Em**	**3.35**	**127**	Pn	**Pn**	**03 44 05.3**	**+0.5**
GEM				Sn	**Sn**	**03 44 42.6**	**-0.8**
NATI	**Neve Ativ**	**3.37**	**126**	Pn	**Pn**	**03 44 05.9**	**+0.9**
NATI				Sn	**Sn**	**03 44 43.5**	**-0.2**
OFRI	**`Ofer**	**3.37**	**141**	Pn	**Pn**	**03 44 05.4**	**+0.3**
BLGI	**Bet Lehem HaGe**	**3.40**	**137**	Pn	**Pn**	**03 44 06.4**	**+1.0**
BLGI				Sn	**Sn**	**03 44 43.3**	**-1.1**
SLTI	**Sal'it**	**3.71**	**144**	Pn	**Pn**	**03 44 10.6**	**+1.0**
SLTI				Sn	**Sn**	**03 44 50.6**	**-1.4**
MMLI	**Mount Malkishu**	**3.75**	**138**	Pn	**Pn**	**03 44 11.2**	**+1.0**
MMLI				Sn	**Sn**	**03 44 52.7**	**-0.4**
HMDT	**Nahal Hemdat**	**3.94**	**139**	Pn	**Pn**	**03 44 14.0**	**+1.1**
HMDT				Sn	**Sn**	**03 44 57.8**	**-0.1**
DSI	**Dead Sea**	**4.42**	**146**	Pn	**Pn**	**03 44 20.6**	**+1.2**
YTIR	**Yattir**	**4.48**	**150**	Pn	**Pn**	**03 44 21.6**	**+1.2**
YTIR				Sn	**Sn**	**03 45 10.4**	**-0.9**
MSBI	**Mazada**	**4.63**	**148**	Pn	**Pn**	**03 44 23.3**	**+1.1**
KZIT	**Kziot**	**4.64**	**159**	Sn	**Sn**	**03 45 13.7**	**-1.4**
HHAG	**Hagoal**	**5.31**	**183**	⇑P	**Pn**	**03 44 31.9**	**+0.2**
	baz=183						
PRNI	**Paran**	**5.35**	**156**	Pn	**Pn**	**03 44 33.2**	**+1.0**
KOT	**Kottamia**	**5.35**	**186**	P	**Pn**	**03 44 32.8**	**+0.5**
	baz=186						
KOT				S	**Sn**	**03 45 30.1**	**-2.4**
	baz=186						
SUZ	**Suez**	**5.42**	**177**	P	**Pn**	**03 44 33.9**	**+0.7**
	baz=175						
KRMI	**Paran Flat**	**5.48**	**159**	Pn	**Pn**	**03 44 35.2**	**+1.3**
KRMI				Sn	**Sn**	**03 45 33.4**	**-2.2**
HRFI	**Mount Harif**	**5.65**	**157**	Pn	**Pn**	**03 44 37.3**	**+1.0**
HRFI				Sn	**Sn**	**03 45 37.3**	**-2.5**
HSAF	**As Saff**	**5.69**	**188**	P	**Pn**	**03 44 37.1**	**+0.4**
	baz=188						
GLL	**Jalalah**	**5.71**	**187**	⇓P	**Pn**	**03 44 37.2**	**+0.1**
	baz=186						
MBRI	**Mt Berech**	**5.84**	**159**	Pn	**Pn**	**03 44 40.1**	**+1.2**
MBRI				Sn	**Sn**	**03 45 43.3**	**-1.2**
RYAN	**Fayoum**	**6.44**	**197**	P	**Pn**	**03 44 47.8**	**+0.7**
	baz=197						
RYAN				S	**Sn**	**03 45 56.5**	**-2.7**
	baz=197						
HKAT	**Jabal Katrina**	**6.85**	**169**	P	**Pn**	**03 44 53.0**	**+0.1**
	baz=168						
TR2	**Tor 2**	**6.95**	**171**	P	**Pn**	**03 44 53.9**	**-0.2**
	baz=170						
SLUM	**Salum**	**7.14**	**240**	P	**Pn**	**03 44 56.5**	**-0.1**
	baz=240						
SWA2		**8.44**	**227**	P	**Pn**	**03 45 13.6**	**-0.8**
	baz=227						

*IDC **18** 03:46:07.6±0.9, 36°.72N×140°.57E, h0km, mb3.5/8, mb1 3.9/10, mb1mx3.6/57, mbtmp3.6/10, ML3.3/2, MS3.6/2, Ms1 3.7/2, ms1mx2.6/80, Error ellipse: s-maj=21.2km s-min=12.8km az=165.0*
*JMA **18** 03:46:09.6, 36°.75N×140°.58E, h10km, M3.7 Broadband fault plane solution: P waves. NP1:φs175.00000°, δ66.00000°, λ-88.00000°. NP2:φs349.00000°, δ24.00000°, λ-95.00000°. Principal axes: T Plg21.0000°, Azm263.0000°; N Plg2.0000°, Azm354.0000°; P Plg69.0000°, Azm89.0000°;*
JMA Felt II J1.

ISC 18 03:46:09.3±0.9, 36°74N±0°.03×140°58E±0°.06, h11km±6km, n27, σ0°86/25, mb3.5/8, 5C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.13**	**183**	⇓P	**Pg**	**03 46 12.7**	**+0.3**
JHO				*e*S	**Sg**	**03 46 14.9**	**+0.3**
JFFD	**Fukushimafurud**	**0.35**	**358**	⇑P	**Pb**	**03 46 16.5**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.40**	**26**	⇑P	**Pg**	**03 46 17.4**	**+0.2**
ONAJ				S	**Sg**	**03 46 22.9**	**+0.4**
JHYU	**Hitachinakayam**	**0.40**	**179**	⇑P	**Pb**	**03 46 17.6**	**-0.8**
JSB	**Shiboa**	**0.57**	**293**	⇑P	**Pb**	**03 46 21.3**	**-0.1**
JYT	**Yasato**	**0.60**	**211**	P	**Pb**	**03 46 21.1**	**-0.7**
JYT				S	**Sb**	**03 46 29.1**	**-1.1**
JFK	**Kawauchi**	**0.67**	**21**	P	**Pg**	**03 46 22.0**	**-0.2**
JFK				S	**Sg**	**03 46 30.8**	**-0.2**
JFT	**Otama**	**0.80**	**346**	⇑P	**Pb**	**03 46 24.8**	**-0.4**
JFT				*e*S	**Sg**	**03 46 35.1**	**0.0**
MJAR	**Matsushiro Arr**	**1.92**	**265**	Pg	**Pn**	**03 46 42.4**	**+0.5**
	5.9nm,0.3s,baz=91,slow=13,SNR=76						
MJAR				Lg	Lg	03 47 07.8	
	6.9nm,0.3s,baz=62,slow=26,SNR=14						
JHJ	**Hachijo jima 2**	**3.67**	**190**	Pn	**Pn**	**03 47 05.4**	**-0.6**
	10.0nm,0.3s,baz=250,slow=22,SNR=1.2						
JHJ				Sn	**Sn**	**03 47 51.7**	**+2.4**
	8.4nm,0.3s,baz=70,slow=18,SNR=2.1						
ASAJ	**Asahikawa**	**7.52**	**11**	Pn	**Pn**	**03 47 59.9**	**+1.0**
	0.4nm,0.3s,baz=332,slow=23,SNR=1.4						
SONM	**Songino Array**	**27.39**	**305**	P	**P**	**03 51 54.8**	**0.0**
	0.5nm,0.6s,baz=100,slow=7.9,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.58**	**119**	T	T	04 21 53.5	
	baz=312,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hy**	**28.59**	**119**	T	T	04 21 52.8	
	baz=312,slow=75,SNR=101						
H11N3	**WAKE ISLAND Hy**	**28.60**	**119**	T	T	04 21 52.9	
	baz=312,slow=75,SNR=71						
H11S1	**WAKE ISLAND Hy**	**29.27**	**121**	T	T	04 22 40.5	
	baz=314,slow=76,SNR=223						
H11S3	**WAKE ISLAND Hy**	**29.27**	**121**	T	T	04 22 42.0	
	baz=314,slow=76,SNR=152						
H11S2	**WAKE ISLAND Hy**	**29.29**	**121**	T	T	04 22 41.7	
	baz=314,slow=76,SNR=208						
CMAR	**Chiang Mai Arr**	**40.77**	**255**	LR	LR	04 11 31.7	
	comp=Z,52nm,20.4s,baz=355,slow=37						
ZALV	**Zalesovo Beam**	**41.62**	**313**	P	**P**	**03 53 57.0**	**-0.2**
	0.7nm,0.6s,baz=93,slow=5.2,SNR=4.2						
MKAR	**Makanchi Array**	**43.71**	**302**	P	**P**	**03 54 12.9**	**-1.4**
	0.1nm,0.4s,baz=75,slow=7.9,SNR=2.0						
WRA	**Warramunga Arr**	**56.69**	**187**	P	**P**	**03 55 51.9**	**-0.9**
	0.3nm,0.6s,baz=0.8,slow=7.4,SNR=4.9						
YKA	**Yellowknife Ar**	**64.39**	**30**	P	**P**	**03 56 44.8**	**-0.2**
	0.2nm,0.7s,baz=306,slow=6.9,SNR=5.3						
AFI	**Afiamalu**	**67.47**	**129**	LR	LR	04 28 24.0	
	comp=Z,66nm,18.3s,baz=336,slow=38						
NVAR	**Mina Array Bea**	**75.70**	**53**	P	**P**	**03 57 56.2**	**+1.1**
	0.6nm,0.7s,baz=304,slow=4.7,SNR=6.9						
PDAR	**Pinedale Array**	**78.35**	**45**	P	**P**	**03 58 10.3**	**+0.4**
	0.4nm,0.6s,baz=290,slow=2.6,SNR=5.0						
TXAR	**Lajitas Array**	**90.83**	**52**	P	**P**	**03 59 13.7**	**+0.6**
	0.4nm,0.6s,baz=310,slow=5.9,SNR=3.7						

*NIED **18** 04:04:31.0, 32°.54N×130°.65E, h7km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.31; Mθθ 1.25; Mφφ -1.56; Mrθ -1.08; Mθφ 1.99; Mφr0.13; Fault plane solution: M₀2.68000×10¹⁴ NP1: φs196.00000°, δ66.00000°, λ173.00000°. NP2: φs289.00000°, δ83.00000°, λ24.00000°.*

JMA 18 04:04:30.9, 32°.54N×130°.65E, h7km±1km, M3.6, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.14**	**86**	⇓P	Pg	04 04 33.8	0.0
JIU3				S	Sg	04 04 36.0	+0.2
JZO	**Okuchi**	**0.40**	**186**	⇑P	Pg	04 04 38.7	0.0
JZO				S	Sg	04 04 44.2	+0.2
JTA	**Tamana**	**0.43**	**347**	⇑P	Pg	04 04 39.7	+0.4
JTA				S	Sg	04 04 46.0	+1.0

*IDC **18** 04:07:03.0±4.3, 36°.29N×71°.14E, h154km±38km, mb3.3/8, mb1 3.4/12, mb1mx3.1/46, mbtmp3.8/12, MS2.5/3, Ms1 2.5/3, ms1mx2.2/54, Error ellipse: s-maj=30.1km s-min=19.1km az=27.0*
*NNC **18** 04:07:11.0±5.3, 37°.00N×71°.17E, h183km±79km, mb3.1, mpv4.1, Error ellipse: s-maj=49.5km s-min=29.8km az=12.0*

ISC 18 04:07:09.1±1.1, 36°79N±0°.10×71°3E±0°.1, h200km, n24, σ1°54/27, mb3.4/7, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.65**	**19**	P	**Pn**	**04 08 32.1**	**0.0**
	SNR=106						
UCH	**Uchtor**	**5.97**	**24**	P	**Pn**	**04 08 36.6**	**+0.3**
	SNR=14						
EKS2	**Erkin-Say**	**6.17**	**17**	P	**Pn**	**04 08 39.1**	**+0.6**
	SNR=9.2						
KK31	**Karatay Array**	**6.33**	**355**	P	**Pn**	**04 08 39.7**	**-0.8**
	16nm,0.6s,baz=178,slow=16,SNR=125						
KK31				⇓S	**Sn**	**04 09 50.3**	**-2.8**
	3.9nm,0.5s,baz=188,slow=24,SNR=7.8						
AAK	**Ala-Archa**	**6.34**	**22**	P	**Pn**	**04 08 41.3**	**+0.5**
	SNR=14						
AAK	**Ala-Archa**	**6.34**	**22**	P	**Pn**	**04 08 41.3**	**+0.5**
	5.1nm,0.3s,baz=167,slow=4.8,SNR=34						
AAK				S	**Sn**	**04 09 51.9**	**-1.6**
	0.7nm,0.3s,baz=204,slow=9.2,SNR=3.8						
AAK				LR	LR	04 10 44.1	
	comp=Z,33nm,18.9s,baz=58,slow=32						
CHMS	**Chumysh**	**6.75**	**22**	⇓P	**Pn**	**04 08 45.3**	**-0.7**
	5.5nm,0.6s						
CHMS				⇓S	**Sn**	**04 09 59.1**	**-3.7**
	6.3nm,0.8s						
USP	**Ospenovka**	**6.92**	**20**	P	**Pn**	**04 08 48.0**	**-0.2**
	SNR=6.4						
TKM2	**Tokmak 2**	**6.96**	**27**	P	**Pn**	**04 08 49.4**	**+0.5**
	SNR=12						
TKM2	**Tokmak 2**	**6.96**	**27**	⇑P	**Pn**	**04 08 49.3**	**+0.4**
	6.8nm,0.6s						
TKM2				⇑S	**Sn**	**04 10 08.4**	**+0.3**
	4.3nm,0.6s						
MKAR	**Makanchi Array**	**12.92**	**36**	P	**Pn**	**04 10 06.7**	**+1.3**
	0.1nm,0.3s,baz=221,slow=12,SNR=7.8						
MKAR				LR	LR	04 15 45.5	
	comp=Z,10nm,19.5s,baz=87,slow=39						
KURBB	**Kurchatov Arra**	**14.77**	**18**	P	**P**	**04 10 31.3**	**+2.1**
	0.1nm,0.3s,baz=209,slow=9.9,SNR=3.0						
AB31	**Akbulak array**	**14.94**	**330**	P	**Pn**	**04 10 29.5**	**-0.9**
	1.0nm,0.6s,baz=142,slow=12,SNR=2.4						
AKTO	**Aktyubinsk**	**16.64**	**329**	P	**Pn**	**04 10 51.6**	**+0.8**
	0.6nm,0.3s,baz=156,slow=11,SNR=10						
AKTO	**Aktyubinsk**	**16.64**	**329**	⇑P	**Pn**	**04 10 51.1**	**+0.3**
	1.5nm,0.5s						
ZALV	**Zalesovo Beam**	**19.56**	**24**	P	**Pn**	**04 11 23.5**	**-1.6**
	1.7nm,0.3s,baz=217,slow=11,SNR=11						
GNI	**Garni**	**21.02**	**287**	LR	LR	04 20 56.6	
	comp=Z,20nm,20.4s,baz=77,slow=40						
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**04 14 03.6**	**+1.5**
	1.6nm,0.8s,baz=108,slow=8.9,SNR=2.1						
ARCES	**ARCESS Array B**	**40.96**	**337**	P	**P**	**04 14 33.9**	**+2.2**
	1.7nm,1.0s,baz=117,slow=9.2,SNR=0.9						
NOA	**NORSAR Array B**	**44.28**	**323**	P	**P**	**04 14 59.7**	**+1.1**
	1.1nm,1.1s,baz=103,slow=7.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.95**	**269**	P	**P**	**04 17 31.9**	**-2.2**
	0.3nm,0.3s,baz=50,slow=5.9,SNR=14						
YKA	**Yellowknife Ar**	**80.94**	**3**	P	**P**	**04 19 02.3**	**+1.6**
	0.5nm,0.7s,baz=349,slow=5.5,SNR=11						
WRA	**Warramunga Arr**	**81.95**	**122**	P	**P**	**04 19 05.1**	**-1.5**
	0.3nm,0.4s,baz=325,slow=4.9,SNR=12						
ASAR	**Alice Springs**	**84.24**	**125**	P	**P**	**04 19 16.4**	**-1.8**
	0.4nm,0.5s,baz=307,slow=5.2,SNR=5.7						

*NEIC **18** 04:16:41.6±0.9, 17°.2S±0°.2×174°.4W±0°.1, h61km±8km, mb4.5/14, Error ellipse: s-maj=22.6km s-min=17.7km az=189.0*
*IDC **18** 04:16:41.6±5.3, 17°.36S×174°.38W, h64km±39km, mb3.7/6, mb1 4.0/7, mb1mx3.6/52, mbtmp4.0/7, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/62, Error ellipse: s-maj=130.2km s-min=21.0km az=144.0*

ISC 18 04:16:40.3±0.6, 17°33S±0°.08×174°34W±0°.08, h50km, n27, σ1°35/29, mb4.5/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.20**	**36**	P	**Pn**	**04 17 44.2**	**+2.3**
	6.6nm,0.3s,baz=16,slow=21,SNR=2.1						
AFI				S	**Sn**	**04 18 28.1**	**-1.7**
	49nm,0.3s,baz=28,slow=21,SNR=11						
NIUE	**Niue**	**4.54**	**113**	Pn	**Pn**	**04 17 48.8**	**+2.3**
NIUE				Sn	**Sn**	**04 18 34.5**	**-3.5**
MSVF	**Nonsavu**	**7.28**	**266**	LR	LR	04 20 52.7	
	comp=Z,141nm,19.2s,baz=168,slow=35						
LTZ	**Lake Taylor**	**27.82**	**201**	P	**P**	**04 22 27.5**	**+2.6**
LTZ				IAmb	IAmb	04 22 49.5	
	comp=Z,26nm,1.3s						
CTAO	**Charters Tower**	**37.37**	**259**	P	**P**	**04 23 48.4**	**-0.1**
CTAO				IAmb	IAmb	04 23 58.9	
	comp=Z,9.0nm,1.2s						
STKA	**Stephens Creek**	**42.31**	**242**	P	**P**	**04 24 28.6**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=62,slow=7.9,SNR=4.5						
STKA	**Stephens Creek**	**42.31**	**242**	P	**P**	**04 24 30.0**	**+0.6**
BBOO	**Buckleboo**	**47.08**	**241**	P	**P**	**04 25 06.7**	**-0.7**
WR0	**Warramunga Arr**	**48.36**	**258**	P	**P**	**04 25 16.6**	**-0.9**
WR0				IAmb	IAmb	04 25 41.8	
	comp=Z,6.3nm,1.4s						
WB0	**Warramunga Arr**	**48.52**	**259**	P	**P**	**04 25 17.8**	**-0.

KONT	**Konya--Tatoy**	**0.55**	**154**	P	**Pg**	**04 22 49.7**	**0.0**
KONT				S	**Sb**	**04 22 57.9**	**-1.6**
KONT				*i* AML	AML	04 22 58.0	
	comp=N,4μm,0.9s						
KONT				*i* AML	AML	04 22 59.0	
	comp=E,6μm,0.4s						
KMER	**Konya-Meram**	**0.71**	**160**	P	**Pb**	**04 22 53.3**	**-0.9**
KMER				S	**Sb**	**04 23 03.7**	**-0.7**
KMER				*i* AML	AML	04 23 05.0	
	comp=E,4μm,0.3s						
KMER				*i* AML	AML	04 23 07.0	
	comp=N,3μm,0.2s						
KULU	**Kulu**	**0.95**	**51**	PG	**Pg**	**04 22 57.2**	**-0.3**
KKUL	**Konya-Kulu**	**0.99**	**42**	P	**Pb**	**04 22 58.8**	**-0.2**
KKUL				S	**Sn**	**04 23 14.4**	**0.0**
KKUL				*i* AML	AML	04 23 18.0	
	comp=N,838nm,0.6s						
KKUL				*i* AML	AML	04 23 18.0	
	comp=E,1μm,0.4s						
SEDI	**Konya, Seydise**	**1.02**	**194**	P	**Pb**	**04 22 58.8**	**-0.6**
SEDI				S	**Sn**	**04 23 13.5**	**-1.5**
SEDI				*i* AML	AML	04 23 18.0	
	comp=N,2μm,0.5s						
SEDI				*i* AML	AML	04 23 18.0	
	comp=E,2μm,0.7s						
SEYD	**Seydisehir-KON**	**1.05**	**190**	PG	**Pb**	**04 22 59.3**	**-0.6**
SEYD				SG	**Sb**	**04 23 14.2**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.09**	**338**	PG	**Pg**	**04 22 59.3**	**-0.8**
SHUT	**Suhut-Afyon**	**1.19**	**276**	PN	**Pg**	**04 23 01.3**	**-0.7**
CIFT	**Cifteler, Eski**	**1.20**	**320**	PN	**Pg**	**04 23 00.9**	**-1.4**
SUTC	**Sutluce-Ispart**	**1.27**	**221**	PN	**Pg**	**04 23 03.2**	**-0.4**
AFSR	**Afar-Bala (An**	**1.28**	**38**	PN	**Pn**	**04 23 03.7**	**-0.2**
SERE	**Serefiikochisa**	**1.28**	**66**	PN	**Pn**	**04 23 03.9**	**0.0**
ISP	**Isparta**	**1.36**	**244**	PN	**Pn**	**04 23 04.7**	**-0.3**
KKBE	**Karaman, Kazim**	**1.40**	**150**	P	**Pg**	**04 23 05.8**	**-0.3**
KKBE				S	**Sn**	**04 23 27.7**	**+3.2**
KKBE				*i* AML	AML	04 23 28.0	
	comp=N,407nm,0.6s						
KKBE				*i* AML	AML	04 23 30.0	
	comp=E,553nm,0.6s						
AFYO	**Afyonkarahisar**	**1.42**	**285**	P	**Pn**	**04 23 05.5**	**-0.4**
AFYO				*i* AML	AML	04 23 34.0	
	comp=E,1μm,0.7s						
AFYO				*i* AML	AML	04 23 36.0	
	comp=N,995nm,0.5s						
ESKT	**Eskisehir**	**1.43**	**319**	PN	**Pn**	**04 23 05.7**	**-0.3**
SGAZ	**Eskisehir, Sey**	**1.45**	**319**	P	**Pn**	**04 23 05.3**	**-0.8**
SGAZ				S	**Sg**	**04 23 25.9**	**+0.2**
SGAZ				*i* AML	AML	04 23 29.0	
	comp=E,965nm,0.6s						
SGAZ				*i* AML	AML	04 23 31.0	
	comp=N,1μm,0.5s						
YAYX	**Yaylak**	**1.46**	**70**	PN	**Pb**	**04 23 06.3**	**-0.6**
YESY	**Yesilyurt**	**1.48**	**116**	PN	**Pb**	**04 23 06.9**	**-0.4**
HDMB	**Hadim**	**1.51**	**167**	PN	**Pg**	**04 23 07.6**	**-0.6**
BCK	**Bucak**	**1.52**	**230**	PN	**Pn**	**04 23 07.1**	**0.0**
KZIL	**AFYON_Kizioren**	**1.52**	**264**	P	**Pn**	**04 23 07.0**	**-0.2**
KZIL				*i* AML	AML	04 23 36.0	
	comp=N,483nm,0.5s						
KZIL				*i* AML	AML	04 23 39.0	
	comp=E,437nm,0.6s						
ANTO	**Ankara**	**1.54**	**22**	PN	**Pn**	**04 23 07.4**	**0.0**
LOD	**Lodumlu**	**1.55**	**21**	PN	**Pn**	**04 23 07.4**	**-0.2**
KRMN	**Karaman**	**1.58**	**143**	PN	**Pg**	**04 23 08.9**	**-0.6**
KAMT	**Kaman**	**1.59**	**54**	PN	**Pb**	**04 23 08.4**	**-0.8**
BASM	**Basmaki-Afyon**	**1.67**	**252**	PN	**Pb**	**04 23 09.5**	**-0.9**
GULA	**Gulagac**	**1.71**	**93**	PN	**Pb**	**04 23 10.1**	**-1.2**
BRDR	**BURDUR-Merkez**	**1.74**	**245**	P	**Pb**	**04 23 10.8**	**-1.0**
BRDR				S	**Sg**	**04 23 39.9**	**+4.7**
BRDR				*i* AML	AML	04 23 40.0	
	comp=N,307nm,0.7s						
BRDR				*i* AML	AML	04 23 42.0	
	comp=E,419nm,0.7s						
BRTR	**Keskin Array B**	**1.78**	**43**	Pn	**Pb**	**04 23 12.1**	**-0.3**
	47nm,0.3s,baz=226,slow=18,SNR=755						
BRTR				Sn	**Sg**	**04 23 36.1**	**-0.2**
	78nm,0.3s,baz=217,slow=27,SNR=21						
BRTR	**Keskin Array B**	**1.78**	**43**	PN	**Pn**	**04 23 10.9**	**+0.1**
ANTB	**Antalya**	**1.90**	**216**	PN	**Pn**	**04 23 12.8**	**+0.5**
KIBS	**BOLU**	**1.98**	**355**	P	**Pg**	**04 23 16.9**	**-0.3**
KIBS				S	**Sg**	**04 23 45.3**	**+2.4**
KIBS				*i* AML	AML	04 23 46.0	
	comp=N,479nm,0.6s						
KIBS				*i* AML	AML	04 23 51.0	
	comp=E,443nm,0.6s						
ANDZ	**Kutahya, Merke**	**1.99**	**303**	P	**Pn**	**04 23 13.5**	**-0.2**
ANDZ				S	**Sg**	**04 23 45.1**	**+1.8**
ANDZ				*i* AML	AML	04 23 48.0	
	comp=N,242nm,0.7s						
ANDZ				*i* AML	AML	04 23 52.0	
	comp=E,217nm,0.6s						
TEVE	**Tevekalti-Mers**	**2.28**	**151**	PN	**Pn**	**04 23 18.4**	**+0.7**
BERE	**Bereket-Mersin**	**2.29**	**156**	PN	**Pn**	**04 23 19.7**	**+0.9**
KOZK	**Kozakli-Nevseh**	**2.33**	**70**	PN	**Pn**	**04 23 19.1**	**+0.8**
KEBE	**Keben-Mersin**	**2.39**	**146**	PN	**Pn**	**04 23 19.8**	**+0.7**
CMRD	**Camardi-Nigde**	**2.44**	**108**	PN	**Pn**	**04 23 19.8**	**-0.1**
TEKE	**Tekeli-Mersin**	**2.44**	**160**	PN	**Pn**	**04 23 20.7**	**+0.9**
MERS	**Mersin**	**2.51**	**128**	PN	**Pn**	**04 23 21.7**	**+1.0**
GULN	**MERSIN_Gulnar**	**2.54**	**152**	P	**Pb**	**04 23 22.8**	**-2.6**
GULN				S	**Sg**	**04 24 01.4**	**+0.5**
GULN				*i* AML	AML	04 24 07.0	
	comp=N,159nm,0.7s						
GULN				*i* AML	AML	04 24 08.0	
	comp=E,173nm,0.6s						
SILI	**Silifke-Mers**	**2.55**	**144**	PN	**Pn**	**04 23 22.3**	**+1.1**
IKL	**Isikli**	**2.55**	**149**	PN	**Pn**	**04 23 22.7**	**+1.4**
KULA	**Kula-Manisa**	**2.67**	**273**	P	**Pn**	**04 23 23.2**	**+0.2**
KULA				S	**Sg**	**04 24 02.9**	**-2.0**
FETY	**Fethiye**	**2.97**	**234**	P	**Pn**	**04 23 29.0**	**+1.9**
KSL	**Kastellorizon**	**3.02**	**222**	P	**Pn**	**04 23 29.9**	**+2.2**
ISK	**Istanbul-Kandi**	**3.50**	**320**	P	**Pb**	**04 23 42.5**	**+0.9**
BZK	**Bozkurt**	**3.82**	**22**	⇑P	**Pg**	**04 23 51.0**	**-1.4**
DIKM	**Dikmen**	**4.04**	**36**	⇑P	**Pb**	**04 23 52.8**	**+2.0**
SMG	**Samos**	**4.18**	**262**	P	**Pn**	**04 23 43.9**	**+0.2**
CHOS	**Chios island**	**4.72**	**271**	P	**Pn**	**04 23 52.5**	**+1.4**
KARP	**Karpathos**	**4.87**	**235**	P	**Pn**	**04 23 54.3**	**+1.1**
ALN	**Alexandroupoli**	**5.25**	**300**	P	**Pn**	**04 23 58.5**	**+0.2**
SMTH	**Samothraki Isl**	**5.44**	**294**	P	**Pn**	**04 24 01.6**	**+0.6**
RDO	**Rodhopi**	**5.70**	**300**	P	**Pn**	**04 24 03.8**	**-0.8**
KDZ	**Kurdzhali**	**6.02**	**304**	P	**Pn**	**04 24 08.8**	**-0.2**
RZN	**Rozhen**	**6.50**	**302**	P	**Pn**	**04 24 15.9**	**+0.2**
IDI	**Anoyia**	**6.55**	**243**	⇓P	**Pn**	**04 24 15.8**	**-0.5**
TIRR	**Tirgusor**	**6.61**	**337**	⇑P	**Pn**	**04 24 16.6**	**-0.3**
TPGR	**Topolog**	**6.97**	**338**	⇑P	**Pn**	**04 24 21.0**	**-0.9**
HARR	**Harsova**	**6.97**	**336**	⇓P	**Pn**	**04 24 21.4**	**-0.5**
MMB	**Musomiste**	**7.12**	**299**	P	**Pn**	**04 24 24.0**	**-0.2**
CFR	**Carcaliu**	**7.34**	**338**	⇑P	**Pn**	**04 24 26.1**	**-1.0**
VTS	**Vitosha**	**7.91**	**305**	⇑P	**Pn**	**04 24 32.1**	**-2.9**
VTS	**Vitosha**	**7.91**	**305**	P	**Pn**	**04 24 35.0**	**0.0**
MLR	**Muntele Rosu**	**8.39**	**329**	⇑P	**Pn**	**04 24 40.1**	**-1.4**
MLR	**Muntele Rosu**	**8.39**	**329**	Pn	**Pn**	**04 24 43.6**	**+2.1**
	0.2nm,0.3s,baz=173,slow=10,SNR=3.6						
VRI	**Vrincioaia**	**8.41**	**334**	⇑P	**Pn**	**04 24 41.0**	**-0.8**
PLOR	**Plostina**	**8.42**	**333**	⇑P	**Pn**	**04 24 40.7**	**-1.3**
COVR	**Voineasa-Covas**	**8.58**	**331**	⇑P	**Pn**	**04 24 43.3**	**-0.8**
MDVR	**Moldovita**	**10.00**	**313**	⇑P	**Pn**	**04 25 00.4**	**-3.2**
FINES	**FINESS Array B**	**23.33**	**353**	P	**P**	**04 27 48.0**	**0.0**
	1.1nm,0.6s,baz=158,slow=12,SNR=4.1						
ARCES	**ARCESS Array B**	**31.36**	**356**	P	**P**	**04 29 00.7**	**+0.3**
	3.6nm,1.1s,baz=152,slow=9.9,SNR=4.4						
KURBB	**Kurchatov Arra**	**34.74**	**54**	P	**P**	**04 29 31.0**	**+0.8**
	0.9nm,0.7s,baz=276,slow=9.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**36.87**	**235**	P	**P**	**04 29 48.5**	**-0.3**
	0.3nm,0.7s,baz=35,slow=9.3,SNR=2.3						
MKAR	**Makanchi Array**	**37.34**	**61**	P	**P**	**04 29 53.1**	**+0.5**
	0.3nm,0.6s,baz=283,slow=6.0,SNR=4.9						
YKA	**Yellowknife Ar**	**75.89**	**345**	P	**P**	**04 34 27.0**	**+0.6**
	0.1nm,0.6s,baz=30,slow=5.3,SNR=4.5						

IDC ***18*** *04:25:52.2±1.1,29.°82S×70.°96W,h0km,mb4.1/3, mb1 4.1/6,mb1mx3.8/28,mbtmp4.0/6,ML3.7/3,MS3.2/6, Ms1 3.2/6,ms1mx2.9/55,Error ellipse: s-maj=41.1km s-min=27.8km az=89.0*

GUC ***18*** *04:25:59.0±0.8,29.°54S×70.°99W,h50km±3km,ML4.5*

SJA ***18*** *04:25:59.0±1.0,29.°52S×70.°93W,h30km±2km,ML4.0, MW4.0*

NEIC ***18*** *04:25:59.5±1.4,29.°52S±0.°03×71.°02W±0.°05,h40km±6km, mb4.5/16,ML4.5(GUC),Error ellipse: s-maj=6.6km s-min=4.5km az=87.0*

ISC 18 04:25:59.0±0.8,29.°53S±0.°03×71.°12W±0.°04,h41km±7km,

2016 APR

n124,σ1$41/134,mb4.5/10,1C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.40**	**195**			**Pn**	**Pn**	**04 26 09.5**	**+0.9**
CO05						Sn	**Sn**	**04 26 16.8**	**+1.5**
CO05	**La Serena**	**0.40**	**195**	⇓*i*	P	**Pn**	**Pn**	**04 26 09.6**	**+1.0**
CO05				*i*	S	**Sn**	**Sn**	**04 26 16.9**	**+1.7**
CO05					IAML			04 26 17.6	
	comp=E,37μm,0.5s								
LCO	**Las Campanas**	**0.63**	**35**				**Pn**	**04 26 11.2**	**-0.6**
LCO							**Sn**	**04 26 20.3**	**-0.6**
LCO	**Las Campanas**	**0.63**	**35**	*e*P			**Pn**	**04 26 10.4**	**-1.4**
LCO				*e*S			**Sn**	**04 26 19.9**	**-1.0**
LCO	**Las Campanas**	**0.63**	**35**	*i* P			**Pn**	**04 26 11.2**	**-0.6**
LCO				*e*S			**Sn**	**04 26 19.9**	**-1.0**
GO04	**Tololo Observa**	**0.70**	**157**				**Pn**	**04 26 12.7**	**0.0**
GO04							**Sn**	**04 26 22.5**	**0.0**
GO04	**Tololo Observa**	**0.70**	**157**	*i* P			**Pn**	**04 26 12.5**	**-0.2**
GO04				*i* S			**Sn**	**04 26 22.0**	**-0.5**
GO04	**Tololo Observa**	**0.70**	**157**	*i* P			**Pn**	**04 26 12.7**	**0.0**
GO04				*e*S			**Sn**	**04 26 22.8**	**+0.3**
CO01	**Juntas del Tor**	**0.99**	**117**				**Pn**	**04 26 16.2**	**-0.5**
CO01							**Sn**	**04 26 28.4**	**-1.4**
CO01	**Juntas del Tor**	**0.99**	**117**	⇑*i* P			**Pn**	**04 26 16.3**	**-0.5**
CO01				*e*S			**Sn**	**04 26 28.6**	**-1.1**
CO01	**Juntas del Tor**	**0.99**	**117**	*i* P			**Pn**	**04 26 16.2**	**-0.5**
CO01				*e*S			**Sn**	**04 26 28.6**	**-1.1**
CO06	**Fray Jorge**	**1.23**	**201**				**Pn**	**04 26 20.3**	**+0.6**
CO06	**Fray Jorge**	**1.23**	**201**	⇓*i* P			**Pn**	**04 26 20.3**	**+0.6**
AC04	**Llanos de Chal**	**1.32**	**2**	Pn			**Pn**	**04 26 21.5**	**+0.5**
AC04				Sn			**Sn**	**04 26 37.9**	**+0.5**
AC04	**Llanos de Chal**	**1.32**	**2**	⇓*i* P			**Pn**	**04 26 21.5**	**+0.5**
AC04				*i* S			**Sn**	**04 26 37.8**	**+0.5**
AC04					IAML			04 26 42.7	
	comp=E,6μm,0.3s								
AC04	**Llanos de Chal**	**1.32**	**2**	*i* P			**Pn**	**04 26 21.5**	**+0.5**
CO03	**El Pedregal**	**1.36**	**164**	Pn			**Pn**	**04 26 22.2**	**+0.7**
CO03				Sn			**Sn**	**04 26 39.5**	**+1.1**
CO03	**El Pedregal**	**1.36**	**164**	⇓*i* P			**Pn**	**04 26 22.0**	**+0.5**
CO03				*i* S			**Sn**	**04 26 39.4**	**+1.0**
CO03					IAML			04 26 40.8	
	comp=E,8μm,0.2s								
AROD	**Rodeo**	**1.56**	**114**	*i* P			**Pn**	**04 26 25.8**	**+1.2**
AROD				*e*S			**Sn**	**04 26 45.2**	**+1.4**
CO02	**Combarbal**	**1.67**	**177**	Pn			**Pn**	**04 26 26.6**	**+0.6**
CO02				Sn			**Sn**	**04 26 46.8**	**+0.6**
CO02	**Combarbal**	**1.67**	**177**	⇓*i* P			**Pn**	**04 26 26.5**	**+0.6**
CO02				*i* S			**Sn**	**04 26 47.2**	**+1.0**
CO02					IAML			04 26 50.3	
	comp=N,12μm,0.2s								
ACDV	**Cuesta del Vie**	**1.85**	**111**	*i* P			**Pn**	**04 26 30.0**	**+1.6**
ACDV					IAML			04 26 56.1	
	comp=Z,560nm,0.6s								
ACCO	**Cerro Coronel**	**2.07**	**121**	*i* P			**Pn**	**04 26 33.3**	**+1.8**
GO03	**Copiap**	**2.08**	**22**				**Pn**	**04 26 32.2**	**+0.7**
GO03	**Copiap**	**2.08**	**22**	*e*P			**Pn**	**04 26 32.4**	**+1.0**
GO03	**Copiap**	**2.08**	**22**	*i* P			**Pn**	**04 26 32.4**	**+1.0**
AC06	**Mina Casimiro**	**2.27**	**17**	Pn			**Pn**	**04 26 34.2**	**+0.2**
AC06	**Mina Casimiro**	**2.27**	**17**	*e*P			**Pn**	**04 26 34.5**	**+0.5**
VCA	**Vinchina**	**2.67**	**73**	*i* P			**Pn**	**04 26 42.9**	**+3.3**
VCA					IAML			04 27 19.9	
	comp=Z,919nm,0.4s								
RTLS	**Leoncito**	**2.75**	**146**	*i* P			**Pn**	**04 26 44.0**	**+3.1**
RTLS				*e*S			Sn	04 26 58.5	-15
RTLS					IAML			04 26 59.0	
	comp=Z,376nm,0.8s								
RTLL	**Cerro Villicun**	**2.90**	**129**	*i* P			**Pn**	**04 26 44.4**	**+1.6**
RTLL					IAML			04 27 41.6	
	comp=Z,571nm,0.5s								
ZON	**Zonda**	**2.91**	**134**	Pn			**Pn**	**04 26 44.9**	**+2.0**
ZON	**Zonda**	**2.91**	**134**	*i* P			**Pn**	**04 26 46.0**	**+3.2**
ZON					IAML			04 27 44.9	
	comp=Z,339nm,0.7s								
VA06	**Catapilco**	**3.03**	**183**	Pn			**Pn**	**04 26 45.6**	**+1.2**
VA06	**Catapilco**	**3.03**	**183**	*e*P			**Pn**	**04 26 45.6**	**+1.2**
VA06				*i* S			**Sn**	**04 27 20.9**	**+1.5**
VA06					IAML			04 27 33.3	
	comp=N,2μm,0.4s								
AUSP	**Uspallata**	**3.07**	**151**	*i* P			**Pn**	**04 26 48.2**	**+2.9**
AC02	**Maricunga**	**3.21**	**34**	Pn			**Pn**	**04 26 48.0**	**+0.7**
AC02	**Maricunga**	**3.21**	**34**	*e*P			**Pn**	**04 26 48.3**	**+0.9**
AC02					IAML			04 27 42.8	
	comp=E,1μm,0.3s								
AC02	**Maricunga**	**3.21**	**34**	*i* P			**Pn**	**04 26 48.2**	**+0.9**
VA03	**San Esteban**	**3.26**	**172**				**Pn**	**04 26 48.7**	**+0.9**
VA03	**San Esteban**	**3.26**	**172**	*e*P			**Pn**	**04 26 48.8**	**+1.1**
VA03					IAML			04 27 32.7	
	comp=N,1μm,0.6s								
VA03	**San Esteban**	**3.26**	**172**	*i* P			**Pn**	**04 26 48.8**	**+1.1**
AVFE	**Valle Fertil**	**3.37**	**110**	*i* P			**Pn**	**04 26 50.3**	**+1.2**
AVFE					IAML			04 27 53.5	
	comp=Z,346nm,0.6s								
AC01	**Pan de Azucar**	**3.40**	**8**				**Pn**	**04 26 49.3**	**-0.2**
AC01	**Pan de Azucar**	**3.40**	**8**	*e*P			**Pn**	**04 26 49.3**	**-0.2**
AC01					IAML			04 27 46.6	
	comp=E,715nm,0.5s								
AC01	**Pan de Azucar**	**3.40**	**8**	*i* P			**Pn**	**04 26 49.3**	**-0.2**
VA01	**Torpederas**	**3.51**	**187**	Pn			**Pn**	**04 26 51.5**	**+0.4**
VA01	**Torpederas**	**3.51**	**187**	*i* P			**Pn**	**04 26 51.8**	**+0.7**
ASAL	**Salagasta**	**3.63**	**148**	*i* P			**Pn**	**04 26 55.2**	**+2.4**
ASAL					IAML			04 28 00.2	
	comp=Z,363nm,0.7s								
ACLC	**CERRO LA CRUZ**	**3.63**	**89**	*i* P			**Pn**	**04 26 53.7**	**+0.8**
ACLC					IAML			04 27 58.5	
	comp=Z,182nm,0.4s								
ARCO	**CERRO ARCO**	**3.80**	**151**	*i* P			**Pn**	**04 26 57.7**	**+2.6**
ARCO					IAML			04 28 04.6	
	comp=Z,570nm,1.7s								
MT05	**Renca**	**3.87**	**175**	Pn			**Pn**	**04 26 56.9**	**+0.9**
MT05	**Renca**	**3.87**	**175**	*i* P			**Pn**	**04 26 57.0**	**+1.0**
MT03	**Universidad Ad**	**3.99**	**173**	Pn			**Pn**	**04 26 58.8**	**+1.1**
MT03	**Universidad Ad**	**3.99**	**173**	*i* P			**Pn**	**04 26 59.0**	**+1.3**
AAGR	**Agrelo**	**4.05**	**152**	*i* P			**Pn**	**04 27 01.0**	**+2.4**
AAGR					IAML			04 28 20.8	
	comp=Z,478nm,1.9s								
APLL	**PUNTA DE LOS L**	**4.07**	**103**	*i* P			**Pn**	**04 26 59.6**	**+0.8**
APLL					IAML			04 28 17.1	
	comp=Z,141nm,0.6s								
VA05	**Santo Domingo**	**4.14**	**186**	Pn			**Pn**	**04 27 00.1**	**+0.5**
ACHE	**Chepes**	**4.18**	**114**	*i* P			**Pn**	**04 27 02.0**	**+1.6**
MT09	**Talagante**	**4.24**	**179**	Pn			**Pn**	**04 27 01.8**	**+0.6**
BO04	**La Punta**	**4.47**	**175**				**Pn**	**04 27 05.1**	**+0.9**
GO02	**Mina Guanaco**	**4.56**	**18**	Pn			**Pn**	**04 27 05.8**	**-0.2**
GO02	**Mina Guanaco**	**4.56**	**18**	*i* P			**Pn**	**04 27 05.8**	**+0.1**
BO01	**Tunca**	**4.85**	**180**	Pn			**Pn**	**04 27 10.1**	**+0.8**
BO01	**Tunca**	**4.85**	**180**	*i* P			**Pn**	**04 27 10.2**	**+0.8**
MRA	**San Martin**	**5.46**	**123**	*i* P			**Pn**	**04 27 17.8**	**-0.1**
MRA					IAML			04 29 03.6	
	comp=Z,126nm,0.8s								
GO05	**Huala**	**5.51**	**187**				**Pn**	**04 27 18.0**	**-0.5**
GO05	**Huala**	**5.51**	**187**	*i* P			**Pn**	**04 27 18.0**	**-0.5**
FSA	**Cafayete**	**5.68**	**54**	*i* P			**Pn**	**04 27 22.2**	**+1.2**
RFA	**San Rafael**	**5.69**	**157**	*i* P			**Pn**	**04 27 21.0**	**0.0**
RFA					IAML			04 29 10.4	
	comp=Z,67nm,0.5s								
TCA	**Tanti**	**5.91**	**109**	*i* P			**Pn**	**04 27 23.6**	**-0.5**
PB10	**IPOC Station P**	**6.01**	**5**	Pn			**Pn**	**04 27 25.3**	**-0.1**
ML02	**Panimavida**	**6.22**	**182**	Pn			**Pn**	**04 27 28.3**	**+0.1**
PB15	**IPOC Station P**	**6.46**	**14**	Pn			**Pn**	**04 27 30.6**	**-1.3**
PB15	**IPOC Station P**	**6.46**	**14**	*i* P			**Pn**	**04 27 31.2**	**-0.6**
PB06	**IPOC Station P**	**6.94**	**12**	Pn			**Pn**	**04 27 35.9**	**-2.4**
LVC	**Limon Verde**	**7.17**	**17**	Pn			**Pn**	**04 27 40.2**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=171,slow=6.8,SNR=13								
LVC						Sn	**Sn**	**04 29 09.5**	**+7.5**
	comp=Z,2.8nm,0.3s,baz=176,slow=23,SNR=1.6								
LVC						LR	LR	04 30 46.1	
	comp=Z,120nm,20.2s,baz=214,slow=40								
BI05	**Punta Hualpn**	**7.41**	**193**	Pn			**Pn**	**04 27 42.7**	**-1.8**
H03N1	**Juan Fernandez**	**7.71**	**238**	T			T	04 35 35.8	
	baz=65,slow=72,SNR=2116								
H03N2	**Juan Fernandez**	**7.73**	**238**	T			T	04 35 36.0	
	baz=65,slow=72,SNR=1856								
H03N3	**Juan Fernandez**	**7.73**	**238**	T			T	04 35 35.0	
	baz=65,slow=72,SNR=2007								
PB07	**IPOC Station P**	**7.85**	**8**	Pn			**Pn**	**04 27 47.1**	**-3.7**
PB09	**IPOC Station P**	**7.88**	**13**	*i* P			**Pn**	**04 27 50.0**	**-1.3**
PB09					IAML			04 29 58.1	
	comp=Z,51nm,0.9s								
PB02	**IPOC Station P**	**8.25**	**8**	Pn			**Pn**	**04 27 54.5**	**-1.7**
PATCX	**Punta Patache**	**8.71**	**6**	Pn			**Pn**	**04 28 04.6**	**+2.0**
LC01	**Cunco**	**9.37**	**184**	Pn			**Pn**	**04 28 10.5**	**-0.9**
LR03	**Panguipulli**	**10.13**	**185**	Pn			**Pn**	**04 28 21.7**	**-0.2**
PLCA	**Paso Flores**	**11.19**	**178**	Pn			**Pn**	**04 28 35.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=339,slow=10,SNR=5.1								
PLCA	**Paso Flores**	**11.19**	**178**	Pn			**Pn**	**04 28 35.5**	**-0.9**
LL04	**Puerto Octay**	**11.40**	**185**	Pn			**Pn**	**04 28 36.2**	**-3.0**
CPUP	**Villa Florida**	**12.60**	**79**	Pn			**Pn**	**04 28 57.7**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=276,slow=20,SNR=1.6								
CPUP						LR	LR	04 33 27.0	
	comp=Z,53nm,19.5s,baz=210,slow=36								
ITQB	**Itaqui**	**12.61**	**94**	Pn			**Pn**	**04 28 53.9**	**-1.9**
LPAZ	**La Paz**	**13.46**	**12**	Pn			**Pn**	**04 29 10.2**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=180,slow=9.8,SNR=7.3								
LPAZ	**La Paz**	**13.46**	**12**	Pn			**Pn**	**04 29 07.8**	**-0.2**
SIV	**San Ignacio**	**16.34**	**37**	Pn			**Pn**	**04 29 45.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=224,slow=11,SNR=10								
SIV						LR	LR	04 35 44.5	
	comp=Z,62nm,19.9s,baz=216,slow=36								
NNA	**Nana**	**18.25**	**342**	LR		LR	LR	04 36 42.2	
	comp=Z,18nm,19.4s,baz=126,slow=35								
ESPN	**Las Esperanzas**	**43.39**	**341**	P			**P**	**04 33 58.8**	**+1.3**
BELA	**Belgrano 2**	**51.14**	**171**	P			**P**	**04 34 57.8**	**+0.5**
SNAA	**Sanae**	**55.44**	**159**	P			**P**	**04 35 28.9**	**-0.1**
SNAA					IAmb		IAmb	04 35 34.2	
	comp=Z,7.1nm,1.3s								
QSPA	**South Pole Qui**	**60.70**	**180**	P			**P**	**04 36 06.6**	**+0.7**
PLAL	**Pickwick Lake**	**66.13**	**345**	P			**P**	**04 36 42.3**	**+0.4**
PLAL					IAmb		IAmb	04 36 53.8	
	comp=Z,9.2nm,1.5s								
TXAR	**Lajitas Array**	**66.27**	**329**	P			**P**	**04 36 44.5**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=151,slow=7.3,SNR=5.7								
TX31	**Lajitas Ar. Si**	**66.27**	**329**	P			**P**	**04 36 44.5**	**+1.5**
LCAR	**Lake Charles**	**67.92**	**343**	P			**P**	**04 36 53.6**	**+0.4**
LCAR					IAmb		IAmb	04 36 54.0	
	comp=Z,3.0nm,0.6s								
PBMO	**Poplar Bluff**	**68.41**	**343**	P			**P**	**04 36 56.9**	**+0.6**
PBMO					IAmb		IAmb	04 36 57.4	
	comp=Z,4.1nm,0.7s								
ECSD	**EROS Data Cent**	**76.56**	**341**	P			**P**	**04 37 45.3**	**+0.6**
ECSD					IAmb		IAmb	04 38 07.2	
	comp=Z,4.2nm,1.2s								
KOWA	**Kowa**	**78.08**	**66**	P			**P**	**04 37 53.0**	**-0.9**
KOWA					IAmb		IAmb	04 38 06.1	
	comp=Z,9.8nm,1.5s								
TSUM	**Tsumeb**	**79.69**	**106**	P			**P**	**04 38 03.3**	**+0.4**
TSUM					I

comp=Z,1.2nm,1.2s
KS03 Wonju Array Si 36.09 2 P P 05 09 10.6 0.0
PETK Petropavlovsk- 57.81 22 LR LR 05 38 41.9
comp=Z,14nm,19.4s,baz=139,slow=38
MK02 Makanchi Array 59.46 326 P P 05 12 10.6 -0.8
MK03 Makanchi Array 59.46 326 P P 05 12 11.4 0.0
MK08 Makanchi Array 59.47 326 P P 05 12 11.5 +0.1
MK04 Makanchi Array 59.47 326 P P 05 12 11.3 -0.2
MK31 Makanchi Array 59.49 326 P P 05 12 11.6 0.0
MKAR Makanchi Array 59.49 326 P P 05 12 11.0 -0.6
comp=Z,0.5nm,0.4s,baz=124,slow=8.4,SNR=10
MKAR Makanchi Array 59.49 326 P P 05 12 11.4 -0.2
KURK Kurchatov 63.73 328 P P 05 12 39.5 -0.6
KKAR Karatay Array 64.92 318 P P 05 12 47.3 -0.8
KK07 Karatay Array 64.92 318 P P 05 12 47.6 -0.5
AB07 Akbulak array 73.93 321 P P 05 13 43.5 -0.1
ABKAR Akbulak array 73.94 321 P P 05 13 43.3 -0.4
AB04 Akbulak array 73.95 321 P P 05 13 43.9 +0.1
AB05 Akbulak array 73.95 321 P P 05 13 43.5 -0.2

*DJA **18** 05:04:41.9±0.5, 6°S±5°×12°8E±°, h379km±8km, M4.2/7, mb4.0/6, mB4.7/5, MLv4.3/7, Mw(mB)4.0/5*
*IDC **18** 05:04:41.5±1.4, 6.15S×127.61E, h406km±15km, mb3.5/3, mb1 3.7/7, mb1mx3.2/35, mbtmp4.5/7, Error ellipse: s-maj=23.2km s-min=10.7km az=76.0*
ISC 18 05:04:41.0±0.8, **6.12S**±0.07×**127.78E**±0.09, **h400**km, **n12, σ1°16/17, mb4.0/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**2.94**	**347**	P	**Pn**	**05 05 44.6**	**+0.9**
NLAI				S	**S**	**05 06 33.6**	**-0.8**
BATI	**Baumata**	**5.75**	**225**	P	**Pn**	**05 06 11.3**	**+0.3**
	26nm,0.3s,baz=36,slow=3.6,SNR=14						
BATI				S	**S**	**05 07 22.2**	**-2.0**
	15nm,0.3s,baz=281,slow=15,SNR=16						
BATI	**Baumata**	**5.75**	**225**	P	**Pn**	**05 06 11.1**	**+0.1**
	0.3nm818nm63nm,0.6s						
SIJI	**Sorong**	**6.27**	**34**	P	**Pn**	**05 06 17.8**	**+1.2**
	8.5nm,0.3s,baz=296,slow=5.7,SNR=11						
SIJI				S	**S**	**05 07 32.1**	**-2.5**
	5.9nm,0.3s,baz=220,slow=22,SNR=6.8						
BSSI	**Bau Bau, Buton**	**7.24**	**269**	P	**P**	**05 06 28.0**	**0.0**
	0.1nm2µm15nm,0.8s						
BKSI	**Bulukumba**	**7.66**	**276**	P	**Pn**	**05 06 32.4**	**+0.3**
	0.0nm6.4nm,0.6s						
BNSI	**Bone**	**7.82**	**282**	P	**P**	**05 06 35.1**	**+0.6**
	0.1nm14nm,0.8s						
WRA	**Warramunga Arr**	**15.15**	**156**	P	**P**	**05 07 56.0**	**+0.8**
	2.4nm,0.3s,baz=331,slow=11,SNR=27						
WRA				S	**S**	**05 10 34.6**	**-1.4**
	0.2nm,0.3s,baz=325,slow=22,SNR=6.2						
ASAR	**Alice Springs**	**18.42**	**162**	P	**P**	**05 08 30.8**	**+0.7**
	1.3nm,0.3s,baz=341,slow=10,SNR=17						
ASAR				S	**S**	**05 11 39.9**	**+1.0**
	0.2nm,0.3s,baz=337,slow=25,SNR=18						
SONM	**Songino Array**	**56.93**	**343**	P	**P**	**05 13 46.8**	**+0.5**
	0.9nm,0.5s,baz=166,slow=7.8,SNR=6.3						
MKAR	**Makanchi Array**	**66.29**	**328**	P	**P**	**05 14 47.6**	**-0.3**
	1.9nm,0.5s,baz=122,slow=8.1,SNR=26						
ZALV	**Zalesovo Beam**	**69.83**	**335**	P	**P**	**05 15 08.6**	**-0.9**
	1.8nm,0.5s,baz=136,slow=4.6,SNR=9.3						

*VAO **18** 05:05:13.7±1.6, 0.33S×80.79W, h10km, mb4.6*
*IDC **18** 05:05:14.2±0.8, 0.15S×80.45W, h0km, mb3.8/10, mb1 4.0/13, mb1mx3.9/38, mbtmp3.8/13, ML1.9/2, MS3.3/10, Ms1 3.4/10, ms1mx3.0/65, Error ellipse: s-maj=30.2km s-min=15.8km az=61.0*
*IGQ **18** 05:05:17±1.1, 0°S±3°×81°W±°, h8km*
ISC 18 05:05:15.1±0.6, **0.16S**±0.04×**80.61W**±0.05, **h9**km, **n120, σ1°81/123, mb3.9/11, MS3.4/7, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.41**	**104**	P	**Pg**	**05 05 23.0**	**-0.2**
FLF1	**Flavio Alfaro-**	**0.79**	**104**	P	**Pg**	**05 05 31.0**	**+0.7**
FLF1				S	**Sn**	**05 05 46.0**	**+1.6**
MAG1	**Magdalena**	**0.84**	**84**	P	**Pg**	**05 05 32.0**	**+0.7**
AV18	**Acelerografo,**	**1.23**	**67**	P	**Pb**	**05 05 39.0**	**+0.5**
AV21	**Acelerografo,**	**1.34**	**52**	P	**Pn**	**05 05 39.0**	**-1.0**
AMA1	**Acelerografo,**	**1.40**	**39**	P	**Pn**	**05 05 41.0**	**+0.1**
BV15	**Puerto Quito-O**	**1.42**	**77**	P	**Pn**	**05 05 40.0**	**-1.1**
APR2	**Miler**	**1.66**	**82**	P	**Pn**	**05 05 43.0**	**-1.5**
HPAL	**Hacienda Las P**	**1.96**	**92**	P	**Pn**	**05 05 48.0**	**-0.8**
ILLI	**Illinizas Sur**	**1.96**	**106**	P	**Pn**	**05 05 48.0**	**-1.0**
GGPT	**Toaza - Volcan**	**1.99**	**92**	P	**Pn**	**05 05 49.0**	**-0.3**
APR1	**Acelerografo,**	**2.00**	**87**	P	**Pn**	**05 05 49.0**	**-0.4**
PINO	**Pino**	**2.00**	**90**	P	**Pn**	**05 05 49.0**	**-0.6**
JUA2	**San Juan 2**	**2.00**	**91**	P	**Pn**	**05 05 49.0**	**-0.6**
TERV	**Terraza Guagua**	**2.00**	**90**	P	**Pn**	**05 05 49.0**	**-0.6**
PAST	**Pastocalle**	**2.04**	**105**	P	**Pn**	**05 05 50.0**	**0.0**
YANA	**Yana**	**2.04**	**89**	P	**Pn**	**05 05 50.0**	**-0.1**
PULU	**Pululahua**	**2.11**	**85**	P	**Pn**	**05 05 51.0**	**0.0**
SRAM	**San Ramn-Vol**	**2.12**	**106**	P	**Pn**	**05 05 51.0**	**-0.1**
CAMI	**Rancho Maria**	**2.16**	**104**	P	**Pn**	**05 05 53.0**	**+1.2**
SUCR	**Mariscal Sucre**	**2.17**	**103**	P	**Pn**	**05 05 52.0**	**+0.2**
CHSH	**Refugio Sur-Vo**	**2.18**	**127**	P	**Pn**	**05 05 52.0**	**-0.2**
SLOR	**San Lorenzo -**	**2.19**	**105**	P	**Pn**	**05 05 53.0**	**+0.9**
BNAS	**Cotopaxi Volca**	**2.19**	**103**	P	**Pn**	**05 05 53.0**	**+0.9**
NAS2	**Nasa**	**2.19**	**103**	P	**Pn**	**05 05 53.0**	**+0.8**
TOMA	**Boca Toma-Volc**	**2.20**	**99**	P	**Pn**	**05 05 53.0**	**+0.8**
AMIL	**Milagro (Trans**	**2.21**	**153**	P	**Pn**	**05 05 52.0**	**+0.1**
PITA	**Cotopaxi Volc**	**2.21**	**100**	P	**Pn**	**05 05 53.0**	**+0.6**
BMOR	**Cotopaxi Volca**	**2.22**	**105**	P	**Pn**	**05 05 53.0**	**+0.3**
BREF	**Cotopaxi Volca**	**2.23**	**103**	P	**Pn**	**05 05 54.0**	**+1.2**
PORT	**Chimborazo Vol**	**2.24**	**125**	P	**Pn**	**05 05 53.0**	**0.0**
BVC2	**Cotopaxi Volca**	**2.25**	**103**	P	**Pn**	**05 05 54.0**	**+0.9**
VC1	**Cotopaxi 1**	**2.26**	**102**	P	**Pn**	**05 05 54.0**	**+0.9**
CUSE	**Cuicocha Este**	**2.26**	**78**	*eP*	**Pn**	**05 05 53.3**	**+0.2**
CUSE				*eS*	**Sb**	**05 06 24.2**	**-0.3**
CUSE				*i*		05 06 27.6	
	comp=Z,1µm,0.3s						
BTAM	**Cotopaxi Volca**	**2.27**	**103**	P	**Pn**	**05 05 54.0**	**+0.7**
TAMH	**Tambohuasha Ch**	**2.28**	**127**	P	**Pn**	**05 05 54.0**	**+0.6**
CUIC	**Cuicocha-Domo**	**2.29**	**78**	P	**Pn**	**05 05 54.0**	**+0.5**
CUSW	**Cuicocha Oeste**	**2.30**	**79**	P	**Pn**	**05 05 54.0**	**+0.4**
TAMB	**Tambo**	**2.30**	**103**	P	**Pn**	**05 05 55.0**	**+1.3**
VCES	**Cotopaxi**	**2.30**	**106**	P	**Pn**	**05 05 54.0**	**+0.3**
URCU	**Urcuqui**	**2.43**	**76**	P	**Pn**	**05 05 57.0**	**+1.6**
ANTS	**Antisana-Sarah**	**2.46**	**99**	P	**Pn**	**05 05 57.0**	**+1.0**
ANTI	**Antisana**	**2.46**	**97**	P	**Pn**	**05 05 57.0**	**+1.0**
POND	**Pondoa**	**2.49**	**120**	P	**Pn**	**05 05 57.0**	**+0.8**
BMAS	**Trigal station**	**2.51**	**122**	P	**Pn**	**05 05 57.0**	**+0.5**
RETU	**Refugio**	**2.51**	**121**	P	**Pn**	**05 05 58.0**	**+1.4**
BRUN	**Tungurahua Vol**	**2.53**	**120**	P	**Pn**	**05 05 58.0**	**+1.3**
ARRY	**Arrayan**	**2.53**	**122**	P	**Pn**	**05 05 58.0**	**+1.2**
BPAT	**Tungurahua Vol**	**2.55**	**121**	P	**Pn**	**05 06 00.0**	**+2.9**
YAHU	**Yahuarcocha**	**2.59**	**78**	P	**Pn**	**05 06 00.0**	**+2.4**
CHMA	**Chilma**	**2.74**	**68**	P	**Pn**	**05 06 00.0**	**+0.4**
ECEN	**Cerro Negro**	**2.81**	**70**	P	**Pn**	**05 06 01.0**	**+0.2**
CHL1	**Volcn Chiles**	**2.83**	**70**	P	**Pn**	**05 06 02.0**	**+1.0**
CHL2	**Volcn Chiles**	**2.86**	**70**	P	**Pn**	**05 06 02.0**	**+0.7**
ARDO	**Archidona, Ten**	**2.93**	**106**	P	**Pn**	**05 06 04.0**	**+2.1**
TULM	**Tulcn-Chalpat**	**2.95**	**73**	*eP*	**Pn**	**05 06 06.4**	**+3.7**
CMBC	**Cumbal**	**2.99**	**68**	*eP*	**Pn**	**05 06 05.6**	**+2.4**
CMBC				*eS*	**Sg**	**05 06 54.4**	**+3.1**
CMBC				*i*		05 07 07.7	
	comp=Z,17µm,0.7s						
BONI	**La Bonita**	**3.14**	**79**	P	**Pn**	**05 06 08.0**	**+3.0**
GR1C	**Gorgona, Isla**	**3.98**	**38**	*eP*	**Pn**	**05 06 15.8**	**-0.5**
GR1C				*i*		05 07 05.4	
	comp=Z,981nm,0.7s						
CRUC	**La Cruz**	**4.04**	**65**	*eP*	**Pn**	**05 06 18.8**	**+1.3**
SOTA	**Rioblanco**	**4.61**	**60**	*eP*	**Pn**	**05 06 28.2**	**+2.8**
SOTA				*eS*	**Sb**	**05 07 28.6**	**-3.6**
SOTA				*i*		05 07 37.7	
	comp=Z,61nm,0.6s						
POPC	**Popayan, Colom**	**4.76**	**56**	*eP*	**Pn**	**05 06 27.5**	**+0.2**
POPC				*eS*	**Sb**	**05 07 30.1**	**-6.3**
POPC				*i*		05 07 50.1	
	comp=Z,18nm,0.6s						
PCON	**Cinco Dias**	**4.88**	**60**	*eP*	**Pn**	**05 06 31.3**	**+2.0**
PCON				*eS*	**Sb**	**05 07 34.5**	**-5.8**
PCON				*i*		05 08 02.3	
	comp=Z,62nm,0.7s						
MARP	**Paez Belalcaza**	**5.53**	**57**	*eP*	**Pn**	**05 06 38.9**	**+1.0**
MARP				*i*		05 08 07.2	
	comp=Z,6.9nm,0.6s						
GARC	**Garzon, Huila**	**5.62**	**65**	*eP*	**Pn**	**05 06 41.6**	**+2.4**
PTLC	**Puerto Leguiza**	**5.82**	**87**	*eP*	**Pn**	**05 06 43.2**	**+1.5**
PTLC				*eS*	**Sn**	**05 07 38.9**	**-10**
PTLC				*i*		05 08 16.8	
	comp=Z,18nm,0.8s						
BETC	**Betania**	**5.89**	**61**	*eP*	**Pn**	**05 06 45.1**	**+2.4**
YOTC	**Yotoco, Valle**	**5.93**	**46**	*eP*	**Pn**	**05 06 44.5**	**+1.3**
YOTC				*eS*	**Sn**	**05 07 49.0**	**-2.4**
YOTC				*i*		05 08 08.3	
	comp=Z,23nm,0.7s						
PLMC	**San Jos del P**	**6.63**	**41**	*eP*	**Pn**	**05 06 54.2**	**+1.2**
PLMC				*eS*	**Sn**	**05 08 05.8**	**-3.0**
PLMC				*i*		05 08 26.3	
	comp=Z,17nm,0.5s						
ORTC	**Ortega, Tolima**	**6.71**	**53**	*eP*	**Pn**	**05 06 56.0**	**+2.0**
ORTC				*eS*	**Sn**	**05 08 17.6**	**+6.9**
ORTC				*i*		05 08 37.2	
	comp=Z,14nm,0.5s						
MACC	**Macarena, Meta**	**7.14**	**71**	*eP*	**Pn**	**05 07 01.4**	**+1.6**
GUY2C	**Guyana, Caldas**	**7.49**	**44**	*eP*	Pn	05 07 11.5	+6.5
GUY2C				*eS*	**Sn**	**05 08 32.3**	**+1.9**
GUY2C				*i*		05 08 48.2	
	comp=Z,16nm,0.6s						
CBOC	**Ciudad Bolivar**	**7.54**	**37**	*eP*	**Pn**	**05 07 08.3**	**+2.8**
CBOC				*eS*	Sb	05 08 45.0	-12
CBOC				*i*		05 09 06.2	
	comp=Z,9.1nm,0.6s						
ROSC	**El Rosal**	**8.01**	**52**	Pn	**Pn**	**05 07 12.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=173,slow=19,SNR=1.4						
ROSC	**El Rosal**	**8.01**	**52**	*eP*	Pn	05 07 21.5	+9.4
ROSC				*i*		05 09 02.6	
	comp=Z,5.5nm,0.3s						
NORC	**Norcasia**	**8.07**	**45**	*eP*	Pn	05 07 20.6	+7.9
NORC				*eS*	**Sn**	**05 08 45.9**	**+1.6**
NORC				*i*		05 09 09.2	
	comp=Z,4.2nm,0.5s						
HELC	**Santa Helena**	**8.10**	**39**	*eP*	Pn	05 07 21.2	+7.9
HELC				*i*		05 09 03.4	
	comp=Z,5.1nm,0.6s						
SPBC	**San Pablo de B**	**8.71**	**48**	*eP*	**Pn**	**05 07 26.2**	**+4.7**
PTBC	**PUERTO BERRIO,**	**9.06**	**43**	*eP*	**Pn**	**05 07 28.8**	**+2.6**
PTBC				*eS*	**Sn**	**05 09 07.7**	**-0.7**
PTBC				*i*		05 09 34.5	
	comp=Z,3.8nm,0.8s						
UREC	**San Jos de Ur**	**9.35**	**33**	*eP*	**Pn**	**05 07 34.3**	**+4.1**
CZSB	**Cruzeiro do Su**	**10.89**	**134**	*eP*	**Pn**	**05 07 51.4**	**+0.2**
JTS	**Las Juntas de**	**11.25**	**338**	LR	LR	05 10 53.5	
	comp=Z,28nm,19.6s,baz=214,slow=30						
TBTG	**Tabatinga, AM**	**11.41**	**111**	*eP*	**Pn**	**05 07 58.4**	**0.0**
NNA	**Nana**	**12.33**	**162**	Pn	**Pn**	**05 08 12.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=313,slow=15,SNR=1.6						
NNA				Sn	**Sn**	**05 10 29.4**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=222,slow=17,SNR=1.4						
NNA				LR	LR	05 12 32.6	
	comp=Z,73nm,20.4s,baz=341,slow=36						
SDV	**Santo Domingo**	**13.40**	**48**	Pn	**Pn**	**05 08 24.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=241,slow=13,SNR=3.3						
SDV				LR	LR	05 14 25.4	
	comp=Z,121nm,18.6s,baz=213,slow=42						
SDV	**Santo Domingo**	**13.40**	**48**	*eP*	**Pn**	**05 08 27.0**	**+1.2**
ETMB	**Extrema**	**17.24**	**124**	*eP*	**Pn**	**05 09 14.3**	**-2.0**
MACA	**Manacapuru-AM**	**20.14**	**99**	*eP*	**P**	**05 09 50.4**	**+0.7**
LPAZ	**La Paz**	**20.20**	**143**	P	**P**	**05 09 51.1**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=337,slow=15,SNR=8.8						
LPAZ				LR	LR	05 19 27.9	
	comp=Z,108nm,21.5s,baz=302,slow=42						
LPAZ	**La Paz**	**20.20**	**143**	*eP*	**P**	**05 09 47.5**	**-3.6**
BOAV	**Boa Vista**	**20.24**	**83**	*eP*	**P**	**05 09 51.6**	**+0.7**
CMIG	**Matias Romero**	**22.18**	**321**	LR	LR	05 17 19.1	
	comp=Z,57nm,18.2s,baz=162,slow=33						
SJG	**San Juan**	**23.06**	**37**	LR	LR	05 21 10.0	
	comp=Z,83nm,18.4s,baz=202,slow=42						
VILB	**Vilhena**	**23.89**	**123**	*eP*	**P**	**05 10 28.4**	**-1.0**
SIV	**San Ignacio**	**24.88**	**130**	P	**P**	**05 10 38.4**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=304,slow=9.3,SNR=18						
SIV				LR	LR	05 21 53.3	
	comp=Z,184nm,18.3s,baz=314,slow=40						
ITTB	**Itaituba**	**25.20**	**100**	*eP*	**P**	**05 10 40.7**	**-0.7**
NPGB	**Novo Progresso**	**26.10**	**106**	*eP*	**P**	**05 10 48.4**	**-1.2**
PDRB	**Porto dos Gac**	**26.30**	**116**	*eP*	**P**	**05 10 51.0**	**-0.4**
MALB	**Monte Alegre**	**26.39**	**94**	*eP*	**P**	**05 10 53.2**	**+1.0**
CLDB	**Colider**	**26.86**	**114**	*eP*	**P**	**05 10 56.3**	**-0.1**
MDP	**Montagnes des**	**28.42**	**79**	LR	LR	05 22 17.6	
	comp=Z,93nm,19.1s,baz=263,slow=36						
SNDB	**Serra Nova Dou**	**31.37**	**113**	*eP*	**P**	**05 11 35.5**	**-1.1**
SMTB	**Santa Maria do**	**34.00**	**106**	*eP*	**P**	**05 11 58.2**	**-1.4**
CPUP	**Villa Florida**	**34.35**	**141**	LR	LR	05 28 28.2	
	comp=Z,105nm,18.1s,baz=352,slow=41						
BDFB	**Brasilia**	**35.66**	**117**	P	**P**	**05 12 13.1**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=215,slow=7.4,SNR=3.9						
IPMB	**Ipameri, GO**	**36.44**	**121**	*eP*	**P**	**05 12 19.7**	**-0.9**
PLCA	**Paso Flores**	**41.40**	**161**	P	**P**	**05 13 02.0**	**+0.1**
	comp=Z,3.4nm,1.1s,baz=350,slow=9.5,SNR=4.0						
NBLA	**Lagarto - SE**	**43.88**	**106**	*eP*	**P**	**05 13 24.1**	**+1.6**
RCBR	**Riachuelo**	**44.98**	**98**	LR	LR	05 31 31.9	
	comp=Z,84nm,18.4s,baz=64,slow=35						
NVAR	**Mina Array Bea**	**51.70**	**322**	P	**P**	**05 14 24.9**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=129,slow=6.2,SNR=10						
YKA	**Yellowknife Ar**	**67.52**	**344**	P	**P**	**05 16 11.8**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=137,slow=6.0,SNR=12						
LIC	**Lamto**	**75.68**	**84**	*eP*	**P**	**05 16 59.5**	**-2.1**
	comp=Z,22nm,1.7s						
TIC	**Toumodi**	**75.70**	**83**	*eP*	**P**	**05 17 01.6**	**-0.2**
KIC	**Kosan Boka**	**75.97**	**83**	*eP*	**P**	**05 17 02.3**	**-1.0**
	comp=Z,13nm,0.8s						
INK	**Inuvik**	**77.20**	**342**	P	**P**	**05 17 10.3**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=92,slow=4.6,SNR=2.6						
ESDC	**Sonseca Array**	**79.84**	**50**	P	**P**	**05 17 23.7**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=275,slow=5.7,SNR=7.7						
ILAR	**Eielson Array**	**80.22**	**337**	P	**P**	**05 17 26.9**	**+1.1**
	comp=Z,0.4nm,1.0s,baz=135,slow=2.7,SNR=1.6						
TORD	**Torodi Ar. Bea**	**82.54**	**77**	P	**P**	**05 17 38.2**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=258,slow=6.6,SNR=2.1						
ASAR	**Alice Springs**	**138.97**	**232**	PKP	**PKPdf**	**05 24 41.4**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=108,slow=2.7,SNR=2.4						
WRA	**Warramunga Arr**	**140.37**	**238**	PKP	**PKPdf**	**05 24 44.1**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=112,slow=2.0,SNR=11						

*IDC **18** 05:24:38.4±1.1, 26.05N×125.33E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/44, mbtmp3.5/7, ML3.0/1, MS3.2/5, Ms1 3.2/5, ms1mx2.7/72, Error ellipse: s-maj=27.7km s-min=21.6km az=50.0*
*JMA **18** 05:24:39.4±0.2, 26.08N×125.39E, h18km, M3.2*
ISC 18 05:24:38.8±3.1, **26.04N**±0.07×**125.43E**±0.09, **h5**km±21km, **n18, σ0°89/19, mb3.5/6, MS3.2/4, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.12**	**189**	P	**Pb**	**05 25 00.3**	**-0.3**
JIKM				*eS*	**Sg**	**05 25 15.5**	**+0.7**
JIRB	**Irabujima**	**1.23**	**191**	P	**Pn**	**05 25 02.1**	**-0.5**
JIRB				*eS*	**Sb**	**05 25 18.2**	**-0.4**
JKE	**Kume jima 2**	**1.25**	**76**	P	**Pn**	**05 25 02.3**	**-0.6**
JKE				*eS*	**Sb**	**05 25 18.3**	**-1.0**
JOGS	**Gusukube**	**1.27**	**181**	P	**Pn**	**05 25 03.3**	**+0.1**
JOGS				*eS*	**Sb**	**05 25 20.0**	**+0.1**
JMJ2	**Miyako jima3**	**1.29**	**184**	P	**Pn**	**05 25 03.5**	**0.0**
JMJ2				*eS*	**Sb**	**05 25 20.3**	**-0.2**
JIH	**Iheya**	**2.48**	**66**	P	**Pb**	**05 25 22.7**	**-1.1**
JOW	**Kunigami**	**2.67**	**72**	Pn	**Pn**	**05 25 25.1**	**+2.7**
	4.0nm,0.3s,baz=210,slow=8.1,SNR=7.1						
JOW				Sn	**Sb**	**05 25 59.8**	**-0.3**
	8.7nm,0.3s,baz=166,slow=26,SNR=4.0						
KSRS	**Korea Array**	**11.58**	**10**	Pn	Pn	05 27 30.2	+5.5
	0.2nm,0.3s,baz=198,slow=12,SNR=1.3						
KSRS				LR	LR	05 32 06.8	
	comp=Z,56nm,19.3s,baz=170,slow=39						
KLR	**Kul'dur**	**23.67**	**10**	LR	LR	05 38 14.3	
	comp=Z,32nm,20.4s,baz=184,slow=34						
SONM	**Songino Array**	**26.41**	**330**	P	**P**	**05 30 16.2**	**-0.3**
	1.1nm,0.9s,baz=147,slow=8.5,SNR=4.8						
MA2	**Magadan**	**37.85**	**21**	LR	LR	05 50 27.0	
	comp=Z,24nm,18.3s,baz=130,slow=41						
MKAR	**Makanchi Array**	**39.80**	**313**	P	**P**	**05 32 13.1**	**+0.2**
	0.6nm,0.5s,baz=100,slow=11,SNR=7.0						
ZALV	**Zalesovo Beam**	**40.90**	**324**	P	**P**	**05 32 22.0**	**+0.1**
	0.3nm,0.4s,baz=100,slow=7.5,SNR=1.6						
WRA	**Warramunga Arr**	**46.52**	**168**	P	**P**	**05 33 07.6**	**+0.2**
	0.6nm,0.8s,baz=351,slow=8.7,SNR=3.6						
ASAR	**Alice Springs**	**50.09**	**170**	P	**P**	**05 33 35.6**	**+0.7**
	0.3nm,0.5s,baz=356,slow=13,SNR=2.2						
ARU	**Arti**	**55.99**	**322**	LR	LR	06 00 08.4	
	comp=Z,41nm,18.1s,baz=348,slow=38						
NOA	**NORSAR Array B**	**78.36**	**333**	LR	LR	06 13 37.0	
	comp=Z,20nm,18.6s,baz=35,slow=38						
YKA	**Yellowknife Ar**	**79.74**	**24**	P	**P**	**05 36 47.2**	**-0.3**
	0.6nm,0.8s,baz=307,slow=5.2,SNR=12						

IDC 18 05:29:41.1±46.0, **22.11S×172.54W, h0**km, **mb4.4/3, mb1 4.6/3, mb1mx3.9/27, mbtmp4.4/3, Error ellipse: s-maj=880.8km s-min=173.3km az=87.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.75**	**246**	P	P	05 37 32.5	+0.2
	1.7nm,0.5s,baz=97,slow=10.0,SNR=7.4						
ASAR	**Alice Springs**	**49.12**	**257**	P	P	05 38 30.8	-0.2
	4.0nm,0.7s,baz=100,slow=7.1,SNR=39						
WRA	**Warramunga Arr**	**49.43**	**262**	P	P	05 38 32.9	-0.4
	3.6nm,0.5s,baz=102,slow=8.1,SNR=227						

IDC 18 05:46:51.7±1.4, **56.19S×27.45W, h0**km, **mb3.7/2, mb1 3.9/2, mb1mx3.5/27, mbtmp3.7/2, Error ellipse: s-maj=108.4km s-min=37.2km az=101.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**46.42**	**183**	P	P	05 55 19.2	-0.1
	0.5nm,0.5s,baz=206,slow=5.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**73.25**	**30**	P	P	05 58 24.5	0.0
	0.7nm,0.6s,baz=200,slow=6.3,SNR=5.2						
YKA	**Yellowknife Ar**	**136.18**	**318**	PKP	PKPdf	06 06 12.8	-0.5
	0.1nm,0.4s,baz=132,slow=2.2,SNR=4.5						
INK	**Inuvik**	**145.82**	**321**	PKPbc	PKPdf	06 06 30.3	-0.2
	0.3nm,0.5s,baz=124,slow=1.9,SNR=3.7						

*IDC **18** 05:57:50.0±4.8, 15.46S×167.87E, h178km±43km, mb3.3/5, mb1 3.6/6, mb1mx3.3/39, mbtmp3.9/6, MS2.9/1, Ms1 2.9/1, ms1mx2.5/25, Error ellipse: s-maj=38.3km s-min=30.5km az=163.0*
*NOU **18** 05:57:57.1, 15.89S×167.98E, h140km, MLv4.2/7, Vanuatu Islands*
ISC 18 05:57:51.9±1.3, **15.61S**±0.10×**168.0E**±0.2, **h200**km, **n9, σ1°49/9, mb3.5/5, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.79**	**282**	P	**Pn**	**05 58 19.8**	**-0.6**
DVP	**Devils Point**	**2.11**	**175**	P	**Pn**	**05 58 30.0**	**-1.6**
DZM	**Mont Dzumac**	**6.59**	**193**	P	**Pn**	**05 59 25.5**	**-1.5**
	3.1nm,0.3s,baz=28,slow=10,SNR=24						
DZM				S	**Sn**	**06 00 44.6**	**+2.2**
	baz=109,slow=24,SNR=1.3						
RAO	**Raoul Island**	**18.78**	**139**	LR	LR	06 06 47.9	
	comp=Z,41nm,21.9s,baz=340,slow=28						
STKA	**Stephens Creek**	**26.98**	**231**	P	**P**	**06 03 33.5**	**+0.5**
	4.2nm,0.6s,baz=59,slow=4.12,SNR=12						
WRA	**Warramunga Arr**	**32.31**	**257**	P	**P**	**06 04 01.1**	**-1.3**
	0.2nm,0.3s,baz=81,slow=6.4,SNR=4.7						
ASAR	**Alice Springs**	**33.03**	**251**	P	**P**	**06 04 08.2**	**-0.5**
	1.4nm,0.4s,baz=78,slow=8.5,SNR=26						
VNDA	**Vanda**	**62.01**	**182**	P	**P**	**06 07 51.2**	**+0.8**
	0.4nm,0.5s,baz=0.6,slow=7.6,SNR=3.0						
ILAR	**Eielson Array**	**87.14**	**

RDWB	Redoubt West	4.11	35		Pn	06 00 04.3	+1.2
RSO	Redoubt South	4.11	36		Pn	06 00 04.8	+1.6
NCT	North Crescent	4.13	34		Pn	06 00 04.5	+1.0
RDJH	Redoubt Jeurge	4.20	34		Pn	06 00 05.3	+1.0
DFR	Drift River	4.23	35		Pn	06 00 06.1	+1.2
BRLK	Bradley Lake	4.34	51		Pn	06 00 06.7	+0.4
BRSE	Bradley Lake S	4.39	52		Pn	06 00 07.8	+0.8
BRSE	Bradley Lake S baz=238	4.39	52	P	Pn	06 00 07.8	+0.8
CAPN	Captain Cook N	4.87	40	Pn	Pn	06 00 11.7	-1.8
M19K	Big River Lodg	4.98	18		Pn	06 00 15.7	+0.7
M19K	Big River Lodg comp=E,59nm,0.9s	4.98	18	IAML		06 01 47.6	
M19K	comp=N,40nm,0.8s			IAML		06 01 56.5	
M19K	Big River Lodg baz=201	4.98	18	P	Pn	06 00 15.7	+0.7
SEW	Seward	5.14	52	Pn	Pn	06 00 18.9	+1.8
L19K	White Mountain	5.17	14		Pn	06 00 17.9	+0.3
L19K	White Mountain comp=E,65nm,1.0s	5.17	14	IAML		06 01 49.9	
L19K	comp=N,45nm,0.8s			IAML		06 01 53.6	
L19K	White Mountain baz=197	5.17	14	P	Pn	06 00 17.9	+0.3
O22K	Cooper Landing	5.23	48		Pn	06 00 19.5	+1.1
L20K	Farewell, AK	5.60	18		Pn	06 00 24.4	+0.9
L20K	Farewell, AK baz=201	5.60	18	P	Pn	06 00 24.4	+0.9
RC01	Rabbit Creek A	5.60	43		Pn	06 00 22.1	-1.4
TT01	Tatalina	5.77	7		Pn	06 00 26.1	+0.3
TTA	Tatalina	5.79	7		Pn	06 00 26.0	-0.2
PWL	Port Wells	6.01	49		Pn	06 00 30.2	+1.0
UNV	Unalaska Valle	6.09	240	Pn	Pn	06 00 29.7	-0.5
PMR	Palmer	6.15	41		Pn	06 00 30.1	-1.0
PPLA	Purkeypile	6.31	23	Pn	Pn	06 00 34.3	+1.0
GHO	Glory Hole Cre	6.35	40		Pn	06 00 33.3	-0.6
CUT	Chulitna	6.38	32	Pn	Pn	06 00 33.8	-0.4
K20K	Telida	6.41	14		Pn	06 00 34.1	-0.5
K20K	Telida baz=198	6.41	14	P	Pn	06 00 34.6	0.0
GLI	Glacier Island	6.54	51	Pn	Pn	06 00 36.1	-0.2
SML	Sawmill	6.58	42	Pn	Pn	06 00 36.4	-0.6
FID	Port Fidalgo	6.74	54	Pn	Pn	06 00 37.4	-1.8
CAST	Castle Rocks	6.80	21		Pn	06 00 40.1	+0.2
CAST	Castle Rocks baz=206	6.80	21	P	Pn	06 00 40.1	+0.2
SCM	Sheep Creek Mo	6.97	44	Pn	Pn	06 00 42.1	-0.3
EYAK	Cordova Ski Ar	6.98	56	Pn	Pn	06 00 43.0	+0.6
KTH	Kantishna Hill	7.16	25	Pn	Pn	06 00 45.2	+0.2
CHUM	Lake Minchumin	7.17	19		Pn	06 00 45.7	+0.6
CHUM	Lake Minchumin baz=204	7.17	19	P	Pn	06 00 45.7	+0.6
J20K	Nowinta River	7.19	12		Pn	06 00 45.8	+0.6
J20K	Nowinta River baz=195	7.19	12	P	Pn	06 00 45.8	+0.6
TRF	Thorofare Moun	7.22	27		Pn	06 00 46.1	+0.1
TRF	Thorofare Moun baz=214	7.22	27	P	Pn	06 00 46.1	+0.1
KLU	Klutina	7.34	49		Pn	06 00 47.2	-0.2
RAGM	Ragged Mountai	7.42	59	Pn	Pn	06 00 48.7	+0.2
RND	Reindeer	7.57	31	Pn	Pn	06 00 50.9	+0.3
M24K	Tolsona, Glenn	7.57	45	Pn	Pn	06 00 52.2	+1.5
HMT	Hamilton	7.60	60	Pn	Pn	06 00 52.7	+1.8
BPAW	Bear Paw Mtn.	7.63	22	Pn	Pn	06 00 52.4	+1.1
BMRM	Bremner River	7.67	55	Pn	Pn	06 00 54.1	+2.2
DHY	Denali Highway	7.77	37	Pn	Pn	06 00 54.8	+1.3
BERG	Berg Lake	7.88	60	Pn	Pn	06 00 51.9	-2.8
N25K	Chitina, Valde	7.95	51	Pn	Pn	06 00 57.0	+1.2
BWN	Browne	8.03	26	Pn	Pn	06 00 55.4	-1.5
GLB	Gilahina Butte	8.21	53	Pn	Pn	06 00 59.8	+0.4
VRDI	Verde Repeater	8.28	55	Pn	Pn	06 01 00.7	+0.2
ANM	Nome	8.29	336	Pn	Pn	06 01 01.4	+1.0
WAX	Waxell Ridge	8.30	61	Pn	Pn	06 01 02.1	+1.6
PAX	Paxson	8.35	41	Pn	Pn	06 01 01.5	+0.2
TGL	Tana Glacier	8.40	59	Pn	Pn	06 01 04.4	+2.4
I21K	Tanana	8.44	16		Pn	06 01 03.5	+1.1
NEA2	Nenana	8.48	26	Pn	Pn	06 01 02.1	-0.9
ISLE	Juniper Island	8.58	60	Pn	Pn	06 01 06.3	+1.7
WRH	Wood River Hil	8.62	28	Pn	Pn	06 01 05.9	+1.0
H21K	Melozitna Rive	8.77	13	Pn	Pn	06 01 05.9	-1.1
CCB	Clear Creek Bu	8.84	28	Pn	Pn	06 01 09.4	+1.6
I23K	Minto, Yukon-K	8.89	23	Pn	Pn	06 01 08.2	-0.3
GRNC	Granite Creek	8.90	60	Pn	Pn	06 01 07.5	-1.4
IM04	Indian Mountai	8.97	10	Pn	Pn	06 01 08.7	-1.1
IM05	Indian Mountai	8.98	10	Pn	Pn	06 01 10.2	+0.4
IM03		8.99	10	Pn	Pn	06 01 10.5	+0.6
IMAR	Indian Mountai	8.99	10	Pn	Pn	06 01 10.5	+0.5
M26K	Nabesna, AK	8.99	49	Pn	Pn	06 01 07.5	-2.6
IM02	Indian Mountai	9.00	10	Pn	Pn	06 01 10.8	+0.7
IM01	Indian Mountai	9.00	10	Pn	Pn	06 01 10.8	+0.7
BARN	Barnard Glacie	9.04	58	Pn	Pn	06 01 09.0	-1.8
RIDG	Independent Ri	9.06	39	Pn	Pn	06 01 09.0	-2.0
IL13	Eielson Array	9.13	30	Pn	Pn	06 01 09.4	-2.5
IL14	Eielson Array	9.15	30	Pn	Pn	06 01 09.9	-2.3
CTGM	Chitina Glacie	9.16	59	Pn	Pn	06 01 13.7	+1.3
IL10	Eielson Array	9.18	30	Pn	Pn	06 01 11.3	-1.2
IL31		9.18	30	Pn	Pn	06 01 11.6	-0.9
ILAR	Eielson Array	9.18	30	Pn	Pn	06 01 10.9	-1.6
IL19	Eielson Array	9.18	30	Pn	Pn	06 01 10.7	-1.9
IL02	Eielson Array	9.19	30	Pn	Pn	06 01 11.2	-1.6
IL07	Eielson Array	9.21	30	Pn	Pn	06 01 11.1	-1.9
H23K	Yukon River	9.45	21	Pn	Pn	06 01 17.9	+1.7
J25K	Salcha River,	9.49	34	Pn	Pn	06 01 17.8	+0.8
BC02	Beaver Creek A	9.79	47	Pn	Pn	06 01 22.3	+1.4
BC04	Beaver Creek A	9.82	47	Pn	Pn	06 01 22.2	+0.8
BMAR	Burnt Mountain	11.86	25	Pn	Pn	06 01 48.3	-1.0
BM02	Burnt Mountain	11.88	25	Pn	Pn	06 01 49.2	-0.4
A36M	Sachs Harbour	19.88	29	P	P	06 03 29.3	-1.9
A36M	comp=Z,2.5nm,1.1s			IAmb	IAmb	06 03 46.1	
YKAR1	New YK Array r	21.73	58	P	P	06 03 51.7	+0.5
YKAR2	New YK Array r	21.75	58	P	P	06 03 51.5	0.0
YKAR4	New YK Array r	21.80	58	P	P	06 03 52.0	0.0
YKAR5	New YK Array r	21.82	58	P	P	06 03 52.0	-0.2
YKAR6	New YK Array r	21.84	58	P	P	06 03 51.8	-0.6
YKAR7	New YK Array r	21.86	58	P	P	06 03 52.5	-0.1
YKAB0	New Yellowknif	21.87	58	P	P	06 03 53.5	+0.7
YKAB9	New Yellowknif	21.88	58	P	P	06 03 52.5	-0.4
YKA	Yellowknife Ar	21.88	58	P	P	06 03 52.7	-0.2
YKAB1	New Yellowknif	21.89	58	P	P	06 03 53.5	+0.4

NEIC ***18*** *06:09:30.4±2.0,57.21N±0.04×157.67W±0.07, h13km±4km, Error ellipse: s-maj=5.4km s-min=5.1km az=78.0*

AEIC 18 06:09:30±2.2,57°23N±0.04×157°68W±0.08,h12km±5km, ML2.8,MLJ3.1/35(NEIC),**Error ellipse: s-maj=8.2km s-min=2.2km az=127.0,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNW	Aniakchak Nort	0.39	228		Pg	06 09 38.2	+0.3
ANPB	Aniakchak Plen	0.54	218		Pg	06 09 40.6	+0.1
PLK1	Peulik 1	0.81	45		Pg	06 09 45.3	-0.4
PLK3	Peulik 3	0.89	58		Pg	06 09 46.3	-0.8
PLK3					Sn	06 10 00.5	-0.8
CHGN	Chignik	1.01	204		Pb	06 09 48.4	-1.1
VNHG	Veniaminof 1	1.30	220		Pn	06 09 53.2	-0.9
VNFG	Fog Glacier, M	1.40	228		Pn	06 09 55.5	0.0
CAHL	Cahill	1.52	56		Pn	06 09 56.7	-0.4
CAHL					Sb	06 10 17.6	+0.1
ANCK	Angle Creek	1.52	49		Pn	06 09 57.3	+0.1
KELA	Mount Kelaz	1.60	40		Pn	06 09 58.5	+0.3
CHIR	Chirikof Islan	1.81	140		Pn	06 10 01.7	+0.6
CHIR	Chirikof Islan comp=N,141nm,1.4s	1.81	140	IAML		06 10 29.8	
CHIR	comp=E,112nm,0.9s			IAML		06 10 30.7	
SII	Sitkinak Islan	2.03	108		Pn	06 10 03.5	-0.6
SII	Sitkinak Islan	2.03	108		Sb	06 10 31.9	-0.1
OHAK	Old Harbor	2.39	88		Pn	06 10 08.5	-0.4
OHAK	comp=N,68nm,0.7s			IAML		06 10 48.4	
SDPT	Sand Point	2.45	221		Pn	06 10 10.8	+1.1
SDPT	Sand Point comp=N,110nm,2.7s	2.45	221	IAML		06 10 56.8	
Q19K	Cape Douglas,	2.74	50		Pn	06 10 14.6	+0.8
Q19K	Cape Douglas, comp=N,66nm,1.4s	2.74	50	IAML		06 11 24.0	
KDAK	Kodiak Island	2.81	76		Pn	06 10 15.4	+0.7
O18K	Koktuh Hills	2.93	25		Pn	06 10 17.2	+0.8
O18K	Koktuh Hills comp=E,40nm,0.8s	2.93	25	IAML		06 11 04.5	
O18K	comp=N,49nm,0.5s			IAML		06 11 07.2	
P19K	Oil Pt	3.37	42		Pn	06 10 23.9	+1.4
P19K	Oil Pt comp=E,46nm,0.8s	3.37	42	IAML		06 11 18.3	
P19K	comp=N,56nm,0.6s			IAML		06 11 20.8	
O19K	Port Alsworth	3.45	29		Pn	06 10 24.0	+0.4
N18K	Kilae Creek	3.58	14		Pn	06 10 26.7	+1.3
N18K	comp=N,26nm,0.8s			IAML		06 11 36.6	
N18K	comp=E,27nm,0.8s			IAML		06 11 37.1	
N19K	Bonanza Creek	3.96	23		Pn	06 10 31.7	+1.1
N19K	Bonanza Creek comp=N,21nm,0.6s	3.96	23	IAML		06 11 43.4	
N19K	comp=E,26nm,0.8s			IAML		06 11 45.1	
SVW2	Sparrevohn	4.03	15	Pn	Pn	06 10 32.2	+0.7
SVW2	comp=N,16nm,0.7s			IAML		06 11 45.0	
SVW2	comp=E,20nm,0.7s			IAML		06 11 52.1	
CNPM	China Poot	4.10	53	Pn	Pn	06 10 32.3	-0.2
RSO	Redoubt South	4.13	36	Pn	Pn	06 10 32.2	-0.9
DFR	Drift River	4.25	35		Pn	06 10 35.5	+0.8
BRLK	Bradley Lake	4.38	52	Pn	Pn	06 10 34.9	-1.4
BRLK	comp=N,25nm,0.0s			IAML		06 11 23.0	
M19K	Big River Lodg	4.98	18		Pn	06 10 45.5	+1.0
M19K	Big River Lodg comp=N,13nm,4.5s	4.98	18	IAML		06 12 09.2	
M19K	comp=E,16nm,1.5s			IAML		06 12 30.2	
L19K	White Mountain	5.17	15		Pn	06 10 48.1	+0.9
L19K	White Mountain comp=E,14nm,1.8s	5.17	15	IAML		06 12 41.5	
SEW	Seward	5.17	53	Pn	Pn	06 10 46.0	-1.2
L20K	Farewell, AK	5.60	18		Pn	06 10 54.3	+1.1
TT01	Tatalina	5.76	8		Pn	06 10 56.0	+0.8
TTA	Tatalina	5.78	8	Pn	Pn	06 10 56.0	+0.4
PWL	Port Wells	6.04	49	Pn	Pn	06 11 00.3	+1.2
PPLA	Purkeypile	6.31	23	Pn	Pn	06 11 03.8	+0.9
K20K	Telida	6.40	15	Pn	Pn	06 11 03.0	-1.1
SML	Sawmill	6.61	42	Pn	Pn	06 11 05.4	-1.5
CAST	Castle Rocks	6.80	22	Pn	Pn	06 11 10.8	+1.3
SCM	Sheep Creek Mo	7.00	44	Pn	Pn	06 11 11.4	-0.9
KTH	Kantishna Hill	7.17	25	Pn	Pn	06 11 14.9	+0.3
TRF	Thorofare Moun	7.23	27	Pn	Pn	06 11 16.5	+0.9
KLU	Klutina	7.37	50	Pn	Pn	06 11 15.5	-1.8
BPAW	Bear Paw Mtn.	7.63	23	Pn	Pn	06 11 19.1	-1.9
ANM	Nome	8.25	336	Pn	Pn	06 11 28.3	-1.1
I21K	Tanana	8.43	17	Pn	Pn	06 11 28.7	-3.2
ISLE	Juniper Island	8.62	61	Pn	Pn	06 11 32.9	-1.7
H21K	Melozitna Rive	8.77	13	Pn	Pn	06 11 37.7	+1.2
IM04	Indian Mountai	8.97	10	Pn	Pn	06 11 37.3	-2.0
IM05	Indian Mountai	8.97	10	Pn	Pn	06 11 38.7	-0.6
IM03		8.98	10	Pn	Pn	06 11 36.6	-2.7
IMAR	Indian Mountai	8.98	10	Pn	Pn	06 11 35.9	-3.5
YKAR1	New YK Array r	21.76	58	P	P	06 14 21.4	+0.2
YKAR2	New YK Array r	21.79	58	P	P	06 14 20.9	-0.5
YKAR4	New YK Array r	21.83	58	P	P	06 14 21.1	-0.7
YKAR5	New YK Array r	21.85	58	P	P	06 14 22.1	0.0
YKAR7	New YK Array r	21.90	58	P	P	06 14 23.3	+0.7
YKAB0	New Yellowknif	21.91	58	P	P	06 14 23.2	+0.5
YKAB9	New Yellowknif	21.91	58	P	P	06 14 23.0	+0.3
YKAB7	New Yellowknif	21.92	58	P	P	06 14 22.4	-0.4
YKA	Yellowknife Ar	21.92	58	P	P	06 14 23.2	+0.3

CNRM ***18*** *06:13:21.9,35.49N×3.72W,h19km,ml2.7*
MDD ***18*** *06:13:21.9±0.8,35.43N×3.80W,h35km±3km,mb_Lg2.7/6, Error ellipse: s-maj=12.4km s-min=4.0km az=165.0*
SFS ***18*** *06:13:21.0,35.42N×3.79W,h35km,ML2.7,ALBORAN SUR*
INMG ***18*** *06:13:22.0±1.2,35.52N×3.79W,h0km,ML1.9, Error ellipse: s-maj=3.4km s-min=2.6km az=45.0*

ISC 18 06:13:20.9±1.2,35°54N±0.03×3°73W±0.03,h17km±9km, n31,σ1s54/53,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.36	208	P	Pg	06 13 28.1	-0.2
PALE	Palemas	0.36	208	P	Pg	06 13 28.2	-0.1
PALE				S	Sb	06 13 34.1	-0.2
PVLZ	Peæn de	0.59	232	P	Pg	06 13 31.9	-0.6
PVLZ				S	Sg	06 13 38.8	-1.6
EMEL	Melilla	0.68	110	Pg	Pn	06 13 34.9	-0.9
EMEL				Sg	Sn	06 13 44.9	-1.0
EMEL				*i* Vmb_Lg		06 13 47.2	
GOG	Mont Gurugu	0.68	117	P	Pn	06 13 36.0	+0.1
GOG				S	Sn	06 13 47.0	+0.8
GOG	Mont Gurugu	0.68	117	P	Pn	06 13 35.2	-0.6
GOG				S	Sn	06 13 44.8	-1.4
EALB	Alboran	0.70	54	Pg	Pn	06 13 35.5	-0.5
EALB				Sg	Sn	06 13 46.0	-0.4
EALB				*i* Vmb_Lg		06 13 47.4	
TAF	Taforalt	1.30	123	P	Pn	06 13 43.9	-0.4
TAF				S	Sn	06 14 01.3	-0.1
EMIJ	Mijas	1.33	321	Pg	Pb	06 13 45.6	+0.2
EMIJ				Sg	Sn	06 14 02.0	-0.1
EMIJ				*i* Vmb_Lg		06 14 10.4	
ELGU	Los Guajares,	1.33	4	Pg	Pn	06 13 44.2	-0.6
ELGU				Sg	Sb	06 14 02.5	+0.1
ELGU				*i* Vmb_Lg		06 14 06.1	
CEU	Ceuta	1.38	286	P	Pn	06 13 43.6	-1.8
CEU				S	Sn	06 13 57.7	-5.6
CHEFC	Chefchaouen	1.38	252	P	Pg	06 13 47.0	-0.5
CHEFC	Chefchaouen	1.38	252	P	Pn	06 13 45.8	+0.3
CHEFC				S	Sg	06 14 08.0	+2.4
ECEU	Ceuta	1.39	286	Pg	Pn	06 13 43.6	-1.9
ECEU				Sg	Sn	06 14 00.0	-3.4
ECEU				*i* Vmb_Lg		06 14 02.7	
EBER	Berja	1.52	26	Pg	Pn	06 13 47.6	0.0
EBER				Sg	Sn	06 14 06.9	-0.2
EBER				*i* Vmb_Lg		06 14 14.0	
JBK	JBK	1.53	141	P	Pn	06 13 47.1	-0.6
JBK				S	Sn	06 14 06.0	-1.4
LCRM	LCR	2.07	207	P	Pb	06 13 59.0	+0.9
LCRM	LCR	2.07	207	P	Pb	06 13 57.0	-1.0
LCRM				S	Sb	06 14 22.6	-1.0
MD31	MD31	2.79	198	P	Pn	06 14 05.1	+0.2
MD31				S	Sn	06 14 38.3	0.0
MDT	Midelt	2.81	195	P	Pn	06 14 07.0	+1.9
MDT	Midelt	2.81	195	P	Pn	06 14 07.0	+1.9
MDT				S	Sn	06 14 39.9	+1.1
TDRA	Tendrara	2.86	150	P	Pn	06 14 06.5	+0.6
TDRA				S	Sn	06 14 41.8	+1.6
PVAQ	Vaqueiros	3.71	301	*e*Pn	Pn	06 14 19.4	+1.9
PVAQ				*e*Sn	Sn	06 15 00.2	-0.7
PVAQ	1.9nm,0.5s			A	A	06 15 09.1	
PVAQ	Vaqueiros	3.71	301	P	Pn	06 14 20.4	+2.9
PVAQ				S	Sn	06 15 00.7	-0.1
PBAR	Barrancos	3.74	316	*e*Pn	Pn	06 14 19.7	+1.9
PBAR				*e*Sn	Sn	06 15 01.7	+0.2
PBAR	1.0nm,0.2s			A	A	06 15 11.4	
PBDV	Barranco-do-Ve	3.79	298	*e*Pn	Pn	06 14 20.7	+2.1
PCVE	Castro Verde	4.05	302	*e*Pn	Pn	06 14 23.5	+1.4
PCVE				*e*Sn	Sn	06 15 09.6	+0.5
PNCL	Nicolau / Gran	4.63	305	*e*Pn	Pn	06 14 32.0	+2.0
PNCL	1.4nm,0.6s			A	A	06 15 25.1	
PMTG	Montargil	5.03	316	*e*Pn	Pn	06 14 38.1	+2.6
OUZM	OUZ	5.26	210	P	Pn	06 14 40.2	+1.2
OUK	Oukaimeden	5.53	220	P	Pn	06 14 42.9	+0.1

NEIC ***18*** *06:20:15.3±1.5,17.1S×174.23W±0.09,h69km±6km, mb4.6/78,Error ellipse: s-maj=18.1km s-min=11.9km az=180.0*
IDC ***18*** *06:20:17.4±2.6,17.18S×174.28W,h94km±24km,mb4.1/14, mb1 4.3/17,mb1mx4.0/45,mbtmp4.4/17,MS3.7/23, Ms1 3.7/23,ms1mx3.4/64,Error ellipse: s-maj=21.0km s-min=12.1km az=145.0*
GCMT ***18*** *06:20:24.3±0.2,17.33S±0.02×173.65W±0.01, h148km±1km,MW5.1/122,Moment Tensor Solution.*

s65,c77; s122,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.42±.14; $M_{\theta\theta}$0.38±.18; $M_{\phi\phi}$2.04±.17; $M_{r\theta}$1.83±.11; $M_{r\phi}$1.56±.15; $M_{\theta\phi}$-4.54±.10; Best double couple: M_o5.59400×10^{16} NP1:ϕ_s43.00000°,δ15.00000°, λ-70.00000°. NP2:ϕ_s203.00000°,δ76.00000°, λ-95.00000°. Principal axes: T 5.8390, Plg31.0000°, Azm297.0000°; N -0.4890, Plg5.0000°, Azm204.0000°; P -5.3500, Plg59.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 18 06:20:20.1±0.4,17°20S±0.07×174°10W±0.07,h124km, n142,σ1s35/113,mb4.4/56,1C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.97	35	P	Pn	06 21 17.9	-1.5
AFI	47nm,0.3s,baz=63,slow=1.6,SNR=30			S	Sn	06 22 00.6	-4.7
NIUE	Niue	4.38	116		Pn	06 21 22.3	-2.5
MSVF	Nonsavu	7.51	265	P	Pn	06 22 13.5	+6.4
MSVF	2.7nm,0.3s,baz=108,slow=13,SNR=21 comp=Z,202nm,21.4s,baz=46,slow=29			LR	LR	06 23 51.7	
RAR	Rarotonga	14.10	109	P	Pn	06 23 35.0	+0.6
RAR	2.3nm,0.3s,baz=258,slow=14,SNR=3.5	14.10	109	Pn	Pn	06 23 32.7	-1.7
MARNC	Mare, Loyalty	17.39	253	P	P	06 24 13.2	-1.4
SANVU	Saraoutou	18.03	273	P	P	06 24 19.4	-2.2
DZM	Mont Dzumac	18.95	252	P	P	06 24 30.9	-1.0
DZM	0.2nm,0.3s,baz=296,slow=18,SNR=3.0 comp=Z,287nm,19.1s,baz=33,slow=30			LR	LR	06 29 46.2	
DZM	Mont Dzumac 63nm,1.4s	18.95	252	*e*P	Pn	06 24 33.3	-0.5
DZM	comp=Z,642nm,28.9s			*e*LR	LR	06 29 20.7	
DZM	Mont Dzumac	18.95	252	P	P	06 24 29.8	-2.0
ONTNC	Ouen Toro	18.99	251	P	P	06 24 31.5	-0.6
ONTNC	comp=Z,38nm,1.0s			IAmb	IAmb	06 24 38.4	
URZ	Urewera	22.35	198	P	P	06 25 06.9	-0.8
URZ	comp=Z,9.8nm,0.6s,baz=56,slow=3.3,SNR=7.6 comp=Z,12nm,0.6s,baz=133,slow=19,SNR=3.3			S	S	06 29 02.4	-2.2
PAE	Paea	23.39	95	*e*T	T	06 49 02.0	
PPT2	Papeete2	23.40	95	*e*LR	LR	06 30 27.6	
PPT2	comp=Z,891nm,32.0s Papeete2 comp=Z,11nm,0.3s	23.40	95	*e*T	T	06 49 03.6	
PPT	Papeete comp=Z,180nm,19.7s,baz=226,slow=31	23.40	95	LR	LR	06 32 26.3	
TBI	Tubuai comp=Z,716nm,39.5s	23.89	109	*e*LR	LR	06 30 43.7	
TBI	Tubuai comp=Z,32nm,0.3s	23.89	109	*e*T	T	06 49 49.9	
PMOR	Pomariorio Ree comp=Z,6.2nm,0.3s	25.26	89	*e*T	T	06 51 17.9	
KHZ	Kahutara	27.26	200	P	P	06 25 52.8	+0.2
KHZ	comp=Z,15nm,0.9s			IAmb	IAmb	06 26 00.4	
RPZ	Rata Peaks comp=Z,12nm,0.9s,baz=209,slow=17,SNR=2.6	29.27	202	P	P	06 26 13.4	+3.0
RPZ	comp=Z,153nm,18.6s,baz=5.5,slow=35			LR	LR	06 37 07.6	
TAOE	Nuku Hiva Isla comp=Z,294nm,27.5s	34.05	80	*e*LR	LR	06 34 46.4	
TAOE	Nuku Hiva Isla comp=Z,79nm,0.2s	34.05	80	*e*T	T	07 02 10.7	
RKT	Rikitea comp=Z,7.3nm,0.3s	37.11	106	*e*T	T	07 06 18.4	
CTA	Charters Tower comp=Z,3.8nm,0.6s,baz=106,slow=12,SNR=5.4	37.62	259	P	P	06 27 21.8	-1.3
CTA	comp=Z,168nm,20.4s,baz=86,slow=32			LR	LR	06 40 05.9	
H11N3	WAKE ISLAND Hy baz=145,slow=75	41.16	332	T	T	07 12 32.6	
H11N1	WAKE ISLAND Hy baz=145	41.17	332	T	T	07 12 32.8	
H11N2	WAKE ISLAND Hy baz=145,slow=75	41.18	332	T	T	07 12 33.0	
STKA	Stephens Creek comp=Z,7.9nm,1.0s,baz=89,slow=11,SNR=11	42.58	241	P	P	06 28 02.6	-1.3
STKA	comp=Z,67nm,18.0s,baz=49,slow=35			LR	LR	06 45 12.0	
STKA	Stephens Creek	42.58	241	P	P	06 28 03.8	-0.1
BBOO	Buckleboo	47.34	241	P	P	06 28 40.8	-0.8
WR0	Warramunga Arr	48.61	258	P	P	06 28 50.2	-1.4
WB0	Warramunga Arr	48.77	259	P	P	06 28 51.1	-1.7
WB2	Warramunga Arr	48.79	258	P	P	06 28 51.5	-1.5
WRA	Warramunga Arr comp=Z,5.4nm,0.7s,baz=94,slow=8.0,SNR=24	48.80	258	P	P	06 28 51.5	-1.6
WRA	Warramunga Arr	48.80	258	P	P	06 28 51.4	-1.7
AS31	Alice Springs	48.94	253	P	P	06 28 52.7	-1.4
ASAR	Alice Springs comp=Z,21nm,0.6s,baz=86,slow=8.6,SNR=158	48.94	253	P	P	06 28 52.7	-1.4
ASAR	Alice Springs	48.94	253	P	P	06 28 52.4	-1.7
SIJI	Sorong comp=Z,23nm,0.7s,baz=84,slow=6.8,SNR=7.7	56.11	281	P	P	06 29 46.3	-0.8
FITZ	Fitzroy Crossi comp=Z,1.7nm,0.8s,baz=114,slow=10.0,SNR=2.7	57.20	259	P	P	06 29 53.9	-0.7
FITZ	comp=Z,144nm,20.1s,baz=100,slow=34			LR	LR	06 52 16.0	
FITZ	Fitzroy Crossi comp=Z,72nm,21.2s,baz=254,slow=30	57.20	259	P	P	06 29 54.4	-0.3
RPN	Rapa Nui comp=Z,6.2nm,0.8s	60.23	112	LR	LR	06 50 22.5	
SBA	Scott Base comp=Z,3.6nm,0.8s	61.41	185	P	P	06 30 24.9	+2.3
SBA				IAmb	IAmb	06 30 26.3	
VNDA	Vanda comp=Z,2.5nm,0.8s,baz=5.6,slow=6.2,SNR=16	61.52	186	P	P	06 30 24.5	+1.1
VNDA	Vanda	61.52	186	P	P	06 30 24.5	+1.1

M04C	**Macdoel**	**75.97**	**38**	P	**P**	**06 31 55.7**	**+2.1**
M04C				IAmb	IAmb	06 31 56.3	
	comp=Z,11nm,1.2s						
NVAR	**Mina Array Bea**	**76.11**	**42**	P	**P**	**06 31 56.0**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=230,slow=9.6,SNR=14						
NVAR	**Mina Array Bea**	**76.11**	**42**	P	**P**	**06 31 55.5**	**+0.9**
PAHR	**Pah Rah Range**	**76.18**	**40**	P	**P**	**06 31 55.4**	**+0.5**
PAHR				IAmb	IAmb	06 31 57.4	
	comp=Z,6.6nm,1.3s						
NV11	**Mina Array Sit**	**76.21**	**42**	P	**P**	**06 31 55.9**	**+0.9**
NV11				IAmb	IAmb	06 31 57.6	
	comp=Z,10nm,1.3s						
KVN	**Kaiserville**	**76.60**	**42**	P	**P**	**06 31 58.3**	**+1.0**
KVN				IAmb	IAmb	06 31 59.7	
	comp=Z,12nm,1.5s						
TPNV	**Topopah Spring**	**76.61**	**44**	P	**P**	**06 31 57.9**	**+0.5**
MOD	**Modoc Plateau**	**76.95**	**38**	P	**P**	**06 32 00.5**	**+1.4**
MOD				IAmb	IAmb	06 32 01.5	
	comp=Z,7.5nm,1.2s						
SHPR	**Sheep Range**	**77.10**	**45**	P	**P**	**06 32 02.2**	**+2.1**
K05A	**Summer Lake**	**77.11**	**37**	P	**P**	**06 32 01.0**	**+1.0**
K05A				IAmb	IAmb	06 32 02.9	
	comp=Z,9.8nm,1.1s						
PRN	**Pahroc Range**	**77.66**	**44**	P	**P**	**06 32 04.9**	**+1.7**
PINE	**Pine Mountain**	**77.74**	**36**	P	**P**	**06 32 05.1**	**+1.5**
TUC	**Tucson**	**78.05**	**51**	P	**P**	**06 32 07.3**	**+1.9**
WVOR	**Wild Horse Val**	**78.25**	**39**	P	**P**	**06 32 07.2**	**+0.9**
WVOR				IAmb	IAmb	06 32 15.8	
	comp=Z,10nm,1.5s						
LCMT	**Little Creek M**	**78.67**	**45**	P	**P**	**06 32 09.2**	**+0.4**
I07A	**Izee**	**78.74**	**37**	P	**P**	**06 32 10.2**	**+1.2**
I07A				IAmb	IAmb	06 32 11.3	
	comp=Z,7.4nm,1.4s						
CCUT	**Cedar City**	**78.87**	**45**	P	**P**	**06 32 11.5**	**+1.5**
J08A	**Circle Bar Ran**	**78.90**	**38**	P	**P**	**06 32 10.5**	**+0.7**
J08A				IAmb	IAmb	06 32 12.3	
	comp=Z,8.2nm,1.2s						
KNB	**Kanab**	**78.96**	**46**	P	**P**	**06 32 11.9**	**+1.5**
KNB				IAmb	IAmb	06 32 20.8	
	comp=Z,14nm,1.5s						
U15A	**North Rim**	**79.02**	**46**	P	**P**	**06 32 12.3**	**+1.4**
D05A	**Enumclaw**	**79.31**	**33**	P	**P**	**06 32 12.0**	**+0.1**
ELK	**Elko**	**79.37**	**41**	LR	LR	07 02 49.8	
	comp=Z,28nm,20.5s,baz=246,slow=32						
ELK	**Elko**	**79.37**	**41**	P	**P**	**06 32 12.2**	**-0.5**
PKCU	**Pink Cliffs**	**79.53**	**45**	P	**P**	**06 32 14.5**	**+0.8**
PKCU				IAmb	IAmb	06 32 25.1	
	comp=Z,9.2nm,1.3s						
G08A	**Pilot Rock**	**79.78**	**36**	P	**P**	**06 32 15.8**	**+1.2**
G08A				IAmb	IAmb	06 32 16.9	
	comp=Z,7.1nm,1.2s						
MFID	**Camas Ranch**	**80.50**	**39**	P	**P**	**06 32 19.5**	**+0.9**
F10A	**Beach Ranch, E**	**81.16**	**36**	P	**P**	**06 32 21.8**	**-0.2**
F10A				IAmb	IAmb	06 32 39.3	
	comp=Z,10nm,1.5s						
PLID	**Pearl Lake**	**81.35**	**37**	P	**P**	**06 32 23.9**	**+0.7**
PLID				IAmb	IAmb	06 32 25.1	
	comp=Z,9.1nm,1.4s						
BMRM	**Bremner River**	**81.42**	**14**	P	**P**	**06 32 24.1**	**+1.2**
BMRM				IAmb	IAmb	06 32 24.9	
	comp=Z,9.3nm,1.2s						
HLID	**Hailey**	**81.44**	**39**	P	**P**	**06 32 23.8**	**+0.2**
HLID				IAmb	IAmb	06 32 26.2	
	comp=Z,8.6nm,1.4s						
KLR	**Kul'dur**	**81.67**	**328**	LR	LR	07 03 30.7	
	comp=Z,23nm,20.9s,baz=160,slow=32						
MNTX	**Cornudas Mount**	**81.83**	**53**	P	**P**	**06 32 25.4**	**-0.3**
TXAR	**Lajitas Array**	**82.17**	**56**	P	**P**	**06 32 29.1**	**+1.4**
	comp=Z,2.4nm,1.0s,baz=212,slow=4.4,SNR=7.6						
TXAR				LR	LR	07 03 42.0	
	comp=Z,46nm,20.2s,baz=276,slow=32						
PV11	**David Mesa, Pa**	**82.31**	**46**	P	**P**	**06 32 29.3**	**+1.0**
ANMO	**Albuquerque**	**82.47**	**50**	LR	LR	07 01 47.3	
	comp=Z,40nm,20.7s,baz=236,slow=30						
ANMO	**Albuquerque**	**82.47**	**50**	P	**P**	**06 32 29.0**	**-0.2**
RND	**Reindeer**	**82.73**	**11**	P	**P**	**06 32 30.6**	**+0.9**
RND				IAmb	IAmb	06 32 38.5	
	comp=Z,7.7nm,1.1s						
AHID	**Auburn Hatcher**	**83.07**	**41**	P	**P**	**06 32 32.3**	**+0.2**
AHID				IAmb	IAmb	06 32 34.3	
	comp=Z,6.0nm,1.0s						
MCMT	**McKenzie Canyo**	**83.07**	**39**	P	**P**	**06 32 33.1**	**+1.0**
S22A	**4UR Ranch, Cre**	**83.48**	**47**	P	**P**	**06 32 34.5**	**0.0**
MSO	**Missoula**	**83.52**	**37**	P	**P**	**06 32 34.9**	**+0.7**
MSO				IAmb	IAmb	06 32 35.8	
	comp=Z,9.6nm,1.4s						
MOOW	**Moose Ponds**	**83.79**	**41**	P	**P**	**06 32 36.7**	**+0.8**
MOOW				IAmb	IAmb	06 32 38.1	
	comp=Z,8.6nm,1.4s						
LRM	**Limekiln Ridge**	**83.84**	**38**	P	**P**	**06 32 37.2**	**+1.1**
PDAR	**Pinedale Array**	**84.05**	**42**	P	**P**	**06 32 37.7**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=208,slow=2.9,SNR=15						
PDAR				LR	LR	07 03 09.0	
	comp=Z,24nm,20.1s,baz=66,slow=31						
H21K	**Melozitna Rive**	**84.17**	**9**	P	**P**	**06 32 38.1**	**+1.2**
H21K				IAmb	IAmb	06 32 46.6	
	comp=Z,7.9nm,1.2s						
YHH	**Holmes Hill**	**84.26**	**40**	P	**P**	**06 32 38.4**	**+0.1**
YHH				IAmb	IAmb	06 32 42.1	
	comp=Z,9.1nm,1.4s						
ILAR	**Eielson Array**	**84.33**	**11**	P	**P**	**06 32 38.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=236,slow=6.4,SNR=13						
ILAR	**Eielson Array**	**84.33**	**11**	P	**P**	**06 32 38.5**	**+0.7**
H03N2	**Juan Fernandez**	**84.88**	**123**	T	T	08 06 05.1	
	baz=257,slow=72,SNR=30						
H03N3	**Juan Fernandez**	**84.88**	**123**	T	T	08 06 05.5	
	baz=257,slow=72,SNR=18						
H03N1	**Juan Fernandez**	**84.89**	**123**	T	T	08 06 13.0	
	baz=257,slow=72,SNR=18						
CMIG	**Matias Romero**	**85.11**	**71**	LR	LR	07 04 36.2	
	comp=Z,45nm,18.5s,baz=230,slow=31						
DAWY	**Dawson**	**85.33**	**15**	P	**P**	**06 32 44.1**	**+1.3**
DAWY				IAmb	IAmb	06 32 51.8	
	comp=Z,7.1nm,1.2s						
PLCA	**Paso Flores**	**88.80**	**132**	LR	LR	07 05 23.8	
	comp=Z,53nm,19.5s,baz=228,slow=30						
XAN	**Xi'an**	**89.14**	**306**	P	P	06 32 55.3	-6.6
XAN				pP	PcP	06 33 00.0	-3.3
XAN				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC	**Hu-ho-hao-te**	**89.76**	**313**	*eP*	**P**	**06 33 07.8**	**+3.1**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,7.2s						
YKA	**Yellowknife Ar**	**92.01**	**24**	P	**P**	**06 33 14.7**	**+0.3**
	comp=Z,0.9nm,1.2s,baz=240,slow=5.5,SNR=4.0						
JTS	**Las Juntas de**	**92.19**	**80**	LR	LR	07 05 56.1	
	comp=Z,50nm,18.8s,baz=337,slow=30						
PZH	**PanZhiHua**	**92.48**	**297**	P	**P**	**06 33 21.0**	**+3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
CMAR	**Chiang Mai Arr**	**92.55**	**288**	P	**P**	**06 33 18.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=96,slow=2.4,SNR=6.1						
NNA	**Nana**	**93.29**	**104**	LR	LR	07 06 56.2	
	comp=Z,44nm,19.4s,baz=257,slow=30						
LZH	**Lanzhou**	**93.75**	**306**	*eP*	**P**	**06 33 22.3**	**-1.1**
LZH				pP	pwP	06 34 00.6	+3.2
LZH				pmax	pmax		
	comp=Z,20nm,1.5s						
A36M	**Sachs Harbour**	**94.80**	**14**	P	**P**	**06 33 28.4**	**+1.3**
LVC	**Limon Verde**	**96.83**	**116**	LR	LR	07 07 20.2	
	comp=Z,56nm,20.4s,baz=234,slow=29						
LPAZ	**La Paz**	**99.82**	**110**	LR	LR	07 09 38.5	
	comp=Z,48nm,19.9s,baz=242,slow=30						
KMBO	**Kilima Mbogo**	**144.13**	**243**	PKP	**PKPdf**	**06 39 42.2**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=331,slow=1.8,SNR=4.1						
CLL	**Collm**	**145.51**	**352**	*i* PKPbc	**PKPab**	**06 39 44.8**	**+0.7**
	comp=Z,19nm,1.4s						
CLL				*i* (PKiKP)		06 39 51.1	
	comp=Z,14nm,1.3s						
CLL				*ex*	x	06 40 24.0	
BRTR	**Keskin Array B**	**147.10**	**319**	PKPbc	**PKPbc**	**06 39 49.6**	**+0.7**
	comp=Z,2.7nm,1.1s,baz=116,slow=2.9,SNR=8.2						
BRTR	**Keskin Array B**	**147.10**	**319**		**PKPab**	**06 39 49.9**	**-0.9**
GERES	**GERESS Array B**	**147.81**	**350**	PKPbc	**PKiKP**	**06 39 52.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=262,slow=2.0,SNR=9.1						
TORD	**Torodi Ar. Bea**	**174.28**	**134**	PKPab	**PKPab**	**06 41 49.7**	**+1.2**
	comp=Z,1.8nm,1.0s,baz=284,slow=6.2,SNR=6.9						
TORD	**Torodi Ar. Bea**	**174.28**	**134**	PKPdf	**PKPdf**	**06 40 15.6**	**-0.4**
TORD					**PKPab**	**06 41 49.5**	**+0.9**

IDC 18 06:29:20.3±2.3, 54.16N×86.32E, h0km, mb1 3.2/2, mb1mx3.0/49, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=18.4km s-min=11.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**257**	*i*		06 34 30.0	
	baz=76,slow=324,SNR=3.0						
ZALV	**Zalesovo Beam**	**0.91**	**257**	Pg	Pg	06 29 36.4	-1.4
	4.7nm,0.3s,baz=72,slow=17,SNR=48						
ZALV				Lg	Lg	06 29 51.0	
	10.0nm,0.3s,baz=78,slow=30,SNR=43						
KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn	Pn	06 30 50.3	+0.9
	0.2nm,0.3s,baz=52,slow=13,SNR=14						
KURBB				Lg	Lg	06 32 29.3	
	0.0nm,0.3s,baz=56,slow=29,SNR=6.3						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	06 31 16.1	+1.1
	0.3nm,0.3s,baz=24,slow=13,SNR=16						
MKAR				Lg	Lg	06 33 28.3	
	0.0nm,0.3s,baz=23,slow=34,SNR=8.8						

IDC 18 06:33:41.5±3.2, 54.42N×86.89E, h0km, mb1 2.9/2, mb1mx2.9/47, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=28.8km s-min=18.1km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**250**	*i*		06 40 30.0	
	baz=69,slow=325,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.31**	**250**	Pg	Pg	06 34 04.9	-1.6
	1.2nm,0.3s,baz=69,slow=12,SNR=20						
ZALV				Lg	Lg	06 34 24.0	
	1.2nm,0.3s,baz=68,slow=23,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.37**	**237**	Pn	Pn	06 35 17.0	+0.6
	0.1nm,0.3s,baz=54,slow=14,SNR=9.2						
MKAR	**Makanchi Array**	**8.18**	**203**	Pn	Pn	06 35 42.7	+1.4
	0.1nm,0.3s,baz=25,slow=13,SNR=8.8						
MKAR				Sn	Sn	06 37 13.7	-0.7
	0.1nm,0.3s,baz=22,slow=27,SNR=5.9						

*MOS **18** 06:46:13.5±1.0, 42.47N×26.13E, h9km, mb4.2/4, Error ellipse: s-maj=4.3km s-min=3.0km az=79.0*
*IDC **18** 06:46:13.9±0.8, 42.50N×26.02E, h0km, mb3.6/12, mb1 3.9/18, mb1mx3.7/63, mbtmp3.7/18, ML3.7/6, MS3.3/11, Ms1 3.3/11, ms1mx2.9/91, Error ellipse: s-maj=12.6km s-min=8.2km az=49.0*
*DDA **18** 06:46:13.2±0.0, 42.51N×25.94E, h14km±1km, MW4.8*
*ISK **18** 06:46:14.2, 42.48N×26.07E, h7km, ML4.5/41*
*MCSM **18** 06:46:14.0±0.2, 43.N±2°×2°6E±°, h5km±1km, mb4.5*
*SOF **18** 06:46:14.4, 42.51N×26.03E, h12km, MD3.9*
*MED_RC **18** 06:46:14.0±2.5, 42.55N×26.19E, h14km±4km, MW4.3/13, Moment Tensor Solution.Mantle waves: s13,c17; Duration: 1ŝ0 Moment tensor: Scale 10^15Nm; Mrr-0.56±.38; Mθθ2.26±.28; Mϕϕ-1.70±.20; Mrθ1.98±1.43; Mθϕ-1.56±.21; Mϕr0.50±.45; Best double couple: Mo3.24000×10^15 NP1ϕs248.00000°, δ85.00000°, λ-140.00000°. NP2ϕs154.00000°, δ50.00000°, λ-6.00000°. Principal axes: T 3.5500, Plg24.0000°, Azm14.0000°; N -0.6200, Plg49.0000°, Azm254.0000°; P -2.9200, Plg31.0000°, Azm119.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*BEO **18** 06:46:14.8±0.3, 42.56N×26.04E, h0km, ML4.1/10*
*PDG **18** 06:46:15.1±0.9, 42.47N×26.06E, h16km±1km, ML4.1/13, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*PRU **18** 06:46:15.5±0.0, 42.43N×25.96E, h0km, M4.3*
*NEIC **18** 06:46:15.7±1.7, 42.41N±0.03×25.96E±0.05, h14km±5km, Error ellipse: s-maj=5.7km s-min=4.1km az=92.0*
*THE **18** 06:46:16.4, 42.40N×26.06E, h8km±2km, ML3.9/3, Error ellipse: s-maj=3.3km s-min=0.8km az=39.0*
*TIR **18** 06:46:20.4, 42.52N×24.97E, h4km±14km, Ml4.3*

ISC 18 06:46:14.2±1.0, 42.47N±0.02×26.04E±0.02, h4km±7km, n575, σ1ŝ49/638, mb3.7/17, MS3.6/8, 52C-17D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMB	**Yambol**	**0.40**	**91**	*e*Pg	**Pg**	**06 46 21.9**	**-0.1**
JMB				*e*Sg	**Sg**	**06 46 27.5**	**+0.3**
JMB	**Yambol**	**0.40**	**91**	P	**Pg**	**06 46 21.6**	**-0.4**
JMB	**Yambol**	**0.40**	**91**	PG	**Pg**	**06 46 22.1**	**+0.1**
JMB				SG	**Sg**	**06 46 27.7**	**+0.5**
JMB	**Yambol**	**0.40**	**91**	P	**Pg**	**06 46 21.9**	**-0.1**
DIM	**Dimitrovgrad**	**0.57**	**222**	P	**Pb**	**06 46 26.4**	**-0.3**
DIM	**Dimitrovgrad**	**0.57**	**222**	P	**Pb**	**06 46 26.5**	**-0.3**
SZH	**Strazhica**	**0.80**	**354**	P	**Pg**	**06 46 29.6**	**+0.1**
EDRB	**Edirne**	**0.81**	**140**	P	**Pb**	**06 46 30.5**	**-0.5**
EDRB				S	**Sg**	**06 46 41.4**	**+1.0**
	6µm,0.6s						
EDRB	**Edirne**	**0.81**	**140**	PG	**Pb**	**06 46 30.5**	**-0.5**
EDRB				SG	**Sg**	**06 46 41.2**	**+0.8**
PVL	**Pavlikeni**	**0.91**	**325**	P	**Pb**	**06 46 32.5**	**0.0**
PVL				S	**Sb**	**06 46 45.0**	**0.0**
PVL	**Pavlikeni**	**0.91**	**325**	P	**Pb**	**06 46 32.6**	**0.0**
KDZ	**Kurdzhali**	**0.94**	**210**	P	**Pn**	**06 46 33.9**	**-0.4**
KIRK	**Kırklareli**	**1.05**	**131**	P	**Pg**	**06 46 34.3**	**0.0**
KIRK				S	**Sg**	**06 46 47.5**	**-0.3**
PLD	**Plovdiv**	**1.06**	**250**	*e*Pg	**Pg**	**06 46 34.6**	**+0.1**
PLD				*e*Sg	**Sg**	**06 46 48.1**	**-0.1**
PLD	**Plovdiv**	**1.06**	**250**	P	**Pg**	**06 46 34.1**	**-0.4**
PLD	**Plovdiv**	**1.06**	**250**	PN	**Pg**	**06 46 34.7**	**+0.2**
PLD	**Plovdiv**	**1.06**	**250**	P	**Pg**	**06 46 34.6**	**+0.1**
NEF	**NEVSHA**	**1.20**	**49**	P	**Pb**	**06 46 37.5**	**-0.1**
PRD	**Provadia**	**1.24**	**54**	P	**Pg**	**06 46 37.8**	**-0.1**
PRD				S	**Sb**	**06 46 54.2**	**-0.3**
PRD	**Provadia**	**1.24**	**54**	P	**Pn**	**06 46 38.1**	**-0.2**
RZN	**Rozhen**	**1.26**	**232**	P	**Pn**	**06 46 39.2**	**+0.4**
ZIMR		**1.28**	**338**	⇓P	**Pn**	**06 46 39.8**	**+0.8**
ZIMR		**1.28**	**338**	P	**Pn**	**06 46 39.8**	**+0.8**
ZIMR		**1.28**	**338**		**Pn**	**06 46 39.8**	**+0.8**
RDO	**Rodhopi**	**1.38**	**196**	P	**Pn**	**06 46 40.5**	**+0.3**
RDO				S	**Sg**	**06 46 57.7**	**-0.8**
	8µm,0.4s						
RDO	**Rodhopi**	**1.38**	**196**	PN	**Pn**	**06 46 40.6**	**+0.3**
RDO	**Rodhopi**	**1.38**	**196**	Pn	**Pn**	**06 46 40.5**	**+0.3**
RDO				Sn	**Sg**	**06 46 56.6**	**-1.9**
PGB	**Panagyurishte**	**1.39**	**274**	P	**Pn**	**06 46 39.1**	**-1.4**
PHSR	**Pinarhisar**	**1.39**	**127**	PN	**Pn**	**06 46 40.5**	**+0.1**
PHSR				SN	**Sb**	**06 46 59.1**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.41**	**162**	PN	**Pg**	**06 46 41.9**	**+0.6**
ALN	**Alexandroupoli**	**1.57**	**180**	P	**Pn**	**06 46 43.3**	**+0.3**
ALN				S	**Sn**	**06 47 04.1**	**+0.3**
	3µm,0.5s						
ALN	**Alexandroupoli**	**1.57**	**180**	P	**Pn**	**06 46 43.5**	**+0.5**
ALN	**Alexandroupoli**	**1.57**	**180**	PN	**Pn**	**06 46 43.5**	**+0.5**
ALN	**Alexandroupoli**	**1.57**	**180**	Pn	**Pn**	**06 46 43.5**	**+0.5**
ALN	**Alexandroupoli**	**1.57**	**180**	Pn	**Pn**	**06 46 43.3**	**+0.3**
ENEZ	**Enez**	**1.74**	**177**	P	**Pn**	**06 46 45.3**	**+0.1**
ENEZ	**Enez**	**1.74**	**177**	PN	**Pn**	**06 46 45.8**	**+0.6**
SGRR	**Singureni**	**1.75**	**358**	⇑P	**Pb**	**06 46 46.3**	**-0.6**
SGRR	**Singureni**	**1.75**	**358**		**Pb**	**06 46 46.3**	**-0.6**
COPA	**Copaceanca**	**1.77**	**340**	⇑P	**Pn**	**06 46 45.5**	**-0.1**
COPA	**Copaceanca**	**1.77**	**340**		**Pn**	**06 46 45.5**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**1.78**	**177**	P	**Pn**	**06 46 46.2**	**+0.4**
CAVK				S	**Sg**	**06 47 13.1**	**+1.6**

ERIK	**Erikli-Kesan**	**1.83**	**169**	PN	**Pn**	**06 46 46.9**	**+0.4**
TKR	**Tekirdag**	**1.86**	**142**	PN	**Pn**	**06 46 47.0**	**+0.1**
KAVA	**Kavala**	**1.87**	**218**	P	**Pn**	**06 46 47.5**	**+0.5**
BUC1	**Bucharest**	**1.87**	**360**	⇑P	**Pb**	**06 46 48.3**	**-0.7**
BUC1	**Bucharest**	**1.87**	**360**	P	**Pb**	**06 46 48.3**	**-0.7**
BUC1	**Bucharest**	**1.87**	**360**		**Pb**	**06 46 48.3**	**-0.7**
RASA	**Rasa**	**1.92**	**25**	⇑P	**Pb**	**06 46 49.6**	**-0.2**
RASA	**Rasa**	**1.92**	**25**		**Pb**	**06 46 49.6**	**-0.2**
MMB	**Musomiste**	**1.94**	**244**	P	**Pn**	**06 46 49.0**	**+1.0**
MAR3	**Marsite Statio**	**1.97**	**151**	PN	**Pn**	**06 46 48.7**	**+0.3**
INCR	**INCERC-Sediu C**	**1.97**	**3**	⇑P	**Pb**	**06 46 50.3**	**-0.4**
INCR	**INCERC-Sediu C**	**1.97**	**3**		**Pb**	**06 46 50.3**	**-0.4**
GZKV	**Gazikoy-Tekird**	**1.98**	**150**	PN	**Pn**	**06 46 49.0**	**+0.5**
NVR	**Nevrokopi**	**1.98**	**236**	P	**Pn**	**06 46 49.1**	**+0.6**
NVR	**Nevrokopi**	**1.98**	**236**	Pn	**Pn**	**06 46 49.4**	**+0.9**
KALB	**Balgarevo**	**1.98**	**61**	⇑P	**Pb**	**06 46 50.4**	**-0.4**
KALB	**Balgarevo**	**1.98**	**61**		**Pb**	**06 46 50.4**	**-0.4**
PSN	**Preselentsi**	**1.98**	**52**	P	**Pn**	**06 46 48.3**	**-0.3**
PSN	**Preselentsi**	**1.98**	**52**	P	**Pn**	**06 46 47.7**	**-0.9**
MAR6	**Marsite Statio**	**1.99**	**152**	PN	**Pn**	**06 46 49.0**	**+0.3**
SMTH	**Samothraki Isl**	**2.04**	**191**	P	**Pn**	**06 46 49.4**	**0.0**
SLVT	**Silivri**	**2.04**	**127**	PN	**Pn**	**06 46 49.6**	**+0.2**
VTS	**Vitosha**	**2.08**	**275**	⇓P	**Pn**	**06 46 50.7**	**+0.6**
VTS				⇑S	**Sn**	**06 47 15.7**	**-0.8**
VTS	**Vitosha**	**2.08**	**275**	*e*Pn	**Pb**	**06 46 51.3**	**-1.3**
VTS				*e*Sn	**Sb**	**06 47 17.9**	**-1.0**
VTS	**Vitosha**	**2.08**	**275**	P	**Pn**	**06 46 50.7**	**+0.6**
VTS						06 47 15.7	
VTS	**Vitosha**	**2.08**	**275**		**Pn**	**06 46 50.6**	**+0.6**
VTS					**Sn**	**06 47 15.7**	**-0.8**
VTS	**Vitosha**	**2.08**	**275**	P	**Pn**	**06 46 51.1**	**+1.0**
GELI	**Tayfur-Gelibol**	**2.10**	**171**	PN	**Pn**	**06 46 50.5**	**+0.3**
THAS	**Thassos island**	**2.11**	**208**	P	**Pn**	**06 46 50.1**	**-0.3**
LPK	**Lapseki**	**2.17**	**165**	PN	**Pn**	**06 46 51.9**	**+0.8**
HUMR	**Humele**	**2.19**	**340**	⇑P	**Pn**	**06 46 51.9**	**+0.3**
HUMR	**Humele**	**2.19**	**340**		**Pn**	**06 46 51.9**	**+0.3**
HUMR	**Humele**	**2.19**	**340**	Pn	**Pn**	**06 46 51.1**	**-0.4**
SULR		**2.21**	**4**	⇑P	**Pb**	**06 46 53.7**	**-1.1**
SULR		**2.21**	**4**		**Pb**	**06 46 53.7**	**-1.1**
CTKS	**Kestanelik-??a**	**2.22**	**123**	PN	**Pn**	**06 46 51.9**	**+0.1**
KOKK	**Kokkinochori,**	**2.25**	**223**	P	**Pn**	**06 46 52.4**	**+0.1**
SRS	**Serrai**	**2.28**	**234**	P	**Pn**	**06 46 53.3**	**+0.6**
SRS	**Serrai**	**2.28**	**234**	P	**Pn**	**06 46 53.3**	**+0.6**
SRS	**Serrai**	**2.28**	**234**	Pn	**Pn**	**06 46 53.2**	**+0.6**
GOKA	**anakkale-Gk**	**2.28**	**183**	P	**Pb**	**06 46 54.7**	**-1.3**
GOKA				S	**Sg**	**06 47 29.3**	**+1.8**
KRBG	**Karabiga-Canak**	**2.28**	**155**	PN	**Pn**	**06 46 53.5**	**+0.8**
TSMN	**Mangalia Port-**	**2.29**	**54**	⇑S	**Sb**	**06 47 24.3**	**-0.5**
TSMN	**Mangalia Port-**	**2.29**	**54**		**Sb**	**06 47 24.4**	**-0.5**
MANR	**Mangalia**	**2.30**	**53**	⇓P	**Pn**	**06 46 53.5**	**+0.6**
MANR	**Mangalia**	**2.30**	**53**		**Pn**	**06 46 53.5**	**+0.6**
CVDA	**Cernavoda**	**2.36**	**37**	⇑P	**Pb**	**06 46 55.6**	**-1.8**
CVDA	**Cernavoda**	**2.36**	**37**		**Pb**	**06 46 55.6**	**-1.8**
BGKT	**Bogazkoy**	**2.42**	**121**	PN	**Pn**	**06 46 54.6**	**+0.1**
ECEA	**Canakkale, Ece**	**2.43**	**178**	P	**Pn**	**06 46 56.1**	**+1.4**
MFTR	**Murfatlar**	**2.43**	**45**	⇑P	**Pn**	**06 46 55.5**	**+0.7**
MFTR	**Murfatlar**	**2.43**	**45**		**Pn**	**06 46 55.5**	**+0.7**
PLAR	**PLOIESTI**	**2.44**	**360**	⇑P	**Pb**	**06 46 56.6**	**-2.1**
PLAR	**PLOIESTI**	**2.44**	**360**		**Pb**	**06 46 56.6**	**-2.1**
KNL	**Balıkesir**	**2.47**	**153**	P	**Pn**	**06 46 56.1**	**+0.8**
KNL				S	**Sg**	**06 47 32.4**	**-1.1**
AVCI	**Avcilar-stanb**	**2.49**	**125**	PN	**Pn**	**06 46 55.9**	**+0.3**
STFAR	**Stefanesti-Arg**	**2.51**	**342**	⇑P	**Pn**	**06 46 57.0**	**+1.1**
STFAR	**Stefanesti-Arg**	**2.51**	**342**		**Pn**	**06 46 57.0**	**+1.1**
EDC	**Edincik**	**2.53**	**147**	PN	**Pn**	**06 46 56.6**	**+0.5**
TSCT	**Constanta Port**	**2.55**	**48**	⇓P	**Pn**	**06 46 57.2**	**+0.9**
TSCT				⇓S	**Sb**	**06 47 30.8**	**-1.4**
TSCT	**Constanta Port**	**2.55**	**48**		**Pn**	**06 46 57.2**	**+0.9**
TSCT					**Sb**	**06 47 30.8**	**-1.4**
KLYT	**Kilyos**	**2.55**	**118**	PN	**Pn**	**06 46 56.7**	**+0.3**
KLYT	**Kilyos**	**2.55**	**118**	Pn	**Pn**	**06 46 56.5**	**+0.1**
SECR		**2.56**	**0**	⇑P	**Pn**	**06 46 58.1**	**+1.5**
SECR		**2.56**	**0**		**Pn**	**06 46 58.1**	**+1.5**
SOH	**Sokhos**	**2.60**	**232**	P	**Pn**	**06 46 58.1**	**+0.9**
SOH	**Sokhos**	**2.60**	**232**	P	**Pn**	**06 46 58.1**	**+0.9**
SOH	**Sokhos**	**2.60**	**232**	Pn	**Pn**	**06 46 58.0**	**+0.9**
HARR	**Harsova**	**2.61**	**31**	⇑P	**Pn**	**06 46 57.5**	**+0.3**
HARR	**Harsova**	**2.61**	**31**	P	**Pn**	**06 46 57.5**	**+0.3**
HARR	**Harsova**	**2.61**	**31**		**Pn**	**06 46 57.5**	**+0.3**
TIRR	**

PAIG	Paliouri	3.10	216		P		Pn	06 47 04.1	+0.1
PAIG	Paliouri	3.10	216		P		Pn	06 47 04.1	+0.1
BISRR	Bisoca	3.11	9	⇑	P		Pn	06 47 06.1	+1.9
BISRR	Bisoca	3.11	9				Pn	06 47 06.1	+1.9
GRG	Griva	3.12	242		P		Pn	06 47 05.1	+0.9
GRG	Griva	3.12	242		P		Pn	06 47 05.1	+0.9
GRG	Griva	3.12	242		PN		Pn	06 47 06.1	+1.9
BARS	Barje	3.14	278		ePn		Pn	06 47 05.9	+1.4
BARS	Barje	3.14	278		ePn		Pn	06 47 06.3	+1.8
BARS					eSn		Sn	06 47 44.0	+1.6
BARS					eSn		Sb	06 47 46.1	-3.1
YLV	Yalova	3.14	126		PN		Pn	06 47 05.0	+0.4
YLV	Yalova	3.14	126		Pn		Pn	06 47 04.5	-0.1
HRT	Hereke	3.18	120		P		Pn	06 47 06.2	+1.1
HRT	Hereke	3.18	120		PN		Pn	06 47 06.3	+1.3
PRK	Paraskevi	3.23	177		P		Pn	06 47 05.8	+0.1
PRK	Paraskevi	3.23	177		P		Pn	06 47 05.8	+0.1
IZI	Iznik	3.35	128		PN		Pn	06 47 08.3	+0.8
DJES	Djerdap	3.37	312	⇑	P		Pn	06 47 07.1	-0.6
DJES	Djerdap	3.37	312		eSn		Sn	06 47 46.8	-1.3
DJES	Djerdap	3.37	312				Pn	06 47 07.1	-0.6
DJES	Djerdap	3.37	312		Pn		Pn	06 47 07.1	-0.6
COVR	Voineasa-Covas	3.37	2	⇑	P		Pn	06 47 09.1	+1.3
COVR	Voineasa-Covas	3.37	2				Pn	06 47 09.1	+1.3
TLCR		3.37	36	⇑	P		Pn	06 47 09.3	+1.6
TLCR		3.37	36		P		Pn	06 47 08.9	+1.2
TLCR		3.37	36				Pn	06 47 09.3	+1.6
BOVS	Bovan	3.38	292	⇑	P		Pn	06 47 08.7	+0.8
BOVS	Bovan	3.38	292		ePn		Pn	06 47 09.0	+1.2
BOVS					eSn		Sn	06 47 47.3	-1.1
BOVS	Bovan	3.38	292				Pn	06 47 08.7	+0.8
GIUM	Giurgiulesti	3.39	27	⇑	P		Pn	06 47 09.0	+1.0
GIUM	Giurgiulesti	3.39	27				Pn	06 47 09.0	+1.0
LOT	Lotru	3.40	332	⇑	P		Pn	06 47 08.2	+0.1
LOT	Lotru	3.40	332		PN		Pn	06 47 08.9	+0.7
LOT	Lotru	3.40	332				Pn	06 47 08.2	+0.1
PLOR	Plostina	3.41	7	⇑	P		Pn	06 47 09.8	+1.6
PLOR	Plostina	3.41	7		P		Pn	06 47 09.2	+1.0
PLOR	Plostina	3.41	7				Pn	06 47 09.8	+1.6
VRI	Vrincioaia	3.43	8	⇑	P		Pn	06 47 09.7	+1.3
VRI	Vrincioaia	3.43	8		P		Pn	06 47 09.6	+1.1
VRI	Vrincioaia	3.43	8		PN		Pn	06 47 09.8	+1.3
VRI	Vrincioaia	3.43	8				Pn	06 47 09.8	+1.3
ADVT	Abdulvahap	3.45	125		PN		Pn	06 47 09.6	+0.9
SKO	Skopje	3.45	263		iPn		Pn	06 47 10.3	+1.5
DKL	Dikili	3.46	169		PN		Pn	06 47 09.9	+1.0
DST	Dursunbey	3.47	145		PN		Pn	06 47 10.4	+1.3
PANC	Panciu	3.49	13	⇑	P		Pn	06 47 11.1	+1.8
PANC	Panciu	3.49	13				Pn	06 47 11.2	+1.8
DOPR	Dopca	3.52	353	⇑	P		Pn	06 47 10.5	+0.7
DOPR	Dopca	3.52	353				Pn	06 47 10.5	+0.7
HERR	Herculane	3.56	314	⇑	P		Pn	06 47 09.6	-0.7
HERR	Herculane	3.56	314				Pn	06 47 09.6	-0.7
LIT	Litokhoron	3.57	230		P		Pn	06 47 10.6	+0.1
LIT	Litokhoron	3.57	230		P		Pn	06 47 10.8	+0.3
LIT	Litokhoron	3.57	230		Pn		Pn	06 47 10.8	+0.3
OZUR		3.63	357	⇑	P		Pn	06 47 12.7	+1.5
OZUR		3.63	357				Pn	06 47 12.7	+1.5
SAUV	Serdivan-Sakar	3.65	117		PN		Pn	06 47 12.8	+1.3
VARL	Varlezi	3.66	20	⇓	P		Pn	06 47 13.4	+1.7
VARL	Varlezi	3.66	20				Pn	06 47 13.3	+1.7
SELS	Selova	3.69	283		ePn		Pn	06 47 13.3	+1.1
KUBS	Kucevo	3.72	303		ePn		Pn	06 47 12.0	-0.5
XOR	Xorichti	3.78	216		P		Pn	06 47 12.9	-0.4
NEO	Neokhori	3.82	215		P		Pn	06 47 13.4	-0.4
MDB	Medias	3.86	343	⇑	P		Pn	06 47 16.2	+1.8
MDB	Medias	3.86	343		P		Pn	06 47 16.2	+1.8
MDB	Medias	3.86	343				Pn	06 47 16.2	+1.8
FNA	Florina	3.88	246		P		Pn	06 47 16.1	+1.3
FNA	Florina	3.88	246		P		Pn	06 47 15.7	+0.9
FNA	Florina	3.88	246		PN		Pn	06 47 16.3	+1.5
FNA	Florina	3.88	246				Pn	06 47 15.7	+0.9
FNA	Florina	3.88	246		P		Pn	06 47 16.2	+1.5
	baz=239									
FNA					S		Sn	06 47 56.2	-4.6
	baz=239									
MDVR	Moldovita	3.90	308	⇑	P		Pn	06 47 15.1	+0.2
MDVR	Moldovita	3.90	308				Pn	06 47 15.2	+0.2
MDVR	Moldovita	3.90	308		Pn		Pn	06 47 14.6	-0.4
GULT	Gulveren	3.93	120		PN		Pn	06 47 16.3	+0.8
SVIS	Svilajnac	3.95	299		P		Pn	06 47 13.3	+0.7
BIR	Birlad	3.96	16	⇑	P		Pn	06 47 16.9	+1.1
BIR	Birlad	3.96	16		P		Pn	06 47 16.9	+1.1
BIR	Birlad	3.96	16				Pn	06 47 16.9	+1.1
TVSB	Tavsanli	3.98	138		PN		Pn	06 47 17.6	+1.5
SIMA	Simav-Kutahya	4.06	146		PN		Pn	06 47 18.5	+1.3
TESR	Tescani	4.06	6	⇑	P		Pn	06 47 18.0	+0.8
TESR	Tescani	4.06	6				Pn	06 47 18.0	+0.8
CHOS	Chios island	4.08	180		P		Pn	06 47 17.8	+0.3
CHOS	Chios island	4.08	180		PN		Pn	06 47 18.4	+0.9
DEV	Deva	4.09	328	⇓	P		Pn	06 47 17.7	+0.2
DEV	Deva	4.09	328		P		Pn	06 47 17.7	+0.2
DEV	Deva	4.09	328				Pn	06 47 17.7	+0.2
GRUS	Gruza	4.14	292		ePn		Pn	06 47 19.2	+0.9
OHR	Ohrid	4.15	253		iPn		Pb	06 47 24.6	-3.2
OHR					iSn		Sg	06 48 33.6	+6.1
BLCB	Balcova	4.15	169		PN		Pn	06 47 20.3	+1.9
THL	Klokotos Trika	4.21	228		Pn		Pn	06 47 19.6	+0.4
BORA	Eskisehir	4.22	126		Pn		Pn	06 47 18.8	+0.4
PHP	Peshkopia	4.24	261		P		Pn	06 47 21.1	+1.4
PHP	Peshkopia	4.24	261		P		Pn	06 47 20.2	+0.5
PHP	Peshkopia	4.24	261		P		Pn	06 47 20.2	+0.5
	baz=258									
PHP					S		Sn	06 48 05.0	-4.8
	baz=258									
VASR	Vaslui	4.35	16	⇓	P		Pn	06 47 21.5	+0.3
VASR	Vaslui	4.35	16				Pn	06 47 21.5	+0.3
KBN	Korca	4.35	247		P		Pn	06 47 18.1	-3.2
KBN	Korca	4.35	247				Pn	06 47 18.1	-3.2
KBN	Korca	4.35	247		P		Pn	06 47 21.9	+0.6
	baz=241									
KBN					S		Sn	06 48 13.7	+1.2
	baz=241									
KBN					AMP					
	comp=N,1.1nm,1.0s,baz=241									
MDUB	Mudurnu	4.36	116		PN		Pn	06 47 22.9	+1.5
MDUB	Mudurnu	4.36	116				Pn	06 47 22.5	+1.1
MANT	Manisa	4.42	153				Pn	06 47 20.7	-1.6
BCI	Bajram Curri	4.42	271		P		Pn	06 47 23.0	+0.8
	baz=270									
BCI					S		Sn	06 48 08.4	-5.7
	baz=270									
BCI					AMP					
	comp=N,2.0nm,2.0s,baz=270									
KULA	Kula-Manisa	4.43	152		P		Pn	06 47 23.3	+1.0
KULA	Kula-Manisa	4.43	152		PN		Pn	06 47 23.8	+1.5
AGG	Agios Georgios	4.45	220		P		Pn	06 47 19.5	-3.1
AGG	Agios Georgios	4.45	220		Pn		Pn	06 47 19.5	-3.1
IVAS	Ivanjica	4.46	286		ePn		Pn	06 47 22.7	0.0
TRUS	Trudelj	4.47	295		ePn		Pn	06 47 23.3	+0.6
BZS	Buzias	4.48	316	⇓	P		Pn	06 47 22.4	-0.5
BZS	Buzias	4.48	316		P		Pn	06 47 22.4	-0.5
BZS	Buzias	4.48	316				Pn	06 47 22.4	-0.5
PVY	Plav	4.50	274	⇓	iPn		Pn	06 47 24.3	+1.0
PVY					iSn		Sn	06 48 16.6	+0.5
SJES	Sjenica	4.53	282		ePn		Pn	06 47 24.1	+0.4
IVA	Berane	4.55	277		ePn		Pn	06 47 25.0	+1.0
IVA					iSn		Sn	06 48 18.0	+0.6
CJR	Cluj-Napoca	4.58	338		P		Pn	06 47 28.4	+4.0
BEO	Beograd	4.67	302		P		Pn	06 47 26.4	+0.9
DIVS	Divibare	4.71	292		ePn		Pn	06 47 26.4	+0.3
DIVS	Divibare	4.71	292		Pn		Pn	06 47 26.6	+0.5
DIVS	Divibare	4.71	292		ePn		Pn	06 47 26.7	+0.6
LSK	Leskovik	4.71	242		P		Pn	06 47 28.6	+2.5
	baz=236									
LSK					S		Sn	06 48 20.1	-1.1
	baz=236									
YUVA	Yuva-Kibriscik	4.73	114		PN		Pn	06 47 27.9	+1.5
TIR	Tirane	4.74	258		P		Pn	06 47 26.6	+0.1
TIR	Tirane	4.74	258		Pn		Pn	06 47 26.6	+0.1
ARCR	ARCALIA	4.77	346	⇑	P		Pn	06 47 27.5	+0.7
ARCR	ARCALIA	4.77	346		P		Pn	06 47 27.5	+0.7
SMG	Samos	4.80	172		P		Pn	06 47 27.4	+0.1
KOME	Kolasin	4.83	277	⇑	iPn		Pn	06 47 28.9	+1.1
KOME					iSn		Sn	06 48 24.7	+0.5
MILM	Milestii Mici	4.86	23		eP		Pn	06 47 28.0	-0.2
	comp=N,18nm,0.3s									
MILM					M		M	06 47 48.0		
	comp=N,30nm,0.7s									
MILM					eS		Sn	06 48 21.0	-3.9
MILM					eLR		LR	06 48 45.0		
	comp=N,500nm,3.4s									
MILM	Milestii Mici	4.86	23		eP		Pn	06 47 28.0	-0.2
MILM					eS		Sn	06 48 21.0	-3.9
MILM					pmax		pmax			
	comp=Z,18nm,0.3s									
MILM					MLR		MLR			
	comp=Z,500nm,3.4s									
SIRR	Siria	4.92	322	⇑	P		Pn	06 47 28.6	-0.4
SIRR	Siria	4.92	322				Pn	06 47 28.6	-0.4
KIS	Kishinev	4.94	23		eP		Pn	06 47 28.0	-1.2
KIS					eS		Sn	06 48 22.0	-4.8
KIS					eL		L	06 48 48.0		
KIS	Kishinev	4.94	23		eP		Pn	06 47 28.0	-1.2
KIS					eS		Sn	06 48 22.0	-4.8
PLE	Pljevlja	4.96	282	⇓	iPn		Pn	06 47 30.7	+1.1
PLE					iSn		Sn	06 48 27.9	+0.4
ANX	Ano Chora	4.99	220		P		Pn	06 47 31.1	+1.1
PDG	Podgorica	5.02	272		Pn		Pn	06 47 31.5	+1.2
PDG	Podgorica	5.02	272		ePn		Pn	06 47 34.7	+4.4
RUDO	Rudo	5.02	285		ePn		Pn	06 47 31.2	+0.8
TTG	Podgorica	5.02	272		ePn		Pn	06 47 31.6	+1.3
TTG					iSn		Sn	06 48 29.4	+0.6
BBLS	Lazići	5.05	288		ePn		Pn	06 47 32.5	+1.7
BBLS	Lazići	5.05	288		ePn		Pn	06 47 33.6	+2.8
ULC	Ulcinj	5.07	267		P		Pn	06 47 34.8	+3.7
ULC	Ulcinj	5.07	267		ePn		Pn	06 47 32.3	+1.2
ULC					iSn		Sn	06 48 30.6	+0.4
DRME	Dracevica, Mon	5.09	269		ePn		Pn	06 47 35.2	+3.9
DRME	Dracevica, Mon	5.09	269		ePn		Pn	06 47 32.5	+1.2
DRME					iSn		Sn	06 48 31.1	+0.5
BUR03	Bucovina Ar. S	5.17	354		Pn		Pn	06 47 34.1	+1.6
TEKS	Tekeris	5.17	296		ePn		Pn	06 47 31.9	-0.5
TEKS	Tekeris	5.17	296		ePn		Pn	06 47 31.8	-0.6
BUR01	Bucovina Ar. S	5.17	354		Pn		Pn	06 47 34.2	+1.7
BUR06	Bucovina Ar. S	5.17	354		Pn		Pn	06 47 33.4	+0.8
BURAR	Bucovina Array	5.17	354	⇑	P		Pn	06 47 34.7	+2.1
BURAR	Bucovina Array	5.17	354		P		Pn	06 47 34.6	+2.1
BURAR	Bucovina Array	5.17	354				Pn	06 47 33.4	+0.8
BURAR	Bucovina Array	5.17	354				Pn	06 47 34.7	+2.1
BUR04	Bucovina Ar. S	5.18	354		Pn		Pn	06 47 34.1	+1.5
BUR09	Bucovina Ar. S	5.18	354		Pn		Pn	06 47 32.9	+0.3
BUR07	Bucovina Ar. S	5.20	354		Pn		Pn	06 47 34.2	+1.2
BUR08	Bucovina Ar. S	5.21	354		Pn		Pn	06 47 33.9	+0.9
BUR08	Bucovina Ar. S	5.21	354		Pn		Pn	06 47 34.1	+1.1
NKY	Niksic	5.21	276		ePn		Pn	06 47 34.2	+1.1
NKY					iSn		Sn	06 48 33.9	+0.3
IGT	Igoumenitsa	5.22	238		P		Pn	06 47 36.8	+3.7
	baz=232									
IGT					S		Sn	06 48 33.4	-0.5
	baz=232									
SRN	Sarande	5.24	242		P		Pn	06 47 36.6	+3.2
	baz=237									
FRGS	Fruska Gora	5.25	303	⇑	P		Pn	06 47 33.5	0.0
FRGS	Fruska Gora	5.25	303		ePn		Pn	06 47 33.4	0.0
FRGS	Fruska Gora	5.25	303				Pn	06 47 33.5	0.0
FRGS	Fruska Gora	5.25	303		ePn		Pn	06 47 33.5	0.0
CEME	Cevo	5.27	273		ePn		Pn	06 47 35.0	+1.2
CEME					iSn		Sn	06 48 35.4	+0.4
BUM	Brajici-Budva	5.30	271	⇑	iPn		Pn	06 47 35.3	+1.1
BUM					iSn		Sn	06 48 36.1	+0.4
UPM	Unac-Piva	5.30	280		ePn		Pn	06 47 35.8	+1.5
UPM	Unac-Piva	5.30	280		ePn		Pn	06 47 35.4	+1.1
UPM					iSn		Sn	06 48 36.1	+0.2
KLV	Kalavryta, Ach	5.33	215		Pn		Pn	06 47 35.2	+0.5
APE	Apeiranthos	5.41	184	⇑	P		Pn	06 47 35.0	-0.8
APE	Apeiranthos	5.41	184		P		Pn	06 47 36.4	+0.6
APE	Apeiranthos	5.41	184				Pn	06 47 35.0	-0.8
BLJ	Bijeljina	5.43	297		ePn		Pn	06 47 35.5	-0.5
KEK	Kerkira	5.46	242		Pn		Pn	06 47 36.4	0.0
LKD2	Lefkada island	5.50	230		P		Pn	06 47 42.1	+5.1
	baz=223									
BRY	Bratogost	5.55	277		ePn		Pn	06 47 38.5	+0.8
BRY	Bratogost	5.55	277		ePn		Pn	06 47 38.9	+1.2
BRY					iSn		Sn	06 48 42.2	+0.2
HCY	Herceg Novi	5.58	272		P		Pn	06 47 41.9	+3.8
HCY	Herceg Novi	5.58	272		ePn		Pn	06 47 41.1	+3.0
HCY	Herceg Novi	5.58	272		ePn		Pn	06 47 39.4	+1.3
HCY					iSn		Sn	06 48 43.1	+0.4
TREB	Trebinje	5.68	275		ePn		Pn	06 47 40.9	+1.5
ANTO	Ankara	5.72	115		P		Pn	06 47 39.9	-0.1
ANTO	Ankara	5.72	115		Pn		Pn	06 47 39.9	-0.1
SORM	Soroca	5.89	15		P		Pn	06 47 42.5	+0.2
ILGA	Ilgaz	5.91	101				Pn	06 47 43.1	+0.2
SEV	Sevastopol'	5.92	67		eP		Pn	06 47 41.6	-1.1
SEV					iS		Sn	06 48 44.5	-6.5
BZK	Bozkurt	5.94	92	⇑	P		Pn	06 47 43.2	+0.3
BZK	Bozkurt	5.94	92				Pn	06 47 43.2	+0.3
KMPD	K-Podol'skiy	6.10	3		Pn		Pn	06 47 44.0	-1.1
KMPD					Pn		Pn	06 47 43.1	-2.0
	comp=Z,34nm,0.7s									
ITM	Ithomi	6.16	212				Pn	06 47 46.7	+0.7
STON	Ston	6.16	277		ePn		Pn	06 47 49.2	+3.2
YAL	Yalta	6.24	68		eP		Pn	06 47 44.5	-2.5
YAL					eS		Sn	06 48 52.1	-6.6
BR106	Keskin Array S	6.34	113		Pn		Pn	06 47 49.2	+0.5
SIM	Simferopol'	6.35	64		eP		Pn	06 47 48.2	-0.5
SIM					eS		Sn	06 48 56.8	-4.9
BR101	Keskin Array S	6.36	113		Pn		Pn	06 47 49.3	+0.3
BR131	Keskin Array S	6.36	113		iP		Pn	06 47 49.2	+0.3
BR131	Keskin Array S	6.36	113		Pn		Pn	06 47 49.6	+0.7
BRTR	Keskin Array B	6.36	113		Pn		Pn	06 47 49.9	+0.9
	comp=Z,1.5nm,0.3s,baz=291,slow=12,SNR=41									
BRTR					Sn		Sn	06 49 02.7	+0.6
	comp=Z,0.2nm,0.3s,baz=316,slow=16,SNR=1.4									
BRTR					Lg		Lg	06 49 37.1		
	baz=293,slow=24,SNR=2.1									
BRTR					LR		LR	06 50 37.5		
	comp=Z,99nm,18.6s,baz=318,slow=41									
BRTR	Keskin Array B	6.36	113		iP		Pn	06 47 49.5	+0.6
BRTR					pmax		pmax			
	comp=Z,7.0nm,0.5s									
BRTR	Keskin Array B	6.36	113				Pn	06 47 49.7	+0.7
BR104	Keskin Array S	6.37	113		Pn		Pn	06 47 49.7	+0.6
BR103	Keskin Array S	6.38	113		Pn		Pn	06 47 49.3	+0.3
ELL	Elmali	6.45	151		P		Pn	06 47 50.3	+0.2
ELL	Elmali	6.45	151				Pn	06 47 50.3	+0.2
ALU	Alushta	6.46	67		iP		Pn	06 47 49.1	-1.0
ALU					iS		Sn	06 48 58.5	-5.8
MORH	Mrgy, Hungar	6.49	308		ePn		Pn	06 47 49.7	-0.8
MORH	Mrgy, Hungar	6.49	308		P		Pn	06 47 50.1	-0.4
MORH	Mrgy, Hungar	6.49	308		Pn		Pn	06 47 50.1	-0.4
UZH	Uzhgorod	6.70	338		eP		Pn	06 47 56.0	+2.7
UZH					eS		Sn	06 49 14.0	+4.0
UZH					MLR		MLR			
	comp=Z,50nm,13.0s									
AKAS	Kas	6.82	155				Pn	06 47 55.8	+0.7
BLY	Banja Luka	6.82	292		ePn		Pn	06 47 58.2	+3.2
SUDU	Sudak	6.93	67	⇑	iP		Pn	06 47 56.5	0.0
SUDU					iS		Sn	06 49 13.0	-3.8
PSZ	Piszkesteto	6.96	324		P		Pn	06 47 56.2	-0.9
PSZ	Piszkesteto	6.96	324		Pn		Pn	06 47 56.2	-0.9
PSZ	Piszkesteto	6.96	324		P		Pn	06 47 59.0	+1.9
KARP	Karpathos	6.97	172				Pn	06 47 56.0	-1.2
KOLS	Kolonicke sedl	6.98	339		eP		Pn	06 47 59.0	+1.8
KOLS	Kolonicke sedl	6.98	339		ePN		Pn	06 47 59.0	+1.8
KECS	Kecovo	7.17	329		eP		Pn	06 48 00.4	+0.6
KECS	Kecovo	7.17	329		ePN		Pn	06 48 00.4	+0.6
CRVS	Cervenica-Dubn	7.18	335		eP		Pn	06 48 01.4	+1.3
CRVS	Cervenica-Dubn	7.18	335		ePN		Pn	06 48 01.4	+1.3
LVV	L'vov	7.48	350		eP		Pn	06 48 00.5	-3.6
LVV					MLR		MLR			
	comp=E,400nm,7.8s									
LVV					MLR		MLR			
	comp=N,200nm,7.6s									
LVV					MLR		MLR			
	comp=Z,200nm,7.6s									
LUBAR	Lubar, Ukraine	7.54	8		Pn		Pn	06 48 03.2	-1.8
	comp=Z,27nm,0.5s									
MPLH	Magyarpolny	7.65	311		P		Pn	06 48 08.2	+1.8
SGRT	San Giovanni R	7.69	268				Pn	06 48 06.6	-0.5
SGRT	San Giovanni R	7.69	268		P		Pn	06 48 08.2	+1.1
	baz=267									
PTJ	Puntijarka	8.01	299		P		Pn	06 48 14.2	+2.7
NIE	Niedzica	8.01	332		P		Pn	06 48 13.1	+1.6
NIE					pmax		pmax			
	comp=Z,7.0nm,0.7s									
BNN	Bunyan	8.28	113		Pn		Pn	06 48 14.2	-1.1
CRES	Cresnjev	8.31	297		ePn		Pn	06 48 16.1	+0.5
AK06	Malin Array Si	8.40	14		Pn		Pn	06 48 16.5	-0.2
AK06	Malin Array Si	8.40	14		Pn		Pn	06 48 15.5	-1.2
MI30	MI30,Zelenitsa	8.41	9		Pn		Pn	06 48 15.1	-1.7
	comp=Z,16nm,0.8s									
AK10	Malin Array Si	8.42	14		Pn		Pn	06 48 16.8	-0.2
AK10	Malin Array Si	8.42	14		Pn		Pn	06 48 15.8	-1.2
AK14	Malin Array Si	8.43	13		Pn		Pn	06 48 15.4	-1.7
AK05	Malin Array Si	8.44	14		Pn		Pn	06 48 16.8	-0.3
AK05	Malin Array Si	8.44	14		Pn		Pn	06 48 15.5	-1.7
AK05					pP		Pn	06 48 16.6	-0.6
AK09	Malin Array Si	8.45	14		pP		Pn	06 48 17.1	-0.2
AK08	Malin Array Si	8.46	14		Pn		Pn	06 48 15.8	-1.7
AK08					pP		Pn	06 48 17.1	-0.4
AK16	Malin Array Si	8.47	13		Pn		Pn	06 48 15.9	-1.7
AK02	Malin Array Si	8.47	14		Pn		Pn	06 48 17.2	-0.5
AK02	Malin Array Si	8.47	14		Pn		Pn	06 48 16.0	-1.7
AK17	Malin Array Si	8.47	13		Pn		Pn	06 48 16.0	-1.7
AK11	Malin Array Si	8.48	14		Pn		Pn	06 48 17.3	-0.5
AK11	Malin Array Si	8.48	14		pP		Pn	06 48 17.6	-0.3
AK15	Malin Array Si	8.49	13		Pn		Pn	06 48 16.8	-1.2
AK15					pP		Pn	06 48 17.6	-0.4
AK19	Malin Array Si	8.50	13		Pn		Pn	06 48 16.2	-1.9
AK19					pP		Pn	06 48 17.9	-0.2
AK01	Malin Array Si	8.51	14		Pn		Pn	06 48 17.4	-0.7
AK01	Malin Array Si	8.51	14		pP		Pn	06 48 18.1	0.0
AK01					sP		Pn	06 48 18.7	+0.6
AK18	Malin Array Si	8.51	13		Pn		Pn	06 48 16.3	-1.9
AK18					pP		Pn	06 48 17.9	-0.3
AKASG	Malin Array Be	8.52	14		Pn		Pn	06 48 16.8	-1.5
	comp=Z,8.0nm,0.3s,baz=200,slow=11,SNR=19									
AKASG					Lg		Lg	06 50 43.0		
	comp=Z,5.4nm,0.3s,baz=196,slow=27,SNR=4.8									
AKASG	Malin Array Be	8.52	14		iP		Pn	06 48 17.1	-1.2
AKASG					pmax		pmax			
	comp=Z,6.0nm,0.3s									
AKBB	Malin Array Si	8.52	14		P		Pn	06 48 18.2	-0.1
AKBB	Malin Array Si	8.52	14				Pn	06 48 18.2	-0.1
AKBB	Malin Array Si	8.52	14		Pn		Pn	06 48 16.5	-1.8
AKBB					pP		Pn	06 48 18.1	-0.2
AKBB					sP		Pn	06 48 18.9	+0.6
AK04	Malin Array Si	8.53	14		Pn		Pn	06 48 18.1	-0.3
AK04	Malin Array Si	8.53	14		Pn		Pn	06 48 16.5	-1.9
AK04					pP		Pn	06 48 18.1	-0.3
AK03	Malin Array Si	8.54	14		Pn		Pn	06 48 17.4	-1.2
AK03					pP		Pn	06 48 18.4	-0.2
AK22	Malin Array Si	8.55	13		Pn		Pn	06 48 17.3	-1.5
AK22	Malin Array Si	8.55	13		Pn		Pn	06 48 17.1	-1.6
AK

NB2	**NORSAR Subarra**	**20.64**	**339**	P		**P**	**06 50 53.1**	**-1.5**	
	comp=Z,3.2nm,0.7s,baz=150,slow=11								
NOA	**NORSAR Array B**	**20.64**	**339**	P		**P**	**06 50 53.2**	**-1.4**	
	comp=Z,2.3nm,0.7s,baz=145,slow=9.3,SNR=13								
NOA					LR	LR	07 00 29.1		
	comp=Z,6.1nm,21.0s,baz=165,slow=42								
NBO00	**NORSAR Array S**	**20.75**	**339**	P		**P**	**06 50 54.9**	**-0.8**	
NBO00					IAmb	IAmb	06 50 58.6		
	comp=Z,28nm,1.1s								
NC301	**NORSAR Array S**	**20.77**	**340**	P		**P**	**06 50 55.6**	**-0.4**	
NC301					IAmb	IAmb	06 50 57.8		
	comp=Z,8.0nm,0.7s								
NC300	**NORSAR Array S**	**20.78**	**340**	P		**P**	**06 50 56.2**	**+0.2**	
NC300					IAmb	IAmb	06 50 58.1		
	comp=Z,6.5nm,0.8s								
NC204	**NORSAR Array S**	**20.96**	**339**	P		**P**	**06 50 57.6**	**-0.5**	
KIRV	**Kirov**	**21.75**	**34**	*i* P		**P**	**06 51 06.0**	**-0.5**	
ESDC	**Sonseca Array**	**22.74**	**273**	P		**P**	**06 51 18.4**	**+1.0**	
	comp=Z,0.9nm,0.7s,baz=71,slow=10,SNR=7.3								
EKA	**Eskdalemuir Ar**	**22.91**	**314**	P		**P**	**06 51 18.5**	**-0.4**	
	comp=Z,1.4nm,0.6s,baz=114,slow=12,SNR=8.2								
AKTO	**Aktyubinsk**	**23.28**	**59**	P		**P**	**06 51 23.8**	**+0.9**	
	comp=Z,1.3nm,0.8s,baz=265,slow=12,SNR=2.8								
AB08	**Akbulak array**	**24.40**	**62**	P		**P**	**06 51 32.7**	**-0.9**	
AB04	**Akbulak array**	**24.41**	**62**	P		**P**	**06 51 33.8**	**+0.2**	
AB01	**Akbulak array**	**24.41**	**62**	P		**P**	**06 51 33.3**	**-0.4**	
AB31	**Akbulak array**	**24.41**	**62**	P		**P**	**06 51 33.2**	**-0.5**	
ABKAR	**Akbulak array**	**24.41**	**62**	P		**P**	**06 51 33.3**	**-0.4**	
AB05	**Akbulak array**	**24.41**	**62**	P		**P**	**06 51 33.9**	**+0.2**	
ARU	**Arti**	**25.05**	**45**	P		**P**	**06 51 39.5**	**+0.2**	
	comp=Z,1.9nm,0.2s,baz=226,slow=8.7,SNR=5.5								
ARU	**Arti**	**25.05**	**45**	*c i* P		**P**	**06 51 39.1**	**-0.2**	
ARU							06 52 11.5		
ARU					S	**S**	**06 56 06.5**	**+2.6**	
ARU					SS	**SnSn**	**06 56 54.1**	**+1.9**	
ARU					pmax	pmax			
	comp=Z,4.0nm,0.6s								
ARU	**Arti**	**25.05**	**45**	P		**P**	**06 51 39.5**	**+0.2**	
ARU					IAmb	IAmb	06 51 56.1		
	comp=Z,5.9nm,0.6s								
ARCES	**ARCESS Array B**	**27.13**	**360**	P		**P**	**06 51 56.5**	**-1.5**	
	comp=Z,1.5nm,0.7s,baz=97,slow=2.8,SNR=7.0								
ARCES					LR	LR	07 02 45.8		
	comp=Z,57nm,18.7s,baz=30,slow=37								
GAR	**Garm**	**33.44**	**81**	P		**P**	**06 52 54.9**	**+0.6**	
BORG	**Borgarnes**	**34.65**	**326**	LR		LR	07 09 03.0		
	comp=Z,40nm,18.2s,baz=46,slow=40								
AAK	**Ala-Archa**	**35.30**	**73**	*i* P		**P**	**06 53 10.5**	**0.0**	
AAK					pmax	pmax			
	comp=Z,2.0nm,1.1s								
TORD	**Torodi Ar. Bea**	**36.03**	**223**	P		**P**	**06 53 17.9**	**+1.1**	
	comp=Z,0.9nm,0.7s,baz=39,slow=7.9,SNR=5.5								
KURBB	**Kurchatov Arra**	**36.33**	**59**	P		**P**	**06 53 19.3**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=285,slow=7.6,SNR=2.1								
KURK	**Kurchatov**	**36.38**	**58**	P		**P**	**06 53 19.3**	**-0.1**	
MK09	**Makanchi Array**	**39.53**	**64**	P		**P**	**06 53 46.9**	**+0.8**	
MK31	**Makanchi Array**	**39.53**	**64**	*i* P		**P**	**06 53 46.8**	**+0.7**	
MK31	**Makanchi Array**	**39.53**	**64**	P		**P**	**06 53 46.1**	**0.0**	
MKAR	**Makanchi Array**	**39.53**	**64**	P		**P**	**06 53 46.4**	**+0.3**	
	comp=Z,0.5nm,0.6s,baz=286,slow=7.7,SNR=7.1								
MKAR	**Makanchi Array**	**39.53**	**64**	P		**P**	**06 53 46.1**	**0.0**	
MKAR	**Makanchi Array**	**39.53**	**64**	P		**P**	**06 53 46.1**	**0.0**	
MK08	**Makanchi Array**	**39.54**	**64**	P		**P**	**06 53 46.0**	**-0.2**	
MK04	**Makanchi Array**	**39.54**	**64**	P		**P**	**06 53 46.2**	**0.0**	
MK01	**Makanchi Array**	**39.55**	**64**	P		**P**	**06 53 46.1**	**-0.2**	
MK03	**Makanchi Array**	**39.55**	**64**	P		**P**	**06 53 46.2**	**0.0**	
ZAB5	**Zalesovo Array**	**39.69**	**52**	P		**P**	**06 53 47.3**	**0.0**	
ZAA3	**Zalesovo Array**	**39.70**	**52**	P		**P**	**06 53 47.9**	**+0.6**	
ZAA0	**Zalesovo Array**	**39.70**	**52**	P		**P**	**06 53 48.0**	**+0.6**	
ZAA0	**Zalesovo Array**	**39.70**	**52**	P		**P**	**06 53 47.7**	**+0.3**	
ZALV	**Zalesovo Beam**	**39.70**	**52**	P		**P**	**06 53 47.7**	**+0.3**	
	comp=Z,1.0nm,0.5s,baz=282,slow=8.5,SNR=5.4								
ZALV	**Zalesovo Beam**	**39.70**	**52**	P		**P**	**06 53 47.9**	**+0.5**	
ZAA2	**Zalesovo Array**	**39.71**	**52**	P		**P**	**06 53 47.5**	**+0.1**	
WMQ	**Urumqi**	**44.07**	**66**	*eP*		**P**	**06 54 26.3**	**+3.0**	
GOMU	**GeErMu**	**52.25**	**72**	P		P	06 55 22.0	-5.0	
GOMU					pP	pP	06 55 25.1	-3.1	
GOMU					sP	sP	06 55 26.3	-2.4	
GOMU					pmax	pmax			
	comp=Z,4.0nm,0.4s								
GOMU					pmax	pmax			
	comp=Z,58nm,5.0s								
LZH	**Lanzhou**	**58.59**	**68**	*eP*		**P**	**06 56 12.4**	**-0.1**	
LZH					sP	sP	06 56 23.1	+9.0	
LZH					pmax	pmax			
	comp=Z,16nm,1.4s								
HHC	**Hu-ho-hao-te**	**61.17**	**60**	*eP*		**P**	**06 56 31.3**	**+1.2**	
HHC					pmax	pmax			
	comp=Z,17nm,1.0s								
HHC					pmax	pmax			
	comp=Z,270nm,4.7s								
CD2	**Chengdu**	**61.37**	**73**	*eP*		**P**	**06 56 29.9**	**-1.6**	
CD2					LR	LR			
	comp=N,20nm,12.4s								
CD2					LR	LR			
	comp=E,180nm,11.7s								
CD2					LR	LR			
	comp=Z,220nm,15.7s								
PZH	**PanZhiHua**	**62.46**	**78**	P		**P**	**06 56 42.3**	**+3.3**	
PZH					pmax	pmax			
	comp=Z,10.0nm,0.5s								
PZH					pmax	pmax			
	comp=Z,100nm,4.8s								
INK	**Inuvik**	**68.48**	**352**	LR		LR	07 29 41.9		
	comp=Z,41nm,18.1s,baz=14,slow=38								
SADO	**Sadowa**	**70.48**	**313**	LR		LR	07 26 34.2		
	comp=Z,33nm,19.3s,baz=340,slow=34								
YKA	**Yellowknife Ar**	**70.72**	**342**	P		**P**	**06 57 30.4**	**-0.6**	
	comp=Z,0.1nm,0.5s,baz=41,slow=6.5,SNR=4.0								
YKA	**Yellowknife Ar**	**70.72**	**342**	*i* P		**P**	**06 57 31.7**	**+0.7**	
NJ2	**Nanjing**	**71.07**	**64**	*eP*		**P**	**06 57 35.5**	**+1.9**	
NJ2					pmax	pmax			
	comp=Z,18nm,0.5s								
IM02	**Indian Mountai**	**71.86**	**360**	P		**P**	**06 57 38.8**	**+0.9**	
IM01	**Indian Mountai**	**71.86**	**360**	P		**P**	**06 57 38.7**	**+0.8**	
IMAR	**Indian Mountai**	**71.88**	**360**	P		**P**	**06 57 38.6**	**+0.7**	
RCBR	**Riachuelo**	**73.84**	**246**	LR		LR	07 32 37.2		
	comp=Z,73nm,18.2s,baz=328,slow=38								
PPLA	**Purkeypile**	**74.97**	**359**	P		**P**	**06 57 57.3**	**+0.9**	
BBB	**Bella Bella**	**83.10**	**344**	LR		LR	07 37 42.5		
	comp=Z,32nm,19.5s,baz=339,slow=37								
PDAR	**Pinedale Array**	**86.22**	**329**	P		**P**	**06 58 57.1**	**-0.1**	
	comp=Z,0.2nm,0.5s,baz=78,slow=7.7,SNR=4.1								

*IDC **18** 06:56:32.8±1.0, 12°.42N×145°.19E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/54, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/77, Error ellipse: s-maj=40.1km s-min=15.8km az=88.0*

ISC 18 06:56:38.2±1.1, 12°.4N±0°.1×145°.2E±0°.3, h38km, n8, σ0°77/8, mb3.7/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.19**	**346**	Pn	**Pn**	**06 56 58.0**	**-0.3**
	125nm,0.3s,baz=158,slow=11,SNR=38						
GUMO				Sn	**Sn**	**06 57 13.6**	**+0.3**
	282nm,0.3s,baz=149,slow=20,SNR=11						
GUMO				LR	LR	06 57 50.3	
	comp=Z,176nm,19.8s,baz=112,slow=64						
MJAR	**Matsushiro Arr**	**24.81**	**347**	LR	LR	07 11 55.2	
	comp=Z,43nm,18.6s,baz=206,slow=37						
WRA	**Warramunga Arr**	**33.88**	**198**	P	**P**	**07 03 17.4**	**-0.2**
	1.6nm,0.6s,baz=23,slow=9.9,SNR=25						
ASAR	**Alice Springs**	**37.52**	**197**	P	**P**	**07 03 48.8**	**0.0**
	0.4nm,0.5s,baz=27,slow=9.3,SNR=16						
MKAR	**Makanchi Array**	**62.52**	**316**	P	**P**	**07 06 59.2**	**+1.1**
	0.5nm,0.7s,baz=91,slow=7.6,SNR=5.4						
KURBB	**Kurchatov Arra**	**65.69**	**320**	P	**P**	**07 07 17.7**	**-1.1**
	0.4nm,0.6s,baz=104,slow=6.1,SNR=3.2						
ILAR	**Eielson Array**	**69.49**	**25**	P	**P**	**07 07 42.5**	**-0.1**
	0.4nm,0.5s,baz=254,slow=5.7,SNR=12						
LPAZ	**La Paz**	**147.55**	**101**	PKPbc	**PKPbc**	**07 16 20.6**	**+0.5**
	1.0nm,0.7s,baz=255,slow=5.7,SNR=3.4						

*IDC **18** 07:01:09.9±1.1, 32°.42S×71°.40W, h0km, mb3.9/2, mb1 3.8/7, mb1mx3.6/28, mbtmp3.6/7, ML3.5/5, MS3.2/3, Ms1 3.2/3, ms1mx2.8/53, Error ellipse: s-maj=42.2km s-min=26.9km az=102.0*

*SJA **18** 07:01:11.3±0.8, 32°.43S×71°.56W, h14km±2km, ML4.2, MW3.9*

*NEIC **18** 07:01:14.5±1.9, 32°.45S±0°.03×71°.48W±0°.06, h28km±2km, mb4.3/5, ML4.1(GUC), Error ellipse: s-maj=7.3km s-min=4.9km az=96.0*

*GUC **18** 07:01:14.0±0.9, 32°.43S×71°.43W, h41km±2km, ML4.1*

ISC 18 07:01:12.0±1.1, 32°.38S±0°.02×71°.48W±0°.03, h15km±7km, n108, σ1§60/149, mb4.2/3, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.23**	**139**	Pg	**Pb**	**07 01 20.3**	**+2.3**
VA06				Sg	**Sb**	**07 01 25.1**	**+3.1**
VA06	**Catapilco**	**0.23**	**139**	*i* P	**Pb**	**07 01 20.7**	**+2.7**
VA06				*i* S	**Sb**	**07 01 25.1**	**+3.1**
VA06				IAML		07 01 25.5	
	comp=N,57μm,0.3s						
VA01	**Torpederas**	**0.65**	**192**	*eP*	**Pn**	**07 01 26.3**	**-0.5**
VA01				*i* S	**Sb**	**07 01 35.1**	**+1.0**
VA01				IAML		07 01 36.4	
	comp=N,12μm,0.1s						
VA01	**Torpederas**	**0.65**	**192**	*eP*	**Pn**	**07 01 26.3**	**-0.5**
VA03	**San Esteban**	**0.87**	**116**		**Pn**	**07 01 29.5**	**-0.4**
VA03				Sn	**Sn**	**07 01 41.3**	**-1.1**
VA03	**San Esteban**	**0.87**	**116**	*i P*	**Pn**	**07 01 29.5**	**-0.4**
VA03				*i* S	**Sn**	**07 01 41.2**	**-1.1**
VA03	**San Esteban**	**0.87**	**116**	*eP*	**Pg**	**07 01 29.1**	**+0.2**
VA03				*eP*	**Pn**	**07 01 29.5**	**-0.4**
VA03				*eS*	**Sg**	**07 01 40.5**	**+0.1**
MT02	**Curacav**	**0.92**	**162**		**Pb**	**07 01 29.7**	**0.0**
MT05	**Renca**	**1.18**	**148**	Pn	**Pn**	**07 01 34.1**	**-0.1**
MT05				Sn	**Sb**	**07 01 48.7**	**-0.7**
MT05	**Renca**	**1.18**	**148**	*eP*	**Pn**	**07 01 34.0**	**-0.1**
MT05				*i* S	**Sb**	**07 01 48.8**	**-0.7**
MT05				IAML		07 01 51.8	
	comp=N,14μm,0.2s						
MT05	**Renca**	**1.18**	**148**	*eP*	Pn	07 01 28.6	-5.6
MT05				*eP*	**Pn**	**07 01 34.1**	**-0.1**
MT05				*eS*	**Sg**	**07 01 50.6**	**+0.3**
MT05				IAML		07 01 53.3	
	comp=Z,4μm,0.2s						
CO02	**Combarbal**	**1.25**	**19**	Pn	**Pg**	**07 01 36.4**	**+0.4**
CO02	**Combarbal**	**1.25**	**19**	*i* P	**Pg**	**07 01 36.4**	**+0.4**
CO02				*i* S	**Sg**	**07 01 53.3**	**+1.0**
CO02				IAML		07 01 54.3	
	comp=N,11μm,0.2s						
CO02	**Combarbal**	**1.25**	**19**	*eP*	**Pg**	**07 01 36.4**	**+0.4**
CO02				*eS*	**Sg**	**07 01 54.5**	**+2.3**
CO02				IAML		07 01 57.7	
	comp=Z,3μm,0.1s						
VA05	**Santo Domingo**	**1.27**	**185**		**Pb**	**07 01 36.0**	**+0.3**
VA05				Sn	**Sg**	**07 01 52.8**	**-0.4**
VA05	**Santo Domingo**	**1.27**	**185**	*eP*	**Pb**	**07 01 36.1**	**+0.3**
VA05				*i* S	**Sn**	**07 01 52.2**	**0.0**
VA05				IAML		07 01 55.2	
	comp=E,8μm,0.3s						
FCH	**Farellones**	**1.37**	**134**	*i* P	**Pn**	**07 01 37.2**	**+0.2**
FCH				*i* S	**Sn**	**07 01 53.8**	**-1.3**
FCH				IAML		07 01 54.8	
	comp=E,12μm,0.2s						
MT03	**Universidad Ad**	**1.38**	**144**		**Pb**	**07 01 37.2**	**-0.4**
MT03	**Universidad Ad**	**1.38**	**144**	*eP*	**Pb**	**07 01 37.1**	**-0.4**
MT03				*i* S	**Sn**	**07 01 53.8**	**-1.0**
MT03	**Universidad Ad**	**1.38**	**144**	*eP*	Pn	07 01 31.6	-5.2
MT03				*eP*	**Pb**	**07 01 37.1**	**-0.4**
MT03				*eS*	**Sb**	**07 01 55.1**	**+0.1**
MT03				IAML		07 01 55.8	
	comp=Z,10μm,0.1s						
MT09	**Talagante**	**1.45**	**164**		**Pn**	**07 01 38.1**	**+0.2**
MT09	**Talagante**	**1.45**	**164**	*eP*	**Pn**	**07 01 38.2**	**+0.3**
MT09				*i* S	**Sb**	**07 01 57.0**	**-0.2**
MT09				IAML		07 02 02.5	
	comp=N,7μm,0.2s						
CO03	**El Pedregal**	**1.68**	**24**		**Pb**	**07 01 43.3**	**+0.6**
CO03	**El Pedregal**	**1.68**	**24**	*eP*	**Pb**	**07 01 43.3**	**+0.6**
CO03				*i* S	**Sb**	**07 02 04.3**	**+0.5**
CO03				IAML		07 02 10.6	
	comp=E,2μm,0.3s						
CO03	**El Pedregal**	**1.68**	**24**	*eP*	**Pb**	**07 01 43.4**	**+0.6**
CO03				*eS*	**Sg**	**07 02 06.8**	**+0.7**
CO03				IAML		07 02 07.8	
	comp=Z,1μm,0.2s						
CO06	**Fray Jorge**	**1.71**	**356**		**Pb**	**07 01 43.0**	**-0.2**
CO06	**Fray Jorge**	**1.71**	**356**	*eP*	**Pb**	**07 01 42.8**	**-0.4**
BO04	**La Punta**	**1.76**	**156**		**Pn**	**07 01 42.6**	**+0.6**
BO04	**La Punta**	**1.76**	**156**	*i* P	**Pn**	**07 01 42.7**	**+0.6**
BO04				*i* S	**Sn**	**07 02 04.0**	**-0.2**
BO04				IAML		07 02 08.5	
	comp=N,4μm,0.2s						
AUSP	**Uspallata**	**1.78**	**85**	*eP*	**Pg**	**07 01 45.8**	**-0.4**
AUSP				*eS*	**Sg**	**07 02 08.0**	**-1.3**
RTLS	**Leoncito**	**1.94**	**73**	*eP*	**Pg**	**07 01 48.6**	**-0.7**
RTLS				*eS*	**Sg**	**07 02 15.2**	**+0.7**
RTLS				IAML		07 02 20.6	
	comp=Z,1μm,0.6s						
BO01	**Tunca**	**2.03**	**171**	Pn	**Pn**	**07 01 47.0**	**+1.3**
BO01	**Tunca**	**2.03**	**171**	*eP*	**Pn**	**07 01 47.0**	**+1.3**
BO01				*i* S	**Sn**	**07 02 11.5**	**+0.6**
BO01				IAML		07 02 28.8	
	comp=E,827nm,0.3s						
BO01	**Tunca**	**2.03**	**171**	*eP*	**Pn**	**07 01 46.9**	**+1.1**
BO01				*eP*	**Pn**	**07 01 47.0**	**+1.3**
BO01				*eS*	**Sb**	**07 02 12.3**	**-1.4**
BO03	**Pichilemu**	**2.15**	**191**	*eP*	**Pn**	**07 01 47.2**	**-0.1**
BO03				*i* S	**Sg**	**07 02 20.4**	**-0.6**
BO03				IAML		07 02 25.5	
	comp=N,724nm,0.5s						
ARCO	**CERRO ARCO**	**2.20**	**103**	*eP*	**Pb**	**07 01 52.5**	**+0.9**
ARCO				*eS*	**Sg**	**07 02 21.8**	**-0.9**
ARCO				IAML		07 02 24.3	
	comp=Z,1μm,0.7s						
ASAL	**Salagasta**	**2.25**	**96**	*eP*	**Pb**	**07 01 53.2**	**+0.9**
ASAL				*eS*	**Sb**	**07 02 19.1**	**-0.9**
GO04	**Tololo Observa**	**2.28**	**15**	Pn	**Pb**	**07 01 52.0**	**-1.0**
GO04	**Tololo Observa**	**2.28**	**15**	IAML		07 02 32.7	
	comp=N,4μm,0.6s						
GO04	**Tololo Observa**	**2.28**	**15**	*eP*	**Pb**	**07 01 52.0**	**-1.0**
GO04				*eS*	**Sb**	**07 02 22.6**	**+1.5**
AAGR	**Agrelo**	**2.34**	**108**	*eP*	**Pb**	**07 01 54.3**	**+0.3**
AAGR				*eP*	**Pg**	**07 01 54.5**	**-2.4**
AAGR				*eS*	**Sg**	**07 02 24.9**	**-2.4**
CO05	**La Serena**	**2.47**	**5**		**Pn**	**07 01 53.6**	**+1.9**
CO05	**La Serena**	**2.47**	**5**	*eP*	**Pn**	**07 01 54.2**	**+2.5**
CO05				*i* S	**Sn**	**07 02 24.1**	**+2.5**
CO05				IAML		07 02 40.1	
	comp=N,900nm,0.4s						
ZON	**Zonda**	**2.52**	**71**	Pn	**Pb**	**07 01 56.7**	**-0.4**
ZON	**Zonda**	**2.52**	**71**	*eP*	**Pb**	**07 01 56.8**	**-0.3**
ZON				*eS*	**Sb**	**07 02 29.6**	**+1.6**
RTCV	**Cerro Valdivia**	**2.55**	**79**	*eP*	**Pb**	**07 01 57.7**	**+0.2**
RTCV				*eS*	**Sb**	**07 02 29.1**	**+0.4**
GO05	**Huala**	**2.65**	**188**	Pn	**Pn**	**07 01 54.4**	**+0.2**
GO05	**Huala**	**2.65**	**188**	IAML		07 02 58.6	
	comp=N,447nm,0.2s						
GO05	**Huala**	**2.65**	**188**	*eP*	**Pn**	**07 01 54.2**	**0.0**
GO05				*eS*	**Sn**	**07 02 19.6**	**-6.5**
CO01	**Juntas del Tor**	**2.68**	**27**		**Pb**	**07 01 58.3**	**-1.5**
CO01	**Juntas del Tor**	**2.68**	**27**	*i* S	**Sb**	**07 02 33.4**	**+0.8**
CO01				IAML		07 02 41.3	
	comp=N,372nm,0.5s						
CO01	**Juntas del Tor**	**2.68**	**27**	*eP*	**Pb**	**07 01 58.1**	**-1.7**
CO01				*eS*	**Sb**	**07 02 30.1**	**-2.5**
CO01				*eS*	**Sg**	**07 02 36.6**	**-1.5**
ACCO	**Cerro Coronel**	**2.73**	**50**	*eP*	**Pb**	**07 02 00.3**	**-0.5**
ACCO				*eS*	**Sb**	**07 02 31.6**	**-2.6**
RTLL	**Cerro Villicun**	**2.76**	**68**	*eP*	**Pb**	**07 01 59.6**	**-1.6**
RTLL				*eS*	**Sn**	**07 02 28.6**	**-0.5**
RTLL				*eS*	**Sg**	**07 02 34.1**	**-0.8**
AROD	**Rodeo**	**2.80**	**38**	*eP*	**Pb**	**07 02 01.0**	**-0.9**
AROD				*eS*	**Sb**	**07 02 35.1**	**-1.1**
ML02	**Panimavida**	**3.37**	**179**		**Pn**	**07 02 05.1**	**+1.0**
ML02	**Panimavida**	**3.37**	**179**	*eP*	**Pn**	**07 02 06.6**	**+2.5**
ML02				*i* S	**Sb**	**07 02 55.3**	**+3.0**
ML02				IAML		07 02 58.4	
	comp=N,839nm,0.6s						
LCO	**Las Campanas**	**3.43**	**11**		**Pn**	**07 02 07.2**	**+2.0**
LCO	**Las Campanas**	**3.43**	**11**	*eP*	**Pn**	**07 02 07.6**	**+2.4**
RFA	**San Rafael**	**3.46**	**134**	*eP*	**Pn**	**07 02 08.0**	**+2.5**
RFA				*eS*	**Sg**	**07 03 02.5**	**-0.8**
RFA				*eS*	**Sg**	**07 03 07.6**	**+4.3**
AVFE	**Valle Fertil**	**3.84**	**64**	*eP*	**Pn**	**07 02 14.2**	**+3.5**
AVFE				*eS*	**Sg**	**07 03 13.6**	**-1.8**
AVFE				IAML		07 03 18.9	
	comp=Z,316nm,0.8s						
AC04	**Llanos de Chal**	**4.18**	**5**	Pn	**Pn**	**07 02 16.6**	**+1.4**
AC04	**Llanos de Chal**	**4.18**	**5**	*eP*	**Pn**	**07 02 16.7**	**+1.4**
AC04				*eS*	**Sb**	**07 03 17.1**	**+1.5**
AC04				IAML		07 03 40.3	
	comp=Z,128nm,0.5s						
BI05	**Punta Hualpn**	**4.58**	**197**	Pn	**Pn**	**07 02 18.4**	**-2.3**
VCA	**Vinchina**	**4.60**	**39**	*eS*	**Sb**	**07 03 28.1**	**+0.1**
VCA				IAML		07 03 47.7	
	comp=Z,232nm,1.5s						
APLL	**PUNTA DE LOS L**	**4.67**	**66**	*eP*	**Pn**	**07 02 25.3**	**+3.1**
APLL				*eS*	**Sg**	**07 03 36.6**	**-5.5**
ACLC	**CERRO LA CRUZ**	**4.88**	**54**	*eP*	**Pn**	**07 02 28.6**	**+3.5**
ACLC				*eS*	**Sn**	**07 03 25.6**	**+4.1**
ACLC				IAML		07 03 48.2	
	comp=Z,232nm,0.9s						
GO03	**Copiap**	**4.89**	**13**	Pn	**Pn**	**07 02 27.2**	**+2.0**
AC06	**Mina Casimiro**	**5.10**	**11**	Pn	**Pn**	**07 02 29.2**	**+1.2**
AC02	**Maricunga**	**5.89**	**21**	Pn	**Pn**	**07 02 41.6**	**+2.3**
AC02	**Maricunga**	**5.89**	**21**	*eP*	**Pn**	**07 02 42.0**	**+2.7**
AC01	**Pan de Azucar**	**6.26**	**7**	Pn	**Pn**	**07 02 44.5**	**+0.6**
LC01	**Cunco**	**6.51**	**183**	Pn	**Pn**	**07 02 47.1**	**-0.2**
LR03	**Panguipulli**	**7.27**	**185**	Pn	**Pn**	**07 02 56.7**	**-1.0**
GO02	**Mina Guanaco**	**7.38**	**13**	Pn	**Pn**	**07 03 02.5**	**+2.9**
GO02	**Mina Guanaco**	**7.38**	**13**	*eP*	**Pn**	**07 03 01.8**	**+2.2**
PLCA	**Paso Flores**	**8.37**	**175**	Pn	**Pn**	**07 03 13.2**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=352,slow=12,SNR=9.4						
PLCA	**Paso Flores**	**8.37**	**175**	Pn	**Pn**	**07 03 13.9**	**+1.1**
LL04	**Puerto Octay**	**8.54**	**185**	Pn	**Pn**	**07 03 14.7**	**-0.5**
LL05	**Los Muermos**	**9.14**	**189**	Pn	**Pn**	**07 03 22.7**	**-0.7**
PB15	**IPOC Station P**	**9.31**	**11**	Pn	**Pn**	**07 03 26.3**	**+0.3**
LVC	**Limon Verde**	**10.00**	**14**	Pn	**Pn**	**07 03 36.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=206,slow=10,SNR=1.7						
LVC	**Limon Verde**	**10.00**	**14**	Pn	**Pn**	**07 03 37.8**	**+2.3**
ITQB	**Itaqui**	**13.02**	**82**		**Pn**	**07 04 15.5**	**-1.1**
CPUP	**Villa Florida**	**13.73**	**68**	Pn	**Pn**	**07 04 25.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=231,slow=14,SNR=4.0						
CPUP				LR	LR	07 10 02.6	
	comp=Z,91nm,19.7s,baz=235,slow=39						
PLTB	**Pedras Altas**	**15.17**	**92**	Pn	**Pn**	**07 04 45.2**	**-0.6**
PLTB				IAmb	IAmb	07 04 53.1	
	comp=Z,22nm,1.5s						
LPAZ	**La Paz**	**16.31**	**12**	Pn	**Pn**	**07 05 02.4**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=270,slow=7.1,SNR=1.8						
SIV	**San Ignacio**	**18.86**	**33**	P	**P**	**07 05 31.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=204,slow=11,SNR=5.4						
SIV				LR	LR	07 12 58.6	
	comp=Z,62nm,20.9s,baz=288,slow=38						
RPN	**Rapa Nui**	**33.16**	**269**	LR	LR	07 18 32.3	
	comp=Z,48nm,18.4s,baz=67,slow=31						
QSPA	**South Pole Qui**	**57.85**	**180**	P	**P**	**07 11 03.5**	**+0.6**
QSPA				IAmb	IAmb	07 11 05.3	
	comp=Z,7.0nm,1.4s						
TXAR	**Lajitas Array**	**68.56**	**330**	P	**P**	**07 12 15.3**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=148,slow=7.4,SNR=3.0						
TXAR	**Lajitas Array**	**68.56**	**330**	P	**P**	**07 12 15.6**	**+1.3**
TX31	**Lajitas Ar. Si**	**68.56**	**330**	P	**P**	**07 12 15.6**	**+1.3**
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P	**P**	**07 13 37.8**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=259,slow=4.6,SNR=6.1						
TORD	**Torodi Ar. Bea**	**83.22**	**70**	IAmb	IAmb	07 13 40.0	
	comp=Z,1.7nm,0.8s						
HNR	**Honiara**	**115.70**	**239**	PKP	**PKPdf**	**07 19 54.5**	**0.0**
	comp=Z,253nm,0.5s,baz=152,slow=6.3,SNR=5.3						
HNR	**Honiara**	**115.70**	**239**		**PKPdf**	**07 19 53.5**	**-1.0**
H11S2	**WAKE ISLAND Hyl**	**26.

KRSH				*e*			07 10 16.7	
	comp=Z,4μm,0.3s							
IQOM	**Qom**	**2.61**	**29**	*e*Pn		**Pn**	**07 09 41.8**	**+2.5**
IQOM				*e*			07 09 42.5	
	comp=Z,4μm,0.4s							
KCHF	**Cheshme Sefid,**	**2.71**	**310**	*e*Pn		**Pn**	**07 09 42.5**	**+1.8**
KCHF				*e*			07 10 29.2	
	comp=Z,4μm,0.6s							
KER	**Kermanshah**	**2.73**	**313**	*e*Pn		**Pn**	**07 09 42.7**	**+1.9**
IRAZ	**Razeghan**	**2.86**	**6**	*e*Pn		**Pn**	**07 09 45.3**	**+2.6**
ISFB	**Sefidab**	**2.88**	**51**	*e*Pn		**Pn**	**07 09 44.6**	**+1.8**
ISFB				*e*			07 10 29.5	
	comp=Z,2μm,0.5s							
IVRN	**Varamin**	**3.04**	**36**	*e*Pn		**Pn**	**07 09 47.1**	**+2.1**
IVRN				*e*			07 09 53.6	
	comp=Z,2μm,1.0s							
IGHG	**Ghaleghazi**	**3.06**	**306**	*e*Pn		**Pn**	**07 09 47.0**	**+1.5**
IGHG				*e*			07 10 57.9	
	comp=Z,3μm,0.8s							
SNGE	**Sanandaj**	**3.13**	**325**	*e*Pn		**Pn**	**07 09 45.4**	**-1.0**
QABG	**Abgarm-Qazvin**	**3.15**	**0**	*e*Pn		**Pn**	**07 09 47.3**	**+0.6**
ILIN	**Lien**	**3.20**	**318**	*e*Pn		**Pn**	**07 09 49.0**	**+1.6**
ILIN				*e*			07 10 50.0	
	comp=Z,1μm,0.6s							
IHSB	**Hasanabad**	**3.22**	**26**	*e*Pn		**Pn**	**07 09 49.9**	**+2.4**
IMHD	**Mahdasht**	**3.26**	**16**	*e*Pn		**Pn**	**07 09 50.4**	**+2.3**
IMHD				*e*			07 10 48.0	
	comp=Z,1μm,0.6s							
IDHR	**Dehrash**	**3.40**	**310**	*e*Pn		**Pn**	**07 09 51.5**	**+1.4**
ISAD	**Sadrabad**	**3.56**	**99**	*e*Pn		**Pn**	**07 09 54.1**	**+1.7**
ISAD				*e*			07 11 09.9	
	comp=Z,725nm,0.6s							
ANAR	**Anarak**	**3.57**	**79**	*e*Pn		**Pn**	**07 09 54.4**	**+2.0**
CHTH	**Charan**	**3.59**	**21**	*e*Pn		**Pn**	**07 09 55.0**	**+2.2**
IDMV	**Damavand**	**3.65**	**34**	*e*Pn		**Pn**	**07 09 55.9**	**+2.2**
DAMV	**Damavand**	**3.67**	**33**	*e*Pn		**Pn**	**07 09 56.3**	**+2.4**
IGZV	**Ghazvin**	**3.87**	**8**	*e*Pn		**Pn**	**07 09 58.3**	**+1.8**
AHBU	**AHRAM**	**3.97**	**157**	*e*Pn		**Pn**	**07 09 58.9**	**+1.2**
QALM	**Alamut, Qazvin**	**3.98**	**13**	*e*Pn		**Pn**	**07 09 59.8**	**+1.7**
ILAS	**Lasjerd**	**4.00**	**44**	*e*Pn		**Pn**	**07 10 00.1**	**+1.7**
IFIR	**Firoozkooh**	**4.07**	**40**	*e*Pn		**Pn**	**07 10 01.5**	**+2.1**
ZNJK	**Zanjan**	**4.17**	**350**	*e*Pn		**Pn**	**07 10 02.4**	**+1.7**
YZKH	**Yazd**	**4.26**	**91**	*e*Pn		**Pn**	**07 10 04.0**	**+2.1**
IPRN	**Peran**	**4.34**	**31**	*e*			07 10 25.8	
IPRN	comp=Z,1μm,0.6s			*e*Pn		**Pn**	**07 10 05.4**	**+2.4**
ISHM	**Shahmirzad**	**4.49**	**43**	*e*Pn		**Pn**	**07 10 07.4**	**+2.2**
IANJ	**Anjilo**	**4.65**	**50**	*e*Pn		**Pn**	**07 10 08.5**	**+1.2**
IBAF	**Bafgh**	**5.20**	**99**	*e*Pn		**Pn**	**07 10 16.3**	**+1.5**
IGLO	**Ghaloghah**	**5.29**	**41**	*e*Pn		**Pn**	**07 10 19.2**	**+3.1**
TPRV	**Parvadeh(Tabas**	**6.03**	**84**	*e*Pn		**Pn**	**07 10 28.1**	**+2.0**
IHRS	**Heris**	**6.11**	**341**	*e*Pn		**Pn**	**07 10 28.5**	**+1.2**
SHRO	**Shahrood**	**6.35**	**56**	*e*Pn		**Pn**	**07 10 32.9**	**+2.3**
GRMI	**Germi**	**6.39**	**348**	*e*Pn		**Pn**	**07 10 32.9**	**+1.8**
TKDS	**Koohdasht(Taba**	**6.44**	**78**	*e*Pn		**Pn**	**07 10 33.2**	**+1.4**
TABS	**Tabas**	**6.45**	**78**	*e*Pn		**Pn**	**07 10 33.6**	**+1.7**
MRVT	**Maraveh tapeh**	**7.39**	**45**	*e*Pn		**Pn**	**07 10 47.0**	**+2.2**
SBZV	**Sabzevar**	**7.68**	**58**	*e*Pn		**Pn**	**07 10 50.6**	**+1.7**
GNI	**Garni**	**8.52**	**334**	LR		LR	07 14 16.1	
	comp=Z,24nm,18.6s,baz=164,slow=37							
SHRT	**Shahrakht**	**9.08**	**80**	*e*Pn		**Pn**	**07 11 10.4**	**+2.4**
WSAR	**Wadi Sarin**	**12.26**	**137**	Pn		Pn	07 11 46.6	-4.9
	comp=Z,0.8nm,0.3s,baz=101,slow=7.0,SNR=4.7							
KBZ	**Khabaz**	**12.32**	**337**	LR		LR	07 17 03.7	
	comp=Z,65nm,19.5s,baz=128,slow=39							
AKTO	**Aktyubinsk**	**18.94**	**17**	P		**P**	**07 13 18.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=196,slow=14,SNR=4.4							
MLR	**Muntele Rosu**	**22.34**	**312**	P		**P**	**07 13 58.0**	**+3.3**
	comp=Z,3.3nm,0.7s,baz=264,slow=4.2,SNR=6.3							
KURBB	**Kurchatov Arra**	**27.95**	**41**	P		**P**	**07 14 46.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=243,slow=9.4,SNR=4.8							
MKAR	**Makanchi Array**	**28.70**	**51**	P		**P**	**07 14 53.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=247,slow=8.6,SNR=7.8							
GERES	**GERESS Array B**	**31.33**	**312**	P		**P**	**07 15 16.3**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=114,slow=6.6,SNR=3.9							
FINES	**FINESS Array B**	**32.66**	**339**	P		**P**	**07 15 28.6**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=178,slow=14,SNR=3.5							
ARCES	**ARCESS Array B**	**39.42**	**347**	P		**P**	**07 16 25.1**	**-1.1**
	comp=Z,3.2nm,1.0s,baz=165,slow=8.4,SNR=2.3							
TORD	**Torodi Ar. Bea**	**47.70**	**258**	P		**P**	**07 17 31.5**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=68,slow=8.0,SNR=1.9							
YKA	**Yellowknife Ar**	**84.43**	**353**	P		**P**	**07 21 26.7**	**-2.1**
	comp=Z,0.3nm,0.8s,baz=9.5,slow=5.2,SNR=4.9							

*IDC **18** 07:10:34.7±1.5, 32.48N×49.43E, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.5/43, mbtmp3.7/11, ML3.8/2, MS2.8/1, Ms1 2.9/1, ms1mx2.2/80, Error ellipse: s-maj=32.3km s-min=24.3km az=174.0*

*TEH **18** 07:10:38.6, 32.56N×49.57E, h9km, ML3.7*

ISC 18 07:10:38.3±0.6, 32.65N±0.03×49.55E±0.03, h19km, n44, σ1§60/47, mb3.5/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**1.01**	**193**	*e*Pg	**Pn**	**07 10 57.1**	**-0.4**
AMIS				*e*Sg	**Sn**	**07 11 10.6**	**-0.6**
IPIR	**Pirpir**	**1.13**	**88**	*e*Pg	**Pg**	**07 11 00.3**	**-0.1**
KHMZ	**Khomeyn**	**1.14**	**18**	*e*Pg	**Pg**	**07 11 02.9**	**+2.5**
SHK1	**Shahrekord**	**1.18**	**106**	*e*Pg	**Pg**	**07 11 00.8**	**-0.4**
SHK1				*e*Sg	**Sg**	**07 11 18.0**	**+1.4**
SHK1				*e*		07 11 20.5	
	comp=Z,14μm,0.6s						
AHWZ	**Ahwaz**	**1.53**	**210**	*e*Pg	**Pb**	**07 11 06.0**	**0.0**
IBRJ	**Brojen**	**1.63**	**117**	*e*Sg	**Sg**	**07 11 30.8**	**-0.3**
IBRJ				*e*Pg	**Pb**	**07 11 08.0**	**+0.1**
IBRJ				*e*		07 11 34.2	
	comp=Z,10μm,0.4s						
IKFM	**Kafar-mosalman**	**1.67**	**302**	*e*Pn	**Pg**	**07 11 10.6**	**+0.1**
IKFM				*e*		07 11 43.0	
	comp=Z,13μm,0.6s						
HSAM	**Samen**	**1.74**	**333**	*e*Pn	**Pg**	**07 11 12.9**	**+1.0**
IKLH	**Kolahrood**	**1.83**	**68**	*e*Pn	**Pg**	**07 11 13.0**	**-0.6**
IKLH				*e*		07 11 48.0	
	comp=Z,9μm,0.4s						
QAMS	**Qamsar**	**1.89**	**55**	*e*Pn	**Pg**	**07 11 14.4**	**-0.3**
QAMS				*e*		07 11 43.9	
	comp=Z,11μm,0.4s						
DHL1	**Dehloran**	**1.91**	**271**	*e*Pn	**Pb**	**07 11 13.6**	**+1.0**
ASAO	**Ashtian**	**1.93**	**12**	*e*Pn	**Pg**	**07 11 15.6**	**+0.1**
IGAR	**Gharneh**	**2.12**	**96**	*e*Pn	**Pb**	**07 11 16.0**	**-0.3**
IGAR				*e*		07 11 48.6	
	comp=Z,6μm,0.2s						
HAGD	**Aghdareh**	**2.19**	**351**	*e*Pn	**Pg**	**07 11 18.8**	**-1.6**
HAGD				*e*		07 11 53.7	
	comp=Z,3μm,0.6s						
IBZA	**Bozab**	**2.29**	**323**	*e*Pn	**Pb**	**07 11 19.7**	**+0.4**
IBZA				*e*		07 12 06.5	
	comp=Z,3μm,0.9s						
GHVR	**GHOM**	**2.33**	**38**	*e*Pn	**Pb**	**07 11 20.5**	**+0.7**
IZEF	**Zefreh**	**2.36**	**83**	*e*Pn	**Pb**	**07 11 19.7**	**-0.6**
IZEF				*e*		07 11 54.8	
	comp=Z,3μm,0.5s						
KLNJ	**Kolanjah**	**2.39**	**133**	*e*Pn	**Pb**	**07 11 20.2**	**-0.8**
KLNJ				*e*		07 11 58.9	
	comp=Z,7μm,0.4s						
IQOM	**Qom**	**2.52**	**30**	*e*Pn	**Pb**	**07 11 23.3**	**+0.1**
IQOM				*e*		07 11 23.6	
	comp=Z,4μm,0.3s						
KRSH	**Karshahi**	**2.53**	**58**	*e*Pn	**Pb**	**07 11 22.9**	**-0.4**
KRSH				*e*		07 11 57.9	
	comp=Z,4μm,0.3s						
IRAM	**Ramesheh**	**2.54**	**109**	*e*Pn	**Pb**	**07 11 22.3**	**-1.2**
IRAM				*e*		07 12 08.1	
	comp=Z,2μm,0.4s						
KCHF	**Cheshme Sefid,**	**2.65**	**308**	*e*Pn	**Pb**	**07 11 23.6**	**-1.6**
KCHF				*e*		07 12 17.6	
	comp=Z,3μm,0.6s						
KER	**Kermanshah**	**2.66**	**311**	*e*Pn	**Pb**	**07 11 23.6**	**-1.8**
IRAZ	**Razeghan**	**2.76**	**6**	*e*Pn	**Pb**	**07 11 26.9**	**-0.3**
ISFB	**Sefidab**	**2.82**	**52**	*e*Pn	**Pb**	**07 11 26.2**	**-1.9**
ISFB				*e*		07 12 10.7	
	comp=Z,1μm,0.5s						
ILIN	**Lien**	**3.12**	**317**	*e*Pn	**Pb**	**07 11 30.2**	**-3.1**
ILIN				*e*		07 11 30.6	
	comp=Z,1μm,0.4s						
IHSB	**Hasanabad**	**3.13**	**27**	*e*Pn	**Pb**	**07 11 31.2**	**-2.2**
IMHD	**Mahdasht**	**3.16**	**17**	*e*Pn	**Pb**	**07 11 31.1**	**-2.9**
IMHD				*e*		07 11 43.8	
	comp=Z,2μm,0.4s						
CHTH	**Charan**	**3.50**	**21**	*e*Pn	**Pb**	**07 11 36.7**	**-3.1**
ANAR	**Anarak**	**3.56**	**80**	*e*Pn	**Pn**	**07 11 35.6**	**+3.0**
DAMV	**Damavand**	**3.58**	**33**	*e*Pn	**Pb**	**07 11 38.0**	**-3.3**
AHBU	**AHRAM**	**4.07**	**158**	*e*Pn	**Pn**	**07 11 40.5**	**+1.0**
WSAR	**Wadi Sarin**	**12.34**	**137**	Pn	**Pn**	**07 13 30.7**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=306,slow=19,SNR=4.4						
AKTO	**Aktyubinsk**	**18.84**	**17**	P	**Pn**	**07 14 58.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=213,slow=14,SNR=3.0						
MLR	**Muntele Rosu**	**22.27**	**312**	P	**P**	**07 15 38.6**	**+4.3**
	comp=Z,3.4nm,0.7s,baz=184,slow=1.3,SNR=5.3						
KURBB	**Kurchatov Arra**	**27.87**	**41**	P	**P**	**07 16 28.1**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=245,slow=9.5,SNR=3.4						
MKAR	**Makanchi Array**	**28.64**	**51**	P	**P**	**07 16 34.9**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=246,slow=9.1,SNR=5.1						
GERES	**GERESS Array B**	**31.25**	**312**	P	**P**	**07 16 56.9**	**0.0**
	comp=Z,0.3nm,0.4s,baz=106,slow=10,SNR=2.0						
FINES	**FINESS Array B**	**32.57**	**339**	P	**P**	**07 17 08.5**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=139,slow=8.7,SNR=1.4						
ZALV	**Zalesovo Beam**	**32.83**	**39**	P	**P**	**07 17 11.1**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=250,slow=11,SNR=3.4						
NOA	**NORSAR Array B**	**37.71**	**330**	P	**P**	**07 17 52.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=121,slow=8.0,SNR=2.0						
NOA				LR	LR	07 35 03.8	
	comp=Z,13nm,18.1s,baz=115,slow=39						
ARCES	**ARCESS Array B**	**39.32**	**347**	P	**P**	**07 18 06.3**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=146,slow=8.8,SNR=2.0						
TORD	**Torodi Ar. Bea**	**47.72**	**257**	P	**P**	**07 19 12.6**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=45,slow=7.5,SNR=1.9						
YKA	**Yellowknife Ar**	**84.33**	**353**	P	**P**	**07 23 08.3**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=15,slow=5.2,SNR=3.1						

*IDC **18** 07:22:37.3±5.5, 8.34S×158.57E, h93km±72km, mb3.3/5, mb1 3.4/5, mb1mx3.2/27, mbtmp3.6/5, Error ellipse: s-maj=67.4km s-min=28.9km az=132.0*

ISC 18 07:22:37.8±1.1, 8.34S±0.2×158.6E±0.1, h100km, n12, σ0§92/7, mb3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.72**	**127**	P	**Pn**	**07 23 07.3**	**+0.5**
	77nm,0.3s,baz=191,slow=5.2,SNR=18						
HNR				S	**Sn**	**07 23 28.4**	**-0.5**
	93nm,0.3s,baz=167,slow=22,SNR=13						
WRA	**Warramunga Arr**	**26.10**	**241**	P	**P**	**07 28 03.2**	**+0.6**
	0.4nm,0.4s,baz=65,slow=8.8,SNR=12						
H11S3	**WAKE ISLAND Hy**	**27.89**	**17**	T	T	07 56 51.3	
	baz=198,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**27.89**	**17**	T	T	07 56 50.7	
	baz=198,slow=76,SNR=51						
H11S1	**WAKE ISLAND Hy**	**27.90**	**17**	T	T	07 56 55.6	
	baz=198,slow=76,SNR=27						
ASAR	**Alice Springs**	**28.08**	**234**	P	**P**	**07 28 20.1**	**-0.2**
	0.2nm,0.5s,baz=65,slow=9.4,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**29.10**	**16**	T	T	07 58 44.8	
	baz=196,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**29.11**	**16**	T	T	07 58 51.0	
	baz=196,slow=76,SNR=17						
H11N2	**WAKE ISLAND Hy**	**29.12**	**16**	T	T	07 58 53.3	
	baz=196,slow=76,SNR=16						
FITZ	**Fitzroy Crossi**	**33.41**	**250**	P	**P**	**07 29 07.5**	**+0.2**
	0.6nm,0.6s,baz=27,slow=7.5,SNR=1.5						
SONM	**Songino Array**	**72.43**	**326**	P	**P**	**07 33 54.4**	**+0.9**
	1.0nm,0.6s,baz=144,slow=5.2,SNR=6.3						
MKAR	**Makanchi Array**	**86.79**	**318**	P	**P**	**07 35 09.8**	**-1.2**
	0.1nm,0.4s,baz=86,slow=5.9,SNR=1.9						

*DJA **18** 07:39:03.3±0.2, 10°S×112°E±1°, h63km±6km, M4.5/13, mb4.6/10, mB5.2/7, MLv4.4/13, Mw(mB)4.6/7*

*IDC **18** 07:39:04.8±2.2, 9.39S×121.02E, h103km±18km, mb3.7/5, mb1 3.9/9, mb1mx3.4/37, mbtmp4.2/9, MS3.1/5, Ms1 3.1/5, ms1mx2.7/73, Error ellipse: s-maj=36.2km s-min=9.9km az=53.0*

ISC 18 07:39:03.4±0.7, 9.53S±0.05×121.03E±0.04, h100km, n38, σ2§16/43, mb4.1/5, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.81**	**213**	P	**Pn**	**07 39 22.3**	**+0.3**
MMRI	**Maumere**	**1.49**	**53**	P	**Pn**	**07 39 27.8**	**-1.8**
MMRI				S	**Sn**	**07 39 45.5**	**-3.9**
MMRI	**Maumere**	**1.49**	**53**	P	**Pn**	**07 39 27.7**	**-1.8**
WBSI	**Waikabubak, Su**	**1.62**	**266**	P	**Pn**	**07 39 30.1**	**-1.2**
WBSI				S	**Sn**	**07 39 50.4**	**-2.0**
BATI	**Baumata**	**2.68**	**105**	P	**Pn**	**07 39 46.8**	**+1.8**
	72nm,0.3s,baz=80,slow=2.1,SNR=38						
BATI				S	**Sn**	**07 40 19.9**	**+3.1**
	60nm,0.3s,baz=142,slow=22,SNR=6.3						
BATI				LR	LR	07 41 10.2	
	comp=Z,158nm,20.3s,baz=234,slow=46						
BATI	**Baumata**	**2.68**	**105**	P	**Pn**	**07 39 46.4**	**+1.4**
PLAI	**Plampang**	**3.29**	**282**	P	**Pn**	**07 39 53.6**	**+0.5**
PLAI				S	**Sn**	**07 40 29.7**	**-1.8**
PLAI	**Plampang**	**3.29**	**282**	P	**Pn**	**07 39 53.7**	**+0.6**
BSSI	**Bau Bau, Buton**	**3.41**	**351**	P	**Pn**	**07 39 53.7**	**-1.1**
BKSI	**Bulukumba**	**4.28**	**348**	P	**Pn**	**07 40 06.0**	**-0.5**
BBSI	**Bau Bau**	**4.30**	**21**	P	**Pn**	**07 40 03.7**	**-3.0**
KAPI	**Kappang**	**4.67**	**344**	P	**Pn**	**07 40 13.0**	**+1.3**
	9.3nm,0.3s,baz=162,slow=12,SNR=25						
KAPI				S	**Sn**	**07 41 03.2**	**-1.5**
	1.0nm,0.3s,baz=234,slow=21,SNR=8.8						
KAPI				LR	LR	07 42 01.9	
	comp=Z,77nm,18.2s,baz=150,slow=39						
KAPI	**Kappang**	**4.67**	**344**	P	**Pn**	**07 40 13.2**	**+1.5**
BNSI	**Bone**	**5.18**	**350**	P	**Pn**	**07 40 19.3**	**+0.6**
	0.3nm964nm91nm,1.1s						
IGBI	**Denpasar**	**5.86**	**276**	P	**Pn**	**07 40 27.3**	**-0.5**
SRBI	**Singaraja**	**5.93**	**284**	P	**Pn**	**07 40 28.7**	**-0.1**
	0.2nm886nm29nm,0.5s						
JAGI	**Jajag, Banyuwa**	**6.88**	**278**	P	**Pn**	**07 40 40.0**	**-1.7**
JAGI	**Jajag, Banyuwa**	**6.88**	**278**	P	**Pn**	**07 40 42.0**	**+0.3**
	90nm,0.4s						
GMJI	**Gumukmas**	**7.60**	**279**	P	**Pn**	**07 40 49.2**	**-2.4**
	0.2nm37nm,0.9s						
PCI	**Palu**	**8.65**	**352**	P	**Pn**	**07 41 03.3**	**-2.6**
SANI	**Sanana**	**8.92**	**34**	P	**Pn**	**07 41 11.6**	**+2.1**
	738nm28nm,0.7s						
FITZ	**Fitzroy Crossi**	**9.62**	**153**	P	**Pn**	**07 41 20.1**	**+1.1**
	0.7nm,0.3s,baz=339,slow=12,SNR=50						
FITZ				S	**Sn**	**07 42 59.1**	**-6.1**
	5.7nm,0.3s,baz=163,slow=22,SNR=12						
KNRA	**Kununurra**	**9.70**	**130**	P	**Pn**	**07 41 19.8**	**-0.4**
	125nm,0.7s						
PCJI	**Pacitan**	**9.83**	**277**	P	**Pn**	**07 41 22.3**	**+0.4**
	38nm,0.7s						
MTN	**Manton Dam**	**10.44**	**109**	P	**Pn**	**07 41 31.2**	**+1.0**
UGM	**Wanagama**	**10.51**	**278**	P	**Pn**	**07 41 32.4**	**+1.2**
	59nm,1.7s						
KDU	**Kakadu**	**11.66**	**107**	P	**Pn**	**07 41 47.6**	**+1.0**
	24nm,0.5s						
KPJI	**Karang Pucung**	**12.17**	**279**	P	**Pn**	**07 41 52.7**	**-0.8**
	12nm,1.2s						
WRA	**Warramunga Arr**	**16.50**	**130**	P	**Pn**	**07 42 48.4**	**-0.7**
	1.5nm,0.3s,baz=300,slow=15,SNR=35						
WRA				S	Sn	07 45 38.7	-13
	1.9nm,0.3s,baz=309,slow=20,SNR=10						
ASAR	**Alice Springs**	**18.68**	**140**	P	**Pn**	**07 43 17.8**	**+2.4**
	1.3nm,0.3s,baz=329,slow=14,SNR=64						
ASAR				S	**S**	**07 46 36.0**	**-5.5**
	0.8nm,0.3s,baz=316,slow=24,SNR=11						
DSRI	**Dabo**	**18.68**	**298**	P	**Pn**	**07 43 19.4**	**+3.9**
STKA	**Stephens Creek**	**29.29**	**142**	P	**P**	**07 44 59.4**	**+3.0**
	0.7nm,0.5s,baz=314,slow=11,SNR=3.3						
ASAJ	**Asahikawa**	**56.87**	**18**	LR	LR	08 15 36.0	
	comp=Z,42nm,19.7s,baz=148,slow=39						
SONM	**Songino Array**	**58.57**	**348**	P	**P**	**07 48 49.9**	**+0.1**
	0.4nm,0.4s,baz=168,slow=8.4,SNR=3.5						
MKAR	**Makanchi Array**	**65.86**	**332**	P	**P**	**07 49 38.5**	**+0.2**
	1.9nm,0.7s,baz=143,slow=7.6,SNR=20						
PETK	**Petropavlovsk-**	**69.77**	**23**	P	**P**	**07 50 03.1**	**+0.3**
	1.5nm,0.5s,baz=224,slow=5.6,SNR=4.0						
PETK				LR	LR	08 23 41.8	
	comp=Z,17nm,19.6s,baz=207,slow=38						
ZALV	**Zalesovo Beam**	**70.26**	**338**	P	**P**	**07 50 04.8**	**-0.9**
	1.6nm,0.5s,baz=138,slow=4.7,SNR=5.2						
MA2	**Magadan**	**72.89**	**15**	LR	LR	08 24 59.0	
	comp=Z,22nm,19.6s,baz=160,slow=38						

*IDC **18** 07:47:43.9±0.9, 9.14N×122.64E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.7/42, mbtmp3.9/10, MS3.0/1, Ms1 3.2/1, ms1mx2.5/84, Error ellipse: s-maj=61.3km s-min=15.1km az=79.0*

*MAN **18** 07:47:47.4, 9.21N×122.48E, h27km, mb4.5, ML3.3, MS3.1, Hypocentre not reviewed by the ISC*

ISC 18 07:47:48.0±0.7, 9.15N±0.03×122.52E±0.05, h28km, n25, σ1§22/27, mb3.9/10, 3C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNOP	**Candoni, Negro**	**0.68**	**10**	*e*P	**Pb**	**07 48 00.6**	**-0.8**
DCPH	**Dipolog City**	**1.00**	**124**	‖*e*P	Pb	07 48 16.2	+9.5
TBP	**Tagbilaran**	**1.43**	**68**	*e*P	**Pn**	**07 48 12.0**	**-0.2**
TBP				*i* S	**Sn**	**07 48 29.8**	**-0.2**
PAGZ	**Pagadian**	**1.56**	**147**	*e*P	**Pn**	**07 48 14.1**	**+0.3**
LLP	**Lapu-Lapu**	**1.84**	**51**	⇑*i*P	**Pn**	**07 48 17.7**	**0.0**
LLP				*i* S	**Sn**	**07 48 40.0**	**-0.1**
CUYO	**Cuyo Island**	**2.24**	**319**	*e*P	**Pn**	**07 48 23.9**	**+0.6**
ZCP	**Zamboanga City**	**2.25**	**191**	‖*i*P	**Pn**	**07 48 23.7**	**+0.3**
ZCP				*i* S	**Sn**	**07 48 49.6**	**-0.7**
RCP	**Roxas**	**2.40**	**5**	‖*e*P	**Pn**	**07 48 26.6**	**+1.1**
RCP				*e*S	**Sb**	**07 48 58.8**	**-1.0**
MSLP	**Maasin**	**2.51**	**67**	*e*P	**Pn**	**07 48 28.1**	**+1.2**
CTBH	**Cotabato--PC H**	**2.57**	**138**	⇑*e*P	**Pn**	**07 48 28.7**	**+0.9**
OCLP	**Ormoc**	**2.79**	**47**	*e*P	**Pn**	**07 48 30.8**	**-0.1**
BUKP	**Musuan**	**2.82**	**117**	*e*P	**Pn**	**07 48 32.9**	**+1.6**
KCP	**Kidapawan**	**3.32**	**130**	⇑*i*P	**Pb**	**07 48 43.1**	**-3.2**
KCP				*i* S	**Sb**	**07 49 30.1**	**+3.7**
BUSP	**Coron**	**3.63**	**321**	*e*P	Pn	07 48 39.0	-3.5
CMAR	**Chiang Mai Arr**	**24.66**	**295**	LR	LR	08 02 19.9	
	comp=Z,30nm,18.6s,baz=130,slow=35						
FITZ	**Fitzroy Crossi**	**27.25**	**174**	P	**P**	**07 53 30.5**	**+0.5**
	1.0nm,0.5s,baz=3.4,slow=8.2,SNR=3.0						
KSRS	**Korea Array**	**28.60**	**9**	P	**P**	**07 53 42.3**	**+0.5**
	0.7nm,0.4s,baz=202,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**31.17**	**158**	P	**P**	**07 54 03.6**	**-1.2**
	1.6nm,0.8s,baz=337,slow=9.6,SNR=9.8						
ASAR	**Alice Springs**	**34.47**	**161**	P	**P**	**07 54 33.2**	**-0.5**
	1.8nm,0.6s,baz=339,slow=6.8,SNR=44						
USRK	**Ussuriysk Ar.**	**35.87**	**12**	P	**P**	**07 54 45.5**	**0.0**
	2.7nm,0.8s,baz=174,slow=3.8,SNR=5.8						
KLR	**Kul'dur**	**40.69**	**9**	P	**P**	**07 55 25.7**	**-0.3**
	1.5nm,0.7s,baz=144,slow=7.7,SNR=4.5						
SONM	**Songino Array**	**40.90**	**343**	P	**P**	**07 55 28.1**	**+0.2**
	0.2nm,0.4s,baz=168,slow=8.4,SNR=1.6						
STKA	**Stephens Creek**	**44.70**	**157**	P	**P**	**07 55 58.5**	**-0.2**
	1.3nm,0.6s,baz=318,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**50.74**	**325**	P	**P**	**07 56 46.4**	**+0.8**
	0.2nm,0.6s,baz=131,slow=6.8,SNR=2.4						
ARCES	**ARCESS Array B**	**83.94**	**339**	P	**P**	**08 00 15.6**	**+0.3**
	7.8nm,1.2s,baz=66,slow=5.0,SNR=5.8						

*IDC **18** 08:01:58.6±1.0, 33.04N×131.55E, h0km, mb3.5/8, mb1 3.7/11, mb1mx3.6/45, mbtmp3.6/11, ML3.0/3, Error ellipse: s-maj=19.7km s-min=8.9km az=4.0*

*JMA **18** 08:01:59.6, 33.30N×131.50E, h7km±1km, M3.5*

JMA Felt III J1.

*NIED **18** 08:01:59.6, 33.30N×131.50E, h7km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.47; Mθ

*IDC **18** 08:05:38.2±1.3, 0.°28S×81.°00W, h0km, mb3.5/5, mb1 3.8/9, mb1mx3.6/40, mbtmp3.7/9, ML2.7/4, Error ellipse: s-maj=34.0km s-min=19.9km az=58.0*
*IGQ **18** 08:05:38.1±5, 0.°7S×8.°1W±3.°4, h18km*
ISC 18 08:05:39.3±0.9, **0.33S**±0.°07×**80.94W**±0.°08, **h10**km, **n41**, σ1§**91**/42, **mb3.7**/4, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAB1	**Cabo Pasado-Ma**	**0.51**	**96**	P	**Pn**	**08 05 53.0**	**+0.4**
PORT	**Chimborazo Vol**	**2.44**	**117**	P	**Pn**	**08 06 17.0**	**-2.7**
PULU	**Pululahua**	**2.46**	**82**	P	**Pn**	**08 06 16.0**	**-3.8**
SUCR	**Mariscal Sucre**	**2.46**	**97**	P	**Pn**	**08 06 18.0**	**-1.9**
SLOR	**San Lorenzo -**	**2.47**	**99**	P	**Pn**	**08 06 19.0**	**-1.0**
BRRN	**Barrancas-Volc**	**2.50**	**100**	P	**Pn**	**08 06 19.0**	**-1.4**
BREF	**Cotopaxi Volca**	**2.52**	**98**	P	**Pn**	**08 06 20.0**	**-0.8**
CUSE	**Cuicocha Este**	**2.61**	**76**	*eP*	**Pn**	**08 06 19.5**	**-2.5**
CUSE	**Cuicocha Este**	**2.61**	**76**	P	**Pn**	**08 06 19.0**	**-3.0**
CHMA	**Chilma**	**3.11**	**68**	P	**Pn**	**08 06 25.0**	**-3.7**
CHMA				S	**Sn**	**08 07 07.0**	**+0.9**
ARDO	**Archidona, Ten**	**3.20**	**102**	P	**Pn**	**08 06 30.0**	**+0.2**
ARDO				S	**Sn**	**08 07 07.0**	**-1.1**
CHL2	**Volc¡n Chiles**	**3.22**	**69**	P	**Pn**	**08 06 28.0**	**-2.4**
TULM	**Tulcn-Chalpat**	**3.32**	**72**	*eP*	**Pn**	**08 06 31.8**	**+0.2**
TULM	**Tulcn-Chalpat**	**3.32**	**72**	P	**Pn**	**08 06 32.0**	**+0.3**
CMBC	**Cumbal**	**3.36**	**68**	*eP*	**Pn**	**08 06 30.8**	**-1.4**
BONI	**La Bonita**	**3.49**	**77**	P	**Pn**	**08 06 34.0**	**+0.1**
BONI				S	**Sn**	**08 07 14.0**	**-1.5**
GR1C	**Gorgona, Isla**	**4.32**	**40**	*eP*	Pn	08 06 40.3	-4.7
CRUC	**La Cruz**	**4.41**	**65**	*eP*	**Pn**	**08 06 45.3**	**-1.3**
SOTA	**Rioblanco**	**4.97**	**60**	*eP*	**Pn**	**08 06 53.2**	**-1.3**
POPC	**Popayan, Colom**	**5.13**	**56**	*eP*	**Pn**	**08 06 54.1**	**-2.3**
PCON	**Cinco Dias**	**5.25**	**60**	*eP*	**Pn**	**08 06 56.8**	**-1.6**
MARP	**Paez Belalcaza**	**5.89**	**58**	*eP*	**Pn**	**08 07 05.6**	**-1.3**
GARC	**Garzon, Huila**	**5.99**	**65**	*eP*	**Pn**	**08 07 05.1**	**-3.1**
YOTC	**Yotoco, Valle**	**6.28**	**47**	*eP*	**Pn**	**08 07 09.7**	**-2.4**
PLMC	**San Jos del P**	**6.98**	**42**	*eP*	**Pn**	**08 07 20.1**	**-1.6**
ORTC	**Ortega, Tolima**	**7.08**	**53**	*eP*	**Pn**	**08 07 22.1**	**-0.9**
GUY2C	**Guyana, Caldas**	**7.84**	**45**	*eP*	**Pn**	**08 07 35.3**	**+1.5**
CBOC	**Ciudad Bolivar**	**7.88**	**39**	*eP*	**Pn**	**08 07 34.7**	**+0.6**
ROSC	**El Rosal**	**8.37**	**52**	Pn	**Pn**	**08 07 42.2**	**+1.1**
	1.3nm,0.3s,baz=280,slow=9.5,SNR=1.8						
ROSC				Sn	**Sn**	**08 09 18.7**	**+2.7**
	1.3nm,0.3s,baz=88,slow=20,SNR=1.9						
NORC	**Norcasia**	**8.43**	**46**	*eP*	Pn	08 07 47.7	+6.1
VILC	**Villavicencio,**	**8.48**	**59**	*eP*	**Pn**	**08 07 46.2**	**+3.9**
CHIC	**Chingaza**	**8.72**	**56**	*eP*	**Pn**	**08 07 47.4**	**+1.5**
PTBC	**PUERTO BERRIO,**	**9.40**	**43**	*eP*	**Pn**	**08 07 56.8**	**+1.8**
JTS	**Las Juntas de**	**11.29**	**339**	Pn	**Pn**	**08 08 20.0**	**-0.8**
	0.0nm,0.3s,baz=135,slow=19,SNR=5.2						
NNA	**Nana**	**12.27**	**161**	Pn	**Pn**	**08 08 36.2**	**+2.0**
	0.5nm,0.3s,baz=283,slow=14,SNR=1.5						
SDV	**Santo Domingo**	**13.76**	**48**	Pn	**Pn**	**08 08 54.3**	**-0.4**
	0.1nm,0.3s,baz=259,slow=16,SNR=2.2						
LPAZ	**La Paz**	**20.27**	**142**	P	Pn	08 10 18.6	+0.9
	1.6nm,0.8s,baz=17,slow=14,SNR=1.4						
SIV	**San Ignacio**	**25.02**	**129**	P	**P**	**08 11 04.2**	**+0.4**
	0.9nm,0.5s,baz=304,slow=9.8,SNR=9.6						
NVAR	**Mina Array Bea**	**51.64**	**323**	P	**P**	**08 14 44.8**	**-1.8**
	0.1nm,0.3s,baz=159,slow=7.7,SNR=1.7						
YKA	**Yellowknife Ar**	**67.59**	**344**	P	**P**	**08 16 37.0**	**+1.2**
	0.6nm,0.9s,baz=143,slow=5.8,SNR=9.6						
TORD	**Torodi Ar. Bea**	**82.90**	**77**	P	**P**	**08 18 05.0**	**0.0**
	0.2nm,0.4s,baz=266,slow=4.8,SNR=1.8						

*IDC **18** 08:15:14.9±2.0, 0.°43N×80.°45W, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/31, mbtmp3.5/3, ML2.7/1, Error ellipse: s-maj=42.8km s-min=35.6km az=64.0*
ISC 18 08:15:15.9±1.7, **0.30N**±0.°10×**80.3W**±0.°1, **h11**km, **n21**, σ1§**91**/22, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUSE	**Cuicocha Este**	**1.92**	**90**	*eP*	**Pn**	**08 15 46.1**	**-2.9**
TULM	**Tulcn-Chalpat**	**2.57**	**81**	*eP*	**Pn**	**08 15 56.4**	**-1.5**
GR1C	**Gorgona, Isla**	**3.44**	**39**	*eP*	**Pb**	**08 16 13.8**	**-3.1**
CRUC	**La Cruz**	**3.60**	**70**	*eP*	**Pn**	**08 16 11.1**	**-0.8**
SOTA	**Rioblanco**	**4.13**	**64**	*eP*	**Pn**	**08 16 19.3**	**-0.2**
POPC	**Popayan, Colom**	**4.27**	**59**	*eP*	**Pn**	**08 16 18.5**	**-2.6**
PCON	**Cinco Dias**	**4.41**	**63**	*eP*	**Pn**	**08 16 23.5**	**+0.2**
MARP	**Paez Belalcaza**	**5.04**	**60**	*eP*	**Pn**	**08 16 33.2**	**+1.4**
GARC	**Garzon, Huila**	**5.18**	**69**	*eP*	**Pn**	**08 16 31.5**	**-2.1**
YOTC	**Yotoco, Valle**	**5.40**	**47**	*eP*	**Pn**	**08 16 34.5**	**-2.0**
PTLC	**Puerto Leguiza**	**5.53**	**91**	*eP*	**Pn**	**08 16 38.1**	**0.0**
PLMC	**San Jos del P**	**6.10**	**41**	*eP*	**Pn**	**08 16 45.3**	**-0.8**
ORTC	**Ortega, Tolima**	**6.21**	**55**	*eP*	**Pn**	**08 16 46.5**	**-1.1**
MACC	**Macarena, Meta**	**6.73**	**74**	*eP*	**Pn**	**08 16 56.1**	**+1.4**
GUY2C	**Guyana, Caldas**	**6.96**	**45**	*eP*	**Pn**	**08 16 58.7**	**+0.5**
CBOC	**Ciudad Bolivar**	**7.00**	**38**	*eP*	**Pn**	**08 16 59.1**	**+0.5**
ROSC	**El Rosal**	**7.50**	**53**	Pn	**Pn**	**08 17 06.3**	**+0.7**
	2.4nm,0.3s,baz=282,slow=14,SNR=3.8						
ROSC				Sn	**Sn**	**08 18 34.7**	**+3.8**
	1.0nm,0.3s,baz=182,slow=22,SNR=1.7						
CHIC	**Chingaza**	**7.86**	**57**	*eP*	**Pn**	**08 17 11.4**	**+0.7**
SPBC	**San Pablo de B**	**8.20**	**49**	*eP*	**Pn**	**08 17 17.3**	**+2.3**
LPAZ	**La Paz**	**20.41**	**144**	P	**P**	**08 19 56.4**	**+2.6**
	0.4nm,0.4s,baz=315,slow=4.3,SNR=1.7						
YKA	**Yellowknife Ar**	**67.15**	**344**	P	**P**	**08 26 09.4**	**-0.1**
	0.2nm,0.7s,baz=134,slow=6.2,SNR=6.4						

IDC 18 08:17:30.9±2.4, **54.03N**×**86.54E**, **h0**km, **mb1 3.4**/2, **mb1mx3.1**/40, **mbtmp3.4**/2, **ML3.0**/2, **Error ellipse: s-maj=19.8km s-min=11.6km az=62.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**266**	*i*		08 23 30.0	
	baz=86,slow=320,SNR=7.7						
ZALV	**Zalesovo Beam**	**1.02**	**266**	Pg	Pg	08 17 49.0	-1.4
	1.7nm,0.3s,baz=85,slow=17,SNR=22						
ZALV				Lg	Lg	08 18 04.9	
	4.1nm,0.3s,baz=84,slow=31,SNR=22						
KURBB	**Kurchatov Arra**	**5.98**	**238**	Pn	Pn	08 19 01.4	+0.8
	0.2nm,0.3s,baz=57,slow=14,SNR=11						
KURBB				Lg	Lg	08 20 42.4	
	0.1nm,0.3s,baz=56,slow=34,SNR=5.8						
MKAR	**Makanchi Array**	**7.74**	**202**	Pn	Pn	08 19 25.8	+1.1
	0.3nm,0.3s,baz=26,slow=14,SNR=23						
MKAR				Sn	Sn	08 20 53.2	+0.2
	0.2nm,0.3s,baz=20,slow=27,SNR=3.8						
MKAR				Lg	Lg	08 21 36.0	
	0.1nm,0.3s,baz=22,slow=33,SNR=7.5						

*IDC **18** 08:20:02.3±13.0, 15.°35S×165.°85E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/29, mbtmp4.0/4, ML3.8/1, Error ellipse: s-maj=231.1km s-min=36.3km az=56.0*
*NOU **18** 08:20:06.0, 15.°25S×167.°46E, h93km, MLv4.2/6, Vanuatu Islands*
ISC 18 08:20:04.3±2.3, **15.25S**±0.°2×**167.3E**±0.°3, **h119**km±15km, **n6**, σ0§**83**/7, **mb4.0**/3, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.24**	**194**	P	**Pn**	**08 20 21.0**	**+0.1**
DVP	**Devils Point**	**2.65**	**161**	P	**Pn**	**08 20 45.9**	**-0.1**
DZM	**Mont Dzumac**	**6.87**	**186**	Pn	**Pn**	**08 21 42.6**	**+0.1**
	1.7nm,0.3s,baz=36,slow=13,SNR=45						
DZM				Sn	**Sn**	**08 22 59.0**	**-0.2**
	2.7nm,0.3s,baz=298,slow=23,SNR=14						
STKA	**Stephens Creek**	**28.68**	**230**	P	**P**	**08 25 51.0**	**+1.0**
	1.5nm,0.3s,baz=63,slow=8.9,SNR=13						
WRA	**Warramunga Arr**	**31.70**	**257**	P	**P**	**08 26 16.4**	**-0.5**
	0.4nm,0.6s,baz=84,slow=8.4,SNR=5.0						
ASAR	**Alice Springs**	**32.50**	**250**	P	**P**	**08 26 23.0**	**-0.9**
	1.3nm,0.4s,baz=78,slow=9.2,SNR=40						

*SKHL **18** 08:24:45.7±0.3, 42.°90N×145.°00E, h46km±2km, mb4.6/2*
*JMA **18** 08:24:45.1±0.1, 42.°89N×144.°92E, h50km±1km, M3.1*
ISC 18 08:24:44.1±1.8, **42.84N**±0.°09×**144.97E**±0.°05, **h53**km±10km, **n13**, σ0§**54**/24, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKK	**Akkeshi**	**0.20**	**333**	*eP*	**Pn**	**08 24 53.1**	**+0.3**
AKK				*eS*	**Sn**	**08 24 58.8**	**-0.2**
JAK	**Akkeshi**	**0.25**	**309**	P	**Pn**	**08 24 53.3**	**+0.1**
JAK				*eS*	**Sn**	**08 24 59.5**	**-0.1**
JKHN	**Kushirohamanak**	**0.28**	**30**	P	**Pn**	**08 24 54.1**	**+0.7**
JNK	**Nakash**	**0.77**	**346**	P	**Pn**	**08 24 58.8**	**-0.1**
JNK				*eS*	**Sn**	**08 25 08.7**	**-1.0**
NMR	**Nemuro--Hokkai**	**0.77**	**46**	*eP*	**Pn**	**08 24 59.0**	**+0.1**
NMR				*eS*	**Sn**	**08 25 09.1**	**-0.6**
NEM2	**Nemuro 2**	**0.78**	**47**	P	**Pn**	**08 24 59.0**	**+0.1**
NEM2				*eS*	**Sn**	**08 25 09.1**	**-0.7**
JOB	**Onbets**	**0.83**	**275**	P	**Pn**	**08 25 00.0**	**+0.3**
JOB				*eS*	**Sn**	**08 25 10.9**	**-0.2**
GLVR	**Golovnino**	**0.99**	**24**	*eP*	**Pn**	**08 25 02.4**	**+0.7**
GLVR				AMB	AMB	08 25 03.0	
	550nm,0.4s						
GLVR				*eS*	**Sn**	**08 25 15.2**	**+0.5**
GLVR				A	A	08 25 16.4	
	2µm,0.3s						
GLVR				A	A	08 25 16.4	
	2µm,0.3s						
JAR	**Ashorobuto**	**0.99**	**298**	P	**Pn**	**08 25 02.0**	**+0.2**
JAR				*eS*	**Sn**	**08 25 14.3**	**-0.5**
JRA	**Rausu**	**1.10**	**6**	P	**Pn**	**08 25 03.9**	**+0.6**
JRA				*eS*	**Sn**	**08 25 17.2**	**-0.3**
JCH	**Churui**	**1.20**	**260**	P	**Pn**	**08 25 04.8**	**+0.2**
JCH				*eS*	**Sn**	**08 25 19.6**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**1.36**	**28**	*eP*	**Pn**	**08 25 07.2**	**+0.4**
YUK				AMB	AMB	08 25 08.3	
	160nm,0.3s						
YUK				*eS*	**Sn**	**08 25 22.8**	**-0.9**
YUK				A	A	08 25 25.2	
	600nm,0.3s						
YUK				A	A	08 25 25.2	
	190nm,0.3s						
JTKR	**Abashiri--Toko**	**1.37**	**326**	P	**Pn**	**08 25 07.7**	**+0.8**

IDC 18 08:39:22.0±3.1, **53.53N**×**87.23E**, **h0**km, **mb1 2.7**/2, **mb1mx2.7**/49, **mbtmp2.7**/2, **ML2.2**/2, **Error ellipse: s-maj=29.2km s-min=16.4km az=69.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**287**	*i*		08 48 50.0	
	baz=105,slow=327,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.49**	**287**	Pg	Pn	08 39 48.6	-1.4
	0.5nm,0.3s,baz=108,slow=16,SNR=10						
ZALV				Lg	Lg	08 40 09.4	
	0.5nm,0.3s,baz=105,slow=22,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.11**	**245**	Pn	Pn	08 40 54.4	+1.0
	0.0nm,0.3s,baz=60,slow=14,SNR=2.0						
MKAR	**Makanchi Array**	**7.45**	**207**	Pn	Pn	08 41 13.1	+1.2
	0.1nm,0.3s,baz=18,slow=11,SNR=3.3						
MKAR				Lg	Lg	08 43 17.5	
	0.1nm,0.3s,baz=12,slow=15,SNR=1.8						

*IDC **18** 08:43:04.4±1.7, 0.°53S×81.°45W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.5/25, mbtmp3.5/4, ML2.3/1, Error ellipse: s-maj=54.5km s-min=31.1km az=52.0*
ISC 18 08:43:03.8±1.6, **0.8S**±0.°2×**81.0W**±0.°1, **h10**km, **n18**, σ2§**04**/13, **Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUSE	**Cuicocha Este**	**2.82**	**68**	*eP*	**Pn**	**08 43 48.0**	**-1.4**
CMBC	**Cumbal**	**3.61**	**62**	*eP*	**Pn**	**08 44 02.1**	**+1.9**
CRUC	**La Cruz**	**4.67**	**60**	*eP*	**Pn**	**08 44 12.6**	**-2.2**
GR1C	**Gorgona, Isla**	**4.70**	**37**	*eP*	**Pb**	**08 44 25.8**	**-0.5**
POPC	**Popayan, Colom**	**5.44**	**53**	*eP*	**Pn**	**08 44 22.1**	**-3.0**
MARP	**Paez Belalcaza**	**6.20**	**55**	*eP*	Pn	08 44 44.4	+8.7
PTLC	**Puerto Leguiza**	**6.29**	**82**	*eP*	**Pn**	**08 44 37.4**	**+0.7**
YOTC	**Yotoco, Valle**	**6.63**	**45**	*eP*	**Pn**	**08 44 42.4**	**+0.9**
ORTC	**Ortega, Tolima**	**7.40**	**51**	*eP*	**Pn**	**08 44 53.8**	**+1.8**
MACC	**Macarena, Meta**	**7.72**	**68**	*eP*	Pn	08 44 53.0	-3.4
GUY2C	**Guyana, Caldas**	**8.20**	**43**	*eP*	**Pn**	**08 45 04.9**	**+1.6**
CBOC	**Ciudad Bolivar**	**8.26**	**37**	*eP*	Pn	08 45 12.4	+8.5
ROSC	**El Rosal**	**8.70**	**50**	Pn	Pn	08 45 15.6	+5.5
	0.7nm,0.3s,baz=233,slow=20,SNR=1.1						
CHIC	**Chingaza**	**9.03**	**54**	*eP*	**Pn**	**08 45 18.3**	**+3.5**
LPAZ	**La Paz**	**19.99**	**141**	P	Pn	08 47 44.3	+5.4
	1.1nm,0.6s,baz=307,slow=9.0,SNR=6.3						
NVAR	**Mina Array Bea**	**51.93**	**323**	P	**P**	**08 52 13.3**	**+0.1**
	0.1nm,0.4s,baz=140,slow=7.1,SNR=1.7						
YKA	**Yellowknife Ar**	**67.97**	**344**	P	**P**	**08 54 01.6**	**-1.1**
	0.2nm,0.7s,baz=136,slow=6.0,SNR=4.3						
WRA	**Warramunga Arr**	**139.71**	**237**	PKP	**PKPdf**	**09 02 33.9**	**+0.9**
	0.3nm,0.9s,baz=99,slow=1.8,SNR=6.7						

*IDC **18** 08:42:51.3±1.9, 4.°79S×146.°37E, h0km, mb3.6/3, mb1 4.0/6, mb1mx3.6/37, mbtmp3.9/6, ML4.0/2, Error ellipse: s-maj=64.1km s-min=28.6km az=109.0*
ISC 18 08:43:04.2±1.4, **5.4S**±0.°1×**147.0E**±0.°2, **h100**km, **n15**, σ1§**72**/16, **mb3.4**/3, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.02**	**178**	Pn	**Pn**	**08 44 03.9**	**+0.3**
	4.1nm,0.3s,baz=353,slow=13,SNR=12						
PMG				Sn	**Sn**	**08 44 48.8**	**-0.8**
	8.1nm,0.3s,baz=337,slow=15,SNR=15						
PMG	**Port Moresby**	**4.02**	**178**	P	**Pn**	**08 44 04.4**	**+0.8**
COEN	**Coen**	**9.33**	**203**	P	**Pn**	**08 45 15.7**	**-0.1**
CTA	**Charters Tower**	**14.65**	**183**	Pn	**P**	**08 46 28.3**	**-1.8**
	0.2nm,0.3s,baz=122,slow=22,SNR=4.2						
QIS	**Mount Isa**	**16.72**	**205**	P	**P**	**08 46 52.9**	**-0.1**
WRAB	**Tennant Creek**	**19.00**	**219**	P	**Pn**	**08 47 19.8**	**-0.1**
WRA	**Warramunga Arr**	**19.01**	**219**	P	**P**	**08 47 15.9**	**-2.3**
	0.8nm,0.3s,baz=37,slow=11,SNR=72						
KNRA	**Kununurra**	**20.62**	**239**	P	**P**	**08 47 36.7**	**+1.0**
ASAR	**Alice Springs**	**22.13**	**213**	P	**P**	**08 47 49.9**	**-2.0**
	0.7nm,0.3s,baz=48,slow=8.2,SNR=25						
OOD	**Oodnadatta**	**24.76**	**204**	P	**P**	**08 48 18.5**	**+1.9**
LCRK	**Leigh Creek**	**26.28**	**197**	P	**P**	**08 48 33.6**	**+3.3**
WRKA	**Warakurna**	**26.54**	**221**	P	**P**	**08 48 33.7**	**+0.9**
STKA	**Stephens Creek**	**26.85**	**190**	P	**P**	**08 48 36.9**	**+1.4**
	0.5nm,0.4s,baz=17,slow=11,SNR=2.1						
MULG	**Mulgathing**	**27.62**	**205**	P	**P**	**08 48 44.6**	**+2.3**
ILAR	**Eielson Array**	**84.91**	**23**	P	**P**	**08 55 26.9**	**-0.8**
	0.2nm,0.6s,baz=239,slow=5.1,SNR=1.9						

IDC 18 08:43:29.4±2.6, **54.32N**×**86.03E**, **h0**km, **mb1 3.0**/2, **mb1mx2.9**/47, **mbtmp3.0**/2, **ML2.8**/2, **Error ellipse: s-maj=18.9km s-min=10.6km az=54.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.80**	**243**	*i*		08 48 09.7	
	baz=63,slow=327,SNR=1.7						
ZALV	**Zalesovo Beam**	**0.80**	**243**	Pg	Pg	08 43 43.8	-0.9
	1.5nm,0.3s,baz=59,slow=17,SNR=12						
ZALV				Lg	Lg	08 43 56.2	
	8.3nm,0.3s,baz=62,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**5.89**	**234**	Pn	Pn	08 44 59.2	+1.4
	0.2nm,0.3s,baz=49,slow=13,SNR=5.0						
KURBB				Lg	Lg	08 46 35.2	
	0.0nm,0.3s,baz=49,slow=28,SNR=1.7						
MKAR	**Makanchi Array**	**7.90**	**199**	Pn	Pn	08 45 25.8	+0.5
	0.2nm,0.3s,baz=23,slow=13,SNR=7.1						
MKAR				Sn	Sn	08 46 55.4	0.0
	0.1nm,0.3s,baz=23,slow=26,SNR=2.5						
MKAR				Lg	Lg	08 47 34.0	
	0.0nm,0.3s,baz=23,slow=16,SNR=2.5						

*SNET **18** 08:58:02.6±0.9, 13.°48N×91.°24W, h19km±5km, ML3.2*
*GCG **18** 08:58:06.8±0.5, 14.°13N×91.°36W, h58km±4km, MD3.7*
ISC 18 08:58:00.8±3.2, **13.6N**±0.°1×**91.5W**±0.°1, **h50**km, **n8**, σ1§**28**/12, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.05**	**37**	*eP*	**Pn**	**08 58 20.2**	**+0.8**
FUG				*eS*	**Sn**	**08 58 30.7**	**-2.5**
STG3	**Santiaguito 3,**	**1.11**	**356**	*eP*	**Pn**	**08 58 20.5**	**+0.3**
NBG	**Las Nubes**	**1.48**	**48**	*eP*	**Pn**	**08 58 26.5**	**+1.1**
CEVE	**Cerro Verde**	**1.83**	**83**	*eP*	**Pn**	**08 58 30.3**	**+0.2**
CEVE				*eS*	**Sn**	**08 58 52.3**	**+0.1**
CEVE				IAML		08 58 58.1	
	comp=Z,258nm,0.3s						
JAYA	**Jayaque - finc**	**1.98**	**88**	*eP*	**Pn**	**08 58 31.9**	**-0.3**
JAYA				*eS*	**Sn**	**08 58 54.4**	**-1.5**
ESQI	**Esquipulas**	**2.29**	**65**	*eS*	**Sn**	**08 59 05.0**	**+1.6**
COEG	**Centro de Oper**	**2.54**	**89**	*eS*	**Sn**	**08 59 08.4**	**-1.0**
COEB	**Comit de Eme**	**2.88**	**92**	*eP*	**Pn**	**08 58 45.2**	**+0.8**
COEB				*eS*	**Sn**	**08 59 17.6**	**-0.3**

TRN 18 09:11:51.7, 17.39N×61.86W, h31km, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.29**	**14**	*eP*	Pn	09 12 00.7	+0.8
ANWB				*eS*	Sn	09 12 06.8	+1.6
ANBD	**Bethesda, Anti**	**0.35**	**165**	*eP*	Pn	09 12 01.8	+1.2
ANBD				*eS*	Sn	09 12 08.1	+1.5
ABD	**La Joyeuse, An**	**0.97**	**159**	*eP*	Pb	09 12 10.4	+0.3
ABD				*eS*	Sb	09 12 24.7	+2.1
CBE	**Ff, Capester**	**1.33**	**170**	*eP*	Pb	09 12 15.5	-0.6
CBE				*eS*	Sb	09 12 33.1	+0.3
SMRT	**St. Maarten**	**1.33**	**300**	*eP*	Pb	09 12 15.7	-0.5
SMRT				*eS*	Sn	09 12 31.8	+0.8
MAGL	**Barre de l'ile**	**1.53**	**159**	*eP*	Pn	09 12 18.1	+1.1
MAGL				*eS*	Sb	09 12 38.1	-0.4
TBG	**Guadaloupe-3**	**1.54**	**172**	*eP*	Pb	09 12 19.0	-0.6
TBG				*eS*	Sb	09 12 38.6	-0.1
TDBA	**Terre de Bas,**	**1.54**	**172**	*eP*	Pb	09 12 19.1	-0.6
TDBA				*eS*	Sb	09 12 38.6	-0.3
DSLB	**Salisbury**	**1.98**	**168**	*eP*	Pn	09 12 25.2	+2.0
DSLB				*eS*	Sb	09 12 49.3	-2.2

*IDC **18** 09:13:33.7±0.7, 0.°63N×79.°98W, h0km, mb3.9/11, mb1 4.0/15, mb1mx3.9/31, mbtmp3.9/15, ML2.9/4, MS3.5/12, Ms1 3.6/12, ms1mx3.1/65, Error ellipse: s-maj=25.2km s-min=13.7km az=59.0*
*VAO **18** 09:13:33.1±2.2, 0.°90N×79.°93W, h0km, mb4.5*
*IGQ **18** 09:13:35±0.8, 1.°1N±3.°×8.°0W±.°, h3km*
*NEIC **18** 09:13:36.7±2.6, 0.°54N±0.°01×80.°12W±0.°07, h10km±1km, mb4.3/20, Error ellipse: s-maj=12.5km s-min=2.9km az=263.0*
ISC 18 09:13:35.8±1.2, **0.58N**±0.°03×**80.13W**±0.°04, **h14**km±8km, **n150**, σ1§**47**/147, **mb4.2**/15, **MS3.7**/9, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMA1	**Acelerografo,**	**0.53**	**49**	P	**Pg**	**09 13 46.0**	**-0.3**
AMA1				S	**Sb**	**09 13 56.0**	**+1.4**
AV21	**Acelerografo,**	**0.59**	**83**	P	**Pg**	**09 13 47.0**	**-0.3**
AV21				S	**Sb**	**09 13 57.0**	**+0.9**
AV18	**Acelerografo,**	**0.71**	**112**	P	**Pg**	**09 13 50.0**	**+0.4**
MAG1	**Magdalena**	**0.74**	**151**	P	**Pg**	**09 13 50.0**	**-0.3**
JAMA	**Jama**	**0.84**	**185**	P	**Pg**	**09 13 51.0**	**-1.2**
JAMA				S	**Sg**	**09 14 04.0**	**+0.7**
FLF1	**Flavio Alfaro-**	**0.98**	**163**	P	**Pg**	**09 13 54.0**	**-0.7**
BV15	**Puerto Quito-O**	**1.00**	**115**	P	**Pg**	**09 13 53.0**	**-2.1**
BV15				S	**Sb**	**09 14 10.0**	**+2.0**
APR2	**Miler**	**1.27**	**113**	P	**Pg**	**09 13 58.0**	**-2.2**
APR1	**Acelerografo,**	**1.64**	**112**	P	**Pn**	**09 14 04.0**	**-0.6**
HPAL	**Hacienda Las P**	**1.68**	**118**	P	**Pn**	**09 14 04.0**	**-1.1**
PINO	**Pino**	**1.69**	**116**	P	**Pn**	**09 14 04.0**	**-1.5**
TERV	**Terraza Guagua**	**1.70**	**116**	P	**Pn**	**09 14 05.0**	**-0.6**
YANA	**Yana**	**1.71**	**114**	P	**Pn**	**09 14 05.0**	**-0.6**
GGPC	**Guagua Pichinc**	**1.71**	**116**	P	**Pn**	**09 14 05.0**	**-0.7**
GGPT	**Toaza - Volcan**	**1.71**	**118**	P	**Pn**	**09 14 05.0**	**-0.6**
OTAV	**Otavalo**	**1.71**	**102**		**Pn**	**09 14 05.5**	**-0.2**
JUA2	**San Juan 2**	**1.72**	**117**	P	**Pn**	**09 14 05.0**	**-0.8**
PULU	**Pululahua**	**1.72**	**109**		**Pn**	**09 14 05.5**	**-0.2**
PULU	**Pululahua**	**1.72**	**109**	P	**Pn**	**09

SRBA	**San Rafael, Bu**	**9.17**	**340**		**Pn**	**09 15 50.0**	**+2.1**
OCAC	**Ocana**	**10.19**	**42**		**Pn**	**09 16 04.0**	**+2.0**
JTS	**Las Juntas de**	**10.77**	**334**	Pn	**Pn**	**09 16 08.8**	**-0.9**
	0.2nm,0.3s,baz=188,slow=15,SNR=1.4						
JTS				LR	LR	09 19 29.7	
	comp=Z,174nm,19.7s,baz=229,slow=33						
CZSB	**Cruzeiro do Su**	**11.09**	**138**	*eP*	**Pn**	**09 16 13.9**	**-0.3**
SDV	**Santo Domingo**	**12.55**	**49**	Pn	**Pn**	**09 16 32.1**	**-2.2**
	0.2nm,0.3s,baz=238,slow=13,SNR=2.8						
SDV				LR	LR	09 21 46.9	
	comp=Z,124nm,21.6s,baz=189,slow=40						
NNA	**Nana**	**12.91**	**165**	Pn	**Pn**	**09 16 39.9**	**+0.8**
	0.9nm,0.3s,baz=342,slow=9.6,SNR=1.9						
NNA				LR	LR	09 22 51.1	
	comp=Z,94nm,19.6s,baz=341,slow=43						
ETMB	**Extrema**	**17.28**	**127**	*eP*	**Pn**	**09 17 36.4**	**-0.5**
LPAZ	**La Paz**	**20.53**	**145**	P	**P**	**09 18 15.1**	**+0.5**
	2.7nm,0.6s,baz=337,slow=14,SNR=13						
LPAZ	**La Paz**	**20.53**	**145**	P	**P**	**09 18 15.1**	**+0.5**
LPAZ	**La Paz**	**20.53**	**145**	*eP*	**P**	**09 18 15.3**	**+0.7**
PB12	**IPOC Station P**	**21.37**	**154**	P	**P**	**09 18 23.9**	**+0.7**
PB12				IAmb	IAmb	09 18 30.4	
	comp=Z,11nm,0.8s						
PB16	**IPOC Station P**	**21.51**	**151**	P	**P**	**09 18 25.3**	**+0.2**
PB16				IAmb	IAmb	09 18 29.9	
	comp=Z,11nm,0.9s						
CMIG	**Matias Romero**	**21.91**	**319**	P	**P**	**09 18 30.6**	**+1.8**
	comp=Z,2.1nm,0.7s,baz=155,slow=14,SNR=3.5						
SJG	**San Juan**	**22.18**	**37**	LR	LR	09 28 27.6	
	comp=Z,86nm,18.5s,baz=212,slow=40						
PB11	**IPOC Station P**	**22.68**	**154**	P	**P**	**09 18 38.3**	**+1.1**
PB11				IAmb	IAmb	09 18 40.0	
	comp=Z,12nm,0.9s						
GO01	**Chusmiza**	**22.81**	**153**	P	**P**	**09 18 40.4**	**+1.4**
GO01				IAmb	IAmb	09 18 55.5	
	comp=Z,9.5nm,1.0s						
VILB	**Vilhena**	**23.91**	**125**	*eP*	**P**	**09 18 50.0**	**+0.5**
SIV	**San Ignacio**	**25.01**	**132**	P	**P**	**09 18 58.6**	**-1.0**
	comp=Z,4.5nm,1.0s,baz=289,slow=9.9,SNR=12						
SIV				LR	LR	09 29 14.8	
	comp=Z,141nm,20.4s,baz=316,slow=38						
LVC	**Limon Verde**	**25.52**	**155**	P	**P**	**09 19 03.8**	**-0.6**
	comp=Z,4.7nm,0.9s,baz=299,slow=10,SNR=2.3						
NPGB	**Novo Progresso**	**25.85**	**107**	*eP*	**P**	**09 19 04.5**	**-2.8**
PTLB	**Pontes e Lacer**	**26.16**	**128**	*eP*	**P**	**09 19 09.7**	**-0.2**
PDRB	**Porto dos Gac**	**26.21**	**118**	*eP*	**P**	**09 19 10.2**	**-0.3**
CLDB	**Colider**	**26.74**	**116**	*eP*	**P**	**09 19 14.2**	**-1.0**
MDP	**Montagnes des**	**27.81**	**80**	LR	LR	09 30 47.4	
	comp=Z,123nm,19.3s,baz=290,slow=37						
SNDB	**Serra Nova Dou**	**31.23**	**114**	*eP*	**P**	**09 19 54.6**	**-0.7**
CPUP	**Villa Florida**	**34.63**	**142**	P	**P**	**09 20 24.0**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=252,slow=6.9,SNR=3.1						
CPUP				LR	LR	09 37 51.8	
	comp=Z,149nm,18.7s,baz=340,slow=42						
CPUP	**Villa Florida**	**34.63**	**142**	IAmb	IAmb	09 20 27.8	
	comp=Z,3.7nm,1.2s						
BDFB	**Brasilia**	**35.59**	**118**	P	**P**	**09 20 32.2**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=275,slow=16,SNR=2.2						
BDFB	**Brasilia**	**35.59**	**118**	IAmb	IAmb	09 20 33.4	
	comp=Z,3.9nm,1.0s						
IPMB	**Ipameri, GO**	**36.42**	**122**	*eP*	**P**	**09 20 39.5**	**-0.9**
ITAB	**Concordia**	**38.62**	**138**	*eP*	**P**	**09 20 57.7**	**-1.0**
PLCA	**Paso Flores**	**42.04**	**169**	P	**P**	**09 21 27.3**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=320,slow=8.0,SNR=5.0						
ANMO	**Albuquerque**	**42.10**	**327**	P	**P**	**09 21 29.7**	**+1.9**
RCBR	**Riachuelo**	**44.61**	**99**	LR	LR	09 40 28.7	
	comp=Z,95nm,18.4s,baz=27,slow=36						
PDAR	**Pinedale Array**	**49.59**	**332**	P	**P**	**09 22 27.9**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=116,slow=10,SNR=5.1						
PDAR				LR	LR	09 44 18.3	
	comp=Z,64nm,18.1s,baz=133,slow=37						
NVAR	**Mina Array Bea**	**51.41**	**322**	P	**P**	**09 22 41.5**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=129,slow=7.1,SNR=5.8						
BOZ	**Bozeman (W)**	**52.71**	**333**	IAmb	IAmb	09 22 56.2	
	comp=Z,6.1nm,1.3s						
YKA	**Yellowknife Ar**	**66.94**	**343**	P	**P**	**09 24 26.9**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=138,slow=5.8,SNR=11						
RES	**Resolute Bay**	**74.53**	**356**	LR	LR	09 59 24.5	
	comp=Z,35nm,18.8s,baz=82,slow=37						
BORG	**Borgarnes**	**76.62**	**22**	LR	LR	09 55 40.2	
	comp=Z,33nm,19.5s,baz=351,slow=33						
ILAR	**Eielson Array**	**79.73**	**336**	LR	LR	10 03 02.9	
	comp=Z,36nm,18.3s,baz=299,slow=37						
TORD	**Torodi Ar. Bea**	**81.91**	**77**	P	**P**	**09 25 54.8**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=280,slow=6.3,SNR=15						
TORD	**Torodi Ar. Bea**	**81.91**	**77**	IAmb	IAmb	09 26 00.9	
	comp=Z,4.4nm,1.4s						
ASAR	**Alice Springs**	**139.80**	**233**	PKP	**PKPdf**	**09 33 02.1**	**-2.3**
	comp=Z,0.2nm,0.7s,baz=123,slow=3.4,SNR=2.7						
WRA	**Warramunga Arr**	**141.17**	**238**	PKP	**PKPdf**	**09 33 04.6**	**-2.4**
	comp=Z,0.2nm,0.5s,baz=111,slow=2.3,SNR=5.7						
FITZ	**Fitzroy Crossi**	**149.28**	**234**	PKPbc	**PKPbc**	**09 33 26.2**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=316,slow=18,SNR=3.5						

IDC 18 09:15:37.9±3.2, 53°37N×87°51E, h0km, mb1 2.7/2, mb1mx2.6/37, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=28.8km s-min=16.7km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**291**	*i*		09 26 10.0	
	baz=108,slow=330,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.70**	**291**	Pg	Pn	09 16 08.1	-0.7
	0.7nm,0.3s,baz=112,slow=14,SNR=7.4						
ZALV				Lg	Lg	09 16 33.6	
	0.8nm,0.3s,baz=111,slow=25,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.19**	**247**	Pn	Pn	09 17 08.9	-1.5
	0.1nm,0.3s,baz=65,slow=14,SNR=2.2						
KURBB				Lg	Lg	09 18 54.6	
	baz=61,slow=31,SNR=3.9						
MKAR	**Makanchi Array**	**7.38**	**209**	Pn	Pn	09 17 29.7	+2.8
	0.1nm,0.3s,baz=22,slow=13,SNR=2.1						

*NNC **18** 09:20:14.6±2.6, 54°.65N×87°.15E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=37.6km s-min=15.9km az=161.0, Suspected Mining explosion.*
*IDC **18** 09:20:21.1±2.7, 54°.41N×86°.62E, h0km, mb1 3.3/2, mb1mx3.1/43, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=21.7km s-min=14.5km az=51.0*

ISC 18 09:20:22.1±4.8, 54°.4N±0°.2×86°.6E±0°.2, h0km, n8, σ1s38/11, 3C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**248**	*i*		09 27 50.0	
	baz=68,slow=320,SNR=2.6						
ZAA0	**Zalesovo Array**	**1.10**	**248**	⇓P	**Pg**	**09 20 42.1**	**-1.1**
	0.5nm,0.6s						
ZAA0				⇑S	**Sn**	**09 21 03.9**	**+3.3**
	7.8nm,1.0s						
ZALV	**Zalesovo Beam**	**1.10**	**248**	Pg	**Pg**	**09 20 42.4**	**-0.8**
	1.8nm,0.3s,baz=64,slow=16,SNR=16						
ZALV				Lg	Lg	09 20 58.1	
	1.3nm,0.3s,baz=66,slow=27,SNR=10.0						
KURK	**Kurchatov**	**6.07**	**236**	⇑Pn	**Pn**	**09 21 52.5**	**-0.4**
	2.7nm,0.8s						
KURK				⇓Lg	Lg	09 23 41.6	
	13nm,1.5s						
KURBB	**Kurchatov Arra**	**6.17**	**236**	Pn	**Pn**	**09 21 55.0**	**+0.6**
	0.2nm,0.3s,baz=53,slow=14,SNR=14						
KURBB				Sn	**Sn**	**09 23 04.7**	**-0.9**
	0.0nm,0.3s,baz=62,slow=26,SNR=0.9						
KURBB				Lg	Lg	09 23 42.4	
	0.1nm,0.3s,baz=44,slow=31,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.17**	**236**	⇓Pn	**Pn**	**09 21 53.9**	**-0.5**
	2.8nm,0.5s						
KURBB				⇓Lg	Lg	09 23 43.0	
	5.0nm,0.6s						
MK31	**Makanchi Array**	**8.06**	**201**	Pn	**Pn**	**09 22 21.0**	**+0.7**
	0.9nm,0.4s,baz=28,slow=12,SNR=18						
MK31				Sn	**Sn**	**09 23 52.5**	**+0.4**
	1.5nm,0.6s,baz=29,slow=27,SNR=6.8						
MK31				⇑Lg	Lg	09 24 42.1	
	2.8nm,0.9s,baz=29,slow=32,SNR=3.6						
MKAR	**Makanchi Array**	**8.06**	**201**	Pn	**Pn**	**09 22 20.9**	**+0.6**
	0.4nm,0.3s,baz=25,slow=13,SNR=20						
MKAR				Sn	**Sn**	**09 23 51.9**	**-0.2**
	0.1nm,0.3s,baz=25,slow=25,SNR=9.2						
MKAR				Lg	Lg	09 24 40.8	
	0.1nm,0.3s,baz=26,slow=27,SNR=3.4						

*NOU **18** 09:29:53.0, 35°.99S×178°.11E, h337km, MLv4.4/6, Off E. Coast of N. Island, N.Z.*
*WEL **18** 09:30:19.0±0.9, 37°.5±6°.×17°.7E±°, h178km±9km, M2.5/8, ML2.6/6, MLv2.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=99.7*

ISC 18 09:30:13.6±2.6, 37°23S±0°.08×176°.98E±0°.09, h223km±14km, n56, σ1s63/73, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.82**	**129**	P	**Pn**	**09 30 45.6**	**+0.9**
RUGZ	**Raukumara Rang**	**0.92**	**143**	P	**Pn**	**09 30 46.3**	**+0.9**
URZ	**Urewera**	**1.03**	**174**	P	**Pn**	**09 30 46.7**	**+0.8**
URZ	**Urewera**	**1.03**	**174**	P	**Pn**	**09 30 46.7**	**+0.8**
KUZ	**Kuaotunu**	**1.12**	**295**	P	**Pn**	**09 30 46.8**	**+0.2**
MWZ	**Matawai**	**1.18**	**159**	P	**Pn**	**09 30 47.8**	**+0.9**
MWZ				S	**S**	**09 31 11.3**	**-1.8**
MUGZ	**Murupara**	**1.25**	**187**	P	**Pn**	**09 30 48.2**	**+0.8**
MUGZ				S	**S**	**09 31 13.4**	**-0.5**
PUZ	**Puketiti**	**1.31**	**130**	P	**Pn**	**09 30 50.1**	**+2.2**
PUZ				S	**S**	**09 31 12.6**	**-2.1**
RTZ	**Ruatahuna**	**1.38**	**180**	P	**Pn**	**09 30 49.8**	**+1.3**
RTZ				S	**S**	**09 31 13.3**	**-2.5**
WIAZ	**Waiheke Island**	**1.54**	**286**	P	**Pn**	**09 30 50.7**	**+1.0**
SNGZ	**Shannon Station**	**1.57**	**170**	P	**Pn**	**09 30 52.2**	**+2.3**
SNGZ				S	**S**	**09 31 17.0**	**-1.4**
RIGZ	**Rimuhau**	**1.59**	**157**	P	**Pn**	**09 30 52.5**	**+2.4**
RIGZ				S	**S**	**09 31 18.2**	**-0.6**
MTHZ	**Maungataniwha**	**1.62**	**184**	P	**Pn**	**09 30 52.2**	**+1.8**
MTHZ				S	**S**	**09 31 17.1**	**-2.1**
RAHZ	**Arahi**	**1.68**	**177**	P	**Pn**	**09 30 53.6**	**+2.7**
RAHZ				S	**S**	**09 31 19.0**	**-1.1**
NMHZ	**Naumai**	**1.86**	**184**	P	**Pn**	**09 30 55.0**	**+2.4**
NMHZ				S	**S**	**09 31 22.6**	**-0.5**
KNZ	**Kokohu**	**1.87**	**163**	P	**Pn**	**09 30 54.8**	**+2.3**
KNZ				S	**S**	**09 31 21.3**	**-1.6**
BKZ	**Black Stump Fm**	**1.97**	**191**	P	**Pn**	**09 30 54.8**	**+1.2**
BKZ				S	**S**	**09 31 23.2**	**-1.5**
BKZ	**Black Stump Fm**	**1.97**	**191**	P	**Pn**	**09 30 54.8**	**+1.2**
HIZ	**Hauiti**	**2.11**	**232**	P	**Pn**	**09 30 57.3**	**+2.4**
HIZ	**Hauiti**	**2.11**	**232**	P	**Pn**	**09 30 57.5**	**+2.6**
OTVZ	**Oturere**	**2.19**	**208**	P	**Pn**	**09 30 57.9**	**+2.1**
SNVZ	**South Ngauruho**	**2.22**	**208**	P	**Pn**	**09 30 58.3**	**+2.1**
MCHZ	**McNeill Hill**	**2.22**	**186**	P	**Pn**	**09 30 58.2**	**+2.2**
MCHZ				S	**S**	**09 31 29.5**	**+0.4**
KWHZ	**Kaweka Forest**	**2.23**	**191**	P	**Pn**	**09 30 58.0**	**+1.8**
KWHZ				S	**S**	**09 31 28.7**	**-0.7**
TUVZ	**Tukino**	**2.28**	**207**	P	**Pn**	**09 30 58.8**	**+1.9**
WNVZ	**Wahianoa**	**2.35**	**207**	P	**Pn**	**09 30 59.3**	**+1.7**
BHHZ	**Black Hill Sta**	**2.36**	**197**	P	**Pn**	**09 30 58.8**	**+1.3**
PKVZ	**Pokaka**	**2.42**	**212**	P	**Pn**	**09 31 00.4**	**+2.3**
KRHZ	**Kereru**	**2.45**	**191**	P	**Pn**	**09 31 00.3**	**+1.8**
WCZ	**Waipu Caves**	**2.48**	**301**	P	**Pn**	**09 30 60.0**	**+1.2**
KAHZ	**Kahuranaki**	**2.56**	**182**	P	**Pn**	**09 31 01.8**	**+2.2**
VRZ	**Vera Road**	**2.57**	**222**	P	**Pn**	**09 31 03.3**	**+3.6**
PNHZ	**Pukenui**	**2.74**	**193**	P	**Pn**	**09 31 02.9**	**+1.3**
PNHZ				S	**S**	**09 31 38.1**	**-1.1**
PXZ	**Pawanui**	**2.79**	**182**	P	**Pn**	**09 31 03.9**	**+1.9**
PXZ				S	**S**	**09 31 38.5**	**-1.5**
WPHZ	**Waipukurau**	**2.86**	**188**	P	**Pn**	**09 31 04.5**	**+1.7**
PRHZ	**Porangahau**	**3.04**	**185**	P	**Pn**	**09 31 06.5**	**+1.7**
DVHZ	**Dannevirke**	**3.12**	**191**	P	**Pn**	**09 31 06.9**	**+1.0**
ANWZ	**Angora Road**	**3.25**	**187**	P	**Pn**	**09 31 08.9**	**+1.7**
ANWZ				S	**S**	**09 31 47.8**	**-1.5**
OUZ	**Omahuta**	**3.39**	**305**	P	Pn	09 30 58.8	-10
PRWZ	**Pori Road**	**3.41**	**193**	P	**Pn**	**09 31 10.8**	**+1.7**
BFZ	**Birch Farm**	**3.49**	**189**	P	**Pn**	**09 31 11.3**	**+1.2**
BFZ				S	**S**	**09 31 52.6**	**-1.9**
BFZ	**Birch Farm**	**3.49**	**189**	P	**Pn**	**09 31 10.9**	**+0.8**
MRZ	**Mangatainoka R**	**3.59**	**197**	P	**Pn**	**09 31 12.1**	**+0.8**
MRZ				S	**S**	**09 31 53.9**	**-2.7**
TIWZ	**Tintock**	**3.64**	**193**	P	**Pn**	**09 31 13.0**	**+1.1**
HOWZ	**Holdsworth Sta**	**3.83**	**197**	P	**Pn**	**09 31 14.8**	**+0.6**
OGWZ	**Otaki Gorge**	**3.84**	**201**	P	**Pn**	**09 31 15.3**	**+1.0**
TMWZ	**Te Maipa**	**3.96**	**192**	P	**Pn**	**09 31 16.8**	**+1.1**
KIW	**Kapiti Island**	**3.96**	**203**	P	**Pn**	**09 31 16.4**	**+0.6**
MTW	**Mount Morrison**	**4.08**	**196**	P	**Pn**	**09 31 17.6**	**+0.5**
CAW	**Cannon Point**	**4.14**	**200**	P	**Pn**	**09 31 18.3**	**+0.4**
WEL	**Wellington**	**4.39**	**202**	P	**Pn**	**09 31 21.7**	**+0.8**
TCW	**Tory Channel**	**4.49**	**207**	P	**Pn**	**09 31 22.7**	**+0.5**
PLWZ	**Palliser**	**4.53**	**197**	P	**Pn**	**09 31 22.9**	**+0.2**
TUWZ	**Tuamarina**	**4.80**	**208**	P	**Pn**	**09 31 26.5**	**+0.4**
KHZ	**Kahutara**	**5.81**	**206**	P	**Pn**	**09 31 39.2**	**+0.5**
KHZ	**Kahutara**	**5.81**	**206**	P	**Pn**	**09 31 39.2**	**+0.5**

IDC 18 09:34:56.6±3.2, 54°09N×87°43E, h0km, mb1 2.7/2, mb1mx2.7/34, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=27.3km s-min=18.3km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.55**	**266**	*i*		09 43 50.0	
	baz=82,slow=322,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.55**	**266**	Pg	Pn	09 35 22.9	-2.5
	2.7nm,0.3s,baz=84,slow=16,SNR=21						
ZALV				Lg	Lg	09 35 46.6	
	1.4nm,0.3s,baz=85,slow=25,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.46**	**241**	Pn	Pn	09 36 34.0	+1.1
	0.1nm,0.3s,baz=54,slow=13,SNR=5.8						
KURBB				Lg	Lg	09 38 21.7	
	0.0nm,0.3s,baz=61,slow=33,SNR=3.7						
MKAR	**Makanchi Array**	**8.00**	**206**	Pn	Pn	09 36 55.5	+1.4
	0.1nm,0.3s,baz=28,slow=16,SNR=4.6						
MKAR				Lg	Lg	09 39 08.5	
	0.0nm,0.3s,baz=22,slow=30,SNR=2.1						

IDC 18 09:43:54.9±2.9, 53°50N×87°49E, h0km, mb1 3.0/2, mb1mx2.8/47, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=25.2km s-min=13.6km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**287**	*i*		09 55 10.0	
	baz=103,slow=328,SNR=10						
ZALV	**Zalesovo Beam**	**1.65**	**287**	Pg	Pn	09 44 24.4	-0.7
	0.6nm,0.3s,baz=103,slow=12,SNR=15						
ZALV				Lg	Lg	09 44 47.4	
	1.3nm,0.3s,baz=108,slow=27,SNR=17						
KURBB	**Kurchatov Arra**	**6.23**	**246**	Pn	Pn	09 45 28.8	+0.8
	0.0nm,0.3s,baz=60,slow=14,SNR=5.4						
KURBB				Lg	Lg	09 47 11.4	
	0.1nm,0.3s,baz=63,slow=32,SNR=5.1						
MKAR	**Makanchi Array**	**7.49**	**208**	Pn	Pn	09 45 46.6	+1.1
	0.1nm,0.3s,baz=29,slow=13,SNR=7.8						
MKAR				Sn	Sn	09 47 11.2	+0.1
	0.1nm,0.3s,baz=29,slow=26,SNR=5.6						
MKAR				Lg	Lg	09 47 51.8	
	0.1nm,0.3s,baz=20,slow=31,SNR=12						

*CRAAG **18** 09:46:01.0, 35°.06N×6°.47E, Ml3.0*
*IDC **18** 09:46:06.6±1.8, 33°.58N×9°.27E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.1/53, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=71.9km s-min=26.6km az=108.0*

ISC 18 09:46:01.9±1.4, 35°.0N±0°.1×6°.7E±0°.1, h10km, n9, σ1s32/9, mb3.4/3, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTEI	**Djebel Teioual**	**1.13**	**347**	P	**Pn**	**09 46 22.8**	**-1.2**
CASM	**Ain Smara**	**1.31**	**352**	P	**Pg**	**09 46 27.5**	**+0.3**
CKFL	**Kef-Lekhel**	**1.44**	**0**	P	**Pg**	**09 46 29.6**	**0.0**
DFRA	**Djebel Bou Aff**	**1.73**	**337**	P	**Pg**	**09 46 35.2**	**+0.2**
CMAH	**Djebel Manchou**	**1.76**	**19**	P	**Pg**	**09 46 34.0**	**-1.7**
KEST	**Kesra**	**2.28**	**69**	Pn	**Pb**	**09 46 44.1**	**+0.8**
	2.5nm,0.3s,baz=32,slow=2.5,SNR=18						
KEST				Lg	Lg	09 47 24.7	
	1.0nm,0.3s,baz=147,slow=23,SNR=2.0						
TORD	**Torodi Ar. Bea**	**22.18**	**193**	P	**P**	**09 50 57.0**	**-1.4**
	0.5nm,0.5s,baz=15,slow=11,SNR=6.3						
ZALV	**Zalesovo Beam**	**55.93**	**44**	P	**P**	**09 55 41.2**	**+1.3**
	0.3nm,0.4s,baz=268,slow=8.7,SNR=1.8						
MKAR	**Makanchi Array**	**56.29**	**53**	P	**P**	**09 55 44.0**	**+1.4**
	0.2nm,0.5s,baz=272,slow=5.5,SNR=2.9						

*IDC **18** 09:52:41.3±0.6, 1°.67S×138°.75E, h0km, mb4.4/13, mb1 4.5/17, mb1mx4.3/43, mbtmp4.4/17, ML2.8/2, MS3.6/12, Ms1 3.6/12, ms1mx3.2/57, Error ellipse: s-maj=22.6km s-min=13.7km az=73.0*
*DJA **18** 09:52:43.4±0.4, 2°.5±4°.×13°.9E±°, h10km, M5.0/17, mB5.3/7, mb5.1/17, MLv5.1/2, Mw(mB)4.7/7*
*NEIC **18** 09:52:46.4±1.3, 1°.74S±0°.09×138°.7E±0°.1, h30km±4km, mb4.6/30, Error ellipse: s-maj=19.2km s-min=13.0km az=72.0*

ISC 18 09:52:47.4±0.5, 1°.86S±0°.06×138°.72E±0°.06, h35km, n107, σ1s55/101, mb4.6/28, MS3.6/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.47**	**270**	P	**Pn**	**09 53 24.5**	**-0.7**
SRPI				S	**Sn**	**09 53 55.2**	**+0.9**
SIJI	**Sorong**	**7.51**	**277**	Pn	**Pn**	**09 54 33.0**	**-1.6**
	1.2nm,0.3s,baz=76,slow=17,SNR=2.7						
PMG	**Port Moresby**	**11.26**	**132**	Pn	**Pn**	**09 55 26.8**	**+0.9**
	0.6nm,0.3s,baz=294,slow=18,SNR=1.7						
PMG				LR	LR	10 01 03.4	
	comp=Z,349nm,18.6s,baz=334,slow=44						
KDU	**Kakadu**	**12.41**	**210**	P	**Pn**	**09 55 40.7**	**-0.9**
COEN	**Coen**	**12.80**	**160**	Pn	**Pn**	**09 55 46.7**	**-0.3**
MTN	**Manton Dam**	**13.25**	**214**	Pn	**Pn**	**09 55 52.3**	**-0.8**
MTN	**Manton Dam**	**13.25**	**214**	P	**Pn**	**09 55 52.8**	**-0.3**
GTOI	**Gorontalo**	**15.90**	**279**	P	**P**	**09 56 30.1**	**-1.9**
	8.2nm,1.2s						
GUMO	**Guam**	**16.52**	**22**	LR	LR	10 01 43.9	
	comp=Z,84nm,20.4s,baz=164,slow=33						
KNRA	**Kununurra**	**16.87**	**215**	Pn	**Pn**	**09 56 40.3**	**-0.8**
KNRA				IAmb	IAmb	09 56 45.1	
	comp=Z,46nm,0.7s						
KNRA	**Kununurra**	**16.87**	**215**	P	**Pn**	**09 56 40.2**	**-0.8**
MTSU	**Mount Surprise**	**17.08**	**162**	P	**P**	**09 56 45.7**	**+0.6**
BATI	**Baumata**	**17.10**	**240**	P	**P**	**09 56 46.1**	**+0.7**
	comp=Z,11nm,0.3s,baz=186,slow=1.6,SNR=6.6						
BATI	**Baumata**	**17.10**	**240**	P	**P**	**09 56 47.3**	**+2.0**
	comp=Z,82nm,0.7s						
TOLI2	**Tolitoli**	**18.17**	**279**		**P**	**09 56 57.0**	**-0.2**
WB0	**Warramunga Arr**	**18.29**	**193**		**P**	**09 56 57.4**	**-1.0**
WB0				IAmb	IAmb	09 57 03.1	
	comp=Z,56nm,1.1s						
WR0	**Warramunga Arr**	**18.45**	**192**	P	**P**	**09 56 59.3**	**-0.8**
WR0				IAmb	IAmb	09 57 04.8	
	comp=Z,50nm,0.8s						
WRAB	**Tennant Creek**	**18.46**	**193**	P	**P**	**09 57 00.4**	**0.0**
WRAB	**Tennant Creek**	**18.46**	**193**	P	**P**	**09 57 00.3**	**0.0**
WB2	**Warramunga Arr**	**18.47**	**193**		**P**	**09 57 00.3**	**-0.1**
WRA	**Warramunga Arr**	**18.47**	**193**	P	**P**	**09 57 00.4**	**0.0**
	comp=Z,5.2nm,0.3s,baz=17,slow=12,SNR=294						
WRA				S	**Sn**	**10 00 20.6**	**-5.7**
	comp=Z,0.6nm,0.3s,baz=10.0,slow=22,SNR=5.6						
WRA				LR	LR	10 05 02.0	
	comp=Z,308nm,18.0s,baz=32,slow=40						
WRA	**Warramunga Arr**	**18.47**	**193**	P	**P**	**09 57 00.4**	**0.0**
QIS	**Mount Isa**	**18.60**	**177**	P	**P**	**09 57 01.0**	**-0.9**
BSSI	**Bau Bau, Buton**	**18.67**	**256**	P	**Pn**	**09 57 04.5**	**+1.3**
	comp=Z,423nmcomp=Z,27nm,0.9s						
BNSI	**Bone**	**18.75**	**262**	P	**Pn**	**09 57 08.1**	**+3.9**
SPSI	**Sidrap Palu**	**19.04**	**263**	P	Pn	09 57 14.7	+7.1
KAPI	**Kappang**	**19.18**	**260**	LR	LR	10 05 50.0	
	comp=Z,88nm,18.9s,baz=88,slow=41						
CTA	**Charters Tower**	**19.56**	**158**	P	**P**	**09 57 12.9**	**+0.6**
	comp=Z,4.4nm,0.3s,baz=336,slow=11,SNR=53						
CTA				LR	LR	10 05 46.7	
	comp=Z,230nm,18.4s,baz=334,slow=40						
CTA	**Charters Tower**	**19.56**	**158**	P	**P**	**09 57 13.5**	**+1.2**
CTAO	**Charters Tower**	**19.56**	**158**		**Pn**	**09 57 13.6**	**-0.2**
CTAO				IAmb	IAmb	09 57 15.1	
	comp=Z,26nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.62**	**218**	P	**P**	**09 57 24.1**	**+0.3**
	comp=Z,14nm,0.9s,baz=40,slow=11,SNR=27						
FITZ				S	**S**	**10 01 08.2**	**-4.3**
	baz=180,slow=15						
FITZ				LR	LR	10 06 24.9	
	comp=Z,122nm,18.8s

comp=Z,18nm,1.2s
HHC pmax pmax
SONM Songino Array 56.96 335 P **P** **10 02 27.7 -1.7**
comp=Z,0.5nm,0.5s,baz=154,slow=10,SNR=4.8
SONM Songino Array 56.96 335 IAmb IAmb 10 02 34.4
comp=Z,1.1nm,0.9s
PETK Petropavlovsk- 57.04 14 LR LR 10 23 06.3
comp=Z,35nm,21.9s,baz=205,slow=32
SHEM Shemya Is, Ala 61.97 24 LR LR 10 23 58.7
comp=Z,53nm,20.8s,baz=309,slow=30
WMQ Urumqi 64.35 321 *e*P **P** **10 03 21.6 +1.7**
MK31 Makanchi Array 69.12 322 P **P** **10 03 48.7 -1.5**
MKAR Makanchi Array 69.12 322 P **P** **10 03 48.9 -1.3**
comp=Z,3.1nm,0.6s,baz=109,slow=8.4,SNR=30
MAKZ Makanchi 69.32 322 P **P** **10 03 50.0 -1.4**
MAKZ IAmb IAmb 10 03 50.9
comp=Z,6.5nm,0.8s
ZALV Zalesovo Beam 71.21 330 P **P** **10 04 00.5 -2.3**
comp=Z,3.6nm,0.6s,baz=111,slow=6.4,SNR=15
KURK Kurchatov 73.03 325 P **P** **10 04 12.4 -1.3**
KURK IAmb IAmb 10 04 12.9
comp=Z,5.0nm,0.7s
VNDA Vanda 76.62 175 LR LR 10 37 10.4
comp=Z,64nm,18.8s,baz=334,slow=35
BRVK Borovoye 78.69 325 P **P** **10 04 44.6 -1.4**
KDAK Kodiak Island 80.37 30 P **P** **10 04 53.6 -1.4**
comp=Z,6.7nm,1.0s,baz=247,slow=4.7,SNR=5.6
KDAK Kodiak Island 80.37 30 IAmb IAmb 10 05 13.3
comp=Z,6.5nm,0.9s
MAW Mawson 82.91 202 P **P** **10 05 07.5 -0.7**
comp=Z,2.2nm,0.6s,baz=90,slow=1.0,SNR=2.0
ABKAR Akbulak array 84.08 320 P **P** **10 05 13.3 -1.4**
ABKAR Akbulak array 84.08 320 P **P** **10 05 13.1 -1.5**
ABKAR IAmb IAmb 10 05 14.0
comp=Z,3.5nm,0.9s
CCB Clear Creek Bu 84.65 24 P **P** **10 05 17.4 +0.3**
CCB IAmb IAmb 10 05 17.8
comp=Z,6.3nm,1.3s
ILAR Eielson Array 85.06 24 P **P** **10 05 16.1 -3.1**
comp=Z,0.9nm,0.9s,baz=237,slow=5.8,SNR=5.4
QSPA South Pole Qui 88.08 180 P **P** **10 05 33.8 -0.4**
comp=Z,3.2nm,1.0s,baz=206,slow=1.9,SNR=9.2
QSPA South Pole Qui 88.08 180 IAmb IAmb 10 05 34.7
comp=Z,7.6nm,1.2s
YKA Yellowknife Ar 99.31 27 P **Pdif** **10 06 23.3 -2.4**
comp=Z,0.1nm,0.8s,baz=296,slow=4.8,SNR=2.2
PLCA Paso Flores 129.91 151 PKP **PKiKP** **10 11 55.0 +0.4**
comp=Z,1.1nm,0.6s,baz=200,slow=5.8,SNR=4.8
TORD Torodi Ar. Bea 136.02 287 PKP **PKPdf** **10 12 05.9 0.0**
comp=Z,0.6nm,0.9s,baz=0.0,slow=1.4,SNR=3.1
DBIC Dimbokro 143.37 279 PKhKP PKPpre 10 12 15.2
comp=Z,3.5nm,0.6s,baz=69,slow=3.8,SNR=5.7
LPAZ La Paz 147.93 125 PKPbc **PKPbc** **10 12 30.7 -0.1**
comp=Z,5.3nm,0.7s,baz=193,slow=3.7,SNR=16
LPAZ La Paz 147.93 125 **PKPdf** **10 12 28.3 +0.5**
CPUP Villa Florida 147.97 152 PKPbc **PKPbc** **10 12 30.6 +0.7**
comp=Z,10nm,1.1s,baz=319,slow=1.0,SNR=12

JMA 18 09:53:35.9, 32.67N×130.71E, h16km±1km, M3.8, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**144**	⇑P		Pg 09 53 39.9	0.0
JIU3				S		Sg 09 53 42.8	+0.2
JTA	**Tamana**	**0.33**	**333**	⇑P		Pg 09 53 42.7	-0.1
JTA				S		Sg 09 53 47.4	-0.1
JZO	**Okuchi**	**0.54**	**190**	⇑P		Pg 09 53 46.5	-0.1
JZO				S		Sg 09 53 53.8	0.0
JTZ	**Takazaki**	**0.83**	**157**	⇑P		Pb 09 53 52.0	0.0

*IDC **18** 09:57:32.2±2.6, 1.53S×77.50W, h170km±27km, mb3.6/16, mb1 3.7/20, mb1mx3.6/48, mbtmp4.1/20, Error ellipse: s-maj=23.6km s-min=12.6km az=47.0*
*NEIC **18** 09:57:32.2±2.8, 1.65S±0.07×77.65W±0.09, h169km±7km, mb4.3/42, Error ellipse: s-maj=13.2km s-min=9.4km az=77.0*
ISC 18 09:57:32.3±0.6, 1.71S±0.06×77.64W±0.08, h181km, n88, σ1°35/79, mb4.2/33, 1D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PORT	**Chimborazo Vol**	**1.15**	**282**		**Pn**	**09 58 00.8**	**-1.2**
SLOR	**San Lorenzo -**	**1.29**	**319**		**Pn**	**09 58 02.2**	**-0.8**
BOSC	**San Juan Bosco**	**1.67**	**211**		**Pn**	**09 58 04.7**	**-1.5**
COHC	**Cochancay**	**1.78**	**245**		**Pn**	**09 58 04.5**	**-2.6**
PULU	**Pululahua**	**1.92**	**333**		**Pn**	**09 58 08.2**	**-0.9**
OTAV	**Otavalo**	**2.09**	**337**		**Pn**	**09 58 09.8**	**-1.1**
CUSE	**Cuicocha Este**	**2.14**	**339**	*e*P	**Pn**	**09 58 11.0**	**-0.5**
ARNL	**Arenillas**	**3.03**	**233**		Pn	09 58 17.5	-3.9
CRUC	**La Cruz**	**3.33**	**12**	*e*P	**Pn**	**09 58 26.3**	**+0.9**
PTLC	**Puerto Leguiza**	**3.40**	**57**	∥*i*P	**Pn**	**09 58 24.2**	**-1.8**
MCRA	**Macar, Loja**	**3.51**	**221**		**Pn**	**09 58 23.9**	**-3.4**
SOTA	**Rioblanco**	**3.96**	**15**	*e*P	**Pn**	**09 58 34.2**	**+0.8**
PCON	**Cinco Dias**	**4.20**	**17**	*e*P	**Pn**	**09 58 35.6**	**-0.9**
POPC	**Popayan, Colom**	**4.33**	**13**	*e*P	**Pn**	**09 58 34.9**	**-3.0**
GARC	**Garzon, Huila**	**4.43**	**29**	*e*P	**Pn**	**09 58 39.5**	**+0.3**
GARC				*e*S	**Sn**	**09 59 28.1**	**-3.5**
GRIC	**Gorgona, Isla**	**4.71**	**354**	*e*P	**Pn**	**09 58 42.3**	**-0.2**
MARP	**Paez Belalcaza**	**4.83**	**20**	*e*P	**Pn**	**09 58 43.6**	**-0.8**
BETC	**Betania**	**4.88**	**27**	*e*P	**Pn**	**09 58 47.1**	**+2.2**
MACC	**Macarena, Meta**	**5.39**	**45**	*e*P	**Pn**	**09 58 50.2**	**-1.2**
YOTC	**Yotoco, Valle**	**5.80**	**13**	*e*P	**Pn**	**09 58 54.0**	**-2.9**
ORTC	**Ortega, Tolima**	**6.07**	**23**	*e*P	**Pn**	**09 59 01.4**	**+1.1**
GUVC	**San Jose del G**	**6.56**	**50**	*e*P	Pn	09 59 15.1	+8.4
SOLC	**Bahia Solano**	**7.88**	**2**	*e*P	**Pn**	**09 59 23.1**	**-1.0**
ZARC	**Zaragoza, Cauc**	**9.55**	**17**		**Pn**	**09 59 44.5**	**-1.6**
ZARC	**Zaragoza, Cauc**	**9.55**	**17**	*e*P	**Pn**	**09 59 47.6**	**+1.5**
UREC	**San Jos de Ur**	**9.63**	**13**	*e*P	**Pn**	**09 59 48.2**	**+1.1**
NNA	**Nana**	**10.24**	**176**	P	**Pn**	**09 59 55.5**	**+0.3**
	3.8nm,0.3s,baz=342,slow=14,SNR=6.6						
NNA				S	Sn	10 01 39.8	-9.4
	2.0nm,0.3s,baz=259,slow=20,SNR=1.7						
OCAC	**Ocana**	**10.78**	**24**	Pn	**Pn**	**10 00 02.8**	**+0.6**
BRU2	**Volcan**	**11.58**	**334**		**Pn**	**10 00 12.6**	**0.0**
DRK0	**Durika**	**12.24**	**333**	Pn	**Pn**	**10 00 20.9**	**-0.2**
SRBA	**San Rafael, Bu**	**12.27**	**332**		**Pn**	**10 00 22.0**	**+0.6**
SDV	**Santo Domingo**	**12.63**	**33**	P	**Pn**	**10 00 24.2**	**-1.8**
	0.5nm,0.3s,baz=163,slow=1.5,SNR=6.8						
CVTR	**Volcan Turrial**	**13.15**	**333**	P	**Pn**	**10 00 32.9**	**+0.2**
JTS	**Las Juntas de**	**13.96**	**329**	P	**Pn**	**10 00 42.0**	**-0.7**
	0.3nm,0.3s,baz=100,slow=22,SNR=2.0						
JTS	**Las Juntas de**	**13.96**	**329**	P	**P**	**10 00 44.6**	**-0.5**
DUNO	**Dulce Nombre,**	**14.08**	**326**	P	**P**	**10 00 45.9**	**-0.5**
ORTG	**Ortega, Santa**	**14.29**	**327**	P	**Pn**	**10 00 47.2**	**+0.3**
URIC	**Uribia, Colomb**	**14.46**	**23**	Pn	**Pn**	**10 00 46.7**	**-2.0**
URIC	**Uribia, Colomb**	**14.46**	**23**	*e*P	**Pn**	**10 00 46.8**	**-2.0**
ESPN	**Las Esperanzas**	**15.31**	**335**	P	**Pn**	**10 00 58.8**	**-0.5**
BOAB	**BOACO BROADBAN**	**16.16**	**331**	P	**Pn**	**10 01 10.3**	**+0.7**
BOAB				IAmb	IAmb	10 01 16.6	
	comp=Z,20nm,0.9s						
LPAZ	**La Paz**	**17.25**	**148**	P	**Pn**	**10 01 23.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=326,slow=15,SNR=2.3						
MTO3	**Montecristo**	**19.77**	**324**	P	**P**	**10 01 49.3**	**+0.4**
MTO3				IAmb	IAmb	10 01 51.5	
	comp=Z,11nm,0.9s						
SIV	**San Ignacio**	**21.64**	**132**	P	**P**	**10 02 09.8**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=326,slow=15,SNR=3.0						
LVC	**Limon Verde**	**22.44**	**158**	P	**P**	**10 02 19.9**	**+3.1**
	comp=Z,3.4nm,0.7s,baz=310,slow=5.8,SNR=4.0						
LVC	**Limon Verde**	**22.44**	**158**	IAmb	IAmb	10 02 39.2	
	comp=Z,14nm,1.4s						
CMIG	**Matias Romero**	**25.26**	**318**	P	**P**	**10 02 42.7**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=80,slow=8.6,SNR=5.4						
MDP	**Montagnes des**	**25.88**	**75**	P	**P**	**10 02 47.2**	**-0.4**
	comp=Z,5.9nm,0.7s,baz=255,slow=7.7,SNR=6.1						
V48A	**Smith Brothers**	**38.23**	**348**	P	**P**	**10 04 34.2**	**-0.6**
LCAR	**Lake Charles**	**39.64**	**343**	P	**P**	**10 04 45.1**	**-1.4**
LCAR				IAmb	IAmb	10 04 46.4	
	comp=Z,6.9nm,0.8s						
TXAR	**Lajitas Array**	**39.66**	**323**	P	**P**	**10 04 47.5**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=121,slow=8.9,SNR=5.6						
TXAR				PcP	**PcP**	**10 06 50.6**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=140,slow=4.4,SNR=2.2						
TX31	**Lajitas Ar. Si**	**39.66**	**323**	P	**P**	**10 04 47.1**	**+0.2**
TX31				IAmb	IAmb	10 04 49.1	
	comp=Z,6.7nm,1.1s						
PBMO	**Poplar Bluff**	**40.09**	**344**	P	**P**	**10 04 49.3**	**-0.9**
PBMO				IAmb	IAmb	10 04 50.1	
	comp=Z,7.6nm,0.9s						
U40A	**Yellville**	**40.43**	**341**	P	**P**	**10 04 52.5**	**-0.5**
U40A				IAmb	IAmb	10 04 53.4	
	comp=Z,6.2nm,0.8s						
HHAR	**Hobbs**	**40.73**	**340**	IAmb	IAmb	10 04 55.9	
	comp=Z,8.3nm,1.1s						
MGMO	**Mountain Grove**	**40.98**	**342**	IAmb	IAmb	10 04 57.6	
	comp=Z,8.1nm,0.8s						
CCM	**Cathedral Cave**	**41.52**	**344**	P	**P**	**10 05 00.6**	**-1.3**
MSTX	**Muleshoe**	**42.64**	**329**	P	**P**	**10 05 12.4**	**+1.3**
MSTX				IAmb	IAmb	10 05 12.6	
	comp=Z,4.8nm,0.6s						
KSU1	**Kansas State U**	**44.20**	**339**	P	**P**	**10 05 23.3**	**-0.1**
KSU1				IAmb	IAmb	10 05 23.7	
	comp=Z,7.0nm,0.7s						
319A	**Douglas**	**44.56**	**320**	P	**P**	**10 05 28.4**	**+1.9**
319A				IAmb	IAmb	10 05 28.7	
	comp=Z,4.8nm,0.5s						
ANMO	**Albuquerque**	**45.36**	**326**	P	**P**	**10 05 34.4**	**+1.5**
	comp=Z,7.0nm,0.6s,baz=136,slow=9.5,SNR=35						
ANMO	**Albuquerque**	**45.36**	**326**	P	**P**	**10 05 34.1**	**+1.2**
ANMO				IAmb	IAmb	10 05 35.3	
	comp=Z,7.0nm,0.6s						
TUC	**Tucson**	**46.13**	**320**	P	**P**	**10 05 40.4**	**+1.5**
H43A	**Windswept, Lux**	**46.85**	**350**	P	**P**	**10 05 43.4**	**-0.7**
H43A				IAmb	IAmb	10 05 43.9	
	comp=Z,12nm,0.9s						
G45A	**Suttons Bay**	**47.09**	**352**	P	**P**	**10 05 45.4**	**-0.5**
S22A	**4UR Ranch, Cre**	**47.64**	**328**	P	**P**	**10 05 52.8**	**+2.1**
WUAZ	**Wupatki**	**48.62**	**323**	P	**P**	**10 05 58.2**	**+0.1**
PV13	**Radium Mtn., P**	**49.01**	**327**	IAmb	IAmb	10 06 03.2	
	comp=Z,6.4nm,0.8s						
AGMN	**Agassiz Nation**	**52.27**	**345**	P	**P**	**10 06 24.6**	**-0.4**
AGMN				IAmb	IAmb	10 06 25.0	
	comp=Z,3.7nm,0.6s						
PDAR	**Pinedale Array**	**52.79**	**331**	P	**P**	**10 06 29.7**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=124,slow=8.6,SNR=8.7						
PDAR				PcP	**PcP**	**10 07 36.4**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=116,slow=4.1,SNR=2.4						
HWUT	**Hardware Ranch**	**52.95**	**328**	IAmb	IAmb	10 06 31.9	
	comp=Z,3.1nm,0.7s						
ULM	**Lac du Bonnet**	**54.07**	**346**	P	**P**	**10 06 36.4**	**-1.7**
	comp=Z,4.0nm,0.4s,baz=190,slow=8.1,SNR=3.7						
FLWY	**Flagg Ranch**	**54.32**	**331**	IAmb	IAmb	10 06 42.3	
	comp=Z,6.4nm,1.0s						
ELK	**Elko**	**54.37**	**325**	P	**P**	**10 06 40.0**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=153,slow=4.5,SNR=2.4						
NVAR	**Mina Array Bea**	**54.74**	**321**	P	**P**	**10 06 44.9**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=133,slow=7.3,SNR=10						
YHL	**Hebgen Lake**	**55.12**	**331**	IAmb	IAmb	10 06 48.9	
	comp=Z,5.9nm,1.0s						
MFID	**Camas Ranch**	**56.48**	**327**	P	**P**	**10 06 56.5**	**+0.9**
MFID				IAmb	IAmb	10 06 58.4	
	comp=Z,6.1nm,1.1s						
ORV	**Oroville**	**57.42**	**321**	P	**P**	**10 07 04.2**	**+2.0**
ORV				IAmb	IAmb	10 07 04.7	
	comp=Z,2.9nm,0.7s						
YBH	**Yreka Blue Hor**	**59.42**	**322**	P	**P**	**10 07 16.0**	**-0.1**
	baz=160,slow=8.1						
NEW	**Newport**	**60.43**	**331**	P	**P**	**10 07 23.1**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=17,slow=6.2,SNR=3.4						
NEW	**Newport**	**60.43**	**331**	IAmb	IAmb	10 07 24.0	
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**69.84**	**343**	P	**P**	**10 08 22.7**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=140,slow=6.1,SNR=62						
DLBC	**Dease Lake**	**72.80**	**334**	P	**P**	**10 08 42.2**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=202,slow=8.6,SNR=2.0						
INK	**Inuvik**	**79.57**	**342**	P	**P**	**10 09 19.8**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=101,slow=4.7,SNR=23						
TORD	**Torodi Ar. Bea**	**80.01**	**76**	P	**P**	**10 09 21.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=280,slow=7.1,SNR=5.8						
ILAR	**Eielson Array**	**82.81**	**336**	P	**P**	**10 09 36.4**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=150,slow=4.6,SNR=14						
ASAR	**Alice Springs**	**140.28**	**229**	PKhKP	PKPpre	10 16 36.7	
	comp=Z,0.2nm,0.8s,baz=126,slow=2.0,SNR=1.3						
WRA	**Warramunga Arr**	**141.96**	**234**	PKhKP	PKPpre	10 16 39.5	
	comp=Z,0.1nm,0.6s,baz=103,slow=3.8,SNR=1.3						

*IDC **18** 09:59:49.9±11.0, 17.47S×178.72W, h554km±137km, mb3.0/8, mb1 3.3/8, mb1mx2.9/37, mbtmp4.0/8, Error ellipse: s-maj=88.7km s-min=39.2km az=160.0*
ISC 18 09:59:49.3±1.5, 17.4S±0.5×178.7W±0.3, h547km, n9, σ0°39/9, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.22**	**260**	P	**P**	**10 05 41.9**	**+0.4**
	2.7nm,0.7s,baz=70,slow=12,SNR=1.8						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**10 06 25.5**	**-0.2**
	1.6nm,0.5s,baz=92,slow=9.1,SNR=5.3						
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**10 07 12.0**	**0.0**
	1.0nm,0.7s,baz=97,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**10 07 13.6**	**0.0**
	5.5nm,0.5s,baz=89,slow=8.8,SNR=77						
NVAR	**Mina Array Bea**	**79.30**	**44**	P	**P**	**10 10 59.1**	**+0.4**
	0.4nm,0.6s,baz=226,slow=8.8,SNR=5.3						
ILAR	**Eielson Array**	**85.50**	**13**	P	**P**	**10 11 28.9**	**-0.2**
	0.3nm,0.4s,baz=219,slow=5.2,SNR=7.6						
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**10 11 32.8**	**+0.3**
	0.4nm,0.6s,baz=239,slow=8.3,SNR=2.8						
PDAR	**Pinedale Array**	**87.22**	**4**	P	**P**	**10 11 37.5**	**-0.5**
	0.4nm,0.6s,baz=199,slow=2.7,SNR=5.4						
GERES	**GERESS Array B**	**147.07**	**345**	PKPbc	**PKPbc**	**10 18 30.7**	**-0.4**
	0.6nm,0.7s,baz=0.0,slow=2.0,SNR=2.0						

*JMA **18** 10:11:35.8±0.1, 34.85N×139.07E, h150km±1km, M3.0*
*IDC **18** 10:11:35.9±1.7, 34.68N×138.42E, h141km±26km, mb3.3/3, mb1 3.5/3, mb1mx3.0/45, mbtmp3.7/3, MS3.4/2, Ms1 3.5/2, ms1mx2.7/31, Error ellipse: s-maj=103.0km s-min=26.9km az=80.0*
ISC 18 10:11:36.0±1.0, 34.86N±0.07×139.04E±0.09, h151km±7km, n18, σ0°38/22, mb3.3/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJ3	**Kamata3**	**0.08**	**18**	P	**Pn**	**10 11 56.1**	**-0.1**
KTJ3				S	**Sn**	**10 12 11.7**	**+0.1**
JHTM	**Izuhatsuma**	**0.10**	**345**	P	**Pn**	**10 11 56.2**	**0.0**
AJI	**Ajiro2**	**0.19**	**12**	P	**Pn**	**10 11 56.2**	**-0.1**
JIZS	**Izushimoda**	**0.19**	**224**	P	**Pn**	**10 11 56.2**	**-0.1**
JIZS				*e*S	**Sn**	**10 12 12.0**	**+0.2**
JIM2	**Oshima 3**	**0.35**	**114**	P	**Pn**	**10 11 56.8**	**0.0**
JOD2	**Odawara 2**	**0.41**	**5**	P	**Pn**	**10 11 56.8**	**-0.2**
JOD2				*e*S	**Sn**	**10 12 13.0**	**-0.1**
SHZ3	**Shizuoka 3**	**0.71**	**287**	P	**Pn**	**10 11 58.8**	**+0.1**
SHZ3				S	**Sn**	**10 12 15.9**	**-0.1**
JYN	**Shimob**	**0.76**	**328**	P	**Pn**	**10 11 59.2**	**+0.2**
JYN				*e*S	**Sn**	**10 12 16.8**	**+0.1**
JRY	**Ryogami san**	**1.16**	**354**	P	**Pn**	**10 12 03.0**	**+0.7**
TK02	**Tokai 2**	**1.40**	**230**	P	**Pn**	**10 12 04.8**	**+0.5**
JAG	**Ashikaga**	**1.60**	**12**	P	**Pn**	**10 12 06.5**	**0.0**
BSO1	**Boso 1**	**1.61**	**97**	P	**Pn**	**10 12 06.5**	**+0.4**
MJAR	**Matsushiro Arr**	**1.81**	**338**	P	**Pn**	**10 12 08.8**	**-0.2**
	0.5nm,0.3s,baz=169,slow=11,SNR=10						
MJAR				S	**Sn**	**10 12 34.1**	**-0.3**
	0.4nm,0.3s,baz=269,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**43.68**	**304**	LR	LR	10 37 31.9	
	comp=Z,41nm,21.0s,baz=88,slow=36						
WRA	**Warramunga Arr**	**54.68**	**185**	P	**P**	**10 20 48.5**	**-0.9**
	0.2nm,0.4s,baz=0.2,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**58.41**	**186**	P	**P**	**10 21 15.4**	**-0.3**
	0.1nm,0.3s,baz=5.5,slow=6.7,SNR=6.2						
FINES	**FINESS Array B**	**69.83**	**332**	P	**P**	**10 22 30.4**	**+0.6**
	2.1nm,0.8s,baz=42,slow=8.2,SNR=2.9						
NOA	**NORSAR Array B**	**75.43**	**337**	LR	LR	10 59 57.4	
	comp=Z,27nm,19.8s,baz=270,slow=38						

*IDC **18** 10:18:26.9±1.1, 14.32S×166.19E, h0km, mb4.0/8, mb1 4.3/10, mb1mx4.0/37, mbtmp4.1/10, ML4.4/2, Error ellipse: s-maj=32.3km s-min=22.6km az=121.0*
*NOU **18** 10:18:27.7, 14.15S×166.07E, h0km, MLv4.8/10, Vanuatu Islands*
*NEIC **18** 10:18:33.3±1.4, 14.30S±0.09×166.2E±0.1, h42km±10km, mb4.3/12, Error ellipse: s-maj=15.9km s-min=10.3km az=55.0*
ISC 18 10:18:32.5±0.7, 14.29S±0.08×166.15E±0.09, h35km, n37, σ0°96/39, mb4.2/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.54**	**139**		**Pn**	**10 18 57.1**	**-0.4**
SANVU	**Saraoutou**	**1.54**	**139**	P	**Pn**	**10 18 57.4**	**-0.1**
DVP	**Devils Point**	**3.94**	**150**	P	**Pn**	**10 19 31.5**	**+1.0**
KOUNC	**Koumac, New Ca**	**6.48**	**196**		**Pn**	**10 20 05.4**	**0.0**
KOUNC	**Koumac, New Ca**	**6.48**	**196**	P	**Pn**	**10 20 05.7**	**+0.3**
DZM	**Mont Dzumac**	**7.75**	**178**	Pn	**Pn**	**10 20 22.8**	**-0.1**
	1.2nm,0.3s,baz=296,slow=21,SNR=23						
DZM				Sn	**Sn**	**10 21 49.2**	**-0.3**
	1.1nm,0.3s,baz=162,slow=23,SNR=1.6						
DZM	**Mont Dzumac**	**7.75**	**178**	*e*Pn	**Pn**	**10 20 22.6**	**-0.3**
	9.8nm,0.3s						
DZM	**Mont Dzumac**	**7.75**	**178**	P	**Pn**	**10 20 22.8**	**-0.1**
HNR	**Honiara**	**7.75**	**308**	Pn	**Pn**	**10 20 22.6**	**-0.3**
	22nm,0.3s,baz=140,slow=4.6,SNR=4.4						
HNR	**Honiara**	**7.75**	**308**		**Pn**	**10 20 23.6**	**+0.6**
YATNC	**Mamie plateau,**	**7.76**	**175**	P	**Pn**	**10 20 24.1**	**+1.0**
NOUC	**Port Laguerre**	**7.77**	**179**	P	**Pn**	**10 20 23.8**	**+0.6**
ONTNC	**Ouen Toro**	**7.98**	**178**	Pn	**Pn**	**10 20 26.8**	**+0.8**
OUENC	**Ouen Island, N**	**8.11**	**175**	P	**Pn**	**10 20 29.2**	**+1.3**
PINNC	**Pines Island,**	**8.37**	**172**	Pn	**Pn**	**10 20 32.8**	**+1.3**
STKA	**Stephens Creek**	**28.47**	**228**	P	**P**	**10 24 24.7**	**+0.3**
	3.6nm,0.5s,baz=42,slow=8.1,SNR=13						
STKA	**Stephens Creek**	**28.47**	**228**	P	**P**	**10 24 24.9**	**+0.5**
WB0	**Warramunga Arr**	**30.82**	**255**	P	**P**	**10 24 44.2**	**-1.2**
WB0				IAmb	IAmb	10 24 55.0	
	comp=Z,4.0nm,1.2s						
WB9	**Warramunga Arr**	**30.83**	**255**	P	**P**	**10 24 44.2**	**-1.3**
WB9				IAmb	IAmb	10 24 53.4	
	comp=Z,6.8nm,1.4s						
WB6	**Warramunga Arr**	**30.85**	**255**	P	**P**	**10 24 43.7**	**-1.9**
WB6				IAmb	IAmb	10 25 08.0	
	comp=Z,6.8nm,1.3s						
WRA	**Warramunga Arr**	**30.88**	**255**	P	**P**	**10 24 44.0**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=87,slow=9.2,SNR=5.5						
WRA				PcP	**PcP**	**10 27 43.2**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=81,slow=2.8,SNR=3.2						
WRA	**Warramunga Arr**	**30.88**	**255**	IAmb	IAmb	10 24 49.0	
	comp=Z,0.3nm,1.4s						
ASAR	**Alice Springs**	**31.82**	**248**	P	**P**	**10 24 52.4**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=73,slow=9.2,SNR=7.0						
ASAR				PcP	**PcP**	**10 27 43.4**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=94,slow=2.9,SNR=2.3						
BBOO	**Buckleboo**	**33.00**	**231**	P	**P**	**10 25 04.7**	**+0.2**
BBOO				IAmb	IAmb	10 25 05.6	
	comp=Z,5.7nm,0.8s						
FORT	**Forrest**	**38.59**	**238**	P	**P**	**10 25 51.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.03**	**259**	P	**P**	**10 25 55.6**	**-0.6**
FITZ				IAmb	IAmb	10 26 10.7	
	comp=Z,5.8nm,1.4s						
TGY	**Tagaytay City**	**52.89**	**300**	P	**P**	**10 27 46.2**	**+0.7**
	comp=Z,201nm,0.3s,baz=169,slow=12,SNR=2.2						
CMAR	**Chiang Mai Arr**	**73.78**	**294**	P	**P**	**10 30 05.8**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=120,slow=4.3,SNR=5.3						
SONM	**Songino Array**	**81.50**	**324**	P	**P**	**10 30 46.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=109,slow=3.5,SNR=1.9						
I21K	**Tanana**	**85.28**	**16**	P	**P**	**10 31 05.7**	**+0.4**
CCB	**Clear Creek Bu**	**86.08**	**18**	P	**P**	**10 31 09.0**	**-0.3**
ILAR	**Eielson Array**	**86.45**	**18**	P	**P**	**10 31 11.2**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=242,slow=5.6,SNR=18						
J25K	**Salcha River,**	**86.81**	**19**	P	**P**	**10 31 13.4**	**+0.4**
J25K				IAmb	IAmb	10 31 14.4	
	comp=Z,2.6nm,0.7s						
SCRK	**Sand Creek**	**86.82**	**20**	P	**P**	**10 31 13.6**	**+0.5**
MKAR	**Makanchi Array**	**96.14**	**317**	P	**P**	**10 31 57.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=101,slow=6.0,SNR=3.4						
YKA	**Yellowknife Ar**	**97.66**	**27**	P	**P**	**10 32 01.7**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=255,slow=4.4,SNR=6.4						
ARCES	**ARCESS Array B**	**119.55**	**345**	PKP	**PKPdf**	**10 37 17.6**	**-0.4**
	comp=Z,3.2nm,1.0s,baz=8.5,slow=1.8,SNR=4.1						

*IDC **18** 10:19:15.8±1.2, 14.27S×166.20E, h0km, mb4.0/6, mb1 4.

comp=E,124nm,21.1s,baz=336,slow=36
SJG **San Juan** 1.75 224 Pn 10 22 04.7 -1.0
SJG IAML 10 22 35.0
comp=E,482nm,0.5s
SJG **San Juan** 1.75 224 eP Pn 10 22 04.5 -1.2
SJG eS Sn 10 22 26.4 -0.3
EMPR **Esperanza - Ma** 1.81 241⇓ eP Pn 10 22 06.0 -0.5
EMPR **Esperanza - Ma** 1.81 241 eS Sn 10 22 29.9 +1.7
EMPR **Esperanza - Ma** 1.81 241 Pn 10 22 06.0 -0.5
EMPR Sn 10 22 29.9 +1.7
EMPR **Esperanza - Ma** 1.81 241 IAML 10 22 50.3
comp=N,942nm,0.8s
IGPR **InterUniversit** 1.83 220⇑ eP Pn 10 22 06.1 -0.7
IGPR **InterUniversit** 1.83 220 eS Sn 10 22 30.0 +1.3
AOPR **Arecibo Observ** 2.06 241⇑ eP Pn 10 22 09.3 -0.7
AOPR **Arecibo Observ** 2.06 241 eS Sn 10 22 36.2 +1.7
AOPR **Arecibo Observ** 2.06 241 Pn 10 22 09.3 -0.7
AOPR Sn 10 22 36.2 +1.7
AOPR **Arecibo Observ** 2.06 241 eP Pn 10 22 08.7 -1.3
AOPR eS Sn 10 22 38.2 +3.7
CELP **Cerrillos** 2.07 232⇑ eP Pn 10 22 09.7 -0.5
CELP **Cerrillos** 2.07 232 Pn 10 22 09.7 -0.5
CELP **Cerrillos** 2.07 232 IAML 10 22 40.8
comp=N,397nm,1.0s
CELP IAML 10 22 42.1
comp=E,403nm,1.0s
UUPR **Utuado, UPR, P** 2.08 238⇓ eP Pn 10 22 09.7 -0.6
UUPR **Utuado, UPR, P** 2.08 238 eS Sn 10 22 36.1 +1.2
UUPR **Utuado, UPR, P** 2.08 238 Pn 10 22 09.7 -0.6
UUPR Sn 10 22 36.1 +1.2
OBIP **Obispado Ponce** 2.11 232⇑ eP Pn 10 22 10.2 -0.5
OBIP **Obispado Ponce** 2.11 232 eS Sn 10 22 37.3 +1.6
OBIP **Obispado Ponce** 2.11 232 Pn 10 22 10.2 -0.5
OBIP Sn 10 22 37.3 +1.6
SMRT **St. Maarten** 2.15 127 Pn 10 22 09.9 -1.3
SMRT IAML 10 22 49.5
comp=E,443nm,0.4s
SMRT **St. Maarten** 2.15 127 eP Pn 10 22 11.8 +0.6
SMRT eS Sn 10 22 38.7 +2.0
ICMP **Isla Caja de M** 2.16 227⇑ eP Pn 10 22 11.4 0.0
ICMP **Isla Caja de M** 2.16 227 eS Sn 10 22 38.2 +1.3
ICMP **Isla Caja de M** 2.16 227 Pn 10 22 11.4 0.0
ICMP Sn 10 22 38.2 +1.3
ICMP **Isla Caja de M** 2.16 227 IAML 10 22 55.8
comp=E,522nm,0.8s
AGPR **Aguadilla, PR** 2.31 247⇑ eP Pn 10 22 13.0 -0.4
AGPR **Aguadilla, PR** 2.31 247 eS Sn 10 22 41.6 +1.0
AGPR **Aguadilla, PR** 2.31 247 Pn 10 22 13.0 -0.4
AGPR Sn 10 22 41.6 +1.0
AGPR **Aguadilla, PR** 2.31 247 *i* P Pn 10 22 13.0 -0.4
AGPR IAML 10 22 48.1
comp=Z,154nm,0.8s
GBPR **Guanica, Bosqu** 2.36 234⇑ eP Pn 10 22 14.1 0.0
GBPR **Guanica, Bosqu** 2.36 234 eS Sn 10 22 43.4 +1.6
LSP **Las Mesas** 2.42 241⇑ eP Pn 10 22 14.5 -0.5
LSP **Las Mesas** 2.42 241 eS Sn 10 22 45.3 +2.0
MLPR **Magueyes Islan** 2.49 236⇑ eP Pn 10 22 15.3 -0.6
MLPR **Magueyes Islan** 2.49 236 eS Sn 10 22 47.5 +2.4
MLPR **Magueyes Islan** 2.49 236 Pn 10 22 15.3 -0.6
MLPR Sn 10 22 47.5 +2.4
CRPR **Cabo Rojo, PR** 2.52 238⇑ eP Pn 10 22 15.7 -0.7
CRPR **Cabo Rojo, PR** 2.52 238 eS Sn 10 22 47.8 +2.0
CRPR **Cabo Rojo, PR** 2.52 238 Pn 10 22 15.7 -0.7
CRPR Sn 10 22 47.8 +2.0
CRPR **Cabo Rojo, PR** 2.52 238 IAML 10 23 01.1
comp=N,315nm,0.7s
CRPR **Cabo Rojo, PR** 2.52 238 *i* P Pn 10 22 15.9 -0.4
CRPR eS Sn 10 22 47.7 +1.8
CRPR IAML 10 22 55.7
comp=Z,149nm,0.8s
IDE **Isla Desecheo** 2.66 249⇑ eP Pn 10 22 17.4 -0.8
IDE **Isla Desecheo** 2.66 249 eS Sn 10 22 50.0 +0.8
ANWB **Willy Bob** 3.38 120 eP Pn 10 22 28.7 +0.6
PCDR **Punta Cana, DR** 3.43 256 Pn Pn 10 22 28.2 -0.7
PCDR IAML 10 23 32.4
comp=N,203nm,1.0s
MBFL **Flemmings, Mon** 3.63 136 eP Pn 10 22 33.1 +1.5
ANBD **Bethesda, Anti** 3.74 128 eP Pn 10 22 31.7 -1.4
ANBD eS Sn 10 23 13.8 -2.2
DR12 **Loma Pena Alta** 4.31 263 Pn 10 22 39.3 -1.7
CBE **Ff, Capester** 4.52 136 Pn Pn 10 22 43.1 -0.7
CBE **Ff, Capester** 4.52 136 eP Pn 10 22 44.3 +0.5
TBG **Guadalloupe-3** 4.66 138 eP Pn 10 22 45.0 -0.7
TDBA **Terre de Bas,** 4.66 138 eP Pn 10 22 46.4 +0.6
MAGL **Barre d'ile** 4.82 134 eP Pn 10 22 53.0 +5.0
DSLB **Salisbury** 5.11 139 eP Pn 10 22 52.1 +0.2
BANI **BANI** 5.29 260 *i* P Pn 10 22 55.5 +1.0
BANI IAML 10 23 58.9
comp=Z,54nm,1.4s
LOBA2 **Hotel Casa Bon** 6.04 259 *i* P Pn 10 23 04.4 -0.3
LOBA2 IAML 10 24 21.2
comp=Z,16nm,0.5s
SDDR **Presa de Saban** 6.08 267 Pn 10 23 05.0 -0.3
SDDR **Presa de Saban** 6.08 267 *i* P Pn 10 23 05.1 -0.3
SDDR eS Sn 10 24 11.2 -2.5
SDDR IAML 10 24 17.9
comp=Z,39nm,0.6s
LONE2 **Loma La Sidra** 6.30 264 *i* P Pn 10 23 08.4 -0.1
LONE2 IAML 10 24 33.1
comp=Z,20nm,2.5s
JAKH **Jacmel** 7.33 262 Pn 10 23 22.5 0.0
MASC **Masc** 8.86 277 eP Pn 10 23 39.3 -4.1
MASC *e* 10 23 39.4
baz=95,slow=16
MASC eS Sn 10 25 12.2 -10
MASC IAML 10 25 16.5
comp=E,18nm,0.5s
MASC IAML 10 25 20.3
comp=N,21nm,0.8s
GTBY **Guantanamo Bay** 9.67 275 eP Pn 10 23 51.0 -3.6
GTBY eS Sn 10 25 33.5 -8.4
RCC **Rio Carpintero** 10.22 275 eP Pn 10 23 58.4 -3.7
BAUV **El Baul** 10.81 197 Pn Pn 10 24 07.3 -2.9
SDV **Santo Domingo** 11.82 209 Pn Pn 10 24 27.0 +2.7
comp=N,0.4nm,0.3s,baz=5.5,slow=6.2,SNR=12
SDV Sn Sn 10 26 33.1 -2.0
comp=N,0.2nm,0.3s,baz=333,slow=20,SNR=1.3
SDV LR LR 10 29 20.2
comp=N,57nm,18.2s,baz=53,slow=39
SDV **Santo Domingo** 11.82 209 Pn 10 24 26.2 +2.0
OCAC **Ocana** 13.77 218 Pn 10 24 49.8 -1.0
ZARC **Zaragoza, Cauc** 15.28 221 Pn 10 25 09.3 -1.7
ROSC **El Rosal** 17.13 214 Pn P 10 25 35.8 -0.5
baz=338,slow=24,SNR=1.7
JTS **Las Juntas de** 21.39 248 P P 10 26 21.9 -0.5
comp=N,3.1nm,0.6s,baz=90,slow=7.1
SIV **San Ignacio** 35.34 174 P P 10 28 29.6 -0.1
comp=N,0.4nm,0.3s,baz=336,slow=10.0,SNR=1.9
LPAZ **La Paz** 35.58 185 LR LR 10 43 27.2
comp=N,93nm,18.5s,baz=288,slow=37
TXAR **Lajitas Array** 36.57 293 P P 10 28 41.2 +0.9
comp=N,0.3nm,0.6s,baz=118,slow=11,SNR=2.8
PDAR **Pinedale Array** 44.17 312 P P 10 29 44.1 +0.8
comp=N,0.2nm,0.8s,baz=104,slow=10,SNR=1.9
NVAR **Mina Array Bea** 49.78 304 P P 10 30 27.8 +0.8
comp=N,0.2nm,0.6s,baz=87,slow=8.2,SNR=3.7
YKA **Yellowknife Ar** 54.88 334 P P 10 31 04.3 +0.1
comp=N,0.2nm,0.8s,baz=104,slow=7.5,SNR=3.8
TORD **Torodi Ar. Bea** 63.88 85 P P 10 32 07.2 +0.1
comp=N,0.4nm,0.8s,baz=272,slow=7.1,SNR=1.8

IDC ***18*** *10:29:05.2±0.6,0.˚00N×80.˚30W, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/35, mbtmp4.1/15, ML2.8/1, MS3.6/8, Ms1 3.6/8, ms1mx3.1/61, Error ellipse: s-maj=24.3km s-min=13.4km az=57.0*
IGQ ***18*** *10:29:07±0.3, 0˚S±1˚×8˚0W±˚, h8km*
VAO ***18*** *10:29:07.3±0.8, 0.˚22S×80.˚44W, h10km, mb4.6*
NEIC ***18*** *10:29:17.5±2.6, 0.˚27S±0.˚06×79.˚83W±0.˚07, h68km±6km, mb4.4/29, Error ellipse: s-maj=10.7km s-min=8.2km az=104.0*
ISC 18 10:29:06.9±1.1, 0.˚05S±0.˚02×80.˚33W±0.˚03, h8km±7km, n212, σ1s99/219, mb4.3/23, MS3.7/6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.24**	**151**	P		**Pg**	**10 29 13.0**	**+1.2**
JAMA				S		**Sg**	**10 29 18.0**	**+2.9**
APED	**Ecuador-Perden**	**0.29**	**67**	P		**Pb**	**10 29 14.0**	**-0.4**
APED				S		**Sb**	**10 29 19.0**	**-0.4**
CABP	**Cabo Pasado**	**0.35**	**197**	S		**Sb**	**10 29 22.0**	**+0.9**
CABP				P		**Pb**	**10 29 16.0**	**+0.6**
MAG1	**Magdalena**	**0.55**	**92**	P		**Pb**	**10 29 19.0**	**+0.2**
FLF1	**Flavio Alfaro-**	**0.57**	**122**	P		**Pb**	**10 29 20.0**	**+0.8**
FLF1				S		**Sn**	**10 29 30.0**	**-1.0**
ACHN	**Ecuador-Chone-**	**0.69**	**160**	P		**Pn**	**10 29 22.0**	**-0.9**
AV18	**Acelerografo,**	**0.92**	**67**	P		**Pn**	**10 29 26.0**	**-0.1**
AMNT	**Manta-Manabi**	**0.98**	**205**	P		**Pn**	**10 29 26.0**	**-0.9**
AMNT				S		**Sb**	**10 29 39.0**	**-0.1**
APO1	**Ecuador-Portov**	**0.99**	**188**	P		**Pb**	**10 29 26.0**	**-0.3**
AATC	**Ecuador-Atacam**	**1.02**	**27**	P		**Pb**	**10 29 27.0**	**+0.3**
AATC				S		**Sn**	**10 29 42.0**	**+0.1**
AV21	**Acelerografo,**	**1.05**	**48**	P		**Pg**	**10 29 27.0**	**-0.1**
AV21				S		**Sn**	**10 29 43.0**	**+0.3**
ATON	**Ecuador-Tonsup**	**1.06**	**29**	P		**Pg**	**10 29 27.0**	**-0.3**
BV15	**Puerto Quito-O**	**1.12**	**79**	P		**Pg**	**10 29 27.0**	**-1.4**
AMA1	**Acelerografo,**	**1.15**	**32**	P		**Pb**	**10 29 29.0**	**0.0**
AES1	**Ecuador-Esmera**	**1.19**	**32**	P		**Pn**	**10 29 30.0**	**+0.2**
ASDO	**Santo Domingo**	**1.22**	**100**	P		**Pg**	**10 29 29.0**	**-1.3**
AES2	**Ecuador-Puerto**	**1.24**	**33**	P		**Pg**	**10 29 29.0**	**-1.6**
APR2	**Miler**	**1.36**	**85**	P		**Pn**	**10 29 31.0**	**-1.3**
APR2				S		**Sg**	**10 29 49.0**	**-1.8**
ISPT	**Isla de la Pla**	**1.42**	**212**	P		**Pn**	**10 29 31.0**	**-2.0**
HPAL	**Hacienda Las P**	**1.68**	**96**	P		**Pn**	**10 29 35.0**	**-1.9**
APR1	**Acelerografo,**	**1.71**	**90**	P		**Pn**	**10 29 37.0**	**-0.4**
GGPT	**Toaza - Volcan**	**1.71**	**96**	P		**Pn**	**10 29 36.0**	**-1.4**
PINO	**Pino**	**1.72**	**94**	P		**Pn**	**10 29 36.0**	**-1.7**
TERV	**Terraza Guagua**	**1.73**	**94**	P		**Pn**	**10 29 37.0**	**-0.7**
JUA2	**San Juan 2**	**1.73**	**95**	P		**Pn**	**10 29 37.0**	**-0.7**
ILLI	**Illinizas Sur**	**1.73**	**113**	P		**Pn**	**10 29 36.0**	**-1.7**
GGPC	**Guagua Pichinc**	**1.73**	**94**	P		**Pn**	**10 29 36.0**	**-1.8**
YANA	**Yana**	**1.75**	**92**	P		**Pn**	**10 29 37.0**	**-1.1**
LLOA	**Lloa**	**1.77**	**96**	P		**Pn**	**10 29 37.0**	**-1.3**
PAST	**Pastocalle**	**1.80**	**111**	P		**Pn**	**10 29 38.0**	**-0.7**
VIFL	**Administracin**	**1.81**	**96**	P		**Pn**	**10 29 39.0**	**+0.3**
SANF	**Convento San F**	**1.82**	**95**	P		**Pn**	**10 29 39.0**	**+0.2**
PULU	**Pululahua**	**1.82**	**88**			**Pn**	**10 29 38.9**	**-0.1**
PULU	**Pululahua**	**1.82**	**88**	P		**Pn**	**10 29 38.0**	**-0.9**
SRAM	**San Ramn-Vol**	**1.89**	**112**	P		**Pn**	**10 29 39.0**	**-0.8**
TING	**Casa Alexandra**	**1.89**	**97**	P		**Pn**	**10 29 40.0**	**+0.2**
OTAV	**Otavalo**	**1.90**	**81**			**Pn**	**10 29 39.5**	**-0.4**
ALAT	**Latacunga**	**1.92**	**117**	P		**Pn**	**10 29 41.0**	**+0.8**
ABAB	**Ecuador-Univer**	**1.92**	**155**	P		**Pn**	**10 29 39.0**	**-0.9**
SUCR	**Mariscal Sucre**	**1.92**	**108**	P		**Pn**	**10 29 40.0**	**-0.3**
CAMI	**Rancho Maria**	**1.92**	**109**	P		**Pn**	**10 29 40.0**	**-0.4**
TOMA	**Boca Toma-Volc**	**1.94**	**103**	P		**Pn**	**10 29 41.0**	**+0.4**
BNAS	**Cotopaxi Volca**	**1.94**	**109**	P		**Pn**	**10 29 41.0**	**+0.3**
SLOR	**San Lorenzo -**	**1.95**	**110**	Pn		**Pn**	**10 29 41.5**	**+0.7**
SLOR	**San Lorenzo -**	**1.95**	**110**	P		**Pn**	**10 29 41.0**	**+0.3**
AV11	**Acelerografo,**	**1.95**	**91**	P		**Pb**	**10 29 42.0**	**-0.9**
CUSE	**Cuicocha Este**	**1.96**	**80**	*e*P		**Pn**	**10 29 41.2**	**+0.4**
CUSE				eS		**Sn**	**10 30 05.1**	**-0.7**
CUSE	**Cuicocha Este**	**1.96**	**80**	P		**Pn**	**10 29 40.0**	**-0.8**
PITA	**Cotopaxi Volc**	**1.96**	**105**	P		**Pn**	**10 29 41.0**	**+0.2**
BREF	**Cotopaxi Volca**	**1.98**	**108**	P		**Pn**	**10 29 42.0**	**+0.7**
BMOR	**Cotopaxi Volca**	**1.98**	**110**	P		**Pn**	**10 29 41.0**	**-0.3**
BRRN	**Barrancas-Volc**	**1.99**	**112**	P		**Pn**	**10 29 41.0**	**-0.3**
ALOR	**Ecuador-San Lo**	**1.99**	**48**	P		**Pn**	**10 29 41.0**	**+0.2**
CUIC	**Cuicocha-Domo**	**2.00**	**80**	P		**Pn**	**10 29 40.0**	**-1.3**
CUSW	**Cuicocha Oeste**	**2.00**	**80**	P		**Pn**	**10 29 41.0**	**-0.4**
BVC2	**Cotopaxi Volca**	**2.01**	**108**	P		**Pn**	**10 29 42.0**	**+0.4**
VC1	**Cotopaxi 1**	**2.01**	**107**	P		**Pb**	**10 29 43.0**	**-1.0**
COTA	**Cotacachi**	**2.02**	**79**	P		**Pn**	**10 29 42.0**	**+0.2**
BTAM	**Cotopaxi Volca**	**2.03**	**108**	P		**Pn**	**10 29 42.0**	**+0.1**
CHSH	**Refugio Sur-Vo**	**2.04**	**135**	P		**Pn**	**10 29 42.0**	**-0.1**
TAMB	**Tambo**	**2.06**	**108**	P		**Pn**	**10 29 43.0**	**+0.7**
VCES	**Cotopaxi**	**2.07**	**111**	P		**Pn**	**10 29 43.0**	**+0.6**
POVC	**Chimborazo Vol**	**2.09**	**132**	Pn		**Pn**	**10 29 43.5**	**+0.7**
PORT	**Chimborazo Vol**	**2.09**	**132**	P		**Pn**	**10 29 43.0**	**+0.2**
ANTG	**Antisana-Guama**	**2.12**	**102**	P		**Pn**	**10 29 43.0**	**-0.1**
URCU	**Urcuqui**	**2.12**	**77**	P		**Pn**	**10 29 43.0**	**-0.1**
ALIT	**Ecuador-Imbabu**	**2.13**	**67**	P		**Pn**	**10 29 42.0**	**-1.0**
TAMH	**Tambohuasha Ch**	**2.14**	**134**	P		**Pn**	**10 29 43.0**	**-0.4**
AAT1	**Ecuador-Atunta**	**2.14**	**80**	P		**Pb**	**10 29 45.0**	**-1.2**
ANTM	**Antisana-La Mi**	**2.16**	**103**	P		**Pn**	**10 29 44.0**	**+0.4**
AMIL	**Milagro (Trans**	**2.20**	**161**	P		**Pn**	**10 29 44.0**	**+0.3**
ANTI	**Antisana**	**2.20**	**100**	P		**Pn**	**10 29 46.0**	**-1.3**
ANTS	**Antisana-Sarah**	**2.20**	**102**	P		**Pn**	**10 29 45.0**	**+0.7**
IGUA	**Igualata**	**2.21**	**130**	P		**Pb**	**10 29 46.0**	**-1.5**
AIB1	**Ecuador-Imbabu**	**2.23**	**80**	P		**Pb**	**10 29 47.0**	**-0.7**
AIB2	**Ibarra (Univer**	**2.25**	**80**	P		**Pb**	**10 29 47.0**	**-1.0**
PIAT	**Ana Tenorio**	**2.27**	**115**	P		**Pn**	**10 29 45.0**	**0.0**
YAHU	**Yahuarcocha**	**2.29**	**80**	P		**Pn**	**10 29 47.0**	**+1.6**
BBIL	**Ulba Tungurahu**	**2.31**	**127**	P		**Pn**	**10 29 46.0**	**+0.5**
JUI6	**Juive**	**2.31**	**126**	P		**Pn**	**10 29 46.0**	**+0.5**
POND	**Pondoa**	**2.32**	**126**	P		**Pn**	**10 29 46.0**	**+0.3**
ANGU	**Angureal**	**2.32**	**88**	P		**Pb**	**10 29 48.0**	**-1.3**
CAYR	**Refugio Cayamb**	**2.32**	**88**	P		**Pb**	**10 29 48.0**	**-1.4**
CAYA	**Cayambe**	**2.34**	**87**	P		**Pb**	**10 29 48.0**	**-1.6**
RETU	**Refugio**	**2.34**	**127**	P		**Pn**	**10 29 47.0**	**+0.9**
BMAS	**Tungurahua Vol**	**2.34**	**128**	P		**Pn**	**10 29 47.0**	**+0.9**
MILO	**Milagro-Astudi**	**2.34**	**161**	P		**Pn**	**10 29 44.0**	**-1.7**
BRUN	**Tungurahua Vol**	**2.35**	**125**	P		**Pn**	**10 29 47.0**	**+0.9**
BULB	**Ulba Tungurahu**	**2.36**	**126**	P		**Pn**	**10 29 47.0**	**+0.7**
ARRY	**Arrayan**	**2.37**	**128**	P		**Pn**	**10 29 47.0**	**+0.7**
BPAT	**Tungurahua Vol**	**2.38**	**127**	P		**Pn**	**10 29 48.0**	**+1.3**
CHMA	**Chilma**	**2.44**	**68**	P		**Pn**	**10 29 47.0**	**-0.3**
LNGL	**El Angel-Carch**	**2.45**	**71**	P		**Pn**	**10 29 49.0**	**+1.3**
ECEN	**Cerro Negro**	**2.51**	**70**	P		**Pn**	**10 29 49.0**	**+0.5**
CHL1	**Volcn Chiles**	**2.52**	**71**	P		**Pn**	**10 29 49.0**	**+0.3**
CHL2	**Volcn Chiles**	**2.55**	**71**	P		**Pn**	**10 29 50.0**	**+1.0**
MORR	**Playas El Morr**	**2.58**	**180**	P		**Pn**	**10 29 49.0**	**+0.1**
COHC	**Cochancay**	**2.63**	**156**	Pn		**Pn**	**10 29 49.5**	**-0.1**
COHE	**Cochancay**	**2.63**	**156**	P		**Pn**	**10 29 49.0**	**-0.6**
TULM	**Tulcn-Chalpat**	**2.65**	**73**			**Pb**	**10 29 53.2**	**-1.7**
TULM	**Tulcn-Chalpat**	**2.65**	**73**	*e*P		**Pb**	**10 29 53.7**	**-1.2**
TULM				eS		**Sb**	**10 30 29.3**	**+1.5**
TULM				*i*			10 30 40.0	
comp=Z,443nm,0.7s								
TULM	**Tulcn-Chalpat**	**2.65**	**73**	P		**Pb**	**10 29 53.0**	**-1.9**
CONE	**Cono NE Rev Vo**	**2.68**	**90**	P		**Pn**	**10 29 53.0**	**+2.3**
CMBC	**Cumbal**	**2.69**	**69**	*e*P		**Pn**	**10 29 52.9**	**+2.0**
ARDO	**Archidona, Ten**	**2.69**	**110**	P		**Pn**	**10 29 52.0**	**+1.4**
PUYO	**Puyo, Santa Ro**	**2.71**	**122**	P		**Pb**	**10 29 54.0**	**-1.8**
APUY	**Puyo**	**2.72**	**121**	P		**Pb**	**10 29 54.0**	**-1.9**
ATUL	**Tulcn**	**2.73**	**73**	P		**Pb**	**10 29 54.0**	**-2.1**
SANGA	**Volcan Sangay**	**2.79**	**136**	P		**Pn**	**10 29 54.0**	**+1.7**
BONI	**La Bonita**	**2.84**	**80**	P		**Pn**	**10 29 55.0**	**+2.2**
ISPG	**Isla Puna-Puer**	**2.91**	**177**	P		**Pn**	**10 29 55.0**	**+1.5**
ARNL	**Arenillas**	**3.48**	**176**			**Pn**	**10 30 02.2**	**+1.8**
ARNL	**Arenillas**	**3.48**	**176**	P		**Pn**	**10 30 02.0**	**+0.6**
BOSC	**San Juan Bosco**	**3.58**	**149**			**Pb**	**10 30 07.4**	**-3.3**
BOSC	**San Juan Bosco**	**3.58**	**149**	P		**Pb**	**10 30 07.0**	**-3.7**
GR1C	**Gorgona, Isla**	**3.72**	**35**	*e*P		**Pn**	**10 30 02.4**	**-2.3**
GR1C				eS		**Sg**	**10 31 02.8**	**-3.7**
CRUC	**La Cruz**	**3.74**	**65**	*e*P		**Pn**	**10 30 07.6**	**+2.4**
CRUC				eS		**Sb**	**10 30 58.9**	**-0.1**
SOTA	**Rioblanco**	**4.30**	**60**	*e*P		**Pn**	**10 30 14.9**	**+1.8**
SOTA				eS		**Sb**	**10 31 10.6**	**-4.8**
MCRA	**Macar, Loja**	**4.31**	**175**			**Pn**	**10 30 16.1**	**+3.3**
MCRA	**Macar, Loja**	**4.31**	**175**	P		**Pn**	**10 30 15.0**	**+2.2**
POPC	**Popayan, Colom**	**4.46**	**55**	*e*P		**Pn**	**10 30 15.8**	**+0.7**
POPC				eS		**Sn**	**10 31 12.6**	**+5.2**
PCON	**Cinco Dias**	**4.58**	**59**	*e*P		**Pn**	**10 30 18.9**	**+1.9**
PCON				eS		**Sb**	**10 31 19.3**	**-4.2**
ZUMB	**Zumba**	**4.93**	**166**	P		**Pn**	**10 30 24.0**	**+2.6**
MARP	**Paez Belalcaza**	**5.23**	**57**	*e*P		**Pn**	**10 30 27.7**	**+2.0**
MARP				eS		**Sn**	**10 31 34.1**	**+7.8**
GARC	**Garzon, Huila**	**5.32**	**65**	*e*P		**Pn**	**10 30 28.6**	**+1.7**
PTLC	**Puerto Leguiza**	**5.53**	**88**	*e*P		**Pn**	**10 30 31.4**	**+1.7**
PTLC				eS		**Sb**	**10 31 53.1**	**+2.7**
BETC	**Betania**	**5.58**	**61**	*e*P		**Pn**	**10 30 33.0**	**+2.6**
BETC				eS		**Sb**	**10 31 48.3**	**-3.6**
YOTC	**Yotoco, Valle**	**5.64**	**45**	*e*P		**Pn**	**10 30 30.9**	**-0.3**
YOTC				eS		**Sn**	**10 31 44.2**	**+7.9**
PLMC	**San Jos del P**	**6.37**	**39**	*e*P		**Pn**	**10 30 40.6**	**-0.5**
ORTC	**Ortega, Tolima**	**6.42**	**52**	*e*P		**Pn**	**10 30 43.2**	**+1.3**
ORTC				eS		**Sn**	**10 32 03.9**	**+8.5**
MACC	**Macarena, Meta**	**6.83**	**71**	*e*P		**Pn**	**10 30 49.4**	**+1.9**
MACC				eS		**Sb**	**10 32 35.6**	**+7.8**
GUY2C	**Guyana, Caldas**	**7.21**	**43**	*e*P		**Pn**	**10 30 59.4**	**+6.3**
GUY2C				eS		**Sn**	**10 32 21.1**	**+5.6**
CBOC	**Ciudad Bolivar**	**7.28**	**36**	*e*P		**Pn**	**10 30 59.3**	**+5.5**
CBOC				eS		**Sn**	**10 32 29.0**	**+12**
ROSC	**El Rosal**	**7.72**	**51**	Pn		**Pn**	**10 30 59.6**	**-0.3**
comp=Z,3.1nm,0.3s,baz=329,slow=22,SNR=2.9								
ROSC				Sn		**Sn**	**10 32 28.0**	**+0.1**
comp=Z,2.1nm,0.3s,baz=76,slow=23,SNR=1.3								
ROSC	**El Rosal**	**7.72**	**51**			Pn	10 31 04.8	+4.9
ROSC	**El Rosal**	**7.72**	**51**	*e*P		Pn	10 31 04.9	+4.9
NORC	**Norcasia**	**7.79**	**44**	*e*P		**Pn**	**10 31 04.1**	**+3.3**
HELC	**Santa Helena**	**7.83**	**38**	*e*P		**Pn**	**10 31 06.0**	**+4.5**
CHIC	**Chingaza**	**8.06**	**55**	*e*P		Pb	10 31 18.0	-9.1
PTBC	**PUERTO BERRIO,**	**8.78**	**42**	*e*P		**Pn**	**10 31 18.7**	**+4.5**
UREC	**San Jos de Ur**	**9.10**	**32**	*e*P		**Pn**	**10 31 17.7**	**-1.0**
ZARC	**Zaragoza, Cauc**	**9.27**	**36**	*e*P		**Pn**	**10 31 24.7**	**+3.8**
CZSB	**Cruzeiro do Su**	**10.77**	**135**	*e*P		**Pn**	**10 31 41.9**	**+0.4**
CZSB				eS		**Sn**	**10 33 42.3**	**0.0**
TBTG	**Tabatinga, AM**	**11.19**	**112**	*e*P		**Pn**	**10 31 48.5**	**+1.2**
JTS	**Las Juntas de**	**11.26**	**336**	Pn		**Pn**	**10 31 50.0**	**+1.8**
comp=Z,0.1nm,0.3s,baz=303,slow=13,SNR=3.7								
JTS				LR		LR	10 35 11.1	
comp=Z,135nm,18.2s,baz=204,slow=33								
NNA	**Nana**	**12.36**	**164**	Pn		**Pn**	**10 32 06.0**	**+2.7**
comp=Z,3.6nm,0.3s,baz=311,slow=13,SNR=4.5								
NNA				Sn		**Sn**	**10 34 19.0**	**-2.3**
comp=Z,2.9nm,0.3s,baz=211,slow=16,SNR=2.9								
SDV	**Santo Domingo**	**13.11**	**47**	Pn		**Pn**	**10 32 16.0**	**+2.2**
comp=Z,0.6nm,0.3s,baz=215,slow=5.8,SNR=7.3								
SDV				Sn		**Sn**	**10 34 38.2**	**-1.9**
comp=Z,0.5nm,0.3s,baz=277,slow=16,SNR=1.8								
SDV				LR		LR	10 38 17.2	
comp=Z,118nm,18.8s,baz=318,slow=42								
SDV	**Santo Domingo**	**13.11**	**47**	Pn		**Pn**	**10 32 18.3**	**+4.5**
SDV	**Santo Domingo**	**13.11**	**47**	*e*P		**Pn**	**10 32 17.6**	**+3.9**
SDV	**Santo Domingo**	**13.11**	**47**	*e*P		**Pn**	**10 32 17.7**	**+3.9**
URIC	**Uribia, Colomb**	**14.31**	**35**			**P**	**10 32 35.8**	**-1.4**
BAUV	**El Baul**	**15.15**	**54**	Pn		**Pn**	**10 32 43.2**	**+1.8**
MTO3	**Montecristo**	**16.91**	**328**	P		P	10 33 16.6	+10
MTDJ	**Mount Denham**	**18.37**	**8**	P		**P**	**10 33 28.7**	**+6.4**
MTDJ				IAmb	IAmb	IAmb	10 33 40.9	
comp=Z,50nm,1.1s								
MACA	**Manacapuru-AM**	**19.87**	**99**	*e*P		**Pn**	**10 33 40.7**	**+0.3**
BOAV	**Boa Vista**	**19.95**	**83**	*e*P		**Pn**	**10 33 41.7**	**+0.5**
LPAZ	**La Paz**	**20.13**	**144**	Pn		P	**10 33 42.8**	**+0.6**
LPAZ	**La Paz**	**20.13**	**144**	*e*P		**P**	**10 33 42.1**	**-0.1**
PB16	**IPOC Station P**	**21.05**	**150**	IAmb	IAmb	IAmb	10 34 04.5	
comp=Z,9.7nm,0.8s								
PB11	**IPOC Station P**	**22.21**	**153**	P		**P**	**10 34 04.8**	**+0.7**
PB11				IAmb	IAmb	IAmb	10 34 08.5	
comp=Z,14nm,0.8s								
GO01	**Chusmiza**	**22.34**	**151**	P		**P**	**10 34 06.7**	**+0.8**
GO01				IAmb	IAmb	IAmb	10 34 10.0	
comp=Z,12nm,0.8s								
SJG	**San Juan**	**22.80**	**37**	LR	LR	LR	10 43 47.0	
comp=Z,62nm,18.5s,baz=200,slow=39								
CBYP	**Canovanas**	**23.10**	**37**	P		**P**	**10 34 13.8**	**+0.3**
CBYP				IAmb	IAmb	IAmb	10 34 26.4	
comp=Z,10nm,0.8s								
VILB	**Vilhena**	**23.72**	**123**	*e*P		**P**	**10 34 20.7**	**+1.1**
SIV	**San Ignacio**	**24.74**	**131**	P		**P**	**10 34 29.3**	**+0.1**
comp=Z,2.7nm,0.6s,baz=299,slow=9.5,SNR=13								
SIV				LR	LR	LR	10 45 42.4	
comp=Z,216nm,18.6s,baz=310,slow=40								
ITTB	**Itaituba**	**24.94**	**100**	*e*P		**P**	**10 34 30.7**	**-0.2**
LVC	**Limon Verde**	**25.03**	**154**	P		**P**	**10 34 32.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	16nm,1.3s						
ZALV	**Zalesovo Beam**	**3.38**	**277**	Pn	**Pn**	**10 32 56.8**	**+2.0**
	2.1nm,0.3s,baz=89,slow=15,SNR=21						
ZALV				Lg	Lg	10 33 51.7	
	3.4nm,0.3s,baz=91,slow=26,SNR=8.3						
KURK	**Kurchatov**	**7.88**	**253**	⇓Pn	**Pn**	**10 33 57.6**	**+0.9**
	2.8nm,0.6s						
KURK				⇑Sn	**Sn**	**10 35 26.7**	**+0.2**
	15nm,1.4s						
KURK				⇓Lg	Lg	10 36 09.3	
	34nm,1.3s						
KURBB	**Kurchatov Arra**	**7.98**	**252**	Pn	**Pn**	**10 33 58.0**	**+0.1**
	0.2nm,0.3s,baz=67,slow=15,SNR=10						
KURBB				Sn	**Sn**	**10 35 30.7**	**+1.9**
	0.1nm,0.3s,baz=69,slow=27,SNR=15						
KURBB				Lg	Lg	10 36 16.8	
	0.1nm,0.3s,baz=61,slow=33,SNR=7.0						
KURBB	**Kurchatov Arra**	**7.98**	**252**	⇓Pn	**Pn**	**10 33 57.7**	**-0.3**
	4.0nm,0.7s						
KURBB				⇑Sn	**Sn**	**10 35 28.1**	**-0.7**
	18nm,0.7s						
KURBB				⇓Lg	Lg	10 36 11.2	
	73nm,1.1s						
MK31	**Makanchi Array**	**8.68**	**221**	⇑Pn	**Pn**	**10 34 07.8**	**+0.2**
	0.6nm,0.5s,baz=39,slow=13,SNR=8.3						
MK31				⇑Sn	**Sn**	**10 35 47.4**	**+1.3**
	3.6nm,0.8s,baz=47,slow=24,SNR=3.5						
MK31				⇑Lg	Lg	10 36 32.3	
	11nm,0.8s,baz=44,slow=37,SNR=4.6						
MKAR	**Makanchi Array**	**8.68**	**221**	Pn	**Pn**	**10 34 08.1**	**+0.5**
	0.5nm,0.3s,baz=42,slow=14,SNR=15						
MKAR				Sn	**Sn**	**10 35 46.0**	**-0.1**
	0.1nm,0.3s,baz=40,slow=25,SNR=2.8						
MKAR				Lg	Lg	10 36 33.6	
	0.1nm,0.3s,baz=39,slow=27,SNR=5.7						
I34MN	**SONGINO INFRAS**	**11.66**	**114**	*i*		11 39 50.0	
	baz=305,slow=327,SNR=2.7						

*IDC **18** 10:33:59.0±1.2,27.˚68S×178.˚98W,h394km±19km, mb3.2/5, mb1 3.5/6,mb1mx3.2/35, mbtmp4.1/6,Error ellipse: s-maj=51.3km s-min=21.1km az=165.0*

ISC 18 10:33:59.7±0.9,**27.˚90S**±0.˚09×**178.˚9W**±0.˚1,**h400**km,**n46, σ1°85/75, mb3.5/5, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**1.59**	**148**	P	**Pn**	**10 34 54.4**	**+1.2**
RIZ				S	**S**	**10 35 38.0**	**+1.4**
RAO	**Raoul Island**	**1.60**	**148**	P	**Pn**	**10 34 54.9**	**+1.7**
	159nm,0.3s,baz=95,slow=23,SNR=8.6						
RAO				S	**S**	**10 35 36.9**	**+0.3**
	170nm,0.3s,baz=80,slow=20,SNR=5.6						
GLKZ	**Green Lake**	**1.61**	**148**	P	**Pn**	**10 34 54.4**	**+1.1**
GLKZ				S	**S**	**10 35 37.1**	**+0.4**
MXZ	**Matakaoa Point**	**9.92**	**193**	P	**P**	**10 36 14.8**	**-1.4**
MXZ				S	**S**	**10 38 07.3**	**-1.5**
WMGZ	**Waiomatatini S**	**10.15**	**192**	P	P	10 36 15.2	-3.6
WMGZ				S	**S**	**10 38 11.1**	**-2.3**
OPRZ	**Ohinepanea**	**10.63**	**200**	P	**Pn**	**10 36 27.0**	**+2.1**
URZ	**Urewera**	**10.86**	**197**	P	**P**	**10 36 27.7**	**+1.1**
	7.0nm,0.3s,baz=293,slow=3.2,SNR=36						
URZ				S	**S**	**10 38 26.7**	**-1.2**
	2.7nm,0.3s,baz=230,slow=23,SNR=19						
URZ	**Urewera**	**10.86**	**197**	P	**P**	**10 36 26.2**	**-0.5**
URZ				S	**S**	**10 38 24.6**	**-3.3**
MUGZ	**Murupara**	**11.15**	**198**	P	**P**	**10 36 30.6**	**+0.7**
RTZ	**Ruatahuna**	**11.23**	**197**	P	**P**	**10 36 31.4**	**+0.6**
RTZ				S	**S**	**10 38 32.8**	**-2.8**
SNGZ	**Shannon Statio**	**11.30**	**195**	P	**P**	**10 36 28.4**	**-3.1**
SNGZ				S	**S**	**10 38 34.1**	**-2.8**
RAHZ	**Arahi**	**11.49**	**196**	P	**P**	**10 36 33.2**	**-0.4**
RAHZ				S	**S**	**10 38 38.8**	**-1.9**
MTHZ	**Maungataniwha**	**11.49**	**197**	P	**P**	**10 36 34.9**	**+1.2**
MTHZ				S	**S**	**10 38 38.8**	**-2.0**
NMHZ	**Naumai**	**11.73**	**197**	P	**P**	**10 36 37.6**	**+1.2**
NMHZ				S	**S**	**10 38 46.6**	**+0.9**
HIZ	**Hauiti**	**11.80**	**205**	P	**Pn**	**10 36 42.5**	**+4.1**
ARHZ	**Aropaoanui**	**11.84**	**196**	P	**P**	**10 36 38.3**	**+0.9**
ARHZ				S	**S**	**10 38 45.3**	**-2.5**
BKZ	**Black Stump Fm**	**11.88**	**198**	P	**P**	**10 36 36.2**	**-1.7**
BKZ				S	**S**	**10 38 45.7**	**-3.0**
ETVZ	**East Tongariro**	**12.07**	**200**	P	**P**	**10 36 41.3**	**+1.1**
MCHZ	**McNeill Hill**	**12.09**	**197**	P	**P**	**10 36 41.0**	**+0.9**
MCHZ				S	**S**	**10 38 51.7**	**-1.1**
WTVZ	**West Tongariro**	**12.09**	**201**	P	**P**	**10 36 41.6**	**+1.2**
NNVZ	**North Ngauruho**	**12.10**	**201**	P	**P**	**10 36 42.3**	**+1.8**
OTVZ	**Oturere**	**12.11**	**201**	P	**P**	**10 36 40.8**	**+0.1**
OTVZ				S	**S**	**10 38 54.0**	**+0.4**
SNVZ	**South Ngauruho**	**12.14**	**201**	P	**P**	**10 36 41.3**	**+0.3**
TUVZ	**Tukino**	**12.21**	**200**	P	**P**	**10 36 43.1**	**+1.3**
TUVZ				S	**S**	**10 38 55.5**	**-0.2**
FWVZ	**Far West T-bar**	**12.23**	**201**	P	**P**	**10 36 42.8**	**+0.8**
WNVZ	**Wahianoa**	**12.28**	**200**	P	**P**	**10 36 43.1**	**+0.6**
WNVZ				S	**S**	**10 38 59.8**	**+2.6**
BHHZ	**Black Hill Sta**	**12.30**	**199**	P	**P**	**10 36 42.3**	**-0.2**
BHHZ				S	**S**	**10 38 56.4**	**-0.7**
MOVZ	**Moawhango**	**12.31**	**200**	P	**P**	**10 36 43.2**	**+0.5**
MOVZ				S	**S**	**10 38 56.0**	**-1.5**
PKVZ	**Pokaka**	**12.33**	**201**	P	**P**	**10 36 44.0**	**+1.1**
KRHZ	**Kereru**	**12.36**	**197**	P	**P**	**10 36 42.6**	**-0.5**
KRHZ				S	**S**	**10 38 55.0**	**-3.3**
KAHZ	**Kahuranaki**	**12.37**	**195**	P	**P**	**10 36 43.1**	**-0.2**
KAHZ				S	**S**	**10 38 59.3**	**+0.7**
PXZ	**Pawanui**	**12.60**	**195**	P	**P**	**10 36 45.1**	**-0.7**
PXZ				S	**S**	**10 39 00.1**	**-3.1**
PNHZ	**Pukenui**	**12.65**	**197**	P	**P**	**10 36 46.4**	**-0.1**
PNHZ				S	**S**	**10 39 01.7**	**-2.6**
PKEZ	**Pukeiti**	**12.73**	**206**	P	**Pn**	**10 36 53.0**	**+3.8**
PRHZ	**Porangahau**	**12.88**	**196**	P	**P**	**10 36 48.3**	**-0.5**
PRHZ				S	**S**	**10 39 08.3**	**-0.5**
BFZ	**Birch Farm**	**13.37**	**196**	P	**P**	**10 36 54.0**	**-0.2**
BFZ				S	**S**	**10 39 16.1**	**-2.5**
MRZ	**Mangatainoka R**	**13.52**	**198**	P	**P**	**10 36 55.1**	**-0.8**
MRZ				S	**S**	**10 39 17.7**	**-4.0**
HOWZ	**Holdsworth Sta**	**13.76**	**198**	P	**P**	**10 36 58.4**	**-0.1**
HOWZ				S	**S**	**10 39 23.1**	**-3.4**
OGWZ	**Otaki Gorge**	**13.78**	**199**	P	**P**	**10 36 58.7**	**-0.1**
OGWZ				S	**S**	**10 39 22.9**	**-4.0**
CAW	**Cannon Point**	**14.08**	**199**	P	**P**	**10 37 01.5**	**-0.5**
CAW				S	**S**	**10 39 30.4**	**-2.5**
CTA	**Charters Tower**	**32.69**	**276**	P	**P**	**10 39 56.9**	**+0.1**
	1.2nm,0.3s,baz=114,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**42.51**	**265**	P	**P**	**10 41 16.8**	**-1.2**
	0.4nm,0.5s,baz=93,slow=7.5,SNR=3.7						
WRA	**Warramunga Arr**	**43.27**	**270**	P	**P**	**10 41 23.1**	**-0.9**
	1.2nm,0.6s,baz=103,slow=8.7,SNR=13						
NVAR	**Mina Array Bea**	**86.95**	**43**	P	**P**	**10 46 01.2**	**+0.2**
	0.5nm,0.7s,baz=219,slow=8.5,SNR=4.6						
PDAR	**Pinedale Array**	**94.87**	**44**	P	**P**	**10 46 36.6**	**-1.0**
	0.6nm,0.8s,baz=179,slow=4.1,SNR=2.8						
FINES	**FINESS Array B**	**142.53**	**341**	PKP	**PKPdf**	**10 52 41.8**	**-3.2**
	1.0nm,0.7s,baz=35,slow=3.4,SNR=1.7						

*IDC **18** 10:35:37.8±1.6,6.˚22S×149.˚69E,h80km±27km, mb3.4/4, mb1 3.6/6,mb1mx3.3/33, mbtmp3.7/6, Error ellipse: s-maj=77.7km s-min=8.8km az=133.0*

ISC 18 10:35:37.1±1.0,**5.˚9S**±0.˚2×**149.˚4E**±0.˚2,**h58**km,**n7**,σ0°92/9, **mb3.7/3, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.10**	**59**	P	**Pn**	**10 36 24.8**	**+1.1**
	7.3nm,0.3s,baz=300,slow=19,SNR=2.3						
KRVT				S	**Sn**	**10 36 58.4**	**-1.3**
	7.7nm,0.3s,baz=64,slow=22,SNR=4.6						
PMG	**Port Moresby**	**4.09**	**212**	P	**Pn**	**10 36 38.0**	**+0.8**
	6.1nm,0.3s,baz=48,slow=12,SNR=17						
PMG				S	**Sn**	**10 37 23.5**	**-0.3**
	7.5nm,0.3s,baz=10,slow=21,SNR=9.8						
WRA	**Warramunga Arr**	**20.18**	**225**	P	**P**	**10 40 07.0**	**-0.2**
	0.8nm,0.3s,baz=52,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.07**	**219**	P	**P**	**10 40 37.2**	**-0.8**
	0.3nm,0.7s,baz=58,slow=8.8,SNR=8.7						
FITZ	**Fitzroy Crossi**	**26.12**	**240**	P	**P**	**10 41 05.2**	**-0.7**
	0.9nm,0.4s,baz=53,slow=8.0,SNR=13						
PETK	**Petropavlovsk-**	**59.23**	**6**	P	**P**	**10 45 32.3**	**0.0**
	3.8nm,0.9s,baz=164,slow=5.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**147.34**	**285**	PKPbc	**PKPdf**	**10 55 13.6**	**+0.7**
	0.2nm,0.5s,baz=70,slow=3.7,SNR=1.7						

*IDC **18** 10:37:16.0±0.8,10.˚22N×104.˚12W,h0km,mb3.8/9, mb1 4.1/11,mb1mx4.0/36,mbtmp3.8/11,ML3.3/2,MS3.7/9, Ms1 3.7/9,ms1mx3.4/41,Error ellipse: s-maj=37.5km s-min=16.4km az=68.0*

*NEIC **18** 10:37:20.9±2.8, 10.˚2N±0.˚1×104.˚0W±0.˚1,h10km±1km, mb4.4/70,Error ellipse: s-maj=24.8km s-min=17.5km az=248.0*

ISC 18 10:37:22.3±0.7,**10.˚11N**±0.˚09×**104.˚1W**±0.˚1,**h35**km,**n78, σ1°68/58, mb4.3/31, MS3.7/7, Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**11.31**	**51**	Pn	**Pn**	**10 39 59.1**	**-2.5**
	0.2nm,0.3s,baz=224,slow=4.4,SNR=4.5						
CMIG				LR	LR	10 43 23.3	
	comp=Z,602nm,19.8s,baz=232,slow=33						
ZAIG	**Zacatecas**	**12.67**	**6**	Pn	**Pn**	**10 40 21.3**	**+0.9**
MTO3	**Montecristo**	**15.01**	**72**	P	**Pn**	**10 40 54.5**	**+2.4**
LPIG	**La Paz**	**15.12**	**338**	LR	LR	10 45 01.8	
	comp=Z,555nm,20.9s,baz=162,slow=31						
HPIG		**16.80**	**355**	P	**P**	**10 41 16.9**	**-0.1**
TGUH	**Tegucigalpa,Un**	**16.90**	**75**	P	**P**	**10 41 19.2**	**+1.1**
TGUH				IAmb	IAmb	10 41 38.2	
	comp=Z,45nm,1.4s						
MATN	**Matagalpa**	**18.01**	**79**	P	**P**	**10 41 31.8**	**+1.4**
TXAR	**Lajitas Array**	**19.13**	**1**	P	**P**	**10 41 40.2**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=175,slow=12,SNR=7.9						
TX31	**Lajitas Ar. Si**	**19.13**	**1**	P	**P**	**10 41 43.5**	**+1.0**
TX32	**Lajitas Array**	**19.13**	**1**	P	**P**	**10 41 43.2**	**+0.7**
TX04	**Lajitas Array**	**19.13**	**1**	P	**Pn**	**10 41 44.0**	**+0.4**
TX07	**Lajitas Array**	**19.13**	**1**	P	**Pn**	**10 41 44.1**	**+0.5**
TX09	**Lajitas Array**	**19.14**	**1**	P	**P**	**10 41 43.4**	**+0.7**
TX08	**Lajitas Array**	**19.14**	**1**	P	**P**	**10 41 43.7**	**+1.0**
HSIG		**19.88**	**342**	P	**P**	**10 41 51.6**	**+1.0**
JCT	**Junction City**	**20.65**	**11**	P	**P**	**10 42 00.7**	**+1.6**
JCT				IAmb	IAmb	10 42 17.7	
	comp=Z,18nm,1.1s						
435B	**Jarrell**	**21.44**	**15**	P	**P**	**10 42 08.7**	**+1.2**
435B				IAmb	IAmb	10 42 12.3	
	comp=Z,27nm,1.3s						
MNTX	**Cornudas Mount**	**21.51**	**357**	P	**P**	**10 42 08.1**	**-0.2**
319A	**Douglas**	**21.70**	**348**	P	**P**	**10 42 10.8**	**+0.4**
ABTX	**Abilene, Hawle**	**22.77**	**10**	P	**P**	**10 42 22.0**	**+0.2**
ABTX				IAmb	IAmb	10 42 37.9	
	comp=Z,8.5nm,0.9s						
TUC	**Tucson**	**22.94**	**345**	P	**P**	**10 42 24.7**	**+1.1**
113A	**Mohawk Valley,**	**24.25**	**340**	P	**P**	**10 42 34.0**	**-2.1**
ANMO	**Albuquerque**	**24.81**	**355**	P	**P**	**10 42 37.9**	**-3.5**
	comp=Z,0.5nm,0.5s,baz=194,slow=4.2,SNR=1.8						
X16A	**Lo Mia Camp, P**	**25.11**	**346**	P	**P**	**10 42 45.5**	**+1.4**
PFO	**Pinyon Flats O**	**26.01**	**336**	LR	LR	10 49 44.3	
	comp=Z,50nm,20.7s,baz=150,slow=29						
MIAR	**Mount Ida**	**26.15**	**20**	P	**P**	**10 42 54.9**	**+1.6**
MIAR				IAmb	IAmb	10 42 59.4	
	comp=Z,5.0nm,0.9s						
GSC	**Goldstone, Bar**	**27.63**	**337**	P	**P**	**10 43 06.4**	**-0.3**
CCAC	**Calif City Air**	**27.98**	**335**	IAmb	IAmb	10 43 14.0	
	comp=Z,8.4nm,0.9s						
GWY	**Greenwater Val**	**28.36**	**338**	P	**P**	**10 43 15.6**	**+2.3**
GWY				IAmb	IAmb	10 43 17.4	
	comp=Z,5.3nm,1.3s						
OMMB	**Old Mammoth Mi**	**30.50**	**336**	P	**P**	**10 43 31.1**	**-1.4**
OMMB				IAmb	IAmb	10 43 36.8	
	comp=Z,6.4nm,1.2s						
MDPB	**Devils Postpil**	**30.55**	**336**	IAmb	IAmb	10 43 38.1	
	comp=Z,5.3nm,1.1s						
NV11	**Mina Array Sit**	**30.89**	**338**	P	**P**	**10 43 38.9**	**+3.1**
NV11				IAmb	IAmb	10 43 50.5	
	comp=Z,4.6nm,1.3s						
NVAR	**Mina Array Bea**	**30.95**	**338**	P	**P**	**10 43 34.3**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=148,slow=10,SNR=8.8						
RYN	**Ryan**	**31.20**	**338**	IAmb	IAmb	10 43 43.5	
	comp=Z,4.3nm,1.2s						
KVN	**Kaiserville**	**31.42**	**339**	P	**P**	**10 43 42.6**	**+2.1**
KVN				IAmb	IAmb	10 43 44.4	
	comp=Z,5.4nm,1.3s						
PNTR	**Pine Nut**	**32.01**	**337**	IAmb	IAmb	10 43 51.5	
	comp=Z,4.2nm,0.8s						
ELK	**Elko**	**32.07**	**344**	LR	LR	10 55 38.2	
	comp=Z,151nm,18.6s,baz=162,slow=34						
VCNR	**Virginia City**	**32.21**	**337**	IAmb	IAmb	10 43 52.7	
	comp=Z,5.1nm,1.1s						
PD31	**Pinedale Array**	**32.88**	**353**	IAmb	IAmb	10 44 03.3	
	comp=Z,4.6nm,1.4s						
PDAR	**Pinedale Array**	**32.88**	**353**	P	**P**	**10 43 51.5**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=183,slow=5.9,SNR=3.5						
PDAR				LR	LR	10 56 01.0	
	comp=Z,122nm,21.0s,baz=186,slow=34						
BEKR	**Beckworth**	**32.98**	**337**	IAmb	IAmb	10 44 04.9	
	comp=Z,5.3nm,1.4s						
HDIL	**Hopedale**	**33.03**	**21**	P	**P**	**10 43 54.2**	**-0.1**
ORV	**Oroville**	**33.17**	**335**	IAmb	IAmb	10 44 00.3	
	comp=Z,8.7nm,1.1s						
SFIN	**Lafayette**	**33.70**	**24**	P	**P**	**10 44 00.7**	**+0.5**
M04C	**Macdoel**	**35.20**	**337**	IAmb	IAmb	10 44 17.9	
	comp=Z,7.4nm,1.2s						
DGMT	**Dagmar**	**38.23**	**360**	P	**P**	**10 44 39.7**	**+0.8**
DGMT				IAmb	IAmb	10 44 44.8	
	comp=Z,9.0nm,0.8s						
AGMN	**Agassiz Nation**	**38.68**	**9**	IAmb	IAmb	10 44 47.4	
	comp=Z,5.9nm,0.7s						
NEW	**Newport**	**39.58**	**346**	LR	LR	11 00 28.1	
	comp=Z,78nm,19.8s,baz=164,slow=35						
NEW	**Newport**	**39.58**	**346**	P	**P**	**10 44 52.8**	**+2.6**
EDM	**Edmonton**	**43.64**	**352**	P	**P**	**10 45 22.8**	**-0.6**
LPAZ	**La Paz**	**44.20**	**126**	P	**P**	**10 45 28.0**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=320,slow=7.1,SNR=5.4						
FFC	**Flin Flon**	**44.53**	**2**	P	**P**	**10 45 29.0**	**-1.4**
FFC				IAmb	IAmb	10 45 33.4	
	comp=Z,4.5nm,1.3s						
PB02	**IPOC Station P**	**45.86**	**133**	P	**P**	**10 45 41.0**	**-0.6**
LVC	**Limon Verde**	**47.39**	**134**	P	**P**	**10 45 58.0**	**+4.2**
PPT	**Papeete**	**52.69**	**239**	LR	LR	11 03 58.2	
	comp=Z,69nm,18.7s,baz=244,slow=30						
YKA	**Yellowknife Ar**	**52.84**	**354**	P	**P**	**10 46 31.6**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=166,slow=7.4,SNR=10.0						
YKA				PcP	**PcP**	**10 47 41.2**	**-1.8**
	comp=Z,0.3nm,0.9s,baz=157,slow=3.4,SNR=2.7						
SCHQ	**Schefferville**	**53.43**	**26**	P	**P**	**10 46 37.2**	**-1.5**
	comp=Z,2.9nm,0.9s,baz=206,slow=5.8,SNR=2.6						
LC01	**Cunco**	**57.25**	**150**	P	**P**	**10 47 05.9**	**-0.4**
CPUP	**Villa Florida**	**58.10**	**130**	P	**P**	**10 47 12.1**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=330,slow=7.8,SNR=3.7						
CPUP	**Villa Florida**	**58.10**	**130**	IAmb	IAmb	10 47 35.3	
	comp=Z,7.5nm,1.4s						
GLB	**Gilahina Butte**	**58.88**	**339**	P	**P**	**10 47 19.5**	**+2.0**
PLCA	**Paso Flores**	**59.31**	**151**	P	**P**	**10 47 20.4**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=324,slow=8.4,SNR=8.1						
PLCA	**Paso Flores**	**59.31**	**151**	IAmb	IAmb	10 47 21.4	
	comp=Z,5.8nm,1.1s						
DAWY	**Dawson**	**59.34**	**343**	P	**P**	**10 47 23.7**	**+3.1**
DAWY				IAmb	IAmb	10 47 25.1	
	comp=Z,3.9nm,1.1s						
KDAK	**Kodiak Island**	**60.21**	**332**	LR	LR	11 08 38.6	
	comp=Z,61nm,20.5s,baz=187,slow=31						
DOT	**Dot Lake**	**60.47**	**341**	IAmb	IAmb	10 47 33.3	
	comp=Z,3.5nm,0.9s						
PMR	**Palmer**	**60.93**	**337**	IAmb	IAmb	10 47 38.8	
	comp=Z,5.8nm,1.1s						
RND	**Reindeer**	**61.94**	**339**	P	**P**	**10 47 40.1**	**+1.7**
IL19	**Eielson Array**	**62.10**	**341**	P	**P**	**10 47 41.4**	**+2.0**
IL18	**Eielson Array**	**62.10**	**341**	P	**P**	**10 47 40.6**	**+1.2**
ILAR	**Eielson Array**	**62.15**	**341**	P	**P**	**10 47 37.7**	**-2.0**
	comp=Z,4.8nm,0.9s,baz=159,slow=4.8,SNR=13						
H21K	**Melozitna Rive**	**64.66**	**340**	P	**P**	**10 47 55.4**	**-0.8**
COLD	**Coldfoot**	**64.76**	**342**	P	**P**	**10 47 58.7**	**+1.8**
COLD				IAmb	IAmb	10 48 01.1	
	comp=Z,4.6nm,1.2s						
SHEM	**Shemya Is, Ala**	**77.07**	**322**	LR	LR	11 16 30.1	
	comp=Z,91nm,18.1s,baz=54,slow=31						
WRA	**Warramunga Arr**	**122.97**	**253**	PKP	**PKPdf**	**10 56 14.7**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=88,slow=2.5,SNR=4.6						
MKAR	**Makanchi Array**	**123.07**	**355**	PKP	**PKiKP**	**10 56 16.4**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=23,slow=2.2,SNR=9.7						
ASAR	**Alice Springs**	**123.24**	**248**	PKP	**PKPdf**	**10 56 15.1**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=74,slow=1.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	**143.64**	**321**	PKP	**PKPdf**	**10 56 54.4**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=0.0,slow=1.2,SNR=5.0						

*SOF **18** 10:38:44.4, 42.˚51N×26.˚04E,h11km, MD3.0*
*ISK **18** 10:38:44.8, 42.˚46N×26.˚17E,h5km, ML3.1/19*
*DDA **18** 10:38:45.4±0.0, 42.˚42N×26.˚14E, h8km±4km, ML2.7*
*THE **18** 10:38:46.6, 42.˚36N×26.˚03E, h0km±2km, ML2.5/4, Error ellipse: s-maj=3.3km s-min=1.1km az=18.0*

ISC 18 10:38:45.0±1.1,**42.˚47N**±0.˚02×**26.˚09E**±0.˚02,**h7**km±10km, **n63,σ1°17/77, 9C-4D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.37**	**89**	PG	**Pg**	**10 38 51.9**	**-0.2**
JMB				SG	**Sg**	**10 38 57.4**	**+0.4**
JMB	**Yambol**	**0.37**	**89**	P	**Pg**	**10 38 51.8**	**-0.3**
DIM	**Dimitrovgrad**	**0.58**	**225**	P	**Pg**	**10 38 56.3**	**+0.1**
EDRB	**Edirne**	**0.79**	**141**	P	**Pg**	**10 39 00.3**	**+0.2**
EDRB				S	**Sb**	**10 39 11.2**	**-0.7**
	342nm,0.2s						
EDRB	**Edirne**	**0.79**	**141**	PG	**Pg**	**10 39 00.3**	**+0.2**
EDRB				SG	**Sb**	**10 39 11.4**	**-0.5**
SZH	**Strazhica**	**0.81**	**352**	P	**Pg**	**10 38 59.9**	**-0.7**
PVL	**Pavlikeni**	**0.93**	**324**	P	**Pg**	**10 39 02.8**	**-0.1**
KIRK	**Kirklareli**	**1.01**	**132**	P	**Pg**	**10 39 04.2**	**-0.3**
KIRK				S	**Sb**	**10 39 18.4**	**-0.1**
KIRK				*i* AML	AML	10 39 24.0	
	comp=E,205nm,0.5s						
KIRK				*i* AML	AML	10 39 24.0	
	comp=N,202nm,0.6s						
PLD	**Plovdiv**	**1.09**	**251**	P	**Pg**	**10 39 04.3**	**-1.6**
ARMN	**Kirklareli, Me**	**1.17**	**121**	P	**Pg**	**10 39 06.5**	**-0.8**
ARMN				S	**Sb**	**10 39 22.0**	**-0.7**
ARMN				*i* AML	AML	10 39 28.0	
	comp=E,153nm,0.7s						
ARMN				*i* AML	AML	10 39 29.0	
	comp=N,192nm,0.4s						
PRD	**Provadia**	**1.21**	**52**	P	**Pb**	**10 39 07.7**	**-0.6**
RZN	**Rozhen**	**1.28**	**233**	P	**Pn**	**10 39 09.2**	**-0.3**
PHSR	**Pinarhisar**	**1.36**	**127**	PN	**Pg**	**10 39 11.0**	**0.0**
PHSR				SN	**Sn**	**10 39 29.7**	**+1.1**
RDO	**Rodhopi**	**1.38**	**197**	P	**Pn**	**10 39 10.7**	**0.0**
RDO				S	**Sb**	**10 39 28.5**	**-0.4**
	362nm,0.5s						
RDO	**Rodhopi**	**1.38**	**197**	PN	**Pb**	**10 39 11.6**	**+0.5**
UKOP	**Uzunkopru-Edir**	**1.40**	**163**	PN	**Pg**	**10 39 12.0**	**+0.3**
UKOP				SN	**Sg**	**10 39 31.9**	**+2.1**
ALN	**Alexandroupoli**	**1.57**	**181**	P	**Pn**	**10 39 13.8**	**+0.6**
ALN				S	**Sg**	**10 39 35.0**	**-0.3**
	142nm,0.6s						
ALN	**Alexandroupoli**	**1.57**	**181**	PN	**Pb**	**10 39 14.6**	**+0.3**
ALN				SN	**Sg**	**10 39 36.7**	**+1.4**
VIZE	**Kirklareli, Vi**	**1.58**	**124**	P	**Pn**	**10 39 13.6**	**+0.2**
VIZE				S	**Sn**	**10 39 33.2**	**-0.9**
VIZE				*i* AML	AML	10 39 37.0	
	comp=N,133nm,0.2s						
VIZE				*i* AML	AML	10 39 38.0	
	comp=E,158nm,0.3s						
KESN	**Edirne-Kesan**	**1.70**	**165**	P	**Pb**	**10 39 16.4**	**-0.4**
KESN				S	**Sg**	**10 39 39.3**	**-0.3**
KESN				*i* AML	AML	10 39 45.0	
	comp=N,194nm,0.3s						
KESN				*i* AML	AML	10 39 46.0	
	comp=E,124nm,0.5s						
ENEZ	**Enez**	**1.73**	**178**	PN	**Pb**	**10 39 16.7**	**-0.3**
CAVK	**Edirne/Enez-Ca**	**1.77**	**178**	P	**Pg**	**10 39 19.0**	**+0.1**
CAVK				S	**Sg**	**10 39 42.4**	**+0.5**
CAVK				*i* AML	AML	10 39 50.0	
	comp=E,107nm,0.6s						
CAVK				*i* AML	AML	10 39 53.0	
	comp=N,90nm,0.5s						
ERIK	**Erikli-Kesan**	**1.82**	**170**	PN	**Pb**	**10 39 18.0**	**-0.6**
TKR	**Tekirdag**	**1.83**	**143**	PN	**Pb**	**10 39 17.9**	**-0.9**
KAVA	**Kavala**	**1.88**	**219**	P	**Pn**	**10 39 18.5**	**+0.9**
MAR3	**Marsite Statio**	**1.94**	**152**	PN	**Pb**	**10 39 19.7**	**-1.0**
GZKV	**Gazikoy-Tekird**	**1.95**	**151**	PN	**Pb**

T25A					IAmb	IAmb	10 44 28.1	
	comp=Z,13nm,1.4s							
GSC	**Goldstone, Bar**	**27.43**	**337**		**P**	**P**	**10 44 32.6**	**+0.9**
KNB	**Kanab**	**27.76**	**345**	P	**P**	**P**	**10 44 35.6**	**+0.9**
KNB				IAmb	IAmb		10 44 37.1	
	comp=Z,7.2nm,1.4s							
CCAC	**Calif City Air**	**27.78**	**335**	P	**P**	**P**	**10 44 35.1**	**+0.4**
CCAC				IAmb	IAmb		10 44 37.2	
	comp=Z,10nm,1.2s							
PV13	**Radium Mtn., P**	**28.11**	**352**	IAmb	IAmb		10 44 39.5	
	comp=Z,7.6nm,1.4s							
OMMB	**Old Mammoth Mi**	**30.30**	**337**		**P**	**P**	**10 44 57.8**	**+0.3**
OMMB				IAmb	IAmb		10 45 03.5	
	comp=Z,7.9nm,1.4s							
LHV	**Little Huntoon**	**30.67**	**338**	IAmb	IAmb		10 45 04.1	
	comp=Z,9.3nm,1.4s							
NVAR	**Mina Array Bea**	**30.75**	**338**	P	**P**	**P**	**10 44 59.3**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=150,slow=7.3,SNR=2.0							
KVN	**Kaiserville**	**31.23**	**339**	P	**P**	**P**	**10 45 07.2**	**+1.7**
KVN				IAmb	IAmb		10 45 08.8	
	comp=Z,7.8nm,1.4s							
EMB	**Emerald Bay**	**31.91**	**336**	P	**P**	**P**	**10 45 12.8**	**+1.3**
VCNR	**Virginia City**	**32.02**	**337**	IAmb	IAmb		10 45 15.2	
	comp=Z,6.3nm,1.3s							
MPK	**Martis Peak**	**32.16**	**337**	IAmb	IAmb		10 45 16.7	
	comp=Z,5.2nm,1.1s							
PAHR	**Pah Rah Range**	**32.27**	**338**	IAmb	IAmb		10 45 18.8	
	comp=Z,6.4nm,1.4s							
PDAR	**Pinedale Array**	**32.74**	**353**	P	**P**	**P**	**10 45 16.5**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=170,slow=6.4,SNR=1.0							
ORV	**Oroville**	**32.97**	**335**	IAmb	IAmb		10 45 24.2	
	comp=Z,5.6nm,1.1s							
NNA	**Nana**	**35.12**	**128**	LR	LR		10 56 29.1	
	comp=Z,140nm,19.5s,baz=303,slow=30							
EGMT	**Eagleton**	**37.95**	**354**	IAmb	IAmb		10 46 05.2	
	comp=Z,11nm,1.4s							
AGMN	**Agassiz Nation**	**38.62**	**9**	IAmb	IAmb		10 46 09.9	
	comp=Z,11nm,1.2s							
NEW	**Newport**	**39.41**	**347**	P	**P**	**P**	**10 46 17.3**	**+1.8**
EDM	**Edmonton**	**43.49**	**352**			**P**	**10 46 49.0**	**+0.2**
EDM				IAmb	IAmb		10 46 50.1	
	comp=Z,8.3nm,1.0s							
FFC	**Flin Flon**	**44.43**	**2**			**P**	**10 46 55.2**	**-1.1**
FFC				IAmb	IAmb		10 46 57.6	
	comp=Z,9.0nm,1.4s							
YKA	**Yellowknife Ar**	**52.71**	**354**	P		**P**	**10 47 58.7**	**-1.1**
YKA	comp=Z,2.4nm,1.2s,baz=166,slow=7.9,SNR=6.4			PcP		**PcP**	**10 49 06.7**	**-2.5**
	comp=Z,0.1nm,0.7s,baz=157,slow=3.7,SNR=1.5							
CPUP	**Villa Florida**	**58.36**	**130**	LR	LR		11 12 58.8	
	comp=Z,69nm,20.2s,baz=358,slow=35							
RND	**Reindeer**	**61.75**	**339**	P	**P**	**P**	**10 49 05.6**	**+1.8**
IL09	**Eielson Array**	**61.92**	**341**	P	**P**	**P**	**10 49 05.5**	**+0.6**
ILAR	**Eielson Array**	**61.96**	**341**	P	**P**	**P**	**10 49 02.5**	**-2.6**
	comp=Z,1.8nm,0.9s,baz=155,slow=5.6,SNR=5.0							
H21K	**Melozitna Rive**	**64.47**	**340**	P	**P**	**P**	**10 49 22.2**	**+0.5**
WRA	**Warramunga Arr**	**122.77**	**253**	PKP		**PKiKP**	**10 57 43.2**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=86,slow=2.0,SNR=2.5							
ASAR	**Alice Springs**	**123.06**	**248**	PKP		**PKiKP**	**10 57 43.8**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=83,slow=2.4,SNR=2.8							

*IDC **18** 10:51:40.5±1.1, 14.˚68N×144.˚34E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/35, mbtmp3.6/7, MS3.3/11, Ms1 3.4/11, ms1mx3.0/57, Error ellipse: s-maj=39.9km s-min=15.6km az=66.0*

ISC 18 10:51:44.4±0.9, 14.˚7N±0.˚1×144.˚3E±0.˚2, h27km, n17, σ0s68/9, mb3.7/7, MS3.2/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.18**	**153**	Pn		**Pn**	**10 52 04.5**	**-0.7**
	63nm,0.3s,baz=314,slow=0.5,SNR=15							
GUMO				Sn		**Sn**	**10 52 20.5**	**0.0**
	61nm,0.3s,baz=188,slow=21,SNR=19							
JOW	**Kunigami**	**19.26**	**312**	LR	LR		11 01 38.4	
	comp=Z,168nm,21.7s,baz=136,slow=31							
DAV	**Davao City (W)**	**19.87**	**250**	LR	LR		11 02 12.0	
	comp=Z,83nm,21.9s,baz=110,slow=32							
SIJI	**Sorong**	**20.11**	**221**	LR	LR		11 02 42.3	
	comp=Z,62nm,19.9s,baz=86,slow=33							
PMG	**Port Moresby**	**24.07**	**173**	LR	LR		11 05 29.8	
	comp=Z,40nm,18.7s,baz=227,slow=34							
BATI	**Baumata**	**32.08**	**221**	LR	LR		11 11 23.8	
	comp=Z,76nm,18.0s,baz=130,slow=37							
WRA	**Warramunga Arr**	**35.75**	**196**	P	**P**	**P**	**10 58 41.7**	**+0.4**
	1.4nm,0.8s,baz=17,slow=9.2,SNR=8.5							
FITZ	**Fitzroy Crossi**	**37.39**	**210**	LR	LR		11 15 39.7	
	comp=Z,33nm,19.3s,baz=152,slow=38							
ASAR	**Alice Springs**	**39.42**	**195**	P	**P**	**P**	**10 59 13.3**	**+1.0**
	1.0nm,1.3s,baz=19,slow=9.8,SNR=1.8							
LEM	**Lembang**	**42.19**	**242**	LR	LR		11 19 32.9	
	comp=Z,25nm,18.2s,baz=82,slow=40							
DZM	**Mont Dzumac**	**42.46**	**149**	LR	LR		11 16 55.5	
	comp=Z,84nm,19.2s,baz=216,slow=36							
CMAR	**Chiang Mai Arr**	**43.57**	**281**	P	**P**	**P**	**10 59 46.0**	**-0.5**
	0.5nm,0.4s,baz=85,slow=8.4,SNR=4.4							
CMAR				LR	LR		11 19 09.8	
	comp=Z,25nm,18.0s,baz=105,slow=38							
SONM	**Songino Array**	**45.56**	**325**	P	**P**	**P**	**11 00 01.5**	**-0.6**
	0.2nm,0.4s,baz=141,slow=9.1,SNR=2.6							
SONM				LR	LR		11 18 48.9	
	comp=Z,79nm,20.4s,baz=123,slow=36							
PSI	**Prapat**	**46.28**	**260**	LR	LR		11 22 12.9	
	comp=Z,35nm,18.2s,baz=36,slow=40							
MKAR	**Makanchi Array**	**60.36**	**316**	P	**P**	**P**	**11 01 51.4**	**+0.2**
	0.6nm,0.8s,baz=108,slow=8.3,SNR=3.0							
ZALV	**Zalesovo Beam**	**60.45**	**324**	P	**P**	**P**	**11 01 52.1**	**+0.4**
	0.4nm,0.5s,baz=111,slow=8.2,SNR=1.5							
YKA	**Yellowknife Ar**	**82.17**	**27**	P	**P**	**P**	**11 04 03.2**	**+0.5**
	0.2nm,0.7s,baz=288,slow=5.6,SNR=2.7							

DJA 18 11:21:16.8±0.6, 6.˚S×12.˚9E, h295km±8km, M3.9/7, mb3.7/2, mB4.4/3, MLv3.9/7, Mw(mB)3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.18**	**3**	P		Pn	11 22 05.1	+0.4
MSAI				S		S	11 22 41.7	-1.1
NLAI	**Namlea**	**2.85**	**323**	P		Pn	11 22 13.9	+3.1
NLAI				S		S	11 22 54.5	+0.6
SANI	**Sanana**	**4.47**	**321**	P		Pn	11 22 26.6	-1.4
GTOI	**Gorontalo**	**8.44**	**316**	P		Pn	11 23 17.4	+1.6

*IDC **18** 11:30:52.1±1.4, 55.˚70S×28.˚86W, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.5/23, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=66.3km s-min=26.5km az=85.0*

*NEIC **18** 11:30:59.8±2.0, 55.˚9S±0.˚1×29.˚1W±0.˚1, h55km±8km, mb4.3/9, Error ellipse: s-maj=20.4km s-min=9.0km az=203.0*

ISC 18 11:30:59.0±0.7, 55.˚8S±0.˚1×28.˚9W±0.˚1, h50km, n16, σ0s92/17, mb4.0/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.62**	**287**	Pn		**Pn**	**11 32 06.6**	**+0.4**
SNAA	**Sanae**	**19.34**	**155**	P		**P**	**11 35 18.5**	**-1.3**
	0.5nm,0.3s,baz=312,slow=16,SNR=9.1							
SNAA	**Sanae**	**19.34**	**155**	P		**P**	**11 35 18.9**	**-0.9**
ITQB	**Itaqui**	**32.72**	**312**	P		**P**	**11 37 25.9**	**-0.7**
ITQB				IAmb	IAmb	IAmb	11 37 38.0	
	comp=Z,24nm,1.3s							
QSPA	**South Pole Qui**	**34.41**	**180**	P		**P**	**11 37 42.0**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=204,slow=10.0,SNR=1.6							
QSPA	**South Pole Qui**	**34.41**	**180**	P		**P**	**11 37 41.8**	**+0.5**
QSPA				IAmb	IAmb	IAmb	11 38 10.6	
	comp=Z,7.4nm,1.5s							
MAW	**Mawson**	**40.89**	**144**	P		**P**	**11 38 37.1**	**+1.5**
	comp=Z,3.2nm,0.9s,baz=263,slow=8.1,SNR=1.9							
MAW	**Mawson**	**40.89**	**144**	P		**P**	**11 38 36.7**	**+1.1**
SHEL	**Horse Pasture**	**43.57**	**33**	P		**P**	**11 38 58.8**	**+0.8**
LBTB	**Lobatse**	**49.88**	**75**	P		**P**	**11 39 47.3**	**0.0**
LBTB				IAmb	IAmb	IAmb	11 40 14.1	
	comp=Z,10nm,1.4s							
CASY	**Casey**	**54.43**	**161**	P		**P**	**11 40 19.1**	**-1.3**
TOA0	**Torodi Ar. Sit**	**73.36**	**31**	P		**P**	**11 42 24.6**	**-0.8**
TOA0				IAmb	IAmb	IAmb	11 42 38.5	
	comp=Z,2.6nm,1.2s							
TORD	**Torodi Ar. Bea**	**73.36**	**31**	P		**P**	**11 42 24.7**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=197,slow=6.5,SNR=12							
TORD	**Torodi Ar. Bea**	**73.36**	**31**	P		**P**	**11 42 24.6**	**-0.7**
TORD				IAmb	IAmb	IAmb	11 42 53.9	
	comp=Z,1.6nm,1.4s							
ILAR	**Eielson Array**	**149.25**	**312**	PKPbc		**PKPbc**	**11 50 40.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=118,slow=2.4,SNR=5.1							
ILAR	**Eielson Array**	**149.25**	**312**	PKPdf		**PKPdf**	**11 50 36.1**	**+0.1**
ILAR						**PKPbc**	**11 50 41.1**	**+0.6**

*VAO **18** 11:38:34.1±0.4, 31.˚68S×71.˚17W, h10km, mb5.4*

*MOS **18** 11:38:36.4±0.9, 31.˚69S×71.˚17W, h43km, mb5.6/36, Error ellipse: s-maj=12.9km s-min=6.5km az=88.8*

*SJA **18** 11:38:36.7±0.8, 31.˚74S×71.˚55W, h64km±8km, ML5.6, MW5.2*

*NEIC **18** 11:38:38, 31.˚72S×71.˚20W, h54km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr4.05; Mθθ-2.16; Mϕϕ-1.88; Mrθ0.76; Mrϕ-0.20; Mθϕ-4.77; Fault plane solution: M0 5.97000×10^16 NP1:ϕ1 73.01000°, δ74.31000°, λ87.94000°. NP2:ϕ2 0.58000°, δ15.82000°, λ97.28000°. Principal axes: T 6.7610, Plg61.0000°, Azm80.0000°; N -2.2133, Plg2.0000°, Azm174.0000°; P -4.5477, Plg29.0000°, Azm265.0000°;*

*GUC **18** 11:38:38.8±1.0, 31.˚77S×71.˚31W, h51km±8km, ML5.5*

*NEIC **18** 11:38:38.7±2.2, 31.˚73S±0.˚03×71.˚29W±0.˚07, h42km±3km, mb5.6/149, Mwr5.1/64, Mww5.2, Mwr5.2(GUC), Error ellipse: s-maj=8.9km s-min=3.9km az=91.0*

*IDC **18** 11:38:38.6±0.3, 31.˚71S×71.˚20W, h48km±2km, mb5.0/15, mb1 5.1/20, mb1mx5.1/22, mbtmp5.3/20, MS4.4/16, Ms1 4.4/16, ms1mx4.2/53, Error ellipse: s-maj=14.5km s-min=10.9km az=77.0*

*NEIC **18** 11:38:40, 31.˚82S×71.˚17W, h50km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^16 Nm; Mrr6.45; Mθθ1.08; Mϕϕ-7.53; Mrθ-0.27; Mrϕ2.86; Mθϕ-5.50; Fault plane solution: M0 9.39000×10^16 NP1: ϕ1 326.00000°, δ30.00000°, λ62.00000°. NP2: ϕ2 177.00000°, δ64.00000°, λ105.00000°. Principal axes: T 8.5570, Plg67.0000°, Azm116.0000°; N 1.4960, Plg13.0000°, Azm350.0000°; P -10.0530, Plg18.0000°, Azm256.0000°;*

*GCMT **18** 11:38:42.7±0.2, 31.˚83S±0.˚01×71.˚49W±0.˚02, h50km±1km, MW5.2/98, Moment Tensor Solution. s81,c106; s98,c133; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.69±.02; Mθθ0.06±.02; Mϕϕ-0.75±.02; Mrθ0.02±.01; Mθϕ0.12±.01; Mϕr-0.47±.02; Best double couple: M0 0.86900×10^17 NP1:ϕ1 347.00000°, δ29.00000°, λ83.00000°. NP2:ϕ2 175.00000°, δ61.00000°, λ94.00000°. Principal axes: T 0.8330, Plg73.0000°, Azm94.0000°; N 0.0720, Plg3.0000°, Azm353.0000°; P -0.9050, Plg16.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 11:38:38.3±0.3, 31.˚73S±0.˚02×71.˚33W±0.˚04, h49km±2km, h49km:pP-P, n1076, σ1s24/1252, mb5.5/129, MS4.3/12, 286C-63D, Fault plane solution: NP1:ϕ1 350.88001°, δ44.92004°, λ74.82111°. NP2:ϕ2 191.84383°, δ47.04021°, λ104.63344°. Principal axes: T Plg79.2898°, Azm175.8414°; N Plg10.6545°, Azm1.7543°; P Plg1.0781°, Azm271.5515°; Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.60**	**29**			**Pn**	**11 38 52.0**	**+1.2**
CO02				Sn		**Sn**	**11 39 01.1**	**+1.3**
CO02	**Combarbal**	**0.60**	**29**	*i*	P	**Pn**	**11 38 51.9**	**+1.0**
CO02				*i*	S	**Sn**	**11 39 01.4**	**+1.6**
CO02	**Combarbal**	**0.60**	**29**	*e*	**P**	**Pn**	**11 38 51.9**	**+1.0**
CO02				IAML			11 39 05.8	
	comp=Z,267μm,0.9s							
VA06	**Catapilco**	**0.83**	**178**			**Pn**	**11 38 54.4**	**+0.6**
VA06				Sn		**Sn**	**11 39 04.8**	**-0.2**
VA06	**Catapilco**	**0.83**	**178**	*i*	P	**Pn**	**11 38 53.9**	**+0.2**
VA06				*i*	S	**Sn**	**11 39 04.7**	**-0.3**
VA06				IAML			11 39 09.3	
	comp=N,328μm,0.5s							
CO03	**El Pedregal**	**1.04**	**32**	Pn		**Pn**	**11 38 58.1**	**+1.4**
CO03				Sn		**Sn**	**11 39 12.2**	**+2.0**
CO03	**El Pedregal**	**1.04**	**32**	*i*	P	**Pn**	**11 38 58.0**	**+1.4**
CO03				*i*	S	**Sn**	**11 39 12.4**	**+2.1**
CO03				IAML			11 39 12.9	
	comp=E,187μm,0.4s							
CO03	**El Pedregal**	**1.04**	**32**	*e*	P	**Pn**	**11 38 58.2**	**+1.4**
CO03				*e*	S	**Sn**	**11 39 12.3**	**+2.0**
CO03				IAML			11 39 13.0	
	comp=Z,164μm,1.1s							
CO06	**Fray Jorge**	**1.08**	**346**			**Pn**	**11 38 58.8**	**+1.6**
CO06				Sn		**Sn**	**11 39 09.9**	**-1.2**
CO06	**Fray Jorge**	**1.08**	**346**	*i*	P	**Pn**	**11 38 58.2**	**+1.0**
VA03	**San Esteban**	**1.23**	**147**	Sn		**Sn**	**11 39 15.2**	**+0.5**
VA03	**San Esteban**	**1.23**	**147**	*i*	P	**Pn**	**11 38 59.7**	**+0.5**
VA03				*i*	S	**Sn**	**11 39 15.5**	**+0.7**
VA03				IAML			11 39 17.4	
	comp=E,203μm,0.2s							
VA03	**San Esteban**	**1.23**	**147**	*e*	P	**Pn**	**11 38 59.8**	**+0.5**
VA03				*e*	S	**Sn**	**11 39 15.8**	**+1.1**
VA03				IAML			11 39 18.3	
	comp=Z,88μm,0.7s							
VA01	**Torpederas**	**1.32**	**192**	*i*	P	**Pn**	**11 39 00.7**	**+0.4**
VA01				*i*	S	**Sn**	**11 39 17.9**	**+1.2**
GO04	**Tololo Observa**	**1.62**	**17**			**Pn**	**11 39 06.2**	**+1.5**
GO04	**Tololo Observa**	**1.62**	**17**	*i*	P	**Pn**	**11 39 06.1**	**+1.5**
GO04	**Tololo Observa**	**1.62**	**17**	*e*	P	**Pn**	**11 39 06.2**	**+1.5**
GO04				*e*	S	**Sn**	**11 39 28.6**	**+4.1**
AUSP	**Uspallata**	**1.73**	**107**	*e*	P	**Pn**	**11 39 08.9**	**+2.8**
MT05	**Renca**	**1.73**	**163**	Pn		**Pn**	**11 39 06.7**	**+0.6**
MT05	**Renca**	**1.73**	**163**	*i*	P	**Pn**	**11 39 06.8**	**+0.8**
MT05				*i*	S	**Sn**	**11 39 28.7**	**+1.7**
MT05				IAML			11 39 36.7	
	comp=E,79μm,0.4s							
MT05	**Renca**	**1.73**	**163**	*e*	P	**Pn**	**11 39 06.8**	**+0.8**
MT05				*e*	S	**Sn**	**11 39 29.2**	**+2.2**
MT05				IAML			11 39 34.4	
	comp=Z,39μm,0.8s							
CO05	**La Serena**	**1.81**	**3**	*i*	P	**Pn**	**11 39 08.7**	**+1.7**
CO05				IAML			11 39 40.8	
	comp=N,82μm,0.5s							
FCH	**Farellones**	**1.82**	**151**	*i*	P	**Pn**	**11 39 08.3**	**+0.8**
FCH				*i*	S	**Sn**	**11 39 31.8**	**+2.3**
MT03	**Universidad Ad**	**1.89**	**159**	*i*	P	**Pn**	**11 39 09.2**	**+0.9**
MT03				*i*	S	**Sn**	**11 39 32.7**	**+1.7**
MT03				IAML			11 39 39.2	
	comp=E,45μm,0.2s							
MT03	**Universidad Ad**	**1.89**	**159**	*e*	P	**Pn**	**11 39 09.3**	**+1.1**
MT03				*e*	S	**Sn**	**11 39 24.5**	**-6.5**
MT03				IAML			11 39 48.1	
	comp=Z,21μm,0.4s							
VA05	**Santo Domingo**	**1.94**	**187**	*e*	P	**Pn**	**11 39 09.1**	**+0.3**
VA05				*e*	S	**Sn**	**11 39 35.7**	**+3.8**
CO01	**Juntas del Tor**	**2.05**	**32**	*i*	P	**Pn**	**11 39 12.9**	**+2.4**
CO01				IAML			11 39 40.9	
	comp=N,50μm,0.5s							
CO01	**Juntas del Tor**	**2.05**	**32**	*e*	P	**Pn**	**11 39 12.9**	**+2.4**
CO01				*e*	S	**Sn**	**11 39 38.6**	**+3.6**
CO01				IAML			11 39 42.1	
	comp=Z,18μm,0.3s							
MT09	**Talagante**	**2.06**	**172**	*i*	P	**Pn**	**11 39 11.8**	**+1.1**
MT09				*i*	S	**Sn**	**11 39 36.8**	**+1.6**
MT09				IAML			11 39 49.4	
	comp=N,47μm,0.5s							
AROD	**Rodeo**	**2.23**	**46**	*e*	P	**Pn**	**11 39 17.1**	**+4.0**
ACCO	**Cerro Coronel**	**2.25**	**60**	*e*	P	**Pn**	**11 39 17.1**	**+3.6**
ZON	**Zonda**	**2.27**	**86**	*e*	P	**Pn**	**11 39 17.0**	**+3.6**
ASAL	**Salagasta**	**2.29**	**113**	*e*	P	**Pn**	**11 39 17.3**	**+3.6**
ARCO	**CERRO ARCO**	**2.32**	**119**	*e*	P	**Pn**	**11 39 17.9**	**+3.7**
ARCO				IAML			11 39 56.4	
	comp=Z,14μm,0.7s							
BO04	**La Punta**	**2.33**	**165**			**Pn**	**11 39 15.1**	**+0.8**
BO04	**La Punta**	**2.33**	**165**	*i*	P	**Pn**	**11 39 15.2**	**+0.8**
BO04				*i*	S	**Sn**	**11 39 43.3**	**+1.5**
BO04				IAML			11 39 57.2	
	comp=N,48μm,0.9s							
RTCV	**Cerro Valdivia**	**2.38**	**94**	*e*	P	**Pn**	**11 39 12.5**	**-2.4**
RTCV				*e*	P	**Pn**	**11 39 18.1**	**+3.2**
ACDV	**Cuesta del Vie**	**2.46**	**51**	*e*	P	**Pn**	**11 39 20.1**	**+4.0**
RTLL	**Cerro Villicun**	**2.47**	**81**	*e*	P	**Pn**	**11 39 19.1**	**+2.9**
AAGR	**Agrelo**	**2.51**	**123**	*e*	P	**Pn**	**11 39 20.5**	**+3.7**
BO01	**Tunca**	**2.66**	**176**	*i*	P	**Pn**	**11 39 19.3**	**+0.5**
BO01				*e*	S	**Sn**	**11 39 51.0**	**+1.1**
BO01	**Tunca**	**2.66**	**176**	*e*	P	**Pn**	**11 39 14.0**	**-4.7**
BO01				*e*	P	**Pn**	**11 39 19.4**	**+0.6**
BO01				*e*	S	**Sn**	**11 39 52.0**	**+2.2**
LCO	**Las Campanas**	**2.76**	**12**	*i*	P	**Pn**	**11 39 22.0**	**+1.6**
LCO				*i*	S	**Sn**	**11 39 55.3**	**+2.7**
LCO	**Las Campanas**	**2.76**	**12**	*e*	P	**Pn**	**11 39 22.0**	**+1.6**
LCO				*e*	S	**Sn**	**11 39 56.6**	**+4.0**
BO03	**Pichilemu**	**2.81**	**191**	*i*	P	**Pn**	**11 39 20.1**	**-0.6**
GO05	**Huala**	**3.31**	**189**	*i*	P	**Pn**	**11 39 27.1**	**-0.5**
GO05				IAML			11 40 24.8	
	comp=E,4μm,0.5s							
GO05	**Huala**	**3.31**	**189**	*e*	P	**Pn**	**11 39 27.0**	**-0.6**
GO05				*e*	S	**Sn**	**11 40 12.5**	**+6.8**
AVFE	**Valle Fertil**	**3.49**	**73**	*e*	P	**Pn**	**11 39 32.6**	**+2.4**
AVFE				IAML			11 40 20.1	
	comp=Z,8μm,0.8s							
AC04	**Llanos de Chal**	**3.52**	**4**	Pn		**Pn**	**11 39 32.2**	**+1.7**
AC04	**Llanos de Chal**	**3.52**	**4**	*e*	P	**Pn**	**11 39 31.6**	**+1.1**
AC04				IAML			11 40 27.5	
	comp=E,10μm,0.2s							
AC04	**Llanos de Chal**	**3.52**	**4**	*e*	P	**Pn**	**11 39 31.6**	**+1.1**
AC04				*e*	S	**Sn**	**11 40 16.0**	**+5.1**
AC04				IAML			11 40 29.4	
	comp=Z,11μm,0.7s							
RFA	**San Rafael**	**3.87**	**142**	*e*	P	**Pn**	**11 39 36.9**	**+1.5**
ML02	**Panimavida**	**4.02**	**181**			**Pn**	**11 39 37.8**	**+0.4**
VCA	**Vinchina**	**4.03**	**43**	*e*	P	**Pn**	**11 39 42.1**	**+4.5**
VCA				*e*	S	Sn	11 40 34.0	+10
VCA				IAML			11 40 40.4	
	comp=Z,14μm,0.5s							
ACHE	**Chepes**	**4.03**	**83**	*e*	P	**Pn**	**11 39 39.6**	**+1.9**
GO03	**Copiap**	**4.23**	**13**	*i*	P	**Pn**	**11 39 41.5**	**+1.1**
GO03				*i*	S	**Sn**	**11 40 29.5**	**+1.0**
GO03	**Copiap**	**4.23**	**13**	*e*	P	**Pn**	**11 39 41.9**	**+1.5**
GO03				*e*	S	Sn	11 40 43.8	+15
APLL	**PUNTA DE LOS L**	**4.33**	**73**	*e*	P	**Pn**	**11 39 43.7**	**+2.0**
ACLC	**CERRO LA CRUZ**	**4.42**	**60**	*e*	P	**Pn**	**11 39 45.4**	**+2.3**
ACLC				IAML			11 40 44.0	
	comp=Z,10μm,0.8s							
BI05	**Punta Hualpn**	**5.24**	**197**	Pn		**Pn**	**11 39 52.2**	**-1.8**
AC02	**Maricunga**	**5.24**	**22**	*e*	P	**Pn**	**11 39 56.1**	**+1.5**
AC02				*e*	S	Sn	11 41 06.5	+12
AC01	**Pan de Azucar**	**5.60**	**7**	*e*	P	**Pn**	**11 39 58.3**	**-0.8**
AC01				*e*	S	**Sn**	**11 41 07.5**	**+5.4**
H03N1	**Juan Fernandez**	**6.62**	**253**	T		T	11 46 45.2	
	baz=81,slow=72,SNR=3991							
H03N3	**Juan Fernandez**	**6.63**	**253**	T		T	11 46 45.9	
	baz=81,slow=72,SNR=4450							
H03N2	**Juan Fernandez**	**6.64**	**253**	T		T	11 46 46.0	
	baz=81,slow=72,SNR=3109							
H03S3	**Juan Fernandez**	**6.71**	**250**	T		T	11 46 59.8	
	baz=79							
H03S1	**Juan Fernandez**	**6.72**	**250**	T		T	11 46 58.5	
	baz=79							
GO02	**Mina Guanaco**	**6.72**	**14**	*e*	P	**Pn**	**11 40 14.0**	**-0.7**
H03S2	**Juan Fernandez**	**6.73**	**250**	T		T	11 46 58.5	
	baz=79							
LC01	**Cunco**	**7.17**	**183**	Pn		**Pn**	**11 40 19.5**	**-1.0**
FSA	**Cafayete**	**7.30**	**41**	*e*	P	**Pn**	**11 40 23.0**	**+0.4**
LR03	**Panguipulli**	**7.93**	**186**			**Pn**	**11 40 29.4**	**-1.5**
PB10	**IPOC Station P**	**8.21**	**5**	Pn		**Pn**	**11 40 33.5**	**-1.4**
PLCA	**Paso Flores**	**8.91**	**176**	P		**Pn**	**11 40 46.3**	**+0.5**
	comp=Z,2.4nm,0.3s,baz=344,slow=11,SNR=70							
PLCA				S		**Sn**	**11 42 33.5**	**+7.7**
	comp=Z,0.9nm,0.3s,baz=321,slow=18,SNR=1.5							
PLCA				LR		LR	11 44 16.7	
	comp=Z,2μm,20.8s,baz=356,slow=38							
PLCA	**Paso Flores**	**9.01**	**176**			**Pn**	**11 40 45.7**	**-0.1**
PLCA	**Paso Flores**	**9.01**	**176**	*e*	P	**Pn**	**11 40 46.2**	**+0.4**
LL04	**Puerto Octay**	**9.20**	**185**			**Pn**	**11 40 46.4**	**-2.0**
LVC	**Limon Verde**	**9.34**	**14**	P		**Pn**	**11 40 48.1**	**-2.5**
	comp=Z,4.9nm,0.3s,baz=182,slow=7.8,SNR=16							
LVC				S		**Sn**	**11 42 39.5**	**+5.1**
	comp=Z,6.1nm,0.3s,baz=200,slow=22,SNR=1.3							
LVC				LR		LR	11 45 00.6	
	comp=Z,2μm,20.7s,baz=210,slow=41							
LVC	**Limon Verde**	**9.34**	**14**	*e*	P	**Pn**	**11 40 47.5**	**-3.1**
PATCX	**Punta Patache**	**10.91**	**6**	Pn		**Pn**	**11 41 08.7**	**-3.3**
TA01	**Diego Aracena**	**11.17**	**6**	Pn		**Pn**	**11 41 13.0**	**-2.3**
LPA	**La Plata**

VAO Valinhos 23.28 74 eP P 11 43 40.2 -1.7
MG01 Puerto William 23.34 175 P P 11 43 42.8 +0.7
MG01 IAmb IAmb 11 43 45.0
comp=Z,214nm,0.9s
CZSB Cruzeiro do Su 23.91 357 eP P 11 43 47.8 0.0
PDRB Porto dos Gac 24.13 37 eP P 11 43 48.4 -1.4
PARB Paraibuna 24.24 76 eP P 11 43 49.5 -1.3
IPMB Ipameri, GO 24.98 62 eP P 11 43 56.1 -1.4
CLDB Colider 25.24 38 eP P 11 43 58.8 -1.1
ESAR Angra dos Reis 25.36 77 eP P 11 43 59.7 -1.2
MAN01 Angra dos Reis 25.82 77 eP P 11 44 03.9 -1.3
BSCB Bom Sucesso 26.02 72 eP P 11 44 06.1 -1.0
BDFB Brasilia 26.60 58 P P 11 44 11.7 -0.7
comp=Z,222nm,0.9s,baz=227,slow=6.2,SNR=139
BDFB LR LR 11 55 45.8
comp=Z,3µm,18.2s,baz=232,slow=39
BDFB Brasilia 26.60 58 P P 11 44 11.7 -0.7
BDFB IAmb IAmb 11 44 13.3
comp=Z,295nm,1.0s
SNDB Serra Nova Dou 26.97 48 eP P 11 44 15.4 -0.2
TBTG Tabatinga, AM 27.43 3 eP P 11 44 20.2 +0.6
DUB01 Friburgo-RJ 27.48 77 eP P 11 44 19.1 -1.1
CAM01 Campos-RJ 28.19 77 eP P 11 44 26.6 +0.2
MCRA Macar, Loja 28.40 342 P P 11 44 29.2 +0.9
NPGB Novo Progresso 28.73 35 eP P 11 44 29.5 -1.8
PEXB Peixe 28.83 53 eP P 11 44 31.7 -0.5
MC01 Montes Claros 29.01 65 eP P 11 44 32.6 -1.2
BOSC San Juan Bosco 29.22 345 P P 11 44 36.3 +0.6
ALF01 Guarapari-ES 29.52 75 eP P 11 44 37.9 -0.3
JANB Januaria 29.72 62 eP P 11 44 39.2 -0.9
SJMB Sao Joao De Ma 30.09 72 eP P 11 44 42.3 -1.0
MACA Manacapuru-AM 30.13 22 eP P 11 44 43.0 -0.7
RIB01 Linhares ES 30.42 74 eP P 11 44 45.4 -0.9
ITTB Itaituba 30.91 31 eP P 11 44 49.1 -1.4
SDBA SAO DESIDERIO 31.00 58 eP P 11 44 50.5 -0.9
SMTB Santa Maria do 31.69 49 eP P 11 44 57.5 +0.1
GUA01 Guaratinga, BA 32.33 70 eP P 11 45 02.6 -0.5
PRPB Parauapebas 32.43 43 eP P 11 45 02.6 -1.3
CMC01 Camacan, BA 33.25 68 eP P 11 45 10.3 -0.7
RPN Rapa Nui 33.30 268 LR LR 11 54 51.9
comp=Z,634nm,21.6s,baz=90,slow=29
PMSA Palmer Station 33.38 174 LR LR 11 58 45.0
comp=Z,626nm,21.0s,baz=342,slow=36
PMSA Palmer Station 33.38 174 P P 11 45 13.1 +1.5
PMSA IAmb IAmb 11 45 35.8
comp=Z,102nm,1.1s
MALB Monte Alegre 33.80 32 eP P 11 45 13.9 -2.0
GDU01 Guandu, BA 34.16 66 eP P 11 45 17.6 -1.4
BOAV Boa Vista 35.46 19 eP P 11 45 29.8 -0.4
NBPN Ponto Novo - B 35.48 61 eP P 11 45 29.1 -1.3
ORTC Ortega, Tolima 35.63 353 eP P 11 45 34.3 +2.6
YOTC Yotoco, Valle 35.83 351 eP P 11 45 34.5 +1.1
MCPB Macapa, AP 36.14 34 eP P 11 45 35.5 -0.5
CHIC Chingaza 36.23 56 eP P 11 45 39.2 +2.0
ROSC El Rosal 36.48 355 P P 11 45 42.4 +3.1
comp=Z,59nm,0.9s,baz=195,slow=4.7,SNR=12
TMAB Tom-Au,PA,Br 36.50 42 eP P 11 45 38.8 -0.3
SMAI San Martin Ant 36.52 177 P P 11 45 39.4 +0.8
PLMC San Jos del P 36.73 352 eP P 11 45 42.5 +1.3
GUY2C Guyana, Caldas 36.95 353 eP P 11 45 45.2 +1.8
NBLA Lagarto - SE 37.20 64 eP P 11 45 43.9 -1.2
NORC Norcasia 37.24 354 eP P 11 45 46.1 +0.8
RUSC La Rusia 37.45 357 eP P 11 45 48.4 +0.7
CBOC Ciudad Bolivar 37.65 352 eP P 11 45 49.1 +0.1
HELC Santa Helena 37.92 353 eP P 11 45 52.5 +1.0
BARC Barichara 38.15 357 eP P 11 45 53.0 -0.2
PTBC PUERTO BERRIO, 38.17 355 eP P 11 45 51.3 -1.9
ROSB Rosrio 38.45 47 eP P 11 45 54.9 -0.7
NBMA Muriti-CE 38.84 58 eP P 11 45 58.0 -0.9
NBPS Pedro II - PI 39.06 52 eP P 11 45 59.8 -1.0
ZARC Zaragoza, Cauc 39.15 354 P P 11 46 02.0 -0.6
ZARC Zaragoza, Cauc 39.15 354 eP P 11 46 01.8 +0.4
NBAN Anadia - AL 39.19 64 eP P 11 46 00.5 -1.4
NBPB Pedra_Branca-C 39.51 55 eP P 11 46 04.0 -0.6
OCAC Ocana 39.79 357 P P 11 46 06.2 -0.7
OCAC Ocana 39.79 357 eP P 11 46 04.7 -2.2
SOCV Socops 39.79 1 eP P 11 46 07.1 +0.3
NBCA Caruaru-PE 40.31 62 eP P 11 46 10.4 -0.8
SDV Santo Domingo 40.39 1 P P 11 46 11.8 -0.2
SDV IAmb IAmb 11 46 16.9
comp=Z,51nm,0.9s
SDV Santo Domingo 40.39 1 eP P 11 46 10.8 -1.1
SDV Santo Domingo 40.39 1 ⇑P P 11 46 11.7 -0.3
BAUV El Baul 40.56 5 P P 11 46 12.9 -0.2
BAUV IAmb IAmb 11 46 14.0
comp=Z,159nm,0.9s
NBRF Rio Formoso - 40.69 64 eP P 11 46 12.6 -1.7
MDP Montagnes des 40.73 29 LR LR 12 05 10.8
comp=Z,411nm,18.1s,baz=206,slow=39
NBMO Morrinhos-CE 40.80 53 eP P 11 46 14.1 -1.0
NBCL Cascavel-CE 41.35 55 eP P 11 46 19.0 -0.7
BCIP Isla Barro Col 41.47 347 P P 11 46 22.4 +1.8
BCIP pmax pmax
comp=Z,46nm,0.9s
BCIP Isla Barro Col 41.47 347 P P 11 46 22.4 +1.8
SJCC San Jacinto, C 41.55 354 eP P 11 46 21.6 +0.3
RCBR Riachuelo 41.97 60 LR LR 12 04 57.2
comp=Z,2µm,18.3s,baz=8.0,slow=38
RCBR Riachuelo 41.97 60 ceP P 11 46 26.0 +1.2
RCBR pmax pmax
comp=Z,45nm,1.3s
RCBR Riachuelo 41.97 60 P P 11 46 24.8 0.0
RCBR Riachuelo 41.97 60 eP P 11 46 24.9 +0.2
NBPV Pedro Velho 42.02 61 eP P 11 46 24.9 -0.3
BIRV Birongo 42.24 7 P P 11 46 26.5 -0.4
BIRV IAmb IAmb 11 46 27.9
comp=Z,62nm,0.9s
CRJC Cerrejon, Guaj 42.53 358 eP P 11 46 27.1 -2.3
SMRC Santa Marta, M 42.74 356 eP P 11 46 30.2 -0.7
URIC Uribia, Colomb 43.19 359 P P 11 46 32.5 -2.0
TOSP Speyside 44.02 15 P P 11 46 41.4 +0.3
GRGR Grenville 44.59 14 P P 11 46 45.2 -0.6
SVB Belmont 45.78 14 P P 11 46 54.1 -1.1
MCLT Moule a Chique 46.27 14 eP P 11 47 00.8 +1.7
SLBI Saint Lucia, B 46.56 14 eP P 11 46 59.9 -1.4
SLBI eS pP 11 47 15.4 +0.6
MPOM Morne Pois Mar 47.00 14 P P 11 47 03.8 -0.9
MPOM Morne Pois Mar 47.00 14 eP P 11 47 02.5 -2.2
MPOM eS pP 11 47 18.8 +0.6
BIM Bigot 47.02 14 P P 11 47 04.7 -0.3
BIM Bigot 47.02 14 eP P 11 47 03.8 -1.2
BIM eS pP 11 47 18.5 0.0
FDF Fort de France 47.22 13 P P 11 47 05.2 -1.3
FDF pmax pmax
comp=Z,93nm,0.6s
FDF Fort de France 47.22 13 eP P 11 47 05.2 -1.3
FDF Fort de France 47.22 13 P P 11 47 05.0 -1.6
FDF pP pP 11 47 18.8 -1.2
BELA Belgrano 2 49.01 170 P P 11 47 20.9 +1.2
BELA IAmb IAmb 11 47 21.9
comp=Z,75nm,1.1s
MLPR Magueyes Islan 49.59 5 P P 11 47 24.2 -0.4
PDPR Patillas Dam, 49.72 7 P P 11 47 25.4 -0.4
CELP Cerrillos 49.73 6 P P 11 47 24.7 -1.0
SJG San Juan 49.80 6 P P 11 47 25.5 -0.8
SJG pmax pmax
comp=Z,89nm,0.8s
SJG San Juan 49.80 6 P P 11 47 25.5 -0.8
SJG San Juan 49.80 6 ⇑P P 11 47 25.4 -0.9
SJG pP pP 11 47 39.3 -0.6
MTP Monte Pirata 49.85 7 P P 11 47 25.5 -1.2
MTP IAmb IAmb 11 47 26.5
comp=Z,59nm,1.1s
ANWB Willy Bob 49.96 12 P P 11 47 25.8 -1.7
ANWB IAmb IAmb 11 47 26.4
comp=Z,113nm,1.2s
CBYP Canovanas 49.99 7 P P 11 47 27.2 -0.7
CUPR Culebra, Puert 50.09 8 P P 11 47 27.9 -0.6
CUPR IAmb IAmb 11 47 28.4
comp=Z,44nm,1.1s
SMRT St. Maarten 50.12 10 P P 11 47 27.1 -1.7
SMRT IAmb IAmb 11 47 28.6
comp=Z,59nm,0.9s
VNA3 Neumayer Olymp 51.24 159 P P 11 47 36.3 -0.4
GTBY Guantanamo Bay 51.49 355 P P 11 47 38.6 -0.4
GTBY IAmb IAmb 11 47 40.4
comp=Z,35nm,0.9s
VNA1 Neumayer--Stat 51.53 158 P P 11 47 38.2 -0.6
VNA2 Neumayer--Watz 51.88 158 P P 11 47 39.9 -1.5
baz=282,slow=8.0
SNAA Sanae 53.47 159 P P 11 47 53.3 +0.1
SNAA Sanae 53.47 159 LR LR 12 08 59.1
comp=Z,358nm,21.8s,baz=306,slow=34
SNAA Sanae 53.47 159 ⇑i P P 11 47 53.5 +0.3
SNAA Sanae 53.47 159 c iP P 11 47 53.5 +0.3
SNAA pmax pmax
comp=Z,129nm,1.0s
SNAA Sanae 53.47 159 P P 11 47 53.6 +0.3
CMIG Matias Romero 53.54 332 LR LR 12 05 20.9
comp=Z,158nm,20.1s,baz=156,slow=30
TROLL Troll, Antarti 55.18 159 P P 11 48 05.4 -0.3
NVL N'lazarevskaya 58.17 157 ⇑i P P 11 48 25.6 -1.2
NVL pmax pmax
comp=Z,76nm,1.1s
QSPA South Pole Qui 58.50 180 LR LR 12 13 29.2
comp=Z,208nm,19.5s,baz=136,slow=36
QSPA South Pole Qui 58.50 180 P P 11 48 30.2 +0.9
QSPA South Pole Qui 58.50 180 ⇑P P 11 48 30.2 +0.9
QSPA ⇓pP pP 11 48 43.8 +0.6
QSPA sP sP 11 48 50.9 +2.1
DWPF Disney Wildern 60.28 350 P P 11 48 42.7 +0.9
baz=170
656A Willston 61.69 349 P P 11 48 52.1 +0.9
656A Willston 61.69 349 P P 11 48 51.8 +0.5
baz=169,SNR=6.2
553A Crawfordville 62.82 347 P P 11 48 59.8 +1.0
baz=168,SNR=5.1
TIGA Tifton 63.89 348 P P 11 49 06.0 +0.1
baz=168
TIGA Tifton 63.89 348 P P 11 49 06.2 +0.3
baz=168
352A Blakely 64.17 347 P P 11 49 08.0 +0.3
baz=167,SNR=8.7
BRAL Brewton 64.31 345 P P 11 49 09.2 +0.5
baz=165
154A Montrose 64.96 349 P P 11 49 12.6 -0.2
154A Montrose 64.96 349 P P 11 49 12.9 0.0
baz=169,SNR=5.4
NHSC New Hope 65.03 352 P P 11 49 14.4 +1.1
baz=172
NHSC New Hope 65.03 352 P P 11 49 13.8 +0.6
baz=172
346A Big Creek Wild 65.08 343 P P 11 49 14.6 +0.9
baz=163,SNR=7.6
152A Waverly Hall 65.29 348 P P 11 49 14.9 -0.1
152A IAmb IAmb 11 49 15.9
comp=Z,56nm,0.9s
152A Waverly Hall 65.29 348 P P 11 49 14.9 -0.1
baz=168,SNR=18
735A Kenedy 65.30 335 P P 11 49 17.4 +2.2
baz=155,SNR=5.3
SBA Scott Base 65.41 191 P P 11 49 17.5 +2.1
SBA pmax pmax
comp=Z,37nm,1.5s
SBA Scott Base 65.41 191 P P 11 49 17.5 +2.1
SBA Scott Base 65.41 191 P P 11 49 17.2 +1.8
SBA pP pP 11 49 31.2 +2.0
833A Chaparral WMA, 65.42 333 P P 11 49 17.5 +1.6
833A Chaparral WMA, 65.42 333 P P 11 49 17.6 +1.6
baz=154,SNR=44
833A Chaparral WMA, 65.42 333 P P 11 49 17.6 +1.6
baz=154,SNR=44
HAW Hawthorne Fire 65.46 351 P P 11 49 16.7 +0.5
baz=170
344A Westbrook Farm 65.47 342 P P 11 49 17.8 +1.6
baz=162,SNR=5.8
HKT Hockley 65.61 337 i P P 11 49 18.4 +1.4
HKT pmax pmax
comp=Z,14nm,1.2s
GOGA Godfrey 65.80 349 P P 11 49 18.4 +0.1
GOGA pmax pmax
comp=Z,41nm,1.0s
GOGA Godfrey 65.80 349 P P 11 49 18.4 +0.1
GOGA IAmb IAmb 11 49 19.3
comp=Z,41nm,0.9s
GOGA Godfrey 65.80 349 P P 11 49 18.3 +0.1
baz=169,SNR=11
GOGA Godfrey 65.80 349 P P 11 49 18.2 -0.1
baz=169,SNR=11
Z51A Franklin 66.00 347 P P 11 49 19.8 +0.2
baz=167,SNR=5.3
LRAL Lakeview Retre 66.09 346 P P 11 49 20.5 +0.3
LRAL IAmb IAmb 11 49 21.5
comp=Z,58nm,1.2s
LRAL Lakeview Retre 66.09 346 P P 11 49 20.4 +0.2
baz=166,SNR=9.9
LRAL Lakeview Retre 66.09 346 P P 11 49 20.0 -0.2
baz=166,SNR=9.9
VBMS Vicksburg 66.14 342 P P 11 49 21.8 +1.3
baz=162,SNR=9.7
VBMS Vicksburg 66.14 342 P P 11 49 21.7 +1.3
baz=162,SNR=9.7
146A Union 66.17 344 P P 11 49 22.0 +1.3
146A Union 66.17 344 P P 11 49 21.9 +1.2
baz=164,SNR=5.3
JSC Jenkinsville 66.32 351 P P 11 49 22.1 +0.5
baz=171,SNR=7.1
SLBS Sierra La Lagu 66.34 321 P P 11 49 24.4 +2.3
Y52A Lilburn 66.34 348 P P 11 49 22.5 +0.8
Y52A IAmb IAmb 11 49 23.0
comp=Z,75nm,0.9s
Y52A Lilburn 66.34 348 P P 11 49 22.1 +0.3
baz=168,SNR=16
Y52A P P 11 49 22.1 +0.3
baz=168,SNR=16
HODGE Hodges 66.41 350 P P 11 49 22.8 +0.6
HODGE IAmb IAmb 11 49 23.5
comp=Z,34nm,1.1s
HODGE Hodges 66.41 350 P P 11 49 22.7 +0.6
baz=170
VNDA Vanda 66.44 191 P P 11 49 23.6 +1.6
comp=Z,5.6nm,0.8s,baz=126,slow=5.7,SNR=23
VNDA PKPPKP P'P'df 12 17 54.5 -4.3
comp=Z,1.7nm,0.9s,baz=284,slow=3.8,SNR=5.6
VNDA Vanda 66.44 191 P P 11 49 23.5 +1.5
Z47A Carrollton 66.48 345 P P 11 49 23.3 +0.6
Z47A Carrollton 66.48 345 P P 11 49 23.2 +0.5
baz=164,SNR=16
BIRD Birdtown, Kers 66.58 352 P P 11 49 23.6 +0.3
BIRD Birdtown, Kers 66.58 352 P P 11 49 23.8 +0.5
baz=172
Y49A Blount Mountai 66.77 346 P P 11 49 24.3 -0.2
Y49A IAmb IAmb 11 49 26.3
comp=Z,45nm,1.1s
Y49A Blount Mountai 66.77 346 P P 11 49 24.7 +0.1
baz=166,SNR=11
143A Socs Landing, 66.83 342 P P 11 49 25.8 +0.9
143A Socs Landing, 66.83 342 P P 11 49 26.3 +1.3
baz=162,SNR=14
NATX Nacogdoches 66.90 338 P P 11 49 27.3 +1.9
NATX IAmb IAmb 11 49 28.0
comp=Z,88nm,1.1s
NATX Nacogdoches 66.90 338 P P 11 49 27.2 +1.9
baz=159,SNR=5.2
NATX Nagodoches 66.90 338 P P 11 49 26.9 +1.5
baz=159,SNR=5.2
HPIG 66.90 327 P P 11 49 26.8 +1.1
HPIG IAmb IAmb 11 49 28.3
comp=Z,35nm,1.1s
CNNC Cliffs of the 66.90 354 P P 11 49 26.6 +1.3
CNNC IAmb IAmb 11 49 27.1
comp=Z,85nm,1.1s
CNNC Cliffs of the 66.90 354 P P 11 49 26.9 +1.6
baz=174
CNNC Cliffs of the 66.90 354 P P 11 49 25.9 +0.6
baz=174
PAULI Pauline 66.93 351 P P 11 49 25.9 +0.5
PAULI IAmb IAmb 11 49 27.0
comp=Z,41nm,1.0s
PAULI Pauline 66.93 351 P P 11 49 26.0 +0.5
baz=170,SNR=7.3
435B Jarrell 66.97 336 P P 11 49 27.7 +1.9
435B IAmb IAmb 11 49 28.3
comp=Z,31nm,0.8s
435B Jarrell 66.97 336 P P 11 49 26.9 +1.0
baz=156
W57A Gilead 67.03 352 P P 11 49 26.4 +0.3
W57A IAmb IAmb 11 49 27.4
comp=Z,40nm,1.0s
W57A Gilead 67.03 352 P P 11 49 26.5 +0.4
baz=172,SNR=7.3
W57A P P 11 49 26.5 +0.4
baz=172,SNR=7.3
X51A Calhoun 67.16 348 P P 11 49 27.7 +0.7
baz=168,SNR=23
X51A P P 11 49 27.7 +0.7
baz=168,SNR=23
KMSC Kings Mountain 67.18 351 P P 11 49 27.6 +0.5
baz=171,SNR=9.1
KMSC Kings Mountain 67.18 351 P P 11 49 27.1 0.0
baz=171,SNR=9.1
BG3 Lake Jocassee 67.26 350 P P 11 49 28.5 +0.9
BG3 IAmb IAmb 11 49 29.2
comp=Z,67nm,1.1s
CASEE Lake Jocassee 67.26 350 P P 11 49 28.4 +0.7
baz=169,SNR=13
FPAL Fort Paine 67.28 347 P P 11 49 28.2 +0.4
FPAL IAmb IAmb 11 49 28.9
comp=Z,64nm,1.2s
Y45A Yeager Farm, C 67.47 344 P P 11 49 30.3 +1.3
Y45A Yeager Farm, C 67.47 344 P P 11 49 29.9 +0.9
baz=163,SNR=17
X48A Hartselle 67.47 346 P P 11 49 29.6 +0.7
baz=166,SNR=52
JCT Junction City 67.51 334 P P 11 49 30.0 +0.6
JCT pmax pmax
comp=Z,71nm,0.9s
JCT Junction City 67.51 334 P P 11 49 29.9 +0.6
JCT IAmb IAmb 11 49 31.6
comp=Z,71nm,0.9s
JCT Junction City 67.51 334 P P 11 49 30.8 +1.5
baz=154,SNR=32
JCT Junction City 67.51 334 P P 11 49 30.5 +1.2
baz=154,SNR=32
W52A Murphy 67.52 349 P P 11 49 29.7 +0.5
baz=168,SNR=8.5
V58A Windy Hill, Pi 67.56 353 P P 11 49 29.9 +0.3
baz=173,SNR=7.9
V58A P P 11 49 29.9 +0.3
baz=173,SNR=7.9
Z41A Richland Creek 67.74 341 P P 11 49 32.0 +1.4
baz=160
SYO Syowa Base 67.76 159 ⇓i P P 11 49 30.5 +0.1
SYO Syowa Base 67.76 159 ⇑e X P 11 49 43.0 +13
W50A Signal Mountai 67.86 348 P P 11 49 32.1 +0.6
baz=167,SNR=29
V55A Taylorsville 67.86 351 P P 11 49 31.7 +0.2
baz=171,SNR=16
V55A P P 11 49 31.7 +0.2
baz=171,SNR=16
V53A Saluda 67.91 350 P P 11 49 31.9 +0.2
baz=170,SNR=18
V53A P P 11 49 31.9 +0.2
baz=170,SNR=18
CPCT Cooper Cave 67.96 348 P P 11 49 32.5 +0.4
CPCT IAmb IAmb 11 49 33.4
comp=Z,89nm,1.0s
SWET Sewanee 67.99 347 P P 11 49 32.8 +0.5
U59A Littleton 68.00 354 P P 11 49 33.1 +0.9
baz=174,SNR=5.4
U59A P P 11 49 33.1 +0.9
baz=174,SNR=5.4
WHTX Lake Whitney, 68.03 336 P P 11 49 32.8 +0.3
WHTX IAmb IAmb 11 49 34.6
comp=Z,67nm,0.9s
WHTX Lake Whitney, 68.03 336 P P 11 49 33.7 +1.2
baz=156,SNR=19
WHTX Lake Whitney, 68.03 336 P P 11 49 33.5 +0.9
baz=156,SNR=19
TKL Tuckaleechee C 68.04 349 P P 11 49 32.1 -0.5
TKL pmax pmax
comp=Z,74nm,1.0s
TKL Tuckaleechee C 68.04 349 P P 11 49 32.1 -0.5
TKL IAmb IAmb 11 49 33.6
comp=Z,74nm,1.0s
TKL Tuckaleechee C 68.04 349 P P 11 49 32.6 +0.1
baz=169,SNR=17
OXF Oxford 68.05 344 P P 11 49 33.0 +0.4
OXF pmax pmax
comp=Z,278nm,0.9s
OXF Oxford 68.05 344 P P 11 49 33.0 +0.4
OXF Oxford 68.05 344 P P 11 49 33.1 +0.5
baz=164,SNR=32
OXF Oxford 68.05 344 P P 11 49 32.7 +0.1
baz=164,SNR=32
TX31 Lajitas Ar. Si 68.06 330 P P 11 49 33.6 +0.6
TX31 IAmb IAmb 11 49 35.2
comp=Z,64nm,0.8s
TX31 Lajitas Ar. Si 68.06 330 P P 11 49 34.1 +1.1
baz=151,SNR=60
TX32 Lajitas Array 68.06 330 P P 11 49 33.6 +0.6
TXAR Lajitas Array 68.06 330 P P 11 49 34.1 +1.2
comp=Z,18nm,0.8s,baz=149,slow=8.2,SNR=126
TXAR pP pP 11 49 47.5 +0.6
comp=Z,5.5nm,0.7s,baz=158,slow=7.5,SNR=6.8
TXAR PKPPKP P'P'df 12 17 51.7 +3.6
comp=Z,2.1nm,1.2s,baz=210,slow=4.3,SNR=5.4
TXAR Lajitas Array 68.06 330 P P 11 49 33.8 +0.8
V52A Sevierville 68.19 349 P P 11 49 33.5 0.0
V52A IAmb IAmb 11 49 34.5
comp=Z,73nm,1.0s
V52A Sevierville 68.19 349 P P 11 49 33.5 0.0
baz=169,SNR=16
PLAL Pickwick Lake 68.20 345 P P 11 49 33.7 +0.2
PLAL IAmb IAmb 11 49 34.7
comp=Z,70nm,1.0s
WLAR White Oak Lake 68.23 341 P P 11 49 35.7 +2.0
U56A King 68.25 352 P P 11 49 34.4 +0.6
baz=172,SNR=7.0
U56A P P 11 49 34.4 +0.6
baz=172,SNR=7.0
V51A Loudon 68.28 349 P P 11 49 34.2 +0.2
baz=168,SNR=15
T59A Double "B" Far 68.59 355 P P 11 49 36.6 +0.7
baz=174,SNR=7.6
T59A P P 11 49 36.6 +0.7
baz=174,SNR=7.6
U54A Nelsons Funny 68.60 351 P P 11 49 36.4 +0.2
baz=170,SNR=14
U54A P P 11 49 36.4 +0.2
baz=170,SNR=14
W45A Hickory Valley 68.62 344 P P 11 49 36.5 +0.4
baz=164,SNR=16
V48A Smith Brothers 68.67 347 P P 11 49 37.0 +0.6
baz=166,SNR=44
T57A Hurt 68.77 353 P P 11 49 37.6 +0.5
baz=173,SNR=6.8
T57A P P 11 49 37.6 +0.5
baz=173,SNR=6.8
TZTN Tazewell 68.88 349 P P 11 49 37.7 -0.1
baz=169,SNR=6.1
TZTN Tazewell 68.88 349 P P 11 49 37.5 -0.2
baz=169,SNR=6.1
X40A Basin Creek Fa 68.91 341 P P 11 49 38.0 +0.1
baz=160,SNR=6.2
X40A P P 11 49 38.0 +0.1
baz=160,SNR=6.2
X40A Basin Creek Fa 68.91 341 P P 11 49 38.3 +0.3
baz=160,SNR=6.2
CLTN Cedars of Leba 68.92 347 P P 11 49 38.4 +0.4
CLTN IAmb IAmb 11 49 39.4
comp=Z,79nm,0.9s
UALR University of 69.04 342 P P 11 49 39.3 +0.5
UALR IAmb IAmb 11 49 40.4
comp=Z,42nm,1.2s
BLA Blacksburg 69.11 352 P P 11 49 39.8 +0.6
BLA pmax pmax
comp=Z,19nm,0.9s
BLA Blacksburg 69.11 352 P P 11 49 39.8 +0.6
BLA Blacksburg 69.11 352 P P 11 49 39.5 +0.3
baz=172
MIAR Mount Ida 69.17 340 P P 11 49 39.6 0.0
MIAR pmax pmax
comp=Z,57nm,1.3s
MIAR Mount Ida 69.17 340 P P 11 49 39.6 0.0
MIAR IAmb IAmb 11 49 41.5
comp=Z,57nm,1.2s
MIAR Mount Ida 69.17 340 P P 11 49 40.2 +0.6
baz=160
Z35A Perchaven, San 69.18 337 P P 11 49 40.6 +0.9
baz=157,SNR=27
U49A Red Boiling Sp 69.22 348 P P 11 49 40.1 +0.3
baz=167,SNR=14
WVT Waverly 69.25 346 P P 11 49 40.3 +0.3
WVT pmax pmax
comp=Z,178nm,0.9s
WVT Waverly 69.25 346 P P 11 49 40.3 +0.3
WVT Waverly 69.25 346 P P 11 49 40.5 +0.4
baz=165,SNR=94
WVT Waverly 69.25 346 P P 11 49 40.4 +0.4
baz=165
WVT Waverly 69.25 346 ⇑P P 11 49 40.4 +0.4
WVT X 11 49 50.1
WVT ⇓pP pP 11 49 53.6 -0.5
WVT sP PcP 11 50 01.9 -1.6

JSRW **J. Sargeant Re** 69.33 354 P P 11 49 41.7 +1.2
ABTX **Abilene, Hawle** 69.37 335 P P 11 49 42.1 +1.1
baz=154,SNR=22
ABTX **Abilene, Hawle** 69.37 335 P P 11 49 41.9 +1.0
baz=154,SNR=22
W41B **Gary Mavity, V** 69.39 342 P P 11 49 41.5 +0.7
baz=161,SNR=19
W41B **Gary Mavity, V** 69.39 342 P P 11 49 41.6 +0.7
baz=161,SNR=19
S57A **Dark Hollow, R** 69.50 354 P P 11 49 42.2 +0.6
baz=173,SNR=12
S57A P P 11 49 42.2 +0.6
baz=173,SNR=12
WHAR **Wooly Hollow** 69.51 342 P P 11 49 42.2 +0.5
WHAR IAmb IAmb 11 49 43.4
comp=Z,48nm,1.0s
T50A **Nancy** 69.55 348 P P 11 49 41.5 -0.4
baz=168
T50A P P 11 49 41.5 -0.4
baz=168
LNXT **Lenox** 69.59 344 P P 11 49 43.0 +0.9
LNXT **Lenox** 69.59 344 P P 11 49 43.1 +0.9
baz=164,SNR=7.4
R58B **Mineral** 69.60 354 P P 11 49 43.1 +0.9
baz=174,SNR=9.1
R58B P P 11 49 43.1 +0.9
baz=174,SNR=9.1
PEBM **Pemiscott Bayo** 69.69 344 P P 11 49 44.1 +1.4
GLAT **Glass** 69.71 345 P P 11 49 43.7 +0.9
X37A **Clayton** 69.74 339 P P 11 49 44.0 +0.9
X37A **Clayton** 69.74 339 P P 11 49 43.8 +0.7
baz=158,SNR=8.6
S54A **Dingess, Beckl** 69.80 352 P P 11 49 43.3 -0.1
baz=171,SNR=7.9
S54A P P 11 49 43.3 -0.1
baz=171,SNR=7.9
CBN **Corbin Frederi** 69.80 355 P P 11 49 44.2 +0.8
baz=174
W39A **Magazine** 69.84 341 P P 11 49 45.1 +1.4
baz=160,SNR=62
W39A **Magazine** 69.84 341 P P 11 49 44.9 +1.2
baz=160,SNR=62
T47A **Sharon Grove** 69.94 347 P P 11 49 44.3 +0.1
baz=166,SNR=17
PVMO **Portageville** 69.94 344 P P 11 49 45.9 +1.6
S51A **Beattyville** 69.95 350 P P 11 49 44.3 0.0
baz=169,SNR=12
S51A P P 11 49 44.3 0.0
baz=169,SNR=12
LCAR **Lake Charles** 69.96 343 P P 11 49 44.8 +0.5
LCAR **Lake Charles** 69.96 343 P P 11 49 44.9 +0.5
baz=162,SNR=58
FCAR **Ozark Folk Cen** 70.04 342 P P 11 49 45.2 +0.3
FCAR IAmb IAmb 11 49 46.2
comp=Z,38nm,0.8s
R55A **Marlinton** 70.13 353 P P 11 49 46.4 +0.8
baz=172,SNR=14
R55A P P 11 49 46.4 +0.8
baz=172,SNR=14
T45B **Paducah** 70.28 345 P P 11 49 46.7 +0.3
baz=164,SNR=6.4
R53A **Hurricane** 70.40 351 P P 11 49 47.4 +0.4
baz=170,SNR=5.9
R53A P P 11 49 47.4 +0.4
baz=170,SNR=5.9
PBMO **Poplar Bluff** 70.46 344 P P 11 49 47.8 +0.4
PBMO IAmb IAmb 11 49 48.8
comp=Z,120nm,1.1s
PBMO **Poplar Bluff** 70.46 344 P P 11 49 47.8 +0.4
baz=163,SNR=28
U40A **Yellville** 70.67 342 P P 11 49 49.3 +0.5
baz=161,SNR=61
U40A P P 11 49 49.3 +0.5
baz=161,SNR=61
U40A **Yellville** 70.67 342 P P 11 49 49.1 +0.3
baz=161,SNR=61
R50A **Paris** 70.70 349 P P 11 49 48.8 -0.1
baz=168,SNR=10
R50A P P 11 49 48.8 -0.1
baz=168,SNR=10
Q56A **Snyder Ridge,** 70.79 354 P P 11 49 50.6 +1.2
baz=173,SNR=7.9
Q56A P P 11 49 50.6 +1.2
baz=173,SNR=7.9
MNTX **Cornudas Mount** 70.84 330 P P 11 49 49.9 0.0
MNTX IAmb IAmb 11 49 51.0
comp=Z,35nm,0.8s
MNTX **Cornudas Mount** 70.84 330 P P 11 49 49.9 0.0
baz=150,SNR=65
MNTX **Cornudas Mount** 70.84 330 P P 11 49 50.0 0.0
baz=150,SNR=65
R49A **Shelbyville** 70.85 349 P P 11 49 49.5 -0.2
baz=168,SNR=10
R49A P P 11 49 49.5 -0.2
baz=168,SNR=10
HHAR **Hobbs** 70.90 341 P P 11 49 50.0 -0.1
HHAR IAmb IAmb 11 49 51.6
comp=Z,89nm,1.0s
HHAR **Hobbs** 70.90 341 P P 11 49 50.7 +0.6
baz=160
Q54A **Coxs Mills** 70.91 352 P P 11 49 50.2 0.0
baz=172,SNR=9.0
Q54A P P 11 49 50.2 0.0
baz=172,SNR=9.0
SDMD **Soldier's Deli** 70.96 355 P P 11 49 51.7 +1.2
baz=175,SNR=5.6
WMOK **Wichita Mounta** 70.98 336 P P 11 49 51.1 +0.4
WMOK pmax pmax
comp=Z,23nm,1.1s
WMOK **Wichita Mounta** 70.98 336 P P 11 49 51.1 +0.4
baz=156,SNR=10.0
WMOK **Wichita Mounta** 70.98 336 P P 11 49 50.9 +0.1
baz=156,SNR=10.0
USIN **University of** 70.99 346 P P 11 49 50.9 +0.2
Q52A **Bidwell** 71.06 351 P P 11 49 51.2 +0.1
baz=170,SNR=16
Q52A P P 11 49 51.2 +0.1
baz=170,SNR=16
S44A **Carbondale** 71.06 345 P P 11 49 51.5 +0.4
baz=164,SNR=22
TUL1 **Leonard** 71.09 339 P P 11 49 51.9 +0.6
baz=158,SNR=17
TUL1 **Leonard** 71.09 339 P P 11 49 51.6 +0.3
baz=158,SNR=17
P57A **Homestead Farm** 71.12 355 P P 11 49 52.9 +1.4
baz=174,SNR=17
P57A P P 11 49 52.9 +1.4
baz=174,SNR=17
Q51A **Peebles** 71.28 350 P P 11 49 52.6 +0.3
baz=169,SNR=18
Q51A P P 11 49 52.6 +0.3
baz=169,SNR=18
GEDE **Greenville** 71.29 357 P P 11 49 53.4 +1.0
baz=176,SNR=5.6
KIDD **KIDD Seismic O** 71.39 329 P P 11 49 54.7 +1.3
baz=149
MCWV **Mont Chateau** 71.47 353 P P 11 49 53.9 +0.4
baz=172,SNR=8.6
MCWV **Mont Chateau** 71.47 353 P P 11 49 54.1 +0.6
baz=172,SNR=8.6
P53A **Whipple** 71.47 352 P P 11 49 53.6 +0.1
baz=171,SNR=9.9
P53A P P 11 49 53.6 +0.1
baz=171,SNR=9.9
FVM **French Village** 71.61 344 P P 11 49 55.0 +0.6
baz=163,SNR=45
TUPA **Temple Univers** 71.62 357 P P 11 49 55.1 +0.6
baz=176,SNR=7.1
P51A **Williamsport** 71.68 350 P P 11 49 54.6 -0.2
baz=170,SNR=11
P51A P P 11 49 54.6 -0.2
baz=170,SNR=11
P52A **Corning** 71.71 351 P P 11 49 54.7 -0.3
baz=170,SNR=11
MSTX **Muleshoe** 71.75 333 P P 11 49 56.3 +0.8
baz=152,SNR=39
MSTX **Muleshoe** 71.75 333 P P 11 49 56.2 +0.6
baz=152,SNR=39
PANJ **Princeton** 71.81 357 P P 11 49 56.9 +1.4
baz=177
OLIL **Olney** 71.82 346 P P 11 49 55.5 -0.2
baz=165,SNR=9.5
CCM **Cathedral Cave** 71.87 344 P P 11 49 56.7 +0.8
CCM pmax pmax
comp=Z,151nm,1.0s
CCM **Cathedral Cave** 71.87 344 P P 11 49 56.7 +0.8
baz=162,SNR=95
CCM **Cathedral Cave** 71.87 344 P P 11 49 56.6 +0.6
baz=162
CCM **Cathedral Cave** 71.87 344 ⇑P P 11 49 56.6 +0.6
CCM X 11 50 02.6
CCM ⇑pP pP 11 50 10.8 +0.7
P49A **Miami Univ. Ec** 71.98 349 P P 11 49 55.5 -1.1
baz=168,SNR=13
P49A **Miami Univ. Ec** 71.98 349 P P 11 49 56.2 -0.4
baz=168,SNR=13
P48A **Milroy** 72.03 349 P P 11 49 56.6 -0.2
baz=167,SNR=14
P48A P P 11 49 56.6 -0.2
baz=167,SNR=14
O54A **Avella** 72.04 353 P P 11 49 57.0 +0.1
baz=172,SNR=5.4
O54A P P 11 49 57.0 +0.1
baz=172,SNR=5.4
S39A **Bolivar** 72.05 342 P P 11 49 57.7 +0.6
baz=160,SNR=59
BRNJ **Basking Ridge** 72.11 357 P P 11 49 58.8 +1.5
baz=177,SNR=8.2
O52A **Adamsville** 72.14 352 P P 11 49 57.0 -0.6
baz=171,SNR=12
O52A P P 11 49 57.0 -0.6
baz=171,SNR=12
Q44A **Meyer Farm, Va** 72.17 346 P P 11 49 57.1 -0.6
baz=164,SNR=6.6
SLM **Saint Louis** 72.19 345 P P 11 49 58.5 +0.6
baz=163,SNR=6.3
O53A **New Philadelph** 72.20 352 P P 11 49 58.1 +0.2
baz=171,SNR=6.1
T35B **Sooner Cattle** 72.24 339 P P 11 49 59.1 +0.8
baz=158,SNR=22
SSPA **Standing Stone** 72.26 355 P P 11 49 57.9 -0.3
baz=174,SNR=14
SSPA **Standing Stone** 72.26 355 P P 11 49 59.1 +0.8
baz=174
319A **Douglas** 72.33 326 P P 11 50 00.8 +1.7
R40A **Maddies Statio** 72.34 343 P P 11 49 59.3 +0.6
baz=161,SNR=102
N58A **Sunbury** 72.38 356 P P 11 49 59.3 +0.4
baz=175,SNR=9.4
N58A P P 11 49 59.3 +0.4
baz=175,SNR=9.4
N59A **State Game Lan** 72.40 356 P P 11 50 00.2 +1.1
baz=176,SNR=16
N59A **State Game Lan** 72.40 356 P P 11 50 00.2 +1.1
baz=176,SNR=16
ACSO **Alum Creek Sta** 72.41 351 P P 11 49 59.4 +0.3
baz=170,SNR=29
ACSO **Alum Creek Sta** 72.41 351 P P 11 49 58.7 -0.4
baz=170,SNR=29
PAL **Palisades** 72.41 358 P P 11 49 59.8 +0.7
baz=178
P46A **Rosedale** 72.50 347 P P 11 49 59.5 -0.2
baz=166,SNR=16
ODNJ **Ogdensburg** 72.51 357 P P 11 50 01.1 +1.3
baz=177,SNR=10
U32A **Winter Ranch,** 72.54 337 P P 11 50 00.8 +0.7
baz=156,SNR=13
O49A **Covington** 72.56 350 P P 11 50 00.0 0.0
baz=168,SNR=23
O49A P P 11 50 00.0 0.0
baz=168,SNR=23
121A **Cookes Peak, D** 72.61 328 P P 11 50 02.0 +1.2
121A IAmb IAmb 11 50 03.9
comp=Z,49nm,0.9s
121A **Cookes Peak, D** 72.61 328 P P 11 50 02.6 +1.9
baz=148,SNR=37
121A **Cookes Peak, D** 72.61 328 P P 11 50 02.4 +1.6
baz=148,SNR=37
N53A **Lisbon** 72.71 352 P P 11 50 01.1 +0.1
baz=172,SNR=8.7
N53A P P 11 50 01.1 +0.1
baz=172,SNR=8.7
O48B **Farmland** 72.76 349 P P 11 50 01.1 -0.2
baz=168,SNR=15
O48B **Farmland** 72.76 349 P P 11 50 00.9 -0.3
baz=168,SNR=15
N54A **Moraine State** 72.77 353 P P 11 50 01.1 -0.2
N54A IAmb IAmb 11 50 02.8
comp=Z,76nm,0.9s
N54A **Moraine State** 72.77 353 P P 11 50 01.8 +0.5
baz=172,SNR=18
N54A **Moraine State** 72.77 353 P P 11 50 01.5 +0.3
baz=172,SNR=18
BRNY **Black Rk. Fore** 72.82 358 P P 11 50 02.8 +1.2
baz=178,SNR=5.4
M57A **Sunshine Farm,** 72.90 355 P P 11 50 03.0 +0.9
baz=175,SNR=9.7
M57A P P 11 50 03.0 +0.9
baz=175,SNR=9.7
P43A **Skaggs, Pawnee** 72.99 345 P P 11 50 02.9 +0.3
baz=164,SNR=20
N51A **Ashland** 73.00 351 P P 11 50 02.3 -0.4
baz=170,SNR=8.0
N51A P P 11 50 02.3 -0.4
baz=170,SNR=8.0
KSPA **Keystone Colle** 73.04 357 P P 11 50 04.0 +1.1
baz=176
M55A **Ridgway** 73.16 354 P P 11 50 03.8 +0.2
M55A IAmb IAmb 11 50 05.2
comp=Z,95nm,0.9s
M55A **Ridgway** 73.16 354 P P 11 50 04.2 +0.6
baz=173,SNR=32
M55A P P 11 50 04.2 +0.6
baz=173,SNR=32
NPNY **Mohonk Preserv** 73.17 358 P P 11 50 04.8 +1.2
baz=178,SNR=10
SFIN **Lafayette** 73.22 347 P P 11 50 03.0 -0.9
baz=166,SNR=10
SFIN **Lafayette** 73.22 347 P P 11 50 03.0 -0.9
baz=166,SNR=10
N49A **Columbus Grove** 73.26 350 P P 11 50 04.4 +0.2
baz=169,SNR=41
N49A P P 11 50 04.4 +0.2
baz=169,SNR=41
O44A **Mansfield** 73.26 346 P P 11 50 03.5 -0.7
baz=165,SNR=7.0
M53A **WI Miller and** 73.31 353 P P 11 50 04.2 -0.3
baz=172,SNR=20
Y22A **Socorro** 73.44 330 P P 11 50 07.1 +1.5
baz=149,SNR=11
N47A **Urbana** 73.46 349 P P 11 50 04.9 -0.4
baz=167,SNR=25
N47A P P 11 50 04.9 -0.4
baz=167,SNR=25
P40A **Paris** 73.46 343 P P 11 50 05.8 +0.4
P40A **Paris** 73.46 343 P P 11 50 06.1 +0.7
baz=162,SNR=89
ALLY **Alegheny Colle** 73.47 353 P P 11 50 06.0 +0.6
baz=172
M52A **Chesterland** 73.49 352 P P 11 50 05.8 +0.3
baz=171,SNR=13
M52A P P 11 50 05.8 +0.3
baz=171,SNR=13
LIC **Lamto** 73.50 72 eP P 11 50 06.4 +0.2
comp=Z,67nm,0.9s
M50A **Fremont** 73.57 351 P P 11 50 06.2 +0.3
baz=170,SNR=11
M50A P P 11 50 06.2 +0.3
baz=170,SNR=11
L59A **Walton** 73.64 357 P P 11 50 07.5 +1.1
baz=177,SNR=16
L59A P P 11 50 07.5 +1.1
baz=177,SNR=16
BINY **Binghamton** 73.69 356 P P 11 50 06.9 +0.2
baz=176,SNR=8.2
BINY **Binghamton** 73.69 356 P P 11 50 07.4 +0.7
baz=176,SNR=8.2
L56A **Greenwood** 73.73 355 P P 11 50 07.3 +0.4
baz=174,SNR=27
L56A P P 11 50 07.3 +0.4
baz=174,SNR=27
TIC **Toumodi** 73.75 71 eP P 11 50 07.1 -0.6
KIC **Kosan Boka** 73.81 72 eP P 11 50 07.8 -0.3
comp=Z,170nm,0.9s
TUC **Tucson** 73.81 326 P P 11 50 08.5 +0.7
TUC pmax pmax
comp=Z,50nm,1.9s
TUC **Tucson** 73.81 326 P P 11 50 08.5 +0.7
TUC **Tucson** 73.81 326 P P 11 50 09.0 +1.2
baz=146
CER **Ceres** 73.82 119 eP P 11 50 08.1 +0.1
CER IAmb IAmb 11 50 09.3
comp=Z,8.4nm,1.0s
HDIL **Hopedale** 73.82 346 P P 11 50 07.5 0.0
baz=164,SNR=5.9
HDIL **Hopedale** 73.82 346 P P 11 50 07.3 -0.2
baz=164,SNR=5.9
L61B **Northampton** 73.83 359 P P 11 50 08.4 +1.0
baz=179,SNR=11
L61B **Northampton** 73.83 359 P P 11 50 08.3 +0.8
baz=179,SNR=11
HRV **Adam Dziewonsk** 73.87 360 P P 11 50 09.4 +1.7
HRV pmax pmax
comp=Z,36nm,1.1s
HRV **Adam Dziewonsk** 73.87 360 P P 11 50 08.9 +1.2
baz=180
HRV **Adam Dziewonsk** 73.87 360 P P 11 50 08.6 +0.9
baz=180
DBIC **Dimbokro** 73.89 71 P P 11 50 08.4 -0.1
comp=Z,69nm,0.9s,baz=236,slow=6.2,SNR=55
DBIC pP pP 11 50 22.4 -0.3
comp=Z,20nm,0.6s,baz=219,slow=6.9,SNR=4.8
DBIC LR LR 12 18 57.8
comp=Z,507nm,22.0s,baz=211,slow=33
DBIC **Dimbokro** 73.89 71 ⇑iP P 11 50 08.4 -0.1
DBIC IAmb IAmb 11 50 09.2
comp=Z,36nm,1.0s
DBIC **Dimbokro** 73.89 71 P P 11 50 07.9 -0.6
DBIC IAmb IAmb 11 50 09.4
comp=Z,87nm,1.0s
ERPA **Erie** 73.91 353 P P 11 50 08.4 +0.4
baz=172,SNR=10
ERPA **Erie** 73.91 353 P P 11 50 07.8 -0.2
baz=172,SNR=10
P38A **Dawn** 73.92 342 P P 11 50 08.5 +0.4
baz=160,SNR=28
WVNY **West Valley, N** 74.07 354 P P 11 50 09.2 +0.2
WVNY IAmb IAmb 11 50 10.8
comp=Z,107nm,0.8s
WVNY **West Valley, N** 74.07 354 P P 11 50 09.9 +0.9
baz=174,SNR=20
ANMO **Albuquerque** 74.09 331 ci P P 11 50 11.1 +1.6
ANMO pmax pmax
comp=Z,23nm,1.3s
ANMO **Albuquerque** 74.09 331 P P 11 50 11.0 +1.6
baz=150,SNR=25
ANMO **Albuquerque** 74.09 331 P P 11 50 11.1 +1.6
baz=150
TRY **Troy** 74.13 358 P P 11 50 10.5 +1.3
baz=178,SNR=9.8
K57A **Scipio Center** 74.25 356 P P 11 50 10.3 +0.3
baz=175,SNR=6.4
KSU1 **Kansas State U** 74.29 340 P P 11 50 10.5 +0.3
baz=158,SNR=7.6
KSU1 **Kansas State U** 74.29 340 P P 11 50 10.2 0.0
baz=158,SNR=7.6
L48A **N Adams** 74.30 350 P P 11 50 09.9 -0.3
baz=168,SNR=15
L48A P P 11 50 09.9 -0.3
baz=168,SNR=15
N41A **Harden Midland** 74.30 345 P P 11 50 10.3 +0.1
baz=163,SNR=8.2
R32A **Long Quarter,** 74.31 338 P P 11 50 11.3 +0.8
baz=156,SNR=14
M44A **Midewin, Midew** 74.37 347 P P 11 50 10.2 -0.5
M44A **Midewin, Midew** 74.37 347 P P 11 50 10.6 -0.1
baz=165,SNR=17
214A **Organ Pipe Nat** 74.51 324 P P 11 50 13.4 +1.7
214A **Organ Pipe Nat** 74.51 324 P P 11 50 13.7 +1.9
baz=144,SNR=15
AAM **Ann Arbor** 74.53 351 P P 11 50 11.5 0.0
baz=169
L46A **Eue Claire** 74.66 348 P P 11 50 12.0 -0.4
baz=167
L46A P P 11 50 12.0 -0.4
baz=167
J61A **Chester** 74.72 359 P P 11 50 13.9 +1.2
baz=179,SNR=7.3
J61A P P 11 50 13.9 +1.2
baz=179,SNR=7.3
ACCN **Adirondack Com** 74.78 358 P P 11 50 13.8 +0.8
baz=178,SNR=8.7
J56A **Wolcott** 74.81 356 P P 11 50 13.6 +0.5
baz=175,SNR=12
J56A P P 11 50 13.6 +0.5
baz=175,SNR=12
J58A **Remsen** 74.81 357 P P 11 50 13.6 +0.4
baz=176,SNR=6.2
J58A P P 11 50 13.6 +0.4
baz=176,SNR=6.2
MATJ **Matjiesfontein** 74.82 120 ⇑iP P 11 50 14.7 +0.8
MATJ IAmb IAmb 11 50 15.5
comp=Z,69nm,0.9s
K50A **Casco** 74.86 351 P P 11 50 13.2 -0.2
baz=170,SNR=7.2
K50A P P 11 50 13.2 -0.2
baz=170,SNR=7.2
J55A **Hilton** 74.87 355 P P 11 50 13.7 +0.2
baz=174,SNR=6.7
J55A P P 11 50 13.7 +0.2
baz=174,SNR=6.7
J59A **Piesco** 74.89 358 P P 11 50 14.2 +0.6
baz=177,SNR=16
J59A P P 11 50 14.2 +0.6
baz=177,SNR=16
J57A **Williamstown** 74.90 356 P P 11 50 14.2 +0.6
baz=176,SNR=19
J57A P P 11 50 14.2 +0.6
baz=176,SNR=19
J54A **Appleton** 74.94 354 P P 11 50 14.3 +0.4
baz=174,SNR=7.2
J54A P P 11 50 14.3 +0.4
baz=174,SNR=7.2
N38A **Joes South For** 74.95 343 P P 11 50 14.3 +0.3
baz=161,SNR=17
CBKS **Cedar Bluff** 75.00 337 P P 11 50 15.5 +1.1
baz=155,SNR=10
CBKS **Cedar Bluff** 75.00 337 P P 11 50 15.5 +1.1
baz=155,SNR=10
L44A **Lake County Fo** 75.11 347 P P 11 50 15.1 +0.2
baz=166,SNR=6.8
L44A **Lake County Fo** 75.11 347 P P 11 50 14.9 0.0
baz=166,SNR=6.8
T25A **Trinidad** 75.17 333 P P 11 50 16.7 +1.0
T25A IAmb IAmb 11 50 18.6
comp=Z,65nm,0.9s
T25A **Trinidad** 75.17 333 P P 11 50 17.5 +1.8
baz=151,SNR=52
MAW **Mawson** 75.18 163 P P 11 50 15.6 +0.4
comp=Z,32nm,1.0s,baz=230,slow=6.1,SNR=18
MAW LR LR 12 26 00.4
comp=Z,314nm,18.6s,baz=210,slow=38
MAW **Mawson** 75.18 163 P P 11 50 15.0 -0.1
L42A **Oliver, Polo** 75.29 346 P P 11 50 15.9 0.0
baz=164,SNR=21
MCVT **Middlebury Col** 75.33 359 P P 11 50 17.3 +1.1
baz=178,SNR=6.0
NCB **Newcomb** 75.38 358 P P 11 50 17.0 +0.5
baz=177,SNR=8.5
I63A **Otisfield** 75.42 1 P P 11 50 18.3 +1.7
baz=181,SNR=8.6
I63A P P 11 50 18.3 +1.7
baz=181,SNR=8.6
WCNY **West Carthage** 75.45 357 P P 11 50 17.6 +0.7
baz=176,SNR=21
LBNH **Lisbon** 75.61 360 P P 11 50 18.9 +1.1
baz=180,SNR=11
LBNH **Lisbon** 75.61 360 P P 11 50 18.9 +1.1
baz=180,SNR=11
J47A **Sunmer** 75.62 350 P P 11 50 17.5 -0.3
baz=168,SNR=7.8
J47A P P 11 50 17.5 -0.3
baz=168,SNR=7.8
113A **Mohawk Valley,** 75.64 324 P P 11 50 19.9 +1.8
N35A **Tabor** 75.64 341 P P 11 50 18.2 +0.2
baz=159,SNR=32
W18A **Petrified Fore** 75.66 328 P P 11 50 20.1 +1.6
baz=147,SNR=8.9
L40A **Anamosa** 75.68 345 P P 11 50 18.3 +0.2
baz=163,SNR=75
K43A **Burlington** 75.70 347 P P 11 50 18.6 +0.3
baz=165,SNR=15
H62A **Milan** 75.94 0 P P 11 50 20.9 +1.3
baz=180
H62A P P 11 50 20.9 +1.3
baz=180
SCIA **State Center** 76.00 343 P P 11 50 20.6 +0.6
baz=161
I49A **Point Hope** 76.03 351 P P 11 50 19.9 -0.3
baz=170,SNR=12
I49A P P 11 50 19.9 -0.3
baz=170,SNR=12
LONY **Lake Ozonia** 76.04 358 P P 11 50 20.5 +0.3
LONY IAmb IAmb 11 50 22.0

comp=Z,43nm,0.9s
LONY Lake Ozonia 76.04 358 P P 11 50 20.8 +0.6
baz=177,SNR=17
N33B J Bar K, Exete 76.04 340 P P 11 50 20.9 +0.6
baz=157,SNR=9.6
SDCO Great Sand Dun 76.12 333 P P 11 50 22.1 +0.9
SDCO Great Sand Dun 76.12 333 P P 11 50 22.8 +1.6
baz=151,SNR=32
SDCO Great Sand Dun 76.12 333 P P 11 50 22.7 +1.5
baz=151,SNR=32
KSCO Kaye Shedlock' 76.16 335 P P 11 50 22.6 +1.4
baz=153,SNR=8.3
KSCO Kaye Shedlock' 76.16 335 P P 11 50 22.8 +1.6
baz=153,SNR=8.3
Y14A Wickenburg 76.21 325 P P 11 50 22.3 +0.8
FRNY Flat Rock 76.23 358 P P 11 50 22.0 +0.8
baz=178,SNR=20
BMNY Brushton-Moira 76.26 358 P P 11 50 22.1 +0.7
baz=177,SNR=22
JFWS Jewell Farm 76.28 346 P P 11 50 22.0 +0.3
baz=164,SNR=25
JFWS Jewell Farm 76.28 346 P P 11 50 21.9 +0.3
baz=164,SNR=25
HAL Halifax 76.33 6 P P 11 50 23.7 +1.9
HAL pmax pmax
comp=Z,42nm,1.0s
HAL Halifax 76.33 6 P P 11 50 23.7 +1.9
HAL IAmb IAmb 11 50 24.1
comp=Z,42nm,1.0s
GRAN Grantham 76.45 120⇑ *i*P P 11 50 23.4 +0.2
GRAN IAmb IAmb 11 50 25.2
comp=Z,15nm,0.7s
SADO Sadowa 76.47 354 P P 11 50 22.5 -0.1
SADO IAmb IAmb 11 50 23.8
comp=Z,61nm,0.9s
G62A West of Eustis 76.59 1 P P 11 50 24.6 +1.3
baz=181,SNR=18
G62A P P 11 50 24.6 +1.3
baz=181,SNR=18
K38A Parkersburg 76.59 344 P P 11 50 23.4 0.0
baz=161,SNR=11
S22A 4UR Ranch, Cre 76.65 332 P P 11 50 25.5 +1.3
baz=150,SNR=17
PKME Peaks-Kenny Pk 76.65 1 P P 11 50 24.6 +1.0
baz=182,SNR=5.1
PKME Peaks-Kenny Pk 76.65 1 P P 11 50 24.8 +1.1
baz=182,SNR=5.1
WUAZ Wupatki 76.73 327 P P 11 50 26.2 +1.6
baz=146,SNR=28
IKP In-Ko-Pah, Jac 76.75 322 P P 11 50 26.3 +1.7
baz=142,SNR=7.0
SWSC Sam W. Stewart 76.82 323 P P 11 50 26.7 +1.8
baz=142,SNR=7.3
BGNE Belgrade 76.87 340 P P 11 50 25.7 +0.7
baz=157,SNR=8.9
BGNE Belgrade 76.87 340 P P 11 50 25.6 +0.7
baz=157,SNR=8.9
L34A Svendsen Farm, 76.88 341 P P 11 50 25.1 +0.1
baz=158,SNR=20
MVCO Mesa Verde 76.88 330 P P 11 50 26.8 +1.4
baz=148,SNR=22
I42A Draeger Farm, 76.95 347 P P 11 50 25.6 +0.3
baz=165,SNR=21
Q24A Divide 77.05 334 P P 11 50 28.0 +1.5
baz=151,SNR=63
PDMCI Parker Dam,Lak 77.06 325 P P 11 50 27.4 +1.2
baz=144
F63A Nahmakanta, Br 77.09 2 P P 11 50 27.4 +1.3
baz=182,SNR=8.3
F63A P P 11 50 27.4 +1.3
baz=182,SNR=8.3
MONP2 Monument Peak 77.10 322 P P 11 50 28.6 +1.9
baz=142,SNR=11
GLMI Grayling 77.14 350 P P 11 50 26.3 -0.2
baz=168
BC3 Big Chuckawall 77.20 323 P P 11 50 28.9 +1.7
baz=143,SNR=32
F64A Sherman 77.28 2 P P 11 50 28.5 +1.4
baz=183,SNR=10
F64A P P 11 50 28.5 +1.4
baz=183,SNR=10
KEIM Keimoes 77.29 116⇑ *i*P P 11 50 28.2 +0.3
KEIM IAmb IAmb 11 50 29.2
comp=Z,9.2nm,0.8s
I40A Norwalk 77.30 346 P P 11 50 27.3 0.0
baz=163,SNR=10
H43A Windswept, Lux 77.30 348 P P 11 50 27.6 +0.3
baz=166,SNR=28
IRM Iron Mountain 77.44 324 P P 11 50 30.1 +1.7
baz=143,SNR=22
TRQ Mont Tremblant 77.64 358 P P 11 50 28.8 -0.4
TRQ IAmb IAmb 11 50 30.6
comp=Z,64nm,1.0s
NEE2 Needles Airpor 77.67 325 P P 11 50 31.1 +1.5
baz=143
TPFO Pinon Flats 77.67 323 P P 11 50 31.8 +2.0
baz=142,SNR=25
UPI Upington 77.68 116 *e*P P 11 50 30.3 +0.2
UPI IAmb IAmb 11 50 31.3
comp=Z,8.1nm,0.8s
OGNE Ogallala 77.68 337 P P 11 50 30.8 +1.2
baz=154
PFO Pinyon Flats O 77.68 323 *ce*P P 11 50 31.8 +1.9
PFO Pinyon Flats O 77.68 323 P P 11 50 31.7 +1.9
baz=142,SNR=27
BELC Belle Mtn. Jos 77.75 323 P P 11 50 32.3 +2.0
baz=142,SNR=22
E63A Oxbow 77.83 2 P P 11 50 31.4 +1.1
baz=182,SNR=8.4
E63A P P 11 50 31.4 +1.1
baz=182,SNR=8.4
ISCO Idaho Springs 77.95 334 P P 11 50 32.4 +0.9
ISCO pmax pmax
comp=Z,24nm,0.9s
ISCO Idaho Springs 77.95 334 P P 11 50 32.4 +0.9
ISCO Idaho Springs 77.95 334 P P 11 50 32.9 +1.4
baz=151
PV11 David Mesa, Pa 77.96 331 P P 11 50 32.0 +0.6
I37B Waseca 78.03 344 P P 11 50 31.9 +0.5
baz=161,SNR=21
MURC Murrieta 78.05 322 P P 11 50 33.9 +2.1
baz=141,SNR=19
K31A O'Neill 78.16 340 P P 11 50 33.4 +1.2
baz=156,SNR=26
GMRC Granite Mounta 78.20 324 P P 11 50 34.6 +1.9
baz=143,SNR=39
SCI2 San Clemente I 78.29 321 P P 11 50 34.9 +1.8
baz=140
BBRC Big Bear Solar 78.43 323 P P 11 50 36.4 +2.3
baz=142,SNR=12
D62A Allapoint, All 78.47 2 P P 11 50 34.6 +0.8
baz=182,SNR=14
D62A P P 11 50 34.6 +0.8
baz=182,SNR=14
G40A Rib Lake 78.53 347 P P 11 50 34.0 -0.1
baz=164,SNR=14
CIS Catalina Islan 78.54 321 P P 11 50 36.4 +1.8
baz=141,SNR=6.5
HEC Hector,Ludlow 78.57 324 P P 11 50 36.9 +2.2
baz=142,SNR=38
ECSD EROS Data Cent 78.58 342 P P 11 50 34.7 +0.2
ECSD EROS Data Cent 78.58 342 P P 11 50 35.1 +0.6
baz=158,SNR=90
ECSD EROS Data Cent 78.58 342 P P 11 50 35.0 +0.6
baz=158,SNR=90
E46A Sault Ste Mari 78.61 351 P P 11 50 34.7 +0.2
baz=169,SNR=35
F42A Maple Grove Fa 78.62 348 P P 11 50 35.1 +0.5
baz=166,SNR=9.9
FMP Fort Macarthur 78.72 322 P P 11 50 37.2 +1.8
baz=141
SOE Somerset East 78.74 121 *e*P P 11 50 36.1 +0.2
SOE IAmb IAmb 11 50 37.2
comp=Z,33nm,1.2s
BATG Bathurst New B 78.79 4 P P 11 50 36.6 +1.1
BFSC Mount Baldy Ra 78.79 322 P P 11 50 37.6 +1.6
baz=141,SNR=25
TUQ Turquoise Moun 78.84 324 P P 11 50 38.3 +2.0
baz=143,SNR=19
RRX Edison Barstow 78.95 323 P P 11 50 38.8 +2.1
baz=142
E43A Lone Tree Farm 79.02 349 P P 11 50 37.3 +0.5
baz=166,SNR=11
N23A Red Feather La 79.03 334 P P 11 50 38.9 +1.6
baz=151,SNR=23
SPMN Marine on St. 79.04 345 P P 11 50 36.9 -0.1
baz=162,SNR=12
SPMN Marine on St. 79.04 345 P P 11 50 36.8 -0.1
baz=162
COWI Conover 79.13 347 P P 11 50 37.7 +0.3
baz=165
DECC Green Verdugo 79.16 322 P P 11 50 39.8 +2.0
baz=141
KOWA Kowa 79.16 65 P P 11 50 38.4 +0.1
GSC Goldstone, Bar 79.18 324 P P 11 50 39.9 +1.8
baz=142,SNR=23
O20A White River Ci 79.26 332 P P 11 50 39.8 +1.3
baz=149,SNR=21
TSUM Tsumeb 79.26 106⇑ *i*P P 11 50 38.6 -0.4
TSUM IAmb IAmb 11 50 40.1
comp=Z,187nm,1.1s
SHOC Shoshone, Teco 79.39 324 P P 11 50 40.7 +1.6
baz=142
EDW2 Edwards Air Fo 79.46 323 P P 11 50 40.7 +1.1
baz=141,SNR=43
OSI Osito Audit: C 79.64 322 P P 11 50 42.5 +1.9
baz=140
HVD Gariep Dam 79.76 120⇑ *i*P P 11 50 41.1 -0.6
HVD IAmb IAmb 11 50 42.9
comp=Z,47nm,1.3s
LRMC Laurel Mtn Rad 79.77 323 P P 11 50 43.0 +1.7
baz=141,SNR=24
F36A Milaca 79.81 344 P P 11 50 40.9 -0.2
baz=161,SNR=46
SUSD Miller 79.89 340 P P 11 50 42.2 +0.7
baz=156
SUSD Miller 79.89 340 P P 11 50 41.9 +0.3
baz=156
D41A Chassel 79.95 348 P P 11 50 42.5 +0.7
baz=165,SNR=16
SBC Santa Barbara 80.03 321 P P 11 50 44.7 +2.1
baz=140
E38A The Farm, Brul 80.08 346 P P 11 50 42.6 0.0
baz=163,SNR=7.9
MPMC Maui Prospec 80.12 324 P P 11 50 44.8 +1.6
baz=142,SNR=23
FURC Furnace Creek, 80.13 324 P P 11 50 44.8 +1.8
baz=142,SNR=22
TPNV Topopah Spring 80.20 325 P P 11 50 45.5 +1.9
baz=142,SNR=33
ISA Isabella, Lake 80.32 323 P P 11 50 46.2 +2.0
baz=141,SNR=50
PKM Mcpherson Peak 80.42 321 P P 11 50 47.0 +2.1
baz=140,SNR=41
F33A 5 Mile Ranch, 80.45 343 P P 11 50 44.6 +0.1
baz=159,SNR=20
BOSA Boshof 80.60 118 P P 11 50 45.8 -0.4
comp=Z,39nm,1.0s,baz=241,slow=4.6,SNR=37
BOSA pP **pP 11 51 00.2 -0.3**
comp=Z,16nm,0.8s,baz=244,slow=4.8,SNR=7.4
BOSA Boshof 80.60 118⇑ *i*P P 11 50 45.6 -0.5
BOSA IAmb IAmb 11 50 46.7
comp=Z,17nm,0.9s
BOSA Boshof 80.60 118 P P 11 50 45.3 -0.9
BOSA IAmb IAmb 11 50 47.0
comp=Z,48nm,1.0s
CWC Cottonwood Cre 80.72 323 P P 11 50 48.4 +1.9
baz=141
K22A Casper 80.77 334 P P 11 50 47.6 +1.0
baz=150,SNR=32
K22A Casper 80.77 334 P P 11 50 47.7 +1.1
baz=150,SNR=32
VES Vestal, Richgr 80.77 322 P P 11 50 48.3 +1.8
baz=140,SNR=24
GRAC Grapevine Rang 80.79 324 P P 11 50 48.4 +1.8
baz=142,SNR=10
SMMC Simmler 80.84 322 P P 11 50 49.2 +2.3
baz=140,SNR=20
JLU Jordanelle 80.97 330 P P 11 50 48.4 +0.6
R11A Troy Canyon, C 80.99 326 P P 11 50 49.5 +1.6
baz=143,SNR=34
RSSD Black Hills 81.18 337 P P 11 50 49.7 +0.9
RSSD pmax pmax
comp=Z,50nm,1.0s
RSSD Black Hills 81.18 337 P P 11 50 49.7 +0.9
baz=152,SNR=36
RSSD Black Hills 81.18 337 P P 11 50 49.9 +1.1
baz=152
DUG Dugway, Tooele 81.22 329 P P 11 50 50.6 +1.6
DUG pmax pmax
comp=Z,27nm,1.4s
DUG Dugway, Tooele 81.22 329 P P 11 50 50.4 +1.4
baz=145,SNR=21
TIN Tinemaha, Big 81.27 324 P P 11 50 51.3 +2.0
baz=141
VOG Valley Oaks Go 81.29 323 P P 11 50 50.1 +0.8
baz=140
EYMN Ely 81.35 346 P P 11 50 49.4 +0.1
baz=163,SNR=8.8
EYMN Ely 81.35 346 P P 11 50 49.2 -0.1
baz=163,SNR=8.8
SWZ Schweizer 81.39 117 *e*P P 11 50 49.5 -0.9
SWZ IAmb IAmb 11 50 50.6
comp=Z,7.0nm,0.7s
D32B Dogwood Acres, 81.84 343 P P 11 50 52.6 +0.7
baz=158
BW06 Boulder Array 82.02 333 P P 11 50 53.1 -0.2
BW06 Boulder Array 82.02 333 P P 11 50 53.7 +0.4
baz=148,SNR=16
PD31 Pinedale Array 82.02 333 P P 11 50 53.3 0.0
PDAR Pinedale Array 82.02 333 P P 11 50 53.5 +0.3
comp=Z,8.2nm,0.9s,baz=150,slow=5.7,SNR=44
PDAR pP **pP 11 51 06.8 -0.8**
comp=Z,3.9nm,0.7s,baz=158,slow=4.3,SNR=5.8
PDAR PKKPbc **PKKPbc 12 09 21.9 -2.6**
comp=Z,0.9nm,0.6s,baz=273,slow=0.2,SNR=11
PDAR Pinedale Array 82.02 333 P P 11 50 52.8 -0.4
MLAC Mammoth, Mammo 82.02 324 P P 11 50 55.1 +1.7
baz=141,SNR=28
PMOZ Porto Moniz, M 82.07 44 *e*LQ LQ 12 10 46.3
PMOZ *e*LR LR 12 15 49.0
comp=Z,870nm,20.0s
B35A Bob, Littlefor 82.21 345 P P 11 50 54.0 +0.1
baz=161,SNR=25
CASY Casey 82.30 181 P P 11 50 54.5 +0.3
CASY IAmb IAmb 11 50 56.2
comp=Z,90nm,1.1s
NVAR Mina Array Bea 82.37 325 P P 11 50 56.6 +1.4
comp=Z,21nm,0.8s,baz=156,slow=6.0,SNR=178
NVAR pP **pP 11 51 10.1 +0.5**
comp=Z,11nm,0.7s,baz=147,slow=4.5,SNR=12
NVAR PKKPbc **PKKPbc 12 09 22.9 -0.4**
comp=Z,1.7nm,0.8s,baz=292,slow=2.2,SNR=11
NVAR PKPPKP **P'P'df 12 17 27.6 +4.0**
comp=Z,0.5nm,0.9s,baz=318,slow=1.2,SNR=3.7
NVAR Mina Array Bea 82.37 325 P P 11 50 56.1 +0.9
AGMN Agassiz Nation 82.64 344 P P 11 50 56.4 +0.3
baz=159,SNR=31
AGMN Agassiz Nation 82.64 344 P P 11 50 56.2 +0.1
baz=159,SNR=31
SNKL Senekal, Frees 82.66 119 *e*P P 11 50 57.0 -0.2
SNKL IAmb IAmb 11 50 57.9
comp=Z,34nm,1.1s
LBTB Lobatse 82.72 115⇑ *i*P P 11 50 56.7 -0.7
LBTB IAmb IAmb 11 50 57.8
comp=Z,19nm,0.9s
LBTB Lobatse 82.72 115 P P 11 50 56.6 -0.7
LBTB pmax pmax
comp=Z,51nm,0.9s
LBTB Lobatse 82.72 115 P P 11 50 56.6 -0.8
LBTB IAmb IAmb 11 50 57.9
comp=Z,51nm,0.9s
TOA0 Torodi Ar. Sit 82.88 70 P P 11 50 57.4 -0.6
TORD Torodi Ar. Bea 82.88 70 P P 11 50 57.9 -0.2
comp=Z,92nm,0.8s,baz=258,slow=4.6,SNR=248
TORD pP **pP 11 51 12.3 -0.2**
comp=Z,32nm,0.9s,baz=272,slow=5.4,SNR=6.0
TORD Torodi Ar. Bea 82.88 70 P P 11 50 57.2 -0.9
PRYS Parys 83.07 117⇑ *i*P P 11 50 58.3 -0.9
PRYS IAmb IAmb 11 50 59.4
comp=Z,17nm,0.9s
MDND Maddock 83.18 341 P P 11 50 59.7 +0.8
baz=156,SNR=16
MDND Maddock 83.18 341 P P 11 50 59.5 +0.6
baz=156,SNR=16
KSR Koster 83.28 116 *e*P P 11 51 00.2 -0.1
KSR IAmb IAmb 11 51 00.9
comp=Z,9.5nm,0.9s
H17A Grant Village 83.79 333 P P 11 51 03.1 +0.7
baz=147,SNR=5.6
YMR Madison River 84.17 333 P P 11 51 05.0 +0.7
YMR IAmb IAmb 11 51 06.9
comp=Z,53nm,1.1s
LAO LASA Array 84.17 337 P P 11 51 05.0 +1.0
baz=151,SNR=6.6
LAO LASA Array 84.17 337 P P 11 51 04.9 +0.8
baz=151,SNR=6.6
SLR Silverton 84.40 117⇑ *i*P P 11 51 05.8 -0.3
SLR IAmb IAmb 11 51 06.2
comp=Z,19nm,0.8s
ULM Lac du Bonnet 84.47 344 P P 11 51 05.2 -0.2
comp=Z,54nm,0.9s,baz=161,slow=4.3,SNR=47
ULM pP **pP 11 51 19.4 -0.3**
comp=Z,32nm,1.0s,baz=174,slow=2.5,SNR=6.4
ULM Lac du Bonnet 84.47 344 *c i*P P 11 51 05.0 -0.4
QLMT Earthquake Lak 84.48 333 P P 11 51 07.3 +1.4
NWCL Newcastle 84.53 119 IAmb IAmb 11 51 06.3
comp=Z,19nm,0.8s
NWCL *e*P P **11 51 06.6 -0.1**
HLID Hailey 84.66 330 P P 11 51 08.0 +1.2
baz=144,SNR=42
DGMT Dagmar 85.08 339 P P 11 51 09.7 +1.1
baz=152,SNR=38
DGMT Dagmar 85.08 339 P P 11 51 09.4 +0.8
baz=152,SNR=38
BOZ Bozeman (W) 85.20 333 P P 11 51 09.9 +0.5
baz=146,SNR=22
DLMT Dillon 85.39 332 P P 11 51 10.7 +0.4
DLMT IAmb IAmb 11 51 12.7
comp=Z,31nm,1.1s
O03E Paynes Creek 85.54 324 P P 11 51 11.4 +0.2
baz=139,SNR=16
WVOR Wild Horse Val 85.64 327 P P 11 51 12.8 +1.1
WVOR pmax pmax
comp=Z,18nm,1.4s
LRM Limekiln Ridge 85.71 333 P P 11 51 12.7 +0.7
O02D Mt. Diablo Mer 85.96 323 P P 11 51 14.2 +1.0
baz=138,SNR=7.7
TTIG Tnine Tigouga, 85.97 50 P P 11 51 15.0 +1.5
POGA Pongola 86.09 120 *e*P P 11 51 14.3 0.0
POGA IAmb IAmb 11 51 15.2
comp=Z,18nm,1.0s
SCHQ Schefferville 86.30 3 P P 11 51 14.2 -0.2
comp=Z,28nm,1.0s,baz=182,slow=3.7,SNR=11
SCHQ pP **pP 11 51 29.2 +0.4**
comp=Z,17nm,1.1s,baz=243,slow=2.0,SNR=4.5
SCHQ Schefferville 86.30 3 P P 11 51 14.2 -0.2
SCHQ IAmb IAmb 11 51 15.4
comp=Z,55nm,1.2s
N02D Trinity Center 86.51 324 P P 11 51 16.3 +0.5
baz=138,SNR=11
EGMT Eagleton 86.55 335 P P 11 51 16.1 +0.2
baz=148,SNR=20
M04C Macdoel 86.68 325 P P 11 51 17.9 +1.1
baz=139,SNR=14
OUK Oukaimeden 86.77 50 P P 11 51 19.0 +1.2
M02C Callahan 86.89 324 P P 11 51 18.8 +1.0
baz=138,SNR=12
CNG Changalane 87.04 119⇑ *i*P P 11 51 18.8 -0.1
CNG IAmb IAmb 11 51 20.0
comp=Z,7.1nm,0.9s
MSO Missoula 87.13 332 P P 11 51 19.8 +1.0
baz=145,SNR=12
L04D Klamath Falls 87.24 325 P P 11 51 19.9 +0.4
baz=139,SNR=9.9
K04D Chiloquin, OR 87.27 325 P P 11 51 20.6 +1.0
baz=139,SNR=7.0
OUZM OUZ 87.31 51 P P 11 51 21.1 +1.0
J05D Fort Rock, OR 87.52 326 P P 11 51 22.2 +1.4
baz=139,SNR=30
MSNA Messina 87.56 115⇑ *i*P P 11 51 21.8 +0.2
MSNA IAmb IAmb 11 51 22.3
comp=Z,5.9nm,0.7s
ZGR Zagora 87.57 52 P P 11 51 22.2 +0.9
BLWY Bulawayo 87.66 112⇑ *i*P P 11 51 22.0 -0.2
BLWY IAmb IAmb 11 51 22.3
comp=Z,24nm,0.7s
L02E Cave Junction 87.84 324 P P 11 51 23.6 +1.4
baz=138,SNR=6.5
J04D Umpqua Nationa 87.91 325 P P 11 51 24.0 +1.3
baz=139
MOPA Mopani 87.98 116⇑ *i*P P 11 51 23.5 0.0
MOPA IAmb IAmb 11 51 24.2
comp=Z,5.4nm,0.8s
TZRR Tazzarine 88.02 52 P P 11 51 25.0 +1.5
K02D Willamette Mer 88.26 324 P P 11 51 25.7 +1.4
baz=138,SNR=11
I05D Terrebonne, OR 88.37 327 P P 11 51 26.2 +1.5
baz=139,SNR=31
I04A Tendick Farm, 88.47 326 P P 11 51 25.6 +0.4
baz=139,SNR=7.6
J01E Myrtle Point 88.74 324 P P 11 51 28.3 +1.9
baz=138
I03D Drain, OR 88.85 325 P P 11 51 27.9 +1.0
baz=138
WALA Waterton Lakes 88.94 334 P P 11 51 27.6 +0.3
WALA IAmb IAmb 11 51 29.2
comp=Z,38nm,1.1s
ZHG ZHG 89.00 49 P P 11 51 29.0 +1.0
G05D Wamic, OR 89.04 327 P P 11 51 29.3 +1.5
baz=139,SNR=5.9
H04D Lebanon 89.17 326 P P 11 51 29.3 +0.9
baz=138
COR Corvallis 89.48 326 P P 11 51 32.0 +2.1
COR pmax pmax
comp=Z,37nm,1.4s
NEW Newport 89.56 331 P P 11 51 30.6 +0.4
NEW pmax pmax
comp=Z,13nm,1.0s
NEW Newport 89.56 331 P P 11 51 30.0 -0.2
baz=142,SNR=7.6
F05D White Salmon 89.59 328 P P 11 51 31.3 +0.9
baz=139
CZD Col de Zad 89.78 50 P P 11 51 34.0 +2.0
MDT Midelt 89.93 51 P P 11 51 33.1 +0.7
comp=Z,8.6nm,1.0s,baz=261,slow=4.9,SNR=11
MDT Midelt 89.93 51 P P 11 51 33.5 +1.2
LSZ Lusaka 89.94 108 P P 11 51 33.1 +0.1
LSZ pmax pmax
comp=Z,37nm,0.9s
LSZ Lusaka 89.94 108 P P 11 51 33.1 +0.1
LSZ IAmb IAmb 11 51 35.2
comp=Z,37nm,0.8s
FFC Flin Flon 90.06 343 P P 11 51 32.1 -0.2
F04A Amboy 90.07 327 P P 11 51 33.3 +0.8
F04A IAmb IAmb 11 51 34.3
comp=Z,25nm,0.7s
PTEO Sao Teotonio 90.34 45 *e*P P 11 51 34.3 +0.2
comp=Z,53nm,2.2s
PBDV Barranco-do-Ve 90.63 46 *e*P P 11 51 35.4 0.0
comp=Z,65nm,1.4s
PCVE Castro Verde 90.81 45 *e*P P 11 51 36.4 +0.1
comp=Z,33nm,1.5s
PNCL Nicolau / Gran 90.83 45 *e*P P 11 51 36.5 +0.2
comp=Z,34nm,1.5s
PVAQ Vaqueiros 90.86 46 *e*P P 11 51 30.7 -5.8
comp=Z,25nm,1.4s
PVAQ Vaqueiros 90.86 46 *e*LR LR 12 28 54.2
comp=Z,2µm,20.0s
PMAFR Mafra 90.94 44 *e*P P 11 51 39.5 +2.7
comp=Z,154nm,1.5s
D04E Lakebay 91.16 328 P P 11 51 38.7 +1.1
baz=138
D03D Eldon 91.57 328 P P 11 51 40.1 +0.5
baz=138
PMTG Montargil 91.63 44 *e*P P 11 51 39.8 -0.2
comp=Z,108nm,1.1s
B05A Bryant 91.67 329 P P 11 51 39.8 -0.2
baz=139,SNR=10
FIGM Figuig 91.75 53 P P 11 51 43.0 +2.0
PBAR Barrancos 91.77 45 *e*P P 11 51 40.3 -0.4
comp=Z,12nm,1.8s
TDRA Tendrara 91.78 52 P P 11 51 43.0 +1.8
PESTR Estremoz 91.88 44 *e*P P 11 51 41.2 0.0
comp=Z,21nm,1.4s
FCC Fort Churchill 92.13 348 P P 11 51 41.5 -0.3
FCC pmax pmax
comp=Z,43nm,1.3s
FCC Fort Churchill 92.13 348 P P 11 51 41.5 -0.3
FCC IAmb IAmb 11 51 43.3
comp=Z,43nm,1.2s
A04D Lummi Island 92.28 329 P P 11 51 43.7 +1.0
baz=138,SNR=5.9
PMRV Marv??o 92.36 44 *e*LQ LQ 12 19 30.9
PMRV *e*LR LR 12 27 06.9
comp=Z,2µm,18.0s
MTE Manteigas 92.89 43 *e*P P 11 51 46.0 +0.1
comp=Z,29nm,1.5s
MTE Manteigas 92.89 43 *e*LQ LQ 12 17 41.2
MTE *e*LR LR 12 25 52.0
comp=Z,1µm,16.0s

MVO	**Moncorvo**	**93.68**	**43**	*e*P		**P**	11 51	**50.0**	**+0.5**
	comp=Z,26nm,2.1s								
MVO	**Moncorvo**	**93.68**	**43**	*e*LQ		LQ	12 18	02.1	
MVO				*e*LR		LR	12 24	40.1	
	comp=Z,2µm,20.0s								
PAB	**San Pablo**	**94.26**	**46**	P		**P**	11 51	**52.5**	**+0.2**
ESDC	**Sonseca Array**	**94.57**	**46**	P		**P**	11 51	**54.0**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=250,slow=4.4,SNR=22								
SJPF	**Ste Jean**	**98.28**	**44**	*e*P		Pdif	11 52	10.4	0.0
SJPF				pmax		pmax			
	comp=Z,14nm,0.8s								
ETSF	**Etsaut**	**98.56**	**45**	*e*P		Pdif	11 52	11.7	0.0
ETSF				pmax		pmax			
	comp=Z,8.0nm,0.7s								
EPF	**Esparros**	**99.17**	**45**	*e*P		**Pdif**	11 52	**14.2**	**-0.2**
EPF				pmax		pmax			
	comp=Z,5.0nm,0.7s								
QUIF	**Quistinic**	**100.03**	**39**	*e*P		**Pdif**	11 52	**17.1**	**-0.8**
QUIF				pmax		pmax			
	comp=Z,11nm,0.9s								
YKA	**Yellowknife Ar**	**100.11**	**341**	P		**Pdif**	11 52	**17.5**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=144,slow=4.4,SNR=88								
YKA				pP		**pPdif**	11 52	**31.9**	**-0.6**
	comp=Z,4.4nm,1.0s,baz=140,slow=4.7,SNR=7.4								
YKA				PKKPbc		**PKKPbc**	**12 08**	**34.9**	**-3.1**
	comp=Z,0.6nm,0.4s,baz=321,slow=3.6,SNR=35								
ROSF	**Rostrenen**	**100.22**	**39**	*e*P		**Pdif**	11 52	**18.0**	**-0.8**
ROSF				pmax		pmax			
	comp=Z,19nm,1.1s								
LFF	**La Frestale**	**100.50**	**43**	*e*P		**Pdif**	11 52	**20.1**	**0.0**
LFF				pmax		pmax			
	comp=Z,8.0nm,0.6s								
MFF	**Saint Martin d**	**100.93**	**42**	*e*P		**Pdif**	11 52	**21.6**	**-0.4**
MFF				pmax		pmax			
	comp=Z,22nm,1.4s								
RJF	**Les Rejaudoux**	**101.16**	**43**	*e*P		**Pdif**	11 52	**21.7**	**-1.4**
RJF				pmax		pmax			
	comp=Z,11nm,1.2s								
CAF	**Calviac**	**101.27**	**44**	*e*P		**Pdif**	11 52	**23.3**	**-0.3**
CAF				pmax		pmax			
	comp=Z,6.0nm,0.8s								
GRR	**Gorron**	**101.55**	**40**	*e*P		**Pdif**	11 52	**23.9**	**-0.9**
GRR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
FLN	**La Foliniere**	**101.97**	**40**	*e*P		**Pdif**	11 52	**26.0**	**-0.6**
FLN				pmax		pmax			
	comp=Z,11nm,0.9s								
LDF	**La Druitiere**	**102.07**	**40**	*e*P		**Pdif**	11 52	**26.4**	**-0.7**
LDF				pmax		pmax			
	comp=Z,11nm,0.9s								
BGF	**Bois d'Agland**	**102.62**	**43**	*e*P		**Pdif**	11 52	**30.2**	**+0.6**
BGF				pmax		pmax			
	comp=Z,7.0nm,0.8s								
VIVF	**Saint-Julien-l**	**102.79**	**45**	*e*P		**Pdif**	11 52	**26.5**	**-3.9**
VIVF				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SSB	**Saint Sauveur**	**102.93**	**45**	P		**Pdif**	11 52	**32.3**	**+1.3**
SSB				pmax		pmax			
	comp=Z,14nm,1.2s								
AVF	**Avril sur Loir**	**103.04**	**43**	*e*P		**Pdif**	11 52	**31.3**	**-0.1**
AVF				pmax		pmax			
	comp=Z,7.0nm,1.2s								
SMF	**Signal de Mont**	**103.25**	**43**	*e*P		**Pdif**	11 52	**32.2**	**-0.2**
SMF				pmax		pmax			
	comp=Z,16nm,1.1s								
SSF	**Saint Saulge**	**103.27**	**43**	*e*P		**Pdif**	11 52	**31.7**	**-0.8**
SSF				pmax		pmax			
	comp=Z,4.0nm,0.8s								
LOR	**Lormes**	**103.59**	**43**	*e*P		**Pdif**	11 52	**33.2**	**-0.7**
LOR				pmax		pmax			
	comp=Z,8.0nm,1.1s								
LPL	**La Plagne**	**104.38**	**45**	*e*P		**Pdif**	11 52	**38.2**	**+0.5**
LPL				pmax		pmax			
	comp=Z,7.0nm,1.0s								
LPG	**La Plagne**	**104.38**	**45**	*e*P		**Pdif**	11 52	**38.4**	**+0.6**
LPG				pmax		pmax			
	comp=Z,7.0nm,0.8s								
M27K	**Edge Creek, AK**	**109.30**	**332**	P		**PKiKP**	11 57	**02.9**	**+0.5**
	baz=122								
STKA	**Stephens Creek**	**109.48**	**209**	PKKP		**PKKPdf**	**12 08**	**19.9**	**-3.0**
	comp=Z,4.1nm,0.8s,baz=346,slow=4.3,SNR=8.9								
L27K	**Beaver Creek,**	**109.65**	**333**	P		**PKiKP**	11 57	**03.3**	**+0.3**
	baz=122								
INK	**Inuvik**	**109.76**	**340**	PKKPbc		PKKPbc	12 08	06.5	-2.1
	comp=Z,1.3nm,1.0s,baz=272,slow=4.5,SNR=5.7								
INK				PKKPab		**PKKPab**	**12 08**	**17.5**	**+1.9**
	comp=Z,3.0nm,0.9s,baz=304,slow=5.0,SNR=10.0								
L26K	**Log Cabin Wild**	**110.23**	**332**	P		**PKiKP**	11 57	**04.5**	**+0.5**
	baz=120								
KLU	**Klutina**	**110.52**	**330**	P		**PKiKP**	11 57	**06.0**	**+1.3**
	baz=119								
SCRK	**Sand Creek**	**110.95**	**333**	P		**PKiKP**	11 57	**07.2**	**+1.7**
	baz=120								
PAX	**Paxson**	**111.05**	**332**	P		**PKiKP**	11 57	**07.1**	**+1.5**
	baz=119								
J26L	**Joseph Creek**	**111.05**	**334**	P		**PKiKP**	11 57	**06.7**	**+1.1**
	baz=120								
RIDG	**Independent Ri**	**111.17**	**333**	P		**PKiKP**	11 57	**06.7**	**+0.9**
	baz=119								
PWL	**Port Wells**	**111.26**	**329**	P		**PKiKP**	11 57	**06.4**	**+0.4**
	baz=117								
SCM	**Sheep Creek Mo**	**111.27**	**330**	P		**PKiKP**	11 57	**06.5**	**+0.4**
	baz=118								
WAT6	**Susitna Watana**	**111.79**	**331**	P		**PKiKP**	11 57	**07.7**	**+0.6**
	baz=117								
J25K	**Salcha River,**	**111.79**	**333**	P		**PKiKP**	11 57	**07.2**	**+0.2**
	baz=118								
BRSE	**Bradley Lake S**	**111.84**	**328**	P		**PKiKP**	11 57	**07.8**	**+0.7**
	baz=116								
RC01	**Rabbit Creek A**	**111.97**	**329**	P		**PKiKP**	11 57	**08.6**	**+1.3**
	baz=116								
WAT1	**Susitna Watana**	**112.23**	**331**	P		**PKiKP**	11 57	**08.4**	**+0.6**
	baz=116								
MCK	**McKinley**	**112.78**	**332**	P		**PKiKP**	11 57	**09.2**	**+0.4**
	baz=116								
P19K	**Oil Pt**	**112.95**	**327**	P		**PKiKP**	11 57	**08.8**	**-0.4**
	baz=114								
NEA2	**Nenana**	**113.21**	**333**	P		**PKiKP**	11 57	**09.5**	**-0.1**
	baz=115								
TRF	**Thorofare Moun**	**113.21**	**331**	P		**PKiKP**	11 57	**10.0**	**+0.2**
	baz=114								
BPAW	**Bear Paw Mtn.**	**113.76**	**332**	P		**PKiKP**	11 57	**11.2**	**+0.5**
	baz=114								
CAST	**Castle Rocks**	**113.94**	**331**	P		**PKiKP**	11 57	**11.0**	**0.0**
	baz=113								
TOLK	**Toolik Lake Re**	**115.05**	**337**	P		**PKPdf**	11 57	**13.7**	**+0.7**
	baz=113								
J20K	**Nowinta River**	**115.07**	**331**	P		**PKPdf**	11 57	**13.7**	**+0.5**
	baz=111								
H21K	**Melozitna Rive**	**115.08**	**333**	P		**PKPdf**	11 57	**13.8**	**+0.7**
	baz=112								
TTA	**Tatalina**	**115.42**	**330**	P		**PKiKP**	11 57	**14.7**	**+0.8**
	baz=110								
IMAR	**Indian Mountai**	**115.56**	**333**			**PKiKP**	11 57	**14.2**	**+0.2**
GCSA	**Galena City Sc**	**116.38**	**331**	P		**PKiKP**	11 57	**16.6**	**+1.0**
	baz=108								
MLR	**Muntele Rosu**	**116.61**	**51**	PKP		**PKiKP**	11 57	**17.0**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=166,slow=6.1,SNR=3.8								
MLR	**Muntele Rosu**	**116.61**	**51**	PKIKP		**PKiKP**	11 57	**17.0**	**+0.1**
BUR08	**Bucovina Ar. S**	**116.82**	**49**	PKPdf		**PKiKP**	11 57	**17.5**	**+0.4**
BISRR	**Bisoca**	**117.14**	**51**	⇑P		**Pdif**	11 53	**35.0**	**+0.7**
UNV	**Unalaska Valle**	**117.84**	**318**	P		**PKiKP**	11 57	**20.7**	**+2.0**
	baz=106								
TIRR	**Tirgusor**	**117.94**	**53**	PKIKP		**PKPdf**	11 57	**18.2**	**-1.1**
TIRR	**Tirgusor**	**117.94**	**53**			**PKPdf**	11 57	**18.2**	**-1.1**
A21K	**Barrow**	**118.22**	**339**			**PKiKP**	11 57	**19.1**	**+0.1**
CSS	**Mathiatis**	**118.41**	**65**	PKPdf		**PKPdf**	11 57	**20.3**	**-0.2**
NACGM	**Naroch**	**119.78**	**41**	*e*PKP		**PKPdf**	11 57	**20.0**	**-2.5**
AS31	**Alice Springs**	**119.86**	**207**	PKPdf		**PKPdf**	11 57	**22.4**	**-1.4**
ASAR	**Alice Springs**	**119.86**	**207**	PKP		**PKPdf**	11 57	**22.8**	**-1.1**
	comp=Z,10.0nm,0.9s,baz=131,slow=1.6,SNR=61								
ASAR				pPKP		**pPKPdf**	11 57	**37.9**	**-0.9**
	comp=Z,3.5nm,0.8s,baz=130,slow=1.6,SNR=7.4								
ASAR				PKKPbc		**PKKPbc**	**12 07**	**31.3**	**-1.5**
	comp=Z,2.3nm,0.7s,baz=338,slow=2.9,SNR=41								
ASAR	**Alice Springs**	**119.86**	**207**	PKPdf		**PKPdf**	11 57	**22.4**	**-1.4**
BR131	**Keskin Array S**	**120.19**	**60**	*i* PKIKP		**PKPdf**	11 57	**23.6**	**-0.4**
BR131	**Keskin Array S**	**120.19**	**60**	PKPdf		**PKPdf**	11 57	**23.1**	**-0.8**
BRTR	**Keskin Array B**	**120.19**	**60**	PKP		**PKPdf**	11 57	**23.5**	**-0.4**
	comp=Z,6.7nm,0.8s,baz=179,slow=2.6,SNR=12								
BRTR				pPKP		**pPKPdf**	11 57	**38.4**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=180,slow=2.5,SNR=3.9								
BRTR	**Keskin Array B**	**120.19**	**60**	PKPdf		**PKPdf**	11 57	**23.1**	**-0.8**
AKASG	**Malin Array Be**	**120.21**	**46**	PKP		**PKPdf**	11 57	**22.5**	**-0.9**
	comp=Z,6.9nm,0.7s,baz=242,slow=4.0,SNR=14								
AKASG				pPKP		**pPKPdf**	11 57	**37.1**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=246,slow=3.6,SNR=3.2								
SPITS	**Spitsbergen Ar**	**120.34**	**14**	PKP		**PKPdf**	11 57	**22.7**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=151,slow=5.5,SNR=7.9								
SPITS				pPKP		**pPKPdf**	11 57	**37.0**	**-1.0**
	comp=Z,3.6nm,0.7s,baz=342,slow=5.2,SNR=1.5								
SPITS				PKKPbc		**PKKPab**	**12 07**	**30.3**	**+1.2**
	comp=Z,11nm,1.0s,baz=53,slow=4.3,SNR=5.1								
FINES	**FINESS Array B**	**120.78**	**34**	PKP		**PKPdf**	11 57	**24.1**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=238,slow=3.6,SNR=4.8								
BNN	**Bunyan**	**121.57**	**61**	PKPdf		**PKPdf**	11 57	**26.6**	**0.0**
ARCES	**ARCESS Array B**	**121.71**	**24**	PKP		**PKPdf**	11 57	**25.7**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=224,slow=2.5,SNR=7.4								
WR0	**Warramunga Arr**	**122.93**	**209**	PKPdf		**PKPdf**	11 57	**28.8**	**-1.0**
WB2	**Warramunga Arr**	**123.02**	**209**	PKPdf		**PKPdf**	11 57	**29.1**	**-0.8**
WRA	**Warramunga Arr**	**123.03**	**209**	PKP		**PKPdf**	11 57	**29.3**	**-0.7**
	comp=Z,22nm,0.7s,baz=155,slow=1.7,SNR=196								
WRA				pPKP		**pPKPdf**	11 57	**44.0**	**-0.9**
	comp=Z,8.2nm,0.7s,baz=158,slow=1.6,SNR=9.3								
WRA				PKKPbc		**PKKPbc**	**12 07**	**20.4**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=337,slow=4.3,SNR=17								
WRA	**Warramunga Arr**	**123.03**	**209**			**PKPdf**	11 57	**28.7**	**-1.2**
WRAB	**Tennant Creek**	**123.03**	**209***c*	*i* PKIKP		**PKPdf**	11 57	**29.5**	**-0.4**
WRAB				pmax		pmax			
	comp=Z,27nm,1.0s								
WRAB	**Tennant Creek**	**123.03**	**209**			**PKPdf**	11 57	**28.9**	**-1.0**
WB0	**Warramunga Arr**	**123.16**	**209**	PKPdf		**PKPdf**	11 57	**29.4**	**-0.8**
MARD	**Mardin**	**124.86**	**64**			**PKiKP**	11 57	**33.9**	**+0.6**
PMG	**Port Moresby**	**124.97**	**229**	PKP		**PKiKP**	11 57	**34.1**	**+0.1**
	comp=Z,9.3nm,0.8s,baz=127,slow=2.1,SNR=3.1								
OBN	**Obninsk**	**125.37**	**42**	PKP		**PKPdf**	11 57	**33.2**	**0.0**
	comp=Z,9.0nm,0.3s,baz=298,slow=2.1,SNR=2.1								
OBN	**Obninsk**	**125.37**	**42**	*e*PKIKP		**PKPdf**	11 57	**33.1**	**0.0**
OBN				*e*			11 57	48.0	
OBN				*e*			11 59	21.1	
OBN				*e*PPP		PPP	12 02	07.2	
OBN				pmax		pmax			
	comp=Z,21nm,1.1s								
SOC	**Sochi**	**125.59**	**57**	*i* PKIKP		**PKPdf**	11 57	**33.1**	**-0.9**
SOC				*e*			11 59	23.8	
SOC				*e*PPP		PPP	12 02	04.6	
SOC				*e*PS		**PS**	**12 09**	**29.5**	**+1.2**
SOC				pmax		pmax			
	comp=Z,17nm,0.6s								
VSLR	**Vesyoloye**	**125.79**	**57**	*i* PKIKP		**PKiKP**	11 57	**34.6**	**-0.2**
PSA00	**Pilbara Seismi**	**125.93**	**193**	PKPdf		**PKPdf**	11 57	**35.1**	**-0.4**
SOCY	**Socotra**	**126.26**	**98**			**PKPdf**	11 57	**35.7**	**-0.6**
H11S2	**WAKE ISLAND Hyl**	**126.37**	**270**	T		T	14 16	28.3	
	baz=116,slow=75,SNR=1139								
H11S1	**WAKE ISLAND Hyl**	**126.39**	**270**	T		T	14 16	29.0	
	baz=116,slow=75,SNR=1226								
H11S3	**WAKE ISLAND Hyl**	**126.39**	**270**	T		T	14 16	31.2	
	baz=116,slow=75,SNR=851								
H11N3	**WAKE ISLAND Hyl**	**126.73**	**272**	T		T	14 16	55.1	
	baz=116,slow=75,SNR=967								
H11N1	**WAKE ISLAND Hyl**	**126.74**	**272**	T		T	14 16	57.6	
	baz=116,slow=75,SNR=286								
H11N2	**WAKE ISLAND Hyl**	**126.75**	**272**	T		T	14 16	56.4	
	baz=116,slow=75,SNR=1612								
GEVA	**Gevas**	**126.87**	**64**			**PKiKP**	11 57	**37.7**	**+0.3**
KLMR	**Klimovskoe**	**127.22**	**35**	*e*PKIKP		**PKPdf**	11 57	**35.4**	**-1.1**
KLMR				*e*			11 59	35.4	
KLMR				pmax		pmax			
	comp=Z,31nm,0.9s								
KLMR	**Klimovskoe**	**127.22**	**35**	*e*PKPdf		**PKPdf**	11 57	**35.5**	**-1.1**
KLMR				AMP			11 57	37.5	
	comp=Z,31nm,0.9s								
KLMR				*e*PP		**PP**	11 59	**35.5**	**-1.2**
KIV	**Kislovodsk**	**127.77**	**57**	*e*PKIKP		**PKiKP**	11 57	**39.3**	**+0.4**
KIV				pmax		pmax			
	comp=Z,15nm,1.1s								
KBZ	**Khabaz**	**127.88**	**57**	PKP		**PKPdf**	11 57	**38.4**	**+0.1**
	comp=Z,8.2nm,0.9s,baz=123,slow=2.5,SNR=7.2								
KBZ	**Khabaz**	**127.88**	**57**	*i* PKIKP		**PKiKP**	11 57	**38.8**	**-0.1**
ZEI	**Tsey**	**128.44**	**58**	*i* PKIKP		**PKPdf**	11 57	**38.4**	**-1.4**
ZEI				pmax		pmax			
	comp=Z,8.0nm,1.2s								
GNI	**Garni**	**128.55**	**62***c*	*i* PKIKP		**PKiKP**	11 57	**42.2**	**+1.6**
GNI				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KNRA	**Kununurra**	**129.07**	**205**	PKPdf		**PKPdf**	11 57	**41.3**	**-0.2**
PRGR	**Permogore**	**130.11**	**34**	*e*PKIKP		**PKiKP**	11 57	**42.6**	**-0.2**
PRGR				pmax		pmax			
	comp=Z,19nm,0.7s								
MTN	**Manton Dam**	**130.72**	**209**	PKPdf		**PKPdf**	11 57	**44.3**	**-0.4**
BILL	**Bilibino**	**131.04**	**335***d*	*i* PKIKP		**PKPdf**	11 57	**43.9**	**+0.3**
BILL				*e*			11 57	59.0	
BILL				*e*			12 00	01.4	
BILL				*e*PPP		PPP	12 02	53.5	
BILL				pmax		pmax			
	comp=Z,22nm,1.1s								
BILL	**Bilibino**	**131.04**	**335**	PKPdf		**PKiKP**	11 57	**44.3**	**-0.2**
BELG	**Belogornoye**	**131.79**	**46**	PKP		**PKiKP**	11 57	**46.0**	**-0.5**
	comp=Z,29nm,0.9s,baz=334,slow=3.4,SNR=5.6								
BELG				pPKP		**pPKPdf**	11 58	**01.1**	**+0.6**
	comp=Z,26nm,0.9s,baz=345,slow=2.3,SNR=3.8								
BELG	**Belogornoye**	**131.79**	**46**	*i* PKIKP		**PKiKP**	11 57	**46.4**	**-0.1**
KIRV	**Kirov**	**132.38**	**38**	PKP		**PKPdf**	11 57	**46.7**	**+0.3**
	comp=Z,10nm,0.4s,baz=351,slow=12,SNR=4.8								
WSAR	**Wadi Sarin**	**135.13**	**88**	PKP		**PKPdf**	11 57	**52.6**	**-0.1**
	comp=Z,13nm,0.8s,baz=293,slow=5.1,SNR=6.8								
ARU	**Arti**	**137.63**	**39**	PKP		**PKPdf**	11 57	**55.8**	**-0.5**
	comp=Z,4.6nm,0.5s,baz=278,slow=2.8,SNR=3.7								
ARU				pPKP		**pPKPdf**	11 58	**11.5**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=263,slow=5.7,SNR=3.5								
ARU	**Arti**	**137.63**	**39**	*i* PKIKP		**PKPdf**	11 57	**56.5**	**+0.2**
SEY	**Seymchan**	**138.34**	**332**	PKP		**PKPdf**	11 57	**58.0**	**+0.6**
	comp=Z,29nm,0.8s,baz=116,slow=2.8,SNR=47								
SEY	**Seymchan**	**138.34**	**332**	*i* PKIKP		**PKiKP**	11 57	**58.5**	**-1.0**
AKTO	**Aktyubinsk**	**138.41**	**48**	PKP		**PKPdf**	11 57	**56.0**	**-2.0**
	comp=Z,5.4nm,0.8s,baz=240,slow=2.2,SNR=8.8								
AKTO				PP		**PP**	12 00	**45.4**	**-3.2**
	comp=Z,2.1nm,0.7s,baz=274,slow=8.6,SNR=4.3								
AKTO	**Aktyubinsk**	**138.41**	**48**	PKIKP		**PKPdf**	11 57	**56.0**	**-2.0**
PET	**Petropavlovsk**	**138.42**	**316**	PKPdf		**PKPdf**	11 57	**57.7**	**-0.2**
TIXI	**Tiksi**	**138.56**	**350**	PKP		**PKPdf**	11 57	**57.6**	**0.0**
	comp=Z,12nm,0.8s,baz=89,slow=23,SNR=7.9								
TIXI	**Tiksi**	**138.56**	**350**	*i* PKIKP		**PKPdf**	11 57	**56.3**	**-1.3**
PETK	**Petropavlovsk-**	**138.97**	**316**	PKP		**PKPdf**	11 57	**58.6**	**-0.3**
	comp=Z,26nm,1.0s,baz=104,slow=5.0,SNR=13								
PETK				pPKP		**pPKPdf**	11 58	**13.9**	**0.0**
	comp=Z,29nm,0.9s,baz=72,slow=6.4,SNR=9.3								
PETK	**Petropavlovsk-**	**138.97**	**316**	PKIKP		**PKPdf**	11 57	**59.5**	**+0.6**
PETK	**Petropavlovsk-**	**138.97**	**316**	PKPdf		**PKPdf**	11 57	**59.5**	**+0.6**
AB31	**Akbulak array**	**139.79**	**50**	PKHKP		PKPpre	11 57	51.0	
ABKAR	**Akbulak array**	**139.79**	**50**			**PKPdf**	11 58	**00.4**	**-0.1**
ABKAR	**Akbulak array**	**139.79**	**50**			**PKPdf**	11 58	**00.8**	**+0.4**
NRIK	**Noril'sk**	**140.48**	**12**	PKhKP		PKPpre	11 57	57.1	
	comp=Z,3.2nm,0.5s,baz=102,slow=1.8,SNR=5.8								
MA2	**Magadan**	**140.56**	**328**	PKhKP		PKPpre	11 57	58.7	
	comp=Z,12nm,0.9s,baz=114,slow=5.1,SNR=6.7								
MA2	**Magadan**	**140.56**	**328**	PKIKP		**PKPdf**	11 58	**02.2**	**+0.6**
MA2	**Magadan**	**140.56**	**328**			**PKPdf**	11 58	**02.2**	**+0.6**
KAPI	**Kappang**	**141.96**	**198**	PKIKP		**PKPdf**	11 58	**05.5**	**-0.1**
KAPI	**Kappang**	**141.96**	**198**	PKPdf		**PKPdf**	11 58	**05.5**	**-0.1**
PALK	**Pallekele**	**144.34**	**127**	PKP		**PKPab**	11 58	**07.9**	**+0.1**
	comp=Z,43nm,1.1s,baz=319,slow=3.2,SNR=15								
BRVK	**Borovoye**	**145.13**	**41**	*i* PKIKP		**PKPdf**	11 58	**10.3**	**+0.4**
BRVK	**Borovoye**	**145.13**	**41**			**PKPbc**	11 58	**09.2**	**-0.3**
APSI	**Ampana**	**145.28**	**203**	PKP		**PKPbc**	11 58	**10.4**	**-0.7**
APSI				PKP		**PKiKP**	11 58	**18.8**	**+3.5**
POO	**Poona**	**146.00**	**104**	*i* P		**PKPdf**	11 58	**08.0**	**-4.5**
	comp=Z,210nm,1.0s								
YAK	**Yakutsk**	**146.78**	**342**	PKPbc		**PKPbc**	11 58	**13.6**	**-0.6**
	comp=Z,63nm,0.7s,baz=245,slow=0.6,SNR=34								
YAK				pPKPbc		pPKPbc	11 58	28.8	-0.2
	comp=Z,126nm,0.7s,baz=154,slow=0.5,SNR=13								
YAK	**Yakutsk**	**146.78**	**342**	*e*PKP2		**PKPbc**	11 58	**13.5**	**-0.7**
YAK				pmax		pmax			
	comp=Z,147nm,0.9s								
YAK				pmax		pmax			
	comp=N,18nm,0.9s								
YAK				pmax		pmax			
	comp=E,11nm,0.8s								
YAK	**Yakutsk**	**146.78**	**342**			**PKPbc**	11 58	**13.8**	**-0.3**
KBL	**Kabul**	**146.84**	**74**	PKP2		**PKPdf**	11 58	**13.9**	**+0.2**
KBL	**Kabul**	**146.84**	**74**			**PKPdf**	11 58	**13.8**	**+0.2**
MPSI	**Mapaga**	**147.02**	**201**	PKP		**PKPdf**	11 58	**13.9**	**-0.4**
MPSI				PKP		**PKPbc**	11 58	**15.2**	**-1.1**
CHGR	**Chuyangaron**	**147.17**	**67**			**PKPdf**	11 58	**14.4**	**+0.5**
CHM	**Chimkent**	**147.33**	**60**	PKP2		**PKiKP**	11 58	**25.7**	**+7.0**
TOLI2	**Tolitoli**	**147.47**	**203**			**PKPbc**	11 58	**16.7**	**-0.9**
BRZS	**Berezniki**	**147.65**	**45**	*e*PKIKP		**PKPdf**	11 58	**13.6**	**-0.6**
BRZS	**Berezniki**	**147.65**	**45**	*e*PKP		**PKPdf**	11 58	**13.7**	**-0.6**
	baz=45								
IUG	**luzhnay**	**147.66**	**60**	*e*PKIKP		**PKPdf**	11 58	**14.2**	**-0.4**
	baz=60								
IUG				*e*PKPbc		**PKPbc**	11 58	**17.1**	**-0.4**
	baz=60								
KK31	**Karatay Array**	**147.90**	**58**	PKIKP		**PKPdf**	11 58	**15.6**	**+0.7**
KK31	**Karatay Array**	**147.90**	**58**			**PKPdf**	11 58	**15.6**	**+0.7**
KKAR	**Karatay Array**	**147.90**	**58**	PKIKP		**PKPdf**	11 58	**15.1**	**+0.2**
KKAR	**Karatay Array**	**147.90**	**58**			**PKPdf**	11 58	**15.6**	**+0.7**
KKAR	**Karatay Array**	**147.90**	**58**			**PKPdf**	11 58	**15.1**	**+0.2**
GSI	**Gunungsitoli**	**147.97**	**159**			**PKPbc**	11 58	**19.2**	**+0.2**
OTUK	**Ortayu**	**148.01**	**48**	PKIKP		**PKPdf**	11 58	**15.7**	**+0.8**
GAR	**Garm**	**148.07**	**66**			**PKPdf**	11 58	**16.6**	**+1.1**
DZA	**Taraz**	**148.52**	**59**	*e*PKIKP		**PKPdf**	11 58	**15.9**	**0.0**
DZA	**Taraz**	**148.52**	**59**	*e*PKP		**PKPdf**	11 58	**15.9**	**0.0**
	baz=59								
DZA				*e*PKPbc		**PKPbc**	11 58	**19.3**	**-0.3**
	baz=59								
HYBB	**Hyderabad (bro**	**149.25**	**110**	*e*PKiKP		**PKPbc**	11 58	**22.3**	**+0.1**
HYBB				*e*pPKiKP		**pPKPbc**	11 58	**37.5**	**+0.4**
HYBB				*e*SKPdf		**SKPdf**	12 01	**44.6**	**-3.0**
HYBB				*e*SKSdf		**SKSdf**	12 05	**20.6**	**-1.6**
HYBB				*e*SKKSac		**SKKSac**	12 08	**38.6**	**-3.1**
HYBB				IVMs_BB		IVMs_BB	12 14	18.2	
	comp=Z,315nm,12.0s								
PSI	**Prapat**	**149.80**	**160**	PKP		**PKPdf**	11 58	**17.9**	**-1.1**
	comp=Z,116nm,0.9s,baz=191,slow=13,SNR=4.9								
PSI				PKPbc		**PKPbc**	11 58	**23.0**	**-0.8**
	comp=Z,105nm,0.8s,baz=221,slow=2.5,SNR=40								
PSI				PKPab		**PKPab**	11 58	**29.1**	**0.0**
	comp=Z,45nm,0.7s,baz=190,slow=16,SNR=11								
PSI				pPKPbc		**pPKPbc**	11 58	**37.4**	**-1.4**
	comp=Z,55nm,0.8s,baz=278,slow=11,SNR=7.8								
YSS	**Yuzh-Sakhalins**	**149.85**	**310**	*e*PKP2		**PKPbc**	11 58	**22.9**	**+0.2**
YSS				pmax		pmax			
	comp=Z,60nm,1.1s								
KSM	**Kuching**	**149.87**	**183

MAKZ						11 58 33.7	
MAKZ	Makanchi	154.59	46	PKPdf	PKPdf	11 58 24.8	-0.2
MAKZ				PKPbc	PKiKP	11 58 33.7	+0.2
MK31	Makanchi Array	154.79	46	*i* PKIKP	PKPdf	11 58 25.2	-0.1
MK31	Makanchi Array	154.79	46	PKPdf	PKPdf	11 58 24.8	-0.5
MK31				PKPbc	PKPbc	11 58 33.6	-0.4
MKAR	Makanchi Array	154.79	46	PKP	PKPdf	11 58 25.0	-0.3
	comp=Z,3.2nm,0.8s,baz=326,slow=1.4,SNR=19						
MKAR				PKPbc	PKPbc	11 58 33.6	-0.3
	comp=Z,14nm,0.8s,baz=305,slow=2.2,SNR=37						
MKAR				PKPab	pPKPbc	11 58 49.0	+0.1
	comp=Z,24nm,0.7s,baz=290,slow=4.5,SNR=26						
MKAR				pPKPab	pPKPab	11 59 04.5	+0.6
	comp=Z,8.4nm,0.7s,baz=294,slow=3.9,SNR=4.4						
MKAR	Makanchi Array	154.79	46	PKPdf	PKPdf	11 58 24.7	-0.5
MKAR				PKPbc	PKiKP	11 58 34.2	+0.3
MKAR				PKPab	PKPab	11 58 49.8	+0.7
MJAR	Matsushiro Arr	155.13	289	PKP	PKPdf	11 58 25.5	-0.6
	comp=Z,2.9nm,0.8s,baz=200,slow=14,SNR=5.5						
MJAR				PKPab	PKPab	11 58 51.7	+0.8
	comp=Z,9.8nm,0.7s,baz=34,slow=10,SNR=8.5						
KLR	Kul'dur	155.38	322	PKP	PKPdf	11 58 26.0	0.0
	comp=Z,6.9nm,0.9s,baz=325,slow=4.5,SNR=7.7						
KLR				PKPab	pPKPbc	11 58 49.8	-0.2
	comp=Z,5.4nm,1.0s,baz=89,slow=5.3,SNR=6.2						
SRIT	Nakonsritamara	155.49	158	PKPdf	PKPdf	11 58 26.6	-0.5
SRIT					pPKPdf	11 58 35.9	-6.4
SRIT				PKPab	PKPab	11 58 52.8	0.0
PYUN	Piuthan	157.47	93	*e*P	PKPdf	11 58 29.3	-0.3
USRK	Ussuriysk Ar.	157.88	311	PKPab	PKPab	11 59 02.9	+0.4
	comp=Z,4.4nm,0.9s,baz=72,slow=6.2,SNR=4.1						
USRK				pPKPab	pPKPab	11 59 17.2	+0.2
	comp=Z,4.7nm,0.8s,baz=75,slow=3.4,SNR=4.8						
KOLN	Koldanda	157.90	94	*e*P	PKPdf	11 58 29.6	-0.6
DANN	Dangsing	158.19	92	*e*P	PKPdf	11 58 30.6	0.0
GKN	Gorkha	158.84	94	*e*P	PKPdf	11 58 30.7	-0.5
DMN	Daman	159.13	95	*e*P	PKPdf	11 58 31.4	-0.3
KKN	Kakani	159.33	95	*e*P	PKPdf	11 58 31.8	-0.1
PKIN	Phulchoki	159.37	96	*e*P	PKPdf	11 58 31.4	-0.6
PKI	Pulchoki	159.38	96	*e*P	PKPdf	11 58 31.5	-0.6
	comp=Z,43nm,1.1s						
WMQ	Urumqi	159.56	48	PKP	PKPdf	11 58 31.9	+0.4
WMQ				PKPab	PKPab	11 59 10.8	+0.9
WMQ				PP	PP	12 02 48.8	-2.8
GUN	Gumba	159.87	95	*e*P	PKPdf	11 58 31.4	-1.3
JIRN	Jiri	160.06	96	*e*P	PKPdf	11 58 32.7	-0.2
	comp=Z,16nm,1.1s						
RAMN	Ramite	160.19	98	*e*P	PKPdf	11 58 33.1	+0.2
ODAN	Odare	160.83	99	*e*P	PKPdf	11 58 33.6	0.0
	comp=Z,63nm,0.9s						
KSRS	Korea Array	163.16	295	PKP	PKPdf	11 58 35.1	-0.2
	comp=Z,3.4nm,0.9s,baz=66,slow=0.5,SNR=7.2						
KSRS				pPKP	pPKPdf	11 58 49.9	-0.5
	comp=Z,5.0nm,0.8s,baz=59,slow=0.9,SNR=7.2						
KSRS				PKPab	PKPab	11 59 27.6	+1.9
	comp=Z,3.9nm,1.0s,baz=90,slow=4.2,SNR=4.5						
KSRS				pPKPab	pPKPab	11 59 41.1	+0.9
	comp=Z,3.6nm,0.9s,baz=90,slow=3.1,SNR=3.8						
SONM	Songino Array	163.82	5	PKP	PKPdf	11 58 36.0	+0.1
	comp=Z,2.6nm,1.0s,baz=214,slow=5.0,SNR=4.5						
SONM				PKPab	PKPab	11 59 28.1	-0.3
	comp=Z,4.9nm,0.8s,baz=334,slow=3.3,SNR=7.9						
SONM				PP	PP	12 03 13.7	+0.3
	comp=Z,1.6nm,0.9s,baz=338,slow=4.1,SNR=4.8						
SONM	Songino Array	163.82	5	PKPdf	PKPdf	11 58 35.2	-0.7
SONM				PKPab	PKPab	11 59 27.9	-0.5
ULN	Ulaanbaatar	163.84	4	PKP2	PKPab	11 59 29.4	+0.9
ULN						12 58 34.3	
ULN	Ulaanbaatar	163.84	4	PKPdf	PKPdf	11 58 34.3	-1.6
ULN				PKPab	PKPab	11 59 29.4	+0.9
CMAR	Chiang Mai Arr	164.13	144	PKP	PKPdf	11 58 36.9	+0.1
	comp=Z,7.4nm,0.9s,baz=248,slow=2.5,SNR=39						
CMAR				PKPab	PKPab	11 59 29.6	-0.7
	comp=Z,6.1nm,0.9s,baz=226,slow=5.8,SNR=13						
CHTO	Chiang Mai	164.43	143	PKP2	PKPab	11 59 30.5	-1.2
CHTO						12 58 36.9	
CHTO	Chiang Mai	164.43	143	PKPdf	PKPdf	11 58 36.9	-0.2
CHTO				PKPab	PKPab	11 59 30.5	-1.2
GTA	Gaotai	169.48	41	PKP	PKPdf	11 58 40.8	+0.4
GTA				PKPab	PKPab	11 59 54.1	+0.4
GTA				LR	LR		
	comp=Z,230nm,17.9s						
GTA				LR	LR		
	comp=Z,220nm,16.7s						
GTA				LR	LR		
	comp=Z,230nm,17.1s						
HHC	Hu-ho-hao-te	170.60	346	*e*PKP	PKPdf	11 58 41.5	+0.5
NJ2	Nanjing	171.33	275	*e*PKP	PKPdf	11 58 43.3	+1.9
PZH	PanZhiHua	172.01	129	PKP	PKPdf	11 58 43.0	+0.9
LZH	Lanzhou	174.09	41	⇓PKP	PKPdf	11 58 44.0	+1.3
LZH				pPKP	pPKPdf	11 58 51.8	-6.0

*IDC **18** 11:41:57.0±0.3, 32°.99N×131°.22E, h0km, mb4.9/48, mb1 4.9/53, mb1mx4.8/64, mbtmp4.9/53, ML4.5/5, MS5.0/89, Ms1 5.0/89, ms1mx5.0/96 Error ellipse: s-maj=8.3km s-min=4.8km az=28.0*

*NIED **18** 11:41:57.9, 33°.00N×131°.20E, h9km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.08; $M_{\theta\theta}$1.91; $M_{\phi\phi}$-1.82; $M_{r\theta}$-0.16; $M_{\theta\phi}$0.07; $M_{\phi r}$-0.01; Fault plane solution: $M_0$1.87000×10^{17} NP1: ϕ_s314.00000°, δ86.00000°, λ3.00000°. NP2:ϕ_s224.00000°, δ87.00000°, λ176.00000°.*

*MOS **18** 11:41:57.7±0.9, 32°.95N×131°.07E, h15km, mb5.5/88, MS5.3/33 Error ellipse: s-maj=6.0km s-min=3.6km az=113.8*

*JMA **18** 11:41:57.9, 33°.00N×131°.20E, h9km±1km, M5.8 Broadband fault plane solution: P waves. NP1: ϕ_s129.00000°, δ87.00000°, λ-15.00000°. NP2: ϕ_s219.00000°, δ75.00000°, λ-176.00000°. Principal axes: T Plg8.0000°, Azm175.0000°; N Plg75.0000°, Azm296.0000°; P Plg13.0000°, Azm83.0000°;*

*BJI **18** 11:41:58.5±0.0, 32°.90N×131°.26E, h20km, mb5.1/77, mB5.4/63, Ms5.8/92, Ms7 5.5/87*

*NEIC **18** 11:42:00.2±1.8, 33°.01N±0°.05×131°.10E±0°.06, h10km±3km, mb5.4/170, Ms_20 5.2/247, Mwb5.5/55, Mwr5.5/30, Mww5.5, Error ellipse: s-maj=8.8km s-min=6.8km az=138.0*

*NEIC **18** 11:42:00.2, 33°.01N×131°.10E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.16; $M_{\theta\theta}$2.27; $M_{\phi\phi}$-2.43; $M_{r\theta}$-0.78; $M_{\theta\phi}$0.27; $M_{\phi r}$0.06; Fault plane solution: $M_0$2.50000×10^{17} NP1:ϕ_s220.23000°, δ75.57000°, λ168.72000°. NP2:ϕ_s313.08000°, δ79.08000°, λ14.71000°. Principal axes: T 2.5428, Plg18.0000°, Azm177.0000°; N -0.0892, Plg72.0000°, Azm349.0000°; P -2.4536, Plg2.0000°, Azm86.0000°;*

*NEIC **18** 11:42:00.2, 33°.01N×131°.10E, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.29; $M_{\theta\theta}$1.74; $M_{\phi\phi}$-2.02; $M_{r\theta}$-0.57; $M_{\theta\phi}$-0.26; $M_{\phi r}$-0.18; Fault plane solution: $M_0$2.01000×10^{17} NP1:ϕ_s227.49000°, δ80.84000°, λ162.67000°. NP2:ϕ_s320.33000°, δ72.90000°, λ9.59000°. Principal axes: T 1.9416, Plg19.0000°, Azm183.0000°; N 0.1226, Plg70.0000°, Azm20.0000°; P -2.0642, Plg5.0000°, Azm275.0000°;*

*GCMT **18** 11:42:01.2±0.1, 33°.00N±0°.01×131°.12E±0°.01, h13km, MW5.5/151, Moment Tensor Solution. s109, c187; s151, c304; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}0.10±.03; $M_{\theta\theta}$2.21±.03; $M_{\phi\phi}$-2.31±.03; $M_{r\theta}$0.16±.06; $M_{\theta\phi}$0.09±.02; $M_{\phi r}$-0.51±.07; Best double couple: $M_0$2.32000×10^{17} NP1:ϕ_s44.00000°, δ79.00000°, λ-175.00000°. NP2:ϕ_s313.00000°, δ85.00000°, λ-11.00000°. Principal axes: T 2.2220, Plg4.0000°, Azm359.0000°; N 0.1920, Plg78.0000°, Azm109.0000°; P -2.4170, Plg12.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **18** 11:42:01.1±0.0, 33°.00N×131°.18E, h10km, mb5.6*

*NEIC **18** 11:42:03, 32°.91N×131°.21E, h12km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.08; $M_{\theta\theta}$2.21; $M_{\phi\phi}$-2.13; $M_{r\theta}$0.16; $M_{\theta\phi}$0.08; $M_{\phi r}$0.51; Fault plane solution: $M_0$2.24000×10^{17} NP1: ϕ_s133.00000°, δ78.00000°, λ-6.00000°. NP2:ϕ_s225.00000°, δ84.00000°, λ-167.00000°. Principal axes: T 2.2258, Plg4.0000°, Azm358.0000°; N 0.0214, Plg76.0000°, Azm251.0000°; P -2.2472, Plg13.0000°, Azm89.0000°;*

ISC 18 11:42:00.1±0.5, **32°.97N**±0°.03×**131°.24E**±0°.02, **h15**km±2km, **n1037**, σ1s**73**/1009, **mb5.2**/257, **MS5.2**/239, **71C-35D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	0.34	297	Pg	Pg	11 42 03.6	-3.5
	7μm,0.3s,baz=108,slow=8.9,SNR=6897						
JNU				Lg	Lg	11 42 07.8	
	22μm,0.3s,baz=334,slow=6.0,SNR=60						
JNU				LR	LR	11 42 26.6	
	comp=Z,197μm,20.6s,baz=39,slow=93						
JNU	Nakatsue	0.34	297	⇓P	Pg	11 42 03.8	-3.2
JNU				S	Sg	11 42 08.3	-3.5
JNU	Nakatsue	0.34	297		Pg	11 42 03.8	-3.2
JUS	Usuki	0.44	78	⇓P	Pg	11 42 06.8	-2.2
JUS				S	Sg	11 42 13.5	-1.5
JTA	Tamana	0.59	269	⇓P	Pg	11 42 08.8	-2.9
JSU	Suzuyama	1.60	205		Pn	11 42 27.3	-0.6
JTU	Tsushima	2.18	316	Pn	Pn	11 42 33.2	-2.6
JMN	Monobe	2.34	70	Pn	Pn	11 42 37.6	-0.4
JHS	Saijyo	2.56	37		Pn	11 42 40.8	-0.2
TJN	Taejon	4.66	318	*ce*P	Pn	11 43 08.1	-1.8
TJN	Taejon	4.66	318	Pn	Pn	11 43 08.2	-1.6
KSRS	Korea Array	5.23	330	Pn	Pn	11 43 16.4	-1.3
	5.4nm,0.3s,baz=148,slow=14,SNR=48						
KSRS				Pg	Pg	11 43 36.2	-4.0
	31nm,0.3s,baz=150,slow=17,SNR=16						
KSRS				Sn	Sn	11 44 17.2	-0.4
	20nm,0.3s,baz=154,slow=17,SNR=5.6						
KSRS				Lg	Lg	11 44 40.1	
	31nm,0.3s,baz=151,slow=30,SNR=8.5						
KSRS				LR	LR	11 45 22.3	
	comp=Z,18μm,18.8s,baz=150,slow=39						
KSAR	Wonju Array Be	5.24	329	P	Pn	11 43 16.0	-1.8
KSAR	Wonju Array Be	5.24	329		Pn	11 43 16.0	-1.8
KS19	Wonju Array Si	5.29	330		Pn	11 43 16.6	-2.0
INU	Inuyama	5.35	62	Pn	Pn	11 43 19.9	+0.6
JGF	Kuroka	5.71	61	Pn	Pn	11 43 24.0	-0.3
INCN	Inchon	5.87	321	P	Pn	11 43 25.3	-1.2
INCN	Inchon	5.87	321	Pn	Pn	11 43 25.3	-1.2
JOW	Kunigami	6.63	204	Pn	Pn	11 43 37.4	+0.3
	16nm,0.3s,baz=58,slow=8.1,SNR=16						
JOW				Sn	Sn	11 44 53.0	+0.6
	2.6nm,0.3s,baz=50,slow=30,SNR=1.3						
JOW	Kunigami	6.63	204		Pn	11 43 38.9	+1.8
MJB9	Matsu-Tunnel	6.75	56		Pn	11 43 40.2	+1.5
MAJO	Matsushiro	6.75	56	*i* P	Pn	11 43 40.2	+1.5
MAJO	Matsushiro	6.75	56	Pn	Pn	11 43 39.9	+1.3
MJAR	Matsushiro Arr	6.75	56	Pn	Pn	11 43 39.8	+1.1
	6.0nm,0.3s,baz=230,slow=13,SNR=92						
MJAR				Lg	Lg	11 45 33.3	
	0.5nm,0.3s,baz=296,slow=32,SNR=3.0						
MJAR				LR	LR	11 46 31.7	
	comp=Z,23μm,21.2s,baz=232,slow=41						
MJAR	Matsushiro Arr	6.75	56	P	Pn	11 43 40.2	+1.5
MJAR	Matsushiro Arr	6.75	56		Pn	11 43 40.2	+1.5
JHJ	Hachijo jima 2	7.18	86	Pn	Pn	11 43 44.6	+0.1
	116nm,0.3s,baz=54,slow=7.5,SNR=36						
JHJ				Sn	Sn	11 45 09.7	+3.9
	baz=88,slow=22,SNR=1.1						
JHJ				LR	LR	11 46 43.6	
	comp=Z,15μm,18.5s,baz=252,slow=40						
JHJ2	Mitsune	7.21	87	Pn	Pn	11 43 45.0	+0.1
JSD	Sado	7.64	47		Pn	11 43 53.0	+2.3
JYT	Yasato	8.07	64	Pn	Pn	11 43 57.7	+1.1
SSE	Sheshan	8.73	260	P	Pn	11 44 04.3	-1.5
SSE				S	Sn	11 45 40.1	-3.9
SSE				pmax	pmax		
	comp=Z,390nm,9.8s						
JMM	Marumori	9.20	55		Pn	11 44 14.1	+1.9
MSHR	Mys Shultsa	9.59	360	*i* P	Pn	11 44 18.2	+0.6
DL2	Dalian	9.78	310	P	Pn	11 44 18.0	-2.2
DL2				S	Sn	11 46 06.8	-2.9
DL2				pmax	pmax		
	comp=Z,45nm,0.8s						
DL2				pmax	pmax		
	comp=Z,360nm,6.1s						
DL2				LR	LR		
	comp=N,22μm,6.5s						
DL2				LR	LR		
	comp=E,12μm,9.9s						
DL2				LR	LR		
	comp=Z,9μm,9.4s						
NJ2	Nanjing	10.49	268	⇓P	Pn	11 44 32.3	+2.3
NJ2				sP		11 44 36.0	
NJ2				S	Sn	11 46 32.3	+5.1
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,930nm,3.5s						
NJ2				LR	LR		
	comp=N,18μm,10.8s						
NJ2				LR	LR		
	comp=E,16μm,14.0s						
NJ2				LR	LR		
	comp=Z,20μm,13.6s						
SNY	Shenyang	10.73	328	⇓P	Pn	11 44 37.8	+4.7
SNY				S	Sn	11 46 39.0	+6.1
SNY				pmax	pmax		
	comp=Z,22nm,1.6s						
SNY				pmax	pmax		
	comp=Z,190nm,3.1s						
SNY				LR	LR		
	comp=N,72μm,10.3s						
SNY				LR	LR		
	comp=E,108μm,10.7s						
SNY				LR	LR		
	comp=Z,30μm,13.2s						
JCJ	Chichijima	11.15	119	Pn	Pn	11 44 40.0	+1.1
	6.8nm,0.3s,baz=71,slow=24,SNR=5.7						
JCJ				Sn	Sn	11 46 42.2	-1.1
	3.1nm,0.3s,baz=286,slow=17,SNR=2.4						
JCJ				LR	LR	11 48 36.9	
	comp=Z,6μm,18.6s,baz=296,slow=36						
I45RU	USSURIYSK INFR	11.23	3	*i*		12 46 40.0	
	baz=178,slow=329,SNR=1.8						
USRK	Ussuriysk Ar.	11.23	3	Pn	Pn	11 44 42.2	+2.3
	baz=188,slow=14,SNR=30						
USRK				LR	LR	11 48 31.0	
	comp=Z,10μm,20.1s,baz=168,slow=35						
USRK	Ussuriysk Ar.	11.23	3	P	Pn	11 44 41.1	+1.2
USRK	Ussuriysk Ar.	11.23	3		Pn	11 44 41.1	+1.2
MDJ	Mudanjiang	11.70	354	P	Pn	11 44 48.8	+2.4
MDJ				pP		11 44 51.1	
MDJ				S	Sn	11 47 00.1	+3.4
MDJ				pmax	pmax		
	comp=Z,18nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,970nm,4.2s						
MDJ				LR	LR		
	comp=N,27μm,12.1s						
MDJ				LR	LR		
	comp=E,30μm,12.1s						
MDJ				LR	LR		
	comp=Z,26μm,12.2s						
CN2	Changchun	11.72	339	*e*P	Pn	11 44 49.6	+2.9
CN2				S	Sn	11 47 00.1	+2.8
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,38μm,13.0s						
CN2				LR	LR		
	comp=E,86μm,13.0s						
CN2				LR	LR		
	comp=Z,20μm,13.1s						
TIA	Tai'an	12.07	289	*e*P	Pn	11 44 52.1	+0.6
TIA				pmax	pmax		
	comp=Z,52nm,1.6s						
TIA				pmax	pmax		
	comp=Z,1μm,9.0s						
TIA				LR	LR		
	comp=N,60μm,13.7s						
TIA				LR	LR		
	comp=E,20μm,12.4s						
TIA				LR	LR		
	comp=Z,16μm,10.4s						
TEY	Ternei	12.75	17	⇑*e*P	Pn	11 45 05.9	+5.2
TEY				pmax	pmax		
	comp=N,40nm,0.9s						
TEY				pmax	pmax		
	comp=Z,40nm,0.9s						
BNX	BinXian	13.09	348	⇓P	Pn	11 45 08.8	+3.4
BNX				pP	P	11 45 12.0	-3.6
BNX				sP		11 45 15.4	
BNX				PP	PnPn	11 45 18.6	+5.3
BNX				S	Sn	11 47 40.6	+10
BNX				sS	S	11 47 44.4	-11
BNX				pmax	pmax		
	comp=Z,190nm,1.7s						
BNX				pmax	pmax		
	comp=Z,1μm,9.2s						
BNX				LR	LR		
	comp=Z,38μm,9.4s						
BNX				LR	LR		
	comp=Z,82μm,10.5s						
BNX				LR	LR		
	comp=Z,47μm,12.1s						
QZH	Quanzhou	13.65	237	⇑*i*P	P	11 45 22.5	+0.6
QZH				S	S	11 47 56.8	-11
QZH				pmax	pmax		
	comp=Z,99nm,1.2s						
QZH				pmax	pmax		
	comp=Z,860nm,7.1s						
QZH				LR	LR		
	comp=N,19μm,12.6s						
QZH				LR	LR		
	comp=E,16μm,10.6s						
QZH				LR	LR		
	comp=Z,15μm,13.9s						
BJI	Beijing	14.01	305	P	Pn	11 45 19.0	+1.1
BJI				S	Sn	11 47 57.9	+4.8
BJI				pmax	pmax		
	comp=Z,12nm,1.5s						
BJI				LR	LR		
	comp=Z,40μm,16.0s						
BJI				LR	LR		
	comp=Z,20μm,18.4s						
BJI				LR	LR		
	comp=Z,28μm,14.0s						
HNS	HongShan	14.22	293	⇓P	Pn	11 45 23.3	+2.5
HNS				PP	PnPn	11 45 34.9	+6.2
HNS				S	Sn	11 48 06.8	+8.5
HNS				pmax	pmax		
	comp=Z,89nm,2.0s						
HNS				LR	LR		
	comp=Z,37μm,16.1s						
HNS				LR	LR		
	comp=Z,18μm,16.3s						
HNS				LR	LR		
	comp=Z,17μm,16.5s						
ASAJ	Asahikawa	14.23	35	Pn	Pn	11 45 22.3	+1.4
	comp=Z,1.3nm,0.3s,baz=210,slow=13,SNR=11						
ASAJ				LR	LR	11 50 28.6	
	comp=Z,5μm,20.4s,baz=236,slow=36						
JKA	Kamikawa-asahi	14.23	35		Pn	11 45 22.2	+1.3
WHN	Wuhan	14.57	265	⇑P	Pn	11 45 28.5	+2.8
WHN				S	Sn	11 48 11.1	+4.2
WHN				pmax	pmax		
	comp=Z,2μm,2.9s						
WHN				LR	LR		
	comp=Z,66μm,9.9s						
WHN				LR	LR		
	comp=Z,23μm,10.6s						
WHN				LR	LR		
	comp=Z,50μm,12.4s						
LYN	LuoYang	15.69	281	*e*P	Pn	11 45 41.4	+0.8
LYN				pP	P	11 45 44.5	-0.1
LYN				S	Sn	11 48 39.1	+4.9
LYN				SS	S	11 48 55.8	+6.7
LYN				pmax	pmax		
	comp=Z,110nm,1.8s						
LYN				pmax	pmax		
	comp=Z,2μm,5.1s						
LYN				LR	LR		
	comp=Z,8μm,12.5s						
LYN				LR	LR		
	comp=Z,22μm,11.5s						
LYN				LR	LR		
	comp=Z,20μm,12.0s						
YUK	Yuzh-Kuril'sk	15.88	42	*e*P	P	11 45 46.1	-0.5
YUK				*e*S	Sn	11 48 43.3	+4.6
YUK				pmax	pmax		
	comp=Z,420nm,1.0s						
YUK				pmax	pmax		
	comp=N,156nm,0.6s						
YUK				pmax	pmax		
	comp=E,249nm,1.0s						
YUK				pmax	pmax		
	comp=Z,713nm,1.4s						
YUK				MLR	MLR		
	comp=Z,8μm,14.0s						
YUK				MLR	MLR		
	comp=N,3μm,13.0s						
YUK				MLR	MLR		
	comp=E,10μm,16.0s						
TIY	Taiyuan	16.05	292	⇓P	Pn	11 45 46.1	+0.8
TIY				PP	sP	11 45 58.6	+3.4
TIY				S	Sn	11 48 40.4	-2.6
TIY				pmax	pmax		
	comp=E,940nm,5.3s						
TIY				LR	LR		
	comp=E,35μm,15.5s						
TIY				LR	LR		
	comp=E,9μm,19.1s						
TIY				LR	LR		
	comp=E,9μm,18.0s						
XLT	XiLinHaoTe	16.10	317	*e*P	Pn	11 45 46.3	+0.4
XLT				pP	P	11 45 49.4	+0.2
XLT				sP	pP	11 45 53.4	-0.2
XLT				PP	sP	11 46 00.4	+4.7
XLT				S	Sn	11 48 43.3	-0.8
XLT				SS	S	11 49 03.1	+5.6
XLT				pmax	pmax		
	comp=E,91nm,1.5s						
XLT				pmax	pmax		
	comp=E,820nm,5.7s						
XLT				LR	LR		
	comp=E,7μm,12.5s						
XLT				LR	LR		
	comp=E,45μm,12.3s						
XLT				LR	LR		
	comp=E,10μm,13.3s						
KLR	Kul'dur	16.25	1	Pn	P	11 45 50.6	0.0
	comp=E,3.2nm,0.3s,baz=163,slow=8.0,SNR=90						
KLR				Sn	Sn	11 48 45.8	-1.8
	comp=E,0.1nm,0.3s,baz=336,slow=22,SNR=1.3						
KLR				LR	LR	11 51 29.3	
	comp=E,5μm,21.8s,baz=172,slow=35						
KLR	Kul'dur	16.25	1	*i* P	Pn	11 45 48.0	+0.3
CNSH	ChangSha	16.47	258	⇑P	Pn	11 45 51.0	+0.4
CNSH				S	Sn	11 48 56.3	+3.2
CNSH				LR	LR		
	comp=E,11μm,13.6s						
CNSH				LR	LR		
	comp=E,12μm,10.8s						
CNSH				LR	LR		
	comp=E,15μm,13.2s						
YSS	Yuzh-Sakhalins	16.50	29	⇓*e*P	Pn	11 45 51.1	+0.3
YSS				*e*S	Sn	11 48 53.6	0.0
YSS				pmax	pmax		
	comp=Z,110nm,1.0s						
YSS				pmax	pmax		
	comp=Z,800nm,5.6s						
YSS				MLR	MLR		
	comp=Z,13μm,13.0s						
YSS				MLR	MLR		
	comp=N,7μm,12.0s						
YSS				MLR	MLR		
	comp=E,13μm,13.0s						
YSS	Yuzh-Sakhalins	16.50	29		Pn	11 45 51.0	+0.3
HHC	Hu-ho-hao-te	17.56	302	*e*P	Pn	11 46 04.4	0.0
HHC				pP	pP	11 46 09.0	-0.9
HHC				S	S	11 49 26.5	-1.0
HHC				pmax	pmax		
	comp=E,920nm,7.8s						
HHC				LR	LR		
	comp=E,16μm,14.9s						
HHC				LR	LR		
	comp=E,14μm,13.1s						
HHC				LR	LR		
	comp=E,17μm,13.4s						
UGL	Uglegorsk	18.02	24	*e*P	P	11 46 13.0	+2.8
UGL				S	Sn	11 49 31.3	+1.0
UGL				pmax	pmax		
	comp=Z,134nm,1.4s						
UGL				smax	smax		
	comp=N,600nm,4.5s						
UGL				smax	smax		
	comp=E,2μm,7.5s						
UGL				MLR	MLR		

UGL comp=E,4µm,13.0s MLR MLR
UGL comp=Z,9µm,13.0s MLR MLR
HIA Hailar 18.40 336 P **Pn 11 46 15.7 +1.1**
HIA pmax pmax
HIA Hailar 18.40 336 P **Pn 11 46 15.7 +1.1**
GZH Guangzhou 18.59 243 P **P 11 46 11.8 -4.9**
GZH S **Sn 11 49 35.6 -8.9**
GZH LR LR
GZH comp=Z,16µm,12.6s LR LR
BTO Baotou 18.59 300 *e*P **Pn 11 46 18.1 +1.0**
BTO S **S 11 49 50.6 +2.2**
BTO LR LR
XAN Xi'an 18.64 279 P **Pn 11 46 17.5 -0.1**
XAN pP pP 11 46 22.0 +0.2
XAN pmax pmax
XAN Xi'an 18.64 279 P **Pn 11 46 18.1 +0.5**
XAN pP sP 11 46 26.8 +2.9
XAN sP pP 11 46 30.3 +8.5
XAN S **S 11 49 49.3 +0.1**
XAN pmax pmax
XAN pmax pmax
XAN LR LR
XAN LR LR
XAN LR LR
ENH Enshi 18.71 268 P **Pn 11 46 18.3 -0.2**
ENH IAmb IAmb 11 46 29.6
GULI GuiLin 19.75 253 ⇓P **P 11 46 29.9 +0.5**
GULI S **Sn 11 50 12.5 -0.1**
GULI pmax pmax
GULI LR LR
GULI LR LR
GULI LR LR
TYV Tymovskoe 19.75 22 *e*P **Pn 11 46 32.8 +2.0**
TYV pmax pmax
TYV pmax pmax
ZEA Zeya 20.95 353 *e*P **P 11 46 42.6 +0.3**
ZEA *e*S **S 11 50 26.1 -9.0**
ZEA pmax pmax
ZEA pmax pmax
ZEA pmax pmax
ZEA pmax pmax
ZEA smax smax
ZEA smax smax
ZEA MLR MLR
ZEA MLR MLR
ZEA MLR MLR
NKL Nikolayevsk 21.28 16 *e*P **P 11 46 44.3 -1.5**
NKL *e*S **S 11 50 45.1 +3.5**
NKL pmax pmax
NKL pmax pmax
NKL pmax pmax
NKL smax smax
NKL smax smax
NKL MLR MLR
NKL MLR MLR
NKL MLR MLR
GYA Guiyang 22.28 260 ⇑P **P 11 46 57.5 +0.6**
GYA sP sP 11 47 03.3 -0.2
GYA S **S 11 50 58.5 -3.1**
GYA sS pS 11 51 05.8 -2.5
GYA pmax pmax
GYA pmax pmax
GYA LR LR
GYA LR LR
GYA LR LR
LZH Lanzhou 22.75 286 ⇓P **P 11 47 01.8 -0.1**
LZH sP sP 11 47 09.0 +0.4
LZH S **S 11 51 07.3 -3.0**
LZH SS **SnSn 11 51 44.8 +4.2**
LZH pmax pmax
LZH pmax pmax
LZH LR LR
LZH LR LR
LZH LR LR
GUMO Guam 22.96 144 P **P 11 47 04.8 +0.9**
GUMO S **S 11 51 15.8 +2.1**
GUMO LR LR 11 54 13.5
GUMO Guam 22.96 144 P **P 11 47 04.3 +0.3**
CIT Chita 22.96 331 *e*P **P 11 47 06.7 +2.9**
CIT *e* 11 47 29.8
CIT *e* 11 47 42.7
CIT *e* 11 51 01.6
CIT pmax pmax
CD2 Chengdu 23.39 272 ⇑*i*P **P 11 47 07.1 -1.2**
CD2 pP pP 11 47 09.8 -3.2
CD2 S **S 11 51 19.6 -1.3**
CD2 sS pS 11 51 24.8 -1.3
CD2 SS **SnSn 11 52 00.4 +4.4**
CD2 pmax pmax
CD2 pmax pmax
CD2 LR LR
CD2 LR LR
CD2 LR LR
ULN Ulaanbaatar 23.54 316*ce*P **P 11 47 09.1 -0.7**
ULN pmax pmax
ULN Ulaanbaatar 23.54 316 P **P 11 47 09.1 -0.7**
ULN IAmb IAmb 11 47 14.9
ULN Ulaanbaatar 23.54 316 IAMs_20 IAMs_20 11 57 04.9
QIZ Qiongzhong 23.65 239 P **P 11 47 13.0 +2.0**
QIZ S **S 11 51 27.3 +2.1**
QIZ pmax pmax
QIZ pmax pmax
QIZ LR LR
QIZ LR LR
QIZ comp=Z,11µm,16.7s LR LR
QIZ comp=Z,8µm,12.7s LR LR
SONM Songino Array 23.91 316 P **P 11 47 12.6 -0.7**
SONM comp=Z,46nm,0.9s,baz=128,slow=9.4,SNR=50 S **S 11 51 32.2 +3.1**
SONM comp=Z,0.3nm,0.4s,baz=314,slow=49,SNR=1.5 LR LR 11 57 29.8
SONM Songino Array 23.91 316 P **P 11 47 12.9 -0.5**
SONM comp=Z,6µm,19.5s,baz=112,slow=39 IAmb IAmb 11 47 18.1
KMI Kunming 26.05 260 ⇑P **P 11 47 33.8 +0.6**
KMI pP pP 11 47 36.8 -1.2
KMI sP sP 11 47 38.8 -1.3
KMI S **S 11 52 00.5 -3.5**
KMI sS pS 11 52 08.1 -1.5
KMI pmax pmax
KMI pmax pmax
KMI LR LR
KMI LR LR
KMI LR LR
GTA Gaotai 26.07 293 ⇓P **P 11 47 32.3 -0.9**
GTA sP sP 11 47 39.6 -0.4
GTA S **S 11 52 00.4 -3.5**
GTA sS pS 11 52 09.6 +0.4
GTA pmax pmax
GTA pmax pmax
GTA LR LR
GTA LR LR
GTA LR LR
GTA LR LR
GTA LR LR
PZH PanZhiHua 26.35 264 P **P 11 47 35.5 -0.3**
PZH pP **pP 11 47 39.5 -1.1**
PZH PP **PnPn 11 48 22.3 +7.1**
PZH S **S 11 52 09.0 +0.5**
PZH SS **SnSn 11 53 12.5 +3.6**
PZH pmax pmax
PZH pmax pmax
PZH LR LR
PZH LR LR
PZH LR LR
ZAK Zakamensk 26.94 319 *e*P **P 11 47 40.3 -0.6**
ZAK pmax pmax
IRK Irkutsk 27.40 323 *e*P **P 11 47 45.2 +0.4**
IRK pmax pmax
BOD Bodaibo 27.47 340 *e*P **P 11 47 43.9 -1.5**
BOD pmax pmax
PEA0B Petropavlovsk- 27.65 35*ce*P **P 11 47 47.9 +0.9**
PETK Petropavlovsk- 27.65 35 P **P 11 47 48.1 +1.1**
PETK LR LR 11 59 28.9
PETK Petropavlovsk- 27.65 35 P **P 11 47 47.7 +0.7**
PET Petropavlovsk 28.07 36 *e*P **P 11 47 50.8 +0.1**
PET *e*S **S 11 52 31.4 -3.3**
PET pmax pmax
PET MLR MLR
PET MLR MLR
PET Petropavlovsk 28.07 36 P **P 11 47 50.9 +0.1**
PET IAmb IAmb 11 47 54.0
PET IAMs_20 IAMs_20 11 58 59.3
MOY Mondy 28.83 319 *e*P **P 11 47 57.1 -0.6**
MOY pmax pmax
YAK Yakutsk 29.09 358 P **P 11 47 58.3 -1.4**
YAK S **S 11 52 46.6 -4.1**
YAK LR LR 11 59 23.4
YAK Yakutsk 29.09 358 *e*P **P 11 47 58.6 -1.1**
YAK *e*S **S 11 52 50.3 -0.4**
YAK pmax pmax
YAK pmax pmax
YAK pmax pmax
YAK pmax pmax
YAK pmax pmax
YAK smax smax
YAK smax smax
YAK MLR MLR
YAK MLR MLR
YAK MLR MLR
YAK Yakutsk 29.09 358 P **P 11 47 58.4 -1.4**
YAK IAmb IAmb 11 48 03.8
MA2 Magadan 29.61 20 P **P 11 48 03.8 -0.6**
MA2 LR LR 12 00 29.3
MA2 pmax pmax
MA2 Magadan 29.61 20*ce*P **P 11 48 05.7 +1.3**
MA2 pmax pmax
MA2 Magadan 29.61 20 P **P 11 48 04.4 0.0**
GOMU GeErMu 30.05 286 PKP **PKiKP 11 58 41.1 -1.8**
GOMU pPKP 11 59 17.3
GOMU sPKP 11 59 24.3
GOMU AMB AMB
GOMU GeErMu 30.05 286 P **P 11 48 09.3 +0.3**
GOMU pP pP 11 48 12.5 -1.4
GOMU PcP **PcP 11 51 11.8 +1.0**
GOMU pmax pmax
GOMU pmax pmax
GOMU pmax pmax
GOMU LR LR
GOMU LR LR
GOMU LR LR
MYLDM Lahad Datu 30.09 206 P **P 11 48 11.7 +2.6**
MYLDM IAmb IAmb 11 48 33.2
KNGR Kungurtug, Tuv 30.35 316 *i* P **P 11 48 11.0 -0.2**
LKP Lekhapani 31.02 269 *e*P **P 11 48 16.8 -0.4**
LKP IAmb IAmb 11 48 20.3
CHTO Chiang Mai 32.14 252 P **P 11 48 27.7 +0.5**
CHTO pmax pmax
CHTO MLR MLR
CHTO Chiang Mai 32.14 252 P **P 11 48 27.6 +0.5**
TNTI Ternate 32.23 187 P **P 11 48 29.7 +1.8**
TNTI Ternate 32.23 187 P **P 11 48 25.6 -2.3**
CM31 Chiang Mai Arr 32.33 251 **P 11 48 29.1 +0.3**
CM31 IAmb IAmb 11 48 40.3
CM31 Chiang Mai Arr 32.33 251 P **P 11 48 31.5 +2.7**
CMAR Chiang Mai Arr 32.33 251 P **P 11 48 27.9 -1.0**
CMAR LR LR 12 01 42.2
CMAR Chiang Mai Arr 32.33 251 P **P 11 48 29.5 +0.7**
MOKO MOKOCHONG 32.48 268 *e*P **P 11 48 29.5 -0.7**
MOKO IAmb IAmb 11 48 38.4
SEY Seymchan 32.83 18 P **P 11 48 31.7 -1.0**
SEY LR LR 12 01 36.8
SEY Seymchan 32.83 18*ce*P **P 11 48 33.0 +0.3**
SEY pmax pmax
ITAN ITANAGAR 32.86 270 *e*P **P 11 48 34.3 +0.9**
ITAN IAmb IAmb 11 48 40.9
GTOI Gorontalo 33.08 195 P **P 11 48 34.9 -0.4**
TOLI2 Tolitoli 33.18 199 P **P 11 48 36.0 -0.2**
TOLI2 IAmb IAmb 11 48 38.5
MRSI Marisa 33.48 197 P **P 11 48 38.5 -0.4**
LBMI Labuha 33.61 187 P **P 11 48 39.8 -0.2**
SWI Sorong 33.65 180 P **P 11 48 40.8 +0.5**
SWI pmax pmax
SWI Sorong 33.65 180 P **P 11 48 40.4 +0.1**
SIJI Sorong 33.66 180 P **P 11 48 39.8 -0.6**
SIJI LR LR 12 04 13.7
TEZP TEZPUR 33.82 269 *e*P **P 11 48 40.9 -0.8**
TEZP IAmb IAmb 11 48 46.6
MPSI Mapaga 34.17 200 P **P 11 48 44.5 -0.3**
LSA Lhasa 34.25 275 P **P 11 48 47.4 +1.4**
LSA pmax pmax
LSA MLR MLR
LSA Lhasa 34.25 275 P **P 11 48 47.4 +1.4**
LSA IAMs_20 IAMs_20 12 02 55.2
LSA Lhasa 34.25 275 P **P 11 48 47.1 +1.1**
LSA pmax pmax
GUWA GUWAHATI 34.89 269 *e*P **P 11 48 50.5 -0.5**
GUWA IAmb IAmb 11 48 53.3
SHL Shillong 34.96 268 P **P 11 48 51.5 -0.3**
SHL pmax pmax
SHL Shillong 34.96 268 P **P 11 48 51.5 -0.3**
SHL Shillong 34.96 268 *e*P **P 11 48 51.2 -0.6**
SHL IAmb IAmb 11 48 57.5
SHL Shillong 34.96 268 P **P 11 48 52.3 +0.4**
SANI Sanana 35.18 189 P **P 11 48 52.3 -1.3**
SBUM Sibu 35.21 214 P **P 11 48 54.0 +0.1**
SBUM IAMs_20 IAMs_20 12 04 34.0
WMQ Urumqi 35.43 301 *e*P **P 11 48 56.0 +0.4**
WMQ pP sP 11 49 03.0 +0.2
WMQ sP pP 11 49 09.3 +8.6
WMQ S **S 11 54 34.1 +4.1**
WMQ SS **SnSn 11 56 51.3 +2.0**
WMQ pmax pmax
WMQ pmax pmax
WMQ LR LR
WMQ LR LR
WMQ LR LR
WMQ LR LR
SMPI Sarmi 35.48 167 P **P 11 48 55.8 -0.3**
DHUB DHUBRI 36.38 270 *e*P **P 11 49 03.9 +0.1**
DHUB IAmb IAmb 11 49 13.4
SHEM Shemya Is, Ala 36.42 44 LR LR 12 04 38.1
AAI Ambon 36.57 185 P **P 11 49 07.0 +1.5**
KSM Kuching 36.99 216 P **P 11 49 10.0 +0.9**
MTKI Muara Teweh, K 37.09 208 P **P 11 49 10.7 +0.8**
ZSN Zaisan 37.68 307 *e*P **P 11 49 12.6 -2.1**
ZSN Zaisan 37.68 307 *e*P **P 11 49 12.6 -2.1**
TAPN Taejung 37.85 273 *e*P **P 11 49 17.5 +0.8**
ODAN Odare 38.28 273 *e*P **P 11 49 20.5 +0.3**
BNSI Bone 38.64 198 P **P 11 49 25.2 +2.3**
TIXI Tiksi 38.76 359 P **P 11 49 22.2 -1.2**
TIXI LR LR 12 05 48.3
TIXI Tiksi 38.76 359*ce*P **P 11 49 22.0 -1.4**
TIXI pmax pmax
TIXI Tiksi 38.76 359 P **P 11 49 22.2 -1.2**
ZAA0 Zalesovo Array 38.79 317 P **P 11 49 23.6 -0.3**
ZALV Zalesovo Beam 38.79 317 P **P 11 49 22.8 -1.1**
ZALV PcP **PcP 11 51 33.8 -1.2**
ZALV LR LR 12 04 36.0
ZALV Zalesovo Beam 38.79 317 *i* P **P 11 49 22.3 -1.6**
ZALV pmax pmax
ZALV Zalesovo Beam 38.79 317 P **P 11 49 22.7 -1.2**
JIRN Jiri 39.02 274 *e*P **P 11 49 27.3 +0.7**
GUN Gumba 39.20 275 *e*P **P 11 49 28.2 +0.1**
KAPI Kappang 39.32 198 P **P 11 49 27.5 -1.2**
KAPI LR LR 12 07 01.1
KAPI Kappang 39.32 198 P **P 11 49 28.1 -0.5**
MK31 Makanchi Array 39.39 305 *i* P **P 11 49 27.8 -1.3**
MK31 pmax pmax
MK31 Makanchi Array 39.39 305 P **P 11 49 28.2 -0.8**
MKAR Makanchi Array 39.39 305 P **P 11 49 27.8 -1.3**
MKAR PcP **PcP 11 51 36.9 -0.2**
MKAR ScP **ScP 11 55 25.7 +0.5**
MKAR LR LR 12 06 21.7
BBKI Banjar Baru 39.42 206 P **P 11 49 30.0 +0.4**
BKSI Bulukumba 39.52 198 P **P 11 49 27.8 -2.5**
MAKZ Makanchi 39.60 305 P **P 11 49 29.7 -1.1**
MAKZ pmax pmax
MAKZ Makanchi 39.60 305 P **P 11 49 29.7 -1.1**
MAKZ IAMs_20 IAMs_20 12 04 06.8
KULM Kulim 39.63 233 P **P 11 49 32.4 +1.1**
KULM IAMs_20 IAMs_20 12 07 56.0
PKI Pulchoki 39.70 275 *e*P **P 11 49 32.6 +0.3**
PKIN Phulchoki 39.71 275 *e*P **P 11 49 32.1 -0.2**
KKN Kakani 39.74 275 *e*P **P 11 49 33.2 +0.8**
DMN Daman 39.94 275 *e*P **P 11 49 34.6 +0.4**
IPM Ipoh 39.98 231 P **P 11 49 34.1 -0.2**
IPM IAmb IAmb 11 49 37.3
IPM IAMs_20 IAMs_20 12 08 17.4
GKN Gorkha 40.21 276 *e*P **P 11 49 36.6 +0.3**

BSSI Bau Bau, Buton 40.22 197 P P 11 49 37.6 +1.5
comp=Z,610nmcomp=Z,28nm,1.4s
MYKOM Kota Tinggi 40.28 225 P P 11 49 37.1 +0.4
MYKOM IAMs_20 IAMs_20 12 06 10.8
comp=Z,3μm,19.0s
BILL Bilibino 40.47 19 *de*P P 11 49 37.8 +0.1
BILL *e* 11 51 13.6
BILL *e*PPP PPP 11 51 38.4
BILL *eS* S 11 55 48.9 +3.4
BILL pmax pmax
comp=Z,47nm,1.6s
BILL MLR MLR
comp=Z,2μm,13.0s
BILL Bilibino 40.47 19 P P 11 49 37.6 -0.1
BILL IAmb IAmb 11 49 41.1
comp=Z,137nm,1.6s
BILL IAMs_20 IAMs_20 12 08 37.9
comp=Z,2μm,18.0s
DANN Dangsing 40.83 277 *e*P P 11 49 41.1 -0.5
comp=Z,174nm,0.9s
SEM Semipalatinsk 40.99 311 *e*P P 11 49 40.5 -2.0
SEM Semipalatinsk 40.99 311 *e*P P 11 49 40.5 -2.0
baz=311
KOLN Koldanda 41.15 276 *e*P P 11 49 44.4 +0.3
comp=Z,96nm,0.9s
PDGK Podgornoye 41.40 300 P P 11 49 44.3 -1.6
SHLS Shalkode 41.43 300 *e*P P 11 49 41.2 -4.9
SHLS Shalkode 41.43 300 *e*P P 11 49 41.2 -4.9
baz=300
PYUN Piuthan 41.55 277 *e*P P 11 49 47.1 -0.3
comp=Z,341nm,1.0s
DSRI Dabo 41.69 222 P P 11 49 49.6 +1.3
comp=Z,11nm,0.4s
UZB Uzynbulak 41.75 300 *e*P P 11 49 46.7 -2.1
UZB Uzynbulak 41.75 300 *e*P P 11 49 46.7 -2.1
baz=300
RABL Rabaul 41.95 148 P P 11 49 51.8 +1.4
RABL IAmb IAmb 11 50 05.1
comp=Z,85nm,0.9s
KPKS Kokpek 41.98 300 *e*P P 11 49 48.5 -2.0
KPKS Kokpek 41.98 300 *e*P P 11 49 48.6 -2.0
baz=300
KRVT Keravat (AS076 41.99 148 P P 11 49 49.9 -0.9
comp=Z,52nm,0.9s,baz=218,slow=22,SNR=3.7
KRVT LR LR 12 06 14.2
comp=Z,403nm,19.7s,baz=116,slow=35
KURK Kurchatov 42.05 311 *ce*P P 11 49 49.1 -1.8
KURK pmax pmax
comp=Z,136nm,1.7s
KURK Kurchatov 42.05 311 P P 11 49 49.9 -1.0
KURK IAmb IAmb 11 49 54.8
comp=Z,70nm,0.9s
TDK Taldyqorghan 42.09 303 *e*P P 11 49 49.0 -2.4
TDK MLR MLR
comp=Z,3μm,15.0s
TDK Taldyqorghan 42.09 303 *e*P P 11 49 49.1 -2.4
baz=302
TDK LR LR 12 07 07.0
comp=Z,3μm,14.6s,baz=302
KURBB Kurchatov Arra 42.10 311 P P 11 49 49.7 -1.6
comp=Z,35nm,0.9s,baz=98,slow=8.9,SNR=68
KURBB PcP **PcP** 11 51 43.8 -1.9
comp=Z,1.8nm,0.6s,baz=97,slow=3.6,SNR=1.9
KURBB LR LR 12 07 23.5
comp=Z,3μm,18.4s,baz=71,slow=36
KURBB Kurchatov Arra 42.10 311 P P 11 49 49.9 -1.4
ZHN Zhinishke 42.18 300 *e*P P 11 49 49.9 -2.3
ZHN Zhinishke 42.18 300 *e*P P 11 49 49.9 -2.3
baz=300
SATY Saty 42.21 300 *e*P P 11 49 50.3 -2.2
SATY Saty 42.21 300 *e*P P 11 49 50.4 -2.1
baz=300
LHMI Lhok Sumawe 42.21 237 IAMs_20 IAMs_20 12 07 30.2
comp=Z,3μm,20.0s
GSTR Great Sitkin T 42.23 47 P P 11 49 53.4 +1.0
PPBI Pangkal Pinang 42.23 219 P P 11 49 54.3 +1.5
comp=Z,14μmcomp=Z,32nm,0.8s
MMRI Maumere 42.25 193 P P 11 49 52.3 -0.6
MMRI IAmb IAmb 11 50 43.2
comp=Z,92nm,1.4s
MMRI Maumere 42.25 193 P P 11 49 54.3 +1.4
comp=Z,2μmcomp=Z,39nm,0.9s
PSI Prapat 42.62 232 P P 11 49 55.6 -0.4
comp=Z,14nm,0.9s,baz=19,slow=5.2,SNR=11
PSI LR LR 12 09 50.1
comp=Z,1μm,18.3s,baz=34,slow=39
TARG Taragay, Kyrgy 42.77 298 P P 11 49 57.7 +0.2
KMMI Kalianget 43.06 206 P P 11 50 00.0 +0.6
comp=Z,48nm,0.9s
BKNI Bangkinang 43.15 227 IAMs_20 IAMs_20 12 08 35.6
comp=Z,2μm,18.0s
CHKK Chushkaly 43.17 301 *e*P P 11 49 58.0 -2.2
CHKK Chushkaly 43.17 301 *e*P P 11 49 58.0 -2.2
baz=301
MDOK Medeo 43.19 300 *e*P P 11 49 57.8 -2.7
MDOK MLR MLR
comp=Z,4μm,16.0s
MDOK Medeo 43.19 300 *e*P P 11 49 57.9 -2.7
baz=300
MDOK LR LR 12 07 01.5
comp=Z,4μm,16.0s,baz=300
KDJ Kajisay 43.19 298 P P 11 50 00.7 +0.1
KDJ pmax pmax
comp=Z,47nm,1.3s
KDJ Kajisay 43.19 298 P P 11 50 00.7 +0.1
TNSS Tian-Shan 43.27 300 *e*P P 11 50 00.5 -1.0
TNSS Tian-Shan 43.27 300 *e*P P 11 50 00.5 -1.0
baz=300
AAA Alma-Ata 43.28 300 *e*P P 11 49 59.5 -1.6
AAA Alma-Ata 43.28 300 *e*P P 11 49 59.5 -1.6
baz=300
PTH Pithoragarh 43.40 280 *e*P P 11 50 01.9 -0.5
LGTI Lohaghat 43.41 280 *e*P P 11 50 01.7 -0.6
PLAI Plampang 43.50 200 P P 11 50 04.3 +1.3
comp=Z,673nmcomp=Z,38nm,1.4s
ALBI Allahabad 43.52 273 *e*P P 11 50 04.1 +1.0
BATI Baumata 43.54 191 P P 11 50 01.6 -1.7
comp=Z,25nm,0.6s,baz=242,slow=5.6,SNR=5.9
BATI LR LR 12 08 36.1
comp=Z,582nm,20.7s,baz=39,slow=37
BATI Baumata 43.54 191 P P 11 50 04.1 +0.8
comp=Z,35nm,1.0s
SRBI Singaraja 43.59 203 P P 11 50 02.2 -1.5
comp=Z,55nm,1.2s
KUU Kurty 43.64 301 *e*P P 11 50 02.0 -2.0
KUU pmax pmax
comp=Z,168nm,2.2s
KUU MLR MLR
comp=Z,2μm,14.0s
KUU Kurty 43.64 301 *e*P P 11 50 02.0 -2.0
comp=Z,168nm,2.2s,baz=301
KUU LR LR 12 08 17.9
comp=Z,2μm,13.9s,baz=301
UWJI Ujung Watu 43.66 210 P P 11 50 04.4 +0.1
comp=Z,2μmcomp=Z,105nm,1.3s
MNSI Mandailing Nat 43.70 229 P P 11 50 05.2 +0.5
comp=Z,73nm,1.1s
NRIK Noril'sk 43.77 339 P P 11 50 03.7 -0.9
comp=Z,35nm,0.8s,baz=126,slow=8.1,SNR=31
NRIK LR LR 12 11 40.0
comp=Z,968nm,20.2s,baz=130,slow=41
NRIK Noril'sk 43.77 339 *ce*P P 11 50 03.0 -1.6
NRIK pmax pmax
comp=Z,30nm,0.7s
NRIK Noril'sk 43.77 339 P P 11 50 03.6 -0.9
NRIK IAmb IAmb 11 50 07.3
comp=Z,39nm,0.8s
TKM2 Tokmak 2 44.27 300 P P 11 50 09.2 -0.1
SNR=29
TKM2 Tokmak 2 44.27 300 *i* P P 11 50 08.7 -0.6
TKM2 pmax pmax
comp=Z,82nm,1.0s
SMRI Semarang 44.44 210 P P 11 50 11.3 +0.7
comp=Z,57nm,0.8s
KSH Kashi 44.46 295 P P 11 50 14.3 +3.6
KSH sP sP 11 50 20.8 +3.1
KSH SS SS 12 00 05.3 +0.9
KSH pmax pmax
comp=Z,32nm,1.1s
KSH LR LR
comp=Z,7μm,16.5s
KSH LR LR
comp=Z,5μm,17.1s
KSH LR LR
comp=Z,4μm,19.7s
GSI Gunungsitoli 44.62 232 P P 11 50 11.3 -0.8

GSI Gunungsitoli 44.62 232 P P 11 50 12.1 0.0
comp=Z,4μmcomp=Z,80nm,1.1s
PWJI Pagerwojo 44.77 208 P P 11 50 13.0 -0.1
comp=Z,44nm,0.9s
KBK Karagaybulak 44.78 299 P P 11 50 17.4 +4.1
SNR=6.3
PMG Port Moresby 44.79 157 P P 11 50 13.2 -0.1
comp=Z,15nm,1.0s,baz=26,slow=8.1,SNR=2.1
PMG LR LR 12 08 52.2
comp=Z,1μm,19.7s,baz=350,slow=36
CHMS Chumysh 44.88 300 P P 11 50 13.5 -0.4
SNR=10
CHMS Chumysh 44.88 300 *i* P P 11 50 12.9 -1.0
CHMS pmax pmax
comp=Z,49nm,1.1s
SGDS Sogindy 44.92 301 *e*P P 11 50 12.3 -1.9
SGDS pmax pmax
comp=Z,42nm,2.5s
SGDS Sogindy 44.92 301 *e*P P 11 50 12.4 -1.9
comp=Z,42nm,2.5s,baz=300
FRU1 Bishkek 44.99 300 P P 11 50 14.7 -0.2
FRU1 pmax pmax
comp=Z,102nm,1.3s
FRU1 Bishkek 44.99 300 P P 11 50 14.7 -0.2
FRU1 IAmb IAmb 11 50 32.5
comp=Z,102nm,1.2s
USP Ospenovka 45.03 300 P P 11 50 14.5 -0.6
SNR=17
AAK Ala-Archa 45.11 299 P P 11 50 15.1 -0.8
SNR=19
AAK Ala-Archa 45.11 299 P P 11 50 15.4 -0.5
comp=Z,16nm,0.8s,baz=118,slow=7.6,SNR=28
AAK LR LR 12 10 02.1
comp=Z,6μm,18.6s,baz=75,slow=37
AAK Ala-Archa 45.11 299 *ce*P P 11 50 15.2 -0.7
AAK pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 45.11 299 P P 11 50 15.4 -0.5
AAK Ala-Archa 45.11 299 *i* P P 11 50 16.0 0.0
SNR=6.8
UCH Uchtor 45.15 299 P P 11 50 16.5 -0.1
SNR=50
BTLS Baital 45.18 303 *e*P P 11 50 14.5 -1.7
BTLS pmax pmax
comp=Z,39nm,1.5s
BTLS Baital 45.18 303 *e*P P 11 50 14.6 -1.7
comp=Z,39nm,1.5s,baz=303
MASI Maura Aman, Be 45.20 223 P P 11 50 16.4 -0.3
comp=Z,132nm,1.4s
KPJI Karang Pucung 45.35 212 P P 11 50 18.2 +0.4
LEM Lembang 45.50 214 P P 11 50 19.1 -0.2
comp=Z,24nm,0.4s,baz=94,slow=7.2,SNR=10.0
LEM LR LR 12 10 40.7
comp=Z,1μm,18.9s,baz=354,slow=38
MTN Manton Dam 45.56 180 P P 11 50 18.7 -0.7
EKS2 Erkin-Say 45.63 300 P P 11 50 20.5 +0.5
SNR=8.5
AML Almayashu 45.77 299 P P 11 50 21.4 0.0
SNR=50
AML Almayashu 45.77 299 *i* P P 11 50 21.2 -0.2
SNR=12
MNAI Manna 45.79 221 IAMs_20 IAMs_20 12 10 58.0
comp=Z,2μm,18.0s
BRZS Berezniki 45.83 310 *e*P P 11 50 19.4 -1.9
BRZS pmax pmax
comp=Z,38nm,1.6s
BRZS Berezniki 45.83 310 *e*P P 11 50 19.5 -1.9
comp=Z,38nm,1.6s,baz=310
SPIA Saint Paul Isl 46.10 40 P P 11 50 23.7 +0.3
baz=264
OTUK Ortayu 46.12 307 P P 11 50 22.3 -1.4
JHNI Jhansi 46.20 275 *e*P P 11 50 23.4 -1.2
THN Thein Dam 46.25 285 *e*P P 11 50 25.0 +0.2
AYAN Aya Nagar 46.31 279 *e*P P 11 50 25.0 -0.3
SONA Sohna 46.42 279 *e*P P 11 50 26.2 0.0
GAMB Gambell 46.50 31 IAMs_20 IAMs_20 12 11 57.4
comp=Z,2μm,18.0s
GAMB Gambell 46.50 31 P P 11 50 26.3 0.0
baz=257
NIKH Nikolski High 46.67 46 P P 11 50 28.0 +0.2
baz=270
KUDL Kundal 46.95 279 *e*P P 11 50 30.7 +0.3
BVAR Borovoye Array 47.23 314 P P 11 50 31.4 -0.9
comp=Z,18nm,0.6s
BVAR PcP **PcP** 11 52 03.7 +0.3
BRVK Borovoye 47.30 314 *ce*P P 11 50 31.9 -0.9
BRVK pmax pmax
comp=Z,32nm,0.8s
BRVK Borovoye 47.30 314 P P 11 50 31.7 -1.1
BRVK IAmb IAmb 11 50 51.4
comp=Z,39nm,0.8s
DZA Taraz 47.38 300 *e*P P 11 50 31.3 -2.3
DZA Taraz 47.38 300 *e*P P 11 50 31.3 -2.3
baz=300
DRK Karamyk 47.64 296 P P 11 50 35.5 -0.4
DRK IAmb IAmb 11 50 40.0
comp=Z,54nm,1.1s
NIL Nilore 47.90 288 P P 11 50 39.4 +1.6
NIL pmax pmax
comp=Z,307nm,1.9s
NIL MLR MLR
comp=Z,3μm,22.0s
NIL Nilore 47.90 288 P P 11 50 39.4 +1.6
NIL Nilore 47.90 288 IAMs_20 IAMs_20 12 12 34.3
comp=Z,3μm,22.0s
KK31 Karatay Array 47.94 301 *i* P P 11 50 36.7 -1.3
KK31 Karatay Array 47.94 301 P P 11 50 37.5 -0.4
KKAR Karatay Array 47.94 301 P P 11 50 36.9 -1.1
KKAR pmax pmax
comp=Z,66nm,0.9s
KKAR Karatay Array 47.94 301 P P 11 50 36.9 -1.1
KKAR Karatay Array 47.94 301 P P 11 50 37.4 -0.6
KKAR IAmb IAmb 11 50 43.7
comp=Z,66nm,0.9s
UNV Unalaska Valle 48.08 45 P P 11 50 38.6 -0.1
baz=271
KNRA Kununurra 48.43 183 P P 11 50 41.4 -0.5
IUG luzhnay 48.45 299 *e*P P 11 50 39.9 -2.1
IUG luzhnay 48.45 299 *e*P P 11 50 39.9 -2.1
baz=299
TNA Tin City 48.48 29 P P 11 50 41.9 +0.2
baz=259
GAR Garm 48.86 295 P P 11 50 44.0 -1.3
ANM Nome 49.37 31 P P 11 50 49.9 +1.3
ANM pmax pmax
comp=Z,52nm,1.2s
ANM MLR MLR
comp=Z,2μm,19.0s
ANM Nome 49.37 31 P P 11 50 49.9 +1.3
ANM IAmb IAmb 11 50 52.1
comp=Z,52nm,1.2s
ANM IAMs_20 IAMs_20 12 13 34.3
comp=Z,2μm,19.0s
ANM Nome 49.37 31 P P 11 50 49.1 +0.5
baz=262
AKL Akola 49.42 270 *e*P P 11 50 50.8 +1.2
HYBB Hyderabad (bro 49.63 265 *e*P P 11 50 51.2 -0.1
HYBB *es*P **pP** 11 50 55.5 -0.8
HYBB *e*PP **PP** 11 52 45.0 -0.7
HYBB *e*ScP **ScP** 11 56 08.0 +0.4
HYBB *e*PcS **PcS** 11 56 09.3 -0.3
HYBB *eS* **S** 11 57 59.4 0.0
CHGR Chuyangaron 49.82 295 P P 11 50 51.5 -1.0
CHGR pmax pmax
comp=Z,279nm,1.0s
CHGR Chuyangaron 49.82 295 P P 11 50 51.5 -1.0
FALS False Pass 49.86 43 P P 11 50 52.5 0.0
baz=272
HNR Honiara 50.27 142 P P 11 50 55.9 -0.1
comp=Z,57nm,0.4s,baz=124,slow=13,SNR=5.3
HNR LR LR 12 09 22.7
comp=Z,776nm,20.9s,baz=324,slow=33
KBL Kabul 50.99 290 P P 11 51 03.7 +2.1
SNR=27
FITZ Fitzroy Crossi 51.06 187 P P 11 51 00.6 -1.2
comp=Z,32nm,0.8s,baz=14,slow=7.4,SNR=58
FITZ LR LR 12 14 07.8
comp=Z,280nm,19.1s,baz=12,slow=38
SDPT Sand Point 51.52 43 P P 11 51 05.2 +0.2
baz=274
WB0 Warramunga Arr 52.53 176 P P 11 51 12.6 -0.2
WB0 IAmb IAmb 11 51 16.3
comp=Z,68nm,1.2s
CHGN Chignik 52.61 41 P P 11 51 12.6 -0.4
baz=275
WRAB Tennant Creek 52.69 176 *i* P P 11 51 12.0 -2.0

WRAB pmax pmax
comp=Z,21nm,1.0s
WRAB Tennant Creek 52.69 176 P P 11 51 13.4 -0.6
WRAB IAmb IAmb 11 51 16.9
comp=Z,53nm,1.2s
WB2 Warramunga Arr 52.70 176 P P 11 51 14.1 +0.1
WB2 IAmb IAmb 11 51 16.9
comp=Z,49nm,1.1s
WRA Warramunga Arr 52.70 176 P P 11 51 12.8 -1.2
comp=Z,23nm,1.0s,baz=351,slow=7.9,SNR=86
WRA LR LR 12 12 51.5
comp=Z,810nm,21.5s,baz=356,slow=35
WRA Warramunga Arr 52.70 176 P P 11 51 13.9 -0.2
SVE Sverdlovsk 52.70 319 ||*e*P P 11 51 13.3 -0.4
SVE pmax pmax
comp=Z,51nm,1.3s
SVE MLR MLR
comp=Z,3μm,12.0s
WR0 Warramunga Arr 52.73 176 P P 11 51 14.5 +0.3
WR0 IAmb IAmb 11 51 17.8
comp=Z,79nm,1.1s
GCSA Galena City Sc 53.03 31 P P 11 51 15.9 -0.1
baz=270
PALK Pallekele 53.26 253 P P 11 51 19.1 +0.6
comp=Z,11nm,0.8s,baz=152,slow=6.2,SNR=8.4
PALK LR LR 12 14 08.2
comp=Z,2μm,21.7s,baz=152,slow=36
PALK Pallekele 53.26 253 P P 11 51 18.9 +0.4
PALK pmax pmax
comp=Z,13nm,0.9s
PALK MLR MLR
comp=Z,2μm,22.0s
PALK Pallekele 53.26 253 P P 11 51 18.9 +0.4
PALK Pallekele 53.26 253 IAMs_20 IAMs_20 12 14 19.2
comp=Z,2μm,22.0s
KAD Karad 53.35 268 *e*P P 11 51 19.7 +0.5
A21K Barrow 53.43 22 P P 11 51 18.9 +0.1
A21K IAmb IAmb 11 51 21.3
comp=Z,57nm,1.2s
A21K IAMs_20 IAMs_20 12 13 05.9
comp=Z,2μm,21.0s
A21K Barrow 53.43 22 P P 11 51 18.0 -0.8
baz=265,SNR=19
TTA Tatalina 53.44 33 P P 11 51 20.4 +1.2
TTA pmax pmax
comp=Z,23nm,1.2s
TTA Tatalina 53.44 33 P P 11 51 20.4 +1.2
TTA Tatalina 53.44 33 P P 11 51 19.3 +0.1
baz=272,SNR=8.9
N18K Kilae Creek 53.61 36 P P 11 51 22.2 +1.8
N18K IAmb IAmb 11 51 29.0
comp=Z,62nm,1.5s
N18K IAMs_20 IAMs_20 12 13 08.6
comp=Z,2μm,20.0s
N18K Kilae Creek 53.61 36 P P 11 51 20.2 -0.2
baz=274,SNR=6.9
SVW2 Sparrevohn 53.73 35 P P 11 51 22.4 +1.2
SVW2 IAmb IAmb 11 51 24.8
comp=Z,36nm,1.4s
ARU Arti 53.88 319 LR LR 12 15 18.5
comp=Z,3μm,18.7s,baz=82,slow=37
ARU Arti 53.88 319 *c i*P P 11 51 21.8 -0.6
ARU 11 52 27.0
ARU 11 53 21.4
ARU S **S** 11 58 58.0 +1.2
ARU SS **SS** 12 02 40.9 +3.4
ARU pmax pmax
comp=Z,53nm,1.3s
ARU MLR MLR
comp=Z,3μm,14.0s
O18K Koktuh Hills 54.01 37 P P 11 51 24.4 +1.1
O18K IAmb IAmb 11 51 27.5
comp=Z,75nm,1.5s
O18K Koktuh Hills 54.01 37 P P 11 51 23.1 -0.3
baz=275,SNR=9.8
L19K White Mountain 54.01 34 P P 11 51 24.9 +1.6
L19K IAmb IAmb 11 51 31.6
comp=Z,57nm,1.4s
L19K White Mountain 54.01 34 P P 11 51 23.8 +0.5
baz=274,SNR=14
AB31 Akbulak array 54.14 310 *i* P P 11 51 23.0 -1.4
ABKAR Akbulak array 54.14 310 P P 11 51 23.1 -1.3
ABKAR Akbulak array 54.14 310 P P 11 51 23.4 -1.0
ABKAR IAmb IAmb 11 51 26.5
comp=Z,42nm,0.9s
CHIR Chirikof Islan 54.22 42 P P 11 51 24.2 -0.7
baz=278
KOD Kodaikanal 54.22 258 *e*P P 11 51 26.5 +0.7
J20K Nowinta River 54.23 31 P P 11 51 25.4 +0.6
J20K IAmb IAmb 11 51 31.3
comp=Z,70nm,1.3s
J20K Nowinta River 54.23 31 P P 11 51 25.1 +0.3
baz=273,SNR=29
M19K Big River Lodg 54.25 34 P P 11 51 26.3 +1.2
M19K IAmb IAmb 11 51 33.0
comp=Z,38nm,1.4s
M19K IAMs_20 IAMs_20 12 16 31.3
comp=Z,2μm,18.0s
M19K Big River Lodg 54.25 34 P P 11 51 24.9 -0.2
baz=274
N19K Bonanza Creek 54.29 36 P P 11 51 26.7 +1.3
N19K IAmb IAmb 11 51 32.9
comp=Z,35nm,1.4s
N19K Bonanza Creek 54.29 36 P P 11 51 25.3 -0.1
baz=275
K20K Telida 54.30 32 IAMs_20 IAMs_20 12 13 53.7
comp=Z,2μm,19.0s
K20K Telida 54.30 32 P P 11 51 25.7 +0.3
baz=273,SNR=17
O19K Port Alsworth 54.42 36 P P 11 51 27.5 +1.2
O19K IAmb IAmb 11 51 38.1
comp=Z,27nm,0.9s
O19K Port Alsworth 54.42 36 P P 11 51 25.7 -0.6
baz=276,SNR=6.0
L20K Farewell, AK 54.45 33 P P 11 51 26.1 -0.4
baz=274,SNR=13
CTA Charters Tower 54.68 163 P P 11 51 28.9 +0.4
comp=Z,18nm,1.1s,baz=343,slow=7.0,SNR=5.5
CTA LR LR 12 14 07.1
comp=Z,797nm,19.1s,baz=353,slow=35
H21K Melozitna Rive 54.73 30 P P 11 51 28.3 -0.2
baz=273,SNR=17
Q19K Cape Douglas, 54.90 38 P P 11 51 30.4 +0.6
Q19K IAmb IAmb 11 51 35.9
comp=Z,66nm,1.4s
Q19K IAMs_20 IAMs_20 12 17 53.8
comp=Z,2μm,19.0s
Q19K Cape Douglas, 54.90 38 P P 11 51 29.5 -0.3
baz=277
SII Sitkinak Islan 54.91 41 IAMs_20 IAMs_20 12 13 47.6
comp=Z,2μm,18.0s
SII Sitkinak Islan 54.91 41 P P 11 51 29.8 -0.1
baz=278
PCHI Peechi 54.98 259 *e*P P 11 51 30.7 -0.3
PCHI *ex* x 11 58 09.1
PCHI *eS* **S** 11 59 11.7 -1.0
P19K Oil Pt 55.02 37 P P 11 51 31.9 +1.1
P19K IAmb IAmb 11 51 36.3
comp=Z,76nm,1.6s
P19K IAMs_20 IAMs_20 12 13 30.1
comp=Z,2μm,19.0s
P19K Oil Pt 55.02 37 P P 11 51 30.2 -0.5
baz=277
CHUM Lake Minchumin 55.05 32 P P 11 51 30.2 -0.6
baz=275,SNR=17
I21K Tanana 55.10 30 P P 11 51 32.1 +1.0
I21K IAmb IAmb 11 51 37.8
comp=Z,90nm,1.6s
I21K Tanana 55.10 30 P P 11 51 31.2 +0.1
baz=274,SNR=19
AKTO Aktyubinsk 55.14 312 P P 11 51 30.9 -0.8
comp=Z,14nm,0.8s,baz=64,slow=6.7,SNR=27
AKTO LR LR 12 15 30.6
comp=Z,3μm,18.1s,baz=84,slow=36
AKTO Aktyubinsk 55.14 312 P P 11 51 30.4 -1.3
RSO Redoubt South 55.17 36 P P 11 51 33.0 +1.1
PPLA Purkeypile 55.19 33 P P 11 51 33.2 +1.2
PPLA Purkeypile 55.19 33 P P 11 51 31.7 -0.4
baz=275,SNR=11
CAST Castle Rocks 55.19 32 IAMs_20 IAMs_20 12 14 22.1
comp=Z,2μm,20.0s
CAST Castle Rocks 55.19 32 P P 11 51 32.3 +0.5
baz=275,SNR=16
O20K Slope Mountain 55.28 36 P P 11 51 32.1 -0.5
baz=277
OHAK Old Harbor 55.31 40 P P 11 51 32.5 -0.2

baz=278
PSA00 Pilbara Seismi 55.32 193 P P 11 51 32.5 -0.6
PSA00 IAmb IAmb 11 51 33.7
comp=Z,46nm,0.9s
PSA00 Pilbara Seismi 55.32 193 P P 11 51 31.9 -1.2
PSA00 IAmb IAmb 11 51 33.7
comp=Z,28nm,0.9s
KDAK Kodiak Island 55.60 39 P P 11 51 35.1 +0.2
comp=Z,14nm,0.7s,baz=298,slow=3.5,SNR=19
KDAK LR LR 12 18 22.2
comp=Z,1μm,18.9s,baz=263,slow=39
KDAK Kodiak Island 55.60 39 P P 11 51 35.4 +0.6
KDAK pmax pmax
comp=Z,85nm,1.5s
KDAK Kodiak Island 55.60 39 P P 11 51 35.4 +0.6
KDAK IAmb IAmb 11 51 37.1
comp=Z,85nm,1.4s
KDAK Kodiak Island 55.60 39 IAMs_20 IAMs_20 12 13 12.6
comp=Z,2μm,22.0s
KDAK Kodiak Island 55.60 39 P P 11 51 34.7 -0.1
baz=279
BPAW Bear Paw Mtn. 55.61 31 P P 11 51 36.4 +1.5
BPAW IAmb IAmb 11 52 09.3
comp=Z,36nm,1.2s
BPAW IAMs_20 IAMs_20 12 15 08.3
comp=Z,2μm,20.0s
BPAW Bear Paw Mtn. 55.61 31 P P 11 51 35.1 +0.2
baz=276,SNR=10.0
COLD Coldfoot 55.68 28 P P 11 51 36.5 +1.2
COLD Coldfoot 55.68 28 P P 11 51 35.0 -0.3
baz=274,SNR=7.5
KTH Kantishna Hill 55.70 32 P P 11 51 37.0 +1.4
KTH IAMs_20 IAMs_20 12 15 08.5
comp=Z,2μm,19.0s
HOM Homer 55.82 37 P P 11 51 36.2 -0.2
baz=278
TOLK Toolik Lake Re 55.83 26 P P 11 51 36.5 +0.1
TOLK Toolik Lake Re 55.83 26 P P 11 51 36.3 -0.1
baz=274,SNR=12
TRF Thorofare Moun 55.99 32 P P 11 51 38.7 +0.9
TRF IAMs_20 IAMs_20 12 14 57.3
comp=Z,2μm,21.0s
TRF Thorofare Moun 55.99 32 P P 11 51 37.5 -0.3
baz=277
CNPM China Poot 56.05 37 P P 11 51 39.2 +1.1
H23K Yukon River 56.06 29 P P 11 51 38.9 +0.8
H23K Yukon River 56.06 29 P P 11 51 38.5 +0.4
baz=276,SNR=37
CUT Chulitna 56.12 33 P P 11 51 39.0 +0.5
CUT IAMs_20 IAMs_20 12 16 29.0
comp=Z,1μm,19.0s
CUT Chulitna 56.12 33 P P 11 51 38.6 +0.1
baz=277,SNR=11
BRLK Bradley Lake 56.19 37 P P 11 51 39.9 +0.9
BRLK IAmb IAmb 11 51 50.9
comp=Z,28nm,1.0s
BRLK IAMs_20 IAMs_20 12 14 50.6
comp=Z,2μm,19.0s
I23K Minto, Yukon-K 56.21 30 P P 11 51 40.1 +1.1
I23K IAmb IAmb 11 51 45.6
comp=Z,66nm,1.9s
I23K Minto, Yukon-K 56.21 30 P P 11 51 39.9 +0.8
baz=276,SNR=8.8
BRSE Bradley Lake S 56.26 37 P P 11 51 39.3 -0.3
baz=279,SNR=8.3
BWN Browne 56.27 31 P P 11 51 41.6 +2.0
BWN IAMs_20 IAMs_20 12 15 40.5
comp=Z,2μm,19.0s
M22K Willow 56.28 34 P P 11 51 39.8 +0.2
M22K IAMs_20 IAMs_20 12 17 44.0
comp=Z,1μm,18.0s
M22K Willow 56.28 34 P P 11 51 39.2 -0.4
baz=278,SNR=9.3
HRA Herat 56.38 292 P P 11 51 40.8 -0.3
HRA IAmb IAmb 11 51 47.4
comp=Z,55nm,1.2s
AS31 Alice Springs 56.38 177 P P 11 51 40.1 -0.6
ASAR Alice Springs 56.38 177 P P 11 51 39.9 -0.9
comp=Z,21nm,0.9s,baz=360,slow=6.1,SNR=160
ASAR ScP ScP 11 56 39.0 +2.4
comp=Z,0.4nm,0.7s,baz=351,slow=4.3,SNR=2.4
ASAR LR LR 12 15 17.6
comp=Z,706nm,20.6s,baz=18,slow=36
ASAR Alice Springs 56.38 177 P P 11 51 40.2 -0.6
ASAR Alice Springs 56.38 177 P P 11 51 40.2 -0.6
NEA2 Nenana 56.39 31 P P 11 51 40.4 0.0
baz=277,SNR=20
RC01 Rabbit Creek A 56.55 35 P P 11 51 41.1 -0.5
baz=279
MCK McKinley 56.56 32 P P 11 51 40.9 -0.7
baz=278,SNR=6.8
RND Reindeer 56.64 32 IAMs_20 IAMs_20 12 15 18.3
comp=Z,3μm,20.0s
O22K Cooper Landing 56.65 36 IAMs_20 IAMs_20 12 16 25.1
comp=Z,2μm,19.0s
O22K Cooper Landing 56.65 36 P P 11 51 41.9 -0.4
baz=279
H24K Noodor Dome 56.74 29 P P 11 51 42.9 -0.1
baz=277,SNR=26
PMR Palmer 56.77 34 P P 11 51 42.4 -0.7
baz=279,SNR=15
GHO Glory Hole Cre 56.84 34 P P 11 51 43.6 -0.1
GHO IAmb IAmb 11 52 15.5
comp=Z,79nm,1.4s
SEW Seward 56.85 36 P P 11 51 42.6 -1.1
baz=280,SNR=10
WAT1 Susitna Watana 56.85 33 P P 11 51 43.1 -0.7
baz=278
TCOL CIGO, UAF Yank 56.87 30 P P 11 51 43.3 -0.5
baz=278,SNR=7.8
COLA College 56.88 30 *i* P P **11 51 44.0 +0.2**
COLA pmax pmax
comp=Z,6.0nm,0.7s
COLA College 56.88 30 P P 11 51 43.3 -0.5
baz=278
POKR Poker Plat Res 57.02 30 P P 11 51 44.6 -0.2
baz=278,SNR=8.8
SML Sawmill 57.11 34 IAMs_20 IAMs_20 12 18 00.0
comp=Z,2μm,20.0s
SML Sawmill 57.11 34 P P 11 51 45.3 -0.4
baz=279,SNR=8.5
KNK Knik Glacier 57.12 34 IAMs_20 IAMs_20 12 16 50.2
comp=Z,2μm,20.0s
KNK Knik Glacier 57.12 34 P P 11 51 44.8 -0.8
baz=280,SNR=14
WAT6 Susitna Watana 57.26 33 P P 11 51 46.6 -0.2
baz=279,SNR=11
PWL Port Wells 57.27 35 IAMs_20 IAMs_20 12 16 58.3
comp=Z,2μm,20.0s
PWL Port Wells 57.27 35 P P 11 51 45.8 -0.9
baz=280,SNR=10
IL31 57.30 30 P P 11 51 46.9 +0.1
ILAR Eielson Array 57.30 30 P P 11 51 46.5 -0.4
comp=Z,2.9nm,0.7s,baz=269,slow=6.2,SNR=40
ILAR LR LR 12 17 03.8
comp=Z,616nm,19.0s,baz=264,slow=37
ILAR Eielson Array 57.30 30 P P 11 51 46.9 +0.1
ILAR Eielson Array 57.30 30 P P 11 51 46.9 +0.1
DHY Denali Highway 57.35 32 P P 11 51 46.9 -0.5
baz=279,SNR=12
SCM Sheep Creek Mo 57.58 34 IAMs_20 IAMs_20 12 16 57.3
comp=Z,2μm,20.0s
SCM Sheep Creek Mo 57.58 34 P P 11 51 48.4 -0.6
baz=280,SNR=18
BMAR Burnt Mountain 57.82 27 P P 11 51 50.8 +0.2
GLI Glacier Island 57.86 35 P P 11 51 50.4 -0.5
baz=281
J25K Salcha River, 57.97 30 P P 11 51 51.2 -0.4
baz=280
M24K Tolsona, Glenn 58.06 33 IAMs_20 IAMs_20 12 14 31.2
comp=Z,2μm,22.0s
M24K Tolsona, Glenn 58.06 33 P P 11 51 52.7 +0.4
baz=281
FID Port Fidalgo 58.18 35 IAMs_20 IAMs_20 12 15 47.0
comp=Z,2μm,20.0s
PAX Paxson 58.22 32 P P 11 51 52.8 -0.7
baz=281,SNR=8.2
KLU Klutina 58.30 34 P P 11 51 53.1 -0.9
baz=282,SNR=8.0
RIDG Independent Ri 58.35 31 IAMs_20 IAMs_20 12 16 31.6
comp=Z,2μm,20.0s
RIDG Independent Ri 58.35 31 P P 11 51 53.7 -0.7
baz=281,SNR=11
GEYT Alibeck 58.36 297 P P 11 51 54.0 -0.8
comp=Z,12nm,0.8s,baz=57,slow=14,SNR=10
GEYT LR LR 12 20 15.5
comp=Z,2μm,18.1s,baz=70,slow=39

KIRV Kirov 58.40 323 LR LR 12 16 37.6
comp=Z,2μm,18.6s,baz=81,slow=36
HARP HAARP 58.47 33 P P 11 51 55.2 +0.1
baz=282
Q23K Middleton Isla 58.52 36 P P 11 51 55.0 -0.5
baz=282
EYAK Cordova Ski Ar 58.57 35 P P 11 51 55.4 -0.4
baz=282
SCRK Sand Creek 58.68 31 P P 11 51 56.8 +0.1
SCRK IAmb IAmb 11 52 04.0
comp=Z,44nm,1.1s
SCRK Sand Creek 58.68 31 P P 11 51 55.7 -1.0
baz=282,SNR=32
J26L Joseph Creek 58.75 30 P P 11 51 57.4 +0.2
baz=282,SNR=13
N25K Chitina, Valde 58.90 34 IAMs_20 IAMs_20 12 15 34.2
comp=Z,2μm,22.0s
N25K Chitina, Valde 58.90 34 P P 11 51 57.6 -0.6
baz=283,SNR=9.0
BMRM Bremner River 59.03 34 IAMs_20 IAMs_20 12 18 53.9
comp=Z,2μm,19.0s
BMRM Bremner River 59.03 34 P P 11 51 58.5 -0.7
baz=283,SNR=14
SANVU Saraoutou 59.16 139 P P 11 52 01.9 +1.5
L26K Log Cabin Wild 59.16 32 IAMs_20 IAMs_20 12 16 46.0
comp=Z,2μm,20.0s
L26K Log Cabin Wild 59.16 32 P P 11 51 59.4 -0.5
baz=283,SNR=18
GLB Gilahina Butte 59.30 34 P P 11 52 02.1 +1.1
GLB IAmb IAmb 11 52 09.1
comp=Z,45nm,1.4s
M26K Nabesna, AK 59.46 33 P P 11 52 02.3 +0.2
M26K IAmb IAmb 11 52 13.5
comp=Z,47nm,1.0s
M26K IAMs_20 IAMs_20 12 20 24.9
comp=Z,1μm,18.0s
M26K Nabesna, AK 59.46 33 P P 11 52 02.3 +0.2
baz=283,SNR=34
PRGR Permogore 59.56 326 *eP* **P 11 52 03.7 +1.1**
PRGR pmax pmax
comp=Z,25nm,1.1s
BERG Berg Lake 59.60 35 P P 11 52 04.8 +1.8
HMDM Hanimaadhoo 59.66 258 IAMs_20 IAMs_20 12 22 02.5
comp=Z,2μm,18.0s
MCARA McCarthy VSAT 59.68 34 P P 11 52 04.0 +0.4
baz=284,SNR=8.0
EGAK Eagle 59.71 30 P P 11 52 03.9 +0.3
L27K Beaver Creek, 59.82 32 P P 11 52 05.5 +0.9
L27K IAmb IAmb 11 52 13.0
comp=Z,45nm,1.2s
L27K IAMs_20 IAMs_20 12 17 17.6
comp=Z,2μm,19.0s
L27K Beaver Creek, 59.82 32 P P 11 52 04.6 0.0
baz=284,SNR=29
BCAR Beaver Creek A 59.84 32 P P 11 52 05.1 +0.4
BGLC Bering Glacier 59.87 35 P P 11 52 04.9 +0.2
baz=284
TGL Tana Glacier 59.93 34 IAMs_20 IAMs_20 12 17 15.6
comp=Z,2μm,21.0s
M27K Edge Creek, AK 59.97 33 IAMs_20 IAMs_20 12 15 43.6
comp=Z,2μm,22.0s
M27K Edge Creek, AK 59.97 33 P P 11 52 04.9 -0.8
baz=284,SNR=8.0
WAX Waxell Ridge 59.99 35 IAMs_20 IAMs_20 12 19 25.3
comp=Z,1μm,20.0s
ISLE Juniper Island 60.20 35 P P 11 52 08.9 +1.7
ISLE IAMs_20 IAMs_20 12 17 31.7
comp=Z,1μm,20.0s
BARN Barnard Glacie 60.40 34 P P 11 52 10.5 +1.8
BARN IAmb IAmb 11 52 20.2
comp=Z,20nm,0.9s
BARN IAMs_20 IAMs_20 12 17 34.0
comp=Z,1μm,22.0s
BVCY Beaver Creek 60.42 32 P P 11 52 08.2 -0.4
baz=285
GRNC Granite Creek 60.44 34 P P 11 52 10.1 +1.1
GRNC IAmb IAmb 11 52 59.3
comp=Z,32nm,1.4s
GRNC IAMs_20 IAMs_20 12 17 41.2
comp=Z,1μm,21.0s
CTG Chitna Glacier 60.58 34 P P 11 52 09.5 -0.3
baz=286,SNR=7.8
CTGM Chitina Glacie 60.58 34 P P 11 52 11.4 +1.5
CTGM IAmb IAmb 11 52 17.3
comp=Z,32nm,1.1s
CTGM IAMs_20 IAMs_20 12 18 34.7
comp=Z,1μm,20.0s
DAWY Dawson 60.63 30 P P 11 52 11.0 +1.0
DAWY Dawson 60.63 30 P P 11 52 09.0 -1.0
baz=285,SNR=9.1
I29M Ogilvie Camp, 60.73 29 P P 11 52 11.2 +0.5
I29M IAMs_20 IAMs_20 12 16 40.3
comp=Z,1μm,22.0s
I29M Ogilvie Camp, 60.73 29 P P 11 52 10.0 -0.7
baz=286,SNR=17
YUK3 Moose Creek 60.77 33 P P 11 52 09.6 -1.7
baz=286,SNR=11
TABL Table Mountain 60.81 35 IAMs_20 IAMs_20 12 15 59.0
comp=Z,1μm,21.0s
BELG Belogornoye 60.97 316 LR LR 12 19 47.7
comp=Z,2μm,18.3s,baz=59,slow=37
BELG Belogornoye 60.97 316 *i* P P **11 52 11.5 -0.9**
BELG pmax pmax
comp=Z,9.0nm,1.0s
J29M Klondike Camp 61.02 30 P P 11 52 12.2 -0.5
baz=286
EIDS Eidsvold 61.02 159 P P 11 52 13.7 +0.7
BCPM Bancas Point 61.67 35 IAMs_20 IAMs_20 12 19 02.7
comp=Z,2μm,21.0s
INK Inuvik 61.69 25 P P 11 52 16.2 -0.8
comp=Z,5.4nm,0.7s,baz=299,slow=6.9,SNR=36
INK LR LR 12 20 53.9
comp=Z,819nm,19.0s,baz=280,slow=38
INK Inuvik 61.69 25 P P 11 52 16.5 -0.6
INK pmax pmax
comp=Z,29nm,1.4s
INK Inuvik 61.69 25 P P 11 52 16.5 -0.6
INK IAmb IAmb 11 52 44.0
comp=Z,29nm,1.4s
INK Inuvik 61.69 25 P P 11 52 16.4 -0.6
baz=288,SNR=15
YUK4 Talbot Arm 61.72 33 P P 11 52 17.4 -0.3
baz=288,SNR=9.4
PNL Peninsula 61.88 35 P P 11 52 17.8 -0.7
baz=288
YUK6 Outpost Mounta 61.98 34 P P 11 52 19.0 -0.5
baz=288,SNR=5.7
M30M Minto, Yukon 62.18 32 P P 11 52 21.2 +0.6
M30M IAmb IAmb 11 52 25.0
comp=Z,48nm,1.5s
M30M IAMs_20 IAMs_20 12 18 06.8
comp=Z,1μm,21.0s
M30M Minto, Yukon 62.18 32 P P 11 52 21.1 +0.6
baz=288,SNR=15
HYT Haines Junctio 62.41 34 P P 11 52 23.5 +1.2
HYT Haines Junctio 62.41 34 P P 11 52 22.3 +0.1
baz=289,SNR=20
KLMR Klimovskoe 62.61 327 *eP* **P 11 52 19.7 -3.6**
KLMR *eSS* SS 12 04 48.5 -5.8
KLMR pmax pmax
comp=Z,40nm,1.2s
KLMR Klimovskoe 62.61 327 *eP* **P 11 52 19.8 -3.6**
KLMR AMP 11 52 37.6
comp=Z,40nm,1.2s
KLMR *eSS* **SS 12 04 48.5 -5.8**
KLMR *eSS* **SS 12 04 48.5 -5.8**
KLMR LQ LQ 12 14 14.7
KLMR LQ LQ 12 14 14.7
KLMR LR LR 12 16 32.8
SPB2 Spitsbergen Ar 62.80 348 P P 11 52 25.4 +1.0
SPITS Spitsbergen Ar 62.80 348 LR LR 12 21 27.3
comp=Z,3μm,18.8s,baz=258,slow=38
SPITS Spitsbergen Ar 62.80 348 P P 11 52 25.0 +0.6
SPITS pmax pmax
comp=Z,105nm,1.6s
APA Apatity 62.86 335 *i* P P **11 52 22.8 -2.1**
APA pmax pmax
comp=Z,14nm,1.1s
N31M Braeburn, Yuko 62.99 33 P P 11 52 27.1 +1.2
N31M IAmb IAmb 11 52 29.6
comp=Z,40nm,1.1s
N31M IAMs_20 IAMs_20 12 22 15.2
comp=Z,1μm,18.0s
N31M Braeburn, Yuko 62.99 33 P P 11 52 26.0 +0.1
baz=290,SNR=14
A36M Sachs Harbour 63.02 20 P P 11 52 25.4 -0.5

A36M Sachs Harbour 63.02 20 P P 11 52 25.2 -0.7
baz=294,SNR=33
KBS Kingsbay 63.13 349 IAMs_20 IAMs_20 12 22 09.5
comp=Z,2μm,19.0s
M31M Drury Creek, Y 63.36 32 P P 11 52 28.0 -0.4
baz=290,SNR=12
MORW Morawa 63.36 195 P P 11 52 28.2 -0.5
MORW IAmb IAmb 11 52 29.5
comp=Z,34nm,1.1s
KAAM Kaadhehdhoo 63.44 252 IAMs_20 IAMs_20 12 18 22.2
comp=Z,1μm,22.0s
FORT Forrest 63.48 183 P P 11 52 29.0 -0.3
WSAR Wadi Sarin 63.66 282 P P 11 52 31.8 +0.8
comp=Z,20nm,0.8s,baz=132,slow=5.2,SNR=9.6
WSAR LR LR 12 25 34.3
comp=Z,1μm,18.3s,baz=66,slow=41
WHY Whitehorse 63.68 33 P P 11 52 31.9 +1.2
WHY IAmb IAmb 11 52 34.1
comp=Z,44nm,1.1s
WHY Whitehorse 63.68 33 P P 11 52 30.6 0.0
baz=291,SNR=17
FARO Faro, Yukon 63.81 31 P P 11 52 30.8 -0.6
baz=291,SNR=29
SKAG Skagway 63.90 35 P P 11 52 33.2 +1.3
SKAG Skagway 63.90 35 P P 11 52 31.4 -0.5
baz=291,SNR=12
MAK Makhachkala 64.20 306 *eP* P 11 52 27.7 -6.5
MAK *e* 11 54 52.1
MAK *eS* S 12 01 01.1 -10
MAK *eSSS* SSS 12 08 11.7
MAK pmax pmax
comp=Z,181nm,1.5s
MAK MLR MLR
comp=Z,5μm,13.0s
SMDO Samad 64.22 282 P P 11 52 37.1 +2.3
SNR=6.1
DZM Mont Dzumac 64.23 144 LR LR 12 16 37.4
comp=Z,2μm,22.0s,baz=8.5,slow=32
DZM Mont Dzumac 64.23 144 *eP* **P 11 52 33.5 -1.1**
comp=Z,54nm,1.1s
DZM Mont Dzumac 64.23 144 *eL* LR 12 11 47.0
comp=Z,3μm,22.3s
DZM Mont Dzumac 64.23 144 P P 11 52 36.0 +1.4
DZM IAmb IAmb 11 52 49.2
comp=Z,33nm,1.2s
BANOM Banah 64.39 285 P P 11 52 37.8 +2.1
BESE Bessie Mountai 64.45 35 P P 11 52 37.3 +1.6
BESE IAmb IAmb 11 52 44.0
comp=Z,66nm,1.5s
SHME Shamm 64.46 286 *i* P P **11 52 37.6 +1.4**
SNR=6.7
NOR Nord 64.47 355 *i* P P **11 52 34.0 -1.4**
NOR IAmb IAmb 11 52 40.1
comp=Z,4.9nm,0.7s
C36M Paulatuk 64.48 22 P P 11 52 35.5 -0.1
C36M Paulatuk 64.48 22 P P 11 52 35.0 -0.6
baz=296,SNR=49
ALE Alert 64.56 2 IAMs_20 IAMs_20 12 22 54.4
comp=Z,2μm,18.0s
MMPY Sheldon Lake, 64.56 31 P P 11 52 36.2 -0.1
baz=293,SNR=14
HOQ Hoqain 64.59 283 P P 11 52 39.6 +2.5
SNR=6.0
ARCES ARCESS Array B 64.73 338 P P 11 52 35.4 -1.8
comp=Z,6.3nm,0.8s,baz=58,slow=6.5,SNR=11
ARCES LR LR 12 27 16.1
comp=Z,1μm,21.4s,baz=64,slow=42
ARCES ARCESS Array B 64.73 338 P P 11 52 37.5 +0.2
ARCES ARCESS Array B 64.73 338 P P 11 52 37.5 +0.2
SIT Sitka 64.78 37 P P 11 52 39.6 +1.9
SIT pmax pmax
comp=Z,80nm,1.2s
SIT Sitka 64.78 37 P P 11 52 39.5 +1.9
SIT Sitka 64.78 37 P P 11 52 37.7 0.0
baz=292
JIS Juneau Island 64.79 36 P P 11 52 39.4 +1.6
JIS IAmb IAmb 11 52 41.5
comp=Z,44nm,1.2s
JIS IAMs_20 IAMs_20 12 24 21.2
comp=Z,1μm,18.0s
VRH Novokhopyorsk 64.82 316 *eP* **P 11 52 36.9 -1.2**
VRH pmax pmax
comp=Z,30nm,0.9s
VRH MLR MLR
comp=Z,1μm,11.0s
SOHO SOHO 64.98 283 *i* P P **11 52 39.8 +0.1**
SNR=8.8
HATD Hatta, Dubai 65.01 284 P P 11 52 39.6 -0.2
ASHO Ashiyiah 65.13 284 P P 11 52 42.8 +2.2
SNR=6.0
ASHO Ashiyiah 65.13 284 *i* P P **11 52 41.1 +0.5**
SNR=5.3
MHTO MHTO 65.23 280 P P 11 52 43.5 +2.2
SNR=10.0
STKA Stephens Creek 65.24 170 P P 11 52 40.1 -0.8
comp=Z,18nm,1.0s,baz=353,slow=7.4,SNR=16
STKA LR LR 12 21 35.8
comp=Z,305nm,20.1s,baz=356,slow=36
STKA Stephens Creek 65.24 170 P P 11 52 41.7 +0.8
GROC Groznyy 65.27 307 *eP* **P 11 52 40.3 -0.9**
GROC *e* 11 53 13.4
GROC pmax pmax
comp=Z,39nm,0.7s
EUNU Eureka 65.31 7 P P 11 52 41.7 +0.8
ARQ Araqi 65.35 283 P P 11 52 43.7 +1.6
SNR=5.6
MOS Moscow 65.37 322 *eP* **P 11 52 38.9 -2.7**
MOS pmax pmax
comp=Z,37nm,0.8s
MOS MLR MLR
comp=Z,2μm,14.0s
FAQ Al Faqa, Dubai 65.48 284 *i* P P **11 52 44.5 +1.6**
SNR=14
BBOO Buckleboo 65.59 176 P P 11 52 42.9 -0.3
BBOO IAmb IAmb 11 52 46.7
comp=Z,23nm,0.9s
ALNE Al Ain 65.66 284 P P 11 52 46.7 +2.7
SNR=8.3
ALNE Al Ain 65.66 284 P P 11 52 44.1 +0.1
ASUD Al Ashush, Dub 65.75 285 P P 11 52 44.8 +0.2
LPSR Galich'ya Gora 65.88 318 *eP* **P 11 52 43.0 -2.0**
LPSR pmax pmax
comp=Z,40nm,0.9s
LPSR MLR MLR
comp=Z,2μm,13.0s
ARMA Armidale 65.94 161 P P 11 52 46.8 +1.3
ARMA IAmb IAmb 11 52 50.4
comp=Z,29nm,1.2s
AJN Ajban 66.06 285 P P 11 52 48.6 +2.1
VORR Voronezh 66.09 317 *eP* **P 11 52 45.6 -0.7**
VORR pmax pmax
comp=Z,104nm,0.4s
OBN Obninsk 66.17 321⇓ *eP* **P 11 52 44.8 -1.9**
OBN *e* 11 53 14.2
OBN *e* 11 55 13.2
OBN *ePPP* PPP 11 56 45.4
OBN *eS* **S 12 01 35.0 +0.3**
OBN *eSS* **SS 12 05 51.7 +1.8**
OBN pmax pmax
comp=Z,30nm,1.4s
OBN MLR MLR
comp=Z,2μm,19.0s
VSR Storozhevoye 66.30 317 *eP* **P 11 52 46.3 -1.3**
VSR pmax pmax
comp=Z,20nm,0.7s
VSR MLR MLR
comp=Z,3μm,16.0s
GOF Gofitskoye 66.37 309⇑ *eP* **P 11 52 47.6 -0.6**
GOF pmax pmax
comp=Z,76nm,0.9s
CRAG Craig 66.53 38 P P 11 52 48.8 -0.3
baz=294
WRAK Wrangell Islan 66.54 37 P P 11 52 49.0 -0.1
baz=295
WTLY Watson Lake, Y 66.67 32 P P 11 52 49.6 -0.4
baz=296
ZEI Tsey 66.71 307 *eP* **P 11 52 47.9 -2.8**
ZEI pmax pmax
comp=Z,30nm,0.8s
DLBC Dease Lake 66.83 34 LR LR 12 22 53.8
comp=Z,855nm,18.8s,baz=300,slow=37
DLBC Dease Lake 66.83 34 P P 11 52 53.1 +2.1
DLBC IAmb IAmb 11 52 54.9
comp=Z,26nm,1.2s
NWAO Narrogin (SRO) 66.86 193 P P 11 52 50.9 -0.4
NWAO pmax pmax

comp=Z,137nm,1.7s
NWAO Narrogin (SRO) 66.86 193 P **P** **11 52 50.9 -0.4**
KBZ Khabaz 67.00 308 P **P** **11 52 51.4 -0.8**
comp=Z,55nm,0.8s,baz=68,slow=3.7,SNR=79
KBZ LR LR 12 25 21.4
comp=Z,3μm,18.5s,baz=138,slow=39
KBZ Khabaz 67.00 308 *ceP* **P** **11 52 51.3 -0.9**
KBZ pmax pmax
comp=Z,72nm,0.9s
KIV Kislovodsk 67.04 308 ⇑P **P** **11 52 51.6 -1.1**
KIV Kislovodsk 67.04 308 *eP* **P** **11 52 51.9 -0.8**
KIV *e* 11 55 19.2
KIV *eS* **S** **12 01 45.4 -0.6**
KIV pmax pmax
comp=Z,135nm,1.1s
KIV pmax pmax
comp=Z,21nm,4.1s
KIV Kislovodsk 67.04 308 P **P** **11 52 52.1 -0.6**
KIV Kislovodsk 67.04 308 *i* P **P** **11 52 52.5 -0.2**
SNR=18
ONI Oni 67.09 307 P **P** **11 52 52.7 -0.3**
ONI pmax pmax
comp=Z,36nm,0.9s
ONI Oni 67.09 307 P **P** **11 52 52.7 -0.3**
ONI IAmb IAmb 11 52 55.7
comp=Z,36nm,0.9s
SHA1 Shidzhatmaz 67.15 308 *i* P **P** **11 52 51.8 -1.8**
GNI Garni 67.22 304 LR LR 12 24 41.7
comp=Z,3μm,18.2s,baz=78,slow=38
GNI Garni 67.22 304 *ceP* **P** **11 52 54.5 +0.6**
GNI pmax pmax
comp=Z,40nm,1.0s
MSVF Nonsavu 67.40 131 LR LR 12 21 22.2
comp=Z,312nm,18.4s,baz=333,slow=35
AKH Akhalkalaki 67.55 306 ⇑P **P** **11 52 57.1 +1.1**
CHVG Ch'k'valeri 67.96 307 ⇑P **P** **11 52 57.1 -1.3**
CHVG Ch'k'valeri 67.96 307 ⇑P **P** **11 52 57.1 -1.3**
MZR Muzera 67.99 284 P **P** **11 52 59.5 +0.5**
FIA1 FINESS Array S 68.32 330 P **P** **11 53 00.2 -0.1**
FIA1 IAmb IAmb 11 53 29.4
comp=Z,39nm,1.4s
FINES FINESS Array B 68.32 330 P **P** **11 52 59.0 -1.2**
comp=Z,6.9nm,0.5s,baz=76,slow=5.9,SNR=17
FINES LR LR 12 24 28.1
comp=Z,3μm,18.0s,baz=68,slow=37
FINES FINESS Array B 68.32 330 LR **P** **11 52 59.9 -0.4**
RES Resolute Bay 68.45 12 LR LR 12 25 03.6
comp=Z,704nm,19.7s,baz=324,slow=38
RES Resolute Bay 68.45 12 P **P** **11 53 00.4 -0.5**
RES pmax pmax
comp=Z,36nm,1.4s
RES Resolute Bay 68.45 12 P **P** **11 53 00.4 -0.5**
RES IAmb IAmb 11 53 02.9
comp=Z,36nm,1.4s
SHAO Shalim 68.57 278 P **P** **11 53 03.4 +0.9**
BATM Batumi 68.69 306 ⇓ **P** **11 53 02.2 -0.9**
DAG Danmarks Havn 68.92 353 P **P** **11 53 03.3 -0.5**
DAG Danmarks Havn 68.92 353 *i* P **P** **11 53 03.0 -0.8**
DAG IAmb IAmb 11 53 11.2
comp=Z,13nm,0.7s
SOC Sochi 69.15 309 *eP* **P** **11 53 03.3 -2.5**
SOC *e* 11 55 35.0
SOC *ePPP* PPP 11 57 15.6
SOC *eS* **S** **12 02 09.4 -1.5**
SOC *eSS* **SS** **12 06 31.6 -5.0**
SOC pmax pmax
comp=Z,46nm,0.8s
SOC MLR MLR
comp=Z,2μm,19.0s
GEVA Gevas 69.18 303 P **P** **11 53 06.5 +0.2**
DOK Doka 69.53 279 P **P** **11 53 10.1 +1.6**
SNR=9.7
GURO Guroymak-BITLI 69.80 303 P **P** **11 53 10.3 +0.2**
GURO IAmb IAmb 11 53 13.5
comp=Z,30nm,1.0s
RBK Rabkut 70.00 278 P **P** **11 53 13.3 +1.8**
SNR=6.7
TULEG Thule 70.03 5 P **P** **11 53 11.1 +0.4**
TULEG IAMs_20 IAMs_20 12 24 20.2
comp=Z,1μm,20.0s
TULEG Thule 70.03 5 *i* P **P** **11 53 10.9 +0.2**
TULEG IAmb IAmb 11 53 21.0
comp=Z,9.6nm,0.8s
ANN Anapa 70.08 311 *eP* **P** **11 53 11.5 0.0**
ANN pmax pmax
comp=Z,91nm,1.0s
WHFO Wadi Hawf 70.16 279 P **P** **11 53 12.3 -0.1**
SNR=8.8
KOPT Kop Dagi 70.21 305 P **P** **11 53 13.2 +0.5**
KTUT Trabzon 70.27 306 ⇑P **P** **11 53 11.8 -1.0**
BBB Bella Bella 70.66 40 LR LR 12 22 49.8
comp=Z,699nm,20.7s,baz=304,slow=35
ABTO Aybut 70.83 279 P **P** **11 53 18.6 +2.0**
SNR=8.2
MNK Minsk 70.93 323 *i* P **P** **11 53 17.3 +0.8**
MNK *i* 11 55 54.1
MNK *i PPP* PPP 11 57 36.9
MNK *i* S **S** **12 02 33.4 +2.1**
MNK *i* SS **SS** **12 07 07.0 +3.7**
MNK pmax pmax
comp=Z,48nm,0.8s
MNK pmax pmax
comp=N,33nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.6s
MNK MLR MLR
comp=Z,2μm,14.0s
MNK MLR MLR
comp=E,418nm,14.0s
MNK MLR MLR
comp=N,1μm,15.0s
MNK Minsk 70.93 323 *i* P **P** **11 53 17.3 +0.8**
comp=E,3.0nm,0.6s
MNK *i* P **P** **11 53 17.3 +0.8**
comp=N,33nm,0.8s
MNK *i* P **P** **11 53 17.3 +0.8**
comp=Z,48nm,0.8s,baz=239
MNK *i PP* **PP** **11 55 54.2 +0.9**
MNK *i PPP* PPP 11 57 37.0
MNK *i* S **S** **12 02 33.5 +2.1**
MNK *i* SS **SS** **12 07 07.1 +3.7**
MNK *i* SSS SSS 12 10 42.4
MNK *i* LQ LQ 12 19 32.5
MNK *i* LR LR 12 23 55.1
MNK *i* LRM MLR 12 26 58.9
comp=Z,2μm,14.5s
MNK *i* LRM MLR 12 27 33.6
comp=E,418nm,14.3s
MNK *i* LRM MLR 12 28 02.0
comp=N,1μm,15.5s
MARD Mardin 71.24 303 P **P** **11 53 19.1 +0.2**
NACGM Naroch 71.28 324 *eP* P 11 53 24.9 +6.3
DBG Daneborg 71.32 352 *i* P **P** **11 53 18.1 -0.5**
DBG IAmb IAmb 11 53 44.4
comp=Z,4.5nm,0.8s
YKA Yellowknife Ar 71.34 27 P **P** **11 53 18.1 -0.8**
comp=Z,8.1nm,0.8s,baz=301,slow=5.9,SNR=55
YKA LR LR 12 26 01.0
comp=Z,786nm,20.6s,baz=299,slow=37
YKA Yellowknife Ar 71.34 27 P **P** **11 53 18.3 -0.6**
YKA Yellowknife Ar 71.34 27 P **P** **11 53 18.3 -0.6**
TOO Toolangi 71.43 168 P **P** **11 53 20.8 +1.2**
TOO pmax pmax
comp=Z,31nm,1.3s
TOO Toolangi 71.43 168 P **P** **11 53 20.8 +1.2**
TOO IAmb IAmb 11 53 22.0
comp=Z,31nm,1.3s
AFI Afiamalu 71.62 121 LR LR 12 17 15.5
comp=Z,370nm,21.4s,baz=331,slow=30
SIM Simferopol' 72.10 312 *eP* **P** **11 53 22.7 -1.1**
SIM S **S** **12 02 43.3 -1.9**
SIM pmax pmax
comp=Z,57nm,1.0s
AKASG Malin Array Be 72.14 319 P **P** **11 53 22.6 -1.2**
comp=Z,7.8nm,0.5s,baz=46,slow=8.1,SNR=24
AKBB Malin Array Si 72.14 319 P **P** **11 53 23.1 -0.7**
AKBB pmax pmax
comp=Z,29nm,1.0s
AKBB Malin Array Si 72.14 319 P **P** **11 53 23.1 -0.7**
AKBB IAmb IAmb 11 53 32.7
comp=Z,29nm,0.9s
JMIC Jan Mayen 72.45 347 LR LR 12 27 14.9
comp=Z,1μm,18.4s,baz=70,slow=38
SOCY Socotra 72.84 274 P **P** **11 53 26.9 -1.8**
SOCY IAmb IAmb 11 53 33.5
comp=Z,44nm,1.1s
SOCY Socotra 72.84 274 P **P** **11 53 27.2 -1.6**
SNR=8.8
DIKM Dikmen 72.96 309 ⇑P **P** **11 53 26.3 -2.7**
CBB Campbell River 73.24 41 P **P** **11 53 31.8 +1.3**
CBB IAmb IAmb 11 53 52.5
comp=Z,70nm,1.8s
BZK Bozkurt 73.63 310 ⇑P **P** **11 53 31.6 -1.3**
BNN Bunyan 73.93 306 P **P** **11 53 34.7 -0.2**
SORM Soroca 73.94 317 ⇑P **P** **11 53 31.5 -3.1**
SORM Soroca 73.94 317 ⇑P **P** **11 53 31.5 -3.1**
HFS Hagfors 74.07 333 LR LR 12 30 00.9
comp=Z,1μm,19.0s,baz=54,slow=39
ILGA Ilgaz 74.27 309 P **P** **11 53 36.7 -0.3**
MILM Milestii Mici 74.31 316 *eP* **P** **11 53 35.0 -1.8**
MILM *eS* **S** **12 03 15.0 +4.8**
MILM Milestii Mici 74.31 316 ⇑P **P** **11 53 33.8 -3.0**
MILM Milestii Mici 74.31 316 *eP* **P** **11 53 35.0 -1.8**
MILM *e* 11 53 42.0
MILM *eS* **S** **12 03 15.0 +4.8**
MILM MLR MLR
comp=Z,2μm,13.0s
NB2 NORSAR Subarra 74.43 334 P **P** **11 53 34.4 -2.9**
comp=Z,15nm,1.1s,baz=50,slow=5.9
NOA NORSAR Array B 74.43 334 P **P** **11 53 35.1 -2.1**
comp=Z,4.4nm,0.8s,baz=49,slow=5.8,SNR=14
NOA LR LR 12 29 00.9
comp=Z,2μm,18.4s,baz=50,slow=38
LLLB Lillooet 74.82 39 P **P** **11 53 41.0 +1.2**
LLLB IAmb IAmb 11 53 47.4
comp=Z,36nm,1.3s
BR131 Keskin Array S 74.98 308 P **P** **11 53 39.8 -1.2**
BR131 pmax pmax
comp=Z,53nm,1.1s
BR131 Keskin Array S 74.98 308 P **P** **11 53 39.8 -1.2**
BR131 IAmb IAmb 11 53 49.7
comp=Z,54nm,1.1s
BR131 Keskin Array S 74.98 308 P **P** **11 53 41.5 +0.4**
SNR=32
BRTR Keskin Array B 74.98 308 P **P** **11 53 39.5 -1.5**
comp=Z,14nm,0.9s,baz=96,slow=4.3,SNR=34
BRTR LR LR 12 30 30.8
comp=Z,1μm,18.3s,baz=56,slow=39
BRTR Keskin Array B 74.98 308 P **P** **11 53 39.8 -1.2**
PGC Sidney 75.04 41 P **P** **11 53 42.9 +2.0**
VLDR Vladesti 75.31 315 ⇑P **P** **11 53 40.4 -2.2**
LVV L'vov 75.43 320 *eP* **P** **11 53 43.6 +0.4**
LVV *e* 11 56 34.0
LVV *eS* **S** **12 03 20.5 -2.1**
LVV MLR MLR
comp=E,3μm,17.0s
LVV MLR MLR
comp=N,2μm,15.0s
LVV MLR MLR
comp=Z,2μm,16.0s
ANTO Ankara 75.47 308 P **P** **11 53 43.7 -0.1**
ANTO pmax pmax
comp=Z,28nm,1.0s
ANTO MLR MLR
comp=Z,1μm,20.0s
ANTO Ankara 75.47 308 P **P** **11 53 43.7 -0.1**
ANTO IAmb IAmb 11 53 45.5
comp=Z,28nm,1.0s
ANTO IAMs_20 IAMs_20 12 31 19.9
comp=Z,1μm,20.0s
CFR Carcaliu 75.63 315 ⇑P **P** **11 53 42.6 -1.8**
CFR Carcaliu 75.63 315 ⇑P **P** **11 53 42.6 -1.8**
TPGR Topolog 75.63 314 ⇑P **P** **11 53 43.3 -1.2**
TESR Tescani 75.79 316 ⇓P **P** **11 53 44.9 -0.4**
TIRR Tirgusor 75.85 314 ⇑P **P** **11 53 46.4 +0.7**
TIRR Tirgusor 75.85 314 P **P** **11 53 45.8 +0.1**
TIRR pmax pmax
comp=Z,35nm,0.9s
TIRR MLR MLR
comp=Z,7μm,19.0s
TIRR Tirgusor 75.85 314 P **P** **11 53 45.8 +0.1**
TIRR IAmb IAmb 11 53 52.2
comp=Z,35nm,0.9s
D03D Eldon 75.85 42 P **P** **11 53 44.9 -0.7**
baz=304
BUR08 Bucovina Ar. S 75.99 318 P **P** **11 53 45.8 -0.8**
MFTR Murfatlar 75.99 314 ⇑P **P** **11 53 45.8 -0.7**
BURAR Bucovina Array 76.00 318 ⇑P **P** **11 53 46.0 -0.6**
BURAR Bucovina Array 76.00 318 ⇑P **P** **11 53 46.0 -0.6**
BURAR Bucovina Array 76.00 318 P **P** **11 53 46.1 -0.6**
B05A Bryant 76.00 41 P **P** **11 53 46.0 -0.5**
baz=304
HARR Harsova 76.02 314 ⇑P **P** **11 53 45.1 -1.5**
HARR Harsova 76.02 314 ⇑P **P** **11 53 45.1 -1.5**
VRI Vrincioaia 76.09 316 ⇑P **P** **11 53 46.8 -0.3**
VRI Vrincioaia 76.09 316 ⇑P **P** **11 53 46.8 +3.8**
PLOR Plostina 76.15 316 ⇑P **P** **11 53 46.9 -0.6**
PLOR Plostina 76.15 316 ⇑P **P** **11 53 46.9 -0.6**
MDUB Mudurnu 76.21 309 P **P** **11 53 47.2 -0.7**
D04E Lakebay 76.23 42 P **P** **11 53 47.3 -0.5**
baz=304
ICOR Ion Corvin 76.40 314 ⇓P **P** **11 53 49.1 +0.2**
COVR Voineasa-Covas 76.41 316 ⇑P **P** **11 53 48.5 -0.4**
KALB Balgarevo 76.41 313 ⇓P **P** **11 53 47.9 -1.0**
OZUR 76.52 316 ⇑P **P** **11 53 47.9 -1.6**
E04D Cinebar 76.69 43 P **P** **11 53 52.1 +1.7**
E04D IAmb IAmb 11 54 04.2
comp=Z,36nm,1.4s
E04D Cinebar 76.69 43 P **P** **11 53 49.7 -0.7**
baz=304
MLR Muntele Rosu 76.76 316 ⇓P **P** **11 53 49.6 -1.4**
MLR Muntele Rosu 76.76 316 LR LR 12 31 09.0
comp=Z,3μm,19.0s,baz=51,slow=38
MLR Muntele Rosu 76.76 316 ⇓P **P** **11 53 49.6 -1.4**
MLR Muntele Rosu 76.76 316 P **P** **11 53 50.6 -0.4**
MLR IAmb IAmb 11 54 00.4
comp=Z,33nm,1.3s
DOPR Dopca 76.82 316 ⇑P **P** **11 53 50.7 -0.5**
KOLS Kolonicke sedl 76.88 320 *eP* **P** **11 53 53.8 +2.3**
KOLS pmax pmax
comp=Z,18nm,1.1s
KOLS Kolonicke sedl 76.88 320 *eP* **P** **11 53 53.8 +2.3**
SECR 76.94 315 ⇑P **P** **11 53 54.9 +3.0**
BORA Eskisehir 77.00 309 P **P** **11 53 51.3 -1.2**
BORA IAmb IAmb 11 54 00.8
comp=Z,54nm,1.1s
G03D McMinnville, O 77.04 44 P **P** **11 53 52.6 +0.2**
baz=304
UZH Uzhgorod 77.04 320 *eP* **P** **11 53 48.5 -3.9**
UZH *i* 11 53 51.8
UZH *i* 11 53 58.8
UZH *e* 11 54 03.2
PRD Provadia 77.15 313 *eP* **P** **11 53 51.0 -2.0**
MMAI Mount Meron Ar 77.18 301 LR LR 12 31 33.6
comp=Z,1μm,19.2s,baz=206,slow=39
I02E Swisshome, OR 77.30 46 P **P** **11 53 53.7 -0.2**
baz=304
CRVS Cervenica-Dubn 77.33 320 *eP* **P** **11 53 53.6 -0.4**
CRVS pmax pmax
comp=Z,180nm,2.4s
CRVS Cervenica-Dubn 77.33 320 *eP* **P** **11 53 53.6 -0.4**
OJC Ojcow 77.42 322 P **P** **11 53 55.1 +0.6**
OJC pmax pmax
comp=Z,24nm,1.0s
OJC Ojcow 77.42 322 P **P** **11 53 55.1 +0.6**
OJC IAmb IAmb 11 54 06.3
comp=Z,24nm,1.0s
B08A Colville Reser 77.46 40 P **P** **11 53 54.9 +0.1**
RAZG Razgrad 77.49 314 ⇑P **P** **11 53 53.8 -1.2**
EDM Edmonton 77.53 34 P **P** **11 53 55.8 +0.7**
EDM pmax pmax
comp=Z,65nm,1.4s
EDM Edmonton 77.53 34 P **P** **11 53 55.8 +0.7**
EDM IAmb IAmb 11 54 02.7
comp=Z,65nm,1.4s
ARR Arges 77.59 316 ⇑P **P** **11 53 55.1 -0.5**
CSS Mathiatis 77.64 304 P **P** **11 53 55.8 -0.3**
CSS IAmb IAmb 11 54 01.7
comp=Z,28nm,0.9s
NIE Niedzica 77.64 321 *eP* **P** **11 53 57.0 +1.2**
H04D Lebanon 77.73 45 P **P** **11 53 56.4 +0.1**
baz=304
BUCK Buck Mountain 77.77 45 P **P** **11 53 58.6 +1.9**
BUCK IAmb IAmb 11 54 00.3
comp=Z,64nm,1.4s
J01E Myrtle Point 77.78 46 P **P** **11 53 56.5 -0.1**
baz=304
I03D Drain, OR 77.83 46 P **P** **11 53 56.7 -0.2**
baz=304
DRGR 77.88 318 ⇑P **P** **11 53 56.3 -0.9**
DRGR 77.88 318 ⇑P **P** **11 53 56.3 -0.9**
GHAJ Ghor Haditha 77.94 299 IAMs_20 IAMs_20 12 32 13.6
comp=Z,1μm,18.0s
ICESG Greenland Ices 78.02 357 *i* P **P** **11 53 57.2 -0.7**
ICESG IAmb IAmb 11 54 05.0
comp=Z,8.3nm,0.7s
ISP Isparta 78.05 307 IAMs_20 IAMs_20 12 33 34.2
comp=Z,1μm,18.0s
ILULI Ilulissat 78.11 1 P **P** **11 53 58.0 +0.1**
ILULI pmax pmax
comp=Z,36nm,1.1s
ILULI Ilulissat 78.11 1 P **P** **11 53 58.0 +0.1**
ILULI IAmb IAmb 11 53 59.8
comp=Z,36nm,1.1s
ILULI Ilulissat 78.11 1 *i* P **P** **11 53 56.5 -1.4**
ILULI IAmb IAmb 11 54 01.4
comp=Z,13nm,0.8s
G05D Wamic, OR 78.16 44 P **P** **11 53 58.3 -0.4**
baz=305
K02D Willamette Mer 78.20 47 P **P** **11 53 58.6 -0.5**
baz=304
LANS Liptovska Anna 78.24 321 *eP* **P** **11 54 02.2 +3.1**
LANS pmax pmax
comp=Z,17nm,1.6s
LANS Liptovska Anna 78.24 321 *eP* **P** **11 54 02.2 +3.1**
I04A Tendick Farm, 78.34 45 P **P** **11 53 59.8 0.0**
baz=305
OKC Ostrava-Krasne 78.50 323 *eS* **S** **12 04 04.2 +8.1**
OKC AMS AMS 12 32 30.0
comp=Z,4μm,14.4s
VLAD Vladila 78.50 315 ⇑P **P** **11 54 02.2 +1.5**
L02E Cave Junction 78.54 47 P **P** **11 54 01.0 +0.1**
baz=304
GZR Gura Zlata 78.65 317 ⇑P **P** **11 54 00.3 -1.2**
GZR Gura Zlata 78.65 317 ⇑P **P** **11 54 00.3 -1.2**
I05D Terrebonne, OR 78.66 44 P **P** **11 54 00.9 -0.7**
baz=305
NEW Newport 78.71 39 LR LR 12 28 05.2
comp=Z,494nm,21.6s,baz=322,slow=35
NEW Newport 78.71 39 P **P** **11 54 01.6 -0.2**
baz=307
PSZ Piszkesteto 78.75 320 ⇓P **P** **11 54 02.3 +0.3**
PSZ Piszkesteto 78.75 320 ⇓P **P** **11 54 02.3 +0.3**
PSZ Piszkesteto 78.75 320 P **P** **11 54 01.0 -1.0**
SIRR Siria 78.77 318 ⇓P **P** **11 54 00.3 -1.8**
J04D Umpqua Nationa 78.83 46 P **P** **11 54 02.3 -0.4**
baz=305
MORC Moravsky Berou 78.85 323 ⇑P **P** **11 53 59.5 -3.0**
MORC Moravsky Berou 78.85 323 P **P** **11 54 02.3 -0.2**
MORC pmax pmax
comp=Z,35nm,1.6s
MORC Moravsky Berou 78.85 323 P **P** **11 54 02.3 -0.2**
MORC Moravsky Berou 78.85 323 *eP* **P** **11 54 01.7 -0.8**
VYHS Vyhne 78.97 321 *eP* **P** **11 54 03.2 +0.1**
VYHS pmax pmax
comp=Z,25nm,1.9s
VYHS Vyhne 78.97 321 *eP* **P** **11 54 03.2 +0.1**
OSTC Ostas 79.03 324 *eS* **S** **12 04 09.6 +7.8**
OSTC AMS AMS 12 29 00.0
comp=Z,3μm,15.5s
ELL Elmali 79.04 307 P **P** **11 54 02.5 -1.4**
ELL pmax pmax
comp=Z,281nm,1.4s
ELL Elmali 79.04 307 P **P** **11 54 02.5 -1.4**
KRLC Kraliky 79.05 323 *eP* **P** **11 54 04.3 +0.7**
KRLC *eS* **SKSac** **12 04 12.2 -6.6**
KRLC MLR MLR
comp=Z,3μm,13.7s
KRLC Kraliky 79.05 323 *eP* **P** **11 54 04.3 +0.7**
KRLC *eS* **SKSac** **12 04 12.2 -6.6**
KRLC AMS AMS 12 33 00.0
comp=Z,3μm,13.7s
CHVC Chvalec 79.08 324 *eP* P 11 54 08.7 +5.0
CHVC AMS AMS 12 29 10.0
comp=Z,3μm,15.9s
DPC Dobruska-Polom 79.10 324 *eP* **P** **11 54 03.8 -0.1**
DPC *eS* **S** **12 04 06.0 +3.4**
DPC MLR MLR
comp=Z,3μm,13.1s
DPC Dobruska-Polom 79.10 324 *eP* **P** **11 54 03.8 -0.1**
DPC *eS* **S** **12 04 06.0 +3.4**
DPC AMS AMS 12 33 30.0
comp=Z,3μm,13.1s
HERR Herculane 79.16 317 ⇑P **P** **11 54 03.1 -1.1**
UPC Upice 79.16 324 *eS* **SKSac** **12 04 14.1 -5.4**
UPC AMS AMS 12 32 20.0
comp=Z,3μm,15.1s
BZS Buzias 79.18 318 ⇑P **P** **11 54 04.7 +0.4**
BZS Buzias 79.18 318 ⇑P **P** **11 54 04.7 +0.4**
PUNG Punghina 79.21 316 ⇑P **P** **11 54 08.2 +3.8**
DJES Djerdap 79.22 317 ⇑P **P** **11 54 04.0 -0.6**
EIL Elat 79.24 298 LR LR 12 31 05.7
comp=Z,1μm,21.8s,baz=21,slow=37
ALN Alexandroupoli 79.26 312 P **P** **11 54 02.6 -2.2**
L04D Klamath Falls 79.30 46 P **P** **11 54 05.1 -0.1**
baz=305
J05D Fort Rock, OR 79.33 45 P **P** **11 54 05.1 -0.3**
baz=306
JAVC Velka Javorina 79.35 322 *eP* **P** **11 54 05.8 +0.5**
K04D Chiloquin, OR 79.40 46 P **P** **11 54 05.8 0.0**
baz=305
M02C Callahan 79.43 47 P **P** **11 54 05.6 -0.2**
baz=305
RDO Rodhopi 79.44 312 P **P** **11 54 05.0 -0.8**
KSL Kastellorizon 79.59 306 P **P** **11 54 04.5 -2.2**
MDVR Moldovita 79.62 317 ⇑P **P** **11 54 05.6 -1.2**
VRAC Vranov 79.62 323 ⇓P **P** **11 54 08.2 +1.5**
VRAC Vranov 79.62 323 LR LR 12 31 48.3
comp=Z,2μm,18.4s,baz=51,slow=38
VRAC Vranov 79.62 323 ⇓P **P** **11 54 08.2 +1.5**
VRAC Vranov 79.62 323 *eP* **P** **11 54 07.2 +0.5**
RZN Rozhen 79.64 313 *eP* **P** **11 54 06.0 -1.1**
SMOL Smolenice 79.69 322 *eP* **P** **11 54 08.3 +1.2**
SMOL pmax pmax
comp=Z,10.0nm,0.9s
SMOL Smolenice 79.69 322 *eP* **P** **11 54 08.3 +1.2**
BLKB Belogradchik 79.74 316 ⇑P **P** **11 54 08.6 +1.1**
N02D Trinity Center 79.76 48 P **P** **11 54 07.5 -0.2**
baz=305
M04C Macdoel 79.83 47 P **P** **11 54 07.5 -0.7**
baz=305
PVCC Panska Ves 79.85 325 AMS AMS 12 32 30.0
comp=Z,3μm,14.1s
MODS Modra-Piesok 79.86 322 *eP* **P** **11 54 09.5 +1.5**
MODS pmax pmax
comp=Z,100nm,1.6s
MODS Modra-Piesok 79.86 322 *eP* **P** **11 54 09.5 +1.5**
KRUC Moravsky 79.88 323 *eP* **P** **11 54 09.0 +0.9**
BRG Berggiesshubel 79.93 325 *eP* **P** **11 54 07.5 -0.8**
BRG Amp 11 54 19.9
comp=Z,7.0nm,1.0s
BRG *ex* x 11 54 36.5
BRG Amp 11 54 37.6
comp=Z,7.5nm,1.1s
BRG Amp 12 26 20.0
comp=N,8.3nm,19.2s
BRG Amp 12 26 31.0
comp=E,7.9nm,19.5s
BRG Amp 12 33 26.0
comp=Z,3.9nm,14.2s
BRG Berggiesshubel 79.93 325 *eP* **P** **11 54 07.5 -0.8**
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG MLR MLR
comp=Z,4μm,14.2s
VTS Vitosha 80.00 315 ⇑P **P** **11 54 08.3 -0.7**
VTS Vitosha 80.00 315 ⇑P **P** **11 54 08.3 -0.7**
VTS Vitosha 80.00 315 *eP* **P** **11 54 06.0 -3.0**
CLL Collm 80.09 326 *i* P **P** **11 54 08.4 -0.7**
CLL *e* 11 54 18.0
CLL *eS* **S** **12 04 14.0 +1.0**
CLL pmax pmax
comp=Z,11nm,0.8s
CLL Collm 80.09 326 *i* P **P** **11 54 08.4 -0.7**
comp=Z,11nm,0.8s
CLL *ePcP* **PcP** **11 54 18.0 +1.5**
CLL *ex* x 11 57 03.0
CLL *ePP* **PP** **11 57 13.0 +2.4**
comp=Z,36nm,1.7s
CLL *eS* **S** **12 04 14.0 +1.0**
CLL *eSS* **SS** **12 09 29.0 +6.8**

CLL					*e*SSS	SSS	12 13 06.0				
CLL					*e*SSSS		12 15 24.0				
CLL					Lmax		12 34 00.0				
O02D	**Mt. Diablo Mer**	**80.17**	**48**		P	**P**	**11 54 09.7**	**-0.2**			
	baz=305										
TREC	**Trest**	**80.19**	**323**		AMS	AMS	12 33 20.0				
	comp=Z,4μm,15.5s										
PRU	**Pruhonice**	**80.22**	**324**		*e*P	**P**	**11 54 10.6**	**+0.8**			
PRU					*e*S	**S**	**12 04 20.5**	**+6.2**			
PRU					MLR	MLR					
	comp=Z,4μm,15.6s										
PRU	**Pruhonice**	**80.22**	**324**		*e*P	**P**	**11 54 10.6**	**+0.8**			
PRU					*e*S	**S**	**12 04 20.5**	**+6.2**			
PRU					AMS	AMS	12 29 50.0				
	comp=Z,4μm,15.6s										
BORG	**Borgarnes**	**80.25**	**348**		LR	LR	12 30 34.4				
	comp=Z,608nm,18.0s,baz=35,slow=36										
BOVS	**Bovan**	**80.30**	**316**	⇑	P	**P**	**11 54 08.7**	**-1.8**			
SFJD	**Kangerlussuaq**	**80.34**	**1**		P	**P**	**11 54 09.1**	**-1.0**			
	comp=Z,7.1nm,0.7s										
SFJD					LR	LR	12 29 15.4				
	comp=Z,778nm,22.0s,baz=342,slow=35										
SFJD	**Kangerlussuaq**	**80.34**	**1**		P	**P**	**11 54 10.1**	**-0.1**			
SFJD					pmax	pmax					
	comp=Z,70nm,1.7s										
SFJD					MLR	MLR					
	comp=Z,2μm,18.0s										
SFJD	**Kangerlussuaq**	**80.34**	**1**		P	**P**	**11 54 10.1**	**-0.1**			
SFJD					IAmb	IAmb	11 54 30.7				
	comp=Z,70nm,1.7s										
MORH	**Mrgy, Hungar**	**80.47**	**319**	⇑	P	**P**	**11 54 09.5**	**-1.8**			
MORH	**Mrgy, Hungar**	**80.47**	**319**		P	**P**	**11 54 10.8**	**-0.5**			
FRGS	**Fruska Gora**	**80.47**	**318**	⇑	P	**P**	**11 54 10.2**	**-1.1**			
MPLH	**Magyarpolny**	**80.47**	**321**		P	**P**	**11 54 11.4**	**+0.1**			
KOKK	**Kokkinochori,**	**80.58**	**313**		P	**P**	**11 54 11.4**	**-0.6**			
DAT	**Datca**	**80.61**	**308**		P	**P**	**11 54 11.2**	**-1.2**			
MSEY	**Mahe Island**	**80.66**	**258**		IAMs_20	IAMs_20	12 29 31.2				
	comp=Z,1μm,20.0s										
MSEY	**Mahe Island**	**80.66**	**258**		P	P	11 54 18.4	+5.5			
SRS	**Serrai**	**80.66**	**313**		P	**P**	**11 54 12.1**	**-0.3**			
O03E	**Paynes Creek**	**80.72**	**48**		P	**P**	**11 54 11.7**	**-1.2**			
	baz=306										
RONA	**Rosalia, Austr**	**80.80**	**322**		*e*P	**P**	**11 54 12.9**	**-0.1**			
	comp=Z,20nm,1.4s										
KOVH	**Kovagotottos**	**80.85**	**320**		P	**P**	**11 54 12.4**	**-0.9**			
DY2G	**Dye2**	**80.85**	**359**	*i*	P	**P**	**11 54 12.5**	**-0.8**			
DY2G					IAmb	IAmb	11 54 19.7				
	comp=Z,16nm,0.8s										
CONA	**Conrad Observa**	**80.88**	**322**		*e*P	**P**	**11 54 13.3**	**-0.2**			
	comp=Z,27nm,1.5s										
NKC	**Novy Kostel**	**81.07**	**325**		*e*S	**SKSac**	**12 04 30.4**	**-2.5**			
NKC					AMS	AMS	12 34 00.0				
	comp=Z,4μm,12.7s										
CKRC	**Cesky Krumlov**	**81.09**	**323**		*e*S	**SKSac**	**12 04 30.3**	**-2.8**			
CKRC					AMS	AMS	12 34 00.0				
	comp=Z,4μm,14.8s										
FCC	**Fort Churchill**	**81.13**	**22**		P	**P**	**11 54 14.4**	**-0.1**			
FCC					pmax	pmax					
	comp=Z,20nm,1.0s										
FCC	**Fort Churchill**	**81.13**	**22**		P	**P**	**11 54 14.4**	**-0.1**			
VAY	**Valandovo**	**81.16**	**314**	*i*	P	**P**	**11 54 13.9**	**-1.2**			
STIP	**Stip**	**81.17**	**314**	*i*	P	**P**	**11 54 13.5**	**-1.7**			
KHC	**Kasperske Hory**	**81.25**	**324**		*e*P	**P**	**11 54 15.8**	**+0.3**			
KHC					*e*S	**S**	**12 04 28.4**	**+3.1**			
KHC					MLR	MLR					
	comp=Z,4μm,20.9s										
KHC	**Kasperske Hory**	**81.25**	**324**		*e*P	**P**	**11 54 15.8**	**+0.3**			
KHC					*e*S	**S**	**12 04 28.4**	**+3.1**			
KHC					AMS	AMS	12 27 30.0				
	comp=Z,4μm,20.9s										
MSO	**Missoula**	**81.29**	**39**		P	**P**	**11 54 15.0**	**-0.8**			
	baz=310										
GERES	**GERESS Array B**	**81.38**	**324**		P	**P**	**11 54 14.6**	**-1.7**			
	comp=Z,1.8nm,0.7s,baz=45,slow=4.0,SNR=13										
GERES					LR	LR	12 32 57.7				
	comp=Z,2μm,18.1s,baz=46,slow=38										
GERES	**GERESS Array B**	**81.38**	**324**		P	**P**	**11 54 14.0**	**-2.2**			
FFC	**Flin Flon**	**81.42**	**28**		P	**P**	**11 54 16.5**	**+0.3**			
FFC					pmax	pmax					
	comp=Z,17nm,1.0s										
SKO	**Skopje**	**81.45**	**315**	*i*	P	**P**	**11 54 17.0**	**+0.3**			
GRG	**Griva**	**81.48**	**314**		P	**P**	**11 54 15.9**	**-0.9**			
ARSA	**Arzberg**	**81.48**	**322**		*e*P	**P**	**11 54 15.3**	**-1.4**			
	comp=Z,5.2nm,0.6s										
KARP	**Karpathos**	**81.56**	**307**		P	**P**	**11 54 17.6**	**+0.3**			
KARP	**Karpathos**	**81.56**	**307**		P	**P**	**11 54 16.9**	**-0.4**			
KARP					IAmb	IAmb	11 54 23.5				
	comp=Z,44nm,0.8s										
MOA	**Molln**	**81.75**	**323**		*e*P	**P**	**11 54 17.5**	**-0.6**			
	comp=Z,6.4nm,1.1s										
KYMI	**Kymi, Euboea I**	**81.79**	**311**		P	**P**	**11 54 18.1**	**-0.4**			
LIT	**Litokhoron**	**81.93**	**313**		P	**P**	**11 54 17.8**	**-1.4**			
GRF	**Grafenberg Arr**	**82.02**	**325**		*e*P	P	11 54 24.3	+4.8			
	comp=Z,101nm,2.1s,baz=55,slow=4.9										
SOKA	**Soboth**	**82.11**	**321**		*e*P	**P**	**11 54 19.3**	**-0.8**			
	comp=Z,11nm,0.9s										
FRB	**Frobisher Bay**	**82.34**	**9**		LR	LR	12 32 27.4				
	comp=Z,2μm,19.9s,baz=350,slow=37										
OHR	**Ohrid**	**82.36**	**314**	*i*	P	**P**	**11 54 20.9**	**-0.5**			
ATAL	**Atalanti**	**82.44**	**311**		P	**P**	**11 54 19.6**	**-2.3**			
PDG	**Podgorica**	**82.46**	**316**	⇑	P	**P**	**11 54 23.4**	**+1.6**			
HRY	**Holter Researc**	**82.47**	**38**		P	**P**	**11 54 24.2**	**+2.2**			
OBKA	**Obir**	**82.47**	**322**		*e*P	**P**	**11 54 19.4**	**-2.6**			
	comp=Z,9.1nm,1.3s										
LKR	**Lokris**	**82.48**	**311**		P	**P**	**11 54 19.9**	**-2.2**			
ATD	**Arta Tunnel**	**82.49**	**279**		LR	LR	12 34 34.0				
	comp=Z,828nm,19.0s,baz=50,slow=38										
ATD	**Arta Tunnel**	**82.49**	**279**		IAMs_20	IAMs_20	12 34 23.4				
	comp=Z,978nm,20.0s										
EGMT	**Eagleton**	**82.66**	**36**		IAMs_20	IAMs_20	12 29 40.8				
	comp=Z,966nm,20.0s										
EGMT	**Eagleton**	**82.66**	**36**		P	**P**	**11 54 22.4**	**-0.6**			
	baz=312										
AGG	**Agios Georgios**	**82.67**	**312**		P	**P**	**11 54 21.1**	**-2.0**			
URZ	**Urewera**	**82.72**	**145**		LR	LR	12 27 23.0				
	comp=Z,331nm,19.5s,baz=22,slow=33										
KBA	**Koelnbreinsper**	**82.72**	**322**	*i*	P	**P**	**11 54 22.4**	**-1.0**			
	comp=Z,3.3nm,0.6s										
MYKA	**Terra Mystica**	**82.87**	**322**		*e*P	**P**	**11 54 22.1**	**-1.9**			
	comp=Z,2.2nm,0.5s										
HLID	**Hailey**	**83.11**	**42**		P	**P**	**11 54 25.0**	**-0.5**			
	baz=310										
ANX	**Ano Chora**	**83.19**	**312**		P	**P**	**11 54 24.2**	**-1.7**			
IDI	**Anoyia**	**83.22**	**308**		IAMs_20	IAMs_20	12 36 44.1				
	comp=Z,971nm,19.0s										
BOZ	**Bozeman (W)**	**83.31**	**39**		P	**P**	**11 54 26.2**	**-0.3**			
BOZ					pmax	pmax					
	comp=Z,7.0nm,1.0s										
BOZ					MLR	MLR					
	comp=Z,900nm,22.0s										
BOZ	**Bozeman (W)**	**83.31**	**39**		P	**P**	**11 54 26.2**	**-0.3**			
BOZ					IAMs_20	IAMs_20	12 30 30.4				
	comp=Z,871nm,22.0s										
BOZ	**Bozeman (W)**	**83.31**	**39**		P	**P**	**11 54 26.1**	**-0.4**			
	baz=311										
ABTA	**Abfaltersbach**	**83.37**	**323**		*e*P	**P**	**11 54 26.0**	**-0.6**			
	comp=Z,1.6nm,0.4s										
KLV	**Kalavryta, Ach**	**83.37**	**311**		P	**P**	**11 54 24.8**	**-2.0**			
WTTA	**Wattenberg**	**83.47**	**323**		*e*P	**P**	**11 54 26.8**	**-0.4**			
	comp=Z,1.3nm,0.5s										
MOTA	**Moosalm**	**83.68**	**324**		*e*P	**P**	**11 54 27.1**	**-1.2**			
	comp=Z,4.1nm,0.7s										
SQTA	**Sankt Quirin**	**83.71**	**324**		*e*P	**P**	**11 54 26.7**	**-1.7**			
	comp=Z,2.1nm,0.4s										
IMMV	**Iera Moni Meta**	**83.73**	**308**		P	**P**	**11 54 27.1**	**-1.5**			
BTNL	**Ternell**	**83.73**	**328**		*d*P	**P**	**11 54 28.4**	**+0.1**			
RETA	**Reutte**	**83.75**	**324**		*e*P	**P**	**11 54 29.0**	**+0.4**			
	comp=Z,4.3nm,0.8s										
MEM	**Membach**	**83.77**	**328**		*d*P	**P**	**11 54 28.3**	**-0.2**			
EKA	**Eskdalemuir Ar**	**83.77**	**336**		P	**P**	**11 54 25.3**	**-3.1**			
	comp=Z,1.3nm,0.7s,baz=28,slow=8.0,SNR=3.4										
EKA					LR	LR	12 34 30.7				
	comp=Z,1μm,18.3s,baz=37,slow=38										
KTHA	**Kythira Island**	**83.86**	**309**		P	**P**	**11 54 26.7**	**-2.6**			
NYDR	**Nydri-Lefkada**	**83.88**	**313**		P	**P**	**11 54 27.9**	**-1.4**			
ANKY	**Antikythira Is**	**83.93**	**309**		P	**P**	**11 54 28.5**	**-1.1**			
BHOU	**Houvegnez**	**83.96**	**328**		*d*PcP	**PcP**	**11 54 33.1**	**-0.4**			
NVAR	**Mina Array Bea**	**84.00**	**48**		P	**P**	**11 54 30.1**	**-0.2**			
	comp=Z,3.6nm,0.8s,baz=290,slow=4.1,SNR=19										
NVAR	**Mina Array Bea**	**84.00**	**48**		P	**P**	**11 54 30.3**	**0.0**			
ITM	**Ithomi**	**84.03**	**311**		P	**P**	**11 54 28.2**	**-2.0**			
FETA	**Feichten**	**84.08**	**324**		*e*P	**P**	**11 54 29.3**	**-1.1**			
	comp=Z,2.2nm,0.6s										
MLAC	**Mammoth, Mammo**	**84.16**	**49**		P	**P**	**11 54 30.9**	**-0.2**			
	baz=308										
DAVA	**Damuels**	**84.32**	**324**		*e*P	**P**	**11 54 31.1**	**-0.5**			
	comp=Z,11nm,0.8s										
BGES	**Gesves**	**84.34**	**329**		*d*P	**P**	**11 54 30.4**	**-1.0**			
	comp=Z,5.7nm,1.0s										
BFO	**Black Forest**	**84.34**	**326**		P	**P**	**11 54 30.2**	**-1.3**			
BFO					pmax	pmax					
	comp=Z,20nm,1.1s										
WLF	**Walferdange**	**84.39**	**328**		*d*P	**P**	**11 54 32.6**	**+0.9**			
ELK	**Elko**	**84.42**	**44**		LR	LR	12 31 01.7				
	comp=Z,296nm,19.9s,baz=326,slow=35										
RCHB	**Rochefort**	**84.44**	**328**		*d*P	**P**	**11 54 30.8**	**-1.1**			
BMRD	**Maredsous**	**84.54**	**329**		*d*P	**P**	**11 54 31.4**	**-1.1**			
	comp=Z,10nm,0.8s										
RPZ	**Rata Peaks**	**84.54**	**152**		LR	LR	12 28 33.8				
	comp=Z,402nm,20.9s,baz=330,slow=33										
SNF	**Seneffe**	**84.59**	**329**		*d*P	**P**	**11 54 31.6**	**-1.1**			
	comp=Z,17nm,0.7s										
LKWY	**Lake**	**84.65**	**39**		IAMs_20	IAMs_20	12 31 21.8				
	comp=Z,1μm,19.0s										
H17A	**Grant Village**	**84.67**	**39**		P	**P**	**11 54 32.9**	**-0.7**			
	baz=312										
DAVOX	**Davos/Dischmat**	**84.67**	**324**		LR	LR	12 36 11.0				
	comp=Z,3μm,18.6s,baz=46,slow=38										
SMMC	**Simmler**	**84.81**	**51**		P	**P**	**11 54 34.4**	**+0.2**			
	baz=307										
RLMT	**Red Lodge**	**84.87**	**38**		P	**P**	**11 54 35.7**	**+1.2**			
TPH	**Tonopah**	**84.89**	**47**		P	**P**	**11 54 35.2**	**+0.5**			
TPH					pmax	pmax					
	comp=Z,109nm,1.1s										
TPH	**Tonopah**	**84.89**	**47**		P	**P**	**11 54 35.2**	**+0.5**			
DGMT	**Dagmar**	**85.02**	**33**		IAMs_20	IAMs_20	12 33 18.9				
	comp=Z,1μm,19.0s										
DGMT	**Dagmar**	**85.02**	**33**		P	**P**	**11 54 34.8**	**-0.1**			
	baz=316										
RAR	**Rarotonga**	**85.05**	**119**		LR	LR	12 25 13.0				
	comp=Z,475nm,21.9s,baz=312,slow=30										
VES	**Vestal, Richgr**	**85.08**	**50**		P	**P**	**11 54 35.1**	**-0.4**			
	baz=308										
PKM	**Mcpherson Peak**	**85.18**	**51**		P	**P**	**11 54 36.1**	**-0.2**			
	baz=307										
LAO	**LASA Array**	**85.32**	**36**		IAMs_20	IAMs_20	12 31 17.2				
	comp=Z,840nm,20.0s										
LAO	**LASA Array**	**85.32**	**36**		P	**P**	**11 54 36.0**	**-0.6**			
	baz=315										
CWC	**Cottonwood Cre**	**85.36**	**49**		P	**P**	**11 54 36.3**	**-0.8**			
	baz=308										
ISA	**Isabella, Lake**	**85.58**	**50**		P	**P**	**11 54 37.7**	**-0.4**			
	baz=308										
R11A	**Troy Canyon, C**	**85.73**	**46**		P	**P**	**11 54 38.3**	**-0.6**			
	baz=309										
MPMC	**Manual Prospec**	**85.97**	**49**		P	**P**	**11 54 39.8**	**-0.3**			
	baz=308										
TIP	**Timpagrande**	**85.98**	**315**	⇑	P	**P**	**11 54 37.5**	**-2.5**			
FURC	**Furnace Creek,**	**86.11**	**49**		P	**P**	**11 54 41.2**	**+0.6**			
	baz=309										
DUG	**Dugway, Tooele**	**86.19**	**44**		P	**P**	**11 54 41.1**	**0.0**			
	baz=311										
TPNV	**Topopah Spring**	**86.20**	**48**		P	**P**	**11 54 40.5**	**-0.7**			
	baz=309										
LRMC	**Laurel Mtn Rad**	**86.20**	**50**		P	**P**	**11 54 40.8**	**-0.5**			
	baz=308										
BW06	**Boulder Array**	**86.31**	**40**		P	**P**	**11 54 41.5**	**-0.2**			
BW06					IAMs_20	IAMs_20	12 34 17.9				
	comp=Z,938nm,18.0s										
BW06	**Boulder Array**	**86.31**	**40**		P	**P**	**11 54 41.1**	**-0.7**			
	baz=313										
PDAR	**Pinedale Array**	**86.31**	**40**		P	**P**	**11 54 41.5**	**-0.2**			
	comp=Z,3.5nm,0.9s,baz=321,slow=1.9,SNR=9.8										
PDAR					LR	LR	12 34 50.4				
	comp=Z,513nm,19.4s,baz=346,slow=37										
EDW2	**Edwards Air Fo**	**86.37**	**50**		P	**P**	**11 54 41.9**	**0.0**			
	baz=308										
SHOC	**Shoshone, Teco**	**86.84**	**49**		P	**P**	**11 54 43.7**	**-0.5**			
	baz=309										
GSC	**Goldstone, Bar**	**86.88**	**49**		P	**P**	**11 54 44.2**	**-0.3**			
	baz=309										
CIS	**Catalina Islan**	**87.00**	**52**		P	**P**	**11 54 45.1**	**0.0**			
	baz=308										
ULM	**Lac du Bonnet**	**87.25**	**28**		P	**P**	**11 54 44.9**	**-0.9**			
	comp=Z,7.8nm,0.7s,baz=323,slow=5.2,SNR=6.1										
ULM					LR	LR	12 35 19.5				
	comp=Z,939nm,20.4s,baz=332,slow=37										
FURI	**Furi**	**87.35**	**279**		IAMs_20	IAMs_20	12 37 05.4				
	comp=Z,963nm,21.0s										
BBRC	**Big Bear Solar**	**87.45**	**50**		P	**P**	**11 54 47.2**	**-0.3**			
	baz=305										
HEC	**Hector,Ludlow**	**87.47**	**50**		P	**P**	**11 54 47.6**	**+0.3**			
	baz=309										
MDND	**Maddock**	**87.55**	**32**		P	**P**	**11 54 47.3**	**-0.1**			
	baz=320										
MURC	**Murrieta**	**87.68**	**51**		P	**P**	**11 54 48.8**	**+0.4**			
	baz=309										
GMRC	**Granite Mounta**	**87.93**	**49**		P	**P**	**11 54 49.9**	**+0.3**			
	baz=310										
K22A	**Caspar**	**88.01**	**39**		P	**P**	**11 54 49.6**	**-0.3**			
	baz=315										
P18A	**Preston Nutter**	**88.05**	**43**		P	**P**	**11 54 51.2**	**+0.9**			
P18A					IAmb	IAmb	11 54 53.8				
	comp=Z,16nm,1.0s										
PFO	**Pinyon Flats O**	**88.16**	**51**		LR	LR	12 32 39.7				
	comp=Z,534nm,18.1s,baz=296,slow=34										
PFO	**Pinyon Flats O**	**88.16**	**51**		P	**P**	**11 54 52.6**	**+1.9**			
PFO					pmax	pmax					
	comp=Z,12nm,1.3s										
PFO	**Pinyon Flats O**	**88.16**	**51**		P	**P**	**11 54 50.8**	**+0.1**			
	baz=309										
TPFO	**Pinon Flats**	**88.16**	**51**		P	**P**	**11 54 50.9**	**+0.2**			
	baz=309										
BELC	**Belle Mtn. Jos**	**88.21**	**50**		P	**P**	**11 54 51.3**	**+0.3**			
	baz=309										
RSSD	**Black Hills**	**88.23**	**36**		P	**P**	**11 54 51.5**	**+0.5**			
RSSD					pmax	pmax					
	comp=Z,36nm,1.7s										
RSSD	**Black Hills**	**88.23**	**36**		IAMs_20	IAMs_20	12 33 27.3				
	comp=Z,771nm,20.0s										
RSSD	**Black Hills**	**88.23**	**36**		P	**P**	**11 54 50.6**	**-0.4**			
	baz=316										
VAE	**Valguarnera**	**88.49**	**315**		LR	LR	12 37 57.2				
	comp=Z,617nm,20.2s,baz=133,slow=38										
MONP2	**Monument Peak**	**88.63**	**51**		P	**P**	**11 54 53.6**	**+0.6**			
	baz=309										
IRM	**Iron Mountain**	**88.66**	**49**		P	**P**	**11 54 53.4**	**+0.4**			
	baz=310										
BC3	**Big Chuckawall**	**88.78**	**50**		P	**P**	**11 54 53.6**	**0.0**			
	baz=310										
AGMN	**Agassiz Nation**	**88.79**	**29**		IAMs_20	IAMs_20	12 39 41.3				
	comp=Z,902nm,18.0s										
AGMN	**Agassiz Nation**	**88.79**	**29**		P	**P**	**11 54 53.2**	**0.0**			
	baz=322										
O20A	**White River Ci**	**88.83**	**41**		P	**P**	**11 54 53.8**	**-0.1**			
	baz=314										
IKP	**In-b-Pah, Jac**	**88.99**	**51**		P	**P**	**11 54 54.5**	**-0.1**			
	baz=309										
SWSC	**Sam W. Stewart**	**89.00**	**51**		P	**P**	**11 54 54.7**	**+0.1**			
	baz=310										
N23A	**Red Feather La**	**89.55**	**40**		P	**P**	**11 54 57.2**	**-0.2**			
	baz=315										
GLA	**Glamis**	**89.57**	**50**		P	**P**	**11 54 58.3**	**+1.1**			
	baz=310										
WUAZ	**Wupatki**	**90.13**	**46**		P	**P**	**11 55 00.3**	**+0.3**			
	baz=312										
PMOR	**Pomariorio Ree**	**90.60**	**107**		*e*T	T	13 34 46.8				
	comp=Z,13nm,0.2s										
PPT	**Papeete**	**90.69**	**110**		LR	LR	12 28 12.4				
	comp=Z,585nm,21.9s,baz=286,slow=31										
MVCO	**Mesa Verde**	**90.69**	**44**		P	**P**	**11 55 02.8**	**+0.1**			
	baz=314										
PPT2	**Papeete2**	**90.70**	**110**		*e*LQ	LQ	12 20 09.8				
	comp=Z,1μm,27.0s										
PPT2					*e*LR	LR	12 23 58.4				
	comp=Z,1μm,23.2s,baz=311										
EYMN	**Ely**	**90.81**	**27**		IAMs_20	IAMs_20	12 38 08.5				
	comp=Z,651nm,18.0s										
EYMN	**Ely**	**90.81**	**27**		P	**P**	**11 55 03.2**	**+0.4**			
	baz=325										
SCHQ	**Schefferville**	**91.18**	**10**		P	**P**	**11 55 03.6**	**-0.6**			
	comp=Z,5.2nm,0.9s,baz=290,slow=4.8,SNR=3.5										
SCHQ					LR	LR	12 38 16.0				
	comp=Z,1μm,19.1s,baz=344,slow=37										
SCHQ	**Schefferville**	**91.18**	**10**		P	**P**	**11 55 02.6**	**-1.6**			
S22A	**4UR Ranch, Cre**	**91.28**	**42**		P	**P**	**11 55 05.9**	**+0.5**			
	baz=315										
Q24A	**Divide**	**91.35**	**40**		P	**P**	**11 55 06.2**	**+0.4**			
	baz=316										
OGNE	**Ogallala**	**91.56**	**37**		IAMs_20	IAMs_20	12 38 11.6				
	comp=Z,749nm,20.0s										
214A	**Organ Pipe Nat**	**91.57**	**50**		P	**P**	**11 55 07.7**	**+1.1**			
	baz=311										
SDCO	**Great Sand Dun**	**92.02**	**42**		P	**P**	**11 55 08.9**	**0.0**			
	baz=316										
ECSD	**EROS Data Cent**	**92.05**	**33**		IAMs_20	IAMs_20	12 37 02.9				
	comp=Z,807nm,19.0s										
ECSD	**EROS Data Cent**	**92.05**	**33**		P	**P**	**11 55 08.9**	**+0.3**			
	baz=322										
TUC	**Tucson**	**92.63**	**48**		P	**P**	**11 55 12.6**	**+1.1**			
TUC					pmax	pmax					
	comp=Z,8.0nm,1.2s										
TUC	**Tucson**	**92.63**	**48**		P	**P**	**11 55 12.1**	**+0.6**			
	baz=312										
LODK	**Lodwar**	**93.08**	**276**		IAMs_20	IAMs_20	12 41 44.4				
	comp=Z,566nm,18.0s										
COWI	**Conover**	**93.25**	**27**		IAMs_20	IAMs_20	12 40 20.8				
	comp=Z,873nm,20.0s										
ANMO	**Albuquerque**	**93.45**	**44**		P	**P**	**11 55 16.8**	**+1.4**			
ANMO					pmax	pmax					
	comp=Z,6.0nm,1.2s										
ANMO	**Albuquerque**	**93.45**	**44**		P	**P**	**11 55 15.8**	**+0.4**			
	baz=315										
TAOE	**Nuku Hiva Isla**	**93.60**	**98**		*e*S	**S**	**12 06 19.0**	**-5.9**			
	comp=Z,264nm,28.3s										
TAOE	**Nuku Hiva Isla**	**93.60**	**98**		*e*LQ	LQ	12 21 21.3				
	comp=Z,527nm,26.2s										
TAOE					*e*LR	LR	12 25 15.2				
	comp=Z,1μm,27.2s,baz=303										
KIBK	**Kibwezi**	**93.94**	**270**		IAMs_20	IAMs_20	12 45 20.8				
	comp=Z,646nm,18.0s										
KMBO	**Kilima Mbogo**	**93.95**	**271**		P	**P**	**11 55 17.7**	**-0.4**			
	comp=Z,1.4nm,0.6s,baz=28,slow=8.9,SNR=3.5										
KMBO					LR	LR	12 40 25.9				
	comp=Z,572nm,18.2s,baz=89,slow=37										
KMBO	**Kilima Mbogo**	**93.95**	**271**		IAMs_20	IAMs_20	12 40 13.8				
	comp=Z,845nm,20.0s										
TBI	**Tubuai**	**94.02**	**115**		*e*LR	LR	12 25 28.8				
	comp=Z,959nm,25.8s,baz=310										
121A	**Cookes Peak, D**	**94.34**	**47**		P	**P**	**11 55 19.7**	**+0.2**			
	baz=314										
SCIA	**State Center**	**95.02**	**32**		IAMs_20	IAMs_20	12 37 40.4				
	comp=Z,916nm,20.0s										
OPO	**Ambohidratompo**	**95.09**	**251**		LR	LR	12 34 57.4				
	comp=Z,381nm,21.0s,baz=208,slow=33										
JFWS	**Jewell Farm**	**95.46**	**29**		IAMs_20	IAMs_20	12 38 25.8				
	comp=Z,873nm,20.0s										
KSU1	**Kansas State U**	**95.67**	**35**		IAMs_20	IAMs_20	12 38 01.0				
	comp=Z,869nm,20.0s										
GLMI	**Grayling**	**95.99**	**25**		IAMs_20	IAMs_20	12 40 13.2				
	comp=Z,914nm,18.0s										
ESDC	**Sonseca Array**	**96.66**	**327**		P	**P**	**11 55 31.6**	**+1.8**			
	comp=Z,0.2nm,0.5s,baz

ISPG	Isla Puna-Puer	2.05	162	P		Pb	12 10 10.0	-0.1
PORT	Chimborazo Vol	2.06	103	P		Pn	12 10 08.0	0.0
TAMH	Tambohuasha Ch	2.08	105	P		Pn	12 10 09.0	+0.9
ILLI	Illinizas Sur	2.08	82	P		Pn	12 10 08.0	-0.1
GGPT	Toaza - Volcan	2.30	70	P		Pn	12 10 10.0	-1.1
BNAS	Cotopaxi Volca	2.33	82	P		Pn	12 10 12.0	+0.4
GGPC	Guagua Pichinc	2.34	70	P		Pn	12 10 10.0	-1.8
PAC1	Pacto, Paraso	2.36	58	P		Pn	12 10 11.0	-0.7
BMAS	Trigal station	2.36	102	P		Pn	12 10 13.0	+1.1
BREF	Cotopaxi Volca	2.37	82	P		Pn	12 10 13.0	+0.7
POND	Pondoa	2.37	100	P		Pn	12 10 14.0	+1.9
BVC2	Cotopaxi Volca	2.40	82	P		Pn	12 10 13.0	+0.4
VCES	Cotopaxi	2.40	85	P		Pn	12 10 14.0	+1.4
TOMA	Boca Toma-Volc	2.40	78	P		Pn	12 10 13.0	+0.4
BPAT	Tungurahua Vol	2.41	102	P		Pn	12 10 14.0	+1.4
BRUN	Tungurahua Vol	2.41	100	P		Pn	12 10 13.0	+0.4
BTAM	Cotopaxi Volca	2.41	82	P		Pn	12 10 14.0	+1.2
PULU	Pululahua	2.50	66	P		Pn	12 10 14.0	+0.1
PIAT	Ana Tenorio	2.52	90	P		Pn	12 10 15.0	+0.8
ANTG	Antisana-Guama	2.58	79	P		Pn	12 10 16.0	+0.9
ARNL	Arenillas	2.63	164	P		Pn	12 10 15.0	-0.3
ANTS	Antisana-Sarah	2.66	79	P		Pn	12 10 18.0	+1.7
CUSE	Cuicocha Este	2.72	61	eP		Pn	12 10 16.2	-0.6
CUSE				eS		Sn	12 10 51.7	+1.6
CUSE				i			12 11 09.4	
	comp=Z,1μm,0.5s							
CUSE	Cuicocha Este	2.72	61	P		Pn	12 10 16.0	-0.9
CUIC	Cuicocha-Domo	2.75	62	P		Pn	12 10 16.0	-1.3
CUSW	Cuicocha Oeste	2.75	62	P		Pn	12 10 16.0	-1.3
URCU	Urcuqui	2.91	61	P		Pn	12 10 19.0	-0.5
ARDO	Archidona, Ten	2.98	90	P		Pn	12 10 22.0	+1.7
BOSC	San Juan Bosco	3.13	133	P		Pb	12 10 26.0	-2.7
CHMA	Chilma	3.29	56	P		Pn	12 10 25.0	+0.3
CHL1	Volcn Chiles	3.35	58	P		Pn	12 10 26.0	+0.3
CHL2	Volcn Chiles	3.38	58	P		Pn	12 10 27.0	+0.9
TULM	Tulcn-Chalpat	3.45	60	eP		Pn	12 10 28.9	+1.9
TULM				eS		Sb	12 11 16.3	-0.2
TULM				i			12 11 25.7	
	comp=Z,144nm,0.7s							
BONI	La Bonita	3.56	66	P		Pn	12 10 30.0	+1.6
ZUMB	Zumba	4.17	157	P		Pn	12 10 39.0	+2.3
GR1C	Gorgona, Isla	4.76	33	eP		Pn	12 10 46.0	+1.3
SOTA	Rioblanco	5.21	53	eP		Pn	12 10 52.2	+1.0
SOTA				eS		Sb	12 12 01.4	-5.8
POPC	Popayan, Colom	5.41	49	eP		Pn	12 10 51.7	-2.1
POPC				eS		Sn	12 12 00.9	+4.7
POPC				i			12 12 22.0	
	comp=Z,25nm,0.6s							
PCON	Cinco Dias	5.50	53	eP		Pn	12 10 59.2	+3.9
PCON				eS		Sb	12 12 09.0	-6.5
PCON				i			12 12 17.6	
	comp=Z,41nm,0.5s							
PTLC	Puerto Leguiza	6.10	79	eP		Pn	12 11 03.3	+0.2
MARP	Paez Belalcaza	6.16	52	eP		Pn	12 11 04.8	+0.8
MARP				eS		Sn	12 12 23.3	+8.5
MARP				i			12 12 35.5	
	comp=Z,5.2nm,0.7s							
YOTC	Yotoco, Valle	6.65	42	eP		Pn	12 11 10.9	+0.1
YOTC				eS		Sn	12 12 30.9	+4.3
YOTC				i			12 12 46.4	
	comp=Z,17nm,0.6s							
ORTC	Ortega, Tolima	7.38	49	eP		Pn	12 11 24.3	+3.6
ORTC				eS		Sn	12 12 52.5	+8.0
ORTC				i			12 13 04.0	
	comp=Z,13nm,0.6s							
MACC	Macarena, Meta	7.61	66	eP		Pn	12 11 23.9	+0.1
GUY2C	Guyana, Caldas	8.22	41	eP		Pn	12 11 34.6	+2.1
GUY2C				eS		Sn	12 13 12.4	+6.5
GUY2C				i			12 13 21.2	
	comp=Z,6.9nm,0.1s							
CBOC	Ciudad Bolivar	8.32	35	eP		Pn	12 11 36.9	+3.1
CHIC	Chingaza	9.00	52	eP		Pn	12 11 44.6	+1.4
LPAZ	La Paz	19.66	141	P		Pn	12 14 04.6	+0.6
	comp=Z,0.1nm,0.3s,baz=304,slow=7.3,SNR=2.2							
SIV	San Ignacio	24.49	128	P		P	12 14 51.8	-0.7
	comp=Z,0.6nm,0.5s,baz=297,slow=12,SNR=1.4							
NVAR	Mina Array Bea	52.26	323	P		P	12 18 47.7	+3.1
	comp=Z,0.2nm,0.5s,baz=140,slow=5.7,SNR=3.1							
ULM	Lac du Bonnet	52.67	348	P		P	12 18 46.7	-0.4
	comp=Z,1.5nm,0.4s,baz=124,slow=4.8,SNR=1.9							
YKA	Yellowknife Ar	68.27	344	P		P	12 20 31.4	-2.2
	comp=Z,0.4nm,0.8s,baz=138,slow=6.3,SNR=5.7							
TORD	Torodi Ar. Bea	82.91	77	P		P	12 21 55.7	-2.9
	comp=Z,0.5nm,1.0s,baz=274,slow=5.9,SNR=1.6							

FUNV 18 12:09:34.6, 10.74N×65.65W, h5km, MW3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BIRV	Birongo	0.67	247	eP		Pg	12 09 46.7	-0.7
BIRV				eS		Sg	12 09 56.0	-0.1
PCRV	Puerto La Cruz	1.14	119	eP		Pb	12 09 56.7	-0.1
PCRV				eS		Sn	12 10 12.7	-0.6
CARV	Caracas	1.28	260	eP		Pg	12 09 57.3	-1.9
CARV				eS		Sg	12 10 15.8	-0.1
CUMV	Cumana_UDO	1.46	102	eP		Pn	12 10 01.5	-0.2
CUMV				eS		Sn	12 10 21.2	0.0
BENV	Beln	2.07	248	eP		Pn	12 10 09.9	-0.2
BENV				eS		Sn	12 10 35.8	-0.5
TURV	Turiamo	2.18	263	eP		Pn	12 10 10.9	-0.6
TURV				eS		Sn	12 10 37.5	-1.4
PRGV	PARIAGUAN	2.20	153	eP		Pn	12 10 11.1	-0.7
PRGV				eS		Sn	12 10 38.4	-1.0
MAPV	Macapo	2.91	252	eP		Pn	12 10 20.6	-1.1
MAPV				eS		Sn	12 10 55.1	-2.0
BAUV	El Baul	2.96	233	eP		Pn	12 10 21.9	-0.4
BAUV				eS		Sn	12 10 56.2	-2.0
JACV	Jacura	3.15	277	eP		Pn	12 10 23.8	-1.1
JACV				eS		Sn	12 11 00.7	-2.2
CACV	CAICARA DEL OR	3.27	196	eP		Pn	12 10 24.3	-2.3
CACV				eS		Sn	12 11 02.2	-3.7
SANV	Sanarito	4.02	253	eP		Pn	12 10 35.7	-1.4
SANV				eS		Sn	12 11 20.4	-4.2
SIQV	Siquisique	4.09	269	eP		Pn	12 10 36.8	-1.1
SIQV				eS		Sn	12 11 22.1	-4.1
CURV	Curarigua	4.31	261	eP		Pn	12 10 40.4	-0.5
CURV				eS		Sn	12 11 27.6	-4.0
PAYV	Puerto Ayacuch	5.64	201	eP		Pn	12 10 57.6	-1.6
PAYV				eS		Sn	12 11 58.4	-6.1
SOCV	Socops	5.69	245	eP		Pn	12 10 57.7	-2.1
SOCV				eS		Sn	12 12 00.0	-5.6

*IDC **18** 12:17:02.8±1.2, 1.14N×79.48W, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/27, mbtmp3.5/5, Error ellipse: s-maj=56.6km s-min=25.6km az=64.0*

ISC 18 12:17:03.9±1.0, 0.68N±0.07×80.10W±0.07, h10km, n13, σ1§72/18, mb3.6/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PAC1	Pacto, Paraso	1.37	107	eP		Pn	12 17 27.4	-1.8
PAC1				eS		Sb	12 17 46.8	-0.6
PAC1				i			12 17 53.8	
	comp=Z,2μm,0.3s							
CUSE	Cuicocha Este	1.74	102	eP		Pn	12 17 32.5	-2.0
CUSE				eS		Sn	12 17 56.9	-0.1
CUSE				i			12 17 59.1	
	comp=Z,2μm,0.3s							
TULM	Tulcn-Chalpat	2.31	89	eP		Pn	12 17 42.8	+0.4
TULM				i			12 18 19.7	
	comp=Z,48nm,0.5s							
TULM				eS		Sg	12 18 20.0	+1.7
GR1C	Gorgona, Isla	3.01	40	eP		Pb	12 17 57.0	-0.6
GR1C				eS		Sg	12 18 41.2	+0.5
GR1C				i			12 18 48.7	
	comp=Z,946nm,0.7s							
POPC	Popayan, Colom	3.89	62	eP		Pn	12 18 02.8	-1.1
POPC				eS		Sn	12 18 49.8	-0.1
POPC				i			12 19 02.4	
	comp=Z,14nm,0.5s							
MARP	Paez Belalcaza	4.67	63	eP		Pn	12 18 11.7	-3.1
MARP				eS		Sn	12 19 11.0	+1.9
MARP				i			12 19 24.1	
	comp=Z,4.5nm,0.6s							
YOTC	Yotoco, Valle	4.98	49	eP		Pn	12 18 19.7	+0.7
YOTC				i			12 19 34.6	
	comp=Z,15nm,0.5s							
PTLC	Puerto Leguiza	5.33	95	eP		Pn	12 18 23.7	+0.2
LPAZ	La Paz	20.59	146	P		P	12 21 45.0	+1.1
	comp=Z,0.9nm,0.7s,baz=324,slow=8.7,SNR=2.0							
PLCA	Paso Flores	42.12	169	P		P	12 24 59.2	+2.8
	comp=Z,1.8nm,0.9s,baz=335,slow=7.4,SNR=4.1							
NVAR	Mina Array Bea	51.36	322	P		P	12 26 11.2	+2.1
	comp=Z,0.5nm,0.9s,baz=157,slow=4.9,SNR=2.6							
YKA	Yellowknife Ar	66.86	343	P		P	12 27 53.3	-2.6
	comp=Z,0.1nm,0.7s,baz=142,slow=5.6,SNR=3.3							
TORD	Torodi Ar. Bea	81.85	77	P		P	12 29 21.4	-2.8
	comp=Z,0.3nm,0.5s,baz=274,slow=6.3,SNR=8.5							

*IDC **18** 12:18:23.6±0.8, 32.64N×130.65E, h0km, mb3.6/11, mb1 3.8/13, mb1mx3.7/45, mbtmp3.6/13, ML2.9/2, MS4.4/1, Ms1 4.4/1, ms1mx3.2/82, Error ellipse: s-maj=19.9km s-min=8.5km az=113.0*

*JMA **18** 12:18:25.6, 32.68N×130.71E, h11km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs95.00000°, δ50.00000°, λ-100.00000°. NP2: φs290.00000°, δ41.00000°, λ-78.00000°. Principal axes: T Plg5.0000°, Azm192.0000°; N Plg8.0000°, Azm101.0000°; P Plg81.0000°, Azm314.0000°;*

JMA Felt IV J1.

*NEIC **18** 12:18:25.3±1.5, 32.68N±0.04×130.59E±0.07, h5km±5km, mb4.4/14 Error ellipse: s-maj=9.5km s-min=4.1km az=111.0*

ISC 18 12:18:25.6±1.0, 32.68N±0.03×130.62E±0.05, h9km±6km, n56, σ1§26/60, mb4.0/19, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JIU3	Izumi3	0.21	129	P		Pg	12 18 29.1	-0.9
JIU3				S		Sg	12 18 31.7	-1.2
JTA	Tamana	0.29	345	⇑P		Pg	12 18 32.1	+0.7
JTA				S		Sg	12 18 36.9	+1.6
JNU	Nakatsue	0.49	26	Pg		Pg	12 18 34.6	-0.6
	663nm,0.3s,baz=187,slow=7.7,SNR=355							
JNU				Lg		Lg	12 18 39.9	
	1μm,0.3s,baz=46,slow=17,SNR=19							
JNU	Nakatsue	0.49	26			Pg	12 18 34.7	-0.4
JNU				Sg		Sg	12 18 41.1	-0.5
JZO	Okuchi	0.54	182	⇑P		Pg	12 18 36.3	+0.2
JZO				S		Sg	12 18 43.7	+0.5
JTZ	Takazaki	0.87	153	⇑P		Pb	12 18 42.3	-0.6
JTZ				S		Sb	12 18 53.3	-1.4
JSU	Suzuyama	1.18	187			Pb	12 18 48.1	-0.1
JTU	Tsushima	2.10	331			Pn	12 19 00.7	-0.2
JHS	Saijyo	3.11	41			Pn	12 19 15.2	+0.4
TJN	Taejon	4.56	325	Pn		Pn	12 19 35.2	+0.5
KSRS	Korea Array	5.25	336	Pn		Pn	12 19 45.2	+1.0
	0.6nm,0.3s,baz=154,slow=14,SNR=4.8							
KSRS				Pg		Pg	12 20 02.5	-3.6
	1.1nm,0.3s,baz=148,slow=16,SNR=6.5							
KSRS				Lg		Lg	12 21 09.9	
	2.5nm,0.3s,baz=157,slow=30,SNR=2.2							
KS19	Wonju Array Si	5.31	336	Pn		Pn	12 19 45.4	+0.3
INCN	Inchon	5.80	327	Pn		Pn	12 19 52.4	+0.6
INU	Inuyama	5.94	62			Pn	12 19 55.6	+1.9
JOW	Kunigami	6.18	200	Pn		Pn	12 20 00.0	+3.0
	1.5nm,0.3s,baz=95,slow=21,SNR=5.4							
JOW	Kunigami	6.18	200			Pn	12 19 58.5	+1.5
JGF	Kuroka	6.30	61	Pn		Pn	12 20 01.1	+2.4
MJAR	Matsushiro Arr	7.34	56	Pn		Pn	12 20 14.6	+1.6
	0.2nm,0.3s,baz=232,slow=13,SNR=3.8							
USRK	Ussuriysk Ar.	11.55	5	Pn		Pn	12 21 16.0	+5.5
	baz=205,slow=16,SNR=5.7							
KLR	Kul'dur	16.55	3	Pn		P	12 22 24.2	+3.8
	0.2nm,0.3s,baz=168,slow=4.7,SNR=7.8							
SONM	Songino Array	23.75	317	P		P	12 23 39.3	+1.1
	1.6nm,1.1s,baz=133,slow=8.5,SNR=4.3							
MKAR	Makanchi Array	39.13	306	P		P	12 25 53.8	+0.4
	0.3nm,0.8s,baz=131,slow=5.9,SNR=2.5							
MNAI	Manna	45.24	221	P		P	12 26 43.2	-0.2
BRVK	Borovoye	47.13	314	P		P	12 26 58.2	+0.3
BRVK				IAmb		IAmb	12 26 58.9	
	comp=Z,1.6nm,0.7s							
KKAR	Karatay Array	47.65	301	P		P	12 27 02.1	0.0
WB0	Warramunga Arr	52.28	176	P		P	12 27 36.1	-1.3
WB0				IAmb		IAmb	12 27 51.9	
	comp=Z,6.4nm,1.4s							
WRA	Warramunga Arr	52.45	176	P		P	12 27 36.9	-1.7
	comp=Z,0.2nm,0.4s,baz=355,slow=7.8,SNR=2.5							
WRA	Warramunga Arr	52.45	176	P		P	12 27 36.5	-2.2
WB2	Warramunga Arr	52.45	176	P		P	12 27 38.6	0.0
WB2				IAmb		IAmb	12 27 50.1	
	comp=Z,8.4nm,1.4s							
ABKAR	Akbulak array	53.93	310	P		P	12 27 49.0	-0.4
ABKAR	Akbulak array	53.93	310	P		P	12 27 49.4	+0.1
ABKAR				IAmb		IAmb	12 28 02.4	
	comp=Z,2.0nm,1.1s							
IMAR	Indian Mountai	54.83	29	P		P	12 27 56.3	+0.7
CAST	Castle Rocks	55.71	32	P		P	12 28 03.5	+1.5
ASAR	Alice Springs	56.12	176	P		P	12 28 04.4	-1.0
	comp=Z,0.5nm,0.8s,baz=0.6,slow=7.0,SNR=7.1							
ASAR	Alice Springs	56.12	176	P		P	12 28 05.9	+0.5
KDAK	Kodiak Island	56.15	39	P		P	12 28 05.9	+0.6
TOLK	Toolik Lake Re	56.31	26	P		P	12 28 04.2	-2.1
ILAR	Eielson Array	57.81	30	P		P	12 28 16.4	-0.5
	comp=Z,0.3nm,0.6s,baz=266,slow=7.3,SNR=5.0							
ILAR	Eielson Array	57.81	30	P		P	12 28 16.9	0.0
GEYT	Alibeck	58.03	297	LR		LR	12 54 14.9	
	comp=Z,309nm,18.8s,baz=301,slow=37							
DOT	Dot Lake	59.23	31	P		P	12 28 26.4	-0.5
DOT				IAmb		IAmb	12 28 31.3	
	comp=Z,4.0nm,1.3s							
M26K	Nabesna, AK	59.98	32	P		P	12 28 32.4	+0.3
M26K				IAmb		IAmb	12 28 40.9	
	comp=Z,6.0nm,1.4s							
BCAR	Beaver Creek A	60.36	32	P		P	12 28 35.7	+1.0
ARCES	ARCESS Array B	64.80	338	P		P	12 29 04.4	+0.2
C36M	Paulatuk	64.95	22	P		P	12 29 04.8	-0.3
C36M				IAmb		IAmb	12 29 09.0	
	comp=Z,3.5nm,0.8s							
KBZ	Khabaz	66.77	308	P		P	12 29 17.4	+0.2
	comp=Z,2.6nm,1.0s,baz=0.2,slow=6.0,SNR=4.7							
FINES	FINESS Array B	68.31	330	P		P	12 29 25.3	-1.4
	comp=Z,1.1nm,0.6s,baz=88,slow=6.1,SNR=8.2							
FINES	FINESS Array B	68.31	330	P		P	12 29 25.7	-1.0
RES	Resolute Bay	68.83	12	P		P	12 29 28.8	-0.9
RES				IAmb		IAmb	12 29 33.3	
	comp=Z,2.0nm,1.0s							
YKA	Yellowknife Ar	71.83	26	P		P	12 29 47.6	-0.6
	comp=Z,0.2nm,0.6s,baz=304,slow=5.5,SNR=4.5							
YKA	Yellowknife Ar	71.83	26	P		P	12 29 47.8	-0.5
BRTR	Keskin Array B	74.75	307	P		P	12 30 06.2	0.0
	comp=Z,0.7nm,0.7s,baz=69,slow=6.8,SNR=3.7							
BRTR	Keskin Array B	74.75	307	P		P	12 30 05.1	-1.1
NVAR	Mina Array Bea	84.58	47	P		P	12 30 59.8	+0.1
	comp=Z,0.1nm,0.5s,baz=237,slow=3.1,SNR=4.6							
MLZ	Mavora Lakes	84.81	154	P		P	12 31 00.3	+0.2
PDAR	Pinedale Array	86.86	40	P		P	12 31 10.1	-0.9
	comp=Z,0.2nm,0.7s,baz=254,slow=6.5,SNR=2.4							

IDC 18 12:35:41.5±1.7, 2.14S×128.35E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.1/42, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=41.8km s-min=27.8km az=78.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SIJI	Sorong	3.17	67	Pn		Pn	12 36 32.8	+0.1
	8.6nm,0.3s,baz=223,slow=15,SNR=13							
SIJI				Sn		Sn	12 37 08.0	-3.3
	34nm,0.3s,baz=347,slow=23,SNR=30							
WRA	Warramunga Arr	18.64	162	P		P	12 39 59.9	-1.0
	0.1nm,0.3s,baz=346,slow=12,SNR=7.8							
ASAR	Alice Springs	22.07	166	P		P	12 40 39.0	+0.8
	0.4nm,0.5s,baz=345,slow=10.0,SNR=14							
MKAR	Makanchi Array	63.29	326	P		P	12 46 11.9	-0.3
	0.2nm,0.3s,baz=120,slow=8.5,SNR=3.0							

HEL 18 12:47:20.0±0.1, 67.86N×20.20E, h0km, ML0.9 (UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
RATU	Laukkuluspa	0.23	262	iP		Pg	12 47 23.8	-0.6
RATU				iS		Sg	12 47 27.9	+0.5
KOVU	Salmi	0.37	358	iP		Pg	12 47 26.6	-0.5
KOVU				iS		Sg	12 47 31.1	-0.7
NIKU	Nikkaluokta	0.44	272	iP		Pg	12 47 27.6	-0.9
DUNU	Dundret	0.75	169	iS		Sg	12 47 43.4	-0.7
SALU	Saltoluokta	0.81	234	iP		Pg	12 47 34.5	-0.8
KIF	Kilpisjarvi	1.18	11	eP		Pb	12 47 43.1	0.0
KIF	Kilpisjarvi	1.18	11	ePB		Pb	12 47 42.9	-0.3
KIF				eSB		Sb	12 47 58.7	-0.2
PAJU	Pajala	1.40	125	eP		Pn	12 47 45.0	-1.8
PAJU				eSB		Sg	12 48 03.9	-1.0
HEF	Hetta	1.41	65	eP		Pn	12 47 44.6	-2.3
HEF	Hetta	1.41	65	eP		Pn	12 47 45.2	-1.7
HEF				eSN		Sn	12 48 08.9	+2.7
ERTU	Ertsjaerv	1.52	148	ePG		Pn	12 47 47.2	-1.2
TOF	Tornio	2.41	136	ePB		Pn	12 48 01.7	+1.1
ARA0	ARCESS Array S	2.57	47	ePB		Pn	12 48 04.0	+1.2
RNF	Rovaniemi	2.58	116	ePB		Pn	12 48 04.1	+1.1
KEV	Kevo	3.12	49	eSB		Sb	12 48 54.1	-0.8
UMAU	Umeaa	4.00	177	eSG		Sg	12 49 24.2	-3.9

*JMA **18** 12:47:23.6, 33.02N×131.22E, h9km, M3.8*

JMA Felt III J1.

*IDC **18** 12:47:25.4±1.2, 33.02N×131.15E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.3/60, mbtmp3.3/6, ML2.8/2, Error ellipse: s-maj=25.9km s-min=7.2km az=29.0*

ISC 18 12:47:25.7±0.9, 33.01N±0.05×131.21E±0.03, h10km, n11, σ1§86/16, mb3.2/4, 3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JNU	Nakatsue	0.30	292	Pg		Pg	12 47 29.7	-2.0
	227nm,0.3s,baz=90,slow=9.7,SNR=3.8							
JNU				Lg		Lg	12 47 33.7	
	2μm,0.3s,baz=302,slow=20,SNR=64							
JNU	Nakatsue	0.30	292	P		Pg	12 47 29.8	-2.0
JNU				iS		Sg	12 47 34.1	-1.8
JUS	Usuki	0.46	83	⇓P		Pg	12 47 32.2	-2.5
JUS				S		Sg	12 47 38.4	-2.3
JIU3	Izumi3	0.57	216	⇓P		Pg	12 47 35.1	-1.7
JIU3				S		Sg	12 47 42.9	-1.4
JTA	Tamana	0.57	266	⇓P		Pg	12 47 34.9	-1.9
JTA				S		Sg	12 47 42.8	-1.6
KSRS	Korea Array	5.19	330	Pn		Pn	12 48 43.5	+0.1
	0.3nm,0.3s,baz=148,slow=14,SNR=2.6							
KSRS				Pg		Pg	12 49 03.9	-1.2
	0.7nm,0.3s,baz=148,slow=17,SNR=6.6							
KSRS				Lg		Lg	12 50 08.5	
	0.6nm,0.3s,baz=149,slow=30,SNR=6.7							
MJAR	Matsushiro Arr	6.75	57	Pn		Pn	12 49 06.1	+1.2
	0.2nm,0.3s,baz=230,slow=14,SNR=4.3							
SONM	Songino Array	23.86	316	P		P	12 52 40.6	+1.2
	0.4nm,0.6s,baz=126,slow=7.3,SNR=2.7							
ZALV	Zalesovo Beam	38.75	317	P		P	12 54 51.7	+1.7
	0.2nm,0.3s,baz=81,slow=8.9,SNR=1.7							
WRA	Warramunga Arr	52.74	176	P		P	12 56 41.2	+0.4
	0.3nm,0.7s,baz=357,slow=8.1,SNR=4.6							
ASAR	Alice Springs	56.42	177	P		P	12 57 09.4	+1.9
	0.1nm,0.7s,baz=12,slow=12,SNR=4.3							

*BER **18** 12:47:50.3±1.7, 67.05N×20.56E, h0km, ML1.6, Confirmed Induced event*

*HEL **18** 12:47:51.6, 67.20N×20.68E, h0km, ML1.9, Confirmed Induced event*

HEL 18 12:47:51.1±0.0, 67.19N×20.62E, h1km, ML1.9, ML2.3 (UPP), Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DUNU	Dundret	0.07	197	iP		Pg	12 47 52.3	-0.2
DUNU				iS		Sg	12 47 53.5	+0.1
MASU	Masugnsbyn	0.60	63	iP		Pg	12 48 01.8	-0.8
MASU				iS		Sg	12 48 09.7	-0.5
RATU	Laukkuluspa	0.75	329	iP		Pg	12 48 04.6	-0.9
SALU	Saltoluokta	0.84	284	iP		Pg	12 48 06.4	-0.8
ERTU	Ertsjaerv	0.89	135	eP		Pg	12 48 06.6	-1.4
ERTU				eS		Sg	12 48 18.4	-1.2
NIKU	Nikkaluokta	0.92	319	eP		Pg	12 48 07.5	-1.1
PAJU	Pajala	0.99	98	eP		Pg	12 48 08.5	-1.5
PAJU				eS		Sg	12 48 21.6	-1.1
HARU	Harads	1.04	172	eP		Pg	12 48 09.6	-1.4
KOVU	Salmi	1.05	351	eP		Pg	12 48 10.0	-1.2
HEF	Hetta	1.68	42	eP		Pn	12 48 20.4	-1.2
HEF				eS		Sn	12 48 42.7	-1.2
HEF	Hetta	1.68	42	eP		Pn	12 48 20.8	-0.8
HEF				eS		Sn	12 48 42.1	-1.8
HEF				MSG			12 48 46.1	
	comp=Z,6.5nm,0.2s							
KALU	Kalix	1.73	139	eP		Pn	12 48 21.8	-0.4
SJUU	Sjulsmark	1.73	166	eP		Pn	12 48 21.7	-0.6
KIF	Kilpisjarvi	1.83	2	eP		Pn	12 48 23.7	+0.2
KIF				eS		Sn	12 48 47.5	+0.3
KIF	Kilpisjarvi	1.83	2	eP		Pn	12 48 23.9	+0.3
KIF				eS		Sb	12 48 48.3	-0.3
KIF			

SNGZ				S	**Sn**	**12 51 41.0**	**-1.6**
RAHZ	**Arahi**	**6.41**	**206**	P	**Pn**	**12 50 37.0**	**+1.1**
RAHZ				S	**Sn**	**12 51 48.0**	**+0.3**
MTHZ	**Maungataniwha**	**6.44**	**208**	P	**Pn**	**12 50 38.0**	**+1.6**
MTHZ				S	**Sn**	**12 51 48.8**	**+0.1**
BKZ	**Black Stump Fm**	**6.85**	**208**	P	**Pn**	**12 50 41.5**	**-0.5**
BKZ				S	**Sn**	**12 51 56.3**	**-2.4**
KAHZ	**Kahuranaki**	**7.26**	**204**	P	**Pn**	**12 50 47.2**	**-0.4**
ASAR	**Alice Springs**	**41.91**	**271**	P	**P**	**12 56 51.9**	**+0.6**
	0.3nm,0.5s,baz=108,slow=6.9,SNR=17						
WRA	**Warramunga Arr**	**43.15**	**276**	P	**P**	**12 57 01.3**	**-0.2**
	0.2nm,0.3s,baz=115,slow=7.6,SNR=6.7						
H03N3	**Juan Fernandez**	**80.08**	**123**	T	T	14 29 44.8	
	baz=242,slow=74,SNR=4.4						
H03N2	**Juan Fernandez**	**80.09**	**123**	T	T	14 29 37.5	
	baz=242						
H03N1	**Juan Fernandez**	**80.10**	**123**	T	T	14 29 44.0	
	baz=242,slow=74,SNR=8.3						
FINES	**FINESS Array B**	**147.32**	**338**	PKPbc	**PKPdf**	**13 08 41.0**	**+0.4**
	1.4nm,0.8s,baz=7.6,slow=5.8,SNR=7.9						
TORD	**Torodi Ar. Bea**	**160.03**	**183**	PKPab	**PKPab**	**13 09 38.6**	**-1.0**
	0.4nm,0.5s,baz=172,slow=3.9,SNR=2.7						

*BJI **18** 13:06:08.2◦0.0, 19.°08S× 169.°26E, h60km, mb5.8/90, mB5.7/69, Ms5.4/82, Ms7 5.1/78*

*NEIC **18** 13:06:09.7, 19.°49S× 169.°10E, h71km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.65; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$0.68; $M_{r\theta}$-0.54; $M_{\theta\phi}$0.22; $M_{\phi r}$0.61; Fault plane solution: M_o1.07000×10^{18} NP1:ϕ_s37.77000°, δ32.97000°, λ-37.79000°. NP2:ϕ_s160.82000°, δ70.52000°, λ-117.14000°. Principal axes: T 0.9208, Plg21.0000°, Azm271.0000°; N 0.2594, Plg25.0000°, Azm171.0000°; P -1.1801, Plg56.0000°, Azm36.0000°;*

*IDC **18** 13:06:09.3◦0.9, 19.°49S× 169.°24E, h66km± 7km, mb5.7/34, mb1 5.8/36, mb1mx5.7/38, mbtmp6.0/36, MS5.0/57, Ms1 5.0/57, ms1mx4.9/63 Error ellipse: s-maj=12.3km s-min=9.3km az=75.0*

*NEIC **18** 13:06:10.9± 1.7, 19.°49S± 0.°05× 169.°09E± 0.°07, h76km± 1km, mb6.3/486, Mwb6.0/59, Mww5.9, Error ellipse: s-maj=11.0km s-min=8.9km az=95.0*

*MOS **18** 13:06:11.8± 0.8, 19.°48S× 169.°05E, h98km, mb6.3/87, Error ellipse: s-maj=6.6km s-min=5.7km az=95.7*

*NOU **18** 13:06:12.4, 19.°56S× 169.°08E, h64km, MLv6.8/18, Vanuatu Islands*

*GCMT **18** 13:06:14.9◦0.1, 19.°44S± 0.°01× 169.°00E, h91km, MW5.9/162, Moment Tensor Solution. s161,c359; s162,c502; Duration: 2≥3 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.41±.01; $M_{\theta\theta}$-0.18±.01; $M_{\phi\phi}$0.59±.01; $M_{r\theta}$-0.46±.01; $M_{\theta\phi}$0.18±.01; $M_{\phi r}$0.74±.01; Best double couple: M_o1.03100×10^{18} NP1:ϕ_s42.00000°, δ27.00000°, λ-28.00000°. NP2:ϕ_s157.00000°, δ78.00000°, λ-114.00000°. Principal axes: T 0.9900, Plg29.0000°, Azm266.0000°; N 0.0830, Plg24.0000°, Azm163.0000°; P -1.0730, Plg51.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **18** 13:06:15, 19.°38S× 168.°93E, h100km, Moment Tensor Solution. Duration: 8≥0 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.99; $M_{\theta\theta}$-1.65; $M_{\phi\phi}$5.63; $M_{r\theta}$-4.61; $M_{\theta\phi}$1.71; $M_{\phi r}$6.94; Fault plane solution: M_o9.87000×10^{17} NP1:ϕ_s41.00000°, δ27.00000°, λ-27.00000°. NP2:ϕ_s156.00000°, δ78.00000°, λ-114.00000°. Principal axes: T 9.3074, Plg29.0000°, Azm266.0000°; N 1.0462, Plg24.0000°, Azm162.0000°; P -10.3536, Plg51.0000°, Azm39.0000°;*

*BGR **18** 13:06:15.3◦0.0, 19.°49S× 168.°97E, h100km*

ISC 18 13:06:10.8◦0.2, 19.°50S± 0.°03× 169.°04E± 0.°03, h80km± 1km, h80km:pP-P, n2325, σ1.°47/2576, mb6.3/424, 162C-115D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**1.80**	**341**	P	**Pn**	**13 06 42.5**	**+2.5**
DVP	**Devils Point**	**1.94**	**335**	P	**Pn**	**13 06 44.4**	**+2.5**
LIFNC	**LIFOU**	**2.12**	**233**		**Pn**	**13 06 42.8**	**-1.4**
LIFNC	**LIFOU**	**2.12**	**233**	P	**Pn**	**13 06 44.7**	**+0.5**
MARNC	**Mare, Loyalty**	**2.19**	**206**		**Pn**	**13 06 43.9**	**-1.3**
MARNC	**Mare, Loyalty**	**2.19**	**206**	P	**Pn**	**13 06 45.1**	**0.0**
YATNC	**Mamie plateau,**	**3.24**	**218**	P	**Pn**	**13 06 59.9**	**+0.5**
I22FR	**PORTLAGUERRE I**	**3.37**	**217**	P	**Pn**	**13 06 59.8**	**-1.3**
	baz=34,slow=11,SNR=1.5						
PINNC	**Pines Island,**	**3.44**	**205**		**Pn**	**13 07 01.1**	**-0.9**
PINNC	**Pines Island,**	**3.44**	**205**	P	**Pn**	**13 07 03.1**	**+1.1**
DZM	**Mont Dzumac**	**3.53**	**223**	P	**Pn**	**13 07 02.8**	**-0.6**
	352nm,0.3s,baz=118,slow=12,SNR=1884						
DZM				S	**Sn**	**13 07 43.4**	**-0.6**
	6μm,0.3s,baz=326,slow=21,SNR=33						
DZM				LR	LR	13 07 56.8	
	comp=Z,23μm,19.5s,baz=50,slow=29						
DZM	**Mont Dzumac**	**3.53**	**223**	*e*Pn	**Pn**	**13 07 02.9**	**-0.5**
	14μm,1.2s						
DZM				*e*Sn	**Sn**	**13 07 42.9**	**-1.1**
	119μm,1.0s						
DZM				*e*LR	LR	13 07 51.0	
	comp=Z,119μm,28.9s						
DZM	**Mont Dzumac**	**3.53**	**223**		**Pn**	**13 07 02.4**	**-1.0**
DZM	**Mont Dzumac**	**3.53**	**223**	P	**Pn**	**13 07 04.7**	**+1.3**
OUENC	**Ouen Island, N**	**3.56**	**215**		**Pn**	**13 07 03.4**	**-0.3**
OUENC	**Ouen Island, N**	**3.56**	**215**	P	**Pn**	**13 07 05.1**	**+1.4**
NOUC	**Port Laguerre**	**3.64**	**224**	P	**Pn**	**13 07 06.3**	**+1.5**
ONTNC	**Ouen Toro**	**3.69**	**220**		**Pn**	**13 07 05.3**	**-0.2**
ONTNC	**Ouen Toro**	**3.69**	**220**	P	**Pn**	**13 07 07.3**	**+1.8**
SANVU	**Saraoutou**	**4.40**	**336**		**Pn**	**13 07 14.4**	**-0.7**
KOUNC	**Koumac, New Ca**	**4.59**	**256**		**Pn**	**13 07 18.4**	**+0.6**
KOUNC	**Koumac, New Ca**	**4.59**	**256**	P	**Pn**	**13 07 19.8**	**+2.0**
MSVF	**Nonsavu**	**8.72**	**80**	P	Pn	13 08 19.7	+5.4
	15nm,0.3s,baz=215,slow=9.8,SNR=96						
MSVF				S	**Sn**	**13 09 58.3**	**+7.2**
	0.4nm,0.3s,baz=118,slow=18,SNR=0.9						
MSVF				LR	LR	13 11 01.1	
	comp=Z,54μm,20.4s,baz=265,slow=34						
NFK	**Norfolk Island**	**9.55**	**186**	P	**Pn**	**13 08 27.2**	**+1.7**
	baz=9.6,SNR=107						
HNR	**Honiara**	**13.33**	**317**	P	**Pn**	**13 09 18.4**	**+1.7**
	62nm,0.3s,baz=200,slow=2.1,SNR=98						
HNR				LR	LR	13 14 02.2	
	comp=Z,4μm,20.5s,baz=148,slow=35						
HNR	**Honiara**	**13.33**	**317**	Pn	**Pn**	**13 09 17.4**	**+0.7**
FUNA	**Funafuti**	**14.69**	**43**	Pn	**Pn**	**13 09 33.8**	**-0.7**
LHI	**Lord Howe Isla**	**14.97**	**215**	P	**P**	**13 09 40.4**	**-1.2**
	baz=15,SNR=5.3						
LHI	**Lord Howe Isla**	**14.97**	**215**	Pn	**Pn**	**13 09 37.3**	**-0.7**
LHI				IAmb	IAmb	13 09 45.9	
	comp=Z,1μm,1.0s						
RAO	**Raoul Island**	**15.33**	**132**	P	**Pn**	**13 09 43.7**	**+1.1**
	comp=Z,46nm,0.3s,baz=87,slow=23,SNR=1.5						
OUZ	**Omahuta**	**16.17**	**166**	Pn	**Pn**	**13 09 53.0**	**-0.1**
EIDS	**Eidsvold**	**17.59**	**247**	P	**Pn**	**13 10 13.9**	**+3.1**
	baz=18,SNR=168						
EIDS	**Eidsvold**	**17.59**	**247**	P	**Pn**	**13 10 12.7**	**+1.9**
ARMA	**Armidale**	**19.14**	**232**	P	**Pn**	**13 10 30.9**	**+1.4**
	baz=19,SNR=150						
ARMA	**Armidale**	**19.14**	**232**		**Pn**	**13 10 30.7**	**+1.2**
ARMA				IAmb	IAmb	13 10 35.2	
	comp=Z,3μm,1.2s						
AFI	**Afiamalu**	**19.19**	**76**	P	**P**	**13 10 28.6**	**+0.2**
	comp=Z,6.8nm,0.3s,baz=132,slow=6.2,SNR=15						
AFI				LR	LR	13 17 01.0	
	comp=Z,5μm,20.7s,baz=253,slow=34						
AFI	**Afiamalu**	**19.19**	**76**	P	**P**	**13 10 27.2**	**-1.2**
AFI				pmax	pmax		
	comp=Z,2μm,1.3s						
AFI	**Afiamalu**	**19.19**	**76**	P	**P**	**13 10 27.2**	**-1.2**
AFI				IAmb	IAmb	13 10 38.1	
	comp=Z,2μm,1.2s						
TGRZ	**Tauranga**	**19.22**	**162**	P	**Pn**	**13 10 31.1**	**+0.9**
KMRZ	**Kaimai**	**19.24**	**163**	P	**Pn**	**13 10 31.5**	**+1.0**
OPRZ	**Ohinepanea**	**19.41**	**162**	P	**Pn**	**13 10 32.9**	**+0.5**
HIZ	**Hauiti**	**19.61**	**166**	Pn	**Pn**	**13 10 34.9**	**+0.2**
OMRZ	**Omania**	**19.61**	**163**	P	**Pn**	**13 10 37.8**	**+3.0**
UTU	**Utuhina**	**19.62**	**163**	P	**Pn**	**13 10 34.3**	**-0.6**
HAZ	**Te Kaha**	**19.72**	**159**	P	**Pn**	**13 10 35.8**	**-0.2**
HAZ				S	**Sn**	**13 14 22.8**	**+5.4**
MXZ	**Matakaoa Point**	**19.73**	**158**	Pn	**Pn**	**13 10 35.7**	**-0.5**
MXZ	**Matakaoa Point**	**19.73**	**158**	P	**Pn**	**13 10 35.6**	**-0.5**
HSRZ	**Hossack Road**	**19.76**	**163**	P	**Pn**	**13 10 37.5**	**+0.9**
NIUE	**Niue**	**19.86**	**92**	P	**P**	**13 10 36.0**	**+0.5**
	baz=20,SNR=11						
NIUE	**Niue**	**19.86**	**92**	P	**P**	**13 10 35.3**	**-0.3**
RRRZ	**Republican Roa**	**19.86**	**162**	P	**Pn**	**13 10 39.8**	**+2.0**
RUGZ	**Raukumara Rang**	**19.88**	**160**	P	**Pn**	**13 10 37.3**	**-0.7**
RUGZ				S	**Sn**	**13 14 21.0**	**-0.3**
RMQ	**Roma**	**19.91**	**246**	P	**Pn**	**13 10 38.9**	**+0.4**
	baz=20,SNR=379						
URZ	**Urewera**	**19.96**	**161**	P	**Pn**	**13 10 38.7**	**-0.2**
	comp=Z,9.4nm,0.3s,baz=342,slow=2.3,SNR=54						
URZ				S	**Sn**	**13 14 23.6**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=209,slow=23,SNR=2.2						
URZ				LR	LR	13 16 59.8	
	comp=Z,5μm,18.1s,baz=344,slow=33						
URZ	**Urewera**	**19.96**	**161**	P	**P**	**13 10 37.3**	**+0.7**
URZ	**Urewera**	**19.96**	**161**	P	**Pn**	**13 10 38.5**	**-0.4**
URZ				S	**Sn**	**13 14 23.9**	**+0.7**
PRRZ	**Plateau Road**	**19.98**	**163**	P	**Pn**	**13 10 39.9**	**+0.8**
ALRZ	**Allen Road**	**20.02**	**163**	P	Pn	13 10 39.8	+0.2
MWZ	**Matawai**	**20.16**	**160**	P	Pn	13 10 40.4	-0.9
MWZ				S	Sn	13 14 26.3	-1.7
PUZ	**Puketiti**	**20.17**	**158**	P	**P**	**13 10 39.9**	**+1.2**
PUZ				S	Sn	13 14 24.4	-3.7
BKZ	**Black Stump Fm**	**20.63**	**163**	P	**P**	**13 10 43.5**	**-0.3**
MGCD	**Mangrove Creek**	**21.04**	**226**	P	**P**	**13 10 51.1**	**+2.9**
	baz=21,SNR=48						
TARA	**Tarawa**	**21.07**	**11**	P	**P**	**13 10 47.0**	**-1.7**
TARA				IAmb	IAmb	13 10 58.8	
	comp=Z,2μm,1.2s						
RIV	**Riverview**	**21.38**	**225**	P	**P**	**13 10 54.7**	**+3.0**
	baz=21,SNR=6.8						
RIV	**Riverview**	**21.38**	**225**	P	**P**	**13 10 55.1**	**+3.3**
RIV				pmax	pmax		
	comp=Z,966nm,1.5s						
CTA	**Charters Tower**	**21.45**	**265**	P	**P**	**13 10 54.6**	**+1.9**
	comp=Z,1μm,1.1s,baz=86,slow=10,SNR=261						
CTA				S	**S**	**13 14 48.6**	**+2.1**
	comp=Z,13nm,0.8s,baz=338,slow=19,SNR=1.0						
CTA				LR	LR	13 18 25.6	
	comp=Z,5μm,20.4s,baz=89,slow=34						
NNZ	**Nelson**	**21.96**	**171**	P	**P**	**13 10 58.3**	**+0.4**
NNZ				IAmb	IAmb	13 11 19.4	
	comp=Z,1μm,1.4s						
BFZ	**Birch Farm**	**22.00**	**165**	P	**P**	**13 10 58.3**	**-0.1**
TUWZ	**Tuamarina**	**22.25**	**170**	P	**P**	**13 11 01.8**	**+0.7**
SNZO	**South Karori**	**22.27**	**169**	P	**P**	**13 11 02.1**	**+0.9**
SNZO				IAmb	IAmb	13 11 25.3	
	comp=Z,2μm,1.4s						
BHW	**Baring Head**	**22.40**	**168**	P	**P**	**13 11 02.6**	**0.0**
RABL	**Rabaul**	**22.42**	**311**	P	**P**	**13 11 02.0**	**-1.1**
RABL				IAmb	IAmb	13 11 15.5	
	comp=Z,1μm,1.0s						
THZ	**Tophouse**	**22.43**	**172**	P	**P**	**13 11 03.2**	**+0.1**
THZ				IAmb	IAmb	13 11 26.5	
	comp=Z,2μm,1.4s						
KRVT	**Keravat (AS076**	**22.44**	**310**	P	**P**	**13 11 02.8**	**-0.6**
	comp=Z,648nm,1.0s,baz=163,slow=1.9,SNR=22						
KRVT				LR	LR	13 18 48.7	
	comp=Z,4μm,22.0s,baz=279,slow=34						
MSWZ	**Moikau Station**	**22.48**	**168**	P	**P**	**13 11 03.5**	**0.0**
CMWZ	**Cape Campbell**	**22.61**	**170**	P	**P**	**13 11 05.3**	**+0.4**
PLWZ	**Palliser**	**22.63**	**168**	P	**P**	**13 11 04.7**	**-0.4**
KHZ	**Kahutara**	**23.16**	**172**	P	**P**	**13 11 09.8**	**-0.5**
LTZ	**Lake Taylor**	**23.37**	**174**	P	**P**	**13 11 12.1**	**-0.3**
LTZ				IAmb	IAmb	13 11 34.3	
	comp=Z,1μm,1.1s						
PMG	**Port Moresby**	**23.42**	**292**	P	**P**	**13 11 14.4**	**+1.4**
	comp=Z,782nm,0.8s,baz=89,slow=5.6,SNR=154						
PMG				LR	LR	13 18 30.6	
	comp=Z,5μm,19.4s,baz=110,slow=31						
PMG	**Port Moresby**	**23.42**	**292**	*ce*P	**P**	**13 11 14.2**	**+1.2**
PMG				pmax	pmax		
	comp=Z,2μm,1.3s						
PMG				MLR	MLR		
	comp=Z,5μm,17.0s						
PMG	**Port Moresby**	**23.42**	**292**	P	**P**	**13 11 14.0**	**+0.9**
PMG				IAmb	IAmb	13 11 16.8	
	comp=Z,1μm,0.9s						
MTSU	**Mount Surprise**	**23.44**	**269**	P	**P**	**13 11 14.1**	**+0.8**
	baz=24,SNR=886						
CNB	**Canberra Magne**	**23.45**	**224**	P	**P**	**13 11 14.6**	**+1.3**
	baz=24,SNR=121						
CAN	**Canberra**	**23.70**	**224**	P	**P**	**13 11 15.4**	**0.0**
CAN				pmax	pmax		
	comp=Z,1μm,1.3s						
CAN	**Canberra**	**23.70**	**224**	P	**P**	**13 11 15.4**	**0.0**
CAN				IAmb	IAmb	13 11 20.0	
	comp=Z,1μm,1.3s						
QLP	**Quilpie**	**23.86**	**248**	P	**P**	**13 11 17.9**	**+0.9**
	baz=24,SNR=905						
OXZ	**Oxford**	**23.89**	**175**	P	**P**	**13 11 16.5**	**-0.5**
OXZ				IAmb	IAmb	13 11 37.5	
	comp=Z,3μm,1.9s						
FOZ	**Fox Glacier**	**23.97**	**179**	P	**P**	**13 11 17.6**	**0.0**
CMSA	**Cobar Meteorol**	**24.18**	**236**	P	**P**	**13 11 20.7**	**+1.0**
	baz=24,SNR=655						
RPZ	**Rata Peaks**	**24.20**	**176**	P	**P**	**13 11 21.1**	**+1.3**
	comp=Z,122nm,1.0s,baz=15,slow=4.3,SNR=21						
RPZ				LR	LR	13 20 29.6	
	comp=Z,7μm,19.3s,baz=344,slow=36						
MQZ	**McQueen's Vall**	**24.32**	**174**	P	**P**	**13 11 20.8**	**-0.1**
MQZ				IAmb	IAmb	13 11 42.8	
	comp=Z,977nm,1.3s						
LBZ	**Lake Benmore**	**24.83**	**178**	P	**P**	**13 11 24.8**	**-0.8**
KNTN	**Kanton**	**25.10**	**51**	P	**P**	**13 11 28.2**	**0.0**
KNTN				IAmb	IAmb	13 11 33.9	
	comp=Z,925nm,1.3s						
COEN	**Coen**	**25.36**	**279**	P	**P**	**13 11 32.3**	**+1.6**
COEN				IAmb	IAmb	13 11 36.8	
	comp=Z,2μm,1.3s						
DCZ	**Deep Cove**	**25.94**	**183**	P	**P**	**13 11 35.8**	**+0.2**
DCZ				IAmb	IAmb	13 11 56.4	
	comp=Z,1μm,1.8s						
WHZ	**Wether Hill Ro**	**26.34**	**182**	P	**P**	**13 11 39.2**	**0.0**
TOO	**Toolangi**	**27.30**	**224**	P	**P**	**13 11 49.0**	**+1.0**
	baz=27,SNR=18						
TOO	**Toolangi**	**27.30**	**224**	P	**P**	**13 11 48.1**	**+0.1**
TOO				pmax	pmax		
	comp=Z,180nm,1.2s						
TOO	**Toolangi**	**27.30**	**224**	P	**P**	**13 11 48.1**	**+0.1**
MANU	**Manus Island**	**27.40**	**307**	P	**P**	**13 11 48.2**	**-0.7**
STKA	**Stephens Creek**	**27.55**	**238**	P	**P**	**13 11 51.3**	**+1.1**
	comp=Z,129nm,0.6s,baz=66,slow=8.3,SNR=281						
STKA				ScP	**ScP**	**13 18 41.4**	**+1.3**
	comp=Z,46nm,1.0s,baz=89,slow=2.7,SNR=6.5						
STKA				LR	LR	13 22 35.3	
	comp=Z,5μm,20.2s,baz=71,slow=36						
STKA				P3KPbc		13 44 19.1	
	comp=Z,12nm,1.1s,baz=273,slow=3.7,SNR=12						
STKA	**Stephens Creek**	**27.55**	**238**	P	**P**	**13 11 51.1**	**+0.9**
	baz=28,SNR=391						
STKA	**Stephens Creek**	**27.55**	**238**	*c*P	**P**	**13 11 51.1**	**+0.9**
STKA	**Stephens Creek**	**27.55**	**238**	P	**P**	**13 11 50.5**	**+0.3**
QIS	**Mount Isa**	**27.66**	**263**	P	**P**	**13 11 52.1**	**+0.7**
	baz=28,SNR=110						
PATS	**Pohnpei**	**28.22**	**337**	P	**P**	**13 11 56.3**	**0.0**
RAR	**Rarotonga**	**29.27**	**99**	LR	LR	13 21 36.2	
	comp=Z,2μm,20.1s,baz=272,slow=32						
ARPS	**Mount Arapiles**	**29.37**	**228**	P	**P**	**13 12 07.4**	**+1.1**
	baz=29,SNR=24						
MOO	**Moorlands**	**29.40**	**214**	P	**P**	**13 12 08.4**	**+1.8**
	baz=30,SNR=25						
TAU	**Tasmania Unive**	**29.66**	**213**	P	**P**	**13 12 09.2**	**+0.4**
TAU				pmax	pmax		
	comp=Z,281nm,1.3s						
TAU	**Tasmania Unive**	**29.66**	**213**	P	**P**	**13 12 09.2**	**+0.4**
MMPI	**Merauke**	**29.84**	**288**	P	**P**	**13 12 10.7**	**0.0**
	comp=Z,7μmcomp=Z,270nm,0.9s						
HTT	**Hallett**	**30.20**	**237**	P	**P**	**13 12 14.4**	**+0.6**
	baz=30,SNR=52						
BBOO	**Buckleboo**	**32.29**	**239**	P	**P**	**13 12 32.6**	**+0.4**
	baz=32,SNR=196						
BBOO	**Buckleboo**	**32.29**	**239**	P	**P**	**13 12 32.4**	**+0.2**
BBOO				IAmb	IAmb	13 12 34.4	
	comp=Z,286nm,0.9s						
WR0	**Warramunga Arr**	**32.45**	**263**	P	**P**	**13 12 33.0**	**-0.7**
WR0				IAmb	IAmb	13 12 34.8	
	comp=Z,413nm,0.8s						
WB0	**Warramunga Arr**	**32.60**	**264**	P	**P**	**13 12 34.4**	**-0.6**
WB0				IAmb	IAmb	13 12 36.2	
	comp=Z,617nm,0.9s						
WB2	**Warramunga Arr**	**32.62**	**263**	P	**P**	**13 12 34.9**	**-0.3**
	baz=33						
WB2	**Warramunga Arr**	**32.62**	**263**	P	**P**	**13 12 34.6**	**-0.6**
WB2				IAmb	IAmb	13 12 36.4	
	comp=Z,613nm,1.0s						
WRAB	**Tennant Creek**	**32.63**	**263**	*ce*P	**P**	**13 12 34.7**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,811nm,1.3s						
WRAB	**Tennant Creek**	**32.63**	**263**	P	**P**	**13 12 34.5**	**-0.7**
WRAB				IAmb	IAmb	13 12 36.3	
	comp=Z,686nm,1.1s						
WRAB	**Tennant Creek**	**32.63**	**263**	⇑P	**P**	**13 12 34.8**	**-0.5**
WRAB				⇓pP	**pP**	**13 12 53.9**	**+0.9**
WRAB				sP	**sP**	**13 13 03.7**	**+1.7**
WRAB				PP	**PnPn**	**13 13 44.2**	**-1.6**
WRA	**Warramunga Arr**	**32.64**	**263**	P	**P**	**13 12 35.2**	**-0.1**
	comp=Z,505nm,1.0s,baz=101,slow=7.6,SNR=283						
WRA				PP	**PP**	**13 13 52.0**	**+1.6**
	comp=Z,121nm,1.1s,baz=90,slow=10,SNR=10						
WRA				S	**S**	**13 17 40.3**	**-5.5**
	comp=Z,5.3nm,1.1s,baz=93,slow=29,SNR=1.6						
WRA				ScP	**ScP**	**13 18 57.8**	**+1.0**
	comp=Z,84nm,1.1s,baz=93,slow=3.5,SNR=17						
WRA				PKiKP	**PKiKP**	**13 22 45.9**	**-1.1**
	comp=Z,3.9nm,0.9s,baz=49,slow=0.7,SNR=14						
WRA				LR	LR	13 26 01.2	
	comp=Z,4μm,18.3s,baz=56,slow=36						
WRA				P3KPbc		13 43 58.0	
	comp=Z,5.9nm,1.0s,baz=290,slow=3.0,SNR=16						
WRA	**Warramunga Arr**	**32.64**	**263**	P	**P**	**13 12 34.5**	**-0.8**
WRA					**PP**	**13 13 49.6**	**-0.8**
AS31	**Alice Springs**	**32.88**	**256**	P	**P**	**13 12 37.2**	**-0.3**
AS31				IAmb	IAmb	13 12 39.5	
	comp=Z,367nm,0.7s						
ASAR	**Alice Springs**	**32.88**	**256**	P	**P**	**13 12 37.2**	**-0.2**
	comp=Z,855nm,0.7s,baz=84,slow=8.8,SNR=1977						
ASAR				ScP	**ScP**	**13 18 59.0**	**+1.4**
	comp=Z,51nm,1.0s,baz=103,slow=3.4,SNR=22						
ASAR				PKiKP	**PKiKP**	**13 22 45.5**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=76,slow=1.3,SNR=10.0						
ASAR				LR	LR	13 24 51.9	
	comp=Z,11μm,21.8s,baz=96,slow=34						
ASAR				P3KPbc		13 43 56.7	
	comp=Z,4.2nm,1.0s,baz=280,slow=4.0,SNR=16						
ASAR	**Alice Springs**	**32.88**	**256**	P	**P**	**13 12 37.4**	**-0.1**
ASAR	**Alice Springs**	**32.88**	**256**	P	**P**	**13 12 37.4**	**-0.1**
ASPA	**Alice Springs**	**32.89**	**256**	P	**P**	**13 12 37.6**	**+0.1**
	baz=33						
KDU	**Kakadu**	**35.73**	**275**	P	**P**	**13 13 02.3**	**+0.3**
	baz=36,SNR=103						
MCQ	**Macquarie Isla**	**35.78**	**190**	P	**P**	**13 13 03.7**	**+1.8**
	baz=36						
SRPI	**Serui, Papua**	**36.56**	**295**	P	**P**	**13 13 10.7**	**+1.5**
	comp=Z,376nm,0.9s						
MTN	**Manton Dam**	**36.95**	**274**	P	**P**	**13 13 13.1**	**+0.6**
	baz=37,SNR=75						
MTN	**Manton Dam**	**36.95**	**274**	P	**P**	**13 13 12.7**	**+0.2**
WRKA	**Warakurna**	**38.00**	**254**	P	**P**	**13 13 21.2**	**-0.2**
	baz=38,SNR=622						
SAUI	**Saumlaki**	**38.31**	**282**	P	**P**	**13 13 23.3**	**-0.7**
SAUI				IAmb	IAmb	13 13 29.9	
	comp=Z,319nm,0.8s						
SAUI	**Saumlaki**	**38.31**	**282**	P	**P**	**13 13 24.6**	**+0.6**
	comp=Z,5μmcomp=Z,7μmcomp=Z,477nm,1.5s						
KNRA	**Kununurra**	**38.52**	**269**	P	**P**	**13 13 25.6**	**-0.1**
	baz=38,SNR=407						
KNRA	**Kununurra**	**38.52**	**269**	P	**P**	**13 13 25.5**	**-0.3**
FORT	**Forrest**	**38.57**	**245**	P	**P**	**13 13 26.0**	**0.0**
	baz=39,SNR=178						
FORT	**Forrest**	**38.57**	**245**	P	**P**	**13 13 25.9**	**-0.1**
TBI	**Tubuai**	**38.73**	**103**	*e*P	**P**	**13 13 27.6**	**+0.2**
	comp=Z,821nm,1.3s						
TBI				*e*S	**S**	**13 19 18.5**	**-0.4**
	comp=Z,1μm,25.2s						
TBI				*e*LQ	LQ	13 22 26.0	
	comp=Z,5μm,29.0s						
TBI				*e*LR	LR	13 24 06.9	
	comp=Z,15μm,32.0s,baz=265						
PAE	**Paea**	**39.20**	**94**	*e*P	**P**	**13 13 31.4**	**0.0**
	comp=Z,48nm,1.2s						
PPT2	**Papeete2**	**39.21**	**94**	*e*P	**P**	**13 13 31.9**	**+0.3**
	comp=Z,342nm,1.1s						
PPT2				*e*S	**S**	**13 19 26.1**	**-0.4**
	comp=Z,1μm,22.0s						
PPT2				*e*LQ	LQ	13 22 37.5	
	comp=Z,5μm,27.8s						
PPT2				*e*LR	LR	13 24 19.7	
	comp=Z,25μm,31.2s,baz=256						
PPT	**Papeete**	**39.22**	**94**	P	**P**	**13 13 33.4**	**+1.9**
	comp=Z,344nm,1.0s,baz=352,slow=6.2,SNR=11						
PPT				LR	LR	13 26 03.1	
	comp=Z,2μm,20.2s,baz=262,sl

MIDW IAmb IAmb 13 14 56.6
comp=Z,266nm,1.1s
BKSI Bulukumba 49.62 280 P **P** **13 14 55.4 +0.8**
comp=Z,2μmcomp=Z,3μmcomp=Z,354nm,1.0s
DDMP Don Marcelino, 49.66 296 *eP* **P** **13 14 55.2 +0.4**
APSI Ampana 49.93 286 P **P** **13 14 58.6 +1.7**
comp=Z,4μmcomp=Z,324nm,1.4s
BNSI Bone 49.97 281 P **P** **13 14 58.7 +1.5**
comp=Z,5μmcomp=Z,533nm,1.1s
KAPI Kappang 50.08 280 S **S** **13 22 02.8 -0.8**
comp=Z,3.0nm,0.4s,baz=236,slow=18,SNR=1.1
KAPI LR LR 13 36 06.1
comp=Z,1μm,21.2s,baz=118,slow=36
KAPI Kappang 50.08 280*c iP* **P** **13 14 59.3 +1.3**
KAPI pmax pmax
comp=Z,525nm,1.0s
KAPI Kappang 50.08 280 P **P** **13 14 58.6 +0.6**
KAPI Kappang 50.08 280 P **P** **13 14 59.6 +1.6**
KAPI Kappang 50.08 280 ⇑P **P** **13 14 59.6 +1.6**
KAPI ⇓pP **pwP** **13 15 18.9 -1.0**
TAOE Nuku Hiva Isla 50.22 85 *eP* **P** **13 14 59.7 +0.5**
comp=Z,594nm,1.2s
TAOE *e*S **S** **13 22 03.7 -2.2**
comp=Z,1μm,23.9s
TAOE *e*LQ LQ 13 27 16.8
comp=Z,3μm,25.4s
TAOE *e*LR LR 13 29 23.0
comp=Z,6μm,25.3s,baz=252
TAOE Nuku Hiva Isla 50.22 85 P **P** **13 14 59.1 -0.1**
TAOE IAmb IAmb 13 15 02.1
comp=Z,275nm,1.2s
BIPH Bislig 50.24 299⇓*eP* **P** **13 14 57.9 -1.3**
MRSI Marisa 50.26 288 P **P** **13 14 59.0 -0.3**
comp=Z,2μmcomp=Z,117nm,1.4s
SPSI Sidrap Palu 50.44 281 P **P** **13 15 01.1 +0.3**
comp=Z,2μmcomp=Z,307nm,0.9s
H01W1 Cape Leeuwin H 50.58 241 P **P** **13 15 03.7 +2.4**
baz=93,slow=8.6,SNR=16
H01W3 Cape Leeuwin H 50.59 241 P **P** **13 15 03.4 +2.0**
baz=93,slow=8.6,SNR=15
H01W2 Cape Leeuwin H 50.60 241 P **P** **13 15 03.5 +2.1**
baz=93,slow=8.6,SNR=14
PLAI Plampang 50.66 275 P **P** **13 15 02.9 +0.5**
comp=Z,3μmcomp=Z,7μmcomp=Z,744nm,1.3s
KCP Kidapawan 50.66 297⇑*iP* **P** **13 15 02.9 +0.4**
DRV Dumont d'Urvil 50.73 194 P **P** **13 15 01.7 -0.4**
DRV X 13 15 13.6
DRV ⇑pP **pP** **13 15 21.1 -0.2**
DRV sP **sP** **13 15 29.3 -0.8**
TTSI Tana Toraja 50.74 282 P **P** **13 15 04.3 +1.2**
comp=Z,3μmcomp=Z,267nm,1.0s
GIRL Giralia 51.00 256 P **P** **13 15 05.3 +0.4**
baz=51,SNR=25
GIRL Giralia 51.00 256 P **P** **13 15 05.5 +0.6**
GLSP General Luna, 51.32 301 *eP* **P** **13 15 07.0 -0.4**
CTBH Cotabato--PC H 51.48 297⇑*eP* **P** **13 15 09.7 +1.2**
TOLI2 Tolitoli 51.57 288 P **P** **13 15 08.5 -0.8**
TOLI2 IAmb IAmb 13 15 11.4
comp=Z,272nm,0.9s
KHU Kahuku 51.81 44 P **P** **13 15 11.9 +0.8**
KHU Kahuku 51.81 44 P **P** **13 15 11.9 +0.8**
HON Honolulu 51.83 40 P **P** **13 15 10.5 -0.4**
HON pmax pmax
comp=Z,340nm,1.1s
HON Honolulu 51.83 40 P **P** **13 15 10.5 -0.4**
HON IAmb IAmb 13 16 00.0
comp=Z,340nm,1.1s
KHLU Kahalu`u 51.88 44 P **P** **13 15 11.4 -0.1**
KIP Kipapa 51.90 40 *i* P **P** **13 15 12.2 +0.8**
KIP pmax pmax
comp=Z,241nm,1.0s
KIP Kipapa 51.90 40 P **P** **13 15 11.8 +0.4**
KIP IAmb IAmb 13 15 18.9
comp=Z,271nm,1.1s
HUH Hualalai 51.98 43 P **P** **13 15 12.3 -0.1**
HUH IAmb IAmb 13 15 17.2
comp=Z,566nm,1.2s
MWH Moku'aweowe 51.99 44 P **P** **13 15 12.5 -0.3**
AIN Ainahou 52.00 44 P **P** **13 15 13.1 +0.5**
RKT Rikitea 52.02 105 *eP* **P** **13 15 13.1 +0.6**
comp=Z,132nm,1.2s
MPSI Mapaga 52.04 286 P **P** **13 15 13.5 +0.8**
comp=Z,3μmcomp=Z,440nm,1.0s
MLOA Mauna Loa Obse 52.04 44 P **P** **13 15 13.7 +0.6**
MLOA IAmb IAmb 13 15 18.2
comp=Z,474nm,1.0s
OPA Opana 52.10 40 P **P** **13 15 13.1 +0.1**
OPA pmax pmax
comp=Z,798nm,1.2s
OPA Opana 52.10 40 P **P** **13 15 13.1 +0.1**
SDHHI Sand Hill 52.12 44 P **P** **13 15 12.7 -0.7**
SDHHI IAmb IAmb 13 15 16.3
comp=Z,419nm,0.9s
WRMHI West Rim 52.13 44 P **P** **13 15 13.0 -0.4**
WRMHI IAmb IAmb 13 15 16.3
comp=Z,517nm,1.1s
MLH Mauna Loa 52.14 44 P **P** **13 15 11.6 -2.0**
MLH IAmb IAmb 13 15 16.8
comp=Z,474nm,1.0s
RIM Rim 52.14 44 P **P** **13 15 12.8 -0.6**
RIM IAmb IAmb 13 16 00.1
comp=Z,710nm,1.4s
UWE Uwekahuna 52.15 44 P **P** **13 15 12.2 -1.3**
HMH Humu'ula Sheep 52.15 44 P **P** **13 15 13.7 -0.1**
PUH Pauahi 52.16 44 P **P** **13 15 13.8 +0.1**
PUH IAmb IAmb 13 15 18.9
comp=Z,408nm,1.0s
SBLHI Steaming Bluff 52.17 44 P **P** **13 15 13.2 -0.5**
HATHI Halema'uma'u T 52.17 44 P **P** **13 15 12.2 -1.4**
POHA Pohakuloa 52.23 44 P **P** **13 15 13.0 -1.2**
POHA IAmb IAmb 13 15 33.2
comp=Z,299nm,0.9s
MHA Mahukona 52.30 43 P **P** **13 15 15.2 +0.7**
MHA Mahukona 52.30 43 P **P** **13 15 15.2 +0.7**
HPAH Hawaii Prepara 52.32 43 P **P** **13 15 15.2 +0.4**
KHLH Kahului Airpor 52.49 42 P **P** **13 15 16.5 +0.7**
MSLP Maasin 52.55 300 *eP* **P** **13 15 17.2 +0.8**
DNP Denpasar 53.12 274 P **P** **13 15 22.8 +2.1**
DNP pmax pmax
comp=Z,1μm,0.8s
DNP Denpasar 53.12 274 P **P** **13 15 22.2 +1.5**
comp=Z,1μm,0.8s
TBP Tagbilaran 53.12 299 *eP* **P** **13 15 23.2 +2.5**
TBP *i* S **S** **13 22 44.6 -0.9**
IGBI Denpasar 53.13 274 P **P** **13 15 22.0 +1.2**
comp=Z,10μmcomp=Z,897nm,1.1s
JCJ Chichijima 53.14 330 LR LR 13 36 05.5
comp=Z,838nm,22.0s,baz=143,slow=34
JCJ Chichijima 53.14 330 P **P** **13 15 20.2 -0.3**
SRBI Singaraja 53.30 274 P **P** **13 15 23.1 +1.1**
comp=Z,3μmcomp=Z,6μmcomp=Z,382nm,0.9s
SMKI Samarinda 54.16 284 P **P** **13 15 31.1 +2.8**
comp=Z,8μmcomp=Z,245nm,0.4s
JAGI Jajag, Banyuwa 54.18 274 P **P** **13 15 27.8 -0.7**
JAGI IAmb IAmb 13 15 29.8
comp=Z,390nm,0.9s
JAGI Jajag, Banyuwa 54.18 274 P **P** **13 15 28.2 -0.3**
comp=Z,2μmcomp=Z,4μmcomp=Z,476nm,1.2s
CNOP Candoni, Negro 54.21 298 *eP* **P** **13 15 26.4 -2.2**
ABJI Asem Bagus 54.31 274 P **P** **13 15 30.5 +1.1**
comp=Z,5μmcomp=Z,493nm,1.2s
KMMI Kalianget 54.80 275 P **P** **13 15 33.0 +0.1**
comp=Z,4μmcomp=Z,345nm,1.2s
GMJI Gumukmas 54.90 274 P **P** **13 15 33.7 0.0**
comp=Z,3μmcomp=Z,241nm,1.0s
BLJI Banyuglugur 54.92 274 P **P** **13 15 34.6 +0.7**
comp=Z,2μmcomp=Z,185nm,1.1s
RCP Roxas 55.06 300⇓*eP* **P** **13 15 36.1 +1.3**
PVCP Virac 55.09 303 *eP* **P** **13 15 34.9 0.0**
BBKI Banjar Baru 55.20 280 P **P** **13 15 37.3 +1.4**
comp=Z,5μmcomp=Z,339nm,0.9s
MYLDM Lahad Datu 55.44 291 P **P** **13 15 37.9 +0.4**
MTKI Muara Teweh, K 56.09 282 P **P** **13 15 42.9 +0.7**
comp=Z,1μmcomp=Z,4μmcomp=Z,136nm,0.9s
GRJI Gresik 56.24 275 P **P** **13 15 42.6 -0.7**
comp=Z,350nmcomp=Z,2μmcomp=Z,92nm,0.5s
PWJI Pagerwojo 56.52 273 P **P** **13 15 46.4 +1.1**
comp=Z,3μmcomp=Z,275nm,0.9s
TBJI Tambak Boyo 56.86 275 P **P** **13 15 49.0 +1.3**
comp=Z,2μmcomp=Z,7μmcomp=Z,744nm,1.0s
PCJI Pacitan 57.06 273 P **P** **13 15 50.2 +1.1**
comp=Z,8μmcomp=Z,723nm,1.4s
UGM Wanagama 57.77 273 P **P** **13 15 53.9 -0.2**
UGM Wanagama 57.77 273 P **P** **13 15 55.1 +1.0**
comp=Z,7μmcomp=Z,760nm,1.1s

BATP Bataraza 57.77 294 *eP* **P** **13 15 55.3 +1.2**
UWJI Ujung Watu 57.84 275 P **P** **13 15 55.3 +0.7**
comp=Z,10μmcomp=Z,658nm,1.3s
KKM Kota Kinabalu 57.85 291 P **P** **13 15 54.8 0.0**
KKM IAmb IAmb 13 16 21.3
comp=Z,334nm,1.5s
TGY Tagaytay City 57.94 302 P **P** **13 15 57.0 +1.8**
comp=Z,195nm,0.4s,baz=174,slow=7.9,SNR=3.7
TGY LR LR 13 37 10.7
comp=Z,699nm,21.3s,baz=112,slow=32
YOGI Yogyakarta 58.01 273 P **P** **13 15 56.6 +0.8**
comp=Z,5μmcomp=Z,608nm,1.0s
SMRI Semarang 58.11 274 P **P** **13 15 56.9 +0.4**
SMRI IAmb IAmb 13 15 59.4
comp=Z,240nm,0.7s
SMRI Semarang 58.11 274 P **P** **13 15 56.9 +0.4**
comp=Z,5μmcomp=Z,402nm,1.0s
VNDA Vanda 58.16 182 P **P** **13 15 57.5 +1.7**
comp=Z,24nm,1.2s,baz=5.1,slow=7.4,SNR=28
VNDA S **S** **13 23 48.6 -2.3**
comp=Z,1.2nm,0.9s,baz=358,slow=20,SNR=1.4
VNDA LR LR 13 37 19.6
comp=Z,970nm,21.0s,baz=12,slow=32
VNDA Vanda 58.16 182 P **P** **13 15 55.8 0.0**
VNDA IAmb IAmb 13 16 17.2
comp=Z,285nm,1.6s
BALP Baler 58.35 304 *eP* **P** **13 15 58.1 0.0**
SBA Scott Base 58.40 181 P **P** **13 15 57.8 +0.3**
SBA pmax pmax
comp=Z,606nm,1.3s
SBA Scott Base 58.40 181 P **P** **13 15 57.8 +0.3**
SBA Scott Base 58.40 181 ⇓P **P** **13 15 59.5 +2.0**
SBA ⇑pP **pP** **13 16 18.2 +1.0**
SBA sP **sP** **13 16 30.6 +4.7**
PBKI Pangkalan Bun 58.42 279 P **P** **13 16 00.1 +1.4**
comp=Z,5μmcomp=Z,607nm,1.0s
PCPH Palayan 58.63 303⇑*eP* **P** **13 16 00.8 +0.9**
CAUP Cauayan 58.86 305 *eP* **P** **13 16 02.8 +1.2**
SMPP San Manuel, Pa 59.29 303 *eP* **P** **13 16 05.0 +0.3**
JHJ Hachijo jima 2 59.32 332 P **P** **13 16 05.9 +1.5**
comp=Z,322nm,0.9s,baz=228,slow=20,SNR=4.2
JHJ LR LR 13 37 38.1
comp=Z,310nm,20.4s,baz=136,slow=32
KPJI Karang Pucung 59.44 273 P **P** **13 16 06.3 +0.6**
comp=Z,4μmcomp=Z,446nm,0.9s
STKI Sintang 59.63 282 P **P** **13 16 08.5 +1.5**
comp=Z,178nm,1.1s
CMJI Cimerak 59.76 272 P **P** **13 16 07.4 -0.5**
comp=Z,2μmcomp=Z,2μmcomp=Z,248nm,1.1s
CASY Casey 59.81 204 P **P** **13 16 06.5 -0.9**
CASY IAmb IAmb 13 16 27.9
comp=Z,220nm,1.2s
CASY Casey 59.81 204 P **P** **13 16 07.2 -0.2**
CASY X 13 16 18.4
CASY ⇑pP **pP** **13 16 26.7 +0.1**
CASY pwP **pwP** **13 16 30.0 -1.2**
CASY sP **sP** **13 16 40.5 +5.5**
APYP Conner 59.84 305 *eP* **P** **13 16 08.6 +0.3**
SBUM Sibu 59.89 285 P **P** **13 16 09.3 +0.6**
JCJI Jatiwangi 60.33 274 P **P** **13 16 12.5 +0.7**
comp=Z,12μmcomp=Z,861nm,0.9s
CCD Concordia, Ant 60.60 192 P **P** **13 16 12.7 -0.5**
CCD X 13 16 23.4
CCD ⇑pP **pP** **13 16 32.2 -0.7**
JOW Kunigami 60.70 318 P **P** **13 16 16.1 +2.1**
comp=Z,236nm,0.9s,baz=163,slow=6.5,SNR=20
JOW Kunigami 60.70 318 P **P** **13 16 14.5 +0.5**
JOW IAmb IAmb 13 16 18.9
comp=Z,262nm,0.9s
LEM Lembang 60.84 273 S **S** **13 24 28.1 +0.5**
comp=Z,15nm,0.5s,baz=296,slow=17,SNR=1.3
LEM LR LR 13 44 30.7
comp=Z,908nm,19.7s,baz=108,slow=38
CNJI Cibinong 61.15 272 P **P** **13 16 17.2 -0.2**
comp=Z,7μmcomp=Z,819nm,0.9s
KSM Kuching 61.25 283 P **P** **13 16 18.3 +0.3**
KSM IAmb IAmb 13 16 20.8
comp=Z,187nm,0.8s
XMIS Christmas Isla 61.60 268 P **P** **13 16 21.1 +0.7**
XMIS IAmb IAmb 13 16 22.9
comp=Z,392nm,1.0s
CBJI Citeko 61.69 273 P **P** **13 16 20.1 -0.9**
comp=Z,12μmcomp=Z,895nm,0.9s
DBJI Dramaga 61.74 273 P **P** **13 16 22.2 +0.8**
comp=Z,711nm,1.2s
JYT Yasato 61.78 334 P **P** **13 16 22.1 +0.9**
SKJI Sukabumi 61.78 272 P **P** **13 16 22.2 +0.5**
comp=Z,4μmcomp=Z,382nm,1.1s
TNG Tangerang 61.96 273 P **P** **13 16 24.6 +1.7**
comp=Z,13μmcomp=Z,697nm,0.4s
TNG P **P** **13 16 22.7 -0.2**
comp=Z,20μmcomp=Z,1μm,0.4s
INU Inuyama 62.44 331 P **P** **13 16 26.1 +0.5**
INU IAmb IAmb 13 16 29.6
comp=Z,315nm,1.1s
INU Inuyama 62.44 331 ⇓P **P** **13 16 25.9 +0.4**
INU X 13 16 39.8
INU ⇑pP **sP** **13 16 54.6 +0.3**
JGF Kuroka 62.49 331 P **P** **13 16 25.6 -0.4**
YOJ Yonaguni jima 62.60 312 P **P** **13 16 26.2 -0.6**
YOJ pmax pmax
comp=Z,506nm,1.1s
YOJ Yonaguni jima 62.60 312 P **P** **13 16 26.2 -0.6**
YOJ IAmb IAmb 13 16 31.2
comp=Z,506nm,1.1s
JMN Monobe 62.66 327 P **P** **13 16 26.9 -0.2**
JMN IAmb IAmb 13 16 31.6
comp=Z,360nm,1.3s
CGJI Cibinong 62.72 273 P **P** **13 16 27.2 -0.7**
comp=Z,9μmcomp=Z,1μm,1.0s
JSU Suzuyama 62.79 323 P **P** **13 16 28.2 +0.2**
JSU IAmb IAmb 13 16 31.8
comp=Z,485nm,1.0s
MJAR Matsushiro Arr 62.90 332 P **P** **13 16 28.8 +0.2**
comp=Z,149nm,1.0s,baz=188,slow=21,SNR=95
MJAR LR LR 13 41 19.3
comp=Z,276nm,21.7s,baz=131,slow=34
MJAR Matsushiro Arr 62.90 332 P **P** **13 16 26.2 -2.4**
MJAR IAmb IAmb 13 16 31.1
comp=Z,275nm,1.1s
MAJO Matsushiro 62.90 332*d iP* **P** **13 16 28.8 +0.2**
MAJO pmax pmax
comp=Z,440nm,1.1s
MAJO Matsushiro 62.90 332 P **P** **13 16 28.1 -0.5**
MAJO IAmb IAmb 13 16 31.5
comp=Z,427nm,1.1s
MAJO Matsushiro 62.90 332 ⇓P **P** **13 16 28.8 +0.2**
MAJO pP **sP** **13 16 56.8 -0.6**
MAJO sP **PcP** **13 16 28.6 +2.5**
MJB9 Matsu-Tunnel 62.90 332 P **P** **13 16 28.2 -0.5**
MJB9 IAmb IAmb 13 16 31.5
comp=Z,402nm,1.1s
YULB Yu-li 63.14 310 P **P** **13 16 29.8 -0.6**
NACB Ninganchiao 63.41 311 P **P** **13 16 32.2 -0.1**
NACB IAmb IAmb 13 16 36.2
comp=Z,413nm,1.0s
BLSI Bandar Lampung 63.54 274 P **P** **13 16 33.0 -0.4**
comp=Z,4μmcomp=Z,552nm,1.0s
TPUB Ta-pu 63.56 310 P **P** **13 16 32.9 -0.5**
TPUB IAmb IAmb 13 16 36.6
comp=Z,391nm,0.9s
SSLB Suanglung 63.63 310 P **P** **13 16 33.3 -0.5**
SSLB IAmb IAmb 13 16 37.1
comp=Z,223nm,0.7s
JNU Nakatsue 63.77 325 P **P** **13 16 34.7 +0.2**
comp=Z,347nm,1.0s,baz=120,slow=4.4,SNR=26
JNU LR LR 13 41 19.1
comp=Z,838nm,20.2s,baz=131,slow=33
JNU Nakatsue 63.77 325 P **P** **13 16 34.8 +0.3**
PPBI Pangkal Pinang 63.78 277 P **P** **13 16 35.8 +0.8**
comp=Z,136nm,1.0s
YHNB Yeheng 63.88 311 P **P** **13 16 35.4 -0.1**
YHNB IAmb IAmb 13 16 43.4
comp=Z,687nm,1.1s
TATO Taipei 63.99 312 P **P** **13 16 36.1 0.0**
TATO IAmb IAmb 13 16 40.7
comp=Z,512nm,1.1s
TATO Taipei 63.99 312 P **P** **13 16 36.3 +0.3**
TATO Taipei 63.99 312 ⇓P **P** **13 16 36.9 +0.8**
TATO X 13 16 52.7
TATO ⇑pP **pP** **13 16 56.2 0.0**
JHS Saijyo 64.05 328 P **P** **13 16 36.9 +0.7**
JHS IAmb IAmb 13 16 39.9
comp=Z,256nm,0.9s
KLI Kotabumi 64.07 274 P **P** **13 16 35.7 -1.1**
comp=Z,8μmcomp=Z,336nm,1.0s
JSD Sado 64.13 333 P **P** **13 16 37.1 +0.4**
KASI Kota Agung 64.19 273 P **P** **13 16 37.2 -0.4**
comp=Z,7μmcomp=Z,846nm,0.9s
LWLI Liwa 64.77 274 P **P** **13 16 41.5 -0.1**
comp=Z,10μmcomp=Z,740nm,0.9s
PMBI Palembang 64.80 276 P **P** **13 16 41.7 +0.1**
PMBI Palembang 64.80 276 P **P** **13 16 42.9 +1.3**
comp=Z,27μmcomp=Z,982nm,1.0s
JTM Tenmabayashi 65.38 337 P **P** **13 16 44.9 +0.2**
JTM IAmb IAmb 13 16 48.2
comp=Z,414nm,1.0s
JTU Tsushima 65.64 325 P **P** **13 16 46.0 -0.5**
ERM Erimo 65.72 339 P **P** **13 16 47.1 +0.2**
ERM pmax pmax
comp=Z,236nm,1.6s
ERM Erimo 65.72 339 P **P** **13 16 47.1 +0.2**
DSRI Dabo 65.83 279 P **P** **13 16 49.1 +0.8**
comp=Z,2μmcomp=Z,1μmcomp=Z,102nm,1.1s
MNAI Manna 66.02 274 P **P** **13 16 48.9 -0.6**
MNAI Manna 66.02 274 P **P** **13 16 49.2 -0.3**
comp=Z,11μmcomp=Z,1μm,0.8s
QZH Quanzhou 66.04 310⇓*iP* **P** **13 16 50.6 +1.3**
QZH pP **pP** **13 17 09.5 -0.1**
QZH S **S** **13 25 33.8 +2.4**
QZH pmax pmax
comp=Z,68nm,1.0s
QZH pmax pmax
comp=Z,790nm,4.9s
QZH LR LR
comp=Z,670nm,16.3s
QZH LR LR
comp=Z,660nm,12.8s
QZH LR LR
comp=Z,670nm,20.2s
JMBI JAMBI 66.30 277 P **P** **13 16 53.3 +2.0**
comp=Z,5μmcomp=Z,486nm,1.0s
TPRI Tanjung Pinang 66.39 280 P **P** **13 16 52.7 +0.9**
comp=Z,4μmcomp=Z,230nm,1.1s
JEW Eniwo 67.04 338 P **P** **13 16 55.2 -0.1**
JEW IAmb IAmb 13 16 58.6
comp=Z,443nm,1.0s
MASI Maura Aman, Be 67.10 275 P **P** **13 16 56.5 +0.1**
comp=Z,7μmcomp=Z,879nm,0.9s
KUR Kuril'sk 67.25 344*c iP* **P** **13 16 58.6 +2.1**
KUR pmax pmax
comp=Z,1μm,1.3s
MYKOM Kota Tinggi 67.34 281 P **P** **13 16 57.3 -0.5**
JKA Kamikawa-asahi 67.78 340 P **P** **13 17 00.5 +0.5**
JKA IAmb IAmb 13 17 04.2
comp=Z,679nm,1.1s
ASAJ Asahikawa 67.78 340 P **P** **13 17 02.0 +2.0**
comp=Z,549nm,1.0s,baz=225,slow=11,SNR=73
ASAJ LR LR 13 41 35.9
comp=Z,1μm,21.8s,baz=162,slow=31
HKPS Hong Kong Po S 67.83 305 P **P** **13 17 00.2 -0.6**
RGRI Rengat 67.97 278 P **P** **13 17 02.6 +0.7**
comp=Z,61μmcomp=Z,224nm,0.6s
TJN Taejon 68.12 325*ceP* **P** **13 17 03.1 +0.8**
TJN Taejon 68.12 325 P **P** **13 17 02.6 +0.4**
SSE Sheshan 68.13 317 P **P** **13 17 03.4 +1.0**
SSE S **S** **13 25 54.3 -2.0**
SSE pmax pmax
comp=Z,52nm,1.1s
SSE pmax pmax
comp=Z,280nm,5.3s
SSE LR LR
comp=Z,370nm,16.5s
SSE LR LR
comp=Z,290nm,16.7s
KRJI Kerinci 68.19 276 P **P** **13 17 03.2 -0.1**
comp=Z,10μmcomp=Z,647nm,1.0s
KSRS Korea Array 68.62 326 P **P** **13 17 06.8 +1.4**
comp=Z,27nm,0.8s,baz=147,slow=6.0,SNR=47
KSRS PP PP 13 19 26.6 -11
comp=Z,17nm,1.1s,baz=148,slow=8.1,SNR=5.0
KSRS PKiKP **PKiKP** **13 23 25.4 +0.8**
comp=Z,4.2nm,1.0s,baz=146,slow=1.3,SNR=4.3
KSAR Wonju Array Be 68.63 326 P **P** **13 17 05.8 +0.4**
KSAR Wonju Array Be 68.63 326 P **P** **13 17 05.8 +0.4**
KS19 Wonju Array Si 68.68 326 P **P** **13 17 06.1 +0.3**
GZH Guangzhou 68.89 305 P **P** **13 17 08.9 +1.6**
GZH S **S** **13 26 06.9 +1.3**
PPSI Pulau Pagai 69.32 275 P **P** **13 17 10.7 +0.4**
comp=Z,8μmcomp=Z,630nm,1.1s
INCN Inchon 69.33 325 P **P** **13 17 10.6 +0.8**
INCN pmax pmax
comp=Z,384nm,1.1s
INCN Inchon 69.33 325 P **P** **13 17 10.6 +0.8**
INCN IAmb IAmb 13 17 14.2
comp=Z,384nm,1.1s
INCN Inchon 69.33 325 P **P** **13 17 10.3 +0.5**
INCN Inchon 69.33 325 ⇓P **P** **13 17 11.0 +1.2**
INCN X 13 17 21.0
INCN pP **pP** **13 17 27.5 -2.7**
BKNI Bangkinang 69.42 278 P **P** **13 17 11.1 +0.2**
BKNI Bangkinang 69.42 278 P **P** **13 17 11.6 +0.7**
comp=Z,9μmcomp=Z,695nm,1.0s
COCO West Island 69.42 264 P **P** **13 17 13.6 +2.7**
QIZ Qiongzhong 69.55 300⇑*iP* **P** **13 17 13.9 +2.4**
QIZ sP **pP** **13 17 32.5 +0.7**
QIZ S **S** **13 26 15.6 +2.0**
QIZ sS **pS** **13 26 40.3 +3.2**
QIZ SS **SS** **13 30 40.4 -2.7**
QIZ pmax pmax
comp=Z,100nm,1.1s
QIZ LR LR
comp=Z,590nm,35.0s
QIZ LR LR
comp=Z,820nm,17.2s
QIZ LR LR
comp=Z,1μm,36.6s
HJU Haeju 70.23 325 P **P** **13 17 16.2 +0.9**
HJU pP **pP** **13 17 33.6 -2.1**
HJU S **S** **13 26 23.6 +2.8**
HJU AmB
comp=Z,284nm,1.4s
HJU AMS AMS
comp=N,365nm,2.2s
HJU AMS AMS
comp=E,1μm,8.0s
HJU AMS AMS
comp=Z,733nm,4.5s
NJ2 Nanjing 70.27 316 ⇓P **P** **13 17 16.8 +1.2**
NJ2 pP **pP** **13 17 31.8 -4.3**
NJ2 sP **PcP** **13 17 39.8 +2.9**
NJ2 S **S** **13 26 22.6 +1.1**
NJ2 sS **SKiKP** **13 26 53.1 -0.3**
NJ2 SKS **SKKSac** **13 27 10.4 +0.2**
NJ2 pmax pmax
comp=Z,71nm,1.4s
NJ2 pmax pmax
comp=Z,830nm,3.5s
NJ2 LR LR
comp=Z,1μm,14.5s
NJ2 LR LR
comp=Z,1μm,16.4s
NJ2 LR LR
comp=Z,1μm,18.7s
YSS Yuzh-Sakhalins 70.27 341κ*eP* **P** **13 17 17.2 +1.9**
YSS *e*SS SS 13 30 53.6 +0.4
YSS pmax pmax
comp=Z,2μm,3.5s
YSS pmax pmax
comp=Z,450nm,1.2s
YSS Yuzh-Sakhalins 70.27 341 P **P** **13 17 16.5 +1.2**
YSS IAmb IAmb 13 17 19.6
comp=Z,672nm,1.2s
YSS Yuzh-Sakhalins 70.27 341 ⇓P **P** **13 17 17.1 +1.8**
YSS pP **PcP** **13 17 35.8 +2.1**
QSPA South Pole Qui 70.55 180 P **P** **13 17 17.2 +0.1**
comp=Z,126nm,0.9s,baz=18,slow=2.0,SNR=72
QSPA LR LR 13 46 51.9
comp=Z,929nm,18.1s,baz=31,slow=35
QSPA South Pole Qui 70.55 180 P **P** **13 17 16.9 -0.2**
QSPA IAmb IAmb 13 17 38.9
comp=Z,582nm,1.4s
QSPA South Pole Qui 70.55 180 ⇓P **P** **13 17 18.0 +0.9**
QSPA ⇑pP **pP** **13 17 37.4 0.0**
HHU Hamhung 70.67 327 P **P** **13 17 18.8 +0.9**
HHU pP **PcP** **13 17 38.5 +0.1**
HHU S **S** **13 26 29.8 +4.0**
HHU AmB
comp=Z,139nm,1.2s
HHU AMS AMS

HHU AMS AMS
comp=E,319nm,3.7s
HHU AMS AMS
comp=Z,248nm,2.8s
SISI Saibi 70.67 276 P **P** **13 17 19.8 +1.2**
comp=Z,3μmcomp=Z,94nm,1.1s
SKR Severo-Kuril's 70.80 351 *e*P **P** **13 17 19.1 +0.7**
SKR *e*S **S** **13 26 30.7 +3.8**
SKR pmax pmax
comp=Z,400nm,3.6s
SKR pmax pmax
comp=Z,800nm,3.0s
PYAG Pyongyang 70.94 326 P **P** **13 17 21.0 +1.5**
PYAG pP **PcP** **13 17 37.8 -1.8**
PYAG S **S** **13 26 32.0 +3.0**
PYAG AmB
comp=Z,367nm,2.1s
PYAG AMS AMS
comp=N,1μm,7.4s
PYAG AMS AMS
comp=E,473nm,2.6s
PYAG AMS AMS
comp=Z,462nm,2.5s
MNSI Mandailing Nat 70.95 278 P **P** **13 17 20.0 -0.2**
comp=Z,3μmcomp=Z,103nm,0.8s
IPM Ipoh 70.95 282 P **P** **13 17 20.4 +0.1**
MSHR Mys Shultsa 70.96 331 *ce*P **P** **13 17 21.2 +1.6**
MSHR pmax pmax
comp=Z,196nm,1.3s
VLA Vladivostok 71.06 332 *i* P **P** **13 17 21.4 +1.2**
VLA pmax pmax
comp=Z,279nm,1.4s
UBPT Khong Chiam 71.44 294 P **P** **13 17 24.1 +1.1**
KULM Kulim 71.61 283 P **P** **13 17 24.3 +0.1**
USA0B Ussuriysk Arra 71.88 333 P **P** **13 17 26.0 +0.8**
USA0B pmax pmax
comp=Z,374nm,1.1s
USA0B Ussuriysk Arra 71.88 333 P **P** **13 17 26.0 +0.8**
USA0B IAmb IAmb 13 17 29.1
comp=Z,374nm,1.1s
USRK Ussuriysk Ar. 71.88 333 P **P** **13 17 26.6 +1.4**
comp=Z,372nm,1.1s,baz=144,slow=3.9,SNR=115
USRK PP PP 13 19 58.0 -8.1
comp=Z,8.4nm,0.9s,baz=116,slow=6.6,SNR=2.1
USRK LR LR 13 49 13.0
comp=Z,193nm,19.3s,baz=126,slow=36
USRK Ussuriysk Ar. 71.88 333 P **P** **13 17 26.0 +0.9**
CNSH ChangSha 72.03 310 ⇑P **P** **13 17 28.3 +1.9**
CNSH S **S** **13 26 45.3 +3.2**
CNSH pmax pmax
comp=Z,100nm,1.0s
CNSH LR LR
comp=Z,750nm,19.1s
CNSH LR LR
comp=Z,920nm,23.7s
CNSH LR LR
comp=Z,1μm,25.5s
SHEM Shemya Is, Ala 72.06 3 LR LR 13 42 20.0
comp=Z,1μm,21.8s,baz=194,slow=30
SMY Shemya 72.06 3 P **P** **13 17 25.6 -0.3**
SMY pmax pmax
comp=Z,1μm,1.3s
SMY Shemya 72.06 3 P **P** **13 17 25.6 -0.3**
KIWB Kanaga Island 72.07 9 P **P** **13 17 26.1 0.0**
ADK Adak 72.17 9 P **P** **13 17 26.6 -0.1**
ADK pmax pmax
comp=Z,594nm,1.2s
ADK Adak 72.17 9 P **P** **13 17 26.6 -0.1**
ADK IAmb IAmb 13 17 29.4
comp=Z,594nm,1.2s
RPSI Rantau Prapat 72.24 279 P **P** **13 17 27.8 -0.2**
RPSI S **S** **13 26 41.4 -3.7**
PSI Prapat 72.28 280 P **P** **13 17 27.8 -0.6**
comp=Z,82nm,0.9s,baz=158,slow=4.3,SNR=14
PSI PP **PP** **13 20 02.5 -7.6**
comp=Z,12nm,1.0s,baz=138,slow=15,SNR=1.5
PSI S **S** **13 26 41.4 -4.4**
comp=Z,1.8nm,0.3s,baz=243,slow=20,SNR=8.2
PSI LR LR 13 52 10.3
comp=Z,1μm,19.3s,baz=136,slow=38
GULI GuiLin 72.36 306 ⇑P **P** **13 17 30.9 +2.4**
GULI S **S** **13 26 47.3 +1.3**
GULI SKS **SKSac** **13 27 21.8 -4.5**
GULI pmax pmax
comp=Z,170nm,1.5s
GULI LR LR
comp=Z,470nm,21.7s
GULI LR LR
comp=Z,860nm,21.7s
GULI LR LR
comp=Z,2μm,24.9s
UGL Uglegorsk 72.38 342 *e*P **P** **13 17 30.0 +2.1**
UGL *e*S **S** **13 26 49.9 +4.8**
UGL *e* 13 27 22.5
UGL pmax pmax
comp=Z,2μm,2.0s
UGL pmax pmax
comp=Z,430nm,1.2s
UGL smax smax
comp=E,2μm,7.0s
UGL smax smax
comp=N,1μm,4.0s
SUJ Sinuiju 72.38 326 P **P** **13 17 29.1 +1.0**
SUJ pP **pP** **13 17 48.6 -0.1**
SUJ S **S** **13 26 48.5 +3.0**
SUJ AmB
comp=Z,274nm,1.3s
SUJ AMS AMS
comp=N,1μm,10.7s
SUJ AMS AMS
comp=E,309nm,2.4s
SUJ AMS AMS
comp=Z,595nm,4.7s
WHN Wuhan 72.39 312 ⇓*i*P **P** **13 17 29.5 +1.0**
WHN pP **PcP** **13 17 41.9 -4.1**
WHN sP **pP** **13 17 49.3 +0.2**
WHN S **S** **13 26 45.9 -0.1**
WHN SKS **SKSac** **13 27 25.1 -1.1**
WHN pmax pmax
comp=Z,980nm,2.0s
WHN LR LR
comp=Z,2μm,15.4s
WHN LR LR
comp=Z,740nm,13.0s
WHN LR LR
comp=Z,2μm,25.4s
GSTR Great Sitkin T 72.47 10 P **P** **13 17 28.0 -0.5**
PET Petropavlovsk 72.78 353 *e*P **P** **13 17 30.9 +0.7**
PET *e**SP **sP** **13 17 56.1 -3.4**
PET *e*S **S** **13 26 52.0 +2.5**
PET *e**SS **sS** **13 27 23.5 -1.5**
PET *e*SS **SS** **13 31 29.8 -1.7**
PET pmax pmax
comp=Z,3μm,5.9s
PET pmax pmax
comp=Z,2μm,15.3s
PET pmax pmax
comp=Z,433nm,0.8s
PET Petropavlovsk 72.78 353 P **P** **13 17 29.8 -0.5**
PET IAmb IAmb 13 17 36.0
comp=Z,282nm,0.9s
TSI Tuntungan 72.87 280 P **P** **13 17 31.7 0.0**
comp=Z,8μmcomp=Z,147nm,0.8s
PEA0B Petropavlovsk- 72.97 353 *ce*P **P** **13 17 32.5 +1.1**
PEA0B Petropavlovsk- 72.97 353 P **P** **13 17 31.4 -0.1**
PETK Petropavlovsk- 72.97 353 P **P** **13 17 31.6 +0.2**
comp=Z,515nm,1.1s,baz=136,slow=6.0,SNR=113
PETK LR LR 13 44 31.5
comp=Z,1μm,21.2s,baz=156,slow=32
PETK Petropavlovsk- 72.97 353 P **P** **13 17 31.0 -0.4**
GSI Gunungsitoli 73.00 278 P **P** **13 17 32.0 -0.5**
GSI IAmb IAmb 13 17 35.5
comp=Z,241nm,1.0s
GSI Gunungsitoli 73.00 278 P **P** **13 17 33.6 +1.1**
comp=Z,4μmcomp=Z,289nm,1.0s
DL2 Dalian 73.11 323 ⇓*i*P **P** **13 17 33.6 +1.0**
DL2 pP **PcP** **13 17 50.5 +1.7**
DL2 S **SKiKP** **13 26 56.0 -1.4**
DL2 pmax pmax
comp=Z,260nm,0.9s
DL2 pmax pmax
comp=Z,820nm,5.5s
DL2 LR LR
comp=Z,460nm,11.2s
DL2 LR LR
comp=Z,650nm,20.2s
DL2 LR LR
comp=Z,1μm,24.0s
MDJ Mudanjiang 73.26 332 P **P** **13 17 33.4 0.0**
MDJ IAmb IAmb 13 17 37.3
comp=Z,439nm,1.1s
MDJ Mudanjiang 73.26 332 P **P** **13 17 34.3 +1.0**
MDJ pP PcP 13 17 49.8 +0.4
MDJ sP sP 13 17 59.1 -3.5
MDJ S **SKiKP** **13 27 02.1 +4.6**
MDJ pmax pmax
comp=Z,320nm,1.1s
MDJ pmax pmax
comp=Z,2μm,5.7s
MDJ LR LR
comp=Z,2μm,20.0s
KCSI Kotacane, Aceh 73.61 280 P **P** **13 17 35.3 -0.8**
comp=Z,2μmcomp=Z,110nm,1.4s
TYV Tymovskoe 73.81 343 *e*P **P** **13 17 38.1 +1.7**
TYV *e*S **S** **13 27 04.5 +3.2**
TYV pmax pmax
comp=Z,1μm,3.9s
TYV pmax pmax
comp=Z,213nm,1.1s
TYV smax smax
comp=N,900nm,7.6s
TYV smax smax
comp=E,1μm,7.6s
SRIT Nakonsritamara 73.84 285 P **P** **13 17 36.8 -0.6**
TIA Tai'an 74.02 319 ⇓P **P** **13 17 38.8 +0.8**
TIA pP **PcP** **13 17 55.3 +2.5**
TIA S **S** **13 27 04.9 +0.6**
TIA pmax pmax
comp=E,210nm,1.1s
TIA LR LR
comp=E,580nm,15.7s
TIA LR LR
comp=E,800nm,18.6s
TIA LR LR
comp=E,1μm,27.9s
SNY Shenyang 74.10 326 ⇓P **P** **13 17 39.1 +0.8**
SNY S **S** **13 27 05.4 +0.5**
SNY pmax pmax
comp=E,57nm,0.9s
SNY pmax pmax
comp=E,560nm,3.7s
SNY LR LR
comp=E,990nm,19.4s
SNY LR LR
comp=E,910nm,20.4s
SNY LR LR
comp=E,1μm,34.6s
RPN Rapa Nui 74.16 114 LR LR 13 42 35.6
comp=E,480nm,19.1s,baz=259,slow=30
CN2 Changchun 74.58 329 *e*P **P** **13 17 41.8 +0.7**
CN2 S **S** **13 27 11.5 +1.2**
CN2 SS **SS** **13 31 58.8 -0.6**
CN2 pmax pmax
comp=E,200nm,1.2s
CN2 pmax pmax
comp=E,100nm,4.0s
CN2 LR LR
comp=E,600nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=E,400nm,20.0s
NIKH Nikolski High 74.67 14 P **P** **13 17 41.0 -0.4**
NIKH Nikolski High 74.67 14 P **P** **13 17 41.1 -0.3**
baz=202,SNR=59
BNX BinXian 75.11 331 ⇑P **P** **13 17 44.8 +0.7**
BNX pmax pmax
comp=E,360nm,0.9s
BNX pmax pmax
comp=E,2μm,5.4s
GRNR Gornyy 75.63 339 ⇓*i*P **P** **13 17 49.1 +2.2**
GRNR *e*S **S** **13 27 27.8 +6.2**
GRNR pmax pmax
comp=E,70nm,1.2s
GRNR pmax pmax
comp=N,80nm,1.1s
GRNR pmax pmax
comp=Z,290nm,1.2s
GRNR smax smax
comp=N,2.0nm,0.9s
ENH Enshi 75.69 310 P **P** **13 17 47.7 -0.1**
GYA Guiyang 75.82 305 ⇑*i*P **P** **13 17 50.5 +1.8**
GYA pP pP 13 18 11.3 +1.8
GYA S **S** **13 27 24.3 -0.6**
GYA sS sS 13 27 58.8 -1.2
GYA SS **SS** **13 32 16.6 -2.3**
GYA pmax pmax
comp=N,95nm,1.3s
GYA pmax pmax
comp=N,600nm,5.0s
GYA LR LR
comp=N,520nm,21.3s
GYA LR LR
comp=N,520nm,20.5s
GYA LR LR
comp=N,1μm,24.9s
LYN LuoYang 76.02 315 ⇓*i*P **P** **13 17 50.8 +1.3**
LYN pP pP 13 18 11.5 +1.2
LYN PP **PP** **13 20 45.5 +4.1**
LYN S **S** **13 27 27.1 +0.5**
LYN SS **SS** **13 32 18.1 -3.4**
LYN pmax pmax
comp=N,350nm,0.9s
LYN pmax pmax
comp=N,810nm,7.3s
LYN LR LR
comp=N,1μm,22.0s
LYN LR LR
comp=N,820nm,27.3s
LYN LR LR
comp=N,1μm,22.9s
UNV Unalaska Valle 76.02 15 P **P** **13 17 48.8 -0.3**
UNV IAmb IAmb 13 17 53.2
comp=Z,509nm,1.0s
UNV Unalaska Valle 76.02 15 P **P** **13 17 48.5 -0.5**
baz=204,SNR=26
KLR Kul'dur 76.03 336 P **P** **13 17 50.8 +1.5**
comp=Z,198nm,1.1s,baz=125,slow=3.8,SNR=126
KLR LR LR 13 46 34.8
comp=Z,954nm,22.0s,baz=147,slow=32
KLR Kul'dur 76.03 336 *ce*P **P** **13 17 50.7 +1.5**
KLR pmax pmax
comp=Z,330nm,1.5s
HNS HongShan 76.27 318 ⇓P **P** **13 17 52.4 +1.5**
HNS pP **pP** **13 18 12.5 +0.9**
HNS S **S** **13 27 31.6 +2.4**
HNS ScS **ScS** **13 27 58.3 -0.9**
HNS SS **SS** **13 32 22.4 -2.8**
HNS pmax pmax
comp=Z,210nm,1.2s
HNS LR LR
comp=Z,330nm,17.6s
HNS LR LR
comp=Z,700nm,19.5s
HNS LR LR
comp=Z,910nm,20.6s
NKL Nikolayevsk 76.40 343 *e*P **P** **13 17 52.2 +1.0**
NKL *e*S **S** **13 27 28.6 -1.3**
NKL pmax pmax
comp=N,1.0nm,1.1s
NKL pmax pmax
comp=E,4.0nm,1.1s
NKL pmax pmax
comp=Z,458nm,1.1s
NKL smax smax
comp=E,2.0nm,3.4s
NKL smax smax
comp=N,1.0nm,3.6s
BJT Baijiatuau 77.01 321 P **P** **13 17 55.6 +0.6**
BJT pmax pmax
comp=Z,195nm,0.8s
BJT Baijiatuau 77.01 321 P **P** **13 17 55.6 +0.6**
BJT IAmb IAmb 13 17 59.5
comp=Z,195nm,0.8s
BJI Beijing 77.02 321 P **P** **13 17 56.3 +1.3**
BJI PcP **PcP** **13 18 08.0 +2.3**
BJI sP **sP** **13 18 21.0 -3.4**
BJI PP **PP** **13 20 47.4 -2.3**
BJI S **S** **13 27 41.6 +4.3**
BJI SS **SS** **13 32 40.8 +4.4**
BJI pmax pmax
comp=Z,93nm,1.0s
BJI pmax pmax
comp=Z,1μm,5.8s
BJI LR LR
comp=Z,580nm,15.5s
BJI LR LR
comp=Z,820nm,14.5s
BJI LR LR
comp=Z,1μm,35.5s
FALS False Pass 77.71 16 P **P** **13 17 58.8 +0.3**
FALS IAmb IAmb 13 17 59.7
comp=Z,507nm,1.4s
FALS False Pass 77.71 16 P **P** **13 17 57.5 -1.0**
baz=206
FALS S **S** **13 27 49.2 +5.1**
baz=206
TIY Taiyuan 77.90 317 ⇑P **P** **13 18 02.0 +1.9**
TIY S **S** **13 27 50.3 +3.2**
TIY sS **sS** **13 28 18.3 -4.1**
TIY pmax pmax
comp=Z,630nm,1.3s
TIY LR LR
comp=Z,350nm,14.5s
TIY LR LR
comp=Z,560nm,26.8s
TIY LR LR
comp=Z,830nm,22.7s
MAW Mawson 78.12 202 P **P** **13 18 02.7 +1.9**
comp=Z,54nm,1.0s,baz=107,slow=5.9,SNR=27
MAW LR LR 13 47 59.7
comp=Z,1μm,21.9s,baz=99,slow=32
MAW Mawson 78.12 202 P **P** **13 18 01.2 +0.4**
baz=78,SNR=17
MAW Mawson 78.12 202 P **P** **13 18 01.3 +0.4**
XAN Xi'an 78.15 313 P **P** **13 18 02.9 +1.3**
XAN S **S** **13 27 50.6 +0.7**
XAN SS **SS** **13 32 56.6 +2.8**
XAN pmax pmax
comp=Z,280nm,1.1s
XAN pmax pmax
comp=Z,1μm,5.2s
XAN LR LR
comp=Z,670nm,23.5s
XAN LR LR
comp=Z,630nm,15.1s
XAN LR LR
comp=Z,860nm,20.6s
KMI Kunming 78.25 302 ⇓P **P** **13 18 05.0 +2.5**
KMI pP pP 13 18 24.5 +1.2
KMI PP **PP** **13 21 04.0 +3.4**
KMI S **S** **13 27 54.9 +3.2**
KMI SKS **SKSac** **13 28 09.6 -0.9**
KMI sS sS 13 28 26.0 -0.8
KMI pmax pmax
comp=Z,270nm,1.2s
KMI pmax pmax
comp=Z,610nm,3.5s
KMI LR LR
comp=Z,500nm,25.1s
KMI LR LR
comp=Z,620nm,20.8s
KMI LR LR
comp=Z,1μm,27.5s
SPIA Saint Paul Isl 78.33 11 P **P** **13 18 02.3 +0.4**
SPIA Saint Paul Isl 78.33 11 P **P** **13 18 02.0 +0.1**
baz=200,SNR=5.8
CM31 Chiang Mai Arr 78.44 294 P **P** **13 18 04.5 +1.1**
CM31 Chiang Mai Arr 78.44 294 P **P** **13 18 05.6 +2.2**
CMAR Chiang Mai Arr 78.44 294 P **P** **13 18 05.4 +2.0**
comp=Z,52nm,0.8s,baz=129,slow=4.0,SNR=194
CMAR PKKPbc **PKKPbc** **13 37 00.1 +0.1**
comp=Z,3.8nm,0.9s,baz=287,slow=3.9,SNR=10
CMAR PKPPKP 13 45 06.0
comp=Z,2.9nm,0.9s,baz=295,slow=3.6,SNR=10
CMAR LR LR 13 52 23.9
comp=Z,237nm,20.4s,baz=95,slow=35
CMAR Chiang Mai Arr 78.44 294 P **P** **13 18 04.8 +1.3**
CHTO Chiang Mai 78.59 295 P **P** **13 18 05.5 +1.2**
CHTO pmax pmax
comp=Z,100nm,0.9s
CHTO Chiang Mai 78.59 295 P **P** **13 18 05.5 +1.2**
CHTO Chiang Mai 78.59 295 P **P** **13 18 06.0 +1.7**
SDPT Sand Point 78.93 17 P **P** **13 18 04.9 -0.3**
SDPT IAmb IAmb 13 18 07.3
comp=Z,326nm,1.0s
SDPT Sand Point 78.93 17 P **P** **13 18 04.7 -0.6**
baz=209
XLT XiLinHaoTe 79.55 324 ⇓*i*P **P** **13 18 10.1 +1.1**
XLT PcP **PcP** **13 18 17.8 +1.1**
XLT pP pP 13 18 26.4 -3.5
XLT sP sP 13 18 34.3 -4.1
XLT S **S** **13 28 07.3 +2.9**
XLT sS pS 13 28 32.8 +2.5
XLT SS **SS** **13 33 18.5 +4.0**
XLT pmax pmax
comp=Z,180nm,1.1s
XLT pmax pmax
comp=Z,1μm,3.7s
XLT LR LR
comp=Z,68nm,17.0s
XLT LR LR
comp=Z,550nm,21.8s
XLT LR LR
comp=Z,1μm,20.8s
PZH PanZhiHua 79.69 303 P **P** **13 18 11.4 +1.1**
PZH pP **pP** **13 18 30.4 -0.7**
PZH S **S** **13 28 07.1 +0.4**
PZH ScS **ScS** **13 28 29.8 +2.0**
PZH sS **sS** **13 28 37.3 -4.5**
PZH SS **SS** **13 33 15.0 -2.3**
PZH pmax pmax
comp=Z,80nm,1.3s
PZH pmax pmax
comp=Z,600nm,5.2s
PZH LR LR
comp=Z,2μm,25.0s
PZH LR LR
comp=Z,2μm,25.2s
PZH LR LR
comp=Z,3μm,22.5s
MA2 Magadan 80.20 351 LR LR 13 49 50.0
comp=Z,1μm,21.1s,baz=168,slow=33
MA2 Magadan 80.20 351 *ce*P **P** **13 18 11.7 -0.3**
MA2 pmax pmax
comp=Z,233nm,1.0s
MA2 Magadan 80.20 351 P **P** **13 18 11.7 -0.3**
MA2 IAmb IAmb 13 18 15.1
comp=Z,289nm,1.2s
CD2 Chengdu 80.25 308 ⇓*i*P **P** **13 18 14.6 +1.5**
CD2 pP pP 13 18 32.3 -1.6
CD2 sP sP 13 18 40.1 -2.3
CD2 S **S** **13 28 14.3 +2.0**
CD2 SKS **SKKSac** **13 28 25.1 -0.9**
CD2 pmax pmax
comp=Z,120nm,1.4s
CD2 pmax pmax
comp=Z,840nm,5.7s
CD2 LR LR
comp=Z,130nm,31.2s
CD2 LR LR
comp=Z,1μm,32.9s
CD2 LR LR
comp=Z,2μm,34.2s
HHC Hu-ho-hao-te 80.30 320 *e*P **P** **13 18 14.8 +1.6**
HHC pP pP 13 18 34.5 +0.4
HHC S **S** **13 28 17.6 +5.1**
HHC pmax pmax
comp=Z,310nm,1.2s
HHC pmax pmax
comp=Z,340nm,4.8s
HHC LR LR
comp=Z,610nm,19.2s
HHC LR LR
comp=Z,570nm,20.5s
HHC LR LR
comp=Z,1μm,21.1s
CHGN Chignik 80.34 18 P **P** **13 18 12.9 0.0**
CHGN Chignik 80.34 18 P **P** **13 18 12.5 -0.4**
baz=211
CHIR Chirikof Islan 80.77 19 P **P** **13 18 15.1 -0.1**
baz=213
PAF Port-aux-Franc 81.00 221 P **P** **13 18 17.9 +1.1**
PAF pmax pmax
comp=Z,453nm,1.0s
PAF Port-aux-Franc 81.00 221 P **P** **13 18 17.9 +1.1**
PAF IAmb IAmb 13 18 41.8

comp=Z,453nm,1.0s
BTO Baotou 81.11 319 *e*P **P** **13 18 19.3 +1.8**
BTO S **S** **13 28 17.6 -3.4**
BTO LR LR
comp=Z,2µm,22.9s
BTO LR LR
comp=Z,1µm,16.9s
PBA Port Blair 81.24 286 *e*P P 13 18 13.5 -5.2
HIA Hailar 81.24 330 P **P** **13 18 18.3 +0.4**
HIA pmax pmax
comp=Z,161nm,1.0s
HIA Hailar 81.24 330 P **P** **13 18 18.3 +0.4**
ZEA Zeya 81.32 336 *e*P **P** **13 18 19.6 +1.4**
ZEA *e*S **S** **13 28 27.0 +4.7**
ZEA *e* 13 29 00.9
ZEA pmax pmax
comp=E,100nm,1.8s
ZEA pmax pmax
comp=N,200nm,1.6s
ZEA pmax pmax
comp=Z,60nm,1.8s
ZEA pmax pmax
comp=N,100nm,1.2s
ZEA pmax pmax
comp=E,20nm,1.2s
ZEA pmax pmax
comp=Z,160nm,1.1s
ZEA smax smax
comp=N,900nm,13.2s
ZEA smax smax
comp=E,900nm,9.4s
DGPR DIGLIPUR 81.64 287 *e*P **P** **13 18 21.3 +0.5**
DGPR lAmb lAmb 13 18 31.9
comp=Z,70nm,0.7s
SII Sitkinak Islan 81.84 20 P **P** **13 18 21.6 +0.7**
SII Sitkinak Islan 81.84 20 P **P** **13 18 21.2 +0.4**
baz=215,SNR=31
BELA Belgrano 2 81.85 175 P **P** **13 18 19.6 -1.2**
BELA lAmb lAmb 13 18 23.6
comp=Z,210nm,0.9s
OHAK Old Harbor 82.66 20 P **P** **13 18 25.3 +0.2**
OHAK lAmb lAmb 13 18 28.8
comp=Z,738nm,1.1s
OHAK Old Harbor 82.66 20 P **P** **13 18 25.6 +0.5**
baz=215,SNR=101
OHAK S **S** **13 28 36.6 +0.7**
baz=215
LZH Lanzhou 82.77 312 ⇓P **P** **13 18 28.8 +2.4**
LZH S **S** **13 28 33.8 -4.5**
LZH SS **SS** **13 34 06.4 +3.5**
LZH pmax pmax
comp=Z,200nm,1.5s
LZH pmax pmax
comp=Z,990nm,4.9s
LZH LR LR
comp=Z,450nm,15.2s
LZH LR LR
comp=Z,360nm,15.7s
LZH LR LR
comp=Z,470nm,15.7s
SEY Seymchan 83.20 352 P **P** **13 18 28.2 +0.5**
comp=Z,165nm,1.1s,baz=158,slow=5.7,SNR=99
SEY LR LR 13 50 55.7
comp=Z,2µm,21.2s,baz=160,slow=32
SEY Seymchan 83.20 352*ce*P **P** **13 18 28.1 +0.3**
SEY pmax pmax
comp=Z,276nm,1.3s
KDAK Kodiak Island 83.34 20 LR LR 13 49 15.6
comp=Z,2µm,20.5s,baz=235,slow=31
KDAK Kodiak Island 83.34 20*d* iP **P** **13 18 28.4 -0.2**
KDAK pmax pmax
comp=Z,957nm,1.1s
KDAK Kodiak Island 83.34 20 P **P** **13 18 28.8 +0.2**
KDAK Kodiak Island 83.34 20 P **P** **13 18 29.0 +0.4**
baz=216
KDAK S **S** **13 28 41.4 -1.3**
baz=216
SMAI San Martin Ant 83.64 162 P **P** **13 18 30.0 -0.2**
SMAI lAmb lAmb 13 18 33.8
comp=Z,325nm,1.2s
Q19K Cape Douglas, 83.95 18 P **P** **13 18 31.6 -0.1**
Q19K Cape Douglas, 83.95 18 P **P** **13 18 31.9 +0.2**
baz=215
Q19K S **S** **13 28 50.1 +1.1**
baz=215
O18K Koktuh Hills 84.26 17 P **P** **13 18 33.2 -0.1**
O18K Koktuh Hills 84.26 17 P **P** **13 18 33.2 -0.1**
baz=214,SNR=172
O18K S **S** **13 28 51.1 -1.0**
baz=214
GAMB Gambell 84.36 8 P **P** **13 18 33.8 +0.2**
GAMB lAmb lAmb 13 18 36.8
comp=Z,171nm,0.9s
GAMB Gambell 84.36 8 P **P** **13 18 34.4 +0.8**
baz=198,SNR=18
GAMB S **S** **13 28 54.5 +1.8**
baz=198
SYO Syowa Base 84.63 196 ⇓*i*P **P** **13 18 35.8 +0.6**
SYO Syowa Base 84.63 196 ⇑*e*PcP **PcP** **13 18 39.9 +1.4**
P19K Oil Pt 84.67 18 P **P** **13 18 35.5 +0.1**
P19K Oil Pt 84.67 18 P **P** **13 18 35.2 -0.2**
baz=215,SNR=348
P19K S **S** **13 28 56.3 +0.3**
baz=215
N18K Kilae Creek 84.77 16 P **P** **13 18 36.2 +0.3**
N18K lAmb lAmb 13 18 40.8
comp=Z,356nm,1.0s
N18K Kilae Creek 84.77 16 P **P** **13 18 36.2 +0.3**
baz=213,SNR=164
N18K S **S** **13 28 57.5 +0.5**
baz=213
LKP Lekhapani 84.78 301 *e*P **P** **13 18 36.9 +0.3**
LKP lAmb lAmb 13 18 41.6
comp=Z,350nm,1.3s
O19K Port Alsworth 84.80 17 P **P** **13 18 36.4 +0.5**
O19K Port Alsworth 84.80 17 P **P** **13 18 35.8 -0.1**
baz=214,SNR=324
O19K S **S** **13 28 56.0 -1.2**
baz=214
HOM Homer 85.14 19 P **P** **13 18 37.8 +0.1**
HOM Homer 85.14 19 P **P** **13 18 38.0 +0.3**
baz=217,SNR=90
HOM S **S** **13 29 03.6 +2.9**
baz=217
CNPM China Poot 85.16 19 P **P** **13 18 37.8 0.0**
O20K Slope Mountain 85.19 18 P **P** **13 18 37.6 -0.5**
baz=216,SNR=184
O20K S **S** **13 29 01.6 +0.2**
baz=216
SVW2 Sparrevohn 85.20 16 P **P** **13 18 37.7 -0.3**
SVW2 lAmb lAmb 13 18 42.4
comp=Z,532nm,1.3s
N19K Bonanza Creek 85.26 17 P **P** **13 18 37.7 -0.7**
N19K lAmb lAmb 13 18 41.2
comp=Z,247nm,1.1s
N19K Bonanza Creek 85.26 17 P **P** **13 18 37.8 -0.6**
baz=214,SNR=98
N19K S **S** **13 29 01.3 -0.8**
baz=214
MOKO MOKOCHONG 85.44 300 *e*P **P** **13 18 41.2 +1.0**
MOKO lAmb lAmb 13 18 44.6
comp=Z,154nm,0.8s
BRLK Bradley Lake 85.46 19 P **P** **13 18 38.6 -0.7**
BRLK lAmb lAmb 13 18 44.7
comp=Z,489nm,1.1s
RSO Redoubt South 85.47 18 P **P** **13 18 38.7 -0.9**
BRSE Bradley Lake S 85.49 19 P **P** **13 18 39.1 -0.3**
baz=218,SNR=197
BRSE S **S** **13 29 04.7 +0.5**
baz=218
KOHI KOHIMA 85.53 299 *e*P **P** **13 18 40.8 +0.1**
KOHI lAmb lAmb 13 18 44.1
comp=Z,855nm,1.6s
DIBR DIBRUGARH 85.59 301 *e*P **P** **13 18 42.2 +1.5**
DIBR lAmb lAmb 13 18 45.5
comp=Z,736nm,1.2s
MCCM Marconi Confer 85.78 47 P **P** **13 18 41.5 +0.1**
MCCM lAmb lAmb 13 18 44.4
comp=Z,268nm,1.1s
JORH JORHAT 85.83 300 *e*P **P** **13 18 43.3 +1.4**
JORH lAmb lAmb 13 18 46.3
comp=Z,517nm,1.0s
SNCC San Nicolas Is 85.95 53 P **P** **13 18 42.8 +0.4**
SNCC lAmb lAmb 13 18 46.3
comp=Z,411nm,1.1s
SNCC San Nicolas Is 85.95 53 P **P** **13 18 43.6 +1.3**
baz=244,SNR=21
CIT Chita 86.02 329 *e*P **P** **13 18 43.2 +0.9**
CIT *e* 13 19 23.8
CIT *e* 13 29 11.6
CIT *e* 13 30 33.8
CIT pmax pmax
comp=Z,439nm,1.4s
KMPM Mount Pierce 86.05 45 P **P** **13 18 43.7 +0.9**
KMPM lAmb lAmb 13 18 47.2
comp=Z,635nm,1.4s
KCPM Cahto Peak 86.05 46 P **P** **13 18 43.5 +0.6**
KCPM lAmb lAmb 13 18 47.0
comp=Z,506nm,1.1s
HOPS Hopland Field 86.06 46 P **P** **13 18 43.2 +0.5**
HOPS lAmb lAmb 13 18 46.8
comp=Z,372nm,1.2s
ANM Nome 86.09 11 P **P** **13 18 43.2 +0.9**
ANM pmax pmax
comp=Z,347nm,1.2s
ANM Nome 86.09 11 P **P** **13 18 43.1 +0.9**
ANM lAmb lAmb 13 18 46.5
comp=Z,347nm,1.2s
ANM Nome 86.09 11 P **P** **13 18 43.3 +0.9**
baz=204,SNR=71
ANM S **S** **13 29 12.6 +2.8**
baz=204
SAO San Andreas Ge 86.14 49 P **P** **13 18 43.8 +0.6**
SAO pmax pmax
comp=Z,253nm,1.1s
SAO San Andreas Ge 86.14 49 P **P** **13 18 43.8 +0.6**
SAO lAmb lAmb 13 18 47.2
comp=Z,253nm,1.1s
GDXM Geysers 86.16 47 P **P** **13 18 43.9 +0.5**
GDXM lAmb lAmb 13 18 47.7
comp=Z,232nm,1.2s
SEW Seward 86.18 19 P **P** **13 18 42.3 -0.4**
SEW Seward 86.18 19 P **P** **13 18 42.1 -0.7**
baz=219,SNR=45
SEW S **S** **13 29 11.4 +0.6**
baz=219
CAPN Captain Cook N 86.18 18 P **P** **13 18 43.2 +0.4**
CAPN lAmb lAmb 13 18 51.6
comp=Z,396nm,1.0s
CAPN Captain Cook N 86.18 18 P **P** **13 18 43.1 +0.4**
baz=217,SNR=18
CAPN S **S** **13 29 14.0 +3.2**
baz=217
M19K Big River Lodg 86.19 16 P **P** **13 18 42.7 -0.2**
M19K Big River Lodg 86.19 16 P **P** **13 18 43.1 +0.2**
baz=214,SNR=33
M19K S **S** **13 29 12.5 +1.5**
baz=214
KMRM Mail Ridge 86.22 45 P **P** **13 18 44.6 +1.0**
KMRM lAmb lAmb 13 18 49.5
comp=Z,489nm,1.0s
SILR SILCHAR 86.23 298 *e*P **P** **13 18 46.0 +2.0**
L19K White Mountain 86.30 16 P **P** **13 18 43.5 +0.1**
L19K lAmb lAmb 13 18 47.5
comp=Z,213nm,1.1s
L19K White Mountain 86.30 16 P **P** **13 18 43.8 +0.4**
baz=214,SNR=109
L19K S **S** **13 29 15.3 +3.2**
baz=214
JCC Jacoby Creek, 86.30 44 P **P** **13 18 44.7 +0.9**
JCC lAmb lAmb 13 18 48.2
comp=Z,357nm,1.2s
SBC Santa Barbara 86.34 52 P **P** **13 18 45.1 +0.9**
baz=243,SNR=7.5
BBGB Big Mountain B 86.34 49 P **P** **13 18 44.6 +0.3**
BBGB lAmb lAmb 13 18 50.4
comp=Z,401nm,1.0s
PMPB Monarch Peak 86.35 50 P **P** **13 18 44.1 -0.2**
PMPB lAmb lAmb 13 18 50.2
comp=Z,300nm,1.1s
O22K Cooper Landing 86.39 19 P **P** **13 18 43.2 -0.5**
O22K lAmb lAmb 13 18 55.3
comp=Z,281nm,0.9s
O22K Cooper Landing 86.39 19 P **P** **13 18 43.3 -0.5**
baz=218,SNR=26
O22K S **S** **13 29 13.4 +0.5**
baz=218
ITAN ITANAGAR 86.42 300 *e*P **P** **13 18 46.5 +1.7**
ITAN lAmb lAmb 13 18 50.0
comp=Z,135nm,0.9s
PKM Mcpherson Peak 86.47 51 P **P** **13 18 46.3 +1.2**
baz=243,SNR=95
KRPM Rodgers 86.47 44 P **P** **13 18 45.6 +0.7**
KRPM lAmb lAmb 13 18 49.5
comp=Z,418nm,1.1s
SMMC Simmler 86.52 51 P **P** **13 18 46.7 +1.5**
baz=243,SNR=58
PAGB Antelope Grade 86.52 50 P **P** **13 18 45.0 -0.2**
PAGB lAmb lAmb 13 18 48.6
comp=Z,200nm,1.1s
KHMM Horse Mountain 86.53 44 P **P** **13 18 46.2 +1.0**
SCI2 San Clemente I 86.57 53 P **P** **13 18 46.1 +0.7**
baz=244,SNR=25
TNA Tin City 86.59 9 P **P** **13 18 45.8 +1.1**
TNA lAmb lAmb 13 18 48.7
comp=Z,446nm,1.2s
TNA Tin City 86.59 9 P **P** **13 18 45.4 +0.7**
baz=202
TNA S **S** **13 29 17.7 +3.1**
baz=202
TTA Tatalina 86.64 15 P **P** **13 18 44.8 -0.3**
TTA pmax pmax
comp=Z,117nm,0.9s
TTA Tatalina 86.64 15 P **P** **13 18 44.8 -0.3**
TTA Tatalina 86.64 15 P **P** **13 18 45.2 +0.1**
baz=213,SNR=75
TTA S **S** **13 29 17.6 +2.2**
baz=213
Q23K Middleton Isla 86.67 21 P **P** **13 18 45.1 -0.2**
Q23K lAmb lAmb 13 18 49.2
comp=Z,402nm,1.1s
Q23K Middleton Isla 86.67 21 P **P** **13 18 45.0 -0.2**
baz=222,SNR=12
MID Middleton Isla 86.67 21 P **P** **13 18 45.1 -0.1**
MID pmax pmax
comp=Z,367nm,1.1s
MID Middleton Isla 86.67 21 P **P** **13 18 45.1 -0.1**
MID lAmb lAmb 13 18 49.2
comp=Z,367nm,1.1s
PMSA Palmer Station 86.73 160 P **P** **13 18 45.9 +0.3**
comp=Z,107nm,1.0s,baz=251,slow=5.1,SNR=7.2
PMSA LR LR 13 51 15.6
comp=Z,788nm,20.9s,baz=234,slow=31
PMSA Palmer Station 86.73 160 P **P** **13 18 45.5 -0.1**
PMSA lAmb lAmb 13 18 47.1
comp=Z,213nm,1.2s
FIS Fire Island 86.76 18 P **P** **13 18 45.7 +0.1**
FIS lAmb lAmb 13 18 53.5
comp=Z,184nm,0.9s
BELO BELONIA 86.78 296 *e*P **P** **13 18 49.7 +3.1**
BCW Bitter Crk WRg 86.78 51 P **P** **13 18 47.3 +0.8**
L20K Farewell, AK 86.81 16 P **P** **13 18 45.7 -0.2**
baz=215,SNR=166
L20K S **S** **13 29 18.7 +1.8**
baz=215
O02D Mt. Diablo Mer 86.82 45 P **P** **13 18 47.9 +1.3**
O02D Mt. Diablo Mer 86.82 45 P **P** **13 18 48.3 +1.7**
baz=241,SNR=461
CIS Catalina Islan 86.85 53 P **P** **13 18 47.3 +0.5**
baz=244,SNR=32
RC01 Rabbit Creek A 86.86 19 P **P** **13 18 45.2 -1.0**
RC01 Rabbit Creek A 86.86 19 P **P** **13 18 45.7 -0.4**
baz=218,SNR=39
RC01 S **S** **13 29 18.3 +0.8**
baz=218
ULN Ulaanbaatar 86.96 323*ce*P **P** **13 18 48.1 +0.9**
ULN pmax pmax
comp=Z,672nm,1.3s
ULN Ulaanbaatar 86.96 323 P **P** **13 18 47.4 +0.2**
ULN Ulaanbaatar 86.96 323 P **P** **13 18 47.7 +0.5**
TEZP TEZPUR 86.96 299 *e*P **P** **13 18 48.0 +0.6**
TEZP lAmb lAmb 13 18 52.6
comp=Z,31nm,0.7s
YAK Yakutsk 87.06 343 P **P** **13 18 47.8 +0.8**
comp=Z,211nm,1.0s,baz=101,slow=0.6,SNR=100
YAK S **SKSac** **13 29 01.1 -5.6**
comp=Z,6.8nm,0.4s,baz=117,slow=1.0,SNR=2.7
YAK LR LR 13 53 30.7
comp=Z,547nm,21.9s,baz=138,slow=33
YAK Yakutsk 87.06 343*d* iP **P** **13 18 47.2 +0.1**
YAK *e*S **SKSac** **13 29 06.6 -0.2**
YAK *e*SS **SS** **13 35 03.9 -0.8**
YAK pmax pmax
comp=Z,506nm,0.9s
YAK pmax pmax
comp=N,98nm,1.1s
YAK pmax pmax
comp=E,57nm,1.1s
YAK pmax pmax
comp=Z,111nm,2.3s
YAK pmax pmax
comp=N,97nm,2.2s
YAK pmax pmax
comp=E,90nm,2.3s
YAK smax smax
comp=E,72nm,2.2s
YAK smax smax
comp=N,68nm,2.0s
YAK Yakutsk 87.06 343 P **P** **13 18 46.9 -0.2**
FMP Fort Macarthur 87.08 53 P **P** **13 18 48.8 +0.9**
baz=244,SNR=10
PWL Port Wells 87.11 19 P **P** **13 18 46.1 -1.3**
PWL lAmb lAmb 13 18 51.8
comp=Z,345nm,1.1s
PWL Port Wells 87.11 19 P **P** **13 18 46.4 -1.1**
baz=220,SNR=158
PWL S **S** **13 29 20.8 +0.9**
baz=220
OSI Oshto Audit: C 87.15 52 P **P** **13 18 49.3 +1.1**
baz=244,SNR=10
GTA Gaotai 87.17 314 ⇓P **P** **13 18 49.6 +1.2**
GTA pP pP 13 19 02.3 -7.2
GTA sP sP 13 19 10.5 -7.4
GTA pmax pmax
comp=Z,130nm,1.1s
GTA pmax pmax
comp=Z,760nm,9.2s
GTA LR LR
comp=Z,480nm,23.5s
GTA LR LR
comp=Z,490nm,18.7s
GTA LR LR
comp=Z,1µm,22.3s
AGT Agartala 87.19 296 *e*P **P** **13 18 51.0 +2.4**
L02E Cave Junction 87.24 43 P **P** **13 18 48.1 -0.3**
L02E lAmb lAmb 13 18 52.1
comp=Z,196nm,1.2s
L02E Cave Junction 87.24 43 P **P** **13 18 49.8 +1.3**
baz=240,SNR=65
L02E S **S** **13 29 25.1 +3.1**
baz=240
N02D Trinity Center 87.26 45 P **P** **13 18 49.2 +0.5**
N02D Trinity Center 87.26 45 P **P** **13 18 50.2 +1.5**
baz=241,SNR=276
M22K Willow 87.27 18 P **P** **13 18 47.2 -0.8**
M22K Willow 87.27 18 P **P** **13 18 47.1 -1.0**
baz=218,SNR=129
M22K S **S** **13 29 22.2 +1.0**
baz=218
DECC Green Verdugo 87.28 52 P **P** **13 18 49.3 +0.4**
baz=244,SNR=20
ARVC Arvin 87.29 51 P **P** **13 18 49.7 +0.8**
baz=244,SNR=31
BILL Bilibino 87.31 359*ce*P **P** **13 18 48.3 +0.1**
BILL *e**SP **sP** **13 19 17.1 -0.8**
BILL *e*PPP PPP 13 24 09.2
BILL *i* S **SKSac** **13 29 08.3 +0.2**
BILL *e*SS **SS** **13 35 12.6 +4.4**
BILL pmax pmax
comp=Z,403nm,1.0s
BILL pmax pmax
comp=Z,776nm,1.3s
BILL Bilibino 87.31 359 P **P** **13 18 48.2 0.0**
BILL lAmb lAmb 13 18 51.5
comp=Z,425nm,1.1s
SHL Shillong 87.31 298 P **P** **13 18 48.9 -0.5**
SHL pmax pmax
comp=Z,214nm,1.3s
SHL Shillong 87.31 298 P **P** **13 18 48.9 -0.5**
SHL lAmb lAmb 13 18 52.3
comp=Z,214nm,1.3s
SHL Shillong 87.31 298 *e*P **P** **13 18 50.4 +1.0**
SHL lAmb lAmb 13 18 52.0
comp=Z,104nm,1.1s
SONM Songino Array 87.32 323 P **P** **13 18 49.7 +0.8**
comp=Z,198nm,0.9s,baz=142,slow=5.0,SNR=352
SONM S **SKSac** **13 29 06.7 -2.7**
comp=Z,0.3nm,0.4s,baz=90,slow=6.1,SNR=2.3
SONM PKKPbc **PKKPbc** **13 36 39.5 -1.6**
comp=Z,6.3nm,1.0s,baz=254,slow=2.0,SNR=12
SONM PKPPKP 13 44 45.7
comp=Z,4.3nm,1.1s,baz=241,slow=2.1,SNR=9.4
SONM LR LR 13 55 38.9
comp=Z,334nm,21.9s,baz=114,slow=34
SONM Songino Array 87.32 323 P **P** **13 18 49.2 +0.4**
SONM lAmb lAmb 13 18 52.5
comp=Z,311nm,1.0s
M02C Callahan 87.36 44 P **P** **13 18 48.1 -1.0**
M02C Callahan 87.36 44 P **P** **13 18 50.7 +1.5**
baz=241,SNR=335
PASC Pasadena Art C 87.36 52 P **P** **13 18 48.9 -0.4**
PASC lAmb lAmb 13 18 54.1
comp=Z,274nm,1.1s
ORV Oroville 87.40 46 P **P** **13 18 49.6 +0.3**
ORV pmax pmax
comp=Z,388nm,1.3s
ORV Oroville 87.40 46 P **P** **13 18 49.6 +0.3**
ORV lAmb lAmb 13 18 53.0
comp=Z,388nm,1.2s
VOG Valley Oaks Go 87.42 50 P **P** **13 18 50.2 +0.8**
baz=244
VES Vestal, Richgr 87.42 51 P **P** **13 18 49.9 +0.4**
baz=244,SNR=49
PMR Palmer 87.44 19 P **P** **13 18 48.3 -0.6**
PMR pmax pmax
comp=Z,135nm,1.0s
PMR Palmer 87.44 19 P **P** **13 18 48.3 -0.6**
PMR Palmer 87.44 19 P **P** **13 18 48.1 -0.8**
baz=219,SNR=94
PMR S **S** **13 29 24.0 +1.1**
baz=219
K02D Willamette Mer 87.46 43 P **P** **13 18 50.9 +1.2**
baz=240,SNR=122
CMB Columbia Colle 87.47 48 P **P** **13 18 50.0 +0.3**
CMB pmax pmax
comp=Z,359nm,1.1s
CMB Columbia Colle 87.47 48 P **P** **13 18 50.0 +0.3**
CMB lAmb lAmb 13 18 54.9
comp=Z,359nm,1.1s
K20K Telida 87.48 16 P **P** **13 18 48.8 -0.3**
K20K Telida 87.48 16 P **P** **13 18 49.3 +0.1**
baz=214,SNR=40
K20K S **S** **13 29 25.2 +1.8**
baz=214
KNK Knik Glacier 87.50 19 P **P** **13 18 48.3 -1.0**
KNK lAmb lAmb 13 18 54.7
comp=Z,212nm,1.0s
KNK Knik Glacier 87.50 19 P **P** **13 18 48.5 -0.7**
baz=220,SNR=88
KNK S **S** **13 29 23.3 -0.3**
baz=220
GLI Glacier Island 87.52 20 P **P** **13 18 48.2 -1.2**
GLI lAmb lAmb 13 18 53.8
comp=Z,262nm,1.0s
GLI Glacier Island 87.52 20 P **P** **13 18 48.2 -1.2**
baz=221,SNR=52
GLI S **S** **13 29 24.7 +0.9**
baz=221
J01E Myrtle Point 87.52 42 P **P** **13 18 50.2 +0.4**
J01E lAmb lAmb 13 18 53.2
comp=Z,293nm,1.1s
J01E Myrtle Point 87.52 42 P **P** **13 18 50.9 +1.2**
baz=240,SNR=41
O03E Paynes Creek 87.54 46 P **P** **13 18 50.1 +0.1**
O03E Paynes Creek 87.54 46 P **P** **13 18 50.7 +0.7**
baz=242,SNR=53
O03E S **S** **13 29 26.8 +1.8**
baz=242
CCX Cicese 87.54 55 P **P** **13 18 50.0 -0.1**
CCX lAmb lAmb 13 18 53.9
comp=Z,214nm,1.1s
PPLA Purkeypile 87.60 17 P **P** **13 18 49.4 -0.5**
PPLA Purkeypile 87.60 17 P **P** **13 18 48.6 -1.3**
baz=216,SNR=15
PPLA S **S** **13 29 22.8 -2.0**
baz=216
YBH Yreka Blue Hor 87.62 44 LR LR 13 49 40.3
comp=Z,2µm,21.5s,baz=246,slow=30

YBH Yreka Blue Hor 87.62 44 P P 13 18 51.2 +0.8
YBH pmax pmax
comp=Z,344nm,1.2s
YBH Yreka Blue Hor 87.62 44 P P 13 18 51.2 +0.8
YBH IAmb IAmb 13 18 54.6
comp=Z,344nm,1.1s
FID Port Fidalgo 87.62 20 P P 13 18 48.6 -1.2
FID IAmb IAmb 13 18 53.1
comp=Z,288nm,1.2s
109C Camp Elliot, M 87.63 54 P P 13 18 51.0 +0.5
109C IAmb IAmb 13 18 55.6
comp=Z,338nm,1.1s
109C Camp Elliot, M 87.63 54 P P 13 18 51.2 +0.7
baz=245,SNR=21
KAIM Kayak Island 87.70 21 P P 13 18 50.3 +0.1
KAIM IAmb IAmb 13 18 54.9
comp=Z,306nm,1.0s
ELS Elsinore Mount 87.70 53 P P 13 18 51.1 +0.1
ELS IAmb IAmb 13 18 56.1
comp=Z,233nm,1.1s
EYAK Cordova Ski Ar 87.71 21 P P 13 18 49.1 -1.1
EYAK Cordova Ski Ar 87.71 21 P P 13 18 49.5 -0.7
baz=222,SNR=28
EYAK S S 13 29 26.6 +1.0
baz=222
GUWA GUWAHATI 87.71 299 *e*P **P 13 18 53.1 +2.0**
CUT Chulitna 87.74 18 P P 13 18 49.2 -1.1
CUT IAmb IAmb 13 18 54.0
comp=Z,222nm,1.0s
CUT Chulitna 87.74 18 P P 13 18 48.9 -1.4
baz=218,SNR=58
CUT S S 13 29 24.5 -1.3
baz=218
BFSC Mount Baldy Ra 87.78 53 P P 13 18 51.9 +0.5
baz=245,SNR=130
ISA Isabella, Lake 87.79 51 P P 13 18 51.8 +0.5
ISA pmax pmax
comp=Z,349nm,1.1s
ISA Isabella, Lake 87.79 51 P P 13 18 51.8 +0.5
ISA IAmb IAmb 13 18 57.3
comp=Z,349nm,1.1s
ISA Isabella, Lake 87.79 51 P P 13 18 52.3 +0.9
baz=244,SNR=295
EDW2 Edwards Air Fo 87.81 52 P P 13 18 52.5 +1.0
baz=244,SNR=335
SML Sawmill 87.84 19 P P 13 18 49.9 -1.0
SML IAmb IAmb 13 18 56.5
comp=Z,242nm,1.2s
SML Sawmill 87.84 19 P P 13 18 50.2 -0.8
baz=220,SNR=68
SML S S 13 29 29.2 +2.2
baz=220
MURC Murrieta 87.86 53 P P 13 18 52.2 +0.6
baz=245,SNR=80
BAR Barrett 87.87 54 P P 13 18 51.1 -0.7
BAR IAmb IAmb 13 18 56.8
comp=Z,204nm,1.1s
TKX Tecate 87.88 54 P P 13 18 51.7 -0.1
TKX IAmb IAmb 13 18 56.8
comp=Z,230nm,1.2s
HUMO Hull Mountain 87.88 43 P P 13 18 52.3 +0.7
HUMO IAmb IAmb 13 18 55.8
comp=Z,418nm,1.1s
CCAC Calif City Air 87.91 52 P P 13 18 52.2 +0.3
CCAC IAmb IAmb 13 18 57.2
comp=Z,198nm,1.0s
DBO Dodson Butte 87.94 43 P P 13 18 52.5 +0.6
DBO IAmb IAmb 13 18 56.0
comp=Z,236nm,1.1s
GCSA Galena City Sc 87.97 14 P P 13 18 51.7 +0.3
baz=212,SNR=158
GCSA S S 13 29 30.2 +2.3
baz=212
I02E Swisshome, OR 88.04 42 P P 13 18 52.9 +0.6
I02E IAmb IAmb 13 18 57.9
comp=Z,355nm,1.4s
I02E Swisshome, OR 88.04 42 P P 13 18 53.4 +1.2
baz=240,SNR=20
CAST Castle Rocks 88.05 16 P P 13 18 50.2 -1.6
CAST IAmb IAmb 13 18 54.7
comp=Z,240nm,0.9s
CAST Castle Rocks 88.05 16 P P 13 18 50.1 -1.7
baz=216,SNR=260
CAST S S 13 29 26.9 -1.9
baz=216
HMT Hamilton 88.06 21 P P 13 18 50.8 -1.2
HMT IAmb IAmb 13 18 55.7
comp=Z,198nm,1.1s
RUBR Rubicon Trail 88.09 47 P P 13 18 52.8 -0.1
EMB Emerald Bay 88.09 47 P P 13 18 53.2 +0.3
EMB IAmb IAmb 13 18 56.7
comp=Z,308nm,1.3s
L04D Klamath Falls 88.11 44 P P 13 18 53.1 +0.3
L04D Klamath Falls 88.11 44 P P 13 18 53.9 +1.1
baz=241,SNR=98
DIV Divide 88.14 20 P P 13 18 51.4 -0.9
DIV IAmb IAmb 13 18 55.9
comp=Z,172nm,1.0s
J20K Nowinta River 88.14 15 P P 13 18 51.8 -0.4
J20K Nowinta River 88.14 15 P P 13 18 52.1 -0.1
baz=214,SNR=57
J20K S S 13 29 31.6 +2.1
baz=214
MONP2 Monument Peak 88.15 54 P P 13 18 54.2 +0.9
baz=245,SNR=154
I03D Drain, OR 88.16 42 P P 13 18 53.8 +1.0
baz=241,SNR=50
I03D S S 13 29 32.1 +1.5
baz=241
SCM Sheep Creek Mo 88.17 19 P P 13 18 51.5 -1.0
SCM pmax pmax
comp=Z,138nm,1.0s
SCM Sheep Creek Mo 88.17 19 P P 13 18 51.5 -1.0
SCM IAmb IAmb 13 18 58.0
comp=Z,138nm,1.0s
SCM Sheep Creek Mo 88.17 19 P P 13 18 51.9 -0.6
baz=220,SNR=52
SCM S S 13 29 31.7 +1.6
baz=220
DIB Dawson Inlet, 88.19 31 P P 13 18 53.1 +0.5
DIB IAmb IAmb 13 18 57.9
comp=Z,220nm,1.0s
H02S1 DAWSON INLET T 88.19 31 P P 13 18 54.2 +1.6
SNR=17
M04C Macdoel 88.21 44 P P 13 18 53.8 +0.5
M04C IAmb IAmb 13 18 57.3
comp=Z,427nm,1.1s
M04C Macdoel 88.21 44 P P 13 18 54.5 +1.2
baz=242,SNR=225
MDPB Devils Postpil 88.21 49 P P 13 18 54.0 +0.4
MDPB IAmb IAmb 13 18 57.4
comp=Z,339nm,1.3s
BGLC Bering Glacier 88.24 22 P P 13 18 55.5 +2.8
baz=224
TROLL Troll, Antarti 88.26 184 P P 13 18 52.9 -0.2
OMMB Old Mammoth Mi 88.26 49 P P 13 18 54.4 +0.5
OMMB IAmb IAmb 13 18 57.8
comp=Z,272nm,1.3s
HG4B Hotspring 88.29 32 P P 13 18 53.8 +0.7
HG4B IAmb IAmb 13 18 57.2
comp=Z,297nm,1.2s
MPK Martis Peak 88.29 47 P P 13 18 54.3 +0.4
IKP In-Ko-Pah, Jac 88.29 55 P P 13 18 55.2 +1.4
baz=246,SNR=100
LRMC Laurel Mtn Rad 88.29 51 P P 13 18 55.0 +1.2
baz=244,SNR=63
LRMC S S 13 29 35.9 +3.3
baz=244
RMX La Rumorosa 88.30 55 P P 13 18 54.5 +0.6
RMX IAmb IAmb 13 18 59.4
comp=Z,365nm,1.1s
BEKR Beckworth 88.32 47 P P 13 18 54.3 +0.4
BEKR IAmb IAmb 13 18 57.7
comp=Z,423nm,1.4s
BBRC Big Bear Solar 88.34 53 P P 13 18 55.1 +0.9
baz=245,SNR=40
BBRC S S 13 29 38.5 +5.1
baz=245
KLU Klutina 88.36 20 P P 13 18 52.8 -0.6
KLU IAmb IAmb 13 18 57.1
comp=Z,133nm,1.0s
KLU Klutina 88.36 20 P P 13 18 52.7 -0.7
baz=222,SNR=75
KLU S S 13 29 32.0 0.0
baz=222
CHUM Lake Minchumin 88.36 16 P P 13 18 52.4 -0.9
baz=216,SNR=110
CHUM S S 13 29 31.7 0.0
baz=216
MLAC Mammoth, Mammo 88.39 49 S S 13 29 31.8 -1.8
baz=244
BMRM Bremner River 88.40 21 P P 13 18 52.6 -1.0
BMRM Bremner River 88.40 21 P P 13 18 52.4 -1.2
baz=223,SNR=34
BMRM S S 13 29 31.8 -0.5
baz=223
CWC Cottonwood Cre 88.41 50 P P 13 18 55.5 +1.1
baz=244
PFO Pinyon Flats O 88.42 54 LR LR 13 50 01.7
comp=Z,872nm,21.4s,baz=254,slow=30
PFO Pinyon Flats O 88.42 54*d i*P **P 13 18 55.2 +0.7**
PFO pmax pmax
comp=Z,175nm,1.0s
PFO Pinyon Flats O 88.42 54 P P 13 18 54.7 +0.2
PFO IAmb IAmb 13 18 59.7
comp=Z,163nm,1.1s
PFO Pinyon Flats O 88.42 54 P P 13 18 55.3 +0.9
baz=245,SNR=121
TPFO Pinon Flats 88.42 54 P P 13 18 55.3 +0.9
baz=245,SNR=109
YUH Yuha Desert 88.43 55 P P 13 18 54.9 +0.5
YUH IAmb IAmb 13 18 59.7
comp=Z,252nm,1.1s
SNH Sunshine Point 88.44 22 P P 13 18 53.9 +0.1
SNH IAmb IAmb 13 18 58.2
comp=Z,181nm,0.9s
KTH Kantishna Hill 88.47 17 P P 13 18 52.2 -1.7
KTH IAmb IAmb 13 18 56.6
comp=Z,208nm,1.0s
PNTR Pine Nut 88.50 48 P P 13 18 55.3 +0.5
PNTR IAmb IAmb 13 18 58.8
comp=Z,409nm,1.3s
RRX Edison Barstow 88.55 52 P P 13 18 55.7 +0.8
baz=245
VCNR Virginia City 88.55 47 P P 13 18 55.5 +0.4
VCNR IAmb IAmb 13 18 59.1
comp=Z,184nm,1.4s
TRF Thorofare Moun 88.56 17 P P 13 18 52.8 -1.6
TRF IAmb IAmb 13 19 00.9
comp=Z,190nm,1.0s
TRF Thorofare Moun 88.56 17 P P 13 18 53.2 -1.3
baz=218,SNR=93
TRF S S 13 29 31.9 -2.0
baz=218
TIN Tinemaha, Big 88.57 50 P P 13 18 56.1 +1.0
baz=244,SNR=40
TIN S S 13 29 36.9 +1.8
baz=244
WAT1 Susitna Watana 88.57 18 P P 13 18 53.2 -1.1
baz=219
WAT1 S S 13 29 33.6 -0.2
baz=219
NVL N'lazarevskaya 88.57 187*c i*P **P 13 18 54.3 -0.1**
NVL *e**PP **pP 13 19 16.1 +0.5**
NVL *eS* **SKSac 13 29 07.1 -9.0**
NVL pmax pmax
comp=Z,222nm,1.1s
TURI Tura 88.59 298 *e*P **P 13 18 57.2 +1.9**
SFX San Felipe 88.62 56 P P 13 18 55.0 -0.2
COR Corvallis 88.62 41 P P 13 18 55.1 +0.2
COR pmax pmax
comp=Z,375nm,1.3s
COR Corvallis 88.62 41 P P 13 18 55.1 +0.2
COR IAmb IAmb 13 18 59.3
comp=Z,375nm,1.2s
WAT6 Susitna Watana 88.62 18 P P 13 18 53.4 -1.3
baz=220,SNR=86
WAT6 S S 13 29 35.2 +0.6
baz=220
WAX Waxell Ridge 88.62 22 P P 13 18 54.2 -0.5
WAX IAmb IAmb 13 18 58.8
comp=Z,110nm,0.8s
BUCK Buck Mountain 88.63 42 P P 13 18 55.5 +0.4
HEBO Mount Hebo 88.65 41 P P 13 18 55.4 +0.2
SWSC Sam W. Stewart 88.65 54 P P 13 18 56.4 +1.0
baz=246,SNR=84
K04D Chiloquin, OR 88.67 44 P P 13 18 56.3 +0.9
baz=242
MPMC Manual Prospec 88.68 51 P P 13 18 56.8 +1.1
baz=245,SNR=294
YERR Yerington 88.70 48 P P 13 18 55.9 +0.2
YERR IAmb IAmb 13 18 59.5
comp=Z,313nm,1.2s
J04D Umpqua Nationa 88.73 43 P P 13 18 56.2 +0.4
J04D Umpqua Nationa 88.73 43 P P 13 18 57.0 +1.3
baz=242,SNR=135
M24K Tolsona, Glenn 88.74 19 P P 13 18 55.0 -0.2
M24K IAmb IAmb 13 19 04.2
comp=Z,276nm,1.3s
M24K Tolsona, Glenn 88.74 19 P P 13 18 54.0 -1.2
baz=222,SNR=27
M24K S S 13 29 35.4 -0.1
baz=222
I04A Tendick Farm, 88.80 42 P P 13 18 56.7 +0.8
baz=241,SNR=88
CPBX Cerro Prieto 88.82 55 P P 13 18 56.0 -0.1
CPBX IAmb IAmb 13 19 01.9
comp=Z,343nm,1.2s
TGL Tana Glacier 88.85 21 P P 13 18 54.6 -1.1
GSC Goldstone, Bar 88.87 52 P P 13 18 56.3 -0.2
GSC pmax pmax
comp=Z,295nm,1.4s
GSC Goldstone, Bar 88.87 52 P P 13 18 56.3 -0.2
GSC IAmb IAmb 13 19 00.3
comp=Z,295nm,1.4s
GSC Goldstone, Bar 88.87 52 P P 13 18 57.2 +0.8
baz=245,SNR=111
GSC S S 13 29 38.0 +0.1
baz=245
N25K Chitina, Valde 88.87 20 P P 13 18 54.6 -1.2
N25K Chitina, Valde 88.87 20 P P 13 18 54.7 -1.1
baz=223,SNR=73
N25K S S 13 29 37.6 +0.9
baz=223
BPAW Bear Paw Mtn. 88.89 16 P P 13 18 54.2 -1.5
BPAW Bear Paw Mtn. 88.89 16 P P 13 18 54.3 -1.5
baz=217,SNR=51
BPAW S S 13 29 34.1 -2.6
baz=217
SNAA Sanae 88.89 183 P P 13 18 55.4 -0.5
SNAA Sanae 88.89 183 P P 13 18 56.0 0.0
comp=Z,128nm,0.9s,baz=195,slow=4.3,SNR=70
SNAA LR LR 13 56 20.6
comp=Z,587nm,21.2s,baz=178,slow=34
SNAA Sanae 88.89 183*ce*P **P 13 18 55.3 -0.7**
SNAA pmax pmax
comp=Z,295nm,1.3s
SNAA Sanae 88.89 183 P P 13 18 55.3 -0.7
SNAA IAmb IAmb 13 18 58.5
comp=Z,169nm,0.9s
LHV Little Huntoon 88.89 49 P P 13 18 57.1 +0.7
LHV IAmb IAmb 13 19 02.9
comp=Z,408nm,1.2s
ISLE Juniper Island 88.91 22 P P 13 18 55.5 -0.7
ISLE IAmb IAmb 13 18 59.9
comp=Z,110nm,0.9s
PAHR Pah Rah Range 88.92 47 P P 13 18 57.1 +0.4
RND Reindeer 88.93 18 P P 13 18 54.9 -1.2
RND pmax pmax
comp=Z,196nm,1.0s
RND Reindeer 88.93 18 P P 13 18 54.9 -1.2
RND IAmb IAmb 13 18 59.0
comp=Z,196nm,1.0s
BELC Belle Mtn. Jos 88.93 53 P P 13 18 58.1 +1.2
baz=246,SNR=218
H04D Lebanon 88.94 42 P P 13 18 57.1 +0.6
H04D Lebanon 88.94 42 P P 13 18 57.7 +1.2
baz=241,SNR=90
HOLB Holberg 88.94 35 P P 13 18 57.6 +1.2
G03D McMinnville, O 88.95 41 P P 13 18 57.4 +0.9
G03D McMinnville, O 88.95 41 P P 13 18 57.9 +1.4
baz=241,SNR=42
G03D S S 13 29 38.8 +0.8
baz=241
VRDI Verde Repeater 88.97 21 P P 13 18 55.1 -1.3
GLB Gilahina Butte 89.01 21 P P 13 18 55.4 -1.1
GLB IAmb IAmb 13 18 59.4
comp=Z,162nm,1.3s
HEC Hector,Ludlow 89.02 52 P P 13 18 57.6 +0.4
baz=245,SNR=128
RYN Ryan 89.05 48 P P 13 18 57.5 +0.2
RYN IAmb IAmb 13 19 01.2
comp=Z,349nm,1.3s
DHUB DHUBRI 89.05 298↑ *e*P **P 13 18 57.6 +0.2**
DHUB IAmb IAmb 13 18 59.9
comp=Z,146nm,1.4s
LCH Last Change Ra 89.07 50 P P 13 18 57.5 +0.1
LCH IAmb IAmb 13 19 01.0
comp=Z,200nm,1.3s
QSM Queen of Sheba 89.10 51 P P 13 18 57.6 +0.2
QSM IAmb IAmb 13 19 01.1
comp=Z,292nm,1.2s
DHY Denali Highway 89.11 18 P P 13 18 56.3 -0.7
DHY Denali Highway 89.11 18 P P 13 18 55.6 -1.4
baz=220,SNR=25
DHY S S 13 29 39.7 +0.7
baz=220
NVAR Mina Array Bea 89.11 49 P P 13 18 58.7 +1.0
comp=Z,181nm,1.0s,baz=227,slow=7.1,SNR=289
NVAR PKPPKP **P'P'df 13 44 44.1 +1.3**
comp=Z,2.4nm,0.9s,baz=69,slow=5.2,SNR=12
NVAR LR LR 13 50 31.3
comp=Z,2μm,22.0s,baz=239,slow=30
NVAR Mina Array Bea 89.11 49 P P 13 18 58.0 +0.3
MCK McKinley 89.16 17 P P 13 18 56.0 -1.1
MCK pmax pmax
comp=Z,101nm,1.0s
MCK McKinley 89.16 17 P P 13 18 56.0 -1.1
MCK McKinley 89.16 17 P P 13 18 55.7 -1.3
baz=219,SNR=50
MCK S S 13 29 37.0 -2.2
baz=219
GRAC Grapevine Rang 89.17 50 P P 13 18 58.2 +0.4
GRAC Grapevine Rang 89.17 50 P P 13 18 59.1 +1.3
baz=245,SNR=45
BC3 Big Chuckawall 89.20 54 P P 13 18 59.3 +1.2
baz=246,SNR=129
GRNC Granite Creek 89.21 22 P P 13 18 57.0 -0.6
GRNC IAmb IAmb 13 19 01.4
comp=Z,118nm,0.9s
NV11 Mina Array Sit 89.22 49 P P 13 18 58.4 +0.3
NV11 IAmb IAmb 13 19 02.0
comp=Z,363nm,1.2s
TABL Table Mountain 89.22 22 P P 13 18 57.1 -0.5
TABL IAmb IAmb 13 19 01.5
comp=Z,197nm,0.9s
MCARA McCarthy VSAT 89.23 21 P P 13 18 56.6 -0.8
MCARA IAmb IAmb 13 19 00.7
comp=Z,156nm,1.0s
MCARA McCarthy VSAT 89.23 21 P P 13 18 56.6 -0.8
baz=224,SNR=52
MCARA S S 13 29 39.3 -0.7
baz=224
CRAG Craig 89.25 29 P P 13 18 58.4 +0.8
CRAG IAmb IAmb 13 19 01.5
comp=Z,186nm,1.4s
CRAG Craig 89.25 29 P P 13 18 58.6 +1.0
baz=233,SNR=8.5
CRAG S S 13 29 35.0 -5.2
baz=233
SIT Sitka 89.25 27 P P 13 18 58.1 +0.5
SIT pmax pmax
comp=Z,141nm,1.3s
SIT Sitka 89.25 27 P P 13 18 58.1 +0.5
SIT Sitka 89.25 27 P P 13 18 57.8 +0.3
baz=231
SIT S S 13 29 42.7 +2.4
baz=231
SRIG Santa Rosalia 89.27 61 P P 13 18 59.0 +0.6
K05A Summer Lake 89.27 44 P P 13 18 58.9 +0.6
HARP HAARP 89.28 20 P P 13 18 57.0 -0.7
baz=222,SNR=44
HARP S S 13 29 40.8 +0.5
baz=222
MOD Modoc Plateau 89.29 45 P P 13 18 59.0 +0.6
GOMU GeErMu 89.30 309 P P 13 18 59.8 +1.0
GOMU PP **PP 13 22 31.1 +0.3**
GOMU pmax pmax
comp=Z,22nm,1.0s
GOMU pmax pmax
comp=Z,230nm,3.6s
GOMU LR LR
comp=Z,230nm,18.0s
GOMU LR LR
comp=Z,310nm,18.8s
GOMU LR LR
comp=Z,410nm,20.9s
FURC Furnace Creek, 89.31 51 P P 13 18 59.3 +1.0
baz=245,SNR=130
J05D Fort Rock, OR 89.31 43 P P 13 18 59.9 +1.4
baz=242,SNR=604
PNL Peninsula 89.33 23 P P 13 18 57.5 -0.4
baz=228
PNL S S 13 29 41.7 +0.7
baz=228
GWY Greenwater Val 89.34 51 P P 13 18 59.1 +0.4
BWN Browne 89.36 17 P P 13 18 56.7 -1.2
H04A Detroit Lake 89.36 42 P P 13 18 58.8 +0.3
E03A Lebam 89.42 40 P P 13 18 59.3 +0.7
BCPM Bancas Point 89.43 23 P P 13 18 57.4 -1.0
GLA Glamis 89.44 55 P P 13 18 59.9 +0.8
GLA pmax pmax
comp=Z,487nm,1.3s
GLA Glamis 89.44 55 P P 13 18 59.9 +0.8
GLA Glamis 89.44 55 P P 13 19 00.5 +1.4
baz=246,SNR=86
BARN Barnard Glacie 89.47 22 P P 13 18 58.0 -0.8
BARN IAmb IAmb 13 19 02.8
comp=Z,148nm,0.9s
BOD Bodaibo 89.49 334 *e*P **P 13 18 58.3 -0.4**
BOD pmax pmax
comp=Z,360nm,1.2s
VNA3 Neumayer Olymp 89.49 180 P P 13 18 58.0 -0.7
I21K Tanana 89.50 15 P P 13 18 58.1 -0.4
I21K IAmb IAmb 13 19 02.9
comp=Z,210nm,1.0s
I21K Tanana 89.50 15 P P 13 18 58.5 -0.1
baz=216,SNR=159
I21K S S 13 29 43.2 +0.9
baz=216
GMRC Granite Mounta 89.51 53 P P 13 19 00.2 +0.7
baz=246,SNR=152
GMRC S S 13 29 46.2 +2.2
baz=246
LSA Lhasa 89.51 302 P P 13 19 00.0 -0.1
LSA pmax pmax
comp=Z,54nm,1.0s
LSA Lhasa 89.51 302 P P 13 18 60.0 -0.1
LSA Lhasa 89.51 302 P P 13 19 01.3 +1.2
LSA pmax pmax
comp=Z,54nm,1.3s
LSA Lhasa 89.51 302 P P 13 19 01.3 +1.2
LSA Lhasa 89.51 302 P P 13 19 01.7 +1.7
SHOC Shoshone, Teco 89.51 52 P P 13 19 00.1 +0.7
baz=245,SNR=138
SHOC S S 13 29 46.5 +2.8
baz=245
CTG Chitna Glacier 89.51 22 P P 13 18 58.0 -0.9
baz=226,SNR=65
CTG S S 13 29 42.9 0.0
baz=226
CTGM Chitina Glacie 89.52 22 P P 13 18 57.7 -1.2
CTGM IAmb IAmb 13 19 02.9
comp=Z,137nm,0.9s
C03A Quillayute Air 89.52 38 P P 13 18 59.8 +0.8
KVN Kaiserville 89.53 48 P P 13 18 59.9 +0.3
KVN pmax pmax
comp=Z,310nm,1.2s
KVN Kaiserville 89.53 48 P P 13 18 59.9 +0.3
KVN IAmb IAmb 13 19 03.3
comp=Z,310nm,1.2s
F04D Rainier, OR 89.53 40 P P 13 19 00.9 +1.8
baz=241,SNR=16
LOGN Logan Glacier 89.53 22 P P 13 18 58.4 -0.6
LOGN IAmb IAmb 13 19 02.9
comp=Z,149nm,0.9s
TUQ Turquoise Moun 89.58 52 P P 13 19 00.6 +0.8
baz=246,SNR=106
WISH Wishkah 89.58 39 P P 13 19 00.1 +0.8
PAX Paxson 89.60 19 P P 13 18 58.0 -1.2
PAX pmax pmax
comp=Z,62nm,1.1s
PAX Paxson 89.60 19 P P 13 18 58.0 -1.2
PAX Paxson 89.60 19 P P 13 18 58.1 -1.1
baz=222,SNR=45
IRM Iron Mountain 89.64 54 P P 13 19 01.0 +1.0
baz=246,SNR=167
IRM S S 13 29 48.8 +3.7

baz=246
NLWA Neilton Lookou 89.65 39 P **P** **13 18 59.9 +0.1**
H21K Melozitna Rive 89.69 15 P **P** **13 18 59.4 0.0**
H21K IAmb IAmb 13 19 04.1
comp=Z,144nm,1.1s
H21K Melozitna Rive 89.69 15 P **P** **13 18 59.6 +0.1**
baz=216,SNR=147
H21K S **S** **13 29 45.7 +1.7**
baz=216
LPIG La Paz 89.70 64 LR LR 13 52 05.2
comp=Z,1µm,18.9s,baz=252,slow=31
IMAR Indian Mountai 89.73 14 P **P** **13 18 59.6 0.0**
TPH Tonopah 89.73 49 P **P** **13 19 01.0 +0.4**
TPH pmax pmax
comp=Z,1µm,1.2s
TPH Tonopah 89.73 49 P **P** **13 19 01.0 +0.4**
I05D Terrebonne, OR 89.74 42 P **P** **13 19 01.1 +0.8**
baz=242,SNR=134
PINE Pine Mountain 89.74 43 P **P** **13 19 01.5 +1.1**
VNA2 Neumayer--Watz 89.78 181 P **P** **13 18 59.6 -0.4**
baz=162,slow=5.0
GRNB Grenville Isla 89.79 31 P **P** **13 18 58.8 -1.4**
GRNB IAmb IAmb 13 19 04.3
comp=Z,311nm,1.1s
BBB Bella Bella 89.80 33 LR LR 13 52 17.5
comp=Z,669nm,20.5s,baz=242,slow=31
BBB Bella Bella 89.80 33 P **P** **13 18 59.9 -0.3**
BBB IAmb IAmb 13 19 04.1
comp=Z,294nm,1.1s
NEA2 Nenana 89.80 17 P **P** **13 18 57.9 -2.1**
NEA2 Nenana 89.80 17 P **P** **13 18 58.0 -2.0**
baz=219,SNR=60
NEA2 S **S** **13 29 43.6 -1.5**
baz=219
F04A Amboy 89.82 41 P **P** **13 19 00.9 +0.4**
SLBS Sierra La Lagu 89.86 65 P **P** **13 19 01.9 +0.6**
RUBB Prince Rupert 89.92 31 P **P** **13 19 01.1 +0.4**
RUBB IAmb IAmb 13 19 04.8
comp=Z,259nm,1.2s
BLYC Blythe 89.95 54 P **P** **13 19 01.9 +0.5**
BLYC IAmb IAmb 13 19 05.7
comp=Z,336nm,1.2s
TPNV Topopah Spring 89.96 51 P **P** **13 19 02.2 +0.6**
TPNV pmax pmax
comp=Z,414nm,1.2s
TPNV Topopah Spring 89.96 51 P **P** **13 19 02.2 +0.6**
TPNV Topopah Spring 89.96 51 P **P** **13 19 02.6 +0.9**
baz=245,SNR=385
TPNV S **S** **13 29 52.0 +3.8**
baz=245
M26K Nabesna, AK 89.97 20 P **P** **13 18 59.8 -1.1**
M26K Nabesna, AK 89.97 20 P **P** **13 19 00.2 -0.8**
baz=224,SNR=81
M26K S **S** **13 29 47.7 +0.8**
baz=224
WRH Wood River Hil 89.97 17 P **P** **13 18 59.4 -1.4**
WRH IAmb IAmb 13 19 04.0
comp=Z,139nm,1.2s
HOOD Mount Hood Mea 90.00 41 P **P** **13 19 02.1 +0.5**
E04D Cinebar 90.03 40 P **P** **13 19 01.4 0.0**
E04D Cinebar 90.03 40 P **P** **13 19 02.3 +0.9**
baz=241,SNR=143
VNA1 Neumayer--Stat 90.07 181 P **P** **13 19 01.0 -0.4**
Q09A Carvers 90.08 49 P **P** **13 19 02.3 +0.1**
MENT Mentasta 90.12 20 P **P** **13 19 01.1 -0.5**
CBB Campbell River 90.13 36 P **P** **13 19 02.4 +0.6**
113A Mohawk Valley, 90.15 55 P **P** **13 19 02.8 +0.5**
113A IAmb IAmb 13 19 06.5
comp=Z,301nm,1.3s
I23K Minto, Yukon-K 90.15 16 P **P** **13 19 00.1 -1.4**
I23K Minto, Yukon-K 90.15 16 P **P** **13 19 00.6 -1.0**
baz=219,SNR=21
I23K S **S** **13 29 47.9 -0.4**
baz=219
WRAK Wrangell Islan 90.16 28 P **P** **13 19 02.2 +0.3**
WRAK Wrangell Islan 90.16 28 P **P** **13 19 02.3 +0.4**
baz=234,SNR=84
WRAK S **S** **13 29 51.2 +2.4**
baz=234
G05D Wamic, OR 90.17 41 P **P** **13 19 03.1 +0.8**
baz=242,SNR=55
G05D S **S** **13 29 51.1 +1.6**
baz=242
CCB Clear Creek Bu 90.18 17 P **P** **13 19 00.2 -1.5**
D03D Eldon 90.19 39 P **P** **13 19 03.6 +1.4**
baz=241,SNR=169
D03D S **S** **13 29 51.8 +2.4**
baz=241
B04A Port Angeles 90.20 38 P **P** **13 19 02.8 +0.5**
D04E Lakebay 90.20 39 P **P** **13 19 03.8 +1.6**
baz=241,SNR=64
D04E S **S** **13 29 52.6 +3.1**
baz=241
CLRS Cowichan Lake 90.21 37 P **P** **13 19 02.9 +0.7**
NEE2 Needles Airpor 90.28 53 P **P** **13 19 04.1 +1.2**
baz=246,SNR=33
NEE2 S **S** **13 29 54.4 +3.5**
baz=246
L26K Log Cabin Wild 90.31 20 P **P** **13 19 01.6 -0.8**
baz=224,SNR=44
M27K Edge Creek, AK 90.31 21 P **P** **13 19 01.9 -0.7**
M27K Edge Creek, AK 90.31 21 P **P** **13 19 02.3 -0.3**
baz=225,SNR=65
M27K S **S** **13 29 51.9 +1.7**
baz=225
MDM Murphy Dome 90.31 17 P **P** **13 19 01.0 -1.4**
MDM IAmb IAmb 13 19 05.8
comp=Z,203nm,1.0s
TCOL CIGO, UAF Yank 90.34 17 P **P** **13 19 01.3 -1.2**
TCOL IAmb IAmb 13 19 06.5
comp=Z,274nm,0.9s
TCOL CIGO, UAF Yank 90.34 17 P **P** **13 19 01.3 -1.2**
baz=220,SNR=118
TCOL S **S** **13 29 47.5 -2.6**
baz=220
COLA College 90.34 17*d i* P **P** **13 19 01.2 -1.3**
COLA pmax pmax
comp=Z,283nm,1.0s
COLA College 90.34 17 P **P** **13 19 01.3 -1.2**
COLA IAmb IAmb 13 19 06.5
comp=Z,273nm,0.9s
COLA College 90.34 17 P **P** **13 19 01.3 -1.2**
baz=220
COLA S **S** **13 29 49.1 -1.0**
baz=220
RIDG Independent Ri 90.36 19 P **P** **13 19 01.7 -1.0**
RIDG IAmb IAmb 13 19 07.8
comp=Z,193nm,1.0s
RIDG Independent Ri 90.36 19 P **P** **13 19 01.3 -1.4**
baz=223,SNR=154
RIDG S **S** **13 29 51.8 +1.4**
baz=223
YUK3 Moose Creek 90.38 22 P **P** **13 19 02.4 -0.7**
baz=227,SNR=50
YUK3 S **S** **13 29 52.2 +1.1**
baz=227
F05D White Salmon 90.38 41 P **P** **13 19 03.7 +0.5**
baz=242,SNR=26
F05D S **S** **13 29 51.4 +0.1**
baz=242
ZAK Zakamensk 90.40 324 *eP* **P** **13 19 04.0 +0.7**
ZAK pmax pmax
comp=Z,29nm,1.4s
BESE Bessie Mountai 90.41 26 P **P** **13 19 03.3 +0.2**
JIS Juneau Island 90.41 26 P **P** **13 19 03.2 +0.3**
JIS IAmb IAmb 13 19 06.3
comp=Z,251nm,1.2s
PDMCI Parker Dam,Lak 90.46 54 P **P** **13 19 05.1 +1.3**
baz=247,SNR=151
PGC Sidney 90.52 38 P **P** **13 19 04.1 +0.4**
DOT Dot Lake 90.53 19 P **P** **13 19 02.6 -0.9**
DOT IAmb IAmb 13 19 07.5
comp=Z,152nm,1.0s
IL31 90.54 17 P **P** **13 19 01.9 -1.5**
IL31 IAmb IAmb 13 19 06.8
comp=Z,96nm,0.9s
ILAR Eielson Array 90.54 17 P **P** **13 19 02.1 -1.3**
comp=Z,89nm,0.9s,baz=234,slow=4.6,SNR=185
ILAR PKiKP **PKiKP** **13 23 56.6 -1.0**
comp=Z,0.5nm,0.6s,baz=260,slow=3.5,SNR=0.9
ILAR S **SKSac** **13 29 24.4 -3.0**
comp=Z,0.2nm,0.6s,baz=260,slow=4.3,SNR=2.7
ILAR PKPPKP **P'P'df** **13 44 41.6 +3.8**
comp=Z,1.7nm,1.1s,baz=340,slow=1.4,SNR=6.8
ILAR LR LR 13 53 05.1
comp=Z,1µm,21.6s,baz=183,slow=31
YUK6 Outpost Mounta 90.57 23 P **P** **13 19 02.9 -1.0**
baz=228,SNR=26
YUK6 S **S** **13 29 53.4 +0.6**
baz=228
214A Organ Pipe Nat 90.58 56 P **P** **13 19 05.1 +0.7**
214A IAmb IAmb 13 19 08.7
comp=Z,318nm,1.1s
214A Organ Pipe Nat 90.58 56 P **P** **13 19 05.7 +1.2**
baz=247,SNR=159
SHPR Sheep Range 90.58 51 P **P** **13 19 05.3 +0.8**
SHPR IAmb IAmb 13 19 08.7
comp=Z,315nm,1.2s
S11A Rachel 90.61 50 P **P** **13 19 05.0 +0.4**
WVOR Wild Horse Val 90.63 45 P **P** **13 19 05.2 +0.6**
WVOR pmax pmax
comp=Z,480nm,1.1s
WVOR Wild Horse Val 90.63 45 P **P** **13 19 05.2 +0.6**
H23K Yukon River 90.63 16 P **P** **13 19 03.0 -0.9**
H23K Yukon River 90.63 16 P **P** **13 19 03.0 -0.9**
baz=218,SNR=36
H23K S **S** **13 29 51.8 -1.1**
baz=218
POKR Poker Plat Res 90.65 17 P **P** **13 19 02.4 -1.6**
POKR IAmb IAmb 13 19 07.6
comp=Z,96nm,0.9s
POKR Poker Plat Res 90.65 17 P **P** **13 19 02.3 -1.6**
baz=220,SNR=52
POKR S **S** **13 29 50.8 -2.1**
baz=220
D05A Enumclaw 90.67 40 P **P** **13 19 05.3 +0.8**
BVCY Beaver Creek 90.69 21 P **P** **13 19 03.7 -0.5**
baz=226,SNR=28
BVCY S **S** **13 29 54.3 +0.8**
baz=226
GTK Tadong 90.69 299 *eP* **P** **13 19 07.0 +1.7**
BMN Battle Mountai 90.73 47 P **P** **13 19 05.7 +0.6**
BMN pmax pmax
comp=Z,321nm,1.2s
BMN Battle Mountai 90.73 47 P **P** **13 19 05.7 +0.6**
BMN IAmb IAmb 13 19 09.0
comp=Z,321nm,1.2s
YUK4 Talbot Arm 90.73 22 P **P** **13 19 04.8 +0.1**
baz=228,SNR=40
SKAG Skagway 90.77 25 P **P** **13 19 04.8 +0.3**
SKAG Skagway 90.77 25 P **P** **13 19 05.1 +0.5**
baz=231,SNR=128
SKAG S **S** **13 29 55.3 +1.2**
baz=231
I07A Izee 90.79 43 P **P** **13 19 06.0 +0.7**
SCRK Sand Creek 90.80 19 P **P** **13 19 04.0 -0.9**
SCRK IAmb IAmb 13 19 12.1
comp=Z,103nm,0.9s
SCRK Sand Creek 90.80 19 P **P** **13 19 04.3 -0.5**
baz=224,SNR=169
SCRK S **S** **13 29 53.1 -1.4**
baz=224
HYT Haines Junctio 90.81 23 P **P** **13 19 04.6 -0.3**
HYT IAmb IAmb 13 19 09.6
comp=Z,171nm,1.0s
HYT Haines Junctio 90.81 23 P **P** **13 19 04.4 -0.6**
baz=229,SNR=69
HYT S **S** **13 29 52.8 -1.9**
baz=229
L27K Beaver Creek, 90.82 20 P **P** **13 19 04.1 -0.7**
L27K Beaver Creek, 90.82 20 P **P** **13 19 04.1 -0.7**
baz=225,SNR=79
L27K S **S** **13 29 54.9 +0.3**
baz=225
IRK Irkutsk 90.83 326 *eP* **P** **13 19 04.6 -0.5**
IRK pmax pmax
comp=Z,234nm,1.2s
BCAR Beaver Creek A 90.84 20 P **P** **13 19 04.2 -0.8**
PALK Pallekele 90.84 277 LR LR 14 00 22.3
comp=Z,766nm,21.2s,baz=228,slow=36
PALK Pallekele 90.84 277 P **P** **13 19 07.1 +1.0**
PALK pmax pmax
comp=Z,119nm,1.3s
PALK Pallekele 90.84 277 P **P** **13 19 07.1 +1.0**
PALK IAmb IAmb 13 19 30.6
comp=Z,119nm,1.2s
PALK Pallekele 90.84 277 P **P** **13 19 07.6 +1.5**
J25K Salcha River, 90.85 18 P **P** **13 19 04.0 -1.0**
J25K IAmb IAmb 13 19 09.0
comp=Z,113nm,0.9s
J25K Salcha River, 90.85 18 P **P** **13 19 03.9 -1.1**
baz=222,SNR=154
J25K S **S** **13 29 54.4 -0.5**
baz=222
HSIG 90.96 60 P **P** **13 19 06.4 +0.1**
MG04 Isla Riesco 90.97 148 P **P** **13 19 06.6 +0.7**
MG04 IAmb IAmb 13 19 09.9
comp=Z,291nm,1.2s
W13A Hualapai Mount 90.97 53 P **P** **13 19 06.8 +0.4**
W13A IAmb IAmb 13 19 10.4
comp=Z,262nm,1.2s
A04D Lummi Island 90.98 38 P **P** **13 19 07.2 +1.4**
baz=241,SNR=418
R11A Troy Canyon, C 91.02 50 P **P** **13 19 06.5 -0.1**
R11A Troy Canyon, C 91.02 50 P **P** **13 19 06.9 +0.4**
baz=246,SNR=196
PRN Pahroc Range 91.02 51 P **P** **13 19 06.9 +0.4**
GO10 Punta Arenas 91.05 149 P **P** **13 19 06.9 +0.6**
GO10 IAmb IAmb 13 19 09.0
comp=Z,228nm,1.0s
H24K Noodor Dome 91.08 16 P **P** **13 19 04.7 -1.3**
H24K Noodor Dome 91.08 16 P **P** **13 19 04.5 -1.5**
baz=220,SNR=32
H24K S **S** **13 29 55.5 -1.5**
baz=220
B05A Bryant 91.12 39 P **P** **13 19 07.6 +1.1**
baz=242,SNR=201
B05A S **S** **13 29 59.8 +1.9**
baz=242
J08A Circle Bar Ran 91.14 44 P **P** **13 19 07.3 +0.4**
MG05 Puerto Natales 91.16 147 P **P** **13 19 07.2 +0.4**
MG05 IAmb IAmb 13 19 10.0
comp=Z,167nm,1.2s
Y14A Wickenburg 91.19 54 P **P** **13 19 07.7 +0.4**
Y14A IAmb IAmb 13 19 12.6
comp=Z,135nm,1.0s
J26L Joseph Creek 91.30 19 P **P** **13 19 07.0 -0.1**
baz=224,SNR=201
J26L S **S** **13 30 01.1 +2.0**
baz=224
USHA Ushuaia 91.31 151 P **P** **13 19 07.7 +0.3**
comp=Z,54nm,1.0s,baz=238,slow=6.1,SNR=14
F07A Phinny Hill Vi 91.34 41 P **P** **13 19 08.1 +0.5**
F07A IAmb IAmb 13 19 13.0
comp=Z,202nm,1.0s
TAPN Taplejung 91.44 298 *eP* **P** **13 19 09.5 +0.6**
comp=Z,273nm,1.3s
LTY Liberty 91.50 40 P **P** **13 19 08.6 +0.1**
ODAN Odare 91.53 298 *eP* **P** **13 19 09.9 +0.6**
comp=Z,288nm,1.2s
COLD Coldfoot 91.58 15 P **P** **13 19 08.5 +0.3**
COLD IAmb IAmb 13 19 13.7
comp=Z,184nm,1.0s
COLD Coldfoot 91.58 15 P **P** **13 19 08.6 +0.4**
baz=218,SNR=171
COLD S **S** **13 30 04.0 +2.7**
baz=218
B06A Marblemount 91.60 39 P **P** **13 19 08.7 0.0**
MG01 Puerto William 91.61 151 P **P** **13 19 09.0 +0.2**
MG01 IAmb IAmb 13 19 10.7
comp=Z,96nm,1.1s
C06D Leavenworth 91.67 39 P **P** **13 19 09.6 +0.4**
baz=242,SNR=12
G08A Pilot Rock 91.68 42 P **P** **13 19 09.7 +0.3**
E07A Sunnyside 91.68 41 P **P** **13 19 10.1 +0.9**
WHY Whitehorse 91.69 24 P **P** **13 19 08.5 -0.5**
WHY IAmb IAmb 13 19 13.7
comp=Z,180nm,1.0s
WHY Whitehorse 91.69 24 P **P** **13 19 08.7 -0.4**
baz=232,SNR=138
HAWA Hanford 91.81 41 P **P** **13 19 10.5 +0.7**
N31M Braeburn, Yuko 91.87 23 P **P** **13 19 09.3 -0.4**
N31M Braeburn, Yuko 91.87 23 P **P** **13 19 09.4 -0.4**
baz=231,SNR=72
N31M S **S** **13 30 06.3 +2.1**
baz=231
E08A Dider Farm, El 92.14 41 P **P** **13 19 11.7 +0.4**
MG02 Cerro Sombrero 92.17 149 P **P** **13 19 11.7 +0.2**
LCMT Little Creek M 92.19 52 P **P** **13 19 12.3 +0.4**
M30M Minto, Yukon 92.20 22 P **P** **13 19 10.9 -0.4**
M30M Minto, Yukon 92.20 22 P **P** **13 19 10.8 -0.5**
baz=230,SNR=208
M30M S **S** **13 30 08.2 +1.0**
baz=230
RAMN Ramite 92.22 298 *eP* **P** **13 19 13.4 +0.9**
ELK Elko 92.23 47 LR LR 13 54 48.2
comp=Z,598nm,19.4s,baz=236,slow=32
ELK Elko 92.23 47 P **P** **13 19 11.3 -0.9**
ELK pmax pmax
comp=Z,97nm,1.2s
ELK Elko 92.23 47 P **P** **13 19 11.3 -0.9**
ELK IAmb IAmb 13 19 15.8
comp=Z,97nm,1.1s
MOY Mondy 92.29 325 *eP* **P** **13 19 12.6 +0.6**
MOY pmax pmax
comp=Z,205nm,1.5s
DAWY Dawson 92.30 20 P **P** **13 19 11.0 -0.7**
DAWY IAmb IAmb 13 19 14.4
comp=Z,221nm,1.8s
DAWY Dawson 92.30 20 P **P** **13 19 11.0 -0.7**
baz=228,SNR=39
TUC Tucson 92.30 57 P **P** **13 19 12.2 -0.3**
TUC pmax pmax
comp=Z,259nm,1.2s
TUC Tucson 92.30 57 P **P** **13 19 12.2 -0.3**
TUC Tucson 92.30 57 P **P** **13 19 13.9 +1.4**
baz=248
CCUT Cedar City 92.31 51 P **P** **13 19 13.5 +0.9**
CCUT IAmb IAmb 13 19 16.9
comp=Z,219nm,1.2s
PSUT Pine Spring 92.34 50 P **P** **13 19 12.7 0.0**
LLLB Lillooet 92.36 37 P **P** **13 19 12.7 +0.5**
LLLB IAmb IAmb 13 19 15.8
comp=Z,211nm,1.0s
DLBC Dease Lake 92.36 27 LR LR 13 52 17.0
comp=Z,1µm,22.0s,baz=248,slow=30
DLBC Dease Lake 92.36 27 P **P** **13 19 12.4 +0.3**
D08A Wollman Farm, 92.48 41 P **P** **13 19 12.6 -0.3**
D08A IAmb IAmb 13 19 15.8
comp=Z,275nm,1.6s
KNB Kanab 92.50 52 P **P** **13 19 12.8 -0.7**
KNB pmax pmax
comp=Z,366nm,1.3s
KNB Kanab 92.50 52 P **P** **13 19 12.8 -0.7**
SZCU Shurtz Canyon 92.53 51 P **P** **13 19 13.3 -0.3**
SZCU IAmb IAmb 13 19 17.7
comp=Z,230nm,1.3s
BMO Blue Mountains 92.55 43 P **P** **13 19 13.0 -0.4**
BMO pmax pmax
comp=Z,86nm,1.3s
BMO Blue Mountains 92.55 43 P **P** **13 19 12.9 -0.4**
X16A Lo Mia Camp, P 92.57 54 P **P** **13 19 14.5 +0.7**
U15A North Rim 92.68 52 P **P** **13 19 14.9 +0.5**
E09A Wood Farm, Sta 92.72 41 P **P** **13 19 14.0 0.0**
E09A IAmb IAmb 13 19 19.6
comp=Z,152nm,1.1s
B08A Colville Reser 92.80 39 P **P** **13 19 13.9 -0.5**
B08A IAmb IAmb 13 19 19.0
comp=Z,107nm,1.1s
JIRN Jiri 92.81 298 *eP* **P** **13 19 16.0 +0.6**
comp=Z,72nm,1.2s
M31M Drury Creek, Y 92.83 23 P **P** **13 19 13.1 -1.0**
M31M IAmb IAmb 13 19 18.1
comp=Z,124nm,0.9s
M31M Drury Creek, Y 92.83 23 P **P** **13 19 13.2 -1.0**
baz=232,SNR=160
M31M S **S** **13 30 13.0 +0.3**
baz=232
TOLK Toolik Lake Re 92.84 14 P **P** **13 19 13.9 -0.2**
TOLK IAmb IAmb 13 19 17.4
comp=Z,119nm,1.2s
TOLK Toolik Lake Re 92.84 14 P **P** **13 19 14.4 +0.3**
baz=219,SNR=68
TOLK S **S** **13 30 16.0 +3.5**
baz=219
MFID Camas Ranch 92.92 45 P **P** **13 19 15.3 +0.2**
MFID IAmb IAmb 13 19 18.6
comp=Z,100nm,1.0s
J29M Klondike Camp 92.95 20 P **P** **13 19 15.0 +0.3**
baz=229
WUAZ Wupatki 93.03 53 P **P** **13 19 15.9 0.0**
WUAZ IAmb IAmb 13 19 20.6
comp=Z,225nm,1.1s
WUAZ Wupatki 93.03 53 P **P** **13 19 16.9 +1.0**
baz=248,SNR=196
F10A Beach Ranch, E 93.07 42 P **P** **13 19 15.1 -0.6**
F10A IAmb IAmb 13 19 18.1
comp=Z,112nm,1.1s
BMAR Burnt Mountain 93.15 16 P **P** **13 19 15.6 +0.1**
GUN Gumba 93.16 298 *eP* **P** **13 19 17.3 +0.4**
comp=Z,108nm,1.0s
319A Douglas 93.16 58 P **P** **13 19 16.8 +0.3**
MDRS Chennai 93.17 283 *eP* **P** **13 19 18.1 +1.4**
FARO Faro, Yukon 93.24 23 P **P** **13 19 15.3 -0.8**
baz=233,SNR=101
FARO S **S** **13 30 17.5 +1.2**
baz=233
MTPU Mount Pierson 93.36 51 P **P** **13 19 17.6 0.0**
MTPU IAmb IAmb 13 19 23.7
comp=Z,112nm,1.0s
PKI Pulchoki 93.43 298 *eP* **P** **13 19 18.4 +0.2**
PKIN Phulchoki 93.45 298 *eP* **P** **13 19 18.4 +0.3**
comp=Z,332nm,1.5s
PLID Pearl Lake 93.48 43 P **P** **13 19 17.3 -0.6**
I29M Ogilvie Camp, 93.52 20 P **P** **13 19 16.3 -0.9**
I29M IAmb IAmb 13 19 19.6
comp=Z,171nm,1.2s
I29M Ogilvie Camp, 93.52 20 P **P** **13 19 16.4 -0.9**
baz=229,SNR=112
I29M S **S** **13 30 22.1 +3.4**
baz=229
MSU Marysvale 93.54 50 P **P** **13 19 18.3 0.0**
MSU Marysvale 93.54 50 P **P** **13 19 18.3 0.0**
KKN Kakani 93.62 298 *eP* **P** **13 19 19.3 +0.4**
comp=Z,229nm,1.3s
A21K Barrow 93.62 10 P **P** **13 19 17.7 +0.2**
A21K Barrow 93.62 10 P **P** **13 19 18.0 +0.5**
baz=212,SNR=158
A21K S **S** **13 30 21.9 +2.7**
baz=212
DMN Daman 93.70 298 *eP* **P** **13 19 20.1 +0.8**
comp=Z,366nm,1.2s
DUG Dugway, Tooele 93.72 49 P **P** **13 19 19.0 0.0**
DUG pmax pmax
comp=Z,72nm,1.1s
DUG Dugway, Tooele 93.72 49 P **P** **13 19 19.0 0.0**
DUG Dugway, Tooele 93.72 49 P **P** **13 19 18.9 -0.1**
baz=248,SNR=55
DUG S **S** **13 30 24.4 +2.6**
baz=248
X18A Snowflake 93.76 55 P **P** **13 19 19.5 +0.2**
X18A IAmb IAmb 13 19 23.3
comp=Z,168nm,1.2s
WTLY Watson Lake, Y 93.82 26 P **P** **13 19 18.8 +0.1**
baz=237,SNR=13
BGU Big Grassy Mou 93.84 48 P **P** **13 19 19.3 -0.2**
HLID Hailey 93.92 45 P **P** **13 19 19.9 0.0**
HLID Hailey 93.92 45 P **P** **13 19 20.3 +0.4**
baz=247,SNR=147
HLID S **S** **13 30 26.0 +2.6**
baz=247
NEW Newport 94.09 40 LR LR 13 54 18.1
comp=Z,510nm,21.1s,baz=248,slow=31
NEW Newport 94.09 40 P **P** **13 19 20.0 -0.3**
NEW pmax pmax
comp=Z,82nm,1.1s
NEW Newport 94.09 40 P **P** **13 19 20.0 -0.3**
NEW IAmb IAmb 13 19 24.8
comp=Z,82nm,1.1s
NEW Newport 94.09 40 P **P** **13 19 20.3 0.0**
baz=245
NEW S **S** **13 30 25.2 +0.8**
baz=245
W18A Petrified Fore 94.13 54 P **P** **13 19 20.8 -0.3**
W18A IAmb IAmb 13 19 26.9
comp=Z,145nm,1.1s
W18A Petrified Fore 94.13 54 P **P** **13 19 21.9 +0.9**
baz=249,SNR=42
NLU North Lily Min 94.16 49 P **P** **13 19 21.1 0.0**
GKN Gorkha 94.22 298 *eP* **P** **13 19 21.7 +0.1**
comp=Z,202nm,1.2s
MMPY Sheldon Lake, 94.25 24 P **P** **13 19 20.6 -0.2**
baz=235,SNR=184
MMPY S **S** **13 30 27.1 +1.8**
baz=235
HVU Hansel Valley 94.35 47 P **P** **13 19 21.8 0.0**
HVU pmax pmax
comp=Z,100nm,1.0s

HVU	**Hansel Valley**	**94.35**	**47**	P	**P**	**13 19 21.8**	**0.0**
HVU				IAmb	IAmb	13 19 27.2	
	comp=Z,100nm,1.0s						
Q16A	**Castle Valley**	**94.42**	**50**	P	**P**	**13 19 22.3**	**0.0**
Q16A				IAmb	IAmb	13 19 26.4	
	comp=Z,132nm,1.1s						
TMUT	**Trail Mountain**	**94.53**	**50**	P	**P**	**13 19 22.8**	**-0.1**
TMUT				IAmb	IAmb	13 19 28.3	
	comp=Z,105nm,1.1s						
CTU	**Camp Tracy**	**94.66**	**49**	P	**P**	**13 19 23.2**	**-0.1**
121A	**Cookes Peak, D**	**94.75**	**57**	P	**P**	**13 19 24.1**	**+0.1**
121A				IAmb	IAmb	13 19 28.0	
	comp=Z,111nm,1.2s						
121A	**Cookes Peak, D**	**94.75**	**57**	P	**P**	**13 19 24.7**	**+0.8**
	baz=250						
121A	**Cookes Peak, D**	**94.75**	**57**	P	**P**	**13 19 25.0**	**+1.0**
	baz=250,SNR=28						
121A				S	**S**	**13 30 31.0**	**-0.2**
	baz=250						
COYC	**Coyhaique**	**94.81**	**142**	P	**P**	**13 19 23.7**	**-0.1**
TGTN	**Hyland Airport**	**94.81**	**25**	P	**P**	**13 19 23.3**	**0.0**
	baz=237,SNR=71						
TGTN				S	**S**	**13 30 28.9**	**-1.2**
	baz=237						
JLU	**Jordanelle**	**94.84**	**49**	P	**P**	**13 19 23.5**	**-0.7**
BCYI	**Bear Canyon**	**94.88**	**45**	P	**P**	**13 19 23.8**	**-0.5**
P17A	**Butcher Ranch,**	**94.94**	**50**	P	**P**	**13 19 23.6**	**-1.0**
TIXI	**Tiksi**	**94.96**	**348**	P	**P**	**13 19 22.7**	**-0.9**
	comp=Z,23nm,1.1s,baz=268,slow=22,SNR=37						
TIXI				LR	LR	13 57 09.4	
	comp=Z,733nm,21.9s,baz=179,slow=32						
TIXI	**Tiksi**	**94.96**	**348**	*d iP*	**P**	**13 19 22.8**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,38nm,1.3s						
TIXI	**Tiksi**	**94.96**	**348**	P	**P**	**13 19 22.1**	**-1.5**
SRU	**San Rafael Swe**	**94.96**	**50**	P	**P**	**13 19 23.3**	**-1.4**
SRU				pmax	pmax		
	comp=Z,81nm,1.0s						
SRU	**San Rafael Swe**	**94.96**	**50**	P	**P**	**13 19 23.3**	**-1.4**
SRU				IAmb	IAmb	13 19 29.6	
	comp=Z,81nm,1.0s						
DANN	**Dangsing**	**95.07**	**298**	*eP*	**P**	**13 19 25.2**	**-0.4**
	comp=Z,277nm,1.4s						
AY01	**Puyuhuapi**	**95.11**	**141**	P	**P**	**13 19 24.2**	**-1.0**
HWUT	**Hardware Ranch**	**95.12**	**48**	P	**P**	**13 19 24.1**	**-1.3**
P18A	**Preston Nutter**	**95.35**	**50**	P	**P**	**13 19 26.2**	**-0.4**
MCMT	**McKenzie Canyo**	**95.44**	**44**	P	**P**	**13 19 26.6**	**-0.3**
MSO	**Missoula**	**95.50**	**42**	P	**P**	**13 19 26.3**	**-0.6**
MSO	**Missoula**	**95.50**	**42**	P	**P**	**13 19 26.4**	**-0.5**
	baz=247						
KIDD	**KIDD Seismic O**	**95.52**	**58**	P	**P**	**13 19 27.8**	**+0.4**
	baz=250						
PYUN	**Piuthan**	**95.63**	**298**	*eP*	**P**	**13 19 27.6**	**-0.5**
	comp=Z,120nm,1.1s						
JTMT	**Jette**	**95.63**	**41**	P	**P**	**13 19 26.9**	**-0.6**
ECR	**Eagle Creek**	**95.78**	**46**	P	**P**	**13 19 28.2**	**-0.2**
MVCO	**Mesa Verde**	**95.80**	**53**	P	**P**	**13 19 27.3**	**-1.4**
MVCO	**Mesa Verde**	**95.80**	**53**	P	**P**	**13 19 29.0**	**+0.4**
	baz=250,SNR=11						
DLMT	**Dillon**	**95.81**	**44**	P	**P**	**13 19 27.5**	**-0.9**
DLMT				IAmb	IAmb	13 19 33.7	
	comp=Z,85nm,1.1s						
AHID	**Auburn Hatcher**	**95.86**	**47**	P	**P**	**13 19 28.3**	**-0.5**
Y22A	**Socorro**	**95.87**	**56**	P	**P**	**13 19 29.6**	**+0.6**
	baz=250						
LENM	**Lemitar**	**95.94**	**56**	P	**P**	**13 19 29.3**	**0.0**
Y22D	**IRIS PASSCAL I**	**95.95**	**56**	P	**P**	**13 19 30.2**	**+0.8**
	baz=250						
PCHI	**Peechi**	**95.96**	**279**	*eP*	**P**	**13 19 31.0**	**+1.5**
PCHI				*eS*	**SKSac**	**13 30 00.5**	**+1.1**
LRM	**Limekiln Ridge**	**96.07**	**44**	P	**P**	**13 19 29.6**	**-0.1**
HYB	**Hyderabad**	**96.11**	**286**	*eP*	**P**	**13 19 30.7**	**+0.5**
HYB				IAmb	IAmb	13 19 32.3	
	comp=Z,47nm,1.0s						
HYBB	**Hyderabad (bro**	**96.11**	**286**	*eP*	**P**	**13 19 30.0**	**-0.2**
HYBB				*eS*	**sP**	**13 19 59.6**	**-0.3**
HYBB				*ePP*	**PP**	**13 23 23.7**	**-0.6**
HYBB				*e*SKSac	**SKSac**	**13 29 58.1**	**-2.0**
HYBB				*e*SKKSac	**SKKSac**	**13 30 23.5**	**-1.7**
HYBB				IVMs_BB	IVMs_BB	13 55 05.0	
	comp=Z,176nm,40.8s						
RDMU	**Red Mountain**	**96.17**	**49**	P	**P**	**13 19 30.0**	**-0.2**
BNM	**Barren Site**	**96.21**	**56**	P	**P**	**13 19 30.2**	**-0.4**
TPAW	**Teton Pass**	**96.23**	**46**	P	**P**	**13 19 30.1**	**-0.4**
REDW	**Red Top Meadow**	**96.25**	**46**	P	**P**	**13 19 30.2**	**-0.4**
LL02	**Futaleuf**	**96.28**	**140**	P	**P**	**13 19 30.1**	**-0.5**
SNOW	**Snow King Moun**	**96.35**	**46**	P	**P**	**13 19 30.6**	**-0.5**
WALA	**Waterton Lakes**	**96.36**	**40**	P	**P**	**13 19 30.7**	**-0.1**
QLMT	**Earthquake Lak**	**96.38**	**45**	P	**P**	**13 19 30.7**	**-0.4**
MNTX	**Cornudas Mount**	**96.40**	**59**	P	**P**	**13 19 30.2**	**-1.0**
MNTX				IAmb	IAmb	13 19 34.8	
	comp=Z,84nm,1.4s						
MNTX	**Cornudas Mount**	**96.40**	**59**	P	**P**	**13 19 32.0**	**+0.7**
	baz=251						
MNTX	**Cornudas Mount**	**96.40**	**59**	P	**P**	**13 19 31.7**	**+0.5**
	baz=251						
MOOW	**Moose Ponds**	**96.46**	**46**	P	**P**	**13 19 30.6**	**-0.8**
LOHW	**Long Hollow**	**96.50**	**46**	P	**P**	**13 19 30.9**	**-0.8**
BOZ	**Bozeman (W)**	**96.53**	**44**	P	**P**	**13 19 31.2**	**-0.4**
BOZ				pmax	pmax		
	comp=Z,68nm,1.2s						
BOZ	**Bozeman (W)**	**96.53**	**44**	P	**P**	**13 19 31.2**	**-0.4**
BOZ	**Bozeman (W)**	**96.53**	**44**	P	**P**	**13 19 31.7**	**+0.1**
	baz=249,SNR=61						
ANMO	**Albuquerque**	**96.60**	**55**	LR	LR	13 57 55.5	
	comp=Z,603nm,18.8s,baz=240,slow=32						
ANMO	**Albuquerque**	**96.60**	**55**	*ceP*	**P**	**13 19 32.6**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,63nm,1.2s						
ANMO	**Albuquerque**	**96.60**	**55**	P	**P**	**13 19 31.8**	**-0.5**
ANMO	**Albuquerque**	**96.60**	**55**	P	**P**	**13 19 32.9**	**+0.6**
	baz=251						
ANMO	**Albuquerque**	**96.60**	**55**	P	**P**	**13 19 32.9**	**+0.6**
	baz=251						
ANMO				S	**S**	**13 30 44.7**	**-2.5**
	baz=251						
FLWY	**Flagg Ranch**	**96.61**	**46**	P	**P**	**13 19 31.8**	**-0.3**
YMR	**Madison River**	**96.64**	**45**	P	**P**	**13 19 31.5**	**-0.7**
YMR				IAmb	IAmb	13 19 39.0	
	comp=Z,85nm,1.4s						
HRY	**Holter Researc**	**96.80**	**43**	P	**P**	**13 19 32.7**	**-0.1**
H17A	**Grant Village**	**96.80**	**45**	P	**P**	**13 19 32.9**	**-0.2**
H17A	**Grant Village**	**96.80**	**45**	P	**P**	**13 19 34.0**	**+0.9**
	baz=249,SNR=26						
YNR	**Norris Junctio**	**96.84**	**45**	P	**P**	**13 19 32.9**	**-0.4**
INK	**Inuvik**	**96.85**	**18**	S	**SKSac**	**13 29 59.8**	**-1.8**
	comp=Z,1.3nm,1.0s,baz=23,slow=30,SNR=11						
INK				PKKPbc	PKKPbc	13 36 18.7	+1.8
	comp=Z,1.3nm,0.8s,baz=8.4,slow=4.2,SNR=9.8						
INK				LR	LR	13 56 42.3	
	comp=Z,659nm,21.7s,baz=212,slow=31						
INK	**Inuvik**	**96.85**	**18**	P	**P**	**13 19 31.1**	**-1.2**
INK				pmax	pmax		
	comp=Z,206nm,1.2s						
INK	**Inuvik**	**96.85**	**18**	P	**P**	**13 19 31.1**	**-1.2**
INK	**Inuvik**	**96.85**	**18**	P	**P**	**13 19 31.6**	**-0.7**
	baz=233,SNR=196						
BW06	**Boulder Array**	**96.93**	**47**	P	**P**	**13 19 32.7**	**-1.0**
BW06	**Boulder Array**	**96.93**	**47**	P	**P**	**13 19 33.2**	**-0.5**
	baz=250,SNR=42						
BW06				S	**S**	**13 30 51.8**	**+2.1**
	baz=250						
PD31	**Pinedale Array**	**96.93**	**47**	P	**P**	**13 19 32.4**	**-1.2**
PDAR	**Pinedale Array**	**96.93**	**47**	P	**P**	**13 19 33.1**	**-0.5**
	comp=Z,25nm,1.1s,baz=193,slow=2.1,SNR=34						
PDAR				PP	**PP**	**13 23 27.1**	**-3.2**
	comp=Z,8.2nm,1.1s,baz=225,slow=1.9,SNR=6.2						
PDAR				LR	LR	13 56 19.3	
	comp=Z,324nm,20.9s,baz=251,slow=31						
PDAR	**Pinedale Array**	**96.93**	**47**	P	**P**	**13 19 32.5**	**-1.2**
O20A	**White River Ci**	**96.97**	**50**	P	**P**	**13 19 32.4**	**-1.5**
O20A	**White River Ci**	**96.97**	**50**	P	**P**	**13 19 34.0**	**+0.1**
	baz=250,SNR=36						
LKWY	**Lake**	**96.98**	**45**	P	**P**	**13 19 32.6**	**-1.3**
LKWY	**Lake**	**96.98**	**45**	P	**P**	**13 19 32.6**	**-1.3**
TX31	**Lajitas Ar. Si**	**97.05**	**62**	P	**P**	**13 19 33.4**	**-0.9**
TX31				IAmb	IAmb	13 19 39.5	
	comp=Z,241nm,1.6s						
TX31	**Lajitas Ar. Si**	**97.05**	**62**	P	Pdif	13 19 35.2	+0.7
	baz=252						
TX32	**Lajitas Array**	**97.05**	**62**	P	**P**	**13 19 33.2**	**-1.2**
TXAR	**Lajitas Array**	**97.06**	**62**	P	Pdif	13 19 35.1	+0.6
	comp=Z,7.1nm,0.9s,baz=225,slow=5.2,SNR=36						
TXAR				PKKPbc	**PKKPdf**	**13 36 16.4**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=64,slow=2.9,SNR=4.3						
TXAR				PKPPKP	**P'P'df**	**13 44 31.6**	**+2.8**
	comp=Z,0.4nm,0.8s,baz=29,slow=2.9,SNR=4.3						
TXAR				LR	LR	13 53 43.8	
	comp=Z,1μm,21.9s,baz=252,slow=30						
TXAR	**Lajitas Array**	**97.06**	**62**	P	**P**	**13 19 34.2**	**-0.1**
LL04	**Puerto Octay**	**97.19**	**138**	P	**P**	**13 19 34.7**	**-0.1**
YMP	**Mirror Lake Pl**	**97.20**	**45**	P	**P**	**13 19 34.8**	**-0.1**
S22A	**4UR Ranch, Cre**	**97.23**	**53**	P	**P**	**13 19 34.5**	**-0.7**
S22A	**4UR Ranch, Cre**	**97.23**	**53**	P	Pdif	13 19 35.8	+0.5
	baz=251,SNR=72						
WMQ	**Urumqi**	**97.25**	**314**	*eP*	Pdif	13 19 36.0	+1.1
WMQ				pP	pP	13 19 55.3	-0.9
WMQ				PP	**PP**	**13 23 32.8**	**+0.2**
WMQ				SKS	**SKSac**	**13 30 04.5**	**-0.5**
WMQ				S	**S**	**13 30 50.9**	**-1.2**
WMQ				SS	**SS**	**13 37 35.1**	**+3.1**
WMQ				pmax	pmax		
	comp=Z,100nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,570nm,4.3s						
WMQ				LR	LR		
	comp=Z,520nm,15.5s						
WMQ				LR	LR		
	comp=Z,470nm,20.9s						
WMQ				LR	LR		
	comp=Z,850nm,20.9s						
SMCO	**Snowmass**	**97.58**	**51**	P	**P**	**13 19 36.0**	**-0.9**
WRGLY	**Wrigley**	**97.61**	**25**	P	**P**	**13 19 35.6**	**-0.2**
	baz=242,SNR=30						
RWWY	**Rawlins**	**98.22**	**49**	P	**P**	**13 19 38.7**	**-0.8**
SDCO	**Great Sand Dun**	**98.22**	**53**	P	**P**	**13 19 39.1**	**-0.5**
SDCO	**Great Sand Dun**	**98.22**	**53**	P	Pdif	13 19 40.1	+0.4
	baz=252						
SDCO	**Great Sand Dun**	**98.22**	**53**	P	**P**	**13 19 39.2**	**-0.5**
	baz=252,SNR=38						
EDM	**Edmonton**	**98.25**	**36**	P	**P**	**13 19 38.5**	**-0.6**
EDM				pmax	pmax		
	comp=Z,40nm,1.0s						
EDM	**Edmonton**	**98.25**	**36**	P	**P**	**13 19 38.5**	**-0.6**
PLCA	**Paso Flores**	**98.46**	**139**	P	**P**	**13 19 40.0**	**-0.6**
	comp=Z,5.0nm,0.9s,baz=215,slow=7.3,SNR=9.1						
PLCA				PKKP	**PKKPdf**	**13 36 12.9**	**-0.3**
	comp=Z,11nm,1.0s,baz=73,slow=4.4,SNR=5.5						
PLCA	**Paso Flores**	**98.46**	**139**	P	**P**	**13 19 40.0**	**-0.6**
PLCA	**Paso Flores**	**98.46**	**139**	P	**P**	**13 19 40.0**	**-0.6**
EGMT	**Eagleton**	**98.58**	**42**	P	Pdif	13 19 40.9	+0.2
EGMT	**Eagleton**	**98.58**	**42**	P	Pdif	13 19 41.0	+0.2
	baz=250,SNR=16						
EGMT				S	**S**	**13 31 04.4**	**+1.3**
	baz=250						
LC01	**Cunco**	**98.64**	**136**	P	**P**	**13 19 40.2**	**-1.1**
ISCO	**Idaho Springs**	**98.78**	**51**	P	Pdif	13 19 42.4	+0.2
	baz=252						
Q24A	**Divide**	**98.86**	**52**	P	**P**	**13 19 41.8**	**-0.8**
Q24A	**Divide**	**98.86**	**52**	P	Pdif	13 19 42.7	+0.2
	baz=252,SNR=12						
T25A	**Trinidad**	**98.86**	**54**	P	**P**	**13 19 41.5**	**-1.0**
T25A	**Trinidad**	**98.86**	**54**	P	**P**	**13 19 42.1**	**-0.3**
	baz=252,SNR=9.3						
N23A	**Red Feather La**	**98.87**	**50**	P	**P**	**13 19 41.0**	**-1.5**
N23A	**Red Feather La**	**98.87**	**50**	P	Pdif	13 19 42.7	+0.2
	baz=252,SNR=18						
K22A	**Casper**	**99.00**	**48**	P	**Pdif**	**13 19 41.8**	**-1.1**
K22A	**Casper**	**99.00**	**48**	P	**Pdif**	**13 19 42.9**	**0.0**
	baz=252						
K22A	**Casper**	**99.00**	**48**	P	**Pdif**	**13 19 42.8**	**0.0**
	baz=252,SNR=16						
MSTX	**Muleshoe**	**99.19**	**57**	P	**Pdif**	**13 19 42.8**	**-1.0**
MSTX	**Muleshoe**	**99.19**	**57**	P	**Pdif**	**13 19 44.4**	**+0.5**
	baz=253						
MSTX	**Muleshoe**	**99.19**	**57**	P	**Pdif**	**13 19 43.8**	**-0.1**
	baz=253						
PHWY	**Pilot Hill**	**99.35**	**50**	P	**Pdif**	**13 19 43.4**	**-1.2**
ZSN	**Zaisan**	**100.30**	**317**	*eP*	**Pdif**	**13 19 47.5**	**-0.8**
ZSN				pmax	pmax		
	comp=Z,22nm,1.2s						
ZSN	**Zaisan**	**100.30**	**317**	*eP*	**Pdif**	**13 19 47.6**	**-0.8**
	comp=Z,22nm,1.2s,baz=317						
C36M	**Paulatuk**	**100.31**	**19**	P	**Pdif**	**13 19 47.2**	**-0.6**
	baz=242,SNR=282						
833A	**Chaparral WMA,**	**100.33**	**64**	P	**Pdif**	**13 19 48.2**	**-0.7**
	baz=253						
LAO	**LASA Array**	**100.44**	**44**	P	**Pdif**	**13 19 49.1**	**+0.1**
	baz=253						
LAO	**LASA Array**	**100.44**	**44**	P	**Pdif**	**13 19 49.3**	**+0.3**
	baz=253,SNR=10						
JCT	**Junction City**	**100.60**	**61**	P	**Pdif**	**13 19 49.8**	**-0.4**
	baz=254						
POO	**Poona**	**100.71**	**286**	*eP*	**Pdif**	**13 19 47.0**	**-3.8**
KSCO	**Kaye Shedlock'**	**100.76**	**52**	P	**Pdif**	**13 19 50.5**	**-0.2**
	baz=254						
YKA	**Yellowknife Ar**	**100.99**	**27**	P	**Pdif**	**13 19 51.1**	**+0.2**
	comp=Z,69nm,1.0s,baz=253,slow=4.4,SNR=183						
YKA				PP	**PP**	**13 24 04.2**	**+3.8**
	comp=Z,9.8nm,1.0s,baz=248,slow=3.8,SNR=7.0						
YKA				PKKP	**PKKPbc**	**13 36 04.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=58,slow=2.7,SNR=4.6						
YKA				PKPPKP	**P'P'df**	**13 44 22.2**	**+3.6**
	comp=Z,0.4nm,0.9s,baz=11,slow=1.7,SNR=4.3						
YKA	**Yellowknife Ar**	**100.99**	**27**		**Pdif**	**13 19 50.6**	**-0.4**
RSSD	**Black Hills**	**101.17**	**47**	P	**Pdif**	**13 19 52.8**	**+0.2**
	baz=254						
RSSD	**Black Hills**	**101.17**	**47**	P	**Pdif**	**13 19 52.6**	**+0.1**
	baz=254						
A36M	**Sachs Harbour**	**101.22**	**17**	P	**Pdif**	**13 19 51.8**	**0.0**
	baz=241,SNR=189						
ABTX	**Abilene, Hawle**	**101.32**	**59**	P	**Pdif**	**13 19 52.9**	**-0.4**
	baz=254						
MKAR	**Makanchi Array**	**101.79**	**316**	P	**Pdif**	**13 19 56.0**	**+1.0**
	comp=Z,18nm,0.7s,baz=103,slow=4.6,SNR=48						
MKAR				PP	**PP**	**13 24 06.7**	**-0.3**
	comp=Z,22nm,1.1s,baz=103,slow=8.1,SNR=8.4						
MKAR				PKKPbc	**PKKPbc**	**13 35 59.1**	**-3.0**
	comp=Z,2.0nm,0.7s,baz=272,slow=2.9,SNR=7.4						
MKAR				PKPPKP	**P'P'df**	**13 44 19.8**	**+1.3**
	comp=Z,2.7nm,1.1s,baz=298,slow=2.6,SNR=7.8						
MKAR	**Makanchi Array**	**101.79**	**316**		**Pdif**	**13 19 55.0**	**0.0**
ZALV	**Zalesovo Beam**	**102.21**	**323**	P	**Pdif**	**13 19 56.9**	**+0.2**
	comp=Z,13nm,0.8s,baz=111,slow=4.0,SNR=46						
ZALV				PP	**PP**	**13 24 07.7**	**-2.2**
	comp=Z,12nm,1.1s,baz=118,slow=5.9,SNR=5.2						
ZALV				PKPPKP	**P'P'df**	**13 44 14.0**	**-3.0**
	comp=Z,0.7nm,0.5s,baz=285,slow=2.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**102.21**	**323**	Pdif	**Pdif**	**13 19 56.2**	**-0.4**
DGMT	**Dagmar**	**102.25**	**43**	P	**Pdif**	**13 19 58.4**	**+1.4**
	baz=254						
DGMT	**Dagmar**	**102.25**	**43**	P	Pdif	13 19 57.0	0.0
	baz=254,SNR=10						
435B	**Jarrell**	**102.52**	**62**	P	**Pdif**	**13 19 58.7**	**+0.1**
	baz=255						
WMOK	**Wichita Mounta**	**102.58**	**57**	P	**Pdif**	**13 19 58.8**	**0.0**
	baz=255						
SHLS	**Shalkode**	**102.77**	**311**	*eP*	**Pdif**	**13 19 57.0**	**-2.6**
SHLS	**Shalkode**	**102.77**	**311**	*eP*	**Pdif**	**13 19 57.0**	**-2.6**
	baz=312						
CBKS	**Cedar Bluff**	**102.88**	**53**	P	**Pdif**	**13 19 59.8**	**-0.3**
	baz=255						
WHTX	**Lake Whitney,**	**102.94**	**60**	P	**Pdif**	**13 20 00.7**	**+0.3**
	baz=255						
UZB	**Uzunbulak**	**103.08**	**311**	*eP*	**Pdif**	**13 20 00.2**	**-0.8**
UZB	**Uzunbulak**	**103.08**	**311**	*e*Pdif	**Pdif**	**13 20 00.2**	**-0.8**
	baz=311						
KPKS	**Kokpek**	**103.40**	**312**	*eP*	**Pdif**	**13 20 01.4**	**-0.9**
KPKS				*i*		13 24 18.2	
KPKS	**Kokpek**	**103.40**	**312**	*e*Pdif	**Pdif**	**13 20 01.4**	**-0.9**
	baz=312						
KPKS				*e*PKiKP	**PP**	**13 24 18.2**	**-0.9**
	baz=312						
SATY	**Saty**	**103.50**	**311**	*eP*	**Pdif**	**13 20 02.2**	**-0.6**
SATY				*i*		13 24 19.2	
SATY	**Saty**	**103.50**	**311**	*e*Pdif	**Pdif**	**13 20 02.2**	**-0.6**
	baz=311						
SATY				*e*PKiKP	**PP**	**13 24 19.2**	**-0.7**
	baz=311						
ZHN	**Zhinishke**	**103.50**	**311**	*eP*	**Pdif**	**13 20 01.6**	**-1.2**
ZHN				*i*		13 24 19.1	
ZHN	**Zhinishke**	**103.50**	**311**	*e*Pdif	**Pdif**	**13 20 01.7**	**-1.2**
	baz=311						
ZHN				*e*PKiKP	**PP**	**13 24 19.2**	**-0.8**
	baz=311						
TDK	**Taldyqorghan**	**103.96**	**313**	*eP*	**Pdif**	**13 20 04.5**	**-0.2**
TDK				*i*		13 24 21.5	
TDK	**Taldyqorghan**	**103.96**	**313**	*e*Pdif	**Pdif**	**13 20 04.5**	**-0.2**
	baz=313						
TDK				*e*PKiKP	**PKiKP**	**13 24 21.6**	**-0.3**
	baz=313						
SEM	**Semipalatinsk**	**104.02**	**319**	*eP*	**Pdif**	**13 20 04.4**	**-0.7**
SEM				*i*		13 24 20.3	
SEM	**Semipalatinsk**	**104.02**	**319**	*e*Pdif	**Pdif**	**13 20 04.4**	**-0.7**
	baz=319						
SEM				*e*PKiKP	**PKiKP**	**13 24 20.3**	**-1.7**
	baz=319						
MDOK	**Medeo**	**104.49**	**311**	*eP*	**Pdif**	**13 20 06.5**	**-0.8**
MDOK				*i*		13 24 22.9	
MDOK				pmax	pmax		
	comp=Z,24nm,0.9s						
MDOK	**Medeo**	**104.49**	**311**	*e*Pdif	**Pdif**	**13 20 06.5**	**-0.8**
	baz=311						
MDOK				*e*PKiKP	**PKiKP**	**13 24 23.0**	**-0.1**
	comp=Z,24nm,0.9s,baz=311						
TNSS	**Tian-Shan**	**104.53**	**311**	*eP*	**Pdif**	**13 20 07.0**	**-0.7**
TNSS	**Tian-Shan**	**104.53**	**311**	*e*Pdif	**Pdif**	**13 20 07.1**	**-0.7**
	baz=311						
AAA	**Alma-Ata**	**104.59**	**311**	*e*PKiKP	**PKiKP**	**13 24 21.5**	**-1.6**
	baz=311						
BGNE	**Belgrade**	**104.68**	**51**	P	**Pdif**	**13 20 08.3**	**+0.3**
	baz=257						
CHKK	**Chushkaly**	**104.69**	**312**	*e*PKiKP	**PKiKP**	**13 24 22.5**	**-0.8**
	comp=Z,46nm,1.0s,baz=312						
SUSD	**Miller**	**104.78**	**48**	P	**Pdif**	**13 20 08.7**	**+0.4**
	baz=257						
MDND	**Maddock**	**105.09**	**44**	P	**PKiKP**	**13 24 24.4**	**+0.6**
	baz=258						
KURK	**Kurchatov**	**105.10**	**319**	P	**Pdif**	**13 20 09.5**	**-0.1**
KURK	**Kurchatov**	**105.10**	**319**		**Pdif**	**13 20 09.5**	**-0.1**
KURK					**PKiKP**	**13 24 23.3**	**-0.4**
KURK	**Kurchatov**	**105.10**	**319**	P	**Pdif**	**13 20 12.5**	**+2.9**
NRIK	**Noril'sk**	**105.11**	**339**	Pdiff	**Pdif**	**13 20 09.8**	**+0.6**
	comp=Z,48nm,1.0s,baz=105,slow=4.6,SNR=32						
NRIK				PKiKP	**PKiKP**	**13 24 23.4**	**+0.2**
	comp=Z,17nm,1.1s,baz=65,slow=2.3,SNR=5.7						
NRIK	**Noril'sk**	**105.11**	**339**	P	**Pdif**	**13 20 09.0**	**-0.2**
NRIK	**Noril'sk**	**105.11**	**339**	Pdif	**Pdif**	**13 20 09.0**	**-0.2**
NRIK					**PKiKP**	**13 24 24.0**	**+0.8**
KURBB	**Kurchatov Arra**	**105.14**	**319**	Pdiff	**Pdif**	**13 20 10.1**	**+0.3**
	comp=Z,5.3nm,0.9s,baz=106,slow=4.0,SNR=34						
KURBB				PKiKP	**PKiKP**	**13 24 23.2**	**-0.5**
	comp=Z,27nm,1.1s,baz=96,slow=1.7,SNR=18						
KURBB				PKKPbc	**PKKPbc**	**13 35 49.5**	**-2.6**
	comp=Z,5.6nm,0.9s,baz=281,slow=3.7,SNR=17						
KUU	**Kurty**	**105.15**	**312**	*eP*	**Pdif**	**13 20 09.3**	**-0.7**
KUU				pmax	pmax		
	comp=Z,34nm,1.5s						
KUU	**Kurty**	**105.15**	**312**	*e*Pdif	**Pdif**	**13 20 09.3**	**-0.7**
	baz=312						
KUU				*e*PKiKP	**PKiKP**	**13 24 22.5**	**-1.6**
	comp=Z,34nm,1.5s,baz=312						
NATX	**Nacogdoches**	**105.19**	**61**	P	**PKiKP**	**13 24 24.2**	**-0.3**
	baz=256						
TUL1	**Leonard**	**105.23**	**57**	P	**PKiKP**	**13 24 24.4**	**-0.1**
	baz=257						
KSU1	**Kansas State U**	**105.31**	**54**	P	**PKiKP**	**13 24 25.0**	**+0.5**
	baz=257						
AAK	**Ala-Archa**	**106.21**	**310**	Pdiff	**Pdif**	**13 20 15.5**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=85,slow=7.9,SNR=2.7						
AAK				PKiKP	**PKiKP**	**13 24 26.5**	**+0.2**
	comp=Z,18nm,1.1s,baz=142,slow=5.8,SNR=9.3						
AAK				PKKPbc	**PKKPbc**	**13 35 48.3**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=243,slow=5.0,SNR=5.3						
AAK	**Ala-Archa**	**106.21**	**310**	P	**Pdif**	**13 20 15.1**	**+0.1**
AAK	**Ala-Archa**	**106.21**	**310**	Pdif	**Pdif**	**13 20 15.1**	**+0.1**
SGDS	**Sogindy**	**106.28**	**311**	*eP*	**Pdif**	**13 20 13.4**	**-1.7**
SGDS	**Sogindy**	**106.28**	**311**	*e*Pdif	**Pdif**	**13 20 13.4**	**-1.7**
	baz=311						
SGDS				*e*PKiKP	**PKiKP**	**13 24 25.4**	**-0.9**
	baz=311						
ECSD	**EROS Data Cent**	**106.28**	**49**	P	**PKiKP**	**13 24 26.2**	**+0.1**
	baz=258						
W39A	**Magazine**	**106.67**	**58**	P	**PKiKP**	**13 24 27.4**	**+0.3**
	baz=258						
BTLS	**Baital**	**106.99**	**312**	*eP*	**Pdif**	**13 20 16.3**	**-1.8**
BTLS	**Baital**	**106.99**	**312**	*e*Pdif	**Pdif**	**13 20 16.4**	**-

baz=263
N49A Columbus Grove 115.02 53 P PKPdf 13 24 41.8 -0.9
baz=265,SNR=9.7
N49A P PKPdf 13 24 41.8 -0.9
baz=265,SNR=9.7
TZTN Tazewell 115.09 58 P PKPdf 13 24 42.0 -1.0
baz=264
E46A Sault Ste Mari 115.25 47 PKiKP PKPdf 13 24 41.5 -1.6
E46A Sault Ste Mari 115.25 47 P PKPdf 13 24 41.7 -1.4
baz=268
BG3 Lake Jocassee 115.41 60 PKPdf 13 24 42.8 -0.9
Q51A Peebles 115.50 55 PKPdf 13 24 42.3 -1.4
V53A Saluda 115.59 59 PKPdf 13 24 42.9 -1.2
P51A Williamsport 115.75 55 PKPdf 13 24 42.4 -1.8
MHTO MHTO 115.79 284 P PKiKP 13 24 44.8 +0.1
SNR=5.7
ACSO Alum Creek Sta 115.87 54 PKPdf 13 24 43.0 -1.5
ACSO Alum Creek Sta 115.87 54 P PKPdf 13 24 43.3 -1.2
baz=266
ACSO Alum Creek Sta 115.87 54 P PKPdf 13 24 44.1 -0.3
baz=266
M50A Fremont 115.91 53 P PKPdf 13 24 43.9 -0.5
baz=266
M50A P PKPdf 13 24 43.9 -0.5
baz=266
CPUP Villa Florida 115.96 134 PKP PKPdf 13 24 44.8 -0.3
comp=Z,14nm,1.1s,baz=266,slow=2.9,SNR=14
CPUP PKKPbc PKKPbc 13 35 18.9 +2.7
comp=Z,11nm,1.1s,baz=352,slow=2.2,SNR=5.6
CPUP Villa Florida 115.96 134 PKPdf 13 24 44.2 -0.8
TULEG Thule 116.11 13 PKPdf 13 24 43.0 -0.9
SMDO Samad 116.14 287 P PKiKP 13 24 45.7 +0.2
SNR=6.8
SVE Sverdlovsk 116.16 324 i PKiKP PKPdf 13 24 44.1 -0.3
SVE pmax pmax
comp=Z,69nm,1.3s
I49A Point Hope 116.20 50 PKPdf 13 24 43.4 -1.5
I49A Point Hope 116.20 50 P PKPdf 13 24 44.0 -0.9
baz=268
I49A P PKPdf 13 24 44.0 -0.9
baz=268
PAULI Pauline 116.31 60 PKPdf 13 24 44.5 -0.9
Q52A Bidwell 116.33 55 PKPdf 13 24 43.8 -1.5
Q52A Bidwell 116.33 55 P PKPdf 13 24 43.8 -1.5
baz=266
Q52A P PKPdf 13 24 43.8 -1.5
baz=266
N51A Ashland 116.38 53 PKPdf 13 24 43.9 -1.5
U54A Nelsons Funny 116.47 58 PKPdf 13 24 44.4 -1.4
U54A Nelsons Funny 116.47 58 P PKPdf 13 24 45.1 -0.7
baz=265
U54A P PKPdf 13 24 45.1 -0.7
baz=265
P52A Corning 116.48 55 P PKPdf 13 24 45.3 -0.3
baz=266
KMSC Kings Mountain 116.73 60 PKPdf 13 24 45.3 -0.9
KMSC Kings Mountain 116.73 60 P PKPdf 13 24 45.3 -0.9
baz=264
O52A Adamsville 116.74 54 PKPdf 13 24 44.4 -1.7
O52A Adamsville 116.74 54 P PKPdf 13 24 44.8 -1.3
baz=266
O52A P PKPdf 13 24 44.8 -1.3
baz=266
BSY Bisya 116.84 286 P PKPdf 13 24 46.5 -0.3
SNR=6.7
AB31 Akbulak array 116.93 316 i PKiKP PKPdf 13 24 45.9 -0.2
ABKAR Akbulak array 116.93 316 PKPdf 13 24 45.7 -0.5
S54A Dingess, Beckl 116.99 57 PKPdf 13 24 45.6 -1.1
ZARC Zaragoza, Cauc 117.03 91 PKPdf 13 24 45.6 -1.8
P53A Whipple 117.05 55 PKPdf 13 24 45.5 -1.2
P53A Whipple 117.05 55 P PKPdf 13 24 46.1 -0.6
baz=266,SNR=6.5
P53A P PKPdf 13 24 46.1 -0.6
baz=266,SNR=6.5
M52A Chesterland 117.18 53 PKPdf 13 24 45.7 -1.2
O53A New Philadelph 117.23 54 PKPdf 13 24 45.8 -1.2
O53A New Philadelph 117.23 54 P PKPdf 13 24 46.1 -0.9
baz=267
ARU Arti 117.34 324 PKP PKPdf 13 24 46.3 -0.4
comp=Z,26nm,0.6s,baz=32,slow=0.4,SNR=56
ARU PKKPbc PKKPbc 13 35 12.3 +0.2
comp=Z,1.5nm,0.6s,baz=249,slow=4.2,SNR=4.5
ARU Arti 117.34 324 i PKiKP PKPdf 13 24 46.5 -0.2
ARU 13 25 56.2
ARU 13 31 51.6
ARU SP SP 13 35 34.1 +0.2
ARU SS SS 13 41 56.1 -6.9
SOCY Socotra 117.40 274 PKPdf 13 24 47.9 -0.3
SOCY Socotra 117.40 274 P PKiKP 13 24 48.8 +0.6
SNR=7.3
Q54A Coxs Mills 117.44 56 PKPdf 13 24 46.1 -1.4
Q54A Coxs Mills 117.44 56 P PKPdf 13 24 46.3 -1.1
baz=266,SNR=7.7
Q54A P PKPdf 13 24 46.3 -1.1
baz=266,SNR=7.7
SJCC San Jacinto, C 117.44 89 PKPdf 13 24 47.6 -0.6
N53A Lisbon 117.54 53 PKPdf 13 24 46.6 -1.0
N53A Lisbon 117.54 53 P PKPdf 13 24 46.9 -0.7
baz=267,SNR=6.7
N53A P PKPdf 13 24 46.9 -0.7
baz=267,SNR=6.7
U56A King 117.61 59 PKPdf 13 24 46.4 -1.5
BLA Blacksburg 117.65 58 PKiKP PKPdf 13 24 46.9 -1.1
BLA Blacksburg 117.65 58 PKPdf 13 24 46.9 -1.1
BLA Blacksburg 117.65 58 P PKPdf 13 24 47.0 -1.0
baz=266
M53A WI Miller and 117.69 53 PKPdf 13 24 46.5 -1.3
M53A WI Miller and 117.69 53 P PKPdf 13 24 46.4 -1.4
baz=268,SNR=9.2
SOHO SOHO 117.70 288 i PKPdf PKPdf 13 24 48.2 -0.2
SNR=30
W57A Gilead 117.83 60 PKPdf 13 24 47.2 -1.1
O54A Avella 117.86 54 PKPdf 13 24 47.1 -1.2
O54A Avella 117.86 54 P PKPdf 13 24 47.6 -0.6
baz=267,SNR=5.7
O54A P PKPdf 13 24 47.6 -0.6
baz=267,SNR=5.7
R55A Marlinton 117.96 56 PKPdf 13 24 47.3 -1.2
R55A Marlinton 117.96 56 P PKPdf 13 24 47.4 -1.2
baz=266,SNR=9.4
R55A P PKPdf 13 24 47.4 -1.2
baz=266,SNR=9.4
GEYT Alibeck 118.00 303 PKP PKiKP 13 24 49.5 +0.8
comp=Z,33nm,0.9s,baz=126,slow=2.0,SNR=27
GEYT Alibeck 118.00 303 PKPdf 13 24 48.6 -0.1
GYA0 ALIBECK ARRAY 118.00 303 PKiKP PKPdf 13 24 48.4 -0.2
GYA0B ALIBECK ARRAY 118.00 303 PKPdf 13 24 48.5 -0.2
UOSS Minazif 118.13 288 PKPdf 13 24 48.4 -0.9
UOSS Minazif 118.13 288 i PKPdf PKPdf 13 24 49.0 -0.2
SNR=8.1
AKTO Aktyubinsk 118.14 317 PKP PKiKP 13 24 49.0 +0.5
comp=Z,60nm,1.0s,baz=94,slow=2.8,SNR=40
AKTO PKKPbc PKKPbc 13 35 06.5 -2.6
comp=Z,3.1nm,0.8s,baz=258,slow=3.0,SNR=5.6
AKTO Aktyubinsk 118.14 317 PKiKP PKiKP 13 24 49.0 +0.5
HATD Hatta, Dubai 118.18 288 i PKiKP PKiKP 13 24 49.7 +0.3
SNR=8.4
N54A Moraine State 118.19 53 PKPdf 13 24 47.3 -1.6
N54A Moraine State 118.19 53 P PKPdf 13 24 47.8 -1.0
baz=268,SNR=6.2
N54A Moraine State 118.19 53 P PKPdf 13 24 47.5 -1.4
baz=268,SNR=6.2
BANOM Banah 118.21 290 PKiKP PKiKP 13 24 50.3 +0.9
ASHO Ashiyiah 118.22 288 P PKPdf 13 24 49.2 -0.3
SNR=5.2
ASHO Ashiyiah 118.22 288 i PKPdf PKPdf 13 24 49.2 -0.3
SNR=9.5
ERPA Erie 118.22 52 PKPdf 13 24 47.6 -1.3
ERPA Erie 118.22 52 P PKPdf 13 24 47.7 -1.1
baz=269,SNR=5.4
ERPA Erie 118.22 52 P PKPdf 13 24 47.2 -1.7
baz=269,SNR=5.4
MSFE Esma-Masafi 118.24 289 PKiKP PKiKP 13 24 49.6 +0.1
MCWV Mont Chateau 118.25 55 P PKPdf 13 24 48.1 -0.9
baz=267
SHME Shamm 118.37 290 PKPdf PKPdf 13 24 49.6 -0.1
ALNE Al Ain 118.39 287 P PKiKP 13 24 50.0 +0.2
SNR=5.8
ALNE Al Ain 118.39 287 PKiKP PKiKP 13 24 49.9 +0.1
RBK Rabkut 118.51 280 P PKiKP 13 24 50.6 +0.4
SNR=7.3
T57A Hurt 118.56 58 PKPdf 13 24 48.5 -1.2
V58A Windy Hill, Pi 118.59 59 PKPdf 13 24 48.7 -1.0
V58A Windy Hill, Pi 118.59 59 P PKPdf 13 24 49.0 -0.7
baz=266
V58A P PKPdf 13 24 49.0 -0.7
baz=266
OCAC Ocana 118.71 91 PKPdf 13 24 49.4 -1.5
Q56A Snyder Ridge, 118.73 56 PKPdf 13 24 48.6 -1.3
Q56A Snyder Ridge, 118.73 56 P PKPdf 13 24 49.1 -0.9
baz=267
Q56A P PKPdf 13 24 49.1 -0.9
baz=267
ITAB Concordia 118.76 138 PKPdf 13 24 49.5 -1.0
DOK Doka 118.82 281 P PKPdf 13 24 50.7 0.0
SNR=13
SADO Sadowa 118.86 49 PKP PKPdf 13 24 48.4 -1.7
comp=Z,16nm,0.8s,baz=272,slow=3.4,SNR=10
SADO PP PP 13 26 08.9 -1.1
comp=Z,7.8nm,1.0s,baz=269,slow=7.4,SNR=4.1
SADO Sadowa 118.86 49 PKPdf 13 24 48.2 -1.8
WHFO Wadi Hawf 119.00 280 P PKPdf 13 24 50.6 -0.5
SNR=7.3
M55A Ridgway 119.12 53 PKPdf 13 24 49.2 -1.5
M55A Ridgway 119.12 53 P PKPdf 13 24 49.3 -1.3
baz=269,SNR=12
M55A P PKPdf 13 24 49.3 -1.3
baz=269,SNR=12
J54A Appleton 119.23 51 PKPdf 13 24 49.1 -1.7
WVNY West Valley, N 119.25 52 PKPdf 13 24 49.4 -1.5
WVNY West Valley, N 119.25 52 P PKPdf 13 24 49.8 -1.0
baz=270,SNR=17
ABTO Aybut 119.32 279 P PKiKP 13 24 52.0 +0.2
SNR=9.2
SIV San Ignacio 119.40 122 PKP PKPdf 13 24 51.4 -0.5
comp=Z,10nm,0.9s,baz=263,slow=1.8,SNR=26
SIV PP PP 13 26 13.1 -0.7
comp=Z,2.3nm,0.9s,baz=229,slow=9.9,SNR=3.8
SIV PKKPbc PKKPab 13 35 07.1 -0.3
comp=Z,7.1nm,1.0s,baz=48,slow=17,SNR=3.2
KBS Kingsbay 119.58 355 ePKPdf PKiKP 13 24 50.6 +0.1
P57A Homestead Farm 119.66 55 PKPdf 13 24 50.3 -1.4
P57A Homestead Farm 119.66 55 P PKPdf 13 24 50.7 -1.0
baz=268,SNR=5.1
P57A P PKPdf 13 24 50.7 -1.0
baz=268,SNR=5.1
TER01 Tubaro-SC 119.66 141 eP PKPdf 13 24 51.5 -0.6
JSRW J. Sargeant Re 119.70 57 PKPdf 13 24 49.7 -2.1
R58B Mineral 119.71 57 PKPdf 13 24 50.4 -1.5
MMNY Mt. Morris Dam 119.77 51 PKPdf 13 24 50.5 -1.4
SSPA Standing Stone 119.78 54 PKPdf 13 24 50.3 -1.7
SSPA Standing Stone 119.78 54 P PKPdf 13 24 50.6 -1.3
baz=269,SNR=6.4
SSPA Standing Stone 119.78 54 P PKPdf 13 24 50.2 -1.7
baz=269
J55A Hilton 119.83 51 PKPdf 13 24 50.4 -1.5
J55A Hilton 119.83 51 P PKPdf 13 24 50.8 -1.1
baz=271,SNR=6.5
J55A P PKPdf 13 24 50.8 -1.1
baz=271,SNR=6.5
SPA0 Spitsbergen Ar 119.83 354 ePKPdf PKPdf 13 24 50.5 -0.5
SPITS Spitsbergen Ar 119.83 354 PKP PKPdf 13 24 50.5 -0.5
comp=Z,16nm,0.6s,baz=102,slow=7.2,SNR=41
SPITS PKKPbc PKKPab 13 35 01.3 -0.1
comp=Z,18nm,1.1s,baz=174,slow=9.2,SNR=4.1
SPB2 Spitsbergen Ar 119.84 354 PKPdf 13 24 50.5 -0.4
VLDQ Val d'Or 119.90 45 PKPdf 13 24 49.8 -2.1
T59A Double "B" Far 119.92 58 PKPdf 13 24 51.0 -1.4
T59A Double "B" Far 119.92 58 P PKPdf 13 24 50.9 -1.4
baz=267
T59A P PKPdf 13 24 50.9 -1.4
baz=267
DELO Deloro Mine 119.95 49 PKPdf 13 24 50.3 -1.8
L56A Greenwood 120.03 52 PKPdf 13 24 51.2 -1.2
L56A Greenwood 120.03 52 P PKPdf 13 24 51.3 -1.2
baz=270,SNR=15
L56A P PKPdf 13 24 51.3 -1.2
baz=270,SNR=15
CBN Corbin Frederi 120.11 57 P PKPdf 13 24 51.1 -1.6
baz=268
SUR Sutherland 120.11 211 PKKPbc PKKPbc 13 35 03.1 +1.3
comp=Z,29nm,1.0s,baz=265,slow=2.7,SNR=7.7
MZR Muzera 120.26 286 P PKiKP 13 24 54.5 +1.0
SNR=8.2
MZR Muzera 120.26 286 i PKiKP PKiKP 13 24 54.9 +1.4
SNR=20
M57A Sunshine Farm, 120.36 53 PKPdf 13 24 52.3 -0.6
M57A Sunshine Farm, 120.36 53 P PKPdf 13 24 52.4 -0.6
baz=270,SNR=10
M57A P PKPdf 13 24 52.4 -0.6
baz=270,SNR=10
PECO Prince Edward 120.42 50 PKPdf 13 24 51.7 -1.3
J56A Wolcott 120.53 51 P PKPdf 13 24 52.1 -1.1
baz=271,SNR=6.7
J56A P PKPdf 13 24 52.1 -1.1
baz=271,SNR=6.7
SDMD Soldier's Deli 120.56 55 PKPdf 13 24 52.4 -1.1
SDMD Soldier's Deli 120.56 55 P PKPdf 13 24 52.4 -1.1
baz=269,SNR=5.3
T60A Surry 120.58 58 PKPdf 13 24 52.3 -1.2
N58A Sunbury 120.67 54 PKPdf 13 24 52.6 -1.0
N58A Sunbury 120.67 54 P PKPdf 13 24 52.4 -1.2
baz=270,SNR=9.1
N58A P PKPdf 13 24 52.4 -1.2
baz=270,SNR=9.1
BOSA Boshof 120.73 217 PKP PKiKP 13 24 54.5 0.0
comp=Z,11nm,1.0s,baz=108,slow=1.5,SNR=8.9
BOSA PKKPbc PKKPbc 13 34 58.3 -1.0
comp=Z,15nm,1.1s,baz=4.8,slow=2.9,SNR=5.5
BOSA Boshof 120.73 217 PKPdf 13 24 54.4 0.0
K57A Scipio Center 120.79 51 PKPdf 13 24 52.5 -1.4
K57A Scipio Center 120.79 51 P PKPdf 13 24 52.3 -1.5
baz=271,SNR=12
AQDB Aquidauana 120.85 130 PKPdf 13 24 53.2 -1.4
MVL Millersville 120.94 55 PKPdf 13 24 53.4 -0.8
GHWR Ruwais 120.97 287 P PKiKP 13 24 55.4 +0.6
J57A Williamstown 121.16 51 PKPdf 13 24 53.3 -1.1
J57A Williamstown 121.16 51 P PKPdf 13 24 53.4 -1.1
baz=272,SNR=14
J57A P PKPdf 13 24 53.4 -1.1
baz=272,SNR=14
BINY Binghamton 121.20 52 PKPdf 13 24 53.2 -1.4
BINY Binghamton 121.20 52 P PKPdf 13 24 53.4 -1.2
baz=271,SNR=8.0
BINY Binghamton 121.20 52 P PKPdf 13 24 53.2 -1.4
baz=271,SNR=8.0
KSPA Keystone Colle 121.38 53 PKPdf 13 24 53.9 -1.0
KSPA Keystone Colle 121.38 53 P PKPdf 13 24 54.0 -1.0
baz=271,SNR=10
WCNY West Carthage 121.38 50 P PKPdf 13 24 53.8 -1.1
baz=273,SNR=14
N59A State Game Lan 121.38 53 PKPdf 13 24 53.9 -1.1
N59A State Game Lan 121.38 53 P PKPdf 13 24 53.9 -1.1
baz=271,SNR=6.2
N59A State Game Lan 121.38 53 P PKPdf 13 24 53.9 -1.1
baz=271
SDV Santo Domingo 121.44 91 PKP PKPdf 13 24 54.2 -1.9
comp=Z,20nm,0.9s,baz=316,slow=0.5,SNR=21
FRB Frobisher Bay 121.47 26 PKP PKPdf 13 24 52.5 -1.9
comp=Z,25nm,1.1s,baz=310,slow=3.1,SNR=11
FRB PP PP 13 26 25.1 -2.0
comp=Z,17nm,1.0s,baz=297,slow=9.6,SNR=6.6
WUPA West Chester U 121.52 55 PKPdf 13 24 54.3 -0.9
J58A Remsen 121.67 51 PKPdf 13 24 54.2 -1.3
J58A Remsen 121.67 51 P PKPdf 13 24 54.5 -1.0
baz=272,SNR=8.9
J58A P PKPdf 13 24 54.5 -1.0
baz=272,SNR=8.9
LUPA Lehigh Univers 121.69 54 PKPdf 13 24 54.4 -1.2
KIRV Kirov 121.80 328 PKP PKPdf 13 24 54.8 -0.4
comp=Z,75nm,0.7s,baz=97,slow=1.8,SNR=26
KIRV PKKPbc PKKPab 13 34 52.8 -0.6
comp=Z,9.3nm,0.7s,baz=341,slow=3.6,SNR=4.2
L59A Walton 121.90 52 PKPdf 13 24 54.9 -1.1
L59A Walton 121.90 52 P PKPdf 13 24 55.1 -0.9
baz=272,SNR=8.8
L59A P PKPdf 13 24 55.1 -0.9
baz=272,SNR=8.8
TRQ Mont Tremblant 122.01 47 PKPdf 13 24 54.5 -1.6
TIJ01 Guaruva-PR 122.08 139 eP PKPdf 13 24 55.9 -1.2
LONY Lake Ozonia 122.11 49 PKPdf 13 24 55.0 -1.3
LONY Lake Ozonia 122.11 49 P PKPdf 13 24 54.9 -1.4
baz=274,SNR=11
BMNY Brushton-Moira 122.15 49 P PKPdf 13 24 54.8 -1.5
baz=274,SNR=16
PANJ Princeton 122.20 54 P PKPdf 13 24 55.0 -1.5
baz=271
J59A Piesco 122.24 50 PKPdf 13 24 55.6 -1.0
J59A Piesco 122.24 50 P PKPdf 13 24 55.1 -1.5
baz=273,SNR=19
J59A P PKPdf 13 24 55.1 -1.5
baz=273,SNR=19
ODNJ Ogdensburg 122.26 53 PKPdf 13 24 55.6 -1.1
ODNJ Ogdensburg 122.26 53 P PKPdf 13 24 55.1 -1.5
baz=272,SNR=7.7
BRNJ Basking Ridge 122.30 54 PKPdf 13 24 55.9 -0.8
BRNJ Basking Ridge 122.30 54 P PKPdf 13 24 55.5 -1.2
baz=271,SNR=8.1
NCB Newcomb 122.41 50 PKPdf 13 24 55.9 -1.0
NCB Newcomb 122.41 50 P PKPdf 13 24 55.9 -1.0
baz=274,SNR=18
TRNY Table Rock, Ra 122.55 53 PKPdf 13 24 56.2 -1.0
DAG Danmarks Havn 122.56 2 i P PKPdf 13 24 54.0 -2.2
NPNY Mohonk Preserv 122.59 52 P PKPdf 13 24 55.6 -1.7
baz=272,SNR=6.5
PRGR Permogore 122.66 332 ePKIKP PKPdf 13 24 54.9 -1.9
PRGR e 13 25 18.2
PRGR e 13 26 33.7
PRGR e 13 31 49.7
PRGR pmax pmax
comp=Z,34nm,1.1s
BRNY Black Rk. Fore 122.70 53 P PKPdf 13 24 56.0 -1.5
baz=272,SNR=9.3
MNTQ Montreal, Queb 122.72 48 PKPdf 13 24 56.0 -1.4
CPNY Central Park 122.76 54 PKPdf 13 24 56.5 -1.1
PAL Palisades 122.79 53 PKIKP PKPdf 13 24 56.7 -0.9
PAL Palisades 122.79 53 PKPdf 13 24 56.7 -0.9
PAL Palisades 122.79 53 P PKPdf 13 24 56.4 -1.3
baz=272,SNR=6.3
PAL Palisades 122.79 53 P PKPdf 13 24 56.8 -0.8
baz=272
FRNY Flat Rock 122.80 49 PKPdf 13 24 56.3 -1.3
FRNY Flat Rock 122.80 49 P PKPdf 13 24 55.8 -1.8
baz=275,SNR=8.6
ACCN Adirondack Com 122.85 50 PKPdf 13 24 56.3 -1.5
ACCN Adirondack Com 122.85 50 P PKPdf 13 24 56.2 -1.5
baz=274
TRY Troy 122.89 51 P PKPdf 13 24 57.1 -0.7
baz=273
SHMA Al-Shehemyia 122.95 289 P PKiKP 13 24 58.7 0.0
KSCT Kent School, K 123.08 52 PKPdf 13 24 56.9 -1.3
N62A Caumsett State 123.13 53 PKPdf 13 24 57.4 -0.9
LBTB Lobatse 123.23 220 PKKPbc PKKPbc 13 34 48.5 -1.2
comp=Z,12nm,1.0s,baz=311,slow=6.0,SNR=9.3
LBTB Lobatse 123.23 220 PKKPab 13 34 49.1 -2.2
MCVT Middlebury Col 123.30 50 P PKPdf 13 24 57.6 -1.0
baz=274,SNR=7.5
L61B Northampton 123.64 52 PKPdf 13 24 58.4 -0.9
L61B Northampton 123.64 52 P PKPdf 13 24 58.6 -0.7
baz=274,SNR=11
L61B Northampton 123.64 52 P PKPdf 13 24 58.6 -0.7
baz=274
J61A Chester 123.67 50 PKPdf 13 24 58.6 -0.7
J61A Chester 123.67 50 P PKPdf 13 24 58.5 -0.8
baz=274,SNR=12
J61A P PKPdf 13 24 58.5 -0.8
baz=274,SNR=12
LVZ Lovozero 123.84 341 ⇑PKIKP PKPdf 13 24 58.7 -0.3
LVZ Lovozero 123.84 341 PKPdf 13 24 58.5 -0.5
QUA2 Belchertown 123.89 52 P PKPdf 13 24 58.9 -0.8
baz=274
BAUV El Baul 123.90 92 PKPdf 13 24 58.9 -1.7
PET01 Itanhaem-SP 123.91 139 eP PKPdf 13 24 59.8 -0.6
K62A Royalston 123.95 51 PKPdf 13 24 59.2 -0.7
UCCT U. Connecticut 124.02 52 PKPdf 13 24 57.8 -2.2
LBNH Lisbon 124.04 49 PKIKP PKPdf 13 24 59.1 -0.9
LBNH Lisbon 124.04 49 PKPdf 13 24 59.1 -0.9
LBNH Lisbon 124.04 49 P PKPdf 13 24 59.3 -0.7
baz=276,SNR=11
LBNH Lisbon 124.04 49 P PKPdf 13 24 59.2 -0.8
baz=276,SNR=11
M63A Gales Ferry 124.17 53 PKPdf 13 24 59.0 -1.2
M63A Gales Ferry 124.17 53 P PKPdf 13 24 59.7 -0.6
baz=274
M63A P PKPdf 13 24 59.7 -0.6
baz=274
BELG Belogornoye 124.30 321 PKP PKiKP 13 25 00.4 -0.1
comp=Z,75nm,1.1s,baz=80,slow=0.9,SNR=76
BELG Belogornoye 124.30 321 i PKIKP PKPdf 13 24 59.9 -0.3
APA Apatity 124.42 341 ⇓ PKIKP PKPdf 13 24 58.4 -1.6
APA pmax pmax
comp=Z,57nm,1.0s
HRV Adam Dziewonsk 124.46 51 PKIKP PKPdf 13 25 00.1 -0.7
HRV Adam Dziewonsk 124.46 51 PKPdf 13 25 00.1 -0.7
HRV Adam Dziewonsk 124.46 51 P PKPdf 13 25 00.1 -0.7
baz=275
HRV Adam Dziewonsk 124.46 51 P PKPdf 13 25 00.1 -0.7
baz=275
I62A Tamworth 124.50 50 PKPdf 13 25 00.1 -0.8
I62A Tamworth 124.50 50 P PKPdf 13 25 00.2 -0.6
baz=276,SNR=8.7
I62A P PKPdf 13 25 00.2 -0.6
baz=276,SNR=8.7
H62A Milan 124.55 49 PKPdf 13 25 00.8 -0.2
H62A Milan 124.55 49 P PKPdf 13 25 00.1 -0.8
baz=276,SNR=11
H62A P PKPdf 13 25 00.1 -0.8
baz=276,SNR=11
ILULI Ilulissat 124.57 16 i P PKPdf 13 24 57.6 -2.6
MATP Matopo 124.61 226 PKKPbc PKKPbc 13 34 43.4 -0.7
comp=Z,10nm,1.0s,baz=311,slow=4.0,SNR=6.3
LMQ La Malbaie 124.73 45 PKPdf 13 24 59.9 -1.3
KEV Kevo 124.75 345 PKIKP PKPdf 13 25 00.1 -0.5
KEV Kevo 124.75 345 PKPdf 13 25 00.1 -0.5
HAMF Hammerfest 124.86 347 ePKPdf PKPdf 13 25 00.1 -0.7
UNH University of 124.92 51 P PKPdf 13 25 01.3 -0.4
baz=276,SNR=6.1
G62A West of Eustis 124.92 48 PKPdf 13 25 00.6 -1.1
G62A West of Eustis 124.92 48 P PKPdf 13 25 01.1 -0.5
baz=277,SNR=16
G62A P PKPdf 13 25 01.1 -0.5
baz=277,SNR=16
DBG Daneborg 124.94 3 i P PKPdf 13 24 59.4 -1.5
I63A Otisfield 125.02 49 PKPdf 13 25 01.3 -0.5
I63A Otisfield 125.02 49 P PKPdf 13 25 01.5 -0.4
baz=276,SNR=17
I63A P PKPdf 13 25 01.5 -0.4
baz=276,SNR=17
L64A Middleborough 125.04 52 PKPdf 13 25 01.2 -0.7
L64A Middleborough 125.04 52 P PKPdf 13 25 00.8 -1.1
baz=275
L64A P PKPdf 13 25 00.8 -1.1
baz=275
VAO Valinhos 125.05 139 eP PKPdf 13 25 00.8 -1.9
SCHQ Schefferville 125.23 36 PKP PKPdf 13 25 01.1 -0.9
comp=Z,30nm,1.1s,baz=342,slow=2.6,SNR=12
ARA0 ARCESS Array S 125.27 345 ePKPdf PKPdf 13 25 01.5 -0.1
ARCES ARCESS Array B 125.27 345 PKP PKPdf 13 25 01.4 -0.2
comp=Z,31nm,0.6s,baz=75,slow=1.8,SNR=147
ARCES PKKPab PKKPbc 13 34 43.0 +0.6
comp=Z,4.9nm,1.1s,baz=186,slow=0.6,SNR=6.0
ARCES ARCESS Array B 125.27 345 PKPdf 13 25 01.1 -0.5
WVL Waterville 125.62 49 P PKPdf 13 25 02.0 -1.0
baz=277,SNR=7.2
PARB Paraibuna 125.62 140 eP PKPdf 13 25 03.8 -0.1
D62A Allapoint, All 125.66 46 PKPdf 13 25 01.8 -1.2
D62A Allapoint, All 125.66 46 P PKPdf 13 25 01.9 -1.2
baz=280,SNR=29
D62A P PKPdf 13 25 01.9 -1.2
baz=280,SNR=29
KLMR Klimovskoe 125.68 332 ePKIKP PKPdf 13 24 58.9 -3.7
KLMR eSP SP 13 36 45.8 -1.8
KLMR e 13 38 21.5
KLMR eSS SS 13 43 42.9 -5.9
KLMR pmax pmax
comp=Z,286nm,1.2s
KLMR Klimovskoe 125.68 332 ePKPdf PKPdf 13 24 58.9 -3.7
KLMR AMP 13 25 05.3
comp=Z,286nm,1.2s
KLMR ePP PP 13 26 50.2 -5.2
KLMR eSKP 13 28 31.3
KLMR ePKKP PKKPdf 13 35 20.5 -3.2
KLMR eSP SP 13 36 45.8 -1.8
KLMR eSKKPbc SKKPbc 13 38 21.5 -4.8
KLMR eSS SS 13 43 42.9 -5.9
KLMR eSS SS 13 43 42.9 -5.9
PKME Peaks-Kenny Pk 125.78 48 PKPdf 13 25 02.3 -1.0
PKME Peaks-Kenny Pk 125.78 48 P PKPdf 13 25 02.8 -0.5
baz=278,SNR=25
PKME Peaks-Kenny Pk 125.78 48 P PKPdf 13 25 02.3 -1.0
baz=278,SNR=25
F63A Nahmakanta, Br 125.85 47 PKPdf 13 25 02.6 -0.8
F63A Nahmakanta, Br 125.85 47 P PKPdf 13 25 03.0 -0.4
baz=279,SNR=26
F63A P PKPdf 13 25 03.0 -0.4
baz=279,SNR=26

MAK	**Makhachkala**	**125.98**	**309**	*e*P		**Pdif**	13 21 42.1	-0.5		
MAK				*i*			13 25 04.4			
MAK				*e*			13 26 55.2			
MAK				*e*			13 32 01.4			
MAK				*e*SS	SS		13 43 56.1	+2.1		
MAK				*e*SSS	SSS		13 48 33.3			
MAK				pmax	pmax					
	comp=Z,370nm,1.0s									
MAK				MLR	MLR					
	comp=Z,350nm,19.0s									
SFJD	**Kangerlussuaq**	**126.20**	**18**	PKP		**PKPdf**	**13 25 02.5**	**-0.9**		
	comp=Z,16nm,0.9s,baz=271,slow=21,SNR=6.3									
SFJD				PP		**PP**	**13 26 57.2**	**-1.3**		
	comp=Z,50nm,1.0s,baz=341,slow=6.0,SNR=7.1									
E63A	**Oxbow**	**126.20**	**46**	P		**PKPdf**	**13 25 03.1**	**-1.0**		
	baz=280,SNR=14									
E63A				P		**PKPdf**	**13 25 03.1**	**-1.0**		
	baz=280,SNR=14									
KTK1	**Kautokeino**	**126.20**	**345**	*e*PKPdf		**PKPdf**	**13 25 02.9**	**-0.5**		
F64A	**Sherman**	**126.34**	**47**			**PKPdf**	**13 25 03.6**	**-0.7**		
F64A	**Sherman**	**126.34**	**47**	P		**PKPdf**	**13 25 03.8**	**-0.5**		
	baz=279,SNR=15									
F64A				P		**PKPdf**	**13 25 03.8**	**-0.5**		
	baz=279,SNR=15									
JETT	**Jettan, Norway**	**126.42**	**347**	*e*PKPdf		**PKPdf**	**13 25 03.8**	**0.0**		
ESAR	**Angra dos Reis**	**126.57**	**141**	*e*P		**PKiKP**	**13 25 05.7**	**-0.2**		
TRO	**Tromso**	**126.67**	**347**	*e*PKPdf		**PKPdf**	**13 25 03.6**	**-0.6**		
MAN01	**Angra dos Reis**	**126.97**	**141**	*e*P		**PKPdf**	**13 25 05.4**	**-1.0**		
G65A	**Princeton**	**127.00**	**48**			**PKPdf**	**13 25 04.9**	**-0.6**		
G65A	**Princeton**	**127.00**	**48**	P		**PKPdf**	**13 25 05.0**	**-0.6**		
	baz=280,SNR=22									
G65A				P		**PKPdf**	**13 25 05.0**	**-0.6**		
	baz=280,SNR=22									
CRPR	**Cabo Rojo, PR**	**127.01**	**82**			**PKPdf**	**13 25 04.7**	**-1.7**		
MLPR	**Magueyes Islan**	**127.07**	**82**			**PKPdf**	**13 25 04.8**	**-1.7**		
GROC	**Groznyy**	**127.19**	**310**	*i* PKiKP		**PKiKP**	**13 25 06.6**	**0.0**		
GROC				*e*			13 27 05.5			
GROC				*e*			13 32 07.6			
GROC				pmax	pmax					
	comp=Z,327nm,1.2s									
KIBK	**Kibwezi**	**127.22**	**251**	P		**PKiKP**	**13 25 09.2**	**+1.5**		
	SNR=11									
ICESG	**Greenland Ices**	**127.36**	**13**	*i* P		**PKPdf**	**13 25 04.3**	**-1.8**		
AOPR	**Arecibo Observ**	**127.41**	**81**			**PKPdf**	**13 25 05.3**	**-1.9**		
OBIP	**Obispado Ponce**	**127.49**	**82**			**PKPdf**	**13 25 05.9**	**-1.4**		
GGN	**Saint George**	**127.51**	**48**			**PKPdf**	**13 25 05.6**	**-0.9**		
BATG	**Bathurst New B**	**127.63**	**45**			**PKPdf**	**13 25 05.6**	**-1.2**		
NUUK	**Nuuk**	**127.67**	**21**	*i* P		**PKPdf**	**13 25 04.8**	**-1.4**		
ATD	**Arta Tunnel**	**127.72**	**270**	PKP		**PKiKP**	**13 25 08.9**	**+0.4**		
	comp=Z,11nm,0.5s,baz=18,slow=3.3,SNR=12									
ATD	**Arta Tunnel**	**127.72**	**270**	P		**PKiKP**	**13 25 11.3**	**+2.8**		
	SNR=6.6									
DY2G	**Dye2**	**127.80**	**17**	*i* P		**PKPdf**	**13 25 04.0**	**-2.8**		
SJG	**San Juan**	**127.93**	**82**	PKP		**PKPdf**	**13 25 06.6**	**-1.5**		
	comp=Z,103nm,0.9s,baz=321,slow=1.7									
SJG				SKPbc	SKPbc		13 28 17.9			
	comp=Z,16nm,0.3s,baz=206,slow=6.4,SNR=3.0									
GCPR	**Guaynabo City**	**128.03**	**82**			**PKPdf**	**13 25 06.6**	**-1.7**		
PDPR	**Patillas Dam,**	**128.03**	**82**			**PKPdf**	**13 25 06.6**	**-1.7**		
VRH	**Novokhopyorsk**	**128.15**	**320**	*e*PKiKP		**PKPdf**	**13 25 07.6**	**0.0**		
VRH				pmax	pmax					
	comp=Z,260nm,1.1s									
GNI	**Garni**	**128.36**	**306**	PKP		**PKPdf**	**13 25 08.9**	**+0.3**		
	comp=Z,83nm,1.1s,baz=177,slow=2.9,SNR=27									
GNI	**Garni**	**128.36**	**306**			**PKiKP**	**13 25 09.3**	**+0.1**		
GNI	**Garni**	**128.36**	**306**	P		**PKiKP**	**13 25 10.4**	**+1.2**		
GNI	**Garni**	**128.36**	**306**	PKiKP		**PKiKP**	**13 25 09.3**	**+0.1**		
KMBO	**Kilima Mbogo**	**128.46**	**252**	PKP		**PKiKP**	**13 25 11.6**	**+1.2**		
	comp=Z,28nm,1.0s,baz=51,slow=2.0,SNR=35									
KMBO				SKPbc	SKPbc		13 28 25.1			
	comp=Z,7.5nm,1.1s,baz=145,slow=5.0,SNR=4.1									
KMBO	**Kilima Mbogo**	**128.46**	**252**	PKiKP		**PKiKP**	**13 25 10.3**	**0.0**		
KMBO	**Kilima Mbogo**	**128.46**	**252**			**PKiKP**	**13 25 10.3**	**0.0**		
KMBO	**Kilima Mbogo**	**128.46**	**252**	PKiKP		**PKiKP**	**13 25 11.9**	**+1.5**		
MTP	**Monte Pirata**	**128.48**	**82**			**PKPdf**	**13 25 07.8**	**-1.4**		
DUB01	**Friburgo-RJ**	**128.51**	**142**	*e*P		**PKPdf**	**13 25 09.0**	**-0.3**		
SCO	**Scoresbysund**	**128.59**	**5**	PKiKP		**PKPdf**	**13 25 07.9**	**0.0**		
SCO	**Scoresbysund**	**128.59**	**5**			**PKPdf**	**13 25 07.8**	**0.0**		
SCO	**Scoresbysund**	**128.59**	**5**	*i* P		**PKPdf**	**13 25 07.7**	**-0.2**		
ZEI	**Tsey**	**128.63**	**310**	*i* PKiKP		**PKPdf**	**13 25 08.9**	**-0.2**		
ZEI				pmax	pmax					
	comp=Z,94nm,1.1s									
NCK	**Nalchik**	**128.73**	**311**	*i* PKiKP		**PKiKP**	**13 25 09.7**	**0.0**		
LMN	**Caledonia Moun**	**128.78**	**46**			**PKPdf**	**13 25 08.1**	**-0.9**		
MOS	**Moscow**	**128.80**	**327**	*i* PKiKP		**PKPdf**	**13 25 06.3**	**-2.4**		
MOS				*e*			13 25 28.9			
MOS				*e*			13 27 16.4			
MOS				pmax	pmax					
	comp=Z,185nm,1.1s									
MOS				pmax	pmax					
	comp=Z,200nm,1.3s									
STEI	**Steigen**	**128.84**	**348**	*e*PKPdf		**PKPdf**	**13 25 08.4**	**0.0**		
LOF	**Lofoten**	**129.00**	**348**	*e*PKPdf		**PKiKP**	**13 25 09.2**	**-0.3**		
STVI	**Saint Thomas**	**129.09**	**82**			**PKPdf**	**13 25 08.8**	**-1.5**		
CAM01	**Campos-RJ**	**129.13**	**142**	*e*P		**PKPdf**	**13 25 09.4**	**-1.1**		
AKH	**Akhalkalaki**	**129.14**	**308**	⇑P		**PKiKP**	**13 25 12.9**	**+2.1**		
AKH	**Akhalkalaki**	**129.14**	**308**	⇑P		SKPbc	13 28 27.7	+3.2		
CDVI	**St. Croix**	**129.15**	**83**			**PKPdf**	**13 25 09.3**	**-1.1**		
KBZ	**Khabaz**	**129.19**	**311**	PKP		**PKiKP**	**13 25 10.4**	**-0.1**		
	comp=Z,30nm,1.1s,baz=79,slow=2.8,SNR=21									
KBZ				SKPbc	SKPbc		13 28 26.1	+1.8		
	comp=Z,17nm,1.0s,baz=97,slow=3.6,SNR=5.6									
FAUS	**Fauske**	**129.29**	**347**	*e*PKPdf		**PKPdf**	**13 25 09.4**	**+0.1**		
KIV	**Kislovodsk**	**129.30**	**311**	⇑P		**PKiKP**	**13 25 11.9**	**+1.0**		
KIV	**Kislovodsk**	**129.30**	**311**	*i* PKiKP		**PKPdf**	**13 25 10.4**	**+0.3**		
KIV				pmax	pmax					
	comp=Z,95nm,1.1s									
KIV	**Kislovodsk**	**129.30**	**311**			**PKPdf**	**13 25 09.9**	**-0.3**		
KIV	**Kislovodsk**	**129.30**	**311**	P		**PKPdf**	**13 25 10.5**	**+0.3**		
KIV	**Kislovodsk**	**129.30**	**311**	*i* PKiKP		**PKiKP**	**13 25 11.3**	**+0.4**		
	SNR=11									
LPSR	**Galich'ya Gora**	**129.32**	**323**	*e*PKiKP		**PKiKP**	**13 25 10.5**	**0.0**		
LPSR				pmax	pmax					
	comp=Z,400nm,1.2s									
SHA1	**Shidzhatmaz**	**129.36**	**311**	*d i* PKiKP		**PKPdf**	**13 25 10.7**	**+0.2**		
NEY	**Neytrino**	**129.41**	**310**	*i* PKiKP		**PKiKP**	**13 25 11.8**	**+0.5**		
VORR	**Voronezh**	**129.49**	**322**	*e*PKiKP		**PKiKP**	**13 25 11.1**	**+0.2**		
VORR				pmax	pmax					
	comp=Z,1μm,1.8s									
BDFB	**Brasilia**	**129.52**	**131**	PKP		**PKPdf**	**13 25 11.4**	**-0.1**		
	comp=Z,58nm,1.0s,baz=230,slow=1.3,SNR=39									
BDFB				SKKPbc	SKKPbc		13 38 10.8	+1.5		
	comp=Z,5.8nm,0.8s,baz=316,slow=3.3,SNR=3.8									
BDFB	**Brasilia**	**129.52**	**131**			**PKPdf**	**13 25 10.1**	**-1.4**		
OBN	**Obninsk**	**129.61**	**327**	⇑P		**PKiKP**	**13 25 11.8**	**+0.8**		
OBN	**Obninsk**	**129.61**	**327**	PKP		**PKPdf**	**13 25 09.8**	**-0.4**		
	comp=Z,11nm,0.5s,baz=156,slow=0.8,SNR=24									
OBN				SKPbc	SKPbc		13 28 25.8	+0.4		
	comp=Z,11nm,0.3s,baz=37,slow=4.1,SNR=7.1									
OBN	**Obninsk**	**129.61**	**327**	*c* PKiKP		**PKPdf**	**13 25 10.6**	**+0.4**		
OBN				*e*			13 27 22.3			
OBN				*e*PPP	PPP		13 30 09.6			
OBN				*e*			13 32 13.3			
OBN				*e*SS	SS		13 44 42.1	+4.2		
OBN				*e*SSS	SSS		13 49 30.2			
OBN				pmax	pmax					
	comp=Z,268nm,1.3s									
OBN				MLR	MLR					
	comp=Z,592nm,22.0s									
OBN	**Obninsk**	**129.61**	**327**			**PKPdf**	**13 25 10.3**	**+0.1**		
VSR	**Storozhevoye**	**129.67**	**321**	*e*PKiKP		**PKiKP**	**13 25 10.9**	**-0.4**		
VSR				pmax	pmax					
	comp=Z,170nm,1.2s									
VORD	**Divnogorie**	**129.68**	**321**	*e*PKiKP		**PKPdf**	**13 25 10.6**	**+0.1**		
VORD				pmax	pmax					
	comp=Z,100nm,1.5s									
HAL	**Halifax**	**129.87**	**48**	PKiKP		**PKPdf**	**13 25 10.6**	**-0.5**		
HAL	**Halifax**	**129.87**	**48**			**PKPdf**	**13 25 10.6**	**-0.5**		
CHVG	**Ch'k'valeri**	**129.96**	**310**	⇑P		**PKiKP**	**13 25 12.6**	**+0.4**		
CHVG	**Ch'k'valeri**	**129.96**	**310**	⇑P		SKPbc	13 28 30.0	+3.0		
CHVG	**Ch'k'valeri**	**129.96**	**310**	⇑PKiKP		**PKiKP**	**13 25 12.6**	**+0.4**		
BATM	**Batumi**	**130.44**	**308**	⇑P		**PKiKP**	**13 25 14.5**	**+1.4**		
BATM	**Batumi**	**130.44**	**308**	⇑P		**SKPbc**	**13 28 30.9**	**+2.1**		
BATM	**Batumi**	**130.44**	**308**	⇑PKiKP		**PKiKP**	**13 25 14.5**	**+1.4**		
KONS	**Konsvik**	**130.49**	**348**	*e*PKPdf		**PKiKP**	**13 25 12.1**	**-0.3**		
MOR8	**Moi Rana**	**130.50**	**347**	*e*PKPdf		**PKPdf**	**13 25 11.2**	**-0.5**		
ALF01	**Guarapari-ES**	**130.61**	**142**	*e*P		**PKPdf**	**13 25 13.0**	**-0.3**		
STOK	**Stokkvaagen**	**130.66**	**348**	*e*PKPdf		**PKPdf**	**13 25 11.5**	**-0.4**		
FINES	**FINESS Array B**	**130.76**	**338**	PKhKP		PKPbre	13 24 58.5			
	comp=Z,2.1nm,0.6s,baz=33,slow=4.5,SNR=6.0									
FINES				PKP		**PKPdf**	**13 25 12.3**	**+0.1**		
	comp=Z,50nm,1.0s,baz=101,slow=3.9,SNR=21									
FINES				SKPbc		**SKPbc**	**13 28 28.7**	**-0.6**		
	comp=Z,52nm,0.8s,baz=79,slow=3.7,SNR=31									

FINES	**FINESS Array B**	**130.76**	**338**			**SKPab**	**13 28 29.6**	**+0.2**		
SMRT	**St. Maarten**	**130.79**	**83**			**PKPdf**	**13 25 12.2**	**-1.4**		
GBN	**Guysborough**	**131.13**	**46**			**PKPdf**	**13 25 12.8**	**-0.6**		
SOC	**Sochi**	**131.48**	**311**	*i* PKiKP		**PKPdf**	**13 25 13.7**	**-0.5**		
SOC				*e*			13 27 32.0			
SOC				*e*PPP	PPP		13 30 29.3			
SOC				*e*			13 32 16.4			
SOC				*e*PS	PS		13 37 50.5	+1.1		
SOC				*e*SS	SS		13 45 01.4	-0.4		
SOC				pmax	pmax					
	comp=Z,47nm,1.0s									
GDHS	**Morne Mazeau,**	**131.68**	**85**			**PKPdf**	**13 25 14.1**	**-1.3**		
RIB01	**Linhares ES**	**131.82**	**141**	*e*P		**PKPdf**	**13 25 15.3**	**-0.3**		
SJMB	**Sao Joao De Ma**	**131.82**	**140**	*e*P		**PKPdf**	**13 25 14.3**	**-1.3**		
BIM	**Bigot**	**131.96**	**88**			**PKPdf**	**13 25 14.9**	**-1.1**		
LODK	**Lodwar**	**132.07**	**257**			**PKPdf**	**13 25 15.2**	**-1.1**		
LODK	**Lodwar**	**132.07**	**257**	P		**PKPdf**	**13 25 16.3**	**0.0**		
	SNR=5.2									
MEF	**Metsahovi**	**132.19**	**337**	*e*P		**PKPdf**	**13 25 15.4**	**+0.4**		
VSU	**Vasula**	**132.43**	**334**	*e*P		**PKiKP**	**13 25 16.1**	**-0.5**		
NSS	**Namsos**	**132.44**	**347**	*e*PKPdf		**PKiKP**	**13 25 16.0**	**-0.5**		
RAF	**Rauma**	**132.56**	**339**	*e*P		**PKPdf**	**13 25 15.9**	**+0.3**		
ANN	**Anapa**	**132.76**	**314**	*i* PKiKP		**PKiKP**	**13 25 17.6**	**-0.1**		
ANN				pmax	pmax					
	comp=Z,66nm,1.3s									
MTSE	**Matsula**	**133.43**	**336**	*e*P		**PKPdf**	**13 25 17.8**	**+0.5**		
AAL	**Aland**	**133.77**	**339**	*e*P		**PKPdf**	**13 25 16.1**	**-1.8**		
MNK	**Minsk**	**134.27**	**329**	*i* PKiKP		**PKPdf**	**13 25 17.9**	**-1.2**		
MNK				*i*			13 25 40.4			
MNK				*i* PPP	PPP		13 30 45.5			
MNK				*i*			13 32 21.6			
MNK				*i* SS	SS		13 45 35.6	+1.1		
MNK				*i* SSS	SSS		13 50 35.1			
MNK				pmax	pmax					
	comp=Z,109nm,1.1s									
MNK				pmax	pmax					
	comp=E,8.0nm,1.1s									
MNK				pmax	pmax					
	comp=N,70nm,1.0s									
MNK				MLR	MLR					
	comp=E,63nm,22.0s									
MNK				MLR	MLR					
	comp=Z,522nm,24.0s									
MNK				MLR	MLR					
	comp=N,277nm,25.0s									
MNK	**Minsk**	**134.27**	**329**	*i* PKP		**PKPdf**	**13 25 17.9**	**-1.2**		
	comp=E,8.0nm,1.1s									
MNK				*i* PKP		**PKPdf**	**13 25 17.9**	**-1.2**		
	comp=N,70nm,1.1s									
MNK				*i* PKP		**PKPdf**	**13 25 17.9**	**-1.2**		
	comp=Z,109nm,1.1s,baz=235									
MNK				*i* pPKP		**pPKPdf**	**13 25 40.5**	**-0.8**		
MNK				*i* PP	PP		**13 27 46.8**	**-4.5**		
MNK				*i* SKP			13 28 53.2			
MNK				*i* PKS	PKSdf		13 29 05.4	+10		
MNK				*i* PPP	PPP		13 30 45.5			
MNK				*i* SKS	**SKSdf**		**13 32 21.6**	**-1.4**		
MNK				*i* SS	**SS**		**13 45 35.7**	**+1.2**		
MNK				*i* SSS	SSS		13 50 35.1			
MNK				*i* LR	LR		14 20 06.0			
MNK				*i* LRM	MLR		14 22 45.7			
	comp=E,63nm,21.9s									
MNK				*i* LRM	MLR		14 23 03.1			
	comp=Z,522nm,23.7s									
MNK				*i* LRM	MLR		14 23 12.8			
	comp=N,277nm,25.2s									
IDID	**Didziasalis**	**134.34**	**331**	*e*P		**PKPdf**	**13 25 19.7**	**+0.5**		
ISAL	**Salakas**	**134.47**	**331**	*e*P		**PKiKP**	**13 25 20.4**	**-0.4**		
MBAR	**Mbarara**	**134.50**	**249**	PKP		**PKiKP**	**13 25 21.8**	**-0.6**		
	comp=N,29nm,1.1s,baz=66,slow=8.4,SNR=3.6									
MBAR				SKPbc		**SKPab**	**13 28 46.5**	**-0.8**		
	comp=N,4.6nm,0.2s,baz=82,slow=4.0,SNR=4.8									
IIGN	**Ignalina**	**134.56**	**331**	*e*P		**PKiKP**	**13 25 20.6**	**-0.4**		
NACGM	**Naroch**	**134.56**	**330**	*e*PKP		**PKiKP**	**13 25 20.6**	**-0.4**		
KSLA	**Kassala**	**134.71**	**273**	*i* P		PKiKP	13 25 47.8	+25		
SIM	**Simferopol'**	**134.97**	**315**	*e*PKiKP		**PKPdf**	**13 25 20.6**	**-0.1**		
SIM							13 27 52.8			
SIM				pmax	pmax					
	comp=Z,110nm,1.0s									
MQOL	**MQOL**	**135.02**	**280**	*i* P		PKPpre	13 25 14.3			
MOL	**Molde**	**135.10**	**348**	*e*PKPdf		**PKiKP**	**13 25 21.7**	**-0.2**		
DIKM	**Dikmen**	**135.14**	**310**	⇑P		**PKiKP**	**13 25 22.8**	**+0.2**		
DIKM	**Dikmen**	**135.14**	**310**	⇑P		**SKPbc**	**13 28 46.3**	**+1.3**		
DOMB	**Dombas**	**135.27**	**347**	*e*PKPdf		**PKPdf**	**13 25 21.3**	**+0.5**		
BNN	**Bunyan**	**135.36**	**306**			**PKPdf**	**13 25 22.2**	**+0.4**		
CMC01	**Camacan, BA**	**135.40**	**139**	*e*P		**PKPdf**	**13 25 21.9**	**-0.5**		
NC303	**NORSAR Array S**	**135.45**	**345**	PKPdf		**PKiKP**	**13 25 22.0**	**-0.7**		
ASF	**Jabal al Asfar**	**135.45**	**296**	PKP		**PKiKP**	**13 25 23.6**	**-0.1**		
	comp=Z,36nm,0.9s,baz=348,slow=3.0,SNR=4.7									
ASF				SKPbc		**SKPab**	**13 28 49.1**	**-1.8**		
	comp=Z,44nm,1.1s,baz=330,slow=0.9,SNR=7.8									
PABE	**Paberze**	**135.47**	**332**	*e*P		**PKiKP**	**13 25 23.0**	**+0.2**		
AKN	**Aaknes**	**135.57**	**348**	*e*PKPdf		**PKiKP**	**13 25 22.2**	**-0.7**		
AKASG	**Malin Array Be**	**135.59**	**324**	PKhKP		PKPpre	13 25 08.8			
	comp=Z,1.4nm,0.5s,baz=38,slow=4.1,SNR=7.7									
AKASG				PKP		**PKPdf**	**13 25 21.1**	**-0.6**		
	comp=Z,126nm,1.0s,baz=59,slow=2.0,SNR=23									
AKASG				PP		**PP**	**13 28 04.2**	**+4.4**		
	comp=Z,9.4nm,0.9s,baz=45,slow=5.5,SNR=4.0									
AKASG				SKPbc		**SKPbc**	**13 28 46.5**	**+0.5**		
	comp=Z,38nm,1.0s,baz=36,slow=5.0,SNR=20									
AKBB	**Malin Array Si**	**135.59**	**324**	PKiKP		**PKPdf**	**13 25 22.0**	**+0.3**		
AKBB	**Malin Array Si**	**135.59**	**324**	PKPdf		**PKPdf**	**13 25 22.0**	**+0.3**		
NB2	**NORSAR Subarra**	**135.65**	**345**	PKPdf		PKPpre	13 25 12.2			
	comp=Z,89nm,1.7s,baz=31,slow=1.9									
NB2	**NORSAR Subarra**	**135.65**	**345**	*e*		PKPpre	13 25 12.2			
	baz=31,slow=1.9									
NOA	**NORSAR Array B**	**135.65**	**345**	PKhKP		PKPpre	13 25 11.8			
	comp=Z,3.8nm,0.7s,baz=263,slow=3.3,SNR=6.5									
NOA				PKP		**PKPdf**	**13 25 20.4**	**-1.1**		
	comp=Z,18nm,0.8s,baz=35,slow=2.1,SNR=12									
NOA				PP	PP		**13 27 57.9**	**-1.7**		
	comp=Z,10nm,1.1s,baz=33,slow=6.0,SNR=4.3									
NOA				SKPbc		**SKPbc**	**13 28 46.3**	**+0.4**		
	comp=Z,7.7nm,0.8s,baz=29,slow=4.6,SNR=7.8									
HFS	**Hagfors**	**135.76**	**343**	PKP		**PKPdf**	**13 25 20.6**	**-1.1**		
	comp=Z,15nm,0.8s,baz=14,slow=40,SNR=12									
HFS				SKPbc		**SKPbc**	**13 28 45.4**	**-0.9**		
	comp=Z,26nm,1.1s,baz=208,slow=2.9,SNR=6.3									
NBO00	**NORSAR Array S**	**135.76**	**345**	PKPdf		**PKiKP**	**13 25 22.9**	**-0.4**		
NC602	**NORSAR Array S**	**135.83**	**344**	PKPdf		**PKiKP**	**13 25 23.0**	**-0.5**		
NC602	**NORSAR Array S**	**135.83**	**344**	*e*PKPdf		**PKiKP**	**13 25 23.0**	**-0.5**		
BZK	**Bozkurt**	**135.96**	**311**	⇑P		**PKiKP**	**13 25 24.0**	**-0.3**		
BZK	**Bozkurt**	**135.96**	**311**	⇑P		**SKPbc**	**13 28 49.6**	**+2.1**		
PBUR	**Paburge**	**136.00**	**334**	*e*P		**PKiKP**	**13 25 24.9**	**+1.0**		
VIKU	**Vikbolandet**	**136.15**	**339**	*e*P		**PKPdf**	**13 25 18.2**	**-4.3**		
SHBL	**Chebaa**	**136.31**	**298**	*e*P		**PKPdf**	**13 25 24.4**	**+0.6**		
BHL	**Bhannes**	**136.32**	**299**	*e*P		**PKPdf**	**13 25 24.4**	**+0.7**		
MMAI	**Mount Meron Ar**	**136.63**	**298**	PKP		**PKPdf**	**13 25 24.2**	**-0.1**		
	comp=Z,22nm,1.0s,baz=54,slow=32,SNR=15									
MMAI				SKPbc		**SKPbc**	**13 28 51.3**	**+1.4**		
	comp=Z,50nm,1.1s,baz=291,slow=43,SNR=8.5									
SKAR	**Skarslia**	**136.65**	**346**	*e*PKPdf		**PKPdf**	**13 25 23.9**	**+0.4**		
HYA	**Hoyanger**	**136.65**	**348**	*e*PKPdf		**PKPdf**	**13 25 23.2**	**-0.1**		
SUW	**Suwalki**	**136.78**	**331**	*e*PKP		**PKiKP**	**13 25 25.4**	**-0.1**		
SUW				*e*L	L		14 17 57.8			
	comp=Z,657nm,32.5s									
SUW	**Suwalki**	**136.78**	**331**	*e*P		**PKiKP**	**13 25 25.1**	**-0.5**		
BR131	**Keskin Array S**	**136.82**	**308**	P		**PKPdf**	**13 25 20.6**	**-3.9**		
	SNR=17									
BRTR	**Keskin Array B**	**136.82**	**308**	PKhKP		PKPpre	13 25 15.1			
	comp=Z,3.0nm,0.9s,baz=153,slow=3.6,SNR=11									
BRTR				PKP		**PKPdf**	**13 25 25.1**	**+0.6**		
	comp=Z,34nm,1.0s,baz=148,slow=3.1,SNR=24									
BRTR				PP	PP		**13 28 10.9**	**+2.6**		
	comp=Z,12nm,1.2s,baz=80,slow=2.9,SNR=5.4									
BRTR				SKPbc		**SKPbc**	**13 28 52.2**	**+1.9**		
	comp=Z,28nm,1.0s,baz=113,slow=2.8,SNR=13									
BRTR				SKKPbc		**SKKPbc**	**13 37 48.5**	**+3.5**		
	comp=Z,1.3nm,0.8s,baz=234,slow=7.5,SNR=3.6									
EIL	**Elat**	**137.28**	**293**	PKP		**PKPdf**	**13 25 25.9**	**+0.4**		
	comp=Z,112nm,1.1s,baz=148,slow=3.9,SNR=28									
EIL				SKPbc		**SKiKP**	**13 28 54.2**	**-2.3**		
	comp=Z,93nm,1.3s,baz=127,slow=4.2,SNR=14									
SORM	**Soroca**	**137.33**	**321**	⇑P		**PKPdf**	**13 25 20.3**	**-4.7**		
SORM	**Soroca**	**137.33**	**321**	⇑P		**SKPbc**	**13 28 51.8**	**+0.5**		
SORM	**Soroca**	**137.33**	**321**	⇑PKiKP		**PKPdf**	**13 25 20.3**	**-4.7**		
ASK	**Askoy**	**137.47**	**348**	*e*PKPdf		**PKPdf**	**13 25 24.7**	**-0.1**		
KIS	**Kishinev**	**137.57**	**320**	*e*PKP		**PKPdf**	**13 25 20.0**	**-5.5**		
KIS	**Kishinev**	**137.57**	**320**	*e*PP	PP		13 28 05.0	-7.3		
KIS				*i* SKP			13 28 53.0			
KIS				*e*LR	LR		14 20 50.0			
	comp=Z,200nm,20.5s									
KIS	**Kishinev**	**137.57**	**320**	*e*PKiKP		**PKPdf**	**13 25 20.0**	**-5.5**		

MILM	**Milestii Mici**	**137.61**	**319**	*e*PKP	PKPpre		13 25 16.0			
	comp=Z,470nm,4.0s									
MILM	**Milestii Mici**	**137.61**	**319**	*e*PP	PP		13 28 07.0	-5.6		
MILM				*e*LR	LR		14 17 23.0			
	comp=Z,400nm,28.0s									
MILM	**Milestii Mici**	**137.61**	**319**	⇑P		**SKPbc**	**13 28 53.1**	**+0.9**		
MILM	**Milestii Mici**	**137.61**	**319**	*e*PKHKP	PKPpre		13 25 16.0			
MILM				*i*			13 25 24.0			
MILM				pmax	pmax					
	comp=Z,470nm,4.0s									
CSS	**Mathiatis**	**138.06**	**301**	PKPdf		**PKPdf**	**13 25 27.1**	**+0.3**		
BLS5	**Blasjo**	**138.19**	**347**	*e*PKPdf		**PKPdf**	**13 25 26.7**	**+0.4**		
NBPN	**Ponto Novo - B**	**138.29**	**134**	*e*P		**PKPdf**	**13 25 28.2**	**+0.3**		
TLCR		**138.36**	**317**	⇓P	PKPpre		13 25 19.6			
TLCR		**138.36**	**317**	⇑P

MORC				*e*			13 37 22.1	
SIRR	**Siria**	**142.20 322**	⇑	P	**PKPdf**		**13 25 30.7**	**-3.3**
SIRR	**Siria**	**142.20 322**	⇑	P	**SKPbc**		**13 29 06.0**	**+1.3**
RDO	**Rodhopi**	**142.21 313**		P	**PKPdf**		**13 25 29.4**	**-4.7**
PSZ	**Piszkesteto**	**142.21 326**	⇑	P	**PKPdf**		**13 25 31.8**	**-2.2**
PSZ	**Piszkesteto**	**142.21 326**	⇑	P	**SKPbc**		**13 29 05.3**	**+0.7**
PSZ	**Piszkesteto**	**142.21 326**	⇑	PKIKP	**PKPdf**		**13 25 31.8**	**-2.2**
DAT	**Datca**	**142.22 305**		P	**PKPdf**		**13 25 29.8**	**-4.6**
OSTC	**Ostas**	**142.27 332**	⇑	*e*PKP	**PKPdf**		**13 25 30.0**	**-3.9**
OSTC			⇑	*e*PKP	**PKiKP**		**13 25 33.6**	**-3.4**
OSTC				*e*SS	SS		13 47 24.9	+16
OSTC				AMS	AMS		14 21 30.0	
	comp=Z,1μm,24.7s							
CHVC	**Chvalec**	**142.32 332**	⇑	*e*PKP	**PKPdf**		**13 25 30.4**	**-3.6**
CHVC				AMS	AMS		14 21 20.0	
	comp=Z,2μm,26.5s							
BODT	**Bodrum**	**142.33 306**		P	**PKPdf**		**13 25 30.0**	**-4.5**
KRLC	**Kraliky**	**142.35 331**		*e*PKIKP	**PKPdf**		**13 25 30.5**	**-3.6**
KRLC				MLR	MLR			
	comp=Z,800nm,21.0s							
KRLC	**Kraliky**	**142.35 331**	⇑	*e*PKP	**PKPdf**		**13 25 30.5**	**-3.6**
KRLC				AMS	AMS		14 28 20.0	
	comp=Z,800nm,21.0s							
DPC	**Dobruska-Polom**	**142.36 331**		*e*PKIKP	**PKPdf**		**13 25 30.7**	**-3.5**
DPC	**Dobruska-Polom**	**142.36 331**	⇑	*e*PKP	**PKPdf**		**13 25 30.7**	**-3.5**
DPC				*e*SS	SS		13 47 20.2	+10
DPC				AMS	AMS		14 21 50.0	
	comp=Z,1μm,32.0s							
UPC	**Upice**	**142.39 332**		*e*PKIKP	**PKPdf**		**13 25 30.7**	**-3.4**
UPC	**Upice**	**142.39 332**	⇑	*e*PKP	**PKPdf**		**13 25 30.7**	**-3.4**
UPC				*e*SS	SS		13 47 20.7	+11
UPC				AMS	AMS		14 20 50.0	
	comp=Z,2μm,33.1s							
PRK	**Paraskevi**	**142.40 310**		P	**PKPdf**		**13 25 29.5**	**-5.0**
VYHS	**Vyhne**	**142.40 327**		*e*PKIKP	**PKPdf**		**13 25 31.4**	**-2.8**
VYHS	**Vyhne**	**142.40 327**		*e*PKP	**PKPdf**		**13 25 31.4**	**-2.8**
VYHS				*e*			13 29 05.9	
SMTH	**Samothraki Isl**	**142.48 312**		P	PKPpre		13 25 27.8	
SMG	**Samos**	**142.50 307**		P	**PKPdf**		**13 25 29.2**	**-5.5**
HERR	**Herculane**	**142.51 320**	⇑	P	**PKPdf**		**13 25 30.6**	**-3.9**
HERR	**Herculane**	**142.51 320**	⇓	P	**SKPbc**		**13 29 05.9**	**+0.5**
PGB	**Panagyurishte**	**142.53 316**		P	**PKPdf**		**13 25 31.0**	**-3.7**
RZN	**Rozhen**	**142.54 314**		P	**PKPdf**		**13 25 31.0**	**-3.9**
KOLL	**Kolacno**	**142.57 328**		*e*PKP	**PKPdf**		**13 25 32.5**	**-2.0**
KOLL				*e*			13 29 07.3	
BZS	**Buzias**	**142.59 322**	⇑	P	**PKPdf**		**13 25 32.5**	**-2.1**
BZS	**Buzias**	**142.59 322**	⇑	P	**SKPbc**		**13 29 05.7**	**+0.2**
BZS	**Buzias**	**142.59 322**	⇑	PKIKP	**PKPdf**		**13 25 32.5**	**-2.1**
JAVC	**Velka Javorina**	**142.75 328**		*e*PKP	**PKPdf**		**13 25 33.0**	**-1.9**
JAVC				*e*			13 29 07.8	
JAVC				*e*			13 37 21.0	
INVG	**Invergeldie, C**	**142.77 354**		*e*P	**PKPdf**		**13 25 31.0**	**-3.6**
CHOS	**Chios island**	**142.86 308**		P	**PKPdf**		**13 25 30.9**	**-4.5**
KARP	**Karpathos**	**142.87 303**		P	**PKPdf**		**13 25 30.5**	**-5.0**
KARP	**Karpathos**	**142.87 303**		PKPpre	PKPpre		13 25 32.1	
FLTG	**Flechtingen**	**142.94 337**		*e*PKPbc	**PKPdf**		**13 25 31.4**	**-3.6**
	baz=37,slow=3.2							
LIA	**Limnos Island**	**142.94 311**		P	**PKPdf**		**13 25 30.0**	**-5.4**
VRAC	**Vranov**	**142.97 330**	⇑	P	PKPpre		13 25 33.3	
VRAC	**Vranov**	**142.97 330**		PKhKP	PKPpre		13 25 32.4	
	comp=Z,69nm,1.1s,baz=51,slow=3.4,SNR=21							
VRAC				SKKPbc	SKKPbc		13 37 18.9	-2.4
	comp=Z,6.9nm,1.1s,baz=216,slow=3.4,SNR=4.6							
VRAC	**Vranov**	**142.97 330**	⇑	PKIKP	**PKPdf**		**13 25 33.3**	**-1.9**
VRAC	**Vranov**	**142.97 330**		*e*PKP	**PKPdf**		**13 25 32.1**	**-3.1**
VRAC				*e*			13 29 07.3	
VRAC				*e*			13 37 19.2	
KAVA	**Kavala**	**142.97 313**		P	**PKPdf**		**13 25 31.0**	**-4.4**
MDVR	**Moldovita**	**142.98 320**	⇑	P	**PKPdf**		**13 25 34.0**	**-1.5**
MDVR	**Moldovita**	**142.98 320**	⇑	P	**SKPbc**		**13 29 07.5**	**+0.9**
BLKB	**Belogradchik**	**142.99 318**	⇑	P	**PKPdf**		**13 25 33.2**	**-2.3**
BLKB	**Belogradchik**	**142.99 318**	⇑	P	**SKPbc**		**13 29 07.3**	**+0.6**
THAS	**Thassos island**	**142.99 312**		P	**PKPdf**		**13 25 30.4**	**-5.1**
PVCC	**Panska Ves**	**143.01 333**		*e*PKIKP	PKPbc		13 25 33.0	+0.8
PVCC	**Panska Ves**	**143.01 333**	⇑	*e*PKP	PKPbc		13 25 33.0	+0.8
PVCC				AMS	AMS		14 23 30.0	
	comp=Z,1μm,30.4s							
BRG	**Berggiesshubel**	**143.02 334**		*i* PKP	PKPbc		13 25 32.4	+0.2
BRG				Amp			13 25 35.5	
	comp=Z,152nm,1.2s							
BRG				*ex*	x		13 25 39.2	
BRG				Amp			13 25 41.2	
	comp=Z,130nm,1.1s							
BRG				pPKP	pPKPdf		13 25 56.7	-0.7
BRG				Amp			13 25 58.3	
	comp=Z,55nm,1.1s							
BRG				*ex*	x		13 27 19.2	
BRG				Amp			13 27 21.2	
	comp=Z,38nm,1.1s							
BRG				SKP			13 29 07.6	
BRG				Amp			13 29 09.7	
	comp=Z,172nm,1.3s							
BRG	**Berggiesshubel**	**143.02 334**		*i* PKIKP	PKPbc		13 25 32.3	+0.1
BRG							13 25 56.7	
BRG				SS	SS		13 47 22.0	+4.7
BRG				pmax	pmax			
	comp=Z,152nm,1.2s							
BRG				pmax	pmax			
	comp=Z,130nm,1.1s							
BRG	**Berggiesshubel**	**143.02 334**		*e*PKPbc	PKPbc		13 25 32.1	-0.1
	baz=37,slow=3.2							
LAWE	**Loch Awe, Argy**	**143.06 355**	⇓	*eP*	PKPbc		13 25 32.4	+0.3
CLL	**Collm**	**143.07 335**		*i* PKIKP	PKPbc		13 25 32.0	-0.3
CLL				pmax	pmax			
	comp=Z,75nm,0.9s							
CLL	**Collm**	**143.07 335**		*i* PKPpre	PKPpre		13 25 32.0	
	comp=Z,75nm,0.9s							
CLL				*i* PKPdf	**PKPdf**		**13 25 36.7**	**+1.4**
	comp=Z,113nm,1.2s							
CLL				*i* PKiKP	**PKiKP**		**13 25 41.3**	**+2.8**
CLL				*eP*P	**PP**		**13 28 42.0**	**-3.5**
CLL				*i* SKPbc	**SKPbc**		**13 29 06.5**	**-0.1**
	comp=Z,110nm,1.2s							
CLL				*ex*	x		13 39 40.0	
CLL				*e*SPP	SPP		13 41 01.0	
CLL				*e*SS	**SS**		**13 47 20.0**	**+2.2**
CLL				*e*PSPS			13 48 35.0	
CLL				*ex*	x		13 51 10.0	
CLL				*e*(SSS)			13 52 18.0	
CLL				Lm	MLR		15 52 00.0	
	comp=Z,200nm,20.6s							
CLL	**Collm**	**143.07 335**		*e*PKPbc	PKPbc		13 25 32.2	-0.2
	baz=37,slow=3.2							
SMOL	**Smolenice**	**143.10 328**		*e*PKIKP	PKPbc		13 25 33.9	+1.4
SMOL	**Smolenice**	**143.10 328**		*e*PKP	PKPbc		13 25 33.8	+1.3
SRO	**Srobarova**	**143.11 327**		*e*PKIKP	**PKPdf**		**13 25 34.2**	**-1.3**
SRO	**Srobarova**	**143.11 327**		*e*PKP	**PKPdf**		**13 25 34.2**	**-1.3**
VTS	**Vitosha**	**143.11 316**	⇑	P	PKPbc		13 25 34.0	+1.1
VTS	**Vitosha**	**143.11 316**	⇑	P	**SKPbc**		**13 29 08.7**	**+1.5**
VTS	**Vitosha**	**143.11 316**	⇑	PKIKP	PKPbc		13 25 34.0	+1.0
VTS	**Vitosha**	**143.11 316**			PKPbc		13 25 33.2	+0.3
NRDL	**Niedersach Rie**	**143.21 338**		*e*PKPbc	PKPbc		13 25 32.6	+0.1
	baz=37,slow=3.2							
FBE	**Freiberg**	**143.23 334**		*e*PKPbc	PKPbc		13 25 32.8	0.0
	baz=37,slow=3.2							
KRUC	**Moravsky**	**143.23 330**		*e*PKP	PKPbc		13 25 33.0	+0.1
KRUC				*e*			13 29 07.9	
KRUC				*e*			13 37 16.9	
MMB	**Musomiste**	**143.25 314**		P	PKPab		13 25 32.0	+0.1
RETH	**Rethem/Aller,**	**143.26 339**		*e*PKPbc	PKPbc		13 25 32.8	+0.1
	baz=37,slow=3.2							
MODS	**Modra-Piesok**	**143.27 328**		*e*PKIKP	PKPbc		13 25 34.3	+1.3
MODS	**Modra-Piesok**	**143.27 328**		*e*PKP	PKPbc		13 25 34.3	+1.3
MODS				*e*			13 29 09.3	
NVR	**Nevrokopi**	**143.27 314**		P	PKPab		13 25 32.3	+0.3
ASSE	**Asse, Remlinge**	**143.31 338**		*e*PKPbc	PKPbc		13 25 33.1	+0.2
	baz=37,slow=3.2							
KOKK	**Kokkinochori,**	**143.40 313**		P	PKPab		13 25 32.4	-0.1
PRU	**Pruhonice**	**143.42 332**		*e*PKIKP	PKPbc		13 25 33.6	+0.3
PRU				MLR	MLR			
	comp=Z,2μm,26.2s							
PRU	**Pruhonice**	**143.42 332**	⇑	*e*PKP	PKPbc		13 25 33.6	+0.3
PRU				*e*SS	SS		13 47 31.8	+10
PRU				AMS	AMS		14 25 20.0	
	comp=Z,2μm,26.2s							
ZST	**Bratislava**	**143.47 328**		*e*PKIKP	PKPbc		13 25 34.6	+1.1
ZST	**Bratislava**	**143.47 328**		*e*PKP	PKPbc		13 25 34.6	+1.1
ZST				*e*			13 29 09.2	
TREC	**Trest**	**143.49 331**		AMS	AMS		14 23 50.0	
	comp=Z,1μm,25.9s							
NBMO	**Morrinhos-CE**	**143.51 125**		*eP*	PKPab		13 25 33.6	-0.1
SRS	**Serrai**	**143.55 314**		P	PKPab		13 25 33.3	+0.2
KKB	**Krupnik**	**143.56 315**		P	PKPbc		13 25 34.0	0.0
BOVS	**Bovan**	**143.59 319**	⇑	P	PKPbc		13 25 34.4	+0.4
BOVS	**Bovan**	**143.59 319**	⇓	P	**SKPbc**		**13 29 08.8**	**+0.7**
OUR	**Ouranopolis**	**143.62 312**		P	PKPab		13 25 33.5	+0.2
NEUB	**Neuenburg**	**143.63 336**		*e*PKPbc	PKPbc		13 25 34.3	+0.4
	baz=37,slow=3.2							
CLZ	**Clausthal**	**143.65 338**		*e*PKPbc	PKPbc		13 25 34.3	+0.3
	baz=37,slow=3.2							
APE	**Apeiranthos**	**143.69 307**	⇑	P	PKPab		13 25 33.9	+0.2
APE	**Apeiranthos**	**143.69 307**		P	PKPab		13 25 32.5	-1.3
APE	**Apeiranthos**	**143.69 307**	⇑	PKIKP	PKPab		13 25 33.9	+0.1
ZKR	**Zakros**	**143.73 303**		P	PKPab		13 25 34.1	+0.2
EKA	**Eskdalemuir Ar**	**143.74 352**		SKPbc	**SKiKP**		**13 29 08.7**	**-0.3**
	comp=Z,42nm,1.2s,baz=357,slow=2.8,SNR=6.3							
EKA				PKhKP	PKPab		13 25 33.4	+0.1
	comp=Z,20nm,0.5s,baz=360,slow=2.5,SNR=41							
ESK	**Eskdalemuir**	**143.76 353**		PKIKP	PKPab		13 25 33.0	-0.4
ESK	**Eskdalemuir**	**143.76 353**		PKPpre	PKPab		13 25 33.0	-0.4
SKY	**Skiros Island**	**143.78 310**		P	PKPab		13 25 33.8	-0.2
SOH	**Sokhos**	**143.84 314**		P	PKPab		13 25 33.6	-0.7
FRGS	**Fruska Gora**	**143.90 322**	⇑	P	PKPbc		13 25 35.4	+0.4
FRGS	**Fruska Gora**	**143.90 322**	⇑	P	**SKPbc**		**13 29 07.8**	**-1.0**
FRGS	**Fruska Gora**	**143.90 322**	⇓	*i*P	PKPab		13 25 34.4	+0.1
MORH	**Mrgy, Hungar**	**143.93 324**	⇑	P	**PKPdf**		**13 25 36.0**	**-0.9**
MORH	**Mrgy, Hungar**	**143.93 324**	⇑	P	**SKPbc**		**13 29 09.7**	**+0.9**
MORH	**Mrgy, Hungar**	**143.93 324**	⇓	*i*P	PKPab		13 25 34.1	-0.2
PLG	**Polygyros**	**143.97 313**		P	PKPab		13 25 34.4	-0.4
TANN	**Tannenbergstha**	**143.98 334**		*e*PKPbc	PKPbc		13 25 35.4	+0.4
	baz=37,slow=3.2							
PAIG	**Paliouri**	**144.00 312**		P	**PKPab**		**13 25 34.5**	**-0.3**
WERD	**Werda**	**144.02 335**		*e*PKPbc	PKPbc		13 25 35.7	+0.6
	baz=37,slow=3.2							
THR5	**Thira Island,**	**144.03 306**		P	**PKPab**		**13 25 35.3**	**+0.3**
GTTG	**Gottingen**	**144.04 338**		*e*PKPbc	PKPbc		13 25 35.7	+0.6
	baz=37,slow=3.2							
PLN	**Plauen**	**144.05 335**		*e*PKPbc	PKPbc		13 25 35.8	+0.6
	baz=37,slow=3.2							
EDMD	**Edmundbyers**	**144.07 351**		*eP*	**PKPab**		**13 25 34.8**	**+0.2**
GUNZ	**Gunzen**	**144.07 334**		*e*PKPbc	PKPbc		13 25 36.0	+0.7
	baz=37,slow=3.2							
NEWG	**New Galloway**	**144.08 353**	⇓	*eP*	PKPbc		13 25 34.9	-0.2
HORT	**Hortiatis**	**144.12 313**		P	**PKPab**		**13 25 35.0**	**-0.3**
WERN	**Wernitzgruen**	**144.12 334**		*e*PKPbc	PKPbc		13 25 36.2	+0.7
	baz=37,slow=3.2							
NKC	**Novy Kostel**	**144.13 334**		*e*PKIKP	PKPbc		13 25 36.3	+0.8
NKC	**Novy Kostel**	**144.13 334**	⇑	*e*PKP	PKPbc		13 25 36.3	+0.8
NKC				*e*SS	SS		13 47 42.2	+12
MOX	**Moxa**	**144.14 335**		*e*PKPbc	PKPbc		13 25 36.3	+0.8
	baz=37,slow=3.2							
IBBN	**Ibbenburen**	**144.15 340**		*e*PKPbc	**PKPdf**		**13 25 36.3**	**-0.8**
	baz=37,slow=3.2							
VAY	**Valandovo**	**144.15 315**		*i* P	PKPbc		13 25 35.8	+0.1
KARY	**Karystos**	**144.18 309**		P	**PKPab**		**13 25 34.6**	**-0.9**
THE	**Thessaloniki**	**144.19 313**		P	**PKPab**		**13 25 34.8**	**-0.7**
KYMI	**Kymi, Euboea I**	**144.20 310**		P	**PKPab**		**13 25 34.5**	**-1.1**
RONA	**Rosalia, Austr**	**144.21 328**		*i* P	PKPbc		13 25 36.4	+0.6
	comp=Z,619nm,1.0s,SNR=224							
RONA				*i* S	**SKiKP**		**13 29 10.5**	**+0.2**
	comp=Z,128nm,1.2s							
RONA				*e*S	**SKKPab**		**13 37 13.5**	**-1.0**
	comp=Z,14nm,1.1s							
STIP	**Stip**	**144.24 316**		*i* P	**PKPab**		**13 25 35.3**	**-0.4**
NBCL	**Cascavel-CE**	**144.24 128**		*eP*	**PKPab**		**13 25 36.0**	**-0.5**
CONA	**Conrad Observa**	**144.27 329**		*i* P	PKPbc		13 25 36.4	+0.3
	comp=Z,451nm,1.2s,SNR=196							
CONA				*e*S	**SKiKP**		**13 29 10.6**	**+0.1**
	comp=Z,124nm,1.3s							
CONA				*e*S	**SKKPab**		**13 37 13.2**	**-1.1**
	comp=Z,19nm,1.4s							
CKRC	**Cesky Krumlov**	**144.38 331**	⇑	*e*PKP	**PKPdf**		**13 25 37.4**	**-0.3**
CKRC				*e*SS	SS		13 47 43.3	+10
CKRC				AMS	AMS		14 27 10.0	
	comp=Z,1μm,21.5s							
DIVS	**Divibare**	**144.39 320**			**PKPdf**		**13 25 37.5**	**-0.5**
DIVS	**Divibare**	**144.39 320**	⇓	*i*P	PKPbc		13 25 36.9	+0.3
TEKS	**Tekeris**	**144.41 321**	⇓	*i*P	**PKPab**		**13 25 36.4**	**+0.1**
BLJ	**Bijeljina**	**144.43 322**		*eP*	**PKPdf**		**13 25 37.3**	**-0.6**
GRG	**Griva**	**144.43 314**		P	**PKPab**		**13 25 36.4**	**-0.1**
MANZ	**Manzenberg**	**144.46 334**		*e*PKPbc	**PKPdf**		**13 25 37.2**	**-0.6**
	baz=37,slow=3.2							
KHC	**Kasperske Hory**	**144.48 332**		*e*PKIKP	**PKPdf**		**13 25 37.3**	**-0.6**
KHC				MLR	MLR			
	comp=Z,1μm,23.4s							
KHC	**Kasperske Hory**	**144.48 332**			PKPbc		13 25 37.1	+0.5
KHC	**Kasperske Hory**	**144.48 332**	⇑	*e*PKP	**PKPdf**		**13 25 37.3**	**-0.6**
KHC				x	x		13 25 46.5	
KHC				x	x		13 25 58.0	
KHC				x	x		13 26 27.5	
KHC				SKP			13 29 10.5	
KHC				*e*SS	SS		13 47 44.4	+10
KHC				AMS	AMS		14 26 00.0	
	comp=Z,1μm,23.4s							
DION	**Dionisos Attik**	**144.53 309**		P	**PKPab**		**13 25 36.2**	**-0.7**
XOR	**Xorichti**	**144.57 311**		P	**PKPab**		**13 25 35.5**	**-1.5**
NEO	**Neokhori**	**144.57 311**		P	**PKPab**		**13 25 36.2**	**-0.8**
ROTZ	**Rotzenmuhle**	**144.59 334**		*e*PKPbc	**PKPdf**		**13 25 37.5**	**-0.5**
	baz=37,slow=3.2							
PTL	**Penteli**	**144.59 309**		P	**PKPab**		**13 25 35.8**	**-1.3**
SKO	**Skopje**	**144.59 316**		*i* P	**PKPdf**		**13 25 38.2**	**-0.1**
UBBA	**Unterbreizbach**	**144.62 337**		*e*PKPbc	**PKPdf**		**13 25 37.7**	**-0.2**
	baz=37,slow=3.2							
GEC2	**GERESS Array S**	**144.63 332**			PKPbc		13 25 37.4	+0.2
GEC2	**GERESS Array S**	**144.63 332**		*e*PKPbc	**PKPdf**		**13 25 38.0**	**-0.3**
	baz=37,slow=3.2							
GERES	**GERESS Array B**	**144.63 332**		PKP	PKPbc		13 25 37.4	+0.2
	comp=Z,163nm,0.8s,baz=35,slow=3.3,SNR=597							
GERES				SKPbc	**SKiKP**		**13 29 11.4**	**+0.3**
	comp=Z,19nm,1.0s,baz=198,slow=0.8,SNR=6.0							
GERES	**GERESS Array B**	**144.63 332**			PKPbc		13 25 37.2	0.0
MHLO	**Agia Marina, M**	**144.66 306**		P	**PKPab**		**13 25 37.2**	**-0.2**
ATHU	**Athens Univers**	**144.68 309**		P	**PKPab**		**13 25 36.1**	**-1.3**
VLY	**Voula,Athens**	**144.72 309**		P	**PKPab**		**13 25 36.4**	**-1.2**
IDI	**Anoyia**	**144.72 304**	⇓	P	PKPbc		13 25 38.3	+0.5
IDI	**Anoyia**	**144.72 304**		P	**PKPab**		**13 25 37.2**	**-0.6**
IDI	**Anoyia**	**144.72 304**			PKPbc		13 25 37.9	0.0
ATH	**Athens Observa**	**144.73 309**		P	**PKPab**		**13 25 36.8**	**-0.8**
LIT	**Litokhoron**	**144.75 313**		P	**PKPab**		**13 25 36.9**	**-0.8**
LIT	**Litokhoron**	**144.75 313**		PKIKP	**PKPab**		**13 25 37.4**	**-0.3**
LIT	**Litokhoron**	**144.75 313**			**PKPab**		**13 25 37.4**	**-0.3**
WET	**Wettzell**	**144.77 333**		*e*PKPbc	**PKPdf**		**13 25 38.2**	**-0.2**
	baz=37,slow=3.2							
RCBR	**Riachuelo**	**144.84 133**		PKIKP	**PKPab**		**13 25 37.5**	**-1.2**
RCBR	**Riachuelo**	**144.84 133**			**PKPab**		**13 25 37.5**	**-1.2**
HPK	**Haverah Park**	**144.86 350**	⇓	*eP*	**PKPab**		**13 25 37.1**	**-0.5**
KASTN	**Kahler Asten**	**144.87 339**		*e*PKPbc	**PKPdf**		**13 25 38.5**	**0.0**
	baz=37,slow=3.2							
BBLS	**Lazići**	**144.87 321**	⇓	*i*P	**PKPdf**		**13 25 38.7**	**-0.1**
KTI	**Kastanea**	**144.88 314**		P	**PKPab**		**13 25 38.2**	**-0.1**
TMBK	**Timbaki Herakl**	**144.88 304**		P	**PKPdf**		**13 25 38.8**	**-0.2**
ARSA	**Arzberg**	**144.90 328**		*i* P	PKPbc		13 25 38.2	+0.2
	comp=Z,626nm,1.2s,SNR=192							
ARSA				*i* S	**SKKPab**		**13 37 10.6**	**-0.8**
	comp=Z,13nm,1.2s							
VILL	**Villia**	**144.95 309**		P	PKPbc		13 25 37.6	-0.9
IOMK	**Kirk Michael**	**144.96 353**		*eP*	**PKPab**		**13 25 38.0**	**+0.1**
ATAL	**Atalanti**	**144.96 310**		P	PKPbc		13 25 36.8	-1.6
LKR	**Lokris**	**144.99 310**		P	PKPbc		13 25 37.3	-1.2
PRNS	**Prines Rethymn**	**145.00 304**		P	**PKPdf**		**13 25 39.2**	**0.0**
RUDO	**Rudo**	**145.03 320**	⇓	*i*P	**PKPdf**		**13 25 39.3**	**+0.3**
BUG	**Bochum--Univer**	**145.04 340**		*e*PKPbc	**PKPdf**		**13 25 38.9**	**+0.2**
	baz=37,slow=3.2							
KOGS	**Kog**	**145.07 326**		*i* PKPdf	**PKPdf**		**13 25 39.0**	**0.0**
KOGS				*i* SKPbc	**SKiKP**		**13 29 11.9**	**-0.1**
WIM	**Isle of Man**	**145.08 354**	⇓	*eP*	**PKPbc**		**13 25 38.1**	**-0.2**
MOA	**Molln**	**145.09 330**		*i* P	**PKPab**		**13 25 38.8**	**+0.1**
	comp=Z,1μm,0.8s,SNR=477							
MOA				*e*S	**SKiKP**		**13 29 13.0**	**+1.0**
	comp=Z,56nm,1.4s							
MOA				*e*S	**SKKPab**		**13 37 09.8**	**-0.7**
	comp=Z,7.0nm,0.9s							
IVA	**Berane**	**145.12 319**		*e*PKP	**PKPdf**		**13 25 40.0**	**+0.7**
LMK	**Market Rasen**	**145.12 349**	⇓	*eP*	**PKPbc**		**13 25 37.5**	**-0.9**
KZN	**Kozani**	**145.15 314**		P	**PKPbc**		**13 25 38.4**	**-0.7**
PLE	**Pljevlja**	**145.18 320**		*e*PKP	**PKPdf**		**13 25 39.8**	**+0.4**
FNA	**Florina**	**145.20 315**		P	**PKPbc**		**13 25 38.0**	**-1.2**
FNA	**Florina**	**145.20 315**		PKIKP	**PKPbc**		**13 25 38.2**	**-1.0**
FNA	**Florina**	**145.20 315**			**PKPbc**		**13 25 38.2**	**-1.0**
DID	**Didima**	**145.25 308**		P	**PKPbc**		**13 25 38.2**	**-1.2**
LTK	**Loutraki**	**145.26 309**		P	**PKPab**		**13 25 40.3**	**+0.7**
EPID	**Epidavros**	**145.30 309**		P	**PKPbc**		**13 25 38.2**	**-1.4**
THL	**Klokotos Trika**	**145.31 312**		P	**PKPbc**		**13 25 37.8**	**-1.7**
AGG	**Agios Georgios**	**145.32 311**		P	**PKPbc**		**13 25 38.4**	**-1.2**
AGG	**Agios Georgios**	**145.32 311**		PKIKP	**PKPbc**		**13 25 38.6**	**-1.0**
AGG	**Agios Georgios**	**145.32 311**			**PKPbc**		**13 25 38.6**	**-1.0**
KOME	**Kolasin**	**145.36 319**		*e*PKP	**PKPab**		**13 25 40.7**	**+0.8**
KRND	**KRANIDI**	**145.36 308**		P	**PKPdf**		**13 25 38.7**	**-1.0**
IMMV	**Iera Moni Meta**	**145.38 305**		P	**PKPdf**		**13 25 39.7**	**-0.1**
PHP	**Peshkopia**	**145.38 317**		P	**PKPdf**		**13 25 39.7**	**0.0**
LBWR	**Ladybower, Pea**	**145.42 350**	⇓	*eP*	**PKPdf**		**13 25 39.2**	**-0.1**
OHR	**Ohrid**	**145.43 316**		*i* P	**PKPdf**		**13 25 39.6**	**-0.2**
MAKR	**Makrakomi, Fth**	**145.46 311**		P	**PKPdf**		**13 25 38.6**	**-1.3**
GRC1	**Grafenberg Arr**	**145.47 334**		PKP2	**PKPab**		**13 25 40.1**	**+0.1**
THAL	**Thalero**	**145.47 310**		P	**PKPdf**		**13 25 38.6**	**-1.3**
GVDS	**Gavdos**	**145.48 304**		P	**PKPdf**		**13 25 39.5**	**-0.5**
BIOA	**Bad Ischl, Aus**	**145.50 330**		*i* P	**PKPdf**		**13 25 39.0**	**-0.7**
	comp=Z,521nm,1.1s,SNR=180							
BIOA				*i* S	**SKiKP**		**13 29 12.6**	**-0.3**
	comp=Z,46nm,1.4s							
BIOA				*i* S	**SKKPab**		**13 37 07.7**	**-1.0**
	comp=Z,7.0nm,1.1s							
PERS	**Pernice**	**145.52 328**		*i* PKPdf	**PKPdf**		**13 25 39.2**	**-0.6**
PERS				*i* SKPbc	**SKPbc**		**13 29 12.7**	**+0.1**
RODP	**Rodopos**	**145.52 305**		P	**PKPab**		**13 25 41.1**	**+0.4**
SOKA	**Soboth**	**145.53 328**		*i* P	**PKPdf**		**13 25 39.5**	**-0.4**
	comp=Z,904nm,1.1s,SNR=422							
SOKA				*e*S	**SKPbc**		**13 29 12.8**	**+0.1**
	comp=Z,56nm,1.1s							
SOKA				*i* S	**SKKPab**		**13 37 08.7**	**+0.1**
	comp=Z,13nm,1.2s							
UPM	**Unac-Piva**	**145.54 320**		*e*PKP	**PKPbc**		**13 25 40.5**	**+0.1**
KPRO	**Kipourio**	**145.59 313**		P	**PKPdf**		**13 25 39.

RCHB	**Rochefort**	**146.81**	**341**	*d*PKPdf	**PKPdf**	**13**	**25**	**42.0 +0.3**
RCHB				*d*PKPab	**PKPbc**	**13**	**25**	**43.9 +0.2**
FSK	**Fiskardo**	**146.81**	**311**	P	**PKPdf**	**13**	**25**	**41.0 -1.1**
BMRD	**Maredsous**	**146.82**	**341**	*d*PKPdf	**PKPdf**	**13**	**25**	**41.7 -0.1**
BMRD				*d*PKP	**PKPbc**	**13**	**25**	**43.7 +0.1**
SKDS	**Skadanscina**	**146.83**	**327**	*e*P	**PKPdf**	**13**	**25**	**39.2 -2.8**
TRI	**Trieste**	**146.84**	**328**	PKIKP	**PKPdf**	**13**	**25**	**41.6 -0.3**
TRI	**Trieste**	**146.84**	**328**	PKPdf	**PKPdf**	**13**	**25**	**41.6 -0.3**
MOTA	**Moosalm**	**146.91**	**332**	*i* P	**PKPdf**	**13**	**25**	**41.8 -0.5**
	comp=Z,762nm,1.0s,SNR=251							
MOTA				*e*S	**SKPbc**	**13**	**29**	**09.1 -6.7**
	comp=Z,51nm,1.4s							
VLS	**Valsamata**	**146.91**	**311**	P	**PKPdf**	**13**	**25**	**41.5 -0.9**
WLF	**Walferdange**	**146.94**	**339**	PKIKP	**PKPdf**	**13**	**25**	**42.3 +0.3**
WLF	**Walferdange**	**146.94**	**339**	PKPdf	**PKPdf**	**13**	**25**	**42.3 +0.3**
WLF	**Walferdange**	**146.94**	**339**	*e*PKPbc	**PKPab**	**13**	**25**	**45.3 -0.3**
	baz=37,slow=3.2							
WLF	**Walferdange**	**146.94**	**339**	*d*PKP	**PKPdf**	**13**	**25**	**43.0 +1.0**
WLF				*d*PKPab	**PKPab**	**13**	**25**	**45.1 -0.4**
PSDA	**Pessada-Kefalo**	**146.94**	**311**	P	**PKPdf**	**13**	**25**	**41.2 -1.2**
RETA	**Reutte**	**146.95**	**333**	*i* P	**PKPdf**	**13**	**25**	**41.7 -0.5**
	comp=Z,359nm,1.2s,SNR=90							
RETA				*e*S	**SKPbc**	**13**	**29**	**10.8 -4.9**
	comp=Z,31nm,1.5s							
SQTA	**Sankt Quirin**	**146.96**	**332**	*i* P	**PKPdf**	**13**	**25**	**42.0 -0.4**
	comp=Z,757nm,0.9s,SNR=249							
SQTA				*e*S	**SKPbc**	**13**	**29**	**12.9 -2.9**
	comp=Z,37nm,1.4s							
STAL	**STALIGIAL**	**146.97**	**329**		**PKPdf**	**13**	**25**	**41.9 -0.4**
MCH1	**Michaelchurch**	**146.97**	**351**	*e*P	**PKPdf**	**13**	**25**	**40.5 -1.4**
GIVF	**Givet**	**146.98**	**341**	*e*PKIKP	**PKPdf**	**13**	**25**	**41.9 -0.2**
GIVF				pmax	pmax			
	comp=Z,586nm,1.1s							
KEF4	**Livadi, Kephal**	**146.99**	**311**	P	**PKPdf**	**13**	**25**	**42.0 -0.4**
DMLN	**Damoulianata-K**	**147.04**	**311**	P	**PKPdf**	**13**	**25**	**42.4 -0.2**
DOU	**Dourbes**	**147.05**	**341**	*d*PKPdf	**PKPdf**	**13**	**25**	**42.6 +0.5**
DOU				*d*PKiKP	**PKiKP**	**13**	**25**	**46.6 -0.2**
STRD	**Stroud**	**147.06**	**350**⇓	*e*P	**PKPbc**	**13**	**25**	**43.8 -0.5**
KEF3	**Kipouria, Keph**	**147.07**	**311**	P	**PKPdf**	**13**	**25**	**42.3 -0.3**
UBR	**Ueberruh**	**147.08**	**333**	*e*PKPbc	**PKPab**	**13**	**25**	**45.6 -0.7**
	baz=37,slow=3.2							
BAIF	**Baives**	**147.20**	**342**	*e*PKP2	**PKPbc**	**13**	**25**	**45.1 +0.4**
BAIF				pmax	pmax			
	comp=Z,697nm,1.2s							
RSBS	**Rosebush, Pemb**	**147.25**	**353**	*e*P	**PKPbc**	**13**	**25**	**44.3 -0.5**
SWN1	**Swindon**	**147.25**	**349**⇓	*e*P	**PKPbc**	**13**	**25**	**44.9 +0.1**
BFO	**Black Forest**	**147.28**	**336**	PKIKP	**PKPdf**	**13**	**25**	**42.3 -0.4**
BFO	**Black Forest**	**147.28**	**336**		**PKPdf**	**13**	**25**	**42.3 -0.4**
BFO	**Black Forest**	**147.28**	**336**	*e*PKPbc	**PKPab**	**13**	**25**	**46.1 -0.9**
	baz=37,slow=3.2							
FETA	**Feichten**	**147.32**	**332**	*i* P	**PKPdf**	**13**	**25**	**42.9 -0.1**
	comp=Z,650nm,0.9s,SNR=307							
FETA				*i* S	**SKPbc**	**13**	**29**	**14.7 -2.0**
	comp=Z,44nm,1.2s							
HMNX	**Herstmonceux**	**147.45**	**347**⇓	*e*P	**PKPbc**	**13**	**25**	**45.2 -0.1**
DAVA	**Damuels**	**147.49**	**333**	*i* P	**PKPdf**	**13**	**25**	**42.6 -0.6**
	comp=Z,458nm,0.9s,SNR=124							
DAVA				*i* S	**SKPbc**	**13**	**29**	**15.7 -1.4**
	comp=Z,54nm,1.3s							
SCTE	**Santa Cesarea**	**147.49**	**315**	PKPdf	**PKPdf**	**13**	**25**	**43.2 0.0**
CDF	**Champ du Feu**	**147.61**	**337**	*e*PKIKP	**PKPdf**	**13**	**25**	**42.6 -0.7**
CDF				pmax	pmax			
	comp=Z,834nm,1.1s							
CTI	**Castel Tesino**	**147.63**	**330**	PKIKP	**PKPdf**	**13**	**25**	**42.8 -0.6**
CTI	**Castel Tesino**	**147.63**	**330**		**PKPdf**	**13**	**25**	**42.8 -0.6**
SLE	**Schleitheim**	**147.68**	**335**	PKIKP	**PKPdf**	**13**	**25**	**43.3 -0.1**
ECH	**Echery**	**147.81**	**337**	PKIKP	**PKPdf**	**13**	**25**	**42.9 -0.7**
ECH	**Echery**	**147.81**	**337**		**PKPdf**	**13**	**25**	**42.9 -0.7**
DAVOX	**Davos/Dischmat**	**147.88**	**333**	PKP	**PKPdf**	**13**	**25**	**43.8 -0.1**
	comp=Z,461nm,0.8s,baz=224,slow=2.0,SNR=33							
DAVOX				PKPbc	**PKiKP**	**13**	**25**	**48.0 -0.9**
	comp=Z,461nm,0.8s,baz=315,slow=1.2,SNR=154							
TEOL	**Teolo**	**148.13**	**329**		**PKPdf**	**13**	**25**	**44.0 -0.1**
HTL	**Hartland**	**148.16**	**352**⇓	*e*P	**PKPbc**	**13**	**25**	**46.0 -1.2**
HINF	**Hinteralfeld**	**148.26**	**337**	*e*PKIKP	**PKPdf**	**13**	**25**	**43.7 -0.6**
HINF				pmax	pmax			
	comp=Z,314nm,1.2s							
HAU	**Haudompre**	**148.29**	**338**	*e*PKIKP	**PKPdf**	**13**	**25**	**45.0 +0.6**
HAU				pmax	pmax			
	comp=Z,453nm,1.1s							
SGRT	**San Giovanni R**	**148.29**	**320**		**PKPdf**	**13**	**25**	**44.3 -0.3**
MATE	**Matera**	**148.32**	**318**	⇑P	**PKPdf**	**13**	**25**	**45.7 +1.2**
TUE	**Stuetta**	**148.35**	**333**		**PKPdf**	**13**	**25**	**44.4 -0.4**
SALO	**Salr**	**148.48**	**331**		**PKPdf**	**13**	**25**	**44.2 -0.6**
DYA	**Yadsworthy**	**148.63**	**351**	*e*P	**PKPbc**	**13**	**25**	**48.2 -0.4**
TIP	**Timpagrande**	**149.08**	**315**	⇓P	**PKPdf**	**13**	**25**	**46.4 +0.4**
TIP	**Timpagrande**	**149.08**	**315**		**PKPdf**	**13**	**25**	**45.9 -0.1**
NRCA	**Norcia**	**149.13**	**324**		**PKPdf**	**13**	**25**	**45.6 -0.3**
MURB	**Monte Urbino**	**149.17**	**325**		**PKPdf**	**13**	**25**	**45.6 -0.4**
PRMA	**PARMA**	**149.22**	**330**	PKPdf	**PKPdf**	**13**	**25**	**45.8 -0.1**
AQU	**L'Aquila**	**149.29**	**323**⇓	*i* P	**PKPdf**	**13**	**25**	**45.5 -0.7**
SENIN	**Lac Senin/Sane**	**149.29**	**335**		**PKPdf**	**13**	**25**	**45.8 -0.5**
PAOL	**Paolisi**	**149.43**	**320**		**PKPdf**	**13**	**25**	**45.2 -1.3**
JVM	**Valle D.L. Mar**	**149.53**	**349**	*e*P	**PKPdf**	**13**	**25**	**47.1 +0.9**
JSA	**Saint Aubin**	**149.55**	**349**	*e*P	**PKPdf**	**13**	**25**	**46.2 -0.1**
CABF	**La Chapelle**	**149.56**	**336**	pmax	pmax			
	comp=Z,567nm,1.1s							
CABF				*e*PKHKP	**PKPdf**	**13**	**25**	**46.6 +0.1**
FLN	**La Foliniere**	**149.61**	**346**	pmax	pmax			
	comp=Z,502nm,1.2s							
FLN				*e*PKHKP	**PKPdf**	**13**	**25**	**46.0 -0.4**
OSSC	**Osservatorio P**	**149.66**	**327**		**PKPdf**	**13**	**25**	**45.5 -1.2**
LDF	**La Druitiere**	**149.69**	**346**	pmax	pmax			
	comp=Z,275nm,1.1s							
LDF				*e*PKHKP	**PKPdf**	**13**	**25**	**47.1 +0.6**
LOR	**Lormes**	**149.78**	**340**	pmax	pmax			
	comp=Z,435nm,1.0s							
LOR				*e*PKHKP	**PKPdf**	**13**	**25**	**46.5 -0.3**
MSSA	**Maissana**	**149.93**	**330**		**PKPdf**	**13**	**25**	**45.9 -1.2**
LATE	**Laterza**	**150.00**	**325**		**PKPdf**	**13**	**25**	**46.1 -1.2**
GRR	**Gorron**	**150.04**	**346**	*e*PKIKP	**PKPdf**	**13**	**25**	**46.8 -0.3**
GRR				pmax	pmax			
	comp=Z,472nm,1.2s							
SSF	**Saint Saulge**	**150.07**	**340**	*e*PKIKP	**PKPdf**	**13**	**25**	**47.0 -0.2**
SSF				pmax	pmax			
	comp=Z,540nm,1.0s							
LPG	**La Plagne**	**150.22**	**334**	*e*PKIKP	**PKPdf**	**13**	**25**	**48.7 +0.8**
LPG				pmax	pmax			
	comp=Z,378nm,0.8s							
CASP	**Castiglione de**	**150.37**	**326**		**PKPdf**	**13**	**25**	**46.9 -0.9**
ROSF	**Rostrenen**	**150.57**	**350**	*e*PKIKP	**PKPdf**	**13**	**25**	**47.2 -0.7**
ROSF				pmax	pmax			
	comp=Z,246nm,1.1s							
BNI	**Bardonecchia**	**150.61**	**334**	PKIKP	**PKPdf**	**13**	**25**	**47.7 -0.6**
BNI	**Bardonecchia**	**150.61**	**334**		**PKPdf**	**13**	**25**	**47.7 -0.6**
BGF	**Bois d'Agland**	**150.73**	**340**	*e*PKIKP	**PKPdf**	**13**	**25**	**48.0 -0.3**
BGF				pmax	pmax			
	comp=Z,151nm,0.8s							
MBDF	**Montbardon**	**150.84**	**334**	*e*PKIKP	**PKPdf**	**13**	**25**	**48.2 -0.5**
MBDF				pmax	pmax			
	comp=Z,135nm,0.9s							
QUIF	**Quistinic**	**150.96**	**349**	*e*PKIKP	**PKPdf**	**13**	**25**	**49.2 +0.7**
QUIF				pmax	pmax			
	comp=Z,166nm,1.2s							
TCF	**Toulx Ste Croi**	**151.17**	**341**	*e*PKIKP	**PKPdf**	**13**	**25**	**48.6 -0.4**
TCF				pmax	pmax			
	comp=Z,180nm,0.9s							
SBF	**Sospel**	**151.24**	**332**	*e*PKIKP	**PKPdf**	**13**	**25**	**50.9 +1.7**
SBF				pmax	pmax			
	comp=Z,481nm,1.0s							
PGF	**Pioggiola**	**151.50**	**328**	*e*PKIKP	**PKPdf**	**13**	**25**	**49.1 -0.6**
PGF				pmax	pmax			
	comp=Z,644nm,0.9s							
VAE	**Valguarnera**	**151.54**	**314**	PKPbc	**PKiKP**	**13**	**25**	**56.9 +0.3**
	comp=Z,88nm,0.9s,baz=64,slow=14,SNR=7.9							
VIVF	**Saint-Julien-l**	**151.57**	**336**	*e*PKIKP	**PKPdf**	**13**	**25**	**49.5 -0.1**
VIVF				pmax	pmax			
	comp=Z,167nm,0.9s							
LMR	**La Mourre**	**152.07**	**332**	*e*PKIKP	**PKPdf**	**13**	**25**	**51.1 +0.7**
LMR				pmax	pmax			
	comp=Z,316nm,1.1s							
RJF	**Les Rejaudoux**	**152.27**	**341**	*e*PKIKP	**PKPdf**	**13**	**25**	**49.4 -1.2**
RJF				pmax	pmax			
	comp=Z,57nm,0.8s							
CAF	**Calviac**	**152.43**	**340**	*e*PKIKP	**PKPdf**	**13**	**25**	**49.9 -1.0**
CAF				pmax	pmax			
	comp=Z,52nm,1.1s							
LFF	**La Frestale**	**152.83**	**342**	*e*PKIKP	**PKPdf**	**13**	**25**	**51.4 0.0**
LFF				pmax	pmax			
	comp=Z,72nm,0.8s							
H07N1	**FLORES T-PHASE**	**153.43**	**36**	*e*PKP	**PKiKP**	**13**	**26**	**00.6 +0.3**
VSL	**Villasalto**	**153.46**	**323**		**PKPdf**	**13**	**25**	**52.0 -0.5**
H07S1	**FLORES T-PHASE**	**153.59**	**37**	*e*PKP	**PKPbc**	**13**	**25**	**58.6 -2.0**
MTLF	**Montolieu**	**153.77**	**338**	*e*PKIKP	**PKPdf**	**13**	**25**	**52.7 -0.2**
MTLF				pmax	pmax			
	comp=Z,45nm,0.8s							
EPF	**Esparros**	**154.68**	**340**	*e*PKIKP	**PKPdf**	**13**	**25**	**54.2 0.0**
EPF				pmax	pmax			
	comp=Z,59nm,1.1s							
SJPF	**Ste Jean**	**155.07**	**343**	*e*PKIKP	**PKPdf**	**13**	**25**	**54.9 +0.2**
SJPF				pmax	pmax			
	comp=Z,51nm,1.2s							
ETSF	**Etsaut**	**155.08**	**342**	*e*PKIKP	**PKPdf**	**13**	**25**	**55.1 +0.3**
ETSF				pmax	pmax			
	comp=Z,102nm,1.3s							
KEST	**Kesra**	**155.89**	**316**	PKP	**PKPdf**	**13**	**25**	**56.0 -0.1**
	comp=Z,32nm,1.1s,baz=248,slow=3.7,SNR=8.7							
KEST				PKPbc	PKPbc	13	26	06.7
	comp=Z,32nm,0.9s,baz=133,slow=4.7,SNR=11							
KEST				PKPab	**PKPab**	**13**	**26**	**24.6 +1.3**
	comp=Z,70nm,0.9s,baz=81,slow=4.8,SNR=3.9							
KEST				PP	**PP**	**13**	**30**	**03.9 +3.5**
	comp=Z,23nm,1.2s,baz=25,slow=3.8,SNR=3.8							
KEST	**Kesra**	**155.89**	**316**	P	**PKPdf**	**13**	**25**	**56.9 +0.8**
CMAH	**Djebel Manchou**	**156.53**	**320**	P	**PKPdf**	**13**	**25**	**56.8 -0.1**
ABSA	**Djebel Ababsia**	**156.73**	**320**	P	**PKPdf**	**13**	**25**	**57.1 -0.1**
CKFL	**Kef-Lekhel**	**157.10**	**321**	P	**PKPdf**	**13**	**25**	**57.9 +0.2**
PBRG	**Braganca**	**157.48**	**352**	*e*PKPdf	**PKPdf**	**13**	**25**	**57.1 -0.8**
PBRG	**Braganca**	**157.48**	**352**	*e*PKPab	**PKPab**	**13**	**26**	**29.4 -0.4**
PBRG	**Braganca**	**157.48**	**352**	*e*PP	PP	13	30	09.1 +1.0
PGAV	**Gavieira, Arco**	**157.49**	**355**	*e*PKPdf	**PKPdf**	**13**	**25**	**58.1 +0.1**
PGAV	**Gavieira, Arco**	**157.49**	**355**	*e*PKPab	**PKPab**	**13**	**26**	**29.6 -0.3**
PGAV	**Gavieira, Arco**	**157.49**	**355**	*e*PP	PP	13	30	08.8 +0.6
PGAV	**Gavieira, Arco**	**157.49**	**355**	*e*SS	SS	13	50	04.2 +6.8
DFRA	**Djebel Bou Aff**	**157.49**	**322**	P	**PKPdf**	**13**	**25**	**58.9 +0.7**
CTEI	**Djebel Teioual**	**157.52**	**321**	P	**PKPdf**	**13**	**25**	**54.7 -3.6**
PCAB	**Cabril**	**157.72**	**354**	*e*PKPdf	**PKPdf**	**13**	**25**	**58.1 -0.1**
PCAB				*ep*PKPab	**pPKPab**	**13**	**26**	**52.5 +0.2**
PCAB	**Cabril**	**157.72**	**354**	*e*PP	PP	13	30	10.3 +0.9
POLO	**Lamas de Olo**	**158.03**	**354**	*e*PKPdf	**PKPdf**	**13**	**25**	**58.5 -0.2**
POLO	**Lamas de Olo**	**158.03**	**354**	*e*PKPab	**PKPab**	**13**	**26**	**32.1 -0.2**
POLO	**Lamas de Olo**	**158.03**	**354**	*e*PP	PP	13	30	13.0 +1.9
PVRL	**Vila Real**	**158.12**	**353**	*e*PKPdf	**PKPdf**	**13**	**25**	**59.6 +0.8**
PVRL	**Vila Real**	**158.12**	**353**	*e*PKPab	**PKPab**	**13**	**26**	**33.3 +0.7**
MVO	**Moncorvo**	**158.15**	**352**	*e*PKPdf	**PKPdf**	**13**	**25**	**58.4 -0.4**
MVO	**Moncorvo**	**158.15**	**352**	*e*PKPab	**PKPab**	**13**	**26**	**32.9 +0.2**
MVO	**Moncorvo**	**158.15**	**352**	*e*PP	PP	13	30	11.1 -0.7
PSMA	**Santa Maria**	**158.61**	**33**	*e*PKP	**PKPdf**	**13**	**26**	**00.7 +1.3**
PSMN	**Pico do Norte,**	**158.63**	**32**	*e*PKP	**PKPdf**	**13**	**25**	**58.0 -1.4**
PVIS	**Viseu**	**158.69**	**354**	*e*PKPdf	**PKPdf**	**13**	**25**	**59.5 0.0**
PVIS	**Viseu**	**158.69**	**354**	*e*PKPab	**PKPab**	**13**	**26**	**35.4 +0.3**
PVIS	**Viseu**	**158.69**	**354**	*e*PP	PP	13	30	15.8 +1.1
ATAF	**Djebel Tarf**	**158.88**	**324**	P	**PKPdf**	**13**	**26**	**00.0 +0.1**
MTE	**Manteigas**	**158.97**	**353**	*e*PKPdf	**PKPdf**	**13**	**26**	**00.1 +0.3**
MTE	**Manteigas**	**158.97**	**353**	*e*PKPab	**PKPab**	**13**	**26**	**36.4 +0.1**
MTE	**Manteigas**	**158.97**	**353**	*e*PP	PP	13	30	17.7 +1.5
MTE	**Manteigas**	**158.97**	**353**	PKPdf	**PKPdf**	**13**	**25**	**59.4 -0.4**
MTE				PKPab	**PKPab**	**13**	**26**	**35.9 -0.4**
AKET	**Djebel Ketaf**	**158.97**	**325**	P	**PKPdf**	**13**	**26**	**01.4 +1.3**
ESDC	**Sonseca Array**	**159.01**	**345**	PKP	**PKPdf**	**13**	**25**	**59.5 -0.4**
	comp=Z,9.4nm,1.1s,baz=358,slow=2.6,SNR=31							
ESDC				PKPab	**PKPab**	**13**	**26**	**36.7 +0.2**
	comp=Z,38nm,1.0s,baz=14,slow=4.6,SNR=5.0							
ESDC				PP	**PP**	**13**	**30**	**09.8 -6.7**
	comp=Z,9.4nm,1.1s,baz=24,slow=6.4,SNR=6.4							
ADJB	**Djebel Djouab**	**159.13**	**326**	P	**PKPdf**	**13**	**26**	**01.6 +1.4**
PAB	**San Pablo**	**159.22**	**345**	⇑PKIKP	**PKPdf**	**13**	**25**	**57.8 -2.4**
PAB	**San Pablo**	**159.22**	**345**	P	**PKPdf**	**13**	**26**	**01.1 +0.9**
EMHD	**Djebel Mahouad**	**159.35**	**327**	P	**PKPdf**	**13**	**26**	**01.9 +1.4**
PCAS	**Casmilo, Conde**	**159.41**	**355**	*e*PKPdf	**PKPdf**	**13**	**25**	**59.1 -1.2**
PCAS	**Casmilo, Conde**	**159.41**	**355**	*e*PKPab	**PKPab**	**13**	**26**	**38.3 +0.2**
PCAS				*ep*PKPab	**pPKPab**	**13**	**26**	**58.5 -1.1**
PCAS	**Casmilo, Conde**	**159.41**	**355**	*e*PP	PP	13	30	18.5 0.0
PCBR	**Castelo Branco**	**159.51**	**352**	*e*PKPdf	**PKPdf**	**13**	**26**	**00.3 -0.1**
PCBR	**Castelo Branco**	**159.51**	**352**	*e*PKPab	**PKPab**	**13**	**26**	**39.5 +0.9**
PCBR				*ep*PKPab	**pPKPab**	**13**	**26**	**59.1 -0.9**
PCBR	**Castelo Branco**	**159.51**	**352**	*e*PP	PP	13	30	21.0 +1.9
PMRV	**Marv??o**	**159.90**	**352**	*e*PKPdf	**PKPdf**	**13**	**26**	**00.7 -0.2**
PMRV				*ep*PKPdf	**pPKPdf**	**13**	**26**	**21.9 -1.3**
PMRV	**Marv??o**	**159.90**	**352**	*e*PKPab	**PKPab**	**13**	**26**	**40.0 -0.3**
PMRV	**Marv??o**	**159.90**	**352**	*e*PP	PP	13	30	21.8 +0.6
PSBE	**So Bento**	**159.97**	**355**	*e*PKPdf	**PKPdf**	**13**	**26**	**00.5 -0.5**
PSBE	**So Bento**	**159.97**	**355**	*e*PKPab	**PKPab**	**13**	**26**	**40.4 -0.2**
PSBE	**So Bento**	**159.97**	**355**	*e*PP	PP	13	30	22.4 +0.8
CART	**Cartagena**	**159.99**	**336**	P	**PKPab**	**13**	**26**	**41.6 +0.9**
PMTG	**Montargil**	**160.36**	**354**	*e*PKPdf	**PKPdf**	**13**	**26**	**00.9 -0.4**
PMTG	**Montargil**	**160.36**	**354**	*e*PKPab	**PKPab**	**13**	**26**	**42.1 -0.2**
PMTG				*ep*PKPab	**pPKPab**	**13**	**27**	**03.6 -0.1**
PMTG	**Montargil**	**160.36**	**354**	*e*PP	PP	13	30	25.1 +1.5
PESTR	**Estremoz**	**160.48**	**352**	*e*PKPdf	**PKPdf**	**13**	**26**	**00.7 -0.8**
PESTR	**Estremoz**	**160.48**	**352**	*e*PKPab	**PKPab**	**13**	**26**	**42.8 -0.1**
PESTR	**Estremoz**	**160.48**	**352**	*e*PP	PP	13	30	25.1 +0.7
PESTR	**Estremoz**	**160.48**	**352**		**PKPdf**	**13**	**26**	**00.9 -0.6**
OKGL	**Djebel Kef Gue**	**160.62**	**331**	P	**PKPab**	**13**	**26**	**49.0 +5.4**
PACT	**Alcochete**	**160.71**	**355**	*e*PKPdf	**PKPdf**	**13**	**26**	**01.4 -0.3**
PACT	**Alcochete**	**160.71**	**355**	*e*PKPab	**PKPab**	**13**	**26**	**44.6 +0.8**
OJGS	**Djebel Guires**	**161.00**	**329**	P	**PKPab**	**13**	**26**	**47.0 +1.6**
PBAR	**Barrancos**	**161.08**	**350**	*e*PKPdf	**PKPdf**	**13**	**26**	**02.5 +0.3**
PBAR	**Barrancos**	**161.08**	**350**	*e*PKPab	**PKPab**	**13**	**26**	**45.1 -0.4**
PBAR	**Barrancos**	**161.08**	**350**	*e*PP	PP	13	30	28.1 +0.5
OJBR	**Djebel Berber**	**161.13**	**330**	P	**PKPab**	**13**	**26**	**45.0 -0.9**
PNCL	**Nicolau / Gran**	**161.34**	**354**	*e*PKPdf	**PKPdf**	**13**	**26**	**02.0 -0.4**
PNCL	**Nicolau / Gran**	**161.34**	**354**	*e*PKPab	**PKPab**	**13**	**26**	**46.4 -0.1**
PNCL	**Nicolau / Gran**	**161.34**	**354**	*e*PP	PP	13	30	29.3 +1.4
PBEJ	**Beja**	**161.34**	**352**	*e*PKPdf	**PKPdf**	**13**	**26**	**02.7 +0.2**
ODJA	**Bouhanifia**	**161.56**	**331**	P	**PKPab**	**13**	**26**	**51.0 +3.2**
PCVE	**Castro Verde**	**161.75**	**353**	*e*PKPdf	**PKPdf**	**13**	**26**	**02.8 -0.1**
PCVE	**Castro Verde**	**161.75**	**353**	*e*PKPab	**PKPab**	**13**	**26**	**48.7 +0.3**
PCVE	**Castro Verde**	**161.75**	**353**	*e*PP	PP	13	30	33.3 +2.2
OTSS	**Djebel Tessala**	**161.89**	**332**	P	**PKPab**	**13**	**26**	**42.0 -7.3**
PTEO	**Sao Teotonio**	**161.91**	**354**	*e*PKPdf	**PKPdf**	**13**	**26**	**03.1 +0.1**
PTEO	**Sao Teotonio**	**161.91**	**354**	*e*PKPab	**PKPab**	**13**	**26**	**49.9 +0.8**
PTEO	**Sao Teotonio**	**161.91**	**354**	*e*PP	PP	13	30	32.0 0.0
PVAQ	**Vaqueiros**	**161.94**	**352**	*e*PKPdf	**PKPdf**	**13**	**26**	**02.8 -0.3**
PVAQ	**Vaqueiros**	**161.94**	**352**	*e*PKPab	**PKPab**	**13**	**26**	**50.0 +0.8**
PVAQ	**Vaqueiros**	**161.94**	**352**	*e*PP	PP	13	30	33.3 +1.2
PVAQ	**Vaqueiros**	**161.94**	**352**	*e*SS	SS	13	50	43.2 -0.9
PVAQ	**Vaqueiros**	**161.94**	**352**	P	**PKPdf**	**13**	**26**	**03.9 +0.8**
PVAQ	**Vaqueiros**	**161.94**	**352**	P	**PKPab**	**13**	**26**	**50.7 +1.5**
PBDV	**Barranco-do-Ve**	**162.12**	**352**	*e*PKPdf	**PKPdf**	**13**	**26**	**02.6 -0.7**
PBDV	**Barranco-do-Ve**	**162.12**	**352**	*e*PKPab	**PKPab**	**13**	**26**	**50.1 0.0**
PBDV				*ep*PKPab	**pPKPab**	**13**	**27**	**14.4 +2.9**
PBDV	**Barranco-do-Ve**	**162.12**	**352**	*e*PP	PP	13	30	32.4 -0.8
MORF	**Marmelete**	**162.15**	**354**	*e*PKPdf	**PKPdf**	**13**	**26**	**03.1 -0.3**
MORF				IAMs_20	IAMs_20	14	37	31.2
	comp=Z,1μm,28.4s							
MORF	**Marmelete**	**162.15**	**354**	*e*PKPdf	**PKPdf**	**13**	**26**	**03.1 -0.3**
MORF	**Marmelete**	**162.15**	**354**	*e*PKPab	**PKPab**	**13**	**26**	**50.5 +0.3**
MORF				*ep*PKPab	**pPKPab**	**13**	**27**	**11.0 -0.6**
MORF	**Marmelete**	**162.15**	**354**	*e*PP	PP	13	30	34.9 +1.6
MORF	**Marmelete**	**162.15**	**354**	*e*PKIKP	**PKPdf**	**13**	**26**	**03.0 -0.3**
PFVI	**Vila Bisbo**	**162.33**	**354**	*e*PKPdf	**PKPdf**	**13**	**26**	**03.5 0.0**
PFVI	**Vila Bisbo**	**162.33**	**354**	*e*PKPab	**PKPab**	**13**	**26**	**51.5 +0.5**
GOG	**Mont Gurugu**	**162.83**	**337**	P	**PKPab**	**13**	**26**	**55.0 +1.6**
TAF	**Taforalt**	**162.97**	**335**	P	**PKPdf**	**13**	**26**	**06.0 +1.7**
TAF	**Taforalt**	**162.97**	**335**	P	**PKPab**	**13**	**26**	**56.0 +2.0**
JBK	**JBK**	**163.45**	**335**	P	**PKPdf**	**13**	**26**	**06.0 +1.0**
JBK	**JBK**	**163.45**	**335**	P	**PKPab**	**13**	**26**	**59.0 +2.7**
TDRA	**Tendrara**	**164.33**	**331**	P	**PKPdf**	**13**	**26**	**07.0 +1.2**
SICH	**Sidi Chahed**	**164.61**	**342**	P	**PKPdf**	**13**	**26**	**07.0 +1.2**
FIGM	**Figuig**	**164.70**	**327**	P	**PKPdf**	**13**	**26**	**07.0 +0.9**
FIGM	**Figuig**	**164.70**	**327**	P	**PKPab**	**13**	**27**	**05.0 +3.2**
LCRM	**LCR**	**164.86**	**340**	P	**PKPdf**	**13**	**26**	**08.0 +1.8**
CZD	**Col de Zad**	**165.52**	**340**	P	**PKPdf**	**13**	**26**	**08.1 +1.1**
MDT	**Midelt**	**165.57**	**338**	PKP	**PKPdf**	**13**	**26**	**07.2 +0.5**
	comp=Z,29nm,1.1s,baz=11,slow=0.3,SNR=19							
MDT				PKPab	**PKPab**	**13**	**27**	**06.8 +1.3**
	comp=Z,43nm,1.1s,baz=74,slow=4.5,SNR=13							
MDT				PP	**PP**	**13**	**30**	**55.2 +3.6**
	comp=Z,14nm,1.1s,baz=45,slow=5.4,SNR=4.9							
MDT	**Midelt**	**165.57**	**338**	P	**PKPdf**	**13**	**26**	**07.7 +1.0**
MDT	**Midelt**	**165.57**	**338**	P	**PKPab**	**13**	**27**	**06.9 +1.4**
ZHG	**ZHG**	**165.59**	**345**	P	**PKPdf**	**13**	**26**	**08.0 +1.3**
ZHG	**ZHG**	**165.59**	**345**	P	**PKPab**	**13**	**27**	**08.0 +2.5**
LIC	**Lamto**	**165.60**	**204**	*e*PKP1	**PKPab**	**13**	**27**	**07.6 +1.7**
	comp=Z,121nm,1.4s							
LIC	**Lamto**	**165.60**	**204**	*e*PKIKP	**PKPdf**	**13**	**26**	**05.8 -1.3**
	comp=Z,45nm,1.4s							
KIC	**Kosan Boka**	**165.61**	**206**	*e*PKP1	**PKPab**	**13**	**27**	**07.0 +1.1**
	comp=Z,48nm,0.9s							
KIC	**Kosan Boka**	**165.61**	**206**	*e*PKIKP	**PKPdf**	**13**	**26**	**05.3 -1.9**
	comp=Z,72nm,1.6s			

ZUMB Zumba 4.82 165 P **Pn** **13 26 58.0 +0.8**
MARP Paez Belalcaza 5.36 56 *e*P **Pn** **13 27 07.5 +2.8**
MARP *e*S **Sb** **13 28 15.4 -7.4**
MARP *i* 13 28 33.7
comp=Z,48nm,0.8s
PTLC Puerto Leguiza 5.61 86 *e*P **Pn** **13 27 10.7 +2.9**
PTLC *e*S **Sn** **13 28 19.0 +6.7**
PTLC *i* 13 28 57.3
comp=Z,116nm,0.6s
ORTC Ortega, Tolima 6.55 52 *e*P **Pn** **13 27 22.6 +1.7**
ORTC *e*S Sn 13 28 44.4 +8.7
ORTC *i* 13 29 14.1
comp=Z,106nm,0.7s
ROSC El Rosal 7.85 50 Pn **Pn** **13 27 38.9 -0.1**
comp=Z,1.9nm,0.3s,baz=346,slow=22,SNR=1.4
ROSC El Rosal 7.85 50 P **Pn** **13 27 38.5 -0.6**
ROSC El Rosal 7.85 50 **Pn** **13 27 38.5 -0.6**
ROSC El Rosal 7.85 50 *e*P **Pn** **13 27 43.5 +4.5**
CDITO Canoas 9.04 344 Pn **Pn** **13 27 57.2 +2.2**
BRU2 Volcan 9.20 346 **Pn** **13 27 59.2 +1.8**
BCIP Isla Barro Col 9.30 3 P **Pn** **13 27 59.8 +1.2**
BCIP Isla Barro Col 9.30 3 **Pn** **13 27 59.8 +1.2**
ZARC Zaragoza, Cauc 9.41 36 Pn **Pn** **13 28 00.5 +0.4**
DRKO Durika 9.80 343 **Pn** **13 28 07.0 +1.4**
SRBA San Rafael, Bu 9.80 343 **Pn** **13 28 06.7 +1.0**
PEZE Perez Zeledon, 10.05 341 Pn **Pn** **13 28 10.8 +1.9**
RIMA Rio Macho 10.47 341 **Pn** **13 28 17.3 +2.5**
JACO JACO, Garabito 10.66 337 Pn **Pn** **13 28 19.7 +2.4**
CZSB Cruzeiro do Su 10.72 135 *e*P **Pn** **13 28 18.9 +0.7**
CZSB *e*S **Sn** **13 30 20.9 +2.7**
SJCC San Jacinto, C 11.27 27 Pn **Pn** **13 28 26.4 +0.7**
JTS Las Juntas de 11.35 337 Pn **Pn** **13 28 30.1 +3.4**
comp=Z,1.2nm,0.3s,baz=204,slow=7.2,SNR=25
JTS Las Juntas de 11.35 337 P **Pn** **13 28 28.6 +1.9**
JTS Las Juntas de 11.35 337 Pn **Pn** **13 28 28.6 +1.9**
NNA Nana 12.25 163 Pn **Pn** **13 28 39.8 +0.8**
comp=Z,13nm,0.3s,baz=338,slow=13,SNR=12
NNA Sn **Sn** **13 30 53.2 -2.5**
comp=Z,7.9nm,0.3s,baz=207,slow=16,SNR=4.6
NNA Nana 12.25 163 *i* P **Pn** **13 28 38.8 -0.3**
NNA Nana 12.25 163 **Pn** **13 28 38.0 -1.1**
ACON Acoyapa 12.97 339 **Pn** **13 28 51.2 +2.4**
SDV Santo Domingo 13.25 47 Pn **Pn** **13 28 53.3 +0.4**
comp=Z,0.3nm,0.3s,baz=231,slow=14,SNR=2.5
SDV LR LR 13 34 54.8
comp=Z,3µm,19.5s,baz=224,slow=43
SDV Santo Domingo 13.25 47 Pn **Pn** **13 28 52.9 0.0**
SDV Santo Domingo 13.25 47 *e*P **Pn** **13 28 54.7 +1.8**
BOAB BOACO BROADBAN 13.59 338 **Pn** **13 28 58.5 +1.1**
MATN Matagalpa 14.13 337 Pn **Pn** **13 29 07.7 +2.9**
CRIN San Cristobal 14.40 333 Pn **Pn** **13 29 08.8 +1.3**
URIC Uribia, Colomb 14.45 35 **Pn** **13 29 09.1 -0.1**
BAUV El Baul 15.28 53 Pn **Pn** **13 29 19.6 -0.7**
TGUH Tegucigalpa,Un 15.70 335 Pn **P** **13 29 28.0 -1.9**
HATO Hato, Curacao 16.72 42 Pn **Pn** **13 29 38.7 -0.2**
MTO3 Montecristo 16.99 329 Pn **P** **13 29 43.9 -0.5**
MTO3 lAmb lAmb 13 29 49.0
comp=Z,75nm,0.9s
ESQI Esquipulas 17.11 329 **P** **13 29 47.2 +1.6**
BIRV Birongo 17.59 53 **P** **13 29 50.9 +0.1**
PETF Flores 19.39 332 P **Pn** **13 30 12.5 +0.9**
PETF lAmb lAmb 13 30 16.2
comp=Z,72nm,1.1s
CCIG Comitan 20.05 325 P Pn 13 30 19.1 -0.7
CCIG lAmb lAmb 13 30 24.4
comp=Z,56nm,1.2s
LPAZ La Paz 20.06 144 P Pn 13 30 21.2 +0.9
comp=Z,20nm,0.7s,baz=318,slow=8.7,SNR=35
LPAZ LR LR 13 39 48.8
comp=Z,2µm,18.1s,baz=322,slow=42
LPAZ La Paz 20.06 144 *e*P **P** **13 30 18.2 -0.4**
LPAZ La Paz 20.06 144 P **P** **13 30 16.4 -2.2**
LPAZ La Paz 20.06 144 *e*P Pn 13 30 20.2 -0.1
LGNH Logne 20.09 22 P **P** **13 30 18.3 +0.1**
LGNH lAmb lAmb 13 30 31.6
comp=Z,104nm,1.2s
GTBY Guantanamo Bay 20.64 14 Pn 13 30 25.8 -0.7
GTBY lAmb lAmb 13 30 33.3
comp=Z,64nm,1.1s
PB12 IPOC Station P 20.82 152 P **P** **13 30 25.1 -1.1**
BANI BANI 20.92 28 Pn Pn 13 30 30.1 +0.1
PB16 IPOC Station P 20.98 150 P **P** **13 30 27.2 -1.3**
PB16 lAmb lAmb 13 30 38.5
comp=Z,35nm,0.8s
PB11 IPOC Station P 22.12 152 P **P** **13 30 38.9 -1.4**
PB11 lAmb lAmb 13 31 01.7
comp=Z,66nm,0.9s
GO01 Chusmiza 22.26 151 P **P** **13 30 39.4 -2.8**
CRPR Cabo Rojo, PR 22.30 35 P **P** **13 30 41.8 -0.2**
CRPR lAmb lAmb 13 30 55.0
comp=Z,49nm,1.0s
MLPR Magueyes Islan 22.31 35 P **P** **13 30 42.4 +0.3**
CMIG Matias Romero 22.32 321 P **P** **13 30 43.6 +1.2**
comp=Z,20nm,0.8s,baz=106,slow=5.2,SNR=25
TA01 Diego Aracena 22.59 154 P **P** **13 30 44.0 -1.2**
TA01 lAmb lAmb 13 31 01.4
comp=Z,52nm,1.1s
OBIP Obispado Ponce 22.62 36 P **P** **13 30 46.0 +0.4**
PATCX Punta Patache 22.83 155 P **P** **13 30 46.7 -1.1**
SJG San Juan 22.95 37 P **P** **13 30 47.3 -1.6**
comp=Z,7.3nm,0.3s,baz=217,slow=5.7,SNR=11
SJG LR LR 13 40 52.2
comp=Z,752nm,20.8s,baz=198,slow=40
PDPR Patillas Dam, 22.95 37 P **P** **13 30 49.6 +0.6**
PDPR lAmb lAmb 13 31 08.8
comp=Z,58nm,1.1s
EMPR Esperanza - Ma 23.00 36 P **P** **13 30 49.7 +0.2**
GCPR Guaynabo City 23.14 37 P **P** **13 30 50.4 -0.6**
CBYP Canovanas 23.25 37 P **P** **13 30 52.6 +0.5**
MTP Monte Pirata 23.30 38 P **P** **13 30 53.8 +1.3**
MTP lAmb lAmb 13 31 05.8
comp=Z,58nm,1.1s
PB02 IPOC Station P 23.38 155 P **P** **13 30 52.1 -1.4**
PB02 lAmb lAmb 13 30 58.2
comp=Z,41nm,0.8s
CDVI St. Croix 23.54 40 P **P** **13 30 55.1 +0.2**
CUPR Culebra, Puert 23.62 38 P **P** **13 30 55.9 +0.1**
VILB Vilhena 23.70 123 *e*P **P** **13 30 57.7 +1.1**
PB07 IPOC Station P 23.74 155 P **P** **13 30 56.0 -1.1**
PB07 lAmb lAmb 13 31 13.7
comp=Z,33nm,0.9s
STVI Saint Thomas 23.86 39 P **P** **13 30 57.1 -1.0**
STVI lAmb lAmb 13 31 07.8
comp=Z,41nm,1.0s
PB09 IPOC Station P 24.08 154 P **P** **13 30 58.7 -1.6**
PB09 lAmb lAmb 13 31 24.9
comp=Z,40nm,1.1s
SIV San Ignacio 24.70 130 P **P** **13 31 05.9 0.0**
comp=Z,4.6nm,0.7s,baz=306,slow=11,SNR=18
SIV LR LR 13 41 39.4
comp=Z,2µm,18.1s,baz=314,slow=39
LVC Limon Verde 24.94 154 P **P** **13 31 10.1 +1.7**
comp=Z,22nm,0.8s,baz=315,slow=6.1,SNR=14
LVC Limon Verde 24.94 154 P **P** **13 31 06.7 -1.6**
LVC lAmb lAmb 13 31 15.9
comp=Z,38nm,0.9s
LVC Limon Verde 24.94 154 *e*P **P** **13 31 10.2 +1.9**
GDSD La Dsirade Is 25.14 48 P **P** **13 31 08.0 -1.8**
GDSD lAmb lAmb 13 31 20.4
comp=Z,18nm,0.8s
PB15 IPOC Station P 25.23 156 P **P** **13 31 08.2 -2.7**
NPGB Novo Progresso 25.88 106 *e*P **P** **13 31 15.9 -0.7**
PTLB Pontes e Lacer 25.90 127 *e*P **P** **13 31 19.3 +2.5**
PDRB Porto dos Gac 26.10 117 *e*P **P** **13 31 21.5 +2.9**
MALB Monte Alegre 26.17 94 *e*P **P** **13 31 21.4 +2.1**
CLDB Colider 26.65 114 *e*P **P** **13 31 26.2 +2.6**
DWPF Disney Wildern 28.15 358 P **P** **13 31 38.0 +1.2**
baz=178
MDP Montagnes des 28.21 79 LR LR 13 43 26.2
comp=Z,1µm,20.6s,baz=300,slow=38
AC02 Maricunga 28.63 159 P **P** **13 31 40.2 -1.6**
AC02 lAmb lAmb 13 31 47.8
comp=Z,18nm,0.8s
AQDB Aquidauana 31.47 131 P **P** **13 32 04.5 -1.9**
AQDB lAmb lAmb 13 32 12.0
comp=Z,16nm,0.9s
AQDB Aquidauana 31.47 131 *e*P **P** **13 32 09.1 +2.8**
TIGA Tifton 31.59 355 P **P** **13 32 08.3 +1.0**
baz=174
ACDV Cuesta del Vie 31.70 161 *i* P **P** **13 32 12.4 +3.9**
ACLC CERRO LA CRUZ 31.79 157 *i* P **P** **13 32 08.6 -0.7**
BRAL Brewton 31.81 349 P **P** **13 32 10.5 +1.3**
baz=167
ACCO Cerro Coronel 32.10 161 *i* P **P** **13 32 12.8 +0.6**

CO02 Combarbal 32.12 165 P **P** **13 32 11.5 -0.6**
250A Grady 32.46 351 P **P** **13 32 15.7 +0.7**
AVFE Valle Fertil 32.71 159 *i* P **P** **13 32 20.4 +3.1**
APLL PUNTA DE LOS L 32.81 158 *i* P **P** **13 32 18.5 +0.3**
152A Waverly Hall 32.93 353 P **P** **13 32 19.2 +0.2**
152A lAmb lAmb 13 32 20.3
comp=Z,23nm,1.1s
NHSC New Hope 33.11 0 P **P** **13 32 21.7 +1.1**
NHSC New Hope 33.11 0 P **P** **13 32 21.3 +0.7**
baz=180
RTLS Leoncito 33.16 163 *i* P **P** **13 32 23.5 +2.1**
VA06 Catapilco 33.33 166 P **P** **13 32 21.7 -0.8**
ACHE Chepes 33.45 158 *i* P **P** **13 32 24.1 +0.3**
AUSP Uspallata 33.53 163 *i* P **P** **13 32 26.7 +2.1**
GOGA Godfrey 33.54 355 P **P** **13 32 24.7 +0.4**
GOGA pmax pmax
comp=Z,24nm,0.9s
GOGA Godfrey 33.54 355 P **P** **13 32 24.7 +0.4**
GOGA Godfrey 33.54 355 P **P** **13 32 25.0 +0.7**
baz=174
VBMS Vicksburg 33.62 344 P **P** **13 32 25.7 +0.7**
baz=162
LRAL Lakeview Retre 33.62 350 P **P** **13 32 25.6 +0.6**
LRAL lAmb lAmb 13 32 26.4
comp=Z,26nm,1.1s
LRAL Lakeview Retre 33.62 350 P **P** **13 32 25.8 +0.7**
baz=168,SNR=5.9
Z51A Franklin 33.62 353 P **P** **13 32 25.5 +0.4**
Z51A lAmb lAmb 13 32 27.1
comp=Z,27nm,1.1s
146A Union 33.65 347 P **P** **13 32 26.1 +0.8**
833A Chaparral WMA, 33.69 329 P **P** **13 32 26.0 +0.3**
833A Chaparral WMA, 33.69 329 P **P** **13 32 26.2 +0.5**
baz=144
VA03 San Esteban 33.71 165 P **P** **13 32 24.5 -1.5**
ASAL Salagasta 34.03 162 *i* P **P** **13 32 30.1 +1.3**
CPUP Villa Florida 34.20 141 P **P** **13 32 31.6 +1.4**
comp=Z,3.3nm,0.7s,baz=314,slow=9.1,SNR=5.7
CPUP Villa Florida 34.20 141 P **P** **13 32 28.7 -1.5**
ARCO CERRO ARCO 34.24 163 *i* P **P** **13 32 32.5 +1.9**
HODGE Hodges 34.27 357 P **P** **13 32 30.9 +0.1**
HODGE lAmb lAmb 13 32 32.1
comp=Z,20nm,0.9s
JSC Jenkinsville 34.29 359 P **P** **13 32 31.3 +0.5**
JSC pmax pmax
comp=Z,73nm,1.5s
JSC Jenkinsville 34.29 359 P **P** **13 32 31.3 +0.5**
143A Socs Landing, 34.32 343 P **P** **13 32 31.3 +0.2**
Y49A Blount Mountai 34.33 351 P **P** **13 32 30.9 -0.3**
Y49A lAmb lAmb 13 32 32.1
comp=Z,19nm,1.1s
AAGR Agrelo 34.49 163 *i* P **P** **13 32 34.4 +1.6**
NATX Nacogdoches 34.52 338 P **P** **13 32 34.3 +1.4**
baz=154
BIRD Birdtown, Kers 34.64 360 P **P** **13 32 33.7 -0.2**
BIRD lAmb lAmb 13 32 36.7
comp=Z,26nm,1.3s
435B Jarrell 34.86 334 P **P** **13 32 37.3 +1.5**
baz=149
FPAL Fort Paine 34.88 352 P **P** **13 32 35.9 -0.2**
FPAL lAmb lAmb 13 32 37.5
comp=Z,28nm,1.1s
MRA San Martin 34.93 158 *i* P **P** **13 32 36.3 -0.3**
Y45A Yeager Farm, C 34.94 347 P **P** **13 32 37.2 +0.7**
X48A Hartselle 35.01 350 P **P** **13 32 36.9 -0.2**
X48A lAmb lAmb 13 32 37.9
comp=Z,15nm,0.9s
BG3 Lake Jocassee 35.07 356 P **P** **13 32 38.0 +0.4**
BO01 Tunca 35.13 167 P **P** **13 32 37.0 -1.2**
BO01 lAmb lAmb 13 32 42.9
comp=Z,33nm,1.2s
KMSC Kings Mountain 35.15 359 P **P** **13 32 38.3 0.0**
KMSC Kings Mountain 35.15 359 P **P** **13 32 38.9 +0.6**
baz=178,SNR=6.5
W57A Gilead 35.15 1 P **P** **13 32 38.3 0.0**
W57A lAmb lAmb 13 32 39.5
comp=Z,18nm,0.9s
237A Washetta, Mont 35.17 337 P **P** **13 32 38.9 +0.4**
W52A Murphy 35.24 355 P **P** **13 32 39.3 +0.1**
W52A lAmb lAmb 13 32 40.5
comp=Z,25nm,0.8s
Z41A Richland Creek 35.25 342 P **P** **13 32 39.2 0.0**
Z41A Richland Creek 35.25 342 P **P** **13 32 40.1 +0.9**
baz=158
BDFB Brasilia 35.46 117 P **P** **13 32 39.7 -1.7**
comp=Z,3.3nm,0.5s,baz=212,slow=5.2,SNR=3.1
BDFB Brasilia 35.46 117 lAmb lAmb 13 32 45.3
comp=Z,14nm,1.1s
W50A Signal Mountai 35.49 353 P **P** **13 32 41.2 -0.1**
CCAR Cane Creek 35.56 344 P **P** **13 32 42.0 +0.2**
SWET Sewanee 35.59 352 P **P** **13 32 42.0 -0.2**
SWET lAmb lAmb 13 32 42.9
comp=Z,22nm,0.9s
JCT Junction City 35.64 331 P **P** **13 32 43.7 +1.0**
JCT pmax pmax
comp=Z,75nm,1.2s
JCT Junction City 35.64 331 P **P** **13 32 43.7 +1.0**
JCT Junction City 35.64 331 P **P** **13 32 44.3 +1.6**
baz=145,SNR=17
CPCT Cooper Cave 35.66 354 P **P** **13 32 43.0 +0.3**
V53A Saluda 35.74 357 P **P** **13 32 43.5 +0.1**
V53A lAmb lAmb 13 32 44.6
comp=Z,14nm,0.8s
WLAR White Oak Lake 35.75 342 P **P** **13 32 44.3 +0.9**
TKL Tuckaleechee C 35.79 355 P **P** **13 32 44.4 +0.5**
comp=Z,9.6nm,0.7s,baz=178,slow=9.4,SNR=7.2
TKL Tuckaleechee C 35.79 355 P **P** **13 32 44.0 +0.2**
TKL pmax pmax
comp=Z,16nm,0.9s
TKL Tuckaleechee C 35.79 355 P **P** **13 32 44.0 +0.2**
TKL lAmb lAmb 13 32 44.9
comp=Z,16nm,0.9s
V58A Windy Hill, Pi 35.81 2 P **P** **13 32 44.4 +0.4**
V58A lAmb lAmb 13 32 45.1
comp=Z,17nm,0.9s
WHTX Lake Whitney, 35.84 335 P **P** **13 32 45.0 +0.7**
WHTX lAmb lAmb 13 32 47.0
comp=Z,30nm,1.2s
WHTX Lake Whitney, 35.84 335 P **P** **13 32 45.6 +1.4**
baz=150
V55A Taylorsville 35.85 359 P **P** **13 32 44.8 +0.4**
V55A lAmb lAmb 13 32 45.9
comp=Z,17nm,0.9s
V52A Sevierville 35.96 356 P **P** **13 32 45.1 -0.2**
V52A lAmb lAmb 13 32 46.3
comp=Z,24nm,0.8s
Z38A Mt. Pleasant 35.99 339 P **P** **13 32 46.3 +0.8**
V51A Loudon 35.99 355 P **P** **13 32 45.9 +0.4**
V51A lAmb lAmb 13 32 46.7
comp=Z,27nm,0.9s
W45A Hickory Valley 36.10 348 P **P** **13 32 46.7 +0.3**
V48A Smith Brothers 36.23 351 P **P** **13 32 47.3 -0.3**
U56A King 36.34 0 P **P** **13 32 48.7 +0.2**
X40A Basin Creek Fa 36.40 343 P **P** **13 32 49.5 +0.4**
baz=159
U59A Littleton 36.43 4 P **P** **13 32 49.5 +0.2**
U59A lAmb lAmb 13 32 50.8
comp=Z,27nm,1.2s
CLTN Cedars of Leba 36.51 352 P **P** **13 32 49.7 -0.2**
UALR University of 36.53 343 P **P** **13 32 50.2 +0.1**
UALR lAmb lAmb 13 32 51.1
comp=Z,22nm,1.1s
U54A Nelsons Funny 36.54 358 P **P** **13 32 50.4 +0.1**
U54A lAmb lAmb 13 32 51.5
comp=Z,15nm,0.8s
TZTN Tazewell 36.66 356 P **P** **13 32 51.2 0.0**
TZTN Tazewell 36.66 356 P **P** **13 32 51.4 +0.1**
baz=175,SNR=7.0
MIAR Mount Ida 36.69 342 P **P** **13 32 51.4 -0.1**
MIAR pmax pmax
comp=Z,31nm,1.5s
MIAR Mount Ida 36.69 342 P **P** **13 32 51.4 -0.1**
MIAR lAmb lAmb 13 32 53.4
comp=Z,31nm,1.4s
WVT Waverly 36.78 350 P **P** **13 32 51.2 -1.1**
WVT pmax pmax
comp=Z,14nm,0.8s
WVT Waverly 36.78 350 P **P** **13 32 51.2 -1.1**
WVT lAmb lAmb 13 32 52.2
comp=Z,14nm,0.8s
WVT Waverly 36.78 350 P **P** **13 32 51.6 -0.7**
baz=168
TXAR Lajitas Array 36.81 325 P **P** **13 32 54.6 +1.9**
comp=Z,2.3nm,0.9s,baz=150,slow=10,SNR=9.9
TXAR PcP **PcP** **13 35 14.7 -0.2**
comp=Z,2.2nm,0.9s,baz=111,slow=5.5,SNR=3.7
TXAR Lajitas Array 36.81 325 P **P** **13 32 53.8 +1.0**
TXAR Lajitas Array 36.81 325 P **P** **13 32 53.8 +1.0**
TX31 Lajitas Ar. Si 36.81 325 P **P** **13 32 53.8 +1.1**
TX32 Lajitas Array 36.81 325 P **P** **13 32 53.6 +0.9**
U49A Red Boiling Sp 36.85 353 P **P** **13 32 52.7 -0.1**
W41B Gary Mavity, V 36.87 344 P **P** **13 32 53.0 0.0**
W41B Gary Mavity, V 36.87 344 P **P** **13 32 53.2 +0.1**
baz=160,SNR=5.7
Z35A Perchaven, San 36.92 336 P **P** **13 32 53.8 +0.3**
Z35A lAmb lAmb 13 32 56.3
comp=Z,45nm,1.4s
WHAR Wooly Hollow 36.99 344 P **P** **13 32 54.3 +0.2**
WHAR lAmb lAmb 13 32 55.0
comp=Z,19nm,0.9s
T57A Hurt 37.01 2 P **P** **13 32 54.2 +0.1**
T57A lAmb lAmb 13 32 55.4
comp=Z,25nm,0.9s
ITQB Itaqui 37.06 144 P **P** **13 32 53.8 -1.0**
ITQB Itaqui 37.06 144 *e*P **P** **13 32 58.0 +3.3**
BLA Blacksburg 37.20 360 P **P** **13 32 56.7 +0.8**
BLA pmax pmax
comp=Z,72nm,1.5s
BLA Blacksburg 37.20 360 P **P** **13 32 56.7 +0.8**
BLA Blacksburg 37.20 360 P **P** **13 32 56.7 +0.8**
baz=180
SLBS Sierra La Lagu 37.23 312 P **P** **13 32 57.3 +0.9**
SLBS lAmb lAmb 13 32 59.6
comp=Z,24nm,1.1s
T50A Nancy 37.24 354 P **P** **13 32 56.2 0.0**
X37A Clayton 37.32 339 **P** **13 32 57.8 +0.9**
X37A lAmb lAmb 13 33 03.8
comp=Z,37nm,1.4s
ABTX Abilene, Hawle 37.34 333 P **P** **13 32 58.2 +1.1**
ABTX Abilene, Hawle 37.34 333 P **P** **13 32 58.8 +1.6**
baz=147,SNR=5.5
W39A Magazine 37.35 342 P **P** **13 32 57.9 +0.8**
W39A Magazine 37.35 342 P **P** **13 32 58.2 +1.1**
baz=158,SNR=11
LCAR Lake Charles 37.43 346 P **P** **13 32 57.5 -0.2**
LCAR lAmb lAmb 13 32 58.4
comp=Z,28nm,0.8s
T47A Sharon Grove 37.50 351 P **P** **13 32 57.7 -0.7**
T47A lAmb lAmb 13 32 59.5
comp=Z,18nm,0.8s
FCAR Ozark Folk Cen 37.51 344 P **P** **13 32 58.1 -0.4**
FCAR lAmb lAmb 13 32 59.1
comp=Z,16nm,0.9s
S51A Beattyville 37.75 356 P **P** **13 33 00.3 -0.2**
S51A lAmb lAmb 13 33 01.3
comp=Z,24nm,0.8s
FRTB Fartura 37.77 130 *e*P **P** **13 33 02.6 +1.7**
T45A Paducah 37.79 349 P **P** **13 33 00.7 -0.2**
S54A Dingess, Beckl 37.80 359 P **P** **13 33 00.9 0.0**
S54A lAmb lAmb 13 33 02.0
comp=Z,43nm,1.4s
R58B Mineral 38.02 3 P **P** **13 33 03.1 +0.3**
R58B lAmb lAmb 13 33 05.9
comp=Z,36nm,1.5s
U40A Yellville 38.15 344 P **P** **13 33 04.2 +0.3**
U40A lAmb lAmb 13 33 05.1
comp=Z,23nm,0.8s
U40A Yellville 38.15 344 P **P** **13 33 04.3 +0.4**
baz=160,SNR=14
ITAB Concordia 38.22 137 P **P** **13 33 03.5 -1.1**
ITAB Concordia 38.22 137 *e*P **P** **13 33 06.5 +1.9**
R55A Marlinton 38.27 0 P **P** **13 33 05.6 +0.6**
R55A lAmb lAmb 13 33 06.6
comp=Z,24nm,1.1s
CBN Corbin Frederi 38.30 4 P **P** **13 33 05.6 +0.5**
baz=185
R53A Hurricane 38.35 358 P **P** **13 33 05.4 -0.1**
R53A lAmb lAmb 13 33 06.3
comp=Z,31nm,1.1s
HHAR Hobbs 38.40 342 P **P** **13 33 05.9 -0.1**
HHAR lAmb lAmb 13 33 07.8
comp=Z,38nm,1.5s
R50A Paris 38.44 355 P **P** **13 33 05.8 -0.6**
R50A lAmb lAmb 13 33 07.0
comp=Z,18nm,0.9s
R49A Shelbyville 38.53 354 P **P** **13 33 06.5 -0.6**
R49A lAmb lAmb 13 33 09.0
comp=Z,57nm,1.4s
S44A Carbondale 38.56 349 P **P** **13 33 06.7 -0.6**
S44A lAmb lAmb 13 33 07.7
comp=Z,31nm,0.9s
SIUC Southern Illin 38.58 349 P **P** **13 33 06.9 -0.5**
SIUC lAmb lAmb 13 33 07.8
comp=Z,27nm,0.8s
TUL1 Leonard 38.66 340 **P** **13 33 08.4 +0.2**
TUL1 lAmb lAmb 13 33 10.2
comp=Z,41nm,1.2s
TUL1 Leonard 38.66 340 P **P** **13 33 08.6 +0.4**
baz=155
MGMO Mountain Grove 38.74 345 P **P** **13 33 08.7 -0.1**
MGMO lAmb lAmb 13 33 09.8
comp=Z,23nm,0.8s
WMOK Wichita Mounta 38.76 335 P **P** **13 33 09.4 +0.3**
WMOK pmax pmax
comp=Z,14nm,0.8s
WMOK Wichita Mounta 38.76 335 P **P** **13 33 09.3 +0.3**
WMOK Wichita Mounta 38.76 335 P **P** **13 33 10.0 +0.9**
baz=150,SNR=5.7
Q54A Coxs Mills 38.98 359 P **P** **13 33 10.5 -0.2**
Q54A lAmb lAmb 13 33 11.7
comp=Z,24nm,0.9s
Q52A Bidwell 38.99 358 P **P** **13 33 09.9 -1.0**
FVM French Village 39.09 347 P **P** **13 33 10.9 -0.8**
FVM pmax pmax
comp=Z,33nm,0.8s
FVM French Village 39.09 347 P **P** **13 33 10.9 -0.8**
FVM lAmb lAmb 13 33 12.8
comp=Z,33nm,0.8s
Q51A Peebles 39.11 356 P **P** **13 33 11.3 -0.6**
Q51A lAmb lAmb 13 33 13.1
comp=Z,34nm,1.1s
LC01 Cunco 39.32 169 P **P** **13 33 11.9 -1.7**
CCM Cathedral Cave 39.34 346 P **P** **13 33 13.1 -0.7**
CCM pmax pmax
comp=Z,60nm,1.5s
CCM Cathedral Cave 39.34 346 P **P** **13 33 13.1 -0.7**
CCM lAmb lAmb 13 33 15.7
comp=Z,60nm,1.5s
CCM Cathedral Cave 39.34 346 P **P** **13 33 13.6 -0.2**
baz=163
P53A Whipple 39.49 359 P **P** **13 33 14.5 -0.5**
P53A lAmb lAmb 13 33 16.0
comp=Z,28nm,1.0s
CPSB Cacapava Do Su 39.50 142 *e*P **P** **13 33 17.4 +2.2**
S39A Bolivar 39.53 344 P **P** **13 33 14.8 -0.6**
MNTX Cornudas Mount 39.56 326 P **P** **13 33 16.3 +0.5**
MNTX Cornudas Mount 39.56 326 P **P** **13 33 16.9 +1.1**
baz=139,SNR=10.0
BLO Bloomington 39.56 353 P **P** **13 33 14.8 -0.9**
BLO pmax pmax
comp=Z,26nm,0.7s
BLO Bloomington 39.56 353 P **P** **13 33 14.8 -0.9**
BLO lAmb lAmb 13 33 15.6
comp=Z,26nm,0.7s
MCWV Mont Chateau 39.65 1 P **P** **13 33 16.8 +0.4**
baz=181
P52A Corning 39.65 358 P **P** **13 33 15.9 -0.6**
P52A lAmb lAmb 13 33 17.6
comp=Z,30nm,1.1s
P52A Corning 39.65 358 P **P** **13 33 16.3 -0.1**
baz=177
Q44A Meyer Farm, Va 39.69 349 P **P** **13 33 15.8 -1.0**
Q44A lAmb lAmb 13 33 17.3
comp=Z,33nm,0.8s
P48A Milroy 39.72 354 P **P** **13 33 15.9 -1.1**
P48A lAmb lAmb 13 33 16.5
comp=Z,40nm,1.3s
P49A Miami Univ. Ec 39.72 355 P **P** **13 33 16.0 -1.0**
P49A Miami Univ. Ec 39.72 355 P **P** **13 33 16.0 -1.0**
baz=173
R40A Maddies Statio 39.81 345 P **P** **13 33 17.0 -0.7**
T35A Sooner Cattle 39.82 340 **P** **13 33 18.2 +0.3**
T35A lAmb lAmb 13 33 19.4
comp=Z,20nm,0.9s
MSTX Muleshoe 39.94 330 P **P** **13 33 19.7 +0.7**
MSTX lAmb lAmb 13 33 21.7
comp=Z,49nm,1.1s
MSTX Muleshoe 39.94 330 P **P** **13 33 20.5 +1.4**
baz=144,SNR=9.7
O52A Adamsville 40.12 358 P **P** **13 33 19.6 -0.8**

O52A IAmb IAmb 13 33 20.8
comp=Z,27nm,1.1s
MVL Millersville 40.16 5 P **P 13 33 21.4 +0.8**
MVL IAmb IAmb 13 33 22.5
comp=Z,27nm,1.1s
O54A Avella 40.17 0 P **P 13 33 20.9 +0.1**
O54A IAmb IAmb 13 33 22.0
comp=Z,29nm,1.1s
O53A New Philadelph 40.24 359 P **P 13 33 20.7 -0.6**
O53A New Philadelph 40.24 359 P **P 13 33 21.3 0.0**
baz=179
U32A Winter Ranch, 40.27 337 **P 13 33 22.4 +0.7**
U32A IAmb IAmb 13 33 28.7
comp=Z,26nm,0.8s
ACSO Alum Creek Sta 40.29 357 P **P 13 33 21.3 -0.4**
baz=176
O49A Covington 40.34 355 P **P 13 33 21.3 -0.8**
O49A IAmb IAmb 13 33 22.7
comp=Z,56nm,1.5s
PLTB Pedras Altas 40.36 144 *e*P **P 13 33 25.2 +2.8**
O48B Farmland 40.48 354 P **P 13 33 22.3 -1.0**
baz=173,SNR=5.9
P43A Skaggs, Pawnee 40.50 349 P **P 13 33 22.8 -0.6**
P43A IAmb IAmb 13 33 23.6
comp=Z,24nm,0.8s
SSPA Standing Stone 40.69 3 P **P 13 33 25.3 +0.3**
SSPA IAmb IAmb 13 33 26.3
comp=Z,25nm,1.1s
SSPA Standing Stone 40.69 3 P **P 13 33 25.6 +0.6**
baz=184
N53A Lisbon 40.80 359 P **P 13 33 24.4 -1.5**
O44A Mansfield 40.81 351 P **P 13 33 25.1 -0.9**
SFIN Lafayette 40.83 352 P **P 13 33 24.1 -2.0**
SFIN Lafayette 40.83 352 P **P 13 33 24.9 -1.3**
baz=170
P40A Paris 40.93 346 P **P 13 33 26.3 -0.8**
N51A Ashland 40.95 358 P **P 13 33 26.2 -0.9**
N54A Moraine State 40.95 0 P **P 13 33 26.7 -0.5**
N54A IAmb IAmb 13 33 28.1
comp=Z,24nm,1.0s
N54A Moraine State 40.95 0 P **P 13 33 27.6 +0.4**
baz=180
N58A Sunbury 40.96 4 P **P 13 33 26.7 -0.5**
BRNJ Basking Ridge 41.01 7 P **P 13 33 27.8 +0.2**
BRNJ IAmb IAmb 13 33 33.8
comp=Z,31nm,1.4s
N49A Columbus Grove 41.05 356 P **P 13 33 26.9 -1.1**
N59A State Game Lan 41.12 5 P **P 13 33 28.1 -0.5**
N59A State Game Lan 41.12 5 P **P 13 33 29.7 +1.1**
baz=187
N47A Urbana 41.15 354 P **P 13 33 27.0 -1.8**
N47A IAmb IAmb 13 33 28.2
comp=Z,20nm,0.9s
LL04 Puerto Octay 41.19 171 P **P 13 33 27.8 -1.3**
LL04 IAmb IAmb 13 33 34.6
comp=Z,27nm,0.8s
PLCA Paso Flores 41.34 169 P **P 13 33 30.1 -0.4**
comp=Z,23nm,0.8s,baz=338,slow=9.1,SNR=18
PLCA Paso Flores 41.34 169 P **P 13 33 29.4 -1.1**
PLCA IAmb IAmb 13 33 36.6
comp=Z,33nm,0.9s
PLCA Paso Flores 41.34 169 *e*P **P 13 33 33.7 +3.2**
HDIL Hopedale 41.35 350 P **P 13 33 29.1 -1.3**
HDIL Hopedale 41.35 350 P **P 13 33 29.5 -0.9**
baz=166
P38A Dawn 41.40 345 P **P 13 33 30.1 -0.8**
PAL Palisades 41.41 7 P **P 13 33 31.5 +0.5**
baz=190
M53A WI Miller and 41.43 360 P **P 13 33 30.4 -0.6**
M53A IAmb IAmb 13 33 31.6
comp=Z,18nm,0.9s
M53A WI Miller and 41.43 360 P **P 13 33 31.1 0.0**
baz=179
M50A Fremont 41.46 357 P **P 13 33 30.7 -0.6**
M50A IAmb IAmb 13 33 31.5
comp=Z,23nm,0.8s
M55A Ridgway 41.48 2 P **P 13 33 31.3 -0.3**
M55A IAmb IAmb 13 33 36.9
comp=Z,36nm,1.4s
M52A Chesterland 41.54 359 P **P 13 33 31.2 -0.8**
M52A IAmb IAmb 13 33 32.2
comp=Z,21nm,1.1s
121A Cookes Peak, D 41.55 324 P **P 13 33 34.3 +1.8**
121A IAmb IAmb 13 33 36.3
comp=Z,23nm,0.9s
121A Cookes Peak, D 41.55 324 P **P 13 33 34.5 +2.0**
baz=136,SNR=14
319A Douglas 41.65 322 P **P 13 33 33.1 -0.1**
N41A Harden Midland 41.79 348 P **P 13 33 32.9 -1.2**
KSU1 Kansas State U 41.82 341 P **P 13 33 34.6 +0.2**
KSU1 IAmb IAmb 13 33 35.7
comp=Z,33nm,0.8s
KSU1 Kansas State U 41.82 341 P **P 13 33 35.1 +0.7**
baz=155,SNR=7.0
R32A Long Quarter, 41.95 338 P **P 13 33 36.1 +0.6**
M63A Gales Ferry 42.08 9 P **P 13 33 36.8 +0.4**
BNM Barren Site 42.09 327 P **P 13 33 37.3 +0.4**
L48A N Adams 42.09 356 P **P 13 33 35.2 -1.3**
L48A IAmb IAmb 13 33 37.8
comp=Z,37nm,1.5s
ERPA Erie 42.10 0 P **P 13 33 36.4 -0.3**
baz=180
NBMA Muriti-CE 42.12 101 *e*P **P 13 33 38.1 +0.9**
Y22D IRIS PASSCAL I 42.19 326 P **P 13 33 39.7 +2.1**
baz=138
L56A Greenwood 42.20 3 P **P 13 33 37.5 0.0**
L56A IAmb IAmb 13 33 38.4
comp=Z,20nm,1.1s
LENM Lemitar 42.29 327 P **P 13 33 40.5 +2.1**
BINY Binghamton 42.37 5 P **P 13 33 39.8 +1.0**
baz=186
AAM Ann Arbor 42.39 356 P **P 13 33 38.8 -0.1**
baz=175
N38A Joes South For 42.42 346 P **P 13 33 38.5 -0.8**
N38A IAmb IAmb 13 33 39.5
comp=Z,30nm,0.9s
WVNY West Valley, N 42.42 2 P **P 13 33 39.1 -0.2**
WVNY IAmb IAmb 13 33 41.8
comp=Z,51nm,1.5s
ANMO Albuquerque 42.59 328 *c i*P **P 13 33 42.3 +1.3**
ANMO Albuquerque 42.59 328 P **P 13 33 42.4 +1.4**
ANMO IAmb IAmb 13 33 49.8
comp=Z,20nm,0.8s
ANMO Albuquerque 42.59 328 P **P 13 33 43.0 +2.0**
baz=140
CBKS Cedar Bluff 42.68 338 P **P 13 33 42.7 +1.3**
CBKS pmax pmax
comp=Z,40nm,1.2s
CBKS Cedar Bluff 42.68 338 P **P 13 33 42.7 +1.3**
CBKS IAmb IAmb 13 33 43.9
comp=Z,40nm,1.1s
CBKS Cedar Bluff 42.68 338 P **P 13 33 43.0 +1.6**
baz=151
MMNY Mt. Morris Dam 42.78 3 P **P 13 33 42.4 +0.3**
MMNY IAmb IAmb 13 33 43.4
comp=Z,47nm,1.4s
L42A Oliver, Polo 42.82 350 P **P 13 33 41.3 -1.1**
L42A IAmb IAmb 13 33 44.2
comp=Z,40nm,1.4s
K57A Scipio Center 42.86 4 P **P 13 33 41.9 -0.9**
L61B Northampton 43.00 8 P **P 13 33 46.2 +2.3**
baz=191
L40A Anamosa 43.17 348 P **P 13 33 43.9 -1.4**
L40A IAmb IAmb 13 33 45.1
comp=Z,25nm,1.0s
TUC Tucson 43.22 321 P **P 13 33 46.8 +0.9**
TUC pmax pmax
comp=Z,8.0nm,0.9s
TUC Tucson 43.22 321 P **P 13 33 46.8 +0.9**
TUC Tucson 43.22 321 P **P 13 33 47.7 +1.8**
baz=132
T25A Trinidad 43.28 332 P **P 13 33 47.3 +0.8**
T25A Trinidad 43.28 332 P **P 13 33 48.7 +2.2**
baz=144,SNR=10
K43A Burlington 43.28 351 P **P 13 33 44.6 -1.6**
J55A Hilton 43.31 3 P **P 13 33 46.0 -0.4**
J47A Sunmer 43.41 355 P **P 13 33 46.5 -0.6**
J47A IAmb IAmb 13 33 47.6
comp=Z,31nm,0.9s
SCIA State Center 43.47 346 P **P 13 33 46.8 -0.9**
SCIA IAmb IAmb 13 33 49.4
comp=Z,24nm,0.8s
SCIA State Center 43.47 346 P **P 13 33 47.3 -0.4**
baz=161
N33A J Bar K, Exete 43.58 341 P **P 13 33 49.1 +0.5**

J58A Remsen 43.59 5 P **P 13 33 48.7 +0.1**
J58A IAmb IAmb 13 33 50.4
comp=Z,32nm,1.5s
NBLA Lagarto - SE 43.67 106 *e*P **P 13 33 52.9 +3.1**
J59A Piesco 43.77 6 P **P 13 33 50.1 0.0**
JFWS Jewell Farm 43.80 350 P **P 13 33 49.1 -1.3**
JFWS pmax pmax
comp=Z,19nm,0.8s
JFWS Jewell Farm 43.80 350 P **P 13 33 49.1 -1.3**
JFWS IAmb IAmb 13 33 50.1
comp=Z,20nm,0.8s
JFWS Jewell Farm 43.80 350 P **P 13 33 49.5 -0.9**
baz=166,SNR=5.8
KSCO Kaye Shedlock' 44.01 335 P **P 13 33 54.1 +1.8**
baz=147
PECO Prince Edward 44.02 4 P **P 13 33 51.3 -0.8**
K38A Parkersburg 44.06 347 P **P 13 33 51.7 -0.8**
K38A IAmb IAmb 13 33 52.3
comp=Z,22nm,0.8s
X18A Snowflake 44.24 324 P **P 13 33 55.3 +1.0**
X18A IAmb IAmb 13 33 57.5
comp=Z,20nm,1.3s
214A Organ Pipe Nat 44.28 319 P **P 13 33 55.4 +0.9**
214A Organ Pipe Nat 44.28 319 P **P 13 33 56.3 +1.9**
baz=130,SNR=7.1
SDCO Great Sand Dun 44.28 331 P **P 13 33 56.0 +1.3**
SDCO IAmb IAmb 13 34 02.7
comp=Z,11nm,0.8s
SDCO Great Sand Dun 44.28 331 P **P 13 33 56.2 +1.5**
baz=143,SNR=23
NCB Newcomb 44.30 6 P **P 13 33 54.3 -0.1**
NCB IAmb IAmb 13 33 56.3
comp=Z,36nm,1.5s
L34A Svendsen Farm, 44.37 343 P **P 13 33 54.4 -0.6**
BGNE Belgrade 44.41 341 P **P 13 33 54.6 -0.8**
BGNE Belgrade 44.41 341 P **P 13 33 56.1 +0.8**
baz=154
I42A Draeger Farm, 44.53 351 P **P 13 33 55.0 -1.2**
I42A IAmb IAmb 13 33 56.1
comp=Z,21nm,0.9s
W18A Petrified Fore 44.54 325 P **P 13 33 57.5 +0.9**
W18A Petrified Fore 44.54 325 P **P 13 33 58.8 +2.2**
baz=136,SNR=6.5
DELO Deloro Mine 44.57 3 P **P 13 33 55.5 -0.9**
DELO IAmb IAmb 13 33 58.2
comp=Z,31nm,1.5s
RCBR Riachuelo 44.76 98 LR LR 13 53 11.1
comp=Z,737nm,18.7s,baz=68,slow=37
SADO Sadowa 44.77 1 P **P 13 33 56.8 -1.3**
comp=Z,4.8nm,0.8s,baz=231,slow=5.4,SNR=6.2
SADO Sadowa 44.77 1 P **P 13 33 56.9 -1.2**
SADO IAmb IAmb 13 33 57.8
comp=Z,21nm,1.4s
I40A Norwalk 44.82 350 P **P 13 33 57.2 -1.3**
LBNH Lisbon 44.87 9 P **P 13 33 58.3 -0.6**
baz=192
LONY Lake Ozonia 44.90 6 P **P 13 33 58.0 -1.2**
baz=188
S22A 4UR Ranch, Cre 44.93 330 P **P 13 34 00.9 +1.0**
S22A 4UR Ranch, Cre 44.93 330 P **P 13 34 01.7 +1.8**
baz=141,SNR=7.0
H43A Windswept, Lux 44.94 353 P **P 13 33 58.3 -1.1**
GLMI Grayling 44.97 356 P **P 13 33 58.4 -1.2**
baz=174
X16A Lo Mia Camp, P 45.05 323 P **P 13 34 02.2 +1.5**
X16A IAmb IAmb 13 34 10.2
comp=Z,20nm,0.8s
Q24A Divide 45.09 333 P **P 13 34 01.9 +0.8**
Q24A Divide 45.09 333 P **P 13 34 02.8 +1.6**
baz=144,SNR=6.3
G45A Suttons Bay 45.27 355 P **P 13 34 00.9 -1.2**
MVCO Mesa Verde 45.38 328 P **P 13 34 04.5 +1.1**
MVCO IAmb IAmb 13 34 11.6
comp=Z,14nm,0.9s
MVCO Mesa Verde 45.38 328 P **P 13 34 04.7 +1.3**
baz=139,SNR=10
OGNE Ogallala 45.41 337 P **P 13 34 04.1 +0.7**
OGNE Ogallala 45.41 337 P **P 13 34 04.5 +1.2**
baz=149
113A Mohawk Valley, 45.42 319 P **P 13 34 04.1 +0.6**
Y14A Wickenburg 45.69 321 P **P 13 34 06.2 +0.6**
K31A O'Neill 45.70 341 P **P 13 34 06.2 +0.6**
WUAZ Wupatki 45.77 324 P **P 13 34 07.5 +1.1**
WUAZ Wupatki 45.77 324 P **P 13 34 08.2 +1.8**
baz=134,SNR=32
G62A West of Eustis 46.04 10 P **P 13 34 09.2 +1.1**
ECSD EROS Data Cent 46.06 344 P **P 13 34 07.6 -0.8**
ECSD IAmb IAmb 13 34 08.6
comp=Z,10nm,0.9s
ECSD EROS Data Cent 46.06 344 P **P 13 34 08.3 -0.1**
baz=157,SNR=5.9
G40A Rib Lake 46.08 350 P **P 13 34 07.0 -1.5**
SMCO Snowmass 46.12 331 P **P 13 34 10.0 +0.6**
SMCO IAmb IAmb 13 34 19.4
comp=Z,12nm,0.9s
GLA Glamis 46.29 319 P **P 13 34 11.2 +0.8**
GLA pmax pmax
comp=Z,10.0nm,0.8s
GLA Glamis 46.29 319 P **P 13 34 11.2 +0.8**
GLA IAmb IAmb 13 34 18.6
comp=Z,9.5nm,0.8s
GLA Glamis 46.29 319 P **P 13 34 11.7 +1.2**
baz=129
PKME Peaks-Kenny Pk 46.31 11 P **P 13 34 11.1 +0.9**
PKME IAmb IAmb 13 34 12.4
comp=Z,20nm,1.1s
PKME Peaks-Kenny Pk 46.31 11 P **P 13 34 11.6 +1.4**
baz=195
E46A Sault Ste Mari 46.48 356 P **P 13 34 10.4 -1.2**
TRQ Mont Tremblant 46.49 6 P **P 13 34 10.4 -1.3**
SPMN Marine on St. 46.53 348 P **P 13 34 10.4 -1.6**
baz=163
PDMCI Parker Dam,Lak 46.64 321 P **P 13 34 14.8 +1.7**
baz=130
E43A Lone Tree Farm 46.72 354 P **P 13 34 12.7 -0.8**
YUH Yuha Desert 46.77 318 P **P 13 34 15.5 +1.3**
SWSC Sam W. Stewart 46.87 318 P **P 13 34 16.4 +1.5**
baz=128
IKP In-k-Pah, Jac 46.90 318 P **P 13 34 17.2 +1.9**
baz=127,SNR=5.4
U15A North Rim 46.93 324 P **P 13 34 16.8 +1.1**
U15A IAmb IAmb 13 34 24.5
comp=Z,11nm,1.1s
W13A Hualapai Mount 47.00 322 P **P 13 34 17.5 +1.3**
W13A IAmb IAmb 13 34 23.9
comp=Z,10nm,0.8s
N23A Red Feather La 47.01 333 P **P 13 34 16.1 -0.1**
N23A IAmb IAmb 13 34 34.5
comp=Z,11nm,1.1s
N23A Red Feather La 47.01 333 P **P 13 34 17.7 +1.6**
baz=144
F64A Sherman 47.06 11 P **P 13 34 17.1 +1.0**
BC3 Big Chuckawall 47.08 319 P **P 13 34 18.1 +1.5**
baz=128,SNR=11
PHWY Pilot Hill 47.12 334 P **P 13 34 16.5 -0.6**
PHWY IAmb IAmb 13 34 20.0
comp=Z,13nm,1.2s
IRM Iron Mountain 47.19 320 P **P 13 34 18.8 +1.4**
baz=129,SNR=6.2
MONP2 Monument Peak 47.26 318 P **P 13 34 19.7 +1.6**
baz=127
F36A Milaca 47.29 348 P **P 13 34 16.8 -1.1**
F36A IAmb IAmb 13 34 18.0
comp=Z,19nm,1.1s
SUSD Miller 47.40 342 P **P 13 34 17.5 -1.4**
SUSD Miller 47.40 342 P **P 13 34 18.8 0.0**
baz=154
O20A White River Ci 47.48 331 P **P 13 34 20.9 +1.1**
baz=141
D41A Chassel 47.59 352 P **P 13 34 19.7 -0.5**
BELC Belle Mtn. Jos 47.65 319 P **P 13 34 22.3 +1.2**
baz=128
KNB Kanab 47.65 324 P **P 13 34 22.3 +1.2**
KNB pmax pmax
comp=Z,11nm,1.0s
KNB Kanab 47.65 324 P **P 13 34 22.2 +1.2**
KNB IAmb IAmb 13 34 23.8
comp=Z,11nm,1.0s
TPFO Pinon Flats 47.71 318 P **P 13 34 22.9 +1.3**
baz=127
PFO Pinyon Flats O 47.71 318 P **P 13 34 22.4 +0.8**
PFO pmax pmax
comp=Z,10.0nm,1.3s
PFO Pinyon Flats O 47.71 318 P **P 13 34 22.4 +0.8**
PFO Pinyon Flats O 47.71 318 P **P 13 34 23.1 +1.4**
baz=127

109C Camp Elliot, M 47.72 317 P **P 13 34 22.6 +1.1**
baz=126
LATQ La Tuque 47.83 7 P **P 13 34 22.8 +0.7**
LATQ IAmb IAmb 13 34 26.4
comp=Z,15nm,0.9s
LMN Caledonia Moun 47.85 15 P **P 13 34 22.7 +0.3**
SRU San Rafael Swe 47.86 328 P **P 13 34 23.5 +0.7**
SRU pmax pmax
comp=Z,13nm,1.0s
SRU San Rafael Swe 47.86 328 P **P 13 34 23.5 +0.7**
SRU IAmb IAmb 13 34 25.3
comp=Z,12nm,1.0s
LCMT Little Creek M 47.89 324 P **P 13 34 23.9 +0.9**
GMRC Granite Mounta 47.91 320 P **P 13 34 24.5 +1.4**
baz=129
MTPU Mount Pierson 47.99 326 P **P 13 34 24.3 +0.3**
Q16A Castle Valley 48.07 328 P **P 13 34 25.0 +0.7**
P18A Preston Nutter 48.10 329 P **P 13 34 25.1 +0.3**
P18A IAmb IAmb 13 34 41.3
comp=Z,10nm,1.0s
D62A Allapoint, All 48.10 10 P **P 13 34 24.9 +0.6**
MURC Murrieta 48.20 318 P **P 13 34 26.9 +1.6**
baz=127
RWWY Rawlins 48.21 333 P **P 13 34 25.9 +0.4**
RWWY IAmb IAmb 13 34 34.2
comp=Z,10nm,0.9s
P17A Butcher Ranch, 48.24 328 P **P 13 34 26.0 +0.3**
P17A IAmb IAmb 13 33 33.6
comp=Z,14nm,0.9s
MSU Marysvale 48.32 326 P **P 13 34 26.3 -0.1**
MSU Marysvale 48.32 326 P **P 13 34 26.3 -0.1**
CCUT Cedar City 48.33 325 P **P 13 34 28.1 +1.7**
CCUT IAmb IAmb 13 34 29.9
comp=Z,14nm,1.1s
TMUT Trail Mountain 48.36 328 P **P 13 34 27.0 +0.3**
HEC Hector,Ludlow 48.38 320 P **P 13 34 28.4 +1.8**
baz=128,SNR=9.6
ELS Elsinore Mount 48.38 318 P **P 13 34 27.1 +0.4**
BBRC Big Bear Solar 48.41 319 P **P 13 34 29.0 +1.9**
baz=127
RDMU Red Mountain 48.46 330 P **P 13 34 28.1 +0.7**
RDMU IAmb IAmb 13 34 36.6
comp=Z,11nm,0.9s
TUQ Turquoise Moun 48.49 321 P **P 13 34 29.2 +1.6**
baz=129
K22A Casper 48.68 334 P **P 13 34 30.2 +1.2**
baz=144
SHPR Sheep Range 48.70 322 P **P 13 34 29.9 +0.6**
RSSD Black Hills 48.88 337 P **P 13 34 31.1 +0.5**
RSSD pmax pmax
comp=Z,14nm,1.0s
RSSD Black Hills 48.88 337 P **P 13 34 31.1 +0.5**
RSSD IAmb IAmb 13 34 33.6
comp=Z,14nm,0.9s
RSSD Black Hills 48.88 337 P **P 13 34 32.0 +1.5**
baz=148
BFSC Mount Baldy Ra 48.89 318 P **P 13 34 31.9 +1.2**
baz=127
BATG Bathurst New B 48.89 13 P **P 13 34 31.1 +0.7**
BATG IAmb IAmb 13 34 32.2
comp=Z,15nm,0.8s
CIS Catalina Islan 48.91 317 P **P 13 34 32.0 +1.3**
baz=125
GSC Goldstone, Bar 48.97 320 P **P 13 34 31.7 +0.5**
GSC pmax pmax
comp=Z,7.0nm,0.8s
GSC Goldstone, Bar 48.97 320 P **P 13 34 31.7 +0.5**
GSC IAmb IAmb 13 34 39.6
comp=Z,7.5nm,0.8s
GSC Goldstone, Bar 48.97 320 P **P 13 34 32.8 +1.5**
baz=128,SNR=10
SHOC Shoshone, Teco 49.00 321 P **P 13 34 33.0 +1.5**
baz=129
PRN Pahroc Range 49.22 323 P **P 13 34 34.0 +0.8**
PSUT Pine Spring 49.28 325 P **P 13 34 34.9 +1.1**
PSUT IAmb IAmb 13 34 44.4
comp=Z,9.9nm,0.9s
NLU North Lily Min 49.30 328 P **P 13 34 34.7 +0.9**
QSM Queen of Sheba 49.42 321 P **P 13 34 35.5 +0.9**
GWY Greenwater Val 49.43 321 P **P 13 34 35.6 +0.7**
JLU Jordanelle 49.44 329 P **P 13 34 35.6 +0.7**
JLU IAmb IAmb 13 34 44.7
comp=Z,11nm,0.8s
EDW2 Edwards Air Fo 49.49 319 P **P 13 34 36.2 +0.9**
baz=127,SNR=6.1
LRMC Laurel Mtn Rad 49.65 320 P **P 13 34 37.9 +1.4**
baz=128
TPNV Topopah Spring 49.65 322 P **P 13 34 37.6 +1.1**
TPNV pmax pmax
comp=Z,21nm,0.9s
TPNV Topopah Spring 49.65 322 P **P 13 34 37.6 +1.1**
TPNV Topopah Spring 49.65 322 P **P 13 34 38.5 +1.9**
baz=130,SNR=28
CTU Camp Tracy 49.66 329 P **P 13 34 37.2 +0.7**
CTU IAmb IAmb 13 34 55.2
comp=Z,6.7nm,0.6s
CCAC Calif City Air 49.67 319 P **P 13 34 37.8 +1.2**
FURC Furnace Creek, 49.73 321 P **P 13 34 38.4 +1.5**
baz=129,SNR=13
OSI Osito Audit: C 49.82 318 P **P 13 34 39.3 +1.6**
baz=126
E28A Huff 49.85 342 P **P 13 34 37.7 0.0**
DUG Dugway, Tooele 49.87 328 P **P 13 34 37.6 -0.5**
DUG pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway, Tooele 49.87 328 P **P 13 34 37.6 -0.5**
DUG Dugway, Tooele 49.87 328 P **P 13 34 39.9 +1.8**
baz=136
MPMC Manual Prospec 49.87 320 P **P 13 34 39.2 +0.9**
baz=128
AGMN Agassiz Nation 50.12 347 P **P 13 34 39.0 -0.6**
AGMN IAmb IAmb 13 34 40.0
comp=Z,16nm,1.1s
AGMN Agassiz Nation 50.12 347 P **P 13 34 39.7 +0.1**
baz=160,SNR=6.4
BW06 Boulder Array 50.14 332 P **P 13 34 40.8 +0.6**
BW06 Boulder Array 50.14 332 P **P 13 34 40.6 +0.4**
baz=141
PD31 Pinedale Array 50.14 332 P **P 13 34 40.3 +0.1**
PDAR Pinedale Array 50.14 332 P **P 13 34 41.0 +0.7**
comp=Z,0.7nm,0.7s,baz=119,slow=5.2,SNR=7.9
PDAR Pinedale Array 50.14 332 P **P 13 34 40.3 +0.1**
R11A Troy Canyon, C 50.16 324 P **P 13 34 42.0 +1.6**
baz=132,SNR=16
ARVC Arvin 50.19 318 P **P 13 34 41.9 +1.5**
baz=126
HWUT Hardware Ranch 50.24 330 P **P 13 34 41.3 +0.3**
ISA Isabella, Lake 50.27 319 P **P 13 34 41.9 +0.7**
ISA pmax pmax
comp=Z,7.0nm,1.0s
ISA Isabella, Lake 50.27 319 P **P 13 34 41.9 +0.7**
ISA Isabella, Lake 50.27 319 P **P 13 34 42.9 +1.7**
baz=127,SNR=6.2
SBC Santa Barbara 50.39 317 P **P 13 34 43.5 +1.6**
baz=125
BCW Bitter Crk WRg 50.47 318 P **P 13 34 43.7 +1.0**
BCW IAmb IAmb 13 34 50.6
comp=Z,18nm,0.9s
CWC Cottonwood Cre 50.48 320 P **P 13 34 43.7 +0.8**
baz=128
BGU Big Grassy Mou 50.50 328 P **P 13 34 43.8 +0.8**
MDND Maddock 50.67 343 P **P 13 34 44.4 +0.5**
MDND Maddock 50.67 343 P **P 13 34 44.7 +0.9**
baz=155
LCH Last Change Ra 50.70 321 P **P 13 34 45.4 +1.0**
PKM Mcpherson Peak 50.71 318 P **P 13 34 45.7 +1.1**
baz=125
VES Vestal, Richgr 50.78 319 P **P 13 34 45.8 +0.9**
baz=126
AHID Auburn Hatcher 50.87 331 P **P 13 34 45.4 -0.3**
TIN Tinemaha, Big 50.95 321 P **P 13 34 47.2 +0.8**
baz=128
TPH Tonopah 50.97 322 P **P 13 34 47.2 +0.7**
TPH pmax pmax
comp=Z,44nm,0.8s
TPH Tonopah 50.97 322 P **P 13 34 47.2 +0.7**
HVU Hansel Valley 50.98 329 P **P 13 34 46.7 +0.2**
HVU pmax pmax
comp=Z,10.0nm,1.3s
HVU Hansel Valley 50.98 329 P **P 13 34 46.7 +0.2**
SMMC Simmler 51.07 318 P **P 13 34 48.6 +1.4**
baz=125
REDW Red Top Meadow 51.20 332 P **P 13 34 48.6 +0.3**
REDW IAmb IAmb 13 34 59.2

comp=Z,16nm,1.2s
ECR Eagle Creek 51.22 331 P **P** **13 34 47.9 -0.5**
TPAW Teton Pass 51.35 332 P **P** **13 34 48.7 -0.7**
MOOW Moose Ponds 51.45 332 P **P** **13 34 49.8 -0.3**
ELK Elko 51.57 326 P **P** **13 34 51.9 +0.8**
ELK pmax pmax
comp=Z,7.0nm,1.0s
ELK Elko 51.57 326 P **P** **13 34 51.9 +0.8**
FLWY Flagg Ranch 51.68 332 P **P** **13 34 52.2 +0.4**
FLWY IAmb IAmb 13 35 02.3
comp=Z,16nm,1.3s
NV11 Mina Array Sit 51.76 322 P **P** **13 34 53.6 +1.2**
NV11 IAmb IAmb 13 35 00.2
comp=Z,14nm,0.8s
OMMB Old Mammoth Mi 51.78 321 P **P** **13 34 53.6 +0.8**
OMMB IAmb IAmb 13 34 59.8
comp=Z,9.7nm,0.8s
MDPB Devils Postpil 51.84 321 P **P** **13 34 53.7 +0.5**
MDPB IAmb IAmb 13 35 02.2
comp=Z,13nm,0.8s
NVAR Mina Array Bea 51.85 322 P **P** **13 34 55.0 +1.8**
comp=Z,14nm,0.8s,baz=137,slow=7.7,SNR=68
NVAR Mina Array Bea 51.85 322 P **P** **13 34 54.2 +1.1**
LHV Little Huntoon 51.86 322 P **P** **13 34 54.5 +1.6**
LHV IAmb IAmb 13 35 12.3
comp=Z,15nm,1.0s
H17A Grant Village 51.87 333 P **P** **13 34 54.6 +1.4**
H17A Grant Village 51.87 333 P **P** **13 34 54.3 +1.0**
baz=140
LAO LASA Array 51.88 338 P **P** **13 34 53.1 +0.1**
LAO IAmb IAmb 13 34 54.2
comp=Z,18nm,1.4s
LAO LASA Array 51.88 338 P **P** **13 34 53.8 +0.8**
baz=146
ULM Lac du Bonnet 51.95 347 P **P** **13 34 53.0 -0.4**
comp=Z,19nm,0.6s,baz=159,slow=7.7,SNR=22
ULM Lac du Bonnet 51.95 347 *eP* **P** **13 34 52.2 -1.2**
ULM Lac du Bonnet 51.95 347 P **P** **13 34 52.7 -0.7**
RYN Ryan 52.11 322 P **P** **13 34 55.8 +0.7**
RYN IAmb IAmb 13 34 57.9
comp=Z,22nm,1.5s
KVN Kaiserville 52.12 323 P **P** **13 34 55.9 +0.8**
KVN pmax pmax
comp=Z,11nm,0.9s
KVN Kaiserville 52.12 323 P **P** **13 34 55.9 +0.8**
KVN IAmb IAmb 13 35 04.0
comp=Z,11nm,0.9s
PMPB Monarch Peak 52.13 318 P **P** **13 34 55.6 +0.6**
PMPB IAmb IAmb 13 34 57.4
comp=Z,28nm,1.2s
YMR Madison River 52.25 333 P **P** **13 34 55.6 -0.4**
YHH Holmes Hill 52.29 333 P **P** **13 34 57.0 +0.6**
BMN Battle Mountai 52.48 325 P **P** **13 34 58.3 +0.5**
BMN pmax pmax
comp=Z,19nm,1.0s
BMN Battle Mountai 52.48 325 P **P** **13 34 58.3 +0.5**
BMN IAmb IAmb 13 35 00.4
comp=Z,19nm,1.0s
GCMT Greycliff 52.55 334 P **P** **13 34 58.4 +0.3**
DGMT Dagmar 52.66 340 P **P** **13 34 59.7 +0.9**
DGMT IAmb IAmb 13 35 07.9
comp=Z,24nm,1.2s
DGMT Dagmar 52.66 340 P **P** **13 34 59.6 +0.9**
baz=150
YERR Yerington 52.77 322 P **P** **13 35 00.6 +0.6**
PNTR Pine Nut 53.05 322 P **P** **13 35 03.0 +0.9**
HLID Hailey 53.10 329 P **P** **13 35 03.2 +0.9**
HLID Hailey 53.10 329 P **P** **13 35 03.5 +1.2**
baz=136,SNR=9.1
BCYI Bear Canyon 53.14 331 P **P** **13 35 03.6 +0.9**
MCMT McKenzie Canyo 53.26 332 P **P** **13 35 04.6 +1.1**
BOZ Bozeman (W) 53.27 333 P **P** **13 35 04.4 +0.9**
BOZ pmax pmax
comp=Z,24nm,1.4s
BOZ Bozeman (W) 53.27 333 P **P** **13 35 04.4 +0.9**
BOZ IAmb IAmb 13 35 06.0
comp=Z,24nm,1.4s
BOZ Bozeman (W) 53.27 333 P **P** **13 35 04.7 +1.3**
baz=140,SNR=11
EMB Emerald Bay 53.30 322 P **P** **13 35 04.8 +0.9**
PAHR Pah Rah Range 53.30 323 P **P** **13 35 04.8 +1.0**
DLMT Dillon 53.53 332 P **P** **13 35 05.9 +0.5**
MFID Camas Ranch 53.73 328 P **P** **13 35 07.5 +0.6**
MFID IAmb IAmb 13 35 15.1
comp=Z,12nm,0.9s
LRM Limekiln Ridge 53.81 333 P **P** **13 35 07.8 +0.2**
BEKR Beckworth 53.99 322 P **P** **13 35 09.9 +0.9**
BEKR IAmb IAmb 13 35 17.5
comp=Z,8.7nm,0.9s
HRY Holter Researc 54.21 334 P **P** **13 35 11.0 +0.7**
EGMT Eagleton 54.35 336 P **P** **13 35 11.8 +0.5**
EGMT IAmb IAmb 13 35 13.6
comp=Z,27nm,1.4s
EGMT Eagleton 54.35 336 P **P** **13 35 12.2 +0.9**
baz=143
ORV Oroville 54.51 321 P **P** **13 35 13.2 +0.7**
ORV pmax pmax
comp=Z,18nm,0.9s
ORV Oroville 54.51 321 P **P** **13 35 13.2 +0.7**
ORV IAmb IAmb 13 35 21.4
comp=Z,18nm,0.9s
WVOR Wild Horse Val 54.60 326 P **P** **13 35 13.5 +0.3**
WVOR pmax pmax
comp=Z,14nm,1.1s
WVOR Wild Horse Val 54.60 326 P **P** **13 35 13.5 +0.3**
WVOR IAmb IAmb 13 35 14.8
comp=Z,14nm,1.1s
PLID Pearl Lake 54.99 330 P **P** **13 35 16.5 +0.4**
J08A Circle Bar Ran 55.11 327 P **P** **13 35 17.1 +0.2**
O03E Paynes Creek 55.13 322 P **P** **13 35 17.1 0.0**
O03E Paynes Creek 55.13 322 P **P** **13 35 17.7 +0.6**
baz=126
MOD Modoc Plateau 55.21 324 P **P** **13 35 17.6 -0.1**
MOD IAmb IAmb 13 35 20.0
comp=Z,13nm,1.4s
MSO Missoula 55.25 332 P **P** **13 35 18.2 +0.3**
MSO Missoula 55.25 332 P **P** **13 35 18.8 +0.9**
baz=138
O02D Mt. Diablo Mer 55.68 321 P **P** **13 35 20.3 -0.8**
O02D Mt. Diablo Mer 55.68 321 P **P** **13 35 21.4 +0.3**
baz=125
SCHQ Schefferville 55.95 9 P **P** **13 35 21.3 -1.3**
comp=Z,18nm,1.2s,baz=206,slow=4.4,SNR=6.7
SCHQ Schefferville 55.95 9 P **P** **13 35 21.7 -0.9**
M04C Macdoel 56.05 323 P **P** **13 35 23.6 -0.1**
M04C IAmb IAmb 13 35 32.2
comp=Z,16nm,0.8s
M04C Macdoel 56.05 323 P **P** **13 35 24.6 +0.9**
baz=127,SNR=15
K05A Summer Lake 56.07 325 P **P** **13 35 24.2 +0.3**
JTMT Jette 56.09 333 P **P** **13 35 23.8 -0.1**
N02D Trinity Center 56.09 322 P **P** **13 35 23.1 -0.8**
N02D Trinity Center 56.09 322 P **P** **13 35 24.2 +0.2**
baz=126
I07A Izee 56.15 327 P **P** **13 35 24.2 -0.1**
I07A IAmb IAmb 13 35 32.3
comp=Z,11nm,0.8s
F10A Beach Ranch, E 56.22 330 P **P** **13 35 25.0 +0.1**
F10A IAmb IAmb 13 35 28.3
comp=Z,19nm,1.4s
M02C Callahan 56.43 322 P **P** **13 35 26.2 -0.1**
baz=126
K04D Chiloquin, OR 56.51 324 P **P** **13 35 27.1 +0.1**
baz=128
YBH Yreka Blue Hor 56.54 323 P **P** **13 35 26.7 -0.4**
YBH pmax pmax
comp=Z,7.0nm,0.8s
YBH Yreka Blue Hor 56.54 323 P **P** **13 35 26.7 -0.4**
L04D Klamath Falls 56.58 324 P **P** **13 35 27.8 +0.3**
L04D Klamath Falls 56.58 324 P **P** **13 35 28.1 +0.5**
baz=127,SNR=11
J05D Fort Rock, OR 56.61 325 P **P** **13 35 29.0 +1.3**
baz=128,SNR=20
G08A Pilot Rock 56.65 328 P **P** **13 35 28.4 +0.5**
G08A IAmb IAmb 13 35 36.2
comp=Z,10nm,0.8s
KMPM Mount Pierce 56.65 321 P **P** **13 35 29.1 +1.1**
PINE Pine Mountain 56.76 326 P **P** **13 35 29.5 +0.7**
WALA Waterton Lakes 56.90 334 P **P** **13 35 29.7 +0.1**
WALA IAmb IAmb 13 35 37.5
comp=Z,8.2nm,0.8s
E09A Wood Farm, Sta 57.06 330 P **P** **13 35 31.0 +0.4**
E09A IAmb IAmb 13 35 41.2
comp=Z,13nm,1.3s
J04D Umpqua Nationa 57.09 325 P **P** **13 35 30.8 -0.4**
baz=128,SNR=20
HUMO Hull Mountain 57.20 324 P **P** **13 35 31.5 -0.3**
L02E Cave Junction 57.33 323 P **P** **13 35 32.5 -0.1**
L02E Cave Junction 57.33 323 P **P** **13 35 33.0 +0.3**
baz=126
I05D Terrebonne, OR 57.33 326 P **P** **13 35 33.8 +1.2**
baz=129,SNR=9.6
FFC Flin Flon 57.53 345 P **P** **13 35 33.8 0.0**
FFC pmax pmax
comp=Z,21nm,1.1s
FFC Flin Flon 57.53 345 P **P** **13 35 33.8 0.0**
FFC IAmb IAmb 13 35 35.1
comp=Z,21nm,1.1s
I04A Tendick Farm, 57.60 325 P **P** **13 35 34.8 +0.2**
baz=128,SNR=8.6
K02D Willamette Mer 57.68 323 P **P** **13 35 36.2 +1.0**
baz=126,SNR=10
HAWA Hanford 57.69 329 P **P** **13 35 35.1 +0.1**
NEW Newport 57.78 332 P **P** **13 35 36.0 +0.3**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 57.78 332 P **P** **13 35 36.0 +0.3**
NEW Newport 57.78 332 P **P** **13 35 36.4 +0.6**
baz=135
G05D Wamic, OR 57.89 327 P **P** **13 35 38.2 +1.7**
baz=129
H04A Detroit Lake 58.02 326 P **P** **13 35 37.9 +0.5**
H04A IAmb IAmb 13 35 45.2
comp=Z,14nm,1.0s
I03D Drain, OR 58.08 324 P **P** **13 35 39.2 +1.3**
baz=127
J01E Myrtle Point 58.11 324 P **P** **13 35 39.0 +1.0**
J01E Myrtle Point 58.11 324 P **P** **13 35 39.7 +1.6**
baz=126,SNR=7.3
BUCK Buck Mountain 58.17 325 P **P** **13 35 39.1 +0.5**
H04D Lebanon 58.23 325 P **P** **13 35 39.3 +0.4**
baz=128
F05D White Salmon 58.37 327 P **P** **13 35 41.1 +1.2**
baz=130
I02E Swisshome, OR 58.62 325 P **P** **13 35 42.3 +0.7**
I02E Swisshome, OR 58.62 325 P **P** **13 35 42.9 +1.3**
baz=126
LTY Liberty 58.84 329 P **P** **13 35 43.8 +0.6**
LTY IAmb IAmb 13 35 45.6
comp=Z,14nm,1.4s
B08A Colville Reser 58.91 331 P **P** **13 35 44.0 +0.4**
G03D McMinnville, O 58.95 326 P **P** **13 35 44.8 +0.9**
baz=128
F04D Rainier, OR 59.34 327 P **P** **13 35 47.9 +1.3**
baz=128
E04D Cinebar 59.39 327 P **P** **13 35 48.7 +1.7**
baz=129
D05A Enumclaw 59.48 328 P **P** **13 35 47.9 +0.3**
FCC Fort Churchill 59.76 352 P **P** **13 35 48.2 -1.0**
FCC pmax pmax
comp=Z,44nm,1.1s
FCC Fort Churchill 59.76 352 P **P** **13 35 48.2 -1.0**
EDM Edmonton 59.86 338 P **P** **13 35 50.2 +0.1**
EDM pmax pmax
comp=Z,21nm,0.8s
EDM Edmonton 59.86 338 P **P** **13 35 50.2 +0.1**
E03A Lebam 59.93 327 P **P** **13 35 51.7 +1.1**
B05A Bryant 60.23 329 P **P** **13 35 53.5 +0.8**
baz=130
NLWA Neilton Lookou 60.61 328 P **P** **13 35 56.4 +1.0**
NLWA IAmb IAmb 13 36 04.2
comp=Z,15nm,1.0s
A04D Lummi Island 60.83 329 P **P** **13 35 58.2 +1.4**
baz=130,SNR=8.2
PGC Sidney 61.17 329 P **P** **13 36 00.4 +1.3**
PGC IAmb IAmb 13 36 07.1
comp=Z,9.5nm,0.9s
LLLB Lillooet 61.65 331 P **P** **13 36 03.5 +1.2**
LLLB IAmb IAmb 13 36 04.4
comp=Z,12nm,1.0s
CBB Campbell River 63.01 329 P **P** **13 36 12.3 +0.9**
FRB Frobisher Bay 64.37 6 P **P** **13 36 18.8 -1.3**
comp=Z,6.2nm,0.9s,baz=181,slow=6.1,SNR=6.6
YKA Yellowknife Ar 67.59 344 P **P** **13 36 41.0 +0.1**
comp=Z,9.4nm,0.9s,baz=139,slow=5.7,SNR=52
YKA Yellowknife Ar 67.59 344 P **P** **13 36 41.0 +0.1**
YKA Yellowknife Ar 67.59 344 P **P** **13 36 41.1 +0.3**
CRAG Craig 69.98 331 P **P** **13 36 57.7 +1.8**
baz=122
DLBC Dease Lake 70.24 335 P **P** **13 36 58.5 +0.9**
DLBC IAmb IAmb 13 36 59.7
comp=Z,11nm,0.9s
WRGLY Wrigley 70.85 341 P **P** **13 37 01.7 +0.7**
baz=134
TGTN Hyland Airport 71.42 338 P **P** **13 37 06.2 +1.5**
baz=128,SNR=5.9
SIT Sitka 71.86 332 P **P** **13 37 08.6 +1.3**
baz=121
SKAG Skagway 73.10 334 P **P** **13 37 15.6 +1.0**
baz=121
MMPY Sheldon Lake, 73.20 338 P **P** **13 37 16.4 +1.1**
baz=126
FARO Faro, Yukon 73.77 337 P **P** **13 37 19.6 +0.9**
baz=124
M31M Drury Creek, Y 74.17 337 P **P** **13 37 21.9 +1.0**
M31M Drury Creek, Y 74.17 337 P **P** **13 37 22.0 +1.0**
baz=123
N31M Braeburn, Yuko 74.34 336 P **P** **13 37 23.1 +1.1**
baz=121
HYT Haines Junctio 74.73 335 P **P** **13 37 25.7 +1.3**
baz=120
PNL Peninsula 75.01 333 P **P** **13 37 27.1 +1.3**
baz=118
YUK6 Outpost Mounta 75.16 335 P **P** **13 37 28.6 +1.6**
baz=119
RES Resolute Bay 75.27 356 P **P** **13 37 26.2 -0.8**
comp=Z,5.8nm,1.2s,baz=183,slow=7.6,SNR=4.1
RES Resolute Bay 75.27 356 P **P** **13 37 26.0 -1.0**
RES pmax pmax
comp=Z,13nm,1.5s
RES Resolute Bay 75.27 356 P **P** **13 37 26.0 -1.0**
RES IAmb IAmb 13 37 27.6
comp=Z,13nm,1.4s
C36M Paulatuk 75.30 345 P **P** **13 37 28.8 +1.5**
baz=134
M30M Minto, Yukon 75.32 337 P **P** **13 37 28.5 +0.9**
M30M IAmb IAmb 13 37 29.8
comp=Z,13nm,1.2s
M30M Minto, Yukon 75.32 337 P **P** **13 37 28.3 +0.7**
baz=121,SNR=5.4
YUK4 Talbot Arm 75.47 335 P **P** **13 37 29.9 +1.2**
baz=119
LIC Lamto 75.47 84 *eP* **P** **13 37 29.1 -0.3**
comp=Z,26nm,1.4s
TIC Toumodi 75.49 83 *eP* **P** **13 37 28.7 -0.9**
DBIC Dimbokro 75.66 83 P **P** **13 37 28.6 -1.9**
comp=Z,5.0nm,0.8s,baz=280,slow=3.7,SNR=4.9
DBIC Dimbokro 75.66 83 P **P** **13 37 28.4 -2.1**
DBIC IAmb IAmb 13 37 56.0
comp=Z,24nm,1.4s
KIC Kosan Boka 75.76 83 *eP* **P** **13 37 30.5 -0.6**
comp=Z,23nm,0.8s
PNCL Nicolau / Gran 75.90 51 *eP* **P** **13 37 32.3 +0.9**
comp=Z,58nm,1.5s
PCAS Casmilo, Conde 76.32 49 *eP* **P** **13 37 35.0 +1.3**
comp=Z,54nm,1.8s
PMTG Montargil 76.32 50 *eP* **P** **13 37 34.8 +1.0**
comp=Z,25nm,2.3s
COI Coimbra 76.41 49 P **P** **13 37 33.9 -0.4**
COI pmax pmax
comp=Z,57nm,1.1s
COI Coimbra 76.41 49 P **P** **13 37 33.9 -0.4**
YUK3 Moose Creek 76.44 335 P **P** **13 37 35.2 +0.9**
baz=117
CTG Chitna Glacier 76.46 334 P **P** **13 37 35.5 +1.2**
baz=116
PESTR Estremoz 76.77 50 *eP* **P** **13 37 37.9 +1.6**
comp=Z,40nm,1.7s
PESTR Estremoz 76.77 50 P **P** **13 37 36.1 -0.3**
PESTR IAmb IAmb 13 37 38.4
comp=Z,27nm,1.5s
KOWA Kowa 76.86 75 P **P** **13 37 35.2 -2.1**
KOWA IAmb IAmb 13 37 37.9
comp=Z,11nm,0.8s
BVCY Beaver Creek 76.90 335 P **P** **13 37 37.6 +1.0**
baz=117
PVIS Viseu 76.90 48 *eP* **P** **13 37 38.0 +0.9**
comp=Z,46nm,1.5s
TULEG Thule 76.91 3 P **P** **13 37 34.9 -1.4**
BGLC Bering Glacier 76.97 333 P **P** **13 37 38.0 +1.1**
baz=114
PCBR Castelo Branco 77.04 49 *eP* **P** **13 37 38.7 +0.9**
comp=Z,24nm,1.5s
DAWY Dawson 77.07 337 P **P** **13 37 37.6 0.0**
DAWY IAmb IAmb 13 37 45.2
comp=Z,12nm,1.0s
DAWY Dawson 77.07 337 P **P** **13 37 38.1 +0.6**
baz=118
INK Inuvik 77.28 342 P **P** **13 37 39.4 +0.9**
comp=Z,7.6nm,0.9s,baz=107,slow=6.7,SNR=13
INK Inuvik 77.28 342 P **P** **13 37 38.9 +0.4**
INK pmax pmax
comp=Z,12nm,1.0s
INK Inuvik 77.28 342 P **P** **13 37 38.9 +0.4**
INK IAmb IAmb 13 37 40.0
comp=Z,12nm,1.0s
INK Inuvik 77.28 342 P **P** **13 37 39.2 +0.6**
baz=125,SNR=10
M27K Edge Creek, AK 77.30 335 P **P** **13 37 39.8 +0.8**
M27K Edge Creek, AK 77.30 335 P **P** **13 37 40.2 +1.2**
baz=116
I29M Ogilvie Camp, 77.30 339 P **P** **13 37 38.9 +0.1**
I29M IAmb IAmb 13 37 50.5
comp=Z,9.2nm,0.9s
I29M Ogilvie Camp, 77.30 339 P **P** **13 37 39.5 +0.7**
baz=120
MCARA McCarthy VSAT 77.37 334 P **P** **13 37 40.1 +0.9**
MCARA McCarthy VSAT 77.37 334 P **P** **13 37 40.3 +1.0**
baz=114
A36M Sachs Harbour 77.43 347 P **P** **13 37 38.9 -0.5**
A36M Sachs Harbour 77.43 347 P **P** **13 37 39.1 -0.3**
baz=134,SNR=15
VRDI Verde Repeater 77.50 334 P **P** **13 37 39.3 -0.9**
VRDI IAmb IAmb 13 37 41.7
comp=Z,14nm,1.2s
BCAR Beaver Creek A 77.57 336 P **P** **13 37 40.8 +0.4**
L27K Beaver Creek, 77.58 336 P **P** **13 37 40.9 +0.5**
L27K IAmb IAmb 13 37 43.1
comp=Z,19nm,1.4s
L27K Beaver Creek, 77.58 336 P **P** **13 37 41.5 +1.1**
baz=116,SNR=5.0
GLB Gilahina Butte 77.74 334 P **P** **13 37 41.9 +0.5**
GLB IAmb IAmb 13 37 47.0
comp=Z,9.6nm,0.9s
M26K Nabesna, AK 77.79 335 P **P** **13 37 42.6 +0.9**
baz=115
BMRM Bremner River 77.91 333 P **P** **13 37 42.9 +0.6**
BMRM IAmb IAmb 13 37 53.0
comp=Z,21nm,1.2s
BMRM Bremner River 77.91 333 P **P** **13 37 43.5 +1.1**
baz=113
Q23K Middleton Isla 78.14 332 P **P** **13 37 44.8 +1.3**
baz=111
N25K Chitina, Valde 78.16 334 P **P** **13 37 44.5 +0.8**
baz=113
MDT Midelt 78.16 57 P **P** **13 37 45.0 +0.7**
comp=Z,1.7nm,0.8s,baz=321,slow=4.4,SNR=3.7
L26K Log Cabin Wild 78.19 335 P **P** **13 37 44.8 +1.0**
baz=114
EYAK Cordova Ski Ar 78.27 333 P **P** **13 37 45.4 +1.2**
baz=112
MENT Mentasta 78.31 335 P **P** **13 37 45.2 +0.7**
KLU Klutina 78.70 334 P **P** **13 37 46.8 +0.1**
KLU Klutina 78.70 334 P **P** **13 37 47.8 +1.1**
baz=112
HARP HAARP 78.71 335 P **P** **13 37 47.5 +0.8**
baz=113
DOT Dot Lake 78.75 336 P **P** **13 37 47.2 +0.3**
DOT IAmb IAmb 13 37 48.9
comp=Z,25nm,1.4s
SCRK Sand Creek 78.85 336 P **P** **13 37 47.8 +0.3**
SCRK Sand Creek 78.85 336 P **P** **13 37 48.3 +0.7**
baz=114
J26L Joseph Creek 78.90 337 P **P** **13 37 48.6 +0.9**
baz=115
GLI Glacier Island 79.00 333 P **P** **13 37 49.2 +0.9**
baz=111
M24K Tolsona, Glenn 79.04 334 P **P** **13 37 49.0 +0.4**
M24K Tolsona, Glenn 79.04 334 P **P** **13 37 48.6 +0.1**
baz=112
PAX Paxson 79.06 335 P **P** **13 37 48.7 +0.1**
baz=112
RIDG Independent Ri 79.10 336 P **P** **13 37 49.2 +0.3**
RIDG Independent Ri 79.10 336 P **P** **13 37 49.6 +0.8**
baz=113
SCM Sheep Creek Mo 79.45 334 P **P** **13 37 50.9 +0.1**
SCM pmax pmax
comp=Z,38nm,1.4s
SCM Sheep Creek Mo 79.45 334 P **P** **13 37 50.9 +0.1**
SCM Sheep Creek Mo 79.45 334 P **P** **13 37 51.4 +0.6**
baz=111
PWL Port Wells 79.57 333 P **P** **13 37 51.3 -0.1**
PWL IAmb IAmb 13 38 16.9
comp=Z,15nm,1.2s
PWL Port Wells 79.57 333 P **P** **13 37 51.4 -0.1**
baz=110
J25K Salcha River, 79.66 337 P **P** **13 37 52.1 +0.2**
J25K Salcha River, 79.66 337 P **P** **13 37 52.4 +0.5**
baz=113
ESDC Sonseca Array 79.68 50 P **P** **13 37 52.8 +0.2**
comp=Z,2.9nm,1.0s,baz=265,slow=4.8,SNR=7.4
ESDC Sonseca Array 79.68 50 P **P** **13 37 52.5 0.0**
KNK Knik Glacier 79.81 333 P **P** **13 37 53.6 +0.9**
baz=110
SEW Seward 79.84 332 P **P** **13 37 53.3 +0.5**
baz=108
SML Sawmill 79.88 333 P **P** **13 37 52.7 -0.4**
SML Sawmill 79.88 333 P **P** **13 37 52.7 -0.4**
SML IAmb IAmb 13 37 54.7
comp=Z,31nm,1.4s
SML Sawmill 79.88 333 P **P** **13 37 53.4 +0.3**
baz=110
WAT6 Susitna Watana 79.89 334 P **P** **13 37 53.4 +0.1**
baz=110,SNR=6.6
DHY Denali Highway 79.91 335 P **P** **13 37 54.5 +1.1**
baz=111
O22K Cooper Landing 80.09 332 P **P** **13 37 53.0 -1.1**
baz=108
GHO Glory Hole Cre 80.14 333 P **P** **13 37 54.6 0.0**
GHO IAmb IAmb 13 38 02.8
comp=Z,11nm,0.8s
PMR Palmer 80.17 333 P **P** **13 37 55.0 +0.4**
baz=109
EUNU Eureka 80.22 359 P **P** **13 37 55.1 +0.4**
RC01 Rabbit Creek A 80.29 333 P **P** **13 37 55.1 -0.2**
RC01 IAmb IAmb 13 38 04.0
comp=Z,14nm,0.9s
RC01 Rabbit Creek A 80.29 333 P **P** **13 37 55.6 +0.3**
baz=108
IL31 80.32 337 P **P** **13 37 55.3 0.0**
ILAR Eielson Array 80.32 337 P **P** **13 37 55.5 +0.1**
comp=Z,3.0nm,1.1s,baz=108,slow=2.6,SNR=9.3
ILAR Eielson Array 80.32 337 P **P** **13 37 54.8 -0.6**
ILAR Eielson Array 80.32 337 P **P** **13 37 54.8 -0.6**
WAT1 Susitna Watana 80.33 334 P **P** **13 37 55.1 -0.4**
baz=110
BRSE Bradley Lake S 80.35 331 P **P** **13 37 55.9 +0.3**
baz=107
BRLK Bradley Lake 80.43 331 P **P** **13 37 55.6 -0.4**
BRLK IAmb IAmb 13 37 57.6
comp=Z,21nm,1.3s
BMAR Burnt Mountain 80.49 339 P **P** **13 37 56.8 +0.5**
RND Reindeer 80.65 335 P **P** **13 37 57.5 +0.2**
RND pmax pmax
comp=Z,16nm,1.3s
RND Reindeer 80.65 335 P **P** **13 37 57.5 +0.2**
RND IAmb IAmb 13 38 00.0
comp=Z,16nm,1.3s
POKR Poker Plat Res 80.66 337 P **P** **13 37 57.5 +0.3**
POKR Poker Plat Res 80.66 337 P **P** **13 37 57.3 +0.1**
baz=111
M22K Willow 80.67 333 P **P** **13 37 57.4 +0.1**
M22K IAmb IAmb 13 38 05.0
comp=Z,14nm,0.9s
M22K Willow 80.67 333 P **P** **13 37 57.7 +0.5**
baz=108
KDAK Kodiak Island 80.72 329 P **P** **13 37 57.1 -0.5**
baz=105
COLA College 80.74 336 *i* P **P** **13 37 58.3 +0.7**
COLA College 80.74 336 P **P** **13 37 57.2 -0.4**
baz=111
TCOL CIGO, UAF Yank 80.75 336 P **P** **13 37 57.4 -0.2**
baz=111
HOM Homer 80.76 331 P **P** **13 37 57.9 +0.1**
HOM Homer 80.76 331 P **P** **13 37 58.0 +0.2**
baz=106

MCK	**McKinley**	**80.79**	**335**	P		**P**		**13 37 58.2**	**+0.2**
	baz=110								
H24K	**Noodor Dome**	**81.10**	**337**	P		**P**		**13 37 59.8**	**+0.2**
H24K				IAmb		IAmb		13 38 01.5	
	comp=Z,18nm,1.4s								
H24K	**Noodor Dome**	**81.10**	**337**	P		**P**		**13 38 00.1**	**+0.5**
	baz=111,SNR=5.6								
NEA2	**Nenana**	**81.14**	**336**	P		**P**		**13 37 59.7**	**-0.1**
NEA2				IAmb		IAmb		13 38 01.1	
	comp=Z,22nm,1.5s								
NEA2	**Nenana**	**81.14**	**336**	P		**P**		**13 38 00.3**	**+0.5**
	baz=110								
BWN	**Browne**	**81.16**	**336**	P		**P**		**13 37 59.6**	**-0.2**
TRF	**Thorofare Moun**	**81.28**	**335**	P		**P**		**13 38 00.8**	**+0.1**
	baz=108								
BELA	**Belgrano 2**	**81.34**	**171**	P		**P**		**13 38 00.4**	**-0.3**
BELA				IAmb		IAmb		13 38 04.1	
	comp=Z,16nm,1.5s								
O20K	**Slope Mountain**	**81.36**	**331**	P		**P**		**13 38 02.1**	**+1.1**
	baz=106								
I23K	**Minto, Yukon-K**	**81.44**	**336**	P		**P**		**13 38 02.0**	**+0.7**
	baz=109								
P19K	**Oil Pt**	**81.54**	**331**	P		**P**		**13 38 02.3**	**+0.3**
	baz=105								
BPAW	**Bear Paw Mtn.**	**81.77**	**335**	P		**P**		**13 38 03.1**	**-0.1**
BPAW				IAmb		IAmb		13 38 04.5	
	comp=Z,26nm,1.5s								
BPAW	**Bear Paw Mtn.**	**81.77**	**335**	P		**P**		**13 38 03.6**	**+0.5**
	baz=108								
PPLA	**Purkeypile**	**81.93**	**334**	P		**P**		**13 38 04.3**	**+0.1**
PPLA				IAmb		IAmb		13 38 10.0	
	comp=Z,14nm,1.0s								
PPLA	**Purkeypile**	**81.93**	**334**	P		**P**		**13 38 04.0**	**-0.2**
	baz=106								
CAST	**Castle Rocks**	**82.04**	**334**	P		**P**		**13 38 04.5**	**-0.1**
	baz=106								
CHUM	**Lake Minchumin**	**82.27**	**335**	P		**P**		**13 38 05.8**	**+0.1**
	baz=106								
TOA0	**Torodi Ar. Sit**	**82.33**	**77**	P		**P**		**13 38 05.3**	**-1.8**
TOA0				IAmb		IAmb		13 38 06.9	
	comp=Z,14nm,1.4s								
TORD	**Torodi Ar. Bea**	**82.33**	**77**	P		**P**		**13 38 04.8**	**-2.3**
	comp=Z,2.1nm,0.9s,baz=290,slow=7.1,SNR=15								
TORD	**Torodi Ar. Bea**	**82.33**	**77**	P		**P**		**13 38 05.1**	**-2.0**
TORD				IAmb		IAmb		13 38 07.0	
	comp=Z,11nm,1.4s								
N19K	**Bonanza Creek**	**82.44**	**332**	P		**P**		**13 38 06.8**	**0.0**
	baz=104								
COLD	**Coldfoot**	**82.44**	**338**	P		**P**		**13 38 07.5**	**+0.9**
COLD	**Coldfoot**	**82.44**	**338**	P		**P**		**13 38 07.4**	**+0.8**
	baz=109								
O18K	**Koktuh Hills**	**82.56**	**331**	P		**P**		**13 38 07.0**	**-0.3**
	baz=103								
L20K	**Farewell, AK**	**82.57**	**333**	P		**P**		**13 38 07.2**	**-0.2**
	baz=105								
TOLK	**Toolik Lake Re**	**82.69**	**340**	P		**P**		**13 38 08.2**	**+0.4**
	baz=110								
K20K	**Telida**	**82.88**	**334**	P		**P**		**13 38 09.0**	**+0.1**
K20K	**Telida**	**82.88**	**334**	P		**P**		**13 38 08.7**	**-0.3**
	baz=105								
EKA	**Eskdalemuir Ar**	**82.89**	**34**	P		**P**		**13 38 08.9**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=246,slow=4.4,SNR=7.5								
L19K	**White Mountain**	**82.94**	**333**	P		**P**		**13 38 09.2**	**-0.1**
	baz=104								
H21K	**Melozitna Rive**	**82.97**	**337**	P		**P**		**13 38 09.1**	**-0.2**
	baz=106								
N18K	**Kilae Creek**	**83.08**	**331**	P		**P**		**13 38 09.6**	**-0.4**
N18K	**Kilae Creek**	**83.08**	**331**	P		**P**		**13 38 09.9**	**-0.1**
	baz=103								
J20K	**Nowinta River**	**83.12**	**335**	P		**P**		**13 38 09.7**	**-0.4**
J20K				IAmb		IAmb		13 38 16.6	
	comp=Z,14nm,1.4s								
J20K	**Nowinta River**	**83.12**	**335**	P		**P**		**13 38 10.1**	**-0.1**
	baz=105								
IMAR	**Indian Mountai**	**83.43**	**337**	P		**P**		**13 38 11.9**	**+0.2**
DAG	**Danmarks Havn**	**83.91**	**12**	*i* P		**P**		**13 38 13.0**	**-1.0**
DAG				IAmb		IAmb		13 38 20.5	
	comp=Z,3.5nm,0.9s								
GCSA	**Galena City Sc**	**84.41**	**335**	P		**P**		**13 38 16.7**	**0.0**
	baz=102								
CLF	**Chambon-Foret**	**85.21**	**42**	P		**P**		**13 38 20.7**	**-0.4**
A21K	**Barrow**	**85.77**	**342**	P		**P**		**13 38 23.9**	**+0.4**
A21K				IAmb		IAmb		13 38 29.9	
	comp=Z,8.4nm,0.9s								
A21K	**Barrow**	**85.77**	**342**	P		**P**		**13 38 23.8**	**+0.4**
	baz=103								
SNAA	**Sanae**	**85.92**	**162**	*i* P		**P**		**13 38 26.1**	**+1.8**
SNAA				pmax		pmax			
	comp=Z,7.0nm,1.2s								
NOR	**Nord**	**86.44**	**8**	*i* P		**P**		**13 38 25.6**	**-1.1**
NOR				IAmb		IAmb		13 38 33.0	
	comp=Z,4.1nm,0.8s								
DOU	**Dourbes**	**86.91**	**40**	*d*PcP		**P**		**13 38 30.5**	**+1.0**
BMRD	**Maredsous**	**87.03**	**40**	*d*PcP		**P**		**13 38 31.0**	**+1.0**
RCHB	**Rochefort**	**87.32**	**40**	*d*PcP		**P**		**13 38 32.3**	**+0.8**
WLF	**Walferdange**	**87.89**	**40**	*d*PcP		**PcP**		**13 38 35.5**	**-0.6**
ECH	**Echery**	**88.49**	**42**	P		**P**		**13 38 36.6**	**-0.6**
ECH				pmax		pmax			
	comp=Z,15nm,1.4s								
ECH	**Echery**	**88.49**	**42**	P		**P**		**13 38 36.6**	**-0.6**
ECH				IAmb		IAmb		13 38 38.9	
	comp=Z,15nm,1.4s								
DAVOX	**Davos/Dischmat**	**90.31**	**43**	P		**P**		**13 38 46.7**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=353,slow=20,SNR=3.6								
KHC	**Kasperske Hory**	**92.74**	**41**	*i* P		**P**		**13 38 56.9**	**0.0**
KHC				pmax		pmax			
	comp=Z,35nm,2.8s								
KHC	**Kasperske Hory**	**92.74**	**41**	*ex*		**P**		**13 38 57.0**	**0.0**
VRAC	**Vranov**	**94.70**	**41**	P		**P**		**13 39 06.7**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=335,slow=7.6,SNR=3.2								
FINES	**FINESS Array B**	**97.99**	**28**	LR		LR		14 20 44.0	
	comp=Z,288nm,21.3s,baz=42,slow=34								
BILL	**Bilibino**	**98.74**	**340**	*eP*		Pdif		13 39 24.1	+0.3
BILL				*e*				13 43 24.7	
BILL				*e*PPP		PPP		13 45 30.3	
BILL				MLR		MLR			
	comp=Z,99nm,19.0s								
OBN	**Obninsk**	**105.25**	**32**	*eP*		**Pdif**		**13 39 52.4**	**-0.6**
OBN				*e*				13 44 12.7	
OBN				pmax		pmax			
	comp=Z,4.0nm,1.0s								
OBN				MLR		MLR			
	comp=Z,397nm,20.0s								
H11S2	**WAKE ISLAND Hy**	**111.73**	**290**	T		T		15 45 27.1	
	baz=85,slow=74,SNR=7.1								
H11S1	**WAKE ISLAND Hy**	**111.74**	**290**	T		T		15 45 26.9	
	baz=85,slow=74,SNR=5.0								
H11S3	**WAKE ISLAND Hy**	**111.75**	**290**	T		T		15 45 28.2	
	baz=85,slow=74,SNR=5.7								
KIV	**Kislovodsk**	**113.35**	**41**	*i* PKIKP		**PKiKP**		**13 44 20.5**	**-2.4**
KIV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
ABKAR	**Akbulak array**	**120.44**	**29**			**PKPdf**		**13 44 35.6**	**-0.6**
ABKAR	**Akbulak array**	**120.44**	**29**			**PKPdf**		**13 44 35.4**	**-0.8**
ZAA0	**Zalesovo Array**	**125.03**	**11**			**PKPdf**		**13 44 44.4**	**-0.5**
ZALV	**Zalesovo Beam**	**125.03**	**11**	PKP		**PKPdf**		**13 44 44.8**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=242,slow=3.2,SNR=7.6								
ZALV	**Zalesovo Beam**	**125.03**	**11**	PKIKP		**PKPdf**		**13 44 43.9**	**-1.0**
ZALV	**Zalesovo Beam**	**125.03**	**11**			**PKPdf**		**13 44 43.9**	**-1.0**
KURK	**Kurchatov**	**126.58**	**16**	PKIKP		**PKPdf**		**13 44 47.7**	**-0.3**
KURK	**Kurchatov**	**126.58**	**16**			**PKPdf**		**13 44 47.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**127.56**	**331**	PKP		**PKiKP**		**13 44 52.5**	**+1.9**
	comp=Z,3.4nm,0.8s,baz=290,slow=1.8,SNR=6.2								
USRK	**Ussuriysk Ar.**	**127.56**	**331**	PKIKP		**PKPdf**		**13 44 49.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**127.56**	**331**			**PKPdf**		**13 44 49.9**	**-0.1**
STKA	**Stephens Creek**	**129.11**	**227**	PKP		**PKiKP**		**13 44 55.7**	**+1.6**
	comp=Z,3.0nm,0.7s,baz=128,slow=2.9,SNR=5.2								
STKA	**Stephens Creek**	**129.11**	**227**	PKIKP		**PKPdf**		**13 44 51.8**	**-1.6**
STKA	**Stephens Creek**	**129.11**	**227**			**PKPdf**		**13 44 51.8**	**-1.6**
MJAR	**Matsushiro Arr**	**129.14**	**320**	PKP		**PKiKP**		**13 44 55.8**	**+1.8**
	comp=Z,1.6nm,0.7s,baz=103,slow=4.4,SNR=4.8								
MJAR	**Matsushiro Arr**	**129.14**	**320**	PKIKP		**PKPdf**		**13 44 52.6**	**-0.7**
MJAR	**Matsushiro Arr**	**129.14**	**320**			**PKPdf**		**13 44 52.6**	**-0.7**
ZAK	**Zakamensk**	**129.89**	**357**	*e*PKHKP		PKPpre		13 44 35.7	
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.4s								
CN2	**Changchun**	**130.83**	**335**	*e*PKP		**PKiKP**		**13 44 57.1**	**0.0**
MK31	**Makanchi Array**	**131.16**	**16**	PKIKP		**PKPdf**		**13 44 55.9**	**-1.0**
MK31	**Makanchi Array**	**131.16**	**16**			**PKPdf**		**13 44 55.9**	**-1.0**
MKAR	**Makanchi Array**	**131.16**	**16**	PKP		**PKPdf**		**13 44 56.2**	**-0.7**
	comp=Z,1.9nm,1.0s,baz=2.9,slow=2.4,SNR=6.7								
KSRS	**Korea Array**	**134.62**	**328**	PKP		**PKPdf**		**13 45 03.2**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=1.5,slow=2.3,SNR=7.2								
KSAR	**Wonju Array Be**	**134.66**	**328**	PKIKP		**PKPdf**		**13 45 02.8**	**-0.9**
KSAR	**Wonju Array Be**	**134.66**	**328**			**PKPdf**		**13 45 02.8**	**-0.9**

WMQ	**Urumqi**	**135.26**	**12**	*e*PKP		**PKPdf**		**13 45 04.3**	**-0.4**
HHC	**Hu-ho-hao-te**	**138.09**	**346**	*e*PKP		**PKPdf**		**13 45 05.5**	**-4.6**
ASAR	**Alice Springs**	**139.13**	**232**	PKhKP		PKPpre		13 45 10.0	
	comp=Z,1.6nm,0.9s,baz=124,slow=2.8,SNR=9.1								
WRA	**Warramunga Arr**	**140.54**	**238**	PKhKP		PKPpre		13 45 08.1	
	comp=Z,1.3nm,0.8s,baz=105,slow=2.6,SNR=7.6								
WRA	**Warramunga Arr**	**140.54**	**238**	PKIKP		**PKPdf**		**13 45 14.0**	**-1.0**
WRA	**Warramunga Arr**	**140.54**	**238**			**PKPdf**		**13 45 14.0**	**-1.0**
NJ2	**Nanjing**	**143.45**	**332**	*e*PKP		**PKPdf**		**13 45 18.5**	**-1.4**
GOMU	**GeErMu**	**143.89**	**7**	PKP		**PKPdf**		**13 45 22.4**	**+1.4**
GOMU				pPKP		sPKPdf		13 45 31.9	+5.6
GOMU				sPKP				13 45 38.1	
GOMU				AMB		AMB			
	comp=Z,70nm,3.9s								
LZH	**Lanzhou**	**144.06**	**354**	||PKP	PKPbc		13 45 18.8	-0.1
LZH				pPKP		PKiKP		13 45 24.9	+0.3
XAN	**Xi'an**	**145.20**	**346**	PKPbc		**PKPbc**		**13 45 21.4**	**-1.1**
XAN				pPKP		pPKPbc		13 45 26.8	+0.3
XAN				sPKP				13 45 29.8	
PYUN	**Piuthan**	**147.99**	**28**	*eP*		**PKPbc**		**13 45 30.6**	**-0.5**
	comp=Z,60nm,1.1s								
DANN	**Dangsing**	**148.14**	**27**	*eP*		**PKPbc**		**13 45 31.6**	**0.0**
	comp=Z,159nm,0.8s								
KOLN	**Koldanda**	**148.56**	**28**	*eP*		**PKPbc**		**13 45 32.1**	**-0.5**
GKN	**Gorkha**	**148.83**	**26**	*eP*		**PKPbc**		**13 45 33.1**	**-0.1**
KKN	**Kakani**	**149.30**	**25**	*eP*		**PKPbc**		**13 45 34.1**	**-0.4**
DMN	**Daman**	**149.38**	**26**	*eP*		**PKPbc**		**13 45 34.5**	**-0.2**
GUN	**Gumba**	**149.44**	**24**	*eP*		**PKPbc**		**13 45 34.9**	**-0.1**
	comp=Z,71nm,0.9s								
PKIN	**Phulchoki**	**149.53**	**25**	*eP*		**PKPbc**		**13 45 34.5**	**-0.6**
PKI	**Pulchoki**	**149.54**	**25**	*eP*		**PKPbc**		**13 45 34.3**	**-0.9**
	comp=Z,37nm,0.9s								
RAMN	**Ramite**	**150.59**	**24**	*eP*		**PKPbc**		**13 45 36.9**	**-0.8**
	comp=Z,41nm,0.8s								
ODAN	**Odare**	**150.98**	**23**	*eP*		**PKPbc**		**13 45 38.3**	**-0.3**
PZH	**PanZhiHua**	**153.75**	**356**	PKPbc		**PKPdf**		**13 45 38.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**161.82**	**2**	PKPab		**PKPab**		**13 46 31.2**	**-0.8**
	comp=Z,3.4nm,1.0s,baz=337,slow=5.2,SNR=7.6								

*NEIC **18** 13:35:10.6±2.0, 0.°34S±0.°05×80.°33W±0.°04, h10km±1km, mb4.1/17, Error ellipse: s-maj=11.0km s-min=3.9km az=145.0*
*IDC **18** 13:35:10.1±1.2, 0.°27N×79.°87W, h0km, mb3.9/8, mb1 4.2/9, mb1mx3.8/49, mbtmp4.0/9, ML4.1/1, Error ellipse: s-maj=62.5km s-min=21.8km az=55.0*
*IGQ **18** 13:35:12±1.6, 0.°S×4.°×8.°0W±1.°2, h8km*
ISC 18 13:35:10.1±1.1, 0.°25S±0.°04×80.°36W±0.°04, h9km±7km, n75, σ1s44/76, mb4.1/12, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAB1	**Cabo Pasado-Ma**	**0.15**	**205**	P		**Pg**	**13 35 12.0**	**-1.5**
JAMA	**Jama**	**0.16**	**96**	P		**Pg**	**13 35 14.0**	**+0.4**
JAMA				S		**Sg**	**13 35 18.0**	**+2.1**
FLF1	**Flavio Alfaro-**	**0.53**	**102**	P		**Pb**	**13 35 22.0**	**+0.3**
MAG1	**Magdalena**	**0.61**	**74**	P		**Pn**	**13 35 23.0**	**-2.1**
BV15	**Puerto Quito-O**	**1.21**	**71**	P		**Pn**	**13 35 33.0**	**-0.3**
AV21	**Acelerografo,**	**1.22**	**42**	P		**Pn**	**13 35 33.0**	**-0.4**
AMA1	**Acelerografo,**	**1.33**	**29**	P		**Pg**	**13 35 35.0**	**-0.8**
PAC1	**Pacto, Paraso**	**1.65**	**72**	*eP*		**Pn**	**13 35 38.1**	**-1.5**
PAC1				*eS*		**Sg**	**13 36 01.5**	**-1.8**
PAC1				*i*			13 36 04.8	
	comp=Z,2μm,0.6s							
PAC1	**Pacto, Paraso**	**1.65**	**72**	P		**Pn**	**13 35 39.0**	**-0.5**
HPAL	**Hacienda Las P**	**1.71**	**89**	P		**Pn**	**13 35 40.0**	**-0.5**
GGPT	**Toaza - Volcan**	**1.74**	**89**	P		**Pn**	**13 35 40.0**	**-1.0**
PINO	**Pino**	**1.76**	**87**	P		**Pn**	**13 35 40.0**	**-1.4**
JUA2	**San Juan 2**	**1.76**	**89**	P		**Pb**	**13 35 42.0**	**-0.9**
APR1	**Acelerografo,**	**1.76**	**84**	P		**Pb**	**13 35 42.0**	**-0.9**
TERV	**Terraza Guagua**	**1.76**	**88**	P		**Pg**	**13 35 43.0**	**-1.0**
PAST	**Pastocalle**	**1.78**	**105**	P		**Pn**	**13 35 41.0**	**-0.5**
YANA	**Yana**	**1.80**	**86**	P		**Pn**	**13 35 41.0**	**-0.8**
PULU	**Pululahua**	**1.88**	**82**			**Pn**	**13 35 42.7**	**-0.1**
PULU	**Pululahua**	**1.88**	**82**	P		**Pb**	**13 35 43.0**	**-1.9**
CAMI	**Rancho Maria**	**1.91**	**103**	P		**Pn**	**13 35 43.0**	**-0.3**
BNAS	**Cotopaxi Volca**	**1.93**	**103**	P		**Pn**	**13 35 43.0**	**-0.7**
CHSH	**Refugio Sur-Vo**	**1.94**	**130**	P		**Pn**	**13 35 45.0**	**+1.1**
TOMA	**Boca Toma-Volc**	**1.95**	**97**	P		**Pn**	**13 35 44.0**	**+0.2**
PITA	**Cotopaxi Volc**	**1.96**	**99**	P		**Pn**	**13 35 44.0**	**0.0**
OTAV	**Otavalo**	**1.97**	**76**	Pn		**Pn**	**13 35 43.4**	**-0.8**
BVC2	**Cotopaxi Volca**	**1.99**	**102**	P		**Pb**	**13 35 46.0**	**-1.0**
PORT	**Chimborazo Vol**	**2.00**	**127**	Pn		**Pn**	**13 35 44.0**	**-0.6**
PORT	**Chimborazo Vol**	**2.00**	**127**	P		**Pn**	**13 35 45.0**	**+0.3**
AMIL	**Milagro (Trans**	**2.03**	**158**	P		**Pn**	**13 35 45.0**	**+0.5**
CUSE	**Cuicocha Este**	**2.04**	**74**	*eP*		**Pb**	**13 35 46.3**	**-1.3**
CUSE				*eS*		**Sb**	**13 36 11.6**	**-1.8**
CUSE				*i*			13 36 16.9	
	comp=Z,10μm,1.0s							
TAMH	**Tambohuasha Ch**	**2.04**	**129**	P		**Pb**	**13 35 48.0**	**+0.3**
TAMB	**Tambo**	**2.04**	**103**	P		**Pn**	**13 35 45.0**	**-0.3**
CUIC	**Cuicocha-Domo**	**2.08**	**75**	P		**Pb**	**13 35 46.0**	**-2.3**
CUSW	**Cuicocha Oeste**	**2.08**	**75**	P		**Pb**	**13 35 46.0**	**-2.3**
ANTG	**Antisana-Guama**	**2.12**	**97**	P		**Pg**	**13 35 49.0**	**-1.9**
URCU	**Urcuqui**	**2.21**	**72**	P		**Pb**	**13 35 48.0**	**-2.6**
ARRY	**Arrayan**	**2.28**	**123**	P		**Pb**	**13 35 50.0**	**-1.8**
COHC	**Cochancay**	**2.47**	**153**	Pn		**Pn**	**13 35 47.6**	**-3.0**
TULM	**Tulcn-Chalpat**	**2.75**	**70**	*eP*		**Pb**	**13 35 59.5**	**-0.2**
TULM				*eS*		**Sb**	**13 36 33.1**	**-0.7**
ARNL	**Arenillas**	**3.29**	**175**			**Pn**	**13 36 00.4**	**-1.6**
BOSC	**San Juan Bosco**	**3.44**	**147**			**Pn**	**13 36 04.8**	**+0.7**
MCRA	**Macar, Loja**	**4.12**	**174**			**Pn**	**13 36 11.7**	**-1.7**
POPC	**Popayan, Colom**	**4.61**	**53**	*eP*		**Pn**	**13 36 20.6**	**+0.3**
POPC				*eS*		**Sn**	**13 37 17.6**	**+3.5**
POPC				*i*			13 37 28.1	
	comp=Z,25nm,0.6s							
PTLC	**Puerto Leguiza**	**5.58**	**86**	*eP*		**Pn**	**13 36 34.9**	**+1.4**
YOTC	**Yotoco, Valle**	**5.81**	**44**	*eP*		**Pn**	**13 36 36.4**	**-0.4**
YOTC				*eS*		Sb	13 37 51.5	-10
YOTC				*i*			13 37 56.5	
	comp=Z,15nm,0.6s							
BATAN	**Batan**	**10.70**	**344**	Pn		**Pn**	**13 37 45.6**	**+1.8**
NNA	**Nana**	**12.18**	**163**	Pn		**Pn**	**13 38 08.3**	**+4.2**
	comp=Z,1.5nm,0.3s,baz=328,slow=8.9,SNR=4.3							
MTO3	**Montecristo**	**17.06**	**329**	P		**P**	**13 39 13.2**	**+2.1**
LPAZ	**La Paz**	**19.99**	**143**	P		**Pn**	**13 39 47.8**	**+2.3**
	comp=Z,5.0nm,1.1s,baz=315,slow=11,SNR=1.5							
LPAZ	**La Paz**	**19.99**	**143**			**P**	**13 39 44.6**	**+0.8**
GO01	**Chusmiza**	**22.19**	**151**	P		**P**	**13 40 05.0**	**-2.4**
GO01				IAmb		IAmb	13 40 14.3	
	comp=Z,6.6nm,0.8s							
CMIG	**Matias Romero**	**22.39**	**321**	P		**P**	**13 40 09.0**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=165,slow=2.9,SNR=4.3							
P48A	**Milroy**	**39.79**	**354**	P		**P**	**13 42 45.3**	**+1.7**
ANMO	**Albuquerque**	**42.66**	**328**	P		**P**	**13 43 08.5**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=144,slow=12,SNR=5.9							
ANMO	**Albuquerque**	**42.66**	**328**	IAmb		IAmb	13 43 09.1	
	comp=Z,2.5nm,0.8s							
SDCO	**Great Sand Dun**	**44.35**	**331**	P		**P**	**13 43 21.6**	**+0.3**
WUAZ	**Wupatki**	**45.84**	**324**	P		**P**	**13 43 33.2**	**+0.3**
PSUT	**Pine Spring**	**49.35**	**325**	P		**P**	**13 44 00.6**	**+0.3**
PSUT				IAmb		IAmb	13 44 08.1	
	comp=Z,1.8nm,1.0s							
R11A	**Troy Canyon, C**	**50.23**	**324**	P		**P**	**13 44 07.2**	**+0.2**
HWUT	**Hardware Ranch**	**50.31**	**330**	P		**P**	**13 44 07.6**	**+0.1**
HWUT				IAmb		IAmb	13 44 26.9	
	comp=Z,3.2nm,1.2s							
NV11	**Mina Array Sit**	**51.83**	**322**	P		**P**	**13 44 19.4**	**+0.4**
NV11				IAmb		IAmb	13 44 25.6	
	comp=Z,4.4nm,1.2s							
NVAR	**Mina Array Bea**	**51.92**	**322**	P		**P**	**13 44 20.2**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=136,slow=7.5,SNR=11							
NVAR	**Mina Array Bea**	**51.92**	**322**	P		**P**	**13 44 20.0**	**+0.2**
ULM	**Lac du Bonnet**	**52.02**	**347**	P		**P**	**13 44 18.1**	**-1.9**
	comp=Z,3.3nm,0.6s,baz=184,slow=7.3,SNR=3.4							
BMN	**Battle Mountai**	**52.55**	**325**	P		**P**	**13 44 24.6**	**+0.2**
BMN				IAmb		IAmb	13 44 25.2	
	comp=Z,2.2nm,0.8s							
GCMT	**Greycliff**	**52.62**	**334**	P		**P**	**13 44 26.7**	**+2.0**
FCC	**Fort Churchill**	**59.83**	**352**	P		**P**	**13 45 14.0**	**-1.7**
YKA	**Yellowknife Ar**	**67.66**	**344**	P		**P**	**13 46 06.2**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=140,slow=5.9,SNR=15							
INK	**Inuvik**	**77.35**	**342**	P		**P**	**13 47 04.5**	**-0.5**
	comp=Z,1.5nm,1.0s,baz=173,slow=1.0,SNR=3.3							
INK	**Inuvik**	**77.35**	**342**	IAmb		IAmb	13 47 06.1	
	comp=Z,4.2nm,1.3s							
BCAR	**Beaver Creek A**	**77.64**	**336**	P		**P**	**13 47 06.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**82.32**	**77**	P		**P**	**13 47 31.0**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=259,slow=4.6,SNR=0.9							
TORD	**Torodi Ar. Bea**	**82.32**	**77**	IAmb		IAmb	13 47 56.1	
	comp=Z,2.4nm,1.4s							
QSPA	**South Pole Qui**	**89.81**	**180**	P		**P**	**13 48 09.7**	**+0.6**

ASAR	**Alice Springs**	**139.12**	**232**	PKhKP		PKPpre		13 54 35.9	
	comp=Z,0.5nm,0.9s,baz=145,slow=1.9,SNR=4.3								

*JMA **18** 13:45:31.6±0.3, 28.°72N×128.°34E, h13km±5km, M3.7*
*IDC **18** 13:45:31.5±0.8, 28.°74N×128.°48E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/51, mbtmp3.7/9, Error ellipse: s-maj=36.4km s-min=15.3km az=83.0*
ISC 18 13:45:33.2±2.7, 28.°68N±0.°05×128.°45E±0.°08, h14km±17km, n19, σ0s82/25, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.77**	**124**	P		**Pb**	**13 45 48.2**	**-0.2**
JAMN				S		**Sn**	**13 46 00.3**	**-0.8**
JTAJ	**Takarajima**	**0.81**	**54**	P		**Pb**	**13 45 48.1**	**-1.0**
JTAJ				S		**Sb**	**13 45 59.3**	**-0.7**
JTK	**Tokunoshima**	**0.99**	**153**	P		**Pb**	**13 45 51.2**	**-1.0**
JTK				S		**Sb**	**13 46 05.3**	**+0.2**
JAM	**Amami Oshima**	**1.05**	**104**	P		**Pb**	**13 45 52.7**	**-0.5**
JAM				S		**Sg**	**13 46 07.7**	**+0.5**
JOKE	**Okinoerabujima**	**1.31**	**175**	P		**Pn**	**13 45 56.3**	**-0.9**
JOKE				*e*S		**Sn**	**13 46 14.0**	**-0.5**
JZK	**Kikaishima**	**1.39**	**105**	P		**Pb**	**13 45 59.3**	**+0.4**
JYRO	**Yoronjima**	**1.65**	**180**	P		**Pn**	**13 46 01.4**	**-0.3**
JIH	**Iheya**	**1.69**	**195**	P		**Pn**	**13 46 01.8**	**-0.5**
JOW	**Kunigami**	**1.84**	**185**	Pn		**Pn**	**13 46 05.1**	**+0.7**
	22nm,0.3s,baz=103,slow=27,SNR=38							
JOW				Sn		**Sn**	**13 46 25.7**	**-1.8**
	43nm,0.3s,baz=349,slow=18,SNR=6.4							
JOW	**Kunigami**	**1.84**	**185**	P		**Pn**	**13 46 04.0**	**-0.4**
KLR	**Kul'dur**	**20.68**	**6**	P		**P**	**13 50 12.8**	**+0.2**
	2.4nm,0.7s,baz=197,slow=7.3,SNR=6.9							
SONM	**Songino Array**	**25.65**	**324**	P		**P**	**13 51 03.4**	**+0.9**
	1.1nm,0.9s,baz=140,slow=7.7,SNR=4.8							
MKAR

115nm,0.3s
DJR Jarkent 1.63 359 P Pb 14 06 53.2 -0.7
34nm,0.5s
DJR S Sg 14 07 17.8 +2.3
115nm,0.3s
BLB Baldybastay 1.71 325 eP Pn 14 06 54.2 +0.3
368nm,0.3s
BLB eS Sb 14 07 18.7 +1.5
211nm,0.3s
BLB Baldybastay 1.71 325 P Pn 14 06 54.2 +0.3
368nm,0.3s
BLB S Sb 14 07 18.7 +1.5
211nm,0.3s
KDJ Kajisay 2.05 255 ⇑iP Pb 14 06 59.4 -1.8
baz=56
KDJ ⇑iS Sb 14 07 26.7 -0.4
baz=56
KOTS Kotyrbulak 2.07 286 eP Pb 14 07 00.7 -0.8
33nm,0.2s
KOTS eS Sg 14 07 30.7 +1.0
272nm,0.3s
KOTS Kotyrbulak 2.07 286 Pg Pb 14 07 00.7 -0.8
33nm,0.2s
KOTS Lg Lg 14 07 30.7
272nm,0.3s
MDOK Medeo 2.10 284 eP Pb 14 07 01.0 -1.0
49nm,0.5s
MDOK eS Sg 14 07 30.4 -0.2
96nm,0.7s
MDOK Medeo 2.10 284 ⇓Pg Pb 14 07 01.4 -0.6
31nm,0.5s
MDOK ⇑Lg Lg 14 07 32.2
66nm,0.6s
MDOK Medeo 2.10 284 Pg Pb 14 07 01.0 -1.0
49nm,0.5s
MDOK Lg Lg 14 07 30.4
96nm,0.7s
ARXS Arharly 2.10 317 eP Pn 14 07 00.4 +1.1
52nm,0.3s
ARXS eS Sb 14 07 30.4 +2.0
135nm,0.4s
ARXS Arharly 2.10 317 Pg Pn 14 07 00.4 +1.1
52nm,0.3s
ARXS Lg Lg 14 07 30.5
135nm,0.4s
TNSS Tian-Shan 2.15 280 eP Pb 14 07 02.1 -0.9
47nm,0.3s
TNSS eS Sg 14 07 32.7 +0.4
44nm,0.3s
TNSS Tian-Shan 2.15 280 Pg Pb 14 07 02.1 -0.9
47nm,0.3s
TNSS Lg Lg 14 07 32.7
44nm,0.3s
KNDC Almaty 2.17 285 ⇓Pg Pb 14 07 03.0 -0.1
70nm,0.6s
KNDC ⇓Lg Lg 14 07 34.4
234nm,0.8s
AAA Alma-Ata 2.20 284 eP Pb 14 07 03.7 0.0
108nm,0.5s
AAA eS Sg 14 07 35.6 +1.6
118nm,0.2s
AAA Alma-Ata 2.20 284 Pg Pb 14 07 03.7 0.0
108nm,0.5s
AAA Lg Lg 14 07 35.7
118nm,0.2s
CHKK Chushkaly 2.38 300 eP Pb 14 07 05.3 -1.3
8.4nm,0.3s
CHKK eS Sb 14 07 37.7 +1.4
100nm,0.4s
CHKK Chushkaly 2.38 300 Pg Pb 14 07 05.3 -1.3
8.4nm,0.3s
CHKK Lg Lg 14 07 37.7
100nm,0.4s
KTBS Karatobe 2.52 295 eP Pb 14 07 08.3 -0.8
14nm,0.2s
KTBS eS Sb 14 07 42.9 +2.5
141nm,0.5s
KTBS Karatobe 2.52 295 Pg Pb 14 07 08.3 -0.8
14nm,0.2s
KTBS Lg Lg 14 07 42.9
141nm,0.5s
TDK Taldyqorghan 2.52 336 eP Pb 14 07 07.6 -1.5
43nm,0.2s
TDK eS Sb 14 07 42.3 +1.9
62nm,0.1s
TDK Taldyqorghan 2.52 336 Pg Pb 14 07 07.6 -1.5
43nm,0.2s
TDK Lg Lg 14 07 42.3
62nm,0.1s
MTBS Maitube 2.54 281 eP Pb 14 07 08.0 -1.4
52nm,0.4s
MTBS eS Sb 14 07 43.5 +2.5
79nm,0.5s
MTBS Maitube 2.54 281 Pg Pb 14 07 08.0 -1.4
52nm,0.4s
MTBS Lg Lg 14 07 43.5
79nm,0.5s
KAPS Kapalarasan 2.60 353 eP Pb 14 07 08.5 -2.0
22nm,0.4s
KAPS eS Sb 14 07 43.2 +0.3
73nm,0.4s
KAPS Kapalarasan 2.60 353 Pg Pb 14 07 08.5 -2.0
22nm,0.4s
KAPS Lg Lg 14 07 43.2
73nm,0.4s
ULHL Ulahol 2.70 261 ⇓iP Pn 14 07 08.7 +1.0
baz=63
ULHL ⇓iS Sn 14 07 43.0 +2.1
baz=63
KUU Kurty 2.81 296 eP Pb 14 07 13.4 -0.7
4.2nm,0.2s
KUU eS Sb 14 07 52.1 +3.2
58nm,0.7s
KUU Kurty 2.81 296 Pg Pb 14 07 13.4 -0.7
4.2nm,0.2s
KUU Lg Lg 14 07 52.1
58nm,0.7s
KST Kastek 2.87 278 eP Pb 14 07 14.6 -0.5
10nm,0.4s
KST eS Sg 14 07 53.7 -1.7
57nm,0.6s
KST Kastek 2.87 278 Pg Pb 14 07 14.6 -0.5
10nm,0.4s
KST Lg Lg 14 07 53.7
57nm,0.6s
BOOM Boomskoye usch 2.88 267 ⇑iP Pn 14 07 11.3 +1.1
baz=68
BOOM ⇑iS Sn 14 07 47.3 +1.9
baz=68
DGS Degeres 3.03 282 eP Pb 14 07 17.4 -0.5
47nm,0.5s
DGS eS Sb 14 07 58.4 +3.2
62nm,0.6s
DGS Degeres 3.03 282 Pg Pb 14 07 17.4 -0.5
47nm,0.5s
DGS Lg Lg 14 07 58.4
62nm,0.6s
TKM2 Tokmak 2 3.13 275 ⇑eP Pn 14 07 14.8 +1.3
baz=77
TKM2 ⇑iS Sn 14 07 53.7 +2.3
baz=77
TKM2 Tokmak 2 3.13 275 ⇑Pn Pn 14 07 15.7 +2.1
6.6nm,0.6s
TKM2 ⇑Lg Lg 14 08 00.2
29nm,0.7s
KRBS Karabastau 3.20 289 eP Pb 14 07 19.6 -1.1
4.0nm,0.2s
KRBS eS Sb 14 08 02.2 +2.2
26nm,0.4s
KRBS Karabastau 3.20 289 Pg Pb 14 07 19.6 -1.1
4.0nm,0.2s
KRBS Lg Lg 14 08 02.2
26nm,0.4s
KBK Karagaybulak 3.60 271 ⇑iP Pn 14 07 21.4 +1.3
baz=72
KBK ⇑iS Sn 14 08 05.0 +1.8
baz=72
CHMS Chumysh 3.75 276 ⇑eP Pn 14 07 23.5 +1.6
baz=77
CHMS ⇑iS Sn 14 08 08.4 +1.8
baz=77
CHMS Chumysh 3.75 276 ⇑Pg Pb 14 07 30.1 +0.1
5.2nm,0.5s
CHMS ⇓Lg Lg 14 08 19.5
18nm,0.7s
AAK Ala-Archa 3.94 271 ⇑eP Pn 14 07 26.1 +1.4
baz=72
AAK ⇑iS Sn 14 08 13.0 +1.6
baz=72

USP Ospenovka 3.96 280 ⇓eP Pn 14 07 26.3 +1.5
baz=81
USP ⇓iS Sn 14 08 13.5 +1.9
baz=81
UCH Uchtor 3.97 265 ⇑eP Pn 14 07 26.3 +1.0
baz=66
UCH ⇑iS Sn 14 08 13.5 +1.0
baz=66
MAKZ Makanchi 4.38 20 ⇓Pn Pn 14 07 31.2 +0.6
1.4nm,0.3s
MAKZ ⇓Sn Sn 14 08 21.4 -0.6
4.2nm,0.5s
MAKZ ⇑Lg Lg 14 08 37.5
8.3nm,0.8s
MK31 Makanchi Array 4.45 22 ⇓Pn Pn 14 07 31.8 +0.3
0.8nm,0.2s,baz=201,slow=13,SNR=130
MK31 ⇑Sn Sn 14 08 24.2 +0.4
1.5nm,0.2s,baz=111,slow=33,SNR=5.6
MK31 ⇑Lg Lg 14 08 41.4
14nm,0.6s,baz=206,slow=27,SNR=7.7
MKAR Makanchi Array 4.45 22 Pn Pn 14 07 31.8 +0.3
1.8nm,0.3s,baz=200,slow=13,SNR=68
MKAR Sn Sn 14 08 23.2 -0.5
2.3nm,0.3s,baz=202,slow=24,SNR=6.3
MKAR Lg Lg 14 08 39.1
3.0nm,0.3s,baz=193,slow=26,SNR=7.6
ZSN Zaisan 5.93 35 eP Pb 14 08 07.8 +0.6
2.2nm,0.5s
ZSN eS Sb 14 09 24.9 +6.3
14nm,0.9s
ZSN Zaisan 5.93 35 Pg Pb 14 08 07.8 +0.6
2.2nm,0.5s
ZSN Lg Lg 14 09 24.9
14nm,0.9s
OTUK Ortayu 7.64 319 ⇑Pn Pn 14 08 15.6 +0.3
1.5nm,0.6s
OTUK ⇓Sn Sn 14 09 42.6 +0.2
3.3nm,0.9s
OTUK ⇑Lg Lg 14 10 22.6
7.4nm,0.8s
KURBB Kurchatov Arra 7.97 354 ⇑Pn Pn 14 08 18.1 -1.7
0.8nm,0.5s
KURBB ⇓Lg Lg 14 10 35.4
12nm,0.8s
KURK Kurchatov 8.06 354 ⇑Pn Pn 14 08 18.7 -2.3
1.3nm,0.6s
KURK ⇓Lg Lg 14 10 34.9
6.4nm,0.8s
ZALV Zalesovo Beam 11.72 15 Pn Pn 14 09 11.2 0.0
0.2nm,0.3s,baz=203,slow=12,SNR=3.5
ZALV Sn Sn 14 11 18.1 -4.4
0.3nm,0.3s,baz=206,slow=22,SNR=3.7
TORD Torodi Ar. Bea 72.52 272 P P 14 17 48.7 -2.9
0.3nm,0.6s,baz=44,slow=6.4,SNR=2.3

*IDC **18** 14:13:47.6±1.2, 14°.30S×166°.08E, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/28, mbtmp4.1/8, ML4.1/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/62, Error ellipse: s-maj=35.7km s-min=24.9km az=117.0*
*NEIC **18** 14:13:49.0±1.4, 14°.24S±0°.09×166°.19E±0°.09, h8km±5km, mb4.7/36, Error ellipse: s-maj=16.0km s-min=9.7km az=220.0*
*NOU **18** 14:13:51.9, 14°.48S×166°.15E, h0km, MLv4.6/10, Vanuatu Islands*
ISC 18 14:13:52.5±0.6, 14°.31S±0°.08×166°.15E±0°.09, h35km, n60, σ0s73/62, mb4.6/24, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	Saraoutou	1.52	138	Pn	Pn	14 14 16.9	-0.3
SANVU	Saraoutou	1.52	138	P	Pn	14 14 17.2	0.0
KOUNC	Koumac, New Ca	6.46	196		Pn	14 15 25.1	0.0
KOUNC	Koumac, New Ca	6.46	196	P	Pn	14 15 25.8	+0.7
DZM	Mont Dzumac	7.73	178	Pn	Pn	14 15 42.6	0.0
	0.8nm,0.3s,baz=0.7,slow=18,SNR=15						
DZM				Sn	Sn	14 17 09.1	+0.1
	0.2nm,0.3s,baz=107,slow=19,SNR=1.9						
DZM	Mont Dzumac	7.73	178		Pn	14 15 42.3	-0.3
DZM	Mont Dzumac	7.73	178	P	Pn	14 15 42.7	+0.1
YATNC	Mamie plateau,	7.74	175	P	Pn	14 15 43.9	+1.1
NOUC	Port Laguerre	7.75	179	P	Pn	14 15 43.6	+0.7
HNR	Honiara	7.77	308	Pn	Pn	14 15 42.9	-0.2
	12nm,0.3s,baz=81,slow=18,SNR=2.0						
ONTNC	Ouen Toro	7.96	178	Pn	Pn	14 15 46.8	+1.0
OUENC	Ouen Island, N	8.09	175	Pn	Pn	14 15 48.7	+1.1
OUENC	Ouen Island, N	8.09	175	P	Pn	14 15 48.3	+0.7
PINNC	Pines Island,	8.35	172	Pn	Pn	14 15 52.0	+0.9
PINNC	Pines Island,	8.35	172	P	Pn	14 15 52.0	+0.9
MSVF	Nonsavu	11.94	108	LR	LR	14 20 22.5	
	comp=Z,252nm,19.6s,baz=29,slow=33						
STKA	Stephens Creek	28.46	228	P	P	14 19 45.0	+0.7
	5.6nm,0.8s,baz=40,slow=8.1,SNR=18						
STKA	Stephens Creek	28.46	228	P	P	14 19 44.8	+0.6
WB0	Warramunga Arr	30.82	255	P	P	14 20 04.0	-1.3
WRA	Warramunga Arr	30.88	255	P	P	14 20 04.0	-2.0
	0.6nm,0.7s,baz=84,slow=9.3,SNR=4.7						
WRA				PcP	PcP	14 23 03.2	+0.9
	0.7nm,0.9s,baz=87,slow=2.6,SNR=3.8						
ASAR	Alice Springs	31.82	248	P	P	14 20 12.3	-1.8
	0.5nm,0.8s,baz=77,slow=9.6,SNR=9.5						
ASAR				PcP	PcP	14 23 05.0	+0.2
	0.6nm,0.9s,baz=73,slow=3.1,SNR=4.8						
BBOO	Buckleboo	32.99	231	P	P	14 20 24.9	+0.5
BBOO				IAmb	IAmb	14 20 25.6	
	comp=Z,10nm,0.9s						
RAR	Rarotonga	33.12	107	P	P	14 20 24.6	-1.0
FITZ	Fitzroy Crossi	39.03	259	P	P	14 21 15.6	-0.5
PSA00	Pilbara Seismi	44.51	254	P	P	14 22 00.8	-0.2
NWAO	Narrogin (SRO)	48.04	238	P	P	14 22 27.8	-0.8
MORW	Morawa	48.48	244	P	P	14 22 31.0	-1.0
MORW				IAmb	IAmb	14 22 32.6	
	comp=Z,6.8nm,0.9s						
CMAR	Chiang Mai Arr	73.79	294	P	P	14 25 25.1	+1.3
	comp=Z,2.8nm,1.1s,baz=116,slow=4.4,SNR=7.9						
CHTO	Chiang Mai	73.92	295	P	P	14 25 25.6	+1.0
BILL	Bilibino	82.12	0	P	P	14 26 09.4	+0.4
RC01	Rabbit Creek A	82.90	20	P	P	14 26 13.9	+0.7
RC01				IAmb	IAmb	14 26 34.0	
	comp=Z,6.0nm,1.1s						
PWL	Port Wells	83.20	21	P	P	14 26 15.2	+0.3
PPLA	Purkeypile	83.49	18	P	P	14 26 16.1	-0.3
PPLA				IAmb	IAmb	14 26 28.7	
	comp=Z,11nm,1.4s						
J20K	Nowinta River	83.92	16	P	P	14 26 19.5	+1.0
J20K				IAmb	IAmb	14 26 44.6	
	comp=Z,6.4nm,1.3s						
SCM	Sheep Creek Mo	84.24	20	P	P	14 26 20.9	+0.7
KTH	Kantishna Hill	84.36	18	P	P	14 26 20.8	0.0
KTH				IAmb	IAmb	14 26 21.1	
	comp=Z,3.5nm,0.9s						
TRF	Thorofare Moun	84.47	18	P	P	14 26 21.4	-0.1
TRF				IAmb	IAmb	14 26 22.0	
	comp=Z,4.4nm,1.0s						
RND	Reindeer	84.88	19	P	P	14 26 23.5	+0.1
RND				IAmb	IAmb	14 26 25.0	
	comp=Z,7.1nm,1.0s						
WAX	Waxell Ridge	84.89	23	P	P	14 26 24.1	+0.6
ISLE	Juniper Island	85.18	23	P	P	14 26 25.2	+0.2
VRDI	Verde Repeater	85.18	22	P	P	14 26 25.4	+0.3
VRDI				IAmb	IAmb	14 26 43.4	
	comp=Z,9.7nm,1.3s						
BWN	Browne	85.25	18	P	P	14 26 25.4	+0.2
IMAR	Indian Mountai	85.44	15	P	P	14 26 26.8	+0.7
TABL	Table Mountain	85.53	23	P	P	14 26 27.7	+0.8
BARN	Barnard Glacie	85.73	23	P	P	14 26 27.8	-0.1
BARN				IAmb	IAmb	14 26 29.3	
	comp=Z,6.0nm,1.0s						
BCPM	Bancas Point	85.81	24	P	P	14 26 26.9	-1.2
WRH	Wood River Hil	85.89	18	P	P	14 26 28.1	-0.2
WRH				IAmb	IAmb	14 26 29.5	
	comp=Z,3.9nm,0.9s						
CCB	Clear Creek Bu	86.10	18	P	P	14 26 29.3	0.0
MDM	Murphy Dome	86.20	18	P	P	14 26 29.7	-0.2
MDM				IAmb	IAmb	14 26 30.6	
	comp=Z,4.7nm,1.0s						
RIDG	Independent Ri	86.39	20	P	P	14 26 31.2	+0.3
RIDG				IAmb	IAmb	14 26 32.3	
	comp=Z,3.6nm,0.8s						
IL31		86.46	18	P	P	14 26 31.2	+0.1
IL31				IAmb	IAmb	14 26 32.4	
	comp=Z,3.7nm,0.9s						
ILAR	Eielson Array	86.46	18	P	P	14 26 31.3	+0.2
	comp=Z,2.2nm,0.8s,baz=233,slow=6.2,SNR=19						
ILAR	Eielson Array	86.46	18	P	P	14 26 30.9	-0.3
DOT	Dot Lake	86.59	20	P	P	14 26 32.0	+0.2
DOT				IAmb	IAmb	14 26 33.3	
	comp=Z,3.1nm,0.9s						
J25K	Salcha River,	86.82	19	P	P	14 26 33.4	+0.4
J25K				IAmb	IAmb	14 26 34.5	
	comp=Z,3.8nm,0.8s						
SCRK	Sand Creek	86.83	20	P	P	14 26 33.4	+0.2
EGAK	Eagle	88.29	20	P	P	14 26 40.0	+0.1
EGAK				IAmb	IAmb	14 26 56.4	
	comp=Z,3.8nm,1.2s						
TOLK	Toolik Lake Re	88.52	15	P	P	14 26 42.3	+1.2
TOLK				IAmb	IAmb	14 26 43.3	
	comp=Z,3.9nm,1.1s						
MKAR	Makanchi Array	96.15	317	P	P	14 27 17.0	+0.2
	comp=Z,0.2nm,0.7s,baz=87,slow=6.1,SNR=2.7						
ARCES	ARCESS Array B	119.57	345	PKP	PKPdf	14 32 38.0	-0.1
	comp=Z,2.9nm,0.9s,baz=72,slow=2.9,SNR=2.0						

*DJA **18** 14:27:47.8±2.8, 5°.5S±14°.9×94°.4E±2°.0, h10km, M5.1/14, mB5.6/7, mb4.9/14, MLv5.3/3, Mw(mB)5.1/7*
*IDC **18** 14:27:54.6±1.6, 5°.16S×94°.11E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/48, mbtmp3.7/8, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/75, Error ellipse: s-maj=46.6km s-min=24.0km az=57.0*
*NEIC **18** 14:27:57.7±1.4, 5°.07S±0°.07×94°.2E±0°.1, h15km±4km, mb4.1/15, Error ellipse: s-maj=14.7km s-min=10.6km az=90.0*
ISC 18 14:27:56.4±0.7, 5°.10S±0°.09×94°.29E±0°.09, h10km, n54, σ1s05/50, mb3.9/12, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	Saibi	6.08	52	P	Pn	14 29 27.7	+1.2
	2.7nm10μm576nm,0.6s						
PPSI	Pulau Pagai	6.16	68	P	Pn	14 29 26.9	-0.7
	0.9nm4μm208nm,0.6s						
GSI	Gunungsitoli	7.16	27		Pn	14 29 40.5	-0.7
GSI	Gunungsitoli	7.16	27	P	Pn	14 29 41.4	+0.1
	0.2nm50nm,0.6s						
COCO	West Island	7.48	161	Pn	Pn	14 29 46.3	+0.5
KRJI	Kerinci	7.76	68	P	Pn	14 29 48.8	-0.8
MNSI	Mandailing Nat	7.89	42	P	Pn	14 29 52.4	+1.1
	8μm93nm,0.7s						
MASI	Maura Aman, Be	8.17	77	P	Pn	14 29 54.2	-1.0
	47nm,0.9s						
BKNI	Bangkinang	8.63	52	P	Pn	14 30 03.0	+1.5
	2μm127nm,0.9s						
MNAI	Manna	8.67	86	Pn	Pn	14 30 04.0	+1.9
RPSI	Rantau Prapat	9.02	31		Pn	14 30 07.6	+0.8
PSI	Prapat	9.11	31	Pn	Pn	14 30 07.6	-0.6
	1.4nm,0.3s,baz=196,slow=8.3,SNR=7.8						
KCSI	Kotacane, Aceh	9.24	22	P	Pn	14 30 07.2	-2.7
	17nm,1.0s						
RGRI	Rengat	9.32	60	P	Pn	14 30 11.8	+0.9
TSI	Tuntungan	9.55	27	P	Pn	14 30 13.4	-0.7
	45nm,1.2s						
LWLI	Liwa	9.73	90	P	Pn	14 30 15.9	-0.9
	43nm,0.7s						
KASI	Kota Agung	10.18	93	P	Pn	14 30 22.5	-0.2
	19nm,0.5s						
DSRI	Dabo	11.25	66	P	Pn	14 30 36.9	-0.6
IPM	Ipoh	11.65	35		Pn	14 30 43.1	+0.1
MYKOM	Kota Tinggi	11.75	55		Pn	14 30 44.5	+0.2
KULM	Kulim	12.12	32		Pn	14 30 49.3	0.0
LEM	Lembang	13.37	98	LR	LR	14 36 19.1	
	comp=Z,190nm,18.7s,baz=252,slow=37						
KSM	Kuching	17.28	68	P	Pn	14 31 59.5	+1.4
KSM				IAmb	IAmb	14 32 03.6	
	comp=Z,20nm,0.8s						
PALK	Pallekele	18.30	312	P	P	14 32 12.3	+1.6
	comp=Z,0.8nm,0.3s,baz=226,slow=9.6,SNR=6.6						
PALK				S	Sn	14 35 22.6	-13
	comp=Z,0.3nm,0.3s,baz=289,slow=4.6,SNR=1.7						
PALK	Pallekele	18.30	312	P	Pn	14 32 11.2	+0.6
PALK				IAmb	IAmb	14 32 24.7	
	comp=Z,14nm,1.2s						
SBUM	Sibu	19.42	68		P	14 32 25.1	+2.0
SBUM				IAmb	IAmb	14 32 27.3	
	comp=Z,19nm,1.3s						
H08S2	Diego Garcia H	21.80	262	T	T	14 54 20.2	
	baz=84,slow=74,SNR=6.4						
H08S3	Diego Garcia H	21.81	262	T	T	14 54 13.4	
	baz=84,slow=74,SNR=8.3						
H08S1	Diego Garcia H	21.82	262	T	T	14 54 18.3	
	baz=84,slow=74,SNR=6.4						
UBPT	Khong Chiam	23.08	29	P	P	14 33 03.0	+0.5
CM31	Chiang Mai Arr	23.85	11	P	P	14 33 10.4	+0.3
CM31				IAmb	IAmb	14 33 12.3	
	comp=Z,4.0nm,1.0s						
CMAR	Chiang Mai Arr	23.85	11	P	P	14 33 11.3	+1.2
	comp=Z,1.9nm,0.7s,baz=200,slow=9.8,SNR=15						
CMAR	Chiang Mai Arr	23.85	11	P	P	14 33 10.1	0.0
WRA	Warramunga Arr	41.65	114	P	P	14 35 45.5	0.0
	comp=Z,0.2nm,0.7s,baz=286,slow=9.4,SNR=1.4						
WRAB	Tennant Creek	41.66	114	P	P	14 35 45.1	-0.4
WRAB				IAmb	IAmb	14 35 54.0	
	comp=Z,7.6nm,1.5s						
WB2	Warramunga Arr	41.66	114	P	P	14 35 45.1	-0.5
WB2				IAmb	IAmb	14 36 13.5	
	comp=Z,3.2nm,1.1s						
WR0	Warramunga Arr	41.84	114	P	P	14 35 47.0	0.0
WR0				IAmb	IAmb	14 36 05.5	
	comp=Z,2.8nm,1.1s						
ASAR	Alice Springs	42.37	120	P	P	14 35 52.6	+1.3
	comp=Z,0.2nm,0.9s,baz=291,slow=7.8,SNR=2.7						
SOCY	Socotra	43.59	293	P	P	14 36 02.5	+1.1
SOCY				IAmb	IAmb	14 36 22.2	
	comp=Z,14nm,1.4s						
MK31	Makanchi Array	52.75	350	P	P	14 37 10.9	-0.6
MKAR	Makanchi Array	52.75	350	P	P	14 37 11.4	-0.1
	comp=Z,0.2nm,0.6s,baz=152,slow=9.8,SNR=2.8						
SONM	Songino Array	53.77	10	P	P	14 37 19.9	+0.7
	comp=Z,0.9nm,0.6s,baz=188,slow=8.8,SNR=6.4						
SONM	Songino Array	53.77	10	P	P	14 37 19.4	+0.2
SONM				IAmb	IAmb	14 37 24.7	
	comp=Z,2.2nm,1.4s						
JHS	Saijyo	54.08	39	P	P	14 37 19.4	-2.2
ZAA0	Zalesovo Array	59.36	354	P	P	14 37 57.6	-1.1
ZALV	Zalesovo Beam	59.36	354	P	P	14 37 58.1	-0.6
	comp=Z,2.3nm,0.5s,baz=180,slow=7.4,SNR=9.9						
ZALV	Zalesovo Beam	59.36	354	P	P	14 37 57.8	-0.9
ABKAR	Akbulak array	61.82	335	P	P	14 38 15.4	-0.2
BRTR	Keskin Array B	71.31	315	P	P	14 39 16.2	-0.5
	comp=Z,0.5nm,0.6s,baz=114,slow=6.5,SNR=2.9						
BRTR	Keskin Array B	71.31	315	P	P	14 39 15.6	-1.1
FIA1	FINESS Array S	84.24	333	P	P	14 40 27.6	-0.4
FINES	FINESS Array B	84.25	333	P	P	14 40 27.5	-0.6
ARCES	ARCESS Array B	87.47	341	P	P	14 40 41.6	-2.3
TXAR	Lajitas Array	150.51	33	PKPbc	PKPbc	14 47 49.0	-0.3
	comp=Z,0.1nm,0.3s,baz=250,slow=2.7,SNR=4.4						

*IDC **18** 14:46:28.2±6.1, 35°.12N×136°.50E, h176km±119km, mb3.1/2, mb1 3.4/2, mb1mx2.6/48, mbtmp3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/22, Error ellipse: s-maj=154.9km s-min=66.1km az=39.0*
*JMA **18** 14:46:29.3±0.2, 36°.13N×137°.23E, h262km±3km, M2.8*
ISC 18 14:46:29.5±1.4, 36°.1N±0°.1×137°.2E±0°.1, h261km±9km, n13, σ0s36/14, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	Niukaw	0.13	39	P	Pn	14 47 03.3	+0.2
JYTA	Yamagatataniai	0.65	217	P	Pn	14 47 04.1	-0.1
JYTA				eS	S	14 47 31.0	-0.5
JKG	Kaga	0.73	283	P	Pn	14 47 04.6	+0.2
MAT	Matsushiro	0.91	62	P	Pn	14 47 05.4	+0.2
MJAR	Matsushiro Arr	0.91	62	P	Pn	14 47 05.1	-0.1
	0.7nm,0.3s,baz=233,slow=6.4,SNR=21						
MJAR				S	S	14 47 33.7	+0.3
	0.1nm,0.3s,baz=225,slow=20,SNR=4.9						
JWT	Wachi	1.69	241	P	Pn	14 47 10.1	-0.3
JIE	Ise	1.77	194	P	Pn	14 47 11.6	+0.5
JAG	Ashikaga	1.84	80	P	Pn	14 47 11.6	+0.1
JSD	Sado	2.09	23	P	Pn	14 47 13.8	+0.2
JHO	Hitachi	2.75	79	P	Pn	14 47 19.7	-0.4
SIJI	Sorong	37.21	190	LR	LR	15 08 31.7	
	comp=Z,23nm,18.8s,baz=90,slow=37						
WRA	Warramunga Arr	55.82	183	P	P	14 55 39.6	-0.3
	0.4nm,0.3s,baz=0.7,slow=7.6,SNR=4.8						
ASAR	Alice Springs	59.54	184	P	P	14 56 06.1	+0.4
	0.4nm,0.9s,baz=359,slow=5.9,SNR=2.1						

*IDC **18** 14:46:49.0±2.3,6˚.08S×147˚.74E,h45km±19km,mb3.9/9, mb1 4.0/12,mb1mx3.7/35,mbtmp4.1/12,ML4.1/2,MS3.8/1, Ms1 3.8/1,ms1mx2.9/62,Error ellipse: s-maj=34.1km s-min=17.0km az=103.0*

*NEIC **18** 14:46:53.0±1.8,6˚.23S±0˚.09×147˚.6E±0˚.1,h70km±6km, mb4.1/23,Error ellipse: s-maj=17.8km s-min=9.5km az=128.0*

*DJA **18** 14:46:55.4±0.4,7˚S±5˚×14˚9E±˚,h10km,M4.5/6,mB4.5/2, mb4.5/6,MLv4.5/2,Mw(mB)3.6/2*

ISC 18 14:46:53.2±0.5,6˚25S±0˚.06×147˚59E±0˚.08,h77km,n69, σ1℘12/73,mb4.1/15,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**3.17**	**188**	P		**Pn**	**14 47 39.8**	**-1.0**
	16nm,0.3s,baz=16,slow=7.3,SNR=47							
PMG				S		**Sn**	**14 48 15.9**	**-1.6**
	27nm,0.3s,baz=32,slow=19,SNR=6.8							
PMG	**Port Moresby**	**3.17**	**188**	P		**Pn**	**14 47 40.3**	**-0.5**
KRVT	**Keravat (AS076**	**4.82**	**67**	P		**Pn**	**14 48 03.9**	**+0.6**
	4.6nm,0.3s,baz=191,slow=6.1,SNR=6.7							
RABL	**Rabaul**	**4.99**	**66**			**Pn**	**14 48 04.9**	**-0.7**
RABL	**Rabaul**	**4.99**	**66**	P		**Pn**	**14 48 07.5**	**+1.8**
COEN	**Coen**	**8.81**	**209**	Pn		**Pn**	**14 48 57.1**	**-0.7**
COEN	**Coen**	**8.81**	**209**	P		**Pn**	**14 48 57.3**	**-0.5**
MTSU	**Mount Surprise**	**12.24**	**195**	P		**Pn**	**14 49 44.8**	**+0.2**
CTA	**Charters Tower**	**13.82**	**185**	P		**Pn**	**14 50 05.0**	**-0.7**
	0.1nm,0.3s,baz=0.2,slow=18,SNR=1.9							
CTAO	**Charters Tower**	**13.82**	**185**	Pn		**Pn**	**14 50 04.8**	**-0.9**
QIS	**Mount Isa**	**16.20**	**208**	P		**Pn**	**14 50 36.7**	**+0.5**
KDU	**Kakadu**	**16.22**	**246**	P		**Pn**	**14 50 35.8**	**-0.7**
MTN	**Manton Dam**	**17.50**	**247**			**Pn**	**14 50 51.5**	**-0.8**
MTN				IAmb		IAmb	14 51 06.4	
	comp=Z,18nm,1.4s							
MTN	**Manton Dam**	**17.50**	**247**	P		**P**	**14 50 53.4**	**+1.0**
WB0	**Warramunga Arr**	**18.58**	**222**	P		**P**	**14 51 03.6**	**-0.6**
WB0				IAmb		IAmb	14 51 31.1	
	comp=Z,9.3nm,1.1s							
WR0	**Warramunga Arr**	**18.62**	**222**	P		**P**	**14 51 04.2**	**-0.4**
WR0				IAmb		IAmb	14 51 32.8	
	comp=Z,6.7nm,0.8s							
WRAB	**Tennant Creek**	**18.73**	**222**	P		**P**	**14 51 05.5**	**-0.4**
WRAB	**Tennant Creek**	**18.73**	**222**	P		**P**	**14 51 05.9**	**0.0**
WB2	**Warramunga Arr**	**18.73**	**222**	P		**P**	**14 51 05.6**	**-0.3**
WB2				IAmb		IAmb	14 51 33.3	
	comp=Z,7.9nm,0.9s							
WRA	**Warramunga Arr**	**18.74**	**222**	P		**P**	**14 51 05.6**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=47,slow=11,SNR=93							
WRA				PcP		**PcP**	**14 55 31.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=45,slow=2.1,SNR=4.2							
WRA				ScP		**ScP**	**14 59 02.9**	**+2.7**
	comp=Z,0.0nm,0.3s,baz=50,slow=2.6,SNR=2.8							
WRA	**Warramunga Arr**	**18.74**	**222**	P		**P**	**14 51 05.7**	**-0.3**
EIDS	**Eidsvold**	**19.31**	**170**	P		**P**	**14 51 13.0**	**+0.8**
EIDS				IAmb		IAmb	14 51 16.2	
	comp=Z,19nm,1.3s							
RMQ	**Roma**	**20.16**	**177**	P		**P**	**14 51 22.8**	**+1.4**
QLP	**Quilpie**	**20.48**	**189**	P		**P**	**14 51 25.8**	**+1.0**
KNRA	**Kununurra**	**20.71**	**242**	P		**P**	**14 51 26.8**	**-0.6**
KNRA				IAmb		IAmb	14 51 46.2	
	comp=Z,8.9nm,0.8s							
KNRA	**Kununurra**	**20.71**	**242**	P		**P**	**14 51 27.7**	**+0.3**
AS31	**Alice Springs**	**21.75**	**216**			**P**	**14 51 38.6**	**0.0**
ASAR	**Alice Springs**	**21.76**	**216**	P		**P**	**14 51 38.9**	**+0.2**
	comp=Z,4.2nm,0.5s,baz=51,slow=8.9,SNR=191							
ASAR				PcP		**PcP**	**14 55 36.9**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=45,slow=2.6,SNR=4.1							
ASAR				ScP		**ScP**	**14 59 10.8**	**+3.5**
	comp=Z,1.1nm,1.0s,baz=46,slow=4.0,SNR=5.5							
ASAR	**Alice Springs**	**21.76**	**216**			**P**	**14 51 38.3**	**-0.3**
SANI	**Sanana**	**21.94**	**280**	P		**P**	**14 51 42.9**	**+2.3**
INKA	**Innaminka**	**22.34**	**196**	P		**P**	**14 51 45.1**	**+0.3**
BATI	**Baumata**	**24.00**	**259**	P		**P**	**14 52 02.7**	**+1.6**
	comp=Z,23nm,0.7s,baz=51,slow=1.1,SNR=5.0							
OOD	**Oodnadatta**	**24.23**	**206**	P		**P**	**14 52 03.5**	**+0.6**
ARMA	**Armidale**	**24.34**	**172**	P		**P**	**14 52 04.8**	**+0.8**
ARMA				IAmb		IAmb	14 52 18.8	
	comp=Z,11nm,1.1s							
ARMA	**Armidale**	**24.34**	**172**	P		**P**	**14 52 06.4**	**+2.4**
FITZ	**Fitzroy Crossi**	**24.44**	**239**	P		**P**	**14 52 05.5**	**+0.6**
	comp=Z,5.6nm,0.5s,baz=57,slow=7.8,SNR=40							
FITZ	**Fitzroy Crossi**	**24.44**	**239**	P		**P**	**14 52 05.5**	**+0.6**
FITZ				IAmb		IAmb	14 52 24.4	
	comp=Z,10.0nm,0.8s							
CMSA	**Cobar Meteorol**	**25.23**	**184**	P		**P**	**14 52 13.6**	**+1.7**
MMRI	**Maumere**	**25.25**	**263**	P		**P**	**14 52 12.5**	**+0.1**
LCRK	**Leigh Creek**	**25.64**	**199**	P		**P**	**14 52 16.5**	**+0.8**
STKA	**Stephens Creek**	**26.11**	**192**	P		**P**	**14 52 20.2**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=355,slow=9.4,SNR=10							
STKA	**Stephens Creek**	**26.11**	**192**	P		**P**	**14 52 20.3**	**+0.4**
WRKA	**Warakurna**	**26.28**	**223**	P		**P**	**14 52 21.6**	**0.0**
MULG	**Mulgathing**	**27.09**	**206**	P		**P**	**14 52 29.1**	**+0.3**
HTT	**Hallett**	**28.22**	**195**	P		**P**	**14 52 40.7**	**+1.8**
BBOO	**Buckleboo**	**28.53**	**201**	P		**P**	**14 52 41.9**	**+0.3**
BBOO				IAmb		IAmb	14 53 08.6	
	comp=Z,5.5nm,1.1s							
BBOO	**Buckleboo**	**28.53**	**201**	P		**P**	**14 52 43.7**	**+2.1**
FORT	**Forrest**	**30.52**	**215**	P		**P**	**14 52 59.9**	**+0.6**
MBWA	**Marble Bar**	**30.78**	**238**	P		**P**	**14 53 01.5**	**-0.1**
MBWA				IAmb		IAmb	14 53 03.5	
	comp=Z,4.3nm,0.8s							
PSA00	**Pilbara Seismi**	**30.86**	**238**	P		**P**	**14 53 02.8**	**+0.4**
PSA00				IAmb		IAmb	14 53 03.1	
	comp=Z,3.9nm,0.7s							
KKM	**Kota Kinabalu**	**33.61**	**291**	P		**P**	**14 53 26.2**	**-0.5**
MEEK	**Meekatharra**	**34.25**	**230**	P		**P**	**14 53 32.4**	**+0.4**
KLBR	**Kellerberrin**	**37.60**	**224**	P		**P**	**14 54 00.6**	**0.0**
JOW	**Kunigami**	**37.84**	**331**	P		**P**	**14 54 02.2**	**-0.3**
GSI	**Gunungsitoli**	**50.49**	**277**	P		**P**	**14 55 43.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**53.88**	**298**	P		**P**	**14 56 11.4**	**+2.4**
	comp=Z,0.6nm,0.3s,baz=99,slow=5.6,SNR=1.8							
PETK	**Petropavlovsk-**	**59.75**	**7**	P		**P**	**14 56 48.7**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=158,slow=7.0,SNR=5.1							
PETK				LR		LR	15 17 25.4	
	comp=Z,89nm,21.8s,baz=246,slow=31							
SONM	**Songino Array**	**64.90**	**331**	P		**P**	**14 57 24.4**	**-0.2**
	comp=Z,1.8nm,1.1s,baz=141,slow=7.1,SNR=6.8							
SONM	**Songino Array**	**64.90**	**331**	IAmb		IAmb	14 57 25.2	
	comp=Z,3.6nm,1.3s							
MK31	**Makanchi Array**	**78.06**	**320**	P		**P**	**14 58 42.6**	**-1.0**
MKAR	**Makanchi Array**	**78.06**	**320**	P		**P**	**14 58 42.3**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=90,slow=7.4,SNR=6.6							
ZALV	**Zalesovo Beam**	**79.53**	**328**	P		**P**	**14 58 49.2**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=70,slow=4.9,SNR=4.8							
IMAR	**Indian Mountai**	**83.51**	**21**	P		**P**	**14 59 12.0**	**-0.3**
QSPA	**South Pole Qui**	**83.72**	**180**	P		**P**	**14 59 13.5**	**-0.1**
QSPA				IAmb		IAmb	14 59 39.9	
	comp=Z,3.2nm,0.9s							
ILAR	**Eielson Array**	**85.47**	**23**	P		**P**	**14 59 19.8**	**-2.5**
	comp=Z,0.4nm,0.8s,baz=263,slow=5.2,SNR=5.6							
TORD	**Torodi Ar. Bea**	**145.72**	**284**	PKPbc		**PKPdf**	**15 06 23.3**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=57,slow=3.3,SNR=21							
TORD	**Torodi Ar. Bea**	**145.72**	**284**			**PKPbc**	**15 06 24.1**	**-0.3**
DBIC	**Dimbokro**	**152.62**	**272**	PKPbc		**PKiKP**	**15 06 42.4**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=74,slow=1.9,SNR=3.9							
DBIC	**Dimbokro**	**152.62**	**272**			**PKPbc**	**15 06 41.7**	**-0.3**

*NEIC **18** 14:54:54.7±1.1,32˚.55S±0˚.04×71˚.44W±0˚.10,h43km±6km, Error ellipse: s-maj=11.8km s-min=6.6km az=90.0*

*GUC **18** 14:54:55.2±0.6,32˚.60S×71˚.37W,h46km±1km,ML3.7*

ISC 18 14:54:55.0±1.2,32˚57S±0˚.02×71˚44W±0˚.05,h41km±7km, n43,σ0♦86/62,7C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA06	**Catapilco**	**0.12**	**87**	Pn		**Pn**	**14 55 01.8**	**0.0**
VA06				Sn		**Sn**	**14 55 06.5**	**0.0**
VA06	**Catapilco**	**0.12**	**87**	⇑*e*P		**Pn**	**14 55 01.8**	**0.0**
VA06				*e*S		**Sn**	**14 55 06.6**	**0.0**
VA06				IAML			14 55 07.6	
	comp=E,12μm,0.3s							
VA01	**Torpederas**	**0.48**	**201**	Pn		**Pn**	**14 55 05.6**	**+0.1**
VA01				Sn		**Sn**	**14 55 13.2**	**+0.3**
VA01	**Torpederas**	**0.48**	**201**	⇑*i*P		**Pn**	**14 55 05.7**	**+0.1**
VA01				*e*S		**Sn**	**14 55 13.7**	**+0.7**
VA01				IAML			14 55 15.2	
	comp=E,9μm,0.1s							
MT02	**Curacav**	**0.73**	**160**	Pn		**Pn**	**14 55 08.3**	**-0.6**
VA03	**San Esteban**	**0.78**	**105**	Pn		**Pn**	**14 55 08.9**	**-0.7**
VA03	**San Esteban**	**0.78**	**105**	⇓*i*P		**Pn**	**14 55 09.0**	**-0.7**
VA03				*e*S		**Sn**	**14 55 19.2**	**-1.0**
VA03				IAML			14 55 21.4	
	comp=E,4μm,0.2s							
MT05	**Renca**	**1.01**	**144**	Pn		**Pn**	**14 55 12.6**	**-0.2**
MT05	**Renca**	**1.01**	**144**	⇑*i*P		**Pn**	**14 55 12.7**	**-0.1**
MT05				*e*S		**Sn**	**14 55 25.7**	**-0.2**
MT05				IAML			14 55 27.2	
	comp=E,4μm,0.3s							
VA05	**Santo Domingo**	**1.09**	**187**	Pn		**Pn**	**14 55 13.9**	**+0.1**
VA05	**Santo Domingo**	**1.09**	**187**	⇓*e*P		**Pn**	**14 55 14.1**	**+0.3**
VA05				*e*S		**Sn**	**14 55 28.7**	**+0.9**
VA05				IAML			14 55 33.0	
	comp=N,3μm,0.2s							
MT03	**Universidad Ad**	**1.21**	**140**	Pn		**Pn**	**14 55 15.7**	**+0.1**
MT03	**Universidad Ad**	**1.21**	**140**	⇑*i*P		**Pn**	**14 55 15.7**	**+0.1**
MT03				*e*S		**Sn**	**14 55 31.4**	**+0.6**
MT03				IAML			14 55 32.2	
	comp=N,6μm,0.2s							
FCH	**Farellones**	**1.23**	**128**	⇓*i*P		**Pn**	**14 55 15.9**	**-0.1**
FCH				*e*S		**Sn**	**14 55 31.9**	**+0.3**
FCH				IAML			14 55 33.9	
	comp=E,2μm,0.2s							
MT09	**Talagante**	**1.26**	**163**	Pn		**Pn**	**14 55 16.5**	**+0.2**
MT09	**Talagante**	**1.26**	**163**	⇑*i*P		**Pn**	**14 55 16.6**	**+0.3**
MT09				*e*S		**Sn**	**14 55 32.8**	**+0.6**
MT09				IAML			14 55 35.9	
	comp=N,1μm,0.4s							
MT01	**Popeta**	**1.30**	**173**	Pn		**Pn**	**14 55 17.3**	**+0.6**
CO02	**Combarbal**	**1.41**	**16**	Pn		**Pn**	**14 55 17.9**	**-0.4**
CO02	**Combarbal**	**1.41**	**16**	⇑*i*P		**Pn**	**14 55 18.0**	**-0.4**
CO02				*e*S		**Sn**	**14 55 36.1**	**+0.3**
CO02				IAML			14 55 37.8	
	comp=E,6μm,0.4s							
BO04	**La Punta**	**1.58**	**154**	Pn		**Pn**	**14 55 20.8**	**+0.2**
BO04	**La Punta**	**1.58**	**154**	*e*P		**Pn**	**14 55 21.1**	**+0.6**
BO04				*e*S		**Sn**	**14 55 41.2**	**+1.4**
BO04				IAML			14 55 43.2	
	comp=E,1μm,0.4s							
CO03	**El Pedregal**	**1.84**	**21**	Pn		**Pn**	**14 55 24.1**	**-0.1**
CO03	**El Pedregal**	**1.84**	**21**	⇓*e*P		**Pn**	**14 55 24.4**	**+0.2**
CO03				*e*S		**Sn**	**14 55 46.9**	**+0.6**
CO03				IAML			14 55 54.1	
	comp=E,1μm,0.3s							
BO01	**Tunca**	**1.84**	**171**	Pn		**Pn**	**14 55 22.8**	**-1.3**
BO01	**Tunca**	**1.84**	**171**	⇓*e*P		**Pn**	**14 55 24.5**	**+0.4**
BO01				*e*S		**Sn**	**14 55 47.3**	**+1.1**
CO06	**Fray Jorge**	**1.90**	**355**			**Pn**	**14 55 23.6**	**-1.2**
CO06	**Fray Jorge**	**1.90**	**355**	⇑*i*P		**Pn**	**14 55 23.8**	**-1.1**
CO06				*e*S		**Sn**	**14 55 47.2**	**-0.3**
CO06				IAML			14 55 56.8	
	comp=E,653nm,0.3s							
BO03	**Pichilemu**	**1.97**	**193**	⇓*e*P		**Pn**	**14 55 25.2**	**-0.6**
BO03				*e*S		**Sn**	**14 55 47.9**	**-1.5**
GO04	**Tololo Observa**	**2.45**	**13**	Pn		**Pn**	**14 55 32.2**	**-0.5**
GO04	**Tololo Observa**	**2.45**	**13**	*e*P		**Pn**	**14 55 32.5**	**-0.2**
GO04				*e*S		**Sn**	**14 56 01.3**	**-0.2**
GO04				IAML			14 56 13.7	
	comp=N,2μm,0.5s							
GO05	**Huala**	**2.47**	**189**	Pn		**Pn**	**14 55 31.8**	**-0.9**
CO05	**La Serena**	**2.65**	**4**	Pn		**Pn**	**14 55 35.6**	**+0.5**
CO05	**La Serena**	**2.65**	**4**	*e*P		**Pn**	**14 55 37.4**	**+2.2**
CO05				*e*S		**Sn**	**14 56 08.7**	**+2.7**
CO05				IAML			14 56 21.4	
	comp=E,434nm,0.5s							
CO01	**Juntas del Tor**	**2.83**	**24**	Pn		**Pn**	**14 55 37.7**	**-0.3**
CO01	**Juntas del Tor**	**2.83**	**24**	*e*P		**Pn**	**14 55 38.8**	**+0.9**
CO01				*e*S		**Sn**	**14 56 12.0**	**+1.1**
CO01				IAML			14 56 28.1	
	comp=E,155nm,0.3s							
LCO	**Las Campanas**	**3.60**	**10**	Pn		**Pn**	**14 55 47.8**	**-0.8**
AC04	**Llanos de Chal**	**4.36**	**4**	Pn		**Pn**	**14 55 58.1**	**-0.6**
BI05	**Punta Hualpn**	**4.41**	**199**	Pn		**Pn**	**14 55 57.7**	**-1.7**
GO03	**Copiap**	**5.07**	**12**	Pn		**Pn**	**14 56 07.3**	**-1.3**
AC06	**Mina Casimiro**	**5.28**	**11**	Pn		**Pn**	**14 56 10.5**	**-0.8**
AC02	**Maricunga**	**6.06**	**20**	Pn		**Pn**	**14 56 21.1**	**-1.3**
LC01	**Cunco**	**6.33**	**183**	Pn		**Pn**	**14 56 24.9**	**-0.8**
AC01	**Pan de Azucar**	**6.44**	**7**	Pn		**Pn**	**14 56 26.0**	**-1.3**

*BJI **18** 15:29:52.4±0.0, 12˚.82N×92˚.31E,h38km,mb4.3/26, mB4.7/15*

*IDC **18** 15:29:54.0±0.5, 12˚.93N×92˚.50E,h34km±3km, mb4.1/24, mb1 4.1/26,mb1mx3.9/67,mbtmp4.2/26,ML3.8/2,MS3.5/5, Ms1 3.5/5,ms1mx3.0/89,Error ellipse: s-maj=15.2km s-min=10.2km az=57.0*

*NDI **18** 15:29:53.0±3.6, 12˚.98N×92˚.32E,h10km,ML4.3, mb4.7(NEIC)*

*NEIC **18** 15:29:54.9±1.7, 12˚.95N±0˚.06×92˚.33E±0˚.08,h37km±6km, mb4.7/55,Error ellipse: s-maj=12.1km s-min=9.4km az=87.0*

ISC 18 15:29:53.6±0.3, 13˚02N±0˚.04×92˚32E±0˚.05,h31km, h31km:pP-P,n132,σ1℘87/150,mb4.5/55,MS3.5/3,1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PBA	**Port Blair**	**1.41**	**163**	Pn		**Pb**	**15 30 18.0**	**-1.4**
PBA	**Port Blair**	**1.41**	**163**	*e*P		**Pb**	**15 30 17.9**	**-1.4**
PBA				*e*S		**Sb**	**15 30 39.0**	**+2.0**
PBA				IAML			15 30 40.3	
	comp=N,3μm,0.3s							
PBA				IAML			15 30 41.6	
	comp=E,3μm,0.4s							
CM31	**Chiang Mai Arr**	**8.36**	**49**	Pn		**Pn**	**15 31 54.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**8.36**	**49**	Pn		**Pn**	**15 31 51.3**	**-1.5**
	comp=E,0.3nm,0.3s,baz=239,slow=15,SNR=9.4							
CMAR				Sn		**Sn**	**15 33 19.8**	**-6.4**
	comp=E,0.5nm,0.3s,baz=239,slow=29,SNR=7.8							
CMAR	**Chiang Mai Arr**	**8.36**	**49**	Pn		**Pn**	**15 31 55.0**	**+2.3**
SRIT	**Nakonsritamara**	**8.40**	**121**	Pn		**Pn**	**15 31 54.0**	**+0.8**
CHTO	**Chiang Mai**	**8.59**	**47**	Pn		**Pn**	**15 31 57.5**	**+1.6**
MDRS	**Chennai**	**11.76**	**272**	*e*P		**Pn**	**15 32 41.4**	**+2.0**
MDRS				*e*S		**Sn**	**15 34 40.9**	**-8.7**
MDRS				IAML			15 34 45.8	
	comp=N,459nm,0.3s							
PSI	**Prapat**	**12.07**	**147**	LR		LR	15 37 43.2	
	comp=N,181nm,18.4s,baz=274,slow=39							
IPM	**Ipoh**	**12.08**	**134**	Pn		**Pn**	**15 32 45.3**	**+1.5**
SHL	**Shillong**	**12.49**	**358**	*e*P		**Pn**	**15 32 47.7**	**-1.8**
SHL				*e*S		Sn	15 34 59.5	-8.2
TURI	**Tura**	**12.61**	**352**	*e*S		Sn	15 35 02.4	-7.9
TURI				IAML			15 35 05.1	
	comp=N,40nm,0.6s							
KOHI	**KOHIMA**	**12.75**	**7**	*e*P		**Pn**	**15 32 52.1**	**-0.9**
KOHI				IAmb		IAmb	15 33 05.5	
	comp=Z,48nm,1.3s							
KOHI				*e*S		**Sn**	**15 35 06.4**	**-7.6**
PALK	**Pallekele**	**12.78**	**245**	Pn		**Pn**	**15 32 55.5**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=156,slow=12,SNR=6.5							
PALK				Sn		Sn	15 35 02.9	-12
	comp=Z,2.8nm,0.3s,baz=78,slow=20,SNR=5.2							
PALK				LR		LR	15 37 44.0	
	comp=Z,160nm,18.8s,baz=143,slow=36							
PALK	**Pallekele**	**12.78**	**245**	Pn		**Pn**	**15 32 54.0**	**+0.7**
DHUB	**DHUBRI**	**13.12**	**351**	*e*P		**Pn**	**15 32 58.8**	**+0.9**
DHUB				IAmb		IAmb	15 32 59.5	
	comp=Z,10nm,0.8s							
DHUB				*e*S		Sn	15 35 13.3	-9.5
MOKO	**MOKOCHONG**	**13.40**	**9**	*e*S		**Sn**	**15 35 24.3**	**-5.5**
MOKO				IAML			15 35 32.8	
	comp=E,16nm,0.4s							
HYB	**Hyderabad**	**13.98**	**290**	*e*S		**Sn**	**15 35 36.8**	**-7.3**
HYB				IAML			15 35 55.3	
	comp=E,20nm,0.7s							
HYBB	**Hyderabad (bro**	**13.98**	**290**	*e*Pn		**Pn**	**15 33 11.0**	**+1.2**
HYBB				*es*Pn		**sPn**	**15 33 24.2**	**+3.9**
HYBB				*e*Sn		**Sn**	**15 35 46.7**	**+2.6**
HYBB				IVMsBB			15 36 42.7	
	comp=Z,70nm,5.1s							
PCHI	**Peechi**	**15.83**	**263**	*e*P		**P**	**15 33 36.1**	**-1.8**
PCHI				*e*S		Sn	15 36 16.9	-12
PKI	**Pulchoki**	**15.86**	**337**	*e*P		**Pn**	**15 33 36.1**	**+1.1**
	comp=Z,11nm,0.5s							
PKIN	**Phulchoki**	**15.87**	**337**	*e*P		**Pn**	**15 33 36.8**	**+1.8**
	comp=Z,17nm,0.5s							
MYKOM	**Kota Tinggi**	**15.96**	**133**	P		**P**	**15 33 39.0**	**-0.4**
GUN	**Gumba**	**15.99**	**339**	*e*P		**P**	**15 33 39.1**	**-0.9**
	comp=Z,7.6nm,0.4s							
DMN	**Daman**	**16.01**	**336**	*e*P		**Pn**	**15 33 37.7**	**+0.8**
	comp=Z,15nm,0.5s							
PZH	**PanZhiHua**	**16.07**	**32**	P		**P**	**15 33 41.6**	**+1.0**
PZH				S		**Sn**	**15 36 35.9**	**+0.9**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,130nm,5.7s							
GKN	**Gorkha**	**16.55**	**335**	*e*P		**Pn**	**15 33 45.2**	**+1.6**
KOLN	**Koldanda**	**16.79**	**332**	*e*P		**Pn**	**15 33 47.6**	**+0.9**
	comp=Z,24nm,0.5s							
DANN	**Dangsing**	**17.22**	**334**	*e*P		**P**	**15 33 53.9**	**+0.4**
	comp=Z,12nm,0.4s							
PYUN	**Piuthan**	**17.35**	**331**	*e*P		**Pn**	**15 33 54.3**	**+0.6**
	comp=Z,10.0nm,0.4s							
GOMU	**GeErMu**	**23.19**	**5**	P		**P**	**15 34 55.8**	**-2.4**
GOMU				pmax		pmax		
	comp=Z,2.0nm,0.5s							
GOMU				pmax		pmax		
	comp=Z,32nm,3.6s							
ENH	**Enshi**	**23.39**	**40**	P		**P**	**15 34 58.8**	**-1.1**
ENH				IAmb		IAmb	15 35 10.2	
	comp=Z,12nm,0.8s							
XAN	**Xi'an**	**25.81**	**33**	P		**P**	**15 35 21.5**	**-0.6**
XAN				pP		pP	15 35 31.3	+0.4
XAN				sP		sP	15 35 35.8	+1.2
XAN				pmax		pmax		
	comp=Z,19nm,0.8s							
GTA	**Gaotai**	**27.11**	**13**	⇑P		**P**	**15 35 35.8**	**+1.8**
GTA				pP		sP	15 35 45.8	-0.8
GTA				sP		pP	15 35 50.3	+7.4
GTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
H08S3	**Diego Garcia H**	**28.44**	**225**	T		T	16 05 27.8	
	baz=44,slow=76,SNR=65							
H08S2	**Diego Garcia H**	**28.45**	**225**	T		T	16 05 26.7	
	baz=44,slow=76,SNR=73							
H08S1	**Diego Carcia H**	**28.46**	**225**	T		T	16 05 29.0	
	baz=44,slow=76,SNR=68							
KSH	**Kashi**	**30.09**	**334**	P		**P**	**15 36 01.3**	**+0.9**
KSH				pP		pP	15 36 11.3	+2.3
KSH				PcP		**PcP**	**15 39 03.1**	**+1.4**
NJ2	**Nanjing**	**30.84**	**48**	*e*P		**P**	**15 36 09.1**	**+2.1**
NJ2				pmax		pmax		
	comp=Z,4.0nm,0.5s							
WMQ	**Urumqi**	**30.95**	**353**	*e*P		**P**	**15 36 11.1**	**+3.1**
GAR	**Garm**	**32.39**	**327**	P		**P**	**15 36 22.0**	**+1.3**
GAR				IAmb		IAmb	15 36 23.9	
	comp=Z,14nm,1.1s							
HHC	**Hu-ho-hao-te**	**32.45**	**28**	*e*P		**P**	**15 36 25.6**	**+4.4**
HHC				pmax		pmax		
	comp=Z,14nm,0.9s							
HHC				pmax		pmax		
	comp=Z,220nm,4.9s							
LUWI	**Luwuk**	**33.28**	**113**	P		**P**	**15 36 26.8**	**-1.9**
AAK	**Ala-Archa**	**33.31**	**336**	LR		LR	15 51 52.0	
	comp=Z,74nm,18.8s,baz=104,slow=39							
MK31	**Makanchi Array**	**34.71**	**348**	P		**P**	**15 36 41.8**	**+1.1**
MK31				IAmb		IAmb	15 36 58.1	
	comp=Z,4.7nm,0.9s							
MKAR	**Makanchi Array**	**34.71**	**348**	P		**P**	**15 36 42.2**	**+1.4**
	comp=Z,3.8nm,0.8s,baz=163,slow=8.6,SNR=41							
MKAR				pP		**sP**	**15 36 51.9**	**-1.3**
	comp=Z,3.6nm,0.8s,baz=168,slow=8.2,SNR=16							
MKAR				PcP		**PcP**	**15 39 14.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=165,slow=2.5,SNR=4.3							
MKAR	**Makanchi Array**	**34.71**	**348**	P		**P**	**15 36 41.8**	**+1.1**
MAKZ	**Makanchi**	**34.79**	**348**	P		**P**	**15 36 42.4**	**+1.0**
KKAR	**Karatay Array**	**35.40**	**332**	P		**P**	**15 36 46.2**	**-0.5**
SONM	**Songino Array**	**36.65**	**16**	P		**P**	**15 36 58.6**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=202,slow=7.3,SNR=23							

TOO	**Toolangi**	**70.83**	**138**	P		**P**	**15 41 07.2**	**-0.3**
TOO				IAmb		IAmb	15 41 25.6	
	comp=Z,14nm,1.4s							
ARMA	**Armidale**	**71.52**	**128**	P		**P**	**15 41 12.3**	**+0.3**
ARMA				IAmb		IAmb	15 41 35.8	
	comp=Z,16nm,1.4s							
CAN	**Canberra**	**72.00**	**134**	P		**P**	**15 41 14.1**	**-0.5**
BILL	**Bilibino**	**72.02**	**22**	P		**P**	**15 41 14.7**	**+0.5**
GERES	**GERESS Array B**	**72.84**	**317**	P		**P**	**15 41 20.5**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=91,slow=6.7,SNR=7.7							
GERES				pP		**sP**	**15 41 31.3**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=114,slow=3.2,SNR=3.0							
NB2	**NORSAR Subarra**	**74.40**	**330**	P		**P**	**15 41 28.8**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=90,slow=5.9							
NOA	**NORSAR Array B**	**74.40**	**330**	P		**P**	**15 41 28.6**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=91,slow=5.9,SNR=5.0							
NOA				pP		**pP**	**15 41 39.4**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=91,slow=5.7,SNR=2.7							
SPB2	**Spitsbergen Ar**	**74.47**	**348**	P		**P**	**15 41 28.7**	**+0.3**
SPITS	**Spitsbergen Ar**	**74.47**	**348**	P		**P**	**15 41 28.9**	**+0.4**
	comp=Z,16nm,1.2s,baz=79,slow=7.6,SNR=9.8							
BOSA	**Boshof**	**76.86**	**236**	P		**P**	**15 41 44.4**	**+1.2**
	comp=Z,3.1nm,0.6s,baz=115,slow=3.8,SNR=8.2							
BOSA	**Boshof**	**76.86**	**236**	P		**P**	**15 41 42.7**	**-0.4**
BOSA				IAmb		IAmb	15 41 46.9	
	comp=Z,10nm,1.4s							
ESDC	**Sonseca Array**	**86.56**	**310**	P		**P**	**15 42 34.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=73,slow=4.3,SNR=2.6							
EUNU	**Eureka**	**87.08**	**360**	P		**P**	**15 42 36.3**	**+0.4**
EUNU				IAmb		IAmb	15 42 43.1	
	comp=Z,4.0nm,1.2s							
IMAR	**Indian Mountai**	**87.57**	**22**	P		**P**	**15 42 38.9**	**+0.4**
TOA0	**Torodi Ar. Sit**	**87.69**	**283**			**P**	**15 42 41.0**	**+1.0**
TOA0				IAmb		IAmb	15 42 52.7	
	comp=Z,4.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**87.69**	**283**	P		**P**	**15 42 40.7**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=85,slow=4.9,SNR=8.6							
TORD				pP		**sP**	**15 42 52.0**	**-1.2**
	comp=Z,1.4nm,1.0s,baz=67,slow=4.8,SNR=5.1							
TORD	**Torodi Ar. Bea**	**87.69**	**283**			**P**	**15 42 40.8**	**+0.8**
TORD				IAmb		IAmb	15 42 41.9	
	comp=Z,2.5nm,0.9s							
TOLK	**Toolik Lake Re**	**87.71**	**19**	P		**P**	**15 42 39.7**	**+0.6**
TOLK				IAmb		IAmb	15 42 40.6	
	comp=Z,3.7nm,0.8s							
BORG	**Borgarnes**	**88.03**	**337**	LR		LR	16 23 44.1	
	comp=Z,22nm,20.2s,baz=88,slow=37							
H21K	**Melozitna Rive**	**88.07**	**22**	P		**P**	**15 42 41.7**	**+0.8**
H21K				IAmb		IAmb	15 42 55.2	
	comp=Z,5.3nm,1.4s							
J20K	**Nowinta River**	**88.24**	**24**	P		**P**	**15 42 42.6**	**+1.0**
K20K	**Telida**	**88.64**	**24**	P		**P**	**15 42 44.1**	**+0.6**
K20K				IAmb		IAmb	15 42 46.4	
	comp=Z,3.3nm,0.9s							
H23K	**Yukon River**	**89.16**	**21**	P		**P**	**15 42 46.9**	**+0.9**
H23K				IAmb		IAmb	15 42 48.0	
	comp=Z,4.3nm,1.1s							
CAST	**Castle Rocks**	**89.40**	**24**	P		**P**	**15 42 48.1**	**+0.9**
CAST				IAmb		IAmb	15 42 49.1	
	comp=Z,5.2nm,0.8s							
BPAW	**Bear Paw Mtn.**	**89.50**	**23**	P		**P**	**15 42 48.3**	**+0.7**
BPAW				IAmb		IAmb	15 42 49.8	
	comp=Z,5.8nm,1.0s							
I23K	**Minto, Yukon-K**	**89.58**	**22**	P		**P**	**15 42 49.0**	**+1.1**
I23K				IAmb		IAmb	15 42 50.4	
	comp=Z,1.9nm,0.7s							
PPLA	**Purkeypile**	**89.61**	**24**	P		**P**	**15 42 48.4**	**+0.1**
H24K	**Noodor Dome**	**89.74**	**21**	P		**P**	**15 42 49.4**	**+0.7**
MDM	**Murphy Dome**	**90.08**	**22**	P		**P**	**15 42 50.7**	**+0.4**
MDM				IAmb		IAmb	15 42 51.3	
	comp=Z,3.7nm,1.0s							
ILAR	**Eielson Array**	**90.67**	**22**	P		**P**	**15 42 52.5**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=301,slow=4.5,SNR=10.0							
ILAR				pP		**pP**	**15 43 03.6**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=290,slow=4.7,SNR=3.6							
M22K	**Willow**	**91.02**	**25**	P		**P**	**15 42 54.8**	**+0.2**
A36M	**Sachs Harbour**	**91.59**	**11**	P		**P**	**15 42 57.5**	**+0.4**
A36M				IAmb		IAmb	15 42 58.3	
	comp=Z,4.8nm,0.7s							
BRLK	**Bradley Lake**	**91.68**	**27**	P		**P**	**15 42 57.9**	**+0.1**
SCRK	**Sand Creek**	**92.16**	**22**	P		**P**	**15 43 00.5**	**+0.4**
SCRK				IAmb		IAmb	15 43 01.4	
	comp=Z,2.7nm,0.8s							
MENT	**Mentasta**	**92.87**	**22**	P		**P**	**15 43 04.1**	**+0.8**
MENT				IAmb		IAmb	15 43 05.5	
	comp=Z,2.6nm,0.7s							
PDAR	**Pinedale Array**	**120.97**	**19**	PKP		**PKPdf**	**15 48 43.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=254,slow=1.6,SNR=2.3							
NVAR	**Mina Array Bea**	**121.35**	**28**	PKP		**PKiKP**	**15 48 45.5**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=300,slow=2.3,SNR=7.5							
TXAR	**Lajitas Array**	**135.16**	**20**	PKP		**PKiKP**	**15 49 12.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=343,slow=0.9,SNR=2.7							
PLCA	**Paso Flores**	**148.57**	**205**	PKPbc		**PKPbc**	**15 49 38.0**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=50,slow=4.6,SNR=5.1							

*IDC **18** 16:00:22.1±2.2,50°.21S×112°.49E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/20,mbtmp3.8/4,Error ellipse: s-maj=108.1km s-min=22.2km az=104.0*
*NEIC **18** 16:00:24±0.7,50°.3S±0°.2×112°.5E±0°.5,h11km±6km, mb4.3/13, Error ellipse: s-maj=50.7km s-min=12.9km az=113.0*
ISC 18 16:00:23.1±1.5,**50°.2S**±0°.2×**112°.3E**±0°.4,**h10**km,**n22,**
σ0s35/18, mb4.2/10, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.36**	**6**	T	T	16 19 43.3	
	baz=183,slow=74,SNR=185						
H01W1	**Cape Leeuwin H**	**15.36**	**6**	T	T	16 19 44.8	
	baz=183,slow=74,SNR=229						
H01W3	**Cape Leeuwin H**	**15.37**	**6**	T	T	16 19 45.2	
	baz=183,slow=74,SNR=217						
ASAR	**Alice Springs**	**31.39**	**40**	P	**P**	**16 06 43.8**	**-0.4**
	0.4nm,0.5s,baz=206,slow=8.3,SNR=14						
ASAR				PcP	**PcP**	**16 09 36.9**	**-0.8**
	0.1nm,0.6s,baz=199,slow=2.0,SNR=1.4						
AS31	**Alice Springs**	**31.39**	**40**	P	**P**	**16 06 43.8**	**-0.4**
VNDA	**Vanda**	**33.01**	**162**	P	**P**	**16 06 57.6**	**-0.2**
	1.2nm,0.7s,baz=290,slow=10,SNR=7.8						
VNDA	**Vanda**	**33.01**	**162**	IAmb	IAmb	16 07 06.3	
	comp=Z,2.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**33.77**	**23**	P	**P**	**16 07 05.1**	**+0.2**
WRA	**Warramunga Arr**	**34.90**	**38**	P	**P**	**16 07 14.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=203,slow=11,SNR=17						
WRA	**Warramunga Arr**	**34.90**	**38**	IAmb	IAmb	16 07 15.6	
	comp=Z,0.3nm,1.4s						
WB2	**Warramunga Arr**	**34.90**	**38**	P	**P**	**16 07 14.6**	**-0.2**
WB2				IAmb	IAmb	16 07 26.4	
	comp=Z,8.3nm,1.5s						
WRAB	**Tennant Creek**	**34.91**	**38**	P	**P**	**16 07 14.9**	**0.0**
WRAB				IAmb	IAmb	16 07 42.6	
	comp=Z,6.0nm,1.4s						
WR0	**Warramunga Arr**	**34.96**	**38**	P	**P**	**16 07 15.5**	**+0.2**
WR0				IAmb	IAmb	16 07 42.5	
	comp=Z,4.3nm,1.4s						
WB0	**Warramunga Arr**	**35.08**	**38**	P	**P**	**16 07 16.3**	**0.0**
WB0				IAmb	IAmb	16 07 33.5	
	comp=Z,5.3nm,1.2s						
KNRA	**Kununurra**	**36.93**	**27**	P	**P**	**16 07 32.9**	**+0.7**
EIDS	**Eidsvold**	**38.77**	**65**	P	**P**	**16 07 47.8**	**+0.2**
EIDS				IAmb	IAmb	16 07 48.3	
	comp=Z,7.1nm,1.1s						
QSPA	**South Pole Qui**	**39.92**	**180**	P	**P**	**16 07 57.5**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=295,slow=1.4,SNR=4.2						
MTN	**Manton Dam**	**40.32**	**29**	P	**P**	**16 08 00.8**	**+0.1**
BELA	**Belgrano 2**	**50.57**	**189**	P	**P**	**16 09 21.0**	**-0.2**
BELA				IAmb	IAmb	16 09 45.2	
	comp=Z,6.3nm,1.4s						
TXAR	**Lajitas Array**	**145.84**	**114**	PKPbc	**PKPab**	**16 20 03.0**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=193,slow=3.6,SNR=2.5						
PDAR	**Pinedale Array**	**150.55**	**88**	PKPbc	**PKPbc**	**16 20 14.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=235,slow=3.2,SNR=2.9						
YKA	**Yellowknife Ar**	**151.94**	**46**	PKPbc	**PKiKP**	**16 20 17.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=283,slow=2.0,SNR=12						

*KRSZO **18** 16:31:49.5±1.1,45°.32N×17°.75E,h10km±6km, Error ellipse: s-maj=6.3km s-min=3.1km az=131.0*
RHSSO 18 16:31:50.4±0.3,**45°.29N**×**17°.82E,h3**km,**ML1.7/6,1C,**
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
A252A	**Venje**	**0.15**	**7**	*e*Pg	Pg	16 31 53.1	-0.3
A252A					Sg	16 31 55.7	+0.3
BLY	**Banja Luka**	**0.70**	**220**	*e*Pg	Pg	16 32 03.1	-0.8
BLY				*e*Sg	Sg	16 32 12.7	-0.3
BLY	**Banja Luka**	**0.70**	**220**	Lg	Lg	16 32 12.8	
A051A	**Mrakovica**	**0.70**	**247**	*e*Pg	Pg	16 32 03.0	-0.9
A051A				*e*Sg	Sg	16 32 12.6	-0.4
MOSL	**Moslavina**	**0.82**	**294**	*e*Pg	Pg	16 32 04.3	-1.8
MOSL				Sg	Sg	16 32 15.6	-1.1
KOVH	**Kovagotottos**	**0.83**	**14**	Pg	Pg	16 32 06.0	-0.3
	SNR=2.0						
KOVH				Lg	Lg	16 32 17.0	
KOVH	**Kovagotottos**	**0.83**	**14**	P	Pg	16 32 06.0	-0.3
KOVH				S	Sg	16 32 17.0	+0.1
MGRS	**Mrkonjic Grad**	**1.02**	**211**	*e*Pg	Pg	16 32 08.8	-1.1
MGRS				*e*Sg	Sg	16 32 23.1	+0.1
MORH	**Mrgy, Hungar**	**1.09**	**31**	*e*Pg	Pg	16 32 10.1	-1.2
MORH				*e*Sg	Sg	16 32 25.0	-0.5
MORH	**Mrgy, Hungar**	**1.09**	**31**	Pg	Pg	16 32 11.1	-0.2
	SNR=2.8						
MORH				Sg	Sb	16 32 26.3	-0.3
MORH	**Mrgy, Hungar**	**1.09**	**31**	P	Pg	16 32 11.1	-0.2
MORH				S	Sb	16 32 26.3	-0.3
A050A	**Klekovaca**	**1.22**	**229**	↑*i*Pg	Pg	16 32 12.6	-1.2
A050A				*e*Sg	Sg	16 32 29.2	-0.4
FRGS	**Fruska Gora**	**1.41**	**95**	*e*Pg	Pn	16 32 15.6	-1.4
FRGS				*e*Sg	Sg	16 32 35.2	-0.5
PTJ	**Puntijarka**	**1.44**	**296**	*e*Pg	Pn	16 32 15.8	-1.7
KUJV	**Kijevo**	**1.63**	**219**	*e*Pg	Pn	16 32 18.4	-1.7
KUJV				Sg	Sn	16 32 38.8	-2.8
DIVS	**Divibare**	**1.95**	**127**	*e*Sn	Sn	16 32 48.9	-0.6
MORI	**Morici**	**2.07**	**228**	*e*Pn	Pn	16 32 25.5	-0.6
MORI				Sn	Sn	16 32 50.1	-2.3

LJU 18 16:32:07.3, 45°.86N×15°.21E, h3km, ML0.6, 1D,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEGS	**Legarje**	**0.12**	**39**	↓*i*Pg	Pg	16 32 09.2	-0.5
LEGS				*i* Sg	Sg	16 32 11.5	+0.2
CRES	**Cresnjev**	**0.17**	**100**	*e*Pg	Pg	16 32 10.4	-0.3
CRES				*i* Sg	Sg	16 32 13.4	+0.4
CRES				IAML		16 32 14.2	
	comp=Z,6.2nm,0.1s						
PDKS	**Podkum**	**0.25**	**324**	*i* Pg	Pg	16 32 12.4	+0.2
PDKS				*i* Sg	Sg	16 32 16.0	+0.5
PDKS				IAML		16 32 16.6	
	comp=Z,8.9nm,0.1s						
GOLS	**Golise**	**0.33**	**62**	*i* Pg	Pg	16 32 13.9	+0.3
GOLS				*i* Sg	Sg	16 32 18.5	+0.6
GOLS				IAML		16 32 19.4	
	comp=Z,3.8nm,0.2s						

*IDC **18** 16:51:11.2±1.5,28°.02S×64°.20E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.6/54,mbtmp3.7/8,Error ellipse: s-maj=50.1km s-min=27.0km az=32.0*
ISC 18 16:51:12.7±1.6,**28°.1S**±0°.4×**64°.2E**±0°.2,**h10**km,**n12,**
σ0s85/9, mb3.8/8, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**42.78**	**112**	T	T	17 44 54.0	
	baz=265,slow=74,SNR=9.3						
H01W3	**Cape Leeuwin H**	**42.78**	**112**	T	T	17 44 54.1	
	baz=265,slow=74,SNR=7.9						
H01W1	**Cape Leeuwin H**	**42.80**	**112**	T	T	17 44 58.0	
	baz=265,slow=74,SNR=8.2						
CMAR	**Chiang Mai Arr**	**57.19**	**40**	P	**P**	**17 00 59.6**	**-0.5**
	0.9nm,0.7s,baz=229,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**62.12**	**103**	P	**P**	**17 01 34.4**	**+0.1**
	0.9nm,0.6s,baz=250,slow=6.3,SNR=35						
WRA	**Warramunga Arr**	**63.84**	**100**	P	**P**	**17 01 45.8**	**0.0**
	0.7nm,0.6s,baz=250,slow=6.0,SNR=9.3						
TORD	**Torodi Ar. Bea**	**73.03**	**295**	P	**P**	**17 02 43.3**	**0.0**
	0.5nm,0.6s,baz=113,slow=5.2,SNR=4.0						
MKAR	**Makanchi Array**	**76.29**	**13**	P	**P**	**17 03 00.7**	**-0.8**
	0.2nm,0.6s,baz=208,slow=6.9,SNR=2.4						
KURBB	**Kurchatov Arra**	**79.37**	**9**	P	**P**	**17 03 18.8**	**+0.4**
	0.2nm,0.5s,baz=198,slow=6.5,SNR=2.2						
ZALV	**Zalesovo Beam**	**83.61**	**12**	P	**P**	**17 03 40.1**	**-0.8**
	0.3nm,0.5s,baz=190,slow=5.9,SNR=2.4						
SONM	**Songino Array**	**84.54**	**27**	P	**P**	**17 03 47.4**	**+1.5**
	0.3nm,0.6s,baz=202,slow=7.3,SNR=2.2						
YKA	**Yellowknife Ar**	**145.56**	**359**	PKPbc	**PKPdf**	**17 10 49.8**	**-0.7**
	0.8nm,0.7s,baz=345,slow=3.4,SNR=16						

*IDC **18** 16:53:37.5±1.4,32°.64N×130°.68E,h0km,mb3.1/2, mb1 3.4/4,mb1mx3.1/53,mbtmp3.1/4,ML2.6/2,Error ellipse: s-maj=38.8km s-min=9.9km az=105.0*
*NIED **18** 16:53:39.6,32°.71N×130°.70E,h15km,MW3.6,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}0.59; $M_{\theta\theta}$2.09; $M_{\phi\phi}$-2.68; $M_{r\theta}$-1.17; $M_{\theta\phi}$1.97; $M_{\phi r}$-0.08; Fault plane solution: $M_0$3.34000×10^{14} NP1: ϕ_s203.00000°,δ70.00000°,λ167.00000°. NP2: ϕ_s298.00000°,δ78.00000°,λ20.00000°.*
*JMA **18** 16:53:39.5,32°.71N×130°.70E,h15km±1km,M3.8 Broadband fault plane solution: P waves. NP1: ϕ_s301.00000°,δ79.00000°,λ16.00000°. NP2: ϕ_s208.00000°,δ75.00000°,λ168.00000°. Principal axes: T Plg19.0000°, Azm165.0000°; N Plg71.0000°, Azm335.0000°; P Plg3.0000°, Azm74.0000°;*
JMA Felt IV J1.
ISC 18 16:53:40.2±1.1,**32°.68N**±0°.06×**130°.66E**±0°.10,**h12**km±8km,
n7,σ1s79/10, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.18**	**135**	↑P	**Pg**	**16 53 43.9**	**-0.4**
JIU3				S	**Sg**	**16 53 47.2**	**0.0**
JTA	**Tamana**	**0.30**	**340**	↑P	**Pg**	**16 53 45.7**	**-0.7**
JTA				S	**Sg**	**16 53 49.9**	**-0.6**
JNU	**Nakatsue**	**0.48**	**23**	Pg	**Pg**	**16 53 47.8**	**-1.8**
	299nm,0.3s,baz=187,slow=9.7,SNR=244						
JNU				Lg	Lg	16 53 53.8	
	2µm,0.3s,baz=291,slow=9.3,SNR=71						
KSRS	**Korea Array**	**5.26**	**336**	Pn	**Pn**	**16 54 58.2**	**-0.3**
	0.2nm,0.3s,baz=155,slow=14,SNR=1.8						
KSRS				Pg	**Pb**	**16 55 15.1**	**+3.0**
	1.5nm,0.3s,baz=150,slow=17,SNR=10						
KSRS				Lg	Lg	16 56 20.9	
	1.7nm,0.3s,baz=161,slow=31,SNR=5						
MJAR	**Matsushiro Arr**	**7.32**	**56**	Pn	**Pn**	**16 55 28.0**	**+1.2**
	0.1nm,0.3s,baz=244,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**52.44**	**176**	P	**P**	**17 02 51.5**	**-1.2**
	0.3nm,0.8s,baz=354,slow=7.7,SNR=2.0						
ASAR	**Alice Springs**	**56.12**	**176**	P	**P**	**17 03 17.7**	**-1.7**
	0.3nm,1.0s,baz=358,slow=6.8,SNR=1.7						

*INET **18** 16:57:25.2±0.5, 11°.52N×85°.91W,h157km±10km,MW3.4*
*UCR **18** 16:57:27.6±1.5, 11°.33N×85°.98W,h139km±5km, MW4.0*
ISC 18 16:57:26.0±2.4,**11°.45N**±0°.08×**86°.0W**±0°.1,**h143**km±15km,
n24,σ0s62/36, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CONN	**Concepcion**	**0.42**	**74**	*e*P	**Pn**	**16 57 46.3**	**0.0**
TISN	**Laguna Tiscapa**	**0.72**	**342**	*e*P	**Pn**	**16 57 48.4**	**+0.4**
HZTE	**Horizontes, Gu**	**0.85**	**149**	*e*P	**Pn**	**16 57 49.4**	**+0.4**
HZTE				*e*S	**Sn**	**16 58 06.7**	**+0.3**
HZTE	**Horizontes, Gu**	**0.85**	**149**	*e*P	**Pn**	**16 57 49.4**	**+0.4**
GB1A	**Boringuen Arri**	**0.89**	**135**	*i* P	**Pn**	**16 57 50.0**	**+0.6**
GB1A				*i* S	**Sn**	**16 58 07.3**	**+0.2**
BUEV	**Buena Vista**	**0.90**	**136**	*i* P	**Pn**	**16 57 49.9**	**+0.5**
BUEV				*i* S	**Sn**	**16 58 07.3**	**+0.1**
COPN	**Copaltepe**	**0.91**	**323**	*e*P	**Pn**	**16 57 49.6**	**+0.2**
BOAB	**BOACO BROADBAN**	**.06**	**20**	*e*P	**Pn**	**16 57 50.4**	**-0.3**
MOMN	**Momotombo**	**1.07**	**333**	*e*P	**Pn**	**16 57 51.2**	**+0.3**
VMAR	**Armenia, Volca**	**1.10**	**125**	*e*P	**Pn**	**16 57 51.1**	**-0.1**
VMAR				*e*S	**Sn**	**16 58 09.4**	**-0.9**
HORNC	**Hornillas**	**1.12**	**131**	*i* P	**Pn**	**16 57 51.4**	**0.0**
HORNC				*i* S	**Sn**	**16 58 11.1**	**+0.5**
CUI	**Cuipilapa**	**1.17**	**132**	*i* P	**Pn**	**16 57 52.2**	**+0.4**
PTEN	**Parque Tenorio**	**1.27**	**125**	*i* P	**Pn**	**16 57 52.9**	**+0.1**
SAJU	**San Juanillo,**	**1.41**	**167**	↑*i*P	**Pn**	**16 57 54.4**	**+0.2**
SAJU				*e*S	**Sn**	**16 58 14.4**	**-1.3**
DUNO	**Dulce Nombre,**	**1.46**	**158**	*e*P	**Pn**	**16 57 55.1**	**+0.3**
JTS	**Las Juntas de**	**1.57**	**137**	*e*P	**Pn**	**16 57 55.5**	**-0.4**
JTS				*e*S	**Sn**	**16 58 18.1**	**-0.7**
CEDE	**Laguna Cedeo**	**1.62**	**126**	*i* P	**Pn**	**16 57 56.9**	**+0.4**
ARE1	**Arenal 1**	**1.63**	**127**	*e*P	**Pn**	**16 57 56.8**	**+0.3**
ARE1				*e*S	**Sn**	**16 58 20.7**	**+0.9**
COVE	**Coope Vega, Sa**	**1.76**	**114**	*e*P	**Pn**	**16 57 57.4**	**-0.6**
LAFE	**Finca La Fe, P**	**1.97**	**146**	*e*P	**Pn**	**16 58 00.7**	**+0.2**
LAFE				*e*S	**Sn**	**16 58 25.0**	**-1.9**
SRA1	**San Ramn**	**2.05**	**131**	*e*P	**Pn**	**16 58 02.7**	**+1.2**
JACO	**JACO, Garabito**	**2.23**	**142**	*i* P	**Pn**	**16 58 03.9**	**+0.3**
JACO				*e*S	**Sn**	**16 58 31.9**	**-0.5**
LCR2	**La Lucha 2**	**2.62**	**130**	*e*P	**Pn**	**16 58 08.9**	**+0.3**
LCR2				*e*S	**Sn**	**16 58 41.3**	**-0.1**
RIMA	**Rio Macho**	**2.71**	**128**	*e*P	**Pn**	**16 58 10.3**	**+0.6**
RIMA				*e*S	**Sn**	**16 58 43.5**	**+0.1**

*NEIC **18** 17:07:33.6±2.1,0°.35S±0°.06×80°.51W±0°.07,h10km±1km, mb4.5/55, Error ellipse: s-maj=12.0km s-min=9.4km az=264.0*
*VAO **18** 17:07:35.2±1.2,0°.20S×80°.28W,h10km,mb4.8*
*IDC **18** 17:07:38.8±2.1,0°.11S×80°.38W,h46km±20km,mb4.1/18, mb1 4.3/22,mb1mx4.2/35,mbtmp4.4/22,ML2.9/2,MS3.5/11, Ms1 3.5/11,ms1mx3.1/62,Error ellipse: s-maj=21.8km s-min=10.4km az=63.0*
*IGQ **18** 17:07:38±1.3,0°.5±3°×8°.0W±1°.0,h7km*
ISC 18 17:07:34.0±0.4,**0°.29S**±0°.04×**80°.61W**±0°.05,**h16**km,**n188,**
σ1s79/189, mb4.4/38, MS3.5/9, 1C-1D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.40**	**86**	P	**Pg**	**17 07 40.0**	**-2.2**
FLF1	**Flavio Alfaro-**	**0.77**	**95**	P	**Pg**	**17 07 48.0**	**-1.0**
MAG1	**Magdalena**	**0.86**	**75**	P	**Pb**	**17 07 48.0**	**-2.6**
AV18	**Acelerografo,**	**1.28**	**62**	P	**Pn**	**17 07 56.0**	**-1.3**
BV15	**Puerto Quito-O**	**1.45**	**72**	P	**Pn**	**17 07 57.0**	**-2.7**
PAC1	**Pacto, Paraso**	**1.90**	**73**	↑*e*P	**Pn**	**17 08 04.1**	**-1.8**
PAC1				*e*S	**Sn**	**17 08 27.9**	**-1.7**
PAC1				*i*		17 08 30.3	
	comp=Z,5µm,0.3s						
PAC1	**Pacto, Paraso**	**1.90**	**73**	P	**Pn**	**17 08 03.0**	**-2.9**
ACHO	**Acelerografo,**	**1.91**	**74**	P	**Pn**	**17 08 04.0**	**-2.0**
HPAL	**Hacienda Las P**	**1.96**	**88**	P	**Pn**	**17 08 04.0**	**-2.9**
GGPT	**Toaza - Volcan**	**1.99**	**88**	P	**Pn**	**17 08 05.0**	**-2.4**
PINO	**Pino**	**2.00**	**86**	P	**Pn**	**17 08 05.0**	**-2.8**
PAST	**Pastocalle**	**2.00**	**101**	P	**Pn**	**17 08 06.0**	**-1.6**
TERV	**Terraza Guagua**	**2.00**	**87**	P	**Pn**	**17 08 06.0**	**-1.7**
GGPC	**Guagua Pichinc**	**2.01**	**87**	P	**Pn**	**17 08 07.0**	**-0.9**
YANA	**Yana**	**2.04**	**85**	P	**Pn**	**17 08 07.0**	**-1.2**
CHSH	**Refugio Sur-Vo**	**2.11**	**125**	P	**Pn**	**17 08 10.0**	**+0.8**
PULU	**Pululahua**	**2.13**	**82**		**Pn**	**17 08 08.1**	**-1.3**
PULU	**Pululahua**	**2.13**	**82**	P	**Pn**	**17 08 08.0**	**-1.3**
CAMI	**Rancho Maria**	**2.14**	**100**	P	**Pn**	**17 08 09.0**	**-0.5**
BNAS	**Cotopaxi Volca**	**2.16**	**100**	P	**Pn**	**17 08 09.0**	**-0.8**
NAS2	**Nasa**	**2.17**	**99**	P	**Pn**	**17 08 10.0**	**+0.1**
PORT	**Chimborazo Vol**	**2.17**	**122**	Pn	**Pn**	**17 08 09.3**	**-0.7**
PORT	**Chimborazo Vol**	**2.17**	**122**	P	**Pn**	**17 08 09.0**	**-1.1**
TOMA	**Boca Toma-Volc**	**2.18**	**95**	P	**Pn**	**17 08 10.0**	**-0.1**
BMOR	**Cotopaxi Volca**	**2.19**	**101**	P	**Pn**	**17 08 10.0**	**-0.3**
BREF	**Cotopaxi Volca**	**2.20**	**100**	P	**Pn**	**17 08 11.0**	**+0.5**
TAMH	**Tambohuasha Ch**	**2.21**	**124**	P	**Pn**	**17 08 11.0**	**+0.5**
BVC2	**Cotopaxi Volca**	**2.22**	**99**	P	**Pn**	**17 08 11.0**	**+0.2**
BTAM	**Cotopaxi Volca**	**2.24**	**100**	P	**Pn**	**17 08 11.0**	**0.0**
VCES	**Cotopaxi**	**2.27**	**103**	P	**Pn**	**17 08 11.0**	**-0.3**
TAMB	**Tambo**	**2.27**	**100**	P	**Pn**	**17 08 11.0**	**-0.4**
CUSE	**Cuicocha Este**

CZSB	**Cruzeiro do Su**	**10.80**	**133**	*eP*	**Pn**	**17 10 08.7 +0.5**
JTS	**Las Juntas de**	**11.37**	**338**	P	**Pn**	**17 10 18.1 +2.2**
	comp=Z,2.2nm,0.3s,baz=210,slow=23,SNR=2.2					
JTS				LR	LR	17 13 33.2
	comp=Z,122nm,18.3s,baz=176,slow=31					
JTS	**Las Juntas de**	**11.37**	**338**	Pn	**Pn**	**17 10 17.9 +2.0**
SJCC	**San Jacinto, C**	**11.47**	**28**	Pn	**Pn**	**17 10 19.3 +1.9**
NNA	**Nana**	**12.20**	**162**	P	**Pn**	**17 10 30.9 +3.5**
	comp=Z,4.5nm,0.3s,baz=324,slow=15,SNR=5.8					
NNA				S	**Sn**	**17 12 48.1 +4.8**
	comp=Z,3.5nm,0.3s,baz=19,slow=23,SNR=2.8					
NNA				LR	LR	17 16 02.7
	comp=Z,68nm,20.3s,baz=281,slow=41					
NNA	**Nana**	**12.20**	**162**	Pn	**Pn**	**17 10 27.8 +0.4**
SDV	**Santo Domingo**	**13.48**	**47**	P	**Pn**	**17 10 44.2 -0.8**
	comp=Z,0.7nm,0.3s,baz=234,slow=9.5,SNR=2.8					
URIC	**Uribia, Colomb**	**14.67**	**35**	P	**Pn**	**17 11 05.0 +3.9**
ETMB	**Extrema**	**17.16**	**124**	*eP*	**Pn**	**17 11 31.1 -2.2**
LPAZ	**La Paz**	**20.10**	**143**	P	Pn	17 12 09.9 +0.2
	comp=Z,6.4nm,0.7s,baz=323,slow=8.7,SNR=31					
LPAZ				LR	LR	17 21 05.4
	comp=Z,114nm,21.3s,baz=334,slow=40					
LPAZ	**La Paz**	**20.10**	**143**	P	Pn	17 12 10.2 +0.6
LPAZ				IAmb	IAmb	17 12 15.7
	comp=Z,12nm,0.7s					
BOAV	**Boa Vista**	**20.25**	**82**	*eP*	**P**	**17 12 09.0 0.0**
PB16	**IPOC Station P**	**20.99**	**149**	P	**P**	**17 12 16.2 -1.2**
PB16				IAmb	IAmb	17 12 25.5
	comp=Z,17nm,0.8s					
PB11	**IPOC Station P**	**22.12**	**152**	P	**P**	**17 12 30.9 +1.7**
GO01	**Chusmiza**	**22.27**	**151**	P	**P**	**17 12 30.2 -0.9**
GO01				IAmb	IAmb	17 12 41.0
	comp=Z,20nm,0.8s					
CMIG	**Matias Romero**	**22.28**	**322**	P	**P**	**17 12 31.6 +0.9**
	comp=Z,3.0nm,0.3s,baz=171,slow=19,SNR=9.2					
CMIG				LR	LR	17 19 29.0
	comp=Z,83nm,18.2s,baz=163,slow=32					
TA01	**Diego Aracena**	**22.58**	**154**	P	**P**	**17 12 34.0 +0.1**
TA01				IAmb	IAmb	17 12 44.2
	comp=Z,14nm,0.8s					
PB08	**IPOC Station P**	**22.69**	**151**	P	**P**	**17 12 34.0 -1.5**
PB08				IAmb	IAmb	17 12 58.9
	comp=Z,18nm,1.1s					
SJG	**San Juan**	**23.16**	**37**	P	**P**	**17 12 38.7 -1.3**
	comp=Z,9.7nm,0.3s,baz=23,slow=16,SNR=2.1					
GCPR	**Guaynabo City**	**23.36**	**37**	P	**P**	**17 12 42.2 +0.2**
PB02	**IPOC Station P**	**23.37**	**154**	P	**P**	**17 12 38.4 -3.8**
CBYP	**Canovanas**	**23.46**	**37**	P	**P**	**17 12 43.3 +0.1**
CBYP				IAmb	IAmb	17 12 44.5
	comp=Z,15nm,0.8s					
MTP	**Monte Pirata**	**23.52**	**38**	P	**P**	**17 12 40.9 -2.7**
MTP				IAmb	IAmb	17 12 50.8
	comp=Z,17nm,0.9s					
VILB	**Vilhena**	**23.82**	**123**	*eP*	**P**	**17 12 47.1 +0.5**
PB09	**IPOC Station P**	**24.08**	**153**	P	**P**	**17 12 45.7 -3.4**
PB09				IAmb	IAmb	17 12 57.4
	comp=Z,15nm,0.9s					
SIV	**San Ignacio**	**24.80**	**130**	P	**P**	**17 12 56.2 +0.6**
	comp=Z,9.0nm,0.7s,baz=300,slow=9.3,SNR=41					
SIV				LR	LR	17 23 22.8
	comp=Z,134nm,20.7s,baz=295,slow=38					
LVC	**Limon Verde**	**24.93**	**154**	P	**P**	**17 12 59.4 +2.3**
	comp=Z,6.6nm,0.7s,baz=335,slow=6.9,SNR=7.1					
LVC	**Limon Verde**	**24.93**	**154**	P	**P**	**17 12 59.7 +2.6**
LVC	**Limon Verde**	**24.93**	**154**	*eP*	**P**	**17 12 59.9 +2.7**
PTLB	**Pontes e Lacer**	**26.01**	**126**	*eP*	**P**	**17 13 07.4 +0.9**
NPGB	**Novo Progresso**	**26.06**	**105**	*eP*	**P**	**17 13 06.1 -1.0**
CLDB	**Colider**	**26.80**	**114**	*eP*	**P**	**17 13 13.4 -0.3**
MDP	**Montagnes des**	**28.44**	**79**	LR	LR	17 24 25.7
	comp=Z,111nm,20.1s,baz=62,slow=36					
AQDB	**Aquidauana**	**31.55**	**131**	P	**P**	**17 13 54.0 -2.0**
AQDB	**Aquidauana**	**31.55**	**131**	*eP*	**P**	**17 13 56.3 +0.4**
CO03	**El Pedregal**	**31.80**	**164**	P	**P**	**17 13 57.5 -0.6**
CO02	**Combarbal**	**32.06**	**164**	P	**P**	**17 13 59.6 -0.8**
SMTB	**Santa Maria do**	**33.96**	**105**	*eP*	**P**	**17 14 17.1 0.0**
CPUP	**Villa Florida**	**34.25**	**141**	P	**P**	**17 14 19.9 +0.5**
	comp=Z,2.8nm,0.8s,baz=322,slow=12,SNR=3.9					
CPUP				LR	LR	17 31 08.5
	comp=Z,99nm,19.9s,baz=48,slow=41					
CPUP	**Villa Florida**	**34.25**	**141**	P	**P**	**17 14 18.0 -1.4**
CPUP				IAmb	IAmb	17 14 25.2
	comp=Z,3.3nm,0.8s					
BDFB	**Brasilia**	**35.60**	**117**	P	**P**	**17 14 30.7 -0.7**
	comp=Z,5.7nm,0.6s,baz=293,slow=8.3,SNR=7.0					
BDFB	**Brasilia**	**35.60**	**117**	P	**P**	**17 14 30.2 -1.2**
JCT	**Junction City**	**35.64**	**331**	P	**P**	**17 14 33.1 +1.6**
JCT				IAmb	IAmb	17 14 34.3
	comp=Z,12nm,1.1s					
IPMB	**Ipameri, GO**	**36.37**	**121**	*eP*	**P**	**17 14 37.8 -0.1**
TXAR	**Lajitas Array**	**36.78**	**325**	P	**P**	**17 14 42.6 +1.3**
	comp=Z,0.5nm,0.7s,baz=138,slow=9.7,SNR=2.6					
TXAR	**Lajitas Array**	**36.78**	**325**	P	**P**	**17 14 43.0 +1.7**
TX31	**Lajitas Ar. Si**	**36.78**	**325**	P	**P**	**17 14 44.1 +2.8**
ABTX	**Abilene, Hawle**	**37.35**	**333**	P	**P**	**17 14 46.1 +0.1**
ABTX				IAmb	IAmb	17 14 49.1
	comp=Z,5.0nm,0.8s					
SDBA	**SAO DESIDERIO**	**37.40**	**110**	*eP*	**P**	**17 14 46.1 -0.6**
LCAR	**Lake Charles**	**37.49**	**346**	P	**P**	**17 14 46.5 -0.5**
LCAR				IAmb	IAmb	17 14 47.0
	comp=Z,7.1nm,0.7s					
FCAR	**Ozark Folk Cen**	**37.56**	**345**	P	**P**	**17 14 47.4 -0.4**
U40A	**Yellville**	**38.20**	**344**	P	**P**	**17 14 53.0 -0.1**
U40A				IAmb	IAmb	17 14 53.5
	comp=Z,7.0nm,0.9s					
MNTX	**Cornudas Mount**	**39.53**	**326**	P	**P**	**17 15 05.8 +1.4**
CPSB	**Cacapava Do Su**	**39.54**	**142**	*eP*	**P**	**17 15 04.6 +0.1**
S39A	**Bolivar**	**39.58**	**344**	P	**P**	**17 15 04.5 -0.2**
MSTX	**Muleshoe**	**39.93**	**331**	P	**P**	**17 15 08.3 +0.5**
MSTX				IAmb	IAmb	17 15 10.0
	comp=Z,7.1nm,0.8s					
BSCB	**Bom Sucesso**	**40.59**	**123**	*eP*	**P**	**17 15 13.0 -0.4**
PLCA	**Paso Flores**	**41.28**	**168**	P	**P**	**17 15 20.8 +2.0**
	comp=Z,6.1nm,0.9s,baz=344,slow=9.0,SNR=13					
PLCA	**Paso Flores**	**41.28**	**168**	P	**P**	**17 15 16.4 -2.3**
PLCA				IAmb	IAmb	17 15 21.6
	comp=Z,6.1nm,0.8s					
PLCA	**Paso Flores**	**41.28**	**168**	*eP*	**P**	**17 15 20.8 +2.0**
KSU1	**Kansas State U**	**41.86**	**341**	P	**P**	**17 15 22.8 -0.7**
ANMO	**Albuquerque**	**42.58**	**328**	P	**P**	**17 15 30.4 +0.7**
T25A	**Trinidad**	**43.27**	**332**	P	**P**	**17 15 33.2 -2.0**
T25A				IAmb	IAmb	17 15 38.8
	comp=Z,9.8nm,1.4s					
RIB01	**Linhares ES**	**43.71**	**118**	*eP*	**P**	**17 15 38.1 -0.7**
NBLA	**Lagarto - SE**	**43.85**	**106**	*eP*	**P**	**17 15 39.0 -1.0**
RCBR	**Riachuelo**	**44.96**	**98**	LR	LR	17 34 04.0
	comp=Z,75nm,19.7s,baz=320,slow=35					
NBAN	**Anadia - AL**	**45.08**	**103**	*eP*	**P**	**17 15 49.0 -0.8**
TPNV	**Topopah Spring**	**49.61**	**322**	P	**P**	**17 16 25.1 +0.1**
PDAR	**Pinedale Array**	**50.14**	**332**	P	**P**	**17 16 28.9 -0.1**
	comp=Z,0.1nm,0.7s,baz=132,slow=7.4,SNR=3.0					
NV11	**Mina Array Sit**	**51.72**	**322**	P	**P**	**17 16 41.4 +0.5**
NV11				IAmb	IAmb	17 16 46.8
	comp=Z,3.8nm,1.0s					
NVAR	**Mina Array Bea**	**51.81**	**322**	P	**P**	**17 16 43.2 +1.6**
	comp=Z,1.5nm,0.7s,baz=136,slow=8.1,SNR=8.3					
NVAR	**Mina Array Bea**	**51.81**	**322**	P	**P**	**17 16 41.6 0.0**
ULM	**Lac du Bonnet**	**52.02**	**348**	P	**P**	**17 16 41.6 -1.1**
	comp=Z,1.1nm,0.4s,baz=172,slow=9.3,SNR=4.3					
ULM	**Lac du Bonnet**	**52.02**	**348**	IAmb	IAmb	17 16 42.2
	comp=Z,4.2nm,0.8s					
KVN	**Kaiserville**	**52.08**	**323**	P	**P**	**17 16 43.6 0.0**
BMN	**Battle Mountai**	**52.45**	**325**	P	**P**	**17 16 47.7 +1.3**
BMN				IAmb	IAmb	17 16 51.9
	comp=Z,3.4nm,0.8s					
BEKR	**Beckworth**	**53.95**	**323**	P	**P**	**17 16 57.6 +0.2**
ORV	**Oroville**	**54.47**	**322**	P	**P**	**17 17 02.5 +1.5**
ORV				IAmb	IAmb	17 17 04.1
	comp=Z,4.0nm,1.1s					
FFC	**Flin Flon**	**57.58**	**345**	P	**P**	**17 17 22.1 -0.8**
FCC	**Fort Churchill**	**59.84**	**352**	P	**P**	**17 17 37.2 -1.3**
YKA	**Yellowknife Ar**	**67.64**	**344**	P	**P**	**17 18 29.8 -0.1**
	comp=Z,2.8nm,0.9s,baz=139,slow=5.9,SNR=41					
RES	**Resolute Bay**	**75.37**	**356**	LR	LR	17 52 10.5
	comp=Z,21nm,18.6s,baz=186,slow=36					
RES	**Resolute Bay**	**75.37**	**356**	P	**P**	**17 19 14.3 -2.0**
RES				IAmb	IAmb	17 19 27.2
	comp=Z,5.4nm,1.5s					
DBIC	**Dimbokro**	**75.88**	**83**	P	**P**	**17 19 20.1 -0.5**
	comp=Z,5.7nm,0.8s,baz=253,slow=6.2,SNR=3.8					
DBIC	**Dimbokro**	**75.88**	**83**	IAmb	IAmb	17 19 24.5
	comp=Z,8.8nm,1.0s					
KOWA	**Kowa**	**77.09**	**75**	P	**P**	**17 19 26.2 -1.1**
DAWY	**Dawson**	**77.10**	**337**	P	**P**	**17 19 27.2 +0.8**
INK	**Inuvik**	**77.32**	**342**	P	**P**	**17 19 27.8 +0.3**
	comp=Z,4.1nm,1.0s,baz=110,slow=6.1,SNR=12					
INK	**Inuvik**	**77.32**	**342**	P	**P**	**17 19 27.4 -0.1**
INK				IAmb	IAmb	17 19 34.5
	comp=Z,4.7nm,1.1s					
I29M	**Ogilvie Camp,**	**77.33**	**339**	P	**P**	**17 19 28.1 +0.4**
I29M				IAmb	IAmb	17 19 33.2
	comp=Z,8.3nm,1.4s					
BCAR	**Beaver Creek A**	**77.58**	**336**	P	**P**	**17 19 30.1 +0.9**
EGAK	**Eagle**	**78.11**	**338**	P	**P**	**17 19 32.5 +0.5**
EGAK				IAmb	IAmb	17 19 33.4
	comp=Z,4.8nm,0.9s					
ESDC	**Sonseca Array**	**79.92**	**50**	P	**P**	**17 19 42.5 -0.1**
	comp=Z,2.1nm,0.8s,baz=266,slow=6.5,SNR=11					
ESDC	**Sonseca Array**	**79.92**	**50**	P	**P**	**17 19 42.4 -0.2**
GHO	**Glory Hole Cre**	**80.14**	**333**	P	**P**	**17 19 43.8 +0.5**
GHO				IAmb	IAmb	17 19 44.8
	comp=Z,6.3nm,0.9s					
ILAR	**Eielson Array**	**80.34**	**337**	P	**P**	**17 19 44.4 +0.2**
	comp=Z,0.8nm,1.0s,baz=102,slow=4.2,SNR=4.8					
TOA0	**Torodi Ar. Sit**	**82.57**	**77**	P	**P**	**17 19 55.9 -1.1**
TOA0				IAmb	IAmb	17 19 57.4
	comp=Z,7.2nm,1.4s					
TORD	**Torodi Ar. Bea**	**82.57**	**77**	P	**P**	**17 19 56.1 -0.9**
	comp=Z,2.3nm,1.1s,baz=273,slow=4.7,SNR=5.8					
TORD	**Torodi Ar. Bea**	**82.57**	**77**	P	**P**	**17 19 55.6 -1.4**
TORD				IAmb	IAmb	17 19 58.1
	comp=Z,4.1nm,1.2s					
QSPA	**South Pole Qui**	**89.76**	**180**	P	**P**	**17 20 33.1 +1.6**
	comp=Z,2.2nm,0.8s,baz=158,slow=1.9,SNR=12					
QSPA	**South Pole Qui**	**89.76**	**180**	IAmb	IAmb	17 20 54.2
	comp=Z,2.9nm,1.1s					
TSUM	**Tsumeb**	**97.64**	**109**	LR	LR	18 00 38.6
	comp=Z,33nm,21.9s,baz=92,slow=33					
FINES	**FINESS Array B**	**98.19**	**28**	LR	LR	18 00 53.2
	comp=Z,50nm,19.9s,baz=60,slow=33					
KURBB	**Kurchatov Arra**	**126.81**	**16**	PKP	**PKPdf**	**17 26 36.8 -0.3**
	comp=Z,0.7nm,0.7s,baz=330,slow=2.3,SNR=6.2					
MKAR	**Makanchi Array**	**131.33**	**16**	PKP	**PKPdf**	**17 26 45.5 -0.3**
	comp=Z,0.5nm,0.9s,baz=345,slow=3.3,SNR=3.9					
ASAR	**Alice Springs**	**138.90**	**232**	PKP	**PKPdf**	**17 27 01.8 +1.1**
	comp=Z,0.6nm,0.7s,baz=111,slow=2.1,SNR=11					
PZH	**PanZhiHua**	**153.84**	**355**	PKPbc	**PKPdf**	**17 27 24.3 -1.4**
CMAR	**Chiang Mai Arr**	**161.94**	**1**	PKPab	**PKPab**	**17 28 20.0 -1.3**
	comp=Z,0.6nm,0.7s,baz=352,slow=5.6,SNR=5.4					

*IDC **18** 17:10:04.7±1.0, 40°.01N×116°.06E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/54, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=40.1km s-min=19.5km az=54.0*

ISC 18 17:10:09.9±1.2, 40°.0N±0°.2×116°.0E±0°.3, h35km, n6, σ0.86/6, mb3.6/5, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**10.40**	**322**	Pn	**Pn**	**17 12 35.8**	**-0.8**
	0.1nm,0.3s,baz=133,slow=13,SNR=2.6						
SONM				Lg	Lg	17 15 35.1	
	0.1nm,0.3s,baz=133,slow=30,SNR=7.0						
MKAR	**Makanchi Array**	**25.23**	**297**	P	**P**	**17 15 33.3**	**+1.0**
	0.7nm,0.7s,baz=97,slow=11,SNR=8.9						
KURBB	**Kurchatov Arra**	**28.08**	**305**	P	**P**	**17 15 58.5**	**+0.6**
	1.0nm,0.8s,baz=98,slow=9.6,SNR=6.9						
WRA	**Warramunga Arr**	**52.08**	**160**	P	**P**	**17 20 26.7**	**-0.4**
	0.4nm,0.8s,baz=340,slow=7.0,SNR=2.9						
ASAR	**Alice Springs**	**65.54**	**162**	P	**P**	**17 20 49.5**	**-0.3**
	0.5nm,0.8s,baz=0.0,slow=5.6,SNR=6.9						
YKA	**Yellowknife Ar**	**70.06**	**22**	P	**P**	**17 21 18.2**	**+0.4**
	0.8nm,0.8s,baz=324,slow=6.2,SNR=9.9						

IDC 18 17:35:12.6±12.0, 7°.25S×128°.88E, h76km±137km, mb2.9/1, mb1 3.4/5, mb1mx3.0/34, mbtmp3.5/5, ML3.5/4, Error ellipse: s-maj=139.8km s-min=37.2km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.94**	**240**	P	Pn	17 36 38.8	+0.8
	1.6nm,0.3s,baz=64,slow=20,SNR=2.4						
BATI				S	Sn	17 37 35.7	-9.0
	3.2nm,0.3s,baz=51,slow=21,SNR=11						
FITZ	**Fitzroy Crossi**	**11.24**	**196**	P	Pn	17 37 48.6	-1.8
	0.3nm,0.3s,baz=27,slow=13,SNR=26						
FITZ				S	Sn	17 39 40.6	-14
	0.2nm,0.3s,baz=317,slow=7.8,SNR=1.8						
WRA	**Warramunga Arr**	**13.69**	**158**	P	Pn	17 38 23.5	+0.1
	0.2nm,0.3s,baz=341,slow=12,SNR=5.2						
WRA				S	Sn	17 40 45.1	-8.8
	0.5nm,0.3s,baz=332,slow=23,SNR=10.0						
ASAR	**Alice Springs**	**17.02**	**164**	P	P	17 39 06.8	+0.2
	0.1nm,0.3s,baz=340,slow=11,SNR=20						
ASAR				S	Sn	17 42 05.8	-8.9
	0.1nm,0.3s,baz=320,slow=16,SNR=3.8						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	17 46 02.6	0.0
	0.1nm,0.4s,baz=109,slow=8.1,SNR=4.2						

IDC 18 17:43:29.0±37.0, 55°.00S×141°.26E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/31, mbtmp3.5/3, MS3.6/3, Ms1 3.6/3, ms1mx3.0/30, Error ellipse: s-maj=679.2km s-min=180.1km az=143.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**22.27**	**72**	LR	LR	17 55 13.5	
	comp=Z,86nm,19.7s,baz=187,slow=32						
STKA	**Stephens Creek**	**23.12**	**1**	P	P	17 48 36.2	-0.2
	0.9nm,0.5s,baz=187,slow=8.1,SNR=2.3						
H01W1	**Cape Leeuwin H**	**27.50**	**306**	T	T	18 17 08.4	
	baz=143,slow=75,SNR=24						
H01W2	**Cape Leeuwin H**	**27.50**	**306**	T	T	18 17 10.6	
	baz=143,slow=75,SNR=24						
H01W3	**Cape Leeuwin H**	**27.52**	**306**	T	T	18 17 09.9	
	baz=143,slow=75,SNR=34						
ASAR	**Alice Springs**	**31.77**	**347**	P	P	17 49 54.9	+0.1
	0.3nm,0.7s,baz=167,slow=10,SNR=13						
WRA	**Warramunga Arr**	**35.39**	**349**	P	P	17 50 26.3	0.0
	0.8nm,1.0s,baz=174,slow=7.7,SNR=3.6						
DZM	**Mont Dzumac**	**37.91**	**40**	LR	LR	18 03 12.5	
	comp=Z,120nm,18.4s,baz=12,slow=31						
DAV	**Davao City (W)**	**63.22**	**343**	LR	LR	18 23 08.8	
	comp=Z,43nm,18.3s,baz=310,slow=38						

*IDC **18** 17:45:22.4±0.9, 11°.64N×143°.93E, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.7/35, mbtmp3.7/7, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/80, Error ellipse: s-maj=55.1km s-min=17.2km az=110.0*

*NEIC **18** 17:45:25.2±0.6, 11°.7N±0°.1×143°.8E±0°.2, h10km±1km, mb4.3/8, Error ellipse: s-maj=36.6km s-min=6.6km az=116.0*

ISC 18 17:45:27.9±0.8, 11°.7N±0°.1×143°.8E±0°.2, h35km, n22, σ0.93/16, mb4.1/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.18**	**28**	Pn	**Pn**	**17 46 01.1**	**-0.6**
	35nm,0.3s,baz=253,slow=17,SNR=15						
GUMO				Sn	**Sn**	**17 46 29.3**	**+1.9**
	64nm,0.3s,baz=331,slow=23,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**23.08**	**70**	T	T	18 14 56.3	
	baz=252,slow=74						
H11S1	**WAKE ISLAND Hy**	**23.10**	**70**	T	T	18 14 54.4	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**23.10**	**70**	T	T	18 14 57.9	
	baz=252,slow=74						
H11N1	**WAKE ISLAND Hy**	**23.59**	**67**	T	T	18 15 34.5	
	baz=255,slow=74,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**23.60**	**67**	T	T	18 15 35.6	
	baz=255,slow=74,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**23.61**	**67**	T	T	18 15 33.7	
	baz=255,slow=74,SNR=5.4						
MJAR	**Matsushiro Arr**	**25.29**	**349**	LR	LR	17 59 44.5	
	comp=Z,63nm,19.5s,baz=210,slow=34						
WB0	**Warramunga Arr**	**32.58**	**197**	P	**P**	**17 51 56.2**	**+0.1**
WB0				IAmb	IAmb	17 51 57.0	
	comp=Z,2.9nm,0.8s						
WR0	**Warramunga Arr**	**32.72**	**196**	P	**P**	**17 51 57.7**	**+0.3**
WR0				IAmb	IAmb	17 51 58.4	
	comp=Z,2.5nm,0.9s						
WRAB	**Tennant Creek**	**32.74**	**197**	P	**P**	**17 51 58.0**	**+0.4**
WRAB				IAmb	IAmb	17 51 58.5	
	comp=Z,4.3nm,0.8s						
WB2	**Warramunga Arr**	**32.75**	**197**	P	**P**	**17 51 57.9**	**+0.2**
WB2				IAmb	IAmb	17 51 59.2	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**32.76**	**197**	P	**P**	**17 51 57.2**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=20,slow=9.8,SNR=18						
WRA	**Warramunga Arr**	**32.76**	**197**	P	**P**	**17 51 57.8**	**+0.1**
AS31	**Alice Springs**	**36.42**	**195**	P	**P**	**17 52 29.4**	**+0.1**
ASAR	**Alice Springs**	**36.42**	**195**	P	**P**	**17 52 29.6**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=18,slow=12,SNR=19						
BBOO	**Buckleboo**	**44.83**	**189**	P	**P**	**17 53 39.4**	**+0.7**
MKAR	**Makanchi Array**	**62.18**	**317**	P	**P**	**17 55 46.8**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=106,slow=4.8,SNR=2.6						
MNCI	**Minicoy**	**69.63**	**275**	P	**P**	**17 56 34.1**	**-0.2**
ILAR	**Eielson Array**	**70.74**	**25**	P	**P**	**17 56 38.3**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=252,slow=4.8,SNR=5.8						
YKA	**Yellowknife Ar**	**85.04**	**27**	P	**P**	**17 57 58.8**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=288,slow=5.1,SNR=4.4						
NVAR	**Mina Array Bea**	**88.92**	**51**	P	**P**	**17 58 20.3**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=276,slow=5.9,SNR=5.2						

*TEH **18** 17:58:58.1, 27°.36N×53°.87E, h20km, ML3.3*
*OMAN **18** 17:58:59.0±0.1, 27°.30N×53°.72E, h20km, mb4.2/1, ml3.0/9, Error ellipse: s-maj=2.2km s-min=1.2km az=358.0*

ISC 18 17:58:57.8±1.6, 27°.34N±0°.06×53°.80E±0°.04, h11km±14km, n51, σ1.06/64, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.56**	**270**	*e*Pg	**Pb**	**17 59 10.4**	**+0.7**
LMD1				*e*Sg	**Sn**	**17 59 20.6**	**-0.5**
LAR1	**LAR**	**0.61**	**58**	*e*Sg	**Sg**	**17 59 17.9**	**+0.1**
LAR1				*e*Pg	**Pg**	**17 59 09.0**	**-0.7**
LAR1				*e*		17 59 26.8	
	comp=Z,37μm,0.4s						
JHRM	**Jahrom**	**1.17**	**351**	*e*Pg	**Pn**	**17 59 20.2**	**-0.1**
JHRM				*e*		17 59 22.3	
	comp=Z,18μm,0.2s						
JHRM				*e*Sg	**Sg**	**17 59 37.2**	**+1.5**
QIR1	**Qir**	**1.31**	**330**	*e*Pg	**Pn**	**17 59 22.4**	**+0.3**
QIR1				*e*		17 59 48.3	
	comp=Z,5μm,0.2s						
GENO	**Geno**	**2.12**	**88**	*e*Pn	**Pn**	**17 59 32.8**	**-0.5**
SHME	**Shamm**	**2.46**	**121**	*e*Pn	**Pb**	**17 59 41.8**	**-0.3**
SHME	**Shamm**	**2.46**	**121**	P	**Pn**	**17 59 39.7**	**+1.8**
SHME				S	**Sn**	**18 00 08.3**	**+0.3**
JRN	**Qarnain Island**	**2.54**	**200**	*e*Pn	**Pn**	**17 59 40.3**	**+1.4**
BANOM	**Banah**	**2.65**	**122**	P	**Pn**	**17 59 40.6**	**+0.1**
BANOM				S	**Sn**	**18 00 13.3**	**+0.6**
NAZ	**Nazwa, Dubai**	**2.88**	**144**	*e*Pn	**Pn**	**17 59 44.5**	**+0.8**
NAZ	**Nazwa, Dubai**	**2.88**	**144**	P	**Pn**	**17 59 45.7**	**+2.0**
MASF	**Masafi**	**2.89**	**132**	P	**Pn**	**17 59 45.3**	**+1.5**
MASF				S	**Sn**	**18 00 19.4**	**+0.8**
MSFE	**Esma-Masafi**	**2.90**	**132**	*e*Pn	**Pn**	**17 59 45.4**	**+1.5**
AJN	**Ajban**	**2.97**	**159**	P	**Pn**	**17 59 47.1**	**+2.2**
ASUD	**Al Ashush, Dub**	**3.04**	**153**	*e*Pn	**Pn**	**17 59 46.6**	**+0.8**
ASUD	**Al Ashush, Dub**	**3.04**	**153**	P	**Pn**	**17 59 48.1**	**+2.3**
	SNR=13						
ASUD				S	**Sn**	**18 00 21.9**	**-0.3**
FAQ	**Al Faqa, Dubai**	**3.05**	**148**	P	**Pn**	**17 59 47.6**	**+1.6**
FAQ				S	**Sn**	**18 00 24.1**	**+1.6**
UOSS	**Minazif**	**3.22**	**137**	P	**Pn**	**17 59 49.2**	**+0.9**
UOSS				S	**Sn**	**18 00 26.8**	**0.0**
ASHO	**Ashiyiah**	**3.34**	**142**	*e*Pn	**Pn**	**17 59 50.8**	**+0.8**
ASHO	**Ashiyiah**	**3.34**	**142**	P	**Pn**	**17 59 51.1**	**+1.1**
	SNR=5.6						
ASHO				S	**Sn**	**18 00 30.5**	**+0.8**
NGRK	**Negar Kerman**	**3.45**	**48**	*e*Pn	**Pn**	**17 59 51.7**	**-0.2**
TRNA	**Turayna**	**3.48**	**222**	P	**Pn**	**17 59 53.6**	**+1.7**
TVBK	**TV Kerman**	**3.71**	**44**	*e*Pn	**Pn**	**17 59 55.2**	**-0.1**
TVBK				*e*		17 59 57.2	
	comp=Z,507nm,0.3s						
ALNE	**Al Ain**	**3.72**	**151**	*e*Pn	**Pn**	**17 59 56.3**	**+1.1**
ALNE	**Al Ain**	**3.72**	**151**	P	**Pn**	**17 59 56.8**	**+1.6**
	SNR=10						

BHHZ				S	S	18 40 01.3	-2.2
WNVZ	**Wahianoa**	**8.01**	**206**	P	Pn	18 38 30.1	-0.1
MOVZ	**Moawhango**	**8.03**	**205**	P	Pn	18 38 29.2	-1.0
MOVZ				S	S	18 40 02.7	-1.5
KAHZ	**Kahuranaki**	**8.04**	**198**	P	P	18 38 31.5	0.0
KAHZ				S	S	18 40 05.4	+1.1
KRHZ	**Kereru**	**8.04**	**201**	P	Pn	18 38 30.1	-0.1
KRHZ				S	S	18 40 01.9	-2.5
PKVZ	**Pokaka**	**8.07**	**207**	P	Pn	18 38 31.2	+0.5
VRZ	**Vera Road**	**8.17**	**210**	P	Pn	18 38 33.6	+0.5
PXZ	**Pawanui**	**8.26**	**197**	P	Pn	18 38 32.0	-0.8
PXZ				S	S	18 40 08.2	-0.9
PNHZ	**Pukenui**	**8.34**	**201**	P	Pn	18 38 31.8	-1.9
PNHZ				S	S	18 40 09.0	-0.9
PRHZ	**Porangahau**	**8.54**	**198**	P	Pn	18 38 36.4	+0.3
PRHZ				S	S	18 40 12.4	-2.7
BFZ	**Birch Farm**	**9.04**	**199**	P	Pn	18 38 40.8	-1.1
BFZ				S	S	18 40 22.9	-2.9
MRZ	**Mangatainoka R**	**9.21**	**202**	P	Pn	18 38 42.6	-1.3
MRZ				S	S	18 40 25.6	-4.0
TIWZ	**Tintock**	**9.22**	**200**	P	Pn	18 38 43.9	-0.2
TIWZ				S	S	18 40 26.6	-3.2
HOWZ	**Holdsworth Sta**	**9.45**	**201**	P	Pn	18 38 43.0	-3.7
HOWZ				S	S	18 40 29.7	-4.8
OGWZ	**Otaki Gorge**	**9.49**	**203**	P	Pn	18 38 44.9	-2.2
OGWZ				S	S	18 40 31.7	-3.6
KIW	**Kapiti Island**	**9.61**	**204**	P	Pn	18 38 46.1	-2.6
KIW				S	S	18 40 33.0	-5.0

JMA 18 18:38:04.4, 32.99N×131.19E, h10km, M3.5, 1C-3D
Broadband fault plane solution: P waves. NP1:
ϕ_s241.00000°, δ72.00000°, λ-133.00000°. **NP2:**
ϕ_s133.00000°, δ46.00000°, λ-25.00000°. **Principal axes:**
T Plg16.0000°, Azm1.0000°; N Plg41.0000°, Azm257.0000°; P Plg45.0000°, Azm107.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.29**	**297**	⇓P	Pg	18 38 10.4	+0.1
JNU				S	Sg	18 38 14.6	+0.3
JUS	**Usuki**	**0.48**	**81**	⇓P	Pg	18 38 13.4	-0.3
JUS				S	Sg	18 38 20.0	0.0
JIU3	**Izumi3**	**0.54**	**216**	⇑P	Pg	18 38 15.0	0.0
JIU3				eS	Sg	18 38 22.6	+0.5
JTA	**Tamana**	**0.55**	**267**	⇓P	Pg	18 38 15.2	0.0
JTA				S	Sg	18 38 22.7	+0.3

IDC ***18*** *18:38:09.8±0.5, 0.°88S×80.°84W, h0km, mb4.4/21, mb1 4.6/25, mb1mx4.5/37, mbtmp4.4/25, ML4.9/2, MS4.7/54, Ms1 4.7/54, ms1mx4.6/68 Error ellipse: s-maj=19.5km s-min=10.8km az=59.0*
NEIC ***18*** *18:38:10.8±2.2, 1.°00S±0.°05×80.°85W±0.°07, h10km±1km, mb4.9/33, Error ellipse: s-maj=11.4km s-min=8.8km az=258.0*
IGQ ***18*** *18:38:10±0.8, 1°S±2°×8°1W±°, h1km*
GCMT ***18*** *18:38:11.8±0.1, 1.°07S±0.°01×81.°00W±0.°01, h12km, MW5.5/141, Moment Tensor Solution. s122,c189; s141,c267; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; Mrr1.13±.01; Mθθ0.06±.01; Mϕϕ-1.19±.01; Mrθ0.03±.04; Mθϕ0.00±.01; Mϕr-1.51±.04; Best double couple: M$_0$1.90400×10^{17} NP1:ϕ_s1.00000°, δ19.00000°, λ92.00000°. NP2:ϕ_s179.00000°, δ71.00000°, λ89.00000°. Principal axes: T 1.8750, Plg64.0000°, Azm88.0000°; N 0.0560, Plg1.0000°, Azm179.0000°; P -1.9340, Plg26.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
VAO ***18*** *18:38:12.8±0.4, 1.°00S×80.°61W, h10km, mb5.0*
ISC 18 18:38:10.7±0.3, 0.98S±0.02×80.86W±0.04, h10km, n879, σ1§39/852, mb4.9/173, MS4.7/58, 3C-10D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMNT	**Manta-Manabi**	**0.14**	**74**	P	**Pg**	**18 38 15.0**	**+1.2**
AMNT				S	**Sg**	**18 38 19.0**	**+3.0**
JAMA	**Jama**	**0.97**	**43**	S	**Sb**	**18 38 43.3**	**+0.4**
JAMA				P	**Pb**	**18 38 28.0**	**-1.4**
FLF1	**Flavio Alfaro-**	**1.19**	**59**	P	**Pb**	**18 38 32.0**	**-1.5**
AGUAY	**Guayaquil**	**1.41**	**140**	P	**Pg**	**18 38 39.0**	**+1.3**
MAG1	**Magdalena**	**1.41**	**50**	P	**Pn**	**18 38 36.0**	**-0.6**
AMIL	**Milagro (Trans**	**1.71**	**132**	P	**Pb**	**18 38 42.0**	**-0.3**
AMIL				S	**Sg**	**18 39 06.0**	**+0.2**
ASDO	**Santo Domingo**	**1.88**	**68**	P	**Pn**	**18 38 42.0**	**-1.0**
AV18	**Acelerografo,**	**1.89**	**47**	P	**Pb**	**18 38 45.0**	**-0.3**
BV15	**Puerto Quito-O**	**1.99**	**55**	P	**Pn**	**18 38 43.0**	**-1.5**
CHSH	**Refugio Sur-Vo**	**2.06**	**104**	P	**Pn**	**18 38 47.0**	**+1.1**
AV21	**Acelerografo,**	**2.10**	**39**	P	**Pn**	**18 38 47.0**	**+1.1**
ISPG	**Isla Puna-Puer**	**2.10**	**161**	S	**Sb**	**18 39 14.0**	**-1.0**
ISPG				P	**Pb**	**18 38 48.0**	**-0.9**
PORT	**Chimborazo Vol**	**2.15**	**103**	Pn	**Pn**	**18 38 46.9**	**-0.2**
PORT	**Chimborazo Vol**	**2.15**	**103**	P	**Pn**	**18 38 47.0**	**-0.1**
ILLI	**Illinizas Sur**	**2.15**	**83**	P	**Pn**	**18 38 48.0**	**+0.9**
TAMH	**Tambohuasha Ch**	**2.16**	**105**	P	**Pn**	**18 38 48.0**	**+0.8**
APR2	**Miler**	**2.17**	**61**	P	**Pn**	**18 38 46.0**	**-1.0**
COHC	**Cochancay**	**2.18**	**133**		**Pn**	**18 38 46.5**	**-0.7**
AMA1	**Acelerografo,**	**2.22**	**31**	P	**Pb**	**18 38 50.0**	**-0.9**
PAST	**Pastocalle**	**2.24**	**83**	P	**Pn**	**18 38 48.0**	**-0.3**
IGUA	**Igualata**	**2.28**	**103**	P	**Pn**	**18 38 50.0**	**+1.0**
HPAL	**Hacienda Las P**	**2.34**	**71**	P	**Pn**	**18 38 49.0**	**-0.6**
GGPT	**Toaza - Volcan**	**2.37**	**72**	P	**Pn**	**18 38 49.0**	**-1.0**
CAMI	**Rancho Maria**	**2.38**	**83**	P	**Pb**	**18 38 52.0**	**-1.9**
JUA2	**San Juan 2**	**2.38**	**71**	P	**Pn**	**18 38 50.0**	**-0.3**
TERV	**Terraza Guagua**	**2.40**	**71**	P	**Pn**	**18 38 51.0**	**+0.5**
PINO	**Pino**	**2.40**	**70**	P	**Pn**	**18 38 50.0**	**-0.6**
GGPC	**Guagua Pichinc**	**2.40**	**71**	P	**Pn**	**18 38 51.0**	**+0.4**
BNAS	**Cotopaxi Volca**	**2.40**	**83**	P	**Pn**	**18 38 52.0**	**+1.4**
BIL2	**Estacion Bilba**	**2.41**	**101**	P	**Pb**	**18 38 53.0**	**-1.4**
PAC1	**Pacto, Paraso**	**2.41**	**59**	eP	**Pn**	**18 38 50.0**	**-0.4**
PAC1				eS	**Sb**	**18 39 25.2**	**+0.9**
PAC1	**Pacto, Paraso**	**2.41**	**59**	P	**Pn**	**18 38 49.0**	**-1.4**
BMOR	**Cotopaxi Volca**	**2.42**	**84**	P	**Pn**	**18 38 52.0**	**+1.2**
NAS2	**Nasa**	**2.42**	**82**	P	**Pn**	**18 38 52.0**	**+1.2**
ACHO	**Acelerografo,**	**2.42**	**60**	P	**Pn**	**18 38 50.0**	**-0.4**
BBIL	**Ulba Tungurahu**	**2.42**	**101**	P	**Pb**	**18 38 53.0**	**-1.6**
APR1	**Acelerografo,**	**2.43**	**68**	P	**Pn**	**18 38 51.0**	**+0.1**
JUI6	**Juive**	**2.44**	**100**	P	**Pb**	**18 38 53.0**	**-1.8**
BMAS	**Trigal station**	**2.44**	**102**	P	**Pb**	**18 38 53.0**	**-2.0**
BREF	**Cotopaxi Volca**	**2.44**	**83**	P	**Pn**	**18 38 53.0**	**+1.7**
YANA	**Yana**	**2.45**	**70**	P	**Pn**	**18 38 51.0**	**-0.2**
POND	**Pondoa**	**2.45**	**100**	P	**Pb**	**18 38 53.0**	**-2.1**
RETU	**Refugio**	**2.46**	**101**	P	**Pn**	**18 38 53.0**	**+1.6**
ARRY	**Arrayan**	**2.46**	**102**	P	**Pn**	**18 38 52.0**	**+0.7**
PITA	**Cotopaxi Volc**	**2.47**	**80**	P	**Pn**	**18 38 53.0**	**+1.6**
BVC2	**Cotopaxi Volca**	**2.47**	**83**	P	**Pb**	**18 38 54.0**	**-1.6**
TOMA	**Boca Toma-Volc**	**2.48**	**79**	P	**Pn**	**18 38 53.0**	**+1.5**
VCES	**Cotopaxi**	**2.48**	**86**	P	**Pn**	**18 38 53.0**	**+1.4**
VC1	**Cotopaxi 1**	**2.48**	**82**	P	**Pb**	**18 38 54.0**	**-1.8**
BPAT	**Tungurahua Vol**	**2.48**	**102**	P	**Pb**	**18 38 54.0**	**-1.8**
BTAM	**Cotopaxi Volca**	**2.49**	**83**	P	**Pn**	**18 38 54.0**	**-1.8**
BRUN	**Tungurahua Vol**	**2.49**	**100**	P	**Pb**	**18 38 54.0**	**-1.8**
TAMB	**Tambo**	**2.51**	**84**	P	**Pn**	**18 38 54.0**	**+1.9**
PULU	**Pululahua**	**2.56**	**67**		**Pn**	**18 38 52.6**	**-0.1**
PULU	**Pululahua**	**2.56**	**67**	P	**Pn**	**18 38 53.0**	**+0.3**
PIAT	**Ana Tenorio**	**2.60**	**90**	P	**Pb**	**18 38 56.0**	**-1.7**
ANTG	**Antisana-Guama**	**2.65**	**80**	P	**Pn**	**18 38 56.0**	**+1.9**
ARNL	**Arenillas**	**2.67**	**163**		**Pn**	**18 38 53.6**	**-0.3**
ARNL	**Arenillas**	**2.67**	**163**	P	**Pn**	**18 38 54.0**	**+0.1**
ANTM	**Antisana-La Mi**	**2.68**	**81**	P	**Pn**	**18 38 56.0**	**+1.6**
ACUE	**Ecuador-Cuenca**	**2.70**	**135**	P	**Pb**	**18 38 57.0**	**-2.4**
SANGA	**Volcan Sangay**	**2.71**	**113**	P	**Pb**	**18 38 57.0**	**-2.6**
ANTS	**Antisana-Sarah**	**2.74**	**80**	P	**Pb**	**18 38 58.0**	**-2.1**
ANTI	**Antisana**	**2.75**	**79**	P	**Pn**	**18 38 57.0**	**+1.5**
CUSE	**Cuicocha Este**	**2.77**	**63**	eP	**Pn**	**18 38 55.7**	**0.0**
CUSE				eS	**Sb**	**18 39 32.8**	**-2.1**
CUSE				*i*		18 39 43.9	
	comp=Z,12μm,0.5s						
CUSE	**Cuicocha Este**	**2.77**	**63**	P	**Pn**	**18 38 55.0**	**-0.7**
CUIC	**Cuicocha-Domo**	**2.81**	**63**	P	**Pn**	**18 38 56.0**	**-0.1**
CUSW	**Cuicocha Oeste**	**2.81**	**63**	P	**Pn**	**18 38 57.0**	**+0.9**
COTA	**Cotacachi**	**2.84**	**63**	P	**Pn**	**18 38 57.0**	**+0.3**
PUYO	**Puyo, Santa Ro**	**2.88**	**100**	P	**Pb**	**18 39 01.0**	**-1.4**
APUY	**Puyo**	**2.91**	**99**	P	**Pb**	**18 39 02.0**	**-0.8**
URCU	**Urcuqui**	**2.96**	**62**	P	**Pn**	**18 38 59.0**	**+0.8**
ANGU	**Angureal**	**3.03**	**70**	P	**Pb**	**18 39 04.0**	**-1.2**
AIB2	**Ibarra (Univer**	**3.06**	**65**	P	**Pn**	**18 39 02.0**	**+2.6**
CAYA	**Cayambe**	**3.06**	**70**	P	**Pn**	**18 39 02.0**	**+2.4**
ARDO	**Archidona, Ten**	**3.06**	**90**	P	**Pb**	**18 39 03.0**	**-2.4**
YAHU	**Yahuarcocha**	**3.10**	**64**	P	**Pn**	**18 39 02.0**	**+1.9**
BOSC	**San Juan Bosco**	**3.20**	**132**		**Pb**	**18 39 05.7**	**-2.2**
BOSC	**San Juan Bosco**	**3.20**	**132**	P	**Pb**	**18 39 05.0**	**-2.9**
LNGL	**El Angel-Carch**	**3.33**	**59**	P	**Pn**	**18 39 04.0**	**+0.6**
CHMA	**Chilma**	**3.35**	**57**	P	**Pn**	**18 39 03.0**	**-0.4**
CONE	**Cono NE Rev Vo**	**3.35**	**74**	P	**Pn**	**18 39 06.0**	**+2.6**
ECEN	**Cerro Negro**	**3.40**	**58**	P	**Pn**	**18 39 05.0**	**+0.6**
CHL1	**Volc¡n Chiles**	**3.41**	**59**	P	**Pn**	**18 39 05.0**	**+0.5**
CHL2	**Volc¡n Chiles**	**3.44**	**59**	P	**Pn**	**18 39 06.0**	**+1.2**
MCRA	**Macar, Loja**	**3.49**	**165**		**Pn**	**18 39 04.9**	**-0.2**
MCRA	**Macar, Loja**	**3.49**	**165**	P	**Pn**	**18 39 05.0**	**-0.2**
TULM	**Tulcn-Chalpat**	**3.51**	**61**		**Pn**	**18 39 08.2**	**+2.4**
TULM	**Tulcn-Chalpat**	**3.51**	**61**	eP	**Pn**	**18 39 09.3**	**+3.6**
TULM				eS	**Sb**	**18 39 57.4**	**+1.3**
TULM				*i*		18 40 28.8	
	comp=Z,1μm,0.7s						
TULM	**Tulcn-Chalpat**	**3.51**	**61**	P	**Pn**	**18 39 08.0**	**+2.2**
GONZ	**Gonzanam**	**3.55**	**156**	P	**Pn**	**18 39 08.0**	**+1.7**
ATUL	**Tulcn**	**3.59**	**61**	P	**Pb**	**18 39 11.0**	**-3.5**
BONI	**La Bonita**	**3.63**	**67**	P	**Pn**	**18 39 10.0**	**+2.8**
CASC	**Dorado de Casc**	**3.69**	**73**	P	**Pn**	**18 39 11.0**	**+3.0**
ZUMB	**Zumba**	**4.22**	**156**	P	**Pn**	**18 39 18.0**	**+2.6**
CRUC	**La Cruz**	**4.66**	**57**	eP	**Pn**	**18 39 22.9**	**+1.4**
CRUC				eS	**Sb**	**18 40 32.0**	**+2.8**
CRUC				*i*		18 40 41.1	
	comp=Z,3μm,0.9s						
GR1C	**Gorgona, Isla**	**4.79**	**34**	eP	**Pn**	**18 39 21.1**	**-1.8**
SOTA	**Rioblanco**	**5.26**	**54**	eP	**Pn**	**18 39 33.0**	**+3.1**
SOTA				eS	**Sb**	**18 40 41.6**	**-5.0**
SOTA				*i*		18 41 27.0	
	comp=Z,272nm,0.7s						
POPC	**Popayan, Colom**	**5.45**	**50**	eP	**Pn**	**18 39 32.8**	**+0.5**
POPC				eS	**Sb**	**18 40 46.3**	**-5.6**
POPC				*i*		18 41 06.5	
	comp=Z,260nm,0.7s						
PCON	**Cinco Dias**	**5.54**	**54**	eP	**Pn**	**18 39 36.6**	**+2.7**
PCON				eS	**Sb**	**18 40 51.7**	**-3.1**
PCON				*i*		18 41 12.6	
	comp=Z,615nm,0.7s						
PTLC	**Puerto Leguiza**	**6.17**	**79**	eP	**Pn**	**18 39 41.8**	**-0.3**
PTLC				*i*		18 42 00.1	
	comp=Z,144nm,0.6s						
MARP	**Paez Belalcaza**	**6.20**	**52**	eP	**Pn**	**18 39 44.5**	**+1.8**
MARP				eS	**Sb**	**18 41 05.1**	**-8.4**
BETC	**Betania**	**6.53**	**56**	eP	Pn	18 39 53.7	+6.8
BETC				eS	**Sb**	**18 41 16.1**	**-6.6**
ORTC	**Ortega, Tolima**	**7.42**	**49**	eP	**Pn**	**18 40 00.6**	**+1.3**
ORTC				eS	**Sn**	**18 41 31.8**	**+8.1**
ORTC				*i*		18 41 52.0	
	comp=Z,178nm,0.7s						
PLMC	**San Jos del P**	**7.42**	**38**	eP	**Pn**	**18 40 01.6**	**+2.4**
MACC	**Macarena, Meta**	**7.67**	**66**	eP	**Pn**	**18 40 04.8**	**+2.2**
MACC				eS	**Sb**	**18 41 58.5**	**+3.0**
GUY2C	**Guyana, Caldas**	**8.25**	**42**	eP	Pn	18 40 15.9	+4.8
GUY2C				eS	Sn	18 41 56.7	+12
GUY2C				*i*		18 42 18.0	
	comp=Z,133nm,0.6s						
ROSC	**El Rosal**	**8.73**	**48**	Pn	Pn	18 40 24.7	+7.3
	comp=Z,16nm,0.3s,baz=183,slow=7.4,SNR=28						
ROSC				Sn	**Sn**	**18 42 03.7**	**+7.5**
	comp=Z,1.6nm,0.3s,baz=20,slow=23,SNR=1.5						
ROSC				LR	LR	18 44 07.2	
	comp=Z,12μm,19.6s,baz=218,slow=41						
ROSC	**El Rosal**	**8.73**	**48**	Pn	**Pn**	**18 40 16.6**	**-0.9**
ROSC	**El Rosal**	**8.73**	**48**	eP	Pn	18 40 25.3	+7.8
HELC	**Santa Helena**	**8.89**	**37**	eP	Pn	18 40 28.2	+8.5
HELC				eS	Sn	18 42 12.6	+12
HELC				*i*		18 42 22.3	
	comp=Z,40nm,0.6s						
CDITO	**Canoas**	**9.70**	**348**	Pn	**Pn**	**18 40 31.9**	**+1.4**
PTBC	**PUERTO BERRIO,**	**9.83**	**40**	eP	**Pn**	**18 40 35.8**	**+3.5**
PTBC				eS	**Sn**	**18 42 29.4**	**+6.5**
PTBC				*i*		18 42 48.0	
	comp=Z,28nm,0.7s						
BRU2	**Volcan**	**9.88**	**349**	Pn	**Pn**	**18 40 33.5**	**+0.5**
RIOS	**Rincon, Osa**	**9.97**	**345**	Pn	**Pn**	**18 40 34.7**	**+0.5**
BCIP	**Isla Barro Col**	**10.13**	**6**	Pn	**Pn**	**18 40 36.2**	**-0.2**
ZARC	**Zaragoza, Cauc**	**10.33**	**35**	Pn	**Pn**	**18 40 40.0**	**+0.9**
RUSC	**La Rusia**	**10.34**	**49**	eP	Pn	18 40 46.2	+6.5
SRBA	**San Rafael, Bu**	**10.44**	**346**		**Pn**	**18 40 42.4**	**+1.6**
DRK0	**Durika**	**10.45**	**347**	Pn	**Pn**	**18 40 39.0**	**-1.8**
CZSB	**Cruzeiro do Su**	**10.54**	**130**	eP	**Pn**	**18 40 42.5**	**+0.6**
PEZE	**Perez Zeledon,**	**10.67**	**345**	Pn	**Pn**	**18 40 46.2**	**+2.4**
RIMA	**Rio Macho**	**11.08**	**344**		**Pn**	**18 40 51.9**	**+2.3**
CVTR	**Volcan Turrial**	**11.30**	**345**	Pn	**Pn**	**18 40 51.6**	**-1.1**
HDC	**Heredia**	**11.38**	**344**	Pn	**Pn**	**18 40 56.2**	**+2.6**
TBTG	**Tabatinga, AM**	**11.40**	**106**	eP	**Pn**	**18 40 53.8**	**+0.1**
NNA	**Nana**	**11.64**	**160**	Pn	**Pn**	**18 40 58.5**	**+1.4**
	comp=Z,13nm,0.3s,baz=321,slow=14,SNR=12						
NNA				Sn	**Sn**	**18 43 06.7**	**-0.6**
	comp=Z,6.6nm,0.3s,baz=221,slow=19,SNR=9.6						
NNA				LR	LR	18 45 55.8	
	comp=Z,4μm,19.2s,baz=332,slow=40						
NNA	**Nana**	**11.64**	**160**	Pn	**Pn**	**18 40 53.8**	**-3.4**
OCAC	**Ocana**	**11.85**	**39**	Pn	**Pn**	**18 41 01.0**	**+1.0**
DUNO	**Dulce Nombre,**	**11.91**	**337**	Pn	**Pn**	**18 41 01.4**	**+0.7**
JTS	**Las Juntas de**	**11.91**	**340**	Pn	**Pn**	**18 41 01.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=229,slow=13,SNR=6.3						
JTS				LR	LR	18 44 37.9	
	comp=Z,4μm,18.1s,baz=219,slow=33						
JTS	**Las Juntas de**	**11.91**	**340**		**Pn**	**18 41 00.3**	**-0.5**
COVE	**Coope Vega, Sa**	**12.14**	**343**	Pn	**Pn**	**18 41 04.3**	**+0.4**
ORTG	**Ortega, Santa**	**12.16**	**338**	Pn	**Pn**	**18 41 04.1**	**-0.1**
SJCC	**San Jacinto, C**	**12.20**	**28**		**Pn**	**18 41 06.0**	**+1.3**
ESPN	**Las Esperanzas**	**13.53**	**345**	Pn	**Pn**	**18 41 22.5**	**-0.3**
ACON	**Acoyapa**	**13.56**	**342**		**Pn**	**18 41 23.0**	**-0.3**
SDV	**Santo Domingo**	**14.14**	**46**	Pn	**Pn**	**18 41 32.3**	**+0.9**
	baz=223,slow=11,SNR=11						
SDV				Sn	S	18 44 19.6	-10
	comp=Z,0.6nm,0.3s,baz=72,slow=16,SNR=1.7						
SDV				LR	LR	18 48 11.6	
	comp=Z,4μm,19.2s,baz=222,slow=43						
SDV	**Santo Domingo**	**14.14**	**46**		**Pn**	**18 41 29.9**	**-1.6**
SDV	**Santo Domingo**	**14.14**	**46**	eP	**Pn**	**18 41 31.2**	**-0.3**
BOAB	**BOACO BROADBAN**	**14.17**	**340**	Pn	**Pn**	**18 41 32.0**	**+0.4**
MATN	**Matagalpa**	**14.70**	**340**		**Pn**	**18 41 40.4**	**+1.4**
CRIN	**San Cristobal**	**14.91**	**336**	Pn	**Pn**	**18 41 40.0**	**-1.8**
URIC	**Uribia, Colomb**	**15.38**	**35**	Pn	**Pn**	**18 41 45.4**	**-2.5**
URIC				IAmb	IAmb	18 41 58.2	
	comp=Z,54nm,0.8s						
BAUV	**El Baul**	**16.14**	**52**		**Pn**	**18 41 55.2**	**-2.7**
BAUV				IAmb	IAmb	18 42 17.2	
	comp=Z,175nm,1.5s						
TGUH	**Tegucigalpa,Un**	**16.23**	**337**	Pn	**Pn**	**18 41 58.4**	**-0.7**
TGUH				IAmb	IAmb	18 42 27.3	
	comp=Z,125nm,1.2s						
ETMB	**Extrema**	**17.01**	**122**	eP	**Pn**	**18 42 04.7**	**-4.2**
MTO3	**Montecristo**	**17.44**	**331**	Pn	Pn	**18 42 12.5**	**-2.1**
ESQI	**Esquipulas**	**17.57**	**332**		**Pn**	**18 42 16.9**	**+0.8**
ESQI				IAmb	IAmb	18 42 23.0	
	comp=Z,109nm,1.3s						
HATO	**Hato, Curacao**	**17.63**	**42**		**P**	**18 42 17.4**	**-0.2**
LPAZ	**La Paz**	**19.72**	**141**	P	**Pn**	**18 42 43.9**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=311,slow=7.0,SNR=18						
LPAZ				LR	LR	18 51 55.7	
	comp=Z,6μm,19.5s,baz=302,slow=42						
LPAZ	**La Paz**	**19.72**	**141**	P	**Pn**	**18 42 42.1**	**-0.6**
LPAZ	**La Paz**	**19.72**	**141**	eP	**Pn**	**18 42 41.8**	**-0.9**
PETF	**Flores**	**19.88**	**334**	P	**P**	**18 42 40.5**	**-1.7**
PETF				IAmb	IAmb	18 43 03.2	
	comp=Z,37nm,0.7s						
MACA	**Manacapuru-AM**	**20.28**	**96**	eP	**P**	**18 42 47.0**	**+0.2**
PB16	**IPOC Station P**	**20.54**	**148**		**P**	**18 42 49.1**	**-1.0**
PB16				IAmb	IAmb	18 43 05.4	
	comp=Z,61nm,0.8s						
BOAV	**Boa Vista**	**20.61**	**81**	eP	**P**	**18 42 50.6**	**+0.2**
JAKH	**Jacmel**	**20.79**	**23**	P	**P**	**18 42 51.8**	**-0.4**
LGNH	**Logne**	**21.00**	**22**	P	**P**	**18 42 54.5**	**0.0**
GTBY	**Guantanamo Bay**	**21.53**	**15**	P	**P**	**18 43 00.9**	**+0.7**
GTBY				IAmb	IAmb	18 43 08.5	
	comp=Z,41nm,0.9s						
PB11	**IPOC Station P**	**21.65**	**150**	P	**P**	**18 42 57.3**	**-4.4**
PB11				IAmb	IAmb	18 43 18.2	
	comp=Z,83nm,1.0s						
GO01	**Chusmiza**	**21.81**	**149**	P	**P**	**18 43 01.0**	**-2.7**
BANI	**BANI**	**21.85**	**28**	P	**P**	**18 43 03.4**	**-0.4**
TA02	**Huaiquique**	**21.86**	**152**	P	**P**	**18 42 57.0**	**-6.7**
TA02				IAmb	IAmb	18 43 20.0	
	comp=Z,41nm,0.9s						
SDDR	**Presa de Saban**	**21.95**	**25**	P	**P**	**18 43 05.4**	**+0.6**
TA01	**Diego Aracena**	**22.09**	**152**	P	**P**	**18 43 04.3**	**-1.9**
SDD	**Santo Domingo**	**22.11**	**29**	P	**P**	**18 43 06.0**	**-0.5**
PB08	**IPOC Station P**	**22.23**	**150**	P	**P**	**18 43 05.2**	**-2.8**
PB08				IAmb	IAmb	18 43 35.3	
	comp=Z,52nm,0.9s						
PATCX	**Punta Patache**	**22.32**	**153**	P	**P**	**18 43 07.2**	**-1.6**
PATCX				IAmb	IAmb	18 43 33.5	
	comp=Z,74nm,1.2s						
TRN	**Trinidad (W)**	**22.54**	**59**	eP	**P**	**18 43 07.6**	**-3.6**
SC01	**Santiago de Io**	**22.59**	**26**	P	**P**	**18 43 12.4**	**+0.8**
DR12	**Loma Pena Alta**	**22.65**	**29**	P	**P**	**18 43 11.4**	**-0.9**
CMIG	**Matias Romero**	**22.66**	**323**	P	**P**	**18 43 12.9**	**+0.5**
	comp=Z,20nm,1.2s,baz=143,slow=7.8,SNR=18						
CMIG				LR	LR	18 50 12.0	
	comp=Z,2μm,19.5s,baz=155,slow=32						
PB02	**IPOC Station P**	**22.88**	**153**	P	**P**	**18 43 12.4**	**-2.3**
PB02				IAmb	IAmb	18 43 31.1	
	comp=Z,61nm,1.3s						
PCDR	**Punta Cana, DR**	**22.93**	**32**	P	**P**	**18 43 14.3**	**-0.8**
CRPR	**Cabo Rojo, PR**	**23.22**	**35**	P	**P**	**18 43 15.9**	**-2.2**
CRPR				IAmb	IAmb	18 43 38.3	
	comp=Z,67nm,1.2s						
MLPR	**Magueyes Islan**	**23.23**	**35**	P	**P**	**18 43 16.9**	**-1.3**
PB07	**IPOC Station P**	**23.23**	**153**	P	**P**	**18 43 16.2**	**-2.3**
PRSN	**Puerto Rico Se**	**23.37**	**35**	P	**P**	**18 43 18.9**	**-0.8**
ICMP	**Isla Caja de M**	**23.47**	**36**	P	**P**	**18 43 20.8**	**+0.2**
OBIP	**Obispado Ponce**	**23.54**	**36**	P	**P**	**18 43 19.2**	**-2.1**
CELP	**Cerrillos**	**23.58**	**36**	P	**P**	**18 43 20.5**	**-1.3**
CELP				IAmb	IAmb	18 43 47.7	
	comp=Z,48nm,0.8s						
AGPR	**Aguadilla, PR**	**23.59**	**34**	P	**P**	**18 43 21.7**	**-0.1**
PB09	**IPOC Station P**	**23.59**	**152**	P	**P**	**18 43 21.1**	**-0.9**
PB09				IAmb	IAmb	18 43 48.0	
	comp=Z,33nm,1.0s						
TOSP	**Speyside**	**23.60**	**58**	P	**P**	**18 43 20.6**	**-1.4**
VILB	**Vilhena**	**23.68**	**121**	eP	**P**	**18 43 24.0**	**+1.2**
AOPR	**Arecibo Observ**	**23.70**	**35**	P	**P**	**18 43 21.6**	**-1.4**
SJG	**San Juan**	**23.86**	**37**	P	**P**	**18 43 25.5**	**+1.0**
	comp=Z,46nm,0.9s,baz=225,slow=6.6,SNR=44						
SJG				LR	LR	18 53 53.5	
	comp=Z,2μm,21.7s,baz=196,slow=40						
SJG	**San Juan**	**23.86**	**37**	P	**P**	**18 43 23.1**	**-1.4**
PDPR	**Patillas Dam,**	**23.87**	**37**	P	**P**	**18 43 22.4**	**-2.1**
EMPR	**Esperanza - Ma**	**23.93**	**35**	P	**P**	**18 43 24.1**	**-1.0**
GCPR	**Guaynabo City**	**24.06**	**36**	P	**P**	**18 43 25.6**	**-0.8**
**HUM

SWET Sewanee 36.32 353 P P 18 45 12.7 -2.1
WHTX Lake Whitney, 36.36 336 P P 18 45 14.7 -0.5
WHTX IAmb IAmb 18 45 17.4
comp=Z,14nm,0.8s
WHTX Lake Whitney, 36.36 336 P P 18 45 14.9 -0.3
baz=151
CPCT Cooper Cave 36.40 355 P P 18 45 14.3 -1.1
CPCT IAmb IAmb 18 45 40.8
comp=Z,16nm,1.0s
PTGB Pitanga 36.50 133 eP P 18 45 16.9 +0.3
TKL Tuckaleechee C 36.55 356 P P 18 45 16.9 +0.2
comp=Z,2.6nm,0.7s,baz=162,slow=13,SNR=1.7
TKL Tuckaleechee C 36.55 356 IAmb IAmb 18 45 32.5
comp=Z,18nm,1.1s
ITQB Itaqui 36.70 143 P P 18 45 17.7 -0.4
ITQB Itaqui 36.70 143 eP P 18 45 19.7 +1.6
V52A Sevierville 36.72 356 P P 18 45 17.3 -0.9
V52A IAmb IAmb 18 45 30.9
comp=Z,30nm,1.4s
V48A Smith Brothers 36.95 352 P P 18 45 19.3 -0.8
TX32 Lajitas Array 37.20 326 P P 18 45 21.4 -1.1
TXAR Lajitas Array 37.20 326 P P 18 45 22.9 +0.4
comp=Z,1.2nm,0.6s,baz=155,slow=11,SNR=7.2
TXAR LR LR 18 59 34.2
comp=Z,524nm,18.1s,baz=136,slow=35
TXAR Lajitas Array 37.20 326 P P 18 45 21.0 -1.5
TX31 Lajitas Ar. Si 37.20 326 P P 18 45 20.4 -2.0
TX31 IAmb IAmb 18 45 34.4
comp=Z,31nm,1.4s
BB19B Bebedouro 37.34 125 eP P 18 45 23.4 -0.3
SLBS Sierra La Lagu 37.41 313 P P 18 45 24.0 -0.3
SLBS IAmb IAmb 18 45 34.7
comp=Z,27nm,1.1s
SDBA SAO DESIDERIO 37.41 109 eP P 18 45 24.3 -0.2
TZTN Tazewell 37.41 356 P P 18 45 24.1 0.0
baz=176
Z35A Perchaven, San 37.46 337 P P 18 45 24.5 0.0
Z35A IAmb IAmb 18 45 38.0
comp=Z,21nm,1.1s
WVT Waverly 37.48 351 P P 18 45 23.7 -0.9
WVT Waverly 37.48 351 P P 18 45 24.2 -0.4
baz=168
W41B Gary Mavity, V 37.51 345 P P 18 45 24.8 -0.1
W41B Gary Mavity, V 37.51 345 P P 18 45 25.0 +0.2
baz=161
WHAR Wooly Hollow 37.63 345 P P 18 45 26.2 +0.3
FRTB Fartura 37.64 129 eP P 18 45 25.6 -0.6
RPN Rapa Nui 37.72 224 LR LR 18 56 39.4
comp=Z,2µm,19.4s,baz=52,slow=29
ABTX Abilene, Hawle 37.84 334 P P 18 45 28.3 +0.5
ABTX IAmb IAmb 18 45 40.4
comp=Z,38nm,1.4s
ABTX Abilene, Hawle 37.84 334 P P 18 45 28.5 +0.8
baz=148
LPIG La Paz 37.93 313 LR LR 18 58 02.0
comp=Z,517nm,19.1s,baz=99,slow=32
W39A Magazine 37.96 343 P P 18 45 29.4 +0.7
W39A IAmb IAmb 18 45 58.0
comp=Z,22nm,1.1s
W39A Magazine 37.96 343 P P 18 45 29.4 +0.7
baz=159,SNR=6.7
ITAB Concordia 37.97 136 P P 18 45 28.5 -0.4
ITAB Concordia 37.97 136 eP P 18 45 29.3 +0.4
BLA Blacksburg 38.00 1 P P 18 45 29.8 +0.7
baz=181
LCAR Lake Charles 38.09 346 P P 18 45 28.5 -1.2
LCAR IAmb IAmb 18 45 44.0
comp=Z,16nm,0.8s
FCAR Ozark Folk Cen 38.15 345 P P 18 45 28.7 -1.6
LC01 Cunco 38.63 169 P P 18 45 33.1 -1.2
JANB Januaria 38.71 113 eP P 18 45 34.7 -0.7
U40A Yellville 38.78 344 P P 18 45 34.7 -1.0
U40A IAmb IAmb 18 45 51.1
comp=Z,21nm,1.1s
U40A Yellville 38.78 344 P P 18 45 35.9 +0.3
baz=161,SNR=6.2
RCLB Rio Claro- Sao 38.79 126 eP P 18 45 35.7 -0.3
X34A Smith Ranch, M 38.80 337 P P 18 45 35.6 -0.3
X34A IAmb IAmb 18 45 51.5
comp=Z,22nm,1.0s
HHAR Hobbs 39.02 343 P P 18 45 36.4 -1.2
CBN Corbin Frederi 39.12 4 P P 18 45 38.3 -0.1
baz=186
FNO Franklin 39.22 338 P P 18 45 38.7 -0.7
FNO IAmb IAmb 18 45 54.9
comp=Z,24nm,1.1s
TUL1 Leonard 39.25 341 P P 18 45 37.6 -1.9
TUL1 Leonard 39.25 341 P P 18 45 39.9 +0.3
baz=156
SIUC Southern Illin 39.27 350 P P 18 45 38.8 -0.8
SIUC IAmb IAmb 18 46 06.7
comp=Z,38nm,1.4s
R49A Shelbyville 39.28 355 P P 18 45 37.8 -1.9
WMOK Wichita Mounta 39.30 336 P P 18 45 39.4 -0.6
WMOK Wichita Mounta 39.30 336 P P 18 45 40.3 +0.4
baz=151,SNR=7.3
MGMO Mountain Grove 39.39 346 P P 18 45 39.0 -1.6
MGMO IAmb IAmb 18 45 55.5
comp=Z,22nm,1.0s
NBPS Pedro II - PI 39.51 96 eP P 18 45 42.2 0.0
VAO Valinhos 39.53 126 eP P 18 45 41.4 -0.8
MC01 Montes Claros 39.57 115 eP P 18 45 42.5 -0.1
FVM French Village 39.76 348 P P 18 45 41.7 -2.1
Q51A Peebles 39.88 357 P P 18 45 44.5 -0.2
MNTX Cornudas Mount 39.95 327 P P 18 45 45.6 +0.1
MNTX Cornudas Mount 39.95 327 P P 18 45 45.8 +0.3
baz=140,SNR=13
PLTB Pedras Altas 40.01 143 eP P 18 45 46.4 +0.5
CCM Cathedral Cave 40.01 347 P P 18 45 43.6 -2.2
CCM Cathedral Cave 40.01 347 P P 18 45 45.2 -0.6
baz=164
CNLB Canela 40.15 137 eP P 18 45 47.1 -0.1
S39A Bolivar 40.17 345 P P 18 45 45.9 -1.2
S39A IAmb IAmb 18 46 02.3
comp=Z,23nm,1.1s
P51A Williamsport 40.31 357 P P 18 45 47.8 -0.6
DIAM Diamantina, MG 40.36 118 eP P 18 45 49.2 0.0
MSTX Muleshoe 40.40 331 P P 18 45 49.0 -0.3
MSTX IAmb IAmb 18 45 54.7
comp=Z,26nm,0.8s
MSTX Muleshoe 40.40 331 P P 18 45 49.5 +0.2
baz=145,SNR=10
T35A Sooner Cattle 40.41 341 P 18 45 47.2 -1.9
T35A IAmb IAmb 18 46 04.9
comp=Z,56nm,1.5s
P52A Corning 40.43 358 P P 18 45 49.2 -0.1
baz=178
BSCB Bom Sucesso 40.45 122 eP P 18 45 49.7 -0.1
MCWV Mont Chateau 40.45 1 P P 18 45 49.7 +0.2
baz=182
R40A Maddies Statio 40.47 346 P P 18 45 49.1 -0.5
P49A Miami Univ. Ec 40.47 355 P P 18 45 48.1 -1.5
baz=174
LL04 Puerto Octay 40.48 170 P P 18 45 48.1 -1.6
LL04 IAmb IAmb 18 45 52.1
comp=Z,17nm,0.8s
PLCA Paso Flores 40.66 168 P P 18 45 52.6 +1.3
comp=Z,7.5nm,0.9s,baz=341,slow=10,SNR=18
PLCA Paso Flores 40.66 168 P P 18 45 50.2 -1.1
PLCA IAmb IAmb 18 46 09.9
comp=Z,22nm,1.1s
PLCA Paso Flores 40.66 168 eP P 18 45 52.5 +1.2
PARB Paraibuna 40.78 126 eP P 18 45 52.1 -0.4
U32A Winter Ranch, 40.82 337 P P 18 45 52.9 +0.3
NBMO Morrinhos-CE 40.86 94 eP P 18 45 52.8 -0.4
O53A New Philadelph 41.03 360 P P 18 45 54.2 -0.1
baz=179
ACSO Alum Creek Sta 41.06 358 P P 18 45 52.0 -2.5
ACSO Alum Creek Sta 41.06 358 P P 18 45 54.7 +0.2
baz=177
O48B Farmland 41.23 355 P P 18 45 54.5 -1.3
baz=174
HSIG 41.45 318 P P 18 45 57.7 -0.2
NBPB Pedra_Branca-C 41.45 97 eP P 18 45 58.0 -0.2
SSPA Standing Stone 41.51 3 P P 18 45 58.3 +0.2
baz=184
SFIN Lafayette 41.55 353 P P 18 45 58.4 -0.2
baz=171
NBPN Ponto Novo - B 41.56 105 eP P 18 45 58.4 -0.7
N54A Moraine State 41.75 1 P P 18 45 59.8 -0.4
baz=181
MAN01 Angra dos Reis 41.92 124 eP P 18 46 03.2 +1.3
121A Cookes Peak, D 41.93 325 P P 18 46 02.8 +0.9
121A IAmb IAmb 18 46 15.6
comp=Z,31nm,1.2s
baz=138,SNR=7.2
N59A State Game Lan 41.96 6 P P 18 46 02.9 +1.0
baz=188
319A Douglas 41.98 323 P P 18 46 01.8 -0.6
319A IAmb IAmb 18 46 14.8
comp=Z,25nm,1.2s
HDIL Hopedale 42.05 350 P P 18 46 02.5 0.0
baz=167
VAS01 Vassouras-RJ 42.11 123 eP P 18 46 03.1 -0.3
M53A WI Miller and 42.22 0 P P 18 46 03.6 -0.4
baz=180
M50A Fremont 42.23 358 P P 18 46 01.8 -2.2
M50A IAmb IAmb 18 46 18.4
comp=Z,17nm,0.9s
PAL Palisades 42.26 8 P P 18 46 03.1 -1.2
baz=190
KSU1 Kansas State U 42.43 342 P P 18 46 05.3 -0.4
KSU1 Kansas State U 42.43 342 P P 18 46 04.9 -0.8
baz=156,SNR=12
NBMA Muriti-CE 42.44 100 eP P 18 46 06.2 -0.1
BNM Barren Site 42.50 328 P P 18 46 07.9 +1.2
R32A Long Quarter, 42.52 339 P P 18 46 06.9 +0.4
R32A IAmb IAmb 18 46 22.2
comp=Z,27nm,1.0s
NBCL Cascavel-CE 42.64 95 eP P 18 46 07.4 -0.5
SJMB Sao Joao De Ma 42.71 117 eP P 18 46 08.1 -0.2
GDU01 Guandu, BA 42.77 109 eP P 18 46 08.9 +0.1
LL02 Futaleuf 42.79 170 P P 18 46 07.3 -1.3
DUB01 Friburgo-RJ 42.93 122 eP P 18 46 09.9 -0.2
ANMO Albuquerque 43.02 329 LR LR 19 04 02.9
comp=Z,724nm,18.1s,baz=140,slow=36
ANMO Albuquerque 43.02 329 P P 18 46 10.6 -0.2
ANMO IAmb IAmb 18 46 16.9
comp=Z,14nm,0.7s
ANMO Albuquerque 43.02 329 P P 18 46 12.5 +1.7
baz=141
BSFB Barra de Sao F 43.05 117 eP P 18 46 08.3 -2.9
N38A Joes South For 43.08 346 P P 18 46 09.3 -1.6
BINY Binghamton 43.21 5 P P 18 46 12.3 +0.3
baz=187
CMC01 Camacan, BA 43.23 111 eP P 18 46 13.0 +0.4
CBKS Cedar Bluff 43.24 338 P P 18 46 10.9 -1.4
CBKS IAmb IAmb 18 46 36.4
comp=Z,18nm,0.9s
GUA01 Guaratinga, BA 43.30 113 eP P 18 46 13.1 0.0
NAN01 Guarapari, ES 43.38 115 eP P 18 46 13.6 -0.3
CAM01 Campos-RJ 43.44 121 eP P 18 46 14.4 +0.2
TUC Tucson 43.55 322 P P 18 46 15.4 +0.4
TUC Tucson 43.55 322 P P 18 46 15.9 +0.9
baz=134
K50A Casco 43.58 358 P P 18 46 13.1 -1.9
K50A IAmb IAmb 18 46 15.4
comp=Z,31nm,1.2s
RIB01 Linhares ES 43.62 117 eP P 18 46 14.8 -0.9
T25A Trinidad 43.76 333 P P 18 46 16.5 -0.2
T25A IAmb IAmb 18 46 32.7
comp=Z,19nm,1.1s
T25A Trinidad 43.76 333 P P 18 46 16.7 -0.1
baz=145,SNR=10
ALF01 Guarapari-ES 43.78 119 eP P 18 46 17.0 +0.1
L40A Anamosa 43.86 349 P P 18 46 15.3 -1.9
L40A IAmb IAmb 18 46 16.9
comp=Z,17nm,1.2s
L61B Northampton 43.86 9 P P 18 46 17.5 +0.3
baz=192
NBLA Lagarto - SE 43.92 105 eP P 18 46 17.9 -0.3
N33A J Bar K, Exete 44.18 342 P P 18 46 19.1 -0.8
JFWS Jewell Farm 44.50 350 P P 18 46 23.6 +1.2
baz=167
214A Organ Pipe Nat 44.58 320 P P 18 46 23.4 +0.2
214A IAmb IAmb 18 46 36.5
comp=Z,33nm,1.4s
214A Organ Pipe Nat 44.58 320 P P 18 46 23.5 +0.2
baz=131,SNR=5.7
X18A Snowflake 44.62 325 P P 18 46 23.2 -0.5
X18A IAmb IAmb 18 46 36.1
comp=Z,16nm,1.2s
SDCO Great Sand Dun 44.76 332 P P 18 46 25.8 +0.9
SDCO IAmb IAmb 18 46 31.3
comp=Z,11nm,0.7s
SDCO Great Sand Dun 44.76 332 P P 18 46 26.0 +1.2
baz=144,SNR=35
W18A Petrified Fore 44.92 326 P P 18 46 25.6 -0.5
W18A Petrified Fore 44.92 326 P P 18 46 27.1 +1.0
baz=137
BGNE Belgrade 45.01 342 P P 18 46 26.4 -0.1
BGNE Belgrade 45.01 342 P P 18 46 27.1 +0.6
baz=155
RCBR Riachuelo 45.12 97 P P 18 46 27.5 -0.4
comp=Z,17nm,1.0s,baz=297,slow=2.3,SNR=2.2
RCBR Riachuelo 45.12 97 P P 18 46 26.7 -1.2
NBAN Anadia - AL 45.18 103 eP P 18 46 28.3 0.0
I42A Draeger Farm, 45.25 352 P P 18 46 25.9 -2.4
I42A IAmb IAmb 18 46 28.9
comp=Z,9.3nm,0.8s
DELO Deloro Mine 45.39 3 P P 18 46 28.4 -1.0
DELO IAmb IAmb 18 46 43.2
comp=Z,13nm,1.3s
S22A 4UR Ranch, Cre 45.39 331 P P 18 46 28.7 -1.3
S22A IAmb IAmb 18 46 38.9
comp=Z,16nm,1.4s
S22A 4UR Ranch, Cre 45.39 331 P P 18 46 30.6 +0.7
baz=142,SNR=6.1
X16A Lo Mia Camp, P 45.40 324 P P 18 46 29.7 -0.3
X16A IAmb IAmb 18 46 42.4
comp=Z,13nm,1.1s
SADO Sadowa 45.58 2 LR LR 19 06 17.2
comp=Z,842nm,18.3s,baz=182,slow=37
SADO Sadowa 45.58 2 P P 18 46 29.2 -1.6
SADO IAmb IAmb 18 46 31.2
comp=Z,20nm,1.5s
Q24A Divide 45.58 333 P P 18 46 29.2 -2.3
Q24A Divide 45.58 333 P P 18 46 31.7 +0.2
baz=145
H43A Windswept, Lux 45.67 353 P P 18 46 30.7 -0.9
LBNH Lisbon 45.72 9 P P 18 46 32.7 +0.6
baz=192
113A Mohawk Valley, 45.72 320 P P 18 46 33.9 +1.6
113A IAmb IAmb 18 46 47.5
comp=Z,16nm,1.2s
LONY Lake Ozonia 45.74 6 P P 18 46 33.3 +1.1
baz=189
MVCO Mesa Verde 45.81 329 P P 18 46 30.1 -3.2
MVCO Mesa Verde 45.81 329 P P 18 46 33.4 +0.2
baz=140
OGNE Ogallala 45.95 338 P P 18 46 34.9 +0.8
baz=150
Y14A Wickenburg 46.02 322 P P 18 46 36.1 +1.4
Y14A IAmb IAmb 18 46 46.9
comp=Z,11nm,1.1s
WUAZ Wupatki 46.14 325 P P 18 46 37.4 +1.7
WUAZ Wupatki 46.14 325 P P 18 46 36.3 +0.6
baz=135,SNR=6.6
K31A O'Neill 46.30 342 P P 18 46 36.7 0.0
ISCO Idaho Springs 46.47 334 P P 18 46 38.0 -0.5
ISCO IAmb IAmb 18 46 53.9
comp=Z,14nm,1.3s
ISCO Idaho Springs 46.47 334 P P 18 46 38.9 +0.4
baz=145
GLA Glamis 46.59 320 P P 18 46 39.8 +0.7
GLA IAmb IAmb 18 46 48.2
comp=Z,20nm,1.4s
GLA Glamis 46.59 320 P P 18 46 39.6 +0.5
baz=130
SMCO Snowmass 46.59 332 P P 18 46 40.1 +0.6
SMCO IAmb IAmb 18 46 59.4
comp=Z,12nm,1.1s
ECSD EROS Data Cent 46.70 344 P P 18 46 38.6 -1.2
ECSD IAmb IAmb 18 46 54.1
comp=Z,22nm,1.3s
ECSD EROS Data Cent 46.70 344 P P 18 46 39.6 -0.2
baz=158
PDMCI Parker Dam,Lak 46.96 322 P P 18 46 42.5 +0.5
baz=132
YUH Yuha Desert 47.05 319 P P 18 46 41.7 -1.0
YUH IAmb IAmb 18 46 55.1
comp=Z,16nm,1.2s
RMX La Rumorosa 47.12 318 P P 18 46 44.4 +0.9
RMX IAmb IAmb 18 46 55.5
comp=Z,16nm,1.0s
SWSC Sam W. Stewart 47.15 319 P P 18 46 44.9 +1.4
baz=129
IKP In-Ko-Pah, Jac 47.17 318 P P 18 46 45.3 +1.5
baz=128
PKME Peaks-Kenny Pk 47.18 11 P P 18 46 44.3 +0.9
baz=196
U15A North Rim 47.31 325 P P 18 46 44.5 -0.5
U15A IAmb IAmb 18 46 57.8
comp=Z,19nm,1.4s
W13A Hualapai Mount 47.34 323 P P 18 46 44.0 -1.1
W13A IAmb IAmb 18 47 03.2
comp=Z,6.8nm,0.9s
BC3 Big Chuckawall 47.37 320 P P 18 46 46.4 +1.0
baz=130,SNR=7.2
IRM Iron Mountain 47.50 321 P P 18 46 47.8 +1.5
baz=130,SNR=7.0
N23A Red Feather La 47.51 334 P P 18 46 47.6 +1.1
baz=145
MONP2 Monument Peak 47.53 318 P P 18 46 47.9 +1.1
baz=128
BELC Belle Mtn. Jos 47.94 320 P P 18 46 51.1 +1.2
baz=129,SNR=6.0
O20A White River Ci 47.95 332 P P 18 46 49.0 -0.8
O20A IAmb IAmb 18 47 16.6
comp=Z,21nm,1.3s
O20A White River Ci 47.95 332 P P 18 46 51.6 +1.8
baz=142
F36A Milaca 47.97 348 P P 18 46 48.6 -1.0
109C Camp Elliot, M 47.98 318 P P 18 46 51.2 +1.3
baz=127
TPFO Pinon Flats 47.99 319 P P 18 46 51.6 +1.4
baz=129
PFO Pinyon Flats O 48.00 319 LR LR 19 04 45.4
comp=Z,199nm,20.5s,baz=128,slow=33
PFO Pinyon Flats O 48.00 319 P P 18 46 50.4 +0.1
PFO IAmb IAmb 18 47 00.4
comp=Z,12nm,1.2s
PFO Pinyon Flats O 48.00 319 P P 18 46 51.7 +1.5
baz=129
SUSD Miller 48.01 343 P P 18 46 49.4 -0.7
KNB Kanab 48.02 325 P P 18 46 49.6 -0.8
KNB IAmb IAmb 18 47 07.8
comp=Z,18nm,1.4s
PKCU Pink Cliffs 48.04 326 P P 18 46 52.2 +1.5
GMRC Granite Mounta 48.23 321 P P 18 46 53.2 +1.2
baz=130
LCMT Little Creek M 48.26 325 P P 18 46 52.5 +0.2
LCMT IAmb IAmb 18 47 02.2
comp=Z,11nm,1.3s
SRU San Rafael Swe 48.29 329 P P 18 46 52.5 0.0
MTPU Mount Pierson 48.39 327 P P 18 46 53.9 +0.4
Q16A Castle Valley 48.49 328 P P 18 46 55.0 +1.0
Q16A IAmb IAmb 18 47 18.6
comp=Z,11nm,1.2s
P18A Preston Nutter 48.54 330 P P 18 46 55.4 +0.9
P18A IAmb IAmb 18 47 14.0
comp=Z,12nm,1.3s
F33A 5 Mile Ranch, 48.57 346 P P 18 46 53.8 -0.5
F33A IAmb IAmb 18 47 05.4
comp=Z,7.8nm,0.9s
ELS Elsinore Mount 48.66 319 P P 18 46 55.9 +0.6
ELS IAmb IAmb 18 47 07.5
comp=Z,17nm,1.4s
P17A Butcher Ranch, 48.68 329 P P 18 46 56.5 +1.0
P17A IAmb IAmb 18 47 14.6
comp=Z,12nm,1.1s
LATQ La Tuque 48.68 7 P P 18 46 53.9 -1.1
LATQ IAmb IAmb 18 47 17.4
comp=Z,17nm,1.0s
HEC Hector,Ludlow 48.68 321 P P 18 46 56.7 +1.2
baz=130
BBRC Big Bear Solar 48.70 320 P P 18 46 57.2 +1.4
baz=129
CCUT Cedar City 48.70 325 P P 18 46 55.5 -0.3
CCUT IAmb IAmb 18 47 09.3
comp=Z,16nm,1.4s
RWWY Rawlins 48.71 334 P P 18 46 55.5 -0.3
RWWY IAmb IAmb 18 47 03.5
comp=Z,11nm,1.1s
MSU Marysvale 48.73 327 P P 18 46 57.1 +1.2
TUQ Turquoise Moun 48.81 321 P P 18 46 58.4 +1.9
baz=130
RDMU Red Mountain 48.92 331 P P 18 46 57.4 0.0
RDMU IAmb IAmb 18 47 02.7
comp=Z,9.2nm,0.7s
TCRU Three Creeks R 48.95 327 P P 18 46 58.5 +0.9
TCRU IAmb IAmb 18 47 13.0
comp=Z,18nm,1.4s
SCI2 San Clemente I 49.01 317 P P 18 46 58.9 +1.0
baz=126
SHPR Sheep Range 49.04 323 P P 18 46 59.7 +1.4
SHPR IAmb IAmb 18 47 11.6
comp=Z,12nm,1.3s
BFSC Mount Baldy Ra 49.17 319 P P 18 47 00.3 +1.0
baz=128
CIS Catalina Islan 49.17 318 P P 18 47 00.3 +1.2
baz=126
K22A Casper 49.20 335 P P 18 47 00.4 +1.1
baz=145
GSC Goldstone, Bar 49.28 321 P P 18 47 00.9 +0.9
GSC IAmb IAmb 18 47 12.5
comp=Z,19nm,1.5s
GSC Goldstone, Bar 49.28 321 P P 18 47 01.5 +1.4
baz=129
RSSD Black Hills 49.44 338 P P 18 47 02.4 +1.1
RSSD Black Hills 49.44 338 P P 18 47 02.3 +1.1
baz=149
MPU Maple Canyon 49.54 329 P P 18 47 02.4 +0.3
PRN Pahroc Range 49.58 324 P P 18 47 02.7 +0.3
PSUT Pine Spring 49.67 326 P P 18 47 04.3 +1.2
QSM Queen of Sheba 49.74 321 P P 18 47 04.5 +1.0
EDW2 Edwards Air Fo 49.78 319 P P 18 47 04.6 +0.7
baz=128,SNR=6.4
JLU Jordanelle 49.88 330 P P 18 47 05.0 +0.2
JLU IAmb IAmb 18 47 24.1
comp=Z,12nm,1.1s
LRMC Laurel Mtn Rad 49.95 320 P P 18 47 05.9 +0.7
baz=125,SNR=7.3
CCAC Calif City Air 49.96 320 P P 18 47 04.2 -1.0
CCAC IAmb IAmb 18 47 17.5
comp=Z,26nm,1.2s
TPNV Topopah Spring 49.99 323 P P 18 47 05.1 -0.5
TPNV Topopah Spring 49.99 323 P P 18 47 06.9 +1.4
baz=131
MPMC Manual Prospec 50.19 321 P P 18 47 08.9 +1.9
baz=129
DUG Dugway, Tooele 50.29 328 P P 18 47 08.4 +0.7
DUG Dugway, Tooele 50.29 328 P P 18 47 08.8 +1.1
baz=137
E28A Huff 50.46 342 P P 18 47 07.4 -1.4
R11A Troy Canyon, C 50.53 325 P P 18 47 10.7 +1.1
R11A Troy Canyon, C 50.53 325 P P 18 47 11.1 +1.5
baz=133
ISA Isabella, Lake 50.57 320 P P 18 47 11.0 +1.2
ISA Isabella, Lake 50.57 320 P P 18 47 11.0 +1.2
baz=128
BW06 Boulder Array 50.62 333 P P 18 47 10.0 -0.3
BW06 Boulder Array 50.62 333 P P 18 47 11.4 +1.1
baz=142
PD31 Pinedale Array 50.62 333 P P 18 47 10.0 -0.3
PDAR Pinedale Array 50.62 333 P P 18 47 10.8 +0.4
comp=Z,0.7nm,0.7s,baz=135,slow=7.7,SNR=7.4
PDAR LR LR 19 08 56.5
comp=Z,929nm,19.3s,baz=143,slow=36
PDAR Pinedale Array 50.62 333 P P 18 47 10.3 0.0
HWUT Hardware Ranch 50.69 330 P P 18 47 11.0 +0.2
GRAC Grapevine Rang 50.71 322 P P 18 47 10.7 -0.1
GRAC IAmb IAmb 18 47 35.4
comp=Z,12nm,1.1s
GRAC Grapevine Rang 50.71 322 P P 18 47 12.2 +1.4
baz=136
AGMN Agassiz Nation 50.78 347 P P 18 47 09.6 -1.5
AGMN Agassiz Nation 50.78 347 P P 18 47 12.1 +1.0
baz=160
CWC Cottonwood Cre 50.80 321 P P 18 47 12.6 +1.0
baz=129
BGU Big Grassy Mou 50.93 329 P P 18 47 13.0 +0.5
PKM Mcpherson Peak 50.98 318 P P 18 47 14.3 +1.2
baz=126
VES Vestal, Richgr 51.07 320 P P 18 47 14.2 +0.7
baz=128
MDND Maddock 51.30 344 P P 18 47 14.6 -0.4
MDND Maddock 51.30 344 P P 18 47 16.3 +1.3
baz=156
TPH Tonopah 51.31 323 P P 18 47 15.2 -0.3
AHID Auburn Hatcher 51.34 332 P P 18 47 14.8 -0.9
SMMC Simmler 51.35 319 P P 18 47 16.6 +0.9
baz=126
HVU Hansel Valley 51.42 330 P P 18 47 15.4 -0.9
REDW Red Top Meadow 51.68 332 P P 18 47 18.4 +0.2

REDW IAmb IAmb 18 47 39.5
comp=Z,14nm,1.1s
ECR Eagle Creek 51.69 332 P **P** **18 47 17.1 -1.2**
TPAW Teton Pass 51.83 332 P **P** **18 47 18.8 -0.6**
MOOW Moose Ponds 51.93 333 P **P** **18 47 20.5 +0.4**
ELK Elko 51.98 327 LR LR 19 09 04.0
comp=Z,2µm,18.5s,baz=144,slow=36
ELK Elko 51.98 327 P **P** **18 47 20.9 +0.4**
NV11 Mina Array Sit 52.10 323 P **P** **18 47 22.1 +0.7**
NV11 IAmb IAmb 18 47 33.9
comp=Z,18nm,1.4s
OMMB Old Mammoth Mi 52.10 322 P **P** **18 47 21.8 +0.2**
OMMB IAmb IAmb 18 47 33.9
comp=Z,19nm,1.4s
MDPB Devils Postpil 52.17 322 P **P** **18 47 21.4 -0.6**
MDPB IAmb IAmb 18 47 35.0
comp=Z,21nm,1.5s
FLWY Flagg Ranch 52.17 333 P **P** **18 47 21.2 -0.7**
FLWY IAmb IAmb 18 47 45.1
comp=Z,13nm,1.1s
NVAR Mina Array Bea 52.19 323 P **P** **18 47 23.0 +0.9**
comp=Z,1.3nm,0.6s,baz=140,slow=7.5,SNR=12
NVAR LR LR 19 09 15.2
comp=Z,508nm,18.1s,baz=128,slow=36
NVAR Mina Array Bea 52.19 323 P **P** **18 47 22.2 +0.1**
LHV Little Huntoon 52.20 323 P **P** **18 47 23.5 +1.6**
LHV IAmb IAmb 18 47 34.8
comp=Z,23nm,1.5s
H17A Grant Village 52.36 333 P **P** **18 47 23.7 +0.4**
H17A Grant Village 52.36 333 P **P** **18 47 24.5 +1.2**
baz=141
RLMT Red Lodge 52.36 335 P **P** **18 47 24.3 +1.0**
baz=143
RYN Ryan 52.45 323 P **P** **18 47 23.7 -0.3**
KVN Kaiserville 52.47 324 P **P** **18 47 23.8 -0.3**
YFT Old Faithful 52.52 333 P **P** **18 47 25.3 +0.9**
ULM Lac du Bonnet 52.63 348 P **P** **18 47 23.9 -0.9**
comp=Z,12nm,0.7s,baz=152,slow=7.6,SNR=12
ULM Lac du Bonnet 52.63 348 P **P** **18 47 23.8 -1.0**
ULM IAmb IAmb 18 47 25.2
comp=Z,14nm,0.8s
YHH Holmes Hill 52.79 333 P **P** **18 47 26.6 +0.1**
BMN Battle Mountai 52.87 325 P **P** **18 47 27.5 +0.4**
BMN IAmb IAmb 18 47 47.1
comp=Z,13nm,1.0s
GCMT Greycliff 53.06 335 P **P** **18 47 27.3 -1.1**
YERR Yerington 53.11 323 P **P** **18 47 27.7 -1.2**
YERR IAmb IAmb 18 47 41.4
comp=Z,14nm,1.3s
HLID Hailey 53.55 330 P **P** **18 47 31.6 -0.5**
HLID Hailey 53.55 330 P **P** **18 47 31.8 -0.3**
baz=137
BCYI Bear Canyon 53.61 331 P **P** **18 47 31.8 -0.7**
EMB Emerald Bay 53.63 322 P **P** **18 47 31.2 -1.5**
EMB IAmb IAmb 18 47 49.8
comp=Z,16nm,1.5s
PAHR Pah Rah Range 53.65 323 P **P** **18 47 31.0 -1.8**
BOZ Bozeman (W) 53.76 334 P **P** **18 47 33.8 +0.3**
BOZ IAmb IAmb 18 47 54.3
comp=Z,12nm,1.1s
MPK Martis Peak 53.78 323 P **P** **18 47 33.3 -0.6**
MPK IAmb IAmb 18 47 58.3
comp=Z,14nm,1.2s
MFID Camas Ranch 54.16 329 P **P** **18 47 37.7 +1.2**
MFID IAmb IAmb 18 47 55.1
comp=Z,9.6nm,0.9s
LRM Limekiln Ridge 54.30 333 P **P** **18 47 37.3 -0.3**
BEKR Beckworth 54.34 323 P **P** **18 47 38.5 +0.6**
BEKR IAmb IAmb 18 47 51.0
comp=Z,16nm,1.4s
USHA Ushuaia 54.64 171 P **P** **18 47 40.9 +1.4**
comp=Z,7.9nm,0.8s,baz=359,slow=6.3,SNR=5.1
USHA LR LR 19 09 24.3
comp=Z,991nm,18.1s,baz=355,slow=34
ORV Oroville 54.84 322 P **P** **18 47 41.7 +0.4**
ORV IAmb IAmb 18 47 53.9
comp=Z,12nm,1.0s
EGMT Eagleton 54.89 337 P **P** **18 47 42.9 +1.3**
baz=144
WVOR Wild Horse Val 54.99 326 P **P** **18 47 41.9 -0.6**
PLID Pearl Lake 55.44 330 P **P** **18 47 43.9 -1.9**
J08A Circle Bar Ran 55.52 327 P **P** **18 47 47.0 +0.8**
MOD Modoc Plateau 55.59 325 P **P** **18 47 45.9 -0.9**
BMO Blue Mountains 55.93 329 P **P** **18 47 48.6 -0.6**
M04C Macdoel 56.41 324 P **P** **18 47 52.2 -0.5**
M04C IAmb IAmb 18 48 16.2
comp=Z,11nm,1.0s
M04C Macdoel 56.41 324 P **P** **18 47 53.5 +0.8**
baz=128
K05A Summer Lake 56.45 325 P **P** **18 47 51.6 -1.4**
K05A IAmb IAmb 18 48 17.2
comp=Z,9.4nm,1.0s
I07A Izee 56.56 327 P **P** **18 47 54.2 +0.5**
F10A Beach Ranch, E 56.68 330 P **P** **18 47 53.9 -0.6**
M02C Callahan 56.77 323 P **P** **18 47 55.9 +0.7**
baz=127
SCHQ Schefferville 56.81 10 P **P** **18 47 56.0 +0.9**
comp=Z,1.6nm,0.8s,baz=168,slow=11,SNR=1.6
SCHQ LR LR 19 13 27.5
comp=Z,406nm,19.7s,baz=232,slow=37
K04D Chiloquin, OR 56.88 325 P **P** **18 47 57.1 +1.1**
baz=129
RKT Rikitea 56.89 243 *e*T T 19 49 03.5
comp=Z,21nm,0.2s
YBH Yreka Blue Hor 56.89 323 LR LR 19 10 27.2
comp=Z,487nm,20.4s,baz=139,slow=34
YBH Yreka Blue Hor 56.89 323 P **P** **18 47 55.0 -1.1**
L04D Klamath Falls 56.95 324 P **P** **18 47 57.3 +0.8**
baz=128
J05D Fort Rock, OR 57.00 326 P **P** **18 47 57.9 +1.0**
baz=130,SNR=6.7
G08A Pilot Rock 57.08 329 P **P** **18 47 56.8 -0.6**
G08A IAmb IAmb 18 48 22.1
comp=Z,8.6nm,0.9s
PINE Pine Mountain 57.16 326 P **P** **18 47 57.5 -0.5**
PINE IAmb IAmb 18 48 17.9
comp=Z,21nm,1.3s
J04D Umpqua Nationa 57.47 325 P **P** **18 47 60.0 -0.3**
J04D IAmb IAmb 18 48 11.8
comp=Z,13nm,0.8s
J04D Umpqua Nationa 57.47 325 P **P** **18 48 01.5 +1.2**
baz=129
E09A Wood Farm, Sta 57.51 330 P **P** **18 48 00.7 +0.5**
E09A IAmb IAmb 18 48 08.4
comp=Z,7.0nm,0.7s
L02E Cave Junction 57.68 323 P **P** **18 48 01.6 +0.1**
baz=127
I05D Terrebonne, OR 57.73 327 P **P** **18 48 02.5 +0.6**
baz=130
I04A Tendick Farm, 57.98 325 P **P** **18 48 04.5 +0.8**
baz=129
K02D Willamette Mer 58.04 324 P **P** **18 48 05.2 +1.0**
baz=127
FFC Flin Flon 58.18 346 P **P** **18 48 05.1 +0.3**
FFC IAmb IAmb 18 48 29.0
comp=Z,23nm,1.5s
NEW Newport 58.26 332 LR LR 19 13 21.2
comp=Z,436nm,20.7s,baz=142,slow=36
NEW Newport 58.26 332 P **P** **18 48 06.1 +0.5**
baz=136
G05D Wamic, OR 58.30 327 P **P** **18 48 07.4 +1.6**
baz=130
I03D Drain, OR 58.46 325 P **P** **18 48 07.0 +0.1**
baz=128
J01E Myrtle Point 58.47 324 P **P** **18 48 08.1 +1.1**
baz=127
HOOD Mount Hood Mea 58.53 327 P **P** **18 48 08.8 +1.2**
H04D Lebanon 58.62 326 P **P** **18 48 09.1 +1.0**
baz=129
F05D White Salmon 58.79 328 P **P** **18 48 11.2 +2.0**
baz=131
I02E Swisshome, OR 58.99 325 P **P** **18 48 11.6 +1.0**
baz=127
TAOE Nuku Hiva Isla 59.52 260 *e*S **S** **18 56 31.0 +5.8**
comp=Z,2µm,25.8s
TAOE *e*LR LR 19 05 48.3
comp=Z,1µm,24.9s
F04D Rainier, OR 59.75 327 P **P** **18 48 17.8 +2.0**
baz=129
E04D Cinebar 59.81 328 P **P** **18 48 18.2 +2.0**
baz=130
EDM Edmonton 60.42 338 P **P** **18 48 19.2 -1.2**
FCC Fort Churchill 60.48 352 P **P** **18 48 18.2 -2.3**
FCC IAmb IAmb 18 48 25.8
comp=Z,15nm,0.9s
B05A Bryant 60.67 330 P **P** **18 48 22.0 -0.1**
baz=131
D03D Eldon 60.71 329 P **P** **18 48 22.5 +0.1**
baz=130
A04D Lummi Island 61.28 330 P **P** **18 48 26.6 +0.4**
baz=131
FRB Frobisher Bay 65.21 6 LR LR 19 19 19.6
comp=Z,460nm,20.4s,baz=188,slow=38
BBB Bella Bella 66.14 330 LR LR 19 18 16.1
comp=Z,337nm,19.1s,baz=136,slow=36
YKA Yellowknife Ar 68.22 344 P **P** **18 49 10.7 -0.6**
comp=Z,2.7nm,0.8s,baz=136,slow=6.1,SNR=43
PPT Papeete 69.43 252 LR LR 19 11 26.2
comp=Z,830nm,20.5s,baz=72,slow=29
PPT2 Papeete2 69.43 252 *e*S **S** **18 58 30.3 +2.7**
comp=Z,2µm,27.0s
PPT2 Papeete2 69.43 252 *e*LR LR 19 10 32.4
comp=Z,2µm,25.8s,baz=73
TBI Tubuai 70.00 246 *e*S **S** **18 58 37.8 +3.8**
comp=Z,1µm,31.0s
TBI Tubuai 70.00 246 *e*LR LR 19 10 56.4
comp=Z,1µm,28.2s
CRAG Craig 70.45 331 P **P** **18 49 26.4 +1.2**
baz=123
DLBC Dease Lake 70.76 335 LR LR 19 22 47.4
comp=Z,357nm,18.3s,baz=122,slow=38
SFJD Kangerlussuaq 71.10 12 LR LR 19 20 25.0
comp=Z,331nm,22.0s,baz=213,slow=36
WRGLY Wrigley 71.45 341 P **P** **18 49 32.2 +1.1**
baz=134
TGTN Hyland Airport 71.98 338 P **P** **18 49 35.6 +1.2**
baz=129
SIT Sitka 72.34 332 P **P** **18 49 37.2 +0.7**
baz=121
SKAG Skagway 73.61 334 P **P** **18 49 44.9 +0.9**
baz=122
MMPY Sheldon Lake, 73.76 338 P **P** **18 49 46.7 +1.7**
baz=127
WHY Whitehorse 74.06 336 P **P** **18 49 47.9 +1.0**
baz=123
FARO Faro, Yukon 74.32 337 P **P** **18 49 49.4 +1.1**
baz=125
M31M Drury Creek, Y 74.71 337 P **P** **18 49 51.6 +1.0**
baz=124
N31M Braeburn, Yuko 74.88 336 P **P** **18 49 52.5 +1.0**
baz=120
YUK6 Outpost Mounta 75.67 335 P **P** **18 49 57.2 +0.8**
baz=120
M30M Minto, Yukon 75.86 337 P **P** **18 49 58.3 +1.2**
M30M Minto, Yukon 75.86 337 P **P** **18 49 57.9 +0.7**
baz=121
C36M Paulatuk 75.95 346 P **P** **18 49 56.8 -0.6**
C36M Paulatuk 75.95 346 P **P** **18 49 57.5 0.0**
baz=135
YUK4 Talbot Arm 75.99 335 P **P** **18 49 58.6 +0.5**
baz=120
RES Resolute Bay 76.03 356 LR LR 19 25 03.6
comp=Z,485nm,18.2s,baz=164,slow=37
RES Resolute Bay 76.03 356 P **P** **18 49 57.2 -0.6**
LIC Lamto 76.03 83 *e*PKIKP **P** **18 49 59.4 +0.4**
comp=Z,75nm,1.8s
TIC Toumodi 76.06 83 *e*PKIKP **P** **18 49 59.0 -0.2**
DBIC Dimbokro 76.22 83 P **P** **18 50 00.1 0.0**
comp=Z,12nm,1.1s,baz=288,slow=6.1,SNR=10
DBIC LR LR 19 22 33.2
comp=Z,854nm,18.4s,baz=258,slow=35
DBIC Dimbokro 76.22 83 P **P** **18 49 59.9 -0.2**
KIC Kosan Boka 76.32 83 *e*PKIKP **P** **18 49 59.7 -1.0**
comp=Z,19nm,0.7s
YUK3 Moose Creek 76.96 335 P **P** **18 50 04.4 +0.8**
baz=118
CTG Chitna Glacier 76.96 334 P **P** **18 50 05.0 +1.5**
baz=117
BVCY Beaver Creek 77.42 336 P **P** **18 50 07.7 +1.7**
baz=118
KOWA Kowa 77.52 75 P **P** **18 50 06.6 -0.8**
DAWY Dawson 77.62 337 P **P** **18 50 06.0 -1.1**
DAWY Dawson 77.62 337 P **P** **18 50 08.1 +1.0**
baz=119
M27K Edge Creek, AK 77.82 335 P **P** **18 50 08.2 -0.1**
M27K IAmb IAmb 18 50 21.8
comp=Z,22nm,1.4s
M27K Edge Creek, AK 77.82 335 P **P** **18 50 09.1 +0.8**
baz=116
I29M Ogilvie Camp, 77.87 339 P **P** **18 50 07.3 -1.0**
I29M IAmb IAmb 18 50 16.7
comp=Z,23nm,1.4s
I29M Ogilvie Camp, 77.87 339 P **P** **18 50 09.1 +0.7**
baz=120
MCARA McCarthy VSAT 77.88 334 P **P** **18 50 09.9 +1.4**
baz=115
INK Inuvik 77.89 342 P **P** **18 50 08.4 0.0**
INK Inuvik 77.89 342 P **P** **18 50 09.3 +0.9**
baz=126
KAIM Kayak Island 77.90 333 P **P** **18 50 08.4 -0.3**
baz=114
A36M Sachs Harbour 78.10 347 P **P** **18 50 07.9 -1.5**
A36M Sachs Harbour 78.10 347 P **P** **18 50 09.7 +0.2**
baz=134
BCAR Beaver Creek A 78.10 336 P **P** **18 50 08.2 -1.6**
L27K Beaver Creek, 78.12 336 P **P** **18 50 09.9 0.0**
L27K IAmb IAmb 18 50 18.7
comp=Z,13nm,1.3s
L27K Beaver Creek, 78.12 336 P **P** **18 50 10.5 +0.6**
baz=117
GLB Gilahina Butte 78.25 334 P **P** **18 50 09.9 -0.7**
GLB IAmb IAmb 18 50 23.9
comp=Z,14nm,1.1s
M26K Nabesna, AK 78.31 335 P **P** **18 50 10.8 -0.1**
M26K IAmb IAmb 18 50 19.3
comp=Z,12nm,1.2s
M26K Nabesna, AK 78.31 335 P **P** **18 50 12.5 +1.5**
baz=116
BMRM Bremner River 78.41 333 P **P** **18 50 12.1 +0.6**
baz=114
Q23K Middleton Isla 78.61 332 P **P** **18 50 11.5 -1.0**
baz=112
EGAK Eagle 78.64 338 P **P** **18 50 11.7 -0.9**
EGAK IAmb IAmb 18 50 25.5
comp=Z,27nm,1.4s
EGAK Eagle 78.64 338 P **P** **18 50 13.1 +0.5**
baz=118
N25K Chitina, Valde 78.66 334 P **P** **18 50 14.4 +1.5**
baz=114
L26K Log Cabin Wild 78.72 336 P **P** **18 50 14.2 +1.1**
L26K IAmb IAmb 18 50 35.8
comp=Z,19nm,1.5s
L26K Log Cabin Wild 78.72 336 P **P** **18 50 14.0 +0.9**
baz=115
EYAK Cordova Ski Ar 78.76 333 P **P** **18 50 13.5 +0.2**
baz=113
MDT Midelt 79.00 56 LR LR 19 25 09.2
comp=Z,191nm,18.1s,baz=272,slow=36
KLU Klutina 79.20 334 P **P** **18 50 15.7 -0.2**
KLU IAmb IAmb 18 50 23.9
comp=Z,19nm,1.4s
KLU Klutina 79.20 334 P **P** **18 50 16.6 +0.7**
baz=113
HARP HAARP 79.22 335 P **P** **18 50 16.1 +0.1**
baz=114
DOT Dot Lake 79.28 336 P **P** **18 50 15.2 -1.0**
RAR Rarotonga 79.31 249 LR LR 19 18 31.3
comp=Z,844nm,18.7s,baz=92,slow=30
SCRK Sand Creek 79.39 336 P **P** **18 50 16.7 -0.2**
SCRK Sand Creek 79.39 336 P **P** **18 50 17.7 +0.7**
baz=115
J26L Joseph Creek 79.44 337 P **P** **18 50 18.6 +1.5**
baz=115
GLI Glacier Island 79.50 333 P **P** **18 50 18.5 +1.1**
baz=112
M24K Tolsona, Glenn 79.55 334 P **P** **18 50 16.9 -0.8**
M24K Tolsona, Glenn 79.55 334 P **P** **18 50 17.3 -0.4**
baz=112
PAX Paxson 79.58 335 P **P** **18 50 17.3 -0.6**
PAX IAmb IAmb 18 50 26.5
comp=Z,14nm,1.1s
PAX Paxson 79.58 335 P **P** **18 50 19.2 +1.2**
baz=113
RIDG Independent Ri 79.64 336 P **P** **18 50 18.5 +0.3**
RIDG IAmb IAmb 18 50 19.8
comp=Z,14nm,1.2s
RIDG Independent Ri 79.64 336 P **P** **18 50 18.9 +0.7**
baz=114
SCM Sheep Creek Mo 79.95 334 P **P** **18 50 19.5 -0.4**
SCM IAmb IAmb 18 50 32.0
comp=Z,16nm,1.0s
SCM Sheep Creek Mo 79.95 334 P **P** **18 50 20.8 +0.8**
baz=111
PWL Port Wells 80.05 333 P **P** **18 50 21.4 +0.9**
baz=110
J25K Salcha River, 80.20 337 P **P** **18 50 21.3 +0.1**
J25K Salcha River, 80.20 337 P **P** **18 50 21.8 +0.5**
baz=114
KNK Knik Glacier 80.30 333 P **P** **18 50 22.8 +1.0**
KNK IAmb IAmb 18 50 29.9
comp=Z,18nm,1.2s
KNK Knik Glacier 80.30 333 P **P** **18 50 23.1 +1.3**
baz=110
SEW Seward 80.32 332 P **P** **18 50 22.7 +0.9**
baz=109
SML Sawmill 80.39 334 P **P** **18 50 22.8 +0.6**
baz=110
WAT6 Susitna Watana 80.40 334 P **P** **18 50 22.4 -0.1**
baz=111
DHY Denali Highway 80.43 335 P **P** **18 50 23.3 +0.7**
baz=112
ESDC Sonseca Array 80.56 50 P **P** **18 50 24.2 +0.5**
comp=Z,8.1nm,1.3s,baz=279,slow=5.6,SNR=13
ESDC LR LR 19 22 42.1
comp=Z,267nm,21.9s,baz=256,slow=33
ESDC Sonseca Array 80.56 50 P **P** **18 50 23.5 -0.2**
BELA Belgrano 2 80.63 171 P **P** **18 50 23.2 -0.1**
GHO Glory Hole Cre 80.64 333 P **P** **18 50 23.5 -0.2**
GHO IAmb IAmb 18 50 31.4
comp=Z,15nm,1.0s
RC01 Rabbit Creek A 80.78 333 P **P** **18 50 24.4 +0.1**
baz=109
BRSE Bradley Lake S 80.82 331 P **P** **18 50 25.2 +0.7**
baz=108
WAT1 Susitna Watana 80.84 335 P **P** **18 50 25.5 +0.9**
baz=110
ILAR Eielson Array 80.86 337 P **P** **18 50 24.8 0.0**
comp=Z,1.0nm,0.8s,baz=127,slow=3.3,SNR=9.3
ILAR LR LR 19 28 35.3
comp=Z,610nm,18.1s,baz=170,slow=38
ILAR Eielson Array 80.86 337 P **P** **18 50 23.8 -1.0**
BRLK Bradley Lake 80.89 331 P **P** **18 50 24.2 -0.8**
BRLK IAmb IAmb 18 50 32.2
comp=Z,14nm,1.0s
BMAR Burnt Mountain 81.07 339 P **P** **18 50 25.8 -0.1**
KDAK Kodiak Island 81.16 329 P **P** **18 50 26.9 +0.5**
baz=106
M22K Willow 81.17 333 P **P** **18 50 24.7 -1.6**
M22K Willow 81.17 333 P **P** **18 50 26.2 -0.1**
baz=109
RND Reindeer 81.17 335 P **P** **18 50 25.6 -0.8**
POKR Poker Plat Res 81.21 337 P **P** **18 50 27.4 +0.8**
baz=112
COLA College 81.28 337 P **P** **18 50 27.3 +0.4**
baz=111
TCOL CIGO, UAF Yank 81.29 337 P **P** **18 50 26.8 -0.1**
baz=111
MCK McKinley 81.32 335 P **P** **18 50 27.3 +0.1**
MCK IAmb IAmb 18 50 34.9
comp=Z,20nm,1.2s
MCK McKinley 81.32 335 P **P** **18 50 27.6 +0.4**
baz=110
CUT Chulitna 81.44 334 P **P** **18 50 26.6 -1.2**
CUT Chulitna 81.44 334 P **P** **18 50 28.3 +0.5**
baz=109
MDM Murphy Dome 81.47 337 P **P** **18 50 27.2 -0.8**
MDM IAmb IAmb 18 50 35.7
comp=Z,9.4nm,1.2s
H24K Noodor Dome 81.65 337 P **P** **18 50 29.3 +0.4**
H24K IAmb IAmb 18 50 37.1
comp=Z,17nm,1.4s
H24K Noodor Dome 81.65 337 P **P** **18 50 29.4 +0.5**
baz=112
NEA2 Nenana 81.67 336 P **P** **18 50 28.5 -0.5**
NEA2 IAmb IAmb 18 50 36.8
comp=Z,23nm,1.4s
NEA2 Nenana 81.67 336 P **P** **18 50 29.4 +0.4**
baz=110
SII Sitkinak Islan 81.68 328 P **P** **18 50 30.7 +1.5**
baz=105
TRF Thorofare Moun 81.79 335 P **P** **18 50 28.5 -1.4**
TRF Thorofare Moun 81.79 335 P **P** **18 50 30.1 +0.2**
baz=109
O20K Slope Mountain 81.83 331 P **P** **18 50 30.1 +0.1**
baz=106
SPCR Spurr Chakacha 81.95 332 P **P** **18 50 31.0 +0.3**
baz=107
I23K Minto, Yukon-K 81.98 337 P **P** **18 50 30.4 -0.2**
I23K IAmb IAmb 18 50 43.3
comp=Z,16nm,1.2s
I23K Minto, Yukon-K 81.98 337 P **P** **18 50 31.6 +1.1**
baz=110
Q19K Cape Douglas, 82.01 330 P **P** **18 50 31.8 +0.8**
baz=105
KTH Kantishna Hill 82.09 335 P **P** **18 50 29.6 -1.8**
KTH IAmb IAmb 18 50 37.3
comp=Z,7.8nm,0.8s
CHIR Chirikof Islan 82.28 327 P **P** **18 50 33.9 +1.5**
baz=103
H23K Yukon River 82.28 337 P **P** **18 50 29.9 -2.3**
H23K IAmb IAmb 18 50 41.7
comp=Z,9.4nm,1.3s
H23K Yukon River 82.28 337 P **P** **18 50 33.0 +0.7**
baz=110
BPAW Bear Paw Mtn. 82.30 335 P **P** **18 50 31.6 -0.8**
BPAW IAmb IAmb 18 50 33.2
comp=Z,11nm,0.8s
BPAW Bear Paw Mtn. 82.30 335 P **P** **18 50 32.4 0.0**
baz=108,SNR=8.6
PPLA Purkeypile 82.44 334 P **P** **18 50 32.5 -0.7**
PPLA Purkeypile 82.44 334 P **P** **18 50 33.8 +0.5**
baz=107
CAST Castle Rocks 82.55 335 P **P** **18 50 32.7 -1.0**
CAST Castle Rocks 82.55 335 P **P** **18 50 33.2 -0.5**
baz=107
CHUM Lake Minchumin 82.79 335 P **P** **18 50 34.4 -0.5**
baz=107
N19K Bonanza Creek 82.91 332 P **P** **18 50 35.0 -0.6**
baz=105
TOA0 Torodi Ar. Sit 82.97 77 P **P** **18 50 36.4 -0.5**
TOA0 IAmb IAmb 18 50 56.3
comp=Z,16nm,1.4s
TORD Torodi Ar. Bea 82.97 77 P **P** **18 50 35.9 -1.0**
comp=Z,1.6nm,0.7s,baz=273,slow=2.9,SNR=16
TORD LR LR 19 24 56.4
comp=Z,1µm,21.7s,baz=234,slow=34
TORD Torodi Ar. Bea 82.97 77 P **P** **18 50 36.4 -0.5**
TORD IAmb IAmb 18 50 56.3
comp=Z,14nm,1.4s
COLD Coldfoot 83.01 338 P **P** **18 50 34.8 -1.1**
COLD IAmb IAmb 18 50 45.3
comp=Z,5.3nm,0.9s
COLD Coldfoot 83.01 338 P **P** **18 50 36.3 +0.4**
baz=110
O18K Koktuh Hills 83.02 331 P **P** **18 50 35.8 -0.3**
baz=104
I21K Tanana 83.04 336 P **P** **18 50 35.9 -0.2**
I21K IAmb IAmb 18 50 46.6
comp=Z,9.7nm,1.2s
I21K Tanana 83.04 336 P **P** **18 50 36.9 +0.8**
baz=108
L20K Farewell, AK 83.07 333 P **P** **18 50 36.8 +0.4**
baz=106
TOLK Toolik Lake Re 83.27 340 P **P** **18 50 39.2 +1.9**
baz=110
DBG Daneborg 83.28 14 *i* P **P** **18 50 38.6 +1.4**
K20K Telida 83.39 334 P **P** **18 50 37.2 -0.8**
K20K IAmb IAmb 18 50 51.1
comp=Z,16nm,1.3s
K20K Telida 83.39 334 P **P** **18 50 38.2 +0.2**
baz=106
L19K White Mountain 83.43 333 P **P** **18 50 37.5 -0.8**
L19K IAmb IAmb 18 50 49.0
comp=Z,12nm,1.1s
L19K White Mountain 83.43 333 P **P** **18 50 38.9 +0.6**
baz=105
H21K Melozitna Rive 83.51 337 P **P** **18 50 39.0 +0.5**
baz=107
N18K Kilae Creek 83.55 331 P **P** **18 50 37.4 -1.5**
N18K IAmb IAmb 18 50 39.7
comp=Z,9.5nm,0.9s
N18K Kilae Creek 83.55 331 P **P** **18 50 39.2 +0.4**
baz=104
J20K Nowinta River 83.64 335 P **P** **18 50 38.1 -1.2**
J20K IAmb IAmb 18 51 03.9
comp=Z,7.6nm,1.0s
J20K Nowinta River 83.64 335 P **P** **18 50 39.3 0.0**
baz=106
EKA Eskdalemuir Ar 83.81 34 LR LR 19 27 44.5
comp=Z,207nm,18.2s,baz=262,slow=36

IMAR	**Indian Mountai**	**83.98**	**337**	P		**P**	**18 50 39.1**	**-1.9**
TTA	**Tatalina**	**84.14**	**334**	P		**P**	**18 50 41.6**	**-0.3**
	baz=104							
DAG	**Danmarks Havn**	**84.79**	**12**	*i* P		**P**	**18 50 45.4**	**+0.5**
DAG				IAmb	IAmb		18 50 45.5	
	comp=Z,16nm,1.1s							
SDPT	**Sand Point**	**84.89**	**326**	P		**P**	**18 50 45.3**	**-0.5**
	baz=99							
GCSA	**Galena City Sc**	**84.93**	**335**	P		**P**	**18 50 46.0**	**+0.2**
	baz=103							
JMIC	**Jan Mayen**	**85.22**	**18**	LR	LR		19 25 58.2	
	comp=Z,227nm,21.7s,baz=256,slow=34							
CLF	**Chambon-Foret**	**86.11**	**42**	P		**P**	**18 50 51.0**	**-1.0**
A21K	**Barrow**	**86.38**	**342**	P		**P**	**18 50 53.1**	**+0.2**
	baz=104							
NOR	**Nord**	**87.29**	**8**	*i* P		**P**	**18 50 58.0**	**+0.8**
NOR				IAmb	IAmb		18 50 58.4	
	comp=Z,105nm,2.3s							
DOU	**Dourbes**	**87.82**	**40**	*d*P		**P**	**18 50 59.1**	**-1.2**
DOU				*d*PcP		**PcP**	**18 51 01.1**	**-1.0**
BMRD	**Maredsous**	**87.95**	**40**	*d*PcP		**P**	**18 51 00.9**	**0.0**
BGES	**Gesves**	**88.16**	**40**	*d*PcP		**P**	**18 51 02.5**	**+0.6**
UNV	**Unalaska Valle**	**88.20**	**324**	P		**P**	**18 51 00.4**	**-1.6**
	baz=94							
RCHB	**Rochefort**	**88.23**	**40**	*d*PcP		**P**	**18 51 02.0**	**-0.3**
BCLA	**Clavier**	**88.30**	**40**	*d*PcP		**PcP**	**18 51 04.0**	**-0.2**
ANM	**Nome**	**88.51**	**335**	P		**P**	**18 51 01.4**	**-1.9**
	baz=95							
BHOU	**Houvegnez**	**88.74**	**40**	*d*P		**P**	**18 51 03.3**	**-1.5**
BHOU				*d*PcP		**PcP**	**18 51 05.2**	**-1.1**
MEM	**Membach**	**88.76**	**40**	*d*PcP		**PcP**	**18 51 06.3**	**0.0**
BTNL	**Ternell**	**88.83**	**40**	*d*PcP		**PcP**	**18 51 06.2**	**-0.5**
ECH	**Echery**	**89.40**	**42**	P		**P**	**18 51 05.8**	**-2.0**
ECH				IAmb	IAmb		18 51 16.8	
	comp=Z,10nm,1.3s							
AFI	**Afiamalu**	**90.65**	**256**	LR	LR		19 23 03.6	
	comp=Z,384nm,20.4s,baz=86,slow=30							
KEST	**Kesra**	**90.74**	**54**	LR	LR		19 30 55.2	
	comp=Z,235nm,20.5s,baz=238,slow=35							
DAVOX	**Davos/Dischmat**	**91.22**	**43**	LR	LR		19 31 44.8	
	comp=Z,137nm,18.1s,baz=263,slow=35							
DAVA	**Damuels**	**91.22**	**43**	*i* P		**P**	**18 51 17.2**	**+0.7**
	comp=Z,9.9nm,1.4s							
FETA	**Feichten**	**91.80**	**43**	*e*P		**P**	**18 51 19.6**	**+0.4**
	comp=Z,14nm,1.7s							
RETA	**Reutte**	**91.82**	**43**	*i* P		**P**	**18 51 19.8**	**+0.6**
	comp=Z,12nm,1.6s							
NOA	**NORSAR Array B**	**91.86**	**29**	LR	LR		19 33 07.7	
	comp=Z,73nm,18.4s,baz=275,slow=36							
MOTA	**Moosalm**	**92.05**	**43**	*e*P		**P**	**18 51 20.7**	**+0.3**
	comp=Z,16nm,1.4s							
SQTA	**Sankt Quirin**	**92.12**	**43**	*e*P		**P**	**18 51 21.0**	**+0.3**
	comp=Z,12nm,1.3s							
WATA	**Walderalm**	**92.37**	**43**	*e*P		**P**	**18 51 22.3**	**+0.4**
	comp=Z,6.7nm,1.1s							
WTTA	**Wattenberg**	**92.42**	**43**	*e*P		**P**	**18 51 22.5**	**+0.4**
	comp=Z,20nm,1.9s							
SPITS	**Spitsbergen Ar**	**92.44**	**12**	LR	LR		19 35 16.5	
	comp=Z,245nm,19.1s,baz=17,slow=37							
CTI	**Castel Tesino**	**92.45**	**44**	P		**P**	**18 51 22.5**	**+0.3**
ABTA	**Abfaltersbach**	**93.03**	**43**	*e*P		**P**	**18 51 25.1**	**+0.2**
	comp=Z,8.0nm,1.5s							
HFS	**Hagfors**	**93.12**	**30**	LR	LR		19 29 38.6	
	comp=Z,259nm,18.2s,baz=269,slow=33							
CLL	**Collm**	**93.18**	**39**	*e*P		**P**	**18 51 24.0**	**-1.3**
CLL				*e*PP		**PP**	**18 55 09.0**	**+0.4**
CLL				*e*SKSac		**SKSac**	**19 01 59.0**	**-0.6**
CLL				*e*S		**ScS**	**19 02 37.0**	**+2.8**
CLL				*e*PS		**PS**	**19 03 47.0**	**+1.0**
CLL				*e*SS		**SS**	**19 08 47.0**	**-0.4**
CLL				*e*SSS		SSS	19 12 36.0	
CLL				LmV			19 34 00.0	
	comp=Z,300nm,21.5s							
KBA	**Koelnbreinsper**	**93.58**	**43**	*e*P		**P**	**18 51 27.7**	**+0.2**
	comp=Z,9.9nm,1.6s							
KHC	**Kasperske Hory**	**93.65**	**41**	P		**P**	**18 51 27.6**	**0.0**
KHC				IAmb	IAmb		18 51 29.9	
	comp=Z,12nm,1.4s							
KHC	**Kasperske Hory**	**93.65**	**41**	*e*P		**P**	**18 51 28.5**	**+0.9**
GERES	**GERESS Array B**	**93.75**	**41**	P		**P**	**18 51 28.6**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=258,slow=4.9,SNR=3.8							
GERES				LR	LR		19 30 00.4	
	comp=Z,248nm,22.0s,baz=264,slow=33							
GERES	**GERESS Array B**	**93.75**	**41**	P		**P**	**18 51 26.4**	**-1.7**
BIOA	**Bad Ischl, Aus**	**93.76**	**42**	*e*P		**P**	**18 51 28.5**	**+0.4**
	comp=Z,17nm,1.4s							
BRG	**Berggiesshubel**	**93.80**	**39**	(P)		**P**	**18 51 30.0**	**+1.9**
BRG				Amp			18 51 31.3	
	comp=Z,10nm,1.6s							
MOA	**Molln**	**94.17**	**42**	*e*P		**P**	**18 51 30.4**	**+0.4**
	comp=Z,12nm,1.7s							
SOKA	**Soboth**	**94.76**	**43**	*e*P		**P**	**18 51 32.8**	**-0.1**
	comp=Z,9.0nm,1.6s							
VNDA	**Vanda**	**94.77**	**191**	LR	LR		19 26 37.8	
	comp=Z,299nm,19.0s,baz=117,slow=31							
ARSA	**Arzberg**	**95.06**	**43**	*e*P		**P**	**18 51 33.6**	**-0.5**
	comp=Z,8.1nm,1.3s							
CONA	**Conrad Observa**	**95.24**	**42**	*e*P		**P**	**18 51 34.7**	**-0.3**
	comp=Z,6.9nm,1.2s							
KRUC	**Moravsky**	**95.50**	**41**	*e*P		**P**	**18 51 36.9**	**+0.9**
VRAC	**Vranov**	**95.61**	**41**	LR	LR		19 31 43.2	
	comp=Z,312nm,21.6s,baz=264,slow=34							
VRAC	**Vranov**	**95.61**	**41**	*e*P		**P**	**18 51 37.8**	**+1.3**
RAO	**Raoul Island**	**95.68**	**241**	LR	LR		19 27 33.6	
	comp=Z,390nm,18.1s,baz=98,slow=31							
MORC	**Moravsky Berou**	**96.18**	**40**	*e*P		**P**	**18 51 39.2**	**0.0**
JAVC	**Velka Javorina**	**96.36**	**41**	*e*P		**P**	**18 51 42.1**	**+2.1**
ARCES	**ARCESS Array B**	**96.60**	**20**	LR	LR		19 30 22.1	
	comp=Z,65nm,21.2s,baz=290,slow=32							
TSUM	**Tsumeb**	**97.66**	**109**	LR	LR		19 35 15.4	
	comp=Z,1µm,18.8s,baz=267,slow=35							
URZ	**Urewera**	**98.83**	**231**	LR	LR		19 28 49.8	
	comp=Z,578nm,18.8s,baz=206,slow=31							
FINES	**FINESS Array B**	**98.91**	**28**	LR	LR		19 36 14.7	
	comp=Z,126nm,18.4s,baz=276,slow=35							
SUR	**Sutherland**	**99.33**	**123**	LR	LR		19 33 12.1	
	comp=Z,904nm,20.6s,baz=262,slow=33							
NACGM	**Naroch**	**100.89**	**34**	*e*P		**Pdif**	**18 51 59.6**	**-0.4**
DZM	**Mont Dzumac**	**110.58**	**246**	*e*PS		PS	19 06 51.4	0.0
	comp=Z,253nm,23.7s							
DZM	**Mont Dzumac**	**110.58**	**246**	*e*LR		LR	19 29 44.2	
	comp=Z,383nm,29.4s							
H11S2	**WAKE ISLAND Hy**	**111.56**	**289**	T		T	20 57 36.1	
	baz=85,slow=75,SNR=632							
H11S1	**WAKE ISLAND Hy**	**111.56**	**289**	T		T	20 57 33.6	
	baz=85,slow=75,SNR=657							
H11S3	**WAKE ISLAND Hy**	**111.57**	**289**	T		T	20 57 34.5	
	baz=85,slow=75,SNR=469							
ZALV	**Zalesovo Beam**	**125.90**	**10**	PKP		**PKPdf**	**18 57 12.4**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=333,slow=0.6,SNR=6.8							
ZALV	**Zalesovo Beam**	**125.90**	**10**			**PKPdf**	**18 57 11.3**	**-1.7**
GEYT	**Alibeck**	**127.37**	**41**	PKP		**PKPdf**	**18 57 15.2**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=41,slow=29,SNR=3.9							
USRK	**Ussuriysk Ar.**	**128.02**	**330**	PKP		**PKiKP**	**18 57 18.6**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=90,slow=1.4,SNR=4.9							
STKA	**Stephens Creek**	**128.22**	**227**	PKP		**PKiKP**	**18 57 18.8**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=102,slow=2.2,SNR=11							
STKA	**Stephens Creek**	**128.22**	**227**	PKPdf		**PKPdf**	**18 57 18.3**	**+0.2**
MKAR	**Makanchi Array**	**132.05**	**16**	PKP		**PKPdf**	**18 57 24.8**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=323,slow=3.6,SNR=4.1							
MKAR	**Makanchi Array**	**132.05**	**16**			**PKPdf**	**18 57 23.9**	**-1.0**
SONM	**Songino Array**	**132.91**	**353**	PKP		**PKPdf**	**18 57 25.8**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=357,slow=2.3,SNR=3.9							
KSRS	**Korea Array**	**135.04**	**327**	PKP		**PKPdf**	**18 57 30.1**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=3.8,slow=2.8,SNR=3.2							
WMQ	**Urumqi**	**136.14**	**12**	*e*PKP		**PKPdf**	**18 57 33.0**	**+0.2**
WMQ				LR	LR			
	comp=Z,290nm,17.5s							
WMQ				LR	LR			
	comp=Z,160nm,19.7s							
KSH	**Kashi**	**136.21**	**26**	PKP		**PKiKP**	**18 57 35.3**	**+0.5**
KSH				SS	SS		19 18 18.3	+5.9
KSH				LR	LR			
	comp=Z,240nm,30.5s							
ASAR	**Alice Springs**	**138.27**	**232**	PKhKP		PKPpre	18 57 30.8	
	comp=Z,0.9nm,0.8s,baz=125,slow=3.3,SNR=7.9							
ASAR				PKP		**PKPdf**	**18 57 37.8**	**+0.5**
	comp=Z,3.6nm,1.1s,baz=114,slow=2.4,SNR=11							
ASAR	**Alice Springs**	**138.27**	**232**			PKPpre	18 57 28.2	
HHC	**Hu-ho-hao-te**	**138.74**	**346**	*e*PKP		**PKPdf**	**18 57 32.6**	**-5.1**
WRA	**Warramunga Arr**	**139.72**	**237**	PKhKP		PKPpre	18 57 33.1	
	comp=Z,1.4nm,0.9s,baz=112,slow=2.7,SNR=7.3							
WRA				PKP		**PKPdf**	**18 57 39.1**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=116,slow=2.0,SNR=9.0							
H01W1	**Cape Leeuwin H**	**141.64**	**200**	T		T	21 36 07.5	
	baz=151,slow=76							
H01W2	**Cape Leeuwin H**	**141.65**	**200**	T		T	21 36 02.0	
	baz=151,slow=76							
H01W3	**Cape Leeuwin H**	**141.66**	**200**	T		T	21 36 06.9	
	baz=151,slow=76							
GTA	**Gaotai**	**141.75**	**359**	*e*PKP		**PKPdf**	**18 57 43.6**	**+0.3**
GTA				sPKP			18 57 51.3	
NJ2	**Nanjing**	**143.92**	**331**	*e*PKP	PKPbc		18 57 45.8	+1.0
LYN	**LuoYang**	**144.35**	**341**	⇑PKP		**PKPab**	**18 57 45.8**	**0.0**
LYN				LR	LR			
	comp=Z,320nm,19.5s							
LYN				LR	LR			
	comp=Z,380nm,17.8s							
GOMU	**GeErMu**	**144.73**	**6**	PKP	PKPbc		18 57 47.9	+0.2
GOMU				pPKP	pPKPdf		18 57 52.3	0.0
GOMU				sPKP			18 57 54.0	
LZH	**Lanzhou**	**144.80**	**353**	⇑PKP		**PKPdf**	**18 57 48.6**	**-0.2**
LZH				LR	LR			
	comp=Z,190nm,16.3s							
LZH				LR	LR			
	comp=Z,270nm,16.8s							
LZH				LR	LR			
	comp=Z,270nm,16.3s							
XAN	**Xi'an**	**145.86**	**345**	PKPbc		**PKPdf**	**18 57 50.3**	**-0.2**
WHN	**Wuhan**	**147.24**	**335**	PKPbc		**PKPbc**	**18 57 54.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**147.76**	**233**	PKPbc		**PKPbc**	**18 57 56.9**	**+0.1**
	baz=102,slow=2.7							
PYUN	**Piuthan**	**148.92**	**28**	*e*P		**PKPbc**	**18 57 59.1**	**-0.8**
	comp=Z,237nm,1.7s							
DANN	**Dangsing**	**149.06**	**27**	*e*P		**PKPbc**	**18 58 00.1**	**-0.3**
	comp=Z,142nm,0.9s							
KOLN	**Koldanda**	**149.48**	**28**	*e*P		**PKPbc**	**18 58 00.1**	**-1.2**
	comp=Z,203nm,1.7s							
GKN	**Gorkha**	**149.75**	**26**	*e*P		**PKPbc**	**18 58 01.6**	**-0.3**
	comp=Z,293nm,1.6s							
KKN	**Kakani**	**150.22**	**25**	*e*P		**PKPbc**	**18 58 02.5**	**-0.6**
	comp=Z,74nm,1.1s							
GUN	**Gumba**	**150.36**	**24**	*e*P		**PKPbc**	**18 58 04.1**	**+0.4**
	comp=Z,258nm,1.5s							
PKIN	**Phulchoki**	**150.45**	**25**	*e*P		**PKPbc**	**18 58 02.6**	**-1.2**
	comp=Z,53nm,1.1s							
PKI	**Pulchoki**	**150.46**	**25**	*e*P		**PKPbc**	**18 58 02.7**	**-1.2**
	comp=Z,70nm,1.2s							
RAMN	**Ramite**	**151.51**	**24**	*e*P		**PKPbc**	**18 58 05.6**	**-0.6**
TAPN	**Taplejung**	**151.58**	**22**	*e*P		**PKPbc**	**18 58 06.4**	**-0.1**
ODAN	**Odare**	**151.90**	**23**	*e*P		**PKPbc**	**18 58 06.7**	**-0.4**
PZH	**PanZhiHua**	**154.50**	**355**	PKPbc		**PKPdf**	**18 58 02.8**	**-1.5**
KMI	**Kunming**	**155.75**	**352**	⇑PKP		**PKPdf**	**18 58 07.5**	**+1.3**
KMI				LR	LR			
	comp=Z,210nm,22.7s							
KMI				LR	LR			
	comp=Z,230nm,21.5s							
KMI				LR	LR			
	comp=Z,410nm,22.7s							
CMAR	**Chiang Mai Arr**	**162.63**	**1**	PKP		**PKPdf**	**18 58 14.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=296,slow=2.7,SNR=1.7							
CMAR				PKPab		**PKPab**	**18 59 01.0**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=336,slow=4.2,SNR=5.3							
CMAR	**Chiang Mai Arr**	**162.63**	**1**			**PKPdf**	**18 58 12.2**	**-1.9**

*IDC **18** 19:12:36.7±0.6,0.˚86S×80.˚70W,h0km,mb4.2/20, mb1 4.4/25,mb1mx4.3/45,mbtmp4.2/25,ML3.6/5,MS4.0/8, Ms1 4.0/8,ms1mx3.4/65,Error ellipse: s-maj=23.0km s-min=11.5km az=54.0*

*IGQ **18** 19:12:38±0.3, 1˚S±2˚×8˚1W±˚, h4km*

*NEIC **18** 19:12:38.0±1.8,0.˚97S±0.˚02×80.˚80W±0.˚08,h10km±1km, mb4.6/75,Error ellipse: s-maj=13.2km s-min=3.6km az=265.0*

*VAO **18** 19:12:46.2±1.1,1.˚13S×79.˚91W,h10km,mb4.7*

ISC 18 19:12:37.1±0.4,1.˚03S±0.˚02×80.˚85W±0.˚03,h10km,n260, σ1s81/257,mb4.5/48,MS3.8/7,2C,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
AMNT	**Manta-Manabi**	**0.14**	**53**	P	**Pg**	**19 12 42.0**	**+1.6**
AMNT				S	**Sg**	**19 12 45.0**	**+2.3**
ISPT	**Isla de la Pla**	**0.32**	**224**	P	**Pb**	**19 12 43.0**	**-2.0**
ISPT				S	**Sb**	**19 12 50.0**	**-0.3**
APO1	**Ecuador-Portov**	**0.39**	**91**	P	**Pn**	**19 12 47.0**	**-1.8**
ABH2	**Ecuador-Univer**	**0.58**	**51**	P	**Pn**	**19 12 50.0**	**-1.5**
JAMA	**Jama**	**1.00**	**40**	P	**Pg**	**19 12 55.0**	**-1.4**
JAMA				S	**Sb**	**19 13 09.0**	**-0.8**
FLF1	**Flavio Alfaro-**	**1.21**	**57**	P	**Pn**	**19 12 59.0**	**-1.1**
MAG1	**Magdalena**	**1.44**	**49**	P	**Pg**	**19 13 04.0**	**-0.7**
GYE1	**Ecuador-Trinit**	**1.54**	**142**	P	**Pn**	**19 13 04.0**	**-0.6**
ABAB	**Ecuador-Univer**	**1.54**	**120**	P	**Pb**	**19 13 05.0**	**-0.8**
AMIL	**Milagro (Trans**	**1.67**	**131**	P	**Pg**	**19 13 08.0**	**-1.2**
AMIL				S	**Sg**	**19 13 32.0**	**+1.2**
MORR	**Playas El Morr**	**1.68**	**162**	P	**Pg**	**19 13 08.0**	**-1.4**
MORR				S	**Sg**	**19 13 31.0**	**-0.3**
AV18	**Acelerografo,**	**1.91**	**46**	P	**Pb**	**19 13 10.0**	**-2.1**
BV15	**Puerto Quito-O**	**2.01**	**54**	P	**Pn**	**19 13 09.0**	**-2.1**
CHSH	**Refugio Sur-Vo**	**2.03**	**103**	P	**Pb**	**19 13 13.0**	**-1.5**
ISPG	**Isla Puna-Puer**	**2.04**	**161**	P	**Pb**	**19 13 12.0**	**-2.4**
PORT	**Chimborazo Vol**	**2.12**	**102**	Pn	**Pn**	**19 13 13.4**	**+0.2**
PORT	**Chimborazo Vol**	**2.12**	**102**	P	**Pn**	**19 13 13.0**	**-0.2**
AV21	**Acelerografo,**	**2.12**	**38**	P	**Pn**	**19 13 13.0**	**+0.3**
TAMH	**Tambohuasha Ch**	**2.13**	**104**	P	**Pb**	**19 13 15.0**	**-1.2**
COHC	**Cochancay**	**2.14**	**132**	Pn	**Pn**	**19 13 13.2**	**+0.3**
COHC	**Cochancay**	**2.14**	**132**	P	**Pn**	**19 13 13.0**	**+0.1**
ILLI	**Illinizas Sur**	**2.15**	**82**	P	**Pn**	**19 13 14.0**	**+0.6**
APR2	**Miler**	**2.18**	**60**	P	**Pn**	**19 13 13.0**	**-0.6**
PAST	**Pastocalle**	**2.23**	**81**	P	**Pb**	**19 13 16.0**	**-1.9**
IGUA	**Igualata**	**2.26**	**102**	P	**Pb**	**19 13 16.0**	**-2.4**
HPAL	**Hacienda Las P**	**2.34**	**70**	P	**Pn**	**19 13 16.0**	**0.0**
GQPT	**Toaza - Volcan**	**2.37**	**70**	P	**Pn**	**19 13 16.0**	**-0.4**
CAMI	**Rancho Maria**	**2.37**	**82**	P	**Pb**	**19 13 18.0**	**-2.2**
SLOR	**San Lorenzo -**	**2.37**	**83**	P	**Pb**	**19 13 18.0**	**-2.2**
JUA2	**San Juan 2**	**2.39**	**70**	P	**Pb**	**19 13 18.0**	**-2.5**
BNAS	**Cotopaxi Volca**	**2.40**	**82**	P	**Pn**	**19 13 17.0**	**+0.1**
BBIL	**Ulba Tungurahu**	**2.40**	**100**	P	**Pb**	**19 13 18.0**	**-2.6**
TERV	**Terraza Guagua**	**2.40**	**69**	P	**Pn**	**19 13 17.0**	**0.0**
PINO	**Pino**	**2.40**	**69**	P	**Pn**	**19 13 17.0**	**-0.1**
GGPC	**Guagua Pichinc**	**2.41**	**69**	P	**Pn**	**19 13 17.0**	**-0.1**
BMOR	**Cotopaxi Volca**	**2.41**	**83**	P	**Pb**	**19 13 19.0**	**-1.9**
NAS2	**Nasa**	**2.41**	**81**	P	**Pb**	**19 13 19.0**	**-2.0**
JUI6	**Juive**	**2.41**	**99**	P	**Pb**	**19 13 19.0**	**-1.9**
BMAS	**Trigal station**	**2.42**	**101**	P	**Pb**	**19 13 19.0**	**-2.0**
LLOA	**Lloa**	**2.42**	**71**	P	**Pn**	**19 13 18.0**	**+0.8**
PAC1	**Pacto, Paraso**	**2.43**	**58**	*e*P	**Pn**	**19 13 16.6**	**-0.4**
PAC1				*e*S	**Sn**	**19 13 47.2**	**+0.3**
PAC1				*i*		19 14 07.5	
	comp=N,40µm,0.5s						
PAC1	**Pacto, Paraso**	**2.43**	**58**	P	**Pn**	**19 13 16.0**	**-1.0**
POND	**Pondoa**	**2.43**	**99**	P	**Pb**	**19 13 19.0**	**-2.2**
ACHO	**Acelerografo,**	**2.43**	**59**	P	**Pn**	**19 13 16.0**	**-1.0**
BREF	**Cotopaxi Volca**	**2.44**	**82**	P	**Pb**	**19 13 19.0**	**-2.4**
RETU	**Refugio**	**2.44**	**100**	P	**Pb**	**19 13 20.0**	**-1.4**
ARRY	**Arrayan**	**2.44**	**101**	P	**Pb**	**19 13 19.0**	**-2.4**
YANA	**Yana**	**2.45**	**68**	P	**Pn**	**19 13 18.0**	**+0.3**
BPAT	**Tungurahua Vol**	**2.46**	**101**	P	**Pb**	**19 13 19.0**	**-2.8**
PITA	**Cotopaxi Volc**	**2.46**	**79**	P	**Pb**	**19 13 19.0**	**-2.8**
BVC2	**Cotopaxi Volca**	**2.47**	**81**	P	**Pb**	**19 13 20.0**	**-1.9**
VCES	**Cotopaxi**	**2.47**	**85**	P	**Pb**	**19 13 21.0**	**-0.9**
BRUN	**Tungurahua Vol**	**2.47**	**99**	P	**Pb**	**19 13 20.0**	**-1.8**
TOMA	**Boca Toma-Volc**	**2.47**	**78**	P	**Pb**	**19 13 19.0**	**-2.9**
BULB	**Ulba Tungurahu**	**2.47**	**99**	P	**Pb**	**19 13 20.0**	**-1.9**
VC1	**Cotopaxi 1**	**2.48**	**81**	P	**Pn**	**19 13 18.0**	**-0.1**
BTAM	**Cotopaxi Volca**	**2.48**	**82**	P	**Pn**	**19 13 19.0**	**+0.9**
TAMB	**Tambo**	**2.50**	**82**	P	**Pb**	**19 13 21.0**	**-2.6**
TING	**Casa Alexandra**	**2.51**	**73**	P	**Pb**	**19 13 20.0**	**-2.6**
PULU	**Pululahua**	**2.57**	**66**	Pn	**Pn**	**19 13 19.6**	**+0.4**
PULU	**Pululahua**	**2.57**	**66**	P	**Pn**	**19 13 19.0**	**-0.2**
PIAT	**Ana Tenorio**	**2.59**	**89**	P	**Pb**	**19 13 22.0**	**-1.9**
ARNL	**Arenillas**	**2.62**	**163**		**Pb**	**19 13 21.2**	**-3.0**
ARNL	**Arenillas**	**2.62**	**163**	P	**Pb**	**19 13 21.0**	**-3.2**
ANTG	**Antisana-Guama**	**2.65**	**79**	P	**Pb**	**19 13 22.0**	**-3.0**
ACUE	**Ecuador-Cuenca**	**2.66**	**135**	P	**Pb**	**19 13 24.0**	**-1.1**
ANTM	**Antisana-La Mi**	**2.67**	**79**	P	**Pn**	**19 13 22.0**	**+1.3**
SANGA	**Volcan Sangay**	**2.68**	**112**	P	**Pb**	**19 13 23.0**	**-2.5**
ANTS	**Antisana-Sarah**	**2.73**	**79**	P	**Pn**	**19 13 23.0**	**+1.4**
ANTI	**Antisana**	**2.75**	**78**	P	**Pb**	**19 13 24.0**	**-2.8**
CUSE	**Cuicocha Este**	**2.79**	**62**	*e*P	Pn	19 13 16.4	-5.8
CUSE				*e*S	**Sg**	**19 14 08.1**	**+1.3**
CUSE				*i*		19 14 17.9	
	comp=Z,4µm,0.5s						
CUSE	**Cuicocha Este**	**2.79**	**62**	P	**Pn**	**19 13 23.0**	**+0.8**
CUIC	**Cuicocha-Domo**	**2.82**	**62**	P	**Pn**	**19 13 23.0**	**+0.3**
CUSW	**Cuicocha Oeste**	**2.82**	**62**	P	**Pn**	**19 13 23.0**	**+0.4**
COTA	**Cotacachi**	**2.85**	**62**	P	**Pn**	**19 13 24.0**	**+0.8**
PUYO	**Puyo, Santa Ro**	**2.86**	**99**	P	**Pb**	**19 13 26.0**	**-2.4**
URCU	**Urcuqui**	**2.98**	**61**	P	**Pn**	**19 13 24.0**	**-0.8**
CAYR	**Refugio Cayamb**	**3.03**	**70**	P	**Pb**	**19 13 29.0**	**-2.5**
ANGU	**Angureal**	**3.04**	**69**	P	**Pb**	**19 13 29.0**	**-2.7**
ARDO	**Archidona, Ten**	**3.05**	**89**	P	**Pb**	**19 13 30.0**	**-1.6**
CAYA	**Cayambe**	**3.06**	**69**	P	**Pb**	**19 13 30.0**	**-2.1**
YAHU	**Yahuarcocha**	**3.11**	**63**	P	**Pb**	**19 13 30.0**	**-2.7**
BOSC	**San Juan Bosco**	**3.16**	**132**		**Pb**	**19 13 31.8**	**-1.7**
BOSC	**San Juan Bosco**	**3.16**	**132**	P	**Pb**	**19 13 31.0**	**-2.5**
LNGL	**El Angel-Carch**	**3.34**	**58**	P	**Pn**	**19 13 32.0**	**+2.0**
CHMA	**Chilma**	**3.36**	**56**	P	**Pn**	**19 13 32.0**	**+2.0**
ECEN	**Cerro Negro**	**3.42**	**57**	P	**Pn**	**19 13 34.0**	**-4.1**
CHL1	**Volc¡n Chiles**	**3.42**	**58**	P	**Pn**	**19 13 33.0**	**+1.9**
MCRA	**Macar, Loja**	**3.44**	**165**	Pn	**Pn**	**19 13 32.1**	**+1.3**
MCRA	**Macar, Loja**	**3.44**	**165**	P	**Pn**	**19 13 32.0**	**+1.2**
CHL2	**Volc¡n Chiles**	**3.45**	**58**	P	**Pn**	**19 13 33.0**	**+1.6**
GONZ	**Gonzanam**	**3.50**	**156**	P	**Pb**	**19 13 37.0**	**-2.5**
TULM	**Tulcn-Chalpat**	**3.52**	**61**	Pn	**Pn**	**19 13 33.6**	**+1.3**
TULM	**Tulcn-Chalpat**	**3.52**	**61**	*e*P	**Pb**	**19 13 36.6**	**-3.3**
TULM				*i*		19 14 35.0	
	comp=Z,772nm,0.8s						
TULM	**Tulcn-Chalpat**	**3.52**	**61**	P	**Pn**	**19 13 34.0**	**+1.6**
ATUL	**Tulcn**	**3.60**	**60**	P	**Pb**	**19 13 38.0**	**-3.2**
BONI	**La Bonita**	**3.63**	**66**	P	**Pn**	**19 13 36.0**	**+2.3**
CASC	**Dorado de Casc**	**3.70**	**72**	P	**Pn**	**19 13 37.0**	**+2.5**
ZUMB	**Zumba**	**4.17**	**156**	P	**Pn**	**19 13 44.0**	**+2.9**
CRUC	**La Cruz**	**4.67**	**57**	*e*P	Pn	19 13 52.3	+4.1
GR1C	**Gorgona, Isla**	**4.82**	**34**	*e*P	**Pn**	**19 13 49.8**	**0.0**
GR1C				*e*S	**Sb**	**19 14 60.0**	**+0.1**
GR1C				*i*		19 15 08.9	
	comp=Z,1µm,0.5s						
SOTA	**Rioblanco**	**5.28**	**53**	*e*P	**Pn**	**19 13 56.0**	**-0.6**
SOTA				⇑*e*S	**Sb**	**19 15 06.5**	**-7.0**
SOTA				*i*		19 15 17.7	
	comp=Z,156nm,0.6s						
POPC	**Popayan, Colom**	**5.48**	**50**	*e*P	**Pn**	**19 14 02.5**	**+

BDFB LR LR 19 37 03.7
comp=Z,118nm,19.0s,baz=319,slow=41
BDFB Brasilia 35.50 116 P **P** **19 19 33.1 -1.4**
BDFB IAmb IAmb 19 19 39.0
comp=Z,9.7nm,1.1s
JCT Junction City 36.16 332 P **P** **19 19 40.9 +0.9**
JCT IAmb IAmb 19 19 47.5
comp=Z,16nm,1.1s
IPMB Ipameri, GO 36.22 120 *e*P **P** **19 19 41.1 +0.5**
TXAR Lajitas Array 37.25 326 P **P** **19 19 50.3 +1.0**
comp=Z,0.5nm,0.7s,baz=309,slow=30,SNR=4.3
TX31 Lajitas Ar. Si 37.25 326 P **P** **19 19 50.3 +1.0**
TX31 IAmb IAmb 19 20 02.9
comp=Z,10nm,1.2s
SDBA SAO DESIDERIO 37.38 109 *e*P **P** **19 19 50.8 +0.2**
LCAR Lake Charles 38.14 346 P **P** **19 19 56.4 -0.2**
LCAR IAmb IAmb 19 20 00.8
comp=Z,9.0nm,1.0s
U40A Yellville 38.84 344 P **P** **19 20 02.1 -0.3**
T42A Van Buren 39.04 347 P **P** **19 20 04.9 +0.7**
WMOK Wichita Mounta 39.35 336 P **P** **19 20 06.9 0.0**
MGMO Mountain Grove 39.44 346 P **P** **19 20 07.4 -0.1**
MNTX Cornudas Mount 40.00 327 P **P** **19 20 12.5 +0.2**
S39A Bolivar 40.22 345 P **P** **19 20 13.8 -0.2**
MSTX Muleshoe 40.45 331 P **P** **19 20 15.8 -0.3**
MSTX IAmb IAmb 19 20 20.9
comp=Z,10.0nm,0.9s
T35A Sooner Cattle 40.46 341 P **P** **19 20 15.0 -1.0**
T35A IAmb IAmb 19 20 22.7
comp=Z,16nm,1.0s
PLCA Paso Flores 40.61 168 P **P** **19 20 19.3 +2.0**
comp=Z,2.5nm,0.9s,baz=342,slow=7.9,SNR=7.8
PLCA Paso Flores 40.61 168 *e*P P 19 20 24.3 +7.0
KSU1 Kansas State U 42.48 342 P **P** **19 20 32.3 -0.3**
BNM Barren Site 42.55 328 P **P** **19 20 33.7 +0.2**
ANMO Albuquerque 43.07 329 P **P** **19 20 38.4 +0.7**
comp=Z,5.2nm,0.8s,baz=137,slow=8.7,SNR=13
ANMO Albuquerque 43.07 329 P **P** **19 20 38.6 +0.9**
T25A Trinidad 43.81 333 P **P** **19 20 44.9 +1.3**
T25A IAmb IAmb 19 20 50.1
comp=Z,8.4nm,0.9s
N33A J Bar K, Exete 44.23 342 P **P** **19 20 47.3 +0.5**
214A Organ Pipe Nat 44.63 320 P **P** **19 20 50.4 +0.3**
214A IAmb IAmb 19 20 57.7
comp=Z,7.5nm,1.0s
SDCO Great Sand Dun 44.81 332 P **P** **19 20 52.6 +1.0**
RCBR Riachuelo 45.10 97 LR LR 19 41 23.3
comp=Z,816nm,18.2s,baz=66,slow=38
S22A 4UR Ranch, Cre 45.44 331 P **P** **19 20 57.7 +1.0**
S22A IAmb IAmb 19 21 05.4
comp=Z,8.1nm,1.4s
X16A Lo Mia Camp, P 45.45 324 P **P** **19 20 57.0 +0.3**
WUAZ Wupatki 46.19 325 P **P** **19 21 03.0 +0.4**
WUAZ IAmb IAmb 19 21 09.6
comp=Z,11nm,1.2s
ECSD EROS Data Cent 46.75 344 P **P** **19 21 05.6 -1.0**
ECSD IAmb IAmb 19 21 13.0
comp=Z,12nm,1.5s
U15A North Rim 47.36 325 P **P** **19 21 11.3 -0.5**
U15A IAmb IAmb 19 21 32.6
comp=Z,6.0nm,1.3s
BW06 Boulder Array 50.68 333 P **P** **19 21 35.5 -1.7**
PDAR Pinedale Array 50.68 333 P **P** **19 21 38.6 +1.5**
comp=Z,0.7nm,0.8s,baz=124,slow=13,SNR=4.8
BGU Big Grassy Mou 50.98 329 P **P** **19 21 38.8 -0.5**
ELK Elko 52.03 327 P **P** **19 21 49.2 +1.9**
comp=Z,1.3nm,0.8s,baz=150,slow=7.0,SNR=3.6
ELK Elko 52.03 327 IAmb IAmb 19 21 54.6
comp=Z,1.7nm,0.8s
NVAR Mina Array Bea 52.24 323 P **P** **19 21 49.9 +1.0**
comp=Z,2.7nm,1.1s,baz=137,slow=7.1,SNR=7.8
NVAR Mina Array Bea 52.24 323 P **P** **19 21 49.4 +0.5**
ULM Lac du Bonnet 52.68 348 P **P** **19 21 50.7 -1.0**
comp=Z,5.4nm,0.6s,baz=166,slow=6.7,SNR=5.0
ULM Lac du Bonnet 52.68 348 P **P** **19 21 51.1 -0.5**
ULM IAmb IAmb 19 21 56.4
comp=Z,14nm,1.2s
BOZ Bozeman (W) 53.81 334 P **P** **19 21 59.6 -0.7**
BOZ IAmb IAmb 19 22 14.6
comp=Z,8.7nm,1.4s
MFID Camas Ranch 54.21 329 P **P** **19 22 01.4 -1.8**
YBH Yreka Blue Hor 56.94 323 P **P** **19 22 24.2 +1.4**
comp=Z,0.6nm,0.3s,baz=152,slow=3.4,SNR=2.6
YBH Yreka Blue Hor 56.94 323 IAmb IAmb 19 22 28.1
comp=Z,4.7nm,1.4s
PINE Pine Mountain 57.21 326 P **P** **19 22 25.6 +0.8**
PINE IAmb IAmb 19 22 31.5
comp=Z,5.6nm,1.1s
FCC Fort Churchill 60.53 352 P **P** **19 22 46.4 -0.9**
FCC IAmb IAmb 19 22 53.0
comp=Z,6.1nm,1.1s
YKA Yellowknife Ar 68.27 344 P **P** **19 23 38.0 0.0**
comp=Z,1.9nm,0.8s,baz=138,slow=6.1,SNR=25
DLBC Dease Lake 70.81 335 P **P** **19 23 54.5 +0.7**
comp=Z,2.9nm,0.9s,baz=244,slow=9.7,SNR=4.2
DLBC Dease Lake 70.81 335 P **P** **19 23 54.6 +0.7**
DLBC IAmb IAmb 19 23 55.7
comp=Z,7.9nm,1.2s
LIC Lamto 76.02 83 *e*P **P** **19 24 25.9 +0.5**
comp=Z,29nm,1.3s
TIC Toumodi 76.05 83 *e*P **P** **19 24 25.2 -0.4**
DBIC Dimbokro 76.21 83 P **P** **19 24 25.6 -0.8**
comp=Z,9.7nm,1.0s,baz=287,slow=5.1,SNR=6.1
DBIC LR LR 19 55 32.1
comp=Z,75nm,19.4s,baz=276,slow=34
DBIC Dimbokro 76.21 83 P **P** **19 24 26.5 0.0**
KIC Kosan Boka 76.31 83 *e*P **P** **19 24 27.1 0.0**
comp=Z,13nm,0.8s
KOWA Kowa 77.52 75 P **P** **19 24 33.8 0.0**
I29M Ogilvie Camp, 77.92 339 P **P** **19 24 35.2 +0.1**
I29M IAmb IAmb 19 24 40.8
comp=Z,4.4nm,0.8s
INK Inuvik 77.95 342 P **P** **19 24 34.9 -0.2**
comp=Z,3.4nm,0.7s,baz=111,slow=8.1,SNR=7.9
INK Inuvik 77.95 342 P **P** **19 24 35.4 +0.3**
INK IAmb IAmb 19 24 42.2
comp=Z,9.3nm,1.1s
A36M Sachs Harbour 78.15 347 P **P** **19 24 35.9 -0.3**
BCAR Beaver Creek A 78.15 336 P **P** **19 24 36.5 0.0**
L27K Beaver Creek, 78.17 336 P **P** **19 24 36.9 +0.3**
L27K IAmb IAmb 19 24 43.2
comp=Z,7.8nm,1.4s
PAX Paxson 79.63 335 P **P** **19 24 44.3 -0.3**
PAX IAmb IAmb 19 24 49.9
comp=Z,8.6nm,1.2s
ESDC Sonseca Array 80.58 50 P **P** **19 24 50.6 +0.4**
comp=Z,0.7nm,0.9s,baz=297,slow=8.4,SNR=5.1
ILAR Eielson Array 80.91 337 P **P** **19 24 52.1 +0.7**
comp=Z,1.6nm,1.1s,baz=168,slow=4.6,SNR=6.8
RND Reindeer 81.22 335 P **P** **19 24 53.3 +0.1**
RND IAmb IAmb 19 25 01.4
comp=Z,6.0nm,0.8s
KTH Kantishna Hill 82.15 335 P **P** **19 24 57.9 -0.1**
KTH IAmb IAmb 19 25 12.1
comp=Z,6.8nm,1.0s
BPAW Bear Paw Mtn. 82.35 335 P **P** **19 24 58.9 -0.1**
CAST Castle Rocks 82.60 335 P **P** **19 24 59.8 -0.5**
TORD Torodi Ar. Bea 82.97 77 P **P** **19 25 02.3 -1.0**
comp=Z,1.5nm,1.0s,baz=279,slow=5.7,SNR=6.9
TORD Torodi Ar. Bea 82.97 77 P **P** **19 25 02.7 -0.6**
K20K Telida 83.44 334 P **P** **19 25 04.3 -0.4**
H11S2 WAKE ISLAND Hyl 11.58 289 T T 21 32 00.4
baz=91,slow=74
H11S1 WAKE ISLAND Hyl 11.59 289 T T 21 32 07.7
baz=91,slow=74
H11S3 WAKE ISLAND Hyl 11.60 289 T T 21 32 03.3
baz=91,slow=74
ZALV Zalesovo Beam 125.94 10 PKP **PKiKP** **19 31 40.3 +0.4**
comp=Z,0.7nm,0.7s,baz=107,slow=1.5,SNR=3.8
STKA Stephens Creek 128.19 227 PKP **PKiKP** **19 31 44.9 -0.2**
comp=Z,1.3nm,0.7s,baz=89,slow=1.8,SNR=4.1
MKAR Makanchi Array 132.10 16 PKP **PKiKP** **19 31 50.9 -1.6**
comp=Z,0.4nm,0.9s,baz=333,slow=0.3,SNR=4.1
SONM Songino Array 132.96 353 PKP **PKiKP** **19 31 53.0 -1.4**
comp=Z,0.3nm,0.8s,baz=129,slow=25,SNR=2.9
KSRS Korea Array 135.09 327 PKP **PKiKP** **19 31 57.8 -0.9**
comp=Z,1.2nm,0.8s,baz=48,slow=2.0,SNR=3.2
ASAR Alice Springs 138.25 232 PKhKP PKPpre 19 31 46.9
comp=Z,0.1nm,0.6s,baz=79,slow=35,SNR=1.6
ASAR PKP pPKPdf 19 32 05.9 -1.2
comp=Z,2.2nm,1.1s,baz=116,slow=2.4,SNR=7.1
WRA Warramunga Arr 139.70 237 PKhKP PKPpre 19 32 02.9
comp=Z,0.9nm,0.9s,baz=105,slow=1.9,SNR=4.6
WRA PKP **PKiKP** **19 32 07.2 -1.5**
comp=Z,1.4nm,0.8s,baz=110,slow=1.8,SNR=7.0
WRA Warramunga Arr 139.70 237 **PKPdf** **19 32 05.7 -0.7**
GOMU GeErMu 144.78 6 PKP **PKiKP** **19 32 24.3 +5.1**
GOMU pPKP sPKPdf 19 32 28.3 +8.3
GOMU sPKP 19 32 31.4
GOMU SKS **SKSdf** **19 39 32.8 +7.3**
LZH Lanzhou 144.85 353 ⇑PKP **PKPdf** **19 32 15.4 +0.1**
LZH pPKP sPKPdf 19 32 20.9 +1.0
PYUN Piuthan 148.95 28 *e*P **PKiKP** **19 32 26.2 -1.6**
DANN Dangsing 149.10 27 *e*P **PKiKP** **19 32 26.9 -1.3**
comp=Z,25nm,0.8s
KOLN Koldanda 149.52 28 *e*P **PKiKP** **19 32 27.4 -1.6**
comp=Z,30nm,1.2s
GKN Gorkha 149.79 26 *e*P **PKiKP** **19 32 28.5 -0.9**
KKN Kakani 150.26 25 *e*P **PKiKP** **19 32 29.4 -1.1**
GUN Gumba 150.40 24 *e*P **PKiKP** **19 32 30.1 -0.9**
PKIN Phulchoki 150.49 25 *e*P **PKiKP** **19 32 29.6 -1.4**
PKI Pulchoki 150.50 25 *e*P **PKiKP** **19 32 29.7 -1.4**
comp=Z,14nm,0.9s
JIRN Jiri 150.75 24 *e*P **PKiKP** **19 32 31.4 -0.3**
comp=Z,13nm,1.0s
PZH PanZhiHua 154.55 355 PKPbc **PKPdf** **19 32 29.3 -1.5**

IDC 18 19:30:31.4±9.9, 29.79S×178.58W, h396km±103km, mb2.5/2, mb1 2.8/3, mb1mx2.7/29, mbtmp3.5/3, Error ellipse: s-maj=98.8km s-min=52.5km az=15.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
URZ	**Urewera**	**9.17**	**202**	P	P		19 32 39.7	0.0
	0.8nm,0.3s,baz=270,slow=3.9,SNR=9.8							
URZ				S	S		19 34 24.8	-0.2
	1.3nm,0.3s,baz=74,slow=23,SNR=9.2							
ASAR	**Alice Springs**	**42.64**	**267**	P	P		19 37 51.4	+0.2
	0.1nm,0.3s,baz=106,slow=8.8,SNR=5.6							
WRA	**Warramunga Arr**	**43.58**	**272**	P	P		19 37 57.9	-0.6
	0.4nm,0.9s,baz=110,slow=6.9,SNR=4.8							
FINES	**FINESS Array B**	**144.40**	**340**	PKP	PKPbc		19 49 19.8	0.0
	1.4nm,0.9s,baz=54,slow=3.6,SNR=8.7							

*IDC **18** 19:30:46.8±1.7, 24.01N×121.88E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.1/51, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=52.7km s-min=26.0km az=78.0*
*TAP **18** 19:30:49.8, 24.01N×122.37E, h26km, ML3.5, D*
*JMA **18** 19:30:50.4±0.1, 24.04N×122.36E, h22km±3km, M3.1*

ISC 18 19:30:50.1±1.1, 24.01N±0.02×122.36E±0.02, h24km±10km, n79, σ0.77/143, mb3.3/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
EHP	**Heping Village**	**0.64**	**298**	*e*P	**Pn**		**19 31 03.6**	**0.0**
	baz=297							
EWUT	**Wuta**	**0.68**	**310**	P	**Pb**		**19 31 03.2**	**-0.1**
	baz=308							
EWUT				*e*S	**Sb**		**19 31 12.9**	**+0.6**
	baz=308							
ETL	**Fush Village**	**0.69**	**283**	P	**Pn**		**19 31 03.8**	**-0.4**
	baz=282							
ETL				S	**Sn**		**19 31 14.6**	**+0.4**
	baz=282							
HWA	**Hwalien**	**0.69**	**268**	P	**Pn**		**19 31 04.5**	**+0.2**
	baz=267							
HWA				*e*S	**Sn**		**19 31 15.2**	**+1.0**
	baz=267							
JYNG	**Yonagunijimaku**	**0.70**	**51**	P	**Pb**		**19 31 03.3**	**-0.2**
JYNG				*e*S	**Sb**		**19 31 12.2**	**-0.5**
TWD	**Chiawan**	**0.70**	**276**	*i* P	**Pn**		**19 31 03.9**	**-0.5**
	baz=275							
TWD				*i* S	**Sn**		**19 31 14.0**	**-0.4**
	baz=275							
ENA	**Nanau**	**0.70**	**307**	*i* P	**Pb**		**19 31 03.5**	**-0.1**
	baz=306							
ENA				*i* S	**Sn**		**19 31 13.8**	**-0.7**
	baz=306							
TEYL	**Yanliau Villag**	**0.71**	**259**	P	**Pn**		**19 31 04.5**	**0.0**
	baz=261							
TEYL				*e*S	**Sn**		**19 31 15.6**	**+0.9**
	baz=261							
NACB	**Ninganchiao**	**0.71**	**283**	P	**Pn**		**19 31 04.2**	**-0.4**
	baz=283							
NACB				S	**Sn**		**19 31 14.6**	**-0.3**
	baz=283							
YOJ	**Yonaguni jima**	**0.75**	**53**	P	**Pb**		**19 31 04.2**	**-0.2**
YOJ				*e*S	**Sb**		**19 31 13.6**	**-0.7**
TWC	**Suao**	**0.76**	**322**	*e*P	**Pb**		**19 31 03.8**	**-0.8**
	baz=321							
TWC				*e*S	**Sb**		**19 31 13.1**	**-1.4**
	baz=321							
ETM	**Tongmen**	**0.79**	**267**	P	**Pn**		**19 31 05.3**	**-0.4**
	baz=267							
ETM				*e*S	**Sn**		**19 31 16.1**	**-0.6**
	baz=267							
TEGC	**Jichi Village**	**0.80**	**248**	P	**Pn**		**19 31 06.0**	**+0.2**
	baz=248							
TEGC				S	**Sn**		**19 31 17.3**	**+0.2**
	baz=248							
ETLH	**Xiulin Townshi**	**0.82**	**284**	P	**Pb**		**19 31 05.8**	**+0.1**
	baz=283							
ETLH				S	**Sn**		**19 31 17.5**	**-0.2**
	baz=283							
NDS	**Dongshan**	**0.85**	**317**	P	**Pb**		**19 31 06.0**	**-0.2**
	baz=316							
NDS				S	**Sb**		**19 31 17.6**	**+0.3**
	baz=316							
ESL	**Shilin**	**0.87**	**257**	*i* P	**Pb**		**19 31 06.2**	**-0.2**
	baz=257							
ESL				*i* S	**Sn**		**19 31 18.5**	**-0.1**
	baz=257							
EGFH	**Guangfu**	**0.92**	**248**	P	**Pn**		**19 31 07.4**	**0.0**
	baz=248							
EGFH				S	**Sn**		**19 31 20.1**	**+0.3**
	baz=248							
EGS		**0.92**	**335**	P	**Pn**		**19 31 07.7**	**+0.3**
	baz=334							
EGS				*e*S	**Sn**		**19 31 20.6**	**+0.7**
	baz=334							
LATG	**Datong**	**0.92**	**305**	P	**Pn**		**19 31 07.5**	**-0.1**
	baz=304							
LATG				S	**Sn**		**19 31 21.1**	**+1.0**
	baz=304							
NTC	**Toucheng**	**0.97**	**330**	P	**Pn**		**19 31 08.1**	**-0.1**
	baz=329							
NTC				S	**Sn**		**19 31 20.9**	**-0.2**
	baz=329							
NDT	**Datong Townshi**	**0.97**	**308**	P	**Pn**		**19 31 08.6**	**+0.4**
	baz=307							
NDT				S	**Sn**		**19 31 21.2**	**0.0**
	baz=307							
NNSB	**Datong**	**0.98**	**295**	P	**Pn**		**19 31 08.5**	**+0.1**
	baz=294							
NNSB				S	**Sn**		**19 31 21.7**	**0.0**
	baz=294							
NNS	**Nan Shan**	**0.99**	**296**	P	**Pn**		**19 31 08.8**	**+0.1**
	baz=295							
NNS				S	**Sn**		**19 31 22.0**	**0.0**
	baz=295							
HGSD	**Ruisui**	**1.00**	**239**	P	**Pb**		**19 31 08.3**	**-0.3**
	baz=239							
HGSD				*e*S	**Sb**		**19 31 20.5**	**-0.9**
	baz=239							
WHF	**Hehuan Shan**	**1.01**	**278**	P	**Pn**		**19 31 09.0**	**-0.1**
	baz=277							
WHF				S	**Sn**		**19 31 22.5**	**-0.1**
	baz=277							
FUSS	**Fushou**	**1.04**	**283**	P	**Pn**		**19 31 09.8**	**+0.4**
	baz=283							
FUSS				S	**Sn**		**19 31 23.6**	**+0.3**
	baz=283							
TWB1	**Santiao Chiao**	**1.05**	**342**	*i* P	**Pn**		**19 31 09.0**	**-0.2**
	baz=340							
TWB1				S	**Sn**		**19 31 23.7**	**+0.6**
	baz=340							
EHY	**Hungye**	**1.07**	**242**	P	**Pb**		**19 31 09.7**	**-0.2**
	baz=242							
EHY				S	**Sn**		**19 31 24.0**	**+0.3**
	baz=242							
TIPB	**Shuangxi**	**1.07**	**333**	P	**Pb**		**19 31 09.8**	**-0.2**
	baz=332							
TIPB				S	**Sb**		**19 31 23.5**	**-0.1**
	baz=332							
ECBN	**Changbin**	**1.08**	**230**	P	**Pb**		**19 31 09.9**	**-0.1**
	baz=230							
ECBN				S	**Sn**		**19 31 23.9**	**+0.1**
	baz=230							
OWD	**Renai**	**1.08**	**267**	P	**Pb**		**19 31 10.1**	**-0.1**
	baz=267							
OWD				*e*S	**Sb**		**19 31 23.6**	**-0.3**
	baz=267							
CHGB	**Renai**	**1.08**	**273**	P	**Pb**		**19 31 10.2**	**-0.1**
	baz=272							
CHGB				S	**Sn**		**19 31 24.6**	**+0.3**
	baz=272							
TDCB	**Techi**	**1.12**	**283**	P	**Pb**		**19 31 10.8**	**0.0**
	baz=282							
TDCB				S	**Sn**		**19 31 26.1**	**+0.9**
	baz=282							
WUSB	**Renai**	**1.13**	**269**	P	**Pb**		**19 31 11.1**	**0.0**
	baz=269							
WUSB				S	**Sn**		**19 31 25.4**	**0.0**
	baz=269							
VWDT	**VWDT**	**1.14**	**257**	P	**Pb**		**19 31 11.3**	**+0.2**
	baz=257							
VWDT				S	**Sn**		**19 31 25.9**	**+0.6**
	baz=257							
YULB	**Yu-li**	**1.15**	**238**	P	**Pn**		**19 31 10.7**	**+0.1**
	baz=238							
YULB				S	**Sn**		**19 31 25.7**	**+0.1**
	baz=238							
EYUL	**Yuli**	**1.16**	**235**	P	**Pb**		**19 31 11.2**	**-0.1**
	baz=235							
EYUL				S	**Sn**		**19 31 26.6**	**+0.9**
	baz=235							
SXI1	**Grass Mountain**	**1.17**	**338**	P	**Pn**		**19 31 11.1**	**+0.1**
	baz=337							
SXI1				S	**Sn**		**19 31 26.9**	**+0.8**
	baz=337							
FULB	**Fuli**	**1.26**	**231**	P	**Pn**		**19 31 12.1**	**-0.1**
	baz=230							
FULB				S	**Sn**		**19 31 28.1**	**-0.4**
	baz=230							
WPL	**Puli Township**	**1.28**	**270**	P	**Pb**		**19 31 13.3**	**-0.2**
	baz=270							
WPL				S	**Sb**		**19 31 30.1**	**+0.6**
	baz=270							
CHKT	**Chengkung**	**1.28**	**225**	P	**Pn**		**19 31 12.0**	**-0.5**
	baz=225							
CHKT				*e*S	**Sn**		**19 31 27.7**	**-1.2**
	baz=225							
IRIF	**Iriomote-Funau**	**1.30**	**75**	P	**Pb**		**19 31 13.4**	**-0.4**
IRIF				*e*S	**Sb**		**19 31 30.8**	**+0.8**
SSLB	**Suanglung**	**1.30**	**261**	P	**Pb**		**19 31 13.7**	**-0.1**
	baz=260							
SSLB				S	**Sb**		**19 31 30.3**	**+0.1**
	baz=260							
DPDB	**Guoxing**	**1.31**	**271**	P	**Pb**		**19 31 13.9**	**-0.1**
	baz=271							
DPDB				S	**Sb**		**19 31 30.6**	**+0.2**
	baz=271							
WCS	**Beigang Elemen**	**1.32**	**272**	P	**Pb**		**19 31 13.7**	**-0.4**
	baz=272							
WCS				S	**Sb**		**19 31 31.2**	**+0.5**
	baz=272							
HATJ	**Hateruma jima**	**1.33**	**88**	*e*S	**Sb**		**19 31 31.0**	**+0.2**
SMLT	**Sun Moon Lake**	**1.34**	**265**	P	**Pb**		**19 31 14.4**	**-0.2**
	baz=264							
SMLT				S	**Sb**		**19 31 31.5**	**+0.2**
	baz=264							
TYC	**Yuchr**	**1.38**	**266**	P	**Pb**		**19 31 14.8**	**-0.3**
	baz=265							
TYC				S	**Sb**		**19 31 32.3**	**+0.1**
	baz=265							
ECS	**Chishang**	**1.38**	**229**	P	**Pb**		**19 31 14.5**	**-0.8**
	baz=229							
ECS				S	**Sb**		**19 31 32.1**	**-0.4**
	baz=229							
EDH	**Donghe**	**1.41**	**223**	P	**Pn**		**19 31 14.2**	**0.0**
	baz=223							
EDH				*e*S	**Sn**		**19 31 31.0**	**-1.1**
	baz=223							
ELDTW	**Lidau**	**1.47**	**237**	*i* P	**Pn**		**19 31 15.2**	**-0.1**
	baz=236							
ELDTW				S	**Sn**		**19 31 33.5**	**-0.3**
	baz=236							
JKRS	**Kuro-shima**	**1.53**	**81**	P	**Pb**		**19 31 17.6**	**-0.1**
LDUT	**Ludao**	**1.56**	**212**	P	**Pn**		**19 31 16.3**	**0.0**
	baz=212							
LDUT				S	**Sn**		**19 31 35.7**	**0.0**
	baz=212							
LONT	**Longtian**	**1.57**	**226**	P	**Pn**		**19 31 16.6**	**+0.1**
	baz=226							
LONT				S	**Sn**		**19 31 36.5**	**+0.4**
	baz=226							
PCYT	**Pengchaiyu**	**1.63**	**351**	P	**Pn**		**19 31 17.2**	**-0.1**
	baz=350							
TWGBT	**Beinan**	**1.67**	**225**	*e*P	**Pn**		**19 31 18.1**	**+0.3**
	baz=225							
TWGBT				*e*S	**Sn**		**19 31 38.7**	**+0.3**
	baz=225							
JIJ	**Ishigaki jima**	**1.67**	**77**	P	**Pn**		**19 31 18.1**	**+0.3**
JIJ				*e*S	**Sb**		**19 31 39.4**	**-1.3**
STYH	**Taoyuan**	**1.67**	**240**	*e*P	**Pb**		**19 31 19.2**	**-0.9**
	baz=240							
STYH				*e*S	**Sn**		**19 31 39.6**	**+1.1**
	baz=240							
STYT	**Tauyuan**	**1.69**	**240**	*e*P	**Pb**		**19 31 19.4**	**-1.2**
	baz=240							
STYT				*e*S	**Sn**		**19 31 40.1**	**+1.0**
	baz=240							
JISG	**Ishigakijimahi**	**1.88**	**72**	P	**Pn**		**19 31 20.9**	**+0.3**
JISG				S	**Sn**		**19 31 43.9**	**+0.4**
LAY	**Lan-yu**	**2.10**	**201**	P	**Pn**		**19 31 24.2**	**+0.5**
	baz=200							
LAY				*e*S	**Sn**		**19 31 49.6**	**+0.6**
	baz=200							
LYUB	**Lan-yu**	**2.12**	**200**	*e*P	**Pn**		**19 31 23.2**	**-0.8**
	baz=200							
LYUB				S	**Sn**		**19 31 48.7**	**-0.9**
	baz=200							
JTJ	**Tarama**	**2.23**	**73**	*e*S	**Sn**		**19 31 53.8**	**+1.5**
WDGT	**Dungji**	**2.58**	**254**	*e*P	**Pn**		**19 31 31.7**	**+1.4**
	baz=253							
PHUB	**P'eng-hu**	**2.60**	**260**	*e*P	**Pn**		**19 31 31.4**	**+0.8**
	baz=259							
PHUB				*e*S	**Sn**		**19 32 03.0**	**+1.6**
	baz=259							
PNG	**Penghu**	**2.60**	**261**	*e*P	**Pn**		**19 31 31.8**	**+1.2**
	baz=260							
PNG				*e*S	**Sn**		**19 32 03.2**	**+1.7**
	baz=260							
VCHM	**Qimei**	**2.80**	**254**	*e*P	**Pn**		**19 31 34.7**	**+1.3**
	baz=253							
VCHM				*e*S	**Sn**		**19 32 07.9**	**+1.5**
	baz=253							
VWUC	**VWUC**	**2.82**	**291**	*e*P	**Pn**		**19 31 33.7**	**+0.1**
	baz=290							
MATB	**Ma-tsu**	**3.05**	**315**	*e*P	**Pn**		**19 31 36.6**	**-0.2**
	baz=313							
PTMZ	**Houxiangcun**	**3.12**	**290**	*e*P	**Pn**		**19 31 36.0**	**-1.8**
	baz=289							
XPSS	**Dashiqiu**	**3.51**	**327**	*e*P	**Pn**		**19 31 42.9**	**-0.2**
	baz=325							
KNM	**Kinmen**	**3.60**	**277**	*e*P	**Pn**		**19 31 46.6**	**+2.2**
	baz=276							
KNM				*e*S	**Sn**		**19 32 28.7**	**+2.5**
	baz=276							
KNMB	**Chin-men Tao**	**3.65**	**278**	*e*P	**Pn**		**19 31 45.5**	**+0.5**
	baz=277							
KNMB				*e*S	**Sn**		**19 32 27.2**	**-0.1**
	baz=277							
MHZQ	**Yeshan**	**3.67**	**305**	*e*P	**Pn**		**19 31 44.8**	**-0.4**
	baz=304							
MHZQ				*e*S	**Sn**		**19 32 25.5**	**-2.2**
	baz=304							
KSRS	**Korea Array**	**14.23**	**18**	Pn	**Pn**		**19 34 12.3**	**+2.3**
	0.2nm,0.3s,baz=192,slow=12,SNR=3.6							
KSRS				Lg	Lg		19 38 21.0	
	0.2nm,0.3s,baz=176,slow=40,SNR=1.8							
SONM	**Songino Array**	**26.95**	**336**	P	**P**		**19 36 28.0**	**-1.8**
	0.6nm,0.8s,baz=148,slow=9.4,SNR=4.2							
MKAR	**Makanchi Array**	**39.21**	**316**	P	**P**		**19 38 14.7**	**-1.6**
	0.4nm,0.7s,baz=105,slow=10,SNR=5.1							
ZALV	**Zalesovo Beam**	**40.98**	**327**	P	**P**		**19 38 28.7**	**-2.1**
	0.8nm,0.6s,baz=116,slow=6.8,SNR=3.9							
WRA	**Warramunga Arr**	**45.22**	**164**	P	**P**		**19 39 06.7**	**+1.3**
	0.2nm,0.9s,baz=343,slow=10,SNR=1.7							

*NEIC **18** 19:43:00.5±1.5, 19.07S±0.05×69.39W±0.07, h122km±6km, Error ellipse: s-maj=11.3km s-min=3.0km az=54.0*
*SJA **18** 19:43:00.3±0.5, 19.10S×69.54W, h127km±3km, ML4.4, MW4.3*
*VAO **18** 19:43:00.4±0.5, 18.98S×69.26W, h111km±5km, mb4.8*

*GUC **18** 19:43:01.9±0.6, 19°.11S×69°.50W, h123km±3km, ML4.4*
*IDC **18** 19:43:01.8±0.4, 19°.05S×69°.18W, h126km±3km, mb3.9/14, mb1 4.1/17, mb1mx4.0/31, mbtmp4.3/17, Error ellipse: s-maj=14.4km s-min=8.9km az=84.0*

ISC 18 19:43:00.3±0.4, **19°.05S**±0.03×**69°.40W**±0°.05, **h123**km±3km, **h123km:pP-P, n163,** σ1°**32**/188, **mb4.4**/21, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op		ISC		
GO01	**Chusmiza**	**0.64**	**162**			**Pn**	**19 43 21.2**	**+1.0**
GO01	**Chusmiza**	**0.64**	**162**	*eP*		**Pn**	**19 43 21.1**	**+1.0**
GO01				*i* S		**Sn**	**19 43 36.4**	**+1.4**
PB16	**IPOC Station P**	**0.72**	**352**			**Pn**	**19 43 21.4**	**+0.5**
PB11	**IPOC Station P**	**0.74**	**199**	Pn		**Pn**	**19 43 20.4**	**-0.2**
PB11	**IPOC Station P**	**0.74**	**199**	*eP*		**Pn**	**19 43 21.1**	**+0.6**
PB11				*i* S		**Sn**	**19 43 35.9**	**+0.2**
PB11				IAML			19 43 36.9	
	comp=N,20μm,0.3s							
PB11	**IPOC Station P**	**0.74**	**199**	*eP*		**Pn**	**19 43 21.0**	**+0.5**
PB11				*eP*		**Pn**	**19 43 25.1**	**+4.6**
PB11				*eS*		**Sn**	**19 43 36.3**	**+0.5**
PB11				IAML			19 43 37.2	
	comp=Z,6μm,0.3s							
PB12	**IPOC Station P**	**0.98**	**296**	Pn		**Pn**	**19 43 21.9**	**-0.7**
PB12	**IPOC Station P**	**0.98**	**296**	*eP*		**Pn**	**19 43 22.8**	**+0.3**
PB12				*i* S		**Sn**	**19 43 39.2**	**-0.1**
PB12				IAML			19 43 40.0	
	comp=E,17μm,0.2s							
PB12	**IPOC Station P**	**0.98**	**296**	*eP*		**Pn**	**19 43 22.4**	**-0.1**
PB12				*eS*		**Sn**	**19 43 39.5**	**+0.2**
PB12				IAML			19 43 41.0	
	comp=Z,6μm,0.2s							
PB08	**IPOC Station P**	**1.11**	**168**			**Pn**	**19 43 24.4**	**+0.3**
PB08	**IPOC Station P**	**1.11**	**168**	*eP*		**Pn**	**19 43 25.4**	**+1.3**
PB08				*i* S		**Sn**	**19 43 43.2**	**+1.1**
PB08				IAML			19 43 44.3	
	comp=E,5μm,0.1s							
PB08	**IPOC Station P**	**1.11**	**168**	*eP*		**Pn**	**19 43 25.1**	**+1.0**
PB08				*eS*		**Sn**	**19 43 43.1**	**+1.1**
PB08				IAML			19 43 43.9	
	comp=Z,3μm,0.8s							
AP01	**Chacalluta**	**1.12**	**307**			**Pn**	**19 43 24.2**	**+0.4**
AP01	**Chacalluta**	**1.12**	**307**	*eP*		**Pn**	**19 43 24.4**	**+0.6**
AP01				*i* S		**Sn**	**19 43 41.9**	**+0.3**
AP01	**Chacalluta**	**1.12**	**307**	*eP*		**Pn**	**19 43 24.0**	**+0.2**
AP01				IAML			19 43 45.7	
	comp=Z,12μm,0.1s							
HMBC	**Humberstone**	**1.30**	**201**	*eP*		**Pn**	**19 43 26.2**	**+0.3**
HMBC				*i* S		**Sn**	**19 43 44.7**	**-0.6**
TA02	**Huaiquique**	**1.39**	**210**			**Pn**	**19 43 26.7**	**0.0**
TA02	**Huaiquique**	**1.39**	**210**	*eP*		**Pn**	**19 43 26.6**	**0.0**
TA02				*i* S		**Sn**	**19 43 45.2**	**-1.6**
TA02				IAML			19 43 48.0	
	comp=N,7μm,0.4s							
TA02	**Huaiquique**	**1.39**	**210**	*eP*		**Pn**	**19 43 26.2**	**-0.5**
TA02				*eP*		**Pn**	**19 43 26.7**	**0.0**
TA02				*eS*		**Sn**	**19 43 45.9**	**-0.9**
TA02				IAML			19 43 49.9	
	comp=Z,3μm,0.2s							
TA01	**Diego Aracena**	**1.68**	**206**			**Pn**	**19 43 29.8**	**-0.2**
TA01	**Diego Aracena**	**1.68**	**206**	*eP*		**Pn**	**19 43 29.7**	**-0.2**
TA01				*i* S		**Sn**	**19 43 50.7**	**-1.9**
TA01				IAML			19 43 53.2	
	comp=N,3μm,0.3s							
TA01	**Diego Aracena**	**1.68**	**206**	*eP*		**Pn**	**19 43 29.9**	**0.0**
PATCX	**Punta Patache**	**1.90**	**202**	Pn		**Pn**	**19 43 32.6**	**-0.1**
PATCX	**Punta Patache**	**1.90**	**202**	*eP*		**Pn**	**19 43 32.6**	**-0.1**
PATCX				*i* S		**Sn**	**19 43 55.8**	**-1.7**
PATCX				IAML			19 44 03.4	
	comp=E,5μm,0.6s							
PATCX	**Punta Patache**	**1.90**	**202**	*eP*		**Pn**	**19 43 32.8**	**0.0**
PATCX				*eP*		**Pn**	**19 43 32.9**	**+0.1**
PATCX				*eP*		**Pn**	**19 43 33.1**	**+0.3**
PATCX				IAML			19 43 59.7	
	comp=Z,2μm,0.6s							
PB02	**IPOC Station P**	**2.30**	**192**			**Pn**	**19 43 37.8**	**0.0**
PB02	**IPOC Station P**	**2.30**	**192**	*eP*		**Pn**	**19 43 37.7**	**0.0**
PB02				*i* S		**Sn**	**19 44 05.0**	**-1.6**
PB02				IAML			19 44 09.1	
	comp=E,3μm,0.4s							
PB02	**IPOC Station P**	**2.30**	**192**	*eP*		**Pn**	**19 43 38.2**	**+0.4**
PB02				*eS*		**Sn**	**19 44 06.0**	**-0.6**
PB02				IAML			19 44 08.0	
	comp=Z,3μm,0.3s							
PB07	**IPOC Station P**	**2.70**	**190**			**Pn**	**19 43 43.0**	**0.0**
PB07	**IPOC Station P**	**2.70**	**190**	*eP*		**Pn**	**19 43 43.3**	**+0.4**
PB07				*eS*		**Sn**	**19 44 14.1**	**-1.7**
PB07				IAML			19 44 15.5	
	comp=Z,1μm,0.5s							
PB09	**IPOC Station P**	**2.73**	**177**			**Pn**	**19 43 44.5**	**+1.0**
PB09	**IPOC Station P**	**2.73**	**177**	*eP*		**Pn**	**19 43 44.0**	**+0.6**
PB09				*eS*		**Sn**	**19 44 17.6**	**+1.1**
PB09				IAML			19 45 04.2	
	comp=Z,1μm,0.7s							
LPAZ	**La Paz**	**3.00**	**24**	*eP*		**Pn**	**19 43 50.0**	**+2.6**
LVC	**Limon Verde**	**3.57**	**173**	P		**Pn**	**19 43 55.8**	**+1.3**
	comp=Z,9.7nm,0.3s,baz=23,slow=8.5,SNR=134							
LVC				S		**Sn**	**19 44 36.7**	**+0.3**
	comp=Z,51nm,0.3s,baz=226,slow=23,SNR=11							
LVC	**Limon Verde**	**3.57**	**173**	Pn		**Pn**	**19 43 55.5**	**+1.0**
LVC	**Limon Verde**	**3.57**	**173**	*eP*		**Pn**	**19 43 55.4**	**+0.8**
LVC				*eS*		Sn	19 44 21.6	-15
LVC				IAML			19 44 27.9	
	comp=Z,286nm,0.7s							
LVC	**Limon Verde**	**3.57**	**173**	*eP*		**Pn**	**19 43 56.0**	**+1.4**
PB06	**IPOC Station P**	**3.64**	**183**			**Pn**	**19 43 55.4**	**+0.1**
PB06	**IPOC Station P**	**3.64**	**183**	*eP*		**Pn**	**19 43 55.5**	**+0.1**
PB15	**IPOC Station P**	**4.13**	**181**			**Pn**	**19 44 02.1**	**+0.1**
PB10	**IPOC Station P**	**4.57**	**193**	Pn		**Pn**	**19 44 06.0**	**-1.5**
GO02	**Mina Guanaco**	**6.08**	**182**	Pn		**Pn**	**19 44 26.9**	**-1.3**
AC01	**Pan de Azucar**	**7.15**	**189**	Pn		**Pn**	**19 44 39.4**	**-2.9**
AC02	**Maricunga**	**7.75**	**178**	Pn		**Pn**	**19 44 49.9**	**-1.0**
SIV	**San Ignacio**	**8.51**	**70**	P		**Pn**	**19 44 59.3**	**-1.4**
	comp=Z,5.8nm,0.3s,baz=262,slow=9.4,SNR=89							
SIV				S		**Sn**	**19 46 28.8**	**-6.3**
	baz=139,slow=15,SNR=5.3							
ETMB	**Extrema**	**9.69**	**19**	*eP*		**Pn**	**19 45 15.3**	**-1.3**
NNA	**Nana**	**10.04**	**313**	P		**Pn**	**19 45 21.1**	**-0.2**
	comp=Z,3.0nm,0.3s,baz=188,slow=18,SNR=3.7							
NNA				S		**Sn**	**19 47 05.0**	**-7.3**
	comp=Z,2.3nm,0.3s,baz=218,slow=23,SNR=1.6							
PTLB	**Pontes e Lacer**	**10.44**	**71**	*eP*		**Pn**	**19 45 24.7**	**-2.1**
VILB	**Vilhena**	**10.72**	**57**	*eP*		**Pn**	**19 45 28.7**	**-1.9**
CZSB	**Cruzeiro do Su**	**11.71**	**344**	*eP*		**Pn**	**19 45 43.3**	**-0.4**
AQDB	**Aquidauana**	**12.98**	**99**	Pn		**Pn**	**19 45 59.1**	**-1.1**
AQDB	**Aquidauana**	**12.98**	**99**	*eP*		**Pn**	**19 45 59.1**	**-1.1**
CPUP	**Villa Florida**	**13.28**	**125**	P		**Pn**	**19 46 02.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=299,slow=12,SNR=11							
CPUP	**Villa Florida**	**13.28**	**125**	Pn		**Pn**	**19 46 01.9**	**-2.2**
CPUP	**Villa Florida**	**13.28**	**125**	*eP*		**Pn**	**19 46 01.8**	**-2.3**
SALV	**Santo Antonio**	**13.45**	**79**	*eP*		**Pn**	**19 46 02.7**	**-3.6**
PP1B	**Ponte de Pedra**	**13.86**	**86**	*eP*		**Pn**	**19 46 09.2**	**-2.5**
NBRS	**Nobres**	**13.87**	**72**	*eP*		**Pn**	**19 46 09.4**	**-2.4**
PDRB	**Porto dos Gac**	**14.28**	**61**	*eP*		**Pn**	**19 46 16.8**	**-0.3**
MT09	**Talagante**	**14.73**	**185**	P		**P**	**19 46 25.1**	**-0.4**
LMEL	**Las Melosas**	**14.75**	**183**	P		**P**	**19 46 25.4**	**-0.5**
MT01	**Popeta**	**14.84**	**186**	P		**Pn**	**19 46 23.8**	**-0.3**
BO04	**La Punta**	**14.91**	**184**			**Pn**	**19 46 23.9**	**-1.1**
MCR1	**Marechal Candi**	**15.25**	**113**	*eP*		**Pn**	**19 46 28.7**	**-0.5**
BO01	**Tunca**	**15.35**	**185**			**Pn**	**19 46 31.0**	**+0.7**
BO01				IAmb		IAmb	19 46 36.0	
	comp=Z,46nm,1.6s							
CLDB	**Colider**	**15.45**	**60**	*eP*		**Pn**	**19 46 30.7**	**-1.0**
C2SB	**Chapadao do Su**	**15.68**	**92**	*eP*		**Pn**	**19 46 34.6**	**0.0**
ITQB	**Itaqui**	**15.71**	**135**	*eP*		**Pn**	**19 46 35.3**	**+0.4**
TRCB	**Terra Rica**	**16.10**	**106**	*eP*		**Pn**	**19 46 39.7**	**-0.1**
DVLD	**Doverlandia**	**16.58**	**84**	*eP*		**Pn**	**19 46 45.8**	**0.0**
FRBT	**Francisco Belt**	**16.58**	**117**	*eP*		**P**	**19 46 46.3**	**+0.2**
H03N1	**Juan Fernandez**	**16.66**	**209**	T		T	20 04 31.2	
	baz=29,slow=73,SNR=30							
H03N2	**Juan Fernandez**	**16.67**	**209**	T		T	20 04 38.5	
	baz=29,slow=73,SNR=35							
H03N3	**Juan Fernandez**	**16.68**	**209**	T		T	20 04 48.7	
	baz=29,slow=73,SNR=44							
PTGB	**Pitanga**	**17.04**	**112**	*eP*		**P**	**19 46 51.1**	**0.0**
PCMB	**Pacaembu**	**17.20**	**102**	*eP*		**Pn**	**19 46 53.2**	**0.0**
ITAB	**Concordia**	**17.83**	**120**			**Pn**	**19 47 00.7**	**-0.1**
ITAB				IAmb		IAmb	19 47 02.6	
	comp=Z,47nm,1.5s							
ITAB	**Concordia**	**17.83**	**120**	*eP*		**P**	**19 46 59.9**	**+0.1**
MCRA	**Macar, Loja**	**17.87**	**323**	Pn		**Pn**	**19 47 02.3**	**+1.0**
MCRA				IAmb		IAmb	19 47 24.8	
	comp=Z,17nm,0.8s							
MACA	**Manacapuru-AM**	**17.95**	**29**	*eP*		**P**	**19 47 00.9**	**-0.2**
ITRB	**Iturama**	**17.98**	**95**	*eP*		**P**	**19 47 01.9**	**+0.4**
NPGB	**Novo Progresso**	**18.14**	**51**	*eP*		**P**	**19 47 02.3**	**-0.9**
CPSB	**Cacapava Do Su**	**18.36**	**131**	*eP*		**P**	**19 47 05.6**	**+0.1**
SNDB	**Serra Nova Dou**	**18.80**	**71**	*eP*		**P**	**19 47 09.9**	**-0.5**
FRTB	**Fartura**	**18.98**	**106**	*eP*		**P**	**19 47 12.0**	**-0.3**
PLTB	**Pedras Altas**	**19.04**	**135**	P		**P**	**19 47 12.8**	**-0.1**
PLTB				IAmb		IAmb	19 47 14.3	
	comp=Z,24nm,0.7s							
PLTB	**Pedras Altas**	**19.04**	**135**	*eP*		**P**	**19 47 11.0**	**-2.0**
COHC	**Cochancay**	**19.10**	**328**	P		**P**	**19 47 12.2**	**-1.5**
BB19B	**Bebedouro**	**19.71**	**99**	*eP*		**P**	**19 47 19.7**	**-0.6**
ITTB	**Itaituba**	**19.78**	**44**	*eP*		**P**	**19 47 20.2**	**-0.8**
TIJ01	**Guaruva-PR**	**19.88**	**112**	*eP*		**P**	**19 47 23.2**	**+1.0**
LC01	**Cunco**	**19.89**	**186**	P		**P**	**19 47 19.3**	**-2.8**
LC01				IAmb		IAmb	19 47 27.2	
	comp=Z,17nm,0.9s							
IPMB	**Ipameri, GO**	**20.12**	**90**	*eP*		**P**	**19 47 23.5**	**-1.3**
BDFB	**Brasilia**	**20.69**	**84**	P		**P**	**19 47 30.3**	**-0.7**
	comp=Z,7.7nm,0.4s,baz=253,slow=14,SNR=12							
BDFB	**Brasilia**	**20.69**	**84**	P		**P**	**19 47 30.5**	**-0.5**
BDFB				IAmb		IAmb	19 47 34.6	
	comp=Z,10nm,0.6s							
TER01	**Tubaro-SC**	**20.78**	**121**	*eP*		**P**	**19 47 29.9**	**-1.8**
PEXB	**Peixe**	**21.45**	**74**	*eP*		**P**	**19 47 38.1**	**-1.0**
PLCA	**Paso Flores**	**21.63**	**182**	P		**P**	**19 47 42.0**	**+1.2**
	comp=Z,14nm,0.9s,baz=357,slow=11,SNR=24							
PLCA	**Paso Flores**	**21.63**	**182**	P		**P**	**19 47 41.5**	**+0.7**
PLCA				IAmb		IAmb	19 47 44.4	
	comp=Z,18nm,0.9s							
PLCA	**Paso Flores**	**21.63**	**182**	*eP*		**P**	**19 47 41.9**	**+1.1**
PRPB	**Parauapebas**	**22.97**	**59**	*eP*		**P**	**19 47 53.4**	**-1.0**
BOAV	**Boa Vista**	**23.03**	**23**	*eP*		**P**	**19 47 55.0**	**+0.1**
BSCB	**Bom Sucesso**	**23.21**	**99**	*eP*		**P**	**19 47 56.0**	**-0.8**
SMTB	**Santa Maria do**	**23.44**	**67**	*eP*		**P**	**19 47 58.7**	**-0.1**
JANB	**Januaria**	**24.30**	**84**	*eP*		**P**	**19 48 06.8**	**+0.2**
MC01	**Montes Claros**	**24.34**	**89**	*eP*		**P**	**19 48 06.6**	**-0.4**
DIAM	**Diamantina, MG**	**24.38**	**92**	*eP*		**P**	**19 48 06.2**	**-1.2**
SDBA	**SAO DESIDERIO**	**24.47**	**78**	*eP*		**P**	**19 48 08.7**	**+0.5**
MCPB	**Macapa, AP**	**25.19**	**44**	*eP*		**P**	**19 48 13.9**	**-0.8**
DUB01	**Friburgo-RJ**	**25.47**	**101**	*eP*		**P**	**19 48 18.4**	**+1.2**
BSFB	**Barra de Sao F**	**27.00**	**94**	*eP*		**P**	**19 48 31.8**	**+0.9**
NAN01	**Guarapari, ES**	**27.78**	**92**	*eP*		**P**	**19 48 38.2**	**+0.2**
BAUV	**El Baul**	**27.85**	**3**	P		**P**	**19 48 37.7**	**-0.8**
GDU01	**Guandu, BA**	**29.08**	**84**	*eP*		**P**	**19 48 49.9**	**+0.4**
MDP	**Montagnes des**	**29.13**	**36**	P		**P**	**19 48 49.4**	**-0.5**
	comp=Z,9.2nm,0.9s,baz=230,slow=9.4,SNR=4.6							
NBPN	**Ponto Novo - B**	**29.33**	**78**	*eP*		**P**	**19 48 51.8**	**+0.1**
NBLA	**Lagarto - SE**	**31.52**	**80**	*eP*		**P**	**19 49 09.1**	**-2.0**
NBPB	**Pedra_Branca-C**	**32.00**	**69**	*eP*		**P**	**19 49 16.5**	**+1.3**
RCBR	**Riachuelo**	**35.17**	**72**	P		**P**	**19 49 43.1**	**+0.4**
	comp=Z,18nm,0.8s,baz=22,slow=7.1,SNR=5.8							
CMIG	**Matias Romero**	**43.79**	**324**	P		**P**	**19 50 56.1**	**+2.0**
	comp=Z,1.6nm,0.7s,baz=135,slow=6.1,SNR=5.4							
TXAR	**Lajitas Array**	**58.37**	**325**	P		**P**	**19 52 43.8**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=149,slow=13,SNR=3.7							
MSTX	**Muleshoe**	**61.58**	**329**	P		**P**	**19 53 04.9**	**0.0**
MSTX				pP		**pP**	**19 53 34.9**	**-0.6**
L34A	**Svendsen Farm,**	**65.64**	**338**	P		**P**	**19 53 31.4**	**+0.1**
BGNE	**Belgrade**	**65.80**	**337**	P		**P**	**19 53 32.6**	**+0.3**
SDCO	**Great Sand Dun**	**65.92**	**329**	P		**P**	**19 53 34.8**	**+1.3**
SDCO				IAmb		IAmb	19 54 06.3	
	comp=Z,4.9nm,0.9s							
ISCO	**Idaho Springs**	**67.60**	**331**	P		**P**	**19 53 43.9**	**-0.2**
ISCO				IAmb		IAmb	19 54 17.1	
	comp=Z,4.6nm,1.0s							
SMCO	**Snowmass**	**67.76**	**329**	P		**P**	**19 53 44.2**	**-1.1**
SMCO				IAmb		IAmb	19 54 18.4	
	comp=Z,3.8nm,0.8s							
U15A	**North Rim**	**68.47**	**324**	P		**P**	**19 53 51.1**	**+1.5**
U15A				IAmb		IAmb	19 54 23.6	
	comp=Z,9.9nm,1.5s							
DBIC	**Dimbokro**	**68.51**	**75**	P		**P**	**19 53 49.3**	**-0.7**
	comp=Z,4.4nm,0.6s,baz=250,slow=4.1,SNR=12							
DBIC	**Dimbokro**	**68.51**	**75**	P		**P**	**19 53 49.2**	**-0.7**
DBIC				IAmb		IAmb	19 53 55.2	
	comp=Z,7.7nm,0.7s							
CCUT	**Cedar City**	**69.87**	**324**	P		**P**	**19 53 58.4**	**+0.2**
CCUT				IAmb		IAmb	19 54 32.7	
	comp=Z,6.3nm,0.9s							
SHPR	**Sheep Range**	**70.15**	**322**	P		**P**	**19 54 00.9**	**+1.0**
QSPA	**South Pole Qui**	**71.12**	**180**	P		**P**	**19 54 07.3**	**+2.0**
	comp=Z,2.0nm,0.6s,baz=288,slow=1.0,SNR=10							
DUG	**Dugway, Tooele**	**71.47**	**326**	P		**P**	**19 54 07.6**	**-0.1**
R11A	**Troy Canyon, C**	**71.67**	**323**	P		**P**	**19 54 10.9**	**+1.8**
PDAR	**Pinedale Array**	**71.77**	**330**	P		**P**	**19 54 10.9**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=119,slow=8.7,SNR=3.9							
PDAR				pP		**pP**	**19 54 41.2**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=138,slow=7.4,SNR=6.4							
PDAR				sP		**sP**	**19 54 56.4**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=126,slow=7.5,SNR=3.2							
KOWA	**Kowa**	**72.49**	**67**	P		**P**	**19 54 13.4**	**-0.7**
KOWA				IAmb		IAmb	19 54 15.9	
	comp=Z,4.6nm,0.5s							
ELK	**Elko**	**73.16**	**325**	P		**P**	**19 54 18.3**	**+0.4**
OMMB	**Old Mammoth Mi**	**73.16**	**321**	P		**P**	**19 54 16.7**	**-1.4**
NVAR	**Mina Array Bea**	**73.29**	**322**	P		**P**	**19 54 20.6**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=146,slow=6.6,SNR=5.4							
NVAR				pP		**pP**	**19 54 51.8**	**+1.5**
	comp=Z,1.7nm,0.9s,baz=146,slow=6.6,SNR=7.3							
FLWY	**Flagg Ranch**	**73.31**	**330**	P		**P**	**19 54 19.2**	**+0.5**
FLWY				IAmb		IAmb	19 54 21.8	
	comp=Z,4.3nm,0.8s							
HLID	**Hailey**	**74.74**	**328**	P		**P**	**19 54 27.9**	**+1.0**
TOA0	**Torodi Ar. Sit**	**76.98**	**71**	P		**P**	**19 54 39.0**	**-1.1**
TOA0				IAmb		IAmb	19 54 46.9	
	comp=Z,7.9nm,1.0s							
TORD	**Torodi Ar. Bea**	**76.98**	**71**	P		**P**	**19 54 39.3**	**-0.8**
	comp=Z,3.9nm,0.7s,baz=254,slow=5.3,SNR=31							
TORD	**Torodi Ar. Bea**	**76.98**	**71**	P		**P**	**19 54 39.0**	**-1.1**
VNDA	**Vanda**	**79.17**	**190**	P		**P**	**19 54 53.3**	**+2.3**
	comp=Z,1.2nm,0.5s,baz=89,slow=22,SNR=11							
EDM	**Edmonton**	**81.36**	**335**	P		**P**	**19 55 04.0**	**+0.9**
ESDC	**Sonseca Array**	**84.43**	**45**	P		**P**	**19 55 20.5**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=251,slow=6.5,SNR=6.3							
YKA	**Yellowknife Ar**	**88.74**	**341**	P		**P**	**19 55 40.8**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=135,slow=4.7,SNR=65							
YKA				pP		**pP**	**19 56 11.9**	**-0.5**
	comp=Z,5.7nm,0.8s,baz=136,slow=4.9,SNR=13							
YKA				sP		**sP**	**19 56 26.0**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=133,slow=4.7,SNR=3.9							
H11S2	**WAKE ISLAND Hyd**	**27.08**	**279**	T		T	22 21 18.9	
	baz=101,slow=74,SNR=50							
H11S1	**WAKE ISLAND Hyd**	**27.08**	**279**	T		T	22 21 28.9	
	baz=101,slow=74,SNR=41							
H11N3	**WAKE ISLAND Hyd**	**27.09**	**281**	T		T	22 21 29.2	
	baz=100,slow=74,SNR=5.9							
H11S3	**WAKE ISLAND Hyd**	**27.09**	**279**	T		T	22 21 20.9	
	baz=101,slow=74,SNR=39							
H11N2	**WAKE ISLAND Hyd**	**27.11**	**281**	T		T	22 21 30.1	
	baz=100,slow=74,SNR=17							
H11N1	**WAKE ISLAND Hyd**	**27.11**	**281**	T		T	22 21 31.1	
	baz=100,slow=74,SNR=4.9							
ASAR	**Alice Springs**	**131.84**	**209**	PKP		**PKiKP**	**20 02 00.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=133,slow=1.6,SNR=7.6							
ASAR				pPKP		**pPKPdf**	**20 02 34.7**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=132,slow=1.7,SNR=2.6							
WRA	**Warramunga Arr**	**134.79**	**212**	PKP		**PKiKP**	**20 02 06.7**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=142,slow=1.7,SNR=22							
WRA				pPKP		**pPKPdf**	**20 02 40.9**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=148,slow=1.7,SNR=3.5							
ZALV	**Zalesovo Beam**	**139.92**	**24**	PKP		**PKiKP**	**20 02 15.1**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=287,slow=2.4,SNR=2.5							
ZALV				pPKP		**pPKPdf**	**20 02 49.3**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=309,slow=0.9,SNR=3.8							
MKAR	**Makanchi Array**	**143.89**	**34**	PKP	PKPbc		20 02 19.2	-0.1
	comp=Z,0.2nm,0.6s,baz=259,slow=3.5,SNR=2.2							
MKAR				pPKP	pPKPdf		20 02 56.6	+0.9
	comp=Z,0.5nm,0.7s,baz=274,slow=4.7,SNR=3.8							
MKAR				SKPbc		**SKiKP**	**20 05 49.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=267,slow=2.9,SNR=3.8							
KLR	**Kul'dur**	**145.42**	**335**	PKPbc		**PKPab**	**20 02 24.4**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=358,slow=2.1,SNR=7.2							
KLR				pPKPbc	pPKPbc		20 02 57.9	+0.1
	comp=Z,1.1nm,0.7s,baz=331,slow=4.6,SNR=2.5							
USRK	**Ussuriysk Ar.**	**149.19**	**329**	PKPbc		**PKiKP**	**20 02 36.1**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=254,slow=1.0,SNR=4.8							
SONM	**Songino Array**	**151.09**	**6**	PKPbc		**PKiKP**	**20 02 40.5**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=355,slow=0.8,SNR=2.2							
SONM				pPKPbc		**pPKPbc**	**20 03 15.2**	**+1.8**
	comp=Z,2.0nm,0.5s,baz=316,slow=1.5,SNR=7.6							
PZH	**PanZhiHua**	**168.97**	**46**	PKP		**PKPdf**	**20 02 53.0**	**-0.6**

*IDC **18** 19:55:32.2±1.1, 28°.40N×105°.23E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.3/73, mbtmp3.5/7, ML2.6/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/73, Error ellipse: s-maj=35.6km s-min=20.3km az=71.0*

ISC 18 19:55:33.9±1.0, **28°.5N**±0°.1×**105°.3E**±0°.2, **h10**km, **n8,** σ1°**14/7, mb3.6**/4, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op		ISC		
CMAR	**Chiang Mai Arr**	**11.53**	**212**	Pn		**Pn**	**19 58 19.2**	**+0.6**
	baz=16,slow=11,SNR=7.3							
SONM	**Songino Array**	**19.36**	**2**	P		**Pn**	**20 00 02.1**	**+1.2**
	0.0nm,0.3s,baz=178,slow=9.4,SNR=5.7							
KSRS	**Korea Array**	**20.97**	**59**	P		**P**	**20 00 17.8**	**+0.6**
	0.8nm,0.7s,baz=234,slow=10,SNR=2.6							
MKAR	**Makanchi Array**	**25.66**	**322**	P		**P**	**20 01 03.8**	**-0.1**
	0.3nm,0.6s,baz=139,slow=10,SNR=4.9							
ZALV	**Zalesovo Beam**	**29.54**	**335**	P		**P**	**20 01 37.1**	**-1.4**
	0.3nm,0.3s,baz=150,slow=12,SNR=2.4							
FITZ	**Fitzroy Crossi**	**50.30**	**155**	LR		LR	20 26 53.7	
	comp=Z,158nm,20.9s,baz=252,slow=37							
WRA	**Warramunga Arr**	**55.71**	**146**	P		**P**	**20 05 09.7**	**-1.1**
	0.5nm,0.4s,baz=334,slow=8.1,SNR=12							
ASAR	**Alice Springs**	**58.71**	**149**	P		**P**	**20 05 32.0**	**0.0**
	0.5nm,0.8s,baz=335,slow=6.1,SNR=4.8							

*IDC **18** 20:00:43.3±1.4, 0°.16S×80°.63W, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/47, mbtmp3.8/7, Error ellipse: s-maj=88.6km s-min=20.6km az=50.0*
*NEIC **18** 20:00:45.6±0.7, 0°.24S±0°.06×80°.74W±0°.09, h10km±1km, mb4.1/9, Error ellipse: s-maj=15.5km s-min=10.5km az=255.0*
*IGQ **18** 20:00:46±1.1, 0°.5±4°×8°.1W±°, h16km*

ISC 18 20:00:44.6±0.7, **0°.28S**±0°.06×**80°.89W**±0°.05, **h10**km, **n92,** σ1°**36/90, mb4.0/8, Near coast of Ecuador**

| Code |

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.77**	**293**	*eP*	**Pn**	**20 05 43.5**	**-2.2**
KDTR				*eS*	**Sn**	**20 06 04.6**	**-2.3**
RUS	**Russkaya**	**1.87**	**314**	*eP*	**Pn**	**20 05 45.4**	**-1.7**
RUS				*eS*	**Sn**	**20 06 07.8**	**-1.6**
SPN	**Mys Shipunski**	**2.00**	**348**	*eP*	**Pn**	**20 05 47.6**	**-1.2**
SPN				*eS*	**Sn**	**20 06 11.7**	**-0.8**
MTVR	**Mutnovka**	**2.05**	**311**	*eP*	**Pn**	**20 05 48.4**	**-1.4**
MTVR				*eS*	**Sn**	**20 06 13.3**	**-0.9**
ASAK	**Asacha**	**2.13**	**306**	*eP*	**Pn**	**20 05 49.7**	**-1.1**
ASAK				*eS*	**Sn**	**20 06 15.7**	**-0.4**
GRL	**Gorelyy**	**2.15**	**312**	*eP*	**Pn**	**20 05 50.3**	**-0.8**
NLC	**Nalytchevo**	**2.19**	**338**	*eP*	**Pn**	**20 05 51.0**	**-0.5**
DALK	**Dalny**	**2.23**	**328**	*eP*	**Pn**	**20 05 51.0**	**-1.1**
PET	**Petropavlovsk**	**2.26**	**327**	*eP*	**Pn**	**20 05 51.2**	**-1.3**
KRMR	**Karymshinskiy**	**2.31**	**318**	*eP*	**Pn**	**20 05 51.9**	**-1.3**
KRMR				*eS*	**Sn**	**20 06 20.6**	**+0.2**
UGLR	**Uglovaya**	**2.36**	**331**	*eP*	**Pn**	**20 05 53.4**	**-0.6**
SDLR	**Sedlovina**	**2.41**	**333**	*eP*	**Pn**	**20 05 53.7**	**-0.9**
AVH	**Avacha**	**2.44**	**331**	*eP*	**Pn**	**20 05 54.9**	**-0.1**
KRER	**Koryakskii**	**2.47**	**332**	*eP*	**Pn**	**20 05 55.5**	**0.0**
KOK	**Koryaka**	**2.49**	**330**	*eP*	**Pn**	**20 05 55.2**	**-0.6**
PETK	**Petropavlovsk-** 10nm,0.3s,baz=122,slow=17,SNR=16	**2.69**	**318**	Pn	**Pn**	**20 05 57.7**	**-0.8**
PETK				Sn	**Sn**	**20 06 30.5**	**+0.6**
	6.3nm,0.3s,baz=136,slow=18,SNR=4.5						
MIPR	**Malaya Ipel'ka**	**2.70**	**296**	*eP*	**Pn**	**20 05 57.6**	**-0.9**
APC	**Apacha**	**2.82**	**310**	*eP*	**Pn**	**20 06 00.2**	**+0.1**
KII	**Karymskiy**	**2.99**	**346**	*eP*	**Pn**	**20 06 02.6**	**0.0**
GNL	**Ganaly**	**3.06**	**328**	*eP*	**Pn**	**20 06 03.5**	**0.0**
MKZ	**Mys Kozlova**	**3.47**	**10**	*eP*	**Pn**	**20 06 08.1**	**-0.9**
MKZ				*eS*	**Sn**	**20 06 46.2**	**-2.6**
TUMD	**Tumrok D**	**4.06**	**358**	*eP*	**Pn**	**20 06 17.3**	**0.0**
TUMD				*eS*	**Sn**	**20 07 02.8**	**-0.8**
TUMR	**Tumrok**	**4.15**	**356**	*eP*	**Pn**	**20 06 19.5**	**+0.9**
BKI	**Bering**	**5.15**	**36**	*eP*	**Pn**	**20 06 31.4**	**-0.7**
BKI				*eS*	**Sn**	**20 07 25.2**	**-5.1**
KBTR	**Krutoberegovo**	**5.22**	**13**	*eP*	**Pn**	**20 06 33.1**	**0.0**
MA2	**Magadan** comp=Z,95nm,18.4s,baz=35,slow=41	**10.15**	**330**	LR	LR	20 12 14.7	
SEY	**Seymchan** 0.0nm,0.3s,baz=79,slow=7.7,SNR=5.0	**12.63**	**342**	Pn	**Pn**	**20 08 14.8**	**+0.2**
YAK	**Yakutsk** 2.0nm,0.3s,baz=275,slow=1.1,SNR=6.9	**20.04**	**315**	P	Pn	20 09 47.2	-2.0
ILAR	**Eielson Array** 0.3nm,0.6s,baz=246,slow=6.8,SNR=4.2	**29.95**	**43**	P	**P**	**20 11 22.9**	**+0.7**
H11N2	**WAKE ISLAND Hy** baz=354	**31.73**	**169**	T	T	20 44 53.5	
H11N3	**WAKE ISLAND Hy** baz=354	**31.75**	**169**	T	T	20 44 53.3	
H11N1	**WAKE ISLAND Hy** baz=354	**31.75**	**169**	T	T	20 44 54.1	
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=295,slow=7.7,SNR=6.2	**44.36**	**41**	P	**P**	**20 13 25.2**	**+1.2**
KURBB	**Kurchatov Arra** 0.3nm,0.6s,baz=64,slow=7.9,SNR=3.5	**49.20**	**304**	P	**P**	**20 14 01.9**	**-0.1**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=51,slow=6.7,SNR=2.3	**49.36**	**298**	P	**P**	**20 14 03.7**	**+0.4**
ARCES	**ARCESS Array B** 4.5nm,1.1s,baz=28,slow=8.5,SNR=1.9	**55.25**	**342**	P	P	20 14 49.3	+2.6
NVAR	**Mina Array Bea** 0.6nm,0.7s,baz=287,slow=7.4,SNR=5.5	**56.07**	**69**	P	**P**	**20 14 54.3**	**+1.0**
PDAR	**Pinedale Array** 0.5nm,0.7s,baz=266,slow=4.5,SNR=4.5	**58.16**	**60**	P	**P**	**20 15 09.3**	**+1.3**
TXAR	**Lajitas Array** 0.4nm,0.4s,baz=294,slow=4.5,SNR=5.2	**71.06**	**67**	P	**P**	**20 16 33.1**	**+1.0**
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=19,slow=5.8,SNR=3.1	**74.48**	**206**	P	**P**	**20 16 50.6**	**-1.6**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=14,slow=5.1,SNR=4.3	**78.14**	**205**	P	**P**	**20 17 12.2**	**-0.7**

IASPEI ***18*** *20:15:34.9±0.9,24°.22N±0°.01×120°.92E±0°.02,h33km±1km, Error ellipse: s-maj=2.5km s-min=1.8km az=129.0,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

TAP ***18*** *20:15:34.7,24°.22N×120°.92E,h33km,ML3.8,B*

JMA ***18*** *20:15:34.9,24°.11N×120°.91E,h36km±1km,M3.3*

ISC 18 20:15:34.9±0.9,24°.22N±0°.02×120°.90E±0°.02,h33km±3km, n130,σ0≤83/229,16C-26D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHP	**Taichung City** baz=22	**0.08**	**34**	⇑*iP*	**Pb**	**20 15 40.5**	**-0.2**
WHP				*i* S	**Sb**	**20 15 44.4**	**-0.3**
WCS	**Beigang Elemen** baz=182	**0.16**	**176**	P	**Pb**	**20 15 41.0**	**-0.1**
WCS				*e*S	**Sb**	**20 15 45.3**	**0.0**
TWQ1	**Liyutan** baz=316	**0.17**	**319**	⇓*iP*	**Pn**	**20 15 41.3**	**+0.9**
TWQ1				*i* S	**Sb**	**20 15 46.1**	**+0.4**
DPDB	**Guoxing** baz=178	**0.18**	**172**	⇑*iP*	**Pb**	**20 15 41.4**	**0.0**
DPDB				S	**Sb**	**20 15 46.0**	**+0.1**
WPL	**Puli Township** baz=170	**0.21**	**165**	⇑*iP*	**Pb**	**20 15 41.5**	**-0.1**
WPL				S	**Sb**	**20 15 46.2**	**0.0**
TCU	**Taichung** baz=252	**0.21**	**252**	⇓*iP*	**Pb**	**20 15 41.8**	**+0.2**
TCU				*i* S	**Sb**	**20 15 47.1**	**+0.9**
NSY	**Sanyi** baz=326	**0.24**	**328**	⇓*iP*	**Pn**	**20 15 42.1**	**+0.4**
NSY				*i* S	**Sb**	**20 15 47.8**	**+1.0**
TDCB	**Techi** baz=74	**0.24**	**81**	⇓*iP*	**Pb**	**20 15 41.9**	**-0.2**
TDCB				*i* S	**Sb**	**20 15 46.2**	**-0.8**
WWF	**Wufeng** baz=230	**0.25**	**227**	⇑*iP*	**Pb**	**20 15 42.4**	**+0.3**
WWF				S	**Sb**	**20 15 48.0**	**+1.1**
TWT	**Tachien** baz=75	**0.26**	**81**	⇓*iP*	**Pn**	**20 15 42.0**	**-0.1**
TWT				*i* S	**Sn**	**20 15 46.6**	**+0.2**
WDJ	**Dajia District** baz=303	**0.27**	**299**	⇓*iP*	**Pb**	**20 15 42.5**	**+0.1**
WDJ				S	**Sb**	**20 15 48.7**	**+1.4**
CHGB	**Renai** baz=123	**0.29**	**121**	⇓*iP*	**Pb**	**20 15 43.0**	**+0.2**
CHGB				*i* S	**Sb**	**20 15 48.4**	**+0.2**
WUSB	**Renai** baz=136	**0.30**	**138**	⇓*iP*	**Pb**	**20 15 42.9**	**+0.1**
WUSB				*i* S	**Sb**	**20 15 48.2**	**+0.1**
TYC	**Yuchr** baz=188	**0.31**	**187**	⇑*iP*	**Pb**	**20 15 42.9**	**+0.1**
TYC				*i* S	**Sb**	**20 15 48.9**	**+0.7**
FUSS	**Fushou** baz=79	**0.32**	**84**	⇓*iP*	**Pn**	**20 15 43.0**	**-0.4**
FUSS				S	**Sn**	**20 15 48.2**	**-0.2**
NMLH	**Miaoli** baz=340	**0.34**	**343**	*eP*	**Pb**	**20 15 43.4**	**+0.3**
NMLH				*e*S	**Sb**	**20 15 49.8**	**+1.0**
WCHH	**Zhanghua** baz=244	**0.34**	**247**	⇓*iP*	**Pn**	**20 15 43.4**	**-0.2**
WCHH				S	**Sb**	**20 15 50.1**	**+1.3**
WHF	**Hehuan Shan** baz=102	**0.34**	**102**	⇓*iP*	**Pb**	**20 15 43.8**	**+0.2**
WHF				*i* S	**Sb**	**20 15 49.9**	**+0.3**
OWD	**Renai** baz=134	**0.36**	**136**	⇓*iP*	**Pb**	**20 15 43.8**	**+0.2**
OWD				S	**Sb**	**20 15 49.5**	**0.0**
WNT1	**Nantou City** baz=216	**0.37**	**213**	*eP*	**Pn**	**20 15 43.8**	**-0.2**
WNT1				*e*S	**Sb**	**20 15 50.4**	**+1.0**
WYL	**Yuanlin Townsh** baz=231	**0.39**	**229**	P	**Pn**	**20 15 44.0**	**-0.2**
WYL				S	**Sb**	**20 15 51.2**	**+1.3**
WJS	**Zhushan** baz=213	**0.42**	**202**	P	**Pn**	**20 15 44.5**	**-0.2**
WJS				S	**Sb**	**20 15 51.9**	**+1.1**
NSTT	**Nanjuang** baz=11	**0.42**	**13**	⇑*iP*	**Pb**	**20 15 44.2**	**-0.2**
NSTT				*i* S	**Sb**	**20 15 50.5**	**-0.3**
SSLB	**Suanglung** baz=176	**0.43**	**173**	⇑*iP*	**Pn**	**20 15 44.2**	**-0.7**
SSLB				S	**Sb**	**20 15 50.7**	**-0.3**
LIOB	**Emei** baz=11	**0.44**	**14**	⇑*iP*	**Pb**	**20 15 44.6**	**-0.1**
LIOB				S	**Sb**	**20 15 51.1**	**-0.3**
NFF	**Wufeng Townshi** baz=23	**0.46**	**26**	⇑*iP*	**Pb**	**20 15 44.8**	**-0.2**
NFF				*i* S	**Sb**	**20 15 51.4**	**-0.5**
NJN	**Zhunan** baz=354	**0.47**	**357**	*eP*	**Pn**	**20 15 45.1**	**-0.2**
NJN				*e*S	**Sb**	**20 15 52.7**	**+0.7**
NNS	**Nan Shan** baz=58	**0.49**	**63**	⇓*iP*	**Pb**	**20 15 45.0**	**-0.4**
NNS				*i* S	**Sb**	**20 15 51.6**	**-1.0**
NNSB	**Datong** baz=59	**0.49**	**64**	P	**Pb**	**20 15 44.8**	**-0.6**
NNSB				S	**Sb**	**20 15 51.7**	**-1.0**
VWDT	**VWDT** baz=156	**0.51**	**154**	⇓*iP*	**Pn**	**20 15 46.0**	**+0.2**
VWDT				*i* S	**Sn**	**20 15 53.6**	**+0.2**
ETLH	**Xiulin Townshi** baz=88	**0.53**	**91**	P	**Pb**	**20 15 45.9**	**-0.2**
ETLH				S	**Sb**	**20 15 53.3**	**-0.5**
WRL	**Guolierlin Hig** baz=239	**0.57**	**237**	P	**Pn**	**20 15 46.2**	**-0.5**
WRL				S	**Sb**	**20 15 55.6**	**+1.0**
SBCB	**Hsinchu** baz=16	**0.58**	**8**	*eP*	**Pn**	**20 15 46.9**	**+0.1**
SBCB				*e*S	**Sn**	**20 15 55.3**	**+0.2**
HSN	**Hsinchu** baz=18	**0.59**	**6**	*eS*	**Sn**	**20 15 56.1**	**+0.8**
ETM	**Tongmen** baz=115	**0.60**	**114**	⇓P	**Pb**	**20 15 46.9**	**-0.2**
ETM				S	**Sb**	**20 15 55.4**	**0.0**
WGK	**Gukeng** baz=212	**0.61**	**210**	⇓*iP*	**Pb**	**20 15 47.3**	**+0.1**
WGK				*i* S	**Sb**	**20 15 57.1**	**+1.3**
WDLH	**Douliu** baz=214	**0.62**	**212**	P	**Pb**	**20 15 47.5**	**0.0**
WDLH				*e*S	**Sb**	**20 15 57.5**	**+1.5**
NSK	**Sanguang** baz=41	**0.62**	**42**	⇑*iP*	**Pn**	**20 15 47.1**	**-0.3**
NSK				*i* S	**Sn**	**20 15 55.2**	**-1.1**
YHNB	**Yeheng** baz=35	**0.63**	**44**	⇑*iP*	**Pn**	**20 15 47.3**	**-0.3**
YHNB				*i* S	**Sn**	**20 15 54.8**	**-1.6**
ESL	**Shilin** baz=121	**0.63**	**129**	⇓*iP*	**Pb**	**20 15 47.5**	**-0.1**
ESL				S	**Sb**	**20 15 56.3**	**0.0**
NACB	**Ninganchiao** baz=93	**0.64**	**94**	P	**Pn**	**20 15 47.2**	**-0.4**
NACB				S	**Sn**	**20 15 55.8**	**-0.8**
CHN5	**Tsauling** baz=200	**0.65**	**198**	⇑*iP*	**Pb**	**20 15 47.8**	**-0.1**
CHN5				*i* S	**Sb**	**20 15 57.5**	**+0.6**
TWD	**Chiawan** baz=102	**0.65**	**102**	⇓*iP*	**Pb**	**20 15 47.5**	**-0.4**
TWD				*i* S	**Sb**	**20 15 56.5**	**-0.4**
LATG	**Datong** baz=51	**0.66**	**61**	⇓*iP*	**Pn**	**20 15 47.6**	**-0.4**
LATG				*i* S	**Sn**	**20 15 56.0**	**-1.2**
ETL	**Fush Village** baz=95	**0.66**	**95**	⇑*iP*	**Pb**	**20 15 47.8**	**-0.4**
ETL				S	**Sb**	**20 15 56.8**	**-0.5**
WTCT	**Ta-ch'eng** baz=239	**0.66**	**238**	⇓*iP*	**Pn**	**20 15 47.5**	**-0.4**
WTCT				*i* S	**Sb**	**20 15 57.7**	**+0.5**
NDT	**Datong Townshi** baz=47	**0.68**	**55**	P	**Pn**	**20 15 47.9**	**-0.3**
NDT				S	**Sn**	**20 15 55.9**	**-1.8**
HWA	**Hwalien** baz=104	**0.69**	**110**	P	**Pb**	**20 15 48.7**	**+0.2**
HWA				S	**Sb**	**20 15 58.4**	**+0.5**
WTK	**Tuku** baz=224	**0.70**	**222**	P	**Pb**	**20 15 48.4**	**-0.4**
WTK				S	**Sb**	**20 15 59.4**	**+1.2**
ALS	**Alishan** baz=196	**0.71**	**187**	⇑*iP*	**Pb**	**20 15 49.0**	**-0.1**
ALS				*i* S	**Sb**	**20 15 59.5**	**+0.8**
EGFH	**Guangfu** baz=133	**0.73**	**138**	⇓P	**Pb**	**20 15 49.3**	**+0.1**
EGFH				S	**Sb**	**20 15 59.2**	**+0.3**
ENTT	**Nioudou** baz=48	**0.74**	**55**	⇓*iP*	**Pn**	**20 15 49.2**	**+0.1**
ENTT				*i* S	**Sn**	**20 15 58.1**	**-1.1**
CHN2	**Minshiung** baz=212	**0.78**	**210**	P	**Pb**	**20 15 50.0**	**-0.1**
CHN2				S	**Sb**	**20 16 01.7**	**+1.2**
NWLT	**Wulai** baz=37	**0.79**	**44**	P	**Pn**	**20 15 49.6**	**-0.1**
NWLT				S	**Sn**	**20 15 59.2**	**-1.1**
NCUH	**Zhongli** baz=17	**0.79**	**19**	*eP*	**Pb**	**20 15 52.8**	**+2.5**
NCUH				*e*S	**Sn**	**20 15 59.9**	**-0.6**
NCU	**National Centr** baz=17	**0.80**	**19**	*eP*	**Pn**	**20 15 49.8**	**0.0**
NCU				S	**Sn**	**20 16 00.3**	**-0.3**
ENA	**Nanau** baz=84	**0.80**	**74**	⇓*iP*	**Pn**	**20 15 49.9**	**+0.1**
ENA				*i* S	**Sb**	**20 16 00.7**	**-0.2**
EHY	**Hungye** baz=152	**0.81**	**151**	⇓*iP*	**Pb**	**20 15 50.5**	**-0.1**
EHY				S	**Sb**	**20 16 01.3**	**+0.2**
FUSB	**Fushanzhiwuyua** baz=48	**0.83**	**49**	⇑*iP*	**Pn**	**20 15 50.4**	**+0.1**
FUSB				*i* S	**Sn**	**20 15 59.4**	**-2.0**
EWUT	**Wuta** baz=83	**0.83**	**74**	P	**Pb**	**20 15 50.9**	**-0.1**
EWUT				S	**Sn**	**20 16 00.9**	**-0.5**
CHY	**Chiayi** baz=213	**0.84**	**211**	*eP*	**Pb**	**20 15 50.5**	**-0.6**
CHY				*e*S	**Sb**	**20 16 03.0**	**+1.1**
WSF	**Szhu** baz=229	**0.84**	**227**	*eP*	**Pb**	**20 15 50.3**	**-0.9**
WSF				*e*S	**Sb**	**20 16 02.4**	**+0.2**
NDS	**Dongshan** baz=60	**0.85**	**61**	P	**Pn**	**20 15 51.0**	**+0.4**
NDS				S	**Sn**	**20 16 02.2**	**+0.3**
TWE	**Neicheng** baz=54	**0.86**	**54**	⇓*iP*	**Pb**	**20 15 51.5**	**0.0**
TWE				*i* S	**Sn**	**20 16 01.7**	**-0.5**
HGSD	**Ruisui** baz=156	**0.86**	**146**	*i* P	**Pb**	**20 15 51.8**	**+0.2**
HGSD				S	**Sb**	**20 16 03.7**	**+0.9**
YULB	**Yu-li** baz=157	**0.90**	**156**	⇓*iP*	**Pb**	**20 15 51.9**	**-0.2**
YULB				*i* S	**Sb**	**20 16 03.6**	**-0.1**
WSL	**Shuilin Townsh** baz=224	**0.92**	**222**	*eP*	**Pn**	**20 15 51.4**	**-0.2**
WSL				*e*S	**Sb**	**20 16 03.8**	**-0.7**
TPUB	**Ta-pu** baz=191	**0.94**	**195**	*eP*	**Pb**	**20 15 52.7**	**-0.2**
TPUB				*e*S	**Sb**	**20 16 04.9**	**-0.2**
EYUL	**Yuli** baz=157	**0.95**	**156**	P	**Pb**	**20 15 52.8**	**-0.1**
EYUL				S	**Sb**	**20 16 05.2**	**0.0**
ILA	**Ilan** baz=42	**0.95**	**55**	*eP*	**Pb**	**20 15 53.4**	**+0.5**
TWC	**Suao** baz=61	**0.95**	**65**	P	**Pb**	**20 15 52.7**	**-0.3**
TWC				S	**Sb**	**20 16 05.1**	**-0.1**
TWA	**Mucha** baz=29	**0.98**	**39**	*eP*	**Pn**	**20 15 52.6**	**+0.2**
TWA				*e*S	**Sn**	**20 16 06.1**	**+0.9**
WTP	**Ta-pu** baz=205	**1.00**	**195**	*eP*	**Pb**	**20 15 53.6**	**-0.2**
WTP				*e*S	**Sb**	**20 16 07.3**	**+0.6**
TWS1	**Kuangyinshan** baz=25	**1.00**	**28**	*eP*	**Pn**	**20 15 52.5**	**-0.1**
TWS1				*e*S	**Sn**	**20 16 05.8**	**+0.2**
TWK	**Hsinying** baz=216	**1.02**	**202**	*eP*	**Pb**	**20 15 53.7**	**-0.4**
TWK				*e*S	**Sb**	**20 16 07.0**	**-0.1**
ICHU	**Yijhu** baz=227	**1.02**	**214**	*eP*	**Pb**	**20 15 52.9**	**-1.3**
ICHU				*e*S	**Sb**	**20 16 08.1**	**+0.8**
ELDTW	**Lidau** baz=175	**1.03**	**174**	⇑*iP*	**Pb**	**20 15 53.6**	**-0.7**
ELDTW				*e*S	**Sb**	**20 16 07.6**	**0.0**
STYH	**Taoyuan** baz=192	**1.05**	**186**	*eP*	**Pb**	**20 15 53.8**	**-0.8**
STYH				*e*S	**Sb**	**20 16 07.9**	**-0.1**
SNST	**Tainan City** baz=215	**1.06**	**200**	*eP*	**Pb**	**20 15 54.2**	**-0.6**
SNST				*e*S	**Sb**	**20 16 07.2**	**-1.1**
NTC	**Toucheng** baz=40	**1.06**	**53**	*eP*	**Pn**	**20 15 53.7**	**+0.3**
NTC				*e*S	**Sn**	**20 16 07.9**	**+0.9**
NTST	**Danshui** baz=23	**1.07**	**28**	*eP*	**Pn**	**20 15 53.4**	**-0.1**
CHN8	**Yiju** baz=218	**1.07**	**216**	P	**Pb**	**20 15 53.9**	**-1.1**
CHN8				S	**Sb**	**20 16 09.0**	**+0.4**
FULB	**Fuli** baz=161	**1.07**	**160**	P	**Pb**	**20 15 55.5**	**+0.5**
FULB				S	**Sb**	**20 16 10.8**	**+2.0**
CHN1	**Nanshi** baz=212	**1.08**	**198**	*eP*	**Pb**	**20 15 54.0**	**-1.1**
CHN1				*e*S	**Sb**	**20 16 09.0**	**0.0**
YM01	**YM01** baz=17	**1.11**	**33**	*eP*	**Pn**	**20 15 53.5**	**-0.6**
YM01				*e*S	**Sn**	**20 16 08.1**	**-0.3**
ANP	**Anpu** baz=28	**1.12**	**30**	*eP*	**Pn**	**20 15 53.7**	**-0.6**
ANP				*e*S	**Sn**	**20 16 07.8**	**-0.9**
TIPB	**Shuangxi** baz=47	**1.13**	**48**	*eP*	**Pn**	**20 15 55.2**	**+0.8**
TIPB				*e*S	**Sn**	**20 16 10.0**	**+1.1**
SGST	**Jiashian** baz=209	**1.17**	**194**	*eP*	**Pn**	**20 15 54.8**	**-0.1**
SGST				*e*S	**Sb**	**20 16 10.9**	**-0.4**
NWF	**Wu-fen Shan** baz=53	**1.17**	**43**	*eP*	**Pb**	**20 15 56.3**	**-0.4**
NWF				*e*S	**Sn**	**20 16 10.2**	**+0.3**
CHKT	**Chengkung** baz=146	**1.19**	**159**	P	**Pb**	**20 15 56.6**	**-0.4**
CHKT				S	**Sb**	**20 16 13.3**	**+1.3**
SCLT	**Jiali** baz=224	**1.22**	**212**	*eP*	**Pb**	**20 15 56.9**	**-0.6**
SCLT				*e*S	**Sb**	**20 16 14.7**	**+1.8**
TWY	**Chenhua** baz=29	**1.23**	**31**	*eP*	**Pn**	**20 15 56.0**	**+0.2**
TWY				*e*S	**Sn**	**20 16 11.5**	**+0.2**
CHN3	**Shinhua** baz=207	**1.23**	**203**	*eP*	**Pb**	**20 15 57.7**	**0.0**
CHN3				*e*S	**Sb**	**20 16 15.8**	**+2.5**
SXI1	**Grass Mountain** baz=46	**1.25**	**45**	*eP*	**Pn**	**20 15 57.1**	**+1.0**
TWB1	**Santiao Chiao** baz=51	**1.27**	**51**	*eP*	**Pn**	**20 15 56.7**	**+0.4**
TWB1				*e*S	**Sn**	**20 16 12.1**	**-0.1**
EDH	**Donghe** baz=164	**1.29**	**163**	*eP*	**Pb**	**20 15 58.1**	**-0.5**
EDH				*e*S	**Sb**	**20 16 16.1**	**+1.1**
SHHT	**Tainan City** baz=219	**1.29**	**203**	*eP*	**Pb**	**20 15 59.0**	**+0.3**
LONT	**Longtian** baz=162	**1.32**	**171**	*eP*	**Pb**	**20 15 58.8**	**-0.3**
SCST	**Cishan** baz=201	**1.38**	**196**	*eP*	**Pb**	**20 16 00.8**	**+0.7**
PNG	**Penghu** baz=243	**1.39**	**243**	*eP*	**Pn**	**20 15 57.0**	**-0.9**
TWG	**Pinlang** baz=174	**1.40**	**173**	*eP*	**Pb**	**20 15 59.4**	**-1.0**
TWG				*e*S	**Sb**	**20 16 18.4**	**+0.4**
PHUB	**P'eng-hu** baz=242	**1.40**	**240**	*eP*	**Pn**	**20 15 56.8**	**-1.3**
TWGBT	**Beinan** baz=174	**1.40**	**173**	*eP*	**Pb**	**20 15 59.4**	**-1.1**
TWGBT				*e*S	**Sb**	**20 16 17.9**	**-0.2**
WDGT	**Dungji** baz=232	**1.48**	**230**	*eP*	**Pn**	**20 15 58.4**	**-0.8**
SSD	**Sandimen** baz=204	**1.48**	**190**	*eP*	**Pb**	**20 16 01.0**	**-0.9**
TSMG	**Majia** baz=205	**1.52**	**189**	*eP*	**Pb**	**20 16 02.2**	**-0.3**
ECL	**Taimali** baz=167	**1.61**	**178**	*eP*	**Pb**	**20 16 03.8**	**-0.3**
MASBT	**Mashibuluo** baz=205	**1.61**	**189**	*eP*	**Pb**	**20 16 02.3**	**-1.8**
LDUT	**Ludao** baz=161	**1.62**	**161**	*eS*	**Sb**	**20 16 22.7**	**-1.6**
VCHM	**Qimei** baz=237	**1.68**	**234**	*eP*	**Pn**	**20 16 01.2**	**-0.7**
EAST	**Anshuo** baz=202	**1.82**	**181**	*eP*	**Pb**	**20 16 06.1**	**-1.6**
SCZT	**Fangliau** baz=193	**1.85**	**188**	*eP*	**Pb**	**20 16 06.4**	**-1.7**
JYNG	**Yonagunijimaku**	**1.88**	**82**	P	**Pn**	**20 16 05.9**	**+1.2**
JYNG				S	**Sn**	**20 16 29.1**	**+1.8**

YOJ	**Yonaguni jima**	**1.94**	**82**	P	**Pn**	**20 16 06.9**	**+1.3**
YOJ				*e*S	**Sn**	**20 16 30.4**	**+1.6**
SLIU	**Shizi** baz=201	**1.99**	**183**	*e*P	**Pb**	**20 16 07.9**	**-2.7**
MATB	**Ma-tsu** baz=328	**2.11**	**336**	*e*P	**Pn**	**20 16 06.4**	**-1.5**
KNM	**Kinmen** baz=273	**2.26**	**276**	*e*P	**Pn**	**20 16 10.7**	**+0.7**
KNMB	**Chin-men Tao** baz=275	**2.30**	**277**	*e*P	**Pn**	**20 16 09.4**	**-1.1**
MHZQ	**Yeshan** baz=313	**2.53**	**318**	*e*P	**Pn**	**20 16 12.6**	**-1.1**
LYJJ	**Jianjiangzhen** baz=328	**2.54**	**336**	*e*P	**Pn**	**20 16 12.6**	**-1.2**
IRIF	**Iriomote-Funau**	**2.59**	**87**	*e*S	**Sn**	**20 16 45.6**	**+0.9**
HATJ	**Hateruma jima**	**2.66**	**93**	*e*S	**Sn**	**20 16 49.0**	**+2.5**
AXDP	**Jialang** baz=282	**2.75**	**285**	*e*P	**Pn**	**20 16 15.6**	**-1.1**
XPSS	**Dashiqiu** baz=338	**2.78**	**347**	*e*P	**Pn**	**20 16 15.6**	**-1.4**
JKRS	**Kuro-shima**	**2.84**	**89**	P	**Pn**	**20 16 19.4**	**+1.5**
JKRS				S	**Sn**	**20 16 52.4**	**+1.4**
ZPLA	**Ao Xicun** baz=264	**2.89**	**265**	*e*P	**Pn**	**20 16 17.8**	**-0.8**
JIJ	**Ishigaki jima**	**2.96**	**86**	P	**Pn**	**20 16 21.2**	**+1.6**
JIJ				*e*S	**Sn**	**20 16 54.1**	**+0.1**
JISG	**Ishigakijimahi**	**3.13**	**83**	P	**Pn**	**20 16 23.4**	**+1.5**
JISG				S	**Sn**	**20 16 59.3**	**+1.1**
JTJ	**Tarama**	**3.49**	**82**	*e*S	**Sn**	**20 17 07.8**	**+0.7**
SXFK	**Yanhouchang** baz=303	**3.66**	**307**	*e*P	**Pn**	**20 16 28.1**	**-1.1**

*TAP **18** 20:20:09.5, 23°.79N × 121°.77E, h37km, ML3.3, D*
*JMA **18** 20:20:09.1 ± 0.1, 23°.75N × 121°.81E, h27km ± 2km, M3.1*
ISC 18 20:20:09.3 ± 0.9, **23.77N** ± 0°.02 × **121.79E** ± 0°.02, **h31**km ± 7km, **n107**, σ **0**°**71**/205, **6C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEYL	**Yanliau Villag** baz=313	**0.20**	**300**	⇑P	**Pn**	**20 20 16.6**	**+0.3**
TEYL				S	**Sn**	**20 20 22.4**	**+1.8**
TEGC	**Jichi Village** baz=255	**0.24**	**256**	P	**Pn**	**20 20 17.1**	**+0.4**
TEGC				S	**Sn**	**20 20 22.7**	**+1.3**
HWA	**Hwalien** baz=322	**0.27**	**321**	*i* P	**Pn**	**20 20 17.1**	**-0.1**
HWA				*i* S	**Sn**	**20 20 23.3**	**+1.0**
ESL	**Shilin** baz=275	**0.33**	**278**	⇑*i*P	**Pb**	**20 20 17.4**	**+0.2**
ESL				*i* S	**Sn**	**20 20 23.5**	**-0.3**
ETM	**Tongmen** baz=309	**0.34**	**306**	P	**Pb**	**20 20 17.5**	**+0.1**
ETM				S	**Sb**	**20 20 22.7**	**-0.2**
EGFH	**Guangfu** baz=260	**0.35**	**254**	*i* P	**Pn**	**20 20 18.2**	**-0.1**
EGFH				*i* S	**Sn**	**20 20 24.7**	**+0.5**
TWD	**Chiawan** baz=332	**0.36**	**330**	⇑*i*P	**Pb**	**20 20 17.7**	**0.0**
TWD				*i* S	**Sb**	**20 20 23.7**	**+0.3**
ETL	**Fush Village** baz=336	**0.42**	**339**	P	**Pb**	**20 20 18.6**	**0.0**
ETL				S	**Sb**	**20 20 25.0**	**+0.1**
HGSD	**Ruisui** baz=225	**0.43**	**231**	*e*P	**Pn**	**20 20 19.1**	**-0.3**
HGSD				S	**Sn**	**20 20 28.5**	**+2.2**
NACB	**Ninganchiao** baz=336	**0.44**	**336**	⇑*i*P	**Pb**	**20 20 18.6**	**-0.4**
NACB				*e*S	**Sb**	**20 20 25.3**	**-0.1**
EHY	**Hungye** baz=247	**0.50**	**239**	*i* P	**Pb**	**20 20 19.7**	**-0.2**
EHY				*i* S	**Sb**	**20 20 26.9**	**-0.2**
ETLH	**Xiulin Townshi** baz=328	**0.52**	**327**	⇓*i*P	**Pb**	**20 20 20.1**	**-0.2**
ETLH				S	**Sb**	**20 20 27.6**	**-0.1**
ECBN	**Changbin** baz=205	**0.55**	**215**	P	**Pn**	**20 20 21.0**	**0.0**
ECBN				S	**Sn**	**20 20 28.9**	**-0.1**
YULB	**Yu-li** baz=239	**0.59**	**231**	P	**Pb**	**20 20 20.8**	**-0.4**
YULB				S	**Sb**	**20 20 29.4**	**+0.1**
OWD	**Renai** baz=287	**0.59**	**288**	*i* P	**Pb**	**20 20 21.4**	**-0.1**
OWD				*i* S	**Sb**	**20 20 29.3**	**-0.4**
VWDT	**VWDT** baz=267	**0.60**	**269**	P	**Pb**	**20 20 21.4**	**+0.1**
VWDT				S	**Sb**	**20 20 29.6**	**0.0**
EYUL	**Yuli** baz=236	**0.60**	**226**	*e*P	**Pn**	**20 20 21.6**	**-0.1**
EYUL				*e*S	**Sn**	**20 20 31.5**	**+1.0**
WHF	**Hehuan Shan** baz=301	**0.61**	**308**	*i* P	**Pb**	**20 20 21.5**	**-0.4**
WHF				S	**Sb**	**20 20 29.9**	**-0.6**
CHGB	**Renai** baz=296	**0.64**	**297**	⇓P	**Pb**	**20 20 21.9**	**-0.2**
CHGB				*i* S	**Sb**	**20 20 30.7**	**-0.2**
WUSB	**Renai** baz=289	**0.66**	**290**	⇓P	**Pb**	**20 20 22.3**	**-0.1**
WUSB				S	**Sb**	**20 20 30.9**	**-0.5**
ENA	**Nanau** baz=358	**0.66**	**356**	*i* P	**Pn**	**20 20 22.0**	**-0.5**
ENA				S	**Sb**	**20 20 31.2**	**-0.1**
EWUT	**Wuta** baz=352	**0.68**	**359**	P	**Pn**	**20 20 22.3**	**-0.5**
EWUT				S	**Sb**	**20 20 31.7**	**-0.1**
FUSS	**Fushou** baz=321	**0.69**	**314**	P	**Pn**	**20 20 22.8**	**-0.5**
FUSS				S	**Sb**	**20 20 32.0**	**-0.5**
FULB	**Fuli** baz=207	**0.73**	**219**	P	**Pb**	**20 20 23.5**	**0.0**
FULB				S	**Sn**	**20 20 34.4**	**+0.8**
TWT	**Tachien** baz=309	**0.74**	**311**	*i* P	**Pb**	**20 20 23.9**	**-0.1**
TWT				*i* S	**Sb**	**20 20 33.6**	**-0.3**
TDCB	**Techi** baz=310	**0.75**	**310**	S	**Sb**	**20 20 33.4**	**-0.8**
NNSB	**Datong** baz=323	**0.76**	**331**	P	**Pn**	**20 20 23.6**	**-0.4**
NNSB				S	**Sb**	**20 20 33.3**	**-0.9**
SSLB	**Suanglung** baz=270	**0.77**	**272**	P	**Pn**	**20 20 23.5**	**-0.6**
SSLB				S	**Sb**	**20 20 35.7**	**+1.3**
CHKT	**Chengkung** baz=199	**0.77**	**211**	*i* P	**Pn**	**20 20 23.5**	**-0.6**
CHKT				*i* S	**Sn**	**20 20 32.6**	**-2.0**
NNS	**Nan Shan** baz=323	**0.77**	**330**	⇑*i*P	**Pn**	**20 20 23.9**	**-0.3**
NNS				S	**Sb**	**20 20 34.0**	**-0.7**
LATG	**Datong** baz=332	**0.80**	**343**	P	**Pn**	**20 20 24.3**	**-0.4**
LATG				S	**Sn**	**20 20 34.8**	**-0.8**
SMLT	**Sun Moon Lake** baz=281	**0.82**	**278**	*i* P	**Pn**	**20 20 24.7**	**-0.2**
SMLT				S	**Sn**	**20 20 35.0**	**-1.2**
TWC	**Suao** baz=358	**0.84**	**4**	P	**Pb**	**20 20 25.2**	**-0.2**
TWC				*i* S	**Sb**	**20 20 36.5**	**+0.1**
WCS	**Beigang Elemen** baz=285	**0.85**	**290**	P	**Pb**	**20 20 25.5**	**-0.2**
WCS				*e*S	**Sn**	**20 20 35.8**	**-0.9**
NDS	**Dongshan** baz=356	**0.86**	**355**	P	**Pb**	**20 20 26.0**	**+0.2**
NDS				S	**Sn**	**20 20 36.5**	**-0.5**
TYC	**Yuchr** baz=285	**0.87**	**279**	*i* P	**Pn**	**20 20 25.2**	**-0.2**
TYC				*e*S	**Sn**	**20 20 36.6**	**-0.3**
NDT	**Datong Townshi** baz=343	**0.87**	**343**	P	**Pn**	**20 20 25.4**	**-0.1**
NDT				*e*S	**Sn**	**20 20 36.3**	**-0.9**
ENTT	**Nioudou** baz=347	**0.89**	**347**	*i* P	**Pn**	**20 20 25.4**	**-0.4**
ENTT				*i* S	**Sn**	**20 20 37.5**	**-0.2**
EDH	**Donghe** baz=201	**0.91**	**210**	*e*P	**Pn**	**20 20 25.3**	**-0.7**
EDH				S	**Sn**	**20 20 37.3**	**-0.7**
ELDTW	**Lidau** baz=230	**0.91**	**231**	*i* P	**Pn**	**20 20 25.6**	**-0.6**
ELDTW				*i* S	**Sn**	**20 20 37.3**	**-1.0**
WHP	**Taichung City** baz=309	**0.93**	**304**	*i* P	**Pb**	**20 20 26.9**	**-0.1**
WHP				S	**Sn**	**20 20 38.0**	**-0.6**
ALS	**Alishan** baz=253	**0.94**	**254**	*i* P	**Pb**	**20 20 27.2**	**-0.1**
ALS				*i* S	**Sn**	**20 20 39.1**	**-0.2**
TWE	**Neicheng** baz=354	**0.96**	**353**	P	**Pb**	**20 20 27.4**	**0.0**
TWE				S	**Sb**	**20 20 40.0**	**+0.3**
WJS	**Zhushan** baz=272	**0.97**	**273**	P	**Pb**	**20 20 28.5**	**+0.8**
WJS				S	**Sb**	**20 20 43.4**	**+3.1**
YHNB	**Yeheng** baz=337	**0.97**	**337**	*e*P	**Pn**	**20 20 26.9**	**-0.1**
YHNB				*e*S	**Sn**	**20 20 39.1**	**-0.8**
NSK	**Sanguang** baz=337	**0.99**	**336**	*i* P	**Pn**	**20 20 27.2**	**0.0**
NSK				*i* S	**Sn**	**20 20 39.0**	**-1.1**
FUSB	**Fushanzhiwuyua** baz=349	**1.00**	**349**	*e*P	**Pn**	**20 20 27.4**	**0.0**
FUSB				*e*S	**Sn**	**20 20 40.3**	**-0.3**
CHN5	**Tsauling** baz=260	**1.03**	**261**	*i* P	**Pb**	**20 20 28.9**	**+0.2**
CHN5				S	**Sb**	**20 20 42.6**	**+0.5**
NWLT	**Wulai** baz=345	**1.04**	**345**	*e*P	**Pn**	**20 20 27.9**	**+0.1**
NWLT				S	**Sn**	**20 20 41.0**	**-0.3**
LONT	**Longtian** baz=215	**1.05**	**215**	P	**Pn**	**20 20 27.0**	**-1.0**
LONT				*e*S	**Sb**	**20 20 42.4**	**0.0**
NFF	**Wufeng Townshi** baz=324	**1.06**	**325**	P	**Pb**	**20 20 29.0**	**-0.1**
NFF				S	**Sb**	**20 20 42.7**	**0.0**
EGS	baz=14	**1.08**	**7**	P	**Pn**	**20 20 28.6**	**+0.3**
EGS				*e*S	**Sb**	**20 20 43.8**	**+0.5**
TCU	**Taichung** baz=290	**1.09**	**291**	*i* P	**Pb**	**20 20 30.5**	**+0.9**
TCU				S	**Sb**	**20 20 46.0**	**+2.6**
TWQ1	**Liyutan** baz=301	**1.10**	**302**	*i* P	**Pb**	**20 20 29.7**	**0.0**
TWQ1				*i* S	**Sb**	**20 20 44.3**	**+0.6**
STYH	**Taoyuan** baz=237	**1.10**	**238**	P	**Pb**	**20 20 29.4**	**-0.4**
STYH				S	**Sb**	**20 20 43.6**	**-0.3**
NSTT	**Nanjuang** baz=320	**1.12**	**320**	*i* P	**Pb**	**20 20 29.9**	**-0.2**
NSTT				*i* S	**Sn**	**20 20 43.7**	**+0.3**
LIOB	**Emei** baz=321	**1.12**	**321**	P	**Pb**	**20 20 30.4**	**+0.1**
LIOB				*e*S	**Sn**	**20 20 43.7**	**+0.2**
NSY	**Sanyi** baz=304	**1.14**	**305**	P	**Pb**	**20 20 30.5**	**-0.1**
NSY				S	**Sb**	**20 20 45.7**	**+0.7**
TWGBT	**Beinan** baz=214	**1.15**	**215**	P	**Pn**	**20 20 28.2**	**-1.1**
TWGBT				S	**Sn**	**20 20 42.6**	**-1.4**
TWG	**Pinlang** baz=214	**1.15**	**215**	*i* P	**Pn**	**20 20 28.5**	**-0.8**
TWG				*i* S	**Sn**	**20 20 43.7**	**-0.3**
WDLH	**Douliu** baz=265	**1.15**	**266**	P	**Pb**	**20 20 30.9**	**+0.2**
WDLH				*e*S	**Sb**	**20 20 45.5**	**+0.3**
TPUB	**Ta-pu** baz=246	**1.16**	**247**	*e*P	**Pb**	**20 20 31.2**	**+0.3**
TPUB				*e*S	**Sb**	**20 20 46.5**	**+0.8**
WCHH	**Zhanghua** baz=284	**1.17**	**286**	*i* P	**Pb**	**20 20 31.2**	**+0.2**
WCHH				*e*S	**Sb**	**20 20 46.6**	**+0.8**
NMLH	**Miaoli** baz=309	**1.19**	**310**	*e*P	**Pb**	**20 20 30.9**	**-0.5**
NMLH				*e*S	**Sb**	**20 20 47.1**	**+0.6**
WTP	**Ta-pu** baz=244	**1.20**	**245**	⇑*i*P	**Pb**	**20 20 31.3**	**-0.2**
WTP				*i* S	**Sb**	**20 20 47.5**	**+0.8**
TIPB	**Shuangxi** baz=350	**1.20**	**1**	P	**Pb**	**20 20 31.9**	**+0.4**
TIPB				*i* S	**Sb**	**20 20 46.5**	**-0.2**
WDJ	**Dajia District** baz=298	**1.20**	**299**	*e*P	**Pb**	**20 20 31.5**	**0.0**
WDJ				*e*S	**Sn**	**20 20 45.0**	**-0.2**
NHDH	**Xindian Distri** baz=340	**1.22**	**349**	P	**Pb**	**20 20 31.0**	**-0.8**
NHDH				S	**Sb**	**20 20 46.2**	**-0.8**
TWA	**Mucha** baz=343	**1.22**	**351**	P	**Pb**	**20 20 31.3**	**-0.6**
TWA				*i* S	**Sb**	**20 20 46.7**	**-0.7**
CHN2	**Minshiung** baz=258	**1.23**	**259**	P	**Pb**	**20 20 32.5**	**+0.5**
CHN2				S	**Sb**	**20 20 49.4**	**+2.0**
TWB1	**Santiao Chiao** baz=8.0	**1.25**	**8**	P	**Pb**	**20 20 31.7**	**-0.6**
TWB1				S	**Sn**	**20 20 47.0**	**+0.5**
JYNG	**Yonagunijimaku**	**1.25**	**57**	P	**Pn**	**20 20 31.2**	**+0.4**
JYNG				*e*S	**Sn**	**20 20 47.1**	**+0.5**
CHY	**Chiayi** baz=257	**1.28**	**258**	*e*P	**Pb**	**20 20 32.6**	**-0.2**
CHY				*e*S	**Sb**	**20 20 49.7**	**+0.8**
WTK	**Tuku** baz=266	**1.29**	**267**	P	**Pb**	**20 20 33.0**	**+0.1**
WTK				*e*S	**Sb**	**20 20 49.8**	**+0.7**
CHN1	**Nanshi** baz=243	**1.30**	**244**	P	**Pb**	**20 20 33.0**	**-0.1**
CHN1				S	**Sb**	**20 20 50.6**	**+1.1**
	baz=243						
TWK	**Hsinying** baz=247	**1.30**	**248**	P	**Pb**	**20 20 32.6**	**-0.5**
TWK				S	**Sb**	**20 20 50.1**	**+0.7**
NWF	**Wu-fen Shan** baz=346	**1.30**	**360**	P	**Pb**	**20 20 32.7**	**-0.5**
NWF				*i* S	**Sb**	**20 20 49.4**	**-0.1**
SGST	**Jiashian** baz=238	**1.30**	**239**	P	**Pn**	**20 20 32.0**	**+0.6**
SGST				S	**Sb**	**20 20 49.4**	**-0.2**
WRL	**Guolierlin Hig** baz=275	**1.30**	**276**	*e*P	**Pb**	**20 20 32.8**	**-0.4**
WRL				*e*S	**Sb**	**20 20 49.5**	**0.0**
SNST	**Tainan City** baz=245	**1.31**	**246**	P	**Pb**	**20 20 32.9**	**-0.4**
SNST				S	**Sb**	**20 20 50.9**	**+1.2**
YOJ	**Yonaguni jima**	**1.31**	**58**	P	**Pn**	**20 20 32.2**	**+0.7**
YOJ				*e*S	**Sn**	**20 20 48.4**	**+0.4**
YM01	**YM01** baz=351	**1.39**	**352**	S	**Sn**	**20 20 50.2**	**+0.3**
ECL	**Taimali** baz=213	**1.40**	**214**	P	**Pn**	**20 20 31.7**	**-1.0**
ECL				*e*S	**Sn**	**20 20 48.7**	**-1.4**
WSF	**Szhu** baz=253	**1.44**	**265**	P	**Pn**	**20 20 33.6**	**+0.3**
WSF				S	**Sb**	**20 20 53.4**	**-0.2**
ICHU	**Yijhu** baz=253	**1.45**	**254**	P	**Pb**	**20 20 34.9**	**-0.7**
ICHU				*e*S	**Sb**	**20 20 53.2**	**-0.4**
WSL	**Shuilin Townsh** baz=260	**1.45**	**261**	P	**Pb**	**20 20 34.6**	**-1.2**
WSL				S	**Sb**	**20 20 53.0**	**-0.9**
SSD	**Sandimen** baz=226	**1.47**	**227**	⇓*i*P	**Pn**	**20 20 34.9**	**+1.1**
SSD				*e*S	**Sb**	**20 20 54.8**	**+0.3**
CHN3	**Shinhua** baz=242	**1.48**	**243**	*e*P	**Pb**	**20 20 36.8**	**+0.6**
CHN3				*e*S	**Sb**	**20 20 55.7**	**+1.1**
SCST	**Cishan** baz=234	**1.48**	**234**	*e*P	**Pb**	**20 20 36.6**	**+0.4**
TSMG	**Majia** baz=225	**1.49**	**225**	*e*P	**Pb**	**20 20 36.3**	**-0.1**
TSMG				*e*S	**Sb**	**20 20 53.9**	**-1.1**
CHN8	**Yiju** baz=254	**1.51**	**254**	P	**Pn**	**20 20 35.3**	**+1.0**
CHN8				*e*S	**Sb**	**20 20 54.9**	**-0.6**
SHHT	**Tainan City** baz=241	**1.52**	**241**	*e*P	**Pb**	**20 20 37.0**	**+0.1**
SHHT				*e*S	**Sb**	**20 20 57.2**	**+1.5**
MASBT	**Mashibuluo** baz=223	**1.57**	**223**	*e*P	**Pb**	**20 20 37.3**	**-0.4**
SCLT	**Jiali** baz=248	**1.58**	**248**	*e*P	**Pb**	**20 20 38.1**	**+0.2**
TAWH	**Dawu Township** baz=217	**1.65**	**211**	S	**Sn**	**20 20 55.7**	**-0.6**
SSPT	**Xinbi** baz=222	**1.70**	**222**	*e*P	**Pb**	**20 20 39.9**	**-0.1**
SSPT				*e*S	**Sb**	**20 20 60.0**	**-1.0**
SCZT	**Fangliau** baz=213	**1.76**	**218**	*e*P	**Pb**	**20 20 39.9**	**-1.1**
SCZT				*e*S	**Sb**	**20 21 02.1**	**-0.5**
SLIU	**Shizi** baz=211	**1.79**	**211**	*e*P	**Pn**	**20 20 39.0**	**+0.8**
IRIF	**Iriomote-Funau**	**1.86**	**72**	P	**Pn**	**20 20 40.2**	**+1.1**
IRIF				*e*S	**Sn**	**20 21 02.1**	**+0.6**
HATJ	**Hateruma jima**	**1.87**	**81**	P	**Pn**	**20 20 39.7**	**+0.6**
PHUB	**P'eng-hu** baz=250	**2.05**	**263**	*e*P	**Pn**	**20 20 42.8**	**+1.1**
PHUB				*e*S	**Sn**	**20 21 05.8**	**-0.4**
PNG	**Penghu** baz=264	**2.06**	**265**	*e*P	**Pn**	**20 20 42.2**	**+0.4**
PNG				*e*S	**Sn**	**20 21 06.6**	**+0.1**
JKRS	**Kuro-shima**	**2.08**	**77**	P	**Pn**	**20 20 43.3**	**+1.2**
JKRS				*e*S	**Sn**	**20 21 08.2**	**+1.2**
JIJ	**Ishigaki jima**	**2.23**	**74**	P	**Pn**	**20 20 44.4**	**+0.2**
JIJ				S	**Sn**	**20 21 10.0**	**-0.7**
JISG	**Ishigakijimahi**	**2.44**	**70**	P	**Pn**	**20 20 47.2**	**+0.1**
JISG				*e*S	**Sn**	**20 21 15.9**	**0.0**
JTJ	**Tarama**	**2.80**	**71**	P	**Pn**	**20 20 52.4**	**+0.4**
JTJ				*e*S	**Sn**	**20 21 24.9**	**+0.3**
KNMB	**Chin-men Tao** baz=282	**3.19**	**283**	*e*P	**Pn**	**20 20 56.6**	**-0.7**

*SNET **18** 20:24:33.2 ± 2.7, 13°.01N × 89°.86W, h23km, ML3.8*
*UCR **18** 20:24:36.6 ± 1.1, 13°.15N × 89°.76W, h29km ± 3km*
ISC 18 20:24:35.6 ± 2.6, **13°.11N** ± 0°.10 × **89°.79W** ± 0°.08, **h25**km ± 12km, **n44**, σ **0**°**37**/80, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.59**	**50**	*e*P	**Pb**	**20 24 47.2**	**-0.2**
LALI				*e*S	**Sb**	**20 24 55.3**	**-0.1**
LALI	**Alcalda de L**	**0.59**	**50**	*e*P	**Pb**	**20 24 47.2**	**-0.2**
LALI				*e*S	**Sb**	**20 24 55.3**	**-0.1**
JAYA	**Jayaque - finc**	**0.64**	**31**	*e*P	**Pb**	**20 24 48.5**	**+0.2**
JAYA				*e*S	**Sb**	**20 24 56.6**	**-0.3**
JAYA	**Jayaque - finc**	**0.64**	**31**	*e*P	**Pb**	**20 24 48.5**	**+0.2**
JAYA				*e*S	**Sb**	**20 24 56.6**	**-0.3**
CEVE	**Cerro Verde**	**0.73**	**13**	*e*P	**Pb**	**20 24 49.8**	**-0.1**
CEVE				*e*S	**Sn**	**20 25 01.2**	**0.0**
CEVE	**Cerro Verde**	**0.73**	**13**	*e*P	**Pb**	**20 24 49.8**	**-0.1**
CEVE				*e*S	**Sn**	**20 25 01.2**	**0.0**
SBLS	**San Blas**	**0.74**	**12**	*e*P	**Pb**	**20 24 50.4**	**+0.3**
SBLS				*e*S	**Sn**	**20 25 01.5**	**0.0**
SBLS	**San Blas**	**0.74**	**12**	*e*P	**Pb**	**20 24 50.4**	**+0.3**
SBLS				*e*S	**Sn**	**20 25 01.5**	**0.0**
SNJE	**San Jose**	**0.78**	**13**	*e*P	**Pb**	**20 24 50.5**	**-0.2**
SNJE				*e*S	**Sn**	**20 25 02.0**	**-0.2**
SNJE	**San Jose**	**0.78**	**13**	*e*P	**Pb**	**20 24 50.5**	**-0.2**
SNJE				*e*S	**Sn**	**20 25 02.0**	**-0.2**
CEDA	**San Andres**	**0.79**	**29**	*e*P	**Pb**	**20 24 50.9**	**+0.1**
CEDA				*e*S	**Sn**	**20 25 01.8**	**-0.5**
CEDA	**San Andres**	**0.79**	**29**	*e*P	**Pb**	**20 24 50.9**	**+0.1**
CEDA				*e*S	**Sn**	**20 25 01.8**	**-0.5**
NUBE	**Las Nubes**	**0.79**	**1**	*e*P	**Pb**	**20 24 50.6**	**-0.3**
NUBE				*e*S	**Sb**	**20 25 00.9**	**-0.3**
NUBE	**Las Nubes**	**0.79**	**1**	*e*P	**Pb**	**20 24 50.6**	**-0.3**
NUBE				*e*S	**Sb**	**20 25 00.9**	**-0.3**
SNET	**Serv Nac Est T**	**0.79**	**43**	*e*P	**Pb**	**20 24 50.8**	**0.0**
SNET				*e*S	**Sn**	**20 25 01.9**	**-0.4**
SNET	**Serv Nac Est T**	**0.79**	**43**	*e*P	**Pb**	**20 24 50.8**	**0.0**
SNET				*e*S	**Sn**	**20 25 01.9**	**-0.4**
BOQS	**Boqueron**	**0.80**	**38**	*e*P	**Pb**	**20 24 51.1**	**+0.1**
BOQS				*e*S	**Sn**	**20 25 03.2**	**+0.5**
BOQS	**Boqueron**	**0.80**	**38**	*e*P	**Pb**	**20 24 51.1**	**+0.1**
BOQS				*e*S	**Sn**	**20 25 03.2**	**+0.5**
RTR	**El Retiro**	**0.80**	**10**	*e*P	**Pb**	**20 24 51.3**	**+0.3**
RTR				*e*S	**Sn**	**20 25 02.5**	**-0.2**
RTR	**El Retiro**	**0.80**	**10**	*e*P	**Pb**	**20 24 51.3**	**+0.3**
RTR				*e*S	**Sn**	**20 25 02.5**	**-0.2**
UEES	**Universidad Ev**	**0.81**	**41**	*e*P	**Pb**	**20 24 51.0**	**-0.1**
UEES				*e*S	**Sn**	**20 25 02.1**	**-0.7**
UEES	**Universidad Ev**	**0.81**	**41**	*e*P	**Pb**	**20 24 51.0**	**-0.1**
UEES				*e*S	**Sn**	**20 25 02.1**	**-0.7**
LFRS	**El Faro**	**0.87**	**54**	*e*P	**Pn**	**20 24 52.1**	**-0.4**
LFRS				*e*S	**Sn**	**20 25 03.8**	**-0.7**
LFRS	**El Faro**	**0.87**	**54**	*e*P	**Pn**	**20 24 52.1**	**-0.4**
LFRS				*e*S	**Sn**	**20 25 03.8**	**-0.7**
SJTE	**Alcalda de S**	**0.91**	**56**	*e*P	**Pn**	**20 24 52.6**	**-0.3**
SJTE				*e*S	**Sb**	**20 25 04.3**	**-0.3**
SJTE	**Alcalda de S**	**0.91**	**56**	*e*P	**Pn**	**20 24 52.6**	**-0.3**
SJTE				*e*S	**Sb**	**20 25 04.3**	**-0.3**
LFU	**La Fuente**	**0.92**	**46**	*e*P	**Pb**	**20 24 53.0**	**+0.1**
LFU				*e*S	**Sn**	**20 25 05.8**	**+0.4**
LFU	**La Fuente**	**0.92**	**46**	*e*P	**Pb**	**20 24 53.0**	**+0.1**
LFU				*e*S	**Sn**	**20 25 05.8**	**+0.4**

LBRS	**Las Brisas**	**0.96**	**49**	*eP*		**Pb**	**20 24 53.7**	**0.0**
LBRS				*eS*		**Sb**	**20 25 06.7**	**+0.8**
LBRS	**Las Brisas**	**0.96**	**49**	*eP*		**Pb**	**20 24 53.7**	**0.0**
LBRS				*eS*		**Sb**	**20 25 06.7**	**+0.8**
COEG	**Centro de Oper**	**1.02**	**60**	*eP*		**Pn**	**20 24 54.4**	**-0.1**
COEG	**Centro de Oper**	**1.02**	**60**	*eP*		**Pn**	**20 24 54.4**	**-0.1**
PAVA	**Las Pavas**	**1.02**	**54**	*eP*		**Pb**	**20 24 54.8**	**0.0**
PAVA				*eS*		**Sb**	**20 25 08.8**	**+0.9**
PAVA	**Las Pavas**	**1.02**	**54**	*eP*		**Pb**	**20 24 54.8**	**0.0**
PAVA				*eS*		**Sb**	**20 25 08.8**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.19**	**60**	*eP*		**Pn**	**20 24 57.0**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.19**	**60**	*eP*		**Pn**	**20 24 57.0**	**+0.3**
COEB	**Comit de Eme**	**1.28**	**72**	*eP*		**Pn**	**20 24 58.2**	**+0.1**
COEB	**Comit de Eme**	**1.28**	**72**	*eP*		**Pn**	**20 24 58.2**	**+0.1**
PQSS	**Presa 15 de Se**	**1.30**	**67**	*eP*		**Pn**	**20 24 58.5**	**+0.2**
PQSS				*eS*		**Sn**	**20 25 14.5**	**-0.4**
PQSS	**Presa 15 de Se**	**1.30**	**67**	*eP*		**Pn**	**20 24 58.5**	**+0.2**
PQSS				*eS*		**Sn**	**20 25 14.5**	**-0.4**
MTO3	**Montecristo**	**1.35**	**18**	*eP*		**Pn**	**20 24 59.6**	**+0.5**
MTO3	**Montecristo**	**1.35**	**18**	*eP*		**Pn**	**20 24 59.6**	**+0.5**
LCND	**La Caada**	**1.86**	**84**	*eP*		**Pn**	**20 25 06.4**	**+0.5**
LCND				*eS*		**Sn**	**20 25 28.2**	**-0.4**
LCND	**La Caada**	**1.86**	**84**	*eP*		**Pn**	**20 25 06.4**	**+0.5**
LCND				*eS*		**Sn**	**20 25 28.2**	**-0.4**

PAS ***18*** *20:25:55.9±2.6, 37°.08N±0°.03×117°.89W±0°.02, h-0km±6km, ML3.0/62, ML3.4/9(REN), ML2.9/108(NEIC), Error ellipse: s-maj=4.9km s-min=1.2km az=153.0*
ANF ***18*** *20:25:55.9±0.2, 37°.06N×117°.91W, h3km±1km, ML3.2/23, ML3.1/23, Error ellipse: s-maj=1.5km s-min=1.0km az=11.0*
NEIC ***18*** *20:25:55.9±1.8, 37°.072N±0°.008×117°.92W±0°.04, h9km±7km, Error ellipse: s-maj=4.6km s-min=0.9km az=102.0*
REN ***18*** *20:25:56.2±2.0, 37°.10N±0°.03×117°.90W±0°.04, h10km±6km, Error ellipse: s-maj=4.7km s-min=4.4km az=210.0*

ISC 18 20:25:55.7±0.9, 37°.09N±0°.02×117°.91W±0°.02, h13km±9km, n81, σ1§01/102, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LCH	**Last Change Ra**	**0.26**	**55**			**Pg**	**20 26 00.9**	**-0.4**
LCH				IAML			20 26 07.5	
	comp=E,2µm,0.3s							
LCH				IAML			20 26 07.7	
	comp=N,2µm,0.2s							
TIN	**Tinemaha, Big**	**0.26**	**263**	P		**Pg**	**20 26 01.7**	**+0.5**
	baz=80,SNR=485							
TIN				S		**Sg**	**20 26 04.4**	**-0.6**
	baz=80							
GRAC	**Grapevine Rang**	**0.44**	**101**			**Pg**	**20 26 04.9**	**+0.3**
GRAC	**Grapevine Rang**	**0.44**	**101**	P		**Pg**	**20 26 04.9**	**+0.3**
	baz=284,SNR=181							
GRAC				S		**Sg**	**20 26 10.2**	**-0.4**
	baz=284							
MTUM	**Tungsten Hills**	**0.59**	**297**			**Pg**	**20 26 07.6**	**+0.3**
CWC	**Cottonwood Cre**	**0.66**	**192**	P		**Pg**	**20 26 08.3**	**-0.3**
	baz=12							
CWC				S		**Sg**	**20 26 17.2**	**-0.1**
	baz=12							
MLAC	**Mammoth, Mammo**	**0.92**	**307**	P		**Pg**	**20 26 13.8**	**+0.3**
	baz=125,SNR=18							
MLAC				S		**Sb**	**20 26 26.8**	**+1.0**
	baz=125							
HELL	**Mitchell Peak,**	**0.98**	**246**			**Pg**	**20 26 14.5**	**-0.1**
HELL						**Sb**	**20 26 27.5**	**+0.1**
OMMB	**Old Mammoth Mi**	**1.02**	**302**			**Pg**	**20 26 15.2**	**-0.2**
FURC	**Furnace Creek,**	**1.04**	**126**	P		**Pg**	**20 26 15.4**	**-0.4**
	baz=308,SNR=72							
FURC				S		**Sg**	**20 26 29.5**	**+0.1**
	baz=308							
MDPB	**Devils Postpil**	**1.08**	**301**			**Pg**	**20 26 16.4**	**-0.2**
MDPB				IAML			20 26 36.1	
	comp=E,308nm,1.0s							
MDPB				IAML			20 26 36.7	
	comp=N,204nm,0.7s							
MPMC	**Manual Prospec**	**1.08**	**162**	P		**Pg**	**20 26 15.7**	**-0.9**
	baz=343,SNR=232							
MPMC				S		**Sg**	**20 26 30.3**	**-0.3**
	baz=343							
TPH	**Tonopah**	**1.13**	**29**			**Pg**	**20 26 17.6**	**0.0**
KCC	**Kaiser Creek**	**1.15**	**282**			**Pg**	**20 26 17.6**	**-0.3**
LHV	**Little Huntoon**	**1.26**	**338**			**Pg**	**20 26 20.2**	**+0.3**
TPNV	**Topopah Spring**	**1.34**	**95**			**Pb**	**20 26 21.2**	**+0.5**
TPNV				IAML			20 26 43.7	
	comp=N,255nm,0.9s							
TPNV				IAML			20 26 45.7	
	comp=N,275nm,0.8s							
TPNV	**Topopah Spring**	**1.34**	**95**	P		**Pb**	**20 26 21.2**	**+0.5**
	baz=277,SNR=395							
TPNV				S		**Sg**	**20 26 39.4**	**+0.5**
	baz=277							
GWY	**Greenwater Val**	**1.34**	**132**			**Pn**	**20 26 20.2**	**-0.1**
GWY				IAML			20 26 43.4	
	comp=E,201nm,0.6s							
GWY				IAML			20 26 46.0	
	comp=N,209nm,0.6s							
NV11	**Mina Array Sit**	**1.36**	**352**			**Pn**	**20 26 21.5**	**+1.0**
NVAR	**Mina Array Bea**	**1.38**	**347**			**Pn**	**20 26 21.9**	**+1.1**
QSM	**Queen of Sheba**	**1.40**	**143**			**Pn**	**20 26 21.4**	**+0.5**
QSM				IAML			20 26 44.0	
	comp=E,222nm,1.1s							
QSM				IAML			20 26 45.2	
	comp=N,234nm,0.9s							
VOG	**Valley Oaks Go**	**1.41**	**238**	P		**Pb**	**20 26 22.4**	**+0.5**
	baz=56							
VOG				S		**Sg**	**20 26 41.5**	**+0.4**
	baz=56							
ISA	**Isabella, Lake**	**1.49**	**198**			**Pb**	**20 26 23.5**	**+0.2**
ISA	**Isabella, Lake**	**1.49**	**198**	P		**Pb**	**20 26 23.5**	**+0.2**
	baz=18,SNR=43							
ISA				S		**Sg**	**20 26 43.9**	**+0.1**
	baz=18							
VES	**Vestal, Richgr**	**1.56**	**218**	Pb		**Pb**	**20 26 25.0**	**+0.6**
	baz=37,SNR=9.0							
VES				S		**Sg**	**20 26 46.1**	**+0.1**
	baz=37							
LRMC	**Laurel Mtn Rad**	**1.61**	**173**	Pb		**Pb**	**20 26 26.1**	**+0.7**
	baz=354							
LRMC				S		**Sg**	**20 26 47.4**	**-0.3**
	baz=354							
RYN	**Ryan**	**1.61**	**343**			**Pb**	**20 26 26.0**	**+0.5**
RYN				IAML			20 26 51.9	
	comp=N,137nm,0.3s							
RYN				IAML			20 26 52.4	
	comp=E,155nm,0.3s							
SHOC	**Shoshone, Teco**	**1.77**	**131**	P		**Pn**	**20 26 27.4**	**+1.3**
	baz=313,SNR=25							
SHOC				Sb		**Sg**	**20 26 52.6**	**-0.1**
	baz=313							
S11A	**Rachel**	**1.81**	**71**			**Pb**	**20 26 29.2**	**+0.4**
Q09A	**Carvers**	**1.84**	**18**			**Pb**	**20 26 29.4**	**+0.1**
Q09A				IAML			20 27 08.0	
	comp=N,155nm,0.7s							
CCAC	**Calif City Air**	**1.93**	**183**			**Pn**	**20 26 29.2**	**+0.9**
CCAC				IAML			20 27 11.5	
	comp=E,66nm,1.0s							
KVN	**Kaiserville**	**1.97**	**356**			**Pn**	**20 26 29.7**	**+0.7**
KVN				IAML			20 27 01.1	
	comp=E,84nm,0.6s							
KVN				IAML			20 27 01.8	
	comp=N,65nm,0.8s							
GSC	**Goldstone, Bar**	**1.99**	**153**			**Pn**	**20 26 29.9**	**+0.8**
GSC				IAML			20 27 10.4	
	comp=E,77nm,0.7s							
GSC	**Goldstone, Bar**	**1.99**	**153**	P		**Pn**	**20 26 30.4**	**+1.2**
	baz=334							
GSC				Sg		**Sg**	**20 27 00.4**	**+0.7**
	baz=334							
ARVC	**Arvin**	**2.09**	**201**	Sb		**Sg**	**20 27 02.2**	**-0.8**
	baz=21							
YERR	**Yerington**	**2.17**	**331**			**Pn**	**20 26 32.6**	**+0.9**
YERR				IAML			20 27 07.4	
	comp=N,117nm,0.4s							
CMB	**Columbia Colle**	**2.18**	**296**			**Pb**	**20 26 35.1**	**-0.1**
CMB				IAML			20 27 08.9	
	comp=E,48nm,0.6s							
CMB				IAML			20 27 08.9	
	comp=N,83nm,0.7s							
EDW2	**Edwards Air Fo**	**2.20**	**182**	P		**Pn**	**20 26 33.5**	**+1.5**
	baz=2.0							
EDW2				Sb		**Sg**	**20 27 05.4**	**-1.1**
	baz=2.0							
R11A	**Troy Canyon, C**	**2.23**	**55**			**Pn**	**20 26 34.1**	**+1.6**
R11A	**Troy Canyon, C**	**2.23**	**55**	P		**Pn**	**20 26 34.2**	**+1.6**
	baz=236,SNR=42							
R11A				Sb		**Sg**	**20 27 07.2**	**-0.3**
	baz=236							
SHPR	**Sheep Range**	**2.28**	**104**			**Pb**	**20 26 35.8**	**-1.1**
SHPR				IAML			20 27 20.3	
	comp=E,57nm,0.8s							
TUQ	**Turquoise Moun**	**2.30**	**135**	P		**Pn**	**20 26 34.8**	**+1.4**
	baz=317							
TUQ				Sb		**Sg**	**20 27 08.9**	**-0.7**
	baz=317							
PRN	**Pahroc Range**	**2.30**	**81**			**Pn**	**20 26 34.5**	**+1.0**
PAGB	**Antelope Grade**	**2.32**	**235**			**Pn**	**20 26 34.7**	**+1.1**
RRX	**Edison Barstow**	**2.33**	**161**	Sg		**Sg**	**20 27 12.3**	**+1.8**
	baz=342							
PNTR	**Pine Nut**	**2.40**	**327**			**Pn**	**20 26 35.7**	**+0.8**
PNTR				IAML			20 27 17.0	
	comp=E,63nm,1.0s							
PNTR				IAML			20 27 18.1	
	comp=N,78nm,0.9s							
SMMC	**Simmler**	**2.44**	**224**	Sb		**Sb**	**20 27 11.8**	**+2.3**
	baz=43							
BCW	**Bitter Crk WRg**	**2.46**	**210**			**Pb**	**20 26 40.2**	**+0.3**
PMPB	**Monarch Peak**	**2.48**	**250**			**Pn**	**20 26 36.0**	**+0.1**
OSI	**Osito Audit: C**	**2.55**	**195**	S		**Sb**	**20 27 10.9**	**-1.8**
	baz=15							
EMB	**Emerald Bay**	**2.56**	**318**			**Pn**	**20 26 36.4**	**-0.7**
EMB				Pg		**Pg**	**20 26 44.0**	**-0.8**
EMB				IAML			20 27 30.9	
	comp=N,34nm,0.7s							
BBGB	**Big Mountain B**	**2.56**	**260**			**Pn**	**20 26 37.6**	**+0.6**
HEC	**Hector,Ludlow**	**2.59**	**150**	P		**Pn**	**20 26 38.3**	**+0.9**
	baz=331							
HEC				Sb		**Sg**	**20 27 17.9**	**-1.1**
	baz=331							
RUBR	**Rubicon Trail**	**2.64**	**319**			**Pn**	**20 26 38.7**	**+0.4**
RUBR				IAML			20 27 50.1	
	comp=N,53nm,0.7s							
RUBR				IAML			20 27 53.2	
	comp=E,43nm,1.2s							
PKM	**Mcpherson Peak**	**2.68**	**216**	Sb		**Sg**	**20 27 20.3**	**-1.6**
	baz=34							
MPK	**Martis Peak**	**2.77**	**324**			**Pg**	**20 26 47.5**	**-1.3**
MPK				IAML			20 27 30.3	
	comp=N,50nm,0.9s							
MPK				IAML			20 27 35.5	
	comp=E,40nm,1.0s							
SAO	**San Andreas Ge**	**2.85**	**265**			**Pn**	**20 26 40.1**	**-0.8**
PAHR	**Pah Rah Range**	**2.86**	**337**			**Pn**	**20 26 40.7**	**-0.5**
GMRC	**Granite Mounta**	**2.93**	**141**	P		**Pn**	**20 26 43.0**	**+0.9**
	baz=323							
GMRC				Sb		**Sg**	**20 27 27.7**	**-2.3**
	baz=323							
ICU	**Indian Springs**	**3.19**	**88**			**Pn**	**20 26 48.1**	**+2.5**
BEKR	**Beckworth**	**3.38**	**326**			**Pn**	**20 26 47.7**	**-0.6**
BEKR				IAML			20 28 03.0	
	comp=E,18nm,0.6s							
BMN	**Battle Mountai**	**3.38**	**9**			**Pn**	**20 26 47.0**	**-1.4**
BELC	**Belle Mtn. Jos**	**3.45**	**153**	P		**Pn**	**20 26 50.5**	**+1.2**
	baz=334							
ELS	**Elsinore Mount**	**3.45**	**173**	Pn		**Pn**	**20 26 50.5**	**+1.2**
PSUT	**Pine Spring**	**3.52**	**65**	Pg		**Pb**	**20 26 58.8**	**+0.7**
PSUT				IAML			20 27 49.0	
	comp=N,27nm,0.7s							
CCUT	**Cedar City**	**3.66**	**81**	Pg		**Pb**	**20 26 59.1**	**-1.2**
CCUT				IAML			20 27 57.3	
	comp=E,13nm,0.5s							
CCUT				IAML			20 28 00.9	
	comp=N,18nm,1.3s							
PFO	**Pinyon Flats O**	**3.66**	**161**	Pn		**Pn**	**20 26 51.3**	**-0.9**
PFO				IAML			20 28 01.8	
	comp=N,14nm,3.6s							
LCMT	**Little Creek M**	**3.73**	**90**			**Pn**	**20 26 53.5**	**+0.4**
LCMT				IAML			20 27 57.3	
	comp=E,15nm,0.6s							
LCMT				IAML			20 27 57.8	
	comp=N,21nm,0.9s							
ORV	**Oroville**	**3.75**	**312**	Pn		**Pn**	**20 26 51.4**	**-1.9**
ORV				IAML			20 28 08.3	
	comp=E,13nm,3.6s							
W13A	**Hualapai Mount**	**3.81**	**120**	Pn		**Pn**	**20 26 52.4**	**-2.0**
W13A				IAML			20 27 44.4	
	comp=E,13nm,0.2s							
SZCU	**Shurtz Canyon**	**3.88**	**81**	Pn		**Pn**	**20 26 53.2**	**-2.0**
SZCU				IAML			20 28 11.7	
	comp=N,17nm,0.4s							
SZCU				IAML			20 28 11.9	
	comp=E,17nm,0.3s							
KNB	**Kanab**	**4.07**	**89**	Pn		**Pn**	**20 26 57.3**	**-0.6**
KNB				IAML			20 28 05.5	
	comp=E,18nm,0.7s							
KNB				IAML			20 28 11.5	
	comp=N,24nm,1.3s							
ELK	**Elko**	**4.21**	**29**	Pn		**Pn**	**20 26 59.7**	**0.0**
GDXM	**Geysers**	**4.23**	**295**			**Pb**	**20 27 09.8**	**-0.1**
GDXM				IAML			20 28 13.7	
	comp=N,13nm,3.5s							
GDXM				IAML			20 28 52.4	
	comp=E,13nm,3.5s							
BLYC	**Blythe**	**4.33**	**139**	Pn		**Pn**	**20 26 59.2**	**-1.9**
BLYC				IAML			20 28 16.0	
	comp=N,11nm,1.1s							
BLYC				IAML			20 28 41.4	
	comp=E,13nm,4.2s							
O03E	**Paynes Creek**	**4.42**	**318**	Pn		**Pn**	**20 27 03.2**	**+0.7**
O03E				IAML			20 28 31.1	
	comp=N,18nm,2.3s							
PKCU	**Pink Cliffs**	**4.48**	**84**	Pn		**Pn**	**20 27 05.9**	**+2.3**
U15A	**North Rim**	**4.56**	**97**	Pn		**Pn**	**20 27 04.9**	**+0.3**
MTPU	**Mount Pierson**	**4.65**	**76**	Pn		**Pn**	**20 27 08.2**	**+2.3**
MSU	**Marysvale**	**4.76**	**71**	Pn		**Pn**	**20 27 06.9**	**-0.5**
MSU						**Pb**	**20 27 20.2**	**+1.1**
DUG	**Dugway, Tooele**	**5.06**	**51**	Pn		**Pn**	**20 27 10.1**	**-1.2**
DUG				IAML			20 28 48.4	
	comp=N,9.1nm,1.2s							
DUG				IAML			20 28 53.8	
	comp=N,6.9nm,1.7s							

BJI ***18*** *20:30:36.5±0.0, 23°.20N×120°.30E, h8km, mb3.7/5, ML3.9/6, Ms3.9/1, Ms7 3.9/1*
IDC ***18*** *20:30:36.2±1.1, 22°.85N×120°.29E, h0km, mb3.4/7, mb1 3.6/8, mb1mx3.3/73, mbtmp3.5/8, MS3.1/1, Ms1 3.3/1, ms1mx2.6/50, Error ellipse: s-maj=43.8km s-min=19.1km az=66.0*
JMA ***18*** *20:30:36.3±0.4, 23°.09N×120°.47E, h0km, M4.1*
TAP ***18*** *20:30:37.1, 23°.18N×120°.32E, h18km, ML4.4, B*
ASIES ***18*** *20:30:37.7, 23°.19N×120°.29E, h17km, MW4.0*

ISC 18 20:30:38.5±0.7, 23°.19N±0°.01×120°.30E±0°.01, h16km±4km, n170, σ1§16/282, mb3.3/6, 25C-49D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCLT	**Jiali**	**0.10**	**264**	⇓*iP*		**Pg**	**20 30 41.3**	**-0.5**
	baz=266							
SCLT				*i* S		**Sg**	**20 30 45.2**	**+1.1**
	baz=266							
CHN3	**Shinhua**	**0.12**	**151**	⇑*iP*		**Pb**	**20 30 41.7**	**-0.8**
	baz=160							
CHN3				*i* S		**Sg**	**20 30 45.6**	**+1.1**
	baz=160							
TAI1	**Yung-k'ang**	**0.16**	**205**	⇓*iP*		**Pb**	**20 30 42.5**	**-0.6**
	baz=209							
TAI1				*i* S		**Sg**	**20 30 46.9**	**+1.7**
	baz=209							
SHHT	**Tainan City**	**0.17**	**165**	⇑*iP*		**Pb**	**20 30 42.4**	**-0.9**
	baz=172							
SHHT				*i* S		**Sg**	**20 30 46.6**	**+1.0**
	baz=172							
ICHU	**Yijhu**	**0.18**	**354**	⇑*iP*		**Pb**	**20 30 42.3**	**-1.1**
	baz=347							
ICHU				*i* S		**Sb**	**20 30 46.4**	**-0.4**
	baz=347							
CHN8	**Yiju**	**0.18**	**333**	⇑*iP*		**Pb**	**20 30 42.6**	**-0.9**
	baz=331							
CHN8				*i* S		**Sg**	**20 30 47.3**	**+1.4**
	baz=331							
SNST	**Tainan City**	**0.18**	**79**	⇓*iP*		**Pb**	**20 30 42.2**	**-1.4**
	baz=76							
SNST				*e*S		**Sb**	**20 30 46.5**	**-0.4**
	baz=76							
TWK	**Hsinying**	**0.19**	**65**	⇓*iP*		**Pb**	**20 30 42.7**	**-1.0**
	baz=63							
TWK				*i* S		**Sb**	**20 30 46.8**	**-0.4**
	baz=63							
CHN1	**Nanshi**	**0.21**	**90**	⇓*iP*		**Pb**	**20 30 42.6**	**-1.4**
	baz=89							
CHN1				S		**Sb**	**20 30 46.8**	**-0.9**
	baz=89							
TAI	**Tainan**	**0.21**	**207**	*eP*		**Pb**	**20 30 43.4**	**-0.7**
	baz=212							
TAI				*e*S		**Sg**	**20 30 48.4**	**+1.7**
	baz=212							
SGST	**Jiashian**	**0.28**	**111**	⇓*e*P		**Pg**	**20 30 42.9**	**-1.6**
	baz=112							
SGST				*e*S		**Sg**	**20 30 48.3**	**-0.4**
	baz=112							
WTP	**Ta-pu**	**0.29**	**78**	⇓*iP*		**Pg**	**20 30 44.0**	**-0.8**
	baz=77							
WTP				S		**Sg**	**20 30 49.2**	**+0.1**
	baz=77							
CHN4	**Tsaushan**	**0.32**	**58**	⇓*iP*		**Pg**	**20 30 44.5**	**-0.7**
	baz=56							
CHN4				*e*S		**Sg**	**20 30 50.2**	**+0.5**
	baz=56							
TPUB	**Ta-pu**	**0.32**	**69**	⇓*iP*		**Pg**	**20 30 44.3**	**-1.0**
	baz=67							
TPUB				*e*S		**Sg**	**20 30 49.8**	**-0.1**
	baz=67							
CHY	**Chiayi**	**0.33**	**20**	⇑*iP*		**Pg**	**20 30 45.0**	**-0.5**
	baz=18							
CHY				*e*S		**Sg**	**20 30 51.3**	**+1.1**
	baz=18							
WSL	**Shuilin Townsh**	**0.34**	**349**	⇑*iP*		**Pg**	**20 30 45.2**	**-0.5**
	baz=346							
WSL				*e*S		**Sg**	**20 30 50.8**	**+0.3**
	baz=346							
SCST	**Cishan**	**0.35**	**149**	⇓*iP*		**Pg**	**20 30 45.9**	**+0.2**
	baz=152							
SCST				*e*S		**Sb**	**20 30 52.6**	**+1.0**
	baz=152							
SLGT	**Liugui**	**0.37**	**121**	⇓P		**Pg**	**20 30 45.8**	**-0.3**
	baz=122							
SLGT				*e*S		**Sg**	**20 30 52.2**	**+0.9**
	baz=122							
CHN2	**Minshiung**	**0.38**	**25**	⇑P		**Pg**	**20 30 46.1**	**-0.2**
	baz=22							
CHN2				*e*S		**Sb**	**20 30 53.2**	**+0.6**
	baz=22							
STYT	**Tauyuan**	**0.42**	**93**	⇓*iP*		**Pg**	**20 30 46.1**	**-0.9**
	baz=93							
STYT				*e*S		**Sg**	**20 30 52.9**	**+0.1**
	baz=93							
SNJT	**Kaohsiung City**	**0.43**	**176**	*eP*		**Pg**	**20 30 46.5**	**-0.7**
	baz=178							
SNJT				*e*S		**Sb**	**20 30 55.5**	**+1.5**
	baz=178							
STYH	**Taoyuan**	**0.44**	**92**	⇓*iP*		**Pg**	**20 30 46.4**	**-0.9**
	baz=90							
STYH				*e*S		**Sg**	**20 30 53.1**	**-0.1**
	baz=90							
WSF	**Szhu**	**0.46**	**351**	⇑*iP*		**Pg**	**20 30 47.3**	**-0.4**
	baz=349							
WSF				*i* S		**Sb**	**20 30 55.6**	**+0.8**
	baz=349							
SGLT	**Jiouru**	**0.49**	**159**	⇑P		**Pg**	**20 30 48.7**	**+0.5**
	baz=160							
SGLT				*e*S		**Sn**	**20 30 58.4**	**-0.7**
	baz=160							
WTK	**Tuku**	**0.51**	**9**	⇑*iP*		**Pg**	**20 30 48.1**	**-0.6**
	baz=7.0							
WTK				S		**Sg**	**20 30 56.2**	**+0.7**
	baz=7.0							
SSD	**Sandimen**	**0.53**	**145**	P		**Pg**	**20 30 48.3**	**-0.8**
	baz=146							
SSD				*e*S		**Sg**	**20 30 56.7**	**+0.5**
	baz=146							
CHN5	**Tsauling**	**0.54**	**40**	⇑*iP*		**Pg**	**20 30 48.4**	**-0.8**
	baz=38							
CHN5				*e*S		**Sg**	**20 30 57.2**	**+0.7**
	baz=38							
TSPT	**Pingtung City**	**0.54**	**160**	⇑P		**Pg**	**20 30 49.4**	**+0.3**
	baz=163							
TSPT				*e*S		**Sn**	**20 30 59.2**	**-1.0**
	baz=163							
WSSB	**Gushan**	**0.54**	**184**	⇑P		**Pg**	**20 30 49.5**	**+0.2**
	baz=186							
WSSB				*e*S		**Sn**	**20 30 59.7**	**-0.7**
	baz=186							
WDLH	**Douliu**	**0.55**	**23**	⇑*iP*		**Pg**	**20 30 48.9**	**-0.4**
	baz=21							
WDLH				S		**Sg**	**20 30 57.7**	**+1.0**
	baz=21							
WGK	**Gukeng**	**0.55**	**26**	⇑*iP*		**Pg**	**20 30 49.2**	**-0.3**
	baz=24							
WGK				*e*S		**Sb**	**20 30 58.6**	**+1.0**
	baz=24							
ALS	**Alishan**	**0.57**	**55**	⇓*iP*		**Pg**	**20 30 48.9**	**-0.9**
	baz=54							
ALS				*e*S		**Sg**	**20 30 57.7**	**+0.3**
	baz=54							
TSMG	**Majia**	**0.57**	**146**	⇓P		**Pg**	**20 30 48.8**	**-1.1**
	baz=148							
TSMG				*e*S		**Sg**	**20 30 57.8**	**+0.3**
	baz=148							
WDGT	**Dungji**	**0.59**	**277**	⇓*iP*		**Pb**	**20 30 49.3**	**-1.3**
	baz=277							
WDGT				*e*S		**Sg**	**20 30 58.7**	**+0.5**
	baz=277							
KAU	**Kaohsiung**	**0.61**	**179**	⇑*iP*		**Pb**	**20 30 50.6**	**-0.3**
	baz=181							
KAU				*e*S		**Sg**	**20 31 00.6**	**+1.8**
	baz=181							
WMLT	**Mailiao**	**0.62**	**353**	*eP*		**Pb**	**20 30 50.0**	**-1.1**
	baz=352							
WMLT				*e*S		**Sg**	**20 30 60.0**	**+1.0**
	baz=352							
MASBT	**Mashibuluo**	**0.65**	**152**	⇓*iP*		**Pb**	**20 30 50.4**	**-1.1**
	baz=153							
MASBT				*e*S		**Sb**	**20 30 59.8**	**-0.5**
	baz=153							
ELDTW	**Lidau**	**0.66**	**90**	⇓*iP*		**Pb**	**20 30 50.3**	**-1.5**
	baz=89							
ELDTW				*e*S		**Sb**	**20 31 00.1**	**-0.7**
	baz=89							
WTCT	**Ta-ch'eng**	**0.68**	**358**	⇑P		**Pb**	**20 30 50.8**	**-1.2**
	baz=357							
WTCT				*e*S		**Sb**	**20 31 01.5**	**+0.4**
	baz=357							
WRL	**Guolierlin Hig**	**0.72**	**6**	⇑*eP*		**Pb**	**20 30 51.4**	**-1.3**
	baz=4.0							
WRL				*e*S		**Sb**	**20 31 01.7**	**-0.6**
	baz=4.0							
SSPT	**Xinbi**	**0.74**	**160**	⇑P		**Pb**	**20 30 52.8**	**-0.3**
	baz=162							
SSPT				*e*S		**Sn**	**20 31 04.8**	**-0.5**
	baz=162							
PHUB	**P'eng-hu**	**0.74**	**296**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WLCH	**Liuqiu**	**0.83**	**175**	⇑*e*P	**Pb**	**20 30 54.6**	**0.0**
	baz=176						
WLCH				*e*S	**Sn**	**20 31 09.7**	**+2.1**
	baz=176						
TWP	**Hsiaoliuchiu**	**0.84**	**176**	⇑*e*P	**Pb**	**20 30 54.6**	**0.0**
	baz=177						
TWP				*e*S	**Sn**	**20 31 08.8**	**+1.1**
	baz=177						
ECL	**Taimali**	**0.84**	**134**	⇓P	**Pb**	**20 30 53.3**	**-1.4**
	baz=135						
ECL				*e*S	**Sb**	**20 31 05.2**	**-0.6**
	baz=135						
SSLB	**Suanglung**	**0.85**	**45**	⇓P	**Pb**	**20 30 53.2**	**-1.7**
	baz=44						
SSLB				*e*S	**Sb**	**20 31 05.3**	**-0.8**
	baz=44						
ECS	**Chishang**	**0.85**	**96**	*e*P	**Pb**	**20 30 53.9**	**-1.1**
	baz=96						
ECS				*e*S	**Sg**	**20 31 07.2**	**+0.9**
	baz=96						
SCZT	**Fangliau**	**0.86**	**160**	⇑*e*P	**Pb**	**20 30 54.3**	**-0.8**
	baz=161						
SCZT				*e*S	**Sb**	**20 31 06.7**	**+0.3**
	baz=161						
TYC	**Yuchr**	**0.88**	**35**	⇓*i*P	**Pb**	**20 30 54.2**	**-1.3**
	baz=35						
TYC				*e*S	**Sb**	**20 31 07.3**	**+0.3**
	baz=35						
SMLT	**Sun Moon Lake**	**0.89**	**38**	⇓*i*P	**Pb**	**20 30 54.2**	**-1.4**
	baz=38						
SMLT				*e*S	**Sg**	**20 31 08.5**	**+1.0**
	baz=38						
TTN	**Taitung**	**0.89**	**119**	⇓*e*P	**Pb**	**20 30 55.3**	**-0.3**
	baz=119						
TTN				*e*S	**Sn**	**20 31 09.4**	**+0.4**
	baz=119						
FULB	**Fuli**	**0.91**	**89**	⇓*i*P	**Pb**	**20 30 55.4**	**-0.7**
	baz=89						
FULB				*e*S	**Sg**	**20 31 09.4**	**+1.1**
	baz=89						
WCHH	**Zhanghua**	**0.92**	**15**	⇑*e*P	**Pb**	**20 30 55.2**	**-0.9**
	baz=14						
WCHH				*e*S	**Sb**	**20 31 08.3**	**+0.2**
	baz=14						
WWF	**Wufeng**	**0.93**	**23**	*e*P	**Pb**	**20 30 55.0**	**-1.3**
	baz=22						
WWF				*e*S	**Sb**	**20 31 09.0**	**+0.6**
	baz=22						
TWF1	**Yuli**	**0.93**	**80**	⇓P	**Pb**	**20 30 55.0**	**-1.3**
	baz=79						
TWF1				*e*S	**Sb**	**20 31 09.0**	**+0.5**
	baz=79						
YULB	**Yu-li**	**0.94**	**77**	⇓P	**Pb**	**20 30 55.0**	**-1.5**
	baz=77						
YULB				*e*S	**Sb**	**20 31 08.7**	**0.0**
	baz=77						
EAST	**Anshuo**	**0.94**	**148**	*e*P	**Pb**	**20 30 55.6**	**-1.0**
	baz=148						
EAST				*e*S	**Sb**	**20 31 09.4**	**+0.5**
	baz=148						
EDH	**Donghe**	**0.95**	**103**	⇓*e*P	**Pb**	**20 30 55.6**	**-1.0**
	baz=103						
EDH				*e*S	**Sb**	**20 31 09.8**	**+0.9**
	baz=103						
EYUL	**Yuli**	**0.95**	**80**	⇓P	**Pb**	**20 30 55.3**	**-1.3**
	baz=80						
EYUL				*e*S	**Sb**	**20 31 09.7**	**+0.7**
	baz=80						
VWDT	**VWDT**	**0.96**	**54**	⇓P	**Pb**	**20 30 55.6**	**-1.1**
	baz=53						
VWDT				*e*S	**Sb**	**20 31 09.7**	**+0.5**
	baz=53						
CHKT	**Chengkung**	**0.98**	**95**	⇓*e*P	**Pb**	**20 30 56.6**	**-0.6**
	baz=95						
CHKT				*e*S	**Sn**	**20 31 12.2**	**+0.9**
	baz=95						
TAW	**Tawu**	**0.99**	**146**	*e*P	**Pb**	**20 30 56.4**	**-0.9**
	baz=147						
TAW				*e*S	**Sb**	**20 31 10.3**	**+0.1**
	baz=147						
EHY	**Hungye**	**0.99**	**71**	⇓*e*P	**Pb**	**20 30 56.2**	**-1.2**
	baz=71						
EHY				*e*S	**Sb**	**20 31 09.2**	**-1.1**
	baz=71						
TAWH	**Dawu Township**	**1.00**	**147**	⇑*e*P	**Pb**	**20 30 56.3**	**-1.2**
	baz=148						
TAWH				*e*S	**Sb**	**20 31 10.8**	**+0.4**
	baz=148						
TCU	**Taichung**	**1.02**	**20**	*e*P	**Pb**	**20 30 56.8**	**-1.0**
	baz=19						
TCU				*e*S	**Sg**	**20 31 12.1**	**+0.5**
	baz=19						
WPL	**Puli Township**	**1.02**	**36**	*e*P	**Pb**	**20 30 56.3**	**-1.6**
	baz=35						
WPL				*e*S	**Sb**	**20 31 11.0**	**-0.1**
	baz=35						
DPDB	**Guoxing**	**1.02**	**34**	*e*P	**Pb**	**20 30 56.2**	**-1.7**
	baz=33						
DPDB				*e*S	**Sb**	**20 31 09.8**	**-1.3**
	baz=33						
WCS	**Beigang Elemen**	**1.03**	**33**	*e*P	**Pb**	**20 30 56.5**	**-1.6**
	baz=32						
WCS				*e*S	**Sb**	**20 31 10.7**	**-0.7**
	baz=32						
ECBN	**Changbin**	**1.07**	**83**	⇓*e*P	**Pb**	**20 30 58.2**	**-0.4**
	baz=83						
ECBN				*e*S	**Sg**	**20 31 15.0**	**+1.9**
	baz=83						
SLIU	**Shizi**	**1.07**	**154**	*e*P	**Pb**	**20 30 57.1**	**-1.6**
	baz=155						
SLIU				*e*S	**Sb**	**20 31 12.1**	**-0.3**
	baz=155						
HGSD	**Ruisui**	**1.08**	**73**	⇓*e*P	**Pb**	**20 30 58.1**	**-0.7**
	baz=73						
HGSD				*e*S	**Sb**	**20 31 13.1**	**+0.4**
	baz=73						
WUSB	**Renai**	**1.10**	**43**	⇓*e*P	**Pb**	**20 30 57.3**	**-1.9**
	baz=42						
WUSB				*e*S	**Sb**	**20 31 13.0**	**-0.4**
	baz=42						
OWD	**Renai**	**1.11**	**46**	⇓*e*P	**Pb**	**20 30 57.8**	**-1.6**
	baz=45						
OWD				*e*S	**Sb**	**20 31 13.2**	**-0.5**
	baz=45						
EGFH	**Guangfu**	**1.14**	**65**	⇓*e*P	**Pn**	**20 30 58.4**	**-1.5**
	baz=64						
EGFH				*e*S	**Sb**	**20 31 13.8**	**-0.8**
	baz=64						
CHGB	**Renai**	**1.18**	**42**	⇓*e*P	**Pn**	**20 30 58.7**	**-1.9**
	baz=42						
CHGB				*e*S	**Sb**	**20 31 15.1**	**-0.9**
	baz=42						
LDUT	**Ludao**	**1.19**	**115**	⇓*e*P	**Pn**	**20 30 59.2**	**-1.4**
	baz=116						
LDUT				*e*S	**Sb**	**20 31 15.4**	**-0.5**
	baz=116						
WDJ	**Dajia District**	**1.20**	**15**	*e*P	**Pn**	**20 30 60.0**	**-0.7**
	baz=14						
WDJ				*e*S	**Sb**	**20 31 16.6**	**+0.4**
	baz=14						
ESL	**Shilin**	**1.21**	**59**	⇓*e*P	**Pn**	**20 30 59.6**	**-1.2**
	baz=59						
ESL				*e*S	**Sb**	**20 31 16.2**	**-0.4**
	baz=59						
TWQ1	**Liyutan**	**1.24**	**20**	*e*P	**Pn**	**20 31 00.4**	**-0.8**
	baz=20						
TWQ1				*e*S	**Sn**	**20 31 18.2**	**+0.7**
	baz=20						
WHP	**Taichung City**	**1.24**	**28**	⇓*e*P	**Pn**	**20 30 59.9**	**-1.4**
	baz=28						
WHP				*e*S	**Sb**	**20 31 17.3**	**-0.1**
	baz=28						
HEN	**Hengchun**	**1.24**	**161**	*e*P	**Pn**	**20 30 59.8**	**-1.5**
	baz=162						
HEN				*e*S	**Sg**	**20 31 19.4**	**+0.7**
	baz=162						
TEGC	**Jichi Village**	**1.25**	**65**	*e*P	**Pn**	**20 31 01.0**	**-0.4**
	baz=65						
SMST	**Manzhou Townsh**	**1.26**	**157**	*e*P	**Pn**	**20 31 01.2**	**-0.2**
	baz=158						
SMST				*e*S	**Sn**	**20 31 19.3**	**+1.2**
	baz=158						
NSY	**Sanyi**	**1.30**	**19**	*e*P	**Pn**	**20 31 01.0**	**-1.0**
	baz=18						
NSY				*e*S	**Sb**	**20 31 20.1**	**+1.1**
	baz=18						
WHF	**Hehuan Shan**	**1.30**	**43**	*e*P	**Pn**	**20 31 00.7**	**-1.8**
	baz=42						
TWK1	**Hengchun**	**1.32**	**159**	*e*P	**Pn**	**20 31 00.7**	**-1.6**
	baz=160						
TDCB	**Techi**	**1.32**	**36**	*e*P	**Pn**	**20 31 01.4**	**-1.1**
	baz=36						
TDCB				*e*S	**Sn**	**20 31 18.5**	**-1.4**
	baz=36						
TWKBT	**Hengchun**	**1.33**	**159**	⇑*e*P	**Pn**	**20 31 00.8**	**-1.6**
	baz=160						
TWKBT				*e*S	**Sg**	**20 31 21.6**	**+0.2**
	baz=160						
TWT	**Tachien**	**1.33**	**37**	*e*P	**Pn**	**20 31 01.4**	**-1.2**
	baz=36						
TWT				*e*S	**Sn**	**20 31 19.7**	**-0.5**
	baz=36						
FUSS	**Fushou**	**1.37**	**39**	⇓*e*P	**Pn**	**20 31 00.9**	**-2.2**
	baz=38						
FUSS				*e*S	**Sn**	**20 31 19.6**	**-1.5**
	baz=38						
TSEB	**Hengchuen, Pin**	**1.39**	**156**	*e*P	**Pn**	**20 31 01.8**	**-1.6**
	baz=159						
NMLH	**Miaoli**	**1.42**	**18**	*e*P	**Pn**	**20 31 03.2**	**-0.5**
	baz=18						
ETLH	**Xiulin Townshi**	**1.49**	**47**	*e*P	**Pn**	**20 31 03.6**	**-1.1**
	baz=46						
NACB	**Ninganchiao**	**1.54**	**50**	*e*P	**Pn**	**20 31 04.3**	**-1.0**
	baz=50						
NSTT	**Nanjuang**	**1.58**	**24**	*e*P	**Pn**	**20 31 04.6**	**-1.3**
	baz=24						
NJN	**Zhunan**	**1.58**	**19**	*e*P	**Pn**	**20 31 05.7**	**-0.2**
	baz=19						
NJN				*e*S	**Sn**	**20 31 26.9**	**+0.9**
	baz=19						
NNSB	**Datong**	**1.59**	**38**	*e*P	**Pn**	**20 31 04.7**	**-1.4**
	baz=38						
NNS	**Nan Shan**	**1.59**	**38**	*e*P	**Pn**	**20 31 05.3**	**-0.8**
	baz=38						
LIOB	**Emei**	**1.59**	**24**	*e*P	**Pn**	**20 31 04.9**	**-1.2**
	baz=23						
LIOB				*e*S	**Sn**	**20 31 27.2**	**+0.7**
	baz=23						
NFF	**Wufeng Townshi**	**1.62**	**27**	*e*P	**Pn**	**20 31 05.3**	**-1.2**
	baz=27						
LAY	**Lan-yu**	**1.62**	**134**	*e*P	**Pn**	**20 31 05.9**	**-0.6**
	baz=135						
LYUB	**Lan-yu**	**1.67**	**135**	*e*P	**Pn**	**20 31 04.1**	**-3.0**
	baz=135						
HSN1	**Hsinchu**	**1.72**	**22**	*e*P	**Pn**	**20 31 08.7**	**+0.9**
	baz=22						
SBCB	**Hsinchu**	**1.72**	**21**	*e*P	**Pn**	**20 31 07.0**	**-0.8**
	baz=21						
HSN	**Hsinchu**	**1.72**	**21**	*e*P	**Pb**	**20 31 09.8**	**0.0**
	baz=21						
LATG	**Datong**	**1.75**	**40**	*e*P	**Pn**	**20 31 08.0**	**-0.4**
	baz=39						
LATG				*e*S	**Sn**	**20 31 31.7**	**+1.3**
	baz=39						
NSK	**Sanguang**	**1.77**	**33**	*e*P	**Pn**	**20 31 07.9**	**-0.7**
	baz=33						
NSK				*e*S	**Sn**	**20 31 32.2**	**+1.3**
	baz=33						
YHNB	**Yeheng**	**1.78**	**33**	*e*P	**Pn**	**20 31 08.0**	**-0.7**
	baz=33						
NDT	**Datong Townshi**	**1.79**	**38**	*e*P	**Pn**	**20 31 08.6**	**-0.3**
	baz=38						
NDT				*e*S	**Sb**	**20 31 34.3**	**+0.9**
	baz=38						
ENA	**Nanau**	**1.81**	**47**	*e*P	**Pn**	**20 31 08.8**	**-0.2**
	baz=46						
EWUT	**Wuta**	**1.84**	**47**	*e*P	**Pn**	**20 31 09.3**	**-0.2**
	baz=47						
ENTT	**Nioudou**	**1.85**	**38**	*e*P	**Pn**	**20 31 09.8**	**+0.1**
	baz=38						
ENTT				*e*S	**Sb**	**20 31 36.1**	**+1.0**
	baz=38						
NWLT	**Wulai**	**1.93**	**35**	*e*P	**Pn**	**20 31 10.1**	**-0.7**
	baz=34						
NDS	**Dongshan**	**1.94**	**42**	*e*P	**Pn**	**20 31 11.6**	**+0.8**
	baz=41						
NDS				*e*S	**Sn**	**20 31 36.3**	**+1.4**
	baz=41						
VWUC	**VWUC**	**1.96**	**337**	*e*P	**Pn**	**20 31 09.1**	**-2.1**
	baz=336						
FUSB	**Fushanzhiwuyua**	**1.96**	**37**	*e*P	**Pn**	**20 31 10.6**	**-0.7**
	baz=36						
TWE	**Neicheng**	**1.98**	**39**	*e*P	**Pn**	**20 31 11.7**	**+0.3**
	baz=39						
TWE				*e*S	**Sb**	**20 31 38.9**	**+0.4**
	baz=39						
TWC	**Suao**	**2.00**	**45**	*e*P	**Pn**	**20 31 12.1**	**+0.3**
	baz=45						
NHDH	**Xindian Distri**	**2.09**	**32**	*e*P	**Pn**	**20 31 13.3**	**+0.4**
	baz=32						
KNM	**Kinmen**	**2.10**	**306**	*e*P	**Pn**	**20 31 12.6**	**-0.5**
	baz=303						
TWA	**Mucha**	**2.14**	**33**	*e*P	**Pn**	**20 31 15.6**	**+2.0**
	baz=33						
PTMZ	**Houxiangcun**	**2.14**	**330**	*e*P	**Pn**	**20 31 09.5**	**-4.1**
	baz=329						
TWS1	**Kuangyinshan**	**2.16**	**28**	*e*P	**Pn**	**20 31 13.2**	**-0.7**
	baz=28						
KNMB	**Chin-men Tao**	**2.17**	**306**	*e*P	**Pn**	**20 31 12.5**	**-1.5**
	baz=306						
KNMB				*e*S	**Sb**	**20 31 43.6**	**-0.4**
	baz=306						
NTC	**Toucheng**	**2.17**	**40**	*e*P	**Pn**	**20 31 14.1**	**+0.1**
	baz=40						
TIPB	**Shuangxi**	**2.26**	**38**	*e*P	**Pn**	**20 31 14.8**	**-0.5**
	baz=38						
TIPB				*e*S	**Sb**	**20 31 45.8**	**-1.0**
	baz=38						
YM01	**YM01**	**2.27**	**30**	*e*P	**Pn**	**20 31 14.5**	**-1.0**
	baz=30						
ANP	**Anpu**	**2.28**	**29**	*e*P	**Pb**	**20 31 19.3**	**-0.2**
	baz=29						
NWF	**Wu-fen Shan**	**2.31**	**35**	*e*P	**Pn**	**20 31 15.6**	**-0.5**
	baz=35						
WFSB	**Wu-fen Shan**	**2.31**	**35**	*e*P	**Pn**	**20 31 15.5**	**-0.5**
	baz=35						
QZH	**Quanzhou**	**2.35**	**319**	Pn	**Pn**	**20 31 15.6**	**-0.8**
QZH				Sn	**Sn**	**20 31 41.8**	**-3.1**
QZH				smax	smax		
	comp=N,400nm,0.7s						
QZH				smax	smax		
	comp=E,440nm,0.6s						
TWB1	**Santiao Chiao**	**2.38**	**40**	*e*P	**Pn**	**20 31 17.1**	**+0.1**
	baz=40						
SXI1	**Grass Mountain**	**2.38**	**37**	*e*P	**Pn**	**20 31 16.4**	**-0.7**
	baz=37						
ZPLA	**Ao Xicun**	**2.46**	**288**	*e*P	**Pn**	**20 31 16.1**	**-1.8**
	baz=288						
ZPLA				*e*S	**Sb**	**20 31 51.7**	**-0.6**
	baz=288						
DSXP	**Dongshan**	**2.69**	**282**	*e*P	**Pn**	**20 31 19.5**	**-1.7**
	baz=281						
DSXP				*e*S	**Sb**	**20 31 58.3**	**-0.8**
	baz=281						
AXDP	**Jialang**	**2.73**	**309**	*e*P	**Pn**	**20 31 19.8**	**-1.9**
	baz=308						
JYNG	**Yonagunijimaku**	**2.73**	**62**	P	**Pn**	**20 31 21.9**	**+0.2**
JYNG				*e*S	**Sn**	**20 31 55.7**	**+1.3**
YOJ	**Yonaguni jima**	**2.79**	**62**	P	**Pn**	**20 31 22.9**	**+0.4**
YOJ				*e*S	**Sn**	**20 31 56.7**	**+0.8**
MATB	**Ma-tsu**	**2.97**	**354**	*e*P	**Pn**	**20 31 23.2**	**-1.8**
	baz=353						
MSUT	**Lienchiang**	**2.99**	**353**	*e*P	**Pn**	**20 31 25.3**	**0.0**
	baz=353						
MHZQ	**Yeshan**	**3.12**	**339**	*e*P	**Pn**	**20 31 26.3**	**-0.9**
	baz=338						
HATJ	**Hateruma jima**	**3.33**	**74**	P	**Pn**	**20 31 29.3**	**-0.7**
HATJ				*e*S	**Sn**	**20 32 08.9**	**-0.3**
IRIF	**Iriomote-Funau**	**3.34**	**69**	P	**Pn**	**20 31 30.2**	**0.0**
LYJJ	**Jianjiangzhen**	**3.39**	**352**	*e*P	**Pn**	**20 31 29.2**	**-1.6**
	baz=351						
JKRS	**Kuro-shima**	**3.56**	**72**	P	**Pn**	**20 31 32.7**	**-0.4**
JKRS				*e*S	**Sn**	**20 32 16.6**	**+1.8**
JIJ	**Ishigaki jima**	**3.71**	**71**	P	**Pn**	**20 31 34.3**	**-0.9**
JIJ				*e*S	**Sn**	**20 32 18.1**	**-0.5**
XPSS	**Dashiqiu**	**3.73**	**358**	*e*P	**Pn**	**20 31 33.6**	**-1.8**
	baz=358						
JISG	**Ishigakijimahi**	**3.93**	**68**	P	**Pn**	**20 31 37.3**	**-0.9**
SXFK	**Yanhouchang**	**4.01**	**324**	*e*P	**Pn**	**20 31 38.2**	**-1.2**
	baz=323						
JTJ	**Tarama**	**4.28**	**69**	P	**Pn**	**20 31 43.0**	**0.0**
JTJ				*e*S	**Sn**	**20 32 32.7**	**0.0**
WHN	**Wuhan**	**9.05**	**325**	⇓P	Pn	20 33 00.3	+12
WHN				S	**Sn**	**20 34 36.3**	**+6.2**
WHN				LR	LR		
	comp=N,810nm,3.8s						
WHN				LR	LR		
	comp=E,670nm,3.3s						
GYA	**Guiyang**	**12.80**	**288**	*e*P	Pn	20 33 44.9	+4.8
KSRS	**Korea Array**	**15.66**	**23**	Pn	**P**	**20 34 22.7**	**+0.1**
	baz=200,slow=13,SNR=2.0						
CMAR	**Chiang Mai Arr**	**20.50**	**261**	P	**P**	**20 35 16.5**	**+0.4**
	comp=E,0.7nm,0.8s,baz=71,slow=7.5,SNR=3.8						
CMAR				LR	LR	20 43 26.7	
	comp=E,54nm,19.7s,baz=275,slow=38						
GTOI	**Gorontalo**	**22.57**	**173**	P	**P**	**20 35 38.2**	**-0.1**
MTKI	**Muara Teweh, K**	**24.55**	**193**	P	P	20 36 05.7	+7.9
SONM	**Songino Array**	**26.99**	**339**	P	**P**	**20 36 23.7**	**+4.0**
	comp=E,0.3nm,0.5s,baz=141,slow=9.3,SNR=1.2						
MKAR	**Makanchi Array**	**38.50**	**317**	P	**P**	**20 38 00.2**	**+0.1**
	comp=E,0.3nm,0.6s,baz=118,slow=9.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**40.65**	**328**	P	**P**	**20 38 20.6**	**+2.8**
	comp=E,0.4nm,0.5s,baz=110,slow=12,SNR=2.1						
KURBB	**Kurchatov Arra**	**42.36**	**321**	P	**P**	**20 38 34.3**	**+2.4**
	comp=E,0.4nm,0.8s,baz=60,slow=5.6,SNR=2.1						
WRA	**Warramunga Arr**	**45.00**	**161**	P	**P**	**20 38 50.3**	**-3.2**
	comp=E,0.8nm,0.7s,baz=343,slow=8.8,SNR=8.2						
ASAR	**Alice Springs**	**48.41**	**163**	P	**P**	**20 39 18.4**	**-1.7**
	comp=E,0.7nm,1.0s,baz=340,slow=7.2,SNR=7.8						

MOS ***18*** *20:32:45.4±0.9, 42°.17N×142°.94E, h77km, mb4.5/19, Error ellipse: s-maj=7.7km s-min=5.2km az=98.0*

NEIC ***18*** *20:32:45.9±1.4, 42°.16N±0°.06×142°.91E±0°.08, h61km±6km, mb4.4/33, Error ellipse: s-maj=8.9km s-min=8.2km az=77.0*

SKHL ***18*** *20:32:45.4±0.9, 42°.10N×143°.00E, h73km±6km, mb4.9/9*

NIED ***18*** *20:32:46.8, 42°.24N×142°.91E, h52km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.61; $M_{\theta\theta}$-0.64; $M_{\phi\phi}$-0.97; $M_{r\theta}$0.70; $M_{\theta\phi}$-0.96; $M_{\phi r}$2.04; Fault plane solution: $M_0$2.74000×10^{15} NP1: ϕ_s237.00000°, δ22.00000°, λ121.00000°. NP2: ϕ_s24.00000°, δ72.00000°, λ78.00000°.*

JMA ***18*** *20:32:46.7±0.1, 42°.24N×142°.91E, h52km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s14.00000°, δ63.00000°, λ76.00000°. NP2: ϕ_s222.00000°, δ30.00000°, λ115.00000°. Principal axes: T Plg69.0000°, Azm256.0000°; N Plg12.0000°, Azm20.0000°; P Plg17.0000°, Azm114.0000°;*

JMA Felt II J1.

IDC ***18*** *20:32:48.1±1.8, 42°.27N×142°.92E, h79km±12km, mb3.9/29, mb1 4.0/33, mb1mx3.8/73, mbtmp4.2/33, MS3.4/8, Ms1 3.4/8, ms1mx2.9/93 Error ellipse: s-maj=15.5km s-min=10.4km az=138.0*

ISC 18 20:32:45.6±0.6, **42°.12N**±0°.04×**142°.92E**±0°.03, **h62**km±4km, **n208**, σ**1**s.**24**/229, **mb4.4**/70, **15C-7D**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.20**	**323**	⇑P	**Pn**	**20 32 54.8**	**-0.5**
JNBK				*e*S	**Sn**	**20 33 01.6**	**-0.8**
ERM	**Erimo**	**0.21**	**121**	*ce*PN	**Pn**	**20 32 55.9**	**+0.5**
ERM				pmax	pmax		
	comp=Z,8μm,1.0s						
ERM	**Erimo**	**0.21**	**121**	Pn	**Pn**	**20 32 55.5**	**+0.1**
JEM	**Erimo**	**0.21**	**121**	⇑P	**Pn**	**20 32 55.9**	**+0.5**
JTHR	**Tokachihiroo**	**0.33**	**59**	⇑P	**Pn**	**20 32 56.2**	**0.0**
JSHD	**Hidakashinhida**	**0.44**	**311**	⇓P	**Pn**	**20 32 56.8**	**-0.3**
JSHD				*e*S	**Sn**	**20 33 05.1**	**-0.4**
JCH	**Churui**	**0.59**	**34**	⇑P	**Pn**	**20 32 58.2**	**-0.6**
JCH				*e*S	**Sn**	**20 33 07.2**	**-1.2**
JBT2	**Biratori 2**	**0.77**	**328**	P	**Pn**	**20 33 00.3**	**-0.6**
JIAM	**Iburiatsuma**	**0.89**	**304**	⇓P	**Pn**	**20 33 03.1**	**+0.8**
JOB	**Onbets**	**1.03**	**41**	⇑P	**Pn**	**20 33 04.6**	**+0.4**
JOB				*e*S	**Sn**	**20 33 18.3**	**+0.4**
JFR	**Furan**	**1.07**	**347**	⇓P	**Pn**	**20 33 03.3**	**-1.3**
JEW	**Eniwo**	**1.30**	**304**	⇓P	**Pn**	**20 33 07.8**	**+0.1**
JEW				*e*S	**Sn**	**20 33 23.5**	**-0.7**
JEW	**Eniwo**	**1.30**	**304**	Pn	**Pn**	**20 33 07.8**	**+0.1**
JEW				Sn	**Sn**	**20 33 23.2**	**-1.0**
JAR	**Ashorobuto**	**1.33**	**28**	⇑P	**Pn**	**20 33 07.5**	**-0.6**
JKB	**Kayabe**	**1.42**	**261**	⇓P	**Pn**	**20 33 09.7**	**+0.4**
JKB				*e*S	**Sn**	**20 33 27.2**	**+0.1**
JNB	**Noboribetsu**	**1.43**	**285**	⇓P	**Pn**	**20 33 08.9**	**-0.5**
JNB				*e*S	**Sn**	**20 33 26.1**	**-1.3**
JAB	**Ashibetsu**	**1.47**	**340**	P	**Pn**	**20 33 09.6**	**-0.4**
AKK	**Akkeshi**	**1.68**	**57**	*e*P	**Pn**	**20 33 12.0**	**-0.8**
JTM	**Tenmabayashi**	**1.93**	**227**	Pn	**Pn**	**20 33 17.6**	**+1.5**
JKA	**Kamikawa-asahi**	**2.00**	**354**	Pn	**Pn**	**20 33 17.7**	**+0.5**
JKA	**Kamikawa-asahi**	**2.00**	**354**	*e*P	**Pn**	**20 33 17.8**	**+0.6**
ASAJ	**Asahikawa**	**2.01**	**353**	P	**Pn**	**20 33 17.8**	**+0.6**
	comp=Z,128nm,0.3s,baz=206,slow=17,SNR=537						
ASAJ				S	**Sn**	**20 33 41.4**	**+0.2**
	comp=Z,50nm,0.3s,baz=324,slow=26,SNR=8.9						
ASAJ				LR	LR	20 34 23.8	
	comp=Z,237nm,20.2s,baz=248,slow=52						
NMR	**Nemuro--Hokkai**	**2.42**	**58**	*e*PN	**Pn**	**20 33 22.1**	**-0.6**
NMR				*e*S	**Sn**	**20 33 50.1**	**-1.1**
NMR	**Nemuro--Hokkai**	**2.42**	**58**	*e*P	**Pn**	**20 33 22.1**	**-0.6**
NMR				*e*S	**Sn**	**20 33 50.1**	**-1.1**
GLVR	**Golovnino**	**2.50**	**49**	*e*PN	**Pn**	**20 33 24.5**	**+0.6**
GLVR				*e*S	**Sn**	**20 33 52.8**	**-0.5**
GLVR				pmax	pmax		
	comp=Z,198nm,0.2s						
GLVR				smax	smax		
	comp=N,1μm,0.3s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
GLVR	**Golovnino**	**2.50**	**49**	*e*P	**Pn**	**20 33 24.5**	**+0.6**
GLVR				AMB	AMB	20 33 25.0	
	comp=E,200nm,0.3s						
GLVR				*e*S	**Sn**	**20 33 52.8**	**-0.5**
GLVR				A	A	20 33 56.0	
	comp=E,1μm,0.3s						
GLVR				A	A	20 33 56.0	
	comp=E,1μm,0.3s						
RUSJ	**Misakicho**	**2.62**	**40**	*e*PN	**Pn**	**20 33 26.1**	**+0.7**
RUSJ				*e*S	**Sn**	**20 33 57.0**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**2.88**	**47**	*e*PN	**Pn**	**20 33 30.3**	**+1.2**
YUK				*e*S	**Sn**	**20 34 03.0**	**+0.5**
YUK				pmax	pmax		
	comp=Z,217nm,0.2s						
YUK				smax	smax		
	comp=N,510nm,0.5s						
YUK				smax	smax		
	comp=E,647nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.88**	**47**	*e*P	**Pn**	**20 33 29.4**	**+0.3**
YUK				AMB	AMB	20 33 31.6	
	comp=E,220nm,0.3s						
YUK				*e*S	**Sn**	**20 34 02.4**	**-0.1**
YUK				A	A	20 34 04.4	
	comp=E,510nm,0.5s						
YUK				A	A	20 34 04.4	
	comp=E,650nm,0.5s						
SHO	**Shikotan**	**3.36**	**57**	*e*PN	**Pn**	**20 33 35.7**	**+0.1**
SHO				*e*S	**Sn**	**20 34 13.4**	**-0.9**
SHO				pmax	pmax		
	comp=Z,27nm,0.2s						
SHO				smax	smax		
	comp=E,353nm,0.3s						
SHO				smax	smax		
	comp=N,222nm,0.5s						
SHO	**Shikotan**	**3.36**	**57**	*e*P	**Pn**	**20 33 35.7**	**+0.1**
SHO				AMB	AMB	20 33 36.2	
	comp=N,30nm,0.2s						
SHO				*e*S	**Sn**	**20 34 13.4**	**-0.9**
SHO				A	A	20 34 15.4	
	comp=N,220nm,0.5s						
SHO				A	A	20 34 15.4	
	comp=N,350nm,0.5s						
JMM	**Marumori**	**4.55**	**202**	Pn	**Pn**	**20 33 52.7**	**+0.8**
KUR	**Kuril'sk**	**4.75**	**47**	⇑*i*PN	**Pn**	**20 33 57.3**	**+2.7**
KUR				*i* S	**Sn**	**20 34 52.4**	**+4.1**
KUR				pmax	pmax		
	comp=Z,108nm,0.4s						
KUR				pmax	pmax		
	comp=E,48nm,0.5s						
KUR				pmax	pmax		
	comp=N,46nm,0.4s						
KUR				smax	smax		
	comp=E,116nm,0.6s						
KUR				smax	smax		
	comp=N,68nm,0.3s						
KUR	**Kuril'sk**	**4.75**	**47**	*i* P	**Pn**	**20 33 54.8**	**+0.2**
KUR				AMB	AMB	20 34 13.8	
	comp=N,110nm,0.4s						

KUR *i* S **Sn** **20 34 47.4 -0.9**
KUR A A 20 35 06.7
comp=N,170nm,0.5s
KUR A A 20 35 06.7
comp=N,120nm,0.5s
YSS Yuzh-Sakhalins 4.83 359 *e*PN **Pn** **20 33 57.4 +1.7**
YSS *e*S **Sn** **20 34 52.2 +1.9**
YSS pmax pmax
comp=Z,40nm,0.6s
YSS smax smax
comp=N,30nm,0.6s
YSS Yuzh-Sakhalins 4.83 359 Pn **Pn** **20 33 54.6 -1.1**
YSS Yuzh-Sakhalins 4.83 359 *e*P **Pn** **20 33 57.4 +1.7**
YSS AMB AMB 20 34 01.4
comp=N,40nm,0.6s
JSD Sado 5.42 223 Pn **Pn** **20 34 06.0 +2.2**
JYT Yasato 6.25 201 Pn **Pn** **20 34 13.8 -1.4**
MJB9 Matsu-Tunnel 6.66 215 Pn **Pn** **20 34 21.8 +1.0**
MAJO Matsushiro 6.66 215 *i* PN **Pn** **20 34 25.4 +4.6**
MAJO Matsushiro 6.66 215 Pn **Pn** **20 34 19.7 -1.2**
MJAR Matsushiro Arr 6.66 215 P **Pn** **20 34 24.3 +3.5**
comp=N,0.8nm,0.3s,baz=35,slow=12,SNR=20
MJAR Matsushiro Arr 6.66 215 **Pn** **20 34 21.9 +1.0**
UGL Uglegorsk 6.98 355 *e*PN **Pn** **20 34 28.0 +2.9**
UGL pmax pmax
comp=Z,110nm,1.1s
UGL Uglegorsk 6.98 355 *e*P **Pn** **20 34 26.6 +1.5**
UGL AMB AMB 20 34 29.2
comp=Z,80nm,0.8s
JGF Kuroka 7.82 215 Pn **Pn** **20 34 39.3 +2.5**
USRK Ussuriysk Ar. 8.25 288 P **Pn** **20 34 43.8 +1.2**
baz=88,slow=14,SNR=10
USRK LR LR 20 38 07.9
comp=Z,142nm,18.6s,baz=167,slow=39
USRK Ussuriysk Ar. 8.25 288 Pn **Pn** **20 34 41.8 -0.7**
TYV Tymovskoe 8.74 359 *e*PN **Pn** **20 34 52.1 +2.9**
TYV *e*S **Sn** **20 36 27.4 +1.2**
TYV pmax pmax
comp=Z,18nm,0.8s
TYV pmax pmax
comp=Z,100nm,3.9s
TYV Tymovskoe 8.74 359 *e*P **Pn** **20 34 51.0 +1.8**
TYV AMB AMB 20 34 52.7
comp=Z,20nm,0.8s
JHJ Hachijo jima 2 9.32 196 P **Pn** **20 34 56.7 -0.6**
comp=Z,14nm,0.3s,baz=291,slow=24,SNR=6.8
JHJ S **Sn** **20 36 34.9 -5.7**
comp=Z,25nm,0.3s,baz=81,slow=21,SNR=6.8
JHJ LR LR 20 38 48.5
comp=Z,130nm,20.0s,baz=111,slow=38
KLR Kul'dur 10.55 316 P **Pn** **20 35 16.5 +2.6**
comp=Z,0.1nm,0.3s,baz=123,slow=14,SNR=8.6
KLR LR LR 20 39 49.1
comp=Z,136nm,18.8s,baz=214,slow=40
KLR Kul'dur 10.55 316 *i* PN **Pn** **20 35 15.8 +1.9**
KLR Kul'dur 10.55 316 *e*P **Pn** **20 35 15.8 +1.9**
NKL Nikolayevsk 11.13 353 *e*P **Pn** **20 35 21.9 +0.1**
NKL AMB AMB 20 35 25.8
comp=Z,20nm,0.7s
OKH Okha 11.43 0 *e*P **Pn** **20 35 26.5 +0.6**
OKH AMB AMB 20 35 26.9
comp=Z,50nm,0.4s
KSRS Korea Array 12.44 253 P Pn 20 35 44.8 +5.1
comp=Z,0.9nm,0.3s,baz=63,slow=14,SNR=21
KSRS LR LR 20 39 59.7
comp=Z,128nm,21.3s,baz=245,slow=34
ZEA Zeya 15.62 323 *e*P **Pn** **20 36 22.1 +0.5**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA Zeya 15.62 323 *e*P **Pn** **20 36 20.0 -1.6**
XLT XiLinHaoTe 19.68 284 *e*P **Pn** **20 37 15.1 +3.6**
XLT pmax pmax
comp=Z,13nm,0.7s
XLT pmax pmax
comp=Z,140nm,3.9s
TIA Tai'an 20.81 262 *e*P **P** **20 37 15.9 -5.9**
TIA pmax pmax
comp=Z,16nm,0.6s
YAK Yakutsk 21.45 343 P **P** **20 37 25.7 -2.7**
comp=Z,4.2nm,0.3s,baz=335,slow=1.9,SNR=9.4
YAK Yakutsk 21.45 343 *e*P **P** **20 37 24.9 -3.4**
YAK pmax pmax
comp=Z,10.0nm,0.6s
YAK pmax pmax
comp=N,2.0nm,0.8s
SEY Seymchan 21.58 12 P **P** **20 37 27.4 -2.3**
comp=N,4.7nm,0.8s,baz=198,slow=7.8,SNR=16
SEY Seymchan 21.58 12 *ce*P **P** **20 37 26.8 -2.9**
SEY pmax pmax
comp=Z,6.0nm,0.9s
HHC Hu-ho-hao-te 23.46 277 *e*P **P** **20 37 49.0 -0.6**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.2s
ULN Ulaanbaatar 25.84 295 *ce*P **P** **20 38 11.1 -0.1**
ULN pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 25.84 295 P **P** **20 38 10.9 -0.2**
ULN Ulaanbaatar 25.84 295 *e*P **P** **20 38 11.1 -0.1**
SONM Songino Array 26.28 295 P **P** **20 38 15.4 +0.3**
comp=Z,9.6nm,1.0s,baz=83,slow=8.9,SNR=32
SONM LR LR 20 48 34.6
comp=Z,146nm,19.3s,baz=145,slow=36
SONM Songino Array 26.28 295 P **P** **20 38 14.7 -0.4**
ZAK Zakamensk 28.34 301 *e*P **P** **20 38 32.8 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
ZAK Zakamensk 28.34 301 *e*P **P** **20 38 32.8 -0.7**
BILL Bilibino 28.83 18 *e*P **P** **20 38 35.8 -1.7**
BILL *e**PP **pP** **20 38 53.8 +0.8**
BILL pmax pmax
comp=Z,6.0nm,1.9s
MOY Mondy 29.82 303 *e*P **P** **20 38 47.2 +0.5**
MOY pmax pmax
comp=Z,12nm,1.6s
H11N2 WAKE ISLAND Hy 30.17 130 T T 21 10 21.8
baz=324,slow=75,SNR=102
H11N1 WAKE ISLAND Hy 30.18 130 T T 21 10 36.0
baz=324,slow=75,SNR=83
H11N3 WAKE ISLAND Hy 30.18 130 T T 21 10 25.4
baz=324,slow=75,SNR=88
GTA Gaotai 32.50 280 ⇑P **P** **20 39 11.4 +1.0**
GTA pP pP 20 39 18.3 -7.4
GTA sP sP 20 39 22.6 -10
GTA pmax pmax
comp=Z,10.0nm,0.8s
PZH PanZhiHua 37.02 258 P **P** **20 39 50.3 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
GOMU GeErMu 37.36 277 P **P** **20 39 53.4 +0.8**
GOMU pP pP 20 39 57.0 -11
GOMU sP sP 20 39 57.8 -18
GOMU pmax pmax
comp=Z,10.0nm,0.8s
GOMU pmax pmax
comp=Z,52nm,7.2s
ZAA0 Zalesovo Array 39.52 308 P **P** **20 40 09.9 -0.1**
ZALV Zalesovo Beam 39.52 308 P **P** **20 40 10.2 +0.2**
comp=Z,11nm,0.7s,baz=89,slow=7.7,SNR=43
ZALV PcP **PcP** **20 42 17.2 +0.9**
comp=Z,2.1nm,0.8s,baz=70,slow=4.7,SNR=4.9
ZALV LR LR 20 56 08.1
comp=Z,75nm,18.5s,baz=84,slow=36
ZALV Zalesovo Beam 39.52 308 P **P** **20 40 10.0 0.0**
WMQ Urumqi 39.80 292 *e*P **P** **20 40 14.8 +2.2**
MK31 Makanchi Array 42.59 298 *i* P **P** **20 40 35.2 -0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 42.59 298 **P** **20 40 35.3 0.0**
MK31 IAmb IAmb 20 40 36.3
comp=Z,7.1nm,0.9s
MKAR Makanchi Array 42.59 298 P **P** **20 40 35.5 +0.2**
comp=Z,8.0nm,0.9s,baz=82,slow=9.5,SNR=53
MKAR PcP **PcP** **20 42 27.0 +0.5**
comp=Z,1.0nm,0.7s,baz=70,slow=2.0,SNR=3.9
KDAK Kodiak Island 42.62 46 P **P** **20 40 35.0 -0.4**
comp=Z,5.2nm,0.9s,baz=333,slow=13,SNR=2.4
MAKZ Makanchi 42.79 298 P **P** **20 40 37.0 +0.1**
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
MAKZ Makanchi 42.79 298 P **P** **20 40 37.0 +0.1**
MAKZ IAmb IAmb 20 40 38.0
comp=Z,9.7nm,0.9s
NEA2 Nenana 43.70 35 P **P** **20 40 45.4 +1.4**
CHTO Chiang Mai 43.83 252 P **P** **20 40 46.8 +1.2**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 43.83 252 **P** **20 40 46.8 +1.2**
CHTO IAmb IAmb 20 40 48.0
comp=Z,5.0nm,0.8s
KURK Kurchatov 43.87 304 P **P** **20 40 45.3 -0.2**
KURK pmax pmax
comp=Z,16nm,0.8s
KURK Kurchatov 43.87 304 P **P** **20 40 45.3 -0.2**
KURK Kurchatov 43.87 304 *e*P **P** **20 40 45.8 +0.3**
KURBB Kurchatov Arra 43.95 304 P **P** **20 40 46.2 0.0**
comp=Z,11nm,0.5s,baz=78,slow=9.0,SNR=100
CMAR Chiang Mai Arr 44.07 251 P **P** **20 40 48.8 +1.3**
comp=Z,2.0nm,0.7s,baz=46,slow=8.0,SNR=21
CMAR LR LR 20 59 43.7
comp=Z,21nm,19.0s,baz=75,slow=37
CMAR Chiang Mai Arr 44.07 251 P **P** **20 40 47.6 +0.1**
CMAR Chiang Mai Arr 44.07 251 P **P** **20 40 47.5 +0.1**
COLA College 44.20 35 *i* P **P** **20 40 46.8 -1.2**
COLA pmax pmax
comp=Z,4.0nm,0.8s
KNK Knik Glacier 44.25 40 P **P** **20 40 49.3 +0.8**
KNK IAmb IAmb 20 41 07.3
comp=Z,9.1nm,1.3s
IL31 44.62 35 P **P** **20 40 51.9 +0.6**
ILAR Eielson Array 44.62 35 P **P** **20 40 51.5 +0.1**
comp=Z,1.6nm,0.9s,baz=272,slow=7.2,SNR=15
ILAR Eielson Array 44.62 35 P **P** **20 40 51.8 +0.4**
PDGK Podgornoye 45.59 294 *i* P **P** **20 40 58.3 -1.2**
PDGK pmax pmax
comp=Z,4.0nm,0.8s
TAPN Taplejung 46.92 270 *e*P **P** **20 41 11.5 +1.2**
RAMN Ramite 47.97 270 *e*P **P** **20 41 19.3 +0.9**
comp=Z,15nm,0.3s
GUN Gumba 47.98 272 *e*P **P** **20 41 19.3 +0.7**
comp=Z,43nm,0.5s
BVAR Borovoye Array 48.13 309 P **P** **20 41 19.5 +0.5**
comp=Z,3.1nm,0.3s
BRVK Borovoye 48.18 309 *i* P **P** **20 41 19.6 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 48.18 309 *e*P **P** **20 41 19.6 +0.2**
KKN Kakani 48.49 272 *e*P **P** **20 41 23.3 +0.9**
comp=Z,12nm,0.6s
PKI Pulchoki 48.51 272 *e*P **P** **20 41 23.3 +0.6**
OTUK Ortayu 48.52 303 *i* P **P** **20 41 22.6 +0.5**
OTUK pmax pmax
comp=Z,4.0nm,0.8s
PKIN Phulchoki 48.52 272 *e*P **P** **20 41 23.7 +1.0**
comp=Z,7.5nm,0.4s
DMN Danan 48.72 272 *e*P **P** **20 41 25.2 +1.0**
GKN Gorkha 48.85 273 *e*P **P** **20 41 25.6 +0.5**
AAK Ala-Archa 49.24 295 P **P** **20 41 27.6 -0.3**
comp=Z,2.2nm,0.4s,baz=129,slow=5.1,SNR=10
AAK Ala-Archa 49.24 295 *i* P **P** **20 41 26.7 -1.2**
AAK pmax pmax
comp=Z,6.0nm,1.7s
AAK Ala-Archa 49.24 295 P **P** **20 41 28.1 +0.2**
AAK IAmb IAmb 20 41 28.5
comp=Z,3.0nm,0.4s
AAK Ala-Archa 49.24 295 *e*P **P** **20 41 26.7 -1.2**
DANN Dangsing 49.32 274 *e*P **P** **20 41 29.9 +1.1**
comp=Z,32nm,0.4s
INK Inuvik 49.35 29 P **P** **20 41 27.7 -0.5**
comp=Z,1.3nm,0.4s,baz=299,slow=4.7,SNR=9.3
INK Inuvik 49.35 29 P **P** **20 41 28.2 +0.1**
KSH Kashi 49.54 291 P P 20 41 35.3 +5.1
KOLN Koldanda 49.75 273 *e*P **P** **20 41 32.9 +0.9**
comp=Z,8.0nm,0.3s
PYUN Piuthan 50.02 274 *e*P **P** **20 41 34.9 +0.8**
comp=Z,12nm,0.5s
KK31 Karatay Array 51.70 297 P **P** **20 41 46.1 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KK31 Karatay Array 51.70 297 P **P** **20 41 46.1 -0.2**
KK31 IAmb IAmb 20 41 47.0
comp=Z,2.9nm,0.8s
KKAR Karatay Array 51.70 297 P **P** **20 41 46.1 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 51.70 297 P **P** **20 41 46.1 -0.2**
KKAR Karatay Array 51.70 297 P **P** **20 41 46.3 0.0**
KKAR IAmb IAmb 20 41 47.0
comp=Z,2.9nm,0.8s
SVE Sverdlovsk 52.18 316 *e*P **P** **20 41 50.3 +0.7**
SVE pmax pmax
comp=Z,16nm,0.9s
SVE Sverdlovsk 52.18 316 *e*P **P** **20 41 50.3 +0.7**
C36M Paulatuk 52.35 27 P **P** **20 41 50.6 0.0**
C36M IAmb IAmb 20 41 56.0
comp=Z,4.4nm,1.1s
BTK Batken 52.85 294 P **P** **20 41 54.6 -0.3**
BTK pmax pmax
comp=Z,9.0nm,1.5s
BTK Batken 52.85 294 P **P** **20 41 54.5 -0.3**
BTK IAmb IAmb 20 41 56.5
comp=Z,9.1nm,1.4s
ARU Arti 53.40 316 P **P** **20 41 58.4 -0.1**
comp=Z,1.2nm,0.4s,baz=41,slow=1.3,SNR=10
ARU LR LR 21 05 29.4
comp=Z,63nm,18.1s,baz=88,slow=37
ARU Arti 53.40 316 *d* P **P** **20 41 58.2 -0.3**
ARU 20 43 56.2
ARU S **S** **20 49 27.9 +2.2**
ARU SS **SS** **20 53 06.6 +0.8**
ARU pmax pmax
comp=Z,14nm,1.1s
ARU Arti 53.40 316 P **P** **20 41 58.4 -0.1**
ARU Arti 53.40 316 *e*P **P** **20 41 58.2 -0.3**
GAR Garm 53.69 293 P **P** **20 42 00.8 -0.3**
CHGR Chuyangaron 54.65 293 P **P** **20 42 07.1 -0.9**
CHGR pmax pmax
comp=Z,17nm,0.9s
CHGR Chuyangaron 54.65 293 P **P** **20 42 07.1 -0.9**
EUNU Eureka 54.99 9 P **P** **20 42 09.0 -0.8**
AB31 Akbulak array 55.63 308 *ll* *e*P **P** **20 42 15.0 +0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 55.63 308 P **P** **20 42 15.1 +0.2**
ABKAR IAmb IAmb 20 42 15.5
comp=Z,3.2nm,0.6s
ABKAR Akbulak array 55.63 308 P **P** **20 42 14.8 -0.1**
SPITS Spitsbergen Ar 55.77 348 P **P** **20 42 14.7 -0.8**
comp=Z,1.9nm,0.7s,baz=81,slow=10,SNR=9.0
AKTO Aktyubinsk 56.22 310 P **P** **20 42 19.5 +0.5**
comp=Z,0.7nm,0.4s,baz=84,slow=13,SNR=4.4
KIRV Kirov 56.94 321 P **P** **20 42 23.4 -0.6**
comp=Z,6.3nm,0.5s,baz=248,slow=2.6,SNR=3.7
KIRV Kirov 56.94 321 *ce*P **P** **20 42 22.5 -1.5**
RES Resolute Bay 57.39 15 P **P** **20 42 26.6 -0.4**
comp=Z,3.6nm,0.4s,baz=306,slow=6.3,SNR=32
RES Resolute Bay 57.39 15 P **P** **20 42 25.8 -1.2**
RES IAmb IAmb 20 42 27.1
comp=Z,3.4nm,0.6s
YKA Yellowknife Ar 58.85 32 P **P** **20 42 37.4 +0.1**
comp=Z,0.6nm,0.7s,baz=304,slow=6.4,SNR=12
ARCES ARCESS Array B 59.66 339 P **P** **20 42 42.7 -0.2**
comp=Z,0.8nm,0.5s,baz=55,slow=9.1,SNR=16
DAG Danmarks Havn 60.81 355 P **P** **20 42 50.1 -0.4**
DAG pmax pmax
comp=Z,4.0nm,0.8s
BELG Belogornoye 60.92 316 P **P** **20 42 51.2 -0.4**
comp=Z,12nm,0.8s,baz=302,slow=1.0,SNR=5.4
BELG Belogornoye 60.92 316 *i* P **P** **20 42 49.4 -2.2**
BELG pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 62.26 189 P **P** **20 43 01.7 +0.7**
comp=Z,0.6nm,0.5s,baz=0.5,slow=6.5,SNR=2.8
OBN Obninsk 64.75 322 *e* P **P** **20 43 15.8 -1.2**
OBN *e**PP **pP** **20 43 35.5 +1.8**
OBN *e* 20 43 49.7
OBN *e* 20 45 39.8
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 64.75 322 *e*P **P** **20 43 15.8 -1.2**
FINES FINESS Array B 64.87 332 P **P** **20 43 17.2 -0.5**
comp=Z,5.1nm,0.4s,baz=52,slow=6.9,SNR=81
KIV Kislovodsk 68.48 310 *e*P **P** **20 43 42.6 +1.4**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 68.48 310 P **P** **20 43 42.2 +1.0**
KIV IAmb IAmb 20 43 43.2
comp=Z,4.4nm,0.6s
KBZ Khabaz 68.50 310 P **P** **20 43 42.1 +1.0**
comp=Z,2.3nm,0.8s,baz=25,slow=6.3,SNR=7.7
KBZ Khabaz 68.50 310 *ce*P **P** **20 43 41.9 +0.8**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 68.50 310 *e*P **P** **20 43 41.9 +0.8**
SHA1 Shidzhatmaz 68.63 310 *i* P **P** **20 43 42.0 -0.3**
FCC Fort Churchill 68.95 28 P **P** **20 43 43.7 +0.1**
FCC pmax pmax
comp=Z,5.0nm,1.3s
FCC Fort Churchill 68.95 28 P **P** **20 43 43.7 +0.1**
FCC IAmb IAmb 20 43 60.0
comp=Z,4.7nm,1.3s
NB2 NORSAR Subarra 69.95 337 P **P** **20 43 49.0 -0.9**
comp=Z,0.7nm,0.5s,baz=35,slow=6.5
NOA NORSAR Array B 69.95 337 P **P** **20 43 49.4 -0.5**
comp=Z,1.8nm,0.7s,baz=36,slow=6.1,SNR=6.8
AKASG Malin Array Be 71.00 322 P **P** **20 43 55.9 -0.4**
comp=Z,1.5nm,0.5s,baz=46,slow=6.1,SNR=10.0
AKASG Malin Array Be 71.00 322 *i* P **P** **20 43 57.0 +0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 71.00 322 *ce*P **P** **20 43 55.1 -1.2**
NVAR Mina Array Bea 71.07 55 P **P** **20 43 58.5 +1.2**
comp=Z,0.4nm,0.7s,baz=316,slow=6.3,SNR=2.8
GURO Guroymak-BITLI 72.27 306 P **P** **20 44 05.7 +1.3**
GURO IAmb IAmb 20 44 06.8
comp=Z,5.9nm,1.1s
PDAR Pinedale Array 73.31 47 P **P** **20 44 11.5 +0.8**
comp=Z,0.4nm,0.6s,baz=211,slow=1.1,SNR=1.8
BUR08 Bucovina Ar. S 75.03 322 P **P** **20 44 20.4 0.0**
BUR08 IAmb IAmb 20 44 21.5
comp=Z,2.7nm,0.8s
BURAR Bucovina Array 75.04 322 P **P** **20 44 20.6 +0.1**
BURAR pmax pmax
comp=Z,2.0nm,0.7s
BURAR Bucovina Array 75.04 322 P **P** **20 44 20.6 +0.1**
BR131 Keskin Array S 76.35 311 P **P** **20 44 28.6 +0.4**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 76.35 311 P **P** **20 44 28.6 +0.4**
BR131 IAmb IAmb 20 44 29.4
comp=Z,2.8nm,0.8s
BRTR Keskin Array B 76.35 311 P **P** **20 44 28.9 +0.7**
comp=Z,1.0nm,0.7s,baz=49,slow=3.8,SNR=7.4
BRTR Keskin Array B 76.35 311 P **P** **20 44 28.3 +0.2**
BRTR Keskin Array B 76.35 311 P **P** **20 44 28.3 +0.2**
DPC Dobruska-Polom 76.76 328 *e*P **P** **20 44 30.8 +0.7**
DPC Dobruska-Polom 76.76 328 *e*P **P** **20 44 30.8 +0.7**
KRLC Kraliky 76.80 328 *e*P **P** **20 44 31.0 +0.7**
KRLC Kraliky 76.80 328 *e*P **P** **20 44 31.0 +0.7**
CLL Collm 77.26 330 *e*P **P** **20 44 33.0 +0.2**
CLL Collm 77.26 330 *e*P **P** **20 44 33.0 +0.2**
KHC Kasperske Hory 78.81 329 *e*P **P** **20 44 42.1 +0.6**
KHC Kasperske Hory 78.81 329 P **P** **20 44 42.4 +0.9**
KHC Kasperske Hory 78.81 329 *e*P **P** **20 44 42.1 +0.6**
GERES GERESS Array B 78.99 329 P **P** **20 44 42.7 +0.1**
comp=Z,0.3nm,0.5s,baz=46,slow=5.8,SNR=5.0
VTS Vitosha 79.69 319 P **P** **20 44 47.4 +0.8**
VTS pmax pmax
comp=Z,3.0nm,0.7s
VTS Vitosha 79.69 319 P **P** **20 44 47.4 +0.8**
VTS IAmb IAmb 20 44 48.4
comp=Z,2.6nm,0.7s
ITM Ithomi 84.48 317 P **P** **20 45 11.1 -0.5**
TXAR Lajitas Array 86.13 53 P **P** **20 45 20.3 +0.3**
comp=Z,0.6nm,0.7s,baz=238,slow=2.8,SNR=4.9
TORD Torodi Ar. Bea 114.45 318 PKP **PKiKP** **20 51 18.9 +0.1**
comp=Z,0.2nm,0.4s,baz=355,slow=1.7,SNR=1.9
H03N2 Juan Fernandez 146.09 89 T T 23 35 38.3
baz=300,slow=76,SNR=7.5
H03N3 Juan Fernandez 146.10 89 T T 23 35 37.4
baz=300,slow=76,SNR=9.1
H03N1 Juan Fernandez 146.10 89 T T 23 35 39.7
baz=300,slow=76,SNR=8.7

*NOU **18** 20:34:28.4,25.°76S×179.°74E,h475km,mb4.6/26,South of Fiji Islands*
*IDC **18** 20:34:30.4±2.0,25.°91S×179.°55E,h494km±20km, mb3.8/13,mb1 4.0/15,mb1mx3.6/42,mbtmp4.7/15,Error ellipse: s-maj=18.6km s-min=16.9km az=0.0*
*NEIC **18** 20:34:31.9±1.3,26.°0S±0.°1×179.°5E±0.°1,h505km±9km, mb4.4/42,Error ellipse: s-maj=19.0km s-min=17.4km az=97.0*
ISC 18 20:34:31.0±0.5,**26.°02S**±0.°08×**179.°50E**±0.°08,**h503**km, **n128,σ1$35/128,mb4.4/36,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.95**	**145**	P	**P**	**P**	**20 35 48.1**	**-0.9**
MARNC	**Mare, Loyalty**	**11.43**	**291**	P	**P**	**P**	**20 37 04.3**	**+0.8**
PINNC	**Pines Island,**	**11.50**	**285**	P	**P**	**P**	**20 37 06.5**	**+2.2**
OUENC	**Ouen Island, N**	**12.09**	**285**	P	**P**	**P**	**20 37 11.5**	**+1.0**
URZ	**Urewera**	**12.37**	**189**	P	**P**	**P**	**20 37 12.9**	**-0.3**
	3.5nm,0.3s,baz=40,slow=2.7,SNR=17							
URZ				S		**S**	**20 39 26.6**	**-0.4**
	0.6nm,0.3s,baz=241,slow=22,SNR=2.9							
URZ	**Urewera**	**12.37**	**189**	P	**P**	**P**	**20 37 11.2**	**-2.0**
URZ	**Urewera**	**12.37**	**189**	P	**P**	**P**	**20 37 13.9**	**+0.7**
ONTNC	**Ouen Toro**	**12.47**	**284**	P	**P**	**P**	**20 37 13.4**	**-1.1**
DZM	**Mont Dzumac**	**12.56**	**285**	P	**P**	**P**	**20 37 16.4**	**+0.8**
	2.6nm,0.3s,baz=108,slow=9.9,SNR=26							
DZM	**Mont Dzumac**	**12.56**	**285**	P	**P**	**P**	**20 37 16.9**	**+1.3**
BKZ	**Black Stump Fm**	**13.35**	**190**	P	**P**	**P**	**20 37 22.4**	**-1.3**
BKZ	**Black Stump Fm**	**13.35**	**190**	P	**P**	**P**	**20 37 25.0**	**+1.4**
QRZ	**Quartz Range**	**15.86**	**200**	P	**P**	**P**	**20 37 50.3**	**+0.4**
QRZ	**Quartz Range**	**15.86**	**200**	P	**P**	**P**	**20 37 51.1**	**+1.2**
TUWZ	**Tuamarina**	**16.04**	**195**	P	**P**	**P**	**20 37 50.2**	**-1.5**
KHZ	**Kahutara**	**17.07**	**195**	P	**P**	**P**	**20 38 03.2**	**+0.9**
ARMA	**Armidale**	**24.92**	**253**	P	**P**	**P**	**20 39 16.0**	**+2.3**
	baz=32,SNR=6.1							
ARMA	**Armidale**	**24.92**	**253**	P	**P**	**P**	**20 39 15.6**	**+1.9**
ARMA					IAmb	IAmb	20 39 16.8	
	comp=Z,11nm,0.8s							
ARMA	**Armidale**	**24.92**	**253**	P	**P**	**P**	**20 39 15.8**	**+2.1**
	comp=Z,16nm,2.5s							
EIDS	**Eidsvold**	**25.60**	**265**	P	**P**	**P**	**20 39 21.1**	**+1.5**
	baz=33,SNR=8.5							
EIDS	**Eidsvold**	**25.60**	**265**	P	**P**	**P**	**20 39 20.8**	**+1.2**
EIDS	**Eidsvold**	**25.60**	**265**	P	**P**	**P**	**20 39 20.5**	**+0.9**
MGCD	**Mangrove Creek**	**25.65**	**247**	P	**P**	**P**	**20 39 22.7**	**+2.8**
	baz=33,SNR=16							
MGCD	**Mangrove Creek**	**25.65**	**247**	P	**P**	**P**	**20 39 21.6**	**+1.6**
CNB	**Canberra Magne**	**27.44**	**243**	P	**P**	**P**	**20 39 38.7**	**+2.8**
	baz=35,SNR=6.5							
CNB	**Canberra Magne**	**27.44**	**243**	P	**P**	**P**	**20 39 37.6**	**+1.8**
RMQ	**Roma**	**27.54**	**262**	P	**P**	**P**	**20 39 39.2**	**+2.4**
	baz=35,SNR=9.3							
RMQ	**Roma**	**27.54**	**262**	P	**P**	**P**	**20 39 38.9**	**+2.1**
CAN	**Canberra**	**27.73**	**243**	P	**P**	**P**	**20 39 40.9**	**+2.5**
CAN					IAmb	IAmb	20 39 40.9	
	comp=Z,9.9nm,0.9s							
CAN	**Canberra**	**27.73**	**243**	P	**P**	**P**	**20 39 40.9**	**+2.5**
CMSA	**Cobar Meteorol**	**30.06**	**252**	P	**P**	**P**	**20 39 59.9**	**+1.3**
	baz=38,SNR=19							
CMSA	**Cobar Meteorol**	**30.06**	**252**	P	**P**	**P**	**20 40 00.1**	**+1.4**
TOO	**Toolangi**	**30.95**	**240**	P	**P**	**P**	**20 40 06.8**	**+0.5**
	baz=38,SNR=9.1							
TOO	**Toolangi**	**30.95**	**240**			**P**	**20 40 07.8**	**+1.5**
TOO					IAmb	IAmb	20 40 08.8	
	comp=Z,11nm,0.8s							
TOO	**Toolangi**	**30.95**	**240**	P	**P**	**P**	**20 40 08.0**	**+1.7**
CTA	**Charters Tower**	**31.10**	**274**	P	**P**	**P**	**20 40 08.6**	**+0.8**
	comp=Z,24nm,0.5s,baz=98,slow=10,SNR=26							
CTAO	**Charters Tower**	**31.10**	**274**	P	**P**	**P**	**20 40 08.9**	**+1.1**
QLP	**Quilpie**	**31.56**	**261**	P	**P**	**P**	**20 40 12.6**	**+1.0**
	baz=39,SNR=8.6							
QLP	**Quilpie**	**31.56**	**261**	P	**P**	**P**	**20 40 12.7**	**+1.0**
BRAT	**Ballarat**	**32.17**	**240**	P	**P**	**P**	**20 40 18.8**	**+2.2**
	comp=Z,13nm,0.6s							
MTSU	**Mount Surprise**	**33.45**	**276**	P	**P**	**P**	**20 40 28.4**	**+0.5**
	baz=41,SNR=26							
STKA	**Stephens Creek**	**33.56**	**251**	P	**P**	**P**	**20 40 29.4**	**+0.8**
	comp=Z,12nm,0.5s,baz=96,slow=11,SNR=92							
STKA	**Stephens Creek**	**33.56**	**251**	P	**P**	**P**	**20 40 30.0**	**+1.4**
	baz=41,SNR=74							
STKA	**Stephens Creek**	**33.56**	**251**	P	**P**	**P**	**20 40 29.9**	**+1.4**
STKA	**Stephens Creek**	**33.56**	**251**	P	**P**	**P**	**20 40 30.2**	**+1.6**
ARPS	**Mount Arapiles**	**33.69**	**242**	P	**P**	**P**	**20 40 29.9**	**+0.3**
	baz=41,SNR=6.3							
ARPS	**Mount Arapiles**	**33.69**	**242**	P	**P**	**P**	**20 40 30.7**	**+1.1**
	comp=Z,18nm,0.8s							

KRVT	**Keravat (AS076**	**34.04**	**305**	P		**P**	**20 40 32.5 -0.3**
	comp=Z,66nm,0.5s,baz=130,slow=5.3,SNR=4.1						
INKA	**Innaminka**	**34.52**	**258**	P		**P**	**20 40 38.8 +2.1**
PMG	**Port Moresby**	**34.82**	**292**	P		**P**	**20 40 39.4 0.0**
	comp=Z,11nm,0.7s,baz=86,slow=6.8,SNR=3.9						
HTT	**Hallett**	**35.83**	**248**	P		**P**	**20 40 48.5 +0.8**
	baz=43,SNR=32						
HTT	**Hallett**	**35.83**	**248**	P		**P**	**20 40 49.2 +1.5**
COEN	**Coen**	**36.06**	**282**	P		**P**	**20 40 50.6 +0.8**
COEN				IAmb		IAmb	20 40 51.5
	comp=Z,15nm,0.7s						
COEN	**Coen**	**36.06**	**282**	P		**P**	**20 40 50.7 +1.0**
NAPP	**Napperby**	**36.48**	**249**	P		**P**	**20 40 54.3 +1.4**
LCRK	**Leigh Creek**	**36.49**	**253**	P		**P**	**20 40 54.4 +1.3**
QIS	**Mount Isa**	**36.94**	**270**	P		**P**	**20 40 57.3 +0.3**
	baz=44,SNR=14						
QIS	**Mount Isa**	**36.94**	**270**	P		**P**	**20 40 57.7 +0.7**
BBOO	**Buckleboo**	**38.23**	**249**	P		**P**	**20 41 07.6 +0.2**
	baz=46,SNR=21						
BBOO	**Buckleboo**	**38.23**	**249**	P		**P**	**20 41 07.7 +0.3**
BBOO				IAmb		IAmb	20 41 08.3
	comp=Z,18nm,0.9s						
BBOO	**Buckleboo**	**38.23**	**249**	P		**P**	**20 41 08.2 +0.8**
OOD	**Oodnadatta**	**38.96**	**257**	P		**P**	**20 41 14.9 +1.6**
MULG	**Mulgathing**	**40.09**	**253**	P		**P**	**20 41 22.9 +0.5**
AS31	**Alice Springs**	**41.28**	**263**	P		**P**	**20 41 32.7 +0.5**
AS31				IAmb		IAmb	20 41 33.8
	comp=Z,7.1nm,0.5s						
ASAR	**Alice Springs**	**41.28**	**263**	P		**P**	**20 41 32.4 +0.3**
	comp=Z,11nm,0.5s,baz=90,slow=8.2,SNR=202						
ASAR				ScP		**ScP**	**20 46 22.6 +1.7**
	comp=Z,0.7nm,0.7s,baz=107,slow=4.5,SNR=4.6						
ASAR				S		**S**	**20 47 09.4 -0.3**
	comp=Z,1.2nm,0.8s,baz=93,slow=16,SNR=9.8						
ASAR	**Alice Springs**	**41.28**	**263**	P		**P**	**20 41 32.8 +0.7**
WR0	**Warramunga Arr**	**41.67**	**269**	P		**P**	**20 41 35.3 +0.1**
WR0				IAmb		IAmb	20 41 35.9
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**41.84**	**269**	P		**P**	**20 41 36.7 +0.1**
WRAB	**Tennant Creek**	**41.85**	**269**	P		**P**	**20 41 36.6 0.0**
WRAB				IAmb		IAmb	20 41 37.3
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**41.86**	**269**	P		**P**	**20 41 36.6 -0.1**
	comp=Z,18nm,0.7s,baz=105,slow=7.7,SNR=113						
WRA				ScP		**ScP**	**20 46 25.9 +2.6**
	comp=Z,1.7nm,1.0s,baz=102,slow=4.1,SNR=5.0						
WRA				S		**S**	**20 47 14.8 -3.2**
	comp=Z,2.3nm,1.1s,baz=100,slow=14,SNR=8.2						
WRA	**Warramunga Arr**	**41.86**	**269**	P		**P**	**20 41 35.6 -1.1**
WB0	**Warramunga Arr**	**41.86**	**269**	P		**P**	**20 41 36.6 -0.1**
FORT	**Forrest**	**45.18**	**252**	P		**P**	**20 42 02.2 -0.2**
	baz=53,SNR=13						
FORT	**Forrest**	**45.18**	**252**	P		**P**	**20 42 02.1 -0.2**
WRKA	**Warakurna**	**45.97**	**260**	P		**P**	**20 42 08.4 -0.2**
	baz=54,SNR=28						
KDU	**Kakadu**	**46.07**	**277**	P		**P**	**20 42 06.5 -2.9**
	baz=53,SNR=6.9						
KNRA	**Kununurra**	**48.26**	**272**	P		**P**	**20 42 23.3 -2.6**
	baz=56,SNR=25						
KNRA	**Kununurra**	**48.26**	**272**	P		**P**	**20 42 26.4 +0.4**
FITZ	**Fitzroy Crossi**	**50.25**	**268**	P		**P**	**20 42 40.9 +0.3**
SIJI	**Sorong**	**52.71**	**290**	P		**P**	**20 42 58.6 0.0**
	comp=Z,10nm,0.6s,baz=98,slow=4.3,SNR=6.5						
KLBR	**Kellerberrin**	**53.77**	**249**	P		**P**	**20 43 02.1 -3.8**
	baz=61,SNR=5.1						
BLDU	**Ballidu**	**54.84**	**250**	P		**P**	**20 43 09.6 -3.9**
	baz=62,SNR=8.2						
MORW	**Morawa**	**55.74**	**251**	P		P	20 43 15.7 -4.1
	baz=63,SNR=6.1						
MORW	**Morawa**	**55.74**	**251**	P		**P**	**20 43 19.6 -0.2**
QSPA	**South Pole Qui**	**64.07**	**180**	P		**P**	**20 44 15.9 +1.2**
	comp=Z,1.1nm,0.7s,baz=247,slow=2.7,SNR=6.7						
ISA	**Isabella, Lake**	**84.81**	**46**	P		**P**	**20 46 12.6 +0.5**
ISA				IAmb		IAmb	20 46 14.0
	comp=Z,5.5nm,0.8s						
O02D	**Mt. Diablo Mer**	**84.96**	**41**	P		**P**	**20 46 13.7 +1.0**
O02D				IAmb		IAmb	20 46 15.4
	comp=Z,7.4nm,0.8s						
KLR	**Kul'dur**	**86.15**	**331**	P		**P**	**20 46 18.6 +0.5**
	comp=Z,1.8nm,1.0s,baz=159,slow=0.7,SNR=4.5						
LCH	**Last Change Ra**	**86.29**	**45**	P		**P**	**20 46 18.8 -0.5**
HUMO	**Hull Mountain**	**86.43**	**39**	P		**P**	**20 46 21.1 +1.4**
HUMO				IAmb		IAmb	20 46 22.2
	comp=Z,9.8nm,1.5s						
NVAR	**Mina Array Bea**	**86.59**	**44**	P		**P**	**20 46 21.3 +0.6**
	comp=Z,2.1nm,0.8s,baz=218,slow=8.3,SNR=14						
NVAR	**Mina Array Bea**	**86.59**	**44**	P		**P**	**20 46 21.0 +0.3**
NV11	**Mina Array Sit**	**86.68**	**44**	P		**P**	**20 46 21.9 +0.8**
PAHR	**Pah Rah Range**	**86.69**	**43**	P		**P**	**20 46 21.6 +0.4**
TPNV	**Topopah Spring**	**87.02**	**46**	P		**P**	**20 46 23.6 +0.9**
TPNV				IAmb		IAmb	20 46 47.4
	comp=Z,2.6nm,0.6s						
KVN	**Kaiserville**	**87.09**	**44**	P		**P**	**20 46 23.6 +0.5**
J04D	**Umpqua Nationa**	**87.32**	**39**	P		**P**	**20 46 25.0 +0.9**
MOD	**Modoc Plateau**	**87.50**	**40**	P		**P**	**20 46 25.5 +0.6**
MOD				IAmb		IAmb	20 46 26.6
	comp=Z,5.7nm,1.1s						
PRN	**Pahroc Range**	**88.06**	**46**	P		**P**	**20 46 28.2 +0.7**
PRN				IAmb		IAmb	20 46 30.6
	comp=Z,3.8nm,0.9s						
TUC	**Tucson**	**88.16**	**53**	P		**P**	**20 46 28.8 +0.7**
TUC				IAmb		IAmb	20 46 31.0
	comp=Z,4.3nm,1.0s						
WVOR	**Wild Horse Val**	**88.81**	**41**	P		**P**	**20 46 31.8 +0.9**
WVOR				IAmb		IAmb	20 46 33.2
	comp=Z,2.9nm,0.8s						
X16A	**Lo Mia Camp, P**	**88.83**	**51**	P		**P**	**20 46 32.0 +0.7**
I07A	**Izee**	**89.32**	**39**	P		**P**	**20 46 33.7 +0.5**
I07A				IAmb		IAmb	20 46 35.2
	comp=Z,4.6nm,0.9s						
U15A	**North Rim**	**89.34**	**48**	P		**P**	**20 46 34.3 +0.5**
U15A				IAmb		IAmb	20 46 36.0
	comp=Z,5.3nm,0.9s						
PKCU	**Pink Cliffs**	**89.89**	**48**	P		**P**	**20 46 38.2 +1.9**
PKCU				IAmb		IAmb	20 46 39.5
	comp=Z,9.0nm,1.1s						
MTPU	**Mount Pierson**	**90.30**	**47**	P		**P**	**20 46 37.4 -0.8**
MTPU				IAmb		IAmb	20 46 41.0
	comp=Z,3.8nm,0.7s						
SEY	**Seymchan**	**91.24**	**348**	P		**P**	**20 46 41.2 -0.3**
	comp=Z,0.5nm,0.7s,baz=108,slow=9.6,SNR=4.5						
TMUT	**Trail Mountain**	**91.62**	**47**	P		**P**	**20 46 45.5 +1.3**
F10A	**Beach Ranch, E**	**91.75**	**39**	P		**P**	**20 46 44.1 -0.3**
F10A				IAmb		IAmb	20 46 51.1
	comp=Z,4.1nm,0.9s						
TXAR	**Lajitas Array**	**91.93**	**58**	P		**P**	**20 46 46.5 +0.8**
	comp=Z,0.9nm,0.7s,baz=224,slow=6.8,SNR=6.0						
TXAR	**Lajitas Array**	**91.93**	**58**	P		**P**	**20 46 45.2 -0.5**
JLU	**Jordanelle**	**92.17**	**45**	P		**P**	**20 46 45.8 -0.9**
ILAR	**Eielson Array**	**94.19**	**14**	P		**P**	**20 46 54.1 -0.9**
	comp=Z,0.3nm,0.6s,baz=238,slow=5.3,SNR=5.3						
GOMU	**GeErMu**	**100.90**	**305**	Pdif		**Pdif**	**20 47 23.8 -2.4**
GOMU				pmax		pmax	
	comp=Z,81nm,4.9s						
MKAR	**Makanchi Array**	**113.24**	**312**	PKiKP		**PKiKP**	**20 52 10.5 -0.4**
	comp=Z,0.2nm,0.6s,baz=68,slow=0.8,SNR=2.2						
KURBB	**Kurchatov Arra**	**116.45**	**316**	PKP		**PKPdf**	**20 52 15.9 -1.0**
	comp=Z,0.6nm,0.7s,baz=100,slow=1.5,SNR=5.4						
BVAR	**Borovoye Array**	**121.71**	**318**	PKP		**PKPdf**	**20 52 26.6 -0.3**
	comp=Z,0.7nm,0.4s						
ARCES	**ARCESS Array B**	**133.86**	**348**	PKP		**PKPdf**	**20 52 49.5 -0.1**
	comp=Z,3.1nm,1.0s,baz=90,slow=0.4,SNR=4.4						
FINES	**FINESS Array B**	**140.29**	**340**	PKhKP		PKPpre	20 52 53.9
	comp=Z,1.8nm,0.9s,baz=76,slow=5.9,SNR=4.8						
NC303	**NORSAR Array S**	**143.89**	**350**			PKPab	20 53 06.4 -0.8
NB2	**NORSAR Subarra**	**144.09**	**350**	PKP		PKPbc	20 53 06.7 -1.1
	comp=Z,1.7nm,0.5s,baz=18,slow=3.2						
NOA	**NORSAR Array B**	**144.09**	**350**	PKP		PKPbc	20 53 07.3 -0.5
	comp=Z,0.8nm,0.5s,baz=21,slow=3.8,SNR=18						
AKASG	**Malin Array Be**	**146.47**	**325**	PKPbc		**PKPdf**	**20 53 13.9 +1.1**
	comp=Z,1.0nm,0.5s,baz=54,slow=3.6,SNR=3.3						
MMAI	**Mount Meron Ar**	**148.10**	**291**	PKPbc		**PKPbc**	**20 53 19.3 -0.8**
	comp=Z,0.4nm,0.3s,baz=349,slow=6.8,SNR=1.7						
BRTR	**Keskin Array B**	**148.44**	**304**	PKPbc		**PKPbc**	**20 53 19.2 -1.6**
	comp=Z,0.5nm,0.4s,baz=148,slow=4.0,SNR=5.7						
MLR	**Muntele Rosu**	**151.26**	**319**	PKPbc		**PKPbc**	**20 53 27.4 +0.2**
	comp=Z,0.8nm,0.5s,baz=148,slow=6.4,SNR=3.8						
MLR	**Muntele Rosu**	**151.26**	**319**			**PKPbc**	**20 53 27.2 -0.1**
TORD	**Torodi Ar. Bea**	**167.03**	**190**	PKPab		**PKPab**	**20 54 46.9 +0.3**
	comp=Z,0.4nm,0.6s,baz=202,slow=1.5,SNR=2.7						

*NEIC **18** 20:40:03.9±1.6,23.15S±0.05×177.3W±0.1,h191km±11km, mb4.2/16, Error ellipse: s-maj=15.6km s-min=7.4km az=79.0*

*IDC **18** 20:40:07.3±3.7,23.13S×177.48W,h209km±29km, mb3.6/8, mb1 3.8/10,mb1mx3.5/38, mbtmp4.1/10, Error ellipse: s-maj=34.1km s-min=18.0km az=143.0*

ISC 18 20:40:04.7±0.7,**23.1S**±0.1×**177.9W**±0.08,**h200**km,**n36,** σ1.9**62**/36,**mb4.1**/15,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.98**	**319**	P	**Pn**	**20 41 46.1**	**+1.3**
	1.7nm,0.3s,baz=130,slow=15,SNR=8.6						
MSVF	**Nonsavu**	**6.98**	**319**		**Pn**	**20 41 44.9**	**+0.1**
NIUE	**Niue**	**7.88**	**61**	Pn	**Pn**	**20 41 57.1**	**+0.5**
NIUE				Sn	**Sn**	**20 43 22.6**	**-3.0**
DZM	**Mont Dzumac**	**15.15**	**271**	P	**P**	**20 43 32.6**	**+3.1**
	0.5nm,0.3s,baz=84,slow=18,SNR=6.8						
DZM	**Mont Dzumac**	**15.15**	**271**	IAmb	IAmb	20 43 34.2	
	comp=Z,15nm,1.1s						
URZ	**Urewera**	**15.86**	**197**	P	**Pn**	**20 43 38.0**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=110,slow=17,SNR=2.0						
URZ	**Urwera**	**15.86**	**197**	P	**Pn**	**20 43 37.8**	**+0.5**
SANVU	**Saraoutou**	**16.59**	**295**		**Pn**	**20 43 44.9**	**-1.3**
CTA	**Charters Tower**	**34.07**	**268**	P	**P**	**20 46 30.6**	**+0.2**
	comp=Z,8.9nm,0.5s,baz=95,slow=9.8,SNR=21						
CTAO	**Charters Tower**	**34.07**	**268**	P	**P**	**20 46 29.9**	**-0.5**
TOO	**Toolangi**	**35.03**	**237**	P	**P**	**20 46 37.3**	**-1.2**
TOO				IAmb	IAmb	20 47 06.0	
	comp=Z,9.4nm,1.4s						
STKA	**Stephens Creek**	**37.40**	**247**	P	**P**	**20 46 58.8**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=92,slow=9.9,SNR=4.3						
STKA	**Stephens Creek**	**37.40**	**247**	P	**P**	**20 46 57.3**	**-1.3**
AS31	**Alice Springs**	**44.71**	**259**	P	**P**	**20 47 57.4**	**-0.9**
ASAR	**Alice Springs**	**44.71**	**259**	P	**P**	**20 47 57.8**	**-0.6**
	comp=Z,6.4nm,0.8s,baz=94,slow=7.9,SNR=47						
ASAR	**Alice Springs**	**44.71**	**259**	P	**P**	**20 47 56.7**	**-1.6**
WR0	**Warramunga Arr**	**44.85**	**264**	P	**P**	**20 47 57.1**	**-2.3**
WB2	**Warramunga Arr**	**45.03**	**264**	P	**P**	**20 47 59.2**	**-1.6**
WB2				IAmb	IAmb	20 48 00.1	
	comp=Z,6.4nm,0.8s						
WB0	**Warramunga Arr**	**45.03**	**265**	P	**P**	**20 47 59.1**	**-1.8**
WB0				IAmb	IAmb	20 48 00.4	
	comp=Z,6.0nm,0.8s						
WRAB	**Tennant Creek**	**45.03**	**264**	P	**P**	**20 47 59.2**	**-1.7**
WRAB				IAmb	IAmb	20 47 60.0	
	comp=Z,5.8nm,0.8s						
WRA	**Warramunga Arr**	**45.04**	**264**	P	**P**	**20 47 59.2**	**-1.7**
	comp=Z,2.8nm,0.3s,baz=96,slow=8.2,SNR=105						
WRA	**Warramunga Arr**	**45.04**	**264**	P	**P**	**20 47 59.0**	**-1.9**
FORT	**Forrest**	**49.00**	**249**	P	**P**	**20 48 30.6**	**-0.7**
MTN	**Manton Dam**	**49.98**	**272**	P	**P**	**20 48 36.1**	**-2.8**
MTN				IAmb	IAmb	20 48 37.6	
	comp=Z,4.7nm,0.7s						
KNRA	**Kununurra**	**51.28**	**268**	P	**P**	**20 48 47.4**	**-1.3**
KNRA				IAmb	IAmb	20 48 47.8	
	comp=Z,7.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.47**	**264**	P	**P**	**20 49 04.0**	**-0.7**
FITZ				IAmb	IAmb	20 49 04.8	
	comp=Z,4.0nm,0.7s						
SIJI	**Sorong**	**54.67**	**286**	P	**P**	**20 49 12.0**	**-1.5**
NVAR	**Mina Array Bea**	**82.42**	**43**	P	**P**	**20 52 06.6**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=224,slow=9.9,SNR=3.6						
PDAR	**Pinedale Array**	**90.35**	**43**	P	**P**	**20 52 45.0**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=267,slow=1.8,SNR=2.8						
ILAR	**Eielson Array**	**90.70**	**12**	P	**P**	**20 52 44.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=212,slow=5.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**91.69**	**289**	P	**P**	**20 52 51.7**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=110,slow=3.6,SNR=4.9						
ARCES	**ARCESS Array B**	**131.62**	**350**	PKP	**PKiKP**	**20 58 54.5**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=46,slow=3.9,SNR=6.3						
AKASG	**Malin Array Be**	**145.66**	**330**	PKPbc	**PKiKP**	**20 59 21.7**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=41,slow=4.2,SNR=7.9						
BRTR	**Keskin Array B**	**149.12**	**310**	PKPbc	**PKPbc**	**20 59 29.3**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=128,slow=5.6,SNR=7.4						
CLL	**Collm**	**150.78**	**347**	*i* PKPbc	**PKiKP**	**20 59 33.6**	**0.0**
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**152.92**	**344**	PKPbc	**PKiKP**	**20 59 41.6**	**+3.3**
	comp=Z,0.7nm,0.7s,baz=44,slow=4.1,SNR=6.1						

*IDC **18** 20:42:02.6±1.6,37.09N×56.62E,h0km,mb3.4/4, mb1 3.8/10,mb1mx3.5/52, mbtmp3.6/10, ML3.4/5, Error ellipse: s-maj=24.0km s-min=12.9km az=175.0*

*NNC **18** 20:42:03.0±1.3,37.44N×56.52E,h0km,mb3.7, Error ellipse: s-maj=14.7km s-min=6.7km az=177.0*

*TEH **18** 20:42:03.2,37.16N×56.84E,h8km, ML3.7*

ISC 18 20:42:03.5±0.7,**37.21N**±0.04×**56.79E**±0.03,**h10**km,**n78,** σ2.5**42**/82,**mb3.6**/3,**3C-3D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.70**	**45**	*e*Pg	**Pb**	**20 42 17.6**	**-0.2**
MRVT	**Maraveh tapeh**	**0.71**	**309**	*e*Pg	**Pb**	**20 42 18.8**	**+0.8**
SBZV	**Sabzevar**	**1.05**	**141**	*e*Pg	**Pb**	**20 42 22.4**	**-1.5**
IMND	**Minoodasht**	**1.10**	**273**	*e*Pg	**Pn**	**20 42 25.8**	**+0.9**
IMND				*e*Sg	**Sn**	**20 42 43.3**	**+3.1**
IMND				*e*		20 42 46.0	
	comp=Z,12μm,0.3s						
GEYT	**Alibeck**	**1.28**	**55**	Pg	**Pg**	**20 42 28.9**	**+0.8**
	comp=Z,93nm,0.3s,baz=239,slow=16,SNR=256						
GEYT				Lg	Lg	20 42 48.9	
	comp=Z,80nm,0.3s,baz=184,slow=18,SNR=9.0						
GEYT				LR	LR	20 43 14.5	
	comp=Z,103nm,19.9s,baz=155,slow=49						
GYA0B	**ALIBECK ARRAY**	**1.28**	**55**	⇑P	**Pg**	**20 42 28.3**	**+0.2**
GYA0B				⇑S	**Sn**	**20 42 47.2**	**+2.5**
SHRO	**Shahrood**	**1.37**	**207**	*e*Pg	**Pn**	**20 42 27.7**	**-1.0**
IAKL	**Akhelmad**	**1.69**	**110**	*e*Pg	**Pb**	**20 42 33.6**	**-1.2**
IAKL				*e*		20 43 08.4	
	comp=Z,8μm,0.3s						
IPAY	**Payeh**	**1.93**	**112**	*e*Pn	**Pb**	**20 42 37.3**	**-1.5**
IPAY				*e*		20 43 14.4	
	comp=Z,7μm,0.6s						
IKRD	**Kardeh**	**2.23**	**100**	*e*Pn	**Pb**	**20 42 42.4**	**-1.5**
IKRD				*e*		20 42 50.9	
	comp=Z,5μm,0.4s						
IGLO	**Ghaloghah**	**2.47**	**254**	*e*Pn	**Pb**	**20 42 47.1**	**-1.0**
IMYA	**Miami**	**2.80**	**107**	*e*Pn	**Pn**	**20 42 49.7**	**+1.2**
IANJ	**Anjilo**	**2.90**	**234**	*e*Pn	**Pb**	**20 42 52.6**	**-2.8**
IANJ				*e*		20 43 47.8	
	comp=Z,3μm,0.6s						
ISHM	**Shahmirzad**	**3.14**	**245**	*e*Pn	**Pn**	**20 42 56.1**	**+2.8**
ISHM				*e*		20 43 59.4	
	comp=Z,3μm,0.4s						
JRKH	**Jarkhoskh**	**3.15**	**113**	*e*Pn	**Pn**	**20 42 54.4**	**+1.2**
TNSJ	**Nastanj**	**3.24**	**183**	*e*Pn	**Pn**	**20 42 56.2**	**+1.7**
TBJM	**Torbat-e-JAM**	**3.46**	**123**	*e*Pn	**Pn**	**20 42 59.3**	**+1.8**
ILAS	**Lasjerd**	**3.59**	**241**	*e*Pn	**Pn**	**20 43 01.9**	**+2.5**
TKDS	**Koohdasht(Taba**	**3.60**	**176**	*e*Pn	**Pn**	**20 43 01.1**	**+1.7**
TKDS				*e*		20 44 06.7	
	comp=Z,2μm,0.7s						
IFIR	**Firoozkooh**	**3.61**	**246**	*e*		20 43 17.6	
	comp=Z,1μm,0.3s						
IFIR				*e*Pn	**Pn**	**20 43 02.8**	**+3.1**
IPRN	**Peran**	**3.70**	**256**	*e*Pn	**Pn**	**20 43 03.4**	**+2.6**
IDMV	**Damavand**	**4.17**	**248**	*e*	Pg	20 43 30.6	+7.3
	comp=Z,856nm,0.7s						
TPRV	**Parvadeh(Tabas**	**4.17**	**181**	*e*Pn	**Pn**	**20 43 09.3**	**+2.0**
TPRV				*e*		20 44 21.3	
	comp=Z,1μm,1.1s						
DAMV	**Damavand**	**4.19**	**249**	*e*Pn	Pn	20 43 12.7	+5.0
AFRZ	**Afriz**	**4.19**	**154**	*e*Pn	**Pn**	**20 43 09.7**	**+2.1**
SHRT	**Shahrakht**	**4.56**	**140**	*e*Pn	**Pn**	**20 43 13.9**	**+1.3**
ITEG	**Tejag**	**4.59**	**159**	*e*Pn	**Pn**	**20 43 14.9**	**+1.8**
ITEG				*e*		20 43 19.9	
	comp=Z,421nm,0.2s						
IMON	**Monand**	**4.65**	**149**	*e*Pn	**Pn**	**20 43 14.3**	**+0.3**
IMON				*e*		20 43 20.3	
	comp=Z,769nm,0.2s						
IVRN	**Varamin**	**4.65**	**243**	*e*Pn	**Pn**	**20 43 15.9**	**+2.0**
ISFB	**Sefidab**	**4.67**	**234**	*e*Pn	**Pn**	**20 43 15.9**	**+1.8**
ISFB				*e*		20 43 33.3	
	comp=Z,452nm,0.6s						
ANAR	**Anarak**	**4.73**	**213**	*e*Pn	**Pn**	**20 43 16.3**	**+1.4**
CHTH	**Charan**	**4.74**	**256**	*e*Pn	**Pn**	**20 43 17.4**	**+2.2**
KRSH	**Karshahi**	**4.98**	**231**	*e*Pn	**Pn**	**20 43 20.6**	**+2.1**
QALM	**Alamut, Qazvin**	**4.99**	**263**	*e*Pn	**Pn**	**20 43 21.3**	**+2.7**
IKOO	**Kooshah**	**5.11**	**158**	*e*Pn	**Pn**	**20 43 22.0**	**+1.7**
IDAH	**Dahanechah**	**5.13**	**150**	*e*Pn	**Pn**	**20 43 22.4**	**+1.9**
YZKH	**Yazd**	**5.13**	**201**	*e*Pn	**Pn**	**20 43 21.9**	**+1.4**
IQOM	**Qom**	**5.20**	**245**	*e*Pn	**Pn**	**20 43 23.7**	**+2.2**
GHVR	**GHOM**	**5.22**	**240**	*e*Pn	**Pn**	**20 43 24.6**	**+2.9**
ICHK	**Chekchek**	**5.33**	**202**	*e*Pn	**Pn**	**20 43 25.0**	**+1.8**
IGZV	**Ghazvin**	**5.33**	**263**	*e*Pn	**Pn**	**20 43 26.1**	**+2.7**
IGZV				*e*		20 45 09.8	
	comp=N,761nm,1.1s						
LHJ2	**Lahijan - Gila**	**5.37**	**272**	*e*Pn	**Pn**	**20 43 25.7**	**+2.1**
NASN	**Na'in**	**5.48**	**218**	*e*Pn	**Pn**	**20 43 26.9**	**+1.5**
QAMS	**Qamsar**	**5.60**	**233**	*e*Pn	**Pn**	**20 43 29.5**	**+2.5**
JIR1	**Jirandeh**	**5.62**	**267**	*e*Pn	**Pn**	**20 43 29.8**	**+2.6**
JIR1				*e*		20 43 32.0	
	comp=Z,687nm,0.4s						
IZEF	**Zefreh**	**5.64**	**222**	*e*Pn	**Pn**	**20 43 30.0**	**+2.3**
IBAF	**Bafgh**	**5.70**	**191**	*e*Pn	**Pn**	**20 43 31.0**	**+2.7**
IKLH	**Kolahrood**	**5.76**	**229**	*e*Pn	**Pn**	**20 43 31.7**	**+2.4**
IRAZ	**Razeghan**	**5.82**	**254**	*e*Pn	**Pn**	**20 43 33.6**	**+3.5**
ISAD	**Sadrabad**	**5.87**	**207**	*e*Pn	**Pn**	**20 43 31.9**	**+1.1**
QABG	**Abgarm-Qazvin**	**6.00**	**258**	*e*Pn	**Pn**	**20 43 34.5**	**+2.0**
ASAO	**Ashtian**	**6.10**	**246**	*e*Pn	**Pn**	**20 43 36.2**	**+2.3**
IGAR	**Gharneh**	**6.18**	**221**	*e*Pn	**Pn**	**20 43 37.0**	**+2.0**
IRAM	**Ramesheh**	**6.50**	**215**	*e*Pn	**Pn**	**20 43 40.9**	**+1.5**
ZNJK	**Zanjan**	**6.51**	**268**	*e*Pn	**Pn**	**20 43 43.7**	**+4.2**
KHMZ	**Khomeyn**	**6.56**	**240**	*e*Pn	**Pn**	**20 43 43.5**	**+3.3**
IPIR	**Pirpir**	**6.62**	**229**	*e*Pn	**Pn**	**20 43 43.8**	**+2.7**
KHGB	**Koh Gabri**	**6.82**	**182**	*e*Pn	**Pn**	**20 43 45.8**	**+2.0**
IBRJ	**Brojen**	**6.98**	**222**	*e*Pn	**Pn**	**20 43 49.1**	**+3.1**
GRMI	**Germi**	**7.20**	**286**	*e*Pn	**Pn**	**20 43 51.1**	**+2.2**
ISRB	**Sarab**	**7.27**	**278**	*e*Pn	**Pn**	**20 43 52.5**	**+2.5**
HSAM	**Samen**	**7.30**	**248**	*e*Pn	**Pn**	**20 43 54.0**	**+3.6**
KLNJ	**Kolanjah**	**7.54**	**216**	*e*Pn	**Pn**	**20 43 56.3**	**+2.6**
IBST	**Bostanabad**	**7.88**	**277**	*e*Pn	**Pn**	**20 44 00.5**	**+2.1**
IMRD	**Marand**	**8.88**	**283**	*e*Pn	**Pn**	**20 44 14.6**	**+2.6**
ISHB	**Shabestar**	**8.91**	**280**	*e*Pn	**Pn**	**20 44 14.7**	**+2.2**
AB31	**Akbulak array**	**12.26**	**10**	⇓Pn	**Pn**	**20 44 56.7**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=192,slow=13,SNR=6.0						
AB31				⇑Sn	**Sn**	**20 47 12.5**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=192,slow=24,SNR=2.9						
KBZ	**Khabaz**	**12.41**	**306**	Pn	**Pn**	**20 45 00.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=111,slow=5.1,SNR=12						
KBZ				Sn	**Sn**	**20 47 13.1**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=94,slow=13,SNR=2.1						
KVAR	**Kislovodsk Arr**	**12.65**	**307**	Pn	**Pn**	**20 45 04.2**	**+0.7**
	baz=276,slow=23,SNR=2.3						
KVAR				Sn	**Sn**	**20 47 17.7**	**-6.7**
	baz=81,slow=9.0,SNR=1.9						
AKTO	**Aktyubinsk**	**13.25**	**3**	Pn	**Pn**	**20 45 11.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=171,slow=15,SNR=3.1						

ISC 18 21:14:56.1±1.1, 37.56N±0.03×49.15E±0.03, h19km±3km, n79, σ1§15/112, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSN1	**Caspian**	**0.04**	**274**	*e*Pg	**Pg**	**21 14 59.3**	**-0.1**
CSN1				*e*Sg	**Sg**	**21 15 02.6**	**+1.0**
RST1	**Rasht - Gilan**	**0.51**	**130**	*e*Pg	**Pg**	**21 15 06.5**	**+0.2**
LHJ2	**Lahijan - Gila**	**0.83**	**118**	*e*Pg	**Pg**	**21 15 11.1**	**-1.2**
LHJ2				*e*Sg	**Sb**	**21 15 24.2**	**+1.5**
ZNJK	**Zanjan**	**0.96**	**203**	*e*Pg	**Pb**	**21 15 13.1**	**-1.2**
JIR1	**Jirandeh**	**1.00**	**148**	*e*Pg	**Pb**	**21 15 13.7**	**-1.2**
ASTR	**Astara** SNR=299	**1.04**	**344**	P	**Pb**	**21 15 14.3**	**-1.1**
ASTR				S	**Sb**	**21 15 29.1**	**+0.4**
LKRN	**Lenkeran, Azer** SNR=14	**1.18**	**346**	P	**Pn**	**21 15 17.6**	**-0.1**
LKRN				S	**Sb**	**21 15 34.0**	**+1.1**
ISRB	**Sarab** comp=Z,28μm,0.2s	**1.20**	**283**	*e*Pg	**Pn**	**21 15 17.6**	**-0.6**
ISRB				*e*		21 15 18.6	
ISRB				*e*Sg	**Sb**	**21 15 32.9**	**-0.8**
LRK	**Lerik** SNR=1153	**1.25**	**330**	P	**Pn**	**21 15 18.0**	**-0.8**
LRK				S	**Sb**	**21 15 34.4**	**-0.7**
QCNT	**Qazvin** comp=Z,16μm,0.2s	**1.44**	**151**	*e*Pn	**Pn**	**21 15 21.4**	**0.0**
QCNT				*e*		21 15 22.7	
IGZV	**Ghazvin** comp=Z,13μm,0.4s	**1.45**	**143**	*e*Pg	**Pn**	**21 15 21.3**	**-0.3**
IGZV				*e*		21 15 22.6	
IGZV				*e*Sg	**Sn**	**21 15 40.0**	**-0.3**
YRD	**Yardimli** SNR=234	**1.53**	**332**	P	**Pn**	**21 15 22.2**	**-0.5**
YRD				S	**Sn**	**21 15 43.4**	**+1.2**
GRMI	**Germi**	**1.59**	**322**	*e*Pg	**Pn**	**21 15 23.4**	**0.0**
QALM	**Alamut, Qazvin** comp=Z,16μm,0.3s	**1.65**	**133**	*e*	**Sg**	**21 15 48.3**	**-1.0**
GLBA	**Clilabad** SNR=16	**1.78**	**341**	P	**Pn**	**21 15 25.2**	**-0.7**
GLBA				S	**Sb**	**21 15 51.1**	**+1.0**
IBST	**Bostanabad** comp=Z,7μm,0.5s	**1.79**	**275**	*e*Pn	**Pn**	**21 15 26.2**	**-0.1**
IBST				*e*		21 15 53.6	
IHRS	**Heris** comp=Z,6μm,0.2s	**1.83**	**295**	*e*Pn	**Pn**	**21 15 26.9**	**+0.1**
IHRS				*e*		21 15 31.7	
TVRZ	**Varzaqan**	**2.17**	**296**	*e*Pn	**Pn**	**21 15 32.6**	**+1.1**
IMHD	**Mahdasht** comp=Z,4μm,0.1s	**2.24**	**146**	*e*Pn	**Pn**	**21 15 32.7**	**+0.4**
IMHD				*e*		21 16 09.2	
IRAZ	**Razeghan** comp=Z,7μm,0.4s	**2.24**	**163**	*e*Pn	**Pn**	**21 15 32.0**	**-0.5**
IRAZ				*e*		21 16 06.7	
TAB1	**Tabriz**	**2.28**	**283**	*e*Pn	**Pn**	**21 15 35.1**	**+2.2**
CHTH	**Charan**	**2.29**	**135**	*e*Pn	**Pn**	**21 15 34.2**	**+1.0**
SAAT	**Saatly** SNR=3.6	**2.37**	**346**	P	**Pn**	**21 15 34.1**	**+0.2**
SAAT				S	**Sn**	**21 16 04.1**	**+1.6**
QRD	**Qoradiz** SNR=13	**2.38**	**324**	P	**Pn**	**21 15 34.9**	**+0.8**
QRD				S	**Sn**	**21 16 03.5**	**+0.7**
ALIB	**Äli-Bayra**	**2.40**	**357**	P	**Pn**	**21 15 35.5**	**+1.2**
ALIB				S	**Sn**	**21 16 06.1**	**+2.9**
ITBZ	**Tabriz**	**2.47**	**287**	*e*Pn	**Pn**	**21 15 35.3**	**-0.2**
BLQ	**Beylaqan** SNR=9.0	**2.49**	**331**	P	**Pn**	**21 15 35.7**	**0.0**
BLQ				S	**Sn**	**21 16 06.4**	**+0.9**
IAZR	**Azarshahr** comp=Z,4μm,0.8s	**2.52**	**274**	*e*Pn	**Pn**	**21 15 37.1**	**+0.8**
IAZR				*e*		21 16 28.1	
HAGD	**Aghdareh** comp=Z,1μm,0.4s	**2.73**	**180**	*e*	Sg	21 16 23.6	-0.4
ORD	**Ordubad** SNR=15	**2.83**	**300**	P	**Pn**	**21 15 41.5**	**+1.1**
ORD				S	**Sn**	**21 16 16.0**	**+1.9**
SNGE	**Sanandaj**	**2.86**	**211**	*e*Pn	**Pn**	**21 15 39.3**	**-1.6**
IPRN	**Peran** comp=Z,2μm,0.6s	**2.88**	**116**	*e*Pn	**Pn**	**21 15 40.9**	**-0.2**
IPRN				*e*		21 16 34.0	
ISHB	**Shabestar** comp=Z,1μm,0.6s	**2.88**	**286**	*e*Pn	**Pn**	**21 15 41.9**	**+0.6**
ISHB				*e*		21 15 50.8	
KDMR	**Kurdemir**	**2.91**	**345**	P	**Pn**	**21 15 41.3**	**-0.1**
KDMR				S	**Sn**	**21 16 17.1**	**+1.3**
ZRD	**Zardab** SNR=6.1	**2.94**	**338**	P	**Pn**	**21 15 42.3**	**+0.4**
ZRD				S	**Sn**	**21 16 17.8**	**+1.1**
IMRD	**Marand** comp=Z,3μm,0.5s	**2.95**	**294**	*e*Pn	**Pn**	**21 15 43.0**	**+0.9**
IMRD				*e*		21 16 01.9	
DAMV	**Damavand**	**2.98**	**129**	*e*Pn	**Pn**	**21 15 44.2**	**+1.6**
AGDM	**Agdam** SNR=8.6	**3.00**	**329**	P	**Pn**	**21 15 43.5**	**+0.8**
AGDM				S	**Sn**	**21 16 21.6**	**+3.4**
NDR	**Nardaran**	**3.09**	**12**	P	**Pn**	**21 15 44.5**	**+0.7**
NDR				S	**Sn**	**21 16 21.9**	**+1.7**
ASAO	**Ashtian**	**3.09**	**166**	*e*Pn	**Pn**	**21 15 44.0**	**-0.1**
BRDA	**Brd**	**3.10**	**331**	P	**Pn**	**21 15 44.9**	**+0.8**
BRDA				S	**Sn**	**21 16 22.5**	**+1.8**
IQOM	**Qom** comp=Z,2μm,0.4s	**3.13**	**150**	*e*Pn	**Pn**	**21 15 45.3**	**+0.6**
IQOM				*e*		21 16 35.4	
PQL	**Pirkuli**	**3.25**	**353**	P	**Pn**	**21 15 45.9**	**-0.4**
PQL				S	**Sn**	**21 16 24.3**	**-0.3**
IBZA	**Bozab** comp=Z,934nm,0.3s	**3.26**	**199**	*e*Pn	**Pn**	**21 15 46.0**	**-0.4**
NAX	**Nakhchivan** SNR=4.9	**3.29**	**300**	P	**Pb**	**21 15 52.2**	**-1.7**
NAX				S	**Sn**	**21 16 27.6**	**+2.2**
ATGJ	**Altiaghaj**	**3.30**	**357**	P	**Pn**	**21 15 47.6**	**+0.7**
ATGJ				S	**Sn**	**21 16 27.4**	**+1.8**
IVRN	**Varamin** comp=Z,934nm,0.3s	**3.30**	**140**	*e*	Sg	21 16 42.4	+0.2
IML	**Ismayilli** SNR=12	**3.31**	**347**	P	**Pn**	**21 15 46.7**	**-0.3**
IML				S	**Sn**	**21 16 25.5**	**-0.5**
SBZ	**Shahbuz** SNR=6.5	**3.36**	**304**	P	**Pn**	**21 15 48.6**	**+0.8**
SBZ				S	**Sn**	**21 16 30.1**	**+2.8**
HSAM	**Samen**	**3.37**	**188**	*e*Pn	**Pn**	**21 15 48.5**	**+0.5**
IFIR	**Firoozkooh**	**3.48**	**122**	*e*Pn	**Pn**	**21 15 51.1**	**+1.6**
SIZA	**Siyzn**	**3.52**	**357**	P	**Pn**	**21 15 50.9**	**+1.0**
SIZA				S	**Sn**	**21 16 32.1**	**+1.2**
QBL	**Gabala**	**3.53**	**344**	P	**Pn**	**21 15 49.9**	**-0.1**
QBL				S	**Sn**	**21 16 31.2**	**-0.1**
XNQ	**Khinaliq**	**3.69**	**348**	P	**Pn**	**21 15 52.1**	**-0.3**
XNQ				S	**Sn**	**21 16 33.8**	**-1.7**
ILAS	**Lasjerd**	**3.76**	**124**	*e*Pn	**Pn**	**21 15 54.0**	**+0.6**
ISHM	**Shahmirzad**	**3.76**	**116**	*e*Pn	**Pn**	**21 15 54.3**	**+0.9**
ISHM				*e*		21 16 02.7	
GANJ	**Ganja** comp=Z,731nm,0.4s SNR=3.4	**3.78**	**325**	P	**Pn**	**21 15 53.3**	**-0.2**
GANJ				S	**Sn**	**21 16 36.3**	**-1.2**
QUBA	**Quba, Azerbaij**	**3.82**	**353**	P	**Pn**	**21 15 54.0**	**0.0**
QUBA				S	**Sn**	**21 16 37.7**	**-0.8**
KHMZ	**Khomeyn**	**3.87**	**170**	*e*Pn	**Pn**	**21 15 57.1**	**+2.2**
IGLO	**Ghaloghah**	**3.89**	**104**	*e*Pn	**Pn**	**21 15 55.3**	**+0.1**
SEKA	**Sheki** SNR=7.0	**3.94**	**338**	P	**Pn**	**21 15 55.0**	**-0.7**
SEKA				S	**Sn**	**21 16 39.7**	**-1.8**
HYR	**Heyderabad** SNR=8.8	**3.99**	**304**	P	**Pn**	**21 15 58.5**	**+2.1**
HYR				S	**Sn**	**21 16 44.1**	**+1.4**
QSAR	**Qusar**	**4.01**	**350**	P	**Pn**	**21 15 56.4**	**-0.2**
QSAR				S	**Sn**	**21 16 41.6**	**-1.4**
ISFB	**Sefidab**	**4.07**	**141**	*e*Pn	**Pn**	**21 15 57.6**	**+0.2**
GDB	**GEDABAY** SNR=3.3	**4.11**	**321**	P	**Pn**	**21 15 58.3**	**+0.2**
GDB				S	**Sn**	**21 16 46.5**	**+0.7**
IKFM	**Kafar-mosalman**	**4.16**	**195**	*e*Pn	**Pn**	**21 16 00.7**	**+2.0**
QAMS	**Qamsar** comp=Z,892nm,0.4s	**4.23**	**154**	*e*Pn	**Pn**	**21 16 00.3**	**+0.4**
QAMS				*e*		21 17 07.1	
KRSH	**Karshahi**	**4.33**	**145**	*e*Pn	**Pn**	**21 16 01.8**	**+0.7**
ZKTA	**Zakatala** SNR=2.7	**4.51**	**335**	P	**Pn**	**21 16 03.8**	**+0.2**
ZKTA				S	**Sn**	**21 16 55.7**	**+0.2**
QZX	**Qazax, Azerbai** SNR=5.8	**4.56**	**321**	P	**Pn**	**21 16 04.8**	**+0.7**
QZX				S	**Sn**	**21 16 55.5**	**-1.1**
IKLH	**Kolahrood**	**4.67**	**154**	*e*Pn	**Pn**	**21 16 07.0**	**+1.1**
IZEF	**Zefreh**	**5.33**	**150**	*e*Pn	**Pn**	**21 16 16.7**	**+1.7**
MRVT	**Maraveh tapeh**	**5.51**	**87**	*e*Pn	**Pn**	**21 16 15.8**	**-1.5**
NASN	**Na'in**	**5.62**	**147**	*e*Pn	**Pn**	**21 16 20.0**	**+1.0**
SHRO	**Shahrood**	**5.73**	**104**	*e*Pn	**Pn**	**21 16 22.6**	**+2.3**
ANAR	**Anarak**	**5.75**	**138**	*e*Pn	**Pn**	**21 16 20.9**	**+0.3**
SBZV	**Sabzevar**	**6.88**	**97**	*e*Pn	**Pn**	**21 16 36.1**	**0.0**
IAKL	**Akhelmad**	**7.74**	**94**	*e*Pn	**Pn**	**21 16 48.2**	**+0.1**
IPAY	**Payeh**	**7.96**	**95**	*e*Pn	**Pn**	**21 16 51.0**	**0.0**

*IDC **18** 21:15:50.2±0.5, 0.02N×80.72W, h0km, mb4.4/21, mb1 4.6/24, mb1mx4.5/36, mbtmp4.4/24, ML3.8/3, MS4.7/43, Ms1 4.7/43, ms1mx4.6/61, Error ellipse: s-maj=19.7km s-min=10.9km az=58.0*

*NEIC **18** 21:15:52.8±1.9, 0.06S±0.04×80.77W±0.05, h10km±1km, mb4.9/342, Error ellipse: s-maj=10.4km s-min=3.1km az=128.0*

*GCMT **18** 21:15:53.8±0.2, 0.03S±0.01×80.91W±0.01, h12km, MW5.3/128, Moment Tensor Solution. s87,c113; s128,c209; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.21±.01; $M_{\theta\theta}$0.64±.01; $M_{\phi\phi}$-0.85±.02; $M_{r\theta}$0.43±.04; $M_{\theta\phi}$0.46±.01; $M_{\phi r}$0.17±.04; Best double couple: $M_0$1.00600×10^{17} NP1:ϕ_s123.00000°, δ68.00000°, λ20.00000°. NP2:ϕ_s25.00000°, δ71.00000°, λ157.00000°. Principal axes: T 1.0300, Plg30.0000°, Azm344.0000°; N -0.0500, Plg60.0000°, Azm169.0000°; P -0.9810, Plg2.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IGQ **18** 21:15:54±1.8, 0.7N±5.5×8.1W±1.0, h12km*

*VAO **18** 21:15:56.5±0.8, 0.12S×80.46W, h10km, mb4.9*

ISC 18 21:15:51.8±0.3, 0.08S±0.04×80.85W±0.05, h10km, n673, σ1§41/501, mb4.9/175, MS4.8/46, 2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AV18	**Acelerografo,**	**1.43**	**74**	P	**Pb**	**21 16 18.0**	**-0.6**
APR2	**Miler**	**1.89**	**85**	P	**Pn**	**21 16 23.0**	**-1.3**
PAC1	**Pacto, Paraso**	**2.09**	**81**	*e*P	**Pn**	**21 16 24.5**	**-2.6**
PAC1	**Pacto, Paraso**	**2.09**	**81**	P	**Pn**	**21 16 25.0**	**-2.1**
HPAL	**Hacienda Las P**	**2.21**	**94**	P	**Pn**	**21 16 28.0**	**-0.9**
ILLI	**Illinizas Sur**	**2.22**	**107**	P	**Pn**	**21 16 28.0**	**-1.1**
GGPT	**Toaza - Volcan**	**2.24**	**94**	P	**Pn**	**21 16 28.0**	**-1.3**
PINO	**Pino**	**2.25**	**92**	P	**Pn**	**21 16 28.0**	**-1.6**
TERV	**Terraza Guagua**	**2.25**	**92**	P	**Pn**	**21 16 29.0**	**-0.7**
JUA2	**San Juan 2**	**2.25**	**93**	P	**Pn**	**21 16 29.0**	**-0.6**
GGPC	**Guagua Pichinc**	**2.26**	**93**	P	**Pn**	**21 16 29.0**	**-0.8**
YANA	**Yana**	**2.28**	**91**	P	**Pn**	**21 16 29.0**	**-1.0**
PAST	**Pastocalle**	**2.29**	**105**	P	**Pn**	**21 16 30.0**	**-0.2**
PULU	**Pululahua**	**2.35**	**88**		**Pn**	**21 16 30.3**	**-0.6**
PULU	**Pululahua**	**2.35**	**88**	P	**Pn**	**21 16 30.0**	**-0.9**
CAMI	**Rancho Maria**	**2.42**	**104**	P	**Pn**	**21 16 33.0**	**+1.1**
OTAV	**Otavalo**	**2.42**	**83**	Pn	**Pn**	**21 16 30.2**	**-1.7**
CHSH	**Refugio Sur-Vo**	**2.43**	**125**	P	**Pn**	**21 16 33.0**	**+0.8**
BNAS	**Cotopaxi Volca**	**2.44**	**104**	P	**Pn**	**21 16 33.0**	**+0.7**
NAS2	**Nasa**	**2.45**	**103**	P	**Pn**	**21 16 33.0**	**+0.6**
TOMA	**Boca Toma-Volc**	**2.45**	**100**	P	**Pn**	**21 16 33.0**	**+0.7**
PITA	**Cotopaxi Volc**	**2.47**	**101**	P	**Pn**	**21 16 33.0**	**+0.4**
BMOR	**Cotopaxi Volca**	**2.48**	**105**	P	**Pn**	**21 16 33.0**	**+0.2**
CUSE	**Cuicocha Este**	**2.48**	**81**	*e*P	**Pn**	**21 16 32.1**	**-0.7**
CUSE	**Cuicocha Este**	**2.48**	**81**	P	**Pn**	**21 16 32.0**	**-0.7**
PORT	**Chimborazo Vol**	**2.49**	**123**		**Pn**	**21 16 32.8**	**-0.2**
PORT	**Chimborazo Vol**	**2.49**	**123**	P	**Pn**	**21 16 33.0**	**0.0**
BVC2	**Cotopaxi Volca**	**2.51**	**103**	P	**Pn**	**21 16 34.0**	**+0.8**
VC1	**Cotopaxi**	**2.51**	**103**	P	**Pn**	**21 16 34.0**	**+0.8**
CUIC	**Cuicocha-Domo**	**2.52**	**81**	P	**Pn**	**21 16 33.0**	**-0.2**
BTAM	**Cotopaxi Volca**	**2.53**	**104**	P	**Pn**	**21 16 35.0**	**+1.5**
TAMH	**Tambohuasha Ch**	**2.53**	**125**	P	**Pn**	**21 16 34.0**	**+0.5**
TAMB	**Tambo**	**2.56**	**104**	P	**Pn**	**21 16 35.0**	**+1.1**
VCES	**Cotopaxi**	**2.56**	**106**	P	**Pn**	**21 16 35.0**	**+1.1**
ANTG	**Antisana-Guama**	**2.63**	**99**	P	**Pn**	**21 16 35.0**	**+0.1**
URCU	**Urcuqui**	**2.65**	**79**	P	**Pn**	**21 16 35.0**	**0.0**
ANTS	**Antisana-Sarah**	**2.71**	**99**	P	**Pn**	**21 16 37.0**	**+0.9**
ANTI	**Antisana**	**2.72**	**98**	P	**Pn**	**21 16 37.0**	**+0.9**
BBIL	**Ulba Tungurahu**	**2.73**	**120**	P	**Pb**	**21 16 39.0**	**-2.0**
JUI6	**Juive**	**2.73**	**119**	P	**Pn**	**21 16 37.0**	**+0.9**
BMAS	**Trigal station**	**2.76**	**121**	P	**Pn**	**21 16 38.0**	**+1.5**
RETU	**Refugio**	**2.77**	**120**	P	**Pn**	**21 16 39.0**	**+2.3**
BPAT	**Tungurahua Vol**	**2.80**	**120**	P	**Pn**	**21 16 39.0**	**+1.8**
YAHU	**Yahuarcocha**	**2.82**	**81**	P	**Pb**	**21 16 40.0**	**-2.5**
CTUM2	**Tumaco**	**2.84**	**48**	*e*P	**Pn**	**21 16 39.7**	**+2.4**
CAYR	**Refugio Cayamb**	**2.85**	**88**	P	**Pn**	**21 16 39.0**	**+1.1**
CHMA	**Chilma**	**2.94**	**71**	P	**Pn**	**21 16 38.0**	**+1.0**
ISPG	**Isla Puna-Puer**	**2.95**	**167**	P	**Pn**	**21 16 42.0**	**+3.2**
LNGL	**El Angel-Carch**	**2.96**	**74**	P	**Pn**	**21 16 39.0**	**-0.4**
ECEN	**Cerro Negro**	**3.02**	**73**	P	**Pn**	**21 16 40.0**	**-0.2**
CHL1	**Volc¡n Chiles**	**3.03**	**73**	P	**Pn**	**21 16 40.0**	**-0.4**
CHL2	**Volc¡n Chiles**	**3.06**	**73**	P	**Pn**	**21 16 40.0**	**-0.8**
SANGA	**Volcan Sangay**	**3.16**	**128**	P	**Pn**	**21 16 44.0**	**+1.9**
TULM	**Tulcn-Chalpat**	**3.17**	**76**		**Pn**	**21 16 43.7**	**+1.6**
TULM	**Tulcn-Chalpat**	**3.17**	**76**	*e*P	**Pn**	**21 16 40.6**	**-1.5**
ARDO	**Archidona, Ten**	**3.19**	**107**	P	**Pb**	**21 16 46.0**	**-2.6**
CMBC	**Cumbal**	**3.19**	**71**	*e*P	**Pn**	**21 16 44.5**	**+1.9**
BONI	**La Bonita**	**3.37**	**81**	P	**Pn**	**21 16 46.0**	**+1.3**
ARNL	**Arenillas**	**3.53**	**167**		**Pn**	**21 16 47.1**	**+0.3**
ARNL	**Arenillas**	**3.53**	**167**	P	**Pn**	**21 16 46.0**	**-0.8**
BOSC	**San Juan Bosco**	**3.86**	**142**		**Pn**	**21 16 54.4**	**+3.0**
BOSC	**San Juan Bosco**	**3.86**	**142**	P	**Pn**	**21 16 54.0**	**+2.6**
GR1C	**Gorgona, Isla**	**4.07**	**41**	*e*P	**Pb**	**21 17 00.6**	**-3.1**
CRUZ	**La Cruz**	**4.23**	**67**	*e*P	**Pn**	**21 16 59.9**	**-0.9**
MCRA	**Macar, Loja**	**4.36**	**168**		**Pn**	**21 16 57.8**	**-0.4**
SOTA	**Rioblanco**	**4.78**	**63**	*e*P	**Pn**	**21 17 04.4**	**0.0**
POPC	**Popayan, Colom**	**4.92**	**58**	*e*P	**Pb**	**21 17 14.9**	**-3.4**
PCON	**Cinco Dias**	**5.06**	**62**	*e*P	**Pn**	**21 17 10.1**	**+1.9**
CGR1C	**Isla Gorgona,**	**5.60**	**57**	*e*P	Pn	21 17 02.5	-13
MARP	**Paez Belalcaza**	**5.69**	**59**	*e*P	Pn	21 17 23.4	+6.7
YOTC	**Yotoco, Valle**	**6.05**	**48**	*e*P	Pn	21 17 28.2	+6.7
PTLC	**Puerto Leguiza**	**6.06**	**88**	*e*P	**Pn**	**21 17 21.5**	**-0.1**
BETC	**Betania**	**6.07**	**63**	*e*P	Pb	21 17 31.1	-6.7
PIZC	**Pizarro, Choco**	**6.11**	**35**	*e*P	**Pg**	**21 17 44.4**	**-4.5**
PLMC	**San Jos del P**	**6.74**	**43**	*e*P	**Pb**	**21 17 48.2**	**-1.0**
ORTC	**Ortega, Tolima**	**6.86**	**55**	*e*P	Pn	21 17 41.5	+8.9
MACC	**Macarena, Meta**	**7.34**	**72**	*e*P	Pn	21 17 47.2	+8.0
MACC	**Macarena, Meta**	**7.34**	**72**	*e*P	**Pn**	**21 17 41.5**	**+2.3**
GUY2C	**Guyana, Caldas**	**7.60**	**46**	*e*P	Pb	21 17 55.8	-8.4
CBOC	**Ciudad Bolivar**	**7.63**	**39**	*e*P	**Pb**	**21 18 02.4**	**-2.0**
PTAC	**Punta Ardita,**	**7.79**	**23**	*e*P	**Pg**	**21 18 22.4**	**+1.2**
ROSC	**El Rosal** 1.7nm,0.3s,baz=92,slow=21,SNR=3.1	**8.15**	**53**	Pn	**Pn**	**21 17 54.1**	**+3.5**
ROSC				Sn	**Sn**	**21 19 27.1**	**+4.0**
	1.6nm,0.3s,baz=157,slow=23,SNR=1.0						
ROSC				LR	LR	21 21 17.1	
	comp=Z,17μm,18.7s,baz=234,slow=41						
ROSC	**El Rosal**	**8.15**	**53**	Pn	**Pn**	**21 17 51.7**	**+1.0**
HELC	**Santa Helena**	**8.19**	**40**	*e*P	Pb	21 18 05.3	-8.8
NORC	**Norcasia**	**8.19**	**47**	*e*P	Pn	21 18 00.5	+10
VILC	**Villavicencio,**	**8.28**	**60**	*e*P	Pn	21 17 58.6	+6.5
DBBC	**Dabeiba**	**8.44**	**33**	*e*P	**Pb**	**21 18 16.7**	**-1.4**
CHIC	**Chingaza**	**8.51**	**57**	*e*P	Pn	21 18 06.2	+11
CHITO	**Canoas**	**8.83**	**347**	Pn	**Pn**	**21 18 02.2**	**+2.6**
SPBC	**San Pablo de B**	**8.85**	**50**	*e*P	Pn	21 18 11.0	+11
BRU2	**Volcan**	**9.00**	**348**	Pn	**Pn**	**21 18 05.0**	**+2.8**
BRU2	**Volcan**	**9.00**	**348**	*e*P	Pn	21 18 08.1	+6.0
UPD2	**Meteti**	**9.02**	**18**	*e*P	Pn	21 18 09.1	+6.8
UPA	**Univ. de Panam**	**9.10**	**8**	*e*P	**Pn**	**21 18 02.4**	**-0.8**
RIOS	**Rincon, Osa**	**9.12**	**343**	Pn	**Pn**	**21 18 05.9**	**+2.4**
PTBC	**PUERTO BERRIO,**	**9.16**	**44**	*e*P	Pn	21 18 16.7	+12
BCIP	**Isla Barro Col**	**9.24**	**6**	*e*P	Pn	21 18 11.0	+5.7
UREC	**San Jos de Ur**	**9.42**	**34**	*e*P	Pn	21 18 13.8	+6.1
SRBA	**San Rafael, Bu**	**9.58**	**345**	Pn	**Pn**	**21 18 12.0**	**+1.9**
DRK0	**Durika**	**9.58**	**346**	Pn	**Pn**	**21 18 11.7**	**+1.6**
ZARC	**Zaragoza, Cauc**	**9.61**	**38**	Pn	**Pn**	**21 18 12.3**	**+2.0**
ZARC	**Zaragoza, Cauc**	**9.61**	**38**	*e*P	**Pn**	**21 18 12.9**	**+2.6**
PTGC	**Puerto Gaitan,**	**9.69**	**64**	*e*P	Pn	21 18 23.3	+12
RUSC	**La Rusia**	**9.77**	**52**	*e*P	Pn	21 18 25.2	+12
BARC	**Barichara**	**10.12**	**49**	*e*P	Pn	21 18 27.1	+10
RIMA	**Rio Macho**	**10.23**	**343**	Pn	**Pn**	**21 18 19.4**	**+0.4**
PAMC	**Pamplona, Colo**	**10.37**	**48**	*e*P	**Pn**	**21 18 30.0**	**+0.5**
JTS	**Las Juntas de** 0.8nm,0.3s,baz=228,slow=22,SNR=3.1	**11.08**	**339**	Pn	**Pn**	**21 18 29.9**	**-0.6**
JTS				LR	LR	21 21 48.0	
	comp=Z,11μm,21.0s,baz=192,slow=32						
JTS	**Las Juntas de**	**11.08**	**339**	Pn	**Pn**	**21 18 32.9**	**+2.4**
TAMC	**Tame, Arauca**	**11.12**	**54**	*e*P	Pn	21 18 41.4	+10
CZSB	**Cruzeiro do Su**	**11.12**	**133**	*e*P	**Pn**	**21 18 32.1**	**+1.0**
OCAC	**Ocana**	**11.16**	**42**	Pn	**Pn**	**21 18 34.2**	**+2.4**
OCAC	**Ocana**	**11.16**	**42**	*e*P	Pn	21 18 42.4	+11
ORTG	**Ortega, Santa**	**11.34**	**336**	Pn	**Pn**	**21 18 37.6**	**+3.5**
SJCC	**San Jacinto, C**	**11.41**	**30**	Pn	**Pn**	**21 18 37.1**	**+2.1**
SJCC	**San Jacinto, C**	**11.41**	**30**	*e*P	**Pn**	**21 18 39.5**	**+4.5**
HZTE	**Horizontes, Gu**	**11.71**	**336**	Pn	**Pn**	**21 18 38.9**	**-0.3**
LL1C	**La Loma 1 Cana**	**12.01**	**37**	*e*P	Pn	21 18 49.0	+5.8
LL6C	**La Loma 6 Bece**	**12.33**	**38**	*e*P	**Pn**	**21 18 51.9**	**+4.3**
NNA	**Nana** 4.5nm,0.3s,baz=323,slow=6.5,SNR=4.5	**12.48**	**162**	Pn	**Pn**	**21 18 50.6**	**+0.9**
NNA				Sn	**Sn**	**21 21 05.3**	**-3.7**
	1.5nm,0.3s,baz=206,slow=17,SNR=2.1						
NNA				LR	LR	21 23 45.2	
	comp=Z,4μm,18.9s,baz=319,slow=38						
NNA	**Nana**	**12.48**	**162**	Pn	**Pn**	**21 18 49.6**	**-0.1**
ACON	**Acoyapa**	**12.71**	**340**	Pn	**Pn**	**21 18 53.4**	**+0.6**
SMRC	**Santa Marta, M**	**12.97**	**30**	*e*P	Pn	21 19 02.3	+6.0
BOAB	**BOACO BROADBAN**	**13.33**	**339**	Pn	**Pn**	**21 19 01.9**	**+0.6**
ELOV	**Elorza**	**13.35**	**58**	*e*P	**P**	**21 19 08.0**	**-3.2**
SDV	**Santo Domingo** 0.6nm,0.3s,baz=207,slow=9.9,SNR=3.7	**13.53**	**49**	Pn	**Pn**	**21 19 02.7**	**-1.4**
SDV	**Santo Domingo**	**13.53**	**49**	Pn	**Pn**	**21 19 03.8**	**-0.4**
SDV	**Santo Domingo**	**13.53**	**49**	*e*P	**Pn**	**21 19 03.3**	**-0.8**
SDV	**Santo Domingo**	**13.53**	**49**	*e*P	**Pn**	**21 19 05.2**	**+1.0**
MATN	**Matagalpa**	**13.87**	**339**	Pn	**Pn**	**21 19 08.9**	**+0.2**
URIC	**Uribia, Colomb**	**14.64**	**37**	Pn	**Pn**	**21 19 17.6**	**-1.6**
URIC	**Uribia, Colomb**	**14.64**	**37**	*e*P	**Pn**	**21 19 15.6**	**-3.6**
DABV	**Dabajuro**	**14.92**	**43**	*e*P	**P**	**21 19 26.1**	**-2.6**
TGUH	**Tegucigalpa,Un**	**15.42**	**336**	Pn	**Pn**	**21 19 31.1**	**+1.4**
TGUH	**Tegucigalpa,Un**	**15.42**	**336**	*e*P	**Pn**	**21 19 28.9**	**-0.8**
BAUV	**El Baul**	**15.59**	**55**	Pn	**Pn**	**21 19 29.8**	**-2.1**
MTO3	**Montecristo**	**16.67**	**330**	Pn	**Pn**	**21 19 47.2**	**+1.3**
ESQI	**Esquipulas**	**16.80**	**330**		**Pn**	**21 19 49.1**	**+1.7**
ESQI	comp=Z,93nm,1.1s			IAmb	IAmb	21 20 02.8	
BIRV	**Birongo**	**17.90**	**54**	P	**P**	**21 20 02.0**	**+0.3**
CCIG	**Comitan**	**19.70**	**326**	P	**P**	**21 20 23.7**	**+2.0**
MACA	**Manacapuru-AM**	**20.39**	**99**	*e*P	Pn	21 20 30.3	-0.9
LPAZ	**La Paz** comp=Z,10nm,0.8s,baz=336,slow=7.9,SNR=23	**20.42**	**143**	P	**P**	**21 20 30.0**	**0.0**
LPAZ	**La Paz** comp=Z,45nm,0.9s	**20.42**	**143**	P	**P**	**21 20 29.9**	**0.0**
LPAZ				IAmb	IAmb	21 20 40.8	
LPAZ	**La Paz**	**20.42**	**143**	*e*P	**P**	**21 20 30.9**	**+0.9**
BOAV	**Boa Vista**	**20.47**	**83**	*e*P	**P**	**21 20 30.4**	**+0.4**
BANI	**BANI**	**21.06**	**29**	P	**P**	**21 20 38.1**	**+1.8**
PB12	**IPOC Station P**	**21.12

V52A IAmb IAmb 21 22 53.8
comp=Z,24nm,1.1s
V51A Loudon 35.85 355 IAmb IAmb 21 22 54.1
comp=Z,24nm,1.1s
BDFB Brasilia 35.92 117 P **P** **21 22 52.0 -0.9**
BDFB LR LR 21 39 53.2
comp=Z,1µm,19.5s,baz=291,slow=40
BDFB Brasilia 35.92 117 P **P** **21 22 53.8 +0.9**
BDFB IAmb IAmb 21 23 22.3
comp=Z,21nm,1.3s
X40A Basin Creek Fa 36.17 343 P **P** **21 22 54.2 -0.4**
baz=159
UALR University of 36.30 344 IAmb IAmb 21 22 58.0
comp=Z,22nm,1.1s
CLTN Cedars of Leba 36.35 353 IAmb IAmb 21 22 58.0
comp=Z,16nm,1.0s
TXAR Lajitas Array 36.47 325 P **P** **21 22 56.9 -0.4**
comp=Z,2.2nm,1.0s,baz=147,slow=12,SNR=8.4
TXAR PcP **PcP** **21 25 20.6 -0.8**
comp=Z,2.1nm,0.9s,baz=116,slow=7.1,SNR=4.8
TXAR LR LR 21 37 39.0
comp=Z,498nm,18.5s,baz=136,slow=36
TXAR Lajitas Array 36.47 325 P **P** **21 22 56.3 -1.1**
TZTN Tazewell 36.52 356 IAmb IAmb 21 22 59.6
comp=Z,22nm,1.1s
TZTN Tazewell 36.52 356 P **P** **21 22 57.1 -0.5**
baz=175
ML02 Panimavida 36.57 167 P **P** **21 22 58.3 +0.2**
WVT Waverly 36.60 351 P **P** **21 22 56.9 -1.4**
WVT Waverly 36.60 351 P **P** **21 22 57.3 -0.9**
baz=168
W41B Gary Mavity, V 36.65 344 IAmb IAmb 21 23 00.9
comp=Z,15nm,1.0s
W41B Gary Mavity, V 36.65 344 P **P** **21 22 57.5 -1.2**
baz=161,SNR=8.4
U49A Red Boiling Sp 36.69 353 IAmb IAmb 21 23 07.1
comp=Z,30nm,1.5s
WHAR Wooly Hollow 36.77 344 IAmb IAmb 21 23 08.2
comp=Z,41nm,1.5s
T57A Hurt 36.92 2 IAmb IAmb 21 23 03.0
comp=Z,14nm,0.8s
ABTX Abilene, Hawle 37.05 333 IAmb IAmb 21 23 17.6
comp=Z,26nm,1.2s
ABTX Abilene, Hawle 37.05 333 P **P** **21 23 01.8 -0.3**
baz=148
PTGB Pitanga 37.10 133 *eP* **P** **21 23 05.3 +2.5**
BLA Blacksburg 37.11 1 P **P** **21 23 01.6 -1.0**
baz=181
W39A Magazine 37.11 342 IAmb IAmb 21 23 05.6
comp=Z,32nm,1.1s
W39A Magazine 37.11 342 P **P** **21 23 01.4 -1.2**
baz=158,SNR=13
FCAR Ozark Folk Cen 37.29 345 IAmb IAmb 21 23 06.0
comp=Z,17nm,1.0s
ITQB Itaqui 37.41 144 *eP* **P** **21 23 08.3 +3.1**
T45A Paducah 37.61 350 P **P** **21 23 06.0 -0.9**
S51A Beattyville 37.62 356 IAmb IAmb 21 23 08.8
comp=Z,23nm,1.1s
SDBA SAO DESIDERIO 37.71 110 *eP* **P** **21 23 07.4 -0.6**
BB19B Bebedouro 37.84 126 *eP* **P** **21 23 11.0 +1.9**
U40A Yellville 37.93 344 IAmb IAmb 21 23 12.0
comp=Z,32nm,1.1s
U40A Yellville 37.93 344 P **P** **21 23 08.1 -1.5**
baz=160,SNR=14
X34A Smith Ranch, M 37.98 337 P **P** **21 23 10.3 +0.3**
X34A IAmb IAmb 21 23 19.2
comp=Z,31nm,1.5s
HHAR Hobbs 38.17 343 P **P** **21 23 10.8 -0.7**
RPN Rapa Nui 38.37 223 LR LR 21 34 45.0
comp=Z,732nm,18.5s,baz=46,slow=29
S44A Carbondale 38.38 349 IAmb IAmb 21 23 14.9
comp=Z,32nm,0.9s
R49A Shelbyville 38.39 355 IAmb IAmb 21 23 21.2
comp=Z,29nm,1.4s
TUL1 Leonard 38.41 340 IAmb IAmb 21 23 16.1
comp=Z,24nm,1.1s
TUL1 Leonard 38.41 340 P **P** **21 23 13.0 -0.6**
baz=156
WMOK Wichita Mounta 38.48 336 P **P** **21 23 13.4 -0.8**
baz=150
MGMO Mountain Grove 38.53 345 P **P** **21 23 13.6 -1.0**
MGMO IAmb IAmb 21 23 16.9
comp=Z,36nm,1.1s
ITAB Concordia 38.61 137 *eP* **P** **21 23 15.7 +0.4**
FVM French Village 38.89 348 IAmb IAmb 21 23 19.9
comp=Z,28nm,0.9s
Q51A Peebles 38.98 357 P **P** **21 23 17.0 -1.4**
Q51A IAmb IAmb 21 23 26.4
comp=Z,31nm,1.3s
CCM Cathedral Cave 39.14 347 P **P** **21 23 18.1 -1.6**
CCM IAmb IAmb 21 23 27.6
comp=Z,39nm,1.4s
CCM Cathedral Cave 39.14 347 P **P** **21 23 18.4 -1.3**
baz=163
MNTX Cornudas Mount 39.22 326 P **P** **21 23 19.1 -1.4**
baz=139,SNR=9.8
S39A Bolivar 39.31 344 P **P** **21 23 20.0 -1.1**
S39A IAmb IAmb 21 23 23.2
comp=Z,22nm,0.9s
LC01 Cunco 39.50 169 P **P** **21 23 22.8 +0.1**
LC01 IAmb IAmb 21 23 31.2
comp=Z,31nm,1.1s
Q44A Meyer Farm, Va 39.51 350 P **P** **21 23 21.8 -1.0**
P52A Corning 39.54 358 P **P** **21 23 22.5 -0.5**
baz=178
T35A Sooner Cattle 39.57 340 P **P** **21 23 23.0 -0.3**
T35A IAmb IAmb 21 23 32.5
comp=Z,28nm,1.1s
P49A Miami Univ. Ec 39.58 355 P **P** **21 23 22.7 -0.7**
baz=174
NBPS Pedro II - PI 39.60 97 *eP* **P** **21 23 24.7 +0.7**
MSTX Muleshoe 39.63 331 IAmb IAmb 21 23 27.1
comp=Z,31nm,1.0s
MSTX Muleshoe 39.63 331 P **P** **21 23 22.9 -1.1**
baz=144,SNR=11
CPSB Cacapava Do Su 39.86 142 *eP* **P** **21 23 28.7 +2.9**
P46A Rosedale 39.93 352 IAmb IAmb 21 23 27.0
comp=Z,22nm,1.1s
MC01 Montes Claros 39.95 116 *eP* **P** **21 23 28.4 +1.5**
U32A Winter Ranch, 40.00 337 P **P** **21 23 27.0 +0.1**
O53A New Philadelph 40.14 360 P **P** **21 23 27.2 -0.8**
baz=179
ACSO Alum Creek Sta 40.17 357 P **P** **21 23 27.6 -0.6**
baz=177
P43A Skaggs, Pawnee 40.32 350 IAmb IAmb 21 23 30.8
comp=Z,30nm,0.9s
O48B Farmland 40.34 355 P **P** **21 23 28.9 -0.7**
baz=179
SSPA Standing Stone 40.61 3 P **P** **21 23 31.6 -0.3**
baz=184
SFIN Lafayette 40.67 353 P **P** **21 23 32.0 -0.3**
baz=170
PLTB Pedras Altas 40.71 143 *eP* **P** **21 23 33.4 +0.5**
N54A Moraine State 40.86 1 IAmb IAmb 21 23 42.0
comp=Z,38nm,1.4s
N54A Moraine State 40.86 1 P **P** **21 23 33.9 -0.1**
baz=181
N59A State Game Lan 41.07 6 P **P** **21 23 36.0 +0.3**
baz=188
121A Cookes Peak, D 41.20 324 P **P** **21 23 38.0 +0.9**
121A Cookes Peak, D 41.20 324 P **P** **21 23 36.9 -0.3**
baz=137,SNR=8.5
LL04 Puerto Octay 41.36 170 P **P** **21 23 37.5 -0.5**
LL04 IAmb IAmb 21 23 45.8
comp=Z,36nm,1.0s
M57A Sunshine Farm, 41.36 4 P **P** **21 23 37.5 -0.6**
PLCA Paso Flores 41.53 168 P **P** **21 23 40.5 +0.9**
comp=Z,13nm,0.9s,baz=343,slow=10,SNR=14
PLCA LR LR 21 38 11.2
comp=Z,936nm,21.6s,baz=13,slow=32
PLCA Paso Flores 41.53 168 P **P** **21 23 39.9 +0.3**
PLCA IAmb IAmb 21 23 47.0
comp=Z,30nm,1.1s
KSU1 Kansas State U 41.58 341 P **P** **21 23 39.3 -0.6**
KSU1 Kansas State U 41.58 341 P **P** **21 23 39.7 -0.3**
baz=156,SNR=10
N41A Harden Midland 41.60 349 IAmb IAmb 21 23 41.0
comp=Z,28nm,1.0s
KSPA Keystone Colle 41.70 6 IAmb IAmb 21 23 49.7
comp=Z,40nm,1.5s
NBPN Ponto Novo - B 41.80 106 *eP* **P** **21 23 42.4 +0.3**
ANMO Albuquerque 42.27 328 LR LR 21 43 38.4
comp=Z,463nm,18.8s,baz=142,slow=40
ANMO Albuquerque 42.27 328 P **P** **21 23 46.5 +0.7**
ANMO IAmb IAmb 21 23 49.7
comp=Z,24nm,1.1s
ANMO Albuquerque 42.27 328 P **P** **21 23 46.4 +0.6**
baz=140
BINY Binghamton 42.31 5 P **P** **21 23 46.5 +0.6**
baz=187
CBKS Cedar Bluff 42.41 338 IAmb IAmb 21 23 50.5
comp=Z,35nm,1.1s
CBKS Cedar Bluff 42.41 338 P **P** **21 23 46.8 +0.1**
baz=151
NBMA Muriti-CE 42.59 101 *eP* **P** **21 23 50.7 +2.1**
L42A Oliver, Polo 42.64 350 IAmb IAmb 21 23 49.1
comp=Z,23nm,1.0s
NBCL Cascavel-CE 42.72 96 *eP* **P** **21 23 51.8 +2.2**
K57A Scipio Center 42.80 5 P **P** **21 23 48.9 -0.9**
K57A IAmb IAmb 21 23 51.1
comp=Z,20nm,1.1s
TUC Tucson 42.85 322 P **P** **21 23 51.1 +0.6**
TUC Tucson 42.85 322 P **P** **21 23 50.5 0.0**
baz=133
N35A Tabor 42.91 343 IAmb IAmb 21 24 11.8
comp=Z,35nm,1.3s
T25A Trinidad 42.97 332 IAmb IAmb 21 23 56.0
comp=Z,33nm,1.1s
T25A Trinidad 42.97 332 P **P** **21 23 52.3 +0.8**
baz=144,SNR=19
L40A Anamosa 42.98 349 IAmb IAmb 21 23 52.3
comp=Z,34nm,1.1s
K43A Burlington 43.12 352 IAmb IAmb 21 23 52.8
comp=Z,18nm,1.1s
JFWS Jewell Farm 43.63 350 IAmb IAmb 21 23 57.3
comp=Z,16nm,0.8s
JFWS Jewell Farm 43.63 350 P **P** **21 23 56.2 -0.3**
baz=166
LL02 Futaleuf 43.67 170 P **P** **21 23 57.1 +0.2**
LL02 IAmb IAmb 21 24 09.1
comp=Z,32nm,1.4s
KSCO Kaye Shedlock' 43.73 335 IAmb IAmb 21 24 00.9
comp=Z,25nm,1.0s
KSCO Kaye Shedlock' 43.73 335 P **P** **21 23 57.9 +0.4**
baz=148
X18A Snowflake 43.89 325 P **P** **21 23 59.0 0.0**
214A Organ Pipe Nat 43.91 320 P **P** **21 23 58.8 -0.2**
baz=130,SNR=7.4
SDCO Great Sand Dun 43.97 332 IAmb IAmb 21 24 10.1
comp=Z,16nm,0.9s
SDCO Great Sand Dun 43.97 332 P **P** **21 23 59.7 0.0**
baz=143,SNR=30
NBLA Lagarto - SE 44.14 106 *eP* **P** **21 24 01.9 +0.8**
BGNE Belgrade 44.17 341 P **P** **21 24 01.1 +0.2**
baz=155
W18A Petrified Fore 44.19 325 P **P** **21 24 02.0 +0.6**
W18A IAmb IAmb 21 24 05.6
comp=Z,18nm,1.1s
W18A Petrified Fore 44.19 325 P **P** **21 24 01.3 -0.1**
baz=136
I42A Draeger Farm, 44.37 352 IAmb IAmb 21 24 03.6
comp=Z,28nm,1.2s
S22A 4UR Ranch, Cre 44.62 330 P **P** **21 24 05.3 +0.4**
baz=141,SNR=10.0
SADO Sadowa 44.68 2 LR LR 21 42 11.3
comp=Z,1µm,20.7s,baz=180,slow=36
SADO Sadowa 44.68 2 P **P** **21 24 03.3 -1.6**
X16A Lo Mia Camp, P 44.69 323 P **P** **21 24 05.7 +0.3**
Q24A Divide 44.79 333 P **P** **21 24 06.4 +0.1**
baz=144
LBNH Lisbon 44.84 9 P **P** **21 24 06.5 +0.3**
baz=193
LONY Lake Ozonia 44.85 6 IAmb IAmb 21 24 08.1
comp=Z,19nm,1.4s
LONY Lake Ozonia 44.85 6 P **P** **21 24 06.2 -0.1**
baz=189
113A Mohawk Valley, 45.05 320 P **P** **21 24 09.0 +1.0**
113A IAmb IAmb 21 24 11.6
comp=Z,12nm,1.1s
MVCO Mesa Verde 45.06 328 P **P** **21 24 08.2 -0.1**
baz=139
RCBR Riachuelo 45.23 98 LR LR 21 44 02.9
comp=Z,3µm,21.9s,baz=66,slow=38
WUAZ Wupatki 45.42 324 P **P** **21 24 10.9 -0.2**
baz=134,SNR=17
ISCO Idaho Springs 45.68 333 P **P** **21 24 12.0 -1.3**
baz=144,SNR=11
PV01 Paradox Valley 45.79 329 P **P** **21 24 15.1 +0.9**
PV01 IAmb IAmb 21 24 36.8
comp=Z,19nm,1.5s
SMCO Snowmass 45.81 331 IAmb IAmb 21 24 17.8
comp=Z,11nm,1.1s
ECSD EROS Data Cent 45.84 344 IAmb IAmb 21 24 15.2
comp=Z,16nm,1.1s
ECSD EROS Data Cent 45.84 344 P **P** **21 24 13.1 -1.0**
baz=158,SNR=11
G40A Rib Lake 45.91 351 IAmb IAmb 21 24 15.7
comp=Z,18nm,1.1s
PV07 Paradox Valley 46.06 329 IAmb IAmb 21 24 19.9
comp=Z,17nm,1.0s
PV23 Carpenter Ridg 46.26 329 IAmb IAmb 21 24 30.7
comp=Z,9.3nm,0.8s
YUH Yuha Desert 46.39 318 IAmb IAmb 21 24 38.2
comp=Z,14nm,1.2s
RMX La Rumorosa 46.47 318 IAmb IAmb 21 24 22.8
comp=Z,10nm,1.0s
SWSC Sam W. Stewart 46.49 318 P **P** **21 24 20.2 +0.7**
baz=128
IKP In-Ko-Pah, Jac 46.52 318 P **P** **21 24 20.1 +0.4**
baz=127
U15A North Rim 46.58 325 P **P** **21 24 21.4 +0.9**
U15A IAmb IAmb 21 24 24.1
comp=Z,12nm,1.2s
W13A Hualapai Mount 46.63 322 IAmb IAmb 21 24 27.4
comp=Z,7.0nm,0.8s
BC3 Big Chuckawall 46.70 319 P **P** **21 24 21.4 +0.2**
baz=129,SNR=8.2
N23A Red Feather La 46.71 334 IAmb IAmb 21 24 24.3
comp=Z,11nm,1.1s
N23A Red Feather La 46.71 334 P **P** **21 24 21.7 +0.3**
baz=144,SNR=5.9
IRM Iron Mountain 46.82 320 P **P** **21 24 22.0 -0.1**
baz=129,SNR=6.7
PHWY Pilot Hill 46.83 335 IAmb IAmb 21 24 25.1
comp=Z,8.8nm,1.1s
MONP2 Monument Peak 46.87 318 P **P** **21 24 22.5 -0.2**
baz=127
F36A Milaca 47.09 348 IAmb IAmb 21 24 24.7
comp=Z,9.6nm,1.1s
BELC Belle Mtn. Jos 47.27 319 P **P** **21 24 26.4 +0.7**
baz=128
KNB Kanab 47.30 325 P **P** **21 24 27.5 +1.6**
KNB IAmb IAmb 21 24 29.4
comp=Z,14nm,1.2s
PKCU Pink Cliffs 47.30 326 P **P** **21 24 26.3 +0.1**
TPFO Pinon Flats 47.33 319 P **P** **21 24 26.9 +0.8**
baz=128
PFO Pinyon Flats O 47.33 319 LR LR 21 42 24.9
comp=Z,604nm,20.9s,baz=132,slow=34
PFO Pinyon Flats O 47.33 319 P **P** **21 24 27.9 +1.7**
PFO IAmb IAmb 21 24 29.9
comp=Z,8.3nm,1.1s
PFO Pinyon Flats O 47.33 319 P **P** **21 24 27.2 +1.0**
baz=128
SRU San Rafael Swe 47.54 329 IAmb IAmb 21 24 31.1
comp=Z,17nm,1.0s
GMRC Granite Mounta 47.54 320 P **P** **21 24 28.4 +0.6**
baz=129
Q16A Castle Valley 47.74 328 P **P** **21 24 28.8 -0.6**
Q16A IAmb IAmb 21 24 42.8
comp=Z,7.9nm,1.0s
P18A Preston Nutter 47.78 329 IAmb IAmb 21 24 39.4
comp=Z,9.8nm,1.0s
MURC Murrieta 47.81 318 P **P** **21 24 30.8 +1.0**
baz=127
P17A Butcher Ranch, 47.92 329 IAmb IAmb 21 24 33.4
comp=Z,12nm,1.0s
RWWY Rawlins 47.92 333 P **P** **21 24 31.1 +0.4**
RWWY IAmb IAmb 21 24 34.2
comp=Z,17nm,1.1s
CCUT Cedar City 47.98 325 IAmb IAmb 21 24 35.0
comp=Z,11nm,1.1s
ELS Elsinore Mount 48.00 318 IAmb IAmb 21 24 34.8
comp=Z,8.8nm,1.1s
HEC Hector,Ludlow 48.00 320 P **P** **21 24 32.3 +1.0**
baz=129
TMUT Trail Mountain 48.03 328 IAmb IAmb 21 24 34.5
comp=Z,13nm,1.4s
TUQ Turquoise Moun 48.12 321 P **P** **21 24 33.3 +1.0**
baz=130
RDMU Red Mountain 48.15 331 P **P** **21 24 32.7 +0.2**
RDMU IAmb IAmb 21 24 35.1
comp=Z,14nm,0.9s
SCI2 San Clemente I 48.37 317 P **P** **21 24 35.4 +1.3**
baz=125
K22A Casper 48.39 335 IAmb IAmb 21 24 36.9
comp=Z,9.3nm,1.1s
K22A Casper 48.39 335 P **P** **21 24 35.4 +1.1**
baz=145
BFSC Mount Baldy Ra 48.51 318 P **P** **21 24 36.5 +1.2**
baz=127
CIS Catalina Islan 48.52 317 P **P** **21 24 36.0 +0.8**
baz=126
GSC Goldstone, Bar 48.60 320 P **P** **21 24 36.6 +0.7**
baz=128,SNR=5.4
RSSD Black Hills 48.62 338 P **P** **21 24 36.6 +0.6**
RSSD Black Hills 48.62 338 P **P** **21 24 36.9 +0.9**
baz=148
SHOC Shoshone, Teco 48.64 321 P **P** **21 24 37.0 +0.9**
baz=130
MPU Maple Canyon 48.78 329 IAmb IAmb 21 24 40.0
comp=Z,9.1nm,0.9s
EDW2 Edwards Air Fo 49.11 319 P **P** **21 24 40.5 +0.7**
baz=127,SNR=11
JLU Jordanelle 49.12 329 IAmb IAmb 21 24 57.7
comp=Z,9.3nm,0.8s
LRMC Laurel Mtn Rad 49.27 320 P **P** **21 24 41.8 +0.7**
baz=128
CCAC Calif City Air 49.29 319 IAmb IAmb 21 25 04.5
comp=Z,21nm,1.1s
TPNV Topopah Spring 49.29 322 P **P** **21 24 42.1 +0.7**
baz=130,SNR=6.8
CTU Camp Tracy 49.34 329 P **P** **21 24 41.7 +0.1**
CTU IAmb IAmb 21 24 44.4
comp=Z,12nm,1.0s
FURC Furnace Creek, 49.36 321 P **P** **21 24 42.5 +0.9**
baz=129,SNR=5.1
MPMC Manual Prospec 49.50 321 P **P** **21 24 43.1 +0.1**
baz=128
DUG Dugvy, Tooele 49.53 328 P **P** **21 24 43.9 +0.8**
baz=136,SNR=5.7
R11A Troy Canyon, C 49.81 324 P **P** **21 24 45.6 +0.3**
baz=132,SNR=5.4
BW06 Boulder Array 49.84 332 P **P** **21 24 45.8 +0.4**
baz=141
PDAR Pinedale Array 49.84 332 P **P** **21 24 45.9 +0.4**
comp=Z,1.2nm,0.8s,baz=134,slow=8.6,SNR=11
PDAR PcP **PcP** **21 26 05.3 -0.7**
comp=Z,1.2nm,0.9s,baz=145,slow=3.3,SNR=3.6
PDAR LR LR 21 46 16.9
comp=Z,687nm,21.6s,baz=142,slow=37
ISA Isabella, Lake 49.90 319 P **P** **21 24 46.8 +1.0**
ISA Isabella, Lake 49.90 319 P **P** **21 24 45.5 -0.4**
baz=127
AGMN Agassiz Nation 49.91 347 P **P** **21 24 45.9 +0.3**
baz=160
HWUT Hardware Ranch 49.92 330 IAmb IAmb 21 24 54.7
comp=Z,16nm,1.1s
SBC Santa Barbara 50.00 317 P **P** **21 24 46.8 +0.3**
baz=125
GRAC Grapevine Rang 50.01 322 P **P** **21 24 47.2 +0.5**
baz=129
CWC Cottonwood Cre 50.11 321 P **P** **21 24 47.9 +0.3**
baz=128
BGU Big Grassy Mou 50.17 328 IAmb IAmb 21 24 51.3
comp=Z,17nm,1.1s
PKM Mcpherson Peak 50.33 318 P **P** **21 24 48.8 -0.5**
baz=125,SNR=7.0
MDND Maddock 50.45 344 P **P** **21 24 50.7 +1.0**
baz=155
SMMC Simmler 50.69 318 P **P** **21 24 52.5 +0.6**
baz=125,SNR=6.9
REDW Red Top Meadow 50.90 332 IAmb IAmb 21 25 05.2
comp=Z,18nm,1.2s
ELK Elko 51.23 327 LR LR 21 46 23.1
comp=Z,987nm,18.6s,baz=142,slow=36
ELK Elko 51.23 327 P **P** **21 24 56.2 +0.1**
FLWY Flagg Ranch 51.38 333 IAmb IAmb 21 25 08.3
comp=Z,12nm,0.9s
NV11 Mina Array Sit 51.40 322 IAmb IAmb 21 25 01.0
comp=Z,13nm,1.0s
OMMB Old Mammoth Mi 51.41 321 IAmb IAmb 21 25 01.1
comp=Z,12nm,1.0s
NVAR Mina Array Bea 51.49 322 P **P** **21 24 59.3 +1.3**
comp=Z,9.8nm,0.9s,baz=134,slow=6.1,SNR=46
NVAR LR LR 21 45 58.5
comp=Z,677nm,20.8s,baz=134,slow=35
LHV Little Huntoon 51.50 322 IAmb IAmb 21 25 08.4
comp=Z,18nm,1.0s
RLMT Red Lodge 51.56 335 P **P** **21 24 58.8 +0.4**
baz=143
LAO LASA Array 51.61 338 P **P** **21 24 59.3 +0.7**
baz=147
YFT Old Faithful 51.73 333 P **P** **21 25 00.0 +0.3**
PMPB Monarch Peak 51.75 319 P **P** **21 25 00.5 +0.7**
PMPB IAmb IAmb 21 25 03.1
comp=Z,17nm,1.2s
ULM Lac du Bonnet 51.76 348 P **P** **21 24 58.5 -1.0**
comp=Z,7.8nm,0.7s,baz=167,slow=7.1,SNR=6.3
ULM Lac du Bonnet 51.76 348 IAmb IAmb 21 25 00.8
comp=Z,18nm,1.2s
BBGB Big Mountain B 52.11 319 IAmb IAmb 21 25 09.6
comp=Z,17nm,1.0s
BMN Battle Mountai 52.14 325 IAmb IAmb 21 25 06.2
comp=Z,24nm,1.1s
QLMT Earthquake Lak 52.29 333 P **P** **21 25 05.5 +1.7**
DGMT Dagmar 52.41 341 P **P** **21 25 05.2 +0.8**
baz=150
HLID Hailey 52.78 330 IAmb IAmb 21 25 10.9
comp=Z,13nm,1.0s
HLID Hailey 52.78 330 P **P** **21 25 06.8 -0.7**
baz=136,SNR=17
EMB Emerald Bay 52.93 322 IAmb IAmb 21 25 31.5
comp=Z,14nm,1.2s
PAHR Pah Rah Range 52.94 323 IAmb IAmb 21 25 32.3
comp=Z,17nm,1.4s
BOZ Bozeman (W) 52.97 333 IAmb IAmb 21 25 12.1
comp=Z,17nm,1.1s
BOZ Bozeman (W) 52.97 333 P **P** **21 25 08.5 -0.3**
baz=140,SNR=20
MPK Martis Peak 53.08 322 IAmb IAmb 21 25 13.8
comp=Z,12nm,1.1s
MFID Camas Ranch 53.41 329 IAmb IAmb 21 25 21.9
comp=Z,14nm,0.9s
LRM Limekiln Ridge 53.51 333 P **P** **21 25 12.8 -0.1**
EGMT Eagleton 54.08 336 IAmb IAmb 21 25 19.8
comp=Z,17nm,1.1s
EGMT Eagleton 54.08 336 P **P** **21 25 16.2 -0.6**
baz=143,SNR=7.7
ORV Oroville 54.15 322 IAmb IAmb 21 25 21.3
comp=Z,19nm,1.1s
WVOR Wild Horse Val 54.26 326 IAmb IAmb 21 25 32.9
comp=Z,21nm,1.1s
J08A Circle Bar Ran 54.78 327 P **P** **21 25 22.8 +0.7**
MSO Missoula 54.95 333 IAmb IAmb 21 25 32.6
comp=Z,11nm,0.9s
MSO Missoula 54.95 333 P **P** **21 25 23.7 +0.5**
baz=138,SNR=6.9
O02D Mt. Diablo Mer 55.31 321 P **P** **21 25 25.8 -0.1**
baz=126
USHA Ushuaia 55.52 171 P **P** **21 25 27.1 +0.1**
comp=Z,2.0nm,0.7s,baz=17,slow=20,SNR=0.8
USHA LR LR 21 47 02.0
comp=Z,1µm,18.3s,baz=340,slow=34
M04C Macdoel 55.69 324 IAmb IAmb 21 25 39.0
comp=Z,11nm,0.9s
M04C Macdoel 55.69 324 P **P** **21 25 28.3 -0.4**
baz=128
K05A Summer Lake 55.72 325 P **P** **21 25 30.0 +1.0**
N02D Trinity Center 55.73 322 P **P** **21 25 28.6 -0.3**
baz=126
KMRM Mail Ridge 55.92 321 IAmb IAmb 21 25 48.1
comp=Z,16nm,1.1s
SCHQ Scheffervill 55.93 10 P **P** **21 25 29.4 -0.6**
comp=Z,2.1nm,0.8s,baz=333,slow=13,SNR=2.1
SCHQ LR LR 21 51 35.4
comp=Z,253nm,18.1s,baz=214,slow=38
M02C Callahan 56.07 323 P **P** **21 25 31.1 -0.2**
baz=126
YBH Yreka Blue Hor 56.18 323 LR LR 21 48 33.0
comp=Z,494nm,19.5s,baz=138,slow=35
L04D Klamath Falls 56.23 324 IAmb IAmb 21 25 41.6
comp=Z,18nm,1.0s
L04D Klamath Falls 56.23 324 P **P** **21 25 32.4 -0.1**
baz=127
J05D Fort Rock, OR 56.27 325 P **P** **21 25 33.0 +0.2**
baz=129,SNR=15
KMPM Mount Pierce 56.28 321 P **P** **21 25 33.9 +1.0**
KMPM IAmb IAmb 21 25 36.4
comp=Z,17nm,1.1s
G08A Pilot Rock 56.33 328 IAmb IAmb 21 25 36.3

comp=Z,17nm,1.0s
WALA Waterton Lakes 56.62 335 IAmb IAmb 21 25 53.7
comp=Z,11nm,1.1s
J04D Umpqua Nationa 56.74 325 P **P** **21 25 35.8 -0.4**
baz=128,SNR=9.7
E09A Wood Farm, Sta 56.74 330 IAmb IAmb 21 25 45.1
comp=Z,16nm,1.2s
L02E Cave Junction 56.97 323 IAmb IAmb 21 25 47.0
comp=Z,10nm,1.1s
L02E Cave Junction 56.97 323 P **P** **21 25 38.1 +0.4**
baz=126
I05D Terrebonne, OR 56.99 326 P **P** **21 25 37.9 +0.1**
baz=129
I04A Tendick Farm, 57.25 325 P **P** **21 25 40.0 +0.3**
baz=128
RKT Rikitea 57.31 242 *e*T T 22 27 07.2
comp=Z,1.8nm,0.3s
FFC Flin Flon 57.32 346 P **P** **21 25 39.5 -0.3**
K02D Willamette Mer 57.32 323 P **P** **21 25 40.1 -0.1**
baz=126,SNR=10
DBO Dodson Butte 57.33 324 IAmb IAmb 21 25 50.1
comp=Z,14nm,1.1s
NEW Newport 57.47 332 LR LR 21 51 47.1
comp=Z,734nm,18.9s,baz=137,slow=38
G05D Wamic, OR 57.55 327 P **P** **21 25 42.4 +0.6**
baz=130
H04A Detroit Lake 57.68 326 IAmb IAmb 21 25 51.6
comp=Z,15nm,1.1s
I03D Drain, OR 57.73 325 P **P** **21 25 41.7 -1.3**
baz=127
J01E Myrtle Point 57.76 324 P **P** **21 25 43.0 -0.2**
baz=126,SNR=5.8
H04D Lebanon 57.89 326 P **P** **21 25 44.4 +0.3**
baz=128
F05D White Salmon 58.04 328 IAmb IAmb 21 25 48.9
comp=Z,16nm,0.9s
F05D White Salmon 58.04 328 P **P** **21 25 45.6 +0.5**
baz=130
COR Corvallis 58.24 325 P **P** **21 25 46.3 -0.2**
I02E Swisshome, OR 58.27 325 P **P** **21 25 47.2 +0.5**
baz=127
LTY Liberty 58.52 329 IAmb IAmb 21 25 51.8
comp=Z,15nm,1.2s
G03D McMinnville, O 58.60 326 P **P** **21 25 49.7 +0.7**
baz=128
F04D Rainier, OR 59.00 327 P **P** **21 25 52.6 +0.8**
baz=128
E04D Cinebar 59.06 328 P **P** **21 25 53.4 +1.2**
baz=129
TAOE Nuku Hiva Isla 59.68 260 *e*S **S** **21 34 05.3 -3.1**
comp=Z,6µm,33.2s
TAOE *e*LR LR 21 43 25.0
comp=Z,1µm,24.7s
D03D Eldon 59.95 328 P **P** **21 25 58.7 +0.4**
baz=129
NLWA Neilton Lookou 60.28 328 P **P** **21 26 00.8 +0.2**
A04D Lummi Island 60.51 329 P **P** **21 26 02.8 +0.7**
baz=130
PGC Sidney 60.85 329 P **P** **21 26 05.9 +1.5**
LLLB Lillooet 61.34 332 P **P** **21 26 08.4 +0.6**
LLLB IAmb IAmb 21 26 23.0
comp=Z,15nm,1.1s
FRB Frobisher Bay 64.32 6 LR LR 21 55 51.3
comp=Z,219nm,20.7s,baz=190,slow=37
BBB Bella Bella 65.37 330 LR LR 21 56 14.4
comp=Z,540nm,19.4s,baz=134,slow=37
PMSA Palmer Station 65.70 172 LR LR 21 52 38.9
comp=Z,523nm,18.8s,baz=350,slow=34
YKA Yellowknife Ar 67.37 344 P **P** **21 26 46.1 -0.9**
comp=Z,5.5nm,0.9s,baz=138,slow=6.6,SNR=42
PPT Papeete 69.72 251 LR LR 21 51 50.7
comp=Z,755nm,18.4s,baz=66,slow=31
DLBC Dease Lake 69.96 335 LR LR 21 59 01.4
comp=Z,623nm,20.9s,baz=106,slow=37
DLBC Dease Lake 69.96 335 IAmb IAmb 21 27 06.3
comp=Z,10nm,1.1s
TBI Tubuai 70.38 245 *e*S **S** **21 36 16.9 -2.7**
comp=Z,787nm,25.8s
TBI Tubuai 70.38 245 *e*LR LR 21 48 23.6
comp=Z,1µm,27.8s
WRGLY Wrigley 70.60 341 P **P** **21 27 07.3 +0.2**
baz=134
TGTN Hyland Airport 71.15 338 P **P** **21 27 10.6 0.0**
baz=129
SKAG Skagway 72.81 334 P **P** **21 27 19.9 -0.6**
baz=122
MMPY Sheldon Lake, 72.94 338 P **P** **21 27 21.3 +0.1**
baz=126
WHY Whitehorse 73.26 335 P **P** **21 27 23.1 -0.2**
baz=122
FARO Faro, Yukon 73.50 337 P **P** **21 27 24.4 -0.2**
baz=124
M31M Drury Creek, Y 73.89 337 P **P** **21 27 27.2 +0.3**
baz=123
N31M Braeburn, Yuko 74.07 336 IAmb IAmb 21 27 33.8
comp=Z,9.2nm,1.0s
N31M Braeburn, Yuko 74.07 336 P **P** **21 27 28.0 +0.1**
baz=122
PNL Peninsula 74.71 333 P **P** **21 27 31.2 -0.5**
baz=118
YUK6 Outpost Mounta 74.87 335 P **P** **21 27 32.9 +0.1**
baz=119
M30M Minto, Yukon 75.04 337 P **P** **21 27 34.4 +0.8**
M30M Minto, Yukon 75.04 337 P **P** **21 27 34.4 +0.8**
baz=121
RES Resolute Bay 75.14 356 LR LR 22 00 33.5
comp=Z,778nm,19.1s,baz=144,slow=36
YUK4 Talbot Arm 75.19 335 P **P** **21 27 34.6 0.0**
baz=119
LIC Lamto 75.92 84 *e*P **P** **21 27 40.0 +0.5**
comp=Z,47nm,1.5s
TIC Toumodi 75.94 83 *e*P **P** **21 27 39.9 +0.2**
DBIC Dimbokro 76.10 83 P **P** **21 27 39.4 -1.1**
comp=Z,10nm,0.9s,baz=272,slow=3.8,SNR=7.6
DBIC LR LR 22 00 12.1
comp=Z,906nm,18.8s,baz=266,slow=35
DBIC Dimbokro 76.10 83 P **P** **21 27 39.2 -1.3**
YUK3 Moose Creek 76.15 335 P **P** **21 27 40.1 0.0**
baz=117
CTG Chitna Glacier 76.17 334 P **P** **21 27 39.5 -0.7**
baz=116
KIC Kosan Boka 76.21 83 *e*P **P** **21 27 41.6 +0.4**
comp=Z,28nm,0.9s
J29M Klondike Camp 76.55 338 P **P** **21 27 42.6 +0.4**
baz=120
BVCY Beaver Creek 76.61 336 P **P** **21 27 42.5 0.0**
baz=117
DAWY Dawson 76.81 337 P **P** **21 27 42.9 -0.7**
baz=119,SNR=7.8
TULEG Thule 76.83 3 P **P** **21 27 42.3 -1.1**
TULEG IAmb IAmb 21 27 51.3
comp=Z,12nm,1.2s
EPYK Eagle Plains 77.00 340 IAmb IAmb 21 28 14.4
comp=Z,13nm,1.2s
EPYK Eagle Plains 77.00 340 P **P** **21 27 44.7 0.0**
baz=122
M27K Edge Creek, AK 77.01 335 IAmb IAmb 21 27 47.7
comp=Z,12nm,1.1s
M27K Edge Creek, AK 77.01 335 P **P** **21 27 44.2 -0.8**
baz=116,SNR=6.0
I29M Ogilvie Camp, 77.04 339 IAmb IAmb 21 27 59.1
comp=Z,14nm,1.1s
I29M Ogilvie Camp, 77.04 339 P **P** **21 27 43.6 -1.2**
baz=120,SNR=11
INK Inuvik 77.05 342 LR LR 22 03 49.2
comp=Z,604nm,19.8s,baz=112,slow=37
INK Inuvik 77.05 342 P **P** **21 27 44.4 -0.4**
baz=125,SNR=16
MCARA McCarthy VSAT 77.08 334 P **P** **21 27 44.4 -0.7**
baz=115
KAIM Kayak Island 77.11 332 P **P** **21 27 44.6 -0.7**
baz=113
VRDI Verde Repeater 77.21 334 IAmb IAmb 21 28 06.0
comp=Z,19nm,1.4s
A36M Sachs Harbour 77.23 347 P **P** **21 27 45.2 -0.6**
baz=134,SNR=11
KOWA Kowa 77.28 75 P **P** **21 27 46.2 -1.0**
L27K Beaver Creek, 77.31 336 IAmb IAmb 21 27 56.0
comp=Z,9.3nm,1.1s
L27K Beaver Creek, 77.31 336 P **P** **21 27 45.9 -0.5**
baz=116
GLB Gilahina Butte 77.45 334 IAmb IAmb 21 27 57.3
comp=Z,12nm,1.0s
M26K Nabesna, AK 77.50 335 P **P** **21 27 47.1 -0.5**
baz=115
BMRM Bremner River 77.61 333 P **P** **21 27 47.7 -0.5**
baz=113
EGAK Eagle 77.82 338 P **P** **21 27 48.4 -0.8**
baz=117,SNR=11
EYAK Cordova Ski Ar 77.97 333 P **P** **21 27 50.3 +0.2**
baz=112
KLU Klutina 78.40 334 IAmb IAmb 21 28 02.1
comp=Z,9.3nm,1.1s
KLU Klutina 78.40 334 P **P** **21 27 52.7 0.0**
baz=112
HARP HAARP 78.42 335 P **P** **21 27 52.9 +0.2**
baz=113
MDT Midelt 78.49 57 LR LR 22 00 48.6
comp=Z,184nm,20.0s,baz=280,slow=34
SCRK Sand Creek 78.57 336 P **P** **21 27 53.5 -0.1**
baz=114
J26L Joseph Creek 78.63 337 P **P** **21 27 53.5 -0.3**
baz=115,SNR=10
M24K Tolsona, Glenn 78.75 334 P **P** **21 27 54.8 +0.3**
baz=112
PAX Paxson 78.78 335 P **P** **21 27 54.8 +0.1**
baz=113
RIDG Independent Ri 78.82 336 IAmb IAmb 21 28 12.1
comp=Z,20nm,1.4s
RIDG Independent Ri 78.82 336 P **P** **21 27 54.8 0.0**
baz=114
SCM Sheep Creek Mo 79.15 334 IAmb IAmb 21 28 01.5
comp=Z,18nm,1.1s
SCM Sheep Creek Mo 79.15 334 P **P** **21 27 56.5 -0.2**
baz=111
PWL Port Wells 79.27 333 P **P** **21 27 57.2 -0.1**
baz=110
M23K Glacier View 79.31 334 P **P** **21 27 57.2 -0.4**
baz=111
J25K Salcha River, 79.38 337 P **P** **21 27 57.7 -0.3**
baz=113
KNK Knik Glacier 79.51 333 IAmb IAmb 21 28 07.5
comp=Z,16nm,1.2s
KNK Knik Glacier 79.51 333 P **P** **21 27 58.2 -0.4**
baz=110
SML Sawmill 79.59 334 IAmb IAmb 21 28 07.8
comp=Z,20nm,1.2s
SML Sawmill 79.59 334 P **P** **21 27 58.7 -0.4**
baz=110
WAT6 Susitna Watana 79.60 334 P **P** **21 27 58.7 -0.6**
baz=111
RAR Rarotonga 79.64 249 P **P** **21 28 01.8 +1.7**
comp=Z,12nm,0.5s,baz=137,slow=21,SNR=1.3
RAR LR LR 21 56 21.1
comp=Z,503nm,18.4s,baz=94,slow=30
ESDC Sonseca Array 79.97 50 P **P** **21 28 01.3 -0.3**
comp=Z,2.1nm,0.9s,baz=268,slow=5.1,SNR=7.8
ESDC LR LR 22 00 56.2
comp=Z,264nm,21.2s,baz=254,slow=34
ESDC Sonseca Array 79.97 50 P **P** **21 28 00.7 -0.9**
RC01 Rabbit Creek A 79.99 333 IAmb IAmb 21 28 09.8
comp=Z,10nm,0.9s
RC01 Rabbit Creek A 79.99 333 P **P** **21 28 00.7 -0.5**
baz=109
WAT1 Susitna Watana 80.04 334 P **P** **21 28 01.2 -0.3**
baz=110
BRSE Bradley Lake S 80.04 331 P **P** **21 28 00.7 -0.8**
baz=108
ILAR Eielson Array 80.05 337 P **P** **21 28 00.9 -0.5**
comp=Z,2.1nm,1.0s,baz=137,slow=3.3,SNR=14
ILAR PP **PP** **21 31 05.2 +1.9**
comp=Z,1.3nm,1.1s,baz=102,slow=5.0,SNR=4.4
ILAR LR LR 22 07 26.8
comp=Z,390nm,18.7s,baz=170,slow=39
BRLK Bradley Lake 80.12 331 IAmb IAmb 21 28 07.5
comp=Z,11nm,0.9s
RND Reindeer 80.36 335 IAmb IAmb 21 28 22.9
comp=Z,22nm,1.2s
M22K Willow 80.38 333 P **P** **21 28 02.8 -0.4**
baz=108
KDAK Kodiak Island 80.40 329 LR LR 22 03 15.1
comp=Z,447nm,21.5s,baz=108,slow=35
MCK McKinley 80.51 335 P **P** **21 28 03.4 -0.6**
baz=110
OHAK Old Harbor 80.62 328 P **P** **21 28 03.8 -0.8**
baz=105
CUT Chulitna 80.65 334 P **P** **21 28 04.4 -0.3**
baz=108
MDM Murphy Dome 80.65 337 IAmb IAmb 21 28 13.4
comp=Z,15nm,1.4s
H24K Noodor Dome 80.83 337 IAmb IAmb 21 28 14.7
comp=Z,15nm,1.2s
H24K Noodor Dome 80.83 337 P **P** **21 28 05.4 -0.3**
baz=111
NEA2 Nenana 80.86 336 P **P** **21 28 05.1 -0.8**
NEA2 Nenana 80.86 336 P **P** **21 28 05.7 -0.1**
baz=110
TRF Thorofare Moun 80.99 335 IAmb IAmb 21 28 14.6
comp=Z,16nm,1.1s
TRF Thorofare Moun 80.99 335 P **P** **21 28 06.4 -0.4**
baz=108
O20K Slope Mountain 81.05 331 P **P** **21 28 06.7 -0.3**
baz=106
SPCR Spurr Chakacha 81.16 332 P **P** **21 28 07.4 -0.2**
baz=106
I23K Minto, Yukon-K 81.17 337 IAmb IAmb 21 28 18.0
comp=Z,18nm,1.4s
I23K Minto, Yukon-K 81.17 337 P **P** **21 28 07.3 -0.1**
baz=110
KTH Kantishna Hill 81.29 335 IAmb IAmb 21 28 16.6
comp=Z,13nm,1.1s
H23K Yukon River 81.47 337 P **P** **21 28 07.9 -1.2**
baz=110
BPAW Bear Paw Mtn. 81.49 335 IAmb IAmb 21 28 17.5
comp=Z,19nm,1.3s
BPAW Bear Paw Mtn. 81.49 335 P **P** **21 28 08.9 -0.3**
baz=108
PPLA Purkeypile 81.64 334 P **P** **21 28 09.7 -0.5**
baz=107
CAST Castle Rocks 81.75 335 IAmb IAmb 21 28 18.7
comp=Z,14nm,1.0s
CAST Castle Rocks 81.75 335 P **P** **21 28 10.0 -0.6**
baz=107
CHUM Lake Minchumin 81.98 335 P **P** **21 28 11.5 -0.3**
baz=107
N19K Bonanza Creek 82.13 332 P **P** **21 28 11.2 -1.5**
baz=104
COLD Coldfoot 82.18 338 P **P** **21 28 12.6 -0.1**
baz=109
I21K Tanana 82.23 336 IAmb IAmb 21 28 21.2
comp=Z,7.9nm,1.1s
I21K Tanana 82.23 336 P **P** **21 28 12.9 -0.1**
baz=107
L20K Farewell, AK 82.28 333 P **P** **21 28 12.8 -0.6**
baz=105,SNR=6.5
M19K Big River Lodg 82.36 333 P **P** **21 28 13.1 -0.7**
baz=105
TOLK Toolik Lake Re 82.43 340 P **P** **21 28 13.6 -0.5**
baz=110
K20K Telida 82.59 334 IAmb IAmb 21 28 23.2
comp=Z,9.4nm,1.0s
K20K Telida 82.59 334 P **P** **21 28 14.5 -0.5**
baz=105,SNR=5.0
L19K White Mountain 82.64 333 IAmb IAmb 21 28 17.1
comp=Z,16nm,1.2s
L19K White Mountain 82.64 333 P **P** **21 28 14.7 -0.6**
baz=104
H21K Melozitna Rive 82.69 337 P **P** **21 28 15.2 -0.3**
baz=106
TORD Torodi Ar. Bea 82.76 77 P **P** **21 28 15.9 -0.9**
comp=Z,1.8nm,0.8s,baz=290,slow=5.9,SNR=9.4
TORD Torodi Ar. Bea 82.76 77 P **P** **21 28 15.9 -0.9**
TORD IAmb IAmb 21 28 24.9
comp=Z,8.3nm,1.3s
N18K Kilae Creek 82.77 331 IAmb IAmb 21 28 24.6
comp=Z,12nm,1.1s
N18K Kilae Creek 82.77 331 P **P** **21 28 15.7 -0.3**
baz=103
J20K Nowinta River 82.84 335 IAmb IAmb 21 28 24.4
comp=Z,9.7nm,1.1s
J20K Nowinta River 82.84 335 P **P** **21 28 16.1 -0.1**
baz=105
TTA Tatalina 83.34 334 P **P** **21 28 18.8 -0.1**
baz=103
CLF Chambon-Foret 85.44 42 P **P** **21 28 29.2 -0.6**
SNAA Sanae 86.16 162 LR LR 22 08 17.8
comp=Z,207nm,18.8s,baz=299,slow=36
BMRD Maredsous 87.25 40 *d*PcP **PcP** **21 28 40.7 -0.1**
QSPA South Pole Qui 89.97 180 P **P** **21 28 52.1 +0.8**
KEST Kesra 90.21 54 LR LR 22 11 35.6
comp=Z,215nm,18.1s,baz=214,slow=37
DAVOX Davos/Dischmat 90.56 43 LR LR 22 08 29.9
comp=Z,270nm,18.5s,baz=269,slow=35
AFI Afiamalu 90.88 256 LR LR 22 02 35.2
comp=Z,226nm,18.4s,baz=31,slow=31
SPITS Spitsbergen Ar 91.56 12 LR LR 22 10 16.9
comp=Z,181nm,21.1s,baz=38,slow=36
CLL Collm 92.48 39 *e*P **P** **21 29 05.0 +1.8**
CLL *e*PP **PP** **21 32 44.0 -0.2**
CLL *e*SKSac **SKSac** **21 39 42.0 +5.1**
CLL *e*S **S** **21 40 11.0 +3.7**
CLL *e*PS **PS** **21 41 18.0 -1.3**
CLL *e*PPS PPS 21 41 54.0
CLL *e*SS **SS** **21 46 24.0 +5.6**
CLL *e*SSS SSS 21 50 06.0
CLL Lm MLR 22 12 00.0
comp=N,100nm,21.2s
CLL Lm MLR 22 12 00.0
comp=E,200nm,18.4s
CLL Lm MLR 22 12 00.0
comp=Z,200nm,20.0s
VAE Valguarnera 94.23 53 LR LR 22 10 57.8
comp=Z,394nm,19.0s,baz=291,slow=35
TSUM Tsumeb 97.94 109 LR LR 22 13 46.0
comp=Z,878nm,18.1s,baz=246,slow=36
NACGM Naroch 100.14 34 *e*P **Pdif** **21 29 36.5 -1.3**
DZM Mont Dzumac 110.95 246 *e*LR LR 22 07 12.8
comp=Z,356nm,23.9s
ZALV Zalesovo Beam 125.02 10 PKP **PKPdf** **21 34 52.2 -0.2**
comp=Z,0.8nm,0.6s,baz=327,slow=2.5,SNR=5.7
ZALV Zalesovo Beam 125.02 10 PKPdf **PKPdf** **21 34 52.0 -0.4**
USRK Ussuriysk Ar. 127.25 331 PKP **PKPdf** **21 34 56.0 -1.0**
comp=Z,0.8nm,0.5s,baz=84,slow=6.5,SNR=1.3
STKA Stephens Creek 128.83 227 PKP **PKPdf** **21 35 00.0 -0.4**
comp=Z,3.0nm,0.8s,baz=53,slow=1.6,SNR=8.9
MKAR Makanchi Array 131.19 15 PKP **PKPdf** **21 35 03.3 -1.2**
comp=Z,0.9nm,0.9s,baz=336,slow=2.7,SNR=5.5
SONM Songino Array 132.02 353 PKP **PKPdf** **21 35 05.4 -0.8**
comp=Z,0.8nm,1.1s,baz=48,slow=2.2,SNR=4.3
SONM Songino Array 132.02 353 **PKPdf** **21 35 04.1 -2.0**
KSRS Korea Array 134.30 328 PKP **PKPdf** **21 35 10.2 -0.3**
comp=Z,2.4nm,0.8s,baz=343,slow=1.5,SNR=3.6
WMQ Urumqi 135.26 12 *e*PKP **PKPdf** **21 35 13.3 +1.0**
WMQ LR LR
comp=Z,340nm,17.7s
WMQ LR LR
comp=Z,310nm,16.1s
WMQ LR LR
comp=Z,290nm,19.5s
HHC Hu-ho-hao-te 137.88 346 *e*PKP **PKPdf** **21 35 13.1 -4.2**
ASAR Alice Springs 138.83 233 PKhKP PKPpre 21 35 14.1
comp=Z,2.4nm,0.8s,baz=109,slow=4.1,SNR=8.6
ASAR PKP **PKPdf** **21 35 19.9 +0.5**
comp=Z,3.0nm,0.8s,baz=109,slow=2.1,SNR=15
ASAR PP **PP** **21 38 10.6 0.0**
comp=Z,0.8nm,1.0s,baz=109,slow=5.4,SNR=3.0
ASAR Alice Springs 138.83 233 PKPdf **PKPdf** **21 35 17.4 -2.0**
WR0 Warramunga Arr 140.03 238 PKPdf **PKPdf** **21 35 20.7 -1.0**
WB2 Warramunga Arr 140.20 238 PKPdf **PKPdf** **21 35 20.0 -1.9**
WRAB Tennant Creek 140.20 238 PKPdf **PKPdf** **21 35 19.9 -2.1**
WRA Warramunga Arr 140.21 238 PKhKP PKPpre 21 35 16.7
comp=Z,1.7nm,0.8s,baz=111,slow=1.9,SNR=10
WRA PKP **PKPdf** **21 35 22.0 0.0**
comp=Z,3.7nm,0.8s,baz=115,slow=1.4,SNR=24
WRA Warramunga Arr 140.21 238 PKPdf **PKPdf** **21 35 19.9 -2.1**
WB0 Warramunga Arr 140.24 238 PKPdf **PKPdf** **21 35 20.8 -1.3**
NJ2 Nanjing 143.15 331 *e*PKP **PKPdf** **21 35 26.5 -0.4**
GOMU GeErMu 143.84 6 PKP **PKiKP** **21 35 32.8 +0.9**
GOMU pPKP sPKPdf 21 35 35.9 +3.8
GOMU sPKP 21 35 37.6
LZH Lanzhou 143.91 354 ⇓PKP PKPab 21 35 26.4 +1.0
LZH pPKP sPKPdf 21 35 33.3 +1.3
LZH LR LR
comp=Z,260nm,17.9s
LZH LR LR
comp=Z,370nm,18.4s
XAN Xi'an 145.00 346 PKPbc **PKPab** **21 35 28.1 -1.2**
XAN pPKP sPKPdf 21 35 36.0 +2.2
XAN sPKP 21 35 40.3
WHN Wuhan 146.43 336 PKPbc **PKPdf** **21 35 34.1 +1.5**
MORW Morawa 146.82 208 PKPbc **PKPdf** **21 35 35.0 +1.6**
KNRA Kununurra 146.83 240 PKPbc **PKPdf** **21 35 35.0 +1.4**
PSA00 Pibara Seismi 150.48 222 PKPbc **PKPbc** **21 35 43.5 -1.2**
PZH PanZhiHua 153.61 355 PKPbc **PKPdf** **21 35 43.1 -1.1**
KMI Kunming 154.86 352 PKPbc **PKPdf** **21 35 47.1 +1.0**
CMAR Chiang Mai Arr 161.74 1 PKP **PKPdf** **21 35 53.6 -0.7**
comp=Z,0.9nm,0.9s,baz=318,slow=1.5,SNR=4.9
CMAR PKPab **PKPab** **21 36 37.4 -1.8**
comp=Z,3.1nm,1.0s,baz=336,slow=4.3,SNR=12

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*IDC **18** 21:20:00.2±0.9, 32.88N×131.14E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.7/49, mbtmp3.7/12, ML3.5/3, MS3.4/12, Ms1 3.4/12, ms1mx3.1/78, Error ellipse: s-maj=24.0km s-min=6.9km az=48.0*

*JMA **18** 21:20:01.1, 33.01N×131.18E, h7km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs111.00000°, δ74.00000°, λ-31.00000°. NP2: φs210.00000°, δ60.00000°, λ-162.00000°. Principal axes: T Plg9.0000°, Azm163.0000°; N Plg55.0000°, Azm266.0000°; P Plg33.0000°, Azm67.0000°;*

JMA Felt IV J1.

*NIED **18** 21:20:01.1, 33.02N×131.18E, h7km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.16; Mθθ1.20; Mφφ-1.04; Mrθ0.29; Mθφ0.90; Mφr1.74; Fault plane solution: M₀2.25000×10¹⁵ NP1: φs109.00000°, δ41.00000°, λ-6.00000°. NP2:φs204.00000°, δ86.00000°, λ-131.00000°.*

*NEIC **18** 21:20:02.5±1.5, 33.01N±0.04×131.09E±0.05, h10km±1km, mb4.3/9 Error ellipse: s-maj=8.4km s-min=6.4km az=229.0*

ISC 18 21:20:02.0±0.5, 33.04N±0.05×131.18E±0.03, h10km, n57, σ1§40/54, mb4.2/16, MS3.5/10, 1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.26**	**288**	Pg	**Pg**	**21 20 06.3**	**-1.1**
	835nm,0.3s,baz=47,slow=6.8,SNR=299						
JNU				Lg	Lg	21 20 10.5	
	2µm,0.3s,baz=198,slow=20,SNR=66						
JNU	**Nakatsue**	**0.26**	**288**	⇑P	**Pg**	**21 20 06.8**	**-0.6**
JNU				S	**Sg**	**21 20 10.9**	**-0.1**
JNU	**Nakatsue**	**0.26**	**288**	Pg	**Pg**	**21 20 06.9**	**-0.5**
JNU				Sg	**Sg**	**21 20 10.7**	**-0.3**
JUS	**Usuki**	**0.48**	**87**	⇓P	**Pg**	**21 20 10.1**	**-1.3**
JUS				S	**Sg**	**21 20 17.1**	**-0.7**
JTA	**Tamana**	**0.55**	**262**	⇓P	**Pg**	**21 20 11.8**	**-0.9**
JTA				S	**Sg**	**21 20 19.4**	**-0.5**
JSU	**Suzuyama**	**1.65**	**202**		**Pn**	**21 20 30.2**	**-0.8**
JTU	**Tsushima**	**2.09**	**315**	Pn	**Pn**	**21 20 36.3**	**-0.8**
JMN	**Monobe**	**2.36**	**72**	Pn	**Pb**	**21 20 42.3**	**-2.4**
JHS	**Saijyo**	**2.53**	**39**	Pn	**Pn**	**21 20 44.4**	**+1.2**
TJN	**Taejon**	**4.58**	**318**	Pn	**Pn**	**21 21 09.7**	**-1.6**
KSRS	**Korea Array**	**5.14**	**330**	Pn	**Pn**	**21 21 19.5**	**+0.4**
	0.8nm,0.3s,baz=143,slow=12,SNR=9.9						
KSRS				Pg	**Pg**	**21 21 36.8**	**-3.7**
	2.6nm,0.3s,baz=149,slow=17,SNR=14						
KSRS				Lg	Lg	21 22 41.4	
	2.5nm,0.3s,baz=157,slow=30,SNR=7.7						
KSAR	**Wonju Array Be**	**5.15**	**329**	Pn	**Pn**	**21 21 19.3**	**+0.1**
KS19	**Wonju Array Si**	**5.21**	**330**	Pn	**Pn**	**21 21 19.7**	**-0.3**
INU	**Inuyama**	**5.36**	**63**	Pn	**Pn**	**21 21 23.3**	**+1.3**
JGF	**Kuroka**	**5.71**	**62**	Pn	**Pn**	**21 21 27.3**	**+0.3**
INCN	**Inchon**	**5.78**	**321**	Pn	**Pn**	**21 21 27.3**	**-0.6**
JOW	**Kunigami**	**6.68**	**203**	Pn	**Pn**	**21 21 41.2**	**+1.0**
	1.3nm,0.3s,baz=276,slow=24,SNR=0.9						
JOW				Sn	**Sn**	**21 22 55.5**	**-0.9**
	0.6nm,0.3s,baz=280,slow=28,SNR=2.4						
MAJO	**Matsushiro**	**6.75**	**57**	Pn	**Pn**	**21 21 43.2**	**+1.9**
MJB9	**Matsu-Tunnel**	**6.75**	**57**	Pn	**Pn**	**21 21 42.6**	**+1.3**
MJAR	**Matsushiro Arr**	**6.76**	**57**	Pn	**Pn**	**21 21 41.5**	**+0.2**
	0.4nm,0.3s,baz=302,slow=8.1,SNR=9.6						
MJAR				Lg	Lg	21 23 34.9	
	0.2nm,0.3s,baz=320,slow=20,SNR=1.6						
MJAR	**Matsushiro Arr**	**6.76**	**57**	Pn	**Pn**	**21 21 42.8**	**+1.5**
JHJ	**Hachijo jima 2**	**7.22**	**87**	Pn	**Pn**	**21 21 47.9**	**+0.2**
	11nm,0.3s,baz=41,slow=16,SNR=1.5						
JHJ				LR	LR	21 24 45.5	
	comp=Z,176nm,18.6s,baz=248,slow=39						
USRK	**Ussuriysk Ar.**	**11.16**	**3**	LR	LR	21 26 41.8	
	comp=Z,182nm,19.4s,baz=173,slow=36						
JCJ	**Chichijima**	**11.22**	**119**	LR	LR	21 26 03.6	
	comp=Z,181nm,21.4s,baz=110,slow=32						
KLR	**Kul'dur**	**16.18**	**1**	Pn	**P**	**21 23 55.8**	**+3.2**
	0.2nm,0.3s,baz=164,slow=9.8,SNR=17						
KLR				LR	LR	21 29 39.7	
	comp=Z,89nm,19.8s,baz=174,slow=36						
HHC	**Hu-ho-hao-te**	**17.48**	**302**	*e*P	**P**	**21 24 06.4**	**-0.8**

HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.0s
HHC LR LR
comp=N,210nm,14.3s
HHC LR LR
comp=E,230nm,14.9s
HHC LR LR
comp=Z,200nm,15.8s
CD2 Chengdu 23.33 272 *e*P **P 21 25 08.0 -2.5**
CD2 LR LR
comp=N,60nm,14.9s
CD2 LR LR
comp=E,350nm,14.1s
CD2 LR LR
comp=Z,310nm,16.5s
ULN Ulaanbaatar 23.45 316 P **P 21 25 13.3 +1.6**
ULN IAmb IAmb 21 25 21.3
comp=Z,9.7nm,1.2s
SONM Songino Array 23.82 316 P **P 21 25 16.9 +1.7**
comp=Z,1.4nm,0.8s,baz=128,slow=9.0,SNR=10
SONM LR LR 21 35 57.4
comp=Z,66nm,18.2s,baz=107,slow=40
SONM Songino Array 23.82 316 P **P 21 25 15.0 -0.2**
PZH PanZhiHua 26.31 263 P **P 21 25 37.9 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.9s
DAV Davao City (W) 26.36 193 LR LR 21 37 20.2
comp=Z,46nm,18.1s,baz=344,slow=40
CMAR Chiang Mai Arr 32.31 251 P **P 21 26 32.2 +0.8**
comp=Z,0.3nm,0.4s,baz=55,slow=9.6,SNR=1.9
CMAR LR LR 21 41 47.8
comp=Z,46nm,19.4s,baz=65,slow=41
SEY Seymchan 32.78 18 LR LR 21 39 27.8
comp=Z,64nm,19.3s,baz=73,slow=35
SIJI Sorong 33.73 180 LR LR 21 37 42.6
comp=Z,53nm,20.2s,baz=209,slow=32
WMQ Urumqi 35.36 301 *e*P **P 21 26 56.4 -1.3**
WMQ pmax pmax
comp=Z,14nm,0.7s
MKAR Makanchi Array 39.31 305 P **P 21 27 31.2 +0.1**
comp=Z,0.2nm,0.8s,baz=92,slow=11,SNR=2.2
NRIK Noril'sk 43.69 339 LR LR 21 47 47.8
comp=Z,99nm,20.2s,baz=142,slow=38
PMG Port Moresby 44.87 157 LR LR 21 47 39.5
comp=Z,68nm,18.0s,baz=317,slow=37
AAK Ala-Archa 45.03 299 LR LR 21 48 03.2
comp=Z,107nm,18.9s,baz=82,slow=37
KK31 Karatay Array 47.87 301 P **P 21 28 41.2 +1.1**
KK31 IAmb IAmb 21 29 08.7
comp=Z,5.1nm,1.5s
KKAR Karatay Array 47.87 301 P **P 21 28 40.1 0.0**
KNRA Kununurra 48.50 183 P **P 21 28 44.0 -1.0**
WB0 Warramunga Arr 52.60 176 P **P 21 29 15.4 -0.7**
WB0 IAmb IAmb 21 29 41.4
comp=Z,4.1nm,1.1s
WRAB Tennant Creek 52.76 176 P **P 21 29 16.6 -0.7**
WRAB IAmb IAmb 21 29 26.4
comp=Z,6.7nm,1.3s
WB2 Warramunga Arr 52.77 176 P **P 21 29 17.0 -0.4**
WB2 IAmb IAmb 21 29 40.8
comp=Z,4.4nm,1.2s
WRA Warramunga Arr 52.77 176 P **P 21 29 14.9 -2.5**
comp=Z,0.4nm,0.7s,baz=356,slow=7.8,SNR=2.8
SVW2 Sparrevohn 53.70 35 P **P 21 29 25.1 +1.3**
ABKAR Akbulak array 54.05 310 P **P 21 29 27.5 +0.9**
ASAR Alice Springs 56.45 177 P **P 21 29 41.0 -3.1**
comp=Z,0.1nm,0.6s,baz=324,slow=33,SNR=2.6
ASAR Alice Springs 56.45 177 P **P 21 29 46.3 +2.3**
KBZ Khabaz 66.92 308 P **P 21 30 55.7 +1.2**
comp=Z,1.7nm,0.8s,baz=59,slow=6.0,SNR=6.3
FINES FINESS Array B 68.24 330 P **P 21 31 03.3 +0.7**
comp=Z,2.0nm,0.9s,baz=269,slow=24,SNR=1.9
FINES FINESS Array B 68.24 330 P **P 21 31 03.6 +1.1**
YKA Yellowknife Ar 71.30 27 P **P 21 31 22.9 +1.6**
comp=Z,0.3nm,0.7s,baz=304,slow=5.8,SNR=5.2
HFS Hagfors 73.99 332 LR LR 22 06 49.8
comp=Z,311nm,19.9s,baz=270,slow=38
BRTR Keskin Array B 74.90 308 P **P 21 31 43.1 -0.3**
comp=Z,0.6nm,0.8s,baz=106,slow=8.0,SNR=4.6

JMA 18 21:20:19.7, 33.02N×131.18E, h6km±1km, M3.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.27**	**292**	P	Pg	21 20 25.4	+0.3
JUS	**Usuki**	**0.48**	**84**	*e*S	Sg	21 20 35.5	+0.2

*NIED **18** 21:21:41.8, 33.02N×131.19E, h7km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr1.82; Mθθ3.32; Mθφ -5.14; Mrθ0.78; Mφφ5.42; Mφr1.00; Fault plane solution: M0 7.04000×10^14^ NP1: φs110.00000°, δ77.00000°, λ8.00000°. NP2: φs18.00000°, δ82.00000°, λ167.00000°.*

JMA 18 21:21:41.7, 33.02N×131.19E, h7km±1km, M3.5, 3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.28**	**291**	||P	Pg	21 21 47.5	+0.2
JNU				S	Sg	21 21 51.5	+0.5
JUS	**Usuki**	**0.47**	**84**	||P	Pg	21 21 50.9	0.0
JUS				S	Sg	21 21 57.7	+0.6
JTA	**Tamana**	**0.56**	**264**	||P	Pg	21 21 52.5	+0.1
JIU3	**Izumi3**	**0.57**	**214**	P	Pg	21 21 52.9	+0.3

*NEIC **18** 21:36:02.7±1.2, 17.53S±0.07×69.85W±0.09, h154km±6km, mb4.2/7, Error ellipse: s-maj=12.5km s-min=9.7km az=109.0*
*IDC **18** 21:36:03.7±1.7, 17.65S×69.51W, h160km±11km, mb3.4/2, mb1 3.7/4, mb1mx3.2/37, mbtmp4.0/4, Error ellipse: s-maj=30.0km s-min=11.7km az=105.0*
*GUC **18** 21:36:04.0±0.5, 17.67S×70.11W, h169km±2km, ML3.8*

ISC 18 21:36:02.6±0.8, 17.59S±0.05×69.86W±0.08, h159km±6km, n45, σ1s19/62, mb4.0/6, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.82**	**156**		**Pn**	**21 36 28.1**	**+0.6**
PB16				Sn	**Sn**	**21 36 45.9**	**-0.7**
AP01	**Chacalluta**	**0.91**	**210**	Pn	**Pn**	**21 36 27.7**	**+0.4**
AP01				Sn	**Sn**	**21 36 46.3**	**-0.2**
AP01	**Chacalluta**	**0.91**	**210**	*e*P	**Pn**	**21 36 27.8**	**+0.4**
AP01				*i* S	**Sn**	**21 36 46.5**	**0.0**
AP01				IAML		21 36 48.0	
comp=E,4μm,0.2s							
PB12	**IPOC Station P**	**1.12**	**203**	Pn	**Pn**	**21 36 29.5**	**+0.2**
PB12				Sn	**Sn**	**21 36 49.2**	**-0.6**
PB12	**IPOC Station P**	**1.12**	**203**	*e*P	**Pn**	**21 36 29.4**	**+0.2**
PB12				*i* S	**Sn**	**21 36 49.3**	**-0.5**
PB12				IAML		21 36 50.0	
comp=E,1μm,0.2s							
LPAZ	**La Paz**	**2.10**	**52**	P	**Pn**	**21 36 39.5**	**-0.5**
comp=E,36nm,0.3s,baz=242,slow=7.1,SNR=586							
LPAZ				S	**Sn**	**21 37 05.9**	**-2.9**
baz=52,slow=22,SNR=1.4							
LPAZ	**La Paz**	**2.10**	**52**		**Pn**	**21 36 39.2**	**-0.8**
GO01	**Chusmiza**	**2.17**	**163**		**Pn**	**21 36 42.0**	**+1.4**
GO01	**Chusmiza**	**2.17**	**163**	*e*P	**Pn**	**21 36 42.0**	**+1.4**
GO01				*i* S	**Sn**	**21 37 12.3**	**+2.3**
GO01				IAML		21 37 15.5	
comp=N,430nm,0.3s							
PB11	**IPOC Station P**	**2.17**	**175**		**Pn**	**21 36 41.1**	**+0.8**
PB11	**IPOC Station P**	**2.17**	**175**	*e*P	**Pn**	**21 36 41.2**	**+0.8**
PB11				*i* S	**Sn**	**21 37 09.6**	**-0.1**
PB11				IAML		21 37 11.4	
comp=E,643nm,0.3s							
PB08	**IPOC Station P**	**2.63**	**165**	Pn	**Pn**	**21 36 47.2**	**+1.2**
PB08	**IPOC Station P**	**2.63**	**165**	*e*P	**Pn**	**21 36 47.4**	**+1.3**
PB08				*i* S	**Sn**	**21 37 20.8**	**+1.0**
PB08				IAML		21 37 22.8	
comp=E,259nm,0.2s							
HMBC	**Humberstone**	**2.68**	**181**	*e*P	**Pn**	**21 36 46.6**	**+0.2**
HMBC				*i* S	**Sn**	**21 37 19.5**	**-1.0**
HMBC				IAML		21 37 23.3	
comp=N,274nm,0.2s							
TA02	**Huaiquique**	**2.68**	**185**	Pn	**Pn**	**21 36 46.5**	**+0.2**
TA01	**Diego Aracena**	**2.98**	**186**	Pn	**Pn**	**21 36 49.7**	**-0.4**
TA01	**Diego Aracena**	**2.98**	**186**	*e*P	**Pn**	**21 36 49.6**	**-0.4**
TA01				*i* S	**Sn**	**21 37 23.9**	**-3.0**
TA01				IAML		21 37 27.1	
comp=E,121nm,0.3s							
PATCX	**Punta Patache**	**3.23**	**185**	Pn	**Pn**	**21 36 53.0**	**-0.3**
PATCX	**Punta Patache**	**3.23**	**185**	*e*P	**Pn**	**21 36 53.4**	**+0.1**
PATCX				*i* S	**Sn**	**21 37 30.3**	**-2.4**
PB02	**IPOC Station P**	**3.71**	**181**	Pn	**Pn**	**21 37 00.1**	**+0.6**
PB02	**IPOC Station P**	**3.71**	**181**	*e*P	**Pn**	**21 36 59.7**	**+0.2**
PB02				*i* S	**Sn**	**21 37 41.6**	**-2.2**
PB07	**IPOC Station P**	**4.12**	**180**	Pn	**Pn**	**21 37 05.5**	**+0.7**
PB07	**IPOC Station P**	**4.12**	**180**	*e*P	**Pn**	**21 37 05.2**	**+0.4**
PB07				*i* S	**Sn**	**21 37 51.0**	**-2.3**
PB09	**IPOC Station P**	**4.23**	**172**	Pn	**Pn**	**21 37 07.2**	**+0.9**
PB09	**IPOC Station P**	**4.23**	**172**	*e*P	**Pn**	**21 37 06.8**	**+0.6**
PB09				*i* S	**Sn**	**21 37 55.0**	**-0.8**
LVC	**Limon Verde**	**5.08**	**170**	P	**Pn**	**21 37 18.6**	**+1.1**
comp=E,11nm,0.3s,baz=344,slow=12,SNR=131							
LVC				S	**Sn**	**21 38 13.9**	**-2.2**
comp=E,8.1nm,0.3s,baz=129,slow=20,SNR=19							
LVC	**Limon Verde**	**5.08**	**170**	Pn	**Pn**	**21 37 18.2**	**+0.7**
PB06	**IPOC Station P**	**5.10**	**177**		**Pn**	**21 37 17.7**	**+0.1**
PB06	**IPOC Station P**	**5.10**	**177**	*e*P	**Pn**	**21 37 17.8**	**+0.1**
PB06				*i* S	**Sn**	**21 38 13.5**	**-2.8**
PB15	**IPOC Station P**	**5.61**	**176**	Pn	**Pn**	**21 37 24.5**	**+0.2**
PB10	**IPOC Station P**	**5.93**	**186**	Pn	**Pn**	**21 37 27.7**	**-0.8**
GOL2	**Mina Guanaco**	**7.54**	**178**	Pn	**Pn**	**21 37 49.5**	**-0.7**
AC01	**Pan de Azucar**	**8.55**	**184**	Pn	**Pn**	**21 38 01.7**	**-1.5**
SIV	**San Ignacio**	**8.56**	**81**	P	**Pn**	**21 38 02.1**	**-1.5**
comp=E,1.9nm,0.3s,baz=269,slow=12,SNR=10							
SIV				S	Sn	21 39 30.7	-8.2
comp=E,0.2nm,0.3s,baz=2.4,slow=15,SNR=3.9							
NNA	**Nana**	**8.75**	**309**	Pn	**Pn**	**21 38 05.1**	**-0.9**
AC02	**Maricunga**	**9.23**	**176**	Pn	**Pn**	**21 38 11.9**	**-0.9**
PLTB	**Pedras Altas**	**20.39**	**137**	P	**P**	**21 40 27.2**	**+0.1**
PLTB				IAmb	IAmb	21 40 44.4	
comp=Z,20nm,1.4s							
BAUV	**El Baul**	**26.42**	**4**	P	**P**	**21 41 25.6**	**+0.9**
PV12	**Saucer Basin,**	**66.54**	**327**	P	**P**	**21 46 35.6**	**-0.2**
PV12				IAmb	IAmb	21 47 00.3	
comp=Z,3.3nm,0.8s							
DBIC	**Dimbokro**	**68.55**	**75**	P	**P**	**21 46 48.4**	**-0.2**
DBIC				IAmb	IAmb	21 47 12.7	
comp=Z,14nm,1.5s							
QSPA	**South Pole Qui**	**72.58**	**180**	P	**P**	**21 47 14.0**	**+1.7**
QSPA				IAmb	IAmb	21 47 28.0	
comp=Z,3.1nm,1.4s							
TOA0	**Torodi Ar. Sit**	**76.93**	**72**	P	**P**	**21 47 37.3**	**-0.7**
TOA0				IAmb	IAmb	21 47 45.1	
comp=Z,5.2nm,1.5s							
TORD	**Torodi Ar. Bea**	**76.93**	**72**	P	**P**	**21 47 37.7**	**-0.3**
comp=Z,0.9nm,0.6s,baz=259,slow=5.5,SNR=13							
TORD	**Torodi Ar. Bea**	**76.93**	**72**	P	**P**	**21 47 37.5**	**-0.5**
YKA	**Yellowknife Ar**	**87.22**	**341**	P	**P**	**21 48 31.6**	**+1.1**
comp=Z,0.4nm,0.6s,baz=133,slow=5.1,SNR=6.9							

*IDC **18** 21:36:49.0±2.6, 37.09N×56.65E, h0km, mb2.8/1, mb1 3.3/2, mb1mx3.0/33, mbtmp3.1/2, ML3.0/1, Error ellipse: s-maj=28.2km s-min=16.9km az=2.0*
*TEH **18** 21:36:50.4, 37.16N×56.85E, h7km, ML3.1*

ISC 18 21:36:51.9±0.9, 37.21N±0.07×56.85E±0.03, h10km, n37, σ0s88/36, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJRD	**Bojnurd**	**0.66**	**42**	*e*Pg	**Pg**	**21 37 05.0**	**+0.3**
MRVT	**Maraveh tapeh**	**0.76**	**307**	*e*Pg	**Pg**	**21 37 05.9**	**-0.6**
SBZV	**Sabzevar**	**1.02**	**143**	*e*Pg	Pg	21 37 09.3	-2.3
IMND	**Minoodasht**	**1.16**	**273**	*e*Pg	**Pb**	**21 37 13.5**	**-0.5**
IMND				*e*Sg	**Sb**	**21 37 29.6**	**+0.6**
GEYT	**Alibeck**	**1.23**	**54**	Pg	**Pb**	**21 37 15.5**	**+0.2**
20nm,0.3s,baz=235,slow=18,SNR=99							
GEYT				Lg	Lg	21 37 34.9	
24nm,0.3s,baz=73,slow=20,SNR=12							
SHRO	**Shahrood**	**1.40**	**209**	*e*Pg	Pn	21 37 14.7	-2.9
IAKL	**Akhelmad**	**1.64**	**111**	*e*Pn	**Pn**	**21 37 21.0**	**-0.1**
IAKL				*e*		21 37 47.8	
comp=Z,2μm,0.4s							
IPAY	**Payeh**	**1.88**	**113**	*e*Pn	**Pn**	**21 37 24.6**	**+0.3**
IPAY				*e*		21 37 30.3	
comp=Z,1μm,0.3s							
IKRD	**Kardeh**	**2.17**	**101**	*e*Pn	**Pn**	**21 37 29.1**	**+0.7**
IKRD				*e*		21 37 36.9	
comp=Z,884nm,0.2s							
IGLO	**Ghaloghah**	**2.53**	**255**	*e*Pn	**Pn**	**21 37 34.4**	**+1.2**
IGLO				*e*		21 38 26.4	
comp=Z,1μm,0.9s							
IMYA	**Miami**	**2.75**	**107**	*e*Pn	**Pn**	**21 37 36.9**	**+0.7**
IANJ	**Anjilo**	**2.94**	**235**	*e*Pn	**Pn**	**21 37 39.1**	**+0.1**
IANJ				*e*		21 38 39.2	
comp=Z,444nm,0.4s							
JRKH	**Jarkhoshk**	**3.10**	**114**	*e*Pn	**Pn**	**21 37 41.9**	**+0.9**
ISHM	**Shahmirzad**	**3.19**	**245**	*e*Pn	**Pn**	**21 37 44.1**	**+1.6**
TNSJ	**Nastanj**	**3.25**	**184**	*e*Pn	**Pn**	**21 37 43.1**	**+0.1**
TNSJ				*e*		21 38 43.8	
comp=Z,735nm,1.0s							
TBJM	**Torbat-e-JAM**	**3.41**	**124**	*e*Pn	**Pn**	**21 37 45.8**	**+0.4**
TKDS	**Koohdasht(Taba**	**3.60**	**176**	*e*Pn	**Pn**	**21 37 48.5**	**+0.7**
TKDS				*e*		21 38 56.4	
comp=Z,324nm,0.9s							
ILAS	**Lasjerd**	**3.64**	**241**	*e*Pn	**Pn**	**21 37 49.1**	**+0.6**
ILAS				*e*		21 38 01.9	
comp=Z,218nm,0.3s							
IFIR	**Firoozkooh**	**3.66**	**246**	*e*Pn	**Pn**	**21 37 49.7**	**+0.9**
IFIR				*e*		21 38 08.7	
comp=Z,177nm,0.3s							
IPRN	**Peran**	**3.75**	**256**	*e*Pn	**Pn**	**21 37 50.0**	**0.0**
IPRN				*e*		21 38 56.0	
comp=Z,755nm,0.6s							
AFRZ	**Afriz**	**4.17**	**154**	*e*Pn	**Pn**	**21 37 56.5**	**+0.7**
TPRV	**Parvadeh(Tabas**	**4.18**	**182**	*e*Pn	**Pn**	**21 37 57.6**	**+1.8**
TPRV				*e*		21 39 08.7	
comp=Z,254nm,0.7s							
SHRT	**Shahrakht**	**4.53**	**141**	*e*Pn	**Pn**	**21 38 00.6**	**0.0**
ITEG	**Tejag**	**4.58**	**160**	*e*Pn	**Pn**	**21 38 02.6**	**+1.2**
IMON	**Monand**	**4.62**	**149**	*e*		21 38 14.4	
comp=Z,159nm,0.2s							
IMON				*e*Pn	**Pn**	**21 38 03.6**	**+1.5**
ISFB	**Sefidab**	**4.71**	**234**	*e*Pn	**Pn**	**21 38 03.5**	**+0.4**
ANAR	**Anarak**	**4.76**	**213**	*e*Pn	**Pn**	**21 38 03.8**	**0.0**
KRSH	**Karshahi**	**5.02**	**231**	*e*Pn	**Pn**	**21 38 07.4**	**-0.1**
QALM	**Alamut, Qazvin**	**5.04**	**265**	*e*Pn	**Pn**	**21 38 08.1**	**+0.9**
IKOO	**Kooshan**	**5.09**	**159**	*e*Pn	**Pn**	**21 38 09.5**	**+1.0**
IDAH	**Dahanechah**	**5.10**	**150**	*e*Pn	**Pn**	**21 38 08.9**	**+0.2**
YZKH	**Yazd**	**5.16**	**202**	*e*Pn	**Pn**	**21 38 08.6**	**-0.7**
BSRN	**Basiran**	**5.56**	**160**	*e*Pn	**Pn**	**21 38 14.5**	**-0.3**
IPIR	**Pirpir**	**6.66**	**229**	*e*Pn	**Pn**	**21 38 31.8**	**+1.7**
GRMI	**Germi**	**7.25**	**285**	*e*Pn	**Pn**	**21 38 37.8**	**-0.3**
KBZ	**Khabaz**	**12.46**	**306**	Pn	**Pn**	**21 39 47.4**	**-1.8**
comp=Z,0.1nm,0.3s,baz=120,slow=8.1,SNR=1.3							
MKAR	**Makanchi Array**	**21.11**	**55**	P	**P**	**21 41 37.5**	**+0.9**
comp=Z,0.3nm,0.6s,baz=243,slow=12,SNR=3.8							

*ANF **18** 21:48:41.8±0.3, 60.67N×148.71W, h19km±2km, ML3.5/54, Error ellipse: s-maj=1.8km s-min=1.4km az=146.0*
*NEIC **18** 21:48:42.2±1.7, 60.66N±0.02×148.69W±0.05, h24km±9km, Error ellipse: s-maj=3.7km s-min=2.7km az=120.0*
*AEIC **18** 21:48:42±1.6, 60.64N±0.02×148.65W±0.04, h17km±4km, ML3.2, ML3.4/162(NEIC), Error ellipse: s-maj=4.1km s-min=1.4km az=140.0*

ISC 18 21:48:42.1±0.9, 60.65N±0.02×148.66W±0.02, h26km±8km, n197, σ0s84/226, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PWL	**Port Wells**	**0.27**	**37**		**Pb**	**21 48 49.0**	**+0.2**
PWL					**Sb**	**21 48 54.1**	**+0.7**
O22K	**Cooper Landing**	**0.55**	**253**		**Pb**	**21 48 53.1**	**-0.1**
O22K				Sg	**Sb**	**21 49 00.4**	**-0.3**
O22K	**Cooper Landing**	**0.55**	**253**	P	**Pb**	**21 48 53.1**	**-0.1**
baz=73,SNR=190							
O22K				S	**Sb**	**21 49 00.8**	**+0.1**
baz=73							
SEW	**Seward**	**0.67**	**216**		**Pb**	**21 48 54.8**	**-0.4**
SEW	**Seward**	**0.67**	**216**		**Sb**	**21 49 03.9**	**-0.1**
SEW	**Seward**	**0.67**	**216**	P	**Pb**	**21 48 54.9**	**-0.3**
baz=36,SNR=41							
SEW				S	**Sb**	**21 49 04.0**	**-0.1**
baz=36							
RC01	**Rabbit Creek A**	**0.69**	**311**		**Pb**	**21 48 54.8**	**-0.7**
RC01				Sg	**Sb**	**21 49 04.0**	**-0.6**
RC01				IAML		21 49 04.8	
comp=N,2μm,0.4s							
RC01	**Rabbit Creek A**	**0.69**	**311**	P	**Pb**	**21 48 54.9**	**-0.7**
baz=130,SNR=282							
RC01				S	**Sb**	**21 49 03.9**	**-0.7**
baz=130							
KNK	**Knik Glacier**	**0.78**	**7**		**Pb**	**21 48 56.1**	**-0.9**
KNK				Sg	**Sb**	**21 49 06.2**	**-0.9**
KNK				IAML		21 49 07.2	
comp=N,972nm,0.5s							
KNK	**Knik Glacier**	**0.78**	**7**	P	**Pb**	**21 48 56.1**	**-0.9**
baz=187,SNR=124							
KNK				S	**Sb**	**21 49 06.5**	**-0.7**
baz=187							
SLKM	**Skilak Lake**	**0.78**	**260**		**Pb**	**21 48 56.7**	**-0.4**
GLI	**Glacier Island**	**0.80**	**72**		**Pb**	**21 48 56.3**	**-1.2**
GLI				IAML		21 49 09.6	
comp=N,2μm,0.6s							
GLI				IAML		21 49 10.3	
comp=E,2μm,0.3s							
GLI	**Glacier Island**	**0.80**	**72**	P	**Pb**	**21 48 56.3**	**-1.2**
baz=253,SNR=328							
GLI				S	**Sb**	**21 49 07.3**	**-0.6**
baz=253							
FIS	**Fire Island**	**0.91**	**304**		**Pb**	**21 48 59.2**	**0.0**
PMR	**Palmer**	**0.97**	**347**		**Pb**	**21 48 59.2**	**-1.2**
PMR				Sg	**Sb**	**21 49 11.2**	**-1.6**
PMR	**Palmer**	**0.97**	**347**	P	**Pb**	**21 48 59.2**	**-1.2**
baz=166,SNR=40							
PMR				S	**Sb**	**21 49 11.6**	**-1.2**
baz=166							
FID	**Port Fidalgo**	**1.08**	**84**		**Pn**	**21 48 59.9**	**-1.7**
JPK	**Jack Peak**	**1.09**	**67**		**Pn**	**21 49 00.8**	**-1.0**
GHO	**Glory Hole Cre**	**1.14**	**354**		**Pn**	**21 49 02.0**	**-0.4**
GHO				IAML		21 49 20.4	
comp=N,746nm,0.5s							
GHO				IAML		21 49 21.7	
comp=E,812nm,0.5s							
SML	**Sawmill**	**1.18**	**8**		**Pn**	**21 49 02.5**	**-0.4**
SML				IAML		21 49 20.5	
comp=E,927nm,0.6s							
SML				IAML		21 49 20.8	
comp=N,614nm,0.5s							
SML	**Sawmill**	**1.18**	**8**	P	**Pn**	**21 49 02.5**	**-0.4**
baz=188,SNR=132							
SML				S	**Sb**	**21 49 18.5**	**-0.1**
baz=188							
VMT	**TAPS TI Valdez**	**1.21**	**68**		**Pn**	**21 49 02.8**	**-0.4**
VMT					**Sb**	**21 49 19.3**	**-0.1**
CAPN	**Captain Cook N**	**1.23**	**277**		**Pb**	**21 49 04.8**	**+0.1**
CAPN	**Captain Cook N**	**1.23**	**277**	P	**Pb**	**21 49 04.8**	**+0.1**
baz=95,SNR=29							
M22K	**Willow**	**1.31**	**328**	Pn	**Pn**	**21 49 04.3**	**-0.4**
M22K					**Sn**	**21 49 21.5**	**+0.1**
M22K	**Willow**	**1.31**	**328**	P	**Pn**	**21 49 04.3**	**-0.4**
baz=147,SNR=71							
M22K				S	**Sn**	**21 49 21.8**	**+0.4**
baz=147							
SCM	**Sheep Creek Mo**	**1.35**	**28**		**Pn**	**21 49 05.7**	**+0.3**
SCM				IAML		21 49 25.0	
comp=N,658nm,0.5s							
SCM	**Sheep Creek Mo**	**1.35**	**28**	P	**Pn**	**21 49 05.6**	**+0.3**
baz=208,SNR=64							
SCM				S	**Sn**	**21 49 23.8**	**+1.3**
baz=208							
BRSE	**Bradley Lake S**	**1.38**	**230**		**Pn**	**21 49 05.8**	**+0.2**
BRSE					**Sn**	**21 49 23.5**	**+0.4**
BRSE	**Bradley Lake S**	**1.38**	**230**	P	**Pn**	**21 49 05.9**	**+0.2**
baz=48,SNR=86							
BRSE				S	**Sn**	**21 49 23.4**	**+0.3**
baz=48							
BRLK	**Bradley Lake**	**1.42**	**232**		**Pn**	**21 49 06.5**	**+0.2**
BRLK				Sn	**Sn**	**21 49 24.2**	**+0.1**
BRLK				IAML		21 49 26.9	
comp=E,666nm,0.5s							
EYAK	**Cordova Ski Ar**	**1.44**	**93**		**Pn**	**21 49 06.8**	**+0.3**
EYAK	**Cordova Ski Ar**	**1.44**	**93**	P	**Pn**	**21 49 06.9**	**+0.5**
baz=275,SNR=46							
EYAK				S	**Sb**	**21 49 26.2**	**+0.1**
baz=275							
DIV	**Divide**	**1.49**	**70**		**Pn**	**21 49 07.2**	**-0.1**
KLU	**Klutina**	**1.58**	**56**		**Pn**	**21 49 08.8**	**+0.3**
KLU				IAML		21 49 29.9	
comp=E,609nm,0.7s							
KLU	**Klutina**	**1.58**	**56**	P	**Pn**	**21 49 08.8**	**+0.3**
baz=238,SNR=174							
KLU				S	**Sn**	**21 49 29.2**	**+1.1**
baz=238							
Q23K	**Middleton Isla**	**1.69**	**135**	Pn	**Pn**	**21 49 10.8**	**+1.0**
Q23K				IAML		21 49 45.1	
comp=N,417nm,1.0s							
Q23K				IAML		21 49 45.1	
comp=E,497nm,0.9s							
Q23K	**Middleton Isla**	**1.69**	**135**	P	**Pb**	**21 49 12.0**	**-0.3**
baz=317							
MID	**Middleton Isla**	**1.69**	**135**		**Pn**	**21 49 10.1**	**+0.2**
MID				IAML		21 49 45.1	
comp=E,581nm,0.9s							
CNPM	**China Poot**	**1.71**	**230**		**Pn**	**21 49 10.4**	**+0.2**
CNPM				IAML		21 49 34.1	
comp=E,429nm,0.8s							
CNPM				IAML		21 49 34.6	
comp=N,437nm,0.7s							
SPCG	**Spurr Capps Gl**	**1.76**	**293**		**Pn**	**21 49 11.2**	**+0.2**
STLK	**Strandline Lak**	**1.76**	**300**		**Pn**	**21 49 11.1**	**+0.2**
HOM	**Homer**	**1.79**	**238**	Pn	**Pn**	**21 49 12.2**	**+0.9**
CKN	**Chakachatna No**	**1.81**	**290**		**Pn**	**21 49 12.4**	**+0.7**
SPCR	**Spurr Chakacha**	**1.82**	**289**		**Pn**	**21 49 11.9**	**+0.2**
SPCR	**Spurr Chakacha**	**1.82**	**289**	P	**Pn**	**21 49 11.7**	**-0.1**
baz=106,SNR=45							
SPCR				S	**Sn**	**21 49 34.6**	**+0.7**
baz=106							
M24K	**Tolsona, Glenn**	**1.89**	**38**	Pn	**Pn**	**21 49 13.6**	**+0.8**
M24K				IAML		21 49 41.0	
comp=E,326nm,0.7s							
M24K				IAML		21 49 55.6	
comp=N,308nm,0.8s							
M24K	**Tolsona, Glenn**	**1.89**	**38**	P	**Pn**	**21 49 13.8**	**+1.1**
baz=220,SNR=28							
PS12	**TAPS Pump St12**	**1.90**	**63**		**Pn**	**21 49 13.6**	**+0.7**
SPBG	**Spurr Blockage**	**1.91**	**290**		**Pn**	**21 49 13.6**	**+0.6**
CUT	**Chulitna**	**1.92**	**337**		**Pn**	**21 49 13.9**	**+0.8**
CUT	**Chulitna**	**1.92**	**337**	P	**Pn**	**21 49 13.9**	**+0.8**
baz=156,SNR=12							
CUT				S	**Sn**	**21 49 37.6**	**+1.2**
baz=156							
GOAT	**

HARP **HAARP** 2.43 42 P Pn 21 49 22.0 +1.9
baz=225,SNR=26
BERG Berg Lake 2.47 94 Pn 21 49 19.4 -1.2
GLB Gilahina Butte 2.49 69 Pn 21 49 21.4 +0.4
GLB IAML 21 49 56.5
comp=E,259nm,0.7s
OPT Oil Point 2.49 248 Pn 21 49 21.3 +0.3
P19K Oil Pt 2.49 248 Pn Pn 21 49 20.8 -0.2
P19K Oil Pt 2.49 248 P Pn 21 49 21.1 +0.1
baz=65
SUCK Suckling Hills 2.50 101 Pn Pn 21 49 22.0 +1.0
SUCK IAML 21 50 00.3
comp=N,127nm,0.5s
DHY Denali Highway 2.51 13 Pn Pn 21 49 22.9 +1.5
DHY IAML 21 50 01.2
comp=N,120nm,0.3s
DHY IAML 21 50 03.1
comp=E,130nm,0.7s
DHY Denali Highway 2.51 13 P Pn 21 49 22.0 +0.6
baz=194,SNR=24
VRDI Verde Repeater 2.61 75 Pn Pn 21 49 22.4 -0.3
VRDI IAML 21 50 00.6
comp=N,167nm,0.7s
VRDI IAML 21 50 00.6
comp=E,107nm,0.4s
GRIN Grindle Hills 2.67 96 Pn 21 49 22.9 -0.5
KHIT Khitrov Hills 2.68 92 Pn 21 49 23.0 -0.7
AUQ Augustine Qik' 2.72 244 Pn 21 49 24.3 +0.2
RND Reindeer 2.77 358 Pn Pn 21 49 25.7 +0.9
RND IAML 21 50 04.9
comp=N,91nm,0.5s
PAX Paxson 2.78 32 Pn Pn 21 49 26.1 +1.1
PAX Paxson 2.78 32 P Pn 21 49 26.0 +1.0
baz=214,SNR=19
PPLA Purkeypile 2.81 325 Pn 21 49 25.5 +0.1
PPLA Purkeypile 2.81 325 P Pn 21 49 25.0 -0.4
baz=142,SNR=16
PPLA S Sn 21 49 58.3 -0.3
baz=142
O19K Port Alsworth 2.84 263 Pn Pn 21 49 25.2 -0.5
O19K Port Alsworth 2.84 263 P Pn 21 49 25.2 -0.5
baz=79
MCARA **McCarthy VSAT** 2.84 72 Pn Pn 21 49 26.3 +0.5
MCARA **McCarthy VSAT** 2.84 72 P Pn 21 49 26.0 +0.3
baz=257,SNR=17
MCARA S Sn 21 50 00.9 +1.8
baz=257
N19K Bonanza Creek 2.86 276 Pn 21 49 25.8 -0.4
N19K IAML 21 50 15.0
comp=N,84nm,0.7s
N19K Bonanza Creek 2.86 276 P Pn 21 49 25.7 -0.4
baz=91
N19K S Sn 21 49 59.4 -0.3
baz=91
TGL Tana Glacier 2.87 85 Pn 21 49 26.4 +0.2
TGL IAML 21 50 14.6
comp=N,168nm,0.5s
TGL IAML 21 50 15.8
comp=E,156nm,0.5s
WAX Waxell Ridge 2.88 91 Pn Pn 21 49 25.4 -0.9
TRF Thorofare Moun 2.92 345 Pn Pn 21 49 27.4 +0.4
TRF IAML 21 50 09.0
comp=N,114nm,0.6s
TRF IAML 21 50 17.9
comp=E,87nm,1.0s
TRF Thorofare Moun 2.92 345 P Pn 21 49 27.3 +0.4
baz=164,SNR=21
TRF S Sn 21 50 01.5 +0.4
baz=164
SNH Sunshine Point 2.93 97 Pn Pn 21 49 26.9 -0.1
SNH IAML 21 50 15.4
comp=E,88nm,0.6s
M19K Big River Lodg 3.04 297 Pn Pn 21 49 28.4 -0.1
M19K Big River Lodg 3.04 297 P Pn 21 49 28.4 -0.1
baz=112
M19K S Sn 21 50 04.7 +0.8
baz=112
Q19K Cape Douglas, 3.05 238 Pn Pn 21 49 29.2 +0.6
Q19K Cape Douglas, 3.05 238 P Pn 21 49 28.9 +0.2
baz=54
PTPK Patty Peak 3.08 77 Pn 21 49 29.8 +0.7
L20K Farewell, AK 3.10 309 Pn 21 49 29.5 +0.2
L20K Farewell, AK 3.10 309 P Pn 21 49 28.8 -0.5
baz=124,SNR=12
MCK McKinley 3.10 358 Pn Pn 21 49 30.4 +1.1
MCK IAML 21 50 14.0
comp=E,68nm,0.5s
MCK IAML 21 50 22.8
comp=N,74nm,1.3s
MCK McKinley 3.10 358 P Pn 21 49 31.2 +1.9
baz=177
KIAG Kiagna River 3.10 82 Pn 21 49 29.5 0.0
KTH Kantishna Hill 3.10 341 Pn Pn 21 49 29.6 +0.2
KTH IAML 21 50 14.1
comp=E,156nm,0.6s
KTH IAML 21 50 20.5
comp=N,124nm,0.9s
ISLE Juniper Island 3.12 88 Pn Pn 21 49 29.4 -0.2
ISLE IAML 21 50 23.1
comp=E,126nm,0.6s
BALM Baldy 3.12 80 Pn 21 49 29.8 +0.1
CAST Castle Rocks 3.21 331 Pn Pn 21 49 31.4 +0.5
CAST IAML 21 50 25.4
comp=E,64nm,0.7s
CAST IAML 21 50 30.2
comp=N,61nm,0.7s
CAST Castle Rocks 3.21 331 P Pn 21 49 30.8 -0.1
baz=148,SNR=37
M26K Nabesna, AK 3.23 55 Pn Pn 21 49 32.2 +1.0
M26K IAML 21 50 25.1
comp=N,70nm,1.0s
M26K Nabesna, AK 3.23 55 P Pn 21 49 31.8 +0.6
baz=239,SNR=29
BAGL Bagley Icefiel 3.25 90 Pn 21 49 31.2 0.0
L19K White Mountain 3.35 300 Pn 21 49 32.9 +0.1
L19K White Mountain 3.35 300 P Pn 21 49 32.9 +0.1
baz=115
O18K Koktuh Hills 3.36 259 Pn Pn 21 49 32.3 -0.6
O18K IAML 21 50 31.1
comp=E,56nm,0.7s
O18K IAML 21 50 34.4
comp=N,70nm,1.0s
O18K Koktuh Hills 3.36 259 P Pn 21 49 32.5 -0.3
baz=74
GRNC Granite Creek 3.40 86 Pn Pn 21 49 33.6 0.0
GRNC IAML 21 50 32.5
comp=E,59nm,0.6s
GRNC IAML 21 50 41.2
comp=N,99nm,0.8s
SVW2 Sparrevohn 3.41 281 Pn 21 49 32.6 -1.0
SVW2 IAML 21 50 30.9
comp=N,59nm,0.6s
BARN Barnard Glacie 3.45 80 Pn Pn 21 49 34.3 0.0
BARN IAML 21 50 31.4
comp=E,97nm,0.5s
BARN IAML 21 50 32.0
comp=N,86nm,0.7s
KDAK Kodiak Island 3.51 217 Pn Pn 21 49 33.8 -1.1
KDAK Kodiak Island 3.51 217 IAML 21 50 44.5
comp=N,49nm,0.8s
KDAK Kodiak Island 3.51 217 P Pn 21 49 34.4 -0.5
baz=34
N18K Kilae Creek 3.56 274 Pn 21 49 34.4 -1.2
N18K IAML 21 50 36.2
comp=N,49nm,0.7s
N18K Kilae Creek 3.56 274 P Pn 21 49 34.8 -0.8
baz=88
BWN Browne 3.56 354 Pn Pn 21 49 35.2 -0.4
BWN IAML 21 50 36.3
comp=N,94nm,0.9s
BWN IAML 21 50 38.9
comp=E,101nm,0.6s
RIDG Independent Ri 3.58 28 Pn Pn 21 49 37.0 +1.1
RIDG IAML 21 50 35.3
comp=N,58nm,1.0s
RIDG IAML 21 50 39.4
comp=E,65nm,0.7s
RIDG Independent Ri 3.58 28 P Pn 21 49 35.6 -0.4
baz=211
CTG Chitna Glacier 3.60 82 P Pn 21 49 36.9 +0.6
baz=268,SNR=10
CTGM Chitina Glacie 3.61 82 Pn Pn 21 49 37.0 +0.6
CTGM IAML 21 50 48.6
comp=N,50nm,0.8s
BPAW **Bear Paw Mtn.** 3.63 344 Pn 21 49 36.4 -0.1
BPAW IAML 21 50 34.7
comp=E,55nm,1.1s
BPAW IAML 21 50 34.8
comp=N,62nm,1.1s
BPAW Bear Paw Mtn. 3.63 344 P Pn 21 49 36.5 -0.1
baz=162,SNR=6.3
CHUM Lake Minchumin 3.67 334 Pn 21 49 36.9 -0.2
CHUM Lake Minchumin 3.67 334 P Pn 21 49 37.0 0.0
baz=151,SNR=10
M27K Edge Creek, AK 3.68 59 Pn Pn 21 49 36.8 -0.5
M27K Edge Creek, AK 3.68 59 P Pn 21 49 38.2 +0.9
baz=245
DOT Dot Lake 3.71 34 Pn Pn 21 49 39.3 +1.7
TABL Table Mountain 3.72 90 Pn Pn 21 49 37.6 -0.4
TABL IAML 21 50 43.1
comp=E,60nm,1.0s
TABL IAML 21 50 47.7
comp=N,57nm,0.8s
K20K Telida 3.73 319 Pn Pn 21 49 37.1 -0.8
K20K IAML 21 50 43.8
comp=E,42nm,0.7s
K20K Telida 3.73 319 P Pn 21 49 37.2 -0.7
baz=134,SNR=12
LOGN Logan Glacier 3.77 84 Pn Pn 21 49 38.9 +0.3
LOGN IAML 21 50 42.7
comp=N,46nm,0.6s
LOGN IAML 21 50 44.1
comp=E,52nm,0.6s
WRH Wood River Hil 3.85 4 Pn Pn 21 49 41.0 +1.5
YUK2 White River 3.95 70 Pn 21 49 42.2 +1.1
NEA2 Nenana 3.96 357 Pn Pn 21 49 41.3 +0.1
NEA2 Nenana 3.96 357 P Pn 21 49 41.8 +0.6
baz=177,SNR=7.7
SCRK Sand Creek 3.99 31 Pn Pn 21 49 43.7 +2.0
SCRK IAML 21 50 45.3
comp=E,34nm,1.7s
CCB Clear Creek Bu 4.04 5 Pn Pn 21 49 42.0 0.0
L27K Beaver Creek, 4.04 50 Pn Pn 21 49 43.0 +0.7
L27K Beaver Creek, 4.04 50 P Pn 21 49 43.7 +1.4
baz=236,SNR=11
BCAR Beaver Creek A 4.06 50 Pn Pn 21 49 43.0 +0.4
YUK3 Moose Creek 4.13 71 P Pn 21 49 44.8 +1.2
baz=258
TT01 Tatalina 4.17 306 Pn 21 49 43.3 -0.6
TTA Tatalina 4.17 306 Pn Pn 21 49 43.3 -0.7
TTA Tatalina 4.17 306 P Pn 21 49 43.4 -0.7
baz=120
OHAK Old Harbor 4.19 217 Pn 21 49 43.0 -1.2
OHAK IAML 21 50 15.7
comp=N,46nm,2.8s
OHAK IAML 21 51 08.3
comp=E,42nm,1.5s
OHAK Old Harbor 4.19 217 P Pn 21 49 43.3 -0.9
baz=33
PCA Pinnacle 4.21 94 Pn Pn 21 49 44.1 -0.5
IL31 4.22 10 Pn Pn 21 49 45.4 +0.8
ILAR Eielson Array 4.22 10 Pn Pn 21 49 47.3 +2.7
TCOL CIGO, UAF Yank 4.26 5 Pn Pn 21 49 46.9 +1.8
J25K Salcha River, 4.26 19 Pn Pn 21 49 47.2 +1.9
J25K IAML 21 50 58.6
comp=N,28nm,0.7s
MDM Murphy Dome 4.33 2 Pn 21 49 46.9 +0.6
J20K Nowinta River 4.36 327 Pn 21 49 45.7 -1.0
J20K IAML 21 50 53.4
comp=E,28nm,0.5s
J20K IAML 21 51 03.2
comp=N,36nm,0.6s
J20K Nowinta River 4.36 327 P Pn 21 49 45.6 -1.0
baz=142,SNR=19
POKR Poker Plat Res 4.52 7 Pn Pn 21 49 50.9 +2.1
I23K Minto, Yukon-K 4.53 356 Pn Pn 21 49 50.8 +1.9
I23K IAML 21 51 13.3
comp=E,28nm,1.2s
PNL Peninsula 4.73 98 Pn 21 49 51.3 -0.5
PNL Peninsula 4.73 98 P Pn 21 49 51.3 -0.5
baz=286
I21K Tanana 4.80 343 Pn Pn 21 49 52.1 -0.4
I21K IAML 21 51 15.8
comp=N,19nm,1.6s
I21K IAML 21 51 33.2
comp=E,22nm,1.0s
I21K Tanana 4.80 343 P Pn 21 49 52.7 +0.1
baz=160,SNR=6.9
H23K Yukon River 5.21 356 Pn Pn 21 49 59.0 +0.6
H24K Noodor Dome 5.22 4 Pn Pn 21 50 00.6 +2.1
H24K IAML 21 51 39.3
comp=E,22nm,1.3s
H21K Melozitna Rive 5.37 341 Pn Pn 21 50 00.0 -0.4
H21K IAML 21 51 41.7
comp=N,14nm,2.0s
H21K IAML 21 51 49.9
comp=E,13nm,2.1s
H21K Melozitna Rive 5.37 341 P Pn 21 50 00.5 +0.1
baz=158
HYT Haines Junctio 5.48 83 Pn Pn 21 50 02.2 +0.1
DAWY Dawson 5.51 48 Pn Pn 21 50 04.0 +1.6
IM03 5.83 339 Pn 21 50 06.7 0.0
IMAR Indian Mountai 5.83 339 Pn Pn 21 50 07.1 +0.4
M30M Minto, Yukon 5.98 66 Pn Pn 21 50 09.5 +0.6
N31M Braeburn, Yuko 6.31 77 Pn Pn 21 50 14.9 +1.5
COLD Coldfoot 6.64 355 Pn Pn 21 50 17.6 -0.2
I29M Ogilvie Camp, 6.67 40 Pn Pn 21 50 20.0 +1.7
WHY Whitehorse 6.78 84 Pn Pn 21 50 19.4 -0.5
M31M Drury Creek, Y 7.02 71 Pn Pn 21 50 23.2 0.0
BMAR Burnt Mountain 7.04 13 Pn Pn 21 50 25.5 +2.1
BESE Bessie Mountai 7.30 100 Pn Pn 21 50 28.0 +1.0
TOLK Toolik Lake Re 8.04 358 Pn Pn 21 50 40.3 +3.3
YKA Yellowknife Ar 16.21 69 P 21 52 30.1 -0.5

*BJI **18** 21:56:44.5±0.0,34.˙10S×77.˙37E,h20km,mb4.4/25, mB5.0/17,Ms4.8/13,Ms7 4.6/13*
*IDC **18** 21:56:45.0±0.5,33.˙37S×77.˙76E,h0km,mb4.3/20, mb1 4.4/20,mb1mx4.2/38,mbtmp4.3/20,MS4.3/29, Ms1 4.3/29,ms1mx4.0/73,Error ellipse: s-maj=17.8km s-min=14.3km az=163.0*
*NEIC **18** 21:56:47.2±2.5,33.˙48S±0.˙09×77.˙7E±0.˙1,h10km±1km, mb4.8/39,Error ellipse: s-maj=16.9km s-min=15.2km az=111.0*
*GCMT **18** 21:56:52.2±0.2,33.˙37S±0.˙01×77.˙77E±0.˙01,h17km±1km, MW5.1/112,Moment Tensor Solution. s36,c43; s112,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.65±.13; $M_{\theta\theta}$-3.48±.11; $M_{\phi\phi}$4.13±.14; $M_{r\theta}$2.69±.42; $M_{\theta\phi}$0.88±.10; $M_{\phi r}$-1.79±.34; Best double couple: M_o5.06600×10^{16} NP1:φs227.00000°,δ53.00000°, λ-11.00000°. NP2:φs324.00000°,δ81.00000°, λ-142.00000°. Principal axes: T 4.7260, Plg18.0000°, Azm90.0000°; N 0.6780, Plg52.0000°, Azm335.0000°; P -5.4060, Plg32.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 21:56:46.9±0.4,**33.˙47S**±0.˙07×**77.˙71E**±0.˙08,**h10**km,**n107,**
σ1ş**36**/83,**mb4.7**/42,**MS4.4**/34,**1C-1D,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**4.32**	**181**			**Pn**	**21 57 51.4**	**-1.3**
H08S2	**Diego Garcia H**	**26.15**	**348**	T		T	22 29 31.8	
baz=170,slow=76,SNR=1273								
H08S1	**Diego Garcia H**	**26.15**	**348**	T		T	22 29 29.2	
baz=170,slow=76,SNR=2148								
H08S3	**Diego Garcia H**	**26.17**	**348**	T		T	22 29 30.3	
baz=170,slow=76,SNR=3040								
VOI	**Vohitsoka**	**29.59**	**285**	P		**P**	**22 02 52.9**	**+0.5**
VOI				IAmb		IAmb	22 03 12.1	
comp=Z,15nm,1.1s								
H01W2	**Cape Leeuwin H**	**30.06**	**103**	T		T	22 34 33.1	
baz=262,slow=74,SNR=242								
H01W3	**Cape Leeuwin H**	**30.07**	**103**	T		T	22 34 33.3	
baz=262,slow=74,SNR=267								
H01W1	**Cape Leeuwin H**	**30.08**	**103**	T		T	22 34 34.3	
baz=262,slow=74,SNR=162								
MAW	**Mawson**	**35.25**	**190**	P		**P**	**22 03 42.0**	**+0.7**
comp=Z,5.6nm,0.9s,baz=32,slow=9.9,SNR=4.7								
MAW	**Mawson**	**35.25**	**190**	P		**P**	**22 03 41.6**	**+0.3**
LEM	**Lembang**	**38.34**	**53**	LR		LR	22 16 42.3	
comp=Z,242nm,18.1s,baz=215,slow=31								
PALK	**Pallekele**	**40.62**	**5**	P		**P**	**22 04 25.9**	**-1.2**
comp=Z,8.2nm,1.1s,baz=299,slow=6.3,SNR=3.3								
PALK				LR		LR	22 17 20.3	
comp=Z,334nm,20.9s,baz=298,slow=30								
RPSI	**Rantau Prapat**	**41.17**	**33**	P		**P**	**22 04 31.8**	**0.0**
PSI	**Prapat**	**41.27**	**33**	P		**P**	**22 04 31.8**	**-0.9**
comp=Z,2.9nm,0.3s,baz=353,slow=22,SNR=1.6								
PSI				LR		LR	22 17 31.1	
comp=Z,174nm,20.6s,baz=205,slow=30								
KULM	**Kulim**	**44.25**	**34**	P		**P**	**22 04 58.6**	**+1.9**
BOSA	**Boshof**	**44.81**	**262**	P		**P**	**22 05 01.8**	**+0.4**
comp=Z,2.6nm,0.7s,baz=122,slow=7.9,SNR=6.3								
BOSA	**Boshof**	**44.81**	**262**	P		**P**	**22 05 02.2**	**+0.8**
MATP	**Matopo**	**45.36**	**274**	P		**P**	**22 05 05.6**	**-0.2**
comp=Z,4.7nm,0.8s,baz=114,slow=6.6,SNR=11								
LBTB	**Lobatse**	**45.85**	**266**	P		**P**	**22 05 09.3**	**-0.3**
comp=Z,3.8nm,0.5s,baz=125,slow=5.7,SNR=10								
LBTB	**Lobatse**	**45.85**	**266**	P		**P**	**22 05 09.9**	**+0.3**
LBTB				IAmb		IAmb	22 05 10.3	
comp=Z,5.5nm,0.6s								
SUR	**Sutherland**	**47.25**	**255**	P		**P**	**22 05 19.2**	**-1.4**
comp=Z,5.0nm,0.9s,baz=109,slow=15,SNR=1.9								
SUR				LR		LR	22 20 16.9	
comp=Z,446nm,21.7s,baz=120,slow=30								
SUR	**Sutherland**	**47.25**	**255**	P		**P**	**22 05 22.6**	**+2.0**
LSZ	**Lusaka**	**48.13**	**280**	P		**P**	**22 05 28.2**	**+0.7**
KAPI	**Kappang**	**48.23**	**63**	LR		LR	22 23 55.8	
comp=Z,109nm,20.1s,baz=156,slow=34								
BBOO	**Buckleboo**	**48.29**	**106**	P		**P**	**22 05 30.0**	**+1.6**
SBUM	**Sibu**	**48.33**	**49**	P		**P**	**22 05 28.1**	**-0.8**
SBUM				IAmb		IAmb	22 05 30.4	
comp=Z,12nm,1.2s								
KNRA	**Kununurra**	**49.19**	**82**	P		**P**	**22 05 33.9**	**-1.6**
KMBO	**Kilima Mbogo**	**49.71**	**302**	P		**P**	**22 05 40.2**	**+0.4**
comp=Z,2.4nm,0.8s,baz=128,slow=7.7,SNR=7.1								
KMBO	**Kilima Mbogo**	**49.71**	**302**	P		**P**	**22 05 40.1**	**+0.3**
ASAR	**Alice Springs**	**49.80**	**94**	P		**P**	**22 05 39.7**	**-0.5**
comp=Z,4.3nm,1.0s,baz=242,slow=6.7,SNR=22								
ASAR				LR		LR	22 25 24.9	
comp=Z,310nm,20.6s,baz=178,slow=35								
ASAR	**Alice Springs**	**49.80**	**94**	P		**P**	**22 05 39.9**	**-0.3**
WRA	**Warramunga Arr**	**51.78**	**90**	P		**P**	**22 05 54.5**	**-0.6**
comp=Z,6.7nm,1.0s,baz=245,slow=7.2,SNR=22								
WRA				LR		LR	22 26 16.9	
comp=Z,285nm,20.7s,baz=267,slow=34								
WRA	**Warramunga Arr**	**51.78**	**90**	P		**P**	**22 05 54.5**	**-0.6**
WB2	**Warramunga Arr**	**51.79**	**90**	P		**P**	**22 05 54.9**	**-0.4**
WB2				IAmb		IAmb	22 05 56.1	
comp=Z,15nm,1.2s								
WRAB	**Tennant Creek**	**51.80**	**90**	P		**P**	**22 05 54.7**	**-0.6**
WRAB				IAmb		IAmb	22 05 56.1	
comp=Z,17nm,1.3s								
WB0	**Warramunga Arr**	**51.91**	**90**	P		**P**	**22 05 55.3**	**-0.8**
WB0				IAmb		IAmb	22 05 56.8	
comp=Z,17nm,1.1s								
WR0	**Warramunga Arr**	**51.94**	**90**	P		**P**	**22 05 55.6**	**-0.8**
WR0				IAmb		IAmb	22 05 57.1	
comp=Z,14nm,1.1s								
MTN	**Manton Dam**	**52.62**	**80**	P		**P**	**22 06 00.5**	**-0.9**
MTN				IAmb		IAmb	22 06 07.6	
comp=Z,15nm,1.1s								
STKA	**Stephens Creek**	**53.02**	**107**	P		**P**	**22 06 02.9**	**-1.3**
comp=Z,1.1nm,0.7s,baz=321,slow=6.5,SNR=3.8								
STKA				LR		LR	22 25 45.8	
comp=Z,393nm,18.7s,baz=201,slow=33								
MYLDM	**Lahad Datu**	**54.48**	**53**	P		**P**	**22 06 15.6**	**+0.6**
TSUM	**Tsumeb**	**55.05**	**269**	LR		LR	22 26 11.8	
comp=Z,421nm,20.7s,baz=150,slow=32								
TSUM	**Tsumeb**	**55.05**	**269**	P		**P**	**22 06 19.2**	**-0.1**
TSUM				IAmb		IAmb	22 06 22.8	
comp=Z,9.6nm,0.8s								
CM31	**Chiang Mai Arr**	**55.47**	**25**	P		**P**	**22 06 22.5**	**+0.5**
CM31				IAmb		IAmb	22 06 30.2	
comp=Z,8.9nm,1.1s								
CMAR	**Chiang Mai Arr**	**55.47**	**25**	P		**P**	**22 06 22.5**	**+0.5**
comp=Z,0.9nm,0.3s,baz=211,slow=6.4,SNR=12								
CMAR				LR		LR	22 25 36.7	
comp=Z,126nm,21.6s,baz=140,slow=31								
CMAR	**Chiang Mai Arr**	**55.47**	**25**	P		**P**	**22 06 21.1**	**-0.9**
SNAA	**Sanae**	**55.66**	**202**	LR		LR	22 27 56.8	
comp=Z,88nm,18.0s,baz=11,slow=34								
CHTO	**Chiang Mai**	**55.80**	**25**	P		**P**	**22 06 22.6**	**-1.8**
VNDA	**Vanda**	**56.34**	**165**	LR		LR	22 27 58.3	
comp=Z,413nm,19.5s,baz=272,slow=33								
VNDA	**Vanda**	**56.34**	**165**	P		**P**	**22 06 27.6**	**0.0**
VNDA				IAmb		IAmb	22 06 29.3	
comp=Z,7.8nm,0.9s								
QSPA	**South Pole Qui**	**56.68**	**180**	P		**P**	**22 06 31.3**	**+1.0**
comp=Z,12nm,0.9s,baz=283,slow=3.2,SNR=22								
QSPA	**South Pole Qui**	**56.68**	**180**	P		**P**	**22 06 31.1**	**+0.8**
SIJI	**Sorong**	**59.69**	**69**	LR		LR	22 30 35.8	
comp=Z,170nm,20.5s,baz=44,slow=34								
SHL	**Shillong**	**60.24**	**15**	P		**P**	**22 06 56.0**	**+0.5**
QIZ	**Qiongzhong**	**60.55**	**35**	P		**P**	**22 06 58.8**	**+1.2**
QIZ				S		**S**	**22 15 15.8**	**+2.3**
QIZ				LR		LR		
comp=Z,300nm,22.3s								
QIZ				LR		LR		
comp=Z,260nm,16.7s								
QIZ				LR		LR		
comp=Z,220nm,25.5s								
DAV	**Davao City (W)**	**60.70**	**58**	LR		LR	22 31 05.4	
comp=Z,243nm,21.9s,baz=103,slow=34								
CTA	**Charters Tower**	**61.65**	**96**	LR		LR	22 31 43.7	
comp=Z,401nm,19.6s,baz=191,slow=34								
BELA	**Belgrano 2**	**62.01**	**193**	P		**P**	**22 07 06.4**	**-0.4**
PZH	**PanZhiHua**	**63.87**	**24**	P		**P**	**22 07 20.8**	**+0.9**
PZH				pmax		pmax		
comp=Z,10.0nm,0.8s								
PZH				pmax		pmax		
comp=Z,150nm,6.0s								
PMG	**Port Moresby**	**67.75**	**87**	LR		LR	22 37 16.6	
comp=Z,338nm,18.0s,baz=244,slow=36								
KBL	**Kabul**	**68.14**	**352**	P		**P**	**22 07 48.1**	**+0.7**
KBL				IAmb		IAmb	22 07 58.7	
comp=Z,6.0nm,0.8s								
RPZ	**Rata Peaks**	**69.96**	**130**	LR		LR	22 32 01.3	
comp=Z,237nm,18.1s,baz=212,slow=30								
KSH	**Kashi**	**72.64**	**359**	P		**P**	**22 08 14.8**	**+0.2**
LZH	**Lanzhou**	**73.39**	**22**	*eP*		**P**	**22 08 18.1**	**-1.1**
LZH				pmax		pmax		
comp=Z,10.0nm,1.6s								
LZH				LR		LR		
comp=Z,280nm,17.9s								
LZH				LR		LR		
comp=Z,260nm,17.4s								
LZH				LR		LR		
comp=Z,270nm,16.8s								
BTK	**Batken**	**73.44**	**354**	P		**P**	**22 08 19.3**	**0.0**
BTK				IAmb		IAmb	22 08 28.2	
comp=Z,16nm,1.5s								
KRVT	**Keravat (AS076**	**74.56**	**85**	LR		LR	22 41 55.9	
comp=Z,161nm,18.2s,baz=336,slow=36								
SMAI	**San Martin Ant**	**75.34**	**193**	P		**P**	**22 08 31.5**	**+1.4**
SMAI				IAmb		IAmb	22 08 40.4	
comp=Z,12nm,1.0s								
GTA	**Gaotai**	**75.35**	**18**	*eP*		**P**	**22 08 32.3**	**+1.8**
GTA				pP		pwP	22 08 37.3	+0.2
GTA				sP		PcP	22 08 41.8	-1.9
GTA				pmax		pmax		
comp=Z,2.0nm,1.0s								
GTA				pmax		pmax		
comp=Z,88nm,5.6s								
GTA				LR		LR		
comp=Z,200nm,17.1s								
GTA				LR		LR		
comp=Z,210nm,19.9s								
GTA				LR		LR		
comp=Z,330nm,19.5s								
AAK	**Ala-Archa**	**75.80**	**358**	LR		LR	22 38 23.5	
comp=Z,301nm,21.5s,baz=336,slow=33								
NJ2	**Nanjing**	**75.84**	**35**	*eP*		**P**	**22 08 36.8**	**+3.5**
NJ2				pmax		pmax		
comp=Z,7.0nm,0.5s								
KK31	**Karatay Array**	**76.49**	**355**	P		**P**	**22 08 37.0**	**+0.3**
KK31				IAmb		IAmb	22 08 45.3	
comp=Z,7.5nm,0.8s								
KKAR	**Karatay Array**	**76.49**	**355**	P		**P**	**22 08 37.0**	**+0.3**
URZ	**Urewera**	**76.64**	**127**	LR		LR	22 36 58.9	
comp=Z,121nm,18.4s,baz=212,slow=32								
DZM	**Mont Dzumac**	**77.16**	**108**	LR		LR	22 39 22.8	
comp=Z,146nm,18.1s,baz=52,slow=33								
MMAI	**Mount Meron Ar**	**77.19**	**325**	LR		LR	22 37 51.0	
comp=Z,131nm,20.1s,baz=348,slow=32								
WMQ	**Urumqi**	**77.46**	**7**	*eP*		**P**	**22 08 44.5**	**+2.2**
WMQ				LR		LR		
comp=Z,400nm,13.1s								
WMQ				LR		LR		
comp=Z,260nm,14.3s								
WMQ				LR		LR		
comp=Z,290nm,17.9s								
HNS	**HongShan**	**78.48**	**29**	⇓P		P	22 08 52.3	+4.3

MK31	**Makanchi Array**	**80.00**	**3**	P		**P**	**22 08 55.3**	**-0.8**
MKAR	**Makanchi Array**	**80.00**	**3**	P		**P**	**22 08 54.9**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=169,slow=7.3,SNR=7.5							
MKAR				LR		LR	22 41 10.9	
	comp=Z,333nm,22.0s,baz=300,slow=33							
MKAR	**Makanchi Array**	**80.00**	**3**	P		**P**	**22 08 54.6**	**-1.5**
HHC	**Hu-ho-hao-te**	**80.28**	**25**	*e*P		**P**	**22 08 59.9**	**+2.0**
HHC				pmax	pmax			
	comp=Z,18nm,1.0s							
HHC				pmax	pmax			
	comp=Z,83nm,6.8s							
HHC				LR	LR			
	comp=Z,320nm,19.5s							
HHC				LR	LR			
	comp=Z,230nm,16.2s							
HHC				LR	LR			
	comp=Z,470nm,17.6s							
KBZ	**Khabaz**	**83.14**	**335**	P		**P**	**22 09 10.7**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=90,slow=3.0,SNR=1.5							
BR131	**Keskin Array S**	**83.47**	**327**	P		**P**	**22 09 11.2**	**-3.5**
BRTR	**Keskin Array B**	**83.47**	**327**	P		**P**	**22 09 12.6**	**-2.2**
KURBB	**Kurchatov Arra**	**83.73**	**1**	LR		LR	22 42 49.8	
	comp=Z,188nm,21.9s,baz=307,slow=33							
ABKAR	**Akbulak array**	**83.87**	**348**	P		**P**	**22 09 16.0**	**-0.4**
ABKAR	**Akbulak array**	**83.87**	**348**	P		**P**	**22 09 16.4**	**0.0**
ABKAR				IAmb	IAmb		22 09 35.3	
	comp=Z,6.1nm,1.4s							
IDI	**Anoyia**	**84.40**	**319**	⇑P		**P**	**22 09 22.7**	**+3.1**
IDI	**Anoyia**	**84.40**	**319**	P		**P**	**22 09 19.5**	**0.0**
IDI				IAmb	IAmb		22 09 29.1	
	comp=Z,8.6nm,1.1s							
KSRS	**Korea Array**	**84.65**	**38**	P		**P**	**22 09 18.4**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=214,slow=2.9,SNR=1.6							
SONM	**Songino Array**	**84.93**	**19**	P		**P**	**22 09 21.1**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=202,slow=4.8,SNR=3.4							
RAO	**Raoul Island**	**85.09**	**122**	LR		LR	22 41 21.9	
	comp=Z,106nm,19.9s,baz=58,slow=32							
TOA0	**Torodi Ar. Sit**	**85.83**	**289**	P		**P**	**22 09 26.6**	**-0.5**
TOA0				IAmb	IAmb		22 09 36.8	
	comp=Z,8.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**85.83**	**289**	P		**P**	**22 09 27.4**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=101,slow=3.4,SNR=28							
TORD				LR		LR	22 46 36.7	
	comp=Z,280nm,18.2s,baz=168,slow=35							
TORD	**Torodi Ar. Bea**	**85.83**	**289**	P		**P**	**22 09 26.1**	**-1.0**
TORD				IAmb	IAmb		22 09 36.8	
	comp=Z,6.5nm,1.0s							
ZAA0	**Zalesovo Array**	**87.28**	**4**	P		**P**	**22 09 32.6**	**-0.7**
ZAA0				IAmb	IAmb		22 09 40.5	
	comp=Z,5.9nm,0.8s							
ZALV	**Zalesovo Beam**	**87.28**	**4**	P		**P**	**22 09 32.1**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=183,slow=3.0,SNR=11							
DBIC	**Dimbokro**	**87.47**	**280**	LR		LR	22 44 41.7	
	comp=Z,277nm,21.1s,baz=138,slow=33							
MSVF	**Nonsavu**	**88.67**	**110**	LR		LR	22 42 17.7	
	comp=Z,192nm,20.0s,baz=168,slow=31							
MLR	**Muntele Rosu**	**91.51**	**326**	P		**P**	**22 09 51.8**	**-1.8**
AKASG	**Malin Array Be**	**94.09**	**331**	P		**P**	**22 10 04.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=121,slow=3.9,SNR=1.2							
KIRV	**Kirov**	**94.71**	**346**	LR		LR	22 48 57.6	
	comp=Z,70nm,20.8s,baz=170,slow=33							
ILAR	**Eielson Array**	**138.68**	**27**	PKhKP		PKPpre	22 16 07.1	
	comp=Z,0.2nm,0.6s,baz=256,slow=3.6,SNR=1.4							
SCHQ	**Schefferville**	**147.31**	**322**	PKPbc		**PKPbc**	**22 16 30.2**	**0.0**
	comp=Z,1.7nm,0.8s,baz=52,slow=13,SNR=1.9							
YKA	**Yellowknife Ar**	**149.92**	**11**	PKPbc		**PKPbc**	**22 16 33.8**	**-2.8**
	comp=Z,1.8nm,0.7s,baz=325,slow=3.0,SNR=6.8							
NVAR	**Mina Array Bea**	**166.12**	**65**	PKP		**PKPdf**	**22 16 49.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=197,slow=2.8,SNR=1.6							
NVAR				PKPab		**PKPab**	**22 17 52.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=352,slow=2.7,SNR=1.6							
NVAR	**Mina Array Bea**	**166.12**	**65**			**PKPdf**	**22 16 55.0**	**+2.4**
NVAR						**PKPab**	**22 17 52.8**	**-0.5**
PDAR	**Pinedale Array**	**169.10**	**30**	PKP		**PKPdf**	**22 16 54.8**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=291,slow=0.8,SNR=1.3							
PDAR				PKPab		**PKPab**	**22 18 03.2**	**-2.9**
	comp=Z,0.2nm,0.8s,baz=283,slow=4.3,SNR=1.5							

*SKHL **18** 21:57:17.0±0.4, 46.50N×152.90E, h73km±4km, mb4.8/3*
*MOS **18** 21:57:17.7±0.9, 46.83N×152.64E, h70km, mb4.1/5, Error ellipse: s-maj=16.0km s-min=8.2km az=69.2*
*NEIC **18** 21:57:19.9±1.1, 46.8N±0.1×152.7E±0.2, h70km±8km, mb4.1/18, Error ellipse: s-maj=23.2km s-min=13.0km az=135.0*
*IDC **18** 21:57:20.7±2.7, 46.87N×152.71E, h78km±23km, mb3.4/15, mb1 3.7/19, mb1mx3.5/50, mbtmp3.8/19, MS3.5/4, Ms1 3.5/4, ms1mx2.9/68, Error ellipse: s-maj=21.2km s-min=14.8km az=139.0*

ISC 18 21:57:19.0±0.6, 46.64N±0.09×152.73E±0.08, h70km, n95, σ1s46/90, mb3.9/29, 8C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.67**	**249**	⇑*i*P		N	**Pn**	**21 58 15.1**	**+1.7**
KUR				pmax	pmax				
	comp=Z,98nm,0.4s								
KUR				pmax	pmax				
	comp=N,28nm,0.3s								
KUR				pmax	pmax				
	comp=E,36nm,0.2s								
KUR				pmax	pmax				
	comp=E,359nm,0.6s								
KUR				pmax	pmax				
	comp=E,141nm,0.5s								
KUR	**Kuril'sk**	**3.67**	**249**	*i* P		**Pn**	**Pn**	**21 58 12.3**	**-1.1**
KUR				AMB	AMB			21 58 15.5	
	comp=E,70nm,0.3s								
KUR				*i* S		**Sn**	**Sn**	**21 58 53.7**	**-1.7**
KUR				A	A			21 59 04.7	
	comp=E,230nm,0.5s								
KUR				A	A			21 59 04.7	
	comp=E,180nm,0.5s								
SHO	**Shikotan**	**5.00**	**239**	*e*PN		Pn	Pn	21 58 27.9	-3.6
SHO				*e*S		**Sn**	**Sn**	**21 59 27.9**	**-0.1**
SHO				smax	smax				
	comp=N,79nm,0.3s								
SHO				smax	smax				
	comp=E,110nm,0.4s								
SHO	**Shikotan**	**5.00**	**239**	*e*P		**Pn**	**Pn**	**21 58 29.3**	**-2.2**
SHO				AMB	AMB			21 58 35.2	
	comp=E,50nm,0.3s								
SHO				*e*S		**Sn**	**Sn**	**21 59 24.1**	**-3.9**
SHO				A	A			21 59 36.4	
	comp=E,80nm,0.4s								
SHO				A	A			21 59 36.4	
	comp=E,110nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**5.50**	**244**	*e*PN		Pn	Pn	21 58 30.6	-7.7
YUK	**Yuzh-Kuril'sk**	**5.50**	**244**	*e*P		**Pn**	**Pn**	**21 58 37.2**	**-1.1**
YUK				AMB	AMB			21 58 42.2	
	comp=E,80nm,0.5s								
YUK				*e*S		**Sn**	**Sn**	**21 59 37.2**	**-2.9**
YUK				A	A			21 59 49.9	
	comp=E,130nm,0.4s								
YUK				A	A			21 59 49.9	
	comp=E,170nm,0.4s								
RUSJ	**Misakicho**	**5.85**	**247**	*e*PN		Pn	Pn	21 58 34.5	-8.6
NMR	**Nemuro--Hokkai**	**5.95**	**239**	⫴*i*P		N	**Pn**	**21 58 44.2**	**-0.2**
NMR	**Nemuro--Hokkai**	**5.95**	**239**	*i* P		**Pn**	**Pn**	**21 58 44.2**	**-0.2**
NMR				*e*S		**Sn**	**Sn**	**21 59 49.5**	**-1.5**
AKK	**Akkeshi**	**6.68**	**240**	*e*S		**Sn**	**Sn**	**22 00 06.5**	**-2.5**
AKK				*e*P		**Pn**	**Pn**	**21 58 53.9**	**-0.5**
YSS	**Yuzh-Sakhalins**	**6.86**	**276**	*e*PN		Pn	Pn	21 59 02.0	+5.2
PEA0B	**Petropavlovsk-**	**7.22**	**25**	PN		**Pn**	**Pn**	**21 59 00.4**	**-1.5**
PEA0B	**Petropavlovsk-**	**7.22**	**25**	Pn		**Pn**	**Pn**	**21 59 00.4**	**-1.5**
PETK	**Petropavlovsk-**	**7.22**	**25**	P		**Pn**	**Pn**	**21 58 59.9**	**-1.9**
	comp=E,0.3nm,0.3s,baz=192,slow=13,SNR=2.2								
PETK				S			**Sn**	**22 00 25.1**	**+2.8**
	comp=E,0.3nm,0.3s,baz=207,slow=9.3,SNR=1.5								
PETK	**Petropavlovsk-**	**7.22**	**25**	PN		**Pn**	**Pn**	**21 59 00.6**	**-1.2**
PETK	**Petropavlovsk-**	**7.22**	**25**	Pn		**Pn**	**Pn**	**21 59 00.6**	**-1.2**
JKA	**Kamikawa-asahi**	**7.57**	**254**	Pn		**Pn**	**Pn**	**21 59 07.3**	**+0.8**
JKA	**Kamikawa-asahi**	**7.57**	**254**	*e*P		**Pn**	**Pn**	**21 59 09.5**	**+2.9**
ASAJ	**Asahikawa**	**7.57**	**254**	P		**Pn**	**Pn**	**21 59 09.5**	**+2.9**
	comp=E,1.7nm,0.3s,baz=72,slow=19,SNR=12								
ASAJ				LR		LR		22 02 07.4	
	comp=E,44nm,20.6s,baz=33,slow=38								
ERM	**Erimo**	**8.27**	**239**	PN		**Pn**	**Pn**	**21 59 16.3**	**+0.1**
ERM	**Erimo**	**8.27**	**239**	Pn		**Pn**	**Pn**	**21 59 16.2**	**+0.1**
MA2	**Magadan**	**13.01**	**356**	P		**Pn**	**Pn**	**22 00 18.9**	**-1.8**
	comp=E,1.6nm,0.3s,baz=154,slow=13,SNR=5.0								
KLR	**Kul'dur**	**14.30**	**288**	P		**P**	**P**	**22 00 47.1**	**+4.2**
	comp=E,0.1nm,0.3s,baz=96,slow=9.1,SNR=5.5								
KLR				LR		LR		22 06 01.1	
	comp=E,72nm,20.4s,baz=138,slow=37								
USRK	**Ussuriysk Ar.**	**14.77**	**268**	P		**P**	**P**	**22 00 46.7**	**-1.5**
	baz=67,slow=14,SNR=2.5								
MAJO	**Matsushiro**	**14.80**	**232**	P		**P**	**P**	**22 00 51.8**	**+3.1**
MAJO	**Matsushiro**	**14.80**	**232**	P		**P**	**P**	**22 00 51.8**	**+3.1**
SEY	**Seymchan**	**16.33**	**359**	P		**P**	**P**	**22 01 05.1**	**-0.3**
	comp=E,0.3nm,0.3s,baz=172,slow=13,SNR=6.4								
KSRS	**Korea Array**	**20.51**	**252**	P		Pn	Pn	22 01 56.3	+2.2
	comp=E,1.8nm,0.6s,baz=58,slow=8.6,SNR=6.2								
BILL	**Bilibino**	**22.56**	**13**	*e*P			**P**	**22 02 11.2**	**-1.8**
BILL				*e*PP			**sP**	**22 02 35.7**	**-0.1**
BILL				pmax	pmax				
	comp=Z,1.0nm,1.1s								
BILL	**Bilibino**	**22.56**	**13**	*e*P			**P**	**22 02 11.2**	**-1.8**
H11N2	**WAKE ISLAND Hy**	**29.24**	**152**	T		T	T	22 34 26.7	
	baz=340,slow=75								
H11N1	**WAKE ISLAND Hy**	**29.26**	**152**	T		T	T	22 34 21.8	
	baz=340,slow=75								
H11N3	**WAKE ISLAND Hy**	**29.26**	**152**	T		T	T	22 34 22.4	
	baz=340,slow=75								
H11S1	**WAKE ISLAND Hy**	**30.33**	**153**	T		T	T	22 35 46.9	
	baz=341,slow=76								
H11S3	**WAKE ISLAND Hy**	**30.34**	**153**	T		T	T	22 35 46.3	
	baz=341,slow=76								
H11S2	**WAKE ISLAND Hy**	**30.34**	**153**	T		T	T	22 35 45.5	
	baz=341,slow=76								
IMAR	**Indian Mountai**	**34.01**	**36**	P		**P**	**P**	**22 03 55.3**	**-0.4**
H21K	**Melozitna Rive**	**34.36**	**37**	P		**P**	**P**	**22 03 59.1**	**+0.4**
H21K				IAmb		IAmb	IAmb	22 03 60.0	
	comp=Z,2.4nm,1.1s								
COLD	**Coldfoot**	**35.57**	**34**	P		**P**	**P**	**22 04 09.2**	**+0.1**
COLD				IAmb		IAmb	IAmb	22 04 13.4	
	comp=Z,4.3nm,1.4s								
H23K	**Yukon River**	**35.71**	**37**	P		**P**	**P**	**22 04 11.0**	**+0.7**
H23K				IAmb		IAmb	IAmb	22 04 28.5	
	comp=Z,3.0nm,1.3s								
TOLK	**Toolik Lake Re**	**35.98**	**32**	P		**P**	**P**	**22 04 12.4**	**-0.2**
TOLK				IAmb		IAmb	IAmb	22 04 20.2	
	comp=Z,4.4nm,1.4s								
ILAR	**Eielson Array**	**36.80**	**38**	P		**P**	**P**	**22 04 18.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=282,slow=7.7,SNR=4.6								
BMAR	**Burnt Mountain**	**37.76**	**34**	P		**P**	**P**	**22 04 27.6**	**-0.2**
SCRK	**Sand Creek**	**38.09**	**40**	P		**P**	**P**	**22 04 30.0**	**-0.6**
EGAK	**Eagle**	**39.25**	**38**	P		**P**	**P**	**22 04 38.8**	**-1.4**
EGAK				IAmb		IAmb	IAmb	22 04 40.4	
	comp=Z,2.3nm,0.8s								
INK	**Inuvik**	**41.88**	**32**	P		**P**	**P**	**22 05 01.5**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=302,slow=7.8,SNR=7.6								
INK	**Inuvik**	**41.88**	**32**	P		**P**	**P**	**22 05 02.2**	**+0.3**
INK				IAmb		IAmb	IAmb	22 05 03.2	
	comp=Z,2.4nm,0.9s								
ZALV	**Zalesovo Beam**	**42.46**	**306**	P		**P**	**P**	**22 05 05.6**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=59,slow=8.6,SNR=2.2								
ZALV				PcP		**PcP**	**PcP**	**22 06 57.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=40,slow=2.5,SNR=3.9								
M31M	**Drury Creek, Y**	**42.67**	**41**	P		**P**	**P**	**22 05 09.4**	**+1.0**
M31M				IAmb		IAmb	IAmb	22 05 28.5	
	comp=Z,1.8nm,0.9s								
C36M	**Paulatuk**	**45.05**	**30**	P		**P**	**P**	**22 05 27.3**	**+0.1**
C36M				IAmb		IAmb	IAmb	22 05 36.6	
	comp=Z,5.8nm,1.4s								
MK31	**Makanchi Array**	**46.76**	**297**	P		**P**	**P**	**22 05 40.6**	**-0.5**
MK31				pmax	pmax				
	comp=Z,1.0nm,0.9s								
MK31	**Makanchi Array**	**46.76**	**297**	P		**P**	**P**	**22 05 40.6**	**-0.5**
MKAR	**Makanchi Array**	**46.76**	**297**	P		**P**	**P**	**22 05 40.5**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=64,slow=6.7,SNR=7.5								
MKAR				PcP		**PcP**	**PcP**	**22 07 14.2**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=85,slow=2.1,SNR=5.7								
MKAR	**Makanchi Array**	**46.76**	**297**	P		**P**	**P**	**22 05 40.7**	**-0.4**
RES	**Resolute Bay**	**51.02**	**18**	P		**P**	**P**	**22 06 12.8**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=276,slow=10,SNR=1.9								
YKA	**Yellowknife Ar**	**51.17**	**37**	P			**P**	**22 06 14.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=298,slow=7.1,SNR=6.3								
YKA				PcP			**PcP**	**22 07 28.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=307,slow=3.9,SNR=4.6								
ABKAR	**Akbulak array**	**58.30**	**310**	P		**P**	**P**	**22 07 05.6**	**-0.6**
FFC	**Flin Flon**	**60.99**	**40**	P		**P**	**P**	**22 07 25.0**	**+0.3**
FFC				pmax	pmax				
	comp=Z,4.0nm,1.3s								
FFC	**Flin Flon**	**60.99**	**40**	P		**P**	**P**	**22 07 25.0**	**+0.3**
FCC	**Fort Churchill**	**61.50**	**33**	P		**P**	**P**	**22 07 27.7**	**-0.3**
FCC				pmax	pmax				
	comp=Z,2.0nm,0.9s								
FCC	**Fort Churchill**	**61.50**	**33**	P		**P**	**P**	**22 07 27.7**	**-0.3**
BATI	**Baumata**	**62.27**	**213**	LR		LR	LR	22 39 31.3	
	comp=Z,213nm,19.0s,baz=166,slow=40								
FIA1	**FINESS Array S**	**64.03**	**335**	P		**P**	**P**	**22 07 44.6**	**-0.2**
FINES	**FINESS Array B**	**64.03**	**335**	P		**P**	**P**	**22 07 44.2**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=34,slow=7.1,SNR=27								
FINES	**FINESS Array B**	**64.03**	**335**	P		**P**	**P**	**22 07 43.9**	**-0.8**
PDAR	**Pinedale Array**	**65.02**	**54**	P		**P**	**P**	**22 07 52.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=321,slow=1.9,SNR=4.1								
PDAR	**Pinedale Array**	**65.02**	**54**	P		**P**	**P**	**22 07 51.5**	**-0.4**
OBN	**Obninsk**	**65.25**	**325**	*e*P			**P**	**22 07 49.3**	**-3.5**
OBN				*e*				22 08 21.9	
OBN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
NC405	**NORSAR Array S**	**68.07**	**341**	P		**P**	**P**	**22 08 10.0**	**-0.7**
NB2	**NORSAR Subarra**	**68.25**	**341**	P		**P**	**P**	**22 08 11.3**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.25**	**341**	P		**P**	**P**	**22 08 11.6**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=28,slow=6.3,SNR=7.4								
WR0	**Warramunga Arr**	**68.30**	**198**	P		**P**	**P**	**22 08 14.1**	**+1.6**
WRA	**Warramunga Arr**	**68.32**	**199**	P		**P**	**P**	**22 08 14.0**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=14,slow=6.6,SNR=3.1								
WRA	**Warramunga Arr**	**68.32**	**199**	P		**P**	**P**	**22 08 14.1**	**+1.4**
WRA	**Warramunga Arr**	**68.32**	**199**	P		**P**	**P**	**22 08 14.1**	**+1.4**
AKASG	**Malin Array Be**	**71.49**	**326**	P		**P**	**P**	**22 08 31.1**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=35,slow=6.6,SNR=9.8								
ASAR	**Alice Springs**	**72.02**	**198**	P		**P**	**P**	**22 08 37.9**	**+2.6**
	comp=Z,0.6nm,0.6s,baz=12,slow=5.3,SNR=8.6								
ASAR	**Alice Springs**	**72.02**	**198**	P		**P**	**P**	**22 08 38.0**	**+2.7**
PALK	**Pallekele**	**72.42**	**262**	LR		LR	LR	22 45 01.3	
	comp=Z,146nm,18.6s,baz=4.2,slow=40								
BUR08	**Bucovina Ar. S**	**75.52**	**326**	P		**P**	**P**	**22 08 56.2**	**+0.5**
BUR08				IAmb		IAmb	IAmb	22 08 56.8	
	comp=Z,2.6nm,0.8s								
BURAR	**Bucovina Array**	**75.53**	**326**	⇑P		**P**	**P**	**22 08 56.0**	**+0.2**
BURAR	**Bucovina Array**	**75.53**	**326**	P		**P**	**P**	**22 08 56.1**	**+0.3**
BURAR				IAmb		IAmb	IAmb	22 08 56.9	
	comp=Z,2.7nm,0.7s								
TESR	**Tescani**	**75.89**	**325**	⇑P		**P**	**P**	**22 08 57.6**	**-0.1**
MORC	**Moravsky Berou**	**76.41**	**332**	⇑P		**P**	**P**	**22 09 01.5**	**+0.9**
MLR	**Muntele Rosu**	**77.00**	**325**	⇑P		**P**	**P**	**22 09 05.8**	**+1.6**
VOIR		**77.40**	**325**	⇑P		**P**	**P**	**22 09 07.6**	**+1.3**
ARR	**Arges**	**77.62**	**325**	⇑P		**P**	**P**	**22 09 08.7**	**+1.1**
TXAR	**Lajitas Array**	**77.78**	**60**	P		**P**	**P**	**22 09 08.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=292,slow=4.8,SNR=2.2								
BRTR	**Keskin Array B**	**78.29**	**317**	P		**P**	**P**	**22 09 12.0**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=38,slow=7.1,SNR=6.5								
BRTR	**Keskin Array B**	**78.29**	**317**	P		**P**	**P**	**22 09 12.0**	**+0.5**
GERES	**GERESS Array B**	**78.44**	**334**	P		**P**	**P**	**22 09 11.3**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=41,slow=9.2,SNR=3.7								
VTS	**Vitosha**	**80.48**	**325**	⇑P		**P**	**P**	**22 09 23.5**	**+0.2**
H03N2	**Juan Fernandez**	**139.01**	**90**	T		T	T	00 51 38.5	
	baz=309,slow=77,SNR=5.7								
H03N1	**Juan Fernandez**	**139.03**	**90**	T		T	T	00 51 40.4	
	baz=309,slow=77,SNR=18								
H03N3	**Juan Fernandez**	**139.03**	**90**	T		T	T	00 51 35.7	
	baz=309,slow=77,SNR=16								

*MAN **18** 22:47:31.8, 13.21N×120.25E, h15km, mb4.8, ML3.7, MS3.6, Hypocentre not reviewed by the ISC*
*IDC **18** 22:47:37.5±1.7, 13.34N×120.56E, h66km±19km, mb3.7/8, mb1 3.9/8, mb1mx3.5/42, mbtmp4.0/8, Error ellipse: s-maj=36.9km s-min=14.1km az=68.0*
*NEIC **18** 22:47:37±0.6, 13.34N±0.07×120.6E±0.2, h56km±9km, mb4.1/11, Error ellipse: s-maj=23.1km s-min=9.0km az=103.0*

ISC 18 22:47:35.8±1.2, 13.27N±0.05×120.45E±0.08, h46km±12km, n42, σ1s34/45, mb4.1/14, 2C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.50**	**337**	*e*P			Pn	22 47 42.7	-4.2
PGP	**Puerto Galera**	**0.55**	**65**	⫴*i*P			**Pn**	**22 47 45.4**	**-2.1**
PGP				*i* S			**Sn**	**22 47 54.1**	**-1.7**
TGY	**Tagaytay City**	**0.95**	**30**	P			**Pn**	**22 47 52.5**	**-0.4**
	1μm,0.3s,baz=236,slow=3.6,SNR=90								
TGY				S			**Sn**	**22 48 07.0**	**+1.5**
	1μm,0.3s,baz=6.1,slow=24,SNR=14								
TGY	**Tagaytay City**	**0.95**	**30**	⫴*e*P			**Pn**	**22 47 52.8**	**-0.1**
TGY				*i* S			**Sn**	**22 48 08.1**	**+2.6**
MACP	**Maragondon, Ca**	**1.02**	**15**	*e*P			**Pn**	**22 47 52.0**	**-1.8**
BUSP	**Coron**	**1.28**	**191**	*e*P			Pn	22 47 52.6	-4.7
LQP	**Lukban**	**1.35**	**52**	⇑*e*P			**Pn**	**22 47 58.4**	**-0.1**
LQP				*e*S			**Sn**	**22 48 13.4**	**-1.9**
BOAC	**Boac**	**1.37**	**82**	*e*P			**Pn**	**22 47 59.5**	**+0.9**
QVP	**Quezon City--P**	**1.45**	**22**	*e*P			**Pn**	**22 47 59.8**	**+0.2**
GQP	**Guinayangan**	**2.04**	**72**	⇑*e*P			**Pn**	**22 48 08.7**	**+1.0**
GQP				*e*S			**Sn**	**22 48 34.5**	**+2.4**
PCPH	**Palayan**	**2.36**	**15**	⫴*e*P			**Pn**	**22 48 11.7**	**-0.5**
PCPH				*e*S			**Sn**	**22 48 43.2**	**+3.2**
JCNP	**Jose Panganiba**	**2.41**	**65**	*e*P			**Pn**	**22 48 11.5**	**-1.3**
CUYO	**Cuyo Island**	**2.47**	**167**	*e*P			**Pn**	**22 48 12.6**	**-1.0**
BALP	**Baler**	**2.69**	**24**	*e*P			**Pn**	**22 48 17.6**	**+1.0**
RCP	**Roxas**	**2.82**	**127**	⫴*e*P			Pn	22 48 25.2	+6.8
SMPP	**San Manuel, Pa**	**2.87**	**5**	*e*P			**Pn**	**22 48 18.0**	**-1.2**
CAUP	**Cauayan**	**3.89**	**20**	*e*P			**Pn**	**22 48 34.8**	**+1.8**
MYLDM	**Lahad Datu**	**8.26**	**194**				**Pn**	**22 49 36.3**	**+3.1**
CM31	**Chiang Mai Arr**	**21.31**	**287**	P		P	**P**	**22 52 20.0**	**+1.1**
CM31				IAmb		IAmb	IAmb	22 52 21.5	
	comp=Z,7.6nm,1.0s								
CMAR	**Chiang Mai Arr**	**21.31**	**287**	P		P	**P**	**22 52 20.1**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=98,slow=8.8,SNR=29								
CMAR	**Chiang Mai Arr**	**21.31**	**287**	P		P	**P**	**22 52 19.9**	**+0.9**
BATI	**Baumata**	**23.54**	**172**	P		P	**P**	**22 52 43.3**	**+1.1**
	comp=Z,10nm,0.5s,baz=329,slow=5.9,SNR=3.9								
WB0	**Warramunga Arr**	**35.59**	**157**	P		P	**P**	**22 54 28.2**	**-0.9**
WB0				IAmb		IAmb	IAmb	22 54 33.3	
	comp=Z,4.4nm,1.1s								
WRA	**Warramunga Arr**	**35.72**	**157**	P		P	**P**	**22 54 29.6**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=335,slow=9.7,SNR=16								
WRA	**Warramunga Arr**	**35.72**	**157**	P		P	**P**	**22 54 29.5**	**-0.8**
WB2	**Warramunga Arr**	**35.73**	**157**	P		P	**P**	**22 54 29.5**	**-0.8**
WB2				IAmb		IAmb	IAmb	22 54 54.0	
	comp=Z,3.9nm,1.1s								
WR0	**Warramunga Arr**	**35.82**	**157**	P		P	**P**	**22 54 30.3**	**-0.8**
SONM	**Songino Array**	**36.40**	**344**	P		P	**P**	**22 54 35.1**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=166,slow=10,SNR=12								
SONM	**Songino Array**	**36.40**	**344**	P		P	**P**	**22 54 35.2**	**-0.8**
SONM				IAmb		IAmb	IAmb	22 54 47.8	
	comp=Z,2.1nm,0.9s								
AS31	**Alice Springs**	**39.00**	**160**	P		P	**P**	**22 54 57.8**	**-0.2**
AS31				IAmb		I

Fault plane solution: $M_0$6.48000×10^{14} NP1: ϕ_s235.00000°,δ63.00000°,λ-157.00000°. NP2: ϕ_s135.00000°,δ70.00000°,λ-29.00000°.

JMA 18 23:12:30.7, 33.00N×131.19E, h11km, M3.9, 1C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.29**	**295**	⇓P	Pg	23 12 36.6	0.0
JNU				S	Sg	23 12 41.0	+0.5
JUS	**Usuki**	**0.48**	**82**	⇓P	Pg	23 12 39.7	-0.3
JUS				S	Sg	23 12 46.3	0.0
JIU3	**Izumi3**	**0.55**	**215**	⇑P	Pg	23 12 41.3	-0.1
JIU3				S	Sg	23 12 49.0	+0.3
JTA	**Tamana**	**0.55**	**266**	⇓P	Pg	23 12 41.5	0.0
JTA				S	Sg	23 12 49.0	+0.2

*DJA **18** 23:16:45.8±0.9, 2°S±2°×12°9E±°, h24km±8km, M4.5/15, mB5.1/8, mb4.7/15, MLv4.6/15, Mw(mB)4.4/8*
*NEIC **18** 23:16:46.2±2.2, 2.03S±0.10°×129.12E±0.1°, h43km±12km, mb4.1/17, Error ellipse: s-maj=17.8km s-min=10.8km az=50.0*
*IDC **18** 23:16:48.5±1.9, 2.04S×129.19E, h56km±20km, mb3.7/9, mb1 4.0/11, mb1mx3.7/37, mbtmp4.1/11, ML4.5/3, MS3.4/7, Ms1 3.4/7, ms1mx3.0/72, Error ellipse: s-maj=16.3km s-min=13.1km az=122.0*

ISC 18 23:16:47.0±0.9, 2.04S±0.05×129.10E±0.04, h50km±10km, n66, σ1s90/71, mb4.2/18, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.31**	**187**	P	**Pn**	**23 17 10.4**	**+1.5**
MSAI				S	**Sn**	**23 17 29.6**	**+4.3**
AAI	**Ambon**	**1.87**	**209**	P	**Pn**	**23 17 17.8**	**+1.2**
LBMI	**Labuha**	**2.12**	**311**	P	**Pn**	**23 17 20.1**	**0.0**
LBMI				S	**Sn**	**23 17 45.0**	**-0.3**
NLAI	**Namlea**	**2.32**	**239**	P	**Pn**	**23 17 23.1**	**+0.3**
NLAI				S	**Sn**	**23 17 51.0**	**+0.8**
SWI	**Sorong**	**2.46**	**62**	P	**Pn**	**23 17 23.8**	**-0.9**
SWI				S	**Sn**	**23 17 52.6**	**-0.9**
SIJI	**Sorong**	**2.46**	**62**	P	**Pn**	**23 17 24.1**	**-0.7**
	64nm,0.3s,baz=144,slow=23,SNR=246						
SIJI				S	**Sn**	**23 17 53.9**	**+0.3**
	28nm,0.3s,baz=76,slow=19,SNR=16						
SIJI				LR	LR	23 18 55.2	
	comp=Z,930nm,19.7s,baz=252,slow=53						
SANI	**Sanana**	**3.11**	**270**	P	**Pn**	**23 17 30.8**	**-2.8**
SANI				S	**Sn**	**23 18 04.0**	**-5.6**
TNTI	**Ternate**	**3.29**	**328**	Pn	**Pn**	**23 17 35.3**	**-0.8**
TNTI	**Ternate**	**3.29**	**328**	P	**Pn**	**23 17 36.4**	**+0.3**
LUWI	**Luwuk**	**6.40**	**279**	Pn	**Pn**	**23 18 18.0**	**-0.9**
LUWI				S	**Sn**	**23 19 31.2**	**+0.5**
LUWI	**Luwuk**	**6.40**	**279**	P	**Pn**	**23 18 15.9**	**-2.9**
	1.0nm2µm77nm,0.5s						
BBSI	**Bau Bau**	**7.36**	**242**	P	**Pn**	**23 18 34.3**	**+2.3**
	0.0nm256nm7.3nm,0.9s						
APSI	**Ampana**	**7.53**	**278**	P	**Pn**	**23 18 33.9**	**-0.4**
	0.5nm2µm132nm,0.6s						
MRSI	**Marisa**	**7.58**	**289**	P	**Pn**	**23 18 35.2**	**+0.2**
	0.4nm972nm37nm,0.6s						
TOLI2	**Tolitoli**	**8.89**	**291**	Pn	**Pn**	**23 18 53.3**	**+0.3**
TOLI2				Sn	**Sn**	**23 20 30.7**	**-1.0**
BNSI	**Bone**	**9.28**	**255**	P	**Pn**	**23 19 00.1**	**+1.8**
	38nm,0.8s						
MMRI	**Maumere**	**9.46**	**226**	Pn	**Pn**	**23 19 01.3**	**+0.5**
MPSI	**Mapaga**	**9.50**	**284**	P	**Pn**	**23 18 58.8**	**-2.5**
	1µm22nm,0.7s						
BSSI	**Bau Bau, Buton**	**9.50**	**244**	P	**Pn**	**23 19 02.2**	**+0.8**
	14nm,1.1s						
SPSI	**Sidrap Palu**	**9.51**	**258**	P	**Pn**	**23 19 03.2**	**+1.7**
	980nm90nm,0.8s						
BKSI	**Bulukumba**	**9.53**	**250**	P	**Pn**	**23 19 03.9**	**+2.2**
	38nm,0.6s						
DAV	**Davao City (W)**	**9.71**	**339**	LR	LR	23 23 31.0	
	comp=Z,198nm,18.4s,baz=12,slow=41						
BATI	**Baumata**	**9.74**	**213**	P	**Pn**	**23 19 07.1**	**+2.4**
	3.1nm,0.3s,baz=189,slow=2.0,SNR=6.3						
BATI				LR	LR	23 23 09.0	
	comp=Z,290nm,19.1s,baz=340,slow=39						
BATI	**Baumata**	**9.74**	**213**	P	**Pn**	**23 19 05.1**	**+0.4**
	21nm,1.2s						
KAPI	**Kappang**	**9.79**	**252**	P	**Pn**	**23 19 08.2**	**+2.9**
	10.0nm,0.3s,baz=75,slow=6.2,SNR=38						
KAPI				S	**Sn**	**23 20 52.8**	**-1.0**
	0.8nm,0.3s,baz=293,slow=23,SNR=1.2						
KAPI				LR	LR	23 23 21.8	
	comp=Z,140nm,18.9s,baz=86,slow=40						
KAPI	**Kappang**	**9.79**	**252**	Pn	**Pn**	**23 19 06.6**	**+1.3**
MTN	**Manton Dam**	**10.92**	**169**	Pn	**Pn**	**23 19 19.4**	**-1.3**
MYLDM	**Lahad Datu**	**12.79**	**304**	Pn	**Pn**	**23 19 47.9**	**+1.6**
PLAI	**Plampang**	**13.13**	**239**	P	**Pn**	**23 19 52.0**	**+1.1**
KNRA	**Kununurra**	**13.55**	**181**	Pn	**Pn**	**23 19 54.9**	**-1.9**
JAGI	**Jajag, Banyuwa**	**16.19**	**246**	Pn	**Pn**	**23 20 31.3**	**0.0**
SBUM	**Sibu**	**17.45**	**285**		**P**	**23 20 48.2**	**+0.4**
COEN	**Coen**	**18.27**	**131**		**P**	**23 20 54.6**	**-2.2**
COEN				IAmb	IAmb	23 21 09.5	
	comp=Z,9.3nm,0.7s						
WB0	**Warramunga Arr**	**18.36**	**164**	P	**P**	**23 20 55.5**	**-2.2**
WB0				IAmb	IAmb	23 21 13.8	
	comp=Z,10nm,1.0s						
WRAB	**Tennant Creek**	**18.51**	**164**	P	**P**	**23 20 58.5**	**-0.9**
WRAB				IAmb	IAmb	23 21 11.9	
	comp=Z,9.1nm,0.7s						
WRA	**Warramunga Arr**	**18.51**	**164**	P	**P**	**23 20 56.2**	**-3.2**
	comp=Z,0.5nm,0.3s,baz=341,slow=13,SNR=31						
WRA				S	Sn	23 24 12.1	-14
	comp=Z,0.3nm,0.3s,baz=351,slow=23,SNR=4.8						
WRA	**Warramunga Arr**	**18.51**	**164**	P	**P**	**23 20 57.3**	**-2.1**
WB2	**Warramunga Arr**	**18.52**	**164**	P	**P**	**23 20 57.1**	**-2.3**
WB2				IAmb	IAmb	23 21 15.3	
	comp=Z,6.1nm,0.8s						
WR0	**Warramunga Arr**	**18.59**	**164**	P	**P**	**23 20 57.9**	**-2.3**
SMRI	**Semarang**	**19.25**	**254**	P	**P**	**23 21 08.2**	**+0.7**
PMG	**Port Moresby**	**19.39**	**113**	LR	LR	23 30 09.3	
	comp=Z,124nm,18.4s,baz=248,slow=42						
PSA00	**Pilbara Seismi**	**21.40**	**204**	P	**P**	**23 21 29.5**	**-1.2**
PSA00	**Pilbara Seismi**	**21.40**	**204**	P	**P**	**23 21 29.6**	**-1.2**
PSA00				IAmb	IAmb	23 21 30.2	
	comp=Z,11nm,0.9s						
LEM	**Lembang**	**21.93**	**257**	LR	LR	23 31 16.3	
	comp=Z,74nm,18.5s,baz=58,slow=39						
AS31	**Alice Springs**	**21.99**	**168**	P	**P**	**23 21 36.5**	**-0.7**
AS31				IAmb	IAmb	23 21 38.4	
	comp=Z,5.2nm,0.8s						
ASAR	**Alice Springs**	**22.00**	**168**	P	**P**	**23 21 37.0**	**-0.1**
	comp=Z,12nm,0.7s,baz=348,slow=11,SNR=132						
ASAR				S	**S**	**23 25 30.4**	**-6.9**
	comp=Z,1.4nm,0.7s,baz=346,slow=18,SNR=4.1						
ASAR	**Alice Springs**	**22.00**	**168**	P	**P**	**23 21 36.8**	**-0.4**
CTA	**Charters Tower**	**24.55**	**138**	P	**P**	**23 22 02.2**	**-0.1**
	comp=Z,6.2nm,1.0s,baz=53,slow=11,SNR=2.4						
FORT	**Forrest**	**28.60**	**182**	P	**P**	**23 22 35.7**	**-3.0**
MORW	**Morawa**	**29.62**	**204**	P	**P**	**23 22 47.2**	**-0.6**
MORW				IAmb	IAmb	23 23 02.5	
	comp=Z,5.6nm,0.9s						
BBOO	**Buckleboo**	**31.30**	**169**	P	**P**	**23 23 03.3**	**+0.8**
BBOO				IAmb	IAmb	23 23 04.7	
	comp=Z,4.0nm,0.9s						
STKA	**Stephens Creek**	**31.93**	**160**	P	**P**	**23 23 08.9**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=353,slow=8.1,SNR=6.5						
STKA	**Stephens Creek**	**31.93**	**160**	P	**P**	**23 23 08.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**35.99**	**306**	P	**P**	**23 23 45.0**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=128,slow=7.2,SNR=7.0						
CMAR	**Chiang Mai Arr**	**35.99**	**306**	P	**P**	**23 23 43.1**	**-0.5**
CHTO	**Chiang Mai**	**36.18**	**306**	P	**P**	**23 23 44.8**	**-0.4**
CHTO				IAmb	IAmb	23 23 48.1	
	comp=Z,3.4nm,0.9s						
PZH	**PanZhiHua**	**38.77**	**319**	P	**P**	**23 24 09.5**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,4.2s						
LZH	**Lanzhou**	**44.65**	**331**	*e*P	P	23 25 04.8	+10
LZH				pP	sP	23 25 15.8	+2.1
LZH				pmax	pmax		
	comp=Z,24nm,1.5s						
HHC	**Hu-ho-hao-te**	**45.59**	**341**	*e*P	**P**	**23 25 04.6**	**+2.2**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.4s						
SONM	**Songino Array**	**53.49**	**341**	P	**P**	**23 26 03.6**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=149,slow=7.6,SNR=3.7						
WMQ	**Urumqi**	**58.79**	**326**	*e*P	**P**	**23 26 41.5**	**+1.1**
WMQ				sP	sP	23 26 59.8	+0.4
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
MKAR	**Makanchi Array**	**63.62**	**326**	P	**P**	**23 27 13.9**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=123,slow=8.8,SNR=8.5						
ZALV	**Zalesovo Beam**	**66.77**	**333**	P	**P**	**23 27 33.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=108,slow=4.7,SNR=3.8						
VNDA	**Vanda**	**77.44**	**173**	P	**P**	**23 28 37.7**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=309,slow=6.4,SNR=3.1						
MAW	**Mawson**	**79.22**	**201**	P	**P**	**23 28 47.8**	**+1.3**
	comp=Z,4.7nm,0.9s,baz=0.7,slow=7.6,SNR=3.7						
BBB	**Bella Bella**	**99.44**	**37**	LR	LR	00 10 53.9	
	comp=Z,27nm,18.3s,baz=334,slow=33						

*NOU **18** 23:28:16.3, 38.51S×175.73E, h209km, MLv4.2/9, North Island, New Zealand*
*WEL **18** 23:28:23.8±0.6, 39°S±4°×17°6E±°, h138km±5km, M3.3/61, ML2.9/33, MLv3.3/61, Error ellipse: s-maj=0.0km s-min=0.0km az=133.5*

ISC 18 23:28:18.2±1.6, 38.69S±0.04×175.75E±0.05, h183km±8km, n155, σ1s68/167, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATZ	**Wairara**	**0.02**	**213**	P	**Pn**	**23 28 43.6**	**+1.4**
RATZ	**Rangitukua**	**0.18**	**174**	P	**Pn**	**23 28 43.6**	**+1.1**
KUTZ	**Kaahu Road**	**0.21**	**16**	P	**Pn**	**23 28 43.8**	**+1.3**
KATZ	**Kakaramea**	**0.29**	**188**	P	**Pn**	**23 28 44.0**	**+1.2**
RITZ	**Rihia Road**	**0.30**	**163**	P	**Pn**	**23 28 44.2**	**+1.6**
HATZ	**Hinemaiaia**	**0.34**	**127**	P	**Pn**	**23 28 43.9**	**+1.1**
HATZ				S	**Sn**	**23 28 59.6**	**-2.2**
TLZ	**Tolley Road**	**0.40**	**335**	P	**Pn**	**23 28 44.3**	**+1.3**
KRVZ	**Karewarewa**	**0.41**	**192**	P	**Pn**	**23 28 44.5**	**+1.4**
NTVZ	**North Tongarir**	**0.41**	**188**	P	**Pn**	**23 28 44.6**	**+1.5**
TMVZ	**Te Maari**	**0.43**	**185**	P	**Pn**	**23 28 44.6**	**+1.5**
WTVZ	**West Tongariro**	**0.44**	**196**	P	**Pn**	**23 28 44.6**	**+1.4**
ETVZ	**East Tongariro**	**0.45**	**184**	P	**Pn**	**23 28 44.7**	**+1.5**
NNVZ	**North Ngauruho**	**0.45**	**193**	P	**Pn**	**23 28 44.7**	**+1.4**
OTVZ	**Oturere**	**0.48**	**188**	P	**Pn**	**23 28 44.8**	**+1.4**
OTVZ				S	**Sn**	**23 29 01.8**	**-1.2**
ALRZ	**Allen Road**	**0.48**	**75**	P	**Pn**	**23 28 44.3**	**+1.1**
ALRZ				S	**Sn**	**23 29 00.9**	**-1.6**
NGZ	**Ngauruhoe**	**0.50**	**193**	P	**Pn**	**23 28 44.8**	**+1.4**
SNVZ	**South Ngauruho**	**0.50**	**190**	P	**Pn**	**23 28 44.9**	**+1.4**
HRRZ	**Handcock Road**	**0.52**	**55**	P	**Pn**	**23 28 44.6**	**+1.2**
HSRZ	**Hossack Road**	**0.54**	**46**	P	**Pn**	**23 28 44.7**	**+1.2**
MRHZ	**Matea Rd**	**0.54**	**106**	P	**Pn**	**23 28 44.6**	**+1.1**
MRHZ				S	**Sn**	**23 29 00.4**	**-2.6**
TUVZ	**Tukino**	**0.58**	**187**	P	**Pn**	**23 28 45.5**	**+1.7**
FWVZ	**Far West T-bar**	**0.58**	**195**	P	**Pn**	**23 28 45.4**	**+1.5**
DRZ	**Dome Shelter**	**0.60**	**194**	P	**Pn**	**23 28 45.9**	**+1.8**
WHVZ	**Whangaehu Hut**	**0.60**	**192**	P	**Pn**	**23 28 45.6**	**+1.5**
UTU	**Utuhina**	**0.62**	**34**	P	**Pn**	**23 28 45.3**	**+1.4**
TRVZ	**Turoa**	**0.63**	**194**	P	**Pn**	**23 28 45.9**	**+1.8**
HLRZ	**Highlands Stat**	**0.64**	**48**	P	**Pn**	**23 28 45.7**	**+1.7**
WNVZ	**Wahianoa**	**0.65**	**190**	P	**Pn**	**23 28 45.9**	**+1.7**
PKVZ	**Pokaka**	**0.68**	**208**	P	**Pn**	**23 28 45.9**	**+1.7**
NGRZ	**Ngongotaha**	**0.68**	**31**	P	**Pn**	**23 28 45.4**	**+1.2**
RRRZ	**Republican Roa**	**0.69**	**60**	P	**Pn**	**23 28 45.3**	**+1.0**
MOVZ	**Moawhango**	**0.72**	**180**	P	**Pn**	**23 28 45.9**	**+1.5**
MOVZ				S	**Sn**	**23 29 02.6**	**-2.3**
HIZ	**Hauiti**	**0.72**	**284**	P	**Pn**	**23 28 46.0**	**+1.6**
HIZ	**Hauiti**	**0.72**	**284**	P	**Pn**	**23 28 46.1**	**+1.7**
MTVZ	**Mangateitei**	**0.73**	**197**	P	**Pn**	**23 28 46.2**	**+1.7**
TARZ	**Mount Tarawera**	**0.75**	**53**	P	**Pn**	**23 28 45.7**	**+1.0**
BKZ	**Black Stump Fm**	**0.75**	**130**	P	**Pn**	**23 28 46.1**	**+1.5**
BKZ				S	**Sn**	**23 29 03.2**	**-1.9**
BKZ	**Black Stump Fm**	**0.75**	**130**	P	**Pn**	**23 28 46.1**	**+1.5**
OMRZ	**Omania**	**0.76**	**40**	P	**Pn**	**23 28 45.8**	**+1.1**
KARZ	**Kaharoa**	**0.77**	**30**	P	**Pn**	**23 28 45.9**	**+1.2**
MKRZ	**Makatiti**	**0.79**	**46**	P	**Pn**	**23 28 46.4**	**+1.5**
MUGZ	**Murupara**	**0.83**	**76**	P	**Pn**	**23 28 45.8**	**+0.8**
BHHZ	**Black Hill Sta**	**0.84**	**163**	P	**Pn**	**23 28 46.8**	**+1.7**
BHHZ				S	**Sn**	**23 29 03.9**	**-2.2**
KMRZ	**Kaimai**	**0.86**	**10**	P	**Pn**	**23 28 46.5**	**+1.2**
MTHZ	**Maungataniwha**	**0.87**	**101**	P	**Pn**	**23 28 46.8**	**+1.5**
MTHZ				S	**Sn**	**23 29 04.3**	**-1.9**
VRZ	**Vera Road**	**0.89**	**240**	P	**Pn**	**23 28 47.3**	**+2.0**
KWHZ	**Kaweka Forest**	**0.90**	**145**	P	**Pn**	**23 28 47.5**	**+2.0**
KWHZ				S	**Sn**	**23 29 06.0**	**-0.8**
NMHZ	**Naumai**	**0.92**	**117**	P	**Pn**	**23 28 48.2**	**+2.6**
NMHZ				S	**Sn**	**23 29 06.9**	**0.0**
RTZ	**Ruatahuna**	**0.97**	**86**	P	**Pn**	**23 28 47.2**	**+1.2**
RTZ				S	**Sn**	**23 29 05.3**	**-2.1**
EDRZ	**Edgecumbe**	**0.97**	**54**	P	**Pn**	**23 28 47.0**	**+0.9**
TOZ	**Tahuroa Road**	**0.98**	**348**	P	**Pn**	**23 28 47.6**	**+1.6**
TOZ				S	**Sn**	**23 29 06.3**	**-1.2**
MARZ	**Manawahe**	**1.01**	**46**	P	**Pn**	**23 28 47.5**	**+1.2**
TGRZ	**Tauranga**	**1.04**	**23**	P	**Pn**	**23 28 47.4**	**+1.3**
MCHZ	**McNeill Hill**	**1.05**	**136**	P	**Pn**	**23 28 49.2**	**+2.7**
OPRZ	**Ohinepanea**	**1.06**	**37**	P	**Pn**	**23 28 47.7**	**+1.1**
KRHZ	**Kereru**	**1.07**	**153**	P	**Pn**	**23 28 48.8**	**+2.1**
RAHZ	**Arahi**	**1.07**	**103**	P	**Pn**	**23 28 48.8**	**+2.1**
ARHZ	**Aropaoanui**	**1.13**	**121**	P	**Pn**	**23 28 49.5**	**+2.4**
URZ	**Urewera**	**1.15**	**69**	P	**Pn**	**23 28 48.1**	**+0.8**
URZ	**Urewera**	**1.15**	**69**	P	**Pn**	**23 28 48.2**	**+0.9**
WAZ	**Wanganui**	**1.22**	**209**	P	**Pn**	**23 28 50.0**	**+2.2**
PNHZ	**Pukenui**	**1.27**	**164**	P	**Pn**	**23 28 50.4**	**+2.1**
LREZ	**Lake Rotokare**	**1.30**	**233**	P	**Pn**	**23 28 51.0**	**+2.5**
DREZ	**Durham Road**	**1.31**	**247**	P	**Pn**	**23 28 51.2**	**+2.6**
RAGZ	**Rawiri**	**1.32**	**82**	P	**Pn**	**23 28 50.3**	**+1.5**
TSZ	**Takapari Road**	**1.38**	**173**	P	**Pn**	**23 28 51.5**	**+2.2**
PREZ	**Palmer Road**	**1.40**	**242**	P	**Pn**	**23 28 52.2**	**+2.7**
KAHZ	**Kahuranaki**	**1.41**	**142**	P	**Pn**	**23 28 52.1**	**+2.6**
NEZ	**North Egmont**	**1.41**	**245**	P	**Pn**	**23 28 52.3**	**+2.7**
CKHZ	**Cape Kidnapper**	**1.42**	**134**	P	**Pn**	**23 28 52.2**	**+2.7**
MWZ	**Matawai**	**1.44**	**76**	P	**Pn**	**23 28 51.1**	**+1.3**
MYRZ	**Mayor Island**	**1.46**	**16**	P	**Pn**	**23 28 51.9**	**+1.8**
PKE	**Pukeiti**	**1.46**	**249**	P	**Pn**	**23 28 52.5**	**+2.5**
WPHZ	**Waipukurau**	**1.47**	**159**	P	**Pn**	**23 28 52.4**	**+2.3**
KHEZ	**Kahui Hut**	**1.48**	**245**	P	**Pn**	**23 28 52.8**	**+2.5**
KNZ	**Kokohu**	**1.54**	**103**	P	**Pn**	**23 28 52.7**	**+2.0**
OHWZ	**Ohakea**	**1.55**	**192**	P	**Pn**	**23 28 53.6**	**+2.8**
RIGZ	**Rimuhau**	**1.57**	**91**	P	**Pn**	**23 28 53.1**	**+2.0**
NBEZ	**Newall Road No**	**1.58**	**248**	P	**Pn**	**23 28 53.5**	**+2.5**
PXZ	**Pawanui**	**1.59**	**148**	P	**Pn**	**23 28 53.5**	**+2.4**
NMEZ	**Namu Road**	**1.63**	**243**	P	**Pn**	**23 28 54.1**	**+2.5**
DVHZ	**Dannevirke**	**1.64**	**169**	P	**Pn**	**23 28 53.7**	**+2.0**
MKAZ	**Moumakai**	**1.65**	**343**	P	**Pn**	**23 28 53.7**	**+1.9**
TKGZ	**Te Karaka**	**1.67**	**82**	P	**Pn**	**23 28 53.9**	**+2.0**
RUGZ	**Raukumara Rang**	**1.68**	**65**	P	**Pn**	**23 28 52.7**	**+0.4**
PRGZ	**Paritu Road**	**1.68**	**99**	P	**Pn**	**23 28 54.1**	**+2.0**
POWZ	**Post Office Ro**	**1.70**	**180**	P	**Pn**	**23 28 54.3**	**+2.0**
PRHZ	**Porangahau**	**1.72**	**157**	P	**Pn**	**23 28 54.8**	**+2.3**
MHGZ	**Mahia Peninsul**	**1.75**	**106**	P	**Pn**	**23 28 55.1**	**+2.4**
TWGZ	**Tauwhareparae**	**1.83**	**74**	P	**Pn**	**23 28 55.6**	**+2.0**
AWAZ	**Awhitu Peninsu**	**1.84**	**331**	P	**Pn**	**23 28 56.1**	**+2.3**
HAZ	**Te Kaha**	**1.85**	**60**	P	**Pn**	**23 28 54.5**	**+0.7**
ANWZ	**Angora Road**	**1.85**	**163**	P	**Pn**	**23 28 56.3**	**+2.4**
PRWZ	**Pori Road**	**1.87**	**175**	P	**Pn**	**23 28 56.2**	**+2.2**
CNGZ	**Carnagh Statio**	**1.94**	**85**	P	**Pn**	**23 28 57.0**	**+2.3**
KUZ	**Kuaotunu**	**1.94**	**359**	P	**Pn**	**23 28 56.5**	**+1.7**
WIAZ	**Waiheke Island**	**1.96**	**345**	P	**Pn**	**23 28 56.9**	**+2.0**
MRZ	**Mangatainoka R**	**1.97**	**184**	P	**Pn**	**23 28 56.9**	**+1.9**
PKGZ	**Pakihiroa**	**2.00**	**67**	P	**Pn**	**23 28 56.9**	**+1.4**
BFZ	**Birch Farm**	**2.03**	**169**	P	**Pn**	**23 28 57.7**	**+2.0**
BFZ	**Birch Farm**	**2.03**	**169**	P	**Pn**	**23 28 57.7**	**+2.0**
MBAZ	**Motutapu North**	**2.03**	**340**	P	**Pn**	**23 28 57.9**	**+2.1**
PUZ	**Puketiti**	**2.06**	**73**	P	**Pn**	**23 28 57.4**	**+1.3**
TIWZ	**Tintock**	**2.09**	**177**	P	**Pn**	**23 28 58.3**	**+1.9**
OGWZ	**Otaki Gorge**	**2.17**	**192**	P	**Pn**	**23 28 59.2**	**+2.0**
HOWZ	**Holsworth Sta**	**2.21**	**185**	P	**Pn**	**23 29 00.4**	**+1.6**
CPWZ	**Castlepoint**	**2.25**	**171**	P	**Pn**	**23 29 00.5**	**+2.4**
KIW	**Kapiti Island**	**2.26**	**196**	P	**Pn**	**23 28 59.9**	**+1.7**
WMGZ	**Waiomatatini S**	**2.27**	**68**	P	**Pn**	**23 28 59.7**	**+1.4**
MXZ	**Matakaoa Point**	**2.31**	**62**	P	**Pn**	**23 29 00.4**	**+1.6**
TMWZ	**Te Maipa**	**2.42**	**177**	P	**Pn**	**23 29 01.7**	**+1.7**
GRZ	**Great Barrier**	**2.45**	**354**	P	**Pn**	**23 29 02.6**	**+2.2**
CAW	**Cannon Point**	**2.47**	**192**	P	**Pn**	**23 29 02.2**	**+1.6**
MTW	**Mount Morrison**	**2.47**	**184**	P	**Pn**	**23 29 02.1**	**+1.4**
DUWZ	**D'Urville Isla**	**2.54**	**213**	P	**Pn**	**23 29 02.9**	**+1.5**
WEL	**Wellington**	**2.70**	**196**	P	**Pn**	**23 29 04.8**	**+1.5**
PAWZ	**Paruwai Farm**	**2.70**	**185**	P	**Pn**	**23 29 04.6**	**+1.3**
TRWZ	**Traveller**	**2.71**	**181**	P	**Pn**	**23 29 04.8**	**+1.5**
SNZO	**South Karori**	**2.74**	**197**	P	**Pn**	**23 29 05.3**	**+1.6**
MSWZ	**Moikau Station**	**2.75**	**188**	P	**Pn**	**23 29 05.2**	**+1.3**
TCW	**Tory Channel**	**2.76**	**204**	P	**Pn**	**23 29 05.5**	**+1.5**
BHW	**Baring Head**	**2.80**	**194**	P	**Pn**	**23 29 05.7**	**+1.3**
PLWZ	**Palliser**	**2.90**	**187**	P	**Pn**	**23 29 06.8**	**+1.1**
TUWZ	**Tuamarina**	**3.07**	**206**	P	**Pn**	**23 29 09.0**	**+1.3**
NNZ	**Nelson**	**3.11**	**215**	P	**Pn**	**23 29 09.7**	**+1.4**
TKNZ	**Takaka Hill**	**3.18**	**222**	P	**Pn**	**23 29 10.0**	**+0.9**
QRZ	**Quartz Range**	**3.27**	**228**	P	**Pn**	**23 29 11.0**	**+0.9**
QRZ	**Quartz Range**	**3.27**	**228**	P	**Pn**	**23 29 11.1**	**+0.9**
CMWZ	**Cape Campbell**	**3.27**	**201**	P	**Pn**	**23 29 12.4**	**+2.2**
BSWZ	**Blackbirch Sta**	**3.34**	**205**	P	**Pn**	**23 29 12.5**	**+1.4**
MRNZ	**Matariki Terra**	**3.55**	**219**	P	**Pn**	**23 29 14.5**	**+0.9**
THZ	**Tophouse**	**3.76**	**214**	P	**Pn**	**23 29 17.3**	**+0.9**
KHZ	**Kahutara**	**4.09**	**204**	P	**Pn**	**23 29 21.7**	**+1.4**
KHZ	**Kahutara**	**4.09**	**204**	P	**Pn**	**23 29 22.1**	**+1.8**
DSZ	**Denniston Nort**	**4.29**	**223**	P	**Pn**	**23 29 23.6**	**+0.5**
GVZ	**Greta Valley S**	**4.74**	**205**	P	**Pn**	**23 29 29.8**	**+1.1**
LTZ	**Lake Taylor**	**4.87**	**212**	P	**Pn**	**23 29 31.0**	**+0.6**
AMCZ	**Amberley**	**5.06**	**207**	P	**Pn**	**23 29 33.8**	**+1.0**
INZ	**Inchbonnie**	**5.19**	**218**	P	**Pn**	**23 29 34.8**	**+0.2**
OXZ	**Oxford**	**5.42**	**210**	P	**Pn**	**23 29 37.7**	**+0.2**
OKCZ	**Okains Bay**	**5.42**	**201**	P	**Pn**	**23 29 38.2**	**+0.6**
MQZ	**McQueen's Vall**	**5.53**	**204**	P	**Pn**	**23 29 38.8**	**-0.2**
AKCZ	**Akaroa Harbour**	**5.60**	**202**	P	**Pn**	**23 29 40.4**	**+0.5**
RACZ	**Rakaia**	**5.72**	**207**	P	**Pn**	**23 29 41.4**	**0.0**
WACZ	**Wakanui South**	**6.02**	**208**	P	**Pn**	**23 29 45.2**	**-0.1**
RPZ	**Rata Peaks**	**6.14**	**214**	P	**Pn**	**23 29 47.9**	**+1.0**
RPZ	**Rata Peaks**	**6.14**	**214**	P	**Pn**	**23 29 47.1**	**+0.1**
ARCZ	**Arundel**	**6.28**	**212**	P	**Pn**	**23 29 49.4**	**+0.7**
FOZ	**Fox Glacier**	**6.59**	**221**	P	**Pn**	**23 29 53.0**	**+0.2**
TMZ	**Timaru**	**6.71**	**210**	P	**Pn**	**23 29 54.8**	**+0.4**
LBZ	**Lake Benmore**	**7.06**	**214**	P	**Pn**	**23 29 59.3**	**+0.4**
ODZ	**Otahua Downs**	**7.40**	**209**	P	**Pn**	**23 30 04.4**	**+0.9**
ODZ	**Otahua Downs**	**7.40**	**209**	P	**Pn**	**23 30 03.4**	**-0.1**
JCZ	**Jackson Bay**	**7.50**	**222**	P	**Pn**	**23 30 06.5**	**+1.6**
WKZ	**Wanaka**	**7.93**	**217**	P	**Pn**	**23 30 11.2**	**+0.8**

**IDC 18 23:36:

JHJ S **Sn** **00 02 05.1 -0.9**
14nm,0.3s,baz=79,slow=21,SNR=1.8
WRA **Warramunga Arr 55.68 187** P **P** **00 10 22.6 -2.4**
0.2nm,0.6s,baz=360,slow=7.5,SNR=4.8
YKA **Yellowknife Ar 65.42 30** P **P** **00 11 34.1 +3.3**
0.1nm,0.3s,baz=287,slow=5.0,SNR=4.4

IDC 19 00:08:20.1±2.3, 6°.65S×130°.26E, h0km, mb3.6/1, mb1 3.4/4, mb1mx3.2/36, mbtmp3.2/4, ML2.9/2, Error ellipse: s-maj=89.3km s-min=29.6km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.24**	**201**	Pn	Pn	00 11 15.2	-0.6
	baz=24,slow=13						
FITZ				Sn	Sn	00 13 17.4	-16
	0.1nm,0.3s,baz=18,slow=20,SNR=1.2						
WRA	**Warramunga Arr**	**13.80**	**164**	Pn	Pn	00 11 37.4	+0.2
	0.1nm,0.3s,baz=348,slow=12,SNR=1.7						
WRA				Sn	Sn	00 14 01.2	-10
	0.2nm,0.3s,baz=339,slow=23,SNR=2.6						
ASAR	**Alice Springs**	**17.28**	**169**	P	Pn	00 12 23.5	+0.5
	0.1nm,0.3s,baz=349,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**68.07**	**327**	P	P	00 19 21.7	0.0
	0.3nm,0.4s,baz=130,slow=6.7,SNR=5.1						

*IDC **19** 00:23:10.3±1.6, 33°.03N×131°.38E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/45, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=25.1km s-min=11.0km az=13.0*
*NIED **19** 00:23:12.6, 32°.78N×130°.75E, h10km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr~1.64; Mθθ2.47; Mφφ~0.83; Mrθ~0.04; Mθφ~2.31; Mφr~1.05; Fault plane solution: M0 3.26000×10^14^ NP1: φs79.00000°, δ59.00000°, λ-153.00000°. NP2: φs334.00000°, δ67.00000°, λ-34.00000°.*
*JMA **19** 00:23:12.3±0.8, 32°.84N±0°.04×130°.85E±0°.09, h12km, n9, σ1§46/14, mb3.4/3, 2C-1D, Kyushu*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.28**	**6**	Pg	**Pb**	**00 23 19.4**	**0.0**
	555nm,0.3s,baz=195,slow=9.8,SNR=875						
JNU				Lg	Lg	00 23 24.0	
	2μm,0.3s,baz=243,slow=5.3,SNR=45						
JNU	**Nakatsue**	**0.28**	**6**	⇑P	**Pb**	**00 23 19.9**	**+0.5**
JNU				S	**Sb**	**00 23 25.0**	**+0.9**
JTA	**Tamana**	**0.29**	**295**	⇓P	**Pg**	**00 23 18.0**	**-0.3**
JTA				S	**Sg**	**00 23 21.9**	**-0.4**
JIU3	**Izumi3**	**0.29**	**185**	P	**Pg**	**00 23 17.6**	**-0.7**
JIU3				S	**Sg**	**00 23 21.4**	**-1.0**
JTZ	**Takazaki**	**0.96**	**168**	⇑P	**Pb**	**00 23 30.5**	**-0.4**
JTZ				S	**Sg**	**00 23 42.8**	**-0.6**
KSRS	**Korea Array**	**5.19**	**333**	Pn	**Pn**	**00 24 31.6**	**+1.9**
	0.4nm,0.3s,baz=142,slow=16,SNR=2.1						
KSRS				Pg	**Pg**	**00 24 47.8**	**-3.9**
	0.7nm,0.3s,baz=150,slow=16,SNR=7.1						
KSRS				Lg	Lg	00 25 56.1	
	1.7nm,0.3s,baz=149,slow=31,SNR=6.4						
SONM	**Songino Array**	**23.77**	**316**	P	**P**	**00 28 25.5**	**+0.8**
	0.4nm,0.4s,baz=132,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**52.59**	**176**	P	**P**	**00 32 26.8**	**+0.8**
	0.5nm,1.1s,baz=355,slow=7.6,SNR=2.4						
FINES	**FINESS Array B**	**68.27**	**330**	P	**P**	**00 34 12.3**	**-0.4**
	2.5nm,1.0s,baz=72,slow=4.8,SNR=3.9						

IDC 19 00:30:48.4±7.9, 17°.65S×174°.85W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/38, mbtmp3.7/3, Error ellipse: s-maj=345.6km s-min=38.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.02**	**259**	P	P	00 39 29.1	-0.6
	0.3nm,0.5s,baz=97,slow=6.9,SNR=9.9						
ASAR	**Alice Springs**	**48.13**	**254**	P	P	00 39 30.9	+0.3
	1.9nm,0.7s,baz=88,slow=9.0,SNR=25						
ILAR	**Eielson Array**	**84.91**	**12**	P	P	00 43 24.8	-0.1
	0.6nm,0.9s,baz=219,slow=6.0,SNR=4.3						

*IDC **19** 00:34:29.4±4.2, 35°.59N×71°.61E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.3/47, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=88.5km s-min=36.4km az=143.0*
ISC 19 00:34:46.7±2.3, 36°.5N±0°.2×70°.8E±0°.2, h100km, n6, σ2§32/7, 2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.65**	**358**	⇓P	**Pn**	**00 36 22.4**	**+0.6**
	0.6nm,0.2s,baz=175,slow=13,SNR=17						
KK31				⇓S	**Sn**	**00 37 34.6**	**-1.5**
	1.8nm,0.5s,baz=180,slow=23,SNR=4.0						
GEYT	**Alibeck**	**10.23**	**282**	Pn	**Pn**	**00 37 08.8**	**-1.7**
	0.5nm,0.3s,baz=104,slow=12,SNR=5.8						
AB31	**Akbulak array**	**15.05**	**332**	P	**Pn**	**00 38 15.0**	**+1.1**
	0.2nm,0.5s,baz=162,slow=11,SNR=9.0						
ZALV	**Zalesovo Beam**	**20.03**	**25**	P	**P**	**00 39 09.2**	**-2.2**
	1.5nm,0.3s,baz=206,slow=9.8,SNR=16						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**00 41 53.0**	**+3.1**
	3.8nm,1.0s,baz=124,slow=7.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**65.56**	**269**	P	**P**	**00 45 19.5**	**-0.5**
	0.1nm,0.3s,baz=50,slow=7.1,SNR=1.2						

*IDC **19** 00:41:54.2±2.6, 9°.28S×123°.77E, h122km±29km, mb3.2/1, mb1 3.2/4, mb1mx2.8/29, mbtmp3.5/4, Error ellipse: s-maj=105.2km s-min=28.1km az=56.0*
ISC 19 00:41:53.2±1.5, 9°.3S±0°.1×124°.3E±0°.1, h100km, n5, σ3§84/8, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.14**	**214**	P	**Pn**	**00 42 16.8**	**+1.6**
	105nm,0.3s,baz=274,slow=2.5,SNR=44						
BATI				LR	LR	00 42 22.7	
	comp=Z,28nm,19.3s,baz=334,slow=31						
BATI				S	**Sn**	**00 42 32.4**	**+0.6**
	42nm,0.3s,baz=113,slow=4.2,SNR=7.7						
FITZ	**Fitzroy Crossi**	**8.88**	**172**	P	**Pn**	**00 43 59.2**	**+0.4**
	0.6nm,0.3s,baz=354,slow=11,SNR=45						
FITZ				S	**Sn**	**00 45 32.9**	**-4.2**
	1.1nm,0.3s,baz=147,slow=17,SNR=11						
WRA	**Warramunga Arr**	**14.38**	**139**	P	**Pn**	**00 45 15.8**	**+3.6**
	0.1nm,0.3s,baz=316,slow=12,SNR=3.3						
WRA				S	Sn	00 47 49.3	-1.4
	0.2nm,0.3s,baz=310,slow=24,SNR=4.0						
ASAR	**Alice Springs**	**17.02**	**149**	P	**Pn**	**00 45 49.8**	**+4.7**
	0.2nm,0.3s,baz=323,slow=13,SNR=12						
ASAR				S	**Sn**	**00 48 51.6**	**-2.6**
	0.1nm,0.3s,baz=319,slow=21,SNR=2.5						
MKAR	**Makanchi Array**	**67.19**	**330**	P	**P**	**00 52 33.2**	**-3.3**
	0.3nm,0.5s,baz=137,slow=7.0,SNR=5.1						

*IDC **19** 00:58:42.1±2.7, 1°.67N×92°.96E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.4/42, mbtmp3.4/6, ML3.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/50, Error ellipse: s-maj=65.7km s-min=30.1km az=51.0*
ISC 19 00:58:48.3±2.2, 1°.8N±0°.2×93°.2E±0°.2, h35km, n6, σ1§27/6, mb3.5/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.82**	**80**	Pn	**Pn**	**01 00 11.7**	**-0.6**
	0.4nm,0.3s,baz=325,slow=9.9,SNR=4.3						
CMAR	**Chiang Mai Arr**	**17.51**	**18**	P	**P**	**01 02 51.2**	**+0.5**
	baz=216,slow=12,SNR=1.3						
WRA	**Warramunga Arr**	**45.77**	**120**	P	**P**	**01 07 07.1**	**+0.3**
	0.3nm,0.8s,baz=300,slow=8.7,SNR=1.9						
WRA				LR	LR	01 27 46.7	
	comp=Z,48nm,19.3s,baz=16,slow=38						
MKAR	**Makanchi Array**	**45.83**	**350**	P	**P**	**01 07 05.3**	**-1.6**
	0.4nm,0.6s,baz=169,slow=8.0,SNR=4.4						
SONM	**Songino Array**	**47.28**	**12**	P	**P**	**01 07 19.5**	**+1.2**
	0.2nm,0.5s,baz=192,slow=6.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**52.45**	**354**	P	**P**	**01 07 57.1**	**-0.3**
	0.3nm,0.4s,baz=162,slow=5.8,SNR=2.0						

*IDC **19** 01:13:11.6±0.6, 4°.20S×129°.39E, h0km, mb4.2/11, mb1 4.2/15, mb1mx4.0/51, mbtmp4.2/15, ML3.6/4, MS3.0/4, Ms1 3.0/4, ms1mx2.7/75, Error ellipse: s-maj=34.8km s-min=14.4km az=67.0*
*DJA **19** 01:13:15.3±0.7, 4°.S±2°.×12°.9E±°, h23km±6km, M4.3/9, mb4.7/6, MLv4.1/9*
*NEIC **19** 01:13:16.5±1.9, 4°.20S±0°.06×129°.5E±0°.1, h34km±5km, mb4.1/12, Error ellipse: s-maj=19.6km s-min=7.3km az=101.0*
ISC 19 01:13:15.9±0.5, 4°.19S±0°.04×129°.48E±0°.04, h36km, n53, σ1§56/62, mb4.3/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.54**	**128**	P	**Pn**	**01 13 27.2**	**0.0**
MSAI	**Masohi**	**1.00**	**327**	P	**Pn**	**01 13 30.7**	**-2.8**
MSAI				S	**Sn**	**01 13 42.7**	**-3.6**
AAI	**Ambon**	**1.38**	**291**	P	**Pn**	**01 13 37.9**	**-0.7**
AAI				S	**Sn**	**01 13 54.1**	**-1.5**
NLAI	**Namlea**	**2.56**	**292**	P	**Pn**	**01 13 54.8**	**-0.1**
NLAI				S	**Sn**	**01 14 25.5**	**+0.8**
SIJI	**Sorong**	**3.75**	**28**	Pn	**Pn**	**01 14 11.7**	**+0.4**
	21nm,0.3s,baz=185,slow=22,SNR=46						
SIJI				Sn	**Sn**	**01 14 54.0**	**-0.1**
	18nm,0.3s,baz=82,slow=19,SNR=7.4						
SIJI				LR	LR	01 15 38.3	
	comp=Z,134nm,18.8s,baz=222,slow=39						
SWI	**Sorong**	**3.75**	**28**	P	**Pn**	**01 14 11.6**	**+0.3**
SWI				S	**Sn**	**01 14 50.6**	**-3.6**
LBMI	**Labuha**	**4.04**	**331**	P	**Pn**	**01 14 15.3**	**0.0**
LBMI				S	**Sn**	**01 14 59.7**	**-1.8**
SANI	**Sanana**	**4.08**	**301**	P	**Pn**	**01 14 14.9**	**-1.0**
SANI				S	**Sn**	**01 15 02.0**	**-0.5**
SANI	**Sanana**	**4.08**	**301**	P	**Pn**	**01 14 17.1**	**+1.2**
BATI	**Baumata**	**8.31**	**224**	LR	LR	01 18 07.9	
	comp=Z,136nm,19.7s,baz=44,slow=36						
KNRA	**Kununurra**	**11.44**	**183**		**Pn**	**01 15 56.9**	**0.0**
PLAI	**Plampang**	**12.51**	**248**	P	**Pn**	**01 16 13.4**	**+1.9**
FITZ	**Fitzroy Crossi**	**14.33**	**195**	Pn	**Pn**	**01 16 35.3**	**-1.0**
	0.1nm,0.3s,baz=1.2,slow=17,SNR=3.1						
FITZ				LR	LR	01 23 13.6	
	comp=Z,45nm,18.1s,baz=38,slow=42						
WB0	**Warramunga Arr**	**16.21**	**163**	Pn	**Pn**	**01 17 00.5**	**-0.5**
WRAB	**Tennant Creek**	**16.35**	**164**	P	**P**	**01 17 06.0**	**+0.5**
WRA	**Warramunga Arr**	**16.36**	**164**	Pn	**Pn**	**01 17 01.4**	**-1.6**
	0.2nm,0.3s,baz=350,slow=12,SNR=6.2						
WRA				Sn	**Sn**	**01 19 59.3**	**-4.2**
	0.1nm,0.3s,baz=333,slow=25,SNR=4.7						
WB2	**Warramunga Arr**	**16.36**	**164**	Pn	**Pn**	**01 17 01.6**	**-1.5**
WB2				IAmb	IAmb	01 17 17.1	
	comp=Z,6.8nm,1.0s						
WR0	**Warramunga Arr**	**16.43**	**163**	P	**P**	**01 17 03.6**	**-2.8**
WR0				IAmb	IAmb	01 17 13.1	
	comp=Z,6.0nm,1.0s						
COEN	**Coen**	**16.63**	**127**	P	**P**	**01 17 09.7**	**+1.1**
QIS	**Mount Isa**	**19.02**	**150**	P	**Pn**	**01 17 37.1**	**+1.2**
PSA00	**Pilbara Seismi**	**19.65**	**208**	P	**Pn**	**01 17 42.5**	**-0.9**
PSA00	**Pilbara Seismi**	**19.65**	**208**		**P**	**01 17 40.2**	**-1.6**
PSA00				IAmb	IAmb	01 17 45.9	
	comp=Z,25nm,1.0s						
PSA00	**Pilbara Seismi**	**19.65**	**208**	P	**Pn**	**01 17 45.0**	**+1.6**
AS31	**Alice Springs**	**19.83**	**168**		**Pn**	**01 17 43.4**	**-2.1**
ASAR	**Alice Springs**	**19.83**	**168**	P	**Pn**	**01 17 46.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=348,slow=9.6,SNR=59						
ASAR				S	**Sn**	**01 21 25.6**	**-1.9**
	baz=353,slow=22,SNR=2.4						
ASAR				PcP	**PcP**	**01 22 01.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=347,slow=1.1,SNR=7.5						
ASAR	**Alice Springs**	**19.83**	**168**	Pn	**Pn**	**01 17 46.0**	**+0.5**
ASAR					**PcP**	**01 22 00.8**	**0.0**
WRKA	**Warakurna**	**20.76**	**183**	P	Pn	01 17 56.9	+0.5
CTA	**Charters Tower**	**22.73**	**135**	P	**P**	**01 18 16.1**	**+1.1**
	comp=Z,2.5nm,0.5s,baz=308,slow=16,SNR=2.1						
KSI	**Kapahiang**	**26.83**	**270**	P	**P**	**01 18 50.4**	**-2.9**
IPM	**Ipoh**	**29.70**	**287**	P	**P**	**01 19 19.9**	**+1.0**
STKA	**Stephens Creek**	**29.80**	**159**	P	**P**	**01 19 20.4**	**+0.8**
	comp=Z,1.6nm,1.0s,baz=360,slow=7.3,SNR=2.9						
STKA	**Stephens Creek**	**29.80**	**159**	P	**P**	**01 19 20.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**37.58**	**308**	P	**P**	**01 20 28.4**	**+1.2**
	comp=Z,2.6nm,0.6s,baz=142,slow=7.5,SNR=18						
CMAR	**Chiang Mai Arr**	**37.58**	**308**	P	**P**	**01 20 25.9**	**-1.3**
CHTO	**Chiang Mai**	**37.77**	**308**	P	**P**	**01 20 29.1**	**+0.2**
CHTO				IAmb	IAmb	01 20 31.5	
	comp=Z,7.5nm,0.8s						
KSRS	**Korea Array**	**41.45**	**358**	P	**P**	**01 21 00.6**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=165,slow=11,SNR=5.3						
SONM	**Songino Array**	**55.63**	**341**	P	**P**	**01 22 49.6**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=148,slow=8.7,SNR=6.0						
SONM				PcP	**PcP**	**01 23 49.2**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=160,slow=3.6,SNR=2.4						
SONM	**Songino Array**	**55.63**	**341**	P	**P**	**01 22 49.4**	**+1.0**
SONM				IAmb	IAmb	01 22 51.9	
	comp=Z,1.3nm,1.0s						
PETK	**Petropavlovsk-**	**61.84**	**19**	LR	LR	01 51 39.7	
	comp=Z,22nm,19.6s,baz=173,slow=37						
MKAR	**Makanchi Array**	**65.61**	**326**	P	**P**	**01 23 57.2**	**+0.9**
	comp=Z,5.8nm,0.6s,baz=122,slow=8.3,SNR=65						
AAK	**Ala-Archa**	**68.08**	**319**	P	**P**	**01 24 12.8**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=149,slow=6.5,SNR=3.6						
AAK	**Ala-Archa**	**68.08**	**319**	P	**P**	**01 24 11.8**	**-0.5**
AAK				IAmb	IAmb	01 24 39.0	
	comp=Z,5.8nm,1.5s						
ZALV	**Zalesovo Beam**	**68.85**	**334**	P	**P**	**01 24 17.2**	**+0.5**
	comp=Z,5.1nm,0.9s,baz=108,slow=4.8,SNR=14						
ZALV	**Zalesovo Beam**	**68.85**	**334**	P	**P**	**01 24 16.7**	**+0.1**
KURBB	**Kurchatov Arra**	**69.86**	**328**	P	**P**	**01 24 23.9**	**+0.9**
	comp=Z,8.6nm,0.7s,baz=130,slow=5.5,SNR=111						
KURK	**Kurchatov**	**69.87**	**328**	P	**P**	**01 24 23.8**	**+0.8**
AKTO	**Aktyubinsk**	**81.55**	**322**	P	**P**	**01 25 30.6**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=148,slow=7.4,SNR=11						
ARU	**Arti**	**83.06**	**328**	P	**P**	**01 25 38.4**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=174,slow=3.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**127.71**	**283**	PKP	**PKiKP**	**01 32 19.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=66,slow=2.4,SNR=6.3						
CPUP	**Villa Florida**	**148.95**	**168**	PKPbc	**PKPab**	**01 33 01.9**	**-2.8**
	comp=Z,1.3nm,0.6s,baz=200,slow=3.6,SNR=4.0						
CPUP	**Villa Florida**	**148.95**	**168**		**PKPdf**	**01 32 55.5**	**-1.3**
LPAZ	**La Paz**	**153.22**	**140**	PKPbc	**PKiKP**	**01 33 13.4**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=184,slow=13,SNR=3.6						
LPAZ	**La Paz**	**153.22**	**140**	PKPdf	**PKPdf**	**01 33 01.5**	**-2.9**

*IDC **19** 01:14:43.3±2.5, 24°.60N×92°.84E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.1/76, mbtmp3.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/68, Error ellipse: s-maj=99.4km s-min=25.4km az=71.0*
*NDI **19** 01:14:47.7±3.5, 24°.86N×92°.76E, h10km, ML3.7*
ISC 19 01:14:45.8±1.3, 24°.74N±0°.06×92°.81E±0°.05, h13km±10km, n13, σ1§07/18, mb3.6/4, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**1.53**	**50**	eP	**Pg**	**01 15 15.8**	**+0.5**
KOHI				eS	**Sg**	**01 15 34.5**	**-0.7**
KOHI				IAML		01 15 41.9	
	comp=E,1μm,0.2s						
KOHI				IAML		01 15 42.0	
	comp=N,1μm,0.5s						
AGT	**Agartala**	**1.66**	**239**	eS	**Sg**	**01 15 37.1**	**-2.0**
AGT				IAML		01 15 43.9	
	comp=N,1μm,0.5s						
GUWA	**GUWAHATI**	**1.77**	**325**	eP	**Pb**	**01 15 17.5**	**-0.6**
GUWA				eS	**Sb**	**01 15 40.0**	**-0.1**
GUWA				IAML		01 15 40.8	
	comp=E,2μm,0.3s						
GUWA				IAML		01 15 42.0	
	comp=N,900nm,0.3s						
TEZP	**TEZPUR**	**1.87**	**360**	eP	**Pn**	**01 15 17.9**	**+0.4**
TEZP				eS	**Sn**	**01 15 39.7**	**-1.3**
TEZP				IAML		01 15 46.2	
	comp=N,2μm,0.2s						
BELO	**BELONIA**	**1.93**	**220**	eS	**Sg**	**01 15 49.2**	**+1.1**
MOKO	**MOKOCHONG**	**2.21**	**44**	eP	**Pb**	**01 15 25.3**	**-0.3**
MOKO				eS	**Sn**	**01 15 50.6**	**+1.1**
MOKO				IAML		01 16 03.9	
	comp=E,718nm,0.3s						
MOKO				IAML		01 16 04.3	
	comp=N,727nm,0.4s						
TURI	**Tura**	**2.38**	**290**	eP	**Pn**	**01 15 25.7**	**+1.2**
TURI				eS	**Sn**	**01 15 53.8**	**+0.2**
TURI				IAML		01 16 03.9	
	comp=N,689nm,0.1s						
TURI				IAML		01 16 04.2	
	comp=E,1μm,0.1s						

GTK **Tadong** **4.57** **305** eP **Pn** **01 15 55.8 +1.0**
GTK eS **Sn** **01 16 48.0 +0.1**
GTK IAML 01 16 53.0
comp=N,57nm,0.3s
MKAR **Makanchi Array** **23.56** **342** P **P** **01 19 56.6 +0.6**
comp=N,0.2nm,0.5s,baz=155,slow=11,SNR=2.6
SONM **Songino Array** **25.45** **22** P **P** **01 20 14.2 +0.8**
comp=N,0.4nm,0.6s,baz=206,slow=9.6,SNR=4.2
ARCES **ARCESS Array B** **59.14** **338** LR LR 01 51 55.1
comp=N,22nm,20.6s,baz=118,slow=38
WRA **Warramunga Arr** **60.05** **134** P **P** **01 24 51.2 -1.5**
comp=N,0.8nm,0.6s,baz=323,slow=7.2,SNR=9.7
ASAR **Alice Springs** **62.47** **137** P **P** **01 25 08.1 -1.0**
comp=N,0.7nm,0.6s,baz=319,slow=6.8,SNR=6.4

GUC 19 01:15:07.1±0.7, 30°.86S×71°.72W, h31km±2km, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.20**	**22**	⇑iP	Pb	01 15 13.0	-0.4
CO06				*i* S	Sb	01 15 16.9	-0.8
CO06				IAML		01 15 17.8	
	comp=E,20μm,0.1s						
CO02	**Combarbal**	**0.71**	**120**	⇓*i*P	Pb	01 15 20.5	-0.6
CO02				*i* S	Sb	01 15 30.4	-0.3
CO02				IAML		01 15 31.0	
	comp=E,5μm,0.3s						
CO05	**La Serena**	**1.02**	**24**	*e*P	Pn	01 15 25.1	-0.2
CO05				*i* S	Sb	01 15 39.1	-0.2
CO05				IAML		01 15 41.5	
	comp=N,2μm,0.3s						
GO04	**Tololo Observa**	**1.05**	**50**	⇓*i*P	Pn	01 15 25.8	-0.1
GO04				*i* S	Sn	01 15 39.9	+0.3
GO04				IAML		01 15 44.1	
	comp=N,17μm,0.3s						
CO01	**Juntas del Tor**	**1.66**	**59**	⇑*e*P	Pb	01 15 35.8	-1.4
CO01				*i* S	Sb	01 15 57.3	-0.4
CO01				IAML		01 15 59.5	
	comp=N,458nm,0.5s						
VA06	**Catapilco**	**1.74**	**168**	*e*P	Pn	01 15 35.5	+0.3
VA06				*i* S	Sn	01 15 57.8	+1.5
VA06				IAML		01 16 04.7	
	comp=E,842nm,0.4s						
LCO	**Las Campanas**	**2.04**	**26**	*e*P	Pn	01 15 40.4	+0.8
LCO				*i* S	Sb	01 16 07.7	-1.0
VA03	**San Esteban**	**2.15**	**153**	⇑*e*P	Pn	01 15 42.6	+1.7
VA03				*i* S	Sb	01 16 10.0	-1.7
VA03				IAML		01 16 19.8	
	comp=N,511nm,0.6s						
MT05	**Renca**	**2.66**	**162**	*e*P	Pn	01 15 50.1	+2.1
MT05				*i* S	Sb	01 16 23.1	-3.4
MT05				IAML		01 16 34.7	
	comp=E,302nm,0.4s						
AC04	**Llanos de Chal**	**2.70**	**12**	*e*P	Pn	01 15 48.1	-0.4
AC04				IAML		01 16 39.0	
	comp=E,199nm,0.4s						
FCH	**Farellones**	**2.75**	**154**	⇑*e*P	Pn	01 15 51.3	+1.9
FCH				*i* S	Sb	01 16 29.7	+0.5
FCH				IAML		01 16 35.9	
	comp=N,92nm,0.4s						
MT03	**Universidad Ad**	**2.82**	**159**	*e*P	Pn	01 15 52.6	+2.4
MT03				*i* S	Sb	01 16 32.1	+1.0
MT03				IAML		01 16 37.7	
	comp=N,258nm,0.4s						
MT09	**Talagante**	**2.98**	**168**	*e*P	Pn	01 15 54.1	+1.7
MT09				*i* S	Sb	01 16 37.5	+1.9
MT09				IAML		01 16 42.2	
	comp=N,144nm,0.5s						
MT01	**Popeta**	**3.03**	**173**	*e*P	Pn	01 15 54.0	+1.1
MT01				*i* S	Sb	01 16 38.5	+1.6
MT01				IAML		01 16 41.1	
	comp=N,81nm,0.7s						
BO04	**La Punta**	**3.26**	**164**	*e*P	Pn	01 15 57.5	+1.3
BO04				*i* S	Sb	01 16 39.4	-4.2
BO04				IAML		01 16 51.4	
	comp=E,92nm,0.7s						
GO03	**Copiap**	**3.50**	**22**	*e*P	Pb	01 16 04.5	-3.9
GO03				IAML		01 16 58.5	
	comp=N,180nm,0.5s						
AC06	**Mina Casimiro**	**3.69**	**19**	*i* P	Pn	01 16 03.4	+1.4
AC06				*i* S	Sb	01 16 55.0	-0.8
AC02	**Maricunga**	**4.61**	**30**	*e*P	Pn	01 16 19.5	+4.4
AC02				*i* S	Sn	01 17 10.3	+2.6

*ISK **19** 01:15:18.4, 37°.10N×30°.52E, h84km±1km, ML3.2/24*
*HLW **19** 01:15:18.2, 36°.74N×30°.14E, h8km±15km, Md3.8, Ml3.5*
*DDA **19** 01:15:19.1±0.0, 37°.14N×30°.49E, h52km±4km, MW3.2*
*NIC **19** 01:15:20.7±0.0, 36°.76N×30°.44E, h91km±2km, Ml3.4/5*
ISC 19 01:15:18.3±1.2, 37°.07N±0°.03×30°.51E±0°.02, h88km±6km, n85, σ1§23/127, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**0.21**	**146**	PG	**Pn**	**01 15 31.0**	**0.0**
ANTB				SG	**Sn**	**01 15 40.6**	**+0.2**
BUCA	**Burdur, Bucak-**	**0.26**	**9**	P	**Pn**	**01 15 31.2**	**-0.2**
BUCA				S	**Sn**	**01 15 39.4**	**-1.6**
BCK	**Bucak**	**0.39**	**10**	PG	**Pn**	**01 15 31.9**	**-0.2**
BCK				SG	**Sn**	**01 15 41.8**	**-0.6**
KEMT	**Kemer-ANTALYA**	**0.47**	**175**	PG	**Pn**	**01 15 32.9**	**+0.3**
SUTC	**Sutluce-Ispart**	**0.56**	**44**	PG	**Pn**	**01 15 32.8**	**-0.7**
SUTC				SG	**Sn**	**01 15 44.8**	**0.0**
ELL	**Elmali**	**0.58**	**236**	PG	**Pn**	**01 15 35.1**	**+1.5**
ELL	**Elmali**	**0.58**	**236**	P	**Pn**	**01 15 35.1**

SEDI				*i* AML	AML	01 15 57.0		
	comp=Z,130nm,0.6s							
SEDI				*i* AML	AML	01 15 57.0		
	comp=E,248nm,0.4s							
AKAS	**Kas**	**1.11**	**221**	PN	**Pn**	**01 15 40.2**	**+0.9**	
AKAS	**Kas**	**1.11**	**221**	P	**Pn**	**01 15 40.3**	**+1.1**	
AKAS				S	**Sn**	**01 15 56.8**	**+1.8**	
AKAS				*i* AML	AML	01 16 00.0		
	comp=Z,320nm,0.3s							
AKAS				*i* AML	AML	01 16 00.0		
	comp=E,611nm,0.4s							
AKAS				*i* AML	AML	01 16 03.0		
	comp=N,1μm,0.3s							
SEYD	**Seydisehir-KON**	**1.11**	**72**	PN	**Pn**	**01 15 39.9**	**+0.7**	
KSL	**Kastellorizon**	**1.19**	**219**	S	**Sn**	**01 15 54.7**	**-1.6**	
KZIL	**AFYON_Kizioren**	**1.22**	**346**	P	**Pn**	**01 15 40.7**	**+0.2**	
KZIL				S	**Sn**	**01 15 55.7**	**-1.5**	
KZIL				*i* AML	AML	01 15 58.0		
	comp=N,69nm,0.5s							
KZIL				*i* AML	AML	01 15 58.0		
	comp=E,70nm,0.6s							
KZIL				*i* AML	AML	01 16 02.0		
	comp=Z,32nm,0.5s							
FETY	**Fethiye**	**1.22**	**249**	PN	**Pn**	**01 15 41.5**	**+1.0**	
FETY	**Fethiye**	**1.22**	**249**	P	**Pn**	**01 15 41.6**	**+1.1**	
FETY				S	**Sn**	**01 15 58.3**	**+1.1**	
FETY				*i* AML	AML	01 16 02.0		
	comp=N,348nm,0.2s							
FETY				*i* AML	AML	01 16 03.0		
	comp=Z,221nm,0.3s							
FETY				*i* AML	AML	01 16 03.0		
	comp=E,393nm,0.4s							
YVAC	**Isparta, Yalva**	**1.33**	**26**	P	**Pn**	**01 15 42.4**	**+0.5**	
YVAC				S	**Sn**	**01 15 58.9**	**-0.8**	
YVAC				*i* AML	AML	01 16 01.0		
	comp=N,39nm,0.5s							
YVAC				*i* AML	AML	01 16 03.0		
	comp=E,36nm,0.4s							
YVAC				*i* AML	AML	01 16 08.0		
	comp=Z,30nm,0.5s							
TAVA	**DENIZLI_Tavas**	**1.33**	**288**	P	**Pn**	**01 15 43.4**	**+1.5**	
TAVA				S	**Sn**	**01 15 59.4**	**-0.3**	
TAVA				*i* AML	AML	01 16 03.0		
	comp=N,96nm,0.5s							
TAVA				*i* AML	AML	01 16 04.0		
	comp=Z,68nm,0.3s							
TAVA				*i* AML	AML	01 16 04.0		
	comp=E,105nm,0.5s							
DOGA	**KONYA_Doganhis**	**1.38**	**41**	P	**Pn**	**01 15 43.5**	**+0.9**	
DOGA				S	**Sn**	**01 16 01.3**	**+0.4**	
DOGA				*i* AML	AML	01 16 03.0		
	comp=Z,91nm,0.3s							
DOGA				*i* AML	AML	01 16 04.0		
	comp=N,152nm,0.3s							
DOGA				*i* AML	AML	01 16 04.0		
	comp=E,121nm,0.3s							
KHL	**Karahalli**	**1.47**	**328**	PN	**Pn**	**01 15 44.1**	**+0.5**	
SHUT	**Suhut-Afyon**	**1.48**	**1**	PN	**Pn**	**01 15 44.4**	**+0.6**	
DALY	**Dalyan (Mula)**	**1.51**	**261**	PN	**Pn**	**01 15 45.3**	**+1.3**	
PASA	**Karahalli, USA**	**1.51**	**328**	P	**Pn**	**01 15 44.3**	**+0.2**	
PASA				S	**Sn**	**01 16 02.3**	**-1.3**	
PASA				*i* AML	AML	01 16 04.0		
	comp=N,56nm,0.4s							
PASA				*i* AML	AML	01 16 04.0		
	comp=E,65nm,0.3s							
PASA				*i* AML	AML	01 16 06.0		
	comp=Z,36nm,0.5s							
HDMB	**Hadim**	**1.59**	**93**	PN	**Pn**	**01 15 46.6**	**+1.4**	
KMER	**Konya-Meram**	**1.64**	**64**	P	**Pn**	**01 15 46.8**	**+1.0**	
KMER				S	**Sn**	**01 16 06.5**	**-0.1**	
KMER				*i* AML	AML	01 16 09.0		
	comp=Z,31nm,0.4s							
KMER				*i* AML	AML	01 16 09.0		
	comp=N,96nm,0.6s							
KMER				*i* AML	AML	01 16 13.0		
	comp=E,56nm,0.3s							
GAZI	**Gazipasa**	**1.68**	**119**	PN	**Pn**	**01 15 46.9**	**+0.7**	
GAZI	**Gazipasa**	**1.68**	**119**	P	**Pn**	**01 15 46.9**	**+0.7**	
GAZI				S	**Sn**	**01 16 09.0**	**+1.5**	
GAZI				*i* AML	AML	01 16 14.0		
	comp=E,162nm,0.5s							
GAZI				*i* AML	AML	01 16 15.0		
	comp=Z,76nm,0.3s							
GAZI				*i* AML	AML	01 16 16.0		
	comp=N,112nm,0.4s							
KONT	**Konya--Tatoy**	**1.71**	**59**	PN	**Pn**	**01 15 47.8**	**+1.1**	
KONT	**Konya--Tatoy**	**1.71**	**59**	P	**Pn**	**01 15 47.8**	**+1.1**	
KONT				S	**Sn**	**01 16 08.4**	**+0.2**	
KONT				*i* AML	AML	01 16 11.0		
	comp=N,51nm,0.7s							
KONT				*i* AML	AML	01 16 12.0		
	comp=E,68nm,0.6s							
KONT				*i* AML	AML	01 16 14.0		
	comp=Z,50nm,0.4s							
AFYO	**Afyonkarahisar**	**1.72**	**355**	P	**Pn**	**01 15 47.7**	**+0.9**	
AFYO				S	**Sn**	**01 16 08.6**	**+0.1**	
AFYO				*i* AML	AML	01 16 11.0		
	comp=N,69nm,1.0s							
AFYO				*i* AML	AML	01 16 15.0		
	comp=Z,30nm,0.9s							
AFYO				*i* AML	AML	01 16 48.0		
	comp=E,45nm,1.6s							
MULA	**Mugla, Merkez-**	**1.76**	**277**	P	**Pn**	**01 15 48.3**	**+1.0**	
MULA				S	**Sn**	**01 16 08.7**	**-0.6**	
MULA				*i* AML	AML	01 16 10.0		
	comp=N,43nm,0.6s							
MULA				*i* AML	AML	01 16 13.0		
	comp=E,95nm,0.5s							
MULA				*i* AML	AML	01 16 15.0		
	comp=Z,40nm,0.8s							
YER	**Yerkesik**	**1.78**	**273**	PN	**Pn**	**01 15 49.1**	**+1.5**	
TURN	**Turunc**	**1.84**	**261**	PN	**Pn**	**01 15 49.4**	**+1.2**	
TURN	**Turunc**	**1.84**	**261**	P	**Pn**	**01 15 49.1**	**+0.9**	
TURN				S	**Sn**	**01 16 11.1**	**0.0**	
TURN				*i* AML	AML	01 16 13.0		
	comp=Z,162nm,0.2s							
TURN				*i* AML	AML	01 16 13.0		
	comp=N,201nm,0.2s							
TURN				*i* AML	AML	01 16 13.0		
	comp=E,193nm,0.2s							
LADK	**Ladik-KONYA**	**1.85**	**52**	PN	**Pn**	**01 15 49.3**	**+0.7**	
KDHN	**Kadinhani**	**1.93**	**41**	P	**Pn**	**01 15 49.9**	**+0.4**	
KDHN				S	**Sn**	**01 16 13.1**	**-0.2**	
KDHN				*i* AML	AML	01 16 14.0		
	comp=Z,41nm,0.5s							
KDHN				*i* AML	AML	01 16 14.0		
	comp=N,35nm,0.5s							
KDHN				*i* AML	AML	01 16 14.0		
	comp=E,44nm,0.3s							
KKBE	**Karaman, Kazim**	**1.95**	**85**	P	**Pn**	**01 15 50.8**	**+1.0**	
KKBE				S	**Sn**	**01 16 13.5**	**-0.3**	
KKBE				*i* AML	AML	01 16 16.0		
	comp=E,37nm,0.4s							
KKBE				*i* AML	AML	01 16 20.0		
	comp=Z,42nm,0.4s							
KKBE				*i* AML	AML	01 16 23.0		
	comp=N,37nm,0.5s							
ERMK	**Ermenek**	**1.98**	**102**	P	**Pn**	**01 15 52.1**	**+1.8**	
ERMK				S	**Sn**	**01 16 16.4**	**+1.7**	
ERMK				*i* AML	AML	01 16 18.0		
	comp=E,170nm,0.4s							
ERMK				*i* AML	AML	01 16 20.0		
	comp=N,102nm,0.3s							
ERMK				*i* AML	AML	01 16 24.0		
	comp=Z,128nm,0.3s							
USAK	**Uak-Merkez**	**2.02**	**325**	P	**Pn**	**01 15 51.3**	**+0.6**	
USAK				S	**Sn**	**01 16 14.6**	**-0.7**	
USAK				*i* AML	AML	01 16 15.0		
	comp=N,40nm,1.1s							
USAK				*i* AML	AML	01 16 15.0		
	comp=E,60nm,1.0s							
USAK				*i* AML	AML	01 16 18.0		
	comp=Z,18nm,0.3s							
MANT	**Manisa**	**2.10**	**313**	P	**Pn**	**01 15 52.1**	**+0.3**	
MANT				S	**Sn**	**01 16 16.8**	**-0.7**	
MANT				*i* AML	AML	01 16 18.0		
	comp=Z,78nm,0.4s							
MANT				*i* AML	AML	01 16 18.0		
	comp=N,100nm,0.3s							
MANT				*i* AML	AML	01 16 18.0		
	comp=E,132nm,0.3s							
ARG	**Arkhangelos**	**2.10**	**247**	PN	**Pn**	**01 15 52.2**	**+0.5**	
ARG	**Arkhangelos**	**2.10**	**247**	P	**Pn**	**01 15 52.2**	**+0.5**	
ARG				S	**Sn**	**01 16 17.8**	**+0.6**	
KIZT	**Kizilcal**	**2.10**	**31**	PN	**Pn**	**01 15 52.3**	**+0.4**	
GDZ	**Gediz**	**2.17**	**338**	P	**Pn**	**01 15 53.2**	**+0.5**	
GDZ				S	**Sn**	**01 16 18.4**	**-0.7**	
GDZ				*i* AML	AML	01 16 19.0		
	comp=Z,13nm,0.3s							
GDZ				*i* AML	AML	01 16 19.0		
	comp=N,27nm,0.4s							
GDZ				*i* AML	AML	01 16 19.0		
	comp=E,36nm,0.4s							
AYDN	**Tasoluk**	**2.17**	**286**	P	**Pn**	**01 15 53.8**	**+1.1**	
AYDN				S	**Sn**	**01 16 17.9**	**-1.2**	
AYDN				*i* AML	AML	01 16 23.0		
	comp=N,44nm,0.4s							
AYDN				*i* AML	AML	01 16 27.0		
	comp=E,32nm,0.4s							
AYDN				*i* AML	AML	01 16 28.0		
	comp=Z,17nm,0.7s							
KRMN	**Karaman**	**2.21**	**87**	PN	**Pn**	**01 15 54.1**	**+0.9**	
BOZY	**Bozyazi-Mersin**	**2.21**	**115**	PN	**Pn**	**01 15 54.9**	**+1.8**	
ALIN	**Konya, Altinte**	**2.24**	**56**	P	**Pn**	**01 15 54.9**	**+1.2**	
ALIN				S	**Sn**	**01 16 20.4**	**-0.4**	
ALIN				*i* AML	AML	01 16 22.0		
	comp=E,16nm,0.3s							
ALIN				*i* AML	AML	01 16 23.0		
	comp=Z,11nm,0.5s							
ALIN				*i* AML	AML	01 16 23.0		
	comp=N,13nm,0.3s							
TEKE	**Tekeli-Mersin**	**2.29**	**113**	PN	**Pn**	**01 15 55.8**	**+1.5**	
BERE	**Bereket-Mersin**	**2.30**	**108**	PN	**Pn**	**01 15 55.8**	**+1.3**	
DAT	**Datca**	**2.37**	**263**	P	**Pn**	**01 15 56.7**	**+1.2**	
DAT				*i* AML	AML	01 16 26.0		
	comp=Z,78nm,0.6s							
DAT				*i* AML	AML	01 16 27.0		
	comp=N,172nm,0.6s							
DAT				*i* AML	AML	01 16 28.0		
	comp=E,123nm,0.4s							
DEMI	**Demirci**	**2.42**	**325**	P	**Pn**	**01 15 56.7**	**+0.6**	
DEMI				S	**Sn**	**01 16 23.5**	**-1.5**	
DEMI				*i* AML	AML	01 16 28.0		
	comp=Z,8.7nm,0.3s							
DEMI				*i* AML	AML	01 16 28.0		
	comp=N,16nm,0.3s							
DEMI				*i* AML	AML	01 16 29.0		
	comp=E,19nm,0.6s							
BDRM	**Kayabasi**	**2.45**	**271**	P	**Pn**	**01 15 57.2**	**+0.9**	
BDRM				*i* AML	AML	01 16 27.0		
	comp=Z,58nm,0.3s							
BDRM				*i* AML	AML	01 16 27.0		
	comp=N,89nm,0.4s							
BDRM				*i* AML	AML	01 16 27.0		
	comp=E,60nm,0.4s							
SGAZ	**Eskisehir, Sey**	**2.46**	**6**	P	**Pn**	**01 15 57.1**	**+0.5**	
SGAZ				S	**Sn**	**01 16 23.2**	**-2.8**	
SGAZ				*i* AML	AML	01 16 26.0		
	comp=E,13nm,0.6s							
SGAZ				*i* AML	AML	01 16 28.0		
	comp=Z,9.5nm,0.2s							
SGAZ				*i* AML	AML	01 16 28.0		
	comp=N,16nm,0.6s							
ANDZ	**Kutahya, Merke**	**2.48**	**349**	P	**Pn**	**01 15 57.6**	**+0.7**	
ANDZ				S	**Sn**	**01 16 25.7**	**-0.7**	
ANDZ				*i* AML	AML	01 16 26.0		
	comp=N,6.7nm,0.7s							
ANDZ				*i* AML	AML	01 16 26.0		
	comp=E,10nm,0.5s							
ANDZ				*i* AML	AML	01 16 27.0		
	comp=Z,7.0nm,1.2s							
AKMS	**Akamas**	**2.53**	**144**	P	**Pn**	**01 15 58.0**	**+0.5**	
AKMS				S	**Sn**	**01 16 26.8**	**-0.7**	
AKMS				AML	AML	01 16 39.0		
	0.5nm,0.3s							
AKMS				AML	AML	01 16 39.0		
	0.5nm,0.3s							
AKMS				AML	AML	01 16 40.5		
	0.8nm,0.3s							
AKMS				AML	AML	01 16 40.5		
	0.8nm,0.3s							
ALFC	**Alefka**	**2.56**	**138**	P	**Pn**	**01 15 58.7**	**+0.9**	
ALFC				S	**Sn**	**01 16 27.6**	**-0.5**	
ALFC				AML	AML	01 16 28.3		
	0.6nm,0.2s							
ALFC				AML	AML	01 16 28.3		
	0.6nm,0.2s							
ALFC				AML	AML	01 16 28.8		
	0.6nm,0.2s							
ALFC				AML	AML	01 16 28.8		
	0.6nm,0.2s							
DDIM	**Aydin, Didim**	**2.63**	**279**	P	**Pn**	**01 15 60.0**	**+1.2**	
DDIM				*i* AML	AML	01 16 33.0		
	comp=E,52nm,0.5s							
DDIM				*i* AML	AML	01 16 36.0		
	comp=N,40nm,0.5s							
DDIM				*i* AML	AML	01 16 54.0		
	comp=Z,28nm,0.8s							
BORA	**Eskisehir**	**2.80**	**359**	P	**Pn**	**01 16 01.8**	**+0.6**	
BORA				*i* AML	AML	01 16 38.0		
	comp=N,6.2nm,0.3s							
BORA				*i* AML	AML	01 16 38.0		
	comp=E,7.8nm,0.3s							
BORA				*i* AML	AML	01 16 41.0		
	comp=Z,4.5nm,1.3s							
KKUL	**Konya-Kulu**	**2.83**	**41**	P	**Pn**	**01 16 02.7**	**+1.1**	
KKUL				*i* AML	AML	01 16 37.0		
	comp=N,13nm,0.5s							
KKUL				*i* AML	AML	01 16 37.0		
	comp=E,18nm,0.7s							
KKUL				*i* AML	AML	01 16 49.0		
	comp=Z,8.3nm,0.6s							
NATA	**Nata**	**2.84**	**143**	P	**Pn**	**01 16 02.1**	**+0.5**	
AUBOZ	**BOZOYUK**	**2.86**	**353**	P	**Pn**	**01 16 02.1**	**+0.2**	
AUBOZ				*i* AML	AML	01 16 36.0		
	comp=E,16nm,0.4s							
AUBOZ				*i* AML	AML	01 16 37.0		
	comp=N,9.5nm,0.4s							
AUBOZ				*i* AML	AML	01 17 33.0		
	comp=Z,6.4nm,0.3s							
AUMIH	**MIHALICIK**	**2.89**	**15**	P	**Pn**	**01 16 03.1**	**+0.6**	
AUMIH				*i* AML	AML	01 16 37.0		
	comp=E,10nm,0.4s							
AUMIH				*i* AML	AML	01 16 38.0		
	comp=N,8.9nm,0.7s							
AUMIH				*i* AML	AML	01 17 07.0		
	comp=Z,3.0nm,1.3s							
SZAC	**Souni**	**3.01**	**140**	P	**Pn**	**01 16 04.6**	**+0.6**	
SZAC				S	**Sn**	**01 16 38.3**	**-0.9**	
SZAC				AML	AML	01 16 39.2		
	0.3nm,0.3s							
SZAC				AML	AML	01 16 39.2		
	0.3nm,0.3s							
SZAC				AML	AML	01 16 53.0		
	0.4nm,0.8s							
SZAC				AML	AML	01 16 53.0		
	0.4nm,0.8s							
KARP	**Karpathos**	**3.10**	**242**	P	**Pn**	**01 16 06.0**	**+0.8**	
CSS	**Mathiatis**	**3.11**	**132**	P	**Pn**	**01 16 07.2**	**+1.9**	
ASGA	**Asgata**	**3.19**	**135**	P	**Pn**	**01 16 07.0**	**+0.7**	
MVOU	**Mavrovouni**	**3.26**	**128**	P	**Pn**	**01 16 07.5**	**+0.2**	
MVOU				AML	AML	01 16 47.3		
	0.2nm,0.4s							
OSC1	**CSNet OBS 1**	**3.62**	**170**	P	**Pn**	**01 16 11.4**	**-0.8**	
OSC1				S	**Sn**	**01 16 51.0**	**-2.8**	
OSC1				AML	AML	01 16 53.9		
	0.1nm,0.1s							
OSC1				AML	AML	01 16 53.9		
	0.1nm,0.1s							
OSC1				AML	AML	01 16 57.6		
	0.1nm,0.1s							
OSC1				AML	AML	01 16 57.6		
	0.1nm,0.1s							
ZKR	**Zakros**	**3.99**	**242**	P	**Pn**	**01 16 18.0**	**+0.9**	
OSC2	**CSNet OBS 4**	**4.24**	**160**	P	**Pn**	**01 16 19.7**	**-0.9**	
SLUM	**Salum**	**7.08**	**220**	⇑P	**Pn**	**01 16 58.9**	**-0.4**	
	baz=220							
SLUM				S	Sn	01 18 08.9	-9.3	
	baz=220							
KOT	**Kottamia**	**7.21**	**171**	P	**Pn**	**01 17 02.3**	**+1.2**	
	baz=167							
GLL	**Jalalah**	**7.54**	**172**	⇓P	**Pn**	**01 17 05.8**	**+0.2**	
	baz=169							
RYAN	**Fayoum**	**7.97**	**181**	P	**Pn**	**01 17 10.6**	**-0.8**	
	baz=179							
RYAN				S	**Sn**	**01 18 32.9**	**-7.1**	
	baz=179							
SWA2		**8.88**	**210**	P	**Pn**	**01 17 22.5**	**-1.3**	
	baz=210							

*IDC **19** 01:15:53.6±0.9, 55.°62S×26.°97W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/22, mbtmp3.9/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/45, Error ellipse: s-maj=44.6km s-min=31.1km az=79.0*

*NEIC **19** 01:15:54.6±1.9, 55.°6S±0.°2×-26.°50W±0.°08, h10km±1km, mb4.2/5, Error ellipse: s-maj=27.1km s-min=6.7km az=6.0*

ISC 19 01:15:54.7±0.8, 55.°6S±0.°1×26.°5W±0.°1, h10km, n16, σ1§28/15, mb4.2/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.90**	**279**	Pn	**Pn**	**01 17 23.8**	**+1.8**
HOPE				Sn	**Sn**	**01 18 29.5**	**0.0**
SNAA	**Sanae**	**19.02**	**157**	P	**Pn**	**01 20 18.0**	**+1.0**
SNAA				IAmb	IAmb	01 20 35.0	
	comp=Z,25nm,1.4s						
QSPA	**South Pole Qui**	**34.66**	**180**	P	**P**	**01 22 43.6**	**-0.4**
QSPA				IAmb	IAmb	01 22 55.5	
	comp=Z,5.3nm,1.2s						
SUR	**Sutherland**	**40.15**	**75**	LR	LR	01 36 53.9	
	comp=Z,60nm,19.6s,baz=202,slow=31						
BOSA	**Boshof**	**45.48**	**76**	LR	LR	01 41 16.7	
	comp=Z,57nm,18.1s,baz=202,slow=33						
VNDA	**Vanda**	**47.05**	**182**	P	**P**	**01 24 25.9**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=197,slow=6.1,SNR=9.9						
VNDA	**Vanda**	**47.05**	**182**	P	**P**	**01 24 24.8**	**-0.9**
LPAZ	**La Paz**	**50.42**	**304**	P	**P**	**01 24 52.2**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=180,slow=6.1,SNR=6.9						
LPAZ	**La Paz**	**50.42**	**304**	P	**P**	**01 24 50.0**	**-3.0**
LPAZ				IAmb	IAmb	01 25 03.0	
	comp=Z,2.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.46**	**29**	P	**P**	**01 27 22.9**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=198,slow=7.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**72.46**	**29**	P	**P**	**01 27 22.0**	**+0.8**
YKA	**Yellowknife Ar**	**136.08**	**318**	PKP	**PKPdf**	**01 35 13.5**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=122,slow=2.6,SNR=6.3						
YKA	**Yellowknife Ar**	**136.08**	**318**		**PKPdf**	**01 35 14.5**	**0.0**
INK	**Inuvik**	**145.69**	**321**	PKPbc	**PKPdf**	**01 35 31.3**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=40,slow=2.3,SNR=7.6						
ILAR	**Eielson Array**	**150.09**	**312**	PKPbc	**PKPbc**	**01 35 43.5**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=126,slow=2.0,SNR=19						
SONM	**Songino Array**	**150.31**	**85**	PKPbc	**PKiKP**	**01 35 46.2**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=227,slow=3.0,SNR=10						

IDC 19 01:19:05.8±1.5, 4.°18S×129.°23E, h0km, mb3.6/2, mb1 3.4/5, mb1mx3.1/55, mbtmp3.3/5, ML2.6/3, Error ellipse: s-maj=53.2km s-min=27.4km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.86**	**32**	Pn	Pn	01 20 05.7	-0.8
	2.2nm,0.3s,baz=210,slow=20,SNR=15						
SIJI				Sn	Sn	01 20 45.6	-7.1
	1.1nm,0.3s,baz=219,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**16.44**	**163**	Pn	Pn	01 22 59.2	+1.1
	0.0nm,0.3s,baz=342,slow=13,SNR=1.2						
ASAR	**Alice Springs**	**19.90**	**167**	P	P	01 23 38.4	-0.6
	0.1nm,0.3s,baz=350,slow=9.8,SNR=1.9						
MKAR	**Makanchi Array**	**65.46**	**327**	P	P	01 29 50.9	+0.2
	0.3nm,0.3s,baz=120,slow=8.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**69.72**	**328**	P	P	01 30 17.7	+0.2
	0.4nm,0.6s,baz=126,slow=6.1,SNR=6.2						

*IDC **19** 01:25:03.3±0.9, 55.°54S×26.°97W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=49.4km s-min=26.1km az=82.0*

ISC 19 01:25:07.2±0.9, 55.°6S±0.°2×-27.°0W±0.°3, h25km, n8, σ0§77/8, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.69**	**180**	P	**P**	**01 31 55.0**	**+0.4**
	1.0nm,0.7s,baz=26,slow=5.0,SNR=11						
VNDA	**Vanda**	**47.06**	**183**	P	**P**	**01 33 36.1**	**+0.1**
	0.7nm,0.5s,baz=156,slow=6.3,SNR=2.1						
LPAZ	**La Paz**	**50.17**	**305**	P	**P**	**01 34 01.8**	**+0.4**
	1.1nm,0.6s,baz=237,slow=13,SNR=4.1						
TORD	**Torodi Ar. Bea**	**72.59**	**29**	P	**P**	**01 36 32.9**	**+0.8**
	0.3nm,0.6s,baz=190,slow=7.2,SNR=1.8						
YKA	**Yellowknife Ar**	**135.87**	**318**	PKP	**PKPdf**	**01 44 23.8**	**-0.4**
	0.1nm,0.5s,baz=124,slow=2.1,SNR=4.5						
INK	**Inuvik**	**145.48**	**321**	PKPbc	**PKPdf**	**01 44 40.6**	**-0.7**
	0.9nm,0.8s,baz=100,slow=8.5,SNR=4.9						
ILAR	**Eielson Array**	**149.85**	**312**	PKPbc	**PKPbc**	**01 44 52.8**	**-0.8**
	0.9nm,0.8s,baz=153,slow=1.4,SNR=11						
SONM	**Songino Array**	**150.61**	**85**	PKPbc	**PKPbc**	**01 44 55.2**	**-0.9**
	0.6nm,0.5s,baz=242,slow=3.3,SNR=4.7						

JMA 19 01:30:03.1±0.3, 31.°34N×142.°89E, h0km, M3.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.15**	**305**	*e*S	Sn	01 31 33.9	+1.7
BSO1	**Boso 1**	**3.67**	**335**	P	Pn	01 31 02.8	+2.1
BSO3	**Boso 3**	**3.99**	**331**	P	Pn	01 31 07.4	+2.1
JRY	**Ryogami san**	**5.73**	**326**	S	Sn	01 32 39.5	+3.6
JAG	**Ashikaga**	**5.82**	**332**	*e*S	Sn	01 32 39.6	+1.4

*IDC **19** 01:32:56.0±2.7, 32.°66N×130.°35E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/48, mbtmp3.6/3, ML2.6/1, Error ellipse: s-maj=46.3km s-min=32.6km az=45.0*

*JMA **19** 01:32:57.7, 32.°74N×130.°53E, h7km±1km, M3.2*

JMA Felt II J1.

ISC 19 01:32:58.3±1.4, 32.°71N±0.°08×130.°5E±0.°1, h11km, n6, σ1§58/8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.26**	**6**	P	**Pg**	**01 33 02.4**	**-1.2**
JTA				S	**Sg**	**01 33 05.8**	**-1.3**
JIU3	**Izumi3**	**0.31**	**121**	P	**Pg**	**01 33 03.6**	**-0.9**
JIU3				S	**Sg**	**01 33 08.2**	**-0.5**
KSRS	**Korea Array**	**5.18**	**337**	Pg	**Pb**	**01 34 30.8**	**+1.9**
	0.4nm,0.3s,baz=154,slow=15,SNR=4.8						
KSRS				Lg	Lg	01 35 39.5	
	2.1nm,0.3s,baz=157,slow=29,SNR=10						
MJAR	**Matsushiro Arr**	**7.41**	**57**	Pn	**Pn**	**01 34 48.1**	**+1.7**
	0.1nm,0.3s,baz=237,slow=13,SNR=2.5						
SONM	**Songino Array**	**23.67**	**317**	P	**P**	**01 38 09.9**	**0.0**
	0.6nm,0.8s,baz=125,slow=10,SNR=3.2						
FINES	**FINESS Array B**	**68.24**	**330**	P	**P**	**01 43 57.2**	**-1.5**
	2.1nm,0.9s,baz=64,slow=3.2,SNR=4.7						

*IDC **19** 01:36:28.9±1.0, 41.°66N×144.°22E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.6/46, mbt

comp=Z,83nm,19.3s,baz=185,slow=40
SONM Songino Array 27.37 296 P **P** **01 42 17.6 +1.9**
0.3nm,0.4s,baz=78,slow=8.3,SNR=3.3
H11N2 WAKE ISLAND Hy 29.12 132 T T 02 13 22.8
baz=324,slow=75,SNR=60
H11N1 WAKE ISLAND Hy 29.14 132 T T 02 13 21.5
baz=324,slow=75,SNR=51
H11N3 WAKE ISLAND Hy 29.14 132 T T 02 13 24.5
baz=324,slow=75,SNR=40
H11S1 WAKE ISLAND Hy 30.00 134 T T 02 14 35.2
baz=325,slow=76,SNR=74
H11S3 WAKE ISLAND Hy 30.01 134 T T 02 14 35.6
baz=325,slow=76,SNR=54
H11S2 WAKE ISLAND Hy 30.02 134 T T 02 14 36.7
baz=325,slow=76,SNR=43
ZALV Zalesovo Beam 40.58 309 P **P** **01 44 09.4 -0.2**
0.6nm,0.5s,baz=83,slow=8.4,SNR=2.7
ZALV LR LR 02 01 06.0
comp=Z,55nm,18.0s,baz=119,slow=36
MKAR Makanchi Array 43.67 299 P **P** **01 44 33.7 -1.3**
0.3nm,0.4s,baz=82,slow=10,SNR=2.4
ILAR Eielson Array 44.43 35 P **P** **01 44 41.2 +0.3**
0.3nm,0.9s,baz=270,slow=4.5,SNR=2.2
INK Inuvik 49.28 29 P **P** **01 45 18.7 +0.1**
1.2nm,0.6s,baz=294,slow=6.4,SNR=4.8
YKA Yellowknife Ar 58.72 32 P **P** **01 46 28.3 +0.6**
0.1nm,0.6s,baz=304,slow=6.6,SNR=2.2
WRA Warramunga Arr 61.98 191 P **P** **01 46 50.2 -0.1**
0.5nm,0.2s,baz=6.1,slow=8.6,SNR=3.3
ASAR Alice Springs 65.70 190 P **P** **01 47 15.4 +0.5**
0.2nm,0.7s,baz=359,slow=4.3,SNR=4.2
FINES FINESS Array B 65.74 332 P **P** **01 47 14.8 +0.1**
1.2nm,0.5s,baz=45,slow=5.7,SNR=11
H03N2 Juan Fernandez 145.11 91 T T 04 38 32.7
baz=300,slow=77,SNR=7.8
H03N3 Juan Fernandez 145.12 91 T T 04 38 34.1
baz=300,slow=77,SNR=5.0
H03N1 Juan Fernandez 145.12 91 T T 04 38 34.4
baz=300,slow=77,SNR=6.1

IDC 19 01:45:14.2±5.2,55.99S×27.14W,h0km,mb3.8/1, mb1 4.0/1,mb1mx3.4/23,mbtmp3.8/1,Error ellipse: s-maj=735.8km s-min=55.4km az=26.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**50.37**	**305**	P	P	01 54 13.5	-0.1
	0.7nm,0.7s,baz=179,slow=9.0,SNR=4.0						
YKA	**Yellowknife Ar**	**136.15**	**318**	PKP	PKPdf	02 04 35.1	-0.7
	0.1nm,0.7s,baz=117,slow=3.1,SNR=2.7						
ILAR	**Eielson Array**	**150.10**	**312**	PKPbc	PKPbc	02 05 05.0	-0.3
	0.7nm,0.8s,baz=98,slow=2.5,SNR=6.4						
SONM	**Songino Array**	**150.70**	**86**	PKPbc	PKPbc	02 05 07.1	-0.3
	0.7nm,0.8s,baz=217,slow=3.0,SNR=3.3						

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*IDC **19** 01:47:36.1±0.7,55.60S×26.95W,h0km,mb4.3/7, mb1 4.4/8,mb1mx4.1/24,mbtmp4.2/8,ML3.7/1,MS3.4/3, Ms1 3.4/3,ms1mx3.0/43,Error ellipse: s-maj=33.3km s-min=17.6km az=69.0*
*NEIC **19** 01:47:38.5±1.6,55.7S±0.2×27.2W±0.2,h10km±1km, mb4.4/11,Error ellipse: s-maj=32.2km s-min=15.9km az=28.0*

ISC 19 01:47:39.8±0.7,55.6S±0.1×27.0W±0.1,h25km,n33, σ0.83/26,mb4.3/8,MS3.5/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.61**	**280**	Pn	**Pn**	**01 49 02.1**	**+0.6**
EFI	**East Falkland**	**18.72**	**269**		**P**	**01 51 56.2**	**-0.1**
SNAA	**Sanae**	**19.08**	**157**	P	**Pn**	**01 52 00.2**	**-0.9**
	0.2nm,0.3s,baz=13,slow=18,SNR=2.4						
SNAA	**Sanae**	**19.08**	**157**	P	**Pn**	**01 52 00.7**	**-0.4**
BELA	**Belgrano 2**	**22.49**	**184**	P	**P**	**01 52 36.3**	**-0.5**
BELA				IAmb	IAmb	01 52 38.6	
	comp=Z,12nm,1.0s						
MG05	**Puerto Natales**	**26.86**	**259**	P	**P**	**01 53 16.5**	**-1.5**
MG05				IAmb	IAmb	01 53 44.3	
	comp=Z,15nm,0.9s						
GO08	**Villa O'Higgin**	**28.46**	**265**	P	**P**	**01 53 31.7**	**-0.7**
QSPA	**South Pole Qui**	**34.61**	**180**	P	**P**	**01 54 26.8**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=21,slow=4.7,SNR=18						
QSPA				LR	LR	02 07 49.6	
	comp=Z,42nm,19.4s,baz=195,slow=35						
QSPA	**South Pole Qui**	**34.61**	**180**	P	**P**	**01 54 26.7**	**+0.3**
QSPA				IAmb	IAmb	01 54 30.4	
	comp=Z,4.4nm,0.8s						
CPUP	**Villa Florida**	**36.61**	**311**	P	**P**	**01 54 43.5**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=187,slow=18,SNR=3.1						
CPUP	**Villa Florida**	**36.61**	**311**	P	**P**	**01 54 44.4**	**+0.7**
CPUP				IAmb	IAmb	01 55 21.6	
	comp=Z,5.5nm,1.4s						
MAW	**Mawson**	**40.43**	**144**	P	**P**	**01 55 15.3**	**-0.1**
	comp=Z,4.9nm,0.8s,baz=229,slow=6.6,SNR=6.6						
MAW	**Mawson**	**40.43**	**144**	P	**P**	**01 55 16.3**	**+1.0**
SUR	**Sutherland**	**40.45**	**75**	LR	LR	02 10 09.4	
	comp=Z,58nm,18.1s,baz=190,slow=34						
BOSA	**Boshof**	**45.78**	**76**	LR	LR	02 11 32.4	
	comp=Z,64nm,19.4s,baz=188,slow=31						
VNDA	**Vanda**	**46.99**	**183**	P	**P**	**01 56 08.9**	**+0.9**
	comp=Z,4.0nm,0.7s,baz=194,slow=6.0,SNR=17						
VNDA	**Vanda**	**46.99**	**183**	P	**P**	**01 56 09.2**	**+1.2**
VNDA				IAmb	IAmb	01 56 11.1	
	comp=Z,4.7nm,0.8s						
H10S2	**ASCENSION HYDR**	**47.58**	**17**	T	T	02 45 23.7	
	baz=192,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**47.59**	**17**	T	T	02 45 23.9	
	baz=28,slow=74,SNR=13						
H10N1	**ASCENSION HYDR**	**48.70**	**17**	T	T	02 46 45.7	
	baz=192,slow=75,SNR=7.2						
H10N3	**ASCENSION HYDR**	**48.70**	**17**	T	T	02 46 47.3	
	baz=192,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**48.72**	**17**	T	T	02 46 48.6	
	baz=192,slow=75,SNR=14						
LPAZ	**La Paz**	**50.21**	**305**	P	**P**	**01 56 34.6**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=166,slow=6.6,SNR=14						
LPAZ	**La Paz**	**50.21**	**305**	P	**P**	**01 56 34.4**	**+0.2**
LPAZ				IAmb	IAmb	01 56 35.6	
	comp=Z,4.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.66**	**29**	P	**P**	**01 59 05.2**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=199,slow=6.0,SNR=15						
ASAR	**Alice Springs**	**99.35**	**162**	P	**Pdif**	**02 01 18.6**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=181,slow=4.5,SNR=6.3						
YKA	**Yellowknife Ar**	**135.92**	**318**	PKP	**PKPdf**	**02 06 56.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=126,slow=2.2,SNR=11						
YKA	**Yellowknife Ar**	**135.92**	**318**		**PKPdf**	**02 06 55.4**	**-1.4**
MKAR	**Makanchi Array**	**136.67**	**71**	PKP	**PKPdf**	**02 06 57.4**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=207,slow=2.9,SNR=2.5						
INK	**Inuvik**	**145.54**	**321**	PKPbc	**PKPab**	**02 07 14.3**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=85,slow=1.9,SNR=7.4						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**02 07 26.2**	**0.0**
	comp=Z,4.0nm,0.8s,baz=131,slow=1.9,SNR=38						
SONM	**Songino Array**	**150.61**	**86**	PKPbc	**PKiKP**	**02 07 29.1**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=226,slow=3.3,SNR=18						
SONM	**Songino Array**	**150.61**	**86**	PKPdf	**PKPdf**	**02 07 24.5**	**+1.4**

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*ATH **19** 01:52:32.9,38.82N×20.60E,h11km±2km,ML2.1/13,Error ellipse: s-maj=2.2km s-min=1.0km az=174.0*
*THE **19** 01:52:32.3,38.86N×20.54E,h0km±3km,ML2.6/7,Error ellipse: s-maj=4.3km s-min=0.6km az=325.0*

ISC 19 01:52:32.7±1.0,38.83N±0.03×20.58E±0.03,h9km±5km, n35,σ0.66/54,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSLK	**Tsoukalades, L**	**0.06**	**93**	P	**Pg**	**01 52 34.5**	**-0.2**
TSLK				S	**Sg**	**01 52 35.9**	**-0.2**
	37μm,0.1s						
LKD2	**Lefkada island**	**0.07**	**122**	P	**Pg**	01 52 34.7	-0.2
LKD2				S	**Sg**	**01 52 36.0**	**-0.4**
	37μm,0.2s						
DRAG	**Dragano-Lefkad**	**0.14**	**180**	P	**Pg**	**01 52 36.1**	**+0.2**
NYDR	**Nydri-Lefkada**	**0.15**	**140**	P	**Pg**	**01 52 35.9**	**0.0**
NYDR				S	**Sg**	**01 52 38.0**	**-0.1**
NYDR	**Nydri-Lefkada**	**0.15**	**140**	P	**Pg**	**01 52 35.9**	**0.0**
NYDR				S	**Sg**	**01 52 38.7**	**+0.6**
	1μm,0.5s						
EVGI	**Lefkada island**	**0.22**	**163**	P	**Pg**	**01 52 37.2**	**+0.2**
EVGI				S	**Sg**	**01 52 40.4**	**+0.3**
EVGI	**Lefkada island**	**0.22**	**163**	P	**Pg**	**01 52 37.3**	**+0.2**
EVGI				S	**Sg**	**01 52 41.0**	**+0.9**
	2μm,0.3s						
FSK	**Fiskardo**	**0.37**	**182**	P	**Pg**	**01 52 40.4**	**+0.5**
FSK				S	**Sg**	**01 52 45.5**	**+0.7**
FSK				AML	AML	01 52 47.5	
	comp=N,884μm,0.2s						
FSK				AML	AML	01 52 47.9	
	comp=E,1747μm,0.3s						
FSK	**Fiskardo**	**0.37**	**182**	P	**Pg**	**01 52 40.6**	**+0.7**
FSK				S	**Sb**	**01 52 46.6**	**-0.7**
	comp=E,660nm,0.2s						
KEF4	**Livadi, Kephal**	**0.58**	**192**	P	**Pg**	**01 52 43.2**	**-0.8**
KEF4				S	**Sg**	**01 52 52.4**	**+0.8**
KEF4	**Livadi, Kephal**	**0.58**	**192**	P	**Pg**	**01 52 43.8**	**-0.2**
KEF4				S	**Sb**	**01 52 53.4**	**0.0**
DMLN	**Damoulianata-K**	**0.61**	**195**	P	**Pg**	**01 52 44.2**	**-0.3**
DMLN				S	**Sb**	**01 52 54.8**	**+0.5**
	comp=E,265nm,0.5s						
KEF3	**Kipouria, Keph**	**0.65**	**196**	P	**Pg**	**01 52 44.3**	**-0.9**
KEF3	**Kipouria, Keph**	**0.65**	**196**	P	**Pg**	**01 52 44.5**	**-0.7**
KEF3				S	**Sb**	**01 52 55.2**	**-0.2**
VLS	**Valsamata**	**0.65**	**179**	P	**Pg**	**01 52 44.6**	**-0.7**
VLS				S	**Sg**	**01 52 54.2**	**+0.4**
VLS				AML	AML	01 52 58.7	
	comp=E,513μm,0.2s						
VLS				AML	AML	01 53 00.3	
	comp=N,521μm,0.3s						
VLS	**Valsamata**	**0.65**	**179**	P	**Pg**	**01 52 45.0**	**-0.3**
VLS				S	**Sb**	**01 52 55.5**	**+0.1**
	comp=N,260nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.71**	**179**	P	**Pg**	**01 52 45.6**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.71**	**179**	P	**Pg**	**01 52 45.9**	**-0.6**
PSDA				S	**Sb**	**01 52 57.0**	**-0.2**
IGT	**Igoumenitsa**	**0.73**	**345**	P	**Pg**	**01 52 46.3**	**-0.5**
IGT				AML	AML	01 53 05.7	
	comp=E,249μm,0.3s						
IGT				AML	AML	01 53 10.3	
	comp=N,291μm,0.4s						
PVO	**Paravola**	**0.77**	**106**	P	**Pg**	**01 52 47.5**	**-0.1**
JAN	**Janina**	**0.85**	**14**	P	**Pg**	**01 52 49.3**	**+0.1**
JAN				AML	AML	01 53 06.1	
	comp=N,192μm,0.5s						
JAN				AML	AML	01 53 13.9	
	comp=E,227μm,0.5s						
EVR	**Evrytania**	**0.97**	**84**	P	**Pg**	**01 52 51.0**	**-0.3**
EVR				AML	AML	01 53 18.6	
	comp=E,117μm,0.6s						
EVR				AML	AML	01 53 18.8	
	comp=N,93μm,0.6s						
EVR	**Evrytania**	**0.97**	**84**	P	**Pg**	**01 52 51.2**	**-0.1**
EVR				S	**Sb**	**01 53 05.9**	**+1.3**
RLS	**Riolos of Patr**	**1.04**	**137**	P	**Pg**	**01 52 51.6**	**-1.1**
RLS				AML	AML	01 53 14.4	
	comp=N,122μm,0.4s						
RLS				AML	AML	01 53 18.2	
	comp=E,142μm,0.5s						
RLS	**Riolos of Patr**	**1.04**	**137**	P	**Pg**	**01 52 52.4**	**-0.3**
RLS				S	**Sb**	**01 53 07.9**	**+1.3**
KEK	**Kerkira**	**1.07**	**326**	P	**Pn**	**01 52 53.8**	**-0.2**
KEK				AML	AML	01 53 15.7	
	comp=N,150μm,0.6s						
KEK				AML	AML	01 53 17.6	
	comp=E,198μm,0.3s						
ANX	**Ano Chora**	**1.08**	**102**	P	**Pg**	**01 52 52.2**	**-1.2**
ANX				AML	AML	01 53 18.0	
	comp=N,258μm,0.6s						
ANX				AML	AML	01 53 21.9	
	comp=E,258μm,0.5s						
ANX	**Ano Chora**	**1.08**	**102**	P	**Pg**	**01 52 52.7**	**-0.7**
ANX				S	**Sn**	**01 53 09.8**	**+0.6**
EFP	**Efpalio**	**1.12**	**111**	P	**Pg**	**01 52 53.4**	**-0.7**
EFP				AML	AML	01 53 20.4	
	comp=N,270μm,0.5s						
EFP				AML	AML	01 53 20.6	
	comp=E,204μm,0.4s						
EFP	**Efpalio**	**1.12**	**111**	P	**Pg**	**01 52 53.9**	**-0.2**
EFP				S	**Sn**	**01 53 11.4**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.23**	**81**	P	**Pg**	**01 52 55.3**	**-1.0**
MAKR				AML	AML	01 53 22.2	
	comp=E,301μm,0.3s						
MAKR				AML	AML	01 53 28.0	
	comp=N,222μm,0.8s						
DRO	**Drossia**	**1.25**	**134**	P	**Pg**	**01 52 55.1**	**-1.5**
DRO				AML	AML	01 53 17.7	
	comp=E,132μm,0.3s						
DRO				AML	AML	01 53 25.8	
	comp=N,244μm,0.5s						
AGG	**Agios Georgios**	**1.38**	**81**	P	**Pn**	**01 52 58.4**	**+0.1**
AGG				AML	AML	01 53 25.9	
	comp=E,113μm,0.5s						
AGG				AML	AML	01 53 31.5	
	comp=N,99μm,0.5s						
KLV	**Kalavryta, Ach**	**1.46**	**122**	P	**Pn**	**01 52 58.5**	**-0.9**
KLV				AML	AML	01 53 31.3	
	comp=N,67μm,0.7s						
KLV				AML	AML	01 53 38.0	
	comp=E,58μm,0.7s						
ITM	**Ithomi**	**1.96**	**147**	P	**Pb**	**01 53 08.1**	**-0.5**

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*BGR **19** 02:02:18.1±0.0,34.08N×139.62E,h33km,mb4.8*
*MOS **19** 02:02:37.4±1.0,33.39N×138.87E,h247km,mb4.5/30, Error ellipse: s-maj=11.7km s-min=5.0km az=117.3*
*JMA **19** 02:02:37.8±0.4,33.47N×138.95E,h255km±4km,M4.2*
*NIED **19** 02:02:37.9,33.47N×138.95E,h255km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-0.56; Mθθ-0.05; Mϕϕ0.61; Mrθ-0.91; Mθϕ-0.83; Mϕr-3.91; Fault plane solution: M0 4.13000×10^15^ NP1: ϕs114.00000°,δ13.00000°,λ-166.00000°. NP2: ϕs11.00000°,δ87.00000°,λ-77.00000°.*
*IDC **19** 02:02:38.4±0.5,33.39N×138.91E,h242km±4km,mb3.8/19, mb1 3.9/25,mb1mx3.7/53,mbtmp4.4/25 Error ellipse: s-maj=12.8km s-min=8.2km az=76.0*
*NEIC **19** 02:02:38.5±1.6,33.49N±0.08×139.0E±0.1,h247km±6km, mb4.4/28,Error ellipse: s-maj=12.6km s-min=11.6km az=69.0*

ISC 19 02:02:38.3±0.6,33.44N±0.05×138.92E±0.05,h246km±4km, n233,σ1.05/261,mb4.3/69,48C-6D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMKN	**Mikurajimanish**	**0.72**	**51**	⇓P	**Pn**	**02 03 11.8**	**+0.3**
JKO	**Kozu shima**	**0.76**	**14**	P	**Pn**	**02 03 12.6**	**+0.9**
JHJ	**Hachijo jima 2**	**0.80**	**114**	P	**Pn**	**02 03 12.2**	**+0.3**
	138nm,0.3s,baz=233,slow=20,SNR=11						
JHJ				S	**S**	**02 03 38.5**	**+0.3**
	57nm,0.3s,baz=324,slow=19,SNR=2.3						
JHJ2	**Mitsune**	**0.82**	**114**	P	**Pn**	**02 03 12.5**	**+0.5**
JHJ2	**Mitsune**	**0.82**	**114**	Pn	**Pn**	**02 03 11.9**	**-0.1**
JHJ2				Sn	**S**	**02 03 39.3**	**+0.8**
TK03	**Tokai 3**	**1.07**	**312**	P	**Pn**	**02 03 14.4**	**+1.3**
TK02	**Tokai 2**	**1.09**	**298**	⇑P	**Pn**	**02 03 14.1**	**+1.0**
TK02				S	**S**	**02 03 42.3**	**+1.8**
TK01	**Tokai 1**	**1.15**	**286**	P	**Pn**	**02 03 13.8**	**+0.4**
JAOM	**Aogashimamukai**	**1.21**	**144**	⇓P	**Pn**	**02 03 15.0**	**+0.7**
TTO4	**TONANKAI O.B.S**	**1.28**	**296**	P	**Pn**	**02 03 14.9**	**+0.6**
TTO4				S	**S**	**02 03 43.6**	**+0.9**
TTO1	**TONANKAI O.B.S**	**1.79**	**276**	⇑P	**Pn**	**02 03 18.8**	**+0.6**
JOD2	**Odawara 2**	**1.82**	**4**	P	**Pn**	**02 03 19.4**	**+0.6**
JOD2				eS	**S**	**02 03 50.3**	**-0.5**
JIE	**Ise**	**2.07**	**298**	⇑P	**Pn**	**02 03 21.4**	**+0.4**
JYN	**Shimob**	**2.07**	**352**	⇓P	**Pn**	**02 03 22.3**	**+1.2**
JYN				S	**S**	**02 03 55.2**	**+0.2**
BSO1	**Boso 1**	**2.09**	**54**	P	**Pn**	**02 03 20.3**	**-0.3**
BSO1				eS	**S**	**02 03 54.3**	**+0.2**
INU	**Inuyama**	**2.46**	**321**		**Pn**	**02 03 25.5**	**+0.6**
JGF	**Kuroka**	**2.51**	**330**		**Pn**	**02 03 25.1**	**-0.2**
JRY	**Ryogami san**	**2.57**	**360**	S	**S**	**02 04 02.6**	**-1.0**
JTNC	**Tanabenakahech**	**2.78**	**279**	⇑P	**Pn**	**02 03 28.1**	**-0.1**
JYTA	**Yamagatataniai**	**2.80**	**321**	⇑P	**Pn**	**02 03 29.0**	**+0.7**
JWY	**Kouya**	**2.87**	**287**	⇑P	**Pn**	**02 03 29.7**	**+0.5**
JYT	**Yasato**	**2.97**	**20**		**Pn**	**02 03 29.4**	**-0.7**
JAG	**Ashikaga**	**3.01**	**8**	P	**Pn**	**02 03 30.3**	**-0.2**
MJAR	**Matsushiro Arr**	**3.14**	**350**	P	**Pn**	**02 03 32.1**	**+0.1**
	0.9nm,0.3s,baz=164,slow=16,SNR=11						
MJAR				S	**S**	**02 04 13.5**	**-1.2**
	0.8nm,0.3s,baz=256,slow=27,SNR=3.5						
MJAR	**Matsushiro Arr**	**3.14**	**350**		**Pn**	**02 03 31.8**	**-0.3**
MAJO	**Matsushiro**	**3.15**	**350**	*i* P	**Pn**	**02 03 32.4**	**+0.4**
MAJO	**Matsushiro**	**3.15**	**350**		**Pn**	**02 03 32.5**	**+0.4**
MJB9	**Matsu-Tunnel**	**3.15**	**349**		**Pn**	**02 03 32.7**	**+0.5**
JWT	**Wachi**	**3.44**	**303**	⇑P	**Pn**	**02 03 35.8**	**+0.5**
JMM	**Marumori**	**4.67**	**19**		**Pn**	**02 03 49.1**	**-0.7**
JHS	**Saijyo**	**5.05**	**289**		**Pn**	**02 03 55.2**	**+0.6**
JNU	**Nakatsue**	**6.74**	**269**	P	**Pn**	**02 04 16.0**	**+0.3**
	0.4nm,0.3s,baz=84,slow=6.3,SNR=3.9						
JNU	**Nakatsue**	**6.74**	**269**		**Pn**	**02 04 15.5**	**-0.2**
JCJ	**Chichijima**	**6.93**	**155**	P	**Pn**	**02 04 16.1**	**-1.9**
	11nm,0.3s,baz=274,slow=20,SNR=12						
JCJ				S	S	02 05 28.7	-9.4
	70nm,0.3s,baz=111,slow=23,SNR=15						
ERM	**Erimo**	**9.19**	**20**	*i* P	**Pn**	**02 04 47.9**	**+1.4**
KSRS	**Korea Array**	**9.82**	**297**	P	**Pn**	**02 04 56.2**	**+1.7**
	0.5nm,0.3s,baz=114,slow=13,SNR=25						
TJN	**Taejon**	**9.93**	**290**	*ce*P	**Pn**	**02 04 56.9**	**+1.0**
JOW	**Kunigami**	**11.32**	**237**	P	**P**	**02 05 18.4**	**+0.8**
	4.9nm,0.3s,baz=352,slow=8.8,SNR=6.2						
USRK	**Ussuriysk Ar.**	**12.02**	**335**	P	**Pn**	**02 05 22.1**	**+0.1**
	baz=142,slow=12,SNR=6.2						
USRK	**Ussuriysk Ar.**	**12.02**	**335**	P	**Pn**	**02 05 19.2**	**-2.8**
YSS	**Yuzh-Sakhalins**	**13.81**	**11**	*e*P	**P**	**02 05 45.1**	**+0.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**16.65**	**343**	P	**P**	**02 06 15.8**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=138,slow=11,SNR=12						
KLR				S	**S**	**02 09 12.1**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=341,slow=15,SNR=1.8						
KLR	**Kul'dur**	**16.65**	**343**	*ce*P	**P**	**02 06 16.1**	**-0.1**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
XLT	**XiLinHaoTe**	**20.60**	**307**	*e*P	**P**	**02 06 59.3**	**+0.4**
XLT				pmax	pmax		
	comp=Z,12nm,0.9s						
XLT				pmax	pmax		
	comp=Z,100nm,4.2s						
WHN	**Wuhan**	**21.02**	**269**	⇑P	**P**	**02 07 02.4**	**-0.9**
WHN				pmax	pmax		
	comp=Z,72nm,0.7s						
HIA	**Hailar**	**21.28**	**324**	*i* P	**P**	**02 07 04.3**	**-1.4**
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	**Hailar**	**21.28**	**324**	P	**P**	**02 07 04.0**	**-1.7**
ZEA	**Zeya**	**21.92**	**341**	*e*P	**P**	**02 07 13.3**	**+1.7**
ZEA				pmax	pmax		
	comp=N,20nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.9s						
ENH	**Enshi**	**25.16**	**271**	P	**P**	**02 07 39.4**	**-1.9**
ULN	**Ulaanbaatar**	**27.91**	**311**	*ce*P	**P**	**02 08 06.8**	**+1.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ULN	**Ulaanbaatar**	**27.91**	**311**	P	**P**	**02 08 05.6**	**-0.1**
ULN				IAmb	IAmb	02 08 09.0	
	comp=Z,7.5nm,0.8s						
SONM	**Songino Array**	**28.32**	**310**	P	**P**	**02 08 10.7**	**+1.4**
	comp=Z,6.0nm,0.7s,baz=109,slow=8.1,SNR=21						
SONM				PcP	**PcP**	**02 11 16.5**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=62,slow=2.6,SNR=3.5						
SONM	**Songino Array**	**28.32**	**310**	P	**P**	**02 08 08.8**	**-0.5**
SONM				IAmb	IAmb	02 08 13.1	
	comp=Z,5.5nm,0.7s						
SONM					**PcP**	**02 11 15.6**	**+0.1**
BOD	**Bodaibo**	**29.63**	**333**	*e*P	**P**	**02 08 21.4**	**+0.8**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ZAK	**Zakamensk**	**31.08**	**314**	*e*P	**P**	**02 08 34.1**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA	**Gaotai**	**31.84**	**292**	*e*P	**P**	**02 08 39.8**	**-0.6**
GTA				pP	P	02 08 45.1	+4.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MOY	**Mondy**	**32.87**	**315**	*e*P	**P**	**02 08 50.2**	**+1.1**
GOMU	**GeErMu**	**36.08**	**287**	P	**P**	**02 09 15.4**	**-1.7**
GOMU				pP	P	02 09 24.6	+7.5
GOMU				sP	P	02 09 29.9	+13
GOMU				PP	**PP**	**02 10 43.5**	**-1.2**
GOMU				PcP	**PcP**	**02 11 35.5**	**-2.0**
GOMU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,46nm,4.4s						
BILL	**Bilibino**	**38.04**	**16**	*e*P	**P**	**02 09 32.5**	**-0.2**
BILL				*e*		02 11 06.0	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.6s						
TIXI	**Tiksi**	**38.64**	**355**	P	**P**	**02 09 38.0**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=89,slow=23,SNR=8.7						
TIXI	**Tiksi**	**38.64**	**355**	*ce*P	**P**	**02 09 37.5**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	**Tiksi**	**38.64**	**355**	P	**P**	**02 09 36.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**38.66**	**257**	P	**P**	**02 09 38.6**	**0.0**
	comp=Z,1.9nm,0.3s,baz=49,slow=8.1,SNR=11						
CMAR				PcP	**PcP**	**02 11 46.7**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=12,slow=2.3,SNR=5.6						
CMAR	**Chiang Mai Arr**	**38.66**	**257**	*i* P	**P**	**02 09 38.7**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**38.66**	**257**	P	**P**	**02 09 36.9**	**-1.6**
CMAR					**PcP**	**02 11 44.7**	**-0.5**
ZAA0	**Zalesovo Array**	**42.92**	**315**	P	**P**	**02 10 12.8**	**+0.1**
ZALV	**Zalesovo Beam**	**42.92**	**315**	P	**P**	**02 10 13.1**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=102,slow=8.5,SNR=12						
ZALV				PcP	**PcP**	**02 11 59.0**	**+0.4**
	comp=Z,5.4nm,0.6s,baz=105,slow=2.7,SNR=16						
ZALV				ScP	**ScP**	**02 15 25.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=109,slow=3.6,SNR=2.1						
ZALV	**Zalesovo Beam**	**42.92**

comp=Z,8.6nm,1.1s
BRVK Borovoye 51.59 314 *i* P **P** **02 11 19.6 +0.2**
BRVK pmax pmax
comp=Z,10.0nm,0.7s
BRVK Borovoye 51.59 314 P **P** **02 11 18.5 -0.9**
BRVK lAmb lAmb 02 11 20.9
comp=Z,11nm,0.9s
WB0 Warramunga Arr 53.09 185 P **P** **02 11 30.3 -0.4**
WB0 lAmb lAmb 02 11 30.8
comp=Z,5.7nm,0.6s
KK31 Karatay Array 53.21 302 *i* P **P** **02 11 31.4 0.0**
KK31 Karatay Array 53.21 302 P **P** **02 11 31.7 +0.3**
KK31 lAmb lAmb 02 11 32.5
comp=Z,14nm,0.7s
KKAR Karatay Array 53.21 302 P **P** **02 11 31.7 +0.3**
KKAR pmax pmax
comp=Z,14nm,0.7s
KKAR Karatay Array 53.21 302 P **P** **02 11 31.7 +0.3**
KKAR Karatay Array 53.21 302 P **P** **02 11 31.9 +0.4**
KKAR lAmb lAmb 02 11 32.5
comp=Z,14nm,0.7s
WRAB Tennant Creek 53.26 185 *ce* P **P** **02 11 31.6 -0.3**
WRAB pmax pmax
comp=Z,6.0nm,1.7s
WB2 Warramunga Arr 53.27 185 P **P** **02 11 31.5 -0.4**
WB2 lAmb lAmb 02 11 32.0
comp=Z,5.2nm,0.6s
WRA Warramunga Arr 53.27 185 P **P** **02 11 31.3 -0.7**
comp=Z,4.0nm,0.4s,baz=0.1,slow=7.6,SNR=96
WRA ScP **ScP** **02 16 09.6 -0.2**
comp=Z,0.4nm,0.9s,baz=3.3,slow=5.3,SNR=2.5
WRA Warramunga Arr 53.27 185 P **P** **02 11 31.5 -0.5**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 53.27 185 P **P** **02 11 31.5 -0.5**
WR0 Warramunga Arr 53.27 185 P **P** **02 11 31.3 -0.6**
WR0 lAmb lAmb 02 11 32.1
comp=Z,8.1nm,0.6s
ILAR Eielson Array 53.62 31 P **P** **02 11 34.9 +0.9**
comp=Z,0.5nm,0.8s,baz=287,slow=8.2,SNR=4.8
ILAR Eielson Array 53.62 31 P **P** **02 11 34.0 0.0**
SANVU Saraoutou 55.61 146 P **P** **02 11 47.9 -0.9**
SVE Sverdlovsk 56.52 320 *eP* **P** **02 11 55.7 +0.9**
KBL Kabul 56.83 292 P **P** **02 11 55.8 -1.8**
KBL pmax pmax
comp=Z,7.0nm,0.7s
KBL Kabul 56.83 292 P **P** **02 11 55.8 -1.8**
KBL lAmb lAmb 02 11 58.4
comp=Z,7.3nm,0.7s
AS31 Alice Springs 56.99 185 P **P** **02 11 57.6 -0.9**
ASAR Alice Springs 56.99 185 P **P** **02 11 58.3 -0.2**
comp=Z,2.3nm,0.7s,baz=17,slow=13,SNR=40
ASAR ScP **ScP** **02 16 26.1 -0.1**
comp=Z,0.4nm,0.7s,baz=3.7,slow=5.0,SNR=4.3
ASAR Alice Springs 56.99 185 P **P** **02 11 57.1 -1.4**
ARU Arti 57.73 320 *d i* P **P** **02 12 03.6 +0.4**
ARU S **S** **02 19 44.8 +2.7**
ARU SS **SS** **02 23 37.8 +1.7**
ARU pmax pmax
comp=Z,17nm,1.4s
INK Inuvik 58.50 26 P **P** **02 12 08.6 +0.3**
comp=Z,0.4nm,0.4s,baz=18,slow=9.6,SNR=2.2
AB31 Akbulak array 58.72 311 *eP* **P** **02 12 10.3 +0.1**
ABKAR Akbulak array 58.72 311 P **P** **02 12 10.4 +0.2**
ABKAR Akbulak array 58.72 311 P **P** **02 12 10.6 +0.4**
ABKAR lAmb lAmb 02 12 11.2
comp=Z,9.8nm,0.5s
AKTO Aktyubinsk 59.58 313 P **P** **02 12 15.9 -0.2**
KIRV Kirov 61.89 324 *ce* P **P** **02 12 30.2 -1.2**
HRA Herat 62.11 294 P **P** **02 12 32.7 -0.9**
HRA lAmb lAmb 02 12 34.9
comp=Z,5.5nm,0.7s
BELG Belogornoye 65.04 317 *i* P **P** **02 12 52.4 +0.3**
BELG pmax pmax
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 65.70 328 *eP* **P** **02 12 55.4 -0.7**
KLMR pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 65.70 328 *eP* **P** **02 12 55.5 -0.7**
KLMR AMP 02 12 56.6
comp=Z,6.0nm,0.8s
ARCES ARCESS Array B 66.63 339 P **P** **02 13 02.9 +0.9**
comp=Z,2.0nm,0.5s,baz=59,slow=7.3,SNR=17
YKA Yellowknife Ar 67.93 29 P **P** **02 13 11.6 +1.4**
comp=Z,0.1nm,0.5s,baz=304,slow=6.4,SNR=6.7
DAG Danmarks Havn 69.16 355 P **P** **02 13 18.7 +1.2**
OBN Obninsk 69.74 323 *ce* P **P** **02 13 22.0 +0.6**
OBN *e* 02 15 59.4
OBN pmax pmax
comp=Z,25nm,2.5s
VORR Voronezh 70.04 319 *eP* **P** **02 13 23.8 +0.5**
VORR pmax pmax
comp=Z,20nm,0.4s
FINES FINESS Array B 71.03 332 P **P** **02 13 29.6 +0.5**
comp=Z,6.7nm,0.8s,baz=60,slow=5.4,SNR=21
FINES FINESS Array B 71.03 332 *i* P **P** **02 13 29.7 +0.6**
FINES pmax pmax
comp=Z,7.0nm,0.9s
ZEI Tsey 71.49 309 *eP* **P** **02 13 31.2 -1.3**
ZEI pmax pmax
comp=Z,3.0nm,0.6s
KBZ Khabaz 71.68 311 P **P** **02 13 34.6 +1.3**
comp=Z,8.1nm,0.8s,baz=92,slow=3.7,SNR=28
KBZ Khabaz 71.68 311 *ce* P **P** **02 13 34.1 +0.8**
KBZ pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 71.71 311 ⇑P **P** **02 13 34.3 +0.7**
KIV Kislovodsk 71.71 311 ⇑P **P** **02 13 34.3 +0.7**
SHA1 Shidzhatmaz 71.83 311 *i* P **P** **02 13 34.6 +0.1**
GNI Garni 72.20 307 *ce* P **P** **02 13 38.0 +1.3**
GNI pmax pmax
comp=Z,9.0nm,1.3s
AKH Akhalkalaki 72.42 308 ⇑P **P** **02 13 39.2 +1.2**
MNK Minsk 74.30 326 *i* P **P** **02 13 47.9 -0.5**
MNK *i* *PP **pP** **02 14 45.7 +0.1**
MNK *i* 02 16 37.9
MNK *i* PPP PPP 02 18 24.7
MNK *i* S **S** **02 23 02.8 +1.2**
MNK *i* SS **SS** **02 27 52.6 +0.6**
MNK *i* SSS SSS 02 31 17.1
MNK pmax pmax
comp=N,15nm,1.5s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK MLR MLR
comp=N,96nm,17.0s
MNK MLR MLR
comp=Z,96nm,14.0s
MNK MLR MLR
comp=E,7.0nm,10.0s
AKASG Malin Array Be 75.87 322 P **P** **02 13 57.8 +0.4**
comp=E,2.3nm,0.5s
AKBB Malin Array Si 75.87 322 P **P** **02 13 57.9 +0.5**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 75.87 322 P **P** **02 13 57.9 +0.5**
AKBB lAmb lAmb 02 13 58.6
comp=Z,8.4nm,0.8s
NB2 NORSAR Subarra 76.68 337 P **P** **02 14 02.4 +0.5**
comp=Z,5.5nm,0.7s,baz=43,slow=5.9
NOA NORSAR Array B 76.68 337 P **P** **02 14 02.5 +0.7**
comp=Z,3.7nm,0.7s,baz=43,slow=5.6,SNR=16
DIKM Dikmen 77.57 312 ⇑P **P** **02 14 07.2 +0.1**
SORM Soroca 77.85 320 ⇑P **P** **02 14 08.6 +0.1**
SORM Soroca 77.85 320 ⇑P **P** **02 14 08.6 +0.1**
NVAR Mina Array Bea 78.80 51 P **P** **02 14 16.3 +2.1**
comp=Z,1.0nm,0.7s,baz=285,slow=2.9,SNR=3.7
SOCY Socotra 79.20 277 P **P** **02 14 14.7 -1.9**
BRTR Keskin Array B 79.67 311 P **P** **02 14 19.4 +0.6**
comp=Z,2.4nm,0.8s,baz=116,slow=4.8,SNR=17
BRTR Keskin Array B 79.67 311 *i* P **P** **02 14 19.3 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
CFR Carcaliu 79.75 318 ⇑P **P** **02 14 18.9 0.0**
CFR Carcaliu 79.75 318 ⇑P **P** **02 14 18.9 0.0**
TESR Tescani 79.75 319 ⇑P **P** **02 14 18.7 -0.2**
TPGR Topolog 79.78 317 ⇑P **P** **02 14 20.0 +0.9**
KWP Kalwaria Pacla 79.83 324 *eP* **P** **02 14 21.6 +2.3**
BURAR Bucovina Array 79.83 321 ⇑P **P** **02 14 20.7 +1.2**
BURAR Bucovina Array 79.83 321 ⇑P **P** **02 14 20.7 +1.2**
VRI Vrincioaia 80.11 319 ⇑P **P** **02 14 22.5 +1.6**
VRI Vrincioaia 80.11 319 ⇑P **P** **02 14 22.5 +1.6**
PLOR Plostina 80.16 319 ⇑P **P** **02 14 22.1 +0.9**
PLOR Plostina 80.16 319 ⇑P **P** **02 14 22.1 +0.9**
OZUR 80.48 320 ⇑P **P** **02 14 24.3 +1.4**
DOPR Dopca 80.78 320 ⇑P **P** **02 14 25.9 +1.5**
NIE Niedzica 81.15 325 *eP* **P** **02 14 28.5 +2.2**
ARR Arges 81.57 319 ⇑P **P** **02 14 30.6 +2.0**
LANS Liptovska Anna 81.73 325 *eP* **P** **02 14 31.4 +2.0**
LANS pmax pmax
comp=Z,6.0nm,1.5s
LANS Liptovska Anna 81.73 325 *eP* **P** **02 14 31.4 +2.0**
OKC Ostrava-Krasne 81.89 326 *eP* **P** **02 14 30.7 +0.6**
OKC Ostrava-Krasne 81.89 326 *eP* **P** **02 14 30.7 +0.6**
KSP Ksiaz 82.04 327 *eP* **P** **02 14 32.1 +1.2**
MORC Moravsky Berou 82.22 326 P **P** **02 14 33.4 +1.5**
MORC pmax pmax
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 82.22 326 *eP* **P** **02 14 33.1 +1.2**
OSTC Ostas 82.28 327 *eP* **P** **02 14 34.1 +1.9**
CHVC Chvalec 82.33 327 *eP* **P** **02 14 33.6 +1.2**
PSZ Piszkesteto 82.36 324 ⇑P **P** **02 14 33.6 +0.9**
PSZ Piszkesteto 82.36 324 ⇑P **P** **02 14 33.6 +0.9**
KRLC Kraliky 82.36 327 *eP* **P** **02 14 33.3 +0.7**
KRLC Kraliky 82.36 327 *eP* **P** **02 14 33.3 +0.7**
DPC Dobruska-Polom 82.38 327 P **P** **02 14 34.4 +1.7**
DPC pmax pmax
comp=Z,10.0nm,1.1s
DPC Dobruska-Polom 82.38 327 *eP* **P** **02 14 34.0 +1.3**
UPC Upice 82.41 327 *eP* **P** **02 14 34.1 +1.3**
UPC Upice 82.41 327 *eP* **P** **02 14 34.1 +1.3**
VYHS Vyhne 82.48 325 *eP* **P** **02 14 34.6 +1.4**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 82.48 325 *eP* **P** **02 14 34.6 +1.4**
JAVC Velka Javorina 82.79 325 *eP* **P** **02 14 37.4 +2.5**
VRAC Vranov 82.98 326 ⇑P **P** **02 14 36.8 +1.0**
VRAC Vranov 82.98 326 ⇑P **P** **02 14 36.8 +1.0**
VRAC Vranov 82.98 326 *eP* **P** **02 14 37.3 +1.5**
BZS Buzias 83.02 321 ⇑P **P** **02 14 36.6 +0.6**
BZS Buzias 83.02 321 ⇑P **P** **02 14 36.6 +0.6**
PVCC Panska Ves 83.04 328 *eP* **P** **02 14 37.0 +1.0**
PVCC Panska Ves 83.04 328 *eP* **P** **02 14 37.0 +1.0**
BRG Berggiesshubel 83.06 328 *eP* **P** **02 14 36.8 +0.7**
BRG Amp 02 14 38.1
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 83.06 328 *eP* **P** **02 14 36.8 +0.7**
BRG pmax pmax
comp=Z,5.0nm,0.9s
HERR Herculane 83.08 320 ⇑P **P** **02 14 36.7 +0.4**
SMOL Smolenice 83.15 325 *eP* **P** **02 14 38.5 +1.9**
SMOL pmax pmax
comp=Z,6.0nm,0.8s
SMOL Smolenice 83.15 325 *eP* **P** **02 14 38.5 +1.9**
CLL Collm 83.16 329 ⇓*iP* **P** **02 14 36.9 +0.3**
CLL pmax pmax
comp=Z,14nm,0.8s
CLL Collm 83.16 329 ⇓*iP* **P** **02 14 36.9 +0.3**
comp=Z,14nm,0.8s
CLL *e* Sx Sx 02 24 36.0
CLL *ex* x 02 26 18.0
KRUC Moravsky 83.25 326 *eP* **P** **02 14 38.5 +1.4**
MODS Modra-Piesok 83.32 325 *eP* **P** **02 14 39.2 +1.7**
MODS pmax pmax
comp=Z,11nm,1.0s
MODS Modra-Piesok 83.32 325 *eP* **P** **02 14 39.2 +1.7**
PRU Pruhonice 83.44 328 *eP* **P** **02 14 39.4 +1.3**
PRU Pruhonice 83.44 328 *eP* **P** **02 14 39.4 +1.3**
TREC Trest 83.51 327 *eP* **P** **02 14 39.2 +0.7**
TREC Trest 83.51 327 *eP* **P** **02 14 39.2 +0.7**
MDVR Moldovita 83.52 320 ⇑P **P** **02 14 39.1 +0.4**
VTS Vitosha 84.11 318 ⇑P **P** **02 14 43.2 +1.4**
VTS Vitosha 84.11 318 ⇑P **P** **02 14 43.2 +1.4**
NKC Novy Kostel 84.19 329 *eP* **P** **02 14 42.9 +1.0**
NKC Novy Kostel 84.19 329 *eP* **P** **02 14 42.9 +1.0**
RONA Rosalia, Austr 84.26 325 *i* P **P** **02 14 44.0 +1.6**
comp=Z,5.3nm,0.9s
CONA Conrad Observa 84.30 325 *i* P **P** **02 14 44.3 +1.7**
comp=Z,4.1nm,0.8s
CKRC Cesky Krumlov 84.39 327 *eP* **P** **02 14 43.9 +1.0**
KHC Kasperske Hory 84.49 327 *eP* **P** **02 14 44.2 +0.7**
KHC Kasperske Hory 84.49 327 *eP* **P** **02 14 44.2 +0.7**
GERES GERESS Array B 84.65 327 P **P** **02 14 45.0 +0.7**
comp=Z,2.8nm,0.6s,baz=52,slow=6.9,SNR=25
GERES GERESS Array B 84.65 327 P **P** **02 14 45.0 +0.7**
GERES GERESS Array B 84.65 327 P **P** **02 14 44.2 -0.1**
GRF Grafenberg Arr 85.12 329 *eP* **P** **02 14 48.4 +1.9**
comp=Z,5.2nm,0.8s,baz=45,slow=4.3
SOKA Soboth 85.59 325 *i* P **P** **02 14 49.7 +0.7**
comp=Z,3.3nm,0.6s
DAVA Damuels 87.52 328 *i* P **P** **02 14 59.1 +0.7**
comp=Z,4.0nm,0.6s
TORD Torodi Ar. Bea 118.28 311 PKP **PKPdf** **02 20 56.8 -0.1**
comp=Z,0.6nm,0.5s,baz=28,slow=1.1,SNR=17
TORD Torodi Ar. Bea 118.28 311 **PKPdf** **02 20 56.0 -0.8**
BOSA Boshof 123.81 256 PKP **PKPdf** **02 21 07.3 +0.1**
comp=Z,1.4nm,0.7s,baz=0.5,slow=6.7,SNR=1.9

IDC 19 02:02:54.5±5.0, 29.45S×178.41W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/28, mbtmp3.7/2, Error ellipse: s-maj=187.4km s-min=79.6km az=157.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.35**	**256**	P	P	02 09 42.5	-0.6
	0.9nm,0.5s,baz=102,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**43.71**	**271**	P	P	02 11 01.9	+0.3
	0.2nm,0.3s,baz=111,slow=8.0,SNR=5.9						
FINES	**FINESS Array B**	**144.13**	**340**	PKP	PKPdf	02 22 30.6	-0.8
	1.4nm,0.9s,baz=32,slow=3.2,SNR=4.9						

*IDC **19** 02:03:12.9±0.5, 0.11S×80.72W, h0km, mb4.5/19, mb1 4.7/22, mb1mx4.6/38, mbtmp4.6/22, ML3.7/3, MS3.9/32, Ms1 3.9/32, ms1mx3.8/59, Error ellipse: s-maj=22.3km s-min=10.8km az=58.0*

*NEIC **19** 02:03:14.7±1.7, 0.21S±0.05×80.76W±0.05, h10km±1km, mb4.9/432, Error ellipse: s-maj=9.3km s-min=8.2km az=228.0*

*BJI **19** 02:03:15.5±0.0, 0.20S×80.70W, h10km, mB5.3/1, Ms5.4/1, Ms7 5.4/1*

*VAO **19** 02:03:16.3±1.0, 0.22S×80.54W, h10km, mb5.0*

*GCMT **19** 02:03:19.7±0.2, 0.26S±0.02×81.00W±0.01, h13km±1km, MW5.0/99, Moment Tensor Solution. s23,c24; s99,c131; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.25±.14; Mθθ -0.21±.07; Mϕϕ -2.05±.10; Mrθ -0.53±.23; Mrϕ -0.47±.05; Mθϕ -2.40±.30; Best double couple: Mo 3.30300×10^16 NP1: ϕs 14.00000°, δ 21.00000°, λ 91.00000°. NP2: ϕs 193.00000°, δ 69.00000°, λ 90.00000°. Principal axes: T 3.3470, Plg 66.0000°, Azm 102.0000°; N -0.0950, Plg 0.0000°, Azm 193.0000°; P -3.2590, Plg 24.0000°, Azm 283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 02:03:14.0±0.3, 0.22S±0.04×80.80W±0.04, h10km, n650, σ 1.9 30/505, mb4.9/213, MS4.0/33, 4C-2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAC1	**Pacto, Paraso**	**2.07**	**76**	*eP*	**Pn**	**02 03 48.3**	**-0.6**
PAC1				*eS*	**Sg**	**02 04 23.5**	**+3.0**
PULU	**Pululahua**	**2.31**	**84**	Pn	**Pn**	**02 03 53.0**	**+0.4**
PULU				Sn	**Sn**	**02 04 19.6**	**-1.7**
PORT	**Chimborazo Vol**	**2.37**	**121**	Pn	**Pn**	**02 03 55.5**	**+1.9**
CUSE	**Cuicocha Este**	**2.46**	**78**	*eP*	**Pn**	**02 03 55.5**	**+0.9**
CUSE				*eS*	**Sg**	**02 04 32.8**	**-0.3**
COHC	**Cochancay**	**2.71**	**145**	Pn	**Pn**	**02 03 58.5**	**+0.9**
TULM	**Tulcn-Chalpat**	**3.16**	**73**		**Pn**	**02 04 04.3**	**+0.1**
TULM	**Tulcn-Chalpat**	**3.16**	**73**	*ePg*	**Pn**	**02 04 07.0**	**+2.8**
CMBC	**Cumbal**	**3.19**	**69**	*eP*	**Pn**	**02 04 04.2**	**-0.5**
ARNL	**Arenillas**	**3.38**	**167**	Pn	**Pn**	**02 04 07.5**	**+0.6**
BOSC	**San Juan Bosco**	**3.71**	**142**	Pn	**Pn**	**02 04 13.1**	**+1.5**
CCUFI	**Cufio, Nario**	**3.74**	**67**	*eP*	**Pn**	**02 04 15.6**	**+3.3**
CCUFI				*eS*	**Sb**	**02 05 06.9**	**+0.7**
GCUF	**Volcan Galeras**	**3.75**	**67**	*eP*	**Pn**	**02 04 13.7**	**+1.4**
CPAS1	**Pasto**	**3.75**	**68**	*eP*	**Pn**	**02 04 14.7**	**+2.3**
CPAS2	**Pasto**	**3.83**	**68**	*eP*	**Pn**	**02 04 16.3**	**+2.9**
GR1C	**Gorgona, Isla**	**4.15**	**39**	*eP*	**Pn**	**02 04 13.4**	**-4.0**
MCRA	**Macar, Loja**	**4.20**	**168**		**Pn**	**02 04 19.0**	**+0.7**
CRUC	**La Cruz**	**4.24**	**65**	*eP*	**Pn**	**02 04 19.4**	**+0.4**
SOTA	**Rioblanco**	**4.80**	**61**	*eP*	**Pn**	**02 04 28.0**	**+1.1**
POPC	**Popayan, Colom**	**4.96**	**56**	*eP*	**Pn**	**02 04 28.9**	**+0.2**
PCON	**Cinco Dias**	**5.08**	**60**	*eP*	**Pn**	**02 04 30.9**	**+0.1**
MARP	**Paez Belalcaza**	**5.72**	**58**	*eP*	**Pn**	**02 04 41.3**	**+2.0**
GARC	**Garzon, Huila**	**5.82**	**66**	*eP*	**Pn**	**02 04 43.2**	**+2.5**
PTLC	**Puerto Leguiza**	**6.02**	**86**	*eP*	**Pn**	**02 04 45.1**	**+2.0**
BETC	**Betania**	**6.09**	**62**	*eP*	**Pn**	**02 04 48.9**	**+4.8**
YOTC	**Yotoco, Valle**	**6.11**	**47**	*eP*	**Pb**	02 04 53.7	-6.9
PLMC	**San Jos del P**	**6.81**	**41**	*eP*	**Pb**	02 05 06.1	-6.5
ORTC	**Ortega, Tolima**	**6.91**	**53**	*eP*	**Pn**	**02 04 53.7**	**-1.7**
MACC	**Macarena, Meta**	**7.34**	**71**	*eP*	**Pn**	**02 05 02.3**	**+0.9**
GUY2C	**Guyana, Caldas**	**7.67**	**45**	*eP*	**Pn**	02 05 11.4	+5.2
CBOC	**Ciudad Bolivar**	**7.71**	**38**	*eP*	**Pn**	**02 05 10.8**	**+4.3**
ROSC	**El Rosal**	**8.20**	**52**	Pn	**Pn**	02 05 18.6	+5.1
	2.2nm,0.3s,baz=199,slow=4.2,SNR=11						
ROSC				LR	LR	02 08 45.2	
	comp=Z,1μm,18.7s,baz=212,slow=41						
ROSC	**El Rosal**	**8.20**	**52**	Pn	**Pn**	**02 05 13.3**	**-0.2**
ROSC	**El Rosal**	**8.20**	**52**	*eP*	**Pn**	02 05 19.4	+5.9
NORC	**Norcasia**	**8.26**	**46**	*eP*	**Pn**	**02 05 18.2**	**+4.3**
HELC	**Santa Helena**	**8.27**	**39**	*eP*	**Pn**	**02 05 18.8**	**+4.5**
VILC	**Villavicencio,**	**8.31**	**59**	*eP*	**Pn**	**02 05 15.6**	**+0.9**
CHIC	**Chingaza**	**8.55**	**56**	*eP*	**Pn**	**02 05 20.7**	**+2.4**
SPBC	**San Pablo de B**	**8.90**	**49**	*eP*	**Pn**	**02 05 25.1**	**+2.3**
BRU2	**Volcan**	**9.15**	**348**	Pn	**Pn**	**02 05 26.4**	**+0.1**
PTBC	**PUERTO BERRIO,**	**9.23**	**43**	*eP*	**Pn**	**02 05 30.8**	**+3.5**
RIOS	**Rincon, Osa**	**9.27**	**343**	Pn	**Pn**	**02 05 28.9**	**+1.1**
PAYG	**Puerto Ayora**	**9.49**	**267**		**Pn**	**02 05 31.7**	**+0.8**
UREC	**San Jos de Ur**	**9.51**	**33**	*eP*	**Pn**	**02 05 31.8**	**+0.7**
ZARC	**Zaragoza, Cauc**	**9.69**	**38**		**Pn**	**02 05 34.3**	**+0.7**
ZARC	**Zaragoza, Cauc**	**9.69**	**38**	*eP*	**Pn**	**02 05 37.5**	**+3.9**
PTGC	**Puerto Gaitan,**	**9.71**	**63**	*eP*	**Pn**	02 05 45.1	+11
SRBA	**San Rafael, Bu**	**9.73**	**345**	Pn	**Pn**	**02 05 34.4**	**+0.1**
DRK0	**Durika**	**9.73**	**346**	Pn	**Pn**	**02 05 35.8**	**+1.4**
RUSC	**La Rusia**	**9.81**	**52**	*eP*	**Pn**	02 05 41.3	+5.6
PEZE	**Perez Zeledon,**	**9.96**	**343**	Pn	**Pn**	**02 05 38.3**	**+0.9**
BARC	**Barichara**	**10.18**	**48**	*eP*	**Pn**	02 05 51.8	+11
RIMA	**Rio Macho**	**10.38**	**343**	Pn	**Pn**	**02 05 44.0**	**+0.8**
CZSB	**Cruzeiro do Su**	**10.99**	**133**	*eP*	**Pn**	**02 05 51.6**	**+0.2**
JTS	**Las Juntas de**	**11.23**	**339**	Pn	**Pn**	**02 05 55.0**	**+0.2**
	0.6nm,0.3s,baz=198,slow=20,SNR=5.5						
JTS	**Las Juntas de**	**11.23**	**339**	Pn	**Pn**	**02 05 55.1**	**+0.3**
OCAC	**Ocana**	**11.24**	**41**	Pn	**Pn**	**02 05 55.0**	**+0.1**
DUNO	**Dulce Nombre,**	**11.25**	**336**	Pn	**Pn**	**02 05 53.1**	**-1.9**
ORTG	**Ortega, Santa**	**11.49**	**336**	Pn	**Pn**	**02 05 60.0**	**+1.6**
SJCC	**San Jacinto, C**	**11.51**	**29**	Pn	**Pn**	**02 05 59.0**	**+0.5**
NNA	**Nana**	**12.33**	**162**	Pn	**Pn**	**02 06 12.6**	**+2.8**
	2.9nm,0.3s,baz=328,slow=8.0,SNR=5.3						
NNA				Sn	**Sn**	**02 08 25.1**	**-2.3**
	0.7nm,0.3s,baz=326,slow=7.3,SNR=1.1						
NNA				LR	LR	02 10 45.4	
	comp=Z,375nm,19.3s,baz=336,slow=36						
NNA	**Nana**	**12.33**	**162**	Pn	**Pn**	**02 06 09.2**	**-0.6**
ACON	**Acoyapa**	**12.87**	**340**	Pn	**Pn**	**02 06 18.4**	**+1.3**
BOAB	**BOACO BROADBAN**	**13.48**	**339**	Pn	**Pn**	**02 06 25.1**	**-0.4**
SDV	**Santo Domingo**	**13.58**	**48**	Pn	**Pn**	**02 06 27.3**	**+0.2**
	0.8nm,0.3s,baz=233,slow=10,SNR=15						
SDV				LR	LR	02 12 08.8	
	comp=Z,591nm,21.7s,baz=212,slow=40						
SDV	**Santo Domingo**	**13.58**	**48**		**Pn**	**02 06 24.9**	**-2.2**
SDV	**Santo Domingo**	**13.58**	**48**	*eP*	**Pn**	**02 06 28.9**	**+1.8**
SDV	**Santo Domingo**	**13.58**	**48**	*eP*	**Pn**	**02 06 27.6**	**+0.5**
CNGN	**Cerro Negro**	**13.93**	**335**	Pn	**Pn**	**02 06 30.9**	**-0.8**
MATN	**Matagalpa**	**14.02**	**339**		**Pn**	**02 06 31.3**	**-1.7**
TGUH	**Tegucigalpa,Un**	**15.57**	**336**	Pn	**Pn**	**02 06 53.7**	**-0.1**
TGUH				lAmb	lAmb	02 07 05.2	
	comp=Z,108nm,1.1s						
BAUV	**El Baul**	**15.64**	**54**	Pn	**Pn**	**02 06 51.2**	**-3.4**
BAUV				lAmb	lAmb	02 07 19.6	
	comp=Z,158nm,1.5s						
MTO3	**Montecristo**	**16.82**	**330**	P	**Pn**	**02 07 10.6**	**+0.6**
ESQI	**Esquipulas**	**16.95**	**330**	P	**P**	**02 07 14.7**	**+1.2**
ESQI				lAmb	lAmb	02 07 29.0	
	comp=Z,245nm,1.5s						
HATO	**Hato, Curacao**	**17.03**	**43**		**Pn**	**02 07 13.3**	**+0.9**
BIRV	**Birongo**	**17.94**	**53**	P	**Pn**	**02 07 21.3**	**-2.5**
PETF	**Flores**	**19.23**	**333**	P	**P**	**02 07 37.1**	**-1.4**
CCIG	**Comitan**	**19.85**	**326**	P	**P**	**02 07 44.9**	**-0.6**
LPAZ	**La Paz**	**20.27**	**143**	P	Pn	02 07 52.5	0.0
	comp=Z,31nm,0.9s,baz=322,slow=9.4,SNR=74						
LPAZ				LR	LR	02 17 30.0	
	comp=Z,604nm,21.9s,baz=308,slow=42						
LPAZ	**La Paz**	**20.27**	**143**	P	**P**	**02 07 49.9**	**-0.6**
LPAZ				lAmb	lAmb	02 08 09.6	
	comp=Z,38nm,0.8s						
LPAZ	**La Paz**	**20.27**	**143**	*eP*	**P**	**02 07 51.6**	**+1.1**
MACA	**Manacapuru-AM**	**20.32**	**98**	*eP*	**P**	**02 07 49.4**	**-1.0**
BOAV	**Boa Vista**	**20.44**	**83**	*eP*	**P**	**02 07 52.1**	**+0.3**
PB12	**IPOC Station P**	**20.97**	**151**	P	**P**	**02 07 54.6**	**-3.0**
PB12				lAmb	lAmb	02 08 19.6	
	comp=Z,67nm,1.2s						
PB16	**IPOC Station P**	**21.14**	**149**	P	**P**	**02 07 57.7**	**-2.3**
PB16				lAmb	lAmb	02 08 03.5	
	comp=Z,84nm,1.0s						
BANI	**BANI**	**21.16**	**28**	P	**P**	**02 07 58.4**	**-1.2**
SDDR	**Presa de Saban**	**21.25**	**26**	P	**P**	**02 07 59.0**	**-1.6**
SDDR				lAmb	lAmb	02 08 21.6	
	comp=Z,81nm,1.6s						
SDD	**Santo Domingo**	**21.43**	**29**	P	**P**	**02 07 59.4**	**-3.0**
SC01	**Santiago de Io**	**21.89**	**26**	P	**P**	**02 08 05.0**	**-2.3**
DR12	**Loma Pena Alta**	**21.97**	**30**	P	**P**	**02 08 06.3**	**-2.0**
CMIG	**Matias Romero**	**22.10**	**322**	P	**P**	**02 08 10.3**	**+0.6**
	comp=Z,14nm,1.1s,baz=132,slow=8.4,SNR=11						
CMIG				LR	LR	02 14 57.7	
	comp=Z,454nm,21.2s,baz=158,slow=32						
TRN	**Trinidad (W)**	**22.11**	**60**	*eP*	**P**	**02 08 08.2**	**-1.6**
PCDR	**Punta Cana, DR**	**22.27**	**33**	P	**P**	**02 08 09.9**	**-1.4**
PB11	**IPOC Station P**	**22.28**	**151**	P	**P**	**02 08 10.9**	**-0.8**
GO01	**Chusmiza**	**22.42**	**150**	P	**P**	**02 08 12.9**	**-0.7**
TA02	**Huaiquique**	**22.49**	**153**	P	**P**	**02 08 13.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**22.57**	**36**	P	**P**	**02 08 14.3**	**-0.4**
CRPR				lAmb	lAmb	02 08 22.8	
	comp=Z,92nm,1.5s						
MLPR	**Magueyes Islan**	**22.58**	**36**	P	**P**	**02 08 13.7**	**-1.1**
MLPR				lAmb	lAmb	02 08 25.7	
	comp=Z,102nm,1.6s						
GRGR	**Grenville**	**22.63**	**56**	*eP*	**P**	**02 08 10.5**	**-4.8**
TA01	**Diego Aracena**	**22.73**	**153**	P	**P**	**02 08 14.8**	**-1.5**
PB08	**IPOC Station P**	**22.84**	**151**	P	**P**	**02 08 16.7**	**-1.3**
PB08				lAmb	lAmb	02 08 27.8	
	comp=Z,55nm,1.1s						
OBIP	**Obispado Ponce**	**22.90**	**37**	P	**P**	**02 08 17.1**	**-1.1**
AGPR	**Aguadilla, PR**	**22.94**	**35**	P	**P**	**02 08 18.0**	**-0.5**
CELP	**Cerrillos**	**22.94**	**37**	P	**P**	**02 08 17.4**	**-1.2**

MPOM Morne Pois Mar 24.53 53 P **P** **02 08 34.7 +0.7**
ILAM Ilet Lapin Mar 24.71 52 P **P** **02 08 35.6 0.0**
PB06 IPOC Station P 24.88 155 P **P** **02 08 37.7 +0.5**
PB06 IAmb IAmb 02 08 47.7
comp=Z,53nm,1.2s
CBE Ff, Capester 24.92 49 P **P** **02 08 38.1 +0.5**
GDHS Morne Mazeau, 24.93 48 P **P** **02 08 38.2 +0.5**
SIV San Ignacio 24.99 130 P **P** **02 08 39.5 +1.3**
comp=Z,17nm,0.9s,baz=301,slow=9.1,SNR=48
SIV LR LR 02 19 27.8
comp=Z,799nm,18.8s,baz=314,slow=39
LVC Limon Verde 25.08 153 P **P** **02 08 41.9 +2.6**
comp=Z,35nm,0.9s,baz=343,slow=4.7,SNR=14
LVC LR LR 02 17 40.0
comp=Z,268nm,20.1s,baz=318,slow=34
LVC Limon Verde 25.08 153 P **P** **02 08 41.0 +1.7**
LVC Limon Verde 25.08 153 *e*P **P** **02 08 42.3 +2.9**
ITTB Itaituba 25.38 100 *e*P **P** **02 08 41.7 -0.1**
ANWB Willy Bob 25.82 46 P **P** **02 08 45.9 +0.3**
PTLB Pontes e Lacer 26.20 126 *e*P **P** **02 08 50.0 +0.8**
NPGB Novo Progresso 26.27 106 *e*P **P** **02 08 49.4 -0.4**
PDRB Porto dos Gac 26.45 116 *e*P **P** **02 08 51.5 0.0**
MALB Monte Alegre 26.58 94 *e*P **P** **02 08 53.5 +0.8**
CLDB Colider 27.01 114 *e*P **P** **02 08 56.4 -0.2**
GO02 Mina Guanaco 27.06 157 P **P** **02 08 59.0 +1.9**
GO02 IAmb IAmb 02 09 04.8
comp=Z,46nm,1.3s
AC02 Maricunga 28.74 158 P **P** **02 09 13.0 +0.6**
MCPB Macapa, AP 28.75 90 *e*P **P** **02 09 11.8 -0.2**
SALV Santo Antonio 29.27 123 *e*P **P** **02 09 17.6 +1.0**
PP1B Ponte de Pedra 30.80 125 *e*P **P** **02 09 31.7 +1.5**
ZAIG Zacatecas 31.16 319 P **P** **02 09 33.7 0.0**
GO04 Tololo Observa 31.27 163 P **P** **02 09 35.7 +1.2**
PRPB Parauapebas 31.48 101 *e*P **P** **02 09 36.0 -0.4**
SNDB Serra Nova Dou 31.53 113 *e*P **P** **02 09 36.8 +0.1**
AQDB Aquidauana 31.75 131 P **P** **02 09 37.7 -0.8**
AQDB Aquidauana 31.75 131 *e*P **P** **02 09 39.2 +0.7**
BRAL Brewton 31.78 350 P **P** **02 09 39.2 +0.6**
baz=168
CO02 Combarbal 32.18 164 P **P** **02 09 42.5 +0.1**
250A Grady 32.44 351 P **P** **02 09 44.1 -0.3**
344A Westbrook Farm 32.88 344 P **P** **02 09 47.8 -0.5**
NHSC New Hope 33.16 1 P **P** **02 09 50.9 +0.2**
baz=181
ZON Zonda 33.20 161 P **P** **02 09 50.4 -0.8**
ZON IAmb IAmb 02 09 59.0
comp=Z,31nm,1.4s
833A Chaparral WMA, 33.51 329 P **P** **02 09 55.1 +1.3**
baz=145
VBMS Vicksburg 33.55 345 P **P** **02 09 52.8 -1.3**
baz=162
GOGA Godfrey 33.55 356 P **P** **02 09 54.1 -0.1**
GOGA IAmb IAmb 02 09 55.2
comp=Z,19nm,1.2s
GOGA Godfrey 33.55 356 P **P** **02 09 53.4 -0.7**
baz=175
LRAL Lakeview Retre 33.59 351 P **P** **02 09 54.0 -0.5**
LRAL IAmb IAmb 02 09 55.8
comp=Z,22nm,1.1s
LRAL Lakeview Retre 33.59 351 P **P** **02 09 54.3 -0.2**
baz=169,SNR=8.4
Z51A Franklin 33.62 353 P **P** **02 09 54.8 +0.1**
Z51A IAmb IAmb 02 09 56.0
comp=Z,13nm,0.8s
VA03 San Esteban 33.78 164 P **P** **02 09 55.5 -0.8**
Z47A Carrollton 33.94 349 P **P** **02 09 57.5 0.0**
SMTB Santa Maria do 34.17 105 *e*P **P** **02 10 00.3 +0.4**
HODGE Hodges 34.30 358 P **P** **02 10 00.6 0.0**
Y49A Blount Mountai 34.31 352 P **P** **02 09 59.9 -0.9**
Y49A IAmb IAmb 02 10 05.1
comp=Z,16nm,1.1s
MT05 Renca 34.32 165 P **P** **02 10 01.0 0.0**
JSC Jenkinsville 34.33 359 P **P** **02 10 00.7 -0.2**
JSC IAmb IAmb 02 10 02.2
comp=Z,22nm,1.2s
PEXB Peixe 34.34 111 *e*P **P** **02 10 01.0 -0.3**
NATX Nacogdoches 34.41 339 P **P** **02 10 01.7 0.0**
baz=155
CPUP Villa Florida 34.42 141 P **P** **02 10 01.6 -0.2**
comp=Z,5.2nm,1.1s,baz=327,slow=9.9,SNR=4.3
CPUP LR LR 02 26 50.5
comp=Z,350nm,18.3s,baz=325,slow=41
CPUP Villa Florida 34.42 141 P **P** **02 10 01.5 -0.3**
MT09 Talagante 34.62 166 P **P** **02 10 03.9 +0.2**
FPAL Fort Paine 34.88 353 P **P** **02 10 04.2 -1.4**
FPAL IAmb IAmb 02 10 06.3
comp=Z,18nm,0.9s
PAULI Pauline 34.88 359 P **P** **02 10 04.6 -1.0**
PAULI IAmb IAmb 02 10 06.8
comp=Z,23nm,1.1s
Y45A Yeager Farm, C 34.89 347 P **P** **02 10 06.1 +0.4**
BO04 La Punta 34.92 165 P **P** **02 10 07.0 +0.9**
X48A Hartselle 34.99 351 P **P** **02 10 05.4 -1.2**
X48A IAmb IAmb 02 10 09.9
comp=Z,16nm,1.1s
BG3 Lake Jocassee 35.09 357 P **P** **02 10 07.3 -0.2**
BG3 IAmb IAmb 02 10 08.9
comp=Z,21nm,1.0s
Z41A Richland Creek 35.17 342 P **P** **02 10 08.0 -0.1**
baz=159
BO01 Tunca 35.19 166 P **P** **02 10 07.8 -0.6**
BO01 IAmb IAmb 02 10 16.9
comp=Z,22nm,1.0s
KMSC Kings Mountain 35.19 359 P **P** **02 10 08.4 +0.1**
KMSC IAmb IAmb 02 10 09.5
comp=Z,18nm,1.1s
KMSC Kings Mountain 35.19 359 P **P** **02 10 07.9 -0.4**
baz=179
W57A Gilead 35.20 1 P **P** **02 10 07.6 -0.8**
W57A IAmb IAmb 02 10 09.3
comp=Z,18nm,1.0s
W52A Murphy 35.26 356 P **P** **02 10 08.3 -0.6**
JCT Junction City 35.48 331 P **P** **02 10 12.2 +1.2**
JCT Junction City 35.48 331 P **P** **02 10 11.9 +0.9**
baz=146
OXF Oxford 35.48 348 P **P** **02 10 10.7 -0.1**
OXF Oxford 35.48 348 P **P** **02 10 10.0 -0.8**
baz=165
CCAR Cane Creek 35.49 344 P **P** **02 10 11.4 +0.4**
W50A Signal Mountai 35.49 354 P **P** **02 10 10.7 -0.3**
W50A IAmb IAmb 02 10 15.4
comp=Z,12nm,0.9s
SWET Sewanee 35.58 353 P **P** **02 10 10.2 -1.6**
SWET IAmb IAmb 02 10 12.4
comp=Z,19nm,1.0s
CPCT Cooper Cave 35.66 355 P **P** **02 10 10.7 -1.6**
CPCT IAmb IAmb 02 10 13.5
comp=Z,21nm,0.8s
WLAR White Oak Lake 35.66 342 P **P** **02 10 12.5 +0.1**
PLAL Pickwick Lake 35.68 350 P **P** **02 10 11.4 -1.1**
WHTX Lake Whitney, 35.71 335 P **P** **02 10 12.5 -0.3**
WHTX IAmb IAmb 02 10 22.9
comp=Z,39nm,1.5s
WHTX Lake Whitney, 35.71 335 P **P** **02 10 12.6 -0.2**
baz=151
PCMB Pacaembu 35.80 128 *e*P **P** **02 10 13.4 -0.5**
TKL Tuckaleechee C 35.81 356 LR LR 02 24 01.4
comp=Z,207nm,20.3s,baz=180,slow=35
TKL Tuckaleechee C 35.81 356 P **P** **02 10 12.6 -1.0**
BDFB Brasilia 35.81 117 P **P** **02 10 13.6 -0.5**
comp=Z,16nm,1.1s,baz=265,slow=9.3,SNR=10
BDFB LR LR 02 27 16.0
comp=Z,204nm,18.5s,baz=320,slow=40
BDFB Brasilia 35.81 117 P **P** **02 10 13.7 -0.3**
BDFB IAmb IAmb 02 10 23.5
comp=Z,31nm,1.5s
V58A Windy Hill, Pi 35.87 2 P **P** **02 10 14.1 0.0**
V58A IAmb IAmb 02 10 20.1
comp=Z,27nm,1.2s
Z38A Mt. Pleasant 35.88 339 P **P** **02 10 14.9 +0.6**
V52A Sevierville 35.98 356 P **P** **02 10 14.4 -0.6**
V52A IAmb IAmb 02 10 16.0
comp=Z,37nm,1.4s
V51A Loudon 36.00 355 IAmb IAmb 02 10 16.3
comp=Z,31nm,1.2s
V48A Smith Brothers 36.22 352 IAmb IAmb 02 10 17.9
comp=Z,26nm,0.9s
X40A Basin Creek Fa 36.32 343 P **P** **02 10 16.6 -1.5**
baz=160
ML02 Panimavida 36.42 167 P **P** **02 10 19.1 +0.3**
UALR University of 36.45 344 IAmb IAmb 02 10 20.2
comp=Z,24nm,1.1s
IPMB Ipameri, GO 36.57 121 *e*P **P** **02 10 20.2 -0.3**
TX31 Lajitas Ar. Si 36.62 325 IAmb IAmb 02 10 26.6
comp=Z,28nm,1.4s
TXAR Lajitas Array 36.62 325 P **P** **02 10 22.4 +1.6**
comp=Z,64nm,0.4s,baz=149,slow=5.9,SNR=4.8
TXAR PcP **PcP** **02 12 44.4 +0.4**
comp=Z,2.0nm,0.9s,baz=167,slow=4.3,SNR=4.8
TXAR LR LR 02 24 30.1
comp=Z,62nm,21.4s,baz=140,slow=35
TXAR Lajitas Array 36.62 325 P **P** **02 10 20.8 0.0**
TZTN Tazewell 36.67 356 IAmb IAmb 02 10 21.9
comp=Z,34nm,1.2s
TZTN Tazewell 36.67 356 P **P** **02 10 20.0 -1.1**
baz=175,SNR=5.0
ROSB Rosrio 36.76 95 *e*P **P** **02 10 21.4 -0.7**
WVT Waverly 36.76 350 P **P** **02 10 20.5 -1.3**
WVT Waverly 36.76 350 P **P** **02 10 19.8 -2.0**
baz=168
W41B Gary Mavity, V 36.80 344 P **P** **02 10 20.6 -1.6**
baz=161,SNR=7.3
U49A Red Boiling Sp 36.84 353 IAmb IAmb 02 10 23.0
comp=Z,64nm,1.9s
WHAR Wooly Hollow 36.92 344 IAmb IAmb 02 10 24.1
comp=Z,15nm,0.8s
SLBS Sierra La Lagu 36.95 312 P **P** **02 10 22.4 -1.3**
SLBS IAmb IAmb 02 10 30.1
comp=Z,28nm,1.1s
T57A Hurt 37.06 2 IAmb IAmb 02 10 25.3
comp=Z,19nm,0.9s
ABTX Abilene, Hawle 37.20 333 IAmb IAmb 02 10 31.5
comp=Z,31nm,1.1s
ABTX Abilene, Hawle 37.20 333 P **P** **02 10 24.5 -1.1**
baz=148,SNR=5.7
T50A Nancy 37.25 355 IAmb IAmb 02 10 26.5
comp=Z,29nm,1.6s
BLA Blacksburg 37.25 1 IAmb IAmb 02 10 27.4
comp=Z,28nm,1.4s
BLA Blacksburg 37.25 1 P **P** **02 10 26.0 0.0**
baz=181
ITQB Itaqui 37.26 144 *e*P **P** **02 10 26.9 +0.7**
W39A Magazine 37.27 342 IAmb IAmb 02 10 31.4
comp=Z,21nm,0.8s
W39A Magazine 37.27 342 P **P** **02 10 25.7 -0.4**
baz=158,SNR=16
LCAR Lake Charles 37.37 346 IAmb IAmb 02 10 27.6
comp=Z,30nm,0.8s
FCAR Ozark Folk Cen 37.45 345 IAmb IAmb 02 10 28.2
comp=Z,16nm,0.9s
LPIG La Paz 37.47 312 LR LR 02 22 09.9
comp=Z,262nm,20.5s,baz=116,slow=30
SDBA SAO DESIDERIO 37.61 110 *e*P **P** **02 10 29.3 -0.1**
BB19B Bebedouro 37.72 125 *e*P **P** **02 10 30.2 +0.1**
FRTB Fartura 38.06 129 *e*P **P** **02 10 32.7 -0.3**
U40A Yellville 38.08 344 IAmb IAmb 02 10 34.2
comp=Z,19nm,0.8s
U40A Yellville 38.08 344 P **P** **02 10 32.6 -0.4**
baz=160,SNR=18
R50A Paris 38.45 356 IAmb IAmb 02 10 36.6
comp=Z,30nm,1.4s
ITAB Concordia 38.47 137 *e*P **P** **02 10 36.4 +0.1**
S44A Carbondale 38.53 349 IAmb IAmb 02 10 40.3
comp=Z,22nm,0.9s
SIUC Southern Illin 38.54 349 IAmb IAmb 02 10 37.2
comp=Z,25nm,0.9s
FNO Franklin 38.55 338 IAmb IAmb 02 10 44.1
comp=Z,37nm,1.4s
TUL1 Leonard 38.56 340 P **P** **02 10 37.3 +0.2**
TUL1 Leonard 38.56 340 P **P** **02 10 37.0 -0.1**
baz=156
WMOK White Mounta 38.64 336 P **P** **02 10 37.0 -0.7**
baz=150,SNR=13
MGMO Mountain Grove 38.68 345 IAmb IAmb 02 10 42.9
comp=Z,57nm,1.4s
JANB Januaria 38.95 114 *e*P **P** **02 10 40.0 -0.6**
FVM French Village 39.04 348 IAmb IAmb 02 10 42.1
comp=Z,22nm,0.9s
CCM Cathedral Cave 39.29 347 P **P** **02 10 42.8 -0.3**
CCM IAmb IAmb 02 10 43.5
comp=Z,26nm,1.2s
CCM Cathedral Cave 39.29 347 P **P** **02 10 42.1 -1.0**
baz=163
OLIL Olney 39.34 351 IAmb IAmb 02 10 43.5
comp=Z,29nm,0.8s
LC01 Cunco 39.35 169 P **P** **02 10 44.2 +0.6**
MNTX Cornudas Mount 39.37 326 P **P** **02 10 44.6 +0.7**
baz=139,SNR=16
BLO Bloomington 39.56 353 IAmb IAmb 02 10 45.1
comp=Z,16nm,0.8s
Q44A Meyer Farm, Va 39.66 350 IAmb IAmb 02 10 46.1
comp=Z,55nm,0.9s
P52A Corning 39.69 358 P **P** **02 10 45.9 -0.5**
baz=178
MCWV Mont Chateau 39.70 1 P **P** **02 10 46.1 -0.4**
baz=181
T35A Sooner Cattle 39.72 340 IAmb IAmb 02 10 52.3
comp=Z,62nm,1.6s
P49A Miami Univ. Ec 39.73 355 P **P** **02 10 45.2 -1.5**
baz=174
MSTX Muleshoe 39.78 331 IAmb IAmb 02 10 53.0
comp=Z,38nm,1.1s
MSTX Muleshoe 39.78 331 P **P** **02 10 47.2 -0.2**
baz=144,SNR=15
VAO Valinhos 39.93 127 *e*P **P** **02 10 48.4 -0.4**
AMTX Amarillo 40.01 333 IAmb IAmb 02 10 54.9
comp=Z,26nm,0.9s
AMTX Amarillo 40.01 333 P **P** **02 10 49.0 -0.3**
baz=146
O52A Adamsville 40.16 359 IAmb IAmb 02 11 28.5
comp=Z,38nm,1.6s
MVL Millersville 40.24 5 P **P** **02 10 50.6 -0.4**
O53A New Philadelph 40.28 360 IAmb IAmb 02 10 53.9
comp=Z,31nm,1.4s
O53A New Philadelph 40.28 360 P **P** **02 10 49.7 -1.6**
baz=179
ACSO Alum Creek Sta 40.31 357 P **P** **02 10 50.4 -1.2**
baz=177
PAGS Pennsylvania G 40.43 5 IAmb IAmb 02 11 04.4
comp=Z,25nm,1.1s
P43A Skaggs, Pawnee 40.47 350 IAmb IAmb 02 10 53.0
comp=Z,24nm,0.9s
O48B Farmland 40.48 355 P **P** **02 10 51.6 -1.4**
baz=173
DIAM Diamantina, MG 40.65 118 *e*P **P** **02 10 54.6 -0.3**
SSPA Standing Stone 40.76 3 P **P** **02 10 55.4 +0.2**
SSPA Standing Stone 40.76 3 P **P** **02 10 55.0 -0.2**
baz=184
SFIN Lafayette 40.82 353 IAmb IAmb 02 10 57.5
comp=Z,23nm,1.2s
SFIN Lafette 40.82 353 P **P** **02 10 54.0 -1.7**
baz=170
N54A Moraine State 41.00 1 P **P** **02 10 56.4 -0.9**
N54A Moraine State 41.00 1 P **P** **02 10 56.7 -0.5**
baz=181
N59A State Game Lan 41.20 6 P **P** **02 10 59.4 +0.4**
baz=188
LL04 Puerto Octay 41.21 170 P **P** **02 10 59.4 +0.5**
LL04 IAmb IAmb 02 11 01.3
comp=Z,30nm,1.1s
HDIL Hopedale 41.32 350 P **P** **02 10 59.0 -0.9**
baz=167
121A Cookes Peak, D 41.35 325 IAmb IAmb 02 11 05.6
comp=Z,21nm,1.1s
121A Cookes Peak, D 41.35 325 P **P** **02 11 02.2 +1.7**
baz=137,SNR=11
PLCA Paso Flores 41.38 168 P **P** **02 11 02.3 +1.9**
comp=Z,17nm,1.1s,baz=348,slow=9.8,SNR=16
PLCA Paso Flores 41.38 168 P **P** **02 11 00.5 0.0**
PLCA IAmb IAmb 02 11 09.5
comp=Z,39nm,1.2s
PLCA Paso Flores 41.38 168 *e*P **P** **02 11 02.4 +1.9**
M53A WI Miller and 41.47 0 P **P** **02 10 59.9 -1.2**
baz=180
M50A Fremont 41.48 357 IAmb IAmb 02 11 01.2
comp=Z,21nm,0.9s
M57A Sunshine Farm, 41.50 4 IAmb IAmb 02 11 02.7
comp=Z,20nm,1.0s
NBPN Ponto Novo - B 41.71 106 *e*P **P** **02 11 04.3 +0.8**
KSU1 Kans State U 41.73 341 P **P** **02 11 03.4 0.0**
baz=156,SNR=10
ERPA Erie 42.16 1 P **P** **02 11 05.9 -0.9**
baz=181
N38A Joes South For 42.36 346 IAmb IAmb 02 11 11.4
comp=Z,27nm,1.1s
ANMO Albuquerque 42.41 328 LR LR 02 28 58.8
comp=Z,80nm,18.8s,baz=138,slow=36
ANMO Albuquerque 42.41 328 P **P** **02 11 09.7 +0.5**
ANMO IAmb IAmb 02 11 15.4
comp=Z,26nm,0.9s
ANMO Albuquerque 42.41 328 P **P** **02 11 11.1 +1.9**
baz=140
NBMA Muriti-CE 42.51 101 *e*P **P** **02 11 09.7 -0.5**
CBKS Cedar Bluff 42.56 338 IAmb IAmb 02 11 15.8
comp=Z,30nm,1.0s
CBKS Cedar Bluff 42.56 338 P **P** **02 11 11.2 +1.0**
baz=151,SNR=8.7
K57A Scipio Center 42.94 5 IAmb IAmb 02 11 13.8
comp=Z,19nm,1.0s
TUC Tucson 43.00 322 P **P** **02 11 13.3 -0.5**
TUC Tucson 43.00 322 P **P** **02 11 15.2 +1.3**
baz=133
L61B Northampton 43.11 9 P **P** **02 11 16.7 +2.2**
baz=192
T25A Trinidad 43.12 332 IAmb IAmb 02 11 21.8
comp=Z,36nm,1.2s
T25A Trinidad 43.12 332 P **P** **02 11 16.6 +1.7**
baz=144,SNR=30
L40A Anamosa 43.13 349 IAmb IAmb 02 11 14.5
comp=Z,19nm,1.1s
HRV Adam Dziewonsk 43.34 10 P **P** **02 11 18.2 +1.9**
baz=193
SCIA State Center 43.41 346 P **P** **02 11 16.2 -0.7**
baz=162
JFWS Jewell Farm 43.78 350 P **P** **02 11 18.7 -1.1**
baz=166
KSCO Kaye Shedlock' 43.88 335 IAmb IAmb 02 11 26.7
comp=Z,32nm,1.1s
KSCO Kaye Shedlock' 43.88 335 P **P** **02 11 20.4 -0.5**
baz=148
214A Organ Pipe Nat 44.05 320 IAmb IAmb 02 11 28.6
comp=Z,32nm,1.4s
214A Organ Pipe Nat 44.05 320 P **P** **02 11 23.5 +1.2**
baz=130,SNR=8.1
SDCO Great Sand Dun 44.12 332 IAmb IAmb 02 11 28.9
comp=Z,12nm,0.8s
SDCO Great Sand Dun 44.12 332 P **P** **02 11 24.4 +1.3**
baz=143,SNR=43
BGNE Belgrade 44.32 341 P **P** **02 11 24.5 +0.2**
baz=155
W18A Petrified Fore 44.34 325 P **P** **02 11 26.8 +2.0**
baz=136
I42A Draeger Farm, 44.52 352 IAmb IAmb 02 11 25.6
comp=Z,41nm,1.4s
S22A 4UR Ranch, Cre 44.77 330 P **P** **02 11 29.8 +1.5**
baz=142,SNR=12
SFX San Felipe 44.83 317 IAmb IAmb 02 11 34.5
comp=Z,20nm,1.1s
Q24A Divide 44.94 333 P **P** **02 11 30.7 +1.1**
baz=144
RCBR Riachuelo 45.16 98 LR LR 02 29 58.1
comp=Z,246nm,20.8s,baz=62,slow=36
113A Mohawk Valley, 45.19 320 IAmb IAmb 02 11 37.4
comp=Z,18nm,1.2s
MVCO Mesa Verde 45.21 328 P **P** **02 11 32.2 +0.5**
baz=139,SNR=8.1
NBAN Anadia - AL 45.29 103 *e*P **P** **02 11 32.0 -0.4**
OGNE Ogallala 45.29 337 IAmb IAmb 02 11 42.3
comp=Z,30nm,1.2s
OGNE Ogallala 45.29 337 P **P** **02 11 33.3 +1.3**
baz=150
Y14A Wickenburg 45.47 322 IAmb IAmb 02 11 39.6
comp=Z,16nm,1.3s
WUAZ Wupatki 45.56 324 P **P** **02 11 35.2 +0.7**
baz=135,SNR=24
ISCO Idaho Springs 45.83 333 P **P** **02 11 37.6 +1.0**
baz=144
ECSD EROS Data Cent 45.99 344 P **P** **02 11 36.4 -1.1**
baz=158,SNR=7.1
PV15 Paradox Valley 46.06 330 IAmb IAmb 02 11 44.1
comp=Z,18nm,0.9s
PV07 Paradox Valley 46.21 329 IAmb IAmb 02 11 45.0
comp=Z,14nm,0.9s
BLYC Blythe 46.30 320 IAmb IAmb 02 11 46.3
comp=Z,19nm,1.4s
PV10 Paradox Valley 46.37 329 IAmb IAmb 02 11 45.9
comp=Z,16nm,0.9s
PV23 Carpenter Ridg 46.41 329 IAmb IAmb 02 11 46.3
comp=Z,12nm,0.9s
E46A Sault Ste Mari 46.50 357 IAmb IAmb 02 11 57.1
comp=Z,15nm,1.1s
YUH Yuha Desert 46.53 318 IAmb IAmb 02 11 46.5
comp=Z,16nm,1.3s
RMX La Rumorosa 46.61 318 IAmb IAmb 02 11 48.5
comp=Z,16nm,1.1s
SWSC Sam W. Stewart 46.63 318 P **P** **02 11 44.7 +2.0**
baz=128
IKP In-Ko-Pah, Jac 46.66 318 P **P** **02 11 45.5 +2.5**
baz=128,SNR=6.2
U15A North Rim 46.73 325 IAmb IAmb 02 11 48.6
comp=Z,24nm,1.5s
BC3 Big Chuckawall 46.84 319 P **P** **02 11 47.0 +2.5**
baz=129,SNR=6.8
N23A Red Feather La 46.87 334 P **P** **02 11 47.5 +2.7**
baz=144
IRM Iron Mountain 46.96 320 P **P** **02 11 46.7 +1.4**
baz=130,SNR=10
MONP2 Monument Peak 47.01 318 P **P** **02 11 47.2 +1.2**
baz=127
O20A White River Ci 47.32 331 P **P** **02 11 49.8 +1.6**
baz=141
BELC Belle Mtn. Jos 47.41 319 P **P** **02 11 52.0 +3.0**
baz=129,SNR=6.7
KNB Kanab 47.45 325 IAmb IAmb 02 12 04.9
comp=Z,11nm,1.1s
TPFO Pinon Flats 47.47 319 P **P** **02 11 51.1 +1.7**
baz=128
PFO Pinyon Flats O 47.48 319 LR LR 02 29 48.7
comp=Z,188nm,18.8s,baz=118,slow=34
PFO Pinyon Flats O 47.48 319 P **P** **02 11 48.9 -0.6**
PFO IAmb IAmb 02 11 59.8
comp=Z,16nm,1.4s
PFO Pinyon Flats O 47.48 319 P **P** **02 11 50.9 +1.4**
baz=128
GMRC Granite Mounta 47.69 320 P **P** **02 11 52.8 +1.7**
baz=130
LCMT Little Creek M 47.69 325 IAmb IAmb 02 11 55.0
comp=Z,33nm,2.2s
SRU San Rafael Swe 47.69 329 IAmb IAmb 02 11 56.8
comp=Z,17nm,1.1s
P18A Preston Nutter 47.93 329 IAmb IAmb 02 12 04.5
comp=Z,11nm,1.1s
MURC Murrieta 47.96 318 P **P** **02 11 55.1 +2.0**
baz=127
SZCU Shurtz Canyon 48.00 325 IAmb IAmb 02 12 04.1
comp=Z,9.3nm,1.1s
P17A Butcher Ranch, 48.07 329 IAmb IAmb 02 11 59.2
comp=Z,11nm,0.9s
RWWY Rawlins 48.07 333 IAmb IAmb 02 11 59.4
comp=Z,12nm,0.9s
CCUT Cedar City 48.13 325 IAmb IAmb 02 12 00.7
comp=Z,13nm,1.2s
ELS Elsinore Mount 48.14 318 IAmb IAmb 02 11 58.2
comp=Z,14nm,1.5s
HEC Hector,Ludlow 48.15 320 P **P** **02 11 56.6 +2.0**
baz=129
BBRC Big Bear Solar 48.18 319 P **P** **02 11 57.5 +2.5**
baz=128
TUQ Turquoise Moun 48.27 321 P **P** **02 11 57.8 +2.2**
baz=130
TCRU Three Creeks R 48.35 327 IAmb IAmb 02 12 06.0
comp=Z,24nm,1.5s
SHPR Sheep Range 48.48 323 IAmb IAmb 02 12 07.8
comp=Z,16nm,1.4s
SCI2 San Clemente I 48.51 317 P **P** **02 11 59.0 +1.7**
baz=125
K22A Casper 48.55 335 IAmb IAmb 02 12 02.7
comp=Z,12nm,1.1s
BFSC Mount Baldy Ra 48.65 319 P **P** **02 12 00.3 +1.8**
baz=127
CIS Catalina Islan 48.66 317 P **P** **02 12 00.6 +2.1**
baz=126
GSC Goldstone, Bar 48.74 320 P **P** **02 12 01.2 +2.0**
baz=129
RSSD Black Hills 48.77 338 P **P** **02 11 59.2 -0.2**
RSSD IAmb IAmb 02 12 05.0
comp=Z,9.3nm,0.9s
RSSD Black Hills 48.77 338 P **P** **02 12 00.7 +1.3**
baz=148
SHOC Shoshone, Teco 48.78 321 P **P** **02 12 01.4 +2.0**
baz=130
EDW2 Edwards Air Fo 49.25 319 P **P** **02 12 04.2 +1.1**
baz=127,SNR=7.8
JLU Jordanelle 49.27 329 IAmb IAmb 02 12 13.9
comp=Z,11nm,0.9s
LRMC Laurel Mtn Rad 49.41 320 P **P** **02 12 06.3 +1.9**
baz=128
TPNV Topopah Spring 49.44 322 P **P** **02 12 06.6 +2.0**
baz=130,SNR=8.7

CTU **Camp Tracy** 49.49 329 IAmb IAmb 02 12 10.8
comp=Z,23nm,1.3s
FURC **Furnace Creek,** 49.51 321 P **P** **02 12 06.5 +1.6**
baz=129
S11A **Rachel** 49.59 323 IAmb IAmb 02 12 12.2
comp=Z,16nm,1.3s
MPMC **Manual Prospec** 49.65 321 P **P** **02 12 07.7 +1.4**
baz=129
DUG **Dugway, Tooele** 49.68 328 P **P** **02 12 07.6 +1.2**
baz=136
ARVC **Arvin** 49.95 319 P **P** **02 12 10.4 +2.0**
baz=127
R11A **Troy Canyon, C** 49.96 324 IAmb IAmb 02 12 27.9
comp=Z,35nm,2.4s
R11A **Troy Canyon, C** 49.96 324 P **P** **02 12 09.9 +1.3**
baz=132,SNR=7.6
PDAR **Pinedale Array** 49.99 332 P **P** **02 12 08.9 +0.2**
comp=Z,0.9nm,0.7s,baz=114,slow=9.4,SNR=9.4
PDAR PcP **PcP** **02 13 28.7 -0.1**
comp=Z,1.2nm,0.9s,baz=177,slow=3.0,SNR=3.6
PDAR LR LR 02 34 00.1
comp=Z,130nm,18.1s,baz=148,slow=37
BW06 **Boulder Array** 49.99 332 P **P** **02 12 10.0 +1.2**
baz=141
ISA **Isabella, Lake** 50.04 320 P **P** **02 12 09.1 0.0**
ISA **Isabella, Lake** 50.04 320 P **P** **02 12 10.8 +1.7**
baz=127
AGMN **Agassiz Nation** 50.06 347 IAmb IAmb 02 12 23.6
comp=Z,37nm,2.2s
HWUT **Hardware Ranch** 50.07 330 IAmb IAmb 02 12 19.1
comp=Z,27nm,1.4s
BCW **Bitter Crk WRg** 50.23 318 IAmb IAmb 02 12 16.3
comp=Z,26nm,1.1s
CWC **Cottonwood Cre** 50.26 321 P **P** **02 12 12.6 +1.8**
baz=128
BGU **Big Grassy Mou** 50.32 328 IAmb IAmb 02 12 16.4
comp=Z,13nm,1.0s
PKM **Mcpherson Peak** 50.47 318 P **P** **02 12 14.3 +1.9**
baz=126,SNR=7.4
VES **Vestal, Richgr** 50.54 319 P **P** **02 12 14.3 +1.5**
baz=127,SNR=5.9
SMMC **Simmler** 50.83 318 P **P** **02 12 18.7 +3.6**
baz=126,SNR=5.3
REDW **Red Top Meadow** 51.05 332 IAmb IAmb 02 12 21.8
comp=Z,16nm,1.1s
SNOW **Snow King Moun** 51.08 332 IAmb IAmb 02 12 29.4
comp=Z,24nm,1.4s
TPAW **Teton Pass** 51.20 332 IAmb IAmb 02 12 43.2
comp=Z,18nm,1.4s
ELK **Elko** 51.38 327 LR LR 02 33 59.3
comp=Z,197nm,18.5s,baz=146,slow=36
NV11 **Mina Array Sit** 51.55 323 IAmb IAmb 02 12 24.4
comp=Z,25nm,1.5s
NVAR **Mina Array Bea** 51.63 322 P **P** **02 12 22.9 +1.7**
comp=Z,10nm,1.0s,baz=137,slow=7.5,SNR=32
LHV **Little Huntoon** 51.65 322 IAmb IAmb 02 12 26.6
comp=Z,16nm,1.1s
RLMT **Red Lodge** 51.71 335 P **P** **02 12 22.3 +0.6**
baz=143
H17A **Grant Village** 51.72 333 IAmb IAmb 02 12 34.1
comp=Z,26nm,1.9s
YFT **Old Faithful** 51.88 333 P **P** **02 12 22.9 -0.2**
PMPB **Monarch Peak** 51.89 319 P **P** **02 12 22.8 -0.2**
PMPB IAmb IAmb 02 12 27.0
comp=Z,25nm,1.5s
ULM **Lac du Bonnet** 51.91 348 P **P** **02 12 22.0 -0.8**
comp=Z,6.2nm,0.6s,baz=157,slow=8.5,SNR=7.2
ULM **Lac du Bonnet** 51.91 348 IAmb IAmb 02 12 22.9
comp=Z,9.5nm,0.8s
BMN **Battle Mountai** 52.29 325 IAmb IAmb 02 12 36.2
comp=Z,32nm,1.4s
YHL **Hebgen Lake** 52.35 333 IAmb IAmb 02 12 37.3
comp=Z,30nm,1.2s
HLID **Hailey** 52.94 330 IAmb IAmb 02 12 36.5
comp=Z,12nm,1.1s
HLID **Hailey** 52.94 330 P **P** **02 12 30.8 0.0**
baz=136,SNR=19
PAHR **Pah Rah Range** 53.09 323 IAmb IAmb 02 12 47.1
comp=Z,39nm,2.1s
BOZ **Bozeman (W)** 53.12 333 P **P** **02 12 31.6 -0.5**
baz=140,SNR=19
MPK **Martis Peak** 53.23 322 IAmb IAmb 02 12 39.5
comp=Z,15nm,1.2s
MFID **Camas Ranch** 53.55 329 IAmb IAmb 02 12 40.7
comp=Z,16nm,1.1s
EGMT **Eagleton** 54.23 336 IAmb IAmb 02 12 45.0
comp=Z,13nm,1.0s
EGMT **Eagleton** 54.23 336 P **P** **02 12 40.0 -0.1**
baz=144,SNR=10
ORV **Oroville** 54.29 322 IAmb IAmb 02 12 46.9
comp=Z,18nm,1.2s
WVOR **Wild Horse Val** 54.40 326 IAmb IAmb 02 12 45.9
comp=Z,23nm,1.2s
O03E **Paynes Creek** 54.92 322 P **P** **02 12 45.6 +0.4**
baz=127
MSO **Missoula** 55.10 333 IAmb IAmb 02 12 56.2
comp=Z,17nm,1.4s
MSO **Missoula** 55.10 333 P **P** **02 12 46.1 -0.4**
baz=138,SNR=7.8
O02D **Mt. Diablo Mer** 55.46 322 P **P** **02 12 49.2 0.0**
baz=126
M04C **Macdoel** 55.84 324 IAmb IAmb 02 13 29.2
comp=Z,12nm,1.1s
M04C **Macdoel** 55.84 324 P **P** **02 12 52.6 +0.7**
baz=128
N02D **Trinity Center** 55.88 322 P **P** **02 12 52.2 +0.1**
baz=126
F10A **Beach Ranch, E** 56.06 330 IAmb IAmb 02 13 03.2
comp=Z,40nm,1.9s
KMRM **Mail Ridge** 56.06 321 IAmb IAmb 02 12 58.6
comp=Z,15nm,1.1s
SCHQ **Schefferville** 56.06 10 P **P** **02 12 51.2 -1.9**
comp=Z,5.0nm,1.1s,baz=204,slow=6.7,SNR=3.6
SCHQ LR LR 02 36 53.6
comp=Z,54nm,19.9s,baz=193,slow=36
M02C **Callahan** 56.21 323 P **P** **02 12 55.4 +0.9**
baz=126
YBH **Yreka Blue Hor** 56.33 323 LR LR 02 35 46.1
comp=Z,152nm,18.9s,baz=146,slow=35
L04D **Klamath Falls** 56.38 324 IAmb IAmb 02 13 00.3
comp=Z,13nm,0.9s
L04D **Klamath Falls** 56.38 324 P **P** **02 12 55.9 +0.1**
baz=127,SNR=6.7
J05D **Fort Rock, OR** 56.41 325 P **P** **02 12 56.5 +0.5**
baz=129,SNR=17
KHMM **Horse Mountain** 56.45 322 IAmb IAmb 02 13 01.7
comp=Z,16nm,1.0s
G08A **Pilot Rock** 56.48 328 IAmb IAmb 02 13 01.4
comp=Z,14nm,1.0s
J04D **Umpqua Nationa** 56.89 325 P **P** **02 12 59.9 +0.4**
baz=128
L02E **Cave Junction** 57.12 323 P **P** **02 13 01.0 +0.1**
baz=126
I05D **Terrebonne, OR** 57.14 326 P **P** **02 13 01.5 +0.4**
baz=129,SNR=6.0
RKT **Rikitea** 57.29 243 *e*T T 03 14 46.0
comp=Z,2.7nm,0.2s
FFC **Flin Flon** 57.47 346 P **P** **02 13 03.5 +0.5**
K02D **Willamette Mer** 57.47 323 P **P** **02 13 03.4 0.0**
baz=126
NEW **Newport** 57.62 332 LR LR 02 38 15.7
comp=Z,120nm,20.1s,baz=150,slow=36
NEW **Newport** 57.62 332 P **P** **02 13 04.8 +0.4**
baz=136
G05D **Wamic, OR** 57.70 327 P **P** **02 13 05.7 +0.7**
baz=130
H04A **Detroit Lake** 57.83 326 IAmb IAmb 02 13 16.1
comp=Z,19nm,1.3s
I03D **Drain, OR** 57.88 325 P **P** **02 13 06.6 +0.5**
baz=127
J01E **Myrtle Point** 57.90 324 P **P** **02 13 06.3 0.0**
baz=126
H04D **Lebanon** 58.03 326 P **P** **02 13 09.9 +2.7**
baz=128
F05D **White Salmon** 58.19 328 IAmb IAmb 02 13 16.7
comp=Z,8.0nm,0.7s
F05D **White Salmon** 58.19 328 P **P** **02 13 10.8 +2.5**
baz=130
I02E **Swisshome, OR** 58.42 325 P **P** **02 13 12.5 +2.6**
baz=127
F04A **Amboy** 58.74 327 IAmb IAmb 02 13 21.9
comp=Z,17nm,1.1s
G03D **McMinnville, O** 58.75 326 P **P** **02 13 14.6 +2.3**
baz=128
E04D **Cinebar** 59.21 328 P **P** **02 13 17.6 +2.3**
baz=129
TAOE **Nuku Hiva Isla** 59.71 260 *e*LR LR 02 30 58.5
comp=Z,280nm,26.0s

D04E **Lakebay** 59.71 328 P **P** **02 13 20.9 +2.1**
baz=129
FCC **Fort Churchill** 59.74 352 IAmb IAmb 02 13 19.2
comp=Z,15nm,1.1s
B05A **Bryant** 60.06 329 P **P** **02 13 21.3 +0.2**
baz=130
D03D **Eldon** 60.10 328 P **P** **02 13 22.6 +1.0**
baz=129
NLWA **Neilton Lookou** 60.43 328 P **P** **02 13 24.0 +0.2**
A04D **Lummi Island** 60.66 330 P **P** **02 13 26.6 +1.3**
baz=130
LLLB **Lillooet** 61.49 332 P **P** **02 13 31.6 +0.6**
LLLB IAmb IAmb 02 13 52.0
comp=Z,9.8nm,1.0s
FRB **Frobisher Bay** 64.46 6 LR LR 02 44 39.9
comp=Z,41nm,19.6s,baz=201,slow=39
BBB **Bella Bella** 65.52 330 LR LR 02 43 20.2
comp=Z,100nm,19.0s,baz=139,slow=37
YKA **Yellowknife Ar** 67.52 344 P **P** **02 14 09.9 -0.2**
comp=Z,5.3nm,1.0s,baz=139,slow=5.7,SNR=42
MACI **Morro de la Ar** 67.61 59 P **P** **02 14 10.5 -1.2**
PPT **Papeete** 69.72 251 LR LR 02 36 30.1
comp=Z,222nm,20.3s,baz=78,slow=29
PPT2 **Papeete2** 69.73 251 *e*LR LR 02 35 33.3
comp=Z,255nm,26.0s
DLBC **Dease Lake** 70.11 335 LR LR 02 46 46.1
comp=Z,66nm,18.6s,baz=154,slow=37
DLBC **Dease Lake** 70.11 335 IAmb IAmb 02 14 37.5
comp=Z,14nm,1.3s
TBI **Tubuai** 70.37 245 *e*LR LR 02 35 52.6
comp=Z,196nm,28.2s
WRGLY **Wrigley** 70.76 341 P **P** **02 14 32.0 +1.8**
baz=134
MMPY **Sheldon Lake,** 73.09 338 P **P** **02 14 45.4 +1.1**
baz=126
M31M **Drury Creek, Y** 74.05 337 P **P** **02 14 51.5 +1.6**
baz=129
YUK6 **Outpost Mounta** 75.02 335 P **P** **02 14 57.5 +1.7**
baz=119
M30M **Minto, Yukon** 75.20 337 P **P** **02 14 56.6 0.0**
M30M IAmb IAmb 02 14 59.5
comp=Z,25nm,1.7s
M30M **Minto, Yukon** 75.20 337 P **P** **02 14 58.0 +1.4**
baz=121
LIC **Lamto** 75.88 84 *e*P **P** **02 15 02.2 +0.7**
comp=Z,36nm,1.3s
TIC **Toumodi** 75.90 83 *e*P **P** **02 15 01.7 +0.1**
DBIC **Dimbokro** 76.07 83 P **P** **02 15 02.8 +0.3**
comp=Z,12nm,1.0s,baz=288,slow=5.7,SNR=9.1
DBIC LR LR 02 46 33.4
comp=Z,61nm,19.2s,baz=264,slow=34
DBIC **Dimbokro** 76.07 83 P **P** **02 15 00.9 -1.6**
KIC **Kosan Boka** 76.17 83 *e*P **P** **02 15 03.3 +0.2**
comp=Z,26nm,0.8s
PNCL **Nicolau / Gran** 76.24 51 *e*P **P** **02 15 04.2 +1.2**
comp=Z,38nm,2.1s
YUK3 **Moose Creek** 76.31 335 P **P** **02 15 04.3 +1.1**
baz=117
CTG **Chitna Glacier** 76.32 334 P **P** **02 15 04.3 +1.2**
baz=116
PCVE **Castro Verde** 76.53 51 *e*P **P** **02 15 06.5 +1.8**
comp=Z,50nm,1.5s
PCAS **Casmilo, Conde** 76.65 49 *e*P **P** **02 15 06.8 +1.4**
comp=Z,52nm,2.0s
COI **Coimbra** 76.75 49 *e*P **P** **02 15 06.9 +1.0**
comp=Z,58nm,1.3s
BVCY **Beaver Creek** 76.77 336 P **P** **02 15 06.6 +1.1**
baz=117
PTO **Porto** 76.80 48 *e*P **P** **02 15 03.4 -2.7**
comp=Z,60nm,1.4s
DAWY **Dawson** 76.96 337 IAmb IAmb 02 15 21.7
comp=Z,8.9nm,1.1s
DAWY **Dawson** 76.96 337 P **P** **02 15 05.7 -0.9**
baz=119,SNR=8.1
TULEG **Thule** 76.97 3 P **P** **02 15 06.0 -0.4**
TULEG IAmb IAmb 02 15 07.1
comp=Z,14nm,1.3s
PESTR **Estremoz** 77.11 50 *e*P **P** **02 15 09.3 +1.3**
comp=Z,36nm,1.6s
PESTR **Estremoz** 77.11 50 P **P** **02 15 08.7 +0.7**
PESTR IAmb IAmb 02 15 22.7
comp=Z,14nm,1.1s
EPYK **Eagle Plains** 77.15 340 P **P** **02 15 08.7 +1.0**
EPYK IAmb IAmb 02 15 09.6
comp=Z,10nm,1.1s
EPYK **Eagle Plains** 77.15 340 P **P** **02 15 07.6 -0.1**
baz=122,SNR=5.4
M27K **Edge Creek, AK** 77.17 335 IAmb IAmb 02 15 19.2
comp=Z,9.2nm,1.1s
M27K **Edge Creek, AK** 77.17 335 P **P** **02 15 07.2 -0.8**
baz=116
I29M **Ogilvie Camp,** 77.19 339 P **P** **02 15 08.7 +0.8**
I29M IAmb IAmb 02 15 17.7
comp=Z,13nm,0.9s
I29M **Ogilvie Camp,** 77.19 339 P **P** **02 15 08.0 +0.1**
baz=120,SNR=16
INK **Inuvik** 77.20 342 P **P** **02 15 08.6 +0.8**
comp=Z,14nm,1.0s,baz=109,slow=7.4,SNR=27
INK LR LR 02 52 30.0
comp=Z,74nm,18.7s,baz=135,slow=38
INK **Inuvik** 77.20 342 IAmb IAmb 02 15 12.8
comp=Z,14nm,0.9s
INK **Inuvik** 77.20 342 P **P** **02 15 08.3 +0.5**
baz=125,SNR=20
MCARA **McCarthy VSAT** 77.23 334 P **P** **02 15 09.8 +1.6**
MCARA IAmb IAmb 02 15 20.2
comp=Z,18nm,1.1s
MCARA **McCarthy VSAT** 77.23 334 P **P** **02 15 08.8 +0.6**
baz=115
PVIS **Viseu** 77.24 48 *e*P **P** **02 15 09.1 +0.4**
comp=Z,35nm,1.8s
KOWA **Kowa** 77.26 75 P **P** **02 15 09.6 +0.3**
VRDI **Verde Repeater** 77.36 334 P **P** **02 15 09.1 0.0**
VRDI IAmb IAmb 02 15 19.1
comp=Z,16nm,1.3s
PMRV **Marv??o** 77.37 50 *e*P **P** **02 15 08.2 -1.2**
comp=Z,29nm,1.7s
PCBR **Castelo Branco** 77.38 49 *e*P **P** **02 15 10.3 +0.9**
comp=Z,24nm,1.8s
A36M **Sachs Harbour** 77.38 347 P **P** **02 15 08.8 0.0**
A36M **Sachs Harbour** 77.38 347 P **P** **02 15 08.3 -0.4**
baz=134,SNR=25
BCAR **Beaver Creek A** 77.44 336 P **P** **02 15 09.6 +0.2**
L27K **Beaver Creek,** 77.46 336 P **P** **02 15 10.2 +0.7**
L27K IAmb IAmb 02 15 13.7
comp=Z,14nm,1.4s
L27K **Beaver Creek,** 77.46 336 P **P** **02 15 10.0 +0.6**
baz=116
RAGM **Ragged Mountai** 77.56 333 P **P** **02 15 11.0 +0.9**
GLB **Gilahina Butte** 77.60 334 P **P** **02 15 11.1 +0.8**
GLB IAmb IAmb 02 15 15.4
comp=Z,9.0nm,0.9s
M26K **Nabesna, AK** 77.66 335 P **P** **02 15 10.9 +0.3**
M26K IAmb IAmb 02 15 18.9
comp=Z,14nm,1.4s
M26K **Nabesna, AK** 77.66 335 P **P** **02 15 11.0 +0.4**
baz=115
BMRM **Bremner River** 77.76 333 IAmb IAmb 02 15 16.3
comp=Z,19nm,1.0s
BMRM **Bremner River** 77.76 333 P **P** **02 15 11.6 +0.4**
baz=113
EGAK **Eagle** 77.97 338 IAmb IAmb 02 15 17.0
comp=Z,14nm,0.9s
EGAK **Eagle** 77.97 338 P **P** **02 15 12.2 0.0**
baz=117,SNR=10.0
N25K **Chitina, Valde** 78.02 334 P **P** **02 15 13.0 +0.4**
baz=114
L26K **Log Cabin Wild** 78.07 336 P **P** **02 15 13.3 +0.5**
L26K **Log Cabin Wild** 78.07 336 P **P** **02 15 13.3 +0.5**
baz=115
EYAK **Cordova Ski Ar** 78.12 333 P **P** **02 15 13.8 +0.7**
baz=112
DIV **Divide** 78.35 333 P **P** **02 15 16.3 +1.8**
DIV IAmb IAmb 02 15 18.6
comp=Z,12nm,1.3s
MDT **Middelt** 78.53 57 LR LR 02 50 26.7
comp=Z,28nm,18.4s,baz=276,slow=36
KLU **Klutina** 78.56 334 IAmb IAmb 02 15 19.2
comp=Z,11nm,1.2s
KLU **Klutina** 78.56 334 P **P** **02 15 16.2 +0.6**
baz=112
DOT **Dot Lake** 78.62 336 IAmb IAmb 02 15 25.6
comp=Z,16nm,1.4s
SCRK **Sand Creek** 78.73 336 P **P** **02 15 16.8 +0.3**
SCRK **Sand Creek** 78.73 336 P **P** **02 15 16.9 +0.3**
baz=114
J26L **Joseph Creek** 78.78 337 P **P** **02 15 17.4 +0.6**
baz=115,SNR=9.5
GLI **Glacier Island** 78.86 333 P **P** **02 15 19.5 +2.3**
GLI IAmb IAmb 02 15 51.3
comp=Z,29nm,2.0s
GLI **Glacier Island** 78.86 333 P **P** **02 15 17.6 +0.4**
baz=111
M24K **Tolsona, Glenn** 78.90 334 P **P** **02 15 18.7 +1.2**
M24K **Tolsona, Glenn** 78.90 334 P **P** **02 15 18.2 +0.7**
baz=112
PAX **Paxson** 78.93 335 IAmb IAmb 02 15 26.9
comp=Z,15nm,1.3s
PAX **Paxson** 78.93 335 P **P** **02 15 18.5 +0.8**
baz=113
RIDG **Independent Ri** 78.98 336 P **P** **02 15 18.5 +0.6**
RIDG IAmb IAmb 02 15 41.0
comp=Z,14nm,1.2s
RIDG **Independent Ri** 78.98 336 P **P** **02 15 18.6 +0.8**
baz=114
SCM **Sheep Creek Mo** 79.31 334 P **P** **02 15 19.9 +0.1**
SCM IAmb IAmb 02 15 24.8
comp=Z,13nm,1.0s
SCM **Sheep Creek Mo** 79.31 334 P **P** **02 15 20.4 +0.7**
baz=111
PWL **Port Wells** 79.42 333 P **P** **02 15 20.8 +0.5**
baz=110
J25K **Salcha River,** 79.54 337 P **P** **02 15 21.3 +0.4**
J25K **Salcha River,** 79.54 337 P **P** **02 15 21.4 +0.5**
baz=113
KNK **Knik Glacier** 79.66 333 P **P** **02 15 22.3 +0.7**
KNK IAmb IAmb 02 15 26.8
comp=Z,11nm,1.1s
KNK **Knik Glacier** 79.66 333 P **P** **02 15 22.1 +0.5**
baz=110
SML **Sawmill** 79.74 334 P **P** **02 15 21.9 -0.1**
SML IAmb IAmb 02 15 31.9
comp=Z,19nm,1.2s
SML **Sawmill** 79.74 334 P **P** **02 15 22.1 0.0**
baz=110
WAT6 **Susitna Watana** 79.75 334 P **P** **02 15 21.9 -0.4**
baz=111,SNR=17
GHO **Glory Hole Cre** 79.99 333 P **P** **02 15 23.6 +0.1**
GHO IAmb IAmb 02 15 28.3
comp=Z,12nm,0.8s
ESDC **Sonseca Array** 80.02 50 P **P** **02 15 24.7 +0.6**
comp=Z,3.5nm,0.8s,baz=263,slow=5.8,SNR=17
ESDC **Sonseca Array** 80.02 50 P **P** **02 15 24.6 +0.6**
RC01 **Rabbit Creek A** 80.14 333 P **P** **02 15 24.8 +0.6**
RC01 IAmb IAmb 02 15 37.2
comp=Z,12nm,1.0s
RC01 **Rabbit Creek A** 80.14 333 P **P** **02 15 24.6 +0.5**
baz=109
BRSE **Bradley Lake S** 80.19 331 P **P** **02 15 24.6 +0.1**
baz=108
IL31 80.20 337 P **P** **02 15 25.1 +0.7**
ILAR **Eielson Array** 80.20 337 P **P** **02 15 24.6 +0.2**
comp=Z,3.5nm,1.1s,baz=120,slow=3.7,SNR=13
ILAR LR LR 02 53 20.6
comp=Z,90nm,18.2s,baz=96,slow=38
BRLK **Bradley Lake** 80.27 331 IAmb IAmb 02 15 35.3
comp=Z,20nm,1.2s
CNPM **China Poot** 80.37 331 P **P** **02 15 27.2 +1.7**
CNPM IAmb IAmb 02 15 29.4
comp=Z,21nm,1.3s
RND **Reindeer** 80.52 335 IAmb IAmb 02 15 35.1
comp=Z,28nm,1.6s
CCB **Clear Creek Bu** 80.52 336 P **P** **02 15 27.7 +1.6**
M22K **Willow** 80.53 333 P **P** **02 15 27.0 +0.9**
M22K IAmb IAmb 02 15 35.9
comp=Z,22nm,1.1s
MCK **McKinley** 80.66 335 P **P** **02 15 26.8 -0.2**
baz=110
CAPN **Captain Cook N** 80.70 332 P **P** **02 15 29.2 +2.1**
CUT **Chulitna** 80.80 334 P **P** **02 15 27.4 -0.3**
baz=108
MDM **Murphy Dome** 80.80 337 IAmb IAmb 02 15 36.2
comp=Z,18nm,1.4s
H24K **Noodor Dome** 80.98 337 P **P** **02 15 29.0 +0.4**
baz=111
NEA2 **Nenana** 81.01 336 P **P** **02 15 28.5 -0.3**
baz=110
TRF **Thorofare Moun** 81.14 335 P **P** **02 15 29.3 -0.4**
baz=109
O20K **Slope Mountain** 81.20 331 P **P** **02 15 29.6 -0.4**
baz=106
SPCR **Spurr Chakacha** 81.32 332 P **P** **02 15 30.1 -0.5**
baz=106
I23K **Minto, Yukon-K** 81.32 337 P **P** **02 15 30.3 0.0**
baz=110,SNR=6.0
BELA **Belgrano 2** 81.36 171 P **P** **02 15 31.1 +0.7**
KTH **Kantishna Hill** 81.44 335 IAmb IAmb 02 15 35.8
comp=Z,9.0nm,1.0s
H23K **Yukon River** 81.62 337 P **P** **02 15 32.3 +0.2**
H23K IAmb IAmb 02 15 34.4
comp=Z,42nm,2.4s
H23K **Yukon River** 81.62 337 P **P** **02 15 31.9 -0.1**
baz=110
BPAW **Bear Paw Mtn.** 81.64 335 IAmb IAmb 02 15 36.3
comp=Z,12nm,1.0s
BPAW **Bear Paw Mtn.** 81.64 335 P **P** **02 15 31.7 -0.5**
baz=108,SNR=11
CHIR **Chirikof Islan** 81.69 327 P **P** **02 15 31.3 -1.2**
baz=103
PPLA **Purkeypile** 81.79 334 IAmb IAmb 02 15 36.8
comp=Z,16nm,1.0s
PPLA **Purkeypile** 81.79 334 P **P** **02 15 32.9 -0.2**
baz=107
CAST **Castle Rocks** 81.90 335 IAmb IAmb 02 15 36.3
comp=Z,14nm,1.2s
CAST **Castle Rocks** 81.90 335 P **P** **02 15 32.7 -0.8**
baz=107,SNR=7.5
CHUM **Lake Minchumin** 82.13 335 P **P** **02 15 33.8 -0.9**
baz=107
COLD **Coldfoot** 82.33 338 P **P** **02 15 36.0 +0.3**
baz=109
I21K **Tanana** 82.38 336 P **P** **02 15 35.9 -0.1**
baz=107
O18K **Koktuh Hills** 82.40 331 P **P** **02 15 35.6 -0.6**
baz=104
L20K **Farewell, AK** 82.43 333 P **P** **02 15 35.7 -0.7**
baz=105
M19K **Big River Lodg** 82.51 333 P **P** **02 15 36.4 -0.3**
baz=105
TOLK **Toolik Lake Re** 82.59 340 P **P** **02 15 37.2 +0.1**
baz=110
TOA0 **Torodi Ar. Sit** 82.74 77 IAmb IAmb 02 15 40.3
comp=Z,20nm,1.4s
TORD **Torodi Ar. Bea** 82.74 77 P **P** **02 15 38.5 -0.4**
comp=Z,3.5nm,0.9s,baz=300,slow=5.2,SNR=18
TORD LR LR 02 53 37.8
comp=Z,56nm,18.2s,baz=218,slow=37
TORD **Torodi Ar. Bea** 82.74 77 IAmb IAmb 02 15 40.2
comp=Z,18nm,1.5s
K20K **Telida** 82.74 334 IAmb IAmb 02 15 41.8
comp=Z,9.7nm,1.1s
K20K **Telida** 82.74 334 P **P** **02 15 38.0 0.0**
baz=105
L19K **White Mountain** 82.79 333 IAmb IAmb 02 15 42.1
comp=Z,8.1nm,1.0s
L19K **White Mountain** 82.79 333 P **P** **02 15 38.5 +0.2**
baz=104
H21K **Melozitna Rive** 82.85 337 P **P** **02 15 39.0 +0.5**
baz=107
N18K **Kilae Creek** 82.92 331 P **P** **02 15 38.8 -0.2**
baz=103
J20K **Nowinta River** 82.99 335 P **P** **02 15 38.9 -0.3**
baz=105
TTA **Tatalina** 83.49 334 P **P** **02 15 41.9 0.0**
baz=103
VNA3 **Neumayer Olymp** 83.78 162 P **P** **02 15 44.3 +1.1**
DAG **Danmarks Havn** 84.04 12 *i* P **P** **02 15 43.0 -1.3**
VNA2 **Neumayer--Watz** 84.40 162 P **P** **02 15 47.7 +1.3**
SNAA **Sanae** 86.00 162 P **P** **02 15 55.3 +0.9**
SNAA **Sanae** 86.00 162 LR LR 02 53 20.6
comp=Z,94nm,19.6s,baz=356,slow=35
DOU **Dourbes** 87.21 40 *d*P **P** **02 16 01.1 +0.5**
BGES **Gesves** 87.54 40 *d*P **P** **02 16 03.3 +1.1**
TROLL **Troll, Antarti** 87.72 162 P **P** **02 16 04.3 +1.5**
QSPA **South Pole Qui** 89.83 180 P **P** **02 16 13.2 +0.3**
NOA **NORSAR Array B** 91.18 29 LR LR 02 55 31.1
comp=Z,29nm,18.4s,baz=305,slow=34
GERES **GERESS Array B** 93.14 41 P **P** **02 16 28.9 +0.3**
comp=Z,0.1nm,0.3s,baz=256,slow=4.0,SNR=1.5
ZALV **Zalesovo Beam** 125.15 10 PKP **PKPdf** **02 22 13.7 -1.2**
comp=Z,0.6nm,0.5s,baz=352,slow=3.0,SNR=4.9
USRK **Ussuriysk Ar.** 127.40 331 PKP **PKPdf** **02 22 18.3 -1.1**
comp=Z,1.3nm,0.8s,baz=130,slow=5.8,SNR=4.3
USRK **Ussuriysk Ar.** 127.40 331 **PKPdf** **02 22 18.5 -0.9**

STKA	**Stephens Creek**	**128.77**	**227**	PKP		**PKPdf**	**02 22 21.3**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=110,slow=1.6,SNR=7.5								
MKAR	**Makanchi Array**	**131.31**	**15**	PKP		**PKPdf**	**02 22 25.9**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=327,slow=2.0,SNR=6.2								
MKAR				SKPbc		**SKPbc**	**02 25 51.5**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=4.3,slow=5.8,SNR=3.6								
SONM	**Songino Array**	**132.17**	**353**	PKP		**PKPdf**	**02 22 27.3**	**-1.3**
	comp=Z,0.8nm,1.0s,baz=61,slow=4.8,SNR=1.9								
KSRS	**Korea Array**	**134.44**	**328**	PKP		**PKPdf**	**02 22 32.1**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=0.2,slow=1.9,SNR=6.0								
WMQ	**Urumqi**	**135.40**	**12**	*e*PKP		**PKPdf**	**02 22 35.8**	**+1.1**
WMQ				LR		LR			
	comp=Z,650nm,20.5s								
HHC	**Hu-ho-hao-te**	**138.03**	**346**	*e*PKP		**PKPdf**	**02 22 36.3**	**-3.4**
ASAR	**Alice Springs**	**138.78**	**232**	PKhKP		PKPpre	02 22 34.9		
	comp=Z,0.5nm,0.7s,baz=103,slow=3.8,SNR=4.2								
ASAR				PKP		**PKPdf**	**02 22 41.2**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=109,slow=2.0,SNR=19								
ASAR	**Alice Springs**	**138.78**	**232**	PKPdf		**PKPdf**	**02 22 40.4**	**-1.1**
WRA	**Warramunga Arr**	**140.17**	**238**	PKhKP		PKPpre	02 22 41.1		
	comp=Z,3.8nm,0.8s,baz=110,slow=1.7,SNR=25								
WRA				PKP		**PKPdf**	**02 22 43.7**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=112,slow=1.8,SNR=28								
WRA	**Warramunga Arr**	**140.17**	**238**			**PKPdf**	**02 22 40.4**	**-3.7**
NJ2	**Nanjing**	**143.30**	**331**	*e*PKP		**PKPdf**	**02 22 49.4**	**+0.1**
LZH	**Lanzhou**	**144.06**	**354**	*e*PKP		PKPbc	02 22 49.4	+0.8
LZH				pPKP		sPKPdf	02 22 58.8	+3.5
XAN	**Xi'an**	**145.15**	**346**	PKPbc		**PKPbc**	**02 22 51.3**	**-0.7**
XAN				pPKP		sPKPdf	02 22 59.5	+2.4
PZH	**PanZhiHua**	**153.76**	**355**	PKPbc		**PKPdf**	**02 23 06.5**	**-0.1**
KMI	**Kunming**	**155.01**	**352**	PKPbc		**PKPdf**	**02 23 08.6**	**+0.1**
KMI				pPKP		sPKPdf	02 23 14.1	+1.1
CMAR	**Chiang Mai Arr**	**161.88**	**1**	PKP		**PKPdf**	**02 23 16.2**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=270,slow=0.3,SNR=5.7								
CMAR				PKPab		**PKPab**	**02 24 00.8**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=343,slow=5.1,SNR=6.2								
CMAR	**Chiang Mai Arr**	**161.88**	**1**			**PKPdf**	**02 23 15.7**	**-0.9**

IDC ***19*** *02:10:17.1±3.9, 36.80N×74.33E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/32, mbtmp3.6/7, ML2.8/1, MS3.8/1, Ms1 3.8/1, ms1mx2.4/86, Error ellipse: s-maj=77.9km s-min=33.9km az=174.0*

ISC 19 02:10:26.2±2.3, 37.4N±0.3×74.5E±0.2, h35km, n9, σ0 $ 77/8, mb3.6/5, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.40**	**29**	P	**Pn**	**02 11 02.4**	**-0.6**
KSH				S	**Sn**	**02 11 31.1**	**-0.1**
KSH				smax	smax		
	comp=N,220nm,0.8s						
KSH				smax	smax		
	comp=E,140nm,0.8s						
MKAR	**Makanchi Array**	**11.01**	**29**	Pn	Pn	02 13 06.3	+5.2
	baz=210,slow=8.3,SNR=2.2						
ZALV	**Zalesovo Beam**	**18.00**	**20**	P	**P**	**02 14 35.0**	**+1.4**
	comp=E,0.2nm,0.3s,baz=209,slow=12,SNR=4.3						
SONM	**Songino Array**	**25.52**	**56**	P	**P**	**02 15 51.5**	**+0.1**
	comp=E,0.2nm,0.4s,baz=260,slow=8.6,SNR=2.8						
FINES	**FINESS Array B**	**38.30**	**325**	P	**P**	**02 17 42.8**	**-0.2**
	comp=E,1.3nm,0.8s,baz=115,slow=13,SNR=3.3						
ARCES	**ARCESS Array B**	**41.38**	**336**	P	**P**	**02 18 08.8**	**+0.4**
	comp=E,0.7nm,0.5s,baz=112,slow=8.9,SNR=8.6						
NOA	**NORSAR Array B**	**45.32**	**322**	P	**P**	**02 18 39.9**	**-0.5**
	comp=E,0.8nm,0.8s,baz=110,slow=6.8,SNR=2.1						
BORG	**Borgarnes**	**59.18**	**330**	LR	LR	02 46 15.7	
	comp=E,78nm,18.5s,baz=247,slow=36						
YKA	**Yellowknife Ar**	**80.15**	**4**	P	**P**	**02 22 32.0**	**-0.3**
	comp=E,0.3nm,0.5s,baz=346,slow=5.5,SNR=7.5						

IDC 19 02:30:32.0±3.0, 3.58S×151.21E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/43, mbtmp3.7/3, Error ellipse: s-maj=80.5km s-min=48.6km az=113.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.13**	**224**	P	P	02 35 39.4	-0.7
	0.3nm,0.3s,baz=53,slow=10,SNR=9.0						
FITZ	**Fitzroy Crossi**	**28.90**	**238**	P	P	02 36 33.6	+0.7
	1.0nm,0.7s,baz=74,slow=7.4,SNR=1.9						
STKA	**Stephens Creek**	**29.56**	**197**	P	P	02 36 39.9	+1.2
	0.6nm,0.3s,baz=359,slow=11,SNR=2.9						
TORD	**Torodi Ar. Bea**	**148.41**	**289**	PKPbc	PKPdf	02 50 19.9	+1.7
	0.2nm,0.8s,baz=101,slow=2.9,SNR=1.3						

IDC ***19*** *02:34:43.0±4.5, 27.36N×126.36E, h176km±69km, mb3.2/4, mb1 3.2/4, mb1mx2.9/51, mbtmp3.6/4, Error ellipse: s-maj=141.2km s-min=23.2km az=63.0*

JMA ***19*** *02:34:46.1±0.3, 27.45N×126.52E, h168km±5km, M3.3*

ISC 19 02:34:43.4±1.0, 27.43N±0.10×126.40E±0.08, h184km±10km, n20, σ1 $ 19/31, mb3.4/4, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**1.13**	**138**	P	**Pn**	**02 35 13.5**	**+1.1**
JAGN				S	Sn	02 35 34.5	-0.3
JKE	**Kume jima 2**	**1.15**	**162**	P	**Pn**	**02 35 13.5**	**+0.9**
JKE				S	**Sn**	**02 35 35.4**	**+0.1**
JIH	**Iheya**	**1.45**	**105**	P	**Pn**	**02 35 16.2**	**+1.0**
JIH				S	**Sn**	**02 35 38.8**	**-0.9**
JNTH	**Nagotoyohara**	**1.71**	**122**	P	**Pn**	**02 35 18.6**	**+0.9**
JNTH				*e*S	**Sn**	**02 35 42.8**	**-1.4**
JOW	**Kunigami**	**1.78**	**109**	P	**Pn**	**02 35 19.1**	**+0.8**
	21nm,0.3s,baz=113,slow=13,SNR=75						
JOW				S	**Sn**	**02 35 44.0**	**-1.5**
	25nm,0.3s,baz=158,slow=27,SNR=15						
JOW	**Kunigami**	**1.78**	**109**	P	**Pn**	**02 35 19.0**	**+0.7**
JOW				S	**Sn**	**02 35 43.8**	**-1.6**
JJT3	**Tamagusuku3**	**1.78**	**136**	P	**Pn**	**02 35 20.1**	**+1.7**
JJT3				*e*S	**Sn**	**02 35 45.4**	**-0.2**
JYRO	**Yoronjima**	**1.87**	**102**	P	**Pn**	**02 35 20.2**	**+0.9**
JYRO				S	**Sn**	**02 35 45.2**	**-2.0**
JOKE	**Okinoerabujima**	**1.93**	**92**	P	**Pn**	**02 35 20.4**	**+0.4**
JOKE				S	**Sn**	**02 35 46.7**	**-1.6**
JTK	**Tokunoshima**	**2.29**	**81**	P	**Pn**	**02 35 24.4**	**+0.5**
JTK				S	**Sn**	**02 35 53.5**	**-1.9**
JAMN	**Amaminishikomi**	**2.59**	**71**	P	**Pn**	**02 35 27.7**	**+0.4**
JAMN				S	**Sn**	**02 36 00.3**	**-1.1**
JAM	**Amami Oshima**	**3.00**	**70**	S	**Sn**	**02 36 08.7**	**-1.5**
JZK	**Kikaishima**	**3.28**	**74**	*e*S	**Sn**	**02 36 16.0**	**-0.4**
JISG	**Ishigakijimahi**	**3.40**	**214**	P	**Pn**	**02 35 36.7**	**-0.4**
JIJ	**Ishigaki jima**	**3.67**	**214**	P	**Pn**	**02 35 39.5**	**-0.9**
JMZ	**Minamidaito 2**	**4.61**	**109**	P	**Pn**	**02 35 52.8**	**+0.5**
SONM	**Songino Array**	**25.66**	**328**	P	**P**	**02 39 58.6**	**+2.3**
	1.1nm,0.6s,baz=128,slow=9.6,SNR=4.9						
MKAR	**Makanchi Array**	**39.52**	**311**	P	**P**	**02 41 55.9**	**-0.3**
	0.2nm,0.4s,baz=102,slow=9.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**40.30**	**323**	P	**P**	**02 42 01.8**	**-0.7**
	0.8nm,0.4s,baz=114,slow=9.9,SNR=4.2						
WRA	**Warramunga Arr**	**47.72**	**170**	P	**P**	**02 43 01.7**	**-0.1**
	0.3nm,0.9s,baz=353,slow=8.6,SNR=2.1						

IDC ***19*** *02:44:23.4±5.2, 13.52N×87.79W, h0km, mb3.3/1, mb1 3.6/1, mb1mx3.2/25, mbtmp3.3/1, Error ellipse: s-maj=142.4km s-min=92.8km az=51.0*

UCR ***19*** *02:44:47.9±1.0, 13.67N×88.56W, h201km±13km*

ISC 19 02:44:47.8±1.3, 13.6N±0.3×88.6W±0.1, h206km±10km, n19, σ0 $ 42/23, 6C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCLA	**Alcaldia de Sa**	**0.19**	**309**	*e*P	**Pn**	**02 45 15.3**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.19**	**309**	*e*P	**Pn**	**02 45 15.3**	**+0.4**
COEG	**Centro de Oper**	**0.30**	**278**	*e*P	**Pn**	**02 45 14.8**	**-0.3**
COEG	**Centro de Oper**	**0.30**	**278**	*e*P	**Pn**	**02 45 14.8**	**-0.3**
PAVA	**Las Pavas**	**0.38**	**291**	*e*P	**Pn**	**02 45 15.6**	**+0.3**
PAVA	**Las Pavas**	**0.38**	**291**	*e*P	**Pn**	**02 45 15.6**	**+0.3**
SJTE	**Alcalda de S**	**0.42**	**275**	*e*P	**Pn**	**02 45 15.3**	**-0.1**
SJTE	**Alcalda de S**	**0.42**	**275**	*e*P	**Pn**	**02 45 15.3**	**-0.1**
LCND	**La Caada**	**0.72**	**112**	*e*P	**Pn**	**02 45 16.7**	**+0.1**
LCND				*e*S	**S**	**02 45 38.4**	**-0.4**
LCND	**La Caada**	**0.72**	**112**	*e*P	**Pn**	**02 45 16.7**	**+0.1**
LCND				*e*S	**S**	**02 45 38.4**	**-0.4**
JAYA	**Jayaque - finc**	**0.85**	**275**	*e*P	**Pn**	**02 45 17.3**	**-0.1**
JAYA				*e*S	**S**	**02 45 40.7**	**+0.4**
JAYA	**Jayaque - finc**	**0.85**	**275**	*e*P	**Pn**	**02 45 17.3**	**-0.1**
JAYA				*e*S	**S**	**02 45 40.7**	**+0.4**

CEVE	**Cerro Verde**	**1.05**	**284**	*e*P		**Pn**	**02 45 19.0**	**+0.2**
CEVE	**Cerro Verde**	**1.05**	**284**	*e*P		**Pn**	**02 45 19.0**	**+0.2**
NUBE	**Las Nubes**	**1.21**	**285**	*e*P		**Pn**	**02 45 19.8**	**0.0**
NUBE	**Las Nubes**	**1.21**	**285**	*e*P		**Pn**	**02 45 19.8**	**0.0**
TXAR	**Lajitas Array**	**21.01**	**321**	P		**P**	**02 49 14.4**	**-1.3**
	58nm,0.3s,baz=122,slow=12,SNR=2.4								
YKA	**Yellowknife Ar**	**52.24**	**345**	P		**P**	**02 53 38.0**	**+0.5**
	0.1nm,0.5s,baz=144,slow=7.5,SNR=6.4								
WRA	**Warramunga Arr**	**138.51**	**255**	PKP		**PKiKP**	**03 03 52.2**	**+0.3**
	0.2nm,0.5s,baz=89,slow=2.9,SNR=5.8								

BJI ***19*** *02:46:55.9±0.0, 26.56N×130.14E, h5km, mb4.7/76, mB5.0/48, Ms4.8/80, MS7 4.6/74*

MOS ***19*** *02:46:55.9±0.9, 26.48N×130.23E, h13km, mb5.2/59, MS5.1/11, Error ellipse: s-maj=6.7km s-min=3.9km az=108.3*

IDC ***19*** *02:46:55.9±0.4, 26.52N×130.29E, h0km, mb4.7/25, mb1 4.8/31, mb1mx4.8/37, mbtmp4.7/31, ML3.9/5, MS4.1/61, Ms1 4.1/61, ms1mx4.0/77, Error ellipse: s-maj=14.0km s-min=11.3km az=80.0*

JMA ***19*** *02:46:58.4, 26.51N×130.23E, h46km, M4.8*

JMA Felt I J1.

NIED ***19*** *02:46:58.4, 26.51N×130.23E, h46km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10 16Nm; Mrr=3.05; Mθθ1.27; Mϕϕ 1.78; Mrθ1.03; Mθϕ 1.70; Mϕr0.22; Fault plane solution: M0 3.32000×10 16 NP1:ϕs 29.00000°, δ39.00000°, λ-108.00000°. NP2:ϕs 232.00000°, δ54.00000°, λ-76.00000°.*

GCMT ***19*** *02:47:00.5±0.2, 26.55N±0.01×130.16E±0.01, h16km, MW5.2/120, Moment Tensor Solution. s74, c104; s120, c191; Duration: 0 Moment tensor: Scale 10 16Nm; Mrr=4.34±.15; Mθθ 1.09±.10; Mϕϕ 3.25±.11; Mrθ3.15±.33; Mθϕ 2.34±.07; Mϕr 3.86±.34; Best double couple: M0 6.74500×10 16 NP1:ϕs 27.00000°, δ21.00000°, λ-100.00000°. NP2:ϕs 218.00000°, δ69.00000°, λ-86.00000°. Principal axes: T 6.9290, Plg24.0000°, Azm305.0000°; N -0.3700, Plg4.0000°, Azm36.0000°; P -6.5600, Plg66.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***19*** *02:47:01.5±1.1, 26.53N±0.07×130.20E±0.07, h35km±4km, mb5.0/292 Error ellipse: s-maj=10.6km s-min=8.4km az=156.0*

BGR ***19*** *02:47:03.6±0.0, 26.48N×130.23E, h40km, mb4.5*

ISC 19 02:46:59.6±0.4, 26.52N±0.03×130.29E±0.03, h27km±2km, h27km:pP-P, n799, σ1 $ 51/749, mb5.0/259, MS4.3/88, 95C-62D, Fault plane solution: NP1:ϕs 203.21957°, δ77.46228°, λ-99.72767°. NP2:ϕs 61.51778°, δ15.82100°, λ-52.77293°. Principal axes: T Plg31.70548°, Azm301.3001°; N Plg9.4935°, Azm205.3508°; P Plg56.4932°, Azm100.7202°; Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKDJ	**Kitadaitoujima**	**1.07**	**122**	P	**Pn**	**02 47 17.9**	**-1.0**
JKDJ				S	**Sn**	**02 47 32.2**	**-0.6**
JMZ	**Minamidaito 2**	**1.09**	**129**	P	**Pn**	**02 47 18.0**	**-1.1**
JMZ				S	**Sn**	**02 47 32.0**	**-1.3**
JYRO	**Yoronjima**	**1.72**	**288**	P	**Pn**	**02 47 26.0**	**-1.8**
JYRO				*e*S	**Sn**	**02 47 46.0**	**-2.9**
JTK	**Tokunoshima**	**1.74**	**317**	P	**Pn**	**02 47 26.7**	**-1.4**
JTK				*e*S	**Sn**	**02 47 46.2**	**-3.2**
JOKE	**Okinoerabujima**	**1.75**	**299**	P	**Pn**	**02 47 26.8**	**-1.4**
JOKE				*e*S	**Sn**	**02 47 47.0**	**-2.7**
JZK	**Kikaishima**	**1.81**	**351**	P	**Pn**	**02 47 28.9**	**-0.2**
JZK				S	**Sn**	**02 47 50.3**	**-0.9**
JOW	**Kunigami**	**1.83**	**280**	Pn	**Pn**	**02 47 27.9**	**-1.4**
	8μm,0.3s,baz=113,slow=19						
JOW				Sn	**Sn**	**02 47 48.7**	**-3.0**
	1μm,0.3s,baz=305,slow=29,SNR=13						
JOW				LR	LR	02 48 09.3	
	comp=Z,7μm,21.2s,baz=295,slow=40						
JOW	**Kunigami**	**1.83**	**280**	P	**Pn**	**02 47 27.7**	**-1.6**
JOW				S	**Sn**	**02 47 48.9**	**-2.7**
JOW	**Kunigami**	**1.83**	**280**	Pn	**Pn**	**02 47 27.9**	**-1.4**
JOW				Sn	**Sn**	**02 47 49.8**	**-1.8**
JOW	**Kunigami**	**1.83**	**280**	P	**Pn**	**02 47 28.1**	**-1.2**
JAM	**Amami Oshima**	**1.98**	**342**	P	**Pn**	**02 47 30.2**	**-1.2**
JAM				*e*S	**Sn**	**02 47 52.2**	**-3.2**
JAMN	**Amaminishikomi**	**1.98**	**330**	P	**Pn**	**02 47 29.8**	**-1.7**
JAMN				*e*S	**Sn**	**02 47 53.2**	**-2.2**
JNTH	**Nagotoyohara**	**2.03**	**271**	P	**Pn**	**02 47 30.3**	**-1.8**
JNTH				*e*S	**Sn**	**02 47 53.4**	**-3.2**
JIH	**Iheya**	**2.14**	**284**	P	**Pn**	**02 47 32.0**	**-1.6**
JIH				S	**Sn**	**02 47 56.8**	**-2.4**
JJT3	**Tamagusuku3**	**2.28**	**261**	P	**Pn**	**02 47 34.2**	**-1.3**
JJT3				S	**Sn**	**02 47 59.7**	**-3.0**
JAGN	**Aguni-jima**	**2.73**	**272**	P	**Pn**	**02 47 40.1**	**-1.6**
JAGN				S	**Sn**	**02 48 10.9**	**-2.9**
JTAJ	**Takarajima**	**2.80**	**340**	P	**Pn**	**02 47 41.0**	**-1.6**
JTAJ				*e*S	**Sn**	**02 48 11.2**	**-4.3**
JKE	**Kume jima 2**	**3.15**	**267**	P	**Pn**	**02 47 45.1**	**-2.4**
JKE				S	**Sn**	**02 48 20.6**	**-3.5**
JNN	**Nakanoshima**	**3.33**	**354**	*e*S	**Sn**	**02 48 27.7**	**-1.0**
JYAK	**Yakushimahirau**	**3.71**	**3**	P	**Pn**	**02 47 54.5**	**-0.7**
JYAK				S	**Sn**	**02 48 34.3**	**-3.8**
JMTN	**Minamitane**	**3.90**	**8**	P	**Pn**	**02 47 57.8**	**-0.1**
JMTN				S	**Sn**	**02 48 39.7**	**-3.1**
JTN	**Tanegashima 3**	**4.17**	**8**	P	**Pn**	**02 48 02.0**	**+0.5**
JMJ	**Miyako jima 2**	**4.81**	**250**	P	**Pn**	**02 48 09.2**	**-1.2**
JSU	**Suzuyama**	**4.97**	**2**	Pn	**Pn**	**02 48 12.1**	**-0.5**
JNU	**Nakatsue**	**6.60**	**4**	Pn	**Pn**	**02 48 34.3**	**-0.7**
	2.5nm,0.3s,baz=279,slow=2.5,SNR=9.2						
JNU				Sn	**Sn**	**02 49 43.9**	**-5.6**
	5.3nm,0.3s,baz=240,slow=20,SNR=6.4						
JNU	**Nakatsue**	**6.60**	**4**	Pn	**Pn**	**02 48 34.7**	**-0.3**
YOJ	**Yonaguni jima**	**6.89**	**254**	P	**Pn**	**02 48 36.1**	**-2.8**
YOJ				pmax	pmax		
	comp=Z,257nm,0.7s						
YOJ	**Yonaguni jima**	**6.89**	**254**	Pn	**Pn**	**02 48 35.6**	**-3.3**
YOJ	**Yonaguni jima**	**6.89**	**254**	P	**Pn**	**02 48 36.4**	**-2.5**
JTU	**Tsushima**	**8.02**	**355**	Pn	**Pn**	**02 48 55.9**	**+1.5**
TATO	**Taipei**	**8.08**	**261**	Pn	**Pn**	**02 48 54.2**	**-1.1**
NACB	**Ninganchiao**	**8.20**	**255**	Pn	**Pn**	**02 48 53.1**	**-3.8**
YHNB	**Yeheng**	**8.25**	**259**	Pn	**Pn**	**02 48 55.8**	**-1.9**
YHNB	**Yeheng**	**8.25**	**259**	P	**Pn**	**02 48 56.5**	**-1.2**
YULB	**Yu-li**	**8.73**	**251**	Pn	Pn	02 48 58.6	-5.7
JHS	**Saijyo**	**8.80**	**15**	Pn	**Pn**	**02 49 04.8**	**-0.3**
SSLB	**Suanglung**	**8.88**	**254**	Pn	**Pn**	**02 49 01.5**	**-4.8**
SSLB	**Suanglung**	**8.88**	**254**	P	**Pn**	**02 49 02.7**	**-3.6**
TWG	**Pinlang**	**9.15**	**248**	Pn	Pn	02 49 04.4	-5.6
SSE	**Sheshan**	**9.19**	**302**	P	**Pn**	**02 49 09.8**	**-0.7**
SSE				S	**Sn**	**02 50 52.5**	**-0.6**
SSE				pmax	pmax		
	comp=Z,12nm,0.6s						
SSE				pmax	pmax		
	comp=Z,200nm,11.1s						
SSE				LR	LR		
	comp=Z,2μm,18.1s						
SSE				LR	LR		
	comp=Z,950nm,18.3s						
TPUB	**Ta-pu**	**9.33**	**252**	Pn	**Pn**	**02 49 09.3**	**-3.2**
TPUB	**Ta-pu**	**9.33**	**252**	P	**Pn**	**02 49 09.6**	**-2.9**
TJN	**Taejon**	**10.14**	**346**	*ce*P	**Pn**	**02 49 24.2**	**+0.7**
TJN	**Taejon**	**10.14**	**346**	Pn	**Pn**	**02 49 24.1**	**+0.6**
INU	**Inuyama**	**10.53**	**32**	Pn	**Pn**	**02 49 31.0**	**+2.3**
JHJ	**Hachijo jima 2**	**10.54**	**49**	Pn	**Pn**	**02 49 30.1**	**+1.1**
	comp=Z,27nm,0.3s,baz=220,slow=12,SNR=9.5						
JHJ				LR	LR	02 53 09.7	
	comp=Z,1μm,19.2s,baz=266,slow=35						
JHJ2	**Mitsune**	**10.56**	**49**	Pn	**Pn**	**02 49 31.1**	**+1.8**
JHJ2	**Mitsune**	**10.56**	**49**	P	**Pn**	**02 49 31.9**	**+2.6**
JCJ	**Chichijima**	**10.64**	**84**	Pn	**Pn**	**02 49 28.7**	**-1.7**
	comp=Z,22nm,0.3s,baz=265,slow=23,SNR=11						
JCJ				Sn	**Sn**	**02 51 21.3**	**-7.4**
	comp=Z,13nm,0.3s,baz=130,slow=22,SNR=12						
JCJ				LR	LR	02 53 10.5	
	comp=Z,1μm,18.5s,baz=78,slow=35						
QZH	**Quanzhou**	**10.66**	**264**	P	Pn	02 49 37.8	+7.1
QZH				S	Sn	02 51 50.8	+22
QZH				pmax	pmax		
	comp=Z,290nm,6.9s						
QZH				LR	LR		
	comp=N,600nm,13.7s						
QZH				LR	LR		
	comp=E,1μm,9.8s						
QZH				LR	LR		
	comp=Z,1μm,16.6s						
KSAR	**Wonju Array Be**	**11.08**	**350**	P	**Pn**	**02 49 37.9**	**+1.5**
KSAR	**Wonju Array Be**	**11.08**	**350**	Pn	**Pn**	**02 49 37.9**	**+1.5**
KSRS	**Korea Array**	**11.09**	**350**	Pn	**Pn**	**02 49 37.5**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=169,slow=14,SNR=61						
KS19	**Wonju Array Si**	**11.14**	**350**	Pn	**Pn**	**02 49 38.0**	**+0.8**
NJ2	**Nanjing**	**11.40**	**302**	P	Pn	02 49 30.8	-10
NJ2				pmax	pmax		
	comp=Z,91nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,330nm,5.6s						
NJ2				LR	LR		
	comp=N,5μm,16.4s						
NJ2				LR	LR		
	comp=E,3μm,16.9s						
NJ2				LR	LR		
	comp=Z,3μm,13.7s						
MAJO	**Matsushiro**	**12.06**	**32**	*i* P	**Pn**	**02 49 50.7**	**+1.0**
MJAR	**Matsushiro Arr**	**12.06**	**32**	Pn	**Pn**	**02 49 51.0**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=194,slow=18,SNR=2.3						
MJAR				LR	LR	02 54 21.9	
	comp=Z,864nm,18.8s,baz=214,slow=37						
MJAR	**Matsushiro Arr**	**12.06**	**32**	P	**Pn**	**02 49 51.0**	**+1.3**
MJAR	**Matsushiro Arr**	**12.06**	**32**		**Pn**	**02 49 50.0**	**+0.2**
MJB9	**Matsu-Tunnel**	**12.06**	**32**	Pn	**Pn**	**02 49 51.0**	**+1.2**
DL2	**Dalian**	**14.33**	**332**	P	**Pn**	**02 50 21.3**	**+0.5**
DL2				S	**Sn**	**02 52 58.0**	**-0.8**
DL2				pmax	pmax		
	comp=Z,23nm,1.0s						
DL2				pmax	pmax		
	comp=Z,340nm,9.1s						
DL2				LR	LR		
	comp=Z,1μm,15.2s						
DL2				LR	LR		
	comp=Z,810nm,14.8s						
DL2				LR	LR		
	comp=Z,2μm,14.7s						
WHN	**Wuhan**	**14.57**	**290**	P	**P**	**02 50 31.3**	**+1.0**
WHN				S	**S**	**02 53 22.5**	**-1.0**
WHN				LR	LR		
	comp=N,1μm,9.9s						
WHN				LR	LR		
	comp=E,4μm,10.8s						
WHN				LR	LR		
	comp=Z,4μm,13.7s						
TIA	**Tai'an**	**14.81**	**314**	P	**Pn**	**02 50 27.4**	**+0.1**
TIA				pmax	pmax		
	comp=Z,15nm,1.5s						
TIA				pmax	pmax		
	comp=Z,340nm,2.9s						
TIA				LR	LR		
	comp=Z,2μm,13.6s						
TIA				LR	LR		
	comp=Z,2μm,11.8s						
TIA				LR	LR		
	comp=Z,4μm,13.0s						
CNSH	**ChangSha**	**15.51**	**280**	P	**P**	**02 50 41.4**	**+0.6**
CNSH				S	**S**	**02 53 35.9**	**-7.0**
CNSH				LR	LR		
	comp=N,2μm,11.3s						
CNSH				LR	LR		
	comp=E,3μm,12.3s						
CNSH				LR	LR		
	comp=Z,3μm,12.5s						
MSHR	**Mys Shultsa**	**16.04**	**2**	*i* P	**P**	**02 50 45.6**	**-0.9**
HNS	**HongShan**	**17.08**	**313**	P	**Pn**	**02 50 55.9**	**-0.6**
HNS				S	**Sn**	**02 54 04.0**	**-1.6**
HNS				SS	**SnSn**	**02 54 19.5**	**+0.5**
HNS				pmax	pmax		
	comp=Z,170nm,0.7s						
HNS				LR	LR		
	comp=Z,2μm,10.8s						
HNS				LR	LR		
	comp=Z,4μm,11.9s						
HNS				LR	LR		
	comp=Z,4μm,11.9s						
LYN	**LuoYang**	**17.30**	**302**	P	**Pn**	**02 50 59.3**	**0.0**
LYN				PP	**pwP**	**02 51 13.8**	**+0.6**
LYN				pmax	pmax		
	comp=Z,80nm,1.1s						
LYN				pmax	pmax		
	comp=Z,690nm,3.6s						
LYN				LR	LR		
	comp=Z,3μm,15.4s						
LYN				LR	LR		
	comp=Z,2μm,16.4s						
LYN				LR	LR		
	comp=Z,3μm,11.0s						
CN2	**Changchun**	**17.69**	**348**	*e*P	**Pn**	**02 51 01.9**	**-2.1**
CN2				PP	**pwP**	**02 51 16.9**	**-0.5**
CN2				S	**Sn**	**02 54 18.1**	**-2.1**
CN2				sS	S	02 54 23.8	-3.3
CN2				pmax	pmax		
	comp=Z,20nm,1.3s						
CN2				LR	LR		
	comp=Z,840nm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,18.0s						
USA0B	**Ussuriysk Arra**	**17.70**	**4**	P	**P**	**02 51 05.4**	**+0.5**
USA0B				pmax	pmax		
	com

comp=Z,2μm,15.4s
GUMO Guam 18.76 130 LR LR 02 57 20.8
comp=Z,591nm,19.4s,baz=302,slow=33
DAV Davao City (W) 19.85 194 LR LR 02 59 06.7
comp=Z,495nm,19.6s,baz=330,slow=37
XAN Xi'an 19.90 297 P **P** **02 51 28.4 -0.7**
XAN pP pP 02 51 34.0 -0.9
XAN sP sP 02 51 36.9 -1.0
XAN S **S** **02 55 06.3 -5.5**
XAN sS Sn 02 55 13.8 -0.1
XAN pmax pmax
comp=Z,110nm,0.7s
XAN pmax pmax
comp=Z,500nm,3.8s
XAN LR LR
comp=Z,2μm,12.7s
XAN LR LR
comp=Z,2μm,16.7s
XAN LR LR
comp=Z,3μm,13.4s
ASAJ Asahikawa 20.19 26 P **P** **02 51 32.0 -0.2**
comp=Z,14nm,0.7s,baz=202,slow=11,SNR=12
ASAJ LR LR 02 59 59.9
comp=Z,666nm,18.9s,baz=288,slow=39
ASAJ Asahikawa 20.19 26 P **P** **02 51 32.8 +0.6**
ASAJ pmax pmax
comp=Z,20nm,0.8s
JKA Kamikawa-asahi 20.19 26 P **P** **02 51 32.8 +0.6**
QIZ Qiongzhong 20.26 253 P **P** **02 51 32.8 -0.3**
QIZ Qiongzhong 20.26 253 P **P** **02 51 34.0 +0.9**
QIZ S **S** **02 55 19.3 +0.2**
QIZ pmax pmax
comp=Z,440nm,12.0s
QIZ LR LR
comp=Z,610nm,19.9s
QIZ LR LR
comp=Z,380nm,18.3s
QIZ LR LR
comp=Z,530nm,17.5s
XLT XiLinHaoTe 20.82 330⇑ *i*P **P** **02 51 39.6 +0.5**
XLT pP sP 02 51 48.3 +0.6
XLT sP pwP 02 51 51.9 +0.5
XLT PP pP 02 52 02.0 +17
XLT S **S** **02 55 27.3 -2.8**
XLT SS Sn 02 55 59.6 +24
XLT ScP **ScP** **02 59 20.0 -2.2**
XLT pmax pmax
comp=Z,22nm,1.1s
XLT pmax pmax
comp=Z,210nm,3.3s
XLT LR LR
comp=Z,1μm,13.5s
XLT LR LR
comp=Z,1μm,14.3s
HHC Hu-ho-hao-te 21.08 317 *e*P **P** **02 51 43.8 +1.8**
HHC S **S** **02 55 29.8 -5.6**
HHC pmax pmax
comp=Z,52nm,0.8s
HHC pmax pmax
comp=Z,410nm,4.6s
HHC LR LR
comp=Z,2μm,12.7s
HHC LR LR
comp=Z,2μm,14.0s
HHC LR LR
comp=Z,3μm,14.0s
GYA Guiyang 21.14 275⇓ P **P** **02 51 44.3 +1.5**
GYA S Sn 02 55 41.8 -2.3
GYA pmax pmax
comp=Z,26nm,0.9s
GYA pmax pmax
comp=Z,310nm,3.5s
GYA LR LR
comp=Z,2μm,10.2s
GYA LR LR
comp=Z,2μm,11.5s
GYA LR LR
comp=Z,3μm,11.6s
BTO Baotou 21.90 315 *e*P **P** **02 51 51.1 +0.3**
BTO S **S** **02 55 52.8 +1.4**
BTO LR LR
comp=Z,6μm,13.5s
BTO LR LR
comp=Z,4μm,15.3s
YSS Yuzh-Sakhalins 22.66 23⇑ *i*P **P** **02 51 59.5 +0.8**
YSS *e*S **S** **02 56 06.4 +1.3**
YSS pmax pmax
comp=Z,50nm,1.1s
YSS MLR MLR
comp=Z,700nm,16.0s
YSS Yuzh-Sakhalins 22.66 23 P **P** **02 51 58.9 +0.2**
YSS IAmb IAmb 02 52 00.5
comp=Z,122nm,1.5s
KLR Kul'dur 22.70 2 P **P** **02 51 58.5 -0.7**
comp=Z,17nm,0.8s,baz=202,slow=6.1,SNR=27
KLR PcP **PcP** **02 55 51.4 +0.7**
comp=Z,1.2nm,0.6s,baz=211,slow=4.4,SNR=3.1
KLR Kul'dur 22.70 2*ce*P **P** **02 51 58.1 -1.1**
KLR pmax pmax
comp=Z,70nm,1.7s
CD2 Chengdu 23.65 287 P **P** **02 52 08.0 -1.0**
CD2 S **S** **02 56 20.3 -1.9**
CD2 SS **SnSn** **02 57 06.3 +5.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,200nm,4.9s
CD2 LR LR
comp=Z,220nm,19.8s
CD2 LR LR
comp=Z,1μm,16.3s
CD2 LR LR
comp=Z,2μm,12.7s
MYLDM Lahad Datu 24.02 210 P **P** **02 52 14.1 +1.6**
MYLDM IAmb IAmb 02 52 16.4
comp=Z,60nm,1.0s
HIA Hailar 24.14 343 *i*P **P** **02 52 14.0 +0.6**
HIA pmax pmax
comp=Z,30nm,1.0s
HIA Hailar 24.14 343 P **P** **02 52 13.8 +0.5**
UGL Uglegorsk 24.31 19 *e*P **P** **02 52 13.8 -1.1**
UGL pmax pmax
comp=Z,90nm,0.7s
KKM Kota Kinabalu 24.39 216 P **P** **02 52 15.3 -0.6**
LZH Lanzhou 24.46 299 *e*P **P** **02 52 16.4 -0.2**
LZH pP pP 02 52 22.6 -0.3
LZH sP sP 02 52 26.3 +0.6
LZH PP **PnPn** **02 52 54.9 +7.2**
LZH S **S** **02 56 33.5 -1.8**
LZH SS **SnSn** **02 57 20.3 -0.1**
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,250nm,5.2s
LZH LR LR
comp=Z,2μm,14.4s
LZH LR LR
comp=Z,1μm,14.6s
LZH LR LR
comp=Z,2μm,15.7s
GRNR Gornyy 24.67 9 *i*P **P** **02 52 19.3 +1.2**
GRNR pmax pmax
comp=N,6.0nm,0.9s
GRNR pmax pmax
comp=Z,9.0nm,0.9s
GRNR MLR MLR
comp=E,180nm,13.0s
GRNR MLR MLR
comp=N,490nm,15.0s
KMI Kunming 24.82 273⇑ P **P** **02 52 21.0 +1.0**
KMI S **S** **02 56 39.8 -1.6**
KMI SS **SnSn** **02 57 31.6 +2.2**
KMI pmax pmax
comp=N,57nm,1.0s
KMI pmax pmax
comp=N,300nm,4.7s
KMI LR LR
comp=N,770nm,14.2s
KMI LR LR
comp=N,1μm,15.3s
KMI LR LR
comp=N,1μm,15.8s
PZH PanZhiHua 25.52 276 P **P** **02 52 27.0 +0.7**
PZH S **S** **02 56 50.8 -1.6**
PZH sS **sS** **02 57 01.6 -1.0**
PZH PcS **PcS** **02 59 36.1 -2.2**
PZH pmax pmax
comp=N,20nm,1.0s
PZH pmax pmax
comp=N,230nm,4.9s
PZH LR LR
comp=N,2μm,13.9s
PZH LR LR
comp=N,3μm,13.4s
PZH LR LR
comp=N,4μm,15.3s
UBPT Khong Chiam 25.69 249 P **P** **02 52 27.8 +0.2**
TOLI2 Tolitoli 26.86 201 P **P** **02 52 37.6 -0.7**
TOLI2 Tolitoli 26.86 201 P **P** **02 52 39.0 +0.7**
MRSI Marisa 27.11 199 P **P** **02 52 41.5 +1.0**
comp=N,50nm,1.1s
SIJI Sorong 27.24 178 LR LR 03 02 08.0
comp=N,519nm,19.7s,baz=72,slow=34
ZEA Zeya 27.28 356 *e*P **P** **02 52 43.1 +1.4**
ZEA *e* 02 57 20.1
ZEA pmax pmax
comp=N,100nm,3.4s
ZEA pmax pmax
comp=Z,300nm,3.9s
ZEA pmax pmax
comp=N,50nm,1.4s
ZEA pmax pmax
comp=Z,80nm,1.0s
ZEA MLR MLR
comp=N,300nm,13.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
MPSI Mapaga 27.89 203 P **P** **02 52 48.4 +1.0**
comp=Z,636nmcomp=Z,29nm,1.4s
ULN Ulaanbaatar 28.03 326*ce*P **P** **02 52 48.9 +0.2**
ULN pmax pmax
comp=Z,17nm,2.5s
ULN Ulaanbaatar 28.03 326 P **P** **02 52 48.6 -0.1**
LUWI Luwuk 28.34 196 P **P** **02 52 51.4 -0.1**
SONM Songino Array 28.35 325 P **P** **02 52 52.6 +1.2**
comp=Z,6.1nm,0.7s,baz=141,slow=11,SNR=17
SONM PcP **PcP** **02 56 04.5 +0.7**
comp=Z,1.2nm,0.6s,baz=147,slow=4.5,SNR=4.1
SONM Songino Array 28.35 325 P **P** **02 52 50.8 -0.6**
GTA Gaotai 28.47 305⇑ P **P** **02 52 51.8 -0.9**
GTA pP pP 02 52 59.6 +0.5
GTA sP pwP 02 53 03.8 -1.6
GTA S **S** **02 57 36.0 -2.7**
GTA pmax pmax
comp=Z,16nm,0.7s
GTA pmax pmax
comp=Z,110nm,7.2s
GTA LR LR
comp=Z,2μm,16.7s
GTA LR LR
comp=Z,1μm,16.3s
GTA LR LR
comp=Z,1μm,16.7s
CHTO Chiang Mai 29.87 262 P **P** **02 53 04.1 -1.0**
CHTO pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 29.87 262 P **P** **02 53 04.0 -1.0**
CMAR Chiang Mai Arr 29.99 261 P **P** **02 53 07.3 +1.1**
comp=Z,1.9nm,0.4s,baz=65,slow=7.1,SNR=6.3
CMAR PcP **PcP** **02 56 09.2 +0.9**
comp=Z,2.3nm,0.7s,baz=68,slow=1.1,SNR=6.9
CMAR LR LR 03 05 43.4
comp=Z,226nm,19.3s,baz=70,slow=38
CMAR Chiang Mai Arr 29.99 261 *i*P **P** **02 53 06.5 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 29.99 261 P **P** **02 53 04.9 -1.3**
CMAR PcP **PcP** **02 56 07.3 -1.0**
KSM Kuching 31.45 221 P **P** **02 53 19.3 +0.3**
KSM IAmb IAmb 02 53 21.9
comp=Z,26nm,0.8s
ZAK Zakamensk 31.55 326 *e*P P 02 53 28.7 +9.0
ZAK pmax pmax
comp=Z,5.0nm,1.1s
GOMU GeErMu 31.64 297 P **P** **02 53 21.8 +0.7**
GOMU pP pP 02 53 25.3 -2.1
GOMU sP sP 02 53 26.8 -3.3
GOMU PcP **PcP** **02 56 13.6 +0.8**
GOMU S **S** **02 58 31.9 +2.9**
GOMU sS pS 02 58 37.3 +1.4
GOMU pmax pmax
comp=Z,14nm,0.8s
GOMU pmax pmax
comp=Z,80nm,6.3s
GOMU LR LR
comp=Z,2μm,16.7s
GOMU LR LR
comp=Z,950nm,15.3s
GOMU LR LR
comp=Z,420nm,18.2s
KAPI Kappang 32.97 200 LR LR 03 07 33.9
comp=Z,110nm,19.3s,baz=30,slow=38
BOD Bodaibo 33.34 344 *e*P **P** **02 53 36.0 +0.8**
BOD pmax pmax
comp=Z,13nm,2.0s
PETK Petropavlovsk- 33.51 30 P **P** **02 53 37.4 +0.6**
comp=Z,13nm,0.8s,baz=211,slow=10.0,SNR=13
PETK LR LR 03 07 55.5
comp=Z,250nm,18.2s,baz=212,slow=38
PETK Petropavlovsk- 33.51 30 P **P** **02 53 36.6 -0.1**
BSSI Bau Bau, Buton 33.83 198 P **P** **02 53 39.4 -0.4**
comp=Z,439nmcomp=Z,39nm,0.9s
SHL Shillong 34.44 277 P **P** **02 53 44.9 -0.4**
SHL pmax pmax
comp=Z,16nm,0.7s
SHL Shillong 34.44 277 P **P** **02 53 44.9 -0.4**
SHL IAmb IAmb 02 53 48.9
comp=Z,16nm,0.7s
KULM Kulim 35.30 238 P **P** **02 53 51.6 -1.0**
KULM IAmb IAmb 02 53 55.9
comp=Z,19nm,0.9s
YAK Yakutsk 35.51 360*ce*P **P** **02 53 53.3 -0.6**
YAK pmax pmax
comp=Z,66nm,0.8s
YAK Yakutsk 35.51 360 P **P** **02 53 53.4 -0.5**
IPM Ipoh 35.54 237 P **P** **02 53 54.2 -0.5**
IPM IAmb IAmb 02 53 57.2
comp=Z,25nm,0.9s
IPM Ipoh 35.54 237 P **P** **02 53 54.0 -0.7**
MMRI Maumere 35.81 194 P **P** **02 53 56.2 -0.7**
MA2 Magadan 35.96 18 LR LR 03 09 45.0
comp=Z,197nm,18.1s,baz=249,slow=38
MA2 Magadan 35.96 18*ce*P **P** **02 53 55.4 -2.4**
MA2 pmax pmax
comp=Z,6.0nm,0.8s
BATI Baumata 37.07 191 LR LR 03 08 29.6
comp=Z,167nm,21.6s,baz=20,slow=35
KRVT Keravat (AS076 37.17 142 LR LR 03 09 13.3
comp=Z,175nm,18.3s,baz=125,slow=36
PLAI Plampang 37.17 201 P **P** **02 54 08.5 -0.1**
comp=Z,884nmcomp=Z,114nm,0.8s
PLAI Plampang 37.17 201 P **P** **02 54 08.3 -0.3**
TAPN Taplejung 37.84 281 *e*P **P** **02 54 15.0 +0.4**
ODAN Odare 38.19 280 *e*P **P** **02 54 18.7 +1.2**
comp=Z,120nm,0.7s
PSI Prapat 38.21 237 LR LR 03 09 27.4
comp=Z,207nm,20.5s,baz=52,slow=35
WMQ Urumqi 38.39 308 *e*P **P** **02 54 21.3 +2.6**
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ LR LR
comp=Z,1μm,14.9s
WMQ LR LR
comp=Z,500nm,15.9s
WMQ LR LR
comp=Z,460nm,18.5s
PWJI Pagerwojo 38.74 210 P **P** **02 54 23.6 +1.8**
comp=Z,44nm,0.8s
MNSI Mandailing Nat 39.07 234 P **P** **02 54 25.2 +0.6**
comp=Z,4μmcomp=Z,38nm,0.8s
JIRN Jiri 39.12 282 *e*P **P** **02 54 26.2 +0.7**
MTN Manton Dam 39.13 179 P **P** **02 54 24.0 -1.0**
SEY Seymchan 39.23 16 LR LR 03 10 23.9
comp=Z,246nm,21.8s,baz=274,slow=36
SEY Seymchan 39.23 16*ce*P **P** **02 54 26.0 +0.6**
SEY pmax pmax
comp=Z,8.0nm,0.9s
UGM Wanagama 39.23 212 P **P** **02 54 25.7 -0.3**
UGM Wanagama 39.23 212 P **P** **02 54 26.7 +0.7**
comp=Z,149nm,1.1s
UGM pP **pP** **02 54 29.8 -2.6**
comp=Z,149nm,1.1s
PMG Port Moresby 39.29 153 LR LR 03 08 26.9
comp=Z,543nm,20.9s,baz=296,slow=33
GUN Gumba 39.36 282 *e*P **P** **02 54 28.1 +0.7**
comp=Z,157nm,1.0s
KPJI Karang Pucung 39.52 215 P **P** **02 54 29.5 +1.2**
comp=Z,35nm,1.1s
PKI Pulchoki 39.82 282 *e*P **P** **02 54 31.6 +0.4**
comp=Z,54nm,0.6s
PKIN Phulchoki 39.83 282 *e*P **P** **02 54 31.7 +0.5**
MDSI Maura Dua 39.86 223 P **P** **02 54 32.5 +1.3**
comp=Z,7.6nm,1.1s
KKN Kakani 39.90 282 *e*P **P** **02 54 32.2 +0.4**
DMN Daman 40.08 282 *e*P **P** **02 54 33.9 +0.6**
comp=Z,83nm,0.8s
GSI Gunungsitoli 40.21 237 P **P** **02 54 34.9 +0.8**
GSI IAmb IAmb 02 54 36.2
comp=Z,42nm,1.0s
GSI Gunungsitoli 40.21 237 P **P** **02 54 34.3 +0.2**
comp=Z,3μmcomp=Z,43nm,1.0s
GKN Gorkha 40.43 283 *e*P **P** **02 54 36.8 +0.7**
comp=Z,75nm,0.7s
DANN Dangsing 41.14 284 *e*P **P** **02 54 43.1 +1.0**
comp=Z,120nm,0.6s
ZSN Zaisan 41.15 313 *e*P **P** **02 54 41.2 -0.4**
ZSN Zaisan 41.15 313 *e*P **P** **02 54 41.3 -0.4**
baz=313
KOLN Koldanda 41.37 283 *e*P **P** **02 54 44.7 +0.8**
SHEM Shemya Is, Ala 41.78 39 LR LR 03 09 40.7
comp=Z,108nm,19.2s,baz=255,slow=33
PYUN Piuthan 41.85 283 *e*P **P** **02 54 48.8 +1.0**
comp=Z,116nm,0.8s
KNRA Kununurra 41.97 182 P **P** **02 54 48.1 -0.4**
KNRA Kununurra 41.97 182 P **P** **02 54 48.7 +0.2**
COEN Coen 42.14 161 P **P** **02 54 49.2 -0.7**
COEN Coen 42.14 161 P **P** **02 54 50.9 +1.0**
MK31 Makanchi Array 42.73 311 *i*P **P** **02 54 54.0 -0.5**
MK31 pmax pmax
comp=Z,13nm,0.7s
MK31 Makanchi Array 42.73 311 P **P** **02 54 53.8 -0.7**
MKAR Makanchi Array 42.73 311 P **P** **02 54 54.7 +0.2**
comp=Z,17nm,0.7s,baz=99,slow=9.9,SNR=97
MKAR Makanchi Array 42.73 311 P **P** **02 54 54.0 -0.5**
MAKZ Makanchi 42.94 311 P **P** **02 54 56.0 -0.2**
MAKZ Makanchi 42.94 311 P **P** **02 54 55.7 -0.6**
MAKZ Makanchi 42.94 311 P **P** **02 54 56.4 +0.2**
MAKZ pP **pwP** **02 55 08.6 -0.7**
MAKZ sP sP 02 55 14.4 +9.0
ZAA0 Zalesovo Array 43.15 322 P **P** **02 54 57.5 -0.2**
ZALV Zalesovo Beam 43.15 322 P **P** **02 54 57.3 -0.4**
comp=Z,7.6nm,0.7s,baz=110,slow=8.5,SNR=33
ZALV PcP **PcP** **02 56 47.0 -0.1**
comp=Z,3.1nm,0.7s,baz=136,slow=3.9,SNR=4.3
ZALV Zalesovo Beam 43.15 322 P **P** **02 54 57.6 -0.2**
PDGK Podgornoye 44.20 306 P **P** **02 55 06.1 -0.5**
SHLS Shalkode 44.21 306 *e*P **P** **02 55 03.4 -3.2**
SHLS Shalkode 44.21 306 *e*P **P** **02 55 03.5 -3.2**
baz=306
UZB Uzunbulak 44.53 305 *e*P **P** **02 55 08.5 -0.7**
UZB pmax pmax
comp=Z,18nm,1.1s
UZB Uzunbulak 44.53 305 *e*P **P** **02 55 08.5 -0.7**
comp=Z,18nm,1.1s,baz=306
FITZ Fitzroy Crossi 44.58 186 LR LR 03 12 31.6
comp=Z,119nm,20.8s,baz=38,slow=34
KPKS Kokpek 44.80 306 *e*P **P** **02 55 10.7 -0.6**
KPKS pmax pmax
comp=Z,12nm,1.1s
KPKS Kokpek 44.80 306 *e*P **P** **02 55 10.7 -0.6**
comp=Z,12nm,1.1s,baz=306
SEM Semipalatinsk 44.81 316 *e*P **P** **02 55 10.1 -1.3**
SEM pmax pmax
comp=Z,30nm,0.7s
SEM Semipalatinsk 44.81 316 *e*P **P** **02 55 10.2 -1.3**
comp=Z,30nm,0.7s,baz=316
ZHN Zhinishke 44.96 305 *e*P **P** **02 55 11.5 -1.1**
ZHN Zhinishke 44.96 305 *e*P **P** **02 55 11.5 -1.1**
baz=306
TIXI Tiksi 45.18 359 LR LR 03 15 23.3
comp=Z,400nm,18.0s,baz=181,slow=38
TIXI Tiksi 45.18 359*ce*P **P** **02 55 13.4 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,0.7s
TIXI Tiksi 45.18 359 P **P** **02 55 13.4 -0.4**
TIXI Tiksi 45.18 359 P **P** **02 55 13.3 -0.4**
TARG Taragay, Kyrgy 45.34 303 P **P** **02 55 15.5 -0.5**
TARG IAmb IAmb 02 55 19.1
comp=Z,17nm,0.8s
KURK Kurchatov 45.89 316 *i*P **P** **02 55 19.5 -0.2**
KURK pmax pmax
comp=Z,42nm,0.8s
KURK Kurchatov 45.89 316 P **P** **02 55 19.7 0.0**
KURK Kurchatov 45.89 316⇑ P **P** **02 55 19.8 +0.1**
KURK ⇓pP **pwP** **02 55 31.0 -1.8**
HNR Honiara 45.90 137 LR LR 03 14 28.0
comp=Z,102nm,18.2s,baz=333,slow=36
CHKK Chushkaly 46.06 306 *e*P **P** **02 55 20.3 -0.9**
CHKK Chushkaly 46.06 306 *e*P **P** **02 55 20.3 -0.9**
baz=306
WB0 Warramunga Arr 46.18 175 P **P** **02 55 21.8 -0.5**
WB0 IAmb IAmb 02 55 23.3
comp=Z,20nm,0.7s
WRAB Tennant Creek 46.34 175*ce*P **P** **02 55 23.3 -0.2**
WRAB pmax pmax
comp=Z,21nm,0.7s
WRAB Tennant Creek 46.34 175 P **P** **02 55 22.6 -0.9**
WRAB Tennant Creek 46.34 175 P **P** **02 55 23.8 +0.3**
WRAB Tennant Creek 46.34 175 P **P** **02 55 23.6 +0.1**
WRA Warramunga Arr 46.35 175 P **P** **02 55 23.6 0.0**
comp=Z,18nm,0.7s,baz=355,slow=8.4,SNR=142
WRA PcP **PcP** **02 56 59.0 +0.5**
comp=Z,3.7nm,0.7s,baz=350,slow=4.3,SNR=4.5
WRA LR LR 03 13 29.6
comp=Z,246nm,21.3s,baz=6.0,slow=34
WRA Warramunga Arr 46.35 175 P **P** **02 55 22.3 -1.3**
WB2 Warramunga Arr 46.35 175 P **P** **02 55 23.0 -0.6**
WR0 Warramunga Arr 46.38 174 P **P** **02 55 23.1 -0.8**
WR0 IAmb IAmb 02 55 25.5
comp=Z,29nm,0.9s
KUU Kurty 46.53 306 *e*P **P** **02 55 24.6 -0.3**
KUU pmax pmax
comp=Z,21nm,0.9s
KUU Kurty 46.53 306 *e*P **P** **02 55 24.6 -0.3**
comp=Z,21nm,0.9s,baz=306
KSH Kashi 46.71 300 P **P** **02 55 30.8 +4.3**
KSH S **S** **03 02 23.1 +8.4**
KSH pmax pmax
comp=Z,14nm,1.0s
KSH LR LR
comp=Z,560nm,17.8s
KSH LR LR
comp=Z,760nm,17.1s
KSH LR LR
comp=Z,900nm,18.7s
BILL Bilibino 46.83 18*ce*P **P** **02 55 27.4 +0.6**
BILL *i* 02 55 33.5
BILL *e* 02 57 17.8
BILL pmax pmax
comp=Z,5.0nm,0.6s
BILL Bilibino 46.83 18 P **P** **02 55 27.2 +0.4**
TKM2 Tokmak 2 47.02 305 P **P** **02 55 30.3 +1.3**
SNR=12
TKM2 Tokmak 2 47.02 305 *i*P **P** **02 55 29.4 +0.4**
TKM2 pmax pmax
comp=Z,28nm,1.1s
CHMS Chumysh 47.64 305 P **P** **02 55 35.1 +1.5**
SNR=5.9
CHMS Chumysh 47.64 305 *i*P **P** **02 55 34.1 +0.5**
CHMS pmax pmax
comp=Z,30nm,1.3s
QIS Mount Isa 47.66 168 P **P** **02 55 34.5 +0.7**
UCH Uchtor 47.81 304 P **P** **02 55 37.2 +1.8**
SNR=27
AAK Ala-Archa 47.83 305 LR LR 03 16 02.7
comp=Z,244nm,18.6s,baz=80,slow=36
AAK Ala-Archa 47.83 305*ce*P **P** **02 55 36.5 +1.3**
AAK pmax pmax
comp=Z,10.0nm,1.7s
AAK Ala-Archa 47.83 305 P **P** **02 55 36.2 +1.0**
AAK Ala-Archa 47.83 305 P **P** **02 55 35.8 +0.6**
AAK sP **pwP** **02 55 52.5 +4.5**
USP Ospenovka 47.84 305 P **P** **02 55 36.0 +0.9**
SNR=7.1
BTLS Baital 48.23 308 *e*P **P** **02 55 37.6 -0.4**
BTLS pmax pmax
comp=Z,11nm,1.0s

BTLS Baital 48.23 308 *e*P P 02 55 37.7 -0.4
comp=Z,11nm,1.0s,baz=308
AML Almayashu 48.41 304 P P 02 55 42.0 +2.0
SNR=8.1
MBWA Marble Bar 48.49 193 P P 02 55 40.4 +0.3
MBWA pP pwP 02 56 01.8 +10
HYBB Hyderabad (bro 48.56 270 *e*P P 02 55 40.6 -0.4
HYBB *e*pP **sP** 02 55 50.8 +0.7
HYBB *e*S **S** 03 02 40.4 -0.8
CTA Charters Tower 48.85 160 LR LR 03 15 35.6
comp=Z,273nm,18.9s,baz=342,slow=35
CTAO Charters Tower 48.85 160 P P 02 55 43.4 +0.4
CTAO pmax pmax
comp=Z,40nm,0.9s
CTAO Charters Tower 48.85 160 P P 02 55 43.4 +0.4
PSA00 Pilbara Seismi 48.86 193 P P 02 55 42.7 -0.4
PSA00 Pilbara Seismi 48.86 193 P P 02 55 43.7 +0.6
NIL Nilore 49.34 293 P P 02 55 46.7 -0.1
NIL pmax pmax
comp=Z,32nm,0.8s
NIL Nilore 49.34 293 P P 02 55 46.7 -0.1
BRZS Berezniki 49.53 314 *e*P P 02 55 47.8 -0.2
BRZS pmax pmax
comp=Z,14nm,0.8s
BRZS Berezniki 49.53 314 *e*P P 02 55 47.8 -0.2
comp=Z,14nm,0.8s,baz=314
NRIK Noril'sk 49.55 342 P P 02 55 46.8 -1.1
comp=Z,6.9nm,0.6s,baz=109,slow=9.0,SNR=9.5
NRIK Noril'sk 49.55 342 P P 02 55 47.9 +0.1
NRIK pmax pmax
comp=Z,11nm,0.9s
NRIK Noril'sk 49.55 342 P P 02 55 47.9 +0.1
NRIK IAmb IAmb 02 55 60.0
comp=Z,11nm,0.9s
OTUK Ortayu 49.60 312 P P 02 55 49.2 +0.6
DRK Karamyk 49.94 300 P P 02 55 51.5 -0.1
AS31 Alice Springs 50.01 176 P P 02 55 51.9 0.0
ASAR Alice Springs 50.01 176 P P 02 55 52.2 +0.3
comp=Z,10.0nm,0.6s,baz=7.5,slow=12,SNR=145
ASAR PcP **PcP** 02 57 12.2 +0.5
comp=Z,3.9nm,0.8s,baz=359,slow=3.9,SNR=5.3
ASAR LR LR 03 15 54.3
comp=Z,143nm,21.0s,baz=13,slow=35
ASAR Alice Springs 50.01 176 P P 02 55 52.4 +0.5
ASAR Alice Springs 50.01 176 P P 02 55 52.4 +0.5
KK31 Karatay Array 50.75 305 *i* P P 02 55 58.4 +1.0
KK31 Karatay Array 50.75 305 P P 02 55 58.0 +0.6
KK31 IAmb IAmb 02 56 12.2
comp=Z,21nm,1.1s
KKAR Karatay Array 50.75 305 P P 02 55 57.8 +0.4
KKAR Karatay Array 50.75 305 P P 02 55 57.8 +0.4
PALK Pallekele 50.79 257 LR LR 03 17 38.1
comp=Z,115nm,21.6s,baz=166,slow=36
GAR Garm 51.12 300 P P 02 56 00.7 +0.3
IUG luzhnay 51.14 304 *e*P P 02 56 00.5 +0.1
IUG luzhnay 51.14 304 *e*P P 02 56 00.5 +0.1
baz=304
WRKA Warakurna 51.29 182 P P 02 56 02.1 +0.6
BRVK Borovoye 51.36 318 *i* P P 02 56 02.5 +0.7
BRVK pmax pmax
comp=Z,49nm,1.2s
BRVK Borovoye 51.36 318 P P 02 56 02.4 +0.7
BRVK Borovoye 51.36 318 ⇑P P 02 56 03.1 +1.4
BRVK ⇓pP **pwP** 02 56 14.5 -0.5
CHGR Chuyangaron 52.05 300 P P 02 56 07.8 +0.5
CHGR pmax pmax
comp=Z,64nm,1.2s
CHGR Chuyangaron 52.05 300 P P 02 56 07.8 +0.5
KBL Kabul 52.67 294 P P 02 56 12.2 +0.2
KBL pmax pmax
comp=Z,90nm,1.5s
KBL Kabul 52.67 294 P P 02 56 12.2 +0.2
PCHI Peechi 53.18 263 *e*P P 02 56 16.8 +0.9
MEEK Meekatharra 54.03 193 P P 02 56 21.8 +0.1
OOD Oodnadatta 54.25 174 P P 02 56 23.7 +0.5
TNA Tin City 54.55 27 P P 02 56 26.8 +1.8
baz=256
EIDS Eidsvold 55.35 157 P P 02 56 31.6 +0.3
EIDS IAmb IAmb 02 56 33.3
comp=Z,13nm,0.8s
ANM Nome 55.38 28 P P 02 56 32.1 +1.0
ANM pmax pmax
comp=Z,15nm,0.7s
ANM Nome 55.38 28 P P 02 56 32.1 +1.0
ANM IAmb IAmb 02 56 33.3
comp=Z,15nm,0.7s
ANM Nome 55.38 28 P P 02 56 32.5 +1.3
baz=259
RMQ Roma 55.62 160 P P 02 56 34.1 +0.9
MULG Mulgathing 56.59 176 P P 02 56 40.4 +0.3
MORW Morawa 56.93 195 P P 02 56 42.5 -0.1
MORW IAmb IAmb 02 56 44.2
comp=Z,14nm,0.8s
FORT Forrest 57.01 182 P P 02 56 43.6 +0.5
FORT Forrest 57.01 182 P P 02 56 44.4 +1.3
SVE Sverdlovsk 57.16 322 *e*P P 02 56 50.4 +6.5
SVE pmax pmax
comp=Z,17nm,1.0s
SVE MLR MLR
comp=Z,1μm,15.0s
AB31 Akbulak array 57.80 313 *i* P P 02 56 49.3 +0.8
ABKAR Akbulak array 57.80 313 P P 02 56 49.1 +0.6
ABKAR Akbulak array 57.80 313 P P 02 56 48.8 +0.2
ABKAR IAmb IAmb 02 57 04.2
comp=Z,19nm,0.7s
BLDU Ballidu 58.28 194 P P 02 56 51.8 -0.2
ARU Arti 58.31 322 *c i*P P 02 56 52.6 +0.6
ARU S **S** 03 04 55.0 +2.4
ARU SS **SS** 03 08 44.0 -0.3
ARU MLR MLR
comp=Z,517nm,14.0s
ARU Arti 58.31 322 P P 02 56 51.5 -0.5
ARU IAmb IAmb 02 56 54.9
comp=Z,11nm,0.8s
ARU Arti 58.31 322 P P 02 56 53.2 +1.2
AKTO Aktyubinsk 58.94 315 P P 02 56 57.4 +0.9
GCSA Galena City Sc 59.03 29 P P 02 56 58.0 +1.2
baz=267
STKA Stephens Creek 59.06 169 P P 02 56 57.5 +0.1
comp=Z,4.7nm,0.7s,baz=346,slow=8.6,SNR=12
STKA PcP **PcP** 02 57 46.7 +0.7
comp=Z,1.8nm,0.8s,baz=348,slow=7.4,SNR=3.5
STKA LR LR 03 21 31.7
comp=Z,199nm,21.4s,baz=5.2,slow=35
STKA Stephens Creek 59.06 169 P P 02 56 57.5 +0.1
STKA **PcP** 02 57 46.4 +0.4
STKA Stephens Creek 59.06 169 P P 02 56 57.9 +0.5
BBOO Buckleboo 59.25 174 P P 02 56 58.8 0.0
BBOO IAmb IAmb 02 57 00.5
comp=Z,12nm,1.1s
BBOO Buckleboo 59.25 174 P P 02 56 59.9 +1.2
TTA Tatalina 59.34 31 P P 02 57 00.5 +1.3
TTA pmax pmax
comp=Z,7.0nm,0.9s
TTA Tatalina 59.34 31 P P 02 57 00.5 +1.3
TTA Tatalina 59.34 31 P P 02 57 00.3 +1.1
baz=269
N18K Kilae Creek 59.37 33 P P 02 56 60.0 +0.6
N18K IAmb IAmb 02 57 02.6
comp=Z,23nm,1.3s
N18K Kilae Creek 59.37 33 P P 02 57 00.9 +1.5
baz=270
SVW2 Sparrevohn 59.52 33 P P 02 57 01.9 +1.5
SVW2 IAmb IAmb 02 57 02.5
comp=Z,8.8nm,0.8s
DZM Mont Dzumac 59.66 141 LR LR 03 20 49.0
comp=Z,182nm,19.7s,baz=16,slow=34
DZM Mont Dzumac 59.66 141 P P 02 57 02.7 +0.9
O18K Koktuh Hills 59.72 34 P P 02 57 02.1 +0.4
O18K Koktuh Hills 59.72 34 P P 02 57 02.1 +0.4
baz=271
NAPP Napperby 59.84 172 P P 02 57 03.6 +0.9
L19K White Mountain 59.87 32 P P 02 57 04.2 +1.4
L19K IAmb IAmb 02 57 04.9
comp=Z,9.3nm,0.8s
L19K White Mountain 59.87 32 P P 02 57 02.6 -0.2
baz=270,SNR=5.6
N19K Bonanza Creek 60.06 33 P P 02 57 04.7 +0.5
N19K IAmb IAmb 02 57 08.6
comp=Z,15nm,1.2s
N19K Bonanza Creek 60.06 33 P P 02 57 05.0 +0.8
baz=271
M19K Big River Lodg 60.09 32 P P 02 57 04.9 +0.6
M19K Big River Lodg 60.09 32 P P 02 57 04.9 +0.6
baz=271
O19K Port Alsworth 60.16 34 P P 02 57 06.0 +1.3
O19K IAmb IAmb 02 57 07.2
comp=Z,16nm,0.7s
O19K Port Alsworth 60.16 34 P P 02 57 04.8 +0.1
baz=272,SNR=5.7
ARMA Armidale 60.19 159 P P 02 57 04.6 -0.7
ARMA IAmb IAmb 02 57 08.0
comp=Z,21nm,1.2s
J20K Nowinta River 60.20 29 P P 02 57 05.5 +0.6
J20K Nowinta River 60.20 29 P P 02 57 05.3 +0.4
baz=270,SNR=21
K20K Telida 60.23 30 P P 02 57 05.9 +0.7
K20K Telida 60.23 30 P P 02 57 05.1 -0.1
baz=270,SNR=21
L20K Farewell, AK 60.32 31 P P 02 57 05.6 -0.2
baz=271,SNR=5.9
IMAR Indian Mountai 60.39 27 P P 02 57 07.0 +0.8
P19K Oil Pt 60.73 34 P P 02 57 08.9 +0.2
baz=273
GEYT Alibeck 60.74 300 P P 02 57 11.1 +1.9
comp=Z,5.3nm,0.8s,baz=128,slow=9.6,SNR=6.8
GEYT Alibeck 60.74 300 P P 02 57 08.3 -0.8
GYA0B ALIBECK ARRAY 60.74 300 P P 02 57 08.1 -1.0
GYA0B IAmb IAmb 02 57 27.8
comp=Z,12nm,0.7s
H21K Melozitna Rive 60.77 28 P P 02 57 09.6 +0.8
H21K Melozitna Rive 60.77 28 P P 02 57 08.8 -0.1
baz=270,SNR=31
OHAK Old Harbor 60.85 37 P P 02 57 09.6 +0.1
RSO Redoubt South 60.93 34 P P 02 57 10.9 +0.7
CHUM Lake Minchumin 61.01 30 P P 02 57 11.1 +0.7
baz=271,SNR=20
O20K Slope Mountain 61.01 34 P P 02 57 10.7 0.0
baz=273
PPLA Purkeypile 61.09 31 P P 02 57 12.1 +0.9
PPLA Purkeypile 61.09 31 P P 02 57 11.9 +0.7
baz=272,SNR=14
CAST Castle Rocks 61.12 30 P P 02 57 12.4 +1.2
CAST Castle Rocks 61.12 30 P P 02 57 11.5 +0.2
baz=272,SNR=36
I21K Tanana 61.12 28 P P 02 57 12.3 +1.1
I21K IAmb IAmb 02 57 14.2
comp=Z,20nm,0.9s
I21K Tanana 61.12 28 P P 02 57 12.4 +1.2
baz=271,SNR=21
SPCR Spurr Chakacha 61.16 33 P P 02 57 12.1 +0.5
baz=273,SNR=6.8
KDAK Kodiak Island 61.19 37 P P 02 57 12.0 +0.3
baz=275
KDAK Kodiak Island 61.19 37 P P 02 57 12.4 +0.7
KDAK pP **pwP** 02 57 25.5 +1.4
BPAW Bear Paw Mtn. 61.58 29 P P 02 57 15.1 +0.7
BPAW IAmb IAmb 02 57 16.4
comp=Z,10nm,0.8s
BPAW Bear Paw Mtn. 61.58 29 P P 02 57 14.9 +0.5
baz=272,SNR=14
KTH Kantishna Hill 61.64 30 P P 02 57 15.6 +0.8
KTH IAmb IAmb 02 57 16.5
comp=Z,9.6nm,0.9s
CAPN Captain Cook N 61.70 33 P P 02 57 15.8 +0.6
baz=274
CNPM China Poot 61.75 35 P P 02 57 15.0 -0.6
CNPM IAmb IAmb 02 57 18.7
comp=Z,15nm,0.8s
COLD Coldfoot 61.80 26 P P 02 57 16.2 +0.5
COLD Coldfoot 61.80 26 P P 02 57 17.1 +1.3
baz=272
BRLK Bradley Lake 61.91 34 P P 02 57 16.5 -0.2
BRLK IAmb IAmb 02 57 19.1
comp=Z,16nm,0.8s
TRF Thorofare Moun 61.93 30 P P 02 57 17.5 +0.6
TRF IAmb IAmb 02 57 22.9
comp=Z,8.4nm,0.7s
TRF Thorofare Moun 61.93 30 P P 02 57 17.2 +0.3
baz=274
BRSE Bradley Lake S 61.98 34 P P 02 57 17.1 0.0
baz=275,SNR=6.2
CUT Chulitna 62.00 31 P P 02 57 17.8 +0.6
CUT Chulitna 62.00 31 P P 02 57 17.5 +0.3
baz=274,SNR=10
TOLK Toolik Lake Re 62.00 24 P P 02 57 17.9 +0.7
TOLK IAmb IAmb 02 57 20.0
comp=Z,16nm,1.2s
TOLK Toolik Lake Re 62.00 24 P P 02 57 17.7 +0.5
baz=271,SNR=9.8
H23K Yukon River 62.12 27 P P 02 57 19.0 +1.0
H23K Yukon River 62.12 27 P P 02 57 19.7 +1.7
baz=273,SNR=41
M22K Willow 62.12 32 P P 02 57 18.3 +0.3
M22K Willow 62.12 32 P P 02 57 17.6 -0.4
baz=274
I23K Minto, Yukon-K 62.23 28 P P 02 57 19.1 +0.4
I23K IAmb IAmb 02 57 21.2
comp=Z,11nm,0.8s
I23K Minto, Yukon-K 62.23 28 P P 02 57 19.2 +0.5
baz=273,SNR=13
BWN Browne 62.24 29 P P 02 57 19.7 +0.9
RC01 Rabbit Creek A 62.36 33 P P 02 57 20.4 +0.8
RC01 IAmb IAmb 02 57 21.2
comp=Z,15nm,0.9s
RC01 Rabbit Creek A 62.36 33 P P 02 57 19.5 -0.1
baz=275
NEA2 Nenana 62.39 29 P P 02 57 20.6 +0.8
NEA2 Nenana 62.39 29 P P 02 57 20.5 +0.8
baz=274,SNR=32
MCK McKinley 62.51 30 P P 02 57 21.6 +1.0
MCK pmax pmax
comp=Z,30nm,0.7s
MCK McKinley 62.51 30 P P 02 57 21.6 +1.0
MCK McKinley 62.51 30 P P 02 57 19.8 -0.8
baz=274,SNR=36
RND Reindeer 62.57 30 P P 02 57 21.6 +0.5
RND pmax pmax
comp=Z,45nm,0.7s
RND Reindeer 62.57 30 P P 02 57 21.6 +0.5
SEW Seward 62.59 34 P P 02 57 21.4 +0.3
SEW IAmb IAmb 02 57 23.7
comp=Z,15nm,0.8s
SEW Seward 62.59 34 P P 02 57 20.9 -0.3
baz=276,SNR=6.7
PMR Palmer 62.60 32 P P 02 57 21.7 +0.5
PMR pmax pmax
comp=Z,12nm,0.9s
PMR Palmer 62.60 32 P P 02 57 21.7 +0.5
PMR IAmb IAmb 02 57 22.5
comp=Z,12nm,0.9s
PMR Palmer 62.60 32 P P 02 57 20.7 -0.5
baz=275,SNR=6.9
GHO Glory Hole Cre 62.69 32 P P 02 57 22.5 +0.6
MDM Murphy Dome 62.72 28 P P 02 57 23.3 +1.3
H24K Noodor Dome 62.80 27 P P 02 57 23.8 +1.2
H24K IAmb IAmb 02 57 25.5
comp=Z,13nm,0.8s
H24K Noodor Dome 62.80 27 P P 02 57 22.5 0.0
baz=274,SNR=15
WRH Wood River Hil 62.82 29 P P 02 57 22.9 +0.2
WRH IAmb IAmb 02 57 26.0
comp=Z,10nm,0.8s
TCOL CIGO, UAF Yank 62.88 28 P P 02 57 23.9 +0.8
TCOL CIGO, UAF Yank 62.88 28 P P 02 57 23.0 0.0
baz=275,SNR=6.9
COLA College 62.89 28 *i* P P 02 57 23.5 +0.5
COLA pmax pmax
comp=Z,18nm,0.8s
COLA College 62.89 28 P P 02 57 23.8 +0.8
COLA College 62.89 28 P P 02 57 23.7 +0.6
baz=275
COLA College 62.89 28 P P 02 57 24.7 +1.7
COLA pP **pwP** 02 57 37.0 +1.5
CCB Clear Creek Bu 62.93 29 P P 02 57 23.5 +0.2
CCB IAmb IAmb 02 57 26.0
comp=Z,7.5nm,0.8s
KNK Knik Glacier 62.94 32 P P 02 57 23.7 +0.2
KNK Knik Glacier 62.94 32 P P 02 57 23.7 +0.2
baz=276,SNR=17
SML Sawmill 62.96 32 P P 02 57 24.4 +0.7
SML Sawmill 62.96 32 P P 02 57 23.9 +0.2
SML IAmb IAmb 02 57 37.5
comp=Z,16nm,0.8s
SML Sawmill 62.96 32 P P 02 57 23.9 +0.2
baz=276,SNR=11
POKR Poker Plat Res 63.05 28 P P 02 57 25.3 +1.2
POKR Poker Plat Res 63.05 28 P P 02 57 24.5 +0.4
baz=275,SNR=30
PWL Port Wells 63.06 33 P P 02 57 24.6 +0.2
PWL IAmb IAmb 02 57 25.7
comp=Z,20nm,0.9s
PWL Port Wells 63.06 33 P P 02 57 24.7 +0.3
baz=276
KIRV Kirov 63.08 325 LR LR 03 28 31.5
comp=Z,428nm,18.4s,baz=81,slow=40
KIRV Kirov 63.08 325 *c e*P P 02 57 25.2 +0.8
WAT6 Susitna Watana 63.16 31 P P 02 57 24.6 -0.5
baz=276,SNR=28
DHY Denali Highway 63.27 30 P P 02 57 25.9 +0.1
DHY IAmb IAmb 02 57 28.7
comp=Z,7.1nm,0.7s
DHY Denali Highway 63.27 30 P P 02 57 25.9 +0.1
baz=276,SNR=11
IL31 63.31 28 P P 02 57 25.8 0.0
IL31 IAmb IAmb 02 57 42.2
comp=Z,7.9nm,0.8s
ILAR Eielson Array 63.31 28 P P 02 57 25.6 -0.2
comp=Z,6.0nm,0.8s,baz=265,slow=5.5,SNR=64
SCM Sheep Creek Mo 63.43 32 P P 02 57 27.2 +0.3
SCM pmax pmax
comp=Z,22nm,0.7s
SCM Sheep Creek Mo 63.43 32 P P 02 57 27.2 +0.3
SCM Sheep Creek Mo 63.43 32 P P 02 57 27.1 +0.2
baz=277,SNR=12
GLI Glacier Island 63.66 33 P P 02 57 28.6 +0.4
GLI Glacier Island 63.66 33 P P 02 57 28.1 -0.1
baz=278,SNR=16
M24K Tolsona, Glenn 63.94 31 P P 02 57 31.1 +1.0
M24K IAmb IAmb 02 57 32.5
comp=Z,17nm,0.7s
M24K Tolsona, Glenn 63.94 31 P P 02 57 29.9 -0.2
baz=278,SNR=7.1
BMAR Burnt Mountain 63.96 25 P P 02 57 32.1 +1.9
J25K Salcha River, 63.98 29 P P 02 57 29.7 -0.6
J25K Salcha River, 63.98 29 P P 02 57 30.3 -0.1
baz=277,SNR=6.1
FID Port Fidalgo 63.98 33 P P 02 57 30.8 +0.4
FID IAmb IAmb 02 57 31.9
comp=Z,16nm,0.8s
CAN Canberra 64.00 163 P P 02 57 31.1 +0.3
CAN pmax pmax
comp=Z,12nm,0.9s
CAN Canberra 64.00 163 P P 02 57 31.1 +0.3
CAN IAmb IAmb 02 57 34.0
comp=Z,12nm,0.9s
KLU Klutina 64.14 32 P P 02 57 31.6 +0.1
KLU IAmb IAmb 02 57 33.4
comp=Z,8.5nm,0.8s
KLU Klutina 64.14 32 P P 02 57 31.3 -0.2
baz=278,SNR=7.5
PAX Paxson 64.15 30 P P 02 57 31.9 +0.4
PAX pmax pmax
comp=Z,9.0nm,0.7s
PAX Paxson 64.15 30 P P 02 57 31.9 +0.4
PAX IAmb IAmb 02 57 34.0
comp=Z,9.0nm,0.7s
PAX Paxson 64.15 30 P P 02 57 31.4 -0.1
baz=278,SNR=16
DIV Divide 64.27 32 P P 02 57 33.1 +0.8
RIDG Independent Ri 64.32 29 P P 02 57 33.0 +0.4
RIDG IAmb IAmb 02 57 34.4
comp=Z,14nm,0.7s
RIDG Independent Ri 64.32 29 P P 02 57 32.4 -0.2
baz=278,SNR=12
EYAK Cordova Ski Ar 64.36 33 P P 02 57 33.8 +1.0
EYAK IAmb IAmb 02 57 36.1
comp=Z,11nm,0.9s
EYAK Cordova Ski Ar 64.36 33 P P 02 57 33.7 +0.8
baz=279
HARP HAARP 64.37 31 P P 02 57 32.7 -0.3
baz=278,SNR=11
SCRK Sand Creek 64.66 29 P P 02 57 35.2 +0.3
SCRK Sand Creek 64.66 29 P P 02 57 35.1 +0.2
baz=279,SNR=52
DOT Dot Lake 64.68 29 P P 02 57 35.4 +0.5
N25K Chitina, Valde 64.75 32 P P 02 57 35.8 +0.2
N25K IAmb IAmb 02 57 38.2
comp=Z,9.1nm,0.8s
N25K Chitina, Valde 64.75 32 P P 02 57 35.7 +0.2
baz=279,SNR=6.2
J26L Joseph Creek 64.76 29 P P 02 57 35.3 -0.2
baz=279,SNR=43
BMRM Bremner River 64.85 32 P P 02 57 36.8 +0.7
BMRM Bremner River 64.85 32 P P 02 57 36.6 +0.5
baz=280,SNR=22
RAGM Ragged Mountai 64.92 33 P P 02 57 36.7 +0.2
MENT Mentasta 64.94 30 P P 02 57 37.6 +0.9
MENT IAmb IAmb 02 57 39.0
comp=Z,17nm,0.7s
L26K Log Cabin Wild 65.09 30 P P 02 57 38.5 +0.8
L26K IAmb IAmb 02 57 40.0
comp=Z,12nm,0.8s
L26K Log Cabin Wild 65.09 30 P P 02 57 38.6 +1.0
baz=280,SNR=17
BELG Belogornoye 65.10 318 LR LR 03 28 37.2
comp=Z,371nm,18.3s,baz=112,slow=38
BELG Belogornoye 65.10 318 *i* P P 02 57 37.9 +0.1
BELG pmax pmax
comp=Z,5.0nm,1.0s
KAIM Kayak Island 65.12 34 P P 02 57 38.6 +0.8
baz=280
GLB Gilahina Butte 65.15 32 P P 02 57 38.9 +0.8
GLB IAmb IAmb 02 57 40.2
comp=Z,19nm,0.8s
TOO Toolangi 65.33 167 P P 02 57 40.2 +0.8
TOO pmax pmax
comp=Z,17nm,1.2s
TOO Toolangi 65.33 167 P P 02 57 40.2 +0.8
TOO IAmb IAmb 02 57 42.8
comp=Z,17nm,1.1s
VRDI Verde Repeater 65.36 32 P P 02 57 40.5 +0.9
M26K Nabesna, AK 65.36 31 P P 02 57 40.2 +0.8
M26K Nabesna, AK 65.36 31 P P 02 57 40.1 +0.7
baz=280,SNR=28
BERG Berg Lake 65.39 33 P P 02 57 40.5 +0.9
MCARA McCarthy VSAT 65.53 32 P P 02 57 42.0 +1.5
MCARA IAmb IAmb 02 57 42.7
comp=Z,18nm,0.8s
MCARA McCarthy VSAT 65.53 32 P P 02 57 41.5 +1.0
baz=281,SNR=8.9
EGAK Eagle 65.74 28 P P 02 57 41.4 -0.3
baz=281,SNR=9.5
L27K Beaver Creek, 65.77 30 IAmb IAmb 02 57 44.5
comp=Z,8.4nm,0.8s
L27K Beaver Creek, 65.77 30 P P 02 57 43.1 +1.0
baz=281,SNR=18
M27K Edge Creek, AK 65.88 31 P P 02 57 43.9 +1.0
M27K IAmb IAmb 02 57 45.1
comp=Z,14nm,0.8s
M27K Edge Creek, AK 65.88 31 P P 02 57 43.0 +0.1
baz=281,SNR=15
ISLE Juniper Island 66.01 33 IAmb IAmb 02 57 45.4
comp=Z,16nm,0.8s
BARN Barnard Glacie 66.25 32 IAmb IAmb 02 57 47.3
comp=Z,10nm,0.7s
GRNC Granite Creek 66.27 32 IAmb IAmb 02 57 46.9
comp=Z,7.1nm,0.7s
BVCY Beaver Creek 66.34 31 P P 02 57 46.5 +0.8
baz=282,SNR=7.3
CTG Chitna Glacier 66.42 32 P P 02 57 46.7 +0.3
baz=282,SNR=6.6
CTGM Chitina Glacie 66.42 32 P P 02 57 47.4 +1.0
CTGM IAmb IAmb 02 58 00.8
comp=Z,12nm,0.9s
LOGN Logan Glacier 66.61 32 IAmb IAmb 02 58 01.5
comp=Z,10.0nm,0.8s
DAWY Dawson 66.63 29 P P 02 57 47.4 -0.1
baz=283,SNR=7.5
YUK3 Moose Creek 66.66 31 P P 02 57 48.3 +0.3
baz=283,SNR=9.2
I29M Ogilvie Camp, 66.80 27 P P 02 57 49.4 +0.8
baz=283,SNR=7.3
PINM Pinnacle 67.14 33 P P 02 57 51.7 +0.8
baz=284
EPYK Eagle Plains 67.20 26 P P 02 57 52.5 +1.4
EPYK Eagle Plains 67.20 26 P P 02 57 51.2 +0.1
baz=284,SNR=31
MAK Makhachkala 67.41 308 *e*P P 02 57 51.2 -1.6
MAK *e*S **S** 03 06 46.9 -0.1
MAK pmax pmax
comp=Z,22nm,0.3s
KLMR Klimovskoe 67.58 328 *e*P P 02 57 53.3 -0.3
KLMR pmax pmax
comp=Z,34nm,1.4s
KLMR Klimovskoe 67.58 328 *e*P P 02 57 53.3 -0.3

KLMR AMP 02 57 58.9
comp=Z,34nm,1.4s
YUK4 Talbot Arm 67.60 31 P **P** **02 57 55.0 +1.1**
baz=284,SNR=11
PNL Peninsula 67.66 33 P **P** **02 57 54.5 +0.4**
baz=284
YUK6 Outpost Mounta 67.84 32 P **P** **02 57 56.2 +0.7**
baz=285
INK Inuvik 67.89 24 LR LR 03 30 50.0
comp=Z,111nm,18.9s,baz=250,slow=39
INK Inuvik 67.89 24 P **P** **02 57 56.2 +0.8**
INK pmax pmax
comp=Z,9.0nm,0.7s
INK Inuvik 67.89 24 P **P** **02 57 56.2 +0.8**
INK IAmb IAmb 02 57 57.2
comp=Z,8.9nm,0.7s
INK Inuvik 67.89 24 P **P** **02 57 55.6 +0.2**
baz=286,SNR=13
M30M Minto, Yukon 68.13 30 P **P** **02 57 58.8 +1.8**
M30M Minto, Yukon 68.13 30 P **P** **02 57 57.9 +0.9**
baz=285,SNR=8.6
HYT Haines Junctio 68.27 32 P **P** **02 57 59.6 +1.5**
HYT IAmb IAmb 02 58 00.8
comp=Z,13nm,0.8s
HYT Haines Junctio 68.27 32 P **P** **02 57 59.3 +1.2**
baz=286,SNR=6.8
GROC Groznyy 68.54 309 *e*P **P** **02 57 57.7 -2.2**
GROC *e* 02 58 21.3
GROC pmax pmax
comp=Z,27nm,0.9s
N31M Braeburn, Yuko 68.89 31 P **P** **02 58 03.3 +1.5**
N31M IAmb IAmb 02 58 04.5
comp=Z,16nm,0.8s
N31M Braeburn, Yuko 68.89 31 P **P** **02 58 02.8 +1.0**
baz=287,SNR=7.3
VRH Novokhopyorsk 68.94 318 *e*P **P** **02 58 04.4 +2.2**
VRH pmax pmax
comp=Z,40nm,1.6s
AFI Afiamalu 69.16 118 LR LR 03 20 01.7
comp=Z,165nm,20.6s,baz=325,slow=29
M31M Drury Creek, Y 69.31 30 P **P** **02 58 05.2 +0.8**
baz=288,SNR=8.7
A36M Sachs Harbour 69.37 19 P **P** **02 58 05.4 +0.9**
baz=292,SNR=39
WHY Whitehorse 69.56 32 IAmb IAmb 02 58 08.1
comp=Z,9.4nm,0.8s
WHY Whitehorse 69.56 32 P **P** **02 58 07.4 +1.3**
baz=288,SNR=6.1
SKAG Skagway 69.71 33 P **P** **02 58 07.7 +0.9**
baz=286
FARO Faro, Yukon 69.77 30 P **P** **02 58 08.1 +0.9**
baz=288
MOS Moscow 69.96 323 *e*P **P** **02 58 07.0 -1.4**
MOS pmax pmax
comp=Z,35nm,1.0s
MOS MLR MLR
comp=Z,1μm,18.0s
ZEI Tsey 69.99 309 *e*P **P** **02 58 08.6 -0.6**
ZEI pmax pmax
comp=Z,18nm,1.0s
LPSR Galich'ya Gora 70.19 320 *e*P **P** **02 58 09.8 -0.1**
LPSR pmax pmax
comp=Z,30nm,1.8s
GNI Garni 70.21 306 LR LR 03 32 27.8
comp=Z,95nm,18.7s,baz=72,slow=39
GNI Garni 70.21 306 *i* P **P** **02 58 12.4 +1.9**
GNI pmax pmax
comp=Z,8.0nm,0.8s
VORR Voronezh 70.31 319 *e*P **P** **02 58 11.9 +1.2**
VORR pmax pmax
comp=Z,60nm,0.4s
ONI Oni 70.37 308 IAmb IAmb 02 58 19.4
comp=Z,12nm,0.9s
KBZ Khabaz 70.40 310 P **P** **02 58 12.7 +1.3**
comp=Z,14nm,0.8s,baz=95,slow=2.9,SNR=21
KBZ LR LR 03 32 09.9
comp=Z,234nm,18.1s,baz=81,slow=39
KBZ Khabaz 70.40 310 *ce*P **P** **02 58 12.6 +1.3**
KBZ pmax pmax
comp=Z,20nm,0.9s
ARCES ARCESS Array B 70.41 339 P **P** **02 58 11.0 0.0**
comp=Z,6.9nm,0.9s,baz=54,slow=6.8,SNR=6.2
ARCES LR LR 03 33 52.0
comp=Z,224nm,18.4s,baz=37,slow=40
ARCES ARCESS Array B 70.41 339 P **P** **02 58 11.0 0.0**
KIV Kislovodsk 70.47 310 ⇑P **P** **02 58 13.8 +1.8**
KIV Kislovodsk 70.47 310 ⇑P **P** **02 58 13.8 +1.8**
KIV Kislovodsk 70.47 310 P **P** **02 58 13.3 +1.3**
KIV IAmb IAmb 02 58 34.7
comp=Z,21nm,0.9s
VSR Storozhevoye 70.47 318 *e*P **P** **02 58 11.7 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
MMPY Sheldon Lake, 70.56 29 P **P** **02 58 13.2 +1.2**
baz=290
SHA1 Shidzhatmaz 70.56 310 *i* P **P** **02 58 14.1 +1.4**
NEY Neytrino 70.67 309 *i* P **P** **02 58 13.9 +0.6**
NEY pmax pmax
comp=Z,2.0nm,0.8s
AKH Akhalkalaki 70.71 307 ⇑P **P** **02 58 14.5 +0.9**
OBN Obninsk 70.73 323 LR LR 03 31 52.5
comp=Z,62nm,19.1s,baz=92,slow=38
OBN Obninsk 70.73 323 *e*P **P** **02 58 13.0 -0.1**
OBN *e* 03 00 50.0
OBN *e*S **S** **03 07 32.9 +7.1**
OBN pmax pmax
comp=Z,31nm,1.5s
OBN MLR MLR
comp=Z,586nm,16.0s
C36M Paulatuk 70.76 21 P **P** **02 58 14.0 +0.9**
baz=294
NOR Nord 70.81 355 *i* P **P** **02 58 11.2 -2.0**
NOR IAmb IAmb 02 58 13.2
comp=Z,1.9nm,0.6s
CHVG Ch'k'valeri 71.28 309 ⇑P **P** **02 58 15.0 -1.8**
CHVG Ch'k'valeri 71.28 309 ⇑P **P** **02 58 15.0 -1.8**
TGTN Hyland Airport 72.27 30 P **P** **02 58 23.6 +1.2**
baz=293
SOC Sochi 72.63 310 *e*P **P** **02 58 25.8 +1.0**
SOC *e* 03 01 06.7
SOC *e*PPP PPP 03 02 47.1
SOC *e*S **S** **03 07 50.9 +2.7**
SOC *e*SS **SS** **03 12 27.4 +0.3**
SOC pmax pmax
comp=Z,22nm,0.7s
SOC MLR MLR
comp=Z,205nm,18.0s
FINES FINESS Array B 73.52 331 P **P** **02 58 30.1 +0.4**
comp=Z,6.6nm,0.7s,baz=59,slow=5.1,SNR=19
FINES LR LR 03 34 38.5
comp=Z,398nm,18.9s,baz=63,slow=39
FINES FINESS Array B 73.52 331 P **P** **02 58 29.6 -0.1**
WRGLY Wrigley 73.60 27 P **P** **02 58 31.0 +0.9**
baz=296
RES Resolute Bay 74.91 11 LR LR 03 34 50.1
comp=Z,124nm,18.7s,baz=31,slow=38
DAG Danmarks Havn 75.20 353 *i* P **P** **02 58 38.0 -1.3**
DAG IAmb IAmb 02 58 39.8
comp=Z,3.0nm,0.7s
MNK Minsk 75.61 324 *i* P **P** **02 58 39.8 -2.2**
MNK *i* 03 01 27.9
MNK *i* PPP PPP 03 03 15.2
MNK *i* S **S** **03 08 18.6 -2.7**
MNK *i* SS **SS** **03 13 11.4 -0.5**
MNK *i* SSS SSS 03 16 33.6
MNK pmax pmax
comp=Z,14nm,0.8s
MNK pmax pmax
comp=E,3.0nm,1.3s
MNK pmax pmax
comp=N,7.0nm,0.7s
MNK MLR MLR
comp=Z,710nm,14.0s
MNK MLR MLR
comp=E,104nm,14.0s
MNK MLR MLR
comp=N,242nm,17.0s
MNK Minsk 75.61 324 *i* P **P** **02 58 39.8 -2.2**
comp=E,3.0nm,1.3s
MNK *i* P **P** **02 58 39.8 -2.2**
comp=N,7.0nm,0.7s
MNK *i* P **P** **02 58 39.8 -2.2**
comp=Z,13nm,0.8s,baz=64
MNK *i* PP **PP** **03 01 27.9 -3.3**
MNK *i* PPP PPP 03 03 15.3
MNK *i* S **S** **03 08 18.7 -2.7**
MNK *i* SS SS 03 13 11.4 -0.5
MNK *i* SSS SSS 03 16 33.6
MNK *i* LQ LQ 03 27 01.3
MNK *i* LR LR 03 32 46.9
MNK *i* LRM MLR 03 36 14.1
comp=Z,710nm,14.1s
MNK *i* LRM MLR 03 36 17.9
comp=E,104nm,14.1s
MNK *i* LRM MLR 03 36 28.1
comp=N,242nm,17.2s
NACGM Naroch 76.02 325 *e*P **P** **02 58 45.2 +0.9**
BBB Bella Bella 76.17 38 LR LR 03 28 57.2
comp=N,28nm,20.3s,baz=300,slow=33
AKASG Malin Array Be 76.50 320 P **P** **02 58 47.7 +0.5**
comp=N,2.0nm,0.5s
AKBB Malin Array Si 76.50 320 IAmb IAmb 02 59 02.7
comp=Z,15nm,0.8s
TULEG Thule 76.50 5 *i* P **P** **02 58 46.6 -0.1**
TULEG IAmb IAmb 02 58 47.0
comp=Z,8.1nm,0.7s
YKA Yellowknife Ar 77.48 26 P **P** **02 58 53.3 +0.8**
comp=Z,8.4nm,0.7s,baz=298,slow=5.6,SNR=165
YKA Yellowknife Ar 77.48 26 *i* P **P** **02 58 53.2 +0.8**
YKA pmax pmax
comp=Z,9.0nm,0.7s
YKA Yellowknife Ar 77.48 26 P **P** **02 58 53.4 +1.0**
DBG Daneborg 77.58 352 *i* P **P** **02 58 51.1 -1.7**
DBG IAmb IAmb 02 59 03.6
comp=Z,2.8nm,0.8s
URZ Urewera 77.95 144 P **P** **02 58 54.4 -0.9**
URZ IAmb IAmb 02 58 56.2
comp=Z,23nm,0.8s
SORM Soroca 78.14 318 ⇑P **P** **02 58 54.8 -1.6**
SORM Soroca 78.14 318 ⇑P **P** **02 58 54.8 -1.6**
BKZ Black Stump Fm 78.30 145 P **P** **02 58 56.8 -0.5**
BKZ IAmb IAmb 02 58 58.5
comp=Z,30nm,1.2s
BR131 Keskin Array S 78.31 309 IAmb IAmb 02 59 03.3
comp=Z,9.6nm,0.8s
BRTR Keskin Array B 78.31 309 P **P** **02 58 58.5 +0.8**
comp=Z,4.8nm,0.7s,baz=107,slow=4.6,SNR=19
BRTR LR LR 03 37 59.7
comp=Z,137nm,20.8s,baz=71,slow=39
BRTR Keskin Array B 78.31 309 P **P** **02 58 58.2 +0.5**
JMIC Jan Mayen 78.55 347 LR LR 03 35 52.7
comp=Z,64nm,18.0s,baz=66,slow=37
TLCR 79.17 315 ⇑P **P** **02 59 06.6 +4.5**
TLCR 79.17 315 ⇑P **P** **02 59 06.6 +4.5**
RPZ Rata Peaks 79.27 151 LR LR 03 33 34.5
comp=Z,98nm,18.6s,baz=324,slow=35
RPZ Rata Peaks 79.27 151 P **P** **02 59 01.6 -0.8**
RPZ IAmb IAmb 02 59 03.6
comp=Z,22nm,0.7s
HFS Hagfors 79.42 333 LR LR 03 38 54.8
comp=Z,373nm,18.1s,baz=44,slow=39
LBZ Lake Benmore 79.44 152 IAmb IAmb 02 59 14.7
comp=Z,40nm,1.4s
TPGR Topolog 79.57 315 ⇑P P 02 58 58.9 -5.4
CFR Carcaliu 79.60 315 ⇑P **P** **02 59 04.8 +0.3**
CFR Carcaliu 79.60 315 ⇑P **P** **02 59 04.8 +0.3**
MMAI Mount Meron Ar 79.82 302 LR LR 03 39 45.3
comp=Z,79nm,18.7s,baz=223,slow=40
NB2 NORSAR Subarra 79.86 334 P **P** **02 59 05.2 -0.5**
comp=Z,18nm,1.4s,baz=52,slow=5.9
NOA NORSAR Array B 79.86 334 P **P** **02 59 05.1 -0.5**
comp=Z,2.2nm,0.7s,baz=50,slow=5.3,SNR=8.9
NOA LR LR 03 38 00.3
comp=Z,126nm,19.9s,baz=50,slow=38
TESR Tescani 79.91 317 ⇑P **P** **02 59 06.5 +0.3**
VRI Vrincioaia 80.16 316 ⇑P **P** **02 59 08.2 +0.7**
VRI Vrincioaia 80.16 316 ⇑P **P** **02 59 08.2 +0.7**
PLOR Plostina 80.22 316 ⇑P **P** **02 59 09.6 +1.7**
PLOR Plostina 80.22 316 ⇑P **P** **02 59 09.6 +1.7**
BURAR Bucovina Array 80.25 318 ⇑P **P** **02 59 09.2 +1.1**
BURAR Bucovina Array 80.25 318 ⇑P **P** **02 59 09.2 +1.1**
BISRR Bisoca 80.32 316 ⇑P P 02 59 13.8 +5.3
GHAJ Ghor Haditha 80.42 300 IAmb IAmb 02 59 24.9
comp=Z,16nm,0.8s
CSS Mathiatis 80.55 304 IAmb IAmb 02 59 25.2
comp=Z,14nm,0.8s
MLR Muntele Rosu 80.82 316 ⇑P P 02 59 17.8 +6.5
MLR Muntele Rosu 80.82 316 ⇑P P 02 59 17.8 +6.5
A04D Lummi Island 80.84 40 P **P** **02 59 11.9 +0.8**
baz=300
DOPR Dopca 80.94 317 ⇑P **P** **02 59 12.5 +0.8**
D03D Eldon 81.20 41 P **P** **02 59 13.6 +0.5**
baz=300
VOIR 81.40 317 ⇑P **P** **02 59 16.2 +1.9**
VOIR 81.40 317 ⇑P **P** **02 59 16.2 +1.9**
B05A Bryant 81.42 40 P **P** **02 59 14.6 +0.4**
baz=300
UZH Uzhgorod 81.45 320 *d i* P **P** **02 59 10.5 -3.8**
UZH *e* 02 59 19.0
ARR Arges 81.69 317 ⇓P **P** **02 59 16.9 +1.1**
HUMR Humele 81.89 316 ⇑P **P** **02 59 17.8 +1.1**
OJC Ojcow 82.02 323 P **P** **02 59 17.9 +0.6**
OJC pmax pmax
comp=Z,14nm,0.9s
OJC Ojcow 82.02 323 P **P** **02 59 17.9 +0.6**
OJC IAmb IAmb 02 59 28.1
comp=Z,14nm,0.9s
DRGR 82.14 319 ⇑P **P** **02 59 14.8 -3.3**
DRGR 82.14 319 ⇑P **P** **02 59 14.8 -3.3**
LOT Lotru 82.18 317 ⇑P **P** **02 59 21.4 +3.0**
ATD Arta Tunnel 82.68 279 LR LR 03 36 14.0
comp=Z,75nm,18.1s,baz=126,slow=36
RAR Rarotonga 82.70 118 LR LR 03 30 38.0
comp=Z,102nm,18.4s,baz=248,slow=32
LANS Liptovska Anna 82.77 322 *e*P **P** **02 59 21.3 0.0**
LANS Liptovska Anna 82.77 322 *e*P **P** **02 59 21.3 0.0**
J01E Myrtle Point 82.86 45 IAmb IAmb 02 59 25.7
comp=Z,16nm,1.0s
J01E Myrtle Point 82.86 45 P **P** **02 59 22.9 +1.1**
baz=300
BUCK Buck Mountain 82.93 44 IAmb IAmb 02 59 26.0
comp=Z,12nm,0.8s
B08A Colville Reser 82.95 39 IAmb IAmb 02 59 24.0
comp=Z,11nm,0.8s
I03D Drain, OR 82.96 45 P **P** **02 59 23.5 +1.2**
baz=300
OKC Ostrava-Krasne 83.12 323 AMS AMS 03 40 00.0
comp=Z,600nm,13.1s
H04A Detroit Lake 83.18 43 P **P** **02 59 24.5 +0.9**
K02D Willamette Mer 83.26 46 P **P** **02 59 24.6 +0.6**
baz=300
PUNG Punghina 83.28 316 ⇑ P 02 59 29.1 +5.1
EDM Edmonton 83.36 33 IAmb IAmb 02 59 27.8
comp=Z,14nm,1.0s
VYHS Vyhne 83.48 321 *e*P **P** **02 59 26.5 +1.5**
VYHS Vyhne 83.48 321 *e*P **P** **02 59 26.5 +1.5**
MORC Moravsky Berou 83.48 323 ⇑P **P** **02 59 27.2 +2.2**
MORC Moravsky Berou 83.48 323 ⇑P **P** **02 59 27.2 +2.2**
MORC Moravsky Berou 83.48 323 *e*P **P** **02 59 28.2 +3.2**
L02E Cave Junction 83.56 46 P **P** **02 59 26.3 +0.8**
baz=300
KRLC Kraliky 83.72 324 *e*P **P** **02 59 26.4 +0.2**
KRLC MLR MLR
comp=Z,700nm,16.7s
KRLC Kraliky 83.72 324 *e*P **P** **02 59 26.4 +0.2**
KRLC AMS AMS 03 40 30.0
comp=Z,700nm,16.7s
OSTC Ostas 83.75 324 *e*P P 02 59 35.2 +8.9
OSTC AMS AMS 03 41 10.0
comp=Z,700nm,11.5s
MDVR Moldovita 83.77 317 ⇑P **P** **02 59 27.0 +0.4**
DPC Dobruska-Polom 83.81 324 *e*P **P** **02 59 27.9 +1.2**
DPC MLR MLR
comp=Z,600nm,13.0s
DPC Dobruska-Polom 83.81 324 *e*P **P** **02 59 27.9 +1.2**
DPC AMS AMS 03 41 10.0
comp=Z,600nm,13.0s
CHVC Chvalec 83.82 324 *e*P **P** **02 59 27.8 +1.1**
CHVC AMS AMS 03 41 20.0
comp=Z,800nm,13.6s
C09A Chrisman Ranch 83.85 39 IAmb IAmb 02 59 28.7
comp=Z,9.6nm,0.8s
D08A Wollman Farm, 83.88 40 IAmb IAmb 02 59 29.3
comp=Z,12nm,0.8s
UPC Upice 83.88 324 *e*P **P** **02 59 27.8 +0.8**
UPC MLR MLR
comp=Z,700nm,15.1s
UPC Upice 83.88 324 *e*P **P** **02 59 27.8 +0.8**
UPC *ex* x 02 59 38.5
UPC AMS AMS 03 41 10.0
comp=Z,700nm,15.1s
VTS Vitosha 83.94 315 ⇑P **P** **02 59 27.7 +0.1**
VTS Vitosha 83.94 315 ⇑P **P** **02 59 27.7 +0.1**
VTS Vitosha 83.94 315 P **P** **02 59 27.1 -0.5**
VTS IAmb IAmb 02 59 41.6
comp=Z,7.0nm,0.8s
J04D Umpqua Nationa 83.97 44 P **P** **02 59 28.9 +1.1**
baz=301
NEW Newport 84.24 38 LR LR 03 38 51.5
comp=Z,33nm,19.0s,baz=316,slow=37
NEW Newport 84.24 38 P **P** **02 59 29.6 +0.7**
baz=304
VRAC Vranov 84.26 323 LR LR 03 39 59.9
comp=Z,205nm,18.6s,baz=54,slow=38
VRAC Vranov 84.26 323 *e*P **P** **02 59 29.8 +0.9**
YBH Yreka Blue Hor 84.35 46 P **P** **02 59 30.7 +1.0**
YBH pmax pmax
comp=Z,3.0nm,0.8s
YBH Yreka Blue Hor 84.35 46 P **P** **02 59 30.7 +1.0**
L04D Klamath Falls 84.37 45 IAmb IAmb 02 59 32.6
comp=Z,14nm,1.2s
L04D Klamath Falls 84.37 45 P **P** **02 59 30.4 +0.6**
baz=301
ICESG Greenland Ices 84.39 356 *i* P **P** **02 59 27.7 -1.9**
ICESG IAmb IAmb 02 59 56.6
comp=Z,4.6nm,0.7s
PINE Pine Mountain 84.41 44 IAmb IAmb 02 59 34.3
comp=Z,12nm,0.9s
MODS Modra-Piesok 84.41 322 *e*P **P** **02 59 30.4 +0.7**
MODS Modra-Piesok 84.41 322 *e*P **P** **02 59 30.4 +0.7**
M02C Callahan 84.43 46 P **P** **02 59 31.0 +0.9**
baz=301
J05D Fort Rock, OR 84.49 44 P **P** **02 59 31.3 +0.9**
baz=302
KRUC Moravsky 84.50 323 *e*P **P** **02 59 29.9 -0.3**
ZST Bratislava 84.61 322 *e*P **P** **02 59 31.8 +1.1**
ZST Bratislava 84.61 322 *e*P **P** **02 59 31.8 +1.1**
PVCC Panska Ves 84.62 325 *e*P P 02 59 36.8 +6.1
PVCC MLR MLR
comp=Z,700nm,10.6s
PVCC Panska Ves 84.62 325 *e*P P 02 59 36.8 +6.1
PVCC *ex* x 02 59 47.2
PVCC AMS AMS 03 41 40.0
comp=Z,700nm,10.6s
BRG Berggiesshubel 84.74 325 *e*P P 02 59 37.0 +5.7
BRG Amp 02 59 38.4
comp=Z,9.3nm,1.3s
BRG Amp 03 42 08.0
comp=E,0.6nm,16.9s
BRG Amp 03 42 11.0
comp=Z,0.9nm,15.4s
BRG Amp 03 42 13.0
comp=N,0.2nm,14.4s
BRG Berggiesshubel 84.74 325 *e*P P 02 59 37.0 +5.7
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG pmax pmax
comp=N,6μm,17.9s
N02D Trinity Center 84.74 47 P **P** **02 59 32.4 +0.8**
baz=301
TREC Trest 84.86 323 AMS AMS 03 41 20.0
comp=N,800nm,15.6s
M04C Macdoel 84.89 46 IAmb IAmb 02 59 36.3
comp=Z,10nm,0.8s
M04C Macdoel 84.89 46 P **P** **02 59 33.3 +0.8**
baz=301
PRU Pruhonice 84.95 324 *e*P **P** **02 59 36.8 +4.4**
PRU *e* 02 59 46.0
PRU MLR MLR
comp=Z,900nm,14.1s
PRU Pruhonice 84.95 324 *e*P **P** **02 59 36.8 +4.4**
PRU *ex* x 02 59 46.0
PRU AMS AMS 03 42 00.0
comp=Z,900nm,14.1s
CLL Collm 84.96 326 *e*P **P** **02 59 33.0 +0.6**
CLL *i* 02 59 38.6
CLL *e*S **S** **03 09 58.0 -1.5**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 84.96 326 P **P** **02 59 31.8 -0.5**
CLL IAmb IAmb 02 59 39.2
comp=Z,8.7nm,0.9s
CLL Collm 84.96 326 *e*P **P** **02 59 33.0 +0.6**
comp=Z,7.0nm,0.9s
CLL *i* x x 02 59 38.6
comp=Z,11nm,0.9s
CLL *e*PP **PP** **03 02 47.0 -1.7**
CLL *e*PPP PPP 03 04 42.0
CLL *e*S **S** **03 09 58.0 -1.5**
CLL *ex* x 03 10 49.0
CLL *e*PS **PnS** **03 11 06.0 +10**
CLL *e*SS **SS** **03 15 36.0 +4.5**
CLL *e*SSS SSS 03 19 18.0
K05A Summer Lake 85.00 44 P **P** **02 59 33.0 0.0**
DIVS Divibare 85.18 317 IAmb IAmb 02 59 44.9
comp=Z,11nm,1.2s
RONA Rosalia, Austr 85.33 322 *e*P **P** **02 59 37.2 +2.8**
comp=Z,10nm,1.8s
CONA Conrad Observa 85.44 322 *i* P **P** **02 59 37.1 +2.1**
comp=Z,9.7nm,1.2s
F10A Beach Ranch, E 85.45 40 IAmb IAmb 02 59 38.1
comp=Z,7.9nm,0.9s
WALA Waterton Lakes 85.53 36 IAmb IAmb 02 59 37.6
comp=Z,7.2nm,0.8s
O03E Paynes Creek 85.68 47 P **P** **02 59 36.9 +0.6**
baz=301
LIT Litokhoron 85.71 313 IAmb IAmb 02 59 42.0
comp=Z,7.5nm,0.8s
CKRC Cesky Krumlov 85.77 323 *e*P **P** **02 59 37.3 +0.8**
CKRC *ex* x 02 59 42.6
MOD Modoc Plateau 85.80 45 IAmb IAmb 02 59 40.7
comp=Z,8.6nm,1.0s
NKC Novy Kostel 85.89 325 AMS AMS 03 42 30.0
comp=Z,1μm,18.6s
KHC Kasperske Hory 85.97 324 *e*P **P** **02 59 36.9 -0.6**
KHC *e* 02 59 42.3
KHC MLR MLR
comp=Z,800nm,15.2s
KHC Kasperske Hory 85.97 324 *e*P **P** **02 59 36.9 -0.6**
KHC *e*PCP **PcP** **02 59 42.3 +2.1**
KHC AMS AMS 03 42 20.0
comp=Z,800nm,15.2s
GERES GERESS Array B 86.07 324 P **P** **02 59 38.6 +0.5**
comp=Z,1.2nm,0.7s,baz=59,slow=6.4,SNR=11
GERES LR LR 03 41 27.4
comp=Z,174nm,19.4s,baz=60,slow=38
JTMT Jette 86.10 38 IAmb IAmb 02 59 40.3
comp=Z,9.8nm,1.1s
J08A Circle Bar Ran 86.15 43 IAmb IAmb 02 59 42.7
comp=Z,10.0nm,0.9s
MOA Mollin 86.36 323 *e*P P 02 59 46.6 +7.1
comp=Z,7.9nm,0.4s
AGG Agios Georgios 86.37 312 IAmb IAmb 02 59 48.9
comp=Z,6.2nm,0.8s
BORG Borgarnes 86.39 348 LR LR 03 40 02.2
comp=Z,46nm,18.1s,baz=42,slow=37
IDI Anoyia 86.52 308 IAmb IAmb 03 00 07.9
comp=Z,7.3nm,0.8s
SOKA Soboth 86.63 321 *i* P **P** **02 59 45.6 +4.7**
comp=Z,7.9nm,0.9s
SFJD Kangerlussuaq 86.78 0 *i* P **P** **02 59 38.5 -2.6**
SFJD IAmb IAmb 02 59 41.1
comp=Z,4.9nm,0.8s
BIOA Bad Ischl, Aus 86.80 323 *i* P P 02 59 48.0 +6.4
comp=Z,5.1nm,0.9s
MSO Missoula 86.83 38 P **P** **02 59 42.3 +0.4**
baz=306
BEKR Beckworth 86.85 47 IAmb IAmb 02 59 45.4
comp=Z,8.2nm,0.9s
GRF Grafenberg Arr 86.85 325 *e*P P 02 59 49.5 +7.7
comp=Z,3.6nm,0.8s,baz=58,slow=4.6
DY2G Dye2 87.27 359 *i* P **P** **02 59 42.2 -1.5**
DY2G IAmb IAmb 02 59 58.1
comp=Z,7.5nm,0.7s
KBA Koelnbreinsper 87.32 322 *e*P **P** **02 59 47.4 +3.0**
comp=Z,9.7nm,1.4s
MPK Martis Peak 87.37 47 IAmb IAmb 02 59 46.6
comp=Z,6.9nm,0.9s
EMB Emerald Bay 87.49 47 IAmb IAmb 02 59 51.2
comp=Z,7.3nm,0.8s
FFC Flin Flon 87.50 27 P **P** **02 59 45.4 +0.6**
FFC pmax pmax
comp=Z,18nm,0.8s
FFC Flin Flon 87.50 27 P **P** **02 59 45.4 +0.6**
MFID Camas Ranch 87.72 42 IAmb IAmb 02 59 48.5

	comp=Z,6.9nm,0.9s						
PNTR	**Pine Nut**	**87.76**	**47**	IAmb	IAmb	02 59 51.3	
	comp=Z,5.0nm,0.7s						
ABTA	**Abfaltersbach**	**87.98**	**322**	*i* P	P	02 59 54.7	+7.2
	comp=Z,6.6nm,1.0s						
WATA	**Walderalm**	**88.12**	**323**	*e*P	P	02 59 55.2	+7.0
	comp=Z,2.9nm,0.6s						
WTTA	**Wattenberg**	**88.14**	**323**	*i* P	P	02 59 56.4	+8.1
	comp=Z,8.1nm,0.9s						
EGMT	**Eagleton**	**88.35**	**36**	P	**P**	**02 59 49.7**	**+0.6**
	baz=309						
MOTA	**Moosalm**	**88.37**	**324**	*i* P	P	02 59 55.6	+6.3
	comp=Z,5.0nm,0.7s						
SQTA	**Sankt Quirin**	**88.39**	**323**	*i* P	P	02 59 55.2	+5.8
	comp=Z,7.1nm,1.3s						
RETA	**Reutte**	**88.46**	**324**	*i* P	P	02 59 59.1	+9.4
	comp=Z,9.5nm,2.0s						
HLID	**Hailey**	**88.47**	**41**	IAmb	IAmb	02 59 52.5	
	comp=Z,6.1nm,0.8s						
HLID	**Hailey**	**88.47**	**41**	P	**P**	**02 59 50.9**	**+0.9**
	baz=306						
FETA	**Feichten**	**88.77**	**323**	*e*P	P	02 59 58.5	+7.2
	comp=Z,4.4nm,0.9s						
FRB	**Frobisher Bay**	**88.82**	**8**	LR	LR	03 41 57.2	
	comp=Z,179nm,19.9s,baz=6.5,slow=37						
BOZ	**Bozeman (W)**	**88.85**	**38**	IAmb	IAmb	02 59 53.6	
	comp=Z,5.6nm,0.8s						
BOZ	**Bozeman (W)**	**88.85**	**38**	P	**P**	**02 59 52.5**	**+0.8**
	baz=308						
NVAR	**Mina Array Bea**	**88.97**	**47**	P	**P**	**02 59 53.5**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=296,slow=5.3,SNR=21						
DAVA	**Damuels**	**89.05**	**324**	*i* P	P	02 59 59.1	+6.5
	comp=Z,8.6nm,0.8s						
PAGB	**Antelope Grade**	**89.12**	**50**	IAmb	IAmb	02 59 59.6	
	comp=Z,6.1nm,0.7s						
PPT	**Papeete**	**89.24**	**110**	LR	LR	03 33 09.1	
	comp=Z,64nm,20.5s,baz=251,slow=31						
EKA	**Eskdalemuir Ar**	**89.29**	**335**	LR	LR	03 45 04.6	
	comp=Z,157nm,18.2s,baz=36,slow=39						
DAVOX	**Davos/Dischmat**	**89.38**	**324**	LR	LR	03 43 51.9	
	comp=Z,281nm,18.4s,baz=83,slow=38						
YHL	**Hebgen Lake**	**89.56**	**39**	IAmb	IAmb	02 59 57.8	
	comp=Z,8.2nm,0.8s						
ELK	**Elko**	**89.62**	**44**	LR	LR	03 32 59.9	
	comp=Z,34nm,20.2s,baz=286,slow=31						
YMR	**Madison River**	**89.79**	**39**	IAmb	IAmb	02 59 59.5	
	comp=Z,10nm,0.7s						
PKM	**Mcpherson Peak**	**89.88**	**51**	P	**P**	**02 59 57.5**	**+0.8**
	baz=303						
H17A	**Grant Village**	**90.18**	**39**	P	**P**	**03 00 01.2**	**+3.2**
	baz=309						
FLWY	**Flagg Ranch**	**90.30**	**39**	IAmb	IAmb	03 00 02.3	
	comp=Z,11nm,0.8s						
RLMT	**Red Lodge**	**90.45**	**38**	IAmb	IAmb	03 00 02.6	
	comp=Z,9.7nm,0.7s						
RLMT	**Red Lodge**	**90.45**	**38**	P	**P**	**02 59 59.9**	**+0.7**
	baz=310						
HVU	**Hansel Valley**	**90.50**	**42**	IAmb	IAmb	03 00 02.1	
	comp=Z,7.5nm,0.8s						
TPAW	**Teton Pass**	**90.53**	**40**	IAmb	IAmb	03 00 02.8	
	comp=Z,5.7nm,0.8s						
SNOW	**Snow King Moun**	**90.66**	**40**	IAmb	IAmb	03 00 03.3	
	comp=Z,5.3nm,0.8s						
R11A	**Troy Canyon, C**	**90.78**	**46**	P	**P**	**03 00 01.5**	**+0.7**
	baz=305						
MPMC	**Manual Prospec**	**90.82**	**49**	P	**P**	**03 00 02.0**	**+0.9**
	baz=304						
DGMT	**Dagmar**	**90.86**	**33**	P	**P**	**03 00 01.1**	**+0.2**
	baz=313						
AHID	**Auburn Hatcher**	**90.89**	**40**	IAmb	IAmb	03 00 05.3	
	comp=Z,5.0nm,0.7s						
FURC	**Furnace Creek,**	**91.01**	**48**	P	**P**	**03 00 02.8**	**+1.1**
	baz=304						
LAO	**LASA Array**	**91.05**	**35**	P	**P**	**03 00 02.9**	**+1.1**
	baz=312						
TPNV	**Topopah Spring**	**91.15**	**47**	IAmb	IAmb	03 00 05.5	
	comp=Z,5.9nm,1.1s						
TPNV	**Topopah Spring**	**91.15**	**47**	P	**P**	**03 00 03.0**	**+0.4**
	baz=305						
DUG	**Dugway, Tooele**	**91.43**	**43**	IAmb	IAmb	03 00 06.2	
	comp=Z,5.8nm,0.8s						
DUG	**Dugway, Tooele**	**91.43**	**43**	P	**P**	**03 00 05.2**	**+1.4**
	baz=307						
GSC	**Goldstone, Bar**	**91.71**	**49**	P	**P**	**03 00 05.9**	**+0.8**
	baz=304						
SHOC	**Shoshone, Teco**	**91.72**	**48**	P	**P**	**03 00 05.9**	**+0.9**
	baz=305						
PSUT	**Pine Spring**	**91.77**	**45**	IAmb	IAmb	03 00 11.4	
	comp=Z,6.9nm,0.9s						
BW06	**Boulder Array**	**91.78**	**40**	IAmb	IAmb	03 00 07.0	
	comp=Z,4.8nm,0.9s						
BW06	**Boulder Array**	**91.78**	**40**	P	**P**	**03 00 06.0**	**+0.5**
	baz=309						
PD31	**Pinedale Array**	**91.78**	**40**	IAmb	IAmb	03 00 07.0	
	comp=Z,4.2nm,0.9s						
PDAR	**Pinedale Array**	**91.78**	**40**	P	**P**	**03 00 06.3**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=295,slow=0.5,SNR=41						
CTU	**Camp Tracy**	**91.78**	**42**	IAmb	IAmb	03 00 10.7	
	comp=Z,4.5nm,0.9s						
NLU	**North Lily Min**	**92.03**	**43**	IAmb	IAmb	03 00 14.5	
	comp=Z,5.0nm,0.8s						
CCUT	**Cedar City**	**92.67**	**45**	IAmb	IAmb	03 00 13.0	
	comp=Z,5.8nm,1.3s						
GMRC	**Granite Mounta**	**92.77**	**49**	P	**P**	**03 00 10.9**	**+0.8**
	baz=305						
PFO	**Pinyon Flats O**	**92.89**	**50**	LR	LR	03 42 34.8	
	comp=Z,52nm,18.2s,baz=273,slow=36						
PFO	**Pinyon Flats O**	**92.89**	**50**	P	**P**	**03 00 11.5**	**+0.8**
PFO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PFO	**Pinyon Flats O**	**92.89**	**50**	P	**P**	**03 00 11.5**	**+0.8**
PFO				IAmb	IAmb	03 00 12.5	
	comp=Z,9.0nm,1.1s						
PFO	**Pinyon Flats O**	**92.89**	**50**	P	**P**	**03 00 11.3**	**+0.6**
	baz=305						
TPFO	**Pinon Flats**	**92.90**	**50**	P	**P**	**03 00 11.3**	**+0.6**
	baz=305						
BELC	**Belle Mtn. Jos**	**92.99**	**50**	P	**P**	**03 00 11.9**	**+0.8**
	baz=305						
LCMT	**Little Creek M**	**93.07**	**46**	IAmb	IAmb	03 00 14.2	
	comp=Z,5.3nm,0.8s						
MTPU	**Mount Pierson**	**93.12**	**45**	IAmb	IAmb	03 00 14.7	
	comp=Z,5.3nm,0.9s						
P17A	**Butcher Ranch,**	**93.14**	**43**	IAmb	IAmb	03 00 14.0	
	comp=Z,7.4nm,0.9s						
RDMU	**Red Mountain**	**93.16**	**41**	IAmb	IAmb	03 00 15.8	
	comp=Z,7.0nm,1.0s						
Q16A	**Castle Valley**	**93.22**	**43**	IAmb	IAmb	03 00 15.7	
	comp=Z,5.8nm,0.9s						
BAR	**Barrett**	**93.27**	**51**	IAmb	IAmb	03 00 14.1	
	comp=Z,6.7nm,0.8s						
ULM	**Lac du Bonnet**	**93.32**	**28**	P	**P**	**03 00 12.3**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=310,slow=2.7,SNR=5.5						
MONP2	**Monument Peak**	**93.33**	**51**	P	**P**	**03 00 12.9**	**+0.1**
	baz=305						
P18A	**Preston Nutter**	**93.34**	**42**	IAmb	IAmb	03 00 15.2	
	comp=Z,14nm,1.4s						
IRM	**Iron Mountain**	**93.48**	**49**	P	**P**	**03 00 14.2**	**+0.9**
	baz=305						
SRU	**San Rafael Swe**	**93.50**	**43**	IAmb	IAmb	03 00 15.2	
	comp=Z,4.2nm,0.7s						
K22A	**Casper**	**93.56**	**38**	P	**P**	**03 00 14.3**	**+0.7**
	baz=311						
BC3	**Big Chuckawall**	**93.56**	**50**	P	**P**	**03 00 14.2**	**+0.5**
	baz=305						
IKP	**In-Ko-Pah, Jac**	**93.68**	**51**	P	**P**	**03 00 15.0**	**+0.7**
	baz=305						
W13A	**Hualapai Mount**	**93.78**	**48**	IAmb	IAmb	03 00 16.8	
	comp=Z,4.0nm,0.8s						
YUH	**Yuha Desert**	**93.81**	**51**	IAmb	IAmb	03 00 16.6	
	comp=Z,5.1nm,0.8s						
RSSD	**Black Hills**	**93.91**	**36**	P	**P**	**03 00 15.1**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.7s						
RSSD	**Black Hills**	**93.91**	**36**	P	**P**	**03 00 15.1**	**-0.2**
RSSD				IAmb	IAmb	03 00 17.6	
	comp=Z,4.2nm,0.7s						
RSSD	**Black Hills**	**93.91**	**36**	P	**P**	**03 00 15.4**	**+0.1**
	baz=313						
U15A	**North Rim**	**94.03**	**46**	IAmb	IAmb	03 00 19.5	
	comp=Z,8.6nm,0.9s						
PDMCI	**Parker Dam,Lak**	**94.07**	**48**	P	**P**	**03 00 16.6**	**+0.7**
	baz=306						
O20A	**White River Ci**	**94.22**	**41**	P	**P**	**03 00 17.2**	**+0.5**
	baz=310						
GLA	**Glamis**	**94.34**	**50**	P	**P**	**03 00 18.2**	**+1.0**
	baz=306						
AGMN	**Agassiz Nation**	**94.81**	**29**	P	**P**	**03 00 19.1**	**0.0**
	baz=320						
PV23	**Carpenter Ridg**	**94.83**	**43**	IAmb	IAmb	03 00 23.4	
	comp=Z,7.7nm,0.8s						
N23A	**Red Feather La**	**95.05**	**39**	P	**P**	**03 00 22.0**	**+1.4**
	baz=312						
Y14A	**Wickenburg**	**95.05**	**48**	IAmb	IAmb	03 00 22.6	
	comp=Z,5.4nm,0.9s						
WUAZ	**Wupatki**	**95.17**	**46**	IAmb	IAmb	03 00 25.2	
	comp=Z,7.1nm,1.0s						
WUAZ	**Wupatki**	**95.17**	**46**	P	**P**	**03 00 22.5**	**+1.3**
	baz=308						
113A	**Mohawk Valley,**	**95.22**	**50**	IAmb	IAmb	03 00 25.0	
	comp=Z,6.8nm,1.2s						
S22A	**4UR Ranch, Cre**	**96.60**	**42**	P	**P**	**03 00 28.8**	**+1.0**
	baz=311						
KEST	**Kesra**	**96.70**	**315**	LR	LR	03 48 02.3	
	comp=Z,93nm,18.2s,baz=250,slow=38						
SCHQ	**Schefferville**	**97.66**	**10**	P	**P**	**03 00 31.5**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=349,slow=3.6,SNR=3.9						
SCHQ				LR	LR	03 45 46.8	
	comp=Z,120nm,21.4s,baz=20,slow=36						
ANMO	**Albuquerque**	**98.65**	**44**	LR	LR	03 49 41.0	
	comp=Z,29nm,18.5s,baz=311,slow=38						
MBAR	**Mbarara**	**98.82**	**274**	LR	LR	03 47 18.4	
	comp=Z,52nm,18.5s,baz=51,slow=37						
TXAR	**Lajitas Array**	**104.12**	**47**	Pdiff	**Pdif**	**03 01 01.8**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=235,slow=3.2,SNR=2.9						
QSPA	**South Pole Qui**	**116.29**	**180**		**PKPdf**	**03 05 39.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**116.36**	**302**	PKP	**PKPdf**	**03 05 41.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=38,slow=1.7,SNR=17						
TORD				PKKPbc	**PKKPbc**	**03 16 12.1**	**+2.5**
	comp=Z,0.6nm,0.7s,baz=240,slow=3.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**116.36**	**302**		**PKPdf**	**03 05 40.5**	**-1.1**
DBIC	**Dimbokro**	**125.43**	**301**	PKP	**PKPdf**	**03 05 58.5**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=76,slow=2.7,SNR=6.5						
MCRA	**Macar, Loja**	**143.65**	**59**		PKPbc	03 06 30.9	+0.4
USHA	**Ushuaia**	**148.56**	**159**	PKPbc	**PKiKP**	**03 06 44.5**	**-0.7**
	comp=Z,5.3nm,0.9s,baz=150,slow=4.7,SNR=2.0						
PLCA	**Paso Flores**	**157.67**	**135**	PKPab	**PKPab**	**03 07 27.2**	**+1.2**
	comp=Z,4.0nm,1.0s,baz=257,slow=3.4,SNR=6.1						
PLCA	**Paso Flores**	**157.67**	**135**	PKP2	**PKPab**	**03 07 26.1**	**0.0**
PLCA	**Paso Flores**	**157.67**	**135**		**PKPab**	**03 07 26.1**	**0.0**
LPAZ	**La Paz**	**160.08**	**63**	PKPab	**PKPab**	**03 07 37.6**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=42,slow=2.3,SNR=5.6						

IDC ***19*** *02:52:38.7±0.8, 55°.59S×26°.89W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/24, mbtmp4.1/5 Error ellipse: s-maj=40.8km s-min=22.9km az=82.0*
NEIC ***19*** *02:52:40.6±1.7, 55°.61S±0°.07×27°.2W±0°.4, h10km±1km, mb4.4/8, Error ellipse: s-maj=39.4km s-min=9.8km az=82.0*

ISC 19 02:52:42.3±0.7, 55°.6S±0°.1×27°.0W±0°.3, h25km, n18, σ0°.80/18, mb4.3/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BELA	**Belgrano 2**	**22.53**	**184**	P	**P**	**02 57 38.6**	**-1.2**
QSPA	**South Pole Qui**	**34.65**	**180**	P	**P**	**02 59 30.0**	**+0.6**
	2.0nm,0.6s,baz=17,slow=4.7,SNR=21						
QSPA	**South Pole Qui**	**34.65**	**180**	P	**P**	**02 59 29.6**	**+0.3**
VNDA	**Vanda**	**47.03**	**183**	P	**P**	**03 01 11.4**	**+0.6**
	1.8nm,0.7s,baz=192,slow=6.5,SNR=5.9						
VNDA	**Vanda**	**47.03**	**183**	P	**P**	**03 01 12.0**	**+1.1**
VNDA				IAmb	IAmb	03 01 13.5	
	comp=Z,2.3nm,0.8s						
LPAZ	**La Paz**	**50.22**	**305**	P	**P**	**03 01 37.1**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=143,slow=5.5,SNR=14						
LPAZ	**La Paz**	**50.22**	**305**	P	**P**	**03 01 37.0**	**+0.1**
LPAZ				IAmb	IAmb	03 01 38.3	
	comp=Z,3.2nm,0.8s						
DBIC	**Dimbokro**	**64.71**	**24**	P	**P**	**03 03 17.5**	**-0.6**
TOA0	**Torodi Ar. Sit**	**72.60**	**29**	P	**P**	**03 04 08.6**	**+1.3**
TOA0				IAmb	IAmb	03 04 30.9	
	comp=Z,8.6nm,1.4s						
TORD	**Torodi Ar. Bea**	**72.60**	**29**	P	**P**	**03 04 08.1**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=195,slow=6.8,SNR=9.1						
TORD	**Torodi Ar. Bea**	**72.60**	**29**	P	**P**	**03 04 08.0**	**+0.7**
TORD				IAmb	IAmb	03 04 15.6	
	comp=Z,4.2nm,1.4s						
ASAR	**Alice Springs**	**99.38**	**162**	P	**Pdif**	**03 06 21.2**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=180,slow=3.7,SNR=2.5						
YKA	**Yellowknife Ar**	**135.92**	**318**	PKP	**PKPdf**	**03 11 58.7**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=130,slow=2.0,SNR=8.0						
YKA	**Yellowknife Ar**	**135.92**	**318**		**PKPdf**	**03 11 58.9**	**-0.5**
INK	**Inuvik**	**145.54**	**321**	PKPbc	**PKPab**	**03 12 16.9**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=80,slow=3.3,SNR=11						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**03 12 28.4**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=133,slow=2.3,SNR=30						
SONM	**Songino Array**	**150.57**	**86**	PKPbc	**PKPbc**	**03 12 30.5**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=214,slow=3.6,SNR=7.4						
SONM	**Songino Array**	**150.57**	**86**		**PKiKP**	**03 12 31.3**	**-0.4**

IDC ***19*** *03:07:09.7±1.8, 14°.42S×166°.59E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/37, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=51.9km s-min=32.8km az=128.0*
NEIC ***19*** *03:07:16.4±1.7, 14°.69S±0°.09×166°.7E±0°.1, h32km±8km, mb4.3/6, Error ellipse: s-maj=19.9km s-min=7.3km az=52.0*

ISC 19 03:07:14.6±1.1, 14°.6S±0°.1×166°.7E±0°.1, h28km, n14, σ1°.9/13/16, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.96**	**149**	Pn	**Pb**	**03 07 31.6**	**-1.1**
SANVU				Sn	**Sn**	**03 07 44.7**	**-0.3**
KOUNC	**Koumac, New Ca**	**6.33**	**201**		**Pn**	**03 08 46.8**	**+0.8**
DZM	**Mont Dzumac**	**7.42**	**182**	Pn	**Pn**	**03 09 02.0**	**+0.9**
	1.2nm,0.3s,baz=356,slow=19,SNR=12						
DZM				Sn	**Sn**	**03 10 24.7**	**+0.3**
	0.2nm,0.3s,baz=317,slow=19,SNR=2.0						
DZM	**Mont Dzumac**	**7.42**	**182**		**Pn**	**03 09 01.6**	**+0.6**
EIDS	**Eidsvold**	**18.13**	**231**	P	**P**	**03 11 23.2**	**-1.4**
WB0	**Warramunga Arr**	**31.24**	**256**	P	**P**	**03 13 32.8**	**+0.7**
WB0				IAmb	IAmb	03 13 44.7	
	comp=Z,3.1nm,1.1s						
WB2	**Warramunga Arr**	**31.29**	**256**	P	**P**	**03 13 31.1**	**-1.4**
WB2				IAmb	IAmb	03 13 35.7	
	comp=Z,5.7nm,1.1s						
WRAB	**Tennant Creek**	**31.29**	**256**	P	**P**	**03 13 32.6**	**+0.1**
WRAB				IAmb	IAmb	03 13 33.4	
	comp=Z,5.7nm,0.8s						
WRA	**Warramunga Arr**	**31.30**	**256**	P	**P**	**03 13 31.0**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=84,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**32.19**	**249**	P	**P**	**03 13 39.9**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=75,slow=8.8,SNR=9.3						
QSPA	**South Pole Qui**	**75.41**	**180**	P	**P**	**03 18 57.1**	**+1.5**
QSPA				IAmb	IAmb	03 19 12.3	
	comp=Z,5.9nm,1.4s						
I21K	**Tanana**	**85.44**	**16**	P	**P**	**03 19 49.2**	**0.0**
ILAR	**Eielson Array**	**86.60**	**18**	P	**P**	**03 19 53.8**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=224,slow=5.1,SNR=6.2						
ILAR	**Eielson Array**	**86.60**	**18**	P	**P**	**03 19 56.4**	**+1.5**

IDC ***19*** *03:27:49.6±1.6, 36°.47N×136°.93E, h263km±11km, mb3.0/3, mb1 3.3/5, mb1mx2.8/57, mbtmp3.8/5, Error ellipse: s-maj=54.5km s-min=17.4km az=100.0*
JMA ***19*** *03:27:50.9±0.2, 36°.41N×137°.14E, h271km±2km, M2.7*

ISC 19 03:27:50.4±0.9, 36°.45N±0°.08×137°.1E±0°.1, h272km±7km, n19, σ0°.74/24, mb3.1/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.27**	**147**	P	**Pn**	**03 28 25.8**	**+0.3**
JGN				*e*S	**S**	**03 28 52.6**	**-0.6**
JKG	**Kaga**	**0.67**	**255**	P	**Pn**	**03 28 27.0**	**+0.7**
MAT	**Matsushiro**	**0.87**	**84**	P	**Pn**	**03 28 27.8**	**+0.6**
MAT				*e*S	**S**	**03 28 56.2**	**0.0**
MJAR	**Matsushiro Arr**	**0.87**	**84**	P	**Pn**	**03 28 27.6**	**+0.4**
	1.1nm,0.3s,baz=282,slow=4.7,SNR=23						
MJAR				S	**S**	**03 28 55.6**	**-0.6**
	0.1nm,0.3s,baz=302,slow=25,SNR=7.9						
JYTA	**Yamagatataniai**	**0.91**	**201**	P	**Pn**	**03 28 27.7**	**+0.3**
JSZ	**Suzu**	**1.01**	**10**	P	**Pn**	**03 28 28.5**	**+0.7**
JHG	**Hegura jima**	**1.41**	**353**	P	**Pn**	**03 28 31.3**	**+1.2**
JRY	**Ryogami san**	**1.49**	**106**	P	**Pn**	**03 28 32.1**	**+1.3**
JRY				*e*S	**S**	**03 29 02.8**	**0.0**
JSD	**Sado**	**1.82**	**29**	P	**Pn**	**03 28 34.2**	**+1.0**
JWT	**Wachi**	**1.82**	**231**	P	**Pn**	**03 28 33.4**	**+0.1**
JAG	**Ashikaga**	**1.87**	**90**	P	**Pn**	**03 28 33.6**	**0.0**
JIE	**Ise**	**2.08**	**190**	P	**Pn**	**03 28 36.0**	**+0.5**
JWY	**Kouya**	**2.56**	**210**	P	**Pn**	**03 28 40.4**	**+0.4**
JWY				S	**S**	**03 29 19.1**	**-0.2**
JTNC	**Tanabenakahech**	**2.91**	**206**	P	**Pn**	**03 28 43.3**	**-0.1**
ASAJ	**Asahikawa**	**8.72**	**27**	P	**Pn**	**03 29 51.2**	**-1.4**
	2.5nm,0.3s,baz=236,slow=10,SNR=20						
ASAJ				S	S	03 31 21.7	-10
	0.3nm,0.3s,baz=207,slow=10,SNR=2.3						
KLR	**Kul'dur**	**13.36**	**345**	P	**Pn**	**03 30 48.9**	**-1.0**
	0.2nm,0.3s,baz=147,slow=11,SNR=5.5						
ILAR	**Eielson Array**	**51.82**	**32**	P	**P**	**03 36 31.4**	**+0.9**
	0.3nm,0.8s,baz=251,slow=6.1,SNR=4.5						
WRA	**Warramunga Arr**	**56.15**	**183**	P	**P**	**03 37 02.0**	**-0.1**
	1.2nm,0.4s,baz=356,slow=7.6,SNR=45						
ASAR	**Alice Springs**	**59.87**	**183**	P	**P**	**03 37 27.8**	**-0.1**
	0.2nm,0.3s,baz=10,slow=7.7,SNR=5.0						

IDC ***19*** *03:31:54.2±1.6, 26°.63N×126°.58E, h88km±15km, mb3.9/17, mb1 4.1/17, mb1mx3.8/49, mbtmp4.2/17, MS3.2/1, Ms1 3.2/1, ms1mx2.4/92, Error ellipse: s-maj=17.3km s-min=11.4km az=80.0*
NEIC ***19*** *03:31:55.1±1.0, 26°.62N±0°.10×126°.63E±0°.05, h90km±7km, mb4.4/30, Error ellipse: s-maj=15.7km s-min=2.6km az=157.0*
JMA ***19*** *03:31:55.3±0.2, 26°.59N×126°.65E, h92km±2km, M3.9*
JMA Felt I J1.
ANF ***19*** *03:32:25.5±0.6, 27°.69N×127°.24E, h300km±4km, ML4.4/25, Error ellipse: s-maj=14.9km s-min=7.0km az=98.0*

ISC 19 03:31:55.2±0.7, 26°.57N±0°.06×126°.65E±0°.05, h96km±6km, n160, σ0°.73/174, mb4.4/30, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.28**	**153**	P	**Pn**	**03 32 09.0**	**-0.2**
JKE				*e*S	**Sn**	**03 32 19.2**	**-0.5**
JAGN	**Aguni-jima**	**0.53**	**88**	P	**Pn**	**03 32 10.7**	**-0.1**
JAGN				S	**Sn**	**03 32 21.8**	**-0.7**
JJT3	**Tamagusuku3**	**1.10**	**113**	P	**Pn**	**03 32 17.2**	**+0.7**
JJT3				S	**Sn**	**03 32 33.5**	**+0.9**
JNTH	**Nagotoyohara**	**1.23**	**92**	P	**Pn**	**03 32 18.2**	**+0.2**
JNTH				S	**Sn**	**03 32 34.4**	**-0.8**
JIH	**Iheya**	**1.27**	**68**	P	**Pn**	**03 32 18.7**	**+0.3**
JIH				S	**Sn**	**03 32 35.5**	**-0.4**
JOW	**Kunigami**	**1.48**	**80**	P	**Pn**	**03 32 21.2**	**+0.3**
	105nm,0.3s,baz=121,slow=24,SNR=313						
JOW				S	**Sn**	**03 32 39.8**	**-0.7**
	897nm,0.3s,baz=122,slow=26,SNR=26						
JOW	**Kunigami**	**1.48**	**80**	P	**Pn**	**03 32 21.0**	**0.0**
JOW				S	**Sn**	**03 32 39.9**	**-0.6**
JOW	**Kunigami**	**1.48**	**80**	P	**Pn**	**03 32 21.5**	**+0.5**
JYRO	**Yoronjima**	**1.67**	**74**	P	**Pn**	**03 32 23.4**	**0.0**
JYRO				S	**Sn**	**03 32 43.5**	**-1.3**
JOKE	**Okinoerabujima**	**1.89**	**65**	P	**Pn**	**03 32 26.0**	**-0.1**
JOKE				*e*S	**Sn**	**03 32 48.8**	**-1.0**
JIKM	**Ikemajima**	**2.07**	**218**	P	**Pn**	**03 32 28.6**	**0.0**
JIKM				*e*S	**Sn**	**03 32 53.2**	**-0.8**
JOGS	**Gusukube**	**2.12**	**212**	P	**Pn**	**03 32 30.2**	**+0.9**
JOGS				S	**Sn**	**03 32 55.3**	**0.0**
JMJ	**Miyako jima 2**	**2.14**	**215**	P	**Pn**	**03 32 31.1**	**+1.7**
JMJ2	**Miyako jima3**	**2.18**	**213**	P	**Pn**	**03 32 29.9**	**-0.1**
JMJ2				*e*S	**Sn**	**03 32 56.0**	**-0.6**
JIRB	**Irabujima**	**2.19**	**218**	P	**Pn**	**03 32 30.0**	**-0.1**
JIRB				S	**Sn**	**03 32 55.3**	**-1.5**
YOJ	**Yonaguni jima**	**3.90**	**238**	Pn	**Pn**	**03 32 53.7**	**+0.7**
YOJ	**Yonaguni jima**	**3.90**	**238**	P	**Pn**	**03 32 53.9**	**+0.9**
YHNB	**Yeheng**	**5.12**	**249**	Pn	**Pn**	**03 33 11.6**	**+1.9**
YHNB	**Yeheng**	**5.12**	**249**	P	**Pn**	**03 33 12.3**	**+2.7**
NACB	**Ninganchiao**	**5.16**	**244**	Pn	**Pn**	**03 33 09.3**	**-0.7**
YULB	**Yu-li**	**5.80**	**238**	Pn	**Pn**	**03 33 16.2**	**-2.5**
SSLB	**Suanglung**	**5.86**	**243**	Pn	**Pn**	**03 33 18.6**	**-1.0**
SSLB	**Suanglung**	**5.86**	**243**	P	**Pn**	**03 33 19.0**	**-0.6**
TPUB	**Ta-pu**	**6.36**	**240**		**Pn**	**03 33 26.4**	**-0.1**
TPUB	**Ta-pu**	**6.36**	**240**	P	**Pn**	**03 33 26.1**	**-0.3**
JNU	**Nakatsue**	**7.49**	**28**		**Pn**	**03 33 41.3**	**-0.4**
JNU	**Nakatsue**	**7.49**	**28**	P	**Pn**	**03 33 41.5**	**-0.2**
KSRS	**Korea Array**	**10.90**	**5**	P	**Pn**	**03 34 31.2**	**+3.1**
	0.3nm,0.3s,baz=179,slow=14,SNR=28						
ASAJ	**Asahikawa**	**21.74**	**32**	P	**P**	**03 36 38.1**	**-0.6**
	4.6nm,0.7s,baz=165,slow=20,SNR=2.0						
SONM	**Songino Array**	**26.51**	**328**	P	**P**	**03 37 23.5**	**-0.2**
	3.1nm,0.6s,baz=145,slow=11,SNR=14						
SONM	**Songino Array**	**26.51**	**328**	P	**P**	**03 37 23.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**26.80**	**258**	P	**P**	**03 37 24.8**	**

comp=Z,3.6nm,0.8s
TOLK **Toolik Lake Re** 63.28 24 P P 03 42 14.0 +0.6
baz=275
TRF **Thorofare Moun** 63.51 30 P P 03 42 15.4 +0.4
baz=277
H23K **Yukon River** 63.56 27 P P 03 42 15.8 +0.6
H23K **Yukon River** 63.56 27 P P 03 42 16.0 +0.8
baz=276,SNR=14
I23K **Minto, Yukon-K** 63.71 28 P P 03 42 16.4 +0.3
I23K IAmb IAmb 03 42 20.3
comp=Z,8.8nm,1.4s
I23K **Minto, Yukon-K** 63.71 28 P P 03 42 16.9 +0.8
baz=277
BRSE **Bradley Lake S** 63.77 34 P P 03 42 17.6 +0.9
baz=278
M22K **Willow** 63.80 32 P P 03 42 16.6 -0.2
baz=278
NEA2 **Nenana** 63.90 29 P P 03 42 17.7 +0.3
NEA2 **Nenana** 63.90 29 P P 03 42 17.8 +0.3
baz=277
MCK **McKinley** 64.07 29 P P 03 42 18.4 -0.2
baz=278
RND **Reindeer** 64.15 30 P P 03 42 19.4 +0.2
MDM **Murphy Dome** 64.21 28 P P 03 42 20.5 +1.0
H24K **Noodor Dome** 64.24 27 P P 03 42 20.3 +0.6
H24K IAmb IAmb 03 42 21.3
comp=Z,3.1nm,0.8s
H24K **Noodor Dome** 64.24 27 P P 03 42 20.1 +0.4
baz=278
PMR **Palmer** 64.28 32 P P 03 42 20.3 +0.4
baz=279
TCOL **CIGO, UAF Yank** 64.38 28 P P 03 42 20.9 +0.4
baz=278
COLA **College** 64.38 28 P P 03 42 21.2 +0.6
baz=278
POKR **Poker Plat Res** 64.52 28 P P 03 42 22.2 +0.7
baz=278
SML **Sawmill** 64.63 32 P P 03 42 22.2 -0.1
baz=279
KNK **Knik Glacier** 64.63 32 P P 03 42 22.3 0.0
baz=279
WAT6 **Susitna Watana** 64.78 31 P P 03 42 23.5 +0.1
baz=279
PWL **Port Wells** 64.78 33 P P 03 42 23.3 +0.1
baz=280
IL31 64.81 28 P P 03 42 22.9 -0.4
ILAR **Eielson Array** 64.81 28 P P 03 42 22.6 -0.7
comp=Z,0.8nm,0.5s,baz=261,slow=5.8,SNR=23
ILAR **Eielson Array** 64.81 28 P P 03 42 22.5 -0.9
SCM **Sheep Creek Mo** 65.09 31 P P 03 42 25.2 -0.1
baz=280
GLI **Glacier Island** 65.37 32 P P 03 42 27.2 +0.1
baz=281
M24K **Tolsona, Glenn** 65.58 31 P P 03 42 28.7 +0.2
baz=281
PAX **Paxson** 65.74 30 P P 03 42 29.8 +0.3
PAX IAmb IAmb 03 42 30.2
comp=Z,3.3nm,1.0s
PAX **Paxson** 65.74 30 P P 03 42 29.8 +0.3
baz=281
KLU **Klutina** 65.82 32 P P 03 42 30.0 0.0
baz=281
RIDG **Independent Ri** 65.86 29 P P 03 42 30.4 +0.2
baz=281
HARP **HAARP** 65.99 31 P P 03 42 31.5 +0.4
baz=282
EYAK **Cordova Ski Ar** 66.09 33 P P 03 42 30.9 -0.7
baz=282
SCRK **Sand Creek** 66.19 29 P P 03 42 32.0 -0.4
SCRK IAmb IAmb 03 42 33.2
comp=Z,2.5nm,0.7s
SCRK **Sand Creek** 66.19 29 P P 03 42 31.5 -0.9
baz=282
J26L **Joseph Creek** 66.26 28 P P 03 42 32.7 -0.1
baz=282
N25K **Chitina, Valde** 66.41 31 P P 03 42 33.8 0.0
baz=282
BMRM **Bremner River** 66.55 32 P P 03 42 35.0 +0.3
baz=283
L26K **Log Cabin Wild** 66.67 30 P P 03 42 35.7 +0.3
baz=283
M26K **Nabesna, AK** 66.97 30 P P 03 42 38.0 +0.6
M26K IAmb IAmb 03 42 38.8
comp=Z,6.9nm,1.0s
M26K **Nabesna, AK** 66.97 30 P P 03 42 37.5 +0.1
baz=284
MCARA **McCarthy VSAT** 67.20 31 P P 03 42 39.1 +0.4
baz=284
EGAK **Eagle** 67.21 28 P P 03 42 38.9 +0.2
baz=284
L27K **Beaver Creek,** 67.34 30 P P 03 42 39.7 +0.1
baz=284
M27K **Edge Creek, AK** 67.49 30 P P 03 42 41.0 +0.3
baz=284
CTG **Chitna Glacier** 68.09 32 P P 03 42 44.8 +0.3
baz=286
DAWY **Dawson** 68.14 28 P P 03 42 44.6 -0.1
baz=286
I29M **Ogilvie Camp,** 68.23 27 P P 03 42 45.4 +0.2
baz=286
YUK3 **Moose Creek** 68.29 31 P P 03 42 46.0 +0.2
baz=286
EPYK **Eagle Plains** 68.56 25 P P 03 42 47.9 +0.7
baz=287
INK **Inuvik** 69.13 23 P P 03 42 50.9 +0.2
INK IAmb IAmb 03 42 51.9
comp=Z,7.1nm,1.1s
INK **Inuvik** 69.13 23 P P 03 42 50.6 -0.1
baz=289,SNR=6.4
ARCES **ARCESS Array B** 69.17 338 P P 03 42 50.0 -0.8
comp=Z,2.2nm,0.9s,baz=62,slow=7.1,SNR=8.0
ARCES **ARCESS Array B** 69.17 338 P P 03 42 50.1 -0.8
ARCES IAmb IAmb 03 43 10.7
comp=Z,9.4nm,1.2s
M30M **Minto, Yukon** 69.69 29 P P 03 42 54.7 +0.4
baz=289
HYT **Haines Junctio** 69.93 31 P P 03 42 56.1 +0.2
baz=289
A36M **Sachs Harbour** 70.35 18 P P 03 42 58.6 +0.6
baz=295
M31M **Drury Creek, Y** 70.88 29 P P 03 43 02.0 +0.5
baz=291
WHY **Whitehorse** 71.20 31 P P 03 43 03.6 +0.1
baz=291
FARO **Faro, Yukon** 71.32 29 P P 03 43 04.6 +0.4
baz=292
FINES **FINESS Array B** 71.86 330 P P 03 43 06.7 -0.7
comp=Z,0.8nm,0.3s,baz=59,slow=5.8,SNR=17
C36M **Paulatuk** 71.88 21 P P 03 43 07.0 -0.3
baz=297,SNR=7.3
MMPY **Sheldon Lake,** 72.07 28 P P 03 43 08.8 0.0
baz=293
RES **Resolute Bay** 75.47 10 P P 03 43 27.9 -0.3
comp=Z,3.9nm,0.6s,baz=298,slow=7.2
RES **Resolute Bay** 75.47 10 P P 03 43 28.2 -0.1
RES IAmb IAmb 03 43 29.0
comp=Z,4.0nm,0.8s
NOA **NORSAR Array B** 78.38 333 P P 03 43 43.7 -1.1
comp=Z,1.6nm,1.0s,baz=56,slow=6.0,SNR=2.6
YKA **Yellowknife Ar** 78.81 25 P P 03 43 47.4 +0.3
comp=Z,2.2nm,0.5s,baz=303,slow=5.4,SNR=64
YKA **Yellowknife Ar** 78.81 25 P P 03 43 47.1 0.0
D03D **Eldon** 83.28 40 P P 03 44 11.8 +0.7
baz=303
B05A **Bryant** 83.45 39 P P 03 44 12.6 +0.6
baz=303
GERES **GERESS Array B** 84.07 322 P P 03 44 14.7 -0.6
comp=Z,0.3nm,0.6s,baz=78,slow=4.5,SNR=2.3
J04D **Umpqua Nationa** 86.18 43 P P 03 44 27.0 +0.9
baz=304
NEW **Newport** 86.18 37 P P 03 44 26.4 +0.6
baz=307
L04D **Klamath Falls** 86.62 44 P P 03 44 29.2 +1.0
baz=304
J05D **Fort Rock, OR** 86.69 43 P P 03 44 29.0 +0.4
baz=304
O02D **Mt. Diablo Mer** 87.42 46 P P 03 44 33.1 +1.0
baz=304
EGMT **Eagleton** 90.17 34 P P 03 44 45.4 +0.6
baz=312
HLID **Hailey** 90.54 40 P P 03 44 47.0 +0.3
baz=309
BOZ **Bozeman (W)** 90.79 37 P P 03 44 48.4 +0.6
baz=311
PKM **Mcpherson Peak** 92.33 49 P P 03 44 55.7 +0.5
baz=305
BW06 **Boulder Array** 93.77 38 P P 03 45 01.9 +0.1
baz=312

PDAR **Pinedale Array** 93.77 38 P P 03 45 01.9 +0.1
comp=Z,0.5nm,0.9s,baz=258,slow=2.9,SNR=5.3
PDAR **Pinedale Array** 93.77 38 P P 03 45 01.7 -0.1
TUC **Tucson** 99.88 46 P Pdif 03 45 30.6 +1.2
baz=311
T25A **Trinidad** 100.50 39 P Pdif 03 45 33.0 +0.7
baz=315

JMA 19 03:33:35.4, 32.84N×130.82E, h12km, M1.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	0.27	297	P	Pg	03 33 41.1	+0.1
JTA				S	Sg	03 33 45.0	+0.2
JIU3	**Izumi3**	0.29	181	P	Pg	03 33 41.5	+0.1
JIU3				S	Sg	03 33 46.1	+0.8

*IDC **19** 03:42:35.6±1.7, 1°.89N×127°.32E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.6/58, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=98.2km s-min=22.6km az=68.0*
*DJA **19** 03:42:49.7±0.6, 2°.2×12°.7E±°, h95km±8km, M4.2/9, mb4.4/3, mB4.3/1, MLv4.0/9, Mw(mB)3.4/1*
*NEIC **19** 03:42:50.3±0.8, 1°.6N±0°.1×127°.2E±0°.2, h122km±10km, mb4.1/11, Error ellipse: s-maj=24.9km s-min=15.6km az=64.0*
ISC 19 03:42:48.3±0.9, 1°.72N±0°.08×127°.21E±0°.09, h103km, n29, σ1°79/32, mb4.1/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	0.95	171		Pn	03 43 11.1	+2.6
TNTI				Sn	Sn	03 43 27.4	+3.7
TNTI	**Ternate**	0.95	171	P	Pn	03 43 12.3	+3.8
LBMI	**Labuha**	2.36	173	P	Pn	03 43 28.5	+2.8
SANI	**Sanana**	3.94	198	P	Pn	03 43 47.5	+0.7
SANI				S	Sn	03 44 30.4	-1.6
GTOI	**Gorontalo**	4.33	256	P	Pn	03 43 55.1	+3.0
NLAI	**Namlea**	4.93	181	P	Pn	03 44 02.0	+1.9
NLAI				S	Sn	03 44 53.9	-2.1
APSI	**Ampana**	6.14	245	P	Pn	03 44 18.4	+1.8
	0.2nm18nm,0.5s						
TOLI2	**Tolitoli**	6.46	265		Pn	03 44 22.0	+1.1
SPSI	**Sidrap Palu**	9.34	233	P	Pn	03 45 02.6	+2.5
KAPI	**Kappang**	10.01	228	Pn	Pn	03 45 09.9	+0.7
KNRA	**Kununurra**	17.35	175		P	03 46 43.5	-0.5
KNRA				IAmb	IAmb	03 46 47.3	
	comp=Z,6.9nm,0.6s						
FITZ	**Fitzroy Crossi**	19.75	184	P	P	03 47 10.0	-0.2
	comp=Z,0.3nm,0.3s,baz=16,slow=10,SNR=17						
WB0	**Warramunga Arr**	22.49	162	P	P	03 47 37.5	-1.9
WB0				IAmb	IAmb	03 47 46.0	
	comp=Z,4.9nm,0.8s						
WRAB	**Tennant Creek**	22.63	162	P	P	03 47 40.0	-0.9
WRAB				IAmb	IAmb	03 47 47.3	
	comp=Z,6.2nm,0.6s						
WRA	**Warramunga Arr**	22.64	162	P	P	03 47 40.0	-0.9
	comp=Z,3.4nm,0.5s,baz=340,slow=11,SNR=74						
WRA	**Warramunga Arr**	22.64	162	P	P	03 47 38.8	-2.1
WB2	**Warramunga Arr**	22.64	162	P	P	03 47 39.9	-1.1
WB2				IAmb	IAmb	03 47 47.7	
	comp=Z,7.7nm,0.8s						
WR0	**Warramunga Arr**	22.71	162	P	P	03 47 40.7	-1.0
WR0				IAmb	IAmb	03 47 41.2	
	comp=Z,3.6nm,0.6s						
PMG	**Port Moresby**	22.74	119	P	P	03 47 40.8	-1.2
ASAR	**Alice Springs**	26.06	166	P	P	03 48 11.7	-0.7
	comp=Z,0.6nm,0.5s,baz=346,slow=7.3,SNR=10.0						
ASAR	**Alice Springs**	26.06	166	P	P	03 48 10.8	-1.5
BBOO	**Buckleboo**	35.35	167	P	P	03 49 33.2	-0.7
BBOO				IAmb	IAmb	03 49 51.5	
	comp=Z,5.7nm,1.2s						
STKA	**Stephens Creek**	36.09	159	P	P	03 49 40.0	-0.4
	comp=Z,2.7nm,0.6s,baz=334,slow=8.4,SNR=13						
STKA	**Stephens Creek**	36.09	159	P	P	03 49 39.7	-0.6
MK31	**Makanchi Array**	59.47	326	P	P	03 52 40.3	-0.3
MK31				IAmb	IAmb	03 52 40.8	
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	59.47	326	P	P	03 52 39.9	-0.7
	comp=Z,0.9nm,0.4s,baz=122,slow=8.3,SNR=7.2						
MKAR	**Makanchi Array**	59.47	326	P	P	03 52 39.2	-1.3
KURK	**Kurchatov**	63.69	328	P	P	03 53 08.8	+0.1
ABKAR	**Akbulak array**	74.00	321	P	P	03 54 12.8	0.0

*IDC **19** 03:52:12.0±0.8, 32°.77N×130°.61E, h0km, mb3.7/9, mb1 3.9/15, mb1mx3.7/60, mbtmp3.8/15, ML3.0/5, MS3.1/2, Ms1 3.1/2, ms1mx2.5/96, Error ellipse: s-maj=16.6km s-min=7.4km az=127.0*
*NEIC **19** 03:52:13.7±0.8, 32°.76N±0°.02×130°.69E±0°.05, h7km±6km, mb4.5/4, Error ellipse: s-maj=5.7km s-min=2.7km az=87.0*
*NIED **19** 03:52:14.0, 32°.78N×130°.78E, h11km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=0.16; Mθθ0.16; Mϕϕ=0.01; Mrθ=0.39; Mθϕ=0.03; Mϕr=1.13; Fault plane solution: M0 1.20000×10^15^ NP1: ϕs259.00000°, δ4.00000°, λ-31.00000°. NP2:ϕp20.00000°, δ88.00000°, λ-94.00000°.*
*JMA **19** 03:52:14.0, 32°.78N×130°.78E, h11km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕs198.00000°, δ87.00000°, λ84.00000°. NP2:ϕp86.00000°, δ7.00000°, λ157.00000°. Principal axes: T Plg47.0000°, Azm102.0000°; N Plg6.0000°, Azm199.0000°; P Plg42.0000°, Azm294.0000°;*
JMA Felt III J1.
ISC 19 03:52:13.8±0.5, 32°.76N±0°.03×130°.70E±0°.05, h12km, n40, σ0°86/45, mb3.6/11, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	0.23	156	⇓P	Pg	03 52 18.9	+0.2
JTA	**Tamana**	0.25	325	⇑P	Pg	03 52 19.8	+0.8
JNU	**Nakatsue**	0.39	23	Pg	Pg	03 52 20.9	-0.7
	272nm,0.3s,baz=200,slow=12,SNR=75						
JNU				Lg	Lg	03 52 25.2	
	2μm,0.3s,baz=307,slow=20,SNR=56						
JNU	**Nakatsue**	0.39	23	⇓P	Pg	03 52 21.3	-0.3
JNU				S	Sg	03 52 26.0	-0.8
JNU	**Nakatsue**	0.39	23		Pg	03 52 21.3	-0.3
JNU				Sg	Sg	03 52 26.1	-0.8
JTZ	**Takazaki**	0.92	159	⇑P	Pg	03 52 31.5	-0.1
JTZ				S	Sg	03 52 43.7	+0.2
JSU	**Suzuyama**	1.27	190		Pn	03 52 37.3	-0.1
JSU				Sg	Sb	03 52 54.0	+0.1
JTU	**Tsushima**	2.07	329		Pn	03 52 48.7	+0.4
JMN	**Monobe**	2.83	69	Pn	Pn	03 52 59.8	+0.9
JHS	**Saijyo**	3.00	41		Pn	03 53 01.9	+0.6
TJN	**Taejon**	4.54	324	Pn	Pn	03 53 22.4	+0.2
KSRS	**Korea Array**	5.21	335	Pn	Pn	03 53 32.2	+0.7
	0.4nm,0.3s,baz=150,slow=13,SNR=8.3						
KSRS				Pg	Pb	03 53 45.1	+0.4
	0.7nm,0.3s,baz=153,slow=15,SNR=9.0						
KSRS				Lg	Lg	03 54 56.8	
	2.4nm,0.3s,baz=156,slow=30,SNR=9.7						
KSRS				LR	LR	03 55 12.7	
	comp=Z,55nm,20.8s,baz=165,slow=35						
KSAR	**Wonju Array Be**	5.21	334	Pn	Pn	03 53 32.3	+0.7
KS19	**Wonju Array Si**	5.27	335	Pn	Pn	03 53 32.3	0.0
INU	**Inuyama**	5.84	62		Pn	03 53 40.6	+0.4
JGF	**Kuroka**	6.20	61	Pn	Pn	03 53 46.3	+1.1
JOW	**Kunigami**	6.27	200	Pn	Pn	03 53 46.6	+0.4
	0.9nm,0.3s,baz=63,slow=6.8,SNR=2.4						
JOW	**Kunigami**	6.27	200		Pn	03 53 46.0	-0.2
MJAR	**Matsushiro Arr**	7.25	57	Pn	Pn	03 54 00.0	+0.5
	0.2nm,0.3s,baz=241,slow=12,SNR=3.1						
JHJ	**Hachijo jima 2**	7.64	85	Pn	Pn	03 54 05.4	+0.4
	22nm,0.3s,baz=226,slow=24,SNR=7.9						
JHJ2	**Mitsune**	7.67	85	Pn	Pn	03 54 05.6	+0.2
ASAJ	**Asahikawa**	14.66	36	Pn	Pn	03 55 41.3	+0.3
	0.1nm,0.3s,baz=208,slow=15,SNR=1.6						
KLR	**Kul'dur**	16.47	2	Pn	Pn	03 56 05.5	+0.8
	0.1nm,0.3s,baz=336,slow=21,SNR=1.7						
SONM	**Songino Array**	23.74	316	P	P	03 57 27.2	+1.2
	1.5nm,0.8s,baz=128,slow=9.7,SNR=6.5						
SONM				LR	LR	04 07 40.1	
	comp=Z,177nm,18.1s,baz=326,slow=39						
SONM	**Songino Array**	23.74	316	P	P	03 57 24.1	-1.9
MKAR	**Makanchi Array**	39.14	306	P	P	03 59 39.0	-2.3
	0.6nm,0.8s,baz=84,slow=11,SNR=4.8						
BRVK	**Borovoye**	47.12	314	P	P	04 00 45.8	+0.2
BRVK				IAmb	IAmb	04 00 47.2	

KK31 **Karatay Array** 47.66 301 P P 04 00 50.3 +0.2
KKAR **Karatay Array** 47.66 301 P P 04 00 50.0 0.0
KKAR **Karatay Array** 47.66 301 P P 04 00 50.3 +0.2
KKAR IAmb IAmb 04 00 51.8
comp=Z,4.4nm,0.8s
WRA **Warramunga Arr** 52.52 176 P P 04 01 26.1 -0.9
comp=Z,0.3nm,0.7s,baz=355,slow=8.5,SNR=2.2
ASAR **Alice Springs** 56.20 176 P P 04 01 54.2 +0.5
comp=Z,0.4nm,0.8s,baz=9.7,slow=11,SNR=4.8
ASAR **Alice Springs** 56.20 176 P P 04 01 51.9 -1.8
ILAR **Eielson Array** 57.70 30 P P 04 02 04.7 +0.7
comp=Z,0.5nm,0.8s,baz=273,slow=5.9,SNR=2.2
KBZ **Khabaz** 66.77 308 P P 04 03 05.4 +0.4
comp=Z,1.8nm,0.9s,baz=156,slow=2.3,SNR=6.3
FINES **FINESS Array B** 68.28 330 P P 04 03 13.3 -1.0
comp=Z,1.2nm,0.5s,baz=88,slow=7.5,SNR=10
FINES **FINESS Array B** 68.28 330 P P 04 03 12.8 -1.5
YKA **Yellowknife Ar** 71.72 26 P P 04 03 36.1 +0.7
comp=Z,0.1nm,0.7s,baz=309,slow=5.9,SNR=2.1
BRTR **Keskin Array B** 74.75 308 P P 04 03 53.3 -0.7
comp=Z,0.7nm,0.8s,baz=152,slow=5.5,SNR=4.8
CLL **Collm** 80.01 326 *eP* P 04 04 25.0 +2.0

*IDC **19** 03:57:07.3±1.8, 0°.10N×80°.49W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/28, mbtmp3.6/5, Error ellipse: s-maj=94.0km s-min=27.6km az=51.0*
ISC 19 03:57:07.4±1.5, 0°.4S±0°.2×80°.9W±0°.1, h10km, n17, σ1°43/16, mb3.6/4, 3C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAC1	**Pacto, Paraso**	2.19	73	*eP*	Pn	03 57 42.7	-1.3
PAC1				*eS*	Sn	03 58 11.4	+0.2
CUSE	**Cuicocha Este**	2.58	75	*eP*	Pn	03 57 49.3	-0.3
TULM	**Tulcn-Chalpat**	3.28	71	*eP*	Pn	03 58 01.8	+2.4
GCUF	**Volcan Galeras**	3.88	66	*eP*	Pn	03 58 09.1	+1.5
GR1C	**Gorgona, Isla**	4.31	39	*eP*	Pn	03 58 13.9	+0.8
SOTA	**Rioblanco**	4.95	60	⇑*iP*	Pn	03 58 20.5	-1.7
POPC	**Popayan, Colom**	5.10	56	*eP*	Pn	03 58 24.3	+0.1
MARP	**Paez Belalcaza**	5.87	57	⇑*eP*	Pn	03 58 34.8	0.0
GARC	**Garzon, Huila**	5.96	65	*eP*	Pn	03 58 34.8	-1.2
PTLC	**Puerto Leguiza**	6.11	85	⇑*eP*	Pn	03 58 39.6	+1.7
YOTC	**Yotoco, Valle**	6.26	46	*eP*	Pn	03 58 41.4	+1.3
ROSC	**El Rosal**	8.35	52	Pn	Pn	03 59 14.4	+5.5
	1.5nm,0.3s,baz=307,slow=20,SNR=1.8						
LPAZ	**La Paz**	20.22	142	P	Pn	04 01 45.7	+0.4
	1.4nm,0.7s,baz=324,slow=8.6,SNR=8.1						
NVAR	**Mina Array Bea**	51.69	323	P	P	04 06 17.0	+1.9
	0.4nm,0.6s,baz=134,slow=7.7,SNR=2.5						
YKA	**Yellowknife Ar**	67.63	344	P	P	04 08 03.2	-1.0
	0.2nm,0.5s,baz=142,slow=6.1,SNR=8.0						
INK	**Inuvik**	77.30	342	P	P	04 09 00.3	-1.4
	0.9nm,0.7s,baz=122,slow=4.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	82.86	77	P	P	04 09 32.6	-0.3
	0.5nm,0.8s,baz=281,slow=4.5,SNR=4.7						

*IDC **19** 04:01:13.6±13.0, 36°.04N×70°.67E, h158km±133km, mb3.1/4, mb1 3.1/5, mb1mx2.9/41, mbtmp3.5/5, MS3.2/3, Ms1 3.2/3, ms1mx2.5/36, Error ellipse: s-maj=68.8km s-min=30.8km az=16.0*
*NNC **19** 04:01:25.7±3.4, 36°.91N×70°.79E, h210km±42km, mb2.7, mpv4.0, Error ellipse: s-maj=34.4km s-min=22.5km az=179.0*
ISC 19 04:01:18.9±1.2, 36°.4N±0°.1×70°.8E±0°.1, h200km, n18, σ1°75/17, mb3.4/3, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	6.11	21	P	Pn	04 02 49.0	+1.1
	SNR=74						
UCH	**Uchtor**	6.46	25	P	Pn	04 02 53.9	+1.4
	SNR=29						
EKS2	**Erkin-Say**	6.63	20	P	Pn	04 02 56.0	+1.6
	SNR=20						
KK31	**Karatay Array**	6.66	358	⇓P	Pn	04 02 55.5	+0.9
	2.7nm,0.3s,baz=174,slow=11,SNR=150						
KK31				S	Sn	04 04 07.1	-3.4
	2.7nm,0.4s,baz=184,slow=22,SNR=5.1						
AAK	**Ala-Archa**	6.82	24	P	Pn	04 02 58.5	+1.7
	SNR=8.9						
KBK	**Karagaybulak**	6.99	26	P	Pn	04 03 01.0	+1.9
	SNR=5.9						
TKM2	**Tokmak 2**	7.46	28	P	Pn	04 03 06.7	+1.5
	SNR=15						
TKM2	**Tokmak 2**	7.46	28	P	Pn	04 03 06.6	+1.4
	10.0nm,0.7s						
TKM2				⇑S	Sn	04 04 27.7	-2.0
	2.0nm,0.7s						
MKAR	**Makanchi Array**	13.44	36	P	P	04 04 23.9	-0.6
	baz=214,slow=12,SNR=3.1						
AB31	**Akbulak array**	15.05	332	P	P	04 04 43.8	+1.7
	0.2nm,0.3s,baz=130,slow=12,SNR=11						
AKTO	**Aktyubinsk**	16.74	331	⇑P	Pn	04 05 02.1	+0.2
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	20.04	25	P	P	04 05 37.2	+0.8
	0.4nm,0.5s,baz=230,slow=8.9,SNR=2.0						
MMAI	**Mount Meron Ar**	29.18	274	LR	LR	04 22 35.5	
	comp=Z,46nm,18.2s,baz=197,slow=44						
PALK	**Pallekele**	30.42	160	LR	LR	04 20 28.2	
	comp=Z,43nm,18.2s,baz=174,slow=38						
EIL	**Elat**	30.66	268	LR	LR	04 23 12.6	
	comp=Z,40nm,18.2s,baz=282,slow=43						
FINES	**FINESS Array B**	37.43	326	P	P	04 08 14.1	+1.6
	3.6nm,1.0s,baz=125,slow=7.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	65.54	269	P	P	04 11 39.6	-1.7
	0.3nm,0.5s,baz=46,slow=5.4,SNR=8.9						
WRA	**Warramunga Arr**	82.11	122	P	P	04 13 16.3	-1.0
	0.1nm,0.7s,baz=328,slow=4.9,SNR=1.1						

*SOME **19** 04:09:02.2, 40°.82N×78°.40E, h20km*
*NNC **19** 04:09:03.2±1.2, 40°.90N×78°.29E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=8.3km s-min=5.5km az=166.0*
*KRNET **19** 04:09:04.5±0.1, 40°.90N×78°.13E, h13km, mb2.9*
ISC 19 04:09:07.7±2.8, 41°.07N±0°.09×78°.20E±0°.04, h1km±15km, n56, σ1°42/87, 13C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	1.30	325	⇓*iP*	Pn	04 09 30.8	-2.5
	baz=31						
KDJ				⇓*iS*	Sb	04 09 50.4	-0.1
	baz=31						
ANVS	**Anan'yevo**	1.75	347	⇑*iP*	Pb	04 09 40.2	-0.7
	baz=50						
ANVS				⇑*eS*	Sg	04 10 05.9	+1.8
	baz=50						
ULHL	**Ulahol**	1.88	309	⇑*iP*	Pn	04 09 40.7	-0.5
	baz=14						
ULHL				⇑*eS*	Sb	04 10 07.1	+0.1
	baz=14						
SATY	**Saty**	1.99	4	*eP*	Pb	04 09 43.3	-1.6
	9.9nm,0.3s						
SATY				*eS*	Sg	04 10 13.2	+1.5
	21nm,0.3s						
SATY	**Saty**	1.99	4	Pg	Pb	04 09 43.3	-1.6
	9.9nm,0.3s						
SATY				Lg	Lg	04 10 13.6	
	21nm,0.3s						
ZHN	**Zhinishke**	2.10	5	*eP*	Pb	04 09 45.3	-1.4
	6.1nm,0.2s						
ZHN				*eS*	Sg	04 10 16.7	+1.4
	36nm,0.3s						
ZHN	**Zhinishke**	2.10	5	Pg	Pb	04 09 45.3	-1.4
	13nm,0.2s						
ZHN				Lg	Lg	04 10 16.9	
	39nm,0.2s						
UZB	**Uzunbulak**	2.16	16	*eP*	Pb	04 09 45.5	-2.2
	4.7nm,0.2s						
UZB				*eS*	Sg	04 10 17.1	-0.2
	14nm,0.3s						
UZB	**Uzunbulak**	2.16	16	Pg	Pb	04 09 45.5	-2.2
	4.7nm,0.2s						
UZB				Lg	Lg	04 10 17.1	
	14nm,0.3s						
TNSS	**Tian-Shan**	2.17	335	*eP*	Pb	04 09 46.7	-1.4
	16nm,0.1s						
TNSS				*eS*	Sg	04 10 19.0	+1.4
	7.8nm,0.5s						
TNSS	**Tian-Shan**	2.17	335	Pg	Pb	04 09 46.7	-1.4
	16nm,0.1s						

TNSS Lg Lg 04 10 19.0
7.8nm,0.5s
BOOM Boomskoye usch 2.20 311⇑*iP* Pn 04 09 45.4 -0.2
baz=15
BOOM ⇑*iS* **Sb 04 10 14.8 -1.5**
baz=15
MDOK Medeo 2.26 338 *e*P Pb 04 09 48.2 -1.2
12nm,0.3s
MDOK *e*S **Sg 04 10 21.4 +1.2**
17nm,0.6s
MDOK Medeo 2.26 338 ⇓Pg Pb 04 09 48.0 -1.4
5.8nm,0.4s
MDOK Lg Lg 04 10 21.1
13nm,0.7s
MDOK Medeo 2.26 338 Pg Pb 04 09 48.2 -1.2
14nm,0.5s
MDOK Lg Lg 04 10 21.4
SHLS Shalkode 2.29 24 *e*P Pb 04 09 49.4 -0.5
2.4nm,0.1s
SHLS *e*S **Sg 04 10 23.6 +2.4**
15nm,0.5s
SHLS Shalkode 2.29 24 Pg Pb 04 09 49.4 -0.5
2.4nm,0.1s
SHLS Lg Lg 04 10 23.6
15nm,0.5s
IZV Izvestkoviy 2.29 330 *e*P Pn 04 09 46.1 -0.7
2.5nm,0.2s
IZV *e*S **Sb 04 10 17.5 -1.3**
15nm,0.2s
KOTS Kotyrbulak 2.31 340 *e*P Pb 04 09 50.3 +0.1
6.9nm,0.3s
KOTS *e*S **Sg 04 10 24.7 +2.8**
26nm,0.3s
KOTS Kotyrbulak 2.31 340 Pg Pb 04 09 49.9 -0.3
6.9nm,0.3s
KOTS Lg Lg 04 10 24.2
26nm,0.3s
KURS Kuram 2.42 360 *e*P Pb 04 09 50.5 -1.5
9.1nm,0.6s
KURS *e*S **Sg 04 10 25.4 +0.1**
8.6nm,0.6s
KURS Kuram 2.42 360 Pg Pb 04 09 50.5 -1.5
9.1nm,0.6s
KURS Lg Lg 04 10 25.4
8.6nm,0.6s
KPKS Kokpek 2.42 8 *e*P Pb 04 09 50.6 -1.6
8.0nm,0.2s
KPKS *e*S **Sg 04 10 25.5 0.0**
24nm,0.4s
MTBS Maitube 2.44 328 *e*P Pb 04 09 51.1 -1.4
5.1nm,0.2s
MTBS *e*S **Sg 04 10 26.4 +0.2**
9.0nm,0.4s
MTBS Maitube 2.44 328 Pg Pb 04 09 51.1 -1.4
5.1nm,0.2s
MTBS Lg Lg 04 10 26.4
9.0nm,0.4s
PDGK Podgornoye 2.45 23 Pg Pn 04 09 48.4 -0.6
3.5nm,0.5s
PDGK Lg Lg 04 10 22.2
7.8nm,0.6s
PDGK Podgornoye 2.45 23 ⇑Pg Pb 04 09 51.9 -0.8
3.9nm,0.5s
PDGK ⇓Lg Lg 04 10 23.8
9.6nm,0.5s
KST Kastek 2.58 321 *e*P Pb 04 09 54.0 -0.8
5.4nm,0.3s
KST *e*S **Sg 04 10 31.4 +0.9**
11nm,0.5s
KST Kastek 2.58 321 Pg Pb 04 09 54.0 -0.8
5.4nm,0.3s
KST Lg Lg 04 10 31.4
11nm,0.5s
TKM2 Tokmak 2 2.68 315⇑*e*P Pn 04 09 52.0 -0.2
baz=18
TKM2 ⇑*i*S **Sn 04 10 26.8 +1.4**
baz=18
TKM2 Tokmak 2 2.68 315 ⇑Pg Pb 04 09 55.5 -1.1
1.3nm,0.3s
TKM2 ⇑Lg Lg 04 10 33.6
7.2nm,0.5s
DGS Degeres 2.82 321 *e*P Pb 04 09 58.0 -0.9
8.4nm,0.5s
DGS *e*S **Sg 04 10 37.9 -0.4**
9.9nm,0.6s
DGS Degeres 2.82 321 Pg Pb 04 09 58.4 -0.5
8.4nm,0.5s
DGS Lg Lg 04 10 38.4
9.9nm,0.6s
KTBS Karatobe 2.87 338 *e*P Pb 04 09 58.7 -1.1
4.1nm,0.4s
KTBS *e*S **Sg 04 10 39.0 -0.8**
7.1nm,0.7s
KTBS Karatobe 2.87 338 Pg Pb 04 09 58.7 -1.1
4.1nm,0.4s
KTBS Lg Lg 04 10 39.0
7.1nm,0.7s
KBK Karagaybulak 2.90 304⇓*i*P Pn 04 09 54.6 -0.6
baz=7.0
KBK ⇓*i*S **Sn 04 10 31.1 +0.4**
baz=7.0
CHKK Chushkaly 2.92 343 *e*P Pb 04 09 59.6 -1.0
4.1nm,0.2s
CHKK *e*S **Sg 04 10 40.8 -0.8**
13nm,0.2s
CHKK Chushkaly 2.92 343 Pg Pb 04 09 59.6 -1.0
4.1nm,0.2s
CHKK Lg Lg 04 10 40.8
13nm,0.2s
UCH Uchtor 2.99 294⇑*i*P Pn 04 09 55.6 -1.1
baz=97
UCH ⇑*e*S **Sn 04 10 32.9 -0.5**
baz=97
BLB Baldybastay 3.03 4 *e*P Pb 04 10 01.4 -1.2
14nm,0.4s
BLB *e*S **Sg 04 10 43.7 -1.4**
36nm,0.3s
KUU Kurty 3.14 335 *e*P Pb 04 10 02.1 -2.1
0.7nm,0.2s
KUU *e*S **Sb 04 10 45.4 +2.3**
4.1nm,0.3s
KUU Kurty 3.14 335 Pg Pb 04 10 02.2 -2.1
0.7nm,0.2s
KUU Lg Lg 04 10 45.4
4.1nm,0.3s
ARXS Arharly 3.15 355 *e*P Pb 04 10 03.4 -1.2
2.9nm,0.3s
ARXS *e*S **Sg 04 10 47.7 -1.3**
5.1nm,0.4s
ARXS Arharly 3.15 355 Pg Pb 04 10 03.4 -1.2
2.9nm,0.3s
ARXS Lg Lg 04 10 48.1
5.1nm,0.4s
AAK Ala-Archa 3.18 301⇓*i*P Pn 04 09 58.2 -0.8
baz=4.0
AAK ⇓*i*S **Sn 04 10 37.9 +0.3**
baz=4.0
CHMS Chumysh 3.21 308 ⇓Pg Pn 04 10 01.2 +1.9
1.5nm,0.5s
CHMS ⇓Lg Lg 04 10 49.8
3.4nm,0.5s
KRBS Karabastau 3.22 325 *e*P Pb 04 10 04.5 -1.2
1.9nm,0.4s
KRBS *e*S **Sb 04 10 49.1 +3.6**
4.9nm,0.4s
KRBS Karabastau 3.22 325 Pg Pb 04 10 04.3 -1.4
1.9nm,0.4s
KRBS Lg Lg 04 10 49.1
4.9nm,0.4s
DJR Jarkent 3.46 19 *e*P Pb 04 10 07.5 -2.4
0.5nm,0.1s
DJR *e*S **Sb 04 10 54.4 +1.8**
7.6nm,0.6s
DJR Jarkent 3.46 19 Pg Pb 04 10 07.5 -2.4
0.5nm,0.1s
DJR Lg Lg 04 10 54.4
7.6nm,0.6s
SGDS Sogindy 3.56 313 *e*P Pb 04 10 11.0 -0.5
0.6nm,0.2s
SGDS *e*S **Sg 04 11 00.2 -1.8**
3.6nm,0.8s
SGDS Sogindy 3.56 313 Pg Pb 04 10 10.6 -0.9
0.6nm,0.2s
SGDS Lg Lg 04 10 59.9
3.6nm,0.8s
MRKS Merke 4.07 296 *e*P Pb 04 10 21.6 +1.4
1.7nm,0.3s
MRKS *e*S **Sg 04 11 18.7 +0.3**
3.5nm,0.4s
MRKS Merke 4.07 296 Pg Pb 04 10 21.6 +1.4
1.7nm,0.3s
MRKS Lg Lg 04 11 18.7
3.5nm,0.4s
KAPS Kapalarasan 4.30 11 *e*P Pb 04 10 26.2 +2.1
0.7nm,0.3s
KAPS *e*S **Sg 04 11 26.6 +0.9**
4.6nm,0.4s
KAPS Kapalarasan 4.30 11 Pg Pb 04 10 26.2 +2.1
0.7nm,0.3s
KAPS Lg Lg 04 11 26.6
4.6nm,0.4s

*IDC **19** 04:09:39.4±2.2, 4.°65S×143.°97E, h97km±24km, mb3.8/9, mb1 4.0/14, mb1mx3.8/32, mbtmp4.3/14, MS3.0/3, Ms1 3.0/3, ms1mx2.6/64, Error ellipse: s-maj=20.7km s-min=13.3km az=112.0*
*NEIC **19** 04:09:41.0±1.2, 4.°70S±0.°10×144.°1E±0.°1, h106km±10km, mb4.1/15, Error ellipse: s-maj=19.4km s-min=12.3km az=118.0*
*DJA **19** 04:09:41.2±0.4, 5.°5S±4.°×14.°4E±.°, h119km±6km, M4.6/12, mB5.1/4, mb4.7/12, MLv4.5/3, Mw(mB)4.5/4*
ISC 19 04:09:40.6±0.6, 4.°71S±0.°07×144.°12E±0.°07, h110km, n52, σ1°27/55, mb4.1/15, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**4.18**	**51**		**Pn**	**04 10 42.1**	**-0.4**
GENI	**Genyem**	**4.47**	**298**	P	**Pn**	**04 10 49.2**	**+2.8**
PMG	**Port Moresby**	**5.55**	**147**	P	**Pn**	**04 11 00.8**	**-0.1**
	16nm,0.3s,baz=318,slow=4.2,SNR=10						
PMG				S	**Sn**	**04 12 00.1**	**-3.4**
	14nm,0.3s,baz=312,slow=23,SNR=12						
PMG				LR	LR	04 13 33.1	
	comp=Z,74nm,19.7s,baz=199,slow=41						
PMG	**Port Moresby**	**5.55**	**147**	Pn	**Pn**	**04 10 59.6**	**-1.3**
PMG	**Port Moresby**	**5.55**	**147**	P	**Pn**	**04 11 01.3**	**+0.4**
SMPI	**Sarmi**	**6.04**	**296**	P	**Pn**	**04 11 07.7**	**+0.1**
KRVT	**Keravat (AS076**	**7.89**	**87**	P	**Pn**	**04 11 33.2**	**+0.6**
	9.3nm,0.3s,baz=125,slow=22,SNR=5.7						
KRVT				LR	LR	04 14 16.5	
	comp=Z,114nm,20.7s,baz=41,slow=34						
COEN	**Coen**	**9.23**	**186**	Pn	**Pn**	**04 11 51.5**	**+0.7**
COEN	**Coen**	**9.23**	**186**	P	**Pn**	**04 11 52.4**	**+1.5**
KMPI	**Kaimana, Papua**	**10.44**	**275**	P	**Pn**	**04 12 06.6**	**-0.7**
	4μm,0.9s						
MTSU	**Mount Surprise**	**13.34**	**179**	P	**Pn**	**04 12 47.6**	**+1.9**
SIJI	**Sorong**	**13.40**	**286**	P	**Pn**	**04 12 44.9**	**-1.6**
	2.4nm,0.3s,baz=105,slow=6.3,SNR=7.7						
SWI	**Sorong**	**13.40**	**286**	P	**Pn**	**04 12 43.9**	**-2.6**
	32nm,0.6s						
KDU	**Kakadu**	**13.97**	**235**	P	**Pn**	**04 12 53.0**	**-0.9**
MTN	**Manton Dam**	**15.16**	**237**	Pn	**Pn**	**04 13 09.1**	**+0.1**
MTN				IAmb	IAmb	04 13 23.0	
	comp=Z,15nm,0.8s						
CTA	**Charters Tower**	**15.42**	**172**	P	**Pn**	**04 13 11.9**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=356,slow=12,SNR=5.4						
QIS	**Mount Isa**	**16.35**	**195**	P	**P**	**04 13 25.5**	**+0.8**
NLAI	**Namlea**	**17.05**	**274**	P	**Pn**	**04 13 30.5**	**-1.9**
	comp=Z,31nm,0.7s						
WB0	**Warramunga Arr**	**17.71**	**212**	P	**P**	**04 13 39.6**	**-0.2**
WB0				IAmb	IAmb	04 14 11.9	
	comp=Z,8.9nm,1.1s						
WR0	**Warramunga Arr**	**17.80**	**211**	P	**P**	**04 13 41.0**	**+0.3**
WR0				IAmb	IAmb	04 13 46.4	
	comp=Z,7.8nm,0.8s						
WRAB	**Tennant Creek**	**17.87**	**211**	P	**P**	**04 13 42.2**	**+0.7**
WRAB				IAmb	IAmb	04 14 20.0	
	comp=Z,6.9nm,0.8s						
WRAB	**Tennant Creek**	**17.87**	**211**	P	**P**	**04 13 42.3**	**+0.8**
WB2	**Warramunga Arr**	**17.88**	**211**	P	**P**	**04 13 41.9**	**+0.3**
WB2				IAmb	IAmb	04 14 17.9	
	comp=Z,7.6nm,0.8s						
WRA	**Warramunga Arr**	**17.89**	**211**	P	**P**	**04 13 42.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=32,slow=13,SNR=24						
WRA				S	S	04 16 50.5	-11
	comp=Z,0.1nm,0.3s,baz=42,slow=24,SNR=5.9						
WRA	**Warramunga Arr**	**17.89**	**211**	P	**P**	**04 13 41.5**	**-0.1**
KNRA	**Kununurra**	**18.61**	**233**	P	**P**	**04 13 48.9**	**-0.7**
KNRA	**Kununurra**	**18.61**	**233**	P	**P**	**04 13 49.6**	**0.0**
BATI	**Baumata**	**21.00**	**254**	P	**P**	**04 14 12.8**	**-2.7**
	comp=Z,13nm,0.4s,baz=125,slow=8.8,SNR=1.5						
AS31	**Alice Springs**	**21.26**	**207**	P	**P**	**04 14 19.2**	**+0.9**
ASAR	**Alice Springs**	**21.27**	**207**	P	**P**	**04 14 18.1**	**-0.1**
	comp=Z,6.3nm,0.9s,baz=38,slow=10,SNR=14						
ASAR				S	**S**	**04 18 09.2**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=36,slow=26,SNR=2.7						
ASAR	**Alice Springs**	**21.27**	**207**		**P**	**04 14 16.9**	**-1.3**
BBSI	**Bau Bau**	**21.48**	**267**	P	**P**	**04 14 22.9**	**+2.3**
	comp=Z,8.8nm,0.7s						
GTOI	**Gorontalo**	**21.75**	**284**	P	**P**	**04 14 24.3**	**+0.8**
	comp=Z,21nm,0.9s						
GTOI				pP	**pP**	**04 14 45.9**	**+1.5**
	comp=Z,21nm,0.9s						
RMQ	**Roma**	**22.10**	**169**	P	**P**	**04 14 29.0**	**+2.0**
FITZ	**Fitzroy Crossi**	**22.44**	**232**	P	**P**	**04 14 28.9**	**-1.8**
	comp=Z,7.8nm,0.8s,baz=39,slow=8.8,SNR=28						
FITZ				LR	LR	04 24 30.6	
	comp=Z,56nm,20.0s,baz=74,slow=40						
TOLI2	**Tolitoli**	**24.03**	**283**	P	**P**	**04 14 44.4**	**-1.2**
KAPI	**Kappang**	**24.29**	**268**	P	**P**	**04 14 46.9**	**-1.0**
	comp=Z,25nm,0.3s,baz=187,slow=12,SNR=1.6						
OOD	**Oodnadatta**	**24.32**	**198**	P	**P**	**04 14 48.5**	**+0.4**
STKA	**Stephens Creek**	**27.13**	**185**	P	**P**	**04 15 14.9**	**+1.5**
	comp=Z,2.2nm,0.5s,baz=346,slow=9.7,SNR=9.7						
STKA	**Stephens Creek**	**27.13**	**185**	P	**P**	**04 15 13.9**	**+0.5**
MULG	**Mulgathing**	**27.15**	**199**	P	**P**	**04 15 14.4**	**+0.8**
ARPS	**Mount Arapiles**	**31.97**	**183**	P	**P**	**04 15 56.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**50.12**	**299**	P	**P**	**04 18 23.2**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=114,slow=6.0,SNR=1.2						
PETK	**Petropavlovsk-**	**58.74**	**10**	P	**P**	**04 19 27.3**	**+0.5**
	comp=Z,4.3nm,0.9s,baz=196,slow=9.0,SNR=2.5						
MKAR	**Makanchi Array**	**74.70**	**321**	P	**P**	**04 21 08.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=111,slow=6.6,SNR=3.7						
DHY	**Denali Highway**	**84.63**	**25**	P	**P**	**04 22 02.5**	**+0.6**
DHY				IAmb	IAmb	04 22 04.9	
	comp=Z,2.1nm,0.7s						
M24K	**Tolsona, Glenn**	**84.81**	**26**	P	**P**	**04 22 04.0**	**+1.4**
CCB	**Clear Creek Bu**	**85.03**	**24**	P	**P**	**04 22 03.4**	**-0.2**
CCB				IAmb	IAmb	04 22 04.2	
	comp=Z,1.5nm,0.8s						
QSPA	**South Pole Qui**	**85.25**	**180**	P	**P**	**04 22 05.8**	**+0.9**
QSPA				IAmb	IAmb	04 22 06.4	
	comp=Z,4.1nm,0.8s						
PAX	**Paxson**	**85.41**	**26**	P	**P**	**04 22 06.5**	**+0.8**
PAX				IAmb	IAmb	04 22 21.3	
	comp=Z,3.2nm,1.2s						
ILAR	**Eielson Array**	**85.45**	**24**	P	**P**	**04 22 05.2**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=256,slow=4.7,SNR=14						
ILAR	**Eielson Array**	**85.45**	**24**	P	**P**	**04 22 05.3**	**-0.4**

*IDC **19** 04:18:17.2±0.5, 55.°58S×27.°08W, h0km, mb4.7/14, mb1 4.7/15, mb1mx4.5/22, mbtmp4.7/15, ML4.4/1, MS4.8/38, Ms1 4.8/38, ms1mx4.7/46, Error ellipse: s-maj=17.0km s-min=15.0km az=47.0*
*NEIC **19** 04:18:19.1±2.0, 55.°66S±0.°10×27.°2W±0.°1, h10km±1km, mb5.1/96, Error ellipse: s-maj=16.8km s-min=13.6km az=202.0*
*BJI **19** 04:18:22.0±0.0, 55.°70S×27.°20W, h30km, mB5.4/6, Ms5.4/7, Ms7 5.1/10*
*GCMT **19** 04:18:26.1±0.1, 55.°60S±0.°01×26.°99W±0.°02, h20km, MW5.4/127, Moment Tensor Solution. s116,c179; s127,c225; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.04±.02; Mθθ-0.63±.02; Mϕϕ-0.40±.02; Mrθ-0.71±.04; Mθϕ0.62±.01; Mϕr0.67±.04; Best double couple: Mo1.46700×10^17 NP1:ϕs127.00000°, δ24.00000°, λ85.00000°. NP2:ϕs312.00000°, δ66.00000°, λ92.00000°. Principal axes: T 1.4120, Plg69.0000°, Azm226.0000°; N 0.1130, Plg2.0000°, Azm131.0000°; P -1.5210, Plg21.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 04:18:21.0±0.3, 55.°66S±0.°06×27.°23W±0.°06, h25km, n418, σ1°05/387, mb5.0/55, MS4.9/46, 2C-4D, South Sandwich Islands region

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

HOPE	**Hope Point**	**5.51**	**281**		**Pn**	**04 19 41.9**	**+0.6**
HOPE					**Sn**	**04 20 42.1**	**-1.6**
ESPZ	**Base Esperanza**	**16.83**	**231**	Pn	**Pn**	**04 22 14.9**	**+0.4**
VNA1	**Neumayer--Stat**	**17.17**	**158**	P	**P**	**04 22 22.1**	**+1.9**
VNA3	**Neumayer Olymp**	**17.37**	**161**	P	**P**	**04 22 23.8**	**+1.4**
VNA2	**Neumayer--Watz**	**17.57**	**158**	P	**P**	**04 22 25.6**	**+1.0**
	baz=313,slow=13						
EFI	**East Falkland**	**18.61**	**269**		**Pn**	**04 22 36.9**	**+0.3**
EFI				IAmb	IAmb	04 22 52.3	
	comp=Z,214nm,1.4s						
SNAA	**Sanae**	**19.11**	**156**	P	**P**	**04 22 42.0**	**+0.3**
SNAA	**Sanae**	**19.11**	**156**	P	**P**	**04 22 41.8**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=321,slow=11,SNR=15						
SNAA				LR	LR	04 28 58.5	
	comp=Z,1μm,21.9s,baz=318,slow=34						
SNAA	**Sanae**	**19.11**	**156**	*e*P	**P**	**04 22 41.4**	**-0.2**
SNAA	**Sanae**	**19.11**	**156**	P	**P**	**04 22 41.2**	**-0.4**
PMSA	**Palmer Station**	**20.14**	**228**	P	Pn	04 22 55.0	+0.2
	comp=Z,25nm,0.8s,baz=69,slow=5.7,SNR=14						
PMSA				LR	LR	04 29 36.6	
	comp=Z,3μm,18.6s,baz=75,slow=34						
PMSA	**Palmer Station**	**20.14**	**228**	P	Pn	04 22 54.4	-0.4
PMSA				IAmb	IAmb	04 23 02.2	
	comp=Z,65nm,0.7s						
TROLL	**Troll, Antarti**	**20.61**	**154**	P	**P**	**04 22 57.1**	**-0.9**
SMAI	**San Martin Ant**	**22.05**	**220**	P	**P**	**04 23 12.8**	**-0.5**
BELA	**Belgrano 2**	**22.47**	**184**	P	**P**	**04 23 16.8**	**-1.0**
BELA				IAmb	IAmb	04 23 21.2	
	comp=Z,60nm,1.0s						
MG01	**Puerto William**	**22.79**	**255**	P	**P**	**04 23 20.8**	**-0.6**
MG01				IAmb	IAmb	04 23 36.6	
	comp=Z,95nm,1.1s						
USHA	**Ushuaia**	**23.26**	**255**	P	**P**	**04 23 26.4**	**+0.2**
	comp=Z,11nm,0.8s,baz=92,slow=9.7,SNR=10.0						
USHA				LR	LR	04 30 28.0	
	comp=Z,4μm,19.8s,baz=96,slow=31						
MG03	**Isla Dawson**	**24.72**	**256**	P	**P**	**04 23 40.6**	**+0.7**
MG03				IAmb	IAmb	04 23 45.7	
	comp=Z,60nm,1.2s						
GO10	**Punta Arenas**	**25.31**	**257**	P	**P**	**04 23 45.0**	**-0.3**
MG05	**Puerto Natales**	**26.74**	**259**	P	**P**	**04 23 56.8**	**-1.4**
GO08	**Villa O'Higgin**	**28.34**	**265**	P	**P**	**04 24 12.5**	**-0.1**
GO08				IAmb	IAmb	04 24 13.5	
	comp=Z,16nm,0.7s						
PLTB	**Pedras Altas**	**30.22**	**311**	P	**P**	**04 24 29.4**	**+0.1**
PLTB	**Pedras Altas**	**30.22**	**311**	*e*P	**P**	**04 24 28.7**	**-0.7**
SYO	**Syowa Base**	**31.90**	**141⇓*e*sP**		**P**	**04 24 45.2**	**+1.4**
PLCA	**Paso Flores**	**31.91**	**279**	P	**P**	**04 24 44.5**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=104,slow=13,SNR=2.1						
PLCA				PcP	**PcP**	**04 27 34.4**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=225,slow=4.3,SNR=3.5						
PLCA				LR	LR	04 38 38.1	
	comp=Z,1μm,18.6s,baz=123,slow=38						
PLCA	**Paso Flores**	**31.91**	**279**	P	**P**	**04 24 44.1**	**-0.2**
PLCA					**PcP**	**04 27 34.9**	**+0.7**
ITQB	**Itaqui**	**33.33**	**309**	P	**P**	**04 24 56.9**	**+0.2**
ITQB				IAmb	IAmb	04 25 11.1	
	comp=Z,41nm,1.2s						
LC01	**Cunco**	**33.91**	**281**	P	**P**	**04 25 01.9**	**+0.2**
QSPA	**South Pole Qui**	**34.59**	**180**	LR	LR	04 38 40.3	
	comp=Z,2μm,20.0s,baz=190,slow=35						
QSPA	**South Pole Qui**	**34.59**	**180**	P	**P**	**04 25 07.6**	**+0.1**
QSPA				IAmb	IAmb	04 25 13.1	
	comp=Z,25nm,0.8s						
MRA	**San Martin**	**35.44**	**295**	*e*P	**P**	**04 25 14.3**	**-0.7**
TCA	**Tanti**	**35.73**	**297**	*e*P	**P**	**04 25 17.5**	**0.0**
CPUP	**Villa Florida**	**36.54**	**311**	P	**P**	**04 25 24.1**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=147,slow=6.8,SNR=13						
CPUP				PcP	**PcP**	**04 27 47.4**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=130,slow=0.7,SNR=4.2						
CPUP				LR	LR	04 40 21.7	
	comp=Z,1μm,20.4s,baz=156,slow=36						
CPUP	**Villa Florida**	**36.54**	**311**	P	**P**	**04 25 23.7**	**-0.6**
AAGR	**Agrelo**	**36.54**	**291**	*e*P	**P**	**04 25 25.4**	**+0.9**
GO05	**Huala**	**36.75**	**285**	P	**P**	**04 25 24.6**	**-1.6**
GO05				IAmb	IAmb	04 25 28.0	
	comp=Z,25nm,1.2s						
BO01	**Tunca**	**36.76**	**287**	P	**P**	**04 25 26.8**	**+0.6**
BO04	**La Punta**	**36.80**	**288**	P	**P**	**04 25 26.4**	**-0.3**
ASAL	**Salagasta**	**36.93**	**291**	*e*P	**P**	**04 25 27.4**	**-0.3**
MT03	**Universidad Ad**	**37.13**	**288**	P	**P**	**04 25 28.7**	**-0.7**
MT09	**Talagante**	**37.17**	**288**	P	**P**	**04 25 28.9**	**-1.0**
MT09				IAmb	IAmb	04 25 41.5	
	comp=Z,14nm,0.7s						
MT01	**Popeta**	**37.24**	**287**	P	**P**	**04 25 28.9**	**-1.4**
APLL	**PUNTA DE LOS L**	**37.47**	**296**	*e*P	**P**	**04 25 31.1**	**-1.3**
AUSP	**Uspallata**	**37.51**	**291**	*e*P	**P**	**04 25 32.8**	**-0.1**
VA05	**Santo Domingo**	**37.60**	**287**	P	**P**	**04 25 33.1**	**-0.2**
VA05				IAmb	IAmb	04 25 50.3	
	comp=Z,42nm,1.1s						
MT02	**Curacav**	**37.64**	**288**	P	**P**	**04 25 33.3**	**-0.5**
MT02				IAmb	IAmb	04 25 46.2	
	comp=Z,21nm,0.8s						
ZON	**Zonda**	**37.66**	**292**	P	**P**	**04 25 34.1**	**+0.1**
ZON				IAmb	IAmb	04 25 38.5	
	comp=Z,34nm,0.7s						
VA03	**San Esteban**	**37.71**	**289**	P	**P**	**04 25 34.9**	**+0.5**
VA03				IAmb	IAmb	04 25 47.7	
	comp=Z,20nm,0.6s						
AVFE	**Valle Fertil**	**37.73**	**295**	*e*P	**P**	**04 25 34.3**	**-0.3**
RTLS	**Leoncito**	**37.79**	**291**	*e*P	**P**	**04 25 35.2**	**-0.1**
BB19B	**Bebedouro**	**38.04**	**327**	*e*P	**P**	**04 25 38.2**	**+1.0**
SJMB	**Sao Joao De Ma**	**38.38**	**338**	*e*P	**P**	**04 25 40.7**	**+0.7**
PCMB	**Pacaembu**	**38.44**	**322**	*e*P	**P**	**04 25 41.2**	**+0.7**
ACLC	**CERRO LA CRUZ**	**38.47**	**296**	*e*P	**P**	**04 25 40.1**	**-0.7**
ACCO	**Cerro Coronel**	**38.62**	**293**	*e*P	**P**	**04 25 42.9**	**+0.5**
CO02	**Combarbal**	**39.16**	**290**	P	**P**	**04 25 47.0**	**+0.4**
CO02				IAmb	IAmb	04 25 57.5	
	comp=Z,24nm,0.6s						
AROD	**Rodeo**	**39.17**	**293**	*e*P	**P**	**04 25 47.9**	**+1.0**
DIAM	**Diamantina, MG**	**39.33**	**335**	*e*P	**P**	**04 25 48.9**	**+0.8**
CO01	**Juntas del Tor**	**39.65**	**292**	P	**P**	**04 25 51.3**	**+0.5**
CO01				IAmb	IAmb	04 26 03.0	
	comp=Z,29nm,1.1s						
VCA	**Vinchina**	**39.66**	**296**	*e*P	**P**	**04 25 52.1**	**+1.3**
MATJ	**Matjiesfontein**	**39.77**	**76**	*e*P	**P**	**04 25 48.3**	**-3.3**
MATJ				IAmb	IAmb	04 25 56.3	
	comp=Z,2μm,4.8s						
GO04	**Tololo Observa**	**39.86**	**291**	P	**P**	**04 25 52.7**	**+0.1**
GO04				IAmb	IAmb	04 25 59.0	
	comp=Z,23nm,0.5s						
CO05	**La Serena**	**40.29**	**291**	P	**P**	**04 25 56.1**	**+0.2**
CO05				IAmb	IAmb	04 26 00.9	
	comp=Z,41nm,0.7s						
MAW	**Mawson**	**40.48**	**144**	P	**P**	**04 25 57.3**	**+0.3**
	comp=Z,12nm,0.5s,baz=232,slow=7.8,SNR=33						
MAW				LR	LR	04 40 35.9	
	comp=Z,969nm,21.6s,baz=255,slow=33						
MAW	**Mawson**	**40.48**	**144**	P	**P**	**04 25 57.4**	**+0.4**
SUR	**Sutherland**	**40.56**	**75**	LR	LR	04 39 18.4	
	comp=Z,1μm,20.2s,baz=214,slow=31						
LCO	**Las Campanas**	**40.73**	**293**	P	**P**	**04 25 59.8**	**-0.1**
LCO				IAmb	IAmb	04 26 01.2	
	comp=Z,30nm,0.9s						
AQDB	**Aquidauana**	**41.10**	**317**	P	**P**	**04 26 02.5**	**-0.1**
AQDB	**Aquidauana**	**41.10**	**317**	*e*P	**P**	**04 26 01.8**	**-0.8**
AC04	**Llanos de Chal**	**41.57**	**293**	P	**P**	**04 26 06.2**	**-0.3**
GO03	**Copiap**	**41.63**	**294**	P	**P**	**04 26 06.6**	**-0.5**
GO03				IAmb	IAmb	04 26 08.3	
	comp=Z,35nm,0.8s						
AC02	**Maricunga**	**41.68**	**296**	P	**P**	**04 26 07.9**	**-0.1**
AC02				IAmb	IAmb	04 26 20.1	
	comp=Z,56nm,1.1s						
AC06	**Mina Casimiro**	**41.88**	**294**	P	**P**	**04 26 09.0**	**-0.1**
AC06				IAmb	IAmb	04 26 11.6	
	comp=Z,28nm,0.6s						
JANB	**Januaria**	**42.60**	**335**	*e*P	**P**	**04 26 14.7**	**-0.3**
AC01	**Pan de Azucar**	**42.99**	**295**	P	**P**	**04 26 18.4**	**+0.3**
AC01				IAmb	IAmb	04 26 20.3	
	comp=Z,41nm,1.0s						
BDFB	**Brasilia**	**43.01**	**330**	P	**P**	**04 26 18.8**	**+0.4**
	comp=Z,3.8nm,0.9s,baz=62,slow=3.9,SNR=5.8						
BDFB				LR	LR	04 43 31.4	
	comp=Z,2μm,19.0s,baz=153,slow=35						
BDFB	**Brasilia**	**43.01**	**330**	P	**P**	**04 26 18.6**	**+0.2**
GO02	**Mina Guanaco**	**43.29**	**297**	P	**P**	**04 26 21.2**	**+0.4**
PP1B	**Ponte de Pedra**	**43.41**	**320**	*e*P	**P**	**04 26 20.9**	**-0.6**
PB15	**IPOC Station P**	**44.86

NBLA Lagarto - SE 45.32 345 eP P 04 26 37.0 +0.2
NBPN Ponto Novo - B 45.85 342 eP P 04 26 40.4 -0.5
BOSA Boshof 45.90 76 P P 04 26 40.7 -0.7
comp=Z,4.3nm,0.6s,baz=216,slow=7.1,SNR=19
BOSA LR LR 04 44 00.4
comp=Z,2µm,18.1s,baz=208,slow=34
BOSA Boshof 45.90 76 ⇓iP P 04 26 40.9 -0.5
BOSA IAmb IAmb 04 26 41.8
comp=Z,17nm,0.9s
BOSA Boshof 45.90 76 P P 04 26 41.0 -0.4
BOSA IAmb IAmb 04 26 43.0
comp=Z,25nm,1.5s
BOSA Boshof 45.90 76 iP P 04 26 37.2 -4.2
BOSA Boshof 45.90 76 iP P 04 26 37.2 -4.2
PB09 IPOC Station P 45.93 300 P P 04 26 42.7 +1.0
PB07 IPOC Station P 46.31 299 P P 04 26 44.7 0.0
NBAN Anadia - AL 46.42 348 eP P 04 26 45.2 -0.2
PEXB Peixe 46.46 331 eP P 04 26 46.1 +0.3
SBA Scott Base 46.47 184 P P 04 26 46.5 +1.4
SBA IAmb IAmb 04 26 47.8
comp=Z,22nm,1.1s
PB02 IPOC Station P 46.66 300 P P 04 26 48.0 +0.6
VNDA Vanda 46.97 183 P P 04 26 50.1 +1.0
comp=Z,19nm,0.8s,baz=188,slow=6.1,SNR=49
VNDA LR LR 04 45 13.0
comp=Z,538nm,20.1s,baz=165,slow=34
VNDA Vanda 46.97 183 P P 04 26 49.3 +0.3
VNDA IAmb IAmb 04 26 51.3
comp=Z,22nm,0.9s
PTLB Pontes e Lacer 47.00 316 eP P 04 26 50.0 +0.1
SWZ Schweizer 47.06 75 eP P 04 26 48.5 -2.0
SWZ IAmb IAmb 04 26 50.1
comp=Z,9.1nm,0.7s
PATCX Punta Patache 47.21 300 P P 04 26 53.3 +1.7
NBRF Rio Formoso - 47.27 349 eP P 04 26 51.6 -0.5
SIV San Ignacio 47.29 313 LR LR 04 45 38.5
comp=Z,958nm,21.5s,baz=169,slow=35
PB08 IPOC Station P 47.30 301 P P 04 26 53.0 +0.2
SNDB Serra Nova Dou 47.45 327 eP P 04 26 54.6 +1.0
GO01 Chusmiza 47.72 302 P P 04 26 56.8 +0.7
NBCA Caruaru-PE 47.82 348 eP P 04 26 57.1 +0.8
PB11 IPOC Station P 47.86 301 P P 04 26 57.2 +0.4
H10N1 ASCENSION HYDR 48.75 17 T T 05 19 44.4
baz=196,slow=75,SNR=38
H10N3 ASCENSION HYDR 48.75 17 T T 05 19 44.4
baz=196,slow=75,SNR=49
H10N2 ASCENSION HYDR 48.77 17 T T 05 19 44.4
baz=196,slow=75,SNR=56
LBTB Lobatse 48.92 74 LR LR 04 45 07.1
comp=Z,499nm,18.5s,baz=214,slow=33
LBTB Lobatse 48.92 74 eP P 04 27 03.4 -1.5
LBTB IAmb IAmb 04 27 05.1
comp=Z,8.2nm,0.8s
LBTB Lobatse 48.92 74 P P 04 27 04.4 -0.5
LBTB Lobatse 48.92 74 iP P 04 27 00.5 -4.4
LBTB Lobatse 48.92 74 iP P 04 27 00.5 -4.4
PB16 IPOC Station P 49.01 302 P P 04 27 06.8 +0.6
PB16 IAmb IAmb 04 27 17.8
comp=Z,7.6nm,0.6s
NBMA Muriti-CE 49.03 345 eP P 04 27 06.7 +1.0
SMTB Santa Maria do 49.37 333 eP P 04 27 08.9 +0.6
TSUM Tsumeb 49.51 61 LR LR 04 45 02.1
comp=Z,526nm,18.8s,baz=220,slow=32
TSUM Tsumeb 49.51 61 eP P 04 27 08.5 -1.0
TSUM IAmb IAmb 04 27 11.3
comp=Z,1µm,3.0s
PDRB Porto dos Gac 49.60 321 eP P 04 27 09.8 -0.3
VILB Vilhena 49.68 316 eP P 04 27 10.3 -0.4
CLDB Colider 49.96 322 eP P 04 27 12.1 -0.7
LPAZ La Paz 50.13 305 P P 04 27 15.6 +0.8
comp=Z,29nm,0.6s,baz=129,slow=5.3,SNR=105
LPAZ LR LR 04 48 51.7
comp=Z,501nm,20.6s,baz=164,slow=37
LPAZ La Paz 50.13 305 P P 04 27 15.2 +0.4
LPAZ La Paz 50.13 305 eP P 04 27 15.5 +0.8
RCBR Riachuelo 50.17 349 LR LR 04 44 36.0
comp=Z,708nm,19.9s,baz=316,slow=32
NBPS Pedro II - PI 52.38 342 eP P 04 27 31.2 +0.3
PRPB Parauapebas 52.54 331 eP P 04 27 32.6 +0.5
MOPA Mopani 53.29 78 eP P 04 27 36.0 -1.7
MOPA IAmb IAmb 04 27 38.3
comp=Z,11nm,1.1s
MOPA Mopani 53.29 78 iP P 04 27 36.0 -1.7
MOPA Mopani 53.29 78 iP P 04 27 36.0 -1.7
NPGB Novo Progresso 53.38 324 eP P 04 27 38.7 +0.4
MSNA Messina 53.47 76 eP P 04 27 37.2 -1.8
MSNA IAmb IAmb 04 27 42.7
comp=Z,140nm,3.2s
MATP Matopo 54.19 73 iP P 04 27 43.5 -0.9
MATP Matopo 54.19 73 iP P 04 27 43.5 -0.9
CASY Casey 54.29 160 P P 04 27 45.1 +0.8
CASY IAmb IAmb 04 27 52.5
comp=Z,29nm,1.4s
ROSB Rosrio 54.34 339 eP P 04 27 46.4 +1.1
BLWY Bulawayo 54.48 73 eP P 04 27 45.4 -1.1
BLWY IAmb IAmb 04 27 45.8
comp=Z,45nm,0.9s
BLWY Bulawayo 54.48 73 iP P 04 27 45.6 -0.9
BLWY Bulawayo 54.48 73 iP P 04 27 45.6 -0.9
ETMB Extrema 54.99 311 eP P 04 27 49.8 -0.2
TMAB Tom-Au,PA,Br 55.74 334 eP P 04 27 56.9 +1.5
ITTB Itaituba 56.02 325 eP P 04 27 58.1 +0.7
MALB Monte Alegre 57.93 328 eP P 04 28 12.1 +1.1
NNA Nana 58.04 299 LR LR 04 56 15.3
comp=Z,327nm,18.3s,baz=144,slow=39
LSZ Lusaka 58.25 69 LR LR 04 51 54.9
comp=Z,1µm,18.1s,baz=204,slow=35
LSZ Lusaka 58.25 69 P P 04 28 13.1 -0.3
MCPB Macapa, AP 58.70 331 eP P 04 28 17.8 +1.5
MACA Manacapuru-AM 58.85 320 eP P 04 28 17.5 +0.1
CZSB Cruzeiro do Su 59.74 305 eP P 04 28 25.5 +1.9
RPN Rapa Nui 63.70 260 LR LR 04 53 08.0
comp=Z,399nm,18.6s,baz=98,slow=33
BOAV Boa Vista 63.95 322 eP P 04 28 51.0 -0.9
MDP Montagnes des 64.08 332 LR LR 04 55 34.3
comp=Z,1µm,19.9s,baz=144,slow=35
LIC Lamto 64.35 25 eP P 04 28 54.9 +0.5
comp=Z,23nm,1.3s
KIC Kosan Boka 64.55 25 eP P 04 28 55.6 -0.1
comp=Z,8.5nm,0.7s
TIC Toumodi 64.75 25 eP P 04 28 57.0 -0.1
DBIC Dimbokro 64.82 25 P P 04 28 57.1 -0.3
comp=Z,4.7nm,0.7s,baz=184,slow=5.6,SNR=7.9
DBIC LR LR 04 51 04.3
comp=Z,986nm,20.1s,baz=202,slow=30
DBIC Dimbokro 64.82 25 P P 04 28 57.3 -0.2
DBIC IAmb IAmb 04 29 03.5
comp=Z,22nm,1.5s
OPO Ambohidratompo 66.09 88 LR LR 04 51 56.8
comp=Z,796nm,21.0s,baz=334,slow=31
MCRA Macar, Loja 66.13 300 P P 04 29 05.9 -0.2
MCRA IAmb IAmb 04 29 13.1
comp=Z,8.5nm,0.7s
ARNL Arenillas 66.90 300 P P 04 29 11.6 +0.6
ROSC El Rosal 71.61 310 LR LR 05 01 47.2
comp=Z,723nm,21.5s,baz=176,slow=36
MBAR Mbarara 71.99 63 LR LR 04 58 00.4
comp=Z,714nm,21.7s,baz=183,slow=33
KOWA Kowa 72.57 24 P P 04 29 45.2 -0.6
TOA0 Torodi Ar. Sit 72.72 30 P P 04 29 46.8 +0.1
TOA0 IAmb IAmb 04 29 54.3
comp=Z,14nm,0.6s
TORD Torodi Ar. Bea 72.72 30 P P 04 29 46.4 -0.3
comp=Z,5.4nm,0.5s,baz=197,slow=6.8,SNR=110
TORD LR LR 04 57 29.4
comp=Z,268nm,18.1s,baz=216,slow=32
TORD Torodi Ar. Bea 72.72 30 P P 04 29 46.9 +0.3
TORD IAmb IAmb 04 29 54.3
comp=Z,8.3nm,0.7s
BAUV El Baul 72.75 317 P P 04 29 47.1 +0.2
BIRV Birongo 73.50 320 P P 04 29 51.7 +0.4
SDV Santo Domingo 73.72 315 LR LR 05 04 37.3
comp=Z,1µm,19.3s,baz=144,slow=38
SDV Santo Domingo 73.72 315 P P 04 29 52.5 -0.3
SDV IAmb IAmb 04 30 03.1
comp=Z,12nm,0.8s
SDV Santo Domingo 73.72 315 eP P 04 29 53.6 +0.8
ZARC Zaragoza, Cauc 74.22 310 P P 04 29 54.0 -1.6
KMBO Kilima Mbogo 74.92 69 LR LR 04 59 55.4
comp=Z,822nm,21.4s,baz=194,slow=33
MQZ McQueen's Vall 79.58 195 P P 04 30 24.7 -0.7
MQZ IAmb IAmb 04 30 42.1
comp=Z,16nm,1.1s
RPZ Rata Peaks 79.79 193 LR LR 05 03 20.2
comp=Z,511nm,19.4s,baz=170,slow=34
MTP Monte Pirata 80.30 323 P P 04 30 29.7 +0.3
MTP IAmb IAmb 04 30 30.6
comp=Z,14nm,0.9s
STVI Saint Thomas 80.33 324 P P 04 30 30.4 +0.7
STVI IAmb IAmb 04 30 33.8
comp=Z,14nm,0.7s
CUPR Culebra, Puert 80.40 324 P P 04 30 29.9 -0.1
CUPR IAmb IAmb 04 30 31.8
comp=Z,18nm,0.8s
HUMP Col San Antoni 80.44 323 P P 04 30 30.7 +0.5
SJG San Juan 80.52 323 LR LR 05 05 48.7
comp=Z,528nm,21.2s,baz=152,slow=35
CBYP Canovanas 80.56 323 P P 04 30 31.3 +0.3
CBYP IAmb IAmb 04 30 40.7
comp=Z,15nm,0.9s
OBIP Obispado Ponce 80.61 322 P P 04 30 30.9 -0.3
OBIP IAmb IAmb 04 30 32.2
comp=Z,10nm,0.8s
RKT Rikitea 80.64 243 eT T 05 59 12.3
comp=Z,3.4nm,0.3s
MLPR Magueyes Islan 80.69 322 P P 04 30 31.0 -0.6
KHZ Kahutara 80.72 195 P P 04 30 30.9 -0.6
JTS Las Juntas de 81.28 303 LR LR 05 09 22.0
comp=Z,161nm,20.1s,baz=196,slow=38
BSWZ Blackbirch Sta 81.35 196 P P 04 30 35.5 +0.4
THZ Tophouse 81.45 195 P P 04 30 35.6 0.0
THZ IAmb IAmb 04 30 41.8
comp=Z,16nm,0.6s
ORTG Ortega, Santa 81.58 302 P P 04 30 36.7 +0.1
ORTG IAmb IAmb 04 30 41.4
comp=Z,28nm,1.5s
SNZO South Karori 81.62 197 P P 04 30 36.8 +0.4
TAU Tasmania Unive 81.69 176 P P 04 30 36.5 -0.3
NNZ Nelson 81.92 196 P P 04 30 36.9 -1.1
NNZ IAmb IAmb 04 30 49.1
comp=Z,14nm,1.0s
QRZ Quartz Range 82.42 195 P P 04 30 38.8 -1.8
ACON Acoyapa 82.84 303 P P 04 30 42.8 -0.3
SDDR Presa de Saban 83.17 318 P P 04 30 45.0 +0.3
URZ Urewera 84.17 199 LR LR 05 05 14.4
comp=Z,380nm,19.5s,baz=211,slow=33
HIZ Hauiti 84.32 197 P P 04 30 50.0 -0.4
TOO Toolangi 86.93 174 P P 04 31 02.9 -0.6
MTO3 Montecristo 86.96 301 P P 04 31 04.0 +0.1
MTO3 IAmb IAmb 04 31 05.1
comp=Z,8.2nm,0.8s
TBI Tubuai 87.31 231 eS S 04 41 39.5 -4.6
comp=Z,263nm,27.0s
TBI Tubuai 87.31 231 eLR LR 04 58 44.3
comp=Z,848nm,28.8s
ATD Arta Tunnel 88.53 67 LR LR 05 11 01.4
comp=Z,477nm,18.2s,baz=174,slow=36
MDT Midelt 90.22 19 LR LR 05 08 47.7
comp=Z,1µm,18.6s,baz=228,slow=34
STKA Stephens Creek 92.29 171 P P 04 31 30.1 +1.4
comp=Z,2.1nm,0.6s,baz=181,slow=3.0,SNR=8.6
STKA Stephens Creek 92.29 171 P P 04 31 27.9 -0.9
PPT2 Papeete2 92.39 234 eS S 04 42 29.5 -2.0
comp=Z,292nm,29.8s
PPT2 Papeete2 92.39 234 eLR LR 05 01 11.4
comp=Z,875nm,29.2s
TAOE Nuku Hiva Isla 95.28 246 eLR LR 05 02 26.3
comp=Z,512nm,22.0s
KEST Kesra 96.24 29 LR LR 05 11 04.7
comp=Z,554nm,20.8s,baz=183,slow=33
ESDC Sonseca Array 97.01 18 P Pdif 04 31 50.8 +0.8
comp=Z,0.3nm,0.7s,baz=198,slow=4.5,SNR=1.9
ESDC LR LR 05 11 18.2
comp=Z,660nm,20.9s,baz=178,slow=33
ASAR Alice Springs 99.37 163 P Pdif 04 32 00.2 -0.9
comp=Z,3.2nm,0.7s,baz=186,slow=3.9,SNR=27
ASAR PKKP PKKPdf 04 48 23.6 -0.7
comp=Z,0.3nm,0.4s,baz=25,slow=1.8,SNR=5.1
ASAR LR LR 05 17 10.2
comp=Z,325nm,18.2s,baz=189,slow=36
EIL Elat 100.11 51 LR LR 05 14 03.2
comp=Z,561nm,19.7s,baz=264,slow=34
DZM Mont Dzumac 101.71 193 ePS PS 04 45 26.9 +1.5
comp=Z,202nm,23.7s
DZM Mont Dzumac 101.71 193 eLR LR 05 05 26.0
comp=N,796nm,22.2s
WRA Warramunga Arr 103.09 162 Pdiff Pdif 04 32 17.0 -0.7
comp=Z,0.4nm,0.5s,baz=195,slow=4.4,SNR=8.8
CLL Collm 111.70 26 ePS PS 04 47 08.0 +1.0
CLL ePPS PPS 04 48 12.0
CLL eSS SS 04 53 18.0 +8.5
CLL eSSS SSS 04 57 36.0
CLL Lm MLR 05 18 00.0
comp=N,200nm,20.9s
CLL Lm MLR 05 18 00.0
comp=E,300nm,19.3s
CLL Lm MLR 05 18 00.0
comp=Z,400nm,21.5s
SCHQ Schefferville 114.80 336 PKP PKPdf 04 36 57.0 -1.0
comp=Z,1.7nm,0.8s,baz=259,slow=2.1,SNR=4.7
MVCO Mesa Verde 115.31 299 P PKiKP 04 37 01.2 +1.3
baz=142
TPFO Pinon Flats 116.58 291 P PKiKP 04 37 03.3 +1.0
baz=141
PFO Pinyon Flats O 116.59 291 P PKiKP 04 37 03.3 +1.0
baz=141
BELC Belle Mtn. Jos 116.65 292 P PKiKP 04 37 03.3 +0.9
baz=141
GSC Goldstone, Bar 118.07 292 P PKiKP 04 37 05.4 +0.3
baz=140
EDW2 Edwards Air Fo 118.38 291 P PKiKP 04 37 06.0 +0.4
baz=140
TPNV Topopah Spring 119.04 294 P PKiKP 04 37 07.5 +0.5
baz=140
ISA Isaella, Lake 119.22 291 P PKiKP 04 37 07.7 +0.5
baz=140
PDAR Pinedale Array 120.11 302 PKP PKPdf 04 37 08.6 -0.4
comp=Z,0.3nm,0.5s,baz=132,slow=6.8,SNR=6.3
HWUT Hardware Ranch 120.20 300 PKPdf PKiKP 04 37 09.3 +0.2
NOA NORSAR Array B 120.25 21 PKP PKiKP 04 37 08.6 +0.2
comp=Z,0.8nm,0.7s,baz=50,slow=4.0,SNR=3.3
NVAR Mina Array Bea 121.22 293 PKP PKiKP 04 37 11.5 +0.2
comp=Z,0.6nm,0.6s,baz=143,slow=3.0,SNR=7.3
LOHW Long Hollow 121.25 302 PKiKP 04 37 11.4 +0.2
TPAW Teton Pass 121.33 302 PKiKP 04 37 11.9 +0.4
MOOW Moose Ponds 121.42 302 PKPdf PKPdf 04 37 10.4 -1.0
LAO LASA Array 121.54 308 P PKiKP 04 37 11.7 +0.2
baz=139
FINES FINESS Array B 124.05 28 PKP PKPdf 04 37 15.6 +0.1
comp=Z,2.6nm,0.5s,baz=177,slow=1.0,SNR=16
HRY Holter Researc 124.14 304 PKiKP 04 37 17.8 +1.1
EGMT Eagleton 124.14 306 P PKiKP 04 37 17.0 +0.4
baz=137
WVOR Wild Horse Val 124.35 296 PKiKP 04 37 17.9 +0.7
O03E Paynes Creek 124.42 292 P PKiKP 04 37 17.8 +0.4
baz=137
O02D Mt. Diablo Mer 124.86 292 P PKiKP 04 37 18.9 +0.6
baz=137
PLID Pearl Lake 124.95 300 PKPdf PKiKP 04 37 18.8 +0.3
GAR Garm 125.06 71 PKPdf PKiKP 04 37 19.4 +0.6
MSO Missoula 125.22 303 P PKiKP 04 37 18.9 +0.1
baz=136
N02D Trinity Center 125.39 292 P PKiKP 04 37 19.5 +0.2
baz=136
M04C Macdoel 125.52 294 P PKiKP 04 37 19.8 +0.2
baz=136
M02C Callahan 125.77 293 P PKiKP 04 37 20.4 +0.3
baz=136
L04D Klamath Falls 126.07 294 P PKiKP 04 37 20.8 +0.1
baz=136
J05D Fort Rock, OR 126.28 295 P PKiKP 04 37 21.7 +0.6
baz=136
J04D Umpqua Nationa 126.70 295 P PKiKP 04 37 22.3 +0.3
baz=135
L02E Cave Junction 126.71 293 P PKiKP 04 37 22.5 +0.7
baz=136
I05D Terrebonne, OR 127.08 296 P PKiKP 04 37 23.0 +0.5
baz=135
K02D Willamette Mer 127.12 293 P PKiKP 04 37 23.4 +0.7
baz=135
ABKAR Akbulak array 127.17 55 PKiKP 04 37 22.5 +0.1
ABKAR Akbulak array 127.17 55 PKPdf PKiKP 04 37 22.7 +0.3
KKAR Karatay Array 128.09 67 PKPdf PKPdf 04 37 24.0 0.0
KKAR Karatay Array 128.09 67 PKiKP 04 37 24.9 +0.3
KSH Kashi 128.48 74 PKP PKiKP 04 37 25.6 0.0
KSH LR LR
comp=Z,250nm,18.4s
AAK Ala-Archa 129.87 70 PKPdf 04 37 28.1 +0.6
ARCES ARCESS Array B 130.59 22 PKP PKPdf 04 37 27.2 -0.7
comp=Z,3.8nm,0.7s,baz=205,slow=1.9,SNR=22
ARCES ARCESS Array B 130.59 22 PKPdf 04 37 27.8 0.0
QIZ Qiongzhong 131.27 121 PKP PKiKP 04 37 35.0 +3.4
QIZ PP PP 04 39 50.5 +1.9
QIZ SS SS 04 57 22.9 +3.6
QIZ LR LR
comp=Z,350nm,15.7s
QIZ LR LR
comp=Z,210nm,20.6s
QIZ LR LR
comp=Z,340nm,18.3s
DAG Danmarks Havn 132.28 3 iP PKPdf 04 37 29.0 -1.8
KMI Kunming 132.68 109 ⇑PKP PKPdf 04 37 34.1 +0.6
PZH PanZhiHua 133.24 107 PKP PKPdf 04 37 35.1 +0.7
PZH PP PP 04 40 10.3 +8.7
PZH AMB AMB
comp=Z,100nm,8.0s
PZH LR LR
comp=Z,510nm,24.0s
PZH LR LR
comp=Z,1µm,23.5s
PZH LR LR
comp=Z,630nm,18.6s
YKA Yellowknife Ar 135.86 318 PKP PKPdf 04 37 37.4 -0.5
comp=Z,2.1nm,0.6s,baz=131,slow=2.1,SNR=22
YKA Yellowknife Ar 135.86 318 PKPdf PKPdf 04 37 37.2 -0.7
MK31 Makanchi Array 136.78 71 PKPdf PKPdf 04 37 40.5 +0.3
MKAR Makanchi Array 136.78 71 PKP PKPdf 04 37 38.5 -1.7
comp=Z,0.5nm,0.6s,baz=239,slow=3.4,SNR=5.3
MKAR Makanchi Array 136.78 71 PKPdf 04 37 37.7 -2.5
RES Resolute Bay 137.48 339 PKPdf PKPdf 04 37 38.5 -2.1
WMQ Urumqi 137.85 78 ePKP PKPdf 04 37 43.3 +1.0
ZALV Zalesovo Beam 142.22 63 PKhKP PKPpre 04 37 43.6
comp=Z,1.2nm,0.6s,baz=280,slow=3.0,SNR=5.6
ZALV PKP PKPdf 04 37 51.4 +1.7
comp=Z,2.9nm,0.5s,baz=250,slow=4.3,SNR=10
N31M Braeburn, Yuko 144.03 309 PKPdf PKPbc 04 37 51.3 +0.4
HYT Haines Junctio 144.53 308 P PKPab 04 37 52.3 -0.1
baz=114,SNR=16
M30M Minto, Yukon 144.90 311 PKPdf PKPbc 04 37 53.8 +0.2
M30M Minto, Yukon 144.90 311 P PKPab 04 37 53.2 -0.4
baz=112,SNR=34
PNL Peninsula 144.93 305 P PKPab 04 37 53.5 -0.3
baz=1
YUK6 Outpost Mounta 144.97 308 P PKPab 04 37 54.0 -0.2
baz=113
YUK4 Talbot Arm 145.25 308 P PKPbc 04 37 55.1 +0.1
baz=112,SNR=19
LYN LuoYang 145.27 110 ⇑PKPbc PKPbc 04 37 55.3 -0.3
LYN LR LR
comp=Z,210nm,18.2s
LYN LR LR
comp=Z,260nm,15.7s
LYN LR LR
comp=Z,310nm,18.8s
INK Inuvik 145.49 321 PKPdf PKPbc 04 37 55.4 +0.2
INK Inuvik 145.49 321 P PKPdf 04 37 55.0 0.0
baz=106,SNR=52
PINM Pinnacle 145.50 306 P PKPbc 04 37 55.9 +0.2
baz=113
PCA Pinnacle 145.50 306 PKPdf 04 37 55.3 -0.2
TABL Table Mountain 146.04 306 PKPdf 04 37 56.5 0.0
LOGN Logan Glacier 146.12 306 PKPbc 04 37 57.3 -0.3
EPYK Eagle Plains 146.12 317 PKPbc 04 37 57.3 0.0
EPYK Eagle Plains 146.12 317 P PKPdf 04 37 56.8 +0.5
baz=109,SNR=28
J29M Klondike Camp 146.14 313 P PKPdf 04 37 57.1 +0.7
baz=108
YUK3 Moose Creek 146.21 308 P PKPdf 04 37 57.5 +0.7
baz=111,SNR=7.0
CTGM Chitina Glacie 146.32 307 PKPbc 04 37 58.5 +0.2
CTG Chitna Glacier 146.32 307 P PKPbc 04 37 57.9 -0.4
baz=111,SNR=5.2
GRNC Granite Creek 146.43 306 PKPbc 04 37 58.3 -0.4
I29M Ogilvie Camp, 146.46 315 PKPbc 04 37 58.4 0.0
I29M Ogilvie Camp, 146.46 315 P PKPdf 04 37 57.7 +0.9
baz=107
BARN Barnard Glacie 146.50 307 PKPbc 04 37 58.4 -0.4
DAWY Dawson 146.51 312 PKPdf PKPbc 04 37 58.0 -0.6
DAWY Dawson 146.51 312 P PKPbc 04 37 58.1 -0.6
baz=108
NJ2 Nanjing 146.56 121 ⇓PKPbc PKPab 04 38 00.8 +0.1
BVCY Beaver Creek 146.61 309 P PKPbc 04 37 58.5 -0.4
baz=110,SNR=15
TGL Tana Glacier 146.93 306 PKPbc 04 37 59.2 -0.7
M27K Edge Creek, AK 147.04 309 PKPbc 04 37 59.8 -0.4
M27K Edge Creek, AK 147.04 309 P PKPbc 04 37 59.6 -0.7
baz=109,SNR=14
BERG Berg Lake 147.20 305 PKPdf 04 37 59.5 +1.2
BCAR Beaver Creek A 147.22 310 PKPdf PKPbc 04 38 00.0 -0.6
MCARA McCarthy VSAT 147.23 307 P PKPbc 04 37 60.0 -0.7
baz=110
L27K Beaver Creek, 147.24 310 PKPdf PKPbc 04 37 59.8 -0.9
L27K Beaver Creek, 147.24 310 P PKPbc 04 37 60.0 -0.7
baz=108,SNR=25
VRDI Verde Repeater 147.38 306 PKPdf PKPdf 04 37 60.0 +1.2
HMT Hamilton 147.44 305 PKPbc 04 38 00.7 -0.6
EGAK Eagle 147.45 313 PKPbc 04 38 00.2 -0.9
EGAK Eagle 147.45 313 P PKPbc 04 38 00.3 -0.8
baz=106
M26K Nabesna, AK 147.55 309 PKPdf 04 38 00.2 +1.4
M26K Nabesna, AK 147.55 309 P PKPbc 04 38 00.4 -1.2
baz=108
GLB Gilahina Butte 147.61 307 PKPbc 04 38 00.9 -0.8
RAGM Ragged Mountai 147.66 305 PKPdf 04 38 00.3 +1.2
BMRM Bremner River 147.82 306 PKPdf 04 38 00.9 +1.6
BMRM Bremner River 147.82 306 P PKPbc 04 38 01.8 -0.4
baz=109,SNR=10
L26K Log Cabin Wild 147.89 310 PKPbc 04 38 01.8 -0.6
L26K Log Cabin Wild 147.89 310 P PKPbc 04 38 01.9 -0.6
baz=107,SNR=16
N25K Chitina, Valde 148.02 307 PKPdf 04 38 01.3 +1.7
N25K Chitina, Valde 148.02 307 P PKPbc 04 38 02.3 -0.6
baz=108
MENT Mentasta 148.03 309 PKPbc 04 38 01.5 -1.3
EYAK Cordova Ski Ar 148.21 304 PKPdf 04 38 01.2 +1.4
EYAK Cordova Ski Ar 148.21 304 P PKPbc 04 38 02.7 -0.5
baz=109
BTO Baotou 148.32 100 ePKPbc PKPbc 04 38 04.1 -0.2
DOT Dot Lake 148.37 311 PKPdf 04 38 02.0 +1.8
J26L Joseph Creek 148.38 312 P PKPbc 04 38 03.5 -0.2
baz=104,SNR=29
DIV Divide 148.41 306 PKPbc 04 38 03.9 +0.1
SCRK Sand Creek 148.43 311 PKPbc 04 38 03.4 -0.5
SCRK Sand Creek 148.43 311 P PKPbc 04 38 03.5 -0.4
baz=105,SNR=24
HARP HAARP 148.51 308 P PKPbc 04 38 03.6 -0.4
baz=107
KLU Klutina 148.59 306 PKPdf 04 38 02.4 +1.8
KLU Klutina 148.59 306 P PKPbc 04 38 04.4 +0.1
baz=108,SNR=19
NRIK Noril'sk 148.72 38 PKPbc PKPbc 04 38 03.8 -0.6
comp=Z,3.9nm,0.7s,baz=92,slow=2.6,SNR=5.7
RIDG Independent Ri 148.73 311 PKPdf PKPdf 04 38 02.7 +2.0
RIDG Independent Ri 148.73 311 P PKPbc 04 38 04.8 +0.2
baz=105,SNR=39
PAX Paxson 148.81 309 PKPdf PKPdf 04 38 02.4 +1.5
PAX Paxson 148.81 309 P PKPbc 04 38 04.5 -0.3
baz=106,SNR=16
M24K Tolsona, Glenn 148.88 307 P PKPbc 04 38 05.2 +0.2
baz=106,SNR=10
GLI Glacier Island 148.94 305 PKPdf PKPbc 04 38 03.8 -1.3
GLI Glacier Island 148.94 305 P PKPbc 04 38 04.8 -0.3
baz=108,SNR=6.2
TIA Tai'an 148.99 114 ⇓PKPbc PKPbc 04 38 05.8 -0.2
J25K Salcha River, 149.16 312 PKPdf PKPdf 04 38 03.5 +2.0
J25K Salcha River, 149.16 312 P PKPbc 04 38 05.3 -0.3
baz=103,SNR=12
SCM Sheep Creek Mo 149.33 306 P PKPbc 04 38 06.1 -0.1
baz=106,SNR=6.7
HHC Hu-ho-hao-te 149.35 101 ePKPbc PKPdf 04 38 04.0 +1.5
PWL Port Wells 149.52 304 PKPdf PKPdf 04 38 04.3 +2.3
PWL Port Wells 149.52 304 P PKPbc 04 38 06.1 -0.5
baz=107
DHY Denali Highway 149.67 309 PKPdf PKPdf 04 38 04.5 +2.1
DHY Denali Highway 149.67 309 P PKPbc 04 38 06.8 -0.2
baz=104,SNR=7.6
WAT6 Susitna Watana 149.71 308 P PKPbc 04 38 06.8 -0.4
baz=105,SNR=16
KNK Knik Glacier 149.73 305 PKPdf PKPdf 04 38 04.1 +1.7
KNK Knik Glacier 149.73 305 P PKPbc 04 38 06.8 -0.3
baz=106
SML Sawmill 149.78 306 P PKPbc 04 38 06.9 -0.4
baz=106,SNR=13
SEW Seward 149.82 303 PKPdf PKPdf 04 38 04.3 +1.9
SEW Seward 149.82 303 P PKPbc 04 38 07.1 -0.2

	baz=108							
IL31		149.84	312	PKPdf	PKPdf	04 38 04.6	+2.3	
ILAR	Eielson Array	149.84	312	PKPbc	PKPbc	04 38 06.7	-0.6	
	comp=Z,20nm,0.8s,baz=122,slow=1.3,SNR=117							
ILAR	Eielson Array	149.84	312	PKPdf	PKPdf	04 38 04.6	+2.2	
GHO	Glory Hole Cre	150.04	306	PKPdf	PKPdf	04 38 03.6	+0.7	
O22K	Cooper Landing	150.06	303	P	PKPbc	04 38 07.7	-0.2	
	baz=107							
PMR	Palmer	150.09	305	PKPdf	PKPdf	04 38 05.1	+2.3	
PMR	Palmer	150.09	305	P	PKPbc	04 38 07.2	-0.6	
	baz=105							
POKR	Poker Plat Res	150.13	313	PKPdf	PKPdf	04 38 04.6	+1.7	
POKR	Poker Plat Res	150.13	313	P	PKPbc	04 38 07.8	-0.1	
	baz=100							
RC01	Rabbit Creek A	150.24	304	PKPdf	PKPdf	04 38 04.1	+1.0	
COLA	College	150.26	312	P	PKPbc	04 38 07.2	-1.0	
	baz=101							
TCOL	CIGO, UAF Yank	150.26	312	P	PKPbc	04 38 07.2	-1.0	
	baz=101							
BRSE	Bradley Lake S	150.33	301	P	PKPbc	04 38 07.7	-0.9	
	baz=108							
H24K	Noodor Dome	150.43	314	P	PKPbc	04 38 07.9	-0.8	
	baz=99,SNR=9.7							
MCK	McKinley	150.50	310	P	PKPbc	04 38 08.1	-0.8	
	baz=102,SNR=22							
M22K	Willow	150.59	306	P	PKPbc	04 38 08.5	-0.6	
	baz=104,SNR=13							
KDAK	Kodiak Island	150.62	297	PKPbc	PKPbc	04 38 09.3	+0.1	
	comp=Z,16nm,0.4s,baz=233,slow=0.9,SNR=29							
KDAK	Kodiak Island	150.62	297		PKPdf	04 38 06.0	+2.2	
KDAK	Kodiak Island	150.62	297	P	PKPbc	04 38 08.4	-0.9	
	baz=110							
NEA2	Nenana	150.72	311	PKPdf	PKPdf	04 38 05.8	+2.0	
NEA2	Nenana	150.72	311	P	PKPbc	04 38 08.5	-0.8	
	baz=100,SNR=13							
SONM	Songino Array	150.72	86	PKP	PKPdf	04 38 03.9	-0.6	
	comp=Z,1.4nm,0.8s,baz=220,slow=8.9,SNR=5.6							
SONM				PKPbc	PKPbc	04 38 09.5	-0.5	
	comp=Z,1.6nm,1.5s,baz=224,slow=3.2,SNR=34							
SONM	Songino Array	150.72	86		PKPbc	04 38 09.9	-0.2	
OHAK	Old Harbor	150.79	296	P	PKPbc	04 38 08.8	-0.9	
	baz=110							
CUT	Chulitna	150.81	307	P	PKPbc	04 38 08.7	-0.9	
	baz=103,SNR=11							
BWN	Browne	150.82	311	PKPdf	PKPdf	04 38 05.3	+1.4	
I23K	Minto, Yukon-K	150.94	313	P	PKPbc	04 38 08.4	-1.4	
	baz=99,SNR=10							
TRF	Thorofare Moun	151.04	309	P	PKPbc	04 38 09.2	-1.2	
	baz=101,SNR=8.6							
H23K	Yukon River	151.11	314	PKPdf	PKPdf	04 38 06.2	+1.8	
H23K	Yukon River	151.11	314	P	PKPbc	04 38 08.7	-1.6	
	baz=98,SNR=6.5							
ULN	Ulaanbaatar	151.11	86	PKPdf	PKPdf	04 38 05.5	+0.3	
BJI	Beijing	151.31	108	PKPbc	PKPbc	04 38 10.8	-0.7	
BJI				pPKP	PKPab	04 38 20.0	+0.3	
BJI				AMB	AMB			
	comp=Z,150nm,5.3s							
TOLK	Toolik Lake Re	151.37	320	P	PKPbc	04 38 10.0	-0.8	
	baz=92,SNR=48							
SPCR	Spurr Chakacha	151.43	304	P	PKPbc	04 38 11.0	-0.2	
	baz=104							
BPAW	Bear Paw Mtn.	151.46	310	P	PKPbc	04 38 10.3	-0.9	
	baz=100,SNR=32							
RSO	Redoubt South	151.50	302		PKPbc	04 38 10.5	-1.1	
Q19K	Cape Douglas,	151.51	299	P	PKPbc	04 38 10.8	-0.6	
	baz=107							
COLD	Coldfoot	151.52	317	P	PKPbc	04 38 11.0	-0.1	
	baz=94,SNR=9.5							
PPLA	Purkeypile	151.78	307	P	PKPbc	04 38 11.2	-0.9	
	baz=101							
CAST	Castle Rocks	151.83	309	P	PKPbc	04 38 11.3	-0.7	
	baz=100,SNR=10							
CHUM	Lake Minchumin	152.01	310	P	PKPbc	04 38 11.6	-0.7	
	baz=99,SNR=13							
I21K	Tanana	152.04	312	P	PKPbc	04 38 11.7	-0.7	
	baz=97							
O19K	Port Alsworth	152.19	301	P	PKPbc	04 38 11.7	-1.1	
	baz=104							
N19K	Bonanza Creek	152.41	303	P	PKPbc	04 38 12.7	-0.8	
	baz=103							
H21K	Melozitna Rive	152.43	313	P	PKPbc	04 38 12.7	-0.5	
	baz=95,SNR=7.9							
L20K	Farewell, AK	152.47	306	P	PKPbc	04 38 13.3	-0.2	
	baz=100							
O18K	Koktuh Hills	152.53	300	P	PKPbc	04 38 13.6	0.0	
	baz=104							
M19K	Big River Lodg	152.60	305	P	PKPbc	04 38 13.4	-0.4	
	baz=101							
K20K	Telida	152.70	308	P	PKPbc	04 38 13.2	-0.7	
	baz=99							
IMAR	Indian Mountai	152.84	314	PKPdf	PKPdf	04 38 09.8	+2.9	
J20K	Nowinta River	152.84	310	PKPdf	PKPdf	04 38 10.7	+3.7	
J20K	Nowinta River	152.84	310	P	PKPbc	04 38 14.1	-0.1	
	baz=97							
L19K	White Mountain	152.86	305	PKPdf	PKPdf	04 38 08.7	+1.5	
TTA	Tatalina	153.51	307	PKPdf	PKPdf	04 38 09.4	+1.3	
TTA	Tatalina	153.51	307	P	PKiKP	04 38 16.3	+0.4	
	baz=98							
XLT	XiLinHaoTe	153.87	101	ePKPbc	PKPdf	04 38 08.3	-0.9	
XLT				pPKP	PKiKP	04 38 17.6	+0.3	
XLT				sPKP		04 38 21.8		
XLT				PKS	PKSdf	04 41 43.3	-0.2	
XLT				AMB	AMB			
	comp=Z,170nm,4.8s							
KLR	Kul'dur	165.69	108	PKPab	PKPab	04 39 20.9	-0.7	
	comp=Z,1.3nm,0.6s,baz=261,slow=5.1,SNR=6.1							

*NCEDC **19** 04:25:35.9±0.9, 35°.73N±0°.03×121°.35W±0°.05, h8^{km}±7^{km}, ML3.1/13, ML2.7/56(NEIC), Error ellipse: s-maj=6.7km s-min=2.3km az=55.0*

*ANF **19** 04:25:35.5±2.2, 35°.67N×121°.29W, h8^{km}, ML2.7/9, Error ellipse: s-maj=21.0km s-min=13.0km az=92.0*

*NEIC **19** 04:25:35.6±0.9, 35°.73N±0°.03×121°.36W±0°.04, h9^{km}±7^{km}, Error ellipse: s-maj=6.6km s-min=0.5km az=50.0*

ISC 19 04:25:34.3±1.4,**35°.68N**±0°.04×**121°.43W**±0°.05,**h11**^{km}±9^{km}, **n57**,σ0°**79**/67,**Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAPM	Alder Peak	0.24	13			Pg	04 25 39.6	+0.2
BSMM	Soledad Missio	0.71	0			Pg	04 25 48.4	+0.4
HAST	Hastings Reser	0.72	352			Pg	04 25 48.8	+0.5
PMPB	Monarch Peak	0.74	43			Pg	04 25 48.4	-0.3
PMPB				Sg		Sg	04 25 57.6	-0.8
PKD	Bear Valley Ra	0.77	69			Pg	04 25 49.0	-0.2
TCHL	Shandon	0.84	89			Pb	04 25 51.2	+0.3
BJCM	Johnson Can.	0.87	2			Pg	04 25 51.3	+0.2
TSCN	Private Proper	0.89	98			Pg	04 25 52.2	+0.7
TSCN						Sb	04 26 04.1	+0.4
SCZ	Santa Cruz	0.92	1			Pg	04 25 52.1	+0.1
TRAM	Private Proper	0.94	90			Pg	04 25 52.7	+0.2
BBGB	Big Mountain B	0.96	19			Pg	04 25 53.0	+0.2
BBGB				Sg		Sg	04 26 04.5	-0.7
PAGB	Antelope Grade	0.96	86			Pg	04 25 52.7	-0.1
PAGB				Sg		Sg	04 26 04.4	-1.0
PAGB				IAML			04 26 13.1	
	comp=N,300nm,0.6s							
THIS	South End of C	0.98	87			Pg	04 25 53.2	0.0
BLRM	Lewis Ranch	1.00	7			Pg	04 25 53.4	-0.1
PMLM	Mount Lospe	1.03	139			Pg	04 25 53.9	-0.1
PDRM	Domengine Ranc	1.08	52			Pb	04 25 55.3	+0.2
SAO	San Andreas Ge	1.09	359			Pg	04 25 54.6	-0.7
SAO	San Andreas Ge	1.09	359			Pg	04 25 54.9	-0.3
HSFM	Saint Francis	1.14	357			Pg	04 25 56.4	+0.2
SMMC	Simmler	1.22	107	P		Pb	04 25 57.8	+0.3
	baz=291							
SMMC				S		Sn	04 26 14.4	+0.4
	baz=291							
HCOM	Corn Cob Canyo	1.23	350			Pb	04 25 57.4	-0.2
GHS	Gilroy Hot Spr	1.42	359			Pn	04 25 59.6	-0.5
PKM	Mcpherson Peak	1.54	120	P		Pn	04 26 01.5	-0.3
	baz=304							
PKM				S		Sg	04 26 24.2	+0.4
	baz=304							
MHC	Mount Hamilton	1.67	354			Pn	04 26 03.5	-0.2
BCW	Bitter Crk WRg	1.80	113			Pn	04 26 05.9	+0.4
BCW				IAML			04 26 44.4	
	comp=N,94nm,0.8s							
JRSC	Jasper Ridge	1.84	340			Pn	04 26 05.3	-0.6
SBC	Santa Barbara	1.87	131	P		Pn	04 26 05.6	-0.7
	baz=314							
VES	Vestal, Richgr	1.91	84	P		Pn	04 26 06.1	-0.8
	baz=267							
VES				S		Sn	04 26 28.3	-2.6
	baz=267							
CMCM	Mills College	2.19	344			Pn	04 26 11.7	+1.1
ISA	Isabella, Lake	2.41	89			Pn	04 26 13.3	-0.4
ISA				IAML			04 26 46.2	
	comp=N,26nm,0.5s							
ISA	Isabella, Lake	2.41	89	P		Pn	04 26 13.7	0.0
	baz=272							
ISA				S		Sn	04 26 41.0	-2.2
	baz=272							
CMB	Columbia Colle	2.50	19			Pn	04 26 15.2	+0.2
MDPB	Devils Postpil	2.72	43			Pn	04 26 18.5	+0.4
MDPB				IAML			04 26 55.4	
	comp=E,28nm,0.7s							
MDPB				IAML			04 26 59.6	
	comp=N,24nm,0.4s							
OMMB	Old Mammoth Mi	2.75	45			Pn	04 26 18.9	+0.3
OMMB				IAML			04 26 53.2	
	comp=E,25nm,0.5s							
OMMB				IAML			04 26 53.8	
	comp=N,22nm,0.6s							
CWC	Cottonwood Cre	2.82	73	P		Pn	04 26 20.6	+1.1
	baz=256							
CWC				S		Sn	04 26 53.6	+0.1
	baz=256							
CCAC	Calif City Air	2.83	100			Pn	04 26 20.6	+1.0
CCAC				IAML			04 27 25.0	
	comp=N,23nm,1.1s							
CCAC				IAML			04 27 35.9	
	comp=E,23nm,1.8s							
MLAC	Mammoth, Mammo	2.86	46	P		Pn	04 26 20.8	+0.7
	baz=227							
MLAC				S		Sn	04 26 55.2	+0.6
	baz=227							
EDW2	Edwards Air Fo	2.92	105	P		Pn	04 26 21.5	+0.8
	baz=288							
TIN	Tinemaha, Big	2.93	61	P		Pn	04 26 21.8	+0.9
	baz=243							
LCH	Last Change Ra	3.42	62			Pn	04 26 27.8	+0.1
EMB	Emerald Bay	3.46	17			Pn	04 26 29.1	+0.8
EMB				IAML			04 27 20.5	
	comp=E,15nm,0.7s							
LHV	Little Huntoon	3.48	41			Pn	04 26 29.0	+0.6
LHV				IAML			04 27 32.7	
	comp=E,18nm,1.6s							
LHV				IAML			04 27 35.0	
	comp=N,15nm,1.1s							
GRAC	Grapevine Rang	3.54	67	Pn		Pn	04 26 29.7	+0.5
GRAC				IAML			04 27 30.2	
	comp=N,15nm,0.9s							
GRAC				IAML			04 27 40.6	
	comp=E,21nm,1.0s							
PNTR	Pine Nut	3.71	23			Pn	04 26 32.6	+0.8
PNTR				IAML			04 27 53.8	
	comp=N,16nm,1.1s							
NVAR	Mina Array Bea	3.72	41	Pn		Pn	04 26 32.4	+0.5
QSM	Queen of Sheba	3.72	84	Pn		Pn	04 26 32.7	+1.0
QSM				IAML			04 27 37.3	
	comp=N,8.8nm,3.1s							
YERR	Yerington	3.74	27			Pn	04 26 33.0	+0.9
YERR				IAML			04 27 29.4	
	comp=N,11nm,0.5s							
RYN	Ryan	3.75	37	Pn		Pn	04 26 33.0	+0.7
RYN				IAML			04 27 34.0	
	comp=E,8.8nm,1.2s							
MPK	Martis Peak	3.78	17			Pn	04 26 33.4	+0.5
GSC	Goldstone, Bar	3.79	94			Pn	04 26 34.1	+1.4
GSC				IAML			04 27 04.4	
	comp=E,11nm,3.3s							
GSC				IAML			04 27 39.4	
	comp=N,9.6nm,3.1s							
NV11	Mina Array Sit	3.80	43			Pn	04 26 32.4	-0.6
VCNR	Virginia City	3.88	21			Pn	04 26 34.9	+0.8
VCNR				IAML			04 27 41.8	
	comp=N,15nm,4.2s							
VCNR				IAML			04 27 53.1	
	comp=E,8.4nm,2.0s							
GWY	Greenwater Val	3.90	81	Pn		Pn	04 26 34.6	+0.4
GWY				IAML			04 27 42.2	
	comp=E,9.6nm,4.2s							
TPH	Tonopah	4.14	53	Pn		Pn	04 26 38.0	+0.4
BEKR	Beckworth	4.27	11	Pn		Pn	04 26 41.2	+1.8
BEKR				IAML			04 28 03.0	
	comp=E,8.5nm,3.0s							
KVN	Kaiserville	4.29	37	Pn		Pn	04 26 40.3	+0.6
KVN				IAML			04 28 02.8	
	comp=N,6.3nm,4.0s							
TPNV	Topopah Spring	4.37	72			Pn	04 26 42.4	+1.6

*IDC **19** 04:38:54.6±3.8, 15°.67N×97°.98W, h0^{km}, mb3.7/7, mb1 4.0/9, mb1mx3.8/47, mbtmp3.7/9, ML3.6/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/67, Error ellipse: s-maj=68.4km s-min=17.2km az=176.0*

*MEX **19** 04:39:00.3±1.8, 16°.02N×98°.09W, h10^{km}, MD4.2*

*NEIC **19** 04:39:01.6±2.0, 16°.16N±0°.05×98°.12W±0°.03, h17^{km}±8^{km}, mb4.1/30, Md4.2/83(MEX), Error ellipse: s-maj=8.1km s-min=3.2km az=154.0*

ISC 19 04:38:57.7±1.4,**16°.03N**±0°.04×**98°.09W**±0°.02,**h6**^{km}±9^{km}, **n103**,σ1°**90**/155,**mb4.1**/16,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.36	354			Pg	04 39 06.5	+1.8
PNIG						Sb	04 39 12.2	-0.2
PNIG	Pinotepa	0.36	354	i	P	Pg	04 39 06.5	+1.8
PNIG				i	S	Sb	04 39 12.2	-0.2
PEIG	Puerto Escondi	0.91	92	i	P	Pb	04 39 14.6	-1.2
PEIG				e	S	Sb	04 39 26.6	-1.5
YOIG	Yosondua	0.97	32	i	P	Pb	04 39 16.7	-0.4
YOIG				e	S	Sb	04 39 29.3	-1.0
CRIG	Cruz Grande	1.22	305			Pn	04 39 19.9	-1.3
CRIG						Sb	04 39 35.8	-1.4
CRIG	Cruz Grande	1.22	305	e	P	Pn	04 39 19.9	-1.3
CRIG				e	S	Sb	04 39 35.8	-1.4
TXIG	Tlaxiaco	1.25	14	e	P	Pb	04 39 20.9	-1.0
TXIG				i	S	Sb	04 39 36.7	-1.7
MGIG	Malinaltepec	1.30	337	i	P	Pn	04 39 21.1	-1.4
MGIG				e	S	Sb	04 39 37.9	-1.9
TLIG	Tlapa	1.59	343			Pn	04 39 25.6	-0.9
TLIG					Sn	Sn	04 39 45.5	-1.8
TLIG	Tlapa	1.59	343	i	P	Pn	04 39 25.6	-0.9
TLIG				i	S	Sn	04 39 45.4	-2.0
VHO	Vista Hermosa	1.66	51	i	P	Pn	04 39 26.5	-1.1
VHO				i	S	Sn	04 39 47.4	-1.9
OXBJ	Oaxaca	1.67	52			Pn	04 39 26.9	-0.7
OXBJ						Sn	04 39 47.4	-2.0
OXBJ	Oaxaca	1.67	52	e	P	Pn	04 39 26.9	-0.7
OXBJ				e	S	Sn	04 39 47.4	-2.0
OXLC	Oaxaca	1.68	52	e	P	Pn	04 39 26.4	-1.4
OXLC				e	S	Sn	04 39 47.3	-2.4
DAIG	Los Arroyos	1.79	304			Pn	04 39 26.5	-2.6
DAIG						Sn	04 39 49.3	-2.9
DAIG	Los Arroyos	1.79	304	e	P	Pn	04 39 26.5	-2.6
DAIG				i	S	Sn	04 39 49.3	-2.9
HLIG	Huajuapan de L	1.81	9	e	P	Pn	04 39 29.7	+0.1
HLIG				e	S	Sb	04 39 54.2	-0.1
HMTT	Tlapaneco	1.81	346			Pb	04 39 31.8	+0.4
HMTT						Sn	04 39 51.7	-1.2
HMTT	Tlapaneco	1.81	346	e	P	Pb	04 39 31.8	+0.4
HMTT				e	S	Sn	04 39 51.7	-1.2
FTIG	Fresnillo de T	1.87	359	e	P	Pn	04 39 30.1	-0.1
FTIG				e	S	Sb	04 39 54.2	-1.7
ACP2	Acapulco	1.92	296			Pn	04 39 32.8	+1.9
ACP2						Sb	04 39 57.8	+0.6
ACP2	Acapulco	1.92	296	e	P	Pn	04 39 32.8	+1.9
ACP2				i	S	Sb	04 39 57.8	+0.6
HUIG	Huatulco	1.93	98			Pn	04 39 28.8	-2.1
HUIG						Sn	04 39 51.5	-4.0
HUIG	Huatulco	1.93	98	e	P	Pn	04 39 28.8	-2.1
HUIG				e	S	Sn	04 39 51.5	-4.0
TOIG	Toxpalan	2.27	25	i	P	Pn	04 39 35.6	-0.3
TOIG				e	S	Sn	04 40 04.9	+0.6
CAIG	El Cayaco	2.32	296			Pn	04 39 34.2	-2.2
CAIG						Sn	04 40 05.5	+0.3
CAIG	El Cayaco	2.32	296	e	P	Pn	04 39 34.2	-2.2
CAIG				e	S	Sn	04 40 05.5	+0.3
MEIG	Mezcala	2.38	322			Pn	04 39 38.3	+0.9
MEIG						Sn	04 40 07.3	+0.4
MEIG	Mezcala	2.38	322	e	P	Pn	04 39 38.3	+0.9
MEIG				e	S	Sn	04 40 07.3	+0.4
TPIG	Tehuac#an	2.48	16			Pb	04 39 44.7	+2.0
TPIG				e	P	Pb	04 39 44.7	+2.0
TPIG				e	S	Sn	04 40 09.6	+0.3
PLIG	Platanillo	2.71	330			Pb	04 39 47.5	+0.9
PLIG						Sb	04 40 20.6	+0.5
PLIG	Platanillo	2.71	330	e	P	Pb	04 39 47.5	+0.9
PLIG				e	S	Sb	04 40 20.6	+0.5
YAIG	Yautepec	2.96	342			Pb	04 39 50.3	-0.7
YAIG						Sb	04 40 26.1	-1.5
YAIG	Yautepec	2.96	342	e	P	Pb	04 39 50.3	-0.7
YAIG				e	S	Sb	04 40 26.1	-1.5
PHPU	Puebla	3.00	359			Pn	04 39 45.7	-0.3
PHPU						Sn	04 40 21.3	-1.0
PHPU	Puebla	3.00	359	i	P	Pn	04 39 45.7	-0.3
PHPU				i	S	Sn	04 40 21.3	-1.0
PPM	Popocatepetl	3.06	350	e	P	Pb	04 39 51.6	-1.2
PPM				i	S	Sn	04 40 23.0	-1.2
ARIG	Puente Sto Nin	3.11	316			Pn	04 39 47.6	+0.4
ARIG						Sb	04 40 28.6	-3.0
ARIG	Puente Sto Nin	3.11	316	e	P	Pn	04 39 47.6	+0.4
ARIG				e	S	Sb	04 40 28.6	-3.0
AMVM	AMECAMECA	3.15	348	e		Pb	04 39 55.4	+1.1
MAVM	Malinalco, Edo	3.20	335			Pb	04 39 55.0	-0.2
MAVM	Malinalco, Edo	3.20	335	e	P	Pb	04 39 55.0	-0.2
MAVM				e		Sg	04 40 37.2	-3.5
CMIG	Matias Romero	3.25	71	Pn		Pn	04 39 47.8	-1.4
	8.1nm,0.3s,baz=241,slow=12,SNR=145							
CMIG				Pg		Pb	04 39 55.8	+0.1
	8.5nm,0.3s,baz=251,slow=15,SNR=19							
CMIG				Sn		Sn	04 40 26.9	-1.3
	15nm,0.3s,baz=141,slow=21,SNR=6.0							
CMIG				LR		LR	04 40 33.0	
	comp=Z,85nm,20.7s,baz=142,slow=30							
CMIG				Lg		Lg	04 40 38.3	
	26nm,0.3s,baz=281,slow=14,SNR=4.6							
CMIG	Matias Romero	3.25	71			Pn	04 39 47.9	-1.4
CMIG						Sn	04 40 32.3	+4.1
CMIG	Matias Romero	3.25	71	i	P	Pn	04 39 47.9	-1.4
CMIG				e	S	Sn	04 40 32.3	+4.1
TLVM	San Miguel Top	3.32	342	i		Pb	04 39 58.0	+1.5
TLVM				i	S	Sn	04 40 31.0	+0.6
XCVM	Xochimilco	3.35	343	i	P	Pb	04 39 59.2	+1.6
XCVM				e		Sg	04 40 40.8	-4.6
THVM	De Xico	3.37	346	i	P	Pn	04 39 52.7	+1.7
THVM				i	S	Sn	04 40 32.2	+0.7
AOVM	Tlapan	3.42	340	e	P	Pb	04 39 57.1	-1.9
AOVM				e		Sg	04 40 48.5	+0.7
UNM	Universidad Na	3.44	343	Pn		Pn	04 39 52.0	0.0
UNM	Universidad Na	3.44	343	i	P	Pn	04 39 49.3	-2.8
UNM				e	S	Sb	04 40 38.3	-3.0
BJVM	Benito Juarez	3.48	343	e		Pg	04 40 18.1	+14
BJVM				e		Sg	04 40 47.4	-2.2
CJVM	Cuajimalpa	3.50	341	e		Pg	04 40 06.8	+2.0
CJVM				e		Sg	04 40 47.5	-2.8
PBVM	Pinon	3.52	345			Pb	04 40 00.3	0.0
PBVM	Pinon	3.52	345	i	P	Pb	04 40 00.3	0.0
PBVM				e		Sg	04 40 48.1	-2.7
PTVM	Pico Tres Padr	3.67	345			Pb	04 40 02.4	-0.8
PTVM	Pico Tres Padr	3.67	345	e	P	Pb	04 40 02.4	-0.8
PTVM				e		Sg	04 40 50.3	-5.4
VTVM	Tizayuca	3.77	350			Pn	04 40 00.7	+4.1
VTVM	Tizayuca	3.77	350	e	P	Pn	04 40 00.7	+4.1
VTVM				e		Sg	04 41 00.6	+1.6
ZUVM	ZUMPANGO	3.89	346			Pn	04 40 00.1	+1.8
ZUVM	ZUMPANGO	3.89	346	i	P	Pn	04 40 00.1	+1.8
ZUVM				e		Sg	04 41 00.4	-2.3
LVIG	Laguna Verde	4.00	23			Pn	04 40 04.0	+4.5
LVIG						Sb	04 40 52.1	-5.1
LVIG	Laguna Verde	4.00	23	i	P	Pn	04 40 04.0	+4.5
LVIG				i	S	Sb	04 40 52.1	-5.1
ACIG	Acambay	4.28	337	e		Pb	04 40 15.9	+2.4
ACIG				e		Sg	04 41 12.3	-3.0
CCIG	Comitan	5.73	87			Pn	04 40 26.2	+2.8
TXAR	Lajitas Array	14.20	340	Pn		P	04 42 25.5	-1.5
	0.1nm,0.3s,baz=164,slow=10,SNR=4.3							
TXAR				LR		LR	04 48 27.9	
	comp=Z,157nm,19.8s,baz=183,slow=39							
ABTX	Abilene, Hawle	16.58	355	Pn		Pn	04 42 52.2	+1.4
ABTX				IAmb		IAmb	04 42 55.8	
	comp=Z,20nm,0.9s							
319A	Douglas	18.37	328			P	04 43 14.8	+1.5
AMTX	Amarillo	19.05	351	P		Pn	04 43 22.3	+0.9
AMTX				IAmb		IAmb	04 43 25.6	
	comp=Z,7.2nm,0.7s							
ANMO	Albuquerque	20.27	340	P		P	04 43 36.2	+2.0
	comp=Z,3.1nm,0.9s,baz=145,slow=12,SNR=11							
ANMO				LR		LR	04 52 13.5	
	comp=Z,102nm,21.0s,baz=134,slow=39							
ANMO	Albuquerque	20.27	340			P	04 43 34.1	-0.1
HHAR	Hobbs	20.50	10	P		P	04 43 37.8	+1.3
HHAR				IAmb		IAmb	04 43 41.5	
	comp=Z,5.5nm,0.9s							
U40A	Yellville	20.77	12			P	04 43 39.9	+0.4
U40A				IAmb		IAmb	04 43 44.6	
	comp=Z,9.8nm,0.8s							
LCAR	Lake Charles	20.89	16	P		P	04 43 42.1	+1.5
X18A	Snowflake	21.28	332	P		P	04 43 46.1	+1.0
X18A				IAmb		IAmb	04 43 49.0	
	comp=Z,6.6nm,1.0s							
PBMO	Poplar Bluff	21.76	17	P		P	04 43 51.7	+1.8
T25A	Trinidad	21.76	346			P	04 43 49.8	-0.5
T25A				IAmb		IAmb	04 43 55.6	
	comp=Z,10.0nm,0.9s							
X16A	Lo Mia Camp, P	21.89	329	P		P	04 43 49.9	-1.8
S39A	Boliv

1.5nm,0.8s,baz=172,slow=6.7,SNR=5.1
LPAZ La Paz 50.29 305 P P 04 57 47.2 +0.3
1.5nm,0.7s,baz=127,slow=5.1,SNR=5.8
TORD Torodi Ar. Bea 72.64 29 P P 05 00 17.8 +0.6
0.4nm,0.8s,baz=205,slow=6.5,SNR=6.5
ASAR Alice Springs 99.31 162 P Pdif 05 02 30.2 -1.9
0.2nm,0.5s,baz=188,slow=4.7,SNR=1.2
ILAR Eielson Array 149.98 312 PKPbc PKPbc 05 08 37.5 -1.3
0.9nm,0.8s,baz=96,slow=2.7,SNR=8.9

*NIED **19** 05:05:47.4, 32.7°N×130.6°E, h13km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.90; $M_{\theta\theta}$8.33; $M_{\phi\phi}$-4.43; $M_{r\theta}$-0.10; $M_{\theta\phi}$-1.25; $M_{\phi r}$4.76; Fault plane solution: $M_0$8.72000×10^{14} NP1: ϕ_S240.00000°, δ59.00000°, λ-149.00000°. NP2: ϕ_S132.00000°, δ64.00000°, λ-36.00000°.*
JMA 19 05:05:47.3, 32.7°N×130.6°E, h13km, M3.7, 1C Broadband fault plane solution: P waves. NP1: ϕ_S127.00000°, δ58.00000°, λ-47.00000°. **NP2:** ϕ_S246.00000°, δ52.00000°, λ-138.00000°. **Principal axes:** T Plg4.0000°, Azm188.0000°; N Plg36.0000°, Azm281.0000°; P Plg54.0000°, Azm93.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.19**	**337**		P	Pg	05 05 51.7	+0.1
JTA					S	Sg	05 05 54.6	+0.1
JIU3	**Izumi3**	**0.29**	**146**	⇑P	P	Pg	05 05 53.2	-0.1
JIU3					S	Sg	05 05 57.5	+0.2

*IDC **19** 05:07:26.3±2.3, 36.°34N×141.°63E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/48, mbtmp3.6/7, ML3.1/2 Error ellipse: s-maj=59.7km s-min=23.2km az=65.0*
*JMA **19** 05:07:33.6±0.2, 36.°02N×141.°14E, h38km±2km, M3.3*
ISC 19 05:07:32.3±1.6, 36.°11N±0.°04×141.°21E±0.°09, h29km±10km, n24, σ0°83/22, mb3.4/5, 4C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.49**	**215**	⇑P		**Pb**	**05 07 42.5**	**-0.1**
CHOJ					S	**Sb**	**05 07 49.0**	**-0.5**
JHYU	**Hitachinakayam**	**0.56**	**295**	P		**Pn**	**05 07 45.0**	**+0.7**
JHYU					S	**Sn**	**05 07 53.0**	**+0.5**
JIHU	**Itakohorinouch**	**0.57**	**256**	⇑P		**Pn**	**05 07 44.7**	**+0.2**
JIHU					S	**Sb**	**05 07 52.6**	**+0.9**
JHO	**Hitachi**	**0.72**	**315**	⇑P		**Pn**	**05 07 47.5**	**+0.9**
JSMT	**Sammumatsuo**	**0.77**	**233**	P		**Pn**	**05 07 47.4**	**+0.2**
JSMT					eS	**Sb**	**05 07 57.3**	**0.0**
JYT	**Yasato**	**0.83**	**279**	⇑P		**Pn**	**05 07 48.2**	**+0.2**
JYT					S	**Sb**	**05 07 57.9**	**-1.1**
JFK	**Kawauchi**	**1.29**	**348**	P		**Pb**	**05 07 55.9**	**0.0**
JAG	**Ashikaga**	**1.46**	**283**	P		**Pn**	**05 07 57.2**	**+0.6**
MJAR	**Matsushiro Arr**	**2.46**	**281**	Pn		**Pn**	**05 08 12.1**	**+1.6**
	2.2nm,0.3s,baz=69,slow=18,SNR=27							
MJAR					Sn	**Sn**	**05 08 39.5**	**-0.1**
	1.0nm,0.3s,baz=146,slow=16,SNR=5.7							
JHJ	**Hachijo jima 2**	**3.20**	**202**	Pn		**Pn**	**05 08 21.3**	**+0.6**
	4.9nm,0.3s,baz=50,slow=20,SNR=1.8							
JHJ					Sn	**Sn**	**05 08 58.1**	**+0.3**
	17nm,0.3s,baz=78,slow=21,SNR=1.7							
H11N2	**WAKE ISLAND Hy**	**27.83**	**119**	T		T	05 42 30.2	
	baz=311,slow=75,SNR=41							
H11N1	**WAKE ISLAND Hy**	**27.84**	**119**	T		T	05 42 27.1	
	baz=311,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy**	**27.85**	**119**	T		T	05 42 24.9	
	baz=311,slow=75,SNR=35							
SONM	**Songino Array**	**28.18**	**305**	P		**P**	**05 13 21.8**	**-0.5**
	0.5nm,0.4s,baz=106,slow=11,SNR=2.2							
H11S1	**WAKE ISLAND Hy**	**28.51**	**121**	T		T	05 43 13.6	
	baz=313,slow=75,SNR=21							
H11S3	**WAKE ISLAND Hy**	**28.51**	**121**	T		T	05 43 14.4	
	baz=313,slow=75,SNR=19							
H11S2	**WAKE ISLAND Hy**	**28.52**	**121**	T		T	05 43 15.2	
	baz=313,slow=75,SNR=19							
ZALV	**Zalesovo Beam**	**42.42**	**313**	P		**P**	**05 15 22.3**	**-1.9**
	0.2nm,0.3s,baz=102,slow=6.6,SNR=1.6							
MKAR	**Makanchi Array**	**44.48**	**303**	P		**P**	**05 15 40.6**	**-0.2**
	0.5nm,0.6s,baz=95,slow=9.4,SNR=4.9							
WRA	**Warramunga Arr**	**56.12**	**188**	P		**P**	**05 17 09.4**	**+0.3**
	0.4nm,0.9s,baz=22,slow=7.3,SNR=5.6							
ASAR	**Alice Springs**	**59.85**	**188**	P		**P**	**05 17 36.2**	**+1.0**
	0.1nm,0.3s,baz=7.5,slow=15,SNR=1.5							
H03N2	**Juan Fernandez**	**147.08**	**97**	T		T	08 11 36.2	
	baz=290,slow=76,SNR=5.4							
H03N3	**Juan Fernandez**	**147.09**	**97**	T		T	08 11 45.5	
	baz=290,slow=76,SNR=8.3							
H03N1	**Juan Fernandez**	**147.10**	**97**	T		T	08 11 39.9	
	baz=290,slow=76,SNR=6.2							

*IDC **19** 05:09:26.8±3.0, 36.°23S×17.°12W, h0km, mb4.4/8, mb1 4.4/8, mb1mx4.0/37, mbtmp4.4/8, Error ellipse: s-maj=87.1km s-min=22.6km az=155.0*
*NEIC **19** 05:09:28.8±1.6, 36.°45S±0.°2×17.°1W±0.°1, h10km±1km, mb4.5/24, Error ellipse: s-maj=25.8km s-min=18.8km az=182.0*
ISC 19 05:09:28.3±0.8, 36.°3S±0.°2×17.°1W±0.°1, h10km, n42, σ0°74/30, mb4.5/13, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**3.95**	**102**		Pn	**Pn**	**05 10 29.8**	**+0.9**
H10S2	**ASCENSION HYDR**	**27.32**	**5**	T		T	05 42 45.8	
	baz=185,slow=74,SNR=64							
H10S3	**ASCENSION HYDR**	**27.33**	**5**	T		T	05 42 46.2	
	baz=35,slow=74,SNR=63							
H10N1	**ASCENSION HYDR**	**28.44**	**6**	T		T	05 44 21.2	
	baz=181,slow=74,SNR=24							
H10N3	**ASCENSION HYDR**	**28.44**	**5**	T		T	05 44 26.2	
	baz=181,slow=74,SNR=40							
H10N2	**ASCENSION HYDR**	**28.46**	**6**	T		T	05 44 11.3	
	baz=181,slow=74,SNR=29							
ITQB	**Itaqui**	**33.60**	**270**	P		**P**	**05 16 09.8**	**+1.0**
BDFB	**Brasilia**	**34.33**	**299**	P		**P**	**05 16 16.3**	**+0.9**
	1.8nm,0.7s,baz=164,slow=7.4,SNR=3.8							
BDFB	**Brasilia**	**34.33**	**299**		IAmb	IAmb	05 16 22.9	
	comp=Z,7.6nm,1.1s							
CPUP	**Villa Florida**	**35.53**	**275**	P		**P**	**05 16 25.4**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=127,slow=10,SNR=6.1							
CPUP	**Villa Florida**	**35.53**	**275**		IAmb	IAmb	05 16 26.1	
	comp=Z,1.8nm,0.7s							
AQDB	**Aquidauana**	**37.14**	**285**	P		**P**	**05 16 39.1**	**-0.3**
PMSA	**Palmer Station**	**39.72**	**209**	P		**P**	**05 16 59.4**	**-1.1**
LIC	**Lamto**	**43.81**	**18**	*eP*		**P**	**05 17 34.5**	**0.0**
	comp=Z,27nm,1.2s							
SIV	**San Ignacio**	**43.88**	**286**	P		**P**	**05 17 35.6**	**+0.4**
	comp=Z,12nm,0.9s,baz=130,slow=7.4,SNR=48							
KIC	**Kosan Boka**	**44.01**	**18**	*eP*		**P**	**05 17 35.6**	**-0.5**
	comp=Z,17nm,0.7s							
TIC	**Toumodi**	**44.22**	**17**	*eP*		**P**	**05 17 37.1**	**-0.7**
DBIC	**Dimbokro**	**44.28**	**18**	P		**P**	**05 17 36.7**	**-1.6**
	comp=Z,4.8nm,0.8s,baz=198,slow=9.1,SNR=6.2							
DBIC	**Dimbokro**	**44.28**	**18**		IAmb	IAmb	05 17 38.4	
	comp=Z,5.8nm,0.8s							
CO01	**Juntas del Tor**	**44.33**	**262**	P		**P**	**05 17 39.3**	**+0.4**
CO01					IAmb	IAmb	05 17 42.4	
	comp=Z,4.7nm,0.6s							
AC01	**Pan de Azucar**	**46.32**	**267**	P		**P**	**05 17 55.2**	**+0.7**
LVC	**Limon Verde**	**46.59**	**272**	P		**P**	**05 17 56.2**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=100,slow=15,SNR=2.4							
LVC	**Limon Verde**	**46.59**	**272**		IAmb	IAmb	05 17 56.7	
	comp=Z,4.4nm,0.8s							
PB08	**IPOC Station P**	**48.02**	**275**	P		**P**	**05 18 07.9**	**-0.3**
GO01	**Chusmiza**	**48.30**	**275**	P		**P**	**05 18 10.2**	**-0.3**
PB11	**IPOC Station P**	**48.62**	**275**			**P**	**05 18 12.1**	**-0.5**
PB16	**IPOC Station P**	**49.25**	**277**	P		**P**	**05 18 18.4**	**+0.5**
LPAZ	**La Paz**	**49.26**	**280**	P		**P**	**05 18 17.0**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=119,slow=19,SNR=8.2							
LPAZ	**La Paz**	**49.26**	**280**	P		**P**	**05 18 17.2**	**-0.9**
KOWA	**Kowa**	**52.03**	**16**	P		**P**	**05 18 38.0**	**-0.1**
KOWA					IAmb	IAmb	05 18 38.3	
	comp=Z,3.9nm,0.7s							
TOA0	**Toordi Ar. Sit**	**52.31**	**23**	P		**P**	**05 18 39.9**	**-0.4**
TOA0					IAmb	IAmb	05 18 44.2	
	comp=Z,4.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**52.31**	**23**	P		**P**	**05 18 39.7**	**-0.5**
	comp=Z,3.3nm,0.9s,baz=197,slow=7.9,SNR=16							
TORD	**Torodi Ar. Bea**	**52.31**	**23**	P		**P**	**05 18 39.9**	**-0.3**
BIRV	**Birongo**	**65.59**	**305**	P		**P**	**05 20 13.6**	**+1.0**
SDV	**Santo Domingo**	**67.40**	**301**	P		**P**	**05 20 24.2**	**-0.2**
	comp=Z,7.8nm,0.9s,baz=160,slow=13,SNR=4.1							
SDV	**Santo Domingo**	**67.40**	**301**	P		**P**	**05 20 24.0**	**-0.4**
SJCC	**San Jacinto, C**	**71.30**	**298**	P		**P**	**05 20 48.8**	**+0.4**
H01W2	**Cape Leeuwin H**	**95.86**	**142**	T		T	07 11 18.6	
	baz=218,slow=75,SNR=42							
H01W3	**Cape Leeuwin H**	**95.88**	**142**	T		T	07 11 15.9	
	baz=218,slow=75,SNR=48							
H01W1	**Cape Leeuwin H**	**95.88**	**142**	T		T	07 11 25.8	
	baz=218,slow=75,SNR=18							
ILAR	**Eielson Array**	**138.94**	**330**	PKP		**PKiKP**	**05 28 55.2**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=84,slow=2.5,SNR=4.4							
SEY	**Seymchan**	**152.57**	**10**	PKPbc		**PKiKP**	**05 29 24.6**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=280,slow=7.4,SNR=3.9							

*IDC **19** 05:10:23.2±0.5, 55.°63S×27.°07W, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.3/35, mbtmp4.4/16, ML4.1/1, Error ellipse: s-maj=19.7km s-min=13.8km az=52.0*
*NEIC **19** 05:10:25.1±1.5, 55.°69S±0.°09×27.°0W±0.°2, h10km±1km, mb4.7/44, Error ellipse: s-maj=19.8km s-min=12.6km az=50.0*
ISC 19 05:10:27.1±0.5, 55.°65S±0.°09×27.°08W±0.°09, h25km, n69, σ0°75/63, mb4.7/28, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.59**	**280**	Pn		**Pn**	**05 11 48.8**	**+0.3**
EFI	**East Falkland**	**18.70**	**269**	P		**P**	**05 14 42.5**	**-0.7**
EFI					IAmb	IAmb	05 14 45.1	
	comp=Z,135nm,1.4s							
SNAA	**Sanae**	**19.09**	**157**	P		**P**	**05 14 47.6**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=282,slow=7.6,SNR=6.2							
SMAI	**San Martin Ant**	**22.11**	**220**	P		**P**	**05 15 20.7**	**+0.6**
SMAI					IAmb	IAmb	05 15 38.0	
	comp=Z,38nm,1.4s							
BELA	**Belgrano 2**	**22.49**	**184**	P		**P**	**05 15 23.1**	**-0.9**
USHA	**Ushuaia**	**23.35**	**255**	P		**P**	**05 15 32.3**	**-0.8**
	comp=Z,3.9nm,0.6s,baz=77,slow=7.0,SNR=5.3							
MG02	**Cerro Sombrero**	**24.53**	**259**	P		**P**	**05 15 43.8**	**-0.5**
GO09	**Cerro Castillo**	**26.92**	**260**	P		**P**	**05 16 04.6**	**-1.4**
GO08	**Villa O'Higgin**	**28.43**	**265**	P		**P**	**05 16 19.1**	**-0.4**
PLTB	**Pedras Altas**	**30.27**	**311**	P		**P**	**05 16 36.8**	**+0.9**
PLTB					IAmb	IAmb	05 16 56.5	
	comp=Z,26nm,1.5s							
PLCA	**Paso Flores**	**31.99**	**279**	P		**P**	**05 16 51.3**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=108,slow=6.0,SNR=3.6							
ITQB	**Itaqui**	**33.39**	**309**	P		**P**	**05 17 03.5**	**+0.3**
ITQB					IAmb	IAmb	05 17 12.4	
	comp=Z,19nm,1.2s							
QSPA	**South Pole Qui**	**34.61**	**180**	P		**P**	**05 17 14.0**	**+0.3**
	comp=Z,5.0nm,0.6s,baz=27,slow=5.2,SNR=32							
QSPA	**South Pole Qui**	**34.61**	**180**	P		**P**	**05 17 14.7**	**+0.9**
QSPA					IAmb	IAmb	05 17 26.3	
	comp=Z,11nm,1.0s							
CPUP	**Villa Florida**	**36.59**	**311**	P		**P**	**05 17 30.2**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=151,slow=6.7,SNR=12							
CPUP					PcP	**PcP**	**05 19 53.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=162,slow=3.8,SNR=4.0							
CPUP	**Villa Florida**	**36.59**	**311**	P		**P**	**05 17 30.9**	**0.0**
GO05	**Huala**	**36.83**	**285**	P		**P**	**05 17 31.7**	**-1.2**
GO05					IAmb	IAmb	05 17 44.4	
	comp=Z,19nm,1.2s							
MT09	**Talagante**	**37.24**	**287**	P		**P**	**05 17 34.7**	**-1.9**
MT09					IAmb	IAmb	05 17 48.6	
	comp=Z,36nm,1.5s							
ZON	**Zonda**	**37.73**	**292**	P		**P**	**05 17 40.4**	**-0.3**
ZON					IAmb	IAmb	05 17 41.2	
	comp=Z,13nm,0.6s							
VA03	**San Esteban**	**37.78**	**289**	P		**P**	**05 17 40.9**	**-0.2**
VA03					IAmb	IAmb	05 17 57.4	
	comp=Z,18nm,1.3s							
CO02	**Combarbal**	**39.23**	**290**	P		**P**	**05 17 53.0**	**-0.3**
CO02					IAmb	IAmb	05 18 00.1	
	comp=Z,41nm,1.4s							
CO01	**Juntas del Tor**	**39.72**	**292**	P		**P**	**05 17 59.1**	**+1.5**
CO01					IAmb	IAmb	05 17 59.6	
	comp=Z,8.2nm,0.8s							
MAW	**Mawson**	**40.44**	**144**	P		**P**	**05 18 03.0**	**+0.2**
	comp=Z,5.0nm,0.6s,baz=229,slow=6.7,SNR=13							
MAW	**Mawson**	**40.44**	**144**	IAmb		IAmb	05 18 04.8	
	comp=Z,1.4nm,0.7s							
LCO	**Las Campanas**	**40.80**	**292**	P		**P**	**05 18 06.1**	**-0.5**
LCO					IAmb	IAmb	05 18 22.7	
	comp=Z,16nm,1.1s							
AQDB	**Aquidauana**	**41.14**	**317**	P		**P**	**05 18 08.8**	**-0.3**
AC04	**Llanos de Chal**	**41.65**	**293**	P		**P**	**05 18 13.7**	**+0.5**
AC04					IAmb	IAmb	05 18 14.0	
	comp=Z,22nm,0.8s							
AC06	**Mina Casimiro**	**41.95**	**294**	P		**P**	**05 18 15.7**	**0.0**
AC01	**Pan de Azucar**	**43.06**	**295**	P		**P**	**05 18 24.8**	**+0.1**
GO02	**Mina Gaznaco**	**43.36**	**297**	P		**P**	**05 18 28.1**	**+0.6**
LVC	**Limon Verde**	**45.15**	**300**	P		**P**	**05 18 42.6**	**+0.7**
	comp=Z,19nm,0.6s,baz=138,slow=3.3,SNR=27							
LVC	**Limon Verde**	**45.15**	**300**	P		**P**	**05 18 43.0**	**+1.1**
BOSA	**Boshof**	**45.81**	**76**	P		**P**	**05 18 46.6**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=57,slow=15,SNR=2.0							
PB09	**IPOC Station P**	**46.00**	**300**	P		**P**	**05 18 50.2**	**+1.8**
VNDA	**Vanda**	**46.98**	**183**	P		**P**	**05 18 55.6**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=182,slow=7.0,SNR=16							
VNDA	**Vanda**	**46.98**	**183**	P		**P**	**05 18 55.9**	**+0.7**
VNDA					IAmb	IAmb	05 18 58.1	
	comp=Z,4.1nm,0.6s							
SIV	**San Ignacio**	**47.34**	**313**	P		**P**	**05 18 58.3**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=138,slow=6.2,SNR=7.0							
PB08	**IPOC Station P**	**47.36**	**301**	P		**P**	**05 19 00.6**	**+1.2**
H10S2	**ASCENSION HYDR**	**47.59**	**17**	T		T	06 10 28.8	
	baz=189,slow=74,SNR=8.3							
H10S3	**ASCENSION HYDR**	**47.60**	**17**	T		T	06 10 29.1	
	baz=31,slow=74,SNR=10							
GO01	**Chusmiza**	**47.78**	**301**	P		**P**	**05 19 03.6**	**+0.8**
H10N1	**ASCENSION HYDR**	**48.71**	**17**	T		T	06 11 51.0	
	baz=189,slow=74							
H10N3	**ASCENSION HYDR**	**48.71**	**17**	T		T	06 11 56.5	
	baz=189,slow=74							
H10N2	**ASCENSION HYDR**	**48.73**	**17**	T		T	06 11 55.4	
	baz=189							
LPAZ	**La Paz**	**50.19**	**305**	P		**P**	**05 19 21.9**	**+0.5**
	comp=Z,12nm,0.6s,baz=113,slow=5.4,SNR=42							
LPAZ	**La Paz**	**50.19**	**305**	P		**P**	**05 19 22.1**	**+0.8**
DBIC	**Dimbokro**	**64.77**	**25**	P		**P**	**05 21 02.9**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=234,slow=5.5,SNR=1.9							
MCRA	**Macar, Loja**	**66.20**	**300**	P		**P**	**05 21 12.5**	**-0.1**
MCRA					IAmb	IAmb	05 21 13.6	
	comp=Z,6.8nm,1.2s							
TOC5	**Toordi Ar. Sit**	**72.65**	**29**	P		**P**	**05 21 52.7**	**+0.4**
TOC5					IAmb	IAmb	05 21 57.1	
	comp=Z,3.1nm,0.6s							
TOA0	**Toordi Ar. Sit**	**72.67**	**29**	P		**P**	**05 21 53.1**	**+0.6**
TOA0					IAmb	IAmb	05 22 09.5	
	comp=Z,4.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.67**	**29**	P		**P**	**05 21 52.9**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=200,slow=6.4,SNR=18							
TORD	**Torodi Ar. Bea**	**72.67**	**29**	P		**P**	**05 21 52.7**	**+0.2**
BAUV	**El Baul**	**72.80**	**317**	P		**P**	**05 21 53.4**	**+0.2**
BIRV	**Birongo**	**73.54**	**320**	P		**P**	**05 21 58.6**	**+1.0**
SDV	**Santo Domingo**	**73.77**	**315**	P		**P**	**05 21 59.3**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=150,slow=7.8,SNR=8.0							
SDV	**Santo Domingo**	**73.77**	**315**	P		**P**	**05 21 59.2**	**0.0**
SDV					IAmb	IAmb	05 22 00.2	
	comp=Z,5.5nm,0.7s							
STKA	**Stephens Creek**	**92.29**	**170**	P		**P**	**05 23 35.0**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=191,slow=10,SNR=3.2							
ASAR	**Alice Springs**	**99.36**	**162**	P		**Pdif**	**05 24 05.3**	**-1.8**
WRA	**Warramunga Arr**	**103.07**	**162**	Pdiff		**Pdif**	**05 24 23.4**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=200,slow=4.5,SNR=1.6							
PDAR	**Pinedale Array**	**120.18**	**302**	PKP		**PKPdf**	**05 29 14.0**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=128,slow=5.8,SNR=1.6							
FINES	**FINESS Array B**	**124.00**	**28**	PKP		**PKPdf**	**05 29 21.4**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=148,slow=11,SNR=3.5							
CMAR	**Chiang Mai Arr**	**125.15**	**110**	PKP		**PKPdf**	**05 29 25.4**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=233,slow=4.3,SNR=4.9							
ARCES	**ARCESS Array B**	**130.54**	**22**	PKP		**PKPdf**	**05 29 33.8**	**0.0**
	comp=Z,2.4nm,0.7s,baz=150,slow=1.0,SNR=6.2							
YKA	**Yellowknife Ar**	**135.91**	**318**	PKP		**PKPdf**	**05 29 43.3**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=128,slow=2.2,SNR=9.8							
MKAR	**Makanchi Array**	**136.70**	**71**	PKP		**PKPdf**	**05 29 45.4**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=266,slow=1.5,SNR=2.7							
RES	**Resolute Bay**	**137.50**	**339**	PKP		**PKPdf**	**05 29 46.8**	**0.0**
	comp=Z,1.2nm,0.8s,baz=175,slow=1.8,SNR=6.0							
ZALV	**Zalesovo Beam**	**142.13**	**63**	PKhKP		PKPpre	05 29 47.4	
	comp=Z,0.3nm,0.4s,baz=225,slow=0.2,SNR=1.6							
ILAR	**Eielson Array**	**149.89**	**312**	PKPbc		**PKPbc**	**05 30 13.4**	**0.0**
	comp=Z,6.9nm,0.7s,baz=132,slow=3.7,SNR=69							
SONM	**Songino Array**	**150.64**	**86**	PKPbc		**PKPbc**	**05 30 16.5**	**+0.6**
	comp=Z,5.2nm,0.5s,baz=222,slow=3.6,SNR=18							

*IDC **19** 05:15:00.0±0.9, 0.°07N×80.°76W, h0km, mb4.0/10, mb1 4.2/12, mb1mx3.9/39, mbtmp4.0/12, ML3.3/2, MS3.6/3, Ms1 3.6/3, ms1mx3.2/67, Error ellipse: s-maj=31.1km s-min=17.3km az=57.0*
*NEIC **19** 05:15:02.5±1.3, 0.°03S±0.°07×80.°84W±0.°10, h10km±1km, mb4.4/37, Error ellipse: s-maj=16.5km s-min=11.6km az=276.0*
ISC 19 05:15:01.3±0.6, 0.°04S±0.°07×80.°90W±0.°09, h10km, n70, σ1°21/54, mb4.3/26, 4C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**2.13**	**82**	*eP*		Pn	05 15 32.2	-4.9
PULU	**Pululahua**	**2.40**	**88**			**Pn**	**05 15 40.3**	**-0.7**
OTAV	**Otavalo**	**2.46**	**84**	Pn		**Pn**	**05 15 41.2**	**-0.7**
CUSE	**Cuicocha Este**	**2.52**	**82**	*eP*		**Pn**	**05 15 44.6**	**+1.9**
PORT	**Chimborazo Vol**	**2.55**	**124**	Pn		**Pn**	**05 15 43.8**	**+0.5**
TULM	**Tulcn-Chalpat**	**3.20**	**76**	*eP*		**Pn**	**05 15 54.2**	**+2.0**
CMBC	**Cumbal**	**3.22**	**72**	*eP*		**Pn**	**05 15 55.1**	**+2.7**
GCUF	**Volcan Galeras**	**3.77**	**70**	*eP*		**Pn**	**05 16 01.8**	**+1.8**
BOSC	**San Juan Bosco**	**3.91**	**142**			**Pn**	**05 16 04.4**	**+2.7**
GR1C	**Gorgona, Isla**	**4.07**	**42**	*eP*		**Pg**	**05 16 18.0**	**-1.4**
CRUC	**La Cruz**	**4.26**	**68**	*eP*		**Pn**	**05 16 07.8**	**+1.2**
MCRA	**Macar, Loja**	**4.40**	**168**			**Pn**	**05 16 07.0**	**-1.3**
SOTA	**Rioblanco**	**4.80**	**63**	*eP*		**Pn**	**05 16 14.2**	**0.0**
POPC	**Popayan, Colom**	**4.94**	**59**	*eP*		**Pn**	**05 16 16.1**	**+0.3**
PCON	**Cinco Dias**	**5.08**	**62**	*eP*		**Pn**	**05 16 18.9**	**+0.9**
MARP	**Paez Belalcaza**	**5.71**	**60**	*eP*		**Pn**	**05 16 26.6**	**+0.1**
YOTC	**Yotoco, Valle**	**6.06**	**49**	*eP*		Pn	05 16 39.0	+7.9
PTLC	**Puerto Leguiza**	**6.10**	**88**	*eP*		**Pn**	**05 16 32.3**	**+0.6**
PLMC	**San Jos del P**	**6.74**	**43**	*eP*		Pn	05 16 45.7	+5.2
ORTC	**Ortega, Tolima**	**6.88**	**55**	*eP*		Pb	05 16 52.3	-8.7
MACC	**Macarena, Meta**	**7.38**	**73**	*eP*		Pn	05 16 59.0	+10
GUY2C	**Guyana, Caldas**	**7.61**	**46**	*eP*		**Pn**	**05 16 55.4**	**+2.6**
ROSC	**El Rosal**	**8.17**	**53**	Pn		**Pn**	**05 17 02.9**	**+2.6**
	0.7nm,0.3s,baz=114,slow=23,SNR=3.0							
ROSC					Lg	Lg	05 19 10.1	
	baz=32,slow=22,SNR=1.0							
ROSC					LR	LR	05 20 18.7	
	comp=Z,664nm,19.7s,baz=186,slow=40							
ROSC	**El Rosal**	**8.17**	**53**	*eP*		Pn	05 17 10.4	+10
HELC	**Santa Helena**	**8.19**	**41**	*eP*		Pb	05 17 17.1	-6.4
CHIC	**Chingaza**	**8.53**	**57**	*eP*		Pn	05 17 14.3	+8.9
UREC	**San Jos de Ur**	**9.41**	**35**	*eP*		**Pn**	**05 17 19.0**	**+2.0**
ZARC	**Zaragoza, Cauc**	**9.61**	**39**	Pn		**Pn**	**05 17 21.5**	**+1.8**
JTS	**Las Juntas de**	**11.03**	**339**	LR		LR	05 20 56.9	
	comp=Z,460nm,20.0s,baz=180,slow=32							
NNA	**Nana**	**12.53**	**161**	Pn		**Pn**	**05 17 59.0**	**-0.8**
	1.2nm,0.3s,baz=252,slow=14,SNR=1.8							
NNA					LR	LR	05 23 43.2	
	comp=Z,87nm,18.9s,baz=330,slow=42							
SDV	**Santo Domingo**	**13.53**	**49**	Pn		**Pn**	**05 18 12.9**	**-0.8**
	0.3nm,0.3s,baz=214,slow=15,SNR=3.0							
SDV	**Santo Domingo**	**13.53**	**49**	Pn		**Pn**

NEIC ***19*** *05:25:39.9± 1.6, 55.73°S± 0.08°, 27.2°W± 0.1, h14km± 1km, mb5.9/193, Ms_20 6.2/453, Mwb6.2/34, Mww6.2, Error ellipse: s-maj=14.2km s-min=14.0km az=141.0*

BJI ***19*** *05:25:39.0± 0.0, 55.80°S× 27.40°W, h20km, mB5.9/45, Ms6.3/72, Ms7 6.1/71*

NEIC ***19*** *05:25:40.2, 55.70°S× 27.27°W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr} 1.55; $M_{\theta\theta}$ -1.18; $M_{\phi\phi}$ -0.37; $M_{r\theta}$ -0.97; $M_{r\phi}$ 1.17; $M_{\theta\phi}$ 0.80; Fault plane solution: M_o 2.22000×10^{18} NP1:ϕ_s121.36000°, δ27.58000°, λ83.78000°. NP2:ϕ_s308.37000°, δ62.59000°, λ93.24000°. Principal axes: T 1.9532, Plg72.0000°, Azm226.0000°; N 0.4544, Plg3.0000°, Azm127.0000°; P -2.4076, Plg18.0000°, Azm36.0000°;*

IDC ***19*** *05:25:41.1± 1.2, 55.66°S× 27.18°W, h21km± 7km, mb5.2/28, mb1 5.2/29, mb1mx5.2/31, mbtmp5.3/29, ML4.8/1, MS6.0/43, Ms1 6.0/43, ms1mx6.0/45 Error ellipse: s-maj=12.7km s-min=9.6km az=52.0*

MOS ***19*** *05:25:43.0± 1.0, 55.80°S× 27.52°W, h40km, mb5.9/26, MS6.0/25, Error ellipse: s-maj=17.7km s-min=9.4km az=105.9*

NEIC ***19*** *05:25:43, 55.42°S× 27.41°W, h24km, Moment Tensor Solution. Duration: 8.0 Moment tensor: Scale 10^{18}Nm; M_{rr} 1.80; $M_{\theta\theta}$ -1.08; $M_{\phi\phi}$ -0.72; $M_{r\theta}$ -1.52; $M_{r\phi}$ 1.08; $M_{\theta\phi}$ 1.69; Fault plane solution: M_o 2.96000×10^{18} NP1: ϕ_s123.00000°, δ20.00000°, λ77.00000°. NP2: ϕ_s316.00000°, δ70.00000°, λ95.00000°. Principal axes: T 2.8732, Plg65.0000°, Azm234.0000°; N 0.1723, Plg4.0000°, Azm135.0000°; P -3.0455, Plg25.0000°, Azm43.0000°;*

GCMT ***19*** *05:25:46.9± 0.0, 55.59°S× 27.05W, h21km, MW6.3/170, Moment Tensor Solution. s165, c398; s170, c641; Duration: 33.3 Moment tensor: Scale 10^{18}Nm; M_{rr} 2.23±.01; $M_{\theta\theta}$ -1.49±.01; $M_{\phi\phi}$ -0.74±.01; $M_{r\theta}$ -1.65±.03; $M_{r\phi}$ 1.17±.01; $M_{\theta\phi}$ 1.19±.02; Best double couple: M_o 3.06100×10^{18} NP1:ϕ_s126.00000°, δ24.00000°, λ90.00000°. NP2:ϕ_s306.00000°, δ66.00000°, λ90.00000°. Principal axes: T 3.0040, Plg69.0000°, Azm216.0000°; N 0.1130, Plg0.0000°, Azm306.0000°; P -3.1180, Plg21.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 19 05:25:39.4±0.2, **55.78S**±0.04×**27.42W**±0.04, **h10**km, **n1227**, σ1**898**/1031, **mb5.9**/114, **MS6.2**/337, **97C-42D, Fault plane solution: NP1:**ϕ_s326.11615°, δ87.41883°, λ70.19022°. **NP2:**ϕ_s228.98991°, δ19.97053°, λ172.42297°. **Principal axes:** T Plg44.1414°, Azm216.6085°; N Plg19.7888°, Azm327.0455°; P Plg39.2528°, Azm74.1431°; **Fault plane solution: NP1:**ϕ_s314.71347°, δ83.42191°, λ121.63866°. **NP2:**ϕ_s55.24615°, δ32.24566°, λ12.39838°. **Principal axes:** T Plg42.7697°, Azm255.0634°; N Plg31.4066°, Azm130.6761°; P Plg31.1342°, Azm19.0338°; **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res ISC
HOPE	**Hope Point**	**5.43**	**282**	P		**Pn**		**05 27 02.9**	**+2.6**
HOPE	**Hope Point**	**5.43**	**282**			**Pn**		**05 27 02.9**	**+2.6**
HOPE	**Hope Point**	**5.43**	**282**	↑P		**Pn**		**05 27 02.9**	**+2.6**
ORCD	**Orcadas**	**10.37**	**234**			**Pn**		**05 28 09.2**	**+1.2**
ESPZ	**Base Esperanza**	**16.67**	**231**			**Pn**		**05 29 33.8**	**+1.1**
ESPZ					IAmb	IAmb		05 29 45.8	
	comp=Z,1μm,1.9s								
VNA1	**Neumayer--Stat**	**17.09**	**158**	P		**P**		**05 29 39.7**	**-0.1**
VNA1	**Neumayer--Stat**	**17.09**	**158**		ScP	**ScP**		**05 37 57.0**	**+0.3**
VNA3	**Neumayer Olymp**	**17.29**	**161**	P		**P**		**05 29 42.8**	**+0.8**
VNA3				S		S		05 33 23.6	+22
VNA3	**Neumayer Olymp**	**17.29**	**161**		ScP	**ScP**		**05 37 56.9**	**-0.3**
VNA2	**Neumayer--Watz**	**17.49**	**158**	P		**P**		**05 29 44.0**	**-0.2**
	baz=316,slow=13								
VNA2				S		S		05 33 25.1	+19
VNA2	**Neumayer--Watz**	**17.49**	**158**		ScP	**ScP**		**05 37 57.6**	**0.0**
EFI	**East Falkland**	**18.50**	**270**	*ce*P		**Pn**		**05 29 58.0**	**+2.4**
EFI					pmax	pmax			
	comp=Z,298nm,1.3s								
EFI					MLR	MLR			
	comp=Z,41μm,18.0s								
EFI	**East Falkland**	**18.50**	**270**	P		**Pn**		**05 29 57.2**	**+1.6**
EFI	**East Falkland**	**18.50**	**270**	⇓P		**Pn**		**05 29 57.9**	**+2.3**
SNAA	**Sanae**	**19.04**	**156**	P		**P**		**05 30 01.6**	**+0.3**
SNAA				S		S		05 33 51.6	+14
SNAA	**Sanae**	**19.04**	**156**		ScP	**ScP**		**05 38 00.6**	**-0.4**
SNAA	**Sanae**	**19.04**	**156**	P		**P**		**05 30 01.6**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=287,slow=10,SNR=25								
SNAA					PcP	**PcP**		**05 34 25.3**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=195,slow=22,SNR=1.5								
SNAA					LR	LR		05 36 31.8	
	comp=Z,16μm,21.1s,baz=315,slow=34								
SNAA					ScP	**ScP**		**05 37 59.4**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=25,slow=0.1,SNR=11								
SNAA					ScS	**ScS**		**05 41 41.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=151,slow=23,SNR=2.2								
SNAA	**Sanae**	**19.04**	**156**	*e*P		**P**		**05 30 02.1**	**0.0**
SNAA	**Sanae**	**19.04**	**156**	*ce*P		**P**		**05 30 01.8**	**+0.5**
SNAA					pmax	pmax			
	comp=Z,128nm,1.7s								
SNAA					MLR	MLR			
	comp=Z,32μm,22.0s								
SNAA	**Sanae**	**19.04**	**156**	P		**P**		**05 30 01.4**	**+0.1**
SNAA	**Sanae**	**19.04**	**156**	↑P		**Pn**		**05 30 02.0**	**0.0**
SNAA				⇓S		**ScP**		**05 38 00.8**	**-0.2**
PMSA	**Palmer Station**	**19.98**	**228**	P		**Pn**		**05 30 14.7**	**+1.5**
	comp=Z,266nm,0.6s,baz=70,slow=7.8,SNR=22								
PMSA					PcP	**PcP**		**05 34 27.2**	**0.0**
	comp=Z,21nm,0.8s,baz=151,slow=16,SNR=1.7								
PMSA					LR	LR		05 36 58.8	
	comp=Z,60μm,18.5s,baz=75,slow=34								
PMSA	**Palmer Station**	**19.98**	**228**	P		**Pn**		**05 30 15.3**	**+2.1**
PMSA					IAmb	IAmb		05 30 31.5	
	comp=Z,423nm,0.9s								
PMSA	**Palmer Station**	**19.98**	**228**	↑P		**Pn**		**05 30 14.6**	**+1.5**
TROLL	**Troll, Antarti**	**20.55**	**154**	P		Pn		05 30 19.2	-0.8
TROLL	**Troll, Antarti**	**20.55**	**154**		ScP	**ScP**		**05 38 04.8**	**+0.3**
TRIS	**Tristan da Cun**	**21.33**	**35**	P		**P**		**05 30 27.0**	**+0.7**
TRIS					IAmb	IAmb		05 30 33.6	
	comp=Z,999nm,1.4s								
SMAI	**San Martin Ant**	**21.89**	**220**	P		**P**		**05 30 34.0**	**+2.0**
BELA	**Belgrano 2**	**22.34**	**184**	P		**P**		**05 30 37.4**	**+0.5**
BELA					IAmb	IAmb		05 30 43.8	
	comp=Z,432nm,0.8s								
NVL	**N'lazarevskaya**	**22.56**	**147**	*e*P		**P**		**05 30 39.5**	**+0.2**
NVL				*e*S		S		05 34 33.8	-12
NVL					pmax	pmax			
	comp=Z,225nm,1.2s								
NVL					MLR	MLR			
	comp=Z,17μm,17.0s								
MG01	**Puerto William**	**22.65**	**255**	P		**P**		**05 30 41.8**	**+1.4**
USHA	**Ushuaia**	**23.12**	**255**	P		**P**		**05 30 47.0**	**+1.7**
	comp=Z,24nm,0.5s,baz=98,slow=11,SNR=29								
USHA					PcP	**PcP**		**05 34 33.9**	**+0.4**
	comp=Z,6.2nm,0.6s,baz=58,slow=22,SNR=1.6								
USHA					LR	LR		05 37 50.2	
	comp=Z,68μm,19.6s,baz=102,slow=31								
USHA					ScP	**ScP**		**05 38 09.4**	**-1.8**
	comp=Z,9.1nm,0.6s,baz=139,slow=7.8,SNR=7.6								
DSPA	**Despedida**	**23.34**	**257**	P		**P**		**05 30 47.7**	**+0.2**
MG02	**Cerro Sombrero**	**24.32**	**259**	P		**P**		**05 30 57.0**	**+0.2**
MG03	**Isla Dawson**	**24.59**	**256**	P		**P**		**05 31 00.6**	**+1.3**
MG03					IAmb	IAmb		05 31 39.9	
	comp=Z,756nm,1.8s								
GO10	**Punta Arenas**	**25.18**	**258**	P		**P**		**05 31 05.1**	**+0.4**
GO10					IAmb	IAmb		05 31 53.3	
	comp=Z,405nm,1.1s								
GO10	**Punta Arenas**	**25.18**	**258**	⇓P		P		05 31 12.2	+7.5
MG04	**Isla Riesco**	**25.59**	**258**	P		**P**		**05 31 09.7**	**+1.3**
MG04					IAmb	IAmb		05 31 29.8	
	comp=Z,318nm,0.9s								
MG05	**Puerto Natales**	**26.61**	**260**	P		**P**		**05 31 17.4**	**-0.3**
MG05					IAmb	IAmb		05 32 10.1	
	comp=Z,234nm,1.1s								
GO09	**Cerro Castillo**	**26.71**	**261**	P		**P**		**05 31 18.2**	**-0.3**
GO09					IAmb	IAmb		05 31 52.8	
	comp=Z,489nm,1.4s								
GO08	**Villa O'Higgin**	**28.23**	**266**	P		**P**		**05 31 33.1**	**+1.0**
GO08					IAmb	IAmb		05 32 10.0	
	comp=Z,336nm,1.5s								
LPA	**La Plata**	**29.53**	**302**	*c* P		**P**		**05 31 39.4**	**-4.4**
LPA					pPP			05 32 41.0	
LPA					S	**S**		**05 36 38.2**	**-0.1**
LPA					PS	**PgS**		**05 37 12.4**	**+9.2**
LPA					SSS	SSS		05 38 24.7	
COYC	**Coyhaique**	**29.59**	**271**	P		**P**		**05 31 44.5**	**+0.2**
COYC	**Coyhaique**	**29.59**	**271**		IAms_20	IAms_20		05 44 47.6	
	comp=Z,49μm,18.0s								
COYC	**Coyhaique**	**29.59**	**271**	⇓P		**P**		**05 31 45.5**	**+1.2**
PLTB	**Pedras Altas**	**30.22**	**312**	P		**P**		**05 31 50.1**	**+0.1**
PLTB	**Pedras Altas**	**30.22**	**312**	*e*P		**P**		**05 31 50.7**	**+0.7**
AY01	**Puyuhuapi**	**30.61**	**273**	P		**P**		**05 31 53.2**	**-0.1**
LL02	**Futaleuf**	**30.93**	**275**	P		**P**		**05 31 56.5**	**+0.3**
CPSB	**Cacapava Do Su**	**31.34**	**313**	*e*P		**P**		**05 32 00.9**	**+1.1**
PLCA	**Paso Flores**	**31.82**	**280**	P		**P**		**05 32 05.0**	**+0.8**
	comp=Z,16nm,1.1s,baz=142,slow=9.3,SNR=12								
PLCA					PcP	**PcP**		**05 34 54.8**	**-0.1**
	comp=Z,8.8nm,0.8s,baz=128,slow=6.5,SNR=3.6								
PLCA					ScP	**ScP**		**05 38 35.4**	**-2.6**
	comp=Z,5.4nm,0.8s,baz=75,slow=6.4,SNR=4.9								
PLCA					LR	LR		05 46 00.4	
	comp=Z,23μm,18.5s,baz=120,slow=38								
PLCA	**Paso Flores**	**31.82**	**280**	P		**P**		**05 32 04.5**	**+0.3**
PLCA								05 34 54.8	
PLCA					pmax	pmax			
	comp=Z,144nm,1.6s								
PLCA	**Paso Flores**	**31.82**	**280**	P		**P**		**05 32 04.5**	**+0.3**
PLCA	**Paso Flores**	**31.82**	**280**	⇓P		**P**		**05 32 05.3**	**+1.1**
PLCA	**Paso Flores**	**31.82**	**280**	*e*P		**P**		**05 32 04.7**	**+0.6**
SYO	**Syowa Base**	**31.88**	**141**	⇓*e*pP		**P**		**05 32 04.0**	**-0.2**
SYO	**Syowa Base**	**31.88**	**141**	⇑*e*sP		sP		05 32 06.2	-1.5
ITQB	**Itaqui**	**33.33**	**309**	P		**P**		**05 32 17.3**	**0.0**
ITQB	**Itaqui**	**33.33**	**309**	*e*P		**P**		**05 32 17.5**	**+0.3**
LR03	**Panguipulli**	**33.58**	**280**	P		**P**		**05 32 18.7**	**-0.7**
ITAB	**Concordia**	**33.64**	**318**	*e*P		**P**		**05 32 21.3**	**+1.3**
LC01	**Cunco**	**33.83**	**281**	P		**P**		**05 32 20.8**	**-0.8**
QSPA	**South Pole Qui**	**34.47**	**180**	P		**P**		**05 32 28.7**	**+1.6**
	comp=Z,76nm,0.4s,baz=256,slow=0.3,SNR=114								
QSPA					PcP	**PcP**		**05 35 01.9**	**0.0**
	comp=Z,28nm,0.8s,baz=241,slow=10.0,SNR=1.5								
QSPA					ScP	**ScP**		**05 38 43.8**	**-3.0**
	comp=Z,13nm,0.6s,baz=194,slow=20,SNR=3.0								
QSPA					LR	LR		05 46 02.8	
	comp=Z,32μm,19.9s,baz=190,slow=35								
QSPA	**South Pole Qui**	**34.47**	**180**	P		**P**		**05 32 27.9**	**+0.8**
QSPA					IAmb	IAmb		05 32 42.7	
	comp=Z,167nm,0.9s								
QSPA	**South Pole Qui**	**34.47**	**180**	↑P		**P**		**05 32 28.2**	**+1.1**
ESAR	**Angra dos Reis**	**35.06**	**332**	*e*P		**P**		**05 32 34.5**	**+2.1**
PARB	**Paraibuna**	**35.08**	**330**	*e*P		**P**		**05 32 34.2**	**+1.6**
FRBT	**Francisco Belt**	**35.13**	**317**	*e*P		**P**		**05 32 33.6**	**+0.6**
MRA	**San Martin**	**35.39**	**295**	*i* P		**P**		**05 32 35.4**	**+0.1**
TCA	**Tanti**	**35.69**	**298**	*i* P		**P**		**05 32 38.1**	**+0.3**
VAO	**Valinhos**	**35.79**	**328**	*e*P		**P**		**05 32 40.2**	**+1.5**
ML02	**Panimavida**	**35.84**	**285**	P		**P**		**05 32 36.9**	**-2.1**
FRTB	**Fartura**	**36.29**	**324**	*e*P		**P**		**05 32 45.9**	**+3.0**
AAGR	**Agrelo**	**36.48**	**291**	*i* P		**P**		**05 32 45.2**	**+0.6**
CPUP	**Villa Florida**	**36.54**	**311**	P		**P**		**05 32 45.0**	**0.0**
	comp=Z,49nm,0.7s,baz=147,slow=7.4,SNR=41								
CPUP					PcP	**PcP**		**05 35 07.6**	**-0.8**
	comp=Z,16nm,0.7s,baz=193,slow=4.9,SNR=3.2								
CPUP					ScP	**ScP**		**05 38 52.5**	**-2.1**
	comp=Z,8.8nm,0.6s,baz=114,slow=3.6,SNR=5.0								
CPUP					LR	LR		05 47 44.9	
	comp=Z,26μm,20.6s,baz=157,slow=36								
CPUP	**Villa Florida**	**36.54**	**311**	P		**P**		**05 32 44.6**	**-0.4**
CPUP					pmax	pmax			
	comp=Z,124nm,1.0s								
CPUP	**Villa Florida**	**36.54**	**311**	P		**P**		**05 32 44.6**	**-0.4**
CPUP					IAmb	IAmb		05 33 03.4	
	comp=Z,124nm,0.9s								
CPUP	**Villa Florida**	**36.54**	**311**	↑P		**P**		**05 32 44.9**	**-0.1**
CPUP				⇓S		**ScP**		**05 38 55.1**	**+0.4**
CPUP	**Villa Florida**	**36.54**	**311**	*e*P		**P**		**05 32 45.0**	**0.0**
GO05	**Huala**	**36.68**	**286**	P		**P**		**05 32 45.9**	**-0.3**
BO01	**Tunca**	**36.69**	**287**	P		**P**		**05 32 46.8**	**+0.5**
ARCO	**CERRO ARCO**	**36.73**	**291**	*i* P		**P**		**05 32 47.8**	**+1.0**
BO04	**La Punta**	**36.74**	**288**	P		**P**		**05 32 45.5**	**-1.2**
ASAL	**Salagasta**	**36.87**	**291**	*i* P		**P**		**05 32 48.5**	**+0.5**
ACHE	**Chepes**	**36.88**	**295**	*i* P		**P**		**05 32 48.1**	**+0.1**
MT03	**Universidad Ad**	**37.06**	**289**	P		**P**		**05 32 50.4**	**+0.8**
MT03					IAmb	IAmb		05 33 07.4	
	comp=Z,280nm,1.2s								
MT09	**Talagante**	**37.10**	**288**	P		**P**		**05 32 49.1**	**-0.8**
MT09					IAmb	IAmb		05 33 06.5	
	comp=Z,110nm,0.8s								
MT01	**Popeta**	**37.18**	**288**	P		**P**		**05 32 49.8**	**-0.6**
MT05	**Renca**	**37.26**	**289**	P		**P**		**05 32 51.7**	**+0.5**
MT05					IAmb	IAmb		05 33 09.5	
	comp=Z,476nm,1.5s								
RTCV	**Cerro Valdivia**	**37.29**	**293**	*i* P		**P**		**05 32 55.3**	**+3.8**
APLL	**PUNTA DE LOS L**	**37.42**	**296**	*i* P		**P**		**05 32 52.4**	**-0.2**
AUSP	**Uspallata**	**37.45**	**291**	*i* P		**P**		**05 32 54.0**	**+0.9**
MT02	**Curacav**	**37.58**	**288**	IAmb	IAmb			05 33 14.8	
	comp=Z,450nm,1.5s								
ZON	**Zonda**	**37.61**	**293**	IAmb	IAmb			05 33 11.9	
	comp=Z,197nm,0.8s								
VA03	**San Esteban**	**37.65**	**289**	IAmb	IAmb			05 33 12.3	
	comp=Z,290nm,1.0s								
RTLL	**Cerro Villicun**	**37.67**	**293**	*i* P		**P**		**05 32 54.8**	**+0.1**
AVFE	**Valle Fertil**	**37.68**	**295**	*i* P		**P**		**05 32 55.1**	**+0.3**
RTLS	**Leoncito**	**37.73**	**292**	*i* P		**P**		**05 32 56.5**	**+1.0**
VA01	**Torpederas**	**38.03**	**288**	IAmb	IAmb			05 33 14.5	
	comp=Z,376nm,1.5s								
BB19B	**Bebedouro**	**38.09**	**327**	*e*P		**P**		**05 32 58.6**	**+0.4**
ACLC	**CERRO LA CRUZ**	**38.42**	**297**	*i* P		**P**		**05 33 01.3**	**+0.1**
ELIM	**Elim**	**38.44**	**77**	*e*P		**P**		**05 33 03.2**	**+2.1**
ELIM					IAMs_20	IAMs_20		05 46 25.8	
	comp=Z,42nm,18.6s								
SJMB	**Sao Joao De Ma**	**38.46**	**339**	*e*P		**P**		**05 33 01.1**	**-0.2**
PCMB	**Pacaembu**	**38.47**	**323**	*e*P		**P**		**05 33 01.9**	**+0.5**
ACCO	**Cerro Coronel**	**38.57**	**293**	*i* P		**P**		**05 33 03.9**	**+1.3**
ACDV	**Cuesta del Vie**	**38.93**	**294**	*i* P		**P**		**05 33 06.7**	**+1.3**
CO02	**Combarbal**	**39.10**	**291**	IAmb	IAmb			05 33 32.8	
	comp=Z,248nm,1.1s								
AROD	**Rodeo**	**39.12**	**293**	*i* P		**P**		**05 33 09.7**	**+2.5**
CER	**Ceres**	**39.12**	**75**	⇓*i* P		**P**		**05 33 07.8**	**+0.9**
CER					IAMs_20	IAMs_20		05 45 05.5	
	comp=Z,13μm,21.2s								
DIAM	**Diamantina, MG**	**39.40**	**335**	*e*P		**P**		**05 33 09.3**	**-0.1**
CO01	**Juntas del Tor**	**39.59**	**293**	P		**P**		**05 33 12.6**	**+1.6**
CO01					IAmb	IAmb		05 33 22.3	
	comp=Z,216nm,0.8s								
VCA	**Vinchina**	**39.62**	**296**	*i* P		**P**		**05 33 12.7**	**+1.6**
VCA				*i* P		**P**		**05 33 12.8**	**+1.6**
GO04	**Tololo Observa**	**39.80**	**292**	IAmb	IAmb			05 33 29.3	
	comp=Z,288nm,1.1s								
TINO	**Tinogasta**	**39.85**	**297**	*i* P		**P**		**05 33 14.2**	**+1.2**
MATJ	**Matjiesfontein**	**39.90**	**76**	⇓*i* P		**P**		**05 33 11.8**	**-1.7**
MATJ					IAMs_20	IAMs_20		05 47 46.9	
	comp=Z,33μm,17.0s								
ITRB	**Iturama**	**39.94**	**325**	*e*P		**P**		**05 33 16.2**	**+2.5**
CO05	**La Serena**	**40.24**	**291**	IAmb	IAmb			05 33 32.3	
	comp=Z,277nm,0.8s								
MAW	**Mawson**	**40.44**	**144**	P		**P**		**05 33 18.0**	**+0.6**
	comp=Z,55nm,0.7s,baz=231,slow=8.0,SNR=110								
MAW					ScP	**ScP**		**05 39 07.3**	**-1.6**
	comp=Z,20nm,0.8s,baz=242,slow=5.0,SNR=8.9								
MAW					LR	LR		05 47 59.0	
	comp=Z,13μm,21.8s,baz=256,slow=33								
MAW	**Mawson**	**40.44**	**144**	P		**P**		**05 33 17.9**	**+0.6**
	baz=40,SNR=68								
MAW	**Mawson**	**40.44**	**144**	P		**P**		**05 33 17.2**	**-0.2**
MAW					pmax	pmax			
	comp=Z,27nm,1.0s								
MAW	**Mawson**	**40.44**	**144**	P		**P**		**05 33 17.2**	**-0.2**
MAW	**Mawson**	**40.44**	**144**	↑P		**P**		**05 33 18.0**	**+0.6**
MAW				⇓S		S		05 39 10.7	-15
LCO	**Las Campanas**	**40.68**	**293**	P		**P**		**05 33 20.0**	**-0.1**
LCO					pmax	pmax			
	comp=Z,271nm,1.1s								
LCO					MLR	MLR			
	comp=Z,18μm,21.0s								
LCO	**Las Campanas**	**40.68**	**293**	P		**P**		**05 33 20.0**	**-0.1**
LCO					IAmb	IAmb		05 33 36.6	
	comp=Z,271nm,1.1s								
LCO	**Las Campanas**	**40.68**	**293**	↑P		**P**		**05 33 20.5**	**+0.4**
SUR	**Sutherland**	**40.70**	**75**	LR		LR		05 46 41.8	
	comp=Z,24μm,20.3s,baz=214,slow=31								
SUR	**Sutherland**	**40.70**	**75**	P		**P**		**05 33 19.9**	**-0.2**
SUR	**Sutherland**	**40.70**	**75**	⇓P		**P**		**05 33 20.3**	**+0.1**
CVNA	**Calvinia**	**40.81**	**74**	*e*P		**P**		**05 33 22.3**	**+1.3**
CVNA					IAMs_20	IAMs_20		05 44 36.4	
	comp=Z,15μm,30.3s								
IPMB	**Ipameri, GO**	**40.90**	**329**	*e*P		**P**		**05 33 24.0**	**+2.3**
MC01	**Montes Claros**	**40.99**	**335**	*e*P		**P**		**05 33 21.8**	**-0.8**
AQDB	**Aquidauana**	**41.11**	**318**	IAmb	IAmb			05 33 38.1	
	comp=Z,350nm,1.1s								
AQDB	**Aquidauana**	**41.11**	**318**	*e*P		**P**		**05 33 22.5**	**-0.9**
KROM	**Kromhout**	**41.48**	**81**	*e*P		**P**		**05 33 29.4**	**+3.0**
KROM					IAMs_20	IAMs_20		05 49 13.2	
	comp=Z,14μm,18.1s								
GRAN	**Grantham**	**41.50**	**77**	⇓*i* P		**P**		**05 33 25.6**	**-1.0**
GRAN					IAMs_20	IAMs_20		05 48 41.2	
	comp=Z,155nm,17.7s								
GO03	**Copiap**	**41.58**	**295**	⇑P		**P**		**05 33 27.7**	**+0.4**
AC06	**Mina Casimiro**	**41.84**	**295**	IAmb	IAmb			05 33 34.3	
	comp=Z,581nm,1.4s								
JANB	**Januaria**	**42.67**	**336**	*e*P		**P**		**05 33 35.8**	**-0.4**
HJA	**Humahuaca**	**42.87**	**304**	*i* P		**P**		**05 33 38.6**	**+0.4**
AC01	**Pan de Azucar**	**42.95**	**295**	P		**P**		**05 33 38.7**	**+0.3**
AC01					IAmb	IAmb		05 33 42.8	
	comp=Z,476nm,1.3s								
BDFB	**Brasilia**	**43.06**	**330**	P		**P**		**05 33 39.2**	**-0.3**
	comp=Z,15nm,0.9s,baz=133,slow=7.6,SNR=15								
BDFB					PcP	**PcP**		**05 35 29.4**	**-0.1**
	comp=Z,23nm,1.0s,baz=110,slow=17,SNR=2.0								
BDFB					LR	LR		05 50 15.5	
	comp=Z,45μm,19.7s,baz=162,slow=34								
BDFB	**Brasilia**	**43.06**	**330**	P		**P**		**05 33 39.4**	**-0.1**
SOE	**Somerset East**	**43.07**	**80**	*e*P		**P**		**05 33 40.3**	**+0.9**
SOE					IAMs_20	IAMs_20		05 46 45.8	
	comp=Z,29μm,24.1s								
SHEL	**Horse Pasture**	**43.08**	**31**	P		**P**		**05 33 37.6**	**-1.9**
SHEL					pmax	pmax			
	comp=Z,355nm,1.2s								
SHEL	**Horse Pasture**	**43.08**	**31**	P		**P**		**05 33 37.6**	**-1.9**
SHEL					IAmb	IAmb		05 34 00.7	
	comp=Z,354nm,1.1s								
AUGR	**Augrabies**	**43.38**	**71**	*e*P		**P**		**05 33 43.1**	**+1.2**
AUGR					IAMs_20	IAMs_20		05 51 46.8	
	comp=Z,27μm,16.2s								
DVLD	**Doverlandia**	**43.39**	**324**	*e*P		**P**		**05 33 42.4**	**+0.3**
PP1B	**Ponte de Pedra**	**43.44**	**320**	*e*P		**P**		**05 33 42.6**	**+0.2**
KEIM	**Keimoes**	**43.63**	**72**	*e*P		**P**		**05 33 44.2**	**+0.2**
UPI	**Upington**	**44.05**	**72**	*e*P		**P**		**05 33 47.6**	**+0.3**
UPI					IAMs_20	IAMs_20		05 49 16.9	
	comp=Z,11μm,20.8s								
PB14	**IPOC Station P**	**44.11**	**297**	IAmb	IAmb			05 34 02.9	
	comp=Z,142nm,0.9s								
HVD	**Gariep Dam**	**44.63**	**78**	*e*P		**P**		**05 33 52.7**	**+0.6**
HVD					IAMs_20	IAMs_20		05 48 04.7	
	comp=Z,40μm,22.0s								
PB15	**IPOC Station P**	**44.82**	**299**	IAmb	IAmb			05 34 01.4	
	comp=Z,127nm,0.6s								
LVC	**Limon Verde**	**45.05**	**300**	P		**P**		**05 33 57.1**	**+1.4**
	comp=Z,107nm,0.7s,baz=149,slow=4.3,SNR=79								
LVC					LR	LR		05 52 23.2	
	comp=Z,15μm,21.4s,baz=161,slow=36								
LVC	**Limon Verde**	**45.05**	**300**	P		**P**		**05 33 56.8**	**+1.1**
LVC					pmax	pmax			
	comp=Z,227nm,0.9s								
LVC					MLR	MLR			
	comp=Z,16μm,21.0s								
LVC	**Limon Verde**	**45.05**	**300**	P		**P**		**05 33 56.8**	**+1.1**
LVC					IAmb	IAmb

NWCL IAMs_20 IAMs_20 05 50 36.6
comp=Z,40µm,21.8s
SMTB Santa Maria do 49.43 333 *eP* **P 05 34 29.9 +0.4**
NBPV Pedro Velho 49.63 350 *eP* **P 05 34 32.1 +1.2**
PDRB Porto dos Gac 49.63 321 *eP* **P 05 34 30.2 -0.8**
TSUM Tsumeb 49.67 61 LR LR 05 52 15.9
comp=Z,10µm,19.2s,baz=231,slow=32
TSUM Tsumeb 49.67 61 *eP* **P 05 34 30.3 -1.1**
TSUM IAMs_20 IAMs_20 05 49 07.7
comp=Z,163µm,26.9s
TSUM Tsumeb 49.67 61 P **P 05 34 29.7 -1.7**
TSUM Tsumeb 49.67 61 ⇓P **P 05 34 30.8 -0.6**
VILB Vilhena 49.70 316 *eP* **P 05 34 31.3 -0.2**
SLR Silverton 49.95 77 *eP* **P 05 34 31.2 -2.4**
SLR IAMs_20 IAMs_20 05 51 32.8
comp=Z,30µm,20.5s
CLDB Colider 49.99 322 *eP* **P 05 34 32.8 -1.0**
LPAZ La Paz 50.11 305 P **P 05 34 36.4 +1.0**
comp=Z,97nm,0.7s,baz=143,slow=6.0,SNR=188
LPAZ ScP **ScP 05 39 49.5 -0.8**
comp=Z,8.5nm,0.9s,baz=181,slow=7.2,SNR=5.2
LPAZ ScS **ScS 05 44 25.9 -1.4**
comp=Z,2.0nm,1.0s,baz=73,slow=21,SNR=2.5
LPAZ LR LR 05 56 14.4
comp=Z,10µm,20.5s,baz=162,slow=37
LPAZ La Paz 50.11 305⇑ *eP* **P 05 34 36.3 +1.0**
LPAZ La Paz 50.11 305 ⇑P **P 05 34 36.3 +1.0**
LPAZ La Paz 50.11 305 *eP* **P 05 34 35.5 +0.1**
RCBR Riachuelo 50.27 349 P **P 05 34 35.1 -0.8**
comp=Z,15nm,0.9s,baz=279,slow=9.3,SNR=1.9
RCBR PcP **PcP 05 35 54.3 -0.5**
comp=Z,18nm,0.7s,baz=13,slow=21,SNR=1.3
RCBR LR LR 05 51 29.1
comp=Z,15µm,20.6s,baz=315,slow=31
RCBR Riachuelo 50.27 349 IAmb IAmb 05 35 01.9
comp=Z,199nm,1.9s
RCBR Riachuelo 50.27 349 *eP* **P 05 34 36.9 +1.0**
POGA Pongola 50.59 81 *eP* **P 05 34 36.8 -1.4**
POGA IAMs_20 IAMs_20 05 51 50.8
comp=Z,19µm,20.4s
CRLN Carolina, Mapu 50.71 79 *eP* **P 05 34 40.1 +0.8**
CRLN IAMs_20 IAMs_20 05 53 52.8
comp=Z,16µm,17.3s
NBPB Pedra_Branca-C 51.03 344 *eP* **P 05 34 42.8 +1.2**
CNG Changalane 51.68 81 *eP* **P 05 34 45.9 -0.4**
CNG IAMs_20 IAMs_20 05 54 52.7
comp=Z,8µm,17.6s
CNG Changalane 51.68 81 *i* P **P 05 34 47.9 +1.5**
CNG Changalane 51.68 81 *i* P **P 05 34 47.9 +1.5**
NBCL Cascavel-CE 52.14 346 *eP* **P 05 34 50.9 +1.1**
NBPS Pedro II - PI 52.46 342 *eP* **P 05 34 51.5 -0.8**
PRPB Parauapebas 52.59 332 *eP* **P 05 34 53.5 +0.2**
NBMO Morrinhos-CE 53.30 344 *eP* **P 05 34 58.7 +0.3**
NPGB Novo Progresso 53.42 325 *eP* **P 05 34 58.8 -0.5**
MOPA Mopani 53.43 78 *eP* **P 05 34 57.9 -1.5**
MOPA IAMs_20 IAMs_20 05 54 36.9
comp=Z,18µm,20.3s
MOPA Mopani 53.43 78 *i* P **P 05 34 58.1 -1.3**
MOPA Mopani 53.43 78 *i* P **P 05 34 58.1 -1.3**
MSNA Messina 53.61 76 *eP* **P 05 34 58.4 -2.4**
MSNA IAMs_20 IAMs_20 05 55 49.2
comp=Z,19µm,17.2s
MSNA Messina 53.61 76 *i* P **P 05 35 00.3 -0.5**
MSNA Messina 53.61 76 *i* P **P 05 35 00.3 -0.5**
CASY Casey 54.20 160 P **P 05 35 05.7 +1.2**
CASY IAmb IAmb 05 35 25.6
comp=Z,111nm,1.3s
CASY Casey 54.20 160 IAMs_20 IAMs_20 05 56 57.7
comp=Z,20µm,22.0s
CASY Casey 54.20 160 ⇓P **P 05 35 06.5 +2.1**
MATP Matopo 54.33 73 LR LR 05 56 34.3
comp=Z,13µm,18.0s,baz=212,slow=34
MATP Matopo 54.33 73 *i* P **P 05 35 04.8 -1.3**
MATP Matopo 54.33 73 *i* P **P 05 35 04.8 -1.3**
ROSB Rosario 54.42 339 *eP* **P 05 35 06.2 -0.4**
SAML Samuel 54.52 315 IAMs_20 IAMs_20 05 57 14.4
comp=Z,18µm,20.0s
BLWY Bulawayo 54.62 73 *eP* **P 05 35 06.2 -2.1**
BLWY IAMs_20 IAMs_20 05 56 23.4
comp=Z,55µm,17.4s
BLWY Bulawayo 54.62 73 *i* P **P 05 35 05.4 -2.8**
BLWY Bulawayo 54.62 73 *i* P **P 05 35 05.4 -2.8**
PAF Port-aux-Franc 54.89 128 IAMs_20 IAMs_20 05 56 56.2
comp=Z,16µm,19.0s
ETMB Extrema 54.99 311 *eP* **P 05 35 10.3 -0.4**
TMAB Tom-Au,PA,Br 55.81 335 *eP* **P 05 35 19.0 +2.4**
ITTB Itaituba 56.06 325 *eP* **P 05 35 19.8 +1.4**
MALB Monte Alegre 57.98 328 *eP* **P 05 35 32.1 +0.1**
NNA Nana 58.00 299 P **P 05 35 32.0 -0.3**
comp=Z,79nm,1.1s,baz=161,slow=5.4,SNR=14
NNA LR LR 06 03 29.0
comp=Z,7µm,18.3s,baz=142,slow=39
NNA Nana 58.00 299 *eP* **P 05 35 30.4 -1.9**
NNA pmax pmax
comp=Z,386nm,1.7s
NNA MLR MLR
comp=Z,16µm,17.0s
NNA Nana 58.00 299 P **P 05 35 31.8 -0.6**
NNA IAmb IAmb 05 35 36.9
comp=Z,212nm,1.4s
NNA Nana 58.00 299 ⇓P **P 05 35 33.3 +1.0**
LSZ Lusaka 58.40 69 LR LR 05 59 18.2
comp=Z,22µm,18.0s,baz=213,slow=35
LSZ Lusaka 58.40 69 P **P 05 35 33.6 -1.6**
LSZ pmax pmax
comp=Z,182nm,1.6s
LSZ Lusaka 58.40 69 P **P 05 35 33.6 -1.6**
LSZ IAmb IAmb 05 35 52.7
comp=Z,182nm,1.6s
LSZ Lusaka 58.40 69 IAMs_20 IAMs_20 05 59 16.3
comp=Z,23µm,18.0s
MCPB Macapa, AP 58.76 331 *eP* **P 05 35 37.6 +0.1**
MACA Manacapuru-AM 58.88 320 *eP* **P 05 35 37.3 -1.0**
CZSB Cruzeiro do Su 59.72 305 *eP* **P 05 35 43.8 -0.5**
TBTG Tabatinga, AM 61.62 310 *eP* **P 05 35 57.0 -0.1**
VOI Vohitsoka 63.34 90 P **P 05 36 09.5 +0.8**
VOI IAmb IAmb 05 36 51.6
comp=Z,69nm,1.2s
VOI Vohitsoka 63.34 90 P P 05 36 14.3 +5.6
RPN Rapa Nui 63.57 260 P **P 05 36 11.4 +1.3**
comp=Z,71nm,0.8s,baz=193,slow=5.5,SNR=2.4
RPN LR LR 06 00 39.3
comp=Z,9µm,18.3s,baz=134,slow=33
RPN Rapa Nui 63.57 260 IAMs_20 IAMs_20 05 57 24.5
comp=Z,13µm,21.0s
BOAV Boa Vista 63.99 323 *eP* **P 05 36 12.0 -0.8**
MDP Montagnes des 64.14 332 P **P 05 36 12.7 -1.1**
comp=Z,28nm,0.9s,baz=128,slow=5.4,SNR=5.5
MDP LR LR 06 02 57.2
comp=Z,27µm,20.0s,baz=142,slow=35
LIC Lamto 64.51 25 *eP* **P 05 36 15.5 -0.7**
comp=Z,75nm,0.8s
KIC Kosan Boka 64.71 25 *eP* **P 05 36 16.1 -1.4**
comp=Z,59nm,0.7s
TIC Toumodi 64.92 25 *eP* **P 05 36 17.9 -1.0**
DBIC Dimbokro 64.98 25 P **P 05 36 17.9 -1.4**
comp=Z,9.3nm,0.7s,baz=190,slow=6.8,SNR=15
DBIC LR LR 05 58 17.6
comp=Z,20µm,20.8s,baz=202,slow=30
DBIC Dimbokro 64.98 25 ⇓*i* P **P 05 36 17.8 -1.5**
DBIC IAMs_20 IAMs_20 05 57 11.9
comp=Z,24µm,23.0s
DBIC Dimbokro 64.98 25 P **P 05 36 17.9 -1.4**
DBIC Dimbokro 64.98 25 ⇑P **P 05 36 17.9 -1.4**
ABPO Ambohimpanom 65.87 89 ⇑P P 05 36 30.3 +4.9
MCRA Macar, Loja 66.10 300 IAmb IAmb 05 36 42.4
comp=Z,109nm,0.9s
OPO Ambohidratompo 66.21 88 LR LR 05 59 19.9
comp=Z,13µm,21.1s,baz=330,slow=31
BOSC San Juan Bosco 66.45 302 IAmb IAmb 05 36 55.0
comp=Z,197nm,1.4s
PTLC Puerto Leguiza 67.66 307⇑ *eP* **P 05 36 34.5 -2.1**
PORT Chimborazo Vol 68.06 303 IAmb IAmb 05 37 08.7
comp=Z,180nm,1.3s
RER Riviere de l'E 68.97 97 IAMs_20 IAMs_20 06 01 39.7
comp=Z,10µm,19.0s
MACC Macarena, Meta 69.00 309⇑ *eP* **P 05 36 44.3 -0.6**
PULU Pululahua 69.23 304 IAmb IAmb 05 37 01.2
comp=Z,104nm,0.9s
OTAV Otavalo 69.40 304 P **P 05 36 49.3 +1.3**
OTAV pmax pmax
comp=Z,234nm,1.3s
OTAV MLR MLR
comp=Z,10µm,21.0s
OTAV Otavalo 69.40 304 P P **05 36 49.3 +1.3**

CUSE Cuicocha Este 69.43 304⇑ *eP* **P 05 36 50.4 +2.2**
TULM Tulcn-Chalpat 69.51 305 *eP* **P 05 36 51.4 +2.7**
PAC1 Pacto, Paraso 69.58 304⇑ *eP* **P 05 36 49.4 +0.6**
CMBC Cumbal 69.72 305 *eP* **P 05 36 53.2 +3.2**
GCUF Volcan Galeras 69.75 305 *eP* **P 05 36 52.0 +1.8**
GARC Garzon, Huila 69.76 308 *eP* **P 05 36 49.3 -0.7**
MCQ Macquarie Isla 69.96 184 P **P 05 36 52.2 +1.9**
baz=70
PTGC Puerto Gaitan, 70.10 312⇑ *eP* **P 05 36 51.3 -0.4**
BETC Betania 70.18 308 *eP* **P 05 36 53.9 +1.7**
SOTA Rioblanco 70.22 307⇑ *eP* **P 05 36 55.5 +2.4**
PCON Cinco Dias 70.29 307 *eP* **P 05 36 54.6 +1.0**
MBO M'Bour 70.46 11 IAMs_20 IAMs_20 06 01 21.2
comp=Z,17µm,20.0s
MARP Paez Belalcaza 70.55 307⇑ *eP* **P 05 36 54.2 -0.6**
SACV Santiago Islan 70.55 4 IAMs_20 IAMs_20 06 01 28.9
comp=Z,11µm,20.0s
POPC Popayan, Colom 70.61 307⇑ *eP* **P 05 36 55.5 +0.3**
VILC Villavicencio, 70.69 310 *eP* **P 05 36 56.7 +1.2**
CHIC Chingaza 71.17 310⇑ *eP* **P 05 36 58.0 -0.7**
ORTC Ortega, Tolima 71.18 309⇑ *eP* **P 05 36 57.9 -0.5**
ROSC El Rosal 71.61 310 P **P 05 37 01.4 +0.1**
comp=Z,42nm,1.0s,baz=121,slow=5.1,SNR=28
ROSC LR LR 06 09 20.8
comp=Z,14µm,21.4s,baz=174,slow=37
ROSC El Rosal 71.61 310 IAmb IAmb 05 37 21.4
comp=Z,113nm,1.0s
ROSC El Rosal 71.61 310⇑ *eP* **P 05 37 01.4 +0.1**
GR1C Gorgona, Isla 71.70 305 *eP* **P 05 37 01.8 +0.4**
YOTC Yotoco, Valle 71.74 308 *eP* **P 05 37 00.9 -0.9**
TAMC Tame, Arauca 71.97 313 *eP* **P 05 37 04.2 +1.0**
TRN Trinidad (W) 72.00 325 *eP* **P 05 37 01.0 -2.2**
RUSC La Rusia 72.02 312 *eP* **P 05 37 02.9 -1.0**
MBAR Mbarara 72.14 63 LR LR 06 05 23.7
comp=Z,13µm,21.5s,baz=184,slow=33
MBAR Mbarara 72.14 63 *i* P **P 05 37 04.6 +0.2**
MBAR pmax pmax
comp=Z,79nm,1.6s
MBAR Mbarara 72.14 63 IAMs_20 IAMs_20 06 07 41.6
comp=Z,16µm,18.0s
MBAR Mbarara 72.14 63⇑P **P 05 37 08.1 +3.7**
MBAR Mbarara 72.14 63 *eP* **P 05 37 03.8 -0.6**
MBAR *eS* **S 05 46 31.7 +5.0**
MBAR Mbarara 72.14 63⇓*eP* P 05 37 10.4 +6.1
MBAR ⇓*eS* **S 05 46 27.1 +0.3**
MBAR Mbarara 72.14 63 *eP* P 05 37 14.3 +10
MBAR Mbarara 72.14 63 *eP* P 05 37 13.8 +9.5
MBAR *eS* **S 05 46 32.6 +5.8**
SPBC San Pablo de B 72.23 311⇑ *eP* **P 05 37 02.9 -1.9**
TOSP Speyside 72.33 326 *eP* P 05 36 55.9 -9.2
GUY2C Guyana, Caldas 72.41 309 *eP* **P 05 37 04.8 -1.4**
NORC Norcasia 72.49 310⇑ *eP* **P 05 37 05.5 -0.8**
PLMC San Jos del P 72.53 308⇑ *eP* **P 05 37 05.5 -0.9**
BARC Barichara 72.69 312 *eP* **P 05 37 03.6 -4.0**
KOWA Kowa 72.73 24 P **P 05 37 06.6 -0.9**
KOWA IAmb IAmb 05 37 23.2
comp=Z,85nm,1.1s
KOWA Kowa 72.73 24⇑P **P 05 37 07.3 -0.2**
BAUV El Baul 72.77 318 P **P 05 37 06.4 -1.4**
TORD Torodi Ar. Bea 72.89 30 P **P 05 37 07.3 -1.2**
comp=Z,46nm,0.9s,baz=199,slow=6.8,SNR=90
TORD PKPPKP **P'P'df 06 04 50.9 +6.6**
comp=Z,0.4nm,0.8s,baz=345,slow=3.4,SNR=2.8
TORD LR LR 06 04 52.2
comp=Z,5µm,18.9s,baz=186,slow=32
TORD Torodi Ar. Bea 72.89 30 P **P 05 37 06.8 -1.7**
TORD IAmb IAmb 05 37 23.9
comp=Z,234nm,1.4s
PIZC Pizarro, Choco 73.06 307 *eP* **P 05 37 11.5 +2.0**
PAMC Pamplona, Colo 73.17 313 *eP* **P 05 37 11.2 +0.5**
PTBC PUERTO BERRIO, 73.19 311⇑ *eP* **P 05 37 07.5 -2.9**
CBOC Ciudad Bolivar 73.26 309⇑ *eP* **P 05 37 10.1 -0.8**
SOCV Socops 73.27 315⇑ *eP* **P 05 37 11.1 +0.3**
HELC Santa Helena 73.34 309⇑ *eP* **P 05 37 09.4 -2.2**
GRFF Grenada Fort F 73.42 325 *eP* **P 05 37 10.1 -1.6**
GRGR Grenville 73.47 325 IAMs_20 IAMs_20 06 10 46.5
comp=Z,15µm,20.0s
GRGR Grenville 73.47 325⇑P **P 05 37 12.5 +0.6**
GRGR Grenville 73.47 325 *eP* **P 05 37 09.9 -2.0**
SDV Santo Domingo 73.73 315 P **P 05 37 13.5 -0.2**
comp=Z,74nm,1.0s,baz=147,slow=5.7,SNR=39
SDV LR LR 06 12 29.1
comp=Z,25µm,18.8s,baz=144,slow=38
SDV Santo Domingo 73.73 315 P **P 05 37 13.3 -0.4**
SDV Santo Domingo 73.73 315 *eP* **P 05 37 13.7 -0.1**
SDV Santo Domingo 73.73 315 *eP* **P 05 37 13.6 -0.1**
GCMP Grenada, Carri 73.73 325 *eP* **P 05 37 10.1 -3.3**
BBGH Gun Hill 73.77 327 *eP* **P 05 37 15.9 +2.3**
ZARC Zaragoza, Cauc 74.22 311 *eP* **P 05 37 14.6 -1.8**
OCAC Ocana 74.23 312⇑ *eP* **P 05 37 15.3 -1.3**
DBBC Dabeiba 74.38 309 *eP* **P 05 37 16.6 -0.7**
SVB Belmont 74.42 326 IAmb IAmb 05 37 22.9
comp=Z,111nm,0.6s
SVB Belmont 74.42 326 *eP* **P 05 37 13.9 -3.5**
SSV Crater Summit 74.45 326 *e* **P 05 37 19.2 +1.5**
PAYG Puerto Ayora 74.50 293 P **P 05 37 18.0 -0.1**
PAYG IAmb IAmb 05 37 36.5
comp=Z,154nm,1.3s
PAYG Puerto Ayora 74.50 293 IAMs_20 IAMs_20 06 10 06.0
comp=Z,11µm,18.0s
MCLT Moule a Chique 74.73 326 P **P 05 37 17.7 -1.6**
MCLT Moule a Chique 74.73 326 *eP* **P 05 37 17.5 -1.8**
UREC San Jos de Ur 74.74 310⇑ *eP* **P 05 37 18.9 -0.5**
SLBI Saint Lucia, B 75.03 326 *eP* **P 05 37 19.9 -1.1**
KMBO Kilima Mbogo 75.06 69 P **P 05 37 23.4 +1.8**
comp=Z,8.1nm,1.1s,baz=212,slow=4.9,SNR=6.2
KMBO LR LR 06 07 08.0
comp=Z,15µm,21.2s,baz=194,slow=33
KMBO Kilima Mbogo 75.06 69 IAMs_20 IAMs_20 06 10 35.6
comp=Z,16µm,18.0s
KMBO Kilima Mbogo 75.06 69 ⇓P P 05 37 28.1 +6.4
KMBO Kilima Mbogo 75.06 69 *eP* P 05 37 26.6 +4.9
KMBO *eS* S 05 47 14.4 +12
KMBO Kilima Mbogo 75.06 69 *i* P P 05 37 32.0 +10
KMBO Kilima Mbogo 75.06 69 *eP* P 05 37 35.4 +14
KMBO *eS* S 05 47 12.0 +12
KMBO IAMs_20 IAMs_20 05 47 19.7
comp=Z,5µm,18.0s
MPOM Morne Pois Mar 75.39 327 *eP* **P 05 37 22.0 -1.0**
BIM Bigot 75.53 326 IAMs_20 IAMs_20 06 11 34.8
comp=Z,8µm,20.0s
BIM Bigot 75.53 326 *eP* **P 05 37 22.1 -1.7**
LL6C La Loma 6 Bece 75.56 313⇑ *eP* **P 05 37 22.8 -1.3**
DABV Dabajuro 75.58 316 *eP* **P 05 37 23.7 -0.5**
ILAM Ilet Lapin Mar 75.71 327 *eP* **P 05 37 22.9 -1.9**
FDF Fort de France 75.76 326 P **P 05 37 26.8 +1.6**
FDF Fort de France 75.76 326⇑ P **P 05 37 20.0 +0.8**
FDF Fort de France 75.76 326 *eP* **P 05 37 22.9 -2.3**
HATO Hato, Curacao 76.08 318 IAMs_20 IAMs_20 06 09 33.0
comp=Z,15µm,22.0s
DLPL La Plaine 76.35 326 *eP* **P 05 37 28.8 +0.3**
MDN Morne-Daniel 76.38 326 *eP* **P 05 37 26.0 -2.7**
PTCN Pitcairn Islan 76.39 246 IAMs_20 IAMs_20 06 03 07.7
comp=Z,11µm,20.0s
DSLB Salisbury 76.50 326 *eP* **P 05 37 28.3 -1.1**
SJCC San Jacinto, C 76.51 311 *eP* **P 05 37 29.7 +0.1**
UPD2 Meteti 76.53 308 *eP* **P 05 37 29.6 -0.1**
CRJC Cerrejon, Guaj 76.57 314⇑ *eP* **P 05 37 27.1 -2.9**
CACAO El Cacao, Vera 76.76 305⇑ *eP* **P 05 37 30.9 0.0**
AZU Azuero 76.89 306 *eP* **P 05 37 32.2 +0.6**
SMRC Santa Marta, M 77.25 313 *eP* **P 05 37 34.8 +1.1**
PNME Penonome 77.52 306 *eP* **P 05 37 36.7 +1.5**
UPA Univ. de Panam 77.60 307⇑ *eP* **P 05 37 36.4 +0.7**
PYZ Puysegur Point 77.73 190 IAMs_20 IAMs_20 06 12 25.6
comp=Z,10µm,18.0s
WHZ Wether Hill Ro 77.87 191 P **P 05 37 36.9 +0.1**
WHZ IAMs_20 IAMs_20 06 09 06.5
comp=Z,11µm,20.0s
BCIP Isla Barro Col 77.90 307 *eP* **P 05 37 36.4 -0.9**
BCIP Isla Barro Col 77.90 307⇑P **P 05 37 38.0 +0.7**
LODK Lodwar 77.94 65 IAMs_20 IAMs_20 06 10 35.7
comp=Z,9µm,19.0s
LODK Lodwar 77.94 65 *eP* P 05 37 42.4 +4.7
LODK *eS* S 05 47 44.4 +13
LODK Lodwar 77.94 65 *eP* P 05 37 42.5 +4.8
LODK *eS* S 05 47 39.7 +8.7
LODK Lodwar 77.94 65 *i* P P 05 37 47.6 +10
LODK Lodwar 77.94 65 *eP* P 05 37 44.7 +7.0
LODK *eS* S 05 47 41.2 +10
LODK IAMs_20 IAMs_20 05 48 09.0
comp=N,3µm,16.9s
MLYT Lee's Yard 77.95 326 *eP* **P 05 37 38.6 +1.1**
MBFL Flemmings, Mon 77.98 326 *eP* **P 05 37 38.6 +1.0**

ANBD Bethesda, Anti 78.12 327 *eP* **P 05 37 38.0 -0.5**
ANBD Bethesda, Anti 78.12 327 *eP* **P 05 37 38.6 +0.2**
BPA Boggy Peak 78.15 326 *eP* **P 05 37 38.4 -0.3**
MLZ Mavora Lakes 78.37 191 P **P 05 37 40.4 +0.7**
MLZ IAMs_20 IAMs_20 06 08 59.7
comp=Z,15µm,20.0s
DCZ Deep Cove 78.38 190 P **P 05 37 39.5 -0.1**
DCZ IAMs_20 IAMs_20 06 12 34.8
comp=Z,14µm,18.0s
ODZ Otahua Downs 78.39 193 IAMs_20 IAMs_20 06 09 58.4
comp=Z,11µm,20.0s
ODZ Otahua Downs 78.39 193⇑P **P 05 37 42.6 +2.9**
ANWB Willy Bob 78.72 327 P **P 05 37 41.6 -0.1**
ANWB IAMs_20 IAMs_20 06 11 20.3
comp=Z,11µm,21.0s
ANWB Willy Bob 78.72 327⇑P **P 05 37 42.0 +0.4**
ANWB Willy Bob 78.72 327 *eP* **P 05 37 39.7 -2.0**
CDITO Canoas 78.78 304 IAmb IAmb 05 37 59.7
comp=Z,233nm,1.3s
WKZ Wanaka 78.80 192 P **P 05 37 42.8 +0.7**
WKZ IAmb IAmb 05 37 56.0
comp=Z,80nm,1.0s
BRU2 Volcan 78.88 304⇑ *eP* **P 05 37 45.2 +2.2**
SEUS St. Eustatius 78.93 326 P **P 05 37 43.4 +0.6**
SEUS IAMs_20 IAMs_20 06 15 37.9
comp=Z,8µm,20.0s
SEUS St. Eustatius 78.93 326 *eP* **P 05 37 43.1 +0.3**
LBZ Lake Benmore 79.10 193 **pP 05 37 47.4 +0.9**
LBZ IAMs_20 IAMs_20 06 08 21.0
comp=Z,9µm,20.0s
RIOS Rincon, Osa 79.19 303 IAmb IAmb 05 38 01.5
comp=Z,171nm,1.2s
MQZ McQueen's Vall 79.44 195 IAMs_20 IAMs_20 06 08 10.0
comp=Z,9µm,21.0s
SMRT St. Maarten 79.48 326 IAmb IAmb 05 37 48.3
comp=Z,141nm,1.0s
SMRT IAMs_20 IAMs_20 06 11 26.6
comp=Z,9µm,20.0s
SMRT St. Maarten 79.48 326 *eP* **P 05 37 45.6 -0.3**
SRBA San Rafael, Bu 79.58 304 IAmb IAmb 05 38 03.8
comp=Z,103nm,1.1s
RPZ Rata Peaks 79.65 194 P **P 05 37 46.6 -0.1**
comp=Z,24nm,0.8s,baz=192,slow=2.4,SNR=10
RPZ LR LR 06 10 42.7
comp=Z,9µm,19.3s,baz=170,slow=34
RPZ Rata Peaks 79.65 194 P **P 05 37 47.0 +0.3**
RPZ IAMs_20 IAMs_20 06 10 02.6
comp=Z,9µm,21.0s
CDVI St. Croix 79.75 324 IAmb IAmb 05 37 51.0
comp=Z,129nm,0.7s
PEZE Perez Zeledon, 79.86 304 P **P 05 37 46.9 -1.3**
PEZE IAmb IAmb 05 38 04.9
comp=Z,127nm,1.1s
OXZ Oxford 79.89 194 IAMs_20 IAMs_20 06 15 09.2
comp=Z,10µm,18.0s
AMCZ Amberley 79.95 195 P **P 05 37 53.0 +4.6**
FOZ Fox Glacier 79.98 193 IAMs_20 IAMs_20 06 12 14.5
comp=Z,11µm,19.0s
GVZ Greta Valley S 80.10 195 P **P 05 37 49.8 +0.7**
MTP Monte Pirata 80.33 323 IAmb IAmb 05 38 03.6
comp=Z,134nm,1.1s
LTZ Lake Taylor 80.40 195 IAmb IAmb 05 38 04.7
comp=Z,176nm,1.2s
LTZ IAMs_20 IAMs_20 06 08 18.4
comp=Z,12µm,22.0s
PDPR Patillas Dam, 80.42 323 IAmb IAmb 05 38 03.5
comp=Z,110nm,1.3s
CUPR Culebra, Puert 80.44 324 P **P 05 37 50.9 -0.1**
CUPR IAmb IAmb 05 37 56.6
comp=Z,77nm,0.7s
CVTR Volcan Turrial 80.46 304 IAmb IAmb 05 38 15.1
comp=Z,118nm,1.1s
ICMP Isla Caja de M 80.47 322 IAmb IAmb 05 38 02.3
comp=Z,94nm,1.1s
RKT Rikitea 80.48 243 *eT* T 07 06 29.2
comp=Z,6.1nm,0.2s
SJG San Juan 80.55 323 P **P 05 37 50.6 -1.1**
comp=Z,20nm,0.9s,baz=8.7,slow=6.1,SNR=8.0
SJG LR LR 06 13 11.7
comp=Z,11µm,21.4s,baz=149,slow=35
SJG San Juan 80.55 323 P **P 05 37 51.4 -0.2**
SJG San Juan 80.55 323 IAMs_20 IAMs_20 06 12 59.0
comp=Z,9µm,20.0s
SJG San Juan 80.55 323 *eP* **P 05 37 50.9 -0.7**
INZ Inchbonnie 80.57 194 P **P 05 37 50.1 -1.5**
KHZ Kahutara 80.57 196 IAMs_20 IAMs_20 06 10 20.0
comp=Z,11µm,20.0s
KHZ Kahutara 80.57 196 ⇓P **P 05 37 52.2 +0.6**
KHZ Kahutara 80.57 196 P **P 05 37 50.9 -0.7**
CBYP Canovanas 80.60 323 IAmb IAmb 05 38 04.9
comp=Z,159nm,1.1s
OBIP Obispado Ponce 80.64 322 IAmb IAmb 05 38 03.8
comp=Z,152nm,1.6s
CELP Cerrillos 80.66 323 P **P 05 37 51.0 -1.3**
CELP IAmb IAmb 05 38 03.2
comp=Z,226nm,1.9s
GCPR Guaynabo City 80.71 323 IAmb IAmb 05 38 04.4
comp=Z,93nm,1.1s
MLPR Magueyes Islan 80.73 322 P **P 05 37 51.5 -1.0**
MLPR IAmb IAmb 05 38 05.1
comp=Z,210nm,1.4s
BSWZ Blackbirch Sta 81.20 196 P **P 05 37 54.5 -0.6**
JTS Las Juntas de 81.26 303 P **P 05 37 55.6 0.0**
comp=Z,31nm,0.9s,baz=189,slow=4.1,SNR=20
JTS LR LR 06 16 45.1
comp=Z,3µm,20.0s,baz=197,slow=38
JTS Las Juntas de 81.26 303 P **P 05 37 54.9 -0.7**
JTS pmax pmax
comp=Z,167nm,1.3s
JTS MLR MLR
comp=Z,5µm,20.0s
JTS Las Juntas de 81.26 303 P **P 05 37 54.9 -0.7**
JTS IAmb IAmb 05 38 08.8
comp=Z,167nm,1.2s
JTS Las Juntas de 81.26 303⇑ *eP* **P 05 37 56.9 +1.3**
JTS Las Juntas de 81.26 303 ⇑P **P 05 37 57.1 +1.5**
MSWZ Moikau Station 81.27 197 P **P 05 37 56.6 +1.2**
THZ Tophouse 81.30 195 IAmb IAmb 05 38 10.9
comp=Z,110nm,0.8s
THZ IAMs_20 IAMs_20 06 08 44.5
comp=Z,15µm,22.0s
THZ Tophouse 81.30 195 P **P 05 37 56.1 +0.5**
DUNO Dulce Nombre, 81.33 302 IAmb IAmb 05 38 09.0
comp=Z,78nm,0.9s
COVE Coope Vega, Sa 81.37 304 P **P 05 37 56.5 +0.4**
COVE IAmb IAmb 05 38 09.8
comp=Z,202nm,1.2s
SNZO South Karori 81.47 197 P **P 05 37 57.1 +0.7**
SNZO IAmb IAmb 05 38 10.3
comp=Z,154nm,0.8s
SNZO South Karori 81.47 197 IAMs_20 IAMs_20 06 12 56.9
comp=Z,10µm,19.0s
SNZO South Karori 81.47 197⇑P **P 05 37 58.1 +1.7**
DSZ Denniston Nort 81.48 194 P **P 05 37 55.6 -1.0**
ORTG Ortega, Santa 81.56 302 IAmb IAmb 05 38 12.3
comp=Z,114nm,1.1s
TAU Tasmania Unive 81.58 176 P **P 05 37 57.0 0.0**
TAU pmax pmax
comp=Z,237nm,1.0s
TAU MLR MLR
comp=Z,15µm,18.0s
TAU Tasmania Unive 81.58 176 P **P 05 37 57.0 0.0**
TAU Tasmania Unive 81.58 176⇑P **P 05 37 57.0 0.0**
MRNZ Matariki Terra 81.68 195 P **P 05 38 00.4 +2.8**
HOWZ Holdsworth Sta 81.73 197 P **P 05 37 59.7 +1.7**
NNZ Nelson 81.77 196 IAmb IAmb 05 38 12.4
comp=Z,69nm,0.8s
NNZ IAMs_20 IAMs_20 06 08 43.7
comp=Z,13µm,22.0s
NNZ Nelson 81.77 196 P **P 05 37 57.2 -0.8**
BFZ Birch Farm 81.82 198 IAmb IAmb 05 38 12.3
comp=Z,69nm,0.9s
BFZ IAMs_20 IAMs_20 06 15 26.3
comp=Z,11µm,18.0s
BFZ Birch Farm 81.82 198 P **P 05 37 58.9 +0.6**
MRZ Mangatainoka R 81.95 197 P **P 05 37 58.4 -0.6**
DILA Dilla 82.00 66 *eP* P 05 38 05.6 +5.8
DILA *eS* **S 05 48 20.6 +6.5**
DILA IAMs_20 IAMs_20 05 49 42.0
comp=N,127µm,99.5s
TKNZ Takaka Hill 82.01 195 P **P 05 37 59.2 -0.1**
MOO Moorlands 82.04 176 P **P 05 37 59.3 -0.2**
baz=82,SNR=23
QRZ Quartz Range 82.28 195 IAmb IAmb 05 38 12.7
comp=Z,79nm,0.9s
QRZ IAMs_20 IAMs_20 06 09 13.2

comp=Z,13µm,22.0s
QRZ Quartz Range 82.28 195 P P 05 38 00.8 +0.1
ESPN Las Esperanzas 82.61 304 IAmb IAmb 05 38 18.1
comp=Z,108nm,1.0s
ACON Acoyapa 82.82 303 IAmb IAmb 05 38 20.3
comp=Z,142nm,1.0s
WAZ Wanganui 82.94 197 P P 05 38 05.6 +1.4
JAKH Jacmel 82.97 317 P P 05 38 06.0 +1.6
KWHZ Kaweka Forest 83.01 198 P P 05 38 04.9 +0.2
SDDR Presa de Saban 83.19 319 *e*P **P 05 38 05.9 +0.3**
SDDR Presa de Saban 83.19 319 ⇑P **P 05 38 06.4 +0.8**
BKZ Black Stump Fm 83.25 199 P P 05 38 06.3 +0.4
BKZ IAmb IAmb 05 38 28.7
comp=Z,137nm,1.5s
BKZ IAMs_20 IAMs_20 06 15 34.1
comp=Z,10µm,19.0s
TRVZ Turoa 83.28 198 P P 05 38 06.4 +0.1
OTVZ Oturere 83.40 198 P P 05 38 05.3 -1.5
ETVZ East Tongariro 83.42 198 P P 05 38 07.6 +0.7
TMVZ Te Maari 83.44 198 P P 05 38 07.4 +0.5
WTVZ West Tongariro 83.46 198 P P 05 38 09.2 +2.2
BOAB BOACO BROADBAND 83.47 303 IAMs_20 IAMs_20 06 20 26.3
comp=Z,11µm,18.0s
BOAB BOACO BROADBAND 83.47 303 ⇑P **P 05 38 06.7 -0.4**
KHEZ Kahui Hut 83.55 197 P P 05 38 08.5 +1.1
NEZ North Egmont 83.56 197 P P 05 38 07.9 +0.4
MATN Matagalpa 84.01 303 IAmb IAmb 05 38 26.3
comp=Z,89nm,1.1s
URZ Urewera 84.02 199 P P 05 38 09.9 +0.2
comp=Z,13nm,0.7s,baz=106,slow=2.4,SNR=9.2
URZ LR LR 06 12 26.6
comp=Z,7µm,19.6s,baz=209,slow=33
URZ Urewera 84.02 199 P P 05 38 08.9 -0.8
URZ IAmb IAmb 05 38 23.5
comp=Z,54nm,0.9s
URZ IAMs_20 IAMs_20 06 18 29.5
comp=Z,9µm,18.0s
URZ Urewera 84.02 199 ⇑P **P 05 38 12.2 +2.5**
HIZ Hauiti 84.17 197 P P 05 38 10.8 +0.3
HIZ IAmb IAmb 05 38 23.3
comp=Z,80nm,0.8s
HIZ IAMs_20 IAMs_20 06 16 01.4
comp=Z,10µm,18.0s
FURI Furi 84.30 65 *e*P P 05 38 17.1 +5.3
FURI *e*S **S 05 48 44.4 +6.8**
FURI Furi 84.30 65 *e*P **P 05 38 14.6 +2.8**
FURI *e*S **S 05 48 36.4 -1.3**
FURI Furi 84.30 65 *i* P P 05 38 20.1 +8.3
FURI Furi 84.30 65 *e*P P 05 38 19.5 +7.7
FURI *e*S **S 05 48 42.8 +5.2**
FURI IAMs_20 IAMs_20 05 48 57.6
comp=Z,6µm,28.9s
AAE Adis Abeba 84.45 65 *e*P P 05 38 17.7 +5.1
AAE *e*S S 05 48 47.7 +8.6
AAE Adis Abeba 84.45 65 *e*P **P 05 38 13.5 +0.9**
AAE *e*S **S 05 48 42.8 +3.6**
AAE Adis Abeba 84.45 65 *e*P P 05 38 20.5 +7.9
AAE Adis Abeba 84.45 65 *e*P P 05 38 22.8 +10
AAE *e*S **S 05 48 45.1 +6.0**
AAE IAMs_20 IAMs_20 05 48 57.6
comp=N,23µm,27.4s
MXZ Matakaoa Point 84.46 200 IAMs_20 IAMs_20 06 12 48.4
comp=Z,8µm,20.0s
MTDJ Mount Denham 84.96 313 *e*P **P 05 38 16.8 +2.0**
ANKE Ethiopia-Afar 85.43 66 *e*P P 05 38 23.4 +5.9
ANKE *e*S **S 05 48 54.4 +5.4**
ANKE IAMs_20 IAMs_20 05 50 25.2
comp=E,1µm,0.1s
GRTK Grand Turk 85.44 320 IAMs_20 IAMs_20 06 19 10.9
comp=Z,7µm,20.0s
TGUH Tegucigalpa,Un 85.63 303 ⇑ *e*P **P 05 38 17.9 -0.3**
TGUH Tegucigalpa,Un 85.63 303 ⇑P **P 05 38 18.8 +0.6**
NWAO Narrogin (SRO) 86.63 151 P **P 05 38 22.1 -0.8**
NWAO pmax pmax
comp=Z,21nm,0.9s
NWAO Narrogin (SRO) 86.63 151 P **P 05 38 22.1 -0.8**
JAWL J.Aulia 86.69 57 *i* P P 05 38 18.6 -4.6
JAWL *i* S **PP 05 41 47.0 +1.3**
TOO Toolangi 86.81 174 P **P 05 38 23.6 -0.2**
baz=87,SNR=31
TOO Toolangi 86.81 174 P **P 05 38 23.7 -0.1**
TOO pmax pmax
comp=Z,47nm,1.1s
TOO Toolangi 86.81 174 P **P 05 38 23.7 -0.1**
TOO Toolangi 86.81 174 ⇓P **P 05 38 23.9 0.0**
MTO3 Montecristo 86.93 301 IAmb IAmb 05 38 38.8
comp=Z,59nm,0.7s
TBI Tubuai 87.15 231 *e*PP PP 05 41 49.5 +1.0
comp=Z,1µm,26.0s
TBI *e*S **S 05 49 00.9 -4.0**
comp=Z,5µm,25.8s
TBI Tubuai 87.15 231 *e*LR LR 06 06 07.6
comp=Z,17µm,29.0s
MUN Mundaring 87.23 150 P **P 05 38 25.2 -0.6**
baz=87,SNR=11
ARPS Mount Arapiles 87.36 171 P **P 05 38 25.8 -0.6**
baz=87,SNR=49
OUZ Omahuta 87.59 197 IAmb IAmb 05 38 41.6
comp=Z,85nm,0.9s
OUZ IAMs_20 IAMs_20 06 15 59.1
comp=Z,8µm,19.0s
OUZ Omahuta 87.59 197 ⇑P **P 05 38 30.2 +2.7**
APG El Apazote 87.98 300 P **P 05 38 29.8 0.0**
comp=Z,924nm,0.4s,baz=172,slow=22,SNR=1.5
KLBR Kellerberrin 88.03 151 P **P 05 38 29.1 -0.6**
baz=88,SNR=27
BLDU Ballidu 88.66 150 P **P 05 38 32.1 -0.6**
baz=88,SNR=13
ATD Arta Tunnel 88.68 67 LR LR 06 18 24.7
comp=Z,8µm,18.1s,baz=201,slow=36
ATD Arta Tunnel 88.68 67 IAMs_20 IAMs_20 06 18 05.4
comp=Z,9µm,19.0s
ATD Arta Tunnel 88.68 67 *e*P P 05 38 39.0 +6.1
ATD *e*S S 05 49 09.7 -10
ATD Arta Tunnel 88.68 67 *e*P **P 05 38 35.9 +3.0**
ATD *e*S S 05 49 05.2 -14
ATD Arta Tunnel 88.68 67 *i* P P 05 38 41.1 +8.2
ATD Arta Tunnel 88.68 67 *e*P P 05 38 40.5 +7.6
ATD *e*S S 05 49 08.4 -11
ATD IAMs_20 IAMs_20 05 49 37.7
comp=E,8µm,8.7s
PMOZ Porto Moniz, M 88.68 9 *e*S **S 05 49 11.6 -7.4**
PMOZ Porto Moniz, M 88.68 9 *e*LR LR 06 06 42.1
comp=E,7µm,18.0s
CAN Canberra 89.20 177 P **P 05 38 35.2 -0.1**
CAN pmax pmax
comp=Z,38nm,0.9s
CAN Canberra 89.20 177 P **P 05 38 35.2 -0.1**
CAN Canberra 89.20 177 ⇑P **P 05 38 35.8 +0.5**
CNB Canberra Magne 89.22 177 P **P 05 38 36.2 +0.9**
baz=89,SNR=25
H08S1 Diego Carcia H 89.27 102 T T 07 18 16.2
baz=218
H08S2 Diego Garcia H 89.28 102 T T 07 18 11.8
baz=218
H08S3 Diego Garcia H 89.29 102 T T 07 18 15.0
baz=218
PETF Flores 89.34 302 P **P 05 38 36.3 +0.5**
PETF IAmb IAmb 05 38 49.1
comp=Z,207nm,1.9s
MRWI Hamdab 89.44 55 *i* P P 05 38 44.9 +8.6
MRWI *i* 05 38 51.9
baz=85,slow=4.1
MRWI AMP 05 39 27.1
comp=N,148nm,2.1s
DGAR Diego Garcia 89.45 102 IAMs_20 IAMs_20 06 10 16.5
comp=Z,10µm,19.0s
MORW Morawa 89.92 149 P **P 05 38 39.0 +0.4**
baz=90,SNR=6.7
MORW Morawa 89.92 149 P **P 05 38 39.5 +0.9**
MORW Morawa 89.92 149 ⇑P **P 05 38 41.0 +2.4**
AVE Averroes 90.36 17 P **P 05 38 42.9 +2.6**
AVE S **SKSac 05 49 09.9 -1.2**
MDT Midelt 90.38 19 LR LR 06 16 11.1
comp=Z,22µm,18.6s,baz=218,slow=34
HTT Hallett 90.38 169 P **P 05 38 40.7 0.0**
baz=90,SNR=41
HTT Hallett 90.38 169 ⇓P **P 05 38 40.8 0.0**
BBOO Buckleboo 90.64 166 P **P 05 38 41.4 -0.6**
baz=90,SNR=39
BBOO Buckleboo 90.64 166 P **P 05 38 40.9 -1.0**
RIV Riverview 90.74 179 P **P 05 38 42.9 +0.5**
baz=91,SNR=3.2
FORT Forrest 91.27 159 P **P 05 38 44.9 0.0**
baz=91,SNR=8.6
FORT Forrest 91.27 159 P **P 05 38 44.6 -0.3**
FORT IAmb IAmb 05 38 52.4
comp=Z,95nm,1.2s
FORT Forrest 91.27 159 ⇑P **P 05 38 47.2 +2.4**
MGCD Mangrove Creek 91.35 179 P **P 05 38 45.2 0.0**
baz=91,SNR=11
RAO Raoul Island 91.63 206 LR LR 06 14 59.9
comp=Z,2µm,19.3s,baz=156,slow=32
CMIG Matias Romero 91.94 298 LR LR 06 16 20.5
comp=Z,4µm,20.9s,baz=132,slow=33
STKA Stephens Creek 92.19 171 P **P 05 38 48.3 -0.8**
comp=Z,11nm,0.7s,baz=164,slow=4.3,SNR=24
STKA PP **PP 05 42 31.6 +3.3**
comp=Z,5.9nm,0.8s,baz=167,slow=8.3,SNR=3.9
STKA LR LR 06 20 17.2
comp=Z,8µm,19.0s,baz=184,slow=36
STKA Stephens Creek 92.19 171 P **P 05 38 48.4 -0.7**
baz=92,SNR=58
PPT2 Papeete2 92.23 234 *e*PP PP 05 42 27.0 -2.3
comp=Z,1µm,25.0s
PPT2 *e*SKSac **SKSac 05 49 17.0 -6.0**
comp=Z,2µm,27.0s
PPT2 Papeete2 92.23 234 *e*PS PS 05 51 05.3 +2.0
comp=Z,7µm,31.0s
PPT2 Papeete2 92.23 234 *e*LR LR 06 08 26.7
comp=Z,19µm,30.2s,baz=155
PPT Papeete 92.25 234 LR LR 06 11 43.6
comp=Z,4µm,20.7s,baz=180,slow=30
PVLZ Peæn de 92.73 19 P P 05 38 55.7 +4.6
PVLZ S **SKSac 05 49 24.9 +0.6**
CMSA Cobar Meteorol 92.83 174 P **P 05 38 52.0 -0.1**
baz=93,SNR=25
MEEK Meekatharra 92.95 150 P **P 05 38 51.7 -1.0**
baz=92,SNR=8.1
CMLA Cha da Macela 93.19 2 IAMs_20 IAMs_20 06 16 17.8
comp=Z,7µm,20.0s
CEU Ceuta 93.24 18 P **P 05 38 57.3 +3.8**
CEU S **SKSac 05 49 27.3 +0.2**
RAR Rarotonga 93.34 224 LR LR 06 13 48.0
comp=Z,4µm,19.6s,baz=197,slow=31
BBSR BB Station 93.40 329 IAMs_20 IAMs_20 06 18 59.1
comp=Z,7µm,20.0s
MQOL MQOL 93.53 58 *i* P P 05 39 03.7 +8.5
SFS San Fernando 93.66 17 P P 05 39 00.1 +4.7
SFS S **SKSac 05 49 29.7 +0.3**
MORF Marmelete 94.10 15 *e*P **P 05 38 57.4 -0.2**
MORF *e*SKSac **SKSac 05 49 33.1 +1.2**
MORF IAMs_20 IAMs_20 06 16 09.0
comp=Z,9µm,17.6s
MORF Marmelete 94.10 15 *e*P **P 05 38 57.3 -0.2**
MORF *e* 05 49 33.1
ARMA Armidale 94.14 179 P **P 05 38 57.7 -0.6**
baz=94,SNR=5.2
ARMA Armidale 94.14 179 ⇑P **P 05 39 01.8 +3.5**
ARNO Arenosillo 94.19 16 P P 05 39 03.4 +5.6
TLIG Tlapa 94.20 295 IAmb IAmb 05 39 13.6
comp=Z,45nm,0.9s
PVAQ Vaqueiros 94.33 16 *e*P **P 05 39 00.0 +1.5**
PVAQ Vaqueiros 94.33 16 *e*LR LR 06 10 25.6
comp=Z,10µm,22.0s
PCVE Castro Verde 94.51 15 *e*P **P 05 39 01.9 +2.6**
TAOE Nuku Hiva Isla 95.13 246 *e*PP **PP 05 42 49.5 -2.7**
comp=Z,1µm,24.9s
TAOE Nuku Hiva Isla 95.13 246 *e*PS PS 05 51 36.5 +1.0
comp=Z,3µm,25.4s
TAOE *e*SS SS 05 56 43.0 -0.4
comp=Z,2µm,26.0s
TAOE *e*LQ LQ 06 05 45.6
comp=Z,5µm,24.5s
TAOE *e*LR LR 06 09 50.1
comp=Z,10µm,21.9s,baz=164
PBAR Barrancos 95.19 16 *e*P **P 05 39 05.2 +2.8**
SOCY Socotra 95.20 76 IAMs_20 IAMs_20 06 18 27.3
comp=Z,10µm,20.0s
LIS Lisbon 95.41 14 *e*P **P 05 39 03.2 -0.2**
LIS *e*SKSac **SKSac 05 49 40.0 +1.2**
LIS IAMs_20 IAMs_20 06 16 29.3
comp=N,14µm,16.0s
LIS Lisbon 95.41 14 *e*P **P 05 39 03.2 -0.2**
LIS *e* 05 49 39.9
PESTR Estremoz 95.79 15 *e*P **P 05 39 09.2 +4.1**
UNM Universidad Na 96.00 296 IAMs_20 IAMs_20 06 21 38.5
comp=Z,8µm,18.0s
KAAM Kaadhehdhoo 96.27 98 IAMs_20 IAMs_20 06 15 03.4
comp=Z,9µm,20.0s
PMRV Marv??o 96.37 15 *e*P **P 05 39 10.5 +2.7**
PMRV Marv??o 96.37 15 *e*S **SKSac 05 49 47.8 +4.0**
PMRV Marv??o 96.37 15 *e*LR LR 06 11 03.0
comp=Z,9µm,20.0s
KEST Kesra 96.41 29 P **P 05 39 07.5 -0.6**
comp=Z,3.2nm,0.8s,baz=270,slow=11,SNR=2.4
KEST LR LR 06 18 28.1
comp=Z,9µm,21.0s,baz=168,slow=33
WRKA Warakurna 96.88 158 P **P 05 39 11.2 +0.4**
baz=97,SNR=9.3
WRKA Warakurna 96.88 158 ⇓P **P 05 39 10.2 -0.5**
PAB San Pablo 96.97 18 P **P 05 39 12.3 +1.7**
ESDC Sonseca Array 97.17 18 P **P 05 39 10.4 -1.0**
comp=Z,1.1nm,0.7s,baz=189,slow=4.8,SNR=6.4
ESDC LR LR 06 18 31.0
comp=Z,13µm,21.0s,baz=198,slow=33
MTE Manteigas 97.30 15 *e*S **SKSac 05 49 54.0 +5.3**
MTE Manteigas 97.30 15 *e*LR LR 06 11 26.4
comp=Z,11µm,20.0s
QLP Quilpie 97.66 172 P Pdif 05 39 15.5 +1.2
baz=98,SNR=10
QLP Quilpie 97.66 172 ⇓P Pdif 05 39 15.8 +1.5
UCM Universidad Co 97.91 18 P Pdif 05 39 15.3 +0.5
UCM S **SKSac 05 49 51.8 0.0**
RMQ Roma 98.00 177 P Pdif 05 39 16.1 +0.2
baz=98,SNR=17
PSA00 Pilbara Seismi 98.09 149 P **P 05 39 14.7 -1.5**
MVO Moncorvo 98.12 15 *e*S **SKSac 05 49 56.1 +3.2**
MVO Moncorvo 98.12 15 *e*LR LR 06 11 51.6
comp=Z,9µm,18.0s
MBWA Marble Bar 98.45 149 IAMs_20 IAMs_20 06 20 15.2
comp=Z,6µm,20.0s
PGAV Gavieira, Arco 98.73 14 *e*S **SKSac 05 50 00.1 +4.1**
PGAV Gavieira, Arco 98.73 14 *e*LR LR 06 12 01.9
comp=Z,18µm,20.0s
MAHO Mahon 99.05 24 P **Pdif 05 39 26.5 +6.7**
MAHO S **SKSac 05 49 55.8 -1.6**
EIDS Eidsvold 99.17 179 P **Pdif 05 39 21.9 +0.9**
CLTB Caltabellotta 99.24 32 IAMs_20 IAMs_20 06 24 23.9
comp=Z,9µm,20.0s
ASAR Alice Springs 99.28 163 P **Pdif 05 39 20.8 -0.9**
comp=Z,10.0nm,0.7s,baz=186,slow=4.1,SNR=52
ASAR PP **PP 05 43 25.8 +2.4**
comp=Z,5.4nm,0.8s,baz=186,slow=7.0,SNR=7.6
ASAR PKPPKP P'P'df 06 03 58.6 -8.6
comp=Z,0.4nm,0.6s,baz=348,slow=2.3,SNR=4.9
ASAR LR LR 06 24 33.7
comp=Z,6µm,18.2s,baz=197,slow=36
NHSC New Hope 99.30 317 IAMs_20 IAMs_20 06 24 08.0
comp=Z,7µm,22.0s
VSL Villasalto 99.94 28 IAMs_20 IAMs_20 06 23 15.7
comp=Z,8µm,19.0s
CNNC Cliffs of the 100.35 320 IAMs_20 IAMs_20 06 33 56.6
comp=Z,5µm,18.0s
BRAL Brewton 100.38 311 IAMs_20 IAMs_20 06 29 47.8
comp=Z,10µm,19.0s
CEL Celeste 100.68 33 IAMs_20 IAMs_20 06 22 03.6
comp=Z,5µm,20.0s
GOGA Godfrey 100.85 315 IAMs_20 IAMs_20 06 27 44.3
comp=Z,8µm,19.0s
HMDM Hanimadhoo 101.53 95 IAMs_20 IAMs_20 06 18 07.9
comp=Z,6µm,20.0s
KMSC Kings Mountain 101.54 317 P **Pdif 05 39 32.7 +1.7**
baz=152
DZM Mont Dzumac 101.56 193 *e*PS PS 05 52 48.1 +3.7
comp=Z,2µm,25.6s
DZM *e*SS SS 05 58 13.4 +1.1
comp=Z,7µm,31.5s
DZM Mont Dzumac 101.56 193 *e*LR LR 06 12 48.8
comp=Z,13µm,23.1s
KARP Karpathos 102.16 43 IAMs_20 IAMs_20 06 24 29.6
comp=Z,8µm,22.0s
LIFNC LIFOU 102.73 194 IAMs_20 IAMs_20 06 23 59.9
comp=Z,5µm,19.0s
WRA Warramunga Arr 103.00 162 Pdiff **Pdif 05 39 36.9 -1.3**
comp=Z,3.0nm,0.6s,baz=196,slow=4.4,SNR=24
WRA PP **PP 05 43 51.6 +0.1**
comp=Z,1.5nm,0.6s,baz=190,slow=5.8,SNR=5.7
WRA PKKPbc **PKKPbc 05 55 30.4 -2.0**
comp=Z,1.7nm,0.8s,baz=4.7,slow=3.4,SNR=5.3
WRAB Tennant Creek 103.01 162 IAMs_20 IAMs_20 06 23 36.2
comp=Z,6µm,20.0s
WRAB Tennant Creek 103.01 162 ⇑P **Pdif 05 39 37.9 -0.3**
WR0 Warramunga Arr 103.02 163 Pdif **Pdif 05 39 37.5 -0.8**
KOUNC Koumac, New Ca 103.32 191 IAMs_20 IAMs_20 06 21 24.4
comp=Z,7µm,21.0s
TZTN Tazewell 103.63 317 IAMs_20 IAMs_20 06 33 46.7
comp=Z,8µm,18.0s
MSVF Nonsavu 103.67 205 IAMs_20 IAMs_20 06 25 45.9
comp=Z,7µm,19.0s
CSS Mathiatis 104.12 48 IAMs_20 IAMs_20 06 26 16.6
comp=Z,8µm,20.0s
WSPT Westport, CT 104.14 326 IAMs_20 IAMs_20 06 25 33.6
comp=Z,7µm,20.0s
YLE Yale 104.15 326 IAMs_20 IAMs_20 06 25 13.8
comp=Z,8µm,21.0s
PAL Palisades 104.18 326 IAMs_20 IAMs_20 06 25 55.7
comp=Z,7µm,20.0s
CTA Charters Tower 104.24 174 Pdiff **Pdif 05 39 44.6 +1.0**
comp=Z,0.6nm,0.3s,baz=108,slow=9.3,SNR=1.2
OXF Oxford 104.26 311 IAMs_20 IAMs_20 06 28 43.6
comp=Z,7µm,20.0s
N59A State Game Lan 104.70 324 IAMs_20 IAMs_20 06 28 18.7
comp=Z,8µm,19.0s
WVT Waverly 104.98 313 IAMs_20 IAMs_20 06 27 32.7
comp=Z,11µm,21.0s
SSPA Standing Stone 105.17 323 IAMs_20 IAMs_20 06 24 55.0
comp=Z,6µm,21.0s
ISP Isparta 105.45 44 IAMs_20 IAMs_20 06 26 52.2
comp=Z,5µm,20.0s
TRY Troy 105.67 326 IAMs_20 IAMs_20 06 26 09.8
comp=Z,10µm,20.0s
EMMW East Machias 105.67 332 IAMs_20 IAMs_20 06 25 26.6
comp=Z,10µm,20.0s
P52A Corning 105.80 319 IAMs_20 IAMs_20 06 30 37.9
comp=Z,6µm,20.0s
BINY Binghamton 105.93 325 IAMs_20 IAMs_20 06 28 02.0
comp=Z,8µm,20.0s
PALK Pallekele 106.15 101 IAMs_20 IAMs_20 06 20 08.2
comp=Z,7µm,20.0s
N54A Moraine State 106.19 321 IAMs_20 IAMs_20 06 23 23.1
comp=Z,6µm,21.0s
MMB Musomiste 106.25 37 P **PKiKP 05 44 04.7 +1.5**
KKB Krupnik 106.28 37 P **PKiKP 05 44 10.0 +6.8**
PCHI Peechi 106.38 95 *e*P **PKiKP 05 44 11.1 +6.8**
PCHI *ex* x 05 50 31.8
LBNH Lisbon 106.50 328 IAMs_20 IAMs_20 06 24 46.1
comp=Z,10µm,21.0s
TXAR Lajitas Array 106.55 298 Pdiff **Pdif 05 39 54.1 +0.5**
comp=Z,0.1nm,0.4s,baz=165,slow=3.7,SNR=1.2
TXAR PKiKP **PKiKP 05 44 03.3 -1.0**
comp=Z,0.4nm,0.6s,baz=145,slow=3.3,SNR=2.2
TXAR PP **PP 05 44 18.7 -0.4**
comp=Z,0.5nm,0.6s,baz=167,slow=5.5,SNR=3.8
TXAR PKKPbc **PKKPbc 05 55 20.7 -1.5**
comp=Z,0.8nm,0.8s,baz=343,slow=2.8,SNR=2.9
RZN Rozhen 106.68 38 P **PKiKP 05 44 04.7 +0.5**
P49A Miami Univ. Ec 106.68 317 IAMs_20 IAMs_20 06 31 33.5
comp=Z,8µm,20.0s
M53A WI Miller and 106.85 321 IAMs_20 IAMs_20 06 25 23.7
comp=Z,6µm,21.0s
VTS Vitosha 107.00 37 P **PKiKP 05 44 11.5 +6.8**
BOJS Bojanci 107.13 30 *e*PP **PP 05 44 28.8 +5.7**
BOJS *e*SKSac **SKSac 05 50 35.2 +0.2**
BOJS *e*SKSdf **SKKSac 05 51 23.2 -2.7**
BOJS *e*SP **SP 05 53 43.5 +1.7**
BOJS *e* 05 54 33.8
BOJS *e*SS **SS 05 59 36.4 +6.0**
U40A Yellville 107.30 310 IAMs_20 IAMs_20 06 31 52.3
comp=Z,7µm,20.0s
LJU Ljubljana 107.42 29 *e*PKiKP **PKiKP 05 44 02.2 -3.0**
LJU *e*PP **PP 05 44 26.4 +1.2**
MNAI Manna 107.61 127 IAMs_20 IAMs_20 06 23 40.9
comp=Z,5µm,19.0s
PQI Presque Isle 107.63 332 IAMs_20 IAMs_20 06 24 58.6
comp=Z,10µm,20.0s
SQTA Sankt Quirin 107.64 27 *e*P **PKiKP 05 44 08.9 +3.1**
comp=Z,4.1nm,0.8s
LONY Lake Ozonia 107.66 327 IAMs_20 IAMs_20 06 26 47.6
comp=Z,9µm,20.0s
MYKA Terra Mystica 107.72 28 *e*P **PKiKP 05 44 11.4 +5.6**
comp=Z,3.6nm,0.6s
RETA Reutte 107.77 26 *i* P **PKiKP 05 44 07.0 +1.1**
comp=Z,12nm,1.7s
OBKA Obir 107.86 29 *e*P **PKiKP 05 44 11.7 +5.6**
comp=Z,17nm,1.8s
KBA Koelnbreinsper 108.06 28 *e*P **PKiKP 05 44 08.9 +2.3**
comp=Z,5.7nm,1.0s
ANTO Ankara 108.11 45 IAMs_20 IAMs_20 06 29 44.2
comp=Z,5µm,20.0s
BRTR Keskin Array B 108.33 45 PP **PP 05 44 29.2 -2.9**
comp=Z,2.7nm,1.0s,baz=186,slow=5.8,SNR=5.6
BRTR PKKPab **PKKPab 05 55 28.2 -0.1**
comp=Z,0.5nm,0.5s,baz=72,slow=4.7,SNR=1.9
AAM Ann Arbor 108.69 319 IAMs_20 IAMs_20 06 32 14.3
comp=Z,6µm,20.0s
ARSA Arzberg 108.81 29 *e*P **PKiKP 05 44 11.2 +3.4**
comp=Z,2.9nm,0.7s
MNTX Cornudas Mount 109.33 298 IAMs_20 IAMs_20 06 28 22.6
comp=Z,5µm,18.0s
HDIL Hopedale 109.36 315 IAMs_20 IAMs_20 06 29 53.5
comp=Z,7µm,21.0s
RONA Rosalia, Austr 109.43 30 *e*P **PKiKP 05 44 13.6 +4.6**
comp=Z,1.7nm,0.6s
CONA Conrad Observa 109.52 29 *e*P **PKiKP 05 44 12.7 +3.6**
comp=Z,2.7nm,1.0s
PMBI Palembang 109.70 128 IAMs_20 IAMs_20 06 24 24.9
comp=Z,6µm,20.0s
GERES GERESS Array B 109.78 27 PKiKP **PKiKP 05 44 09.6 -0.1**
comp=Z,1.8nm,0.8s,baz=188,slow=0.9,SNR=6.7
GERES PKKPbc **PKKPbc 05 55 13.6 +1.0**
comp=Z,0.7nm,0.7s,baz=29,slow=3.0,SNR=3.8
CKRC Cesky Krumlov 109.91 28 *e*PP PP 05 44 35.2 -8.1
CKRC *e*SKS **SKSac 05 50 39.3 -7.5**
GRFO Grafenberg 109.93 26 IAMs_20 IAMs_20 06 25 30.0
comp=Z,8µm,22.0s
GRA1 Grafenberg Arr 109.93 26 IAMs_20 IAMs_20 06 25 41.1
comp=Z,8µm,21.0s
EPT El Paso 109.95 297 IAMs_20 IAMs_20 06 26 46.1
comp=Z,6µm,20.0s
KHC Kasperske Hory 110.01 27 *e*PP PP 05 44 31.9 -12
KHC *e*SKS **SKSac 05 50 43.6 -3.6**
KHC *e*PKKP **PKKPab 05 55 24.5 +4.4**
KHC AMS AMS 06 25 20.0
comp=Z,14µm,20.9s
GSI Gunungsitoli 110.03 119 IAMs_20 IAMs_20 06 22 00.1
comp=Z,7µm,19.0s
L44A Lake County Fo 110.19 316 IAMs_20 IAMs_20 06 33 49.4
comp=Z,8µm,20.0s
TIRR Tirgusor 110.41 39 IAMs_20 IAMs_20 06 36 16.1
comp=Z,8µm,21.0s
MLR Muntele Rosu 110.45 37 PP **PP 05 44 46.3 -1.1**
comp=Z,2.2nm,0.7s,baz=283,slow=5.0,SNR=4.5
MLR Muntele Rosu 110.45 37 IAMs_20 IAMs_20 06 31 10.2
comp=Z,7µm,19.0s
TREC Trest 110.66 28 *e*PP **PP 05 44 43.2 -5.5**
TREC AMS AMS 06 24 50.0
comp=Z,9µm,22.0s
PSZ Piszkesteto 110.67 32 IAMs_20 IAMs_20 06 29 58.0
comp=Z,8µm,19.0s
KRUC Moravsky 110.70 29 *e*PP **PP 05 44 51.1 +2.1**
KRUC *e*SS SS 06 00 23.4 +5.0
NKC Novy Kostel 110.74 26 *e*PP **PP 05 44 47.2 -2.1**
NKC *e*SKS **SKSac 05 50 49.8 -0.3**
NKC AMS AMS 06 27 20.0
comp=Z,8µm,19.3s
BKNI Bangkinang 110.86 123 IAMs_20 IAMs_20 06 25 52.9
comp=Z,7µm,18.0s
JAVC Velka Javorina 110.87 30 *e*SS SS 06 00 31.7 +11
VRAC Vranov 110.97 29 *e*PP **PP 05 44 51.9 +0.9**
VRAC *e*SS SS 06 00 25.7 +3.6
PRU Pruhonice 111.05 28 *e*PP PP 05 44 41.2 -10
PRU *e*SKS **SKSac 05 50 43.5 -7.8**
PRU AMS AMS 06 26 00.0
comp=Z,13µm,21.4s
GLMI Grayling 111.22 320 IAMs_20 IAMs_20 06 28 09.3
comp=Z,7µm,21.0s
KSU1 Kansas State U 111.23 309 IAMs_20 IAMs_20 06 35 26.3
comp=Z,7µm,20.0s
PVCC Panska Ves 111.55 27 *e*PP PP 05 44 37.2 -18
PVCC *e*SKS **SKSac 05 50 49.2 -4.1**
PVCC AMS AMS 06 26 10.0
comp=Z,13µm,21.0s
MORC Moravsky Berou 111.66 30 *e*SS SS 06 00 21.5 -10
KRLC Kraliky 111.72 29 *e*PP **PP 05 44 55.2 -1.2**
KRLC *e*SKS **SKSac 05 50 57.1 +2.9**
KRLC AMS AMS 06 27 20.0

comp=Z,7µm,19.9s
JFWS Jewell Farm 111.73 315 IAMs_20 IAMs_20 06 31 17.2
comp=Z,6µm,21.0s
DPC Dobruska-Polom 111.85 29 *e*PP PP 05 44 41.2 -16
DPC *e*SKS **SKSac 05 50 46.2 -8.5**
DPC AMS AMS 06 29 40.0
comp=Z,5µm,19.1s
CLL Collm 111.86 26 IAMs_20 IAMs_20 06 26 39.1
comp=Z,7µm,22.0s
CLL Collm 111.86 26 *e*PP **PP 05 45 00.0 +2.7**
CLL *e*SKSac **SKSac 05 50 53.0 -1.6**
CLL *e*SKKSac **SKKSac 05 52 01.0 +2.6**
CLL *e*PS **PS 05 54 32.0 +2.9**
CLL *e*PPS PPS 05 55 43.0
CLL *e*SS **SS 06 00 43.0 +9.1**
CLL *e*SSS SSS 06 05 00.0
CLL *e*SSSS 06 08 00.0
CLL *ex* x 06 10 42.0
OKC Ostrava-Krasne 111.89 30 *e*PP PP 05 44 39.2 -18
OKC *e*SKS **SKSac 05 50 54.2 -0.5**
OKC AMS AMS 06 26 20.0
comp=Z,6µm,21.9s
UPC Upice 111.91 28 *e*PP PP 05 44 43.2 -14
UPC *e*SKS **SKSac 05 50 51.2 -3.6**
UPC AMS AMS 06 26 00.0
comp=Z,6µm,23.0s
CHVC Chvalec 111.99 28 *e*PP PP 05 44 49.2 -9.1
CHVC AMS AMS 06 26 00.0
comp=Z,6µm,21.6s
PSI Prapat 111.99 120 PKKPab PKKPab 05 55 16.4 -0.1
comp=Z,2.4nm,0.3s,baz=284,slow=6.7,SNR=6.6
OSTC Ostas 112.01 28 *e*PP PP 05 44 41.2 -17
OSTC *e*SKS **SKSac 05 50 48.7 -6.6**
OSTC AMS AMS 06 26 20.0
comp=Z,5µm,20.7s
Y22D IRIS PASSCAL I 112.01 298 IAMs_20 IAMs_20 06 28 20.4
comp=Z,5µm,20.0s
UZH Uzhgorod 112.03 33 *i* PKIKP **PKiKP 05 44 14.3 +0.5**
UZH *e* 05 45 02.0
UZH *e*PPP PPP 05 47 23.0
UZH *e* 05 50 52.0
UZH *e* 05 51 25.0
UZH *i* PS **PS 05 54 32.0 +1.3**
ANMO Albuquerque 112.47 299 IAMs_20 IAMs_20 06 31 48.7
comp=Z,5µm,19.0s
EKA Eskdalemuir Ar 112.51 15 PKKPbc PKKPbc 05 55 04.2 +0.6
comp=Z,0.7nm,0.3s,baz=345,slow=3.1,SNR=9.7
TUC Tucson 112.56 294 IAMs_20 IAMs_20 06 29 08.2
comp=Z,4µm,20.0s
TUC Tucson 112.56 294 P **PKiKP 05 44 16.9 +1.4**
baz=142
MILM Milestii Mici 112.68 38 *e*P **Pdif 05 40 15.5 -4.7**
MILM Milestii Mici 112.68 38 *e*PP **PP 05 44 58.0 -5.2**
MILM *e*SKS **SKSac 05 50 49.0 -9.0**
MILM Milestii Mici 112.68 38 *e*P **Pdif 05 40 15.0 -5.2**
MILM *e* 05 50 49.0
MILM *e*PS **PS 05 54 28.0 -8.7**
MILM *e*PPS PPS 05 55 53.0
OJC Ojcow 112.70 31 IAMs_20 IAMs_20 06 30 23.2
comp=Z,6µm,19.0s
KIS Kishinev 112.75 38 *e*PP **PP 05 44 59.0 -4.7**
LHMI Lhok Sumawe 113.10 117 IAMs_20 IAMs_20 06 24 06.7
comp=Z,6µm,19.0s
HYBB Hyderabad (bro 113.20 93 *e*PKiKP **PKiKP 05 44 17.8 +0.7**
HYBB *e*P **PP 05 45 09.5 +2.4**
HYBB *e*SKSac **SKSac 05 51 00.0 -1.6**
HYBB *e*SKKSac **SKKSac 05 52 02.1 -7.0**
HYBB *e*PS **PS 05 54 44.1 +2.1**
HYBB IVMs_BB IVMs_BB 05 54 55.6
comp=Z,269nm,17.4s
HYBB *e*SS **SS 06 00 52.0 -0.1**
T25A Trinidad 113.23 302 P **PKiKP 05 44 18.2 +1.4**
baz=143
GNI Garni 113.41 53 IAMs_20 IAMs_20 06 30 31.3
comp=Z,6µm,20.0s
MYKOM Kota Tinggi 113.46 125 IAMs_20 IAMs_20 06 30 24.8
comp=Z,4µm,18.0s
COWI Conover 113.98 318 IAMs_20 IAMs_20 06 33 20.5
comp=Z,6µm,20.0s
SOC Sochi 114.04 47 *i* PKIKP PKPdf 05 44 15.2 -2.6
SOC *e*PPP PPP 05 47 35.9
SOC *e*PS **PS 05 54 45.7 -3.5**
SOC *e*SS SS 06 01 03.3 +0.3
SOC *e*SSS SSS 06 05 14.2
SOC MLR MLR
comp=Z,2µm,19.0s
SAUI Saumlaki 114.05 157 IAMs_20 IAMs_20 06 31 05.9
comp=Z,7µm,20.0s
IPM Ipoh 114.47 121 IAMs_20 IAMs_20 06 25 17.7
comp=Z,6µm,20.0s
HNR Honiara 114.74 188 IAMs_20 IAMs_20 06 30 09.5
comp=Z,6µm,19.0s
SCHQ Scheffer ville 114.87 336 PKiKP PKPdf 05 44 17.4 -1.6
comp=Z,3.8nm,0.7s,baz=27,slow=1.7,SNR=8.4
PMG Port Moresby 114.89 174 IAMs_20 IAMs_20 06 32 00.3
comp=Z,6µm,20.0s
RGN Rugen 114.92 25 IAMs_20 IAMs_20 06 29 59.9
comp=Z,9µm,20.0s
KULM Kulim 114.99 120 IAMs_20 IAMs_20 06 25 48.4
comp=Z,6µm,19.0s
ECSD EROS Data Cent 115.02 312 P **PKiKP 05 44 20.3 +0.6**
baz=144
OGNE Ogallala 115.16 306 IAMs_20 IAMs_20 06 38 37.4
comp=Z,4µm,19.0s
MVCO Mesa Verde 115.27 299 IAMs_20 IAMs_20 06 29 29.8
comp=Z,5µm,20.0s
KBZ Khabaz 115.50 49 PKP **PKPdf 05 44 20.1 -0.5**
comp=Z,2.8nm,0.8s,baz=267,slow=3.2,SNR=8.2
KBZ Khabaz 115.50 49 *i* PKIKP **PKiKP 05 44 21.0 +0.5**
KIV Kislovodsk 115.59 49 *e*PKIKP **PKPdf 05 44 20.6 -0.3**
PDMCI Parker Dam,Lak 115.86 293 P **PKiKP 05 44 22.5 +0.9**
baz=141
ISCO Idaho Springs 115.91 303 IAMs_20 IAMs_20 06 33 45.6
comp=Z,5µm,21.0s
ISCO Idaho Springs 115.91 303 P **PKPdf 05 44 22.0 0.0**
baz=142
MONP2 Monument Peak 115.96 291 P **PKiKP 05 44 23.4 +1.2**
baz=141
BC3 Big Chuckawall 116.04 292 P **PKiKP 05 44 24.2 +2.1**
baz=141
AKBB Malin Array Si 116.06 36 *i* PKIKP **PKPdf 05 44 20.6 -0.8**
SMCO Snowmass 116.07 302 IAMs_20 IAMs_20 06 36 28.9
comp=Z,5µm,20.0s
IRM Iron Mountain 116.27 292 P **PKiKP 05 44 25.3 +2.8**
baz=141
GROC Groznyy 116.33 51 *e*P **Pdif 05 40 39.2 +2.6**
GROC *e* 05 45 33.0
GROC *e* 05 51 10.7
GROC *e*SP SP 05 55 14.3 +5.1
GROC pmax pmax
comp=Z,23nm,0.5s
EYMN Ely 116.41 318 IAMs_20 IAMs_20 06 36 26.8
comp=Z,6µm,20.0s
EYMN Ely 116.41 318 P **PKiKP 05 44 23.2 +1.0**
baz=145
TPFO Pinon Flats 116.53 291 P **PKiKP 05 44 25.8 +2.7**
baz=141
PFO Pinyon Flats O 116.53 291 P **PKiKP 05 44 25.8 +2.7**
baz=141
MAK Makhachkala 116.90 53 *i* P **Pdif 05 40 41.1 +2.0**
MAK *i* 05 44 21.6
MAK *e* 05 51 13.0
MAK *e*PS **PS 05 55 22.1 +6.8**
MAK *e*SS SS 06 01 36.8 -3.7
MAK pmax pmax
comp=Z,21nm,0.3s
GMRC Granite Mounta 117.02 293 P **PKiKP 05 44 25.1 +1.0**
baz=141
SUW Suwalki 117.03 31 IAMs_20 IAMs_20 06 36 53.8
comp=Z,5µm,18.0s
CIS Catalina Islan 117.41 290 P **PKiKP 05 44 27.1 +2.5**
baz=140
HEC Hector,Ludlow 117.41 292 P **PKiKP 05 44 26.8 +2.1**
baz=140
O20A White River Ci 117.43 301 P **PKiKP 05 44 26.9 +2.1**
baz=141
BFSC Mount Baldy Ra 117.65 291 P **PKiKP 05 44 26.9 +1.7**
baz=140
TUQ Turquoise Moun 117.66 293 P **PKiKP 05 44 27.3 +2.0**
baz=140
SBUM Sibu 117.72 133 IAMs_20 IAMs_20 06 30 34.7
comp=Z,4µm,20.0s
GSC Goldstone, Bar 118.02 292 P **PKiKP 05 44 27.6 +1.8**
baz=140
SHOC Shoshone, Teco 118.20 293 P **PKiKP 05 44 27.3 +1.2**
baz=140
EDW2 Edwards Air Fo 118.32 291 P **PKiKP 05 44 26.9 +0.4**
baz=140
AGMN Agassiz Nation 118.40 315 IAMs_20 IAMs_20 06 36 34.6
comp=Z,6µm,19.0s
AGMN Agassiz Nation 118.40 315 P **PKiKP 05 44 26.7 +0.6**
baz=143
K22A Casper 118.57 304 P **PKiKP 05 44 27.0 +0.2**
baz=141
RSSD Black Hills 118.57 307 PKIKP **PKPdf 05 44 25.4 -1.4**
RSSD MLR MLR
comp=Z,11µm,20.0s
RSSD Black Hills 118.57 307 PKPdf **PKPdf 05 44 25.4 -1.4**
RSSD Black Hills 118.57 307 P **PKPdf 05 44 26.4 -0.4**
baz=141
KONO Kongsberg 118.80 20 IAMs_20 IAMs_20 06 31 37.7
comp=Z,7µm,20.0s
MNK Minsk 118.86 33 *i* PKIKP **PKPdf 05 44 26.4 -0.2**
MNK *i* 05 45 45.1
MNK *i* PPP PPP 05 48 16.0
MNK *i* 05 51 38.5
MNK *i* SS SS 06 02 06.1 +0.5
MNK *i* 06 02 23.0
MNK *i* SSS SSS 06 06 30.4
MNK pmax pmax
comp=N,18nm,0.7s
MNK pmax pmax
comp=Z,13nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=E,320nm,13.0s
MNK MLR MLR
comp=Z,8µm,25.0s
MNK MLR MLR
comp=N,3µm,15.0s
MNK Minsk 118.86 33 *i* PKP **PKPdf 05 44 26.4 -0.2**
comp=E,2.0nm,0.9s
MNK *i* PKP **PKPdf 05 44 26.4 -0.2**
comp=N,18nm,0.7s
MNK *i* PKP **PKPdf 05 44 26.4 -0.2**
comp=Z,13nm,0.7s,baz=212
MNK *i* PP **PP 05 45 45.2 -1.3**
MNK *i* PPP PPP 05 48 16.1
MNK *i* SKS **SKSdf 05 51 38.5 +0.4**
MNK *i* SS **SS 06 02 06.2 +0.6**
MNK *i* SSS SSS 06 06 30.5
MNK *i* LQ LQ 06 25 22.3
MNK *i* LR LR 06 30 58.1
MNK *i* LRM MLR 06 37 24.9
comp=E,320nm,12.7s
MNK *i* LRM MLR 06 37 41.4
comp=Z,8µm,25.4s
MNK *i* LRM MLR 06 37 46.5
comp=N,3µm,14.6s
NACGM Naroch 118.87 32 *e*PKP PKiKP 05 44 35.1 +8.3
FURC Furnace Creek, 118.94 293 P **PKiKP 05 44 29.1 +1.6**
baz=140
MPMC Manual Prospec 118.95 292 P **PKPdf 05 44 27.2 -0.6**
baz=140,SNR=6.8
TPNV Topopah Spring 118.99 294 P **PKiKP 05 44 28.8 +1.0**
baz=140,SNR=10
ISA Isabella, Lake 119.17 291 P **PKPdf 05 44 27.9 -0.2**
baz=140,SNR=7.2
PKM Mcpherson Peak 119.29 290 P **PKiKP 05 44 29.7 +1.2**
baz=140
SKAR Skarslia 119.51 19 *e*PKPdf **PKiKP 05 44 28.1 +0.2**
CWC Cottonwood Cre 119.55 292 P **PKiKP 05 44 29.6 +0.6**
baz=139
GRAC Grapevine Rang 119.60 293 P **PKPdf 05 44 29.0 +0.2**
baz=139
SMMC Simmler 119.71 290 P **PKiKP 05 44 31.2 +2.1**
baz=139
R11A Troy Canyon, C 119.71 295 P **PKiKP 05 44 30.2 +1.0**
baz=139
DUG Dugway, Tooele 119.72 298 IAMs_20 IAMs_20 06 39 30.5
comp=Z,6µm,19.0s
DUG Dugway, Tooele 119.72 298 P **PKiKP 05 44 29.7 +0.6**
baz=140,SNR=9.6
TOLI2 Tolitoli 119.73 143 PKPdf **PKPdf 05 44 28.1 -1.7**
ULM Lac du Bonnet 119.96 316 PKhKP PKPpre 05 44 25.6
comp=Z,4.8nm,0.6s,baz=174,slow=1.2,SNR=5.3
ULM PP **PP 05 45 53.3 -0.9**
comp=Z,15nm,1.0s,baz=143,slow=6.2,SNR=5.1
ULM PKKPbc **PKKPab 05 54 35.2 -1.8**
comp=Z,1.2nm,0.4s,baz=336,slow=5.7,SNR=1.4
VSR Storozhevoye 120.02 42 *e*PKIKP **PKPdf 05 44 28.0 -1.0**
VSR pmax pmax
comp=Z,9.0nm,1.0s
VSR MLR MLR
comp=Z,3µm,18.0s
BW06 Boulder Array 120.09 303 P **PKiKP 05 44 30.6 +0.7**
baz=140
PDAR Pinedale Array 120.09 303 PKP **PKPdf 05 44 29.2 -0.6**
comp=Z,1.9nm,0.5s,baz=137,slow=5.8,SNR=10
PDAR PP **PP 05 45 55.6 +0.1**
comp=Z,2.3nm,0.9s,baz=152,slow=6.0,SNR=2.1
PDAR PKKPbc **PKKPbc 05 54 34.8 -2.1**
comp=Z,1.6nm,0.8s,baz=302,slow=0.8,SNR=11
HFS Hagfors 120.09 22 PKP **PKPdf 05 44 26.3 -2.6**
comp=Z,2.2nm,0.7s,baz=215,slow=4.8,SNR=2.0
HWUT Hardware Ranch 120.17 300 IAMs_20 IAMs_20 06 36 24.5
comp=Z,5µm,20.0s
BORG Borgarnes 120.29 3 IAMs_20 IAMs_20 06 27 12.5
comp=Z,7µm,20.0s
NB2 NORSAR Subarra 120.40 21 PKPdf **PKPdf 05 44 28.3 -1.2**
comp=Z,8.2nm,1.1s,baz=202,slow=1.9
NB2 NORSAR Subarra 120.40 21 PKPdf **PKPdf 05 44 28.3 -1.2**
baz=202,slow=1.9
NOA NORSAR Array B 120.40 21 PKP **PKPdf 05 44 28.5 -1.0**
comp=Z,3.8nm,0.7s,baz=206,slow=2.0,SNR=13
NOA PKKPbc **PKKPab 05 54 34.8 +0.4**
comp=Z,0.8nm,0.7s,baz=26,slow=3.4,SNR=1.9
VORR Voronezh 120.40 42 *e*PKIKP **PKPdf 05 44 28.5 -1.2**
VORR pmax pmax
comp=Z,120nm,0.4s
AKN Aaknes 120.67 18 *e*PKPdf **PKiKP 05 44 30.3 +0.3**
DOMB Dombas 120.91 19 *e*PKPdf **PKPdf 05 44 30.4 -0.1**
VRH Novokhopyorsk 120.99 43 *e*PKIKP **PKPdf 05 44 30.3 -0.6**
VRH pmax pmax
comp=Z,20nm,0.9s
VRH MLR MLR
comp=Z,3µm,19.0s
LPSR Galich'ya Gora 121.04 41 *e*PKIKP **PKPdf 05 44 30.8 -0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
REDW Red Top Meadow 121.16 302 IAMs_20 IAMs_20 06 40 21.4
comp=Z,4µm,20.0s
NVAR Mina Array Bea 121.17 293 PKP **PKiKP 05 44 32.4 +0.2**
comp=Z,2.7nm,0.6s,baz=132,slow=3.4,SNR=19
NVAR PKKPbc **PKKPbc 05 54 32.4 -0.3**
comp=Z,0.9nm,0.7s,baz=281,slow=3.8,SNR=5.6
SNOW Snow King Moun 121.19 302 IAMs_20 IAMs_20 06 40 31.2
comp=Z,4µm,18.0s
TPAW Teton Pass 121.30 302 IAMs_20 IAMs_20 06 40 24.2
comp=Z,4µm,20.0s
ANGG Ammassalik, Gr 121.32 355 IAMs_20 IAMs_20 06 30 25.0
comp=Z,7µm,20.0s
MOOW Moose Ponds 121.40 303 IAMs_20 IAMs_20 06 37 14.8
comp=Z,4µm,21.0s
LAO LASA Array 121.53 308 IAMs_20 IAMs_20 06 38 27.0
comp=Z,7µm,20.0s
LAO LASA Array 121.53 308 P **PKPdf 05 44 32.4 +0.2**
baz=139
RLMT Red Lodge 121.74 305 P **PKPdf 05 44 32.8 -0.1**
baz=139
H17A Grant Village 121.80 303 P **PKiKP 05 44 33.9 +0.7**
baz=139
CMB Columbia Colle 121.96 292 IAMs_20 IAMs_20 06 32 32.3
comp=Z,4µm,19.0s
DGMT Dagmar 122.00 310 IAMs_20 IAMs_20 06 36 03.1
comp=Z,8µm,22.0s
DGMT Dagmar 122.00 310 P **PKiKP 05 44 33.6 +0.4**
baz=139
OBN Obninsk 122.21 38 PKP **PKPdf 05 44 32.2 -0.8**
comp=Z,14nm,0.3s,baz=184,slow=2.7,SNR=4.3
OBN Obninsk 122.21 38 *e*PKIKP **PKPdf 05 44 32.6 -0.5**
OBN *e* 05 51 30.4
OBN *e*SS SS 06 03 00.3 +12
OBN pmax pmax
comp=Z,19nm,1.0s
OBN MLR MLR
comp=Z,4µm,19.0s
OBN Obninsk 122.21 38 IAMs_20 IAMs_20 06 37 12.3
comp=Z,5µm,20.0s
MYLDM Lahad Datu 122.69 138 IAMs_20 IAMs_20 06 39 44.2
comp=Z,4µm,19.0s
DY2G Dye2 122.76 351 *i* P **PKPdf 05 44 33.0 -1.1**
DY2G IVMs_BB IVMs_BB 06 27 51.1
comp=Z,3µm,20.4s
HLID Hailey 123.03 300 P **PKPdf 05 44 35.2 -0.1**
baz=138
MOS Moscow 123.07 38 *i* PKIKP **PKPdf 05 44 34.7 0.0**
MOS *e* 05 46 19.9
BOZ Bozeman (W) 123.20 303 IAMs_20 IAMs_20 06 41 18.4
comp=Z,6µm,19.0s
BOZ Bozeman (W) 123.20 303 P **PKPdf 05 44 35.3 -0.2**
baz=138,SNR=8.0
DLMT Dillon 123.48 303 IAMs_20 IAMs_20 06 41 38.9
comp=Z,4µm,19.0s
MFID Camas Ranch 123.62 299 IAMs_20 IAMs_20 06 38 48.7
comp=Z,4µm,19.0s
SFJD Kangerlussuaq 123.69 349 PKIKP **PKPdf 05 44 34.6 -1.0**
SFJD Kangerlussuaq 123.69 349 PKPdf **PKPdf 05 44 34.6 -1.0**
SFJD Kangerlussuaq 123.69 349 *i* P **PKPdf 05 44 35.4 -0.2**
SFJD IVMs_BB IVMs_BB 06 30 49.0
comp=Z,2µm,22.5s
SOEG Soedalen 123.71 358 *i* P **PKPdf 05 44 35.1 -0.5**
NSS Namsos 123.73 19 *e*PKPdf **PKPdf 05 44 35.5 -0.2**
HOPS Hopland Field 124.09 291 IAMs_20 IAMs_20 06 32 33.6
comp=Z,4µm,19.0s
PYUN Piuthan 124.10 89 *e*P **PKPdf 05 44 36.5 -1.4**
comp=Z,84nm,0.8s
EGMT Eagleton 124.12 307 IAMs_20 IAMs_20 06 40 22.7
comp=Z,8µm,20.0s
EGMT Eagleton 124.12 307 P **PKiKP 05 44 37.6 +0.2**
baz=137
KOLN Koldanda 124.19 90 *e*P **PKPdf 05 44 36.5 -1.6**
comp=Z,94nm,0.7s
FINES FINESS Array B 124.21 28 PKP **PKPdf 05 44 36.0 -0.8**
comp=Z,20nm,0.6s,baz=132,slow=2.8,SNR=24
FINES SKP 05 48 10.8
comp=Z,1.9nm,0.8s,baz=212,slow=4.9,SNR=1.6
FINES FINESS Array B 124.21 28 PKIKP **PKPdf 05 44 36.0 -0.8**
BELG Belogornoye 124.25 46 PKP **PKPdf 05 44 36.1 -0.9**
comp=Z,23nm,0.8s,baz=65,slow=7.5,SNR=5.3
BELG SKP 05 48 08.9
comp=Z,4.1nm,0.4s,baz=351,slow=2.0,SNR=4.5
BELG Belogornoye 124.25 46 *i* PKIKP **PKPdf 05 44 35.9 -1.2**
WVOR Wild Horse Val 124.30 296 IAMs_20 IAMs_20 06 39 55.0
comp=Z,4µm,18.0s
O03E Paynes Creek 124.37 292 P **PKPdf 05 44 38.0 +0.1**
baz=137,SNR=21
DANN Dangsing 124.73 90 *e*P **PKPdf 05 44 38.1 -1.1**
comp=Z,183nm,0.8s
O02D Mt. Diablo Mer 124.80 292 IAMs_20 IAMs_20 06 30 50.4
comp=Z,4µm,22.0s
O02D Mt. Diablo Mer 124.80 292 P **PKiKP 05 44 39.9 +0.8**
baz=137,SNR=10
ICESG Greenland Ices 124.89 355 *i* P **PKPdf 05 44 36.5 -1.8**
DMN Daman 124.92 91 *e*P **PKPdf 05 44 38.9 -0.7**
comp=Z,71nm,1.0s
PLID Pearl Lake 124.92 300 IAMs_20 IAMs_20 06 43 06.2
comp=Z,5µm,19.0s
GKN Gorkha 124.96 91 *e*P **PKPdf 05 44 38.0 -1.5**
comp=Z,107nm,1.0s
PKIN Phulchoki 125.06 92 *e*P **PKPdf 05 44 38.6 -1.3**
comp=Z,56nm,0.8s
PKI Pulchoki 125.06 92 *e*P **PKPdf 05 44 38.5 -1.5**
comp=Z,87nm,1.0s
KKN Kakani 125.16 91 *e*P **PKPdf 05 44 38.4 -1.6**
comp=Z,43nm,0.7s
MSO Missoula 125.19 303 IAMs_20 IAMs_20 06 44 56.2
comp=Z,7µm,19.0s
MSO Missoula 125.19 303 P **PKPdf 05 44 37.3 -1.9**
baz=136
RAMN Ramite 125.26 93 *e*P **PKPdf 05 44 40.0 -0.2**
comp=Z,63nm,0.4s
CMAR Chiang Mai Arr 125.28 111 PKP **PKPdf 05 44 38.8 -1.4**
comp=Z,19nm,0.8s,baz=231,slow=4.0,SNR=50
CMAR PKKPab **PKKPab 05 54 19.1 +1.1**
comp=Z,1.5nm,0.3s,baz=20,slow=2.3,SNR=2.2
CMAR Chiang Mai Arr 125.28 111 *c* *i* PKIKP **PKPdf 05 44 39.7 -0.5**
CMAR pmax pmax
comp=Z,19nm,0.8s
N02D Trinity Center 125.34 292 P **PKPdf 05 44 39.0 -0.7**
baz=136,SNR=10
BMO Blue Mountains 125.39 299 IAMs_20 IAMs_20 06 39 34.7
comp=Z,6µm,21.0s
M04C Macdoel 125.47 294 IAMs_20 IAMs_20 06 32 13.0
comp=Z,4µm,21.0s
M04C Macdoel 125.47 294 P **PKiKP 05 44 41.2 +0.8**
baz=136
JIRN Jiri 125.57 92 *e*P **PKPdf 05 44 40.4 -0.6**
comp=Z,40nm,0.8s
CHTO Chiang Mai 125.58 110 PKIKP **PKPdf 05 44 36.6 -4.2**
CHTO Chiang Mai 125.58 110 PKPdf **PKPdf 05 44 36.6 -4.2**
CHTO Chiang Mai 125.58 110 IAMs_20 IAMs_20 06 32 35.1
comp=Z,4µm,19.0s
GUN Gumba 125.59 92 *e*P **PKPdf 05 44 39.4 -1.6**
comp=Z,110nm,1.0s
ODAN Odare 125.63 94 *e*P **PKPdf 05 44 41.1 +0.2**
MOR8 Moi Rana 125.67 19 *e*PKPdf **PKPdf 05 44 39.3 -0.1**
KONS Konsvik 125.71 19 *e*PKPdf **PKPdf 05 44 39.4 0.0**
M02C Callahan 125.72 293 P **PKiKP 05 44 41.2 +0.3**
baz=136,SNR=20
FFC Flin Flon 125.79 316 PKIKP **PKPdf 05 44 38.3 -1.7**
FFC Flin Flon 125.79 316 PKPdf **PKPdf 05 44 38.2 -1.7**
FFC Flin Flon 125.79 316 IAMs_20 IAMs_20 06 42 43.1
comp=Z,8µm,20.0s
ILULI Ilulissat 125.88 350 *i* P **PKPdf 05 44 38.6 -1.1**
ILULI IVMs_BB IVMs_BB 06 29 49.3
comp=Z,4µm,17.8s
L04D Klamath Falls 126.02 294 P **PKPdf 05 44 40.7 -0.4**
baz=136,SNR=6.7
SCO Scoresbysund 126.03 2 IAMs_20 IAMs_20 06 36 16.0
comp=Z,1µm,19.0s
SCO Scoresbysund 126.03 2 *i* P **PKiKP 05 44 40.6 +0.2**
K04D Chiloquin, OR 126.03 294 P **PKiKP 05 44 41.6 +0.1**
baz=136
TAPN Taplejung 126.19 94 *e*P **PKPdf 05 44 41.8 -0.3**
J05D Fort Rock, OR 126.24 295 P **PKPdf 05 44 41.7 +0.3**
baz=136,SNR=19
J04D Umpqua Nationa 126.66 295 P **PKPdf 05 44 42.1 -0.2**
baz=135,SNR=10.0
L02E Cave Junction 126.66 293 IAMs_20 IAMs_20 06 45 37.4
comp=Z,4µm,20.0s
L02E Cave Junction 126.66 293 P **PKiKP 05 44 43.1 +0.5**
baz=135
FAUS Fauske 126.90 19 *e*PKPdf **PKPdf 05 44 41.7 0.0**
I05D Terrebonne, OR 127.04 296 P **PKiKP 05 44 44.8 +1.5**
baz=135
K02D Willamette Mer 127.07 293 P **PKiKP 05 44 45.2 +1.7**
baz=135
LOF Lofoten 127.25 18 *e*PKPdf **PKPdf 05 44 41.0 -1.4**
AKTO Aktyubinsk 127.28 53 PKP **PKPdf 05 44 42.6 -0.3**
comp=Z,11nm,0.9s,baz=168,slow=2.9,SNR=8.8
IUG luzhnay 127.31 68 *e*PKIKP **PKPdf 05 44 43.1 -0.4**
IUG luzhnay 127.31 68 *e*PKP **PKPdf 05 44 43.1 -0.4**
baz=68
AB31 Akbulak array 127.33 55 *i* PKIKP **PKPdf 05 44 40.1 -3.0**
STEI Steigen 127.37 19 *e*PKPdf **PKPdf 05 44 42.5 -0.1**
HAWA Hanford 127.59 299 IAMs_20 IAMs_20 06 42 45.7
comp=Z,5µm,19.0s
I03D Drain, OR 127.61 294 P **PKiKP 05 44 46.6 +2.2**
baz=135
KLMR Klimovskoe 127.68 35 *e*PKIKP **PKPdf 05 44 43.2 -0.2**
KLMR *e* 05 46 44.3
KLMR *e*PS **PS 05 56 47.0 -3.7**
KLMR *e*SSS SSS 06 08 40.0
KLMR pmax pmax
comp=Z,50nm,1.4s
KLMR MLR MLR
comp=Z,5µm,17.0s
KLMR Klimovskoe 127.68 35 *e*PKPdf **PKPdf 05 44 43.2 -0.2**
KLMR AMP 05 44 46.5
comp=Z,50nm,1.4s
KLMR *e*PP **PP 05 46 44.4 -1.5**
KLMR *e*SKKSac **SKKSac 05 53 38.4 -3.4**
KLMR *e*SKKSac **SKKSac 05 53 38.4 -3.4**
KLMR *e*PS **PS 05 56 47.1 -3.7**
KLMR *e*PS **PS 05 56 47.1 -3.7**
KLMR *e*SKKPbc **SKKPbc 05 58 05.6 +4.7**
KLMR *e*SSS SSS 06 08 40.0
KLMR *e*SSS SSS 06 08 40.0
KLMR LQ LQ 06 29 35.5
KLMR LQ LQ 06 29 35.5
KLMR LR LR 06 35 09.4
KLMR AMP 06 37 52.1
comp=Z,5µm,17.4s
NEW Newport 127.73 302 PKP **PKPdf 05 44 43.9 -0.1**
comp=Z,2.7nm,0.8s,baz=140,slow=4.6,SNR=2.2
NEW SKPbc SKiKP 05 47 58.8 -21

comp=Z,1.8nm,0.7s,baz=202,slow=7.3,SNR=1.4
NEW Newport 127.73 302 P **PKiKP 05 44 45.8 +1.2**
baz=134
H04D Lebanon 127.88 296 P **PKiKP 05 44 47.4 +2.5**
baz=134
I02E Swisshome, OR 128.16 294 IAMs_20 IAMs_20 06 42 37.2
comp=Z,5μm,21.0s
I02E Swisshome, OR 128.16 294 P **PKiKP 05 44 48.3 +2.8**
baz=134
F05D White Salmon 128.19 298 IAMs_20 IAMs_20 06 47 20.8
comp=Z,4μm,20.0s
F05D White Salmon 128.19 298 P **PKiKP 05 44 47.7 +2.1**
baz=134
KK31 Karatay Array 128.24 67 PKIKP **PKPdf 05 44 44.5 -0.6**
DZA Taraz 128.52 68 *e*PKIKP **PKPdf 05 44 45.1 -0.5**
DZA Taraz 128.52 68 *e*PKP **PKPdf 05 44 45.2 -0.5**
baz=68
KSH Kashi 128.62 74 PKP **PKiKP 05 44 46.9 +0.1**
KSH PP **PP 05 46 55.3 +2.7**
KSH AMB AMB
comp=Z,780nm,8.6s
KSH LR LR
comp=Z,3μm,18.4s
KSH LR LR
comp=Z,4μm,17.1s
KSH LR LR
comp=Z,4μm,19.0s
G03D McMinnville, O 128.63 296 IAMs_20 IAMs_20 06 45 05.6
comp=Z,4μm,21.0s
G03D McMinnville, O 128.63 296 P **PKiKP 05 44 48.8 +2.4**
baz=134
E04D Cinebar 129.21 298 IAMs_20 IAMs_20 06 48 37.8
comp=Z,4μm,19.0s
E04D Cinebar 129.21 298 P **PKPdf 05 44 45.6 -1.2**
baz=133
AML Almayashu 129.24 70 P **PKPdf 05 44 47.1 -0.4**
SNR=33
KIRV Kirov 129.46 41 PKP **PKPdf 05 44 46.7 -0.1**
comp=Z,12nm,0.6s,baz=89,slow=0.8,SNR=10
KIRV PP **PP 05 46 56.4 -1.2**
comp=Z,6.2nm,0.4s,baz=251,slow=5.6,SNR=3.6
KIRV Kirov 129.46 41 *i* PKIKP **PKPdf 05 44 47.0 +0.2**
TRO Tromso 129.53 19 *e*PKPdf **PKPdf 05 44 46.4 -0.3**
EKS2 Erkin-Say 129.65 70 P **PKPdf 05 44 47.8 -0.1**
SNR=26
D04E Lakebay 129.74 298 P **PKPdf 05 44 48.3 +0.5**
baz=133
JETT Jettan, Norway 129.74 20 *e*PKPdf **PKPdf 05 44 47.1 -0.1**
UCH Uchtor 129.74 71 P **PKPdf 05 44 48.6 +0.1**
SNR=24
KTK1 Kautokeino 129.84 21 *e*PKPdf **PKPdf 05 44 46.5 -0.8**
DBG Daneborg 129.90 3 *i* P **PKPdf 05 44 47.6 +0.3**
DBG IVMs_BB IVMs_BB 06 43 34.0
comp=Z,2μm,16.7s
LSA Lhasa 129.93 95 IAMs_20 IAMs_20 06 36 44.4
comp=Z,5μm,21.0s
LSA Lhasa 129.93 95 PKP **PKPdf 05 44 49.4 0.0**
LSA LR LR
comp=Z,2μm,23.5s
LSA LR LR
comp=Z,2μm,22.1s
LSA LR LR
comp=Z,2μm,24.2s
AAK Ala-Archa 130.01 71 P **PKPdf 05 44 48.7 0.0**
SNR=16
AAK Ala-Archa 130.01 71 PKP **PKPdf 05 44 48.6 0.0**
comp=Z,13nm,0.7s,baz=182,slow=2.8,SNR=24
AAK SKPbc **SKPab 05 48 08.3 -2.5**
comp=Z,3.6nm,0.6s,baz=185,slow=12,SNR=2.9
AAK Ala-Archa 130.01 71 *i* PKIKP **PKPdf 05 44 48.3 -0.4**
AAK MLR MLR
comp=Z,4μm,20.0s
AAK Ala-Archa 130.01 71 PKPdf **PKPdf 05 44 47.9 -0.8**
AAK Ala-Archa 130.01 71 IAMs_20 IAMs_20 06 37 48.1
comp=Z,5μm,21.0s
D03D Eldon 130.14 298 P **PKPdf 05 44 48.5 -0.1**
baz=132,SNR=6.5
B05A Bryant 130.14 299 P **PKiKP 05 44 49.5 +0.2**
baz=132,SNR=12
PRGR Permogore 130.27 37 *e*PKIKP **PKPdf 05 44 46.4 -1.9**
PRGR pmax pmax
comp=Z,6.0nm,0.4s
NLWA Neilton Lookou 130.43 298 IAMs_20 IAMs_20 06 45 30.1
comp=Z,6μm,20.0s
USP Ospenovka 130.45 70 P **PKPdf 05 44 49.8 +0.4**
SNR=10.0
SGDS Sogindy 130.65 70 *e*PKIKP **PKPdf 05 44 49.2 -0.5**
SGDS Sogindy 130.65 70 *e*PKP **PKPdf 05 44 49.3 -0.5**
baz=70
ARA0 ARCESS Array S 130.74 22 *e*PKPdf **PKPdf 05 44 48.5 -0.5**
ARCES ARCESS Array B 130.74 22 PKP **PKPdf 05 44 48.0 -1.0**
comp=Z,21nm,0.7s,baz=150,slow=0.7,SNR=21
ARCES PP **PP 05 47 02.5 -3.3**
comp=Z,4.4nm,0.8s,baz=211,slow=6.3,SNR=2.1
ARCES SKPbc **SKPbc 05 48 09.6 -3.0**
comp=Z,15nm,1.2s,baz=198,slow=2.7,SNR=2.0
ARCES ARCESS Array B 130.74 22 PKIKP **PKPdf 05 44 48.0 -1.0**
ARCES ARCESS Array B 130.74 22 PKPdf **PKPdf 05 44 47.4 -1.6**
A04D Lummi Island 130.75 299 P **PKiKP 05 44 51.2 +0.7**
baz=132
TKM2 Tokmak 2 130.80 71 P **PKiKP 05 44 52.5 +1.4**
SNR=13
TKM2 Tokmak 2 130.80 71 PKIKP **PKPdf 05 44 48.6 -1.6**
APA Apatity 131.02 26 ⇓ *i* PKIKP **PKPdf 05 44 49.8 +0.2**
APA pmax pmax
comp=Z,25nm,1.0s
HAMF Hammerfest 131.27 20 *e*PKPdf **PKPdf 05 44 50.5 +0.5**
QIZ Qiongzhong 131.30 121 IAMs_20 IAMs_20 06 35 39.9
comp=Z,5μm,19.0s
QIZ Qiongzhong 131.30 121 PKP **PKiKP 05 44 52.8 +0.2**
QIZ PP **PP 05 47 11.4 +1.8**
QIZ AMB AMB
comp=Z,500nm,13.7s
QIZ LR LR
comp=Z,4μm,17.5s
QIZ LR LR
comp=Z,2μm,17.5s
QIZ LR LR
comp=Z,4μm,14.3s
BTLS Baital 131.42 68 *e*PKIKP **PKPdf 05 44 50.8 -0.2**
BTLS Baital 131.42 68 *e*PKP **PKPdf 05 44 50.8 -0.2**
baz=68
LVZ Lovozero 131.58 27 *i* PKIKP **PKPdf 05 44 51.2 +0.5**
LVZ MLR MLR
comp=Z,6μm,19.0s
LVZ Lovozero 131.58 27 **PKPdf 05 44 50.0 -0.7**
TNSS Tian-Shan 131.60 72 *e*PKIKP **PKPdf 05 44 51.7 -0.3**
TNSS Tian-Shan 131.60 72 *e*PKP **PKPdf 05 44 51.8 -0.3**
baz=72
ARU Arti 131.62 48 PKP **PKPdf 05 44 50.8 -0.2**
comp=Z,6.0nm,0.7s,baz=254,slow=1.9,SNR=12
ARU Arti 131.62 48 *i* PKIKP **PKPdf 05 44 51.5 +0.5**
ARU 05 47 13.3
ARU PPP PPP 05 50 08.6
ARU SP SP 05 57 25.8 +1.9
ARU MLR MLR
comp=Z,7μm,22.0s
ARU Arti 131.62 48 IAMs_20 IAMs_20 06 41 56.0
comp=Z,5μm,21.0s
AAA Alma-Ata 131.70 72 *e*PKIKP **PKPdf 05 44 51.4 -0.3**
AAA Alma-Ata 131.70 72 *e*PKP **PKPdf 05 44 51.4 -0.3**
baz=72
MDOK Medeo 131.74 72 PKIKP **PKPdf 05 44 51.2 -0.7**
MDOK Medeo 131.74 72 *e*PKP **PKPdf 05 44 51.6 -0.3**
baz=72
MDOK LR LR 06 44 26.7
comp=Z,2μm,15.4s,baz=72
KUU Kurty 131.85 71 *e*PKIKP **PKPdf 05 44 51.5 -0.4**
KUU Kurty 131.85 71 *e*PKP **PKPdf 05 44 51.6 -0.4**
baz=71
KUU LR LR 06 45 03.0
comp=Z,2μm,15.3s,baz=71
CHKK Chushkaly 132.17 71 *e*PKIKP **PKPdf 05 44 52.1 -0.4**
CHKK Chushkaly 132.17 71 *e*PKP **PKPdf 05 44 52.2 -0.4**
baz=71
SATY Saty 132.40 73 *e*PKIKP **PKPdf 05 44 52.7 -0.4**
SATY Saty 132.40 73 *e*PKP **PKPdf 05 44 52.8 -0.4**
baz=73
DAG Danmarks Havn 132.41 3 *i* P **PKPdf 05 44 50.3 -1.7**
DAG IVMs_BB IVMs_BB 06 40 00.1
comp=Z,2μm,15.3s
ZHN Zhinishke 132.49 73 *e*PKIKP **PKPdf 05 44 52.8 -0.5**
ZHN Zhinishke 132.49 73 *e*PKP **PKPdf 05 44 52.8 -0.5**
baz=73
OTUK Ortayu 132.67 64 PKIKP **PKPdf 05 44 53.3 -0.1**
KMI Kunming 132.74 109 ⇑PKP **PKPdf 05 44 52.4 -2.1**
KMI PP **PP 05 47 16.9 -2.4**
KMI SKKS 05 54 11.8
KMI AMB AMB
comp=Z,510nm,9.4s
KMI LR LR
comp=Z,2μm,17.4s
KMI LR LR
comp=Z,2μm,19.3s
KMI LR LR
comp=Z,3μm,18.3s
SVE Sverdlovsk 132.75 48 *i e* PKIKP pmax **PKiKP** pmax **05 44 54.3 0.0**
SVE 06 09 51.3
SVE
comp=Z,77nm,1.4s
SVE MLR MLR
comp=Z,7μm,23.0s
UZB Uzynbulak 132.79 73 *e*PKIKP **PKPdf 05 44 53.5 -0.4**
UZB Uzynbulak 132.79 73 *e*PKP **PKPdf 05 44 53.5 -0.4**
baz=73
KPKS Kokpek 132.82 72 *e*PKIKP **PKPdf 05 44 53.2 -0.7**
KPKS Kokpek 132.82 72 *e*PKP **PKPdf 05 44 53.2 -0.7**
baz=73
SHLS Shalkode 133.03 73 *e*PKIKP **PKPdf 05 44 54.1 -0.2**
SHLS Shalkode 133.03 73 *e*PKP **PKPdf 05 44 54.2 -0.2**
baz=74
PDGK Podgornoye 133.17 73 PKIKP **PKPdf 05 44 53.3 -1.3**
PZH PanZhiHua 133.31 107 PKP **PKPdf 05 44 56.0 +0.6**
PZH sPKP 05 44 58.3
PZH PP **PP 05 47 20.5 -2.3**
PZH PKS PKSdf 05 48 23.6 -8.4
PZH SKKS 05 54 13.6
PZH SS **SS 06 05 05.0 -2.0**
PZH AMB AMB
comp=Z,400nm,9.0s
PZH LR LR
comp=Z,2μm,18.8s
PZH LR LR
comp=Z,2μm,19.2s
PZH LR LR
comp=Z,2μm,19.2s
BJO1 Bjornoya 133.63 16 *e*PKPdf **PKPdf 05 44 55.1 +0.8**
TDK Taldyqorghan 133.70 71 *e*PKIKP **PKPdf 05 44 55.5 +0.1**
TDK Taldyqorghan 133.70 71 *e*PKP **PKPdf 05 44 55.5 +0.1**
baz=71
TDK LR LR 06 46 53.9
comp=Z,3μm,14.2s,baz=71
BRZS Berezniki 133.96 62 *e*PKIKP **PKPdf 05 44 56.1 +0.4**
BRZS Berezniki 133.96 62 *e*PKP **PKPdf 05 44 56.1 +0.4**
baz=62
TULEG Thule 134.66 347 *i* P **PKPdf 05 44 53.8 -2.4**
BRVK Borovoye 134.72 57 *i* PKIKP **PKPdf 05 44 56.7 -0.3**
BRVK Borovoye 134.72 57 PKPdf **PKPdf 05 44 57.7 +0.7**
BRVK Borovoye 134.72 57 IAMs_20 IAMs_20 06 45 57.2
comp=Z,5μm,20.0s
BVAR Borovoye Array 134.75 57 PKP **PKPdf 05 44 55.4 -1.7**
comp=Z,12nm,0.8s
BVAR SKPab **SKPbc 05 48 27.3 +0.3**
BBB Bella Bella 135.62 300 SKPbc **SKPbc 05 48 28.4 -1.3**
comp=Z,34nm,1.1s,baz=230,slow=3.9,SNR=3.5
YKA Yellowknife Ar 135.88 318 PKhKP PKPpre 05 44 44.2
comp=Z,1.7nm,0.6s,baz=124,slow=2.9,SNR=11
YKA PKP **PKPdf 05 44 56.7 -2.1**
comp=Z,13nm,0.7s,baz=128,slow=2.2,SNR=36
YKA PP **PP 05 47 36.7 -2.1**
comp=Z,5.3nm,0.8s,baz=126,slow=6.4,SNR=7.8
YKA SKPbc **SKPbc 05 48 27.8 -2.4**
comp=Z,6.5nm,0.7s,baz=130,slow=2.6,SNR=7.3
YKA PKKP **PKKPdf 05 54 38.8 -0.4**
comp=Z,0.9nm,0.7s,baz=302,slow=2.0,SNR=5.6
YKA SKKPbc **SKKPbc 05 57 29.2 -1.6**
comp=Z,2.3nm,1.1s,baz=308,slow=3.9,SNR=3.1
GYA Guiyang 135.89 112 ⇑PKP **PKiKP 05 45 02.0 +0.2**
GYA PP **PP 05 47 36.5 -2.6**
GYA SS SS 06 05 38.4 +0.5
GYA AMB AMB
comp=Z,630nm,9.1s
GYA LR LR
comp=Z,2μm,17.5s
GYA LR LR
comp=Z,920nm,20.5s
GYA LR LR
comp=Z,3μm,18.4s
HKPS Hong Kong Po S 136.13 124 IAMs_20 IAMs_20 06 48 16.5
comp=Z,4μm,18.0s
SPA0 Spitsbergen Ar 136.33 12 *e*PKPdf **PKPdf 05 44 58.6 -0.7**
SPITS Spitsbergen Ar 136.33 12 SKPab **SKiKP 05 48 34.7 -2.1**
comp=Z,1.9nm,0.6s,baz=172,slow=7.2,SNR=4.7
MAKZ Makanchi 136.77 71 PKIKP **PKPdf 05 44 58.1 -3.0**
MAKZ Makanchi 136.77 71 PKPdf **PKPdf 05 44 58.1 -3.0**
MAKZ IAMs_20 IAMs_20 06 48 30.9
comp=Z,4μm,21.0s
GOMU GeErMu 136.80 92 PKP **PKPdf 05 45 01.5 -0.4**
GOMU sPKP 05 45 08.3
GOMU SKKS 05 54 39.8
GOMU SS **SS 06 05 49.8 +0.2**
GOMU AMB AMB
comp=Z,540nm,8.1s
GOMU LR LR
comp=Z,2μm,17.4s
GOMU LR LR
comp=Z,2μm,18.1s
GOMU LR LR
comp=Z,3μm,17.7s
MK31 Makanchi Array 136.93 71 *i* PKIKP **PKPdf 05 45 00.9 -0.5**
MKAR Makanchi Array 136.93 71 PKhKP PKPpre 05 44 50.2
comp=Z,2.1nm,0.8s,baz=270,slow=1.2,SNR=11
MKAR SKPbc **SKPbc 05 48 31.0 -2.9**
comp=Z,3.1nm,1.0s,baz=215,slow=1.8,SNR=2.1
KURBB Kurchatov Arra 137.31 65 PKhKP PKPpre 05 44 53.8
comp=Z,5.4nm,0.7s,baz=242,slow=3.4,SNR=9.0
KURBB SKPbc **SKPbc 05 48 31.8 -3.1**
comp=Z,3.6nm,0.8s,baz=224,slow=3.0,SNR=4.7
KURBB SKKPbc **SKKPbc 05 57 21.1 -3.3**
comp=Z,0.9nm,0.7s,baz=49,slow=4.0,SNR=2.7
KURBB Kurchatov Arra 137.31 65 PKHKP PKPpre 05 44 54.8
KURK Kurchatov 137.41 65 *i* PKIKP **PKPdf 05 45 01.7 -0.4**
KURK MLR MLR
comp=Z,6μm,21.0s
KURK Kurchatov 137.41 65 PKPpre 05 44 53.8
KURK Kurchatov 137.41 65 **PKPdf 05 44 59.4 -2.7**
KURK Kurchatov 137.41 65 IAMs_20 IAMs_20 06 45 57.6
comp=Z,6μm,21.0s
RES Resolute Bay 137.56 339 PKhKP PKPpre 05 44 50.7
comp=Z,1.0nm,0.6s,baz=254,slow=12,SNR=2.4
RES SKP 05 48 34.1
comp=Z,6.7nm,1.2s,baz=213,slow=2.8,SNR=3.2
CD2 Chengdu 137.86 105 PKP **PKPdf 05 45 02.3 -1.3**
CD2 sPKP 05 45 08.4
CD2 PP **PP 05 47 50.3 -1.1**
CD2 SKS **SKSdf 05 52 12.3 -1.9**
CD2 SS **SS 06 06 02.3 +1.0**
CD2 AMB AMB
comp=Z,550nm,8.2s
CD2 LR LR
comp=Z,150nm,22.9s
CD2 LR LR
comp=Z,1μm,21.6s
CD2 LR LR
comp=Z,2μm,21.6s
WMQ Urumqi 137.98 78 *e*PKP **PKiKP 05 45 06.4 +0.9**
WMQ LR LR
comp=Z,2μm,19.5s
WMQ LR LR
comp=Z,1μm,19.5s
WMQ LR LR
comp=Z,2μm,21.9s
SEM Semipalatinsk 138.06 66 *e*PKIKP **PKPdf 05 45 03.0 -0.6**
SEM MLR MLR
comp=Z,2μm,19.0s
SEM Semipalatinsk 138.06 66 *e*PKP **PKPdf 05 45 03.0 -0.6**
baz=66
SEM LR LR 06 46 13.4
comp=Z,2μm,18.8s,baz=66
ZSN Zaisan 138.71 72 *e*PKIKP **PKPdf 05 45 05.2 +0.6**
ZSN Zaisan 138.71 72 *e*PKP **PKPdf 05 45 05.2 +0.6**
baz=72
TPUB Ta-pu 139.93 131 IAMs_20 IAMs_20 06 41 13.3
comp=Z,3μm,22.0s
CRAG Craig 139.94 302 P **PKPdf 05 45 06.4 -0.1**
baz=122
KNMB Chin-men Tao 139.96 127 IAMs_20 IAMs_20 06 41 51.2
comp=Z,3μm,19.0s
DLBC Dease Lake 140.05 307 PKhKP PKPpre 05 44 58.1
comp=Z,2.5nm,0.9s,baz=144,slow=11,SNR=3.2
DLBC SKPbc **SKPbc 05 48 40.1 -2.4**
comp=Z,15nm,1.0s,baz=134,slow=3.6,SNR=5.8
WRAK Wrangell Islan 140.07 303 IAMs_20 IAMs_20 06 47 35.7
comp=Z,5μm,20.0s
WRAK Wrangell Islan 140.07 303 P **PKPdf 05 45 06.6 -0.1**
baz=122
WTLY Watson Lake, Y 140.35 310 P **PKPdf 05 45 07.4 +0.2**
baz=120
QZH Quanzhou 140.47 127 *i* PKP **PKPdf 05 45 03.4 -5.1**
QZH PP **PP 05 48 09.1 +1.9**
QZH AMB AMB
comp=Z,750nm,7.6s
QZH LR LR
comp=Z,2μm,19.4s
QZH LR LR
comp=Z,940nm,18.9s
QZH LR LR
comp=Z,2μm,18.9s
SSLB Suanglung 140.50 131 IAMs_20 IAMs_20 06 42 09.3
comp=Z,4μm,21.0s
CNSH ChangSha 140.50 118 ⇓PKP **PKPdf 05 45 01.8 -6.7**
CNSH PP **PP 05 48 07.6 +0.1**
CNSH SS SS 06 06 34.3 +2.2
CNSH LR LR
comp=Z,2μm,19.1s
CNSH LR LR
comp=Z,1μm,18.7s
CNSH LR LR
comp=Z,3μm,19.7s
TGTN Hyland Airport 140.82 312 P **PKPdf 05 45 07.6 -0.5**
baz=118
NACB Ninganchiao 141.11 132 IAMs_20 IAMs_20 06 42 42.5
comp=Z,3μm,20.0s
YHNB Yeheng 141.45 131 IAMs_20 IAMs_20 06 55 17.6
comp=Z,3μm,20.0s
LZH Lanzhou 141.78 100 PKP **PKPdf 05 45 05.8 -5.0**
LZH PP **PP 05 48 17.3 +1.5**
LZH SS SS 06 06 49.8 +2.0
LZH AMB AMB
comp=Z,690nm,6.2s
LZH LR LR
comp=Z,2μm,14.9s
LZH LR LR
comp=Z,2μm,15.4s
LZH LR LR
comp=Z,3μm,17.9s
GTA Gaotai 141.87 93 PKP **PKPdf 05 45 07.9 -2.9**
GTA sPKP 05 45 20.1
GTA PP **PP 05 48 16.5 +0.2**
GTA PKS **PKSdf 05 48 47.1 +0.5**
GTA SKKS 05 55 02.4
GTA SS **SS 06 06 43.9 -4.8**
GTA AMB AMB
comp=Z,340nm,12.3s
GTA LR LR
comp=Z,1μm,23.1s
GTA LR LR
comp=Z,1μm,23.1s
GTA LR LR
comp=Z,2μm,24.5s
ZALV Zalesovo Beam 142.37 64 PKhKP PKPpre 05 45 06.0
comp=Z,5.1nm,0.6s,baz=223,slow=3.4,SNR=12
ZALV SKPbc **SKPbc 05 48 45.2 -3.2**
comp=Z,3.7nm,0.8s,baz=237,slow=3.7,SNR=3.1
XAN Xi'an 143.05 108 PKP PKPbc 05 45 10.8 +1.0
XAN pPKP sPKPdf 05 45 20.1 +3.4
XAN PP **PP 05 48 29.1 +5.9**
XAN SKKS 05 55 13.8
XAN AMB AMB
comp=Z,1μm,13.7s
XAN LR LR
comp=Z,1μm,17.9s
XAN LR LR
comp=Z,3μm,17.9s
XAN LR LR
comp=Z,3μm,19.2s
WHN Wuhan 143.14 117 PKP PKPbc 05 45 09.8 -0.2
WHN LR LR
comp=Z,5μm,16.3s
WHN LR LR
comp=Z,2μm,19.2s
WHN LR LR
comp=Z,9μm,19.3s
N31M Braeburn, Yuko 144.03 309 IAMs_20 IAMs_20 06 45 53.8
comp=Z,5μm,21.0s
HYT Haines Junctio 144.52 308 P **PKPab 05 45 13.0 -0.2**
baz=114,SNR=84
M30M Minto, Yukon 144.90 311 P **PKPab 05 45 13.2 -1.3**
baz=112,SNR=114
PNL Peninsula 144.91 305 P **PKPab 05 45 14.5 0.0**
baz=114,SNR=14
YUK6 Outpost Mounta 144.96 307 P **PKPab 05 45 14.2 -0.7**
baz=113,SNR=17
BCPM Bancas Point 145.14 305 IAMs_20 IAMs_20 07 01 33.5
comp=Z,4μm,18.0s
YUK4 Talbot Arm 145.24 308 P **PKPbc 05 45 14.7 -1.1**
baz=112,SNR=93
LYN LuoYang 145.33 111 ⇑PKPbc **PKPbc 05 45 15.5 -1.2**
LYN sPKP 05 45 23.9
LYN SKKS 05 55 26.0
LYN SS **SS 06 07 25.4 -2.7**
LYN AMB AMB
comp=Z,1μm,9.6s
LYN LR LR
comp=Z,3μm,22.9s
LYN LR LR
comp=Z,2μm,23.7s
LYN LR LR
comp=Z,4μm,23.5s
PINM Pinnacle 145.48 305 P **PKPdf 05 45 15.0 -1.3**
baz=113
INK Inuvik 145.51 321 PKPbc **PKPdf 05 45 15.8 -0.2**
comp=Z,147nm,0.8s,baz=82,slow=3.1,SNR=184
INK SKPbc **SKPbc 05 48 54.0 -1.4**
comp=Z,7.7nm,0.8s,baz=89,slow=7.0,SNR=1.6
INK Inuvik 145.51 321 P **PKPdf 05 45 14.6 -1.4**
baz=106,SNR=277
TABL Table Mountain 146.02 306 IAMs_20 IAMs_20 06 54 19.8
comp=Z,5μm,20.0s
LOGN Logan Glacier 146.10 306 IAMs_20 IAMs_20 06 47 59.9
comp=Z,5μm,22.0s
EPYK Eagle Plains 146.14 317 P **PKPdf 05 45 17.1 -0.1**
baz=107,SNR=115
J29M Klondike Camp 146.15 313 P **PKPbc 05 45 18.2 -0.2**
baz=108,SNR=24
JOW Kunigami 146.15 139 PKPbc **PKPdf 05 45 18.8 +0.4**
comp=Z,69nm,0.8s,baz=240,slow=7.9,SNR=9.5
YUK3 Moose Creek 146.21 308 P **PKPbc 05 45 19.2 +0.3**
baz=110,SNR=37
CTGM Chitina Glacie 146.30 306 IAMs_20 IAMs_20 06 55 18.3
comp=Z,5μm,19.0s
CTG Chitina Glacier 146.31 306 P **PKPbc 05 45 19.7 +0.6**
baz=111
GRNC Granite Creek 146.41 306 IAMs_20 IAMs_20 06 55 24.1
comp=Z,4μm,20.0s
I29M Ogilvie Camp, 146.47 315 P **PKPbc 05 45 19.2 -0.1**
baz=107,SNR=110
BARN Barnard Glacie 146.49 307 IAMs_20 IAMs_20 06 48 40.3
comp=Z,5μm,20.0s
DAWY Dawson 146.51 312 P **PKPbc 05 45 19.7 +0.2**
baz=108,SNR=188
NJ2 Nanjing 146.59 121 *e*PKPbc **PKPab 05 45 21.9 +0.3**
NJ2 SS SS 06 07 35.3 -6.8
NJ2 LR LR
comp=Z,2μm,16.9s
NJ2 LR LR
comp=Z,2μm,17.8s
NJ2 LR LR
comp=Z,4μm,19.1s
BVCY Beaver Creek 146.60 309 P **PKPbc 05 45 19.2 -0.5**
baz=109,SNR=43
ISLE Juniper Island 146.63 306 IAMs_20 IAMs_20 06 48 43.0
comp=Z,6μm,21.0s
SNH Sunshine Point 146.71 305 IAMs_20 IAMs_20 06 53 07.3
comp=Z,5μm,20.0s
WAX Waxell Ridge 146.81 305 IAMs_20 IAMs_20 07 03 33.0
comp=Z,4μm,18.0s
BGLC Bering Glacier 146.89 304 P **PKPbc 05 45 20.7 +0.1**
baz=111
SSE Sheshan 146.90 125 PKPbc **PKPdf 05 45 17.8 -1.8**
SSE PP **PP 05 48 47.3 +1.4**
SSE SS SS 06 07 39.1 -6.5
SSE AMB AMB
comp=Z,290nm,12.7s
SSE LR LR
comp=Z,2μm,19.0s
SSE LR LR
comp=Z,1μm,18.0s
TGL Tana Glacier 146.91 306 IAMs_20 IAMs_20 06 49 31.3

comp=Z,6µm,20.0s
M27K Edge Creek, AK 147.03 309 IAMs_20 IAMs_20 06 53 20.3
comp=Z,4µm,19.0s
M27K Edge Creek, AK 147.03 309 P **PKPbc** **05 45 21.2 +0.1**
baz=109,SNR=73
BERG Berg Lake 147.19 305 IAMs_20 IAMs_20 06 56 16.9
comp=Z,5µm,20.0s
MCARA McCarthy VSAT 147.22 307 IAMs_20 IAMs_20 06 48 36.6
comp=Z,5µm,20.0s
MCARA McCarthy VSAT 147.22 307 P **PKPbc** **05 45 21.5 0.0**
baz=110,SNR=36
L27K Beaver Creek, 147.24 310 P **PKPbc** **05 45 21.9 +0.4**
baz=108,SNR=88
KAIM Kayak Island 147.35 304 P **PKPdf** **05 45 20.8 +1.4**
baz=111
VRDI Verde Repeater 147.36 306 IAMs_20 IAMs_20 06 50 58.4
comp=Z,6µm,21.0s
HMT Hamilton 147.43 304 IAMs_20 IAMs_20 06 56 46.3
comp=Z,5µm,20.0s
EGAK Eagle 147.46 313 P **PKPbc** **05 45 21.5 -0.5**
baz=106
M26K Nabesna, AK 147.54 308 IAMs_20 IAMs_20 06 55 23.0
comp=Z,5µm,19.0s
M26K Nabesna, AK 147.54 308 P **PKPbc** **05 45 21.6 -0.8**
baz=108,SNR=25
GLB Gilahina Butte 147.59 307 IAMs_20 IAMs_20 06 51 30.4
comp=Z,4µm,20.0s
TIY Taiyuan 147.68 107 PKPbc **PKPdf** **05 45 18.6 -2.2**
TIY SS SS 06 07 54.3 -0.7
TIY AMB AMB
comp=Z,630nm,11.7s
TIY LR LR
comp=Z,4µm,19.2s
TIY LR LR
comp=Z,2µm,19.2s
TIY LR LR
comp=Z,3µm,18.1s
BMRM Bremner River 147.80 305 P **PKPbc** **05 45 23.1 -0.1**
baz=109,SNR=34
L26K Log Cabin Wild 147.88 310 P **PKPbc** **05 45 23.0 -0.3**
baz=107,SNR=86
N25K Chitina, Valde 148.01 307 IAMs_20 IAMs_20 06 55 32.2
comp=Z,4µm,19.0s
N25K Chitina, Valde 148.01 307 P **PKiKP** **05 45 24.9 -0.6**
baz=108,SNR=28
EYAK Cordova Ski Ar 148.19 304 P **PKPbc** **05 45 24.4 +0.3**
baz=109,SNR=28
J26L Joseph Creek 148.38 312 P **PKPbc** **05 45 24.8 +0.2**
baz=104,SNR=141
BTO Baotou 148.41 101 *e*PKPbc **PKPdf** **05 45 22.6 +0.7**
SCRK Sand Creek 148.43 311 P **PKPbc** **05 45 24.9 +0.1**
baz=105,SNR=93
HARP HAARP 148.50 308 P **PKPbc** **05 45 25.3 +0.4**
baz=106,SNR=27
KLU Klutina 148.57 306 P **PKPbc** **05 45 25.2 0.0**
baz=108,SNR=90
HNS HongShan 148.67 110 ⇑PKPbc **PKPbc** **05 45 26.0 -0.1**
HNS SKKS 05 55 49.8
HNS SS **SS** **06 08 01.0 -4.8**
HNS LR LR
comp=Z,1µm,20.6s
HNS LR LR
comp=Z,2µm,18.6s
HNS LR LR
comp=Z,2µm,19.0s
RIDG Indepedent Ri 148.73 310 IAMs_20 IAMs_20 06 55 17.3
comp=Z,5µm,20.0s
RIDG Independent Ri 148.73 310 P **PKPbc** **05 45 25.8 +0.3**
baz=105,SNR=178
PAX Paxson 148.80 309 P **PKPbc** **05 45 25.5 -0.2**
baz=105,SNR=114
M24K Tolsona, Glenn 148.87 307 IAMs_20 IAMs_20 06 53 25.0
comp=Z,5µm,21.0s
M24K Tolsona, Glenn 148.87 307 P **PKPbc** **05 45 26.1 +0.2**
baz=106,SNR=18
NRIK Noril'sk 148.88 38 PKPbc **PKPbc** **05 45 24.1 -1.5**
comp=Z,22nm,0.8s,baz=272,slow=1.3,SNR=18
NRIK Noril'sk 148.88 38 *i* PKHKP PKPpre 05 45 20.0
NRIK MLR MLR
comp=Z,5µm,19.0s
NRIK Noril'sk 148.88 38 **PKPbc** **05 45 24.7 -1.0**
GLI Glacier Island 148.93 305 IAMs_20 IAMs_20 06 56 50.9
comp=Z,5µm,20.0s
GLI Glacier Island 148.93 305 P **PKPbc** **05 45 25.5 -0.5**
baz=108,SNR=15
J25K Salcha River, 149.17 312 P **PKPbc** **05 45 26.3 -0.3**
baz=103,SNR=39
SCM Sheep Creek Mo 149.31 306 IAMs_20 IAMs_20 06 53 54.1
comp=Z,5µm,21.0s
SCM Sheep Creek Mo 149.31 306 P **PKPbc** **05 45 26.8 -0.3**
baz=106,SNR=27
HHC Hu-ho-hao-te 149.43 102 *e*PKPbc **PKPdf** **05 45 21.1 -2.5**
HHC sPKP 05 45 33.9
HHC PP **PP** **05 49 02.1 +1.0**
HHC SKKS 05 55 43.8
HHC SS **SS** **06 08 10.1 -4.6**
HHC AMB AMB
comp=Z,1µm,8.8s
HHC LR LR
comp=Z,3µm,17.1s
HHC LR LR
comp=Z,3µm,18.4s
HHC LR LR
comp=Z,4µm,17.8s
PWL Port Wells 149.50 304 P **PKPbc** **05 45 27.5 +0.1**
baz=107
DHY Denali Highway 149.66 309 IAMs_20 IAMs_20 06 49 35.1
comp=Z,4µm,21.0s
DHY Denali Highway 149.66 309 P **PKPbc** **05 45 28.4 +0.4**
baz=104,SNR=52
WAT6 Susitna Watana 149.70 308 P **PKPbc** **05 45 27.8 -0.3**
baz=104,SNR=34
KNK Knik Glacier 149.71 305 P **PKPbc** **05 45 27.0 -1.0**
baz=106,SNR=31
SML Sawmill 149.76 306 IAMs_20 IAMs_20 07 00 58.0
comp=Z,5µm,19.0s
SML Sawmill 149.76 306 P **PKPbc** **05 45 27.7 -0.4**
baz=105,SNR=28
MOY Mondy 149.79 76 *e*PKHKP PKPpre 05 45 25.9
MOY pmax pmax
comp=Z,194nm,1.6s
SEW Seward 149.80 302 P **PKPbc** **05 45 27.1 -1.0**
baz=108,SNR=27
ILAR Eielson Array 149.84 312 PKPbc **PKPbc** **05 45 28.0 -0.2**
comp=Z,93nm,0.7s,baz=129,slow=1.9,SNR=129
ILAR Eielson Array 149.84 312 PKP2 **PKPbc** **05 45 28.0 -0.2**
GHO Glory Hole Cre 150.03 306 IAMs_20 IAMs_20 07 04 12.9
comp=Z,5µm,18.0s
O22K Cooper Landing 150.04 303 P **PKPbc** **05 45 28.0 -0.7**
baz=107
PMR Palmer 150.07 305 P **PKPbc** **05 45 28.6 -0.1**
baz=105,SNR=17
POKR Poker Plat Res 150.13 313 P **PKPbc** **05 45 27.8 -1.0**
baz=100,SNR=14
RC01 Rabbit Creek A 150.22 304 IAMs_20 IAMs_20 06 58 43.1
comp=Z,5µm,21.0s
RC01 Rabbit Creek A 150.22 304 P **PKPbc** **05 45 29.0 -0.2**
baz=106
COLA College 150.26 312 PKIKP **PKPbc** **05 45 28.2 -0.9**
COLA College 150.26 312 **PKPbc** **05 45 28.2 -0.9**
COLA College 150.26 312 P **PKPbc** **05 45 28.7 -0.4**
baz=100
TCOL CIGO, UAF Yank 150.27 312 P **PKPbc** **05 45 27.8 -1.3**
baz=100,SNR=23
BRSE Bradley Lake S 150.30 301 P **PKPbc** **05 45 28.8 -0.7**
baz=107
JCJ Chichijima 150.36 161 PKPbc **PKPbc** **05 45 28.6 -2.0**
comp=Z,63nm,0.6s,baz=260,slow=23,SNR=3.1
ZAK Zakamensk 150.43 80 *e*PKIKP **PKiKP** **05 45 30.9 0.0**
ZAK *e* 05 45 43.9
ZAK pmax pmax
comp=Z,246nm,1.4s
ZAK pmax pmax
comp=Z,202nm,1.5s
H24K Noodor Dome 150.44 314 P **PKPbc** **05 45 28.5 -1.1**
baz=99,SNR=33
FIS Fire Island 150.46 304 IAMs_20 IAMs_20 07 02 14.4
comp=Z,4µm,19.0s
CNPM China Poot 150.48 301 IAMs_20 IAMs_20 06 54 40.2
comp=Z,5µm,20.0s
MCK McKinley 150.50 310 P **PKPbc** **05 45 29.0 -0.8**
baz=102,SNR=53
M22K Willow 150.57 305 IAMs_20 IAMs_20 06 58 14.3
comp=Z,3µm,20.0s
M22K Willow 150.57 305 P **PKPbc** **05 45 29.6 -0.3**
baz=104,SNR=39
KDAK Kodiak Island 150.58 297 PKPbc **PKPbc** **05 45 30.2 +0.1**
comp=Z,79nm,0.6s,baz=236,slow=1.4,SNR=44
KDAK Kodiak Island 150.58 297 PKIKP **PKPbc** **05 45 30.0 -0.1**
KDAK Kodiak Island 150.58 297 **PKPbc** **05 45 30.0 -0.1**
KDAK Kodiak Island 150.58 297 IAMs_20 IAMs_20 06 55 49.2
comp=Z,5µm,20.0s
KDAK Kodiak Island 150.58 297 P **PKPbc** **05 45 29.5 -0.5**
baz=110
HOM Homer 150.71 301 IAMs_20 IAMs_20 06 54 26.6
comp=Z,5µm,20.0s
HOM Homer 150.71 301 P **PKPbc** **05 45 29.7 -0.6**
baz=107
NEA2 Nenana 150.72 311 P **PKPbc** **05 45 28.3 -2.0**
baz=100,SNR=46
OHAK Old Harbor 150.74 296 P **PKPbc** **05 45 29.8 -0.7**
baz=110
CAPN Captain Cook N 150.79 303 P **PKPbc** **05 45 30.5 0.0**
baz=105
CUT Chulitna 150.80 307 P **PKPbc** **05 45 29.3 -1.2**
baz=103,SNR=6.6
SONM Songino Array 150.84 86 PKPbc **PKPbc** **05 45 30.8 -0.4**
comp=Z,35nm,0.5s,baz=206,slow=2.2,SNR=42
I23K Minto, Yukon-K 150.94 312 P **PKPbc** **05 45 29.1 -1.7**
baz=99,SNR=36
SII Sitkinak Islan 150.97 294 P **PKPdf** **05 45 27.5 +2.2**
baz=111
TRF Thorofare Moun 151.03 309 P **PKPbc** **05 45 29.5 -1.7**
baz=101
H23K Yukon River 151.12 314 P **PKPbc** **05 45 30.3 -0.9**
baz=98
ULN Ulaanbaatar 151.23 87 PKIKP **PKPdf** **05 45 26.2 0.0**
ULN Ulaanbaatar 151.23 87 PKPdf **PKPdf** **05 45 26.2 0.0**
O20K Slope Mountain 151.31 301 P **PKPbc** **05 45 29.7 -2.2**
baz=106,SNR=12
BJT Baijiatuan 151.36 108 IAMs_20 IAMs_20 07 07 04.2
comp=Z,3µm,21.0s
BJI Beijing 151.38 108 PKPbc **PKPbc** **05 45 32.8 +0.3**
BJI pPKP **pPKPbc** **05 45 35.3 -0.1**
BJI PKS **PKSdf** **05 49 03.6 +2.6**
BJI PP **PP** **05 49 05.8 -6.3**
BJI SKS **SKSdf** **05 52 30.5 -3.2**
BJI AMB AMB
comp=Z,520nm,7.0s
BJI LR LR
comp=N,1µm,19.0s
BJI LR LR
comp=E,2µm,20.0s
BJI LR LR
comp=Z,3µm,20.1s
TOLK Toolik Lake Re 151.39 320 IAMs_20 IAMs_20 06 56 03.8
comp=Z,5µm,21.0s
TOLK Toolik Lake Re 151.39 320 P **PKPbc** **05 45 30.3 -1.4**
baz=92
SPCR Spurr Chakacha 151.40 304 P **PKPbc** **05 45 30.6 -1.4**
baz=104,SNR=8.7
CHIR Chirikof Islan 151.44 292 P **PKPbc** **05 45 31.5 -0.6**
baz=111
BPAW Bear Paw Mtn. 151.46 310 IAMs_20 IAMs_20 06 55 08.4
comp=Z,6µm,20.0s
BPAW Bear Paw Mtn. 151.46 310 P **PKPbc** **05 45 30.5 -1.5**
baz=100,SNR=47
Q19K Cape Douglas, 151.48 299 IAMs_20 IAMs_20 06 58 45.8
comp=Z,4µm,20.0s
Q19K Cape Douglas, 151.48 299 P **PKPbc** **05 45 30.9 -1.3**
baz=107
P19K Oil Pt 151.49 300 IAMs_20 IAMs_20 06 54 49.9
comp=Z,5µm,21.0s
P19K Oil Pt 151.49 300 P **PKPbc** **05 45 29.9 -2.3**
baz=106
COLD Coldfoot 151.54 317 P **PKPbc** **05 45 30.9 -1.2**
baz=94
PPLA Purkeypile 151.77 307 P **PKPbc** **05 45 31.0 -2.0**
baz=101,SNR=19
CAST Castle Rocks 151.82 308 P **PKPbc** **05 45 30.4 -2.5**
baz=100,SNR=26
IRK Irkutsk 151.86 77 *e*PKIKP **PKPdf** **05 45 27.1 +0.3**
IRK pmax pmax
comp=Z,189nm,1.7s
CHUM Lake Minchumin 152.00 309 P **PKPbc** **05 45 31.5 -1.7**
baz=99,SNR=30
I21K Tanana 152.04 312 P **PKPbc** **05 45 31.6 -1.7**
baz=97,SNR=8.5
O19K Port Alsworth 152.16 301 IAMs_20 IAMs_20 06 51 37.7
comp=Z,5µm,21.0s
O19K Port Alsworth 152.16 301 P **PKPbc** **05 45 31.8 -1.9**
baz=104,SNR=23
N19K Bonanza Creek 152.39 302 IAMs_20 IAMs_20 07 00 02.6
comp=Z,5µm,19.0s
N19K Bonanza Creek 152.39 302 P **PKPbc** **05 45 32.7 -1.6**
baz=103,SNR=14
H21K Melozitna Rive 152.44 313 P **PKPbc** **05 45 32.9 -1.3**
baz=95
L20K Farewell, AK 152.46 306 P **PKPbc** **05 45 31.8 -2.6**
baz=100,SNR=16
O18K Koktuh Hills 152.50 300 IAMs_20 IAMs_20 06 52 37.8
comp=Z,6µm,22.0s
O18K Koktuh Hills 152.50 300 P **PKPdf** **05 45 31.2 +3.7**
baz=104,SNR=17
M19K Big River Lodg 152.58 305 IAMs_20 IAMs_20 06 56 56.5
comp=Z,5µm,20.0s
M19K Big River Lodg 152.58 305 P **PKPdf** **05 45 31.1 +3.5**
baz=101,SNR=9.3
K20K Telida 152.69 308 P **PKPbc** **05 45 33.4 -1.4**
baz=98,SNR=26
JNU Nakatsue 152.78 137 PKPbc **PKPbc** **05 45 35.5 -0.5**
comp=Z,33nm,0.7s,baz=132,slow=2.6,SNR=8.9
L19K White Mountain 152.85 305 IAMs_20 IAMs_20 06 56 36.5
comp=Z,5µm,20.0s
L19K White Mountain 152.85 305 P **PKPbc** **05 45 34.5 -0.7**
baz=100
N18K Kilae Creek 153.03 302 IAMs_20 IAMs_20 06 51 09.7
comp=Z,5µm,22.0s
N18K Kilae Creek 153.03 302 P **PKPbc** **05 45 33.2 -2.5**
baz=102
DL2 Dalian 153.40 116 ⇑*i*PKPbc **PKPdf** **05 45 28.5 -1.0**
DL2 PP **PP** **05 49 23.8 +0.4**
DL2 AMB AMB
comp=Z,890nm,9.8s
DL2 LR LR
comp=Z,2µm,18.6s
DL2 LR LR
comp=Z,2µm,19.0s
DL2 LR LR
comp=Z,4µm,19.1s
XLT XiLinHaoTe 153.95 102 *e*PKPbc **PKPdf** **05 45 28.9 -1.4**
XLT pPKP PKiKP 05 45 38.8 +0.4
XLT PKPab **PKPab** **05 45 51.9 +0.2**
XLT PKS **PKSdf** **05 49 01.3 -3.2**
XLT PP **PP** **05 49 23.5 -3.4**
XLT SKS **SKSdf** **05 52 29.6 -7.2**
XLT SKKS **SKKSac** **05 56 10.6 -5.6**
XLT SS **SS** **06 08 59.5 -5.1**
XLT AMB AMB
comp=Z,990nm,14.7s
XLT LR LR
comp=Z,3µm,18.5s
XLT LR LR
comp=Z,4µm,18.5s
INCN Inchon 154.70 125 IAMs_20 IAMs_20 06 51 03.6
comp=Z,5µm,20.0s
KSAR Wonju Array Be 155.24 127 PKIKP **PKPdf** **05 45 32.2 +0.1**
KSAR Wonju Array Be 155.24 127 PKPdf **PKPdf** **05 45 32.2 +0.1**
KSRS Korea Array 155.26 127 PKP **PKPdf** **05 45 31.2 -0.9**
comp=Z,2.3nm,0.8s,baz=201,slow=1.0,SNR=7.9
KSRS PKPab **PKPab** **05 45 57.3 0.0**
comp=Z,13nm,1.0s,baz=213,slow=3.6,SNR=12
SNY Shenyang 156.56 114 PKP **PKPdf** **05 45 30.9 -2.8**
SNY SS SS 06 09 33.1 +0.7
SNY LR LR
comp=Z,2µm,19.0s
SNY LR LR
comp=Z,3µm,20.2s
SNY LR LR
comp=Z,5µm,19.4s
INU Inuyama 156.95 146 IAMs_20 IAMs_20 06 53 23.4
comp=Z,3µm,22.0s
MJAR Matsushiro Arr 158.42 147 PKP **PKPdf** **05 45 35.3 -1.0**
comp=Z,1.3nm,0.3s,baz=142,slow=3.1,SNR=1.7
CN2 Changchun 158.93 113 *e*PKP **PKPdf** **05 45 31.8 -4.8**
CN2 PP **PP** **05 49 52.4 -1.8**
CN2 SKKS 05 56 35.3
CN2 SS **SS** **06 09 51.4 -6.4**
CN2 LR LR
comp=Z,2µm,20.0s
CN2 LR LR
comp=Z,2µm,20.0s
CN2 LR LR
comp=Z,2µm,21.0s
BOD Bodaibo 158.97 68 *e*PKIKP **PKPdf** **05 45 36.3 +0.1**
BOD pmax pmax
comp=Z,19nm,1.7s
HIA Hailar 159.13 94 IAMs_20 IAMs_20 07 05 15.6
comp=Z,5µm,20.0s
TIXI Tiksi 161.17 23 PKP **PKPdf** **05 45 36.3 -1.9**
comp=Z,0.5nm,0.3s,baz=91,slow=23,SNR=3.2
TIXI PKPab **PKPab** **05 46 21.5 -0.4**
comp=Z,5.1nm,0.8s,baz=269,slow=21,SNR=7.5
TIXI PP **PP** **05 50 04.1 -1.6**
comp=Z,3.4nm,1.0s,baz=289,slow=11,SNR=1.5
BNX BinXian 161.27 112 ⇑PKP **PKPdf** **05 45 39.6 +0.4**
MDJ Mudanjiang 161.62 118 PKP **PKPdf** **05 45 40.6 +1.0**
MDJ pPKP sPKPdf 05 45 43.6 0.0
MDJ PP **PP** **05 50 14.9 +6.2**
MDJ AMB AMB
comp=Z,1µm,10.0s
MDJ LR LR
comp=Z,3µm,18.6s
MDJ LR LR
comp=Z,3µm,20.6s
MDJ LR LR
comp=Z,4µm,17.1s
USRK Ussuriysk Ar. 162.49 123 PKPab **PKPab** **05 46 28.0 -0.5**
comp=Z,6.0nm,0.7s,baz=195,slow=3.3,SNR=7.1
ZEA Zeya 165.26 87 *i* PKIKP **PKPdf** **05 45 42.8 +0.1**
ZEA *e* 05 50 27.9
ZEA *e* 06 11 05.5
ZEA pmax pmax
comp=Z,700nm,9.5s
ZEA pmax pmax
comp=Z,500nm,10.1s
KLR Kul'dur 165.75 109 PKP **PKPdf** **05 45 44.4 +1.1**
comp=Z,3.3nm,0.8s,baz=283,slow=2.4,SNR=6.7
KLR PKPab **PKPab** **05 46 41.2 -1.6**
comp=Z,10nm,0.8s,baz=263,slow=3.8,SNR=9.3
BILL Bilibino 166.17 338 *e*PKIKP **PKPdf** **05 45 39.6 -3.4**
BILL *e* 05 50 31.3
BILL *e*SS SS 06 11 13.1 +1.3
BILL pmax pmax
comp=Z,15nm,1.2s
BILL Bilibino 166.17 338 **PKPdf** **05 45 42.6 -0.5**
YAK Yakutsk 166.66 53 *e*PKIKP **PKPdf** **05 45 39.6 -3.9**
YAK *e*SS SS 06 11 08.6 -8.9
YAK pmax pmax
comp=Z,709nm,10.6s
YAK pmax pmax
comp=E,184nm,10.6s
YAK pmax pmax
comp=N,192nm,13.4s
ASAJ Asahikawa 166.69 147 PKP **PKPdf** **05 45 43.9 -0.3**
comp=N,2.0nm,0.3s,baz=242,slow=27,SNR=1.5
GRNR Gornyy 169.11 111 ⇓*i*PKIKP **PKPdf** **05 45 47.1 +1.4**
GRNR pmax pmax
comp=Z,4.0nm,0.8s
YSS Yuzh-Sakhalins 169.25 141 *c i*PKIKP **PKPdf** **05 45 44.9 -0.9**
YSS *e* 05 46 02.7
YSS *e* 05 46 58.8
YSS *e* 05 50 44.7
YSS *e*SS SS 06 11 47.6 +4.5
YSS pmax pmax
comp=Z,2µm,8.5s
SEY Seymchan 172.83 1 PKP **PKPdf** **05 45 46.4 -0.8**
comp=Z,5.4nm,0.8s,baz=79,slow=1.1,SNR=9.9
SEY PKPab **PKPab** **05 47 13.3 -0.3**
comp=Z,9.3nm,1.0s,baz=16,slow=4.6,SNR=4.8
SKR Severo-Kuril's 174.47 204 *i* PKIKP **PKPdf** **05 45 44.9 -3.2**
SKR *e* 05 51 13.2
PET Petropavlovsk 175.50 235 *i* PKIKP **PKPdf** **05 45 47.6 -0.7**
PET *e* 05 47 25.3
PET *e* 05 51 19.8
PET *e*PPS PPS 06 05 29.2
PET *e*SS SS 06 12 38.9 -5.7
PET pmax pmax
comp=Z,4µm,24.5s
PET pmax pmax
comp=Z,3µm,16.6s
MA2 Magadan 176.07 14 PKPab **PKPab** **05 47 27.6 -0.5**
comp=Z,2.4nm,0.3s,baz=162,slow=23,SNR=1.3

*IDC **19** 05:29:49.1±1.1,55.59°S×26.90°W,h0km,mb4.4/3, mb1 4.6/3,mb1mx4.1/30,mbtmp4.4/3 Error ellipse: s-maj=51.4km s-min=35.7km az=78.0*
ISC 19 05:29:52.9±1.0,55.6°S×27.0°W×0.3,h25km,n7,σ0.67/7, mb4.7/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.66**	**180**	P	**P**	**05 36 40.3**	**+0.3**
	5.4nm,0.6s,baz=31,slow=21,SNR=0.9						
LPAZ	**La Paz**	**50.23**	**305**	P	**P**	**05 38 47.8**	**+0.3**
	6.0nm,0.6s,baz=142,slow=2.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**72.59**	**29**	P	**P**	**05 41 18.4**	**+0.6**
	1.3nm,0.8s,baz=196,slow=7.3,SNR=1.2						
YKA	**Yellowknife Ar**	**135.92**	**318**	PKP	**PKPdf**	**05 49 09.0**	**-0.9**
	0.6nm,0.5s,baz=132,slow=2.6,SNR=0.5						
INK	**Inuvik**	**145.53**	**321**	PKPbc	**PKPdf**	**05 49 26.5**	**-0.5**
	5.3nm,0.5s,baz=82,slow=1.3,SNR=5.2						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**05 49 39.3**	**0.0**
	3.5nm,0.8s,baz=127,slow=1.8,SNR=2.1						
SONM	**Songino Array**	**150.56**	**85**	PKPbc	**PKPbc**	**05 49 41.2**	**-0.4**
	2.1nm,0.5s,baz=218,slow=4.2,SNR=4.5						

IDC 19 05:30:56.7±2.2,55.76S×26.61W,h0km,mb3.9/1, mb1 3.9/1,mb1mx3.7/29,mbtmp3.9/1,Error ellipse: s-maj=123.4km s-min=83.9km az=140.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**72.64**	**29**	P	P	05 42 25.9	0.0
	0.8nm,0.6s,baz=205,slow=6.6,SNR=1.4						
YKA	**Yellowknife Ar**	**136.18**	**318**	PKP	PKPdf	05 50 18.1	-0.3
	0.4nm,0.5s,baz=125,slow=2.2,SNR=1.9						
ILAR	**Eielson Array**	**150.17**	**312**	PKPbc	PKPbc	05 50 47.5	-0.4
	1.1nm,0.8s,baz=125,slow=4.0,SNR=1.5						
SONM	**Songino Array**	**150.38**	**86**	PKPbc	PKPbc	05 50 48.7	-0.4
	0.9nm,0.5s,baz=248,slow=2.6,SNR=1.6						

*IDC **19** 05:33:22.2±0.8,55.57°S×27.15W,h0km,mb4.3/6, mb1 4.3/7,mb1mx4.0/29,mbtmp4.2/7,ML3.7/1, Error ellipse: s-maj=40.6km s-min=20.4km az=65.0*
*NEIC **19** 05:33:24.1±4.4,55.6°S×0.1°±27.1°W±0.2,h10km±1km, mb4.7/13,Error ellipse: s-maj=24.7km s-min=18.4km az=40.0*
ISC 19 05:33:26.0±0.7,55.6°S×0.1°×27.1°W×0.1,h25km,n36, σ0.76/28,mb4.3/7,1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.57**	**280**	Pn	**Pn**	**05 34 47.3**	**+0.1**
EFI	**East Falkland**	**18.68**	**269**		**P**	**05 37 42.2**	**+0.2**
SNAA	**Sanae**	**19.11**	**157**	P	**Pn**	**05 37 47.2**	**-0.3**
	0.2nm,0.3s,baz=352,slow=14,SNR=1.5						
PMSA	**Palmer Station**	**20.21**	**228**	P	**P**	**05 37 59.1**	**+0.6**
BELA	**Belgrano 2**	**22.50**	**184**	P	**P**	**05 38 21.3**	**-1.7**
SYO	**Syowa Base**	**31.88**	**141**	*i*eX	P	05 39 53.6	+5.0
ITQB	**Itaqui**	**33.37**	**309**	P	**P**	**05 40 02.6**	**+0.6**
QSPA	**South Pole Qui**	**34.62**	**180**	P	**P**	**05 40 13.2**	**+0.5**
	4.9nm,0.6s,baz=244,slow=22,SNR=1.6						
QSPA	**South Pole Qui**	**34.62**	**180**	P	**P**	**05 40 13.2**	**+0.5**
MT09	**Talagante**	**37.23**	**287**	P	**P**	**05 40 34.5**	**-0.9**
MT09				IAmb	IAmb	05 40 36.3	
	comp=Z,24nm,1.5s						
MAW	**Mawson**	**40.46**	**144**	P	**P**	**05 41 02.5**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=108,slow=8.4,SNR=1.5						
LVC	**Limon Verde**	**45.13**	**300**	P	**P**	**05 41 40.9**	**+0.2**
VNDA	**Vanda**	**46.99**	**183**	P	**P**	**05 41 54.8**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=112,slow=6.7,SNR=3.0						
VNDA	**Vanda**	**46.99**	**183**	IAmb	IAmb	05 42 15.5	
	comp=Z,3.7nm,1.0s						
SIV	**San Ignacio**	**47.33**	**313**	P	**P**	**05 41 55.8**	**-1.8**
	comp=Z,2.2nm,0.6s,baz=295,slow=18,SNR=2.6						
H10S2	**ASCENSION HYDR**	**47.59**	**17**	T	T	06 33 25.8	
	baz=189						
H10S3	**ASCENSION HYDR**	**47.59**	**17**	T	T	06 33 24.6	
	baz=31						
H10N1	**ASCENSION HYDR**	**48.70**	**17**	T	T	06 34 47.7	
	baz=192						
H10N3	**ASCENSION HYDR**	**48.71**	**17**	T	T	06 34 49.6	
	baz=192						
H10N2	**ASCENSION HYDR**	**48.72**	**17**	T	T	06 34 53.9	

baz=192
LPAZ La Paz 50.18 305 P P 05 42 20.8 +0.6
comp=Z,4.2nm,0.7s,baz=187,slow=6.5,SNR=5.4
LPAZ La Paz 50.18 305 P P 05 42 20.8 +0.6
LPAZ IAmb IAmb 05 42 31.0
comp=Z,8.6nm,0.8s
TORD Torodi Ar. Bea 72.67 29 P P 05 44 51.9 +0.6
comp=Z,1.4nm,0.7s,baz=191,slow=6.8,SNR=4.3
YKA Yellowknife Ar 135.89 318 PKP PKPdf 05 52 42.5 -0.5
comp=Z,0.3nm,0.5s,baz=130,slow=2.4,SNR=6.7
ZALV Zalesovo Beam 142.14 63 PKP PKPdf 05 52 54.7 0.0
comp=Z,0.5nm,0.4s,baz=224,slow=4.0,SNR=1.7
A36M Sachs Harbour 143.88 329 PKPbc 05 52 54.9 -0.1
INK Inuvik 145.51 321 PKPbc PKPdf 05 53 00.0 -0.1
comp=Z,3.2nm,0.6s,baz=52,slow=3.7,SNR=9.5
INK Inuvik 145.51 321 PKPab 05 53 00.5 0.0
IL31 149.87 312 PKPbc 05 53 11.7 -0.5
ILAR Eielson Array 149.87 312 PKPbc PKPbc 05 53 12.2 -0.1
comp=Z,2.7nm,1.0s,baz=131,slow=3.3,SNR=5.8
ILAR Eielson Array 149.87 312 PKPbc 05 53 10.9 -1.4
MCK McKinley 150.54 310 PKPbc 05 53 14.1 +0.1
SONM Songino Array 150.65 86 PKPbc PKPbc 05 53 14.1 -0.7
comp=Z,1.4nm,0.5s,baz=227,slow=3.0,SNR=5.2
KDAK Kodiak Island 150.67 297 PKPbc PKPbc 05 53 13.4 -0.9
comp=Z,5.3nm,0.7s,baz=310,slow=17,SNR=2.0
TOLK Toolik Lake Re 151.39 320 PKPbc 05 53 16.0 +0.1
BPAW Bear Paw Mtn. 151.50 310 PKPbc PKPbc 05 53 16.0 -0.2

IDC 19 05:37:55.7±1.2, 55°47'S×26°96'W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/30, mbtmp3.7/3, Error ellipse: s-maj=50.6km s-min=35.6km az=77.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	34.78	180	P	P	05 44 47.6	-0.1
	0.8nm,0.5s,baz=114,slow=17,SNR=1.4						
LPAZ	La Paz	50.15	305	P	P	05 46 53.5	-0.1
	0.8nm,0.7s,baz=180,slow=5.1,SNR=4.6						
TORD	Torodi Ar. Bea	72.49	29	P	P	05 49 24.0	0.0
	0.2nm,0.5s,baz=204,slow=6.3,SNR=1.8						
ILAR	Eielson Array	149.82	312	PKPbc	PKPbc	05 57 45.6	-0.5
	1.2nm,0.8s,baz=130,slow=3.6,SNR=6.3						
SONM	Songino Array	150.56	85	PKPbc	PKPbc	05 57 48.3	-0.3
	1.1nm,0.7s,baz=266,slow=4.2,SNR=2.8						

IDC 19 05:41:45.8±0.4, 55°.60S×27°.12W, h0km, mb4.6/19, mb1 4.6/20, mb1mx4.5/34, mbtmp4.5/20, ML4.2/1, Error ellipse: s-maj=16.5km s-min=13.3km az=46.0
NEIC 19 05:41:47.9±1.8, 55°.6S±0°.1×27°.2W±0°.2, h10km±1km, mb4.9/44, Error ellipse: s-maj=20.5km s-min=14.5km az=201.0

ISC 19 05:41:49.7±0.4, 55°62S±0°.08×27°22W±0°.07, h25km, n83, σ0°78/78, mb4.7/29, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.51	280		Pn	05 43 10.8	+0.8
HOPE					Sn	05 44 10.3	-2.0
EFI	East Falkland	18.62	269	P	P	05 46 04.1	-0.9
EFI				IAmb	IAmb	05 46 25.5	
	comp=Z,112nm,1.4s						
SNAA	Sanae	19.14	157	P	P	05 46 09.6	-1.1
	comp=Z,0.7nm,0.3s,baz=318,slow=8.4,SNR=5.6						
SNAA	Sanae	19.14	157	P	P	05 46 11.3	+0.5
PMSA	Palmer Station	20.17	228	P	P	05 46 20.9	-0.9
	comp=Z,23nm,0.9s,baz=26,slow=12,SNR=2.1						
SMAI	San Martin Ant	22.09	220	P	P	05 46 42.7	+0.3
BELA	Belgrano 2	22.51	184	P	P	05 46 46.1	-0.8
BELA				IAmb	IAmb	05 46 48.8	
	comp=Z,21nm,0.9s						
USHA	Ushuaia	23.28	255	P	P	05 46 54.2	-0.8
	comp=Z,5.5nm,0.9s,baz=90,slow=10,SNR=6.5						
DSPA	Despedida	23.49	257	P	P	05 46 56.1	-1.0
MG02	Cerro Sombrero	24.46	259	P	P	05 47 05.5	-0.7
MG05	Puerto Natales	26.75	259	P	P	05 47 26.1	-0.9
GO09	Cerro Castillo	26.85	260	P	P	05 47 26.7	-1.2
GO08	Villa O'Higgin	28.35	265	P	P	05 47 41.2	-0.2
GO08				IAmb	IAmb	05 47 52.9	
	comp=Z,26nm,1.5s						
PLTB	Pedras Altas	30.20	311	P	P	05 47 58.2	+0.4
PLTB				IAmb	IAmb	05 48 11.6	
	comp=Z,12nm,1.1s						
PLCA	Paso Flores	31.91	279	P	P	05 48 13.2	+0.3
	comp=Z,1.7nm,0.9s,baz=314,slow=3.4,SNR=2.1						
QSPA	South Pole Qui	34.63	180	P	P	05 48 37.0	+0.4
	comp=Z,11nm,0.6s,baz=196,slow=2.2,SNR=53						
QSPA	South Pole Qui	34.63	180	P	P	05 48 37.5	+1.0
QSPA				IAmb	IAmb	05 48 40.9	
	comp=Z,14nm,0.8s						
CPUP	Villa Florida	36.51	311	P	P	05 48 52.8	-0.1
	comp=Z,2.1nm,0.6s,baz=161,slow=5.8,SNR=5.9						
CPUP				PcP	PcP	05 51 16.3	+0.2
	comp=Z,2.0nm,0.7s,baz=337,slow=0.8,SNR=3.8						
CPUP	Villa Florida	36.51	311	P	P	05 48 52.7	-0.1
MT03	Universidad Ad	37.12	288	P	P	05 48 58.9	+0.8
MT02	Curacav	37.63	288	P	P	05 49 02.5	+0.1
ZON	Zonda	37.65	292	P	P	05 49 02.6	0.0
ZON				IAmb	IAmb	05 49 03.4	
	comp=Z,23nm,0.6s						
MAW	Mawson	40.51	144	P	P	05 49 26.2	+0.3
	comp=Z,8.4nm,0.7s,baz=230,slow=7.8,SNR=18						
MAW	Mawson	40.51	144	P	P	05 49 26.3	+0.3
SUR	Sutherland	40.55	75	P	P	05 49 26.6	-0.3
	comp=Z,7.0nm,1.1s,baz=302,slow=4.7,SNR=3.3						
AQDB	Aquidauana	41.07	317	P	P	05 49 30.8	-0.2
AC04	Llanos de Chal	41.56	293	P	P	05 49 35.6	+0.5
AC04				IAmb	IAmb	05 49 39.9	
	comp=Z,27nm,0.8s						
AC01	Pan de Azucar	42.98	295	P	P	05 49 46.2	-0.4
AC01				IAmb	IAmb	05 50 11.0	
	comp=Z,42nm,1.3s						
GO02	Mina Guanaco	43.28	297	P	P	05 49 49.8	+0.4
GO02				IAmb	IAmb	05 50 04.2	
	comp=Z,21nm,0.7s						
LVC	Limon Verde	45.07	300	P	P	05 50 04.8	+0.9
	comp=Z,24nm,0.8s,baz=141,slow=3.0,SNR=21						
LVC	Limon Verde	45.07	300	P	P	05 50 05.1	+1.2
BOSA	Boshof	45.88	76	P	P	05 50 07.4	-2.5
	comp=Z,1.9nm,0.7s,baz=201,slow=7.9,SNR=4.1						
BOSA	Boshof	45.88	76	IAmb	IAmb	05 50 26.8	
	comp=Z,13nm,1.4s						
PB09	IPOC Station P	45.92	300	P	P	05 50 11.5	+1.1
PB09				IAmb	IAmb	05 50 12.8	
	comp=Z,15nm,0.8s						
PB07	IPOC Station P	46.30	299	P	P	05 50 14.1	+0.8
PB02	IPOC Station P	46.64	300	P	P	05 50 16.8	+0.8
VNDA	Vanda	47.01	183	P	P	05 50 18.6	+0.5
	comp=Z,8.7nm,0.7s,baz=190,slow=5.4,SNR=28						
VNDA	Vanda	47.01	183	P	P	05 50 18.9	+0.9
VNDA				IAmb	IAmb	05 50 20.9	
	comp=Z,9.9nm,0.8s						
SIV	San Ignacio	47.27	313	P	P	05 50 20.9	+0.1
	comp=Z,1.0nm,0.3s,baz=140,slow=9.0,SNR=6.3						
SIV				PcP	PcP	05 51 52.7	+1.0
	comp=Z,2.0nm,0.5s,baz=190,slow=4.1,SNR=6.4						
H10S2	ASCENSION HYDR	47.59	17	T	T	06 42 26.5	
	baz=189,slow=74,SNR=7.8						
H10S3	ASCENSION HYDR	47.59	17	T	T	06 42 27.3	
	baz=31,slow=74,SNR=8.0						
GO01	Chusmiza	47.70	302	P	P	05 50 23.9	-0.8
PB11	IPOC Station P	47.85	301	P	P	05 50 25.1	-0.4
H10N1	ASCENSION HYDR	48.71	17	T	T	06 43 51.2	
	baz=189						
H10N3	ASCENSION HYDR	48.71	17	T	T	06 43 25.9	
	baz=189,slow=74						
H10N2	ASCENSION HYDR	48.73	17	T	T	06 43 51.4	
	baz=189,slow=74						
PB16	IPOC Station P	48.99	302	P	P	05 50 33.5	-1.3
PB16				IAmb	IAmb	05 50 36.6	
	comp=Z,3.9nm,0.6s						
LPAZ	La Paz	50.11	305	P	P	05 50 43.8	+0.4
	comp=Z,14nm,0.6s,baz=162,slow=6.3,SNR=47						
LPAZ				PcP	PcP	05 52 03.6	+0.9
	comp=Z,2.0nm,0.6s,baz=171,slow=1.3,SNR=1.4						
LPAZ	La Paz	50.11	305	P	P	05 50 43.9	+0.5
LPAZ				IAmb	IAmb	05 50 45.3	
	comp=Z,16nm,0.8s						
DBIC	Dimbokro	64.78	25	P	P	05 52 25.6	-0.3
	comp=Z,2.5nm,0.8s,baz=195,slow=8.4,SNR=3.9						
MCRA	Macar, Loja	66.12	300	P	P	05 52 34.9	+0.1
MCRA				IAmb	IAmb	05 52 35.8	
	comp=Z,4.9nm,0.8s						
COHC	Cochancay	67.43	301	P	P	05 52 43.4	+0.4
TOA0	Torodi Ar. Sit	72.69	30	P	P	05 53 15.6	+0.4
TOA0				IAmb	IAmb	05 53 27.4	
	comp=Z,5.1nm,0.6s						
TORD	Torodi Ar. Bea	72.69	30	P	P	05 53 15.5	+0.3
	comp=Z,2.3nm,0.6s,baz=201,slow=6.4,SNR=24						
TORD	Torodi Ar. Bea	72.69	30	P	P	05 53 15.4	+0.3
BAUV	El Baul	72.72	317	P	P	05 53 14.6	-0.8
SDV	Santo Domingo	73.69	315	P	P	05 53 21.2	-0.1
	comp=Z,6.3nm,0.7s,baz=149,slow=7.7,SNR=13						
SDV	Santo Domingo	73.69	315	P	P	05 53 21.5	+0.1
SDV				IAmb	IAmb	05 53 22.5	
	comp=Z,6.8nm,0.8s						
MTO3	Montecristo	86.94	301	P	P	05 54 32.6	0.0
MTO3				IAmb	IAmb	05 54 33.9	
	comp=Z,4.9nm,0.8s						
CMIG	Matias Romero	91.97	298	P	P	05 54 56.2	+0.3
	comp=Z,1.4nm,0.7s,baz=90,slow=6.6,SNR=2.6						
STKA	Stephens Creek	92.33	170	P	P	05 54 57.8	+0.1
	comp=Z,0.8nm,0.3s,baz=119,slow=1.1,SNR=5.2						
STKA	Stephens Creek	92.33	170	IAmb	IAmb	05 55 00.5	
	comp=Z,0.4nm,0.8s						
KEST	Kesra	96.20	29	P	P	05 55 15.1	0.0
	comp=Z,1.2nm,0.5s,baz=54,slow=21,SNR=1.4						
ASAR	Alice Springs	99.41	163	P	Pdif	05 55 28.9	-1.1
	comp=Z,1.6nm,0.7s,baz=180,slow=4.1,SNR=14						
PDAR	Pinedale Array	120.10	302	PKP	PKPdf	06 00 36.4	-1.2
	comp=Z,0.3nm,0.6s,baz=142,slow=4.6,SNR=2.7						
NVAR	Mina Array Bea	121.21	293	PKP	PKPdf	06 00 39.8	0.0
	comp=Z,0.2nm,0.5s,baz=123,slow=3.3,SNR=2.9						
FINES	FINESS Array B	124.01	28	PKP	PKPdf	06 00 43.6	-0.5
	comp=Z,2.1nm,0.6s,baz=236,slow=2.1,SNR=7.2						
CMAR	Chiang Mai Arr	125.23	110	PKP	PKPdf	06 00 48.0	+0.2
	comp=Z,1.5nm,0.3s,baz=231,slow=3.7,SNR=6.7						
AKTO	Aktyubinsk	127.08	53	PKP	PKiKP	06 00 51.0	+0.1
	comp=Z,0.4nm,0.4s,baz=259,slow=3.1,SNR=3.5						
ARCES	ARCESS Array B	130.55	22	PKP	PKPdf	06 00 55.7	-0.8
	comp=Z,6.1nm,0.9s,baz=251,slow=3.7,SNR=12						
YKA	Yellowknife Ar	135.84	318	PKhKP	PKPpre	06 00 51.5	
	comp=Z,0.1nm,0.5s,baz=126,slow=3.1,SNR=5.7						
YKA				PKP	PKPdf	06 01 06.4	-0.1
	comp=Z,2.0nm,0.6s,baz=130,slow=2.1,SNR=30						
YKA				SKPbc	SKPbc	06 04 38.8	+2.6
	comp=Z,0.2nm,0.7s,baz=131,slow=4.5,SNR=6.1						
MKAR	Makanchi Array	136.76	71	PKhKP	PKPpre	06 01 00.1	
	comp=Z,0.6nm,0.9s,baz=245,slow=1.3,SNR=2.4						
KURBB	Kurchatov Arra	137.13	64	PKhKP	PKPpre	06 01 06.5	
	comp=Z,0.6nm,0.5s,baz=234,slow=3.7,SNR=3.2						
ZALV	Zalesovo Beam	142.19	63	PKhKP	PKPpre	06 01 12.7	
	comp=Z,1.0nm,0.6s,baz=221,slow=3.2,SNR=2.5						
INK	Inuvik	145.46	321	PKPbc	PKPdf	06 01 23.8	+0.1
	comp=Z,10nm,0.5s,baz=88,slow=3.4,SNR=83						
INK	Inuvik	145.46	321	PKPdf	PKPdf	06 01 23.4	-0.2
NRIK	Noril'sk	148.68	38	PKPbc	PKPbc	06 01 33.2	+0.3
	comp=Z,1.9nm,0.5s,baz=58,slow=0.6,SNR=4.1						
NRIK	Noril'sk	148.68	38		PKiKP	06 01 34.0	-0.4
ILAR	Eielson Array	149.81	312	PKPbc	PKPbc	06 01 35.9	0.0
	comp=Z,13nm,0.7s,baz=132,slow=3.3,SNR=117						
ILAR	Eielson Array	149.81	312		PKPbc	06 01 35.1	-0.8
KDAK	Kodiak Island	150.61	297	PKPbc	PKPbc	06 01 37.9	0.0
	comp=Z,11nm,0.7s,baz=201,slow=3.5,SNR=9.2						
SONM	Songino Array	150.72	86	PKPbc	PKPbc	06 01 38.7	0.0
	comp=Z,12nm,0.8s,baz=224,slow=3.0,SNR=38						
SONM	Songino Array	150.72	86		PKPbc	06 01 38.9	+0.1

IDC 19 05:44:28.6±1.1, 56°39S×26°80W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/31, mbtmp4.0/4, Error ellipse: s-maj=44.7km s-min=33.0km az=59.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	33.87	180	P	P	05 51 12.0	-0.5
	1.9nm,0.7s,baz=299,slow=7.3,SNR=2.1						
LVC	Limon Verde	45.66	300	P	P	05 52 51.4	+0.2
	2.5nm,0.6s,baz=157,slow=8.0,SNR=2.0						
LPAZ	La Paz	50.75	305	P	P	05 53 29.9	-0.9
	1.5nm,0.6s,baz=162,slow=7.0,SNR=3.6						
TORD	Torodi Ar. Bea	73.24	29	P	P	05 56 00.7	-0.6
	0.5nm,0.7s,baz=206,slow=6.3,SNR=2.4						
YKA	Yellowknife Ar	136.57	318	PKP	PKiKP	06 03 52.0	-0.7
	0.2nm,0.6s,baz=124,slow=2.5,SNR=2.7						
INK	Inuvik	146.20	320	PKPbc	PKPdf	06 04 08.3	+0.3
	0.8nm,0.5s,baz=106,slow=3.6,SNR=2.5						
ILAR	Eielson Array	150.50	311	PKPbc	PKPbc	06 04 20.4	-0.1
	0.9nm,0.7s,baz=130,slow=2.9,SNR=5.0						
SONM	Songino Array	150.53	87	PKPbc	PKPbc	06 04 21.4	+0.1
	0.9nm,0.6s,baz=225,slow=3.9,SNR=4.6						

IDC 19 05:48:22.7±0.6, 55°.59S×26°.99W, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.2/32, mbtmp4.3/11, ML3.9/1, Error ellipse: s-maj=22.2km s-min=15.7km az=58.0
NEIC 19 05:48:25.1±1.2, 55°.68S±0°.10×27°.0W±0°.2, h10km±1km, mb4.5/16, Error ellipse: s-maj=18.3km s-min=16.2km az=59.0

ISC 19 05:48:26.6±0.5, 55°6S±0°.1×26°8W±0°.1, h25km, n36, σ1°26/36, mb4.4/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.74	279	Pn	Pn	05 49 53.2	+3.1
SNAA	Sanae	19.06	157	P	Pn	05 52 48.8	+1.1
	0.4nm,0.3s,baz=267,slow=6.8,SNR=2.6						
SNAA	Sanae	19.06	157	P	Pn	05 52 48.8	+1.1
BELA	Belgrano 2	22.54	184	P	P	05 53 22.8	-1.4
BELA				IAmb	IAmb	05 53 31.4	
	comp=Z,15nm,0.9s						
USHA	Ushuaia	23.51	254	P	P	05 53 32.0	-2.3
	comp=Z,2.8nm,0.4s,baz=134,slow=14,SNR=6.0						
ITQB	Itaqui	33.49	308	P	P	05 55 03.6	-0.1
QSPA	South Pole Qui	34.65	180	P	P	05 55 13.4	-0.3
	2.4nm,0.6s,baz=207,slow=2.8,SNR=20						
QSPA	South Pole Qui	34.65	180	P	P	05 55 14.7	+1.0
QSPA				IAmb	IAmb	05 55 37.7	
	comp=Z,6.4nm,0.8s						
CPUP	Villa Florida	36.69	310	P	P	05 55 29.7	-1.6
	comp=Z,3.5nm,0.9s,baz=167,slow=8.8,SNR=5.8						
CPUP	Villa Florida	36.69	310	P	P	05 55 31.3	0.0
CPUP				IAmb	IAmb	05 55 32.5	
	comp=Z,8.9nm,1.2s						
MAW	Mawson	40.38	144	P	P	05 56 02.6	+0.8
	comp=Z,2.8nm,0.5s,baz=228,slow=7.4,SNR=10						
MAW	Mawson	40.38	144	IAmb	IAmb	05 56 04.8	
	comp=Z,1.1nm,0.8s						
BOSA	Boshof	45.65	76	P	P	05 56 44.8	-0.3
	comp=Z,1.4nm,0.6s,baz=225,slow=4.3,SNR=4.6						
BOSA	Boshof	45.65	76	IAmb	IAmb	05 56 54.9	
	comp=Z,8.4nm,1.1s						
PB02	IPOC Station P	46.84	299	P	P	05 56 54.5	-0.1
VNDA	Vanda	47.03	183	P	P	05 56 54.4	-0.8
	comp=Z,3.1nm,0.6s,baz=188,slow=7.0,SNR=20						
VNDA	Vanda	47.03	183	P	P	05 56 55.4	+0.2
VNDA				IAmb	IAmb	05 56 57.4	
	comp=Z,4.1nm,0.7s						
SIV	San Ignacio	47.43	313	P	P	05 56 58.3	-0.8
	comp=Z,0.7nm,0.2s,baz=136,slow=5.9,SNR=7.4						
PB08	IPOC Station P	47.48	301	P	P	05 56 55.8	-4.0
LPAZ	La Paz	50.30	304	P	P	05 57 21.3	-0.4
	comp=Z,4.2nm,0.8s,baz=149,slow=5.1,SNR=13						
LPAZ	La Paz	50.30	304	P	P	05 57 21.5	-0.3
TOA0	Torodi Ar. Sit	72.56	29	P	P	05 59 52.5	+1.2
TOA0				IAmb	IAmb	05 59 58.1	
	comp=Z,3.5nm,0.9s						
TORD	Torodi Ar. Bea	72.56	29	P	P	05 59 51.5	+0.2
	comp=Z,2.7nm,0.7s,baz=203,slow=6.4,SNR=15						
TORD	Torodi Ar. Bea	72.56	29	P	P	05 59 52.5	+1.2
ASAR	Alice Springs	99.35	162	P	Pdif	06 02 05.2	-1.6
	comp=Z,0.5nm,0.6s,baz=182,slow=3.5,SNR=4.0						
WRA	Warramunga Arr	103.06	162	Pdiff	Pdif	06 02 22.8	-0.5
	comp=Z,0.2nm,0.6s,baz=199,slow=4.3,SNR=1.4						
FINES	FINESS Array B	123.88	27	PKP	PKiKP	06 07 21.5	+0.4
	comp=Z,3.3nm,1.0s,baz=207,slow=8.8,SNR=1.9						
CMAR	Chiang Mai Arr	125.01	110	PKP	PKPdf	06 07 23.8	-0.7
	comp=Z,0.8nm,0.3s,baz=219,slow=2.3,SNR=1.8						
ARCES	ARCESS Array B	130.44	21	PKP	PKPdf	06 07 31.8	-1.4
	comp=Z,2.7nm,0.9s,baz=197,slow=2.8,SNR=4.8						
YKA	Yellowknife Ar	135.99	318	PKP	PKPdf	06 07 43.3	-0.5
	comp=Z,0.5nm,0.7s,baz=135,slow=2.0,SNR=3.1						
YKA				PP	PP	06 10 25.8	+1.5
	comp=Z,0.1nm,0.7s,baz=121,slow=6.1,SNR=3.7						
YKA				SKPbc	SKPbc	06 11 13.4	-0.2
	comp=Z,0.4nm,1.0s,baz=135,slow=3.9,SNR=5.1						
ZALV	Zalesovo Beam	141.97	63	PKP	PKPdf	06 07 55.5	+0.5
	comp=Z,1.0nm,0.6s,baz=222,slow=1.9,SNR=2.0						
INK	Inuvik	145.60	321	PKPbc	PKPbc	06 08 01.4	+0.2
	comp=Z,4.5nm,0.7s,baz=75,slow=3.7,SNR=14						
INK	Inuvik	145.60	321		PKPab	06 08 01.7	+0.1
ILAR	Eielson Array	149.98	312	PKPbc	PKPbc	06 08 13.2	0.0
	comp=Z,2.5nm,0.8s,baz=134,slow=2.8,SNR=17						
SONM	Songino Array	150.47	85	PKPbc	PKiKP	06 08 16.0	+0.2
	comp=Z,1.9nm,0.5s,baz=240,slow=3.0,SNR=11						
KDAK	Kodiak Island	150.81	297	PKPbc	PKiKP	06 08 16.5	+0.5
	baz=153,slow=9.0						

IDC 19 05:52:28.4±1.2, 55°66S×26°99W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/29, mbtmp3.8/4, Error ellipse: s-maj=57.4km s-min=33.9km az=80.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	34.60	180	P	P	05 59 18.6	-0.2
	0.5nm,0.4s,baz=140,slow=11,SNR=2.1						
LPAZ	La Paz	50.24	305	P	P	06 01 26.1	-0.8
	0.4nm,0.4s,baz=188,slow=7.1,SNR=1.6						
TORD	Torodi Ar. Bea	72.65	29	P	P	06 03 57.4	-0.3
	0.3nm,0.7s,baz=207,slow=5.6,SNR=2.0						
ASAR	Alice Springs	99.33	162	P	Pdif	06 06 11.7	-0.8
	0.4nm,0.8s,baz=193,slow=3.8,SNR=2.2						
YKA	Yellowknife Ar	135.95	318	PKP	PKiKP	06 11 51.4	+0.1
	0.1nm,0.5s,baz=127,slow=2.4,SNR=1.0						
ILAR	Eielson Array	149.94	312	PKPbc	PKPbc	06 12 19.3	+0.2
	0.2nm,0.8s,baz=85,slow=1.0,SNR=1.9						

IDC 19 05:55:07.2±1.0, 38°.97N×142°.02E, h0km, mb3.8/9, mb1 3.9/13, mb1mx3.7/47, mbtmp3.8/13, ML3.4/3, Error ellipse: s-maj=27.5km s-min=16.7km az=88.0
JMA 19 05:55:14.9±0.1, 38°.92N×141°.93E, h51km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs13.00000°, δ61.00000°, λ89.00000°. NP2: φs196.00000°, δ29.00000°, λ92.00000°. Principal axes: T Plg74.0000°, Azm280.0000°; N Plg1.0000°, Azm14.0000°; P Plg16.0000°, Azm104.0000°;
JMA Felt II J1.

ISC 19 05:55:13.1±1.4, 38°90N±0°.05×142°1E±0°.1, h46km±11km, n29, σ2°24/32, mb3.8/9, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.39	298	⇓P	Pn	05 55 23.9	+1.1
OFUJ				eS	Sn	05 55 30.0	+0.4
JKMT	Kesennumamotoy	0.50	260	⇓P	Pn	05 55 24.8	+0.7
JKMT				S	Sn	05 55 31.4	-0.6
JMK	Ichinoseki	0.69	275	⇓P	Pn	05 55 26.9	+0.3
JMK				S	Sn	05 55 35.3	-1.0
JIO	Ouri	0.74	233	⇓P	Pn	05 55 27.8	+0.6
JIO				i S	Sn	05 55 36.6	-0.8
JOM	Ohasama	0.85	313	⇓P	Pn	05 55 29.3	+0.5
JOM				S	Sn	05 55 39.8	-0.4
JOU	Okura	1.25	245	P	Pn	05 55 34.2	+0.1
JOU				S	Sn	05 55 48.9	-0.9
JRG	Rokugo	1.25	294	⇓P	Pn	05 55 34.1	0.0
JYK	Kaneyama	1.36	271	⇓P	Pn	05 55 35.7	0.0
JMM	Marumori	1.46	225	S	Sn	05 55 54.0	-0.9
MJAR	Matsushiro Arr	3.88	234	Pn	Pn	05 56 08.4	-1.9
	1.4nm,0.3s,baz=42,slow=12,SNR=15						
MJAR				Sn	Sn	05 57 02.9	+8.3
	0.1nm,0.3s,baz=220,slow=42,SNR=1.0						
ASAJ	Asahikawa	5.23	4	Pn	Pn	05 56 27.0	-1.7
	1.0nm,0.3s,baz=302,slow=6.0,SNR=1.6						
ASAJ				Sn	Sn	05 57 31.0	+3.4
	1.9nm,0.3s,baz=13,slow=28,SNR=1.7						
JHJ	Hachijo jima 2	6.07	199	Pn	Pn	05 56 40.6	+0.4
	5.9nm,0.3s,baz=261,slow=21,SNR=2.1						
JHJ				Sn	Sn	05 57 43.5	-4.8
	10.0nm,0.3s,baz=44,slow=21,SNR=0.9						
USRK	Ussuriysk Ar.	9.25	308	Pn	Pn	05 57 19.6	-4.2
	baz=108,slow=12,SNR=1.0						
SEY	Seymchan	24.86	11	P	P	06 00 29.5	-1.4
	0.7nm,0.2s,baz=7.3,slow=23,SNR=1.8						
SONM	Songino Array	27.25	301	P	P	06 00 52.0	-0.9
	0.5nm,0.5s,baz=81,slow=9.1,SNR=2.8						
H11N2	WAKE ISLAND Hy	28.69	125	T	T	06 31 34.3	
	baz=317,slow=75,SNR=236						
H11N1	WAKE ISLAND Hy	28.70	125	T	T	06 31 34.9	
	baz=317,slow=75,SNR=302						
H11N3	WAKE ISLAND Hy	28.71	125	T	T	06 31 35.6	
	baz=317,slow=75,SNR=229						
H11S1	WAKE ISLAND Hy	29.47	127	T	T	06 32 30.4	
	ba

KBZ Khabaz 66.97 308 P P 06 16 13.8 +1.3
1.8nm,0.9s,baz=90,slow=5.1,SNR=4.4
YKA Yellowknife Ar 71.37 27 P P 06 16 40.4 +1.0
0.3nm,0.8s,baz=307,slow=6.1,SNR=10

*KRSC **19** 06:21:17.2±0.8, 53°.72N×160°.89E, h62km±16km, ML4.2*
*MOS **19** 06:21:18.2±0.5, 53°.70N×160°.88E, h67km, mb4.0/3, Error ellipse: s-maj=9.4km s-min=5.1km az=70.4*
*IDC **19** 06:21:21.1±2.5, 53°.88N×160°.43E, h84km±27km, mb3.3/9, mb1 3.7/10, mb1mx3.4/36, mbtmp3.7/10, MS4.3/1, Ms1 4.3/1, ms1mx3.7/50, Error ellipse: s-maj=35.6km s-min=17.9km az=130.0*
ISC 19 06:21:19.1±0.9, 53°.73N±0°.03×160°.86E±0°.04, h60km±8km, n89, σ0s92/118, mb3.7/10, 4D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.81**	**219**	PN	**Pn**	**06 21 34.6**	**0.0**
SPN				S	**Sn**	**06 21 46.0**	**-0.1**
SPN	**Mys Shipunski**	**0.81**	**219**	*eP*	**Pn**	**06 21 34.6**	**0.0**
SPN				*eS*	**Sn**	**06 21 46.0**	**-0.1**
KII	**Karymskiy**	**0.89**	**291**	PN	**Pn**	**06 21 35.6**	**-0.2**
KII				S	**Sn**	**06 21 47.6**	**-0.5**
KII	**Karymskiy**	**0.89**	**291**	*eP*	**Pn**	**06 21 35.6**	**-0.2**
KII				*eS*	**Sn**	**06 21 47.6**	**-0.5**
MKZ	**Mys Kozlova**	**0.97**	**31**	PN	**Pn**	**06 21 37.2**	**+0.5**
MKZ				S	**Sn**	**06 21 50.4**	**+0.7**
MKZ	**Mys Kozlova**	**0.97**	**31**	*eP*	**Pn**	**06 21 37.2**	**+0.5**
MKZ				*eS*	**Sn**	**06 21 50.4**	**+0.7**
NLC	**Nalytchevo**	**1.07**	**239**	PN	**Pn**	**06 21 37.9**	**0.0**
NLC				S	**Sn**	**06 21 52.0**	**+0.1**
NLC	**Nalytchevo**	**1.07**	**239**	*eP*	**Pn**	**06 21 37.9**	**0.0**
NLC				*eS*	**Sn**	**06 21 52.0**	**+0.1**
SDLR	**Sedlovina**	**1.27**	**250**	PN	**Pn**	**06 21 41.0**	**+0.3**
SDLR				S	**Sn**	**06 21 57.1**	**+0.2**
SDLR	**Sedlovina**	**1.27**	**250**	*eP*	**Pn**	**06 21 41.0**	**+0.3**
SDLR				*eS*	**Sn**	**06 21 57.1**	**+0.2**
SMAR	**Somma**	**1.32**	**250**	PN	**Pn**	**06 21 41.6**	**+0.1**
SMAR				S	**Sn**	**06 21 58.3**	**+0.1**
SMAR	**Somma**	**1.32**	**250**	*eP*	**Pn**	**06 21 41.6**	**+0.1**
SMAR				*eS*	**Sn**	**06 21 58.3**	**+0.1**
UGLR	**Uglovaya**	**1.33**	**248**	PN	**Pn**	**06 21 41.9**	**+0.4**
UGLR				S	**Sn**	**06 21 58.5**	**+0.2**
UGLR	**Uglovaya**	**1.33**	**248**	*eP*	**Pn**	**06 21 41.9**	**+0.4**
UGLR				*eS*	**Sn**	**06 21 58.5**	**+0.2**
KRER	**Koryakskii**	**1.33**	**252**	PN	**Pn**	**06 21 42.1**	**+0.4**
KRER				S	**Sn**	**06 21 59.0**	**+0.4**
KRER	**Koryakskii**	**1.33**	**252**	*eP*	**Pn**	**06 21 42.1**	**+0.4**
KRER				*eS*	**Sn**	**06 21 59.0**	**+0.4**
AVH	**Avacha**	**1.35**	**251**	PN	**Pn**	**06 21 42.4**	**+0.6**
AVH				S	**Sn**	**06 21 59.7**	**+0.8**
AVH	**Avacha**	**1.35**	**251**	*eP*	**Pn**	**06 21 42.4**	**+0.6**
AVH				*eS*	**Sn**	**06 21 59.7**	**+0.8**
KOK	**Koryaka**	**1.40**	**253**	PN	**Pn**	**06 21 42.8**	**+0.3**
KOK	**Koryaka**	**1.40**	**253**	*eP*	**Pn**	**06 21 42.8**	**+0.3**
DALK	**Dalny**	**1.45**	**242**	PN	**Pn**	**06 21 42.9**	**-0.1**
DALK				S	**Sn**	**06 22 00.8**	**-0.1**
DALK	**Dalny**	**1.45**	**242**	*eP*	**Pn**	**06 21 42.9**	**-0.1**
DALK				*eS*	**Sn**	**06 22 00.8**	**-0.1**
TUMD	**Tumrok D**	**1.50**	**350**	*eP*	**Pn**	**06 21 43.6**	**-0.1**
TUMD				*eS*	**Sn**	**06 22 01.7**	**-0.6**
PET	**Petropavlovsk**	**1.50**	**243**	*e*PN	**Pn**	**06 21 44.0**	**+0.3**
PET				*eS*	**Sn**	**06 22 02.3**	**0.0**
PET	comp=Z,142nm,0.3s			pmax	pmax		
PET	comp=E,2μm,0.8s			smax	smax		
PET	comp=N,1μm,0.6s			smax	smax		
PET	**Petropavlovsk**	**1.50**	**243**	*eP*	**Pn**	**06 21 44.1**	**+0.3**
PET				*eS*	**Sn**	**06 22 02.6**	**+0.3**
TUMR	**Tumrok**	**1.61**	**345**	PN	**Pn**	**06 21 45.9**	**+0.6**
TUMR				S	**Sn**	**06 22 05.6**	**+0.5**
TUMR	**Tumrok**	**1.61**	**345**	*eP*	**Pn**	**06 21 45.9**	**+0.6**
TUMR				*eS*	**Sn**	**06 22 05.6**	**+0.5**
GNL	**Ganaly**	**1.74**	**270**	PN	**Pn**	**06 21 46.9**	**-0.1**
GNL				S	**Sn**	**06 22 07.4**	**-0.8**
GNL	**Ganaly**	**1.74**	**270**	*eP*	**Pn**	**06 21 46.9**	**-0.1**
GNL				*eS*	**Sn**	**06 22 07.4**	**-0.8**
KRMR	**Karymshinskiy**	**1.87**	**242**	PN	**Pn**	**06 21 49.3**	**+0.6**
KRMR				S	**Sn**	**06 22 11.6**	**+0.3**
KRMR	**Karymshinskiy**	**1.87**	**242**	*eP*	**Pn**	**06 21 49.3**	**+0.6**
KRMR				*eS*	**Sn**	**06 22 11.6**	**+0.3**
RUS	**Russkaya**	**1.92**	**228**	PN	**Pn**	**06 21 48.4**	**-1.0**
RUS				S	**Sn**	**06 22 11.9**	**-0.6**
RUS	**Russkaya**	**1.92**	**228**	*eP*	**Pn**	**06 21 48.4**	**-1.0**
RUS				*eS*	**Sn**	**06 22 11.9**	**-0.6**
PEA0B	**Petropavlovsk-**	**1.99**	**253**	*d i*PN	**Pn**	**06 21 50.6**	**+0.2**
PETK	**Petropavlovsk-**	**1.99**	**253**	P	**Pn**	**06 21 49.8**	**-0.6**
PETK	comp=N,8.3nm,0.3s,baz=73,slow=17,SNR=126			S	**Sn**	**06 22 16.1**	**+1.8**
	comp=N,28nm,0.3s,baz=216,slow=33,SNR=5.3						
MTVR	**Mutnovka**	**2.04**	**233**	PN	**Pn**	**06 21 52.0**	**+0.8**
MTVR	**Mutnovka**	**2.04**	**233**	*eP*	**Pn**	**06 21 52.0**	**+0.8**
GRL	**Gorelyy**	**2.05**	**236**	PN	**Pn**	**06 21 52.3**	**+1.0**
GRL	**Gorelyy**	**2.05**	**236**	*eP*	**Pn**	**06 21 52.3**	**+1.0**
KMNR	**Kamenistaya**	**2.06**	**350**	PN	**Pn**	**06 21 52.6**	**+1.2**
KMNR	**Kamenistaya**	**2.06**	**350**	*eP*	**Pn**	**06 21 52.6**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**2.22**	**358**	PN	**Pn**	**06 21 55.2**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**2.22**	**358**	*eP*	**Pn**	**06 21 55.2**	**+1.7**
BZMR	**Bezymyannaya**	**2.22**	**355**	PN	**Pn**	**06 21 55.3**	**+1.7**
BZMR	**Bezymyannaya**	**2.22**	**355**	*eP*	**Pn**	**06 21 55.3**	**+1.7**
ASAK	**Asacha**	**2.24**	**234**	PN	**Pn**	**06 21 55.2**	**+1.4**
ASAK				S	**Sn**	**06 22 22.2**	**+1.8**
ASAK	**Asacha**	**2.24**	**234**	*eP*	**Pn**	**06 21 55.2**	**+1.4**
ASAK				*eS*	**Sn**	**06 22 22.2**	**+1.8**
KIRR	**Kirishev**	**2.25**	**353**	PN	**Pn**	**06 21 55.1**	**+1.1**
KIRR	**Kirishev**	**2.25**	**353**	*eP*	**Pn**	**06 21 55.1**	**+1.1**
KPT	**Kopyto**	**2.27**	**351**	PN	**Pn**	**06 21 55.2**	**+1.0**
KPT	**Kopyto**	**2.27**	**351**	*eP*	**Pn**	**06 21 55.2**	**+1.0**
APC	**Apacha**	**2.36**	**252**	PN	**Pn**	**06 21 56.3**	**+0.9**
APC	**Apacha**	**2.36**	**252**	*eP*	**Pn**	**06 21 56.3**	**+0.9**
ESO	**Esso**	**2.53**	**331**	PN	**Pn**	**06 21 56.2**	**-1.5**
ESO	**Esso**	**2.53**	**331**	*eP*	**Pn**	**06 21 56.2**	**-1.5**
KDTR	**Khodutka, Kamc**	**2.56**	**222**	PN	**Pn**	**06 21 58.5**	**+0.4**
KDTR	**Khodutka, Kamc**	**2.56**	**222**	*eP*	**Pn**	**06 21 58.5**	**+0.4**
KBTR	**Krutoberegovo**	**2.73**	**24**	PN	**Pn**	**06 22 01.1**	**+0.7**
KBTR	**Krutoberegovo**	**2.73**	**24**	*eP*	**Pn**	**06 22 01.1**	**+0.7**
BDR	**Baidarnaya**	**2.85**	**4**	PN	**Pn**	**06 22 04.0**	**+1.9**
BDR	**Baidarnaya**	**2.85**	**4**	*eP*	**Pn**	**06 22 04.0**	**+1.9**
MIPR	**Malaya Ipel'ka**	**2.88**	**241**	PN	**Pn**	**06 22 03.4**	**+1.0**
MIPR	**Malaya Ipel'ka**	**2.88**	**241**	*eP*	**Pn**	**06 22 03.4**	**+1.0**
SRKR	**Sorokina**	**2.94**	**3**	PN	**Pn**	**06 22 04.7**	**+1.4**
SRKR	**Sorokina**	**2.94**	**3**	*eP*	**Pn**	**06 22 04.7**	**+1.4**
BKI	**Bering**	**3.33**	**62**	PN	**Pn**	**06 22 09.3**	**+0.8**
BKI				S	**Sn**	**06 22 44.3**	**-2.5**
BKI	**Bering**	**3.33**	**62**	*eP*	**Pn**	**06 22 09.3**	**+0.8**
BKI				*eS*	**Sn**	**06 22 44.3**	**-2.5**
MA2	**Magadan**	**8.07**	**321**	P	**Pn**	**06 23 13.6**	**+0.1**
MA2	comp=N,0.8nm,0.3s,baz=127,slow=10,SNR=6.3 **Magadan**	**8.07**	**321**	*j e*PN	**Pn**	**06 23 14.0**	**+0.6**
MA2	comp=Z,7.0nm,0.7s			pmax	pmax		
YAK	**Yakutsk**	**18.38**	**309**	LR	LR	06 33 06.8	
YAK	comp=Z,1μm,21.5s,baz=260,slow=39 **Yakutsk**	**18.38**	**309**	*i* P	**P**	**06 25 27.1**	**-1.5**
YAK	comp=Z,12nm,0.6s			pmax	pmax		
TIXI	**Tiksi**	**22.70**	**334**	*j e*P	**P**	**06 26 16.5**	**+1.3**
ILAR	**Eielson Array**	**28.04**	**46**	P	**P**	**06 27 04.0**	**-0.1**
INK	comp=Z,0.8nm,0.8s,baz=267,slow=8.0,SNR=7.7 **Inuvik**	**33.08**	**38**	P	**P**	**06 27 48.5**	**+0.1**
H11N2	comp=Z,0.4nm,0.5s,baz=309,slow=3.6,SNR=3.8 **WAKE ISLAND Hy**	**34.26**	**170**	T	T	07 04 50.9	
H11N3	baz=354,slow=76,SNR=79 **WAKE ISLAND Hy**	**34.27**	**170**	T	T	07 04 47.5	
H11N1	baz=354,slow=76,SNR=51 **WAKE ISLAND Hy**	**34.27**	**170**	T	T	07 04 57.6	
H11S1	baz=354,slow=76,SNR=70 **WAKE ISLAND Hy**	**35.44**	**170**	T	T	07 06 16.9	
H11S3	baz=352 **WAKE ISLAND Hy**	**35.46**	**170**	T	T	07 05 55.8	
H11S2	baz=352 **WAKE ISLAND Hy**	**35.46**	**170**	T	T	07 06 01.5	
YKA	baz=352 **Yellowknife Ar**	**42.38**	**43**	P	**P**	**06 29 07.0**	**+0.2**
KURK	comp=Z,0.6nm,0.5s,baz=297,slow=7.8,SNR=16 **Kurchatov**	**47.79**	**302**	*j e*P	**P**	**06 29 49.9**	**0.0**
KURK				pmax	pmax		

	comp=Z,5.0nm,2.2s						
NVAR	**Mina Array Bea**	**55.09**	**71**	P	**P**	**06 30 46.5**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=299,slow=7.5,SNR=9.6						
PDAR	**Pinedale Array**	**56.81**	**62**	P	**P**	**06 30 57.6**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=326,slow=4.5,SNR=6.4						
FINES	**FINESS Array B**	**59.72**	**337**	P	**P**	**06 31 14.1**	**-2.7**
	comp=Z,1.3nm,0.8s,baz=90,slow=4.2,SNR=1.7						
TXAR	**Lajitas Array**	**69.97**	**68**	P	**P**	**06 32 24.6**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=316,slow=3.8,SNR=2.0						
WRA	**Warramunga Ar**	**76.86**	**206**	P	**P**	**06 33 04.0**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=23,slow=6.3,SNR=1.5						
WRA	**Warramunga Ar**	**76.86**	**206**	P	**P**	**06 33 04.0**	**-0.3**
ASAR	**Alice Springs**	**80.53**	**205**	P	**P**	**06 33 24.4**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=10,slow=7.6,SNR=4.2						

*IDC **19** 06:27:41.6±1.2, 55°.63S×27°.10W, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.7/24, mbtmp3.9/4, Error ellipse: s-maj=46.3km s-min=28.9km az=78.0*
ISC 19 06:27:45.3±1.2, 55°.7S±0°.2×27°.2W±0°.3, h25km, n6, σ0s26/6, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.60**	**180**	P	**P**	**06 34 31.9**	**-0.1**
	0.4nm,0.4s,baz=198,slow=9.6,SNR=9.2						
SIV	**San Ignacio**	**47.31**	**313**	P	**P**	**06 36 16.6**	**-0.2**
	0.7nm,0.2s,baz=142,slow=20,SNR=1.4						
LPAZ	**La Paz**	**50.16**	**305**	P	**P**	**06 36 39.3**	**-0.1**
	0.9nm,0.8s,baz=140,slow=5.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**72.69**	**29**	P	**P**	**06 39 10.8**	**-0.1**
	0.6nm,0.5s,baz=203,slow=6.7,SNR=6.4						
YKA	**Yellowknife Ar**	**135.88**	**318**	PKP	**PKiKP**	**06 47 04.2**	**+0.3**
	0.1nm,0.6s,baz=125,slow=2.6,SNR=5.0						
ILAR	**Eielson Array**	**149.86**	**312**	PKPbc	**PKPbc**	**06 47 31.9**	**+0.3**
	0.5nm,0.6s,baz=111,slow=3.0,SNR=7.2						

*NNC **19** 06:28:15.5±1.4, 44°.76N×82°.04E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=21.0km s-min=3.7km az=118.0*
*SOME **19** 06:28:15.1, 44°.77N×82°.05E, h20km*
ISC 19 06:28:13.3±3.5, 44°.62N±0°.07×82°.2E±0°.1, h1km±25km, n10, σ0s72/19, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.77**	**261**	*e*P	**Pn**	**06 28 45.8**	**+0.5**
DJR	1.3nm,0.2s			*e*S	**Sn**	**06 29 08.0**	**-0.4**
KAPS	4.4nm,0.5s **Kapalarasan**	**2.14**	**289**	*e*P	**Pb**	**06 28 52.0**	**-1.0**
KAPS	1.2nm,0.1s			*e*S	**Sn**	**06 29 18.5**	**+0.9**
MK31	9.1nm,0.5s **Makanchi Array**	**2.17**	**1**	⇑Pn	**Pn**	**06 28 51.4**	**+0.6**
MK31	2.7nm,0.4s,baz=188,slow=14,SNR=43			Sn	**Sn**	**06 29 18.6**	**+0.3**
MAKZ	3.5nm,0.5s,baz=183,slow=28,SNR=15 **Makanchi**	**2.19**	**356**	⇓Pn	**Pn**	**06 28 50.8**	**-0.2**
MAKZ	1.8nm,0.5s			⇑Sn	**Sn**	**06 29 18.4**	**-0.5**
PDGK	3.5nm,0.6s **Podgornoye**	**2.36**	**238**	⇓Sn	**Sb**	**06 29 25.8**	**-0.7**
	8.2nm,0.7s						
SHLS	**Shalkode**	**2.48**	**235**	*e*P	**Pn**	**06 28 55.6**	**+0.6**
SHLS	1.7nm,0.3s			*e*S	**Sn**	**06 29 24.5**	**-1.5**
BLB	16nm,0.6s **Baldybastay**	**2.74**	**260**	*e*P	**Pb**	**06 29 03.3**	**+0.1**
BLB	3.4nm,0.1s			*e*S	**Sb**	**06 29 37.9**	**+0.5**
UZB	4.9nm,0.6s **Uzynbulak**	**2.75**	**239**	*e*P	**Pb**	**06 29 03.6**	**+0.3**
UZB	1.4nm,0.1s			*e*S	**Sb**	**06 29 38.2**	**+0.7**
KPKS	3.8nm,0.5s **Kokpek**	**2.80**	**247**	*e*P	**Pb**	**06 29 03.7**	**-0.6**
KPKS	1.0nm,0.1s			*e*S	**Sb**	**06 29 38.6**	**-0.6**
ARXS	8.8nm,0.5s **Arharly**	**3.18**	**264**	*e*P	**Pb**	**06 29 10.6**	**-0.1**
ARXS	1.3nm,0.5s			*e*S	**Sb**	**06 29 50.5**	**+0.5**
	5.1nm,0.5s						

*IDC **19** 06:31:17.4±0.7, 55°.57S×27°.15W, h0km, mb4.4/7, mb1 4.4/8, mb1mx4.1/22, mbtmp4.3/8, ML3.7/1, Error ellipse: s-maj=29.6km s-min=19.4km az=78.0*
*NEIC **19** 06:31:19.1±1.7, 55°.63S±0°.08×27°.2W±0°.2, h10km±1km, mb4.5/15, Error ellipse: s-maj=18.4km s-min=11.0km az=122.0*
ISC 19 06:31:21.2±0.6, 55°.6S±0°.1×27°.17W±0°.10, h25km, n31, σ0s78/27, mb4.4/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.54**	**280**	Pn	**Pn**	**06 32 43.7**	**+1.8**
ESPZ	**Base Esperanza**	**16.88**	**230**	Pn	**Pn**	**06 35 13.5**	**-1.8**
SNAA	**Sanae**	**19.13**	**157**	P	**Pn**	**06 35 44.0**	**+1.1**
	0.2nm,0.3s,baz=325,slow=18,SNR=4.3						
SNAA	**Sanae**	**19.13**	**157**	P	**P**	**06 35 43.0**	**+0.9**
PMSA	**Palmer Station**	**20.19**	**228**	P	**P**	**06 35 53.4**	**-0.1**
BELA	**Belgrano 2**	**22.50**	**184**	P	**P**	**06 36 17.2**	**-1.1**
BELA	comp=Z,11nm,0.9s			IAmb	IAmb	06 36 20.1	
QSPA	**South Pole Qui**	**34.63**	**180**	P	**P**	**06 38 07.8**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=202,slow=2.3,SNR=22						
QSPA	**South Pole Qui**	**34.63**	**180**	P	**P**	**06 38 08.1**	**+0.1**
QSPA	comp=Z,5.0nm,0.8s			IAmb	IAmb	06 38 09.8	
ZON	**Zonda**	**37.68**	**292**	P	**P**	**06 38 33.3**	**-1.0**
ZON	comp=Z,8.6nm,0.7s			IAmb	IAmb	06 38 34.5	
MAW	**Mawson**	**40.49**	**144**	P	**P**	**06 38 57.2**	**0.0**
	comp=Z,2.4nm,0.7s,baz=222,slow=8.6,SNR=6.2						
LCO	**Las Campanas**	**40.75**	**292**	P	**P**	**06 38 59.3**	**-0.9**
LVC	**Limon Verde**	**45.10**	**300**	P	**P**	**06 39 35.6**	**0.0**
VNDA	**Vanda**	**47.00**	**183**	P	**P**	**06 39 50.0**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=187,slow=6.6,SNR=11						
VNDA	**Vanda**	**47.00**	**183**	P	**P**	**06 39 49.9**	**+0.5**
VNDA	comp=Z,4.3nm,0.8s			IAmb	IAmb	06 39 52.1	
GO01	**Chusmiza**	**47.73**	**302**	P	**P**	**06 39 56.6**	**+0.2**
H10N1	**ASCENSION HYDR** baz=189	**48.71**	**17**	T	T	07 32 56.4	
H10N3	**ASCENSION HYDR** baz=189	**48.71**	**17**	T	T	07 32 48.0	
H10N2	**ASCENSION HYDR** baz=189	**48.72**	**17**	T	T	07 32 47.8	
LBTB	**Lobatse**	**48.88**	**74**	P	**P**	**06 40 04.7**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=248,slow=2.7,SNR=3.9						
LBTB	**Lobatse**	**48.88**	**74**	P	**P**	**06 40 04.5**	**-0.3**
LBTB	comp=Z,4.5nm,1.0s			IAmb	IAmb	06 40 23.8	
LPAZ	**La Paz**	**50.14**	**305**	P	**P**	**06 40 15.3**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=178,slow=6.7,SNR=23						
LPAZ	**La Paz**	**50.14**	**305**	P	**P**	**06 40 15.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**72.68**	**30**	P	**P**	**06 42 46.4**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=194,slow=6.4,SNR=11						
TORD	**Torodi Ar. Bea**	**72.68**	**30**	IAmb	IAmb	06 42 47.8	
ASAR	comp=Z,1.9nm,1.1s **Alice Springs**	**99.39**	**162**	P	**Pdif**	**06 45 01.9**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=191,slow=3.3,SNR=8.4						
CMAR	**Chiang Mai Arr**	**125.20**	**110**	PKP	**PKPdf**	**06 50 19.4**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=224,slow=3.2,SNR=4.0						
YKA	**Yellowknife Ar**	**135.86**	**318**	PKP	**PKPdf**	**06 50 37.0**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=126,slow=2.2,SNR=7.6						
MKAR	**Makanchi Array**	**136.74**	**71**	PKP	**PKPdf**	**06 50 40.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=162,slow=0.9,SNR=3.0						
ILAR	**Eielson Array**	**149.84**	**312**	PKPbc	**PKPbc**	**06 51 07.1**	**-0.3**
	comp=Z,4.3nm,0.8s,baz=130,slow=1.9,SNR=38						
ILAR	**Eielson Array**	**149.84**	**312**		**PKPbc**	**06 51 06.8**	**-0.6**
SONM	**Songino Array**	**150.69**	**86**	PKPbc	**PKPbc**	**06 51 10.2**	**0.0**
	comp=Z,3.8nm,0.7s,baz=222,slow=3.3,SNR=17						

*IDC **19** 06:34:38.0±0.8, 55°.55S×27°.23W, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.1/22, mbtmp4.3/7, ML3.9/1, Error ellipse: s-maj=38.2km s-min=20.1km az=73.0*
*NEIC **19** 06:34:39.9±1.8, 55°.7S±0°.1×27°.4W±0°.2, h10km±1km, mb4.3/8, Error ellipse: s-maj=20.7km s-min=18.8km az=244.0*
ISC 19 06:34:39.6±0.7, 55°.7S±0°.1×27°.4W±0°.1, h10km, n21, σ0s82/17, mb4.4/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.42**	**281**	Pn	**Pn**	**06 36 01.1**	**+0.7**
ORCD	**Orcadas**	**10.47**	**234**	Pn	**Pn**	**06 37 08.2**	**-1.3**
SNAA	**Sanae**	**19.15**	**156**	P	**Pn**	**06 39 05.2**	**+1.5**
	0.4nm,0.3s,baz=334,slow=10,SNR=5.8						
SNAA	**Sanae**	**19.15**	**156**	IAmb	IAmb	06 39 06.1	
BELA	comp=Z,6.6nm,0.8s **Belgrano 2**	**22.47**	**184**	P	**P**	**06 39 38.3**	**-0.2**
BELA				IAmb	IAmb	06 39 40.6	
QSPA	comp=Z,11nm,0.8s **South Pole Qui**	**34.60**	**180**	P	**P**	**06 41 28.5**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=28,slow=1.0,SNR=12						
QSPA	**South Pole Qui**	**34.60**	**180**	P	**P**	**06 41 29.3**	**+0.8**
QSPA	comp=Z,4.1nm,0.9s			IAmb	IAmb	06 41 34.0	
MAW	**Mawson**	**40.54**	**144**	P	**P**	**06 42 18.4**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=213,slow=11,SNR=4.4						
MAW	**Mawson**	**40.54**	**144**	IAmb	IAmb	06 42 19.6	
VNDA	comp=Z,1.2nm,0.8s **Vanda**	**46.97**	**183**	P	**P**	**06 43 10.3**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=201,slow=4.6,SNR=12						
VNDA	**Vanda**	**46.97**	**183**	IAmb	IAmb	06 43 11.8	
LPAZ	comp=Z,4.1nm,0.8s **La Paz**	**50.06**	**305**	P	**P**	**06 43 35.7**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=150,slow=6.7,SNR=12						
LPAZ	**La Paz**	**50.06**	**305**	P	**P**	**06 43 35.6**	**+0.5**
LPAZ	comp=Z,4.4nm,0.8s			IAmb	IAmb	06 43 37.0	
BAUV	**El Baul**	**72.69**	**318**	P	**P**	**06 46 07.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**72.76**	**30**	P	**P**	**06 46 07.2**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=207,slow=6.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**72.76**	**30**	IAmb	IAmb	06 46 18.7	
ASAR	comp=Z,2.0nm,1.0s **Alice Springs**	**99.40**	**163**	P	**Pdif**	**06 48 23.3**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=175,slow=4.1,SNR=7.2						
YKA	**Yellowknife Ar**	**135.80**	**318**	PKP	**PKPdf**	**06 53 58.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=134,slow=2.2,SNR=7.7						
MKAR	**Makanchi Array**	**136.86**	**71**	PKP	**PKPdf**	**06 54 00.8**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=108,slow=0.5,SNR=3.2						
ILAR	**Eielson Array**	**149.77**	**312**	PKPbc	**PKPbc**	**06 54 27.6**	**-0.6**
	comp=Z,4.3nm,0.8s,baz=129,slow=1.7,SNR=27						
SONM	**Songino Array**	**150.81**	**86**	PKPbc	**PKPbc**	**06 54 30.6**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=218,slow=3.1,SNR=16						

*IDC **19** 06:52:05.2±0.5, 55°.57S×27°.17W, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.3/25, mbtmp4.4/11, ML4.2/1, Error ellipse: s-maj=21.0km s-min=16.3km az=62.0*
*NEIC **19** 06:52:09.1±1.6, 55°.6S±0°.1×27°.3W±0°.2, h23km±1km, mb4.8/38, Error ellipse: s-maj=18.5km s-min=13.6km az=200.0*
ISC 19 06:52:06.9±0.5, 55°.58S±0°.09×27°.26W±0°.09, h10km, n82, σ1s24/73, mb4.7/21, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.48**	**280**	Pn	**Pn**	**06 53 28.8**	**+0.3**
EFI	**East Falkland**	**18.60**	**269**	P	**P**	**06 56 24.2**	**+0.2**
EFI	comp=Z,88nm,1.2s			IAmb	IAmb	06 56 26.8	
SNAA	**Sanae**	**19.19**	**157**	P	**P**	**06 56 29.8**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=289,slow=8.3,SNR=9.0						
SNAA	**Sanae**	**19.19**	**157**		**P**	**06 56 29.9**	**-0.5**
PMSA	**Palmer Station**	**20.18**	**228**	*e*P	Pn	06 56 48.4	+5.3
SMAI	**San Martin Ant**	**22.10**	**220**	P	**P**	**06 57 03.9**	**+2.0**
BELA	**Belgrano 2**	**22.54**	**184**	P	**P**	**06 57 05.5**	**-1.0**
BELA	comp=Z,24nm,0.8s			IAmb	IAmb	06 57 12.2	
USHA	**Ushuaia**	**23.27**	**255**	P	**P**	**06 57 13.8**	**-0.4**
	comp=Z,5.6nm,1.0s,baz=101,slow=16,SNR=2.0						
MG02	**Cerro Sombrero**	**24.45**	**259**	P	**P**	**06 57 24.9**	**-0.7**
MG05	**Puerto Natales**	**26.74**	**259**	P	**P**	**06 57 44.9**	**-1.4**
MG05	comp=Z,22nm,1.2s			IAmb	IAmb	06 57 56.5	
GO09	**Cerro Castillo**	**26.83**	**260**	P	**P**	**06 57 45.8**	**-1.4**
GO08	**Villa O'Higgin**	**28.34**	**265**	P	**P**	**06 58 00.0**	**-0.6**
GO08					**pP**	**06 58 00.2**	**-2.8**
GO08	comp=Z,19nm,1.1s			IAmb	IAmb	06 58 03.5	
PLTB	**Pedras Altas**	**30.16**	**311**	P	**P**	**06 58 17.6**	**+0.6**

ARNL	**Arenillas**	**66.85**	**300**	P	**P**	07 03 00.1	+1.2	
COHC	**Cochancay**	**67.39**	**301**	P	**P**	07 03 03.6	+1.3	
TOA0	**Torodi Ar. Sit**	**72.67**	**30**	P	**P**	07 03 34.5	-0.1	
TORD	**Torodi Ar. Bea**	**72.67**	**30**	P	**P**	07 03 34.5	-0.1	
	comp=Z,2.3nm,0.6s,baz=192,slow=6.2,SNR=18							
TORD	**Torodi Ar. Bea**	**72.67**	**30**	P	**P**	07 03 34.8	+0.2	
SDV	**Santo Domingo**	**73.65**	**315**	*eP*	**P**	07 03 40.6	-0.1	
ASAR	**Alice Springs**	**99.45**	**163**	P	**Pdif**	07 05 48.1	-1.7	
	comp=Z,0.8nm,0.7s,baz=182,slow=4.3,SNR=10							
WRA	**Warramunga Arr**	**103.17**	**162**	Pdif	**Pdif**	07 06 04.7	-1.7	
	comp=Z,0.3nm,0.7s,baz=193,slow=4.2,SNR=2.0							
NVAR	**Mina Aray Bea**	**121.18**	**293**	PKP	**PKPdf**	07 10 59.8	+0.3	
	comp=Z,0.2nm,0.6s,baz=134,slow=3.9,SNR=2.5							
FRB	**Frobisher Bay**	**123.20**	**339**	PKP	**PKPdf**	07 11 01.6	-0.5	
	comp=Z,2.1nm,0.6s,baz=123,slow=3.4,SNR=10							
FINES	**FINESS Array B**	**123.98**	**28**	PKP	**PKPdf**	07 11 03.1	-0.7	
	comp=Z,2.7nm,0.6s,baz=145,slow=5.1,SNR=8.1							
CMAR	**Chiang Mai Arr**	**125.26**	**110**	PKP	**PKPdf**	07 11 06.5	-1.2	
	comp=Z,1.2nm,0.4s,baz=245,slow=3.6,SNR=1.7							
ARCES	**ARCESS Array B**	**130.52**	**22**	PKP	**PKPdf**	07 11 15.4	-0.7	
	comp=Z,1.8nm,0.6s,baz=194,slow=1.5,SNR=11							
YKA	**Yellowknife Ar**	**135.80**	**318**	PKP	**PKPdf**	07 11 24.6	-1.6	
	comp=Z,1.0nm,0.6s,baz=129,slow=2.4,SNR=23							
YKA				PP	**PP**	07 14 03.1	-2.5	
	comp=Z,0.3nm,0.8s,baz=124,slow=6.4,SNR=4.5							
MKAR	**Makanchi Array**	**136.77**	**71**	PKP	**PKPdf**	07 11 29.0	+0.4	
	comp=Z,0.4nm,0.5s,baz=191,slow=1.7,SNR=2.9							
KURBB	**Kurchatov Arra**	**137.13**	**64**	PKP	**PKPdf**	07 11 27.9	-1.2	
	comp=Z,0.3nm,0.5s,baz=214,slow=2.2,SNR=1.9							
ZALV	**Zalesovo Beam**	**142.19**	**63**	PKhKP	PKPpre	07 11 34.0		
	comp=Z,0.6nm,0.4s,baz=270,slow=1.4,SNR=2.7							
INK	**Inuvik**	**145.42**	**321**	PKPbc	**PKPdf**	07 11 43.3	0.0	
	comp=Z,6.4nm,0.5s,baz=78,slow=2.8,SNR=55							
INK	**Inuvik**	**145.42**	**321**		**PKPdf**	07 11 43.0	-0.3	
NRIK	**Noril'sk**	**148.66**	**38**	PKPbc	**PKPdf**	07 11 52.0	+3.2	
	comp=Z,1.5nm,0.4s,baz=195,slow=4.7,SNR=3.5							
ILAR	**Eielson Array**	**149.77**	**312**	PKPbc	**PKPdf**	07 11 55.0	+4.2	
	comp=Z,6.8nm,0.7s,baz=132,slow=2.2,SNR=55							
SONM	**Songino Array**	**150.73**	**86**	PKPbc	**PKPbc**	07 11 58.3	-0.2	
	comp=Z,6.2nm,0.6s,baz=222,slow=2.9,SNR=29							
SONM	**Songino Array**	**150.73**	**86**		**PKPdf**	07 11 57.6	+4.7	

***IDC 19** 06:55:15.7±1.0,55.60S×27.00W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/26, mbtmp3.8/4, Error ellipse: s-maj=50.3km s-min=28.5km az=83.0, South Sandwich Islands region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.66**	**180**	P	P	07 02 06.7	+0.3
	0.5nm,0.3s,baz=163,slow=1.7,SNR=3.2						
VNDA	**Vanda**	**47.03**	**183**	P	P	07 03 47.6	-0.5
	1.3nm,0.9s,baz=196,slow=8.1,SNR=2.6						
LPAZ	**La Paz**	**50.21**	**305**	P	P	07 04 14.1	+0.2
	1.3nm,0.8s,baz=225,slow=13,SNR=3.7						
TORD	**Torodi Ar. Bea**	**72.60**	**29**	P	P	07 06 44.5	-0.1
	0.3nm,0.6s,baz=206,slow=6.7,SNR=1.9						
INK	**Inuvik**	**145.52**	**321**	PKPbc	PKPdf	07 14 53.2	-0.7
	0.7nm,0.5s,baz=125,slow=1.1,SNR=4.2						
ILAR	**Eielson Array**	**149.89**	**312**	PKPbc	PKPbc	07 15 05.3	-0.9
	1.0nm,0.7s,baz=130,slow=2.0,SNR=5.3						
SONM	**Songino Array**	**150.59**	**86**	PKPbc	PKPbc	07 15 08.6	+0.1
	1.1nm,0.7s,baz=230,slow=4.0,SNR=4.0						

IDC 19 06:58:59.0±3.4, 9.89S×160.99E, h230km±13km, mb3.2/4, mb1 3.4/5, mb1mx3.2/32, mbtmp3.9/5, Error ellipse: s-maj=74.9km s-min=22.2km az=123.0

ISC 19 06:58:53.9±1.6, 10.3S±0.2×161.6E±0.2, h200km, n6, σ1s99/7, mb3.6/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.87**	**297**	P	**Pn**	**06 59 32.9**	**+1.8**
	60nm,0.3s,baz=182,slow=4.4,SNR=11						
HNR				S	**Sn**	**06 59 59.1**	**-0.9**
	200nm,0.3s,baz=235,slow=22,SNR=21						
CTA	**Charters Tower**	**17.74**	**235**	P	**P**	**07 02 49.0**	**+2.0**
	0.7nm,0.3s,baz=48,slow=14,SNR=8.3						
WRA	**Warramunga Arr**	**28.00**	**247**	P	**P**	**07 04 24.8**	**-1.7**
	0.7nm,0.5s,baz=76,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**29.60**	**240**	P	**P**	**07 04 39.0**	**-1.5**
	0.3nm,0.3s,baz=64,slow=10,SNR=5.3						
SONM	**Songino Array**	**75.71**	**325**	P	**P**	**07 10 16.0**	**-1.5**
	1.3nm,0.8s,baz=148,slow=4.6,SNR=5.0						
ILAR	**Eielson Array**	**84.12**	**20**	P	**P**	**07 11 02.7**	**+0.7**
	0.4nm,0.9s,baz=246,slow=5.2,SNR=2.1						

IDC 19 07:03:58.5±1.0, 54.58N×35.09W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/45, mbtmp3.7/7, Error ellipse: s-maj=37.3km s-min=22.2km az=16.0

ISC 19 07:04:00.0±0.9, 54.6N±0.2×35.1W±0.1, h10km, n8, σ1s10/8, mb3.9/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**25.62**	**113**	P	**P**	**07 09 30.3**	**+0.9**
	1.6nm,0.8s,baz=317,slow=11,SNR=6.4						
BRTR	**Keskin Array B**	**47.17**	**79**	P	**P**	**07 12 32.9**	**+0.7**
	1.2nm,0.8s,baz=305,slow=8.7,SNR=5.3						
PDAR	**Pinedale Array**	**48.33**	**288**	P	**P**	**07 12 40.6**	**-1.1**
	0.3nm,0.6s,baz=65,slow=7.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**50.35**	**131**	P	**P**	**07 12 56.0**	**-1.0**
	1.5nm,0.9s,baz=329,slow=7.3,SNR=8.2						
TXAR	**Lajitas Array**	**54.41**	**272**	P	**P**	**07 13 28.7**	**+1.4**
	0.3nm,0.8s,baz=52,slow=5.9,SNR=2.4						
MKAR	**Makanchi Array**	**66.00**	**42**	P	**P**	**07 14 45.9**	**-0.4**
	1.0nm,0.8s,baz=340,slow=6.4,SNR=7.1						
SONM	**Songino Array**	**72.92**	**26**	P	**P**	**07 15 29.4**	**+0.2**
	0.7nm,0.7s,baz=318,slow=5.8,SNR=2.3						
ASAR	**Alice Springs**	**148.06**	**19**	PKPbc	**PKPbc**	**07 23 45.0**	**-0.7**
	1.2nm,0.8s,baz=354,slow=2.2,SNR=12						

NEIC 19 07:12:57.5±1.6, 55.6S±0.1×27.1W±0.2, h3km±3km, mb4.3/12, Error ellipse: s-maj=20.0km s-min=13.1km az=219.0

IDC 19 07:12:57.0±1.3, 55.59S×26.92W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/21, mbtmp3.9/3, Error ellipse: s-maj=52.0km s-min=30.6km az=87.0

ISC 19 07:13:00.6±0.8, 55.6S±0.1×27.1W±0.1, h25km, n19, σ0s92/16, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.56**	**280**	Pn	**Pn**	**07 14 21.0**	**-0.6**
SNAA	**Sanae**	**19.16**	**157**	P	**Pn**	**07 17 22.7**	**-0.1**
BELA	**Belgrano 2**	**22.56**	**184**	P	**P**	**07 17 56.8**	**-1.6**
GO08	**Villa O'Higgin**	**28.42**	**265**	P	**P**	**07 18 52.0**	**-0.8**
GO08				IAmb	IAmb	07 19 01.5	
	comp=Z,6.5nm,1.1s						
QSPA	**South Pole Qui**	**34.68**	**180**	P	**P**	**07 19 47.6**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=17,slow=5.3,SNR=9.8						
QSPA	**South Pole Qui**	**34.68**	**180**	P	**P**		
QSPA				IAmb	IAmb	07 20 02.2	
	comp=Z,5.4nm,1.5s						
LVC	**Limon Verde**	**45.10**	**300**	P	**P**	**07 21 16.1**	**+1.1**
BOSA	**Boshof**	**45.81**	**76**	P	**P**	**07 21 19.7**	**-0.7**
BOSA				IAmb	IAmb	07 21 20.1	
	comp=Z,7.3nm,1.2s						
VNDA	**Vanda**	**47.05**	**183**	P	**P**	**07 21 31.2**	**+1.9**
VNDA				IAmb	IAmb	07 21 53.3	
	comp=Z,1.9nm,1.0s						
H10N1	**ASCENSION HYDR**	**48.65**	**17**	T	T	08 14 33.6	
	baz=189						
H10N3	**ASCENSION HYDR**	**48.65**	**17**	T	T	08 14 53.2	
	baz=189						
H10N2	**ASCENSION HYDR**	**48.66**	**17**	T	T	08 15 16.6	
	baz=189						
LBTB	**Lobatse**	**48.83**	**74**	P	**P**	**07 21 43.1**	**-0.8**
LPAZ	**La Paz**	**50.14**	**305**	P	**P**	**07 21 55.0**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=139,slow=7.0,SNR=4.5						
LPAZ	**La Paz**	**50.14**	**305**	P	**P**	**07 21 55.0**	**+0.6**
LPAZ				IAmb	IAmb	07 22 05.7	
	comp=Z,4.2nm,1.1s						
TOA0	**Torodi Ar. Sit**	**72.62**	**29**	P	**P**	**07 24 25.4**	**-0.2**
TOA0				IAmb	IAmb	07 24 35.1	
	comp=Z,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.62**	**29**	P	**P**	**07 24 25.6**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=200,slow=5.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**72.62**	**29**	P	**P**	**07 24 25.9**	**+0.2**
YKA	**Yellowknife Ar**	**135.84**	**318**	PKP	**PKiKP**	**07 32 19.9**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=132,slow=2.2,SNR=8.1						

JMA 19 07:22:26.5, 32.9N×131.1E, h9km±1km, M3.6, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.25**	**308**	⇑P	Pg	07 22 31.7	+0.2
JNU				S	Sg	07 22 35.3	+0.4
JIU3	**Izumi3**	**0.49**	**211**	⇓P	Pg	07 22 36.1	+0.1
JUS	**Usuki**	**0.55**	**80**	P	Pg	07 22 36.8	-0.3
JUS				S	Sg	07 22 44.7	+0.4

BJI 19 07:23:12.1±0.0, 30.77N×138.70E, h369km, mb4.4/50, mB4.7/10

JMA 19 07:23:12.4±0.3, 30.85N×138.90E, h414km±4km, M4.9

MOS 19 07:23:13.6±0.9, 30.84N×138.46E, h378km, mb4.5/40, Error ellipse: s-maj=8.6km s-min=4.7km az=105.7

NEIC 19 07:23:15.0±1.8, 30.81N±0.07×138.6E±0.1, h375km±5km, mb4.5/103, Error ellipse: s-maj=13.6km s-min=10.0km az=79.0

IDC 19 07:23:15.1±0.5, 30.87N×138.52E, h380km±4km, mb4.0/28, mb1 4.1/34, mb1mx4.1/50, mbtmp4.8/34, Error ellipse: s-maj=10.0km s-min=6.4km az=82.0

ISC 19 07:23:14.6±0.4, 30.79N±0.04×138.59E±0.05, h377km±4km, h377km:pP-P, n601, σ0s88/632, mb4.5/140, 39C-27D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.95**	**31**	P	**Pn**	**07 24 08.9**	**+0.9**
JHCJ	**Hachijojimakas**	**2.50**	**24**	P	**Pn**	**07 24 11.9**	**+0.1**
JHJ	**Hachijo jima 2**	**2.54**	**23**	P	**Pn**	**07 24 12.4**	**+0.3**
	1μm,0.3s,baz=186,slow=9.2,SNR=148						
JHJ				S	**S**	**07 24 59.0**	**+0.5**
	640nm,0.3s,baz=255,slow=22,SNR=13						
JHJ2	**Mitsune**	**2.54**	**24**	P	**Pn**	**07 24 12.2**	**+0.1**
JHJ2	**Mitsune**	**2.54**	**24**	Pn	**Pn**	**07 24 12.3**	**+0.1**
JMKN	**Mikurajimanish**	**3.21**	**15**	P	**Pn**	**07 24 17.5**	**-0.2**
JMKN				*e*S	**S**	**07 25 08.8**	**+0.1**
JIE	**Ise**	**3.93**	**337**	P	**Pn**	**07 24 26.2**	**+1.8**
JTNC	**Tanabenakahech**	**3.94**	**321**	P	**Pn**	**07 24 26.1**	**+1.6**
JTNC				*e*S	**S**	**07 25 21.6**	**+0.4**
BSO1	**Boso 1**	**4.35**	**27**	P	**Pn**	**07 24 26.4**	**-1.6**
BSO1				S	**S**	**07 25 24.5**	**-3.1**
JOD2	**Odawara 2**	**4.48**	**5**	P	**Pn**	**07 24 29.4**	**-0.6**
INU	**Inuyama**	**4.74**	**344**	Pn	**Pn**	**07 24 33.8**	**+1.2**
CBIJ	**Chichi jima**	**4.84**	**139**	P	**Pn**	**07 24 32.0**	**-1.9**
JCJ	**Chichijima**	**4.84**	**139**	P	**Pn**	**07 24 31.8**	**-2.1**
	80nm,0.3s,baz=14,slow=4.2,SNR=38						
JCJ				S	**S**	**07 25 33.7**	**-4.4**
	1μm,0.3s,baz=123,slow=23,SNR=48						
JCJ	**Chichijima**	**4.84**	**139**	Pn	**Pn**	**07 24 32.1**	**-1.8**
JGF	**Kuroka**	**4.91**	**348**	Pn	**Pn**	**07 24 35.1**	**+0.6**
JRY	**Ryogami san**	**5.22**	**3**	P	**Pn**	**07 24 37.0**	**-0.8**
JYT	**Yasato**	**5.59**	**13**	Pn	**Pn**	**07 24 39.4**	**-2.3**
MJAR	**Matsushiro Arr**	**5.75**	**357**	P	**Pn**	**07 24 42.3**	**-1.1**
	11nm,0.3s,baz=177,slow=11,SNR=123						
MJAR				S	**S**	**07 25 53.0**	**-2.8**
	2.3nm,0.3s,baz=110,slow=39,SNR=7.7						
MAJO	**Matsushiro**	**5.75**	**357**	*c iP*	**Pn**	**07 24 42.7**	**-0.8**
MAJO	**Matsushiro**	**5.75**	**357**	Pn	**Pn**	**07 24 42.5**	**-0.9**
MJB9	**Matsu-Tunnel**	**5.75**	**357**	Pn	**Pn**	**07 24 43.0**	**-0.6**
JNU	**Nakatsue**	**6.96**	**292**	P	**P**	**07 24 59.2**	**+1.1**
	1.8nm,0.3s,baz=128,slow=5.9,SNR=3.4						
JSD	**Sado**	**7.24**	**358**	Pn	**Pn**	**07 24 58.6**	**-1.6**
JMM	**Marumori**	**7.29**	**14**		**Pn**	**07 24 58.8**	**-2.0**
JMK	**Ichinoseki**	**8.43**	**14**	P	**Pn**	**07 25 12.2**	**-1.8**
JAMN	**Amaminishikomi**	**8.59**	**255**	P	**P**	**07 25 17.6**	**+0.4**
JOW	**Kunigami**	**9.87**	**249**	P	**P**	**07 25 33.3**	**+1.8**
	4.1nm,0.3s,baz=90,slow=11,SNR=12						
JOW	**Kunigami**	**9.87**	**249**		**P**	**07 25 33.8**	**+2.3**
JTM	**Tenmabayashi**	**10.18**	**11**	P	**Pn**	**07 25 33.6**	**-0.9**
KSRS	**Korea Array**	**11.06**	**310**	P	**Pn**	**07 25 45.0**	**+0.1**
	1.3nm,0.3s,baz=122,slow=11,SNR=6.5						
KSRS	**Korea Array**	**11.06**	**310**	P	**Pn**	**07 25 45.0**	**+0.1**
ERM	**Erimo**	**11.79**	**17**	*de*P	**Pn**	**07 25 53.2**	**-0.2**
ERM				pmax	pmax		
	comp=Z,421nm,1.0s						
ERM	**Erimo**	**11.79**	**17**		**Pn**	**07 25 53.3**	**-0.1**
JEW	**Eniwo**	**12.24**	**10**		**Pn**	**07 25 58.1**	**-0.6**
ASAJ	**Asahikawa**	**13.68**	**12**	P	**Pn**	**07 26 13.7**	**-1.7**
	comp=Z,2.1nm,0.3s,baz=228,slow=12,SNR=14						
ASAJ				S	**S**	**07 28 42.2**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=61,slow=28,SNR=4.1						
JKA	**Kamikawa-asahi**	**13.68**	**12**	P	**Pn**	**07 26 13.7**	**-1.7**
USRK	**Ussuriysk Ar.**	**14.37**	**341**	P	**P**	**07 26 20.7**	**-0.3**
	baz=149,slow=9.8,SNR=3.5						
YSS	**Yuzh-Sakhalins**	**16.46**	**10**	*c iP*	**P**	**07 26 44.0**	**+0.5**
YSS				pmax	pmax		
	comp=Z,24nm,0.8s						
YSS	**Yuzh-Sakhalins**	**16.46**	**10**	P	**P**	**07 26 44.0**	**+0.5**
NJ2	**Nanjing**	**16.90**	**279**	*e*P	**P**	**07 26 47.6**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
YULB	**Yu-li**	**17.06**	**249**	P	**P**	**07 26 48.8**	**-1.5**
SSLB	**Suanglung**	**17.15**	**250**	P	**P**	**07 26 51.5**	**+0.3**
SSLB	**Suanglung**	**17.15**	**250**	P	P	07 26 42.7	-8.6
TPUB	**Ta-pu**	**17.64**	**249**	P	**P**	**07 26 58.0**	**+1.5**
TPUB	**Ta-pu**	**17.64**	**249**	P	P	07 26 48.5	-8.0
GUMO	**Guam**	**18.07**	**160**	P	**P**	**07 27 02.8**	**+1.7**
	comp=Z,11nm,0.3s,baz=194,slow=9.0,SNR=6.9						
KNMB	**Chin-men Tao**	**18.97**	**256**	P	**P**	**07 27 10.3**	**-0.2**
KLR	**Kul'dur**	**19.14**	**346**	P	**P**	**07 27 11.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=149,slow=9.9,SNR=8.4						
KLR				PcP	**PcP**	**07 31 17.4**	**+0.4**
	baz=168,slow=3.8,SNR=3.5						
KLR	**Kul'dur**	**19.14**	**346**	⇓*e*P	**P**	**07 27 11.9**	**0.0**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GRNR	**Gornyy**	**20.03**	**356**	⇑*i*P	**P**	**07 27 20.7**	**0.0**
GRNR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GRNR				MLR	MLR		
	comp=N,280nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,570nm,15.0s						
BJI	**Beijing**	**20.43**	**303**	P	**P**	**07 27 22.4**	**-2.1**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
WHN	**Wuhan**	**20.85**	**276**	P	**P**	**07 27 28.4**	**0.0**
XLT	**XiLinHaoTe**	**22.09**	**313**	⇑*i*P	**P**	**07 27 39.3**	**-0.3**
XLT				sP	sP	07 29 27.5	+0.5
XLT				pmax	pmax		
	comp=Z,27nm,0.7s						
LYN	**LuoYang**	**22.29**	**287**	⇑P	**P**	**07 27 41.4**	**-0.1**
LYN				S	**S**	**07 31 21.0**	**+2.3**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**24.02**	**302**	*e*P	**P**	**07 27 56.8**	**-0.4**
HHC				pmax	pmax		
	comp=Z,29nm,1.2s						
HHC				pmax	pmax		
	comp=Z,690nm,6.3s						
XAN	**Xi'an**	**25.22**	**285**	P	**P**	**07 28 07.3**	**-0.6**
XAN				pmax	pmax		
	comp=Z,26nm,1.4s						
PETK	**Petropavlovsk-**	**26.29**	**26**	P	**P**	**07 28 17.5**	**+0.5**
	comp=Z,5.9nm,0.8s,baz=231,slow=9.4,SNR=3.8						
LZH	**Lanzhou**	**29.37**	**290**	*e*P	**P**	**07 28 44.9**	**+0.2**
LZH				pP	pP	07 29 54.9	+2.2
LZH				sP	sP	07 30 38.4	+2.3
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
ULN	**Ulaanbaatar**	**29.49**	**314**	*d iP*	**P**	**07 28 45.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,32nm,1.7s						
ULN	**Ulaanbaatar**	**29.49**	**314**	P	**P**	**07 28 45.6**	**-0.1**
CD2	**Chengdu**	**29.84**	**279**	P	**P**	**07 28 48.1**	**-0.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
SONM	**Songino Array**	**29.89**	**314**	P	**P**	**07 28 48.8**	**-0.2**
	comp=Z,6.9nm,0.7s,baz=128,slow=9.2,SNR=30						
SONM				PcP	**PcP**	**07 31 41.3**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=122,slow=3.1,SNR=5.9						
SONM	**Songino Array**	**29.89**	**314**	P	**P**	**07 28 48.6**	**-0.4**
MA2	**Magadan**	**29.94**	**12**	P	**P**	**07 28 49.0**	**-0.1**
	comp=Z,18nm,0.8s,baz=197,slow=7.8,SNR=18						
MA2	**Magadan**	**29.94**	**12**	*c iP*	**P**	**07 28 49.3**	**+0.1**
MA2				pmax	pmax		
	comp=Z,21nm,0.7s						
BOD	**Bodaibo**	**31.89**	**335**	*e*P	**P**	**07 29 05.7**	**-0.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KMI	**Kunming**	**32.08**	**269**	⇓P	**P**	**07 29 07.8**	**-0.6**
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
SWI	**Sorong**	**32.24**	**194**	P	**P**	**07 29 09.3**	**-0.4**
SWI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SWI	**Sorong**	**32.24**	**194**	P	**P**	**07 29 09.2**	**-0.4**
	comp=Z,55nm,0.6s						
SIJI	**Sorong**	**32.24**	**194**	P	**P**	**07 29 10.3**	**+0.6**
	comp=Z,35nm,0.6s,baz=2.9,slow=12,SNR=11						
PZH	**PanZhiHua**	**32.52**	**272**	P	**P**	**07 29 11.3**	**-0.9**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
GTA	**Gaotai**	**32.67**	**296**	⇓P	**P**	**07 29 12.5**	**-0.8**
GTA				pP	pP	07 30 18.8	-3.3
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
GTA				pmax	pmax		
	comp=Z,280nm,10.0s						
GTA				LR	LR		
	comp=Z,730nm,17.9s						
GTA				LR	LR		
	comp=Z,510nm,17.9s						
GTA				LR	LR		
	comp=Z,1μm,19.9s						
ZAK	**Zakamensk**	**32.77**	**317**	*e*P	**P**	**07 29 13.7**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,14nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SEY	**Seymchan**	**33.36**	**11**	P	**P**	**07 29 18.5**	**-0.2**
	comp=Z,5.1nm,0.7s,baz=197,slow=5.4,SNR=10						
SEY	**Seymchan**	**33.36**	**11**	⇓*i*P	**P**	**07 29 19.3**	**+0.6**
SEY				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTOI	**Gorontalo**	**33.43**	**209**	P	**P**	**07 29 19.7**	**-0.2**
	comp=Z,15nm,1.2s						
TOLI2	**Tolitoli**	**34.00**	**213**	P	**P**	**07 29 24.9**	**+0.1**
TOLI2	**Tolitoli**	**34.00**	**213**	P	**P**	**07 29 24.8**	**+0.1**
UBPT	**Khong Chiam**	**34.01**	**251**	P	**P**	**07 29 25.9**	**+1.1**
MRSI	**Marisa**	**34.04**	**211**	P	**P**	**07 29 25.9**	**+0.9**
SANI	**Sanana**	**34.79**	**202**	P	**P**	**07 29 30.3**	**-1.1**
	comp=Z,815nmcomp=Z,60nm,1.2s						
SANI	**Sanana**	**34.79**	**202**	P	**P**	**07 29 31.0**	**-0.4**
APSI	**Ampana**	**35.40**	**210**	P	**P**	**07 29 36.2**	**-0.4**
	comp=Z,52nm,1.3s						
AAI	**Ambon**	**35.69**	**198**	P	**P**	**07 29 40.5**	**+1.5**
AAI				pmax	pmax		
	comp=Z,110nm,0.9s						
AAI	**Ambon**	**35.69**	**198**	P	**P**	**07 29 40.7**	**+1.7**
	comp=Z,114nm,0.8s						
KNGR	**Kungurtug, Tuv**	**36.30**	**315**	*d iP*	**P**	**07 29 43.8**	**-0.1**
GOMU	**GeErMu**	**36.67**	**290**	P	**P**	**07 29 46.8**	**-0.7**
GOMU				PP	**PP**	**07 31 20.8**	**+0.2**
GOMU				PcP	**PcP**	**07 32 01.8**	**+0.8**
GOMU				S	**S**	**07 35 02.9**	**+0.2**
GOMU				pmax	pmax		
	comp=Z,27nm,1.0s						
GOMU				LR	LR		
	comp=Z,420nm,19.8s						
GOMU				LR	LR		
	comp=Z,400nm,16.7s						
GOMU				LR	LR		
	comp=Z,310nm,18.8s						
SBUM	**Sibu**	**37.63**	**227**	P	**P**	**07 29 55.9**	**+0.7**
CHTO	**Chiang Mai**	**37.73**	**261**	P	**P**	**07 29 56.0**	**0.0**
CHTO				pmax	pmax		
	comp=Z,24nm,0.9s						
CHTO	**Chiang Mai**	**37.73**	**261**	P	**P**	**07 29 56.0**	**0.0**
CHTO				IAmb	IAmb	07 29 57.1	
	comp=Z,24nm,0.8s						
CHTO	**Chiang Mai**	**37.73**	**261**	P	**P**	**07 29 56.1**	**0.0**
CHTO	**Chiang Mai**	**37.73**	**261**	P	P	07 29 51.7	-4.3
CM31	**Chiang Mai Arr**	**37.89**	**260**	P	**P**	**07 29 57.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**37.89**	**260**	P	**P**	**07 29 57.4**	**0.0**
	comp=Z,6.3nm,0.8s,baz=54,slow=6.8,SNR=27						
CMAR				PcP	**PcP**	**07 32 05.4**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=29,slow=1.7,SNR=12						
CMAR	**Chiang Mai Arr**	**37.89**	**260**	*ce*P	**P**	**07 29 58.0**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**37.89**	**260**	P	**P**	**07 29 57.0**	**-0.4**
KIWB	**Kanaga Island**	**38.57**	**44

JAGI Jajag, Banyuwa 45.53 215 P **P** **07 30 58.3 -0.2**
GUN Gumba 45.69 280 *e*P **P** **07 31 00.2 +0.1**
comp=Z,72nm,0.9s
MK31 Makanchi Array 45.72 307*c i*P **P** **07 30 59.0 -0.7**
MKAR Makanchi Array 45.72 307 P **P** **07 30 59.1 -0.6**
comp=Z,15nm,0.7s,baz=92,slow=9.7,SNR=145
MKAR PcP **PcP** **07 32 29.8 -0.5**
comp=Z,3.5nm,0.7s,baz=76,slow=5.1,SNR=6.0
MKAR ScP **ScP** **07 35 45.4 -1.2**
comp=Z,0.7nm,0.6s,baz=86,slow=5.2,SNR=4.4
MKAR Makanchi Array 45.72 307 *i*P **P** **07 30 58.7 -1.0**
MKAR pmax pmax
comp=Z,16nm,0.7s
MKAR Makanchi Array 45.72 307 P **P** **07 30 58.6 -1.1**
MAKZ Makanchi 45.94 307 P **P** **07 31 00.6 -0.7**
MAKZ pmax pmax
comp=Z,11nm,0.6s
MAKZ Makanchi 45.94 307 P **P** **07 31 00.6 -0.7**
MAKZ IAmb IAmb 07 31 01.5
comp=Z,11nm,0.6s
PKI Pulchoki 46.19 280 *e*P **P** **07 31 03.1 -0.8**
PKIN Phulchoki 46.20 280 *e*P **P** **07 31 03.0 -0.9**
KKN Kakani 46.23 280 *e*P **P** **07 31 03.3 -0.8**
PWJI Pagerwojo 46.35 218 P **P** **07 31 04.7 -0.1**
comp=Z,57nm,0.8s
DMN Daman 46.43 280 *e*P **P** **07 31 05.0 -0.7**
GKN Gorkha 46.71 281 *e*P **P** **07 31 07.5 -0.3**
UGM Wanagama 46.95 220 P **P** **07 31 11.1 +1.6**
comp=Z,191nm,1.6s
UGM Wanagama 46.95 220 P **P** **07 31 10.2 +0.7**
KNRA Kununurra 47.15 193 P **P** **07 31 11.7 +0.8**
KNRA Kununurra 47.15 193 P **P** **07 31 11.3 +0.4**
DANN Dangsing 47.35 282 *e*P **P** **07 31 12.4 -0.4**
comp=Z,97nm,1.1s
KPJI Karang Pucung 47.37 222 P **P** **07 31 12.9 +0.2**
comp=Z,67nm,1.0s
KOLN Koldanda 47.66 281 *e*P **P** **07 31 14.2 -0.8**
comp=Z,81nm,0.9s
PDGK Podgornoye 47.88 302 P **P** **07 31 14.6 -1.8**
KLI Kotabumi 47.91 228 P **P** **07 31 17.7 +0.9**
comp=Z,228nm,0.9s
MDSI Maura Dua 48.07 229 P **P** **07 31 17.9 0.0**
comp=Z,1µmcomp=Z,77nm,1.0s
NRIK Noril'sk 48.07 338 P **P** **07 31 17.0 -0.2**
comp=Z,4.2nm,0.6s,baz=109,slow=11,SNR=7.9
NRIK ScP **ScP** **07 35 55.1 -0.8**
comp=Z,1.6nm,0.4s,baz=105,slow=2.3,SNR=5.3
NRIK Noril'sk 48.07 338*c i*P **P** **07 31 17.2 0.0**
NRIK pmax pmax
comp=Z,15nm,1.4s
NRIK Noril'sk 48.07 338 P **P** **07 31 17.3 +0.1**
PYUN Piuthan 48.08 282 *e*P **P** **07 31 17.8 -0.4**
comp=Z,150nm,1.0s
KURK Kurchatov 48.17 312*d i*P **P** **07 31 17.2 -1.0**
KURK pmax pmax
comp=Z,40nm,1.3s
KURK Kurchatov 48.17 312 P **P** **07 31 17.0 -1.2**
KURK IAmb IAmb 07 31 18.5
comp=Z,29nm,1.0s
KURK Kurchatov 48.17 312 P **P** **07 31 17.6 -0.7**
KURBB Kurchatov Arra 48.23 312 P **P** **07 31 17.9 -0.7**
comp=Z,14nm,0.6s,baz=92,slow=7.0,SNR=170
KURBB PcP **pwP** **07 32 38.1 -1.0**
comp=Z,3.3nm,0.6s,baz=97,slow=3.9,SNR=7.9
KURBB Kurchatov Arra 48.23 312 P **P** **07 31 16.9 -1.8**
KSI Kapahiang 48.50 232 P **P** **07 31 22.4 +1.1**
comp=Z,12µmcomp=Z,87nm,0.6s
GSI Gunungsitoli 48.65 241 P **P** **07 31 22.5 +0.1**
GSI Gunungsitoli 48.65 241 P **P** **07 31 22.5 +0.1**
comp=Z,2µmcomp=Z,148nm,1.1s
GSI Gunungsitoli 48.65 241 P **P** **07 31 22.3 -0.1**
MNAI Manna 48.78 231 P **P** **07 31 23.6 +0.3**
TARG Taragay, Kyrgy 49.30 300 P **P** **07 31 27.4 0.0**
TARG IAmb IAmb 07 31 28.8
comp=Z,21nm,1.1s
MDOK Medeo 49.67 302 P **P** **07 31 29.7 -0.1**
ULHL Ulahol 50.38 301 P **P** **07 31 35.4 +0.2**
SNR=10
WB0 Warramunga Arr 50.42 185 P **P** **07 31 35.3 -0.1**
BOOM Boomskoye usch 50.57 302 P **P** **07 31 36.3 -0.2**
BOOM pmax pmax
comp=Z,11nm,0.7s
BOOM Boomskoye usch 50.57 302 P **P** **07 31 36.3 -0.2**
BOOM IAmb IAmb 07 31 37.5
comp=Z,11nm,0.7s
WRAB Tennant Creek 50.59 185*d i*P **P** **07 31 36.8 +0.1**
WRAB pmax pmax
comp=Z,87nm,1.3s
WRAB Tennant Creek 50.59 185 P **P** **07 31 36.6 0.0**
WRAB Tennant Creek 50.59 185 P **P** **07 31 37.3 +0.6**
WB2 Warramunga Arr 50.60 185 P **P** **07 31 36.7 -0.1**
WRA Warramunga Arr 50.60 185 P **P** **07 31 36.8 0.0**
comp=Z,67nm,0.8s,baz=1.7,slow=7.9,SNR=313
WRA PcP **PcP** **07 32 49.0 +0.7**
comp=Z,4.8nm,0.7s,baz=0.1,slow=4.2,SNR=5.8
WRA ScP **ScP** **07 36 07.0 -0.4**
comp=Z,2.4nm,1.1s,baz=3.2,slow=4.7,SNR=5.1
WRA Warramunga Arr 50.60 185 *i*P **P** **07 31 35.5 -1.3**
WRA pmax pmax
comp=Z,67nm,0.8s
WRA Warramunga Arr 50.60 185 P **P** **07 31 36.1 -0.7**
WR0 Warramunga Arr 50.60 185 P **P** **07 31 37.1 +0.4**
TKM2 Tokmak 2 50.76 302 P **P** **07 31 38.4 +0.4**
SNR=9.4
KSH Kashi 51.03 298 P **P** **07 31 43.4 +3.5**
KSH PcP **pP** **07 32 52.9 -2.6**
KSH pmax pmax
comp=Z,21nm,0.8s
QIS Mount Isa 51.06 179 P **P** **07 31 40.7 +0.6**
CTA Charters Tower 51.12 171 P **P** **07 31 41.0 +0.5**
comp=Z,14nm,1.0s,baz=354,slow=11,SNR=7.3
CTA Charters Tower 51.12 171 P **P** **07 31 39.0 -1.5**
CTAO Charters Tower 51.12 171 P **P** **07 31 40.8 +0.2**
CTAO pmax pmax
comp=Z,21nm,1.1s
CTAO Charters Tower 51.12 171 P **P** **07 31 40.8 +0.2**
CTAO IAmb IAmb 07 31 42.2
comp=Z,21nm,1.1s
KBK Karagaybulak 51.27 302 P **P** **07 31 41.6 0.0**
SNR=17
USP Ospenovka 51.50 303 P **P** **07 31 43.1 -0.2**
SNR=5.1
AAK Ala-Archa 51.60 302 P **P** **07 31 44.1 -0.1**
SNR=12
AAK Ala-Archa 51.60 302*d i*P **P** **07 31 43.8 -0.3**
AAK pmax pmax
comp=Z,11nm,0.7s
AAK Ala-Archa 51.60 302 P **P** **07 31 44.0 -0.1**
AAK IAmb IAmb 07 31 44.8
comp=Z,11nm,0.8s
AAK Ala-Archa 51.60 302 P **P** **07 31 44.0 -0.1**
AAK Ala-Archa 51.60 302 *i*P **P** **07 31 44.1 -0.1**
SNR=14
N18K Kilae Creek 51.77 35 P **P** **07 31 45.1 +0.3**
N18K Kilae Creek 51.77 35 P **P** **07 31 45.4 +0.5**
baz=266
GCSA Galena City Sc 51.77 30 P **P** **07 31 45.1 +0.4**
baz=262
TTA Tatalina 51.92 32 P **P** **07 31 46.8 +0.9**
baz=264
O18K Koktuh Hills 52.05 36 P **P** **07 31 48.4 +1.5**
baz=267
EKS2 Erkin-Say 52.12 302 P **P** **07 31 47.8 -0.1**
SNR=6.0
AML Almayashu 52.27 302 P **P** **07 31 49.6 +0.4**
SNR=48
AML Almayashu 52.27 302 P **P** **07 31 49.6 +0.4**
AML Almayashu 52.27 302 *i*P **P** **07 31 49.8 +0.5**
SNR=47
OTUK Ortayu 52.38 309 P **P** **07 31 48.6 -0.9**
L19K White Mountain 52.38 33 P **P** **07 31 49.6 +0.3**
L19K White Mountain 52.38 33 P **P** **07 31 50.0 +0.7**
baz=265
N19K Bonanza Creek 52.46 35 P **P** **07 31 51.0 +1.0**
baz=267
O19K Port Alsworth 52.51 35 P **P** **07 31 51.2 +1.0**
O19K IAmb IAmb 07 31 53.0
comp=Z,22nm,1.1s
O19K Port Alsworth 52.51 35 P **P** **07 31 51.1 +0.9**
baz=267
SII Sitkinak Islan 52.51 40 P **P** **07 31 51.4 +1.1**
baz=270
M19K Big River Lodg 52.58 33 P **P** **07 31 51.9 +1.2**
baz=266
K20K Telida 52.84 31 P **P** **07 31 53.2 +0.7**
K20K IAmb IAmb 07 31 54.8
comp=Z,21nm,0.8s
K20K Telida 52.84 31 P **P** **07 31 53.9 +1.3**
baz=265,SNR=18
L20K Farewell, AK 52.86 33 P **P** **07 31 53.5 +0.7**
baz=266
J20K Nowinta River 52.88 30 P **P** **07 31 53.8 +1.0**
J20K IAmb IAmb 07 31 54.9
comp=Z,18nm,0.7s
J20K Nowinta River 52.88 30 P **P** **07 31 53.9 +1.0**
baz=264,SNR=19
A21K Barrow 53.11 21 P **P** **07 31 55.2 +0.9**
baz=257
BVAR Borovoye Array 53.21 316 P **P** **07 31 54.9 -0.5**
comp=Z,23nm,0.6s
BVAR PcP **PcP** **07 32 57.9 +0.2**
BVAR ScP **ScP** **07 36 17.1 -1.4**
IMAR Indian Mountai 53.23 28 P **P** **07 31 55.7 +0.4**
BRVK Borovoye 53.27 316*d i*P **P** **07 31 55.4 -0.4**
BRVK pmax pmax
comp=Z,35nm,0.8s
BRVK Borovoye 53.27 316 P **P** **07 31 55.3 -0.6**
BRVK IAmb IAmb 07 31 56.4
comp=Z,30nm,0.8s
BRVK Borovoye 53.27 316 P **P** **07 31 55.5 -0.4**
O20K Slope Mountain 53.36 36 P **P** **07 31 57.0 +0.5**
baz=269
KDAK Kodiak Island 53.37 38 P **P** **07 31 56.6 +0.1**
KDAK pmax pmax
comp=Z,10.0nm,0.8s
KDAK Kodiak Island 53.37 38 P **P** **07 31 56.6 +0.1**
KDAK Kodiak Island 53.37 38 P **P** **07 31 56.4 -0.1**
baz=271
H21K Melozitna Rive 53.58 29 P **P** **07 31 59.1 +1.2**
H21K Melozitna Rive 53.58 29 P **P** **07 31 58.8 +0.8**
baz=265,SNR=17
SPCR Spurr Chakacha 53.59 34 P **P** **07 31 58.6 +0.5**
baz=268
CHUM Lake Minchumin 53.66 31 P **P** **07 31 59.6 +1.2**
baz=266,SNR=9.1
PPLA Purkeypile 53.66 32 P **P** **07 32 00.2 +1.5**
PPLA IAmb IAmb 07 32 00.7
comp=Z,16nm,0.9s
PPLA Purkeypile 53.66 32 P **P** **07 31 59.6 +1.0**
baz=267,SNR=6.9
CAST Castle Rocks 53.73 31 P **P** **07 31 59.9 +0.8**
baz=267,SNR=16
I21K Tanana 53.89 29 P **P** **07 32 01.4 +1.3**
I21K Tanana 53.89 29 P **P** **07 32 01.0 +1.0**
baz=266,SNR=12
BRLK Bradley Lake 54.23 36 P **P** **07 32 02.9 +0.2**
BRLK IAmb IAmb 07 32 05.1
comp=Z,16nm,0.9s
BPAW Bear Paw Mtn. 54.25 31 P **P** **07 32 03.8 +1.1**
BPAW Bear Paw Mtn. 54.25 31 P **P** **07 32 03.3 +0.6**
baz=268,SNR=7.9
BRSE Bradley Lake S 54.31 36 P **P** **07 32 04.1 +0.9**
baz=271
AS31 Alice Springs 54.33 185 P **P** **07 32 03.7 0.0**
AS31 IAmb IAmb 07 32 05.9
comp=Z,16nm,0.5s
ASAR Alice Springs 54.33 185 P **P** **07 32 03.9 +0.1**
comp=Z,25nm,0.7s,baz=16,slow=12,SNR=254
ASAR PcP **PcP** **07 33 03.8 +1.5**
comp=Z,1.7nm,0.8s,baz=12,slow=4.7,SNR=1.6
ASAR ScP **ScP** **07 36 22.0 -1.6**
comp=Z,0.7nm,0.8s,baz=18,slow=4.0,SNR=3.0
ASAR Alice Springs 54.33 185 P **P** **07 32 04.2 +0.4**
ASAR Alice Springs 54.33 185 P **P** **07 32 04.2 +0.4**
KK31 Karatay Array 54.40 303 *i*P **P** **07 32 03.6 -0.6**
KK31 Karatay Array 54.40 303 P **P** **07 32 03.7 -0.5**
KK31 IAmb IAmb 07 32 04.9
comp=Z,26nm,0.8s
KKAR Karatay Array 54.40 303 P **P** **07 32 03.3 -0.9**
KKAR pmax pmax
comp=Z,26nm,0.8s
KKAR Karatay Array 54.40 303 P **P** **07 32 03.3 -0.9**
KKAR Karatay Array 54.40 303 P **P** **07 32 03.7 -0.5**
KKAR IAmb IAmb 07 32 04.9
comp=Z,26nm,0.8s
TRF Thorofare Moun 54.54 31 P **P** **07 32 05.4 +0.5**
TRF Thorofare Moun 54.54 31 P **P** **07 32 04.9 -0.1**
baz=269
M22K Willow 54.60 34 P **P** **07 32 05.5 +0.4**
M22K IAmb IAmb 07 32 06.0
comp=Z,14nm,0.8s
M22K Willow 54.60 34 P **P** **07 32 05.0 -0.2**
baz=270,SNR=5.3
MBWA Marble Bar 54.73 202 P **P** **07 32 06.8 +0.1**
COLD Coldfoot 54.76 27 P **P** **07 32 06.8 +0.5**
baz=266
RC01 Rabbit Creek A 54.78 34 P **P** **07 32 06.1 -0.4**
baz=271
H23K Yukon River 54.94 29 P **P** **07 32 08.4 +0.8**
H23K Yukon River 54.94 29 P **P** **07 32 08.8 +1.3**
baz=268,SNR=11
SEW Seward 54.95 36 P **P** **07 32 07.9 +0.2**
SEW IAmb IAmb 07 32 08.5
comp=Z,22nm,1.0s
SEW Seward 54.95 36 P **P** **07 32 07.4 -0.2**
baz=272,SNR=5.0
I23K Minto, Yukon-K 54.99 29 P **P** **07 32 08.7 +0.8**
baz=268,SNR=6.4
PMR Palmer 55.07 34 P **P** **07 32 08.6 +0.1**
PMR pmax pmax
comp=Z,19nm,1.2s
PMR Palmer 55.07 34 P **P** **07 32 08.6 +0.1**
PMR IAmb IAmb 07 32 09.3
comp=Z,19nm,1.2s
PMR Palmer 55.07 34 P **P** **07 32 08.3 -0.2**
baz=271,SNR=9.6
PSA00 Pilbara Seismi 55.09 201 P **P** **07 32 08.9 -0.2**
PSA00 IAmb IAmb 07 32 10.2
comp=Z,19nm,0.7s
PSA00 Pilbara Seismi 55.09 201 P **P** **07 32 09.3 +0.2**
PSA00 IAmb IAmb 07 32 10.2
comp=Z,38nm,0.7s
PSA00 Pilbara Seismi 55.09 201 P **P** **07 32 09.9 +0.8**
TOLK Toolik Lake Re 55.10 25 P **P** **07 32 09.9 +1.2**
TOLK Toolik Lake Re 55.10 25 P **P** **07 32 09.4 +0.7**
baz=266,SNR=14
NEA2 Nenana 55.10 30 P **P** **07 32 09.4 +0.7**
NEA2 IAmb IAmb 07 32 10.3
comp=Z,22nm,1.0s
NEA2 Nenana 55.10 30 P **P** **07 32 09.3 +0.6**
baz=269,SNR=27
MCK McKinley 55.15 31 P **P** **07 32 09.6 +0.5**
MCK pmax pmax
comp=Z,16nm,0.9s
MCK McKinley 55.15 31 P **P** **07 32 09.6 +0.5**
MCK IAmb IAmb 07 32 10.8
comp=Z,16nm,0.9s
MCK McKinley 55.15 31 P **P** **07 32 09.2 +0.1**
baz=270,SNR=13
RND Reindeer 55.19 32 P **P** **07 32 09.4 0.0**
RND pmax pmax
comp=Z,16nm,0.7s
RND Reindeer 55.19 32 P **P** **07 32 09.4 0.0**
RND IAmb IAmb 07 32 10.2
comp=Z,16nm,0.7s
KNK Knik Glacier 55.40 34 P **P** **07 32 11.1 +0.2**
baz=272,SNR=11
GAR Garm 55.43 298 P **P** **07 32 11.2 -0.4**
SML Sawmill 55.45 33 P **P** **07 32 11.5 +0.3**
baz=272,SNR=8.7
MDM Murphy Dome 55.47 30 P **P** **07 32 12.3 +0.9**
MDM IAmb IAmb 07 32 13.1
comp=Z,17nm,1.0s
TCOL CIGO, UAF Yank 55.62 30 P **P** **07 32 13.5 +1.1**
baz=270
H24K Noodor Dome 55.63 29 P **P** **07 32 13.5 +1.0**
baz=269,SNR=8.8
COLA College 55.63 30*ce*P **P** **07 32 13.7 +1.3**
COLA pmax pmax
comp=Z,6.0nm,0.7s
COLA College 55.63 30 P **P** **07 32 13.5 +1.1**
baz=270
WAT6 Susitna Watana 55.70 33 P **P** **07 32 13.3 +0.1**
baz=271,SNR=9.2
POKR Poker Plat Res 55.81 29 P **P** **07 32 14.4 +0.7**
POKR IAmb IAmb 07 32 15.6
comp=Z,12nm,0.8s
POKR Poker Plat Res 55.81 29 P **P** **07 32 14.0 +0.3**
baz=270
DHY Denali Highway 55.86 32 P **P** **07 32 14.1 -0.2**
baz=271
SCM Sheep Creek Mo 55.92 33 P **P** **07 32 15.0 +0.4**
baz=272,SNR=12
IL31 56.04 30 P **P** **07 32 15.5 +0.2**
ILAR Eielson Array 56.04 30 P **P** **07 32 14.6 -0.7**
comp=Z,2.5nm,0.8s,baz=268,slow=5.4,SNR=29
ILAR pP **pP** **07 33 34.9 +1.1**
comp=Z,1.0nm,0.8s,baz=251,slow=6.2,SNR=4.5
ILAR Eielson Array 56.04 30 P **P** **07 32 14.8 -0.5**
ILAR Eielson Array 56.04 30 P **P** **07 32 14.8 -0.5**
GLI Glacier Island 56.08 35 P **P** **07 32 15.9 +0.3**
baz=273
WRKA Warakurna 56.38 191 P **P** **07 32 19.0 +0.8**
CHGR Chuyangaron 56.39 298 P **P** **07 32 17.0 -1.3**
CHGR pmax pmax
comp=Z,144nm,0.8s
CHGR Chuyangaron 56.39 298 P **P** **07 32 18.0 -0.3**
M24K Tolsona, Glenn 56.45 33 P **P** **07 32 18.6 +0.3**
M24K IAmb IAmb 07 32 20.2
comp=Z,16nm,0.8s
M24K Tolsona, Glenn 56.45 33 P **P** **07 32 19.1 +0.8**
baz=273
KLU Klutina 56.61 34 P **P** **07 32 19.9 +0.5**
baz=274,SNR=9.7
J25K Salcha River, 56.70 30 P **P** **07 32 19.6 -0.3**
J25K Salcha River, 56.70 30 P **P** **07 32 19.5 -0.5**
baz=272
PAX Paxson 56.73 32 P **P** **07 32 20.6 +0.3**
baz=273,SNR=7.6
EYAK Cordova Ski Ar 56.76 35 P **P** **07 32 21.0 +0.6**
baz=274,SNR=5.7
HARP HAARP 56.91 33 P **P** **07 32 22.3 +0.9**
baz=274,SNR=10
BMAR Burnt Mountain 56.94 27 P **P** **07 32 22.8 +1.2**
RIDG Independent Ri 56.97 31 P **P** **07 32 22.5 +0.6**
baz=273,SNR=7.7
EIDS Eidsvold 57.10 167 P **P** **07 32 23.8 +0.7**
EIDS IAmb IAmb 07 32 24.9
comp=Z,13nm,0.8s
EIDS Eidsvold 57.10 167 P **P** **07 32 22.3 -0.9**
N25K Chitina, Valde 57.23 34 P **P** **07 32 25.0 +1.2**
N25K IAmb IAmb 07 32 25.6
comp=Z,10nm,0.8s
N25K Chitina, Valde 57.23 34 P **P** **07 32 24.3 +0.5**
baz=275,SNR=9.2
BMRM Bremner River 57.29 34 P **P** **07 32 25.0 +0.9**
BMRM Bremner River 57.29 34 P **P** **07 32 25.0 +0.9**
baz=275,SNR=23
QLP Quilpie 57.30 174 P **P** **07 32 24.9 +0.4**
DOT Dot Lake 57.32 31 P **P** **07 32 24.1 -0.2**
DOT IAmb IAmb 07 32 25.2
comp=Z,13nm,0.7s
SCRK Sand Creek 57.33 31 P **P** **07 32 24.5 0.0**
baz=274,SNR=18
KAIM Kayak Island 57.48 36 P **P** **07 32 25.7 +0.3**
baz=276
J26L Joseph Creek 57.48 30 P **P** **07 32 25.2 -0.3**
baz=274,SNR=19
KBL Kabul 57.61 294 P **P** **07 32 26.4 -0.5**
SNR=8.8
L26K Log Cabin Wild 57.69 32 P **P** **07 32 27.8 +0.9**
baz=275,SNR=16
RMQ Roma 57.77 169 P **P** **07 32 27.0 -0.8**
M26K Nabesna, AK 57.91 33 P **P** **07 32 29.1 +0.7**
baz=276,SNR=13
MCARA McCarthy VSAT 58.01 34 P **P** **07 32 29.8 +0.8**
baz=276,SNR=14
L27K Beaver Creek, 58.38 32 P **P** **07 32 32.4 +0.8**
baz=276,SNR=17
SVE Sverdlovsk 58.39 321 *e*P **P** **07 32 31.0 -0.6**
SVE pmax pmax
comp=Z,16nm,0.9s
BCAR Beaver Creek A 58.40 32 P **P** **07 32 32.3 +0.6**
M27K Edge Creek, AK 58.44 33 P **P** **07 32 32.9 +0.8**
baz=277,SNR=19
EGAK Eagle 58.49 30 P **P** **07 32 31.8 -0.4**
EGAK Eagle 58.49 30 P **P** **07 32 32.0 -0.3**
baz=276,SNR=5.7
GRNC Granite Creek 58.70 34 P **P** **07 32 34.9 +0.9**
GRNC IAmb IAmb 07 32 35.4
comp=Z,9.6nm,0.7s
PALK Pallekele 58.81 259*d i*P **P** **07 32 35.5 +0.2**
PALK pmax pmax
comp=Z,28nm,0.9s
PALK Pallekele 58.81 259 P **P** **07 32 35.9 +0.7**
PALK IAmb IAmb 07 32 36.4
comp=Z,18nm,0.8s
PALK Pallekele 58.81 259 P **P** **07 32 35.6 +0.4**
CTG Chitna Glacier 58.87 34 P **P** **07 32 35.3 +0.2**
baz=278
BVCY Beaver Creek 58.90 32 P **P** **07 32 35.6 +0.4**
baz=278
YUK3 Moose Creek 59.17 33 P **P** **07 32 37.7 +0.4**
baz=278,SNR=15
DAWY Dawson 59.34 30 P **P** **07 32 38.2 +0.1**
DAWY Dawson 59.34 30 P **P** **07 32 38.5 +0.4**
baz=278,SNR=6.9
PINM Pinnacle 59.53 35 P **P** **07 32 39.8 +0.4**
baz=279
ARU Arti 59.59 321*d i*P **P** **07 32 39.1 -0.7**
ARU pmax pmax
comp=Z,35nm,1.0s
ARU Arti 59.59 321 P **P** **07 32 39.5 -0.3**
ARU IAmb IAmb 07 32 40.1
comp=Z,25nm,0.7s
I29M Ogilvie Camp, 59.62 29 P **P** **07 32 40.5 +0.6**
baz=278,SNR=8.7
J29M Klondike Camp 59.79 30 P **P** **07 32 42.0 +0.9**
baz=279,SNR=5.8
PNL Peninsula 60.03 35 P **P** **07 32 43.4 +0.7**
baz=280
YUK4 Talbot Arm 60.10 33 P **P** **07 32 44.6 +1.2**
baz=280,SNR=7.6
EPYK Eagle Plains 60.12 28 P **P** **07 32 43.6 +0.3**
baz=279,SNR=24
AB31 Akbulak array 60.28 312 *i*P **P** **07 32 43.4 -1.2**
ABKAR Akbulak array 60.28 312 P **P** **07 32 43.4 -1.2**
ABKAR IAmb IAmb 07 32 44.9
comp=Z,21nm,0.8s
ABKAR Akbulak array 60.28 312 P **P** **07 32 43.8 -0.8**
YUK6 Outpost Mounta 60.31 34 P **P** **07 32 45.9 +1.0**
baz=280
M30M Minto, Yukon 60.74 32 P **P** **07 32 48.7 +1.2**
baz=281,SNR=7.5
HYT Haines Junctio 60.74 34 P **P** **07 32 48.5 +0.8**
HYT IAmb IAmb 07 32 50.0
comp=Z,12nm,0.9s
HYT Haines Junctio 60.74 34 P **P** **07 32 48.9 +1.3**
baz=281,SNR=9.1
INK Inuvik 61.01 25 P **P** **07 32 48.9 -0.2**
comp=Z,1.5nm,0.6s,baz=295,slow=4.4,SNR=6.4
INK Inuvik 61.01 25 P **P** **07 32 48.4 -0.8**
INK Inuvik 61.01 25 P **P** **07 32 49.1 0.0**
baz=280,SNR=6.2
AKTO Aktyubinsk 61.20 314 P **P** **07 32 49.7 -1.1**
N31M Braeburn, Yuko 61.42 33 P **P** **07 32 53.3 +1.2**
baz=282,SNR=6.4
M31M Drury Creek, Y 61.91 32 P **P** **07 32 55.9 +0.7**
baz=283,SNR=12
WHY Whitehorse 62.03 34 P **P** **07 32 57.4 +1.2**
WHY IAmb IAmb 07 32 58.3
comp=Z,8.8nm,0.9s
WHY Whitehorse 62.03 34 P **P** **07 32 57.2 +1.0**
baz=283,SNR=5.4
FORT Forrest 62.04 190 P **P** **07 32 57.0 +0.6**
SKAG Skagway 62.10 35 P **P** **07 32 57.4 +0.9**
baz=284
ARMA Armidale 62.12 167 P **P** **07 32 58.0 +1.0**
ARMA IAmb IAmb 07 32 59.2
comp=Z,7.8nm,0.8s
FARO Faro, Yukon 62.38 32 P **P** **07 32 59.2 +0.9**
baz=284
STKA Stephens Creek 62.39 177 P **P** **07 32 59.4 +0.8**
comp=Z,24nm,0.7s,baz=340,slow=7.7,SNR=77
STKA Stephens Creek 62.39 177*de*P **P** **07 32 59.2 +0.5**
STKA Stephens Creek 62.39 177 P **P** **07 32 59.1 +0.5**
A36M Sachs Harbour 62.92 20 P **P** **07 33 02.2 +0.6**
baz=286,SNR=8.6
MMPY Sheldon Lake, 63.22 31 P **P** **07 33 04.8 +1.0**
baz=285
MORW Morawa 63.28 202 P **P** **07 33 05.0 +0.4**
MORW IAmb IAmb 07 33 05.6
comp=Z,25nm,1.1s
BBOO Buckleboo 63.30 182 P **P** **07 33 05.5 +1.0**
KIRV Kirov 63.87 324*d i*P **P** **07 33 07.8 -0.2**
C36M Paulatuk 64.08 23 P **P** **07 33 09.3 +0.1**
baz=288,SNR=7.3

WRAK **Wrangell Islan** 64.45 38 P P 07 33 12.8 +1.0
baz=288
PRGR **Permogore** 64.77 328 *e*P P 07 33 12.5 -1.2
PRGR pmax pmax
comp=Z,7.0nm,0.5s
TGTN **Hyland Airport** 64.88 32 P P 07 33 15.5 +0.9
baz=288,SNR=6.0
GEYT **Alibeck** 64.89 301 P P 07 33 15.1 +0.1
comp=Z,13nm,0.8s,baz=82,slow=3.1,SNR=14
GEYT **Alibeck** 64.89 301 P P 07 33 14.9 -0.1
GEYT IAmb IAmb 07 33 16.0
comp=Z,14nm,0.8s
DIB **Dawson Inlet,** 65.39 41 P P 07 33 18.3 +0.6
DIB IAmb IAmb 07 33 18.7
comp=Z,8.7nm,0.7s
WRGLY **Wrigley** 66.41 29 P P 07 33 25.4 +1.3
baz=292
CAN **Canberra** 66.48 171 P P 07 33 27.0 +2.1
NWAO **Narrogin (SRO)** 66.51 200 P P 07 33 25.0 -0.1
NWAO pmax pmax
comp=Z,26nm,0.8s
NWAO **Narrogin (SRO)** 66.51 200 P P 07 33 25.0 -0.1
BELG **Belogornoye** 66.82 318 *ce*P P 07 33 26.0 -0.8
KLMR **Klimovskoe** 67.81 329 *e*P P 07 33 31.3 -1.5
KLMR pmax pmax
comp=Z,16nm,1.1s
KLMR **Klimovskoe** 67.81 329 *e*P P 07 33 31.4 -1.4
KLMR AMP 07 33 33.2
comp=Z,16nm,1.1s
TOO **Toolangi** 68.31 174 P P 07 33 37.8 +1.7
TOO pmax pmax
comp=Z,14nm,0.9s
TOO **Toolangi** 68.31 174 P P 07 33 37.8 +1.7
TOO IAmb IAmb 07 33 38.5
comp=Z,14nm,0.9s
ARCES **ARCESS Array B** 69.02 340 P P 07 33 39.5 -0.6
comp=Z,7.6nm,0.8s,baz=70,slow=8.3,SNR=12
ARCES **ARCESS Array B** 69.02 340 P P 07 33 40.5 +0.4
ARCES pmax pmax
comp=Z,15nm,1.1s
ARCES **ARCESS Array B** 69.02 340 P P 07 33 40.5 +0.4
ARCES IAmb IAmb 07 33 41.3
comp=Z,15nm,1.1s
RES **Resolute Bay** 69.21 13 P P 07 33 41.9 +0.8
RES pmax pmax
comp=Z,3.0nm,0.8s
RES **Resolute Bay** 69.21 13 P P 07 33 41.9 +0.8
JLN **Jalan Bani Buh** 70.08 284 P P 07 33 47.0 -0.4
WBK **Wadi Bani Khal** 70.25 285 P P 07 33 48.2 -0.2
WSAR **Wadi Sarin** 70.26 286 P P 07 33 48.4 0.0
YKA **Yellowknife Ar** 70.39 28 P P 07 33 48.2 -0.3
comp=Z,2.6nm,0.8s,baz=297,slow=6.1,SNR=42
YKA pP **pP** 07 35 12.8 +1.7
comp=Z,1.9nm,0.9s,baz=294,slow=5.9,SNR=8.0
BIDO **Bidbid** 70.55 286 P P 07 33 50.5 +0.4
VRH **Novokhopyorsk** 70.66 319 *e*P P 07 33 49.1 -1.2
VRH pmax pmax
comp=Z,40nm,0.8s
SMDO **Samad** 70.82 286 P P 07 33 51.7 -0.1
BANOM **Banah** 71.01 289 P P 07 33 53.3 +0.4
JMDO **Jabal Madar** 71.07 285 P P 07 33 53.0 -0.3
SHME **Shamm** 71.08 289 P P 07 33 53.7 +0.4
SHME **Shamm** 71.08 289 *i* P P 07 33 53.7 +0.4
SNR=11
HOQ **Hoqain** 71.20 287 P P 07 33 54.3 +0.2
MASF **Masafi** 71.36 289 P P 07 33 55.2 +0.2
MSFE **Esma-Masafi** 71.37 289 P P 07 33 55.2 +0.2
UOSS **Minazif** 71.51 288 P P 07 33 54.8 -1.1
UOSS **Minazif** 71.51 288 P P 07 33 54.9 -0.9
SOHO **SOHO** 71.60 288 P P 07 33 56.3 -0.1
SOHO **SOHO** 71.60 288 *i* P P 07 33 56.3 -0.1
SNR=14
LPSR **Galich'ya Gora** 71.61 321 *e*P P 07 33 54.1 -1.8
LPSR pmax pmax
comp=Z,20nm,0.9s
HATD **Hatta, Dubai** 71.62 288 P P 07 33 56.8 +0.3
HATD **Hatta, Dubai** 71.62 288 *i* P P 07 33 56.9 +0.3
SNR=6.6
BSY **Bisya** 71.66 286 P P 07 33 56.7 -0.1
OBN **Obninsk** 71.71 324 ⇓*i* P P 07 33 56.7 +0.3
OBN *e* 07 36 42.0
OBN pmax pmax
comp=Z,13nm,0.4s
ASHO **Ashiyiah** 71.75 288 P P 07 33 57.3 0.0
ASHO **Ashiyiah** 71.75 288 P P 07 33 57.2 -0.1
MHTO **MHTO** 71.80 284 P P 07 33 57.3 -0.3
SNR=5.4
VORR **Voronezh** 71.87 320 *e*P P 07 33 57.9 +0.4
VORR pmax pmax
comp=Z,70nm,0.4s
ARQ **Araqi** 71.96 287 P P 07 33 58.6 +0.1
SNR=5.5
FAQ **Al Faqa, Dubai** 72.10 288 P P 07 33 59.0 -0.3
FAQ **Al Faqa, Dubai** 72.10 288 *i* P P 07 33 59.0 -0.3
SNR=6.5
VSR **Storozhevoye** 72.10 319 *e*P P 07 33 58.3 -0.5
VSR pmax pmax
comp=Z,40nm,0.9s
VORD **Divnogorie** 72.14 319 *e*P P 07 33 58.8 -0.3
VORD pmax pmax
comp=Z,50nm,1.0s
ALNE **Al Ain** 72.27 288 P P 07 34 00.5 +0.2
ASUD **Al Ashush, Dub** 72.37 288 P P 07 34 01.0 +0.1
ASUD **Al Ashush, Dub** 72.37 288 P P 07 34 01.1 +0.2
PUL **Pulkovo** 72.37 330 ⇓*e*P P 07 34 00.3 +0.1
PUL pmax pmax
comp=Z,52nm,0.7s
DQM **DQM** 72.63 283 P P 07 34 02.4 -0.1
A04D **Lummi Island** 72.82 43 P P 07 34 03.9 +0.9
baz=297
ZEI **Tsey** 72.97 310 *e*P P 07 34 03.0 -1.3
ZEI pmax pmax
comp=Z,12nm,0.9s
D03D **Eldon** 73.13 44 P P 07 34 06.5 +1.6
baz=297,SNR=7.5
KBZ **Khabaz** 73.21 311 P P 07 34 05.2 -0.2
comp=Z,24nm,0.8s,baz=86,slow=4.5,SNR=60
KBZ **Khabaz** 73.21 311 *d i* P P 07 34 05.4 0.0
KBZ pmax pmax
comp=Z,35nm,0.9s
FIA1 **FINESS Array S** 73.24 332 P P 07 34 04.6 -0.7
FIA1 IAmb IAmb 07 34 05.6
comp=Z,11nm,0.8s
FINES **FINESS Array B** 73.24 332 P P 07 34 04.6 -0.7
comp=Z,6.9nm,0.5s,baz=58,slow=5.8,SNR=28
FINES **FINESS Array B** 73.24 332 *i* P P 07 34 05.0 -0.3
FINES pmax pmax
comp=Z,7.0nm,0.5s
FINES **FINESS Array B** 73.24 332 P P 07 34 05.2 -0.1
KIV **Kislovodsk** 73.24 311 *e*P P 07 34 06.2 +0.4
KIV pmax pmax
comp=Z,35nm,1.1s
KIV **Kislovodsk** 73.24 311 P P 07 34 06.4 +0.7
KIV **Kislovodsk** 73.24 311 P P 07 34 02.9 -2.8
UMZA **Um Al Zommool** 73.35 287 P P 07 34 06.2 -0.4
B05A **Bryant** 73.39 43 P P 07 34 07.5 +1.1
baz=298
D04E **Lakebay** 73.49 45 P P 07 34 08.2 +1.3
baz=298
NEY **Neytrino** 73.54 311 ⇓*e*P P 07 34 07.1 -0.5
NEY pmax pmax
comp=Z,3.0nm,0.9s
GNI **Garni** 73.57 307 *de*P P 07 34 08.4 +0.6
GNI pmax pmax
comp=Z,34nm,1.7s
GNI **Garni** 73.57 307 P P 07 34 08.2 +0.3
DGAR **Diego Garcia** 73.74 251 *ce*P P 07 34 09.5 +0.6
DGAR pmax pmax
comp=Z,144nm,2.5s
AKH **Akhalkalaki** 73.85 309 ⇓P P 07 34 10.2 +0.8
E04D **Cinebar** 73.90 45 P P 07 34 10.6 +1.2
baz=298
MZWR **Madinat Zayed** 73.94 288 P P 07 34 09.3 -0.7
G03D **McMinnville, O** 74.09 47 P P 07 34 11.6 +1.1
baz=298
CHVG **Ch'k'valeri** 74.19 310 ⇓P P 07 34 11.3 +0.1
CHVG **Ch'k'valeri** 74.19 310 ⇓P P 07 34 11.3 +0.1
JRN **Qarnain Island** 74.24 290 P P 07 34 10.7 -1.0
C06D **Leavenworth** 74.26 43 P P 07 34 12.5 +1.1
baz=298
MZR **Muzera** 74.61 288 P P 07 34 13.4 -0.4
MZR **Muzera** 74.61 288 *i* P P 07 34 13.4 -0.4
SNR=6.8
J01E **Myrtle Point** 74.62 49 P P 07 34 15.0 +1.5
baz=298
VSU **Vasula** 74.64 330 ⇑*e*P P 07 34 13.2 -0.1
VSU pmax pmax
comp=Z,74nm,0.9s
GHWR **Ruwais** 74.66 289 P P 07 34 13.9 -0.2
H04D **Lebanon** 74.75 47 P P 07 34 15.6 +1.4
baz=298
I03D **Drain, OR** 74.75 48 P P 07 34 15.8 +1.5
baz=298,SNR=6.5
K02D **Willamette Mer** 75.01 49 P P 07 34 17.0 +1.1
baz=298,SNR=5.4
SHAO **Shalim** 75.11 282 P P 07 34 16.6 -0.2
G05D **Wamic, OR** 75.29 46 P P 07 34 18.4 +1.1
baz=299
L02E **Cave Junction** 75.31 50 P P 07 34 18.3 +0.8
baz=298
SHMA **Al-Shehemyia** 75.34 291 P P 07 34 16.9 -1.0
SLWR **Sila** 75.58 290 P P 07 34 18.8 -0.5
SAKB **Bahrain** 75.63 292 P P 07 34 18.4 -1.2
TRNA **Turayna** 75.66 290 P P 07 34 18.3 -1.4
I05D **Terrebonne, OR** 75.71 47 P P 07 34 20.7 +0.9
baz=299
J04D **Umpqua Nationa** 75.76 48 P P 07 34 21.4 +1.2
baz=299,SNR=6.8
DMTO **DMTO** 75.83 282 P P 07 34 20.1 -0.7
DOK **Doka** 76.09 283 P P 07 34 21.1 -1.1
SNR=5.0
L04D **Klamath Falls** 76.12 49 P P 07 34 23.1 +0.8
baz=299
M02C **Callahan** 76.16 50 P P 07 34 23.8 +1.4
baz=299,SNR=6.0
NEW **Newport** 76.29 42 P P 07 34 23.8 +0.9
baz=301
J05D **Fort Rock, OR** 76.29 48 P P 07 34 24.4 +1.2
baz=299,SNR=16
N02D **Trinity Center** 76.46 50 P P 07 34 25.3 +1.3
baz=299,SNR=5.4
NACGM **Naroch** 76.64 327 *e*P P 07 34 24.3 -0.3
M04C **Macdoel** 76.64 49 P P 07 34 26.2 +1.1
baz=299,SNR=8.0
WHFO **Wadi Hawf** 76.72 283 P P 07 34 24.5 -1.3
SNR=6.4
O02D **Mt. Diablo Mer** 76.79 51 P P 07 34 27.2 +1.3
baz=299,SNR=6.1
ABTO **Aybut** 77.39 283 P P 07 34 28.6 -0.9
SNR=6.4
O03E **Paynes Creek** 77.39 51 P P 07 34 29.7 +0.5
baz=300
URZ **Urewera** 77.53 150 P P 07 34 29.5 -0.1
comp=Z,9.7nm,0.8s,baz=211,slow=5.9,SNR=3.9
URZ **Urewera** 77.53 150 P P 07 34 28.5 -1.1
AKASG **Malin Array Be** 77.78 322 P P 07 34 29.9 -1.1
comp=Z,170nm,0.5s,baz=46,slow=6.6,SNR=14
AKBB **Malin Array Si** 77.78 322 *d i* P P 07 34 30.3 -0.7
AKBB pmax pmax
comp=Z,24nm,0.8s
AKBB **Malin Array Si** 77.78 322 P P 07 34 30.4 -0.7
NB2 **NORSAR Subarra** 79.01 337 P P 07 34 36.7 -0.8
comp=Z,10nm,1.0s,baz=45,slow=5.6
NOA **NORSAR Array B** 79.01 337 P P 07 34 36.8 -0.8
comp=Z,5.0nm,0.9s,baz=44,slow=5.3,SNR=7.9
DIKM **Dikmen** 79.14 312 ⇑P P 07 34 39.0 +0.5
SOCY **Socotra** 79.28 278 P P 07 34 37.6 -2.3
SOCY **Socotra** 79.28 278 P P 07 34 37.6 -2.3
SNR=5.5
SORM **Soroca** 79.70 320 ⇑P P 07 34 40.9 -0.5
SORM **Soroca** 79.70 320 ⇑P P 07 34 40.9 -0.5
BZK **Bozkurt** 79.77 313 ⇑P P 07 34 41.3 -0.6
HLID **Hailey** 80.39 45 P P 07 34 46.1 +0.7
baz=304
EGMT **Eagleton** 80.54 39 P P 07 34 46.8 +0.8
baz=306
NVAR **Mina Array Bea** 80.68 51 P P 07 34 48.1 +1.0
comp=Z,1.4nm,0.7s,baz=285,slow=5.9,SNR=13
NVAR pP **pwP** 07 36 14.1 +2.0
comp=Z,0.9nm,0.7s,baz=288,slow=4.6,SNR=3.6
BOZ **Bozeman (W)** 80.90 42 P P 07 34 48.6 +0.6
baz=305
SMMC **Simmler** 81.15 54 P P 07 34 50.3 +1.0
baz=302
BR131 **Keskin Array S** 81.20 311 P P 07 34 49.8 +0.1
SNR=10
BRTR **Keskin Array B** 81.20 311 P P 07 34 49.5 -0.1
comp=Z,11nm,1.0s,baz=89,slow=3.3,SNR=35
BRTR **Keskin Array B** 81.20 311 P P 07 34 49.7 0.0
PKM **Mcpherson Peak** 81.50 55 P P 07 34 51.6 +0.3
baz=302
VES **Vestal, Richgr** 81.51 53 P P 07 34 51.3 +0.2
baz=302
CFR **Carcaliu** 81.53 318 ⇑P P 07 34 50.5 -0.5
CFR **Carcaliu** 81.53 318 ⇑P P 07 34 50.5 -0.5
TPGR **Topolog** 81.55 318 ⇑P P 07 34 51.0 -0.2
TESR **Tescani** 81.59 320 ⇑P P 07 34 51.6 +0.3
BUR08 **Bucovina Ar. S** 81.71 321 P P 07 34 51.8 -0.3
BUR08 IAmb IAmb 07 34 53.1
comp=Z,13nm,1.1s
BURAR **Bucovina Array** 81.72 321 ⇑P P 07 34 51.4 -0.7
BURAR **Bucovina Array** 81.72 321 ⇑P P 07 34 51.4 -0.7
BURAR **Bucovina Array** 81.72 321 P P 07 34 51.9 -0.3
BURAR IAmb IAmb 07 34 53.4
comp=Z,9.7nm,0.9s
CWC **Cottonwood Cre** 81.88 52 P P 07 34 53.6 +0.3
baz=302
VRI **Vrincioaia** 81.93 319 ⇑P P 07 34 53.6 +0.5
VRI **Vrincioaia** 81.93 319 ⇑P P 07 34 53.6 +0.5
PLOR **Plostina** 81.98 319 ⇑P P 07 34 53.9 +0.5
PLOR **Plostina** 81.98 319 ⇑P P 07 34 53.9 +0.5
ISA **Isabella, Lake** 82.02 53 P P 07 34 54.1 +0.1
baz=302
GRAC **Grapevine Rang** 82.07 52 P P 07 34 54.8 +0.8
baz=303
BISRR **Bisoca** 82.13 319 ⇑P P 07 34 53.9 -0.3
H17A **Grant Village** 82.20 43 P P 07 34 57.4 +2.5
baz=306
COVR **Voineasa-Covas** 82.23 319 ⇑P P 07 34 55.3 +0.6
MPMC **Manual Prospec** 82.49 52 P P 07 34 57.0 +0.6
baz=303
R11A **Troy Canyon, C** 82.52 50 P P 07 34 57.0 +0.4
baz=304
RLMT **Red Lodge** 82.53 41 P P 07 34 57.3 +0.8
baz=307
MLR **Muntele Rosu** 82.59 319 ⇑P P 07 34 56.2 -0.5
MLR **Muntele Rosu** 82.59 319 ⇑P P 07 34 56.2 -0.5
DOPR **Dopca** 82.62 320 ⇓P P 07 34 57.5 +0.8
LRMC **Laurel Mtn Rad** 82.67 53 P P 07 34 57.5 +0.2
baz=303
FURC **Furnace Creek,** 82.69 52 P P 07 34 57.8 +0.7
baz=303,SNR=6.3
EDW2 **Edwards Air Fo** 82.77 54 P P 07 34 58.2 +0.5
baz=303
TPNV **Topopah Spring** 82.84 51 P P 07 34 59.2 +1.0
TPNV pmax pmax
comp=Z,3.0nm,0.9s
TPNV **Topopah Spring** 82.84 51 P P 07 34 59.1 +1.0
TPNV **Topopah Spring** 82.84 51 P P 07 34 58.8 +0.6
baz=303,SNR=7.7
VOIR 83.13 319 ⇑P P 07 34 59.2 -0.1
VOIR 83.13 319 ⇑P P 07 34 59.2 -0.1
LAO **LASA Array** 83.26 39 P P 07 35 00.6 +0.6
baz=308
DUG **Dugway, Tooele** 83.27 47 P P 07 35 01.0 +0.7
baz=305
BFSC **Mount Baldy Ra** 83.35 54 P P 07 35 01.4 +0.7
baz=303
GSC **Goldstone, Bar** 83.36 53 P P 07 35 01.4 +0.7
baz=303,SNR=5.3
SHOC **Shoshone, Teco** 83.40 52 P P 07 35 01.2 +0.4
baz=303
ARR **Arges** 83.40 320 ⇑P P 07 35 01.6 +0.8
DRGR 83.57 322 ⇑P P 07 35 01.4 -0.2
DRGR 83.57 322 ⇑P P 07 35 01.4 -0.2
BW06 **Boulder Array** 83.76 43 P P 07 35 02.7 -0.1
baz=307
PDAR **Pinedale Array** 83.76 43 P P 07 35 02.5 -0.3
comp=Z,0.4nm,0.7s,baz=284,slow=4.5,SNR=5.4
PDAR pP **pP** 07 36 28.5 -0.2
comp=Z,0.4nm,0.6s,baz=300,slow=2.7,SNR=3.0
PDAR **Pinedale Array** 83.76 43 P P 07 35 03.2 +0.4
BBRC **Big Bear Solar** 83.85 54 P P 07 35 03.3 -0.1
baz=303
HEC **Hector,Ludlow** 83.95 53 P P 07 35 04.1 +0.4
baz=303,SNR=5.9
MURC **Murrieta** 84.02 54 P P 07 35 04.1 +0.1
baz=303
MORC **Moravsky Berou** 84.26 326 *e*P P 07 35 04.5 -0.4
GMRC **Granite Mounta** 84.43 53 P P 07 35 06.5 +0.3
baz=304
PFO **Pinyon Flats O** 84.53 54 P P 07 35 07.4 +0.8
PFO pmax pmax
comp=Z,7.0nm,0.9s
PFO **Pinyon Flats O** 84.53 54 P P 07 35 07.4 +0.8
PFO IAmb IAmb 07 35 08.1
comp=Z,7.4nm,0.9s
PFO **Pinyon Flats O** 84.53 54 P P 07 35 07.0 +0.3
baz=304,SNR=8.8
TPFO **Pinon Flats** 84.53 54 P P 07 35 06.9 +0.2
baz=304,SNR=8.4
BELC **Belle Mtn. Jos** 84.63 54 P P 07 35 07.5 +0.3
baz=304,SNR=5.2
MONP2 **Monument Peak** 84.95 55 P P 07 35 09.0 +0.1
baz=304
VRAC **Vranov** 85.03 326 *e*P P 07 35 08.4 -0.3
IRM **Iron Mountain** 85.14 53 P P 07 35 09.9 +0.3
baz=304
BC3 **Big Chuckawall** 85.20 54 P P 07 35 10.4 +0.4
baz=304
CLL **Collm** 85.29 329 *i* P P 07 35 09.2 -0.7
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL **Collm** 85.29 329 *i* P P 07 35 09.2 -0.7
comp=Z,7.0nm,0.8s
KRUC **Moravsky** 85.30 326 *e*P P 07 35 09.2 -0.8
IKP **In-Ko-Pah, Jac** 85.30 55 P P 07 35 10.8 +0.4
baz=304
SWSC **Sam W. Stewart** 85.36 54 P P 07 35 10.9 +0.3
baz=304
MDVR **Moldovita** 85.39 320 ⇑P P 07 35 09.8 -0.7
KHC **Kasperske Hory** 86.58 327 ⇓*e*P P 07 35 15.3 -0.9
KHC pmax pmax
comp=Z,9.0nm,0.8s
GERES **GERESS Array B** 86.72 327 P P 07 35 15.5 -1.5
comp=Z,1.6nm,0.7s,baz=55,slow=5.1,SNR=9.7
SDCO **Great Sand Dun** 89.29 45 P P 07 35 30.4 +0.9
baz=309
ANMO **Albuquerque** 90.45 48 ⇑*i* P P 07 35 36.3 +1.5
ANMO pmax pmax
comp=Z,4.0nm,2.2s
ANMO **Albuquerque** 90.45 48 P P 07 35 35.6 +0.8
baz=309
TXAR **Lajitas Array** 95.83 51 P P 07 36 00.8 +1.3
comp=Z,0.5nm,0.6s,baz=310,slow=4.4,SNR=5.5
TXAR pP **pP** 07 37 28.9 +2.1
comp=Z,3.0nm,0.8s,baz=294,slow=2.8,SNR=18
TORD **Torodi Ar. Bea** 119.80 310 PKP **PKPdf** 07 41 19.9 -1.4
comp=Z,0.7nm,0.5s,baz=46,slow=1.0,SNR=11
TORD **Torodi Ar. Bea** 119.80 310 **PKPdf** 07 41 20.6 -0.7
QSPA **South Pole Qui** 120.55 180 **PKPdf** 07 41 21.3 +0.1
LBTB **Lobatse** 121.28 258 PKIKP **PKPdf** 07 41 23.6 -0.3
LBTB **Lobatse** 121.28 258 **PKPdf** 07 41 23.6 -0.3
BOSA **Boshof** 122.84 254 PKP **PKPdf** 07 41 26.8 -0.1
comp=Z,3.2nm,0.7s,baz=98,slow=2.3,SNR=7.1
BOSA **Boshof** 122.84 254 **PKPdf** 07 41 27.3 +0.4
DBIC **Dimbokro** 128.90 311 PKP **PKPdf** 07 41 39.0 +0.2
comp=Z,2.2nm,0.6s,baz=57,slow=2.9,SNR=4.5
DBIC **Dimbokro** 128.90 311 PKIKP **PKPdf** 07 41 39.0 +0.2
DBIC **Dimbokro** 128.90 311 **PKPdf** 07 41 38.1 -0.6
SDV **Santo Domingo** 131.60 40 PKP **PKPdf** 07 41 43.3 -0.8
comp=Z,2.1nm,0.6s,baz=292,slow=9.4,SNR=5.1
USHA **Ushuaia** 149.20 149 PKPbc **PKPbc** 07 42 19.6 +1.0
comp=Z,21nm,0.8s,baz=259,slow=2.6,SNR=13
LPAZ **La Paz** 151.66 65 PKPbc **PKiKP** 07 42 27.4 +0.7
comp=Z,2.7nm,0.7s,baz=316,slow=1.5,SNR=12
LPAZ **La Paz** 151.66 65 PKIKP **PKPdf** 07 42 17.4 -2.3
LPAZ **La Paz** 151.66 65 PKPdf **PKPdf** 07 42 17.4 -2.3
LPAZ **PKiKP** 07 42 26.8 +0.2
PLCA **Paso Flores** 154.46 121 PKPbc **PKPbc** 07 42 31.1 +0.1
comp=Z,2.5nm,1.0s,baz=251,slow=4.0,SNR=5.1
PLCA **Paso Flores** 154.46 121 PKIKP **PKPbc** 07 42 29.0 -2.1
PLCA **Paso Flores** 154.46 121 **PKPbc** 07 42 29.0 -2.1

IDC ***19*** *07:40:13.5±4.5, 32°.47S×179°.86W, h242km±41km, mb3.7/5, mb1 3.8/7, mb1mx3.5/41, mbtmp4.2/7, Error ellipse: s-maj=41.1km s-min=24.1km az=17.0*
NEIC ***19*** *07:40:18.1±0.9, 32°.5S±0°.1×179°.9E±0°.2, h268km±9km, mb4.2/18, Error ellipse: s-maj=22.6km s-min=14.5km az=111.0*

ISC 19 07:40:15.7±0.7, **32°.53S**±0°.08×**179°.9E**±0°.1, **h250**km, **n61**, σ1°**34**/62, **mb4.3**/13, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
RAO	**Raoul Island**	3.77	30	Pn	**Pn**	07 41 19.4	+2.5
WMGZ	**Waiomatatini S**	5.42	193	P	**Pn**	07 41 37.1	+0.6
HAZ	**Te Kaha**	5.50	198	P	**Pn**	07 41 37.7	+0.2
PUZ	**Puketiti**	5.69	193	P	**Pn**	07 41 39.0	-0.9
RUGZ	**Raukumara Rang**	5.72	198	P	**Pn**	07 41 40.1	-0.3
CNGZ	**Carnagh Statio**	6.10	193	P	Pn	07 41 50.9	+6.0
MWZ	**Matawai**	6.11	198	P	**Pn**	07 41 46.4	+1.3
TKGZ	**Te Karaka**	6.13	195	P	**Pn**	07 41 43.7	-1.6
URZ	**Urewera**	6.15	201	P	**Pn**	07 41 44.7	-1.0
	0.6nm,0.3s,baz=272,slow=5.5,SNR=17						
URZ				S	**S**	07 42 58.7	+1.0
	5.8nm,0.3s,baz=187,slow=23,SNR=16						
URZ	**Urewera**	6.15	201	P	**Pn**	07 41 46.1	+0.4
OMRZ	**Omania**	6.27	206	P	Pn	07 41 54.4	+7.3
RAGZ	**Rawiri**	6.29	198	P	**Pn**	07 41 47.8	+0.4
RIGZ	**Rimuhau**	6.40	195	P	**Pn**	07 41 49.1	+0.3
MUGZ	**Murupara**	6.46	202	P	**Pn**	07 41 50.8	+1.2
RTZ	**Ruatahuna**	6.52	201	P	**Pn**	07 41 49.1	-1.2
SNGZ	**Shannon Statio**	6.58	198	P	**Pn**	07 41 49.4	-1.6
RAHZ	**Arahi**	6.77	199	P	**Pn**	07 41 55.9	+2.5
MTHZ	**Maungataniwha**	6.78	201	P	**Pn**	07 41 55.0	+1.4
NMHZ	**Naumai**	7.02	200	P	**Pn**	07 41 56.9	+0.3
ARHZ	**Aropaoanui**	7.12	199	P	**Pn**	07 41 58.1	+0.3
BKZ	**Black Stump Fm**	7.18	202	P	**Pn**	07 41 58.7	+0.1
NTVZ	**North Tongarir**	7.40	206	P	**Pn**	07 42 03.6	+2.2
TMVZ	**Te Maari**	7.40	206	P	**Pn**	07 42 04.1	+2.6
ETVZ	**East Tongariro**	7.42	206	P	**Pn**	07 42 04.1	+2.4
KWHZ	**Kaweka Forest**	7.43	201	P	**Pn**	07 42 03.0	+1.2
OTVZ	**Oturere**	7.46	206	P	**Pn**	07 42 03.3	+1.1
SNVZ	**South Ngauruho**	7.49	206	P	**Pn**	07 42 05.8	+3.1
KAHZ	**Kahuranaki**	7.65	198	P	**Pn**	07 42 04.7	+0.2
KRHZ	**Kereru**	7.65	201	P	**Pn**	07 42 05.2	+0.6
PNHZ	**Pukenui**	7.95	201	P	**Pn**	07 42 08.2	-0.1
BHW	**Baring Head**	9.73	203	Pn	**Pn**	07 42 35.2	+4.4
RPZ	**Rata Peaks**	13.15	209	P	**Pn**	07 43 12.0	-1.4
	0.4nm,0.3s,baz=143,slow=18,SNR=1.6						
RPZ				S	S	07 45 30.9	-8.4
	0.8nm,0.3s,baz=303,slow=23,SNR=11						
FOZ	**Fox Glacier**	13.55	213	Pn	**Pn**	07 43 18.0	-0.1
NIUE	**Niue**	16.21	37		**P**	07 43 50.0	+1.1
EIDS	**Eidsvold**	26.16	278	P	**P**	07 45 27.4	0.0
EIDS				IAmb	IAmb	07 45 37.0	
	comp=Z,8.1nm,1.1s						
STKA	**Stephens Creek**	32.31	261	P	**P**	07 46 22.9	+1.4
	comp=Z,1.2nm,0.7s,baz=108,slow=11,SNR=4.6						
STKA	**Stephens Creek**	32.31	261	P	**P**	07 46 23.0	+1.4
CTA	**Charters Tower**	32.47	284	P	**P**	07 46 22.7	-0.4
	comp=Z,3.0nm,0.5s,baz=117,slow=9.0,SNR=2.2						
CTAO	**Charters Tower**	32.47	284	P	**P**	07 46 23.2	+0.1
CTAO				IAmb	IAmb	07 46 34.8	
	comp=Z,8.1nm,1.1s						
BBOO	**Buckleboo**	36.71	257	P	**P**	07 46 59.3	+0.2
BBOO				IAmb	IAmb	07 47 00.5	
	comp=Z,3.6nm,0.8s						
COEN	**Coen**	38.23	290	P	**P**	07 47 11.4	-0.7
COEN				IAmb	IAmb	07 47 32.4	
	comp=Z,17nm,1.3s						
AS31	**Alice Springs**	41.27	270	P	**P**	07 47 37.2	+0.3
ASAR	**Alice Springs**	41.27	270	P	**P**	07 47 37.0	0.0
	comp=Z,2.8nm,0.5s,baz=108,slow=7.8,SNR=43						
ASAR				PcP	**PcP**	07 49 28.9	-1.7
	comp=Z,0.2nm,0.4s,baz=110,slow=4.3,SNR=2.5						
ASAR	**Alice Springs**	41.27	270	P	**P**	07 47 36.6	-0.4
WR0	**Warramunga Arr**	42.28	276	P	**P**	07 47 44.7	-0.5
WR0				IAmb	IAmb	07 47 45.2	
	comp=Z,5.2nm,0.4s						
WB2	**Warramunga Arr**	42.45	276	P	**P**	07 47 46.1	-0.4
WB2				IAmb	IAmb	07 47 46.8	
	comp=Z,8.5nm,0.5s						
WRAB	**Tennant Creek**	42.45	276	P	**P**	07 47 46.0	-0.5
WRAB				IAmb	IAmb	07 47 46.5	
	comp=Z,7.4nm,0.4s						
WRA	**Warramunga Arr**	42.46	276	P	**P**	07 47 46.2	-0.3
	comp=Z,6.2nm,0.3s,baz=114,slow=7.7,SNR=264						
WRA	**Warramunga Arr**	42.46	276	P	**P**	07 47 45.1	-1.5
WB0	**Warramunga Arr**	42.49	276	P	**P**	07 47 46.5	-0.3
FORT	**Forrest**	43.81	258	P	**P**	07 47 56.9	-0.3
FORT				IAmb	IAmb	07 48 16.6	
	comp=Z,10nm,0.9s						

VNDA	**Vanda**	**45.81**	**185**	P	**P**	**07 48 13.5**	**+1.2**
MTN	**Manton Dam**	**48.61**	**282**	P	**P**	**07 48 33.1**	**-1.5**
KNRA	**Kununurra**	**49.14**	**277**	P	**P**	**07 48 38.1**	**-0.5**
KNRA				IAmb	IAmb	07 49 03.6	
	comp=Z,20nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.62**	**273**	P	**P**	**07 48 49.7**	**0.0**
SNAA	**Sanae**	**76.07**	**179**	P	**P**	**07 51 35.2**	**-0.2**
NVAR	**Mina Array Bea**	**91.01**	**44**	P	**P**	**07 52 50.7**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=221,slow=6.7,SNR=4.0						
FINES	**FINESS Array B**	**146.48**	**337**	PKPbc	**PKPdf**	**07 59 23.8**	**-1.0**
	comp=Z,2.6nm,0.4s,baz=45,slow=4.0,SNR=23						
FINES	**FINESS Array B**	**146.48**	**337**		**PKPdf**	**07 59 24.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**160.64**	**185**	PKPab	**PKPab**	**08 00 27.9**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=169,slow=4.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**160.64**	**185**	PKPdf	**PKPdf**	**07 59 44.2**	**-2.0**
TORD					**PKPab**	**08 00 27.5**	**-1.5**

*IDC **19** 07:40:38.4±3.0,26°.25N×143°.02E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/56, mbtmp3.8/8, ML3.6/2, Error ellipse: s-maj=64.8km s-min=30.5km az=20.0*
*JMA **19** 07:40:44.1±0.1,26°.50N×143°.03E, h27km±4km, M4.0*
*NEIC **19** 07:40:45.0±1.1,26°.41N±0°.10×142°.9E±0°.2, h38km±8km, mb4.6/15, Error ellipse: s-maj=21.0km s-min=12.8km az=71.0*

ISC 19 07:40:44.1±0.6,26°.48N±0°.06×143°.00E±0°.08, h35km, n55, σ1s34/56, mb4.3/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**0.75**	**282**	P	**Pn**	**07 40 58.6**	**+0.3**
JHH2				eS	**Sn**	**07 41 09.2**	**+0.8**
JCJ	**Chichijima**	**0.95**	**311**	Pn	**Pn**	**07 41 01.5**	**+0.5**
	211nm,0.3s,baz=111,slow=11,SNR=105						
JCJ				Sn	**Sn**	**07 41 14.2**	**+0.9**
	649nm,0.3s,baz=295,slow=22,SNR=20						
JCJ	**Chichijima**	**0.95**	**311**		**Pn**	**07 41 01.7**	**+0.7**
CBIJ	**Chichi jima**	**0.95**	**311**	P	**Pn**	**07 41 01.7**	**+0.7**
CBIJ				eS	**Sn**	**07 41 14.4**	**+1.0**
JHJ2	**Mitsune**	**7.17**	**338**	Pn	**Pn**	**07 42 26.7**	**+0.3**
BSO1	**Boso 1**	**8.33**	**348**	P	**Pn**	**07 42 42.3**	**+0.4**
BSO1				eS	**Sn**	**07 44 12.2**	**-2.3**
BSO3	**Boso 3**	**8.57**	**346**	P	**Pn**	**07 42 46.7**	**+1.3**
BSO4	**Boso 4**	**8.79**	**346**	P	**Pn**	**07 42 50.6**	**+2.0**
BSO4				eS	**Sn**	**07 44 25.5**	**-0.8**
JHU	**Hanno**	**9.87**	**342**	P	**Pn**	**07 43 03.4**	**-0.1**
JHU				eS	**Sn**	**07 44 48.8**	**-4.3**
JRY	**Ryogami san**	**10.13**	**341**	P	**Pn**	**07 43 07.6**	**+0.4**
JHO	**Hitachi**	**10.31**	**349**	P	**Pn**	**07 43 08.7**	**-0.9**
JAG	**Ashikaga**	**10.37**	**344**	P	**Pn**	**07 43 09.1**	**-1.2**
JAG				eS	**Sn**	**07 45 00.5**	**-4.8**
MJAR	**Matsushiro Arr**	**10.83**	**339**	Pn	**Pn**	**07 43 17.5**	**+0.8**
	0.3nm,0.3s,baz=144,slow=9.1,SNR=5.8						
MJAR	**Matsushiro Arr**	**10.83**	**339**		**Pn**	**07 43 16.9**	**+0.2**
MAJO	**Matsushiro**	**10.83**	**339**	Pn	**Pn**	**07 43 17.4**	**+0.6**
MJB9	**Matsu-Tunnel**	**10.84**	**339**	Pn	**Pn**	**07 43 17.8**	**+1.0**
JFK	**Kawauchi**	**11.01**	**351**	P	**Pn**	**07 43 18.1**	**-1.0**
JMM	**Marumori**	**11.51**	**351**		**Pn**	**07 43 25.3**	**-0.6**
ERM	**Erimo**	**15.50**	**0**	Pn	**Pn**	**07 44 18.7**	**-1.3**
ERM				IAmb	IAmb	07 44 37.3	
	comp=Z,27nm,1.1s						
KSRS	**Korea Array**	**16.81**	**314**	Pn	**P**	**07 44 37.9**	**-0.7**
	baz=123,slow=15,SNR=1.5						
ASAJ	**Asahikawa**	**17.60**	**359**	P	**P**	**07 44 48.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=231,slow=19,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**22.97**	**102**	T	T	08 09 38.7	
	baz=291						
H11N1	**WAKE ISLAND Hy**	**22.97**	**102**	T	T	08 09 34.1	
	baz=291						
H11N3	**WAKE ISLAND Hy**	**22.98**	**102**	T	T	08 09 37.8	
	baz=291						
H11S3	**WAKE ISLAND Hy**	**23.26**	**105**	T	T	08 09 55.6	
	baz=294,slow=75,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**23.27**	**105**	T	T	08 09 56.8	
	baz=294,slow=75,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**23.28**	**105**	T	T	08 10 00.3	
	baz=294,slow=75,SNR=6.0						
KLR	**Kul'dur**	**24.34**	**342**	P	**P**	**07 45 59.4**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=156,slow=7.1,SNR=12						
PEA0B	**Petropavlovsk-**	**28.78**	**19**	P	**P**	**07 46 39.2**	**+0.7**
PEA0B				IAmb	IAmb	07 47 02.4	
	comp=Z,30nm,1.2s						
MTN	**Manton Dam**	**40.75**	**198**	P	**P**	**07 48 20.7**	**-1.2**
MTN				IAmb	IAmb	07 48 48.0	
	comp=Z,27nm,1.4s						
WB0	**Warramunga Arr**	**46.72**	**191**	P	**P**	**07 49 09.3**	**-0.5**
WB0				IAmb	IAmb	07 49 10.0	
	comp=Z,7.4nm,0.6s						
WR0	**Warramunga Arr**	**46.88**	**191**	P	**P**	**07 49 11.1**	**-0.1**
WR0				IAmb	IAmb	07 49 11.4	
	comp=Z,5.9nm,1.0s						
WRAB	**Tennant Creek**	**46.89**	**191**	P	**P**	**07 49 10.9**	**-0.3**
WB2	**Warramunga Arr**	**46.90**	**191**	P	**P**	**07 49 11.0**	**-0.3**
WRA	**Warramunga Arr**	**46.90**	**191**	P	**P**	**07 49 10.7**	**-0.6**
	comp=Z,7.7nm,0.4s,baz=12,slow=8.6,SNR=52						
WRA	**Warramunga Arr**	**46.90**	**191**	P	**P**	**07 49 09.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**47.41**	**203**	P	**P**	**07 49 14.3**	**-0.9**
FITZ				IAmb	IAmb	07 49 15.4	
	comp=Z,2.7nm,0.8s						
AS31	**Alice Springs**	**50.62**	**191**	P	**P**	**07 49 38.7**	**-1.1**
ASAR	**Alice Springs**	**50.62**	**191**	P	**P**	**07 49 38.8**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=9,0,slow=5.6,SNR=13						
ASAR	**Alice Springs**	**50.62**	**191**	P	**P**	**07 49 39.1**	**-0.7**
KOUNC	**Koumac, New Ca**	**51.11**	**154**	P	**P**	**07 49 43.0**	**-0.5**
KOUNC				IAmb	IAmb	07 50 10.4	
	comp=Z,15nm,1.1s						
MKAR	**Makanchi Array**	**51.43**	**310**	P	**P**	**07 49 47.3**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=107,slow=7.8,SNR=2.3						
MKAR	**Makanchi Array**	**51.43**	**310**	P	**PcP**	**07 50 59.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=77,slow=7.7,SNR=3.6						
IMAR	**Indian Mountai**	**55.27**	**26**	P	**P**	**07 50 15.4**	**+1.7**
ILAR	**Eielson Array**	**57.91**	**28**	P	**P**	**07 50 33.5**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=254,slow=5.5,SNR=1.8						
STKA	**Stephens Creek**	**58.04**	**181**	P	**P**	**07 50 32.9**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=334,slow=7.8,SNR=6.4						
STKA	**Stephens Creek**	**58.04**	**181**	P	**P**	**07 50 33.5**	**-0.1**
FORT	**Forrest**	**58.70**	**195**	P	**P**	**07 50 36.5**	**-1.7**
BMAR	**Burnt Mountain**	**59.10**	**25**	P	**P**	**07 50 43.5**	**+2.8**
BBOO	**Buckleboo**	**59.33**	**187**	P	**P**	**07 50 42.0**	**-0.6**
BBOO				IAmb	IAmb	07 50 42.7	
	comp=Z,5.5nm,0.8s						
KKAR	**Karatay Array**	**60.03**	**306**	P	**P**	**07 50 47.4**	**-0.1**
ABKAR	**Akbulak array**	**66.04**	**315**	P	**P**	**07 51 27.2**	**-0.1**
ABKAR				IAmb	IAmb	07 51 29.1	
	comp=Z,1.6nm,0.9s						
YKA	**Yellowknife Ar**	**72.34**	**28**	P	**P**	**07 52 07.2**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=290,slow=6.5,SNR=5.6						
FINES	**FINESS Array B**	**78.82**	**334**	P	**P**	**07 52 43.1**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=79,slow=7.2,SNR=2.2						
FINES	**FINESS Array B**	**78.82**	**334**	P	**P**	**07 52 42.8**	**-0.3**

*IDC **19** 07:42:51.2±1.0,54°.59N×35°.13W, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.5/58, mbtmp3.5/9, ML2.2/1, Error ellipse: s-maj=38.9km s-min=18.6km az=19.0*

ISC 19 07:42:52.6±0.8,54°.6N±0°.2×35°.1W±0°.1, h10km, n10, σ1s24/10, mb3.6/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.24**	**284**	P	**P**	**07 47 06.2**	**+0.4**
	0.1nm,0.3s,baz=70,slow=14,SNR=2.8						
ESDC	**Sonseca Array**	**25.66**	**113**	P	**P**	**07 48 23.5**	**+1.1**
	1.2nm,0.7s,baz=318,slow=9.1,SNR=3.4						
YKA	**Yellowknife Ar**	**39.68**	**314**	P	**P**	**07 50 23.6**	**-0.8**
	0.5nm,1.0s,baz=62,slow=9.0,SNR=4.3						
BRTR	**Keskin Array B**	**47.15**	**79**	P	**P**	**07 51 26.0**	**+1.0**
	0.5nm,0.4s,baz=300,slow=37,SNR=2.8						
PDAR	**Pinedale Array**	**48.30**	**288**	P	**P**	**07 51 33.5**	**-0.6**
	0.2nm,0.5s,baz=50,slow=8.6,SNR=3.0						
ILAR	**Eielson Array**	**50.04**	**329**	P	**P**	**07 51 46.0**	**-0.7**
	0.3nm,0.7s,baz=41,slow=6.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**50.39**	**131**	P	**P**	**07 51 48.0**	**-2.0**
	0.7nm,0.8s,baz=328,slow=8.5,SNR=4.6						
TXAR	**Lajitas Array**	**54.38**	**272**	P	**P**	**07 52 21.3**	**+1.7**
	0.4nm,0.8s,baz=116,slow=6.2,SNR=3.8						
MKAR	**Makanchi Array**	**66.01**	**42**	P	**P**	**07 53 39.1**	**+0.2**
	0.8nm,0.8s,baz=335,slow=6.0,SNR=7.3						
ASAR	**Alice Springs**	**148.05**	**19**	PKPbc	**PKPbc**	**08 02 38.2**	**0.0**
	1.0nm,0.6s,baz=352,slow=2.2,SNR=25						

*IDC **19** 07:44:34.0±1.3,0°.55S×81°.18W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/39, mbtmp3.7/6, ML2.4/1, Error ellipse: s-maj=61.6km s-min=22.1km az=53.0*
*IGQ **19** 07:44:36.0±0.7,0°.5S×4°.8W±1°, h8km*

ISC 19 07:44:34.8±2.0,0°.13S±0°.05×80°.83W±0°.06, h2km±12km, n60, σ1s10/64, mb3.7/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.64**	**102**	P	**Pg**	**07 44 48.0**	**+0.9**
JAMA				S	**Sb**	**07 44 59.0**	**+0.8**
MAG1	**Magdalena**	**1.06**	**87**	P	**Pn**	**07 44 57.0**	**+0.3**
AV18	**Acelerografo,**	**1.43**	**72**	P	**Pg**	**07 45 03.0**	**+0.9**
BV15	**Puerto Quito-O**	**1.64**	**80**	P	**Pn**	**07 45 04.0**	**-0.6**
BV15				S	**Sn**	**07 45 26.0**	**-0.3**
PAC1	**Pacto, Paraso**	**2.08**	**79**	eP	**Pn**	**07 45 09.9**	**-1.0**
PAC1				eS	**Sn**	**07 45 35.7**	**-1.7**
PAC1				i		07 45 39.0	
	comp=Z,719nm,0.3s						
PAC1	**Pacto, Paraso**	**2.08**	**79**	P	**Pn**	**07 45 10.0**	**-0.8**
HPAL	**Hacienda Las P**	**2.18**	**92**	P	**Pn**	**07 45 12.0**	**-0.5**
ILLI	**Illinizas Sur**	**2.19**	**105**	P	**Pn**	**07 45 12.0**	**-0.6**
ILLI				S	**Sn**	**07 45 41.0**	**+0.5**
PINO	**Pino**	**2.23**	**91**	P	**Pn**	**07 45 13.0**	**-0.3**
JUA2	**San Juan 2**	**2.23**	**92**	P	**Pn**	**07 45 13.0**	**-0.2**
PAST	**Pastocalle**	**2.26**	**104**	P	**Pn**	**07 45 13.0**	**-0.6**
PULU	**Pululahua**	**2.34**	**86**	P	**Pn**	**07 45 15.0**	**+0.4**
PULU				S	**Sn**	**07 45 45.0**	**+0.9**
CHSH	**Refugio Sur-Vo**	**2.39**	**125**	P	**Pn**	**07 45 15.0**	**-0.5**
CAMI	**Rancho Maria**	**2.39**	**103**	P	**Pn**	**07 45 16.0**	**+0.6**
BNAS	**Cotopaxi Volca**	**2.41**	**103**	P	**Pn**	**07 45 16.0**	**+0.2**
NAS2	**Nasa**	**2.42**	**102**	P	**Pn**	**07 45 16.0**	**+0.1**
TOMA	**Boca Toma-Volc**	**2.43**	**99**	P	**Pn**	**07 45 17.0**	**+1.1**
PORT	**Chimborazo Vol**	**2.45**	**123**	P	**Pn**	**07 45 16.0**	**-0.3**
BREF	**Cotopaxi Volca**	**2.45**	**103**	P	**Pn**	**07 45 17.0**	**+0.6**
CUSE	**Cuicocha Este**	**2.47**	**80**	eP	**Pn**	**07 45 17.1**	**+0.6**
CUSE				eS	**Sn**	**07 45 48.4**	**+0.9**
CUSE				i		07 45 51.3	
	comp=Z,634nm,0.3s						
CUSE	**Cuicocha Este**	**2.47**	**80**	P	**Pn**	**07 45 15.0**	**-1.5**
BVC2	**Cotopaxi Volca**	**2.48**	**102**	P	**Pn**	**07 45 17.0**	**+0.3**
TAMH	**Tambohuasha Ch**	**2.49**	**124**	P	**Pn**	**07 45 16.0**	**-0.7**
BTAM	**Cotopaxi Volca**	**2.50**	**103**	P	**Pn**	**07 45 17.0**	**+0.1**
CUIC	**Cuicocha-Domo**	**2.51**	**80**	P	**Pn**	**07 45 17.0**	**0.0**
CUSW	**Cuicocha Oeste**	**2.52**	**81**	P	**Pn**	**07 45 18.0**	**+0.9**
TAMB	**Tambo**	**2.53**	**103**	P	**Pn**	**07 45 18.0**	**+0.6**
URCU	**Urcuqui**	**2.64**	**78**	P	**Pn**	**07 45 19.0**	**+0.2**
JUI6	**Juive**	**2.69**	**119**	P	**Pn**	**07 45 20.0**	**+0.6**
POND	**Pondoa**	**2.71**	**118**	P	**Pn**	**07 45 20.0**	**+0.4**
BMAS	**Trigal station**	**2.72**	**120**	P	**Pn**	**07 45 20.0**	**+0.1**
RETU	**Refugio**	**2.73**	**119**	P	**Pn**	**07 45 21.0**	**+0.9**
BRUN	**Tungurahua Vol**	**2.74**	**118**	P	**Pn**	**07 45 21.0**	**+0.9**
ARRY	**Arrayan**	**2.74**	**120**	P	**Pn**	**07 45 21.0**	**+0.8**
BPAT	**Tungurahua Vol**	**2.76**	**120**	P	**Pn**	**07 45 22.0**	**+1.5**
YAHU	**Yahuarcocha**	**2.81**	**80**	P	**Pb**	**07 45 24.0**	**-1.9**
CAYR	**Refugio Cayamb**	**2.83**	**87**	P	**Pn**	**07 45 22.0**	**+0.4**
ISPG	**Isla Puna-Puer**	**2.90**	**167**	P	**Pn**	**07 45 22.0**	**0.0**
CHMA	**Chilma**	**2.94**	**70**	P	**Pn**	**07 45 23.0**	**+0.2**
ECEN	**Cerro Negro**	**3.02**	**72**	P	**Pn**	**07 45 25.0**	**+0.9**
CHL1	**Volcn Chiles**	**3.03**	**72**	P	**Pn**	**07 45 25.0**	**+0.7**
CHL2	**Volcn Chiles**	**3.06**	**72**	P	**Pn**	**07 45 25.0**	**+0.3**
ARNL	**Arenillas**	**3.48**	**167**	P	**Pn**	**07 45 28.0**	**-2.0**
BOSC	**San Juan Bosco**	**3.81**	**142**	P	**Pn**	**07 45 37.0**	**+2.4**
POPC	**Popayan, Colom**	**4.93**	**57**	eP	**Pn**	**07 45 50.8**	**+0.6**
POPC				eS	**Sn**	**07 46 49.1**	**+1.2**
ZUMB	**Zumba**	**5.00**	**160**	P	**Pn**	**07 45 52.0**	**+1.0**
PCON	**Cinco Dias**	**5.06**	**61**	eP	**Pb**	**07 46 02.0**	**-2.4**
PTLC	**Puerto Leguiza**	**6.04**	**87**	eP	Pn	07 46 11.6	+6.3
PTLC				eS	**Sb**	**07 47 34.7**	**+0.9**
YOTC	**Yotoco, Valle**	**6.07**	**48**	eP	**Pn**	**07 46 08.7**	**+3.0**
YOTC				eS	**Sn**	**07 47 13.0**	**-2.8**
ORTC	**Ortega, Tolima**	**6.88**	**54**	eP	Pb	07 46 26.1	-9.0
CBOC	**Ciudad Bolivar**	**7.66**	**39**	eP	Pb	07 46 39.6	-8.8
CHIC	**Chingaza**	**8.53**	**56**	eP	Pn	07 46 50.5	+11
PTBC	**PUERTO BERRIO,**	**9.19**	**44**	eP	Pn	07 47 00.7	+12
SDV	**Santo Domingo**	**13.54**	**48**	Pn	**P**	**07 47 57.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=230,slow=7.9,SNR=5.7						
LPAZ	**La Paz**	**20.37**	**143**	P	**P**	**07 49 13.0**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=318,slow=8.3,SNR=8.6						
SIV	**San Ignacio**	**25.07**	**130**	P	**P**	**07 49 59.7**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=292,slow=11,SNR=5.1						
NVAR	**Mina Array Bea**	**51.54**	**322**	P	**P**	**07 53 44.2**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=144,slow=7.8,SNR=5.1						
YKA	**Yellowknife Ar**	**67.42**	**344**	P	**P**	**07 55 32.1**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=140,slow=5.9,SNR=9.6						
INK	**Inuvik**	**77.10**	**342**	P	**P**	**07 56 30.4**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=110,slow=3.7,SNR=6.7						
WRA	**Warramunga Arr**	**140.20**	**238**	PKP	**PKPdf**	**08 04 04.7**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=108,slow=1.9,SNR=7.3						

*IDC **19** 08:04:17.0±0.8,55°.62S×27°.08W, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/32, mbtmp4.0/7, Error ellipse: s-maj=39.4km s-min=19.8km az=63.0*
*NEIC **19** 08:04:19.2±1.0,55°.6S±0°.1×27°.0W±0°.2, h10km±1km, mb4.6/10, Error ellipse: s-maj=26.1km s-min=17.5km az=33.0*

ISC 19 08:04:20.9±0.6,55°.6S±0°.1×27°.0W±0°.1, h25km, n26, σ0s66/28, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.62**	**279**	Pn	**Pn**	**08 05 43.8**	**+1.1**
SNAA	**Sanae**	**19.14**	**157**	P	**P**	**08 08 42.2**	**+0.3**
GO08	**Villa O'Higgin**	**28.48**	**265**	P	**P**	**08 10 12.8**	**-0.8**
QSPA	**South Pole Qui**	**34.68**	**180**	P	**P**	**08 11 07.0**	**-1.1**
	1.1nm,0.5s,baz=233,slow=2.0,SNR=7.0						
QSPA	**South Pole Qui**	**34.68**	**180**	P	**P**	**08 11 08.5**	**+0.4**
QSPA				IAmb	IAmb	08 11 20.6	
	comp=Z,9.9nm,1.6s						
CPUP	**Villa Florida**	**36.58**	**311**	P	**P**	**08 11 23.4**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=159,slow=6.0,SNR=3.9						
CPUP	**Villa Florida**	**36.58**	**311**	P	**P**	**08 11 24.4**	**-0.1**
CPUP				IAmb	IAmb	08 11 25.5	
	comp=Z,8.3nm,1.4s						
MAW	**Mawson**	**40.47**	**144**	P	**P**	**08 11 56.6**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=247,slow=7.7,SNR=2.1						
MAW	**Mawson**	**40.47**	**144**	P	**P**	**08 11 57.2**	**+0.4**
LVC	**Limon Verde**	**45.15**	**299**	P	**P**	**08 12 35.6**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=93,slow=1.7,SNR=2.0						
LVC	**Limon Verde**	**45.15**	**299**	P	**P**	**08 12 35.9**	**+0.2**
LVC				IAmb	IAmb	08 12 36.2	
	comp=Z,48nm,1.9s						
VNDA	**Vanda**	**47.06**	**183**	P	**P**	**08 12 49.5**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=175,slow=6.0,SNR=6.1						
VNDA	**Vanda**	**47.06**	**183**	P	**P**	**08 12 50.3**	**+0.7**
VNDA				IAmb	IAmb	08 13 43.2	
	comp=Z,29nm,1.9s						
SIV	**San Ignacio**	**47.32**	**313**	P	**P**	**08 12 52.2**	**-0.2**
	comp=Z,0.5nm,0.2s,baz=149,slow=7.4,SNR=4.6						
LPAZ	**La Paz**	**50.19**	**305**	P	**P**	**08 13 15.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**72.59**	**29**	P	**P**	**08 15 46.2**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=202,slow=5.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**72.59**	**29**	P	**P**	**08 15 46.4**	**+0.6**
TORD				IAmb	IAmb	08 15 46.6	
	comp=Z,12nm,1.9s						
YKA	**Yellowknife Ar**	**135.88**	**318**	PKP	**PKPdf**	**08 23 36.5**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=128,slow=2.2,SNR=6.6						
YKA	**Yellowknife Ar**	**135.88**	**318**		**PKPdf**	**08 23 37.0**	**-0.9**
INK	**Inuvik**	**145.50**	**321**	PKPbc	**PKPdf**	**08 23 55.5**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=74,slow=4.0,SNR=17						
ILAR	**Eielson Array**	**149.87**	**312**	PKPbc	**PKPbc**	**08 24 07.1**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=138,slow=2.0,SNR=12						
ILAR	**Eielson Array**	**149.87**	**312**		**PKPbc**	**08 24 07.4**	**+0.3**
SONM	**Songino Array**	**150.59**	**85**	PKPbc	**PKPbc**	**08 24 09.3**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=198,slow=4.2,SNR=4.0						
SONM	**Songino Array**	**150.59**	**85**	PKPdf	**PKPdf**	**08 24 04.5**	**+0.3**
SONM					**PKPbc**	**08 24 10.2**	**+0.6**
KDAK	**Kodiak Island**	**150.69**	**297**	PKPbc	**PKPbc**	**08 24 09.7**	**+0.4**
	comp=Z,12nm,1.0s,baz=90,slow=3.0,SNR=2.6						
KDAK	**Kodiak Island**	**150.69**	**297**	PKPdf	**PKPdf**	**08 24 03.1**	**-0.7**
KDAK					**PKPbc**	**08 24 08.9**	**-0.4**

IDC 19 08:08:00.7±1.7,53°.72S×139°.67E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, MS4.1/2, Ms1 4.1/2, ms1mx3.4/33, Error ellipse: s-maj=166.4km s-min=25.8km az=82.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**21.88**	**4**	P	P	08 12 55.8	+0.8
	1.2nm,0.7s,baz=173,slow=12,SNR=3.7						
RPZ	**Rata Peaks**	**22.82**	**77**	LR	LR	08 19 46.5	

	comp=Z,525nm,18.5s,baz=264,slow=31						
VNDA	**Vanda**	**25.22**	**169**	P	P	08 13 27.6	+0.1
	1.9nm,0.9s,baz=316,slow=7.2,SNR=3.6						
H01W1	**Cape Leeuwin H**	**25.99**	**306**	T	T	08 41 26.3	
	baz=142,slow=74,SNR=12						
H01W2	**Cape Leeuwin H**	**25.99**	**306**	T	T	08 41 28.3	
	baz=142,slow=74,SNR=10						
H01W3	**Cape Leeuwin H**	**26.00**	**306**	T	T	08 41 27.5	
	baz=142,slow=74,SNR=12						
ASAR	**Alice Springs**	**30.33**	**349**	P	P	08 14 13.7	-0.1
	0.3nm,0.7s,baz=166,slow=9.9,SNR=5.7						
WRA	**Warramunga Arr**	**33.97**	**351**	P	P	08 14 45.1	-0.6
	0.6nm,0.9s,baz=174,slow=7.8,SNR=3.3						
DZM	**Mont Dzumac**	**37.57**	**43**	LR	LR	08 26 04.4	
	comp=Z,220nm,21.6s,baz=215,slow=29						
H03S2	**Juan Fernandez**	**86.61**	**149**	T	T	09 56 55.9	
	baz=200						
H03S1	**Juan Fernandez**	**86.61**	**149**	T	T	09 56 58.5	
	baz=200						
H03S3	**Juan Fernandez**	**86.63**	**149**	T	T	09 56 56.9	
	baz=200						

IDC 19 08:08:04.3±3.2,55°.80S×27°.18W, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.2/27, mbtmp3.6/2, Error ellipse: s-maj=124.8km s-min=58.2km az=171.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**50.24**	**305**	P	P	08 17 02.6	-0.2
	0.6nm,0.6s,baz=164,slow=7.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**72.83**	**29**	P	P	08 19 34.6	-0.1
	0.2nm,0.5s,baz=213,slow=5.0,SNR=1.2						
YKA	**Yellowknife Ar**	**135.99**	**318**	PKP	PKPdf	08 27 25.6	0.0
	0.1nm,0.6s,baz=132,slow=2.6,SNR=2.6						
INK	**Inuvik**	**145.62**	**321**	PKPbc	PKPbc	08 27 43.0	-0.1
	0.4nm,0.5s,baz=46,slow=2.6,SNR=6.5						
ILAR	**Eielson Array**	**149.95**	**312**	PKPbc	PKPbc	08 27 53.9	-1.1
	0.5nm,0.7s,baz=120,slow=2.5,SNR=6.2						

*IDC **19** 08:10:00.9±0.8,55°.56S×27°.09W, h0km, mb4.3/6, mb1 4.4/6, mb1mx3.9/28, mbtmp4.3/6, Error ellipse: s-maj=34.8km s-min=22.3km az=58.0*
*NEIC **19** 08:10:03.3±1.2,55°.7S±0°.1×27°.2W±0°.2, h10km±1km, mb4.4/13, Error ellipse: s-maj=25.5km s-min=16.2km az=55.0*

ISC 19 08:10:04.6±0.7,55°.6S±0°.1×27°.1W±0°.1, h25km, n26, σ1s07/26, mb4.3/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.57**	**280**	Pn	**Pn**	**08 11 27.0**	**+1.2**
SNAA	**Sanae**	**19.14**	**157**	P	**Pn**	**08 14 26.2**	**-0.5**
BELA	**Bel

TIR				AMP				
	comp=N,1.1nm,0.7s,baz=21							
IGT	**Igoumenitsa**	**1.15**	**135**	P		**Pb**	**08 20 04.7**	**-0.6**
IGT				S		**Sn**	**08 20 21.0**	**+0.1**
	comp=N,658nm,0.5s							
IGT	**Igoumenitsa**	**1.15**	**135**	P		**Pg**	**08 20 05.1**	**-0.7**
	baz=136							
IGT				S		**Sn**	**08 20 21.3**	**+0.4**
	baz=136							
KBN	**Korca**	**1.17**	**76**	P		**Pg**	**08 20 05.7**	**-0.5**
KBN				S		**Sn**	**08 20 22.9**	**+1.3**
	comp=N,588nm,0.9s							
KBN	**Korca**	**1.17**	**76**	Pn		**Pb**	**08 20 04.9**	**-0.9**
KBN	**Korca**	**1.17**	**76**	P		**Pg**	**08 20 05.8**	**-0.5**
	baz=75							
KBN				S		**Sn**	**08 20 22.1**	**+0.5**
	baz=75							
KBN				AMP				
	comp=N,2.6nm,1.0s,baz=75							
NEST	**Nestorio**	**1.34**	**87**	P		**Pg**	**08 20 08.5**	**-1.0**
NEST				S		**Sg**	**08 20 26.6**	**-0.4**
	comp=N,282nm,0.5s							
OHR	**Ohrid**	**1.37**	**56**	*i* Pn		**Pg**	**08 20 10.7**	**+0.7**
OHR				*i* Sn		**Sg**	**08 20 30.8**	**+2.9**
PHP	**Peshkopia**	**1.59**	**33**	P		**Pg**	**08 20 13.3**	**-0.9**
	baz=31							
ULC	**Ulcinj**	**1.61**	**359**	*e*Pn		**Pb**	**08 20 12.8**	**-0.3**
ULC				*i* Sn		**Sg**	**08 20 35.9**	**+0.5**
FNA	**Florina**	**1.65**	**74**	P		**Pb**	**08 20 12.8**	**-1.0**
FNA				S		**Sb**	**08 20 34.0**	**-0.4**
	comp=N,538nm,0.4s							
FNA	**Florina**	**1.65**	**74**	Pn		**Pb**	**08 20 12.9**	**-0.9**
FNA	**Florina**	**1.65**	**74**	P		**Pb**	**08 20 13.3**	**-0.6**
	baz=73							
FNA				S		**Sg**	**08 20 36.2**	**-0.4**
	baz=73							
DRME	**Dracevica, Mon**	**1.83**	**358⇑**	*i* Pn		**Pb**	**08 20 15.9**	**-1.0**
DRME				*i* Sn		**Sb**	**08 20 41.3**	**+1.6**
BUM	**Brajici-Budva**	**1.96**	**351⇑**	*i* Pn		**Pn**	**08 20 17.8**	**+1.2**
BUM				*i* Sn		**Sb**	**08 20 44.6**	**+0.9**
PDG	**Podgorica**	**2.07**	**359**	Pn		**Pn**	**08 20 18.8**	**+0.8**
TTG	**Podgorica**	**2.07**	**359**	*e*Pn		**Pn**	**08 20 19.3**	**+1.3**
TTG				*i* Sn		**Sb**	**08 20 47.1**	**+0.5**
BCI	**Bajram Curri**	**2.09**	**16**	P		**Pb**	**08 20 21.3**	**-0.1**
	baz=14							
HCY	**Herceg Novi**	**2.17**	**344⇑**	*i* Pn		**Pn**	**08 20 20.7**	**+1.3**
HCY				*i* Sn		**Sb**	**08 20 49.6**	**0.0**
CEME	**Cevo**	**2.21**	**353**	*e*Pn		**Pn**	**08 20 21.1**	**+1.2**
CEME				*i* Sn		**Sb**	**08 20 50.4**	**-0.2**
TIP	**Timpagrande**	**2.28**	**240**	Pn		**Pn**	**08 20 21.3**	**+0.4**
NKME	**Niksic**	**2.42**	**354⇓**	*i* Pn		**Pn**	**08 20 24.1**	**+1.2**
NKME				*i* Sn		**Sb**	**08 20 55.6**	**-1.2**
LIT	**Litokhoron**	**2.46**	**95**	Pn		**Pn**	**08 20 24.3**	**+0.8**
DBRK	**Dubrovnik**	**2.46**	**340**	*e*Pn		**Pn**	**08 20 21.2**	**-2.2**
DBRK				Sn		**Sn**	**08 20 53.1**	**-0.3**
KOME	**Kolasin**	**2.50**	**4⇑**	*i* Pn		**Pn**	**08 20 25.2**	**+1.2**
KOME				*i* Sn		**Sb**	**08 20 57.4**	**-1.6**
IVA	**Berane**	**2.55**	**10**	*e*Pn		**Pn**	**08 20 25.9**	**+1.2**
IVA				*i* Sn		**Sb**	**08 20 58.6**	**-2.0**
STIP	**Stip**	**2.57**	**58**	*i* Pn		**Pb**	**08 20 28.3**	**-1.2**
VAY	**Valandovo**	**2.67**	**68**	*i* Pn		**Pn**	**08 20 26.2**	**0.0**
VAY				*i* Sn		**Sg**	**08 21 16.6**	**+7.2**
CUC	**Castrocucco**	**2.69**	**263**	Pn		**Pn**	**08 20 28.5**	**+1.9**
AGG	**Agios Georgios**	**2.70**	**119**	Pn		**Pn**	**08 20 28.2**	**+1.5**
STON	**Ston**	**2.78**	**335**	*e*Pn		**Pn**	**08 20 25.7**	**-2.1**
STON				Sn		**Sn**	**08 20 59.0**	**-2.1**
LSTV	**Lastovo**	**3.01**	**324**	*e*Pn		**Pn**	**08 20 30.1**	**-0.8**
SGRT	**San Giovanni R**	**3.02**	**299**	Pn		**Pn**	**08 20 31.8**	**+0.6**
CEL	**Celeste**	**3.37**	**233**	Pn		**Pn**	**08 20 36.1**	**+0.2**
RICI	**Ricice**	**3.52**	**334**	*e*Pn		**Pn**	**08 20 38.1**	**+0.1**
RICI				Sn		**Sn**	**08 21 18.4**	**-1.1**
PAOL	**Paolisi**	**3.65**	**282**	Pn		**Pn**	**08 20 40.4**	**+0.6**
VTS	**Vitosha**	**3.73**	**51**	Pn		**Pn**	**08 20 40.8**	**-0.1**
DIVS	**Divibare**	**3.77**	**8**	Pn		**Pn**	**08 20 43.6**	**+2.0**
ITM	**Ithomi**	**3.78**	**146**	Pn		**Pn**	**08 20 41.4**	**-0.2**
KIJV	**Kijevo**	**4.23**	**330**	*e*Pn		**Pn**	**08 20 48.1**	**+0.4**
KIJV				Sn		**Sn**	**08 21 35.9**	**-1.0**
ZIRJ	**Zirje**	**4.27**	**322**	*e*Pn		**Pn**	**08 20 47.7**	**-0.5**
ZIRJ				Sn		**Sn**	**08 21 35.4**	**-2.5**
MORI	**Morici**	**4.40**	**324**	*e*Pn		**Pn**	**08 20 50.7**	**+0.6**
MORI				Sn		**Sn**	**08 21 40.0**	**-1.1**
DUGI	**Dugi Otok**	**4.80**	**321**	*e*Pn		**Pn**	**08 20 55.7**	**+0.1**
DUGI				Sn		**Sn**	**08 21 49.7**	**-1.3**
RDO	**Rodhopi**	**4.81**	**79**	Pn		**Pn**	**08 20 55.5**	**-0.1**
VIRC	**Vir**	**5.03**	**323**	*e*Pn		**Pn**	**08 20 57.8**	**-0.9**
VIRC				Sn		**Sn**	**08 21 54.3**	**-2.3**
NRCA	**Norcia**	**5.25**	**300**	Pn		**Pn**	**08 21 02.4**	**+0.6**
NVLJ	**Novalja**	**5.32**	**324**	Sn		**Sn**	**08 22 01.8**	**-2.0**
MURB	**Monte Urbino**	**5.83**	**302**	Pn		**Pn**	**08 21 12.6**	**+2.8**
BRJN	**Brijuni**	**6.11**	**320**	*e*Pn		**Pn**	**08 21 13.3**	**-0.2**
IDI	**Anoyia**	**6.72**	**137**	Pn		**Pn**	**08 21 21.7**	**-0.3**
KARP	**Karpathos**	**7.85**	**125**	Pn		**Pn**	**08 21 37.8**	**+0.3**

CNRM ***19*** *08:25:21.2, 35°.51N×3°.80W, h22km, ml2.2*
MDD ***19*** *08:25:21.0±0.5, 35°.53N×3°.77W, h0km, mb_Lg2.5/5, Error ellipse: s-maj=4.5km s-min=4.2km az=94.0*
INMG ***19*** *08:25:21.7±2.0, 35°.47N×3°.76W, h0km, ML2.1, Error ellipse: s-maj=8.7km s-min=4.8km az=46.0*
SFS ***19*** *08:25:21.0, 35°.31N×3°.74W, ML2.8, ALHUCEMAS (MARRUECOS)*

ISC 19 08:25:20.6±1.1, 35°.50N±0°.02×3°.76W±0°.03, h15km±9km, n22, σ1§30/42, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**208**	P	**Pg**	**08 25 27.7**	**+0.5**
PALE				S	**Sb**	**08 25 33.2**	**+0.2**
PVLZ	**Peæn de**	**0.55**	**234**	P	**Pg**	**08 25 29.9**	**-1.5**
PVLZ				S	**Sb**	**08 25 39.6**	**0.0**
EMEL	**Melilla**	**0.69**	**107**	Pg	**Pb**	**08 25 34.4**	**+0.1**
EMEL				Sg	**Sg**	**08 25 43.4**	**+0.4**
TAF	**Taforalt**	**1.30**	**121**	P	**Pn**	**08 25 44.6**	**+0.3**
TAF				S	**Sg**	**08 26 03.4**	**+0.9**
SMIR	**Smir Dam**	**1.33**	**278**	P	**Pn**	**08 25 43.6**	**-1.1**
SMIR				S	**Sb**	**08 26 01.2**	**-1.0**
EMIJ	**Mijas**	**1.34**	**323**	Pg	**Pg**	**08 25 46.7**	**+0.2**
EMIJ				Sg	**Sg**	**08 26 02.8**	**-1.2**
EMIJ				*i* Vmb_Lg		08 26 09.7	
CHEFC	**Chefchaouen**	**1.35**	**254**	P	**Pb**	**08 25 45.7**	**0.0**
CHEFC				S	**Sn**	**08 26 02.1**	**-0.6**
ELGU	**Los Guajares,**	**1.37**	**4**	Pg	**Pb**	**08 25 45.2**	**-0.8**
ELGU				Sg	**Sb**	**08 26 02.1**	**-1.3**
ELGU				*i* Vmb_Lg		08 26 07.7	
ECEU	**Ceuta**	**1.38**	**287**	Pn	**Pn**	**08 25 44.3**	**-0.9**
ECEU				Sn	**Sn**	**08 26 01.1**	**-2.1**
ECEU				*i* Vmb_Lg		08 26 04.5	
JBK	**JBK**	**1.52**	**139**	P	**Pn**	**08 25 46.5**	**-0.9**
JBK				S	**Sn**	**08 26 05.7**	**-1.4**
EBER	**Berja**	**1.56**	**27**	Pn	**Pn**	**08 25 48.1**	**+0.1**
EBER				Sn	**Sb**	**08 26 08.7**	**-0.4**
EBER				*i* Vmb_Lg		08 26 29.7	
EGOR	**Sierra Gorda,**	**1.63**	**350**	Pn	**Pb**	**08 25 50.1**	**-0.4**
EGOR				Sn	**Sb**	**08 26 10.7**	**-0.3**
EGOR				*i* Vmb_Lg		08 26 35.0	
CZD	**Col de Zad**	**2.68**	**204**	P	**Pn**	**08 26 04.7**	**+1.2**
CZD				S	**Sn**	**08 26 36.1**	**+0.3**
MD31	**MD31**	**2.75**	**198**	P	**Pn**	**08 26 05.7**	**+1.4**
MD31				S	**Sn**	**08 26 36.1**	**-1.2**
MDT	**Midelt**	**2.77**	**195**	P	**Pn**	**08 26 04.9**	**+0.3**
MDT				S	**Sn**	**08 26 38.5**	**+0.8**
PVAQ	**Vaqueiros**	**3.71**	**302**	*e*Pn	**Pn**	**08 26 18.7**	**+1.3**
PVAQ				*e*Sn	**Sn**	**08 27 01.1**	**+0.2**
PVAQ				A	A	08 27 01.3	
	4.3nm,0.6s						
PBAR	**Barrancos**	**3.75**	**316**	*e*Pn	**Pn**	**08 26 21.2**	**+3.3**
PBAR				*e*Sn	**Sn**	**08 27 03.5**	**+1.7**
PBAR				A	A	08 27 16.6	
	1.5nm,0.7s						
PBDV	**Barranco-do-Ve**	**3.79**	**299**	*e*Pn	**Pn**	**08 26 20.9**	**+2.4**
PBDV				*e*Sn	**Sn**	**08 27 02.5**	**-0.3**
PBDV				A	A	08 27 14.7	
	5.3nm,0.6s						
PCVE	**Castro Verde**	**4.05**	**303**	*e*Pn	**Pn**	**08 26 24.4**	**+2.4**
PCVE				*e*Sn	**Sn**	**08 27 09.1**	**-0.1**
PCVE				A	A	08 27 13.3	
	3.1nm,1.0s						
PFVI	**Vila Bisbo**	**4.40**	**293**	*e*Sn	**Sn**	**08 27 16.3**	**-1.6**
PNCL	**Nicolau / Gran**	**4.63**	**306**	*e*Pn	**Pn**	**08 26 32.0**	**+2.0**
PNCL				*e*Sn	**Sn**	**08 27 23.6**	**+0.1**
PNCL				A	A	08 27 24.5	
	2.1nm,0.9s						
PMTG	**Montargil**	**5.04**	**316**	*e*Pn	**Pn**	**08 26 38.0**	**+2.4**

IDC ***19*** *08:25:38.1±0.8, 55°.63S×27°.03W, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/28, mbtmp4.0/6, Error ellipse: s-maj=42.2km s-min=22.3km az=58.0*
NEIC ***19*** *08:25:40.8±1.5, 55°.69S±0°.08×27°.2W±0°.2, h10km±1km, mb4.5/14, Error ellipse: s-maj=21.5km s-min=3.7km az=49.0*

ISC 19 08:25:42.3±0.6, 55°.7S±0°.1×27°.0W±0°.1, h25km, n29, σ1§21/29, mb4.4/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.62**	**280**	Pn	**Pn**	**08 27 07.4**	**+3.2**
EFI	**East Falkland**	**18.72**	**269**	P	**Pn**	**08 29 58.6**	**-0.7**
TRIS	**Tristan da Cun**	**21.12**	**34**	P	**P**	**08 30 27.0**	**+2.1**
BELA	**Belgrano 2**	**22.46**	**184**	P	**P**	**08 30 37.7**	**-1.4**
BELA				IAmb	IAmb	08 30 42.5	
	comp=Z,19nm,1.5s						
GO08	**Villa O'Higgin**	**28.45**	**265**	P	**P**	**08 31 34.5**	**-0.4**
GO08				IAmb	IAmb	08 31 34.7	
	comp=Z,7.3nm,0.9s						
QSPA	**South Pole Qui**	**34.58**	**180**	P	**P**	**08 32 29.5**	**+0.7**
QSPA				IAmb	IAmb	08 32 36.7	
	comp=Z,7.4nm,1.4s						
CPUP	**Villa Florida**	**36.63**	**311**	P	**P**	**08 32 45.4**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=158,slow=16,SNR=1.7						
CPUP	**Villa Florida**	**36.63**	**311**	P	**P**	**08 32 45.7**	**-0.7**
MT09	**Talagante**	**37.28**	**287**	P	**P**	**08 32 51.0**	**-1.1**
MT09				IAmb	IAmb	08 33 04.1	
	comp=Z,15nm,1.4s						
MAW	**Mawson**	**40.40**	**144**	P	**P**	**08 33 17.6**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=225,slow=3.8,SNR=3.3						
MAW	**Mawson**	**40.40**	**144**	P	**P**	**08 33 18.4**	**+0.7**
AC04	**Llanos de Chal**	**41.68**	**293**	P	**P**	**08 33 28.8**	**+0.1**
LVC	**Limon Verde**	**45.19**	**300**	P	**P**	**08 33 56.5**	**-0.9**
LVC				IAmb	IAmb	08 33 59.6	
	comp=Z,5.9nm,0.7s						
VNDA	**Vanda**	**46.96**	**183**	P	**P**	**08 34 10.7**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=187,slow=7.3,SNR=10						
VNDA	**Vanda**	**46.96**	**183**	P	**P**	**08 34 12.6**	**+2.2**
VNDA				IAmb	IAmb	08 34 13.1	
	comp=Z,2.6nm,0.7s						
LPAZ	**La Paz**	**50.23**	**305**	P	**P**	**08 34 36.4**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=164,slow=6.1,SNR=13						
LPAZ	**La Paz**	**50.23**	**305**	P	**P**	**08 34 37.0**	**+0.1**
LPAZ				IAmb	IAmb	08 34 37.8	
	comp=Z,2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.68**	**29**	P	**P**	**08 37 08.0**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=204,slow=6.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**72.68**	**29**	P	**P**	**08 37 09.1**	**+1.3**
BAUV	**El Baul**	**72.83**	**317**	P	**P**	**08 37 07.9**	**-0.9**
BAUV				IAmb	IAmb	08 37 09.4	
	comp=Z,5.8nm,0.7s						
ASAR	**Alice Springs**	**99.33**	**162**	P	**Pdif**	**08 39 20.6**	**-1.7**
	comp=Z,0.2nm,0.9s,baz=178,slow=3.8,SNR=2.7						
YKA	**Yellowknife Ar**	**135.35**	**318**	PKP	**PKPdf**	**08 44 57.8**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=127,slow=2.1,SNR=9.4						
YKA	**Yellowknife Ar**	**135.95**	**318**		**PKPdf**	**08 44 58.9**	**-0.5**
INK	**Inuvik**	**145.56**	**321**	PKPbc	**PKPbc**	**08 45 16.2**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=71,slow=3.4,SNR=19						
INK	**Inuvik**	**145.56**	**321**		**PKPab**	**08 45 17.2**	**+0.1**
ILAR	**Eielson Array**	**149.93**	**312**	PKPbc	**PKPbc**	**08 45 28.4**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=125,slow=2.0,SNR=19						
ILAR	**Eielson Array**	**149.93**	**312**		**PKiKP**	**08 45 28.9**	**-0.8**
SONM	**Songino Array**	**150.62**	**86**	PKPbc	**PKPbc**	**08 45 30.4**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=223,slow=3.3,SNR=7.5						
SONM	**Songino Array**	**150.62**	**86**		**PKiKP**	**08 45 31.2**	**-0.6**

IDC 19 08:37:44.5±2.5, 53°.65N×86°.93E, h0km, mb1 3.1/2, mb1mx2.9/66, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=22.2km s-min=13.3km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**284**	*i*		08 46 30.0	
	baz=104,slow=329,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.29**	**284**	Pg	Pg	08 38 07.8	-1.3
	1.0nm,0.3s,baz=101,slow=17,SNR=12						
ZALV				Lg	Lg	08 38 25.5	
	1.8nm,0.3s,baz=107,slow=28,SNR=17						
KURBB	**Kurchatov Arra**	**6.00**	**243**	Pn	Pn	08 39 14.9	+0.5
	0.1nm,0.3s,baz=58,slow=14,SNR=3.2						
KURBB				Sn	Sn	08 40 24.9	+1.2
	baz=40,slow=18,SNR=1.0						
MKAR	**Makanchi Array**	**7.48**	**205**	Pn	Pn	08 39 36.4	+1.6
	0.1nm,0.3s,baz=26,slow=14,SNR=7.7						
MKAR				Sn	Sn	08 40 59.4	-1.0
	0.1nm,0.3s,baz=22,slow=26,SNR=3.0						
MKAR				Lg	Lg	08 41 38.5	
	0.1nm,0.3s,baz=32,slow=27,SNR=8.0						

IDC ***19*** *08:40:30.8±0.7, 10°.31S×161°.65E, h64km±5km, mb3.8/16, mb1 4.0/18, mb1mx3.8/50, mbtmp4.1/18, MS3.6/4, Ms1 3.6/4, ms1mx3.2/62, Error ellipse: s-maj=14.0km s-min=8.4km az=33.0*
NEIC ***19*** *08:40:31.8±2.3, 10°.23S±0°.10×161°.73E±0°.08, h69km±6km, mb4.4/24, Error ellipse: s-maj=14.6km s-min=10.4km az=204.0*

ISC 19 08:40:30.7±0.5, 10°.27S±0°.06×161°.73E±0°.07, h61km, n54, σ1§50/61, mb4.2/25, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.94**	**295**	P	**Pn**	**08 41 02.3**	**+0.9**
	154nm,0.3s,baz=181,slow=5.0,SNR=44						
HNR				S	**Sn**	**08 41 24.5**	**-0.3**
	626nm,0.3s,baz=327,slow=22,SNR=24						
HNR				LR	LR	08 42 02.2	
	comp=Z,291nm,20.2s,baz=229,slow=48						
SANVU	**Saraoutou**	**7.41**	**135**	Pn	**Pn**	**08 42 16.6**	**+0.4**
KOUNC	**Koumac, New Ca**	**10.52**	**167**	Pn	**Pn**	**08 43 01.1**	**+2.4**
LIFNC	**LIFOU**	**11.72**	**154**	Pn	**Pn**	**08 43 15.1**	**0.0**
DZM	**Mont Dzumac**	**12.58**	**160**	P	**Pn**	**08 43 28.3**	**+1.3**
DZM	1.8nm,0.3s,baz=27,slow=9.4,SNR=42			S	**Sn**	**08 45 40.4**	**-5.1**
	0.3nm,0.3s,baz=282,slow=20,SNR=1.8						
DZM	**Mont Dzumac**	**12.58**	**160**		**Pn**	**08 43 27.3**	**+0.4**
ONTNC	**Ouen Toro**	**12.80**	**160**	Pn	**Pn**	**08 43 34.4**	**+4.5**
PMG	**Port Moresby**	**14.39**	**272**	LR	LR	08 48 42.2	
	comp=Z,182nm,21.8s,baz=92,slow=34						
PATS	**Pohnpei**	**17.33**	**349**		**P**	**08 44 29.4**	**+0.3**
CTA	**Charters Tower**	**17.83**	**235**	P	**P**	**08 44 34.5**	**-0.3**
CTA	0.6nm,0.3s,baz=72,slow=14,SNR=7.7			LR	LR	08 50 52.5	
	comp=Z,120nm,18.7s,baz=80,slow=35						
CTAO	**Charters Tower**	**17.83**	**235**	P	**P**	**08 44 36.7**	**+1.9**
CTAO				IAmb	IAmb	08 44 38.7	
	comp=Z,20nm,1.1s						
EIDS	**Eidsvold**	**18.10**	**213**	P	**Pn**	**08 44 37.9**	**-0.1**
COEN	**Coen**	**18.51**	**257**	P	**Pn**	**08 44 43.7**	**+0.7**
ARMA	**Armidale**	**22.15**	**204**	P	**P**	**08 45 23.7**	**+2.1**
ARMA				IAmb	IAmb	08 45 27.5	
	comp=Z,22nm,1.4s						
WR0	**Warramunga Arr**	**27.92**	**247**	P	**P**	**08 46 14.4**	**-1.0**
WB0	**Warramunga Arr**	**28.00**	**247**	P	**P**	**08 46 15.2**	**-0.9**
WB0				IAmb	IAmb	08 46 15.7	
	comp=Z,4.4nm,0.6s						
WRAB	**Tennant Creek**	**28.09**	**247**	P	**P**	**08 46 15.6**	**-1.3**
WB2	**Warramunga Arr**	**28.09**	**247**	P	**P**	**08 46 15.9**	**-1.0**
WB2				IAmb	IAmb	08 46 37.2	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**28.10**	**247**	P	**P**	**08 46 15.7**	**-1.3**
	comp=Z,3.1nm,0.7s,baz=78,slow=9.3,SNR=33						
WRA				pP	**pP**	**08 46 31.7**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=74,slow=9.4,SNR=6.0						
WRA				PcP	**PcP**	**08 49 28.5**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=77,slow=3.6,SNR=1.9						
WRA	**Warramunga Arr**	**28.10**	**247**	P	**P**	**08 46 15.2**	**-1.8**
STKA	**Stephens Creek**	**28.45**	**218**	P	**P**	**08 46 19.3**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=42,slow=12,SNR=6.9						
STKA				LR	LR	08 57 26.0	
	comp=Z,177nm,18.8s,baz=28,slow=36						
STKA	**Stephens Creek**	**28.45**	**218**	P	**P**	**08 46 19.9**	**-0.1**
ASAR	**Alice Springs**	**29.69**	**240**	P	**P**	**08 46 28.7**	**-2.4**
	comp=Z,1.0nm,0.7s,baz=65,slow=8.8,SNR=9.7						
ASAR				pP	**pP**	**08 46 45.0**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=73,slow=8.4,SNR=4.1						
ASAR				LR	LR	08 57 41.1	
	comp=Z,134nm,19.6s,baz=118,slow=35						
ASAR	**Alice Springs**	**29.69**	**240**	P	**P**	**08 46 29.9**	**-1.2**
MTN	**Manton Dam**	**30.08**	**262**	P	**P**	**08 46 31.0**	**-3.6**
MTN				IAmb	IAmb	08 46 54.6	
	comp=Z,19nm,1.4s						
TOO	**Toolangi**	**30.87**	**206**	P	**P**	**08 46 42.2**	**+0.8**
TOO				IAmb	IAmb	08 46 42.7	
	comp=Z,6.9nm,0.7s						
URZ	**Urewera**	**31.10**	**156**	P	**P**	**08 46 45.0**	**+1.7**
	comp=Z,8.6nm,0.7s,baz=134,slow=8.5,SNR=2.2						
URZ	**Urewera**	**31.10**	**156**	P	**P**	**08 46 45.4**	**+2.1**
BKZ	**Black Stump Fm**	**31.65**	**158**	P	**P**	**08 46 49.6**	**+1.4**
BKZ				IAmb	IAmb	08 46 52.9	
	comp=Z,7.5nm,0.6s						
KNRA	**Kununurra**	**32.55**	**257**	P	**P**	**08 46 55.7**	**-0.6**
BBOO	**Buckleboo**	**32.60**	**223**	P	**P**	**08 46 55.9**	**-0.7**
BBOO				IAmb	IAmb	08 47 16.0	
	comp=Z,6.0nm,1.1s						
DCZ	**Deep Cove**	**35.38**	**173**	P	**P**	**08 47 20.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**35.80**	**253**	P	**P**	**08 47 23.4**	**-1.0**
FITZ				IAmb	IAmb	08 47 26.4	
	comp=Z,2.4nm,0.7s						
FORT	**Forrest**	**37.34**	**232**	P	**P**	**08 47 37.5**	**+0.1**
MORW	**Morawa**	**46.57**	**240**	P	**P**	**08 48 53.3**	**+0.5**
ASAJ	**Asahikawa**	**56.85**	**344**	P	**P**	**08 50 09.7**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=246,slow=16,SNR=1.7						
USRK	**Ussuriysk Ar.**	**60.55**	**336**	P	**P**	**08 50 34.8**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=123,slow=10,SNR=3.3						
KLR	**Kul'dur**	**64.84**	**339**	P	**P**	**08 51 01.9**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=231,slow=17,SNR=1.6						
VNDA	**Vanda**	**67.24**	**180**	P	**P**	**08 51 17.8**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=351,slow=8.3,SNR=12						
VNDA	**Vanda**	**67.24**	**180**	P	**P**	**08 51 18.7**	**+0.5**
VNDA				IAmb	IAmb	08 51 19.3	
	comp=Z,2.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**68.19**	**295**	P	**P**	**08 51 25.3**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=140,slow=7.1,SNR=2.8						
SONM	**Songino Array**	**75.74**	**325**	P	**P**	**08 52 09.5**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=141,slow=5.6,SNR=8.0						
SONM				pP	**pP**	**08 52 25.8**	**-0.9**
	comp=Z,3.1nm,0.7s,baz=143,slow=5.5,SNR=9.5						
SONM	**Songino Array**	**75.74**	**325**	P	**P**	**08 52 11.0**	**+1.0**
SONM				IAmb	IAmb	08 52 27.6	
	comp=Z,2.9nm,0.7s						
QSPA	**South Pole Qui**	**79.73**	**180**	P	**P**	**08 52 31.8**	**-0.1**
QSPA				IAmb	IAmb	08 52 34.6	
	comp=Z,3.9nm,0.9s						
ILAR	**Eielson Array**	**84.07**	**20**	P	**P**	**08 52 54.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=242,slow=5.3,SNR=5.6						
ILAR				pP	**pP**	**08 53 12.5**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=249,slow=4.5,SNR=3.1						
ILAR	**Eielson Array**	**84.07**	**20**	P	**P**	**08 52 54.1**	**-0.4**
NVAR	**Mina Array Bea**	**88.56**	**51**	P	**P**	**08 53 19.0**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=239,slow=7.6,SNR=4.9						
NVAR	**Mina Array Bea**	**88.56**	**51**	P	**P**	**08 53 17.1**	**-0.3**
MKAR	**Makanchi Array**	**90.27**	**318**	P	**P**	**08 53 23.4**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=91,slow=7.3,SNR=5.6						
MKAR				pP	**pP**	**08 53 42.9**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=100,slow=6.5,SNR=5.0						
MKAR	**Makanchi Array**	**90.27**	**318**	P	**P**	**08 53 23.7**	**-1.2**
KURBB	**Kurchatov Arra**	**93.57**	**321**	P	**P**	**08 53 38.2**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=58,slow=11,SNR=2.5						
PDAR	**Pinedale Array**	**95.94**	**48**	P	**P**	**08 53 52.7**	**+1.3**
	comp=Z,0.1nm,0.6s,baz=294,slow=0.9,SNR=2.3						
YKA	**Yellowknife Ar**	**96.11**	**28**	P	**P**	**08 53 51.3**	**0.0**
	comp=Z,0.2nm,0.7s,baz=258,slow=4.8,SNR=3.0

HIZ	Hauiti	1.86 246	P	Pn	08 43 22.8	+2.6
HIZ	Hauiti	1.86 246	P	Pn	08 43 23.0	+2.8
BHHZ	Black Hill Sta	1.87 203	P	Pn	08 43 22.2	+1.7
FWVZ	Far West T-bar	1.88 217	P	Pn	08 43 23.0	+2.4
WHVZ	Whangaehu Hut	1.88 216	P	Pn	08 43 23.1	+2.4
CKHZ	Cape Kidnapper	1.89 179	P	Pn	08 43 22.4	+1.9
DRZ	Dome Shelter	1.89 217	P	Pn	08 43 23.4	+2.5
MOVZ	Moawhango	1.91 211	P	Pn	08 43 22.7	+1.8
WNVZ	Wahianoa	1.91 215	P	Pn	08 43 23.2	+2.2
TRVZ	Turoa	1.91 217	P	Pn	08 43 23.4	+2.4
KRHZ	Kereru	1.94 195	P	Pn	08 43 22.7	+1.6
MBAZ	Motutapu North	1.96 300	P	Pn	08 43 23.6	+2.2
GRZ	Great Barrier	1.96 320	P	Pn	08 43 22.8	+1.4
PKVZ	Pokaka	2.00 220	P	Pn	08 43 24.5	+2.6
MTVZ	Mangateitei	2.02 216	P	Pn	08 43 24.6	+2.5
KAHZ	Kahuranaki	2.02 183	P	Pn	08 43 24.1	+1.9
VRZ	Vera Road	2.23 232	P	Pn	08 43 27.8	+3.2
PNHZ	Pukenui	2.23 196	P	Pn	08 43 25.9	+1.3
PXZ	Pawanui	2.26 183	P	Pn	08 43 26.4	+1.5
WPHZ	Waipukurau	2.33 191	P	Pn	08 43 27.0	+1.2
TSZ	Takapari Road	2.43 199	P	Pn	08 43 28.1	+1.1
PRHZ	Porangahau	2.51 187	P	Pn	08 43 29.1	+1.1
WAZ	Wanganui	2.54 218	P	Pn	08 43 30.8	+2.4
DVHZ	Dannevirke	2.61 194	P	Pn	08 43 30.2	+0.9
DREZ	Durham Road	2.62 236	P	Pn	08 43 33.3	+3.8
LREZ	Lake Rotokare	2.65 230	P	Pn	08 43 33.2	+3.4
ANWZ	Angora Road	2.72 189	P	Pn	08 43 31.7	+1.1
PREZ	Palmer Road	2.73 234	P	Pn	08 43 35.3	+4.4
NEZ	North Egmont	2.74 236	P	Pn	08 43 34.7	+3.7
PKE	Pukeiti	2.77 238	P	Pn	08 43 34.9	+3.7
POWZ	Post Office Ro	2.79 200	P	Pn	08 43 32.6	+1.1
KHEZ	Kahui Hut	2.80 236	P	Pn	08 43 35.4	+3.7
PRWZ	Pori Road	2.90 196	P	Pn	08 43 34.0	+1.2
BFZ	Birch Farm	2.97 191	P	Pn	08 43 34.7	+0.9
MRZ	Mangatainoka R	3.10 201	P	Pn	08 43 35.8	+0.4
TIWZ	Tintock	3.13 196	P	Pn	08 43 36.5	+0.7
CPWZ	Castlepoint	3.20 191	P	Pn	08 43 37.9	+1.2
HOWZ	Holdsworth Sta	3.33 200	P	Pn	08 43 38.5	0.0
OGWZ	Otaki Gorge	3.36 205	P	Pn	08 43 39.2	+0.4
TMWZ	Te Maipa	3.44 194	P	Pn	08 43 40.5	+0.6
KIW	Kapiti Island	3.49 207	P	Pn	08 43 40.6	+0.1
MTW	Mount Morrison	3.58 199	P	Pn	08 43 41.6	0.0
CAW	Cannon Point	3.66 204	P	Pn	08 43 42.5	-0.2
TRWZ	Traveller	3.77 195	P	Pn	08 43 44.2	+0.1
PAWZ	Paruwai Farm	3.81 198	P	Pn	08 43 44.4	-0.2
DUWZ	D'Urville Isla	3.86 217	P	Pn	08 43 45.5	+0.2
MSWZ	Moikau Station	3.89 200	P	Pn	08 43 45.4	-0.2
WEL	Wellington	3.92 206	P	Pn	08 43 45.9	-0.1
BHW	Baring Head	3.99 204	P	Pn	08 43 46.4	-0.6
PLWZ	Palliser	4.03 199	P	Pn	08 43 46.8	-0.7
TCW	Tory Channel	4.04 211	P	Pn	08 43 47.3	-0.2
TUWZ	Tuamarina	4.36 212	P	Pn	08 43 51.3	-0.4
NNZ	Nelson	4.45 218	P	Pn	08 43 52.6	-0.3
TKNZ	Takaka Hill	4.53 223	P	Pn	08 43 54.0	0.0
BSWZ	Blackbirch Sta	4.62 211	P	Pn	08 43 55.3	0.0
QRZ	Quartz Range	4.63 227	P	Pn	08 43 55.4	+0.1
QRZ	Quartz Range	4.63 227	P	Pn	08 43 55.4	+0.1
MRNZ	Matariki Terra	4.89 221	P	Pn	08 43 58.4	-0.5
THZ	Tophouse	5.09 217	P	Pn	08 44 01.0	-0.5
KHZ	Kahutara	5.35 209	P	Pn	08 44 04.1	-0.8
GVZ	Greta Valley S	6.01 209	P	Pn	08 44 13.0	-0.8
RPZ	Rata Peaks	7.46 215	P	Pn	08 44 31.8	-1.4
	66nm,1.7s					
ARCZ	Arundel	7.59 214	P	Pn	08 44 34.4	-0.5

IDC ***19*** *08:47:03.1±1.2,54.°60N×35.°07W,h0km,mb3.4/6, mb1 3.5/7,mb1mx3.4/62,mbtmp3.4/7,ML2.0/1, Error ellipse: s-maj=44.4km s-min=22.5km az=23.0*

ISC 19 08:47:04.5±1.0,54.°6N±0.°3×35.°1W±0.°2,h10km,n8,σ0s82/8, mb3.4/6,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	18.25	284	P		Pn		08 51 17.2	-0.5
	0.1nm,0.3s,baz=49,slow=19,SNR=2.2								
ESDC	Sonseca Array	25.64	113	P		P		08 52 35.2	+1.1
	0.6nm,0.7s,baz=302,slow=7.4,SNR=1.8								
YKA	Yellowknife Ar	39.71	314	P		P		08 54 37.3	+0.8
	0.1nm,0.6s,baz=59,slow=9.2,SNR=2.1								
PDAR	Pinedale Array	48.32	288	P		P		08 55 46.2	+0.1
	0.1nm,0.4s,baz=62,slow=6.3,SNR=2.1								
TORD	Torodi Ar. Bea	50.36	131	P		P		08 56 01.2	-0.4
	0.8nm,0.9s,baz=320,slow=4.4,SNR=3.8								
KURBB	Kurchatov Arra	61.45	42	P		P		08 57 20.1	-0.6
	0.2nm,0.3s,baz=332,slow=7.4,SNR=2.0								
MKAR	Makanchi Array	66.02	42	P		P		08 57 51.0	0.0
	0.1nm,0.3s,baz=15,slow=2.2,SNR=2.9								
ASAR	Alice Springs	148.07	19	PKPbc		PKPbc		09 06 49.4	-0.8
	0.6nm,0.5s,baz=354,slow=2.3,SNR=7.9								

IDC ***19*** *08:48:56.6±1.2,54.°57N×35.°19W,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.5/66,mbtmp3.5/7,ML2.1/1, Error ellipse: s-maj=39.8km s-min=22.5km az=21.0*

ISC 19 08:48:58.0±1.0,54.°6N±0.°2×35.°2W±0.°1,h10km,n8,σ1s15/8, mb3.3/6,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	18.19	284	P		Pn		08 53 08.8	-1.5
	0.1nm,0.3s,baz=75,slow=19,SNR=2.6								
ESDC	Sonseca Array	25.70	113	P		P		08 54 28.2	+0.1
	0.4nm,0.7s,baz=329,slow=6.2,SNR=1.0								
ARCES	ARCESS Array B	30.55	37	P		P		08 55 10.0	-1.1
	1.9nm,0.8s,baz=320,slow=13,SNR=1.7								
YKA	Yellowknife Ar	39.65	314	P		P		08 56 30.3	+0.9
	0.3nm,0.8s,baz=64,slow=3.0,SNR=3.7								
PDAR	Pinedale Array	48.25	288	P		P		08 57 39.8	+0.8
	0.1nm,0.4s,baz=41,slow=7.2,SNR=2.4								
TORD	Torodi Ar. Bea	50.42	131	P		P		08 57 55.5	-0.1
	0.1nm,0.4s,baz=330,slow=4.5,SNR=1.1								
KURBB	Kurchatov Arra	61.49	42	P		P		08 59 15.4	+1.0
	0.5nm,0.7s,baz=325,slow=7.1,SNR=4.8								
ASAR	Alice Springs	148.08	19	PKPbc		PKPbc		09 08 42.8	-0.8
	0.8nm,0.6s,baz=349,slow=2.4,SNR=11								

IDC ***19*** *08:49:48.4±0.7,0.°19S×124.°91E,h0km,mb4.2/9, mb1 4.2/12,mb1mx4.0/62,mbtmp4.2/12,ML4.0/3,MS3.1/1, Ms1 3.1/1,ms1mx2.6/75,Error ellipse: s-maj=27.7km s-min=15.0km az=71.0*

DJA ***19*** *08:49:54.8±1.2,0.°5S±2.°×12.°5E±.°,h26km±12km,M4.5/13, mb4.7/5,mB4.9/4,MLv4.4/13,Mw(mB)4.2/4*

NEIC ***19*** *08:49:55.9±1.5,0.°24S±0.°06×124.°77E±0.°06,h55km±9km, mb4.1/10,Error ellipse: s-maj=11.2km s-min=3.7km az=223.0*

ISC 19 08:49:55.1±0.5,0.°21S±0.°05×124.°83E±0.°04,h53km,n46, σ1s42/51,mb4.3/14,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.15	313	P		Pn		08 50 13.0	-2.0
KMSI				S		Sn		08 50 28.9	-0.8
GTOI	Gorontalo	2.00	295	P		Pn		08 50 27.3	+0.8
GTOI				S		Sn		08 50 54.5	+4.0
SANI	Sanana	2.16	148	P		Pn		08 50 27.0	-1.7
LUWI	Luwuk	2.22	248	Pn		Pn		08 50 29.9	+0.5
LUWI	Luwuk	2.22	248	P		Pn		08 50 29.9	+0.5
LBMI	Labuha	2.71	99	P		Pn		08 50 36.7	+0.5
LBMI				S		Sn		08 51 09.6	+1.9
TNTI	Ternate	2.72	69	P		Pn		08 50 37.9	+1.6
TNTI	Ternate	2.72	69	P		Pn		08 50 38.2	+1.9
MRSI	Marisa	2.97	283	P		Pn		08 50 36.5	-3.3
APSI	Ampana	3.25	258	P		Pn		08 50 44.8	+1.1
NLAI	Namlea	3.77	143	P		Pn		08 50 50.5	-0.2
TOLI2	Tolitoli	4.25	288			Pn		08 50 56.5	-1.0
MSAI	Masohi	5.15	127	P		Pn		08 51 11.7	+2.0
	0.1nm2μm29nm,0.8s								
SPSI	Sidrap Palu	6.28	234	P		Pn		08 51 26.4	+1.2
	0.3nm1μm84nm,0.6s								
BNSI	Bone	6.29	229	P		Pn		08 51 26.3	+0.9
	0.3nm1μm106nm,0.6s								
SIJI	Sorong	6.47	96	Pn		Pn		08 51 23.9	-3.9
	1.6nm,0.3s,baz=206,slow=21,SNR=2.3								
BKSI	Bulukumba	6.92	223	P		Pn		08 51 35.2	+1.2
	0.1nm393nm27nm,0.6s								
KAPI	Kappang	6.96	227	Pn		Pn		08 51 34.4	-0.2
	6.6nm,0.3s,baz=224,slow=2.0,SNR=25								
KAPI				Sn		Sn		08 52 50.1	-2.3
	2.0nm,0.3s,baz=198,slow=19,SNR=1.6								
KAPI				LR		LR		08 55 03.5	
	comp=Z,127nm,18.4s,baz=54,slow=45								
BSSI	Bau Bau, Buton	7.31	216	P		Pn		08 51 41.4	+2.0
MTN	Manton Dam	14.02	154	Pn		Pn		08 53 10.6	-0.5
FITZ	Fitzroy Crossi	17.79	177	P		Pn		08 53 58.4	-0.7
	0.3nm,0.3s,baz=9.8,slow=7.4,SNR=16								
FITZ	Fitzroy Crossi	17.79	177	P		Pn		08 53 58.9	-0.2
FITZ				IAmb		IAmb		08 54 01.1	
	comp=Z,2.4nm,0.7s								
WB0	Warramunga Arr	21.58	155	P		P		08 54 39.8	-0.7
WB0				IAmb		IAmb		08 55 01.6	
	comp=Z,14nm,1.1s								
WRAB	Tennant Creek	21.71	155	P		P		08 54 42.8	+0.9
WRAB				IAmb		IAmb		08 54 59.2	
	comp=Z,13nm,0.9s								
WRA	Warramunga Arr	21.71	155	P		P		08 54 40.7	-1.2
	comp=Z,1.1nm,0.7s,baz=340,slow=9.6,SNR=14								
WRA	Warramunga Arr	21.71	155	P		P		08 54 41.3	-0.6
WB2	Warramunga Arr	21.71	155	P		P		08 54 42.2	+0.2
WB2				IAmb		IAmb		08 54 59.2	
	comp=Z,12nm,0.9s								
WR0	Warramunga Arr	21.81	155	P		P		08 54 43.0	0.0
WR0				IAmb		IAmb		08 55 00.3	
	comp=Z,8.9nm,0.8s								
COEN	Coen	22.72	128	P		P		08 54 51.8	-1.0
COEN				IAmb		IAmb		08 55 13.8	
	comp=Z,7.5nm,1.0s								
ASAR	Alice Springs	24.93	160	P		P		08 55 13.8	+0.3
	comp=Z,1.1nm,0.7s,baz=336,slow=7.8,SNR=17								
ASAR				PcP		PcP		08 58 49.6	+1.4
	comp=Z,0.2nm,0.3s,baz=346,slow=1.5,SNR=1.1								
ASAR	Alice Springs	24.93	160	P		P		08 55 12.1	-1.4
CMAR	Chiang Mai Arr	31.48	307	P		P		08 56 12.2	+0.1
	comp=Z,1.9nm,0.4s,baz=137,slow=9.2,SNR=4.5								
STKA	Stephens Creek	35.26	155	P		P		08 56 43.5	-1.3
	comp=Z,1.0nm,0.6s,baz=332,slow=10,SNR=4.5								
STKA	Stephens Creek	35.26	155	P		P		08 56 44.6	-0.3
USRK	Ussuriysk Ar.	44.68	7	P		P		08 58 02.6	-0.1
	comp=Z,2.7nm,0.4s,baz=196,slow=7.1,SNR=7.3								
USRK	Ussuriysk Ar.	44.68	7	P		P		08 58 02.9	+0.2
KLR	Kul'dur	49.61	6	P		P		08 58 41.6	+0.6
	comp=Z,4.5nm,0.7s,baz=221,slow=5.0,SNR=1.4								
AAK	Ala-Archa	62.06	320	P		P		09 00 11.3	+0.7
	comp=Z,0.7nm,0.4s,baz=125,slow=9.6,SNR=5.5								
MA2	Magadan	62.97	14	P		P		09 00 17.2	+1.1
	comp=Z,3.9nm,0.8s,baz=116,slow=21,SNR=2.1								
KURK	Kurchatov	64.08	329	P		P		09 00 23.6	+0.1
KKAR	Karatay Array	64.87	319	P		P		09 00 29.3	+0.4
SOCY	Socotra	71.33	283	P		P		09 01 09.2	-0.9
ABKAR	Akbulak array	74.02	322	P		P		09 01 24.3	-1.0
AKTO	Aktyubinsk	75.58	323	P		P		09 01 34.8	+0.5
	comp=Z,5.2nm,0.6s,baz=98,slow=10,SNR=22								
TORD	Torodi Ar. Bea	122.23	285	PKP		PKiKP		09 08 45.8	+0.5
	comp=Z,0.2nm,0.5s,baz=48,slow=2.2,SNR=1.6								
TORD	Torodi Ar. Bea	122.23	285			PKPdf		09 08 44.4	-0.8

SSNC ***19*** *08:50:30.0±0.6,18.°09N×71.°64W,h43km±999km,MD3.5, ML2.2*

OSPL 19 08:50:36.3±2.1,19.°95N×71.°58W,h0km±8km,ML2.6,1C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LODA1	ITESIL, Dajabo	0.42	196	*i* P		Pg		08 50 42.6	-1.7
LODA1				*e*S		Sg		08 50 48.7	-1.2
LODA1				IAML				08 50 52.3	
	comp=Z,1μm,1.2s								
SDDR	Presa de Saban	1.00	164	*i* P		Pg		08 50 53.7	-1.8
SDDR				*e*S		Sg		08 51 08.1	-0.4
SDDR				IAML				08 51 10.3	
	comp=Z,264nm,0.5s								
LONE2	Loma La Sidra	1.39	176	*i* P		Pg		08 51 00.3	-2.7
LONE2				*e*S		Sg		08 51 18.9	-2.2
LONE2				IAML				08 51 20.6	
	comp=Z,59nm,0.7s								
GRTK	Grand Turk	1.61	15	*i* P		Pn		08 51 03.4	-2.6
GRTK				*e*S		Sn		08 51 25.0	-2.4
GRTK				IAML				08 51 29.2	
	comp=Z,66nm,0.8s								
LGNH	Logne	1.73	214	*i* P		Pn		08 51 05.0	-2.6
LGNH				*e*S		Sn		08 51 28.3	-2.2
LGNH				IAML				08 51 29.9	
	comp=Z,39nm,1.2s								
LOBA2	Hotel Casa Bon	1.92	166	*i* P		Pn		08 51 09.0	-1.2
LOBA2				IAML				08 51 47.0	
	comp=Z,37nm,5.2s								
LOPE2	Hotel El Peder	1.92	185	*i* P		Pn		08 51 09.3	-0.9
LOPE2				*e*S		Sn		08 51 32.9	-2.2
LOPE2				IAML				08 51 40.4	
	comp=Z,73nm,0.8s								
JAKH	Jacmel	1.92	208	*i* P		Pn		08 51 08.2	-2.1
JAKH				*e*S		Sn		08 51 32.7	-2.5
JAKH				IAML				08 51 38.5	
	comp=Z,21nm,0.6s								
MASC	Masc	2.50	276	*e*P		Pn		08 51 16.9	-1.4
MASC				*e*S		Sb		08 51 52.1	-1.5
MASC				IAML				08 51 52.4	
	comp=N,6.6nm,0.4s								
MASC				IAML				08 51 53.0	
	comp=E,8.9nm,0.3s								
GTBY	Guantanamo Bay	3.32	270	*e*P		Pn		08 51 25.1	-4.5
GTBY				*e*S		Sn		08 52 02.3	-7.5
RCC	Rio Carpintero	3.87	271	*e*P		Pn		08 51 31.8	-5.3
RCC				*e*S		Sn		08 52 17.8	-5.6
RCC				IAML				08 52 18.9	
	comp=N,0.8nm,0.1s								
RCC				IAML				08 52 19.3	
	comp=E,0.9nm,0.1s								

HEL ***19*** *08:51:17.6,63.°14N×21.°71E,h0km,ML1.7,Explosion*

UPP ***19*** *08:51:19.4±0.6,63.°23N×21.°49E,h0km,ML2.7, Suspected explosion*

DNK ***19*** *08:51:19.2±0.6,63.°21N×21.°57E,h0km,ML2.7(UPP), Suspected explosion*

HEL 19 08:51:17.9±0.1,63.°14N×21.°74E,h0km,ML1.6, ML2.7(UPP),Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VAF	Ylistaro	0.43	103	*e*P		Pg		08 51 25.1	-1.1
VAF				*e*S		Sg		08 51 30.5	-1.3
UMAU	Umeaa	0.88	328	P		Pg		08 51 33.4	-1.4
UMAU				S		Sg		08 51 44.9	-1.4
UMAU	Umeaa	0.88	328	P		Pg		08 51 33.4	-1.4
UMAU				S		Sg		08 51 44.0	-2.2
UMAU	Umeaa	0.88	328	P		Pg		08 51 33.4	-1.4
UMAU				S		Sg		08 51 44.0	-2.2
UMAU	Umeaa	0.88	328	*e*P		Pg		08 51 33.4	-1.5
UMAU				*e*S		Sg		08 51 44.6	-1.6
HUSU	Husum	1.16	281	P		Pg		08 51 38.5	-1.6
HUSU				S		Sg		08 51 53.3	-1.8
HUSU	Husum	1.16	281	P		Pg		08 51 38.5	-1.6
HUSU				S		Sg		08 51 53.2	-1.8
HUSU	Husum	1.16	281	P		Pg		08 51 38.5	-1.6
HUSU				S		Sg		08 51 53.2	-1.8
HUSU	Husum	1.16	281	*e*P		Pg		08 51 38.5	-1.6
HUSU				*e*S		Sg		08 51 53.2	-1.8
ODEU	Stanfors	1.35	341	P		Pg		08 51 42.2	-1.5
ODEU				S		Sg		08 51 59.5	-1.8
ODEU	Stanfors	1.35	341	P		Pg		08 51 42.2	-1.5
ODEU				S		Sg		08 51 59.3	-2.0
ODEU	Stanfors	1.35	341	P		Pg		08 51 42.2	-1.5
ODEU				S		Sg		08 51 59.3	-2.0
ODEU	Stanfors	1.35	341	*e*P		Pg		08 51 42.2	-1.5
ODEU				*e*S		Sg		08 51 59.3	-2.0
BREU	Bredtraesk	1.60	299	P		Pn		08 51 48.3	-0.7
BREU	Bredtraesk	1.60	299	P		Pn		08 51 46.7	-0.7
BREU	Bredtraesk	1.60	299	*e*P		Pn		08 51 46.7	-0.7
SVAU	Svanoeiden	1.66	326	P		Pn		08 51 47.2	-1.1
SVAU	Svanoeiden	1.66	326	P		Pn		08 51 47.1	-1.2
SVAU	Svanoeiden	1.66	326	P		Pn		08 51 47.1	-1.2
SVAU	Svanoeiden	1.66	326	*e*P		Pn		08 51 47.1	-1.2
KEF	Keuruu	1.75	123	*e*P		Pn		08 51 48.7	-0.6
KEF				*e*S		Sn		08 52 11.2	-1.1
KEF				MSG				08 52 15.4	
	comp=Z,3.1nm,0.2s								
OBF0	Syolatti, Pyha	1.75	38	*e*P		Pn		08 51 48.3	-1.2
OBF0				*e*S		Sn		08 51 52.8	-0.7
OUF	Merijarvi	1.81	46	*e*P		Pn		08 51 49.7	-0.6
OUF				*e*S		Sn		08 52 13.2	-0.7
SOLU	Sollefteaa	2.04	275	P		Pn		08 51 53.7	+0.4
SOLU	Sollefteaa	2.04	275	P		Pn		08 51 53.7	+0.4
SOLU	Sollefteaa	2.04	275	*e*P		Pn		08 51 53.7	+0.4
SUF	Sumiainen	2.06	100	*e*P		Pn		08 51 53.9	+0.2
SUF				*e*S		Sn		08 52 20.3	+0.2
SUF				MSG				08 52 24.1	
	comp=Z,3.8nm,0.1s								
OBF4	Vikkela, Lumij	2.24	40	*e*P		Pn		08 51 56.4	+0.2
OBF4				*e*S		Sn		08 52 24.8	+0.4
LILU	Lilltraesk	2.31	340	P		Pn		08 51 57.1	0.0
LILU	Lilltraesk	2.31	340	P		Pn		08 51 57.1	0.0
LILU	Lilltraesk	2.31	340	*e*P		Pn		08 51 57.1	0.0
SJUU	Sjulsmark	2.38	359	P		Pn		08 51 59.0	+1.0
SJUU	Sjulsmark	2.38	359	P		Pn		08 51 59.0	+1.0
SJUU	Sjulsmark	2.38	359	*e*P		Pn		08 51 59.0	+1.0

IDC ***19*** *08:52:12.6±0.4,32.°52N×130.°63E,h0km,mb4.7/51, mb1 4.8/58,mb1mx4.7/79,mbtmp4.7/58,ML4.2/7,MS4.7/81, Ms1 4.7/81,ms1mx4.7/94,Error ellipse: s-maj=10.5km s-min=6.3km az=105.0*

BJI ***19*** *08:52:13.5±0.0,32.°52N×130.°60E,h5km,mb4.6/78, mB5.2/64,Ms5.5/91,Ms7 5.2/86*

NIED ***19*** *08:52:13.7,32.°54N×130.°64E,h10km,MW5.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr0.08; Mθθ0.74; Mϕϕ-0.82; Mrθ-0.21; Mθϕ0.24; Mϕr0.65; Fault plane solution: Mo1.01000×10¹⁷ NP1: ϕs221.00000°,δ60.00000°,λ-169.00000°. NP2: ϕs126.00000°,δ81.00000°,λ-30.00000°.*

MOS ***19*** *08:52:13.5±0.9,32.°49N×130.°59E,h15km,mb5.2/59, MS5.1/18 Error ellipse: s-maj=6.4km s-min=3.6km az=113.5*

JMA ***19*** *08:52:13.6,32.°54N×130.°64E,h10km±1km,M5.5*

NEIC ***19*** *08:52:14.8±1.8,32.°56N±0.°04×130.°61E±0.°06,h5km±3km, mb5.1/103,Mww5.3,Error ellipse: s-maj=8.2km s-min=4.9km az=126.0*

BGR ***19*** *08:52:17.0±0.0,32.°55N×130.°74E,h10km,mb4.9*

GCMT ***19*** *08:52:16.8±0.1,32.°55N±0.°01×130.°54E±0.°01,h13km, MW5.3/136,Moment Tensor Solution. s77,c114; s136,c248; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.09±.01; Mθθ0.91±.01; Mϕϕ-1.00±.02; Mrθ0.20±.04; Mθϕ0.34±.01; Mϕr-0.28±.04; Best double couple: Mo1.06700×10¹⁷ NP1:ϕs36.00000°,δ73.00000°, λ-177.00000°. NP2:ϕs305.00000°,δ87.00000°, λ-17.00000°. Principal axes: T 0.9960, Plg10.0000°, Azm352.0000°; N 0.1440, Plg73.0000°, Azm115.0000°; P -1.1370, Plg14.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***19*** *08:52:20,32.°51N×130.°57E,h12km,Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10¹⁶Nm; Mrr1.46; Mθθ8.38; Mϕϕ-9.84; Mrθ0.29; Mθϕ3.27; Mϕr-1.13; Fault plane solution: Mo9.83000×10¹⁶ NP1:ϕs35.00000°, δ86.00000°,λ-176.00000°. NP2:ϕs305.00000°, δ87.00000°,λ-4.00000°. Principal axes: T 8.9515, Plg1.0000°, Azm350.0000°; N 1.5721, Plg84.0000°, Azm88.0000°; P -10.5236, Plg6.0000°, Azm260.0000°;*

ISC 19 08:52:15.8±0.4,32.°51N±0.°02×130.°70E±0.°03,h16km±2km, h16km:pP-P,n710,σ1s63/751,mb5.0/169,MS5.0/111, 60C-64D,Fault plane solution: NP1:ϕs102.13775°, δ74.59882°,λ-17.78591°. **NP2:ϕs197.00731°,δ72.87292°,** λ-163.86511°. **Principal axes:** T Plg1.1716°, Azm149.8038°; N Plg66.6370°, Azm242.5174°; P Plg23.3301°, Azm59.2984°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	Izumi3	0.10	69	P		Pg		08 52 17.2	-2.0
JIU3				S		Sg		08 52 19.1	-2.4
JZO	Okuchi	0.38	193	P		Pg		08 52 21.3	-2.3
JZO				S		Sg		08 52 26.7	-2.2
JHD	Hondo	0.48	264	P		Pg		08 52 22.0	-3.3
JNU	Nakatsue	0.63	14	Pg		Pg		08 52 24.4	-3.7
	3μm,0.3s,baz=192,slow=11,SNR=628								
JNU				Lg		Lg		08 52 34.1	
	8μm,0.3s,baz=81,slow=20,SNR=18								
JNU	Nakatsue	0.63	14	Pg		Pg		08 52 26.0	-2.1
JNU				Sg		Sg		08 52 36.3	-0.2
JNU	Nakatsue	0.63	14	P		Pg		08 52 26.2	-1.9
JTZ	Takazaki	0.69	151	P		Pg		08 52 27.3	-2.0
JTZ				S		Sg		08 52 38.5	0.0
JSU	Suzuyama	1.02	192	Pg		Pb		08 52 33.2	-2.0
JSU				Sg		Sb		08 52 47.1	-1.3
JII	Iki	1.52	328	P		Pn		08 52 40.6	-1.6
JTN	Tanegashima 3	1.87	173	P		Pn		08 52 46.5	-0.6
JMTN	Minamitane	2.12	175	P		Pn		08 52 49.8	-0.7
JKU	Kubokaw

SSE S **Sn** **08 55 46.8 0.0**
SSE pmax pmax
comp=Z,36nm,0.6s
SSE pmax pmax
comp=Z,280nm,3.6s
SSE LR LR
comp=N,7μm,12.3s
SSE LR LR
comp=E,6μm,13.0s
JSD Sado 8.28 46 Pn **Pn** **08 54 16.5 +1.3**
DL2 Dalian 9.75 313 P **Pn** **08 54 38.9 +3.6**
DL2 S **Sn** **08 56 30.0 +5.6**
DL2 pmax pmax
comp=Z,27nm,0.8s
DL2 pmax pmax
comp=Z,170nm,4.0s
DL2 LR LR
comp=N,45μm,9.2s
DL2 LR LR
comp=E,30μm,9.1s
DL2 LR LR
comp=Z,6μm,7.7s
JMM Marumori 9.84 54 Pn **Pn** **08 54 39.2 +2.8**
NJ2 Nanjing 10.04 271 ⇑P **Pn** **08 54 41.8 +2.5**
NJ2 PP **PnPn** **08 54 49.6 +2.7**
NJ2 pmax pmax
comp=Z,100nm,1.0s
NJ2 pmax pmax
comp=Z,560nm,7.5s
NJ2 LR LR
comp=N,10μm,8.9s
NJ2 LR LR
comp=E,8μm,9.4s
NJ2 LR LR
comp=Z,8μm,9.8s
MSHR Mys Shultsa 10.06 2 ⇑*eP* **Pn** **08 54 39.8 +0.3**
VLA Vladivostok 10.63 5 ⇑*eP* **Pn** **08 54 49.8 +2.5**
SNY Shenyang 10.89 331 ⇑P **Pn** **08 54 50.4 -0.5**
SNY S **Sn** **08 56 53.6 +1.2**
SNY pmax pmax
comp=Z,13nm,0.9s
SNY pmax pmax
comp=Z,310nm,5.7s
SNY LR LR
comp=N,10μm,9.0s
SNY LR LR
comp=E,14μm,7.1s
SNY LR LR
comp=Z,18μm,9.4s
JCJ Chichijima 11.34 115 Pn **Pn** **08 54 58.3 +1.1**
2.1nm,0.3s,baz=201,slow=16,SNR=3.5
JCJ LR LR 08 58 17.1
comp=Z,3μm,21.2s,baz=311,slow=32
JCJ Chichijima 11.34 115 **Pn** **08 54 58.6 +1.5**
USA0B Ussuriysk Arra 11.71 5 P **Pn** **08 55 05.0 +2.8**
USA0B Ussuriysk Arra 11.71 5 **Pn** **08 55 05.0 +2.8**
USRK Ussuriysk Ar. 11.71 5 Pn **Pn** **08 55 02.6 +0.4**
baz=187,slow=13,SNR=24
USRK LR LR 08 59 22.6
comp=Z,6μm,18.2s,baz=171,slow=37
TIA Tai'an 11.81 292 ⇑P Pn 08 55 08.8 +5.3
TIA S **Sn** **08 57 21.4 +6.5**
TIA pmax pmax
comp=Z,9.0nm,0.8s
TIA pmax pmax
comp=Z,500nm,6.2s
TIA LR LR
comp=N,31μm,14.4s
TIA LR LR
comp=E,12μm,14.2s
TIA LR LR
comp=Z,3μm,10.9s
CN2 Changchun 12.00 341 *eP* **Pn** **08 55 07.9 +1.8**
CN2 PP **PnPn** **08 55 12.3 -1.6**
CN2 S **Sn** **08 57 16.4 -3.2**
CN2 pmax pmax
comp=Z,10.0nm,1.9s
CN2 LR LR
comp=N,8μm,12.0s
CN2 LR LR
comp=E,22μm,12.0s
CN2 LR LR
comp=Z,14μm,14.0s
MDJ Mudanjiang 12.12 356 P **Pn** **08 55 11.9 +4.2**
MDJ pmax pmax
comp=Z,23nm,2.1s
MDJ pmax pmax
comp=Z,900nm,8.4s
MDJ LR LR
comp=N,4μm,17.1s
MDJ LR LR
comp=E,7μm,13.7s
MDJ LR LR
comp=Z,5μm,24.2s
SSLB Suanglung 12.22 227 Pn **Pn** **08 55 12.3 +3.1**
SSLB Suanglung 12.22 227 P **Pn** **08 55 12.5 +3.3**
QZH Quanzhou 13.02 238 ⇓*iP* **Pn** **08 55 20.6 +0.5**
QZH S **Sn** **08 57 51.3 +6.7**
QZH LR LR
comp=N,10μm,11.8s
QZH LR LR
comp=E,3μm,13.3s
QZH LR LR
comp=Z,6μm,14.2s
TEY Ternei 13.32 18 ⇓*eP* **P** **08 55 29.4 -4.3**
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=Z,10.0nm,1.1s
BNX BinXian 13.45 350 ⇓P **Pn** **08 55 28.9 +3.0**
BNX pP **P** **08 55 30.9 -4.3**
BNX sP 08 55 33.1
BNX PP **PnPn** **08 55 38.9 +5.0**
BNX S **Sn** **08 57 57.6 +2.6**
BNX sS S 08 58 02.3 -16
BNX pmax pmax
comp=Z,42nm,1.0s
BNX pmax pmax
comp=Z,1μm,8.0s
BNX LR LR
comp=Z,2μm,6.8s
BNX LR LR
comp=Z,10μm,14.3s
BNX LR LR
comp=Z,9μm,22.4s
ERM Erimo 13.71 43 P **Pn** **08 55 28.5 -0.9**
ERM Erimo 13.71 43 Pn **Pn** **08 55 28.5 -0.9**
BJT Baijiatuau 13.90 307 P **Pn** **08 55 32.7 +0.6**
BJT Baijiatuau 13.90 307 **Pn** **08 55 32.7 +0.6**
BJI Beijing 13.91 307 P **Pn** **08 55 33.3 +1.2**
BJI S **Sn** **08 58 06.8 +0.7**
BJI pmax pmax
comp=Z,9.0nm,1.4s
BJI pmax pmax
comp=Z,310nm,7.7s
HNS HongShan 13.99 295 ⇓P **Pn** **08 55 36.4 +3.1**
HNS S **Sn** **08 58 15.3 +7.1**
HNS pmax pmax
comp=Z,48nm,1.7s
HNS LR LR
comp=Z,23μm,16.3s
HNS LR LR
comp=Z,13μm,16.3s
HNS LR LR
comp=Z,10μm,16.3s
WHN Wuhan 14.08 266 ⇓P **Pn** **08 55 36.4 +1.8**
WHN LR LR
comp=Z,23μm,10.9s
WHN LR LR
comp=Z,24μm,13.1s
WHN LR LR
comp=Z,26μm,14.1s
ASAJ Asahikawa 14.86 35 Pn **Pn** **08 55 45.4 +0.2**
comp=Z,0.5nm,0.3s,baz=293,slow=1.8,SNR=8.7
ASAJ Sn **Sn** **08 58 25.9 -3.6**
comp=Z,0.6nm,0.3s,baz=226,slow=7.0,SNR=5.2
ASAJ LR LR 09 01 03.9
comp=Z,1μm,19.2s,baz=220,slow=36
JKA Kamikawa-asahi 14.86 35 **Pn** **08 55 45.9 +0.7**
LYN LuoYang 15.34 283 ⇓P **Pn** **08 55 50.4 -1.2**
LYN S **Sn** **08 58 48.4 +7.2**
LYN pmax pmax
comp=Z,60nm,2.0s
LYN pmax pmax
comp=Z,1μm,4.8s
LYN LR LR
comp=Z,14μm,11.4s
LYN LR LR
comp=Z,12μm,12.4s
LYN LR LR
comp=Z,11μm,10.9s
TIY Taiyuan 15.81 294 *eP* **Pn** **08 55 55.3 -2.5**
TIY PP **sP** **08 56 09.1 +0.9**
TIY S **Sn** **08 58 58.3 +5.5**
TIY pmax pmax
comp=Z,560nm,4.8s
TIY LR LR
comp=Z,21μm,13.7s
TIY LR LR
comp=Z,10μm,11.3s
TIY LR LR
comp=Z,5μm,18.8s
CNSH ChangSha 15.93 259 ⇑P **Pn** **08 55 59.1 -0.2**
CNSH S **Sn** **08 58 57.5 +1.9**
CNSH pmax pmax
comp=Z,56nm,2.1s
CNSH LR LR
comp=Z,8μm,10.9s
CNSH LR LR
comp=Z,10μm,11.0s
CNSH LR LR
comp=Z,8μm,11.2s
XLT XiLinHaoTe 16.14 319 ⇓*iP* **Pn** **08 56 02.8 +0.9**
XLT pP P 08 56 05.8 +0.7
XLT sP pP 08 56 09.1 -0.6
XLT PP **sP** **08 56 12.4 +0.6**
XLT S **Sn** **08 59 03.8 +3.3**
XLT sS S 08 59 08.8 -5.0
XLT PcP **PcP** **09 01 03.6 +6.5**
XLT pmax pmax
comp=Z,37nm,1.3s
XLT pmax pmax
comp=Z,450nm,4.6s
XLT LR LR
comp=Z,3μm,12.2s
XLT LR LR
comp=Z,17μm,14.3s
XLT LR LR
comp=Z,12μm,11.0s
KLR Kul'dur 16.72 2 Pn **Pn** **08 56 09.8 +0.6**
comp=Z,0.8nm,0.3s,baz=185,slow=12,SNR=11
KLR Sn **Sn** **08 59 19.5 +5.0**
baz=174,slow=15,SNR=1.3
KLR Lg Lg 09 01 08.2
comp=Z,0.1nm,0.3s,baz=294,slow=1.2,SNR=1.9
KLR LR LR 09 02 20.8
comp=Z,3μm,18.6s,baz=174,slow=36
KLR Kul'dur 16.72 2 *cP* **P** **08 56 10.5 -1.0**
KLR pmax pmax
comp=Z,140nm,1.3s
APYP Conner 16.90 213 *eP* **P** **08 56 20.1 +6.5**
YSS Yuzh-Sakhalins 17.12 29 ⇑*eP* **P** **08 56 15.4 -0.4**
YSS *eS* **Sn** **08 59 26.9 +2.8**
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,600nm,4.4s
YSS MLR MLR
comp=N,5μm,14.0s
YSS MLR MLR
comp=E,6μm,14.0s
YSS Yuzh-Sakhalins 17.12 29 P **Pn** **08 56 13.7 -0.5**
HHC Hu-ho-hao-te 17.43 304 *eP* **P** **08 56 19.1 -0.4**
HHC S **Sn** **08 59 31.9 -0.2**
HHC pmax pmax
comp=E,28nm,1.0s
HHC pmax pmax
comp=E,350nm,5.7s
HHC LR LR
comp=E,9μm,11.4s
HHC LR LR
comp=E,14μm,12.1s
HHC LR LR
comp=E,14μm,12.4s
SAMP Sagada Mountai 17.74 212 *eP* **P** **08 56 24.2 +1.3**
XAN Xi'an 18.27 281 P **P** **08 56 30.9 +2.1**
XAN pP sP 08 56 37.3 +1.9
XAN sP pP 08 56 40.8 +7.5
XAN pmax pmax
comp=E,43nm,2.1s
XAN pmax pmax
comp=E,1μm,4.8s
XAN LR LR
comp=E,11μm,12.0s
XAN LR LR
comp=E,9μm,13.1s
XAN LR LR
comp=E,7μm,10.3s
BTO Baotou 18.44 302 *eP* **Pn** **08 56 32.0 +1.2**
HIA Hailar 18.64 337 P **Pn** **08 56 34.2 +1.2**
HIA pmax pmax
comp=Z,81nm,1.3s
HIA Hailar 18.64 337 P **Pn** **08 56 34.2 +1.2**
SMPP San Manuel, Pa 18.65 212 *eP* **P** **08 56 32.5 -0.5**
GRNR Gornyy 18.73 11 ⇓*iP* **Pn** **08 56 36.8 +2.8**
GRNR pmax pmax
comp=N,9.0nm,0.8s
GRNR pmax pmax
comp=Z,10.0nm,0.7s
GRNR MLR MLR
comp=E,4μm,14.0s
BOLP Bolinao 18.80 214 *eP* **Pn** **08 56 37.4 +2.3**
GULI GuiLin 19.18 253 ⇓P **Pn** **08 56 41.5 +1.8**
GULI S **Sn** **09 00 14.4 0.0**
GULI pmax pmax
comp=E,60nm,1.6s
GULI LR LR
comp=E,5μm,13.0s
GULI LR LR
comp=E,8μm,13.0s
GULI LR LR
comp=E,12μm,13.0s
SCZP Santa Cruz 19.33 213 *eP* **Pn** **08 56 45.1 +3.6**
JCNP Jose Panganiba 19.55 204 *eP* **Pn** **08 56 44.4 +0.2**
PVCP Virac 19.76 199 *eP* **P** **08 56 45.7 +0.6**
QVP Quezon City--P 19.88 209 *eP* **Pn** **08 56 49.1 +1.1**
SCSP San Jose Seism 19.89 201 *eP* Pn 08 56 57.3 +9.2
TYV Tymovskoe 20.35 22 *eP* Pn 08 56 57.1 +3.8
TYV pmax pmax
comp=Z,24nm,1.3s
TYV pmax pmax
comp=Z,400nm,4.3s
PGP Puerto Galera 20.92 207 ⇓*eP* Pn 08 57 03.9 +3.6
ZEA Zeya 21.36 354 *eP* **P** **08 57 03.4 +1.2**
ZEA *eS* **S** **09 00 50.0 -8.7**
ZEA pmax pmax
comp=N,110nm,1.2s
ZEA pmax pmax
comp=Z,150nm,1.2s
ZEA pmax pmax
comp=E,300nm,3.5s
ZEA pmax pmax
comp=N,300nm,1.5s
ZEA pmax pmax
comp=Z,800nm,3.6s
ZEA smax smax
comp=Z,2μm,10.1s
ZEA smax smax
comp=E,900nm,11.1s
ZEA smax smax
comp=N,2μm,9.9s
ZEA MLR MLR
comp=E,2μm,14.0s
ZEA MLR MLR
comp=N,2μm,9.0s
ZEA MLR MLR
comp=Z,2μm,11.0s
GYA Guiyang 21.75 260 ⇑P **P** **08 57 06.8 0.0**
GYA S **S** **09 01 07.3 +0.3**
GYA pmax pmax
comp=Z,35nm,1.9s
GYA pmax pmax
comp=Z,300nm,3.5s
GYA LR LR
comp=Z,2μm,8.6s
GYA LR LR
comp=Z,6μm,11.1s
GYA LR LR
comp=Z,8μm,13.5s
LZH Lanzhou 22.44 287 *eP* **P** **08 57 15.5 +1.3**
LZH pP sP 08 57 22.5 +1.6
LZH sP pP 08 57 26.5 +7.7
LZH S **S** **09 01 18.8 -1.4**
LZH sS sS 09 01 28.3 +0.5
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,490nm,4.1s
LZH LR LR
comp=Z,11μm,11.9s
LZH LR LR
comp=Z,4μm,11.4s
LZH LR LR
comp=Z,5μm,14.9s
GUMO Guam 22.86 142 LR LR 09 04 58.3
comp=Z,736nm,21.4s,baz=322,slow=33
CD2 Chengdu 22.95 273 ⇑*iP* **P** **08 57 19.3 -0.2**
CD2 pP pP 08 57 21.9 -2.2
CD2 S **S** **09 01 29.8 +0.6**
CD2 sS pS 09 01 34.8 +0.2
CD2 ScP **ScP** **09 04 48.9 +2.3**
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,500nm,4.6s
CD2 LR LR
comp=Z,2μm,12.9s
CD2 LR LR
comp=Z,12μm,12.9s
CD2 LR LR
comp=Z,10μm,13.3s
QIZ Qiongzhong 23.03 239 P **P** **08 57 21.9 +1.6**
QIZ S **S** **09 01 31.3 +0.8**
QIZ pmax pmax
comp=Z,480nm,4.7s
QIZ LR LR
comp=Z,6μm,11.2s
QIZ LR LR
comp=Z,4μm,13.5s
QIZ LR LR
comp=Z,4μm,12.0s
ULN Ulaanbaatar 23.56 317 *cP* **P** **08 57 24.8 -0.8**
ULN pmax pmax
comp=Z,100nm,1.0s
ULN Ulaanbaatar 23.56 317 **P** **08 57 25.5 -0.1**
SONM Songino Array 23.92 317 P **P** **08 57 28.4 -0.6**
comp=Z,35nm,0.8s,baz=131,slow=9.4,SNR=118
SONM S **S** **09 01 47.5 +2.7**
comp=Z,0.3nm,0.4s,baz=22,slow=43,SNR=0.8
SONM Lg Lg 09 04 41.2
comp=Z,0.3nm,0.4s,baz=356,slow=18,SNR=1.3
SONM LR LR 09 08 00.7
comp=Z,3μm,18.6s,baz=114,slow=40
SONM Songino Array 23.92 317 P **P** **08 57 29.0 0.0**
SONM IAmb IAmb 08 57 30.3
comp=Z,43nm,0.9s
BUKP Musuan 25.06 193 *eP* **P** **08 57 39.2 -0.3**
KMI Kunming 25.53 260 ⇓P **P** **08 57 45.0 +1.0**
KMI PP **PnPn** **08 58 21.4 +1.8**
KMI S **S** **09 02 10.8 -0.3**
KMI sS pS 09 02 17.5 +0.7
KMI SS **SnSn** **09 03 09.3 +4.9**
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI pmax pmax
comp=Z,380nm,3.8s
KMI LR LR
comp=Z,5μm,11.5s
KMI LR LR
comp=Z,7μm,14.7s
KMI LR LR
comp=Z,8μm,13.0s
DAV Davao City (W) 25.76 192 LR LR 09 08 12.9
comp=Z,1μm,20.6s,baz=16,slow=37
GTA Gaotai 25.84 294 *eP* **P** **08 57 45.9 -0.7**
GTA pP pP 08 57 51.8 +0.3
GTA S **S** **09 02 18.4 +2.6**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,310nm,7.2s
GTA LR LR
comp=Z,15μm,16.3s
GTA LR LR
comp=Z,3μm,14.7s
GTA LR LR
comp=Z,3μm,16.3s
PZH PanZhiHua 25.86 264 P **P** **08 57 46.6 -0.2**
PZH pP **pP** **08 57 48.3 -3.4**
PZH PP **PnPn** **08 58 29.4 +5.4**
PZH PcP **PcP** **09 01 15.0 -0.9**
PZH S **S** **09 02 13.4 -2.7**
PZH sS **sS** **09 02 24.8 +0.6**
PZH pmax pmax
comp=Z,60nm,1.4s
PZH pmax pmax
comp=Z,750nm,3.9s
PZH LR LR
comp=Z,3μm,11.0s
PZH LR LR
comp=Z,3μm,10.1s
PZH LR LR
comp=Z,3μm,12.2s
ZAK Zakamensk 26.99 319 *eP* **P** **08 57 55.6 -1.2**
ZAK pmax pmax
comp=Z,22nm,1.3s
IRK Irkutsk 27.49 324 *eP* **P** **08 58 01.4 +0.2**
IRK pmax pmax
comp=Z,60nm,3.1s
BOD Bodaibo 27.75 341 *eP* **P** **08 58 02.8 -0.6**
BOD pmax pmax
comp=Z,29nm,1.5s
PETK Petropavlovsk- 28.28 35 LR LR 09 10 02.6
comp=Z,1μm,18.0s,baz=217,slow=38
MOY Mondy 28.89 320 *eP* **P** **08 58 13.5 -0.3**
MOY pmax pmax
comp=Z,26nm,1.5s
YAK Yakutsk 29.54 359 P **P** **08 58 19.4 +0.1**
comp=Z,6.4nm,0.3s,baz=1.5,slow=11,SNR=7.9
YAK S S 09 03 23.4 +10
comp=Z,8.5nm,0.4s,baz=135,slow=4.9,SNR=1.3
YAK Lg Lg 09 08 03.1
comp=Z,6.3nm,0.3s,baz=112,slow=1.6,SNR=1.6
YAK LR LR 09 09 54.3
comp=Z,2μm,20.6s,baz=168,slow=36
YAK Yakutsk 29.54 359 *eP* **P** **08 58 21.3 +2.0**
YAK *e**PP **sP** **08 58 30.2 +3.8**
YAK *e* 09 01 27.0
YAK *e*S **S** **09 03 16.9 +3.7**
YAK *e**SS **sS** **09 03 24.7 +3.4**
YAK *e*SS **SnSn** **09 04 48.1 +6.9**
YAK pmax pmax
comp=Z,64nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=N,41nm,1.1s
YAK smax smax
comp=E,68nm,3.3s
YAK smax smax
comp=N,34nm,2.3s
YAK MLR MLR
comp=Z,2μm,12.0s
YAK MLR MLR
comp=N,953nm,10.0s
YAK MLR MLR
comp=E,795nm,11.0s
YAK Yakutsk 29.54 359 P **P** **08 58 18.5 -0.8**
YAK IAmb IAmb 08 58 23.2
comp=Z,41nm,0.9s
GOMU GeErMu 29.75 287 P **P** **08 58 20.9 -1.0**
GOMU pP pP 08 58 24.8 -2.0
GOMU sP sP 08 58 26.3 -2.5
GOMU PcP **PcP** **09 01 26.5 +1.0**
GOMU S **S** **09 03 13.5 -4.2**
GOMU pmax pmax
comp=Z,7.0nm,0.6s
GOMU pmax pmax
comp=Z,93nm,5.3s
GOMU LR LR
comp=Z,3μm,12.4s
GOMU LR LR
comp=Z,2μm,13.3s
GOMU LR LR
comp=Z,2μm,15.3s
MA2 Magadan 30.19 20 P **P** **08 58 25.5 +0.4**
comp=Z,2.0nm,0.2s,baz=189,slow=16,SNR=2.6
MA2 S **S** **09 03 23.3 -0.2**

comp=Z,1.0nm,0.3s,baz=138,slow=21,SNR=1.5
MA2 LR LR 09 10 22.6
comp=Z,620nm,19.2s,baz=212,slow=36
MA2 Magadan 30.19 20⇑ *eP* **P 08 58 25.8 +0.7**
MA2 pmax pmax
comp=Z,14nm,1.3s
MA2 Magadan 30.19 20 P **P 08 58 26.4 +1.3**
CHTO Chiang Mai 31.57 252 P **P 08 58 38.7 +1.0**
CHTO pmax pmax
comp=Z,19nm,0.9s
CHTO Chiang Mai 31.57 252 P **P 08 58 38.7 +1.0**
CHTO IAmb IAmb 08 58 43.6
comp=Z,19nm,0.9s
CM31 Chiang Mai Arr 31.76 252 P **P 08 58 40.2 +0.9**
CM31 IAmb IAmb 08 58 56.4
comp=Z,19nm,1.1s
CMAR Chiang Mai Arr 31.76 252 P **P 08 58 38.6 -0.7**
comp=Z,2.0nm,0.4s,baz=50,slow=6.5,SNR=18
CMAR PcP **PcP 09 01 30.0 -0.6**
comp=Z,1.4nm,0.4s,baz=14,slow=1.9,SNR=1.1
CMAR LR LR 09 13 23.7
comp=Z,3µm,18.8s,baz=60,slow=40
CMAR Chiang Mai Arr 31.76 252 P **P 08 58 40.0 +0.7**
CMAR Chiang Mai Arr 31.76 252 P **P 08 58 40.0 +0.7**
TOLI2 Tolitoli 32.60 199 P **P 08 58 47.3 +0.6**
TOLI2 IAmb IAmb 08 58 49.8
comp=Z,25nm,1.2s
LBMI Labuha 33.11 186 P **P 08 58 53.1 +2.0**
comp=Z,1µmcomp=Z,89nm,0.5s
SIJI Sorong 33.21 179 LR LR 09 10 47.3
comp=Z,1µm,21.7s,baz=26,slow=34
SEY Seymchan 33.40 18 P **P 08 58 53.1 -0.1**
comp=Z,2.1nm,0.7s,baz=231,slow=7.4,SNR=8.9
SEY LR LR 09 12 02.1
comp=Z,2µm,18.8s,baz=212,slow=36
SEY Seymchan 33.40 18 *i P* **P 08 58 54.3 +1.1**
SEY pmax pmax
comp=Z,11nm,1.5s
SHL Shillong 34.49 269 P **P 08 59 03.1 -0.3**
SHL pmax pmax
comp=Z,40nm,1.2s
SHL Shillong 34.49 269 P **P 08 59 03.1 -0.3**
SHL IAmb IAmb 08 59 08.2
comp=Z,40nm,1.2s
SANI Sanana 34.66 188 P **P 08 59 02.5 -2.1**
comp=Z,2µmcomp=Z,20nm,0.6s
WMQ Urumqi 35.28 301 *eP* **P 08 59 09.8 -0.1**
WMQ pP pP 08 59 14.1 -0.7
WMQ sP sP 08 59 20.8 +4.0
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,130nm,5.9s
WMQ LR LR
comp=Z,10µm,19.5s
WMQ LR LR
comp=Z,4µm,12.7s
WMQ LR LR
comp=Z,3µm,18.5s
TAPN Taplejung 37.42 274 *eP* **P 08 59 28.9 +0.3**
ZSN Zaisan 37.59 307 *eP* **P 08 59 28.3 -1.2**
ZSN Zaisan 37.59 307 *eP* **P 08 59 28.3 -1.2**
baz=307
ODAN Odare 37.85 273 *eP* **P 08 59 32.9 +0.7**
JIRN Jiri 38.60 275 *eP* **P 08 59 38.7 0.0**
comp=Z,14nm,1.0s
KAPI Kappang 38.74 198 LR LR 09 14 48.6
comp=Z,757nm,22.0s,baz=7.5,slow=35
GUN Gumba 38.79 275 *eP* **P 08 59 39.9 -0.3**
comp=Z,237nm,1.0s
BBKI Banjar Baru 38.81 206 P **P 08 59 40.2 +0.2**
comp=Z,75nm,1.0s
ZALV Zalesovo Beam 38.82 317 P **P 08 59 39.3 -0.4**
comp=Z,8.1nm,0.7s,baz=95,slow=7.4,SNR=11
ZALV PcP **PcP 09 01 49.0 -1.7**
comp=Z,0.6nm,0.4s,baz=106,slow=5.1,SNR=3.1
ZALV LR LR 09 16 51.3
comp=Z,2µm,18.1s,baz=106,slow=38
ZALV Zalesovo Beam 38.82 317 *i P* **P 08 59 39.5 -0.2**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV Zalesovo Beam 38.82 317 P **P 08 59 39.1 -0.6**
TIXI Tiksi 39.21 359 P **P 08 59 40.6 -2.1**
comp=Z,9.4nm,0.8s,baz=270,slow=22,SNR=17
TIXI S **S 09 05 39.8 -2.2**
comp=Z,0.5nm,0.3s,baz=270,slow=23,SNR=1.4
TIXI LR LR 09 16 08.8
comp=Z,3µm,18.8s,baz=180,slow=37
TIXI Tiksi 39.21 359 *eP* **P 08 59 41.7 -1.0**
TIXI pmax pmax
comp=Z,26nm,1.7s
TIXI Tiksi 39.21 359 P **P 08 59 41.3 -1.4**
MK31 Makanchi Array 39.28 306 *c iP* **P 08 59 42.7 -1.0**
MK31 Makanchi Array 39.28 306 P **P 08 59 42.9 -0.8**
MKAR Makanchi Array 39.28 306 P **P 08 59 42.2 -1.5**
comp=Z,4.4nm,0.8s,baz=94,slow=11,SNR=27
MKAR PcP **PcP 09 01 50.6 -1.7**
comp=Z,1.3nm,0.9s,baz=120,slow=1.4,SNR=1.9
MKAR LR LR 09 17 06.3
comp=Z,1µm,18.7s,baz=93,slow=38
MKAR Makanchi Array 39.28 306 *i P* **P 08 59 43.0 -0.7**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 39.28 306 P **P 08 59 42.6 -1.1**
PKI Pulchoki 39.29 275 *eP* **P 08 59 44.3 -0.1**
comp=Z,111nm,1.2s
MAKZ Makanchi 39.50 306 P **P 08 59 44.3 -1.2**
MAKZ Makanchi 39.50 306 P **P 08 59 44.8 -0.8**
DANN Dangsing 40.43 277 *eP* **P 08 59 53.5 -0.3**
comp=Z,258nm,1.4s
KOLN Koldanda 40.75 276 *eP* **P 08 59 56.6 +0.3**
SEM Semipalatinsk 40.95 311 *eP* **P 08 59 55.7 -2.0**
SEM pmax pmax
comp=Z,20nm,1.0s
SEM Semipalatinsk 40.95 311 *eP* **P 08 59 55.8 -2.0**
comp=Z,20nm,1.0s,baz=311
SEM LR LR 09 15 47.3
baz=311
BILL Bilibino 41.05 19⇑ *i P* **P 08 59 58.9 +0.8**
BILL *e* 09 01 35.1
BILL *eS* **S 09 06 18.3 +8.6**
BILL pmax pmax
comp=Z,21nm,1.3s
BILL MLR MLR
comp=Z,2µm,15.0s
BILL Bilibino 41.05 19 P **P 08 59 59.1 +1.0**
PYUN Piuthan 41.16 277 *eP* **P 08 59 59.7 0.0**
comp=Z,110nm,1.0s
PDGK Podgornoye 41.23 300 P **P 08 59 59.0 -1.1**
SHLS Shalkode 41.26 300 *eP* **P 08 59 56.0 -4.3**
SHLS Shalkode 41.26 300 *eP* **P 08 59 56.1 -4.3**
baz=300
UZB Uzynbulak 41.59 300 *eP* **P 09 00 01.4 -1.6**
UZB Uzynbulak 41.59 300 *eP* **P 09 00 01.5 -1.6**
baz=300
KPKS Kokpek 41.82 301 *eP* **P 09 00 03.1 -1.7**
KPKS Kokpek 41.82 301 *eP* **P 09 00 03.2 -1.7**
baz=301
KRVT Keravat (AS076 41.85 147 LR LR 09 16 37.2
comp=Z,224nm,18.2s,baz=108,slow=35
TDK Taldyqorghan 41.96 303 LR LR 09 15 53.1
comp=Z,1µm,13.4s,baz=303
PSI Prapat 41.98 232 P **P 09 00 06.9 +0.5**
comp=Z,2.2nm,0.5s,baz=70,slow=22,SNR=2.1
PSI LR LR 09 16 43.1
comp=Z,647nm,21.4s,baz=36,slow=35
KURK Kurchatov 42.01 311 P **P 09 00 05.1 -1.0**
KURK pmax pmax
comp=Z,25nm,1.0s
KURK Kurchatov 42.01 311 P **P 09 00 05.1 -1.0**
KURK IAmb IAmb 09 00 06.6
comp=Z,25nm,0.9s
ZHN Zhinishke 42.01 300 *eP* **P 09 00 05.2 -1.2**
ZHN Zhinishke 42.01 300 *eP* **P 09 00 05.3 -1.2**
baz=300
SATY Saty 42.04 300 *eP* **P 09 00 05.3 -1.4**
SATY Saty 42.04 300 *eP* **P 09 00 05.3 -1.4**
baz=300
KURBB Kurchatov Arra 42.06 311 P **P 09 00 05.2 -1.3**
comp=Z,12nm,0.8s,baz=97,slow=8.7,SNR=79
KURBB LR LR 09 18 32.7
comp=Z,3µm,18.9s,baz=72,slow=38
TARG Taragay, Kyrgy 42.59 298 P **P 09 00 11.4 -0.1**
PLAI Plampang 42.92 199 P **P 09 00 11.7 -2.1**
comp=Z,27nm,0.7s
BATI Baumata 43.01 190 P **P 09 00 15.2 +0.6**
comp=Z,50nm,0.7s,baz=96,slow=9.8,SNR=2.5
BATI LR LR 09 21 45.7
comp=Z,245nm,18.0s,baz=20,slow=41
KDJ Kajisay 43.01 299 P **P 09 00 14.0 -0.7**
KDJ pmax pmax
comp=Z,12nm,1.1s
KDJ Kajisay 43.01 299 P **P 09 00 14.0 -0.7**
CHKK Chushkaly 43.02 301 *eP* **P 09 00 13.2 -1.3**
CHKK Chushkaly 43.02 301 *eP* **P 09 00 13.2 -1.3**
baz=301
MDOK Medeo 43.03 300 *eP* **P 09 00 13.5 -1.2**
MDOK MLR MLR
comp=Z,3µm,14.0s
MDOK Medeo 43.03 300 *eP* **P 09 00 13.6 -1.2**
baz=300
MDOK LR LR 09 17 37.8
comp=Z,3µm,13.9s,baz=300
TNSS Tian-Shan 43.11 300 *eP* **P 09 00 14.6 -1.1**
TNSS Tian-Shan 43.11 300 *eP* **P 09 00 14.6 -1.1**
baz=300
AAA Alma-Ata 43.12 300 *eP* **P 09 00 14.2 -1.2**
AAA pmax pmax
comp=Z,52nm,2.6s
AAA MLR MLR
comp=Z,3µm,14.0s
AAA Alma-Ata 43.12 300 *eP* **P 09 00 14.2 -1.2**
comp=Z,52nm,2.6s,baz=300
AAA LR LR 09 17 49.3
comp=Z,3µm,14.0s,baz=300
KUU Kurty 43.49 301 *eP* **P 09 00 17.0 -1.3**
KUU pmax pmax
comp=Z,13nm,1.0s
KUU MLR MLR
comp=Z,2µm,16.0s
KUU Kurty 43.49 301 *eP* **P 09 00 17.1 -1.3**
comp=Z,13nm,1.0s,baz=302
KUU LR LR 09 19 03.0
comp=Z,2µm,16.1s,baz=302
BOOM Boomskoye usch 43.90 299 P **P 09 00 21.1 -0.7**
BOOM pmax pmax
comp=Z,11nm,1.2s
BOOM Boomskoye usch 43.90 299 P **P 09 00 21.1 -0.7**
GSI Gunungsitoli 43.98 232 P **P 09 00 23.6 +1.1**
GSI IAmb IAmb 09 00 27.2
comp=Z,61nm,1.4s
GSI Gunungsitoli 43.98 232 P **P 09 00 23.0 +0.5**
comp=Z,32nm,1.7s
NRIK Noril'sk 44.04 340 P **P 09 00 20.9 -1.4**
comp=Z,24nm,1.0s,baz=119,slow=8.9,SNR=24
NRIK S **S 09 06 53.0 -0.6**
comp=Z,1.2nm,0.4s,baz=36,slow=5.2,SNR=1.5
NRIK LR LR 09 20 03.1
comp=Z,2µm,19.7s,baz=132,slow=38
NRIK Noril'sk 44.04 340 *c iP* **P 09 00 21.7 -0.6**
NRIK pmax pmax
comp=Z,45nm,1.1s
NRIK Noril'sk 44.04 340 P **P 09 00 21.6 -0.6**
NRIK IAmb IAmb 09 00 23.1
comp=Z,42nm,1.1s
PWJI Pagerwojo 44.15 207 P **P 09 00 25.2 +1.4**
comp=Z,1µmcomp=Z,43nm,0.9s
KSH Kashi 44.24 295 P **P 09 00 27.6 +3.1**
KSH pmax pmax
comp=Z,9.0nm,1.4s
KSH LR LR
comp=Z,5µm,17.8s
KSH LR LR
comp=Z,3µm,16.5s
KSH LR LR
comp=Z,3µm,14.6s
PMG Port Moresby 44.55 157 LR LR 09 18 29.4
comp=Z,533nm,18.8s,baz=331,slow=35
MDSI Maura Dua 44.59 219 P **P 09 00 27.2 -0.1**
comp=Z,517nmcomp=Z,28nm,1.6s
KPJI Karang Pucung 44.72 212 P **P 09 00 28.3 -0.1**
comp=Z,50nm,1.4s
KPJI pP **sP 09 00 35.5 +0.1**
comp=Z,50nm,1.4s
SGDS Sogindy 44.76 301 *eP* **P 09 00 27.3 -1.3**
SGDS Sogindy 44.76 301 *eP* **P 09 00 27.4 -1.2**
baz=301
LEM Lembang 44.87 213 P **P 09 00 29.0 -0.8**
comp=Z,25nm,0.5s,baz=72,slow=7.8,SNR=8.3
LEM LR LR 09 20 54.5
comp=Z,460nm,19.4s,baz=358,slow=38
AAK Ala-Archa 44.94 300 P **P 09 00 29.3 -0.8**
comp=Z,5.3nm,0.8s,baz=124,slow=5.0,SNR=9.0
AAK LR LR 09 18 00.7
comp=Z,628nm,21.6s,baz=70,slow=34
AAK Ala-Archa 44.94 300 *c iP* **P 09 00 29.9 -0.2**
AAK pmax pmax
comp=Z,11nm,1.3s
AAK Ala-Archa 44.94 300 P **P 09 00 29.6 -0.5**
BTLS Baital 45.05 303 *eP* **P 09 00 29.4 -1.3**
BTLS pmax pmax
comp=Z,10.0nm,1.3s
BTLS Baital 45.05 303 *eP* **P 09 00 29.5 -1.3**
comp=Z,9.9nm,1.3s,baz=303
MTN Manton Dam 45.10 179 P **P 09 00 31.1 -0.3**
MTN IAmb IAmb 09 00 56.5
comp=Z,35nm,1.1s
BRZS Berezniki 45.78 310 *eP* **P 09 00 35.4 -1.1**
BRZS pmax pmax
comp=Z,6.0nm,0.7s
BRZS Berezniki 45.78 310 *eP* **P 09 00 35.4 -1.1**
comp=Z,6.1nm,0.7s,baz=310
BVAR Borovoye Array 47.23 314 P **P 09 00 47.2 -0.6**
comp=Z,20nm,0.7s
BVAR PcP **PcP 09 02 17.9 -1.0**
BRVK Borovoye 47.29 314 *c iP* **P 09 00 47.7 -0.6**
BRVK pmax pmax
comp=Z,48nm,1.0s
BRVK Borovoye 47.29 314 P **P 09 00 47.7 -0.6**
COEN Coen 47.72 164 P **P 09 00 52.4 +0.4**
COEN IAmb IAmb 09 01 19.9
comp=Z,16nm,1.2s
KK31 Karatay Array 47.79 301 *i P* **P 09 00 51.4 -0.9**
KK31 Karatay Array 47.79 301 P **P 09 00 51.9 -0.4**
KKAR Karatay Array 47.79 301 P **P 09 00 51.3 -1.0**
KKAR 09 00 51.9
KKAR pmax pmax
comp=Z,30nm,1.0s
KKAR Karatay Array 47.79 301 P **P 09 00 51.9 -0.4**
KKAR Karatay Array 47.79 301 P **P 09 00 51.3 -1.0**
KNRA Kununurra 47.95 183 P **P 09 00 53.3 -0.3**
BTK Batken 48.06 297 P **P 09 00 54.2 -0.4**
BTK pmax pmax
comp=Z,15nm,1.2s
BTK Batken 48.06 297 P **P 09 00 54.1 -0.4**
BTK IAmb IAmb 09 01 14.6
comp=Z,15nm,1.2s
IUG Iuzhnay 48.28 300 *eP* **P 09 00 55.6 -0.7**
IUG Iuzhnay 48.28 300 *eP* **P 09 00 55.6 -0.7**
baz=300
GAR Garm 48.65 296 P **P 09 00 57.9 -1.2**
GAR IAmb IAmb 09 01 19.1
comp=Z,20nm,0.9s
TNA Tin City 49.09 29 P **P 09 01 02.0 +0.1**
baz=259
HYBB Hyderabad (bro 49.14 265 *eP* **P 09 01 02.9 -0.2**
HYBB *es*P **pP 09 01 05.2 -3.0**
HYBB *e*PcP **PcP 09 02 26.4 0.0**
HYBB *e*PP **PP 09 02 57.2 +0.4**
HYBB *e*ScP **ScP 09 06 22.0 +1.1**
HYBB *e*PcS **PcS 09 06 22.6 -0.5**
HYBB *eS* **S 09 08 08.9 +0.9**
CHGR Chuyangaron 49.61 295 P **P 09 01 05.0 -1.5**
CHGR pmax pmax
comp=Z,37nm,1.0s
CHGR Chuyangaron 49.61 295 P **P 09 01 06.0 -0.5**
HNR Honiara 50.19 141 LR LR 09 20 18.0
comp=Z,335nm,21.7s,baz=353,slow=34
FITZ Fitzroy Crossi 50.55 186 P **P 09 01 12.4 -1.2**
comp=Z,6.2nm,0.6s,baz=14,slow=7.6,SNR=28
FITZ LR LR 09 23 43.9
comp=Z,157nm,19.7s,baz=12,slow=37
WB0 Warramunga Arr 52.10 176 P **P 09 01 24.7 -0.5**
WB0 IAmb IAmb 09 01 51.4
comp=Z,21nm,1.4s
WRAB Tennant Creek 52.27 176 P **P 09 01 25.4 -1.0**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRAB Tennant Creek 52.27 176 P **P 09 01 25.4 -1.0**
WRA Warramunga Arr 52.27 176 P **P 09 01 24.9 -1.6**
comp=Z,4.1nm,0.7s,baz=354,slow=7.9,SNR=32
WRA LR LR 09 25 05.4
comp=Z,334nm,19.0s,baz=349,slow=38
WRA Warramunga Arr 52.27 176 P **P 09 01 26.6 +0.1**
WB2 Warramunga Arr 52.27 176 P **P 09 01 26.0 -0.5**
WR0 Warramunga Arr 52.30 175 P **P 09 01 26.2 -0.5**
WR0 IAmb IAmb 09 01 38.8
comp=Z,16nm,1.0s
PALK Pallekele 52.69 253 P **P 09 01 30.0 +0.2**
comp=Z,7.5nm,1.0s,baz=169,slow=5.5,SNR=3.1
PALK LR LR 09 24 57.6
comp=Z,950nm,21.6s,baz=149,slow=37
SVE Sverdlovsk 52.76 320 *i eP* **P 09 01 29.2 -0.5**
SVE pmax pmax
comp=Z,23nm,0.9s
SVE MLR MLR
comp=Z,2µm,12.0s
GCSA Galena City Sc 53.66 31 P **P 09 01 36.9 +0.8**
baz=270
ARU Arti 53.93 319 P **P 09 01 37.5 -0.8**
comp=Z,1.9nm,0.3s,baz=50,slow=2.1,SNR=24
ARU LR LR 09 26 58.4
comp=Z,982nm,18.3s,baz=85,slow=39
ARU Arti 53.93 319 *c iP* **P 09 01 37.7 -0.6**
ARU 09 02 42.4
ARU S **S 09 09 16.2 +3.2**
ARU SS **SS 09 12 52.8 -0.9**
ARU pmax pmax
comp=Z,31nm,1.0s
A21K Barrow 54.03 22 P **P 09 01 39.6 +0.9**
baz=265
TTA Tatalina 54.07 33 P **P 09 01 40.2 +0.9**
TTA pmax pmax
comp=Z,13nm,1.3s
TTA Tatalina 54.07 33 P **P 09 01 40.2 +0.9**
TTA Tatalina 54.07 33 P **P 09 01 39.6 +0.3**
baz=272
AB31 Akbulak array 54.09 310 *i P* **P 09 01 39.0 -0.6**
ABKAR Akbulak array 54.09 310 P **P 09 01 38.8 -0.8**
ABKAR Akbulak array 54.09 310 P **P 09 01 39.0 -0.6**
ABKAR IAmb IAmb 09 01 40.3
comp=Z,16nm,0.8s
N18K Kilae Creek 54.24 36 P **P 09 01 40.8 +0.2**
baz=274
CTA Charters Tower 54.38 162 P **P 09 01 41.1 -0.8**
comp=Z,5.4nm,0.9s,baz=311,slow=14,SNR=4.4
CTA LR LR 09 24 34.5
comp=Z,456nm,19.4s,baz=336,slow=36
L19K White Mountain 54.64 34 P **P 09 01 43.5 +0.1**
baz=274
O18K Koktuh Hills 54.64 37 P **P 09 01 44.2 +0.7**
baz=275
PSA00 Pilbara Seismi 54.77 192 P **P 09 01 44.7 -0.1**
J20K Nowinta River 54.85 31 P **P 09 01 46.5 +1.6**
J20K IAmb IAmb 09 01 55.7
comp=Z,15nm,0.9s
J20K Nowinta River 54.85 31 P **P 09 01 45.1 +0.2**
baz=273,SNR=8.9
M19K Big River Lodg 54.88 34 P **P 09 01 45.6 +0.4**
baz=274
N19K Bonanza Creek 54.92 35 P **P 09 01 45.2 -0.3**
baz=275
K20K Telida 54.93 32 P **P 09 01 45.4 -0.1**
baz=274,SNR=7.4
IMAR Indian Mountai 54.95 29 P **P 09 01 46.8 +1.2**
O19K Port Alsworth 55.06 36 P **P 09 01 46.7 +0.3**
baz=276
L20K Farewell, AK 55.08 33 P **P 09 01 47.0 +0.4**
baz=274,SNR=7.8
AKTO Aktyubinsk 55.10 312 P **P 09 01 46.1 -0.9**
comp=Z,9.2nm,0.8s,baz=83,slow=9.1,SNR=17
AKTO LR LR 09 24 33.1
comp=Z,2µm,18.7s,baz=81,slow=35
H21K Melozitna Rive 55.35 29 P **P 09 01 48.5 0.0**
baz=273
Q19K Cape Douglas, 55.54 38 P **P 09 01 48.7 -1.3**
baz=277
P19K Oil Pt 55.66 37 P **P 09 01 50.9 +0.1**
baz=277
CHUM Lake Minchumin 55.68 31 P **P 09 01 50.8 0.0**
baz=275,SNR=13
I21K Tanana 55.72 30 P **P 09 01 51.9 +0.8**
I21K IAmb IAmb 09 02 09.6
comp=Z,16nm,1.0s
I21K Tanana 55.72 30 P **P 09 01 51.4 +0.2**
baz=274,SNR=8.6
CAST Castle Rocks 55.82 32 P **P 09 01 52.4 +0.5**
baz=275,SNR=15
PPLA Purkeypile 55.82 33 P **P 09 01 51.7 -0.4**
baz=276,SNR=8.5
O20K Slope Mountain 55.91 36 P **P 09 01 52.5 -0.2**
baz=277
ASAR Alice Springs 55.95 176 P **P 09 01 52.0 -1.2**
comp=Z,3.8nm,0.6s,baz=8.2,slow=12,SNR=61
ASAR PKiKP **PKiKP 09 09 24.0 +2.0**
comp=Z,0.4nm,0.6s,baz=357,slow=2.1,SNR=2.5
ASAR LR LR 09 27 47.3
comp=Z,342nm,18.6s,baz=5.5,slow=38
ASAR Alice Springs 55.95 176 P **P 09 01 51.3 -1.9**
OHAK Old Harbor 55.95 40 P **P 09 01 52.3 -0.5**
baz=278
SPCR Spurr Chakacha 55.99 35 P **P 09 01 53.1 -0.1**
baz=277
HRA Herat 56.13 292 P **P 09 01 55.1 +0.3**
HRA IAmb IAmb 09 01 59.3
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 56.24 31 P **P 09 01 56.5 +1.6**
BPAW Bear Paw Mtn. 56.24 31 P **P 09 01 54.6 -0.3**
baz=276,SNR=8.7
COLD Coldfoot 56.30 27 P **P 09 01 55.3 +0.1**
baz=274
KTH Kantishna Hill 56.32 32 P **P 09 01 57.5 +1.9**
KTH IAmb IAmb 09 02 18.5
comp=Z,37nm,1.5s
TOLK Toolik Lake Re 56.43 26 P **P 09 01 56.3 0.0**
baz=274
HOM Homer 56.46 37 P **P 09 01 56.9 +0.4**
baz=278
TRF Thorofare Moun 56.62 32 P **P 09 01 57.4 -0.4**
baz=277
H23K Yukon River 56.68 29 P **P 09 01 57.5 -0.5**
baz=276,SNR=16
CUT Chulitna 56.76 33 P **P 09 01 58.1 -0.4**
baz=278
I23K Minto, Yukon-K 56.83 30 P **P 09 01 58.2 -0.8**
baz=276
BRSE Bradley Lake S 56.90 36 P **P 09 01 59.0 -0.6**
baz=279
M22K Willow 56.91 34 P **P 09 01 59.2 -0.4**
baz=278
NEA2 Nenana 57.02 30 P **P 09 02 00.9 +0.5**
NEA2 IAmb IAmb 09 02 11.2
comp=Z,18nm,0.9s
NEA2 Nenana 57.02 30 P **P 09 01 59.8 -0.6**
baz=277,SNR=16
MCK McKinley 57.18 31 P **P 09 02 02.9 +1.2**
MCK pmax pmax
comp=Z,9.0nm,0.7s
MCK McKinley 57.18 31 P **P 09 02 02.9 +1.2**
MCK McKinley 57.18 31 P **P 09 02 00.9 -0.8**
baz=278
RC01 Rabbit Creek A 57.19 35 P **P 09 02 01.4 -0.3**
baz=279
O22K Cooper Landing 57.29 35 P **P 09 02 02.1 -0.2**
baz=279
H24K Noodor Dome 57.36 29 P **P 09 02 02.3 -0.6**
baz=277,SNR=5.6
PMR Palmer 57.40 34 P **P 09 02 03.7 +0.6**
PMR pmax pmax
comp=Z,18nm,1.0s
PMR Palmer 57.40 34 P **P 09 02 03.7 +0.6**
PMR IAmb IAmb 09 02 25.1
comp=Z,18nm,1.0s
PMR Palmer 57.40 34 P **P 09 02 02.3 -0.8**
baz=279
SEW Seward 57.48 36 P **P 09 02 04.6 +0.8**
SEW IAmb IAmb 09 02 13.4
comp=Z,20nm,0.9s
SEW Seward 57.48 36 P **P 09 02 03.5 -0.2**
baz=280
TCOL CIGO, UAF Yank 57.49 30 P **P 09 02 03.5 -0.3**
baz=278
COLA College 57.50 30⇑ *i P* **P 09 02 06.3 +2.5**
COLA pmax pmax
comp=Z,14nm,1.2s
COLA College 57.50 30 P **P 09 02 06.0 +2.3**
COLA IAmb IAmb 09 02 14.7
comp=Z,15nm,1.2s
COLA College 57.50 30 P **P 09 02 03.6 -0.2**

baz=278
POKR Poker Plat Res 57.64 30 P P 09 02 05.5 +0.7
POKR Poker Plat Res 57.64 30 P P 09 02 04.5 -0.3
baz=278,SNR=7.5
SML Sawmill 57.74 34 P P 09 02 05.1 -0.6
baz=280
KNK Knik Glacier 57.75 34 P P 09 02 05.1 -0.5
baz=280
WAT6 Susitna Watana 57.89 33 P P 09 02 06.2 -0.6
baz=280
PWL Port Wells 57.90 35 P P 09 02 06.3 -0.4
baz=280
IL31 57.92 30 P P 09 02 06.7 0.0
ILAR Eielson Array 57.92 30 P P 09 02 06.1 -0.7
comp=Z,13nm,0.3s,baz=266,slow=4.9,SNR=23
DHY Denali Highway 57.98 32 P P 09 02 07.5 +0.1
baz=280,SNR=6.2
GEYT Alibeck 58.17 297 P P 09 02 09.5 +0.5
comp=Z,1.6nm,0.4s,baz=60,slow=16,SNR=2.2
GEYT LR LR 09 27 50.5
comp=Z,2µm,19.1s,baz=85,slow=37
SCM Sheep Creek Mo 58.21 34 P P 09 02 08.9 -0.1
baz=280
BMAR Burnt Mountain 58.44 27 P 09 02 12.6 +2.2
KIRV Kirov 58.48 323 P P 09 02 10.0 -0.8
comp=Z,9.9nm,0.6s,baz=2.9,slow=1.0,SNR=5.3
KIRV LR LR 09 29 16.9
comp=Z,2µm,18.6s,baz=90,slow=38
KIRV Kirov 58.48 323 *d* iP **P 09 02 10.6 -0.1**
GLI Glacier Island 58.49 35 P P 09 02 10.9 0.0
baz=281
J25K Salcha River, 58.59 30 P P 09 02 11.5 -0.1
baz=280
M24K Tolsona, Glenn 58.69 33 P P 09 02 11.9 -0.4
baz=281
PAX Paxson 58.85 32 P P 09 02 13.1 -0.3
baz=281
KLU Klutina 58.93 34 P P 09 02 13.5 -0.5
baz=282
RIDG Independent Ri 58.98 31 P P 09 02 14.4 +0.2
baz=281
HARP HAARP 59.10 33 P P 09 02 14.6 -0.5
baz=282
EYAK Cordova Ski Ar 59.21 35 P P 09 02 15.4 -0.4
baz=282
SCRK Sand Creek 59.30 31 P P 09 02 16.2 -0.4
baz=282,SNR=9.8
DOT Dot Lake 59.34 31 P P 09 02 17.2 +0.5
DOT IAmb IAmb 09 02 32.2
comp=Z,9.3nm,0.9s
J26L Joseph Creek 59.38 30 P P 09 02 16.6 -0.4
baz=282,SNR=8.3
N25K Chitina, Valde 59.53 34 P P 09 02 17.9 -0.2
baz=283,SNR=10
MENT Mentasta 59.64 32 P P 09 02 20.4 +1.6
MENT IAmb IAmb 09 02 29.7
comp=Z,14nm,0.8s
BMRM Bremner River 59.67 34 P P 09 02 18.8 -0.3
baz=283
PRGR Permogore 59.69 327 *e*P **P 09 02 17.4 -1.7**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
L26K Log Cabin Wild 59.79 32 P P 09 02 18.9 -0.9
baz=283,SNR=11
M26K Nabesna, AK 60.09 32 P P 09 02 23.4 +1.5
M26K IAmb IAmb 09 02 32.8
comp=Z,16nm,0.9s
M26K Nabesna, AK 60.09 32 P P 09 02 22.1 +0.2
baz=284,SNR=14
BERG Berg Lake 60.23 35 P P 09 02 23.9 +1.0
MCARA McCarthy VSAT 60.31 34 P P 09 02 22.7 -0.7
baz=284
EGAK Eagle 60.33 30 P P 09 02 24.5 +1.1
EGAK Eagle 60.33 30 P P 09 02 22.8 -0.7
baz=284
L27K Beaver Creek, 60.45 32 P 09 02 25.9 +1.6
L27K IAmb IAmb 09 02 29.5
comp=Z,8.3nm,0.8s
L27K Beaver Creek, 60.45 32 P P 09 02 24.3 -0.1
baz=284,SNR=13
BCAR Beaver Creek A 60.47 32 P P 09 02 25.6 +1.1
M27K Edge Creek, AK 60.60 32 P P 09 02 25.0 -0.5
baz=284,SNR=7.2
BELG Belogornoye 60.98 316 P P 09 02 26.0 -2.1
comp=Z,35nm,0.9s,baz=95,slow=3.4,SNR=7.7
BELG LR LR 09 31 08.9
comp=Z,2µm,18.6s,baz=64,slow=38
BELG Belogornoye 60.98 316 *c i* P **P 09 02 27.1 -0.9**
BELG pmax pmax
comp=Z,8.0nm,1.0s
BVCY Beaver Creek 61.05 32 P P 09 02 27.8 -0.6
baz=285
CTG Chitna Glacier 61.21 34 P P 09 02 28.9 -0.8
baz=286
DAWY Dawson 61.25 30 P P 09 02 29.4 -0.4
baz=286
I29M Ogilvie Camp, 61.35 29 P P 09 02 30.5 +0.1
I29M Ogilvie Camp, 61.35 29 P P 09 02 30.3 -0.2
baz=286
YUK3 Moose Creek 61.40 33 P P 09 02 30.4 -0.6
baz=286
EPYK Eagle Plains 61.69 27 P P 09 02 32.6 -0.2
baz=287,SNR=9.6
PINM Pinnacle 61.97 35 P P 09 02 34.6 -0.1
baz=287
INK Inuvik 62.29 25 P P 09 02 36.0 -0.7
comp=Z,2.7nm,0.8s,baz=297,slow=6.2,SNR=13
INK Inuvik 62.29 25 P P 09 02 36.0 -0.7
INK Inuvik 62.29 25 P P 09 02 37.5 +0.8
INK IAmb IAmb 09 02 44.0
comp=Z,12nm,1.3s
INK Inuvik 62.29 25 P P 09 02 36.4 -0.2
baz=288
YUK4 Talbot Arm 62.35 33 P P 09 02 37.0 -0.5
baz=288
PNL Peninsula 62.51 35 P P 09 02 38.6 +0.3
baz=288
YUK6 Outpost Mounta 62.61 33 P P 09 02 39.1 -0.1
baz=288
KLMR Klimovskoe 62.75 327 *e*P **P 09 02 37.7 -2.1**
KLMR *e* 09 04 56.2
KLMR pmax pmax
comp=Z,21nm,1.1s
KLMR Klimovskoe 62.75 327 *e*P **P 09 02 37.8 -2.1**
KLMR AMP 09 02 39.9
comp=Z,21nm,1.1s
KLMR *e*PP **PP 09 04 56.2 -1.3**
KLMR LQ LQ 09 25 05.0
KLMR LQ LQ 09 25 05.0
KLMR LR LR 09 30 15.8
M30M Minto, Yukon 62.81 31 P P 09 02 40.4 +0.1
baz=288
FORT Forrest 63.00 183 P P 09 02 41.3 -0.4
HYT Haines Junctio 63.04 33 P P 09 02 44.1 +2.1
HYT IAmb IAmb 09 02 53.3
comp=Z,15nm,1.1s
HYT Haines Junctio 63.04 33 P P 09 02 41.8 -0.2
baz=289
APA Apatity 63.08 335 ⇓ *i* P **P 09 02 39.6 -2.3**
APA pmax pmax
comp=Z,14nm,1.0s
SPITS Spitsbergen Ar 63.15 348 P P 09 02 41.3 -1.0
comp=Z,4.4nm,0.6s,baz=108,slow=8.0,SNR=7.2
SPITS LR LR 09 32 30.7
comp=Z,1µm,18.8s,baz=248,slow=38
A36M Sachs Harbour 63.61 20 P P 09 02 46.2 +0.9
A36M Sachs Harbour 63.61 20 P P 09 02 45.8 +0.4
baz=294
N31M Braeburn, Yuko 63.62 32 P P 09 02 45.6 -0.1
baz=290
M31M Drury Creek, Y 63.99 31 P P 09 02 47.8 -0.3
baz=291
MAK Makhachkala 64.10 306 *e*P **P 09 02 44.3 -4.8**
MAK *e* 09 05 07.9
MAK *e*S **S 09 11 18.1 -7.1**
MAK *e*SS **SS 09 15 30.3 -3.5**
MAK pmax pmax
comp=Z,48nm,0.4s
MAK MLR MLR
comp=Z,1µm,16.0s
DZM Mont Dzumac 64.14 143 P P 09 02 49.3 -0.2
comp=Z,4.8nm,0.5s,baz=292,slow=11,SNR=8.9
DZM LR LR 09 27 40.2
comp=Z,248nm,19.6s,baz=24,slow=33
DZM Mont Dzumac 64.14 143 *e*LR LR 09 22 02.5
comp=Z,938nm,29.4s
DZM Mont Dzumac 64.14 143 P P 09 02 48.8 -0.8

WHY Whitehorse 64.31 33 P P 09 02 50.5 +0.1
baz=291
FARO Faro, Yukon 64.43 31 P P 09 02 51.0 0.0
baz=291
STKA Stephens Creek 64.87 170 P P
comp=Z,3.0nm,0.7s,baz=343,slow=7.6,SNR=12
STKA LR LR 09 30 18.0
comp=Z,286nm,21.8s,baz=350,slow=35
STKA Stephens Creek 64.87 170 *de*P **P 09 02 54.5 +0.5**
STKA Stephens Creek 64.87 170 P P 09 02 53.9 -0.1
NOR Nord 64.88 355 *i* P **P 09 02 52.3 -1.4**
NOR IAmb IAmb 09 02 58.0
comp=Z,1.3nm,0.6s
ARCES ARCESS Array B 64.98 338 P P 09 02 53.7 -0.8
comp=Z,6.7nm,1.0s,baz=52,slow=7.9,SNR=8.3
ARCES LR LR 09 36 36.0
comp=Z,2µm,18.1s,baz=60,slow=41
ARCES ARCESS Array B 64.98 338 P P 09 02 54.6 +0.2
C36M Paulatuk 65.08 22 P P 09 02 55.6 +0.6
C36M IAmb IAmb 09 03 04.7
comp=Z,19nm,1.0s
C36M Paulatuk 65.08 22 P P 09 02 55.2 +0.2
baz=296
MMPY Sheldon Lake, 65.19 30 P P 09 02 55.8 -0.1
baz=293
MOS Moscow 65.45 322 *e*P **P 09 02 55.4 -2.2**
MOS pmax pmax
comp=Z,41nm,0.8s
MOS MLR MLR
comp=Z,1µm,16.0s
EUNU Eureka 65.82 7 P P 09 03 00.9 +1.1
EUNU IAmb IAmb 09 03 03.9
comp=Z,20nm,1.4s
VORR Voronezh 66.12 317 *e*P **P 09 03 02.0 0.0**
VORR pmax pmax
comp=Z,40nm,0.4s
OBN Obninsk 66.24 321 P P 09 03 01.3 -1.4
comp=Z,2.9nm,0.3s,baz=6.3,slow=9.2,SNR=5.9
OBN Obninsk 66.24 321 ⇓ *e*P **P 09 03 02.3 -0.4**
OBN *e*S **S 09 11 53.1 +2.0**
OBN pmax pmax
comp=Z,44nm,1.3s
OBN MLR MLR
comp=Z,888nm,15.0s
VALR Valaam 66.46 329 ⇓ *i* P **P 09 03 02.7 -1.3**
VALR pmax pmax
comp=Z,47nm,0.9s
ZEI Tsey 66.62 307 *e*P **P 09 03 04.2 -1.5**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
TGTN Hyland Airport 66.92 31 P P 09 03 07.1 +0.1
baz=296
KBZ Khabaz 66.92 308 P P 09 03 06.8 -0.5
comp=Z,20nm,0.9s,baz=80,slow=2.4,SNR=36
KBZ Khabaz 66.92 308 *ce*P **P 09 03 07.4 +0.1**
KBZ pmax pmax
comp=Z,24nm,0.9s
KIV Kislovodsk 66.97 308 *e*P **P 09 03 07.9 +0.1**
KIV pmax pmax
comp=Z,41nm,1.1s
KIV MLR MLR
comp=Z,1µm,17.0s
KIV Kislovodsk 66.97 308 P P 09 03 08.2 +0.4
ONI Oni 67.00 307 P P 09 03 08.1 +0.1
ONI pmax pmax
comp=Z,11nm,0.9s
ONI Oni 67.00 307 P P 09 03 08.1 +0.1
ONI IAmb IAmb 09 03 16.3
comp=Z,11nm,0.9s
GNI Garni 67.09 304 LR LR 09 35 39.4
comp=Z,824nm,18.8s,baz=78,slow=39
GNI Garni 67.09 304 ⇓ *e*P **P 09 03 08.5 -0.2**
GNI pmax pmax
comp=Z,18nm,1.0s
AKH Akhalkalaki 67.45 306 ⇑ P **P 09 03 11.5 +0.5**
AKH Akhalkalaki 67.45 306 P P 09 03 11.4 +0.5
DLBC Dease Lake 67.46 34 LR LR 09 35 24.3
comp=Z,307nm,18.1s,baz=284,slow=38
FIA1 FINESS Array S 68.49 330 P P 09 03 16.2 -0.7
FINES FINESS Array B 68.49 330 P P 09 03 15.3 -1.6
comp=Z,16nm,0.7s,baz=63,slow=5.8,SNR=33
FINES LR LR 09 36 45.9
comp=Z,1µm,19.3s,baz=66,slow=39
FINES FINESS Array B 68.49 330 *i* P **P 09 03 16.1 -0.8**
FINES pmax pmax
comp=Z,16nm,0.7s
FINES FINESS Array B 68.49 330 P P 09 03 15.9 -1.0
BATM Batumi 68.60 306 ⇑ P **P 09 03 17.2 -0.8**
RES Resolute Bay 68.99 12 LR LR 09 35 38.1
comp=Z,305nm,19.1s,baz=321,slow=38
RES Resolute Bay 68.99 12 P P 09 03 20.3 +0.5
RES pmax pmax
comp=Z,19nm,1.3s
RES Resolute Bay 68.99 12 P P 09 03 20.3 +0.5
RES IAmb IAmb 09 03 26.7
comp=Z,19nm,1.2s
GEVA Gevas 69.05 303 P P 09 03 21.9 +0.9
GEVA IAmb IAmb 09 03 41.5
comp=Z,19nm,1.1s
SOC Sochi 69.09 309 *e*P **P 09 03 19.7 -1.2**
SOC *e* 09 05 50.9
SOC *e*PPP PPP 09 07 32.3
SOC *e*S **S 09 12 27.3 +1.7**
SOC *e*SS **SS 09 16 46.8 -4.3**
SOC pmax pmax
comp=Z,18nm,0.7s
SOC MLR MLR
comp=Z,1µm,16.0s
DAG Danmarks Havn 69.32 353 *i* P **P 09 03 21.0 -0.8**
DAG IAmb IAmb 09 03 33.3
comp=Z,3.5nm,0.8s
VSU Vasula 69.64 327 ⇑ *e*P **P 09 03 23.5 -0.6**
VSU pmax pmax
comp=Z,95nm,1.0s
VSU Vasula 69.64 327 *e*P **P 09 03 23.8 -0.2**
TULEG Thule 70.52 5 *i* P **P 09 03 28.1 -1.1**
TULEG IAmb IAmb 09 03 36.9
comp=Z,7.4nm,0.8s
MTSE Matsula 70.84 328 *e*P **P 09 03 31.0 -0.4**
MNK Minsk 71.02 323 *i* P **P 09 03 29.6 -3.0**
MNK *i* 09 06 05.7
MNK *i* PPP PPP 09 07 50.6
MNK *i* S **S 09 12 46.5 -1.4**
MNK *i* SS **SS 09 17 18.6 -1.6**
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=Z,21nm,1.2s
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK MLR MLR
comp=E,297nm,18.0s
MNK MLR MLR
comp=Z,2µm,15.0s
MNK MLR MLR
comp=N,1µm,13.0s
MNK Minsk 71.02 323 *i* P **P 09 03 29.6 -3.0**
comp=E,5.0nm,0.8s
MNK *i* P **P 09 03 29.6 -3.0**
comp=N,16nm,0.8s
MNK *i* P **P 09 03 29.6 -3.0**
comp=Z,21nm,1.2s,baz=61
MNK *i* PP **PP 09 06 05.7 -3.9**
MNK *i* PPP PPP 09 07 50.6
MNK *i* S **S 09 12 46.6 -1.4**
MNK *i* SS **SS 09 17 18.7 -1.6**
MNK *i* SSS SSS 09 20 38.8
MNK *i* LQ LQ 09 29 47.9
MNK *i* LR LR 09 35 12.3
MNK *i* LRM MLR 09 38 51.0
comp=E,297nm,18.1s
MNK *i* LRM MLR 09 39 01.9
comp=Z,2µm,14.8s
MNK *i* LRM MLR 09 39 06.4
comp=N,1µm,12.9s
IDID Didziasalis 71.19 324 *e*P **P 09 03 33.7 +0.1**
ISAL Salakas 71.37 325 *e*P **P 09 03 35.0 +0.3**
NACGM Naroch 71.38 324 *e*P **P 09 03 34.6 -0.1**
DBG Daneborg 71.71 352 *i* P **P 09 03 33.4 -3.1**
DBG IAmb IAmb 09 03 52.3
comp=Z,1.5nm,0.8s
AFI Afiamalu 71.78 120 LR LR 09 27 33.2
comp=Z,398nm,21.1s,baz=304,slow=30
YKA Yellowknife Ar 71.95 26 P P 09 03 37.5 -0.6
comp=Z,2.2nm,0.7s,baz=306,slow=5.6,SNR=34

YKA Yellowknife Ar 71.95 26 *i* P **P 09 03 38.9 +0.8**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 71.95 26 P P 09 03 38.4 +0.3
AKASG Malin Array Be 72.18 319 P P 09 03 38.7 -1.0
comp=Z,13nm,0.6s,baz=51,slow=6.8,SNR=34
AKBB Malin Array Si 72.19 319 P P 09 03 38.7 -1.0
AKBB pmax pmax
comp=Z,23nm,0.8s
AKBB Malin Array Si 72.19 319 P P 09 03 38.7 -1.0
SOCY Socotra 72.42 273 P P 09 03 39.8 -2.0
SOCY IAmb IAmb 09 03 50.8
comp=Z,18nm,1.0s
PABE Paberze 72.45 325 *e*P **P 09 03 41.0 -0.2**
JMIC Jan Mayen 72.80 347 LR LR 09 37 39.0
comp=Z,261nm,18.2s,baz=52,slow=38
UPP Uppsala 72.86 331 *e*P **P 09 03 42.7 -0.8**
DIKM Dikmen 72.89 309 ⇑ P **P 09 03 44.7 +0.6**
SUW Suwalki 73.64 324 *e*P **P 09 03 47.8 -0.4**
BNN Bunyan 73.84 306 P P 09 03 49.8 0.0
SORM Soroca 73.97 317 ⇑ P **P 09 03 49.9 -0.4**
SORM Soroca 73.97 317 P P 09 03 49.9 -0.4
VIKU Vikbolandet 74.05 330 *e*P **P 09 03 49.4 -1.1**
HFS Hagfors 74.27 332 P P 09 03 49.8 -2.1
comp=Z,5.2nm,0.7s,baz=87,slow=8.9,SNR=7.9
HFS LR LR 09 41 25.3
comp=Z,1µm,18.2s,baz=50,slow=40
NB2 NORSAR Subarra 74.64 334 P P 09 03 52.7 -1.3
comp=Z,19nm,0.9s,baz=50,slow=6.2
NB2 NORSAR Subarra 74.64 334 P P 09 03 52.7 -1.3
baz=50,slow=6.2
NOA NORSAR Array B 74.64 334 P P 09 03 52.6 -1.4
comp=Z,9.8nm,0.8s,baz=50,slow=5.8,SNR=24
NOA LR LR 09 38 32.1
comp=Z,870nm,18.8s,baz=40,slow=37
BR131 Keskin Array S 74.90 308 *d* iP **P 09 03 55.8 -0.3**
BR131 Keskin Array S 74.90 308 P P 09 03 55.9 -0.3
BRTR Keskin Array B 74.90 308 P P 09 03 55.5 -0.6
comp=Z,16nm,0.8s,baz=100,slow=5.1,SNR=54
BRTR LR LR 09 39 05.6
comp=Z,535nm,20.5s,baz=62,slow=38
BRTR Keskin Array B 74.90 308 P P 09 03 54.7 -1.4
TLCR 75.22 314 ⇑ P **P 09 03 57.4 -0.2**
TLCR 75.22 314 P P 09 03 57.4 -0.2
BR231 Keskin MP Arra 75.42 308 P P 09 03 58.7 -0.3
BR231 IAmb IAmb 09 03 59.8
comp=Z,15nm,0.8s
LVV L'vov 75.49 320 *e*P **P 09 04 03.1 +4.0**
TPGR Topolog 75.63 314 ⇑ P **P 09 03 59.8 -0.2**
CFR Carcaliu 75.63 315 ⇑ P **P 09 03 59.8 -0.2**
CFR Carcaliu 75.63 315 P P 09 03 59.7 -0.2
TIRR Tirgusor 75.84 314 ⇑ P **P 09 04 00.8 -0.4**
TIRR Tirgusor 75.84 314 P P 09 04 00.8 -0.4
BUR08 Bucovina Ar. S 76.03 318 P P 09 04 02.2 -0.1
BUR08 IAmb IAmb 09 04 05.8
comp=Z,14nm,1.1s
BURAR Bucovina Array 76.04 318 ⇑ P **P 09 04 02.2 -0.2**
BURAR Bucovina Array 76.04 318 P P 09 04 02.7 +0.3
BURAR pmax pmax
comp=Z,10.0nm,0.9s
BURAR Bucovina Array 76.04 318 P P 09 04 02.7 +0.3
BURAR IAmb IAmb 09 04 06.2
comp=Z,10nm,0.9s
A04D Lummi Island 76.06 41 P P 09 04 02.6 +0.3
baz=304
VRI Vrincioaia 76.11 316 ⇑ P **P 09 04 03.5 +0.8**
VRI Vrincioaia 76.11 316 P P 09 04 03.5 +0.8
MDUB Mudurnu 76.14 309 P P 09 04 03.1 0.0
PLOR Plostina 76.16 316 ⇑ P **P 09 04 03.5 +0.5**
PLOR Plostina 76.16 316 P P 09 04 03.5 +0.5
KWP Kalwaria Pacla 76.31 320 P P 09 04 04.0 +0.2
KWP pmax pmax
comp=Z,316nm,1.0s
KWP Kalwaria Pacla 76.31 320 P P 09 04 04.0 +0.2
D03D Eldon 76.50 42 P P 09 04 04.9 +0.1
baz=304
OZUR 76.53 316 ⇑ P **P 09 04 06.1 +0.9**
B05A Bryant 76.65 41 P P 09 04 05.9 +0.2
baz=304
MLR Muntele Rosu 76.77 316 ⇑ P **P 09 04 07.1 +0.5**
MLR Muntele Rosu 76.77 316 P P 09 04 05.8 -0.8
comp=Z,2.9nm,0.6s,baz=125,slow=11,SNR=4.6
MLR LR LR 09 41 14.3
comp=Z,1µm,18.0s,baz=52,slow=38
MLR Muntele Rosu 76.77 316 P P 09 04 05.8 -0.8
MLR IAmb IAmb 09 04 23.1
comp=Z,14nm,1.4s
DOPR Dopca 76.84 316 ⇑ P **P 09 04 07.3 +0.4**
D04E Lakebay 76.87 42 P P 09 04 06.8 -0.1
baz=304
BORA Eskisehir 76.94 309 P P 09 04 07.3 -0.3
BORA IAmb IAmb 09 04 07.8
comp=Z,19nm,0.8s
MMAI Mount Meron Ar 77.02 301 LR LR 09 42 03.7
comp=Z,692nm,19.3s,baz=204,slow=39
UZH Uzhgorod 77.10 320 *e*P **P 09 04 07.2 -1.0**
UZH *e* 09 04 09.8
CRVS Cervenica-Dubn 77.39 320 *e*P **P 09 04 13.3 +3.4**
CRVS Cervenica-Dubn 77.39 320 *e*P **P 09 04 13.3 +3.4**
CSS Mathiatis 77.52 303 P P 09 04 09.9 -0.9
CSS IAmb IAmb 09 04 11.1
comp=Z,17nm,0.8s
ARR Arges 77.61 316 ⇓ P **P 09 04 12.1 +0.8**
NIE Niedzica 77.71 321 *e*P **P 09 04 13.1 +1.3**
DRGR 77.91 318 ⇑ P **P 09 04 12.5 -0.5**
DRGR 77.91 318 P P 09 04 12.4 -0.5
I02E Swisshome, OR 77.95 45 P P 09 04 13.2 +0.1
baz=304
LANS Liptovska Anna 78.31 321 *e*P **P 09 04 16.4 +1.3**
LANS Liptovska Anna 78.31 321 *e*P **P 09 04 16.4 +1.3**
H04D Lebanon 78.38 44 P P 09 04 15.9 +0.5
baz=304
RAO Raoul Island 78.42 136 LR LR 09 36 48.8
comp=Z,96nm,20.2s,baz=322,slow=34
J01E Myrtle Point 78.42 46 P P 09 04 16.2 +0.5
baz=304
ICESG Greenland Ices 78.45 356 *i* P **P 09 04 15.4 -0.4**
ICESG IAmb IAmb 09 04 19.6
comp=Z,4.7nm,0.9s
I03D Drain, OR 78.47 45 P P 09 04 16.5 +0.5
baz=304
OKC Ostrava-Krasne 78.59 322 AMS AMS 09 39 10.0
comp=Z,1µm,19.4s
GZR Gura Zlata 78.67 317 ⇓ P **P 09 04 16.6 -0.6**
GZR Gura Zlata 78.67 317 P P 09 04 16.5 -0.6
PSZ Piszkesteto 78.82 320 P P 09 04 18.2 +0.3
PSZ pmax pmax
comp=Z,18nm,1.4s
PSZ Piszkesteto 78.82 320 P P 09 04 18.2 +0.3
PSZ IAmb IAmb 09 04 21.8
comp=Z,18nm,1.4s
PSZ Piszkesteto 78.82 320 P P 09 04 19.8 +1.9
K02D Willamette Mer 78.84 46 P P 09 04 18.9 +0.7
baz=304
KSP Ksiaz 78.91 324 *e*P **P 09 04 18.6 +0.4**
MORC Moravsky Berou 78.94 323 ⇑ P **P 09 04 19.3 +0.8**
MORC Moravsky Berou 78.94 323 P P 09 04 18.5 0.0
MORC pmax pmax
comp=Z,13nm,1.1s
MORC Moravsky Berou 78.94 323 P P 09 04 18.5 0.0
MORC IAmb IAmb 09 04 19.7
comp=Z,13nm,1.1s
MORC Moravsky Berou 78.94 323 *e*P **P 09 04 19.2 +0.7**
ELL Elmali 78.95 306 P P 09 04 17.7 -1.2
ELL pmax pmax
comp=Z,55nm,0.7s
ELL Elmali 78.95 306 P P 09 04 17.7 -1.2
VYHS Vyhne 79.04 321 *e*P **P 09 04 20.1 +1.0**
VYHS Vyhne 79.04 321 *e*P **P 09 04 20.1 +1.0**
EIL Elat 79.06 298 LR LR 09 44 09.3
comp=Z,506nm,19.5s,baz=67,slow=40
OSTC Ostas 79.13 324 *e*P **P 09 04 20.3 +0.8**
OSTC AMS AMS 09 42 00.0
comp=Z,1µm,14.0s
KRLC Kraliky 79.14 323 AMS AMS 09 43 30.0
comp=Z,2µm,16.6s
L02E Cave Junction 79.18 47 P P 09 04 21.2 +1.2
baz=304
CHVC Chvalec 79.19 324 AMS AMS 09 41 30.0
comp=Z,1µm,15.4s
DPC Dobruska-Polom 79.20 324 *e*P **P 09 04 20.8 +0.8**
DPC MLR MLR
comp=Z,1µm,12.6s
DPC Dobruska-Polom 79.20 324 *e*P **P 09 04 20.8 +0.8**

DPC AMS AMS 09 42 30.0
comp=Z,1μm,12.6s
UPC Upice 79.26 324 AMS AMS 09 41 20.0
comp=Z,2μm,13.3s
I05D Terrebonne, OR 79.31 44 P **P** **09 04 20.6 0.0**
baz=305
NEW Newport 79.35 39 P **P** **09 04 21.5 +0.7**
baz=307
J04D Umpqua Nationa 79.48 45 P **P** **09 04 22.7 +0.9**
baz=305
MDVR Moldovita 79.64 317 ⇑P **P** **09 04 22.5 0.0**
VRAC Vranov 79.71 323 ⇑P **P** **09 04 23.6 +0.9**
VRAC Vranov 79.71 323 P **P** **09 04 22.5 -0.2**
comp=Z,5.7nm,0.8s,baz=64,slow=4.6,SNR=8.1
VRAC LR LR 09 43 41.4
comp=Z,2μm,18.0s,baz=62,slow=39
VRAC Vranov 79.71 323 *eP* **P** **09 04 23.2 +0.5**
L04D Klamath Falls 79.94 46 P **P** **09 04 25.3 +1.0**
baz=305
PVCC Panska Ves 79.96 324 AMS AMS 09 43 30.0
comp=Z,2μm,15.2s
KRUC Moravsky 79.97 322 *eP* **P** **09 04 24.3 +0.2**
YBH Yreka Blue Hor 79.97 47 LR LR 09 35 48.6
comp=Z,212nm,19.7s,baz=310,slow=33
J05D Fort Rock, OR 79.97 45 P **P** **09 04 24.7 +0.2**
baz=306
VTS Vitosha 80.00 314 ⇑P **P** **09 04 24.2 -0.3**
BRG Berggiesshubel 80.05 325 *eP* **P** **09 04 24.4 0.0**
BRG Amp 09 04 28.2
comp=Z,7.8nm,1.0s
BRG *ex* x 09 04 44.2
BRG Amp 09 04 45.3
comp=Z,14nm,1.4s
BRG Amp 09 42 30.0
comp=Z,1.8nm,13.3s
BRG Amp 09 42 30.0
comp=N,1.0nm,15.2s
BRG Amp 09 42 35.0
comp=E,1.6nm,15.0s
BRG Berggiesshubel 80.05 325 *eP* **P** **09 04 24.4 0.0**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,14nm,1.4s
BRG MLR MLR
comp=Z,2μm,13.3s
BRG MLR MLR
comp=N,980nm,15.2s
BRG MLR MLR
comp=E,2μm,15.0s
BRG Berggiesshubel 80.05 325 *eP* **P** **09 04 24.3 -0.2**
comp=E,11nm,1.2s,baz=49,slow=5.1
M02C Callahan 80.08 47 P **P** **09 04 25.3 +0.3**
baz=305
CLL Collm 80.22 326 *i* P **P** **09 04 25.2 -0.1**
CLL *i* 09 04 28.1
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 80.22 326 *i* P **P** **09 04 25.2 -0.1**
comp=Z,16nm,1.0s
CLL *i* x x 09 04 28.1
comp=Z,19nm,0.9s
CLL *e*SS SS 09 19 42.0 +2.5
CLL *e*SSS SSS 09 23 24.0
CLL Collm 80.22 326 *eP* **P** **09 04 25.2 -0.1**
comp=Z,16nm,1.0s,baz=49,slow=5.1
TREC Trest 80.29 323 AMS AMS 09 40 10.0
comp=Z,2μm,18.7s
FBE Freiberg 80.30 325 *eP* **P** **09 04 25.6 -0.2**
comp=Z,36nm,1.6s,baz=49,slow=5.1
PRU Pruhonice 80.32 324 AMS AMS 09 42 50.0
comp=Z,1μm,13.6s
FLTG Flechtingen 80.37 327 *eP* **P** **09 04 25.7 -0.5**
baz=49,slow=5.1
N02D Trinity Center 80.41 47 P **P** **09 04 26.3 -0.4**
baz=305
M04C Macdoel 80.48 46 P **P** **09 04 27.4 +0.3**
baz=305
FRGS Fruska Gora 80.51 318 ⇓P **P** **09 04 28.0 +0.9**
MORH Mrgy, Hungar 80.52 319 P **P** **09 04 26.9 -0.2**
MPLH Magyarpolny 80.54 321 P **P** **09 04 27.2 0.0**
BORG Borgarnes 80.61 348 LR LR 09 44 11.3
comp=Z,301nm,18.0s,baz=26,slow=39
NRDL Niedersach Rie 80.77 328 *eP* **P** **09 04 28.0 -0.2**
baz=49,slow=5.1
SFJD Kangerlussuaq 80.80 1 LR LR 09 42 29.5
comp=Z,564nm,18.8s,baz=342,slow=37
O02D Mt. Diablo Mer 80.81 48 P **P** **09 04 29.6 +0.7**
baz=305
KOVH Kovagotottos 80.90 319 P **P** **09 04 27.0 -2.2**
RETH Rethem/Aller, 80.94 328 *eP* **P** **09 04 29.1 -0.1**
comp=Z,51nm,1.6s,baz=49,slow=5.1
TANN Tannenbergstha 81.06 325 *eP* **P** **09 04 29.9 -0.1**
comp=Z,8.2nm,1.2s,baz=49,slow=5.1
CLZ Clausthal 81.09 327 *eP* **P** **09 04 30.4 +0.3**
baz=49,slow=5.1
GUNZ Gunzen 81.16 325 *eP* **P** **09 04 30.9 +0.4**
comp=Z,11nm,1.1s,baz=49,slow=5.1
PLN Plauen 81.16 325 *eP* **P** **09 04 30.7 +0.2**
baz=49,slow=5.1
WERN Wernitzgruen 81.19 325 *eP* **P** **09 04 30.8 +0.1**
comp=Z,15nm,1.3s,baz=49,slow=5.1
NKC Novy Kostel 81.19 325 AMS AMS 09 43 00.0
comp=Z,2μm,17.7s
MOX Moxa 81.31 326 *eP* **P** **09 04 31.3 0.0**
baz=49,slow=5.1
KHC Kasperske Hory 81.35 324⇓ *eP* **P** **09 04 31.7 +0.1**
KHC pmax pmax
comp=Z,22nm,1.3s
KHC Kasperske Hory 81.35 324 *eP* **P** **09 04 34.3 +2.7**
KHC AMS AMS 09 45 10.0
comp=Z,2μm,15.1s
O03E Paynes Creek 81.36 48 P **P** **09 04 32.9 +1.1**
baz=306
KARP Karpathos 81.47 307 P **P** **09 04 31.6 -0.9**
KARP IAmb IAmb 09 04 39.3
comp=Z,19nm,0.8s
GEC2 GERESS Array S 81.48 323 *eP* **P** **09 04 31.9 -0.4**
comp=Z,6.1nm,1.2s,baz=49,slow=5.1
GERES GERESS Array B 81.48 323 P **P** **09 04 31.6 -0.7**
comp=Z,2.9nm,1.0s,baz=42,slow=4.7,SNR=6.7
GERES LR LR 09 41 46.9
comp=Z,1μm,19.5s,baz=50,slow=36
MANZ Manzenberg 81.51 325 *eP* **P** **09 04 32.3 -0.1**
baz=49,slow=5.1
ROTZ Rotzenmuhle 81.61 325 *eP* **P** **09 04 32.7 -0.2**
baz=49,slow=5.1
WET Wettzell 81.69 324 *eP* **P** **09 04 33.1 -0.2**
baz=49,slow=5.1
LIT Litokhoron 81.91 313 P **P** **09 04 33.5 -1.2**
LIT pmax pmax
comp=Z,11nm,0.9s
LIT Litokhoron 81.91 313 P **P** **09 04 33.5 -1.2**
LIT IAmb IAmb 09 04 37.8
comp=Z,11nm,0.9s
MSO Missoula 81.93 39 P **P** **09 04 33.8 -1.0**
baz=310
IBBN Ibbenburen 81.94 329 *eP* **P** **09 04 34.7 +0.2**
baz=49,slow=5.1
UBBA Unterbreizbach 81.96 327 *eP* **P** **09 04 34.5 0.0**
baz=49,slow=5.1
FFC Flin Flon 82.04 28 P **P** **09 04 35.4 +0.4**
FFC pmax pmax
comp=Z,20nm,1.2s
FFC Flin Flon 82.04 28 P **P** **09 04 35.4 +0.4**
FFC IAmb IAmb 09 04 41.6
comp=Z,20nm,1.1s
ATD Arta Tunnel 82.11 279 LR LR 09 45 10.5
comp=Z,210nm,18.5s,baz=50,slow=39
GRF Grafenberg Arr 82.14 325 *eP* **P** **09 04 35.3 -0.3**
baz=49,slow=5.1
RJOB Jochberg 82.66 323 *eP* **P** **09 04 37.8 -0.7**
baz=49,slow=5.1
FRB Frobisher Bay 82.86 8 P **P** **09 04 37.9 -1.1**
comp=Z,6.8nm,1.0s,baz=347,slow=6.8,SNR=10
FRB LR LR 09 43 01.5
comp=Z,1μm,20.2s,baz=349,slow=37
TNS Taunus Mts 83.09 327 *eP* **P** **09 04 40.2 -0.4**
comp=Z,13nm,1.0s,baz=49,slow=5.1
IDI Anoyia 83.15 308 ⇓P **P** **09 04 39.5 -1.7**
EMB Emerald Bay 83.19 48 P **P** **09 04 42.1 +0.5**
EMB IAmb IAmb 09 04 56.9
comp=Z,19nm,1.4s
EGMT Eagleton 83.30 36 P **P** **09 04 42.3 +0.5**
EGMT IAmb IAmb 09 05 02.5
comp=Z,12nm,1.1s
EGMT Eagleton 83.30 36 P **P** **09 04 42.4 +0.5**
baz=312
AHRW Bad Neuenahr-A 83.49 328 *eP* **P** **09 04 42.4 -0.2**
comp=Z,31nm,1.2s,baz=49,slow=5.1
HLID Hailey 83.75 42 P **P** **09 04 44.5 +0.1**
baz=310
BTNL Ternell 83.88 328 *dP* **P** **09 04 44.2 -0.5**
BTNL *d*PcP **PcP** **09 04 47.7 -1.0**
MEM Membach 83.92 328 *dP* **P** **09 04 44.3 -0.5**
MEM *d*PcP **PcP** **09 04 47.8 -1.0**
BOZ Bozeman (W) 83.95 39 P **P** **09 04 45.8 +0.5**
baz=311
ITM Ithomi 83.99 311 P **P** **09 04 44.0 -1.5**
ITM IAmb IAmb 09 04 44.5
comp=Z,14nm,0.8s
EKA Eskdalemuir Ar 84.00 336 P **P** **09 04 44.1 -1.0**
comp=Z,3.8nm,0.8s,baz=38,slow=4.2,SNR=5.7
EKA LR LR 09 44 45.3
comp=Z,1μm,20.7s,baz=38,slow=38
UBR Ueberruh 84.04 324 *eP* **P** **09 04 44.7 -1.0**
baz=49,slow=5.1
BHOU Houvegnez 84.11 328 *dx* x 09 04 46.1
RPZ Rata Peaks 84.35 152 LR LR 09 35 44.1
comp=Z,248nm,21.7s,baz=318,slow=31
BCLA Clavier 84.37 328 *dP* **P** **09 04 46.9 -0.3**
BFO Black Forest 84.46 326 P **P** **09 04 47.5 -0.2**
BFO pmax pmax
comp=Z,17nm,1.0s
BFO Black Forest 84.46 326 P **P** **09 04 47.5 -0.2**
BFO IAmb IAmb 09 04 50.9
comp=Z,17nm,1.0s
BFO Black Forest 84.46 326 *eP* **P** **09 04 47.1 -0.6**
comp=Z,14nm,1.1s,baz=49,slow=5.1
BGES Gesves 84.49 328 *d*PcP **P** **09 04 49.4 +1.7**
WLF Walferdange 84.53 327 *eP* **P** **09 04 48.0 +0.1**
baz=49,slow=5.1
WLF Walferdange 84.53 327 *d*PcP **PcP** **09 04 51.2 -0.4**
RCHB Rochefort 84.59 328 *dP* **P** **09 04 47.6 -0.6**
RCHB *d*PcP **PcP** **09 04 50.8 -1.0**
NVAR Mina Array Bea 84.65 47 P **P** **09 04 49.0 -0.1**
comp=Z,1.7nm,0.6s,baz=299,slow=4.4,SNR=14
NVAR LR LR 09 48 37.6
comp=Z,117nm,18.1s,baz=321,slow=40
NVAR Mina Array Bea 84.65 47 P **P** **09 04 51.1 +2.1**
BMRD Maredsous 84.69 329 *dP* **P** **09 04 48.4 -0.4**
comp=Z,10nm,1.0s
BMRD *d*PcP **PcP** **09 04 51.0 -1.2**
SNF Seneffe 84.75 329 *dP* **P** **09 04 48.6 -0.4**
SNF *d*PcP **PcP** **09 04 51.3 -1.1**
DAVOX Davos/Dischmat 84.77 324 P **P** **09 04 48.7 -0.8**
comp=Z,7.1nm,0.8s,baz=308,slow=19,SNR=5.1
DAVOX LR LR 09 45 55.5
comp=Z,1μm,18.8s,baz=50,slow=38
MLAC Mammoth, Mammo 84.80 48 P **P** **09 04 50.3 +0.5**
baz=306
GCMT Greycliff 84.84 38 P **P** **09 04 50.2 +0.4**
DOU Dourbes 84.92 329 *dP* **P** **09 04 49.0 -0.9**
ELK Elko 85.06 44 LR LR 09 39 06.8
comp=Z,160nm,21.7s,baz=318,slow=33
RAR Rarotonga 85.22 119 LR LR 09 34 41.8
comp=Z,335nm,21.5s,baz=281,slow=30
H17A Grant Village 85.31 39 P **P** **09 04 52.6 +0.3**
baz=312
RLMT Red Lodge 85.50 38 P **P** **09 04 53.2 0.0**
baz=313
TPH Tonopah 85.53 47 P **P** **09 04 55.1 +1.6**
TPH pmax pmax
comp=Z,96nm,1.3s
TPH Tonopah 85.53 47 P **P** **09 04 55.0 +1.6**
DGMT Dagmar 85.65 33 P **P** **09 04 53.4 -0.2**
baz=316
PKM Mcpherson Peak 85.82 51 P **P** **09 04 55.1 +0.2**
baz=307
LAO LASA Array 85.95 35 P **P** **09 04 54.6 -0.6**
baz=315
R11A Troy Canyon, C 86.37 46 P **P** **09 04 58.5 +0.9**
baz=309
FURC Furnace Creek, 86.76 48 P **P** **09 04 59.7 +0.4**
baz=309
DUG Dugway, Tooele 86.83 43 P **P** **09 05 00.7 +0.9**
baz=311
TPNV Topopah Spring 86.84 48 P **P** **09 05 00.4 +0.5**
baz=309
BW06 Boulder Array 86.95 40 P **P** **09 05 00.7 +0.2**
BW06 Boulder Array 86.95 40 P **P** **09 04 59.6 -0.8**
baz=313
PD31 Pinedale Array 86.95 40 P **P** **09 05 00.7 +0.2**
PDAR Pinedale Array 86.95 40 P **P** **09 05 00.1 -0.3**
comp=Z,3.2nm,1.0s,baz=2.4,slow=0.7,SNR=10
PDAR LR LR 09 45 25.4
comp=Z,174nm,19.1s,baz=339,slow=37
PDAR Pinedale Array 86.95 40 P **P** **09 05 00.5 0.0**
ULM Lac du Bonnet 87.86 28 P **P** **09 05 04.2 -0.2**
comp=Z,17nm,1.1s,baz=342,slow=5.7,SNR=6.9
ULM LR LR 09 47 34.0
comp=Z,437nm,18.9s,baz=332,slow=38
ULM Lac du Bonnet 87.86 28 P **P** **09 05 04.7 +0.3**
PFO Pinyon Flats O 88.80 50 LR LR 09 39 15.1
comp=Z,400nm,20.2s,baz=298,slow=32
PFO Pinyon Flats O 88.80 50 P **P** **09 05 09.1 -0.2**
baz=309
RSSD Black Hills 88.87 36 P **P** **09 05 09.1 -0.5**
baz=317
MONP2 Monument Peak 89.27 51 P **P** **09 05 12.9 +1.2**
baz=309
IRM Iron Mountain 89.30 49 P **P** **09 05 12.6 +1.1**
baz=310
AGMN Agassiz Nation 89.41 29 P **P** **09 05 11.8 +0.1**
baz=322
O20A White River Ci 89.47 41 P **P** **09 05 12.0 -0.4**
baz=314
N23A Red Feather La 90.19 39 P **P** **09 05 16.1 +0.2**
baz=315
PMOR Pomariorio Ree 90.89 107 *e*T T 10 45 14.9
comp=Z,13nm,0.2s
PPT Papeete 90.96 110 LR LR 09 38 04.8
comp=Z,118nm,21.1s,baz=258,slow=30
PPT2 Papeete2 90.97 110 *e*LR LR 09 34 29.0
comp=Z,587nm,24.2s
MVCO Mesa Verde 91.34 43 P **P** **09 05 21.6 +0.3**
baz=314
EYMN Ely 91.42 27 P **P** **09 05 20.8 -0.3**
baz=326
SCHQ Schefferville 91.71 10 LR LR 09 48 11.7
comp=Z,658nm,20.2s,baz=356,slow=37
S22A 4UR Ranch, Cre 91.92 42 P **P** **09 05 23.4 -0.6**
baz=315
SDCO Great Sand Dun 92.67 41 P **P** **09 05 27.2 -0.2**
baz=316
KEST Kesra 92.67 316 P **P** **09 05 27.9 +0.6**
comp=Z,5.5nm,0.9s,baz=342,slow=15,SNR=2.7
ECSD EROS Data Cent 92.68 32 P **P** **09 05 26.7 -0.3**
baz=322
TUC Tucson 93.27 48 P **P** **09 05 30.6 +0.5**
baz=312
KMBO Kilima Mbogo 93.51 271 LR LR 09 47 50.8
comp=Z,311nm,21.0s,baz=80,slow=36
TAOE Nuku Hiva Isla 93.98 98 *e*LR LR 09 35 49.3
comp=Z,496nm,25.4s
ANMO Albuquerque 94.10 44 LR LR 09 45 08.6
comp=Z,142nm,21.3s,baz=331,slow=34
TBI Tubuai 94.23 115 *e*LR LR 09 35 58.8
comp=Z,704nm,26.2s
ESDC Sonseca Array 96.79 326 P **P** **09 05 45.3 -0.6**
comp=Z,0.5nm,0.7s,baz=323,slow=14,SNR=2.5
ESDC PP PP 09 09 30.9 -9.2
comp=Z,0.7nm,0.8s,baz=284,slow=6.5,SNR=4.0
ESDC LR LR 09 54 46.6
comp=Z,911nm,18.1s,baz=34,slow=39
SADO Sadowa 98.43 21 LR LR 09 52 51.7
comp=Z,357nm,21.4s,baz=1.5,slow=37
MBAR Mbarara 98.72 275 LR LR 09 53 57.0
comp=Z,213nm,18.8s,baz=36,slow=38
LPIG La Paz 99.03 54 LR LR 09 45 16.6
comp=Z,97nm,19.2s,baz=308,slow=32
TXAR Lajitas Array 99.74 46 P **Pdif** **09 06 00.5 +1.0**
comp=Z,0.3nm,0.7s,baz=184,slow=3.6,SNR=2.5
TXAR LR LR 09 54 03.8
comp=Z,163nm,18.3s,baz=326,slow=37
OXF Oxford 103.41 33 P **Pdif** **09 06 14.9 -0.6**
baz=326
TIGA Tifton 108.61 31 P **PKiKP** **09 10 43.8 -0.3**
baz=330
DWPF Disney Wildern 112.42 31 P **PKiKP** **09 10 51.4 0.0**
baz=331
TORD Torodi Ar. Bea 113.40 304 PKiKP **PKiKP** **09 10 51.9 -1.7**
comp=Z,0.3nm,0.6s,baz=242,slow=2.9,SNR=2.4
TORD PP PP 09 11 33.9 -10
comp=Z,0.6nm,0.8s,baz=32,slow=3.9,SNR=4.0
SYO Syowa Base 120.32 205⇓ *e*PPdiff pPdif 09 07 34.0 -1.2
LPAZ La Paz 156.51 51 PKP **PKPdf** **09 12 10.6 -0.7**
comp=Z,1.0nm,0.8s,baz=275,slow=7.2,SNR=3.6
LPAZ La Paz 156.51 51 PKIKP **PKPdf** **09 12 09.1 -2.2**
LPAZ La Paz 156.51 51 **PKPdf** **09 12 09.1 -2.2**
LPAZ PKPab **PKPab** **09 12 38.0 -1.9**

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*IDC **19** 08:52:55.7±0.7, 54.46N×35.29W, h0km, mb3.9/18, mb1 4.0/21, mb1mx3.9/65, mbtmp3.9/21, ML3.1/3, MS3.9/17, Ms1 3.9/17, ms1mx3.5/96 Error ellipse: s-maj=21.8km s-min=12.7km az=15.0*

*NEIC **19** 08:52:58.5±1.8, 54.5N±0.1×35.1W±0.2, h11km±5km, mb4.4/34, Error ellipse: s-maj=20.7km s-min=13.0km az=203.0*

ISC 19 08:52:57.7±0.5, 54.5N±0.1×35.17W±0.06, h10km, n75, σ0997/65, mb4.3/33, MS3.8/12, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVI	**Ivigtut**	**9.65**	**319**	Pn	**Pn**	**08 55 15.4**	**-1.0**
BORG	**Borgarnes**	**12.41**	**29**	LR	LR	08 59 31.3	
	comp=Z,506nm,20.8s,baz=238,slow=32						
SFJD	**Kangerlussuaq**	**14.58**	**335**	LR	LR	09 00 57.1	
	comp=Z,289nm,19.0s,baz=166,slow=33						
SCHQ	**Schefferville**	**18.25**	**284**	P	**Pn**	**08 57 09.2**	**-1.5**
	0.1nm,0.3s,baz=92,slow=9.9,SNR=7.5						
SCHQ				LR	LR	09 02 49.2	
	comp=Z,262nm,21.1s,baz=50,slow=33						
SCHQ	**Schefferville**	**18.25**	**284**	P	**Pn**	**08 57 10.0**	**-0.8**
EKA	**Eskdalemuir Ar**	**18.34**	**74**	P	**Pn**	**08 57 11.7**	**-0.1**
	baz=340,slow=14,SNR=2.7						
EKA				LR	LR	09 03 05.0	
	comp=Z,502nm,18.2s,baz=329,slow=33						
FRB	**Frobisher Bay**	**19.25**	**312**	P	**P**	**08 57 20.7**	**-1.1**
	0.0nm,0.3s,baz=110,slow=12,SNR=4.1						
FRB				LR	LR	09 03 10.9	
	comp=Z,284nm,19.6s,baz=42,slow=32						
JMIC	**Jan Mayen**	**20.25**	**25**	LR	LR	09 03 08.7	
	comp=Z,277nm,21.6s,baz=249,slow=30						
LMN	**Caledonia Moun**	**20.73**	**258**	P	**P**	**08 57 37.6**	**-0.5**
LMN				IAmb	IAmb	08 57 46.3	
	comp=Z,25nm,1.4s						
D62A	**Allapoint, All**	**22.50**	**265**	P	**P**	**08 57 57.7**	**+0.6**
D62A				IAmb	IAmb	08 58 02.0	
	comp=Z,13nm,1.1s						
G65A	**Princeton**	**22.68**	**259**	P	**P**	**08 57 58.3**	**-0.7**
F63A	**Nahmakanta, Br**	**23.28**	**262**	P	**P**	**08 58 04.8**	**-0.5**
F63A				IAmb	IAmb	08 58 22.9	
	comp=Z,15nm,1.4s						
NOA	**NORSAR Array B**	**25.13**	**56**	P	**P**	**08 58 22.1**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=292,slow=11,SNR=1.5						
NOA				LR	LR	09 06 40.8	
	comp=Z,187nm,19.4s,baz=275,slow=33						
ESDC	**Sonseca Array**	**25.63**	**112**	P	**P**	**08 58 27.2**	**0.0**
	comp=Z,1.6nm,0.7s,baz=314,slow=9.3,SNR=9.4						
ESDC				LR	LR	09 06 31.5	
	comp=Z,203nm,18.8s,baz=322,slow=32						
ESDC	**Sonseca Array**	**25.63**	**112**	P	**P**	**08 58 26.7**	**-0.5**
HFS	**Hagfors**	**26.46**	**58**	LR	LR	09 07 31.8	
	comp=Z,220nm,21.1s,baz=308,slow=33						
BFO	**Black Forest**	**27.46**	**85**		**P**	**08 58 43.4**	**-0.2**
DAVOX	**Davos/Dischmat**	**29.16**	**87**	LR	LR	09 10 09.3	
	comp=Z,597nm,18.8s,baz=290,slow=35						
SADO	**Sadowa**	**29.65**	**269**	LR	LR	09 09 52.6	
	comp=Z,422nm,19.7s,baz=27,slow=34						
GERES	**GERESS Array B**	**30.32**	**80**	LR	LR	09 10 47.7	
	comp=Z,220nm,18.1s,baz=286,slow=35						
RES	**Resolute Bay**	**30.56**	**333**	P	**P**	**08 59 11.8**	**+1.0**
RES				IAmb	IAmb	08 59 12.4	
	comp=Z,4.6nm,1.1s						
ARCES	**ARCESS Array B**	**30.60**	**37**	P	**P**	**08 59 09.9**	**-1.3**
	comp=Z,2.7nm,0.9s,baz=266,slow=8.8,SNR=2.2						
ARCES	**ARCESS Array B**	**30.60**	**37**	P	**P**	**08 59 11.2**	**-0.1**
VRAC	**Vranov**	**31.75**	**78**	LR	LR	09 11 45.3	
	comp=Z,186nm,19.4s,baz=295,slow=36						
FCC	**Fort Churchill**	**31.78**	**302**	P	**P**	**08 59 22.4**	**+0.7**
FCC				IAmb	IAmb	08 59 23.7	
	comp=Z,5.5nm,0.9s						
FINES	**FINESS Array B**	**32.10**	**52**	LR	LR	09 10 47.4	
	comp=Z,140nm,19.9s,baz=269,slow=33						
KEST	**Kesra**	**35.84**	**103**	P	**P**	**08 59 58.5**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=255,slow=16,SNR=2.7						
KEST	**Kesra**	**35.84**	**103**	P	**P**	**08 59 56.8**	**-0.5**
KEST				IAmb	IAmb	09 00 02.4	
	comp=Z,9.7nm,1.1s						
ULM	**Lac du Bonnet**	**36.30**	**289**	LR	LR	09 13 11.3	
	comp=Z,234nm,20.7s,baz=60,slow=34						
FFC	**Flin Flon**	**37.36**	**299**	P	**P**	**09 00 11.0**	**+1.0**
L42A	**Oliver, Polo**	**37.44**	**274**	P	**P**	**09 00 10.8**	**0.0**
L42A				IAmb	IAmb	09 00 13.8	
	comp=Z,8.3nm,0.8s						
AKASG	**Malin Array Be**	**38.08**	**68**	P	**P**	**09 00 17.1**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=318,slow=8.0,SNR=6.3						
TKL	**Tuckaleechee C**	**38.23**	**261**	LR	LR	09 14 52.9	
	comp=Z,221nm,21.4s,baz=56,slow=34						
MLR	**Muntele Rosu**	**39.15**	**77**	LR	LR	09 17 35.6	
	comp=Z,217nm,19.2s,baz=28,slow=38						
YKA	**Yellowknife Ar**	**39.74**	**314**	P	**P**	**09 00 29.3**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=62,slow=9.2,SNR=8.8						
YKA				PcP	**PcP**	**09 02 35.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=50,slow=3.6,SNR=5.5						
YKA	**Yellowknife Ar**	**39.74**	**314**	P	**P**	**09 00 29.6**	**-0.2**
ECSD	**EROS Data Cent**	**40.39**	**281**	P	**P**	**09 00 36.7**	**+1.1**
INK	**Inuvik**	**43.75**	**328**	P	**P**	**09 01 02.0**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=24,slow=17,SNR=2.7						
INK	**Inuvik**	**43.75**	**328**	P	**P**	**09 01 01.0**	**-1.6**
X40A	**Basin Creek Fa**	**44.31**	**268**	P	**P**	**09 01 08.4**	**+0.9**
X40A				IAmb	IAmb	09 01 12.9	
	comp=Z,5.7nm,1.0s						
W39A	**Magazine**	**44.37**	**269**	P	**P**	**09 01 09.5**	**+1.5**
EGMT	**Eagleton**	**45.09**	**294**	P	**P**	**09 01 14.4**	**+0.7**
EGMT				IAmb	IAmb	09 01 16.3	
	comp=Z,4.9nm,0.8s						
RLMT	**Red Lodge**	**46.63**	**290**	P	**P**	**09 01 28.0**	**+1.9**
RLMT				IAmb	IAmb	09 01 28.8	
	comp=Z,9.0nm,1.4s						
WALA	**Waterton Lakes**	**46.64**	**297**	P	**P**	**09 01 26.5**	**+0.6**
WALA				IAmb	IAmb	09 01 28.2	
	comp=Z,6.9nm,1.1s						
BRTR	**Keskin Array B**	**47.18**	**79**	P	**P**	**09 01 31.3**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=284,slow=6.0,SNR=7.0						
BRTR	**Keskin Array B**	**47.18**	**79**	P	**P**	**09 01 31.0**	**+0.7**
BOZ	**Bozeman (W)**	**47.61**	**292**	P	**P**	**09 01 35.0**	**+1.4**
BOZ				IAmb	IAmb	09 01 36.0	
	comp=Z,2.5nm,1.1s						
BW06	**Boulder Array**	**48.31**	**288**	P	**P**	**09 01 39.1**	**-0.1**
PD31	**Pinedale Array**	**48.31**	**288**	P	**P**	**09 01 39.6**	**+0.4**
PDAR	**Pinedale Array**	**48.31**	**288**	P	**P**	**09 01 38.5**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=57,slow=7.7,SNR=7.9						
PDAR	**Pinedale Array**	**48.31**	**288**	P	**P**	**09 01 39.6**	**+0.4**
AMTX	**Amarillo**	**49.19**	**275**	P	**P**	**09 01 47.2**	**+1.4**
KBZ	**Khabaz**	**49.69**	**68**	P	**P**	**09 01 51.2**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=283,slow=11,SNR=2.4						
SCRK	**Sand Creek**	**49.77**	**327**	P	**P**	**09 01 50.6**	**+0.6**
B08A	**Colville Reser**	**49.86**	**300**	P	**P**	**09 01 52.1**	**+1.4**
B08A				IAmb	IAmb	09 01 52.4	
	comp=Z,6.7nm,1.1s						
HWUT	**Hardware Ranch**	**50.20**	**288**	P	**P**	**09 01 54.4**	**+0.8**
HWUT				IAmb	IAmb	09 01 55.8	
	comp=Z,3.2nm,0.8s						
PLID	**Pearl Lake**	**50.28**	**295**	P	**P**	**09 01 54.8**	**+0.6**
PLID				IAmb	IAmb	09 01 56.0	
	comp=Z,5.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**50.34**	**131**	P	**P**	**09 01 53.3**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=329,slow=7.0,SNR=7.7						
TORD	**Torodi Ar. Bea**	**50.34**	**131**	P	**P**	**09 01 53.9**	**-0.7**
TORD				IAmb	IAmb	09 01 59.2	
	comp=Z,3.4nm,1.1s						
ANMO	**Albuquerque**	**51.91**	**279**	P	**P**	**09 02 08.2**	**+1.6**
J08A	**Circle Bar Ran**	**52.76**	**294**	P	**P**	**09 02 13.3**	**+0.7**
J08A				IAmb	IAmb	09 02 14.6	
	comp=Z,6.5nm,1.2s						
DBIC	**Dimbokro**	**53.55**	**141**	P	**P**	**09 02 18.0**	**-0.6**
	comp=Z,3.6nm,1.0s,baz=271,slow=4.0,SNR=6.8						
TIXI	**Tiksi**	**53.65**	**6**	P	**P**	**09 02 18.6**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=88,slow=24,SNR=1.8						
TXAR	**Lajitas Array**	**54.37**	**272**	P	**P**	**09 02 22.6**	**-2.0**
	comp=Z,0.7nm,0.9s,baz=62,slow=5.8,SNR=4.7						
TXAR				PcP	**PcP**	**09 03 28.5**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=66,slow=4.3,SNR=2.1						
TX32	**Lajitas Array**	**54.37**	**272**	P	**P**	**09 02 25.8**	**+1.2**
K05A	**Summer Lake**	**54.48**	**295**	P	**P**	**09 02 27.2**	**+1.9**
M04C	**Macdoel**	**55.64**	**295**	P	**P**	**09 02 35.1**	**+1.5**

NVAR	**Mina Array Bea**	**56.12**	**290**	P		**P**	**09 02 37.2**	**0.0**
	comp=Z,0.2nm,0.5s,baz=21,slow=8.6,SNR=2.7							
KURBB	**Kurchatov Arra**	**61.53**	**42**	P		**P**	**09 03 13.9**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=327,slow=6.8,SNR=4.2							
MAKZ	**Makanchi**	**65.96**	**42**	P		**P**	**09 03 44.2**	**+0.6**
MAKZ				IAmb		IAmb	09 03 52.5	
	comp=Z,6.8nm,1.4s							
MKAR	**Makanchi Array**	**66.09**	**42**	P		**P**	**09 03 43.9**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=326,slow=5.1,SNR=4.3							
MKAR	**Makanchi Array**	**66.09**	**42**	P		**P**	**09 03 44.0**	**-0.5**
SONM	**Songino Array**	**73.01**	**26**	P		**P**	**09 04 27.4**	**0.0**
	comp=Z,1.2nm,0.7s,baz=339,slow=5.6,SNR=4.1							
ASAR	**Alice Springs**	**148.15**	**19**	PKPbc		**PKPbc**	**09 12 42.8**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=353,slow=2.3,SNR=40							
ASAR	**Alice Springs**	**148.15**	**19**			**PKPbc**	**09 12 42.5**	**-0.9**

IDC ***19*** *08:53:50.2±1.7,28°.98S×70°.92W,h0km,mb3.7/1, mb1 3.7/2,mb1mx3.5/25,mbtmp3.6/2,ML3.9/1,Error ellipse: s-maj=154.4km s-min=50.3km az=163.0*
GUC ***19*** *08:53:55.4±0.7,28°.88S×71°.05W,h51km±2km,ML3.7*
ISC 19 08:53:56.9±1.2,28°.87S±0°.03×71°.19W±0°.08,h43km±12km, n18,σ1°.21/25,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.45**	**108**	*eP*	**Pn**	**08 54 06.3**	**-1.1**
LCO				*i* S	**Sn**	**08 54 14.8**	**-0.1**
AC04	**Llanos de Chal**	**0.67**	**9**	⇓*iP*	**Pn**	**08 54 10.1**	**+0.1**
AC04				*i* S	**Sn**	**08 54 20.2**	**+0.8**
AC04				IAML		08 54 21.8	
	comp=N,8μm,0.3s						
CO05	**La Serena**	**1.05**	**182**	⇑*iP*	**Pn**	**08 54 14.9**	**-0.3**
CO05				*i* S	**Sn**	**08 54 28.6**	**+0.1**
CO05				IAML		08 54 29.4	
	comp=E,4μm,0.4s						
GO04	**Tololo Observa**	**1.34**	**165**	*eP*	**Pn**	**08 54 19.7**	**+0.2**
GO04				*i* S	**Sn**	**08 54 36.5**	**+0.2**
CO01	**Juntas del Tor**	**1.46**	**139**	⇓*iP*	**Pn**	**08 54 21.9**	**+0.8**
CO01				*i* S	**Sn**	**08 54 39.7**	**+0.6**
CO01				IAML		08 54 42.3	
	comp=E,822nm,0.1s						
GO03	**Copiap**	**1.52**	**34**	*eP*	**Pn**	**08 54 21.6**	**-0.1**
GO03				*i* S	**Sn**	**08 54 40.4**	**0.0**
GO03				IAML		08 54 46.2	
	comp=N,1μm,0.2s						
AC06	**Mina Casimiro**	**1.68**	**26**	⇑*eP*	**Pn**	**08 54 24.3**	**+0.5**
AC06				*i* S	**Sn**	**08 54 44.9**	**+0.8**
AC06				IAML		08 54 47.3	
	comp=E,1μm,0.2s						
CO06	**Fray Jorge**	**1.84**	**192**	⇓*iP*	**Pn**	**08 54 25.8**	**-0.2**
CO06				*eS*	**Sn**	**08 54 50.6**	**+2.5**
CO06				IAML		08 54 59.8	
	comp=N,461nm,0.2s						
CO02	**Combarbal**	**2.33**	**176**	⇑*eP*	**Pn**	**08 54 33.1**	**+0.2**
CO02				*i* S	**Sn**	**08 55 02.9**	**+2.5**
CO02				IAML		08 55 11.6	
	comp=N,3μm,0.2s						
AC02	**Maricunga**	**2.73**	**42**	⇑*eP*	**Pn**	**08 54 40.3**	**+1.7**
AC02				*i* S	**Sn**	**08 55 13.0**	**+2.4**
AC02				IAML		08 55 28.4	
	comp=N,540nm,0.1s						
AC01	**Pan de Azucar**	**2.76**	**11**	*eP*	**Pn**	**08 54 37.6**	**-1.1**
AC01				*eS*	**Sn**	**08 55 12.5**	**+1.7**
AC01				IAML		08 55 24.2	
	comp=E,291nm,0.1s						
H03N1	**Juan Fernandez**	**8.03**	**234**	T	T	09 03 50.2	
	baz=60,slow=72,SNR=708						
H03N2	**Juan Fernandez**	**8.05**	**234**	T	T	09 03 48.8	
	baz=60,slow=72,SNR=674						
H03N3	**Juan Fernandez**	**8.05**	**233**	T	T	09 03 39.4	
	baz=60,slow=72,SNR=526						
CPUP	**Villa Florida**	**12.55**	**82**	Pn	Pn	08 56 47.2	-5.6
	comp=E,0.2nm,0.3s,baz=250,slow=16,SNR=2.9						
TORD	**Torodi Ar. Bea**	**81.78**	**70**	P	**P**	**09 06 10.3**	**-1.4**
	comp=E,0.4nm,0.5s,baz=220,slow=5.1,SNR=5.6						
WRA	**Warramunga Arr**	**125.57**	**210**	PKP	**PKPdf**	**09 12 54.0**	**-0.2**
	comp=E,0.1nm,0.4s,baz=156,slow=1.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**149.44**	**28**	PKPbc	**PKPbc**	**09 13 40.3**	**-0.5**
	comp=E,0.5nm,0.3s,baz=308,slow=3.5,SNR=2.4						

IDC ***19*** *08:54:48.4±1.5,54°.43N×35°.36W,h0km,mb3.4/4, mb1 3.6/5,mb1mx3.4/64,mbtmp3.5/5,ML2.1/1,MS3.8/2, Ms1 3.8/2,ms1mx3.0/65,Error ellipse: s-maj=49.8km s-min=29.7km az=23.0*
ISC 19 08:54:49.7±1.2,54°.4N±0°.3×35°.4W±0°.2,h10km,n8,σ0°.43/6, mb3.8/4,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.13**	**284**	P	**Pn**	**08 59 00.9**	**-0.4**
	0.1nm,0.3s,baz=65,slow=13,SNR=4.8						
MDT	**Midelt**	**30.63**	**122**	LR	LR	09 11 14.3	
	comp=Z,168nm,19.6s,baz=240,slow=32						
YKA	**Yellowknife Ar**	**39.71**	**314**	P	**P**	**09 02 22.1**	**+0.5**
	0.1nm,0.4s,baz=69,slow=8.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**50.38**	**130**	P	**P**	**09 03 47.1**	**+0.1**
	1.1nm,1.0s,baz=321,slow=5.6,SNR=3.2						
MDP	**Montagnes des**	**51.09**	**202**	LR	LR	09 20 12.8	
	comp=Z,100nm,20.7s,baz=135,slow=30						
KURBB	**Kurchatov Arra**	**61.71**	**41**	P	**P**	**09 05 07.5**	**-0.1**
	0.4nm,0.6s,baz=341,slow=6.7,SNR=2.6						
MKAR	**Makanchi Array**	**66.27**	**42**	P	**P**	**09 05 37.4**	**-0.3**
	0.5nm,0.7s,baz=345,slow=5.1,SNR=3.7						
ASAR	**Alice Springs**	**148.30**	**19**	PKPbc	**PKPbc**	**09 14 36.0**	**+0.1**
	0.8nm,0.5s,baz=350,slow=2.3,SNR=6.4						

IDC ***19*** *08:57:16.0±1.3,32°.47N×130°.65E,h0km,mb3.5/3, mb1 3.8/8,mb1mx3.5/75,mbtmp3.8/8,ML3.4/3,Error ellipse: s-maj=27.4km s-min=10.5km az=107.0*
JMA ***19*** *08:57:17.9,32°.53N×130°.64E,h8km±1km,M4.0*
JMA Felt III J1.
ISC 19 08:57:16.6±1.4,32°.55N±0°.04×130°.53E±0°.06,h5km±11km, n12,σ1°.60/16,mb3.3/3,2C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.24**	**91**	⇓P	**Pg**	**08 57 21.0**	**-0.2**
JIU3				S	**Sg**	**08 57 23.5**	**-0.8**
JZO	**Okuchi**	**0.41**	**172**	⇑P	**Pg**	**08 57 25.6**	**+1.0**
JZO				S	**Sg**	**08 57 31.1**	**+1.1**
JNU	**Nakatsue**	**0.64**	**27**	Pg	**Pg**	**08 57 29.9**	**+1.0**
	157nm,0.3s,baz=218,slow=10,SNR=18						
JNU				Lg	Lg	08 57 37.6	
	400nm,0.3s,baz=230,slow=19,SNR=19						
JTZ	**Takazaki**	**0.80**	**144**	⇑P	**Pb**	**08 57 32.6**	**-0.4**
JTZ				S	**Sg**	**08 57 42.3**	**-0.1**
KSRS	**Korea Array**	**5.34**	**337**	Pn	**Pn**	**08 58 40.3**	**+3.4**
	baz=26,slow=33,SNR=1.2						
KSRS				Pg	**Pg**	**08 58 57.1**	**-1.8**
	0.9nm,0.3s,baz=152,slow=18,SNR=1.7						
KSRS				Lg	Lg	09 00 05.0	
	1.4nm,0.3s,baz=152,slow=29,SNR=6.1						
JOW	**Kunigami**	**6.03**	**200**	Pn	**Pn**	**08 58 44.1**	**-2.3**
	2.2nm,0.3s,baz=78,slow=18,SNR=2.5						
MJAR	**Matsushiro Arr**	**7.48**	**56**	Pn	**Pn**	**08 59 07.0**	**+0.7**
	0.1nm,0.3s,baz=240,slow=14,SNR=1.1						
JHJ	**Hachijo jima 2**	**7.81**	**83**	Pn	**Pn**	**08 59 11.5**	**+0.7**
	8.4nm,0.3s,baz=244,slow=23,SNR=0.9						
USRK	**Ussuriysk Ar.**	**11.69**	**5**	Pn	**Pn**	**09 00 03.7**	**-0.2**
	baz=237,slow=6.3,SNR=3.0						
SONM	**Songino Array**	**23.80**	**317**	P	**P**	**09 02 32.5**	**+2.2**
	0.3nm,0.3s,baz=152,slow=8.8,SNR=2.1						
WRA	**Warramunga Arr**	**52.33**	**175**	P	**P**	**09 06 28.4**	**-1.0**
	0.3nm,0.8s,baz=353,slow=7.9,SNR=1.6						
FINES	**FINESS Array B**	**68.39**	**330**	P	**P**	**09 08 18.9**	**+0.1**
	2.6nm,1.0s,baz=46,slow=4.0,SNR=1.3						

IDC 19 09:00:40.6±35.0,13°.30S×171°.32E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.4/51,mbtmp3.7/4,Error ellipse: s-maj=614.4km s-min=119.2km az=72.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**32.92**	**231**	P	P	09 07 16.6	-0.3
	0.2nm,0.3s,baz=34,slow=11,SNR=1.2						
WRA	**Warramunga Arr**	**35.99**	**254**	P	P	09 07 44.3	+0.7
	0.4nm,0.5s,baz=87,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**36.85**	**248**	P	P	09 07 51.1	+0.1
	0.9nm,0.5s,baz=77,slow=9.5,SNR=20						
FITZ	**Fitzroy Crossi**	**44.15**	**258**	P	P	09 08 50.2	-1.1
	0.5nm,0.6s,baz=64,slow=7.7						

SNET ***19*** *09:01:13.8±1.1,13°.43N×91°.07W,h8km±8km,ML3.3*
GCG ***19*** *09:01:14.0±0.3,13°.41N×91°.17W,h52km±36km,MD3.5*
ISC 19 09:01:12.7±3.2,13°.4N±0°.1×91°.1W±0°.1,h7km±17km,n16, σ0°.79/20,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.08**	**15**	*eP*	**Pg**	**09 01 33.4**	**0.0**
FUG				*eS*	**Sb**	**09 01 48.5**	**+0.3**
STG3	**Santiaguito 3,**	**1.37**	**342**	*eP*	**Pn**	**09 01 37.2**	**-1.2**
NBG	**Las Nubes**	**1.41**	**33**	*eP*	**Pb**	**09 01 39.7**	**+0.2**
NBG				*eS*	**Sb**	**09 01 57.6**	**-0.2**
NUBE	**Las Nubes**	**1.41**	**69**	*eP*	**Pn**	**09 01 37.5**	**-1.4**
SLOZ	**Alcaldia de Sa**	**1.45**	**65**	*eP*	**Pn**	**09 01 38.9**	**-0.5**
SLOZ				IAML		09 02 02.1	
	comp=Z,188nm,0.5s						
CEVE	**Cerro Verde**	**1.53**	**74**	*eP*	**Pn**	**09 01 40.6**	**-0.1**
CEVE				IAML		09 02 06.8	
	comp=Z,541nm,0.2s						
SBLS	**San Blas**	**1.53**	**73**	*eP*	**Pn**	**09 01 39.7**	**-1.0**
SBLS				IAML		09 02 10.3	
	comp=Z,174nm,0.3s						
JAYA	**Jayaque - finc**	**1.66**	**81**	*eP*	**Pn**	**09 01 41.4**	**-1.0**
JAYA				*eS*	**Sn**	**09 02 02.8**	**-1.2**
JAYA				IAML		09 02 06.8	
	comp=Z,281nm,0.2s						
CEDA	**San Andres**	**1.74**	**77**	IAML		09 02 14.5	
	comp=Z,315nm,0.3s						
PMON	**Piamonte**	**1.80**	**80**	*eP*	**Pn**	**09 01 43.9**	**-0.3**
HUEH	**Huehuetenango**	**1.94**	**349**	*eP*	**Pn**	**09 01 47.1**	**+0.9**
LFRS	**El Faro**	**2.03**	**84**	*eP*	**Pn**	**09 01 47.8**	**+0.3**
LFRS				IAML		09 02 19.7	
	comp=Z,701nm,0.5s						
SJTE	**Alcalda de S**	**2.08**	**84**	*eP*	**Pn**	**09 01 48.5**	**+0.4**
SJTE				*eS*	**Sn**	**09 02 14.8**	**+0.4**
ESQI	**Esquipulas**	**2.09**	**56**	*eP*	**Pn**	**09 01 48.5**	**+0.2**
COEG	**Centro de Oper**	**2.20**	**84**	*eP*	**Pn**	**09 01 50.0**	**+0.2**
COEG				IAML		09 02 28.6	
	comp=Z,226nm,0.4s						
COEB	**Comit de Eme**	**2.54**	**88**	*eP*	**Pn**	**09 01 54.4**	**0.0**
COEB				*eS*	**Sn**	**09 02 26.7**	**+1.1**

IDC ***19*** *09:02:45.7±0.8,32°.71N×130°.86E,h0km,mb3.3/7, mb1 3.6/11,mb1mx3.4/71,mbtmp3.6/11,ML3.6/4,Error ellipse: s-maj=21.3km s-min=7.2km az=92.0*
JMA ***19*** *09:02:47.4,32°.80N×130°.78E,h15km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φs=149.00000°,δ72.00000°,λ-44.00000°. NP2: φs=255.00000°,δ49.00000°,λ-156.00000°. Principal axes: T Plg14.0000°, Azm207.0000°; N Plg44.0000°, Azm311.0000°; P Plg43.0000°, Azm103.0000°;*
JMA Felt III J1.
ISC 19 09:02:47.8±0.6,32°.79N±0°.03×130°.86E±0°.08,h12km,n17, σ1°.12/21,mb3.3/7,1C,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.24**	**190**	⇑P	**Pg**	**09 02 52.9**	**0.0**
JIU3				S	**Sg**	**09 02 56.9**	**+0.6**
JNU	**Nakatsue**	**0.34**	**3**	Pg	**Pg**	**09 02 54.1**	**-0.5**
	2μm,0.3s,baz=209,slow=22,SNR=824						
JNU				Lg	Lg	09 02 58.9	
	baz=90,slow=20						
JNU	**Nakatsue**	**0.34**	**3**	P	**Pg**	**09 02 54.3**	**-0.3**
JNU				S	**Sg**	**09 02 58.9**	**-0.3**
JTZ	**Takazaki**	**0.90**	**168**	P	**Pg**	**09 03 05.6**	**+0.4**
JTZ				S	**Sg**	**09 03 17.4**	**+0.4**
KSRS	**Korea Array**	**5.24**	**333**	Pn	**Pn**	**09 04 05.4**	**-0.5**
	0.2nm,0.3s,baz=155,slow=12,SNR=1.7						
KSRS				Pg	**Pb**	**09 04 21.5**	**+2.1**
	0.5nm,0.3s,baz=150,slow=15,SNR=3.2						
KSRS				Lg	Lg	09 05 28.1	
	4.0nm,0.3s,baz=150,slow=30,SNR=10						
JOW	**Kunigami**	**6.34**	**201**	Pn	**Pn**	**09 04 21.4**	**+0.3**
	5.5nm,0.3s,baz=104,slow=22,SNR=12						
JOW				Lg	Lg	09 06 05.5	
	2.1nm,0.3s,baz=81,slow=16,SNR=1.3						
MJAR	**Matsushiro Arr**	**7.12**	**56**	Pn	**Pn**	**09 04 33.8**	**+2.0**
	0.4nm,0.3s,baz=276,slow=10,SNR=10						
JHJ	**Hachijo jima 2**	**7.51**	**85**	Pn	**Pn**	**09 04 38.2**	**+1.1**
	27nm,0.3s,baz=66,slow=22,SNR=8.6						
JCJ	**Chichijima**	**11.34**	**117**	Pn	**Pn**	**09 05 28.2**	**-1.4**
	16nm,0.3s,baz=285,slow=18,SNR=8.2						
KLR	**Kul'dur**	**16.44**	**2**	Pn	**P**	**09 06 42.2**	**+1.3**
	0.1nm,0.3s,baz=133,slow=6.6,SNR=4.8						
SONM	**Songino Array**	**23.82**	**316**	P	**P**	**09 08 01.8**	**+1.1**
	1.0nm,0.9s,baz=129,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**39.24**	**305**	P	**P**	**09 10 15.4**	**-0.6**
	0.4nm,0.9s,baz=97,slow=7.8,SNR=2.6						
KURBB	**Kurchatov Arra**	**41.98**	**311**	P	**P**	**09 10 39.2**	**+0.6**
	0.4nm,0.6s,baz=97,slow=9.4,SNR=4.1						
WRA	**Warramunga Arr**	**52.54**	**176**	P	**P**	**09 11 59.3**	**-1.8**
	0.2nm,0.7s,baz=353,slow=8.4,SNR=1.8						
ASAR	**Alice Springs**	**56.21**	**177**	P	**P**	**09 12 26.6**	**-1.2**
	0.1nm,0.3s,baz=11,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**65.11**	**170**	P	**P**	**09 13 27.3**	**-1.0**
	0.8nm,0.7s,baz=325,slow=9.1,SNR=4.3						
YKA	**Yellowknife Ar**	**71.64**	**26**	P	**P**	**09 14 08.3**	**-0.6**
	0.2nm,0.8s,baz=309,slow=5.5,SNR=4.4						

IDC ***19*** *09:04:38.9±1.4,32°.64N×130°.39E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.2/63,mbtmp3.6/4,Error ellipse: s-maj=39.1km s-min=10.5km az=135.0*
JMA ***19*** *09:04:39.2,32°.54N×130°.64E,h8km±2km,M3.8*
JMA Felt III J1.
ISC 19 09:04:38.8±1.8,32°.56N±0°.05×130°.58E±0°.10,h2km±13km, n9,σ1°.37/10,mb3.6/4,2C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.20**	**92**	⇓P	**Pg**	**09 04 42.2**	**-0.4**
JZO	**Okuchi**	**0.42**	**178**	⇑P	**Pg**	**09 04 47.1**	**+0.3**
JZO				*eS*	**Sg**	**09 04 52.6**	**+0.4**
JNU	**Nakatsue**	**0.62**	**24**	Pg	**Pg**	**09 04 51.1**	**+0.4**
	187nm,0.3s,baz=48,slow=23,SNR=14						
JNU				Lg	Lg	09 04 59.7	
	575nm,0.3s,baz=347,slow=9.4,SNR=20						
JTZ	**Takazaki**	**0.78**	**146**	⇑P	**Pg**	**09 04 54.0**	**+0.2**
JTZ				S	**Sg**	**09 05 03.6**	**-0.4**
KSRS	**Korea Array**	**5.35**	**337**	Lg	Lg	09 07 27.9	
	1.3nm,0.3s,baz=149,slow=29,SNR=5.8						
MKAR	**Makanchi Array**	**39.17**	**306**	P	**P**	**09 12 05.4**	**-2.7**
	0.3nm,0.7s,baz=100,slow=7.5,SNR=2.0						
FITZ	**Fitzroy Crossi**	**50.59**	**186**	P	**P**	**09 13 39.2**	**+0.2**
	1.7nm,1.1s,baz=353,slow=8.1,SNR=1.6						
FINES	**FINESS Array B**	**68.40**	**330**	P	**P**	**09 15 42.2**	**+0.6**
	0.8nm,0.6s,baz=77,slow=7.3,SNR=1.4						
YKA	**Yellowknife Ar**	**71.95**	**26**	P	**P**	**09 16 05.1**	**+1.7**
	0.3nm,1.0s,baz=311,slow=6.3,SNR=2.2						

WEL 19 09:06:47.7±0.8,32°.5±10°.×18°.0E±2°.7,h473km±14km, M3.8/13,mB4.3/13,MLv4.6/13,Mw(mB)3.4/13,Error ellipse: s-maj=0.0km s-min=0.0km az=106.1,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.99**	**190**	P	P	09 08 22.6	0.0
WMGZ	**Waiomatatini S**	**6.23**	**189**	P	P	09 08 25.0	0.0
WMGZ				S	S	09 09 45.3	+0.7
HAZ	**Te Kaha**	**6.27**	**194**	P	P	09 08 25.4	0.0
HAZ				S	S	09 09 44.8	-0.7
PKGZ	**Pakihiroa**	**6.35**	**191**	P	P	09 08 26.6	+0.3
PKGZ				S	S	09 09 47.2	+0.2
RUGZ	**Raukumara Rang**	**6.50**	**194**	P	P	09 08 27.3	-0.5
RUGZ				S	S	09 09 49.0	-0.8
PUZ	**Puketiti**	**6.50**	**190**	P	P	09 08 28.8	+1.1
PUZ				S	S	09 09 49.2	-0.5
OPRZ	**Ohinepanea**	**6.68**	**202**	P	P	09 08 31.0	+1.5
MWZ	**Matawai**	**6.88**	**194**	P	P	09 08 31.5	-0.1
MWZ				S	S	09 09 57.5	+0.5
URZ	**Urewera**	**6.91**	**197**	P	P	09 08 31.9	+0.1
URZ				S	S	09 09 56.9	-0.4
KARZ	**Kaharoa**	**6.94**	**203**	P	P	09 08 34.1	+1.9
RAGZ	**Rawiri**	**7.06**	**194**	P	P	09 08 33.3	-0.2
RIGZ	**Rimuhau**	**7.20**	**192**	P	P	09 08 35.2	+0.3
MUGZ	**Murupara**	**7.20**	**198**	P	P	09 08 34.9	0.0
RTZ	**Ruatahuna**	**7.28**	**197**	P	P	09 08 35.6	-0.2
SNGZ	**Shannon Statio**	**7.35**	**194**	P	P	09 08 38.1	+1.6
TLZ	**Tolley Road**	**7.46**	**206**	P	P	09 08 39.3	+1.7
MTHZ	**Maungataniwha**	**7.54**	**197**	P	P	09 08 39.0	+0.6
RAHZ	**Arahi**	**7.54**	**196**	P	P	09 08 38.4	0.0
MRHZ	**Matea Rd**	**7.63**	**199**	P	P	09 08 38.5	-0.9
NMHZ	**Naumai**	**7.78**	**197**	P	P	09 08 40.9	-0.1
HIZ	**Hauiti**	**7.89**	**209**	P	P	09 08 43.2	+1.1
BKZ	**Black Stump Fm**	**7.92**	**198**	P	P	09 08 41.5	-1.0
BKZ				S	S	09 10 17.8	+1.0
MCHZ	**McNeill Hill**	**8.13**	**196**	P	P	09 08 44.8	+0.1
MCHZ				S	S	09 10 22.4	+1.6
OTVZ	**Oturere**	**8.16**	**202**	P	P	09 08 44.6	-0.6
KWHZ	**Kaweka Forest**	**8.18**	**198**	P	P	09 08 44.9	-0.4
KWHZ				S	S	09 10 22.6	+0.7
WNVZ	**Wahianoa**	**8.33**	**202**	P	P	09 08 45.9	-1.2
BHHZ	**Black Hill Sta**	**8.34**	**200**	P	P	09 08 45.7	-1.3
BHHZ				S	S	09 10 25.8	+0.8
KAHZ	**Kahuranaki**	**8.42**	**195**	P	P	09 08 47.9	+0.1
KAHZ				S	S	09 10 30.5	+3.9
PNHZ	**Pukenui**	**8.70**	**198**	P	P	09 08 49.8	-0.9
PNHZ				S	S	09 10 31.4	-0.5
TSZ	**Takapari Road**	**8.90**	**199**	S	S	09 10 34.9	-0.9
PRHZ	**Porangahau**	**8.93**	**195**	P	P	09 08 51.7	-1.5
PRHZ				S	S	09 10 40.1	+3.7
ANWZ	**Angora Road**	**9.15**	**195**	P	P	09 08 55.6	+0.1
PRWZ	**Pori Road**	**9.36**	**198**	P	P	09 09 00.8	+3.0
BFZ	**Birch Farm**	**9.41**	**196**	P	P	09 08 58.3	-0.1
BFZ				S	S	09 10 47.7	+1.8
MRZ	**Mangatainoka R**	**9.56**	**199**	P	P	09 08 59.6	-0.4
TIWZ	**Tintock**	**9.59**	**197**	S	S	09 10 49.7	+0.3
KHZ	**Kahutara**	**11.79**	**203**	P	P	09 09 23.7	-0.1
KHZ				S	S	09 11 32.1	-0.6

WEL 19 09:07:40.6±0.8,36°.8±8°.×17°.8E±°.,h247km±9km,M3.0/16, ML2.8/6,MLv3.0/16,Error ellipse: s-maj=0.0km s-min=0.0km az=126.8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.11**	**173**	P	Pn	09 08 17.5	+1.6
HAZ	**Te Kaha**	**1.33**	**192**	P	Pn	09 08 16.5	-0.8
WMGZ	**Waiomatatini S**	**1.38**	**171**	P	Pn	09 08 17.9	+0.3
PKGZ	**Pakihiroa**	**1.43**	**182**	P	Pn	09 08 18.9	+0.7
RUGZ	**Raukumara Rang**	**1.55**	**193**	P	Pn	09 08 18.1	-1.0
PUZ	**Puketiti**	**1.61**	**177**	P	Pn	09 08 18.5	-1.0
PUZ				S	S	09 08 50.1	-0.1
TWGZ	**Tauwhareparae**	**1.72**	**184**	P	Pn	09 08 20.9	+0.5
TWGZ				S	S	09 08 52.5	+0.6
OPRZ	**Ohinepanea**	**1.87**	**222**	P	Pn	09 08 21.8	+0.2
MWZ	**Matawai**	**1.93**	**194**	P	Pn	09 08 22.2	-0.1
MWZ				S	S	09 08 54.9	-0.2
KUZ	**Kuaotunu**	**1.96**	**261**	P	Pn	09 08 23.9	+1.5
KUZ	**Kuaotunu**	**1.96**	**261**	P	Pn	09 08 23.9	+1.5
URZ	**Urewera**	**1.97**	**204**	P	Pn	09 08 22.0	-0.5
URZ				S	S	09 08 54.6	-1.0
TKGZ	**Te Karaka**	**1.99**	**186**	S	S	09 08 56.2	+0.2
RAGZ	**Rawiri**	**2.11**	**195**	P	Pn	09 08 24.3	+0.4
RAGZ				S	S	09 08 59.0	+0.8
KARZ	**Kaharoa**	**2.17**	**223**	P	Pn	09 08 24.0	-0.4
RIGZ	**Rimuhau**	**2.26**	**187**	P	Pn	09 08 25.7	+0.4
RIGZ				S	S	09 09 01.4	+0.8
MUGZ	**Murupara**	**2.29**	**208**	P	Pn	09 08 25.1	-0.4
RTZ	**Ruatahuna**	**2.34**	**203**	P	Pn	09 08 25.6	-0.5
RTZ				S	S	09 09 02.0	0.0
SNGZ	**Shannon Statio**	**2.40**	**195**	P	Pn	09 08 27.4	+0.8
SNGZ				S	S	09 09 04.3	+1.2
WIAZ	**Waiheke Island**	**2.44**	**261**	P	Pn	09 08 27.0	0.0
RAHZ	**Arahi**	**2.59**	**198**	P	Pn	09 08 28.6	0.0
RAHZ				S	S	09 09 07.4	+0.9
MTHZ	**Maungataniwha**	**2.60**	**203**	P	Pn	09 08 28.2	-0.4
MTHZ				S	S	09 09 06.9	+0.2
MRHZ	**Matea Rd**	**2.73**	**209**	P	Pn	09 08 29.8	-0.3
MRHZ				S	S	09 09 09.3	0.0
TLZ	**Tolley Road**	**2.79**	**227**	P	Pn	09 08 31.1	+0.5
NMHZ	**Naumai**	**2.84**	**201**	P	Pn	09 08 31.8	+0.6
NMHZ				S	S	09 09 13.2	+1.9
BKZ	**Black Stump Fm**	**3.00**	**205**	P	Pn	09 08 32.4	-0.5
BKZ				S	S	09 09 14.6	+0.2
MCHZ	**McNeill Hill**	**3.19**	**200**	P	Pn	09 08 35.3	+0.3
KWHZ	**Ka

0.7nm,1.0s,baz=231,slow=4.3,SNR=2.0
FINES FINESS Array B 68.53 330 P **P** 09 20 46.7 **+0.8**
3.4nm,0.9s,baz=57,slow=5.1,SNR=1.5

*AEIC **19** 09:56:18±2.3, 54°.77N±0°.05×160°.69W±0°.07, h10km±5km, ML3.2/13, mb3.3/2(NEIC), Error ellipse: s-maj=7.7km s-min=5.8km az=194.0*
NEIC 19 09:56:17.6±1.8, 54°.71N±0°.07×160°.65W±0°.08, h22km±6km, Error ellipse: s-maj=10.3km s-min=5.9km az=155.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.65**	**9**		Pb	09 56 29.9	-0.4
SDPT					Sb	09 56 38.9	-0.1
PVV	**Pavlof Volcano**	**0.94**	**316**		Pb	09 56 35.1	-0.1
PS4A	**Pavlof South-4**	**0.94**	**313**		Pb	09 56 35.3	0.0
PS4A					Sb	09 56 47.3	-0.1
DT1	**Dutton Round H**	**1.02**	**294**		Pb	09 56 36.5	-0.1
FALS	**False Pass**	**1.61**	**277**		Pn	09 56 45.4	+0.8
FALS					Sb	09 57 07.2	+0.8
VNFG	**Fog Glacier, M**	**1.70**	**21**		Pb	09 56 47.1	-1.1
VNHG	**Veniaminof 1**	**1.74**	**29**		Pn	09 56 47.1	+0.5
ISLZ	**Isanotski Laza**	**1.77**	**272**		Pn	09 56 47.7	+0.7
ISLZ					Sb	09 57 11.4	+0.2
CHGN	**Chignik**	**2.04**	**38**		Pn	09 56 47.3	+0.6
CHIR	**Chirikof Islan**	**3.09**	**67**	Pn	Pn	09 57 05.4	+0.4
UNV	**Unalaska Valle**	**3.54**	**258**	Pn	Pn	09 57 11.4	+0.3
OHAK	**Old Harbor**	**4.85**	**56**	Pn	Pn	09 57 29.0	-0.1
KDAK	**Kodiak Island**	**5.46**	**52**	Pn	Pn	09 57 37.4	-0.1
Q19K	**Cape Douglas,**	**5.72**	**39**	Pn	Pn	09 57 41.4	+0.3
O18K	**Koktuh Hills**	**5.95**	**28**	Pn	Pn	09 57 46.0	+1.7
N18K	**Kilae Creek**	**6.51**	**21**	Pn	Pn	09 57 53.2	+1.2
N19K	**Bonanza Creek**	**6.95**	**26**	Pn	Pn	09 57 59.0	+0.8
SVW2	**Sparrevohn**	**6.95**	**21**	Pn	Pn	09 57 58.0	-0.1
CNPM	**China Poot**	**7.04**	**43**	Pn	Pn	09 58 01.0	+1.7
RSO	**Redoubt South**	**7.16**	**33**	Pn	Pn	09 58 04.4	+3.3
M19K	**Big River Lodg**	**7.93**	**22**	Pn	Pn	09 58 13.1	+1.7
L19K	**White Mountain**	**8.09**	**20**	Pn	Pn	09 58 14.1	+0.5
SEW	**Seward**	**8.11**	**44**	Pn	Pn	09 58 14.2	+0.3
TTA	**Tatalina**	**8.59**	**14**	Pn	Pn	09 58 20.1	-0.4
RC01	**Rabbit Creek A**	**8.64**	**38**	Pn	Pn	09 58 21.7	+0.6
PWL	**Port Wells**	**9.01**	**42**	Pn	Pn	09 58 26.0	-0.2
K20K	**Telida**	**9.31**	**19**	Pn	Pn	09 58 30.4	+0.1
GHO	**Glory Hole Cre**	**9.39**	**36**	Pn	Pn	09 58 31.1	-0.4
FID	**Port Fidalgo**	**9.69**	**46**	Pn	Pn	09 58 34.4	-1.2
EYAK	**Cordova Ski Ar**	**9.89**	**48**	Pn	Pn	09 58 36.4	-1.9
SCM	**Sheep Creek Mo**	**10.00**	**39**	Pn	Pn	09 58 39.1	-0.7
J20K	**Nowinta River**	**10.05**	**17**	Pn	Pn	09 58 39.0	-1.5
ANM	**Nome**	**10.17**	**348**	Pn	Pn	09 58 42.3	+0.2
TRF	**Thorofare Moun**	**10.25**	**27**	Pn	Pn	09 58 41.7	-1.6
KLU	**Klutina**	**10.33**	**43**	Pn	Pn	09 58 43.3	-1.1
BMRM	**Bremner River**	**10.59**	**47**	Pn	Pn	09 58 47.4	-0.5
M24K	**Tolsona, Glenn**	**10.60**	**40**	Pn	Pn	09 58 46.1	-1.9
DHY	**Denali Highway**	**10.82**	**34**	Pn	Pn	09 58 49.7	-1.4
N25K	**Chitina, Valde**	**10.92**	**44**	Pn	Pn	09 58 51.6	-0.8
WAX	**Waxell Ridge**	**11.13**	**52**	Pn	Pn	09 58 54.4	-1.0
GLB	**Gilahina Butte**	**11.16**	**46**	Pn	Pn	09 58 55.7	0.0
VRDI	**Verde Repeater**	**11.21**	**47**	Pn	Pn	09 58 55.9	-0.5
TGL	**Tana Glacier**	**11.27**	**50**	Pn	Pn	09 58 57.5	+0.3
I21K	**Tanana**	**11.36**	**19**	Pn	Pn	09 58 57.1	-1.2
ISLE	**Juniper Island**	**11.43**	**51**	Pn	Pn	09 58 58.0	-1.5
H21K	**Melozitna Rive**	**11.65**	**16**	Pn	Pn	09 59 02.1	-0.2
IM04	**Indian Mountai**	**11.80**	**14**	Pn	Pn	09 59 04.8	+0.5
IM05	**Indian Mountai**	**11.80**	**14**	Pn	Pn	09 59 04.7	+0.3
IM03		**11.81**	**14**	Pn	Pn	09 59 04.6	+0.2
IMAR	**Indian Mountai**	**11.81**	**14**	Pn	Pn	09 59 05.2	+0.7
IM02	**Indian Mountai**	**11.82**	**14**	Pn	Pn	09 59 03.9	-0.7
IM01	**Indian Mountai**	**11.82**	**14**	Pn	Pn	09 59 04.8	+0.1
TABL	**Table Mountain**	**11.92**	**53**	Pn	Pn	09 59 06.3	+0.1
M26K	**Nabesna, AK**	**11.98**	**43**	Pn	Pn	09 59 06.0	-0.9
BC03		**12.81**	**42**	Pn	Pn	09 59 17.7	-0.4
BCAR	**Beaver Creek A**	**12.81**	**42**	Pn	Pn	09 59 17.8	-0.4
BC05	**Beaver Creek A**	**12.82**	**42**	Pn	Pn	09 59 16.8	-1.6
BC04	**Beaver Creek A**	**12.83**	**42**	Pn	Pn	09 59 18.9	+0.5
EGAK	**Eagle**	**14.02**	**36**	Pn	Pn	09 59 36.1	+1.5
DAWY	**Dawson**	**14.25**	**40**	Pn	Pn	09 59 37.2	-0.6
BM03	**Burnt Mountain**	**14.86**	**25**	Pn	Pn	09 59 48.1	+2.0
BM05	**Burnt Mountain**	**14.87**	**25**	Pn	Pn	09 59 47.7	+1.5
BMAR	**Burnt Mountain**	**14.87**	**25**	Pn	Pn	09 59 46.7	+0.5
BM02	**Burnt Mountain**	**14.89**	**25**	Pn	Pn	09 59 48.2	+1.7
TOLK	**Toolik Lake Re**	**14.90**	**16**	Pn	Pn	09 59 47.0	+0.4
BM01	**Burnt Mountain**	**14.90**	**25**	Pn	Pn	09 59 47.2	+0.6
EPYK	**Eagle Plains**	**16.45**	**35**	Pn	Pn	10 00 06.5	-0.2
EPYK				IAmb	IAmb	10 00 13.8	
	comp=Z,6.2nm,1.4s						
INK	**Inuvik**	**18.55**	**32**	P	P	10 00 31.4	-1.1
INK				IAmb	IAmb	10 00 44.0	
	comp=Z,1.5nm,1.1s						
PEB1	**Petropavlovsk-**	**24.33**	**284**	P	P	10 01 32.9	-0.6

*JMA **19** 09:56:27.3±0.1, 24°.78N×122°.47E, h0km, M2.1*
*TAP **19** 09:56:27.0, 24°.87N×122°.42E, h5km, ML3.0, D*
ISC 19 09:56:26.0±1.3, 24°.81N±0°.04×122°.56E±0°.03, h8km±10km, n63, σ0°67/93, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.50**	**136**	P	**Pn**	**09 56 38.2**	**-1.3**
JYNG				*e*S	**Sb**	**09 56 46.2**	**+1.7**
YOJ	**Yonaguni jima**	**0.54**	**131**	P	**Pn**	**09 56 39.0**	**-1.0**
YOJ				S	**Sn**	**09 56 47.0**	**-2.2**
TWB1	**Santiao Chiao**	**0.56**	**291**	*i* P	**Pg**	**09 56 36.4**	**-0.4**
	baz=290						
TWB1				*i* S	**Sg**	**09 56 43.1**	**-0.9**
	baz=290						
EGS		**0.57**	**273**	*i* P	**Pg**	**09 56 37.1**	**0.0**
	baz=267						
EGS				*e*S	**Sg**	**09 56 44.6**	**-0.1**
	baz=267						
NTC	**Toucheng**	**0.67**	**274**	*i* P	**Pg**	**09 56 39.0**	**+0.1**
	baz=269						
TWC	**Suao**	**0.68**	**253**	*i* P	**Pg**	**09 56 39.4**	**+0.3**
	baz=242						
TWC				*i* S	**Sg**	**09 56 47.7**	**-0.3**
	baz=242						
SXI1	**Grass Mountain**	**0.68**	**294**	P	**Pg**	**09 56 39.2**	**0.0**
	baz=296						
TIPB	**Shuangxi**	**0.69**	**283**	*i* P	**Pg**	**09 56 39.4**	**+0.1**
	baz=282						
NWF	**Wu-fen Shan**	**0.76**	**290**	*i* P	**Pg**	**09 56 40.7**	**+0.2**
	baz=290						
NWF				S	**Sg**	**09 56 50.7**	**+0.3**
	baz=290						
WFSB	**Wu-fen Shan**	**0.76**	**290**	P	**Pg**	**09 56 40.9**	**+0.3**
	baz=290						
NDS	**Dongshan**	**0.79**	**257**	P	**Pg**	**09 56 41.4**	**+0.1**
	baz=250						
NDS				S	**Sg**	**09 56 51.3**	**-0.2**
	baz=250						
TNOU	**National Taiwa**	**0.79**	**295**	*i* P	**Pg**	**09 56 41.3**	**0.0**
	baz=297						
EWUT	**Wuta**	**0.80**	**243**	P	**Pb**	**09 56 41.9**	**-0.4**
	baz=234						
EWUT				S	**Sg**	**09 56 52.4**	**+0.5**
	baz=234						
TWE	**Neicheng**	**0.82**	**264**	*i* P	**Pg**	**09 56 41.9**	**+0.1**
	baz=257						
TWE				S	**Sg**	**09 56 52.5**	**0.0**
	baz=257						
ENA	**Nanau**	**0.84**	**243**	*i* P	**Pg**	**09 56 42.4**	**+0.2**
	baz=234						
ENA				*i* S	**Sg**	**09 56 53.1**	**0.0**
	baz=234						
FUSB	**Fushanzhiwuyua**	**0.89**	**267**	P	**Pg**	**09 56 42.7**	**-0.5**
	baz=262						
FUSB				*e*S	**Sb**	**09 56 55.8**	**0.0**
	baz=262						
TWA	**Mucha**	**0.91**	**281**	P	**Pg**	**09 56 43.3**	**-0.1**
	baz=279						
ENTT	**Nioudou**	**0.92**	**259**	*i* P	**Pg**	**09 56 43.7**	**0.0**
	baz=253						
ENTT				*i* S	**Sg**	**09 56 55.5**	**-0.3**
	baz=253						
PCYT	**Pengchaiyu**	**0.93**	**331**	P	**Pg**	**09 56 43.7**	**-0.2**
	baz=339						
NHDH	**Xindian Distri**	**0.95**	**279**	P	**Pb**	**09 56 44.8**	**0.0**
	baz=277						
YM08	**YM08**	**0.96**	**293**	P	**Pg**	**09 56 44.8**	**+0.4**
	baz=294						
YM01	**YM01**	**0.96**	**290**	P	**Pg**	**09 56 44.0**	**-0.5**
	baz=291						
NWLT	**Wulai**	**0.96**	**268**	*i* P	**Pg**	**09 56 44.2**	**-0.4**
	baz=264						
NDT	**Datong Townshi**	**0.98**	**258**	*i* P	**Pg**	**09 56 44.9**	**+0.1**
	baz=252						
NDT				S	**Sg**	**09 56 57.0**	**-0.5**
	baz=252						
LATG	**Datong**	**0.98**	**254**	P	**Pg**	**09 56 44.8**	**-0.1**
	baz=247						
LATG				S	**Sb**	**09 56 58.6**	**0.0**
	baz=247						
TWY	**Chenhua**	**0.99**	**298**	P	**Pg**	**09 56 45.3**	**+0.3**
	baz=300						
ANP	**Anpu**	**1.02**	**292**	P	**Pg**	**09 56 45.4**	**-0.2**
	baz=293						
NTST	**Danshui**	**1.07**	**289**	*e*P	**Pg**	**09 56 45.8**	**-0.8**
	baz=297						
TWS1	**Kuangyinshan**	**1.08**	**286**	P	**Pn**	**09 56 48.0**	**+0.5**
	baz=286						
NACB	**Ninganchiao**	**1.09**	**234**	P	**Pg**	**09 56 46.9**	**0.0**
	baz=240						
NACB				S	**Sn**	**09 57 02.2**	**-0.6**
	baz=240						
YHNB	**Yeheng**	**1.09**	**263**	P	**Pg**	**09 56 47.1**	**+0.1**
	baz=250						
YHNB				S	**Sg**	**09 57 00.8**	**-0.3**
	baz=250						
NSK	**Sanguang**	**1.10**	**263**	*i* P	**Pg**	**09 56 46.9**	**-0.3**
	baz=250						
NSK				S	**Sg**	**09 57 00.5**	**-1.1**
	baz=250						
NNSB	**Datong**	**1.14**	**251**	P	**Pg**	**09 56 47.3**	**-0.7**
	baz=244						
NNSB				S	**Sb**	**09 57 03.1**	**0.0**
	baz=244						
TWD	**Chiawan**	**1.14**	**231**	*i* P	**Pn**	**09 56 48.3**	**0.0**
	baz=234						
TWD				S	**Sn**	**09 57 04.7**	**+0.5**
	baz=234						
NNS	**Nan Shan**	**1.15**	**251**	*i* P	**Pg**	**09 56 48.0**	**-0.1**
	baz=230						
NNS				*i* S	**Sb**	**09 57 03.1**	**-0.1**
	baz=230						
ETLH	**Xiulin Townshi**	**1.16**	**239**	P	**Pn**	**09 56 48.5**	**-0.1**
	baz=231						
ETLH				S	**Sn**	**09 57 04.2**	**-0.4**
	baz=231						
IRIF	**Iriomote-Funau**	**1.16**	**114**	P	**Pn**	**09 56 51.1**	**+2.5**
FUSS	**Fushou**	**1.33**	**245**	*i* P	**Pg**	**09 56 51.4**	**-0.1**
	baz=239						
FUSS				S	**Sn**	**09 57 09.7**	**+0.6**
	baz=239						
NFF	**Wufeng Townshi**	**1.33**	**262**	P	**Pn**	**09 56 49.9**	**-1.0**
	baz=258						
WHF	**Hehuan Shan**	**1.36**	**241**	*i* P	**Pb**	**09 56 51.8**	**-0.1**
	baz=234						
WHF				S	**Sg**	**09 57 09.8**	**0.0**
	baz=234						
LIOB	**Emei**	**1.42**	**264**	*i* P	**Pg**	**09 56 53.3**	**+0.1**
	baz=250						
NSTT	**Nanjuang**	**1.43**	**263**	*i* P	**Pg**	**09 56 54.1**	**+0.6**
	baz=259						
NSTT				S	**Sg**	**09 57 13.9**	**+1.9**
	baz=259						
CHGB	**Renai**	**1.47**	**240**	P	**Pb**	**09 56 53.8**	**0.0**
	baz=233						
CHGB				S	**Sg**	**09 57 14.6**	**+1.2**
	baz=233						
OWD	**Renai**	**1.53**	**236**	*i* P	**Pb**	**09 56 54.7**	**+0.1**
	baz=230						
OWD				*e*S	**Sg**	**09 57 16.6**	**+1.5**
	baz=230						
WUSB	**Renai**	**1.55**	**238**	P	**Pb**	**09 56 55.3**	**+0.2**
	baz=231						
WHP	**Taichung City**	**1.57**	**250**	*i* P	**Pb**	**09 56 55.3**	**-0.1**
	baz=244						
VWDT	**VWDT**	**1.67**	**231**	P	**Pn**	**09 56 56.2**	**+0.6**
	baz=224						
HGSD	**Ruisui**	**1.68**	**219**	P	**Pb**	**09 56 56.5**	**-0.6**
	baz=195						
WCS	**Beigang Elemen**	**1.68**	**244**	P	**Pg**	**09 56 57.8**	**-0.6**
	baz=237						
TWQ1	**Liyutan**	**1.69**	**255**	P	**Pg**	**09 56 59.5**	**+0.9**
	baz=248						
TWQ1				*e*S	**Sb**	**09 57 19.3**	**+0.4**
	baz=248						
EHY	**Hungye**	**1.73**	**221**	*i* P	**Pn**	**09 56 56.7**	**+0.4**
	baz=212						
SMLT	**Sun Moon Lake**	**1.78**	**239**	*i* P	**Pn**	**09 56 57.8**	**+0.6**
	baz=231						
SSLB	**Suanglung**	**1.79**	**236**	P	**Pb**	**09 56 59.6**	**+0.5**
	baz=239						
SSLB				S	**Sg**	**09 57 23.1**	**-0.5**
	baz=239						
TYC	**Yuchr**	**1.80**	**240**	P	**Pg**	**09 57 00.0**	**-0.5**
	baz=233						
YULB	**Yu-li**	**1.83**	**220**	P	**Pb**	**09 56 58.7**	**-1.1**
	baz=211						
EYUL	**Yuli**	**1.85**	**218**	*e*P	**Pb**	**09 57 00.4**	**+0.3**
	baz=196						
FULB	**Fuli**	**1.98**	**216**	P	**Pn**	**09 56 59.2**	**-0.7**
	baz=190						
ALS	**Alishan**	**2.06**	**231**	*i* P	**Pb**	**09 57 04.1**	**+0.2**
	baz=232						
ALS				S	**Sg**	**09 57 32.9**	**+0.5**
	baz=232						
CHN5	**Tsauling**	**2.10**	**235**	*i* P	**Pb**	**09 57 04.0**	**-0.5**
	baz=208						
CHN5				S	**Sg**	**09 57 32.9**	**-0.8**
	baz=208						
EDH	**Donghe**	**2.17**	**212**	*e*P	**Pn**	**09 57 02.5**	**+0.1**
	baz=189						
CHN4	**Tsaushan**	**2.31**	**231**	*i* P	**Pb**	**09 57 07.6**	**-0.4**
	baz=205						
WTP	**Ta-pu**	**2.37**	**229**	P	**Pn**	**09 57 06.5**	**+1.2**
	baz=203						
CHN1	**Nanshi**	**2.47**	**229**	*e*P	**Pb**	**09 57 10.2**	**-0.4**
	baz=221						

*HEL **19** 09:58:36.8±0.4, 64°.63N×30°.75E, h0km, ML2.0, Explosion*
*IDC **19** 09:58:36.7±3.5, 64°.65N×31°.68E, h0km, mb1 2.9/3, mb1mx2.8/58, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=53.1km s-min=11.1km az=99.0*
*KOLA **19** 09:58:39.4, 64°.66N×30°.71E, h0km, ML2.2*
ISC 19 09:58:39.0±1.1, 64°.74N±0°.04×30°.47E±0°.05, h0km, n27, σ1°25/41, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.32**	**350**	PG	**Pg**	**09 59 02.7**	**-1.5**
	baz=163						
KU6				MSG		09 59 20.4	
	comp=Z,9.1nm,0.2s						
KU6				SG	**Sg**	**09 59 21.2**	**-0.1**
MSF	**Maaselka**	**1.32**	**334**	PG	**Pg**	**09 59 03.3**	**-1.1**
	baz=150						
MSF				SG	**Sn**	**09 59 23.1**	**+0.1**
OLKF	**Oulanka, Finla**	**1.65**	**345**	PG	**Pn**	**09 59 08.8**	**-0.4**
OLKF				SG	**Sg**	**09 59 32.1**	**+0.1**
OUL	**Oulu**	**1.98**	**282**	PG	**Pb**	**09 59 14.9**	**-1.1**
	baz=94						
OUL				SG	**Sg**	**09 59 42.2**	**-0.4**
OUF	**Merijarvi**	**2.51**	**264**	PG	**Pn**	**09 59 22.4**	**+1.4**
	baz=76						
OUF				MSG		09 59 54.0	
	comp=Z,13nm,0.2s						
OUF				SG	**Sb**	**09 59 57.0**	**+0.8**
RNF	**Rovaniemi**	**2.63**	**317**	PG	**Pb**	**09 59 26.5**	**-0.5**
	baz=131						
RNF				SG	**Sb**	**10 00 01.0**	**+1.1**
OBF0	**Syolatti, Pyha**	**2.70**	**268**	PG	**Pb**	**09 59 27.1**	**-1.0**
OBF0				SG	**Sb**	**10 00 03.3**	**+1.6**
SUF	**Sumiainen**	**2.79**	**225**	PG	**Pn**	**09 59 26.5**	**+1.6**
SUF				MSG		09 59 59.5	
	comp=Z,5.6nm,0.2s						
TOF	**Tornio**	**2.90**	**300**	PG	**Pb**	**09 59 32.9**	**+1.3**
TOF				MSG		10 00 06.7	
	comp=Z,3.7nm,0.2s						
TOF				SB	**Sb**	**10 00 07.5**	**-0.1**
VRF	**Varrio**	**3.04**	**354**	PB	**Pn**	**09 59 29.6**	**+1.2**
VRF				MSG		10 00 09.8	
	comp=Z,4.4nm,0.2s						
VRF				SG	**Sb**	**10 00 13.1**	**+1.4**
APA0	**Apatity Array**	**3.06**	**18**	S	**Sn**	**10 00 05.0**	**-0.7**
APA	**Apatity**	**3.08**	**21**	S	**Sn**	**10 00 05.1**	**-1.3**
KALU	**Kalix**	**3.19**	**294**	SG	**Sg**	**10 00 21.6**	**+0.1**
KAF	**Kangasniemi**	**3.23**	**217**	PG	**Pn**	**09 59 33.7**	**+2.7**
LVZ	**Lovozero**	**3.59**	**26**	S	**Sn**	**10 00 18.7**	**-0.3**
KEF	**Keuruu**	**3.60**	**227**	PB	**Pn**	**09 59 36.7**	**+0.7**
PAJU	**Pajala**	**3.79**	**311**	SG	**Sg**	**10 00 40.9**	**+0.1**
VAF	**Ylistaro**	**3.85**	**247**	PG	**Pb**	**09 59 47.8**	**+0.1**
FIA0	**FINESS Array S**	**3.86**	**213**	PB	**Pn**	**09 59 41.8**	**+2.2**
FINES	**FINESS Array B**	**3.86**	**213**	Pn	**Pn**	**09 59 38.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=5.4						
FINES				Pg	**Pb**	**09 59 48.7**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=37,slow=14,SNR=7.1						
FINES				Sn	**Sn**	**10 00 22.9**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=37,slow=24,SNR=5.4						
FINES				Lg	Lg	10 00 37.8	
	comp=Z,1.9nm,0.3s,baz=33,slow=31,SNR=9.3						
ERTU	**Ertsjaerv**	**3.89**	**302**	PB	**Pn**	**09 59 42.7**	**+2.8**
	baz=115						
HEF	**Hetta**	**4.58**	**327**	PG	**Pb**	**09 59 59.4**	**-0.7**
TERR	**Teriberka**	**4.84**	**20**	S	**Sn**	**10 00 48.5**	**-1.1**
PRVG	**Vayda Guba**	**5.08**	**7**	P	**Pn**	**09 59 56.9**	**+0.7**
PRVG				S	**Sn**	**10 00 54.6**	**-0.8**
ARCES	**ARCESS Array B**	**5.19**	**340**	Pn	**Pn**	**09 59 57.3**	**-0.5**
	baz=154,slow=13,SNR=28						
ARCES				Sn	**Sn**	**10 00 56.4**	**-1.9**
	baz=153,slow=22,SNR=1.3						
ARCES				Lg	Lg	10 01 19.0	
	baz=153,slow=30,SNR=9.4						
ARCES	**ARCESS Array B**	**5.19**	**340**	P	**Pn**	**09 59 58.4**	**+0.5**
ARCES				S	**Sn**	**10 00 57.8**	**-0.5**
NOA	**NORSAR Array B**	**9.53**	**256**	Pn	**Pn**	**10 00 57.5**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=56,slow=14,SNR=1.8						

*IDC **19** 10:01:50.9±2.3, 21°.22S×179°.18W, h614km±23km, mb3.3/6, mb1 3.5/9, mb1mx3.1/48, mbtmp4.4/9, Error ellipse: s-maj=45.9km s-min=24.1km az=45.0*
*NEIC **19** 10:01:51.4±1.0, 21°.4S±0°.1×179°.2W±0°.2, h606km±6km, mb4.0/31, Error ellipse: s-maj=24.3km s-min=19.9km az=116.0*
ISC 19 10:01:50.8±1.7, 21°.5S±0°.1×179°.2W±0°.2, h600km, n50, σ0°92/52, mb4.0/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.54**	**325**	P	**P**	**10 03 20.2**	**-0.2**
	14nm,0.3s,baz=151,slow=7.8,SNR=18						
MSVF	**Nonsavu**	**4.54**	**325**	P	**P**	**10 03 20.0**	**-0.3**
MARNC	**Mare, Loyalty**	**11.86**	**268**	P	**P**	**10 04 29.0**	**+0.9**
PINNC	**Pines Island,**	**12.40**	**262**	P	**P**	**10 04 34.2**	**+0.7**
DZM	**Mont Dzumac**	**13.32**	**265**	P	**P**	**10 04 43.2**	**+0.2**
	0.7nm,0.3s,baz=126,slow=20,SNR=13						
DZM	**Mont Dzumac**	**13.32**	**265**	P	**P**	**10 04 42.3**	**-0.7**
SANVU	**Saraoutou**	**14.20**	**293**	P	**P**	**10 04 51.3**	**-0.4**
KOUNC	**Koumac, New Ca**	**15.41**	**271**	P	**P**	**10 05 01.4**	**-1.4**
URZ	**Urewera**	**17.00**	**190**	P	**P**	**10 05 18.2**	**+1.2**
	1.9nm,0.3s,baz=244,slow=2.3,SNR=13						
URZ				S	**S**	**10 08 00.7**	**-4.2**
	0.3nm,0.3s,baz=290,slow=7.3,SNR=1.0						
BKZ	**Black Stump Fm**	**17.99**	**191**	P	**P**	**10 05 26.4**	**+0.2**
EIDS	**Eidsvold**	**27.48**	**256**	P	**P**	**10 06 52.0**	**+1.2**
ARMA	**Armidale**	**27.60**	**245**	P	**P**	**10 06 51.9**	**0.0**
ARMA				IAmb	IAmb	10 06 54.9	
	comp=Z,4.6nm,0.8s						
CTA	**Charters Tower**	**32.26**	**266**	P	**P**	**10 07 32.2**	**+0.3**
	comp=Z,6.8nm,0.4s,baz=88,slow=11,SNR=34						
CTAO	**Charters Tower**	**32.26**	**266**	P	**P**	**10 07 32.2**	**+0.3**
TOO	**Toolangi**	**34.38**	**234**	P	**P**	**10 07 50.3**	**+0.8**
TOO				IAmb	IAmb	10 07 52.1	
	comp=Z,3.0nm,0.7s						
STKA	**Stephens Creek**	**36.32**	**245**	P	**P**	**10 08 06.7**	**+1.1**
	comp=Z,2.7nm,0.4s,baz=91,slow=7.8,SNR=19						
STKA	**Stephens Creek**	**36.32**	**245**	P	**P**	**10 08 06.9**	**+1.3**
COEN	**Coen**	**36.51**	**276**	P	**P**	**10 08 07.4**	**+0.1**
BBOO	**Buckleboo**	**41.07**	**244**	P	**P**	**10 08 44.5**	**+0.7**
BBOO				IAmb	IAmb	10 08 45.1	
	comp=Z,5.3nm,0.7s						
AS17	**Alice Springs**	**43.09**	**258**	P	**P**	**10 09 00.0**	**+0.3**
AS07	**Alice Springs**	**43.11**	**258**	P	**P**	**10 09 00.2**	**+0.2**
AS19	**Alice Springs**	**43.11**	**258**	P	**P**	**10 09 00.1**	**+0.2**
AS09	**Alice Springs**	**43.13**	**258**	P	**P**	**10 09 00.2**	**+0.1**
WR0	**Warramunga Arr**	**43.14**	**263**	P	**P**	**10 08 59.5**	**-0.6**
AS04	**Alice Springs**	**43.15**	**258**	P	**P**	**10 09 00.3**	**+0.1**
AS15	**Alice Springs**	**43.17**	**258**	P	**P**	**10 09 00.5**	**+0.1**
AS31	**Alice Springs**	**43.17**	**258**	P	**P**	**10 09 00.3**	**-0.1**
ASAR	**Alice Springs**	**43.17**	**258**	P	**P**	**10 09 00.5**	**+0.1**
	comp=Z,6.0nm,0.6s,baz=96,slow=7.8,SNR=142						
ASAR				PcP	**PcP**	**10 10 34.5**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=96,slow=4.0,SNR=2.0						
ASAR	**Alice Springs**	**43.17**	**258**	P	**P**	**10 09 00.1**	**-0.2**
WR8	**Warramunga Arr**	**43.18**	**263**	P	**P**	**10 08 59.8**	**-0.7**
WR8				IAmb	IAmb	10 09 01.0	
	comp=Z,3.9nm,1.0s						
WR7	**Warramunga Arr**	**43.20**	**263**	IAmb	IAmb	10 09 00.1	
	comp=Z,3.5nm,0.9s						
WR7				P	**P**	**10 09 00.5**	**-0.2**
WR5	**Warramunga Arr**	**43.24**	**263**	P	**P**	**10 09 00.4**	**-0.6**
WR5				IAmb	IAmb	10 09 00.5	
	comp=Z,2.9nm,0.8s						
WC3	**Warramunga Arr**	**43.29**	**263**	P	**P**	**10 09 00.6**	**-0.7**
WC3				IAmb	IAmb	10 09 01.4	
	comp=Z,6.2nm,0.9s						
WB0	**Warramunga Arr**	**43.31**	**264**	P	**P**	**10 09 01.0**	**-0.4**
WB0				I

BBOO					IAmb	IAmb	10 13 39.2	
	comp=Z,3.3nm,0.7s							
WR0	**Warramunga Arr**	**49.65**	**257**		P	**P**	**10 13 46.4**	**-0.7**
WR8	**Warramunga Arr**	**49.68**	**257**		P	**P**	**10 13 46.9**	**-0.5**
WR8					IAmb	IAmb	10 13 47.0	
	comp=Z,4.9nm,1.2s							
WR7	**Warramunga Arr**	**49.71**	**257**		P	**P**	**10 13 47.1**	**-0.4**
WR7					IAmb	IAmb	10 14 03.3	
	comp=Z,4.7nm,1.2s							
WR4	**Warramunga Arr**	**49.77**	**257**		P	**P**	**10 13 46.8**	**-1.2**
WR4					IAmb	IAmb	10 13 56.3	
	comp=Z,3.9nm,1.2s							
WB0	**Warramunga Arr**	**49.80**	**258**		P	**P**	**10 13 47.9**	**-0.3**
WB0					IAmb	IAmb	10 14 10.9	
	comp=Z,6.7nm,1.5s							
WB8	**Warramunga Arr**	**49.81**	**257**		P	**P**	**10 13 48.1**	**-0.1**
WB8					IAmb	IAmb	10 13 50.0	
	comp=Z,5.9nm,1.4s							
WB2	**Warramunga Arr**	**49.82**	**257**		P	**P**	**10 13 48.0**	**-0.4**
WRAB	**Tennant Creek**	**49.83**	**257**		P	**P**	**10 13 47.4**	**-1.1**
WRA	**Warramunga Arr**	**49.84**	**257**		P	**P**	**10 13 47.6**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=95,slow=7.0,SNR=21							
AS18	**Alice Springs**	**49.97**	**252**		P	**P**	**10 13 48.8**	**-0.7**
AS07	**Alice Springs**	**49.98**	**252**		P	**P**	**10 13 49.1**	**-0.5**
AS08	**Alice Springs**	**49.99**	**252**		P	**P**	**10 13 49.1**	**-0.6**
AS03	**Alice Springs**	**50.03**	**252**		P	**P**	**10 13 49.4**	**-0.6**
AS31	**Alice Springs**	**50.04**	**252**		P	**P**	**10 13 49.4**	**-0.7**
AS31					IAmb	IAmb	10 13 49.9	
	comp=Z,2.9nm,0.7s							
ASAR	**Alice Springs**	**50.04**	**252**		P	**P**	**10 13 49.4**	**-0.7**
	comp=Z,10nm,0.5s,baz=89,slow=8.3,SNR=220							
FORT	**Forrest**	**55.24**	**244**		P	**P**	**10 14 28.5**	**+0.1**
KNRA	**Kununurra**	**55.61**	**262**		P	**P**	**10 14 31.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**58.22**	**258**		P	**P**	**10 14 50.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=90,slow=5.1,SNR=1.0							
FITZ	**Fitzroy Crossi**	**58.22**	**258**		P	**P**	**10 14 49.5**	**-0.3**
PSAA1	**Pilbara Seismi**	**63.16**	**254**		P	**P**	**10 15 24.2**	**+0.8**
PSAC3	**Pilbara Seismi**	**63.16**	**254**		P	**P**	**10 15 23.6**	**+0.2**
MBWA	**Marble Bar**	**63.31**	**254**		P	**P**	**10 15 25.0**	**+0.6**

*IDC **19** 10:05:30.8±0.5, 35°.54N×140°.71E, h0km, mb4.0/24, mb1 4.2/26, mb1mx4.1/66, mbtmp4.1/26, ML3.3/1, MS3.4/5, Ms1 3.5/5, ms1mx2.8/96, Error ellipse: s-maj=16.5km s-min=11.6km az=96.0*

*MOS **19** 10:05:33.1±1.4, 35°.68N×140°.93E, h31km, mb4.5/16, Error ellipse: s-maj=9.0km s-min=5.6km az=93.8*

*NEIC **19** 10:05:36.7±1.9, 35°.66N±0°.04×140°.72E±0°.08, h36km±5km, mb4.5/39, Mwr4.2/12, Error ellipse: s-maj=9.0km s-min=5.5km az=89.0*

*NEIC **19** 10:05:36.7, 35°.66N×140°.72E, h39km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.55; Mθθ=1.77; Mϕϕ=1.22; Mrθ=-0.11; Mrϕ=1.79; Mθϕ=0.94; Fault plane solution: M₀2.56000×10¹⁵ NP1:φ₁251.95000°, δ66.48000°, λ-169.05000°. NP2:φ₂157.54000°, δ79.97000°, λ-23.91000°. Principal axes: T 2.6815, Plg9.0000°, Azm207.0000°; N -0.2729, Plg64.0000°, Azm316.0000°; P -2.4086, Plg24.0000°, Azm113.0000°;*

*JMA **19** 10:05:36.5±0.1, 35°.73N×140°.70E, h49km±2km, M4.3 Broadband fault plane solution: P waves. NP1: φs44.00000°, δ77.00000°, λ102.00000°. NP2: φs179.00000°, δ18.00000°, λ47.00000°. Principal axes: T Plg56.0000°, Azm330.0000°; N Plg12.0000°, Azm221.0000°; P Plg31.0000°, Azm124.0000°;*

JMA Felt II J1.

*NIED **19** 10:05:36.5, 35°.73N×140°.70E, h49km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.40; Mθθ3.24; Mϕϕ-3.64; Mrθ0.28; Mϕθ0.37; Mrϕ2.17; Fault plane solution: M₀3.96000×10¹⁵ NP1: φs129.00000°, δ66.00000°, λ-10.00000°. NP2: φs223.00000°, δ81.00000°, λ-156.00000°.*

ISC 19 10:05:35.1±0.4, 35°.63N±0°.04×140°.94E±0°.05, h33km, n154, σ2°.03/154, mb4.3/51, 9C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.10**	**316**	⇑P	**Sb**	**10 05 44.2**	**-0.6**
JSMT	**Sammumatsuo**	**0.40**	**271**	⇓P	**Pn**	**10 05 45.3**	**+0.7**
JIHU	**Itakohorinouch**	**0.47**	**315**	P	**Pn**	**10 05 45.7**	**+0.1**
JCN	**Nagara**	**0.64**	**251**	P	**Pb**	**10 05 48.6**	**+0.7**
JCN				*e*S	**Sn**	**10 05 57.1**	**+0.3**
BSO4	**Boso 4**	**0.81**	**218**	⇑P	**Pb**	**10 05 51.5**	**+0.8**
JYT	**Yasato**	**0.85**	**315**	⇓P	**Pn**	**10 05 49.4**	**-1.3**
JYT				*e*S	**Sn**	**10 05 58.8**	**-3.2**
JYT	**Yasato**	**0.85**	**315**		**Pn**	**10 05 49.2**	**-1.5**
JYT					**Sn**	**10 05 58.8**	**-3.2**
BSO3	**Boso 3**	**0.90**	**203**	P	**Pb**	**10 05 53.0**	**+0.9**
BSO1	**Boso 1**	**0.98**	**178**	P	**Pb**	**10 05 54.9**	**+1.7**
JHO	**Hitachi**	**1.02**	**343**	⇓P	**Pn**	**10 05 53.0**	**-0.1**
JAG	**Ashikaga**	**1.44**	**304**	⇓P	**Pn**	**10 05 57.0**	**-1.9**
JMM	**Marumori**	**2.23**	**357**		**Pn**	**10 06 10.8**	**+1.1**
MJAR	**Matsushiro Arr**	**2.39**	**293**	Pn	**Pn**	**10 06 10.9**	**-1.1**
	7.8nm,0.3s,baz=128,slow=9.8,SNR=125						
MJAR				LR	LR	10 07 12.5	
	comp=Z,633nm,20.1s,baz=89,slow=45						
MJAR	**Matsushiro Arr**	**2.39**	**293**	P	**Pn**	**10 06 11.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.39**	**293**	Pn	**Pn**	**10 06 11.1**	**-0.8**
MAJO	**Matsushiro**	**2.39**	**293**	*d*iP	**Pn**	**10 06 11.9**	**-0.1**
MAJO	**Matsushiro**	**2.39**	**293**	Pn	**Pn**	**10 06 11.6**	**-0.4**
MJB9	**Matsu-Tunnel**	**2.40**	**293**	Pn	**Pn**	**10 06 11.6**	**-0.4**
JHJ2	**Mitsune**	**2.68**	**201**	Pn	**Pn**	**10 06 17.0**	**+1.0**
JHJ	**Hachijo jima 2**	**2.68**	**201**	Pn	**Pn**	**10 06 16.1**	**+0.1**
	123nm,0.3s,baz=339,slow=11,SNR=49						
JHJ				Sn	**Sn**	**10 06 46.2**	**-1.1**
	215nm,0.3s,baz=235,slow=22,SNR=9.2						
JGF	**Kuroka**	**2.92**	**270**	Pn	**Pn**	**10 06 19.7**	**+0.4**
INU	**Inuyama**	**3.21**	**266**	Pn	**Pn**	**10 06 22.1**	**-1.1**
JSD	**Sado**	**3.22**	**319**	Pn	**Pn**	**10 06 23.8**	**+0.5**
JTM	**Tenmabayashi**	**5.15**	**1**	Pn	**Pn**	**10 06 50.3**	**+0.5**
JHS	**Saijyo**	**6.43**	**267**	Pn	**Pn**	**10 07 05.2**	**-2.3**
ERM	**Erimo**	**6.60**	**15**	*de*P	**Pn**	**10 07 10.4**	**+0.6**
ERM				pmax	pmax		
	comp=Z,44nm,1.0s						
ERM	**Erimo**	**6.60**	**15**	Pn	**Pn**	**10 07 09.4**	**-0.3**
JEW	**Eniwo**	**7.21**	**3**		**Pn**	**10 07 18.5**	**+0.4**
NMR	**Nemuro--Hokkai**	**8.56**	**24**	*e*P	**Pn**	**10 07 34.6**	**-2.1**
NMR				*e*S	**Sn**	**10 09 04.2**	**-7.9**
JKA	**Kamikawa-asahi**	**8.57**	**8**	Pn	**Pn**	**10 07 36.0**	**-0.7**
ASAJ	**Asahikawa**	**8.57**	**8**	Pn	**Pn**	**10 07 34.6**	**-2.1**
	comp=Z,3.4nm,0.3s,baz=241,slow=9.8,SNR=31						
ASAJ				Sn	**Sn**	**10 09 07.2**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=26,slow=30,SNR=1.1						
ASAJ	**Asahikawa**	**8.57**	**8**	P	**Pn**	**10 07 36.0**	**-0.7**
JCJ	**Chichijima**	**8.58**	**173**	Pn	**Pn**	**10 07 35.9**	**-1.1**
	comp=Z,39nm,0.3s,baz=295,slow=21,SNR=38						
JCJ				Sn	**Sn**	**10 09 05.9**	**-6.7**
	comp=Z,15nm,0.3s,baz=230,slow=24,SNR=2.6						
JCJ	**Chichijima**	**8.58**	**173**	Pn	**Pn**	**10 07 36.1**	**-0.9**
JNU	**Nakatsue**	**8.69**	**256**	LR	LR	10 11 16.2	
	comp=Z,431nm,19.2s,baz=139,slow=41						
GLVR	**Golovnino**	**8.83**	**22**	P	**Pn**	**10 07 38.7**	**-1.6**
GLVR				*e*S	**Sn**	**10 09 12.6**	**-6.0**
RUSJ	**Misakicho**	**9.08**	**20**	*e*P	**Pn**	**10 07 44.1**	**+0.3**
RUSJ				*e*S	**Sn**	**10 09 18.9**	**-5.9**
YUK	**Yuzh-Kuril'sk**	**9.20**	**23**	P	**Pn**	**10 07 44.2**	**-1.2**
YUK				S	**Sn**	**10 09 20.1**	**-7.7**
YUK				pmax	pmax		
	comp=Z,87nm,0.4s						
SHO	**Shikotan**	**9.39**	**27**	*e*P	**Pn**	**10 07 45.8**	**-2.2**
SHO				pmax	pmax		
	comp=N,7.0nm,0.4s						
SHO				pmax	pmax		
	comp=E,12nm,0.4s						
SHO				pmax	pmax		
	comp=Z,14nm,0.4s						
KSRS	**Korea Array**	**10.63**	**284**	Pn	**Pn**	**10 08 06.8**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=99,slow=14,SNR=15						
KSRS				LR	LR	10 12 08.9	
	comp=Z,108nm,21.7s,baz=105,slow=38						
KSAR	**Wonju Array Be**	**10.66**	**284**	P	**Pn**	**10 08 03.6**	**-1.8**
KSAR	**Wonju Array Be**	**10.66**	**284**	Pn	**Pn**	**10 08 03.6**	**-1.8**
KUR	**Kuril'sk**	**10.94**	**27**	P	**Pn**	**10 08 09.5**	**+0.3**
KUR				*e*S	**Sn**	**10 10 03.0**	**-7.4**
KUR				smax	smax		
	comp=N,31nm,0.8s						
KUR				smax	smax		
	comp=E,43nm,0.8s						
USRK	**Ussuriysk Ar.**	**10.97**	**324**	Pn	**Pn**	**10 08 11.2**	**+1.6**
	baz=104,slow=12,SNR=7.8						
YSS	**Yuzh-Sakhalins**	**11.39**	**6**	*e*P	**Pn**	**10 08 12.6**	**-2.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**15.17**	**336**	Pn	**Pn**	**10 09 04.2**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=163,slow=14,SNR=2.4						
KLR	**Kul'dur**	**15.17**	**336**	*e*P	**Pn**	**10 09 05.1**	**-1.7**
KLR				pmax	pmax		
	comp=Z,6.0nm,1.9s						
ZEA	**Zeya**	**20.49**	**336**	*e*P	**P**	**10 10 07.1**	**-2.9**
ZEA				*e*		10 10 17.1	
PETK	**Petropavlovsk-**	**21.09**	**29**	P	**P**	**10 10 18.2**	**+1.7**
	comp=Z,1.8nm,0.9s,baz=229,slow=10,SNR=1.1						
MA2	**Magadan**	**24.80**	**12**	P	**P**	**10 10 55.6**	**+1.8**
	comp=Z,4.5nm,0.6s,baz=182,slow=8.1,SNR=7.8						
MA2	**Magadan**	**24.80**	**12**	⇑*i*P	**P**	**10 10 55.2**	**+1.4**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MA2	**Magadan**	**24.80**	**12**	P	**P**	**10 10 55.0**	**+1.2**
MA2				IAmb	IAmb	10 10 56.7	
	comp=Z,9.7nm,1.1s						
ENH	**Enshi**	**26.86**	**268**	P	**P**	**10 11 10.3**	**-2.5**
ENH				IAmb	IAmb	10 11 18.4	
	comp=Z,19nm,1.1s						
YAK	**Yakutsk**	**27.36**	**348**	⇓*e*P	**P**	**10 11 17.9**	**+1.1**
YAK				pmax	pmax		
	comp=Z,19nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**27.80**	**118**	T	T	10 40 41.5	
	baz=309,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**27.80**	**118**	T	T	10 40 40.4	
	baz=309,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**27.82**	**118**	T	T	10 40 41.3	
	baz=309,slow=75,SNR=36						
ULN	**Ulaanbaatar**	**27.85**	**307**	⇓*e*P	**P**	**10 11 21.8**	**+0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.5s						
SEY	**Seymchan**	**28.24**	**11**	P	**P**	**10 11 27.2**	**+2.5**
	comp=Z,2.7nm,0.7s,baz=84,slow=23,SNR=3.1						
SONM	**Songino Array**	**28.27**	**306**	P	**P**	**10 11 24.5**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=94,slow=9.7,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**28.46**	**120**	T	T	10 41 19.0	
	baz=312,slow=75,SNR=57						
H11S3	**WAKE ISLAND Hy**	**28.46**	**120**	T	T	10 41 26.5	
	baz=312,slow=75,SNR=54						
H11S2	**WAKE ISLAND Hy**	**28.47**	**120**	T	T	10 41 20.8	
	baz=312,slow=75,SNR=56						
BOD	**Bodaibo**	**28.52**	**329**	*e*P	**P**	**10 11 30.7**	**+3.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIXI	**Tiksi**	**36.63**	**354**	P	**P**	**10 12 38.1**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=89,slow=23,SNR=6.8						
TIXI	**Tiksi**	**36.63**	**354**	⇑*e*P	**P**	**10 12 37.7**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.0s						
TIXI	**Tiksi**	**36.63**	**354**	IAmb	IAmb	10 12 42.3	
	comp=Z,2.0nm,0.8s						
GOMU	**GeErMu**	**37.09**	**285**	P	**P**	**10 12 39.3**	**-3.4**
GOMU				pP	pP	10 12 43.1	-9.3
GOMU				sP	sP	10 12 44.5	-12
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GOMU				pmax	pmax		
	comp=Z,90nm,5.5s						
SIJI	**Sorong**	**37.42**	**196**	P	**P**	**10 12 43.3**	**-1.9**
	comp=Z,7.5nm,0.6s,baz=4.4,slow=7.9,SNR=3.9						
CMAR	**Chiang Mai Arr**	**40.78**	**256**	P	**P**	**10 13 11.8**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=49,slow=7.3,SNR=1.9						
ZAA0	**Zalesovo Array**	**42.59**	**314**	P	**P**	**10 13 26.8**	**-0.9**
ZALV	**Zalesovo Beam**	**42.59**	**314**	P	**P**	**10 13 27.4**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=79,slow=7.7,SNR=7.9						
ZALV	**Zalesovo Beam**	**42.59**	**314**	*i* P	**P**	**10 13 28.2**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NRIK	**Noril'sk**	**44.38**	**336**	⇓*e*P	**P**	**10 13 42.4**	**+0.4**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**44.55**	**303**	⇑*i*P	**P**	**10 13 43.4**	**-0.3**
MK31	**Makanchi Array**	**44.55**	**303**	P	**P**	**10 13 42.2**	**-1.4**
MK31				IAmb	IAmb	10 13 55.5	
	comp=Z,4.2nm,0.8s						
MKAR	**Makanchi Array**	**44.55**	**303**	P	**P**	**10 13 43.0**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=91,slow=10,SNR=16						
MKAR	**Makanchi Array**	**44.55**	**303**	P	**P**	**10 13 43.0**	**-0.7**
MKAR	**Makanchi Array**	**44.55**	**303**	P	**P**	**10 13 42.0**	**-1.7**
MAKZ	**Makanchi**	**44.76**	**303**	P	**P**	**10 13 45.2**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAKZ	**Makanchi**	**44.76**	**303**	P	**P**	**10 13 45.2**	**-0.2**
MAKZ				IAmb	IAmb	10 13 57.3	
	comp=Z,5.1nm,0.9s						
KURK	**Kurchatov**	**46.51**	**309**	*c iP*	**P**	**10 13 58.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**46.51**	**309**	P	**P**	**10 13 57.9**	**-1.2**
KURK				IAmb	IAmb	10 14 22.4	
	comp=Z,8.1nm,0.8s						
KURBB	**Kurchatov Arra**	**46.57**	**309**	P	**P**	**10 13 59.2**	**-0.4**
	comp=Z,5.9nm,0.9s,baz=85,slow=8.1,SNR=21						
K20K	**Telida**	**47.70**	**34**	P	**P**	**10 14 10.9**	**+2.6**
K20K				IAmb	IAmb	10 14 28.0	
	comp=Z,7.5nm,1.2s						
P19K	**Oil Pt**	**48.01**	**39**	P	**P**	**10 14 11.8**	**+1.1**
IMAR	**Indian Mountai**	**48.05**	**30**	P	**P**	**10 14 12.5**	**+1.6**
TARG	**Taragay, Kyrgy**	**48.69**	**297**	P	**P**	**10 14 16.7**	**0.0**
TARG				IAmb	IAmb	10 14 32.8	
	comp=Z,9.1nm,1.3s						
MTN	**Manton Dam**	**49.10**	**193**	P	**P**	**10 14 19.8**	**+0.4**
COEN	**Coen**	**49.37**	**177**	P	**P**	**10 14 22.3**	**+0.8**
H23K	**Yukon River**	**49.76**	**30**	P	**P**	**10 14 26.2**	**+2.1**
H23K				IAmb	IAmb	10 14 44.1	
	comp=Z,3.9nm,1.1s						
BOOM	**Boomskoye usch**	**49.84**	**299**	P	**P**	**10 14 24.5**	**-0.6**
BOOM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BOOM	**Boomskoye usch**	**49.84**	**299**	P	**P**	**10 14 24.5**	**-0.6**
BOOM				IAmb	IAmb	10 14 44.7	
	comp=Z,3.0nm,0.8s						
NEA2	**Nenana**	**49.95**	**32**	P	**P**	**10 14 28.3**	**+2.9**
NEA2				IAmb	IAmb	10 14 36.6	
	comp=Z,9.8nm,1.4s						
MDM	**Murphy Dome**	**50.30**	**31**	P	**P**	**10 14 30.2**	**+2.1**
MDM				IAmb	IAmb	10 14 41.9	
	comp=Z,4.4nm,0.9s						
WRH	**Wood River Hil**	**50.37**	**32**	P	**P**	**10 14 30.5**	**+1.9**
WRH				IAmb	IAmb	10 14 39.8	
	comp=Z,8.9nm,1.4s						
IL31		**50.88**	**32**	P	**P**	**10 14 32.6**	**+0.2**
IL31				IAmb	IAmb	10 14 53.4	
	comp=Z,3.5nm,1.1s						
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**10 14 34.3**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=271,slow=6.3,SNR=15						
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**10 14 33.4**	**+0.9**
BRVK	**Borovoye**	**51.30**	**313**	⇓*e*P	**P**	**10 14 36.5**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BMAR	**Burnt Mountain**	**51.74**	**28**	P	**P**	**10 14 40.9**	**+2.0**
RIDG	**Independent Ri**	**51.83**	**33**	P	**P**	**10 14 40.2**	**+0.5**
RIDG				IAmb	IAmb	10 14 54.3	
	comp=Z,6.1nm,1.2s						
DOT	**Dot Lake**	**52.18**	**33**	P	**P**	**10 14 43.0**	**+0.7**
SCRK	**Sand Creek**	**52.19**	**33**	P	**P**	**10 14 43.2**	**+0.8**
BMRM	**Bremner River**	**52.21**	**36**	P	**P**	**10 14 45.5**	**+3.0**
BMRM				IAmb	IAmb	10 14 57.1	
	comp=Z,7.2nm,1.1s						
KNRA	**Kununurra**	**52.32**	**195**	P	**P**	**10 14 44.5**	**+0.8**
BCAR	**Beaver Creek A**	**53.27**	**34**	P	**P**	**10 14 52.1**	**+1.8**
KK31	**Karatay Array**	**53.50**	**301**	P	**P**	**10 14 52.3**	**0.0**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KK31	**Karatay Array**	**53.50**	**301**	P	**P**	**10 14 52.3**	**0.0**
KKAR	**Karatay Array**	**53.50**	**301**	P	**P**	**10 14 52.2**	**-0.1**
KKAR	**Karatay Array**	**53.50**	**301**	P	**P**	**10 14 52.2**	**-0.1**
EPYK	**Eagle Plains**	**54.93**	**29**	P	**P**	**10 15 04.5**	**+2.1**
EPYK				IAmb	IAmb	10 15 22.6	
	comp=Z,5.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.37**	**198**	P	**P**	**10 15 06.3**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=16,slow=6.9,SNR=20						
FITZ	**Fitzroy Crossi**	**55.37**	**198**	P	**P**	**10 15 06.3**	**+0.3**
FITZ				IAmb	IAmb	10 15 07.5	
	comp=Z,3.8nm,0.7s						
WB0	**Warramunga Arr**	**55.45**	**187**	P	**P**	**10 15 06.0**	**-0.5**
WRAB	**Tennant Creek**	**55.61**	**188**	⇓*i*P	**P**	**10 15 07.3**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.7s						
WRAB	**Tennant Creek**	**55.61**	**188**	P	**P**	**10 15 07.5**	**-0.2**
WR0	**Warramunga Arr**	**55.62**	**187**	P	**P**	**10 15 07.5**	**-0.2**
WB2	**Warramunga Arr**	**55.62**	**188**	P	**P**	**10 15 07.1**	**-0.6**
WRA	**Warramunga Arr**	**55.62**	**188**	P	**P**	**10 15 07.3**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=1.1,slow=7.6,SNR=38						
WRA	**Warramunga Arr**	**55.62**	**188**	P	**P**	**10 15 07.0**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=331,slow=5.4,SNR=4.0						
INK	**Inuvik**	**55.80**	**27**	P	**P**	**10 15 09.5**	**+1.0**
INK				IAmb	IAmb	10 15 35.7	
	comp=Z,4.9nm,1.4s						
ARU	**Arti**	**57.16**	**319**	*d iP*	**P**	**10 15 17.5**	**-0.9**
ARU						10 16 11.1	
ARU						10 17 23.5	
ARU				S	**S**	**10 23 15.5**	**+4.2**
ARU				SS	**SS**	**10 27 03.2**	**+3.3**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.8s						
A36M	**Sachs Harbour**	**57.70**	**22**	P	**P**	**10 15 23.8**	**+1.9**
A36M				IAmb	IAmb	10 15 37.3	
	comp=Z,3.9nm,0.8s						
ABKAR	**Akbulak array**	**58.55**	**311**	P	**P**	**10 15 27.9**	**-0.4**
C36M	**Paulatuk**	**58.86**	**24**	P	**P**	**10 15 32.8**	**+2.7**
C36M				IAmb	IAmb	10 15 41.9	
	comp=Z,4.2nm,0.9s						
AS31	**Alice Springs**	**59.35**	**187**	P	**P**	**10 15 35.0**	**+1.0**
ASAR	**Alice Springs**	**59.35**	**188**	P	**P**	**10 15 33.9**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=12,slow=9.3,SNR=14						
ASAR	**Alice Springs**	**59.35**	**188**	P	**P**	**10 15 34.9**	**+0.9**
ASAR	**Alice Springs**	**59.35**	**188**	P	**P**	**10 15 34.9**	**+0.9**
RES	**Resolute Bay**	**64.05**	**14**	P	**P**	**10 16 05.7**	**+0.7**
RES				pmax	pmax		
	comp=Z,7.0nm,1.5s						
RES	**Resolute Bay**	**64.05**	**14**	P	**P**	**10 16 05.7**	**+0.7**
RES				IAmb	IAmb	10 16 07.2	
	comp=Z,7.1nm,1.4s						
ARCES	**ARCESS Array B**	**65.17**	**340**	P	**P**	**10 16 14.0**	**+1.5**
	comp=Z,4.0nm,1.0s,baz=49,slow=9.7,SNR=2.1						
ARCES	**ARCESS Array B**	**65.17**	**340**	P	**P**	**10 16 14.0**	**+1.5**
YKA	**Yellowknife Ar**	**65.21**	**30**	P	**P**	**10 16 14.7**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=298,slow=6.4,SNR=6.1						
YKA	**Yellowknife Ar**	**65.21**	**30**	*ce*P	**P**	**10 16 15.3**	**+2.5**
STKA	**Stephens Creek**	**67.16**	**179**	P	**P**	**10 16 25.8**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=334,slow=13,SNR=4.2						
STKA	**Stephens Creek**	**67.16**	**179**	P	**P**	**10 16 25.7**	**+0.2**
FORT	**Forrest**	**67.16**	**192**	P	**P**	**10 16 26.0**	**+0.4**
FINES	**FINESS Array B**	**69.87**	**332**	P	**P**	**10 16 43.5**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=60,slow=8.2,SNR=3.7						
FINES	**FINESS Array B**	**69.87**	**332**	P	**P**	**10 16 41.6**	**-0.6**
KBZ	**Khabaz**	**71.52**	**311**	P	**P**	**10 16 53.6**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=46,slow=5.0,SNR=3.6						
KBZ	**Khabaz**	**71.52**	**311**	⇓*e*P	**P**	**10 16 53.4**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,9.0nm,2.7s						
GNI	**Garni**	**72.24**	**307**	LR	LR	10 51 29.6	
	comp=Z,24nm,18.0s,baz=140,slow=38						
NOA	**NORSAR Array B**	**75.33**	**337**	P	**P**	**10 17 14.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=28,slow=7.6,SNR=1.8						
NVAR	**Mina Array Bea**	**76.14**	**53**	P	**P**	**10 17 22.4**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=291,slow=5.4,SNR=6.6						
PDAR	**Pinedale Array**	**78.92**	**45**	P	**P**	**10 17 37.1**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=243,slow=1.7,SNR=7.1						
TXAR	**Lajitas Array**	**91.28**	**52**	P	**P**	**10 18 39.2**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=307,slow=4.1,SNR=4.3						
ESDC	**Sonseca Array**	**98.37**	**333**	LR	LR	11 08 15.5	
	comp=Z,31nm,21.9s,baz=182,slow=38						
H03N2	**Juan Fernandez**	**147.24**	**98**	T	T	13 10 02.7	
	baz=290,slow=76,SNR=10						
H03N3	**Juan Fernandez**	**147.25**	**98**	T	T	13 09 59.2	
	baz=290,slow=76,SNR=13						
H03N1	**Juan Fernandez**	**147.25**	**98**	T	T	13 10 03.7	
	baz=290,slow=76,SNR=11						
LPAZ	**La Paz**	**147.72**	**61**	PKPbc	**PKPab**	**10 25 19.8**	**-0.1**
	comp=Z,1.3nm,0.8s,baz

mb5.0/120, Error ellipse: s-maj=13.4km s-min=8.6km az=47.0
GCMT ***19*** *10:40:49.9±0.3, 14°.11S±0°.03×165°.97E±0°.02, h17km±1km, MW4.9/91, Moment Tensor Solution. s31,c33; s91,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.92±.19; $M_{\theta\theta}$0.24±.11; $M_{\phi\phi}$2.68±.14; $M_{r\theta}$0.85±.36; $M_{\theta\phi}$-0.26±.08; $M_{r\phi}$0.24±.30; Best double couple: M_o2.93100×10^{16} NP1:ϕ_s340.00000°, δ45.00000°, λ-111.00000°. NP2: ϕ_s188.00000°, δ48.00000°, λ-70.00000°. Principal axes: T 2.7110, Plg2.0000°, Azm265.0000°; N 0.4380, Plg15.0000°, Azm355.0000°; P -3.1510, Plg75.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 10:40:52.2±0.3, 14°.30S±0°.05×166°.09E±0°.06, h35km, n408, σ0.98/393, mb4.9/95, MS4.2/31, 10C-9D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.56**	**137**			**Pn**	**10 41 16.6**	**-1.0**
SANVU	**Saraoutou**	**1.56**	**137**	P		**Pn**	**10 41 17.1**	**-0.5**
DVP	**Devils Point**	**3.95**	**150**	P		**Pn**	**10 41 52.2**	**+1.8**
RTV	**Rentapao**	**4.13**	**147**	P		**Pn**	**10 41 54.7**	**+1.8**
KOUNC	**Koumac, New Ca**	**6.45**	**195**	Pn		**Pn**	**10 42 24.9**	**+0.2**
KOUNC	**Koumac, New Ca**	**6.45**	**195**	P		**Pn**	**10 42 24.6**	**-0.1**
MARNC	**Mare, Loyalty**	**7.37**	**166**	Pn		**Pn**	**10 42 36.1**	**-1.3**
MARNC	**Mare, Loyalty**	**7.37**	**166**	P		**Pn**	**10 42 39.1**	**+1.7**
HNR	**Honiara**	**7.72**	**308**	Pn		**Pn**	**10 42 41.3**	**-0.9**
	54nm,0.3s,baz=180,slow=8.6,SNR=12							
HNR				Sn		**Sn**	**10 44 07.1**	**-1.4**
	7.7nm,0.3s,baz=2.3,slow=5.0,SNR=1.0							
HNR				LR		LR	10 45 29.6	
	comp=Z,1μm,19.3s,baz=128,slow=37							
HNR	**Honiara**	**7.72**	**308**	P		**Pn**	**10 42 41.4**	**-0.8**
DZM	**Mont Dzumac**	**7.73**	**178**	Pn		**Pn**	**10 42 42.2**	**-0.2**
	3.2nm,0.3s,baz=66,slow=7.1,SNR=36							
DZM				Sn		**Sn**	**10 44 07.5**	**-1.3**
	1.1nm,0.3s,baz=341,slow=23,SNR=1.0							
DZM				LR		LR	10 45 20.1	
	comp=Z,690nm,19.2s,baz=43,slow=35							
DZM	**Mont Dzumac**	**7.73**	**178**	*e*Pn		**Pn**	**10 42 42.3**	**-0.2**
	61nm,0.8s							
DZM				*e*Sn		**Sn**	**10 44 06.0**	**-2.9**
	18nm,0.5s							
DZM				*e*LR		LR	10 44 27.3	
	comp=Z,846nm,26.4s							
DZM	**Mont Dzumac**	**7.73**	**178**	Pn		**Pn**	**10 42 41.8**	**-0.6**
DZM	**Mont Dzumac**	**7.73**	**178**	P		**Pn**	**10 42 42.9**	**+0.5**
YATNC	**Mamie plateau,**	**7.75**	**174**	P		**Pn**	**10 42 44.0**	**+1.4**
NOUC	**Port Laguerre**	**7.76**	**179**	P		**Pn**	**10 42 43.7**	**+1.0**
ONTNC	**Ouen Toro**	**7.97**	**178**	Pn		**Pn**	**10 42 45.9**	**+0.3**
ONTNC	**Ouen Toro**	**7.97**	**178**	P		**Pn**	**10 42 47.0**	**+1.4**
OUENC	**Ouen Island, N**	**8.10**	**175**			**Pn**	**10 42 47.2**	**-0.2**
OUENC	**Ouen Island, N**	**8.10**	**175**	P		**Pn**	**10 42 49.0**	**+1.6**
PINNC	**Pines Island,**	**8.36**	**171**			**Pn**	**10 42 51.4**	**+0.4**
MSVF	**Nonsavu**	**11.99**	**108**	LR		LR	10 47 34.1	
	comp=Z,3μm,19.4s,baz=332,slow=34							
EIDS	**Eidsvold**	**17.88**	**230**	Pn		**Pn**	**10 44 57.1**	**-1.2**
PMG	**Port Moresby**	**19.15**	**283**	LR		LR	10 52 09.9	
	comp=Z,1μm,18.2s,baz=92,slow=36							
PMG	**Port Moresby**	**19.15**	**283**	*d*P		**Pn**	**10 45 13.4**	**-0.4**
CTA	**Charters Tower**	**19.80**	**250**	P		**P**	**10 45 20.5**	**+0.7**
	0.2nm,0.3s,baz=60,slow=9.7,SNR=4.4							
CTA				LR		LR	10 51 53.6	
	comp=Z,874nm,20.1s,baz=70,slow=34							
CTAO	**Charters Tower**	**19.80**	**250**	P		**Pn**	**10 45 21.0**	**-0.5**
CTAO				pmax		pmax		
	comp=Z,100nm,1.7s							
CTAO	**Charters Tower**	**19.80**	**250**	P		**Pn**	**10 45 21.0**	**-0.5**
CTAO				IAmb		IAmb	10 45 28.4	
	comp=Z,100nm,1.7s							
RMQ	**Roma**	**20.24**	**231**	P		**P**	**10 45 24.6**	**+0.1**
	baz=20,SNR=16							
ARMA	**Armidale**	**20.84**	**217**	P		**P**	**10 45 32.1**	**+0.9**
	baz=21,SNR=8.3							
ARMA	**Armidale**	**20.84**	**217**	P		**P**	**10 45 31.8**	**+0.6**
MTSU	**Mount Surprise**	**21.25**	**257**	P		**P**	**10 45 35.5**	**0.0**
	baz=21,SNR=4.7							
AFI	**Afiamalu**	**21.47**	**92**	LR		LR	10 51 57.4	
	comp=Z,736nm,20.3s,baz=226,slow=31							
MANU	**Manus Island**	**22.15**	**302**	P		**P**	**10 45 44.2**	**-1.0**
MANU				IAmb		IAmb	10 45 56.9	
	comp=Z,116nm,1.8s							
COEN	**Coen**	**22.22**	**268**	P		**P**	**10 45 46.1**	**0.0**
COEN				IAmb		IAmb	10 45 53.5	
	comp=Z,46nm,1.1s							
MGCD	**Mangrove Creek**	**23.23**	**213**	P		**P**	**10 45 57.0**	**+0.6**
	baz=24,SNR=4.4							
QLP	**Quilpie**	**23.80**	**236**	P		**P**	**10 46 02.2**	**+0.3**
	baz=24,SNR=5.0							
HIZ	**Hauiti**	**25.33**	**164**	P		**P**	**10 46 14.6**	**-1.2**
CMSA	**Cobar Meteorol**	**25.36**	**224**	P		**P**	**10 46 16.5**	**+0.3**
	baz=26,SNR=20							
CNB	**Canberra Magne**	**25.77**	**213**	P		**P**	**10 46 21.2**	**+1.3**
	baz=26,SNR=7.6							
URZ	**Urewera**	**25.78**	**160**	P		**P**	**10 46 18.9**	**-0.9**
	comp=Z,8.3nm,0.9s,baz=342,slow=3.2,SNR=2.2							
URZ				LR		LR	10 55 25.9	
	comp=Z,409nm,18.5s,baz=31,slow=34							
CAN	**Canberra**	**25.97**	**213**	P		**P**	**10 46 22.2**	**+0.5**
CAN				pmax		pmax		
	comp=Z,40nm,1.6s							
CAN	**Canberra**	**25.97**	**213**	P		**P**	**10 46 22.2**	**+0.5**
CAN				IAmb		IAmb	10 47 11.1	
	comp=Z,40nm,1.6s							
QIS	**Mount Isa**	**26.00**	**252**	P		**P**	**10 46 21.4**	**-0.8**
	baz=26,SNR=3.4							
STKA	**Stephens Creek**	**28.41**	**228**	P		**P**	**10 46 43.9**	**+0.3**
	comp=Z,16nm,0.7s,baz=30,slow=8.2,SNR=62							
STKA				LR		LR	10 57 27.3	
	comp=Z,909nm,19.6s,baz=51,slow=35							
STKA	**Stephens Creek**	**28.41**	**228**	P		**P**	**10 46 44.1**	**+0.4**
	baz=29,SNR=12							
STKA	**Stephens Creek**	**28.41**	**228**	*d*P		**P**	**10 46 44.0**	**+0.3**
STKA	**Stephens Creek**	**28.41**	**228**	P		**P**	**10 46 44.5**	**+0.8**
TOO	**Toolangi**	**29.53**	**215**	P		**P**	**10 46 54.1**	**+0.5**
TOO				pmax		pmax		
	comp=Z,9.0nm,1.2s							
TOO	**Toolangi**	**29.53**	**215**	P		**P**	**10 46 54.0**	**+0.5**
RPZ	**Rata Peaks**	**29.62**	**173**	P		**P**	**10 46 54.7**	**+0.5**
	comp=Z,13nm,0.8s,baz=95,slow=1.0,SNR=5.4							
RPZ				LR		LR	10 58 18.4	
	comp=Z,205nm,19.0s,baz=346,slow=35							
RPZ	**Rata Peaks**	**29.62**	**173**	IAmb		IAmb	10 47 06.9	
	comp=Z,18nm,1.0s							
SMPI	**Sarmi**	**29.69**	**292**	P		**P**	**10 46 56.3**	**+1.2**
	comp=Z,32nm,1.4s							
WR0	**Warramunga Arr**	**30.64**	**255**	P		**P**	**10 47 01.9**	**-1.6**
WR8	**Warramunga Arr**	**30.68**	**255**	P		**P**	**10 47 02.2**	**-1.6**
WR6	**Warramunga Arr**	**30.72**	**255**	P		**P**	**10 47 01.8**	**-2.4**
WB0	**Warramunga Arr**	**30.76**	**255**	P		**P**	**10 47 02.1**	**-2.5**
WB0				IAmb		IAmb	10 47 10.3	
	comp=Z,36nm,1.6s							
WB6	**Warramunga Arr**	**30.79**	**255**	P		**P**	**10 47 03.5**	**-1.3**
WB2	**Warramunga Arr**	**30.81**	**255**	P		**P**	**10 47 03.7**	**-1.3**
WRAB	**Tennant Creek**	**30.81**	**255**	*e*P		**P**	**10 47 04.5**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,17nm,1.7s							
WRAB	**Tennant Creek**	**30.81**	**255**	P		**P**	**10 47 02.7**	**-2.4**
WRA	**Warramunga Arr**	**30.82**	**255**	P		**P**	**10 47 03.1**	**-2.0**
	comp=Z,2.5nm,0.8s,baz=85,slow=8.8,SNR=19							
WRA				PcP		**PcP**	**10 50 00.9**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=84,slow=2.6,SNR=12							
WRA				LR		LR	10 58 37.2	
	comp=Z,840nm,19.9s,baz=62,slow=35							
WRA	**Warramunga Arr**	**30.82**	**255**	*ce*P		**P**	**10 47 09.3**	**+4.1**
WRA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
WRA	**Warramunga Arr**	**30.82**	**255**	P		**P**	**10 47 04.7**	**-0.5**
WRA						**PcP**	**10 50 02.4**	**+0.5**
HTT	**Hallett**	**31.15**	**228**	P		**P**	**10 47 08.2**	**+0.3**
	baz=31,SNR=14							
AS17	**Alice Springs**	**31.68**	**248**	P		**P**	**10 47 10.5**	**-2.3**
AS06	**Alice Springs**	**31.70**	**248**	P		**P**	**10 47 11.2**	**-1.7**
AS19	**Alice Springs**	**31.72**	**248**	P		**P**	**10 47 11.6**	**-1.4**
AS05	**Alice Springs**	**31.72**	**248**	P		**P**	**10 47 11.3**	**-1.7**
AS31	**Alice Springs**	**31.76**	**248**	P		**P**	**10 47 11.3**	**-2.1**
ASAR	**Alice Springs**	**31.76**	**248**	P		**P**	**10 47 11.4**	**-2.0**
	comp=Z,1.9nm,0.7s,baz=73,slow=9.8,SNR=19							
ASAR				PcP		**PcP**	**10 50 04.0**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=93,slow=2.5,SNR=7.6							
ASAR				LR		LR	10 59 49.0	
	comp=Z,598nm,18.2s,baz=89,slow=36							
ASAR	**Alice Springs**	**31.76**	**248**	P		**P**	**10 47 11.8**	**-1.6**
ASAR							10 50 04.0	
ASAR	**Alice Springs**	**31.76**	**248**	P		**P**	**10 47 11.8**	**-1.6**
AS13	**Alice Springs**	**31.77**	**248**	P		**P**	**10 47 11.5**	**-2.0**
BBOO	**Buckleboo**	**32.95**	**231**	P		**P**	**10 47 23.9**	**+0.3**
	baz=33,SNR=30							
BBOO	**Buckleboo**	**32.95**	**231**	P		**P**	**10 47 23.9**	**+0.3**
RAR	**Rarotonga**	**33.18**	**107**	LR		LR	10 58 27.3	
	comp=Z,325nm,22.0s,baz=280,slow=32							
RAR	**Rarotonga**	**33.18**	**107**	P		**P**	**10 47 27.8**	**+2.0**
GUMO	**Guam**	**34.78**	**322**	LR		LR	11 00 48.4	
	comp=Z,158nm,21.6s,baz=98,slow=35							
KNRA	**Kununurra**	**36.05**	**263**	P		**P**	**10 47 49.4**	**-1.3**
	baz=36,SNR=4.6							
SIJI	**Sorong**	**36.93**	**288**	LR		LR	11 03 28.6	
	comp=Z,413nm,19.4s,baz=128,slow=37							
WRKA	**Warakurna**	**37.04**	**247**	P		**P**	**10 47 57.8**	**-1.3**
	baz=37,SNR=6.9							
FORT	**Forrest**	**38.54**	**238**	P		**P**	**10 48 11.3**	**-0.3**
FORT				IAmb		IAmb	10 48 18.9	
	comp=Z,45nm,1.1s							
FITZ	**Fitzroy Crossi**	**38.97**	**259**	P		**P**	**10 48 13.9**	**-1.5**
	comp=Z,6.7nm,0.8s,baz=102,slow=6.2,SNR=16							
FITZ				PcP		**PcP**	**10 50 25.3**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=38,slow=3.1,SNR=3.6							
FITZ				LR		LR	11 04 04.7	
	comp=Z,673nm,18.6s,baz=112,slow=36							
BATI	**Baumata**	**41.62**	**271**	LR		LR	11 05 49.9	
	comp=Z,597nm,19.4s,baz=135,slow=36							
PPT2	**Papeete2**	**42.68**	**101**	*e*LR		LR	11 00 42.2	
	comp=Z,618nm,26.5s							
TBI	**Tubuai**	**42.88**	**109**	*e*LR		LR	11 00 48.6	
	comp=Z,659nm,27.2s							
MMRI	**Maumere**	**43.29**	**273**	P		**P**	**10 48 50.4**	**-0.6**
MMRI				IAmb		IAmb	10 49 30.7	
	comp=Z,42nm,1.2s							
PSAD1	**Pilbara Seismi**	**44.47**	**254**	P		**P**	**10 48 59.9**	**-0.5**
PSAD1				IAmb		IAmb	10 49 08.6	
	comp=Z,24nm,1.5s							
DAV	**Davao City (W)**	**45.46**	**295**	LR		LR	11 06 46.5	
	comp=Z,114nm,21.1s,slow=34							
MEEK	**Meekatharra**	**45.90**	**247**	P		**P**	**10 49 11.2**	**-0.5**
	baz=46,SNR=13							
KAPI	**Kappang**	**46.52**	**277**	LR		LR	11 09 07.3	
	comp=Z,124nm,18.3s,baz=114,slow=37							
KAPI	**Kappang**	**46.52**	**277**	*c i*P		**P**	**10 49 17.7**	**+1.0**
KAPI				pmax		pmax		
	comp=Z,32nm,1.6s							
KLBR	**Kellerberrin**	**47.32**	**240**	P		**P**	**10 49 22.0**	**-0.7**
	baz=48,SNR=12							
NWAO	**Narrogin (SRO)**	**47.99**	**238**	P		**P**	**10 49 27.7**	**-0.3**
NWAO				pmax		pmax		
	comp=Z,34nm,1.0s							
NWAO	**Narrogin (SRO)**	**47.99**	**238**	P		**P**	**10 49 27.7**	**-0.3**
MORW	**Morawa**	**48.42**	**244**	P		**P**	**10 49 31.1**	**-0.3**
	baz=49,SNR=7.5							
MORW	**Morawa**	**48.42**	**244**	P		**P**	**10 49 31.2**	**-0.2**
MORW				IAmb		IAmb	10 49 31.9	
	comp=Z,22nm,0.8s							
MUN	**Mundaring**	**48.68**	**240**	P		**P**	**10 49 33.1**	**-0.2**
	baz=49,SNR=3.1							
TAOE	**Nuku Hiva Isla**	**52.85**	**90**	*e*LR		LR	11 05 17.6	
	comp=Z,532nm,26.0s							
KKM	**Kota Kinabalu**	**53.44**	**289**	P		**P**	**10 50 09.3**	**-0.1**
MJB4	**Matsu-Nakagumi**	**56.91**	**333**	P		**P**	**10 50 33.2**	**-0.8**
MJB2	**Matsu-Sugadair**	**56.96**	**333**	P		**P**	**10 50 34.0**	**-0.4**
MJA0	**Matsu Arr-Jizo**	**56.99**	**333**	P		**P**	**10 50 34.0**	**-0.5**
MJA0				pmax		pmax		
	comp=Z,14nm,0.9s							
MJA0	**Matsu Arr-Jizo**	**56.99**	**333**	P		**P**	**10 50 34.0**	**-0.5**
MJA0				IAmb		IAmb	10 50 34.5	
	comp=Z,14nm,0.9s							
MJAR	**Matsushiro Arr**	**57.01**	**333**	P		**P**	**10 50 33.6**	**-1.0**
	comp=Z,7.9nm,0.9s,baz=271,slow=24,SNR=6.4							
MJAR	**Matsushiro Arr**	**57.01**	**333**	P		**P**	**10 50 33.6**	**-1.0**
MJAR				pmax		pmax		
	comp=Z,17nm,1.5s							
MJAR	**Matsushiro Arr**	**57.01**	**333**	IAmb		IAmb	10 50 41.1	
	comp=Z,17nm,1.5s							
MAJO	**Matsushiro**	**57.01**	**333**	⇑*i*P		**P**	**10 50 34.2**	**-0.4**
MJB9	**Matsu-Tunnel**	**57.02**	**333**	P		**P**	**10 50 33.2**	**-1.4**
MJB9				IAmb		IAmb	10 50 34.7	
	comp=Z,15nm,1.0s							
KSM	**Kuching**	**57.41**	**281**	P		**P**	**10 50 37.5**	**-0.4**
KSM				IAmb		IAmb	10 50 45.6	
	comp=Z,36nm,1.5s							
LEM	**Lembang**	**57.84**	**271**	P		**P**	**10 50 41.0**	**0.0**
	comp=Z,28nm,0.7s,baz=195,slow=20,SNR=5.0							
LEM				LR		LR	11 15 21.4	
	comp=Z,105nm,20.9s,baz=74,slow=36							
NACB	**Ninganchiao**	**57.89**	**311**	P		**P**	**10 50 40.9**	**-0.1**
YHNB	**Yeheng**	**58.34**	**311**	P		**P**	**10 50 44.0**	**-0.2**
ASAJ	**Asahikawa**	**61.97**	**341**	LR		LR	11 14 15.0	
	comp=Z,55nm,21.6s,baz=190,slow=32							
KSRS	**Korea Array**	**62.75**	**326**	P		**P**	**10 51 12.7**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=143,slow=7.1,SNR=9.1							
KSRS				LR		LR	11 18 47.4	
	comp=Z,56nm,18.0s,baz=160,slow=36							
KSAR	**Wonju Array Be**	**62.76**	**326**	P		**P**	**10 51 14.4**	**+0.3**
KSAR	**Wonju Array Be**	**62.76**	**326**	P		**P**	**10 51 14.4**	**+0.3**
KS02	**Wonju Array Si**	**62.79**	**326**	P		**P**	**10 51 14.5**	**+0.2**
VNDA	**Vanda**	**63.26**	**181**	P		**P**	**10 51 18.3**	**+1.4**
	comp=Z,6.1nm,1.1s,baz=1.1,slow=9.3,SNR=4.1							
VNDA	**Vanda**	**63.26**	**181**	P		**P**	**10 51 17.7**	**+0.9**
VNDA				pmax		pmax		
	comp=Z,16nm,1.4s							
VNDA	**Vanda**	**63.26**	**181**	P		**P**	**10 51 17.7**	**+0.9**
VNDA				IAmb		IAmb	10 51 26.0	
	comp=Z,16nm,1.4s							
YSS	**Yuzh-Sakhalins**	**64.48**	**343**	*e*P		**P**	**10 51 26.2**	**+1.0**
YSS				pmax		pmax		
	comp=Z,20μm,1.2s							
QIZ	**Qiongzhong**	**64.53**	**299**	P		**P**	**10 51 27.3**	**+1.2**
QIZ				S		**S**	**11 00 10.8**	**+7.4**
QIZ				LR		LR		
	comp=Z,170nm,15.9s							
QIZ				LR		LR		
	comp=Z,85nm,12.0s							
QIZ				LR		LR		
	comp=Z,170nm,39.8s							
NJ2	**Nanjing**	**64.58**	**316**	*e*P		**P**	**10 51 26.8**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
USB3	**Ussuriysk Arra**	**65.98**	**334**	P		**P**	**10 51 35.1**	**+0.2**
USB2	**Ussuriysk Arra**	**65.98**	**334**	P		**P**	**10 51 35.5**	**+0.4**
USRK	**Ussuriysk Ar.**	**66.00**	**334**	P		**P**	**10 51 35.0**	**-0.1**
	comp=Z,7.0nm,0.9s,baz=150,slow=6.1,SNR=9.9							
USRK	**Ussuriysk Ar.**	**66.00**	**334**	P		**P**	**10 51 35.0**	**-0.1**
USA1	**Ussuriysk Arra**	**66.00**	**334**	P		**P**	**10 51 34.3**	**-0.8**
SHEM	**Shemya Is, Ala**	**67.11**	**5**	LR		LR	11 18 25.0	
	comp=Z,39nm,19.0s,baz=100,slow=34							
IPM	**Ipoh**	**67.14**	**281**	P		**P**	**10 51 43.0**	**-0.1**
KIWB	**Kanaga Island**	**67.47**	**11**	P		**P**	**10 51 44.4**	**+0.1**
PES2	**Petropavlovsk-**	**67.52**	**355**	P		**P**	**10 51 44.9**	**+0.2**
PETK	**Petropavlovsk-**	**67.52**	**355**	P		**P**	**10 51 42.5**	**-2.1**
	comp=Z,6.6nm,1.0s,baz=148,slow=8.5,SNR=3.8							
PSI	**Prapat**	**68.67**	**279**	LR		LR	11 22 08.9	
	comp=Z,78nm,21.3s,baz=125,slow=36							
GSI	**Gunungsitoli**	**69.55**	**277**	P		**P**	**10 51 59.0**	**+0.8**
SRIT	**Nakonsritamara**	**69.76**	**285**	P		**P**	**10 51 59.7**	**+0.3**
SRIT				IAmb		IAmb	10 52 08.3	
	comp=Z,29nm,1.3s							
KLR	**Kul'dur**	**70.17**	**337**	⇓*e*P		**P**	**10 52 01.7**	**+0.5**
KLR				pmax		pmax		
	comp=Z,10.0nm,1.5s							
ENH	**Enshi**	**70.22**	**310**	P		**P**	**10 52 01.9**	**-0.1**
ENH				IAmb		IAmb	10 52 09.3	
	comp=Z,24nm,1.0s							
LYN	**LuoYang**	**70.37**	**315**	⇑P		**P**	**10 52 03.5**	**+0.8**
LYN				sP		pP	10 52 09.3	-3.2
KMI	**Kunming**	**73.11**	**302**	⇓P		**P**	**10 52 21.1**	**+1.4**
KMI				sP		pP	10 52 26.9	-3.1
KMI				pmax		pmax		
	comp=Z,18nm,1.2s							
KMI				pmax		pmax		
	comp=Z,83nm,3.8s							
KMI				LR		LR		
	comp=Z,940nm,23.8s							
KMI				LR		LR		
	comp=Z,660nm,19.7s							
KMI				LR		LR		
	comp=Z,360nm,24.1s							
CM10	**Chiang Mai Arr**	**73.67**	**294**	P		**P**	**10 52 24.1**	**+1.2**
CM04	**Chiang Mai Arr**	**73.68**	**294**	P		**P**	**10 52 24.2**	**+1.2**
XLT	**XiLinHaoTe**	**73.70**	**325**	*e*P		**P**	**10 52 23.8**	**+1.2**
XLT				sP		pP	10 52 30.0	-2.5
XLT				pmax		pmax		
	comp=Z,9.0nm,1.4s							
XLT				pmax		pmax		
	comp=Z,190nm,5.5s							
CM18	**Chiang Mai Arr**	**73.70**	**294**	P		**P**	**10 52 24.3**	**+1.2**
CM12	**Chiang Mai Arr**	**73.73**	**294**	P		**P**	**10 52 24.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**73.73**	**294**	P		**P**	**10 52 24.8**	**+1.5**
	comp=Z,5.7nm,0.9s,baz=122,slow=4.5,SNR=27							
CMAR	**Chiang Mai Arr**	**73.73**	**294**	P		**P**	**10 52 23.3**	**0.0**
CM13	**Chiang Mai Arr**	**73.75**	**294**	P		**P**	**10 52 24.7**	**+1.4**
CHTO	**Chiang Mai**	**73.86**	**295**	P		**P**	**10 52 23.9**	**-0.1**
CHTO				pmax		pmax		
	comp=Z,12nm,1.1s							
CHTO	**Chiang Mai**	**73.86**	**295**	P		**P**	**10 52 23.9**	**-0.1**
CHTO				IAmb		IAmb	10 52 32.6	
	comp=Z,12nm,1.1s							
PZH	**PanZhiHua**	**74.51**	**303**	P		**P**	**10 52 28.3**	**+0.5**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,100nm,4.7s							
HHC	**Hu-ho-hao-te**	**74.53**	**320**	*e*P		**P**	**10 52 28.9**	**+1.3**
HHC				pmax		pmax		
	comp=Z,22nm,0.8s							
HHC				pmax		pmax		
	comp=Z,120nm,5.8s							
MA2	**Magadan**	**74.66**	**352**	⇑*e*P		**P**	**10 52 27.0**	**-0.8**
MA2				pmax		pmax		
	comp=Z,16nm,2.1s							
CD2	**Chengdu**	**74.85**	**308**	P		**P**	**10 52 32.0**	**+2.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
ZEA	**Zeya**	**75.46**	**337**	*e*P		**P**	**10 52 33.3**	**+0.8**
QSPA	**South Pole Qui**	**75.72**	**180**	P		**P**	**10 52 35.0**	**+0.9**
	comp=Z,5.2nm,0.9s,baz=67,slow=0.7,SNR=12							
QSPA	**South Pole Qui**	**75.72**	**180**	P		**P**	**10 52 35.2**	**+1.1**
QSPA				IAmb		IAmb	10 52 42.9	
	comp=Z,17nm,1.2s							
LZH	**Lanzhou**	**77.19**	**313**	*e*P		P	10 52 50.9	+7.9
LZH				sP		pwP	10 52 57.8	+0.5
LZH				pmax		pmax		
	comp=Z,18nm,1.1s							
SEY	**Seymchan**	**77.73**	**354**	⇑*i*P		**P**	**10 52 45.3**	**+0.2**
SEY				pmax		pmax		
	comp=Z,12nm,1.4s							
KDAK	**Kodiak Island**	**79.48**	**21**	LR		LR	11 22 24.8	
	comp=Z,234nm,19.7s,baz=226,slow=32							
KDAK	**Kodiak Island**	**79.48**	**21**	⇓*e*P		**P**	**10 52 56.1**	**+1.3**
KDAK				pmax		pmax		
	comp=Z,53nm,1.4s							
KDAK	**Kodiak Island**	**79.48**	**21**	P		**P**	**10 52 54.6**	**-0.2**
	baz=220							
Q19K	**Cape Douglas,**	**80.00**	**20**	P		**P**	**10 52 57.3**	**-0.4**
	baz=219							
ULN	**Ulaanbaatar**	**81.12**	**324**	*d i*P		**P**	**10 53 04.3**	**+0.1**
ULN				pmax		pmax		
	comp=Z,21nm,2.5s							
ULN	**Ulaanbaatar**	**81.12**	**324**	P		**P**	**10 53 04.8**	**+0.6**
ULN				IAmb		IAmb	10 53 06.6	
	comp=Z,16nm,1.6s							
N19K	**Bonanza Creek**	**81.20**	**18**	P		**P**	**10 53 05.0**	**+0.8**
	baz=218							
HOM	**Homer**	**81.22**	**20**	P		**P**	**10 53 04.9**	**+0.7**
	baz=221							
YAK	**Yakutsk**	**81.30**	**344**	⇑*e*P		**P**	**10 53 03.6**	**-0.9**
YAK				pmax		pmax		
	comp=Z,7.0nm,0.4s							
SONM	**Songino Array**	**81.48**	**324**	P		**P**	**10 53 06.6**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=145,slow=6.0,SNR=8.0							
SONM				LR		LR	11 28 31.5	
	comp=Z,22nm,21.1s,baz=124,slow=35							
SONM	**Songino Array**	**81.48**	**324**	P		**P**	**10 53 05.7**	**-0.3**
SONM				pmax		pmax		
	comp=Z,17nm,1.9s							
SONM	**Songino Array**	**81.48**	**324**	P		**P**	**10 53 05.7**	**-0.3**
SONM				IAmb		IAmb	10 53 09.1	
	comp=Z,17nm,1.9s							
BRLK	**Bradley Lake**	**81.55**	**20**	P		**P**	**10 53 06.2**	**+0.2**
BRSE

	comp=Z,9.5nm,1.1s							
J20K	**Nowinta River**	83.94	16	P		P	10 53 18.1	-0.1
	baz=218							
CHUM	**Lake Minchumin**	84.22	17	P		P	10 53 19.3	-0.4
	baz=220							
SCM	**Sheep Creek Mo**	84.26	20	P		P	10 53 19.2	-0.8
	baz=225,SNR=11							
DIV	**Divide**	84.30	21	P		P	10 53 20.2	0.0
KTH	**Kantishna Hill**	84.38	18	P		P	10 53 19.8	-0.8
TRF	**Thorofare Moun**	84.49	18	P		P	10 53 20.0	-1.3
	baz=222,SNR=6.9							
KLU	**Klutina**	84.50	21	P		P	10 53 21.0	-0.3
	baz=226,SNR=8.0							
ZAK	**Zakamensk**	84.55	325	*e*P		P	10 53 20.9	-0.9
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.5s							
BMRM	**Bremner River**	84.61	22	P		P	10 53 21.5	-0.3
BMRM	**Bremner River**	84.61	22	P		P	10 53 21.2	-0.6
	baz=228							
WAT6	**Susitna Watana**	84.66	20	P		P	10 53 21.7	-0.5
	baz=224,SNR=11							
BPAW	**Bear Paw Mtn.**	84.77	17	P		P	10 53 21.6	-1.0
BPAW				IAmb	IAmb		10 53 29.2	
	comp=Z,12nm,1.2s							
BPAW	**Bear Paw Mtn.**	84.77	17	P		P	10 53 21.9	-0.6
	baz=221,SNR=7.3							
M24K	**Tolsona, Glenn**	84.84	20	P		P	10 53 23.8	+0.9
M24K	**Tolsona, Glenn**	84.84	20	P		P	10 53 22.3	-0.7
	baz=226							
RND	**Reindeer**	84.90	19	P		P	10 53 22.9	-0.3
RND				pmax	pmax			
	comp=Z,44nm,1.0s							
RND	**Reindeer**	84.90	19	P		P	10 53 22.9	-0.3
WAX	**Waxell Ridge**	84.91	23	P		P	10 53 23.3	0.0
N25K	**Chitina, Valde**	85.04	21	P		P	10 53 23.9	-0.1
N25K				IAmb	IAmb		10 53 27.0	
	comp=Z,20nm,1.2s							
N25K	**Chitina, Valde**	85.04	21	P		P	10 53 23.7	-0.3
	baz=227,SNR=7.2							
MCK	**McKinley**	85.11	18	P		P	10 53 23.7	-0.5
MCK				pmax	pmax			
	comp=Z,45nm,1.1s							
MCK	**McKinley**	85.11	18	P		P	10 53 23.7	-0.5
MCK	**McKinley**	85.11	18	P		P	10 53 23.5	-0.7
	baz=223,SNR=20							
DHY	**Denali Highway**	85.12	19	P		P	10 53 23.9	-0.6
	baz=225,SNR=9.4							
O02D	**Mt. Diablo Mer**	85.27	47	P		P	10 53 25.0	-0.6
	baz=247							
BWN	**Browne**	85.27	18	P		P	10 53 24.7	-0.2
I21K	**Tanana**	85.31	16	P		P	10 53 25.0	-0.1
	baz=220,SNR=26							
HARP	**HAARP**	85.39	21	P		P	10 53 25.3	-0.3
	baz=227							
H21K	**Melozitna Rive**	85.45	16	P		P	10 53 26.6	+0.7
H21K				IAmb	IAmb		10 53 28.9	
	comp=Z,24nm,1.4s							
H21K	**Melozitna Rive**	85.45	16	P		P	10 53 26.1	+0.3
	baz=220,SNR=8.3							
IMAR	**Indian Mountai**	85.46	15	P		P	10 53 25.7	-0.2
L02E	**Cave Junction**	85.49	45	P		P	10 53 26.5	-0.1
	baz=246							
N02D	**Trinity Center**	85.64	46	P		P	10 53 27.4	0.0
N02D				IAmb	IAmb		10 53 41.0	
	comp=Z,16nm,1.4s							
N02D	**Trinity Center**	85.64	46	P		P	10 53 26.7	-0.8
	baz=247							
K02D	**Willamette Mer**	85.66	44	P		P	10 53 27.6	+0.1
	baz=246							
M02C	**Callahan**	85.69	46	P		P	10 53 27.5	-0.2
	baz=247							
NEA2	**Nenana**	85.70	18	P		P	10 53 26.1	-1.0
	baz=223,SNR=8.4							
CTG	**Chitna Glacier**	85.81	23	P		P	10 53 27.0	-0.9
	baz=230,SNR=8.6							
YBH	**Yreka Blue Hor**	85.93	45	P		P	10 53 29.3	+0.4
YBH				pmax	pmax			
	comp=Z,3.0nm,0.9s							
YBH	**Yreka Blue Hor**	85.93	45	P		P	10 53 29.3	+0.4
ORV	**Oroville**	85.94	48	P		P	10 53 28.4	-0.5
ORV				pmax	pmax			
	comp=Z,6.0nm,1.4s							
ORV	**Oroville**	85.94	48	P		P	10 53 28.4	-0.5
O03E	**Paynes Creek**	86.01	47	P		P	10 53 27.7	-1.6
	baz=248							
I23K	**Minto, Yukon-K**	86.02	17	P		P	10 53 26.9	-1.8
	baz=223,SNR=6.5							
HUMO	**Hull Mountain**	86.10	44	P		P	10 53 30.3	+0.6
M26K	**Nabesna, AK**	86.14	21	P		P	10 53 27.9	-1.5
	baz=229,SNR=12							
CMB	**Columbia Colle**	86.19	49	P		P	10 53 29.9	-0.3
CMB				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CMB	**Columbia Colle**	86.19	49	P		P	10 53 29.9	-0.3
MENT	**Mentasta**	86.24	21	P		P	10 53 29.7	-0.2
MENT				IAmb	IAmb		10 53 30.9	
	comp=Z,5.2nm,0.8s							
TCOL	**CIGO, UAF Yank**	86.26	18	P		P	10 53 28.6	-1.2
	baz=224,SNR=6.6							
COLA	**College**	86.26	18	*d i*P		P	10 53 28.9	-0.9
COLA				pmax	pmax			
	comp=Z,34nm,1.3s							
COLA	**College**	86.26	18	P		P	10 53 29.4	-0.5
COLA	**College**	86.26	18	P		P	10 53 28.6	-1.2
	baz=224							
L04D	**Klamath Falls**	86.40	45	P		P	10 53 30.2	-1.1
	baz=247							
RIDG	**Independent Ri**	86.41	20	P		P	10 53 29.9	-0.8
	baz=227,SNR=6.9							
L26K	**Log Cabin Wild**	86.43	21	P		P	10 53 30.2	-0.6
	baz=228,SNR=7.1							
H23K	**Yukon River**	86.47	17	P		P	10 53 30.7	-0.2
	baz=223,SNR=14							
IL31		86.48	18	P		P	10 53 29.5	-1.4
IL31				IAmb	IAmb		10 53 31.1	
	comp=Z,12nm,0.8s							
ILAR	**Eielson Array**	86.48	18	P		P	10 53 29.8	-1.2
	comp=Z,11nm,0.8s,baz=234,slow=5.7,SNR=79							
ILAR				LR		LR	11 27 04.4	
	comp=Z,171nm,19.8s,baz=180,slow=32							
ILAR	**Eielson Array**	86.48	18	P		P	10 53 29.4	-1.6
ILAR	**Eielson Array**	86.48	18	P		P	10 53 29.4	-1.6
M27K	**Edge Creek, AK**	86.50	22	P		P	10 53 30.1	-1.2
	baz=230,SNR=7.8							
M04C	**Macdoel**	86.55	45	P		P	10 53 30.5	-1.5
	baz=247							
POKR	**Poker Plat Res**	86.56	18	P		P	10 53 30.3	-1.1
	baz=225							
DOT	**Dot Lake**	86.60	20	P		P	10 53 31.1	-0.6
DOT				IAmb	IAmb		10 53 32.5	
	comp=Z,12nm,0.8s							
YUK3	**Moose Creek**	86.65	22	P		P	10 53 30.8	-1.3
	baz=231,SNR=11							
EMB	**Emerald Bay**	86.74	49	P		P	10 53 32.1	-1.1
ISA	**Isabella, Lake**	86.79	52	P		P	10 53 31.7	-1.6
ISA				pmax	pmax			
	comp=Z,14nm,1.6s							
ISA	**Isabella, Lake**	86.79	52	P		P	10 53 31.7	-1.6
ISA				IAmb	IAmb		10 53 36.5	
	comp=Z,14nm,1.6s							
ISA	**Isabella, Lake**	86.79	52	P		P	10 53 33.0	-0.2
	baz=250							
J25K	**Salcha River,**	86.84	19	P		P	10 53 32.2	-0.6
J25K	**Salcha River,**	86.84	19	P		P	10 53 31.9	-0.9
	baz=227,SNR=25							
SCRK	**Sand Creek**	86.85	20	P		P	10 53 32.2	-0.8
	baz=228,SNR=16							
BEKR	**Beckworth**	86.88	48	P		P	10 53 33.3	-0.5
EDW2	**Edwards Air Fo**	86.89	53	P		P	10 53 33.5	-0.2
	baz=250							
MPK	**Martis Peak**	86.91	48	P		P	10 53 33.8	-0.2
BVCY	**Beaver Creek**	86.91	22	P		P	10 53 33.2	+0.1
	baz=231							
J04D	**Umpqua Nationa**	86.92	44	P		P	10 53 33.8	-0.1
	baz=247							
YUK6	**Outpost Mounta**	86.94	24	P		P	10 53 32.7	-0.9
	baz=233							
BFSC	**Mount Baldy Ra**	86.94	54	P		P	10 53 33.9	-0.2
	baz=250							
L27K	**Beaver Creek,**	86.98	21	P		P	10 53 32.9	-0.5
L27K				IAmb	IAmb		10 53 34.4	
	comp=Z,6.5nm,0.9s							
L27K	**Beaver Creek,**	86.98	21	P		P	10 53 33.0	-0.5
	baz=230,SNR=7.1							
BCAR	**Beaver Creek A**	86.99	21	P		P	10 53 32.4	-1.2
WRAK	**Wrangell Islan**	87.00	29	P		P	10 53 33.9	+0.3
	baz=238							
H04D	**Lebanon**	87.01	43	P		P	10 53 33.6	-0.5
	baz=247							
MDPB	**Devils Postpil**	87.01	50	P		P	10 53 33.1	-1.4
OMMB	**Old Mammoth Mi**	87.06	50	P		P	10 53 33.5	-1.4
YUK4	**Talbot Arm**	87.07	23	P		P	10 53 34.7	+0.5
	baz=233							
PNTR	**Pine Nut**	87.14	49	P		P	10 53 34.0	-1.1
HYT	**Haines Junctio**	87.20	24	P		P	10 53 34.5	-0.3
	baz=234							
COLD	**Coldfoot**	87.33	16	P		P	10 53 36.1	+1.0
COLD				IAmb	IAmb		10 53 38.3	
	comp=Z,14nm,1.2s							
COLD	**Coldfoot**	87.33	16	P		P	10 53 35.6	+0.6
	baz=222,SNR=16							
LRMC	**Laurel Mtn Rad**	87.34	53	P		P	10 53 35.2	-0.8
	baz=250							
PALK	**Pallekele**	87.34	278	LR		LR	11 33 35.9	
	comp=Z,89nm,19.4s,baz=207,slow=36							
J26L	**Joseph Creek**	87.34	19	P		P	10 53 35.7	+0.4
	baz=228,SNR=7.1							
CWC	**Cottonwood Cre**	87.35	52	P		P	10 53 36.1	0.0
	baz=250							
MONP2	**Monument Peak**	87.48	55	P		P	10 53 36.8	-0.1
	baz=251							
PAHR	**Pah Rah Range**	87.52	48	P		P	10 53 37.0	+0.1
BBRC	**Big Bear Solar**	87.53	54	P		P	10 53 37.3	+0.2
	baz=251							
J05D	**Fort Rock, OR**	87.53	44	P		P	10 53 37.0	+0.2
	baz=248							
MPMC	**Manual Prospec**	87.68	52	P		P	10 53 37.8	+0.1
	baz=250							
PFO	**Pinyon Flats O**	87.68	55	LR		LR	11 27 46.5	
	comp=Z,179nm,18.3s,baz=248,slow=32							
PFO	**Pinyon Flats O**	87.68	55	P		P	10 53 37.8	+0.1
	baz=251							
TPFO	**Pinon Flats**	87.68	55	P		P	10 53 37.9	+0.2
	baz=251							
YUH	**Yuha Desert**	87.80	56	P		P	10 53 38.0	-0.1
YUH				IAmb	IAmb		10 53 41.7	
	comp=Z,20nm,1.6s							
I05D	**Terrebonne, OR**	87.86	43	P		P	10 53 38.3	+0.1
	baz=248							
NVAR	**Mina Array Bea**	87.86	50	P		P	10 53 38.6	+0.1
	comp=Z,1.3nm,0.9s,baz=228,slow=9.6,SNR=9.5							
E04D	**Cinebar**	87.92	41	P		P	10 53 39.0	+0.6
	baz=247							
PINE	**Pine Mountain**	87.92	44	P		P	10 53 39.1	+0.4
NV11	**Mina Array Sit**	87.97	50	P		P	10 53 38.8	-0.2
NV11				IAmb	IAmb		10 53 51.3	
	comp=Z,17nm,1.6s							
D03D	**Eldon**	87.98	40	P		P	10 53 39.3	+0.6
	baz=246							
SWSC	**Sam W. Stewart**	87.99	55	P		P	10 53 39.6	+0.6
	baz=252							
QSM	**Queen of Sheba**	88.12	52	P		P	10 53 39.8	+0.2
BELC	**Belle Mtn. Jos**	88.17	54	P		P	10 53 40.0	-0.1
	baz=251							
G05D	**Wamic, OR**	88.22	42	P		P	10 53 40.5	+0.6
	baz=248							
KVN	**Kaiserville**	88.22	49	P		P	10 53 40.3	0.0
KVN				pmax	pmax			
	comp=Z,16nm,1.9s							
KVN	**Kaiserville**	88.22	49	P		P	10 53 40.3	0.0
KVN				IAmb	IAmb		10 53 52.4	
	comp=Z,16nm,1.9s							
N31M	**Braeburn, Yuko**	88.27	24	P		P	10 53 40.1	+0.3
N31M				IAmb	IAmb		10 53 41.1	
	comp=Z,14nm,1.1s							
N31M	**Braeburn, Yuko**	88.27	24	P		P	10 53 39.8	+0.1
	baz=235							
FURC	**Furnace Creek,**	88.29	52	P		P	10 53 39.4	-0.9
	baz=251							
EGAK	**Eagle**	88.31	20	P		P	10 53 39.1	-0.7
EGAK	**Eagle**	88.31	20	P		P	10 53 39.1	-0.7
	baz=230,SNR=11							
GWY	**Greenwater Val**	88.34	52	P		P	10 53 39.8	-1.0
GWY				IAmb	IAmb		10 53 52.9	
	comp=Z,14nm,1.8s							
DAWY	**Dawson**	88.46	21	P		P	10 53 40.8	+0.2
	baz=232,SNR=7.4							
BC3	**Big Chuckawall**	88.49	55	P		P	10 53 41.6	+0.1
	baz=252							
M30M	**Minto, Yukon**	88.51	23	P		P	10 53 41.9	+1.1
	baz=234							
TOLK	**Toolik Lake Re**	88.54	15	P		P	10 53 41.9	+1.1
TOLK				IAmb	IAmb		10 53 49.3	
	comp=Z,9.6nm,1.1s							
TOLK	**Toolik Lake Re**	88.54	15	P		P	10 53 41.4	+0.5
	baz=223,SNR=5.9							
SHOC	**Shoshone, Teco**	88.56	52	P		P	10 53 41.8	+0.1
	baz=251							
GMRC	**Granite Mounta**	88.68	54	P		P	10 53 42.3	-0.2
	baz=252							
TUQ	**Turquoise Moun**	88.68	53	P		P	10 53 42.2	-0.3
	baz=251							
A04D	**Lummi Island**	88.69	39	P		P	10 53 42.4	+0.5
	baz=246							
SYO	**Syowa Base**	88.78	197	*e*P		P	10 53 41.0	-1.1
B05A	**Bryant**	88.88	39	P		P	10 53 42.6	-0.2
	baz=247							
IRM	**Iron Mountain**	88.89	54	P		P	10 53 43.6	+0.3
	baz=252							
TPNV	**Topopah Spring**	88.91	52	P		P	10 53 43.3	-0.2
	baz=251							
I07A	**Izee**	88.99	44	P		P	10 53 43.7	0.0
I07A				IAmb	IAmb		10 53 56.2	
	comp=Z,20nm,1.9s							
BMAR	**Burnt Mountain**	89.00	17	P		P	10 53 42.7	-0.3
WVOR	**Wild Horse Val**	89.00	46	P		P	10 53 42.4	-1.4
WVOR				pmax	pmax			
	comp=Z,38nm,2.0s							
WVOR	**Wild Horse Val**	89.00	46	P		P	10 53 42.4	-1.4
A21K	**Barrow**	89.08	11	P		P	10 53 43.8	+0.6
	baz=216							
J29M	**Klondike Camp**	89.10	21	P		P	10 53 44.5	+0.9
	baz=233							
BMN	**Battle Mountai**	89.33	48	P		P	10 53 45.8	+0.4
BMN				pmax	pmax			
	comp=Z,21nm,1.9s							
BMN	**Battle Mountai**	89.33	48	P		P	10 53 45.8	+0.4
BMN				IAmb	IAmb		10 53 57.5	
	comp=Z,21nm,1.9s							
TIXI	**Tiksi**	89.33	349	*ce*P		P	10 53 43.5	-0.9
TIXI				pmax	pmax			
	comp=Z,12nm,3.0s							
J08A	**Circle Bar Ran**	89.44	45	P		P	10 53 45.6	-0.1
J08A				IAmb	IAmb		10 53 48.1	
	comp=Z,6.7nm,1.0s							
S11A	**Rachel**	89.51	51	P		P	10 53 46.8	+0.5
113A	**Mohawk Valley,**	89.57	56	P		P	10 53 46.5	+0.1
SHPR	**Sheep Range**	89.60	52	P		P	10 53 46.5	-0.2
SHPR				IAmb	IAmb		10 53 50.2	
	comp=Z,9.5nm,1.3s							
I29M	**Ogilvie Camp,**	89.62	20	P		P	10 53 47.4	+1.4
	baz=233							
PDMCI	**Parker Dam,Lak**	89.72	55	P		P	10 53 47.8	+0.7
	baz=252							
R11A	**Troy Canyon, C**	89.85	50	P		P	10 53 47.3	-0.6
	baz=252							
LPIG	**La Paz**	90.06	65	LR		LR	11 32 26.1	
	comp=Z,48nm,18.2s,baz=236,slow=34							
214A	**Organ Pipe Nat**	90.10	57	P		P	10 53 49.0	-0.1
	baz=253							
W13A	**Hualapai Mount**	90.16	54	P		P	10 53 48.6	-0.9
W13A				IAmb	IAmb		10 54 03.9	
	comp=Z,10nm,1.6s							
B08A	**Colville Reser**	90.63	40	P		P	10 53 50.8	-0.3
B08A				IAmb	IAmb		10 57 19.6	
	comp=Z,5.3nm,0.9s							
BMO	**Blue Mountains**	90.73	44	P		P	10 53 51.3	-0.5
BMO				pmax	pmax			
	comp=Z,5.0nm,1.2s							
BMO	**Blue Mountains**	90.73	44	P		P	10 53 51.3	-0.5
ELK	**Elko**	90.86	48	P		P	10 53 52.7	+0.1
ELK				pmax	pmax			
	comp=Z,15nm,1.8s							
ELK	**Elko**	90.86	48	P		P	10 53 52.7	+0.1
ELK				IAmb	IAmb		10 54 04.6	
	comp=Z,15nm,1.8s							
F10A	**Beach Ranch, E**	91.16	43	P		P	10 53 52.9	-0.8
WMQ	**Urumqi**	91.62	315	*e*P		P	10 53 57.5	+1.7
U15A	**North Rim**	91.79	53	P		P	10 53 57.8	+0.7
NEW	**Newport**	91.98	41	P		P	10 53 57.0	-0.4
NEW				pmax	pmax			
	comp=Z,4.0nm,1.1s							
NEW	**Newport**	91.98	41	P		P	10 53 57.0	-0.4
NEW	**Newport**	91.98	41	P		P	10 53 56.8	-0.6
	baz=251							
WUAZ	**Wupatki**	92.25	54	P		P	10 53 59.1	0.0
	baz=254							
HLID	**Hailey**	92.30	46	P		P	10 53 58.9	-0.2
	baz=252							
DUG	**Dugway, Tooele**	92.46	49	P		P	10 53 59.4	-0.5
	baz=253							
INK	**Inuvik**	92.86	19	P		P	10 54 01.4	+0.5
	baz=238							
W18A	**Petrified Fore**	93.44	55	P		P	10 54 03.9	-0.7
	baz=255							
O20A	**White River Ci**	95.83	50	P		P	10 54 15.0	-0.5
	baz=256							
ANMO	**Albuquerque**	96.00	56	LR		LR	11 30 04.8	
	comp=Z,159nm,20.5s,baz=264,slow=31							
ANMO	**Albuquerque**	96.00	56	P		P	10 54 15.5	-0.9
	baz=257							
MK31	**Makanchi Array**	96.11	317	*ie*P		P	10 54 16.3	-0.1
MK31	**Makanchi Array**	96.11	317	P		P	10 54 16.3	-0.1
MK31				IAmb	IAmb		10 54 17.9	
	comp=Z,6.7nm,1.8s							
MKAR	**Makanchi Array**	96.11	317	P		P	10 54 14.9	-1.4
	comp=Z,1.3nm,0.7s,baz=91,slow=7.3,SNR=12							
MKAR	**Makanchi Array**	96.11	317	*i* P		P	10 54 16.5	+0.1
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	96.11	317	P		P	10 54 16.4	+0.1
RLMT	**Red Lodge**	96.28	45	P		P	10 54 16.2	-1.2
	baz=256							
MAKZ	**Makanchi**	96.32	317	P		P	10 54 16.6	-0.7
MAKZ				pmax	pmax			
	comp=Z,7.0nm,1.2s							
MAKZ	**Makanchi**	96.32	317	P		P	10 54 16.6	-0.7
MAKZ				IAmb	IAmb		10 58 10.2	
	comp=Z,6.6nm,1.2s							
C36M	**Paulatuk**	96.37	20	P		P	10 54 15.5	-1.4
C36M	**Paulatuk**	96.37	20	P		P	10 54 15.5	-1.4
	baz=246							
ZALV	**Zalesovo Beam**	96.38	324	P		P	10 54 16.4	-0.9
	comp=Z,1.7nm,0.7s,baz=147,slow=3.0,SNR=7.8							
ZALV	**Zalesovo Beam**	96.38	324	*i* P		P	10 54 16.3	-1.1
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ZALV	**Zalesovo Beam**	96.38	324	P		P	10 54 16.2	-1.1
TXAR	**Lajitas Array**	97.08	62	LR		LR	11 30 08.4	
	comp=Z,91nm,20.8s,baz=250,slow=30							
A36M	**Sachs Harbour**	97.10	17	P		P	10 54 19.8	-0.4
A36M				IAmb	IAmb		10 54 22.0	
	comp=Z,8.8nm,1.1s							
A36M	**Sachs Harbour**	97.10	17	P		P	10 54 19.3	-0.9
	baz=245							
YKA	**Yellowknife Ar**	97.70	27	P		P	10 54 21.8	-1.3
	comp=Z,4.0nm,0.9s,baz=254,slow=4.6,SNR=36							
YKA	**Yellowknife Ar**	97.70	27	P		P	10 54 21.9	-1.2
YKA	**Yellowknife Ar**	97.70	27	P		P	10 54 21.9	-1.2
ARCES	**ARCESS Array B**	119.55	345	PKP		PKPdf	10 59 37.0	-0.7
	comp=Z,1.6nm,0.7s,baz=35,slow=4.4,SNR=9.9							
SCHQ	**Schefferville**	122.57	33	PKP		PKPdf	10 59 42.6	-1.4
	comp=Z,1.2nm,0.7s,baz=279,slow=2.8,SNR=1.5							
TORD	**Torodi Ar. Bea**	164.79	268	PKP		PKPdf	11 00 52.7	-0.8
	comp=Z,0.7nm,1.0s,baz=53,slow=0.7,SNR=2.9							
TORD				PKPab		PKPab	11 01 49.4	-0.1
	comp=Z,1.7nm,1.0s,baz=88,slow=3.3,SNR=5.8							

IDC 19 10:41:33.3±2.1, 3.51N×127.33E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/47, mbtmp3.5/3, Error ellipse: s-maj=147.7km s-min=27.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	24.31	164	P	P	10 46 53.5	+0.7
	2.1nm,0.7s,baz=344,slow=10,SNR=25						
ASAR	**Alice Springs**	27.77	167	P	P	10 47 23.2	-0.9
	0.3nm,0.6s,baz=349,slow=7.5,SNR=3.2						
MKAR	**Makanchi Array**	58.07	325	P	P	10 51 28.4	-0.1
	0.3nm,0.4s,baz=129,slow=8.4,SNR=4.6						

*IDC **19** 10:45:01.0±0.7, 17.97S×172.72W, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.2/32, mbtmp4.3/12, ML4.1/1, MS3.8/3, Ms1 3.8/3, ms1mx3.1/52, Error ellipse: s-maj=32.3km s-min=15.7km az=146.0*
*NOU **19** 10:45:03.5, 17.14S×169.87W, h179km, mb4.9/10, Tonga Islands Region*
*NEIC **19** 10:45:03.9±0.9, 17.64S±0.10×172.9W±0.1, h10km±1km, mb4.6/99, Error ellipse: s-maj=19.0km s-min=15.9km az=121.0*

ISC 19 10:45:05.7±0.6, 17.63S±0.10×172.9W±0.1, h28km, n154, σ1°08/145, mb4.5/60, MS3.7/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	3.15	118	P	Pn	10 45 39.6	-14
	baz=23,SNR=25						
NIUE	**Niue**	3.15	118	P	Pn	10 45 39.8	-14
AFI	**Afiamalu**	3.85	16	Pn	Pn	10 46 01.2	-2.0
	13nm,0.3s,baz=204,slow=8.4,SNR=16						
AFI				Sn	Sn	10 46 44.8	-2.8
	48nm,0.3s,baz=299,slow=24,SNR=8.2						
AFI	**Afiamalu**	3.85	16		Pn	10 46 01.8	-1.4
AFI				Sn	Sn	10 46 46.7	-0.9
AFI	**Afiamalu**	3.85	16	P	Pn	10 46 01.8	-1.4
DZM	**Mont Dzumac**	19.94	254	P	P	10 49 36.2	+0.5
	0.5nm,0.3s,baz=35,slow=20,SNR=2.4						
DZM				LR	LR	10 55 37.8	
	comp=Z,254nm,20.1s,baz=34,slow=32						
DZM	**Mont Dzumac**	19.94	254	*e*LR	LR	10 55 03.4	
	comp=Z,357nm,26.7s						
PPT2	**Papeete2**	22.21	93	*e*LR	LR	10 54 41.9	
	comp=Z,417nm,28.0s						
URZ	**Urewera**	22.34	201	P	P	10 49 59.3	-2.0
	9.7nm,0.3s,baz=328,slow=1.8,SNR=19						
URZ				S	S	10 53 50.4	-15
	6.6nm,0.9s,baz=166,slow=18,SNR=2.2						
URZ	**Urewera**	22.34	201	P	P	10 50 00.1	-1.2
TBI	**Tubuai**	22.65	108	*e*LR	LR	10 54 55.2	
	comp=Z,330nm,28.5s						
BKZ	**Black Stump Fm**	23.37	201	P	P	10 50 10.8	-1.2

comp=Z,1.9nm,0.5s,baz=97,slow=6.8,SNR=26
WRA Warramunga Arr 49.86 259 P P 10 53 55.9 -0.9
AS31 Alice Springs 49.93 254 P P 10 53 55.6 -1.8
ASAR Alice Springs 49.93 254 P P 10 53 56.5 -1.0
comp=Z,4.6nm,0.7s,baz=90,slow=8.0,SNR=53
ASAR Alice Springs 49.93 254 P P 10 53 56.1 -1.3
SAO San Andreas Ge 72.66 41 P P 10 56 31.4 +0.4
SAO IAmb IAmb 10 56 33.2
comp=Z,5.9nm,0.9s
KMRM Mail Ridge 73.52 37 P 10 56 37.0 +0.9
ISA Isabella, Lake 73.91 44 P P 10 56 39.0 +0.6
ISA IAmb IAmb 10 56 39.4
comp=Z,8.6nm,1.5s
O02D Mt. Diablo Mer 74.02 38 P P 10 56 39.3 +0.3
O02D IAmb IAmb 10 56 41.2
comp=Z,5.8nm,1.1s
CMB Columbia Colle 74.11 41 P P 10 56 39.8 +0.3
CMB IAmb IAmb 10 56 40.8
comp=Z,3.6nm,0.9s
N02D Trinity Center 74.59 37 P P 10 56 43.5 +1.3
O03E Paynes Creek 74.67 38 P P 10 56 43.4 +0.6
O03E IAmb IAmb 10 56 44.1
comp=Z,9.9nm,1.4s
MDPB Devils Postpil 74.69 42 P P 10 56 43.9 +0.8
OMMB Old Mammoth Mi 74.72 42 P P 10 56 43.7 +0.2
M02C Callahan 74.77 37 P P 10 56 44.1 +0.7
GSC Goldstone, Bar 74.80 45 P P 10 56 44.1 +0.4
GSC IAmb IAmb 10 56 45.2
comp=Z,8.5nm,1.5s
YBH Yreka Blue Hor 75.08 37 P 10 56 45.9 +0.7
YBH IAmb IAmb 10 56 47.1
comp=Z,3.4nm,0.8s
MPK Martis Peak 75.11 40 P P 10 56 46.2 +0.6
MPK IAmb IAmb 10 56 47.0
comp=Z,7.7nm,1.1s
QSM Queen of Sheba 75.14 44 P P 10 56 45.5 0.0
PNTR Pine Nut 75.25 40 P P 10 56 47.2 +0.9
PNTR IAmb IAmb 10 56 47.8
comp=Z,5.2nm,0.9s
BEKR Beckworth 75.26 39 P P 10 56 46.7 +0.3
BEKR IAmb IAmb 10 56 47.7
comp=Z,4.0nm,0.9s
VCNR Virginia City 75.34 40 P P 10 56 46.9 +0.1
LCH Last Change Ra 75.37 43 P P 10 56 47.3 +0.3
YERR Yerington 75.40 40 P P 10 56 47.7 +0.5
YERR IAmb IAmb 10 56 48.5
comp=Z,4.1nm,1.0s
LHV Little Huntoon 75.42 41 P P 10 56 47.9 +0.9
LHV IAmb IAmb 10 56 48.9
comp=Z,4.9nm,1.1s
113A Mohawk Valley, 75.51 48 P P 10 56 47.6 0.0
HUMO Hull Mountain 75.51 36 P P 10 56 48.9 +1.4
RYN Ryan 75.64 41 P P 10 56 49.0 +0.5
RYN IAmb IAmb 10 56 49.9
comp=Z,4.2nm,1.1s
NVAR Mina Array Bea 75.66 41 P P 10 56 49.3 +0.6
comp=Z,2.7nm,0.8s,baz=227,slow=9.5,SNR=23
NVAR Mina Array Bea 75.66 41 P P 10 56 49.0 +0.3
PAHR Pah Rah Range 75.76 40 P P 10 56 50.0 +0.8
PAHR IAmb IAmb 10 56 55.6
comp=Z,6.8nm,1.5s
TPH Tonopah 76.13 42 P P 10 56 52.0 +0.6
KVN Kaiserville 76.15 41 P P 10 56 51.7 +0.3
J04D Umpqua Nationa 76.40 36 P P 10 56 53.8 +1.0
MOD Modoc Plateau 76.57 38 P P 10 56 54.2 +0.5
MOD IAmb IAmb 10 56 55.3
comp=Z,4.6nm,1.0s
Y14A Wickenburg 76.67 48 P P 10 56 54.8 +0.4
Y14A IAmb IAmb 10 56 55.4
comp=Z,3.0nm,0.8s
K05A Summer Lake 76.75 37 P P 10 56 55.6 +0.9
PINE Pine Mountain 77.40 36 P P 10 56 58.9 +0.5
PINE IAmb IAmb 10 57 00.4
comp=Z,6.5nm,0.8s
TUC Tucson 77.42 50 P P 10 56 58.8 +0.2
WVOR Wild Horse Val 77.87 38 P P 10 57 01.4 +0.4
WVOR IAmb IAmb 10 57 02.5
comp=Z,4.8nm,1.1s
X16A Lo Mia Camp, P 78.02 48 P P 10 57 02.1 0.0
X16A IAmb IAmb 10 57 03.7
comp=Z,3.6nm,0.9s
KSRS Korea Array 78.10 316 P P 10 57 04.8 +2.6
comp=Z,4.3nm,1.0s,baz=129,slow=5.9,SNR=13
KSAR Wonju Array Be 78.11 316 P P 10 57 02.8 +0.6
I07A Izee 78.39 36 P P 10 57 04.1 +0.3
I07A IAmb IAmb 10 57 05.6
comp=Z,4.0nm,1.0s
U15A North Rim 78.48 46 P P 10 57 04.7 0.0
J08A Circle Bar Ran 78.53 37 P P 10 57 05.3 +0.7
J08A IAmb IAmb 10 57 06.1
comp=Z,5.7nm,1.2s
PSUT Pine Spring 78.57 43 P P 10 57 05.3 +0.3
PSUT IAmb IAmb 10 57 06.2
comp=Z,3.1nm,0.8s
WUAZ Wupatki 78.64 47 P P 10 57 06.3 +0.9
WUAZ IAmb IAmb 10 57 06.8
comp=Z,8.6nm,1.3s
MTPU Mount Pierson 79.41 44 P P 10 57 10.3 +0.4
G08A Pilot Rock 79.44 35 P P 10 57 10.2 +0.6
G08A IAmb IAmb 10 57 11.1
comp=Z,5.7nm,1.0s
MSU Marysvale 79.67 44 P P 10 57 12.2 +1.2
TMUT Trail Mountain 80.72 44 P P 10 57 17.7 +0.8
TMUT IAmb IAmb 10 57 19.3
comp=Z,5.1nm,0.9s
F10A Beach Ranch, E 80.82 36 P P 10 57 17.1 +0.2
F10A IAmb IAmb 10 57 18.0
comp=Z,5.7nm,0.9s
HLID Hailey 81.04 39 P P 10 57 18.9 +0.6
MNTX Cornudas Mount 81.16 53 P P 10 57 19.1 +0.1
TX31 Lajitas Ar. Si 81.44 56 P P 10 57 21.1 +0.4
TX32 Lajitas Array 81.44 56 P P 10 57 21.1 +0.4
TX32 IAmb IAmb 10 57 22.1
comp=Z,7.9nm,1.4s
TXAR Lajitas Array 81.44 56 P P 10 57 21.1 +0.5
comp=Z,1.7nm,1.0s,baz=228,slow=8.6,SNR=12
PV13 Radium Mtn., P 81.74 46 P P 10 57 22.4 +0.2
PV13 IAmb IAmb 10 57 23.5
comp=Z,7.2nm,1.2s
PV23 Carpenter Ridg 81.76 45 P P 10 57 22.7 +0.4
PV23 IAmb IAmb 10 57 24.7
comp=Z,8.7nm,1.1s
PV11 David Mesa, Pa 81.78 46 P P 10 57 23.0 +0.6
PV11 IAmb IAmb 10 57 46.4
comp=Z,12nm,1.5s
ANMO Albuquerque 81.86 50 P P 10 57 23.2 +0.4
BARN Barnard Glacie 82.32 15 P P 10 57 26.3 +1.6
MCMT McKenzie Canyo 82.68 38 P P 10 57 27.8 +0.8
TRF Thorofare Moun 82.72 10 P P 10 57 28.0 +1.4
TRF IAmb IAmb 10 57 28.2
comp=Z,5.4nm,0.8s
J20K Nowinta River 82.83 8 P P 10 57 28.9 +1.9
S22A 4UR Ranch, Cre 82.92 47 P P 10 57 29.2 +0.8
S22A IAmb IAmb 10 57 30.1
comp=Z,6.1nm,0.9s
RND Reindeer 82.93 11 P P 10 57 29.1 +1.5
REDW Red Top Meadow 83.09 40 P P 10 57 29.7 +0.5
REDW IAmb IAmb 10 57 31.0
comp=Z,4.1nm,1.2s
TPAW Teton Pass 83.10 40 P P 10 57 29.2 0.0
TPAW IAmb IAmb 10 57 30.7
comp=Z,3.0nm,0.9s
O20A White River Ci 83.12 44 P P 10 57 29.8 +0.5
O20A IAmb IAmb 10 57 30.9
comp=Z,8.1nm,1.4s
DLMT Dillon 83.12 38 P P 10 57 30.0 +0.9
DLMT IAmb IAmb 10 57 30.6
comp=Z,5.4nm,1.1s
M26K Nabesna, AK 83.19 14 P P 10 57 30.5 +1.6
SNOW Snow King Moun 83.21 40 P P 10 57 30.5 +0.7
SNOW IAmb IAmb 10 57 31.2
comp=Z,5.4nm,0.9s
MCK McKinley 83.21 10 P P 10 57 30.4 +1.4
M27K Edge Creek, AK 83.40 14 P P 10 57 32.2 +2.0
SMCO Snowmass 83.50 46 P P 10 57 32.1 +0.5
QLMT Earthquake Lak 83.53 39 P P 10 57 31.8 +0.5
FLWY Flagg Ranch 83.57 40 P P 10 57 32.1 +0.5
BW06 Boulder Array 83.59 41 P P 10 57 31.1 -0.7
BW06 IAmb IAmb 10 57 32.4
comp=Z,3.1nm,0.8s
PD31 Pinedale Array 83.59 41 P P 10 57 30.9 -0.8
PD31 IAmb IAmb 10 57 32.4
comp=Z,2.6nm,0.8s
PDAR Pinedale Array 83.59 41 P P 10 57 31.6 -0.1
comp=Z,2.5nm,0.8s,baz=219,slow=3.4,SNR=26
PDAR Pinedale Array 83.59 41 P P 10 57 31.2 -0.5
YMR Madison River 83.72 39 P P 10 57 33.4 +1.1
YMR IAmb IAmb 10 57 33.8
comp=Z,5.0nm,1.0s
BOZ Bozeman (W) 83.82 38 P P 10 57 33.4 +0.7
BOZ IAmb IAmb 10 57 34.2
comp=Z,4.7nm,0.9s
SDCO Great Sand Dun 83.84 47 P P 10 57 33.5 +0.3
YHH Holmes Hill 83.85 39 P P 10 57 33.5 +0.4
YHH IAmb IAmb 10 57 35.9
comp=Z,3.5nm,1.0s
WRH Wood River Hil 84.04 11 P P 10 57 34.5 +1.3
DOT Dot Lake 84.06 12 P P 10 57 35.0 +1.6
CCB Clear Creek Bu 84.25 11 P P 10 57 35.3 +1.0
HRY Holter Researc 84.31 37 P P 10 57 35.8 +0.6
TCOL CIGO, UAF Yank 84.45 10 P P 10 57 36.5 +1.2
COLA College 84.45 10 P P 10 57 36.6 +1.4
MDM Murphy Dome 84.47 10 P P 10 57 36.5 +1.2
IL31 84.53 11 P P 10 57 36.5 +0.8
IL31 IAmb IAmb 10 57 58.0
comp=Z,7.8nm,1.4s
ILAR Eielson Array 84.53 11 P P 10 57 36.6 +1.0
comp=Z,1.8nm,0.9s,baz=224,slow=5.6,SNR=9.3
ILAR Eielson Array 84.53 11 P P 10 57 36.5 +0.8
J25K Salcha River, 84.67 12 P P 10 57 38.1 +1.6
J25K IAmb IAmb 10 57 38.8
comp=Z,3.2nm,0.9s
AMTX Amarillo 85.34 51 P P 10 57 40.1 -0.4
AMTX IAmb IAmb 10 57 41.3
comp=Z,5.4nm,0.9s
DAWY Dawson 85.45 14 P P 10 57 42.0 +1.6
DAWY IAmb IAmb 10 57 43.0
comp=Z,5.8nm,0.9s
ABTX Abilene, Hawle 85.95 54 P P 10 57 43.6 0.0
BILL Billibino 86.78 352 P P 10 57 48.5 +1.7
EDM Edmonton 87.12 31 P P 10 57 49.0 +0.2
YKA Yellowknife Ar 91.94 23 P P 10 58 11.8 +0.6
comp=Z,1.3nm,0.9s,baz=237,slow=4.3,SNR=13
ULM Lac du Bonnet 95.34 39 LR LR 11 37 57.0
comp=Z,66nm,19.0s,baz=274,slow=33
TKL Tuckaleechee C 99.36 56 LR LR 11 40 19.8
comp=Z,29nm,18.0s,baz=314,slow=33
KMBO Kilima Mbogo 144.96 241 PKP PKPdf 11 04 41.6 0.0
comp=Z,0.7nm,0.3s,baz=74,slow=4.3,SNR=4.9
CLL Collm 146.08 353 *i* PKPbc **PKPab 11 04 43.9 +0.4**
comp=Z,21nm,1.2s
CLL *i* x x 11 04 57.6
comp=Z,9.0nm,1.0s
BRTR Keskin Array B 148.18 319 PKPbc PKiKP 11 04 51.1 0.0
comp=Z,3.5nm,0.8s,baz=106,slow=3.1,SNR=12
BRTR Keskin Array B 148.18 319 PKiKP 11 04 51.4 +0.2
GERES GERESS Array B 148.41 352 PKPbc PKiKP 11 04 50.8 -0.5
comp=Z,1.5nm,0.8s,baz=112,slow=1.4,SNR=6.7
TORD Torodi Ar. Bea 173.12 130 PKPab PKPab 11 06 37.5 -3.1
comp=Z,1.3nm,0.7s,baz=248,slow=4.6,SNR=6.6

*KRNET **19** 10:46:26.4±0.1,40.15N×72.08E,h9km,mb2.7*
*SOME **19** 10:46:30.1,40.33N×71.90E,h5km*
*NNC **19** 10:46:33.8±6.5,40.40N×71.90E,h0km,mb3.7,mpv3.5,*
Error ellipse: s-maj=49.0km s-min=23.9km az=171.0
ISC 19 10:46:26.5±1.2,40.13N±0.04×72.13E±0.04,h12km±12km,
n15,σ1°23/27,11C-5D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.63**	**51**	⇑*eP*		**Pg**		**10 46 39.4**	**+0.6**
OHH	baz=55			⇑*iS*		**Sg**		**10 46 48.1**	**+0.9**
DRK	**Karamyk**	**0.70**	**202**	⇑*iP*		**Pg**		**10 46 40.2**	**+0.1**
DRK	baz=98			⇑*iS*		**Sb**		**10 46 50.1**	**-0.4**
BTK	**Batken**	**1.01**	**266**	⇑*iP*		**Pg**		**10 46 44.8**	**-1.2**
BTK	baz=65			⇑*iS*		**Sb**		**10 46 58.5**	**-0.8**
TRKS	**Terek-Say**	**1.59**	**332**	⇓*iP*		**Pn**		**10 46 54.1**	**-0.5**
TRKS	baz=33			⇓*iS*		**Sn**		**10 47 14.8**	**-0.4**
ARK	**Arkit**	**1.67**	**356**	⇓*iP*		**Pg**		**10 46 57.6**	**-1.0**
ARK	baz=57			⇓*iS*		**Sg**		**10 47 20.6**	**+0.3**
IUG	**Iuzhnay**	**2.57**	**322**	*eP*		**Pb**		**10 47 13.1**	**+0.6**
IUG	80nm,0.3s			*eS*		**Sb**		**10 47 44.0**	**-0.1**
IUG	**Iuzhnay**	**2.57**	**322**	Pg		**Pb**		**10 47 13.1**	**+0.6**
IUG	80nm,0.3s			Lg		Lg		10 47 44.0	
MRKS	**Merke**	**2.74**	**17**	*eP*		**Pg**		**10 47 19.5**	**+0.5**
MRKS	5.5nm,0.3s			*eS*		**Sg**		**10 47 54.6**	**+0.2**
MRKS	**Merke**	**2.74**	**17**	Pg		**Pg**		**10 47 19.5**	**+0.5**
MRKS	5.5nm,0.3s			Lg		Lg		10 47 54.6	
UCH	**Uchtor**	**2.76**	**40**	⇑*iP*		**Pb**		**10 47 14.0**	**-2.0**
UCH	baz=41			⇑*iS*		**Sb**		**10 47 49.2**	**-0.8**
AAK	**Ala-Archa**	**3.07**	**35**	⇑*eP*		**Pn**		**10 47 18.3**	**+3.3**
AAK	baz=35			⇑*iS*		**Sb**		**10 47 56.3**	**-2.4**
KK31	**Karatay Array**	**3.21**	**338**	⇑Pn		**Pb**		**10 47 24.1**	**+0.7**
KK31	0.4nm,0.3s,baz=160,slow=17,SNR=16			⇓Sn		**Sb**		**10 48 04.0**	**+1.4**
BRLS	**Borolday**	**3.37**	**330**	*eP*		**Pb**		**10 47 26.4**	**+0.2**
BRLS	1.7nm,0.5s,baz=158,slow=28,SNR=5.0 3.8nm,0.1s			*eS*		**Sb**		**10 48 06.8**	**-0.4**
BRLS	**Borolday**	**3.37**	**330**	Pg		**Pb**		**10 47 26.4**	**+0.2**
BRLS	2.2nm,0.2s 3.8nm,0.1s			Lg		Lg		10 48 06.7	
KRBS	**Karabastau**	**4.43**	**35**	*eP*		**Pg**		**10 47 50.0**	**-1.4**
KRBS	0.4nm,0.3s 1.6nm,0.6s			*eS*		**Sg**		**10 48 47.2**	**-1.6**

*IDC **19** 10:48:29.5±2.1,26.23S×29.36E,h0km,mb3.9/2,*
mb1 3.9/7,mb1mx3.5/38,mbtmp3.8/7,ML3.3/4,Error
ellipse: s-maj=48.3km s-min=22.5km az=114.0
*EAF **19** 10:48:33.8±1.6,26.20S×29.13E,h16km±18km,MD3.6*
*BUL **19** 10:48:34.4±1.1,26.21S×29.12E,h20km±13km,MD3.7*
ISC 19 10:48:30.8±0.7,26.14S±0.04×29.10E±0.04,h3km,n24,
σ2°16/38,6D,South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.78**	**94**	*eP*		**Pn**	**10 49 18.1**	**+1.8**
CNG				⇓*eS*		**Sn**	**10 49 48.5**	**-1.9**
CNG	**Changalane**	**2.78**	**94**	*eP*		**Pn**	**10 49 18.1**	**+1.8**
CNG				⇓*eS*		**Sn**	**10 49 48.5**	**-1.9**
MOPA	**Mopani**	**3.35**	**39**	*eP*		**Pn**	**10 49 24.2**	**+0.1**
MOPA	**Mopani**	**3.35**	**39**	*eP*		**Pn**	**10 49 24.2**	**+0.1**
LBTB	**Lobatse**	**3.35**	**289**	Pn		**Pn**	**10 49 27.1**	**+2.9**
LBTB	9.3nm,0.3s,baz=103,slow=15,SNR=86			Lg		Lg	10 50 11.7	
LBTB	**Lobatse**	**3.35**	**289**	⇓*eP*		**Pn**	**10 49 27.1**	**+2.9**
LBTB	12nm,0.3s,baz=190,slow=23,SNR=16			*eS*		**Sn**	**10 50 04.1**	**-0.5**
LBTB	**Lobatse**	**3.35**	**289**	⇓*eP*		**Pn**	**10 49 27.1**	**+2.9**
LBTB				*eS*		**Sn**	**10 50 04.1**	**-0.5**
MSNA	**Messina**	**3.88**	**13**	⇓*eP*		**Pn**	**10 49 32.8**	**+1.4**
MSNA				*eS*		**Sn**	**10 50 16.9**	**-0.5**
MSNA	**Messina**	**3.88**	**13**	⇓*eP*		**Pn**	**10 49 32.8**	**+1.4**
MSNA				*eS*		**Sn**	**10 50 16.9**	**-0.5**
BOSA	**Boshof**	**4.21**	**233**	Pn		**Pn**	**10 49 36.6**	**+0.6**
BOSA	0.6nm,0.3s,baz=56,slow=11,SNR=12 3.1nm,0.3s,baz=52,slow=15,SNR=27			Pg		**Pb**	**10 49 48.6**	**+3.0**
BOSA	1.4nm,0.3s,baz=80,slow=10,SNR=3.8			Sn		**Sn**	**10 50 24.6**	**-1.2**
BOSA	16nm,0.3s,baz=146,slow=15,SNR=20			Lg		Lg	10 50 41.2	
BOSA	**Boshof**	**4.21**	**233**	*eP*		**Pn**	**10 49 36.4**	**+0.4**
BOSA	**Boshof**	**4.21**	**233**	*eP*		**Pn**	**10 49 36.4**	**+0.4**
MATP	**Matopo**	**5.72**	**354**	Pn		**Pn**	**10 49 57.9**	**+1.1**
MATP	0.5nm,0.3s,baz=175,slow=13,SNR=18 1.2nm,0.3s,baz=238,slow=16,SNR=5.5			Sn		**Sn**	**10 50 59.2**	**-3.9**
MATP	2.2nm,0.3s,baz=251,slow=20,SNR=6.0			Lg		Lg	10 51 22.5	
MATP	**Matopo**	**5.72**	**354**	*eP*		**Pn**	**10 49 58.3**	**+1.5**
MATP				*eS*		**Sn**	**10 50 59.8**	**-3.3**
MATP	**Matopo**	**5.72**	**354**	*eP*		**Pn**	**10 49 58.3**	**+1.5**
MATP				*eS*		**Sn**	**10 50 59.8**	**-3.3**
BLWY	**Bulawayo**	**5.99**	**356**	*eP*		**Pn**	**10 50 02.7**	**+2.1**
BLWY				*eS*		**Sn**	**10 51 06.8**	**-3.0**
BLWY	**Bulawayo**	**5.99**	**356**	*eP*		**Pn**	**10 50 02.7**	**+2.1**
BLWY				*eS*		**Sn**	**10 51 06.8**	**-3.0**
SUR	**Sutherland**	**9.53**	**227**	Pn		**Pn**	**10 50 50.3**	**+1.1**
SUR	0.4nm,0.3s,baz=41,slow=13,SNR=8.9 0.4nm,0.3s,baz=354,slow=21,SNR=1.2			Sn		**Sn**	**10 52 31.8**	**-5.3**
SUR	0.4nm,0.3s,baz=146,slow=18,SNR=1.8			Lg		Lg	10 53 25.6	
LSZ	**Lusaka**	**10.85**	**355**	Pn		**Pn**	**10 51 06.7**	**-0.5**
LSZ	1.0nm,0.3s,baz=174,slow=9.7,SNR=5.6 0.4nm,0.3s,baz=86,slow=18,SNR=3.9			Sn		Sn	10 53 00.9	-8.3
LSZ	0.4nm,0.3s,baz=68,slow=19,SNR=1.8			Lg		Lg	10 54 05.3	
TORD	**Torodi Ar. Bea**	**47.29**	**322**	P		**P**	**10 57 06.4**	**+0.6**
	0.5nm,0.7s,baz=135,slow=8.2,SNR=3.4							
PLCA	**Paso Flores**	**80.19**	**229**	P		**P**	**11 00 42.5**	**-0.4**
	2.3nm,1.0s,baz=117,slow=4.5,SNR=2.1							
ILAR	**Eielson Array**	**141.28**	**357**	PKP		**PKPdf**	**11 07 59.4**	**-2.9**
	0.2nm,1.0s,baz=319,slow=3.6,SNR=1.7							
PDAR	**Pinedale Array**	**142.51**	**307**	PKP		**PKPdf**	**11 08 04.6**	**-0.9**
	0.1nm,0.6s,baz=46,slow=3.9,SNR=1.1							
NVAR	**Mina Array Bea**	**150.00**	**302**	PKPbc		**PKPbc**	**11 08 23.6**	**+0.4**
	0.2nm,0.6s,baz=127,slow=2.8,SNR=2.4							

IDC 19 10:52:33.0±2.4,31.90S×177.82W,h0km,mb3.9/2,
mb1 4.1/3,mb1mx3.5/28,mbtmp3.9/3,ML3.1/1,Error
ellipse: s-maj=63.9km s-min=35.3km az=122.0,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.58**	**212**	Pn		Pn	Pn	10 54 24.0	-0.8
URZ	0.4nm,0.3s,baz=157,slow=16,SNR=2.0 0.6nm,0.3s,baz=133,slow=11,SNR=2.4			Sn		Sn	Sn	10 55 51.9	+0.5
ASAR	**Alice Springs**	**43.20**	**268**	P		P	P	11 00 36.0	-0.1
ASAR	0.5nm,0.5s,baz=106,slow=7.8,SNR=19 0.1nm,0.4s,baz=115,slow=3.5,SNR=1.3			PcP		PcP	PcP	11 02 24.8	-0.8
WRA	**Warramunga Arr**	**44.32**	**274**	P		P	P	11 00 45.1	0.0
	1.1nm,0.4s,baz=113,slow=7.6,SNR=46								
KBZ	**Khabaz**	**146.05**	**302**	PKPbc		PKPbc	PKPbc	11 12 14.8	+0.1
	1.4nm,0.9s,baz=31,slow=5.9,SNR=1.9								
FINES	**FINESS Array B**	**146.60**	**339**	PKPbc		PKPdf	PKPdf	11 12 14.7	+0.4
	1.5nm,0.7s,baz=64,slow=4.4,SNR=7.0								

*IDC **19** 10:58:15.8±2.4,49.91S×122.51E,h0km,mb3.8/4,*
mb1 4.1/4,mb1mx3.8/28,mbtmp3.9/4,MS3.9/7,Ms1 3.9/7,
ms1mx3.5/42,Error ellipse: s-maj=63.8km s-min=45.4km
az=148.0
*NEIC **19** 10:58:16.4±0.6,49.98S±0.04×122.3E±0.4,h10km±1km,*
mb4.5/12,Error ellipse: s-maj=42.4km s-min=6.4km
az=272.0
ISC 19 10:58:16.2±1.0,49.9S±0.1×122.3E±0.2,h10km,n37,
σ0°82/26,mb4.3/9,MS4.0/7,Western Indian-Antarctic
Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.19**	**335**	T		T	T	11 18 47.6	
	baz=159,slow=74,SNR=9.9								
H01W2	**Cape Leeuwin H**	**16.19**	**335**	T		T	T	11 18 39.0	
	baz=159,slow=74,SNR=11								
H01W3	**Cape Leeuwin H**	**16.20**	**335**	T		T	T	11 18 41.2	
	baz=159,slow=74,SNR=11								
TOO	**Toolangi**	**20.71**	**62**	P		**P**		**11 02 57.5**	**+1.0**
TOO						IAmb	IAmb	11 03 02.2	
	comp=Z,49nm,1.9s								
STKA	**Stephens Creek**	**23.07**	**46**	P		**P**		**11 03 22.4**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=200,slow=8.4,SNR=5.5								
STKA	**Stephens Creek**	**23.07**	**46**	P		**P**		**11 03 22.5**	**+0.6**
AS09	**Alice Springs**	**27.73**	**23**	P		**P**		**11 04 04.7**	**-0.1**
AS19	**Alice Springs**	**27.73**	**23**	P		**P**		**11 04 04.8**	**0.0**
AS11	**Alice Springs**	**27.74**	**23**	P		**P**		**11 04 04.1**	**-0.8**
AS03	**Alice Springs**	**27.75**	**23**	P		**P**		**11 04 05.0**	**0.0**
AS18	**Alice Springs**	**27.75**	**23**	P		**P**		**11 04 05.2**	**+0.2**
ASAR	**Alice Springs**	**27.75**	**23**	P		**P**		**11 04 05.2**	**+0.2**
	comp=Z,2.3nm,1.0s,baz=199,slow=8.8,SNR=10.0								
AS31	**Alice Springs**	**27.75**	**23**	P		**P**		**11 04 05.2**	**+0.1**
AS14	**Alice Springs**	**27.77**	**23**	P		**P**		**11 04 05.0**	**-0.1**
VNDA	**Vanda**	**31.41**	**165**	P		**P**		**11 04 36.6**	**-0.3**
WRA	**Warramunga Arr**	**31.43**	**22**	P		**P**		**11 04 36.9**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=196,slow=8.3,SNR=4.5								
WRA	**Warramunga Arr**	**31.43**	**22**	IAmb		IAmb	IAmb	11 04 45.2	
	comp=Z,0.5nm,1.5s								
WB2	**Warramunga Arr**	**31.43**	**22**	P		**P**		**11 04 36.3**	**-1.4**
WB2						IAmb	IAmb	11 04 52.8	
	comp=Z,12nm,1.6s								
WR4	**Warramunga Arr**	**31.44**	**22**	P		**P**		**11 04 37.5**	**-0.1**
WR4						IAmb	IAmb	11 04 38.2	
	comp=Z,5.0nm,1.1s								
WB3	**Warramunga Arr**	**31.45**	**22**	P		**P**		**11 04 37.0**	**-0.8**
WB3						IAmb	IAmb	11 05 26.5	
	comp=Z,6.5nm,1.4s								
WB5	**Warramunga Arr**	**31.50**	**22**	P		**P**		**11 04 38.8**	**+0.6**
WB5						IAmb	IAmb	11 04 46.2	
	comp=Z,5.1nm,1.2s								
WB0	**Warramunga Arr**	**31.61**	**22**	P		**P**		**11 04 39.3**	**0.0**
WB0						IAmb	IAmb	11 05 41.3	
	comp=Z,14nm,1.8s								
MAW	**Mawson**	**33.81**	**216**	LR		LR	LR	11 17 21.1	
	comp=Z,101nm,18.1s,baz=100,slow=34								
CTA	**Charters Tower**	**35.35**	**41**	LR		LR	LR	11 19 17.8	
	comp=Z,228nm,18.2s,baz=204,slow=36								
QSPA	**South Pole Qui**	**40.18**	**180**	P		**P**		**11 05 53.2**	**+0.9**
PMG	**Port Moresby**	**45.37**	**36**	LR		LR	LR	11 25 50.8	
	comp=Z,139nm,18.1s,baz=248,slow=37								
SIJI	**Sorong**	**49.49**	**12**	LR		LR	LR	11 28 57.2	
	comp=Z,78nm,19.2s,baz=184,slow=37								
HNR	**Honiara**	**51.01**	**51**	LR		LR	LR	11 27 02.1	
	comp=Z,153nm,20.1s,baz=196,slow=34								
KRVT	**Keravat (AS076**	**51.94**	**39**	LR		LR	LR	11 29 27.0	
	comp=Z,129nm,19.3s,baz=261,slow=36								
PMSA	**Palmer Station**	**65.51**	**177**	LR		LR	LR	11 36 31.2	
	comp=Z,234nm,19.3s,baz=126,slow=35								
CM14	**Chiang Mai Arr**	**71.16**	**337**	P		**P**		**11 09 36.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**71.17**	**337**	P		**P**		**11 09 36.6**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=190,slow=6.0,SNR=8.0								
CMAR	**Chiang Mai Arr**	**71.17**	**337**	P		**P**		**11 09 35.1**	**0.0**
CHTO	**Chiang Mai**	**71.52**	**337**	P		**P**		**11 09 36.9**	**-0.2**
PDAR	**Pinedale Array**	**144.10**	**81**	PKP		**PKPdf**		**11 17 50.4**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=222,slow=1.2,SNR=4.0								
PDAR	**Pinedale Array**	**144.10**	**81**			**PKPdf**		**11 17 50.6**	**-1.2**
YKA	**Yellowknife Ar**	**147.11**	**46**	PKPbc		**PKPab**		**11 17 58.6**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=270,slow=3.0,SNR=18								

*JMA **19** 11:07:02.5±0.1,24.05N×122.28E,h46km,M2.1*
*TAP **19** 11:07:02.2,24.22N×122.28E,h48km±1km,ML2.9,D*
ISC 19 11:07:03.0±1.5,24.22N±0.06×122.26E±0.03,h51km±17km,
n28,σ0°44/45,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.48**	**281**	*eP*		**Pn**		**11 07 13.6**	**-0.5**
	baz=280								
EWUT	**Wuta**	**0.49**	**298**	*iS*		**Sn**		**11 07 22.7**	**+0.3**
	baz=296								
ENA	**Nanau**	**0.52**	**294**	S		**Sn**		**11 07 23.3**	**+0.4**
	baz=292								
TWC	**Suao**	**0.54**	**316**	P		**Pn**		**11 07 14.6**	**-0.2**
	baz=315								
TWC				S		**Sn**		**11 07 22.7**	**-0.6**
	baz=315								
ETL	**Fush Village**	**0.58**	**264**	P	

NACB	**Ninganchiao**	**0.61**	**266**	P		**Pn**	11 07 15.5	**-0.2**
	baz=265							
NACB				S		**Sn**	11 07 24.8	**0.0**
	baz=265							
TWD	**Chiawan**	**0.62**	**257**	*i* P		**Pn**	11 07 15.6	**-0.3**
	baz=257							
NDS	**Dongshan**	**0.65**	**310**	S		**Sn**	11 07 25.8	**+0.2**
	baz=308							
JYNG	**Yonaguni jima**	**0.67**	**69**	P		**Pn**	11 07 16.4	**0.0**
JYNG				*e*S		**Sn**	11 07 26.1	**0.0**
EGS		**0.69**	**335**	P		**Pn**	11 07 17.4	**+0.6**
	baz=333							
EGS				S		**Sn**	11 07 26.8	**+0.1**
	baz=333							
ETLH	**Xiulin Townshi**	**0.71**	**269**	P		**Pn**	11 07 16.7	**-0.3**
	baz=268							
ETLH				S		**Sn**	11 07 27.1	**-0.1**
	baz=268							
YOJ	**Yonaguni jima**	**0.73**	**70**	P		**Pn**	11 07 17.5	**+0.3**
YOJ				*e*S		**Sn**	11 07 28.0	**+0.5**
LATG	**Datong**	**0.74**	**296**	S		**Sn**	11 07 28.2	**+0.3**
	baz=294							
ENTT	**Nioudou**	**0.76**	**304**	P		**Pn**	11 07 16.9	**-0.7**
	baz=302							
ENTT				S		**Sn**	11 07 28.8	**+0.6**
	baz=302							
NDT	**Datong Townshi**	**0.78**	**300**	P		**Pn**	11 07 17.0	**-0.9**
	baz=298							
NDT				S		**Sn**	11 07 29.3	**+0.6**
	baz=298							
FUSB	**Fushanzhiwuyua**	**0.81**	**312**	P		**Pn**	11 07 18.7	**+0.3**
	baz=310							
FUSB				S		**Sn**	11 07 30.5	**+0.9**
	baz=310							
TWB1	**Santiao Chiao**	**0.82**	**343**	P		**Pn**	11 07 17.9	**-0.6**
	baz=342							
TWB1				S		**Sn**	11 07 29.4	**-0.4**
	baz=342							
NNSB	**Datong**	**0.83**	**285**	P		**Pn**	11 07 18.5	**-0.1**
	baz=284							
NNSB				S		**Sn**	11 07 30.1	**+0.2**
	baz=284							
TIPB	**Shuangxi**	**0.85**	**332**	P		**Pn**	11 07 18.6	**-0.2**
	baz=331							
TIPB				S		**Sn**	11 07 29.7	**-0.7**
	baz=331							
NWLT	**Wulai**	**0.89**	**309**	P		**Pn**	11 07 19.7	**+0.4**
	baz=308							
NWLT				S		**Sn**	11 07 31.3	**+0.1**
	baz=308							
WHF	**Hehuan Shan**	**0.91**	**266**	P		**Pn**	11 07 19.8	**-0.2**
	baz=265							
YHNB	**Yeheng**	**0.92**	**299**	P		**Pn**	11 07 19.8	**-0.1**
	baz=298							
YHNB				S		**Sn**	11 07 32.7	**+0.5**
	baz=298							
NSK	**Sanguang**	**0.94**	**299**	S		**Sn**	11 07 33.2	**+0.6**
	baz=298							
CHGB	**Renai**	**1.00**	**261**	P		**Pn**	11 07 20.9	**-0.2**
	baz=260							
CHGB				S		**Sn**	11 07 34.5	**+0.2**
	baz=260							
IRIF	**Iriomote-Funau**	**1.35**	**85**	P		**Pn**	11 07 25.2	**-0.3**
JKRS	**Kuro-shima**	**1.60**	**89**	P		**Pn**	11 07 29.4	**+0.5**
JIJ	**Ishigaki jima**	**1.73**	**85**	P		**Pn**	11 07 30.7	**+0.1**
JIJ				*e*S		**Sn**	11 07 50.8	**-0.7**
JISG	**Ishigakijimahi**	**1.91**	**78**	P		**Pn**	11 07 32.8	**-0.3**

IDC 19 11:15:00.7±1.8,14°.07S×165°.90E,h0km,mb3.6/4,
mb1 3.8/5,mb1mx3.5/38,mbtmp3.6/5,ML3.2/1,MS3.6/2,
Ms1 3.6/2,ms1mx2.9/42,Error ellipse: s-maj=52.9km
s-min=31.9km az=124.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.97**	**176**	Pn	Pn	11 16 57.0	**-1.0**
	0.4nm,0.3s,baz=3.4,slow=17,SNR=1.3						
DZM				Sn	Sn	11 18 22.5	**-6.5**
	0.1nm,0.3s,baz=318,slow=21,SNR=1.4						
STKA	**Stephens Creek**	**28.43**	**227**	P	P	11 20 58.3	**+1.0**
	1.6nm,0.7s,baz=49,slow=7.7,SNR=5.3						
RPZ	**Rata Peaks**	**29.87**	**172**	LR	LR	11 31 31.6	
	comp=Z,133nm,18.7s,baz=216,slow=33						
WRA	**Warramunga Arr**	**30.70**	**255**	P	P	11 21 16.6	**-1.0**
	0.4nm,0.9s,baz=86,slow=8.6,SNR=2.3						
ASAR	**Alice Springs**	**31.68**	**248**	P	P	11 21 26.1	**0.0**
	0.3nm,0.8s,baz=74,slow=9.7,SNR=2.3						
GUMO	**Guam**	**34.48**	**322**	LR	LR	11 37 53.5	
	comp=Z,59nm,18.2s,baz=104,slow=40						
ILAR	**Eielson Array**	**86.32**	**18**	P	P	11 27 44.2	**+0.1**
	0.4nm,0.8s,baz=234,slow=6.2,SNR=5.3						

*IDC **19** 11:19:39.5±1.0,14°.20S×166°.01E,h0km,mb3.9/9,*
mb1 4.1/11,mb1mx4.0/38,mbtmp4.0/11,ML4.4/2,MS3.5/7,
Ms1 3.5/7,ms1mx3.1/53,Error ellipse: s-maj=32.2km
s-min=21.9km az=129.0
*NOU **19** 11:19:41.2,14°.26S×166°.09E,h0km,MLv4.8/11,Vanuatu*
Islands
*NEIC **19** 11:19:43.4±1.4,14°.38S±0°.07×166°.1E±0°.1,h27km±7km,*
mb4.1/11,Error ellipse: s-maj=18.0km s-min=3.5km
az=57.0

ISC 19 11:19:44.4±0.6,14°.34S±0°.07×166°.08E±0°.08,h35km,n42,
σ1s26/40,mb4.0/16,MS3.5/6,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.55**	**136**	Pn	**Pn**	11 20 08.6	**-1.0**
SANVU	**Saraoutou**	**1.55**	**136**	P	**Pn**	11 20 09.1	**-0.5**
DVP	**Devils Point**	**3.94**	**149**	P	**Pn**	11 20 44.0	**+1.7**
KOUNC	**Koumac, New Ca**	**6.41**	**195**	Pn	**Pn**	11 21 14.1	**-2.4**
KOUNC	**Koumac, New Ca**	**6.41**	**195**	P	**Pn**	11 21 17.6	**+1.2**
LIFNC	**LIFOU**	**6.50**	**170**	Pn	**Pn**	11 21 15.0	**-2.6**
MARNC	**Mare, Loyalty**	**7.35**	**166**	Pn	**Pn**	11 21 28.6	**-0.6**
DZM	**Mont Dzumac**	**7.70**	**177**	Pn	**Pn**	11 21 34.8	**+0.6**
	1.4nm,0.3s,baz=353,slow=23,SNR=14						
DZM				Sn	**Sn**	11 23 00.9	**+0.6**
	baz=328,slow=23,SNR=0.8						
DZM	**Mont Dzumac**	**7.70**	**177**	P	**Pn**	11 21 34.8	**+0.6**
YATNC	**Mamie plateau,**	**7.72**	**174**	P	**Pn**	11 21 36.5	**+2.1**
HNR	**Honiara**	**7.73**	**308**	Pn	**Pn**	11 21 32.9	**-1.6**
	26nm,0.3s,baz=227,slow=6.6,SNR=8.0						
HNR				Sn	**Sn**	11 23 01.6	**+0.7**
	8.9nm,0.3s,baz=227,slow=13,SNR=1.2						
HNR	**Honiara**	**7.73**	**308**		**Pn**	11 21 34.7	**+0.2**
HNR	**Honiara**	**7.73**	**308**	P	**Pn**	11 21 34.4	**-0.1**
NOUC	**Port Laguerre**	**7.73**	**178**	P	**Pn**	11 21 36.0	**+1.5**
ONTNC	**Ouen Toro**	**7.94**	**177**	Pn	**Pn**	11 21 35.4	**-2.0**
CTA	**Charters Tower**	**19.77**	**250**	LR	LR	11 30 16.3	
	comp=Z,94nm,21.0s,baz=86,slow=32						
CMWZ	**Cape Campbell**	**28.21**	**167**	P	**P**	11 25 32.5	**-1.3**
STKA	**Stephens Creek**	**28.38**	**228**	P	**P**	11 25 37.3	**+1.7**
	2.1nm,0.4s,baz=42,slow=9.8,SNR=19						
STKA				LR	LR	11 35 52.2	
	comp=Z,98nm,19.9s,baz=69,slow=34						
STKA	**Stephens Creek**	**28.38**	**228**	P	**P**	11 25 36.7	**+1.1**
WR8	**Warramunga Arr**	**30.66**	**255**	P	**P**	11 25 55.3	**-0.6**
WR8				IAmb	IAmb	11 26 05.8	
	comp=Z,5.3nm,1.2s						
WR7	**Warramunga Arr**	**30.68**	**255**	P	**P**	11 25 55.8	**-0.2**
WR7				IAmb	IAmb	11 25 58.4	
	comp=Z,5.5nm,1.4s						
WB0	**Warramunga Arr**	**30.74**	**255**	P	**P**	11 25 55.8	**-0.8**
WB0				IAmb	IAmb	11 26 13.3	
	comp=Z,6.0nm,1.2s						
WR4	**Warramunga Arr**	**30.74**	**255**	P	**P**	11 25 55.7	**-0.9**
WR4				IAmb	IAmb	11 26 17.6	
	comp=Z,3.2nm,1.1s						
WB7	**Warramunga Arr**	**30.76**	**255**	P	**P**	11 25 56.6	**-0.1**
WB7				IAmb	IAmb	11 26 14.2	
	comp=Z,2.0nm,1.1s						
WR3	**Warramunga Arr**	**30.76**	**255**	P	**P**	11 25 55.3	**-1.4**
WR3				IAmb	IAmb	11 26 11.0	
	comp=Z,3.7nm,1.3s						
WB3	**Warramunga Arr**	**30.79**	**255**	P	**P**	11 25 55.7	**-1.3**
WB3				IAmb	IAmb	11 25 57.8	
	comp=Z,5.4nm,1.3s						
WB1	**Warramunga Ar.**	**30.80**	**255**	P	**P**	11 25 55.9	**-1.3**
WRA	**Warramunga Arr**	**30.80**	**255**	P	**P**	11 25 56.3	**-0.8**
	comp=Z,0.7nm,1.0s,baz=84,slow=9.4,SNR=4.9						
WRA				LR	LR	11 37 12.6	
	comp=Z,41nm,20.2s,baz=128,slow=34						
AS19	**Alice Springs**	**31.69**	**248**	P	**P**	11 26 03.3	**-1.7**
AS10	**Alice Springs**	**31.74**	**248**	P	**P**	11 26 05.9	**+0.5**
ASAR	**Alice Springs**	**31.74**	**248**	P	**P**	11 26 04.4	**-1.0**
	comp=Z,0.4nm,0.7s,baz=61,slow=10,SNR=4.5						
ASAR				LR	LR	11 36 54.9	
	comp=Z,112nm,21.2s,baz=136,slow=33						
BBOO	**Buckleboo**	**32.92**	**231**	P	**P**	11 26 17.1	**+1.5**
RAR	**Rarotonga**	**33.18**	**107**	LR	LR	11 38 28.1	
	comp=Z,76nm,19.1s,baz=133,slow=34						
BATI	**Baumata**		**41.60 271**	LR	LR	11 44 13.2	
	comp=Z,62nm,19.2s,baz=192,slow=36						
VNDA	**Vanda**		**63.23 181**	LR	LR	11 55 10.1	
	comp=Z,69nm,18.9s,baz=166,slow=34						
CMAR	**Chiang Mai Arr**	**73.73**	**294**	P	**P**	11 31 14.7	**-0.7**
	comp=Z,0.5nm,0.3s,baz=121,slow=4.6,SNR=6.3						
SONM	**Songino Array**	**81.50**	**324**	P	**P**	11 31 59.1	**+0.8**
	comp=Z,0.2nm,0.5s,baz=147,slow=8.2,SNR=2.0						
ILAR	**Eielson Array**	**86.51**	**18**	P	**P**	11 32 22.9	**-0.5**
	comp=Z,1.4nm,0.9s,baz=229,slow=6.2,SNR=12						
NVAR	**Mina Array Bea**	**87.89**	**50**	P	**P**	11 32 32.6	**+1.7**
	comp=Z,0.4nm,1.0s,baz=217,slow=2.3,SNR=2.6						
MKAR	**Makanchi Array**	**96.12**	**317**	P	**P**	11 33 09.3	**+0.7**
	comp=Z,0.1nm,0.3s,baz=106,slow=4.7,SNR=2.3						
YKA	**Yellowknife Ar**	**97.73**	**27**	P	**P**	11 33 14.5	**-0.9**
	comp=Z,0.6nm,0.9s,baz=252,slow=4.8,SNR=3.6						
ARCES	**ARCESS Array B**	**119.58**	**345**	PKP	**PKiKP**	11 38 29.6	**-0.4**
	comp=Z,4.0nm,1.0s,baz=68,slow=1.6,SNR=7.2						

*IDC **19** 11:25:19.9±0.7,55°.52S×26°.80W,h0km,mb4.4/7,*
mb1 4.5/8,mb1mx4.2/24,mbtmp4.4/8,ML4.0/1,MS3.8/4,
Ms1 3.8/4,ms1mx3.3/44,Error ellipse: s-maj=30.7km
s-min=19.7km az=64.0
*NEIC **19** 11:25:21.7±1.6,55°.6S±0°.1×27°.0W±0°.2,h10km±1km,*
mb4.6/39,Error ellipse: s-maj=23.9km s-min=16.8km
az=216.0

ISC 19 11:25:23.5±0.6,55°.62S±0°.10×27°.0W±0°.1,h25km,n53,
σ0s82/48,mb4.5/22,MS3.9/4,South Sandwich Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.62**	**280**	Pn	**Pn**	11 26 45.4	**0.0**
SNAA	**Sanae**	**19.10**	**157**	P	**Pn**	11 29 44.9	**0.0**
	0.4nm,0.3s,baz=301,slow=12,SNR=2.9						
SNAA	**Sanae**	**19.10**	**157**	IAmb	IAmb	11 29 46.3	
	comp=Z,8.5nm,0.9s						
PMSA	**Palmer Station**	**20.26**	**228**	P	Pn	11 29 59.0	**+0.4**
	comp=Z,42nm,1.1s,baz=76,slow=5.7,SNR=2.0						
PMSA	**Palmer Station**	**20.26**	**228**	IAmb	IAmb	11 30 08.4	
	comp=Z,135nm,1.4s						
SMAI	**San Martin Ant**	**22.16**	**220**	P	**P**	11 30 17.7	**+0.7**
BELA	**Belgrano 2**	**22.51**	**184**	P	**P**	11 30 19.7	**-1.1**
DSPA	**Despedida**	**23.60**	**257**	P	**P**	11 30 31.1	**-0.9**
MG02	**Cerro Sombrero**	**24.58**	**259**	P	**P**	11 30 40.7	**-0.4**
GO08	**Villa O'Higgin**	**28.47**	**265**	P	**P**	11 31 15.1	**-1.1**
GO08				IAmb	IAmb	11 31 26.1	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**34.63**	**180**	P	**P**	11 32 11.0	**+0.7**
QSPA				IAmb	IAmb	11 32 14.9	
	comp=Z,12nm,1.3s						
CPUP	**Villa Florida**	**36.60**	**311**	P	**P**	11 32 27.7	**+0.3**
	comp=Z,7.2nm,1.2s,baz=148,slow=8.5,SNR=4.2						
CPUP	**Villa Florida**	**36.60**	**311**	P	**P**	11 32 27.0	**-0.4**
CPUP				IAmb	IAmb	11 32 29.7	
	comp=Z,15nm,1.4s						
MT09	**Talagante**	**37.27**	**287**	P	**P**	11 32 32.7	**-0.6**
MT09				IAmb	IAmb	11 32 37.1	
	comp=Z,14nm,1.1s						
MT02	**Curacav**	**37.75**	**288**	P	**P**	11 32 37.3	**+0.2**
MT02				IAmb	IAmb	11 32 58.8	
	comp=Z,16nm,1.2s						
VA03	**San Esteban**	**37.81**	**289**	P	**P**	11 32 38.6	**+0.8**
VA03				IAmb	IAmb	11 32 53.5	
	comp=Z,13nm,1.1s						
MAW	**Mawson**	**40.44**	**144**	P	**P**	11 32 59.7	**+0.5**
	comp=Z,5.1nm,0.7s,baz=227,slow=7.3,SNR=9.3						
MAW				LR	LR	11 47 25.2	
	comp=Z,135nm,21.7s,baz=256,slow=33						
MAW	**Mawson**	**40.44**	**144**	P	**P**	11 32 59.3	**+0.2**
AQDB	**Aquidauana**	**41.15**	**317**	P	**P**	11 33 06.0	**+0.4**
AQDB				IAmb	IAmb	11 33 07.2	
	comp=Z,16nm,1.3s						
AC04	**Llanos de Chal**	**41.67**	**293**	P	**P**	11 33 09.0	**-0.7**
AC02	**Maricunga**	**41.77**	**296**	P	**P**	11 33 11.7	**+0.5**
AC06	**Mina Casimiro**	**41.98**	**294**	P	**P**	11 33 12.0	**-0.3**
BOSA	**Boshof**	**45.77**	**76**	LR	LR	11 50 52.0	
	comp=Z,203nm,18.6s,baz=190,slow=34						
VNDA	**Vanda**	**47.01**	**183**	P	**P**	11 33 53.0	**+1.1**
	comp=Z,3.1nm,0.6s,baz=193,slow=5.8,SNR=21						
VNDA	**Vanda**	**47.01**	**183**	P	**P**	11 33 52.5	**+0.6**
VNDA				IAmb	IAmb	11 33 53.7	
	comp=Z,4.6nm,0.8s						
LPAZ	**La Paz**	**50.21**	**305**	P	**P**	11 34 18.6	**+0.7**
	comp=Z,3.3nm,0.8s,baz=146,slow=6.1,SNR=6.0						
LPAZ	**La Paz**	**50.21**	**305**	P	**P**	11 34 18.0	**+0.1**
LPAZ				IAmb	IAmb	11 34 34.6	
	comp=Z,7.4nm,0.9s						
NNA	**Nana**	**58.13**	**298**	LR	LR	12 01 52.5	
	comp=Z,30nm,19.6s,baz=156,slow=38						
ROSC	**El Rosal**	**71.68**	**310**	LR	LR	12 10 13.6	
	comp=Z,88nm,19.7s,baz=194,slow=38						
TOC5	**Torodi Ar. Sit**	**72.61**	**29**	P	**P**	11 36 49.7	**+1.2**
TOC4	**Torodi Ar. Sit**	**72.61**	**29**	P	**P**	11 36 49.2	**+0.7**
TOC4				IAmb	IAmb	11 37 14.5	
	comp=Z,5.0nm,1.2s						
TOB4	**Torodi Ar. Sit**	**72.62**	**29**	P	**P**	11 36 47.5	**-1.0**
TOB4				IAmb	IAmb	11 36 53.8	
	comp=Z,6.1nm,1.4s						
TOB3	**Torodi Ar. Sit**	**72.62**	**29**	P	**P**	11 36 49.4	**+0.8**
TOB3				IAmb	IAmb	11 37 14.0	
	comp=Z,6.1nm,1.3s						
TOC6	**Torodi Ar. Sit**	**72.62**	**29**	P	**P**	11 36 47.8	**-0.8**
TOA3	**Torodi Ar. Sit**	**72.63**	**29**	P	**P**	11 36 48.3	**-0.3**
TOC3	**Torodi Ar. Sit**	**72.63**	**29**	P	**P**	11 36 48.7	**+0.1**
TOC3				IAmb	IAmb	11 37 15.3	
	comp=Z,6.7nm,1.3s						
TOA0	**Torodi Ar. Sit**	**72.63**	**29**	P	**P**	11 36 48.4	**-0.2**
TOA0				IAmb	IAmb	11 37 14.1	
	comp=Z,4.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**72.63**	**29**	P	**P**	11 36 49.1	**+0.5**
	comp=Z,1.0nm,0.7s,baz=199,slow=6.4,SNR=4.9						
TOA2	**Torodi Ar. Sit**	**72.63**	**29**	P	**P**	11 36 49.6	**+1.0**
TOA2				IAmb	IAmb	11 37 14.0	
	comp=Z,5.4nm,1.2s						
TOB5	**Torodi Ar. Sit**	**72.63**	**29**	P	**P**	11 36 49.9	**+1.3**
TOB5				IAmb	IAmb	11 37 05.9	
	comp=Z,4.3nm,1.1s						
TOA1	**Torodi Ar. Sit**	**72.64**	**29**	P	**P**	11 36 50.1	**+1.5**
TOA1				IAmb	IAmb	11 37 05.9	
	comp=Z,4.3nm,1.1s						
TOC7	**Torodi Ar. Sit**	**72.64**	**29**	P	**P**	11 36 49.6	**+1.0**
TOC7				IAmb	IAmb	11 37 06.0	
	comp=Z,4.7nm,1.1s						
TOC2	**Torodi Ar. Sit**	**72.65**	**29**	P	**P**	11 36 49.9	**+1.1**
TOC2				IAmb	IAmb	11 36 52.3	
	comp=Z,4.0nm,1.1s						
BAUV	**El Baul**	**72.81**	**317**	P	**P**	11 36 50.7	**+1.0**
BIRV	**Birongo**	**73.55**	**320**	P	**P**	11 36 54.5	**+0.5**
SDV	**Santo Domingo**	**73.78**	**315**	P	**P**	11 36 56.6	**+0.9**
SDV				IAmb	IAmb	11 37 13.1	
	comp=Z,6.1nm,1.1s						
ASAR	**Alice Springs**	**99.37**	**162**	P	**Pdif**	11 39 02.9	**-0.7**
	comp=Z,0.5nm,0.6s,baz=190,slow=3.9,SNR=6.5						
FINES	**FINESS Array B**	**123.95**	**28**	PKP	**PKiKP**	11 44 18.1	**0.0**
	comp=Z,0.9nm,0.8s,baz=232,slow=1.6,SNR=3.4						
CMAR	**Chiang Mai Arr**	**125.12**	**110**	PKP	**PKiKP**	11 44 21.4	**-0.5**
	comp=Z,0.4nm,0.3s,baz=227,slow=3.4,SNR=2.0						
YKA	**Yellowknife Ar**	**135.92**	**318**	PKP	**PKPdf**	11 44 40.0	**-0.5**
	comp=Z,0.5nm,0.6s,baz=128,slow=2.2,SNR=11						
ILAR	**Eielson Array**	**149.90**	**312**	PKPbc	**PKiKP**	11 45 09.8	**-1.0**
	comp=Z,4.7nm,0.7s,baz=110,slow=2.9,SNR=38						
SONM	**Songino Array**	**150.60**	**86**	PKPbc	**PKiKP**	11 45 11.9	**-1.1**
	comp=Z,2.6nm,0.8s,baz=217,slow=2.8,SNR=17						
SONM	**Songino Array**	**150.60**	**86**	PKPdf	**PKPdf**	11 45 05.0	**-1.8**
SONM					**PKiKP**	11 45 11.8	**-1.1**

IDC 19 11:32:00.9±1.7,14°.05S×166°.63E,h0km,mb3.6/4,
mb1 3.8/5,mb1mx3.6/28,mbtmp3.6/5,ML3.5/1,MS3.3/2,
Ms1 3.3/2,ms1mx2.8/54,Error ellipse: s-maj=52.3km
s-min=29.7km az=125.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.98**	**181**	Pn	Pn	11 33 57.2	**-1.1**
	0.7nm,0.3s,baz=323,slow=23,SNR=11						
DZM				Sn	Sn	11 35 24.6	**-4.8**
	baz=38,slow=19,SNR=1.1						
STKA	**Stephens Creek**	**28.97**	**228**	P	P	11 38 03.5	**+1.2**
	0.5nm,0.5s,baz=82,slow=7.1,SNR=3.0						
STKA				LR	LR	11 49 15.9	
	comp=Z,81nm,18.5s,baz=29,slow=36						
WRA	**Warramunga Arr**	**31.40**	**255**	P	P	11 38 23.7	**-0.2**
	0.6nm,0.9s,baz=85,slow=9.8,SNR=5.1						
ASAR	**Alice Springs**	**32.34**	**248**	P	P	11 38 31.8	**-0.5**
	0.3nm,0.6s,baz=73,slow=9.3,SNR=4.6						
RAR	**Rarotonga**	**32.75**	**107**	LR	LR	11 50 09.0	
	comp=Z,37nm,19.4s,baz=76,slow=33						
ILAR	**Eielson Array**	**86.08**	**18**	P	P	11 44 43.2	**0.0**
	0.6nm,0.8s,baz=225,slow=4.7,SNR=8.6						

*IDC **19** 11:32:16.6±1.0,55°.65S×27°.12W,h0km,mb3.7/3,*
mb1 4.0/3,mb1mx3.7/19,mbtmp3.7/3,Error ellipse:
s-maj=48.9km s-min=32.8km az=80.0

ISC 19 11:32:20.3±1.0,55°.7S±0°.2×27°.2W±0°.3,h25km,n7,σ0s25/7,
mb4.0/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**46.97**	**183**	P	**P**	11 40 48.5	**+0.1**
	1.3nm,0.7s,baz=174,slow=8.0,SNR=7.6						
LPAZ	**La Paz**	**50.13**	**305**	P	**P**	11 41 14.0	**-0.1**
	0.7nm,0.5s,baz=158,slow=5.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**72.72**	**30**	P	**P**	11 43 46.0	**+0.1**
	0.4nm,0.8s,baz=207,slow=7.3,SNR=2.5						
YKA	**Yellowknife Ar**	**135.86**	**318**	PKP	**PKPdf**	11 51 36.9	**-0.3**
	0.2nm,0.7s,baz=120,slow=2.1,SNR=2.6						
INK	**Inuvik**	**145.48**	**321**	PKPbc	**PKPab**	11 51 55.0	**+0.3**
	1.6nm,0.7s,baz=78,slow=3.9,SNR=14						
ILAR	**Eielson Array**	**149.83**	**312**	PKPbc	**PKPbc**	11 52 06.7	**+0.1**
	1.1nm,0.8s,baz=131,slow=2.3,SNR=11						
SONM	**Songino Array**	**150.72**	**86**	PKPbc	**PKPbc**	11 52 09.1	**-0.3**
	0.8nm,0.5s,baz=230,slow=3.2,SNR=7.4						

*BJI **19** 11:47:01.5±0.0,32°.51N×130°.66E,h5km,mb4.4/55,*
mB4.8/41,Ms4.8/57,Ms7 4.5/51
*IDC **19** 11:47:01.9±0.5,32°.57N×130°.53E,h0km,mb4.3/25,*
mb1 4.5/31,mb1mx4.4/52,mbtmp4.4/31,ML3.8/4,MS4.1/73,
Ms1 4.1/73,ms1mx4.1/94,Error ellipse: s-maj=12.2km
s-min=7.5km az=116.0
*JMA **19** 11:47:03.3,32°.57N×130°.65E,h11km±1km,M5.0*
Broadband fault plane solution: P waves. NP1:
φs111.00000°,δ88.00000°,λ25.00000°. NP2:φs20.00000°,
δ65.00000°,λ178.00000°. Principal axes: T Plg19.0000°,
Azm339.0000°; N Plg65.0000°, Azm116.0000°; P
Plg16.0000°, Azm243.0000°;
*MOS **19** 11:47:03.2±1.1,32°.63N×130°.60E,h14km,mb4.9/39,*
MS4.2/7 Error ellipse: s-maj=8.1km s-min=4.8km
az=104.5
*NIED **19** 11:47:03.4,32°.57N×130°.65E,h11km,MW4.9,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^16Nm;
Mrr0.03; Mθθ1.41; Mφφ-1.44; Mrθ-0.22; Mθφ1.52; Mφr0.38;
Fault plane solution: M0 2.13000×10^16 NP1:
φs202.00000°,δ81.00000°,λ-173.00000°. NP2:
φs111.00000°,δ83.00000°,λ-9.00000°.
*NEIC **19** 11:47:04.7,32°.60N×130°.54E,h11km,Moment Tensor*
Solution. Moment tensor: Scale 10^16Nm; Mrr0.01;
Mθθ1.34; Mφφ-1.36; Mrθ-0.24; Mθφ1.61; Mφr-0.40; Fault
plane solution: M0 2.15000×10^16 NP1:φs290.24000°,
δ77.70000°,λ2.28000°. NP2:φs199.76000°,δ87.78000°,
λ167.69000°. Principal axes: T 2.1643, Plg10.0000°,
Azm154.0000°; N -0.0251, Plg77.0000°, Azm10.0000°; P
-2.1392, Plg7.0000°, Azm246.0000°;
*NEIC **19** 11:47:04.7±1.5,32°.63N±0°.04×130°.54E±0°.07,h10km±1km,*
mb4.8/152,Mwr4.8/15 Error ellipse: s-maj=9.8km
s-min=6.3km az=115.0
*GCMT **19** 11:47:05.7±0.2,32°.62N±0°.01×130°.56E±0°.01,h16km±1km,*
MW4.9/114,Moment Tensor Solution. s34,c41;
s114,c180; Duration: 0 Moment tensor: Scale 10^16Nm;
Mrr-0.08±.08; Mθθ1.96±.07; Mφφ-1.88±.07; Mrθ0.63±.21;
Mθφ2.07±.07; Mφr-0.14±.20; Best double couple:
M0 2.89500×10^16 NP1:φs21.00000°,δ77.00000°,
λ179.00000°. NP2:φs112.00000°,δ89.00000°,λ13.00000°.
Principal axes: T 2.9550, Plg10.0000°, Azm337.0000°;
N -0.1160, Plg77.0000°, Azm118.0000°; P -2.8360,
Plg8.0000°, Azm246.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function

ISC 19 11:47:05.0±0.5,32.56N±0°.03×130°.61E±0°.04,h17km±2km,
h17km:pP-P,n541,σ1s25/518,mb4.7/130,MS4.3/81,
10C-20D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.17**	**94**	⇓P	Pb	11 47 06.4

JHJ LR LR 11 51 58.7
comp=Z,496nm,22.0s,baz=62,slow=38
JHJ2 Mitsune 7.76 83 Pn Pn 11 48 57.9 +0.6
JHJ2 Mitsune 7.76 83 P Pn 11 48 57.6 +0.3
SSE Sheshan 8.15 262 P Pn 11 48 59.8 -2.8
SSE S Sn 11 50 31.3 -3.1
SSE pmax pmax
comp=Z,9.0nm,0.8s
SSE pmax pmax
comp=Z,110nm,5.7s
SSE LR LR
comp=N,3μm,12.7s
SSE LR LR
comp=E,1μm,12.4s
JSD Sado 8.30 47 Pn Pn 11 49 05.3 +0.7
NJ2 Nanjing 9.97 270 *eP* **Pn 11 49 30.4 +2.9**
NJ2 pP 11 49 33.5
NJ2 sP 11 49 38.0
NJ2 S Sn 11 51 28.9 +10
NJ2 pmax pmax
comp=Z,15nm,0.7s
NJ2 LR LR
comp=N,3μm,9.4s
NJ2 LR LR
comp=E,2μm,8.9s
NJ2 LR LR
comp=Z,2μm,10.3s
JCJ Chichijima 11.43 115 Pn Pn 11 49 48.5 +1.0
2.3nm,0.3s,baz=294,slow=23,SNR=2.5
USA0B Ussuriysk Arra 11.67 5 P Pn 11 49 49.4 -1.4
USA0B Ussuriysk Arra 11.67 5 Pn Pn 11 49 49.4 -1.4
USRK Ussuriysk Ar. 11.67 5 Pn Pn 11 49 51.2 +0.4
baz=192,slow=13,SNR=7.3
USRK Ussuriysk Ar. 11.67 5 P Pn 11 49 48.4 -2.4
USRK Ussuriysk Ar. 11.67 5 Pn Pn 11 49 48.4 -2.4
TIA Tai'an 11.72 292 *eP* Pn 11 50 00.6 +9.0
TIA S Sn 11 52 13.3 +11
TIA pmax pmax
comp=Z,7.0nm,0.9s
TIA LR LR
comp=N,8μm,15.9s
TIA LR LR
comp=E,3μm,13.2s
TIA LR LR
comp=Z,3μm,9.2s
CN2 Changchun 11.93 342 *eP* **Pn 11 49 56.0 +1.7**
MDJ Mudanjiang 12.06 357 P Pn 11 49 56.8 +0.7
MDJ S **Sn 11 52 12.3 +2.0**
MDJ SS **SnSn 11 52 26.4 +3.8**
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ pmax pmax
comp=Z,270nm,3.6s
MDJ LR LR
comp=Z,1μm,8.5s
MDJ LR LR
comp=Z,2μm,12.8s
MDJ LR LR
comp=Z,2μm,11.4s
SSLB Suanglung 12.20 227 Pn 11 49 57.3 -0.8
QZH Quanzhou 12.99 237 ⇓ *iP* **P 11 50 22.1 +2.8**
QZH S Sn 11 52 54.3 +21
QZH LR LR
comp=N,1μm,11.4s
QZH LR LR
comp=E,2μm,12.8s
QZH LR LR
comp=Z,1μm,13.3s
TEY Ternei 13.30 19 *eP* **P 11 50 18.1 -4.5**
BNX BinXian 13.39 350 ⇓ P **Pn 11 50 17.1 +2.8**
BNX pmax pmax
comp=Z,41nm,1.3s
BNX pmax pmax
comp=Z,280nm,6.4s
BJI Beijing 13.82 307 P P 11 50 24.8 -3.7
BJI S **Sn 11 52 55.4 +2.2**
BJI pmax pmax
comp=Z,7.0nm,1.2s
BJI pmax pmax
comp=Z,180nm,5.7s
HNS HongShan 13.90 295 *eP* **P 11 50 29.9 +0.5**
HNS S **S 11 53 10.0 -7.1**
HNS LR LR
comp=N,6μm,16.8s
HNS LR LR
comp=E,3μm,16.3s
HNS LR LR
comp=Z,2μm,15.2s
WHN Wuhan 14.02 266 ⇑ P **Pn 11 50 24.8 +1.9**
WHN S S 11 53 09.5 -10
WHN LR LR
comp=Z,5μm,10.6s
WHN LR LR
comp=Z,5μm,12.4s
WHN LR LR
comp=Z,4μm,16.0s
ASAJ Asahikawa 14.86 36 Pn Pn 11 50 34.5 +0.1
comp=Z,0.5nm,0.3s,baz=247,slow=15,SNR=6.2
ASAJ LR LR 11 55 57.3
comp=Z,590nm,18.8s,baz=227,slow=36
ASAJ Asahikawa 14.86 36 P Pn 11 50 34.2 -0.2
JKA Kamikawa-asahi 14.87 36 Pn Pn 11 50 34.2 -0.2
LYN LuoYang 15.26 282 ⇑ P **Pn 11 50 41.3 +1.6**
LYN sP P 11 50 44.4 -0.1
LYN S **Sn 11 53 34.0 +5.6**
LYN pmax pmax
comp=Z,20nm,1.2s
LYN pmax pmax
comp=Z,300nm,5.0s
LYN LR LR
comp=Z,6μm,16.1s
LYN LR LR
comp=Z,1μm,11.6s
LYN LR LR
comp=Z,3μm,11.8s
XLT XiLinHaoTe 16.05 319 *eP* **Pn 11 50 50.8 +0.8**
XLT pP P 11 50 54.3 +0.9
XLT sP pP 11 50 58.4 +0.3
XLT PP **sP 11 51 06.0 +5.7**
XLT S **Sn 11 53 49.3 +1.6**
XLT sS S 11 53 55.5 -5.7
XLT PcP **PcP 11 55 47.9 +1.8**
XLT pmax pmax
comp=Z,20nm,1.3s
XLT pmax pmax
comp=Z,160nm,4.8s
XLT LR LR
comp=Z,430nm,13.1s
XLT LR LR
comp=Z,3μm,11.8s
XLT LR LR
comp=Z,2μm,13.9s
KLR Kul'dur 16.68 3 Pn **P 11 51 01.5 +1.4**
comp=Z,1.6nm,0.3s,baz=191,slow=7.0,SNR=52
KLR Kul'dur 16.68 3 ⇑ *eP* **Pn 11 50 58.7 +0.9**
YSS Yuzh-Sakhalins 17.11 29 *eP* **Pn 11 51 03.0 -0.3**
YSS MLR MLR
comp=E,1μm,13.0s
YSS MLR MLR
comp=Z,1μm,13.0s
YSS Yuzh-Sakhalins 17.11 29 Pn 11 51 02.6 -0.7
HHC Hu-ho-hao-te 17.35 304 *eP* **Pn 11 51 05.1 -1.4**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,95nm,4.8s
HIA Hailar 18.57 337 P P **11 51 20.1 -1.0**
HIA pmax pmax
comp=Z,19nm,1.1s
HIA Hailar 18.57 337 P 11 51 20.1 -1.0
GRNR Gornyy 18.69 12 ⇓ *iP* **P 11 51 16.7 -5.7**
GRNR pmax pmax
comp=E,4.0nm,0.9s
GRNR MLR MLR
comp=E,2μm,13.0s
GULI GuiLin 19.13 253 *eP* **Pn 11 51 33.9 +5.6**
GULI S **S 11 55 07.9 +4.1**
GULI pmax pmax
comp=Z,10.0nm,1.1s
GULI LR LR
comp=N,1μm,13.0s
GULI LR LR
comp=E,830nm,11.9s
GULI LR LR
comp=Z,2μm,10.8s

ZEA Zeya 21.30 354 *eP* **P 11 51 51.1 +0.3**
ZEA *eS* S 11 55 35.3 -11
ZEA pmax pmax
comp=N,300nm,4.4s
ZEA pmax pmax
comp=Z,400nm,4.2s
ZEA pmax pmax
comp=N,40nm,1.5s
ZEA pmax pmax
comp=Z,70nm,1.5s
ZEA smax smax
comp=Z,200nm,13.4s
ZEA smax smax
comp=E,300nm,14.7s
ZEA smax smax
comp=N,500nm,13.2s
ZEA MLR MLR
comp=N,400nm,11.0s
ZEA MLR MLR
comp=E,500nm,11.0s
ZEA MLR MLR
comp=Z,300nm,10.0s
GYA Guiyang 21.69 260 ⇑ P **P 11 51 59.1 +3.8**
GYA S Sn 11 56 00.0 -4.1
GYA pmax pmax
comp=Z,12nm,0.7s
GYA pmax pmax
comp=Z,180nm,3.5s
GYA LR LR
comp=Z,750nm,10.0s
GYA LR LR
comp=Z,1μm,11.0s
GYA LR LR
comp=Z,1μm,10.8s
LZH Lanzhou 22.36 286 *eP* **P 11 51 59.1 -3.4**
LZH sS Sn 11 56 16.9 -3.2
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.9s
LZH LR LR
comp=Z,3μm,14.1s
LZH LR LR
comp=Z,1μm,16.3s
LZH LR LR
comp=Z,2μm,16.3s
CD2 Chengdu 22.88 273 P **P 11 52 06.5 -1.4**
CD2 S **S 11 56 15.6 -1.4**
CD2 sS pS 11 56 19.8 -2.9
CD2 ScP **ScP 11 59 34.8 -0.7**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,130nm,7.3s
CD2 LR LR
comp=Z,540nm,14.9s
CD2 LR LR
comp=Z,4μm,13.9s
CD2 LR LR
comp=Z,2μm,19.0s
GUMO Guam 22.94 142 LR LR 11 59 34.2
comp=Z,342nm,21.8s,baz=309,slow=33
QIZ Qiongzhong 22.99 239 P **P 11 52 10.6 +1.5**
QIZ S **S 11 56 19.8 +0.8**
QIZ LR LR
comp=Z,1μm,15.1s
QIZ LR LR
comp=Z,920nm,11.2s
QIZ LR LR
comp=Z,620nm,19.1s
ULN Ulaanbaatar 23.48 317 ⇓ *eP* **P 11 52 13.6 -0.3**
ULN pmax pmax
comp=Z,42nm,1.7s
ULN Ulaanbaatar 23.48 317 P **P 11 52 13.7 -0.2**
ULN IAmb IAmb 11 52 19.0
comp=Z,27nm,1.1s
SONB3 Songino Array 23.83 317 P **P 11 52 16.7 -0.6**
SONA4 Songino Array 23.84 317 P **P 11 52 16.5 -0.9**
SONM Songino Array 23.84 317 P **P 11 52 17.4 0.0**
comp=Z,5.2nm,0.7s,baz=130,slow=9.5,SNR=39
SONM LR LR 12 02 29.3
comp=Z,986nm,18.4s,baz=114,slow=39
SONM Songino Array 23.84 317 P **P 11 52 17.1 -0.3**
SONM pmax pmax
comp=Z,10.0nm,1.0s
SONM Songino Array 23.84 317 P **P 11 52 17.1 -0.3**
SONB1 Songino Array 23.85 317 P **P 11 52 16.8 -0.8**
SONB5 Songino Array 23.86 317 P **P 11 52 16.4 -1.3**
KMI Kunming 25.47 260 ⇓ P **P 11 52 33.4 +0.8**
KMI sP pP 11 52 37.5 -0.1
KMI S **S 11 56 56.0 -3.3**
KMI sS sS 11 57 09.5 +1.8
KMI pmax pmax
comp=Z,12nm,0.6s
KMI pmax pmax
comp=Z,72nm,3.5s
KMI LR LR
comp=Z,810nm,14.6s
KMI LR LR
comp=Z,1μm,13.4s
KMI LR LR
comp=Z,600nm,15.8s
GTA Gaotai 25.76 294 *eP* **P 11 52 35.4 +0.4**
GTA pP pP 11 52 40.4 +0.3
GTA sP sP 11 52 43.4 +1.2
GTA pmax pmax
comp=Z,5.0nm,0.8s
PZH PanZhiHua 25.79 264 P **P 11 52 34.8 -0.6**
PZH pP **pP 11 52 38.9 -1.6**
PZH sP **sP 11 52 41.3 -1.3**
PZH S **S 11 57 04.1 -0.1**
PZH sS **sS 11 57 13.8 +1.2**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,190nm,5.3s
PZH LR LR
comp=Z,730nm,11.5s
PZH LR LR
comp=Z,560nm,12.1s
PZH LR LR
comp=Z,590nm,11.4s
DAV Davao City (W) 25.79 192 LR LR 12 04 26.1
comp=Z,384nm,18.4s,baz=22,slow=40
ZAK Zakamensk 26.91 319 *eP* **P 11 52 44.8 -0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.6s
IRK Irkutsk 27.41 324 *eP* **P 11 52 52.1 +2.5**
IRK pmax pmax
comp=Z,32nm,2.0s
BOD Bodaibo 27.68 341 *eP* **P 11 52 52.0 0.0**
BOD pmax pmax
comp=Z,15nm,1.7s
PETK Petropavlovsk- 28.28 35 LR LR 12 04 17.5
comp=Z,246nm,18.6s,baz=223,slow=37
YAK Yakutsk 29.49 359 P **P 11 53 09.2 +1.2**
comp=Z,9.4nm,0.4s,baz=291,slow=1.1,SNR=2.5
YAK LR LR 12 05 04.8
comp=Z,318nm,18.7s,baz=144,slow=37
YAK Yakutsk 29.49 359 *eP* **P 11 53 10.2 +2.2**
YAK *e**PP **pP 11 53 12.7 -0.4**
YAK *e* 11 54 03.4
YAK *e* 11 56 16.3
YAK *eS* **S 11 58 05.4 +3.9**
YAK *e**SS **sS 11 58 09.8 -0.1**
YAK *eSS* **ScP 11 59 54.6 +0.5**
YAK *e* 12 03 48.1
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,148nm,4.6s
YAK pmax pmax
comp=E,91nm,4.0s
YAK pmax pmax
comp=N,63nm,4.4s
YAK smax smax
comp=N,33nm,3.1s
YAK smax smax
comp=E,10.0nm,1.4s
YAK MLR MLR
comp=Z,446nm,17.0s
YAK MLR MLR
comp=N,257nm,14.0s
YAK MLR MLR
comp=E,225nm,16.0s
GOMU GeErMu 29.66 287 P **P 11 53 10.4 +0.1**
GOMU pP pP 11 53 14.4 -1.0
GOMU sP sP 11 53 16.8 -0.7
GOMU PcP **PcP 11 56 13.8 -0.7**
GOMU S **S 11 58 06.0 +0.4**
GOMU sS sS 11 58 13.8 -0.2
GOMU pmax pmax
comp=E,3.0nm,0.7s
GOMU pmax pmax
comp=E,38nm,4.2s
GOMU LR LR
comp=E,410nm,14.1s
GOMU LR LR
comp=E,400nm,14.5s
GOMU LR LR
comp=E,360nm,14.1s
MA2 Magadan 30.17 20 LR LR 12 05 00.8
comp=E,140nm,19.8s,baz=212,slow=36
KNGR Kungurtug, Tuv 30.28 316 ⇓ *eP* **P 11 53 15.9 +0.6**
CHTO Chiang Mai 31.52 252 P **P 11 53 26.7 +0.3**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 31.52 252 P **P 11 53 26.7 +0.3**
CHTO IAmb IAmb 11 53 28.1
comp=Z,6.9nm,0.9s
CM18 Chiang Mai Arr 31.67 251 P **P 11 53 27.2 -0.5**
CM09 Chiang Mai Arr 31.68 251 P **P 11 53 26.3 -1.5**
CM03 Chiang Mai Arr 31.70 251 P **P 11 53 26.4 -1.6**
CMAR Chiang Mai Arr 31.71 251 P **P 11 53 27.8 -0.3**
comp=Z,1.2nm,0.4s,baz=50,slow=7.9,SNR=8.2
CMAR LR LR 12 08 15.2
comp=Z,564nm,18.2s,baz=65,slow=40
CMAR Chiang Mai Arr 31.71 251 *i* P **P 11 53 29.8 +1.7**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 31.71 251 P **P 11 53 27.3 -0.8**
CM01 Chiang Mai Arr 31.71 251 P **P 11 53 26.1 -2.0**
SIJI Sorong 33.26 179 LR LR 12 07 12.3
comp=Z,282nm,18.7s,baz=358,slow=36
SEY Seymchan 33.38 18 LR LR 12 05 58.9
comp=Z,308nm,20.9s,baz=192,slow=34
SEY Seymchan 33.38 18 ⇓ *eP* **P 11 53 41.4 -0.8**
WMQ Urumqi 35.20 301 *eP* **P 11 54 00.0 +1.7**
WMQ pP pP 11 54 02.4 -1.1
WMQ sP sP 11 54 12.4 +6.8
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ LR LR
comp=Z,780nm,10.3s
WMQ LR LR
comp=Z,570nm,14.9s
WMQ LR LR
comp=Z,370nm,17.3s
SHEM Shemya Is, Ala 37.08 44 LR LR 12 08 28.4
comp=Z,112nm,21.6s,baz=253,slow=35
JIRN Jiri 38.53 275 *eP* **P 11 54 27.9 +0.7**
comp=Z,9.1nm,0.9s
GUN Gumba 38.71 275 *eP* **P 11 54 28.8 +0.1**
comp=Z,42nm,0.8s
ZAA2 Zalesovo Array 38.73 317 P **P 11 54 28.2 +0.1**
ZAB1 Zalesovo Array 38.73 317 P **P 11 54 28.4 +0.2**
ZAA0 Zalesovo Array 38.73 317 P **P 11 54 28.7 +0.5**
ZALV Zalesovo Beam 38.73 317 P **P 11 54 27.3 -0.8**
comp=Z,1.7nm,0.8s,baz=103,slow=6.4,SNR=8.0
ZALV PcP **PcP 11 56 38.0 -1.6**
comp=Z,0.6nm,0.5s,baz=119,slow=5.1,SNR=2.4
ZALV Zalesovo Beam 38.73 317 *i* P **P 11 54 29.7 +1.6**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 38.73 317 P **P 11 54 27.1 -1.0**
KAPI Kappang 38.77 197 LR LR 12 13 37.6
comp=Z,89nm,18.2s,baz=9.0,slow=41
BBKI Banjar Baru 38.83 206 P **P 11 54 28.5 -0.8**
comp=Z,25nm,0.5s
TIXI Tiksi 39.16 359 P **P 11 54 30.0 -1.4**
comp=Z,2.1nm,0.7s,baz=93,slow=22,SNR=11
TIXI LR LR 12 10 56.5
comp=Z,472nm,18.4s,baz=181,slow=37
TIXI Tiksi 39.16 359 ⇑ *iP* **P 11 54 32.9 +1.4**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI Tiksi 39.16 359 P **P 11 54 30.2 -1.3**
MK07 Makanchi Array 39.18 306 P **P 11 54 31.7 -0.4**
MK02 Makanchi Array 39.18 306 P **P 11 54 31.7 -0.4**
MK05 Makanchi Array 39.20 306 P **P 11 54 31.7 -0.5**
MK31 Makanchi Array 39.20 306 *i* P **P 11 54 31.4 -0.8**
MK31 Makanchi Array 39.20 306 P **P 11 54 31.7 -0.5**
MKAR Makanchi Array 39.20 306 P **P 11 54 31.0 -1.2**
comp=Z,1.7nm,0.7s,baz=96,slow=10,SNR=15
MKAR PcP **PcP 11 56 41.1 -0.2**
comp=Z,0.4nm,0.6s,baz=74,slow=5.1,SNR=2.2
MKAR LR LR 12 12 12.3
comp=Z,392nm,19.6s,baz=93,slow=39
MKAR Makanchi Array 39.20 306 P **P 11 54 31.9 -0.3**
MAKZ Makanchi 39.41 306 P **P 11 54 34.3 +0.3**
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
MAKZ Makanchi 39.41 306 P **P 11 54 34.3 +0.3**
DANN Dangsing 40.36 277 *eP* **P 11 54 42.1 -0.3**
KOLN Koldanda 40.67 276 *eP* **P 11 54 46.3 +1.4**
comp=Z,24nm,0.9s
BILL Bilibino 41.03 20 ⇑ *eP* **P 11 54 49.0 +2.0**
BILL *i* 11 54 57.7
BILL *eS* **S 12 01 04.2 +5.7**
BILL pmax pmax
comp=Z,6.0nm,0.7s
BILL MLR MLR
comp=Z,381nm,16.0s
BILL Bilibino 41.03 20 P **P 11 54 47.6 +0.5**
PYUN Piuthan 41.08 277 *eP* **P 11 54 48.3 0.0**
comp=Z,27nm,0.9s
PDGK Podgornoye 41.15 300 P **P 11 54 48.2 -0.4**
KRVT Keravat (AS076 41.92 147 LR LR 12 08 56.6
comp=Z,145nm,21.0s,baz=137,slow=31
KURK Kurchatov 41.92 311 *ceP* **P 11 54 55.3 +0.7**
KURK pmax pmax
comp=Z,19nm,1.7s
KURK Kurchatov 41.92 311 P **P 11 54 53.9 -0.7**
KURK IAmb IAmb 11 54 58.6
comp=Z,14nm,1.2s
PSI Prapat 41.95 232 LR LR 12 14 22.0
comp=Z,144nm,18.8s,baz=40,slow=39
KURBB Kurchatov Arra 41.97 311 P **P 11 54 53.7 -1.3**
MDOK Medeo 42.94 300 P **P 11 55 04.8 +1.6**
BATI Baumata 43.04 190 LR LR 12 13 28.2
comp=Z,64nm,21.7s,baz=28,slow=37
NRIK Noril'sk 43.97 340 P **P 11 55 10.2 -0.7**
comp=Z,4.5nm,0.4s,baz=115,slow=8.3,SNR=8.5
NRIK Noril'sk 43.97 340 *ceP* **P 11 55 09.9 -1.0**
NRIK pmax pmax
comp=Z,15nm,1.3s
NRIK Noril'sk 43.97 340 P **P 11 55 10.2 -0.7**
NRIK IAmb IAmb 11 55 14.9
comp=Z,18nm,1.3s
TKM2 Tokmak 2 44.02 300 *i* P **P 11 55 11.3 -0.7**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s
KRJI Kerinci 44.14 224 P P 11 55 19.5 +6.4
KSH Kashi 44.15 295 P **P 11 55 16.8 +3.8**
KLI Kotabumi 44.54 218 P **P 11 55 15.1 -1.0**
comp=Z,7μmcomp=Z,131nm,0.4s
PMG Port Moresby 44.62 156 LR LR 12 13 28.9
comp=Z,138nm,18.0s,baz=321,slow=36
MIDW Midway 44.72 81 P **P 11 55 18.1 +0.6**
AAK Ala-Archa 44.86 300 LR LR 12 15 08.4
comp=Z,796nm,18.4s,baz=76,slow=38
AAK Ala-Archa 44.86 300 ⇓ *eP* **P 11 55 20.8 +2.2**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 44.86 300 P **P 11 55 17.8 -0.8**
LEM Lembang 44.87 213 LR LR 12 15 45.2
comp=Z,114nm,20.3s,baz=15,slow=38
MTN Manton Dam 45.15 179 P **P 11 55 21.7 +0.8**
MTN IAmb IAmb 11 55 24.2
comp=Z,19nm,1.1s
OTUK Ortayu 45.96 308 P **P 11 55 27.2 +0.1**
BRVK Borovoye 47.21 314 *ceP* **P 11 55 36.5 -0.3**
BRVK pmax pmax
comp=Z,23nm,1.7s
BRVK Borovoye 47.21 314 P **P 11 55 36.9 +0.1**
KK05 Karatay Array 47.69 301 P **P 11 55 41.1 +0.3**
KK06 Karatay Array 47.69 301 P **P 11 55 40.8 0.0**

KK31 Karatay Array 47.70 301 *i* P **P** 11 55 39.9 -0.9
KK31 Karatay Array 47.70 301 P **P** 11 55 40.9 +0.1
KK31 IAmb IAmb 11 55 47.0
comp=Z,10nm,0.8s
KKAR Karatay Array 47.70 301 P **P** 11 55 40.6 -0.2
KKAR Karatay Array 47.70 301 P **P** 11 55 40.6 -0.2
KK03 Karatay Array 47.71 301 P **P** 11 55 41.0 +0.1
KNRA Kununurra 48.00 182 P **P** 11 55 44.4 +1.2
GAR Garm 48.57 295 P **P** 11 55 46.9 -0.8
GAR IAmb IAmb 11 56 05.8
comp=Z,7.3nm,0.6s
CHGR Chuyangaron 49.52 295 P **P** 11 55 54.2 -0.8
CHGR P pP 11 55 55.4 -4.9
CHGR pmax pmax
comp=Z,16nm,0.7s
CHGR Chuyangaron 49.52 295 P **P** 11 55 54.4 -0.6
FALS False Pass 50.52 43 P **P** 11 56 01.7 -0.4
baz=272
FITZ Fitzroy Crossi 50.60 186 P **P** 11 56 03.4 +0.3
WB0 Warramunga Arr 52.16 175 P **P** 11 56 13.9 -0.8
WB0 IAmb IAmb 11 56 19.2
comp=Z,11nm,1.4s
WB9 Warramunga Arr 52.18 176 P **P** 11 56 13.7 -1.2
WB9 IAmb IAmb 11 56 40.5
comp=Z,12nm,1.4s
WB5 Warramunga Arr 52.27 176 P **P** 11 56 15.5 0.0
WB3 Warramunga Arr 52.31 176 P **P** 11 56 15.9 0.0
WRAB Tennant Creek 52.32 176‖ *e*P **P** 11 56 18.1 +2.2
WRAB Tennant Creek 52.32 176 P **P** 11 56 15.9 0.0
WRA Warramunga Arr 52.33 176 P **P** 11 56 14.0 -2.0
comp=Z,1.1nm,0.5s,baz=355,slow=7.9,SNR=22
WRA LR LR 12 15 19.2
comp=Z,51nm,21.8s,baz=176,slow=32
WRA Warramunga Arr 52.33 176 *i* P **P** 11 56 17.2 +1.2
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 52.33 176 P **P** 11 56 15.4 -0.6
WB2 Warramunga Arr 52.33 176 P **P** 11 56 15.4 -0.6
WR2 Warramunga Arr 52.33 176 P **P** 11 56 15.8 -0.3
WR0 Warramunga Arr 52.36 175 P **P** 11 56 15.7 -0.5
PALK Pallekele 52.64 253 LR LR 12 22 06.1
comp=Z,109nm,18.7s,baz=152,slow=40
GCSA Galena City Sc 53.65 31 P **P** 11 56 25.7 +0.5
baz=270
ARU Arti 53.85 319 LR LR 12 19 58.6
comp=Z,204nm,20.6s,baz=84,slow=37
ARU Arti 53.85 319 *d i* P **P** 11 56 26.5 -0.4
ARU 11 58 24.2
ARU S **S** 12 04 02.7 +1.8
ARU SS **SKiKP** 12 07 36.4 -3.3
ARU pmax pmax
comp=Z,13nm,1.6s
AB05 Akbulak array 54.00 310 P **P** 11 56 28.1 0.0
AB31 Akbulak array 54.00 310 *e*P **P** 11 56 27.9 -0.2
AB31 Akbulak array 54.00 310 P **P** 11 56 27.6 -0.6
AB31 IAmb IAmb 11 56 34.1
comp=Z,8.0nm,1.0s
ABKAR Akbulak array 54.00 310 P **P** 11 56 28.0 -0.1
ABKAR IAmb IAmb 11 56 34.0
comp=Z,8.0nm,1.0s
AB08 Akbulak array 54.01 310 P **P** 11 56 27.2 -1.0
TTA Tatalina 54.07 33 P **P** 11 56 29.2 +0.7
TTA pmax pmax
comp=Z,9.0nm,1.2s
TTA Tatalina 54.07 33 P **P** 11 56 29.2 +0.7
TTA IAmb IAmb 11 56 30.2
comp=Z,8.7nm,1.2s
TTA Tatalina 54.07 33 P **P** 11 56 27.7 -0.8
baz=272
L19K White Mountain 54.64 34 P **P** 11 56 33.9 +1.3
L19K IAmb IAmb 11 56 35.5
comp=Z,10nm,1.2s
L19K White Mountain 54.64 34 P **P** 11 56 32.4 -0.2
baz=274
PSAB2 Pilbara Seismi 54.78 192 P **P** 11 56 34.9 +0.9
PSAB2 IAmb IAmb 11 56 45.5
comp=Z,6.7nm,0.8s
PSA00 Pilbara Seismi 54.80 192 P **P** 11 56 34.1 -0.1
PSAA3 Pilbara Seismi 54.81 192 P **P** 11 56 35.2 +1.0
PSAA3 IAmb IAmb 11 56 51.1
comp=Z,8.4nm,1.1s
J20K Nowinta River 54.85 31 P **P** 11 56 34.8 +0.8
J20K IAmb IAmb 11 56 36.3
comp=Z,9.2nm,0.9s
J20K Nowinta River 54.85 31 P **P** 11 56 33.6 -0.4
baz=273,SNR=7.3
M19K Big River Lodg 54.88 34 P **P** 11 56 35.7 +1.4
M19K IAmb IAmb 11 57 03.9
comp=Z,15nm,1.5s
M19K Big River Lodg 54.88 34 P **P** 11 56 34.4 0.0
baz=274
IM02 Indian Mountai 54.92 29 P **P** 11 56 35.0 +0.4
N19K Bonanza Creek 54.92 35 P **P** 11 56 34.2 -0.5
baz=275
IM04 Indian Mountai 54.93 29 P **P** 11 56 35.6 +1.0
K20K Telida 54.93 32 P **P** 11 56 35.8 +1.1
K20K IAmb IAmb 11 56 36.5
comp=Z,19nm,1.4s
K20K Telida 54.93 32 P **P** 11 56 34.1 -0.5
baz=274,SNR=5.8
IMAR Indian Mountai 54.94 29 P **P** 11 56 34.9 +0.2
AKTO Aktyubinsk 55.02 312 LR LR 12 21 50.2
comp=Z,460nm,19.5s,baz=86,slow=38
O19K Port Alsworth 55.06 36 P **P** 11 56 34.9 -0.7
baz=276
L20K Farewell, AK 55.08 33 P **P** 11 56 35.3 -0.5
baz=274
H21K Melozitna Rive 55.34 29 P **P** 11 56 38.7 +1.1
H21K Melozitna Rive 55.34 29 P **P** 11 56 37.5 -0.1
baz=273
CHUM Lake Minchumin 55.67 31 P **P** 11 56 39.6 -0.4
baz=275,SNR=6.2
I21K Tanana 55.72 30 P **P** 11 56 41.6 +1.3
I21K IAmb IAmb 11 56 42.6
comp=Z,12nm,1.1s
I21K Tanana 55.72 30 P **P** 11 56 39.5 -0.7
baz=274,SNR=6.8
RSO Redoubt South 55.81 36 P **P** 11 56 41.4 +0.1
CAST Castle Rocks 55.81 32 P **P** 11 56 42.0 +1.0
CAST IAmb IAmb 11 56 43.1
comp=Z,8.1nm,0.8s
CAST Castle Rocks 55.81 32 P **P** 11 56 40.4 -0.7
baz=275,SNR=6.5
PPLA Purkeypile 55.82 33 P **P** 11 56 42.3 +1.1
PPLA Purkeypile 55.82 33 P **P** 11 56 41.0 -0.3
baz=276
O20K Slope Mountain 55.92 36 P **P** 11 56 41.0 -0.9
baz=277
OHAK Old Harbor 55.96 40 P **P** 11 56 42.3 +0.2
baz=278
SPCR Spurr Chakacha 55.99 35 P **P** 11 56 41.6 -0.8
baz=277
AS31 Alice Springs 56.00 176 P **P** 11 56 42.1 -0.7
ASAR Alice Springs 56.00 176 P **P** 11 56 41.5 -1.3
comp=Z,1.3nm,0.8s,baz=8.2,slow=12,SNR=22
ASAR Alice Springs 56.00 176 P **P** 11 56 42.4 -0.4
ASAR Alice Springs 56.00 176 P **P** 11 56 42.4 -0.4
AS01 Alice Springs 56.00 176 P **P** 11 56 42.2 -0.6
AS07 Alice Springs 56.00 176 P **P** 11 56 42.6 -0.2
BPAW Bear Paw Mtn. 56.23 31 P **P** 11 56 45.0 +0.9
BPAW IAmb IAmb 11 56 56.6
comp=Z,6.9nm,1.1s
BPAW Bear Paw Mtn. 56.23 31 P **P** 11 56 44.4 +0.3
baz=276
KDAK Kodiak Island 56.25 39 LR LR 12 22 46.4
comp=Z,120nm,19.1s,baz=239,slow=38
COLD Coldfoot 56.28 27 P **P** 11 56 44.4 0.0
baz=274
KTH Kantishna Hill 56.32 32 P **P** 11 56 45.0 +0.2
KTH IAmb IAmb 11 56 46.7
comp=Z,8.5nm,1.0s
TOLK Toolik Lake Re 56.42 26 P **P** 11 56 46.5 +1.1
TOLK IAmb IAmb 11 57 04.2
comp=Z,5.5nm,0.9s
TOLK Toolik Lake Re 56.42 26 P **P** 11 56 45.5 +0.2
baz=274
TRF Thorofare Moun 56.61 32 P **P** 11 56 46.9 -0.1
baz=277
H23K Yukon River 56.67 29 P **P** 11 56 47.9 +0.7
H23K Yukon River 56.67 29 P **P** 11 56 46.7 -0.5
baz=276,SNR=15
CUT Chulitna 56.75 33 P **P** 11 56 47.7 0.0
baz=278
I23K Minto, Yukon-K 56.82 30 P **P** 11 56 48.5 +0.4
I23K IAmb IAmb 11 57 17.1
comp=Z,9.2nm,1.4s
I23K Minto, Yukon-K 56.82 30 P **P** 11 56 48.1 -0.1
baz=276
BRSE Bradley Lake S 56.90 36 P **P** 11 56 49.0 +0.1
baz=279
M22K Willow 56.91 34 P **P** 11 56 49.6 +0.8
M22K Willow 56.91 34 P **P** 11 56 48.3 -0.5
baz=278
NEA2 Nenana 57.01 30 P **P** 11 56 50.9 +1.4
NEA2 IAmb IAmb 11 56 51.4
comp=Z,9.5nm,0.8s
NEA2 Nenana 57.01 30 P **P** 11 56 48.9 -0.7
baz=277,SNR=13
MCK McKinley 57.18 31 P **P** 11 56 51.2 +0.4
MCK pmax pmax
comp=Z,12nm,1.1s
MCK McKinley 57.18 31 P **P** 11 56 51.2 +0.4
MCK IAmb IAmb 11 56 54.3
comp=Z,12nm,1.1s
MCK McKinley 57.18 31 P **P** 11 56 49.9 -0.8
baz=278
RC01 Rabbit Creek A 57.19 35 P **P** 11 56 50.3 -0.6
baz=279
RND Reindeer 57.26 32 P **P** 11 56 51.2 -0.2
RND pmax pmax
comp=Z,13nm,0.9s
RND Reindeer 57.26 32 P **P** 11 56 51.2 -0.2
MDM Murphy Dome 57.32 30 P **P** 11 56 51.9 +0.2
H24K Noodor Dome 57.35 29 P **P** 11 56 52.8 +0.8
H24K IAmb IAmb 11 56 54.4
comp=Z,7.8nm,1.0s
H24K Noodor Dome 57.35 29 P **P** 11 56 51.1 -0.9
baz=277,SNR=10.0
PMR Palmer 57.40 34 P **P** 11 56 52.4 +0.1
PMR pmax pmax
comp=Z,11nm,1.0s
PMR Palmer 57.40 34 P **P** 11 56 52.4 +0.1
PMR IAmb IAmb 11 56 53.2
comp=Z,11nm,1.0s
PMR Palmer 57.40 34 P **P** 11 56 51.8 -0.5
baz=279
WRH Wood River Hil 57.45 31 P **P** 11 56 53.4 +0.8
GHO Glory Hole Cre 57.47 34 P **P** 11 56 52.9 -0.1
SEW Seward 57.48 36 P **P** 11 56 52.3 -0.6
baz=280
COLA College 57.49 30‖ *e*P **P** 11 56 53.6 +0.7
COLA pmax pmax
comp=Z,9.0nm,1.2s
CCB Clear Creek Bu 57.54 30 P **P** 11 56 54.2 +0.9
POKR Poker Plat Res 57.63 30 P **P** 11 56 54.8 +0.9
POKR Poker Plat Res 57.63 30 P **P** 11 56 53.2 -0.7
baz=278
SML Sawmill 57.74 34 P **P** 11 56 55.3 +0.5
SML IAmb IAmb 11 57 00.3
comp=Z,11nm,0.8s
SML Sawmill 57.74 34 P **P** 11 56 54.4 -0.4
baz=280
KNK Knik Glacier 57.75 34 P **P** 11 56 54.1 -0.7
KNK IAmb IAmb 11 56 56.5
comp=Z,11nm,0.8s
KNK Knik Glacier 57.75 34 P **P** 11 56 54.3 -0.5
baz=280
IL14 Eielson Array 57.88 30 P **P** 11 56 55.8 +0.2
WAT6 Susitna Watana 57.89 33 P **P** 11 56 54.3 -1.7
baz=280
IL15 Eielson Array 57.89 30 P **P** 11 56 55.5 -0.2
PWL Port Wells 57.90 35 P **P** 11 56 55.4 -0.5
baz=280
IL17 Eielson Array 57.91 30 P **P** 11 56 55.2 -0.6
IL31 57.91 30 P **P** 11 56 56.2 +0.4
ILAR Eielson Array 57.91 30 P **P** 11 56 55.6 -0.3
comp=Z,2.3nm,0.7s,baz=275,slow=6.9,SNR=24
ILAR LR LR 12 22 01.1
comp=Z,87nm,18.6s,baz=310,slow=36
ILAR Eielson Array 57.91 30 P **P** 11 56 55.2 -0.7
ILAR Eielson Array 57.91 30 P **P** 11 56 55.2 -0.7
IL02 Eielson Array 57.92 30 P **P** 11 56 55.5 -0.5
DHY Denali Highway 57.97 32 P **P** 11 56 56.7 +0.1
DHY IAmb IAmb 11 57 00.5
comp=Z,4.8nm,0.8s
DHY Denali Highway 57.97 32 P **P** 11 56 56.3 -0.2
baz=280
GEYT Alibeck 58.08 297 LR LR 12 22 30.5
comp=Z,290nm,18.1s,baz=82,slow=37
SCM Sheep Creek Mo 58.21 34 P **P** 11 56 58.9 +0.8
SCM pmax pmax
comp=Z,17nm,1.1s
SCM Sheep Creek Mo 58.21 34 P **P** 11 56 58.9 +0.8
SCM Sheep Creek Mo 58.21 34 P **P** 11 56 57.6 -0.5
baz=280
BM03 Burnt Mountain 58.42 27 P **P** 11 57 00.1 +0.7
BMAR Burnt Mountain 58.42 27 P **P** 11 57 00.5 +1.0
BM02 Burnt Mountain 58.46 27 P **P** 11 57 00.6 +0.9
J25K Salcha River, 58.58 30 P **P** 11 57 01.2 +0.5
J25K Salcha River, 58.58 30 P **P** 11 57 00.1 -0.6
baz=280
M24K Tolsona, Glenn 58.69 33 P **P** 11 57 00.1 -1.4
baz=281
FID Port Fidalgo 58.82 35 P **P** 11 57 02.6 +0.4
PAX Paxson 58.85 32 P **P** 11 57 03.1 +0.5
PAX pmax pmax
comp=Z,7.0nm,1.2s
PAX Paxson 58.85 32 P **P** 11 57 03.1 +0.5
PAX IAmb IAmb 11 57 03.9
comp=Z,6.5nm,1.2s
PAX Paxson 58.85 32 P **P** 11 57 02.0 -0.6
baz=281
KLU Klutina 58.93 34 P **P** 11 57 03.9 +0.8
KLU IAmb IAmb 11 57 04.6
comp=Z,6.9nm,1.0s
KLU Klutina 58.93 34 P **P** 11 57 02.9 -0.2
baz=282
RIDG Independent Ri 58.97 31 P **P** 11 57 03.0 -0.3
baz=281
DIV Divide 59.08 34 P **P** 11 57 04.1 0.0
DIV IAmb IAmb 11 57 08.0
comp=Z,7.3nm,0.8s
EYAK Cordova Ski Ar 59.21 35 P **P** 11 57 04.8 -0.1
baz=282
SCRK Sand Creek 59.30 31 P **P** 11 57 05.1 -0.6
SCRK IAmb IAmb 11 57 06.7
comp=Z,8.8nm,0.9s
SCRK Sand Creek 59.30 31 P **P** 11 57 05.2 -0.5
baz=282,SNR=11
DOT Dot Lake 59.33 31 P **P** 11 57 04.9 -0.9
DOT IAmb IAmb 11 57 10.2
comp=Z,5.9nm,0.9s
J26L Joseph Creek 59.37 30 P **P** 11 57 05.7 -0.5
baz=282
N25K Chitina, Valde 59.53 34 P **P** 11 57 07.5 +0.3
N25K IAmb IAmb 11 57 12.3
comp=Z,8.7nm,0.9s
N25K Chitina, Valde 59.53 34 P **P** 11 57 07.4 +0.1
baz=283
MENT Mentasta 59.63 32 P **P** 11 57 08.7 +0.8
BMRM Bremner River 59.66 34 P **P** 11 57 08.9 +0.7
BMRN Bremner River 59.66 34 P **P** 11 57 07.9 -0.3
baz=283
L26K Log Cabin Wild 59.78 32 P **P** 11 57 09.5 +0.6
L26K IAmb IAmb 11 57 12.7
comp=Z,6.9nm,0.8s
L26K Log Cabin Wild 59.78 32 P **P** 11 57 09.2 +0.3
baz=283,SNR=8.5
GLB Gilahina Butte 59.93 34 P **P** 11 57 11.1 +1.1
GLB IAmb IAmb 11 57 21.1
comp=Z,5.5nm,1.0s
M26K Nabesna, AK 60.08 32 P **P** 11 57 11.7 +0.7
M26K Nabesna, AK 60.08 32 P **P** 11 57 11.0 0.0
baz=284,SNR=11
VRDI Verde Repeater 60.15 34 P **P** 11 57 12.0 +0.3
VRDI IAmb IAmb 11 57 15.1
comp=Z,7.7nm,0.7s
MCARA McCarthy VSAT 60.31 34 P **P** 11 57 13.4 +0.8
MCARA McCarthy VSAT 60.31 34 P **P** 11 57 12.3 -0.3
baz=284
EGAK Eagle 60.32 30 P **P** 11 57 14.2 +1.7
EGAK IAmb IAmb 11 57 37.0
comp=Z,8.3nm,1.4s
EGAK Eagle 60.32 30 P **P** 11 57 12.0 -0.6
baz=284
BC01 Beaver Creek A 60.45 32 P **P** 11 57 14.8 +1.2
L27K Beaver Creek, 60.45 32 P **P** 11 57 14.4 +0.9
L27K IAmb IAmb 11 57 15.6
comp=Z,6.4nm,0.8s
L27K Beaver Creek, 60.45 32 P **P** 11 57 12.8 -0.7
baz=284,SNR=8.1
BC02 Beaver Creek A 60.46 32 P **P** 11 57 14.7 +1.1
BCAR Beaver Creek A 60.47 32 P **P** 11 57 14.4 +0.7
BC05 Beaver Creek A 60.48 32 P **P** 11 57 14.6 +0.8
TGL Tana Glacier 60.56 34 P **P** 11 57 14.9 +0.5
TGL IAmb IAmb 11 57 15.8
comp=Z,9.4nm,0.9s
M27K Edge Creek, AK 60.60 32 P **P** 11 57 15.6 +0.9
M27K IAmb IAmb 11 57 16.4
comp=Z,6.0nm,0.8s
M27K Edge Creek, AK 60.60 32 P **P** 11 57 13.8 -0.9
baz=285,SNR=6.1
BELG Belogornoye 60.89 316 LR LR 12 25 27.6
comp=Z,378nm,19.5s,baz=71,slow=38
BARN Barnard Glacie 61.03 34 P **P** 11 57 18.6 +0.8
BARN IAmb IAmb 11 57 21.6
comp=Z,6.4nm,0.7s
BVCY Beaver Creek 61.04 32 P **P** 11 57 17.0 -0.6
baz=285
CTG Chitna Glacier 61.21 34 P **P** 11 57 18.5 -0.3
baz=286
CTGM Chitina Glacie 61.21 34 P **P** 11 57 20.2 +1.3
CTGM IAmb IAmb 11 57 24.2
comp=Z,11nm,1.0s
DAWY Dawson 61.24 30 P **P** 11 57 19.4 +0.5
DAWY Dawson 61.24 30 P **P** 11 57 19.0 +0.1
baz=286
I29M Ogilvie Camp, 61.34 29 P **P** 11 57 20.7 +1.2
YUK3 Moose Creek 61.40 33 P **P** 11 57 19.9 -0.3
baz=286
INK Inuvik 62.28 25 LR LR 12 27 37.8
comp=Z,130nm,18.2s,baz=269,slow=39
INK Inuvik 62.28 25 P **P** 11 57 25.8 +0.1
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 62.28 25 P **P** 11 57 25.8 +0.1
INK IAmb IAmb 11 57 37.2
comp=Z,4.9nm,0.9s
INK Inuvik 62.28 25 P **P** 11 57 24.9 -0.8
baz=288,SNR=7.4
YUK4 Talbot Arm 62.35 33 P **P** 11 57 26.8 +0.1
baz=288
KLMR Klimovskoe 62.67 327 *e*P **P** 11 57 26.8 -1.6
KLMR pmax pmax
comp=Z,14nm,1.3s
KLMR Klimovskoe 62.67 327 *e*P **P** 11 57 26.9 -1.5
KLMR AMP 11 57 32.4
comp=Z,14nm,1.3s
KLMR LQ LQ 12 19 31.2
KLMR LQ LQ 12 19 31.2
KLMR LR LR 12 25 28.1
M30M Minto, Yukon 62.80 31 P **P** 11 57 31.0 +1.6
M30M IAmb IAmb 11 57 33.2
comp=Z,4.5nm,1.1s
M30M Minto, Yukon 62.80 31 P **P** 11 57 29.2 -0.2
baz=289
HYT Haines Junctio 63.04 33 P **P** 11 57 31.6 +0.4
HYT IAmb IAmb 11 57 33.5
comp=Z,8.7nm,1.0s
HYT Haines Junctio 63.04 33 P **P** 11 57 30.8 -0.4
baz=289
SPITS Spitsbergen Ar 63.09 348 P **P** 11 57 30.2 -0.8
comp=Z,2.4nm,0.5s,baz=60,slow=12,SNR=9.0
SPITS LR LR 12 27 19.5
comp=Z,166nm,19.3s,baz=257,slow=38
A36M Sachs Harbour 63.59 20 P **P** 11 57 34.6 +0.3
A36M Sachs Harbour 63.59 20 P **P** 11 57 34.2 -0.1
baz=294,SNR=19
N31M Braeburn, Yuko 63.61 32 P **P** 11 57 34.3 -0.5
baz=290
M31M Drury Creek, Y 63.98 31 P **P** 11 57 37.9 +0.7
M31M IAmb IAmb 11 57 38.6
comp=Z,5.6nm,1.3s
M31M Drury Creek, Y 63.98 31 P **P** 11 57 36.7 -0.5
baz=291
DZM Mont Dzumac 64.22 143 P **P** 11 57 41.0 +1.7
comp=Z,4.0nm,0.6s,baz=140,slow=5.4,SNR=2.5
WHY Whitehorse 64.31 33 P **P** 11 57 39.3 -0.2
baz=291
FARO Faro, Yukon 64.43 31 P **P** 11 57 39.8 -0.4
baz=292,SNR=7.8
ARD3 ARCESS Array S 64.90 338 P **P** 11 57 42.6 -0.5
ARD2 ARCESS Array S 64.90 338 P **P** 11 57 42.9 -0.2
ARD2 IAmb IAmb 11 57 55.8
comp=Z,5.6nm,1.0s
ARCES ARCESS Array B 64.91 338 P **P** 11 57 41.6 -1.5
comp=Z,2.7nm,0.7s,baz=57,slow=8.5,SNR=10
ARCES LR LR 12 31 13.5
comp=Z,360nm,19.2s,baz=59,slow=41
ARCES ARCESS Array B 64.91 338 P **P** 11 57 42.0 -1.2
ARCES pmax pmax
comp=Z,27nm,1.5s
ARCES ARCESS Array B 64.91 338 P **P** 11 57 42.0 -1.2
STKA Stephens Creek 64.93 170 P **P** 11 57 43.7 +0.1
comp=Z,2.6nm,0.7s,baz=341,slow=6.9,SNR=8.5
STKA LR LR 12 24 57.7
comp=Z,186nm,20.9s,baz=26,slow=35
STKA Stephens Creek 64.93 170‖ *e*P **P** 11 57 45.6 +2.0
STKA Stephens Creek 64.93 170 P **P** 11 57 44.3 +0.7
C36M Paulatuk 65.06 22 P **P** 11 57 43.9 -0.1
C36M IAmb IAmb 11 58 03.2
comp=Z,7.5nm,0.8s
C36M Paulatuk 65.06 22 P **P** 11 57 43.2 -0.8
baz=296,SNR=5.6
MMPY Sheldon Lake, 65.18 30 P **P** 11 57 44.9 -0.2
baz=293
EUNU Eureka 65.78 7 P **P** 11 57 48.8 +0.2
EUNU IAmb IAmb 11 58 02.9
comp=Z,7.3nm,1.1s
VORR Voronezh 66.03 317 *e*P **P** 11 57 52.5 +1.8
VORR pmax pmax
comp=Z,60nm,0.4s
ZEI Tsey 66.54 307 *e*P **P** 11 57 54.5 +0.2
ZEI pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 66.84 308 P **P** 11 57 56.2 +0.3
comp=Z,9.8nm,0.9s,baz=106,slow=3.5,SNR=14
KBZ LR LR 12 30 20.3
comp=Z,281nm,18.6s,baz=104,slow=39
KIV Kislovodsk 66.89 308 *e*P **P** 11 57 57.8 +1.4
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,297nm,17.0s
GNI Garni 67.01 304 LR LR 12 30 37.5
comp=Z,255nm,18.4s,baz=90,slow=39
DLBC Dease Lake 67.46 34 LR LR 12 31 04.4
comp=Z,97nm,18.0s,baz=296,slow=39
FIC4 FINESS Array S 68.41 330 P **P** 11 58 04.1 -1.4
FIC3 FINESS Array S 68.41 330 P **P** 11 58 04.4 -1.1
FIA1 FINESS Array S 68.41 330 P **P** 11 58 04.0 -1.5
FINES FINESS Array B 68.41 330 P **P** 11 58 04.3 -1.3
comp=Z,3.9nm,0.5s,baz=74,slow=7.6,SNR=16
FINES LR LR 12 32 11.4
comp=Z,296nm,18.3s,baz=42,slow=40
FINES FINESS Array B 68.41 330 *i* P **P** 11 58 06.6 +1.0
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES FINESS Array B 68.41 330 P **P** 11 58 04.1 -1.5
RES Resolute Bay 68.95 12 P **P** 11 58 08.6 -0.1
comp=Z,2.9nm,0.8s,baz=332,slow=6.6,SNR=10
RES LR LR 12 29 14.8
comp=Z,111nm,21.1s,baz=276,slow=37
RES Resolute Bay 68.95 12 P **P** 11 58 09.0 +0.3
RES IAmb IAmb 11 58 15.2
comp=Z,5.8nm,1.0s
GEVA Gevas 68.96 303 P **P** 11 58 08.9 -0.7
GEVA IAmb IAmb 11 58 37.3
comp=Z,5.5nm,0.5s
TULEG Thule 70.48 5 P **P** 11 58 17.1 -1.0
TULEG IAmb IAmb 11 58 21.6
comp=Z,9.2nm,1.0s
NACGM Naroch 71.30 324‖ *e*P P 11 58 12.1 -11
BBB Bella Bella 71.31 40 LR LR 12 30 35.7
comp=Z,53nm,18.7s,baz=305,slow=37
YKAB0 New Yellowknif 71.87 26 P **P** 11 58 27.0 +0.2
YKAR6 New YK Array r 71.90 26 P **P** 11 58 27.4 +0.5
YKAR8 New YK Array r 71.94 26 P **P** 11 58 27.5 +0.4
YKA Yellowknife Ar 71.94 26 P **P** 11 58 27.0 -0.2
comp=Z,0.8nm,0.7s,baz=305,slow=6.0,SNR=18
YKA LR LR 12 33 16.5
comp=Z,60nm,19.9s,baz=349,slow=38
YKA Yellowknife Ar 71.94 26 *i* P **P** 11 58 26.7 -0.5
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 71.94 26 P **P** 11 58 27.1 -0.1
YKAB1 New Yellowknif 71.99 26 P **P** 11 58 28.2 +0.8

AKASG	**Malin Array Be**	**72.10**	**319**	P		**P**	**11 58 27.4**	**-1.0**	
	comp=Z,4.0nm,0.5s,baz=55,slow=6.6,SNR=11								
AKASG				LR		LR	12 32 18.9		
	comp=Z,295nm,18.1s,baz=58,slow=38								
AKBB	**Malin Array Si**	**72.10**	**319**	⇓*e*P		**P**	**11 58 30.2**	**+1.9**	
AKBB	**Malin Array Si**	**72.10**	**319**	P		**P**	**11 58 27.6**	**-0.8**	
AK01	**Malin Array Si**	**72.11**	**319**	P		**P**	**11 58 28.3**	**-0.1**	
AK11	**Malin Array Si**	**72.14**	**319**	P		**P**	**11 58 28.0**	**-0.6**	
AK11				IAmb		IAmb	11 58 34.3		
	comp=Z,7.1nm,0.7s								
AK15	**Malin Array Si**	**72.16**	**319**	P		**P**	**11 58 28.0**	**-0.7**	
AK16	**Malin Array Si**	**72.18**	**319**	P		**P**	**11 58 28.2**	**-0.7**	
AK16				IAmb		IAmb	11 58 41.0		
	comp=Z,7.4nm,0.8s								
AK19	**Malin Array Si**	**72.21**	**319**	P		**P**	**11 58 28.4**	**-0.5**	
JMIC	**Jan Mayen**	**72.74**	**347**	LR		LR	12 34 13.9		
	comp=Z,66nm,18.1s,baz=69,slow=39								
HFS	**Hagfors**	**74.19**	**332**	LR		LR	12 36 13.8		
	comp=Z,309nm,18.9s,baz=53,slow=40								
NC405	**NORSAR Array S**	**74.33**	**334**	P		**P**	**11 58 40.4**	**-1.0**	
NB201	**NORSAR Array S**	**74.53**	**334**	P		**P**	**11 58 41.5**	**-1.0**	
NB2	**NORSAR Subarra**	**74.56**	**334**	P		**P**	**11 58 41.5**	**-1.3**	
	comp=Z,7.3nm,0.9s,baz=51,slow=5.9								
NOA	**NORSAR Array B**	**74.56**	**334**	P		**P**	**11 58 41.0**	**-1.8**	
	comp=Z,2.2nm,0.7s,baz=52,slow=4.9,SNR=6.2								
NOA				LR		LR	12 35 37.5		
	comp=Z,161nm,18.8s,baz=50,slow=39								
BR103	**Keskin Array S**	**74.81**	**308**	P		**P**	**11 58 44.5**	**-0.3**	
BR101	**Keskin Array S**	**74.82**	**308**	P		**P**	**11 58 44.1**	**-0.7**	
BR131	**Keskin Array S**	**74.82**	**308**	P		**P**	**11 58 44.1**	**-0.7**	
BR131				pmax		pmax			
	comp=Z,15nm,1.2s								
BR131	**Keskin Array S**	**74.82**	**308**	P		**P**	**11 58 44.1**	**-0.7**	
BR131				IAmb		IAmb	11 58 51.0		
	comp=Z,15nm,1.1s								
BRTR	**Keskin Array B**	**74.82**	**308**	P		**P**	**11 58 44.6**	**-0.1**	
	comp=Z,6.5nm,0.8s,baz=97,slow=5.0,SNR=16								
BRTR				LR		LR	12 36 40.3		
	comp=Z,121nm,18.1s,baz=66,slow=40								
BRTR	**Keskin Array B**	**74.82**	**308**	P		**P**	**11 58 44.5**	**-0.3**	
BRTR	**Keskin Array B**	**74.82**	**308**	P		**P**	**11 58 44.5**	**-0.3**	
KWP	**Kalwaria Pacla**	**76.22**	**320**	P		**P**	**11 58 51.9**	**-0.6**	
KWP				pmax		pmax			
	comp=Z,151nm,1.0s								
KWP	**Kalwaria Pacla**	**76.22**	**320**	P		**P**	**11 58 51.9**	**-0.6**	
MLR	**Muntele Rosu**	**76.69**	**316**	LR		LR	12 33 48.8		
	comp=Z,273nm,21.7s,baz=54,slow=37								
BORA	**Eskisehir**	**76.85**	**309**	P		**P**	**11 58 55.4**	**-1.0**	
MMAI	**Mount Meron Ar**	**76.94**	**301**	LR		LR	12 36 52.5		
	comp=Z,248nm,19.3s,baz=211,slow=39								
OJC	**Ojcow**	**77.42**	**322**	P		**P**	**11 58 59.4**	**+0.2**	
OJC				pmax		pmax			
	comp=Z,13nm,0.9s								
OJC	**Ojcow**	**77.42**	**322**	P		**P**	**11 58 59.4**	**+0.2**	
J01E	**Myrtle Point**	**78.44**	**46**	P		**P**	**11 59 05.3**	**+0.3**	
	baz=304								
I03D	**Drain, OR**	**78.49**	**45**	P		**P**	**11 59 05.9**	**+0.7**	
	baz=304								
ELL	**Elmali**	**78.87**	**306**	P		**P**	**11 59 06.8**	**-0.8**	
ELL				pmax		pmax			
	comp=Z,32nm,1.0s								
ELL	**Elmali**	**78.87**	**306**	P		**P**	**11 59 06.8**	**-0.8**	
EIL	**Elat**	**78.97**	**298**	LR		LR	12 36 55.0		
	comp=Z,166nm,19.0s,baz=94,slow=38								
NEW	**Newport**	**79.36**	**39**	LR		LR	12 35 57.3		
	comp=Z,56nm,18.8s,baz=306,slow=37								
VRAC	**Vranov**	**79.63**	**323**	LR		LR	12 38 29.4		
	comp=Z,350nm,18.3s,baz=64,slow=39								
PINE	**Pine Mountain**	**79.87**	**44**	P		**P**	**11 59 13.0**	**-0.1**	
YBH	**Yreka Blue Hor**	**79.99**	**47**	LR		LR	12 30 12.9		
	comp=Z,46nm,22.0s,baz=295,slow=32								
J05D	**Fort Rock, OR**	**79.99**	**45**	P		**P**	**11 59 13.7**	**+0.1**	
	baz=306								
M02C	**Callahan**	**80.09**	**47**	P		**P**	**11 59 14.9**	**+0.7**	
	baz=305								
CLL	**Collm**	**80.14**	**326**	⇓*i*P		**P**	**11 59 17.4**	**+3.3**	
CLL				pmax		pmax			
	comp=Z,13nm,0.9s								
CLL				MLR		MLR			
	comp=Z,400nm,18.8s								
CLL	**Collm**	**80.14**	**326**	⇓*i*Px		Px	11 59 17.4		
	comp=Z,13nm,0.9s								
CLL				Lm		MLR	12 38 00.0		
	comp=Z,400nm,18.8s								
BORG	**Borgarnes**	**80.55**	**348**	LR		LR	12 34 26.1		
	comp=Z,52nm,21.9s,baz=259,slow=35								
SFJD	**Kangerlussuaq**	**80.75**	**0**	LR		LR	12 37 16.3		
	comp=Z,127nm,18.5s,baz=344,slow=37								
O02D	**Mt. Diablo Mer**	**80.83**	**48**	P		**P**	**11 59 18.7**	**+0.5**	
	baz=305								
KHC	**Kasperske Hory**	**81.27**	**324**	⇓*e*P		**P**	**11 59 22.4**	**+2.1**	
KHC				pmax		pmax			
	comp=Z,31nm,3.4s								
O03E	**Paynes Creek**	**81.38**	**48**	P		**P**	**11 59 21.0**	**-0.1**	
	baz=306								
GERES	**GERESS Array B**	**81.39**	**323**	LR		LR	12 39 56.4		
	comp=Z,217nm,18.1s,baz=44,slow=39								
LIT	**Litokhoron**	**81.83**	**313**	P		**P**	**11 59 23.2**	**-0.2**	
LIT				pmax		pmax			
	comp=Z,6.0nm,1.1s								
LIT	**Litokhoron**	**81.83**	**313**	P		**P**	**11 59 23.2**	**-0.2**	
LIT				IAmb		IAmb	11 59 27.5		
	comp=Z,5.8nm,1.1s								
MSO	**Missoula**	**81.94**	**39**	P		**P**	**11 59 24.2**	**+0.3**	
	baz=310								
FFC	**Flin Flon**	**82.03**	**28**	P		**P**	**11 59 23.6**	**-0.5**	
FFC				pmax		pmax			
	comp=Z,9.0nm,1.3s								
FFC	**Flin Flon**	**82.03**	**28**	P		**P**	**11 59 23.6**	**-0.5**	
FFC				IAmb		IAmb	11 59 28.6		
	comp=Z,8.7nm,1.2s								
BEKR	**Beckworth**	**82.53**	**47**	P		**P**	**11 59 27.3**	**0.0**	
URZ	**Urewera**	**82.68**	**145**	LR		LR	12 36 17.6		
	comp=Z,78nm,18.1s,baz=31,slow=36								
FRB	**Frobisher Bay**	**82.82**	**8**	LR		LR	12 37 37.0		
	comp=Z,249nm,20.1s,baz=2.0,slow=37								
EMB	**Emerald Bay**	**83.22**	**48**	P		**P**	**11 59 30.8**	**-0.1**	
EMB				IAmb		IAmb	11 59 55.1		
	comp=Z,8.5nm,1.5s								
PAHR	**Pah Rah Range**	**83.22**	**47**	P		**P**	**11 59 30.9**	**+0.1**	
EGMT	**Eagleton**	**83.30**	**36**	P		**P**	**11 59 31.2**	**+0.3**	
	baz=312								
CMB	**Columbia Colle**	**83.59**	**49**	P		**P**	**11 59 32.9**	**+0.2**	
CMB				pmax		pmax			
	comp=Z,4.0nm,1.3s								
CMB	**Columbia Colle**	**83.59**	**49**	P		**P**	**11 59 32.9**	**+0.2**	
YERR	**Yerington**	**83.75**	**47**	P		**P**	**11 59 34.3**	**+0.7**	
YERR				IAmb		IAmb	11 59 35.0		
	comp=Z,7.7nm,1.4s								
HLID	**Hailey**	**83.76**	**42**	P		**P**	**11 59 33.8**	**+0.2**	
	baz=310								
EKA	**Eskdalemuir Ar**	**83.93**	**335**	P		**P**	**11 59 32.9**	**-1.1**	
	comp=Z,1.3nm,0.7s,baz=51,slow=5.6,SNR=2.2								
EKA				LR		LR	12 41 20.0		
	comp=Z,245nm,18.9s,baz=30,slow=39								
BOZ	**Bozeman (W)**	**83.96**	**39**	P		**P**	**11 59 34.4**	**0.0**	
	baz=311								
RYN	**Ryan**	**84.41**	**47**	P		**P**	**11 59 36.9**	**0.0**	
RYN				IAmb		IAmb	11 59 43.5		
	comp=Z,6.9nm,1.3s								
KVN	**Kaiserville**	**84.41**	**47**	P		**P**	**11 59 37.8**	**+0.8**	
KVN				pmax		pmax			
	comp=Z,10.0nm,1.3s								
KVN	**Kaiserville**	**84.41**	**47**	P		**P**	**11 59 37.8**	**+0.8**	
KVN				IAmb		IAmb	11 59 41.6		
	comp=Z,9.8nm,1.3s								
RPZ	**Rata Peaks**	**84.42**	**152**	LR		LR	12 30 58.0		
	comp=Z,114nm,21.1s,baz=346,slow=31								
LHV	**Little Huntoon**	**84.65**	**48**	P		**P**	**11 59 39.0**	**+1.1**	
LHV				IAmb		IAmb	11 59 47.9		
	comp=Z,5.9nm,1.1s								
NVAR	**Mina Array Bea**	**84.67**	**47**	P		**P**	**11 59 38.5**	**+0.2**	
	comp=Z,1.4nm,0.8s,baz=310,slow=4.8,SNR=10								
NVAR	**Mina Array Bea**	**84.67**	**47**	P		**P**	**11 59 38.8**	**+0.5**	
DAVOX	**Davos/Dischmat**	**84.69**	**324**	LR		LR	12 39 54.9		
	comp=Z,320nm,19.4s,baz=78,slow=38								
OMMB	**Old Mammoth Mi**	**84.72**	**48**	P		**P**	**11 59 38.6**	**-0.2**	
ELK	**Elko**	**85.08**	**44**	LR		LR	12 31 26.6		
	comp=Z,60nm,21.5s,baz=325,slow=31								
TUE	**Stuetta**	**85.17**	**324**	P		**P**	**11 59 40.7**	**0.0**	
H17A	**Grant Village**	**85.31**	**39**	P		**P**	**11 59 42.5**	**+1.0**	
H17A				IAmb		IAmb	11 59 48.4		
	comp=Z,8.6nm,1.4s								
SMMC	**Simmler**	**85.47**	**51**	P		**P**	**11 59 42.4**	**+0.2**	
	baz=307								
RLMT	**Red Lodge**	**85.51**	**38**	P		**P**	**11 59 42.4**	**0.0**	
	baz=313								
TPH	**Tonopah**	**85.55**	**47**	P		**P**	**11 59 43.5**	**+0.8**	
TPH				pmax		pmax			
	comp=Z,44nm,1.1s								
TPH	**Tonopah**	**85.55**	**47**	P		**P**	**11 59 43.5**	**+0.8**	
LCH	**Last Change Ra**	**85.81**	**48**	P		**P**	**11 59 44.3**	**+0.3**	
PKM	**Mcpherson Peak**	**85.85**	**51**	P		**P**	**11 59 44.4**	**+0.1**	
	baz=307								
LAO	**LASA Array**	**85.96**	**35**	P		**P**	**11 59 44.4**	**0.0**	
	baz=315								
R11A	**Troy Canyon, C**	**86.39**	**46**	P		**P**	**11 59 46.4**	**-0.5**	
	baz=310								
HWUT	**Hardware Ranch**	**86.63**	**42**	P		**P**	**11 59 48.1**	**+0.1**	
HWUT				IAmb		IAmb	11 59 53.4		
	comp=Z,5.6nm,1.2s								
MPMC	**Manual Prospec**	**86.64**	**49**	P		**P**	**11 59 47.7**	**-0.4**	
	baz=308								
DUG	**Dugway, Tooele**	**86.85**	**43**	P		**P**	**11 59 49.2**	**+0.2**	
DUG				pmax		pmax			
	comp=Z,5.0nm,1.3s								
DUG	**Dugway, Tooele**	**86.85**	**43**	P		**P**	**11 59 49.2**	**+0.2**	
DUG				IAmb		IAmb	11 59 54.5		
	comp=Z,4.6nm,1.2s								
DUG	**Dugway, Tooele**	**86.85**	**43**	P		**P**	**11 59 49.5**	**+0.5**	
	baz=311								
TPNV	**Topopah Spring**	**86.86**	**48**	P		**P**	**11 59 49.7**	**+0.5**	
	baz=309								
LRMC	**Laurel Mtn Rad**	**86.87**	**49**	P		**P**	**11 59 49.3**	**+0.1**	
	baz=308								
BW06	**Boulder Array**	**86.96**	**40**	P		**P**	**11 59 49.2**	**-0.4**	
BW06	**Boulder Array**	**86.96**	**40**	P		**P**	**11 59 49.7**	**0.0**	
	baz=313								
PD31	**Pinedale Array**	**86.96**	**40**	P		**P**	**11 59 49.2**	**-0.5**	
PDAR	**Pinedale Array**	**86.96**	**40**	P		**P**	**11 59 49.4**	**-0.2**	
	comp=Z,1.5nm,0.8s,baz=37,slow=0.5,SNR=13								
PDAR				LR		LR	12 40 10.4		
	comp=Z,57nm,19.4s,baz=350,slow=37								
EDW2	**Edwards Air Fo**	**87.04**	**50**	P		**P**	**11 59 50.3**	**+0.4**	
	baz=308								
ULM	**Lac du Bonnet**	**87.86**	**28**	LR		LR	12 41 00.5		
	comp=Z,111nm,19.0s,baz=302,slow=37								
ULM	**Lac du Bonnet**	**87.86**	**28**	P		**P**	**11 59 53.3**	**-0.2**	
ULM				pmax		pmax			
	comp=Z,9.0nm,1.0s								
ULM	**Lac du Bonnet**	**87.86**	**28**	P		**P**	**11 59 53.3**	**-0.2**	
VAE	**Valguarnera**	**88.40**	**314**	LR		LR	12 46 20.6		
	comp=Z,105nm,18.1s,baz=96,slow=40								
P17A	**Butcher Ranch,**	**88.52**	**43**	P		**P**	**11 59 56.7**	**-0.4**	
P17A				IAmb		IAmb	12 00 02.3		
	comp=Z,6.2nm,1.2s								
P18A	**Preston Nutter**	**88.70**	**42**	P		**P**	**11 59 57.3**	**-0.8**	
P18A				IAmb		IAmb	12 00 03.6		
	comp=Z,7.1nm,1.1s								
PFO	**Pinyon Flats O**	**88.82**	**50**	LR		LR	12 33 00.1		
	comp=Z,120nm,19.6s,baz=315,slow=31								
N23A	**Red Feather La**	**90.20**	**39**	P		**P**	**12 00 05.0**	**-0.1**	
	baz=315								
B35A	**Bob, Littlefor**	**90.21**	**28**	P		**P**	**12 00 04.4**	**-0.2**	
PV13	**Radium Mtn., P**	**90.51**	**43**	P		**P**	**12 00 07.3**	**+0.7**	
ISCO	**Idaho Springs**	**91.16**	**40**	P		**P**	**12 00 09.4**	**-0.2**	
	baz=316								
MVCO	**Mesa Verde**	**91.35**	**43**	P		**P**	**12 00 10.2**	**-0.3**	
	baz=314								
EYMN	**Ely**	**91.41**	**27**	P		**P**	**12 00 09.4**	**-0.8**	
	baz=326								
SCHQ	**Schefferville**	**91.67**	**10**	LR		LR	12 43 35.8		
	comp=Z,134nm,19.5s,baz=31,slow=37								
S22A	**4UR Ranch, Cre**	**91.93**	**42**	P		**P**	**12 00 12.5**	**-0.7**	
	baz=315								
214A	**Organ Pipe Nat**	**92.24**	**50**	P		**P**	**12 00 14.4**	**0.0**	
	baz=311								
KEST	**Kesra**	**92.59**	**316**	LR		LR	12 46 36.7		
	comp=Z,163nm,20.1s,baz=295,slow=39								
ECSD	**EROS Data Cent**	**92.68**	**32**	P		**P**	**12 00 16.0**	**-0.2**	
	baz=322								
SDCO	**Great Sand Dun**	**92.68**	**41**	P		**P**	**12 00 16.5**	**-0.1**	
	baz=316								
ANMO	**Albuquerque**	**94.11**	**44**	LR		LR	12 45 07.0		
	comp=Z,36nm,18.1s,baz=338,slow=37								
ESDC	**Sonseca Array**	**96.71**	**326**	LR		LR	12 47 57.5		
	comp=Z,132nm,18.4s,baz=36,slow=38								
SADO	**Sadowa**	**98.41**	**21**	LR		LR	12 47 57.9		
	comp=Z,54nm,19.9s,baz=0.5,slow=37								
MBAR	**Mbarara**	**98.65**	**275**	LR		LR	12 47 10.6		
	comp=Z,97nm,18.1s,baz=124,slow=37								
TXAR	**Lajitas Array**	**99.75**	**46**	P		**Pdif**	**12 00 49.4**	**+0.8**	
	comp=Z,0.2nm,0.8s,baz=328,slow=3.2,SNR=2.4								
TXAR				LR		LR	12 43 27.6		
	comp=Z,35nm,20.7s,baz=335,slow=34								
LBNH	**Lisbon**	**100.85**	**16**	P		**Pdif**	**12 00 52.4**	**-0.7**	
	baz=341								

*NEIC **19** 12:04:56.7±1.8,28.97S±0.07×176.34W±0.10,h68km±7km, mb4.3/15, Error ellipse: s-maj=13.8km s-min=8.6km az=54.0*

*IDC **19** 12:04:58.4±2.5,28.65S×176.55W,h77km±20km,mb3.7/9, mb1 4.0/10,mb1mx3.8/33,mbtmp4.0/10,MS3.9/7, Ms1 3.9/7,ms1mx3.3/61, Error ellipse: s-maj=53.7km s-min=23.2km az=156.0*

ISC 19 12:04:52.7±0.7, 28.85S±0.10×176.12W±0.10, h38km, n51, σ1960/48, mb4.3/18, MS3.8/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.63**	**255**	P		**Pn**	**12 05 19.9**	**+1.1**
	200nm,0.3s,baz=105,slow=20,SNR=3.1							
RAO				S		**Sn**	**12 05 39.3**	**+0.8**
	570nm,0.3s,baz=53,slow=21,SNR=5.2							
RAO				LR		LR	12 05 47.8	
	comp=Z,324nm,20.5s,baz=54,slow=37							
RAO	**Raoul Island**	**1.63**	**255**			**Pn**	**12 05 20.4**	**+1.6**
RAO					Sn	**Sn**	**12 05 39.9**	**+1.4**
OUZ	**Omahuta**	**10.79**	**231**	P		Pn	12 07 35.6	+11
URZ	**Urewera**	**10.95**	**209**	P		**Pn**	**12 07 26.8**	**+0.1**
	0.3nm,0.3s,baz=53,slow=5.1,SNR=2.3							
URZ				S		**Sn**	**12 09 28.3**	**+0.4**
	1.5nm,0.3s,baz=53,slow=19,SNR=7.4							
URZ	**Urewera**	**10.95**	**209**	Pn		**Pn**	**12 07 27.0**	**+0.2**
URZ	**Urewera**	**10.95**	**209**	P		**Pn**	**12 07 27.3**	**+0.5**
BKZ	**Black Stump Fm**	**11.97**	**209**	P		**Pn**	**12 07 38.9**	**-1.9**
MSVF	**Nonsavu**	**12.29**	**333**	LR		LR	12 11 37.7	
	comp=Z,414nm,19.4s,baz=201,slow=34							
BFZ	**Birch Farm**	**13.36**	**206**	P		**Pn**	**12 07 59.6**	**-0.1**
KHZ	**Kahutara**	**15.92**	**209**	P		**Pn**	**12 08 30.0**	**-3.8**
DZM	**Mont Dzumac**	**17.12**	**289**	*e*Pn		**P**	**12 08 52.8**	**+2.2**
	44nm,1.4s							
DZM				*e*LR		LR	12 12 46.1	
	comp=Z,449nm,23.6s							
RPZ	**Rata Peaks**	**18.05**	**211**	P		**P**	**12 09 02.2**	**+1.6**
	0.6nm,0.3s,baz=316,slow=17,SNR=2.5							
TBI	**Tubuai**	**24.53**	**83**	*e*LR		LR	12 16 16.1	
	comp=Z,213nm,25.2s							
PPT2	**Papeete2**	**26.78**	**71**	*e*LR		LR	12 17 12.1	
	comp=Z,134nm,24.2s							
ARMA	**Armidale**	**28.03**	**259**	P		**P**	**12 10 38.7**	**-1.8**
ARMA				IAmb		IAmb	12 11 05.6	
	comp=Z,14nm,1.4s							
CTA	**Charters Tower**	**35.22**	**276**	P		**P**	**12 11 42.0**	**-1.6**
	comp=Z,1.5nm,0.4s,baz=83,slow=12,SNR=2.0							
CTA				LR		LR	12 24 40.2	
	comp=Z,363nm,18.8s,baz=82,slow=34							
CTAO	**Charters Tower**	**35.22**	**276**	P		**P**	**12 11 42.3**	**-1.4**
STKA	**Stephens Creek**	**36.45**	**254**	P		**P**	**12 11 54.0**	**0.0**
	comp=Z,0.9nm,0.3s,baz=89,slow=10.0,SNR=9.5							
STKA	**Stephens Creek**	**36.45**	**254**	P		**P**	**12 11 54.3**	**+0.3**
TAOE	**Nuku Hiva Isla**	**39.19**	**67**	*e*LR		LR	12 22 52.4	
	comp=Z,75nm,24.2s							
PMG	**Port Moresby**	**39.49**	**292**	LR		LR	12 26 29.4	
	comp=Z,144nm,20.2s,baz=110,slow=33							
BBOO	**Buckleboo**	**40.98**	**252**	P		**P**	**12 12 30.9**	**-1.2**
BBOO				IAmb		IAmb	12 12 32.3	
	comp=Z,6.9nm,1.1s							
AS17	**Alice Springs**	**44.78**	**265**	P		**P**	**12 13 01.5**	**-1.4**
AS07	**Alice Springs**	**44.80**	**265**	P		**P**	**12 13 01.7**	**-1.4**
AS02	**Alice Springs**	**44.83**	**265**	P		**P**	**12 13 02.0**	**-1.3**
AS31	**Alice Springs**	**44.86**	**265**	P		**P**	**12 13 02.7**	**-0.9**
ASAR	**Alice Springs**	**44.86**	**265**	P		**P**	**12 13 01.6**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=96,slow=7.2,SNR=34							
ASAR				PcP		**PcP**	**12 14 45.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=116,slow=4.3,SNR=2.1							
ASAR				LR		LR	12 31 17.3	
	comp=Z,180nm,18.3s,baz=105,slow=36							
AS15	**Alice Springs**	**44.86**	**265**	P		**P**	**12 13 02.1**	**-1.5**
WR0	**Warramunga Arr**	**45.53**	**270**	P		**P**	**12 13 06.5**	**-2.4**
WR0				IAmb		IAmb	12 13 07.8	
	comp=Z,4.8nm,1.1s							
WC3	**Warramunga Arr**	**45.68**	**270**	P		**P**	**12 13 07.8**	**-2.2**
WC3				IAmb		IAmb	12 13 09.1	
	comp=Z,5.3nm,1.1s							
WB2	**Warramunga Arr**	**45.70**	**270**	P		**P**	**12 13 08.0**	**-2.2**
WRAB	**Tennant Creek**	**45.71**	**270**	P		**P**	**12 13 07.8**	**-2.4**
WRAB				IAmb		IAmb	12 13 11.7	
	comp=Z,6.0nm,1.1s							
WRA	**Warramunga Arr**	**45.71**	**270**	P		**P**	**12 13 07.7**	**-2.7**
	comp=Z,0.9nm,0.3s,baz=108,slow=6.4,SNR=34							
WRA				PcP		**PcP**	**12 14 46.9**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=111,slow=3.7,SNR=3.4							
WRA				LR		LR	12 29 50.2	
	comp=Z,78nm,20.7s,baz=210,slow=33							
WRA	**Warramunga Arr**	**45.71**	**270**	P		**P**	**12 13 07.9**	**-2.4**
WB6	**Warramunga Arr**	**45.72**	**270**	P		**P**	**12 13 08.3**	**-2.1**
WB6				IAmb		IAmb	12 13 09.3	
	comp=Z,4.3nm,1.0s							
WB0	**Warramunga Arr**	**45.73**	**270**	P		**P**	**12 13 08.2**	**-2.3**
WB0				IAmb		IAmb	12 13 11.8	
	comp=Z,4.1nm,1.0s							
KNRA	**Kununurra**	**52.26**	**272**	P		**P**	**12 13 58.3**	**-2.2**
FITZ	**Fitzroy Crossi**	**54.03**	**268**	P		**P**	**12 14 11.7**	**-1.8**
FITZ				IAmb		IAmb	12 14 35.5	
	comp=Z,5.7nm,1.2s							
QSPA	**South Pole Qui**	**61.26**	**180**	P		**P**	**12 15 04.0**	**+0.1**
QSPA				IAmb		IAmb	12 15 21.7	
	comp=Z,2.1nm,0.8s							
MAW	**Mawson**	**74.33**	**200**	LR		LR	12 50 17.9	
	comp=Z,68nm,18.0s,baz=21,slow=37							
KSRS	**Korea Array**	**84.25**	**318**	P		**P**	**12 17 20.3**	**0.0**
	comp=Z,1.1nm,0.9s,baz=139,slow=7.6,SNR=2.8							
NVAR	**Mina Array Bea**	**85.99**	**42**	P		**P**	**12 17 31.0**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=219,slow=6.9,SNR=6.2							
NEW	**Newport**	**93.16**	**35**	LR		LR	12 58 00.6	
	comp=Z,48nm,18.2s,baz=29,slow=34							
PDAR	**Pinedale Array**	**93.89**	**43**	P		**P**	**12 18 08.1**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=228,slow=1.8,SNR=3.7							
CMAR	**Chiang Mai Arr**	**94.45**	**288**	P		**P**	**12 18 09.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=116,slow=2.1,SNR=4.3							
ILAR	**Eielson Array**	**96.06**	**12**	P		**P**	**12 18 15.7**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=209,slow=5.2,SNR=4.3							
FINES	**FINESS Array B**	**147.44**	**342**	PKP		**PKPab**	**12 24 21.3**	**-0.4**
	comp=Z,2.4nm,1.0s,baz=25,slow=4.6,SNR=3.7							
NOA	**NORSAR Array B**	**147.44**	**353**	PKPbc		**PKPbc**	**12 24 21.8**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=13,slow=4.4,SNR=3.3							
AKASG	**Malin Array Be**	**151.00**	**326**	PKPbc		**PKPbc**	**12 24 40.8**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=61,slow=2.7,SNR=5.7							
BRTR	**Keskin Array B**	**153.24**	**302**	PKPbc		**PKiKP**	**12 24 47.8**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=90,slow=1.4,SNR=3.6							
BRTR	**Keskin Array B**	**153.24**	**302**			**PKPbc**	**12 24 46.1**	**-0.6**

IDC 19 12:33:28.7±2.2, 56.85S×27.45W, h0km, mb3.4/1, mb1 3.4/1, mb1mx3.3/18, mbtmp3.4/1, Error ellipse: s-maj=121.0km s-min=84.8km az=142.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**73.82**	**30**	P		P	12 45 04.8	0.0
	0.2nm,0.5s,baz=184,slow=5.8,SNR=1.5							
ILAR	**Eielson Array**	**150.53**	**311**	PKPbc		PKPbc	12 53 20.4	-0.4
	0.5nm,0.7s,baz=122,slow=1.7,SNR=5.6							
SONM	**Songino Array**	**150.91**	**88**	PKPbc		PKPbc	12 53 22.0	-0.3
	0.3nm,0.4s,baz=237,slow=3.6,SNR=2.9							

*IDC **19** 12:35:35.0±0.8, 14.33S×166.16E, h0km, mb4.2/13, mb1 4.4/15, m

WB2	Warramunga Arr	30.79	255	P		P		12 41 52.8	-0.1
WRAB	Tennant Creek	30.79	255	P		P		12 41 52.1	-0.8
WRA	Warramunga Arr	30.80	255	P		P		12 41 51.7	-1.3
	comp=Z,2.2nm,1.1s,baz=87,slow=6.4,SNR=6.3								
WRA				PcP		PcP		12 44 50.6	+0.8
	comp=Z,1.5nm,1.1s,baz=88,slow=1.9,SNR=5.2								
WRA				LR		LR		12 53 15.1	
	comp=Z,272nm,20.3s,baz=56,slow=34								
WRA	Warramunga Arr	30.80	255	P		P		12 41 51.4	-1.6
HTT	Hallett	31.13	228	P		P		12 41 57.0	+1.3
	comp=Z,16nm,1.1s								
OOD	Oodnadatta	31.27	240	P		P		12 41 59.2	+2.3
	comp=Z,16nm,1.7s								
AS18	Alice Springs	31.68	248	P		P		12 42 00.7	0.0
AS08	Alice Springs	31.69	248	P		P		12 42 01.5	+0.7
ASAR	Alice Springs	31.74	248	P		P		12 42 00.2	-1.0
	comp=Z,0.7nm,0.7s,baz=75,slow=9.1,SNR=10								
ASAR				PcP		PcP		12 44 53.2	+0.9
	comp=Z,0.4nm,0.7s,baz=87,slow=3.3,SNR=3.7								
ASAR				LR		LR		12 54 27.8	
	comp=Z,168nm,18.8s,baz=93,slow=36								
AS11	Alice Springs	31.75	248	P		P		12 42 00.5	-0.8
H11S2	WAKE ISLAND Hy	32.59	1	T		T		13 16 21.7	
	baz=184								
H11S3	WAKE ISLAND Hy	32.59	1	T		T		13 16 24.0	
	baz=184								
H11S1	WAKE ISLAND Hy	32.61	1	T		T		13 16 16.8	
	baz=184								
BBOO	Buckleboo	32.93	231	P		P		12 42 11.7	+0.2
BBOO				IAmb		IAmb		12 42 19.2	
	comp=Z,28nm,1.1s								
BBOO	Buckleboo	32.93	231	P		P		12 42 12.6	+1.1
	comp=Z,27nm,1.1s								
SIJI	Sorong	36.90	288	LR		LR		12 58 26.2	
	comp=Z,141nm,19.0s,baz=122,slow=37								
FITZ	Fitzroy Crossi	38.95	259	LR		LR		12 58 52.6	
	comp=Z,214nm,18.6s,baz=94,slow=36								
FITZ	Fitzroy Crossi	38.95	259	P		P		12 43 03.3	+0.1
BATI	Baumata	41.59	271	LR		LR		13 01 06.6	
	comp=Z,175nm,18.8s,baz=128,slow=37								
PPT2	Papeete2	42.71	101	eLR		LR		12 55 11.5	
	comp=Z,174nm,25.8s								
APSI	Ampana	45.88	283	P		P		12 43 56.4	-3.2
KAPI	Kappang	46.50	277	LR		LR		13 02 01.5	
	comp=Z,71nm,21.5s,baz=100,slow=34								
TAOE	Nuku Hiva Isla	52.88	90	eLR		LR		12 59 47.0	
	comp=Z,156nm,22.5s								
MJAR	Matsushiro Arr	56.99	333	LR		LR		13 08 03.6	
	comp=Z,28nm,21.2s,baz=205,slow=34								
KSRS	Korea Array	62.73	326	P		P		12 46 02.5	+0.6
	comp=Z,0.9nm,0.7s,baz=152,slow=8.0,SNR=5.2								
NJ2	Nanjing	64.56	316	eP		P		12 46 15.4	+1.4
NJ2				pmax		pmax			
	comp=Z,12nm,0.5s								
USA0B	Ussuriysk Arra	65.98	334	P		P		12 46 22.9	-0.1
USA0B				IAmb		IAmb		12 46 25.7	
	comp=Z,11nm,1.2s								
USRK	Ussuriysk Ar.	65.98	334	P		P		12 46 24.6	+1.6
	comp=Z,2.3nm,0.8s,baz=145,slow=5.3,SNR=5.5								
KMI	Kunming	73.09	302	∥P		P		12 47 09.6	+2.0
KMI				sP		pP		12 47 15.1	-2.7
KMI				pmax		pmax			
	comp=Z,15nm,1.1s								
XLT	XiLinHaoTe	73.68	325	eP		P		12 47 12.4	+1.9
XLT				pP		pP		12 47 17.0	-3.8
XLT				sP		sP		12 47 19.4	-5.2
XLT				pmax		pmax			
	comp=Z,5.0nm,1.0s								
XLT				pmax		pmax			
	comp=Z,91nm,4.3s								
CM12	Chiang Mai Arr	73.71	294	P		P		12 47 12.9	+1.8
CMAR	Chiang Mai Arr	73.71	294	P		P		12 47 12.8	+1.8
	comp=Z,2.9nm,1.0s,baz=117,slow=4.4,SNR=14								
CMAR	Chiang Mai Arr	73.71	294	P		P		12 47 10.4	-0.7
CHTO	Chiang Mai	73.84	295	P		P		12 47 11.2	-0.6
PZH	PanZhiHua	74.48	303	P		P		12 47 15.8	+0.2
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,70nm,5.5s								
HHC	Hu-ho-hao-te	74.51	320	eP		P		12 47 17.0	+1.6
HHC				pmax		pmax			
	comp=Z,16nm,0.9s								
HHC				pmax		pmax			
	comp=Z,99nm,5.1s								
LZH	Lanzhou	77.17	313	eP		P		12 47 42.1	+11
LZH				pP		sP		12 47 46.8	+1.9
LZH				pmax		pmax			
	comp=Z,14nm,1.2s								
KDAK	Kodiak Island	79.48	21	P		P		12 47 43.7	+0.9
	baz=221								
O18K	Koktuh Hills	80.22	19	P		P		12 47 48.7	+1.8
	baz=218								
N18K	Kilae Creek	80.67	18	P		P		12 47 50.2	+0.9
	baz=217								
N19K	Bonanza Creek	81.20	18	P		P		12 47 54.0	+1.8
	baz=218								
O20K	Slope Mountain	81.22	20	P		P		12 47 54.1	+1.8
	baz=220								
YAK	Yakutsk	81.29	344	LR		LR		13 24 08.0	
	comp=Z,21nm,18.2s,baz=213,slow=36								
SONM	Songino Array	81.46	324	P		P		12 47 55.2	+1.3
	comp=Z,0.4nm,0.8s,baz=122,slow=5.4,SNR=5.4								
SONM	Songino Array	81.46	324	IAmb		IAmb		12 47 56.5	
	comp=Z,8.8nm,1.7s								
MAW	Mawson	81.84	202	P		P		12 47 56.4	+0.9
	comp=Z,3.0nm,0.9s,baz=64,slow=8.0,SNR=2.8								
BILL	Bilibino	82.11	0	P		P		12 47 57.0	+0.2
BILL				IAmb		IAmb		12 47 58.5	
	comp=Z,14nm,1.2s								
L19K	White Mountain	82.17	17	P		P		12 47 58.4	+1.2
	baz=218								
SEW	Seward	82.30	21	P		P		12 47 59.6	+1.8
	baz=223								
TTA	Tatalina	82.44	16	P		P		12 48 00.4	+1.7
	baz=217								
O22K	Cooper Landing	82.48	20	P		P		12 47 59.2	+0.4
	baz=223								
L20K	Farewell, AK	82.68	18	P		P		12 48 01.2	+1.3
	baz=219								
RC01	Rabbit Creek A	82.92	20	P		P		12 48 02.2	+1.1
	baz=223								
PWL	Port Wells	83.23	21	P		P		12 48 02.7	0.0
PWL	Port Wells	83.23	21	P		P		12 48 03.0	+0.3
	baz=224								
M22K	Willow	83.29	19	P		P		12 48 02.9	0.0
	baz=222								
K20K	Telida	83.32	17	P		P		12 48 03.7	+0.6
	baz=219								
PMR	Palmer	83.49	20	P		P		12 48 03.8	-0.2
PMR	Palmer	83.49	20	P		P		12 48 04.3	+0.3
	baz=223,SNR=5.9								
PPLA	Purkeypile	83.50	18	P		P		12 48 03.4	-0.8
	baz=220								
KNK	Knik Glacier	83.58	20	P		P		12 48 05.5	+0.9
KNK	Knik Glacier	83.58	20	P		P		12 48 04.8	+0.3
	baz=224								
GLI	Glacier Island	83.67	21	P		P		12 48 05.6	+0.7
	baz=225								
GCSA	Galena City Sc	83.67	15	P		P		12 48 05.4	+0.5
	baz=216								
GHO	Glory Hole Cre	83.69	20	P		P		12 48 05.5	+0.4
CUT	Chulitna	83.72	19	P		P		12 48 04.9	-0.2
	baz=222								
SML	Sawmill	83.91	20	P		P		12 48 06.8	+0.5
SML	Sawmill	83.91	20	P		P		12 48 06.3	+0.1
	baz=224,SNR=5.7								
CAST	Castle Rocks	83.94	18	P		P		12 48 06.2	0.0
CAST				IAmb		IAmb		12 48 07.8	
	comp=Z,16nm,1.3s								
CAST	Castle Rocks	83.94	18	P		P		12 48 06.3	0.0
	baz=220								
J20K	Nowinta River	83.94	16	P		P		12 48 06.2	0.0
	baz=218								
CHUM	Lake Minchumin	84.22	17	P		P		12 48 08.5	+0.8
	baz=220								
SCM	Sheep Creek Mo	84.26	20	P		P		12 48 09.1	+1.1
SCM	Sheep Creek Mo	84.26	20	P		P		12 48 08.3	+0.2
	baz=225								
DIV	Divide	84.31	21	P		P		12 48 08.9	+0.6
KTH	Kantishna Hill	84.38	18	P		P		12 48 08.3	-0.3
KTH				IAmb		IAmb		12 48 09.2	
	comp=Z,16nm,1.2s								
TRF	Thorofare Moun	84.49	18	P		P		12 48 09.1	-0.2
	baz=222								
KLU	Klutina	84.50	21	P		P		12 48 09.5	+0.2
	baz=226								
BMRM	Bremner River	84.61	22	P		P		12 48 09.6	-0.2
	baz=228								
WAT6	Susitna Watana	84.66	20	P		P		12 48 10.1	-0.1
	baz=225,SNR=7.6								
BPAW	Bear Paw Mtn.	84.77	17	P		P		12 48 10.3	-0.2
BPAW				IAmb		IAmb		12 48 17.2	
	comp=Z,7.4nm,1.2s								
BPAW	Bear Paw Mtn.	84.77	17	P		P		12 48 10.3	-0.2
	baz=222								
M24K	Tolsona, Glenn	84.84	20	P		P		12 48 10.3	-0.7
	baz=226								
RND	Reindeer	84.90	19	P		P		12 48 11.7	+0.5
N25K	Chitina, Valde	85.05	21	P		P		12 48 12.7	+0.6
N25K				IAmb		IAmb		12 48 24.7	
	comp=Z,21nm,1.4s								
N25K	Chitina, Valde	85.05	21	P		P		12 48 11.7	-0.3
	baz=228								
MCK	McKinley	85.11	18	P		P		12 48 12.7	+0.5
MCK	McKinley	85.11	18	P		P		12 48 12.2	0.0
	baz=223,SNR=12								
DHY	Denali Highway	85.13	19	P		P		12 48 13.1	+0.6
DHY				IAmb		IAmb		12 48 15.5	
	comp=Z,18nm,1.3s								
DHY	Denali Highway	85.13	19	P		P		12 48 12.6	+0.1
	baz=225,SNR=6.8								
BWN	Browne	85.27	18	P		P		12 48 13.9	+1.0
O02D	Mt. Diablo Mer	85.28	47	P		P		12 48 13.1	-0.6
	baz=247								
I21K	Tanana	85.31	16	P		P		12 48 14.5	+1.4
I21K	Tanana	85.31	16	P		P		12 48 13.9	+0.8
	baz=220,SNR=12								
H21K	Melozitna Rive	85.45	16	P		P		12 48 14.7	+0.8
H21K				IAmb		IAmb		12 48 16.3	
	comp=Z,16nm,1.4s								
H21K	Melozitna Rive	85.45	16	P		P		12 48 14.3	+0.4
	baz=220,SNR=7.8								
IMAR	Indian Mountai	85.46	15	P		P		12 48 14.4	+0.5
N02D	Trinity Center	85.65	46	P		P		12 48 15.8	+0.3
N02D				IAmb		IAmb		12 48 18.3	
	comp=Z,10nm,1.4s								
J01E	Myrtle Point	85.68	44	P		P		12 48 15.3	-0.2
	baz=246								
NEA2	Nenana	85.70	18	P		P		12 48 14.8	-0.3
NEA2	Nenana	85.70	18	P		P		12 48 15.9	+0.8
	baz=223,SNR=9.1								
BARN	Barnard Glacie	85.75	23	P		P		12 48 16.7	+1.0
BARN				IAmb		IAmb		12 48 17.9	
	comp=Z,23nm,1.4s								
CTG	Chitna Glacier	85.81	23	P		P		12 48 15.9	-0.1
	baz=230								
CTGM	Chitina Glacie	85.81	23	P		P		12 48 16.1	+0.2
CTGM				IAmb		IAmb		12 48 28.0	
	comp=Z,13nm,1.0s								
WRH	Wood River Hil	85.90	18	P		P		12 48 16.5	+0.3
WRH				IAmb		IAmb		12 48 17.1	
	comp=Z,13nm,1.0s								
YBH	Yreka Blue Hor	85.94	45	P		P		12 48 17.9	+0.9
I23K	Minto, Yukon-K	86.02	17	P		P		12 48 17.0	+0.4
	baz=223								
CCB	Clear Creek Bu	86.12	18	P		P		12 48 17.2	+0.1
CCB				IAmb		IAmb		12 48 18.0	
	comp=Z,6.6nm,0.9s								
M26K	Nabesna, AK	86.14	21	P		P		12 48 17.6	+0.2
M26K				IAmb		IAmb		12 48 19.5	
	comp=Z,6.2nm,1.2s								
M26K	Nabesna, AK	86.14	21	P		P		12 48 18.0	+0.5
	baz=229								
MDM	Murphy Dome	86.21	18	P		P		12 48 17.7	0.0
TCOL	CIGO, UAF Yank	86.26	18	P		P		12 48 17.9	0.0
TCOL				IAmb		IAmb		12 48 18.8	
	comp=Z,14nm,0.9s								
TCOL	CIGO, UAF Yank	86.26	18	P		P		12 48 17.5	-0.3
	baz=224,SNR=5.8								
COLA	College	86.27	18	P		P		12 48 18.1	+0.2
COLA				IAmb		IAmb		12 48 18.8	
	comp=Z,13nm,0.8s								
COLA	College	86.27	18	P		P		12 48 17.8	0.0
	baz=224								
RIDG	Independent Ri	86.41	20	P		P		12 48 18.9	+0.2
	baz=227								
L26K	Log Cabin Wild	86.43	21	P		P		12 48 19.1	+0.3
L26K				IAmb		IAmb		12 48 21.4	
	comp=Z,17nm,1.6s								
L26K	Log Cabin Wild	86.43	21	P		P		12 48 18.6	-0.2
	baz=229								
H23K	Yukon River	86.47	17	P		P		12 48 19.4	+0.5
H23K	Yukon River	86.47	17	P		P		12 48 18.9	0.0
	baz=223,SNR=8.8								
IL31		86.48	18	P		P		12 48 18.8	-0.1
ILAR	Eielson Array	86.48	18	P		P		12 48 18.4	-0.6
	comp=Z,3.4nm,0.8s,baz=235,slow=5.9,SNR=28								
ILAR	Eielson Array	86.48	18	P		P		12 48 19.2	+0.2
M27K	Edge Creek, AK	86.51	22	P		P		12 48 20.3	+1.0
M27K				IAmb		IAmb		12 48 31.2	
	comp=Z,7.8nm,1.3s								
M27K	Edge Creek, AK	86.51	22	P		P		12 48 19.4	+0.1
	baz=230								
M04C	Macdoel	86.56	45	P		P		12 48 19.8	-0.3
	baz=248								
POKR	Poker Plat Res	86.56	18	P		P		12 48 19.5	+0.1
	baz=225								
DOT	Dot Lake	86.61	20	P		P		12 48 20.5	+0.9
DOT				IAmb		IAmb		12 48 22.7	
	comp=Z,14nm,1.6s								
YUK3	Moose Creek	86.66	22	P		P		12 48 20.5	+0.3
	baz=231								
ISA	Isabella, Lake	86.81	52	P		P		12 48 21.1	-0.3
	baz=250								
J25K	Salcha River,	86.84	19	P		P		12 48 21.0	+0.2
J25K				IAmb		IAmb		12 48 22.4	
	comp=Z,7.0nm,1.0s								
J25K	Salcha River,	86.84	19	P		P		12 48 20.8	0.0
	baz=227,SNR=7.3								
SCRK	Sand Creek	86.85	20	P		P		12 48 21.2	+0.2
SCRK	Sand Creek	86.85	20	P		P		12 48 20.7	-0.3
	baz=228								
BEKR	Beckworth	86.89	48	P		P		12 48 21.8	0.0
EDW2	Edwards Air Fo	86.91	53	P		P		12 48 21.1	-0.7
	baz=250								
MPK	Martis Peak	86.92	48	P		P		12 48 22.8	+0.7
MPK				IAmb		IAmb		12 48 24.5	
	comp=Z,6.3nm,1.1s								
H24K	Noodor Dome	86.95	17	P		P		12 48 22.0	+0.7
	baz=224								
L27K	Beaver Creek,	86.98	21	P		P		12 48 22.0	+0.5
	baz=230								
BBB	Bella Bella	87.07	34	LR		LR		13 20 28.9	
	comp=Z,33nm,20.6s,baz=150,slow=31								
HYT	Haines Junctio	87.21	24	P		P		12 48 23.5	+0.7
	baz=234								
COLD	Coldfoot	87.33	16	P		P		12 48 24.7	+1.6
COLD				IAmb		IAmb		12 48 25.6	
	comp=Z,4.1nm,1.0s								
COLD	Coldfoot	87.33	16	P		P		12 48 24.1	+1.1
	baz=222								
J26L	Joseph Creek	87.34	19	P		P		12 48 23.8	+0.5
	baz=228								
CWC	Cottonwood Cre	87.37	52	P		P		12 48 23.6	-0.6
	baz=250								
MONP2	Monument Peak	87.50	55	P		P		12 48 24.5	-0.4
	baz=251								
PAHR	Pah Rah Range	87.53	48	P		P		12 48 23.0	-1.8
PAHR				IAmb		IAmb		12 48 27.1	
	comp=Z,9.6nm,1.5s								
J05D	Fort Rock, OR	87.55	44	P		P		12 48 24.4	-0.4
	baz=248								
I05D	Terrebonne, OR	87.87	43	P		P		12 48 26.2	-0.1
	baz=248								
NVAR	Mina Array Bea	87.88	50	P		P		12 48 26.8	+0.1
	comp=Z,1.3nm,1.1s,baz=214,slow=7.3,SNR=6.9								
NVAR	Mina Array Bea	87.88	50	P		P		12 48 25.8	-0.9
GSC	Goldstone, Bar	87.97	53	P		P		12 48 26.8	-0.2
	baz=251								
BELC	Belle Mtn. Jos	88.18	54	P		P		12 48 27.3	-0.8
	baz=252								
KVN	Kaiserville	88.24	49	P		P		12 48 28.7	+0.4
KVN				IAmb		IAmb		12 48 29.8	
	comp=Z,7.5nm,1.5s								
EGAK	Eagle	88.31	20	P		P		12 48 27.9	+0.2
EGAK				IAmb		IAmb		12 48 29.9	
	comp=Z,8.5nm,1.2s								
EGAK	Eagle	88.31	20	P		P		12 48 28.0	+0.2
	baz=230								
F05D	White Salmon	88.38	42	P		P		12 48 28.1	-0.5
	baz=248								
DAWY	Dawson	88.46	21	P		P		12 48 28.7	+0.1
	baz=232								
BC3	Big Chuckawall	88.51	55	P		P		12 48 28.6	-1.0
	baz=252								
M30M	Minto, Yukon	88.51	23	P		P		12 48 29.6	+0.8
M30M				IAmb		IAmb		12 48 29.9	
	comp=Z,11nm,1.7s								
M30M	Minto, Yukon	88.51	23	P		P		12 48 28.2	-0.7
	baz=234								
TOLK	Toolik Lake Re	88.54	15	P		P		12 48 29.8	+1.0
	baz=223								
GMRC	Granite Mounta	88.70	54	P		P		12 48 30.1	-0.4
	baz=252								
SYO	Syowa Base	88.78	197	∥eP		P		12 48 27.6	-2.4
SYO	Syowa Base	88.78	197	∥esP		P		12 48 36.0	+6.0
IRM	Iron Mountain	88.91	54	P		P		12 48 30.9	-0.4
	baz=252								
WVOR	Wild Horse Val	89.02	46	P		P		12 48 32.0	+0.2
WVOR				IAmb		IAmb		12 48 34.4	
	comp=Z,14nm,1.5s								
BMN	Battle Mountai	89.34	48	P		P		12 48 33.4	0.0
BMN				IAmb		IAmb		12 48 36.5	
	comp=Z,10nm,1.5s								
J08A	Circle Bar Ran	89.45	45	P		P		12 48 33.6	-0.2
J08A				IAmb		IAmb		12 48 36.0	
	comp=Z,8.0nm,1.3s								
SHPR	Sheep Range	89.62	52	P		P		12 48 34.7	-0.1
SHPR				IAmb		IAmb		12 48 37.0	
	comp=Z,10nm,1.4s								
R11A	Troy Canyon, C	89.87	50	P		P		12 48 35.1	-0.8
	baz=252								
214A	Organ Pipe Nat	90.12	57	P		P		12 48 36.3	-0.8
	baz=253								
W13A	Hualapai Mount	90.18	54	P		P		12 48 37.0	-0.5
BMO	Blue Mountains	90.75	44	P		P		12 48 39.4	-0.4
BMO				IAmb		IAmb		12 48 41.9	
	comp=Z,7.5nm,1.4s								
ELK	Elko	90.87	48	LR		LR		13 26 42.1	
	comp=Z,41nm,18.3s,baz=182,slow=34								
ELK	Elko	90.87	48	P		P		12 48 40.1	-0.5
ELK				IAmb		IAmb		12 48 42.9	
	comp=Z,5.7nm,1.4s								
LCMT	Little Creek M	91.24	52	P		P		12 48 42.2	-0.1
LCMT				IAmb		IAmb		12 48 44.8	
	comp=Z,5.0nm,1.3s								
WMQ	Urumqi	91.60	315	eP		P		12 48 45.5	+1.8
U15A	North Rim	91.81	53	P		P		12 48 43.2	-1.9
INK	Inuvik	92.86	19	LR		LR		13 26 01.1	
	comp=Z,53nm,18.8s,baz=129,slow=33								
MKAR	Makanchi Array	96.09	317	P		P		12 49 04.8	+0.5
	comp=Z,0.3nm,0.7s,baz=96,slow=6.1,SNR=4.8								
MKAR	Makanchi Array	96.09	317	P		P		12 49 04.0	-0.2
ZALV	Zalesovo Beam	96.36	324	P		P		12 49 04.9	-0.3
	comp=Z,0.6nm,0.3s,baz=116,slow=3.4,SNR=1.3								
C36M	Paulatuk	96.38	20	P		P		12 49 04.1	-0.8
C36M	Paulatuk	96.38	20	P		P		12 49 04.9	-0.1
	baz=246								
A36M	Sachs Harbour	97.10	17	P		Pdif		12 49 08.4	+0.2
	baz=246								
YKA	Yellowknife Ar	97.70	27	P		P		12 49 10.2	-0.9
	comp=Z,1.6nm,1.0s,baz=254,slow=4.5,SNR=16								
ARCES	ARCESS Array B	119.54	345	PKP		PKPdf		12 54 25.5	-0.2
	comp=Z,2.4nm,0.9s,baz=64,slow=2.1,SNR=5.0								
NACGM	Naroch	128.66	331	ePKP		PKiKP		12 54 44.2	0.0
CLL	Collm	137.18	335	ePKPdf		PKiKP		12 55 03.0	+1.5
CLL				ePP		PP		12 57 41.0	-2.8
TORD	Torodi Ar. Bea	164.77	268	PKPab		PKPab		12 56 38.6	+1.3
	comp=Z,2.0nm,1.2s,baz=72,slow=4.7,SNR=4.7								
TORD	Torodi Ar. Bea	164.77	268	PKPdf		PKPdf		12 55 40.9	-0.6
TORD				PKPab		PKPab		12 56 35.0	-2.4

IDC ***19*** *12:42:37.6±2.0, 0.˚90N×79.˚45W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=165.1km s-min=30.5km az=71.0*

ISC 19 12:42:42.7±1.2, 1.˚16N±0.˚08×80.˚07W±0.˚07, h13km, n12, σ1°49/15, mb3.7/3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAC1	Pacto, Paraso	1.56	125	eP	Pn	12 43 09.7	-0.6
PAC1				eS	Sb	12 43 31.9	+0.8
PAC1				i		12 43 35.3	
	comp=Z,1μm,0.3s						
CUSE	Cuicocha Este	1.87	117	eP	Pn	12 43 15.9	+1.0
CUSE				eS	Sg	12 43 42.3	-0.8
CUSE				i		12 43 46.9	
	comp=Z,2μm,0.3s						
TULM	Tulcn-Chalpat	2.32	101	eP	Pg	12 43 26.5	-0.9
TULM				eS	Sg	12 43 57.5	-0.1
TULM				i		12 44 26.5	
	comp=Z,63nm,0.7s						
CRUC	La Cruz	3.14	83	eP	Pn	12 43 29.8	-2.5
POPC	Popayan, Colom	3.66	68	eP	Pb	12 43 48.4	+1.0
POPC				eS	Sb	12 44 34.4	+2.6
POPC				i		12 44 55.0	
	comp=Z,6.1nm,0.5s						
YOTC	Yotoco, Valle	4.66	53	eP	Pb	12 44 05.8	+1.5
YOTC				eS	Sb	12 44 59.2	-1.3
YOTC				i		12 45 23.1	
	comp=Z,4.6nm,0.5s						
PTLC	Puerto Leguiza	5.36	101	eP	Pn	12 44 02.5	-0.1
MACC	Macarena, Meta	6.29	81	eP	Pb	12 44 26.6	-5.6
PLCA	Paso Flores	42.59	169	P	P	12 50 32.4	-6.3
	comp=Z,1.4nm,0.7s,baz=326,slow=8.0,SNR=3.5						
NVAR	Mina Array Bea	51.01	321	P	P	12 51 46.1	+1.3
	comp=Z,0.7nm,0.7s,baz=134,slow=7.7,SNR=7.6						
YKA	Yellowknife Ar	66.41	343	P	P	12 53 31.0	-0.3
	comp=Z,0.2nm,0.5s,baz=139,slow=6.5,SNR=4.6						
WRA	Warramunga Arr	141.52	239	PKP	PKPdf	13 02 12.8	-1.9
	comp=Z,0.4nm,0.8s,baz=106,slow=3.0,SNR=2.1						

IDC ***19*** *13:03:36.

H01W2 Cape Leeuwin H 26.77 305 T T 13 37 13.5
baz=144,slow=76,SNR=23
H01W3 Cape Leeuwin H 26.79 305 T T 13 37 10.5
baz=144,slow=76,SNR=22
URZ Urewera 29.23 72 LR LR 13 19 42.3
comp=Z,466nm,21.4s,baz=211,slow=33
ASAR Alice Springs 30.78 347 P **P** **13 09 52.9 -1.0**
comp=Z,0.9nm,0.7s,baz=166,slow=9.8,SNR=15
ASAR PcP **PcP** **13 12 50.2 -0.9**
comp=Z,0.9nm,0.8s,baz=155,slow=2.1,SNR=3.4
ASAR LR LR 13 21 27.0
comp=Z,130nm,18.2s,baz=168,slow=35
ASAR Alice Springs 30.78 347 P **P** **13 09 53.1 -0.8**
AS31 Alice Springs 30.78 347 P **P** **13 09 53.2 -0.7**
CTA Charters Tower 34.14 9 LR LR 13 24 09.0
comp=Z,232nm,18.2s,baz=180,slow=36
WR0 Warramunga Arr 34.37 349 P **P** **13 10 24.2 -1.0**
WR0 IAmb IAmb 13 10 30.8
comp=Z,6.0nm,1.0s
WB2 Warramunga Arr 34.40 349 P **P** **13 10 24.2 -1.3**
WB2 IAmb IAmb 13 10 31.0
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 34.41 349 P **P** **13 10 24.5 -1.1**
comp=Z,6.9nm,1.0s,baz=174,slow=7.3,SNR=14
WRA PcP **PcP** **13 10 00.4 -0.7**
comp=Z,1.8nm,0.8s,baz=180,slow=2.8,SNR=8.2
WRA LR LR 13 23 40.7
comp=Z,96nm,20.2s,baz=226,slow=35
WRA Warramunga Arr 34.41 349 P **P** **13 10 24.3 -1.3**
WRAB Tennant Creek 34.41 349 P **P** **13 10 24.6 -1.1**
WRAB IAmb IAmb 13 10 40.3
comp=Z,8.0nm,0.8s
WB0 Warramunga Arr 34.57 349 P **P** **13 10 25.8 -1.3**
WB0 IAmb IAmb 13 10 32.2
comp=Z,8.4nm,1.0s
QSPA South Pole Qui 36.07 180 P **P** **13 10 39.1 -0.6**
comp=Z,8.2nm,1.0s,baz=343,slow=5.8,SNR=14
QSPA LR LR 13 25 04.1
comp=Z,371nm,19.8s,baz=360,slow=36
QSPA South Pole Qui 36.07 180 P **P** **13 10 39.0 -0.8**
GIRL Giralia 37.24 317 P **P** **13 10 48.9 -1.0**
MAW Mawson 37.56 218 P **P** **13 10 51.5 -0.6**
comp=Z,2.6nm,0.8s,baz=115,slow=12,SNR=2.6
MAW LR LR 13 25 09.9
comp=Z,442nm,18.9s,baz=90,slow=34
FITZ Fitzroy Crossi 37.76 336 P **P** **13 10 54.0 -0.3**
comp=Z,4.7nm,1.0s,baz=160,slow=11,SNR=6.2
FITZ LR LR 13 25 08.6
comp=Z,249nm,20.8s,baz=170,slow=34
FITZ Fitzroy Crossi 37.76 336 P **P** **13 10 52.5 -1.7**
FITZ IAmb IAmb 13 11 05.3
comp=Z,7.4nm,0.9s
RAO Raoul Island 38.69 67 LR LR 13 24 00.7
comp=Z,206nm,20.4s,baz=156,slow=32
KNRA Kununurra 39.44 341 P **P** **13 11 08.5 +0.2**
PMG Port Moresby 44.79 9 LR LR 13 28 47.7
comp=Z,204nm,20.7s,baz=216,slow=34
BATI Baumata 45.84 336 LR LR 13 30 20.0
comp=Z,297nm,20.8s,baz=185,slow=35
MSVF Nonsavu 46.17 53 LR LR 13 27 14.8
comp=Z,314nm,20.2s,baz=177,slow=31
KRVT Keravat (AS076 50.40 14 LR LR 13 31 57.8
comp=Z,164nm,20.5s,baz=317,slow=34
KAPI Kappang 51.82 333 LR LR 13 34 03.1
comp=Z,111nm,19.9s,baz=176,slow=35
SNAA Sanae 52.01 194 P **P** **13 12 45.9 -1.3**
comp=Z,5.4nm,0.8s,baz=128,slow=12,SNR=3.2
SNAA LR LR 13 34 28.7
comp=Z,525nm,19.9s,baz=164,slow=36
SPSI Sidrap Palu 52.82 333 P **P** **13 12 52.5 -1.2**
comp=Z,15nm,1.0s
SIJI Sorong 53.59 348 LR LR 13 36 36.7
comp=Z,78nm,20.9s,baz=143,slow=37
LEM Lembang 54.20 318 LR LR 13 33 41.1
comp=Z,101nm,20.8s,baz=174,slow=33
AFI Afiamalu 54.47 61 LR LR 13 32 18.8
comp=Z,120nm,21.4s,baz=206,slow=32
BBKI Banjar Baru 54.73 328 P **P** **13 13 07.0 -0.8**
comp=Z,3μmcomp=Z,15nm,0.8s
RAR Rarotonga 55.16 78 LR LR 13 35 37.9
comp=Z,50nm,18.0s,baz=194,slow=35
DAV Davao City (W) 62.23 343 LR LR 13 42 58.5
comp=Z,39nm,18.1s,baz=354,slow=38
PPT Papeete 63.95 84 LR LR 13 36 26.8
comp=Z,56nm,19.9s,baz=197,slow=31
MNSI Mandailing Nat 64.42 313 P **P** **13 14 14.0 -0.5**
comp=Z,3μmcomp=Z,21nm,0.6s
PSI Prapat 66.50 313 LR LR 13 38 26.1
comp=Z,90nm,21.4s,baz=136,slow=32
H08S2 Diego Garcia H 71.22 283 T T 14 32 43.1
baz=144,slow=76,SNR=7.1
H08S1 Diego Carcia H 71.23 283 T T 14 32 44.0
baz=144,slow=76,SNR=4.9
H08S3 Diego Garcia H 71.24 283 T T 14 32 46.2
baz=144,slow=76,SNR=6.7
PALK Pallekele 79.09 299 LR LR 13 45 16.2
comp=Z,89nm,18.7s,baz=260,slow=32
SUR Sutherland 79.62 228 LR LR 13 44 40.1
comp=Z,169nm,19.8s,baz=164,slow=31
CMAR Chiang Mai Arr 80.67 320 P **P** **13 15 51.6 +0.5**
comp=Z,0.5nm,0.7s,baz=180,slow=5.8,SNR=5.8
CMAR LR LR 13 49 16.8
comp=Z,51nm,20.9s,baz=165,slow=34
BOSA Boshof 80.78 233 LR LR 13 44 26.5
comp=Z,140nm,20.5s,baz=192,slow=30
JCJ Chichijima 80.80 1 LR LR 13 50 58.4
comp=Z,12nm,18.1s,baz=132,slow=35
PZH PanZhiHua 87.05 325 P P 13 16 32.5 +8.7
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,5.3s
NJ2 Nanjing 87.83 341 *eP* P 13 16 33.9 +6.7
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
LSZ Lusaka 90.48 243 LR LR 13 51 11.2
comp=Z,163nm,20.4s,baz=166,slow=32
TSUM Tsumeb 92.42 232 LR LR 13 53 42.3
comp=Z,104nm,18.4s,baz=149,slow=33
LZH Lanzhou 95.30 331 *eP* P 13 17 07.5 +5.5
LZH pP pwP 13 17 15.0 +6.6
LZH pmax pmax
comp=Z,10.0nm,1.0s
KMBO Kilima Mbogo 97.09 258 LR LR 13 52 33.2
comp=Z,80nm,20.6s,baz=92,slow=30
HHC Hu-ho-hao-te 97.82 338 *eP* Pdif 13 17 20.8 +7.4
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,150nm,5.8s
TIXI Tiksi 125.68 355 PKP **PKiKP** **13 22 37.9 -0.6**
comp=Z,0.7nm,0.2s,baz=90,slow=20,SNR=3.1
NVAR Mina Array Bea 125.92 72 PKP **PKiKP** **13 22 41.5 +1.2**
comp=Z,0.4nm,0.6s,baz=232,slow=4.4,SNR=2.1
TXAR Lajitas Array 127.93 91 PKP **PKiKP** **13 22 45.4 +0.9**
comp=Z,0.3nm,0.8s,baz=206,slow=6.0,SNR=3.4
TORD Torodi Ar. Bea 128.13 234 PKP **PKPdf** **13 22 44.0 -0.6**
comp=Z,0.1nm,0.4s,baz=215,slow=1.8,SNR=2.1
YKA Yellowknife Ar 141.60 46 PKP **PKPdf** **13 23 08.4 +0.2**
comp=Z,0.3nm,0.8s,baz=244,slow=2.9,SNR=2.9
RONA Rosalia, Austr 145.26 283 *eP* **PKiKP** **13 23 24.0 +4.9**
comp=Z,10.0nm,0.8s
SOKA Soboth 145.44 280 *eP* **PKiKP** **13 23 25.1 +5.5**
comp=Z,13nm,0.9s
ARSA Arzberg 145.47 282 *eP* **PKiKP** **13 23 25.1 +5.5**
comp=Z,29nm,0.9s
CONA Conrad Observa 145.63 283 *eP* **PKiKP** **13 23 25.3 +5.3**
comp=Z,7.3nm,0.9s
FINES FINESS Array B 145.81 309 PKPbc **PKPab** **13 23 16.5 -0.2**
comp=Z,1.1nm,0.8s,baz=176,slow=3.6,SNR=1.3
KRUC Moravsky 145.90 285 *e*PKP **PKPab** **13 23 17.5 +0.1**
VRAC Vranov 145.91 285 *e*PKP **PKiKP** **13 23 18.6 -1.8**
MYKA Terra Mystica 146.23 279 *eP* PKiKP 13 23 29.1 +7.9
comp=Z,9.7nm,1.2s
DPC Dobruska-Polom 146.57 287 *e*PKP **PKiKP** **13 23 21.1 -0.6**
KBA Koelnbreinsper 146.64 280 *eP* **PKiKP** **13 23 28.1 +6.0**
comp=Z,7.5nm,1.0s
OSTC Ostas 146.72 287 *e*PKP **PKiKP** **13 23 27.6 +5.6**
CHVC Chvalec 146.83 287 *e*PKP PKiKP 13 23 29.4 +7.2
GERES GERESS Array B 147.33 283 PKPbc **PKPab** **13 23 22.1 -1.0**
comp=Z,1.0nm,0.7s,baz=104,slow=5.6,SNR=4.8
KHC Kasperske Hory 147.54 283 *e*PKP **PKPab** **13 23 24.8 +0.9**
KHC *ep*PKP **sPKPab** **13 23 30.6 +3.6**
ARCES ARCESS Array B 147.66 324 PKPbc **PKiKP** **13 23 22.3 -1.1**
comp=Z,2.0nm,1.0s,baz=64,slow=4.2,SNR=1.2
MOTA Moosalm 148.08 279 *eP* **PKPab** **13 23 31.1 +4.9**
comp=Z,10.0nm,1.0s
FETA Feichten 148.13 278 *eP* **PKPab** **13 23 28.4 +2.0**
comp=Z,1.8nm,0.5s
DAVA Damuels 148.77 278 *eP* **PKPab** **13 23 35.8 +6.8**
comp=Z,5.2nm,0.8s
SPITS Spitsbergen Ar 149.22 341 PKPbc **PKiKP** **13 23 25.2 -1.2**
comp=Z,14nm,0.9s,baz=103,slow=6.4,SNR=5.8
ESDC Sonseca Array 152.35 253 PKPbc **PKiKP** **13 23 33.9 -0.1**
comp=Z,1.3nm,0.7s,baz=87,slow=1.2,SNR=4.6

*IDC **19** 13:07:28.5±0.7, 0.41N×80.27W, h0km, mb3.9/13, mb1 4.2/13, mb1mx4.1/36, mbtmp3.9/13, MS3.7/25, Ms1 3.7/25, ms1mx3.5/65, Error ellipse: s-maj=34.1km s-min=14.6km az=54.0*
*NEIC **19** 13:07:30.4±1.9, 0.28N±0.06×80.34W±0.07, h10km±1km, mb4.4/51, Error ellipse: s-maj=12.1km s-min=10.1km az=253.0*
*VAO **19** 13:07:52.7±2.4, 0.32S×78.97W, h93km±9km, mb4.4*
ISC 19 13:07:29.4±0.5, 0.25N±0.06×80.42W±0.05, h9km, n139, σ1§38/121, mb4.3/34, MS3.7/22, 1C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PAC1	**Pacto, Paraso**	**1.63**	**89**	*i*	*P*	**Pn**	**13 07 58.7**	**+0.2**
PAC1					*eS*	**Sg**	**13 08 23.4**	**+1.4**
PAC1					*i*		13 08 25.4	
	comp=Z,2μm,0.3s							
PULU	**Pululahua**	**1.93**	**97**			**Pn**	**13 08 03.5**	**+0.6**
CUSE	**Cuicocha Este**	**2.02**	**88**	*eP*		**Pn**	**13 08 05.2**	**+1.1**
CUSE					*eS*	**Sg**	**13 08 35.8**	**+1.1**
CUSE					*i*		13 08 44.0	
	comp=Z,3μm,0.4s							
PORT	**Chimborazo Vol**	**2.37**	**136**	Pn		**Pn**	**13 08 09.8**	**+0.7**
TULM	**Tulcn-Chalpat**	**2.68**	**80**			**Pn**	**13 08 14.3**	**+1.1**
TULM	**Tulcn-Chalpat**	**2.68**	**80**	*eP*		**Pn**	**13 08 15.2**	**+2.0**
TULM					*i*		13 09 05.3	
	comp=Z,327nm,0.7s							
CMBC	**Cumbal**	**2.69**	**75**	*eP*		**Pn**	**13 08 14.2**	**+0.9**
CMBC					*i*		13 09 13.4	
	comp=Z,35μm,0.7s							
CCUFI	**Cufio, Nario**	**3.23**	**72**	*eP*		**Pn**	**13 08 23.0**	**+2.2**
GCUF	**Volcan Galeras**	**3.23**	**72**	*eP*		**Pn**	**13 08 22.4**	**+1.6**
GCUF					*eS*	**Sn**	**13 09 03.0**	**+3.3**
GCUF					*i*		13 09 10.8	
	comp=Z,93nm,0.4s							
GR1C	**Gorgona, Isla**	**3.54**	**39**	*eP*		**Pb**	**13 08 31.0**	**-1.4**
GR1C					*i*		13 09 41.3	
	comp=Z,1μm,0.7s							
CRUC	**La Cruz**	**3.71**	**69**	*eP*		**Pn**	**13 08 29.1**	**+1.7**
CRUC					*i*		13 09 32.2	
	comp=Z,171nm,0.6s							
ARNL	**Arenillas**	**3.79**	**175**	Pn		**Pn**	**13 08 30.1**	**+2.1**
BOSC	**San Juan Bosco**	**3.89**	**150**			**Pn**	**13 08 30.6**	**+1.0**
POPC	**Popayan, Colom**	**4.38**	**59**	*eP*		**Pn**	**13 08 35.0**	**-1.5**
POPC					*eS*	**Sn**	**13 09 28.0**	**+0.2**
POPC					*i*		13 09 52.4	
	comp=Z,42nm,0.6s							
MCRA	**Macar, Loja**	**4.61**	**174**			**Pn**	**13 08 41.1**	**+1.6**
MARP	**Paez Belalcaza**	**5.16**	**60**	*eP*		**Pn**	**13 08 48.7**	**+1.5**
MARP					*eS*	**Sn**	**13 09 40.7**	**-6.3**
MARP					*i*		13 10 08.9	
	comp=Z,12nm,0.6s							
YOTC	**Yotoco, Valle**	**5.51**	**48**	*eP*		**Pn**	**13 08 54.3**	**+2.5**
YOTC					*i*		13 10 25.5	
	comp=Z,27nm,0.6s							
PTLC	**Puerto Leguiza**	**5.63**	**91**	*eP*		**Pn**	**13 08 55.4**	**+2.0**
PTLC					*i*		13 10 38.5	
	comp=Z,23nm,0.5s							
PLMC	**San Jos del P**	**6.20**	**42**	*eP*		**Pn**	**13 09 03.7**	**+2.4**
PLMC					*i*		13 10 35.1	
	comp=Z,25nm,0.6s							
ORTC	**Ortega, Tolima**	**6.32**	**55**	*eP*		**Pn**	**13 09 04.6**	**+1.6**
ORTC					*eS*	**Sn**	**13 10 14.8**	**-0.6**
ORTC					*i*		13 10 40.7	
	comp=Z,23nm,0.6s							
MACC	**Macarena, Meta**	**6.84**	**74**	*eP*		**Pn**	**13 09 11.0**	**+1.0**
MACC					*i*		13 11 25.2	
	comp=Z,14nm,0.5s							
GUY2C	**Guyana, Caldas**	**7.07**	**46**	*eP*		**Pn**	**13 09 17.2**	**+3.7**
GUY2C					*i*		13 10 57.6	
	comp=Z,19nm,0.6s							
CBOC	**Ciudad Bolivar**	**7.11**	**38**	*eP*		**Pn**	**13 09 17.5**	**+3.7**
CBOC					*i*		13 11 19.0	
	comp=Z,46nm,0.9s							
NORC	**Norcasia**	**7.66**	**46**	*eP*		Pn	13 09 30.2	+8.9
NORC					*eS*	**Sn**	**13 10 50.6**	**+2.3**
NORC					*i*		13 11 19.8	
	comp=Z,5.5nm,0.6s							
VILC	**Villavicencio,**	**7.74**	**60**	*eP*		**Pn**	**13 09 26.1**	**+3.6**
CHIC	**Chingaza**	**7.98**	**57**	*eP*		**Pn**	**13 09 27.3**	**+1.3**
PTBC	**PUERTO BERRIO,**	**8.63**	**43**	*eP*		**Pn**	**13 09 36.6**	**+1.9**
PTBC					*i*		13 11 41.8	
	comp=Z,4.1nm,0.8s							
ZARC	**Zaragoza, Cauc**	**9.09**	**38**	*eP*		Pn	13 09 51.7	+11
RUSC	**La Rusia**	**9.22**	**52**	*eP*		Pn	13 09 53.5	+10
DRK0	**Durika**	**9.38**	**343**			**Pn**	**13 09 46.7**	**+1.6**
SRBA	**San Rafael, Bu**	**9.39**	**342**			**Pn**	**13 09 47.0**	**+1.8**
BARC	**Barichara**	**9.59**	**49**	*eP*		Pn	13 09 58.3	+10
JTS	**Las Juntas de**	**10.95**	**336**	Pn		**Pn**	**13 10 08.5**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=1.0							
JTS				LR		LR	13 12 44.4	
	comp=Z,87nm,21.1s,baz=222,slow=29							
CZSB	**Cruzeiro do Su**	**11.05**	**136**	*eP*		**Pn**	**13 10 08.2**	**+0.4**
NNA	**Nana**	**12.67**	**164**	Pn		Pn	13 10 37.1	+7.1
	comp=Z,0.7nm,0.3s,baz=329,slow=12,SNR=3.9							
NNA				LR		LR	13 16 33.0	
	comp=Z,214nm,18.9s,baz=342,slow=43							
SDV	**Santo Domingo**	**12.99**	**48**	Pn		**Pn**	**13 10 34.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=222,slow=16,SNR=2.3							
SDV				LR		LR	13 16 27.2	
	comp=Z,330nm,18.6s,baz=220,slow=42							
SDV	**Santo Domingo**	**12.99**	**48**	*eP*		P	13 10 45.3	
BAUV	**El Baul**	**15.05**	**55**	Pn		**Pn**	**13 11 02.7**	**+0.2**
ETMB	**Extrema**	**17.32**	**126**	*eP*		**Pn**	**13 11 30.2**	**-1.5**
BIRV	**Birongo**	**17.36**	**54**	Pn		**Pn**	**13 11 31.2**	**-1.0**
BIRV				IAmb		IAmb	13 11 37.5	
	comp=Z,18nm,0.8s							
BOAV	**Boa Vista**	**20.01**	**84**	*eP*		Pn	13 12 04.0	-0.5
MACA	**Manacapuru-AM**	**20.02**	**100**	*eP*		**P**	**13 12 01.9**	**-0.9**
LPAZ	**La Paz**	**20.42**	**144**	P		Pn	13 12 09.1	-0.8
	comp=Z,5.3nm,0.7s,baz=322,slow=11,SNR=13							
LPAZ				LR		LR	13 22 09.9	
	comp=Z,419nm,18.2s,baz=320,slow=43							
LPAZ	**La Paz**	**20.42**	**144**	*eP*		**P**	**13 12 07.6**	**-0.2**
LPAZ	**La Paz**	**20.42**	**144**	*eP*		Pn	13 12 09.6	-0.3
CMIG	**Matias Romero**	**21.98**	**320**	P		**P**	**13 12 25.4**	**+1.5**
	comp=Z,2.5nm,0.8s,baz=106,slow=11,SNR=2.4							
CMIG				LR		LR	13 19 28.4	
	comp=Z,212nm,18.2s,baz=158,slow=33							
TOSP	**Speyside**	**22.60**	**60**	P		**P**	**13 12 28.7**	**-1.9**
SJG	**San Juan**	**22.63**	**38**	LR		LR	13 22 58.8	
	comp=Z,189nm,21.2s,baz=204,slow=42							
GO01	**Chusmiza**	**22.65**	**152**	P		**P**	**13 12 30.9**	**-0.8**
GO01				IAmb		IAmb	13 12 57.1	
	comp=Z,12nm,0.8s							
VILB	**Vilhena**	**23.96**	**124**	*eP*		**P**	**13 12 45.3**	**+0.9**
SIV	**San Ignacio**	**25.01**	**131**	P		**P**	**13 12 54.7**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=295,slow=8.9,SNR=7.4							
ITTB	**Itaituba**	**25.09**	**101**	*eP*		**P**	**13 12 53.8**	**-0.9**
LVC	**Limon Verde**	**25.34**	**154**	LR		LR	13 24 33.4	
	comp=Z,290nm,21.9s,baz=326,slow=40							
NPGB	**Novo Progresso**	**26.03**	**107**	*eP*		**P**	**13 13 02.3**	**-1.0**
PTLB	**Pontes e Lacer**	**26.18**	**127**	*eP*		**P**	**13 13 05.8**	**+1.3**
MALB	**Monte Alegre**	**26.24**	**95**	*eP*		**P**	**13 13 07.2**	**+2.0**
PDRB	**Porto dos Gac**	**26.32**	**117**	*eP*		**P**	**13 13 06.1**	**+0.2**
CLDB	**Colider**	**26.86**	**115**	*eP*		**P**	**13 13 10.8**	**0.0**
MDP	**Montagnes des**	**28.16**	**80**	LR		LR	13 26 02.3	
	comp=Z,86nm,19.9s,baz=270,slow=40							
SNDB	**Serra Nova Dou**	**31.36**	**114**	*eP*		**P**	**13 13 50.9**	**0.0**
DVLD	**Doverlandia**	**32.52**	**122**	*eP*		**P**	**13 14 01.9**	**+0.9**
SMTB	**Santa Maria do**	**33.94**	**106**	*eP*		**P**	**13 14 13.8**	**+0.4**
PEXB	**Peixe**	**34.17**	**112**	*eP*		**P**	**13 14 14.9**	**-0.5**
CPUP	**Villa Florida**	**34.55**	**142**	LR		LR	13 30 56.9	
	comp=Z,266nm,18.2s,baz=322,slow=41							
TKL	**Tuckaleechee C**	**35.37**	**355**	LR		LR	13 28 02.6	
	comp=Z,168nm,20.3s,baz=180,slow=35							
BDFB	**Brasilia**	**35.69**	**118**	P		**P**	**13 14 28.4**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=285,slow=15,SNR=3.1							
BDFB				LR		LR	13 30 12.5	
	comp=Z,216nm,19.3s,baz=290,slow=38							
BDFB	**Brasilia**	**35.69**	**118**	IAmb		IAmb	13 14 43.5	
	comp=Z,9.3nm,1.2s							
TXAR	**Lajitas Array**	**36.45**	**325**	P		**P**	**13 14 35.5**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=132,slow=9.3,SNR=3.9							
TXAR				PcP		**PcP**	**13 16 59.2**	**+0.1**
	comp=Z,0.7nm,1.0s,baz=156,slow=4.7,SNR=3.7							
IPMB	**Ipameri, GO**	**36.49**	**121**	*eP*		**P**	**13 14 35.5**	**+0.1**
LCAR	**Lake Charles**	**37.01**	**345**	P		**P**	**13 14 37.9**	**-1.6**
LCAR				IAmb		IAmb	13 14 43.7	
	comp=Z,5.5nm,0.9s							
FCAR	**Ozark Folk Cen**	**37.09**	**344**	P		**P**	**13 14 38.9**	**-1.4**
SDBA	**SAO DESIDERIO**	**37.42**	**111**	*eP*		**P**	**13 14 43.0**	**-0.3**
LPIG	**La Paz**	**37.43**	**311**	LR		LR	13 26 39.0	
	comp=Z,85nm,19.1s,baz=102,slow=31							
U40A	**Yellville**	**37.73**	**344**	P		**P**	**13 14 44.7**	**-1.0**
MNTX	**Cornudas Mount**	**39.19**	**325**	P		**P**	**13 14 57.9**	**-0.1**
MSTX	**Muleshoe**	**39.55**	**330**	P		**P**	**13 15 01.1**	**-0.1**
MSTX				IAmb		IAmb	13 15 11.6	
	comp=Z,13nm,1.5s							
121A	**Cookes Peak, D**	**41.19**	**324**	P		**P**	**13 15 14.5**	**-0.3**
121A				IAmb		IAmb	13 15 22.3	
	comp=Z,4.0nm,0.7s							
PLCA	**Paso Flores**	**41.77**	**169**	P		**P**	**13 15 21.1**	**+1.8**
	comp=Z,3.9nm,0.8s,baz=0.1,slow=9.8,SNR=4.8							
PLCA	**Paso Flores**	**41.77**	**169**	IAmb		IAmb	13 15 22.0	
	comp=Z,4.9nm,0.9s							
ANMO	**Albuquerque**	**42.22**	**328**	LR		LR	13 32 02.6	
	comp=Z,82nm,21.4s,baz=150,slow=35							
ANMO	**Albuquerque**	**42.22**	**328**	P		**P**	**13 15 23.3**	**+0.1**
ANMO				IAmb		IAmb	13 15 30.6	
	comp=Z,5.7nm,0.8s							
T25A	**Trinidad**	**42.89**	**331**	P		**P**	**13 15 29.2**	**+0.5**
SDCO	**Great Sand Dun**	**43.89**	**331**	P		**P**	**13 15 37.8**	**+0.9**
SADO	**Sadowa**	**44.34**	**1**	LR		LR	13 34 26.0	
	comp=Z,76nm,19.8s,baz=181,slow=37							
X16A	**Lo Mia Camp, P**	**44.69**	**323**	P		**P**	**13 15 42.5**	**-0.7**
X16A				IAmb		IAmb	13 15 50.5	
	comp=Z,4.5nm,0.7s							
RCBR	**Riachuelo**	**44.85**	**98**	LR		LR	13 33 40.1	
	comp=Z,96nm,19.9s,baz=50,slow=35							
K31A	**O'Neill**	**45.29**	**341**	P		**P**	**13 15 47.5**	**-0.1**
WUAZ	**Wupatki**	**45.40**	**324**	P		**P**	**13 15 49.4**	**+0.6**
WUAZ				IAmb		IAmb	13 15 56.3	
	comp=Z,4.6nm,0.8s							
SMCO	**Snowmass**	**45.73**	**331**	P		**P**	**13 15 51.7**	**0.0**
SMCO				IAmb		IAmb	13 16 07.8	
	comp=Z,3.4nm,1.0s							
PV15	**Paradox Valley**	**45.85**	**329**	P		**P**	**13 15 52.3**	**-0.1**
PV15				IAmb		IAmb	13 16 09.9	
	comp=Z,5.0nm,1.0s							
PFO	**Pinyon Flats O**	**47.38**	**318**	LR		LR	13 32 47.8	
	comp=Z,71nm,20.4s,baz=132,slow=32							
RSSD	**Black Hills**	**48.48**	**337**	P		**P**	**13 16 13.2**	**+0.4**
RSSD				IAmb		IAmb	13 16 19.7	
	comp=Z,4.3nm,0.8s							
TPNV	**Topopah Spring**	**49.30**	**322**	P		**P**	**13 16 20.8**	**+1.6**
TPNV				IAmb		IAmb	13 16 27.9	
	comp=Z,2.5nm,0.9s							
PDAR	**Pinedale Array**	**49.75**	**332**	P		**P**	**13 16 22.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=115,slow=7.4,SNR=2.7							
PDAR				PcP		**PcP**	**13 17 43.1**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=142,slow=4.6,SNR=2.3							
PDAR				LR		LR	13 38 30.0	
	comp=Z,41nm,19.2s,baz=134,slow=38							
BGU	**Big Grassy Mou**	**50.12**	**328**	P		**P**	**13 16 24.8**	**-0.5**
BGU				IAmb		IAmb	13 16 32.1	
	comp=Z,4.5nm,1.1s							
ELK	**Elko**	**51.20**	**326**	LR		LR	13 38 55.6	
	comp=Z,80nm,18.1s,baz=127,slow=37							
NV11	**Mina Array Sit**	**51.41**	**322**	P		**P**	**13 16 35.6**	**+0.5**
NV11				IAmb		IAmb	13 16 52.7	
	comp=Z,3.4nm,0.9s							
OMMB	**Old Mammoth Mi**	**51.43**	**321**	P		**P**	**13 16 35.6**	**+0.1**
NVAR	**Mina Array Bea**	**51.49**	**322**	P		**P**	**13 16 37.1**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=134,slow=7.2,SNR=18							
NVAR				LR		LR	13 36 51.3	
	comp=Z,72nm,18.6s,baz=175,slow=34							
NVAR	**Mina Array Bea**	**51.49**	**322**	P		**P**	**13 16 36.3**	**+0.5**
LHV	**Little Huntoon**	**51.51**	**322**	P		**P**	**13 16 36.2**	**+0.6**
LHV				IAmb		IAmb	13 16 53.5	
	comp=Z,4.6nm,0.9s							
KVN	**Kaiserville**	**51.76**	**323**	P		**P**	**13 16 38.4**	**+0.7**
KVN				IAmb		IAmb	13 16 54.7	
	comp=Z,4.6nm,1.2s							
BMN	**Battle Mountai**	**52.12**	**325**	P		**P**	**13 16 40.7**	**+0.3**
BMN				IAmb		IAmb	13 16 47.2	
	comp=Z,3.8nm,0.8s							
GCMT	**Greycliff**	**52.15**	**334**	P		**P**	**13 16 40.6**	**+0.1**
HLID	**Hailey**	**52.72**	**329**	P		**P**	**13 16 45.1**	**+0.3**
BOZ	**Bozeman (W)**	**52.87**	**333**	P		**P**	**13 16 45.3**	**-0.6**
BEKR	**Beckworth**	**53.64**	**322**	P		**P**	**13 16 52.4**	**+0.8**
ORV	**Oroville**	**54.16**	**321**	P		**P**	**13 16 56.0**	**+0.8**
ORV				IAmb		IAmb	13 17 12.1	
	comp=Z,3.9nm,1.1s							
WVOR	**Wild Horse Val**	**54.23**	**326**	P		**P**	**13 16 55.5**	**-0.3**
WVOR				IAmb		IAmb	13 17 11.7	
	comp=Z,6.8nm,1.2s							
YBH	**Yreka Blue Hor**	**56.18**	**323**	LR		LR	13 40 20.3	
	comp=Z,54nm,18.5s,baz=132,slow=35							
B04A	**Port Angeles**	**60.45**	**328**	P		**P**	**13 17 40.0**	**+0.5**
FRB	**Frobisher Bay**	**63.95**	**6**	LR		LR	13 44 57.7	
	comp=Z,56nm,22.0s,baz=200,slow=35							
YKA	**Yellowknife Ar**	**67.17**	**344**	P		**P**	**13 18 22.3**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=136,slow=6.2,SNR=13							
RES	**Resolute Bay**	**74.84**	**356**	LR		LR	13 52 35.2	
	comp=Z,69nm,18.1s,baz=91,slow=36							
DAWY	**Dawson**	**76.67**	**337**	P		**P**	**13 19 20.4**	**-0.2**
DAWY				IAmb		IAmb	13 19 26.7	
	comp=Z,4.1nm,1.1s							
KOWA	**Kowa**	**76.78**	**75**	P		**P**	**13 19 20.6**	**-1.6**
INK	**Inuvik**	**76.

H01W2	**Cape Leeuwin H**	**26.70**	**306**	T	T	13 51 18.6
	baz=146,slow=74					
H01W3	**Cape Leeuwin H**	**26.72**	**306**	T	T	13 51 19.6
	baz=146					
ASAR	**Alice Springs**	**31.07**	**349**	P	P	13 24 04.3 +0.4
	0.3nm,0.8s,baz=170,slow=9.9,SNR=5.4					
WRA	**Warramunga Arr**	**34.70**	**350**	P	P	13 24 35.2 -0.5
	0.4nm,0.9s,baz=174,slow=7.7,SNR=2.9					
H08S2	**Diego Garcia H**	**70.97**	**284**	T	T	14 46 56.8
	baz=144					
H08S1	**Diego Carcia H**	**70.98**	**284**	T	T	14 46 50.7
	baz=144					
H08S3	**Diego Garcia H**	**70.99**	**284**	T	T	14 46 54.5
	baz=144					

IDC ***19*** *13:26:23.1±1.1,32.52′N×130.59′E,h0km,mb3.3/5, mb1 3.5/6,mb1mx3.3/49,mbtmp3.3/6,ML2.2/1,MS2.7/1, Ms1 2.7/1,ms1mx2.2/40,Error ellipse: s-maj=30.8km s-min=9.8km az=110.0*

JMA ***19*** *13:26:24.3,32.56′N×130.65′E,h9km±1km,M3.7*

JMA Felt III J1.

NIED ***19*** *13:26:24.3,32.56′N×130.65′E,h9km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_T0.46; $M_{\theta\phi}$2.65; $M_{\theta\theta}$-3.11; $M_{r\theta}$-0.29; $M_{\theta\theta}$1.65; $M_{\theta r}$-1.22; Fault plane solution: $M_0$3.53000×10^{14} NP1: ϕ_s299.00000°,δ70.00000°,λ-1.00000°. NP2:ϕ_s30.00000°, δ89.00000°,λ-160.00000°.*

ISC 19 13:26:25.5±1.1,32.54N±0.05×130.68E±0.09,h9km±9km, n11,σ1§84/13,mb3.2/5,1C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.11**	**84**	⇓P		**Pg**		**13 26 27.3**	**-0.8**
JIU3				S		**Sg**		**13 26 29.7**	**-0.2**
JZO	**Okuchi**	**0.40**	**190**	⇑P		**Pg**		**13 26 32.6**	**-0.8**
JZO				S		**Sg**		**13 26 38.3**	**-0.4**
JNU	**Nakatsue**	**0.61**	**16**	Pg		**Pg**		**13 26 35.7**	**-1.5**
	124nm,0.3s,baz=186,slow=7.6,SNR=91								
JNU				Lg		Lg		13 26 43.6	
	655nm,0.3s,baz=292,slow=24,SNR=37								
KSRS	**Korea Array**	**5.40**	**336**	Pg		**Pb**		**13 28 02.0**	**+2.0**
	0.8nm,0.3s,baz=151,slow=17,SNR=10								
KSRS				Lg		Lg		13 29 09.6	
	1.4nm,0.3s,baz=160,slow=30,SNR=11								
JOW	**Kunigami**	**6.06**	**201**	Pn		**Pn**		**13 27 57.5**	**+2.2**
	2.6nm,0.3s,baz=112,slow=19,SNR=2.2								
MJAR	**Matsushiro Arr**	**7.38**	**55**	Pn		**Pn**		**13 28 15.5**	**+2.0**
	0.0nm,0.3s,baz=229,slow=12,SNR=1.4								
MJAR				LR		LR		13 30 46.6	
	comp=Z,50nm,19.0s,baz=199,slow=35								
SONM	**Songino Array**	**23.90**	**317**	P		**P**		**13 31 38.4**	**-1.2**
	0.4nm,0.5s,baz=134,slow=10,SNR=2.8								
WRA	**Warramunga Arr**	**52.30**	**176**	P		**P**		**13 35 34.6**	**-2.9**
	0.2nm,0.6s,baz=355,slow=8.0,SNR=1.7								
ASAR	**Alice Springs**	**55.97**	**176**	P		**P**		**13 36 03.3**	**-1.0**
	0.2nm,0.8s,baz=9.7,slow=13,SNR=1.5								
FINES	**FINESS Array B**	**68.46**	**330**	P		**P**		**13 37 26.0**	**-1.7**
	2.0nm,0.9s,baz=76,slow=5.9,SNR=3.8								
YKA	**Yellowknife Ar**	**71.93**	**26**	P		**P**		**13 37 49.5**	**+0.6**
	0.1nm,0.6s,baz=308,slow=7.0,SNR=2.1								

RSNC ***19*** *13:30:55.4±1.3,6.84N×73.15W,h146km±5km,ML3.1, Mw3.5*

IDC ***19*** *13:30:55.0±5.5,6.75N×73.00W,h168km±35km,mb2.8/2, mb1 3.3/3,mb1mx2.9/37,mbtmp3.4/3,Error ellipse: s-maj=114.7km s-min=34.4km az=81.0*

ISC 19 13:30:53.8±0.9,6.84N±0.03×73.13W±0.04,h160km±6km, n31,σ1§68/58,3C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**193**	⇓*i*P		**Pn**		**13 31 15.6**	**-0.1**
BARC				*e*S		**Sn**		**13 31 30.2**	**-2.2**
BARC				*i*				13 31 31.8	
	comp=Z,264nm,0.2s								
PAMC	**Pamplona, Colo**	**0.66**	**40**	*e*P		**Pn**		**13 31 18.5**	**+0.9**
PAMC				*e*S		**Sn**		**13 31 35.5**	**-0.5**
PAMC				*i*				13 31 37.8	
	comp=Z,457nm,0.5s								
RUSC	**La Rusia**	**0.94**	**177**	*e*P		**Pn**		**13 31 19.7**	**+0.1**
RUSC				*e*S		**Sn**		**13 31 38.0**	**-1.4**
RUSC				*i*				13 31 39.5	
	comp=Z,210nm,0.3s								
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*e*P		**Pn**		**13 31 22.4**	**-0.3**
PTBC				*e*S		**Sn**		**13 31 43.3**	**-1.5**
PTBC				*i*				13 31 45.4	
	comp=Z,98nm,0.1s								
TAMC	**Tame, Arauca**	**1.39**	**107**	⇓*i*P		**Pn**		**13 31 24.0**	**+1.0**
TAMC				*e*S		**Sn**		**13 31 45.2**	**-0.2**
OCAC	**Ocana**	**1.41**	**352**	*e*P		**Pn**		**13 31 23.7**	**+0.3**
OCAC				*e*S		**Sn**		**13 31 45.4**	**-0.8**
OCAC				*i*				13 31 50.2	
	comp=Z,296nm,0.4s								
SPBC	**San Pablo de B**	**1.50**	**219**	*e*P		**Pn**		**13 31 24.4**	**+0.1**
SPBC				*e*S		**Sn**		**13 31 46.3**	**-1.4**
SPBC				*i*				13 31 49.2	
	comp=Z,351nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P		**Pn**		**13 31 28.0**	**+0.3**
ZARC				*e*S		**Sn**		**13 31 53.0**	**-0.8**
ZARC				*i*				13 31 59.5	
	comp=Z,133nm,0.2s								
NORC	**Norcasia**	**2.14**	**234**	*e*P		**Pn**		**13 31 31.4**	**+0.2**
NORC				*e*S		**Sn**		**13 31 59.1**	**-1.1**
NORC				*i*				13 32 07.5	
	comp=Z,126nm,0.2s								
CHIC	**Chingaza**	**2.27**	**195**	*e*P		**Pn**		**13 31 33.8**	**+0.7**
CHIC				*e*S		**Sn**		**13 32 02.4**	**-1.1**
CHIC				*i*				13 32 06.6	
	comp=Z,96nm,0.4s								
ROSC	**El Rosal**	**2.31**	**211**	P		**Pn**		**13 31 35.2**	**+1.7**
	comp=Z,46nm,0.3s,baz=49,slow=19,SNR=55								
ROSC				S		**Sn**		**13 32 02.2**	**-2.0**
	comp=Z,58nm,0.3s,baz=119,slow=18,SNR=10								
ROSC	**El Rosal**	**2.31**	**211**	*e*P		**Pn**		**13 31 35.2**	**+1.7**
ROSC				*e*S		**Sn**		**13 32 04.7**	**+0.5**
ROSC				*i*				13 32 13.8	
	comp=Z,135nm,0.3s								
HELC	**Santa Helena**	**2.47**	**255**	*e*P		**Pn**		**13 31 36.3**	**+0.9**
HELC				*e*S		**Sn**		**13 32 07.1**	**-0.4**
HELC				*i*				13 32 23.4	
	comp=Z,40nm,0.4s								
UREC	**San Jos de Ur**	**2.55**	**291**	*e*P		**Pn**		**13 31 35.3**	**-0.8**
UREC				*e*S		**Sn**		**13 32 07.9**	**-0.9**
UREC				*i*				13 32 18.4	
	comp=Z,91nm,0.3s								
SOCV	**Socops**	**2.67**	**57**	*e*P		**Pn**		**13 31 38.4**	**+0.9**
SOCV				*e*S		**Sn**		**13 32 10.3**	**-1.1**
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P		**Pn**		**13 31 40.2**	**+1.3**
GUY2C				*e*S		**Sn**		**13 32 13.4**	**-0.2**
GUY2C				*i*				13 32 21.6	
	comp=Z,69nm,0.3s								
VILC	**Villavicencio,**	**2.76**	**192**	*e*P		**Pn**		**13 31 39.2**	**+0.4**
VILC				*e*S		**Sn**		**13 32 12.9**	**-0.8**
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇑*i*P		**Pn**		**13 31 38.9**	**-0.2**
PTGC				*e*S		**Sn**		**13 32 11.7**	**-2.6**
PTGC				*i*				13 32 17.1	
	comp=Z,134nm,0.3s								
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*e*P		**Pn**		**13 31 43.4**	**+1.4**
CBOC				*e*S		**Sn**		**13 32 18.4**	**-1.0**
CBOC				*i*				13 32 30.9	
	comp=Z,22nm,0.5s								
SDV	**Santo Domingo**	**3.20**	**50**	⇑*i*P		**Pn**		**13 31 45.2**	**+0.9**
SDV				*e*S		**Sn**		**13 32 21.7**	**-1.8**
SDV				*i*				13 32 25.8	
	comp=Z,32nm,0.3s								
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P		**Pn**		**13 31 49.4**	**+0.3**
ORTC				*e*S		**Sn**		**13 32 32.9**	**+0.7**
ORTC				*i*				13 32 36.9	
	comp=Z,42nm,0.3s								
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P		**Pn**		**13 31 49.8**	**-0.2**
SJCC				*e*S		**Sn**		**13 32 30.5**	**-3.2**
SJCC				*i*				13 32 38.5	
	comp=Z,21nm,0.5s								
PLMC	**San Jos del P**	**3.68**	**239**	*e*P		**Pn**		**13 31 51.3**	**+1.0**
PLMC				*e*S		**Sn**		**13 32 31.3**	**-2.9**
PLMC				*i*				13 32 39.6	
	comp=Z,28nm,0.7s								
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	⇑*e*P		**Pn**		**13 31 55.8**	**-0.8**
CRJC				*e*S		**Sn**		**13 32 43.0**	**-2.6**
CRJC				*i*				13 32 46.8	
	comp=Z,35nm,0.2s								
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P		**Pn**		**13 32 00.1**	**+0.1**
SMRC				*e*S		**Sn**		**13 32 48.0**	**-3.8**
SMRC				*i*				13 32 52.1	
	comp=Z,21nm,0.2s								
MACC	**Macarena, Meta**	**4.71**	**189**	*e*P		**Pn**		**13 32 02.4**	**-1.3**
MACC				*e*S		**Sn**		**13 32 51.4**	**-6.9**
MACC				*i*				13 32 58.0	
	comp=Z,12nm,0.3s								
MARP	**Paez Belalcaza**	**4.87**	**216**	*e*P		**Pn**		**13 32 05.9**	**0.0**
MARP				*e*S		**Sn**		**13 32 59.2**	**-3.0**
MARP				*i*				13 33 06.4	
	comp=Z,2.8nm,0.1s								
TXAR	**Lajitas Array**	**36.45**	**312**	P		**P**		**13 37 45.3**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=128,slow=10,SNR=2.3								
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**		**13 41 06.1**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=135,slow=6.3,SNR=5.4								
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc		**PKPbc**		**13 50 24.1**	**-0.1**
	comp=Z,0.2nm,0.9s,baz=110,slow=4.0,SNR=4.3								
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**		**13 50 27.3**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=108,slow=2.3,SNR=5.3								

IDC ***19*** *13:38:35.7±3.9,0.33S×80.31W,h0km,mb3.6/5,mb1 3.9/5, mb1mx3.6/35,mbtmp3.6/5,MS3.3/7,Ms1 3.3/7, ms1mx2.9/49,Error ellipse: s-maj=148.4km s-min=39.4km az=32.0*

IGQ ***19*** *13:38:40±0.4,0˚S±3˚×8˚0W±˚,h4km*

ISC 19 13:38:36.8±1.1,0.29S±0.04×80.28W±0.04,h8km±7km,n96, σ1§95/92,mb3.7/5,MS3.2/5,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.08**	**70**	P		**Pg**		**13 38 41.0**	**+1.9**
CAB1	**Cabo Pasado-Ma**	**0.17**	**236**	P		**Pg**		**13 38 39.0**	**-1.5**
FLF1	**Flavio Alfaro-**	**0.45**	**99**	P		**Pn**		**13 38 49.0**	**-0.6**
MAG1	**Magdalena**	**0.55**	**67**	P		**Pn**		**13 38 50.0**	**-1.0**
BV15	**Puerto Quito-O**	**1.15**	**67**	P		**Pg**		**13 38 51.5**	**+0.1**
AV21	**Acelerografo,**	**1.20**	**38**	P		**Pg**		**13 39 00.0**	**+0.1**
PAC1	**Pacto, Paraso**	**1.59**	**70**	*e*P		**Pn**		**13 39 05.1**	**-0.4**
PAC1				*e*S		**Sg**		**13 39 29.9**	**+1.9**
PAC1				*i*				13 39 31.8	
	comp=Z,2μm,0.3s								
PAC1	**Pacto, Paraso**	**1.59**	**70**	P		**Pn**		**13 39 05.0**	**-0.4**
ACHO	**Acelerografo,**	**1.60**	**71**	P		**Pn**		**13 39 05.0**	**-0.5**
ILLI	**Illinizas Sur**	**1.61**	**105**	P		**Pn**		**13 39 05.0**	**-1.0**
HPAL	**Hacienda Las P**	**1.63**	**88**	P		**Pn**		**13 39 06.0**	**-0.2**
GGPT	**Toaza - Volcan**	**1.66**	**88**	P		**Pn**		**13 39 06.0**	**-0.7**
JUA2	**San Juan 2**	**1.68**	**87**	P		**Pn**		**13 39 07.0**	**+0.1**
PINO	**Pino**	**1.68**	**86**	P		**Pn**		**13 39 07.0**	**-0.1**
TERV	**Terraza Guagua**	**1.68**	**86**	P		**Pn**		**13 39 07.0**	**0.0**
GGPC	**Guagua Pichinc**	**1.69**	**86**	P		**Pg**		**13 39 09.0**	**-0.3**
PAST	**Pastocalle**	**1.69**	**104**	P		**Pn**		**13 39 07.0**	**-0.1**
YANA	**Yana**	**1.72**	**84**	P		**Pb**		**13 39 08.0**	**-1.0**
PULU	**Pululahua**	**1.81**	**80**	P		**Pb**		**13 39 10.0**	**-0.4**
CAMI	**Rancho Maria**	**1.82**	**102**	P		**Pb**		**13 39 10.0**	**-0.7**
BNAS	**Cotopaxi Volca**	**1.84**	**102**	P		**Pb**		**13 39 10.0**	**-1.1**
NAS2	**Nasa**	**1.85**	**101**	P		**Pb**		**13 39 11.0**	**-0.2**
CHSH	**Refugio Sur-Vo**	**1.85**	**130**	P		**Pb**		**13 39 11.0**	**-0.3**
TOMA	**Boca Toma-Volc**	**1.86**	**96**	P		**Pb**		**13 39 10.0**	**-1.3**
PITA	**Cotopaxi Volc**	**1.87**	**98**	P		**Pn**		**13 39 10.0**	**+0.5**
BMOR	**Cotopaxi Volca**	**1.88**	**104**	P		**Pb**		**13 39 11.0**	**-0.7**
BREF	**Cotopaxi Volca**	**1.88**	**102**	P		**Pb**		**13 39 11.0**	**-0.8**
BVC2	**Cotopaxi Volca**	**1.91**	**101**	P		**Pb**		**13 39 11.0**	**-1.2**
PORT	**Chimborazo Vol**	**1.91**	**128**	P		**Pn**		**13 39 10.0**	**-0.2**
VC1	**Cotopaxi 1**	**1.91**	**101**	P		**Pb**		**13 39 12.0**	**-0.3**
BTAM	**Cotopaxi Volca**	**1.92**	**102**	P		**Pb**		**13 39 12.0**	**-0.5**
TAMH	**Tambohuasha Ch**	**1.95**	**130**	P		**Pb**		**13 39 12.0**	**-0.9**
VCES	**Cotopaxi**	**1.96**	**105**	P		**Pb**		**13 39 13.0**	**0.0**
TAMB	**Tambo**	**1.96**	**102**	P		**Pb**		**13 39 12.0**	**-1.1**
CUIC	**Cuicocha Este**	**1.97**	**73**	*e*P		**Pn**		**13 39 11.5**	**+0.6**
CUSE				*e*S		**Sg**		**13 39 41.2**	**+0.8**
CUSE				*i*				13 39 46.5	
	comp=Z,2μm,0.3s								
CUSE	**Cuicocha Este**	**1.97**	**73**	P		**Pn**		**13 39 11.0**	**0.0**
CUIC	**Cuicocha-Domo**	**2.01**	**73**	P		**Pn**		**13 39 12.0**	**+0.6**
CUSW	**Cuicocha Oeste**	**2.01**	**74**	P		**Pb**		**13 39 13.0**	**-1.0**
ANTG	**Antisana-Guama**	**2.04**	**96**	P		**Pb**		**13 39 14.0**	**-0.5**
ANTS	**Antisana-Sarah**	**2.12**	**96**	P		**Pb**		**13 39 15.0**	**-0.9**
ANTI	**Antisana**	**2.13**	**94**	P		**Pb**		**13 39 16.0**	**0.0**
BBIL	**Ulba Tungurahu**	**2.13**	**123**	P		**Pb**		**13 39 15.0**	**-1.0**
JUI6	**Juive**	**2.14**	**122**	P		**Pb**		**13 39 15.0**	**-1.0**
PIAT	**Ana Tenorio**	**2.14**	**109**	P		**Pb**		**13 39 15.0**	**-1.1**
POND	**Pondoa**	**2.15**	**122**	P		**Pn**		**13 39 14.0**	**+0.7**
URCU	**Urcuqui**	**2.15**	**70**	P		**Pb**		**13 39 15.0**	**-1.3**
BMAS	**Trigal station**	**2.17**	**124**	P		**Pb**		**13 39 15.0**	**-1.6**
RETU	**Refugio**	**2.17**	**122**	P		**Pb**		**13 39 15.0**	**-1.7**
ARRY	**Arrayan**	**2.19**	**124**	P		**Pn**		**13 39 15.0**	**+1.1**
CAYR	**Refugio Cayamb**	**2.30**	**82**	P		**Pb**		**13 39 19.0**	**+0.1**
ANGU	**Angureal**	**2.30**	**82**	P		**Pg**		**13 39 20.0**	**-1.0**
YAHU	**Yahuarcocha**	**2.31**	**74**	P		**Pb**		**13 39 18.0**	**-0.9**
CHMA	**Chilma**	**2.50**	**63**	P		**Pn**		**13 39 19.0**	**+0.9**
ECEN	**Cerro Negro**	**2.56**	**64**	P		**Pb**		**13 39 22.0**	**-1.4**
CHL1	**Volc¡n Chiles**	**2.57**	**65**	P		**Pn**		**13 39 21.0**	**+1.7**
ARDO	**Archidona, Ten**	**2.58**	**106**	P		**Pb**		**13 39 22.0**	**-1.4**
CHL2	**Volc¡n Chiles**	**2.60**	**65**	P		**Pb**		**13 39 22.0**	**-2.0**
CONE	**Cono NE Rev Vo**	**2.65**	**85**	P		**Pb**		**13 39 25.0**	**+0.2**
ISPG	**Isla Puna-Puer**	**2.66**	**178**	P		**Pb**		**13 39 25.0**	**+0.1**
TULM	**Tulcn-Chalpat**	**2.69**	**68**	*e*P		**Pb**		**13 39 26.5**	**+1.0**
TULM				*e*S		**Sg**		**13 40 03.6**	**+0.2**
TULM				*i*				13 40 20.4	
	comp=Z,90nm,0.6s								
CMBC	**Cumbal**	**2.74**	**64**	*e*P		**Pg**		**13 39 28.4**	**-1.2**
BONI	**La Bonita**	**2.85**	**75**	P		**Pb**		**13 39 26.0**	**-2.1**
ACUE	**Ecuador-Cuenca**	**2.92**	**153**	P		**Pn**		**13 39 26.0**	**+2.1**
CASC	**Dorado de Casc**	**2.97**	**82**	P		**Pb**		**13 39 30.0**	**-0.2**
CCUFI	**Cufio, Nario**	**3.30**	**63**	*e*P		**Pb**		**13 39 34.5**	**-1.5**
GCUF	**Volcan Galeras**	**3.30**	**63**	*e*P		**Pb**		**13 39 34.9**	**-1.1**
GCUF				*i*				13 40 32.3	
	comp=Z,54nm,0.5s								
BOSC	**San Juan Bosco**	**3.36**	**148**	P		**Pb**		**13 39 34.0**	**-2.8**
CRUC	**La Cruz**	**3.81**	**61**	*e*P		**Pb**		**13 39 40.1**	**-4.5**
CRUC				*e*S		**Sg**		**13 40 36.2**	**-3.1**
CRUC				*i*				13 40 40.1	
	comp=Z,62nm,0.5s								
GR1C	**Gorgona, Isla**	**3.89**	**33**	*e*P		**Pb**		**13 39 43.2**	**-2.6**
MCRA	**Macar, Loja**	**4.07**	**175**	P		**Pn**		**13 39 42.0**	**+2.6**
SOTA	**Rioblanco**	**4.39**	**57**	*e*P		**Pn**		**13 39 47.9**	**+3.6**
SOTA				*e*S		**Sb**		**13 40 44.6**	**-3.4**
SOTA				*i*				13 41 00.2	
	comp=Z,50nm,0.6s								
POPC	**Popayan, Colom**	**4.57**	**52**	*e*P		**Pn**		**13 39 48.5**	**+2.0**
POPC				*e*S		**Sb**		**13 40 46.2**	**-6.7**
POPC				*i*				13 40 54.2	
	comp=Z,19nm,0.4s								
PCON	**Cinco Dias**	**4.67**	**56**	*e*P		Pn		13 39 52.7	+4.5
PCON				*e*S		**Sb**		**13 40 56.9**	**+0.8**
PCON				*i*				13 41 06.7	
	comp=Z,40nm,0.6s								
ZUMB	**Zumba**	**4.68**	**166**	P		Pn		13 39 53.0	+5.0
MARP	**Paez Belalcaza**	**5.33**	**54**	*e*P		**Pn**		**13 39 59.8**	**+2.8**
MARP				*e*S		**Sb**		**13 41 09.2**	**-5.6**
MARP				*i*				13 41 24.1	
	comp=Z,5.3nm,0.7s								
GARC	**Garzon, Huila**	**5.38**	**63**	*e*P		Pb		13 40 04.3	-7.1
PTLC	**Puerto Leguiza**	**5.50**	**85**	*e*P		**Pn**		**13 40 02.2**	**+3.0**
YOTC	**Yotoco, Valle**	**5.79**	**43**	*e*P		**Pn**		**13 40 05.5**	**+2.4**
YOTC				*e*S		**Sn**		**13 41 10.6**	**+0.7**
YOTC				*i*				13 41 18.2	
	comp=Z,13nm,0.5s								
ORTC	**Ortega, Tolima**	**6.54**	**50**	*i*				13 42 11.7	
	comp=Z,11nm,0.6s								
ORTC	**Ortega, Tolima**	**6.54**	**50**	*e*P		Pn		13 40 18.9	+5.5
MACC	**Macarena, Meta**	**6.87**	**69**	*e*P		**Pn**		**13 40 21.6**	**+3.6**
GUY2C	**Guyana, Caldas**	**7.36**	**42**	*e*P		Pn		13 40 30.8	+5.8
CBOC	**Ciudad Bolivar**	**7.45**	**35**	*e*P		Pn		13 40 31.8	+5.7
CBOC				*e*S		**Sn**		**13 41 59.2**	**+8.3**
CBOC				*i*				13 42 21.4	
	comp=Z,7.0nm,0.7s								
ROSC	**El Rosal**	**7.84**	**49**	LR		LR		13 43 48.8	
	comp=Z,150nm,21.9s,baz=40,slow=40								
JTS	**Las Juntas de**	**11.49**	**336**	LR		LR		13 44 44.6	
	comp=Z,69nm,21.6s,baz=188,slow=32								
MDP	**Montagnes des**	**28.12**	**79**	LR		LR		13 56 23.1	
	comp=Z,63nm,21.0s,baz=103,slow=38								
TXAR	**Lajitas Array**	**36.97**	**325**	P		**P**		**13 45 48.0**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=138,slow=12,SNR=2.5								
ANMO	**Albuquerque**	**42.74**	**328**	P		**P**		**13 46 35.6**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=158,slow=11,SNR=3.9								
RCBR	**Riachuelo**	**44.64**	**98**	LR		LR		14 08 32.7	
	comp=Z,85nm,18.3s,baz=312,slow=40								
ELK	**Elko**	**51.72**	**326**	LR		LR		14 09 45.6	
	comp=Z,24nm,20.4s,baz=217,slow=36								

NVAR	**Mina Array Bea**	**52.00**	**322**	P		**P**		**13 47 47.7**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=128,slow=8.2,SNR=0.5								
YKA	**Yellowknife Ar**	**67.73**	**344**	P		**P**		**13 49 33.7**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=133,slow=5.9,SNR=6.7								
MDT	**Midelt**	**78.13**	**56**	LR		LR		14 27 27.8	
	comp=Z,53nm,18.1s,baz=159,slow=38								
TORD	**Torodi Ar. Bea**	**82.25**	**77**	P		**P**		**13 51 00.7**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=266,slow=5.4,SNR=2.0								
NOA	**NORSAR Array B**	**90.98**	**29**	LR		LR		14 28 16.0	
	comp=Z,5.9nm,20.8s,baz=230,slow=33								
WRA	**Warramunga Arr**	**140.58**	**237**	PKP		**PKPdf**		**13 58 05.8**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=122,slow=2.0,SNR=2.1								

RSNC 19 13:39:27.3±0.8,6.83N×73.20W,h145km±5km,ML2.2, Mw3.5,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**176**	⇓*e*P		Pn		13 39 46.7	-0.6
BARC				*e*S		Sn		13 40 02.1	-0.5
BARC				*i*				13 40 03.3	
	comp=Z,34nm,0.2s								
PAMC	**Pamplona, Colo**	**0.71**	**44**	*e*P		Pn		13 39 49.8	0.0
PAMC				*e*S		Sn		13 40 06.8	-0.1
PAMC				*i*				13 40 08.7	
	comp=Z,18nm,0.3s								
RUSC	**La Rusia**	**0.94**	**173**	*e*P		Pn		13 39 50.9	-0.7
RUSC				*e*S		Sn		13 40 09.7	-0.4
RUSC				*i*				13 40 11.4	
	comp=Z,14nm,0.3s								
PTBC	**PUERTO BERRIO,**	**1.28**	**257**	*e*P		Pn		13 39 53.2	-1.0
PTBC				*e*S		Sn		13 40 14.1	-0.7
PTBC				*i*				13 40 15.5	
	comp=Z,23nm,0.2s								
SPBC	**San Pablo de B**	**1.46**	**217**	*e*P		Pn		13 39 55.9	-0.3
SPBC				*e*S		Sn		13 40 18.3	+0.2
SPBC				*i*				13 40 23.9	
	comp=Z,31nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.77**	**292**	*e*P		Pn		13 39 59.5	0.0
ZARC				*e*S		Sn		13 40 23.3	-0.8
ZARC				*i*				13 40 29.6	
	comp=Z,15nm,0.3s								
NORC	**Norcasia**	**2.08**	**233**	*e*P		Pn		13 40 02.9	-0.3
NORC				*e*S		Sn		13 40 30.3	-0.4
NORC				*i*				13 40 38.6	
	comp=Z,15nm,0.2s								
CHIC	**Chingaza**	**2.25**	**194**	*e*P		Pn		13 40 04.5	-1.1
CHIC				*e*S		Sn		13 40 34.3	-0.6
CHIC				*i*				13 40 49.1	
	comp=Z,15nm,0.5s								
HELC	**Santa Helena**	**2.40**	**255**	*e*P		Pn		13 40 07.2	-0.1
HELC				*e*S		Sn		13 40 38.1	+0.1
HELC				*i*				13 40 46.3	
	comp=Z,15nm,0.5s								
UREC	**San Jos de Ur**	**2.49**	**292**	*e*S		Sn		13 40 38.4	-1.1
VILC	**Villavicencio

BKZ	**Black Stump Fm**	**4.25 206**	P	Pn	14 41 25.6	-0.7
MCHZ	**McNeill Hill**	**4.43 203**	P	Pn	14 41 27.5	-1.0
MCHZ			S	S	14 42 20.1	-0.7
KWHZ	**Kaweka Forest**	**4.51 205**	P	Pn	14 41 28.4	-1.1
KWHZ			S	S	14 42 21.8	-0.9
NTVZ	**North Tongarir**	**4.53 214**	P	Pn	14 41 30.7	+0.8
TMVZ	**Te Maari**	**4.53 214**	P	Pn	14 41 29.4	-0.5
ETVZ	**East Tongariro**	**4.55 213**	P	Pn	14 41 29.9	-0.1
WTVZ	**West Tongariro**	**4.58 214**	P	Pn	14 41 31.1	+0.6
NNVZ	**North Ngauruho**	**4.59 214**	P	Pn	14 41 31.2	+0.6
SNVZ	**South Ngauruho**	**4.62 214**	P	Pn	14 41 31.5	+0.5
BHHZ	**Black Hill Sta**	**4.70 208**	P	Pn	14 41 31.2	-0.7
BHHZ			S	S	14 42 26.7	-0.3
KAHZ	**Kahuranaki**	**4.70 200**	P	Pn	14 41 31.0	-1.0
KAHZ			S	S	14 42 27.8	+0.7
KRHZ	**Kereru**	**4.72 205**	P	Pn	14 41 30.4	-1.8
KRHZ			S	S	14 42 26.3	-1.2
PXZ	**Pawanui**	**4.93 199**	P	Pn	14 41 32.4	-2.4
PXZ			S	S	14 42 30.0	-2.2

*IDC **19** 14:48:23.5±0.7, 12°.02S×166°.27E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/41, mbtmp4.1/15, ML5.1/1, MS3.6/19, Ms1 3.6/19, ms1mx3.4/65, Error ellipse: s-maj=23.8km s-min=17.9km az=96.0*

*NEIC **19** 14:48:29.6±2.4, 11°.98S±0°.08×166°.17E±0°.04, h35km±1km, mb4.6/20, Error ellipse: s-maj=13.1km s-min=5.9km az=193.0*

ISC 19 14:48:28.4±0.5, **12°.02S**±0°.06×**166°.13E**±0°.08, **h30**km, **n69,** σ1§**06**/60, **mb4.5**/22, **MS3.6**/15, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.56**	**163**	Pn	**Pn**	**14 49 23.4**	**+1.7**
DVP	**Devils Point**	**6.01**	**161**	P	Pb	14 50 05.4	-7.1
RTV	**Rentapao**	**6.15**	**159**	P	Pb	14 50 09.0	-5.9
HNR	**Honiara**	**6.60**	**292**	Pn	**Pn**	**14 50 04.9**	**+1.4**
	36nm,0.3s,baz=223,slow=6.2,SNR=7.3						
HNR				Sn	**Sn**	**14 51 16.2**	**-1.5**
	18nm,0.3s,baz=203,slow=23,SNR=8.4						
HNR				LR	LR	14 52 30.2	
	comp=Z,333nm,20.4s,baz=134,slow=37						
HNR	**Honiara**	**6.60**	**292**		**Pn**	**14 50 04.7**	**+1.2**
KOUNC	**Koumac, New Ca**	**8.67**	**192**	Pn	**Pn**	**14 50 33.6**	**+1.7**
LIFNC	**LIFOU**	**8.77**	**173**	Pn	**Pn**	**14 50 34.7**	**+1.4**
MARNC	**Mare, Loyalty**	**9.58**	**169**	Pn	**Pn**	**14 50 45.0**	**+0.6**
DZM	**Mont Dzumac**	**10.00**	**178**	Pn	**Pn**	**14 50 51.2**	**+0.9**
	0.8nm,0.3s,baz=310,slow=16,SNR=20						
DZM				Sn	**Sn**	**14 52 38.6**	**-3.0**
	baz=116,slow=22,SNR=1.6						
DZM				LR	LR	14 54 07.9	
	comp=Z,173nm,19.3s,baz=26,slow=34						
ONTNC	**Ouen Toro**	**10.24**	**178**	Pn	**Pn**	**14 50 54.5**	**+1.1**
PINNC	**Pines Island,**	**10.61**	**173**	Pn	**Pn**	**14 51 00.3**	**+1.8**
TARA	**Tarawa**	**14.90**	**27**	Pn	**Pn**	**14 51 58.4**	**+1.2**
KRVT	**Keravat (AS076**	**15.92**	**298**	LR	LR	14 59 12.6	
	comp=Z,129nm,18.4s,baz=271,slow=40						
PMG	**Port Moresby**	**18.82**	**276**	LR	LR	14 59 48.9	
	comp=Z,268nm,19.2s,baz=94,slow=36						
CTA	**Charters Tower**	**20.70**	**245**	LR	LR	15 01 24.8	
	comp=Z,119nm,18.2s,baz=82,slow=38						
CTAO	**Charters Tower**	**20.70**	**245**	P	**P**	**14 53 06.0**	**-0.4**
CTAO				IAmb	IAmb	14 53 28.2	
	comp=Z,30nm,1.4s						
RAO	**Raoul Island**	**22.68**	**141**	LR	LR	15 00 45.5	
	comp=Z,217nm,20.9s,baz=16,slow=33						
STKA	**Stephens Creek**	**30.01**	**225**	P	**P**	**14 54 35.7**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=61,slow=10,SNR=2.3						
STKA				LR	LR	15 06 23.2	
	comp=Z,166nm,19.5s,baz=51,slow=36						
WR0	**Warramunga Arr**	**31.34**	**251**	P	**P**	**14 54 46.9**	**+0.3**
WB0	**Warramunga Arr**	**31.44**	**252**	P	**P**	**14 54 47.5**	**+0.1**
WB0				IAmb	IAmb	14 55 10.4	
	comp=Z,11nm,1.3s						
TOO	**Toolangi**	**31.45**	**212**	P	**P**	**14 54 48.0**	**+0.7**
WB2	**Warramunga Arr**	**31.51**	**251**	P	**P**	**14 54 47.8**	**-0.3**
WRA	**Warramunga Arr**	**31.52**	**251**	P	**P**	**14 54 47.7**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=82,slow=8.6,SNR=9.1						
WRA				PcP	**PcP**	**14 57 41.2**	**+0.5**
	comp=Z,2.6nm,1.0s,baz=79,slow=3.5,SNR=11						
WRA				LR	LR	15 06 58.6	
	comp=Z,94nm,21.2s,baz=246,slow=35						
RPZ	**Rata Peaks**	**31.87**	**173**	P	**P**	**14 54 51.4**	**+0.5**
	comp=Z,9.5nm,0.8s,baz=230,slow=23,SNR=4.0						
RPZ				LR	LR	15 06 08.3	
	comp=Z,125nm,18.5s,baz=357,slow=33						
AS31	**Alice Springs**	**32.71**	**245**	P	**P**	**14 54 57.8**	**-0.8**
ASAR	**Alice Springs**	**32.71**	**245**	P	**P**	**14 54 57.9**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=71,slow=9.4,SNR=32						
ASAR				PcP	**PcP**	**14 57 44.1**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=77,slow=2.4,SNR=17						
ASAR				LR	LR	15 07 24.4	
	comp=Z,99nm,19.8s,baz=102,slow=35						
ASAR	**Alice Springs**	**32.71**	**245**		**PcP**	**14 57 43.1**	**-0.9**
GUMO	**Guam**	**33.04**	**320**	LR	LR	15 06 55.2	
	comp=Z,116nm,21.8s,baz=116,slow=34						
SIJI	**Sorong**	**36.32**	**285**	LR	LR	15 11 57.8	
	comp=Z,79nm,18.7s,baz=110,slow=39						
FITZ	**Fitzroy Crossi**	**39.50**	**256**	P	**P**	**14 55 56.5**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=75,slow=8.4,SNR=1.5						
FITZ				LR	LR	15 11 22.8	
	comp=Z,105nm,19.9s,baz=86,slow=35						
FITZ	**Fitzroy Crossi**	**39.50**	**256**	P	**P**	**14 55 56.6**	**-0.2**
FITZ				IAmb	IAmb	14 56 16.2	
	comp=Z,7.8nm,1.4s						
DAV	**Davao City (W)**	**44.56**	**293**	LR	LR	15 13 39.9	
	comp=Z,294nm,19.0s,baz=64,slow=34						
MORW	**Morawa**	**49.50**	**242**	P	**P**	**14 57 17.2**	**+0.7**
MORW				IAmb	IAmb	14 57 28.7	
	comp=Z,13nm,1.1s						
MYLDM	**Lahad Datu**	**50.35**	**287**	P	**P**	**14 57 22.2**	**-0.9**
MYLDM				IAmb	IAmb	14 57 49.3	
	comp=Z,14nm,1.1s						
MAJO	**Matsushiro**	**55.01**	**333**	P	**P**	**14 57 56.0**	**-1.2**
MAJO				IAmb	IAmb	14 58 25.1	
	comp=Z,8.0nm,1.1s						
MJB9	**Matsu-Tunnel**	**55.01**	**333**	P	**P**	**14 57 55.7**	**-1.5**
MJB9				IAmb	IAmb	14 58 25.1	
	comp=Z,8.7nm,1.2s						
KSRS	**Korea Array**	**60.89**	**326**	P	**P**	**14 58 39.0**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=139,slow=7.3,SNR=10						
KSAR	**Wonju Array Be**	**60.90**	**326**	P	**P**	**14 58 37.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**63.98**	**333**	P	**P**	**14 58 59.9**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=144,slow=6.8,SNR=4.5						
PEA0B	**Petropavlovsk-**	**65.27**	**354**	P	**P**	**14 59 05.9**	**-1.2**
PETK	**Petropavlovsk-**	**65.27**	**354**	LR	LR	15 26 29.7	
	comp=Z,17nm,19.3s,baz=139,slow=35						
VNDA	**Vanda**	**65.53**	**181**	P	**P**	**14 59 08.7**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=0.4,slow=7.4,SNR=5.9						
VNDA	**Vanda**	**65.53**	**181**	P	**P**	**14 59 07.5**	**-1.1**
VNDA				IAmb	IAmb	14 59 23.7	
	comp=Z,7.1nm,1.3s						
MA2	**Magadan**	**72.42**	**352**	LR	LR	15 25 36.7	
	comp=Z,70nm,21.9s,baz=180,slow=31						
CMAR	**Chiang Mai Arr**	**72.85**	**294**	P	**P**	**14 59 56.5**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=131,slow=4.5,SNR=9.0						
CMAR	**Chiang Mai Arr**	**72.85**	**294**	P	**P**	**14 59 56.0**	**+1.0**
QSPA	**South Pole Qui**	**77.99**	**180**	P	**P**	**15 00 23.6**	**-0.3**
QSPA				IAmb	IAmb	15 00 27.4	
	comp=Z,10.0nm,1.1s						
ULN	**Ulaanbaatar**	**79.31**	**324**	P	**P**	**15 00 31.8**	**+0.4**
SONM	**Songino Array**	**79.67**	**324**	P	**P**	**15 00 33.9**	**+0.6**
	comp=Z,5.8nm,1.0s,baz=136,slow=5.5,SNR=26						
IMAR	**Indian Mountai**	**83.26**	**15**	P	**P**	**15 00 52.1**	**+0.3**
MAW	**Mawson**	**83.97**	**202**	P	**P**	**15 00 54.9**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=129,slow=6.5,SNR=1.4						
MAW	**Mawson**	**83.97**	**202**	P	**P**	**15 00 55.9**	**+0.4**
ILAR	**Eielson Array**	**84.31**	**18**	P	**P**	**15 00 55.8**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=236,slow=4.9,SNR=7.4						
J25K	**Salcha River,**	**84.68**	**19**	P	**P**	**15 00 58.0**	**-1.1**
J25K				IAmb	IAmb	15 01 14.5	
	comp=Z,3.5nm,1.1s						
NVAR	**Mina Array Bea**	**86.36**	**50**	P	**P**	**15 01 07.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=258,slow=6.4,SNR=1.8						
BMAR	**Burnt Mountain**	**86.82**	**17**	P	**P**	**15 01 12.1**	**+2.5**
PDAR	**Pinedale Array**	**93.93**	**47**	LR	LR	15 39 37.0	
	comp=Z,33nm,18.6s,baz=257,slow=33						
MK31	**Makanchi Array**	**94.49**	**317**	P	**P**	**15 01 45.8**	**-0.1**
MKAR	**Makanchi Array**	**94.49**	**317**	P	**P**	**15 01 46.4**	**+0.4**
	comp=Z,9.7nm,0.7s,baz=94,slow=6.4,SNR=119						
MKAR	**Makanchi Array**	**94.49**	**317**	P	**P**	**15 01 46.0**	**0.0**
ZAA0	**Zalesovo Array**	**94.56**	**324**	P	**P**	**15 01 44.9**	**-1.1**
ZALV	**Zalesovo Beam**	**94.56**	**324**	P	**P**	**15 01 45.4**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=98,slow=4.5,SNR=9.3						
MAKZ	**Makanchi**	**94.70**	**317**	P	**P**	**15 01 46.0**	**-0.9**
TXAR	**Lajitas Array**	**95.96**	**61**	LR	LR	15 36 54.2	
	comp=Z,36nm,20.5s,baz=249,slow=30						
NRIK	**Noril'sk**	**97.16**	**339**	LR	LR	15 45 36.7	
	comp=Z,28nm,19.5s,baz=66,slow=35						
ARCES	**ARCESS Array B**	**117.37**	**345**	PKP	**PKPdf**	**15 07 09.2**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=78,slow=1.8,SNR=5.9						
BOSA	**Boshof**		**124.66 222**	PKP	**PKPdf**	**15 07 26.0**	**0.0**
	comp=Z,2.0nm,0.9s,baz=217,slow=5.1,SNR=1.4						
KEST	**Kesra**		**148.41 322**	PKPbc	**PKPbc**	**15 08 12.7**	**0.0**
	comp=Z,4.0nm,0.9s,baz=9.5,slow=6.1,SNR=2.4						
TORD	**Torodi Ar. Bea**		**164.77 276**	PKP	**PKPdf**	**15 08 30.4**	**-0.1**
	comp=Z,1.0nm,1.1s,baz=86,slow=2.0,SNR=4.4						
TORD				PKPab	**PKPab**	**15 09 25.8**	**-0.6**
	comp=Z,1.2nm,1.2s,baz=94,slow=4.5,SNR=3.9						

*IDC **19** 14:55:49.7±16.0, 30°.90S×179°.68E, h346km±162km, mb2.5/2, mb1 2.8/2, mb1mx2.7/24, mbtmp3.3/2, Error ellipse: s-maj=215.9km s-min=53.8km az=13.0*

*WEL **19** 14:56:02.0±1.0, 32°S±7°×18°0E±1°8, h350km±16km, M4.0/7, mB4.4/7, ML4.5/8, MLv4.4/6, Mw(mB)3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=108.4*

ISC 19 14:56:01.9±1.4, **32°.0S**±0°.1×**179°.9E**±0°.2, **h350**km, **n21,** σ1§**12**/30, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.31**	**35**	P	**Pn**	**14 57 03.4**	**-0.8**
GLKZ				S	**S**	**14 57 55.4**	**+1.1**
MXZ	**Matakaoa Point**	**5.70**	**193**	P	**Pn**	**14 57 28.7**	**-0.5**
MXZ				S	**S**	**14 58 41.4**	**+1.5**
KUZ	**Kuaotunu**	**5.86**	**215**	P	**Pn**	**14 57 32.5**	**+1.5**
WMGZ	**Waiomatatini S**	**5.93**	**192**	P	**Pn**	**14 57 32.7**	**+0.9**
WMGZ				S	**S**	**14 58 47.0**	**+2.4**
HAZ	**Te Kaha**	**6.00**	**196**	P	**Pn**	**14 57 31.6**	**-1.0**
HAZ				S	**S**	**14 58 46.5**	**+0.4**
PKZZ	**Pakihiroa**	**6.06**	**194**	P	**Pn**	**14 57 34.1**	**+0.8**
PKGZ				S	**S**	**14 58 48.3**	**+0.8**
OUZ	**Omahuta**	**6.17**	**237**	P	**Pn**	**14 57 34.4**	**-0.2**
PUZ	**Puketiti**	**6.20**	**192**	P	**Pn**	**14 57 35.1**	**+0.1**
PUZ				S	**S**	**14 58 50.4**	**0.0**
RUGZ	**Raukumara Rang**	**6.22**	**197**	P	**Pn**	**14 57 34.8**	**-0.5**
RUGZ				S	**S**	**14 58 50.0**	**-1.0**
TWGZ	**Tauwhareparae**	**6.36**	**194**	P	**Pn**	**14 57 37.2**	**+0.4**
TWGZ				S	**S**	**14 58 54.3**	**+0.6**
MWZ	**Matawai**	**6.61**	**197**	P	**Pn**	**14 57 38.5**	**-1.2**
MWZ				S	**S**	**14 58 58.0**	**-1.1**
TKGZ	**Te Karaka**	**6.63**	**194**	P	**Pn**	**14 57 39.8**	**-0.1**
TKGZ				S	**S**	**14 58 59.4**	**-0.2**
URZ	**Urewera**	**6.64**	**199**	P	**Pn**	**14 57 39.4**	**-0.7**
	10nm,0.3s,baz=283,slow=2.5,SNR=45						
URZ				S	**S**	**14 58 57.5**	**-2.2**
	3.4nm,0.3s,baz=233,slow=23,SNR=18						
URZ	**Urewera**	**6.64**	**199**	P	**Pn**	**14 57 39.5**	**-0.5**
URZ				S	**S**	**14 58 58.0**	**-1.8**
KMRZ	**Kaimai**	**6.67**	**208**	P	**Pn**	**14 57 42.0**	**+1.6**
TOZ	**Tahuroa Road**	**6.76**	**211**	P	**Pn**	**14 57 42.9**	**+1.5**
RAGZ	**Rawiri**	**6.79**	**197**	P	**Pn**	**14 57 41.8**	**0.0**
PRRZ	**Plateau Road**	**7.09**	**203**	P	**Pn**	**14 57 44.9**	**-0.3**
ASAR	**Alice Springs**	**41.28**	**270**	P	P	15 03 00.7	-14
	0.3nm,0.8s,baz=110,slow=7.8,SNR=2.3						
WRA	**Warramunga Arr**	**42.41**	**275**	P	P	15 03 09.3	-14
	0.1nm,0.2s,baz=114,slow=7.9,SNR=5.9						
FINES	**FINESS Array B**	**146.00**	**338**	PKP	PKPdf	15 14 44.2	-15
	1.7nm,0.8s,baz=116,slow=3.2,SNR=4.3						

*IDC **19** 15:00:14.9±1.9, 19°.42S×176°.09W, h198km±18km, mb4.4/21, mb1 4.5/23, mb1mx4.3/38, mbtmp4.9/23, MS3.7/2, Ms1 3.6/2, ms1mx2.8/63, Error ellipse: s-maj=12.0km s-min=9.5km az=144.0*

*NEIC **19** 15:00:19.3±1.3, 19°.5S±0°.1×176°.03W±0°.08, h240km±6km, mb4.6/143, Error ellipse: s-maj=14.7km s-min=10.9km az=168.0*

*NOU **19** 15:00:19.3, 19°.40S×175°.53W, h274km, mb4.9/65, Tonga Islands*

ISC 19 15:00:16.4±0.3, **19°.60S**±0°.05×**176°.01W**±0°.06, **h219**km, **n306,** σ1§**79**/324, **mb4.6**/112, **2C-5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.77**	**86**	Pn	**Pn**	**15 01 42.7**	**+1.7**
MSVF	**Nonsavu**	**5.93**	**287**	P	Pn	15 01 49.5	+6.3
	6.9nm,0.3s,baz=105,slow=15,SNR=20						
MSVF				LR	LR	15 03 27.4	
	comp=Z,641nm,21.1s,baz=26,slow=33						
MSVF	**Nonsavu**	**5.93**	**287**	Pn	Pn	15 01 49.3	+6.1
MSVF	**Nonsavu**	**5.93**	**287**	P	Pn	15 01 50.9	+7.7
AFI	**Afiamalu**	**6.96**	**36**	P	**Pn**	**15 01 54.5**	**-2.0**
	8.9nm,0.3s,baz=180,slow=2.2,SNR=11						
AFI				S	S	15 03 05.7	-10
	38nm,0.3s,baz=72,slow=20,SNR=9.7						
AFI	**Afiamalu**	**6.96**	**36**	P	**Pn**	**15 01 54.4**	**-2.0**
GLKZ	**Green Lake**	**9.77**	**190**	P	**Pn**	**15 02 34.4**	**+2.0**
GLKZ				S	**S**	**15 04 21.9**	**-0.2**
RTV	**Rentapao**	**14.86**	**274**	P	P	15 03 41.5	+4.9
MARNC	**Mare, Loyalty**	**15.07**	**260**		**P**	**15 03 42.0**	**+3.1**
MARNC	**Mare, Loyalty**	**15.07**	**260**	P	P	15 03 43.0	+4.1
DVP	**Devils Point**	**15.09**	**275**	P	P	15 03 44.3	+5.1
PINNC	**Pines Island,**	**15.73**	**256**	P	**Pn**	**15 03 47.7**	**+1.1**
PINNC	**Pines Island,**	**15.73**	**256**	P	**Pn**	**15 03 51.3**	**+4.7**
LIFNC	**LIFOU**	**15.77**	**263**		**Pn**	**15 03 48.8**	**+1.7**
LIFNC	**LIFOU**	**15.77**	**263**	P	**Pn**	**15 03 50.1**	**+2.9**
YATNC	**Mamie plateau,**	**16.17**	**258**	P	**Pn**	**15 03 56.6**	**+4.6**
OUENC	**Ouen Island, N**	**16.26**	**257**	P	**Pn**	**15 03 53.3**	**+0.3**
OUENC	**Ouen Island, N**	**16.26**	**257**	P	**Pn**	**15 03 57.3**	**+4.3**
SANVU	**Saraoutou**	**16.53**	**282**	P	**Pn**	**15 03 57.1**	**+0.8**
SANVU	**Saraoutou**	**16.53**	**282**	P	**Pn**	**15 03 59.0**	**+2.7**
DZM	**Mont Dzumac**	**16.59**	**258**	P	**Pn**	**15 04 00.3**	**+3.3**
	11nm,0.3s,baz=85,slow=13,SNR=105						
DZM	**Mont Dzumac**	**16.59**	**258**	P	**Pn**	**15 03 58.3**	**+1.3**
DZM	**Mont Dzumac**	**16.59**	**258**	P	**Pn**	**15 04 01.6**	**+4.6**
ONTNC	**Ouen Toro**	**16.60**	**258**	Pn	**Pn**	**15 03 59.6**	**+2.5**
ONTNC	**Ouen Toro**	**16.60**	**258**	P	**Pn**	**15 03 59.3**	**+2.2**
NOUC	**Port Laguerre**	**16.72**	**258**	P	**Pn**	**15 04 02.5**	**+4.0**
OUZ	**Omahuta**	**18.07**	**208**	P	**Pn**	**15 04 14.5**	**+0.3**
OUZ	**Omahuta**	**18.07**	**208**	P	**Pn**	**15 04 15.0**	**+0.8**
WCZ	**Waipu Caves**	**18.36**	**206**	P	**Pn**	**15 04 18.5**	**+0.9**
KOUNC	**Koumac, New Ca**	**18.54**	**264**	P	**Pn**	**15 04 18.5**	**-1.3**
KOUNC	**Koumac, New Ca**	**18.54**	**264**	P	**Pn**	**15 04 22.5**	**+2.7**
KUZ	**Kuaotunu**	**18.56**	**201**	P	**Pn**	**15 04 20.2**	**+0.3**
MXZ	**Matakaoa Point**	**18.57**	**194**	P	**Pn**	**15 04 20.5**	**+0.4**
MXZ	**Matakaoa Point**	**18.57**	**194**	P	**Pn**	**15 04 19.1**	**-1.0**
MXZ				S	**S**	**15 07 30.0**	**-7.1**
WMGZ	**Waiomatatini S**	**18.79**	**194**	P	**P**	**15 04 20.5**	**+1.1**
WMGZ				S	**S**	**15 07 37.0**	**-4.4**
HAZ	**Te Kaha**	**18.88**	**195**	P	**Pn**	**15 04 22.4**	**-1.4**
HAZ				S	**S**	**15 07 40.1**	**-3.1**
PKGZ	**Pakihiroa**	**18.94**	**195**	P	**P**	**15 04 22.7**	**+1.6**
PKGZ				S	**S**	**15 07 39.6**	**-4.8**
PUZ	**Puketiti**	**19.07**	**194**	P	**Pn**	**15 04 24.3**	**-1.6**
PUZ				S	**S**	**15 07 40.4**	**-6.6**
TWGZ	**Tauwhareparae**	**19.23**	**195**	P	**Pn**	**15 04 27.5**	**-0.5**
TWGZ				S	**S**	**15 07 44.8**	**-5.4**
MWZ	**Matawai**	**19.49**	**195**	P	**P**	**15 04 27.4**	**+0.4**
MWZ				S	**S**	**15 07 49.5**	**-5.8**
TKGZ	**Te Karaka**	**19.52**	**195**	P	**P**	**15 04 28.0**	**+0.8**
TKGZ				S	**S**	**15 07 50.9**	**-4.8**
TOZ	**Tahuroa Road**	**19.52**	**201**	P	**Pn**	**15 04 30.3**	**-1.0**
URZ	**Urewera**	**19.53**	**196**	P	**P**	**15 04 27.0**	**-0.4**
	5.2nm,0.3s,baz=250,slow=3.8,SNR=55						
URZ				S	**S**	**15 07 52.4**	**-3.5**
	3.0nm,0.3s,baz=229,slow=17,SNR=4.2						
URZ	**Urewera**	**19.53**	**196**	P	**P**	**15 04 26.3**	**-1.1**
URZ	**Urewera**	**19.53**	**196**	P	**P**	**15 04 27.2**	**-0.2**
URZ				S	**S**	**15 07 52.7**	**-3.2**
RAGZ	**Rawiri**	**19.67**	**195**	P	**P**	**15 04 31.2**	**+2.1**
RIGZ	**Rimuhau**	**19.79**	**195**	P	**P**	**15 04 29.5**	**-0.6**
RIGZ				S	**S**	**15 07 57.2**	**-3.9**
MUGZ	**Murupara**	**19.83**	**197**	P	**P**	**15 04 31.5**	**+0.9**
MUGZ				S	**S**	**15 07 58.2**	**-3.5**
HRRZ	**Handcock Road**	**19.88**	**198**	P	**Pn**	**15 04 34.0**	**-1.8**
RTZ	**Ruatahuna**	**19.90**	**196**	P	**P**	**15 04 31.4**	**-0.1**
RTZ				S	**S**	**15 07 59.4**	**-3.9**
PRRZ	**Plateau Road**	**19.95**	**198**	P	**Pn**	**15 04 34.3**	**-2.2**
SNGZ	**Shannon Statio**	**19.96**	**195**	P	**P**	**15 04 33.8**	**+1.7**
SNGZ				S	**S**	**15 08 01.4**	**-3.0**
HIZ	**Hauiti**	**20.44**	**201**	P	Pn	15 04 40.0	-2.5
HIZ	**Hauiti**	**20.44**	**201**	P	Pn	15 04 40.4	-2.2
BKZ	**Black Stump Fm**	**20.55**	**197**	P	**P**	**15 04 36.6**	**-1.7**
BKZ				IAmb	IAmb	15 04 45.5	
	comp=Z,46nm,1.4s						
BKZ	**Black Stump Fm**	**20.55**	**197**	P	**P**	**15 04 40.6**	**+2.3**
OTVZ	**Oturere**	**20.78**	**198**	P	**P**	**15 04 40.7**	**-0.2**
OTVZ				S	**S**	**15 08 20.0**	**+0.1**
TUVZ	**Tukino**	**20.88**	**198**	P	**P**	**15 04 41.9**	**0.0**
TUVZ				S	**S**	**15 08 22.4**	**+0.8**
BHHZ	**Black Hill Sta**	**20.97**	**197**	P	**P**	**15 04 41.8**	**-0.9**
BHHZ				S	**S**	**15 08 18.5**	**-4.5**
PKVZ	**Pokaka**	**20.99**	**199**	P	**P**	**15 04 41.5**	**-1.5**
NEZ	**North Egmont**	**21.38**	**201**	P	**P**	**15 04 50.4**	**+3.3**
LREZ	**Lake Rotokare**	**21.45**	**201**	P	**P**	**15 04 50.4**	**+2.9**
WAZ	**Wanganui**	**21.53**	**199**	P	**P**	**15 04 49.4**	**+0.9**
WAZ				S	**S**	**15 08 34.6**	**+2.5**
BFZ	**Birch Farm**	**22.03**	**196**	P	**P**	**15 04 54.7**	**+1.5**
MRZ	**Mangatainoka R**	**22.19**	**197**	P	**P**	**15 04 55.2**	**+0.5**
MRZ				S	**S**	**15 08 42.2**	**-0.5**
HOWZ	**Holdsworth Sta**	**22.43**	**197**	P	**P**	**15 04 55.0**	**-1.9**
HOWZ				S	**S**	**15 08 44.6**	**-2.0**
OGWZ	**Otaki Gorge**	**22.45**	**198**	P	**P**	**15 04 56.3**	**-0.7**
OGWZ				S	**S**	**15 08 45.1**	**-1.8**
KIW	**Kapiti Island**	**22.57**	**198**	P	**P**	**15 04 58.3**	**+0.1**
SNZO	**South Karori**	**23.04**	**198**	P	**P**	**15 05 04.7**	**+2.3**
	comp=Z,68nm,1.6s						
QRZ	**Quartz Range**	**23.32**	**202**	P	**P**	**15 05 06.6**	**+1.8**
QRZ	**Quartz Range**	**23.32**	**202**	P	**P**	**15 05 06.8**	**+1.9**
THZ	**Tophouse**	**24.02**	**201**	P	**P**	**15 05 12.3**	**+1.0**
THZ				IAmb	IAmb	15 05 19.1	
	comp=Z,32nm,1.0s						
KHZ	**Kahutara**	**24.40**	**199**	P	**P**	**15 05 15.6**	**+0.9**
KHZ				IAmb	IAmb	15 05 21.1	
	comp=Z,25nm,0.9s						
KHZ	**Kahutara**	**24.40**	**199**	P	**P**	**15 05 17.1**	**+2.4**
LTZ	**Lake Taylor**	**25.14**	**201**	P	**P**	**15 05 21.4**	**-0.1**
OXZ	**Oxford**	**25.70**	**200**	P	**P**	**15 05 26.8**	**+0.4**
RPZ	**Rata Peaks**	**26.38**	**201**	P	**P**	**15 05 34.0**	**+1.5**
	comp=Z,16nm,0.5s,baz=14,slow=8.6,SNR=11						
RPZ	**Rata Peaks**	**26.38**	**201**	P	**P**	**15 05 33.7**	**+1.2**
RPZ				IAmb	IAmb	15 05 38.5	
	comp=Z,20nm,0.8s						
RPZ	**Rata Peaks**	**26.38**	**201**	P	**P**	**15 05 32.3**	**-0.2**
ODZ	**Otahua Downs**	**27.69**	**201**	P	**P**	**15 05 45.8**	**+1.7**
EIDS	**Eidsvold**	**30.89**	**253**	P	**P**	**15 06 12.8**	**+0.1**
EIDS				IAmb	IAmb	15 06 14.8	
	comp=Z,17nm,0.8s						
EIDS	**Eidsvold**	**30.89**	**253**	P	**P**	**15 06 14.0**	**+1.3**
ARMA	**Armidale**	**31.14**	**243**	P	**P**	**15 06 16.3**	**+1.4**
ARMA	**Armidale**	**31.14**	**243**	P	**P**	**15 06 17.4**	**+2.5**
RK1H	**Rockhampton Ha**	**31.35**	**257**	P	**P**	**15 06 19.1**	**+2.4**
	comp=Z,44nm,0.9s						
MGCD	**Mangrove Creek**	**32.27**	**238**	P	**P**	**15 06 27.2**	**+

LUWI	Luwuk	62.62	279	P		P	15 10 16.9	-1.1
LUWI	Luwuk	62.62	279	P		P	15 10 17.0	-1.1
	comp=Z,623nmcomp=Z,38nm,1.4s							
APSI	Ampana	63.72	279	P		P	15 10 24.1	-1.1
	comp=Z,274nmcomp=Z,23nm,1.1s							
BNSI	Bone	63.95	275	P		P	15 10 25.4	-1.3
	comp=Z,17nm,1.2s							
MRSI	Marisa	63.95	281	P		P	15 10 25.7	-1.1
	comp=Z,11nm,0.5s							
GIRL	Giralia	64.59	254	P		P	15 10 31.1	+0.3
GIRL	Giralia	64.59	254	P		P	15 10 30.8	0.0
PLAI	Plampang	64.75	269	P		P	15 10 32.9	+1.0
	comp=Z,32nm,0.9s							
TOLI2	Tolitoli	65.26	281	P		P	15 10 34.6	-0.7
TOLI2				IAmb		IAmb	15 10 35.4	
	comp=Z,15nm,1.0s							
TOLI2	Tolitoli	65.26	281	P		P	15 10 36.0	+0.7
CASY	Casey	65.57	205	P		P	15 10 37.5	+1.1
CASY				IAmb		IAmb	15 10 38.4	
	comp=Z,24nm,1.1s							
MPSI	Mapaga	65.80	280	P		P	15 10 37.9	-0.8
	comp=Z,19nm,1.0s							
JAGI	Jajag, Banyuwa	68.27	269	P		P	15 10 53.8	-0.5
QSPA	South Pole Qui	70.46	180	P		P	15 11 08.7	+1.8
	comp=Z,45nm,0.9s,baz=38,slow=3.5,SNR=109							
QSPA	South Pole Qui	70.46	180	P		P	15 11 08.8	+1.8
MJAR	Matsushiro Arr	70.62	322	P		P	15 11 08.6	+0.4
	comp=Z,2.7nm,0.6s,baz=120,slow=7.1,SNR=3.4							
MAJO	Matsushiro	70.62	322	P		P	15 11 07.7	-0.4
MAJO				IAmb		IAmb	15 11 13.1	
	comp=Z,10.0nm,0.8s							
MJB9	Matsu-Tunnel	70.63	322	P		P	15 11 07.8	-0.4
MJB9				IAmb		IAmb	15 11 13.0	
	comp=Z,10nm,0.9s							
ADK	Adak	71.18	360	P		P	15 11 10.2	-0.9
UGM	Wanagama	71.86	268	P		P	15 11 15.3	-0.7
YULB	Yu-li	74.59	302	P		P	15 11 29.8	-2.0
YULB				IAmb		IAmb	15 11 40.0	
	comp=Z,26nm,1.3s							
SSLB	Suanglung	75.06	302	P		P	15 11 32.4	-2.1
SSLB				IAmb		IAmb	15 11 41.1	
	comp=Z,30nm,1.3s							
KSM	Kuching	75.15	277	P		P	15 11 34.9	-0.3
KSM				IAmb		IAmb	15 11 39.2	
	comp=Z,10nm,0.6s							
PEA0B	Petropavlovsk-	75.91	344	P		P	15 11 37.0	-1.6
PEA0B				IAmb		IAmb	15 11 53.2	
	comp=Z,25nm,1.2s							
YSS	Yuzh-Sakhalins	75.95	332	P		P	15 11 39.0	+0.1
YSS				IAmb		IAmb	15 11 40.4	
	comp=Z,26nm,1.2s							
CGJI	Cibinong	76.81	268	P		P	15 11 42.1	-2.5
	comp=Z,38nm,0.4s							
KMRM	Mail Ridge	76.88	38	P		P	15 11 44.8	+0.3
KMRM				IAmb		IAmb	15 11 47.2	
	comp=Z,9.9nm,0.9s							
O02D	Mt. Diablo Mer	77.40	39	P		P	15 11 47.9	+0.5
YUH	Yuha Desert	77.43	49	P		P	15 11 47.6	0.0
KSRS	Korea Array	77.47	317	P		P	15 11 48.1	+0.4
	comp=Z,1.9nm,1.0s,baz=122,slow=6.4,SNR=5.7							
CMB	Columbia Colle	77.54	42	P		P	15 11 47.9	-0.3
PFO	Pinyon Flats O	77.59	47	P		P	15 11 48.5	-0.1
M02C	Callahan	78.13	38	P		P	15 11 52.0	+0.6
MDPB	Devils Postpil	78.13	43	P		P	15 11 51.7	0.0
OMMB	Old Mammoth Mi	78.17	43	P		P	15 11 51.6	-0.4
KASI	Kota Agung	78.29	268	P		P	15 11 50.8	-2.0
	comp=Z,32nm,0.9s							
GSC	Goldstone, Bar	78.29	46	P		P	15 11 52.1	-0.3
GSC				IAmb		IAmb	15 11 54.2	
	comp=Z,12nm,1.3s							
GLA	Glamis	78.43	49	P		P	15 11 53.4	+0.2
GLA				IAmb		IAmb	15 12 08.0	
	comp=Z,6.6nm,0.9s							
YBH	Yreka Blue Hor	78.43	38	P		P	15 11 53.5	+0.5
MPK	Martis Peak	78.53	41	P		P	15 11 53.7	-0.1
MPK				IAmb		IAmb	15 11 56.2	
	comp=Z,9.9nm,1.2s							
QSM	Queen of Sheba	78.62	45	P		P	15 11 54.0	-0.1
QSM				IAmb		IAmb	15 11 55.8	
	comp=Z,16nm,1.4s							
BEKR	Beckworth	78.67	40	P		P	15 11 53.6	-0.8
PNTR	Pine Nut	78.67	41	P		P	15 11 53.5	-1.0
PNTR				IAmb		IAmb	15 11 56.4	
	comp=Z,19nm,1.4s							
SMAI	San Martin Ant	78.77	159	P		P	15 11 55.6	+1.3
LCH	Last Change Ra	78.83	44	P		P	15 11 55.1	-0.2
LCH				IAmb		IAmb	15 11 57.0	
	comp=Z,11nm,1.4s							
YERR	Yerington	78.83	42	P		P	15 11 54.9	-0.5
HUMO	Hull Mountain	78.85	37	P		P	15 11 55.3	+0.1
LHV	Little Huntoon	78.86	43	P		P	15 11 55.4	+0.1
LHV				IAmb		IAmb	15 11 57.5	
	comp=Z,14nm,1.3s							
GWY	Greenwater Val	78.88	45	P		P	15 11 54.9	-0.8
NVAR	Mina Array Bea	79.09	43	P		P	15 11 57.5	+0.6
	comp=Z,2.9nm,0.8s,baz=223,slow=8.7,SNR=21							
NVAR	Mina Array Bea	79.09	43	P		P	15 11 56.7	-0.2
PAHR	Pah Rah Range	79.17	41	P		P	15 11 56.9	-0.3
NV11	Mina Array Sit	79.19	43	P		P	15 11 57.2	-0.1
NV11				IAmb		IAmb	15 11 59.0	
	comp=Z,11nm,1.3s							
TPNV	Topopah Spring	79.58	45	P		P	15 11 58.9	-0.6
KVN	Kaiserville	79.59	42	P		P	15 11 59.1	-0.4
MOD	Modoc Plateau	79.94	39	P		P	15 12 01.3	0.0
MOD				IAmb		IAmb	15 12 02.8	
	comp=Z,11nm,1.4s							
SHPR	Sheep Range	80.07	46	P		P	15 12 02.3	+0.2
SHPR				IAmb		IAmb	15 12 04.1	
	comp=Z,12nm,1.4s							
H04D	Lebanon	80.20	36	P		P	15 12 02.2	-0.1
H04D				IAmb		IAmb	15 12 03.5	
	comp=Z,10nm,1.0s							
BELA	Belgrano 2	80.20	172	P		P	15 12 02.2	+0.3
BELA				IAmb		IAmb	15 12 03.8	
	comp=Z,21nm,1.1s							
PRN	Pahroc Range	80.64	45	P		P	15 12 05.3	+0.2
PRN				IAmb		IAmb	15 12 08.0	
	comp=Z,11nm,1.2s							
PINE	Pine Mountain	80.74	37	P		P	15 12 05.5	-0.1
PINE				IAmb		IAmb	15 12 07.4	
	comp=Z,19nm,1.4s							
R11A	Troy Canyon, C	80.80	44	P		P	15 12 05.8	-0.1
BMN	Battle Mountai	80.94	41	P		P	15 12 06.1	-0.6
BMN				IAmb		IAmb	15 12 08.3	
	comp=Z,12nm,1.3s							
TUC	Tucson	80.96	51	P		P	15 12 06.3	-0.5
TUC				IAmb		IAmb	15 12 09.5	
	comp=Z,21nm,1.5s							
WVOR	Wild Horse Val	81.25	39	P		P	15 12 08.0	-0.2
WVOR				IAmb		IAmb	15 12 09.9	
	comp=Z,14nm,1.3s							
PMSA	Palmer Station	81.36	156	P		P	15 12 09.5	+1.3
319A	Douglas	81.62	53	P		P	15 12 10.5	+0.1
319A				IAmb		IAmb	15 12 12.9	
	comp=Z,17nm,1.2s							
LCMT	Little Creek M	81.64	46	P		P	15 12 10.0	-0.4
I07A	Izee	81.73	37	P		P	15 12 10.7	+0.1
I07A				IAmb		IAmb	15 12 12.3	
	comp=Z,12nm,1.4s							
CCUT	Cedar City	81.84	45	P		P	15 12 11.8	+0.3
J08A	Circle Bar Ran	81.90	38	P		P	15 12 11.6	0.0
J08A				IAmb		IAmb	15 12 13.1	
	comp=Z,16nm,1.4s							
WUAZ	Wupatki	82.15	48	P		P	15 12 13.1	0.0
WUAZ				IAmb		IAmb	15 12 15.5	
	comp=Z,15nm,1.3s							
ELK	Elko	82.36	42	P		P	15 12 13.8	-0.4
ELK				IAmb		IAmb	15 12 15.7	
	comp=Z,9.8nm,1.3s							
X18A	Snowflake	82.66	50	P		P	15 12 16.1	+0.3
X18A				IAmb		IAmb	15 12 18.2	
	comp=Z,13nm,1.3s							
G08A	Pilot Rock	82.78	37	P		P	15 12 15.6	-0.4
G08A				IAmb		IAmb	15 12 17.6	
	comp=Z,18nm,1.3s							
MTPU	Mount Pierson	82.89	46	P		P	15 12 17.9	+0.7
MTPU				IAmb		IAmb	15 12 19.9	
	comp=Z,16nm,1.4s							
MAW	Mawson	83.03	199	P		P	15 12 17.7	+0.8
	comp=Z,2.0nm,0.5s,baz=102,slow=4.3,SNR=3.8							
MAW	Mawson	83.03	199	P		P	15 12 17.3	+0.5
HAWA	Hanford	83.13	36	P		P	15 12 18.0	+0.3
HAWA				IAmb		IAmb	15 12 20.0	
	comp=Z,23nm,1.4s							
MSU	Marysvale	83.14	45	P		P	15 12 18.3	0.0
121A	Cookes Peak, D	83.28	52	P		P	15 12 19.2	+0.2
121A				IAmb		IAmb	15 12 21.9	
	comp=Z,20nm,1.3s							
BMO	Blue Mountains	83.46	38	P		P	15 12 19.1	-0.4
BMO				IAmb		IAmb	15 12 20.8	
	comp=Z,14nm,1.5s							
MFID	Camas Ranch	83.50	40	P		P	15 12 19.5	-0.3
MFID				IAmb		IAmb	15 12 21.3	
	comp=Z,11nm,1.2s							
DUG	Dugway, Tooele	83.61	43	P		P	15 12 19.7	-0.7
D08A	Wollman Farm,	83.86	35	P		P	15 12 21.3	0.0
D08A				IAmb		IAmb	15 12 23.0	
	comp=Z,12nm,1.2s							
F10A	Beach Ranch, E	84.16	37	P		P	15 12 22.2	-0.8
F10A				IAmb		IAmb	15 12 24.6	
	comp=Z,14nm,1.1s							
TMUT	Trail Mountain	84.20	45	P		P	15 12 24.2	+0.5
TMUT				IAmb		IAmb	15 12 25.9	
	comp=Z,21nm,1.3s							
KLU	Klutina	84.33	14	P		P	15 12 23.5	0.0
PLID	Pearl Lake	84.35	38	P		P	15 12 23.8	-0.4
B08A	Colville Reser	84.44	34	P		P	15 12 23.0	-1.3
TGL	Tana Glacier	84.44	16	P		P	15 12 23.2	-0.9
TGL				IAmb		IAmb	15 12 27.6	
	comp=Z,9.3nm,1.1s							
HVU	Hansel Valley	84.48	42	P		P	15 12 24.6	-0.3
SRU	San Rafael Swe	84.56	45	P		P	15 12 25.0	-0.3
SRU				IAmb		IAmb	15 12 27.0	
	comp=Z,22nm,1.5s							
P17A	Butcher Ranch,	84.60	45	P		P	15 12 25.9	+0.4
P17A				IAmb		IAmb	15 12 27.5	
	comp=Z,12nm,1.3s							
LENM	Lemitar	84.65	51	P		P	15 12 26.0	+0.1
N25K	Chitina, Valde	84.74	14	P		P	15 12 24.5	-1.0
TX31	Lajitas Ar. Si	85.00	57	P		P	15 12 27.2	-0.4
TX32	Lajitas Array	85.00	57	P		P	15 12 28.1	+0.5
TX32				IAmb		IAmb	15 12 30.2	
	comp=Z,16nm,1.3s							
TXAR	Lajitas Array	85.00	57	P		P	15 12 28.7	+1.1
	comp=Z,5.8nm,1.1s,baz=219,slow=5.8,SNR=28							
TXAR	Lajitas Array	85.00	57	P		P	15 12 28.1	+0.5
TRF	Thorofare Moun	85.19	11	P		P	15 12 27.4	-0.4
TRF				IAmb		IAmb	15 12 40.5	
	comp=Z,8.8nm,0.8s							
PV23	Carpenter Ridg	85.25	46	P		P	15 12 28.1	-0.8
ANMO	Albuquerque	85.39	51	P		P	15 12 29.4	-0.1
ANMO				IAmb		IAmb	15 12 31.6	
	comp=Z,10nm,1.4s							
RND	Reindeer	85.43	12	P		P	15 12 27.8	-1.1
RND				IAmb		IAmb	15 12 30.4	
	comp=Z,8.2nm,1.0s							
MCK	McKinley	85.71	12	P		P	15 12 29.7	-0.5
M26K	Nabesna, AK	85.81	15	P		P	15 12 29.9	-0.9
MCMT	McKenzie Canyo	86.07	40	P		P	15 12 32.9	+0.2
WRH	Wood River Hil	86.53	12	P		P	15 12 32.7	-1.5
WRH				IAmb		IAmb	15 12 35.0	
	comp=Z,8.7nm,1.2s							
BCAR	Beaver Creek A	86.67	15	P		P	15 12 34.0	-1.0
CCB	Clear Creek Bu	86.75	12	P		P	15 12 33.6	-1.6
CCB				IAmb		IAmb	15 12 47.1	
	comp=Z,12nm,1.4s							
JTMT	Jette	86.83	37	P		P	15 12 35.2	-1.0
PDAR	Pinedale Array	87.03	43	P		P	15 12 37.4	-0.1
	comp=Z,0.5nm,0.7s,baz=214,slow=2.5,SNR=5.5							
ILAR	Eielson Array	87.04	12	P		P	15 12 36.0	-0.6
	comp=Z,0.9nm,0.9s,baz=223,slow=5.6,SNR=13							
ILAR	Eielson Array	87.04	12	P		P	15 12 35.6	-1.0
ENH	Enshi	87.10	303	P		P	15 12 37.0	-0.8
ENH				IAmb		IAmb	15 12 38.7	
	comp=Z,16nm,1.2s							
BOZ	Bozeman (W)	87.21	39	P		P	15 12 37.9	-0.2
SDCO	Great Sand Dun	87.36	48	P		P	15 12 38.6	-0.6
HRY	Holter Researc	87.67	38	P		P	15 12 39.8	-0.5
WALA	Waterton Lakes	87.76	36	P		P	15 12 40.2	-0.4
XLT	XiLinHaoTe	88.52	318	*e*P		P	15 12 47.3	+3.1
XLT				pP		pwP	15 13 49.8	+10
XLT				PP		PP	15 16 10.3	-5.7
XLT	XiLinHaoTe	88.52	318	S		S	15 23 12.1	+0.7
XLT	XiLinHaoTe	88.52	318	sS		sS	15 24 54.8	+11
XLT				pmax		pmax		
	comp=Z,7.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,130nm,5.4s							
SNAA	Sanae	88.84	178	P		P	15 12 45.7	+0.4
SNAA	Sanae	88.84	178	P		P	15 12 44.9	-0.5
VNA3	Neumayer Olymp	88.90	176	P		P	15 12 46.3	+0.7
XAN	Xi'an	89.09	307	P		P	15 12 47.8	+0.7
XAN				pP		PcP	15 12 53.3	+4.9
XAN				pmax		pmax		
	comp=Z,12nm,1.0s							
ABTX	Abilene, Hawle	89.51	55	P		P	15 12 48.7	-0.3
VNA1	Neumayer--Stat	89.58	176	P		P	15 12 49.9	+1.2
BMAR	Burnt Mountain	89.83	12	P		P	15 12 49.6	-0.2
HHC	Hu-ho-hao-te	90.08	314	*e*P		P	15 12 53.3	+1.7
HHC				pmax		pmax		
	comp=Z,18nm,0.9s							
HHC				pmax		pmax		
	comp=Z,56nm,5.0s							
MT01	Popeta	90.85	126	P		P	15 12 55.8	+0.4
LAO	LASA Array	91.01	40	P		P	15 12 55.5	-0.2
RSSD	Black Hills	91.22	43	P		P	15 12 56.4	-0.5
RSSD				IAmb		IAmb	15 12 58.5	
	comp=Z,7.3nm,1.1s							
CMAR	Chiang Mai Arr	91.59	289	P		P	15 12 59.2	+0.2
	comp=Z,4.5nm,1.2s,baz=112,slow=2.9,SNR=12							
CMAR	Chiang Mai Arr	91.59	289	P		P	15 12 58.9	-0.1
PZH	PanZhiHua	91.95	297	P		P	15 13 02.4	+1.7
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,40nm,6.4s							
INK	Inuvik	92.93	15	P		P	15 13 03.1	-0.8
	comp=Z,2.0nm,0.9s,baz=227,slow=5.0,SNR=5.8							
YKA	Yellowknife Ar	94.92	24	P		P	15 13 12.7	-0.5
	comp=Z,0.5nm,0.9s,baz=232,slow=4.6,SNR=5.6							
ECSD	EROS Data Cent	95.97	46	P		P	15 13 18.3	-0.2
ECSD				IAmb		IAmb	15 13 20.0	
	comp=Z,7.3nm,1.1s							
ULM	Lac du Bonnet	98.74	40	LR		LR	15 53 03.1	
	comp=Z,33nm,18.6s,baz=9.5,slow=32							
MKAR	Makanchi Array	111.94	314	PKiKP		PKiKP	15 18 23.9	-1.5
	comp=Z,0.2nm,0.4s,baz=87,slow=1.4,SNR=5.8							
ARCES	ARCESS Array B	128.36	351	PKP		PKPdf	15 18 56.4	+0.2
	comp=Z,3.9nm,1.0s,baz=341,slow=2.6,SNR=3.8							
FINES	FINESS Array B	135.41	345	PKP		PKiKP	15 19 10.9	-0.4
	comp=Z,0.9nm,0.8s,baz=142,slow=3.2,SNR=1.1							
FINES	FINESS Array B	135.41	345			PKPdf	15 19 10.4	+0.7
AKASG	Malin Array Be	143.10	333	PKhKP		PKPpre	15 19 20.7	
	comp=Z,0.9nm,0.3s,baz=41,slow=4.3,SNR=6.1							
SORM	Soroca	145.38	331	⇓P		PKPdf	15 19 27.6	-0.4
TESR	Tescani	147.35	330	⇓P		PKPbc	15 19 33.7	-0.5
TUDR		147.53	328	⇓P		PKPab	15 19 40.6	+3.3
CLL	Collm	147.57	349	*e*PKPbc		PKPbc	15 19 34.0	-0.6
CLL				*ex*		x	15 19 43.0	
CLL				*i* (pPKiKP)			15 20 43.0	
BRTR	Keskin Array B	147.58	315	PKPbc		PKPbc	15 19 34.4	-0.8
	comp=Z,1.8nm,0.5s,baz=134,slow=3.6,SNR=13							
TPGR	Topolog	147.66	327	⇑P		PKPbc	15 19 35.0	-0.1
PLOR	Plostina	147.84	330	⇓P		PKiKP	15 19 37.1	-0.2
MLR	Muntele Rosu	148.44	330	⇑P		PKPbc	15 19 36.9	-0.3
MTUR	Matau	149.05	330	⇓P		PKPdf	15 19 32.2	-2.2
TORD	Torodi Ar. Bea	173.22	161	PKPab		PKPab	15 21 29.8	+0.8
	comp=Z,3.2nm,1.1s,baz=213,slow=1.8,SNR=7.8							
TORD				PP		PP	15 25 21.7	+2.1
	comp=Z,0.8nm,0.9s,baz=180,slow=5.0,SNR=3.6							

IDC 19 15:11:49.7±2.0, 5.31N×127.31E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.3/43, mbtmp3.6/5, Error ellipse: s-maj=112.3km s-min=26.9km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	23.32	184	P	P	15 17 00.4	+0.9
	2.8nm,1.0s,baz=349,slow=10,SNR=2.9						
WRA	Warramunga Arr	26.03	165	P	P	15 17 24.0	-0.7
	1.2nm,0.8s,baz=344,slow=10,SNR=5.6						
ASAR	Alice Springs	29.51	168	P	P	15 17 56.0	+0.1
	0.2nm,0.9s,baz=347,slow=7.8,SNR=1.8						
STKA	Stephens Creek	39.40	161	P	P	15 19 21.3	-0.1
	0.9nm,0.7s,baz=330,slow=13,SNR=1.6						
MKAR	Makanchi Array	56.61	324	P	P	15 21 34.4	-0.1
	0.2nm,0.4s,baz=111,slow=7.6,SNR=3.6						

*IDC **19** 15:20:38.1±2.2, 6.85S×129.95E, h114km±28km, mb3.0/1, mb1 3.5/5, mb1mx3.2/41, mbtmp3.8/5, Error ellipse: s-maj=40.0km s-min=17.5km az=100.0*
*DJA **19** 15:20:40.1±0.3, 7.3S±3.3×13.0E±.3, h133km±9km, M3.9/7, mB4.5/2, mb3.7/7, MLv4.0/6, Mw(mB)3.7/2*

ISC 19 15:20:37.4±0.9, 7.01S±0.05×129.81E±0.07, h104km, n12, σ3.390/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	1.77	123	P	Pn	15 21 13.6	+6.4
SAUI				S	Sn	15 21 37.4	+7.6
AAI	Ambon	3.67	334	P	Pn	15 21 34.3	+2.1
SANI	Sanana	6.23	322	P	Pn	15 22 09.1	+2.3
	0.1nm9.3nm,1.0s						
SIJI	Sorong	6.27	13	P	Pn	15 22 05.8	-1.6
	0.9nm,0.3s,baz=210,slow=20,SNR=1.7						
SIJI				S	Sn	15 23 14.6	-3.0
	1.6nm,0.3s,baz=250,slow=23,SNR=11						
SWI	Sorong	6.27	13	P	Pn	15 22 08.2	+0.8
	0.1nm11nm,0.8s						
LBMI	Labuha	6.73	340	P	Pn	15 22 15.9	+2.2
	0.1nm9.0nm,0.8s						
BATI	Baumata	6.86	242	P	Pn	15 22 18.9	+3.5
	1.9nm,0.3s,baz=22,slow=16,SNR=1.9						
BATI				S	Sn	15 23 33.6	+1.4
	0.9nm,0.3s,baz=246,slow=20,SNR=2.4						
BATI	Baumata	6.86	242	P	Pn	15 22 18.3	+2.8
	0.1nm9.0nm,1.2s						
FITZ	Fitzroy Crossi	11.75	200	P	Pn	15 23 21.6	-0.1
	0.6nm,0.3s,baz=15,slow=9.1,SNR=41						
FITZ				S	Sn	15 25 27.4	-3.6
	0.8nm,0.3s,baz=146,slow=23,SNR=8.0						
WRA	Warramunga Arr	13.59	162	P	Pn	15 23 46.5	+0.6
	0.8nm,0.3s,baz=346,slow=12,SNR=37						
WRA				S	Sn	15 26 10.4	-5.3
	0.9nm,0.3s,baz=334,slow=21,SNR=7.5						
ASAR	Alice Springs	17.03	167	P	P	15 24 31.4	+2.1
	0.5nm,0.3s,baz=336,slow=9.4,SNR=57						
ASAR				S	Sn	15 27 30.8	-7.8
	0.1nm,0.3s,baz=322,slow=18,SNR=3.1						
MKAR	Makanchi Array	68.13	327	P	P	15 31 25.6	-0.7
	0.2nm,0.5s,baz=116,slow=7.5,SNR=2.2						

WEL 19 15:25:06.0, 46.6S±23.×16.7E±2.0, h5km±23km, M2.6/4, ML2.9/10, MLv2.6/4, Error ellipse: s-maj=0.0km s-min=0.0km az=37.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.20	326	P	Pg	15 25 11.6	+1.7
WHZ	Wether Hill Ro	0.52	121	P	Pb	15 25 17.8	+0.2
MLZ	Mavora Lakes	0.63	66	P	Pb	15 25 19.7	+0.2
PYZ	Puysegur Point	0.70	219	P	Pb	15 25 20.7	+0.1
MSZ	Milford Sound	1.05	25	P	Pg	15 25 26.0	-0.2
WKZ	Wanaka	1.45	57	P	Pg	15 25 33.8	+0.1
EAZ	Earnscleugh	1.46	75	P	Pg	15 25 34.0	-0.1
SYZ	Scrubby Hill	1.56	126	P	Pb	15 25 35.5	+0.1
TUZ	Tuapeka	1.66	102	P	Pb	15 25 37.0	+0.1
JCZ	Jackson Bay	1.88	35	P	Pb	15 25 40.5	-0.3
LBZ	Lake Benmore	2.39	60	P	Pn	15 25 47.5	+1.7
ODZ	Otahua Downs	2.42	77	P	Pn	15 25 47.2	+0.9
GLKZ	Green Lake	20.05	41	P	Pn	15 29 42.4	+0.7

JMA 19 15:29:26.4, 32.77N×130.74E, h7km±1km, M1.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	Izumi3	0.23	164	P	Pg	15 29 31.2	+0.3

*IDC **19** 15:29:27.9±1.1, 32.72N×131.14E, h0km, mb3.4/6, mb1 3.5/8, mb1mx3.4/44, mbtmp3.4/8, ML3.5/2, MS3.0/8, Ms1 3.0/8, ms1mx2.7/52, Error ellipse: s-maj=41.2km s-min=15.9km az=72.0*
*NIED **19** 15:29:30.1, 32.53N×130.64E, h8km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.11; Mθθ1.08; Mϕϕ-0.97; Mrθ-0.22; Mθϕ0.26; Mϕr0.72; Fault plane solution: M₀1.27000×10¹⁵ NP1: ϕs222.00000°, δ64.00000°, λ-163.00000°. NP2: ϕs125.00000°, δ75.00000°, λ-27.00000°.*
*JMA **19** 15:29:30.1, 32.53N×130.64E, h8km±2km, M4.0*
JMA Felt III J1.

ISC 19 15:29:30.9±0.8, 32.52N±0.04×130.75E±0.08, h13km±6km, n17, σ1.958/17, mb3.3/6, MS3.0/4, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	Izumi3	0.06	61	⇓P	Pg	15 29 33.1	-0.3
JIU3				S	Sg	15 29 35.6	+0.3
JZO	Okuchi	0.40	199	⇑P	Pg	15 29 37.8	-1.0
JZO				S	Sg	15 29 43.3	-0.9
JTZ	Takazaki	0.68	155	⇑P	Pb	15 29 44.6	0.0
JTZ				S	Sb	15 29 54.6	+0.7
KSRS	Korea Array	5.44	336	Pn	Pn	15 30 50.8	-0.9
	0.2nm,0.3s,baz=155,slow=14,SNR=2.0						
KSRS				Pg	Pb	15 31 06.0	+0.2
	0.3nm,0.3s,baz=152,slow=15,SNR=6.6			

LKRN				S	Sn	15 30 38.9	-0.8
LHJ2	**Lahijan - Gila**	**1.25**	**109**	*e*Pg	**Pn**	**15 30 25.1**	**-0.7**
JIR1	**Jirandeh**	**1.32**	**132**	*e*Pg	**Pn**	**15 30 26.2**	**-0.7**
JIR1				*e*		15 30 50.1	
	comp=Z,8μm,0.2s						
GRMI	**Germi**	**1.33**	**336**	*e*Pg	**Pg**	**15 30 27.7**	**-0.2**
IBST	**Bostanabad**	**1.34**	**275**	*e*Pg	**Pn**	**15 30 27.4**	**+0.1**
IBST				*e*		15 30 49.9	
	comp=Z,2μm,0.2s						
YRD	**Yardimli**	**1.35**	**349**	P	**Pg**	**15 30 28.1**	**-0.1**
	SNR=13						
YRD				S	**Sg**	**15 30 46.5**	**+0.7**
IHRS	**Heris**	**1.42**	**301**	*e*Pg	**Pb**	**15 30 28.8**	**-0.1**
IHRS				*e*		15 30 30.2	
	comp=Z,3μm,0.3s						
IHRS				*e*Sg	**Sg**	**15 30 47.8**	**-0.1**
GLBA	**Clilabad**	**1.66**	**355**	P	**Pb**	**15 30 33.1**	**+0.2**
	SNR=3.7						
GLBA				S	**Sg**	**15 30 56.5**	**+0.9**
IGZV	**Ghazvin**	**1.78**	**132**	*e*Pg	**Pn**	**15 30 34.9**	**+1.6**
IGZV				*e*Sg	**Sb**	**15 30 58.3**	**+0.7**
IGZV				*e*		15 31 04.6	
	comp=Z,3μm,0.4s						
QALM	**Alamut, Qazvin**	**2.02**	**124**	*e*Pn	**Pn**	**15 30 37.3**	**+0.7**
QALM				*e*		15 31 06.6	
	comp=Z,4μm,0.4s						
ITBZ	**Tabriz**	**2.03**	**289**	*e*Pn	**Pb**	**15 30 38.8**	**-0.5**
QABG	**Abgarm-Qazvin**	**2.04**	**156**	*e*Pn	**Pn**	**15 30 37.2**	**+0.3**
QABG				*e*		15 30 39.0	
	comp=Z,985nm,0.3s						
IAZR	**Azarshahr**	**2.06**	**273**	*e*	**Pg**	**15 30 44.0**	**+2.1**
	comp=Z,2μm,0.4s						
BLQ	**Beylaqan**	**2.27**	**340**	P	**Pb**	**15 30 42.9**	**-0.5**
	SNR=3.0						
BLQ				S	**Sb**	**15 31 11.8**	**+0.3**
ORD	**Ordubad**	**2.43**	**304**	P	**Pb**	**15 30 45.6**	**-0.5**
	SNR=35						
ORD				S	**Sg**	**15 31 18.3**	**-2.2**
IRAZ	**Razeghan**	**2.44**	**153**	*e*Pn	**Pn**	**15 30 43.3**	**+1.0**
IRAZ				*e*		15 30 46.4	
	comp=Z,2μm,0.4s						
ISHB	**Shabestar**	**2.44**	**287**	*e*Pn	**Pn**	**15 30 44.3**	**+1.9**
ISHB				*e*		15 30 47.6	
	comp=Z,630nm,0.4s						
IMRD	**Marand**	**2.53**	**297**	*e*Pn	**Pb**	**15 30 46.3**	**-1.6**
IMRD				*e*		15 31 36.8	
	comp=Z,1μm,0.5s						
IMHD	**Mahdasht**	**2.54**	**138**	*e*Pn	**Pn**	**15 30 45.1**	**+1.5**
IMHD				*e*		15 31 30.9	
	comp=Z,444nm,0.5s						
CHTH	**Charan**	**2.65**	**129**	*e*Pn	**Pn**	**15 30 47.5**	**+2.3**
SNGE	**Sanandaj**	**2.68**	**202**	*e*Pn	**Pn**	**15 30 46.4**	**+0.7**
HAGD	**Aghdareh**	**2.80**	**170**	*e*Pn	**Pn**	**15 30 48.3**	**+1.0**
NAX	**Nakhchivan**	**2.89**	**304**	P	**Pn**	**15 30 51.1**	**+2.7**
	SNR=2.8						
SBZ	**Shahbuz**	**2.98**	**308**	P	**Pb**	**15 30 54.4**	**-1.1**
	SNR=4.6						
SBZ				S	**Sb**	**15 31 29.0**	**-3.0**
IBZA	**Bozab**	**3.17**	**191**	*e*	Pg	15 31 16.2	+13
	comp=Z,407nm,0.4s						
ASAO	**Ashtian**	**3.25**	**158**	*e*Pn	**Pn**	**15 30 55.5**	**+1.9**
IPRN	**Peran**	**3.30**	**113**	*e*Pn	**Pn**	**15 30 54.8**	**+0.7**
IPRN				*e*		15 31 37.2	
	comp=Z,1μm,0.1s						
IQOM	**Qom**	**3.40**	**143**	*e*Pn	**Pn**	**15 30 55.7**	**+0.1**
IQOM				*e*		15 31 13.5	
	comp=Z,319nm,0.3s						
MAKU	**Maku**	**3.53**	**301**	*e*Pn	**Pn**	**15 30 59.2**	**+1.9**
GHVR	**GHOM**	**3.81**	**144**	*e*Pn	**Pn**	**15 31 01.6**	**+0.6**
KHMZ	**Khomeyn**	**4.00**	**163**	*e*Pn	**Pn**	**15 31 05.2**	**+1.3**
ISHM	**Shahmirzad**	**4.18**	**114**	*e*Pn	**Pn**	**15 31 08.2**	**+1.8**
ISHM				*e*		15 32 03.4	
	comp=Z,229nm,0.3s						
IGLO	**Ghaloghah**	**4.34**	**103**	*e*Pn	**Pn**	**15 31 10.4**	**+1.9**
ISFB	**Sefidab**	**4.39**	**136**	*e*Pn	**Pn**	**15 31 10.2**	**+1.2**
ISFB				*e*		15 31 26.4	
	comp=Z,107nm,0.4s						

JMA 19 15:30:17.0, 32.53N×130.64E, h9km±1km, M3.9, 1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**83**	⇓P	Pg	15 30 20.1	-0.1
JIU3				S	Sg	15 30 22.6	+0.1

*IDC **19** 15:51:00.2±1.2, 56.42S×27.33W, h0km, mb4.2/3, mb1 4.2/3, mb1mx3.8/27, mbtmp4.1/3, MS3.5/8, Ms1 3.5/8, ms1mx3.1/43, Error ellipse: s-maj=55.1km s-min=42.2km az=26.0*

*NEIC **19** 15:51:02.3±2.0, 55.8S±0.2×27.1W±0.3, h10km±1km, mb4.6/5, Error ellipse: s-maj=30.9km s-min=21.0km az=33.0*

ISC 19 15:51:04.1±0.9, **55.6S**±0.2×**26.9W**±0.2, **h25**km, **n20,** σ1°**38**/12, **mb4.6**/3, **MS3.6**/8, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.67**	**280**	Pn	**Pn**	**15 52 25.9**	**-0.7**
QSPA	**South Pole Qui**	**34.62**	**180**	P	**P**	**15 57 51.0**	**+0.2**
CPUP	**Villa Florida**	**36.64**	**310**	LR	LR	16 14 45.0	
	comp=Z,51nm,18.1s,baz=199,slow=38						
SUR	**Sutherland**	**40.39**	**75**	LR	LR	16 12 59.3	
	comp=Z,43nm,19.5s,baz=174,slow=32						
LVC	**Limon Verde**	**45.22**	**299**	P	**P**	**15 59 21.3**	**+1.9**
	5.8nm,0.7s,baz=191,slow=7.2,SNR=3.9						
LVC	**Limon Verde**	**45.22**	**299**	P	**P**	**15 59 20.4**	**+1.0**
LVC				IAmb	IAmb	15 59 22.2	
	comp=Z,7.4nm,0.8s						
BOSA	**Boshof**	**45.73**	**76**	LR	LR	16 15 43.6	
	comp=Z,71nm,18.0s,baz=200,slow=32						
VNDA	**Vanda**	**47.00**	**183**	P	**P**	**15 59 33.4**	**+0.9**
VNDA				IAmb	IAmb	15 59 43.6	
	comp=Z,10nm,1.5s						
TSUM	**Tsumeb**	**49.35**	**61**	LR	LR	16 16 14.5	
	comp=Z,27nm,20.1s,baz=138,slow=30						
OPO	**Ambohidratompo**	**65.93**	**88**	LR	LR	16 25 29.2	
	comp=Z,31nm,18.9s,baz=159,slow=31						
TORD	**Torodi Ar. Bea**	**72.62**	**29**	P	P	16 02 34.5	+5.4
TORD				LR	LR	16 26 41.6	
	comp=Z,10nm,0.9s,baz=208,slow=4.7,SNR=5.5						
	comp=Z,32nm,19.9s,baz=220,slow=29						
TORD	**Torodi Ar. Bea**	**72.62**	**29**	P	**P**	**16 02 30.1**	**+0.9**
STKA	**Stephens Creek**	**92.29**	**170**	LR	LR	16 42 42.2	
	comp=Z,49nm,18.9s,baz=221,slow=34						
ESDC	**Sonseca Array**	**96.94**	**18**	LR	LR	16 43 02.5	
	comp=Z,22nm,18.1s,baz=152,slow=32						
ASAR	**Alice Springs**	**99.35**	**162**	P	**Pdif**	**16 04 42.1**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=198,slow=4.9,SNR=6.0						
YKA	**Yellowknife Ar**	**135.95**	**318**	PKP	**PKiKP**	**16 10 21.3**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=127,slow=2.1,SNR=3.8						
ILAR	**Eielson Array**	**149.94**	**312**	PKPbc	**PKiKP**	**16 10 50.6**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=121,slow=3.5,SNR=20						
ILAR	**Eielson Array**	**149.94**	**312**		**PKiKP**	**16 10 50.0**	**-1.4**
SONM	**Songino Array**	**150.56**	**86**	PKPbc	**PKiKP**	**16 10 52.8**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=229,slow=2.9,SNR=8.3						
SONM	**Songino Array**	**150.56**	**86**		**PKiKP**	**16 10 52.6**	**-0.9**

*RSNC **19** 15:52:04.1±1.0, 8.14N×74.78W, h10km±5km, ML3.5, Mw3.6*

*IDC **19** 15:52:08.5±2.2, 8.13N×74.66W, h100km±22km, mb3.2/4, mb1 3.6/6, mb1mx3.3/30, mbtmp3.7/6, Error ellipse: s-maj=24.6km s-min=12.2km az=124.0*

ISC 19 15:52:02.0±1.2, **8.16N**±0.02×**74.77W**±0.03, **h17**km±9km, **n31,** σ2°**20**/52, **mb3.7**/4, **1C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZARC	**Zaragoza, Cauc**	**0.67**	**187**	*e*S	**Sb**	**15 52 24.9**	**+0.6**
UREC	**San Jos de Ur**	**0.86**	**242**	⇑*i*P	**Pg**	**15 52 18.7**	**0.0**
UREC				*e*S	**Sg**	**15 52 30.8**	**+0.7**
UREC				*i*		15 52 33.1	
	comp=Z,1μm,0.2s						
OCAC	**Ocana**	**1.44**	**87**	*e*P	**Pb**	**15 52 28.6**	**+0.1**
OCAC				*e*S	**Sb**	**15 52 44.4**	**-2.1**
OCAC				*i*		15 52 52.0	
	comp=Z,1μm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.64**	**169**	*e*P	**Pn**	**15 52 30.9**	**+0.8**
PTBC				*e*S	**Sn**	**15 52 52.2**	**+1.3**
PTBC				*i*		15 52 53.3	
	comp=Z,368nm,0.2s						
LCBC	**Los crdobas,**	**1.72**	**294**	*e*P	**Pn**	**15 52 33.2**	**+2.0**
LCBC				*i*		15 53 04.7	
	comp=Z,241nm,0.3s						
SJCC	**San Jacinto, C**	**1.77**	**347**	⇓*i*P	**Pn**	**15 52 33.4**	**+1.5**
SJCC				*e*S	**Sn**	**15 52 56.7**	**+2.7**
SJCC				*i*		15 53 03.2	
	comp=Z,194nm,0.5s						
LL1C	**La Loma 1 Cana**	**1.82**	**41**	*e*P	**Pg**	**15 52 36.9**	**-0.2**
LL1C				*e*S	**Sg**	**15 53 01.1**	**+0.4**
LL1C				*i*		15 53 13.7	
	comp=Z,1μm,0.4s						
HELC	**Santa Helena**	**2.10**	**201**	*e*P	**Pn**	**15 52 38.8**	**+2.1**
HELC				*e*S	**Sn**	**15 53 04.5**	**+1.9**
HELC				*i*		15 53 12.0	
	comp=Z,239nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.15**	**43**	*e*P	**Pn**	**15 52 39.2**	**+2.1**
PAMC	**Pamplona, Colo**	**2.21**	**112**	*e*P	**Pb**	**15 52 40.6**	**-1.1**
PAMC				*e*S	**Sb**	**15 53 08.8**	**-0.3**
PAMC				*i*		15 53 23.4	
	comp=Z,374nm,0.3s						
BARC	**Barichara**	**2.22**	**135**	*e*P	**Pn**	**15 52 40.2**	**+2.0**
BARC				*e*S	**Sb**	**15 53 08.0**	**-1.0**
BARC				*i*		15 53 10.5	
	comp=Z,234nm,0.3s						
NORC	**Norcasia**	**2.58**	**182**	*e*P	**Pn**	**15 52 43.6**	**+0.5**
NORC				*e*S	**Sn**	**15 53 16.6**	**+2.4**
NORC				*i*		15 53 28.4	
	comp=Z,202nm,0.7s						
SPBC	**San Pablo de B**	**2.59**	**164**	*e*P	**Pn**	**15 52 44.4**	**+1.2**
SPBC				*e*S	**Sn**	**15 53 17.4**	**+3.1**
SPBC				*i*		15 53 21.9	
	comp=Z,150nm,0.2s						
CBOC	**Ciudad Bolivar**	**2.60**	**208**	*e*P	**Pn**	**15 52 44.3**	**+0.9**
CBOC				*e*S	**Sn**	**15 53 16.5**	**+1.8**
CBOC				*i*		15 53 25.1	
	comp=Z,93nm,0.7s						
GUY2C	**Guyana, Caldas**	**2.98**	**191**	*e*P	**Pn**	**15 52 50.1**	**+1.1**
GUY2C				*e*S	**Sb**	**15 53 32.8**	**+1.5**
GUY2C				*i*		15 53 41.5	
	comp=Z,153nm,0.5s						
SMRC	**Santa Marta, M**	**3.03**	**10**	*e*P	**Pb**	**15 52 55.9**	**+0.4**
SMRC				*e*S	**Sb**	**15 53 31.7**	**-0.5**
SMRC				*i*		15 53 41.8	
	comp=Z,54nm,0.3s						
ROSC	**El Rosal**	**3.33**	**172**	P	**Pb**	**15 52 58.9**	**-2.0**
	comp=Z,9.0nm,0.3s,baz=74,slow=20,SNR=5.8						
ROSC				S	**Sn**	**15 53 37.4**	**+4.3**
	comp=Z,12nm,0.3s,baz=280,slow=22,SNR=5.0						
ROSC	**El Rosal**	**3.33**	**172**	*e*P	**Pb**	**15 52 58.1**	**-2.7**
ROSC				*e*S	**Sb**	**15 53 45.0**	**+3.7**
ROSC				*i*		15 53 51.3	
	comp=Z,137nm,0.8s						
CRJC	**Cerrejon, Guaj**	**3.39**	**33**	*e*P	**Pn**	**15 52 56.4**	**+2.1**
CRJC				*e*S	**Sn**	**15 53 37.9**	**+3.6**
CRJC				*i*		15 53 59.3	
	comp=Z,168nm,0.4s						
CHIC	**Chingaza**	**3.66**	**164**	*e*P	**Pn**	**15 52 59.6**	**+1.4**
CHIC				*e*S	**Sn**	**15 53 45.9**	**+4.6**
CHIC				*i*		15 54 03.8	
	comp=Z,40nm,0.4s						
SDV	**Santo Domingo**	**4.15**	**80**	P	**Pn**	**15 53 08.3**	**+3.5**
	comp=Z,18nm,0.3s,baz=255,slow=11,SNR=104						
SDV				S	**Sn**	**15 53 55.8**	**+2.6**
	comp=Z,40nm,0.3s,baz=352,slow=17,SNR=11						
SDV	**Santo Domingo**	**4.15**	**80**	*e*P	**Pn**	**15 53 08.2**	**+3.3**
SDV				*e*S	**Sn**	**15 53 56.0**	**+2.9**
SDV				*i*		15 54 00.6	
	comp=Z,92nm,0.6s						
ORTC	**Ortega, Tolima**	**4.25**	**186**	*e*P	**Pn**	**15 53 09.6**	**+3.5**
ORTC				*e*S	**Sb**	**15 54 08.3**	**+0.7**
ORTC				*i*		15 54 21.6	
	comp=Z,74nm,0.5s						
DABV	**Dabajuro**	**4.91**	**56**	*e*P	**Pn**	**15 53 17.7**	**+2.6**
DABV				*e*S	**Sn**	**15 54 11.3**	**-0.3**
ELOV	**Elorza**	**5.37**	**102**	*e*P	**Pn**	**15 53 22.9**	**+1.6**
ELOV				*e*S	**Sn**	**15 54 22.3**	**-0.5**
LPAZ	**La Paz**	**25.17**	**165**	P	**P**	**15 57 24.2**	**-3.1**
	comp=Z,0.9nm,0.4s,baz=354,slow=3.7,SNR=3.6						
TXAR	**Lajitas Array**	**34.35**	**312**	P	**P**	**15 58 46.4**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=123,slow=9.8,SNR=3.0						
YKA	**Yellowknife Ar**	**61.45**	**340**	P	**P**	**16 02 14.7**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=132,slow=6.8,SNR=7.5						
TORD	**Torodi Ar. Bea**	**75.07**	**79**	P	P	16 03 39.7	-3.9
	comp=Z,0.3nm,0.4s,baz=283,slow=5.8,SNR=1.4						
ASAR	**Alice Springs**	**148.51**	**237**	PKPbc	**PKPdf**	**16 11 44.3**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=120,slow=3.6,SNR=8.7						
WRA	**Warramunga Arr**	**149.49**	**244**	PKPbc	**PKPdf**	**16 11 47.1**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=106,slow=3.0,SNR=9.1						

JMA 19 15:56:07.6, 32.54N×130.64E, h9km±1km, M3.6, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**86**	⇓P	Pg	15 56 10.7	-0.1
JIU3				S	Sg	15 56 13.2	+0.2
JZO	**Okuchi**	**0.40**	**185**	⇑P	Pg	15 56 15.4	-0.1
JZO				S	Sg	15 56 21.1	+0.4
JTZ	**Takazaki**	**0.74**	**149**	⇑P	Pb	15 56 22.4	-0.3
JTZ				S	Sg	15 56 32.0	+0.4

*BJI **19** 16:16:32.6±0.0, 24.02N×122.69E, h6km, mb4.2/38, mB4.5/22, ML4.0/4, Ms3.9/25, Ms7 3.8/27*

*IDC **19** 16:16:33.4±0.6, 24.13N×122.69E, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.1/51, mbtmp4.2/20, MS3.5/23, Ms1 3.5/23, ms1mx3.2/96, Error ellipse: s-maj=19.3km s-min=14.7km az=75.0*

*NEIC **19** 16:16:34.7±1.3, 23.90N±0.04×122.59E±0.05, h10km±1km, mb4.6/99, Error ellipse: s-maj=8.4km s-min=5.9km az=134.0*

*TAP **19** 16:16:37.4, 23.96N×122.54E, h27km, ML4.6, D*

*NIED **19** 16:16:38.0, 24.00N×122.49E, h29km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; Mrr0.63; Mϑϑ-1.48; Mφφ0.85; Mrϑ2.26; Mϑφ0.05; Mφr0.92; Fault plane solution: M0 2.73000×10^15^ NP1: φs311.00000°, δ21.00000°, λ154.00000°. NP2: φs66.00000°, δ81.00000°, λ71.00000°.*

*JMA **19** 16:16:37.9±0.2, 24.00N×122.49E, h29km±4km, M4.2*

ISC 19 16:16:35.0±1.0, **23.95N**±0.02×**122.58E**±0.01, **h16**km±6km, **n339,** σ1°**30**/419, **mb4.5**/72, **MS3.6**/22, **2C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.60**	**34**	P	**Pn**	**16 16 49.9**	**+0.9**
JYNG				S	**Sn**	**16 16 58.0**	**-0.5**
YOJ	**Yonaguni jima**	**0.65**	**37**	P	**Pn**	**16 16 50.7**	**+1.1**
YOJ				S	**Sn**	**16 16 59.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.65**	**37**		**Pn**	**16 16 50.1**	**+0.5**
YOJ				Sg	**Sn**	**16 16 59.0**	**-0.6**
YOJ	**Yonaguni jima**	**0.65**	**37**	P	**Pn**	**16 16 51.2**	**+1.6**
EWUT	**Wuta**	**0.88**	**304**	*i* P	**Pn**	**16 16 53.2**	**+0.4**
	baz=305						
HWA	**Hwalien**	**0.89**	**272**	P	**Pn**	**16 16 53.3**	**+0.3**
	baz=258						
HWA				*e*S	**Sn**	**16 17 06.0**	**+0.4**
	baz=258						
ETL	**Fush Village**	**0.90**	**284**	P	**Pn**	**16 16 53.2**	**+0.1**
	baz=283						
TEYL	**Yanliau Villag**	**0.90**	**265**	P	**Pn**	**16 16 53.3**	**+0.3**
	baz=255						
TEYL				S	**Sb**	**16 17 05.5**	**+1.4**
	baz=255						
ENA	**Nanau**	**0.90**	**302**	*i* P	**Pn**	**16 16 53.4**	**+0.3**
	baz=302						
TWD	**Chiawan**	**0.91**	**279**	*e*P	**Pb**	**16 16 52.7**	**+0.2**
	baz=278						
TWD				*e*S	**Sg**	**16 17 04.4**	**-0.2**
	baz=278						
NACB	**Ninganchiao**	**0.93**	**284**		**Pb**	**16 16 53.2**	**+0.5**
NACB	**Ninganchiao**	**0.93**	**284**	P	**Pn**	**16 16 53.4**	**0.0**
	baz=270						
NACB				*e*S	**Sb**	**16 17 06.2**	**+1.3**
	baz=270						
TWC	**Suao**	**0.94**	**315**	*i* P	**Pn**	**16 16 53.9**	**+0.3**
	baz=316						
TEGC	**Jichi Village**	**0.98**	**256**	*e*P	**Pg**	**16 16 54.1**	**+0.1**
	baz=255						
TEGC				S	**Sg**	**16 17 07.3**	**+0.4**
	baz=255						
ETM	**Tongmen**	**0.99**	**271**	P	**Pb**	**16 16 54.2**	**+0.3**
	baz=261						
ETM				S	**Sg**	**16 17 07.1**	**-0.2**
	baz=261						
ETLH	**Xiulin Townshi**	**1.03**	**285**	*e*P	**Pn**	**16 16 55.2**	**+0.1**
	baz=272						
ETLH				*e*S	**Sb**	**16 17 08.4**	**+0.3**
	baz=272						
NDS	**Dongshan**	**1.04**	**311**	*i* P	**Pn**	**16 16 56.1**	**+1.0**
	baz=312						
NDS				*e*S	**Sn**	**16 17 10.0**	**+0.7**
	baz=312						
ESL	**Shilin**	**1.06**	**263**	*e*P	**Pg**	**16 16 54.6**	**-0.9**
	baz=261						
EGS		**1.07**	**327**	P	**Pn**	**16 16 57.0**	**+1.5**
	baz=328						
EGFH	**Guangfu**	**1.09**	**256**	*e*P	**Pb**	**16 16 56.0**	**+0.4**
	baz=254						
EGFH				S	**Sg**	**16 17 09.5**	**-0.8**
	baz=254						
ILA	**Ilan**	**1.11**	**317**	P	**Pn**	**16 16 57.7**	**+1.7**
	baz=318						
IRIF	**Iriomote-Funau**	**1.12**	**70**	P	**Pn**	**16 16 58.8**	**+2.7**
IRIF				*e*S	**Sn**	**16 17 13.7**	**+2.5**
LATG	**Datong**	**1.12**	**302**	*i* P	**Pn**	**16 16 57.2**	**+0.9**
	baz=301						
HATJ	**Hateruma jima**	**1.13**	**84**	P	**Pn**	**16 16 59.2**	**+3.0**
HATJ				S	**Sn**	**16 17 14.0**	**+2.6**
NTC	**Toucheng**	**1.13**	**323**	P	**Pn**	**16 16 57.9**	**+1.7**
	baz=324						
NTC				*e*S	**Sn**	**16 17 12.7**	**+1.1**
	baz=324						
TWE	**Neicheng**	**1.14**	**313**	P	**Pn**	**16 16 57.9**	**+1.6**
	baz=314						
HGSD	**Ruisui**	**1.15**	**247**	*e*P	**Pb**	**16 16 56.4**	**-0.2**
	baz=246						
HGSD				*e*S	**Sn**	**16 17 13.6**	**+1.7**
	baz=246						
ENTT	**Nioudou**	**1.15**	**307**	*i* P	**Pn**	**16 16 57.8**	**+1.2**
	baz=292						
NDT	**Datong Townshi**	**1.17**	**304**	P	**Pn**	**16 16 58.1**	**+1.3**
	baz=304						
TWB1	**Santiao Chiao**	**1.19**	**333**	*i* P	**Pn**	**16 16 58.3**	**+1.3**
	baz=335						
NNSB	**Datong**	**1.19**	**294**	P	**Pg**	**16 16 58.1**	**0.0**
	baz=294						
NNSB				*e*S	**Sg**	**16 17 12.9**	**-0.8**
	baz=294						
NNS	**Nan Shan**	**1.21**	**294**	*i* P	**Pg**	**16 16 58.3**	**0.0**
	baz=295						
NNS				S	**Sn**	**16 17 13.9**	**+0.3**
	baz=295						
ECBN	**Changbin**	**1.21**	**239**	P	**Pn**	**16 16 57.5**	**+0.1**
	baz=237						
ECBN				*e*S	**Sb**	**16 17 11.8**	**-1.2**
	baz=237						
FUSB	**Fushanzhiwuyua**	**1.21**	**312**	P	**Pg**	**16 16 59.0**	**+0.5**
	baz=299						
FUSB				*e*S	**Sn**	**16 17 16.2**	**+2.6**
	baz=299						
WHF	**Hehuan Shan**	**1.22**	**280**	P	**Pb**	**16 16 58.2**	**+0.2**
	baz=265						
TIPB	**Shuangxi**	**1.23**	**326**	*e*P	**Pg**	**16 16 59.9**	**+1.1**
	baz=327						
TIPB				*e*S	**Sn**	**16 17 14.9**	**+0.9**
	baz=327						
EHY	**Hungye**	**1.23**	**249**	P	**Pn**	**16 16 57.9**	**+0.3**
	baz=248						
EHY				*e*S	**Sb**	**16 17 13.3**	**-0.3**
	baz=248						
FUSS	**Fushou**	**1.26**	**284**	P	**Pg**	**16 16 59.0**	**-0.3**
	baz=283						
OWD	**Renai**	**1.28**	**271**	*e*P	**Pn**	**16 16 59.1**	**+0.6**
	baz=270						
OWD				*e*S	**Sb**	**16 17 14.2**	**-1.0**
	baz=270						
NWLT	**Wulai**	**1.28**	**310**	P	**Pg**	**16 17 00.2**	**+0.4**
	baz=310						
CHGB	**Renai**	**1.29**	**275**	P	**Pn**	**16 16 59.1**	**+0.5**
	baz=275						
CHGB				S	**Sb**	**16 17 14.8**	**-0.7**
	baz=275						
YULB	**Yu-li**	**1.30**	**245**		**Pn**	**16 16 58.7**	**+0.2**
YULB					Sn	**16 17 14.5**	**-1.0**
YULB	**Yu-li**	**1.30**	**245**	*e*P	**Pn**	**16 16 59.0**	**+0.4**
	baz=244						
YULB				*e*S	**Sb**	**16 17 14.5**	**-1.0**
	baz=244						
EYUL	**Yuli**	**1.30**	**243**	*e*P	**Pn**	**16 16 59.3**	**+0.8**
	baz=230						
SXI1	**Grass Mountain**	**1.31**	**331**	*e*P	**Pg**	**16 16 60.0**	**-0.3**
	baz=346						
YHNB	**Yeheng**	**1.31**	**304**		**Pg**	**16 16 59.7**	**-0.7**
YHNB	**Yeheng**	**1.31**	**304**	P	**Pg**	**16 17 00.3**	**-0.1**
YHNB	**Yeheng**	**1.31**	**304**	*e*P	**Pg**	**16 17 00.1**	**-0.2**
	baz=303						
TWF1	**Yuli**	**1.31**	**244**	*e*P	**Pn**	**16 16 59.5**	**+0.7**
	baz=242						
TWF1				*e*S	**Sb**	**16 17 15.6**	**-0.4**
	baz=242						
TWT	**Tachien**	**1.32**	**284**	P	**Pg**	**16 17 00.3**	**-0.1**
	baz=271						
VWDT	**VWDT**	**1.33**	**262**	P	**Pn**	**16 16 59.8**	**+0.8**
	baz=261						
VWDT				*e*S	**Sb**	**16 17 15.8**	**-0.7**
	baz=261						
NSK	**Sanguang**	**1.33**	**303**	P	**Pg**	**16 17 00.3**	**-0.4**
	baz=304						
NSK				*e*S	**Sn**	**16 17 16.7**	**+0.2**
	baz=304						
TDCB	**Techi**	**1.33**	**284**	*e*P	**Pb**	**16 17 00.1**	**+0.4**
	baz=271						
NWF	**Wu-fen Shan**	**1.33**	**327**	P	**Pg**	**16 17 00.5**	**-0.3**
	baz=328						
WFSB	**Wu-fen Shan**	**1.33**	**327**	*e*P	**Pg**	**16 17 00.6**	**-0.2**
	baz=328						
WFSB				*e*S	**Sg**	**16 17 18.8**	**+0.6**
	baz=328						
JKRS	**Kuro-shima**	**1.34**	**77**	P	**Pg**	**16 17 02.4**	**+1.5**
JKRS				*e*S	**Sg**	**16 17 20.8**	**+2.5**
TWA	**Mucha**	**1.37**	**319**	*e*P	**Pg**	**16 17 02.5**	**

WHP eS Sb 16 17 23.1 +0.9
baz=272
YM08 YM08 1.53 324 eP Pg 16 17 03.1 -1.4
baz=325
SMLT Sun Moon Lake 1.54 268 eP Pn 16 17 02.9 +0.9
baz=257
TWS1 Kuangyinshan 1.56 318 eP Pg 16 17 04.1 -1.0
baz=335
ANP Anpu 1.57 322 eP Pg 16 17 04.4 -0.8
baz=323
NTY Taoyuan 1.57 312 eP Pg 16 17 04.3 -1.0
baz=329
TYC Yuchr 1.58 269 eP Pn 16 17 03.3 +1.0
baz=268
LIOB Emei 1.59 296 eP Pg 16 17 04.9 -0.6
baz=297
LIOB eS Sg 16 17 24.9 -1.3
baz=297
NTST Danshui 1.59 320 eP Pg 16 17 05.0 -0.6
baz=337
NSTT Nanjuang 1.59 296 eP Pg 16 17 05.0 -0.6
baz=296
NSTT eS Sb 16 17 24.3 +0.3
baz=296
TWY Chenhua 1.60 326 eP Pg 16 17 05.7 0.0
baz=327
ELDTW Lidau 1.62 243 eP Pn 16 17 03.4 +0.3
baz=241
LDUT Ludao 1.63 219 eP Pn 16 17 02.9 -0.2
baz=218
LDUT eS Sn 16 17 21.2 -2.5
baz=218
NCUH Zhongli 1.63 309 eP Pb 16 17 04.8 +0.1
baz=309
HSN1 Hsinchu 1.65 301 eP Pg 16 17 05.6 -1.1
baz=300
SBCB Hsinchu 1.68 300 eP Pb 16 17 06.0 +0.4
baz=301
SBCB eS Sg 16 17 27.9 -1.2
baz=301
ALS Alishan 1.68 255 eP Pn 16 17 05.4 +1.3
baz=255
ALS eS Sn 16 17 25.4 -0.1
baz=255
LONT Longtian 1.69 232 eP Pn 16 17 04.6 +0.7
baz=221
HSN Hsinchu 1.70 301 eP Pb 16 17 05.8 -0.1
baz=302
HSN eS Sg 16 17 28.2 -1.5
baz=302
TWQ1 Liyutan 1.70 284 eP Pb 16 17 06.6 +0.7
baz=284
TWQ1 eS Sb 16 17 28.1 +1.0
baz=284
WJS Zhushan 1.70 266 eP Pb 16 17 06.5 +0.6
baz=266
WJS eS Sg 16 17 29.2 -0.6
baz=266
JISG Ishigakijimahi 1.71 68 P Pg 16 17 06.5 -1.3
JISG eS Sg 16 17 28.5 -1.5
NJN Zhunan 1.72 296 eP Pb 16 17 06.6 +0.3
baz=295
NSY Sanyi 1.72 286 P Pg 16 17 07.2 -1.0
baz=286
NSY eS Sb 16 17 28.9 +1.1
baz=286
NMLH Miaoli 1.73 290 eP Pb 16 17 07.1 +0.5
baz=290
NMLH eS Sb 16 17 29.0 +0.9
baz=290
TCU Taichung 1.75 277 eP Pb 16 17 07.7 +0.8
baz=277
TCU eS Sb 16 17 29.7 +1.1
baz=277
CHN5 Tsauling 1.77 259 eP Pb 16 17 07.8 +0.5
baz=258
TWGBT Beinan 1.78 231 eP Pn 16 17 05.7 +0.6
baz=240
TWG Pinlang 1.78 231 Pn 16 17 05.2 0.0
TWG Pinlang 1.78 231 eP Pn 16 17 05.8 +0.6
baz=240
WDJ Dajia District 1.81 283 eP Pb 16 17 08.1 +0.2
baz=283
WDJ eS Sb 16 17 30.5 0.0
baz=283
STYH Taoyuan 1.82 245 eP Pn 16 17 07.3 +1.6
baz=233
WCHH Zhanghua 1.85 275 eP Pb 16 17 08.7 +0.2
baz=274
WCHH eS Sb 16 17 32.0 +0.5
baz=274
WDLH Douliu 1.89 263 eP Pb 16 17 10.4 +1.3
baz=262
WDLH eS Sb 16 17 34.4 +2.0
baz=262
TPUB Ta-pu 1.90 251 Pn 16 17 08.7 +1.8
TPUB Ta-pu 1.90 251 P Pb 16 17 10.3 +0.9
TPUB Ta-pu 1.90 251 eP Pb 16 17 08.9 -0.5
baz=239
TPUB eS Sn 16 17 32.6 +2.1
baz=239
CHN4 Tsaushan 1.91 252 eP Pb 16 17 09.6 0.0
baz=252
CHN4 eS Sb 16 17 34.3 +1.0
baz=252
WTP Ta-pu 1.93 249 eP Pb 16 17 10.0 +0.1
baz=239
WTP eS Sb 16 17 34.4 +0.5
baz=239
CHN2 Minshiung 1.97 258 eS Sb 16 17 35.6 +0.7
baz=259
ECL Taimali 2.01 228 eP Pn 16 17 08.5 +0.2
baz=238
WRL Guolierlin Hig 2.02 269 P Pb 16 17 10.9 -0.4
baz=284
WRL S Sb 16 17 36.0 -0.1
baz=284
WTK Tuku 2.02 263 eP Pb 16 17 11.5 +0.1
baz=263
WTK eS Sb 16 17 37.7 +1.4
baz=263
SGST Jiashian 2.02 245 eP Pb 16 17 11.1 -0.4
baz=244
SGST eS Sn 16 17 36.4 +2.8
baz=244
CHY Chiayi 2.02 258 eP Pb 16 17 10.6 -0.8
baz=257
CHY eS Sb 16 17 37.3 +0.9
baz=257
CHN1 Nanshi 2.03 248 eP Pb 16 17 11.4 -0.2
baz=248
CHN1 eS Sb 16 17 36.8 +0.2
baz=248
TWK Hsinying 2.03 251 eP Pn 16 17 10.9 +2.2
baz=250
TWK eS Sb 16 17 37.1 +0.4
baz=250
SNST Tainan City 2.04 250 eP Pb 16 17 11.3 -0.5
baz=249
SNST eS Sn 16 17 36.8 +2.9
baz=249
JTJ Tarama 2.06 70 P Pb 16 17 12.3 +0.3
JTJ eS Sb 16 17 38.5 +1.1
WTCT Ta-ch'eng 2.10 268 eP Pb 16 17 12.2 -0.7
baz=268
WTCT eS Sb 16 17 38.2 -0.5
baz=268
LAY Lan-yu 2.12 207 eP Pn 16 17 09.8 -0.1
baz=205
LYUB Lan-yu 2.14 206 eP Pn 16 17 09.4 -0.7
baz=204
LYUB eS Sn 16 17 33.8 -2.5
baz=204
SSD Sandimen 2.15 237 eP Pb 16 17 13.5 -0.1
baz=227
TSMG Majia 2.16 236 eP Pb 16 17 14.4 +0.5
baz=226
WSF Szhu 2.18 262 eP Pb 16 17 13.7 -0.5
baz=262
WSF eS Sb 16 17 40.9 0.0
baz=262
SCST Cishan 2.19 242 eP Pb 16 17 13.8 -0.5
baz=231
SCST eS Sb 16 17 42.3 +1.2
baz=231
ICHU Yijhu 2.19 255 eP Pb 16 17 13.6 -0.7
baz=255
ICHU eS Sb 16 17 40.7 -0.5
baz=255
WSL Shuilin Townsh 2.19 259 eP Pn 16 17 13.2 +2.3
baz=259
WSL eS Sn 16 17 40.2 +2.5
baz=259
CHN3 Shinhua 2.21 247 eS Sb 16 17 43.9 +2.2
baz=247
TAW Tawu 2.21 225 eP Pn 16 17 11.2 0.0
baz=233
EAST Anshuo 2.23 226 eP Pn 16 17 11.7 +0.4
baz=224
MASBT Mashibuluo 2.23 234 eP Pn 16 17 13.0 +1.6
baz=225
TAWH Dawu Township 2.23 225 eP Pn 16 17 12.0 +0.6
baz=234
SHHT Tainan City 2.25 246 eP Pb 16 17 15.4 +0.2
baz=259
SHHT eS Sb 16 17 44.0 +1.2
baz=259
CHN8 Yiju 2.25 255 eP Pb 16 17 14.3 -1.0
baz=255
CHN8 eS Sn 16 17 41.4 +2.3
baz=255
SGLT Jiouru 2.27 238 eP Pb 16 17 16.5 +0.8
baz=237
SGLT eS Sg 16 17 47.3 -0.8
baz=237
SCLT Jiali 2.32 251 eP Pn 16 17 14.7 +2.1
baz=251
SCLT eS Sn 16 17 44.0 +3.2
baz=251
TAI1 Yung-k'ang 2.34 248 eS Sb 16 17 45.5 0.0
baz=247
SSPT Xinbi 2.35 232 eP Pb 16 17 17.0 0.0
baz=224
SLIU Shizi 2.38 224 eP Pn 16 17 14.0 +0.7
baz=231
SCZT Fangliau 2.39 229 eP Pn 16 17 16.1 +2.5
baz=221
SCZT eS Sb 16 17 46.9 -0.1
baz=221
SMST Manzhou Townsh 2.50 220 eP Pn 16 17 16.4 +1.3
baz=219
JIRB Irabujima 2.52 69 P Pb 16 17 18.5 -1.5
JIRB eS Sb 16 17 49.0 -1.8
HEN Hengchun 2.57 222 eP Pn 16 17 18.1 +2.0
baz=220
WLCH Liuqiu 2.57 232 eP Pb 16 17 21.3 +0.5
baz=246
TWKBT Hengchun 2.58 220 eP Pn 16 17 17.4 +1.3
baz=218
TWK1 Hengchun 2.58 220 eP Pn 16 17 17.4 +1.3
baz=218
JIKM Ikemajima 2.62 68 P Pb 16 17 20.5 -1.1
JIKM eS Sb 16 17 52.2 -1.4
JMJ2 Miyako jima3 2.63 72 P Pb 16 17 21.2 -0.6
JMJ2 eS Sb 16 17 53.1 -0.8
JOGS Gusukube 2.70 72 P Pb 16 17 22.3 -0.8
JOGS eS Sb 16 17 55.0 -1.0
WDGT Dungji 2.76 256 eP Pn 16 17 20.3 +1.6
baz=256
WDGT eS Sn 16 17 51.7 -0.1
baz=256
PHUB P'eng-hu 2.79 262 eP Pn 16 17 20.8 +1.7
baz=261
PHUB eS Sn 16 17 52.7 +0.3
baz=261
PNG Penghu 2.79 263 eP Pn 16 17 20.7 +1.5
baz=262
PNG eS Sn 16 17 52.8 +0.2
baz=262
VCHM Qimei 2.98 256 eP Pn 16 17 23.5 +1.8
baz=256
VCHM eS Sn 16 17 58.1 +0.9
baz=256
VWUC VWUC 3.04 291 eP Pn 16 17 23.1 +0.7
baz=290
MATB Ma-tsu 3.24 313 eP Pn 16 17 26.5 +1.2
baz=299
LYJJ Jianjiangzhen 3.64 316 eP Pn 16 17 31.3 +0.5
baz=303
XPSS Dashiqiu 3.67 325 eP Pn 16 17 32.5 +1.3
baz=324
QZH Quanzhou 3.77 286 ⇑iPn Pn 16 17 33.1 +0.6
QZH Sn Sn 16 18 12.6 -3.9
QZH smax smax
comp=N,380nm,0.3s
QZH smax smax
comp=E,300nm,0.4s
QZH LR LR
comp=Z,560nm,10.9s
KNM Kinmen 3.81 278 eP Pn 16 17 35.6 +2.5
baz=277
KNMB Chin-men Tao 3.86 279 Pn Pn 16 17 34.3 +0.6
KNMB Chin-men Tao 3.86 279 eP Pn 16 17 34.6 +0.8
baz=278
MHZQ Yeshan 3.87 304 eP Pn 16 17 34.0 +0.1
baz=303
AXDP Jialang 4.31 284 eP Pn 16 17 40.7 +0.8
baz=283
ZPLA Ao Xicun 4.42 271 eP Pn 16 17 42.4 +1.0
baz=270
SXFK Yanhouchang 5.09 300 eP Pn 16 17 51.3 +0.5
baz=297
JOW Kunigami 5.90 60 Pn Pn 16 18 03.0 +1.1
4.5nm,0.3s,baz=219,slow=6.5,SNR=9.6
JOW Sn Sn 16 19 08.3 -0.9
1.3nm,0.3s,baz=127,slow=20,SNR=1.0
JOW Kunigami 5.90 60 Pn Pn 16 18 02.5 +0.7
SSE Sheshan 7.23 350 Pn Pn 16 18 21.3 +1.2
SSE LR LR
comp=N,240nm,14.3s
SSE LR LR
comp=E,110nm,14.3s
SSE LR LR
comp=Z,240nm,14.2s
NJ2 Nanjing 8.72 339 eP Pn 16 18 42.0 +1.5
NJ2 pmax pmax
comp=Z,14nm,0.6s
NJ2 LR LR
comp=N,600nm,12.2s
NJ2 LR LR
comp=E,360nm,9.4s
NJ2 LR LR
comp=Z,660nm,10.3s
WHN Wuhan 9.84 314 P Pn 16 18 50.4 -5.4
WHN LR LR
comp=Z,820nm,10.7s
QIZ Qiongzhong 12.82 250 Pn Pn 16 19 37.5 +0.8
INCN Inchon 13.94 14 Pn Pn 16 19 52.5 +0.6
KSAR Wonju Array Be 14.20 17 P 16 20 00.8 -2.1
KSRS Korea Array 14.22 18 Pn P 16 20 00.3 -2.8
comp=Z,3.3nm,0.3s,baz=197,slow=11,SNR=54
KSRS LR LR 16 26 18.8
comp=Z,163nm,18.2s,baz=200,slow=42
KS19 Wonju Array Si 14.25 17 P P 16 20 00.5 -3.0
JHS Saijyo 14.32 37 P P 16 20 01.0 -3.4
XAN Xi'an 15.60 313 P P 16 20 21.1 +2.5
XAN pP pwP 16 20 28.1 +1.8
XAN sP sP 16 20 31.5 +7.8
XAN pmax pmax
comp=Z,12nm,0.7s
XAN pmax pmax
comp=Z,18nm,3.7s
CD2 Chengdu 18.08 297 P Pn 16 20 45.8 +0.1
CD2 S Sn 16 24 08.8 +1.6
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,80nm,6.3s
CD2 LR LR
comp=Z,220nm,12.9s
CD2 LR LR
comp=Z,340nm,15.3s
KMI Kunming 18.09 278 ⇑P P 16 20 50.1 +3.7
KMI sP pwP 16 20 56.3 +1.7
KMI pmax pmax
comp=Z,6.0nm,0.9s
KMI LR LR
comp=Z,130nm,10.8s
KMI LR LR
comp=Z,230nm,14.7s
KMI LR LR
comp=Z,230nm,13.0s
MJAR Matsushiro Arr 18.41 43 LR LR 16 28 14.3
comp=Z,86nm,21.7s,baz=214,slow=38
PZH PanZhiHua 19.02 282 P Pn 16 20 59.4 +2.1
PZH S Sn 16 24 22.9 -7.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,6.8s
PZH LR LR
comp=Z,510nm,19.0s
PZH LR LR
comp=Z,440nm,18.6s
PZH LR LR
comp=Z,600nm,15.1s
HHC Hu-ho-hao-te 19.22 334 eP Pn 16 21 00.0 +0.4
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,66nm,5.0s
HHC LR LR
comp=Z,290nm,13.3s
HHC LR LR
comp=Z,290nm,13.7s
HHC LR LR
comp=Z,450nm,14.0s
LZH Lanzhou 20.20 311 eP Pn 16 21 15.4 +4.1
LZH pP pwP 16 21 19.3 +2.2
LZH pmax pmax
comp=Z,24nm,1.2s
XLT XiLinHaoTe 20.61 347 eP P 16 21 07.8 -5.8
XLT pP pP 16 21 12.9 -4.2
XLT sP Pn 16 21 14.9 -1.0
XLT PP PnPn 16 21 28.8 -2.7
XLT SS Sn 16 25 18.9 +11
XLT PcP PcP 16 25 22.8 -1.3
XLT PcS PcS 16 28 57.0 -4.8
XLT pmax pmax
comp=Z,13nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.7s
USA0B Ussuriysk Arra 21.63 19 P P 16 21 24.2 -0.3
USRK Ussuriysk Ar. 21.63 19 P P 16 21 24.2 -0.3
comp=Z,3.3nm,0.7s,baz=203,slow=11,SNR=8.7
USRK LR LR 16 30 31.6
comp=Z,127nm,18.1s,baz=178,slow=39
USRK Ussuriysk Ar. 21.63 19 P P 16 21 24.0 -0.5
CMAR Chiang Mai Arr 22.69 261 P P 16 21 38.2 +2.1
comp=Z,1.3nm,0.8s,baz=65,slow=8.1,SNR=10
CMAR LR LR 16 31 17.8
comp=Z,36nm,18.5s,baz=50,slow=39
JTM Tenmabayashi 22.86 38 P P 16 21 34.1 -3.5
GTA Gaotai 24.66 314 eP P 16 21 55.9 +0.6
GTA pP pwP 16 22 01.3 -2.5
GTA sP sP 16 22 05.5 +5.0
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA pmax pmax
comp=Z,54nm,7.6s
GTA LR LR
comp=Z,73nm,10.8s
GTA LR LR
comp=Z,140nm,13.9s
GTA LR LR
comp=Z,160nm,13.5s
ERM Erimo 24.85 39 P P 16 21 53.8 -2.9
LBMI Labuha 24.90 168 P P 16 21 59.5 +2.1
comp=Z,23nm,1.1s
HIA Hailar 25.37 356 P P 16 22 01.5 +0.1
HIA IAmb IAmb 16 22 03.4
comp=Z,4.2nm,0.5s
ASAJ Asahikawa 25.95 34 P P 16 22 04.8 -2.0
comp=Z,3.0nm,0.4s,baz=235,slow=12,SNR=18
ASAJ LR LR 16 32 01.3
comp=Z,83nm,21.7s,baz=238,slow=36
JKA Kamikawa-asahi 25.95 34 P P 16 22 06.4 -0.4
JKA IAmb IAmb 16 22 19.4
comp=Z,9.4nm,1.1s
SANI Sanana 26.05 172 P P 16 22 08.7 +0.9
comp=Z,9.3nm,1.6s
KLR Kul'dur 26.25 14 P P 16 22 09.1 -0.2
comp=Z,1.2nm,0.5s,baz=221,slow=7.9,SNR=5.2
KLR LR LR 16 32 55.9
comp=Z,158nm,18.8s,baz=212,slow=38
GOMU GeErMu 26.85 303 P P 16 22 10.8 -4.6
GOMU pP pP 16 22 14.0 -5.1
GOMU sP sP 16 22 15.6 -5.0
GOMU pmax pmax
comp=Z,1.0nm,0.4s
GOMU pmax pmax
comp=Z,31nm,5.7s
ULN Ulaanbaatar 26.88 337 P P 16 22 14.6 -0.7
SONM Songino Array 27.09 336 P P 16 22 16.8 -0.4
comp=Z,1.7nm,0.6s,baz=152,slow=9.2,SNR=14
SONM PcP PcP 16 25 38.4 +0.5
comp=Z,0.4nm,0.5s,baz=150,slow=4.0,SNR=3.4
SONM LR LR 16 34 12.9
comp=Z,170nm,20.3s,baz=160,slow=39
SONM Songino Array 27.09 336 P P 16 22 16.3 -0.9
PSI Prapat 31.05 231 LR LR 16 36 59.4
comp=Z,23nm,18.0s,baz=18,slow=39
WMQ Urumqi 34.74 313 eP P 16 23 27.1 +2.5
WMQ pmax pmax
comp=Z,19nm,0.7s
MTN Manton Dam 37.51 166 P P 16 23 48.5 +0.2
MTN IAmb IAmb 16 23 49.8
comp=Z,7.2nm,0.7s
MK31 Makanchi Array 39.40 316 P P 16 24 04.3 +0.3
MKAR Makanchi Array 39.40 316 P P 16 24 04.4 +0.3
comp=Z,3.6nm,0.5s,baz=99,slow=9.9,SNR=82
MKAR PcP PcP 16 26 12.4 +0.3
comp=Z,0.5nm,0.6s,baz=109,slow=3.2,SNR=3.5
MKAR LR LR 16 41 42.2
comp=Z,59nm,19.3s,baz=89,slow=38
MAKZ Makanchi 39.60 315 P P 16 24 06.2 +0.4
MAKZ IAmb IAmb 16 24 06.7
comp=Z,5.8nm,0.5s
KNRA Kununurra 39.84 171 P P 16 24 07.6 -0.3
KNRA IAmb IAmb 16 24 10.6
comp=Z,25nm,1.4s
ZAA0 Zalesovo Array 41.14 327 P P 16 24 15.8 -2.5
ZALV Zalesovo Beam 41.14 327 P P 16 24 17.7 -0.6
comp=Z,3.5nm,0.5s,baz=112,slow=8.0,SNR=20
ZALV PcP PcP 16 26 17.3 -0.2
comp=Z,1.0nm,0.5s,baz=120,slow=3.5,SNR=5.4
ZALV LR LR 16 43 40.4
comp=Z,14nm,21.1s,baz=126,slow=40
ZALV Zalesovo Beam 41.14 327 P P 16 24 15.9 -2.4
KDJ Kajisay 41.62 307 P P 16 24 22.1 -0.6
KDJ IAmb IAmb 16 24 25.4
comp=Z,7.6nm,0.8s
KSH Kashi 42.10 303 P P 16 24 30.8 +4.2
ULHL Ulahol 42.32 307 P P 16 24 29.9 +1.5
SNR=16
BOOM Boomskoye usch 42.59 307 P P 16 24 30.3 -0.3
TKM2 Tokmak 2 42.91 308 P P 16 24 34.8 +1.5
SNR=12
KURK Kurchatov 43.09 320 P P 16 24 34.1 -0.2
KURK IAmb IAmb 16 24 35.6
comp=Z,4.9nm,0.5s
KBK Karagaybulak 43.34 307 P P 16 24 38.6 +2.0
SNR=7.2
CHMS Chumysh 43.54 308 P P 16 24 39.7 +1.6
SNR=5.7
UCH Uchtor 43.58 307 P P 16 24 41.4 +2.4
SNR=10
AAK Ala-Archa 43.66 307 LR LR 16 45 40.3
comp=Z,80nm,18.2s,baz=106,slow=40
AAK Ala-Archa 43.66 307 P P 16 24 40.8 +1.5
AML Almayashu 44.17 306 P P 16 24 45.8 +2.1
SNR=13
EKS2 Erkin-Say 44.19 307 P P 16 24 45.1 +1.6
SNR=5.9
WB0 Warramunga Arr 44.95 164 P P 16 24 48.6 -0.9
WRAB Tennant Creek 45.10 164 P P 16 24 49.5 -1.2
WRAB IAmb IAmb 16 24 53.9
comp=Z,5.5nm,1.0s
WRA Warramunga Arr 45.10 164 P P 16 24 52.2 +1.5
comp=Z,2.6nm,0.9s,baz=344,slow=8.8,SNR=15
WRA Warramunga Arr 45.10 164 P P 16 24 49.9 -0.9
WR0 Warramunga Arr 45.17 164 P P 16 24 51.0 -0.3
BTK Batken 46.10 303 P P 16 24 59.6 +1.0
BTK IAmb IAmb 16 25 01.5
comp=Z,6.4nm,0.5s
GAR Garm 46.42 302 P P 16 25 02.6 +1.4
KK31 Karatay Array 46.63 307 P P 16 25 04.0 +1.3
KK31 IAmb IAmb 16 25 04.8
comp=Z,3.4nm,0.6s
KKAR Karatay Array 46.63 307 P P 16 25 04.0 +1.4
KKAR IAmb IAmb 16 25 04.8

comp=Z,3.4nm,0.6s
KKAR Karatay Array 46.63 307 P **P** **16 25 03.5 +0.8**
CHGR Chuyangaron 47.31 301 P **P** **16 25 08.7 +0.5**
KBL Kabul 47.41 296 P **P** **16 25 10.2 +1.0**
KBL IAmb IAmb 16 25 12.8
comp=Z,6.2nm,0.8s
TIXI Tiksi 47.87 3 P **P** **16 25 09.7 -2.2**
SHEM Shemya Is, Ala 48.20 40 LR LR 16 48 34.0
comp=Z,21nm,18.2s,baz=147,slow=40
AS31 Alice Springs 48.59 166 P **P** **16 25 19.0 +1.0**
ASAR Alice Springs 48.59 166 P **P** **16 25 20.2 +2.2**
comp=Z,1.5nm,0.5s,baz=348,slow=7.2,SNR=30
ASAR Alice Springs 48.59 166 P **P** **16 25 19.0 +1.0**
BRVK Borovoye 48.74 321 P **P** **16 25 18.6 -0.2**
BRVK IAmb IAmb 16 25 29.7
comp=Z,2.8nm,0.8s
MORW Morawa 53.08 187 P **P** **16 25 51.4 -0.4**
ABKAR Akbulak array 54.52 314 P **P** **16 26 02.3 +0.1**
ABKAR IAmb IAmb 16 26 04.2
comp=Z,4.2nm,0.7s
ABKAR Akbulak array 54.52 314 P **P** **16 26 02.2 +0.1**
AKTO Aktyubinsk 55.83 316 LR LR 16 51 32.7
comp=Z,30nm,18.6s,baz=87,slow=38
GEYT Alibeck 56.02 301 P **P** **16 26 15.1 +1.9**
comp=Z,4.9nm,0.6s,baz=67,slow=9.5,SNR=6.9
GEYT Alibeck 56.02 301 P **P** **16 26 14.3 +1.1**
GEYT IAmb IAmb 16 26 16.1
comp=Z,5.4nm,0.7s
GYA0B ALIBECK ARRAY 56.02 301 P **P** **16 26 14.3 +1.1**
GYA0B IAmb IAmb 16 26 16.1
comp=Z,6.8nm,0.8s
ARU Arti 56.06 323 LR LR 16 51 53.8
comp=Z,26nm,20.2s,baz=106,slow=38
STKA Stephens Creek 58.41 161 P **P** **16 26 32.2 +2.3**
comp=Z,0.7nm,0.4s,baz=7.1,slow=8.1,SNR=3.0
KIRV Kirov 61.14 325 LR LR 16 54 59.5
comp=Z,70nm,19.4s,baz=53,slow=38
TTA Tatalina 65.08 30 P **P** **16 27 15.3 +0.7**
TTA IAmb IAmb 16 27 28.2
comp=Z,6.5nm,1.2s
SOCY Socotra 65.72 273 P **P** **16 27 19.0 -0.6**
J20K Nowinta River 65.81 28 P **P** **16 27 20.1 +0.9**
IMAR Indian Mountai 65.83 26 P **P** **16 27 20.0 +0.7**
M19K Big River Lodg 65.92 31 P **P** **16 27 21.4 +1.3**
M19K IAmb IAmb 16 27 26.8
comp=Z,7.0nm,1.2s
K20K Telida 65.92 29 P **P** **16 27 21.4 +1.4**
K20K IAmb IAmb 16 27 35.7
comp=Z,7.5nm,1.4s
GNI Garni 65.98 305 LR LR 17 00 42.0
comp=Z,22nm,18.6s,baz=112,slow=40
H21K Melozitna Rive 66.24 27 P **P** **16 27 23.2 +1.1**
H21K IAmb IAmb 16 27 34.5
comp=Z,5.1nm,1.2s
KBZ Khabaz 66.62 309 P **P** **16 27 25.8 +1.0**
comp=Z,2.4nm,0.8s,baz=74,slow=7.4,SNR=5.9
KBZ LR LR 16 59 58.5
comp=Z,32nm,18.2s,baz=54,slow=39
I21K Tanana 66.64 27 P **P** **16 27 25.9 +1.4**
I21K IAmb IAmb 16 27 39.8
comp=Z,3.3nm,1.1s
CAST Castle Rocks 66.80 29 P **P** **16 27 26.6 +0.9**
PPLA Purkeypile 66.82 30 P **P** **16 27 26.8 +0.8**
PPLA IAmb IAmb 16 27 40.8
comp=Z,8.3nm,1.2s
TOLK Toolik Lake Re 67.16 23 P **P** **16 27 28.1 +0.2**
TOLK IAmb IAmb 16 27 35.8
comp=Z,3.7nm,1.2s
BPAW Bear Paw Mtn. 67.20 28 P **P** **16 27 28.6 +0.4**
BPAW IAmb IAmb 16 27 30.0
comp=Z,1.7nm,0.5s
KTH Kantishna Hill 67.30 29 P **P** **16 27 29.4 +0.5**
KTH IAmb IAmb 16 27 43.6
comp=Z,8.2nm,1.4s
KDAK Kodiak Island 67.36 35 P **P** **16 27 29.4 +0.1**
H23K Yukon River 67.56 26 P **P** **16 27 31.8 +1.3**
H23K IAmb IAmb 16 27 58.0
comp=Z,4.4nm,1.2s
GEVA Gevas 67.66 303 P **P** **16 27 32.6 +0.8**
GEVA IAmb IAmb 16 27 33.9
comp=Z,4.1nm,0.8s
I23K Minto, Yukon-K 67.74 27 P **P** **16 27 32.4 +0.9**
I23K IAmb IAmb 16 27 35.7
comp=Z,5.5nm,1.5s
NEA2 Nenana 67.95 28 P **P** **16 27 33.6 +0.7**
NEA2 IAmb IAmb 16 27 45.3
comp=Z,4.1nm,1.2s
MCK McKinley 68.15 29 P **P** **16 27 34.5 +0.3**
MCK IAmb IAmb 16 27 59.1
comp=Z,10nm,1.4s
H24K Noodor Dome 68.23 26 P **P** **16 27 35.2 +0.4**
MDM Murphy Dome 68.24 27 P **P** **16 27 35.5 +0.7**
MDM IAmb IAmb 16 27 46.5
comp=Z,4.1nm,1.2s
RND Reindeer 68.24 29 P **P** **16 27 34.8 0.0**
RND IAmb IAmb 16 27 35.8
comp=Z,4.3nm,0.7s
WRH Wood River Hil 68.39 28 P **P** **16 27 36.1 +0.5**
WRH IAmb IAmb 16 28 02.7
comp=Z,4.4nm,1.3s
KNK Knik Glacier 68.79 31 P **P** **16 27 38.5 +0.3**
KNK IAmb IAmb 16 27 49.0
comp=Z,7.0nm,1.1s
ILAR Eielson Array 68.84 27 P **P** **16 27 37.9 -0.6**
comp=Z,0.3nm,0.4s,baz=282,slow=5.7,SNR=7.6
DHY Denali Highway 68.96 29 P **P** **16 27 39.7 +0.2**
DHY IAmb IAmb 16 27 56.4
comp=Z,9.2nm,1.4s
BMAR Burnt Mountain 69.22 24 P **P** **16 27 42.0 +1.1**
SCM Sheep Creek Mo 69.23 30 P **P** **16 27 41.7 +0.6**
M24K Tolsona, Glenn 69.71 30 P **P** **16 27 45.2 +1.2**
RIDG Independent Ri 69.93 28 P **P** **16 27 45.0 -0.3**
RIDG IAmb IAmb 16 27 54.3
comp=Z,5.3nm,1.3s
KLU Klutina 69.96 31 P **P** **16 27 45.9 +0.3**
KLU IAmb IAmb 16 27 49.4
comp=Z,4.3nm,1.0s
SPB2 Spitsbergen Ar 69.98 348 P **P** **16 27 45.3 0.0**
SPITS Spitsbergen Ar 69.98 348 LR LR 17 02 28.1
comp=Z,44nm,18.2s,baz=234,slow=39
ARCES ARCESS Array B 70.23 338 P **P** **16 27 46.8 -0.2**
comp=Z,3.0nm,1.0s,baz=59,slow=7.2,SNR=6.9
SCRK Sand Creek 70.24 28 P **P** **16 27 47.4 +0.1**
DOT Dot Lake 70.29 28 P **P** **16 27 46.9 -0.6**
DOT IAmb IAmb 16 27 47.0
comp=Z,5.2nm,1.5s
BMRM Bremner River 70.71 31 P **P** **16 27 50.5 +0.4**
BMRM IAmb IAmb 16 27 51.7
comp=Z,10nm,1.2s
RAGM Ragged Mountai 70.82 32 P **P** **16 27 51.2 +0.5**
GLB Gilahina Butte 70.96 30 P **P** **16 27 52.1 +0.5**
GLB IAmb IAmb 16 27 53.2
comp=Z,6.5nm,1.3s
KAIM Kayak Island 71.06 32 P **P** **16 27 52.7 +0.5**
M26K Nabesna, AK 71.08 29 P **P** **16 27 53.1 +0.7**
VRDI Verde Repeater 71.18 31 P **P** **16 27 53.5 +0.4**
VRDI IAmb IAmb 16 28 10.1
comp=Z,7.8nm,1.2s
EGAK Eagle 71.22 27 P **P** **16 27 53.0 0.0**
L27K Beaver Creek, 71.42 29 P **P** **16 27 55.5 +1.1**
BCAR Beaver Creek A 71.43 29 P **P** **16 27 55.7 +1.2**
M27K Edge Creek, AK 71.59 29 P **P** **16 27 56.4 +0.9**
M27K IAmb IAmb 16 28 04.8
comp=Z,6.4nm,1.5s
TGL Tana Glacier 71.60 31 P **P** **16 27 56.3 +0.7**
TGL IAmb IAmb 16 27 56.6
comp=Z,9.3nm,1.1s
BARN Barnard Glacie 72.06 31 P **P** **16 27 59.4 +1.0**
DAWY Dawson 72.17 27 P **P** **16 27 59.3 +0.5**
CTGM Chitina Glacie 72.24 31 P **P** **16 28 00.3 +0.8**
CTGM IAmb IAmb 16 28 19.0
comp=Z,13nm,1.5s
FIA1 FINESS Array S 72.29 330 P **P** **16 28 00.1 +0.6**
FINES FINESS Array B 72.29 330 P **P** **16 27 60.0 +0.5**
comp=Z,2.2nm,0.4s,baz=52,slow=5.8,SNR=32
FINES LR LR 17 03 12.1
comp=Z,82nm,19.0s,baz=66,slow=39
FINES FINESS Array B 72.29 330 P **P** **16 28 00.1 +0.5**
INK Inuvik 72.96 22 P **P** **16 28 03.2 -0.2**
BR131 Keskin Array S 74.34 307 P **P** **16 28 12.8 +0.5**
BR131 IAmb IAmb 16 28 13.7
comp=Z,7.6nm,1.0s
BRTR Keskin Array B 74.34 307 P **P** **16 28 13.1 +0.8**
comp=Z,2.0nm,0.5s,baz=96,slow=6.3,SNR=12
BRTR Keskin Array B 74.34 307 P **P** **16 28 12.5 +0.2**

M31M Drury Creek, Y 74.94 28 P **P** **16 28 15.9 +0.7**
CSS Mathiatis 76.11 302 P **P** **16 28 22.8 +0.4**
ELL Elmali 78.10 305 P **P** **16 28 33.5 -0.2**
HFS Hagfors 78.39 331 LR LR 17 07 08.3
comp=Z,92nm,18.9s,baz=33,slow=39
NC405 NORSAR Array S 78.78 332 P **P** **16 28 36.9 +0.1**
NC405 IAmb IAmb 16 28 58.8
comp=Z,4.5nm,0.8s
NB201 NORSAR Array S 78.99 332 P **P** **16 28 38.2 +0.3**
NB2 NORSAR Subarra 79.03 333 P **P** **16 28 37.9 -0.3**
comp=Z,1.7nm,0.7s,baz=58,slow=5.3
NOA NORSAR Array B 79.03 333 P **P** **16 28 38.3 +0.1**
comp=Z,1.5nm,0.8s,baz=58,slow=5.3,SNR=4.8
NOA LR LR 17 07 33.7
comp=Z,47nm,18.2s,baz=65,slow=39
NC204 NORSAR Array S 79.10 333 P **P** **16 28 38.2 -0.4**
JMIC Jan Mayen 79.38 345 LR LR 17 07 43.1
comp=Z,28nm,19.1s,baz=252,slow=39
DIB Dawson Inlet, 79.60 36 P **P** **16 28 41.9 +0.5**
KARP Karpathos 80.61 305 P **P** **16 28 47.3 0.0**
KARP IAmb IAmb 16 28 48.8
comp=Z,8.2nm,1.0s
GRNB Grenville Isla 80.65 35 P **P** **16 28 48.3 +1.2**
YKA Yellowknife Ar 82.69 23 P **P** **16 28 58.0 +0.3**
comp=Z,2.0nm,0.6s,baz=311,slow=5.0,SNR=33
YKA Yellowknife Ar 82.69 23 P **P** **16 28 57.8 +0.1**
CLL Collm 83.01 323 *i* P **P** **16 29 02.4 +2.9**
ITM Ithomi 83.81 308 P **P** **16 29 03.1 -0.9**
GERES GERESS Array B 83.83 321 P **P** **16 29 04.7 +0.7**
comp=Z,0.8nm,0.7s,baz=53,slow=5.2,SNR=7.0
BORG Borgarnes 87.28 345 LR LR 17 12 23.9
comp=Z,22nm,19.0s,baz=198,slow=38
B08A Colville Reser 89.23 36 P **P** **16 29 31.1 +0.7**
B08A IAmb IAmb 16 29 32.5
comp=Z,4.4nm,0.8s
FFC Flin Flon 92.83 24 P **P** **16 29 47.0 +0.1**
FFC IAmb IAmb 16 29 47.9
comp=Z,3.7nm,0.8s
NVAR Mina Array Bea 95.73 44 P **P** **16 30 01.3 +0.5**
comp=Z,0.5nm,0.7s,baz=309,slow=4.4,SNR=4.6

*IDC **19** 16:17:35.8±3.4,8°.18S×119°.66E,h161km±34km, mb3.3/3, mb1 3.2/7, mb1mx2.9/49, mbtmp3.6/7, MS3.0/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=72.4km s-min=15.5km az=56.0*
*DJA **19** 16:17:37.7±0.5,8°.S±4′×12°.0E±°, h139km±6km, M3.4/9, MLv3.4/9*
ISC 19 16:17:36.0±0.9,**8°.35S**±0°.06×**119°.57E**±0°.05,**h170**km,**n16,**
σ1°**96**/18,**Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.84**	**255**	P	**Pn**	**16 18 10.5**	**-0.1**
PLAI				S	**Sn**	**16 18 35.9**	**-1.4**
BASI	**Baing, Sumba**	**2.10**	**152**	P	**Pn**	**16 18 13.5**	**0.0**
BSSI	**Bau Bau, Buton**	**2.38**	**23**	P	**Pn**	**16 18 16.3**	**-0.4**
MMRI	**Maumere**	**2.65**	**96**	P	**Pn**	**16 18 20.0**	**+0.1**
BKSI	**Bulukumba**	**3.06**	**10**	P	**Pn**	**16 18 25.7**	**+0.8**
KAPI	**Kappang**	**3.32**	**3**	P	**Pn**	**16 18 25.5**	**-2.7**
	0.4nm,0.3s,baz=191,slow=5.2,SNR=3.9						
BNSI	**Bone**	**3.96**	**8**	P	**Pn**	**16 18 37.1**	**+0.8**
IGBI	**Denpasar**	**4.40**	**264**	P	**Pn**	**16 18 43.2**	**+1.2**
BATI	**Baumata**	**4.44**	**115**	P	**Pn**	**16 18 43.1**	**+0.6**
	2.9nm,0.3s,baz=108,slow=3.2,SNR=6.2						
BATI				S	**Sn**	**16 19 33.5**	**-0.9**
	7.1nm,0.3s,baz=60,slow=21,SNR=6.3						
BATI	**Baumata**	**4.44**	**115**	P	**Pn**	**16 18 43.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**11.34**	**149**	P	**Pn**	**16 20 14.5**	**+1.3**
	0.2nm,0.3s,baz=324,slow=12,SNR=8.2						
FITZ				S	**Sn**	**16 22 13.1**	**-6.0**
	0.6nm,0.3s,baz=189,slow=20,SNR=9.9						
WRA	**Warramunga Arr**	**18.36**	**130**	P	**P**	**16 21 38.9**	**+1.0**
	0.1nm,0.3s,baz=302,slow=12,SNR=10.0						
ASAR	**Alice Springs**	**20.50**	**140**	P	**P**	**16 22 02.2**	**+1.2**
	1.2nm,0.5s,baz=315,slow=8.5,SNR=56						
STKA	**Stephens Creek**	**31.10**	**142**	P	**P**	**16 23 40.0**	**+1.6**
	1.8nm,0.3s,baz=320,slow=11,SNR=6.6						
JCJ	**Chichijima**	**41.50**	**31**	LR	LR	16 41 21.5	
	comp=Z,23nm,20.8s,baz=237,slow=34						
MKAR	**Makanchi Array**	**64.15**	**332**	P	**P**	**16 27 52.0**	**-0.2**
	0.2nm,0.5s,baz=138,slow=6.2,SNR=2.2						

*IDC **19** 16:22:00.0±1.2, 1°.78N×147°.46E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.8/50, mbtmp3.9/13, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/78, Error ellipse: s-maj=32.5km s-min=20.3km az=128.0*
*NEIC **19** 16:22:03.3±1.4, 15°.9N±0°.1×147°.4E±0°.1, h10km±1km, mb4.5/29, Error ellipse: s-maj=21.8km s-min=16.4km az=140.0*
ISC 19 16:22:06.3±0.9,**15°.8N**±0°.1×**147°.3E**±0°.2,**h38**km,**n47,**
σ0°**60**/44,**mb4.3**/25,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.25**	**227**	Pn	**Pn**	**16 22 53.3**	**-1.5**
	6.0nm,0.3s,baz=109,slow=16,SNR=1.9						
GUMO				Sn	**Sn**	**16 23 32.7**	**+0.6**
	15nm,0.3s,baz=141,slow=15,SNR=2.0						
GUMO	**Guam**	**3.25**	**227**	Pn	**Pn**	**16 22 54.2**	**-0.5**
PATS	**Pohnpei**	**13.99**	**128**	Pn	Pn	16 25 12.5	-10
MJAR	**Matsushiro Arr**	**22.17**	**340**	P	**P**	**16 26 59.0**	**-0.1**
MAJO	**Matsushiro**	**22.18**	**340**	P	**P**	**16 26 59.0**	**-0.2**
MJB9	**Matsu-Tunnel**	**22.18**	**340**	P	**P**	**16 26 58.8**	**-0.4**
JMM	**Marumori**	**22.70**	**347**	P	**P**	**16 27 04.6**	**-0.1**
JSD	**Sado**	**23.53**	**342**	P	**P**	**16 27 13.1**	**+0.1**
KSRS	**Korea Array**	**27.55**	**325**	P	**P**	**16 27 50.0**	**+0.4**
	0.7nm,0.5s,baz=139,slow=9.4,SNR=4.5						
KAPI	**Kappang**	**34.25**	**235**	LR	LR	16 43 25.4	
	comp=Z,17nm,18.1s,baz=112,slow=37						
WRA	**Warramunga Arr**	**37.76**	**200**	P	**P**	**16 29 18.2**	**-0.6**
	0.8nm,0.8s,baz=35,slow=8.6,SNR=0.9						
CMAR	**Chiang Mai Arr**	**46.20**	**281**	P	**P**	**16 30 28.4**	**+0.5**
	1.2nm,0.5s,baz=81,slow=6.5,SNR=8.5						
SONM	**Songino Array**	**46.35**	**322**	P	**P**	**16 30 29.0**	**+0.2**
	0.6nm,0.7s,baz=137,slow=7.0,SNR=5.6						
KULM	**Kulim**	**46.95**	**262**	P	**P**	**16 30 34.2**	**+0.4**
BBOO	**Buckleboo**	**49.54**	**192**	P	**P**	**16 30 54.8**	**+1.3**
BBOO				IAmb	IAmb	16 30 58.4	
	comp=Z,9.0nm,1.3s						
ZALV	**Zalesovo Beam**	**61.23**	**323**	P	**P**	**16 32 17.3**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=116,slow=9.3,SNR=3.0						
MK31	**Makanchi Array**	**61.57**	**315**	P	**P**	**16 32 20.2**	**+0.4**
MKAR	**Makanchi Array**	**61.57**	**315**	P	**P**	**16 32 20.4**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=97,slow=8.2,SNR=9.6						
MKAR	**Makanchi Array**	**61.57**	**315**	P	**P**	**16 32 20.1**	**+0.2**
MAKZ	**Makanchi**	**61.79**	**315**	P	**P**	**16 32 21.7**	**+0.4**
MAKZ				IAmb	IAmb	16 32 22.4	
	comp=Z,1.6nm,0.6s						
J20K	**Nowinta River**	**62.38**	**25**	P	**P**	**16 32 26.1**	**+1.2**
J20K				IAmb	IAmb	16 32 26.5	
	comp=Z,3.6nm,1.2s						
CAST	**Castle Rocks**	**62.96**	**26**	P	**P**	**16 32 29.5**	**+0.6**
CAST				IAmb	IAmb	16 32 33.4	
	comp=Z,4.1nm,1.2s						
IMAR	**Indian Mountai**	**63.22**	**23**	P	**P**	**16 32 31.6**	**+1.0**
KTH	**Kantishna Hill**	**63.50**	**26**	P	**P**	**16 32 33.1**	**+0.6**
BPAW	**Bear Paw Mtn.**	**63.65**	**26**	P	**P**	**16 32 34.0**	**+0.6**
BPAW				IAmb	IAmb	16 32 50.9	
	comp=Z,4.4nm,1.1s						
BWN	**Browne**	**64.31**	**26**	P	**P**	**16 32 38.3**	**+0.6**
RND	**Reindeer**	**64.34**	**27**	P	**P**	**16 32 38.1**	**+0.1**
RND				IAmb	IAmb	16 33 05.1	
	comp=Z,7.3nm,1.4s						
KURK	**Kurchatov**	**64.44**	**319**	P	**P**	**16 32 38.7**	**-0.1**
KURK				IAmb	IAmb	16 32 40.7	
	comp=Z,4.4nm,0.8s						
H23K	**Yukon River**	**64.79**	**24**	P	**P**	**16 32 41.2**	**+0.4**
H23K				IAmb	IAmb	16 32 49.4	
	comp=Z,8.3nm,1.5s						
NRIK	**Noril'sk**	**64.83**	**340**	P	**P**	**16 32 40.7**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=109,slow=6.1,SNR=3.7						
NRIK	**Noril'sk**	**64.83**	**340**	IAmb	IAmb	16 32 46.2	
	comp=Z,2.4nm,0.9s						
H24K	**Noodor Dome**	**65.44**	**24**	P	**P**	**16 32 45.5**	**+0.4**
H24K				IAmb	IAmb	16 32 47.4	
	comp=Z,3.8nm,1.3s						
ILAR	**Eielson Array**	**65.55**	**25**	P	**P**	**16 32 45.0**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=242,slow=6.5,SNR=6.4						
BOOM	**Boomskoye usch**	**65.82**	**310**	P	**P**	**16 32 48.4**	**+0.3**
BOOM				IAmb	IAmb	16 32 49.7	
	comp=Z,1.3nm,0.7s						
J25K	**Salcha River,**	**66.14**	**26**	P	**P**	**16 32 48.9**	**-0.7**
J25K				IAmb	IAmb	16 33 14.6	
	comp=Z,3.9nm,1.4s						
RIDG	**Independent Ri**	**66.16**	**27**	P	**P**	**16 32 50.1**	**+0.4**
SCRK	**Sand Creek**	**66.58**	**27**	P	**P**	**16 32 52.8**	**+0.3**
SCRK				IAmb	IAmb	16 33 07.1	
	comp=Z,3.2nm,1.3s						
BARN	**Barnard Glacie**	**67.11**	**30**	P	**P**	**16 32 55.7**	**-0.3**
BARN				IAmb	IAmb	16 33 11.0	
	comp=Z,5.5nm,1.1s						
BMAR	**Burnt Mountain**	**67.14**	**23**	P	**P**	**16 32 56.9**	**+0.9**
L27K	**Beaver Creek,**	**67.36**	**28**	P	**P**	**16 32 57.2**	**-0.2**
BCAR	**Beaver Creek A**	**67.38**	**28**	P	**P**	**16 32 58.1**	**+0.5**
INK	**Inuvik**	**71.41**	**23**	P	**P**	**16 33 22.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=302,slow=6.6,SNR=4.1						
ABKAR	**Akbulak array**	**76.50**	**318**	P	**P**	**16 33 51.8**	**-0.6**
YKA	**Yellowknife Ar**	**79.80**	**28**	P	**P**	**16 34 10.0**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=285,slow=5.4,SNR=5.5						
ARCES	**ARCESS Array B**	**85.69**	**343**	P	**P**	**16 34 40.8**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=39,slow=6.4,SNR=1.6						
ARCES	**ARCESS Array B**	**85.69**	**343**	IAmb	IAmb	16 34 49.0	
	comp=Z,12nm,1.3s						
FINES	**FINESS Array B**	**90.13**	**336**	P	**P**	**16 35 01.5**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=32,slow=3.4,SNR=1.2						

*IDC **19** 16:22:40.7±1.5,3°.03S×152°.55E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.6/42, mbtmp3.8/9, ML2.0/1, MS3.3/8, Ms1 3.3/8, ms1mx2.9/65, Error ellipse: s-maj=46.6km s-min=17.2km az=106.0*
*NEIC **19** 16:22:42.4±1.6,3°.00S±0°.04×152°.61E±0°.09, h10km±1km, mb4.4/19, Error ellipse: s-maj=15.7km s-min=6.9km az=88.0*
ISC 19 16:22:45.4±0.7,**3°.02S**±0°.07×**152°.58E**±0°.10,**h35**km,**n45,**
σ0°**94**/40,**mb4.2**/19,**MS3.3**/4,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.24**	**200**	Pn	**Pn**	**16 23 05.8**	**-0.4**
RABL				Sg	**Sn**	**16 23 20.2**	**-1.5**
KRVT	**Keravat (AS076**	**1.39**	**203**	Pn	**Pn**	**16 23 07.8**	**-0.6**
	118nm,0.3s,baz=183,slow=0.7,SNR=166						
KRVT				Sn	**Sn**	**16 23 27.6**	**+2.0**
	246nm,0.3s,baz=193,slow=22,SNR=5.0						
MANU	**Manus Island**	**5.30**	**280**	Pn	**Pn**	**16 24 00.9**	**-1.2**
PMG	**Port Moresby**	**8.32**	**220**	Pn	**Pn**	**16 24 43.8**	**+0.1**
	1.0nm,0.3s,baz=7.8,slow=5.2,SNR=4.6						
PMG				LR	LR	16 27 24.6	
	comp=Z,124nm,20.6s,baz=77,slow=34						
PMG	**Port Moresby**	**8.32**	**220**	Pn	**Pn**	**16 24 43.5**	**-0.1**
HNR	**Honiara**	**9.71**	**131**	Sn	**Sn**	**16 26 50.0**	**-0.6**
	4.8nm,0.3s,baz=175,slow=21,SNR=2.3						
HNR				LR	LR	16 28 50.2	
	comp=Z,234nm,21.4s,baz=36,slow=38						
CTA	**Charters Tower**	**18.05**	**200**	P	**P**	**16 26 55.9**	**+2.0**
	0.2nm,0.3s,baz=38,slow=13,SNR=1.9						
CTA				LR	LR	16 32 55.5	
	comp=Z,92nm,18.8s,baz=23,slow=34						
GUMO	**Guam**	**18.19**	**335**	LR	LR	16 34 21.9	
	comp=Z,87nm,18.4s,baz=23,slow=39						
EIDS	**Eidsvold**	**22.27**	**184**	P	**P**	**16 27 41.2**	**+1.6**
EIDS				IAmb	IAmb	16 27 42.3	
	comp=Z,9.8nm,0.9s						
MTN	**Manton Dam**	**23.35**	**244**	P	**P**	**16 27 50.7**	**-0.2**
MTN				IAmb	IAmb	16 27 60.0	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**24.34**	**225**	P	**P**	**16 28 00.2**	**0.0**
WB0				IAmb	IAmb	16 28 09.9	
	comp=Z,5.5nm,0.8s						
WR0	**Warramunga Arr**	**24.36**	**225**	P	**P**	**16 28 00.4**	**0.0**
WR0				IAmb	IAmb	16 28 10.2	
	comp=Z,6.1nm,0.8s						
WRAB	**Tennant Creek**	**24.48**	**225**	P	**P**	**16 28 01.4**	**-0.1**
WRAB				IAmb	IAmb	16 28 11.3	
	comp=Z,8.9nm,0.6s						
WB2	**Warramunga Arr**	**24.48**	**225**	P	**P**	**16 28 01.4**	**-0.2**
WB2				IAmb	IAmb	16 28 11.3	
	comp=Z,8.0nm,0.6s						
WRA	**Warramunga Arr**	**24.49**	**225**	P	**P**	**16 28 01.3**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=50,slow=10.0,SNR=15						
WRA	**Warramunga Arr**	**24.49**	**225**	P	**P**	**16 28 01.4**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**25.50**	**33**	T	T	16 55 00.9	
	baz=215,slow=76,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**25.50**	**33**	T	T	16 55 05.7	
	baz=215,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**25.52**	**33**	T	T	16 55 04.3	
	baz=215,slow=76,SNR=6.8						
KNRA	**Kununurra**	**26.61**	**240**	P	**P**	**16 28 22.3**	**+1.5**
ARMA	**Armidale**	**27.27**	**182**	P	**P**	**16 28 27.2**	**+0.5**
ARMA				IAmb	IAmb	16 28 53.4	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**27.34**	**220**	P	**P**	**16 28 26.7**	**-0.6**
ASAR	**Alice Springs**	**27.34**	**220**	P	**P**	**16 28 27.1**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=51,slow=8.9,SNR=6.1						
ASAR	**Alice Springs**	**27.34**	**220**	P	**P**	**16 28 26.5**	**-0.9**
BATI	**Baumata**	**29.58**	**255**	P	**P**	**16 28 47.2**	**-0.1**
	comp=Z,12nm,0.6s,baz=174,slow=16,SNR=2.5						
BATI				LR	LR	16 41 12.3	
	comp=Z,103nm,18.2s,baz=84,slow=38						
FITZ	**Fitzroy Crossi**	**30.35**	**239**	P	**P**	**16 28 53.8**	**-0.4**
	comp=Z,2.9nm,1.0s,baz=63,slow=12,SNR=6.8						
FITZ				LR	LR	16 41 33.3	
	comp=Z,76nm,18.8s,baz=58,slow=37						
FITZ	**Fitzroy Crossi**	**30.35**	**239**	P	**P**	**16 28 53.0**	**-1.1**
FITZ				IAmb	IAmb	16 29 03.2	
	comp=Z,3.2nm,0.8s						
STKA	**Stephens Creek**	**30.51**	**199**	P	**P**	**16 28 55.3**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=316,slow=4.2,SNR=3.3						
STKA	**Stephens Creek**	**30.51**	**199**	P	**P**	**16 28 53.6**	**-1.8**
CAN	**Canberra**	**32.31**	**185**	P	**P**	**16 29 11.1**	**-0.2**
BBOO	**Buckleboo**	**33.44**	**206**	P	**P**	**16 29 20.3**	**-0.8**
BBOO				IAmb	IAmb	16 29 31.5	
	comp=Z,5.1nm,1.1s						
FORT	**Forrest**	**36.04**	**217**	P	**P**	**16 29 44.0**	**+0.4**
MJAR	**Matsushiro Arr**	**41.58**	**342**	LR	LR	16 45 29.0	
	comp=Z,44nm,20.3s,baz=212,slow=33						
JHS	**Saijyo**	**42.00**	**336**	P	**P**	**16 30 32.9**	**-0.6**
LTZ	**Lake Taylor**	**43.31**	**159**	P	**P**	**16 30 43.4**	**-0.7**
LTZ				IAmb	IAmb	16 30 47.6	
	comp=Z,6.5nm,0.8s						
RAR	**Rarotonga**	**49.72**	**115**	LR	LR	16 48 04.9	
	comp=Z,23nm,21.5s,baz=206,slow=31						
CMAR	**Chiang Mai Arr**	**56.94**	**294**	P	**P**	**16 32 29.0**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=99,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**78.85**	**319**	P	**P**	**16 34 45.9**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=115,slow=5.4,SNR=2.8						
ILAR	**Eielson Array**	**80.60**	**22**	P	**P**	**16 34 55.4**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=237,slow=5.0,SNR=2.8						
KURK

ASAR	**Alice Springs**	**29.24**	**168**	P		**P**	**16 40 36.5**	**-1.4**
	0.2nm,0.4s,baz=343,slow=7.0,SNR=13							
STKA	**Stephens Creek**	**39.12**	**161**	P		**P**	**16 42 01.8**	**-1.2**
	1.0nm,0.6s,baz=302,slow=9.9,SNR=4.6							
SONM	**Songino Array**	**46.29**	**340**	P		**P**	**16 43 01.3**	**+0.3**
	0.3nm,0.4s,baz=116,slow=3.4,SNR=2.6							
PETK	**Petropavlovsk-**	**53.90**	**22**	P		**P**	**16 43 58.3**	**+0.1**
	1.9nm,0.6s,baz=57,slow=5.5,SNR=5.4							
MKAR	**Makanchi Array**	**56.92**	**324**	P		**P**	**16 44 19.6**	**-0.4**
	0.7nm,0.5s,baz=116,slow=7.4,SNR=12							
KURBB	**Kurchatov Arra**	**61.05**	**327**	P		**P**	**16 44 47.5**	**-0.8**
	0.8nm,0.7s,baz=126,slow=5.8,SNR=10							
TIXI	**Tiksi**	**66.50**	**0**	P		**P**	**16 45 22.2**	**-1.6**
	1.0nm,0.4s,baz=117,slow=6.8,SNR=13							

*IDC **19** 16:37:14.7±1.1,30.66S×71.88W,h0km,mb4.4/6, mb1 4.2/10,mb1mx4.0/24,mbtmp4.1/10,ML3.8/4,MS3.2/4, Ms1 3.2/4,ms1mx2.8/48, Error ellipse: s-maj=41.5km s-min=19.1km az=112.0*
*GUC **19** 16:37:18.9±0.8,30.67S×71.60W,h33km±2km, ML4.6*
*NEIC **19** 16:37:19.5±2.2,30.68S±0.05×71.82W±0.10,h25km±5km, mb4.5/9,ML4.6(GUC), Error ellipse: s-maj=12.5km s-min=6.4km az=98.0*

ISC 19 16:37:19.3±0.8,30.65S±0.02×71.82W±0.04,h30km±5km, n135,σ1s66/165,mb4.4/8,2C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.16**	**97**				**Pb**	**16 37 25.2**	**0.0**
CO06	**Fray Jorge**	**0.16**	**97**	*i*P			**Pb**	**16 37 25.1**	**0.0**
CO06					*e*S		**Sb**	**16 37 28.6**	**-0.5**
CO06					IAML			16 37 29.3	
	comp=E,97μm,0.2s								
CO05	**La Serena**	**0.89**	**35**				**Pb**	**16 37 34.5**	**-1.7**
CO05	**La Serena**	**0.89**	**35**	*e*P			**Pb**	**16 37 34.6**	**-1.5**
CO02	**Combarbal**	**0.89**	**128**	Pn			**Pb**	**16 37 34.5**	**-1.8**
CO02	**Combarbal**	**0.89**	**128**	*i*P			**Pb**	**16 37 34.5**	**-1.8**
CO02					*e*S		**Sb**	**16 37 45.0**	**-2.9**
CO02					IAML			16 37 46.5	
	comp=N,48μm,0.3s								
CO02	**Combarbal**	**0.89**	**128**	*i*P			**Pb**	**16 37 34.6**	**-1.8**
CO02					*i*S		**Sb**	**16 37 45.2**	**-2.8**
GO04	**Tololo Observa**	**1.00**	**62**				**Pb**	**16 37 36.3**	**-2.0**
GO04	**Tololo Observa**	**1.00**	**62**	*i*P			**Pb**	**16 37 36.2**	**-2.0**
GO04					*e*S		**Sb**	**16 37 48.9**	**-2.4**
GO04	**Tololo Observa**	**1.00**	**62**	*i*P			**Pb**	**16 37 36.4**	**-1.8**
GO04					*i*S		**Sb**	**16 37 49.5**	**-1.7**
CO01	**Juntas del Tor**	**1.64**	**66**				**Pn**	**16 37 46.0**	**-0.2**
CO01	**Juntas del Tor**	**1.64**	**66**	*e*P			**Pn**	**16 37 46.1**	**-0.2**
CO01	**Juntas del Tor**	**1.64**	**66**	*i*P			**Pn**	**16 37 46.3**	**0.0**
CO01					*i*S		**Sn**	**16 38 05.8**	**-0.6**
LCO	**Las Campanas**	**1.91**	**31**	Pn			**Pn**	**16 37 50.1**	**+0.2**
LCO	**Las Campanas**	**1.91**	**31**	*i*P			**Pn**	**16 37 50.1**	**+0.2**
LCO					*e*S		**Sn**	**16 38 13.6**	**+0.6**
LCO	**Las Campanas**	**1.91**	**31**	*i*P			**Pn**	**16 37 50.4**	**+0.5**
LCO					*i*S		**Sb**	**16 38 15.3**	**-1.7**
LCO					IAML			16 38 18.9	
	comp=Z,6μm,0.7s								
VA06	**Catapilco**	**1.95**	**167**	Pn			**Pn**	**16 37 50.5**	**+0.2**
VA06	**Catapilco**	**1.95**	**167**	*e*P			**Pn**	**16 37 51.0**	**+0.6**
VA06					*e*S		**Sn**	**16 38 13.8**	**0.0**
VA06					IAML			16 38 25.4	
	comp=N,8μm,0.7s								
AROD	**Rodeo**	**2.09**	**77**	*i*P			**Pb**	**16 37 54.5**	**-2.1**
AROD					*i*S		**Sn**	**16 38 19.9**	**+2.3**
VA03	**San Esteban**	**2.37**	**153**				**Pn**	**16 37 57.0**	**+0.9**
VA03	**San Esteban**	**2.37**	**153**	*e*P			**Pn**	**16 37 57.2**	**+1.1**
VA03					*e*S		**Sn**	**16 38 26.3**	**+2.1**
VA03					IAML			16 38 34.5	
	comp=N,7μm,0.4s								
VA03	**San Esteban**	**2.37**	**153**	*i*P			**Pn**	**16 37 57.5**	**+1.3**
VA01	**Torpederas**	**2.37**	**176**				**Pn**	**16 37 55.9**	**-0.1**
ACCO	**Cerro Coronel**	**2.38**	**89**	*i*P			**Pb**	**16 37 58.9**	**-2.7**
ACCO					*i*S		**Sb**	**16 38 29.6**	**-1.1**
ACCO					IAML			16 38 31.1	
	comp=Z,1μm,0.8s								
ACDV	**Cuesta del Vie**	**2.38**	**79**	*i*P			**Pb**	**16 37 59.2**	**-2.4**
ACDV					*i*S		**Sb**	**16 38 29.6**	**-1.0**
ACDV					IAML			16 38 31.6	
	comp=Z,1μm,0.6s								
RTLS	**Leoncito**	**2.44**	**118**	*i*P			**Pb**	**16 38 00.2**	**-2.5**
RTLS					*i*S		**Sb**	**16 38 30.5**	**-2.1**
RTLS					IAML			16 38 42.8	
	comp=Z,1μm,0.6s								
AC04	**Llanos de Chal**	**2.53**	**15**				**Pn**	**16 37 58.4**	**+0.2**
AC04	**Llanos de Chal**	**2.53**	**15**	*e*P			**Pn**	**16 37 58.5**	**+0.2**
AC04					IAML			16 38 50.6	
	comp=E,689nm,0.4s								
AC04	**Llanos de Chal**	**2.53**	**15**	*i*P			**Pn**	**16 37 58.6**	**+0.4**
AC04					*i*S		**Sb**	**16 38 35.8**	**+1.2**
AUSP	**Uspallata**	**2.60**	**128**	*i*P			**Pb**	**16 38 02.2**	**-3.2**
AUSP					*i*S		**Sb**	**16 38 34.0**	**-3.1**
MT02	**Curacav**	**2.66**	**168**				**Pn**	**16 38 00.6**	**+0.4**
MT02	**Curacav**	**2.66**	**168**	*e*P			**Pn**	**16 38 00.5**	**+0.4**
MT02	**Curacav**	**2.66**	**168**	*i*P			**Pn**	**16 38 00.6**	**+0.4**
PEL	**Peldehue**	**2.66**	**159**				**Pn**	**16 38 01.2**	**+1.0**
PEL	**Peldehue**	**2.66**	**159**	*e*P			**Pn**	**16 38 01.4**	**+1.2**
PEL					*e*S		**Sn**	**16 38 32.5**	**+1.0**
PEL	**Peldehue**	**2.66**	**159**	*i*P			**Pn**	**16 38 01.6**	**+1.4**
ZON	**Zonda**	**2.84**	**109**				**Pn**	**16 38 04.8**	**+2.2**
ZON	**Zonda**	**2.84**	**109**	*i*P			**Pn**	**16 38 05.2**	**+2.6**
ZON					*i*S		**Sb**	**16 38 41.2**	**-2.5**
ZON					IAML			16 38 50.9	
	comp=Z,589nm,0.7s								
MT05	**Renca**	**2.88**	**162**	Pn			**Pn**	**16 38 03.9**	**+0.8**
MT05	**Renca**	**2.88**	**162**	*e*P			**Pn**	**16 38 04.2**	**+1.0**
MT05					*e*S		**Sn**	**16 38 38.0**	**+1.1**
MT05	**Renca**	**2.88**	**162**	*i*P			**Pn**	**16 38 04.4**	**+1.2**
RTLL	**Cerro Villicun**	**2.95**	**104**	*i*P			**Pn**	**16 38 06.0**	**+1.9**
RTLL					*i*S		**Sn**	**16 38 42.4**	**+3.8**
RTLL					IAML			16 38 52.0	
	comp=Z,764nm,0.3s								
FCH	**Farellones**	**2.97**	**154**	*e*P			**Pn**	**16 38 06.1**	**+1.5**
FCH					*e*S		**Sn**	**16 38 42.6**	**+3.3**
FCH					IAML			16 38 53.4	
	comp=E,2μm,0.3s								
VA05	**Santo Domingo**	**3.00**	**177**				**Pn**	**16 38 04.8**	**0.0**
VA05	**Santo Domingo**	**3.00**	**177**	*e*P			**Pn**	**16 38 06.8**	**+2.0**
VA05					IAML			16 38 55.6	
	comp=N,4μm,0.3s								
MT03	**Universidad Ad**	**3.04**	**159**				**Pn**	**16 38 06.7**	**+1.2**
MT03	**Universidad Ad**	**3.04**	**159**	*e*P			**Pn**	**16 38 06.7**	**+1.2**
MT03					*e*S		**Sn**	**16 38 42.5**	**+1.6**
MT03	**Universidad Ad**	**3.04**	**159**	*i*P			**Pn**	**16 38 07.0**	**+1.6**
RTCV	**Cerro Valdivia**	**3.06**	**114**	*i*P			**Pb**	**16 38 09.2**	**-3.8**
RTCV					*i*S		**Sb**	**16 38 53.2**	**+3.3**
MT09	**Talagante**	**3.19**	**167**				**Pn**	**16 38 08.8**	**+1.3**
MT09	**Talagante**	**3.19**	**167**	*e*P			**Pn**	**16 38 08.6**	**+1.0**
MT09					IAML			16 39 01.5	
	comp=N,3μm,0.5s								
ASAL	**Salagasta**	**3.20**	**128**	*i*P			**Pb**	**16 38 11.1**	**-4.3**
ASAL					*i*S		**Sb**	**16 38 55.1**	**+1.2**
ASAL					IAML			16 39 00.0	
	comp=Z,553nm,0.7s								
MT01	**Popeta**	**3.24**	**172**	*e*P			**Pn**	**16 38 08.7**	**+0.7**
MT01	**Popeta**	**3.24**	**172**	*i*P			**Pn**	**16 38 08.8**	**+0.7**
MT01					*i*S		**Sb**	**16 38 56.9**	**+1.8**
ARCO	**CERRO ARCO**	**3.29**	**132**	*i*P			**Pb**	**16 38 12.7**	**-4.3**
ARCO					*i*S		**Sb**	**16 38 56.8**	**+0.1**
ARCO					IAML			16 39 04.6	
	comp=Z,996nm,0.4s								
GO03	**Copiap**	**3.35**	**25**				**Pn**	**16 38 10.4**	**+0.8**
GO03	**Copiap**	**3.35**	**25**	*e*P			**Pn**	**16 38 10.5**	**+0.8**
GO03					IAML			16 39 06.4	
	comp=E,756nm,0.4s								
GO03	**Copiap**	**3.35**	**25**	*i*P			**Pn**	**16 38 10.5**	**+0.9**
GO03					*i*S		**Sb**	**16 38 58.5**	**+0.1**
LMEL	**Las Melosas**	**3.47**	**157**				**Pn**	**16 38 12.7**	**+1.4**
LMEL	**Las Melosas**	**3.47**	**157**	*e*P			**Pn**	**16 38 13.0**	**+1.7**
LMEL					*e*S		**Sn**	**16 38 53.4**	**+1.9**
LMEL					IAML			16 39 09.7	
	comp=N,1μm,0.4s								
BO04	**La Punta**	**3.48**	**163**				**Pn**	**16 38 12.4**	**+1.0**
BO04	**La Punta**	**3.48**	**163**	*e*P			**Pn**	**16 38 12.6**	**+1.2**
BO04					*e*S		**Sn**	**16 38 51.4**	**-0.2**
BO04					IAML			16 39 04.8	
	comp=E,1μm,0.6s								
AAGR	**Agrelo**	**3.52**	**134**	*i*P			**Pn**	**16 38 15.8**	**+3.9**
AAGR					IAML			16 39 10.7	
	comp=Z,692nm,0.3s								

AC06	**Mina Casimiro**	**3.53**	**22**			**Pn**	**16 38 12.2**	**+0.1**
AC06	**Mina Casimiro**	**3.53**	**22**	*e*P		**Pn**	**16 38 12.3**	**+0.3**
AC06					IAML		16 39 15.7	
	comp=E,372nm,0.6s							
VCA	**Vinchina**	**3.68**	**60**	*i*P		**Pn**	**16 38 18.2**	**+3.9**
VCA					*i*S	**Sb**	**16 39 03.8**	**-4.1**
VCA					IAML		16 39 14.5	
	comp=Z,1μm,0.4s							
AVFE	**Valle Fertil**	**3.76**	**91**	*i*P		**Pn**	**16 38 16.4**	**+1.1**
AVFE					*i*S	**Sb**	**16 39 07.7**	**-2.5**
AVFE					IAML		16 39 12.7	
	comp=Z,524nm,0.4s							
BO01	**Tunca**	**3.78**	**171**	Pn		**Pn**	**16 38 15.6**	**+0.1**
BO01	**Tunca**	**3.78**	**171**	*e*P		**Pn**	**16 38 16.1**	**+0.7**
BO01	**Tunca**	**3.78**	**171**	*i*P		**Pn**	**16 38 16.3**	**+0.8**
BO01					*i*S	**Sn**	**16 38 58.0**	**-0.9**
BO03	**Pichilemu**	**3.83**	**182**	*e*P		**Pn**	**16 38 15.6**	**-0.6**
GO05	**Huala**	**4.34**	**181**			**Pn**	**16 38 22.7**	**-0.6**
GO05	**Huala**	**4.34**	**181**	*e*P		**Pn**	**16 38 22.4**	**-0.8**
GO05	**Huala**	**4.34**	**181**	*i*P		**Pn**	**16 38 22.7**	**-0.6**
ACLC	**CERRO LA CRUZ**	**4.40**	**75**	*i*P		**Pn**	**16 38 25.8**	**+1.7**
ACLC					*i*S	**Sn**	**16 39 16.0**	**+1.6**
ACLC					IAML		16 39 28.7	
	comp=Z,836nm,0.8s							
ACHE	**Chepes**	**4.46**	**98**	*i*P		**Pn**	**16 38 25.8**	**+0.8**
ACHE					*i*S	**Sn**	**16 39 16.6**	**+0.6**
AC02	**Maricunga**	**4.48**	**33**	Pn		**Pn**	**16 38 27.3**	**+1.8**
AC02	**Maricunga**	**4.48**	**33**	*i*P		**Pn**	**16 38 26.4**	**+0.9**
APLL	**PUNTA DE LOS L**	**4.58**	**88**	*i*P		**Pn**	**16 38 27.6**	**+1.1**
AC01	**Pan de Azucar**	**4.62**	**14**			**Pn**	**16 38 25.7**	**-1.3**
AC01	**Pan de Azucar**	**4.62**	**14**	*i*P		**Pn**	**16 38 25.7**	**-1.3**
RFA	**San Rafael**	**4.99**	**146**	*i*P		**Pn**	**16 38 34.0**	**+1.9**
RFA					*i*S	**Sn**	**16 39 32.9**	**+4.1**
RFA					IAML		16 40 00.8	
	comp=Z,148nm,0.8s							
ML02	**Panimavida**	**5.11**	**176**	Pn		**Pn**	**16 38 33.5**	**-0.2**
MRA	**San Martin**	**5.50**	**110**	*i*P		**Pn**	**16 38 39.7**	**+0.5**
MRA					*i*S	**Sn**	**16 39 45.9**	**+4.4**
GO02	**Mina Guanaco**	**5.81**	**20**	Pn		**Pn**	**16 38 44.9**	**+1.2**
BI05	**Punta Hualpn**	**6.18**	**190**	Pn		**Pn**	**16 38 47.0**	**-1.5**
H03N1	**Juan Fernandez**	**6.63**	**243**	Pn		**Pn**	**16 38 55.5**	**+1.1**
	baz=116,slow=19,SNR=75							
H03N1					T	T	16 45 49.9	
	baz=72,slow=72,SNR=3098							
H03N3	**Juan Fernandez**	**6.64**	**243**	Pn		**Pn**	**16 38 55.1**	**+0.5**
	baz=116,slow=19,SNR=79							
H03N3					T	T	16 45 49.1	
	baz=72,slow=72,SNR=2655							
H03N2	**Juan Fernandez**	**6.64**	**243**	Pn		**Pn**	**16 38 55.4**	**+0.8**
	baz=116,slow=19,SNR=49							
H03N2					T	T	16 45 50.5	
	baz=72,slow=72,SNR=2373							
H03S1	**Juan Fernandez**	**6.79**	**240**	Pn		**Pn**	**16 38 56.2**	**-0.4**
FSA	**Cafayete**	**6.85**	**50**	*i*P		**Pn**	**16 38 59.7**	**+1.8**
PB15	**IPOC Station P**	**7.71**	**16**	Pn		**Pn**	**16 39 11.5**	**+1.9**
PB06	**IPOC Station P**	**8.17**	**15**	Pn		**Pn**	**16 39 18.5**	**+2.6**
LC01	**Cunco**	**8.22**	**180**			**Pn**	**16 39 16.1**	**-0.4**
LVC	**Limon Verde**	**8.42**	**19**	Pn		**Pn**	**16 39 19.4**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=251,slow=18,SNR=1.4							
LVC					LR	LR	16 42 33.2	
	comp=Z,108nm,19.9s,baz=211,slow=38							
LVC	**Limon Verde**	**8.42**	**19**	Pn		**Pn**	**16 39 21.6**	**+2.0**
PB07	**IPOC Station P**	**9.06**	**12**	Pn		**Pn**	**16 39 30.8**	**+2.6**
PLCA	**Paso Flores**	**10.11**	**174**	Pn		**Pn**	**16 39 41.6**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=341,slow=12,SNR=9.1							
PLCA	**Paso Flores**	**10.11**	**174**	Pn		**Pn**	**16 39 42.1**	**-0.3**
LL04	**Puerto Octay**	**10.24**	**183**	Pn		**Pn**	**16 39 43.7**	**-0.5**
PB08	**IPOC Station P**	**10.74**	**14**	Pn		**Pn**	**16 39 52.9**	**+1.5**
ITQB	**Itaqui**	**13.19**	**90**	Pn		**Pn**	**16 40 21.6**	**-2.9**
CPUP	**Villa Florida**	**13.45**	**75**	Pn		**Pn**	**16 40 28.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=260,slow=13,SNR=3.3							
CPUP					LR	LR	16 46 04.8	
	comp=Z,119nm,21.8s,baz=261,slow=39							
CPUP	**Villa Florida**	**13.45**	**75**	Pn		**Pn**	**16 40 28.8**	**+0.7**
PLTB	**Pedras Altas**	**15.63**	**99**	Pn		**Pn**	**16 40 56.6**	**-0.8**
SIV	**San Ignacio**	**17.60**	**36**	P		**Pn**	**16 41 22.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=12							
NNA	**Nana**	**19.15**	**345**	LR		LR	16 47 20.8	
	comp=Z,58nm,20.2s,baz=180,slow=32							
MG05	**Puerto Natales**	**21.01**	**181**	P		**P**	**16 41 59.0**	**-1.2**
MG05				IAmb		IAmb	16 42 08.8	
	comp=Z,44nm,1.4s							
USHA	**Ushuaia**	**24.29**	**175**	P		**P**	**16 42 34.1**	**+0.4**
	comp=Z,4.8nm,0.5s,baz=360,slow=9.7,SNR=8.4							
BDFB	**Brasilia**	**26.42**	**61**	P		**P**	**16 42 53.8**	**+0.3**
	comp=Z,3.7nm,0.5s,baz=231,slow=6.5,SNR=5.8							
BDFB	**Brasilia**	**26.42**	**61**	P		**P**	**16 42 54.2**	**+0.6**
BDFB				IAmb		IAmb	16 42 54.6	
	comp=Z,4.4nm,0.6s							
MDP	**Montagnes des**	**40.01**	**31**	LR		LR	17 03 05.1	
	comp=Z,43nm,18.5s,baz=122,slow=39							
DBIC	**Dimbokro**	**73.95**	**72**	P		**P**	**16 48 52.1**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=233,slow=5.3,SNR=5.1							
DBIC	**Dimbokro**	**73.95**	**72**	P		**P**	**16 48 51.8**	**-0.3**
SUR	**Sutherland**	**76.30**	**120**	P		**P**	**16 49 06.5**	**+0.8**
MAW	**Mawson**	**76.33**	**164**	P		**P**	**16 49 05.6**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=220,slow=8.4,SNR=9.5							
MAW	**Mawson**	**76.33**	**164**	P		**P**	**16 49 05.6**	**+0.7**
BOSA	**Boshof**	**81.47**	**118**	P		**P**	**16 49 33.9**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=255,slow=4.8,SNR=6.3							
BOSA	**Boshof**	**81.47**	**118**	P		**P**	**16 49 34.2**	**+0.2**
BOSA				IAmb		IAmb	16 49 45.1	
	comp=Z,6.8nm,1.2s							
TOA0	**Torodi Ar. Sit**	**82.90**	**70**	P		**P**	**16 49 41.3**	**-0.2**
TOA0				IAmb		IAmb	16 49 41.9	
	comp=Z,7.8nm,1.5s							
TORD	**Torodi Ar. Bea**	**82.90**	**70**	P		**P**	**16 49 41.2**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=282,slow=6.2,SNR=14							
TORD	**Torodi Ar. Bea**	**82.90**	**70**	P		**P**	**16 49 40.9**	**-0.5**
TORD				IAmb		IAmb	16 49 54.8	
	comp=Z,3.0nm,1.1s							
ASAR	**Alice Springs**	**120.62**	**208**	PKP		**PKPdf**	**16 56 08.1**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=137,slow=1.4,SNR=4.5							
WRA	**Warramunga Arr**	**123.76**	**210**	PKP		**PKPdf**	**16 56 14.1**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=148,slow=1.6,SNR=10							
H11S2	**WAKE ISLAND Hyd**	**25.94**	**271**	T		T	19 15 01.8	
	baz=116,slow=75,SNR=29							
H11S1	**WAKE ISLAND Hyd**	**25.95**	**271**	T		T	19 15 00.6	
	baz=116,slow=75,SNR=32							
H11S3	**WAKE ISLAND Hyd**	**25.95**	**271**	T		T	19 15 09.8	
	baz=116,slow=75,SNR=34							
H11N3	**WAKE ISLAND Hyd**	**26.27**	**273**	T		T	19 15 33.6	
	baz=115,slow=74							
H11N1	**WAKE ISLAND Hyd**	**26.28**	**273**	T		T	19 15 34.7	
	baz=115							
H11N2	**WAKE ISLAND Hyd**	**26.28**	**273**	T		T	19 15 29.9	
	baz=115,slow=74							
ZALV	**Zalesovo Beam**	**151.26**	**29**	PKPbc		**PKPbc**	**16 57 09.7**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=291,slow=4.1,SNR=7.6							
ZALV	**Zalesovo Beam**	**151.26**	**29**			**PKPbc**	**16 57 09.1**	**-0.2**
MKAR	**Makanchi Array**	**154.33**	**44**	PKPbc		**PKiKP**	**16 57 18.8**	**+2.4**
	comp=Z,0.1nm,0.5s,baz=325,slow=2.3,SNR=2.0							
MKAR				PKPab		**PKPab**	**16 57 30.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=333,slow=0.3,SNR=4.6							
MKAR	**Makanchi Array**	**154.33**	**44**			**PKiKP**	**16 57 17.1**	**+0.7**
MKAR				PKPab		**PKPab**	**16 57 30.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**165.25**	**143**	PKPab		**PKPab**	**16 58 18.8**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=256,slow=5.8,SNR=4.7							

*INET **19** 16:41:13.5±0.8, 12.12N×87.74W, h1km±3km, MW3.6*
*UCR **19** 16:41:13.7±1.8, 12.11N×87.92W, h22km±13km, MW4.2*
*SNET **19** 16:41:14.7±1.0, 12.18N×87.96W, h17km±12km, ML3.0*

ISC 19 16:41:15.7±1.3,12.15N±0.06×87.83W±0.04,h35km,n46, σ1s12/48,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.86**	**18**	*e*P			**Pn**	**16 41 30.8**	**-0.7**
CRIN	**San Cristobal**	**0.94**	**54**	*e*P			**Pn**	**16 41 31.9**	**-0.5**
TEL3	**Telica 3**	**1.05**	**66**	*e*P			**Pn**	**16 41 32.7**	**-1.2**
TELN	**Telica**	**1.07**	**65**	*e*P			**Pn**	**16 41 33.1**	**-1.3**
LCND	**La Caada**	**1.16**	**357**	*e*P			**Pn**	**16 41 35.0**	**-0.4**
LCND	**La Caada**	**1.16**	**357**	*e*P			**Pn**	**16 41 35.0**	**-0.4**
CNGN	**Cerro Negro**	**1.16**	**72**	*e*P			**Pn**	**16 41 33.5**	**-1.9**
JUCU	**Jucuarįn**	**1.17**	**340**	*e*P			**Pn**	**16 41 34.4**	**-1.3**
JUCU	**Jucuarįn**	**1.17**	**340**	*e*P			**Pn**	**16 41 34.4**	**-1.3**
COPN	**Copaltepe**	**1.21**	**88**	*e*P			**Pn**	**16 41 34.7**	**-1.4**
MOMN	**Momotombo**	**1.28**	**78**	*e*P			**Pn**	**16 41 35.9**	**-1.3**
MOMN				*e*S			**Sn**	**16 41 53.5**	**+0.2**
RANC	**El Ranchito**	**1.35**	**341**	*e*P			**Pn**	**16 41 38.0**	**-0.3**
RANC	**El Ranchito**	**1.35**	**341**	*e*P			**Pn**	**16 41 38.0**	**-0.3**
TISN	**Laguna Tiscapa**	**1.52**	**90**	*e*P			**Pn**	**16 41 38.5**	**-2.0**
HUEN		**1.63**	**83**	*e*P			**Pn**	**16 41 41.5**	**-0.3**

SCLA	**Alcaldia de Sa**	**1.78**	**330**	*e*P		**Pn**	**16 41 43.8**	**-0.1**
SCLA				*e*S		**Sn**	**16 42 06.5**	**+1.2**
SCLA	**Alcaldia de Sa**	**1.78**	**330**	*e*P		**Pn**	**16 41 43.8**	**-0.1**
SCLA				*e*S		**Sn**	**16 42 06.5**	**+1.2**
SCLA				IAML			16 42 17.9	
	comp=Z,73nm,0.6s							
COEG	**Centro de Oper**	**1.79**	**325**	*e*S		**Sn**	**16 42 05.7**	**0.0**
COEG	**Centro de Oper**	**1.79**	**325**	*e*S		**Sn**	**16 42 05.7**	**0.0**
SJTE	**Alcalda de S**	**1.85**	**322**	*e*P		**Pn**	**16 41 45.2**	**+0.1**
SJTE	**Alcalda de S**	**1.85**	**322**	*e*P		**Pn**	**16 41 45.2**	**+0.1**
LFRS	**El Faro**	**1.90**	**321**	*e*P		**Pn**	**16 41 44.6**	**-1.1**
LFRS	**El Faro**	**1.90**	**321**	*e*P		**Pn**	**16 41 44.6**	**-1.1**
MATN	**Matagalpa**	**2.01**	**67**	*e*P		**Pn**	**16 41 46.5**	**-0.8**
MATN				*e*S		**Sn**	**16 42 12.8**	**+1.5**
BOAB	**BOACO BROADBAN**	**2.13**	**82**	*e*P		**Pn**	**16 41 47.8**	**-1.0**
CEVE	**Cerro Verde**	**2.42**	**314**	*e*S		**Sn**	**16 42 22.7**	**+1.2**
CEVE	**Cerro Verde**	**2.42**	**314**	*e*S		**Sn**	**16 42 22.7**	**+1.2**
CEVE				IAML			16 42 35.0	
	comp=Z,169nm,0.4s							
SBLS	**San Blas**	**2.42**	**314**	*e*P		**Pn**	**16 41 52.3**	**-0.7**
SBLS	**San Blas**	**2.42**	**314**	*e*P		**Pn**	**16 41 52.3**	**-0.7**
NUBE	**Las Nubes**	**2.58**	**313**	*e*S		**Sn**	**16 42 24.7**	**-0.7**
NUBE	**Las Nubes**	**2.58**	**313**	*e*S		**Sn**	**16 42 24.7**	**-0.7**
HZTE	**Horizontes, Gu**	**2.61**	**123**	*e*P		**Pn**	**16 41 54.6**	**-0.9**
HZTE	**Horizontes, Gu**	**2.61**	**123**	*e*P		**Pn**	**16 41 54.5**	**-0.9**
ORTG	**Ortega, Santa**	**2.92**	**127**	*e*P		Pn	**16 42 03.1**	**+3.3**
SAJU	**San Juanillo,**	**2.93**	**135**	*e*P		**Pn**	**16 41 57.4**	**-2.4**
VMAR	**Armenia, Volca**	**2.97**	**116**	*e*P		**Pn**	**16 42 00.1**	**-0.2**
CUI	**Cuipilapa**	**3.00**	**119**	*e*P		**Pn**	**16 42 03.8**	**+2.9**
PLVR	**Palo Verde**	**3.02**	**126**	*e*P		**Pn**	**16 41 59.9**	**-1.3**
JTS	**Las Juntas de**	**3.37**	**123**	*e*P		**Pn**	**16 42 07.9**	**+2.0**
ARE1	**Arenal 1**	**3.48**	**119**	*e*P		**Pn**	**16 42 09.3**	**+1.9**
LAFE	**Finca La Fe, P**	**3.69**	**129**	*e*P		**Pn**	**16 42 08.5**	**-1.8**

NIED ***19*** *16:48:16.6,32.6°N×130.7°E,h14km,MW3.5,Moment Tension Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.65; Mθθ-0.44; Mφφ-0.21; Mrθ-0.56; Mθφ1.90; Mφr-0.33; Fault plane solution: M₀2.06000×10¹⁴ NP1: φs175.00000°,δ69.00000°,λ163.00000°. NP2: φs272.00000°,δ74.00000°,λ22.00000°.*

JMA 19 16:48:16.5,32.6°N×130.7°E,h14km±1km,M3.6,1C-1D Broadband fault plane solution: P waves. NP1: φs270.00000°,δ79.00000°,λ38.00000°. **NP2:** φs172.00000°,δ53.00000°,λ166.00000°. **Principal axes:** T Plg34.0000°, Azm138.0000°; N Plg51.0000°, Azm284.0000°; P Plg17.0000°, Azm36.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**152**	⇓P	Pg	16 48 20.4	+0.1
JIU3				S	Sg	16 48 23.0	+0.2
JTZ	**Takazaki**	**0.83**	**159**	⇑P	Pb	16 48 32.9	+0.1
JTZ				S	Sb	16 48 44.2	+0.4

WEL 19 17:00:04.9,39°S±2°×17°7E±°,h25km±3km,M3.3/61, ML3.6/63,MLv3.3/61 Error ellipse: s-maj=0.0km s-min=0.0km az=88.8,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARHZ	**Aropaoanui**	**0.17**	**19**	P	Pb	17 00 10.7	+0.4
ARHZ				S	Sb	17 00 15.7	+1.9
MCHZ	**McNeill Hill**	**0.18**	**262**	P	Pb	17 00 10.5	+0.1
MCHZ				S	Sb	17 00 15.5	+1.4
CKHZ	**Cape Kidnapper**	**0.27**	**154**	P	Pb	17 00 12.5	-0.7
NMHZ	**Naumai**	**0.34**	**344**	P	Pb	17 00 12.8	+0.2
KAHZ	**Kahuranaki**	**0.38**	**186**	P	Pn	17 00 14.0	-0.8
KWHZ	**Kaweka Forest**	**0.39**	**269**	P	Pb	17 00 13.1	-0.3
KWHZ				S	Sb	17 00 20.0	+0.8
WHHZ	**Waihua**	**0.42**	**35**	P	Pb	17 00 11.4	-2.4
BKZ	**Black Stump Fm**	**0.42**	**307**	P	Pb	17 00 13.5	-0.4
KRHZ	**Kereru**	**0.48**	**242**	P	Pb	17 00 14.7	-0.2
RAHZ	**Arahi**	**0.52**	**14**	P	Pb	17 00 15.8	+0.3
MTHZ	**Maungataniwha**	**0.57**	**353**	P	Pb	17 00 16.3	-0.1
PXZ	**Pawanui**	**0.61**	**185**	P	Pb	17 00 17.2	+0.1
BHHZ	**Black Hill Sta**	**0.67**	**264**	P	Pb	17 00 17.4	-0.6
KNZ	**Kokohu**	**0.70**	**56**	P	Pb	17 00 18.5	0.0
MRHZ	**Matea Rd**	**0.71**	**326**	P	Pb	17 00 18.4	-0.3
SNGZ	**Shannon Statio**	**0.71**	**27**	P	Pn	17 00 19.3	-0.1
WPHZ	**Waipukurau**	**0.74**	**210**	P	Pb	17 00 19.4	+0.1
PNHZ	**Pukenui**	**0.75**	**228**	P	Pb	17 00 19.2	-0.1
RTZ	**Ruatahuna**	**0.81**	**7**	P	Pb	17 00 20.2	-0.1
MHGZ	**Mahia Peninsul**	**0.81**	**71**	P	Pb	17 00 20.1	-0.2
HATZ	**Hinemaiaia**	**0.84**	**309**	P	Pb	17 00 20.6	-0.2
PRHZ	**Porangahau**	**0.87**	**195**	P	Pb	17 00 20.8	-0.6
PRGZ	**Paritu Road**	**0.90**	**57**	P	Pb	17 00 21.3	-0.5
MOVZ	**Moawhango**	**0.91**	**270**	P	Pb	17 00 21.6	-0.5
RITZ	**Rihia Road**	**0.94**	**298**	P	Pb	17 00 22.7	+0.1
MUGZ	**Murupara**	**0.95**	**353**	P	Pn	17 00 22.5	-0.1
RIGZ	**Rimuhau**	**0.97**	**43**	P	Pn	17 00 22.3	-0.6
ALRZ	**Allen Road**	**0.97**	**332**	P	Pn	17 00 22.8	-0.1
TSZ	**Takapari Road**	**0.98**	**229**	P	Pn	17 00 22.2	-0.9
ETVZ	**East Tongariro**	**0.99**	**286**	P	Pn	17 00 23.3	0.0
TMVZ	**Te Maari**	**1.00**	**287**	P	Pn	17 00 23.4	0.0
TUVZ	**Tukino**	**1.00**	**278**	P	Pb	17 00 23.6	0.0
RAGZ	**Rawiri**	**1.00**	**23**	P	Pn	17 00 23.2	-0.2
PRRZ	**Plateau Road**	**1.01**	**336**	P	Pn	17 00 23.3	-0.2
OTVZ	**Oturere**	**1.01**	**284**	P	Pn	17 00 23.7	+0.1
NTVZ	**North Tongarir**	**1.02**	**288**	P	Pn	17 00 23.7	0.0
SNVZ	**South Ngauruho**	**1.02**	**283**	P	Pn	17 00 24.0	-0.1
WNVZ	**Wahianoa**	**1.03**	**275**	P	Pn	17 00 24.1	+0.1
WHVZ	**Whangaehu Hut**	**1.05**	**277**	P	Pb	17 00 24.4	-0.1
KRVZ	**Karewarewa**	**1.05**	**288**	P	Pn	17 00 24.2	0.0
DVHZ	**Dannevirke**	**1.05**	**213**	P	Pn	17 00 23.6	-0.6
RATZ	**Rangitukua**	**1.05**	**301**	P	Pn	17 00 24.0	-0.1
KATZ	**Kakaramea**	**1.05**	**295**	P	Pn	17 00 24.2	0.0
NGZ	**Ngauruhoe**	**1.06**	**283**	P	Pn	17 00 24.4	+0.1
NNVZ	**North Ngauruho**	**1.06**	**285**	P	Pn	17 00 24.4	+0.1
WHTZ	**Whakaora**	**1.07**	**315**	P	Pn	17 00 24.4	+0.1
TRVZ	**Turoa**	**1.08**	**276**	P	Pn	17 00 24.8	+0.2
FWVZ	**Far West T-bar**	**1.08**	**278**	P	Pn	17 00 24.7	+0.1
WPRZ	**Whakapapatarin**	**1.08**	**326**	P	Pn	17 00 24.1	-0.3
WTVZ	**West Tongariro**	**1.08**	**286**	P	Pn	17 00 24.7	+0.2
ANWZ	**Angora Road**	**1.09**	**198**	P	Pn	17 00 24.1	-0.5
RRRZ	**Republican Roa**	**1.13**	**343**	P	Pn	17 00 24.9	-0.2
MTVZ	**Mangateitei**	**1.13**	**271**	P	Pb	17 00 25.7	-0.1
HRHZ	**Handcock Road**	**1.14**	**334**	P	Pn	17 00 25.5	+0.1
URZ	**Urewera**	**1.17**	**7**	P	Pn	17 00 25.3	-0.4
WATZ	**Wairara**	**1.17**	**307**	P	Pn	17 00 25.2	-0.5
MWZ	**Matawai**	**1.18**	**24**	P	Pn	17 00 25.3	-0.5
TKGZ	**Te Karaka**	**1.22**	**37**	P	Pn	17 00 25.5	-0.7
TARZ	**Mount Tarawera**	**1.23**	**344**	P	Pn	17 00 26.6	0.0
HSRZ	**Hossack Road**	**1.23**	**334**	P	Pn	17 00 26.3	-0.2
PKVZ	**Pokaka**	**1.23**	**276**	P	Pn	17 00 26.7	+0.1
GRRZ	**Galatos Road**	**1.25**	**329**	P	Pn	17 00 26.8	0.0
HLRZ	**Highlands Stat**	**1.25**	**339**	P	Pn	17 00 27.2	+0.4
KUTZ	**Kaahu Road**	**1.27**	**317**	P	Pn	17 00 26.8	-0.2
POWZ	**Post Office Ro**	**1.32**	**222**	P	Pn	17 00 27.4	-0.3
EDRZ	**Edgecumbe**	**1.32**	**354**	P	Pn	17 00 27.7	-0.1
MKRZ	**Makatiti**	**1.33**	**344**	P	Pb	17 00 29.2	0.0
PRWZ	**Pori Road**	**1.35**	**213**	P	Pn	17 00 28.4	+0.2
BFZ	**Birch Farm**	**1.36**	**202**	P	Pn	17 00 27.2	-1.1
CNGZ	**Carnagh Statio**	**1.37**	**47**	P	Pn	17 00 28.7	+0.3
UTU	**Utuhina**	**1.37**	**335**	P	Pn	17 00 28.5	+0.1
OMRZ	**Omania**	**1.38**	**342**	P	Pn	17 00 28.4	-0.2
NGRZ	**Ngongotaha**	**1.44**	**336**	P	Pn	17 00 29.6	+0.2
MARZ	**Manawahe**	**1.45**	**352**	P	Pn	17 00 29.9	+0.4
TWGZ	**Tauwhareparae**	**1.49**	**34**	P	Pn	17 00 29.6	-0.5
KARZ	**Kaharoa**	**1.50**	**339**	P	Pn	17 00 29.8	-0.4
WAZ	**Wanganui**	**1.54**	**257**	P	Pb	17 00 32.2	-0.5
TLZ	**Tolley Road**	**1.54**	**315**	P	Pn	17 00 30.1	-0.6
RUGZ	**Raukumara Rang**	**1.57**	**22**	P	Pn	17 00 30.8	-0.4
OPRZ	**Ohinepanea**	**1.60**	**349**	P	Pn	17 00 31.2	-0.4
MRZ	**Mangatainoka R**	**1.61**	**219**	P	Pn	17 00 30.8	-1.0
PUZ	**Puketiti**	**1.70**	**38**	P	Pn	17 00 31.6	-1.4
VRZ	**Vera Road**	**1.71**	**279**	P	Pn	17 00 33.2	+0.1
KMRZ	**Kaimai**	**1.75**	**334**	P	Pn	17 00 33.2	-0.5
TGRZ	**Tauranga**	**1.77**	**343**	P	Pb	17 00 37.5	+0.9
PKGZ	**Pakihiroa**	**1.77**	**31**	P	Pn	17 00 33.7	-0.4
HAZ	**Te Kaha**	**1.79**	**22**	P	Pn	17 00 33.5	-0.6
HOWZ	**Holdsworth Sta**	**1.83**	**216**	P	Pn	17 00 33.3	-1.4
HIZ	**Hauiti**	**1.85**	**296**	P	Pn	17 00 34.7	-0.4
TMWZ	**Te Maipa**	**1.86**	**205**	P	Pn	17 00 33.8	-1.4
OGWZ	**Otaki Gorge**	**1.94**	**223**	P	Pn	17 00 34.6	-1.6
LREZ	**Lake Rotokare**	**1.96**	**268**	P	Pb	17 00 40.9	+1.1
WMGZ	**Waiomatatini S**	**1.98**	**37**	P	Pn	17 00 35.7	-1.1
TOZ	**Tahuroa Road**	**2.02**	**326**	P	Pn	17 00 36.9	-0.5
MTW	**Mount Morrison**	**2.05**	**212**	P	Pn	17 00 35.8	-2.0
MHEZ	**Mangahewa**	**2.05**	**279**	P	Pn	17 00 38.0	+0.3
KIW	**Kapiti Island**	**2.11**	**226**	P	Pb	17 00 44.1	+1.6
PREZ	**Palmer Road**	**2.15**	**271**	P	Pn	17 00 40.6	+1.5
MXZ	**Matakaoa Point**	**2.15**	**31**	P	Pn	17 00 38.7	-0.4
NEZ	**North Egmont**	**2.20**	**273**	P	Pn	17 00 41.5	+1.6
KHEZ	**Kahui Hut**	**2.26**	**272**	P	Pn	17 00 42.7	+2.0
PKE	**Pukeiti**	**2.29**	**275**	P	Pb	17 00 43.4	-2.2
NBEZ	**Newall Road No**	**2.38**	**273**	P	Pb	17 00 48.2	+1.2
DUWZ	**D'Urville Isla**	**2.69**	**238**	P	Pb	17 00 50.6	-1.7
MKAZ	**Moumakai**	**2.70**	**328**	P	Pn	17 00 46.4	-0.2
AWAZ	**Awhitu Peninsu**	**2.96**	**322**	P	Pn	17 00 50.5	+0.2
MBAZ	**Motutapu North**	**3.09**	**328**	P	Pn	17 00 52.2	+0.2
TKNZ	**Takaka Hill**	**3.44**	**241**	P	Pn	17 00 58.0	+1.2
QRZ	**Quartz Range**	**3.65**	**246**	P	Pn	17 01 00.9	+1.1
WCZ	**Waipu Caves**	**4.03**	**329**	P	Pn	17 01 05.8	+0.8
CTZ	**Chatham Island**	**6.48**	**134**	P	Pn	17 01 37.0	-1.6
MLZ	**Mavora Lakes**	**8.82**	**225**	P	Pn	17 02 17.0	+6.3

IGQ ***19*** *17:12:52±1.6, 1°S±3°×8°1W±°, h2km*

IDC ***19*** *17:12:53.0±0.5, 1°28S×80°88W, h0km, mb4.2/22, mb1 4.4/24, mb1mx4.3/44, mbtmp4.3/24, ML4.2/2, MS3.9/32, Ms1 3.9/32, ms1mx3.7/61, Error ellipse: s-maj=24.1km s-min=11.5km az=56.0*

NEIC ***19*** *17:12:53.6±2.3, 1°28S±0°.05×80°86W±0°.06, h10km±1km, mb4.7/185, Mwr4.7/15, Error ellipse: s-maj=10.2km s-min=8.9km az=254.0*

GCMT ***19*** *17:12:56.6±0.3, 1°16S±0°.03×81°08W±0°.02, h19km±1km, MW5.0/73, Moment Tensor Solution. s28,c31; s73,c87; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.36±.16; Mθθ0.13±.09; Mφφ-2.50±.12; Mrθ-0.77±.22; Mθφ0.01±.08;*

Mφr-2.13±.25; Best double couple: M₀3.32300×10¹⁶ NP1:φs346.00000°,δ26.00000°,λ65.00000°. NP2: φs193.00000°,δ67.00000°,λ101.00000°. Principal axes: T 3.3250, Plg66.0000°, Azm123.0000°; N -0.0100, Plg10.0000°, Azm9.0000°; P -3.3220, Plg21.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC ***19*** *17:12:58.6, 1°31S×80°87W, h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.12; Mθθ0.16; Mφφ-0.28; Mrθ-0.22; Mθφ0.14; Mφr-1.58; Fault plane solution: M₀1.62000×10¹⁶ NP1:φs302.27000°, δ7.78000°,λ24.03000°. NP2:φs188.43000°,δ86.84000°, λ97.11000°. Principal axes: T 1.5638, Plg48.0000°, Azm106.0000°; N 0.1111, Plg7.0000°, Azm8.0000°; P -1.6749, Plg41.0000°, Azm272.0000°;*

VAO ***19*** *17:12:59.1±1.4, 1°43S×80°36W, h10km, mb4.7*

ISC 19 17:12:53.9±1.0, 1°30S±0°.03×80°99W±0°.04, h14km±6km, n394, σ1§55/369, mb4.7/91, MS3.8/31, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**1.29**	**37**	P	**Pn**	**17 13 16.0**	**-1.8**
FLF1	**Flavio Alfaro-**	**1.48**	**51**	P	**Pn**	17 13 19.0	-1.3
FLF1				S	**Sg**	17 13 43.0	+1.3
AMIL	**Milagro (Trans**	**1.63**	**121**	P	**Pg**	17 13 24.0	-1.2
AMIL				S	**Sg**	17 13 48.0	+1.6
MAG1	**Magdalena**	**1.72**	**45**	P	**Pn**	17 13 23.0	-0.6
ISPG	**Isla Puna-Puer**	**1.85**	**154**	P	**Pg**	17 13 28.0	-1.5
ISPG				S	**Sg**	17 13 59.0	+5.4
COHC	**Cochancay**	**2.09**	**124**		**Pn**	17 13 28.4	-0.2
CHSH	**Refugio Sur-Vo**	**2.13**	**95**	P	**Pn**	17 13 30.0	+0.3
CHSH				S	**Sg**	17 14 02.0	-0.7
AV18	**Acelerografo,**	**2.20**	**43**	P	**Pn**	17 13 33.0	-0.6
PORT	**Chimborazo Vol**	**2.23**	**94**		**Pn**	17 13 31.5	+0.5
PORT	**Chimborazo Vol**	**2.23**	**94**	P	**Pn**	17 13 31.0	0.0
PORT				S	**Sg**	17 14 08.0	+2.4
TAMH	**Tambohuasha Ch**	**2.23**	**96**	P	**Pn**	17 13 32.0	+1.1
BV15	**Puerto Quito-O**	**2.29**	**51**	P	**Pn**	17 13 29.0	-2.3
ILLI	**Illinizas Sur**	**2.34**	**76**	P	**Pn**	17 13 32.0	-0.5
IGUA	**Igualata**	**2.36**	**95**	P	**Pn**	17 13 34.0	+1.1
ALAT	**Latacunga**	**2.40**	**81**	P	**Pn**	17 13 34.0	+0.8
ARNL	**Arenillas**	**2.42**	**158**		**Pb**	17 13 34.5	-2.8
ARNL	**Arenillas**	**2.42**	**158**	P	**Pb**	17 13 35.0	-2.3
PAST	**Pastocalle**	**2.43**	**76**	P	**Pn**	17 13 34.0	+0.3
BIL2	**Estacion Bilba**	**2.49**	**94**	P	**Pb**	17 13 38.0	-0.8
BBIL	**Ulba Tungurahu**	**2.51**	**93**	P	**Pb**	17 13 37.0	-2.0
BMAS	**Trigal station**	**2.52**	**95**	P	**Pn**	17 13 37.0	+2.1
JUI6	**Juive**	**2.53**	**93**	P	**Pb**	17 13 38.0	-1.3
POND	**Pondoa**	**2.54**	**93**	P	**Pb**	17 13 38.0	-1.6
ARRY	**Arrayan**	**2.54**	**95**	P	**Pb**	17 13 38.0	+1.8
RETU	**Refugio**	**2.55**	**93**	P	**Pb**	17 13 38.0	-1.9
CAMI	**Rancho Maria**	**2.56**	**76**	P	**Pn**	17 13 37.0	+1.4
BPAT	**Tungurahua Vol**	**2.57**	**95**	P	**Pb**	17 13 38.0	-2.1
HPAL	**Hacienda Las P**	**2.58**	**65**	P	**Pn**	17 13 36.0	+0.4
BRUN	**Tungurahua Vol**	**2.58**	**93**	P	**Pb**	17 13 39.0	-1.3
BNAS	**Cotopaxi Volca**	**2.59**	**76**	P	**Pn**	17 13 37.0	+1.1
BMOR	**Cotopaxi Volca**	**2.59**	**78**	P	**Pn**	17 13 38.0	+1.9
GGPT	**Toaza - Volcan**	**2.60**	**66**	P	**Pn**	17 13 36.0	0.0
NAS2	**Nasa**	**2.61**	**76**	P	**Pn**	17 13 38.0	+1.8
JUA2	**San Juan 2**	**2.62**	**66**	P	**Pn**	17 13 37.0	+0.7
BREF	**Cotopaxi Volca**	**2.63**	**76**	P	**Pn**	17 13 38.0	+1.4
TERV	**Terraza Guagua**	**2.64**	**65**	P	**Pn**	17 13 37.0	+0.4
PINO	**Pino**	**2.64**	**65**	P	**Pn**	17 13 36.0	-0.7
GGPC	**Guagua Pichinc**	**2.64**	**65**	P	**Pn**	17 13 37.0	+0.3
VCES	**Cotopaxi**	**2.64**	**79**	P	**Pn**	17 13 39.0	+2.3
BVC2	**Cotopaxi Volca**	**2.66**	**76**	P	**Pn**	17 13 39.0	+2.0
PITA	**Cotopaxi Volc**	**2.66**	**74**	P	**Pn**	17 13 39.0	+2.1
BTAM	**Cotopaxi Volca**	**2.67**	**77**	P	**Pn**	17 13 38.0	+0.9
VC1	**Cotopaxi 1**	**2.67**	**76**	P	**Pn**	17 13 39.0	+1.9
APR1	**Acelerografo,**	**2.68**	**62**	P	**Pn**	17 13 39.0	+1.9
YANA	**Yana**	**2.69**	**64**	P	**Pn**	17 13 37.0	-0.3
TAMB	**Tambo**	**2.69**	**77**	P	**Pn**	17 13 39.0	+1.6
PAC1	**Pacto, Paraso**	**2.69**	**55**	*eP*	**Pn**	17 13 36.2	-0.8
PAC1				*eS*	**Sn**	17 14 11.1	+1.5
PAC1	**Pacto, Paraso**	**2.69**	**55**	P	**Pn**	17 13 36.0	-1.1
SANGA	**Volcan Sangay**	**2.73**	**106**	P	**Pn**	17 13 40.0	+2.2
PIAT	**Ana Tenorio**	**2.75**	**84**	P	**Pn**	17 13 40.0	+2.0
PULU	**Pululahua**	**2.81**	**62**		**Pn**	17 13 39.4	+0.4
PULU	**Pululahua**	**2.81**	**62**	P	**Pn**	17 13 39.0	0.0
ANTG	**Antisana-Guama**	**2.85**	**74**	P	**Pn**	17 13 42.0	+2.4
ANTS	**Antisana-Sarah**	**2.93**	**74**	P	**Pn**	17 13 43.0	+2.2
ANTI	**Antisana**	**2.95**	**73**	P	**Pn**	17 13 43.0	+2.0
PUYO	**Puyo, Santa Ro**	**2.97**	**94**	P	**Pb**	17 13 45.0	-1.9
CUSE	**Cuicocha Este**	**3.04**	**58**	*eP*	**Pn**	17 13 42.7	+0.6
CUSE	**Cuicocha Este**	**3.04**	**58**	P	**Pn**	17 13 42.0	-0.1
CUSW	**Cuicocha Oeste**	**3.07**	**59**	P	**Pn**	17 13 43.0	+0.4
CUIC	**Cuicocha-Domo**	**3.08**	**59**	P	**Pn**	17 13 43.0	+0.4
BOSC	**San Juan Bosco**	**3.10**	**126**		**Pb**	17 13 46.9	-2.1
BOSC	**San Juan Bosco**	**3.10**	**126**	P	**Pb**	17 13 47.0	-2.1
COTA	**Cotacachi**	**3.11**	**59**	P	**Pn**	17 13 44.0	+0.9
ARDO	**Archidona, Ten**	**3.21**	**85**	P	**Pn**	17 13 47.0	+2.9
MCRA	**Macar, Loja**	**3.22**	**161**		**Pn**	17 13 46.0	+1.7
MCRA	**Macar, Loja**	**3.22**	**161**	P	**Pn**	17 13 45.0	+0.7
URCU	**Urcuqui**	**3.23**	**58**	P	**Pn**	17 13 45.0	+0.2
CAYR	**Refugio Cayamb**	**3.26**	**66**	P	**Pn**	17 13 48.0	+2.7
ANGU	**Angureal**	**3.27**	**66**	P	**Pn**	17 13 48.0	+2.6
CONE	**Cono NE Rev Vo**	**3.56**	**70**	P	**Pn**	17 13 53.0	+3.8
LNGL	**El Angel-Carch**	**3.61**	**56**	P	**Pn**	17 13 52.0	+2.0
CHMA	**Chilma**	**3.63**	**54**	P	**Pn**	17 13 50.0	-0.1
ECEN	**Cerro Negro**	**3.68**	**55**	P	**Pn**	17 13 51.0	-0.1
CHL1	**Volc¡n Chiles**	**3.69**	**56**	P	**Pn**	17 13 51.0	-0.1
CHL2	**Volc¡n Chiles**	**3.71**	**56**	P	**Pn**	17 13 52.0	+0.5
TULM	**Tulcn-Chalpat**	**3.78**	**58**		**Pn**	17 13 54.0	+2.2
TULM	**Tulcn-Chalpat**	**3.78**	**58**	*eP*	**Pn**	17 13 54.5	+2.2
TULM				*eS*	**Sb**	17 14 48.5	+1.8
BONI	**La Bonita**	**3.88**	**63**	P	**Pn**	17 13 56.0	+2.6
ZUMB	**Zumba**	**4.00**	**153**	P	Pb	17 13 59.0	-5.3
GCUF	**Volcan Galeras**	**4.42**	**56**	*eP*	**Pn**	17 14 02.7	+1.5
CRUC	**La Cruz**	**4.94**	**55**	*eP*	**Pn**	17 14 10.1	+1.8
GR1C	**Gorgona, Isla**	**5.12**	**33**	*eP*	**Pn**	17 14 13.3	+2.9
SOTA	**Rioblanco**	**5.55**	**52**	*eP*	**Pn**	17 14 18.0	+1.3
POPC	**Popayan, Colom**	**5.76**	**49**	*eP*	**Pn**	17 14 18.1	-1.2
PCON	**Cinco Dias**	**5.84**	**52**	*eP*	Pn	17 14 26.1	+5.4
PTLC	**Puerto Leguiza**	**6.36**	**77**	*eP*	**Pn**	17 14 30.0	+2.5
MARP	**Paez Belalcaza**	**6.50**	**51**	*eP*	**Pn**	17 14 28.9	-0.7
BETC	**Betania**	**6.81**	**55**	*eP*	Pn	17 14 42.5	+8.8
YOTC	**Yotoco, Valle**	**7.01**	**42**	*eP*	**Pn**	**17 14 37.6**	**+1.2**
ORTC	**Ortega, Tolima**	**7.73**	**48**	*eP*	Pn	17 14 52.3	+6.0
PLMC	**San Jos del P**	**7.75**	**37**	*eP*	Pb	17 15 00.6	-7.7
MACC	**Macarena, Meta**	**7.92**	**64**	*eP*	**Pn**	17 14 53.4	+4.5
GUY2C	**Guyana, Caldas**	**8.58**	**41**	*eP*	**Pn**	17 15 02.9	+4.6
CBOC	**Ciudad Bolivar**	**8.68**	**35**	*eP*	Pn	17 15 09.6	+10
ROSC	**El Rosal**	**9.03**	**48**		**Pn**	**17 15 07.6**	**+3.2**
	2.3nm,0.3s,baz=108,slow=19,SNR=1.7						
ROSC	**El Rosal**	**9.03**	**48**	Pn	**Pn**	**17 15 03.3**	**-1.1**
ROSC	**El Rosal**	**9.03**	**48**	*eP*	Pn	17 15 12.8	+8.3
ROSC				*eS*	Sn	17 16 56.1	+10
VILC	**Villavicencio,**	**9.06**	**54**	*eP*	Pn	17 15 12.1	+7.6
NORC	**Norcasia**	**9.16**	**42**	*eP*	Pn	17 15 12.0	+6.1
HELC	**Santa Helena**	**9.22**	**36**	*eP*	Pn	17 15 17.6	+11
PAYG	**Puerto Ayora**	**9.31**	**274**		**Pn**	**17 15 10.2**	**+2.3**
CHIC	**Chingaza**	**9.34**	**51**	*eP*	**Pn**	**17 15 11.8**	**+3.1**
SPBC	**San Pablo de B**	**9.77**	**45**	*eP*	**Pn**	**17 15 18.4**	**+4.2**
CDITO	**Canoas**	**9.98**	**349**	Pn	**Pn**	**17 15 17.4**	**+0.2**
PTBC	**PUERTO BERRIO,**	**10.16**	**40**	*eP*	**Pn**	**17 15 24.1**	**+4.5**
PTBC				*eS*	**Sn**	**17 17 08.8**	**-4.6**
BRU2	**Volcan**	**10.17**	**350**		**Pn**	**17 15 18.9**	**-0.9**
RIOS	**Rincon, Osa**	**10.24**	**346**	Pn	**Pn**	**17 15 20.9**	**+0.2**
BCIP	**Isla Barro Col**	**10.46**	**6**	Pn	**Pn**	**17 15 23.5**	**-0.1**
RUSC	**La Rusia**	**10.65**	**48**	*eP*	**Pn**	**17 15 28.2**	**+1.6**
ZARC	**Zaragoza, Cauc**	**10.66**	**35**	Pn	**Pn**	**17 15 25.7**	**-0.7**
ZARC	**Zaragoza, Cauc**	**10.66**	**35**	*eP*	Pn	17 15 34.5	+8.1
SRBA	**San Rafael, Bu**	**10.72**	**347**		**Pn**	**17 15 28.2**	**+0.9**
DRK0	**Durika**	**10.73**	**348**	Pn	**Pn**	**17 15 28.4**	**+0.9**
PEZE	**Perez Zeledon,**	**10.94**	**346**	Pn	**Pn**	**17 15 29.7**	**-0.7**
BARC	**Barichara**	**11.05**	**45**	*eP*	**Pn**	**17 15 36.7**	**+4.6**
RIMA	**Rio Macho**	**11.36**	**345**		**Pn**	**17 15 36.3**	**+0.1**
NNA	**Nana**	**11.39**	**159**	Pn	**Pn**	**17 15 37.1**	**+0.6**
	2.0nm,0.3s,baz=305,slow=11,SNR=4.3						
NNA					Sn	**17 17 44.4**	**+0.7**
	1.6nm,0.3s,baz=209,slow=19,SNR=1.8						
NNA	**Nana**	**11.39**	**159**	Pn	**Pn**	**17 15 35.0**	**-1.5**
TBTG	**Tabatinga, AM**	**11.44**	**105**	*eP*	**Pn**	**17 15 37.5**	**+0.5**
BATAN	**Batan**	**11.57**	**348**	Pn	**Pn**	**17 15 41.7**	**+2.9**
CVTR	**Volcan Turrial**	**11.57**	**346**	Pn	**Pn**	**17 15 37.7**	**-1.7**
CAO2	**Cobano, Puntar**	**11.66**	**340**		**Pn**	**17 15 41.1**	**+1.0**
DUNO	**Dulce Nombre,**	**12.16**	**338**		**Pn**	**17 15 46.5**	**-0.4**
JTS	**Las Juntas de**	**12.17**	**341**		Pn	17 15 51.9	+4.8
	baz=208,slow=14,SNR=5.8						
JTS					LR	17 19 28.8	
	comp=Z,715nm,18.6s,baz=190,slow=32						
JTS	**Las Juntas de**	**12.17**	**341**		**Pn**	**17 15 45.8**	**-1.3**
OCAC	**Ocana**	**12.18**	**39**		**Pn**	**17 15 48.6**	**+1.2**
ORTG	**Ortega, Santa**	**12.41**	**339**		**Pn**	**17 15 48.3**	**-2.1**
SJCC	**San Jacinto, C**	**12.54**	**27**		**Pn**	**17 15 50.5**	**-1.6**
HZTE	**Horizontes, Gu**	**12.78**	**339**		**Pn**	**17 15 53.9**	**-1.6**
ESPN	**Las Esperanzas**	**13.80**	**346**		**Pn**	**17 16 06.7**	**-2.7**
ACON	**Acoyapa**	**13.82**	**343**		**Pn**	**17 16 06.6**	**-3.0**
BOAB	**BOACO BROADBAN**	**14.42**	**341**		**Pn**	**17 16 18.3**	**+0.3**
SDV	**Santo Domingo**	**14.45**	**45**		**Pn**	**17 16 22.3**	**+3.8**
	0.7nm,0.3s,baz=261,slow=9.3,SNR=33						
SDV					LR	17 21 54.7	
	comp=Z,614nm,21.8s,baz=228,slow=38						
SDV	**Santo Domingo**	**14.45**	**45**		**Pn**	**17 16 18.7**	**+0.2**
SDV	**Santo Domingo**	**14.45**	**45**	*eP*	**P**	**17 16 24.8**	**-0.5**
CRJC	**Cerrejon, Guaj**	**14.66**	**33**	*eP*	**P**	**17 16 27.9**	**+0.5**
MATN	**Matagalpa**	**14.96**	**341**		**Pn**	**17 16 23.5**	**-1.8**
DABV	**Dabajuro**	**15.92**	**40**	*eP*	**P**	**17 16 40.4**	**-1.0**
BAUV	**El Baul**	**16.43**	**52**	Pn	**Pn**	**17 16 41.9**	**-2.5**
TGUH	**Tegucigalpa,Un**	**16.48**	**338**		**Pn**	**17 16 42.1**	**-2.9**

comp=Z,15nm,1.1s
JSC Jenkinsville 35.39 360 P P 17 19 49.8 +0.3
BDFB Brasilia 35.51 115 P P 17 19 51.1 +0.2
comp=Z,4.1nm,0.8s,baz=149,slow=25,SNR=4.5
BDFB LR LR 17 36 41.3
comp=Z,575nm,18.9s,baz=303,slow=40
BDFB Brasilia 35.51 115 P P 17 19 50.4 -0.5
BDFB IAmb IAmb 17 20 09.5
comp=Z,19nm,1.5s
435B Jarrell 35.60 335 P P 17 19 51.5 +0.2
X51A Calhoun 35.86 355 P P 17 19 53.6 +0.1
X51A IAmb IAmb 17 20 08.6
comp=Z,14nm,1.0s
Y45A Yeager Farm, C 35.89 348 P P 17 19 54.6 +0.9
FPAL Fort Paine 35.91 353 P P 17 19 53.7 -0.3
FPAL IAmb IAmb 17 20 00.6
comp=Z,12nm,0.9s
BG3 Lake Jocassee 36.15 357 P P 17 19 56.1 +0.2
BG3 IAmb IAmb 17 20 02.4
comp=Z,11nm,0.9s
IPMB Ipameri, GO 36.21 119 *e*P **P 17 19 56.3 -0.5**
W52A Murphy 36.31 356 P P 17 19 57.0 -0.4
W52A IAmb IAmb 17 20 03.6
comp=Z,12nm,1.0s
JCT Junction City 36.33 332 P P 17 19 58.8 +1.1
JCT IAmb IAmb 17 20 10.2
comp=Z,15nm,1.2s
W50A Signal Mountai 36.53 354 P P 17 19 58.7 -0.6
W50A IAmb IAmb 17 20 07.3
comp=Z,8.8nm,0.8s
WHTX Lake Whitney, 36.60 336 P P 17 19 59.7 -0.2
SWET Sewanee 36.62 353 P P 17 19 59.3 -0.7
CPCT Cooper Cave 36.70 355 P P 17 20 00.4 -0.3
CPCT IAmb IAmb 17 20 16.7
comp=Z,11nm,0.9s
TKL Tuckaleechee C 36.86 356 P P 17 20 02.8 +0.8
comp=Z,4.0nm,0.8s,baz=188,slow=7.9,SNR=2.9
TKL Tuckaleechee C 36.86 356 IAmb IAmb 17 20 38.4
comp=Z,15nm,1.2s
ROSB Rosrio 36.88 93 *e*P **P 17 20 02.8 +0.2**
V52A Sevierville 37.03 356 P P 17 20 02.7 -0.8
V51A Loudon 37.04 355 P P 17 20 02.9 -0.7
V51A IAmb IAmb 17 20 09.7
comp=Z,15nm,1.1s
V48A Smith Brothers 37.25 352 P P 17 20 04.2 -1.1
TXAR Lajitas Array 37.39 326 P P 17 20 08.4 +1.7
comp=Z,0.5nm,0.8s,baz=148,slow=7.4,SNR=7.2
TXAR PcP **PcP 17 22 26.9 +1.3**
comp=Z,0.9nm,0.8s,baz=151,slow=5.7,SNR=3.5
TXAR Lajitas Array 37.39 326 P P 17 20 05.8 -0.9
TX31 Lajitas Ar. Si 37.39 326 P 17 20 05.5 -1.2
TX31 IAmb IAmb 17 20 18.9
comp=Z,14nm,1.2s
TX32 Lajitas Array 37.39 326 P P 17 20 05.8 -1.0
RPN Rapa Nui 37.40 224 LR LR 17 31 16.6
comp=Z,248nm,19.2s,baz=48,slow=29
SDBA SAO DESIDERIO 37.43 109 *e*P **P 17 20 07.0 -0.3**
SLBS Sierra La Lagu 37.53 313 P P 17 20 08.1 +0.1
SLBS IAmb IAmb 17 20 20.5
comp=Z,15nm,1.1s
Z35A Perchaven, San 37.70 337 P P 17 20 07.9 -1.3
Z35A IAmb IAmb 17 20 22.9
comp=Z,18nm,1.1s
TZTN Tazewell 37.72 357 P P 17 20 08.6 -0.8
TZTN IAmb IAmb 17 20 25.7
comp=Z,18nm,1.2s
WVT Waverly 37.78 351 P P 17 20 08.1 -1.7
W41B Gary Mavity, V 37.78 345 P P 17 20 09.7 -0.2
W41B IAmb IAmb 17 20 52.9
comp=Z,24nm,1.8s
U49A Red Boiling Sp 37.88 354 P P 17 20 09.0 -1.7
LPIG La Paz 38.05 313 LR LR 17 33 36.1
comp=Z,111nm,18.4s,baz=13,slow=33
ABTX Abilene, Hawle 38.07 334 P P 17 20 13.1 +0.7
ABTX IAmb IAmb 17 20 25.4
comp=Z,18nm,1.4s
T57A Hurt 38.14 2 P P 17 20 12.5 -0.3
X37A Clayton 38.16 341 P P 17 20 14.0 +0.9
T59A Double "B" Far 38.21 4 P P 17 20 12.6 -0.8
T59A IAmb IAmb 17 21 00.0
comp=Z,30nm,1.6s
W39A Magazine 38.23 343 P P 17 20 16.0 +2.4
T50A Nancy 38.29 355 P P 17 20 14.0 -0.1
LC01 Cunco 38.34 169 P P 17 20 14.9 +0.3
LC01 IAmb IAmb 17 20 16.7
comp=Z,20nm,1.2s
LCAR Lake Charles 38.36 347 P P 17 20 14.2 -0.5
FCAR Ozark Folk Cen 38.43 345 P P 17 20 14.9 -0.4
JANB Januaria 38.70 113 *e*P **P 17 20 17.9 -0.1**
S51A Beattyville 38.82 357 P P 17 20 17.5 -1.0
X34A Smith Ranch, M 39.05 338 P P 17 20 20.9 +0.4
X34A IAmb IAmb 17 20 45.8
comp=Z,38nm,1.6s
U40A Yellville 39.06 345 P P 17 20 20.8 +0.2
R58B Mineral 39.17 4 P P 17 20 21.1 -0.4
TUL1 Leonard 39.51 341 P P 17 20 24.5 +0.2
WMOK Wichita Mounta 39.54 337 P P 17 20 25.7 +1.1
MC01 Montes Claros 39.55 115 *e*P **P 17 20 24.4 -0.7**
R49A Shelbyville 39.58 355 P P 17 20 23.7 -1.2
R49A IAmb IAmb 17 20 29.6
comp=Z,18nm,1.2s
MGMO Mountain Grove 39.66 346 P P 17 20 25.8 +0.2
MGMO IAmb IAmb 17 20 33.6
comp=Z,22nm,1.3s
PLTB Pedras Altas 39.83 142 P P 17 20 26.8 -0.4
PLTB IAmb IAmb 17 20 31.4
comp=Z,50nm,1.6s
FVM French Village 40.05 348 P P 17 20 27.9 -0.9
FVM IAmb IAmb 17 20 36.7
comp=Z,22nm,1.5s
Q52A Bidwell 40.08 358 P P 17 20 29.1 +0.1
MNTX Cornudas Mount 40.15 327 P P 17 20 31.0 +1.2
CCM Cathedral Cave 40.29 347 P P 17 20 29.6 -1.2
PLCA Paso Flores 40.38 168 P P 17 20 33.3 +1.7
comp=Z,7.2nm,0.9s,baz=334,slow=12,SNR=7.1
PLCA Paso Flores 40.38 168 P P 17 20 30.8 -0.9
PLCA IAmb IAmb 17 20 34.8
comp=Z,17nm,1.1s
S39A Bolivar 40.44 345 P P 17 20 31.4 -0.6
MSTX Muleshoe 40.62 332 P P 17 20 34.1 +0.3
MSTX IAmb IAmb 17 20 42.8
comp=Z,13nm,0.9s
T35A Sooner Cattle 40.66 341 P P 17 20 33.5 -0.4
T35A IAmb IAmb 17 20 42.4
comp=Z,21nm,1.1s
AMTX Amarillo 40.88 334 P P 17 20 34.8 -1.1
U32A Winter Ranch, 41.06 338 P P 17 20 36.4 -0.9
O54A Avella 41.28 1 P P 17 20 37.5 -1.5
O54A IAmb IAmb 17 21 06.3
comp=Z,32nm,1.6s
NBPN Ponto Novo - B 41.61 105 *e*P **P 17 20 43.2 +1.1**
SSPA Standing Stone 41.83 4 P P 17 20 42.8 -0.6
P40A Paris 41.88 347 P P 17 20 43.6 -0.3
319A Douglas 42.16 323 P P 17 20 44.9 -1.5
NBMA Muriti-CE 42.51 99 *e*P **P 17 20 49.6 +0.1**
KSU1 Kansas State U 42.69 342 P P 17 20 48.7 -1.8
KSU1 IAmb IAmb 17 21 06.0
comp=Z,15nm,0.8s
ANMO Albuquerque 43.23 329 P P 17 20 57.1 +1.9
comp=Z,2.9nm,0.9s,baz=146,slow=12,SNR=4.6
ANMO LR LR 17 40 07.7
comp=Z,83nm,18.5s,baz=138,slow=38
ANMO Albuquerque 43.23 329 P P 17 20 55.3 +0.1
SDCO Great Sand Dun 44.98 332 P P 17 21 09.3 0.0
RCBR Riachuelo 45.21 97 LR LR 17 40 18.4
comp=Z,542nm,19.9s,baz=70,slow=36
SADO Sadowa 45.90 2 P P 17 21 18.1 +2.0
comp=Z,5.6nm,0.8s,baz=231,slow=2.1,SNR=3.9
SADO LR LR 17 40 14.1
comp=Z,77nm,19.8s,baz=168,slow=36
SADO Sadowa 45.90 2 IAmb IAmb 17 21 19.6
comp=Z,7.5nm,0.9s
WUAZ Wupatki 46.32 325 P P 17 21 19.2 -0.6
WUAZ IAmb IAmb 17 21 28.7
comp=Z,8.3nm,1.1s
PV13 Radium Mtn., P 46.91 330 P P 17 21 23.2 -1.3
PV13 IAmb IAmb 17 21 31.9
comp=Z,5.6nm,0.9s
G40A Rib Lake 47.08 351 P P 17 21 24.4 -1.0
E43A Lone Tree Farm 47.77 354 P P 17 21 28.7 -2.0
E43A IAmb IAmb 17 21 36.1
comp=Z,9.9nm,0.8s
PFO Pinyon Flats O 48.16 319 P P 17 21 36.4 +2.3
comp=Z,0.8nm,0.5s,baz=124,slow=5.4,SNR=3.7

PFO LR LR 17 39 41.9
comp=Z,62nm,18.7s,baz=137,slow=33
PFO Pinyon Flats O 48.16 319 P P 17 21 33.1 -1.0
PFO IAmb IAmb 17 21 54.5
comp=Z,7.1nm,1.1s
PDAR Pinedale Array 50.85 333 P P 17 21 57.0 +2.3
comp=Z,0.5nm,0.9s,baz=152,slow=7.8,SNR=2.5
PDAR LR LR 17 43 44.0
comp=Z,140nm,18.9s,baz=145,slow=36
LOHW Long Hollow 51.99 333 P P 17 22 02.5 -0.6
ELK Elko 52.17 327 P P 17 22 07.3 +2.7
comp=Z,0.6nm,0.3s,baz=114,slow=6.7,SNR=2.8
ELK LR LR 17 43 42.5
comp=Z,165nm,18.8s,baz=148,slow=35
NVAR Mina Array Bea 52.37 323 P P 17 22 07.7 +1.7
comp=Z,1.4nm,0.8s,baz=135,slow=6.5,SNR=8.5
NVAR LR LR 17 42 06.5
comp=Z,92nm,19.7s,baz=148,slow=34
NVAR Mina Array Bea 52.37 323 P P 17 22 05.9 -0.2
LHV Little Huntoon 52.37 323 P P 17 22 05.0 -0.8
ULM Lac du Bonnet 52.91 348 P P 17 22 09.6 0.0
comp=Z,5.9nm,0.6s,baz=137,slow=8.2,SNR=5.8
ULM Lac du Bonnet 52.91 348 P P 17 22 08.4 -1.2
BOZ Bozeman (W) 53.99 334 P P 17 22 17.4 -0.4
BOZ IAmb IAmb 17 22 40.6
comp=Z,7.8nm,1.2s
MFID Camas Ranch 54.37 329 P P 17 22 20.7 +0.1
WVOR Wild Horse Val 55.19 327 P P 17 22 26.5 0.0
WVOR IAmb IAmb 17 22 46.5
comp=Z,14nm,1.4s
RKT Rikitea 56.63 243 *e*T T 18 23 26.4
comp=Z,9.2nm,0.3s
I07A Izee 56.76 328 P P 17 22 36.6 -1.2
YBH Yreka Blue Hor 57.07 324 P P 17 22 41.8 +1.8
comp=Z,1.4nm,0.8s,baz=104,slow=8.3,SNR=2.8
YBH LR LR 17 45 15.3
comp=Z,77nm,18.9s,baz=140,slow=34
SCHQ Schefferville 57.15 10 LR LR 17 47 11.4
comp=Z,72nm,21.3s,baz=201,slow=36
JU4D Umpqua Nationa 57.65 325 P P 17 22 44.4 +0.1
J04D IAmb IAmb 17 23 02.3
comp=Z,10nm,1.0s
NEW Newport 58.48 332 LR LR 17 48 10.1
comp=Z,79nm,19.8s,baz=167,slow=36
TAOE Nuku Hiva Isla 59.34 261 *e*LR LR 17 40 24.0
comp=Z,229nm,26.7s
YKA Yellowknife Ar 68.49 344 P P 17 23 56.1 +0.6
comp=Z,3.3nm,0.9s,baz=135,slow=5.9,SNR=23
YKA Yellowknife Ar 68.49 344 P P 17 23 55.0 -0.6
PPT2 Papeete2 69.21 252 *e*LR LR 17 45 10.7
comp=Z,243nm,26.5s
SFJD Kangerlussuaq 71.44 12 LR LR 17 55 25.4
comp=Z,58nm,20.6s,baz=234,slow=36
ICESG Greenland Ices 75.61 14 *e*P **P 17 24 37.8 -0.8**
ICESG IAmb IAmb 17 24 39.0
comp=Z,7.6nm,0.8s
M30M Minto, Yukon 76.10 337 P P 17 24 40.9 -0.3
M30M IAmb IAmb 17 24 46.8
comp=Z,7.8nm,1.4s
LIC Lamto 76.19 83 *e*P **P 17 24 43.4 +0.8**
comp=Z,18nm,0.8s
TIC Toumodi 76.22 83 *e*P **P 17 24 42.9 +0.1**
DBIC Dimbokro 76.39 83 P P 17 24 44.3 +0.6
comp=Z,15nm,1.0s,baz=283,slow=4.8,SNR=10
DBIC LR LR 17 56 30.3
comp=Z,170nm,18.6s,baz=290,slow=34
DBIC Dimbokro 76.39 83 P P 17 24 40.5 -3.2
KIC Kosan Boka 76.49 83 *e*P **P 17 24 44.6 +0.3**
comp=Z,25nm,0.7s
GRNC Granite Creek 77.27 334 P P 17 24 44.8 -3.3
KOWA Kowa 77.72 75 P P 17 24 47.9 -3.3
DAWY Dawson 77.87 337 P P 17 24 50.6 -0.4
M27K Edge Creek, AK 78.06 335 P P 17 24 51.4 -0.8
M27K IAmb IAmb 17 24 58.2
comp=Z,9.1nm,1.1s
INK Inuvik 78.16 342 P P 17 24 53.5 +1.0
comp=Z,5.3nm,1.0s,baz=99,slow=5.1,SNR=8.7
INK Inuvik 78.16 342 P P 17 24 51.9 -0.6
INK IAmb IAmb 17 24 59.8
comp=Z,8.2nm,1.1s
BCAR Beaver Creek A 78.34 336 P P 17 24 53.0 -0.7
L27K Beaver Creek, 78.35 336 P P 17 24 53.2 -0.6
A36M Sachs Harbour 78.38 347 P P 17 24 53.4 -0.3
RAGM Ragged Mountai 78.43 333 P P 17 24 53.1 -1.1
GLB Gilahina Butte 78.48 334 P P 17 24 53.4 -1.1
GLB IAmb IAmb 17 25 02.1
comp=Z,7.7nm,1.0s
BORG Borgarnes 78.68 22 LR LR 17 58 02.5
comp=Z,40nm,19.2s,baz=200,slow=34
EGAK Eagle 78.88 338 P P 17 24 55.5 -1.0
EGAK IAmb IAmb 17 25 02.6
comp=Z,9.1nm,1.1s
MDT Midelt 79.28 56 LR LR 18 01 29.5
comp=Z,30nm,18.0s,baz=330,slow=37
KLU Klutina 79.43 334 P P 17 25 00.7 +0.9
KLU IAmb IAmb 17 25 06.9
comp=Z,10nm,1.1s
PAX Paxson 79.82 335 P P 17 25 01.1 -0.8
PAX IAmb IAmb 17 25 07.5
comp=Z,11nm,1.1s
ESDC Sonseca Array 80.86 50 P P 17 25 08.8 +0.9
comp=Z,0.9nm,0.7s,baz=261,slow=4.7,SNR=5.4
ESDC LR LR 17 56 21.1
comp=Z,41nm,21.4s,baz=267,slow=32
ESDC Sonseca Array 80.86 50 IAmb IAmb 17 25 10.2
comp=Z,9.8nm,1.6s
GHO Glory Hole Cre 80.86 333 P P 17 25 06.2 -1.3
GHO IAmb IAmb 17 25 14.7
comp=Z,12nm,0.9s
ILAR Eielson Array 81.10 337 P P 17 25 09.6 +1.0
comp=Z,1.5nm,0.9s,baz=135,slow=3.9,SNR=11
ILAR PP **PP 17 28 16.0 +2.3**
comp=Z,0.3nm,0.9s,baz=104,slow=6.7,SNR=2.1
ILAR LR LR 18 03 15.5
comp=Z,99nm,19.4s,baz=152,slow=37
ILAR Eielson Array 81.10 337 P P 17 25 07.5 -1.1
BMAR Burnt Mountain 81.32 340 P P 17 25 08.9 -0.8
KDAK Kodiak Island 81.36 329 LR LR 17 59 57.8
comp=Z,70nm,21.1s,baz=227,slow=35
RND Reindeer 81.40 335 P P 17 25 10.4 0.0
RND IAmb IAmb 17 25 15.8
comp=Z,7.3nm,0.8s
MCK McKinley 81.55 335 P P 17 25 10.7 -0.4
MCK IAmb IAmb 17 25 19.3
comp=Z,14nm,1.2s
H24K Noodor Dome 81.89 338 P P 17 25 12.6 -0.3
H24K IAmb IAmb 17 25 19.9
comp=Z,8.8nm,1.2s
NEA2 Nenana 81.91 336 P P 17 25 12.2 -0.7
NEA2 IAmb IAmb 17 25 20.1
comp=Z,6.5nm,1.0s
I23K Minto, Yukon-K 82.22 337 P P 17 25 14.7 +0.2
I23K IAmb IAmb 17 25 23.0
comp=Z,8.9nm,1.1s
KTH Kantishna Hill 82.33 335 P P 17 25 14.6 -0.6
KTH IAmb IAmb 17 25 21.7
comp=Z,10nm,1.0s
BPAW Bear Paw Mtn. 82.53 335 P P 17 25 15.9 -0.3
CAST Castle Rocks 82.78 335 P P 17 25 17.0 -0.6
CAST IAmb IAmb 17 25 24.3
comp=Z,7.9nm,0.8s
TOA0 Torodi Ar. Sit 83.17 77 P P 17 25 18.1 -2.4
TOA0 IAmb IAmb 17 25 21.7
comp=Z,9.1nm,1.2s
TORD Torodi Ar. Bea 83.17 77 P P 17 25 20.5 0.0
comp=Z,3.1nm,1.1s,baz=286,slow=4.7,SNR=10
TORD Torodi Ar. Bea 83.17 77 P P 17 25 18.9 -1.6
TORD IAmb IAmb 17 25 28.6
comp=Z,9.4nm,1.3s
K20K Telida 83.62 334 P P 17 25 20.2 -1.7
K20K IAmb IAmb 17 25 26.4
comp=Z,10nm,1.1s
J20K Nowinta River 83.88 335 P P 17 25 22.6 -0.5
DAG Danmarks Havn 85.12 12 *i*P **P 17 25 29.0 -0.2**
DAG IAmb IAmb 17 25 30.4
comp=Z,5.5nm,0.8s
NOR Nord 87.62 8 *i*P **P 17 25 42.0 +0.6**
QSPA South Pole Qui 88.76 180 P P 17 25 49.0 +1.8
comp=Z,1.6nm,1.0s,baz=113,slow=3.7,SNR=2.9
NOA NORSAR Array B 92.20 29 LR LR 18 06 52.2
comp=Z,9.1nm,19.4s,baz=20,slow=35
GERES GERESS Array B 94.07 41 LR LR 18 05 45.3
comp=Z,18nm,18.6s,baz=293,slow=34
TSUM Tsumeb 97.67 109 P P 17 26 25.7 -3.7
SUR Sutherland 99.27 123 LR LR 18 08 54.6
comp=Z,97nm,20.8s,baz=236,slow=34

H11S2 WAKE ISLAND Hyl 11.54 289 T T 19 32 23.3
baz=85,slow=74,SNR=35
H11S1 WAKE ISLAND Hyl 11.54 289 T T 19 32 23.6
baz=85,slow=89,SNR=25
H11S3 WAKE ISLAND Hyl 11.56 289 T T 19 32 22.1
baz=85,slow=74,SNR=28
ZALV Zalesovo Beam 126.23 10 PKP PKPdf 17 31 56.1 -0.1
comp=Z,1.6nm,0.9s,baz=221,slow=1.4,SNR=4.5
KURK Kurchatov 127.81 16 PKiKP 17 32 00.0 +0.1
KURBB **Kurchatov Arra 127.87 16** PKP **PKiKP 17 32 00.0 0.0**
comp=Z,2.4nm,0.8s,baz=322,slow=2.1,SNR=9.4
MKAR Makanchi Array 132.39 16 PKP PKPdf 17 32 08.1 -0.1
comp=Z,1.4nm,1.0s,baz=256,slow=4.6,SNR=3.9
SONM Songino Array 133.20 353 PKP PKPdf 17 32 10.1 +0.2
comp=Z,0.6nm,0.7s,baz=197,slow=1.2,SNR=3.2
KSRS Korea Array 135.24 327 PKP PKiKP 17 32 14.7 -0.6
comp=Z,1.0nm,0.6s,baz=333,slow=1.4,SNR=6.2
ASAR Alice Springs 137.97 232 PKP PKiKP 17 32 20.3 -1.1
comp=Z,2.2nm,1.1s,baz=96,slow=2.4,SNR=5.5
WRA Warramunga Arr 139.44 237 PKP PKiKP 17 32 22.8 -1.6
comp=Z,1.5nm,0.9s,baz=105,slow=2.2,SNR=6.6
LYN LuoYang 144.61 341 *e*PKP **PKiKP 17 32 34.4 -0.2**
GOMU GeErMu 145.06 6 PKPbc **PKPdf 17 32 32.5 +0.4**
GOMU pPKP sPKPdf 17 32 45.3 +7.0
GOMU sPKP 17 32 49.5
GOMU AMB AMB
comp=Z,94nm,6.9s
LZH Lanzhou 145.09 353 PKPbc **PKPdf 17 32 32.0 +0.1**
LZH pPKP sPKPdf 17 32 42.6 +4.5
LZH sPKP 17 32 49.5
FITZ Fitzroy Crossi 147.47 232 PKPbc **PKPbc 17 32 37.5 -1.1**
comp=Z,6.1nm,0.9s,baz=13,slow=1.8,SNR=4.2
PZH PanZhiHua 154.80 354 PKPbc **PKPdf 17 32 42.8 -4.5**
CMAR Chiang Mai Arr 162.95 0 PKP **PKPdf 17 32 59.5 +2.5**
comp=Z,0.6nm,0.8s,baz=317,slow=2.0,SNR=4.9
CMAR PKPab **pPKPab 17 33 48.1 -2.5**
comp=Z,0.6nm,0.6s,baz=337,slow=3.3,SNR=4.8

IDC ***19*** *17:16:07.1±1.3,32.˚53N×130.˚57E,h0km,mb3.7/6, mb1 3.8/8,mb1mx3.5/56,mbtmp3.6/8,ML2.7/2,MS4.4/1, Ms1 4.4/1,ms1mx2.5/90,Error ellipse: s-maj=23.2km s-min=9.8km az=122.0*

JMA ***19*** *17:16:08.2,32.˚55N×130.˚65E,h9km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φs17.00000°,δ70.00000°,λ157.00000°. NP2: φs116.00000°,δ68.00000°,λ21.00000°. Principal axes: T Plg30.0000°, Azm336.0000°; N Plg60.0000°, Azm159.0000°; P Plg1.0000°, Azm67.0000°;*

JMA Felt III J1.

NIED ***19*** *17:16:08.2,32.˚55N×130.˚65E,h9km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr0.11; Mθθ3.97; Mφφ-4.09; Mrθ-0.69; Mrφ3.73; Mθφ-1.99; Fault plane solution: M05.88000×10^{14} NP1: φs293.00000°,δ69.00000°,λ-1.00000°. NP2:φs24.00000°, δ89.00000°,λ-159.00000°.*

ISC 19 17:16:08.9±1.3,32.˚55N±0.˚04×130.˚64E±0.˚07,h7km±10km, n15,σ1§40/17,mb3.9/6,2C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.14**	**90**	⇓P	**Pg**	**17 16 11.1**	**-0.8**
JZO	**Okuchi**	**0.41**	**185**	⇑P	**Pg**	**17 16 16.2**	**-0.7**
JZO				S	**Sg**	**17 16 21.7**	**-0.5**
JNU	**Nakatsue**	**0.60**	**19**	Pg	**Pg**	**17 16 20.0**	**-0.6**
	143nm,0.3s,baz=202,slow=9.8,SNR=208						
JNU				Lg	Lg	17 16 28.3	
	1μm,0.3s,baz=352,slow=7.1,SNR=47						
JTZ	**Takazaki**	**0.75**	**150**	⇑P	**Pg**	**17 16 23.0**	**-0.3**
JTZ				S	**Sg**	**17 16 32.6**	**-0.4**
KSRS	**Korea Array**	**5.38**	**336**	Pn	**Pn**	**17 17 29.4**	**-0.2**
	0.3nm,0.3s,baz=153,slow=14,SNR=4.3						
KSRS				Pg	**Pb**	**17 17 44.6**	**+1.4**
	0.7nm,0.3s,baz=155,slow=16,SNR=5.2						
KSRS				Lg	Lg	17 18 58.3	
	0.9nm,0.3s,baz=152,slow=30,SNR=5.3						
JOW	**Kunigami**	**6.06**	**200**	Pn	**Pn**	**17 17 41.7**	**+2.8**
	1.4nm,0.3s,baz=18,slow=16,SNR=1.7						
MJAR	**Matsushiro Arr**	**7.41**	**55**	Pn	**Pn**	**17 17 58.1**	**+0.6**
	0.1nm,0.3s,baz=19,slow=21,SNR=3.9						
MJAR				LR	LR	17 21 10.9	
	comp=Z,43nm,22.0s,baz=214,slow=41						
KLR	**Kul'dur**	**16.69**	**3**	Pn	**P**	**17 20 08.2**	**+2.7**
	0.2nm,0.3s,baz=155,slow=19,SNR=3.8						
SONM	**Songino Array**	**23.86**	**317**	P	**P**	**17 21 22.3**	**-0.7**
	1.6nm,0.7s,baz=134,slow=10.0,SNR=11						
MKAR	**Makanchi Array**	**39.22**	**306**	P	**P**	**17 23 36.6**	**-1.3**
	0.1nm,0.5s,baz=90,slow=15,SNR=2.4						
KURBB	**Kurchatov Arra**	**42.00**	**311**	P	**P**	**17 23 59.8**	**-0.9**
	0.7nm,0.7s,baz=97,slow=8.5,SNR=8.0						
ASAR	**Alice Springs**	**55.99**	**176**	P	**P**	**17 25 47.2**	**-1.0**
	2.1nm,0.7s,baz=1.7,slow=10,SNR=1.5						
KBZ	**Khabaz**	**66.86**	**308**	P	**P**	**17 27 01.0**	**-0.6**
	1.3nm,0.8s,baz=59,slow=5.3,SNR=4.5						
FINES	**FINESS Array B**	**68.44**	**330**	P	**P**	**17 27 09.7**	**-1.5**
	1.0nm,0.7s,baz=58,slow=4.7,SNR=5.9						
MBAR	**Mbarara**	**98.67**	**275**	LR	LR	18 16 13.4	
	comp=Z,135nm,18.2s,baz=228,slow=37						

MOS ***19*** *17:17:34.2±1.0,8.˚02N×126.˚42E,h91km,mb4.9/41,Error ellipse: s-maj=8.4km s-min=4.2km az=112.0*

BJI ***19*** *17:17:34.0±0.0,7.˚93N×126.˚64E,h100km,mb4.9/63, mB4.8/35*

MAN ***19*** *17:17:37.0,7.˚95N×126.˚50E,h96km,mb5.6,ML4.6,MS5.0, Hypocentre not reviewed by the ISC*

MAN INTENSITY IV - CATEEL DAVAO ORIENTAL; BISLIG HINATUAN & BAROBO SURIGAO DEL SUR BUNAWAN LA PAZ & TALACOGON AGUSAN DEL SUR; INTENSITY III - LINGIG AND LIANGA SURIGAO DEL SUR; TANDAG CITY AND TENTO AGUSAN DEL SUR; INTENSITY II - CAGAYAN DE ORO CITY; VALENCIA BUKIDNON; MARIHATAG SURIGAO DEL SUR SANTA JOSEFA AGUSAN DEL SUR.

NEIC ***19*** *17:17:36.3±1.6,8.˚01N±0.˚06×126.˚59E±0.˚07,h93km±5km, mb5.0/190,Error ellipse: s-maj=10.3km s-min=9.2km az=78.0*

KLM ***19*** *17:17:37,8.˚08N×126.˚81E,h106km,mb5.2*

DJA ***19*** *17:17:37.5±0.5,8.˚N±3.˚×12.˚7E±.˚,h96km±4km,M4.8/68, mb4.9/68,mB5.3/39,MLv5.6/6,Mw(mB)4.7/39, MwMwp5.0/4,Mwp5.2/4*

GCMT ***19*** *17:17:37.3±0.2,8.˚00N±0.˚02×126.˚67E±0.˚02,h107km±3km, MW5.0/111,Moment Tensor Solution. s50,c55; s111,c161; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr2.02±.11; Mθθ0.43±.11; Mφφ-2.45±.14; Mrθ-0.15±.07; Mθφ1.63±.12; Mrφ2.49±.08; Best double couple: Mo3.67000×10^{16} NP1:φs129.00000°,δ29.00000°, λ48.00000°. NP2:φs355.00000°,δ69.00000°,λ111.00000°. Principal axes: T 3.2440, Plg61.0000°, Azm295.0000°; N 0.8530, Plg19.0000°, Azm167.0000°; P -4.0960, Plg21.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***19*** *17:17:38.5±0.7,8.˚00N×126.˚49E,h112km±6km,mb4.6/40, mb1 4.6/43,mb1mx4.5/54,mbtmp4.9/43,MS3.5/26, Ms1 3.5/26,ms1mx3.3/73 Error ellipse: s-maj=10.9km s-min=6.8km az=90.0*

ISC 19 17:17:36.4±0.3,8.˚02N±0.˚03×126.˚58E±0.˚04,h96km±2km, h97km:pP-P,n679,σ1§50/709,mb4.9/199,99C-33D,Fault plane solution: NP1:φs353.25522°,δ57.77193°, λ99.75362°. NP2:φs155.38947°,δ33.51884°,λ74.95831°. Principal axes: T Plg75.1526°, Azm291.1266°; N Plg8.2395°, Azm168.0175°; P Plg12.2645°, Azm76.2136°;

Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.27**	**308**	⇑*i*P	**Pn**	**17 17 50.3**	**-0.1**
BIPH				*i* S	**Sn**	**17 17 59.8**	**-1.1**
MATI	**Mati**	**1.11**	**197**	*e*P	**Pn**	**17 17 57.4**	**-0.4**
BUTP	**Butuan**	**1.34**	**315**	*e*P	**Pn**	**17 18 02.3**	**+1.8**
DAV	**Davao City (W)**	**1.37**	**226**	P	**Pn**	**17 18 01.9**	**+1.1**
	3μm,0.3s,baz=1.2,slow=1.3,SNR=486						
DAV				S	**Sn**	**17 18 22.0**	**+2.7**
	2μm,0.3s,baz=72,slow=20,SNR=6.8						
DAV				LR	LR	17 18 26.1	
	comp=Z,3μm,21.1s,baz=26,slow=37						

DAV Davao City (W) 1.37 226 Pn **Pn** 17 18 01.8 +0.9
DAV Sn **Sn** 17 18 19.9 +0.6
DAV Davao City (W) 1.37 226 P **Pn** 17 18 01.5 +0.7
DAV Davao City (W) 1.37 226 P **Pn** 17 18 02.3 +1.5
GLSP General Luna, 1.81 346 *eP* **Pn** 17 18 07.9 +1.5
DDMP Don Marcelino, 2.09 204 *eP* **Pn** 17 18 09.3 -0.7
CTBH Cotabato--PC H 2.44 251 ⇓*iP* **Pn** 17 18 14.8 +0.2
CTBH *i* S **Sn** 17 18 43.0 -1.0
GSPH General Santos 2.51 220 ⇓*iP* **Pn** 17 18 14.7 -0.9
GSPH *i* S **Sn** 17 18 44.8 -0.9
MSLP Maasin 2.70 321 *eP* **Pn** 17 18 19.9 +1.9
TBP Tagbilaran 3.15 302 *eP* **Pn** 17 18 25.8 +1.7
TBP *i* S **Sn** 17 19 01.9 +0.9
PAGZ Pagadian 3.17 267 *eP* **Pn** 17 18 25.5 +1.2
LLP Lapu-Lapu 3.44 312 ⇑*iP* **Pn** 17 18 30.1 +2.1
LLP *i* S **Sn** 17 19 11.1 +3.2
SNPH Sibulan 3.56 292 ⇓*iP* **Pn** 17 18 31.3 +1.7
SNPH *i* S **Sn** 17 19 11.3 +0.6
CNOP Candoni, Negro 4.29 295 *eP* **Pn** 17 18 40.6 +1.2
SGSI Sangihe 4.43 194 P **Pn** 17 18 42.8 +1.5
ZCP Zamboanga City 4.59 257 ⇓*iP* **Pn** 17 18 44.7 +1.1
GUIM Jordan 4.71 304 *eP* **Pn** 17 18 46.1 +0.9
RCP Roxas 5.16 313 ⇑*eP* **Pn** 17 18 53.2 +2.0
JAP San Jose, Anti 5.31 301 ⇑*eP* **Pn** 17 18 56.3 +3.0
PVCP Virac 6.03 337 *eP* **Pn** 17 19 05.2 +2.1
CUYO Cuyo Island 6.16 298 *eP* **Pn** 17 19 06.4 +1.5
TNTI Ternate 7.24 174 Pn **Pn** 17 19 19.4 -0.2
TNTI Sn **Sn** 17 20 37.0 -3.3
TNTI Ternate 7.24 174 P **Pn** 17 19 21.0 +1.4
1.1nm3µm352nm,1.1s
TNTI Ternate 7.24 174 P **Pn** 17 19 21.5 +1.9
JCNP Jose Panganiba 7.30 329 *eP* **Pn** 17 19 19.1 -1.3
BUSP Coron 7.42 303 *eP* **Pn** 17 19 23.5 +1.5
LQP Lukban 7.82 321 ⇓*eP* **Pn** 17 19 28.0 +0.4
KMSI Cibinong 7.83 199 P **Pn** 17 19 28.3 +0.6
1.5nm4µm482nm,0.9s
I39PW PALAU INFRASON 7.91 93 *i* 18 08 40.0
baz=273,slow=308,SNR=0.9
PPR Puerto Princes 7.95 283 ⇑*iP* **Pn** 17 19 30.9 +1.7
GTOI Gorontalo 8.15 206 P **Pn** 17 19 30.0 -2.0
MYLDM Lahad Datu 8.50 251 Pn **Pn** 17 19 37.3 +0.5
LBMI Labuha 8.65 174 P **Pn** 17 19 39.7 +0.9
1µm115nm,0.9s
MRSI Marisa 8.80 212 P **Pn** 17 19 40.8 0.0
1.8nm2µm287nm,0.9s
TOLI2 Tolitoli 8.97 220 **Pn** 17 19 40.6 -2.4
PCPH Palayan 9.22 325 ⇑*eP* Pn 17 19 55.7 +9.3
LUWI Luwuk 9.77 203 Pn **Pn** 17 19 53.6 -0.4
LUWI Luwuk 9.77 203 P **Pn** 17 19 57.3 +3.3
4µm505nm,1.2s
LUWI Luwuk 9.77 203 P **Pn** 17 19 57.3 +3.3
505nm,1.2s
SWI Sorong 9.98 152 P **Pn** 17 19 55.6 -1.3
SWI pmax pmax
comp=Z,89nm,0.7s
SWI Sorong 9.98 152 P **Pn** 17 19 53.4 -3.5
SIJI Sorong 9.99 152 P **Pn** 17 19 55.7 -1.4
comp=Z,5.9nm,0.3s,baz=188,slow=21,SNR=125
SIJI S Sn 17 21 37.5 -10
comp=Z,1.7nm,0.3s,baz=127,slow=20,SNR=1.8
SIJI LR LR 17 25 15.4
comp=Z,173nm,19.4s,baz=354,slow=46
CAUP Cauayan 10.01 333 *eP* **Pn** 17 19 54.8 -2.5
SANI Sanana 10.02 183 P **Pn** 17 19 58.7 +1.3
APSI Ampana 10.14 209 P **Pn** 17 20 01.3 +2.2
comp=Z,1µmcomp=Z,110nm,1.0s
KKM Kota Kinabalu 10.47 260 Pn **Pn** 17 20 04.1 +0.4
KKM Kota Kinabalu 10.47 260 P **Pn** 17 20 08.3 +4.6
SPMM Sapulut 10.57 252 P Pn 17 20 10.0 +5.0
AAI Ambon 11.74 172 P **Pn** 17 20 24.5 +3.8
AAI pmax pmax
comp=Z,67nm,0.6s
AAI Ambon 11.74 172 P **Pn** 17 20 22.8 +2.1
comp=Z,68nm,0.6s
TTSI Tana Toraja 12.89 212 P **Pn** 17 20 38.3 +2.2
comp=Z,846nmcomp=Z,70nm,1.1s
BAKI Biak 13.19 133 P **Pn** 17 20 42.0 +2.0
comp=Z,2µmcomp=Z,193nm,1.2s
SPSI Sidrap Palu 13.70 210 P **Pn** 17 20 47.7 +1.0
comp=Z,807nmcomp=Z,34nm,0.9s
SRPI Serui, Papua 13.76 135 P **Pn** 17 20 49.5 +2.0
comp=Z,1µmcomp=Z,64nm,0.8s
BNSI Bone 13.92 208 P **Pn** 17 20 50.5 +1.0
comp=Z,2µmcomp=Z,115nm,0.9s
BBSI Bau Bau 14.00 197 P P 17 21 09.7 +14
KAPI Kappang 14.63 208 ⇑*eP* **Pn** 17 20 59.2 +0.6
comp=Z,2.9nm,0.3s,baz=33,slow=5.1,SNR=7.5
KAPI Kappang 14.63 208 ⇑*eP* **Pn** 17 20 58.8 +0.2
MTKI Muara Teweh, K 14.66 233 P **P** 17 21 01.3 -1.4
comp=Z,26nm,1.0s
BKSI Bulukumba 14.73 206 P **Pn** 17 20 59.9 -0.1
comp=Z,574nmcomp=Z,31nm,1.4s
SBUM Sibu 15.32 250 **Pn** 17 21 08.6 +1.1
SBUM IAmb IAmb 17 21 15.0
comp=Z,138nm,1.0s
SBUM Sibu 15.32 250 P **P** 17 21 11.0 +0.9
TWG Pinlang 15.64 341 Pn **Pn** 17 21 08.2 -3.1
SMPI Sarmi 15.66 129 P **P** 17 21 14.1 +0.3
comp=Z,2µmcomp=Z,196nm,1.3s
YULB Yu-li 16.10 342 Pn **Pn** 17 21 15.3 -1.9
TPUB Ta-pu 16.23 340 Pn **Pn** 17 21 16.8 -2.0
BBKI Banjar Baru 16.34 226 P **P** 17 21 22.6 +1.2
comp=Z,2µmcomp=Z,64nm,1.4s
SAUI Saumlaki 16.58 163 **P** 17 21 23.9 0.0
SAUI IAmb IAmb 17 22 05.5
comp=Z,105nm,0.7s
SSLB Suanglung 16.58 342 **Pn** 17 21 22.4 -0.7
YOJ Yonaguni jima 16.70 349 P **Pn** 17 21 24.1 -0.5
YOJ pmax pmax
comp=Z,186nm,1.3s
YOJ Yonaguni jima 16.70 349 **Pn** 17 21 24.1 -0.5
YOJ IAmb IAmb 17 21 34.3
comp=Z,186nm,1.3s
NACB Ninganchiao 16.76 344 **Pn** 17 21 24.3 -0.9
STKI Sintang 17.00 243 P **P** 17 21 31.7 +3.1
comp=Z,3µmcomp=Z,31nm,1.2s
MMRI Maumere 17.10 195 P **Pn** 17 21 27.9 -1.6
MMRI IAmb IAmb 17 22 02.8
comp=Z,104nm,1.0s
MMRI Maumere 17.10 195 P **P** 17 21 31.4 +1.7
comp=Z,1µmcomp=Z,45nm,0.7s
YHNB Yeheng 17.29 344 **Pn** 17 21 31.2 -0.6
YHNB IAmb IAmb 17 21 51.2
comp=Z,124nm,1.7s
KSM Kuching 17.46 249 P **Pn** 17 21 36.2 +2.2
KSM IAmb IAmb 17 21 37.8
comp=Z,203nm,1.3s
KSM Kuching 17.46 249 P **Pn** 17 21 37.0 +3.1
KSM Kuching 17.46 249 P **Pn** 17 21 36.1 +2.2
PBKI Pangkalan Bun 18.29 235 P **Pn** 17 21 45.0 +1.1
comp=Z,117nm,1.2s
BATI Baumata 18.34 189 P **Pn** 17 21 44.4 -0.1
comp=Z,7.3nm,0.3s,baz=328,slow=2.3,SNR=17
BATI Baumata 18.34 189 P **Pn** 17 21 46.2 +1.7
comp=Z,682nmcomp=Z,65nm,0.9s
JOW Kunigami 18.78 5 P **Pn** 17 21 51.3 +1.6
comp=Z,17nm,0.3s,baz=199,slow=9.4,SNR=54
JOW LR LR 17 28 23.5
comp=Z,103nm,20.3s,baz=24,slow=34
JOW Kunigami 18.78 5 P **Pn** 17 21 49.9 +0.3
JOW Kunigami 18.78 5 P **Pn** 17 21 51.7 +2.0
PLAI Plampang 18.89 208 P **Pn** 17 21 52.2 +1.1
comp=Z,777nmcomp=Z,96nm,0.8s
PLAI Plampang 18.89 208 P **Pn** 17 21 51.2 +0.1
QIZ Qiongzhong 19.59 306 P **Pn** 17 21 58.4 -0.8
QIZ IAmb IAmb 17 21 59.5
comp=Z,102nm,0.9s
QIZ Qiongzhong 19.59 306 ⇑*iP* **Pn** 17 21 58.5 -0.8
QIZ PP **PnPn** 17 22 19.8 +3.1
QIZ S **S** 17 25 36.0 +2.9
QIZ sS **sS** 17 25 58.8 -4.6
QIZ pmax pmax
comp=Z,110nm,0.9s
QIZ LR LR
comp=Z,140nm,13.5s
QIZ LR LR
comp=Z,230nm,10.2s
QIZ LR LR
comp=Z,210nm,18.3s
QIZ Qiongzhong 19.59 306 P **Pn** 17 21 58.6 -0.6
SRBI Singaraja 19.60 216 P **Pn** 17 21 59.3 -0.1
comp=Z,47nm,1.0s
JAGI Jajag, Banyuwa 20.53 217 P **P** 17 22 08.4 +1.2
GMJI Gumukmas 20.81 219 P Pn 17 22 12.4 -1.1
comp=Z,66nm,1.1s
MTN Manton Dam 21.21 168 P **P** 17 22 14.6 +0.1
baz=21,SNR=50
MTN Manton Dam 21.21 168 P **P** 17 22 13.8 -0.7
MTN Manton Dam 21.21 168 P **P** 17 22 14.8 +0.3
KDU Kakadu 21.39 164 P **P** 17 22 16.2 -0.2
baz=22,SNR=50
KDU Kakadu 21.39 164 P **P** 17 22 16.5 +0.1
PWJI Pagerwojo 21.70 223 P **P** 17 22 22.0 +2.3
comp=Z,41nm,1.2s
UBPT Khong Chiam 21.88 291 P **P** 17 22 21.5 -0.1
SMRI Semarang 21.98 227 P **P** 17 22 23.0 +0.4
SMRI IAmb IAmb 17 22 26.5
comp=Z,101nm,1.2s
UGM Wanagama 22.51 226 P **P** 17 22 28.9 +0.6
UGM Wanagama 22.51 226 P P 17 22 43.8 +16
UGM Wanagama 22.51 226 P **P** 17 22 28.4 +0.1
PPBI Pangkal Pinang 22.76 244 P **P** 17 22 33.0 +2.2
comp=Z,5µmcomp=Z,31nm,1.2s
MANU Manus Island 23.02 115 P **P** 17 22 32.3 -1.1
TPRI Tanjung Pinang 23.07 253 P **P** 17 22 36.3 +2.4
comp=Z,63nm,1.2s
KPJI Karang Pucung 23.28 230 P **P** 17 22 37.7 +1.9
comp=Z,57nm,0.9s
MYKOM Kota Tinggi 23.46 256 P **P** 17 22 37.5 0.0
MYKOM IAmb IAmb 17 22 41.8
comp=Z,39nm,0.8s
MYKOM Kota Tinggi 23.46 256 P **P** 17 22 39.0 +1.5
DSRI Dabo 23.50 250 P **P** 17 22 39.2 +1.3
comp=Z,1µmcomp=Z,71nm,1.4s
KNRA Kununurra 23.64 175 P **P** 17 22 39.1 +0.1
baz=24,SNR=132
KNRA Kununurra 23.64 175 P **P** 17 22 38.3 -0.7
KNRA Kununurra 23.64 175 P **P** 17 22 39.6 +0.5
JSU Suzuyama 23.65 8 P **P** 17 22 39.1 +0.1
JSU IAmb IAmb 17 22 43.0
comp=Z,58nm,0.8s
LEM Lembang 23.98 233 P **P** 17 22 42.4 +0.1
comp=Z,36nm,0.7s,baz=196,slow=8.6,SNR=8.0
LEM LR LR 17 32 09.2
comp=Z,178nm,21.0s,baz=57,slow=36
JCJ Chichijima 24.06 36 P **P** 17 22 43.4 +0.7
comp=Z,84nm,0.7s,baz=181,slow=4.5,SNR=8.6
JCJ LR LR 17 31 17.2
comp=Z,80nm,20.5s,baz=266,slow=34
JCJ Chichijima 24.06 36 P **P** 17 22 41.9 -0.8
JCJ Chichijima 24.06 36 P **P** 17 22 43.9 +1.1
JRMM Jerantut 24.31 262 P **P** 17 22 48.0 +2.8
PMBI Palembang 24.32 244 P **P** 17 22 45.6 +0.4
CBJI Citeko 24.35 234 P **P** 17 22 48.6 +3.1
JMBI JAMBI 24.80 248 P **P** 17 22 53.1 +3.5
comp=Z,3µmcomp=Z,247nm,1.1s
NJ2 Nanjing 24.97 344 *eP* **P** 17 22 53.4 +2.4
NJ2 pmax pmax
comp=Z,13nm,0.5s
BLSI Bandar Lampung 25.09 239 P **P** 17 22 55.7 +3.4
comp=Z,87nm,1.1s
KLI Kotabumi 25.16 240 P **P** 17 22 54.3 +1.4
comp=Z,2µmcomp=Z,121nm,1.0s
JNU Nakatsue 25.30 8 P **P** 17 22 54.3 +0.3
comp=Z,99nm,1.0s,baz=169,slow=5.5,SNR=6.3
JNU Nakatsue 25.30 8 P **P** 17 22 53.8 -0.2
IPM Ipoh 25.64 264 P **P** 17 22 57.4 +0.1
IPM IAmb IAmb 17 23 31.0
comp=Z,48nm,1.0s
IPM Ipoh 25.64 264 P **P** 17 22 59.0 +1.7
IPM Ipoh 25.64 264 P **P** 17 22 59.2 +1.9
KULM Kulim 25.89 266 P **P** 17 22 58.6 -1.0
KULM IAmb IAmb 17 23 33.9
comp=Z,42nm,1.1s
KULM Kulim 25.89 266 P **P** 17 23 02.0 +2.5
LWLI Liwa 25.93 241 P **P** 17 23 00.9 +0.9
comp=Z,129nm,0.9s
FITZ Fitzroy Crossi 25.97 182 P **P** 17 23 00.0 -0.1
comp=Z,39nm,0.8s,baz=10,slow=9.4,SNR=56
FITZ ScP **ScP** 17 29 55.8 -1.7
comp=Z,3.0nm,0.8s,baz=346,slow=4.2,SNR=2.9
FITZ Fitzroy Crossi 25.97 182 P **P** 17 23 00.1 0.0
baz=26,SNR=57
FITZ Fitzroy Crossi 25.97 182 P **P** 17 23 00.1 -0.1
FITZ IAmb IAmb 17 23 03.8
comp=Z,55nm,0.9s
FITZ Fitzroy Crossi 25.97 182 P **P** 17 23 00.3 +0.2
GYA Guiyang 26.35 317 ⇑*iP* **P** 17 23 05.3 +1.6
GYA sP sP 17 23 40.6 +4.2
GYA pmax pmax
comp=Z,16nm,0.8s
JMN Monobe 26.46 14 P **P** 17 23 04.4 -0.1
JMN IAmb IAmb 17 23 07.9
comp=Z,113nm,1.4s
JTU Tsushima 26.51 5 P **P** 17 23 04.7 -0.1
JTU IAmb IAmb 17 23 09.9
comp=Z,52nm,1.1s
BKNI Bangkinang 26.57 255 P **P** 17 23 05.1 -0.6
BKNI IAmb IAmb 17 23 32.6
comp=Z,46nm,1.0s
SRIT Nakonsritamara 26.70 273 P **P** 17 23 06.3 -0.5
PMG Port Moresby 26.83 130 P **P** 17 23 08.9 +0.9
comp=Z,11nm,0.8s,baz=312,slow=10,SNR=3.2
PMG Port Moresby 26.83 130 P **P** 17 23 07.8 -0.2
PMG IAmb IAmb 17 24 05.7
comp=Z,38nm,1.1s
KRJI Kerinci 26.99 249 P **P** 17 23 11.4 +1.9
comp=Z,2µmcomp=Z,197nm,0.9s
ENH Enshi 27.32 326 P **P** 17 23 11.0 -1.3
COEN Coen 27.35 143 P **P** 17 23 11.4 -1.2
COEN Coen 27.35 143 P **P** 17 23 12.4 -0.2
JHS Saijyo 27.52 12 P **P** 17 23 13.3 -0.6
JHS IAmb IAmb 17 23 18.9
comp=Z,30nm,0.9s
JHJ Hachijo jima 2 27.81 24 LR LR 17 36 22.6
comp=Z,87nm,18.2s,baz=30,slow=40
JHJ2 Mitsune 27.82 24 P **P** 17 23 17.2 +0.7
MNSI Mandailing Nat 27.84 256 P **P** 17 23 19.9 +2.9
PSI Prapat 28.00 261 P **P** 17 23 19.4 +0.7
comp=Z,6.1nm,0.5s,baz=72,slow=4.3,SNR=12
KRVT Keravat (AS076 28.19 115 LR LR 17 33 12.8
comp=Z,99nm,20.4s,baz=62,slow=33
TJN Taejon 28.24 1 *ceP* **P** 17 23 21.0 +0.7
TJN Taejon 28.24 1 P **P** 17 23 20.0 -0.2
TJN Taejon 28.24 1 P **P** 17 23 23.7 +3.4
RABL Rabaul 28.26 115 P **P** 17 23 19.8 -1.0
RABL IAmb IAmb 17 23 27.4
comp=Z,27nm,0.8s
RABL Rabaul 28.26 115 P **P** 17 23 23.0 +2.2
KMI Kunming 28.40 310 ⇓*iP* **P** 17 23 23.0 +0.9
KMI pP sP 17 23 49.5 -5.6
KMI pmax pmax
comp=Z,26nm,0.7s
WB0 Warramunga Arr 28.66 165 P **P** 17 23 22.7 -1.6
CM31 Chiang Mai Arr 28.79 294 P **P** 17 23 26.1 +0.6
CM31 Chiang Mai Arr 28.79 294 P **P** 17 23 26.9 +1.5
SNR=12
CMAR Chiang Mai Arr 28.79 294 P **P** 17 23 26.5 +1.1
comp=Z,12nm,1.0s,baz=120,slow=7.2,SNR=62
CMAR PcP **PcP** 17 26 34.3 +1.0
comp=Z,5.5nm,0.7s,baz=94,slow=0.8,SNR=14
CMAR ScP **ScP** 17 30 04.7 -1.5
comp=Z,0.4nm,0.7s,baz=71,slow=3.2,SNR=4.4
CMAR Chiang Mai Arr 28.79 294 P **P** 17 23 25.6 +0.2
CMAR **PcP** 17 26 34.8 +1.5
WRAB Tennant Creek 28.81 165 *ceP* **P** 17 23 24.9 -0.6
WRAB pmax pmax
comp=Z,26nm,1.7s
WRAB Tennant Creek 28.81 165 P **P** 17 23 24.4 -1.1
WRAB Tennant Creek 28.81 165 P **P** 17 23 25.0 -0.6
WRA Warramunga Arr 28.82 165 P **P** 17 23 25.2 -0.4
comp=Z,5.2nm,0.6s,baz=344,slow=9.4,SNR=41
WRA PcP **PcP** 17 26 33.5 +0.2
comp=Z,1.1nm,0.6s,baz=337,slow=3.2,SNR=1.8
WRA S **S** 17 28 01.2 -7.4
comp=Z,1.3nm,0.3s,baz=349,slow=15,SNR=6.5
WRA ScP **ScP** 17 30 04.3 -1.8
comp=Z,1.9nm,0.7s,baz=351,slow=3.4,SNR=5.3
WRA Warramunga Arr 28.82 165 P **P** 17 23 24.2 -1.4
WB2 Warramunga Arr 28.82 165 P **P** 17 23 25.0 -0.7
baz=29
WB2 Warramunga Arr 28.82 165 P **P** 17 23 24.5 -1.1
INU Inuyama 28.84 18 P **P** 17 23 25.2 -0.4
INU IAmb IAmb 17 23 27.6
comp=Z,21nm,0.8s
INU Inuyama 28.84 18 P **P** 17 23 27.1 +1.5
WR0 Warramunga Arr 28.89 164 P **P** 17 23 23.8 -2.4
CHTO Chiang Mai 28.89 295 P **P** 17 23 25.6 -0.8
CHTO pmax pmax
comp=Z,31nm,1.3s
CHTO Chiang Mai 28.89 295 P **P** 17 23 25.6 -0.8
CHTO Chiang Mai 28.89 295 P **P** 17 23 26.7 +0.3
CHTO Chiang Mai 28.89 295 P **P** 17 23 27.3 +0.9
CHTO Chiang Mai 28.89 295 P **P** 17 23 27.0 +0.7
CHTO pP **pP** 17 23 50.8 +2.8
SISI Saibi 28.94 252 P **P** 17 23 27.7 +0.9
comp=Z,37nm,0.6s
KCSI Kotacane, Aceh 29.00 263 P **P** 17 23 28.9 +1.6
comp=Z,585nmcomp=Z,41nm,1.0s
JGF Kuroka 29.17 18 P **P** 17 23 28.3 -0.4
KSAR Wonju Array Be 29.32 2 P **P** 17 23 29.5 -0.3
KSAR Wonju Array Be 29.32 2 P **P** 17 23 29.4 -0.3
KSRS Korea Array 29.33 2 P **P** 17 23 30.5 +0.5
comp=Z,24nm,0.9s,baz=178,slow=10,SNR=67
KSRS ScP **ScP** 17 30 07.0 -0.4
comp=Z,1.6nm,1.0s,baz=194,slow=4.8,SNR=5.0
KSRS LR LR 17 35 48.6
comp=Z,46nm,20.7s,baz=165,slow=37
KS19 Wonju Array Si 29.37 2 P **P** 17 23 29.1 -1.2
KS19 IAmb IAmb 17 23 32.4
comp=Z,27nm,0.8s
LYN LuoYang 29.42 336 ⇓*iP* **P** 17 23 30.8 0.0
LHMI Lhok Sumawe 29.56 266 P **P** 17 23 31.3 -1.0
GSI Gunungsitoli 29.65 258 P **P** 17 23 31.4 -1.7
GSI IAmb IAmb 17 23 36.0
comp=Z,35nm,0.7s
GSI **PcP** 17 26 35.4 -0.1
GSI Gunungsitoli 29.65 258 P **P** 17 23 33.1 0.0
comp=Z,51nm,0.7s
GSI Gunungsitoli 29.65 258 P **P** 17 23 33.2 +0.1
PZH PanZhiHua 29.90 311 P **P** 17 23 35.5 +0.2
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,70nm,4.5s
PSA00 Pilbara Seismi 30.14 193 P **P** 17 23 36.1 -1.2
PSA00 IAmb IAmb 17 23 38.0
comp=Z,30nm,0.9s
PSA00 Pilbara Seismi 30.14 193 P **P** 17 23 37.2 -0.1
MJAR Matsushiro Arr 30.31 19 P **P** 17 23 38.1 -0.5
comp=Z,3.3nm,0.7s,baz=184,slow=9.7,SNR=11
MJAR Matsushiro Arr 30.31 19 P **P** 17 23 37.6 -1.1
MAJO Matsushiro 30.31 19 ⇑*eP* **P** 17 23 37.7 -1.0
MAJO pmax pmax
comp=Z,40nm,2.0s
MAJO Matsushiro 30.31 19 P **P** 17 23 37.9 -0.8
MAJO IAmb IAmb 17 23 39.6
comp=Z,92nm,2.0s
MJB9 Matsu-Tunnel 30.31 19 P **P** 17 23 37.8 -0.9
MJB9 IAmb IAmb 17 23 39.5
comp=Z,91nm,2.0s
XAN Xi'an 30.59 330 P **P** 17 23 39.8 -1.4
XAN pmax pmax
comp=Z,24nm,0.6s
XAN pmax pmax
comp=Z,45nm,5.2s
XAN Xi'an 30.59 330 P **P** 17 23 40.0 -1.2
JYT Yasato 30.71 22 P **P** 17 23 41.8 -0.3
QIS Mount Isa 31.15 156 P **P** 17 23 46.3 0.0
baz=31,SNR=25
QIS Mount Isa 31.15 156 P **P** 17 23 46.6 +0.3
HNS HongShan 31.17 342 ⇑P **P** 17 23 45.8 -0.4
HNS pmax pmax
comp=Z,31nm,0.8s
CD2 Chengdu 31.19 320 P **P** 17 23 46.0 -0.6
CD2 S **S** 17 28 46.1 +0.2
CD2 sS sS 17 29 26.3 +2.7
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,80nm,6.7s
CD2 LR LR
comp=Z,200nm,26.3s
CD2 LR LR
comp=Z,210nm,27.6s
MTSU Mount Surprise 31.34 146 P **P** 17 23 47.6 -0.3
baz=31,SNR=5.2
MTSU Mount Surprise 31.34 146 P **P** 17 23 48.7 +0.8
JSD Sado 31.70 18 P **P** 17 23 50.6 -0.2
JSD IAmb IAmb 17 24 10.1
comp=Z,38nm,1.3s
AS31 Alice Springs 32.29 167 P **P** 17 23 55.2 -1.0
ASAR Alice Springs 32.30 167 P **P** 17 23 56.2 -0.1
comp=Z,6.7nm,0.5s,baz=344,slow=7.1,SNR=198
ASAR PcP **PcP** 17 26 42.9 +0.5
comp=Z,3.4nm,0.8s,baz=352,slow=1.1,SNR=4.8
ASAR S **S** 17 28 58.5 -4.6
comp=Z,2.6nm,0.9s,baz=350,slow=17,SNR=5.7
ASAR ScP **ScP** 17 30 16.2 -1.4
comp=Z,5.3nm,0.9s,baz=352,slow=3.2,SNR=15
ASAR LR LR 17 37 57.0
comp=Z,95nm,18.0s,baz=10,slow=38
ASAR Alice Springs 32.30 167 P **P** 17 23 56.1 -0.2
ASPA Alice Springs 32.30 167 P **P** 17 23 56.2 -0.1
baz=32
JMM Marumori 32.38 21 P **P** 17 23 57.8 +1.0
WRKA Warakurna 32.90 177 P **P** 17 24 01.6 +0.1
baz=33,SNR=34
WRKA Warakurna 32.90 177 P **P** 17 24 01.9 +0.4
BJI Beijing 33.22 345 P **P** 17 24 03.8 -0.3
BJI pP **pP** 17 24 25.6 -0.3
BJI sP **sP** 17 24 37.3 +0.2
BJI S **S** 17 29 16.3 -0.6
BJI pmax pmax
comp=Z,12nm,0.8s
CTA Charters Tower 33.99 146 P **P** 17 24 11.5 +0.5
comp=Z,3.1nm,0.7s,baz=333,slow=9.7,SNR=5.5
CTA LR LR 17 41 07.6
comp=Z,66nm,18.7s,baz=314,slow=41
MSHR Mys Shultsa 34.66 6 *c iP* **P** 17 24 18.1 +1.6
MSHR pmax pmax
comp=Z,55nm,0.8s
LZH Lanzhou 34.80 327 *eP* **P** 17 24 18.8 +0.7
LZH sP sP 17 24 54.5 +3.2
LZH pmax pmax
comp=Z,19nm,1.2s
LZH LR LR
comp=Z,250nm,13.0s
LZH LR LR
comp=Z,200nm,14.6s
LZH LR LR
comp=Z,230nm,17.1s
JTM Tenmabayashi 35.09 19 P **P** 17 24 21.0 +0.7
VLA Vladivostok 35.27 7 *c iP* **P** 17 24 23.4 +1.6
VLA pmax pmax
comp=Z,144nm,1.1s
MEEK Meekatharra 35.30 192 P **P** 17 24 22.1 -0.3
baz=36,SNR=18
MEEK Meekatharra 35.30 192 P **P** 17 24 22.3 0.0
HHC Hu-ho-hao-te 35.32 340 *eP* **P** 17 24 23.0 +0.6
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,78nm,5.7s
CN2 Changchun 35.66 359 *eP* **P** 17 24 22.3 -2.8
CN2 PP **PnPn** 17 25 46.9 -0.9
CN2 S **S** 17 29 50.8 -3.7
CN2 sS sS 17 30 34.3 +1.7
CN2 SS **SnSn** 17 32 18.4 -7.6
CN2 LR LR
comp=Z,160nm,12.0s
CN2 LR LR
comp=Z,160nm,12.0s
CN2 LR LR
comp=Z,150nm,13.0s
USA0B Ussuriysk Arra 36.35 7 P **P** 17 24 32.1 +1.1
USA0B pmax pmax
comp=Z,121nm,0.9s
USA0B Ussuriysk Arra 36.35 7 P **P** 17 24 32.1 +1.1
USRK Ussuriysk Ar. 36.35 7 P **P** 17 24 32.5 +1.5
comp=Z,116nm,0.8s,baz=191,slow=7.7,SNR=128
USRK Ussuriysk Ar. 36.35 7 P **P** 17 24 32.0 +1.0
MDJ Mudanjiang 36.55 4 P **P** 17 24 34.0 +1.3
MDJ pmax pmax
comp=Z,97nm,0.9s
MDJ pmax pmax
comp=Z,200nm,3.9s
MDJ Mudanjiang 36.55 4 P **P** 17 24 34.5 +1.8
MDJ Mudanjiang 36.55 4 ⇑P **P** 17 24 34.2 +1.5
MDJ ⇑pP **pP** 17 24 54.7 +0.6
OOD Oodnadatta 36.68 166 P **P** 17 24 34.3 +0.3
XLT XiLinHaoTe 36.90 347 *eP* **P** 17 24 35.8 0.0
XLT pP pP 17 24 57.9 +0.2
XLT sP sP 17 25 12.8 +4.1

XLT PcP **PcP** **17 26 56.6 +1.1**
XLT S **S** **17 30 09.3 -4.3**
XLT ScP **ScP** **17 30 36.5 +2.7**
XLT sS sS 17 30 49.0 -2.9
XLT ScS **ScS** **17 34 33.0 -8.1**
XLT pmax pmax
comp=Z,20nm,0.8s
XLT pmax pmax
comp=Z,130nm,4.2s
JEW Eniwo **37.07 18** P **P** **17 24 39.5 +2.4**
HNR Honiara **37.49 117** LR LR 17 37 44.6
comp=Z,68nm,21.5s,baz=232,slow=32
BNX BinXian **37.59 1** ⇓P **P** **17 24 41.9 +0.4**
BNX pmax pmax
comp=Z,25nm,0.9s
BNX pmax pmax
comp=Z,280nm,8.0s
TEY Ternei **37.89 12**⇑ *i*P **P** **17 24 46.0 +2.0**
TEY pmax pmax
comp=N,200nm,1.0s
TEY pmax pmax
comp=Z,200nm,1.0s
TEY pmax pmax
comp=N,120nm,0.8s
TEY pmax pmax
comp=Z,180nm,0.8s
INKA Innaminka **38.10 159** P **P** **17 24 46.4 +0.4**
MORW Morawa **38.24 195** P **P** **17 24 47.2 0.0**
baz=38,SNR=18
MORW Morawa **38.24 195** P **P** **17 24 47.1 0.0**
MORW IAmb IAmb 17 24 47.7
comp=Z,26nm,0.8s
MORW Morawa **38.24 195** P **P** **17 24 47.5 +0.3**
QLP Quilpie **38.43 154** P **P** **17 24 49.9 +1.1**
ASAJ Asahikawa **38.58 19** P **P** **17 24 52.1 +2.3**
comp=Z,16nm,0.4s,baz=226,slow=7.8,SNR=46
ASAJ LR LR 17 41 38.2
comp=Z,146nm,20.3s,baz=205,slow=37
JKA Kamikawa-asahi **38.58 19** P **P** **17 24 51.0 +1.1**
FORT Forrest **38.60 178** P **P** **17 24 50.6 +0.5**
baz=39,SNR=45
FORT Forrest **38.60 178** P **P** **17 24 49.3 -0.9**
FORT Forrest **38.60 178** P **P** **17 24 50.8 +0.7**
MULG Mulgathing **38.75 170** P **P** **17 24 52.3 +0.9**
GTA Gaotai **39.41 327** *e*P **P** **17 24 56.8 -0.2**
GTA pmax pmax
comp=Z,7.0nm,1.1s
BLDU Ballidu **39.56 193** P **P** **17 24 58.1 -0.1**
baz=40,SNR=23
BLDU Ballidu **39.56 193** P **P** **17 24 58.2 0.0**
LCRK Leigh Creek **39.84 164** P **P** **17 25 01.7 +1.2**
KLBR Kellerberrin **40.28 192** P **P** **17 25 04.3 +0.2**
baz=40,SNR=9.3
KLBR Kellerberrin **40.28 192** P **P** **17 25 04.8 +0.7**
GOMU GeErMu **40.31 319** P **P** **17 25 06.3 +1.5**
GOMU PP **PP** **17 26 41.8 +2.4**
GOMU PcP **PcP** **17 27 04.4 -2.3**
GOMU pmax pmax
comp=Z,20nm,1.1s
GOMU pmax pmax
comp=Z,50nm,5.6s
H11N1 WAKE ISLAND Hy **40.72 69** T T 18 08 58.7
baz=259,slow=75,SNR=171
H11N2 WAKE ISLAND Hy **40.73 69** T T 18 09 00.2
baz=259,slow=75,SNR=90
H11N3 WAKE ISLAND Hy **40.74 69** T T 18 09 01.0
baz=259,slow=75,SNR=124
EIDS Eidsvold **40.87 145** P **P** **17 25 08.5 -0.6**
MUN Mundaring **40.99 193** P **P** **17 25 10.2 +0.3**
baz=41,SNR=7.1
MUN Mundaring **40.99 193** P **P** **17 25 10.5 +0.6**
YSS Yuzh-Sakhalins **41.19 17** *e*P **P** **17 25 12.8 +1.4**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,200nm,5.7s
YSS Yuzh-Sakhalins **41.19 17** P **P** **17 25 11.6 +0.2**
YSS Yuzh-Sakhalins **41.19 17** P **P** **17 25 14.1 +2.7**
comp=Z,16nm,0.9s
KLR Kul'dur **41.30 5** P **P** **17 25 13.3 +1.0**
comp=Z,17nm,0.6s,baz=192,slow=5.6,SNR=76
KLR Kul'dur **41.30 5***c i*P **P** **17 25 13.3 +1.0**
KLR pmax pmax
comp=Z,56nm,1.6s
HIA Hailar **41.51 353** IAmb IAmb 17 25 15.5
comp=Z,18nm,0.9s
BBOO Buckleboo **41.59 168** P **P** **17 25 15.1 +0.3**
baz=42,SNR=148
BBOO Buckleboo **41.59 168** P **P** **17 25 14.6 -0.3**
BBOO Buckleboo **41.59 168** P **P** **17 25 15.7 +0.8**
WHYH Whyalla **42.14 166** P **P** **17 25 20.2 +0.9**
comp=Z,29nm,0.9s
STKA Stephens Creek **42.19 161** P **P** **17 25 20.5 +0.8**
comp=Z,16nm,0.8s,baz=337,slow=8.3,SNR=32
STKA LR LR 17 45 38.5
comp=Z,46nm,18.4s,baz=17,slow=40
STKA Stephens Creek **42.19 161** P **P** **17 25 20.8 +1.1**
baz=42,SNR=26
STKA Stephens Creek **42.19 161***ce*P **P** **17 25 20.3 +0.6**
STKA Stephens Creek **42.19 161** P **P** **17 25 20.1 +0.4**
STKA Stephens Creek **42.19 161** P **P** **17 25 20.9 +1.1**
NAPP Napperby **42.43 166** P **P** **17 25 22.8 +1.2**
HTT Hallett **42.86 165** P **P** **17 25 26.1 +0.9**
baz=43,SNR=15
HTT Hallett **42.86 165** P **P** **17 25 26.2 +1.0**
ULN Ulaanbaatar **43.03 341***c i*P **P** **17 25 26.7 +0.1**
ULN pmax pmax
comp=Z,13nm,0.9s
ULN Ulaanbaatar **43.03 341** P **P** **17 25 26.2 -0.3**
ULN Ulaanbaatar **43.03 341** P **P** **17 25 26.6 0.0**
ULN Ulaanbaatar **43.03 341** ⇑P **P** **17 25 26.7 +0.1**
SONM Songino Array **43.22 340** P **P** **17 25 28.3 +0.2**
comp=Z,5.7nm,0.8s,baz=156,slow=9.0,SNR=30
SONM PcP **PcP** **17 27 16.0 +0.3**
comp=Z,1.8nm,0.7s,baz=151,slow=3.3,SNR=2.8
SONM Songino Array **43.22 340** P **P** **17 25 27.7 -0.4**
RKGY Rocky Gully **43.36 192** P **P** **17 25 30.5 +1.4**
baz=44,SNR=13
RKGY Rocky Gully **43.36 192** P **P** **17 25 30.7 +1.6**
CMSA Cobar Meteorol **43.38 156** P **P** **17 25 29.6 +0.3**
baz=44,SNR=6.7
CMSA Cobar Meteorol **43.38 156** P **P** **17 25 30.2 +0.9**
GRNR Gornyy **43.39 9**⇑ *i*P **P** **17 25 31.3 +2.0**
GRNR pmax pmax
comp=E,3.0nm,0.9s
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR MLR MLR
comp=N,50nm,16.0s
GRNR MLR MLR
comp=E,70nm,16.0s
GRNR MLR MLR
comp=Z,110nm,16.0s
TWOA Tennyson Woods **44.29 166** P **P** **17 25 38.2 +1.6**
ARMA Armidale **45.16 149** P **P** **17 25 43.8 +0.1**
ARMA IAmb IAmb 17 26 17.2
comp=Z,22nm,1.2s
PALK Pallekele **45.45 272** LR LR 17 46 25.4
comp=Z,76nm,19.0s,baz=195,slow=38
PALK Pallekele **45.45 272** P **P** **17 25 46.0 -0.3**
PALK pmax pmax
comp=Z,26nm,1.5s
PALK Pallekele **45.45 272** P **P** **17 25 46.0 -0.3**
PALK IAmb IAmb 17 26 13.9
comp=Z,26nm,1.5s
ZEA Zeya **45.59 1** *e*P **P** **17 25 46.9 +0.2**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZAK Zakamensk **46.47 340** *e*P **P** **17 25 52.7 -1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ARPS Mount Arapiles **46.80 163** P **P** **17 25 57.0 +0.6**
baz=47,SNR=13
ARPS Mount Arapiles **46.80 163** P **P** **17 25 57.5 +1.2**
HYBB Hyderabad (bro **47.66 286** *e*P **P** **17 26 03.2 -0.2**
HYBB *es*P **sP** **17 26 36.5 -0.9**
HYBB *e*PcP **PcP** **17 27 31.4 -0.2**
HYBB *e*PP **PP** **17 27 55.4 -0.4**
CAN Canberra **48.02 155** P **P** **17 26 06.4 +0.5**
CAN pmax pmax
comp=Z,14nm,0.9s
CAN Canberra **48.02 155** P **P** **17 26 06.4 +0.5**
CAN IAmb IAmb 17 26 30.7
comp=Z,14nm,0.9s
BRAT Ballarat **48.15 161** P **P** **17 26 08.6 +1.8**
MOY Mondy **48.34 339** *e*P **P** **17 26 08.7 +0.4**
MOY pmax pmax
comp=Z,17nm,1.9s
TOO Toolangi **48.68 160** P **P** **17 26 12.5 +1.6**
baz=49,SNR=7.3
TOO Toolangi **48.68 160** P **P** **17 26 11.6 +0.7**
TOO pmax pmax
comp=Z,23nm,1.5s
TOO Toolangi **48.68 160** P **P** **17 26 11.6 +0.7**
TOO IAmb IAmb 17 26 13.8
comp=Z,23nm,1.5s
TOO Toolangi **48.68 160** P **P** **17 26 12.8 +1.9**
KNGR Kungurtug, Tuv **48.82 336**⇑ *e*P **P** **17 26 12.3 +0.3**
LIFNC LIFOU **49.15 126** P **P** **17 26 16.5 +1.7**
WMQ Urumqi **49.18 323** *e*P **P** **17 26 16.3 +1.5**
WMQ pP pP 17 26 41.1 +3.1
WMQ sP sP 17 26 49.1 +0.2
WMQ pmax pmax
comp=Z,28nm,0.7s
WMQ LR LR
comp=Z,110nm,21.1s
DZM Mont Dzumac **49.21 128** P **P** **17 26 15.9 +0.6**
DZM IAmb IAmb 17 26 22.6
comp=Z,52nm,1.7s
ONTNC Ouen Toro **49.34 128** P **P** **17 26 16.0 -0.2**
OUENC Ouen Island, N **49.70 128** P **P** **17 26 17.9 -1.1**
OUENC IAmb IAmb 17 26 24.1
comp=Z,24nm,1.1s
BOD Bodaibo **50.63 351** *e*P **P** **17 26 26.1 +0.7**
BOD pmax pmax
comp=Z,27nm,1.9s
PEA0B Petropavlovsk- **51.56 23**⇑ *e*P **P** **17 26 33.7 +1.2**
PEA0B Petropavlovsk- **51.56 23** P **P** **17 26 34.1 +1.6**
PETK Petropavlovsk- **51.56 23** P **P** **17 26 34.0 +1.5**
comp=Z,7.4nm,0.7s,baz=203,slow=3.9,SNR=22
PETK LR LR 17 46 10.9
comp=Z,27nm,21.4s,baz=213,slow=33
PETK Petropavlovsk- **51.56 23** P **P** **17 26 34.0 +1.5**
PETK Petropavlovsk- **51.56 23** P **P** **17 26 34.0 +1.5**
ZSN Zaisan **52.88 326** *e*P **P** **17 26 40.6 -1.7**
ZSN pmax pmax
comp=Z,10.0nm,1.3s
ZSN Zaisan **52.88 326** *e*P **P** **17 26 40.7 -1.7**
comp=Z,10nm,1.3s,baz=326
YAK Yakutsk **53.95 2** P **P** **17 26 50.5 +0.6**
comp=Z,7.7nm,0.4s,baz=179,slow=1.9,SNR=41
YAK LR LR 17 48 58.1
comp=Z,38nm,21.9s,baz=126,slow=35
YAK Yakutsk **53.95 2***c i*P **P** **17 26 50.3 +0.4**
YAK *e**PP **pwP** **17 27 14.5 -1.4**
YAK *e* 17 27 52.5
YAK *e* 17 28 54.2
YAK *e*S **S** **17 34 19.0 +1.0**
YAK *e* 17 36 23.0
YAK *e*SS **SS** **17 38 04.6 +4.1**
YAK pmax pmax
comp=Z,54nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=Z,71nm,3.5s
YAK pmax pmax
comp=N,61nm,3.5s
YAK smax smax
comp=N,73nm,2.5s
YAK smax smax
comp=E,44nm,1.6s
YAK Yakutsk **53.95 2** P **P** **17 26 50.4 +0.6**
YAK Yakutsk **53.95 2** P **P** **17 26 50.7 +0.8**
YAK pP **pwP** **17 27 16.0 +0.2**
MK31 Makanchi Array **54.00 324***c i*P **P** **17 26 51.0 +0.4**
MK31 Makanchi Array **54.00 324** P **P** **17 26 50.9 +0.4**
MK31 PcP **PcP** **17 27 54.9 +0.3**
MKAR Makanchi Array **54.00 324** P **P** **17 26 51.0 +0.5**
comp=E,27nm,0.8s,baz=158,slow=11,SNR=58
MKAR PcP **PcP** **17 27 54.5 -0.1**
comp=E,7.9nm,0.7s,baz=114,slow=5.0,SNR=4.1
MKAR LR LR 17 51 16.0
comp=E,54nm,19.7s,baz=108,slow=37
SHLS Shalkode **54.01 318** *e*P **P** **17 26 48.6 -2.3**
SHLS pmax pmax
comp=Z,10.0nm,1.1s
SHLS Shalkode **54.01 318** *e*P **P** **17 26 48.6 -2.3**
comp=Z,10nm,1.1s,baz=319
MAKZ Makanchi **54.19 324** P **P** **17 26 52.2 +0.2**
MAKZ 17 27 55.0
MAKZ pmax pmax
comp=Z,34nm,1.0s
MAKZ Makanchi **54.19 324** P **P** **17 26 52.1 +0.2**
MAKZ PcP **PcP** **17 27 55.0 -0.3**
MAKZ Makanchi **54.19 324** P **P** **17 26 52.4 +0.4**
MAKZ sP **sP** **17 27 30.8 +4.5**
UZB Uzynbulak **54.30 318** *e*P **P** **17 26 51.9 -1.0**
UZB pmax pmax
comp=Z,5.0nm,0.8s
UZB Uzynbulak **54.30 318** *e*P **P** **17 26 52.0 -1.0**
comp=Z,5.2nm,0.8s,baz=318
MA2 Magadan **54.62 15** P **P** **17 26 56.3 +1.6**
comp=Z,28nm,0.7s,baz=202,slow=7.2,SNR=56
MA2 LR LR 17 50 34.6
comp=Z,29nm,19.7s,baz=190,slow=36
MA2 Magadan **54.62 15***c i*P **P** **17 26 56.2 +1.4**
MA2 pmax pmax
comp=Z,30nm,0.7s
MA2 Magadan **54.62 15** P **P** **17 26 55.7 +1.0**
MA2 Magadan **54.62 15** P **P** **17 26 56.8 +2.0**
MA2 Magadan **54.62 15** P **P** **17 26 56.0 +1.2**
MA2 pP **pP** **17 27 18.4 +1.0**
KPKS Kokpek **54.66 319** *e*P **P** **17 26 54.8 -0.7**
KPKS pmax pmax
comp=Z,10.0nm,1.4s
KPKS Kokpek **54.66 319** *e*P **P** **17 26 54.9 -0.7**
comp=Z,9.9nm,1.4s,baz=319
SATY Saty **54.66 318** *e*P **P** **17 26 55.1 -0.5**
SATY pmax pmax
comp=Z,9.0nm,1.3s
SATY Saty **54.66 318** *e*P **P** **17 26 55.1 -0.5**
comp=Z,9.3nm,1.3s,baz=318
ZHN Zhinishke **54.69 318** *e*P **P** **17 26 54.8 -1.0**
ZHN Zhinishke **54.69 318** *e*P **P** **17 26 54.9 -0.9**
baz=318
KSH Kashi **54.97 313** P **P** **17 27 00.3 +2.4**
KSH sP sP 17 27 36.8 +4.6
KSH PP **PP** **17 29 07.3 +5.4**
KSH pmax pmax
comp=Z,13nm,1.1s
KDJ Kajisay **55.10 316** P **P** **17 26 58.7 -0.2**
KDJ pmax pmax
comp=Z,12nm,1.1s
KDJ Kajisay **55.10 316** P **P** **17 26 58.7 -0.2**
KDJ IAmb IAmb 17 27 00.7
comp=Z,12nm,1.1s
TDK Taldyqorghan **55.51 320** *e*P **P** **17 27 01.5 0.0**
TDK pmax pmax
comp=Z,16nm,0.7s
TDK Taldyqorghan **55.51 320** *e*P **P** **17 27 01.5 0.0**
comp=Z,16nm,0.7s,baz=320
MDOK Medeo **55.61 318** *e*P **P** **17 27 01.3 -1.1**
MDOK Medeo **55.61 318** *e*P **P** **17 27 01.4 -1.1**
baz=318
TNSS Tian-Shan **55.63 317** *e*P **P** **17 27 02.1 -0.7**
TNSS Tian-Shan **55.63 317** *e*P **P** **17 27 02.2 -0.7**
baz=317
AAA Alma-Ata **55.72 318** *e*P **P** **17 27 02.0 -1.1**
AAA pmax pmax
comp=Z,20nm,1.4s
AAA Alma-Ata **55.72 318** *e*P **P** **17 27 02.0 -1.1**
comp=Z,20nm,1.4s,baz=318
CHKK Chushkaly **55.94 318** *e*P **P** **17 27 03.3 -1.2**
CHKK Chushkaly **55.94 318** *e*P **P** **17 27 03.4 -1.2**
baz=318
KUU Kurty **56.38 318** *e*P **P** **17 27 07.2 -0.5**
KUU pmax pmax
comp=Z,23nm,0.9s
KUU Kurty **56.38 318** *e*P **P** **17 27 07.2 -0.5**
comp=Z,23nm,0.9s,baz=318
ZAA0 Zalesovo Array **56.74 332** P **P** **17 27 09.2 -0.9**
ZAA0 IAmb IAmb 17 27 10.4
comp=Z,19nm,1.2s
ZALV Zalesovo Beam **56.74 332** P **P** **17 27 09.6 -0.4**
comp=Z,7.6nm,0.8s,baz=116,slow=6.8,SNR=39
ZALV Zalesovo Beam **56.74 332** *i* P **P** **17 27 09.3 -0.7**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam **56.74 332** P **P** **17 27 09.0 -1.0**
SEM Semipalatinsk **57.04 327** *e*P **P** **17 27 11.2 -1.3**
SEM pmax pmax
comp=Z,4.0nm,1.6s
SEM Semipalatinsk **57.04 327** *e*P **P** **17 27 11.2 -1.3**
comp=Z,3.8nm,1.6s,baz=327
AAK Ala-Archa **57.14 316** LR LR 17 54 09.9
comp=Z,50nm,19.0s,baz=96,slow=38
AAK Ala-Archa **57.14 316***c i*P **P** **17 27 13.6 +0.3**
AAK pmax pmax
comp=Z,7.0nm,1.1s
AAK Ala-Archa **57.14 316** P **P** **17 27 12.1 -1.2**
SGDS Sogindy **57.35 317** *e*P **P** **17 27 13.0 -1.6**
SGDS Sogindy **57.35 317** *e*P **P** **17 27 13.1 -1.6**
baz=317
SEY Seymchan **57.92 14** LR LR 17 53 15.0
comp=Z,30nm,20.1s,baz=248,slow=37
SEY Seymchan **57.92 14**⇑ *e*P **P** **17 27 20.8 +2.6**
SEY pmax pmax
comp=Z,52nm,1.7s
KURK Kurchatov **58.09 326***c i*P **P** **17 27 19.4 -0.1**
KURK pmax pmax
comp=Z,52nm,1.3s
KURK Kurchatov **58.09 326** P **P** **17 27 19.0 -0.6**
KURK Kurchatov **58.09 326** P **P** **17 27 19.5 -0.1**
KURK Kurchatov **58.09 326** ⇑P **P** **17 27 19.4 -0.1**
KURK pP **sP** **17 27 49.2 -4.9**
KURK sP **PcP** **17 28 04.3 -6.1**
KURBB Kurchatov Arra **58.09 326** P **P** **17 27 19.6 0.0**
comp=Z,19nm,0.6s,baz=125,slow=6.4,SNR=201
KURBB Kurchatov Arra **58.09 326** P **P** **17 27 18.8 -0.8**
BTLS Baital **58.34 319** *e*P **P** **17 27 20.3 -1.2**
BTLS pmax pmax
comp=Z,5.0nm,0.9s
BTLS Baital **58.34 319** *e*P **P** **17 27 20.3 -1.2**
comp=Z,4.7nm,0.9s,baz=319
KBL Kabul **58.86 306** P **P** **17 27 24.8 -0.8**
KBL pmax pmax
comp=Z,19nm,0.9s
KBL Kabul **58.86 306** P **P** **17 27 24.8 -0.8**
BTK Batken **58.90 312** P **P** **17 27 25.2 -0.4**
BTK pmax pmax
comp=Z,15nm,0.9s
BTK Batken **58.90 312** P **P** **17 27 25.2 -0.4**
BTK IAmb IAmb 17 27 26.9
comp=Z,15nm,0.9s
GAR Garm **58.97 311** P **P** **17 27 25.5 -0.6**
DZA Taraz **59.41 315** *e*P **P** **17 27 28.0 -1.0**
DZA pmax pmax
comp=Z,7.0nm,0.8s
DZA Taraz **59.41 315** *e*P **P** **17 27 28.1 -1.0**
comp=Z,6.7nm,0.8s,baz=316
CHGR Chuyangaron **59.75 310** P **P** **17 27 30.1 -1.4**
CHGR pmax pmax
comp=Z,44nm,0.8s
CHGR Chuyangaron **59.75 310** P **P** **17 27 30.1 -1.4**
KK31 Karatay Array **60.05 315** P **P** **17 27 32.9 -0.4**
KK31 pmax pmax
comp=Z,23nm,1.2s
KK31 Karatay Array **60.05 315** P **P** **17 27 32.9 -0.4**
KK31 IAmb IAmb 17 27 34.2
comp=Z,22nm,1.1s
KKAR Karatay Array **60.05 315** P **P** **17 27 33.1 -0.2**
KKAR Karatay Array **60.05 315** P **P** **17 27 32.6 -0.7**
KKAR IAmb IAmb 17 27 34.2
comp=Z,22nm,1.1s
KKAR Karatay Array **60.05 315** P **P** **17 27 33.1 -0.2**
IUG Iuzhnay **60.09 314** *e*P **P** **17 27 32.7 -1.0**
IUG Iuzhnay **60.09 314** *e*P **P** **17 27 32.8 -1.0**
baz=314
BRZS Berezniki **61.15 323** *e*P **P** **17 27 39.7 -1.0**
BRZS pmax pmax
comp=Z,5.0nm,0.6s
BRZS Berezniki **61.15 323** *e*P **P** **17 27 39.7 -1.0**
comp=Z,4.5nm,0.6s,baz=324
TIXI Tiksi **63.58 1***c i*P **P** **17 27 56.3 -0.1**
TIXI pmax pmax
comp=Z,36nm,1.0s
TIXI Tiksi **63.58 1** P **P** **17 27 55.3 -1.1**
TIXI IAmb IAmb 17 27 57.6
comp=Z,27nm,0.9s
TIXI **pP** **17 28 19.1 -1.3**
TIXI Tiksi **63.58 1** P **P** **17 27 56.5 +0.1**
TIXI pP **pP** **17 28 21.1 +0.7**
BRVK Borovoye **63.76 326***c i*P **P** **17 27 57.6 -0.3**
BRVK pmax pmax
comp=Z,34nm,1.3s
BRVK Borovoye **63.76 326** P **P** **17 27 57.5 -0.4**
BRVK IAmb IAmb 17 27 58.7
comp=Z,20nm,0.8s
BRVK Borovoye **63.76 326** P **P** **17 27 57.6 -0.3**
BRVK Borovoye **63.76 326** P **P** **17 27 57.9 -0.1**
BRVK pP **sP** **17 28 29.7 -3.0**
RPZ Rata Peaks **65.36 146** P **P** **17 28 09.2 +0.7**
comp=Z,21nm,0.8s,baz=284,slow=6.0,SNR=6.6
RPZ Rata Peaks **65.36 146** P **P** **17 28 08.4 -0.1**
RPZ IAmb IAmb 17 28 11.4
comp=Z,26nm,0.9s
BILL Bilibino **65.48 15***d i*P **P** **17 28 09.7 +0.8**
BILL *i* 17 28 33.0
BILL *e*S **S** **17 36 49.1 +3.3**
BILL pmax pmax
comp=Z,21nm,1.7s
BILL Bilibino **65.48 15** P **P** **17 28 09.1 +0.2**
BILL pP **pP** **17 28 32.2 +0.1**
BILL IAmb IAmb 17 28 33.8
comp=Z,59nm,1.8s
BKZ Black Stump Fm **65.89 139** P **P** **17 28 10.9 -1.1**
BKZ IAmb IAmb 17 28 14.9
comp=Z,21nm,0.8s
NRIK Noril'sk **66.26 346** P **P** **17 28 13.8 0.0**
comp=Z,12nm,0.8s,baz=125,slow=6.4,SNR=23
NRIK Noril'sk **66.26 346***d i*P **P** **17 28 13.1 -0.7**
NRIK pmax pmax
comp=Z,18nm,0.9s
NRIK Noril'sk **66.26 346** P **P** **17 28 13.2 -0.7**
NRIK IAmb IAmb 17 28 14.8
comp=Z,16nm,0.9s
WSAR Wadi Sarin **66.65 292** P **P** **17 28 16.4 -0.8**
comp=Z,9.1nm,0.6s,baz=157,slow=6.5,SNR=16
WSAR Wadi Sarin **66.65 292** P **P** **17 28 15.5 -1.7**
BIDO Bidbid **67.11 292** P **P** **17 28 21.0 +0.8**
SNR=7.4
HOQ Hoqain **67.86 292** P **P** **17 28 23.9 -1.0**
GEYT Alibeck **68.14 308** P **P** **17 28 26.4 -0.1**
comp=Z,12nm,0.7s,baz=140,slow=5.0,SNR=17
GEYT LR LR 18 03 18.8
comp=Z,39nm,18.4s,baz=138,slow=40
GEYT Alibeck **68.14 308** P **P** **17 28 26.1 -0.3**
GEYT IAmb IAmb 17 28 28.0
comp=Z,14nm,0.8s
GYA0 ALIBECK ARRAY **68.14 308** P **P** **17 28 26.1 -0.3**
GYA0B ALIBECK ARRAY **68.14 308** IAmb IAmb 17 28 27.9
comp=Z,17nm,0.8s
AB31 Akbulak array **68.77 320** *i* P **P** **17 28 28.8 -1.3**
BANOM Banah **68.82 295** P **P** **17 28 31.1 +0.2**
UOSS Minazif **68.89 294** P **P** **17 28 30.6 -0.7**
SPIA Saint Paul Isl **68.92 31** P **P** **17 28 32.2 +1.4**
baz=251
HATD Hatta, Dubai **68.96 293** P **P** **17 28 31.3 -0.4**
ASHO Ashiyiah **69.02 293** P **P** **17 28 31.9 -0.3**
ALNE Al Ain **69.30 293** P **P** **17 28 33.3 -0.5**
ALNE Al Ain **69.30 293** *i* P **P** **17 28 33.8 0.0**
SNR=14
FAQ Al Faqa, Dubai **69.45 293** P **P** **17 28 34.1 -0.7**
SHAO Shalim **69.50 286** P **P** **17 28 35.1 -0.1**
SNR=11
ASUD Al Ashush, Dub **69.69 293** P **P** **17 28 34.7 -1.4**
DMTO DMTO **70.16 286** P **P** **17 28 40.0 +0.8**
SNR=7.1
AKTO Aktyubinsk **70.24 321** P **P** **17 28 37.5 -1.6**
SVE Sverdlovsk **70.26 328**⇓ *e*P **P** **17 28 38.9 -0.2**
SVE pmax pmax
comp=Z,28nm,0.9s
RBK Rabkut **70.88 286** P **P** **17 28 44.0 +0.4**
SNR=6.0
DOK Doka **70.90 287** P **P** **17 28 44.0 +0.3**
SNR=8.6
ARU Arti **71.27 327***c i*P **P** **17 28 44.2 -1.0**
ARU 17 29 02.1

ARU *PP **pP** 17 29 10.9 +1.2
ARU S **S** 17 37 54.6 -0.3
ARU SS **SS** 17 42 31.1 +0.5
ARU pmax pmax
comp=Z,12nm,0.6s
ARU Arti 71.27 327 P **P** 17 28 44.5 -0.7
WHFO Wadi Hawf 71.27 286 P **P** 17 28 47.0 +1.0
SNR=5.3
MZR Muzera 71.39 292 P **P** 17 28 47.3 +0.7
SNR=11
MZR Muzera 71.39 292 *i* P **P** 17 28 46.7 +0.1
SNR=46
SOCY Socotra 71.41 280 IAmb IAmb 17 28 46.0
comp=Z,15nm,0.7s
ABTO Aybut 71.75 286 P **P** 17 28 49.0 +0.1
SNR=6.6
JRN Qarnain Island 71.94 294 P **P** 17 28 49.1 -0.7
ANM Nome 73.45 25 P **P** 17 28 59.7 +1.7
baz=253
SHMA Al-Shehemyia 73.63 295 P **P** 17 28 59.4 -0.4
LKRN Lenkeran, Azer 75.52 308 P **P** 17 29 10.1 -0.4
KIRV Kirov 76.51 328 *d* iP **P** 17 29 14.6 -1.1
SEKA Sheki 76.78 310 P **P** 17 29 16.8 -0.9
MNGR Mingechevir, A 76.86 310 P **P** 17 29 17.6 -0.5
BELG Belogornoye 76.95 322 *c* iP **P** 17 29 17.0 -1.3
BELG pmax pmax
comp=Z,4.0nm,0.8s
TTA Tatalina 77.17 27 P **P** 17 29 21.1 +1.6
baz=262
O18K Koktuh Hills 77.19 30 P **P** 17 29 19.1 -0.4
O18K **pP** 17 29 42.5 -0.8
O18K Koktuh Hills 77.19 30 P **P** 17 29 21.1 +1.5
baz=264
ZKTA Zakatala 77.22 311 P **P** 17 29 19.5 -0.6
GANJ Ganja 77.44 310 P **P** 17 29 19.3 -2.1
L19K White Mountain 77.62 28 P **P** 17 29 24.1 +2.1
baz=264
N19K Bonanza Creek 77.65 30 P **P** 17 29 24.3 +2.1
baz=264
O19K Port Alsworth 77.67 30 P **P** 17 29 24.4 +2.3
baz=264
M19K Big River Lodg 77.80 28 P **P** 17 29 25.3 +2.4
baz=264
OHAK Old Harbor 77.96 33 P **P** 17 29 25.3 +1.5
baz=266
NAX Nakhchivan 78.08 308 P **P** 17 29 24.5 -0.5
L20K Farewell, AK 78.10 28 P **P** 17 29 26.4 +1.8
baz=264
K20K Telida 78.10 27 P **P** 17 29 26.5 +1.9
baz=264
J20K Nowinta River 78.15 26 P **P** 17 29 26.9 +2.1
baz=264
P19K Oil Pt 78.17 31 P **P** 17 29 26.3 +1.3
baz=266
A21K Barrow 78.23 19 P **P** 17 29 26.8 +1.7
baz=260
KDAK Kodiak Island 78.38 33 P **P** 17 29 27.5 +1.4
baz=266
GNI Garni 78.65 309 LR LR 18 08 57.6
comp=Z,19nm,20.0s,baz=50,slow=39
GNI Garni 78.65 309 *d* iP **P** 17 29 29.6 +1.3
GNI pmax pmax
comp=Z,21nm,1.3s
GNI Garni 78.65 309 P **P** 17 29 26.7 -1.5
GNI IAmb IAmb 17 29 30.3
comp=Z,19nm,1.1s
PRGR Permogore 78.69 331 *e*P **P** 17 29 25.6 -2.1
PRGR pmax pmax
comp=Z,14nm,0.6s
SPCR Spurr Chakacha 78.78 29 P **P** 17 29 29.5 +1.1
baz=266
H21K Melozitna Rive 78.87 25 P **P** 17 29 30.1 +1.4
H21K **pP** 17 29 52.2 -0.8
H21K Melozitna Rive 78.87 25 P **P** 17 29 30.3 +1.5
baz=265,SNR=10
PPLA Purkeypile 78.91 27 P **P** 17 29 30.3 +1.1
baz=266
CHUM Lake Minchumin 78.93 26 P **P** 17 29 30.6 +1.6
baz=266
CAST Castle Rocks 79.00 27 IAmb IAmb 17 29 32.1
comp=Z,15nm,0.9s
CAST Castle Rocks 79.00 27 P **P** 17 29 31.1 +1.6
baz=266
I21K Tanana 79.17 25 IAmb IAmb 17 29 33.4
comp=Z,19nm,1.0s
I21K Tanana 79.17 25 P **P** 17 29 31.9 +1.6
baz=266,SNR=15
ZEI Tsey 79.24 312 *e*P **P** 17 29 30.3 -1.2
ZEI pmax pmax
comp=Z,15nm,1.3s
NCK Nalchik 79.45 313 ⇓ *e*P **P** 17 29 32.6 +0.2
NCK pmax pmax
comp=Z,13nm,0.7s
KTH Kantishna Hill 79.53 27 P **P** 17 29 32.9 +0.5
BPAW Bear Paw Mtn. 79.53 26 IAmb IAmb 17 29 34.9
comp=Z,21nm,0.9s
BPAW Bear Paw Mtn. 79.53 26 P **P** 17 29 33.7 +1.3
baz=267,SNR=15
CUT Chulitna 79.77 28 P **P** 17 29 35.5 +1.9
baz=268
TRF Thorofare Moun 79.81 27 P **P** 17 29 33.8 -0.3
TRF IAmb IAmb 17 29 36.0
comp=Z,16nm,0.8s
TRF Thorofare Moun 79.81 27 P **P** 17 29 35.0 +0.9
baz=267,SNR=8.3
M22K Willow 79.81 29 P **P** 17 29 33.8 0.0
M22K pP **pP** 17 29 56.9 -1.5
M22K Willow 79.81 29 P **P** 17 29 35.0 +1.2
baz=268
KBZ Khabaz 79.95 313 P **P** 17 29 34.9 -0.1
comp=Z,7.0nm,1.1s,baz=64,slow=4.7,SNR=10.0
KBZ Khabaz 79.95 313 *c* iP **P** 17 29 34.4 -0.6
KBZ pmax pmax
comp=Z,11nm,1.3s
O22K Cooper Landing 79.97 30 P **P** 17 29 35.8 +1.1
baz=268
RC01 Rabbit Creek A 79.98 29 P **P** 17 29 35.9 +1.1
baz=268
GEVA Gevas 80.01 307 IAmb IAmb 17 29 37.4
comp=Z,24nm,1.0s
COLD Coldfoot 80.03 23 P **P** 17 29 36.2 +1.3
COLD IAmb IAmb 17 29 38.0
comp=Z,19nm,1.2s
COLD **pP** 17 29 57.0 -2.3
COLD Coldfoot 80.03 23 P **P** 17 29 37.0 +2.0
baz=267,SNR=11
SEW Seward 80.09 30 P **P** 17 29 36.4 +1.0
baz=269
KIV Kislovodsk 80.10 313 *e*P **P** 17 29 36.2 +0.3
KIV pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 80.10 313 P **P** 17 29 36.2 +0.3
H23K Yukon River 80.23 25 P **P** 17 29 37.9 +1.8
baz=268,SNR=13
I23K Minto, Yukon-K 80.28 25 IAmb IAmb 17 29 40.8
comp=Z,17nm,0.7s
I23K Minto, Yukon-K 80.28 25 P **P** 17 29 37.9 +1.6
baz=268,SNR=21
PMR Palmer 80.28 29 P **P** 17 29 37.2 +0.8
baz=269
TOLK Toolik Lake Re 80.34 22 IAmb IAmb 17 29 39.6
comp=Z,20nm,0.8s
TOLK Toolik Lake Re 80.34 22 P **P** 17 29 38.6 +1.9
baz=267
NEA2 Nenana 80.38 26 P **P** 17 29 37.3 +0.4
NEA2 IAmb IAmb 17 29 39.5
comp=Z,12nm,0.8s
NEA2 **pP** 17 29 59.8 -1.6
NEA2 Nenana 80.38 26 P **P** 17 29 38.4 +1.5
baz=268,SNR=14
MCK McKinley 80.42 27 IAmb IAmb 17 29 39.1
comp=Z,32nm,0.8s
MCK McKinley 80.42 27 P **P** 17 29 38.0 +0.8
baz=269,SNR=20
RND Reindeer 80.45 27 IAmb IAmb 17 29 39.0
comp=Z,45nm,1.4s
VRH Novokhopyorsk 80.58 321 *e*P **P** 17 29 36.8 -1.4
VRH pmax pmax
comp=Z,10.0nm,0.5s
KNK Knik Glacier 80.60 29 P **P** 17 29 39.3 +1.1
baz=269
PWL Port Wells 80.66 30 P **P** 17 29 39.3 +0.8
baz=270
SML Sawmill 80.67 29 P **P** 17 29 39.8 +1.2
baz=270
MDM Murphy Dome 80.75 25 IAmb IAmb 17 29 42.4
comp=Z,16nm,1.0s
WRH Wood River Hil 80.81 26 P **P** 17 29 38.4 -0.7
WRH IAmb IAmb 17 29 41.6
comp=Z,25nm,1.2s
WRH pP **pP** 17 30 01.6 -2.0
TCOL CIGO, UAF Yank 80.91 26 P **P** 17 29 40.6 +0.9
baz=269
COLA College 80.91 26 ⇓ *i*P **P** 17 29 40.6 +0.9
COLA pmax pmax
comp=Z,10.0nm,1.0s
COLA College 80.91 26 P **P** 17 29 40.6 +0.9
baz=269
H24K Noodor Dome 80.91 25 P **P** 17 29 41.3 +1.5
baz=269,SNR=15
CCB Clear Creek Bu 80.93 26 IAmb IAmb 17 29 41.4
comp=Z,31nm,1.5s
WAT6 Susitna Watana 80.95 28 P **P** 17 29 41.3 +1.1
baz=270,SNR=12
M23K Glacier View 80.95 29 P **P** 17 29 41.2 +1.1
baz=270
POKR Poker Plat Res 81.09 25 P **P** 17 29 42.3 +1.6
baz=270
DHY Denali Highway 81.11 27 IAmb IAmb 17 30 07.5
comp=Z,25nm,1.6s
DHY Denali Highway 81.11 27 P **P** 17 29 42.1 +1.0
baz=270
SCM Sheep Creek Mo 81.14 29 IAmb IAmb 17 29 43.6
comp=Z,21nm,1.0s
SCM Sheep Creek Mo 81.14 29 P **P** 17 29 42.4 +1.2
baz=270
GLI Glacier Island 81.26 30 P **P** 17 29 41.9 +0.2
baz=271
IL31 81.32 26 P **P** 17 29 41.2 -0.7
IL31 pP **pP** 17 30 05.1 -1.3
ILAR Eielson Array 81.32 26 P **P** 17 29 41.9 -0.1
comp=Z,4.5nm,0.7s,baz=251,slow=4.7,SNR=44
KLMR Klimovskoe 81.62 330 *e*P **P** 17 29 41.8 -1.7
KLMR pmax pmax
comp=Z,31nm,1.0s
KLMR Klimovskoe 81.62 330 *e*P **P** 17 29 41.8 -1.7
KLMR AMP 17 29 44.0
comp=Z,31nm,1.0s
M24K Tolsona, Glenn 81.68 28 P **P** 17 29 45.6 +1.7
baz=271
KLU Klutina 81.82 29 P **P** 17 29 46.2 +1.5
baz=272
K24K Donnelly Dome 81.82 27 P **P** 17 29 45.7 +1.1
baz=271
MARD Mardin 81.86 307 IAmb IAmb 17 29 46.3
comp=Z,13nm,0.8s
DIV Divide 81.90 29 P **P** 17 29 45.6 +0.5
DIV IAmb IAmb 17 29 47.9
comp=Z,18nm,1.0s
DIV **pP** 17 30 08.8 -0.9
KOPT Kop Dagi 81.91 309 P **P** 17 29 45.5 -0.4
KOPT IAmb IAmb 17 29 50.6
comp=Z,26nm,1.1s
J25K Salcha River, 81.98 26 P **P** 17 29 44.9 -0.6
baz=272,SNR=11
PAX Paxson 81.99 27 P **P** 17 29 46.8 +1.2
baz=272,SNR=12
VORR Voronezh 82.14 321 *e*P **P** 17 29 45.9 -0.6
VORR pmax pmax
comp=Z,30nm,0.4s
HARP HAARP 82.15 28 P **P** 17 29 47.9 +1.6
baz=272
VSR Storozhevoye 82.19 321 *e*P **P** 17 29 45.2 -1.5
VSR pmax pmax
comp=Z,8.0nm,0.6s
BMAR Burnt Mountain 82.21 23 P **P** 17 29 47.0 +0.4
BMAR **pP** 17 30 11.0 -0.1
RIDG Independent Ri 82.24 27 IAmb IAmb 17 29 48.9
comp=Z,30nm,0.9s
RIDG Independent Ri 82.24 27 P **P** 17 29 47.6 +0.7
baz=272,SNR=15
SOC Sochi 82.26 313 *e*P **P** 17 29 44.9 -2.4
SOC *e* 17 32 54.0
SOC *e*PPP PPP 17 34 47.5
SOC *e*S **S** 17 39 52.1 -3.0
SOC *e*SS **SS** 17 45 13.0 -4.1
SOC *e*SSS SSS 17 48 44.3
SOC pmax pmax
comp=Z,9.0nm,0.7s
LPSR Galich'ya Gora 82.26 322 *e*P **P** 17 29 46.0 -1.1
LPSR pmax pmax
comp=Z,10.0nm,0.6s
ATD Arta Tunnel 82.33 281 IAmb IAmb 17 29 51.3
comp=Z,25nm,1.0s
N25K Chitina, Valde 82.45 29 P **P** 17 29 49.3 +1.2
baz=273
BMRM Bremner River 82.48 29 P **P** 17 29 49.1 +1.0
baz=273
SCRK Sand Creek 82.61 26 IAmb IAmb 17 29 51.2
comp=Z,22nm,1.6s
SCRK Sand Creek 82.61 26 P **P** 17 29 49.5 +0.6
baz=273,SNR=7.1
KAIM Kayak Island 82.62 31 P **P** 17 29 49.4 +0.6
baz=273
J26L Joseph Creek 82.76 26 P **P** 17 29 50.4 +0.8
baz=273,SNR=14
GLB Gilahina Butte 82.83 29 IAmb IAmb 17 29 53.5
comp=Z,17nm,1.1s
VRDI Verde Repeater 83.02 29 IAmb IAmb 17 29 53.8
comp=Z,22nm,1.4s
M26K Nabesna, AK 83.16 28 P **P** 17 29 51.6 0.0
M26K Nabesna, AK 83.16 28 P **P** 17 29 53.0 +1.4
baz=274,SNR=7.3
MCARA McCarthy VSAT 83.22 29 IAmb IAmb 17 30 12.2
comp=Z,25nm,1.2s
MCARA McCarthy VSAT 83.22 29 P **P** 17 29 53.7 +1.8
baz=274
TGL Tana Glacier 83.36 30 IAmb IAmb 17 29 55.1
comp=Z,15nm,1.0s
OBN Obninsk 83.49 325 ⇓ *e*P **P** 17 29 53.6 +0.2
OBN *e* 17 33 07.3
OBN pmax pmax
comp=Z,13nm,0.8s
OBN MLR MLR
comp=Z,43nm,15.0s
VOI Vohitsoka 83.58 247 IAmb IAmb 17 30 44.1
comp=Z,44nm,1.6s
ISLE Juniper Island 83.61 30 IAmb IAmb 17 29 57.0
comp=Z,17nm,1.0s
L27K Beaver Creek, 83.64 27 P **P** 17 29 53.9 -0.1
L27K IAmb IAmb 17 29 57.4
comp=Z,18nm,1.1s
L27K Beaver Creek, 83.64 27 P **P** 17 29 55.9 +1.8
baz=275,SNR=15
M27K Edge Creek, AK 83.68 28 IAmb IAmb 17 29 57.5
comp=Z,14nm,1.0s
M27K Edge Creek, AK 83.68 28 P **P** 17 29 56.3 +1.9
baz=275,SNR=9.8
EGAK Eagle 83.78 26 P **P** 17 29 54.6 0.0
EGAK IAmb IAmb 17 29 57.2
comp=Z,21nm,1.0s
EGAK Eagle 83.78 26 P **P** 17 29 56.0 +1.4
baz=276,SNR=21
ANN Anapa 83.81 314 *e*P **P** 17 29 52.2 -3.0
ANN *e**PP **pP** 17 30 20.6 +0.1
ANN *e* 17 33 08.4
ANN *e*S **S** 17 40 04.6 -6.1
ANN pmax pmax
comp=Z,63nm,1.3s
GRNC Granite Creek 83.89 30 IAmb IAmb 17 29 58.7
comp=Z,30nm,1.0s
CTG Chitna Glacier 84.06 29 P **P** 17 29 58.7 +2.3
baz=276,SNR=20
BVCY Beaver Creek 84.14 28 P **P** 17 29 58.6 +1.9
baz=276,SNR=11
LOGN Logan Glacier 84.24 29 P **P** 17 29 57.8 +0.5
LOGN IAmb IAmb 17 30 00.7
comp=Z,28nm,0.9s
LOGN pP **pP** 17 30 20.0 -2.0
YUK3 Moose Creek 84.40 28 P **P** 17 29 59.7 +1.6
baz=276,SNR=5.6
DAWY Dawson 84.62 26 IAmb IAmb 17 30 01.9
comp=Z,19nm,1.1s
DAWY Dawson 84.62 26 P **P** 17 30 00.5 +1.5
baz=277,SNR=23
I29M Ogilvie Camp, 84.91 25 IAmb IAmb 17 30 03.1
comp=Z,25nm,0.9s
I29M Ogilvie Camp, 84.91 25 P **P** 17 30 02.4 +2.0
baz=278
J29M Klondike Camp 85.07 26 P **P** 17 30 03.7 +2.4
baz=278
PNL Peninsula 85.17 31 P **P** 17 30 03.3 +1.4
baz=278
YUK4 Talbot Arm 85.32 29 P **P** 17 30 04.5 +1.7
baz=278
YUK6 Outpost Mounta 85.51 29 P **P** 17 30 05.6 +1.8
baz=278
BNN Bunyan 85.60 308 P **P** 17 30 03.9 -0.7
HYT Haines Junctio 85.94 29 IAmb IAmb 17 30 09.4
comp=Z,10.0nm,1.0s
HYT Haines Junctio 85.94 29 P **P** 17 30 07.5 +1.7
baz=279,SNR=7.9
M30M Minto, Yukon 85.99 27 P **P** 17 30 07.6 +1.7
baz=280,SNR=11
INK Inuvik 86.25 22 P **P** 17 30 07.5 +0.5
comp=Z,3.9nm,0.6s,baz=314,slow=4.5,SNR=17
INK Inuvik 86.25 22 P **P** 17 30 06.7 -0.2
INK IAmb IAmb 17 30 08.9
comp=Z,21nm,1.4s
INK pP **pP** 17 30 29.9 -1.6
INK Inuvik 86.25 22 P **P** 17 30 07.6 +0.7
baz=282
ARCES ARCESS Array B 86.40 340 P **P** 17 30 06.8 -0.9
comp=Z,5.0nm,0.8s,baz=72,slow=5.0,SNR=11
N31M Braeburn, Yuko 86.65 28 IAmb IAmb 17 30 14.0
comp=Z,9.9nm,0.9s
N31M Braeburn, Yuko 86.65 28 P **P** 17 30 10.7 +1.5
baz=280
M31M Drury Creek, Y 87.16 28 P **P** 17 30 12.5 +0.9
baz=282
BR131 Keskin Array S 87.19 310 *d* iP **P** 17 30 11.4 -1.0
BR131 Keskin Array S 87.19 310 P **P** 17 30 10.4 -2.0
BRTR Keskin Array B 87.19 310 P **P** 17 30 11.3 -1.0
comp=Z,3.0nm,0.8s,baz=103,slow=5.3,SNR=11
BRTR LR LR 18 15 45.5
comp=Z,28nm,18.5s,baz=340,slow=40
WHY Whitehorse 87.24 29 P **P** 17 30 13.7 +1.6
baz=281,SNR=6.9
FARO Faro, Yukon 87.63 27 P **P** 17 30 15.4 +1.6
baz=283
VNDA Vanda 87.67 173 P **P** 17 30 13.9 +0.3
comp=Z,5.5nm,0.9s,baz=319,slow=3.9,SNR=10
VNDA Vanda 87.67 173 P **P** 17 30 14.4 +0.8
VNDA pmax pmax
comp=Z,8.0nm,1.0s
VNDA Vanda 87.67 173 P **P** 17 30 14.3 +0.8
MAW Mawson 87.70 200 P **P** 17 30 14.6 +0.8
comp=Z,3.6nm,0.9s,baz=16,slow=2.7,SNR=5.0
MAW Mawson 87.70 200 P **P** 17 30 14.7 +0.8
baz=88
A36M Sachs Harbour 87.96 17 IAmb IAmb 17 30 17.5
comp=Z,16nm,0.9s
A36M Sachs Harbour 87.96 17 P **P** 17 30 15.7 +0.6
baz=290
FINES FINESS Array B 88.00 332 P **P** 17 30 14.8 -0.8
comp=Z,4.5nm,0.7s,baz=93,slow=4.3,SNR=19
FINES FINESS Array B 88.00 332 *i* P **P** 17 30 14.3 -1.2
FINES pmax pmax
comp=Z,5.0nm,0.7s
CSS Mathiatis 88.11 305 P **P** 17 30 15.6 -1.1
VSU Vasula 88.34 329 ⇑ *i*P **P** 17 30 16.2 -1.0
VSU pmax pmax
comp=Z,51nm,0.8s
MMPY Sheldon Lake, 88.49 27 P **P** 17 30 19.1 +1.2
baz=284
AKASG Malin Array Be 88.49 321 P **P** 17 30 17.0 -1.1
comp=Z,3.2nm,0.6s,baz=68,slow=5.0,SNR=11
AKASG LR LR 18 10 54.8
comp=Z,54nm,21.2s,baz=351,slow=36
AKASG Malin Array Be 88.49 321 P **P** 17 30 17.0 -1.1
NOR Nord 88.83 355 *i* P **P** 17 30 18.7 -0.4
KIBK Kibwezi 88.87 267 IAmb IAmb 17 30 21.9
comp=Z,13nm,1.3s
C36M Paulatuk 89.25 20 P **P** 17 30 21.3 +0.1
C36M IAmb IAmb 17 30 22.6
comp=Z,18nm,0.9s
C36M pP **pP** 17 30 44.5 -1.4
C36M Paulatuk 89.25 20 P **P** 17 30 21.5 +0.3
baz=291
KMBO Kilima Mbogo 89.49 269 P **P** 17 30 23.6 -0.2
comp=Z,2.9nm,0.6s,baz=48,slow=7.4,SNR=7.8
KMBO Kilima Mbogo 89.49 269 P **P** 17 30 22.5 -1.3
KMBO IAmb IAmb 17 30 25.1
comp=Z,14nm,1.2s
KMBO Kilima Mbogo 89.49 269 P **P** 17 30 24.8 +1.0
LODK Lodwar 90.73 274 IAmb IAmb 17 30 30.4
comp=Z,14nm,1.9s
BUR08 Bucovina Ar. S 91.72 318 IAmb IAmb 17 30 36.9
comp=Z,7.3nm,1.3s
MLR Muntele Rosu 91.72 316 LR LR 18 16 19.8
comp=Z,52nm,19.6s,baz=106,slow=38
DAG Danmarks Havn 93.01 352 P **P** 17 30 38.0 -0.6
DAG Danmarks Havn 93.01 352 *i* P **P** 17 30 37.6 -0.9
DAG *e* 17 31 00.5
RES Resolute Bay 93.65 10 P **P** 17 30 40.5 -1.0
RES *PP **pP** 17 31 04.6 -2.2
RES pmax pmax
comp=Z,9.0nm,0.9s
RES Resolute Bay 93.65 10 P **P** 17 30 40.5 -1.0
RES IAmb IAmb 17 30 43.2
comp=Z,9.2nm,0.9s
RES pP **pP** 17 31 04.6 -2.2
IDI Anoyia 94.84 306 IAmb IAmb 17 30 48.2
comp=Z,10nm,1.0s
NB2 NORSAR Subarra 94.90 334 P **P** 17 30 47.3 -0.4
comp=Z,4.0nm,0.9s,baz=66,slow=4.6
NOA NORSAR Array B 94.90 334 P **P** 17 30 47.2 -0.4
comp=Z,1.4nm,0.8s,baz=64,slow=4.6,SNR=4.7
NOA LR LR 18 15 56.3
comp=Z,24nm,21.8s,baz=15,slow=37
DBG Daneborg 95.29 351 *i* P **P** 17 30 48.5 -0.5
DBG *e* 17 31 11.3
YKA Yellowknife Ar 95.68 24 P **P** 17 30 51.7 +0.7
comp=Z,5.8nm,0.8s,baz=300,slow=4.6,SNR=63
YKA PP **PP** 17 34 43.1 0.0
comp=Z,0.6nm,0.9s,baz=304,slow=7.5,SNR=3.8
GERES GERESS Array B 98.64 322 P **P** 17 31 04.9 0.0
comp=Z,0.9nm,0.8s,baz=90,slow=2.7,SNR=5.9
YBH Yreka Blue Hor 99.80 45 LR LR 18 07 46.4
comp=Z,32nm,21.9s,baz=253,slow=30
IKP In-Ko-Pah, Jac 108.00 52 P **PKiKP** 17 35 53.6 +0.1
baz=292
T25A Trinidad 114.51 43 P **PKiKP** 17 36 04.8 -1.2
baz=302
MNTX Cornudas Mount 116.60 49 P **PKiKP** 17 36 10.5 +0.6
baz=299
TXAR Lajitas Array 119.05 50 PKP **PKiKP** 17 36 15.7 +0.9
comp=Z,1.1nm,0.8s,baz=323,slow=1.1,SNR=11
TXAR PKKPbc **PKKPbc** 17 46 29.1 -0.4
comp=Z,0.7nm,0.8s,baz=141,slow=6.4,SNR=6.3
S39A Bolivar 121.22 37 PKPdf **PKPdf** 17 36 17.5 -1.1
JCT Junction City 121.33 47 P **PKiKP** 17 36 19.8 +0.6
baz=303
TORD Torodi Ar. Bea 121.36 291 PKP **PKPdf** 17 36 19.3 -0.1
comp=Z,5.2nm,0.8s,baz=63,slow=2.1,SNR=30
WHTX Lake Whitney, 122.14 44 P **PKiKP** 17 36 20.8 +0.2
baz=306
CCM Cathedral Cave 122.17 35 P **PKPdf** 17 36 20.5 +0.1
baz=314
U40A Yellville 122.39 37 P **PKPdf** 17 36 20.7 -0.2
baz=312
W39A Magazine 122.58 39 P **PKPdf** 17 36 21.3 +0.1
baz=311
833A Chaparral WMA, 122.78 49 P **PKiKP** 17 36 22.0 0.0
baz=302
MIAR Mount Ida 123.13 39 P **PKiKP** 17 36 22.7 +0.1
baz=310
W41B Gary Mavity, V 123.55 38 P **PKiKP** 17 36 23.6 +0.3
baz=312
LONY Lake Ozonia 124.23 18 P **PKPdf** 17 36 23.7 -0.4
baz=334
WVT Waverly 125.46 34 P **PKPdf** 17 36 26.7 0.0
baz=317
L61B Northampton 126.78 18 P **PKiKP** 17 36 29.5 -0.1
baz=336
PAL Palisades 127.70 20 P **PKPdf** 17 36 30.4 -0.4
baz=334
KIC Kosan Boka 129.39 285 *e*PKP1 **PKiKP** 17 36 35.3 -0.3
comp=Z,6.9nm,0.5s
DBIC Dimbokro 129.42 285 PKP **PKPdf** 17 36 34.9 0.0
comp=Z,5.1nm,0.8s,baz=59,slow=3.3,SNR=5.8
TIC Toumodi 129.58 285 *e*PKP1 **PKPdf** 17 36 35.5 +0.3
LIC Lamto 129.70 285 *e*PKP1 **PKiKP** 17 36 36.1 -0.1
comp=Z,16nm,1.0s
PLCA Paso Flores 144.03 158 *e*P **PKiKP** 17 37 04.6 -0.1
CPUP Villa Florida 161.41 169 PKPab **PKPab** 17 38 10.6 -0.4
comp=Z,2.1nm,0.7s,baz=166,slow=6.4,SNR=5.2
LPAZ La Paz 163.45 121 PKP **PKPdf** 17 37 30.6 +1.0
comp=Z,2.3nm,0.9s,baz=190,slow=0.6,SNR=6.4
LPAZ PKPab **PKPab** 17 38 22.1 +1.0

comp=Z,2.3nm,0.8s,baz=202,slow=4.4,SNR=4.7

LPAZ	**La Paz**	**163.45**	**121**	*eP*	**PKPdf**	**17 37 33.7**	**+4.1**
NBCL	**Cascavel-CE**	**164.49**	**283**	*eP*	**PKPdf**	**17 37 33.5**	**+3.6**
NBMA	**Muriti-CE**	**165.46**	**272**	*eP*	**PKPdf**	**17 37 35.8**	**+5.0**
BDFB	**Brasilia**	**170.76**	**214**	PKPab	**PKPab**	**17 38 52.4**	**-0.2**

comp=Z,1.3nm,0.3s,baz=147,slow=5.0,SNR=2.0

*IDC **19** 17:22:11.0±1.1,28°.25N×87°.91E,h0km,mb3.8/6, mb1 3.9/8,mb1mx3.6/52,mbtmp3.8/8,ML3.8/2 Error ellipse: s-maj=37.3km s-min=21.3km az=56.0*

*DMN **19** 17:22:16.9±0.0,28°.60N×88°.16E,h60km,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*NEIC **19** 17:22:17.9±2.3,28°.34N±0°.07×87°.84E±0°.06,h56km±7km, mb4.3/30,Error ellipse: s-maj=11.4km s-min=7.0km az=206.0*

*NDI **19** 17:22:18.4±3.6,28°.49N×87°.95E,h30km,ML4.4, mb4.3(NEIC)*

ISC 19 17:22:17.2±0.4**,28°.44N**±0°.04×**87°.94E**±0°.03**,h50**km**,n84,** σ**2**§**61**/94**,mb4.2**/12**,1D,Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**1.10**	**190**	*eP*g	Pn	17 22 40.6	+4.0
TAPN				*eS*g	**Sn**	**17 22 56.1**	**+5.2**
GTK	**Tadong**	**1.26**	**152**	*eP*	Pn	17 22 42.7	+4.1
GTK				*eS*	**Sn**	**17 23 00.2**	**+5.7**
GTK				IAML		17 23 01.4	
	comp=E,350μm,0.2s						
ODAN	**Odare**	**1.65**	**197**	*eP*g	**Pn**	**17 22 47.3**	**+3.4**
JIRN	**Jiri**	**1.73**	**244**	*eP*g	Pn	17 22 49.4	+4.3
JIRN				*eS*g	**Sn**	**17 23 13.1**	**+6.9**
	comp=E,531nm,0.3s						
GUN	**Gumba**	**1.89**	**254**	*eP*g	Pn	17 22 51.5	+4.2
RAMN	**Ramite**	**1.90**	**219**	*eP*g	**Pn**	**17 22 50.4**	**+3.0**
KKN	**Kakani**	**2.43**	**255**	*eP*g	**Pn**	**17 22 58.3**	**+3.6**
DMN	**Daman**	**2.63**	**252**	*eP*g	Pn	17 23 01.5	+4.0
GKN	**Gorkha**	**2.94**	**262**	*eP*g	**Pn**	**17 23 04.1**	**+2.5**
GKN				*eS*g	**Sn**	**17 23 39.3**	**+3.5**
DHUB	**DHUBRI**	**3.03**	**142**	*eP*	**Pn**	**17 23 04.7**	**+2.1**
DHUB				*eS*	**Sn**	**17 23 37.8**	**+0.2**
DHUB				IAML		17 23 51.2	
	comp=E,873nm,0.3s						
LSA	**Lhasa**	**3.08**	**65**	Pn	**Pn**	**17 23 06.8**	**+3.1**
LSA	**Lhasa**	**3.08**	**65**	Pg	**Pn**	**17 23 08.1**	**+4.4**
LSA				Sg	**Sn**	**17 23 44.6**	**+5.0**
LSA				smax	smax		
	comp=N,160nm,1.1s						
LSA				smax	smax		
	comp=E,96nm,0.9s						
TURI	**Tura**	**3.59**	**143**	*eP*	**Pn**	**17 23 12.2**	**+1.9**
TURI				*eS*	**Sn**	**17 23 51.2**	**-0.2**
TURI				IAML		17 23 55.4	
	comp=N,1μm,0.3s						
TURI				IAML		17 23 55.4	
	comp=E,2μm,0.4s						
DANN	**Dangsing**	**3.68**	**270**	*eP*g	**Pn**	**17 23 13.0**	**+1.2**
KOLN	**Koldanda**	**3.89**	**261**	*eP*g	**Pn**	**17 23 16.4**	**+1.8**
GUWA	**GUWAHATI**	**4.02**	**123**	*eP*	**Pn**	**17 23 17.8**	**+1.6**
GUWA				*eS*	**Sn**	**17 24 01.1**	**-0.9**
GUWA				IAML		17 24 24.6	
	comp=E,483nm,0.5s						
GUWA				IAML		17 24 26.0	
	comp=N,646nm,0.5s						
PYUN	**Piuthan**	**4.38**	**267**	*eP*g	**Pn**	**17 23 22.8**	**+1.5**
SHL	**Shillong**	**4.54**	**128**	Pn	**Pn**	**17 23 24.0**	**+0.5**
SHL				Sn	**Sn**	**17 24 10.3**	**-4.8**
SHL	**Shillong**	**4.54**	**128**	*eP*	**Pn**	**17 23 24.3**	**+0.8**
SHL				*eS*	**Sn**	**17 24 13.2**	**-1.9**
SHL				IAML		17 24 14.9	
	comp=N,2μm,0.3s						
SHL				IAML		17 24 15.1	
	comp=E,3μm,0.3s						
TEZP	**TEZPUR**	**4.69**	**112**	*eP*	**Pn**	**17 23 26.2**	**+0.9**
TEZP				*eS*	**Sn**	**17 24 16.6**	**-1.9**
TEZP				IAML		17 24 19.4	
	comp=E,496nm,0.2s						
ITAN	**ITANAGAR**	**5.29**	**103**	*eP*	**Pn**	**17 23 36.1**	**+2.5**
ITAN				*eS*	**Sn**	**17 24 33.7**	**+0.4**
AGT	**Agartala**	**5.43**	**146**	*eP*	**Pn**	**17 23 36.2**	**+0.7**
AGT				*eS*	**Sn**	**17 24 36.4**	**-0.3**
AGT				IAML		17 24 41.4	
	comp=E,280nm,0.6s						
BELO	**BELONIA**	**6.06**	**148**	*eS*	**Sn**	**17 24 53.2**	**+0.9**
KOHI	**KOHIMA**	**6.13**	**115**	*eP*	**Pn**	**17 23 46.3**	**+0.9**
KOHI				*eS*	**Sn**	**17 24 50.9**	**-3.4**
KOHI				IAML		17 24 53.6	
	comp=E,271nm,0.5s						
KOHI				IAML		17 24 53.6	
	comp=N,270nm,0.5s						
MOKO	**MOKOCHONG**	**6.22**	**108**	*eP*	**Pn**	**17 23 47.7**	**+1.2**
MOKO				*eS*	**Sn**	**17 24 53.5**	**-2.9**
MOKO				IAML		17 24 58.1	
	comp=E,429nm,0.4s						
MOKO				IAML		17 24 59.6	
	comp=N,372nm,0.6s						
DDI	**Dehra Dun**	**8.82**	**285**	*eP*	**Pn**	**17 24 23.4**	**+1.3**
DDI				*eS*	**Sn**	**17 25 56.4**	**-3.7**
DDI				IAML		17 25 59.9	
	comp=E,337nm,0.3s						
DDI				IAML		17 26 00.7	
	comp=N,816nm,0.5s						
JBP	**Jabalpur**	**8.88**	**236**	*ex*	P	17 24 24.0	
JBP				*eP*		17 24 24.0	
JBP				*eS*	**Sn**	**17 26 00.8**	**-0.8**
GOMU	**GeErMu**	**9.68**	**35**	P	Pn	17 24 26.4	-7.7
GOMU				pP		17 24 29.8	
GOMU				sP		17 24 31.1	
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,55nm,6.0s						
SMLA	**Simla**	**9.73**	**289**	*eP*	**Pn**	**17 24 35.5**	**+1.0**
SMLA				*eS*	**Sn**	**17 26 17.8**	**-4.5**
SMLA				IAML		17 26 24.1	
	comp=N,122nm,0.4s						
SMLA				IAML		17 26 24.8	
	comp=E,145nm,0.5s						
BHPL	**Bhopal**	**10.79**	**244**	*eP*	**Pn**	**17 24 46.7**	**-2.3**
BHPL				*eS*	**Sn**	**17 26 39.7**	**-8.7**
BHPL				IAML		17 26 45.4	
	comp=N,68nm,0.3s						
PZH	**PanZhiHua**	**12.41**	**96**	P	**Pn**	**17 25 13.8**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,70nm,4.3s						
KMI	**Kunming**	**13.63**	**101**	⇓P	**Pn**	**17 25 29.8**	**+1.8**
KMI				pP	P	17 25 38.1	+2.6
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CD2	**Chengdu**	**13.97**	**76**	P	**Pn**	**17 25 33.4**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.16**	**132**	Pn	**Pn**	**17 25 36.4**	**+1.4**
KSH	**Kashi**	**14.83**	**321**	P	**Pn**	**17 25 42.9**	**-1.0**
KSH				sP	P	17 26 01.8	+13
KSH				S	**Sn**	**17 28 19.1**	**-7.9**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMQ	**Urumqi**	**15.35**	**359**	*eP*	**P**	**17 25 53.8**	**-0.6**
TARG	**Taragay, Kyrgy**	**15.62**	**331**		**Pn**	**17 25 54.1**	**-0.3**
KDJ	**Kajisay**	**16.22**	**330**	Pn	P	**17 26 02.9**	**-1.3**
POO	**Poona**	**16.24**	**236**	*ex*	**Pn**	**17 25 55.0**	**-7.1**
BOOM	**Boomskoye usch**	**17.06**	**328**	P	**P**	**17 26 13.3**	**-0.2**
BOOM				IAmb	IAmb	17 26 18.3	
	comp=Z,14nm,1.4s						
KBL	**Kabul**	**17.21**	**295**	P	**Pn**	**17 26 14.2**	**0.0**
PBA	**Port Blair**	**17.30**	**164**	P	**Pn**	**17 26 14.1**	**-1.1**
PBA				IAmb	IAmb	17 26 48.6	
	comp=Z,22nm,0.7s						
DRK	**Karamyk**	**17.30**	**314**		**P**	**17 26 15.9**	**-0.4**
DRK				IAmb	IAmb	17 26 28.9	
	comp=Z,5.9nm,0.6s						
AAK	**Ala-Archa**	**17.86**	**326**	P	**P**	**17 26 24.9**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=151,slow=10,SNR=7.5						
AAK	**Ala-Archa**	**17.86**	**326**	P	**P**	**17 26 22.6**	**+0.3**
BTK	**Batken**	**18.25**	**314**	P	**Pn**	**17 26 26.9**	**0.0**
CHGR	**Chuyangaron**	**18.64**	**308**	P	**Pn**	**17 26 31.4**	**-0.2**
CHGR				IAmb	IAmb	17 26 52.6	
	comp=Z,16nm,1.0s						
MK31	**Makanchi Array**	**18.85**	**348**	P	**Pn**	**17 26 34.1**	**+0.2**
MK31				IAmb	IAmb	17 26 52.0	
	comp=Z,25nm,0.8s						
MKAR	**Makanchi Array**	**18.85**	**348**	P	**Pn**	**17 26 34.9**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=167,slow=13,SNR=34						
MKAR	**Makanchi Array**	**18.85**	**348**		**Pn**	**17 26 33.5**	**-0.4**
ENH	**Enshi**	**18.87**	**79**	P	**P**	**17 26 30.0**	**-3.4**
ENH				IAmb	IAmb	17 26 36.8	
	comp=Z,9.1nm,0.8s						
MAKZ	**Makanchi**	**18.92**	**347**	P	**Pn**	**17 26 35.0**	**+0.2**
MAKZ				IAmb	IAmb	17 26 53.4	
	comp=Z,34nm,1.0s						
KK31	**Karatay Array**	**20.29**	**321**	P	**P**	**17 26 48.4**	**-0.2**
KKAR	**Karatay Array**	**20.29**	**321**	P	Pn	17 26 50.3	-0.7
KKAR	**Karatay Array**	**20.29**	**321**	P	**P**	**17 26 49.6**	**+0.9**
KKAR					**S**	**17 30 28.8**	**-4.5**
UBPT	**Khong Chiam**	**20.85**	**125**	P	**P**	**17 26 54.3**	**-0.6**
UBPT				IAmb	IAmb	17 26 56.0	
	comp=Z,11nm,0.9s						
HHC	**Hu-ho-hao-te**	**22.96**	**51**	*eP*	**P**	**17 27 17.6**	**+0.2**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.8s						
ZALV	**Zalesovo Beam**	**25.59**	**356**	P	**P**	**17 27 43.8**	**+2.4**
	comp=Z,3.8nm,0.6s,baz=164,slow=7.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**25.59**	**356**	P	**P**	**17 27 40.6**	**-0.8**
ABKAR	**Akbulak array**	**29.84**	**322**	P	**P**	**17 28 21.5**	**+2.0**
ABKAR	**Akbulak array**	**29.84**	**322**	P	**P**	**17 28 20.7**	**+1.2**
ABKAR				IAmb	IAmb	17 28 30.1	
	comp=Z,6.3nm,0.8s						
KAAM	**Kaadhehdhoo**	**31.25**	**210**	P	**P**	**17 28 30.3**	**-2.0**
KSRS	**Korea Array**	**34.53**	**64**	P	**P**	**17 29 00.9**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=262,slow=8.1,SNR=5.2						
SOCY	**Socotra**	**35.55**	**250**	P	**P**	**17 29 07.5**	**-2.3**
ONI	**Oni**	**38.42**	**304**	P	**P**	**17 29 33.1**	**-0.8**
ONI	**Oni**	**38.42**	**304**	P	**P**	**17 29 33.1**	**-0.8**
ONI	**Oni**	**38.42**	**304**	pmax	pmax		
	comp=Z,19nm,1.4s						
KARS	**Kars**	**38.52**	**300**	P	**P**	**17 29 34.3**	**-0.5**
KARS	**Kars**	**38.52**	**300**	P	**P**	**17 29 34.3**	**-0.5**
KARS	**Kars**	**38.52**	**300**	pmax	pmax		
	comp=Z,82nm,1.1s						
GURO	**Guroymak-BITLI**	**39.24**	**297**	P	**P**	**17 29 40.7**	**-0.2**
NC204	**NORSAR Array S**	**59.38**	**327**	P	**P**	**17 32 13.4**	**-0.8**
WB0	**Warramunga Arr**	**65.67**	**131**	P	**P**	**17 32 55.6**	**-0.9**
WB0				IAmb	IAmb	17 33 37.5	
	comp=Z,7.6nm,1.4s						
SMY	**Shemya**	**65.67**	**42**	P	**P**	**17 32 56.4**	**+0.3**
WRA	**Warramunga Arr**	**65.75**	**132**	P	**P**	**17 32 57.7**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=327,slow=6.7,SNR=7.6						
WRA	**Warramunga Arr**	**65.75**	**132**	P	**P**	**17 32 55.6**	**-1.5**
WRAB	**Tennant Creek**	**65.75**	**132**	P	**P**	**17 32 57.3**	**+0.2**
WB2	**Warramunga Arr**	**65.76**	**132**	P	**P**	**17 32 55.4**	**-1.8**
WR0	**Warramunga Arr**	**65.90**	**132**	P	**P**	**17 32 58.0**	**0.0**
WR0				IAmb	IAmb	17 33 22.6	
	comp=Z,7.8nm,1.4s						
ASAR	**Alice Springs**	**68.15**	**135**	P	**P**	**17 33 12.9**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=315,slow=6.0,SNR=5.3						
SCO	**Scoresbysund**	**69.78**	**340**	P	**P**	**17 33 23.5**	**+1.7**
TORD	**Torodi Ar. Bea**	**80.60**	**280**	P	**P**	**17 34 25.3**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=69,slow=4.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**80.60**	**280**	IAmb	IAmb	17 34 25.9	
	comp=Z,3.5nm,1.6s						
YKA	**Yellowknife Ar**	**87.59**	**10**	P	**P**	**17 35 00.9**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=334,slow=4.4,SNR=2.2						

*JMA **19** 17:37:46.1±0.2,39°.14N×142°.89E,h26km±2km,M4.0*

*NIED **19** 17:37:46.1,39°.14N×142°.89E,h26km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.08; Mθθ1.71; Mϕϕ-5.79; Mrθ4.53; Mθϕ-1.30; Mϕr6.77; Fault plane solution: M₀9.69000×10¹⁴ NP1: ϕs161.00000°,δ22.00000°,λ42.00000°. NP2:ϕs32.00000°, δ76.00000°,λ106.00000°.*

*IDC **19** 17:37:49.0±2.2,39°.13N×142°.96E,h47km±21km,mb3.5/10, mb1 3.7/15,mb1mx3.5/56,mbtmp3.9/15,ML3.3/5,MS3.2/3, Ms1 3.2/3,ms1mx2.6/74 Error ellipse: s-maj=24.9km s-min=14.6km az=105.0*

ISC 19 17:37:44.9±0.9**,39°.11N**±0°.06×**142°.97E**±0°.07**,h16**km**,n35,** σ**1**§**51**/34**,mb3.7**/10**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.00**	**298**	P	**Pb**	**17 38 03.1**	**-0.8**
OFUJ	**Ofunato**	**1.01**	**269**	P	**Pb**	**17 38 03.6**	**-0.3**
OFUJ				S	**Sb**	**17 38 15.8**	**-1.2**
JTH	**Tanohata**	**1.19**	**315**	P	**Pn**	**17 38 06.2**	**-0.6**
JKMT	**Kesennumamotoy**	**1.20**	**256**	P	**Pn**	**17 38 06.5**	**-0.5**
JKMT				*eS*	**Sb**	**17 38 21.1**	**-1.4**
JOM	**Ohasama**	**1.35**	**286**	P	**Pn**	**17 38 08.7**	**-0.3**
JMK	**Ichinoseki**	**1.37**	**264**	P	**Pn**	**17 38 09.2**	**-0.1**
JMK				S	**Sn**	**17 38 26.3**	**-0.8**
JIO	**Ouri**	**1.42**	**243**	P	**Pn**	**17 38 09.8**	**-0.2**
JIO				*eS*	**Sn**	**17 38 26.7**	**-1.7**
JANG	**Nango**	**1.69**	**319**	P	**Pn**	**17 38 13.3**	**-0.4**
JRG	**Rokugo**	**1.83**	**280**	P	**Pn**	**17 38 16.5**	**+0.8**
JOU	**Okura**	**1.95**	**248**	P	**Pn**	**17 38 18.3**	**+1.0**
JYK	**Kaneyama**	**2.04**	**265**	P	**Pn**	**17 38 19.7**	**+1.2**
JAH	**Hinai**	**2.10**	**302**	P	**Pn**	**17 38 20.0**	**+0.7**
JMM	**Marumori**	**2.11**	**235**	P	**Pn**	**17 38 20.0**	**+0.5**
MJAR	**Matsushiro Arr**	**4.55**	**237**	P	**Pn**	**17 38 56.0**	**+2.8**
	1.9nm,0.3s,baz=357,slow=25,SNR=74						
ASAJ	**Asahikawa**	**5.01**	**357**	P	**Pn**	**17 38 60.0**	**+0.6**
	1.3nm,0.3s,baz=216,slow=13,SNR=19						
ASAJ				S	**Sn**	**17 39 55.2**	**-1.7**
	1.5nm,0.3s,baz=2.0,slow=16,SNR=5.7						
JHJ	**Hachijo jima 2**	**6.51**	**204**	P	**Pn**	**17 39 22.2**	**+2.2**
	9.3nm,0.3s,baz=252,slow=22,SNR=1.5						
JHJ				S	**Sn**	**17 40 28.9**	**-5.0**
	9.8nm,0.3s,baz=68,slow=20,SNR=1.8						
USRK	**Ussuriysk Ar.**	**9.66**	**305**	P	**Pn**	**17 40 05.7**	**+2.6**
	baz=99,slow=14,SNR=6.8						
USRK				LR	LR	17 43 36.3	
	comp=Z,136nm,18.5s,baz=156,slow=36						
KSRS	**Korea Array**	**11.94**	**267**	P	**Pn**	**17 40 37.0**	**+2.7**
	0.1nm,0.3s,baz=74,slow=14,SNR=2.8						
MA2	**Magadan**	**21.08**	**11**	P	**P**	**17 42 28.6**	**+0.4**
	2.7nm,0.7s,baz=201,slow=9.5,SNR=9.6						
YAK	**Yakutsk**	**24.35**	**345**	P	**P**	**17 43 01.1**	**-0.6**
	3.1nm,0.5s,baz=43,slow=1.7,SNR=6.7						
SEY	**Seymchan**	**24.52**	**10**	P	**P**	**17 43 04.5**	**+1.2**
	2.1nm,0.6s,baz=162,slow=9.1,SNR=20						
SONM	**Songino Array**	**27.72**	**300**	P	**P**	**17 43 32.9**	**+0.5**
	0.8nm,0.6s,baz=90,slow=8.1,SNR=7.1						
SONM				LR	LR	17 55 00.5	
	comp=Z,50nm,19.5s,baz=132,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.27**	**126**	T	T	18 14 08.9	
	baz=318,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.28**	**126**	T	T	18 14 21.8	
	baz=318,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.29**	**126**	T	T	18 14 26.9	
	baz=318,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**29.07**	**128**	T	T	18 15 15.7	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.07**	**128**	T	T	18 15 20.9	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**29.08**	**128**	T	T	18 15 15.5	
	baz=318						
ZALV	**Zalesovo Beam**	**41.46**	**311**	P	**P**	**17 45 30.2**	**-0.4**
	1.0nm,0.5s,baz=90,slow=8.2,SNR=6.4						
CMAR	**Chiang Mai Arr**	**43.22**	**254**	P	**P**	**17 45 45.8**	**+0.4**
	0.4nm,0.6s,baz=45,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**44.09**	**301**	P	**P**	**17 45 52.2**	**+0.1**
	2.1nm,0.8s,baz=83,slow=9.4,SNR=18						
ILAR	**Eielson Array**	**47.09**	**33**	P	**P**	**17 46 16.1**	**+0.6**
	0.3nm,0.8s,baz=262,slow=6.3,SNR=2.3						
LEM	**Lembang**	**56.22**	**224**	LR	LR	18 12 53.7	
	comp=Z,24nm,19.1s,baz=182,slow=37						
WRA	**Warramunga Arr**	**59.30**	**189**	P	**P**	**17 47 45.4**	**-0.4**
	0.4nm,0.6s,baz=5.0,slow=6.9,SNR=5.3						
ASAR	**Alice Springs**	**63.02**	**189**	P	**P**	**17 48 11.2**	**+0.1**
	0.3nm,0.9s,baz=17,slow=6.0,SNR=4.2						

*NOU **19** 18:10:06.8,37°.89S×177°.22E,h184km,MLv4.0/10,Off E. Coast of N. Island, N.Z.*

*WEL **19** 18:10:11.5±0.6,38°.5s3°×17°.7E±°,h134km±5km,M3.1/72, ML3.2/30,MLv3.1/72,Error ellipse: s-maj=0.0km s-min=0.0km az=54.2*

ISC 19 18:10:07.7±1.7**,37°.84S**±0°.05×**176°.98E**±0°.05**,h168**km**±**9**km, n150,** σ**1**§**41**/161**,North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHRZ	**Whale Island**	**0.02**	**207**	P	**Pn**	**18 10 30.6**	**+0.7**
MARZ	**Manawahe**	**0.28**	**240**	P	**Pn**	**18 10 30.7**	**+0.4**
EDRZ	**Edgecumbe**	**0.33**	**216**	P	**Pn**	**18 10 30.9**	**+0.4**
OPRZ	**Ohinepanea**	**0.34**	**269**	P	**Pn**	**18 10 30.5**	**0.0**
WIZ	**White Island**	**0.35**	**27**	P	**Pn**	**18 10 30.5**	**-0.1**
WSRZ	**White Island S**	**0.36**	**26**	P	**Pn**	**18 10 30.8**	**+0.2**
URZ	**Urewera**	**0.43**	**166**	P	**Pn**	**18 10 31.0**	**+0.3**
URZ	**Urewera**	**0.43**	**166**	P	**Pn**	**18 10 31.2**	**+0.5**
MKRZ	**Makatiti**	**0.50**	**234**	P	**Pn**	**18 10 32.7**	**+1.5**
TARZ	**Mount Tarawera**	**0.55**	**224**	P	**Pn**	**18 10 32.5**	**+1.1**
OMRZ	**Omania**	**0.55**	**241**	P	**Pn**	**18 10 32.1**	**+0.7**
RUGZ	**Raukumara Rang**	**0.56**	**103**	P	**Pn**	**18 10 31.2**	**-0.3**
RUGZ				S	Sn	**18 10 46.6**	**-3.1**
TGRZ	**Tauranga**	**0.58**	**281**	P	**Pn**	**18 10 31.8**	**+0.4**
TGRZ				S	Sn	**18 10 47.9**	**-1.7**
KARZ	**Kaharoa**	**0.61**	**253**	P	**Pn**	**18 10 32.3**	**+0.6**
RRRZ	**Republican Roa**	**0.62**	**217**	P	**Pn**	**18 10 32.7**	**+1.0**
HAZ	**Te Kaha**	**0.64**	**83**	P	**Pn**	**18 10 31.8**	**+0.1**
HLRZ	**Highlands Stat**	**0.65**	**230**	P	**Pn**	**18 10 32.9**	**+1.1**
MWZ	**Matawai**	**0.65**	**139**	P	**Pn**	**18 10 32.6**	**+0.7**
MWZ				S	Sn	**18 10 49.3**	**-1.2**
MUGZ	**Murupara**	**0.66**	**195**	P	**Pn**	**18 10 32.7**	**+0.8**
MUGZ				S	Sn	**18 10 48.5**	**-2.1**
NGRZ	**Ngongotaha**	**0.68**	**247**	P	**Pn**	**18 10 33.2**	**+1.1**
UTU	**Utuhina**	**0.71**	**242**	P	**Pn**	**18 10 33.6**	**+1.4**
RAGZ	**Rawiri**	**0.74**	**153**	P	**Pn**	**18 10 33.6**	**+1.2**
HSRZ	**Hossack Road**	**0.75**	**231**	P	**Pn**	**18 10 34.0**	**+1.6**
RTZ	**Ruatahuna**	**0.77**	**180**	P	**Pn**	**18 10 33.6**	**+1.0**
RTZ				S	Sn	**18 10 50.9**	**-1.1**
HRRZ	**Handcock Road**	**0.78**	**225**	P	**Pn**	**18 10 33.9**	**+1.3**
PRRZ	**Plateau Road**	**0.80**	**215**	P	**Pn**	**18 10 33.8**	**+1.1**
MYRZ	**Mayor Island**	**0.81**	**313**	P	**Pn**	**18 10 33.4**	**+0.5**
KMRZ	**Kaimai**	**0.82**	**269**	P	**Pn**	**18 10 33.7**	**+0.8**
TWGZ	**Tauwhareparae**	**0.85**	**113**	P	**Pn**	**18 10 34.6**	**+1.5**
TWGZ				S	Sn	**18 10 53.7**	**+1.0**
GRRZ	**Galatos Road**	**0.86**	**233**	P	**Pn**	**18 10 34.5**	**+1.4**
PKGZ	**Pakihiroa**	**0.87**	**93**	P	**Pn**	**18 10 34.3**	**+1.1**
ALRZ	**Allen Road**	**0.88**	**215**	P	**Pn**	**18 10 34.6**	**+1.3**
TKGZ	**Te Karaka**	**0.91**	**131**	P	**Pn**	**18 10 34.9**	**+1.5**
TKGZ				S	Sn	**18 10 52.9**	**-0.4**
WPRZ	**Whakapapatarin**	**0.94**	**223**	P	**Pn**	**18 10 35.2**	**+1.5**
SNGZ	**Shannon Statio**	**0.98**	**163**	P	**Pn**	**18 10 35.7**	**+1.7**
SNGZ				S	Sn	**18 10 54.8**	**+0.3**
MTHZ	**Maungataniwha**	**1.01**	**186**	P	**Pn**	**18 10 35.6**	**+1.3**
MTHZ				S	Sn	**18 10 54.6**	**-0.4**
PUZ	**Puketiti**	**1.03**	**103**	P	**Pn**	**18 10 35.4**	**+1.0**
RIGZ	**Rimuhau**	**1.06**	**145**	P	**Pn**	**18 10 36.7**	**+2.0**
RIGZ				S	Sn	**18 10 56.2**	**+0.7**
RAHZ	**Arahi**	**1.08**	**176**	P	**Pn**	**18 10 36.8**	**+2.0**
MRHZ	**Matea Rd**	**1.09**	**204**	P	**Pn**	**18 10 36.2**	**+1.3**
MXZ	**Matakaoa Point**	**1.09**	**76**	P	**Pn**	**18 10 36.1**	**+1.2**
KUTZ	**Kaahu Road**	**1.12**	**234**	P	**Pn**	**18 10 36.9**	**+1.8**
WMGZ	**Waiomatatini S**	**1.13**	**89**	P	**Pn**	**18 10 36.5**	**+1.3**
WHTZ	**Whakaora**	**1.15**	**224**	P	**Pn**	**18 10 35.1**	**-0.4**
CNGZ	**Carnagh Statio**	**1.16**	**124**	P	**Pn**	**18 10 37.8**	**+2.3**
TOZ	**Tahuroa Road**	**1.18**	**275**	P	**Pn**	**18 10 36.8**	**+1.2**
TOZ				S	Sn	**18 10 56.4**	**-0.6**
TLZ	**Tolley Road**	**1.24**	**246**	P	**Pn**	**18 10 37.9**	**+1.7**
WHHZ	**Waihua**	**1.25**	**171**	P	**Pn**	**18 10 35.2**	**-1.1**
HATZ	**Hinemaiaia**	**1.26**	**214**	P	**Pn**	**18 10 38.0**	**+1.6**
NMHZ	**Naumai**	**1.26**	**186**	P	**Pn**	**18 10 38.6**	**+2.1**
PRGZ	**Paritu Road**	**1.29**	**147**	P	**Pn**	**18 10 38.7**	**+2.1**
KNZ	**Kokohu**	**1.30**	**156**	P	**Pn**	**18 10 38.7**	**+2.0**
WATZ	**Wairara**	**1.31**	**228**	P	**Pn**	**18 10 38.6**	**+1.7**
BKZ	**Black Stump Fm**	**1.38**	**196**	P	**Pn**	**18 10 38.8**	**+1.4**
BKZ	**Black Stump Fm**	**1.38**	**196**	P	**Pn**	**18 10 38.9**	**+1.4**
RAZ	**Rangitukua**	**1.40**	**223**	P	**Pn**	**18 10 39.1**	**+1.6**
ARHZ	**Aropaoanui**	**1.42**	**180**	P	**Pn**	**18 10 40.0**	**+2.2**
RITZ	**Rihia Road**	**1.44**	**218**	P	**Pn**	**18 10 40.1**	**+2.0**
KUZ	**Kuaotunu**	**1.49**	**317**	P	**

ODZ	**Otahua Downs**	**8.62**	**211**	P	**Pn**	**18 12 08.5**	**-0.6**
ODZ	**Otahua Downs**	**8.62**	**211**	P	**Pn**	**18 12 08.7**	**-0.5**

*IDC **19** 18:31:07.6±1.5, 37˚.67N×142˚.26E, h0km, mb3.6/3, mb1 3.6/6, mb1mx3.3/50, mbtmp3.6/6, ML2.6/3, Error ellipse: s-maj=36.7km s-min=22.0km az=89.0*
*JMA **19** 18:31:10.5±0.1, 37˚.63N×142˚.02E, h30km±2km, M3.5*
*NIED **19** 18:31:10.5, 37˚.63N×142˚.02E, h30km, MW3.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.46; $M_{\theta\theta}$0.52; $M_{\phi\phi}$0.94; $M_{r\theta}$1.08; $M_{\theta\phi}$-0.71; $M_{\phi r}$-2.34; Fault plane solution: $M_0$2.97000×10^{14} NP1: ϕ_s134.00000˚, δ15.00000˚, λ-109.00000˚. NP2: ϕ_s333.00000˚, δ75.00000˚, λ-85.00000˚.*

ISC 19 18:31:11.3±1.2, 37˚.65N±0˚.05×141˚.93E±0˚.09, h22km±8km, n25, σ1°02/30, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.76**	**331**	P		**Pn**	**Pn**	**18 31 25.5**	**-1.1**
JIKH				S		**Sb**	**Sb**	**18 31 35.7**	**+0.1**
JMST	**Minamisoumatoc**	**0.83**	**276**	P		**Pn**	**Pn**	**18 31 26.8**	**-0.8**
JMST				S		**Sn**	**Sn**	**18 31 38.8**	**-0.4**
JFK	**Kawauchi**	**0.88**	**252**	P		**Pn**	**Pn**	**18 31 27.5**	**-0.9**
JFK				S		**Sn**	**Sn**	**18 31 39.8**	**-0.8**
JIO	**Ouri**	**0.93**	**331**	P		**Pn**	**Pn**	**18 31 28.1**	**-0.9**
JIO				S		**Sn**	**Sn**	**18 31 40.8**	**-0.8**
JMM	**Marumori**	**0.93**	**284**	P		**Pn**	**Pn**	**18 31 28.5**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.05**	**239**	P		**Pn**	**Pn**	**18 31 29.8**	**-1.0**
ONAJ				eS		**Sn**	**Sn**	**18 31 43.1**	**-1.7**
JKMT	**Kesennumamotoy**	**1.22**	**343**	P		**Pn**	**Pn**	**18 31 32.3**	**-0.6**
JKMT				eS		**Sn**	**Sn**	**18 31 47.5**	**-1.2**
JOU	**Okura**	**1.23**	**306**	P		**Pb**	**Pb**	**18 31 33.7**	**-0.1**
JOU				S		**Sb**	**Sb**	**18 31 50.5**	**+1.3**
JFT	**Otama**	**1.27**	**265**	P		**Pb**	**Pb**	**18 31 34.3**	**-0.2**
JFT				S		**Sb**	**Sb**	**18 31 51.1**	**+0.7**
JYS	**Shirataka**	**1.58**	**292**	S		**Sb**	**Sb**	**18 32 00.7**	**+1.4**
JYK	**Kaneyama**	**1.77**	**316**	P		**Pn**	**Pn**	**18 31 41.1**	**+0.5**
JFY	**Yanaizu**	**1.78**	**263**	P		**Pb**	**Pb**	**18 31 42.3**	**-1.0**
JOM	**Ohasama**	**1.89**	**345**	P		**Pn**	**Pn**	**18 31 42.2**	**0.0**
MJAR	**Matsushiro Arr**	**3.17**	**251**	Pn		**Pn**	**Pn**	**18 32 01.6**	**+1.7**
MJAR	0.1nm,0.3s,baz=83,slow=16,SNR=2.5				Sn		**Sb**	**18 32 44.1**	**-1.1**
JHJ	0.3nm,0.3s,baz=259,slow=26,SNR=2.1 **Hachijo jima 2**	**4.85**	**202**	Pn			**Pn**	**18 32 24.7**	**+1.8**
JHJ	3.8nm,0.3s,baz=84,slow=22,SNR=1.1				Sn		**Sn**	**18 33 17.1**	**-1.2**
ASAJ	9.5nm,0.3s,baz=62,slow=15,SNR=2.0 **Asahikawa**	**6.48**	**4**	Pn			**Pn**	**18 32 44.5**	**-0.9**
ASAJ	0.1nm,0.3s,baz=168,slow=16,SNR=1.3				Sn		**Sn**	**18 33 58.8**	**+0.2**
H11N2	0.1nm,0.3s,baz=256,slow=30,SNR=1.1 **WAKE ISLAND Hy**	**28.12**	**122**	T		T	T	19 06 25.3	
H11N1	baz=315,slow=75,SNR=56 **WAKE ISLAND Hy**	**28.13**	**123**	T		T	T	19 06 23.9	
H11N3	baz=315,slow=75,SNR=46 **WAKE ISLAND Hy**	**28.14**	**122**	T		T	T	19 06 26.9	
H11S1	baz=315,slow=75,SNR=46 **WAKE ISLAND Hy**	**28.86**	**125**	T		T	T	19 07 19.9	
H11S3	baz=317,slow=76,SNR=48 **WAKE ISLAND Hy**	**28.86**	**125**	T		T	T	19 07 28.1	
H11S2	baz=317,slow=76,SNR=35 **WAKE ISLAND Hy**	**28.88**	**125**	T		T	T	19 07 21.3	
KURBB	baz=317,slow=76,SNR=43 **Kurchatov Arra**	**45.95**	**308**	P		**P**	**P**	**18 39 33.5**	**+1.2**
WRA	0.3nm,0.3s,baz=82,slow=7.8,SNR=5.7 **Warramunga Arr**	**57.73**	**188**	P		**P**	**P**	**18 41 00.4**	**0.0**
ASAR	0.5nm,0.7s,baz=6.3,slow=6.8,SNR=7.5 **Alice Springs**	**61.45**	**188**	P		**P**	**P**	**18 41 26.1**	**+0.1**
	0.5nm,0.7s,baz=14,slow=6.9,SNR=9.8								

*NEIC **19** 18:38:44.5±1.7, 6˚.9S±0˚.1×12˚.1W±0˚.1, h10km±5km, mb4.4/9, Error ellipse: s-maj=21.0km s-min=13.9km az=116.0*
*IDC **19** 18:38:48.5±5.0, 6˚.41S×11˚.68W, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/45, mbtmp3.9/6, ML3.2/1, MS3.7/22, Ms1 3.7/22, ms1mx3.4/75, Error ellipse: s-maj=185.2km s-min=84.3km az=135.0*

ISC 19 18:38:46.8±2.4, 6˚.6S±0˚.4×12˚.1W±0˚.3, h10km, n43, σ1°26/17, mb4.2/8, MS3.7/21, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**2.71**	**242**	T		T	T	18 42 29.5	
H10N1	baz=68,slow=74,SNR=253 **ASCENSION HYDR**	**2.71**	**242**	T		T	T	18 42 28.9	
H10N3	baz=68,slow=74,SNR=303 **ASCENSION HYDR**	**2.73**	**242**	T		T	T	18 42 34.4	
H10S2	baz=68,slow=74,SNR=170 **ASCENSION HYDR**	**3.49**	**227**	T		T	T	18 43 18.2	
H10S3	baz=166,slow=74,SNR=48 **ASCENSION HYDR**	**3.50**	**227**	T		T	T	18 43 19.9	
SHEL	baz=54,slow=74,SNR=70 **Horse Pasture**	**11.21**	**147**	Pn		Pn	Pn	18 41 20.6	-6.6
DBIC	**Dimbokro**	**14.98**	**29**	Pn		**Pn**	**Pn**	**18 42 18.7**	**-0.1**
DBIC	0.1nm,0.3s,baz=237,slow=7.8,SNR=2.5				LR		LR	18 46 54.3	
DBIC	comp=Z,239nm,19.8s,baz=187,slow=33 **Dimbokro**	**14.98**	**29**				**Pn**	**18 42 17.5**	**-1.3**
DBIC	comp=Z,24nm,1.6s				IAmb		IAmb	18 42 21.4	
KOWA	**Kowa**	**22.39**	**21**	P			**P**	**18 43 46.8**	**+1.3**
KOWA	comp=Z,19nm,1.4s				IAmb		IAmb	18 44 13.7	
RCBR	**Riachuelo**	**23.70**	**270**	LR			LR	18 52 08.7	
TOC4	comp=Z,57nm,19.0s,baz=216,slow=33 **Torodi Ar. Sit**	**23.86**	**35**	P			**P**	**18 43 59.5**	**-1.1**
TOC4	comp=Z,11nm,1.2s				IAmb		IAmb	18 44 23.9	
TOB4	**Torodi Ar. Sit**	**23.87**	**35**	P			**P**	**18 44 00.4**	**-0.3**
TOB4	comp=Z,11nm,1.2s				IAmb		IAmb	18 44 16.9	
TOA0	**Torodi Ar. Sit**	**23.88**	**35**	P			**P**	**18 44 00.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**23.88**	**35**	P			**P**	**18 44 00.3**	**-0.5**
TORD	comp=Z,2.1nm,0.6s,baz=213,slow=11,SNR=17				LR		LR	18 52 12.5	
TORD	comp=Z,220nm,20.7s,baz=210,slow=34 **Torodi Ar. Bea**	**23.88**	**35**	P			**P**	**18 44 00.5**	**-0.3**
TSUM	**Tsumeb**	**31.45**	**116**	LR			LR	18 55 09.6	
MDT	comp=Z,243nm,20.9s,baz=295,slow=32 **Midelt**	**39.79**	**10**	LR			LR	19 02 18.1	
SUR	comp=Z,167nm,19.1s,baz=166,slow=36 **Sutherland**	**39.96**	**134**	LR			LR	18 59 03.2	
LSZ	comp=Z,167nm,18.3s,baz=282,slow=30 **Lusaka**	**40.41**	**106**	LR			LR	19 00 33.0	
BOSA	comp=Z,106nm,19.8s,baz=301,slow=33 **Boshof**	**41.52**	**126**	LR			LR	19 00 55.8	
MDP	comp=Z,85nm,20.2s,baz=250,slow=32 **Montagnes des**	**42.12**	**285**	LR			LR	19 02 26.2	
MBAR	comp=Z,32nm,18.6s,baz=82,slow=33 **Mbarara**	**43.11**	**84**	LR			LR	19 03 20.1	
ESDC	comp=Z,162nm,18.7s,baz=245,slow=34 **Sonseca Array**	**46.61**	**9**	LR			LR	19 06 49.3	
KEST	comp=Z,50nm,19.1s,baz=157,slow=36 **Kesra**	**46.64**	**24**	LR			LR	19 07 24.0	
CPUP	comp=Z,149nm,19.3s,baz=223,slow=37 **Villa Florida**	**47.34**	**240**	LR			LR	19 03 43.9	
KMBO	comp=Z,63nm,21.4s,baz=98,slow=31 **Kilima Mbogo**	**49.48**	**86**	LR			LR	19 07 15.5	
BIM	comp=Z,55nm,18.0s,baz=102,slow=35 **Bigot**	**52.92**	**294**	P			**P**	**18 48 02.7**	**-0.9**
CUC	**Castrocucco**	**52.99**	**27**	P			**P**	**18 48 02.3**	**-1.5**
DAVOX	**Davos/Dischmat**	**56.57**	**18**	LR			LR	19 12 54.7	
GERES	comp=Z,108nm,19.8s,baz=252,slow=36 **GERESS Array B**	**59.61**	**19**	P			**P**	**18 48 51.9**	**+0.9**
GERES	comp=Z,1.2nm,0.8s,baz=207,slow=8.4,SNR=8.1				LR		LR	19 15 15.9	
GERES	comp=Z,52nm,18.4s,baz=243,slow=37 **GERESS Array B**	**59.61**	**19**	P			**P**	**18 48 50.5**	**-0.5**
VRAC	**Vranov**	**61.00**	**21**	LR			LR	19 16 28.3	
MLR	comp=Z,79nm,18.6s,baz=217,slow=37 **Muntele Rosu**	**61.97**	**29**	LR			LR	19 17 16.1	
PLCA	comp=Z,49nm,19.4s,baz=54,slow=37 **Paso Flores**	**62.06**	**227**	LR			LR	19 13 00.7	
BRTR	comp=Z,48nm,19.3s,baz=158,slow=33 **Keskin Array B**	**62.43**	**39**	P			**P**	**18 49 11.1**	**+0.7**
BRTR	comp=Z,0.3nm,0.4s,baz=213,slow=6.9,SNR=1.3 **Keskin Array B**	**62.43**	**39**	P			**P**	**18 49 08.4**	**-1.9**
AKASG	**Malin Array Be**	**67.22**	**27**	P			**P**	**18 49 43.4**	**+2.2**
PAL	comp=Z,1.3nm,0.6s,baz=215,slow=6.6,SNR=5.8 **Palisades**	**73.70**	**316**	P			P	18 50 16.7	-4.3
FINES	**FINESS Array B**	**73.98**	**18**	P			**P**	**18 50 24.1**	**+1.9**
	comp=Z,2.5nm,0.9s,baz=204,slow=3.0,SNR=2.1								
FIC3	**FINESS Array S**	**73.99**	**18**	P			**P**	**18 50 22.1**	**-0.1**
MAW	**Mawson**	**78.24**	**158**	LR			LR	19 18 47.0	
CMIG	comp=Z,47nm,18.1s,baz=260,slow=31 **Matias Romero**	**85.08**	**288**	LR			LR	19 26 00.9	
PALK	comp=Z,138nm,21.9s,baz=106,slow=33 **Pallekele**	**93.55**	**83**	LR			LR	19 30 42.9	
	comp=Z,41nm,19.1s,baz=360,slow=33								

*IDC **19** 18:38:56.7±0.7, 32˚.49N×130˚.68E, h0km, mb3.7/13, mb1 3.9/15, mb1mx3.7/65, mbtmp3.6/15, ML2.5/2, MS3.1/11, Ms1 3.1/11, ms1mx2.8/96, Error ellipse: s-maj=19.0km s-min=8.1km az=104.0*
*NEIC **19** 18:38:57.5±1.5, 32˚.49N±0˚.03×130˚.67E±0˚.06, h7km±4km, mb4.4/22, Mwr4.1/13, Error ellipse: s-maj=7.5km s-min=3.6km az=104.0*
*NEIC **19** 18:38:57.5, 32˚.48N×130˚.67E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.23; $M_{\theta\theta}$1.04; $M_{\phi\phi}$-0.81; $M_{r\theta}$-0.46; $M_{\theta\phi}$1.30; $M_{\phi r}$0.83; Fault plane solution: $M_0$1.87000×10^{15} NP1:ϕ_s201.36000°, δ69.74000°, λ-159.88000°. NP2:ϕ_s104.13000°, δ71.17000°, λ-21.46000°. Principal axes: T 1.7074, Plg1.0000°, Azm153.0000°; N 0.2838, Plg62.0000°, Azm245.0000°; P -1.9912, Plg28.0000°, Azm62.0000°;*
*JMA **19** 18:38:58.5, 32˚.56N×130˚.65E, h11km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s298.00000°, δ79.00000°, λ27.00000°. NP2: ϕ_s202.00000°, δ64.00000°, λ167.00000°. Principal axes: T Plg27.0000°, Azm163.0000°; N Plg61.0000°, Azm319.0000°; P Plg10.0000°, Azm68.0000°;*
JMA Felt III J1.
*NIED **19** 18:38:58.6, 32˚.57N×130˚.65E, h11km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.51; $M_{\theta\theta}$0.71; $M_{\phi\phi}$-1.22; $M_{r\theta}$-0.76; $M_{\theta\phi}$1.37; $M_{\phi r}$0.05; Fault plane solution: $M_0$1.88000×10^{15} NP1: ϕ_s195.00000°, δ63.00000°, λ166.00000°. NP2: ϕ_s291.00000°, δ77.00000°, λ27.00000°.*

ISC 19 18:38:58.4±1.0, 32˚.48N±0˚.03×130˚.65E±0˚.05, h12km±6km, n84, σ1°73/82, mb4.2/28, MS3.0/7, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.16**	**62**	⇓P			**Pg**	**18 39 01.8**	**-0.2**
JIU3				S			**Sg**	**18 39 04.5**	**-0.1**
JZO	**Okuchi**	**0.34**	**187**	⇑P			**Pb**	**18 39 06.9**	**+0.5**
JZO				S			**Sb**	**18 39 12.6**	**+0.8**
JNU	**Nakatsue**	**0.67**	**17**	Pg			**Pg**	**18 39 10.0**	**-1.5**
JNU	283nm,0.3s,baz=200,slow=5.4,SNR=309				Lg		Lg	18 39 18.2	
JNU	2um,0.3s,baz=23,slow=9.9,SNR=52 **Nakatsue**	**0.67**	**17**	Pg			**Pg**	**18 39 10.2**	**-1.3**
JNU				Sg			**Sg**	**18 39 18.5**	**-1.9**
JTZ	**Takazaki**	**0.68**	**147**	⇑P			**Pn**	**18 39 13.5**	**-0.5**
JTZ				S			**Sn**	**18 39 23.3**	**-1.3**
JSU	**Suzuyama**	**0.98**	**190**				**Pn**	**18 39 18.5**	**+0.4**
JSU					Sn		**Sn**	**18 39 31.5**	**-0.4**
JTU	**Tsushima**	**2.29**	**333**	Pn			**Pn**	**18 39 34.8**	**-1.4**
JTU					Sn		**Sn**	**18 40 05.8**	**+1.5**
JMN	**Monobe**	**2.98**	**64**				**Pn**	**18 39 45.6**	**0.0**
JMN					Sn		**Sn**	**18 40 20.6**	**-0.8**
JHS	**Saijyo**	**3.25**	**39**	Pn			**Pn**	**18 39 49.1**	**-0.2**
TJN	**Taejon**	**4.75**	**326**	Pn			**Pn**	**18 40 09.3**	**-0.5**
KSRS	**Korea Array**	**5.45**	**336**	Pn			**Pn**	**18 40 19.8**	**+0.4**
KSRS	0.4nm,0.3s,baz=156,slow=14,SNR=5.1				Pg		**Pb**	**18 40 35.6**	**+2.1**
KSRS	0.7nm,0.3s,baz=157,slow=16,SNR=9.5				LR		LR	18 41 47.5	
KSRS	comp=Z,58nm,20.9s,baz=165,slow=31				Lg		Lg	18 41 47.7	
KSAR	3.0nm,0.3s,baz=158,slow=29,SNR=14 **Wonju Array Be**	**5.45**	**336**				**Pn**	**18 40 19.1**	**-0.4**
KS19	**Wonju Array Si**	**5.51**	**336**				**Pn**	**18 40 20.4**	**+0.1**
INCN	**Inchon**	**5.98**	**328**				**Pn**	**18 40 25.6**	**-1.3**
JOW	**Kunigami**	**5.99**	**201**	Pn			Pn	18 40 31.8	+4.8
JOW	3.6nm,0.3s,baz=87,slow=16,SNR=9.0 **Kunigami**	**5.99**	**201**	Pn			**Pn**	**18 40 25.3**	**-1.7**
INU	**Inuyama**	**6.02**	**60**	Pn			**Pn**	**18 40 27.4**	**+0.1**
JGF	**Kuroka**	**6.38**	**59**	Pn			**Pn**	**18 40 31.5**	**-0.8**
JMZ	**Minamidaito 2**	**6.65**	**176**	Pn			**Pn**	**18 40 34.2**	**-1.8**
MAJO	**Matsushiro**	**7.44**	**55**	Pn			**Pn**	**18 40 45.8**	**-1.1**
MJB9	**Matsu-Tunnel**	**7.44**	**55**	Pn			**Pn**	**18 40 45.7**	**-1.2**
MJAR	**Matsushiro Arr**	**7.44**	**55**	Pn			**Pn**	**18 40 46.2**	**-0.7**
MJAR	0.0nm,0.3s,baz=220,slow=14,SNR=2.8				LR		LR	18 44 01.0	
MJAR	comp=Z,150nm,20.8s,baz=226,slow=41 **Matsushiro Arr**	**7.44**	**55**	Pn			**Pn**	**18 40 44.7**	**-2.1**
SSE	**Sheshan**	**8.17**	**263**	P			**Pn**	**18 40 53.8**	**-3.1**
SSE				S			**Sn**	**18 42 27.4**	**-1.8**
SSE	comp=Z,11nm,0.6s				pmax	pmax			
SSE	comp=Z,91nm,4.7s				pmax	pmax			
SSE	comp=N,290nm,13.1s				LR	LR			
SSE	comp=E,150nm,13.1s				LR	LR			
JCJ	**Chichijima**	**11.36**	**115**	LR			LR	18 44 27.9	
ASAJ	comp=E,45nm,22.0s,baz=92,slow=29 **Asahikawa**	**14.91**	**35**	LR			LR	18 47 52.6	
XLT	comp=E,84nm,18.4s,baz=226,slow=36 **XiLinHaoTe**	**16.14**	**319**	*eP*			**P**	**18 42 47.4**	**-1.0**
XLT				PP			**PnPn**	**18 42 59.9**	**+6.0**
XLT				S			**S**	**18 45 52.1**	**-5.3**
XLT				PcP			**PcP**	**18 47 48.0**	**+7.5**
XLT	comp=Z,7.0nm,1.1s				pmax	pmax			
XLT	comp=Z,120nm,4.3s				pmax	pmax			
XLT	comp=N,31nm,11.8s				LR	LR			
XLT	comp=E,330nm,11.0s				LR	LR			
XLT	comp=Z,330nm,13.9s				LR	LR			
KLR	**Kul'dur**	**16.76**	**3**	Pn			**P**	**18 42 58.0**	**+2.9**
HHC	comp=Z,0.3nm,0.3s,baz=161,slow=7.0,SNR=17 **Hu-ho-hao-te**	**17.42**	**304**	*eP*			**Pn**	**18 43 01.3**	**-0.1**
HHC	comp=Z,12nm,0.8s				pmax	pmax			
HHC	comp=Z,140nm,5.1s				pmax	pmax			
HHC	comp=N,150nm,11.7s				LR	LR			
HHC	comp=E,280nm,12.1s				LR	LR			
HHC	comp=Z,330nm,11.7s				LR	LR			
GUMO	**Guam**	**22.86**	**142**	P			**P**	**18 44 00.8**	**-1.0**
ULN	**Ulaanbaatar**	**23.56**	**318**	P			**P**	**18 44 08.2**	**-0.7**
SONM	**Songino Array**	**23.92**	**317**	P			**P**	**18 44 13.2**	**+0.9**
SONM	comp=Z,1.0nm,0.8s,baz=133,slow=9.7,SNR=8.2				LR		LR	18 53 21.1	
SONM	comp=Z,33nm,20.8s,baz=113,slow=36 **Songino Array**	**23.92**	**317**	P			**P**	**18 44 12.9**	**+0.5**
PZH	**PanZhiHua**	**25.81**	**264**	P			**P**	**18 44 33.3**	**+3.5**
PZH	comp=Z,10.0nm,1.0s				pmax	pmax			
PZH	comp=Z,70nm,5.5s				pmax	pmax			
GTA	**Gaotai**	**25.82**	**294**	*eP*			**P**	**18 44 31.8**	**+2.0**
GTA				sP			sP	18 44 38.4	+3.6
GTA	comp=Z,2.0nm,1.2s				pmax	pmax			
PETK	**Petropavlovsk-**	**28.34**	**35**	LR			LR	18 55 41.5	
GOMU	comp=Z,25nm,18.9s,baz=233,slow=36 **GeErMu**	**29.72**	**287**	P			**P**	**18 45 02.8**	**-2.2**
GOMU				pP			pP	18 45 06.3	-2.3
GOMU				sP			sP	18 45 06.9	-3.1
GOMU				S			S	18 49 52.6	-8.5
GOMU				sS			pS	18 50 01.1	-3.9
GOMU	comp=Z,2.0nm,0.6s				pmax	pmax			
GOMU	comp=Z,99nm,6.3s				pmax	pmax			
GOMU	comp=N,64nm,8.1s				LR	LR			
GOMU	comp=E,74nm,7.4s				LR	LR			
GOMU	comp=Z,64nm,7.4s				LR	LR			
MA2	**Magadan**	**30.24**	**20**	LR			LR	18 56 40.3	
CMAR	comp=Z,19nm,21.1s,baz=178,slow=35 **Chiang Mai Arr**	**31.71**	**252**	P			**P**	**18 45 23.9**	**+1.6**
CMAR	comp=Z,0.3nm,0.6s,baz=50,slow=8.7,SNR=4.7				LR		LR	18 59 57.4	
H11N2	comp=Z,33nm,18.4s,baz=325,slow=40 **WAKE ISLAND Hy**	**34.77**	**102**	T			T	19 21 54.3	
H11N1	baz=296,slow=74,SNR=7.0 **WAKE ISLAND Hy**	**34.77**	**102**	T			T	19 21 58.6	
H11N3	baz=296,slow=74,SNR=3.7 **WAKE ISLAND Hy**	**34.78**	**102**	T			T	19 21 56.1	
H11S3	baz=296,slow=74,SNR=5.1 **WAKE ISLAND Hy**	**35.20**	**104**	T			T	19 22 26.6	
H11S1	baz=301 **WAKE ISLAND Hy**	**35.21**	**104**	T			T	19 22 26.0	
H11S2	baz=301 **WAKE ISLAND Hy**	**35.22**	**104**	T			T	19 22 27.4	
WMQ	baz=301 **Urumqi**	**35.27**	**301**	*eP*			**P**	**18 45 52.3**	**-0.8**
WMQ				pP			sP	18 45 59.3	+1.1
WMQ	comp=Z,41nm,0.7s			pmax	pmax				
ZALV	**Zalesovo Beam**	**38.82**	**317**	LR			LR	19 01 16.8	
MKAR	comp=Z,21nm,19.2s,baz=103,slow=34 **Makanchi Array**	**39.27**	**306**	P			**P**	**18 46 27.1**	**+0.1**
KURBB	comp=Z,0.5nm,0.8s,baz=98,slow=8.7,SNR=5.3 **Kurchatov Arra**	**42.05**	**311**	P			**P**	**18 46 49.8**	**-0.1**
AAK	comp=Z,0.5nm,0.8s,baz=98,slow=9.0,SNR=4.8 **Ala-Archa**	**44.92**	**300**	LR			LR	19 07 04.2	
BRVK	comp=Z,78nm,20.3s,baz=86,slow=38 **Borovoye**	**47.29**	**314**	P			**P**	**18 47 31.2**	**-0.4**
BRVK	comp=Z,7.9nm,1.6s				IAmb		IAmb	18 47 38.8	
KK31	**Karatay Array**	**47.77**	**301**	P			**P**	**18 47 33.8**	**-1.7**
KK31	comp=Z,2.6nm,1.1s				IAmb		IAmb	18 47 37.3	
KKAR	**Karatay Array**	**47.77**	**301**	P			**P**	**18 47 34.5**	**-1.0**
KKAR	**Karatay Array**	**47.77**	**301**	P			**P**	**18 47 34.2**	**-1.3**
KKAR	comp=Z,2.6nm,1.1s				IAmb		IAmb	18 47 37.2	
FITZ	**Fitzroy Crossi**	**50.52**	**186**	P			**P**	**18 47 56.7**	**+0.1**
FITZ	comp=Z,1.3nm,0.8s,baz=346,slow=12 **Fitzroy Crossi**	**50.52**	**186**	P			**P**	**18 47 56.0**	**-0.7**
WB0	**Warramunga Arr**	**52.07**	**176**	P			**P**	**18 48 05.7**	**-2.6**
WB0	comp=Z,7.0nm,1.4s				IAmb		IAmb	18 48 14.8	
WRA	**Warramunga Arr**	**52.24**	**176**	P			**P**	**18 48 09.0**	**-0.5**
ABKAR	comp=Z,0.7nm,1.0s,baz=359,slow=7.3,SNR=4.8 **Akbulak array**	**54.08**	**310**	P			**P**	**18 48 22.7**	**-0.2**
ABKAR	**Akbulak array**	**54.08**	**310**	P			**P**	**18 48 22.8**	**-0.2**
L19K	**White Mountain**	**54.70**	**34**	P			**P**	**18 48 27.4**	**+0.2**
K20K	**Telida**	**54.98**	**32**	P			**P**	**18 48 30.0**	**+0.7**
K20K	comp=Z,7.1nm,1.4s				IAmb		IAmb	18 48 48.8	
CAST	**Castle Rocks**	**55.87**	**32**	P			**P**	**18 48 35.5**	**-0.2**
CAST	comp=Z,8.2nm,1.5s				IAmb		IAmb	18 48 55.8	
PPLA	**Purkeypile**	**55.87**	**33**	P			**P**	**18 48 35.1**	**-0.7**
ASAR	**Alice Springs**	**55.91**	**176**	P			**P**	**18 48 36.5**	**+0.1**
COLD	comp=Z,0.9nm,0.9s,baz=357,slow=6.9,SNR=9.2 **Coldfoot**	**56.35**	**27**	P			**P**	**18 48 38.2**	**-0.8**
RND	**Reindeer**	**57.32**	**32**	P			**P**	**18 48 45.8**	**-0.2**
MDM	**Murphy Dome**	**57.38**	**30**	P			**P**	**18 48 46.4**	**0.0**
MDM	comp=Z,7.9nm,1.6s				IAmb		IAmb	18 49 08.4	
ILAR	**Eielson Array**	**57.97**	**30**	P			**P**	**18 48 50.4**	**-0.1**
SCRK	comp=Z,0.4nm,0.6s,baz=268,slow=6.2,SNR=7.0 **Sand Creek**	**59.35**	**31**	P			**P**	**18 49 00.6**	**+0.3**
SCRK	comp=Z,2.9nm,1.0s				IAmb		IAmb	18 49 01.1	
DOT	**Dot Lake**	**59.39**	**31**	P			**P**	**18 48 59.9**	**-0.5**
DOT	comp=Z,3.2nm,0.6s				IAmb		IAmb	18 49 14.7	
M26K	**Nabesna, AK**	**60.14**	**32**	P			**P**	**18 49 05.3**	**-0.3**
L27K	**Beaver Creek,**	**60.50**	**32**	P			**P**	**18 49 09.1**	**+1.0**
L27K	comp=Z,2.4nm,1.0s				IAmb		IAmb	18 49 10.0	
BCAR	**Beaver Creek A**	**60.52**	**32**	P			**P**	**18 49 08.9**	**+0.7**
M27K	**Edge Creek, AK**	**60.65**	**32**	P			**P**	**18 49 09.2**	**-0.1**
M27K	comp=Z,4.0nm,1.1s				IAmb		IAmb	18 49 09.7	
WSAR	**Wadi Sarin**	**63.28**	**282**	LR			LR	19 20 05.5	
BBOO	comp=Z,43nm,19.0s,baz=166,slow=39 **Buckleboo**	**65.14**	**175**	P			**P**	**18 49 40.1**	**+0.9**
KBZ	**Khabaz**	**66.91**	**308**	P			**P**	**18 49 51.4**	**+0.7**
FINES	comp=Z,2.3nm,0.9s,baz=145,slow=3.5,SNR=6.2 **FINESS Array B**	**68.50**	**330**	P			**P**	**18 49 59.6**	**-0.7**
FINES	comp=Z,1.7nm,0.8s,baz=76,slow=5.9,SNR=9.3 **FINESS Array B**	**68.50**	**330**	P			**P**	**18 49 58.1**	**-2.2**
RES	**Resolute Bay**	**69.03**	**12**	P			**P**	**18 50 02.4**	**-1.1**
RES					IAmb		IAmb	18 50 20.8	
YKA	comp=Z,4.4nm,1.5s **Yellowknife Ar**	**72.00**	**26**	P			**P**	**18 50 22.4**	**+0.7**
NOA	comp=Z,2.0nm,0.5s,baz=304,slow=6.6,SNR=2.7 **NORSAR Array B**	**74.65**	**334**	P			**P**	**18 50 37.0**	**-0.5**
BRTR	comp=Z,0.9nm,0.7s,baz=49,slow=5.9,SNR=3.8 **Keskin Array B**	**74.89**	**308**	P			**P**	**18 50 39.6**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=101,slow=6.4,SNR=5.1								

IDC 19 18:46:38.0±3.5, 12˚.41N×145˚.07E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/57, mbtmp3.5/3, Error ellipse: s-maj=159.6km s-min=16.6km az=88.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.19**	**350**	Pn			Pn	18 47

	comp=N,94nm,0.4s								
U15A					IAML		19 04 46.0		
	comp=E,120nm,0.8s								
W13A	**Hualapai Mount**	**1.39**	**177**			**Pb**	**19 04 24.3**	**+0.6**	
W13A					Sn	**Sb**	**19 04 42.0**	**+0.6**	
PKCU	**Pink Cliffs**	**1.64**	**54**			**Pb**	**19 04 28.5**	**+0.5**	
PKCU					IAML		19 04 55.3		
	comp=N,120nm,0.7s								
PKCU					IAML		19 04 57.7		
	comp=E,201nm,0.3s								
NEE2	**Needles Airpor**	**1.80**	**197**	Sb		**Sg**	**19 04 55.2**	**-0.4**	
	baz=16								
S11A	**Rachel**	**1.83**	**310**			**Pb**	**19 04 31.2**	**0.0**	
S11A					IAML		19 04 57.5		
	comp=N,160nm,0.7s								
S11A					IAML		19 04 57.9		
	comp=E,144nm,0.8s								
TPNV	**Topopah Spring**	**1.89**	**285**			**Pb**	**19 04 31.4**	**-0.7**	
TPNV					IAML		19 04 59.4		
	comp=E,40nm,0.4s								
TPNV	**Topopah Spring**	**1.89**	**285**	P		**Pb**	**19 04 31.5**	**-0.7**	
	baz=104,SNR=33								
TPNV				S		**Sb**	**19 04 55.7**	**+0.1**	
	baz=104								
TUQ	**Turquoise Moun**	**1.90**	**237**	P		**Pn**	**19 04 31.0**	**+1.0**	
	baz=56,SNR=23								
TUQ				Sb		**Sb**	**19 04 57.2**	**+1.1**	
	baz=56								
PSUT	**Pine Spring**	**2.04**	**3**			**Pb**	**19 04 34.1**	**-0.8**	
MTPU	**Mount Pierson**	**2.11**	**42**			**Pb**	**19 04 36.8**	**+0.8**	
MTPU					IAML		19 05 06.5		
	comp=N,46nm,0.4s								
MTPU					IAML		19 05 08.6		
	comp=E,51nm,0.4s								
GMRC	**Granite Mounta**	**2.19**	**219**	P		**Pn**	**19 04 34.8**	**+0.9**	
	baz=38								
GMRC				S		**Sn**	**19 05 01.2**	**+0.3**	
	baz=38								
GWY	**Greenwater Val**	**2.20**	**263**			**Pb**	**19 04 37.8**	**+0.3**	
GWY					IAML		19 04 51.2		
	comp=E,26nm,0.6s								
GWY					IAML		19 04 52.4		
	comp=N,30nm,0.5s								
R11A	**Troy Canyon, C**	**2.26**	**326**			**Pn**	**19 04 35.5**	**+0.6**	
R11A					IAML		19 05 12.3		
	comp=N,25nm,0.3s								
R11A	**Troy Canyon, C**	**2.26**	**326**	P		**Pn**	**19 04 36.7**	**+1.8**	
	baz=145,SNR=19								
R11A				Sb		**Sg**	**19 05 09.1**	**-1.3**	
	baz=145								
WUAZ	**Wupatki**	**2.32**	**114**			**Pn**	**19 04 36.3**	**+0.5**	
WUAZ	**Wupatki**	**2.32**	**114**	Pg		**Pg**	**19 04 41.7**	**-0.7**	
	baz=295,SNR=11								
WUAZ				Sb		**Sg**	**19 05 11.6**	**-0.9**	
	baz=295								
FURC	**Furnace Creek,**	**2.33**	**270**	Pg		**Pg**	**19 04 41.8**	**-0.7**	
	baz=89								
QSM	**Queen of Sheba**	**2.40**	**258**	Pn		**Pn**	**19 04 37.5**	**+0.8**	
TCRU	**Three Creeks R**	**2.44**	**29**			**Pn**	**19 04 38.4**	**+0.9**	
TCRU					IAML		19 05 16.5		
	comp=N,24nm,0.8s								
TCRU					IAML		19 05 18.2		
	comp=E,25nm,0.3s								
MSU	**Marysvale**	**2.47**	**35**			**Pn**	**19 04 38.8**	**+0.8**	
IRM	**Iron Mountain**	**2.52**	**203**	Sg		**Sg**	**19 05 18.8**	**+0.1**	
	baz=22								
HEC	**Hector,Ludlow**	**2.54**	**230**	Pg		**Pg**	**19 04 46.1**	**-0.4**	
	baz=48								
HEC				Sg		**Sg**	**19 05 20.6**	**+1.2**	
	baz=48								
GSC	**Goldstone, Bar**	**2.59**	**244**			**Pn**	**19 04 39.9**	**+0.5**	
GSC					IAML		19 05 26.5		
	comp=E,18nm,2.7s								
GSC					IAML		19 05 28.2		
	comp=N,19nm,1.2s								
GSC	**Goldstone, Bar**	**2.59**	**244**	Pg		**Pg**	**19 04 46.7**	**-0.8**	
	baz=62								
Y14A	**Wickenburg**	**2.67**	**162**			**Pn**	**19 04 41.0**	**+0.5**	
Y14A					IAML		19 05 30.0		
	comp=N,16nm,0.6s								
BLYC	**Blythe**	**2.77**	**190**	Pn		**Pn**	**19 04 42.2**	**+0.4**	
BLYC					IAML		19 05 30.9		
	comp=E,18nm,1.0s								
GRAC	**Grapevine Rang**	**2.77**	**282**			**Pn**	**19 04 42.2**	**+0.3**	
GRAC					IAML		19 05 34.5		
	comp=N,32nm,0.5s								
GRAC					IAML		19 06 23.6		
	comp=E,38nm,0.5s								
MPMC	**Manual Prospec**	**2.87**	**262**	Pg		**Pg**	**19 04 51.6**	**-1.3**	
	baz=80								
MPMC				Sg		**Sg**	**19 05 31.6**	**+1.5**	
	baz=80								
X16A	**Lo Mia Camp, P**	**2.92**	**134**			**Pn**	**19 04 43.1**	**-1.1**	
BELC	**Belle Mtn. Jos**	**2.99**	**214**	Sg		**Sg**	**19 05 33.9**	**+0.2**	
	baz=33								
LCH	**Last Change Ra**	**3.04**	**285**			**Pn**	**19 04 45.4**	**-0.3**	
BC3	**Big Chuckawall**	**3.08**	**204**	Sg		**Sg**	**19 05 38.2**	**+1.5**	
	baz=22								
Q16A	**Castle Valley**	**3.29**	**42**			**Pn**	**19 04 49.6**	**+0.4**	
PFO	**Pinyon Flats O**	**3.52**	**216**			**Pn**	**19 04 51.4**	**-0.9**	
W18A	**Petrified Fore**	**3.71**	**110**			**Pn**	**19 04 54.3**	**-0.6**	
113A	**Mohawk Valley,**	**3.72**	**177**			**Pn**	**19 04 53.5**	**-1.4**	
113A					IAML		19 05 50.8		
	comp=N,7.7nm,3.4s								
113A					IAML		19 06 07.9		
	comp=E,9.3nm,1.2s								
ISA	**Isabella, Lake**	**3.74**	**259**			**Pn**	**19 04 53.8**	**-1.4**	
SRU	**San Rafael Swe**	**3.78**	**45**	Pn		**Pn**	**19 04 55.0**	**-0.9**	
SRU					IAML		19 06 00.4		
	comp=E,12nm,0.5s								
SRU					IAML		19 06 06.7		
	comp=N,8.0nm,1.1s								
DUG	**Dugway, Tooele**	**3.81**	**14**	Pn		**Pn**	**19 04 55.8**	**-0.5**	
DUG					IAML		19 06 42.9		
	comp=N,6.1nm,5.0s								
X18A	**Snowflake**	**3.82**	**120**	Pn		**Pn**	**19 04 56.2**	**-0.3**	
X18A					IAML		19 06 06.2		
	comp=N,19nm,0.7s								
P17A	**Butcher Ranch,**	**3.92**	**40**	Pn		**Pn**	**19 04 57.7**	**-0.2**	
P17A					IAML		19 06 16.6		
	comp=N,7.5nm,4.9s								
NVAR	**Mina Array Bea**	**3.95**	**301**	Pn		**Pn**	**19 04 58.2**	**-0.1**	
LHV	**Little Huntoon**	**4.01**	**297**			**Pn**	**19 04 59.1**	**+0.2**	
LHV					IAML		19 06 12.1		
	comp=N,12nm,2.9s								
LHV					IAML		19 06 15.9		
	comp=E,11nm,0.8s								
RYN	**Ryan**	**4.20**	**302**			**Pn**	**19 05 02.0**	**+0.4**	
RYN					IAML		19 06 13.0		
	comp=E,8.2nm,1.0s								
RYN					IAML		19 06 14.0		
	comp=N,9.2nm,4.2s								
PV05	**Paradox Valley**	**4.20**	**66**	Pn		**Pn**	**19 05 01.5**	**-0.2**	
P18A	**Preston Nutter**	**4.30**	**42**			**Pn**	**19 05 02.7**	**-0.4**	
P18A					IAML		19 06 16.6		
	comp=N,5.5nm,0.8s								
P18A					IAML		19 06 22.3		
	comp=E,7.8nm,1.8s								
PV10	**Paradox Valley**	**4.36**	**63**	Pn		**Pn**	**19 05 01.7**	**-2.2**	
PV14	**Lion Creek, Pa**	**4.37**	**63**	Pn		**Pn**	**19 05 02.8**	**-1.2**	
PV19	**Morning Glory**	**4.37**	**64**	Pn		**Pn**	**19 05 02.8**	**-1.3**	
PV19					IAML		19 06 23.1		
	comp=E,19nm,0.6s								
PV17	**East Wray Mesa**	**4.38**	**64**	Pn		**Pn**	**19 05 03.8**	**-0.3**	
PV17					IAML		19 06 22.6		
	comp=E,19nm,0.5s								
PV20	**West Nyswonger**	**4.39**	**64**	Pn		**Pn**	**19 05 03.6**	**-0.8**	
PV18	**Skein Mesa, Pa**	**4.40**	**65**	Pn		**Pn**	**19 05 04.2**	**-0.3**	
PV18					IAML		19 06 22.8		
	comp=E,16nm,1.3s								
PV23	**Carpenter Ridg**	**4.41**	**62**	Pn		**Pn**	**19 05 03.2**	**-1.3**	
PV16	**Nyswonger Mesa**	**4.42**	**64**	Pn		**Pn**	**19 05 03.4**	**-1.3**	
PV13	**Radium Mtn., P**	**4.43**	**66**			**Pn**	**19 05 03.3**	**-1.6**	
PV11	**David Mesa, Pa**	**4.45**	**65**	Pn		**Pn**	**19 05 04.3**	**-0.7**	
PV03	**Paradox Valley**	**4.45**	**65**	Pn		**Pn**	**19 05 05.1**	**0.0**	
PV03					IAML		19 06 20.2		
	comp=N,17nm,0.6s								
MVCO	**Mesa Verde**	**4.45**	**79**	Pn		**Pn**	**19 05 06.1**	**+0.9**	
MVCO					IAML		19 06 30.8		
	comp=N,18nm,1.4s								
PV04	**Paradox Valley**	**4.46**	**63**	Pn		**Pn**	**19 05 06.1**	**+0.8**	
PV04					IAML		19 06 20.8		
	comp=E,18nm,1.3s								
PV12	**Saucer Basin,**	**4.50**	**65**	Pn		**Pn**	**19 05 04.0**	**-1.9**	
PV01	**Paradox Valley**	**4.61**	**68**	Pn		**Pn**	**19 05 05.2**	**-2.2**	
PV01					IAML		19 06 31.7		
	comp=E,13nm,1.4s								
PV01					IAML		19 06 42.1		
	comp=N,12nm,4.5s								
214A	**Organ Pipe Nat**	**4.62**	**168**	Pn		**Pn**	**19 05 05.0**	**-2.4**	
214A					IAML		19 06 33.6		
	comp=E,8.6nm,3.9s								
214A					IAML		19 06 36.0		
	comp=N,5.2nm,3.2s								
BMN	**Battle Mountai**	**4.69**	**328**	Pn		**Pn**	**19 05 06.1**	**-2.3**	
BMN					IAML		19 06 23.7		
	comp=N,5.2nm,4.2s								
BMN					IAML		19 06 46.5		
	comp=E,5.3nm,4.8s								
PV15	**Paradox Valley**	**4.75**	**65**	Pn		**Pn**	**19 05 07.5**	**-1.8**	
YERR	**Yerington**	**4.86**	**302**	Pn		**Pn**	**19 05 10.0**	**-0.8**	
YERR					IAML		19 07 13.4		
	comp=E,12nm,3.9s								
YERR					IAML		19 07 59.8		
	comp=N,4.9nm,3.3s								

TAP ***19*** *19:14:19.6,24˚.85N×122˚.25E,h13km,ML3.0,D*
JMA ***19*** *19:14:20.0±0.1,24˚.80N×122˚.30E,h49km±3km,M2.6*

ISC 19 19:14:18.0±1.1,24˚.84N±0˚.02×122˚.33E±0˚.03,h13km±8km, n75,σ0°60/145,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.36**	**298**	P		**Pb**	**Pb**	**19 14 26.0**	**-0.2**
	baz=303								
TWB1				S		**Sg**	**Sg**	**19 14 30.1**	**+0.1**
	baz=303								
EGS		**0.36**	**271**	*e*P		**Pb**	**Pb**	**19 14 26.3**	**0.0**
	baz=269								
EGS				*e*S		**Sb**	**Sb**	**19 14 31.5**	**-0.4**
	baz=269								
NTC	**Toucheng**	**0.46**	**272**	*e*P		**Pn**	**Pn**	**19 14 28.8**	**-1.4**
	baz=271								
NTC				*e*S		**Sb**	**Sb**	**19 14 35.6**	**+0.9**
	baz=271								
TIPB	**Shuangxi**	**0.48**	**286**	P		**Pb**	**Pb**	**19 14 28.3**	**0.0**
	baz=287								
TIPB				*e*S		**Sb**	**Sb**	**19 14 35.2**	**-0.1**
	baz=287								
SXI1	**Grass Mountain**	**0.49**	**302**	P		**Pb**	**Pb**	**19 14 28.8**	**+0.3**
	baz=304								
SXI1				*e*S		**Sb**	**Sb**	**19 14 35.4**	**-0.2**
	baz=304								
TWC	**Suao**	**0.50**	**243**	P		**Pb**	**Pb**	**19 14 28.1**	**-0.4**
	baz=238								
TWC				S		**Sg**	**Sg**	**19 14 34.7**	**+0.3**
	baz=238								
ILA	**Ilan**	**0.54**	**262**	*e*P		**Pb**	**Pb**	**19 14 29.8**	**+0.5**
	baz=249								
ILA				*e*S		**Sb**	**Sb**	**19 14 36.9**	**0.0**
	baz=249								
NWF	**Wu-fen Shan**	**0.55**	**295**	*e*P		**Pn**	**Pn**	**19 14 30.7**	**-0.9**
	baz=296								
NWF				S		**Sb**	**Sb**	**19 14 37.5**	**+0.1**
	baz=296								
NDS	**Dongshan**	**0.60**	**250**	P		**Pb**	**Pb**	**19 14 30.1**	**-0.2**
	baz=242								
NDS				*e*S		**Sg**	**Sg**	**19 14 37.9**	**+0.3**
	baz=242								
TWE	**Neicheng**	**0.62**	**259**	P		**Pb**	**Pb**	**19 14 30.7**	**+0.1**
	baz=249								
TWE				S		**Sb**	**Sb**	**19 14 38.7**	**-0.5**
	baz=249								
EWUT	**Wuta**	**0.64**	**232**	P		**Pb**	**Pb**	**19 14 31.2**	**+0.2**
	baz=228								
EWUT				S		**Sg**	**Sg**	**19 14 38.4**	**-0.5**
	baz=228								
ENA	**Nanau**	**0.68**	**233**	P		**Pb**	**Pb**	**19 14 31.5**	**-0.1**
	baz=229								
ENA				S		**Sg**	**Sg**	**19 14 39.7**	**-0.4**
	baz=229								
JYNG	**Yonagunijimaku**	**0.68**	**125**	P		**Pn**	**Pn**	**19 14 33.5**	**+0.2**
JYNG				*e*S		**Sn**	**Sn**	**19 14 43.6**	**-0.1**
FUSB	**Fushanzhiwuyua**	**0.68**	**264**	P		**Pb**	**Pb**	**19 14 32.1**	**+0.3**
	baz=252								
FUSB				*e*S		**Sb**	**Sb**	**19 14 41.5**	**+0.3**
	baz=252								
TWA	**Mucha**	**0.69**	**282**	P		**Pn**	**Pn**	**19 14 33.2**	**-0.4**
	baz=282								
TWA				S		**Sb**	**Sb**	**19 14 42.1**	**+0.6**
	baz=282								
YOJ	**Yonaguni jima**	**0.72**	**121**	P		**Pn**	**Pn**	**19 14 34.3**	**+0.4**
YOJ				S		**Sn**	**Sn**	**19 14 44.5**	**-0.3**
ENTT	**Nioudou**	**0.73**	**254**	P		**Pb**	**Pb**	**19 14 32.7**	**+0.2**
	baz=252								
ENTT				*e*S		**Sb**	**Sb**	**19 14 42.0**	**-0.4**
	baz=252								
NHDH	**Xindian Distri**	**0.74**	**280**	P		**Pn**	**Pn**	**19 14 34.2**	**0.0**
	baz=279								
NHDH				S		**Sb**	**Sb**	**19 14 43.7**	**+0.8**
	baz=279								
NWLT	**Wulai**	**0.76**	**266**	P		**Pn**	**Pn**	**19 14 33.8**	**-0.6**
	baz=264								
NWLT				S		**Sb**	**Sb**	**19 14 43.0**	**-0.3**
	baz=264								
YM01	**YM01**	**0.76**	**294**	P		**Pn**	**Pn**	**19 14 34.1**	**-0.3**
	baz=294								
YM01				*e*S		**Sb**	**Sb**	**19 14 43.9**	**+0.5**
	baz=294								
TAP	**Taipei**	**0.78**	**285**	*e*P		**Pn**	**Pn**	**19 14 34.8**	**+0.1**
	baz=285								
TAP				*e*S		**Sb**	**Sb**	**19 14 44.2**	**+0.4**
	baz=285								
NDT	**Datong Townshi**	**0.78**	**253**	P		**Pn**	**Pn**	**19 14 34.0**	**-0.7**
	baz=251								
NDT				S		**Sb**	**Sb**	**19 14 44.2**	**+0.2**
	baz=251								
LATG	**Datong**	**0.79**	**248**	P		**Pb**	**Pb**	**19 14 34.0**	**+0.3**
	baz=246								
LATG				S		**Sb**	**Sb**	**19 14 44.3**	**-0.2**
	baz=246								
TWY	**Chenhua**	**0.80**	**303**	P		**Pn**	**Pn**	**19 14 35.0**	**+0.1**
	baz=304								
TWY				S		**Sn**	**Sn**	**19 14 45.4**	**-1.3**
	baz=304								
ANP	**Anpu**	**0.81**	**295**	*e*P		**Pn**	**Pn**	**19 14 34.5**	**-0.7**
	baz=296								
ANP				*e*S		**Sb**	**Sb**	**19 14 45.5**	**+0.5**
	baz=296								
PCYT	**Pengchaiyu**	**0.82**	**343**	*e*P		**Pn**	**Pn**	**19 14 35.7**	**+0.4**
	baz=357								
NTST	**Danshui**	**0.86**	**292**	*e*P		**Pn**	**Pn**	**19 14 37.0**	**+1.1**
	baz=303								
NTST				*e*S		**Sn**	**Sn**	**19 14 47.5**	**-0.9**
	baz=303								
TWS1	**Kuangyinshan**	**0.87**	**288**	*e*P		**Pn**	**Pn**	**19 14 36.3**	**+0.3**
	baz=287								
TWS1				*e*S		**Sn**	**Sn**	**19 14 47.8**	**-0.8**
	baz=287								
YHNB	**Yeheng**	**0.89**	**259**	P		**Pn**	**Pn**	**19 14 35.8**	**-0.4**
	baz=258								
YHNB				*e*S		**Sb**	**Sb**	**19 14 47.5**	**+0.4**
	baz=258								
NSK	**Sanguang**	**0.90**	**260**	P		**Pn**	**Pn**	**19 14 35.9**	**-0.6**
	baz=258								
NSK				*e*S		**Sb**	**Sb**	**19 14 47.9**	**+0.4**
	baz=258								
ETL	**Fush Village**	**0.94**	**224**	*e*P		**Pb**	**Pb**	**19 14 36.0**	**-0.1**
	baz=222								
ETL				*e*S		**Sg**	**Sg**	**19 14 48.1**	**-0.3**
	baz=222								
NACB	**Ninganchiao**	**0.94**	**226**	P		**Pn**	**Pn**	**19 14 36.4**	**-0.5**
	baz=224								
NACB				S		**Sg**	**Sg**	**19 14 48.0**	**-0.6**
	baz=224								
NNSB	**Datong**	**0.96**	**245**	P		**Pn**	**Pn**	**19 14 36.7**	**-0.5**
	baz=234								
NNSB				S		**Sg**	**Sg**	**19 14 48.8**	**-0.2**
	baz=234								
NNS	**Nan Shan**	**0.96**	**246**	P		**Pn**	**Pn**	**19 14 36.9**	**-0.4**
	baz=234								
NNS				S		**Sg**	**Sg**	**19 14 49.1**	**0.0**
	baz=234								
ETLH	**Xiulin Townshi**	**1.00**	**231**	P		**Pn**	**Pn**	**19 14 37.7**	**-0.1**
	baz=220								
ETLH				S		**Sb**	**Sb**	**19 14 50.0**	**-0.3**
	baz=220								
TWD	**Chiawan**	**1.01**	**222**	P		**Pg**	**Pg**	**19 14 37.4**	**-0.1**
	baz=227								
TWD				S		**Sb**	**Sb**	**19 14 50.0**	**-0.6**
	baz=227								
NFF	**Wufeng Townshi**	**1.12**	**260**	P		**Pg**	**Pg**	**19 14 40.2**	**+0.6**
	baz=272								
NFF				*e*S		**Sn**	**Sn**	**19 14 55.1**	**+0.3**
	baz=272								
FUSS	**Fushou**	**1.15**	**240**	*e*P		**Pg**	**Pg**	**19 14 39.9**	**-0.3**
	baz=238								
FUSS				*e*S		**Sb**	**Sb**	**19 14 54.8**	**-0.2**
	baz=238								
WHF	**Hehuan Shan**	**1.19**	**235**	P		**Pg**	**Pg**	**19 14 41.6**	**+0.5**
	baz=234								
WHF				S		**Sb**	**Sb**	**19 14 56.5**	**+0.2**
	baz=234								
TWT	**Tachien**	**1.21**	**241**	*e*P		**Pg**	**Pg**	**19 14 42.0**	**+0.7**
	baz=231								
TWT				*e*S		**Sg**	**Sg**	**19 14 56.8**	**-0.2**
	baz=231								
LIOB	**Emei**	**1.21**	**261**	*e*P		**Pg**	**Pg**	**19 14 41.9**	**+0.5**
	baz=279								
LIOB				*e*S		**Sg**	**Sg**	**19 14 57.6**	**+0.4**
	baz=279								
TDCB	**Techi**	**1.22**	**242**	*e*P		**Pg**	**Pg**	**19 14 41.9**	**+0.4**
	baz=231								
TDCB				*e*S		**Sb**	**Sb**	**19 14 56.7**	**0.0**
	baz=231								
NSTT	**Nanjuang**	**1.23**	**261**	*e*P		**Pg**	**Pg**	**19 14 42.0**	**+0.4**
	baz=259								
NSTT				*e*S		**Sg**	**Sg**	**19 14 57.6**	**-0.1**
	baz=259								
ESL	**Shilin**	**1.31**	**219**	*e*P		**Pg**	**Pg**	**19 14 43.6**	**+0.4**
	baz=224								
ESL				*e*S		**Sb**	**Sb**	**19 14 59.1**	**-0.1**
	baz=224								
CHGB	**Renai**	**1.31**	**234**	*e*P		**Pg**	**Pg**	**19 14 42.8**	**-0.4**
	baz=234								
CHGB				*e*S		**Sb**	**Sb**	**19 14 59.5**	**+0.1**
	baz=234								
IRIF	**Iriomote-Funau**	**1.37**	**111**	P		**Pb**	**Pb**	**19 14 43.0**	**-0.4**
OWD	**Renai**	**1.38**	**230**	P		**Pg**	**Pg**	**19 14 44.3**	**-0.1**
	baz=230								
OWD				*e*S		**Sn**	**Sn**	**19 15 01.1**	**-0.1**
	baz=230								
WHP	**Taichung City**	**1.38**	**246**	*e*P		**Pg**	**Pg**	**19 14 44.2**	**-0.4**
	baz=245								
WHP				*e*S		**Sb**	**Sb**	**19 15 01.8**	**+0.4**
	baz=245								
NMLH	**Miaoli**	**1.44**	**258**	*e*P		**Pg**	**Pg**	**19 14 45.1**	**-0.5**
	baz=248								
NMLH				*e*S		**Sg**	**Sg**	**19 15 03.8**	**-0.4**
	baz=248								
WCS	**Beigang Elemen**	**1.51**	**239**	*e*P		**Pg**	**Pg**	**19 14 47.8**	**+0.8**
	baz=239								
WCS				*e*S		**Sg**	**Sg**	**19 15 07.0**	**+0.3**
	baz=239								
VWDT	**VWDT**	**1.53**	**225**	*e*P		**Pg**	**Pg**	**19 14 47.4**	**0.0**
	baz=233								
VWDT				*e*S		**Sb**	**Sb**	**19 15 05.5**	**-0.1**
	baz=233								
HGSD	**Ruisui**	**1.58**	**212**	*e*P		**Pb**	**Pb**	**19 14 46.7**	**-0.3**
	baz=199								
HGSD				*e*S		**Sb**	**Sb**	**19 15 06.6**	**-0.3**
	baz=199								
EHY	**Hungye**	**1.62**	**215**	*e*P		**Pb**	**Pb**	**19 14 46.8**	**-0.9**
	baz=217								
EHY				*e*S		**Sn**	**Sn**	**19 15 07.2**	**+0.3**
	baz=217								
SMLT	**Sun Moon Lake**	**1.62**	**234**	*e*P		**Pg**	**Pg**	**19 14 49.1**	**0.0**
	baz=234								
SMLT				*e*S		**Sn**	**Sn**	**19 15 07.6**	**+0.5**
	baz=234								
SSLB	**Suanglung**	**1.64**	**231**	P		**Pg**	**Pg**	**19 14 48.9**	**-0.5**
	baz=231								
SSLB				*e*S		**Sn**	**Sn**	**19 15 07.8**	**+0.3**
	baz=231								
TYC	**Yuchr**	**1.64**	**236**	*e*P		**Pg**	**Pg**	**19 14 49.4**	**-0.1**
	baz=236								
TYC				*e*S		**Sg**	**Sg**	**19 15 09.9**	**-0.8**
	baz=236								
JKRS	**Kuro-shima**	**1.64**	**111**	P		**Pb**	**Pb**	**19 14 47.3**	**-0.8**
YULB	**Yu-li**	**1.72**	**214**	*e*P		**Pn**	**Pn**	**19 14 48.3**	**+0.6**
	baz=216								
YULB				*e*S		**Sn**	**Sn**	**19 15 09.9**	**+0.3**
	baz=216								
EYUL	**Yuli**	**1.75**	**212**	*e*P		**Pn**	**Pn**	**19 14 48.7**	**+0.6**
	baz=230								
EYUL				*e*S		**Sb**	**Sb**	**19 15 12.7**	**+0.8**
	baz=230								
WJS	**Zhushan**	**1.78**	**236**	*e*P		**Pg**	**Pg**	**19 14 52.6**	**+0.4**
	baz=237								
WJS				*e*S		**Sg**	**Sg**	**19 15 16.2**	**+0.9**
	baz=237								
FULB	**Fuli**	**1.89**	**210**	*e*P		**Pb**	**Pb**	**19 14 51.1**	**-1.2**
	baz=228								
FULB				*e*S		**Sb**	**Sb**	**19 15 16.4**	**+0.5**
	baz=228								
ALS	**Alishan**	**1.92**	**227**	*e*P		**Pb**	**Pb**	**19 14 53.8**	**+0.7**
	baz=215								
ALS				*e*S		**Sg**	**Sg**	**19 15 18.7**	**-1.2**
	baz=215								
CHKT	**Chengkung**	**1.94**	**207**	*e*P		**Pb**	**Pb**	**19 14 52.1**	**-1.2**
	baz=196								
CHKT				*e*S		**Sn**	**Sn**	**19 15 15.3**	**+0.3**
	baz=196								
CHN5	**Tsauling**	**1.95**	**231**	*e*P		**Pb**	**Pb**	**19 14 52.2**	**-1.2**
	baz=233								
WDLH	**Douliu**	**2.00**	**235**	*e*P		**Pb**	**Pb**	**19 14 53.0**	**-1.2**
	baz=237								
ELDTW	**Lidau**	**2.04**	**217**	*e*P		**Pn**	**Pn**	**19 14 52.8**	**+0.7**
	baz=205								
ELDTW				*e*S		**Sn**	**Sn**	**19 15 17.4**	**-0.1**
	baz=205								
EDH	**Donghe**	**2.08**	**207**	*e*P		**Pb**	**Pb**	**19 14 54.0**	**-1.6**
	baz=197								
EDH				*e*S		**Sn**	**Sn**	**19 15 17.9**	**-0.5**
	baz=197								
WTK	**Tuku**	**2.11**	**238**	*e*P		**Pb**	**Pb**	**19 14 55.8**	**-0.3**
	baz=239								
WTK				*e*S		**Sb**	**Sb**	**

GCG **19** *19:21:22.8±1.2, 13°67N×90°78W, h52km, MD5.0*

ISC 19 19:21:20.2±0.5, **13°57N**±0'05×**90°83W**±0'04, **h50**km±3km,
n510, σ**1668**/488, **mb4.6**/93, **MS3.6**/39, **1C-12D**, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.84**	**15**	⇓*iP*	**Pn**	**19 21 37.6**	**+1.5**
FUG	**Fuego 3**	**0.87**	**359**	⇓*iP*	**Pn**	**19 21 37.8**	**+1.4**
NUBE	**Las Nubes**	**1.07**	**72**	*eP*	**Pn**	**19 21 39.8**	**+0.8**
NUBE				*eS*	**Sn**	**19 21 53.5**	**+0.6**
NUBE	**Las Nubes**	**1.07**	**72**	*eP*	**Pn**	**19 21 39.8**	**+0.8**
NUBE				*eS*	**Sn**	**19 21 53.5**	**+0.6**
LOAL	**Lomas de Alarc**	**1.10**	**67**	*eP*	**Pn**	**19 21 40.8**	**+1.4**
LOAL				*eS*	**Sn**	**19 21 55.5**	**+2.0**
LOAL	**Lomas de Alarc**	**1.10**	**67**	*eP*	**Pn**	**19 21 40.8**	**+1.4**
LOAL				*eS*	**Sn**	**19 21 55.5**	**+2.0**
SLOZ	**Alcaldia de Sa**	**1.11**	**66**	*eP*	**Pn**	**19 21 40.8**	**+1.3**
SLOZ				*eS*	**Sn**	**19 21 55.5**	**+1.8**
NBG	**Las Nubes**	**1.11**	**25**	⇓*iP*	**Pn**	**19 21 42.2**	**+2.5**
CEVE	**Cerro Verde**	**1.20**	**78**	*eP*	**Pn**	**19 21 42.0**	**+1.2**
CEVE				IAML		19 22 00.8	
	comp=Z,29μm,0.3s						
CEVE	**Cerro Verde**	**1.20**	**78**	*eP*	**Pn**	**19 21 42.0**	**+1.2**
CEVE				IAML		19 22 00.8	
	comp=Z,29μm,0.3s						
SBLS	**San Blas**	**1.20**	**77**	⇓*iP*	**Pn**	**19 21 41.9**	**+1.0**
SBLS	**San Blas**	**1.20**	**77**	⇓*iP*	**Pn**	**19 21 41.9**	**+1.0**
SNJE	**San Jose**	**1.22**	**76**	⇓*eP*	**Pn**	**19 21 42.4**	**+1.2**
SNJE	**San Jose**	**1.22**	**76**	⇓*eP*	**Pn**	**19 21 42.4**	**+1.2**
RTAL	**Retalhuleu**	**1.27**	**318**		**Pn**	**19 21 42.5**	**+0.9**
RTAL				Sn	**Sn**	**19 21 57.7**	**+0.2**
RTAL	**Retalhuleu**	**1.27**	**318**	*eP*	**Pn**	**19 21 42.6**	**+1.1**
UNIC	**Universidad Ca**	**1.31**	**72**	*eP*	**Pn**	**19 21 43.5**	**+1.4**
UNIC	**Universidad Ca**	**1.31**	**72**	*eP*	**Pn**	**19 21 43.5**	**+1.4**
JAYA	**Jayaque - finc**	**1.34**	**86**	⇓*iP*	**Pn**	**19 21 43.8**	**+1.0**
JAYA				*eS*	**Sn**	**19 22 01.0**	**+1.5**
JAYA	**Jayaque - finc**	**1.34**	**86**	⇓*iP*	**Pn**	**19 21 43.8**	**+1.0**
JAYA				*eS*	**Sn**	**19 22 01.0**	**+1.5**
STG3	**Santiaguito 3,**	**1.34**	**328**	*eP*	**Pn**	**19 21 44.2**	**+1.4**
CEDA	**San Andres**	**1.41**	**80**	*eP*	**Pn**	**19 21 44.9**	**+1.4**
CEDA				*eS*	**Sn**	**19 22 03.7**	**+2.6**
CEDA				IAML		19 22 10.4	
	comp=Z,19μm,0.5s						
CEDA	**San Andres**	**1.41**	**80**	*eP*	**Pn**	**19 21 44.9**	**+1.4**
CEDA				*eS*	**Sn**	**19 22 03.7**	**+2.6**
CEDA				IAML		19 22 10.4	
	comp=Z,19μm,0.5s						
CEDA	**San Andres**	**1.41**	**80**	*eP*	**Pn**	**19 21 45.0**	**+1.5**
LALI	**Alcalde de L**	**1.47**	**93**	*eP*	**Pn**	**19 21 45.4**	**+1.1**
LALI				*eS*	**Sn**	**19 22 04.0**	**+1.7**
LALI	**Alcalde de L**	**1.47**	**93**	*eP*	**Pn**	**19 21 45.4**	**+1.1**
LALI				*eS*	**Sn**	**19 22 04.0**	**+1.7**
LALI	**Alcalde de L**	**1.47**	**93**	*eP*	**Pn**	**19 21 45.7**	**+1.5**
PMON	**Piamonte**	**1.48**	**84**	*eP*	**Pn**	**19 21 45.9**	**+1.4**
PMON	**Piamonte**	**1.48**	**84**	*eP*	**Pn**	**19 21 45.9**	**+1.4**
ITCA	**Escuela Especi**	**1.51**	**86**	*eP*	**Pn**	**19 21 46.6**	**+1.6**
ITCA				*eS*	**Sn**	**19 22 05.6**	**+2.1**
ITCA	**Escuela Especi**	**1.51**	**86**	*eP*	**Pn**	**19 21 46.6**	**+1.6**
ITCA				*eS*	**Sn**	**19 22 05.6**	**+2.1**
BOQS	**Boqueron**	**1.51**	**84**	*eP*	**Pn**	**19 21 46.6**	**+1.5**
BOQS	**Boqueron**	**1.51**	**84**	*eP*	**Pn**	**19 21 46.6**	**+1.5**
UEES	**Universidad Ev**	**1.55**	**85**	*eP*	**Pn**	**19 21 47.2**	**+1.7**
UEES	**Universidad Ev**	**1.55**	**85**	*eP*	**Pn**	**19 21 47.2**	**+1.7**
SNET	**Serv Nac Est T**	**1.55**	**86**		**Pn**	**19 21 46.8**	**+1.3**
SNET	**Serv Nac Est T**	**1.55**	**86**	*eP*	**Pn**	**19 21 47.2**	**+1.7**
SNET				*eS*	**Sn**	**19 22 07.2**	**+2.6**
SNET	**Serv Nac Est T**	**1.55**	**86**	*eP*	**Pn**	**19 21 47.2**	**+1.7**
SNET				*eS*	**Sn**	**19 22 07.2**	**+2.6**
SNET	**Serv Nac Est T**	**1.55**	**86**	*eP*	**Pn**	**19 21 47.0**	**+1.5**
SEMO	**Seminario San**	**1.56**	**85**	*eP*	**Pn**	**19 21 47.4**	**+1.7**
UTEC	**Universidad Te**	**1.58**	**85**	*eP*	**Pn**	**19 21 48.0**	**+2.0**
UTEC	**Universidad Te**	**1.58**	**85**	*eP*	**Pn**	**19 21 48.0**	**+2.0**
UESS	**Universidad de**	**1.59**	**85**	*eP*	**Pn**	**19 21 48.0**	**+2.1**
UESS	**Universidad de**	**1.59**	**85**	*eP*	**Pn**	**19 21 48.0**	**+2.1**
IGN	**Direccin Gen**	**1.62**	**85**	*eP*	**Pn**	**19 21 48.5**	**+2.1**
IGN	**Direccin Gen**	**1.62**	**85**	*eP*	**Pn**	**19 21 48.5**	**+2.1**
UDBS	**Universidad Do**	**1.63**	**85**	*eP*	**Pn**	**19 21 48.7**	**+2.2**
UDBS	**Universidad Do**	**1.63**	**85**	*eP*	**Pn**	**19 21 48.7**	**+2.2**
MTO3	**Montecristo**	**1.64**	**60**		**Pn**	**19 21 48.2**	**+1.3**
MTO3	**Montecristo**	**1.64**	**60**	⇓*iP*	**Pn**	**19 21 48.3**	**+1.4**
MTO3				*eS*	**Sn**	**19 22 10.9**	**+4.0**
MTO3	**Montecristo**	**1.64**	**60**	⇓*iP*	**Pn**	**19 21 48.3**	**+1.4**
MTO3				*eS*	**Sn**	**19 22 10.9**	**+4.0**
MTO3	**Montecristo**	**1.64**	**60**	*eP*	**Pn**	**19 21 48.3**	**+1.4**
AEIL	**Aeropuerto Ilo**	**1.67**	**86**	*eP*	**Pn**	**19 21 48.1**	**+1.1**
AEIL				*eS*	**Sn**	**19 22 10.1**	**+2.8**
AEIL				IAML		19 22 19.0	
	comp=Z,25μm,0.5s						
AEIL	**Aeropuerto Ilo**	**1.67**	**86**	*eP*	**Pn**	**19 21 48.1**	**+1.1**
AEIL				*eS*	**Sn**	**19 22 10.1**	**+2.8**
AEIL				IAML		19 22 19.0	
	comp=Z,25μm,0.5s						
LFRS	**El Faro**	**1.72**	**88**	*eP*	**Pn**	**19 21 49.5**	**+1.8**
LFRS	**El Faro**	**1.72**	**88**	*eP*	**Pn**	**19 21 49.5**	**+1.8**
ESQI	**Esquipulas**	**1.74**	**56**		**Pn**	**19 21 49.8**	**+1.7**
ESQI	**Esquipulas**	**1.74**	**56**	⇓*iP*	**Pn**	**19 21 49.9**	**+1.7**
ESQI				*eS*	**Sn**	**19 22 12.7**	**+3.5**
SJTE	**Alcalda de S**	**1.77**	**88**	*eP*	**Pn**	**19 21 50.4**	**+1.9**
SJTE	**Alcalda de S**	**1.77**	**88**	*eP*	**Pn**	**19 21 50.4**	**+1.9**
PAVA	**Las Pavas**	**1.84**	**85**	*eP*	**Pn**	**19 21 51.3**	**+1.8**
PAVA				*eS*	**Sn**	**19 22 15.6**	**+3.9**
PAVA	**Las Pavas**	**1.84**	**85**	*eP*	**Pn**	**19 21 51.3**	**+1.8**
PAVA				*eS*	**Sn**	**19 22 15.6**	**+3.9**
PAVA	**Las Pavas**	**1.84**	**85**	*eP*	**Pn**	**19 21 51.3**	**+1.8**
PAVA				*eS*	**Sn**	**19 22 15.7**	**+4.0**
HUEH	**Huehuetenango**	**1.85**	**339**		**Pn**	**19 21 51.6**	**+1.8**
HUEH				Sn	**Sn**	**19 22 16.8**	**+4.6**
HUEH	**Huehuetenango**	**1.85**	**339**	*eP*	**Pn**	**19 21 52.4**	**+2.6**
HUEH				*eS*	**Sn**	**19 22 17.5**	**+5.3**
HUEH	**Huehuetenango**	**1.85**	**339**	*eP*	**Pn**	**19 21 52.4**	**+2.6**
HUEH				*eS*	**Sn**	**19 22 17.5**	**+5.3**
HUEH	**Huehuetenango**	**1.85**	**339**	*eP*	**Pn**	**19 21 52.4**	**+2.6**
MRL	**Marmol**	**1.86**	**36**	⇑*iP*	**Pn**	**19 21 52.5**	**+2.6**
COEG	**Centro de Oper**	**1.89**	**88**	*eP*	**Pn**	**19 21 52.3**	**+2.2**
COEG				*eS*	**Sn**	**19 22 15.6**	**+2.7**
COEG				IAML		19 22 26.1	
	comp=Z,9μm,0.7s						
COEG	**Centro de Oper**	**1.89**	**88**	*eP*	**Pn**	**19 21 52.3**	**+2.2**
COEG				*eS*	**Sn**	**19 22 15.6**	**+2.7**
COEG				IAML		19 22 26.1	
	comp=Z,9μm,0.7s						
COEG	**Centro de Oper**	**1.89**	**88**	*eP*	**Pn**	**19 21 52.2**	**+2.1**
LLGN	**La Laguna**	**1.92**	**72**	*eP*	**Pn**	**19 21 52.0**	**+1.5**
LLGN	**La Laguna**	**1.92**	**72**	*eP*	**Pn**	**19 21 52.0**	**+1.5**
LLGN				*eP*	**Pn**	**19 21 52.0**	**+1.5**
SNVI	**San Vicente**	**1.93**	**89**	*eP*	**Pn**	**19 21 52.8**	**+2.0**
SNVI	**San Vicente**	**1.93**	**89**	*eP*	**Pn**	**19 21 52.8**	**+2.0**
UESV	**Universidad de**	**1.98**	**88**	*eP*	**Pn**	**19 21 53.1**	**+1.8**
UESV	**Universidad de**	**1.98**	**88**	*eP*	**Pn**	**19 21 53.1**	**+1.8**
SCLA	**Alcaldia de Sa**	**2.04**	**86**	*eP*	**Pn**	**19 21 53.5**	**+1.3**
SCLA	**Alcaldia de Sa**	**2.04**	**86**	*eP*	**Pn**	**19 21 53.5**	**+1.3**
COEB	**Comit de Eme**	**2.23**	**92**	*eP*	**Pn**	**19 21 56.7**	**+1.9**
COEB				*eS*	**Sn**	**19 22 24.4**	**+3.0**
COEB	**Comit de Eme**	**2.23**	**92**	*eP*	**Pn**	**19 21 56.7**	**+1.9**
COEB				*eS*	**Sn**	**19 22 24.4**	**+3.0**
COEB	**Comit de Eme**	**2.23**	**92**	*eP*	**Pn**	**19 21 56.9**	**+2.0**
JUCU	**Jucuarˌn**	**2.53**	**97**	*eP*	**Pn**	**19 22 01.1**	**+2.2**
JUCU	**Jucuarˌn**	**2.53**	**97**	*eP*	**Pn**	**19 22 01.1**	**+2.2**
JUCU	**Jucuarˌn**	**2.53**	**97**	*eP*	**Pn**	**19 22 00.4**	**+1.5**
CCIG	**Comitan**	**2.98**	**335**		**Pn**	**19 22 08.2**	**+3.0**
CSGN	**Cosiguina Volc**	**3.23**	**100**	*eP*	**Pn**	**19 22 10.2**	**+1.6**
PETF	**Flores**	**3.45**	**15**		**Pn**	**19 22 13.8**	**+2.3**
PETF	**Flores**	**3.45**	**15**	*eP*	**Pn**	**19 22 13.9**	**+2.4**
TGUH	**Tegucigalpa,Un**	**3.48**	**82**		**Pn**	**19 22 13.6**	**+1.5**
TGUH	**Tegucigalpa,Un**	**3.48**	**82**	*eP*	**Pn**	**19 22 13.6**	**+1.5**
CRIN	**San Cristobal**	**3.78**	**103**	Pn	**Pn**	**19 22 17.5**	**+1.4**
CRIN	**San Cristobal**	**3.78**	**103**	*eP*	**Pn**	**19 22 18.1**	**+2.1**
CRIN				*eS*	**Sn**	**19 23 02.1**	**+2.8**
TEL3	**Telica 3**	**4.00**	**104**	*eP*	**Pn**	**19 22 20.3**	**+1.2**
CNGN	**Cerro Negro**	**4.16**	**104**		**Pn**	**19 22 22.3**	**+1.0**
CNGN	**Cerro Negro**	**4.16**	**104**	*eP*	**Pn**	**19 22 22.3**	**+1.0**
MOMN	**Momotombo**	**4.33**	**105**	*eP*	**Pn**	**19 22 24.5**	**+0.8**
COPN	**Copaltepe**	**4.36**	**108**	*eP*	**Pn**	**19 22 26.8**	**+2.9**
APYN	**Apoyeque**	**4.56**	**106**	*eP*	**Pn**	**19 22 28.6**	**+1.9**
HUEN		**4.70**	**105**	*eP*	**Pn**	**19 22 30.2**	**+1.6**
MATN	**Matagalpa**	**4.81**	**97**		**Pn**	**19 22 31.2**	**+0.9**
MATN	**Matagalpa**	**4.81**	**97**	*eP*	**Pn**	**19 22 31.9**	**+1.6**
BOAB	**BOACO BROADBAN**	**5.15**	**102**	Pn	**Pn**	**19 22 35.0**	**+0.2**
BOAB	**BOACO BROADBAN**	**5.15**	**102**	*eP*	**Pn**	**19 22 35.9**	**+1.1**
CMIG	**Matias Romero**	**5.25**	**312**	P	**Pn**	**19 22 38.7**	**+2.5**
	comp=Z,15nm,0.3s,baz=147,slow=11,SNR=36						
CMIG				S	**Sn**	**19 23 35.0**	**-0.5**
	comp=Z,25nm,0.3s,baz=300,slow=13,SNR=5.6						
ACON	**Acoyapa**	**5.74**	**106**		**Pn**	**19 22 43.7**	**+0.8**
HZTE	**Horizontes, Gu**	**5.85**	**118**	Pn	**Pn**	**19 22 46.1**	**+1.7**
LAPC	**Finca la Perla**	**5.96**	**117**	*eP*	**Pn**	**19 22 49.8**	**+3.8**
GB1A	**Boringuen Arri**	**5.97**	**117**	*eP*	**Pn**	**19 22 49.7**	**+3.6**
BUEV	**Buena Vista**	**5.97**	**117**	*eP*	**Pn**	**19 22 49.5**	**+3.3**
ORTG	**Ortega, Santa**	**6.14**	**121**		**Pn**	**19 22 51.8**	**+3.3**
GUAI	**GUAI**	**6.15**	**122**	*eP*	**Pn**	**19 22 52.2**	**+3.7**
LIM1	**Limonal**	**6.15**	**117**	*eP*	**Pn**	**19 22 51.9**	**+3.3**
COLC	**Colonia**	**6.21**	**117**	*eP*	**Pn**	**19 22 53.6**	**+4.2**
HORNC	**Hornillas**	**6.21**	**117**	*eP*	**Pn**	**19 22 52.0**	**+2.6**
CUI	**Cuipilapa**	**6.25**	**117**	*eP*	**Pn**	**19 22 53.8**	**+3.9**
DUNO	**Dulce Nombre,**	**6.27**	**123**		**Pn**	**19 22 52.8**	**+2.6**
ACAL	**Aguas Claras**	**6.37**	**117**	*eP*	**Pn**	**19 22 54.9**	**+3.2**
ESPN	**Las Esperanzas**	**6.51**	**101**		**Pn**	**19 22 53.7**	**+0.2**
JTS	**Las Juntas de**	**6.61**	**119**	P	**Pn**	**19 22 58.8**	**+4.0**
	comp=Z,8.4nm,0.3s,baz=334,slow=22,SNR=3.9						
JTS				S	Sn	19 24 25.7	+17
	comp=Z,8.7nm,0.3s,baz=158,slow=20,SNR=6.7						
JTS				LR	LR	19 24 49.9	
	comp=Z,73nm,20.1s,baz=352,slow=32						
JTS	**Las Juntas de**	**6.61**	**119**	Pn	**Pn**	**19 22 55.7**	**+0.9**
CAO2	**Cobano, Puntar**	**6.80**	**124**		**Pn**	**19 22 58.4**	**+0.9**
COVE	**Coope Vega, Sa**	**6.89**	**114**	Pn	**Pn**	**19 22 56.8**	**-1.9**
JACO	**JACO, Garabito**	**7.18**	**122**	Pn	**Pn**	**19 23 03.2**	**+0.6**
HDC	**Heredia**	**7.47**	**118**	Pn	**Pn**	**19 23 07.4**	**+0.7**
CVTR	**Volcan Turrial**	**7.77**	**116**		**Pn**	**19 23 12.8**	**+1.8**
RIMA	**Rio Macho**	**7.80**	**118**		**Pn**	**19 23 12.6**	**+1.3**
PEZE	**Perez Zeledon,**	**8.15**	**120**	Pn	**Pn**	**19 23 17.1**	**+1.1**
TLIG	**Tlapa**	**8.45**	**299**	Pn	**Pn**	**19 23 23.7**	**+3.6**
SRBA	**San Rafael, Bu**	**8.49**	**120**		**Pn**	**19 23 22.7**	**+1.9**
DRK0	**Durika**	**8.58**	**119**		**Pn**	**19 23 24.2**	**+2.2**
RIOS	**Rincon, Osa**	**8.65**	**123**		**Pn**	**19 23 23.6**	**+0.7**
PRVC	**Isla de Provid**	**9.21**	**90**	Pn	**Pn**	**19 23 29.0**	**-1.4**
BRU2	**Volcan**	**9.29**	**120**	Pn	**Pn**	**19 23 30.6**	**-1.1**
UNM	**Universidad Na**	**9.85**	**307**	Pn	**Pn**	**19 23 40.2**	**+0.8**
BCIP	**Isla Barro Col**	**11.63**	**111**	Pn	**Pn**	**19 24 03.6**	**0.0**
SOJR	**Soroa**	**11.80**	**38**	Pn	**Pn**	**19 24 05.6**	**-0.2**
LCCY	**Blossom Villag**	**11.95**	**58**	Pn	**Pn**	**19 24 06.8**	**-1.1**
MTDJ	**Mount Denham**	**13.59**	**68**		**Pn**	**19 24 34.0**	**+3.5**
ZAIG	**Zacatecas**	**14.42**	**311**	Pn	**P**	**19 24 45.2**	**-2.2**
061Z	**Ochoppi**	**15.38**	**36**	Pn	**Pn**	**19 24 54.5**	**+0.6**
SJCC	**San Jacinto, C**	**15.75**	**102**	Pn	**Pn**	**19 24 59.4**	**+0.5**
735A	**Kenedy**	**16.53**	**338**	P	**P**	**19 25 10.2**	**-0.3**
735A				IAmb	IAmb	19 25 48.9	
	comp=Z,28nm,0.6s						
060A	**Indiantown**	**16.59**	**35**	P	**Pn**	**19 25 08.3**	**-1.1**
833A	**Chaparral WMA,**	**16.70**	**333**	P	**Pn**	**19 25 11.0**	**+0.2**
ZARC	**Zaragoza, Cauc**	**16.82**	**109**	P	**Pn**	**19 25 12.8**	**+0.5**
DWPF	**Disney Wildern**	**16.91**	**30**	P	**Pn**	**19 25 12.5**	**-0.8**
DWPF				IAmb	IAmb	19 25 33.5	
	comp=Z,70nm,0.9s						
HKT	**Hockley**	**16.94**	**345**	P	**Pn**	**19 25 13.1**	**-0.6**
441A	**DeRidder**	**17.23**	**353**	P	**P**	**19 25 18.2**	**-0.1**
441A				IAmb	IAmb	19 25 37.0	
	comp=Z,39nm,0.8s						
656A	**Willston**	**17.50**	**25**	P	**P**	**19 25 21.6**	**+0.4**
656A				IAmb	IAmb	19 25 23.8	
	comp=Z,61nm,1.1s						
553A	**Crawfordville**	**17.56**	**19**	P	**Pn**	**19 25 21.0**	**-0.4**
451A	**Vernon**	**17.60**	**15**	P	**Pn**	**19 25 20.7**	**-1.2**
451A				IAmb	IAmb	19 25 24.3	
	comp=Z,67nm,1.1s						
344A	**Westbrook Farm**	**17.80**	**0**	P	**Pn**	**19 25 22.6**	**-1.7**
344A				IAmb	IAmb	19 25 31.7	
	comp=Z,56nm,0.7s						
TULM	**Tulcn-Chalpat**	**18.16**	**134**	P	**P**	**19 25 27.5**	**-1.7**
435B	**Jarrell**	**18.23**	**341**	P	**P**	**19 25 27.5**	**-1.8**
NATX	**Nacogdoches**	**18.44**	**350**	P	**P**	**19 25 29.6**	**-2.0**
NATX				IAmb	IAmb	19 25 48.2	
	comp=Z,56nm,1.4s						
VBMS	**Vicksburg**	**18.56**	**1**	P	**P**	**19 25 30.1**	**-2.8**
352A	**Blakely**	**18.63**	**16**	P	**P**	**19 25 30.2**	**-3.5**
JCT	**Junction City**	**18.75**	**335**	P	**P**	**19 25 33.3**	**-1.8**
JCT	**Junction City**	**18.75**	**335**	P	**Pn**	**19 25 36.4**	**+0.4**
	baz=152						
237A	**Washetta, Mont**	**18.90**	**347**	P	**P**	**19 25 35.3**	**-1.3**
237A				IAmb	IAmb	19 26 07.7	
	comp=Z,40nm,1.2s						
146A	**Union**	**19.05**	**5**	P	**P**	**19 25 35.8**	**-2.4**
143A	**Socs Landing,**	**19.05**	**359**	P	**P**	**19 25 35.8**	**-2.4**
143A				IAmb	IAmb	19 25 57.2	
	comp=Z,36nm,0.6s						
PORT	**Chimborazo Vol**	**19.13**	**140**		**P**	**19 25 38.9**	**-1.1**
WHTX	**Lake Whitney,**	**19.32**	**343**	P	**P**	**19 25 39.2**	**-2.0**
WHTX				IAmb	IAmb	19 26 01.0	
	comp=Z,66nm,1.4s						
WHTX	**Lake Whitney,**	**19.32**	**343**	P	**P**	**19 25 41.4**	**+0.2**
	baz=160						
COHC	**Cochancay**	**19.64**	**143**	P	**P**	**19 25 44.2**	**-0.7**
Z41A	**Richland Creek**	**19.68**	**355**	P	**P**	**19 25 43.0**	**-2.1**
Z41A				IAmb	IAmb	19 26 11.1	
	comp=Z,24nm,0.8s						
LRAL	**Lakeview Retre**	**19.69**	**10**	P	**P**	**19 25 45.4**	**+0.2**
LRAL	**Lakeview Retre**	**19.69**	**10**	P	**P**	**19 25 45.7**	**+0.5**
	baz=191						
TXAR	**Lajitas Array**	**19.69**	**325**	P	**Pn**	**19 25 48.4**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=146,slow=11,SNR=50						
TXAR				PcP	**PcP**	**19 30 04.6**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=158,slow=2.9,SNR=4.2						
TXAR	**Lajitas Array**	**19.69**	**325**	P	**P**	**19 25 45.6**	**+0.2**
TX31	**Lajitas Ar. Si**	**19.69**	**325**	P	**P**	**19 25 44.9**	**-0.5**
TX31				IAmb	IAmb	19 25 53.1	
	comp=Z,26nm,0.8s						
TX32	**Lajitas Array**	**19.69**	**325**	P	**P**	**19 25 44.9**	**-0.5**
Z47A	**Carrollton**	**19.70**	**7**	P	**P**	**19 25 44.3**	**-1.1**
Z47A				IAmb	IAmb	19 26 09.9	
	comp=Z,32nm,0.6s						
152A	**Waverly Hall**	**19.81**	**15**	P	**P**	**19 25 44.9**	**-1.7**
152A				IAmb	IAmb	19 26 04.4	
	comp=Z,36nm,0.7s						
Z38A	**Mt. Pleasant**	**19.96**	**350**	P	**P**	**19 25 47.4**	**-0.8**
Z38A				IAmb	IAmb	19 26 03.9	
	comp=Z,21nm,0.7s						
WLAR	**White Oak Lake**	**20.13**	**354**	P	**P**	**19 25 49.7**	**-0.4**
WLAR				IAmb	IAmb	19 25 52.1	
	comp=Z,28nm,0.7s						
Z51A	**Franklin**	**20.32**	**14**	P	**P**	**19 25 52.3**	**+0.2**
SDV	**Santo Domingo**	**20.34**	**101**	P	**P**	**19 25 51.7**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=286,slow=8.6,SNR=9.0						
SDV				LR	LR	19 34 22.5	
	comp=Z,121nm,20.8s,baz=256,slow=39						
SDV	**Santo Domingo**	**20.34**	**101**	P	**P**	**19 25 50.7**	**-2.0**
SDV	**Santo Domingo**	**20.34**	**101**	*eP*	**P**	**19 25 51.5**	**-1.2**
Z35A	**Perchaven, San**	**20.52**	**344**	P	**P**	**19 25 53.4**	**-0.9**
Z35A				IAmb	IAmb	19 26 15.0	
	comp=Z,26nm,0.8s						
Y49A	**Blount Mountai**	**20.59**	**10**	P	**P**	**19 25 54.9**	**-0.2**
Y49A				IAmb	IAmb	19 26 12.8	
	comp=Z,39nm,0.9s						
ABTX	**Abilene, Hawle**	**20.61**	**338**	P	**P**	**19 25 54.6**	**-0.6**
ABTX				IAmb	IAmb	19 26 10.8	
	comp=Z,25nm,0.6s						
ABTX	**Abilene, Hawle**	**20.61**	**338**	P	**P**	**19 25 55.6**	**+0.4**
	baz=155						
BOSC	**San Juan Bosco**	**20.64**	**143**	P	**P**	**19 25 57.1**	**+1.2**
MCRA	**Macar, Loja**	**20.84**	**148**	P	**P**	**19 25 56.6**	**-1.3**
GOGA	**Godfrey**	**20.86**	**18**	P	**P**	**19 25 57.5**	**-0.4**
GOGA				IAmb	IAmb	19 26 01.6	
	comp=Z,26nm,0.8s						
GOGA	**Godfrey**	**20.86**	**18**	P	**P**	**19 25 57.6**	**-0.3**
	baz=200,SNR=9.3						
OXF	**Oxford**	**20.89**	**3**		**P**	**19 25 55.4**	**-2.8**
OXF	**Oxford**	**20.89**	**3**	P	**P**	**19 25 58.5**	**+0.2**
	baz=184,SNR=6.7						
X40A	**Basin Creek Fa**	**20.90**	**355**	P	**P**	**19 25 56.4**	**-2.0**
X40A	**Basin Creek Fa**	**20.90**	**355**	P	**P**	**19 25 57.9**	**-0.5**
	baz=174						
MIAR	**Mount Ida**	**21.03**	**354**	P	**P**	**19 25 58.7**	**-1.1**
MIAR				IAmb	IAmb	19 26 25.2	
	comp=Z,24nm,1.0s						
MIAR	**Mount Ida**	**21.03**	**354**	P	**P**	**19 25 59.6**	**-0.1**
	baz=172,SNR=10						
X48A	**Hartselle**	**21.07**	**9**	P	**P**	**19 25 59.4**	**-0.8**
X48A				IAmb	IAmb	19 26 19.8	
	comp=Z,24nm,1.1s						
Y52A	**Lilburn**	**21.11**	**16**	P	**P**	**19 25 59.9**	**-0.8**
Y52A				IAmb	IAmb	19 26 20.0	
	comp=Z,30nm,0.7s						
UALR	**University of**	**21.15**	**357**		**P**	**19 25 60.0**	**-1.1**
UALR				IAmb	IAmb	19 26 16.9	
	comp=Z,30nm,1.0s						
LPIG	**La Paz**	**21.18**	**302**	LR	LR	19 35 14.3	
	comp=Z,86nm,21.1s,baz=39,slow=39						
X37A	**Clayton**	**21.33**	**350**	P	**P**	**19 26 02.5**	**-0.4**
X37A				IAmb	IAmb	19 26 25.9	
	comp=Z,23nm,0.9s						
FPAL	**Fort Paine**	**21.40**	**12**		**P**	**19 26 02.5**	**-1.4**
FPAL				IAmb	IAmb	19 26 20.8	
	comp=Z,28nm,0.8s						
PLAL	**Pickwick Lake**	**21.46**	**6**	P	**P**	**19 26 03.8**	**-0.6**
PLAL				IAmb	IAmb	19 26 25.6	
	comp=Z,22nm,1.0s						
W41B	**Gary Mavity, V**	**21.55**	**357**	P	**P**	**19 26 04.6**	**-0.7**
W41B				IAmb	IAmb	19 26 39.8	
	comp=Z,57nm,1.7s						
W41B	**Gary Mavity, V**	**21.55**	**357**	P	**P**	**19 26 05.1**	**-0.1**
	baz=176						
X51A	**Calhoun**	**21.59**	**13**	P	**P**	**19 26 05.1**	**-0.6**
X51A				IAmb	IAmb	19 26 24.6	
	comp=Z,38nm,1.0s						
WHAR	**Wooly Hollow**	**21.66**	**357**	P	**P**	**19 26 05.6**	**-1.0**
WHAR				IAmb	IAmb	19 26 33.9	
	comp=Z,22nm,1.0s						
W39A	**Magazine**	**21.70**	**353**	P	**P**	**19 26 06.2**	**-0.6**
W39A	**Magazine**	**21.70**	**353**	P	**P**	**19 26 07.0**	**+0.1**
	baz=172						
NHSC	**New Hope**	**21.73**	**25**	P	**P**	**19 26 07.7**	**+0.4**
	baz=209						
X34A	**Smith Ranch, M**	**21.88**	**344**		**P**	**19 26 08.4**	**-0.5**
HODGE	**Hodges**	**21.99**	**19**	P	**P**	**19 26 09.2**	**-0.9**
SWET	**Sewanee**	**22.00**	**11**	P	**P**	**19 26 09.1**	**-1.1**
W50A	**Signal Mountai**	**22.10**	**12**	P	**P**	**19 26 10.3**	**-1.0**
W50A				IAmb	IAmb	19 26 28.5	
	comp=Z,30nm,0.9s						
W35A	**Tecumseh**	**22.17**	**347**	P	**P**	**19 26 10.6**	**-1.4**
W35A				IAmb	IAmb

Y14A Wickenburg 28.57 319 P **P** 19 27 13.4 +1.9
Y14A IAmb IAmb 19 27 28.8
comp=Z,7,8nm,0.7s
WUAZ Wupatki 28.64 323 IAmb IAmb 19 27 29.8
comp=Z,9,3nm,0.8s
WUAZ Wupatki 28.64 323 P **P** 19 27 14.2 +2.0
baz=134,SNR=6.6
NNA Nana 28.93 151 LR LR 19 36 37.8
comp=Z,95nm,21.4s,baz=326,slow=32
PDMCI Parker Dam,Lak 29.53 318 P **P** 19 27 22.7 +2.7
baz=128
PV23 Carpenter Ridg 29.57 330 P **P** 19 27 22.4 +1.8
U15A North Rim 29.80 324 P **P** 19 27 24.3 +1.5
SWSC Sam W. Stewart 29.84 314 P **P** 19 27 25.1 +2.4
baz=124
IKP In-Ko-Pah, Jac 29.89 314 P **P** 19 27 26.2 +2.9
baz=123
BC3 Big Chuckawall 30.01 316 P **P** 19 27 27.4 +3.0
baz=126,SNR=7.2
IRM Iron Mountain 30.10 317 P **P** 19 27 27.8 +2.7
baz=127
MONP2 Monument Peak 30.24 314 P **P** 19 27 28.4 +1.8
baz=123
N23A Red Feather La 30.26 337 P **P** 19 27 27.1 +0.4
baz=150
ECSD EROS Data Cent 30.46 352 P **P** 19 27 28.1 -0.1
baz=169
KNB Kanab 30.52 324 IAmb IAmb 19 27 33.2
comp=Z,10nm,0.7s
PKCU Pink Cliffs 30.53 325 IAmb IAmb 19 27 48.3
comp=Z,11nm,0.8s
O20A White River Ci 30.56 333 P **P** 19 27 29.7 +0.4
baz=145
BELC Belle Mtn. Jos 30.58 316 P **P** 19 27 32.4 +3.0
baz=126
PFO Pinyon Flats O 30.67 315 LR LR 19 41 44.1
comp=Z,134nm,20.0s,baz=109,slow=40
PFO Pinyon Flats O 30.67 315 P **P** 19 27 32.2 +1.9
GMRC Granite Mounta 30.82 318 P **P** 19 27 34.5 +3.0
baz=127
MTPU Mount Pierson 30.89 326 IAmb IAmb 19 27 37.3
comp=Z,14nm,0.7s
SZCU Shurtz Canyon 31.07 324 IAmb IAmb 19 27 38.2
comp=Z,7.6nm,0.8s
CCUT Cedar City 31.20 324 IAmb IAmb 19 27 53.8
comp=Z,8.3nm,0.9s
P17A Butcher Ranch, 31.20 329 P **P** 19 27 35.9 +1.0
P17A IAmb IAmb 19 27 52.8
comp=Z,6.5nm,0.7s
HEC Hector,Ludlow 31.29 317 P **P** 19 27 38.4 +2.7
baz=126
BINY Binghamton 31.29 21 pP 19 27 49.9 +1.4
TMUT Trail Mountain 31.30 329 P **P** 19 27 37.7 +1.7
TMUT IAmb IAmb 19 28 13.4
comp=Z,6.6nm,0.8s
TUQ Turquoise Moun 31.38 318 P **P** 19 27 39.1 +2.6
baz=128
TCRU Three Creeks R 31.44 326 IAmb IAmb 19 27 41.1
comp=Z,13nm,0.8s
SUSD Miller 31.54 349 P **P** 19 27 37.7 0.0
baz=165
SHPR Sheep Range 31.57 321 **P** 19 27 38.6 +0.4
BFSC Mount Baldy Ra 31.85 315 P **P** 19 27 43.9 +3.3
baz=124
GSC Goldstone, Bar 31.88 317 P **P** 19 27 44.2 +3.3
baz=126
BOAV Boa Vista 31.95 108 *e*P **P** 19 27 40.8 -0.8
PSUT Pine Spring 32.16 325 IAmb IAmb 19 27 47.6
comp=Z,6.1nm,0.8s
QSM Queen of Sheba 32.31 318 P **P** 19 27 46.8 +2.2
QSM IAmb IAmb 19 28 02.4
comp=Z,7.3nm,1.0s
GWY Greenwater Val 32.32 319 sP 19 28 01.9 -1.9
EDW2 Edwards Air Fo 32.43 316 P **P** 19 27 48.0 +2.3
baz=124
LRMC Laurel Mtn Rad 32.56 317 P **P** 19 27 49.5 +2.6
baz=125
SADO Sadowa 32.65 16 LR LR 19 41 46.8
comp=Z,164nm,21.8s,baz=177,slow=38
MPMC Manual Prospec 32.77 318 P **P** 19 27 51.4 +2.6
baz=126,SNR=8.2
R11A Troy Canyon, C 33.03 323 sP 19 28 08.3 -1.7
R11A Troy Canyon, C 33.03 323 P **P** 19 27 52.8 +1.8
baz=132,SNR=6.5
ISA Isabella, Lake 33.20 316 P **P** 19 27 55.0 +2.6
baz=124
GRAC Grapevine Rang 33.26 319 P **P** 19 27 55.4 +2.6
baz=128
PDAR Pinedale Array 33.29 334 P **P** 19 27 53.7 +0.4
comp=Z,0.4nm,0.5s,baz=134,slow=10,SNR=6.7
PDAR PcP **PcP** 19 30 33.6 -1.0
comp=Z,1.2nm,0.9s,baz=101,slow=4.7,SNR=5.6
PDAR LR LR 19 43 25.4
comp=Z,64nm,19.9s,baz=146,slow=40
PDAR Pinedale Array 33.29 334 P **P** 19 27 52.2 -1.1
PDAR **PcP** 19 30 32.5 -2.1
BGU Big Grassy Mou 33.45 329 P **P** 19 27 56.4 +1.8
BGU IAmb IAmb 19 28 11.9
comp=Z,4.7nm,0.7s
LCH Last Change Ra 33.58 319 IAmb IAmb 19 28 13.6
comp=Z,9.0nm,1.4s
PKM Mcpherson Peak 33.69 314 P **P** 19 27 59.2 +2.4
baz=122
VES Vestal, Richgr 33.71 316 P **P** 19 27 60.0 +3.3
baz=124
ETMB Extrema 33.72 132 *e*P **P** 19 27 58.1 +1.2
LONY Lake Ozonia 33.90 21 P **P** 19 27 58.1 -0.2
baz=209
HVU Hansel Valley 33.97 330 **sP** 19 28 16.4 -1.7
HVU IAmb IAmb 19 28 17.1
comp=Z,9.5nm,1.2s
Q09A Carvers 34.29 322 P **P** 19 28 02.5 +0.5
REDW Red Top Meadow 34.32 334 IAmb IAmb 19 28 04.5
comp=Z,6.9nm,1.1s
PAGB Antelope Grade 34.44 315 IAmb IAmb 19 28 10.9
comp=Z,12nm,1.0s
ELK Elko 34.47 326 LR LR 19 43 42.0
comp=Z,79nm,18.5s,baz=124,slow=39
ELK Elko 34.47 326 **P** 19 28 05.7 +2.1
ELK IAmb IAmb 19 28 21.2
comp=Z,5.2nm,0.7s
ELK **PcP** 19 30 39.3 +1.3
NV11 Mina Array Sit 34.63 321 **PcP** 19 30 40.6 +2.2
OMMB Old Mammoth Mi 34.67 319 P **P** 19 28 07.4 +2.0
NVAR Mina Array Bea 34.72 320 P **P** 19 28 08.2 +2.5
comp=Z,14nm,0.7s,baz=132,slow=8.6,SNR=136
NVAR pP **sP** 19 28 22.8 -2.0
comp=Z,12nm,0.6s,baz=134,slow=8.4,SNR=20
NVAR PcP **PcP** 19 30 40.6 +1.9
comp=Z,2.2nm,0.8s,baz=132,slow=4.2,SNR=6.9
NVAR LR LR 19 43 22.0
comp=Z,88nm,20.3s,baz=160,slow=38
MDPB Devils Postpil 34.73 319 IAmb IAmb 19 28 24.0
comp=Z,7.7nm,0.8s
AGMN Agassiz Nation 34.87 354 IAmb IAmb 19 28 07.6
comp=Z,4.2nm,0.7s
AGMN Agassiz Nation 34.87 354 P **P** 19 28 05.9 -0.8
baz=171
RYN Ryan 34.98 321 P **P** 19 28 09.7 +1.8
RYN IAmb IAmb 19 28 25.9
comp=Z,9.8nm,1.3s
KVN Kaiserville 34.98 322 IAmb IAmb 19 28 25.8
comp=Z,13nm,1.1s
PMPB Monarch Peak 35.08 315 P **P** 19 28 08.6 0.0
RLMT Red Lodge 35.14 337 P **P** 19 28 08.9 -0.3
baz=148
BMN Battle Mountai 35.36 324 P **P** 19 28 12.7 +1.5
BMN IAmb IAmb 19 28 14.7
comp=Z,6.1nm,0.7s
CMB Columbia Colle 35.81 318 P **P** 19 28 16.2 +1.3
HLID Hailey 36.10 330 P **P** 19 28 18.9 +1.4
HLID Hailey 36.10 330 P **P** 19 28 19.8 +2.3
baz=139
PAHR Pah Rah Range 36.17 321 IAmb IAmb 19 28 36.0
comp=Z,5.2nm,0.9s
EMB Emerald Bay 36.17 320 sP 19 28 36.1 -1.2
MPK Martis Peak 36.32 320 P **P** 19 28 20.7 +1.2
MPK IAmb IAmb 19 28 23.8
comp=Z,11nm,0.9s
MPK **PcP** 19 30 45.2 +1.7
BOZ Bozeman (W) 36.46 335 P **P** 19 28 21.2 +0.7
baz=144
MFID Camas Ranch 36.69 329 **P** 19 28 23.1 +0.7
ULM Lac du Bonnet 36.81 355 P **P** 19 28 22.1 -1.0
comp=Z,3.5nm,0.6s,baz=175,slow=13,SNR=4.4
ULM LR LR 19 47 22.0
comp=Z,34nm,18.3s,baz=122,slow=43

BEKR Beckworth 36.86 321 P **P** 19 28 25.9 +1.8
BEKR IAmb IAmb 19 28 27.9
comp=Z,8.2nm,0.8s
LPAZ La Paz 37.20 142 P **P** 19 28 29.3 +1.7
comp=Z,1.9nm,0.7s,baz=334,slow=7.1,SNR=7.9
LPAZ PcP **PcP** 19 30 49.7 +2.8
comp=Z,2.0nm,0.3s,baz=249,slow=17,SNR=11
LPAZ LR LR 19 43 48.7
comp=Z,84nm,21.8s,baz=300,slow=36
LPAZ La Paz 37.20 142 *e*P **P** 19 28 29.2 +1.7
ORV Oroville 37.39 319 sP 19 28 46.0 -1.4
WVOR Wild Horse Val 37.48 325 P **P** 19 28 30.3 +1.1
WVOR IAmb IAmb 19 28 32.6
comp=Z,5.8nm,0.9s
WVOR **PcP** 19 30 48.5 +1.7
EGMT Eagleton 37.78 339 IAmb IAmb 19 28 52.0
comp=Z,16nm,1.6s
EGMT Eagleton 37.78 339 P **P** 19 28 32.0 +0.4
baz=149
GDXM Geysers 37.81 318 sP 19 28 49.9 -1.2
MOD Modoc Plateau 38.08 323 P **P** 19 28 35.4 +1.1
MOD IAmb IAmb 19 28 37.4
comp=Z,12nm,1.4s
BMO Blue Mountains 38.46 329 pP 19 28 52.7 +2.1
O02D Mt. Diablo Mer 38.56 319 IAmb IAmb 19 28 40.9
comp=Z,7.1nm,0.8s
O02D Mt. Diablo Mer 38.56 319 P **P** 19 28 39.6 +1.3
baz=124
M04C Macdoel 38.91 322 IAmb IAmb 19 28 44.9
comp=Z,23nm,1.4s
M04C Macdoel 38.91 322 P **P** 19 28 43.1 +1.9
baz=127,SNR=6.0
I07A Izee 39.06 327 P **P** 19 28 43.8 +1.4
ITTB Itaituba 39.13 115 *e*P **P** 19 28 42.9 -0.2
KMRM Mail Ridge 39.17 319 P **P** 19 28 45.1 +1.7
KMRM IAmb IAmb 19 29 01.4
comp=Z,14nm,0.8s
F10A Beach Ranch, E 39.23 331 IAmb IAmb 19 29 00.6
comp=Z,7.6nm,0.8s
M02C Callahan 39.30 321 P **P** 19 28 45.1 +0.7
baz=125,SNR=5.6
MALB Monte Alegre 39.36 110 *e*P **P** 19 28 44.9 -0.2
K04D Chiloquin, OR 39.38 323 P **P** 19 28 46.5 +1.4
baz=128
YBH Yreka Blue Hor 39.41 321 LR LR 19 46 06.9
comp=Z,104nm,19.6s,baz=148,slow=38
YBH Yreka Blue Hor 39.41 321 P **P** 19 28 45.1 -0.2
L04D Klamath Falls 39.45 322 IAmb IAmb 19 28 48.8
comp=Z,14nm,0.9s
L04D Klamath Falls 39.45 322 P **P** 19 28 46.1 +0.4
baz=127,SNR=7.2
J05D Fort Rock, OR 39.49 324 P **P** 19 28 46.2 +0.1
baz=129
KHMM Horse Mountain 39.55 320 P **P** 19 28 48.0 +1.5
PINE Pine Mountain 39.65 325 IAmb IAmb 19 28 50.2
comp=Z,9.7nm,0.8s
PINE PcP **PcP** 19 30 56.1 +2.5
J04D Umpqua Nationa 39.96 324 P **P** 19 28 51.2 +1.2
J04D Umpqua Nationa 39.96 324 P **P** 19 28 51.3 +1.3
baz=128,SNR=8.7
L02E Cave Junction 40.20 321 P **P** 19 28 52.4 +0.6
baz=125
VILB Vilhena 40.20 130 *e*P **P** 19 28 52.8 +0.7
I05D Terrebonne, OR 40.22 326 P **P** 19 28 52.7 +0.7
baz=130
K02D Willamette Mer 40.55 322 P **P** 19 28 55.3 +0.6
baz=126
NPGB Novo Progresso 40.74 118 *e*P **P** 19 28 55.4 -1.2
G05D Wamic, OR 40.80 327 P **P** 19 28 58.2 +1.5
baz=131
NEW Newport 40.89 333 LR LR 19 48 24.0
comp=Z,28nm,21.2s,baz=142,slow=40
NEW Newport 40.89 333 P **P** 19 28 58.8 +1.4
baz=139
H04A Detroit Lake 40.91 325 P **P** 19 28 58.9 +1.2
I03D Drain, OR 40.95 323 P **P** 19 28 59.6 +1.7
baz=127,SNR=5.0
J01E Myrtle Point 40.98 322 P **P** 19 29 00.3 +2.2
baz=126,SNR=9.1
HOOD Mount Hood Mea 41.03 327 P **P** 19 28 60.0 +1.2
C09A Chrisman Ranch 41.06 332 IAmb IAmb 19 29 01.1
comp=Z,8.4nm,0.5s
H04D Lebanon 41.11 325 P **P** 19 28 59.4 +0.2
H04D Lebanon 41.11 325 P **P** 19 29 00.5 +1.2
baz=128,SNR=5.3
I02E Swisshome, OR 41.49 324 P **P** 19 29 04.3 +1.9
baz=127,SNR=5.0
SIV San Ignacio 41.57 134 LR LR 19 45 48.5
comp=Z,96nm,18.2s,baz=291,slow=35
G03D McMinnville, O 41.83 325 P **P** 19 29 07.0 +1.9
baz=128
LVC Ian Verde 41.88 149 LR LR 19 44 08.2
comp=Z,61nm,21.3s,baz=308,slow=33
FFC Flin Flon 41.98 350 P **P** 19 29 05.1 -1.1
PDRB Porto dos Gac 42.07 125 *e*P **P** 19 29 08.6 +1.2
F04D Rainier, OR 42.25 327 P **P** 19 29 10.4 +1.9
baz=130
E04D Cinebar 42.32 327 P **P** 19 29 10.4 +1.4
baz=130
CLDB Colider 42.40 123 *e*P **P** 19 29 09.2 -1.0
PTLB Pontes e Lacer 42.59 132 *e*P **P** 19 29 13.2 +1.5
D03D Eldon 43.22 328 P **P** 19 29 17.2 +0.8
baz=131
EDM Edmonton 43.41 340 P **P** 19 29 17.3 -0.6
EDM IAmb IAmb 19 29 33.6
comp=Z,7.6nm,0.7s
NBRS Nobres 44.41 127 *e*P **P** 19 29 26.2 -0.2
PRPB Parauapebas 45.20 113 *e*P **P** 19 29 32.5 -0.2
SCHQ Schefferville 45.23 19 P **P** 19 29 30.2 -2.1
comp=Z,4.2nm,0.5s,baz=226,slow=5.8,SNR=10
SCHQ pP **pP** 19 29 46.1 +0.3
comp=Z,7.3nm,0.5s,baz=221,slow=6.3,SNR=7.0
SCHQ LR LR 19 48 41.6
comp=Z,143nm,21.2s,baz=223,slow=37
SCHQ Schefferville 45.23 19 P **P** 19 29 30.0 -2.4
SALV Santo Antonio 45.43 129 *e*P **P** 19 29 34.7 +0.2
SNDB Serra Nova Dou 46.70 121 *e*P **P** 19 29 44.2 -0.2
H03N2 Juan Fernandez 48.11 167 T T 20 21 32.1
baz=346,slow=76,SNR=12
H03N1 Juan Fernandez 48.11 167 T T 20 21 39.6
baz=346,slow=76,SNR=15
H03N3 Juan Fernandez 48.12 167 T T 20 21 39.4
baz=346,slow=76,SNR=14
AQDB Aquiana 48.35 134 *e*P **P** 19 29 57.6 +0.4
SMTB Santa Maria do 48.36 115 *e*P **P** 19 29 57.3 -0.1
DVLD Doverlandia 48.58 127 *e*P **P** 19 29 59.8 +0.7
CPUP Villa Florida 51.33 141 P **P** 19 30 19.7 0.0
comp=Z,2.7nm,0.8s,baz=322,slow=5.8,SNR=4.7
CPUP LR LR 19 51 11.2
comp=Z,64nm,21.2s,baz=264,slow=35
BDFB Brasilia 51.33 123 P **P** 19 30 19.9 -0.1
comp=Z,1.6nm,0.4s,baz=214,slow=11,SNR=4.4
BDFB Brasilia 51.33 123 IAmb IAmb 19 30 50.1
comp=Z,16nm,1.6s
YKA Yellowknife Ar 51.71 346 P **P** 19 30 21.2 -0.8
comp=Z,1.2nm,0.6s,baz=147,slow=7.5,SNR=11
YKA pP **pP** 19 30 36.9 +1.2
comp=Z,1.5nm,0.6s,baz=148,slow=7.2,SNR=8.7
YKA PcP **PcP** 19 31 34.5 -0.4
comp=Z,1.3nm,0.6s,baz=151,slow=3.9,SNR=7.9
YKA LR LR 19 54 50.7
comp=Z,40nm,21.1s,baz=332,slow=39
IPMB Ipameri, GO 52.44 126 *e*P **P** 19 30 27.8 -0.4
FRB Frobisher Bay 52.48 12 LR LR 19 53 26.9
comp=Z,130nm,20.1s,baz=194,slow=37
TAOE Nuku Hiva Isla 53.79 248 *e*T T 20 28 05.0
comp=Z,36nm,0.3s
NBPN Ponto Novo - B 55.78 113 *e*P **P** 19 30 51.4 -1.2
DIAM Diamantina, MG 56.26 123 *e*P **P** 19 30 56.2 +0.2
VAO Valinhos 56.26 130 *e*P **P** 19 30 56.4 +0.5
RKT Rikitea 56.54 230 *e*T T 20 31 32.9
comp=Z,7.2nm,0.2s
MMPY Sheldon Lake, 56.70 339 P **P** 19 30 59.5 +1.0
baz=131
PLCA Paso Flores 57.21 162 LR LR 19 49 53.2
comp=Z,56nm,21.4s,baz=317,slow=30
N31M Braeburn, Yuko 57.67 336 P **P** 19 31 06.6 +1.3
baz=126
NBLA Lagarto - SE 58.00 112 *e*P **P** 19 31 07.6 -0.7
YUK6 Outpost Mounta 58.40 335 P **P** 19 31 11.3 +0.6
baz=122
RIB01 Linhares ES 59.45 122 *e*P **P** 19 31 18.8 +0.6
SFJD Kangerlussuaq 59.58 17 LR LR 19 57 24.7
comp=Z,100nm,18.7s,baz=224,slow=37
DAWY Dawson 60.50 338 P **P** 19 31 25.0 +0.2
baz=123

M27K Edge Creek, AK 60.57 335 P **P** 19 31 26.4 +0.9
baz=120
L27K Beaver Creek, 60.90 336 P **P** 19 31 27.6 0.0
L27K Beaver Creek, 60.90 336 P **P** 19 31 27.9 +0.3
baz=120
RES Resolute Bay 61.15 359 LR LR 19 59 29.7
comp=Z,63nm,22.0s,baz=234,slow=38
RES Resolute Bay 61.15 359 IAmb IAmb 19 31 44.0
comp=Z,3.8nm,0.7s
INK Inuvik 61.17 343 LR LR 20 01 28.0
comp=Z,41nm,18.3s,baz=158,slow=39
INK Inuvik 61.17 343 P **P** 19 31 28.8 -0.5
baz=131,SNR=5.6
N25K Chitina, Valde 61.34 334 P **P** 19 31 31.4 +0.7
baz=116
KLU Klutina 61.87 334 P **P** 19 31 34.9 +0.7
baz=115
J26L Joseph Creek 62.29 337 P **P** 19 31 37.7 +0.7
baz=119
PAX Paxson 62.32 335 P **P** 19 31 37.8 +0.5
baz=116
J25K Salcha River, 63.03 337 P **P** 19 31 41.0 -0.9
J25K IAmb IAmb 19 31 42.1
comp=Z,7.1nm,1.6s
J25K Salcha River, 63.03 337 P **P** 19 31 42.5 +0.6
baz=117
GHO Glory Hole Cre 63.29 333 P **P** 19 31 44.4 +0.7
KDAK Kodiak Island 63.68 328 LR LR 19 58 51.4
comp=Z,29nm,21.6s,baz=198,slow=35
ILAR Eielson Array 63.68 337 P **P** 19 31 45.9 -0.2
comp=Z,0.8nm,0.7s,baz=171,slow=4.9,SNR=16
ILAR pP **pP** 19 32 01.0 +0.8
comp=Z,1.1nm,0.7s,baz=164,slow=4.9,SNR=5.3
ILAR LR LR 20 02 01.2
comp=Z,46nm,19.0s,baz=178,slow=38
TRF Thorofare Moun 64.51 335 P **P** 19 31 51.6 -0.2
baz=112
H24K Noodor Dome 64.52 338 P **P** 19 31 51.5 -0.2
baz=115
SPCR Spurr Chakacha 64.56 332 P **P** 19 31 52.9 +0.9
baz=109
I23K Minto, Yukon-K 64.80 337 P **P** 19 31 53.1 -0.2
baz=113
BPAW Bear Paw Mtn. 65.04 335 P **P** 19 31 55.4 +0.3
baz=111
H23K Yukon River 65.14 337 P **P** 19 31 56.1 +0.5
baz=114
N19K Bonanza Creek 65.50 331 P **P** 19 31 58.4 +0.2
baz=107
PPT Papeete 65.72 243 LR LR 19 54 09.6
comp=Z,79nm,22.0s,baz=51,slow=30
L20K Farewell, AK 65.72 333 P **P** 19 31 59.5 0.0
baz=108
PPT2 Papeete2 65.72 243 *e*LR LR 19 51 44.7
comp=Z,138nm,26.8s
COLD Coldfoot 65.94 338 P **P** 19 32 00.8 0.0
baz=114
K20K Telida 66.08 334 P **P** 19 32 01.9 +0.1
baz=108
TOLK Toolik Lake Re 66.31 340 P **P** 19 32 03.2 0.0
baz=115
H21K Melozitna Rive 66.32 336 P **P** 19 32 02.9 -0.4
baz=110
J20K Nowinta River 66.37 335 P **P** 19 32 03.4 -0.1
baz=108
TTA Tatalina 66.79 333 P **P** 19 32 07.0 +0.6
baz=106
BORG Borgarnes 69.10 25 LR LR 20 00 50.9
comp=Z,22nm,18.8s,baz=265,slow=34
JMIC Jan Mayen 74.76 20 LR LR 20 05 37.9
comp=Z,36nm,19.6s,baz=266,slow=36
EKA Eskdalemuir Ar 77.64 36 LR LR 20 06 05.9
comp=Z,43nm,18.0s,baz=312,slow=35
ESDC Seneca Array 79.08 52 P **P** 19 33 16.9 -2.7
comp=Z,0.6nm,0.6s,baz=281,slow=5.3,SNR=5.4
ESDC pP **pP** 19 33 34.6 +0.6
comp=Z,0.6nm,0.5s,baz=289,slow=4.9,SNR=2.8
SPITS Spitsbergen Ar 80.28 12 LR LR 20 10 20.8
comp=Z,67nm,19.6s,baz=19,slow=37
SHEM Shemya Is, Ala 82.37 322 LR LR 20 09 56.3
comp=Z,23nm,18.8s,baz=98,slow=35
NOA NORSAR Array B 83.97 29 LR LR 20 08 54.7
comp=Z,20nm,21.3s,baz=285,slow=34
TIC Toumodi 84.41 85 *e*P **P** 19 33 47.1 -0.9
LIC Lamto 84.49 85 *e*P **P** 19 33 48.3 -0.1
comp=Z,18nm,1.0s
DBIC Dimbokro 84.56 84 P **P** 19 33 47.6 -1.1
comp=Z,3.4nm,0.6s,baz=306,slow=2.8,SNR=8.6
DBIC Dimbokro 84.56 84 IAmb IAmb 19 33 50.3
comp=Z,5.9nm,0.8s
KIC Kosan Boka 84.74 85 *e*P **P** 19 33 49.0 -0.7
comp=Z,10nm,0.7s
ARCES ARCESS Array B 86.18 18 P **P** 19 33 55.0 -0.8
comp=Z,2.2nm,1.0s,baz=288,slow=8.8,SNR=4.0
ARCES LR LR 20 12 39.2
comp=Z,34nm,18.6s,baz=282,slow=36
TORD Torodi Ar. Bea 89.37 77 P **P** 19 34 10.1 -2.1
comp=Z,0.5nm,0.6s,baz=307,slow=6.2,SNR=5.3
TORD Torodi Ar. Bea 89.37 77 IAmb IAmb 19 34 40.1
comp=Z,6.2nm,1.8s
FINES FINESS Array B 90.40 25 P **P** 19 34 15.1 -0.9
comp=Z,2.1nm,1.0s,baz=230,slow=15,SNR=1.5
FINES LR LR 20 14 34.6
comp=Z,18nm,19.4s,baz=304,slow=36
MA2 Magadan 91.99 333 LR LR 20 22 54.3
comp=Z,28nm,19.1s,baz=76,slow=40
NRIK Noril'sk 97.30 1 LR LR 20 20 53.6
comp=Z,36nm,22.0s,baz=9.5,slow=37
YAK Yakutsk 98.22 342 LR LR 20 25 14.3
comp=Z,18nm,20.8s,baz=104,slow=39
SONM Songino Array 116.97 347 PKP **PKPdf** 19 39 59.8 0.0
comp=Z,0.6nm,0.7s,baz=345,slow=1.9,SNR=6.0
KSRS Korea Array 117.54 326 PKP **PKiKP** 19 40 01.1 +0.1
comp=Z,1.2nm,0.8s,baz=96,slow=1.3,SNR=5.0
BOSA Boshof 119.14 115 PKP **PKiKP** 19 40 05.2 +0.7
comp=Z,3.1nm,0.6s,baz=280,slow=2.8,SNR=13
MKAR Makanchi Array 119.59 5 PKP **PKPdf** 19 40 04.3 -0.4
comp=Z,0.6nm,0.6s,baz=9.8,slow=2.8,SNR=2.7
STKA Stephens Creek 128.84 240 PKP **PKPdf** 19 40 22.9 +0.1
comp=Z,1.4nm,0.8s,baz=146,slow=3.5,SNR=4.1
WRA Warramunga Arr 136.39 255 PKP **PKiKP** 19 40 38.8 -0.2
comp=Z,1.1nm,0.6s,baz=89,slow=2.9,SNR=16
WRA pPKP **sPKPdf** 19 40 57.3 -0.7
comp=Z,0.8nm,0.7s,baz=87,slow=2.8,SNR=4.1
WRA Warramunga Arr 136.39 255 **PKiKP** 19 40 38.2 -0.8
ASAR Alice Springs 136.59 250 PKP **PKiKP** 19 40 38.9 -0.5
comp=Z,0.6nm,0.8s,baz=107,slow=1.8,SNR=6.4
PZH PanZhiHua 138.33 343 PKP **PKPdf** 19 40 40.1 -0.8
FITZ Fitzroy Crossi 144.67 258 PKPbc **PKPdf** 19 40 52.8 +0.6
comp=Z,5.0nm,0.9s,baz=80,slow=1.4,SNR=6.8
FITZ pPKPbc **sPKPdf** 19 41 12.0 -0.9
comp=Z,2.0nm,0.4s,baz=16,slow=3.3,SNR=3.8
CMAR Chiang Mai Arr 146.75 343 PKPbc **PKPbc** 19 40 57.9 +0.3
comp=Z,10.0nm,0.6s,baz=343,slow=3.4,SNR=95
CMAR pPKPbc pPKPab 19 41 13.6 -0.1
comp=Z,6.7nm,0.5s,baz=332,slow=3.6,SNR=14
CMAR Chiang Mai Arr 146.75 343 PKPdf **PKPbc** 19 40 57.1 -0.5

RSNC 19 19:24:50.7±1.5, 5°67'N×74°54'W, h4km±7km, ML2.3, 2C-2D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NORC	**Norcasia**	**0.35**	**252**	↓*i*	P	Pg	19 24 57.1	-0.4
NORC				*e*S		Sg	19 25 02.2	+0.2
NORC				*i*			19 25 02.5	
comp=Z,327nm,0.4s								
SPBC	**San Pablo de B**	**0.47**	**93**	*e*P		Pg	19 24 59.1	-0.6
SPBC				*e*S		Sg	19 25 05.5	-0.2
SPBC				*i*			19 25 06.3	
comp=Z,103nm,0.4s								
ROSC	**El Rosal**	**0.86**	**165**	↑*e*P		Pg	19 25 06.1	-1.0
ROSC				*e*S		Sg	19 25 17.4	-0.9
ROSC				*i*			19 25 24.2	
comp=Z,46nm,0.3s								
PTBC	**PUERTO BERRIO,**	**0.86**	**5**	↑*i*P		Pg	19 25 05.7	-1.6
PTBC				*e*S		Sg	19 25 17.6	-1.0
PTBC				*i*			19 25 18.0	
comp=Z,95nm,0.2s								
GUY2C	**Guyana, Caldas**	**0.94**	**242**	↓*i*P		Pg	19 25 07.8	-0.9
GUY2C				*e*S		Sg	19 25 19.9	-1.0
GUY2C				*i*			19 25 20.8	
comp=Z,183nm,0.2s								
HELC	**Santa Helena**	**1.11**	**298**	*i*P		Pg	19 25 10.1	-1.9
HELC				*e*S		Sg	19 25 24.6	-1.9
HELC				*i*			19 25 26.4	
comp=Z,39nm,0.1s								

CHIC	**Chingaza**	**1.31**	**142**	*eP*	Pg	19 25 14.8	-1.1
CHIC				*eS*	Sg	19 25 31.4	-1.5
CHIC				*i*		19 25 39.2	
	comp=Z,27nm,0.6s						
RUSC	**La Rusia**	**1.47**	**81**	*eP*	Pn	19 25 16.6	-1.7
RUSC				*eS*	Sg	19 25 35.7	-2.2
RUSC				*i*		19 25 36.9	
	comp=Z,18nm,0.2s						
CBOC	**Ciudad Bolivar**	**1.48**	**277**	*eP*	Pn	19 25 17.0	-1.3
CBOC				*eS*	Sb	19 25 37.0	-1.1
CBOC				*i*		19 25 44.5	
	comp=Z,13nm,0.6s						
BARC	**Barichara**	**1.63**	**56**	*eP*	Pn	19 25 19.9	-0.5
BARC				*eS*	Sn	19 25 41.1	-0.9
BARC				*i*		19 25 45.1	
	comp=Z,32nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.83**	**350**	*eP*	Pn	19 25 21.9	-1.1
ZARC				*eS*	Sn	19 25 46.9	+0.2
ZARC				*i*		19 25 50.0	
	comp=Z,52nm,0.3s						
ORTC	**Ortega, Tolima**	**1.89**	**202**	*eP*	Pn	19 25 23.2	-0.6
ORTC				*eS*	Sn	19 25 47.6	-0.6
ORTC				*i*		19 25 51.5	
	comp=Z,40nm,0.3s						
UREC	**San Jos de Ur**	**2.29**	**335**	*eS*	Sn	19 25 58.3	+0.3
UREC				*i*		19 26 03.0	
	comp=Z,15nm,0.2s						
PAMC	**Pamplona, Colo**	**2.47**	**48**	*eP*	Pg	19 25 39.2	+1.2
PAMC				*eS*	Sb	19 26 06.5	-0.3
PAMC				*i*		19 26 07.9	
	comp=Z,19nm,0.3s						

IDC ***19*** *19:42:17.3±2.5, 6°.87S×129°.60E, h146km±35km, mb3.2/1, mb1 3.1/5, mb1mx2.8/37, mbtmp3.5/5, Error ellipse: s-maj=62.9km s-min=16.6km az=93.0*

ISC 19 19:42:17.1±1.0, **6°.97S**±0°.06×**129°.9E**±0°.2, **h150**km, **n5,** σ1§**99**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.22**	**13**	P		**Pn**	**19 43 47.8**	**+0.9**
	0.9nm,0.3s,baz=94,slow=24,SNR=18							
SIJI				S		**Sn**	**19 44 55.9**	**-1.3**
	0.5nm,0.3s,baz=267,slow=23,SNR=1.4							
FITZ	**Fitzroy Crossi**	**11.79**	**200**	P		**Pn**	**19 45 00.5**	**-0.3**
	0.1nm,0.3s,baz=20,slow=11,SNR=17							
WRA	**Warramunga Arr**	**13.61**	**162**	P		**Pn**	**19 45 25.5**	**+1.3**
	0.1nm,0.3s,baz=342,slow=10,SNR=2.4							
WRA				S		**Sn**	**19 47 53.2**	**-1.8**
	0.2nm,0.3s,baz=322,slow=22,SNR=8.5							
ASAR	**Alice Springs**	**17.05**	**167**	P		**Pn**	**19 46 09.8**	**+3.2**
	0.2nm,0.3s,baz=346,slow=10,SNR=25							
ASAR				S		**S**	**19 49 15.0**	**-1.3**
	0.1nm,0.3s,baz=350,slow=26,SNR=2.1							
MKAR	**Makanchi Array**	**68.12**	**327**	P		**P**	**19 53 00.1**	**-0.8**
	0.3nm,0.4s,baz=121,slow=7.3,SNR=7.7							

IDC ***19*** *19:45:45.0±3.5, 32°.91N×139°.96E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.2/58, mbtmp3.4/4, ML2.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.3/64, Error ellipse: s-maj=144.0km s-min=22.5km az=72.0*

JMA ***19*** *19:45:45.7±0.5, 33°.79N×141°.34E, h20km, M3.2*

ISC 19 19:45:45.5±1.6, **33°.68N**±0°.07×**141°.6E**±0°.1, **h50**km, **n15,** σ1§**47**/16, **mb3.5**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.09**	**333**	P		**Pn**	**19 46 02.6**	**-1.4**
BSO3	**Boso 3**	**1.43**	**322**	P		**Pn**	**19 46 08.3**	**-0.5**
JHJ2	**Mitsune**	**1.59**	**250**	P		**Pn**	**19 46 11.1**	**-0.1**
JHCJ	**Hachijojimakas**	**1.61**	**248**	P		**Pn**	**19 46 11.3**	**-0.3**
BSO4	**Boso 4**	**1.67**	**322**	P		**Pn**	**19 46 12.0**	**-0.2**
JMKN	**Mikurajimanish**	**1.68**	**278**	P		**Pn**	**19 46 11.7**	**-0.7**
JIM2	**Oshima 3**	**2.06**	**301**	P		**Pn**	**19 46 16.7**	**-1.1**
KTJ3	**Kamata3**	**2.43**	**302**	P		**Pn**	**19 46 21.3**	**-1.4**
JIZS	**Izushimoda**	**2.47**	**296**	P		**Pn**	**19 46 22.7**	**-0.6**
JOD2	**Odawara 2**	**2.60**	**308**	P		**Pn**	**19 46 24.0**	**-1.1**
JOD2				*eS*		**Sn**	**19 46 53.1**	**-2.4**
MJAR	**Matsushiro Arr**	**3.98**	**317**	Pn		**Pn**	**19 46 44.4**	**+0.4**
	0.4nm,0.3s,baz=174,slow=32,SNR=12							
MJAR				Sn		**Sn**	**19 47 32.3**	**+3.0**
	0.3nm,0.3s,baz=193,slow=32,SNR=5.7							
MKAR	**Makanchi Array**	**46.09**	**305**	P		**P**	**19 54 06.0**	**+1.5**
	0.3nm,0.4s,baz=85,slow=9.5,SNR=8.7							
WRA	**Warramunga Arr**	**53.77**	**188**	P		**P**	**19 55 01.1**	**-1.8**
	0.2nm,0.3s,baz=2.0,slow=7.7,SNR=7.9							
ASAR	**Alice Springs**	**57.49**	**188**	P		**P**	**19 55 30.3**	**+0.7**
	0.4nm,1.1s,baz=14,slow=8.0,SNR=1.4							
ARU	**Arti**	**58.99**	**320**	LR		LR	20 22 27.8	
	comp=Z,50nm,18.3s,baz=358,slow=38							

HEL ***19*** *19:48:28.6±0.0, 67°.16N×20°.62E, h1km, ML2.0, ML2.2(UPP), Confirmed Induced event*

IDC ***19*** *19:48:28.8±0.9, 67°.04N×21°.01E, h0km, mb1 3.0/4, mb1mx2.8/59, mbtmp2.9/4, ML2.0/4, Error ellipse: s-maj=16.4km s-min=8.0km az=112.0*

HEL ***19*** *19:48:28.5, 67°.16N×20°.61E, h1km, ML2.0, Confirmed Induced event*

KOLA ***19*** *19:48:29.2, 67°.15N×20°.55E, h0km, ML2.1*

BER ***19*** *19:48:30.8±1.2, 67°.20N×20°.73E, h0km, ML1.9, Confirmed Induced event*

ISC 19 19:48:27.3±0.7, **67°.15N**±0°.02×**20°.63E**±0°.03, **h0**km, **n29,** σ1§**29**/48, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.04**	**216**	*i* P		**Pg**	**19 48 29.4**	**+1.5**
DUNU				*i* S		**Sg**	**19 48 30.4**	**+2.0**
MASU	**Masugnsbyn**	**0.61**	**59**	*i* P		**Pg**	**19 48 39.4**	**+0.4**
MASU				*i* S		**Sg**	**19 48 47.8**	**+0.8**
RATU	**Laukkuluspa**	**0.78**	**330**	*i* P		**Pg**	**19 48 42.2**	**-0.1**
RATU				*i* S		**Sg**	**19 48 52.6**	**+0.2**
SALU	**Saltoluokta**	**0.85**	**287**	*i* P		**Pg**	**19 48 44.0**	**+0.4**
ERTU	**Ertsjaerv**	**0.86**	**133**	*eP*		**Pg**	**19 48 43.9**	**+0.1**
ERTU				*eS*		**Sg**	**19 48 55.0**	**+0.1**
NIKU	**Nikkaluokta**	**0.94**	**320**	*eP*		**Pg**	**19 48 45.2**	**-0.1**
PAJU	**Pajala**	**0.98**	**96**	*eP*		**Pg**	**19 48 46.0**	**0.0**
PAJU				*eS*		**Sg**	**19 48 59.0**	**+0.2**
HARU	**Harads**	**1.00**	**172**	*eP*		**Pg**	**19 48 46.5**	**+0.1**
LANU	**Lannavaara**	**1.04**	**29**	*eP*		**Pg**	**19 48 47.0**	**-0.2**
LANU				*eS*		**Sg**	**19 49 00.5**	**-0.2**
KOVU	**Salmi**	**1.09**	**351**	*eP*		**Pg**	**19 48 47.6**	**-0.6**
SJUU	**Sjulsmark**	**1.70**	**166**	*eP*		**Pb**	**19 48 58.9**	**-0.4**
KALU	**Kalix**	**1.70**	**139**	*eP*		**Pb**	**19 48 58.8**	**-0.5**
KALU				*eS*		**Sb**	**19 49 21.4**	**+0.3**
HEF	**Hetta**	**1.71**	**41**	*eP*		**Pn**	**19 48 58.2**	**-0.1**
TOF	**Tornio**	**1.83**	**124**	*eP*		**Pb**	**19 49 01.0**	**-0.5**
TOF				*eS*		**Sn**	**19 49 24.3**	**+0.6**
TOF				MSG			19 49 28.6	
	comp=Z,7.5nm,0.2s							
KIF	**Kilpisjarvi**	**1.86**	**2**	*eP*		**Pb**	**19 49 01.6**	**-0.5**
KIF	**Kilpisjarvi**	**1.86**	**2**	*eP*		**Pb**	**19 49 01.6**	**-0.5**
KIF				*eS*		**Sb**	**19 49 26.3**	**+0.4**
KIF				MSG			19 49 29.9	
	comp=Z,16nm,0.2s							
FAUS	**Fauske**	**2.09**	**279**	*eP*		**Pb**	**19 49 05.2**	**-0.7**
FAUS				IAML			19 49 35.8	
	comp=Z,33nm,0.4s							
KTK1	**Kautokeino**	**2.11**	**26**	*eP*		**Pb**	**19 49 05.5**	**-0.8**
KTK1				IAML			19 49 34.0	
	comp=Z,25nm,0.3s							
RNF	**Rovaniemi**	**2.20**	**102**	*eP*		**Pb**	**19 49 06.6**	**-1.2**
RNF				*eS*		**Sn**	**19 49 33.7**	**+0.9**
SGF	**Sodankyl**	**2.31**	**80**	*eP*		**Pn**	**19 49 08.0**	**+1.5**
SGF				*eS*		**Sn**	**19 49 36.5**	**+1.0**
MOR8	**Moi Rana**	**2.65**	**251**	*eP*		**Pn**	**19 49 11.7**	**+0.5**
MOR8				IAML			19 49 50.5	
	comp=Z,7.8nm,0.4s							
ARA0	**ARCESS Array S**	**3.00**	**35**	*eP*		**Pn**	**19 49 16.9**	**+0.8**
ARA0				IAML			19 49 58.1	
	comp=Z,4.1nm,0.4s							
ARA0	**ARCESS Array S**	**3.00**	**35**	*eP*		**Pn**	**19 49 17.1**	**+1.1**
ARA0				*eS*		**Sn**	**19 49 52.7**	**0.0**
ARCES	**ARCESS Array B**	**3.00**	**35**	Pn		**Pn**	**19 49 17.1**	**+1.1**
	baz=214,slow=13,SNR=22							
ARCES				Pg		**Pb**	**19 49 22.8**	**+1.3**
	baz=214,slow=16,SNR=2.9							
ARCES				Sn		**Sn**	**19 49 51.4**	**-1.3**
	baz=213,slow=24,SNR=14							
ARCES				Lg		Lg	19 49 56.5	
	baz=214,slow=26,SNR=4.1							
ARCES	**ARCESS Array B**	**3.00**	**35**	P		**Pn**	**19 49 17.2**	**+1.1**
ARCES				S		**Sn**	**19 49 54.1**	**+1.5**
APA0	**Apatity Array**	**4.80**	**79**	P		**Pn**	**19 49 42.4**	**+1.7**
APA0				S		**Sn**	**19 50 36.2**	**-0.7**
FINES	**FINESS Array B**	**6.20**	**155**	Pn		**Pn**	**19 49 59.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=190,slow=31,SNR=4.8							
FINES				Sn		**Sn**	**19 51 08.8**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=342,slow=23,SNR=7.1							
FINES				Lg		Lg	19 51 38.0	
	comp=Z,0.5nm,0.3s,baz=346,slow=28,SNR=6.1							
NOA	**NORSAR Array B**	**7.38**	**218**	Pn		**Pn**	**19 50 16.9**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=4.2,slow=12,SNR=1.8							
NOA				Sn		**Sn**	**19 51 38.4**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=14,slow=7.4,SNR=1.9							
NOA				Lg		Lg	19 52 16.8	
	comp=Z,0.0nm,0.3s,baz=270,slow=17,SNR=1.6							
HFS	**Hagfors**	**7.68**	**207**	Pn		**Pn**	**19 50 20.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=271,slow=15,SNR=1.7							
HFS				Sn		**Sn**	**19 51 42.1**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=18,slow=28,SNR=1.9							

IDC ***19*** *19:50:43.5±3.3, 27°.84N×111°.81W, h0km, mb1 3.7/5, mb1mx3.5/59, mbtmp3.4/5, ML3.7/5, Error ellipse: s-maj=40.3km s-min=14.5km az=20.0*

MEX ***19*** *19:50:44.6±0.8, 27°.93N×111°.99W, h10km, MD3.8*

ISC 19 19:50:43.8±0.9, **27°.89N**±0°.06×**111°.91W**±0°.04, **h10**km, **n9,** σ2§**50**/14, **Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.64**	**208**	*eP*		**Pg**	**19 50 55.6**	**-0.6**
SRIG				*eS*		**Sg**	**19 51 05.0**	**+0.4**
GUYB	**Guaymas**	**0.92**	**89**	*eP*		**Pg**	**19 51 00.2**	**-1.3**
GUYB				*eS*		**Sg**	**19 51 13.1**	**-0.2**
HSIG		**1.41**	**37**	*eP*		**Pn**	**19 51 07.2**	**-2.3**
HSIG				*eS*		**Sb**	**19 51 25.9**	**-2.3**
BAHB	**Baha de los**	**1.80**	**306**	*i* P		**Pn**	**19 51 10.8**	**-4.0**
BAHB				*eS*		**Sn**	**19 51 36.5**	**-1.1**
TXAR	**Lajitas Array**	**7.39**	**77**	Pn		**Pn**	**19 52 32.5**	**+0.7**
	1.3nm,0.3s,baz=246,slow=13,SNR=132							
TXAR				Sn		**Sn**	**19 53 53.2**	**-2.5**
	0.4nm,0.3s,baz=279,slow=29,SNR=1.9							
TXAR				Lg		Lg	19 54 36.7	
	1.2nm,0.3s,baz=254,slow=31,SNR=8.4							
ANMO	**Albuquerque**	**8.44**	**32**	Pn		**Pn**	**19 52 47.7**	**+1.4**
	0.2nm,0.3s,baz=217,slow=13,SNR=2.5							
ANMO				Lg		Lg	19 55 09.3	
	0.8nm,0.3s,baz=318,slow=17,SNR=7.4							
NVAR	**Mina Array Bea**	**11.79**	**335**	Pn		**Pn**	**19 53 36.0**	**+3.8**
	0.1nm,0.3s,baz=357,slow=26,SNR=3.5							
ELK	**Elko**	**13.11**	**349**	Pn		**Pn**	**19 53 54.2**	**+3.9**
	0.1nm,0.3s,baz=205,slow=4,SNR=4.8							
PDAR	**Pinedale Array**	**14.97**	**7**	Pn		**P**	**19 54 21.6**	**+0.4**
	0.1nm,0.3s,baz=175,slow=13,SNR=7.9							

IDC ***19*** *20:00:04.3±2.2, 30°.62N×137°.77E, h489km±24km, mb3.2/3, mb1 3.1/5, mb1mx2.5/54, mbtmp3.8/5, Error ellipse: s-maj=73.0km s-min=19.6km az=81.0*

ISC 19 20:00:03.5±1.3, **30°.6N**±0°.2×**137°.8E**±0°.2, **h477**km, **n6,** σ0§**74**/6, **mb3.4**/4, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.97**	**3**	P		**P**	**20 01 39.2**	**+0.7**
	0.2nm,0.3s,baz=182,slow=10,SNR=6.2							
KSRS	**Korea Array**	**10.68**	**313**	P		**P**	**20 02 28.4**	**+0.6**
	0.3nm,0.3s,baz=116,slow=12,SNR=5.1							
WRA	**Warramunga Arr**	**50.32**	**184**	P		**P**	**20 08 15.8**	**+0.3**
	0.2nm,0.3s,baz=0.9,slow=7.5,SNR=7.2							
ARCES	**ARCESS Array B**	**68.98**	**340**	P		**P**	**20 10 19.2**	**-0.5**
	2.7nm,0.9s,baz=46,slow=6.9,SNR=4.8							
FINES	**FINESS Array B**	**73.12**	**332**	P		**P**	**20 10 43.8**	**-0.4**
	2.3nm,1.0s,baz=90,slow=2.1,SNR=8.5							
NOA	**NORSAR Array B**	**78.94**	**337**	P		**P**	**20 11 16.0**	**-0.5**
	0.4nm,0.5s,baz=50,slow=4.8,SNR=2.1							

NEIC ***19*** *20:02:30.1±2.0, 7°.05S±0°.1×11°.81W±0°.08, h10km±1km, mb4.6/11, Error ellipse: s-maj=20.3km s-min=13.6km az=190.0*

IDC ***19*** *20:02:34.5±4.3, 5°.79S×11°.93W, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.7/50, mbtmp4.0/7, ML3.2/1, MS3.5/18, Ms1 3.5/18, ms1mx3.2/78, Error ellipse: s-maj=152.7km s-min=79.4km az=134.0*

ISC 19 20:02:29.9±1.3, **6°.9S**±0°.1×**11°.6W**±0°.2, **h10**km, **n39,** σ1§**49**/18, **mb4.2**/11, **MS3.5**/17, **Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**2.98**	**251**	T		T	20 06 14.4	
	baz=70,slow=74,SNR=463							
H10N2	**ASCENSION HYDR**	**2.98**	**251**	T		T	20 06 10.5	
	baz=70,slow=74,SNR=1053							
H10N3	**ASCENSION HYDR**	**3.00**	**251**	T		T	20 06 12.5	
	baz=70,slow=74,SNR=634							
H10S2	**ASCENSION HYDR**	**3.63**	**235**	T		T	20 07 01.8	
	baz=166,slow=74,SNR=77							
H10S3	**ASCENSION HYDR**	**3.64**	**235**	T		T	20 07 02.5	
	baz=54,slow=74,SNR=95							
SHEL	**Horse Pasture**	**10.71**	**148**	Pn		**Pn**	**20 05 02.7**	**-0.8**
DBIC	**Dimbokro**	**15.06**	**27**	Pn		Pn	20 05 57.6	-5.3
	0.1nm,0.3s,baz=2.1,slow=8.2,SNR=2.3							
DBIC				LR		LR	20 10 36.5	
	comp=Z,145nm,19.9s,baz=218,slow=34							
DBIC	**Dimbokro**	**15.06**	**27**			**Pn**	**20 06 01.1**	**-1.8**
KOWA	**Kowa**	**22.54**	**20**	P		**P**	**20 07 29.1**	**-1.1**
KOWA				IAmb		IAmb	20 07 46.0	
	comp=Z,12nm,0.8s							
TOA0	**Torodi Ar. Sit**	**23.90**	**34**	P		**P**	**20 07 42.6**	**-1.4**
TOA0				IAmb		IAmb	20 07 52.5	
	comp=Z,11nm,0.9s							
TORD	**Torodi Ar. Bea**	**23.90**	**34**	P		**P**	**20 07 42.8**	**-1.2**
	comp=Z,3.9nm,0.6s,baz=214,slow=11,SNR=29							
TORD				LR		LR	20 15 44.2	
	comp=Z,157nm,21.2s,baz=226,slow=34							
TORD	**Torodi Ar. Bea**	**23.90**	**34**	P		**P**	**20 07 43.0**	**-1.0**
TSUM	**Tsumeb**	**30.92**	**116**	LR		LR	20 20 59.5	
	comp=Z,110nm,18.3s,baz=306,slow=35							
SUR	**Sutherland**	**39.43**	**134**	LR		LR	20 23 56.6	
	comp=Z,69nm,18.0s,baz=286,slow=32							
LBTB	**Lobatse**	**39.89**	**121**	LR		LR	20 24 46.4	
	comp=Z,81nm,19.9s,baz=263,slow=33							
LSZ	**Lusaka**	**39.90**	**106**	LR		LR	20 23 31.6	
	comp=Z,63nm,20.7s,baz=305,slow=31							
MDT	**Midelt**	**40.03**	**9**	LR		LR	20 25 51.2	
	comp=Z,108nm,19.1s,baz=158,slow=36							
BOSA	**Boshof**	**40.99**	**126**	LR		LR	20 24 47.8	
	comp=Z,59nm,20.1s,baz=239,slow=32							
MDP	**Montagnes des**	**42.62**	**285**	LR		LR	20 23 51.1	
	comp=Z,29nm,21.8s,baz=133,slow=30							
MBAR	**Mbarara**	**42.71**	**83**	LR		LR	20 27 03.8	
	comp=Z,105nm,18.3s,baz=244,slow=34							
CPUP	**Villa Florida**	**47.56**	**240**	LR		LR	20 29 10.6	
	comp=Z,41nm,18.4s,baz=147,slow=33							
KMBO	**Kilima Mbogo**	**49.07**	**86**	LR		LR	20 31 08.0	
	comp=Z,52nm,19.3s,baz=94,slow=35							
IDI	**Anoyia**	**54.24**	**37**	P		**P**	**20 11 57.9**	**+1.7**
IDI				IAmb		IAmb	20 12 17.5	
	comp=Z,6.5nm,1.0s							
SGRT	**San Giovanni R**	**54.49**	**25**	P		**P**	**20 11 59.2**	**+1.3**
KARP	**Karpathos**	**55.79**	**38**	P		**P**	**20 12 08.0**	**+0.7**
KARP				IAmb		IAmb	20 12 19.6	
	comp=Z,11nm,0.9s							
GERES	**GERESS Array B**	**59.77**	**19**	P		**P**	**20 12 35.3**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=190,slow=6.8,SNR=7.5							
GERES				LR		LR	20 39 16.4	
	comp=Z,47nm,18.4s,baz=212,slow=37							
VRAC	**Vranov**	**61.14**	**21**	LR		LR	20 39 24.8	
	comp=Z,45nm,19.0s,baz=161,slow=37							
MLR	**Muntele Rosu**	**62.03**	**29**	P		**P**	**20 12 51.4**	**+0.8**
MLR				IAmb		IAmb	20 13 01.7	
	comp=Z,11nm,1.4s							
BRTR	**Keskin Array B**	**62.41**	**38**	P		**P**	**20 12 56.5**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=307,slow=37,SNR=2.6							
BRTR	**Keskin Array B**	**62.41**	**38**	P		**P**	**20 12 54.6**	**+1.3**
BNN	**Bunyan**	**63.28**	**40**	P		**P**	**20 13 00.2**	**+1.1**
ROSC	**El Rosal**	**63.64**	**279**	LR		LR	20 39 57.3	
	comp=Z,50nm,19.5s,baz=76,slow=36							
AKASG	**Malin Array Be**	**67.31**	**27**	P		**P**	**20 13 24.9**	**+0.1**
	comp=Z,0.4nm,0.2s,baz=226,slow=6.3,SNR=6.7							
NOA	**NORSAR Array B**	**70.04**	**12**	LR		LR	20 47 53.9	
	comp=Z,12nm,18.5s,baz=55,slow=39							
KBZ	**Khabaz**	**70.38**	**39**	P		**P**	**20 13 45.8**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=246,slow=9.2,SNR=2.2							
FINES	**FINESS Array B**	**74.15**	**18**	P		**P**	**20 14 07.3**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=354,slow=12,SNR=2.4							
JSC	**Jenkinsville**	**77.32**	**307**	P		**P**	**20 14 23.9**	**-1.2**
SADO	**Sadowa**	**79.22**	**318**	LR		LR	20 42 08.8	
	comp=Z,38nm,18.9s,baz=174,slow=30							
TKL	**Tuckaleechee C**	**79.69**	**308**	LR		LR	20 42 50.5	
	comp=Z,25nm,20.1s,baz=132,slow=31							

NEIC ***19*** *20:05:37.3±1.4, 15°.98S±0°.09×173°.79W±0°.03, h114km±7km, mb4.4/56, Error ellipse: s-maj=13.1km s-min=3.0km az=166.0*

IDC ***19*** *20:05:38.7±2.3, 15°.86S×173°.99W, h114km±21km, mb4.1/13, mb1 4.4/15, mb1mx4.0/41, mbtmp4.5/15, MS2.9/2, Ms1 2.9/2, ms1mx2.6/64, Error ellipse: s-maj=35.8km s-min=11.5km az=143.0*

ISC 19 20:05:37.1±0.5, **16°.01S**±0°.07×**173°.85W**±0°.07, **h115**km, **n89,** σ1§**00**/82, **mb4.3**/37, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.90**	**44**	P		**Pn**	**20 06 23.5**	**+1.5**
	348nm,0.3s,baz=160,slow=0.9,SNR=275							
AFI				LR		LR	20 06 47.1	
	comp=Z,250nm,20.8s,baz=306,slow=24							
AFI				S		**Sn**	**20 06 54.9**	**-1.7**
	570nm,0.3s,baz=232,slow=21,SNR=23							
AFI	**Afiamalu**	**2.90**	**44**			**Pn**	**20 06 23.2**	**+1.2**
NIUE	**Niue**	**4.83**	**130**	Pn		**Pn**	**20 06 49.7**	**+2.0**
NIUE						**Sn**	**20 07 39.9**	**-2.7**
MSVF	**Nonsavu**	**7.94**	**256**	P		Pn	20 07 38.7	+8.9
	1.4nm,0.3s,baz=99,slow=13,SNR=11							
MSVF	**Nonsavu**	**7.94**	**256**	Pn		Pn	20 07 34.6	+4.7
RAR	**Rarotonga**	**14.31**	**113**	LR		LR	20 13 57.2	
	comp=Z,44nm,18.0s,baz=191,slow=34							
MARNC	**Mare, Loyalty**	**17.99**	**250**	P		**P**	**20 09 38.1**	**-0.8**
PINNC	**Pines Island,**	**18.82**	**247**	P		**Pn**	**20 09 49.3**	**-0.5**
OUENC	**Ouen Island, N**	**19.30**	**248**	P		**P**	**20 09 53.2**	**0.0**
DZM	**Mont Dzumac**	**19.57**	**249**	P		**Pn**	**20 09 58.2**	**-0.4**
	0.2nm,0.3s,baz=69,slow=18,SNR=4.9							
DZM	**Mont Dzumac**	**19.57**	**249**	P		**P**	**20 09 56.5**	**+0.3**
URZ	**Urewera**	**23.55**	**198**	P		**P**	**20 10 39.7**	**+2.6**
	9.9nm,0.4s,baz=269,slow=2.8,SNR=15							
URZ	**Urewera**	**23.55**	**198**	P		**P**	**20 10 35.8**	**-1.2**
URZ				IAmb		IAmb	20 10 47.6	
	comp=Z,15nm,0.9s							
HIZ	**Hauiti**	**24.52**	**202**	P		**P**	**20 10 45.7**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**39.27**	**330**	T		T	20 54 14.0	
	baz=146,slow=75,SNR=16							
H11S3	**WAKE ISLAND Hy**	**39.28**	**330**	T		T	20 54 16.3	
	baz=146,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**39.28**	**330**	T		T	20 54 16.2	
	baz=146,slow=75,SNR=13							
H11N3	**WAKE ISLAND Hy**	**40.23**	**331**	T		T	20 55 22.8	
H11N1	**WAKE ISLAND Hy**	**40.23**	**331**	T		T	20 55 23.3	
	SNR=8.6							
H11N2	**WAKE ISLAND Hy**	**40.25**	**331**	T		T	20 55 24.0	
	SNR=9.1							
MANU	**Manus Island**	**40.63**	**286**	P		**P**	**20 13 05.0**	**-1.2**
TOO	**Toolangi**	**41.74**	**231**	P		**P**	**20 13 14.7**	**-0.4**
TOO				IAmb		IAmb	20 13 17.0	
	comp=Z,10nm,1.0s							
STKA	**Stephens Creek**	**43.35**	**240**	P		**P**	**20 13 29.4**	**+1.2**
	comp=Z,11nm,0.6s,baz=92,slow=10.0,SNR=34							
STKA	**Stephens Creek**	**43.35**	**240**	P		**P**	**20 13 28.6**	**+0.5**
BBOO	**Buckleboo**	**48.13**	**240**	P		**P**	**20 14 06.1**	**+0.4**
WR0	**Warramunga Arr**	**49.09**	**257**	P		**P**	**20 14 13.8**	**+0.5**
WR0				IAmb		IAmb	20 14 16.0	
	comp=Z,4.0nm,0.9s							
WB2	**Warramunga Arr**	**49.27**	**257**	P		**P**	**20 14 14.7**	**+0.1**
WB2				IAmb		IAmb	20 14 16.2	
	comp=Z,6.4nm,0.8s							
WRAB	**Tennant Creek**	**49.27**	**257**	P		**P**	**20 14 14.8**	**+0.2**
WRAB				IAmb		IAmb	20 14 16.1	
	comp=Z,5.9nm,0.8s							
WRA	**Warramunga Arr**	**49.28**	**

I23K	**Minto, Yukon-K**	**83.03**	**10**	P	**P**	**20 17 49.9**	**+0.8**
I23K				IAmb	IAmb	20 17 51.0	
	comp=Z,8.8nm,1.2s						
MDM	**Murphy Dome**	**83.05**	**11**	P	**P**	**20 17 49.6**	**+0.3**
MDM				IAmb	IAmb	20 17 51.7	
	comp=Z,6.6nm,1.0s						
ILAR	**Eielson Array**	**83.13**	**11**	P	**P**	**20 17 50.5**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=237,slow=6.4,SNR=18						
ILAR	**Eielson Array**	**83.13**	**11**	P	**P**	**20 17 49.6**	**-0.1**
BOZ	**Bozeman (W)**	**83.14**	**39**	P	**P**	**20 17 50.0**	**-0.4**
BOZ				IAmb	IAmb	20 17 52.9	
	comp=Z,3.9nm,1.0s						
J25K	**Salcha River,**	**83.28**	**12**	P	**P**	**20 17 50.7**	**0.0**
HRY	**Holter Researc**	**83.60**	**38**	P	**P**	**20 17 52.2**	**-0.5**
RWWY	**Rawlins**	**84.03**	**44**	P	**P**	**20 17 54.7**	**-0.5**
RWWY				IAmb	IAmb	20 17 57.2	
	comp=Z,6.2nm,0.8s						
DAWY	**Dawson**	**84.12**	**14**	P	**P**	**20 17 54.8**	**-0.1**
DAWY				IAmb	IAmb	20 17 58.1	
	comp=Z,4.1nm,1.1s						
RLMT	**Red Lodge**	**84.34**	**40**	P	**P**	**20 17 57.0**	**+0.3**
RLMT				IAmb	IAmb	20 17 59.2	
	comp=Z,4.1nm,0.9s						
YKA	**Yellowknife Ar**	**90.83**	**24**	P	**P**	**20 18 26.4**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=238,slow=4.6,SNR=6.6						
CMAR	**Chiang Mai Arr**	**92.39**	**288**	P	**P**	**20 18 37.0**	**+1.5**
	comp=Z,0.8nm,0.9s,baz=103,slow=2.9,SNR=5.5						
BRTR	**Keskin Array B**	**146.35**	**320**	PKPbc	**PKPab**	**20 25 06.1**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=62,slow=3.2,SNR=6.4						
BRTR	**Keskin Array B**	**146.35**	**320**		**PKPbc**	**20 25 04.4**	**-0.7**
GERES	**GERESS Array B**	**146.68**	**351**	PKPbc	**PKiKP**	**20 25 07.3**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=29,slow=23,SNR=2.4						

NEIC ***19*** *20:06:06.9±1.6,59.72N±0.03×153.19W±0.05, h114km±3km, Error ellipse: s-maj=5.1km s-min=1.3km az=136.0*

ANF ***19*** *20:06:07.8±0.2,59.74N×153.12W,h104km±3km,ML3.8/46, Error ellipse: s-maj=2.3km s-min=2.2km az=165.0*

IDC ***19*** *20:06:07.1±1.1,59.70N×152.98W,h104km±16km,mb3.6/4, mb1 3.7/8,mb1mx3.3/58,mbtmp4.0/8,Error ellipse: s-maj=19.7km s-min=10.5km az=113.0*

AEIC ***19*** *20:06:08±2.1,59.71N±0.03×153.18W±0.06,h106km±3km, ML3.5,ML3.7/124(NEIC),Error ellipse: s-maj=4.9km s-min=4.0km az=130.0*

ISC 19 20:06:07.3±0.7,59.73N±0.03×153.12W±0.03, h113km±5km,n253,σ0s87/313,mb4.2/4,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.09**	**217**		**Pn**	**20 06 23.0**	**+0.2**
P19K	**Oil Pt**	**0.09**	**217**		**Pn**	**20 06 23.0**	**+0.1**
P19K				Sn	**Sn**	**20 06 33.2**	**-1.4**
P19K	**Oil Pt**	**0.09**	**217**	P	**Pn**	**20 06 23.0**	**+0.1**
	baz=25,SNR=38						
P19K				S	**Sn**	**20 06 34.4**	**-0.2**
	baz=25						
IVE	**Iliamna Volcan**	**0.30**	**10**		**Pn**	**20 06 23.5**	**0.0**
IVE					**Sn**	**20 06 35.3**	**-0.5**
AU22	**Augustine Moun**	**0.38**	**199**		**Pn**	**20 06 23.9**	**+0.2**
AU22					**Sn**	**20 06 35.8**	**-0.2**
AU2	**Augustine Isla**	**0.38**	**200**		**Pn**	**20 06 24.0**	**+0.3**
AUL	**Augustine Lava**	**0.38**	**205**		**Pn**	**20 06 24.1**	**+0.3**
AUL					**Sn**	**20 06 36.1**	**-0.1**
AUH	**Augustine H**	**0.40**	**204**		**Pn**	**20 06 24.2**	**+0.2**
O20K	**Slope Mountain**	**0.44**	**35**		**Pn**	**20 06 24.4**	**+0.3**
O20K					**Sn**	**20 06 36.6**	**-0.3**
O20K	**Slope Mountain**	**0.44**	**35**	P	**Pn**	**20 06 24.5**	**+0.3**
	baz=217,SNR=28						
O20K				S	**Sn**	**20 06 36.4**	**-0.5**
	baz=217						
RED	**Redoubt Volcan**	**0.72**	**14**		**Pn**	**20 06 26.4**	**+0.3**
RED					**Sn**	**20 06 40.0**	**-0.4**
HOM	**Homer**	**0.75**	**94**		**Pn**	**20 06 27.0**	**+0.7**
HOM				Sn	**Sn**	**20 06 41.9**	**+1.2**
HOM				IAML		20 06 43.5	
	comp=N,3μm,0.3s						
HOM				IAML		20 06 44.2	
	comp=E,3μm,0.4s						
HOM	**Homer**	**0.75**	**94**	P	**Pn**	**20 06 27.1**	**+0.7**
	baz=275						
HOM				S	**Sn**	**20 06 42.1**	**+1.4**
	baz=275						
RSO	**Redoubt South**	**0.76**	**14**		**Pn**	**20 06 26.9**	**+0.3**
O19K	**Port Alsworth**	**0.77**	**309**		**Pn**	**20 06 26.3**	**-0.1**
O19K				Sn	**Sn**	**20 06 39.7**	**-1.2**
O19K				IAML		20 06 40.7	
	comp=N,4μm,0.5s						
O19K				IAML		20 06 41.7	
	comp=E,3μm,0.5s						
O19K	**Port Alsworth**	**0.77**	**309**	P	**Pn**	**20 06 26.4**	**-0.1**
	baz=130,SNR=38						
O19K				S	**Sn**	**20 06 40.0**	**-0.9**
	baz=130						
RDWB	**Redoubt West**	**0.78**	**10**		**Pn**	**20 06 26.9**	**+0.2**
RDWB					**Sn**	**20 06 40.9**	**-0.6**
Q19K	**Cape Douglas,**	**0.84**	**199**		**Pn**	**20 06 27.3**	**+0.1**
Q19K				Sn	**Sn**	**20 06 41.5**	**-0.8**
Q19K				IAML		20 06 45.8	
	comp=E,2μm,0.7s						
Q19K				IAML		20 06 47.1	
	comp=N,3μm,0.8s						
Q19K	**Cape Douglas,**	**0.84**	**199**	P	**Pn**	**20 06 27.3**	**+0.1**
	baz=17						
Q19K				S	**Sn**	**20 06 41.9**	**-0.4**
	baz=17						
NCT	**North Crescent**	**0.84**	**6**		**Pn**	**20 06 27.6**	**+0.3**
NCT					**Sn**	**20 06 42.0**	**-0.4**
RDJH	**Redoubt Jeurge**	**0.88**	**10**		**Pn**	**20 06 28.0**	**+0.3**
RDJH					**Sn**	**20 06 42.8**	**-0.4**
DFR	**Drift River**	**0.90**	**14**		**Pn**	**20 06 28.1**	**+0.3**
DFR					**Sn**	**20 06 43.1**	**-0.2**
CNPM	**China Poot**	**0.98**	**101**	Pn	**Pn**	**20 06 28.9**	**+0.4**
CNPM				Sn	**Sn**	**20 06 44.3**	**-0.3**
CNPM				IAML		20 06 48.1	
	comp=E,942nm,0.5s						
CNPM				IAML		20 06 50.4	
	comp=N,954nm,0.4s						
O18K	**Koktuh Hills**	**1.06**	**278**		**Pn**	**20 06 29.1**	**-0.2**
O18K				Sn	**Sn**	**20 06 44.7**	**-1.4**
BRLK	**Bradley Lake**	**1.13**	**87**		**Pn**	**20 06 30.3**	**+0.2**
BRLK				Sn	**Sn**	**20 06 47.1**	**-0.3**
BRLK				IAML		20 06 49.5	
	comp=E,1μm,0.4s						
BRLK				IAML		20 06 49.5	
	comp=N,2μm,0.2s						
BRSE	**Bradley Lake S**	**1.21**	**88**		**Pn**	**20 06 31.0**	**+0.1**
BRSE	**Bradley Lake S**	**1.21**	**88**	P	**Pn**	**20 06 31.2**	**+0.4**
	baz=270						
BRSE				S	**Sn**	**20 06 48.5**	**-0.3**
	baz=270						
N19K	**Bonanza Creek**	**1.28**	**329**		**Pn**	**20 06 31.8**	**-0.1**
N19K				Sn	**Sn**	**20 06 49.3**	**-1.2**
N19K	**Bonanza Creek**	**1.28**	**329**	P	**Pn**	**20 06 32.0**	**+0.2**
	baz=149,SNR=118						
N19K				S	**Sn**	**20 06 49.6**	**-0.9**
	baz=149						
CAPN	**Captain Cook N**	**1.44**	**42**		**Pn**	**20 06 35.5**	**+2.1**
CAPN				Sn	**Sn**	**20 06 55.1**	**+1.8**
CAPN				IAML		20 06 58.1	
	comp=E,2μm,0.5s						
CAPN	**Captain Cook N**	**1.44**	**42**	P	**Pn**	**20 06 35.6**	**+2.1**
	baz=224						
SPCR	**Spurr Chakacha**	**1.55**	**17**		**Pn**	**20 06 35.4**	**+0.6**
SPCR	**Spurr Chakacha**	**1.55**	**17**	P	**Pn**	**20 06 35.4**	**+0.6**
	baz=198,SNR=46						
SPCR				S	**Sn**	**20 06 55.5**	**-0.3**
	baz=198						
CKN	**Chakachatna No**	**1.57**	**17**		**Pn**	**20 06 36.0**	**+0.8**
SPWE	**Spurr West**	**1.58**	**10**		**Pn**	**20 06 36.3**	**+1.0**
SPBG	**Spurr Blockage**	**1.58**	**13**		**Pn**	**20 06 36.2**	**+0.9**
SLKM	**Skilak Lake**	**1.65**	**60**		**Pn**	**20 06 36.4**	**+0.4**
SLKM					**Sn**	**20 06 57.4**	**-0.6**
SPCG	**Spurr Capps Gl**	**1.66**	**19**		**Pn**	**20 06 36.9**	**+0.7**
N18K	**Kilae Creek**	**1.68**	**306**		**Pn**	**20 06 36.3**	**-0.1**
N18K				Sn	**Sn**	**20 06 56.9**	**-1.8**
N18K	**Kilae Creek**	**1.68**	**306**	P	**Pn**	**20 06 36.3**	**-0.1**
	baz=124						
N18K				S	**Sn**	**20 06 57.4**	**-1.2**
	baz=124						
SVW2	**Sparrevohn**	**1.84**	**320**		**Pn**	**20 06 38.2**	**-0.1**
SVW2				Sn	**Sn**	**20 06 60.0**	**-2.1**
O22K	**Cooper Landing**	**1.86**	**65**		**Pn**	**20 06 39.3**	**+0.7**
O22K					**Sn**	**20 06 39.4**	**+0.8**
	baz=248						
O22K				S	**Sn**	**20 07 01.9**	**-0.6**
	baz=248						
KELA	**Mount Kelaz**	**1.87**	**227**		**Pn**	**20 06 38.3**	**-0.4**
SEW	**Seward**	**1.89**	**77**	Pn	**Pn**	**20 06 39.0**	**+0.2**
SEW	**Seward**	**1.89**	**77**	P	**Pn**	**20 06 39.4**	**+0.5**
	baz=260						
SEW				S	**Sn**	**20 07 02.3**	**-0.7**
	baz=260						
STLK	**Strandline Lak**	**1.89**	**19**		**Pn**	**20 06 39.7**	**+0.7**
ANCK	**Angle Creek**	**1.96**	**220**		**Pn**	**20 06 39.8**	**-0.2**
KDAK	**Kodiak Island**	**1.97**	**172**	P	**Pn**	**20 06 39.5**	**-0.4**
	comp=E,29nm,0.3s,baz=36,slow=8.4,SNR=173						
KDAK				S	**Sn**	**20 07 03.6**	**-1.3**
	comp=E,46nm,0.3s,baz=320,slow=23,SNR=17						
KDAK	**Kodiak Island**	**1.97**	**172**		**Pn**	**20 06 39.3**	**-0.6**
KDAK				Sn	**Sn**	**20 07 03.0**	**-1.8**
KDAK				IAML		20 07 05.4	
	comp=E,350nm,0.3s						
KDAK				IAML		20 07 13.3	
	comp=E,320nm,0.4s						
KDAK	**Kodiak Island**	**1.97**	**172**	P	**Pn**	**20 06 39.5**	**-0.4**
	baz=351						
KDAK				S	**Sn**	**20 07 04.0**	**-0.9**
	baz=351						
CAHL	**Cahill**	**2.02**	**215**		**Pn**	**20 06 40.8**	**+0.1**
FIS	**Fire Island**	**2.02**	**44**		**Pn**	**20 06 40.1**	**-0.4**
FIS				IAML		20 07 12.8	
	comp=E,730nm,0.3s						
FIS				IAML		20 07 14.2	
	comp=N,792nm,0.7s						
KJL	**Kejulik**	**2.10**	**218**		**Pn**	**20 06 41.9**	**+0.1**
RC01	**Rabbit Creek A**	**2.17**	**49**		**Pn**	**20 06 43.1**	**+0.7**
RC01				IAML		20 07 11.3	
	comp=E,1μm,0.3s						
RC01	**Rabbit Creek A**	**2.17**	**49**	P	**Pn**	**20 06 43.1**	**+0.7**
	baz=232,SNR=14						
RC01				S	**Sn**	**20 07 08.8**	**-0.6**
	baz=232						
M19K	**Big River Lodg**	**2.27**	**345**		**Pn**	**20 06 43.9**	**+0.1**
M22K	**Willow**	**2.51**	**35**		**Pn**	**20 06 46.6**	**-0.2**
M22K	**Willow**	**2.51**	**35**	P	**Pn**	**20 06 47.7**	**+0.9**
	baz=218,SNR=32						
M22K				S	**Sn**	**20 07 17.9**	**+0.6**
	baz=218						
OHAK	**Old Harbor**	**2.51**	**182**	Pn	**Pn**	**20 06 45.8**	**-1.1**
OHAK				IAML		20 07 16.1	
	comp=N,192nm,0.2s						
OHAK				IAML		20 07 18.2	
	comp=E,159nm,0.3s						
L19K	**White Mountain**	**2.61**	**342**	Pn	**Pn**	**20 06 48.2**	**+0.1**
L19K	**White Mountain**	**2.61**	**342**	P	**Pn**	**20 06 48.4**	**+0.2**
	baz=161,SNR=49						
L19K				S	**Sn**	**20 07 19.1**	**-0.5**
	baz=161						
PWL	**Port Wells**	**2.64**	**62**	Pn	**Pn**	**20 06 47.9**	**-0.7**
PWL	**Port Wells**	**2.64**	**62**	P	**Pn**	**20 06 48.5**	**0.0**
	baz=247						
PWL				S	**Sn**	**20 07 18.9**	**-1.5**
	baz=247						
PLK1	**Peulik 1**	**2.65**	**225**		**Pn**	**20 06 48.9**	**+0.3**
PMR	**Palmer**	**2.71**	**45**	Pn	**Pn**	**20 06 49.4**	**-0.1**
PMR				IAML		20 07 21.2	
	comp=E,295nm,0.2s						
PMR				IAML		20 07 22.5	
	comp=N,318nm,0.4s						
PMR	**Palmer**	**2.71**	**45**	P	**Pn**	**20 06 49.4**	**-0.1**
	baz=228						
PMR				S	**Sn**	**20 07 20.8**	**-1.2**
	baz=228						
L20K	**Farewell, AK**	**2.79**	**353**		**Pn**	**20 06 51.2**	**+0.7**
L20K	**Farewell, AK**	**2.79**	**353**	P	**Pn**	**20 06 51.2**	**+0.7**
	baz=173,SNR=67						
KNK	**Knik Glacier**	**2.86**	**52**		**Pn**	**20 06 50.7**	**-0.7**
KNK	**Knik Glacier**	**2.86**	**52**	P	**Pn**	**20 06 51.4**	**0.0**
	baz=236,SNR=10						
KNK				S	**Sn**	**20 07 23.9**	**-1.5**
	baz=236						
GHO	**Glory Hole Cre**	**2.91**	**43**		**Pn**	**20 06 51.9**	**-0.2**
GHO				IAML		20 07 27.9	
	comp=N,416nm,0.3s						
GHO				IAML		20 07 28.2	
	comp=E,466nm,0.6s						
CUT	**Chulitna**	**3.02**	**26**		**Pn**	**20 06 53.0**	**-0.6**
CUT				IAML		20 07 33.6	
	comp=N,270nm,0.4s						
CUT				IAML		20 07 36.1	
	comp=E,338nm,0.4s						
CUT	**Chulitna**	**3.02**	**26**	P	**Pn**	**20 06 54.5**	**+0.9**
	baz=209						
CUT				S	**Sn**	**20 07 29.3**	**+0.1**
	baz=209						
SML	**Sawmill**	**3.14**	**46**		**Pn**	**20 06 54.9**	**-0.3**
SML				IAML		20 07 32.8	
	comp=N,247nm,0.4s						
SML				IAML		20 07 39.8	
	comp=E,232nm,0.6s						
SML	**Sawmill**	**3.14**	**46**	P	**Pn**	**20 06 55.2**	**0.0**
	baz=231						
SML				S	**Sn**	**20 07 30.8**	**-1.4**
	baz=231						
PPLA	**Purkeypile**	**3.21**	**8**	Pn	**Pn**	**20 06 56.3**	**+0.1**
PPLA	**Purkeypile**	**3.21**	**8**	P	**Pn**	**20 06 57.7**	**+1.5**
	baz=189,SNR=32						
GLI	**Glacier Island**	**3.21**	**66**		**Pn**	**20 06 55.7**	**-0.4**
GLI	**Glacier Island**	**3.21**	**66**	P	**Pn**	**20 06 55.8**	**-0.4**
	baz=252						
GLI				S	**Sn**	**20 07 31.2**	**-2.6**
	baz=252						
SII	**Sitkinak Islan**	**3.23**	**191**	Pn	**Pn**	**20 06 55.0**	**-1.3**
SII				IAML		20 07 33.7	
	comp=N,206nm,0.9s						
SII				IAML		20 07 33.8	
	comp=E,236nm,0.6s						
SII	**Sitkinak Islan**	**3.23**	**191**	P	**Pn**	**20 06 55.4**	**-0.9**
	baz=9.2						
Q23K	**Middleton Isla**	**3.46**	**92**	Pn	**Pn**	**20 06 59.8**	**+0.5**
Q23K				IAML		20 07 41.6	
	comp=N,150nm,1.5s						
Q23K				IAML		20 07 57.9	
	comp=E,188nm,1.6s						
Q23K	**Middleton Isla**	**3.46**	**92**	P	**Pn**	**20 06 59.8**	**+0.5**
	baz=278						
Q23K				S	**Sn**	**20 07 38.9**	**-0.6**
	baz=278						
MID	**Middleton Isla**	**3.46**	**92**	Pn	**Pn**	**20 06 59.7**	**+0.3**
MID				IAML		20 07 40.7	
	comp=N,144nm,1.3s						
MID				IAML		20 07 57.9	
	comp=E,187nm,1.5s						
FID	**Port Fidalgo**	**3.47**	**70**		**Pn**	**20 06 58.8**	**-0.6**
TT01	**Tatalina**	**3.48**	**338**		**Pn**	**20 06 59.5**	**-0.1**
JPK	**Jack Peak**	**3.50**	**65**		**Pn**	**20 06 59.7**	**-0.2**
TTA	**Tatalina**	**3.50**	**338**	Pn	**Pn**	**20 06 59.7**	**-0.3**
SCM	**Sheep Creek Mo**	**3.54**	**51**		**Pn**	**20 07 00.7**	**+0.2**
SCM				IAML		20 07 45.8	
	comp=N,259nm,0.8s						
SCM	**Sheep Creek Mo**	**3.54**	**51**	P	**Pn**	**20 07 00.6**	**+0.1**
	baz=236						
SCM				S	**Sn**	**20 07 40.4**	**-1.3**
	baz=236						
K20K	**Telida**	**3.67**	**353**	Pn	**Pn**	**20 07 02.6**	**+0.5**
K20K	**Telida**	**3.67**	**353**	P	**Pn**	**20 07 02.7**	**+0.6**
	baz=173,SNR=40						
CAST	**Castle Rocks**	**3.74**	**7**	Pn	**Pn**	**20 07 03.9**	**+0.8**
CAST	**Castle Rocks**	**3.74**	**7**	P	**Pn**	**20 07 03.9**	**+0.8**
	baz=188,SNR=87						
EYAK	**Cordova Ski Ar**	**3.78**	**74**		**Pn**	**20 07 03.6**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.78**	**74**	P	**Pn**	**20 07 03.4**	**-0.1**
	baz=260						
EYAK				S	**Sn**	**20 07 45.6**	**-1.6**
	baz=260						
WAT6	**Susitna Watana**	**3.87**	**40**		**Pn**	**20 07 05.0**	**0.0**
WAT6	**Susitna Watana**	**3.87**	**40**	P	**Pn**	**20 07 05.1**	**+0.1**
	baz=225						
DIV	**Divide**	**3.91**	**66**		**Pn**	**20 07 05.7**	**+0.4**
KLU	**Klutina**	**3.97**	**60**		**Pn**	**20 07 06.1**	**0.0**
KLU	**Klutina**	**3.97**	**60**	P	**Pn**	**20 07 06.1**	**0.0**
	baz=247						
KLU				S	**Sn**	**20 07 49.8**	**-2.1**
	baz=247						
TRF	**Thorofare Moun**	**3.98**	**19**		**Pn**	**20 07 06.1**	**-0.2**
TRF				IAML		20 07 55.1	
	comp=N,75nm,0.6s						
TRF				IAML		20 08 15.1	
	comp=E,49nm,0.9s						
TRF	**Thorofare Moun**	**3.98**	**19**	P	**Pn**	**20 07 06.6**	**+0.2**
	baz=202,SNR=47						
TRF				S	**Sn**	**20 07 51.3**	**-0.9**
	baz=202						
KTH	**Kantishna Hill**	**3.98**	**14**	Pn	**Pn**	**20 07 06.3**	**-0.1**
KTH				IAML		20 08 28.4	
	comp=E,48nm,0.9s						
KTH				IAML		20 08 31.4	
	comp=N,42nm,0.9s						
CHIR	**Chirikof Islan**	**4.14**	**200**	Pn	**Pn**	**20 07 07.1**	**-1.3**
CHIR				IAML		20 09 13.2	
	comp=E,160nm,2.3s						
CHIR				IAML		20 09 38.0	
	comp=N,204nm,2.7s						
CHIR	**Chirikof Islan**	**4.14**	**200**	P	**Pn**	**20 07 07.4**	**-1.0**
	baz=18						
M24K	**Tolsona, Glenn**	**4.15**	**52**		**Pn**	**20 07 09.1**	**+0.5**
M24K				IAML		20 07 58.2	
	comp=N,174nm,0.8s						
M24K	**Tolsona, Glenn**	**4.15**	**52**	P	**Pn**	**20 07 09.0**	**+0.4**
	baz=238						
M24K				S	**Sn**	**20 07 56.0**	**-0.2**
	baz=238						
CHUM	**Lake Minchumin**	**4.19**	**5**		**Pn**	**20 07 09.9**	**+0.8**
CHUM	**Lake Minchumin**	**4.19**	**5**	P	**Pn**	**20 07 09.8**	**+0.7**
	baz=186,SNR=42						
RND	**Reindeer**	**4.22**	**27**	Pn	**Pn**	**20 07 09.0**	**-0.6**
RND				IAML		20 08 18.1	
	comp=E,42nm,0.8s						
GOAT	**Goat Mountain**	**4.28**	**75**		**Pn**	**20 07 10.2**	**-0.2**
RAGM	**Ragged Mountai**	**4.29**	**77**		**Pn**	**20 07 09.8**	**-0.6**
DHY	**Denali Highway**	**4.35**	**37**		**Pn**	**20 07 11.5**	**+0.1**
DHY				IAML		20 08 03.1	
	comp=E,87nm,0.5s						
DHY				IAML		20 08 05.0	
	comp=N,81nm,0.5s						
DHY	**Denali Highway**	**4.35**	**37**	P	**Pn**	**20 07 11.6**	**+0.2**
	baz=222						
DHY				S	**Sn**	**20 07 59.9**	**-1.2**
	baz=222						
KAIM	**Kayak Island**	**4.40**	**84**	Pn	**Pn**	**20 07 11.6**	**-0.3**
KAIM				IAML		20 07 48.8	
	comp=E,128nm,2.0s						
KAIM				IAML		20 08 55.8	
	comp=N,137nm,2.9s						
KAIM	**Kayak Island**	**4.40**	**84**	P	**Pn**	**20 07 12.5**	**+0.6**
	baz=271						
KAIM				S	**Sn**	**20 08 01.5**	**-0.6**
	baz=271						
BMRM	**Bremner River**	**4.41**	**70**	Pn	**Pn**	**20 07 10.9**	**-1.2**
BMRM				IAML		20 08 03.1	
	comp=N,113nm,0.4s						
BMRM	**Bremner River**	**4.41**	**70**	P	**Pn**	**20 07 11.8**	**-0.3**
	baz=257						
BMRM				S	**Sn**	**20 08 00.5**	**-1.9**
	baz=257						
CHGN	**Chignik**	**4.44**	**222**	Pn	**Pn**	**20 07 11.5**	**-0.9**
CHGN				IAML		20 08 39.3	
	comp=N,111nm,0.1s						
CHGN				IAML		20 08 39.5	
	comp=E,131nm,0.1s						
MCK	**McKinley**	**4.49**	**25**	Pn	**Pn**	**20 07 12.8**	**-0.3**
MCK				IAML		20 08 08.2	
	comp=E,33nm,0.6s						
MCK				IAML		20 08 27.6	
	comp=N,30nm,0.9s						
MCK	**McKinley**	**4.49**	**25**	P	**Pn**	**20 07 13.8**	**+0.7**
	baz=208,SNR=35						
HMT	**Hamilton**	**4.49**	**78**	Pn	**Pn**	**20 07 12.5**	**-0.6**
J20K	**Nowinta River**	**4.49**	**354**	Pn	**Pn**	**20 07 11.5**	**-1.6**
J20K	**Nowinta River**	**4.49**	**354**	P	**Pn**	**20 07 13.7**	**+0.5**
	baz=174,SNR=29						
BPAW	**Bear Paw Mtn.**	**4.50**	**12**	Pn	**Pn**	**20 07 12.5**	**-0.8**
BPAW	**Bear Paw Mtn.**	**4.50**	**12**	P	**Pn**	**20 07 13.1**	**-0.2**
	baz=194						
N25K	**Chitina, Valde**	**4.60**	**62**	Pn	**Pn**	**20 07 14.8**	**+0.1**
N25K				IAML		20 08 08.9	
	comp=N,126nm,0.5s						
N25K	**Chitina, Valde**	**4.60**	**62**	P	**Pn**	**20 07 15.0**	**+0.3**
	baz=250						
N25K				S	**Sn**	**20 08 05.1**	**-1.9**
	baz=250						
NICHA	**Nichawak Mount**	**4.63**	**80**		**Pn**	**20 07 15.3**	**+0.3**
HARP	**HAARP**	**4.71**	**52**		**Pn**	**20 07 16.7**	**+0.6**
HARP	**HAARP**	**4.71**	**52**	P	**Pn**	**20 07 16.6**	**+0.6**
	baz=239						
HARP				S	**Sn**	**20 08 08.9**	**-0.7**
	baz=239						
SUCK	**Suckling Hills**	**4.72**	**82**	Pn	**Pn**	**20 07 16.4**	**+0.1**
SUCK				IAML		20 08 13.5	
	comp=N,83nm,0.7s						
SUCK				IAML		20 10 28.3	
	comp=E,80nm,1.9s						
BERG	**Berg Lake**	**4.77**	**78**		**Pn**	**20 07 16.5**	**-0.4**
BWN	**Browne**	**4.78**	**20**		**Pn**	**20 07 16.7**	**-0.4**
BWN				IAML		20 08 47.3	
	comp=E,45nm,0.9s						
BWN				IAML		20 08 51.9	
	comp=N,49nm,1.0s						
GLB	**Gilahina Butte**	**4.90**	**65**		**Pn**	**20 07 18.7**	**0.0**
GLB				IAML		20 08 15.9	
	comp=E,92nm,0.6s						
PAX	**Paxson**	**4.91**	**45**		**Pn**	**20 07 18.1**	**-0.8**
PAX	**Paxson**	**4.91**	**45**	P	**Pn**	**20 07 19.3**	**+0.4**
	baz=232						
PAX				S	**Sn**	**20 08 12.8**	**-1.8**
	baz=232						
GRIN	**Grindle Hills**	**4.95**	**79**		**Pn**	**20 07 20.2**	**+0.8**
VRDI	**Verde Repeater**	**5.01**	**68**	Pn	**Pn**	**20 07 19.9**	**-0.5**
VRDI				IAML		20 08 18.2	
	comp=N,84nm,0.5s						
VRDI				IAML		20 08 20.5	
	comp=E,51nm,0.4s						
PS10	**TAPS Pump St10**	**5.11**	**40**		**Pn**	**20 07 22.6**	**+1.2**
SNH	**Sunshine Point**	**5.19**	**81**	Pn	**Pn**	**20 07 22.6**	**+0.1**
SNH				IAML		20 08 22.6	
	comp=N,75nm,0.8s						
SNH				IAML		20 08 22.8	
	comp=E,56nm,0.4s						
WAX	**Waxell Ridge**	**5.19**	**78**		**Pn**	**20 07 21.7**	**-1.0**
TGL	**Tana Glacier**	**5.23**	**74**	Pn	**Pn**	**20 07 21.9**	**-1.3**
TGL				IAML		20 08 21.0	
	comp=N,68nm,0.5s						
TGL				IAML		20 08 26.1	
	comp=E,82nm,0.6s						
NEA2	**Nenana**	**5.24**	**19**		**Pn**	**20 07 22.4**	**-0.8**
NEA2	**Nenana**	**5.24**	**19**	P	**Pn**	**20 07 23.3**	**+0.1**
	baz=203						
MCARA	**McCarthy VSAT**	**5

BARN	Barnard Glacie	5.84	72			Pn		20 07 30.9	-0.6
IL31		5.84	27			Pn		20 07 31.0	-0.2
ILAR	Eielson Array	5.84	27	P		Pn		20 07 30.9	-0.3
	comp=E,7.8nm,0.3s,baz=215,slow=13,SNR=263								
ILAR				S		Sn		20 08 35.4	-1.4
	comp=E,4.4nm,0.3s,baz=194,slow=18,SNR=8.2								
ILAR	Eielson Array	5.84	27			Pn		20 07 30.6	-0.7
SDPT	Sand Point	5.91	225	Pn		Pn		20 07 31.4	-0.8
H21K	Melozitna Rive	5.96	1	Pn		Pn		20 07 32.2	-0.7
H21K	Melozitna Rive	5.96	1	P		Pn		20 07 33.4	+0.6
	baz=182,SNR=20								
CTG	Chitna Glacier	5.98	73	P		Pn		20 07 34.2	+0.8
	baz=263								
CTGM	Chitina Glacie	5.98	73			Pn		20 07 33.1	-0.3
POKR	Poker Plat Res	6.02	24			Pn		20 07 33.6	-0.1
POKR	Poker Plat Res	6.02	24	P		Pn		20 07 33.9	+0.2
	baz=209								
TABL	Table Mountain	6.04	78			Pn		20 07 34.1	-0.1
M27K	Edge Creek, AK	6.07	59			Pn		20 07 34.4	-0.1
M27K	Edge Creek, AK	6.07	59	P		Pn		20 07 35.7	+1.3
	baz=249								
SCRK	Sand Creek	6.07	41	Pn		Pn		20 07 34.0	-0.5
SCRK	Sand Creek	6.07	41	P		Pn		20 07 34.0	-0.5
	baz=230								
J25K	Salcha River,	6.10	33	Pn		Pn		20 07 34.7	-0.1
J25K	Salcha River,	6.10	33	P		Pn		20 07 34.9	+0.1
	baz=220								
LOGN	Logan Glacier	6.13	74			Pn		20 07 36.2	+0.8
IM03		6.29	358			Pn		20 07 38.2	+0.9
IMAR	Indian Mountai	6.29	358	Pn		Pn		20 07 37.8	+0.5
H23K	Yukon River	6.34	13	Pn		Pn		20 07 37.4	-0.7
H23K	Yukon River	6.34	13	P		Pn		20 07 37.7	-0.3
	baz=197,SNR=59								
YUK2	White River	6.36	66			Pn		20 07 39.8	+1.3
L27K	Beaver Creek,	6.37	53	Pn		Pn		20 07 37.3	-1.3
L27K	Beaver Creek,	6.37	53	P		Pn		20 07 39.0	+0.4
	baz=243								
BC03		6.39	54			Pn		20 07 39.0	+0.3
BCAR	Beaver Creek A	6.39	54	Pn		Pn		20 07 38.8	+0.1
PCA	Pinnacle	6.48	81	Pn		Pn		20 07 41.3	+1.3
YUK3	Moose Creek	6.54	66			Pn		20 07 42.3	+1.4
YUK3	Moose Creek	6.54	66	P		Pn		20 07 41.9	+1.0
	baz=257								
J26L	Joseph Creek	6.56	39	P		Pn		20 07 41.0	-0.1
	baz=228								
H24K	Noodor Dome	6.59	19			Pn		20 07 41.0	-0.4
H24K	Noodor Dome	6.59	19	P		Pn		20 07 41.6	+0.2
	baz=204								
BCPM	Bancas Point	6.80	82	Pn		Pn		20 07 46.4	+2.1
YKU2	Yakutat	6.83	86	Pn		Pn		20 07 46.1	+1.4
PNL	Peninsula	6.95	85			Pn		20 07 47.0	+0.6
PNL	Peninsula	6.95	85	P		Pn		20 07 46.9	+0.6
	baz=276,SNR=15								
YUK4	Talbot Arm	7.32	71	P		Pn		20 07 53.5	+1.9
	baz=263								
FALS	False Pass	7.41	233	Pn		Pn		20 07 53.3	+0.8
YUK6	Outpost Mounta	7.43	74	P		Pn		20 07 53.1	+0.1
	baz=267,SNR=8.0								
ANM	Nome	7.51	315	Pn		Pn		20 07 54.5	+0.7
EGAK	Eagle	7.53	43	Pn		Pn		20 07 53.8	-0.4
COLD	Coldfoot	7.64	9	Pn		Pn		20 07 54.7	-0.9
COLD	Coldfoot	7.64	9	P		Pn		20 07 55.9	+0.3
	baz=191								
DAWY	Dawson	7.80	50	Pn		Pn		20 07 57.8	-0.1
DAWY	Dawson	7.80	50	P		Pn		20 07 58.5	+0.6
	baz=242								
HYT	Haines Junctio	7.84	75	Pn		Pn		20 07 58.8	+0.2
HYT	Haines Junctio	7.84	75	P		Pn		20 07 59.8	+1.3
	baz=269								
M30M	Minto, Yukon	8.39	63	Pn		Pn		20 08 05.3	-0.5
M30M	Minto, Yukon	8.39	63	P		Pn		20 08 06.9	+1.1
	baz=257								
BM03	Burnt Mountain	8.60	22			Pn		20 08 07.3	-1.3
BMAR	Burnt Mountain	8.61	23	Pn		Pn		20 08 06.8	-2.0
N31M	Braeburn, Yuko	8.71	71	Pn		Pn		20 08 10.2	+0.1
N31M	Braeburn, Yuko	8.71	71	P		Pn		20 08 11.6	+1.5
	baz=266								
I29M	Ogilvie Camp,	8.86	44			Pn		20 08 11.3	-0.8
TNA	Tin City	8.96	317	Pn		Pn		20 08 11.9	-1.6
SKAG	Skagway	9.03	84			Pn		20 08 13.8	-0.7
TOLK	Toolik Lake Re	9.08	8	Pn		Pn		20 08 15.1	-0.1
TOLK	Toolik Lake Re	9.08	8	P		Pn		20 08 16.1	+1.0
	baz=192,SNR=9.5								
WHY	Whitehorse	9.13	76	Pn		Pn		20 08 16.6	+0.7
WHY	Whitehorse	9.13	76	P		Pn		20 08 17.0	+1.1
	baz=272,SNR=11								
UNV	Unalaska Valle	9.40	237	Pn		Pn		20 08 19.3	-0.2
UNV	Unalaska Valle	9.40	237	P		Pn		20 08 19.5	-0.1
	baz=46								
M31M	Drury Creek, Y	9.43	67			Pn		20 08 20.8	+0.9
BESE	Bessie Mountai	9.45	89			Pn		20 08 21.6	+1.4
SIT	Sitka	9.71	98	Pn		Pn		20 08 23.3	-0.4
DLBC	Dease Lake	11.93	86	P		Pn		20 08 54.0	+0.4
	comp=E,1.7nm,0.3s,baz=296,slow=6.4,SNR=26								
DLBC				S		Sn		20 11 02.4	-2.3
	comp=E,0.2nm,0.3s,baz=99,slow=15,SNR=1.9								
DLBC	Dease Lake	11.93	86	Pn		Pn		20 08 53.0	-0.6
INK	Inuvik	12.10	37	P		Pn		20 08 56.3	+0.8
	comp=E,0.3nm,0.3s,baz=234,slow=15,SNR=9.8								
INK	Inuvik	12.10	37	Pn		Pn		20 08 53.7	-1.8
DIB	Dawson Inlet,	13.11	111	Pn		Pn		20 09 10.2	+1.2
YKA	Yellowknife Ar	18.62	65	P		P		20 10 17.4	+1.8
	comp=E,0.2nm,0.3s,baz=276,slow=10.0,SNR=14								
YKA				pP		pP		20 10 33.3	-2.9
	comp=E,0.0nm,0.3s,baz=275,slow=9.8,SNR=3.3								
YKA	Yellowknife Ar	18.62	65	P		P		20 10 16.5	+0.9
TXAR	Lajitas Array	44.94	110	P		P		20 14 09.7	-1.1
	comp=E,0.1nm,0.3s,baz=171,slow=17,SNR=3.6								
KSRS	Korea Array	53.18	283	P		P		20 15 14.3	+1.0
	comp=E,1.1nm,0.5s,baz=38,slow=6.6,SNR=5.1								
SONM	Songino Array	54.90	306	P		P		20 15 27.5	+1.7
	comp=E,1.6nm,0.5s,baz=42,slow=6.7,SNR=19								
ZALV	Zalesovo Beam	57.56	324	P		P		20 15 45.3	+0.9
	comp=E,3.9nm,0.5s,baz=34,slow=7.3,SNR=17								

*IDC **19** 20:12:33.0±1.2, 40.72N×78.97E, h0km, mb3.6/6, mb1 3.7/10, mb1mx3.4/50, mbtmpg3.6/10, ML3.1/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/81, Error ellipse: s-maj=19.1km s-min=15.1km az=31.0*
*KRNET **19** 20:12:34.7±0.1, 41.02N×78.19E, mb4.0*
*BJI **19** 20:12:35.0±0.0, 40.87N×78.91E, h10km, ML3.7/10*
*SOME **19** 20:12:35.0, 41.02N×78.90E, h5km, MS3.2*
*NNC **19** 20:12:36.9±1.1, 40.99N×78.93E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=7.8km s-min=5.4km az=158.0*

ISC 19 20:12:37.5±1.6, 41.01N±0.04×79.07E±0.03, h2km±10km, n101, σ1$70/140, mb3.6/4, 37C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDJ	Kajisay	1.80	309	⇑iP		Pn	20 13 09.2	-0.6
	baz=7.0							
KDJ				⇑iS		Sb	20 13 34.6	+0.1
	baz=7.0							
ANVS	Anan'yevo	2.06	330	⇑iP		Pn	20 13 13.1	-0.2
	baz=28							
ANVS				⇑iS		Sb	20 13 40.9	-0.9
	baz=28							
SATY	Saty	2.11	347	eP		Pb	20 13 16.9	+0.3
	166nm,0.5s							
SATY				eS		Sg	20 13 47.1	+1.9
	1μm,0.5s							
SATY	Saty	2.11	347	Pg		Pb	20 13 16.9	+0.3
	166nm,0.5s							
SATY				Lg		Lg	20 13 47.1	
	1μm,0.5s							
UZB	Uzynbulak	2.14	359	eP		Pb	20 13 17.0	0.0
	232nm,0.5s							
UZB				eS		Sg	20 13 47.2	+1.0
	356nm,0.3s							
UZB	Uzynbulak	2.14	359	Pg		Pb	20 13 17.0	0.0
	232nm,0.5s							
UZB				Lg		Lg	20 13 47.2	
	356nm,0.3s							
SHLS	Shalkode	2.17	8	eP		Pg	20 13 19.3	+0.2
	224nm,0.6s							
SHLS				eS		Sg	20 13 50.9	+3.7
	783nm,0.6s							
SHLS	Shalkode	2.17	8	Pg		Pg	20 13 19.3	+0.2
	224nm,0.6s							
SHLS				Lg		Lg	20 13 50.9	
	783nm,0.6s							
ZHN	Zhinishke	2.21	348	eP		Pb	20 13 18.6	+0.4
	78nm,0.2s							
ZHN				eS		Sg	20 13 50.0	+1.5
	2μm,0.3s							
ZHN	Zhinishke	2.21	348	Pg		Pb	20 13 18.6	+0.4
	78nm,0.2s							
ZHN				Lg		Lg	20 13 50.0	
	2μm,0.3s							
PDGK	Podgornoye	2.34	8	Pg		Pb	20 13 19.8	-0.7
	87nm,0.4s							
PDGK				Lg		Lg	20 13 52.2	
	300nm,0.5s							
PDGK	Podgornoye	2.34	8	⇑Pg		Pn	20 13 18.9	+1.8
	114nm,0.5s							
PDGK				⇓Lg		Lg	20 13 51.6	
	373nm,0.6s							
ULHL	Ulahol	2.45	301	P		Pn	20 13 19.4	+0.6
	SNR=162							
ULHL	Ulahol	2.45	301	⇑iP		Pn	20 13 19.0	+0.3
	baz=0.0							
ULHL				⇑iS		Sn	20 13 51.3	+1.9
	baz=0.0							
KPKS	Kokpek	2.47	354	eP		Pb	20 13 22.4	-0.3
	349nm,0.3s							
KPKS				eS		Sg	20 13 56.7	-0.3
	2μm,0.4s							
KURS	Kuram	2.56	345	eP		Pb	20 13 22.9	-1.4
	106nm,0.6s							
KURS				eS		Sb	20 13 57.3	+1.0
	225nm,0.9s							
KURS	Kuram	2.56	345	Pg		Pb	20 13 22.9	-1.4
	106nm,0.6s							
KURS				Lg		Lg	20 13 57.3	
	225nm,0.9s							
TNSS	Tian-Shan	2.57	323	eP		Pb	20 13 23.8	-0.8
	286nm,0.5s							
TNSS				eS		Sg	20 13 58.7	-1.4
	282nm,0.5s							
TNSS	Tian-Shan	2.57	323	Pg		Pb	20 13 23.8	-0.8
	286nm,0.5s							
TNSS				Lg		Lg	20 13 58.7	
	282nm,0.5s							
KTMS	Ketmen	2.62	21	eP		Pb	20 13 24.0	-1.2
	30nm,0.1s							
KTMS				eS		Sb	20 13 58.9	+1.1
	385nm,0.2s							
KTMS	Ketmen	2.62	21	Pg		Pb	20 13 24.0	-1.2
	30nm,0.1s							
KTMS				Lg		Lg	20 13 58.9	
	385nm,0.2s							
MDOK	Medeo	2.62	326	eP		Pn	20 13 22.8	+1.7
	242nm,0.3s							
MDOK				eS		Sb	20 13 57.3	-0.8
	469nm,0.6s							
MDOK	Medeo	2.62	326	⇓Pg		Pn	20 13 23.4	+2.4
	135nm,0.4s							
MDOK				⇑Lg		Lg	20 13 56.9	
MDOK	Medeo	2.62	326	Pg		Pn	20 13 22.8	+1.7
	242nm,0.3s							
MDOK				Lg		Lg	20 13 57.3	
	469nm,0.6s							
KOTS	Kotyrbulak	2.66	327	eP		Pb	20 13 25.9	0.0
	178nm,0.2s							
KOTS				eS		Sg	20 14 02.4	-0.4
	992nm,0.6s							
KOTS	Kotyrbulak	2.66	327	Pg		Pb	20 13 25.9	0.0
	178nm,0.2s							
KOTS				Lg		Lg	20 14 02.4	
	992nm,0.6s							
KNDC	Almaty	2.70	325	⇓Pg		Pb	20 13 25.4	-1.3
	203nm,0.7s							
KNDC				⇑Lg		Lg	20 14 03.1	
	581nm,0.7s							
AAA	Alma-Ata	2.72	325	eP		Pb	20 13 26.9	0.0
	925nm,0.4s							
AAA				eS		Sg	20 14 03.8	-1.0
	958nm,0.7s							
AAA	Alma-Ata	2.72	325	Pg		Pb	20 13 26.9	0.0
	925nm,0.4s							
AAA				Lg		Lg	20 14 03.8	
	958nm,0.7s							
BOOM	Boomskoye usch	2.77	303	⇑iP		Pn	20 13 23.3	+0.2
	baz=2.0							
BOOM				⇑iS		Sn	20 13 58.8	+1.7
	baz=2.0							
KSH	Kashi	2.80	239	Pn		Pb	20 13 27.3	-1.0
KSH				Sn		Sg	20 14 09.8	+2.5
KSH				smax		smax		
	comp=N,150nm,0.7s							
KSH				smax		smax		
	comp=E,200nm,0.7s							
MTBS	Maitube	2.89	318	eP		Pn	20 13 26.2	+1.6
	12nm,0.3s							
MTBS				eS		Sb	20 14 03.0	-2.6
	118nm,0.5s							
MTBS	Maitube	2.89	318	Pg		Pn	20 13 26.2	+1.6
	12nm,0.3s							
MTBS				Lg		Lg	20 14 03.0	
	118nm,0.5s							
KST	Kastek	3.08	312	eP		Pn	20 13 28.9	+1.6
	16nm,0.3s							
KST				eS		Sn	20 14 07.3	+2.5
	194nm,0.7s							
KST	Kastek	3.08	312	Pg		Pn	20 13 28.9	+1.6
	16nm,0.3s							
KST				Lg		Lg	20 14 07.3	
	194nm,0.7s							
BLB	Baldybastay	3.12	352	eP		Pb	20 13 34.3	+0.6
	279nm,0.3s							
BLB				eS		Sg	20 14 16.4	-1.2
	275nm,0.4s							
BLB	Baldybastay	3.12	352	Pg		Pb	20 13 34.3	+0.6
	279nm,0.3s							
BLB				Lg		Lg	20 14 16.4	
	275nm,0.4s							
TKM2	Tokmak 2	3.21	308	P		Pn	20 13 30.0	+0.8
	SNR=13							
TKM2	Tokmak 2	3.21	308	⇑iP		Pn	20 13 29.5	+0.3
	baz=6.0							
TKM2				⇑iS		Sn	20 14 09.5	+1.3
	baz=6.0							
TKM2	Tokmak 2	3.21	308	⇑Pn		Pn	20 13 29.8	+0.5
	3.2nm,0.3s							
TKM2				⇑Lg		Lg	20 14 17.0	
	117nm,0.5s							
KTBS	Karatobe	3.23	328	eP		Pb	20 13 34.3	-1.3
	34nm,0.5s							
KTBS				eS		Sb	20 14 16.4	+1.0
	424nm,0.5s							
KTBS	Karatobe	3.23	328	Pg		Pb	20 13 34.3	-1.3
	34nm,0.5s							
KTBS				Lg		Lg	20 14 16.4	
	423nm,0.5s							
CHKK	Chushkaly	3.23	332	eP		Pb	20 13 36.0	+0.3
	32nm,0.3s							
CHKK				eS		Sg	20 14 19.3	-2.0
	219nm,0.3s							
CHKK	Chushkaly	3.23	332	Pg		Pb	20 13 36.0	+0.3
	32nm,0.3s							
CHKK				Lg		Lg	20 14 19.3	
	219nm,0.3s							
DGS	Degeres	3.31	313	eP		Pb	20 13 36.1	-0.9
	97nm,0.4s							
DGS				eS		Sb	20 14 19.6	+1.7
	120nm,0.4s							
DGS	Degeres	3.31	313	Pg		Pb	20 13 36.1	-0.9
	97nm,0.4s							
DGS				Lg		Lg	20 14 19.6	
	120nm,0.4s							
ARXS	Arharly	3.33	344	eP		Pb	20 13 38.1	+0.8
	42nm,0.5s							
ARXS				eS		Sg	20 14 23.0	-1.5
	270nm,0.5s							
ARXS	Arharly	3.33	344	Pg		Pb	20 13 38.1	+0.8
	42nm,0.5s							
ARXS				Lg		Lg	20 14 23.0	
	270nm,0.5s							
KNOS	Konyrlen	3.35	1	eP		Pb	20 13 37.9	+0.2
	58nm,0.4s							
KNOS				eS		Sg	20 14 22.8	-2.3
	21nm,0.9s							
KNOS	Konyrlen	3.35	1	Pg		Pb	20 13 37.9	+0.2
	58nm,0.4s							
KNOS				Lg		Lg	20 14 22.8	
	21nm,0.9s							
DJR	Jarkent	3.36	9	eP		Pb	20 13 38.7	+0.8
	19nm,0.3s							
DJR				eS		Sg	20 14 23.9	-1.7
	220nm,0.4s							
DJR	Jarkent	3.36	9	Pg		Pb	20 13 38.7	+0.8
	19nm,0.3s							
DJR				Lg		Lg	20 14 23.9	
	220nm,0.4s							
KBK	Karagaybulak	3.49	300	P		Pb	20 13 39.2	-0.9
	SNR=26							
KBK	Karagaybulak	3.49	300	⇑iP		Pn	20 13 33.4	+0.4
	baz=99							
KBK				⇑iS		Sn	20 14 16.2	+1.2
	baz=99							
KUU	Kurty	3.52	326	eP		Pb	20 13 40.2	-0.3
	22nm,0.2s							
KUU				eS		Sb	20 14 26.9	+3.2
	146nm,0.8s							
KUU	Kurty	3.52	326	Pg		Pb	20 13 40.2	-0.3
	22nm,0.2s							
KUU				Lg		Lg	20 14 26.9	
	146nm,0.8s							
UCH	Uchtor	3.62	291	P		Pn	20 13 36.8	+1.7
	SNR=6.1							
UCH	Uchtor	3.62	291	⇓eP		Pn	20 13 35.5	+0.4
	baz=90							
UCH				⇓iS		Sn	20 14 20.0	+1.4
	baz=90							
KRBS	Karabastau	3.68	318	eP		Pb	20 13 43.2	0.0
	23nm,0.3s							
KRBS				eS		Sb	20 14 31.9	+3.5
	88nm,0.6s							
KRBS	Karabastau	3.68	318	Pg		Pb	20 13 43.2	0.0
	23nm,0.3s							
KRBS				Lg		Lg	20 14 31.9	
	88nm,0.6s							
FRU1	Bishkek	3.77	300	⇑eP		Pn	20 13 37.5	+0.8
	baz=99							
FRU1				⇑eS		Sn	20 14 23.5	+1.8
	baz=99							
CHMS	Chumysh	3.78	303	P		Pn	20 13 41.4	+4.5
	SNR=10							
CHMS	Chumysh	3.78	303	⇑eP		Pn	20 13 37.2	+0.4
	baz=2.0							
CHMS				⇑iS		Sn	20 14 22.9	+1.0
	baz=2.0							
CHMS	Chumysh	3.78	303	⇑Pn		Pn	20 13 36.1	-0.7
	1.0nm,0.3s							
CHMS				⇑Pg		Pb	20 13 43.3	-1.6
	11nm,0.5s							
CHMS				⇑Lg		Lg	20 14 35.9	
AAK	Ala-Archa	3.78	297	P		Pb	20 13 45.2	0.0
	SNR=13							
AAK	Ala-Archa	3.78	297	Pn		Pn	20 13 37.3	+0.3
	1.1nm,0.3s,baz=155,slow=8.3,SNR=13							
AAK				Pg		Pb	20 13 44.8	-0.3
	5.0nm,0.3s,baz=142,slow=7.0,SNR=20							
AAK				Lg		Lg	20 14 33.8	
	7.1nm,0.3s,baz=95,slow=23,SNR=14							
AAK				LR		LR	20 15 12.9	
	comp=Z,88nm,18.2s,baz=146,slow=41							
AAK	Ala-Archa	3.78	297	⇑iP		Pn	20 13 37.5	+0.5
	baz=96							
AAK				⇑iS		Sn	20 14 23.4	+1.2
	baz=96							
TDK	Taldyqorghan	4.02	353	eP		Pb	20 13 48.5	-0.5
	179nm,0.8s							
TDK				eS		Sb	20 14 40.8	+2.6
	281nm,0.5s							
TDK	Taldyqorghan	4.02	353	Pg		Pb	20 13 48.5	-0.5
	179nm,0.8s							
TDK				Lg		Lg	20 14 40.8	
	281nm,0.5s							
USP	Ospenovka	4.08	305	P		Pn	20 13 45.1	+4.2
	SNR=12							
USP	Ospenovka	4.08	305	⇑eP		Pn	20 13 41.5	+0.6
	baz=4.0							
USP				⇑iS		Sn	20 14 30.4	+1.2
	baz=4.0							
SGDS	Sogindy	4.10	308	eP		Pb	20 13 50.3	-0.1
	6.3nm,0.3s							
SGDS				eS		Sb	20 14 44.1	+3.7
	44nm,0.6s							
SGDS	Sogindy	4.10	308	Pg		Pb	20 13 50.3	-0.1
	6.3nm,0.3s							
SGDS				Lg		Lg	20 14 44.1	
	44nm,0.6s							
AML	Almayashu	4.18	287	P		Pn	20 13 43.8	+1.1
	SNR=6.8							
KAPS	Kapalarasan	4.28	3	eP		Pb	20 13 55.9	+2.4
	53nm,0.5s							
KAPS				eS		Sg	20 14 53.6	-1.4
	111nm,0.7s							
KAPS	Kapalarasan	4.28	3	Pg		Pb	20 13 55.9	+2.4
	53nm,0.5s							
KAPS				Lg		Lg	20 14 53.6	
	111nm,0.7s							
EKS2	Erkin-Say	4.28	294	P		Pb	20 13 53.9	+0.3
	SNR=6.0							
EKS2	Erkin-Say	4.28	294	⇑iP		Pn	20 13 44.4	+0.6
	baz=94							
EKS2				⇑iS		Sn	20 14 35.4	+1.0
	baz=94							
MRKS	Merke	4.69	294	eP		Pb	20 14 01.5	+1.0
	14nm,0.6s							
MRKS				eS		Sb	20 15 03.3	+5.8
	37nm,0.7s							
MRKS	Merke	4.69	294	Pg		Pb	20 14 01.5	+1.0
	14nm,0.6s							
MRKS				Lg		Lg	20 15 03.3	
	37nm,0.7s							
BTLS	Baital	5.46	319	eP		Pb	20 14 15.6	+2.1
	7.1nm,0.5s							
BTLS				eS		Sg	20 15 27.2	-5.4
	32nm,0.7s							
BTLS	Baital	5.46	319	Pg		Pb	20 14 15.6	+2.1
	7.1nm,0.5s							
BTLS				Lg		Lg	20 15 27.3	
	32nm,0.7s							
MAKZ	Makanchi	6.17	19	⇑Pn		Pn	20 14 10.3	+0.7
	0.6nm,0.2s							
MAKZ				⇑Pg		Pb	20 14 25.4	-0.2
	5.5nm,0.8s							
MAKZ				⇑Sn		Sn	20 15 22.5	+1.8
	6.1nm,0.6s							
MAKZ				⇓Lg		Lg	20 15 50.7	
	9.4nm,0.8s							
MK31	Makanchi Array	6.23	21	Pn		Pn	20 14 11.2	+0.7
	0.5nm,0.2s,baz=201,slow=12,SNR=84							
MK31				⇑Sn		Sn	20 15 21.7	-0.7
	2.4nm,0.4s							
MK31				⇑Lg		Lg	20 15 49.9	
	4.8nm,0.5s							
MKAR	Makanchi Array	6.23	21	Pn		Pn	20 14 11.6	+1.0
	1.6nm,0.3s,baz=201,slow=13,SNR=72							
MKAR				Sn		Sn	20 15 25.7	+3.3
	1.3nm,0.3s,baz=214,slow=19,SNR=4.2							
MKAR				Lg		Lg	20 15 57.9	
	1.9nm,0.3s,baz=210,slow=24,SNR=4.2							
KK31	Karatay Array	6.70	291	⇓Pg		Pb	20 14 37.5	+2.7
	2.8nm,0.7s,baz=109,slow=16,SNR=7.4							
KK31				⇑Lg		Lg	20 16 07.5	
	8.9nm,0.8s,baz=106,slow=26,SNR=8.5							
WMQ	Urumqi	6.98	63	ePn		Pn	20 14 24.1	+3.3
WMQ				Sn		Sn	20 15 43.8	+3.1
WMQ				smax		smax		
	comp=N,31nm,0.9s							
WMQ				smax		smax		
	comp=E,43nm

WRA **Warramunga Arr** **79.40 128** P P 20 24 40.3 -4.9
0.3nm,0.7s,baz=329,slow=4.7,SNR=2.0
ASAR **Alice Springs** **82.03 131** P P 20 24 54.0 -5.2
0.3nm,0.7s,baz=320,slow=4.5,SNR=4.1

IDC ***19*** *20:22:35.8±0.6, 41˚.26N×49˚.24E, h0km, mb4.1/24, mb1 4.3/34, mb1mx4.2/53, mbtmp4.2/34, ML4.3/7, MS2.9/6, Ms1 2.9/6, ms1mx2.6/85, Error ellipse: s-maj=13.0km s-min=7.9km az=175.0*
MOS ***19*** *20:22:39.7±0.0, 41˚.36N×49˚.34E, h13km, MPVA5.0*
NEIC ***19*** *20:22:42.1±2.6, 41˚.45N±0˚.03×49˚.33E±0˚.07, h49km±8km, mb4.4/69, Error ellipse: s-maj=7.7km s-min=3.7km az=108.0*
AZER ***19*** *20:22:43.0±0.1, 41˚.52N×49˚.14E, h62km, Error ellipse: s-maj=1.6km s-min=1.3km az=228.0*
DRS ***19*** *20:22:44.8±0.0, 41˚.24N×49˚.65E, h26km*
NNC ***19*** *20:22:50.0±3.3, 41˚.97N×50˚.70E, h0km, mb4.4, Error ellipse: s-maj=31.7km s-min=18.4km az=92.0*
ISC 19 20:22:41.9±0.5, 41˚.38N±0˚.02×49˚.29E±0˚.03, h52km±5km, n421, σ3ᵠ00/517, mb4.3/57, 40C-39D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIZA	**Siyzn**	**0.42**	**224**	P	**Pn**	**20 22 55.4**	**+2.9**
SIZA	SNR=3559			S	**Sn**	**20 23 06.2**	**+6.1**
ATGJ	**Altiaghaj**	**0.58**	**207**	P	**Pn**	**20 22 58.3**	**+3.9**
ATGJ	SNR=6054			S	**Sn**	**20 23 10.0**	**+6.6**
QUBA	**Quba, Azerbaij**	**0.60**	**268**	P	**Pn**	**20 22 57.9**	**+3.3**
QUBA	SNR=2291			S	**Sn**	**20 23 07.5**	**+3.8**
QSAR	**Qusar**	**0.79**	**280**	P	**Pn**	**20 23 00.1**	**+3.2**
QSAR	SNR=2483			S	**Sn**	**20 23 09.8**	**+2.0**
PQL	**Pirkuli**	**0.79**	**222**	P	**Pn**	**20 23 00.7**	**+3.7**
PQL	SNR=326			S	**Sn**	**20 23 15.1**	**+7.0**
GBS	**Qobustan**	**0.89**	**197**	P	**Pn**	**20 23 03.0**	**+4.8**
GBS	SNR=49			S	**Sn**	**20 23 17.6**	**+7.4**
XNQ	**Khinaliq**	**0.89**	**257**	P	**Pn**	**20 23 01.3**	**+2.8**
XNQ	SNR=266			S	Sn	20 23 21.1	+9.4
DRN	**Derbent**	**0.97**	**312**	⇓*i*P	**Pn**	**20 23 01.9**	**+2.7**
DRN				*e*S	**Sn**	**20 23 15.8**	**+3.8**
DRN				*i* S	**Sn**	**20 23 16.2**	**+4.2**
DRN	comp=Z,2μm,0.4s			pmax	pmax		
DRN	comp=N,29μm,0.4s			smax	smax		
DRN	**Derbent**	**0.97**	**312**	*e*Pg	**Pn**	**20 23 00.7**	**+1.4**
IML	**Ismayilli**	**1.02**	**235**	P	**Pn**	**20 23 02.9**	**+2.9**
IML	SNR=120			S	**Sn**	**20 23 18.1**	**+4.7**
GOBA	**Gobu**	**1.03**	**161**	P	Pn	20 23 05.3	+5.2
GOBA	SNR=43			S	Sn	20 23 24.0	+10
AKT	**Akhty**	**1.18**	**275**	*d*iP	**Pn**	**20 23 04.6**	**+2.4**
AKT	**Akhty**	**1.18**	**275**	*e*Pg	**Pn**	**20 23 05.0**	**+2.8**
AKT				*e*Sg	**Sn**	**20 23 22.1**	**+4.9**
QBL	**Gabala**	**1.18**	**249**	P	**Pn**	**20 23 04.7**	**+2.5**
QBL	SNR=143			S	**Sn**	**20 23 20.4**	**+3.2**
KDMR	**Kurdemir**	**1.31**	**220**	Pn	**Pn**	**20 23 06.6**	**+2.8**
KDMR	SNR=19			Sn	**Sn**	**20 23 25.2**	**+5.0**
ALIB	**Äli-Bayra**	**1.44**	**189**	Pn	Pn	20 23 10.7	+5.1
ALIB	SNR=16			Sn	**Sn**	**20 23 30.8**	**+7.5**
URKR	**Urkarakh**	**1.47**	**303**	*e*P	**Pn**	**20 23 10.2**	**+4.1**
URKR				*e*S	**Sn**	**20 23 30.2**	**+5.9**
URKR	**Urkarakh**	**1.47**	**303**	*e*Pg	**Pn**	**20 23 10.2**	**+4.1**
URKR				*e*Sg	**Sn**	**20 23 30.2**	**+5.9**
SEKA	**Sheki**	**1.59**	**264**	P	**Pn**	**20 23 09.9**	**+2.2**
SEKA	**Sheki**	**1.59**	**264**	Pg	**Pn**	**20 23 10.1**	**+2.4**
SEKA	SNR=405			Sg	**Sn**	**20 23 31.2**	**+4.1**
SGKR	**Sergokala**	**1.63**	**312**	*e*P	**Pn**	**20 23 12.2**	**+4.0**
SGKR				*e*S	**Sn**	**20 23 34.2**	**+6.2**
SGKR				*i* S	**Sn**	**20 23 34.8**	**+6.8**
SGKR	comp=Z,9.0nm,0.2s			pmax	pmax		
SGKR	comp=E,5μm,0.5s			smax	smax		
SGKR	comp=N,7μm,0.5s			smax	smax		
SGKR	comp=N,6μm,0.5s			smax	smax		
SGKR	**Sergokala**	**1.63**	**312**	*e*Pg	**Pn**	**20 23 12.2**	**+4.0**
SGKR				*e*Sg	**Sn**	**20 23 35.3**	**+7.2**
ZRD	**Zardab**	**1.64**	**228**	Pn	**Pn**	**20 23 11.1**	**+2.7**
ZRD	SNR=66			Sn	**Sn**	**20 23 33.2**	**+4.9**
SAAT	**Saatly**	**1.66**	**204**	Pn	**Pn**	**20 23 12.2**	**+3.6**
SAAT	SNR=23			Sn	**Sn**	**20 23 34.2**	**+5.5**
MNGR	**Mingechevir, A**	**1.77**	**251**	P	**Pn**	**20 23 12.7**	**+2.5**
MNGR	**Mingechevir, A**	**1.77**	**251**	Pn	**Pn**	**20 23 13.0**	**+2.8**
MNGR	SNR=33			Sn	**Sn**	**20 23 34.4**	**+2.8**
KMKR	**Kumukh**	**1.80**	**295**	*e*P	**Pn**	**20 23 15.1**	**+4.3**
KMKR				*e*S	**Sn**	**20 23 39.7**	**+7.1**
KMKR	**Kumukh**	**1.80**	**295**	*e*Pg	**Pn**	**20 23 15.1**	**+4.3**
KMKR				*e*Sg	**Sn**	**20 23 39.7**	**+7.1**
BRDA	**Brd**	**1.95**	**236**	Pn	**Pn**	**20 23 15.2**	**+2.6**
BRDA	SNR=5.9			Sn	**Sn**	**20 23 40.9**	**+4.9**
GNBR	**Gunib**	**2.01**	**301**	*d* iP	**Pn**	**20 23 17.3**	**+3.9**
GNBR	**Gunib**	**2.01**	**301**	*e*Pg	**Pn**	**20 23 17.7**	**+4.3**
GNBR				*e*Sg	**Sn**	**20 23 44.7**	**+7.3**
ZKTA	**Zakatala**	**2.02**	**278**	P	**Pn**	**20 23 16.3**	**+2.7**
ZKTA	**Zakatala**	**2.02**	**278**	Pg	**Pn**	**20 23 16.5**	**+2.9**
ZKTA	SNR=171			Sg	**Sn**	**20 23 45.6**	**+8.0**
MAK	**Makhachkala**	**2.06**	**321**	⇑*i*P	**Pn**	**20 23 17.9**	**+3.8**
MAK				*e*S	**Sn**	**20 23 43.0**	**+4.4**
MAK				*e*S	**Sn**	**20 23 43.3**	**+4.7**
MAK	comp=Z,292nm,0.3s			pmax	pmax		
MAK	comp=E,4μm,0.6s			smax	smax		
MAK	comp=N,3μm,0.5s			smax	smax		
MAK	comp=E,4μm,0.7s			smax	smax		
MAK	comp=Z,620nm,2.0s			MLR	MLR		
MAK	**Makhachkala**	**2.06**	**321**	*e*Pg	**Pn**	**20 23 18.2**	**+4.1**
MAK				*e*Sg	**Sn**	**20 23 46.6**	**+8.0**
AGDM	**Agdam**	**2.09**	**233**	Pn	**Pn**	**20 23 16.5**	**+1.9**
AGDM	SNR=184			Sn	**Sn**	**20 23 42.6**	**+3.3**
ARKR	**Arakani**	**2.10**	**306**	*e*P	**Pn**	**20 23 18.9**	**+4.2**
ARKR				*e*S	**Sn**	**20 23 46.7**	**+7.0**
ARKR				*i* S	**Sn**	**20 23 47.0**	**+7.3**
ARKR	comp=Z,278nm,0.3s			pmax	pmax		
ARKR	comp=N,2μm,0.5s			smax	smax		
ARKR	comp=E,2μm,0.6s			smax	smax		
ARKR	comp=N,2μm,0.6s			smax	smax		
ARKR	**Arakani**	**2.10**	**306**	*e*Pg	**Pn**	**20 23 18.9**	**+4.2**
ARKR				*e*Sg	**Sn**	**20 23 46.7**	**+7.0**
BLQ	**Beylaqan**	**2.12**	**219**	Pn	**Pn**	**20 23 16.8**	**+1.9**
BLQ	SNR=8.0			Sn	**Sn**	**20 23 41.6**	**+1.6**
BUJR	**Buynaksk**	**2.17**	**312**	*e*P	**Pn**	**20 23 20.1**	**+4.4**
BUJR				*e*S	**Sn**	**20 23 48.5**	**+7.1**
BUJR	**Buynaksk**	**2.17**	**312**	*e*Pg	**Pn**	**20 23 20.1**	**+4.4**
BUJR				*e*Sg	**Sn**	**20 23 48.5**	**+7.1**
GLBA	**Clilabad**	**2.24**	**198**	Pn	**Pn**	**20 23 18.9**	**+2.3**
	SNR=8.9						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLBA					Sn	**Sn**	**20 23 45.5**	**+2.4**
XNZR	**Khunzakh**	**2.25**	**302**	*i* P	**Pn**	**20 23 21.2**	**+4.4**
XNZR				*e*S	**Sn**	**20 23 50.6**	**+7.1**
XNZR				*i* S	**Sn**	**20 23 51.9**	**+8.4**
XNZR	comp=Z,435nm,0.6s			pmax	pmax		
XNZR	comp=E,2μm,0.4s			smax	smax		
XNZR	comp=N,1μm,0.4s			smax	smax		
XNZR	comp=E,2μm,0.5s			smax	smax		
XNZR	**Khunzakh**	**2.25**	**302**	*e*Pn	**Pn**	**20 23 21.2**	**+4.4**
XNZR				*e*Sn	**Sn**	**20 23 50.6**	**+7.1**
KANR	**Karaman**	**2.25**	**324**	*e*P	**Pn**	**20 23 20.9**	**+4.2**
KANR				*e*S	**Sn**	**20 23 49.6**	**+6.3**
KANR	**Karaman**	**2.25**	**324**	*e*Pn	**Pn**	**20 23 20.9**	**+4.2**
KANR				*e*Sn	**Sn**	**20 23 49.6**	**+6.3**
UNCR	**Uncukul**	**2.29**	**306**	*e*P	**Pn**	**20 23 21.5**	**+4.3**
UNCR				*e*S	**Sn**	**20 23 51.4**	**+7.2**
UNCR				*i* S	**Sn**	**20 23 52.0**	**+7.8**
UNCR	comp=Z,308nm,0.5s			pmax	pmax		
UNCR	comp=E,1μm,0.4s			smax	smax		
UNCR	comp=N,2μm,0.4s			smax	smax		
UNCR	comp=N,2μm,0.8s			smax	smax		
UNCR	**Uncukul**	**2.29**	**306**	*e*Pn	**Pn**	**20 23 21.5**	**+4.3**
UNCR				*e*Sn	**Sn**	**20 23 51.5**	**+7.2**
KRNR	**Karanay**	**2.29**	**310**	*e*P	**Pn**	**20 23 21.5**	**+4.2**
KRNR				*e*S	**Sn**	**20 23 50.7**	**+6.4**
KRNR	**Karanay**	**2.29**	**310**	*e*Pn	**Pn**	**20 23 21.4**	**+4.2**
KRNR				*e*Sn	**Sn**	**20 23 50.7**	**+6.4**
GANJ	**Ganja**	**2.36**	**253**	P	**Pn**	**20 23 19.6**	**+1.3**
GANJ	**Ganja**	**2.36**	**253**	Pn	**Pn**	**20 23 19.6**	**+1.3**
GANJ	SNR=254			Sn	**Sn**	**20 23 46.3**	**+0.2**
QRD	**Qoradiz**	**2.44**	**219**	Pn	**Pn**	**20 23 21.3**	**+2.0**
QRD	SNR=6.7			Sn	**Sn**	**20 23 48.8**	**+0.9**
DBC	**Dubki**	**2.46**	**313**	*d* iP	**Pn**	**20 23 23.3**	**+3.7**
DBC	**Dubki**	**2.46**	**313**	*i* Pn	**Pn**	**20 23 23.5**	**+4.0**
DBC				*e*Sn	**Sn**	**20 23 55.1**	**+6.7**
YRD	**Yardimli**	**2.59**	**198**	Pn	**Pn**	**20 23 23.1**	**+1.5**
YRD	SNR=49			Sn	**Sn**	**20 23 53.3**	**+1.4**
DLMR	**Dylym**	**2.60**	**311**	*e*P	**Pn**	**20 23 26.2**	**+4.7**
DLMR				*e*S	**Sn**	**20 23 59.4**	**+7.6**
DLMR				*i* S	**Sn**	**20 23 59.9**	**+8.1**
DLMR	comp=Z,480nm,0.5s			pmax	pmax		
DLMR	comp=E,4μm,0.6s			smax	smax		
DLMR	comp=N,3μm,0.4s			smax	smax		
DLMR	comp=E,4μm,0.5s			smax	smax		
DLMR	**Dylym**	**2.60**	**311**	*e*Pn	**Pn**	**20 23 26.2**	**+4.7**
DLMR				*e*Sn	**Sn**	**20 23 59.4**	**+7.6**
BTLR	**Botlikh**	**2.62**	**300**	*de*P	**Pn**	**20 23 25.3**	**+3.5**
BTLR	**Botlikh**	**2.62**	**300**	*e*Pn	**Pn**	**20 23 25.5**	**+3.7**
BTLR				*e*Sn	**Sn**	**20 23 59.0**	**+6.5**
LKRN	**Lenkeran, Azer**	**2.70**	**189**	P	Pn	20 23 27.7	+4.9
LKRN	**Lenkeran, Azer**	**2.70**	**189**	Pn	Pn	20 23 27.7	+4.9
LKRN				Sn	**Sn**	**20 23 55.7**	**+1.5**
GDB	**GEDABAY**	**2.75**	**257**	Pn	**Pn**	**20 23 24.8**	**+1.1**
GDB	SNR=557			Sn	**Sn**	**20 23 55.8**	**-0.1**
LRK	**Lerik**	**2.83**	**195**	Pn	**Pn**	**20 23 26.1**	**+1.3**
LRK	SNR=5.5			Sn	**Sn**	**20 23 59.1**	**+1.3**
ASTR	**Astara**	**2.84**	**188**	Pn	**Pn**	**20 23 26.1**	**+1.3**
ASTR				Sn	**Sn**	**20 23 58.9**	**+1.1**
QZX	**Qazax, Azerbai**	**2.97**	**265**	Pn	**Pn**	**20 23 28.1**	**+1.5**
QZX	SNR=100			Sn	**Sn**	**20 24 01.4**	**+0.3**
GROC	**Groznyy**	**3.17**	**306**	*ce*P	**Pn**	**20 23 33.5**	**+4.3**
GROC	**Groznyy**	**3.17**	**306**	*e*Pn	**Pn**	**20 23 33.6**	**+4.3**
GROC				*e*Sn	**Sn**	**20 24 12.3**	**+6.5**
SBZ	**Shahbuz**	**3.48**	**236**	Pn	**Pn**	**20 23 36.2**	**+2.6**
SBZ	SNR=25			Sn	**Sn**	**20 24 14.4**	**+0.8**
ORD	**Ordubad**	**3.52**	**227**	Pn	**Pn**	**20 23 36.8**	**+2.6**
ORD	SNR=16			Sn	**Sn**	**20 24 16.9**	**+2.3**
NAX	**Nakhchivan**	**3.65**	**234**	P	**Pn**	**20 23 38.6**	**+2.7**
NAX	**Nakhchivan**	**3.65**	**234**	Pn	**Pn**	**20 23 38.2**	**+2.3**
NAX				Sn	**Sn**	**20 24 21.2**	**+3.6**
GNI	**Garni**	**3.67**	**252**	Pn	**Pn**	**20 23 37.5**	**+1.2**
GNI	comp=E,4.1nm,0.3s,baz=67,slow=4.9,SNR=18				Sn	**Sn**	**20 24 23.5**	**+5.2**
GNI	comp=E,14nm,0.3s,baz=223,slow=22,SNR=2.6							
GNI	**Garni**	**3.67**	**252**	*d* iP	**Pn**	**20 23 38.7**	**+2.4**
GNI	comp=Z,18nm,0.7s			pmax	pmax		
GNI	**Garni**	**3.67**	**252**		**Pn**	**20 23 38.6**	**+2.4**
KMGR	**Komgaron**	**3.69**	**298**	*i* P	**Pn**	**20 23 39.4**	**+2.9**
KMGR				*e*S	**Sn**	**20 24 23.9**	**+5.2**
KMGR	**Komgaron**	**3.69**	**298**	*i* Pn	**Pn**	**20 23 39.4**	**+2.9**
KMGR				*e*Sn	**Sn**	**20 24 23.9**	**+5.2**
HYR	**Heyderabad**	**3.77**	**245**	Pn	**Pn**	**20 23 40.2**	**+2.7**
HYR	SNR=8.9			Sn	**Sn**	**20 24 20.6**	**0.0**
VLKR	**Vladikavkaz**	**3.81**	**297**	*i* P	**Pn**	**20 23 41.6**	**+3.5**
VLKR				*e*S	**Sn**	**20 24 26.5**	**+4.8**
VLKR	**Vladikavkaz**	**3.81**	**297**	*i* Pn	**Pn**	**20 23 41.6**	**+3.5**
VLKR				*e*Sn	**Sn**	**20 24 26.5**	**+4.8**
LACR	**Lac**	**3.99**	**293**	*d* iP	**Pn**	**20 23 42.8**	**+2.2**
LACR	**Lac**	**3.99**	**293**	*e*Pn	**Pn**	**20 23 43.1**	**+2.5**
BTKR	**Batakoyurt**	**4.04**	**301**	*e*P	**Pn**	**20 23 44.0**	**+2.8**
BTKR	**Batakoyurt**	**4.04**	**301**	*e*Pn	**Pn**	**20 23 44.0**	**+2.8**
TRKR	**Terskaya**	**4.10**	**306**	*e*P	**Pn**	**20 23 44.7**	**+2.7**
TRKR	**Terskaya**	**4.10**	**306**	*e*Pn	**Pn**	**20 23 44.7**	**+2.7**
ARNR	**Ardon**	**4.13**	**297**	⇓*i*P	**Pn**	**20 23 45.4**	**+3.0**
ARNR				*e*S	**Sn**	**20 24 35.0**	**+5.6**
ARNR	**Ardon**	**4.13**	**297**	*i* Pn	**Pn**	**20 23 45.4**	**+3.0**
ARNR				*e*Sn	**Sn**	**20 24 35.0**	**+5.6**
KORR	**Kora**	**4.24**	**295**	*c* iP	**Pn**	**20 23 47.3**	**+3.4**
KORR	**Kora**	**4.24**	**295**	*e*Pn	**Pn**	**20 23 46.8**	**+2.8**
KORR				*e*Sn	**Sn**	**20 24 36.8**	**+4.7**
ZEI	**Tsey**	**4.25**	**291**	*e*P	**Pn**	**20 23 45.2**	**+0.9**
ZEI	comp=Z,27nm,0.6s			pmax	pmax		
ZEI	**Tsey**	**4.25**	**291**	*e*Pn	**Pn**	**20 23 46.5**	**+2.3**
STDR	**Stavd-Durt**	**4.35**	**299**	*e*P	**Pn**	**20 23 48.3**	**+2.8**
STDR	**Stavd-Durt**	**4.35**	**299**	*e*Pn	**Pn**	**20 23 48.3**	**+2.8**
PRTR	**Priterechnaya**	**4.39**	**304**	*i* P	**Pn**	**20 23 48.7**	**+2.7**
PRTR	**Priterechnaya**	**4.39**	**304**	*i* Pn	**Pn**	**20 23 48.7**	**+2.7**
PRTR				*e*Sn	**Sn**	**20 24 40.0**	**+4.1**
LSNR	**Lesken**	**4.47**	**297**	*de*P	**Pn**	**20 23 49.1**	**+1.9**
LSNR	**Lesken**	**4.47**	**297**	*i* Pn	**Pn**	**20 23 50.5**	**+3.3**
LSNR				*e*Sn	**Sn**	**20 24 43.0**	**+5.1**
DIGR	**Digorskoe uzhe**	**4.51**	**292**	*ce*P	**Pn**	**20 23 50.1**	**+2.3**
DIGR	**Digorskoe uzhe**	**4.51**	**292**	*e*Pn	**Pn**	**20 23 50.1**	**+2.3**
DIGR				*e*Sn	**Sn**	**20 24 43.4**	**+4.3**
ONI	**Oni**	**4.52**	**287**	*d* iP	**Pn**	**20 23 50.4**	**+2.6**
ONI	**Oni**	**4.52**	**287**		**Pn**	**20 23 50.3**	**+2.5**
NCK	**Nalchik**	**4.71**	**299**	⇓*e*P	**Pn**	**20 23 52.6**	**+2.1**
NCK	**Nalchik**	**4.71**	**299**	*i* Pn	**Pn**	**20 23 52.8**	**+2.3**
NCK				*e*Sn	**Sn**	**20 24 48.1**	**+4.3**
KARS	**Kars**	**4.76**	**263**	P	**Pn**	**20 23 53.5**	**+2.3**
KARS	**Kars**	**4.76**	**263**		**Pn**	**20 23 53.5**	**+2.3**
KBZ	**Khabaz**	**5.27**	**299**	Pn	**Pn**	**20 23 58.2**	**+0.2**
KBZ	comp=Z,0.9nm,0.3s,baz=123,slow=2.4,SNR=69				Sn	**Sn**	**20 24 59.9**	**+2.5**
KBZ	comp=Z,4.6nm,0.3s,baz=231,slow=20,SNR=4.4							
KBZ	**Khabaz**	**5.27**	**299**	*d* iP	**Pn**	**20 23 58.5**	**+0.4**
KBZ	**Khabaz**	**5.27**	**299**	*e*Pn	**Pn**	**20 24 01.0**	**+3.0**
KBZ				*e*Sn	**Sn**	**20 25 01.3**	**+3.8**
PYA1	**Pyatigorsk**	**5.29**	**302**	*de*P	**Pn**	**20 23 59.2**	**+0.8**
SHA1	**Shidzhatmaz**	**5.44**	**298**	*d* iP	**Pn**	**20 24 01.3**	**+0.7**
SHA1	**Shidzhatmaz**	**5.44**	**298**	*e*Pn	**Pn**	**20 24 03.1**	**+2.5**
KIV	**Kislovodsk**	**5.51**	**300**	*e*P	**Pn**	**20 24 01.9**	**+0.5**
KIV				*e*S	**Sn**	**20 25 03.9**	**+0.5**
KIV	comp=Z,19nm,1.0s			pmax	pmax		
KIV	comp=Z,11nm,8.0s			MLR	MLR		
KIV	**Kislovodsk**	**5.51**	**300**		**Pn**	**20 24 01.9**	**+0.5**
KIV	**Kislovodsk**	**5.51**	**300**	*e*Pn	**Pn**	**20 24 04.2**	**+2.8**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALER	**Alexandrovskoy**	**5.76**	**308**	*i* P	**Pn**	**20 24 07.3**	**+2.5**
ALER	**Alexandrovskoy**	**5.76**	**308**	*i* Pn	**Pn**	**20 24 07.3**	**+2.5**
GOF	**Gofitskoye**	**5.86**	**311**	⇑*e*P	**Pn**	**20 24 07.3**	**+1.2**
GOF				*e*S	**Sn**	**20 25 09.9**	**-2.0**
GOF	comp=Z,34nm,0.6s			pmax	pmax		
GOF	comp=E,70nm,0.4s			smax	smax		
GOF	comp=N,91nm,0.7s			smax	smax		
GOF	**Gofitskoye**	**5.86**	**311**	*e*Pn	**Pn**	**20 24 08.6**	**+2.4**
GURO	**Guroymak-BITLI**	**6.25**	**245**	Pn	**Pn**	**20 24 11.9**	**+0.2**
AHMR	**Akhmetovskaya**	**6.67**	**297**	*e*P	**Pn**	**20 24 20.4**	**+3.1**
AHMR	**Akhmetovskaya**	**6.67**	**297**	*e*Pn	**Pn**	**20 24 20.4**	**+3.1**
KOPT	**Kop Dagi**	**6.82**	**261**		**Pn**	**20 24 22.4**	**+2.8**
RPOR	**Krasnaya Polya**	**7.06**	**292**	*e*P	**Pn**	**20 24 25.5**	**+2.9**
RPOR	**Krasnaya Polya**	**7.06**	**292**	*e*Pn	**Pn**	**20 24 25.5**	**+2.9**
GUZR	**Guzeripl'**	**7.25**	**294**	*e*P	**Pn**	**20 24 28.1**	**+2.9**
GUZR	**Guzeripl'**	**7.25**	**294**	*e*Pn	**Pn**	**20 24 28.1**	**+2.9**
SOC	**Sochi**	**7.41**	**290**	*e*P	**Pn**	**20 24 27.7**	**+0.3**
SOC				*e*		20 25 50.3	
SOC	comp=Z,25nm,13.0s			MLR	MLR		
GEYT	**Alibeck**	**7.63**	**114**	Pn	**Pn**	**20 24 29.5**	**-0.9**
GEYT	comp=Z,1.0nm,0.3s,baz=297,slow=14,SNR=17			Sn	**Sn**	**20 25 52.3**	**-3.2**
GEYT	comp=Z,3.6nm,0.3s,baz=296,slow=11,SNR=1.6			LR	LR	20 28 18.4	
GEYT	**Alibeck**	**7.63**	**114**	Pn	**Pn**	**20 24 29.3**	**-1.2**
GYA0	**ALIBECK ARRAY**	**7.63**	**114**	P	**Pn**	**20 24 31.8**	**+1.3**
GYA0				S	**Sn**	**20 25 57.5**	**+1.9**
GYA0B	**ALIBECK ARRAY**	**7.63**	**114**	Pn	**Pn**	**20 24 30.6**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**7.63**	**114**	⇑Pn	**Pn**	**20 24 31.8**	**+1.4**
GYA0B				⇓Sn	**Sn**	**20 25 57.5**	**+2.0**
ANN	**Anapa**	**9.32**	**295**	*e*P	**Pn**	**20 24 55.4**	**+1.9**
ANN				*e*S	**Sn**	**20 26 40.0**	**+3.1**
ANN	comp=Z,69nm,1.7s			pmax	pmax		
AB31	**Akbulak array**	**10.87**	**40**	P	**Pn**	**20 25 13.3**	**-1.3**
AB31				S	**Sn**	**20 27 09.2**	**-5.4**
AB31	**Akbulak array**	**10.87**	**40**	Pn	**Pn**	**20 25 13.3**	**-1.3**
AB31	comp=Z,2.3nm,0.2s,baz=222,slow=13,SNR=221			⇑Sn	**Sn**	**20 27 09.2**	**-5.4**
ABKAR	comp=Z,7.3nm,0.3s,baz=265,slow=62,SNR=4.8 **Akbulak array**	**10.87**	**40**		**Pn**	**20 25 13.1**	**-1.5**
ABKAR	**Akbulak array**	**10.87**	**40**		**Pn**	**20 25 12.9**	**-1.7**
AKTO	**Aktyubinsk**	**10.90**	**31**	Pn	**Pn**	**20 25 14.6**	**-0.4**
AKTO	comp=Z,6.8nm,0.3s,baz=202,slow=11,SNR=115			Sn	**Sn**	**20 27 07.5**	**-7.9**
AKTO	comp=Z,7.4nm,0.3s,baz=315,slow=24,SNR=13			LR	LR	20 30 31.4	
AKTO	comp=Z,69nm,18.2s,baz=263,slow=43 **Aktyubinsk**	**10.90**	**31**	P	**Pn**	**20 25 14.3**	**-0.8**
AKTO	**Aktyubinsk**	**10.90**	**31**	⇓Pn	**Pn**	**20 25 14.3**	**-0.8**
AKTO	comp=Z,12nm,0.3s			⇓Sn	**Sn**	**20 27 07.2**	**-8.3**
BELG	comp=Z,48nm,0.6s **Belogornoye**	**11.07**	**355**	Pn	**Pn**	**20 25 16.9**	**-0.6**
BELG	comp=Z,8.1nm,0.3s,baz=10,slow=2.2,SNR=35			Sn	**Sn**	**20 27 11.7**	**-8.0**
BELG	comp=Z,9.9nm,0.3s,baz=171,slow=20,SNR=12 **Belogornoye**	**11.07**	**355**	*d* iP	**Pn**	**20 25 17.1**	**-0.3**
VRH	**Novokhopyorsk**	**11.12**	**335**	*e*P	**Pn**	**20 25 18.5**	**+0.4**
VRH	comp=Z,6.0nm,0.6s			pmax	pmax		
BZK	**Bozkurt**	**11.45**	**278**	Pn	**Pn**	**20 25 22.3**	**-0.3**
ILGA	**Ilgaz**	**11.74**	**274**	Pn	**Pn**	**20 25 23.6**	**-3.2**
BRTR	**Keskin Array B**	**12.02**	**267**	LR	LR	20 30 45.6	
VSR	comp=Z,94nm,21.8s,baz=97,slow=41 **Storozhevoye**	**12.06**	**328**	*e*P	**Pn**	**20 25 30.9**	**0.0**
VSR	comp=Z,9.0nm,1.1s			pmax	pmax		
VORR	**Voronezh**	**12.40**	**329**	*e*P	**Pn**	**20 25 35.9**	**+0.4**
VORR	comp=Z,30nm,0.4s			pmax	pmax		
LPSR	**Galich'ya Gora**	**13.25**	**331**	*e*P	**Pn**	**20 25 47.0**	**-0.1**
LPSR	comp=Z,6.0nm,0.6s			pmax	pmax		
MMAI	**Mount Meron Ar**	**13.85**	**237**	LR	LR	20 32 18.2	
BORA	comp=Z,89nm,18.5s,baz=205,slow=42 **Eskisehir**	**14.39**	**270**	Pn	**Pn**	**20 26 03.2**	**+0.6**
GHAJ	**Ghor Haditha**	**14.93**	**232**	Pn	**Pn**	**20 26 08.4**	**-1.3**
TLCR		**15.38**	**291**	⇑P	**Pn**	**20 26 16.0**	**+0.5**
TLCR		**15.38**	**291**	⇑P	**Pn**	**20 26 16.0**	**+0.5**
CHGR	**Chuyangaron**	**15.46**	**94**	P	**P**	**20 26 18.8**	**-1.5**
CHGR	comp=Z,71nm,0.6s			pmax	pmax		
CHGR	**Chuyangaron**	**15.46**	**94**	P	**P**	**20 26 18.8**	**-1.5**
IUG	**luzhnay**	**15.50**	**80**	*e*P	**Pn**	**20 26 16.4**	**-0.7**
IUG	**luzhnay**	**15.50**	**80**	*e*P	**Pn**	**20 26 16.4**	**-0.7**
MILM	baz=81 **Milestii Mici**	**15.69**	**298**	*e*P	**P**	**20 26 22.0**	**-0.6**
MILM	comp=Z,30nm,0.9s **Milestii Mici**	**15.69**	**298**	⇑P	**P**	**20 26 22.1**	**-0.6**
MILM	**Milestii Mici**	**15.69**	**298**	*e*P	**P**	**20 26 22.0**	**-0.6**
MILM	comp=Z,30nm,0.9s			pmax	pmax		
ELL	**Elmali**	**15.74**	**259**	P	**Pn**	**20 26 20.2**	**-0.1**
ELL	comp=Z,29nm,0.7s			pmax	pmax		
ELL	**Elmali**	**15.74**	**259**	P	**Pn**	**20 26 20.2**	**-0.1**
ELL	comp=Z,29nm,0.7s			IAmb	IAmb	20 26 28.2	
KK31	**Karatay Array**	**15.81**	**77**	P	**Pn**	**20 26 19.6**	**-1.4**
KK31	comp=Z,16nm,0.6s			pmax	pmax		
KK31	**Karatay Array**	**15.81**	**77**		**Pn**	**20 26 19.6**	**-1.4**
KK31	comp=Z,16nm,0.6s			IAmb	IAmb	20 26 26.4	
KK31	**Karatay Array**	**15.81**	**77**	Pn	**Pn**	**

PLOR Plostina 16.98 293 ⇓P Pn 20 26 36.7 +1.0
KBL Kabul 16.99 107 P P 20 26 37.6 +0.2
KBL pmax pmax
comp=Z,5.0nm,1.0s
KBL Kabul 16.99 107 P P 20 26 37.6 +0.2
TESR Tescani 17.07 295 ⇑P Pn 20 26 36.2 -0.6
SVE Sverdlovsk 17.11 22 eP Pn 20 26 35.5 -1.7
SVE eS Sn 20 29 34.9 -12
SVE pmax pmax
comp=Z,38nm,0.9s
KIRV Kirov 17.22 0 P Pn 20 26 36.7 -1.8
comp=Z,3.6nm,0.3s,baz=180,slow=5.8,SNR=10
KIRV S Sn 20 29 37.0 -12
comp=Z,3.5nm,0.3s,baz=239,slow=22,SNR=7.0
KIRV Kirov 17.22 0d iP Pn 20 26 36.3 -2.2
MLR Muntele Rosu 17.43 291 ⇑P P 20 26 43.8 +1.8
MLR Muntele Rosu 17.43 291 P P 20 26 42.4 +0.4
comp=Z,0.3nm,0.3s,baz=343,slow=8.1,SNR=6.9
MLR Muntele Rosu 17.43 291 ⇑P P 20 26 43.8 +1.8
MLR Muntele Rosu 17.43 291 P Pn 20 26 41.9 +0.5
ALN Alexandroupoli 17.51 276 P Pn 20 26 41.9 -0.4
ALN pmax pmax
comp=Z,12nm,1.4s
ALN Alexandroupoli 17.51 276 Pn 20 26 41.9 -0.4
OTUK Ortayu 17.70 59 ⇑Pn Pn 20 26 44.3 -0.2
comp=Z,15nm,0.8s
OTUK ⇑Sn Sn 20 29 47.6 -13
comp=Z,30nm,0.8s
DOPR Dopca 17.86 293 ⇑P P 20 26 47.4 +0.7
VOIR 18.05 291 ⇑P Pn 20 26 49.6 +0.6
VOIR 18.05 291 ⇑P Pn 20 26 49.6 +0.6
AML Almayashu 18.21 80 P Pn 20 26 54.2 +2.9
SNR=8.9
EKS2 Erkin-Say 18.23 78 P Pn 20 26 53.9 +2.7
SNR=7.1
BURAR Bucovina Array 18.23 298 ⇑ Pn 20 26 52.9 +1.8
BURAR Bucovina Array 18.23 298 P Pn 20 26 52.9 +1.8
BURAR Bucovina Array 18.23 298 P P 20 26 50.1 -0.7
BURAR IAmb IAmb 20 26 51.9
comp=Z,11nm,0.5s
BUR08 Bucovina Ar. S 18.25 298 P P 20 26 49.6 -1.5
KARP Karpathos 18.26 259 P Pn 20 26 51.8 +0.3
KARP IAmb IAmb 20 26 53.3
comp=Z,30nm,0.9s
ARR Arges 18.34 291 ⇑P Pn 20 26 52.8 +0.3
BRVK Borovoye 18.35 43 deP P 20 26 51.8 -0.2
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 18.35 43 P 20 26 50.4 -1.6
BRVK Borovoye 18.35 43 ⇓Pn P 20 26 51.6 -0.4
comp=Z,7.1nm,0.6s
BRVK ⇑Sn Sn 20 30 04.2 -12
comp=Z,9.6nm,0.8s
BTLS Baital 18.39 70 eP Pn 20 26 52.9 -0.1
BTLS Baital 18.39 70 eP Pn 20 26 52.9 -0.1
baz=71
BVAR Borovoye Array 18.39 44 P Pn 20 26 53.6 +0.7
BRZS Berezniki 18.41 54 eP P 20 26 52.2 -0.4
BRZS pmax pmax
comp=Z,4.0nm,0.5s
BRZS Berezniki 18.41 54 eP P 20 26 52.3 -0.4
comp=Z,3.9nm,0.5s,baz=55
USP Ospenovka 18.72 76 P Pn 20 26 58.4 +1.4
SNR=6.7
AAK Ala-Archa 18.76 78 P Pn 20 26 59.1 +1.5
SNR=16
AAK Ala-Archa 18.76 78 P Pn 20 26 58.5 +1.0
comp=Z,1.2nm,0.3s,baz=248,slow=4.8,SNR=32
AAK LR LR 20 35 05.7
comp=Z,72nm,19.5s,baz=317,slow=40
AAK Ala-Archa 18.76 78 c iP Pn 20 26 58.8 +1.2
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 18.76 78 P P 20 26 56.5 -0.1
SGDS Sogindy 18.80 75 eP P 20 26 56.8 -0.3
SGDS Sogindy 18.80 75 eP P 20 26 56.9 -0.3
baz=76
UCH Uchtor 18.81 79 P Pn 20 27 00.4 +1.9
SNR=10
FRU1 Bishkek 18.84 77 P P 20 26 56.7 -0.8
FRU1 pmax pmax
comp=Z,12nm,0.6s
FRU1 Bishkek 18.84 77 P P 20 26 56.7 -0.8
FRU1 IAmb IAmb 20 27 00.6
comp=Z,12nm,0.6s
CHMS Chumysh 18.92 77 P Pn 20 26 59.9 +0.5
CHMS Chumysh 18.92 77 ⇓Pn Pn 20 26 59.9 +0.5
comp=Z,9.0nm,0.9s
KBK Karagaybulak 19.09 78 P Pn 20 27 02.8 +1.2
SNR=15
MNK Minsk 19.34 320 iP P 20 27 01.0 -1.7
MNK iS S 20 30 35.3 -3.3
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=N,12nm,0.8s
MNK MLR MLR
comp=Z,29nm,8.0s
MNK MLR MLR
comp=N,223nm,18.0s
MNK MLR MLR
comp=E,250nm,17.0s
MNK Minsk 19.34 320 iP P 20 27 01.0 -1.7
comp=E,2.0nm,0.8s
MNK iP P 20 27 01.0 -1.7
comp=N,12nm,0.8s
MNK iP P 20 27 01.0 -1.7
comp=Z,16nm,0.8s,baz=124
MNK ipP pP 20 27 15.2 +0.8
MNK iS S 20 30 35.4 -3.3
MNK isS sS 20 30 53.6 -3.9
MNK iSS SnSn 20 30 54.5 -0.3
MNK iLQ LQ 20 32 53.0
MNK iLR LR 20 34 20.7
MNK iLRM MLR 20 37 29.9
comp=Z,29nm,7.6s
MNK iLRM MLR 20 37 30.7
comp=N,223nm,17.8s
MNK iLRM MLR 20 37 40.1
comp=E,250nm,16.9s
VTS Vitosha 19.39 282 ⇑P Pn 20 27 05.6 +0.5
VTS Vitosha 19.39 282 ⇑P Pn 20 27 05.6 +0.5
VTS Vitosha 19.39 282 P P 20 27 03.6 0.0
TKM2 Tokmak 2 19.54 77 P Pn 20 27 07.0 +0.1
SNR=9.3
TKM2 Tokmak 2 19.54 77 P Pn 20 27 06.3 -0.7
TKM2 Tokmak 2 19.54 77 ⇑Pn Pn 20 27 06.3 -0.7
comp=E,4.0nm,0.5s
GZR Gura Zlata 19.65 291 ⇑P P 20 27 06.5 +0.2
DRGR 19.80 295 ⇑P P 20 27 08.5 +0.6
DRGR 19.80 295 ⇑P P 20 27 08.5 +0.6
BOOM Boomskoye usch 19.83 78 P Pn 20 27 10.1 -0.3
BOOM pmax pmax
comp=Z,7.0nm,0.7s
BOOM Boomskoye usch 19.83 78 P Pn 20 27 10.1 -0.3
HERR Herculane 19.89 289 ⇑P P 20 27 08.5 -0.3
KUU Kurty 20.03 74 eP P 20 27 10.3 -0.1
KUU pmax pmax
comp=Z,7.0nm,0.7s
KUU Kurty 20.03 74 eP P 20 27 10.3 -0.1
comp=Z,6.9nm,0.7s,baz=74
IDI Anoyia 20.05 260 ⇓P P 20 27 11.0 +0.2
IDI Anoyia 20.05 260 P P 20 27 10.3 -0.4
IDI IAmb IAmb 20 27 14.8
comp=Z,9.9nm,0.8s
ULHL Ulahol 20.08 79 P Pn 20 27 13.8 +0.4
SNR=24
NACGM Naroch 20.09 320 eP P 20 27 10.9 0.0
KWP Kalwaria Pacla 20.30 303 eP P 20 27 14.2 +1.0
KWP Kalwaria Pacla 20.30 303 P P 20 27 11.9 -1.3
KWP pmax pmax
comp=Z,270nm,1.3s
KWP Kalwaria Pacla 20.30 303 P P 20 27 11.9 -1.3
LIT Litokhoron 20.32 275 P P 20 27 14.1 +0.5
LIT pmax pmax
comp=Z,6.0nm,1.1s
LIT Litokhoron 20.32 275 P P 20 27 14.1 +0.5
KSH Kashi 20.37 86 P P 20 27 14.4 +0.2
KSH sP sP 20 27 31.6 -0.8
KSH pmax pmax
comp=Z,29nm,0.5s
KLMR Klimovskoe 20.40 346 eP P 20 27 15.0 +0.9
KLMR e 20 31 28.4
KLMR pmax pmax
comp=Z,13nm,0.9s
KLMR Klimovskoe 20.40 346 eP P 20 27 15.1 +0.9
KLMR AMP 20 27 19.2
comp=Z,13nm,0.9s
KLMR ePcP PcP 20 31 28.5 +3.8
PRGR Permogore 20.41 355 eP P 20 27 13.6 -0.7
PRGR eS S 20 30 50.5 -9.2
PRGR pmax pmax
comp=Z,5.0nm,0.4s
KOLS Kolonicke sedl 20.42 301 eP P 20 27 15.9 +1.3
KOLS pmax pmax
comp=Z,10.0nm,0.6s
KOLS Kolonicke sedl 20.42 301 eP P 20 27 15.9 +1.3
BZS Buzias 20.47 291 P P 20 27 16.3 +1.1
BZS pmax pmax
comp=Z,5.0nm,0.8s
CHKK Chushkaly 20.50 74 eP P 20 27 16.3 +0.8
CHKK Chushkaly 20.50 74 eP P 20 27 16.3 +0.8
baz=74
TNSS Tian-Shan 20.52 76 eP P 20 27 16.9 +0.8
TNSS Tian-Shan 20.52 76 eP P 20 27 17.0 +0.8
baz=77
MDOK Medeo 20.58 76 eP P 20 27 16.9 +0.3
MDOK Medeo 20.58 76 eP P 20 27 16.9 +0.3
baz=76
MDOK Medeo 20.58 76 ⇑Pn Pn 20 27 18.0 -1.3
comp=Z,831μm,0.0s
AGG Agios Georgios 20.70 272 P P 20 27 18.4 +0.7
AGG pmax pmax
comp=Z,9.0nm,0.9s
AGG Agios Georgios 20.70 272 P P 20 27 18.4 +0.7
KDJ Kajisay 20.79 79 P P 20 27 19.3 +0.5
KDJ pmax pmax
comp=Z,16nm,1.0s
KDJ Kajisay 20.79 79 P P 20 27 19.3 +0.5
KDJ IAmb IAmb 20 27 25.8
comp=Z,16nm,1.0s
CRVS Cervenica-Dubn 20.94 300 eP P 20 27 21.1 +0.9
CRVS pmax pmax
comp=Z,14nm,0.7s
CRVS Cervenica-Dubn 20.94 300 eP P 20 27 21.1 +0.9
FNA Florina 21.02 278 P P 20 27 22.3 +1.1
FNA pmax pmax
comp=Z,20nm,1.6s
FNA Florina 21.02 278 P P 20 27 22.3 +1.1
FNA IAmb IAmb 20 27 58.1
comp=Z,20nm,1.6s
TDK Taldyqorghan 21.48 71 eP P 20 27 26.0 0.0
TDK Taldyqorghan 21.48 71 eP P 20 27 26.0 0.0
baz=71
SUW Suwalki 21.50 315 eP P 20 27 25.9 -0.1
KECS Kecovo 21.51 299 eP P 20 27 27.2 +0.9
KECS pmax pmax
comp=Z,11nm,0.6s
KECS Kecovo 21.51 299 eP P 20 27 27.2 +0.9
ITM Ithomi 21.55 268 P P 20 27 25.4 -1.5
ITM IAmb IAmb 20 27 58.3
comp=Z,14nm,1.0s
SATY Saty 21.58 76 eP P 20 27 27.8 +0.5
SATY Saty 21.58 76 eP P 20 27 27.9 +0.5
baz=76
ZHN Zhinishke 21.59 75 eP P 20 27 27.7 +0.3
ZHN Zhinishke 21.59 75 eP P 20 27 27.8 +0.3
baz=76
KPKS Kokpek 21.75 75 eP P 20 27 29.8 +0.8
KPKS Kokpek 21.75 75 eP P 20 27 29.8 +0.8
baz=75
NIE Niedzica 21.78 301 P P 20 27 27.5 -1.7
NIE pmax pmax
comp=Z,4.0nm,1.3s
PABE Paberze 21.79 319 P P 20 27 28.9 -0.3
PABE IAmb IAmb 20 27 30.1
comp=Z,24nm,0.9s
PSZ Piszkesteto 21.82 297 P P 20 27 30.3 +0.6
PSZ pmax pmax
comp=Z,10.0nm,1.0s
PSZ Piszkesteto 21.82 297 P P 20 27 30.3 +0.6
PSZ IAmb IAmb 20 27 44.5
comp=Z,10.0nm,1.0s
UZB Uzynbulak 22.02 75 eP P 20 27 32.4 +0.4
UZB Uzynbulak 22.02 75 eP P 20 27 32.4 +0.4
baz=76
BEL Belsk 22.06 308 eP P 20 27 32.7 +0.6
KURBB Kurchatov Arra 22.19 55 P P 20 27 35.0 +1.4
comp=Z,5.3nm,0.7s,baz=263,slow=11,SNR=36
KURBB Kurchatov Arra 22.19 55 P P 20 27 35.0 +1.4
KURBB S S 20 31 34.2 -0.4
KURBB Kurchatov Arra 22.19 55 ⇑Pn P 20 27 35.0 +1.4
comp=Z,20nm,1.4s
KURBB ⇓Sn S 20 31 34.2 -0.4
comp=Z,17nm,1.4s
VSU Vasula 22.25 328 ⇓eP P 20 27 36.0 +1.9
VSU pmax pmax
comp=Z,71nm,1.7s
OJC Ojcow 22.26 303 eP P 20 27 36.2 +1.9
OJC Ojcow 22.26 303 P P 20 27 31.9 -2.4
OJC pmax pmax
comp=Z,15nm,1.0s
OJC Ojcow 22.26 303 P P 20 27 31.9 -2.4
OJC IAmb IAmb 20 27 36.8
comp=Z,15nm,1.0s
KURK Kurchatov 22.27 55 ceP P 20 27 36.0 +1.6
KURK pmax pmax
comp=Z,31nm,1.3s
KURK Kurchatov 22.27 55 P P 20 27 32.3 -2.1
KURK IAmb IAmb 20 27 38.9
comp=Z,18nm,0.8s
LANS Liptovska Anna 22.27 301 eP P 20 27 35.4 +0.9
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 22.27 301 eP P 20 27 35.4 +0.9
SHLS Shalkode 22.34 75 eP P 20 27 38.8 +3.4
SHLS Shalkode 22.34 75 eP P 20 27 38.9 +3.4
baz=76
PDGK Podgornoye 22.35 75 P P 20 27 36.3 +0.8
PDGK Podgornoye 22.35 75 ⇑Pn P 20 27 36.3 +0.8
comp=Z,7.2nm,1.5s
VYHS Vyhne 22.60 299 eP P 20 27 39.5 +1.5
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 22.60 299 eP P 20 27 39.5 +1.5
SEM Semipalatinsk 23.22 57 eP P 20 27 44.2 -0.3
SEM Semipalatinsk 23.22 57 eP P 20 27 44.2 -0.3
baz=57
SCTE Santa Cesarea 23.34 277 P P 20 27 44.3 -1.2
MODS Modra-Piesok 23.61 298 eP P 20 27 48.7 +0.6
MODS pmax pmax
comp=Z,10.0nm,1.0s
MODS Modra-Piesok 23.61 298 eP P 20 27 48.7 +0.6
MAKZ Makanchi 23.98 66 ⇓P P 20 27 53.6 +2.1
MAKZ Makanchi 23.98 66 P P 20 27 51.9 +0.4
MAKZ IAmb IAmb 20 27 54.6
comp=Z,5.2nm,0.6s
KRLC Kraliky 24.14 302 eP P 20 27 52.9 0.0
KRLC Kraliky 24.14 302 eP P 20 27 52.9 0.0
VRAC Vranov 24.16 300 P P 20 27 54.6 +1.6
comp=Z,2.2nm,0.6s,baz=359,slow=2.0,SNR=5.1
MK31 Makanchi Array 24.20 66 c iP P 20 27 55.0 +1.6
MK31 Makanchi Array 24.20 66 P P 20 27 54.0 +0.6
MK31 IAmb IAmb 20 27 56.2
comp=Z,7.4nm,0.7s
MK31 Makanchi Array 24.20 66 P P 20 27 54.8 +1.4
comp=Z,11nm,0.7s,baz=267,slow=7.0,SNR=94
MKAR Makanchi Array 24.20 66 P P 20 27 55.1 +1.7
comp=Z,9.0nm,0.6s,baz=273,slow=7.6,SNR=99
MKAR Makanchi Array 24.20 66 P P 20 27 54.9 +1.4
DPC Dobruska-Polom 24.48 303 eP P 20 27 56.8 +0.8
DPC Dobruska-Polom 24.48 303 eP P 20 27 56.8 +0.8
FIA1 FINESS Array S 24.51 333 P P 20 27 55.9 -0.2
FINES FINESS Array B 24.51 333 P P 20 27 56.5 +0.4
comp=Z,3.7nm,0.3s,baz=133,slow=10,SNR=63
FINES FINESS Array B 24.51 333 P P 20 27 55.9 -0.2
CHVC Chvalec 24.68 303 eP P 20 27 58.4 +0.6
TIP Timpagrande 24.84 276 P P 20 27 58.1 -1.3
ZSN Zaisan 25.96 64 eP P 20 28 09.6 +0.1
ZSN Zaisan 25.96 64 eP P 20 28 09.6 +0.1
baz=65
GEC2 GERESS Array S 26.02 299 P P 20 28 08.1 -1.9
GERES GERESS Array B 26.02 299 P P 20 28 09.9 -0.1
comp=Z,0.7nm,0.6s,baz=88,slow=9.7,SNR=7.9
GERES GERESS Array B 26.02 299 P P 20 28 09.0 -1.0
KHC Kasperske Hory 26.11 299 eP P 20 28 10.7 -0.1
KHC Kasperske Hory 26.11 299 P P 20 28 10.3 -0.5
KHC Kasperske Hory 26.11 299 eP P 20 28 10.7 -0.1
ZAA0 Zalesovo Array 26.72 50 P P 20 28 15.3 -0.9
ZALV Zalesovo Beam 26.72 50 P P 20 28 17.2 +1.1
comp=Z,2.5nm,0.4s,baz=264,slow=13,SNR=18
ZALV Zalesovo Beam 26.72 50 P P 20 28 14.9 -1.3
RGN Rugen 27.12 311 P P 20 28 17.0 -2.7
LVZ Lovozero 27.73 348 P P 20 28 23.8 -1.3
LVZ pmax pmax
comp=Z,36nm,1.1s
LVZ Lovozero 27.73 348 P P 20 28 23.8 -1.3
WMQ Urumqi 28.21 72 eP P 20 28 30.0 +0.3
WMQ pmax pmax
comp=Z,22nm,0.7s
HFS Hagfors 28.79 323 P P 20 28 36.2 +1.6
comp=Z,2.4nm,0.8s,baz=259,slow=29,SNR=7.7
NC602 NORSAR Array S 30.01 323 P P 20 28 42.0 -3.4
NORES NORESS Array B 30.01 323 P P 20 28 45.5 +0.1
NC405 NORSAR Array S 30.08 324 P P 20 28 45.5 -0.5
NB201 NORSAR Array S 30.24 324 P P 20 28 47.7 +0.2
NB2 NORSAR Subarra 30.28 323 P P 20 28 47.6 -0.2
comp=Z,0.7nm,0.4s,baz=115,slow=8.6
NOA NORSAR Array B 30.28 323 P P 20 28 47.9 +0.1
comp=Z,3nm,0.6s,baz=122,slow=8.9,SNR=6.0
NAO01 NORSAR Array S 30.35 323 P P 20 28 48.4 +0.1
KEV Kevo 30.71 345 P P 20 28 52.0 +0.6
KEV pmax pmax
comp=Z,34nm,1.3s
KEV Kevo 30.71 345 P P 20 28 52.0 +0.6
ARCES ARCESS Array B 30.83 344 P P 20 28 53.5 +0.9
comp=Z,0.9nm,0.3s,baz=152,slow=9.6,SNR=24
ARCES ARCESS Array B 30.83 344 P P 20 28 53.2 +0.7
BNI Bardonecchia 31.01 291 P P 20 28 54.3 -0.2
BNI pmax pmax
comp=Z,8.0nm,1.4s
BNI Bardonecchia 31.01 291 P P 20 28 54.3 -0.2
BNI IAmb IAmb 20 29 28.5
comp=Z,8.2nm,1.4s
KEST Kesra 31.54 273 P P 20 29 00.3 +1.1
comp=Z,1.6nm,0.8s,baz=270,slow=20,SNR=1.1
SSB Saint Sauveur 32.47 292 P P 20 29 06.9 -0.4
SSB pmax pmax
comp=Z,14nm,1.6s
SSB Saint Sauveur 32.47 292 P P 20 29 06.9 -0.4
SSB IAmb IAmb 20 29 40.6
comp=Z,14nm,1.6s
KNGR Kungurtug, Tuv 34.21 58 ⇑eP P 20 29 25.1 +2.7
NRIK Noril'sk 34.37 23 P P 20 29 25.2 +1.8
comp=Z,1.9nm,0.5s,baz=280,slow=4.9,SNR=4.5
NRIK Noril'sk 34.37 23 ⇓eP P 20 29 25.6 +2.1
NRIK pmax pmax
comp=Z,7.0nm,1.1s
NRIK Noril'sk 34.37 23 IAmb IAmb 20 29 26.3
comp=Z,6.4nm,1.1s
EKA Eskdalemuir Ar 36.63 311 P P 20 29 43.0 0.0
ESK Eskdalemuir 36.66 311 P P 20 29 43.1 -0.1
ESK pmax pmax
comp=Z,44nm,1.6s
ESK Eskdalemuir 36.66 311 P P 20 29 43.1 -0.1
GTA Gaotai 38.09 76 eP P 20 29 58.3 +2.6
GTA pP pP 20 30 03.6 -5.5
GTA pmax pmax
comp=Z,4.0nm,0.9s
SPB2 Spitsbergen Ar 39.22 350 P P 20 30 05.6 +1.0
SPITS Spitsbergen Ar 39.23 350 P P 20 30 06.3 +1.7
comp=Z,4.7nm,0.7s,baz=136,slow=12,SNR=17
ESDC Sonseca Array 39.98 286 P P 20 30 11.3 -0.2
comp=Z,0.6nm,0.8s,baz=62,slow=8.5,SNR=8.4
SONM Songino Array 40.36 61 P P 20 30 15.0 +0.4
comp=Z,0.5nm,0.5s,baz=279,slow=9.6,SNR=6.3
SONM Songino Array 40.36 61 P P 20 30 15.0 +0.4
SONM Songino Array 40.36 61 P P 20 30 13.1 -1.4
ULN Ulaanbaatar 40.78 61 c iP P 20 30 20.0 +1.9
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 40.78 61 P P 20 30 20.1 +1.9
ULN IAmb IAmb 20 30 20.5
comp=Z,3.8nm,0.6s
PZH PanZhiHua 45.31 92 P P 20 30 56.6 +1.7
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,6.3s
HHC Hu-ho-hao-te 46.00 69 eP P 20 30 59.8 -0.3
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,73nm,5.7s
CHTO Chiang Mai 47.73 103 P P 20 31 15.2 +1.5
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 47.73 103 P P 20 31 15.2 +1.5
CHTO IAmb IAmb 20 31 16.1
comp=Z,3.7nm,0.8s
CMAR Chiang Mai Arr 47.96 103 P P 20 31 17.1 +1.6
comp=Z,2.4nm,0.7s,baz=305,slow=8.5,SNR=28
XLT XiLinHaoTe 47.98 63 eP P 20 31 14.1 -1.4
XLT pP pP 20 31 26.8 -2.4
XLT sP sP 20 31 32.0 -3.2
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,110nm,4.5s
TIXI Tiksi 48.10 25 ⇓eP P 20 31 18.0 +2.1
TIXI pmax pmax
comp=Z,4.0nm,1.1s
TIXI Tiksi 48.10 25 P P 20 31 17.5 +1.6
TIXI IAmb IAmb 20 31 19.0
comp=Z,5.6nm,1.1s
TOA0 Torodi Ar. Sit 49.97 250 P P 20 31 31.1 +0.2
TOA0 IAmb IAmb 20 31 32.3
comp=Z,9.5nm,1.5s
TORD Torodi Ar. Bea 49.97 250 P P 20 31 31.2 +0.3
comp=Z,2.0nm,0.8s,baz=49,slow=6.9,SNR=15
TORD Torodi Ar. Bea 49.97 250 P P 20 31 31.2 +0.3
KOWA Kowa 53.18 256 P P 20 31 55.7 +0.8
KOWA IAmb IAmb 20 31 56.6
comp=Z,4.9nm,1.0s
EUNU Eureka 56.30 352 P P 20 32 17.3 +0.6
EUNU IAmb IAmb 20 32 46.6
comp=Z,9.2nm,1.6s
PSI Prapat 58.75 117 P P 20 32 34.7 -0.2
comp=Z,3.3nm,0.4s,baz=337,slow=6.0,SNR=3.7
KSRS Korea Array 58.88 66 P P 20 32 36.1 +0.8
comp=Z,1.9nm,0.7s,baz=292,slow=7.1,SNR=5.8
DBIC Dimbokro 59.08 250 P P 20 32 37.6 +0.6
comp=Z,2.8nm,0.8s,baz=66,slow=6.6,SNR=3.6
DBIC Dimbokro 59.08 250 P P 20 32 37.0 -0.1
SEY Seymchan 59.49 31 ⇓eP P 20 32 40.6 +1.4
SEY pmax pmax
comp=Z,3.0nm,1.0s
BILL Bilibino 61.20 22 eP P 20 32 51.7 +0.9
BILL pmax pmax
comp=Z,2.0nm,1.1s
SCHQ Schefferville 69.79 326 P P 20 33 47.5 +1.0
comp=Z,0.9nm,0.6s,baz=292,slow=3.2,SNR=4.1
SCHQ Schefferville 69.79 326 IAmb IAmb 20 34 25.3
comp=Z,6.0nm,1.3s
COLA College 73.23 8 ⇓eP P 20 34 09.0 +2.1
COLA pmax pmax
comp=Z,18nm,3.0s
ILAR Eielson Array 73.42 7 P P 20 34 08.8 +0.7
comp=Z,0.5nm,0.6s,baz=340,slow=7.2,SNR=5.5
YKA Yellowknife Ar 75.67 352 P P 20 34 22.0 +0.9
comp=Z,1.8nm,0.6s,baz=9.9,slow=5.6,SNR=24
DLBC Dease Lake 80.54 360 P P 20 34 50.0 +1.6
comp=Z,1.6nm,0.7s,baz=16,slow=4.0,SNR=4.6
DLBC Dease Lake 80.54 360 IAmb IAmb 20 34 51.2
comp=Z,5.0nm,1.1s
WRA Warramunga Arr 99.33 108 P Pdif 20 36 18.8 +0.2
comp=Z,0.5nm,0.6s,baz=321,slow=3.8,SNR=6.1

IDC 19 20:30:26.1 ±2.1, 10°61N × 94°31E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/36, mbtmp3.4/5, ML3.3/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/58, Error ellipse: s-maj=78.1km s-min=23.8km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	9.00	29	Pn	Pn	20 32 38.2	+0.7
	0.1nm,0.3s,baz=217,slow=15,SNR=2.8						
MKAR	Makanchi Array	37.48	346	P	P	20 37 41.2	-0.3
	0.3nm,0.6s,baz=173,slow=10.0,SNR=2.8						
ZALV	Zalesovo Beam	43.89	352	P	P	20 38 33.9	-0.4
	1.1nm,0.6s,baz=167,slow=9.5,SNR=5.0						

WRA	**Warramunga Arr**	**49.75**	**128**	P	P	20 39 21.0	+0.3	
	0.4nm,0.5s,baz=307,slow=8.4,SNR=6.9							
ASAR	**Alice Springs**	**51.57**	**132**	P	P	20 39 34.1	-0.3	
	0.2nm,0.7s,baz=308,slow=6.6,SNR=4.4							
OPO	**Ambohidratompo**	**54.78**	**238**	LR	LR	20 59 47.3		
	comp=Z,56nm,19.2s,baz=202,slow=32							
OBN	**Obninsk**	**63.18**	**327**	LR	LR	21 13 15.2		
	comp=Z,40nm,20.1s,baz=162,slow=41							

IDC 19 20:31:03.9±80.0, 16.64S×174.51E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/31, mbtmp4.0/3, Error ellipse: s-maj=1396.0km s-min=148.2km az=73.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YATNC	**Mamie plateau,**	**8.99**	**232**	P	Pn	20 33 22.8	+7.8
OUENC	**Ouen Island, N**	**9.23**	**230**	P	Pn	20 33 29.2	+11
DZM	**Mont Dzumac**	**9.33**	**233**	P	Pn	20 33 30.9	+1.0
NOUC	**Port Laguerre**	**9.46**	**234**	P	Pn	20 33 22.4	+0.9
STKA	**Stephens Creek**	**33.46**	**237**	P	P	20 37 44.8	-0.1
	0.8nm,0.7s,baz=58,slow=9.7,SNR=3.8						
WRA	**Warramunga Arr**	**38.22**	**259**	P	P	20 38 26.1	+0.2
	0.4nm,0.3s,baz=86,slow=6.6,SNR=21						
ASAR	**Alice Springs**	**38.66**	**253**	P	P	20 38 29.1	-0.4
	5.2nm,0.4s,baz=82,slow=8.9,SNR=88						

BJI ***19*** *20:32:53.7±0.0, 10.00N×93.50E, h10km, mb4.7/77, mB5.0/55, Ms4.8/77, Ms7 4.5/71*

MOS ***19*** *20:32:55.7±0.9, 10.25N×93.65E, h14km, mb5.4/73, MS4.4/10, Error ellipse: s-maj=6.7km s-min=3.1km az=117.7*

IDC ***19*** *20:32:56.1±0.4, 10.30N×93.63E, h0km, mb4.7/29, mb1 4.8/32, mb1mx4.7/38, mbtmp4.7/32, ML4.3/3, MS4.2/51, Ms1 4.2/51, ms1mx4.1/70, Error ellipse: s-maj=13.7km s-min=11.8km az=66.0*

NEIC ***19*** *20:32:57.1±1.9, 10.22N±0.06×93.69E±0.06, h10km±1km, mb5.3/167, Error ellipse: s-maj=11.8km s-min=8.7km az=51.0*

KLM ***19*** *20:32:58, 10.33N×93.53E, h10km, mb5.2*

DJA ***19*** *20:32:58.9±0.5, 10.2N×9.4E°, h16km±3km, M5.0/98, mb5.0/98, mB5.5/47, MLv5.4/4, Mw(mB)4.9/47, MwMwp4.9/6, Mwp5.2/6*

GCMT ***19*** *20:33:00.1±0.2, 10.29N±0.01×93.83E±0.01, h12km, MW5.1/117, Moment Tensor Solution. s68,c92; s117,c205; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.64±.11; Mθθ5.95±.09; Mϕϕ=2.31±.11; Mrθ2.27±.27; Mθϕ1.51±.08; Mϕr=2.78±.32; Best double couple: M=6.49200×10^16 NP1:ϕs47.00000°, δ47.00000°, λ=146.00000°. NP2:ϕs292.00000°, δ66.00000°, λ=48.00000°. Principal axes: T 6.5530, Plg11.0000°, Azm354.0000°; N -0.1230, Plg37.0000°, Azm92.0000°; P -6.4300, Plg50.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***19*** *20:33:01.5±0.0, 10.46N×93.55E, h10km, mb4.8*

NDI ***19*** *20:33:03.6±2.8, 10.58N×93.40E, h10km, mb5.1, mb5.3(NEIC)*

ISC 19 20:32:58.9±0.3, 10.22N±0.03×93.59E±0.03, h21km±3km, h22km; pP-P, n909, σ1§78/929, mb5.2/290, MS4.4/80, 71C-43D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.66**	**330**	Pn	**Pn**	**20 33 26.8**	**+0.1**
PBA	**Port Blair**	**1.66**	**330**	*e*P	**Pn**	**20 33 27.0**	**+0.2**
PBA				*e*S	**Sn**	**20 33 44.0**	**-3.4**
PBA				*e*S	**Sb**	**20 33 48.9**	**-0.3**
PBA	**Port Blair**	**1.66**	**330**	P	**Pb**	**20 33 28.0**	**-0.7**
	SNR=52						
DGPR	**DIGLIPUR**	**3.02**	**348**	*e*P	**Pn**	**20 33 47.1**	**+1.7**
LHMI	**Lhok Sumawe**	**5.97**	**146**		**Pn**	**20 34 24.5**	**-1.6**
LHMI	**Lhok Sumawe**	**5.97**	**146**	P	**Pn**	**20 34 26.8**	**+0.7**
	2.2nm9µm5µm683nm,1.0s						
LHMI	**Lhok Sumawe**	**5.97**	**146**	P	**Pn**	**20 34 27.5**	**+1.4**
SRIT	**Nakonsritamara**	**6.15**	**105**		**Pn**	**20 34 27.2**	**-1.4**
KCSI	**Kotacane, Aceh**	**7.84**	**148**	P	**Pn**	**20 34 52.1**	**+0.3**
	1.6nm6µm257nm,0.9s						
TSI	**Tuntungan**	**8.30**	**143**	P	**Pn**	**20 34 58.4**	**+0.3**
	4µm7µm362nm,1.5s						
KULM	**Kulim**	**8.54**	**124**	Pn	**Pn**	**20 34 58.9**	**-2.5**
KULM	**Kulim**	**8.54**	**124**	P	**Pn**	**20 35 00.0**	**-1.4**
PSI	**Prapat**	**9.07**	**144**	Pn	**Pn**	**20 35 09.3**	**+0.5**
	1.2nm,0.3s,baz=340,slow=14,SNR=13						
PSI				LR	LR	20 38 55.2	
	comp=Z,3µm,21.3s,baz=310,slow=39						
RPSI	**Rantau Prapat**	**9.16**	**144**		**Pn**	**20 35 09.3**	**-0.6**
IPM	**Ipoh**	**9.32**	**127**	Pn	**Pn**	**20 35 09.3**	**-2.8**
IPM	**Ipoh**	**9.32**	**127**	P	**Pn**	**20 35 10.0**	**-2.1**
IPM	**Ipoh**	**9.32**	**127**	P	**Pn**	**20 35 10.5**	**-1.6**
CM31	**Chiang Mai Arr**	**9.70**	**32**		**Pn**	**20 35 16.6**	**-0.7**
CM31	**Chiang Mai Arr**	**9.70**	**32**	P	**Pn**	**20 35 19.0**	**+1.7**
	SNR=46						
CMAR	**Chiang Mai Arr**	**9.70**	**32**	Pn	**Pn**	**20 35 17.9**	**+0.6**
	1.4nm,0.3s,baz=220,slow=15,SNR=43						
CMAR				LR	LR	20 39 33.6	
	comp=Z,1µm,19.7s,baz=220,slow=41						
CMAR	**Chiang Mai Arr**	**9.70**	**32**	P	**Pn**	**20 35 17.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**9.70**	**32**	Pn	**Pn**	**20 35 17.1**	**-0.2**
GSI	**Gunungsitoli**	**9.70**	**156**	Pn	**Pn**	**20 35 15.4**	**-1.9**
GSI	**Gunungsitoli**	**9.70**	**156**	P	**Pn**	**20 35 17.5**	**+0.2**
	36nm,0.9s						
GSI	**Gunungsitoli**	**9.70**	**156**	P	**Pn**	**20 35 18.3**	**+1.0**
CHTO	**Chiang Mai**	**10.00**	**31**	P	**Pn**	**20 35 20.7**	**-0.7**
CHTO	**Chiang Mai**	**10.00**	**31**	Pn	**Pn**	**20 35 20.7**	**-0.7**
CHTO	**Chiang Mai**	**10.00**	**31**	P	**Pn**	**20 35 22.7**	**+1.3**
CHTO	**Chiang Mai**	**10.00**	**31**	P	**Pn**	**20 35 23.6**	**+2.2**
JRMM	**Jerantut**	**10.83**	**125**	P	**Pn**	**20 35 33.0**	**+0.2**
MNSI	**Mandailing Nat**	**11.09**	**147**	P	**Pn**	**20 35 36.7**	**+0.3**
	1µm47nm,1.4s						
BKNI	**Bangkinang**	**12.30**	**143**		**Pn**	**20 35 52.8**	**-0.3**
BKNI	**Bangkinang**	**12.30**	**143**	P	**Pn**	**20 35 53.3**	**+0.3**
	2µm144nm,1.2s						
PPI	**Padang Panjang**	**12.58**	**147**	P	**Pn**	**20 35 57.1**	**+0.3**
UBPT	**Khong Chiam**	**12.63**	**65**	Pn	**Pn**	**20 35 56.5**	**-1.0**
PALK	**Pallekele**	**13.07**	**258**	Pn	**Pn**	**20 36 04.6**	**+1.1**
	2.4nm,0.3s,baz=177,slow=13,SNR=24						
PALK				Sn	**Sn**	**20 38 23.5**	**-4.9**
	13nm,0.3s,baz=97,slow=20,SNR=10						
PALK				LR	LR	20 40 50.8	
	comp=Z,678nm,21.1s,baz=171,slow=36						
PALK	**Pallekele**	**13.07**	**258**	*i*P	**Pn**	**20 36 05.8**	**+2.3**
PALK	**Pallekele**	**13.07**	**258**	Pn	**Pn**	**20 36 01.6**	**-2.0**
PALK	**Pallekele**	**13.07**	**258**	P	**P**	**20 36 11.2**	**-2.4**
MYKOM	**Kota Tinggi**	**13.19**	**129**		**Pn**	**20 36 02.3**	**-2.9**
MDRS	**Chennai**	**13.37**	**284**	*e*P	**Pn**	**20 36 10.0**	**+2.4**
MDRS				IAmb	IAmb	20 36 12.5	
	comp=Z,263nm,0.8s						
MDRS				*e*S	Sn	20 38 25.1	-11
TPRI	**Tanjung Pinang**	**14.27**	**130**	P	**Pn**	**20 36 20.1**	**+0.3**
	comp=Z,2µmcomp=Z,98nm,1.0s						
KRJI	**Kerinci**	**14.52**	**147**	P	**Pn**	**20 36 23.6**	**+0.2**
	comp=Z,2µmcomp=Z,202nm,1.1s						
DSRI	**Dabo**	**15.24**	**134**	P	**Pn**	**20 36 33.4**	**+0.3**
	comp=Z,403nmcomp=Z,28nm,1.2s						
SHL	**Shillong**	**15.36**	**354**	P	**Pn**	**20 36 33.4**	**-1.2**
SHL				pmax	pmax		
	comp=Z,177nm,1.0s						
SHL	**Shillong**	**15.36**	**354**	Pn	**Pn**	**20 36 33.4**	**-1.2**
SHL				IAmb	IAmb	20 36 47.7	
	comp=Z,177nm,1.0s						
SHL	**Shillong**	**15.36**	**354**	*e*P	**Pn**	**20 36 33.9**	**-0.7**
SHL				IAmb	IAmb	20 36 47.9	
	comp=Z,108nm,0.8s						
SHL	**Shillong**	**15.36**	**354**	P	**Pn**	**20 36 36.4**	**+1.7**
	SNR=60						
KOHI	**KOHIMA**	**15.43**	**2**	*e*P	**Pn**	**20 36 33.9**	**-1.7**
KOHI				IAmb	IAmb	20 36 44.1	
	comp=Z,185nm,0.9s						
JMBI	**JAMBI**	**15.45**	**139**	P	**Pn**	**20 36 36.1**	**+0.4**
	comp=Z,135nm,1.1s						
TURI	**Tura**	**15.56**	**349**	*e*P	**Pn**	**20 36 38.9**	**+1.7**
TURI				IAmb	IAmb	20 36 45.3	
	comp=Z,36nm,0.9s						
GUWA	**GUWAHATI**	**15.99**	**354**	*e*P	**Pn**	**20 36 43.2**	**+0.5**
GUWA				IAmb	IAmb	20 36 54.9	
	comp=Z,95nm,1.1s						
MOKO	**MOKOCHONG**	**16.05**	**3**	*e*P	**Pn**	**20 36 41.6**	**-1.9**
MOKO				IAmb	IAmb	20 36 58.9	
	comp=Z,135nm,0.7s						
DHUB	**DHUBRI**	**16.09**	**348**	*e*P	**Pn**	**20 36 44.9**	**+1.0**
DHUB				IAmb	IAmb	20 36 56.5	
	comp=Z,104nm,0.4s						
HYB	**Hyderabad**	**16.25**	**298**	*e*P	**Pn**	**20 36 46.7**	**+0.5**
TEZP	**TEZPUR**	**16.33**	**357**	*e*P	**Pn**	**20 36 44.7**	**-2.3**
TEZP				IAmb	IAmb	20 36 57.2	
	comp=Z,49nm,0.9s						
ITAN	**ITANAGAR**	**16.84**	**0**	*e*P	**P**	**20 36 54.9**	**-0.6**
ITAN				IAmb	IAmb	20 37 03.9	
	comp=Z,247nm,0.7s						
PMBI	**Palembang**	**17.16**	**139**		**Pn**	**20 36 56.1**	**-1.5**
PMBI				IAmb	IAmb	20 37 11.0	
	comp=Z,372nm,1.3s						
PMBI	**Palembang**	**17.16**	**139**	P	**Pn**	**20 36 57.1**	**-0.5**
	comp=Z,3µmcomp=Z,167nm,1.5s						
KMI	**Kunming**	**17.19**	**29**	⇑P	**P**	**20 37 01.3**	**+1.7**
KMI				sP	pwP	20 37 08.8	+1.6
KMI				PP	**PnPn**	**20 37 15.0**	**+6.8**
KMI				S	**Sn**	**20 40 08.8**	**-0.1**
KMI				sS	sS	20 40 23.0	-3.2
KMI				SS	**SnSn**	**20 40 32.3**	**+10**
KMI				pmax	pmax		
	comp=Z,65nm,1.2s						
KMI				LR	LR		
	comp=Z,2µm,14.2s						
KMI				LR	LR		
	comp=Z,1µm,13.6s						
KMI				LR	LR		
	comp=Z,1µm,15.0s						
PPBI	**Pangkal Pinang**	**17.53**	**134**	P	**Pn**	**20 37 02.5**	**+0.3**
ODAN	**Odare**	**17.56**	**341**	*e*P	**P**	**20 37 05.1**	**+1.4**
GTK	**Tadong**	**17.65**	**345**	*e*P	**P**	**20 37 07.4**	**+2.8**
RAMN	**Ramite**	**17.91**	**339**	*e*P	**P**	**20 37 09.4**	**+1.9**
	comp=Z,48nm,0.5s						
TAPN	**Taplejung**	**17.92**	**343**	*e*P	**P**	**20 37 08.7**	**+0.9**
	comp=Z,357nm,1.0s						
PZH	**PanZhiHua**	**17.94**	**24**	P	**P**	**20 37 09.4**	**+1.6**
PZH				sP	**pwP**	**20 37 15.1**	**-0.6**
PZH				PP	**PnPn**	**20 37 22.4**	**+3.9**
PZH				S	**S**	**20 40 30.1**	**-3.0**
PZH				sS	**sS**	**20 40 36.8**	**-4.7**
PZH				SS	**SnSn**	**20 40 52.3**	**+11**
PZH				PcP	**PcP**	**20 41 41.3**	**-1.5**
PZH				ScS	**ScS**	**20 48 55.3**	**-2.5**
PZH				pmax	pmax		
	comp=Z,40nm,1.5s						
PZH				pmax	pmax		
	comp=Z,890nm,4.2s						
PZH				LR	LR		
	comp=Z,2µm,15.3s						
PZH				LR	LR		
	comp=Z,4µm,15.6s						
PZH				LR	LR		
	comp=Z,3µm,14.6s						
QIZ	**Qiongzhong**	**17.99**	**59**	P	**P**	**20 37 08.9**	**+0.6**
QIZ				S	**S**	**20 40 33.8**	**-0.1**
QIZ				pmax	pmax		
	comp=Z,520nm,4.4s						
QIZ				LR	LR		
	comp=Z,2µm,9.8s						
QIZ				LR	LR		
	comp=Z,1µm,15.9s						
QIZ				LR	LR		
	comp=Z,920nm,12.9s						
JBP	**Jabalpur**	**18.30**	**316**	*e*P	**P**	**20 37 12.8**	**+1.2**
JBP				*e*S	**Sn**	**20 40 26.9**	**-8.6**
LWLI	**Liwa**	**18.38**	**145**	P	**Pn**	**20 37 13.1**	**+0.4**
	comp=Z,5µmcomp=Z,81nm,0.7s						
JIRN	**Jiri**	**18.70**	**339**	*e*P	**Pn**	**20 37 18.8**	**+2.0**
	comp=Z,203nm,1.0s						
KLI	**Kotabumi**	**18.72**	**143**	P	**P**	**20 37 15.4**	**-0.9**
KLI				pmax	pmax		
	comp=Z,74nm,0.8s						
KLI	**Kotabumi**	**18.72**	**143**	P	**Pn**	**20 37 16.7**	**0.0**
	comp=Z,52nm,0.8s						
KSM	**Kuching**	**18.75**	**117**		**P**	**20 37 12.7**	**-4.0**
PKI	**Pulchoki**	**18.91**	**337**	*e*P	**Pn**	**20 37 20.6**	**+1.3**
PKIN	**Phulchoki**	**18.92**	**337**	*e*P	**Pn**	**20 37 20.6**	**+1.2**
GUN	**Gumba**	**19.04**	**339**	*e*P	**Pn**	**20 37 22.3**	**+1.4**
	comp=Z,268nm,1.1s						
DMN	**Daman**	**19.06**	**336**	*e*P	**Pn**	**20 37 22.8**	**+1.7**
	comp=Z,177nm,0.9s						
KKN	**Kakani**	**19.15**	**337**	*e*P	**Pn**	**20 37 23.1**	**+0.9**
	comp=Z,81nm,0.9s						
BLSI	**Bandar Lampung**	**19.35**	**143**	P	**P**	**20 37 23.8**	**+0.6**
LSA	**Lhasa**	**19.52**	**354**	P	**P**	**20 37 25.7**	**+0.2**
LSA				pmax	pmax		
	comp=Z,71nm,0.8s						
LSA	**Lhasa**	**19.52**	**354**		**P**	**20 37 25.7**	**+0.2**
LSA	**Lhasa**	**19.52**	**354**	P	**P**	**20 37 25.8**	**+0.2**
LSA				S	**S**	**20 41 01.0**	**-4.3**
LSA				LR	LR		
	comp=Z,830nm,31.3s						
LSA				LR	LR		
	comp=Z,520nm,29.9s						
LSA				LR	LR		
	comp=Z,740nm,30.6s						
LSA	**Lhasa**	**19.52**	**354**	P	**P**	**20 37 25.6**	**+0.1**
GKN	**Gorkha**	**19.60**	**336**	*e*P	**Pn**	**20 37 28.1**	**+0.7**
	comp=Z,25nm,0.5s						
KOLN	**Koldanda**	**19.83**	**333**	*e*P	**Pn**	**20 37 31.2**	**+0.9**
	comp=Z,177nm,0.9s						
GOA	**Goa**	**19.96**	**287**	*e*P	**Pn**	**20 37 34.6**	**+2.9**
GOA				IAmb	IAmb	20 37 34.9	
	comp=Z,28nm,0.8s						
SBUM	**Sibu**	**20.05**	**111**	P	**P**	**20 37 28.1**	**-2.8**
SBUM	**Sibu**	**20.05**	**111**	P	Pn	20 37 33.0	+0.3
BHPL	**Bhopal**	**20.16**	**312**	*e*P	Pn	20 37 36.2	+2.3
BHPL				IAmb	IAmb	20 37 58.8	
	comp=Z,50nm,1.0s						
DANN	**Dangsing**	**20.27**	**334**	*e*P	Pn	20 37 35.6	+0.1
	comp=Z,96nm,0.5s						
GYA	**Guiyang**	**20.34**	**36**	⇓*i*P	Pn	20 37 36.0	-0.2
GYA				pP	pP	20 37 39.3	+0.3
GYA				S	Sn	20 41 25.6	+0.6
GYA				pmax	pmax		
	comp=Z,33nm,1.1s						
GYA				pmax	pmax		
	comp=Z,170nm,3.5s						
GYA				LR	LR		
	comp=Z,1µm,15.0s						
GYA				LR	LR		
	comp=Z,1µm,14.3s						
GYA				LR	LR		
	comp=Z,2µm,13.6s						
PYUN	**Piuthan**	**20.39**	**332**	*e*P	Pn	20 37 37.4	+0.5
	comp=Z,61nm,0.5s						
STKI	**Sintang**	**20.45**	**118**	P	**P**	**20 37 35.7**	**+0.4**
	comp=Z,54nm,1.4s						
CGJI	**Cibinong**	**20.61**	**144**	P	**P**	**20 37 33.3**	**-3.6**
	comp=Z,30nm,1.1s						
DBJI	**Dramaga**	**21.20**	**141**	P	**P**	**20 37 43.8**	**+0.5**
	comp=Z,2µmcomp=Z,24nm,1.0s						
GULI	**GuiLin**	**21.87**	**45**	*e*P	**P**	**20 37 56.9**	**+6.4**
GULI				S	Sn	20 41 59.1	-2.5
GULI				LR	LR		
	comp=N,1µm,12.2s						
GULI				LR	LR		
	comp=E,520nm,10.6s						
GULI				LR	LR		
	comp=Z,770nm,14.1s						
LEM	**Lembang**	**21.95**	**140**	LR	LR	20 46 26.1	
	comp=Z,1µm,19.2s,baz=304,slow=37						
PBKI	**Pangkalan Bun**	**22.11**	**125**	P	**P**	**20 37 53.6**	**+0.5**
	comp=Z,2µmcomp=Z,247nm,1.1s						
COCO	**West Island**	**22.49**	**172**	P	**P**	**20 37 55.9**	**-1.3**
COCO				pmax	pmax		
	comp=Z,377nm,1.4s						
COCO	**West Island**	**22.49**	**172**	P	**P**	**20 37 55.9**	**-1.3**
KAAM	**Kaadhehdhoo**	**22.64**	**246**	P	**P**	**20 37 57.2**	**-1.6**
KAAM				IAmb	IAmb	20 38 40.2	
	comp=Z,214nm,1.4s						
KAAM	**Kaadhehdhoo**	**22.64**	**246**	P	**P**	**20 38 05.2**	**+6.4**
CD2	**Chengdu**	**22.66**	**23**	*i*P	**P**	**20 37 59.9**	**+1.0**
CD2				S	**S**	**20 42 05.0**	**-1.0**
CD2				SS	**SnSn**	**20 42 46.9**	**+10**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,250nm,8.8s						
CD2				LR	LR		
	comp=Z,2µm,11.8s						
CD2				LR	LR		
	comp=Z,950nm,13.2s						
KKM	**Kota Kinabalu**	**22.77**	**99**	P	**P**	**20 37 57.0**	**-3.4**
KKM				IAmb	IAmb	20 38 10.5	
	comp=Z,107nm,1.3s						
KPJI	**Karang Pucung**	**23.18**	**138**	P	**P**	**20 38 05.0**	**+0.6**
	comp=Z,29µmcomp=Z,34nm,1.0s						
SPMM	**Sapulut**	**23.32**	**102**	P	**P**	**20 38 08.0**	**+2.1**
UWJI	**Ujung Watu**	**23.91**	**133**	P	**P**	**20 38 12.2**	**+0.6**
	comp=Z,4µmcomp=Z,378nm,1.2s						
MTKI	**Muara Teweh, K**	**23.93**	**116**	P	**P**	**20 38 12.3**	**+0.6**
	comp=Z,1µmcomp=Z,34nm,0.8s						
SMRI	**Semarang**	**24.00**	**135**	P	P	**20 38 08.3**	**-4.0**
SMRI	**Semarang**	**24.00**	**135**	P	P	**20 38 13.0**	**+0.7**
	comp=Z,180nm,0.9s						
UGM	**Wanagama**	**24.67**	**136**	P	**P**	**20 38 14.9**	**-3.7**
UGM	**Wanagama**	**24.67**	**136**	P	**P**	**20 38 19.1**	**+0.6**
	comp=Z,121nm,1.5s						
TBJI	**Tambak Boyo**	**24.84**	**132**	P	**P**	**20 38 20.7**	**+0.7**
	comp=Z,326nm,1.0s						
ENH	**Enshi**	**24.85**	**34**	P	**P**	**20 38 18.0**	**-2.1**
ENH				IAmb	IAmb	20 38 36.7	
	comp=Z,87nm,0.9s						
BBKI	**Banjar Baru**	**25.15**	**122**	P	**P**	**20 38 23.5**	**+0.6**
	comp=Z,171nm,1.0s						
MYLDM	**Lahad Datu**	**25.18**	**100**	P	**P**	**20 38 20.4**	**-2.7**
CNSH	**ChangSha**	**25.49**	**43**	⇑P	**P**	**20 38 30.3**	**+4.5**
CNSH				LR	LR		
	comp=Z,650nm,12.4s						
CNSH				LR	LR		
	comp=Z,640nm,14.4s						
CNSH				LR	LR		
	comp=Z,680nm,12.6s						
PWJI	**Pagerwojo**	**25.63**	**134**	P	**P**	**20 38 26.6**	**-0.6**
	comp=Z,36nm,0.9s						
GOMU	**GeErMu**	**25.89**	**2**	P	**P**	**20 38 31.0**	**+1.2**
GOMU				pP	pP	20 38 35.4	0.0
GOMU				PcP	**PcP**	**20 41 59.3**	**+0.6**
GOMU				S	**S**	**20 43 02.0**	**+3.0**
GOMU				sS	sS	20 43 09.4	+0.7
GOMU				pmax	pmax		
	comp=Z,21nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,270nm,3.6s						
GOMU				LR	LR		
	comp=Z,250nm,18.4s						
GOMU				LR	LR		
	comp=Z,660nm,19.4s						
GOMU				LR	LR		
	comp=Z,400nm,22.0s						
KMMI	**Kalianget**	**26.57**	**129**	P	**P**	**20 38 36.0**	**+0.3**
	comp=Z,96nm,0.9s						
BLJI	**Banyuglugur**	**26.74**	**131**	P	**P**	**20 38 37.9**	**+0.6**
	comp=Z,1µmcomp=Z,149nm,0.9s						
ABJI	**Asem Bagus**	**27.25**	**130**	P	**P**	**20 38 42.5**	**+0.6**
	comp=Z,145nm,0.9s						
DGAR	**Diego Garcia**	**27.38**	**231**	P	P	20 38 50.4	+7.4
LZH	**Lanzhou**	**27.39**	**18**	*e*P	**P**	**20 38 42.8**	**-0.3**
LZH				sP	pwP	20 38 51.5	-0.5
LZH				PP	**PnPn**	**20 39 32.6**	**+4.9**
LZH				S	**S**	**20 43 25.0**	**+2.7**
LZH				SS	**SnSn**	**20 44 42.6**	**+10**
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
LZH				LR	LR		
	comp=Z,1µm,16.0s						
LZH				LR	LR		
	comp=Z,2µm,18.2s						
LZH				LR	LR		
	comp=Z,2µm,19.5s						
H08S3	**Diego Garcia H**	**27.49**	**231**	T	T	21 06 36.6	
	SNR=49						
H08S2	**Diego Garcia H**	**27.50**	**231**	T	T	21 06 29.6	
	baz=50,slow=74,SNR=112						
H08S1	**Diego Garcia H**	**27.51**	**231**	T	T	21 06 02.3	
	baz=130,slow=74,SNR=110						
XAN	**Xi'an**	**27.57**	**28**	P	**P**	**20 38 44.0**	**-0.6**
XAN				pP	sP	20 38 51.9	-0.3
XAN				S	**S**	**20 43 26.3**	**+1.4**
XAN				sS	sS	20 43 41.3	+6.9
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
XAN				pmax	pmax		
	comp=Z,110nm,6.4s						
XAN				LR	LR		
	comp=Z,2µm,13.1s						
XAN				LR	LR		
	comp=Z,2µm,13.1s						
XAN				LR	LR		
	comp=Z,1µm,11.0s						
JAGI	**Jajag, Banyuwa**	**27.63**	**131**	P	**P**	**20 38 42.1**	**-3.2**
JAGI				IAmb	IAmb	20 38 57.1	
	comp=Z,34nm,0.8s						
JAGI	**Jajag, Banyuwa**	**27.63**	**131**	P	**P**	**20 38 45.9**	**+0.6**
	comp=Z,50nm,1.0s						
MPSI	**Mapaga**	**27.94**	**109**	P	**P**	**20 38 48.7**	**+0.6**
	comp=Z,620nmcomp=Z,16nm,0.9s						
WHN	**Wuhan**	**27.97**	**41**	⇑P	**P**	**20 38 49.4**	**+1.2**
WHN				S	**S**	**20 43 34.3**	**+3.1**
WHN				pmax	pmax		
	comp=Z,130nm,1.3s						
WHN				LR	LR		
	comp=Z,2µm,11.1s						
WHN				LR	LR		
	comp=Z,490nm,10.5s						
WHN				LR	LR		
	comp=Z,2µm,12.3s						
SRBI	**Singaraja**	**28.18**	**129**	P	**P**	**20 38 50.8**	**+0.6**
	comp=Z,157nm,1.2s						
TOLI2	**Tolitoli**	**28.50**	**107**	P	**P**	**20 38 51.3**	**-1.8**
TWG	**Pinlang**	**29.11**	**61**	P	**P**	**20 38 56.9**	**-1.6**
TWG				IAmb	IAmb	20 39 16.4	
	comp=Z,67nm,1.4s						
TTSI	**Tana Toraja**	**29.25**	**115**	P	**P**	**20 39 00.4**	**+0.6**
	comp=Z,468nmcomp=Z,38nm,1.0s						
YULB	**Yu-li**	**29.51**	**60**	P	**P**	**20 38 60.0**	**-2.0**
YULB				IAmb	IAmb	20 39 19.3	
	comp=Z,183nm,2.0s						
GTA	**Gaotai**	**29.60**	**10**	⇑P	**P**	**20 39 03.8**	**+1.1**
GTA				sP	pwP	20 39 11.6	-0.3
GTA				PcP	**PcP**	**20 42 07.9**	**+0.6**
GTA				ScS	ScS	20 49 41.9	-1.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,44nm,6.0s						
GTA				LR	LR		
	comp=Z,410nm,19.9s						
GTA				LR	LR		
	comp=Z,520nm,21.9s						
GTA				LR	LR		
	comp=Z,640nm,19.5s						
SPSI	**Sidrap Palu**	**29.64**	**117**	P	**P**	**20 39 03.8**	**+0.7**
	comp=Z,18nm,1.0s						
LYN

BKSI Bulukumba 30.60 119 P **P** **20 39 12.4 +0.7**
comp=Z,723nmcomp=Z,102nm,1.0s
PLAI Plampang 30.62 127 P **P** **20 39 12.5 +0.7**
comp=Z,52nm,0.9s
PLAI Plampang 30.62 127 P **P** **20 39 13.6 +1.8**
GTOI Gorontalo 30.76 106 P **P** **20 39 12.2 -0.9**
comp=Z,234nmcomp=Z,27nm,1.3s
LUWI Luwuk 31.12 109 P **P** **20 39 13.6 -2.7**
LUWI Luwuk 31.12 109 P **P** **20 39 16.9 +0.6**
comp=Z,3µmcomp=Z,160nm,1.3s
LUWI Luwuk 31.12 109 P **P** **20 39 17.3 +1.0**
BSSI Bau Bau, Buton 31.34 120 P **P** **20 39 18.8 +0.6**
comp=Z,434nmcomp=Z,26nm,0.8s
KMSI Cibinong 31.70 106 P **P** **20 39 22.0 +0.6**
comp=Z,127nm,0.9s
DAV Davao City (W) 31.77 93 LR LR 20 53 45.2
comp=Z,273nm,18.2s,baz=326,slow=39
NJ2 Nanjing 31.90 43 *e*P **P** **20 39 24.1 +1.1**
NJ2 sP **pwP** **20 39 31.8 +0.5**
NJ2 S **S** **20 44 36.3 +3.4**
NJ2 pmax pmax
comp=Z,17nm,0.6s
NJ2 pmax pmax
comp=Z,200nm,4.2s
NJ2 LR LR
comp=Z,960nm,15.0s
NJ2 LR LR
comp=Z,440nm,15.0s
NJ2 LR LR
comp=Z,370nm,13.7s
BBSI Bau Bau 32.81 117 P **P** **20 39 31.7 +0.5**
comp=Z,69nmcomp=Z,7.1nm,1.0s
SSE Sheshan 32.98 47 P **P** **20 39 33.8 +1.4**
SSE S **S** **20 44 54.3 +4.6**
SSE pmax pmax
comp=Z,7.0nm,0.8s
SSE pmax pmax
comp=Z,52nm,5.2s
SSE LR LR
comp=Z,370nm,11.9s
SSE LR LR
comp=Z,290nm,11.3s
KBL Kabul 33.01 321 P **P** **20 39 32.3 -0.6**
KBL pmax pmax
comp=Z,36nm,1.5s
KBL Kabul 33.01 321 P **P** **20 39 32.3 -0.6**
KBL Kabul 33.01 321 P **P** **20 39 34.3 +1.4**
SNR=13
HNS HongShan 33.09 32 ⇓P **P** **20 39 34.3 +1.0**
HNS S **S** **20 44 56.6 +5.4**
HNS pmax pmax
comp=Z,25nm,1.1s
HNS LR LR
comp=Z,620nm,14.1s
HNS LR LR
comp=Z,1µm,14.1s
HNS LR LR
comp=Z,980nm,15.2s
KSH Kashi 33.13 335 P **P** **20 39 33.4 -0.5**
KSH sP sP 20 39 40.8 -1.4
KSH PP **PnPn** **20 40 41.3 -2.6**
KSH PcP **PcP** **20 42 18.4 +1.6**
KSH S **S** **20 44 47.6 -4.6**
KSH sS pS 20 44 57.3 -1.6
KSH PcS **PcS** **20 45 59.3 -3.0**
KSH pmax pmax
comp=Z,29nm,0.6s
KSH LR LR
comp=Z,500nm,19.7s
KSH LR LR
comp=Z,530nm,20.3s
KSH LR LR
comp=Z,790nm,25.1s
TIA Tai'an 33.54 36 *e*P **P** **20 39 38.1 +0.8**
TIA S **S** **20 44 58.4 0.0**
TIA pmax pmax
comp=Z,9.0nm,1.0s
TIA pmax pmax
comp=Z,210nm,5.5s
TIA LR LR
comp=Z,580nm,13.7s
TIA LR LR
comp=Z,870nm,14.3s
TIA LR LR
comp=Z,570nm,13.5s
BTO Baotou 33.59 23 *e*P **P** **20 39 40.0 +2.3**
BTO LR LR
comp=Z,3µm,15.1s
BTO LR LR
comp=Z,3µm,14.1s
BASI Baing, Sumba 33.66 126 P **P** **20 39 39.1 +0.6**
comp=Z,2µmcomp=Z,224nm,1.2s
WMQ Urumqi 33.87 352 *e*P **P** **20 39 41.1 +1.0**
WMQ pP pP 20 39 44.9 -1.1
WMQ sP pwP 20 39 48.8 +0.2
WMQ PP **PnPn** **20 40 50.0 -3.1**
WMQ S **S** **20 45 04.8 +1.4**
WMQ pmax pmax
comp=Z,52nm,1.3s
WMQ pmax pmax
comp=Z,260nm,4.5s
WMQ LR LR
comp=Z,680nm,17.1s
WMQ LR LR
comp=Z,570nm,19.5s
WMQ LR LR
comp=Z,730nm,21.9s
MMRI Maumere 34.12 122 P **P** **20 39 41.0 -1.5**
MMRI Maumere 34.12 122 P **P** **20 39 43.1 +0.6**
comp=Z,1µmcomp=Z,129nm,1.2s
TARG Taragay, Kyrgy 34.33 339 IAmb IAmb 20 40 03.5
comp=Z,27nm,0.9s
HHC Hu-ho-hao-te 34.40 24 *e*P **P** **20 39 47.4 +2.5**
HHC S **S** **20 45 15.0 +3.2**
HHC SS **SnSn** **20 47 29.3 +6.6**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.1s
HHC LR LR
comp=Z,650nm,12.1s
HHC LR LR
comp=Z,590nm,14.0s
HHC LR LR
comp=Z,800nm,14.0s
SANI Sanana 34.48 109 P **P** **20 39 46.2 +0.5**
comp=Z,20nm,0.8s
JLN Jalan Bani Buh 34.81 294 P **P** **20 39 51.9 +3.4**
KDJ Kajisay 34.90 338 P **P** **20 39 49.2 0.0**
KDJ pmax pmax
comp=Z,23nm,0.9s
KDJ Kajisay 34.90 338 P **P** **20 39 49.2 0.0**
DRK Karamyk 35.02 330 P **P** **20 39 50.7 +0.3**
SHLS Shalkode 35.05 342 *e*P **P** **20 39 48.7 -1.7**
SHLS pmax pmax
comp=Z,12nm,1.3s
SHLS Shalkode 35.05 342 *e*P **P** **20 39 48.8 -1.7**
comp=Z,12nm,1.3s,baz=342
UZB Uzunbulak 35.18 341 *e*P **P** **20 39 51.4 -0.2**
UZB pmax pmax
comp=Z,16nm,1.3s
UZB Uzunbulak 35.18 341 *e*P **P** **20 39 51.4 -0.2**
comp=Z,16nm,1.3s,baz=341
PDGK Podgornoye 35.20 342 *i*P **P** **20 39 52.1 +0.4**
PDGK pmax pmax
comp=Z,39nm,1.2s
SATY Saty 35.30 341 *e*P **P** **20 39 52.1 -0.5**
SATY pmax pmax
comp=Z,5.0nm,0.8s
SATY Saty 35.30 341 *e*P **P** **20 39 52.1 -0.5**
comp=Z,5.5nm,0.8s,baz=340
WBK Wadi Bani Khal 35.32 295 P **P** **20 39 56.4 +3.5**
ULHL Ulahol 35.35 338 P **P** **20 39 53.9 +0.8**
SNR=14
ZHN Zhinishke 35.39 341 *e*P **P** **20 39 52.9 -0.4**
ZHN Zhinishke 35.39 341 *e*P **P** **20 39 52.9 -0.4**
baz=341
GAR Garm 35.41 328 P **P** **20 39 52.8 -0.8**
LBMI Labuha 35.42 106 P **P** **20 39 54.4 +0.6**
comp=Z,477nmcomp=Z,24nm,1.6s
KPKS Kokpek 35.58 341 *e*P **P** **20 39 54.4 -0.5**
KPKS pmax pmax
comp=Z,13nm,1.1s
KPKS Kokpek 35.58 341 *e*P **P** **20 39 54.5 -0.5**
comp=Z,13nm,1.1s,baz=341
BOOM Boomskoye usch 35.67 337 P **P** **20 39 56.2 +0.3**
BOOM pmax pmax
comp=Z,20nm,1.1s
BOOM Boomskoye usch 35.67 337 P **P** **20 39 56.2 +0.3**
TNSS Tian-Shan 35.78 339 *e*P **P** **20 39 56.8 -0.2**
TNSS Tian-Shan 35.78 339 *e*P **P** **20 39 56.9 -0.2**
baz=339
CHGR Chuyangaron 35.78 326 P **P** **20 39 54.9 -1.8**
CHGR pmax pmax
comp=Z,95nm,0.9s
CHGR Chuyangaron 35.78 326 P **P** **20 39 54.9 -1.8**
WSAR Wadi Sarin 35.79 296 LR LR 20 55 35.1
comp=Z,281nm,19.9s,baz=132,slow=38
WSAR Wadi Sarin 35.79 296 P **P** **20 40 00.4 +3.5**
BJI Beijing 35.84 30 P **P** **20 39 58.6 +1.5**
BJI pP **pP** **20 40 01.9 -1.0**
BJI sP **pwP** **20 40 06.3 +0.5**
BJI PP **PP** **20 41 21.8 +3.1**
BJI S **S** **20 45 35.6 +1.9**
BJI SS **SnSn** **20 47 56.4 -0.9**
BJI pmax pmax
comp=Z,10.0nm,0.7s
BJI pmax pmax
comp=Z,210nm,6.1s
BJI LR LR
comp=Z,390nm,13.3s
BJI LR LR
comp=Z,590nm,13.6s
BJI LR LR
comp=Z,620nm,13.7s
MDOK Medeo 35.85 339 *e*P **P** **20 39 56.6 -0.7**
MDOK Medeo 35.85 339 *e*P **P** **20 39 56.6 -0.7**
baz=339
MHTO MHTO 35.86 292 P **P** **20 40 00.8 +3.3**
AAA Alma-Ata 35.94 339 *e*P **P** **20 39 57.8 -0.2**
AAA pmax pmax
comp=Z,23nm,0.7s
AAA Alma-Ata 35.94 339 *e*P **P** **20 39 57.9 -0.2**
comp=Z,23nm,0.7s,baz=339
BTK Batken 35.95 330 P **P** **20 39 58.2 0.0**
BTK pmax pmax
comp=Z,89nm,0.9s
BTK Batken 35.95 330 P **P** **20 39 58.1 0.0**
UCH Uchtor 36.01 336 P **P** **20 40 00.3 +1.2**
SNR=16
JMDO Jabal Madar 36.04 294 P **P** **20 40 02.2 +3.1**
DQM DQM 36.05 290 P **P** **20 40 02.5 +3.3**
BATI Baumata 36.15 123 P **P** **20 40 00.6 +0.5**
comp=Z,49nm,1.0s
TKM2 Tokmak 2 36.17 337 P **P** **20 40 02.2 +2.0**
SNR=5.6
TKM2 Tokmak 2 36.17 337 *i*P **P** **20 40 00.8 +0.6**
TKM2 pmax pmax
comp=Z,37nm,1.4s
KBK Karagaybulak 36.20 336 P **P** **20 40 02.0 +1.6**
SNR=24
SMDO Samad 36.26 295 P **P** **20 40 04.4 +3.4**
AML Almayashu 36.27 335 P **P** **20 40 02.8 +1.6**
SNR=49
AML Almayashu 36.27 335 P **P** **20 40 02.5 +1.3**
AML Almayashu 36.27 335 *i*P **P** **20 40 02.8 +1.6**
SNR=49
BIDO Bidbid 36.31 296 P **P** **20 40 05.5 +4.1**
AAK Ala-Archa 36.36 336 P **P** **20 40 03.1 +1.4**
SNR=26
AAK Ala-Archa 36.36 336 LR LR 20 56 24.1
comp=Z,840nm,21.8s,baz=149,slow=39
AAK Ala-Archa 36.36 336 *d*/*i*P **P** **20 40 03.0 +1.3**
AAK pmax pmax
comp=Z,37nm,1.3s
AAK Ala-Archa 36.36 336 P **P** **20 40 01.9 +0.2**
AAK IAmb IAmb 20 40 13.4
comp=Z,53nm,1.1s
AAK Ala-Archa 36.36 336 P **P** **20 40 03.3 +1.5**
AAK Ala-Archa 36.36 336 *i*P **P** **20 40 03.1 +1.4**
SNR=42
FRU1 Bishkek 36.45 336 P **P** **20 40 02.1 -0.3**
FRU1 pmax pmax
comp=Z,39nm,1.2s
FRU1 Bishkek 36.45 336 P **P** **20 40 02.1 -0.3**
FRU1 IAmb IAmb 20 40 12.2
comp=Z,39nm,1.2s
CHKK Chushkaly 36.48 340 *e*P **P** **20 40 02.0 -0.5**
CHKK Chushkaly 36.48 340 *e*P **P** **20 40 02.1 -0.5**
baz=340
CHMS Chumysh 36.56 337 P **P** **20 40 04.2 +0.9**
SNR=14
CHMS Chumysh 36.56 337 *i*P **P** **20 40 02.9 -0.4**
CHMS pmax pmax
comp=Z,51nm,1.3s
JOW Kunigami 36.64 58 P **P** **20 40 03.6 -0.6**
JOW IAmb IAmb 20 40 17.2
comp=Z,81nm,1.3s
EKS2 Erkin-Say 36.67 335 P **P** **20 40 06.0 +1.6**
SNR=27
KUU Kurty 36.74 339 *e*P **P** **20 40 03.0 -1.8**
KUU pmax pmax
comp=Z,33nm,1.7s
KUU Kurty 36.74 339 *e*P **P** **20 40 03.1 -1.8**
comp=Z,33nm,1.7s,baz=339
USP Ospenovka 36.89 337 P **P** **20 40 07.2 +1.1**
SNR=32
BSY Bisya 36.94 294 P **P** **20 40 11.3 +4.5**
SNR=7.7
SGDS Sogindy 36.99 337 *e*P **P** **20 40 05.9 -1.1**
SGDS Sogindy 36.99 337 *e*P **P** **20 40 06.0 -1.1**
baz=337
TDK Taldyqorghan 37.05 342 *e*P **P** **20 40 06.9 -0.5**
TDK Taldyqorghan 37.05 342 *e*P **P** **20 40 06.9 -0.5**
baz=342
AAI Ambon 37.13 110 P **P** **20 40 09.0 +0.6**
comp=Z,954nmcomp=Z,92nm,0.9s
HRA Herat 37.41 315 P **P** **20 40 10.9 +0.1**
SHAO Shalim 37.57 286 P **P** **20 40 15.8 +3.7**
SNR=6.8
SHAO Shalim 37.57 286 P **P** **20 40 15.6 +3.4**
TAS Tashkent 37.66 330 P **P** **20 40 14.0 +1.4**
TAS pmax pmax
comp=Z,78nm,1.0s
TAS Tashkent 37.66 330 P **P** **20 40 14.0 +1.4**
TAS IAmb IAmb 20 40 24.3
comp=Z,78nm,1.0s
MSAI Masohi 37.68 109 P **P** **20 40 13.7 +0.6**
comp=Z,269nmcomp=Z,14nm,1.0s
ARQ Araqi 37.69 295 P **P** **20 40 15.2 +2.0**
MK31 Makanchi Array 37.70 347 *d*e**P** **P** **20 40 12.8 -0.1**
MK31 Makanchi Array 37.70 347 P **P** **20 40 12.0 -0.9**
MKAR Makanchi Array 37.70 347 P **P** **20 40 12.9 +0.1**
comp=Z,9.0nm,0.8s,baz=168,slow=9.0,SNR=55
MKAR LR LR 20 58 38.9
comp=Z,530nm,21.1s,baz=162,slow=41
MKAR Makanchi Array 37.70 347 *i*P **P** **20 40 13.0 +0.1**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 37.70 347 P **P** **20 40 12.6 -0.3**
MAKZ Makanchi 37.78 347 P **P** **20 40 12.2 -1.4**
MAKZ pmax pmax
comp=Z,13nm,0.7s
MAKZ Makanchi 37.78 347 P **P** **20 40 12.2 -1.4**
ZSN Zaisan 37.84 350 *e*P **P** **20 40 13.4 -0.6**
ZSN Zaisan 37.84 350 *e*P **P** **20 40 13.5 -0.6**
baz=350
DZA Taraz 37.91 333 *e*P **P** **20 40 14.1 -0.6**
DZA Taraz 37.91 333 *e*P **P** **20 40 14.2 -0.6**
baz=333
IUG Iuzhnay 37.93 331 *e*P **P** **20 40 14.6 -0.3**
IUG Iuzhnay 37.93 331 *e*P **P** **20 40 14.7 -0.3**
baz=331
DL2 Dalian 37.99 37 P P 20 40 20.3 +4.9
DL2 S S 20 46 17.3 +11
DL2 pmax pmax
comp=Z,45nm,1.1s
DL2 pmax pmax
comp=Z,230nm,5.4s
DL2 LR LR
comp=Z,510nm,18.1s
DL2 LR LR
comp=Z,410nm,16.0s
DL2 LR LR
comp=Z,490nm,13.9s
DMTO DMTO 38.17 286 P **P** **20 40 20.8 +3.6**
UOSS Minazif 38.38 297 P **P** **20 40 19.4 +0.4**
UOSS Minazif 38.38 297 P **P** **20 40 20.8 +1.8**
UOSS Minazif 38.38 297 P **P** **20 40 21.8 +2.8**
HATD Hatta, Dubai 38.41 297 P **P** **20 40 23.6 +4.4**
HATD Hatta, Dubai 38.41 297 P **P** **20 40 22.8 +3.5**
ASHO Ashiyiah 38.44 297 P **P** **20 40 23.3 +3.9**
ASHO Ashiyiah 38.44 297 P **P** **20 40 22.1 +2.6**
KK31 Karatay Array 38.44 332 P **P** **20 40 20.1 +0.8**
KK31 pmax pmax
comp=Z,41nm,1.0s
KK31 Karatay Array 38.44 332 P **P** **20 40 20.1 +0.8**
KK31 IAmb IAmb 20 40 30.1
comp=Z,41nm,1.0s
KKAR Karatay Array 38.44 332 P **P** **20 40 19.5 +0.3**
KKAR pmax pmax
comp=Z,41nm,1.0s
KKAR Karatay Array 38.44 332 P **P** **20 40 19.5 +0.3**
KKAR Karatay Array 38.44 332 P **P** **20 40 20.1 +0.8**
KKAR IAmb IAmb 20 40 30.1
comp=Z,41nm,1.0s
MASF Masafi 38.53 298 P **P** **20 40 22.0 +1.8**
ALNE Al Ain 38.55 296 P **P** **20 40 23.8 +3.5**
ALNE Al Ain 38.55 296 P **P** **20 40 23.6 +3.2**
BTLS Baital 38.56 338 *e*P **P** **20 40 19.4 -0.7**
BTLS Baital 38.56 338 *e*P **P** **20 40 19.4 -0.7**
baz=338
BANOM Banah 38.57 299 P **P** **20 40 23.2 +2.6**
UMZA Um Al Zommool 38.77 294 P **P** **20 40 25.4 +3.2**
XLT XiLinHaoTe 38.81 26 *e*P **P** **20 40 23.4 +1.0**
XLT pP pP 20 40 28.5 +0.3
XLT sP pwP 20 40 30.8 -0.5
XLT PcS **PcS** **20 46 17.3 -5.6**
XLT ScP **S** **20 46 19.6 +0.6**
XLT S **ScP** **20 46 22.8 +2.1**
XLT pmax pmax
comp=Z,20nm,0.9s
XLT pmax pmax
comp=Z,170nm,3.6s
XLT LR LR
comp=Z,1µm,15.2s
XLT LR LR
comp=Z,690nm,14.3s
RBK Rabkut 38.86 285 P **P** **20 40 25.7 +2.6**
FAQ Al Faqa, Dubai 38.86 297 P **P** **20 40 25.6 +2.6**
FAQ P **P** **20 40 25.6 +2.6**
FAQ Al Faqa, Dubai 38.86 297 P **P** **20 40 26.0 +3.0**
NAZ Nazwa, Dubai 38.87 297 P **P** **20 40 25.8 +2.8**
SOCY Socotra 38.88 277 P **P** **20 40 22.6 -0.7**
SOCY IAmb IAmb 20 40 27.4
comp=Z,117nm,1.8s
SONM Songino Array 39.02 14 P **P** **20 40 24.9 +0.7**
comp=Z,3.0nm,0.6s,baz=200,slow=9.0,SNR=23
SONM PcP **PcP** **20 42 34.8 +0.6**
comp=Z,5.1nm,0.9s,baz=208,slow=3.3,SNR=8.1
SONM LR LR 20 58 07.8
comp=Z,759nm,20.6s,baz=196,slow=39
SONM Songino Array 39.02 14 P **P** **20 40 23.2 -1.0**
SONM 20 42 34.8
SONM pmax pmax
comp=Z,11nm,1.0s
SONM Songino Array 39.02 14 P **P** **20 40 23.2 -1.0**
DOK Doka 39.05 287 P **P** **20 40 28.3 +3.7**
SNR=6.6
ASUD Al Ashush, Dub 39.06 297 P **P** **20 40 28.9 +4.3**
ASUD Al Ashush, Dub 39.06 297 P **P** **20 40 28.8 +4.1**
SWI Sorong 39.06 104 P **P** **20 40 25.3 +0.5**
comp=Z,28nm,0.9s
ULN Ulaanbaatar 39.21 14 ⇑*i*P **P** **20 40 25.5 -0.2**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 39.21 14 P **P** **20 40 24.6 -1.1**
WHFO Wadi Hawf 39.31 286 P **P** **20 40 30.2 +3.3**
SNR=11
AJN Ajban 39.35 296 P **P** **20 40 30.7 +3.7**
ABTO Aybut 39.71 285 P **P** **20 40 33.5 +3.3**
SNR=5.2
ABTO P **P** **20 40 33.5 +3.3**
SNR=5.2
TJN Taejon 40.15 44 *de*P **P** **20 40 33.6 +0.1**
TJN Taejon 40.15 44 P **P** **20 40 33.2 -0.3**
JSU Suzuyama 40.16 53 P **P** **20 40 31.8 -1.9**
JSU IAmb IAmb 20 40 44.6
comp=Z,74nm,1.6s
INCN Inchon 40.26 42 P **P** **20 40 33.1 -1.4**
INCN pmax pmax
comp=Z,113nm,1.4s
INCN Inchon 40.26 42 P **P** **20 40 33.0 -1.4**
INCN IAmb IAmb 20 40 44.9
comp=Z,112nm,1.4s
INCN Inchon 40.26 42 P **P** **20 40 34.9 +0.5**
MZR Muzera 40.35 294 P **P** **20 40 36.6 +1.3**
MZR Muzera 40.35 294 *i*P **P** **20 40 38.3 +2.9**
SNR=8.7
KNGR Kungurtug, Tuv 40.40 4 ⇑*i*P **P** **20 40 36.1 +0.6**
JTU Tsushima 40.67 48 P **P** **20 40 37.3 -0.5**
JTU IAmb IAmb 20 40 49.6
comp=Z,117nm,1.4s
MSEY Mahe Island 40.74 250 P **P** **20 40 37.9 -0.9**
MSEY pmax pmax
comp=Z,188nm,1.9s
MSEY Mahe Island 40.74 250 **P** **20 40 37.9 -0.9**
MSEY IAmb IAmb 20 41 23.4
comp=Z,188nm,1.9s
MSEY Mahe Island 40.74 250 P **P** 20 40 44.2 +5.5
PSA00 Pilbara Seismi 40.77 141 P **P** **20 40 37.3 -1.6**
PSA00 Pilbara Seismi 40.77 141 P **P** **20 40 37.7 -1.1**
PSA00 IAmb IAmb 20 40 48.6
comp=Z,17nm,1.0s
ZAK Zakamensk 40.84 9 *e*P **P** **20 40 38.9 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
SNY Shenyang 41.04 35 ⇑P **P** **20 40 45.3 +4.5**
SNY S **S** **20 46 56.0 +3.8**
SNY pmax pmax
comp=Z,23nm,1.6s
SNY pmax pmax
comp=Z,190nm,5.5s
SNY LR LR
comp=Z,350nm,14.9s
SNY LR LR
comp=Z,740nm,13.7s
SNY LR LR
comp=Z,870nm,14.7s
KSAR Wonju Array Be 41.07 43 P **P** **20 40 41.0 -0.1**
KSAR Wonju Array Be 41.07 43 P **P** **20 40 41.0 -0.1**
GHWR Ruwais 41.09 295 P **P** **20 40 44.1 +2.7**
GHWR P **P** **20 40 44.1 +2.7**
KS19 Wonju Array Si 41.09 43 P **P** **20 40 41.0 -0.3**
KS19 IAmb IAmb 20 40 59.4
comp=Z,58nm,1.2s
KSRS Korea Array 41.10 43 P **P** **20 40 42.0 +0.6**
comp=Z,10nm,1.0s,baz=254,slow=8.8,SNR=28
JNU Nakatsue 41.15 51 P **P** **20 40 39.7 -2.2**
SEM Semipalatinsk 41.56 347 *e*P **P** **20 40 43.4 -1.8**
SEM Semipalatinsk 41.56 347 *e*P **P** **20 40 43.5 -1.8**
baz=347
MOY Mondy 41.77 7 *e*P **P** **20 40 47.6 +0.8**
OTUK Ortayu 41.90 339 *i*P **P** **20 40 47.5 -0.3**
OTUK pmax pmax
comp=Z,47nm,0.9s
GEYT Alibeck 42.12 317 P **P** **20 40 51.6 +1.8**
comp=Z,84nm,0.8s,baz=119,slow=12,SNR=129
GEYT PcP **PcP** **20 42 44.7 +0.5**
comp=Z,4.8nm,0.8s,baz=61,slow=44,SNR=1.9
GEYT LR LR 21 00 49.6
comp=Z,444nm,19.2s,baz=144,slow=40
GEYT Alibeck 42.12 317 P **P** **20 40 51.9 +2.1**
GEYT IAmb IAmb 20 40 53.4
comp=Z,73nm,0.7s
GYA0B ALIBECK ARRAY 42.12 317 P **P** **20 40 51.1 +1.4**
KURBB Kurchatov Arra 42.16 346 LR LR 21 00 54.9
comp=Z,565nm,21.8s,baz=141,slow=40
KURK Kurchatov 42.22 346 P **P** **20 40 50.0 -0.3**
KURK pmax pmax
comp=Z,73nm,1.7s
KURK Kurchatov 42.22 346 P **P** **20 40 50.0 -0.3**
KURK IAmb IAmb 20 41 00.6
comp=Z,73nm,1.7s
KURK Kurchatov 42.22 346 P **P** **20 40 50.6 +0.2**
SHMA Al-Shehemyia 43.20 297 P **P** **20 40 59.9 +1.3**
BRZS Berezniki 43.27 340 *e*P **P** **20 40 57.5 -1.4**
BRZS Berezniki 43.27 340 *e*P **P** **20 40 57.5 -1.4**
baz=340
KNRA Kununurra 43.30 126 P **P** **20 40 59.5 -0.1**
baz=43,SNR=4.3
KNRA Kununurra 43.30 126 P **P** **20 40 57.1 -2.5**
KNRA IAmb IAmb 20 41 09.0
comp=Z,44nm,1.1s
CN2 Changchun 43.37 34 *e*P **P** **20 40 59.4 -0.4**

CN2 PP **PP** **20 42 42.8 +2.0**
CN2 S **S** **20 47 23.8 -2.8**
CN2 sS sS 20 47 44.6 +8.6
CN2 SS **SS** **20 50 31.5 -9.3**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,510nm,22.0s
CN2 LR LR
comp=Z,460nm,22.0s
CN2 LR LR
comp=Z,570nm,22.0s
JHS **Saijyo** **43.62 49** P **P** **20 41 00.0 -2.0**
JHS IAmb IAmb 20 41 14.9
comp=Z,122nm,1.8s
MTN **Manton Dam** **43.76 121** P **P** **20 41 01.1 -2.2**
ZAA0 **Zalesovo Array** **44.18 353** P **P** **20 41 06.0 -0.1**
ZAA0 IAmb IAmb 20 41 15.2
comp=Z,33nm,0.8s
ZALV **Zalesovo Beam** **44.18 353** P **P** **20 41 06.2 +0.1**
comp=Z,16nm,0.4s,baz=178,slow=8.6,SNR=93
ZALV LR LR 21 03 21.3
comp=Z,316nm,20.0s,baz=180,slow=41
ZALV **Zalesovo Beam** **44.18 353** P **P** **20 41 05.4 -0.7**
MORW **Morawa** **44.66 152** P **P** **20 41 08.5 -1.8**
KDU **Kakadu** **44.82 120** P **P** **20 41 11.5 -0.3**
baz=45,SNR=3.6
BNX **BinXian** **45.69 33** ⇓P **P** **20 41 18.8 +0.5**
BNX pmax pmax
comp=Z,32nm,1.2s
BNX pmax pmax
comp=Z,220nm,7.8s
SMPI **Sarmi** **46.52 103** P **P** **20 41 25.8 +0.5**
comp=Z,26nm,1.5s
BRVK **Borovoye** **46.67 341***d iP* **P** **20 41 25.4 -0.5**
BRVK pmax pmax
comp=Z,21nm,1.3s
BRVK **Borovoye** **46.67 341** P **P** **20 41 25.5 -0.4**
BRVK IAmb IAmb 20 41 34.7
comp=Z,18nm,0.8s
BRVK **Borovoye** **46.67 341** P **P** **20 41 26.0 +0.1**
USA0B **Ussuriysk Arra** **47.37 37** P **P** **20 41 29.0 -2.5**
USA0B pmax pmax
comp=Z,15nm,1.0s
USA0B **Ussuriysk Arra** **47.37 37** P **P** **20 41 29.0 -2.5**
USRK **Ussuriysk Ar.** **47.37 37** P **P** **20 41 31.4 -0.1**
comp=Z,3.0nm,0.9s,baz=233,slow=8.8,SNR=4.3
USRK LR LR 21 01 59.9
comp=Z,230nm,18.6s,baz=228,slow=37
USRK **Ussuriysk Ar.** **47.37 37** P **P** **20 41 30.2 -1.3**
USRK **Ussuriysk Ar.** **47.37 37** P **P** **20 41 30.2 -1.3**
AB31 **Akbulak array** **47.93 331** *i* P **P** **20 41 36.3 +0.5**
AB31 pmax pmax
comp=Z,15nm,0.5s
ABKAR **Akbulak array** **47.93 331** P **P** **20 41 35.6 -0.2**
ABKAR **Akbulak array** **47.93 331** P **P** **20 41 35.9 +0.1**
ABKAR IAmb IAmb 20 41 46.7
comp=Z,51nm,1.0s
MJB9 **Matsu-Tunnel** **48.03 50** P **P** **20 41 36.3 -0.6**
MAJO **Matsushiro** **48.03 50** P **P** **20 41 36.6 -0.2**
MAJO pmax pmax
comp=Z,131nm,1.8s
MAJO **Matsushiro** **48.03 50** P **P** **20 41 36.5 -0.2**
MJAR **Matsushiro Arr** **48.03 50** P **P** **20 41 38.5 +1.7**
comp=Z,1.2nm,0.3s,baz=213,slow=24,SNR=4.1
MJAR **Matsushiro Arr** **48.03 50** P **P** **20 41 35.9 -0.9**
MJAR pmax pmax
comp=Z,62nm,1.9s
MJAR **Matsushiro Arr** **48.03 50** P **P** **20 41 35.9 -0.9**
MJAR IAmb IAmb 20 41 49.1
comp=Z,62nm,1.9s
JSD **Sado** **48.63 48** P **P** **20 41 39.8 -1.6**
WRKA **Warakurna** **48.71 137** P **P** **20 41 43.4 +1.2**
baz=49,SNR=5.4
LKRN **Lenkeran, Azer** **49.00 313** P **P** **20 41 45.1 +0.9**
AKTO **Aktyubinsk** **49.65 331** *i* P **P** **20 41 48.5 -0.5**
AKTO pmax pmax
comp=Z,14nm,0.5s
ATD **Arta Tunnel** **49.80 276** P **P** **20 41 48.9 -1.8**
ATD IAmb IAmb 20 41 55.8
comp=Z,28nm,1.0s
ATD **Arta Tunnel** **49.80 276** P **P** **20 41 52.9 +2.2**
BOD **Bodaibo** **50.02 14** *eP* **P** **20 41 51.3 -0.3**
BOD pmax pmax
comp=Z,14nm,2.0s
WRA **Warramunga Arr** **50.07 127** P **P** **20 41 53.4 +0.8**
comp=Z,5.8nm,0.8s,baz=308,slow=8.7,SNR=48
WRA **Warramunga Arr** **50.07 127** P **P** **20 41 51.7 -0.9**
WRAB **Tennant Creek** **50.08 127**⇑ *eP* **P** **20 41 53.4 +0.7**
WRAB pmax pmax
comp=Z,45nm,1.3s
WRAB **Tennant Creek** **50.08 127** P **P** **20 41 50.4 -2.2**
WRAB IAmb IAmb 20 42 03.7
comp=Z,31nm,1.1s
WB2 **Warramunga Arr** **50.08 127** P **P** **20 41 50.6 -2.2**
WB2 IAmb IAmb 20 42 02.2
comp=Z,29nm,1.1s
KLR **Kul'dur** **50.18 32** LR LR 21 03 29.0
comp=Z,158nm,18.9s,baz=231,slow=37
KLR **Kul'dur** **50.18 32***c iP* **P** **20 41 53.4 +0.4**
KLR pmax pmax
comp=Z,11nm,1.7s
GUMO **Guam** **50.22 81** LR LR 21 02 10.3
comp=Z,141nm,19.4s,baz=286,slow=35
WR0 **Warramunga Arr** **50.24 127** P **P** **20 41 52.7 -1.2**
WR0 IAmb IAmb 20 42 03.4
comp=Z,46nm,1.1s
JMM **Marumori** **50.43 49** P **P** **20 41 55.2 +0.1**
MNGR **Mingechevir, A** **51.01 315** P **P** **20 42 00.3 +0.9**
ZEA **Zeya** **51.06 25** *i* P **P** **20 42 00.3 +0.7**
SEKA **Sheki** **51.10 315** P **P** **20 42 01.4 +1.2**
GANJ **Ganja** **51.50 314** P **P** **20 42 03.7 +0.6**
NAX **Nakhchivan** **51.55 312** P **P** **20 42 04.3 +0.7**
MAK **Makhachkala** **51.62 318** *eP* P 20 41 58.6 -5.4
MAK *eS* **S** **20 49 16.8 -7.1**
MAK *eSS* **SS** **20 52 57.2 -3.1**
MAK pmax pmax
comp=Z,32nm,0.4s
ZKTA **Zakatala** **51.67 316** P **P** **20 42 05.5 +1.1**
ASAR **Alice Springs** **51.84 131** P **P** **20 42 06.0 +0.1**
comp=Z,5.0nm,0.8s,baz=305,slow=6.9,SNR=41
DDFL **Dedoflistskaro** **51.95 315** P **P** **20 42 10.8 +4.3**
LGD **Lagodekhi** **52.01 316** P **P** **20 42 08.7 +1.7**
GNI **Garni** **52.44 313***d iP* **P** **20 42 11.9 +1.6**
GNI pmax pmax
comp=Z,41nm,1.0s
GNI **Garni** **52.44 313** P **P** **20 42 08.8 -1.5**
GNI IAmb IAmb 20 42 33.5
comp=Z,35nm,0.9s
GNI **Garni** **52.44 313** P **P** **20 42 12.3 +2.0**
GNI **Garni** **52.44 313** P **P** **20 42 11.9 +1.6**
GROC **Groznyy** **52.86 317** *eP* **P** **20 42 13.6 +0.4**
GROC *e* 20 43 23.1
GROC *e* 20 44 11.4
GROC *eS* **S** **20 49 42.4 +1.4**
GROC pmax pmax
comp=Z,88nm,1.0s
SVE **Sverdlovsk** **53.04 338***ceP* **P** **20 42 14.7 +0.4**
SVE pmax pmax
comp=Z,72nm,1.4s
SVE MLR MLR
comp=Z,379nm,18.0s
GRNR **Gornyy** **53.52 32**⇑ *iP* **P** **20 42 18.8 +0.8**
GRNR pmax pmax
comp=Z,6.0nm,1.2s
GRNR MLR MLR
comp=Z,310nm,13.0s
ARU **Arti** **53.54 337** LR LR 21 07 07.4
comp=Z,499nm,21.1s,baz=138,slow=38
ARU **Arti** **53.54 337***d iP* **P** **20 42 17.7 -0.2**
ARU 20 43 22.4
ARU 20 44 13.5
ARU PPP PPP 20 45 21.4
ARU S **S** **20 49 52.8 +3.1**
ARU SS **SS** **20 53 30.8 +0.7**
ARU pmax pmax
comp=Z,34nm,1.5s
ARU MLR MLR
comp=Z,515nm,19.0s
KARS **Kars** **53.79 313** P **P** **20 42 19.4 -0.9**
KARS pmax pmax
comp=Z,139nm,1.3s
KARS **Kars** **53.79 313** P **P** **20 42 19.4 -0.9**
GURO **Guroymak-BITLI** **53.90 311** P **P** **20 42 19.4 -1.7**

ZEI **Tsey** **53.98 316** *eP* **P** **20 42 21.3 -0.4**
ZEI pmax pmax
comp=Z,38nm,1.0s
ONI **Oni** **54.22 316** P **P** **20 42 21.2 -2.1**
ONI pmax pmax
comp=Z,49nm,1.6s
ONI **Oni** **54.22 316** P **P** **20 42 21.2 -2.1**
ONI IAmb IAmb 20 42 34.9
comp=Z,49nm,1.6s
NCK **Nalchik** **54.45 317**⇑ *iP* **P** **20 42 26.4 +1.5**
NCK pmax pmax
comp=Z,6.0nm,0.3s
QIS **Mount Isa** **54.61 124** P **P** **20 42 27.4 +1.1**
baz=55,SNR=7.4
KBZ **Khabaz** **55.01 317** P **P** **20 42 29.9 +1.0**
comp=Z,22nm,0.9s,baz=119,slow=6.7,SNR=42
KBZ LR LR 21 10 15.1
comp=Z,84nm,20.4s,baz=128,slow=41
KBZ **Khabaz** **55.01 317***d iP* **P** **20 42 29.5 +0.6**
KBZ pmax pmax
comp=Z,37nm,1.1s
CHVG **Ch'k'valeri** **55.21 315**⇑ P **P** **20 42 31.9 +1.6**
KVAR **Kislovodsk Arr** **55.23 317** LR LR 21 08 56.0
comp=Z,141nm,21.0s,baz=79,slow=39
KIV **Kislovodsk** **55.24 317**⇑ P **P** **20 42 32.3 +1.6**
KIV **Kislovodsk** **55.24 317** *eP* **P** **20 42 31.4 +0.7**
KIV *eS* **S** **20 50 15.1 +1.8**
KIV pmax pmax
comp=Z,82nm,1.0s
KIV pmax pmax
comp=Z,16nm,4.0s
KIV MLR MLR
comp=Z,84nm,17.0s
KIV **Kislovodsk** **55.24 317** P **P** **20 42 30.5 -0.1**
KIV **Kislovodsk** **55.24 317** P **P** **20 42 32.1 +1.5**
KIV **Kislovodsk** **55.24 317** *i* P **P** **20 42 31.8 +1.1**
SNR=35
MQOL **MQOL** **55.24 288** *i* P **P** **20 42 33.7 +2.7**
MQOL AMP 20 42 34.0
comp=E,119nm,0.8s
MQOL *i* 20 42 44.4
baz=259,slow=16
YSS **Yuzh-Sakhalins** **55.30 39** *eP* **P** **20 42 31.6 +0.7**
YSS *eS* **S** **20 50 12.8 -1.0**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS **Yuzh-Sakhalins** **55.30 39** P **P** **20 42 30.2 -0.7**
YSS IAmb IAmb 20 42 42.8
comp=Z,55nm,1.2s
GOF **Gofitskoye** **55.41 318**⇑ *eP* **P** **20 42 33.1 +1.3**
GOF pmax pmax
comp=Z,48nm,0.7s
VOI **Vohitsoka** **55.91 235** P **P** **20 42 35.5 -0.3**
VOI IAmb IAmb 20 42 39.9
comp=Z,21nm,1.0s
VOI **Vohitsoka** **55.91 235** P **P** **20 42 39.6 +3.8**
BELG **Belogornoye** **56.05 328** LR LR 21 08 55.3
comp=Z,118nm,20.1s,baz=148,slow=39
BELG **Belogornoye** **56.05 328***d iP* **P** **20 42 35.9 -0.2**
BELG pmax pmax
comp=Z,10.0nm,1.0s
KIBK **Kibwezi** **56.68 260** P **P** **20 42 45.0 +3.5**
SNR=11
PMG **Port Moresby** **56.76 108***c iP* **P** **20 42 43.3 +1.4**
PMG pmax pmax
comp=Z,59nm,1.7s
PMG **Port Moresby** **56.76 108** P **P** **20 42 39.8 -2.1**
PMG IAmb IAmb 20 42 46.4
comp=Z,31nm,1.0s
SOC **Sochi** **57.13 316** *eP* **P** **20 42 43.1 -0.9**
SOC *e* 20 44 48.5
SOC *ePPP* PPP 20 46 11.6
SOC *eS* **S** **20 50 39.2 +1.0**
SOC *eSS* **SS** **20 54 27.8 +0.6**
SOC pmax pmax
comp=Z,22nm,0.6s
SOC MLR MLR
comp=Z,242nm,20.0s
KMBO **Kilima Mbogo** **57.17 262** P **P** **20 42 47.9 +2.7**
comp=Z,2.7nm,0.6s,baz=61,slow=7.0,SNR=10
KMBO LR LR 21 05 19.6
comp=Z,255nm,19.4s,baz=91,slow=34
KMBO **Kilima Mbogo** **57.17 262** *i* P **P** **20 42 49.0 +3.8**
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO **Kilima Mbogo** **57.17 262** P **P** **20 42 48.9 +3.8**
KMBO **Kilima Mbogo** **57.17 262** P **P** **20 42 48.7 +3.6**
KMBO **Kilima Mbogo** **57.17 262** *i* P **P** **20 42 49.0 +3.8**
SNR=7.6
MTSU **Mount Surprise** **57.45 119** P **P** **20 42 47.5 +0.8**
baz=58,SNR=7.4
GHAJ **Ghor Haditha** **57.50 301** IAmb IAmb 20 42 49.3
comp=Z,23nm,0.9s
MMAI **Mount Meron Ar** **57.89 303** LR LR 21 10 35.1
comp=Z,251nm,20.6s,baz=256,slow=39
YAK **Yakutsk** **57.97 19** LR LR 21 09 41.8
comp=Z,356nm,21.4s,baz=256,slow=38
YAK **Yakutsk** **57.97 19** *eP* **P** **20 42 47.9 -1.7**
YAK *e* 20 43 40.4
YAK *eS* **S** **20 50 45.8 -2.8**
YAK *e*SS* sS 20 51 08.9 +11
YAK *e* 20 52 36.5
YAK pmax pmax
comp=Z,14nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,80nm,4.3s
YAK pmax pmax
comp=N,32nm,3.7s
YAK pmax pmax
comp=E,36nm,3.2s
YAK smax smax
comp=E,31nm,3.0s
YAK smax smax
comp=N,21nm,2.0s
YAK MLR MLR
comp=Z,392nm,21.0s
YAK MLR MLR
comp=E,272nm,22.0s
YAK MLR MLR
comp=N,242nm,23.0s
YAK **Yakutsk** **57.97 19** P **P** **20 42 48.6 -1.0**
YAK IAmb IAmb 20 42 58.6
comp=Z,20nm,0.7s
LODK **Lodwar** **58.14 268** P **P** **20 42 55.5 +3.7**
SNR=6.0
BNN **Bunyan** **58.65 309** IAmb IAmb 20 42 56.0
comp=Z,27nm,1.0s
KIRV **Kirov** **58.68 335** LR LR 21 10 38.2
comp=Z,313nm,20.4s,baz=142,slow=39
KIRV **Kirov** **58.68 335***d iP* **P** **20 42 54.5 -0.1**
VRH **Novokhopyorsk** **58.71 325** *eP* **P** **20 42 54.7 -0.3**
VRH pmax pmax
comp=Z,80nm,0.7s
ANN **Anapa** **59.07 316** *eP* **P** **20 42 56.9 -0.7**
ANN *e*PP* **pP** **20 43 00.0 -3.8**
ANN *e* 20 43 44.7
ANN *e* 20 45 07.2
ANN *eS* **S** **20 51 05.0 +1.5**
ANN pmax pmax
comp=Z,57nm,1.5s
NRIK **Noril'sk** **59.19 358** P **P** **20 42 57.6 -0.4**
comp=Z,5.9nm,0.5s,baz=158,slow=5.9,SNR=9.2
NRIK LR LR 21 11 44.3
comp=Z,228nm,19.2s,baz=181,slow=39
NRIK **Noril'sk** **59.19 358***d iP* **P** **20 42 57.9 -0.1**
NRIK pmax pmax
comp=Z,19nm,1.5s
NRIK **Noril'sk** **59.19 358** IAmb IAmb 20 43 06.5
comp=Z,15nm,0.8s
MRWI **Hamdab** **59.93 286** *i* P **P** **20 43 03.8 -0.2**
VORD **Divnogorie** **60.02 324** *eP* **P** **20 43 03.4 -0.6**
VORD pmax pmax
comp=Z,40nm,0.8s
VSR **Storozhevoye** **60.19 324** *eP* **P** **20 43 04.5 -0.7**
VSR pmax pmax
comp=Z,30nm,0.7s
VORR **Voronezh** **60.34 324** *i* P **P** **20 43 05.6 -0.6**
VORR pmax pmax
comp=Z,66nm,0.5s
BR131 **Keskin Array S** **60.51 310***d iP* **P** **20 43 07.0 -0.8**
BR131 **Keskin Array S** **60.51 310** P **P** **20 43 07.3 -0.5**
BR131 IAmb IAmb 20 43 08.2
comp=Z,27nm,0.8s
BR131 **Keskin Array S** **60.51 310** P **P** **20 43 09.5 +1.7**
SNR=16
BRTR **Keskin Array B** **60.51 310** P **P** **20 43 07.5 -0.3**
comp=Z,15nm,0.7s,baz=122,slow=7.3,SNR=69
BRTR LR LR 21 12 45.3
comp=Z,94nm,20.7s,baz=110,slow=40
BZK **Bozkurt** **60.72 312**⇑ P **P** **20 43 09.5 +0.5**
LPSR **Galich'ya Gora** **60.86 325** *eP* **P** **20 43 09.4 -0.4**
LPSR pmax pmax
comp=Z,40nm,1.2s
ANTO **Ankara** **61.17 310** P **P** **20 43 11.5 -0.8**
ANTO pmax pmax
comp=Z,15nm,0.8s
ANTO **Ankara** **61.17 310** P **P** **20 43 11.5 -0.8**
ANTO IAmb IAmb 20 43 12.9
comp=Z,15nm,0.8s
HTT **Hallett** **61.18 137** P **P** **20 43 13.4 +1.1**
baz=61,SNR=7.3
SIM **Simferopol'** **61.37 316***c iP* **P** **20 43 12.7 -0.7**
SIM pmax pmax
comp=Z,79nm,1.4s
PRGR **Permogore** **61.99 336** *eP* **P** **20 43 15.7 -1.5**
PRGR pmax pmax
comp=Z,35nm,0.7s
STKA **Stephens Creek** **62.11 134** P **P** **20 43 19.6 +1.0**
comp=Z,7.3nm,0.9s,baz=302,slow=7.5,SNR=14
STKA LR LR 21 11 26.5
comp=Z,280nm,20.3s,baz=307,slow=37
STKA **Stephens Creek** **62.11 134** P **P** **20 43 19.4 +0.9**
baz=62,SNR=12
STKA **Stephens Creek** **62.11 134** P **P** **20 43 17.0 -1.6**
STKA pmax pmax
comp=Z,7.0nm,1.1s
STKA **Stephens Creek** **62.11 134** P **P** **20 43 17.0 -1.6**
MOS **Moscow** **62.81 328** *eP* **P** **20 43 20.8 -2.0**
MOS *e* 20 43 29.9
MOS *e* 20 45 41.9
MOS *eS* **S** **20 51 47.1 -3.8**
MOS pmax pmax
comp=Z,65nm,1.3s
MOS MLR MLR
comp=Z,400nm,20.0s
ELL **Elmali** **62.90 306** P **P** **20 43 24.1 +0.1**
BORA **Eskisehir** **62.95 310** P **P** **20 43 23.6 -0.6**
BORA IAmb IAmb 20 43 24.4
comp=Z,12nm,0.7s
AKAS **Kas** **63.08 305** IAmb IAmb 20 43 37.7
comp=Z,18nm,0.7s
OBN **Obninsk** **63.12 327***deP* **P** **20 43 24.5 -0.4**
OBN *i* 20 43 34.4
OBN *eSS* SS 20 56 03.1 +2.4
OBN pmax pmax
comp=Z,56nm,1.3s
OBN MLR MLR
comp=Z,219nm,24.0s
MBAR **Mbarara** **63.43 264***ceP* **P** **20 43 31.3 +3.4**
MBAR pmax pmax
comp=Z,20nm,1.3s
MBAR **Mbarara** **63.43 264** P **P** **20 43 31.2 +3.4**
KLMR **Klimovskoe** **64.13 334** *eP* **P** **20 43 29.9 -1.5**
KLMR pmax pmax
comp=Z,57nm,1.4s
KLMR **Klimovskoe** **64.13 334** *eP* **P** **20 43 30.0 -1.5**
KLMR AMP 20 43 41.4
comp=Z,57nm,1.4s
RMQ **Roma** **64.80 126** P **P** **20 43 38.4 +1.9**
baz=65,SNR=3.8
CMSA **Cobar Meteorol** **64.88 132** P **P** **20 43 37.8 +1.0**
baz=65,SNR=14
MA2 **Magadan** **64.96 28** LR LR 21 14 40.6
comp=Z,91nm,19.6s,baz=243,slow=39
MA2 **Magadan** **64.96 28***c iP* **P** **20 43 36.7 -0.3**
MA2 pmax pmax
comp=Z,23nm,1.1s
MA2 **Magadan** **64.96 28** P **P** **20 43 36.3 -0.6**
MA2 IAmb IAmb 20 43 46.8
comp=Z,17nm,1.0s
TIXI **Tiksi** **65.06 12** P **P** **20 43 36.7 -0.7**
comp=Z,4.6nm,0.4s,baz=146,slow=5.8,SNR=33
TIXI **Tiksi** **65.06 12**⇑ *iP* **P** **20 43 36.6 -0.7**
TIXI pmax pmax
comp=Z,18nm,1.3s
TIXI **Tiksi** **65.06 12** P **P** **20 43 35.8 -1.6**
TIXI IAmb IAmb 20 44 15.9
comp=Z,15nm,1.0s
TLCR **65.09 315** ⇓P **P** **20 43 38.3 +0.2**
TLCR **65.09 315** P **P** **20 43 38.2 +0.2**
TIRR **Tirgusor** **65.23 314** ⇓P **P** **20 43 39.0 0.0**
TIRR **Tirgusor** **65.23 314** P **P** **20 43 38.9 0.0**
TPGR **Topolog** **65.30 315** ⇓P **P** **20 43 39.1 -0.4**
MILM **Milestii Mici** **65.43 317**⇓ *iP* **P** **20 43 39.6 -0.6**
comp=Z,45nm,0.6s
MILM **Milestii Mici** **65.43 317**⇑ P **P** **20 43 40.0 -0.2**
MILM **Milestii Mici** **65.43 317***d iP* **P** **20 43 39.6 -0.6**
MILM pmax pmax
comp=Z,45nm,0.6s
CFR **Carcaliu** **65.56 315**⇑ P **P** **20 43 41.3 +0.3**
CFR **Carcaliu** **65.56 315** P **P** **20 43 41.3 +0.3**
ICOR **Ion Corvin** **65.61 314**⇑ P **P** **20 43 42.0 +0.6**
HARR **Harsova** **65.61 314**⇑ P **P** **20 43 41.4 0.0**
HARR **Harsova** **65.61 314** P **P** **20 43 41.4 0.0**
SORM **Soroca** **65.98 318** ⇓P **P** **20 43 43.2 -0.5**
SORM ⇑P **P** **20 43 43.3 -0.5**
SORM **Soroca** **65.98 318** P **P** **20 43 43.2 -0.5**
AKASG **Malin Array Be** **66.00 321** P **P** **20 43 42.7 -1.1**
comp=Z,6.0nm,0.6s,baz=88,slow=5.7,SNR=27
AKASG LR LR 21 15 04.9
comp=Z,163nm,21.8s,baz=119,slow=38
AKBB **Malin Array Si** **66.00 321**⇓ *eP* **P** **20 43 42.8 -1.0**
AKBB pmax pmax
comp=Z,15nm,1.0s
AKBB **Malin Array Si** **66.00 321** IAmb IAmb 20 43 53.1
comp=Z,14nm,1.0s
GHRR **66.22 316**⇑ P **P** **20 43 46.4 +1.0**
PANC **Panciu** **66.36 316**⇑ P **P** **20 43 47.2 +1.0**
ODBI **Odobesti** **66.41 316**⇑ P **P** **20 43 46.3 -0.2**
ALN **Alexandroupoli** **66.43 310** P **P** **20 43 46.8 +0.1**
ALN **Alexandroupoli** **66.43 310** IAmb IAmb 20 43 47.6
comp=Z,27nm,1.1s
PETK **Petropavlovsk-** **66.44 36** LR LR 21 15 14.4
comp=Z,2,105nm,19.3s,baz=245,slow=38
RAZG **Razgrad** **66.44 313** ⇓P **P** **20 43 47.2 +0.4**
BISRR **Bisoca** **66.61 315**⇑ P **P** **20 43 49.3 +1.3**
VRI **Vrincioaia** **66.65 316** ⇓P **P** **20 43 48.8 +0.7**
VRI **Vrincioaia** **66.65 316** P **P** **20 43 48.8 +0.7**
PLOR **Plostina** **66.70 316**⇑ P **P** **20 43 49.8 +1.2**
PLOR **Plostina** **66.70 316** P **P** **20 43 49.7 +1.2**
IDI **Anoyia** **66.81 304** ⇓P **P** **20 43 49.8 +0.4**
IDI **Anoyia** **66.81 304** P **P** **20 43 48.7 -0.7**
IDI IAmb IAmb 20 43 50.2
comp=Z,24nm,0.6s
TESR **Tescani** **66.81 316**⇑ P **P** **20 43 49.4 +0.2**
NEHR **Nehoiu** **66.88 315**⇑ P **P** **20 43 50.8 +1.2**
SECR **66.98 315**⇑ P **P** **20 43 51.0 +0.7**
PLAR **PLOIESTI** **66.99 314** ⇓P **P** **20 43 51.3 +1.0**
COVR **Voineasa-Covas** **67.01 315**⇑ P **P** **20 43 50.9 +0.5**
SEY **Seymchan** **67.05 25** P **P** **20 43 49.1 -1.1**
comp=Z,2.9nm,1.0s,baz=190,slow=24,SNR=2.7
SEY **Seymchan** **67.05 25**⇑ *iP* **P** **20 43 49.3 -1.0**
SEY pmax pmax
comp=Z,5.0nm,1.0s
MLR **Muntele Rosu** **67.13 315**⇑ P **P** **20 43 52.2 +0.9**
OZUR **67.34 316**⇑ P **P** **20 43 52.2 -0.3**
COPA **Copaceanca** **67.45 314**⇑ P **P** **20 43 53.1 -0.1**
DOPR **Dopca** **67.59 316** ⇓P **P** **20 43 54.0 -0.2**
HUMR **Humele** **67.67 314**⇑ P **P** **20 43 55.0 +0.4**
MNK **Minsk** **67.71 325** *i* P **P** **20 43 54.7 +0.1**
MNK *i *PP* **pwP** **20 44 03.8 +0.5**
MNK *i* 20 46 23.5
MNK *i* PPP PPP 20 48 02.1
MNK *i* S **S** **20 52 46.8 -4.1**
MNK *i *SS* sS 20 53 11.1 +10
MNK *i* SS **SS** **20 57 10.9 -1.2**
MNK pmax pmax
comp=Z,39nm,0.9s
MNK pmax pmax
comp=N,19nm,1.1s
MNK pmax pmax
comp=E,6.0nm,1.1s
MNK MLR MLR
comp=Z,207nm,24.0s
MNK MLR MLR
comp=N,132nm,19.0s

MNK Minsk 67.71 325 *i* P **P 20 43 54.7 +0.1**
comp=E,6.0nm,1.1s
MNK *i* P **P 20 43 54.7 +0.1**
comp=N,19nm,1.1s
MNK *i* P **P 20 43 54.7 +0.1**
comp=Z,39nm,0.9s,baz=104
MNK *i* pP **pwP 20 44 03.9 +0.5**
MNK *i* PP **PP 20 46 23.6 -0.3**
MNK *i* PPP PPP 20 48 02.1
MNK *i* S **S 20 52 46.9 -4.1**
MNK *i* sS sS 20 53 11.1 +10
MNK *i* SS **SS 20 57 11.0 -1.2**
MNK *i* SSS SSS 21 00 30.6
MNK *i* LQ LQ 21 08 56.0
MNK *i* LR LR 21 13 14.9
MNK *i* LRM MLR 21 17 22.7
comp=Z,207nm,24.3s
MNK *i* LRM MLR 21 17 56.0
comp=N,132nm,19.1s
VOIR 67.75 315 ⇑P **P 20 43 54.6 -0.6**
VOIR 67.75 315 P **P 20 43 54.6 -0.6**
TOO Toolangi 67.94 138 P **P 20 43 58.1 +1.7**
baz=68,SNR=7.7
TOO Toolangi 67.94 138 P **P 20 43 55.5 -0.9**
TOO pmax pmax
comp=Z,30nm,1.0s
TOO Toolangi 67.94 138 P **P 20 43 55.5 -0.9**
TOO IAmb IAmb 20 44 07.2
comp=Z,30nm,0.9s
BURAR Bucovina Array 67.96 317 ⇓P **P 20 43 57.3 +0.8**
BURAR Bucovina Array 67.96 317 P **P 20 43 57.3 +0.8**
BURAR Bucovina Array 67.96 317 IAmb IAmb 20 43 57.7
comp=Z,11nm,0.7s
ARR Arges 68.03 315 ⇑P **P 20 43 57.1 +0.2**
PAIG Paliouri 68.12 309 P **P 20 43 57.6 +0.1**
VALR Valaam 68.17 333*c* *i* P **P 20 43 57.4 0.0**
VALR pmax pmax
comp=Z,40nm,0.9s
MPEP Malo Peshtene 68.42 313 P **P 20 44 00.5 +1.2**
NACGM Naroch 68.42 325 *eP* P 20 44 07.0 +7.9
ARCR ARCALIA 68.46 317 ⇓P **P 20 43 59.3 -0.2**
LOT Lotru 68.64 315 ⇑P **P 20 44 00.7 -0.1**
VTS Vitosha 68.71 312 ⇓P **P 20 44 01.4 0.0**
VTS Vitosha 68.71 312 P **P 20 44 00.2 -1.1**
VTS pmax pmax
comp=Z,23nm,1.0s
VTS Vitosha 68.71 312 P **P 20 44 00.2 -1.1**
VTS IAmb IAmb 20 44 02.2
comp=Z,22nm,1.0s
VTS Vitosha 68.71 312 P **P 20 44 01.0 -0.4**
KKB Krupnik 68.75 311 P **P 20 44 00.8 -0.6**
IIGN Ignalina 68.84 326 *eP* **P 20 44 02.0 +0.3**
CJR Cluj-Napoca 68.92 316 ⇑P **P 20 44 03.3 +0.7**
CJR Cluj-Napoca 68.92 316 P **P 20 44 03.2 +0.7**
ISAL Salakas 68.94 326 *eP* **P 20 44 02.9 +0.5**
CBBR Cluj-Babes-Bol 68.96 316 ⇓P **P 20 44 03.5 +0.9**
LIT Litokhoron 69.05 309 P **P 20 44 02.2 -1.2**
LIT Litokhoron 69.05 309 IAmb IAmb 20 44 03.2
comp=Z,30nm,0.9s
VAY Valandovo 69.08 310 *i* P **P 20 44 02.6 -0.8**
LVV L'vov 69.09 319 *eP* **P 20 44 03.4 0.0**
AGG Agios Georgios 69.09 308 IAmb IAmb 20 44 02.7
comp=Z,14nm,0.7s
BMR Baia Mare 69.12 317 P **P 20 44 05.5 +1.9**
VSU Vasula 69.31 329⇑ *eP* **P 20 44 03.3 -1.3**
VSU pmax pmax
comp=Z,69nm,1.4s
VSU Vasula 69.31 329 *eP* **P 20 44 03.7 -0.9**
GZR Gura Zlata 69.33 315 ⇑P **P 20 44 05.0 -0.1**
STIP Stip 69.40 311 *i* P **P 20 44 03.7 -1.8**
DJES Djerdap 69.43 314 ⇓P **P 20 44 06.0 +0.4**
APA Apatity 69.48 339⇓ *iP* **P 20 44 03.1 -2.4**
APA pmax pmax
comp=Z,19nm,0.8s
HERR Herculane 69.53 314 ⇑P **P 20 44 06.7 +0.5**
DRGR 69.54 316 ⇑P **P 20 44 07.0 +0.7**
DRGR 69.54 316 P **P 20 44 07.0 +0.7**
LSZ Lusaka 69.55 249 LR LR 21 11 45.9
comp=Z,205nm,18.0s,baz=116,slow=34
KWP Kalwaria Pacla 69.91 319 *eP* **P 20 44 08.5 0.0**
KWP Kalwaria Pacla 69.91 319 P **P 20 44 08.7 +0.2**
BOVS Bovan 69.92 313 ⇓P **P 20 44 08.1 -0.5**
FNA Florina 69.94 310 P **P 20 44 07.7 -1.2**
FNA pmax pmax
comp=Z,11nm,0.7s
FNA Florina 69.94 310 P **P 20 44 07.7 -1.2**
FNA IAmb IAmb 20 44 08.5
comp=Z,11nm,0.7s
SKO Skopje 69.98 311 *eP* **P 20 44 07.8 -1.3**
MDVR Moldovita 70.02 314 ⇑P **P 20 44 09.2 -0.1**
UZH Uzhgorod 70.05 318 *eP* **P 20 44 07.0 -2.3**
UZH *i* 20 44 11.0
UZH *i* 20 44 17.0
KOLS Kolonicke sedl 70.10 318 *eP* **P 20 44 11.9 +2.2**
KOLS pmax pmax
comp=Z,9.0nm,0.9s
KOLS Kolonicke sedl 70.10 318 *eP* **P 20 44 11.9 +2.2**
PABE Paberze 70.13 325 *eP* **P 20 44 09.6 0.0**
BZS Buzias 70.17 315 ⇓P **P 20 44 10.3 +0.2**
BZS Buzias 70.17 315 P **P 20 44 10.3 +0.2**
SUW Suwalki 70.30 324 *eP* **P 20 44 10.4 -0.4**
SUW Suwalki 70.30 324 *eP* **P 20 44 10.7 0.0**
FINES FINESS Array B 70.40 332 P **P 20 44 10.8 -0.4**
comp=Z,7.5nm,0.8s,baz=104,slow=4.9,SNR=18
FINES LR LR 21 19 16.0
comp=Z,109nm,19.6s,baz=109,slow=40
CRVS Cervenica-Dubn 70.63 318 *eP* **P 20 44 13.6 +0.7**
CRVS pmax pmax
comp=Z,56nm,1.2s
CRVS Cervenica-Dubn 70.63 318 *eP* **P 20 44 13.6 +0.7**
DIVS Divibare 71.19 313 *eP* **P 20 44 15.4 -1.1**
KECS Kecovo 71.22 318 *eP* **P 20 44 17.1 +0.5**
KECS pmax pmax
comp=Z,18nm,1.0s
KECS Kecovo 71.22 318 *eP* **P 20 44 17.0 +0.5**
PBUR Paburge 71.36 326 *eP* **P 20 44 17.2 +0.1**
FRGS Fruska Gora 71.39 314 ⇑P **P 20 44 16.9 -0.8**
FRGS Fruska Gora 71.39 314⇑ *iP* **P 20 44 16.4 -1.2**
BEL Belsk 71.41 321 *eP* **P 20 44 17.8 +0.2**
NIE Niedzica 71.44 319 *eP* **P 20 44 19.1 +1.2**
NIE Niedzica 71.44 319 P **P 20 44 19.4 +1.5**
PSZ Piszkesteto 71.56 317 ⇑P **P 20 44 18.7 0.0**
PSZ Piszkesteto 71.56 317 IAmb IAmb 20 44 19.7
comp=Z,16nm,1.0s
PSZ Piszkesteto 71.56 317 P **P 20 44 18.3 -0.4**
BBLS Lazići 71.60 313 *eP* **P 20 44 18.7 -0.3**
RUDO Rudo 71.61 313⇑ *iP* **P 20 44 18.5 -0.4**
PDG Podgorica 71.63 311 ⇓P **P 20 44 18.8 -0.2**
PDG Podgorica 71.63 311 P **P 20 44 18.2 -0.8**
PDG IAmb IAmb 20 44 19.4
comp=Z,29nm,0.6s
PDG Podgorica 71.63 311⇑ *iP* **P 20 44 18.4 -0.6**
DRME Dracevica, Mon 71.67 311⇑ *iP* **P 20 44 18.7 -0.6**
OJC Ojcow 71.85 320 *eP* **P 20 44 20.3 0.0**
OJC Ojcow 71.85 320 P **P 20 44 20.4 +0.2**
OJC Ojcow 71.85 320 IAmb IAmb 20 44 21.2
comp=Z,26nm,1.0s
LANS Liptovska Anna 71.96 318 *eP* **P 20 44 21.4 +0.4**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 71.96 318 *eP* **P 20 44 21.4 +0.4**
BRY Bratogost 72.18 312⇑ *iP* **P 20 44 22.0 -0.5**
HCY Herceg Novi 72.19 311⇑ *iP* **P 20 44 21.7 -0.8**
MORH Mrgy, Hungar 72.28 315 ⇑P **P 20 44 23.1 +0.2**
MORH Mrgy, Hungar 72.28 315⇑ *iP* **P 20 44 22.9 0.0**
MORH Mrgy, Hungar 72.28 315 P **P 20 44 22.5 -0.4**
TREB Trebinje 72.31 312⇑ *iP* **P 20 44 22.3 -0.8**
VYHS Vyhne 72.32 318 *eP* **P 20 44 23.3 +0.2**
VYHS pmax pmax
comp=Z,6.0nm,1.0s
VYHS Vyhne 72.32 318 *eP* **P 20 44 23.3 +0.2**
RAF Rauma 72.34 331 *eP* **P 20 44 21.3 -1.6**
SRO Srobarova 72.62 317 *eP* **P 20 44 25.9 +1.1**
SRO pmax pmax
comp=Z,27nm,1.0s
SRO Srobarova 72.62 317 *eP* **P 20 44 25.9 +1.1**
KOVH Kovagotottos 72.65 315 P **P 20 44 25.0 -0.1**
STON Ston 72.79 312⇑ *iP* **P 20 44 24.5 -1.5**
OKC Ostrava-Krasne 72.87 319 *eP* **P 20 44 26.9 +0.5**
OKC Ostrava-Krasne 72.87 319 *eP* **P 20 44 26.9 +0.5**
ARA0 ARCESS Array S 72.89 340 *eP* **P 20 44 26.4 +0.3**
ARCES ARCESS Array B 72.89 340 P **P 20 44 26.4 +0.4**
comp=Z,7.4nm,0.6s,baz=86,slow=6.7,SNR=39

ARCES ARCESS Array B 72.89 340 P **P 20 44 26.5 +0.4**
ARCES pmax pmax
comp=Z,86nm,1.6s
ARCES ARCESS Array B 72.89 340 P **P 20 44 26.5 +0.4**
MPLH Magyarpolny 73.10 316 P **P 20 44 27.9 +0.2**
JAVC Velka Javorina 73.11 318 *eP* **P 20 44 29.0 +1.1**
BLY Banja Luka 73.23 314 *eP* **P 20 44 28.4 -0.2**
MORC Moravsky Berou 73.26 319 ⇑P **P 20 44 29.5 +0.8**
MORC Moravsky Berou 73.26 319 IAmb IAmb 20 44 30.2
comp=Z,20nm,1.0s
MORC Moravsky Berou 73.26 319 *eP* **P 20 44 29.3 +0.6**
MGRS Mrkonjic Grad 73.29 313⇑ *iP* **P 20 44 29.0 0.0**
MODS Modra-Piesok 73.34 317 *eP* **P 20 44 29.4 +0.2**
MODS pmax pmax
comp=Z,36nm,1.2s
MODS Modra-Piesok 73.34 317 *eP* **P 20 44 29.4 +0.2**
TIP Timpagrande 73.43 308 ⇑P **P 20 44 30.0 0.0**
ZST Bratislava 73.45 317 P **P 20 44 31.6 +1.8**
KTK1 Kautokeino 73.53 339 *eP* **P 20 44 30.1 +0.3**
GKP Gorka Klasztor 73.72 323 *eP* **P 20 44 31.0 -0.3**
KRLC Kraliky 73.77 319 *eP* **P 20 44 32.1 +0.4**
KRLC Kraliky 73.77 319 *eP* **P 20 44 32.1 +0.4**
SOP Sopron 73.79 317 P **P 20 44 33.1 +1.3**
SOP Sopron 73.79 317 P **P 20 44 32.4 +0.6**
HAMF Hammerfest 73.81 341 *eP* **P 20 44 31.9 +0.5**
VRAC Vranov 73.85 318 LR LR 21 22 01.9
comp=Z,85nm,20.1s,baz=91,slow=40
VRAC Vranov 73.85 318 *eP* **P 20 44 32.4 +0.2**
KOGS Kog 73.95 315 *i* P **P 20 44 32.9 +0.1**
KRUC Moravsky 73.97 318 *eP* **P 20 44 33.1 +0.3**
RONA Rosalia, Austr 73.97 317 *eP* **P 20 44 32.9 0.0**
comp=Z,11nm,1.0s
DPC Dobruska-Polom 74.08 319 *eP* **P 20 44 34.2 +0.7**
DPC Dobruska-Polom 74.08 319 *eP* **P 20 44 34.2 +0.7**
CEL Celeste 74.11 307 IAmb IAmb 20 44 35.5
comp=Z,57nm,1.1s
KSP Ksiaz 74.13 320 *eP* **P 20 44 34.2 +0.5**
KSP Ksiaz 74.13 320 P **P 20 44 34.4 +0.7**
BILL Bilibino 74.13 22⇑ *iP* **P 20 44 32.2 -1.2**
BILL *i* 20 44 41.4
BILL *e* 20 47 20.6
BILL *eS* **S 20 54 05.2 +0.1**
BILL pmax pmax
comp=Z,10.0nm,1.7s
BILL MLR MLR
comp=Z,270nm,18.0s
PTJ Puntijarka 74.13 315 P **P 20 44 34.6 +0.6**
OSTC Ostas 74.16 320 *eP* **P 20 44 34.3 +0.3**
CHVC Chvalec 74.27 320 *eP* **P 20 44 35.0 +0.4**
CONA Conrad Observa 74.27 317 *eP* **P 20 44 34.7 0.0**
comp=Z,7.1nm,0.9s
UPC Upice 74.29 320 *eP* **P 20 44 35.1 +0.4**
UPC Upice 74.29 320 *eP* **P 20 44 35.1 +0.4**
ARSA Arzberg 74.48 316 *eP* **P 20 44 36.1 +0.2**
comp=Z,14nm,1.2s,SNR=6.7
CRES Cresnjev 74.48 315⇑ *iP* **P 20 44 35.2 -0.7**
JETT Jettan, Norway 74.63 340 *eP* **P 20 44 36.3 0.0**
PERS Pernice 74.74 316 *i* P **P 20 44 37.5 0.0**
SOKA Soboth 74.80 316 *eP* **P 20 44 38.1 +0.3**
comp=Z,22nm,1.0s,SNR=12
OBKA Obir 75.13 315 *eP* **P 20 44 39.7 -0.1**
comp=Z,19nm,0.8s
LJU Ljubljana 75.14 315⇑ *iP* **P 20 44 40.3 +0.6**
CEY Cerknica 75.20 315⇑ *iP* **P 20 44 39.8 -0.3**
PVCC Panska Ves 75.21 320 *eP* **P 20 44 40.8 +0.8**
PVCC Panska Ves 75.21 320 *eP* **P 20 44 40.8 +0.8**
PRU Pruhonice 75.21 319 *eP* **P 20 44 40.4 +0.4**
PRU Pruhonice 75.21 319 *eP* **P 20 44 40.4 +0.4**
CKRC Cesky Krumlov 75.33 318 *eP* **P 20 44 40.9 +0.1**
MOA Molln 75.34 317 *eP* **P 20 44 40.4 -0.4**
comp=Z,8.1nm,0.9s
BRG Berggiesshubel 75.62 320 *i* P **P 20 44 43.0 +0.7**
BRG Amp 20 44 43.9
comp=Z,12nm,1.0s
BRG *ex* x 20 44 50.7
BRG Amp 20 44 53.9
comp=Z,12nm,1.2s
BRG Berggiesshubel 75.62 320 *i* P **P 20 44 43.0 +0.7**
BRG *e* 20 44 50.6
BRG pmax pmax
comp=Z,12nm,1.0s
BRG pmax pmax
comp=Z,12nm,1.2s
BRG Berggiesshubel 75.62 320 *eP* **P 20 44 42.9 +0.5**
comp=Z,6.4nm,0.9s,baz=90,slow=5.5
GEC2 GERESS Array S 75.73 318 IAmb IAmb 20 44 44.4
comp=Z,19nm,1.0s
GEC2 GERESS Array S 75.73 318 *eP* **P 20 44 43.4 +0.2**
comp=Z,12nm,0.9s,baz=90,slow=5.5
GERES GERESS Array B 75.73 318 P **P 20 44 43.6 +0.5**
comp=Z,7.3nm,0.7s,baz=90,slow=5.6,SNR=58
MYKA Terra Mystica 75.75 316 *eP* **P 20 44 42.9 -0.4**
comp=Z,5.6nm,0.7s
BIOA Bad Ischl, Aus 75.76 317 *eP* **P 20 44 42.8 -0.5**
comp=Z,8.2nm,0.8s
RUE Ruedersdorf 75.77 322 *eP* **P 20 44 43.3 +0.2**
RUE Ruedersdorf 75.77 322 *eP* **P 20 44 43.7 +0.6**
comp=Z,25nm,0.8s,baz=90,slow=5.5
KHC Kasperske Hory 75.82 318⇓ *eP* **P 20 44 43.6 0.0**
KHC pmax pmax
comp=Z,22nm,1.1s
KHC Kasperske Hory 75.82 318 P **P 20 44 43.1 -0.5**
KHC Kasperske Hory 75.82 318 *eP* **P 20 44 43.3 -0.3**
KHC *ex* x 20 44 51.0
KBA Koelnbreinsper 75.96 316 *eP* **P 20 44 44.0 -0.6**
comp=Z,14nm,1.4s,SNR=6.5
FBE Freiberg 75.99 320 *eP* **P 20 44 44.9 +0.5**
comp=Z,14nm,1.0s,baz=90,slow=5.5
FAUS Fauske 76.13 337 *eP* **P 20 44 44.8 -0.2**
SHEM Shemya Is, Ala 76.20 38 LR LR 21 19 26.7
comp=Z,56nm,20.9s,baz=262,slow=37
STEI Steigen 76.22 338 *eP* **P 20 44 45.4 0.0**
CLL Collm 76.22 320 *i* P **P 20 44 45.0 -0.8**
CLL *i* 20 44 55.2
CLL pmax pmax
comp=Z,16nm,1.3s
CLL Collm 76.22 320 *i* P **P 20 44 45.0 -0.8**
comp=Z,16nm,1.3s
CLL *i* (pP) **pwP 20 44 55.2 +0.7**
comp=Z,13nm,1.2s
CLL *e*PP **PP 20 47 41.0 +4.1**
CLL L L 21 23 00.0
comp=Z,100nm,22.0s
CLL Collm 76.22 320 *eP* **P 20 44 46.2 +0.5**
comp=Z,6.8nm,1.0s,baz=90,slow=5.5
WET Wettzell 76.28 318 *eP* **P 20 44 46.9 +0.7**
comp=Z,9.1nm,1.1s,baz=90,slow=5.5
MOR8 Mo i Rana 76.33 336 *eP* **P 20 44 45.2 -1.0**
BOSA Boshof 76.37 237 P **P 20 44 49.0 +1.8**
comp=Z,10nm,0.5s,baz=86,slow=3.9,SNR=46
BOSA Boshof 76.37 237 IAmb IAmb 20 44 49.8
comp=Z,28nm,1.1s
ABTA Abfaltersbach 76.53 316 *eP* **P 20 44 46.7 -1.1**
comp=Z,7.3nm,0.9s
TANN Tannenbergstha 76.55 319 *eP* **P 20 44 48.3 +0.5**
comp=Z,2.8nm,0.9s,baz=90,slow=5.5
NKC Novy Kostel 76.56 319 *eP* **P 20 44 48.9 +1.1**
NKC Novy Kostel 76.56 319 *eP* **P 20 44 48.9 +1.1**
WERN Wernitzgruen 76.61 319 *eP* **P 20 44 48.6 +0.5**
baz=90,slow=5.5
GUNZ Gunzen 76.64 319 *eP* **P 20 44 48.6 +0.4**
comp=Z,2.8nm,0.8s,baz=90,slow=5.5
ROTZ Rotzenmuhle 76.72 319 *eP* **P 20 44 49.1 +0.5**
comp=Z,2.0nm,1.0s,baz=90,slow=5.5
MANZ Manzenberg 76.78 319 *eP* **P 20 44 49.5 +0.4**
baz=90,slow=5.5
NEUB Neuenburg 76.99 320 *eP* **P 20 44 50.6 +0.5**
comp=Z,9.5nm,0.8s,baz=90,slow=5.5
MOX Moxa 77.09 320 *eP* **P 20 44 51.1 +0.3**
comp=Z,3.2nm,0.8s,baz=90,slow=5.5
WTTA Wattenberg 77.12 316 *eP* **P 20 44 50.4 -0.8**
comp=Z,21nm,1.1s,SNR=6.7
CTI Castel Tesino 77.14 315 P **P 20 44 50.8 -0.5**
CTI pmax pmax
comp=Z,26nm,0.8s
CTI Castel Tesino 77.14 315 P **P 20 44 50.8 -0.5**
CTI IAmb IAmb 20 44 52.4
comp=Z,26nm,0.8s
TEOL Teolo 77.14 314 IAmb IAmb 20 44 52.0
comp=Z,20nm,0.9s
WATA Walderalm 77.16 316 *i* P **P 20 44 50.4 -1.0**
comp=Z,8.8nm,0.7s,SNR=6.0
NSS Namsos 77.24 334 *eP* **P 20 44 51.1 -0.1**
FLTG Flechtingen 77.32 321 *eP* **P 20 44 52.7 +0.7**
baz=90,slow=5.5

FUR Furstenfeldbru 77.35 317 *eP* **P 20 44 52.5 +0.2**
comp=Z,13nm,0.9s,baz=90,slow=5.5
GRA1 Grafenberg Arr 77.36 319 IAmb IAmb 20 45 04.0
comp=Z,35nm,1.4s
GRF Grafenberg Arr 77.36 319 *eP* **P 20 44 52.9 +0.7**
baz=90,slow=5.5
GRFO Grafenberg 77.36 319 P **P 20 44 52.2 0.0**
GRFO pmax pmax
comp=Z,36nm,1.4s
GRFO Grafenberg 77.36 319 P **P 20 44 52.2 0.0**
GRFO IAmb IAmb 20 45 04.0
comp=Z,36nm,1.4s
SQTA Sankt Quirin 77.42 316 *eP* **P 20 44 52.2 -0.6**
comp=Z,17nm,0.8s,SNR=6.7
NB2 NORSAR Subarra 77.44 330 P **P 20 44 51.4 -1.1**
comp=Z,20nm,1.2s,baz=90,slow=6.2
NB2 NORSAR Subarra 77.44 330 P **P 20 44 51.4 -1.1**
baz=90,slow=6.2
NOA NORSAR Array B 77.44 330 P **P 20 44 52.0 -0.5**
comp=Z,5.3nm,0.9s,baz=93,slow=5.5,SNR=9.4
NOA PP **PP 20 47 43.5 -3.4**
comp=Z,1.0nm,0.8s,baz=76,slow=8.7,SNR=3.3
SPA0 Spitsbergen Ar 77.45 348 *eP* **P 20 44 52.8 +0.6**
SPITS Spitsbergen Ar 77.45 348 LR LR 21 27 54.1
comp=Z,205nm,19.3s,baz=199,slow=43
MOTA Moosalm 77.48 316 *i* P **P 20 44 52.3 -0.9**
comp=Z,17nm,0.9s,SNR=7.7
OSSC Osservatorio P 77.51 312 P **P 20 44 52.0 -1.3**
OSSC IAmb IAmb 20 45 03.2
comp=Z,15nm,0.9s
ZCCA Zocca 77.67 313 P **P 20 44 54.3 +0.1**
ZCCA IAmb IAmb 20 44 56.7
comp=Z,34nm,0.8s
RETA Reutte 77.71 316 *eP* **P 20 44 54.0 -0.3**
comp=Z,20nm,0.8s,SNR=8.8
FETA Feichten 77.75 316 *eP* **P 20 44 54.1 -0.6**
comp=Z,12nm,0.8s,SNR=6.6
CLZ Clausthal 77.86 321 *eP* **P 20 44 55.4 +0.4**
comp=Z,9.9nm,0.9s,baz=90,slow=5.5
BSEG Bad Segeberg 77.86 323 *eP* **P 20 44 55.6 +0.7**
comp=Z,16nm,1.0s,baz=90,slow=5.5
SALO Salr 77.94 315 IAmb IAmb 20 44 57.5
comp=Z,40nm,0.9s
NRDL Niedersach Rie 78.01 322 *eP* **P 20 44 56.5 +0.8**
baz=90,slow=5.5
GTTG Gottingen 78.12 321 *eP* **P 20 44 57.0 +0.5**
comp=Z,7.3nm,0.9s,baz=90,slow=5.5
UBR Ueberruh 78.15 317 *eP* **P 20 44 56.7 0.0**
comp=Z,8.1nm,0.8s,baz=90,slow=5.5
DZM Mont Dzumac 78.27 115 LR LR 21 23 12.3
comp=Z,209nm,18.5s,baz=214,slow=38
DAVA Damuels 78.32 316 *eP* **P 20 44 57.7 -0.1**
comp=Z,16nm,0.7s,SNR=6.9
TUE Stuetta 78.72 315 IAmb IAmb 20 45 10.6
comp=Z,75nm,1.7s
KASTN Kahler Asten 79.10 320 *eP* **P 20 45 02.4 +0.5**
comp=Z,3.7nm,0.9s,baz=90,slow=5.5
TNS Taunus Mts 79.13 319 *eP* **P 20 45 02.5 +0.4**
comp=Z,3.9nm,0.8s,baz=90,slow=5.5
HLG Helgoland 79.29 323 *eP* **P 20 45 03.2 +0.4**
baz=90,slow=5.5
BFO Black Forest 79.31 317 P **P 20 45 01.6 -1.5**
BFO pmax pmax
comp=Z,18nm,1.2s
BFO Black Forest 79.31 317 P **P 20 45 01.6 -1.5**
BFO Black Forest 79.31 317 *eP* **P 20 45 03.4 +0.3**
comp=Z,7.9nm,1.0s,baz=90,slow=5.5
IBBN Ibbenburen 79.46 321 *eP* **P 20 45 04.4 +0.6**
comp=Z,26nm,1.1s,baz=90,slow=5.5
KEST Kesra 79.47 305 P **P 20 45 05.0 +0.7**
comp=Z,25nm,0.6s,baz=53,slow=1.0,SNR=53
KEST LR LR 21 25 01.3
comp=Z,122nm,19.1s,baz=307,slow=39
KEST Kesra 79.47 305 IAmb IAmb 20 45 05.8
comp=Z,28nm,0.7s
KEST Kesra 79.47 305 P **P 20 45 05.1 +0.7**
SNR=35
BUG Bochum--Univer 79.81 321 *eP* **P 20 45 06.3 +0.6**
baz=90,slow=5.5
BLS5 Blasjo 79.83 329 *eP* **P 20 45 05.3 -0.4**
AHRW Bad Neuenahr-A 79.99 320 *eP* **P 20 45 07.2 +0.5**
comp=Z,7.4nm,0.9s,baz=90,slow=5.5
CDF Champ du Feu 80.00 318 *eP* **P 20 45 06.1 -0.9**
CDF pmax pmax
comp=Z,12nm,1.2s
SBF Sospel 80.25 313 *eP* **P 20 45 07.9 -0.4**
SBF pmax pmax
comp=Z,23nm,0.7s
HINF Hinteralfeld 80.33 317 *eP* **P 20 45 10.0 +1.3**
HINF pmax pmax
comp=Z,4.0nm,0.7s
TSUM Tsumeb 80.37 248 LR LR 21 18 00.5
comp=Z,102nm,18.1s,baz=26,slow=34
BTNL Ternell 80.59 320 *dP* **P 20 45 10.4 +0.4**
comp=Z,5.7nm,1.1s
LPG La Plagne 80.59 315 *eP* **P 20 45 10.2 -0.2**
LPG pmax pmax
comp=Z,27nm,0.8s
LPL La Plagne 80.61 315 *eP* **P 20 45 10.2 -0.2**
LPL pmax pmax
comp=Z,33nm,0.7s
MBDF Montbardon 80.65 314 *eP* **P 20 45 09.5 -1.1**
MBDF pmax pmax
comp=Z,9.0nm,0.7s
WLF Walferdange 80.65 319 *eP* **P 20 45 10.8 +0.5**
baz=90,slow=5.5
WLF Walferdange 80.65 319 *dP* **P 20 45 10.2 0.0**
comp=Z,7.5nm,1.2s
HAU Haudompre 80.66 317 *eP* **P 20 45 09.6 -0.8**
HAU pmax pmax
comp=Z,27nm,1.0s
BNI Bardonecchia 80.68 314 P **P 20 45 11.0 +0.2**
BNI Bardonecchia 80.68 314 IAmb IAmb 20 45 14.5
comp=Z,26nm,1.1s
MAW Mawson 80.70 191 P **P 20 45 11.7 +1.7**
comp=Z,4.6nm,0.9s,baz=17,slow=8.9,SNR=5.9
MAW Mawson 80.70 191 P **P 20 45 09.8 -0.2**
MAW pmax pmax
comp=Z,4.0nm,1.3s
MAW Mawson 80.70 191 P **P 20 45 09.8 -0.2**
CABF La Chapelle 80.95 316 *eP* **P 20 45 11.8 -0.3**
CABF pmax pmax
comp=Z,24nm,1.1s
LMR La Mourre 80.96 312 *eP* **P 20 45 11.7 -0.4**
LMR pmax pmax
comp=Z,11nm,0.8s
SUR Sutherland 81.22 235 P **P 20 45 13.8 0.0**
ORIF Oris-en-Rattie 81.26 314 *eP* **P 20 45 13.4 -0.4**
ORIF pmax pmax
comp=Z,5.0nm,0.6s
BGES Gesves 81.27 320 *dP* **P 20 45 13.8 +0.2**
comp=Z,5.8nm,1.2s
BMRD Maredsous 81.48 320 *dP* **P 20 45 14.8 +0.2**
comp=Z,5.2nm,1.2s
DOU Dourbes 81.61 319 *dP* **P 20 45 15.5 +0.1**
comp=Z,7.1nm,1.2s
BAIF Baives 81.86 319 *eP* **P 20 45 16.5 -0.2**
BAIF pmax pmax
comp=Z,20nm,1.1s
VIVF Saint-Julien-l 82.12 314 *eP* **P 20 45 17.9 -0.3**
VIVF pmax pmax
comp=Z,27nm,1.3s
LOR Lormes 82.41 317 *eP* **P 20 45 19.0 -0.7**
LOR pmax pmax
comp=Z,33nm,1.1s
SMF Signal de Mont 82.49 316 *eP* **P 20 45 19.4 -0.7**
SMF pmax pmax
comp=Z,17nm,1.0s
AVF Avril sur Loir 82.81 316 *eP* **P 20 45 21.0 -0.7**
AVF pmax pmax
comp=Z,13nm,1.0s
NOR Nord 82.87 352 *i* P **P 20 45 19.9 -1.5**
NOR IAmb IAmb 20 45 21.1
comp=Z,13nm,0.7s
CAF Calviac 83.95 314 *eP* **P 20 45 27.6 -0.1**
CAF pmax pmax
comp=Z,14nm,1.0s
RJF Les Rejaudoux 84.28 315 *eP* **P 20 45 29.3 0.0**
RJF pmax pmax
comp=Z,21nm,1.1s
JMIC Jan Mayen 84.33 341 LR LR 21 25 07.1
comp=Z,152nm,21.6s,baz=86,slow=37
FLN La Foliniere 85.08 319 *eP* **P 20 45 32.7 -0.6**
FLN pmax pmax
comp=Z,27nm,1.2s
DAG Danmarks Havn 85.09 348 P **P 20 45 32.1 -0.7**
DAG Danmarks Havn 85.09 348 *i* P **P 20 45 31.0 -1.8**

DAG					IAmb	IAmb	20 45 42.1			
	comp=Z,6.5nm,0.7s									
DAG					IAML		20 45 42.1			
	comp=Z,6.5nm,0.7s									
MFF	**Saint Martin d**	**85.22**	**316**	*eP*	**P**		**20 45 33.5**	**-0.5**		
MFF				pmax	pmax					
	comp=Z,17nm,0.9s									
EKA	**Eskdalemuir Ar**	**85.50**	**325**	LR	LR		21 27 30.1			
	comp=Z,143nm,21.9s,baz=78,slow=38									
ETSF	**Etsaut**	**86.15**	**313**	*eP*	**P**		**20 45 41.3**	**+2.5**		
ETSF				pmax	pmax					
	comp=Z,6.0nm,0.7s									
DBG	**Daneborg**	**86.48**	**346**	*i* P	**P**		**20 45 39.1**	**-0.6**		
DBG				IAmb	IAmb		20 46 02.0			
	comp=Z,2.1nm,0.8s									
RPZ	**Rata Peaks**	**88.08**	**135**	LR	LR		21 25 08.0			
	comp=Z,280nm,20.8s,baz=292,slow=36									
ESDC	**Sonseca Array**	**89.30**	**310**	P	**P**		**20 45 54.7**	**+0.7**		
	comp=Z,3.7nm,0.6s,baz=62,slow=4.3,SNR=37									
ESDC				LR	LR		21 31 55.2			
	comp=Z,66nm,18.3s,baz=74,slow=40									
ESDC	**Sonseca Array**	**89.30**	**310**	P	**P**		**20 45 53.7**	**-0.3**		
TORD	**Torodi Ar. Bea**	**89.53**	**283**	P	**P**		**20 45 56.2**	**+0.7**		
	comp=Z,2.3nm,0.6s,baz=83,slow=4.7,SNR=19									
TORD				PP	**PP**		**20 49 28.7**	**+1.6**		
	comp=Z,2.6nm,1.1s,baz=83,slow=7.0,SNR=6.8									
EUNU	**Eureka**	**89.86**	**0**	IAmb	IAmb		20 46 06.4			
	comp=Z,50nm,1.6s									
TOLK	**Toolik Lake Re**	**89.94**	**19**	P	**P**		**20 45 56.8**	**+0.4**		
	baz=298									
H21K	**Melozitna Rive**	**90.17**	**22**	P	**P**		**20 45 56.4**	**-1.1**		
H21K				IAmb	IAmb		20 46 08.6			
	comp=Z,20nm,1.5s									
H21K	**Melozitna Rive**	**90.17**	**22**	P	**P**		**20 45 57.2**	**-0.3**		
	baz=296									
J20K	**Nowinta River**	**90.28**	**24**	P	**P**		**20 45 58.8**	**+0.8**		
	baz=294									
K20K	**Telida**	**90.66**	**25**	IAmb	IAmb		20 46 56.7			
	comp=Z,14nm,1.1s									
K20K	**Telida**	**90.66**	**25**	P	**P**		**20 46 00.5**	**+0.7**		
	baz=294									
I21K	**Tanana**	**90.69**	**23**	P	**P**		**20 46 00.6**	**+0.7**		
	baz=296									
BORG	**Borgarnes**	**91.07**	**337**	LR	LR		21 29 12.7			
	comp=Z,123nm,19.4s,baz=59,slow=37									
CHUM	**Lake Minchumin**	**91.14**	**24**	P	**P**		**20 46 02.0**	**0.0**		
	baz=296									
URZ	**Urewera**	**91.22**	**129**	LR	LR		21 27 58.7			
	comp=Z,146nm,21.0s,baz=211,slow=36									
H23K	**Yukon River**	**91.30**	**22**	P	**P**		**20 46 02.3**	**-0.4**		
	baz=298									
MDT	**Midelt**	**91.33**	**304**	LR	LR		21 32 20.5			
	comp=Z,55nm,20.2s,baz=127,slow=39									
CAST	**Castle Rocks**	**91.44**	**24**	P	**P**		**20 46 03.7**	**+0.2**		
CAST				IAmb	IAmb		20 46 14.2			
	comp=Z,9.9nm,0.9s									
CAST	**Castle Rocks**	**91.44**	**24**	P	**P**		**20 46 03.6**	**+0.2**		
	baz=296									
BPAW	**Bear Paw Mtn.**	**91.56**	**23**	P	**P**		**20 46 03.7**	**-0.3**		
BPAW				IAmb	IAmb		20 46 14.6			
	comp=Z,16nm,1.2s									
BPAW	**Bear Paw Mtn.**	**91.56**	**23**	P	**P**		**20 46 04.0**	**0.0**		
	baz=297									
MTE	**Manteigas**	**91.80**	**311**	*eP*	**P**		**20 46 06.8**	**+1.1**		
	comp=Z,60nm,1.7s									
H24K	**Noodoi Dome**	**91.89**	**21**	P	**P**		**20 46 06.4**	**+0.9**		
	baz=300									
PCBR	**Castelo Branco**	**91.89**	**311**	*eP*	**P**		**20 46 05.5**	**-0.5**		
PMRV	**Marv??o**	**91.94**	**310**	*eP*	**P**		**20 46 05.5**	**-0.7**		
PBAR	**Barrancos**	**91.99**	**309**	*eP*	**P**		**20 46 07.5**	**+1.0**		
	comp=Z,31nm,2.1s									
BMAR	**Burnt Mountain**	**92.17**	**19**	P	**P**		**20 46 06.3**	**-0.5**		
PESTR	**Estremoz**	**92.23**	**310**	*eP*	**P**		**20 46 08.1**	**+0.5**		
TULEG	**Thule**	**92.78**	**356**	*i* P	P		20 46 04.1	-5.2		
TULEG				IAmb	IAmb		20 46 09.0			
	comp=Z,7.7nm,0.7s									
ILAR	**Eielson Array**	**92.79**	**22**	P	**P**		**20 46 09.8**	**+0.2**		
	comp=Z,0.2nm,0.6s,baz=335,slow=44,SNR=4.7									
ILAR				PKKP	**PKKPdf**		**21 03 20.6**	**+0.4**		
	comp=Z,0.4nm,0.5s,baz=159,slow=1.9,SNR=4.7									
ILAR				LR	LR		21 32 15.9			
	comp=Z,92nm,20.5s,baz=344,slow=38									
RAO	**Raoul Island**	**93.61**	**119**	LR	LR		21 32 08.8			
	comp=Z,112nm,18.2s,baz=53,slow=38									
PFVI	**Vila Bisbo**	**93.63**	**309**	*eP*	**P**		**20 46 15.5**	**+1.4**		
	comp=Z,160nm,1.6s									
KDAK	**Kodiak Island**	**93.68**	**29**	LR	LR		21 31 26.8			
	comp=Z,101nm,18.7s,baz=343,slow=38									
A36M	**Sachs Harbour**	**94.08**	**11**	IAmb	IAmb		20 46 25.6			
	comp=Z,16nm,1.1s									
ICESG	**Greenland Ices**	**94.45**	**345**	*i* P	**P**		**20 46 16.2**	**-1.4**		
ICESG				IAmb	IAmb		20 46 28.1			
	comp=Z,7.3nm,0.8s									
INK	**Inuvik**	**94.91**	**16**	P	**P**		**20 46 18.9**	**-0.2**		
	comp=Z,1.3nm,0.6s,baz=341,slow=6.3,SNR=8.1									
INK				LR	LR		21 35 39.3			
	comp=Z,107nm,20.0s,baz=286,slow=40									
INK	**Inuvik**	**94.91**	**16**	P	**P**		**20 46 18.7**	**-0.5**		
INK				pmax	pmax					
	comp=Z,8.0nm,1.2s									
INK	**Inuvik**	**94.91**	**16**	P	**P**		**20 46 18.7**	**-0.5**		
INK	**Inuvik**	**94.91**	**16**	P	**P**		**20 46 19.0**	**-0.2**		
	baz=314									
RES	**Resolute Bay**	**95.10**	**2**	P	**P**		**20 46 20.0**	**0.0**		
	comp=Z,5.2nm,0.8s,baz=344,slow=4.0,SNR=26									
RES				LR	LR		21 32 51.5			
	comp=Z,114nm,22.0s,baz=304,slow=38									
RES	**Resolute Bay**	**95.10**	**2**	IAmb	IAmb		20 46 30.5			
	comp=Z,11nm,0.9s									
M27K	**Edge Creek, AK**	**95.99**	**23**	P	**P**		**20 46 24.4**	**-0.1**		
	baz=305									
C36M	**Paulatuk**	**96.42**	**13**	P	**P**		**20 46 25.2**	**-0.9**		
C36M				IAmb	IAmb		20 46 35.6			
	comp=Z,8.1nm,1.0s									
C36M	**Paulatuk**	**96.42**	**13**	P	**P**		**20 46 25.5**	**-0.5**		
	baz=323									
SFJD	**Kangerlussuaq**	**98.73**	**347**	LR	LR		21 40 60.0			
	comp=Z,100nm,18.7s,baz=24,slow=41									
YKA	**Yellowknife Ar**	**104.29**	**13**	PP	**PKiKP**		**20 51 22.5**	**+4.6**		
	comp=Z,1.2nm,1.0s,baz=338,slow=7.8,SNR=6.3									
J05D	**Fort Rock, OR**	**118.02**	**28**	P	**PKiKP**		**20 51 44.9**	**+0.2**		
	baz=320									
MSO	**Missoula**	**118.12**	**21**	PKPdf	**PKPdf**		**20 51 42.5**	**-2.3**		
L04D	**Klamath Falls**	**118.32**	**30**	P	**PKPdf**		**20 51 45.1**	**-0.2**		
	baz=319									
M02C	**Callahan**	**118.67**	**31**	P	**PKiKP**		**20 51 46.7**	**+0.8**		
	baz=318									
N02D	**Trinity Center**	**119.06**	**31**	P	**PKiKP**		**20 51 46.9**	**+0.2**		
	baz=318									
ULM	**Lac du Bonnet**	**119.23**	**7**	PKP	**PKPdf**		**20 51 45.0**	**-1.6**		
	comp=Z,3.5nm,0.6s,baz=5.3,slow=4.0,SNR=3.9									
O02D	**Mt. Diablo Mer**	**119.60**	**32**	P	**PKiKP**		**20 51 48.2**	**+0.4**		
	baz=318									
MDND	**Maddock**	**121.02**	**10**	P	**PKiKP**		**20 51 50.5**	**+0.2**		
	baz=345									
PD31	**Pinedale Array**	**123.18**	**20**	PKPdf	**PKPdf**		**20 51 51.7**	**-3.1**		
PDAR	**Pinedale Array**	**123.18**	**20**	PKP	**PKPdf**		**20 51 54.5**	**-0.3**		
	comp=Z,2.9nm,0.7s,baz=72,slow=0.4,SNR=34									
PDAR				PKKPbc	**PKKPbc**		**21 01 44.2**	**-2.3**		
	comp=Z,0.5nm,0.5s,baz=128,slow=6.7,SNR=8.3									
NVAR	**Mina Array Bea**	**123.19**	**30**	PKP	**PKPdf**		**20 51 54.9**	**0.0**		
	comp=Z,4.0nm,0.8s,baz=295,slow=1.7,SNR=28									
PMSA	**Palmer Station**	**123.32**	**191**	*eP*	**PKiKP**		**20 51 59.4**	**+5.2**		
E46A	**Sault Ste Mari**	**123.65**	**358**	PKPdf	**PKPdf**		**20 51 52.4**	**-2.8**		
SUSD	**Miller**	**124.42**	**11**	P	**PKPdf**		**20 51 56.6**	**-0.2**		
	baz=345									
R11A	**Troy Canyon, C**	**124.54**	**28**	P	**PKiKP**		**20 51 57.7**	**0.0**		
	baz=324									
CWC	**Cottonwood Cre**	**124.85**	**31**	P	**PKiKP**		**20 51 58.5**	**+0.2**		
	baz=321									
ISA	**Isabella, Lake**	**125.24**	**32**	P	**PKiKP**		**20 51 59.1**	**0.0**		
	baz=320									
MPMC	**Manual Prospec**	**125.44**	**31**	P	**PKiKP**		**20 52 00.1**	**+0.5**		
	baz=321									
ECSD	**EROS Data Cent**	**125.51**	**9**	PKPdf	**PKPdf**		**20 51 57.3**	**-1.6**		
O20A	**White River Ci**	**125.97**	**21**	P	**PKPdf**		**20 52 00.1**	**0.0**		
	baz=333									
N23A	**Red Feather La**	**126.04**	**18**	P	**PKPdf**		**20 52 00.5**	**+0.1**		
	baz=336									
EDW2	**Edwards Air Fo**	**126.09**	**32**	P	**PKiKP**		**20 52 01.3**	**+0.5**		
	baz=320									
SHOC	**Shoshone, Teco**	**126.17**	**30**	P	**PKiKP**		**20 52 01.3**	**+0.5**		
	baz=323									
GSC	**Goldstone, Bar**	**126.38**	**31**	P	**PKiKP**		**20 52 01.8**	**+0.5**		
	baz=322									
TUQ	**Turquoise Moun**	**126.71**	**30**	P	**PKiKP**		**20 52 02.0**	**-0.1**		
	baz=323									
GMRC	**Granite Mounta**	**127.36**	**30**	P	**PKiKP**		**20 52 04.2**	**+0.8**		
	baz=323									
BELC	**Belle Mtn. Jos**	**127.81**	**31**	P	**PKiKP**		**20 52 04.5**	**+0.2**		
	baz=322									
IRM	**Iron Mountain**	**128.12**	**30**	P	**PKiKP**		**20 52 05.2**	**+0.4**		
	baz=323									
BC3	**Big Chuckawall**	**128.36**	**31**	P	**PKiKP**		**20 52 05.6**	**+0.2**		
	baz=322									
MONP2	**Monument Peak**	**128.46**	**33**	P	**PKiKP**		**20 52 06.2**	**+0.4**		
	baz=321									
PDMCI	**Parker Dam,Lak**	**128.50**	**29**	P	**PKiKP**		**20 52 05.3**	**-0.1**		
	baz=324									
S22A	**4UR Ranch, Cre**	**128.60**	**21**	P	**PKiKP**		**20 52 05.8**	**-0.2**		
	baz=334									
GLA	**Glamis**	**129.16**	**31**	P	**PKiKP**		**20 52 08.2**	**+1.3**		
	baz=323									
T25A	**Trinidad**	**129.96**	**19**	P	**PKiKP**		**20 52 08.8**	**+0.2**		
	baz=337									
P38A	**Dawn**	**129.98**	**7**	PKPdf	**PKPdf**		**20 52 06.0**	**-1.5**		
CMC01	**Camacan, BA**	**134.06**	**259**	*eP*	**PKiKP**		**20 52 19.4**	**+2.4**		
TXAR	**Lajitas Array**	**137.30**	**22**	PKP	**PKPdf**		**20 52 21.6**	**-0.1**		
	comp=Z,1.1nm,0.5s,baz=239,slow=1.4,SNR=12									
TXAR				SKPbc	**SKPbc**		**20 55 51.5**	**-2.5**		
	comp=Z,2.2nm,1.0s,baz=245,slow=2.6,SNR=8.3									
BDFB	**Brasilia**	**142.23**	**258**	PKP	**PKPdf**		**20 52 31.3**	**+0.4**		
	comp=Z,8.9nm,0.7s,baz=116,slow=4.1,SNR=11									
ITAB	**Concordia**	**143.55**	**238**		PKPbc		20 52 30.8	+0.6		
MCPB	**Macapa, AP**	**144.46**	**284**	*eP*	**PKPdf**		**20 52 36.5**	**+1.7**		
LL02	**Futaleuf**	**144.78**	**199**	PKPdf	**PKPab**		**20 52 33.1**	**-0.2**		
PLCA	**Paso Flores**	**146.52**	**202**	PKPbc	**PKPbc**		**20 52 39.4**	**+0.3**		
	comp=Z,16nm,0.8s,baz=184,slow=1.7,SNR=29									
PLCA	**Paso Flores**	**146.52**	**202**	PKP2	**PKPab**		**20 52 40.2**	**+0.2**		
CPUP	**Villa Florida**	**148.18**	**236**	PKP	**PKPdf**		**20 52 41.3**	**+0.6**		
	comp=Z,8.2nm,0.9s,baz=111,slow=3.0,SNR=10.0									
CPUP				PKPbc	**PKPbc**		**20 52 44.1**	**+0.1**		
	comp=Z,8.2nm,0.9s,baz=106,slow=3.2,SNR=7.7									
AQDB	**Aquidauana**	**148.73**	**247**	PKPdf	**PKPdf**		**20 52 41.5**	**-0.3**		
AQDB				PKPbc	**PKPbc**		**20 52 45.9**	**+0.3**		
AQDB	**Aquidauana**	**148.73**	**247**	*eP*	**PKPbc**		**20 52 44.4**	**-1.2**		
ITTB	**Itaituba**	**149.04**	**279**	*eP*	**PKPbc**		**20 52 45.0**	**-1.6**		
NPGB	**Novo Progresso**	**149.15**	**273**	*eP*	**PKPbc**		**20 52 45.0**	**-1.9**		
NBRS	**Nobres**	**149.80**	**259**	*eP*	**PKPbc**		**20 52 46.1**	**-2.3**		
CLDB	**Colider**	**149.90**	**266**	*eP*	**PKPbc**		**20 52 47.6**	**-1.1**		
BOAV	**Boa Vista**	**151.34**	**295**	*eP*	**PKPbc**		**20 52 49.3**	**-2.9**		
PTLB	**Pontes e Lacer**	**152.92**	**256**	*eP*	**PKPdf**		**20 52 51.6**	**+3.2**		
ROSC	**El Rosal**	**160.80**	**321**	PKP	**PKPdf**		**20 52 59.4**	**+0.3**		
	comp=Z,5.7nm,0.3s,baz=122,slow=8.4,SNR=3.7									
LPAZ	**La Paz**	**161.22**	**249**	PKP	**PKPdf**		**20 53 00.5**	**+0.8**		
	comp=Z,3.7nm,1.0s,baz=77,slow=4.7,SNR=7.8									
LPAZ				PKPab	**PKPab**		**20 53 43.9**	**+0.6**		
	comp=Z,3.9nm,0.8s,baz=133,slow=5.0,SNR=6.3									
LPAZ	**La Paz**	**161.22**	**249**	PKIKP	**PKPdf**		**20 52 59.9**	**+0.2**		
LPAZ	**La Paz**	**161.22**	**249**	PKPdf	**PKPdf**		**20 52 59.9**	**+0.2**		

IDC ***19*** *20:47:51.1±0.8, 10°.23N×93°.65E, h0km, mb4.1/15, mb1 4.1/17, mb1mx3.8/65, mbtmp4.0/17, ML3.5/2, Error ellipse: s-maj=26.2km s-min=18.4km az=54.0*
NEIC ***19*** *20:47:57.2±1.8, 10°.26N±0°.03×93°.78E±0°.07, h43km±9km, mb4.4/31, Error ellipse: s-maj=10.5km s-min=3.4km az=81.0*

ISC 19 20:47:55.5±0.5, 10°.17N±0°.07×93°.76E±0°.06, h35km, n61, σ1°22/65, mb4.3/31, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.78**	**326**	Pn		**Pn**	**Pn**	**20 48 22.7**	**-1.1**
PBA				Sn		**Sn**	**Sn**	**20 48 44.0**	**-1.3**
PBA	**Port Blair**	**1.78**	**326**	*eP*		**Pn**	**Pn**	**20 48 23.2**	**-0.6**
PBA				*eS*		**Sn**	**Sn**	**20 48 43.9**	**-1.3**
DGPR	**DIGLIPUR**	**3.10**	**345**	*eP*		**Pn**	**Pn**	**20 48 43.2**	**+1.2**
LHMI	**Lhok Sumawe**	**5.84**	**147**	Pn		**Pn**	**Pn**	**20 49 21.9**	**+2.3**
SRIT	**Nakonsritamara**	**5.98**	**105**			**Pn**	**Pn**	**20 49 22.8**	**+1.2**
SRIT				Sn		**Sn**	**Sn**	**20 50 26.9**	**-1.9**
KULM	**Kulim**	**8.38**	**125**	Pn		**Pn**	**Pn**	**20 49 54.9**	**+0.4**
KULM				Sn		**Sn**	**Sn**	**20 51 26.6**	**-1.3**
PSI	**Prapat**	**8.94**	**145**	Pn		Pn	Pn	20 50 10.5	+8.2
	1.2nm,0.3s,baz=302,slow=11,SNR=9.2								
RPSI	**Rantau Prapat**	**9.03**	**145**				Pn	20 50 10.5	+7.1
IPM	**Ipoh**	**9.16**	**128**	Pn			**Pn**	**20 50 04.8**	**-0.5**
IPM				Sn			**Sn**	**20 51 42.9**	**-4.4**
CMAR	**Chiang Mai Arr**	**9.65**	**31**	Pn			**Pn**	**20 50 13.1**	**+1.1**
	0.1nm,0.3s,baz=222,slow=15,SNR=4.2								
PALK	**Pallekele**	**13.22**	**258**	Pn			**Pn**	**20 51 00.3**	**-0.5**
	0.2nm,0.3s,baz=126,slow=22,SNR=1.1								
PALK				Sn			Sn	20 53 15.1	-12
	0.1nm,0.3s,baz=306,slow=22,SNR=1.3								
SHL	**Shillong**	**15.42**	**354**	*eP*		**P**	**P**	**20 51 33.6**	**-1.2**
MOKO	**MOKOCHONG**	**16.08**	**2**	*eS*		**Sn**	**Sn**	**20 54 40.5**	**+3.9**
HYBB	**Hyderabad (bro**	**16.42**	**298**	*eP*		**P**	**P**	**20 51 46.5**	**+0.6**
HYBB				*eS*		**S**	**S**	**20 54 56.2**	**+0.1**
HYBB				IVMs_BB		IVMs_BB	IVMs_BB	20 55 22.9	
	comp=Z,72nm,4.9s								
ENH	**Enshi**	**24.80**	**34**	P		**P**	**P**	**20 53 13.7**	**-0.7**
TARG	**Taragay, Kyrgy**	**34.43**	**339**	P		**P**	**P**	**20 54 40.3**	**+0.2**
TARG				IAmb		IAmb	IAmb	20 54 42.2	
	comp=Z,2.5nm,0.9s								
KDJ	**Kajisay**	**35.00**	**338**	P		**P**	**P**	**20 54 44.5**	**-0.4**
KDJ				IAmb		IAmb	IAmb	20 54 46.7	
	comp=Z,4.0nm,1.2s								
GAR	**Garm**	**35.53**	**328**	P		**P**	**P**	**20 54 49.6**	**+0.2**
GAR				IAmb		IAmb	IAmb	20 54 50.4	
	comp=Z,12nm,1.2s								
CHGR	**Chuyangaron**	**35.91**	**326**	P		**P**	**P**	**20 54 52.1**	**-0.5**
CHGR				IAmb		IAmb	IAmb	20 54 53.7	
	comp=Z,7.9nm,0.9s								
BTK	**Batken**	**36.07**	**329**	P		**P**	**P**	**20 54 54.6**	**+0.7**
BTK				IAmb		IAmb	IAmb	20 54 57.2	
	comp=Z,3.8nm,0.9s								
MK31	**Makanchi Array**	**37.78**	**347**	P		**P**	**P**	**20 55 08.0**	**-0.3**
MKAR	**Makanchi Array**	**37.78**	**347**	P		**P**	**P**	**20 55 08.1**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=162,slow=8.7,SNR=13								
MKAR	**Makanchi Array**	**37.78**	**347**	P		**P**	**P**	**20 55 07.0**	**-1.3**
KK31	**Karatay Array**	**38.56**	**332**	P		**P**	**P**	**20 55 15.2**	**+0.2**
KKAR	**Karatay Array**	**38.56**	**332**	P		**P**	**P**	**20 55 14.7**	**-0.3**
KKAR	**Karatay Array**	**38.56**	**332**	P		**P**	**P**	**20 55 15.2**	**+0.2**
KKAR				IAmb		IAmb	IAmb	20 55 23.6	
	comp=Z,2.9nm,1.3s								
SONM	**Songino Array**	**39.03**	**14**	P		**P**	**P**	**20 55 19.7**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=109,slow=13,SNR=3.0								
GEYT	**Alibeck**	**42.26**	**317**	P		**P**	**P**	**20 55 46.7**	**+1.0**
	comp=Z,5.7nm,0.6s,baz=227,slow=17,SNR=7.8								
GEYT	**Alibeck**	**42.26**	**317**	P		**P**	**P**	**20 55 46.9**	**+1.2**
GYA0B	**ALIBECK ARRAY**	**42.26**	**317**	P		**P**	**P**	**20 55 47.5**	**+1.8**
GYA0B				IAmb		IAmb	IAmb	20 55 48.3	
	comp=Z,6.8nm,0.9s								
KURK	**Kurchatov**	**42.31**	**346**	P		**P**	**P**	**20 55 46.1**	**+0.4**
ZAA0	**Zalesovo Array**	**44.25**	**352**	P		**P**	**P**	**20 56 01.2**	**-0.2**
ZAA0				IAmb		IAmb	IAmb	20 56 02.1	
	comp=Z,3.5nm,0.9s								
ZALV	**Zalesovo Beam**	**44.25**	**352**	P		**P**	**P**	**20 56 01.6**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=172,slow=9.4,SNR=14								
ZALV	**Zalesovo Beam**	**44.25**	**352**	P		**P**	**P**	**20 56 01.1**	**-0.3**
ABKAR	**Akbulak array**	**48.05**	**331**	P		**P**	**P**	**20 56 31.1**	**-0.3**
ABKAR	**Akbulak array**	**48.05**	**331**	P		**P**	**P**	**20 56 31.2**	**-0.2**
ABKAR				IAmb		IAmb	IAmb	20 56 32.0	
	comp=Z,2.2nm,0.5s								
AKTO	**Aktyubinsk**	**49.77**	**331**	P		**P**	**P**	**20 56 44.5**	**0.0**
	comp=Z,0.9nm,0.3s,baz=105,slow=8.2,SNR=12								
WB0	**Warramunga Arr**	**49.86**	**127**	P		**P**	**P**	**20 56 47.1**	**+1.3**
WB0				IAmb		IAmb	IAmb	20 56 49.1	
	comp=Z,4.8nm,1.2s								
WRA	**Warramunga Arr**	**49.91**	**127**	P		**P**	**P**	**20 56 47.9**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=306,slow=8.9,SNR=6.9								
WRAB	**Tennant Creek**	**49.92**	**127**	P		**P**	**P**	**20 56 45.4**	**-0.7**
WRAB				IAmb		IAmb	IAmb	20 56 50.0	
	comp=Z,11nm,1.6s								
WB2	**Warramunga Arr**	**49.92**	**127**	P		**P**	**P**	**20 56 47.7**	**+1.5**
WB2				IAmb		IAmb	IAmb	20 56 50.2	
	comp=Z,3.9nm,1.1s								
WR0	**Warramunga Arr**	**50.08**	**127**	P		**P**	**P**	**20 56 49.6**	**+2.2**
WR0				IAmb		IAmb	IAmb	20 57 20.4	
	comp=Z,3.2nm,1.1s								
ASAR	**Alice Springs**	**51.69**	**131**	P		**P**	**P**	**20 57 01.1**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=302,slow=7.2,SNR=4.8								
KBZ	**Khabaz**	**55.16**	**317**	P		**P**	**P**	**20 57 25.2**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=172,slow=4.1,SNR=4.1								
KIV	**Kislovodsk**	**55.38**	**317**	P		**P**	**P**	**20 57 26.4**	**0.0**
KIV				IAmb		IAmb	IAmb	20 57 28.2	
	comp=Z,3.4nm,0.8s								
BELG	**Belogornoye**	**56.17**	**328**	P		**P**	**P**	**20 57 32.7**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=36,slow=6.5,SNR=3.7								
BRTR	**Keskin Array B**	**60.66**	**310**	P		**P**	**P**	**20 58 02.2**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=104,slow=9.0,SNR=4.8								
ELL	**Elmali**	**63.06**	**306**	P		**P**	**P**	**20 58 18.9**	**-0.8**
KARP	**Karpathos**	**65.14**	**304**	P		**P**	**P**	**20 58 32.4**	**-0.8**
KARP				IAmb		IAmb	IAmb	20 58 34.0	
	comp=Z,5.8nm,0.9s								
PEA0B	**Petropavlovsk-**	**66.38**	**36**	P		**P**	**P**	**20 58 41.1**	**+0.3**
PETK	**Petropavlovsk-**	**66.38**	**36**	P		**P**	**P**	**20 58 40.6**	**-0.3**
IDI	**Anoyia**	**66.97**	**304**	P		**P**	**P**	**20 58 44.4**	**-0.6**
IDI				IAmb		IAmb	IAmb	20 58 55.2	
	comp=Z,4.1nm,0.9s								
MLR	**Muntele Rosu**	**67.28**	**315**	P		**P**	**P**	**20 58 46.5**	**-0.4**
MLR				IAmb		IAmb	IAmb	20 58 48.5	
	comp=Z,4.3nm,1.3s								
BURAR	**Bucovina Array**	**68.11**	**317**	P		**P**	**P**	**20 58 51.8**	**-0.2**
ITM	**Ithomi**	**69.47**	**306**	P		**P**	**P**	**20 58 59.0**	**-1.6**
ARCES	**ARCESS Array B**	**72.99**	**340**	P		**P**	**P**	**20 59 20.8**	**-0.5**
	comp=Z,6.6nm,1.3s,baz=84,slow=3.8,SNR=5.2								
GERES	**GERESS Array B**	**75.88**	**318**	P		**P**	**P**	**20 59 38.8**	**+0.2**
	comp=Z,0.1nm,0.2s,baz=40,slow=33,SNR=3.7								
BOSA	**Boshof**	**76.49**	**237**	P		**P**	**P**	**20 59 43.8**	**+1.4**
	comp=Z,3.5nm,1.1s,baz=135,slow=2.9,SNR=2.3								
SPB2	**Spitsbergen Ar**	**77.53**	**348**	P		**P**	**P**	**20 59 47.5**	**+0.3**
SPITS	**Spitsbergen Ar**	**77.53**	**348**	P		**P**	**P**	**20 59 46.6**	**-0.7**
	comp=Z,12nm,1.0s,baz=116,slow=13,SNR=3.1								
KEST	**Kesra**	**79.63**	**305**	P		**P**	**P**	**20 59 59.6**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=266,slow=10,SNR=4.4								

IDC 19 20:49:23.8±3.0, 6°.88N×125°.29E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.2/57, mbtmp3.4/4, Error ellipse: s-maj=181.5km s-min=29.4km az=93.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.82**	**179**	P		P	P	20 54 48.2

0.5nm,0.9s,baz=160,slow=7.6,SNR=2.8

IDC ***19*** *21:15:40.0±2.4, 43°.24N×105°.26W, h0km, mb2.7/1, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/13, Error ellipse: s-maj=44.6km s-min=10.4km az=154.0*

NEIC ***19*** *21:15:43.6±1.3, 43°.59N±0°.05×105°.35W±0°.05, h0km±1km, ML3.3/54, Error ellipse: s-maj=9.5km s-min=6.3km az=156.0*

ISC 19 21:15:42.5±0.9, **43°.58N**±0°.05×**105°.33W**±0°.06, **h0km**, **n45, σ1°02/43, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.08**	**60**			**Pb**	**21 16 04.2**	**0.0**
K22A	**Casper**	**1.28**	**224**			**Pg**	**21 16 05.9**	**-1.1**
K22A				IAML			21 16 31.3	
	comp=N,371nm,0.3s							
PHWY	**Pilot Hill**	**2.28**	**182**			**Pn**	**21 16 21.9**	**+0.2**
RWWY	**Rawlins**	**2.35**	**217**	Pn		**Pn**	**21 16 23.3**	**+0.7**
RWWY				IAML			21 16 58.1	
	comp=N,178nm,1.6s							
RWWY				IAML			21 16 58.6	
	comp=N,274nm,0.9s							
N23A	**Red Feather La**	**2.73**	**190**	Pn		**Pn**	**21 16 29.1**	**+1.3**
N23A				IAML			21 17 11.1	
	comp=E,128nm,0.6s							
N23A				IAML			21 17 12.6	
	comp=N,147nm,0.9s							
LAO	**LASA Array**	**3.17**	**349**			**Pn**	**21 16 34.4**	**+0.8**
BW06	**Boulder Array**	**3.20**	**257**	Pn		**Pn**	**21 16 33.8**	**-0.4**
BW06				IAML			21 17 22.2	
	comp=N,56nm,0.4s							
PDAR	**Pinedale Array**	**3.20**	**257**	Pn		**Pn**	**21 16 34.7**	**+0.4**
	comp=N,3.7nm,0.3s,baz=78,slow=17,SNR=38							
PDAR				Lg		Lg	21 17 19.6	
	comp=N,23nm,0.3s,baz=82,slow=36,SNR=4.4							
PDAR	**Pinedale Array**	**3.20**	**257**			**Pn**	**21 16 35.4**	**+1.1**
RLMT	**Red Lodge**	**3.22**	**300**			**Pn**	**21 16 34.5**	**+0.1**
RLMT				IAML			21 17 34.9	
	comp=N,75nm,0.8s							
RLMT				IAML			21 17 46.2	
	comp=N,74nm,1.6s							
OGNE	**Ogallala**	**3.60**	**136**			**Pn**	**21 16 41.1**	**+1.5**
YMP	**Mirror Lake PI**	**3.66**	**290**			**Pn**	**21 16 40.8**	**+0.1**
ISCO	**Idaho Springs**	**3.79**	**183**			**Pn**	**21 16 43.4**	**+0.9**
GCMT	**Greycliff**	**3.80**	**307**			**Pn**	**21 16 42.0**	**-0.4**
MOOW	**Moose Ponds**	**3.93**	**274**	Pn		**Pn**	**21 16 44.2**	**-0.1**
REDW	**Red Top Meadow**	**4.03**	**269**			**Pn**	**21 16 47.5**	**+1.8**
REDW				IAML			21 18 07.9	
	comp=N,62nm,1.5s							
O20A	**White River Ci**	**4.08**	**213**			**Pn**	**21 16 45.6**	**-0.7**
YHH	**Holmes Hill**	**4.15**	**289**			**Pn**	**21 16 48.7**	**+1.3**
YHH				IAML			21 18 08.9	
	comp=N,25nm,1.4s							
YHH				IAML			21 18 25.3	
	comp=E,23nm,2.2s							
AHID	**Auburn Hatcher**	**4.30**	**261**			**Pn**	**21 16 51.0**	**+1.6**
AHID				IAML			21 18 04.4	
	comp=E,46nm,1.6s							
AHID				IAML			21 18 12.6	
	comp=E,31nm,0.8s							
RDMU	**Red Mountain**	**4.36**	**228**			**Pn**	**21 16 50.0**	**-0.2**
RDMU				IAML			21 18 12.1	
	comp=N,30nm,1.4s							
RDMU				IAML			21 18 35.9	
	comp=E,37nm,1.7s							
E28A	**Huff**	**4.44**	**46**			**Pn**	**21 16 52.4**	**+1.3**
SMCO	**Snowmass**	**4.57**	**196**			**Pn**	**21 16 55.0**	**+1.7**
SMCO				IAML			21 18 06.8	
	comp=E,46nm,0.4s							
Q24A	**Divide**	**4.62**	**178**			**Pn**	**21 16 54.5**	**+0.7**
SUSD	**Miller**	**4.68**	**77**			**Pn**	**21 16 55.2**	**+0.9**
BOZ	**Bozeman (W)**	**4.93**	**296**			**Pn**	**21 16 58.4**	**+0.4**
BOZ				IAML			21 18 24.8	
	comp=E,21nm,1.4s							
BOZ				IAML			21 18 31.3	
	comp=E,23nm,1.8s							
DGMT	**Dagmar**	**4.95**	**9**			**Pn**	**21 16 58.6**	**+0.5**
KSCO	**Kaye Shedlock'**	**5.00**	**155**			**Pn**	**21 16 59.1**	**+0.2**
HWUT	**Hardware Ranch**	**5.01**	**249**			**Pn**	**21 16 59.8**	**+0.7**
HWUT				IAML			21 18 47.9	
	comp=E,36nm,1.7s							
P18A	**Preston Nutter**	**5.40**	**225**			**Pn**	**21 17 05.4**	**+0.8**
P18A				IAML			21 19 11.8	
	comp=N,26nm,2.0s							
EGMT	**Eagleton**	**5.41**	**327**	Pn		**Pn**	**21 17 05.3**	**+0.8**
MCMT	**McKenzie Canyo**	**5.55**	**286**			**Pn**	**21 17 08.0**	**+1.4**
LRM	**Limekiln Ridge**	**5.55**	**296**			**Pn**	**21 17 07.8**	**+1.2**
HRY	**Holter Researc**	**5.56**	**306**			**Pn**	**21 17 07.7**	**+1.1**
PV15	**Paradox Valley**	**5.75**	**206**			**Pn**	**21 17 10.2**	**+0.8**
HVU	**Hansel Valley**	**5.78**	**254**			**Pn**	**21 17 10.5**	**+0.9**
SDCO	**Great Sand Dun**	**5.83**	**181**			**Pn**	**21 17 11.5**	**+1.0**
MDND	**Maddock**	**5.85**	**41**			**Pn**	**21 17 11.5**	**+1.0**
S22A	**4UR Ranch, Cre**	**5.94**	**192**	Pn		**Pn**	**21 17 13.7**	**+1.7**
ECSD	**EROS Data Cent**	**6.32**	**86**	Pn		**Pn**	**21 17 18.0**	**+1.0**
T25A	**Trinidad**	**6.48**	**173**			**Pn**	**21 17 20.1**	**+0.8**
DUG	**Dugway, Tooele**	**6.53**	**241**	Pn		**Pn**	**21 17 19.3**	**-0.6**
I10CA	**LAC DU BONNET**	**9.18**	**41**	*i*			22 11 00.0	
	baz=224,slow=316,SNR=12							
ULM	**Lac du Bonnet**	**9.28**	**41**	Pn		**Pn**	**21 17 55.8**	**-1.7**
	comp=N,1.1nm,0.3s,baz=235,slow=9.3,SNR=4.0							
ULM				Pg			21 18 31.4	
	comp=N,1.4nm,0.3s,baz=230,slow=13,SNR=5.8							
ULM				Lg		Lg	21 20 34.5	
	comp=N,0.4nm,0.3s,baz=133,slow=8.7,SNR=4.4							
NEW	**Newport**	**9.46**	**304**	LR		LR	21 22 04.2	
	comp=N,104nm,21.4s,baz=159,slow=40							
YKA	**Yellowknife Ar**	**19.71**	**347**	P		**P**	**21 20 13.6**	**+0.5**
	comp=N,0.3nm,0.5s,baz=155,slow=12,SNR=5.7							

NIED ***19*** *21:25:44.9, 31°.13N×128°.70E, h8km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=2.13; Mθθ 1.22; Mφφ 0.91; Mrθ 1.90; Mrφ 2.59; Mθφ -1.10; Fault plane solution: M0 3.86000×10^14 NP1:φ=14.00000°, δ52.00000°, λ=-145.00000°. NP2:φ=260.00000°, δ63.00000°, λ=-44.00000°.*

JMA 19 21:25:44.9±0.3, **31°.13N×128°.70E, h8km**±2km, **M3.5, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**1.03**	**58**	P		Pg	21 26 04.3	-0.3
JKC	**Kuchinoerabu**	**1.45**	**117**	eS		Sn	21 26 30.0	-0.6
JFU	**Fukue jima 2**	**1.52**	**2**	P		Pn	21 26 12.6	+0.2
JFU				*eS*		Sb	21 26 32.8	0.0
JSU	**Suzuyama**	**1.55**	**76**	P		Pn	21 26 13.0	+0.2
JNN	**Nakanoshima**	**1.64**	**141**	P		Pn	21 26 14.2	+0.2
JNN				*eS*		Sn	21 26 35.3	+0.1

IDC ***19*** *21:54:18.0±1.0, 0°.52N×80°.11W, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/32, mbtmp3.9/9, ML2.6/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/63, Error ellipse: s-maj=35.9km s-min=19.8km az=55.0*

IGQ ***19*** *21:54:20.1-2.1, 1°N±5°×8°OW±°, h4km*

NEIC ***19*** *21:54:21.4±2.1, 0°.56N±0°.06×80°.04W±0°.07, h10km±1km, mb4.4/18, Error ellipse: s-maj=11.6km s-min=9.8km az=293.0*

VAO ***19*** *21:54:51.4±2.8, 0°.15S×78°.73W, h198km±22km, mb4.1*

ISC 19 21:54:21.1±1.5, **0°.56N**±0°.04×**80°.07W**±0°.06, **h15**km±9km, **n124, σ1°45/128, mb4.2/13, MS3.4/3, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AV21	**Acelerografo,**	**0.53**	**79**	P		**Pb**	**21 54 32.0**	**-0.2**
AV18	**Acelerografo,**	**0.64**	**112**	P		**Pb**	**21 54 34.0**	**0.0**
MAG1	**Magdalena**	**0.69**	**154**	P		**Pg**	**21 54 35.0**	**+0.4**
FLF1	**Flavio Alfaro-**	**0.94**	**166**	P		**Pg**	**21 54 39.0**	**-0.3**
FLF1				S		Sn	**21 54 55.0**	**+2.1**
PAC1	**Pacto, Paraso**	**1.31**	**103**	*eP*		**Pn**	**21 54 44.3**	**-0.7**
PAC1				*eS*		**Sn**	**21 55 05.4**	**+3.0**
PAC1				*i*			21 55 08.5	
	comp=Z,3μm,0.3s							
PAC1	**Pacto, Paraso**	**1.31**	**103**	P		**Pn**	**21 54 44.0**	**-1.0**
APR1	**Acelerografo,**	**1.57**	**112**	P		**Pn**	**21 54 49.0**	**+0.1**
HPAL	**Hacienda Las P**	**1.61**	**118**	P		**Pn**	**21 54 49.0**	**-0.4**
PINO	**Pino**	**1.63**	**116**	P		**Pn**	**21 54 49.0**	**-0.8**
TERV	**Terraza Guagua**	**1.64**	**116**	P		**Pn**	**21 54 49.0**	**-0.9**
YANA	**Yana**	**1.64**	**114**	P		**Pn**	**21 54 49.0**	**-0.9**
GGPC	**Guagua Pichinc**	**1.65**	**116**	P		**Pn**	**21 54 49.0**	**-1.0**
GGPT	**Toaza - Volcan**	**1.65**	**118**	P		**Pn**	**21 54 49.0**	**-0.9**
OTAV	**Otavalo**	**1.65**	**101**	Pn		**Pn**	**21 54 49.8**	**-0.2**
OTAV				Sn		**Sg**	**21 55 13.6**	**-0.8**
JUA2	**San Juan 2**	**1.65**	**118**	P		**Pn**	**21 54 49.0**	**-1.0**
PULU	**Pululahua**	**1.66**	**109**			**Pn**	**21 54 50.1**	**+0.1**
PULU				Sn		**Sb**	**21 55 12.6**	**+0.2**
PULU	**Pululahua**	**1.66**	**109**	P		**Pn**	**21 54 50.0**	**0.0**
CUSE	**Cuicocha Este**	**1.69**	**98**	*eP*		**Pn**	**21 54 50.9**	**+0.4**
CUSE				*eS*		**Sg**	**21 55 16.6**	**+0.9**
CUSE				*i*			21 55 27.0	
	comp=Z,3μm,0.5s							
CUSE	**Cuicocha Este**	**1.69**	**98**	P		**Pn**	**21 54 50.0**	**-0.5**
CUSE				S		**Sg**	**21 55 15.0**	**-0.7**
ALIT	**Ecuador-Imbabu**	**1.73**	**82**	P		**Pn**	**21 54 50.0**	**-0.8**
CUIC	**Cuicocha-Domo**	**1.73**	**98**	P		**Pn**	**21 54 51.0**	**0.0**
CUSW	**Cuicocha Oeste**	**1.74**	**99**	P		**Pn**	**21 54 51.0**	**-0.2**
COTA	**Cotacachi**	**1.75**	**97**	P		**Pn**	**21 54 51.0**	**-0.4**
URCU	**Urcuqui**	**1.82**	**94**	P		**Pn**	**21 54 52.0**	**-0.3**
ILLI	**Illinizas Sur**	**1.84**	**133**	P		**Pn**	**21 54 52.0**	**-0.7**
PAST	**Pastocalle**	**1.89**	**131**	P		**Pn**	**21 54 53.0**	**-0.3**
TOMA	**Boca Toma-Volc**	**1.94**	**123**	P		**Pn**	**21 54 55.0**	**+1.0**
PITA	**Cotopaxi Volc**	**1.98**	**124**	P		**Pn**	**21 54 55.0**	**+0.5**
CAMI	**Rancho Maria**	**1.99**	**128**	P		**Pn**	**21 54 55.0**	**+0.4**
BNAS	**Cotopaxi Volca**	**2.00**	**127**	P		**Pn**	**21 54 56.0**	**+1.1**
YAHU	**Yahuarcocha**	**2.01**	**95**	P		**Pn**	**21 54 56.0**	**+1.1**
CHMA	**Chilma**	**2.03**	**81**	P		**Pn**	**21 54 54.0**	**-1.1**
BREF	**Cotopaxi Volca**	**2.03**	**127**	P		**Pn**	**21 54 56.0**	**+0.6**
BVC2	**Cotopaxi Volca**	**2.05**	**126**	P		**Pn**	**21 54 57.0**	**+1.4**
BMOR	**Cotopaxi Volca**	**2.06**	**128**	P		**Pn**	**21 54 57.0**	**+1.3**
BTAM	**Cotopaxi Volca**	**2.07**	**126**	P		**Pn**	**21 54 57.0**	**+1.1**
LNGL	**El Angel-Carch**	**2.08**	**85**	P		**Pn**	**21 54 56.0**	**+0.1**
ANTG	**Antisana-Guama**	**2.10**	**120**	P		**Pn**	**21 54 57.0**	**+0.8**
ECEN	**Cerro Negro**	**2.12**	**83**	P		**Pn**	**21 54 56.0**	**-0.5**
ANGU	**Angureal**	**2.12**	**104**	P		**Pb**	**21 55 00.0**	**+0.3**
CAYR	**Refugio Cayamb**	**2.13**	**105**	P		**Pb**	**21 54 59.0**	**-0.9**
CHL1	**Volcjn Chiles**	**2.14**	**84**	P		**Pn**	**21 54 57.0**	**+0.2**
VCES	**Cotopaxi**	**2.15**	**129**	P		**Pn**	**21 54 58.0**	**+1.1**
ANTI	**Antisana**	**2.15**	**118**	P		**Pn**	**21 54 58.0**	**+0.9**
ANTS	**Antisana-Sarah**	**2.17**	**119**	P		**Pn**	**21 54 58.0**	**+0.7**
TULM	**Tulcn-Chalpat**	**2.29**	**86**	Pn		**Pn**	**21 54 58.9**	**0.0**
TULM	**Tulcn-Chalpat**	**2.29**	**86**	*eP*		**Pn**	**21 55 00.4**	**+1.6**
CHSH	**Refugio Sur-Vo**	**2.36**	**149**	P		**Pn**	**21 55 01.0**	**+1.1**
PORT	**Chimborazo Vol**	**2.39**	**147**	Pn		**Pn**	**21 55 01.6**	**+1.3**
PORT	**Chimborazo Vol**	**2.39**	**147**	P		**Pn**	**21 55 01.0**	**+0.7**
TAMH	**Tambohuasha Ch**	**2.45**	**148**	P		**Pn**	**21 55 03.0**	**+2.0**
CONE	**Cono NE Rev Vo**	**2.51**	**104**	P		**Pb**	**21 55 06.0**	**-0.1**
JUI6	**Juive**	**2.54**	**141**	P		**Pn**	**21 55 03.0**	**+0.9**
BONI	**La Bonita**	**2.54**	**92**	P		**Pn**	**21 55 04.0**	**+1.9**
BBIL	**Ulba Tungurahu**	**2.54**	**142**	P		**Pn**	**21 55 03.0**	**+0.8**
RETU	**Refugio**	**2.57**	**141**	P		**Pn**	**21 55 04.0**	**+1.3**
BMAS	**Trigal station**	**2.59**	**142**	P		**Pn**	**21 55 04.0**	**+1.1**
ARRY	**Arrayan**	**2.61**	**142**	P		**Pn**	**21 55 05.0**	**+1.9**
CASC	**Dorado de Casc**	**2.76**	**99**	P		**Pn**	**21 55 08.0**	**+3.0**
GCUF	**Volcan Galeras**	**2.81**	**76**	*eP*		**Pn**	**21 55 07.1**	**+1.2**
GR1C	**Gorgona, Isla**	**3.09**	**38**	*eP*		**Pb**	**21 55 15.3**	**-0.5**
GR1C				*eS*		**Sg**	**21 56 01.4**	**+1.0**
COHC	**Cochancay**	**3.11**	**165**	Pn		**Pn**	**21 55 09.4**	**-0.2**
SOTA	**Rioblanco**	**3.80**	**66**	*eP*		**Pn**	**21 55 20.5**	**+0.9**
POPC	**Popayan, Colom**	**3.92**	**60**	*eP*		**Pn**	**21 55 21.3**	**+0.2**
POPC				*eS*		**Sb**	**21 56 13.5**	**-4.1**
POPC				*i*			21 56 21.4	
	comp=Z,32nm,0.6s							
BOSC	**San Juan Bosco**	**4.00**	**157**	Pn		**Pn**	**21 55 25.6**	**+3.5**
BOSC	**San Juan Bosco**	**4.00**	**157**	P		**Pn**	**21 55 26.0**	**+3.9**
PCON	**Cinco Dias**	**4.07**	**64**	*eP*		**Pn**	**21 55 24.2**	**+0.8**
PCON				*eS*		**Sb**	**21 56 20.7**	**-1.5**
PCON				*i*			21 56 39.7	
	comp=Z,76nm,0.6s							
ARNL	**Arenillas**	**4.08**	**180**	Pn		**Pn**	**21 55 25.3**	**+2.3**
ARNL	**Arenillas**	**4.08**	**180**	P		**Pn**	**21 55 27.0**	**+4.0**
MARP	**Paez Belalcaza**	**4.70**	**61**	*eP*		**Pn**	**21 55 34.4**	**+2.6**
GARC	**Garzon, Huila**	**4.86**	**70**	*eP*		**Pn**	**21 55 35.0**	**+1.1**
MCRA	**Macar, Loja**	**4.89**	**179**	Pn		**Pn**	**21 55 36.3**	**+2.0**
YOTC	**Yotoco, Valle**	**5.04**	**47**	*eP*		**Pn**	**21 55 37.2**	**+0.7**
YOTC				*eS*		**Sn**	**21 56 38.3**	**+3.7**
PTLC	**Puerto Leguiza**	**5.29**	**94**	*eP*		**Pn**	**21 55 42.0**	**+2.4**
MACC	**Macarena, Meta**	**6.42**	**76**	*eP*		**Pn**	**21 55 57.4**	**+2.2**
GUY2C	**Guyana, Caldas**	**6.60**	**45**	*eP*		**Pn**	**21 56 00.5**	**+2.4**
GUY2C				*eS*		**Sn**	**21 57 17.5**	**+4.1**
GUY2C				*i*			21 57 40.7	
	comp=Z,15nm,0.6s							
ROSC	**El Rosal**	**7.15**	**53**	Pn		**Pn**	**21 56 06.8**	**+1.3**
	comp=Z,2.2nm,0.3s,baz=36,slow=20,SNR=2.2							
ROSC				Sn		Sn	21 57 18.1	-8.6
	comp=Z,2.2nm,0.3s,baz=252,slow=24,SNR=1.1							
ROSC	**El Rosal**	**7.15**	**53**			**Pn**	**21 56 07.2**	**+1.6**
CHIC	**Chingaza**	**7.51**	**57**	*eP*		**Pn**	**21 56 14.2**	**+3.6**
ZARC	**Zaragoza, Cauc**	**8.63**	**37**	Pn		**Pn**	**21 56 26.3**	**+0.7**
SDV	**Santo Domingo**	**12.52**	**48**	Pn		Pn	21 57 31.3	+12
	comp=Z,0.6nm,0.3s,baz=267,slow=4.5,SNR=5.2							
SDV	**Santo Domingo**	**12.52**	**48**	*eP*		Pn	21 57 37.2	+18
BIRV	**Birongo**	**16.89**	**54**	P		**Pn**	**21 58 18.6**	**+1.3**
BIRV				IAmb		IAmb	21 58 47.5	
	comp=Z,39nm,1.3s							
MACA	**Manacapuru-AM**	**19.73**	**101**	*eP*		**P**	**21 58 49.9**	**-0.6**
PB12	**IPOC Station P**	**21.32**	**154**	P		**P**	**21 59 09.5**	**+1.7**
PB12				IAmb		IAmb	21 59 21.4	
	comp=Z,19nm,1.0s							
PB16	**IPOC Station P**	**21.45**	**152**	P		**P**	**21 59 10.8**	**+1.1**
PB16				IAmb		IAmb	21 59 16.9	
	comp=Z,8.9nm,0.8s							
CMIG	**Matias Romero**	**21.97**	**319**	LR		LR	22 06 15.6	
	comp=Z,90nm,19.7s,baz=351,slow=33							
PB11	**IPOC Station P**	**22.63**	**154**	P		**P**	**21 59 22.4**	**+0.5**
GO01	**Chusmiza**	**22.75**	**153**	P		**P**	**21 59 23.5**	**-0.1**
GO01				IAmb		IAmb	21 59 41.3	
	comp=Z,24nm,1.4s							
ITTB	**Itaituba**	**24.80**	**102**	*eP*		**P**	**21 59 41.5**	**-1.4**
SIV	**San Ignacio**	**24.94**	**132**	P		**P**	**21 59 44.2**	**0.0**
	comp=Z,2.7nm,0.8s,baz=305,slow=9.5,SNR=9.0							
NPGB	**Novo Progresso**	**25.79**	**107**	*eP*		**P**	**21 59 49.9**	**-1.9**
MALB	**Monte Alegre**	**25.91**	**95**	*eP*		**P**	**21 59 53.5**	**+0.5**
PTLB	**Pontes e Lacer**	**26.09**	**128**	*eP*		**P**	**21 59 54.7**	**+0.2**
PDRB	**Porto dos Gac**	**26.15**	**118**	*eP*		**P**	**21 59 54.7**	**-0.4**
CLDB	**Colider**	**26.67**	**116**	*eP*		**P**	**21 59 58.2**	**-1.6**
MDP	**Montagnes des**	**27.76**	**80**	LR		LR	22 11 32.0	
	comp=Z,98nm,20.7s,baz=299,slow=37							
NBRS	**Nobres**	**28.23**	**123**	*eP*		**P**	**22 00 13.4**	**-0.4**
CFSA	**Confresa**	**30.64**	**111**	*eP*		**P**	**22 00 34.8**	**-0.4**
SNDB	**Serra Nova Dou**	**31.17**	**114**	*eP*		**P**	**22 00 39.1**	**-0.8**
DVLD	**Doverlandia**	**32.39**	**123**	*eP*		**P**	**22 00 50.4**	**-0.2**
CPUP	**Villa Florida**	**34.58**	**142**	LR		LR	22 18 46.4	
	comp=Z,141nm,18.3s,baz=334,slow=42							
BDFB	**Brasilia**	**35.52**	**118**	P		**P**	**22 01 16.0**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=282,slow=7.7,SNR=3.1							
IPMB	**Ipameri, GO**	**36.35**	**122**	*eP*		**P**	**22 01 23.8**	**-1.2**
PTGB	**Pitanga**	**36.97**	**135**	*eP*		**P**	**22 01 29.1**	**-1.2**
SDBA	**SAO DESIDERIO**	**37.20**	**111**	*eP*		**P**	**22 01 31.1**	**-1.2**
ITAB	**Concordia**	**38.54**	**138**	P		**P**	**22 01 42.2**	**-1.1**
ITAB	**Concordia**	**38.54**	**138**	*eP*		**P**	**22 01 42.0**	**-1.4**
PLCA	**Paso Flores**	**42.00**	**169**	P		**P**	**22 02 11.5**	**-0.4**
	comp=Z,5.4nm,1.0s,baz=332,slow=9.4,SNR=5.3							
PLCA	**Paso Flores**	**42.00**	**169**	P		**P**	**22 02 11.9**	**0.0**
PLCA				IAmb		IAmb	22 02 17.4	
	comp=Z,16nm,1.4s							
ANMO	**Albuquerque**	**42.15**	**327**	P		**P**	**22 02 14.1**	**+0.7**
SDCO	**Great Sand Dun**	**43.80**	**331**	P		**P**	**22 02 27.7**	**+0.8**
WUAZ	**Wupatki**	**45.37**	**323**	P		**P**	**22 02 39.5**	**+0.3**
PV13	**Radium Mtn., P**	**45.81**	**328**	P		**P**	**22 02 41.9**	**-0.9**
PV13				IAmb		IAmb	22 02 48.3	
	comp=Z,4.5nm,0.9s							
PDAR	**Pinedale Array**	**49.65**	**332**	P		**P**	**22 03 11.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=146,slow=44,SNR=2.7							
NVAR	**Mina Array Bea**	**51.47**	**322**	P		**P**	**22 03 26.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=26,slow=34,SNR=2.5							
YKA	**Yellowknife Ar**	**66.98**	**343**	P		**P**	**22 05 12.2**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=142,slow=5.6,SNR=6.3							
ESDC	**Sonseca Array**	**78.96**	**50**	P		**P**	**22 06 25.8**	**+1.2**
	comp=Z,1.5nm,1.1s,baz=247,slow=2.6,SNR=4.3							
TOA0	**Torodi Ar. Sit**	**81.86**	**77**	P		**P**	**22 06 39.2**	**-1.3**
TOA0				IAmb		IAmb	22 06 49.6	
	comp=Z,5.0nm,1.4s							
TORD	**Torodi Ar. Bea**	**81.86**	**77**	P		**P**	**22 06 39.3**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=282,slow=6.2,SNR=33							
TORD	**Torodi Ar. Bea**	**81.86**	**77**	P		**P**	**22 06 39.3**	**-1.3**
TORD				IAmb		IAmb	22 06 50.5	
	comp=Z,3.3nm,1.5s							
ZALV	**Zalesovo Beam**	**124.25**	**11**	PKP		**PKPdf**	**22 13 17.3**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=5.7,slow=1.4,SNR=2.0							
ASAR	**Alice Springs**	**139.83**	**233**	PKhKP		PKPpre	22 13 42.9	
	comp=Z,0.1nm,0.3s,baz=160,slow=3.0,SNR=1.2							
WRA	**Warramunga Arr**	**141.20**	**238**	PKhKP		PKPpre	22 13 48.1	
	comp=Z,0.3nm,0.5s,baz=115,slow=2.5,SNR=2.1							

IPEC ***19*** *22:01:26.0±0.1, 50°.22N×18°.98E, h1km, ML1.6/3, Error ellipse: s-maj=2.5km s-min=0.7km az=169.0*

PRU ***19*** *22:01:26.1±0.0, 50°.20N×18°.93E, h0km*

ISC 19 22:01:25.9±0.9, **50°.20N**±0°.05×**18°.95E**±0°.03, **h0km**, **n16, σ0°65/30, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.55**	**87**	*ePg*		**Pg**	**22 01 36.0**	**-0.4**
OJC				*eSg*		**Sg**	**22 01 43.3**	**-0.2**
MORC	**Moravsky Berou**	**1.00**	**246**	*ePg*		**Pg**	**22 01 45.5**	**+0.4**
	baz=64							
MORC				*eSg*		**Sg**	**22 01 58.0**	**0.0**
	11nm,0.3s,baz=64							
LANS	**Liptovska Anna**	**1.10**	**162**	*ePG*		**Pb**	**22 01 47.8**	**0.0**
LANS				*eSG*		**Sb**	**22 02 02.9**	**+0.1**
LANS				eLG		Lg	22 02 05.0	
NIE	**Niedzica**	**1.17**	**131**	*ePg*		**Pb**	**22 01 49.3**	**+0.2**
NIE				*eSg*		**Sb**	**22 02 05.8**	**+1.0**
KRLC	**Kraliky**	**1.40**	**266**	*ePG*		**Pg**	**22 01 51.7**	**-1.0**
KRLC				*eSG*		**Sg**	**22 02 11.1**	**+0.3**
	comp=Z,5.4nm,0.3s							
DPC	**Dobruska-Polom**	**1.69**	**276**	*ePG*		**Pn**	**22 01 56.2**	**-0.6**
DPC				*eSG*		**Sg**	**22 02 20.5**	**+0.3**
	comp=Z,5.5nm,0.6s							
VYHS	**Vyhne**	**1.71**	**182**	*ePG*		**Pn**	**22 01 56.5**	**-0.4**
VYHS				*eSG*		**Sn**	**22 02 19.7**	**+0.3**
VYHS				eLG		Lg	22 02 22.0	
VRAC	**Vranov**	**1.77**	**241**	*ePn*		**Pn**	**22 01 58.1**	**+0.3**
	baz=59							
VRAC				*eSg*		**Sb**	**22 02 22.2**	**+0.3**
	5.8nm,0.4s,baz=59							
OSTC	**Ostas**	**1.79**	**283**	*ePG*		**Pn**	**22 01 57.9**	**-0.1**
OSTC				*eSG*		**Sg**	**22 02 23.8**	**+0.5**
	comp=Z,6.2nm,0.9s							
KSP	**Ksiaz**	**1.81**	**292**	*ePg*		**Pg**	**22 02 00.4**	**-0.2**
KSP				*eSg*		**Sg**	**22 02 24.9**	**+0.7**
CHVC	**Chvalec**	**1.89**	**283**	*ePG*		**Pn**	**22 01 59.4**	**-0.1**
CHVC				*eSG*		**Sg**	**22 02 26.7**	**0.0**
KRUC	**Moravsky**	**2.01**	**237**	*ePn*		**Pn**	**22 02 01.3**	**+0.2**
	baz=54							
KRUC				*eSg*		**Sb**	**22 02 29.8**	**+0.9**
	2.5nm,0.3s,baz=54							
KRUC	**Moravsky**	**2.01**	**237**	*ePN*		**Pn**	**22 02 01.4**	**+0.3**
KRUC				*eSG*		**Sb**	**22 02 29.9**	**+1.0

n1609,σ1ᵍ57/1740,**mb5.5**/271,**MS5.2**/234,**16C-25D**,**Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMA1	**Acelerografo,**	**0.53**	**42**	P	**Pb**	**22 22 36.0**	**-0.5**
AV21	**Acelerografo,**	**0.55**	**77**	P	**Pb**	**22 22 36.0**	**-0.8**
AV18	**Acelerografo,**	**0.64**	**110**	P	**Pn**	**22 22 39.0**	**-0.9**
MAG1	**Magdalena**	**0.68**	**153**	P	**Pb**	**22 22 39.0**	**-0.1**
JAMA	**Jama**	**0.81**	**189**	P	**Pb**	**22 22 40.0**	**-1.3**
JAMA				S	**Sg**	**22 22 53.0**	**+0.5**
FLF1	**Flavio Alfaro-**	**0.92**	**165**	P	**Pn**	**22 22 44.0**	**+0.2**
BV15	**Puerto Quito-O**	**0.94**	**114**	P	**Pb**	**22 22 43.0**	**-0.5**
APR2	**Miler**	**1.20**	**112**	P	**Pn**	**22 22 47.0**	**-0.7**
PAC1	**Pacto, Paraso**	**1.32**	**102**	*e*P	**Pn**	**22 22 48.7**	**-0.7**
PAC1				*e*S	**Sg**	**22 23 10.3**	**+1.6**
PAC1				*i*		22 23 13.6	
	comp=Z,278μm,1.0s						
BUFE	**BUENA FE, CENT**	**1.55**	**158**	P	**Pn**	**22 22 52.0**	**-0.4**
BUFE				S	**Sg**	**22 23 17.0**	**+1.0**
HPAL	**Hacienda Las P**	**1.61**	**118**	P	**Pn**	**22 22 53.0**	**-0.6**
PINO	**Pino**	**1.63**	**115**	P	**Pn**	**22 22 54.0**	**0.0**
TERV	**Terraza Guagua**	**1.64**	**116**	P	**Pn**	**22 22 54.0**	**-0.1**
YANA	**Yana**	**1.64**	**113**	P	**Pn**	**22 22 54.0**	**-0.2**
GGPT	**Toaza - Volcan**	**1.64**	**117**	P	**Pn**	**22 22 54.0**	**-0.1**
GGPC	**Guagua Pichinc**	**1.65**	**116**	P	**Pn**	**22 22 54.0**	**-0.3**
JUA2	**San Juan 2**	**1.65**	**117**	P	**Pn**	**22 22 54.0**	**-0.3**
OTAV	**Otavalo**	**1.66**	**100**	P	**Pn**	**22 22 54.4**	**+0.1**
OTAV	**Otavalo**	**1.66**	**100**	Pn	**Pn**	**22 22 54.4**	**+0.1**
PULU	**Pululahua**	**1.66**	**108**		**Pb**	**22 22 54.7**	**-1.4**
PULU	**Pululahua**	**1.66**	**108**	P	**Pb**	**22 22 55.0**	**-1.1**
CUSE	**Cuicocha Este**	**1.70**	**98**	*e*P	**Pn**	**22 22 55.1**	**+0.3**
CUSE				*e*S	**Sg**	**22 23 20.2**	**-0.6**
CUSE	**Cuicocha Este**	**1.70**	**98**	P	**Pn**	**22 22 55.0**	**+0.2**
CUIC	**Cuicocha-Domo**	**1.73**	**98**	P	**Pn**	**22 22 55.0**	**-0.3**
ALIT	**Ecuador-Imbabu**	**1.74**	**82**	P	**Pn**	**22 22 55.0**	**-0.1**
LITE1	**Lita**	**1.74**	**82**	P	**Pn**	**22 22 55.0**	**-0.1**
CUSW	**Cuicocha Oeste**	**1.75**	**98**	P	**Pn**	**22 22 56.0**	**-1.6**
COTA	**Cotacachi**	**1.75**	**97**	P	**Pn**	**22 22 56.0**	**+0.3**
URCU	**Urcuqui**	**1.83**	**93**	P	**Pn**	**22 22 56.0**	**-0.6**
ILLI	**Illinizas Sur**	**1.84**	**133**	P	**Pn**	**22 22 57.0**	**+0.2**
PAST	**Pastocalle**	**1.89**	**130**	P	**Pn**	**22 22 58.0**	**+0.5**
TOMA	**Boca Toma-Volc**	**1.94**	**122**	P	**Pn**	**22 22 59.0**	**+0.8**
PITA	**Cotopaxi Volc**	**1.98**	**123**	P	**Pb**	**22 23 00.0**	**-1.5**
CAMI	**Rancho Maria**	**1.98**	**127**	P	**Pb**	**22 23 00.0**	**-1.7**
AIB2	**Ibarra (Univer**	**1.98**	**96**	P	**Pb**	**22 23 01.0**	**-0.6**
NAS2	**Nasa**	**2.00**	**126**	P	**Pn**	**22 23 00.0**	**+1.0**
BNAS	**Cotopaxi Volca**	**2.00**	**127**	P	**Pn**	**22 23 00.0**	**+0.9**
YAHU	**Yahuarcocha**	**2.02**	**95**	P	**Pb**	**22 23 01.0**	**-1.1**
BREF	**Cotopaxi Volca**	**2.03**	**126**	P	**Pb**	**22 23 01.0**	**-1.6**
CHMA	**Chilma**	**2.04**	**81**	P	**Pn**	**22 22 59.0**	**-0.5**
BVC2	**Cotopaxi Volca**	**2.05**	**125**	P	**Pb**	**22 23 01.0**	**-1.8**
BMOR	**Cotopaxi Volca**	**2.05**	**128**	P	**Pb**	**22 23 01.0**	**-1.9**
BTAM	**Cotopaxi Volca**	**2.07**	**126**	P	**Pb**	**22 23 02.0**	**-1.2**
LNGL	**El Angel-Carch**	**2.09**	**84**	P	**Pn**	**22 23 01.0**	**+0.7**
ANTG	**Antisana-Guama**	**2.10**	**120**	P	**Pb**	**22 23 02.0**	**-1.6**
TAMB	**Tambo**	**2.10**	**126**	P	**Pb**	**22 23 02.0**	**-1.8**
ECEN	**Cerro Negro**	**2.13**	**82**	P	**Pn**	**22 23 01.0**	**+0.1**
ANGU	**Angureal**	**2.13**	**103**	P	**Pb**	**22 23 04.0**	**-0.2**
CAYR	**Refugio Cayamb**	**2.14**	**104**	P	**Pb**	**22 23 03.0**	**-1.4**
CAYA	**Cayambe**	**2.14**	**103**	P	**Pb**	**22 23 03.0**	**-1.4**
ANTM	**Antisana-La Mi**	**2.14**	**120**	P	**Pb**	**22 23 03.0**	**-1.4**
VCES	**Cotopaxi**	**2.15**	**128**	P	**Pb**	**22 23 03.0**	**-1.5**
CHL1	**Volcˌn Chiles**	**2.15**	**83**	P	**Pn**	**22 23 01.0**	**-0.1**
ANTS	**Antisana-Sarah**	**2.17**	**118**	P	**Pn**	**22 23 02.0**	**+0.5**
CHL2	**Volcˌn Chiles**	**2.18**	**83**	P	**Pn**	**22 23 02.0**	**+0.5**
CMBC	**Cumbal**	**2.29**	**80**	*e*P	**Pn**	**22 23 03.7**	**+0.7**
TULM	**Tulcn-Chalpat**	**2.30**	**86**	Pn	**Pn**	**22 23 04.3**	**+1.2**
TULM	**Tulcn-Chalpat**	**2.30**	**86**	*e*P	**Pb**	**22 23 05.1**	**-2.0**
TULM				*e*S	**Sg**	**22 23 43.8**	**+3.7**
TULM	**Tulcn-Chalpat**	**2.30**	**86**	P	**Pb**	**22 23 04.0**	**+0.8**
CHSH	**Refugio Sur-Vo**	**2.35**	**149**	P	**Pb**	**22 23 06.0**	**-2.0**
ATUL	**Tulcn**	**2.37**	**84**	P	**Pb**	**22 23 06.0**	**-2.1**
PIAT	**Ana Tenorio**	**2.37**	**130**	P	**Pn**	**22 23 05.0**	**+0.9**
PORT	**Chimborazo Vol**	**2.38**	**147**	Pn	**Pn**	**22 23 05.5**	**+1.2**
PORT	**Chimborazo Vol**	**2.38**	**147**	P	**Pn**	**22 23 06.0**	**+1.6**
TAMH	**Tambohuasha Ch**	**2.44**	**148**	P	**Pn**	**22 23 06.0**	**+0.9**
IGUA	**Igualata**	**2.48**	**144**	P	**Pn**	**22 23 06.0**	**+0.3**
CONE	**Cono NE Rev Vo**	**2.51**	**104**	P	**Pb**	**22 23 09.0**	**-1.6**
JUI6	**Juive**	**2.53**	**140**	P	**Pn**	**22 23 08.0**	**+1.8**
BBIL	**Ulba Tungurahu**	**2.54**	**141**	P	**Pb**	**22 23 09.0**	**-2.0**
POND	**Pondoa**	**2.54**	**140**	P	**Pn**	**22 23 08.0**	**+1.7**
BONI	**La Bonita**	**2.55**	**92**	P	**Pb**	**22 23 09.0**	**-2.2**
BRUN	**Tungurahua Vol**	**2.56**	**139**	P	**Pn**	**22 23 08.0**	**+1.3**
RETU	**Refugio**	**2.56**	**140**	P	**Pb**	**22 23 09.0**	**-2.6**
BMAS	**Trigal station**	**2.58**	**142**	P	**Pn**	**22 23 09.0**	**+2.0**
ARRY	**Arrayan**	**2.60**	**141**	P	**Pn**	**22 23 09.0**	**+1.8**
BPAT	**Tungurahua Vol**	**2.63**	**141**	P	**Pn**	**22 23 10.0**	**-2.4**
ARDO	**Archidona, Ten**	**2.74**	**124**	P	**Pb**	**22 23 12.0**	**-2.3**
CASC	**Dorado de Casc**	**2.77**	**98**	P	**Pb**	**22 23 12.0**	**-2.8**
CCUFI	**Cufio, Nario**	**2.82**	**76**	*e*P	**Pn**	**22 23 11.5**	**+1.2**
GCUF	**Volcan Galeras**	**2.82**	**76**	*e*P	**Pn**	**22 23 11.5**	**+1.2**
GCUF				*e*S	**Sg**	**22 23 52.2**	**-4.5**
PUYO	**Puyo, Santa Ro**	**2.88**	**134**	P	**Pb**	**22 23 14.0**	**-2.7**
COHC	**Cochancay**	**3.10**	**165**	Pn	**Pn**	**22 23 13.7**	**0.0**
GR1C	**Gorgona, Isla**	**3.10**	**38**	*e*P	**Pn**	**22 23 10.4**	**-3.4**
GR1C				*e*S	**Sg**	**22 24 07.3**	**+1.5**
CRUC	**La Cruz**	**3.29**	**72**	*e*P	**Pn**	**22 23 17.9**	**+1.2**
ISPG	**Isla Puna-Puer**	**3.48**	**181**	P	**Pn**	**22 23 23.0**	**+3.9**
SOTA	**Rioblanco**	**3.81**	**65**	*e*P	**Pn**	**22 23 24.5**	**+0.5**
SOTA				*e*S	**Sb**	**22 24 14.5**	**-4.4**
POPC	**Popayan, Colom**	**3.94**	**60**	*e*P	**Pn**	**22 23 25.9**	**+0.4**
POPC				*e*S	**Sb**	**22 24 17.6**	**-4.7**
BOSC	**San Juan Bosco**	**3.99**	**157**	Pn	**Pn**	**22 23 29.6**	**+3.4**
BOSC	**San Juan Bosco**	**3.99**	**157**	P	**Pn**	**22 23 30.0**	**+3.8**
ARNL	**Arenillas**	**4.06**	**180**	Pn	**Pn**	**22 23 28.7**	**+1.8**
ARNL	**Arenillas**	**4.06**	**180**	P	**Pn**	**22 23 29.0**	**+2.0**
PCON	**Cinco Dias**	**4.09**	**64**	*e*P	**Pn**	**22 23 29.2**	**+1.4**
PCON				⇑*e*S	**Sb**	**22 24 25.4**	**-1.5**
MARP	**Paez Belalcaza**	**4.71**	**61**	*e*P	**Pn**	**22 23 37.2**	**+1.0**
MARP				*e*S	**Sn**	**22 24 31.9**	**+1.4**
MARP				*i*		22 25 00.2	
	comp=Z,89nm,0.6s						
GARC	**Garzon, Huila**	**4.87**	**70**	*e*P	**Pn**	**22 23 39.5**	**+1.2**
MCRA	**Macar, Loja**	**4.88**	**179**	Pn	**Pn**	**22 23 38.9**	**+0.7**
MCRA	**Macar, Loja**	**4.88**	**179**	P	**Pn**	**22 23 39.0**	**+0.7**
YOTC	**Yotoco, Valle**	**5.06**	**47**	*e*P	**Pn**	**22 23 41.6**	**+0.7**
BETC	**Betania**	**5.10**	**65**	*e*P	**Pn**	**22 23 44.8**	**+3.5**
BETC				*e*S	**Sb**	**22 24 54.7**	**-0.9**
BETC				*i*		22 25 25.7	
	comp=Z,219nm,0.7s						
ZUMB	**Zumba**	**5.45**	**170**	P	**Pn**	**22 23 48.0**	**+1.8**
PLMC	**San Jos del P**	**5.76**	**41**	*e*P	**Pn**	**22 23 51.2**	**+0.8**
ORTC	**Ortega, Tolima**	**5.88**	**55**	*e*P	**Pn**	**22 23 50.8**	**-1.2**
ORTC				*e*S	**Sn**	**22 25 02.8**	**+3.9**
ORTC				*i*		22 25 20.6	
	comp=Z,267nm,0.7s						
MACC	**Macarena, Meta**	**6.43**	**76**	*e*P	**Pn**	**22 24 00.4**	**+0.8**
MACC				*i*		22 25 34.2	
	comp=Z,153nm,0.6s						
GUY2C	**Guyana, Caldas**	**6.62**	**45**	*e*P	**Pn**	**22 24 00.3**	**-2.3**
GUY2C				*e*S	**Sn**	**22 25 16.5**	**-1.3**
CBOC	**Ciudad Bolivar**	**6.67**	**37**	*e*P	Pn	22 24 07.5	+4.5
ROSC	**El Rosal**	**7.17**	**53**	Pn	**Pn**	**22 24 08.3**	**-1.7**
	comp=Z,2.0nm,0.3s,baz=90,slow=22,SNR=1.4						
ROSC				Sn	**Sn**	**22 25 37.1**	**+6.0**
	comp=Z,2.5nm,0.3s,baz=26,slow=23,SNR=2.4						
ROSC				LR	LR	22 27 48.5	
	comp=Z,30μm,18.2s,baz=198,slow=47						
ROSC	**El Rosal**	**7.17**	**53**	P	**Pn**	**22 24 10.6**	**+0.6**
ROSC	**El Rosal**	**7.17**	**53**	Pn	**Pn**	**22 24 10.6**	**+0.6**
ROSC	**El Rosal**	**7.17**	**53**	*e*P	**Pn**	**22 24 10.4**	**+0.4**
HELC	**Santa Helena**	**7.22**	**39**	*e*P	**Pn**	**22 24 13.1**	**+2.3**
VILC	**Villavicencio,**	**7.30**	**61**	*e*P	Pn	22 24 16.7	+5.0
CHIC	**Chingaza**	**7.53**	**57**	*e*P	**Pn**	**22 24 18.2**	**+3.1**
UPA	**Univ. de Panam**	**8.40**	**4**	*e*P	**Pn**	**22 24 26.6**	**-0.1**
CDITO	**Canoas**	**8.45**	**341**		**Pn**	**22 24 28.0**	**+0.6**
BCIP	**Isla Barro Col**	**8.57**	**2**	P	**Pn**	**22 24 29.5**	**+0.5**
BCIP	**Isla Barro Col**	**8.57**	**2**	Pn	**Pn**	**22 24 29.5**	**+0.5**
BRU2	**Volcan**	**8.60**	**342**	Pn	**Pn**	**22 24 30.7**	**+1.1**
ZARC	**Zaragoza, Cauc**	**8.65**	**37**	Pn	**Pn**	**22 24 30.9**	**+0.8**
ZARC	**Zaragoza, Cauc**	**8.65**	**37**	*e*P	Pn	22 24 34.5	+4.4
RUSC	**La Rusia**	**8.78**	**53**	*e*P	**Pn**	**22 24 33.0**	**+0.8**
RIOS	**Rincon, Osa**	**8.80**	**337**		**Pn**	**22 24 31.3**	**-0.8**
EDPN	**Palmar Norte**	**9.02**	**338**	*e*P	**Pn**	**22 24 38.2**	**+3.1**
EDBA	**Buenos Aires**	**9.14**	**340**	*e*P	**Pn**	**22 24 39.4**	**+2.5**
DRK0	**Durika**	**9.22**	**340**		**Pn**	**22 24 38.7**	**+0.7**
DRK0	**Durika**	**9.22**	**340**	*e*P	**Pn**	**22 24 40.0**	**+2.0**
SRBA	**San Rafael, Bu**	**9.23**	**339**		**Pn**	**22 24 38.9**	**+0.8**
SRBA	**San Rafael, Bu**	**9.23**	**339**	*e*P	**Pn**	**22 24 39.6**	**+1.4**
EDDO	**Dominical**	**9.44**	**337**	*e*P	**Pn**	**22 24 42.5**	**+1.5**
PEZE	**Perez Zeledon,**	**9.49**	**338**	Pn	**Pn**	**22 24 41.8**	**+0.1**
CDM	**Cerro de Muert**	**9.68**	**338**	*e*P	**Pn**	**22 24 46.1**	**+1.6**
RIMA	**Rio Macho**	**9.91**	**338**		**Pn**	**22 24 47.5**	**-0.1**
LCR2	**La Lucha 2**	**9.94**	**337**	*e*P	**Pn**	**22 24 49.7**	**+1.7**
PAMC	**Pamplona, Colo**	**9.99**	**47**	*e*P	Pn	22 24 55.3	+6.5
BATAN	**Batan**	**10.05**	**341**	Pn	**Pn**	**22 24 50.1**	**+0.9**
VTCV	**VTCV, Calle Va**	**10.06**	**339**	*e*P	**Pn**	**22 24 51.0**	**+1.4**
OCM	**Ochomogo**	**10.06**	**338**	*e*P	**Pn**	**22 24 51.4**	**+1.7**
VTRT	**Volcan Turrial**	**10.10**	**339**	*e*P	**Pn**	**22 24 52.2**	**+1.9**
VTUN	**Crater Central**	**10.11**	**339**	*e*P	**Pn**	**22 24 52.2**	**+1.8**
VTUC	**Crater, Volcan**	**10.11**	**339**	*e*P	**Pn**	**22 24 51.7**	**+1.3**
SJS	**Escuela Geolog**	**10.14**	**337**	*e*P	**Pn**	**22 24 53.3**	**+2.6**
JACO	**JACO, Garabito**	**10.14**	**333**	Pn	**Pn**	**22 24 51.6**	**+1.0**
OCAC	**Ocana**	**10.19**	**41**		**Pn**	**22 24 52.3**	**+0.9**
HDC	**Heredia**	**10.22**	**337**		**Pn**	**22 24 52.8**	**+1.0**
HDC	**Heredia**	**10.22**	**337**	*e*P	**Pn**	**22 24 54.0**	**+2.3**
HDC3	**Heredia 3**	**10.22**	**337**	*e*P	**Pn**	**22 24 54.2**	**+2.5**
PAYG	**Puerto Ayora**	**10.28**	**263**		**Pn**	**22 24 53.0**	**+0.5**
CAO2	**Cobano, Puntar**	**10.38**	**331**		**Pn**	**22 24 54.1**	**+0.4**
LAFE	**Finca La Fe, P**	**10.39**	**333**	*e*P	**Pn**	**22 24 54.4**	**+0.6**
RIFO	**Rio Frio, Sara**	**10.44**	**339**	*e*P	**Pn**	**22 24 56.6**	**+2.0**
CRPO	**Crater poas**	**10.44**	**337**	*e*P	**Pn**	**22 24 56.9**	**+1.9**
SJCC	**San Jacinto, C**	**10.50**	**28**		**Pn**	**22 24 56.0**	**+0.5**
SJCC	**San Jacinto, C**	**10.50**	**28**	⇑*e*P	**Pn**	**22 24 55.2**	**-0.3**
GRZA	**Playa Garza**	**10.83**	**329**	*e*P	**Pn**	**22 25 00.8**	**+0.8**
JTS	**Las Juntas de**	**10.83**	**334**	Pn	**Pn**	**22 25 01.7**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=215,slow=11,SNR=38						
JTS				LR	LR	22 28 19.2	
	comp=Z,14μm,20.8s,baz=222,slow=33						
JTS	**Las Juntas de**	**10.83**	**334**	*d i*P	**Pn**	**22 25 01.0**	**+1.0**
JTS	**Las Juntas de**	**10.83**	**334**	Pn	**Pn**	**22 25 01.5**	**+1.5**
JTS	**Las Juntas de**	**10.83**	**334**	*e*P	**Pn**	**22 25 00.5**	**+0.5**
ARE1	**Arenal 1**	**10.88**	**335**	*e*P	**Pn**	**22 25 02.5**	**+1.8**
DUNO	**Dulce Nombre,**	**10.90**	**331**		**Pn**	**22 25 01.4**	**+0.4**
CZSB	**Cruzeiro do Su**	**11.03**	**138**	*e*P	**Pn**	**22 25 03.0**	**+0.4**
LL1C	**La Loma 1 Cana**	**11.05**	**36**	*e*P	**Pn**	**22 25 04.9**	**+1.9**
PLVR	**Palo Verde**	**11.06**	**332**	*e*P	**Pn**	**22 25 04.3**	**+0.9**
LL5C	**La Loma 5 El P**	**11.12**	**34**	*e*P	**Pn**	**22 25 04.9**	**+0.9**
ORTG	**Ortega, Santa**	**11.13**	**331**		**Pn**	**22 25 04.7**	**+0.6**
ORTG	**Ortega, Santa**	**11.13**	**331**	*e*P	**Pn**	**22 25 04.8**	**+0.6**
COLC	**Colonia**	**11.28**	**333**	*e*P	**Pn**	**22 25 08.3**	**+2.2**
HORNC	**Hornillas**	**11.31**	**334**	*e*P	**Pn**	**22 25 08.3**	**+1.8**
VMAR	**Armenia, Volca**	**11.37**	**334**	*e*P	**Pn**	**22 25 08.7**	**+1.3**
LL6C	**La Loma 6 Bece**	**11.37**	**36**	*e*P	**Pn**	**22 25 08.5**	**+1.1**
HZTE	**Horizontes, Gu**	**11.50**	**332**	Pn	**Pn**	**22 25 10.9**	**+1.8**
HZTE	**Horizontes, Gu**	**11.50**	**332**	*e*P	**Pn**	**22 25 10.4**	**+1.2**
SOCV	**Socops**	**11.98**	**50**	*e*P	Pn	22 25 20.3	+4.5
SMRC	**Santa Marta, M**	**12.05**	**29**	*e*P	**Pn**	**22 25 16.4**	**-0.3**
ESPN	**Las Esperanzas**	**12.31**	**340**		**Pn**	**22 25 21.6**	**+1.4**
ESPN	**Las Esperanzas**	**12.31**	**340**	*e*P	**Pn**	**22 25 20.5**	**+0.2**
ACON	**Acoyapa**	**12.43**	**336**		**Pn**	**22 25 22.4**	**+0.6**
ACON	**Acoyapa**	**12.43**	**336**	*e*P	**Pn**	**22 25 22.9**	**+1.0**
SDV	**Santo Domingo**	**12.54**	**48**	Pn	**Pn**	**22 25 23.7**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=231,slow=11,SNR=15						
SDV				Sn	Sn	22 27 32.8	-10
	baz=19,slow=18,SNR=1.6						
SDV				LR	LR	22 30 45.5	
	comp=Z,13μm,19.7s,baz=218,slow=41						
SDV	**Santo Domingo**	**12.54**	**48**	Pn	**Pn**	**22 25 23.2**	**-0.4**
SDV	**Santo Domingo**	**12.54**	**48**	*e*P	**Pn**	**22 25 24.1**	**+0.5**
CRJC	**Cerrejon, Guaj**	**12.63**	**34**	*e*P	**Pn**	**22 25 23.0**	**-1.7**
PRVC	**Isla de Provid**	**12.82**	**354**	Pn	**Pn**	**22 25 26.6**	**-0.6**
NNA	**Nana**	**12.85**	**166**	Pn	**Pn**	**22 25 27.4**	**-0.3**
	comp=Z,3.1nm,0.3s,baz=333,slow=12,SNR=7.2						
NNA				Sn	**Sn**	**22 27 55.2**	**+4.9**
	comp=Z,4.2nm,0.3s,baz=36,slow=15,SNR=5.1						
NNA				LR	LR	22 30 59.3	
	comp=Z,6μm,18.2s,baz=338,slow=40						
NNA	**Nana**	**12.85**	**166**	*c i*P	**Pn**	**22 25 30.8**	**+3.1**
NNA				pmax	pmax		
	comp=Z,251nm,1.1s						
NNA	**Nana**	**12.85**	**166**	Pn	**Pn**	**22 25 28.6**	**+0.9**
BOAB	**BOACO BROADBAN**	**13.07**	**335**	Pn	**Pn**	**22 25 30.3**	**-0.3**
CNGN	**Cerro Negro**	**13.58**	**331**		**Pn**	**22 25 37.8**	**+0.2**
MATN	**Matagalpa**	**13.61**	**335**		**Pn**	**22 25 37.9**	**-0.1**
CRIN	**San Cristobal**	**13.92**	**331**	Pn	**Pn**	**22 25 41.7**	**-0.6**
TGUH	**Tegucigalpa,Un**	**15.20**	**332**		**Pn**	**22 26 00.5**	**+0.7**
SNET	**Serv Nac Est T**	**15.90**	**326**		**Pn**	**22 26 09.2**	**+0.4**
HATO	**Hato, Curacao**	**15.98**	**43**		**Pn**	**22 26 10.2**	**+0.4**
MTO3	**Montecristo**	**16.55**	**327**		**Pn**	**22 26 17.2**	**0.0**
MTO3				IAmb	IAmb	22 26 26.2	
	comp=Z,730nm,1.5s						
ESQI	**Esquipulas**	**16.67**	**327**	P	**P**	**22 26 20.0**	**-1.0**
BIRV	**Birongo**	**16.91**	**54**	P	**P**	**22 26 22.6**	**-1.0**
MTDJ	**Mount Denham**	**17.75**	**8**	P	**Pn**	**22 26 31.9**	**-0.2**
MTDJ				IAmb	IAmb	22 26 51.3	
	comp=Z,1μm,1.9s						
RTAL	**Retalhuleu**	**18.03**	**321**		**Pn**	**22 26 34.7**	**-0.8**
RTAL				IAmb	IAmb	22 27 07.6	
	comp=Z,620nm,1.9s						
HUEH	**Huehuetenango**	**18.52**	**323**		**Pn**	**22 26 42.4**	**+0.7**
HUEH				IAmb	IAmb	22 26 49.5	
	comp=Z,231nm,0.4s						
FSCY	**Frank Sound, G**	**18.69**	**357**	P	**P**	**22 26 40.9**	**-2.1**
FSCY				IAmb	IAmb	22 26 51.1	
	comp=Z,640nm,1.2s						
PETF	**Flores**	**18.91**	**330**	P	**P**	**22 26 45.8**	**+0.2**
JAKH	**Jacmel**	**19.09**	**22**	P	**P**	**22 26 46.8**	**-0.8**
LGNH	**Logne**	**19.31**	**22**	P	**P**	**22 26 49.0**	**-0.9**
BOAV	**Boa Vista**	**19.64**	**84**	*e*P	**Pn**	**22 26 54.5**	**-0.5**
CCIG	**Comitan**	**19.65**	**323**	P	**P**	**22 26 53.3**	**-0.6**
CCIG				IAmb	IAmb	22 27 02.0	
	comp=Z,431nm,1.6s						
MACA	**Manacapuru-AM**	**19.73**	**101**	*e*P	**P**	**22 26 54.2**	**-0.4**
GTBY	**Guantanamo Bay**	**19.87**	**14**	P	**P**	**22 26 56.3**	**+0.3**
BANI	**BANI**	**20.15**	**28**	P	**P**	**22 26 59.6**	**+0.4**
SDD	**Santo Domingo**	**20.41**	**29**	P	**P**	**22 27 02.2**	**+0.3**
DR12	**Loma Pena Alta**	**20.96**	**29**	P	**P**	**22 27 07.4**	**-0.5**
AP01	**Chacalluta**	**21.09**	**153**	P	**P**	**22 27 10.6**	**+1.3**
TRN	**Trinidad (W)**	**21.11**	**61**	*e*P	**P**	**22 27 08.6**	**-0.9**
PCDR	**Punta Cana, DR**	**21.24**	**32**	P	**P**	**22 27 10.6**	**-0.3**
PB12	**IPOC Station P**	**21.31**	**154**	P	**P**	**22 27 11.2**	**-0.6**
PB12				IAmb	IAmb	22 27 30.1	
	comp=Z,366nm,1.3s						
PB16	**IPOC Station P**	**21.44**	**152**	P	**P**	**22 27 12.6**	**-1.1**
PB16				IAmb	IAmb	22 27 38.8	
	comp=Z,318nm,1.2s						
CRPR	**Cabo Rojo, PR**	**21.54**	**36**	P	**P**	**22 27 13.2**	**-0.8**
GRGR	**Grenville**	**21.61**	**57**	IAMs_20	IAMs_20	22 36 44.6	
	comp=Z,7μm,20.0s						
GRGR	**Grenville**	**21.61**	**57**	*e*P	**P**	**22 27 19.9**	**+5.0**
OBIP	**Obispado Ponce**	**21.86**	**37**	P	**P**	**22 27 17.7**	**+0.1**
OBIP				IAmb	IAmb	22 27 23.7	
	comp=Z,410nm,1.4s						
CMIG	**Matias Romero**	**21.98**	**319**	P	**P**	**22 27 18.5**	**-0.3**
	comp=Z,54nm,1.0s,baz=138,slow=8.4,SNR=24						
CMIG				LR	LR	22 34 18.1	
	comp=Z,5μm,18.8s,baz=158,slow=32						
GCMP	**Grenada, Carri**	**21.98**	**57**	*e*P	P	22 27 06.3	-13
TOSP	**Speyside**	**22.16**	**60**	P	**P**	**22 27 19.6**	**-1.3**
TOSP	**Speyside**	**22.16**	**60**	*e*P	**P**	**22 27 16.8**	**-4.0**
SJG	**San Juan**	**22.19**	**37**	P	**P**	**22 27 19.2**	**-1.9**
	comp=Z,26nm,0.9s,baz=226,slow=11,SNR=14						
SJG				LR	LR	22 37 33.0	
	comp=Z,5μm,21.6s,baz=206,slow=41						
SJG	**San Juan**	**22.19**	**37**	P	**P**	**22 27 20.2**	**-0.9**
SJG				pmax	pmax		
	comp=Z,358nm,1.4s						
SJG				MLR	MLR		
	comp=Z,5μm,21.0s						
SJG	**San Juan**	**22.19**	**37**	P	**P**	**22 27 20.2**	**-0.9**
SJG				IAmb	IAmb	22 27 28.4	
	comp=Z,358nm,1.4s						
CBYP	**Canovanas**	**22.49**	**38**	P	**P**	**22 27 24.4**	**0.0**
SVB	**Belmont**	**22.54**	**55**	*e*P	**P**	**22 27 20.4**	**-4.5**
MTP	**Monte Pirata**	**22.55**	**38**	P	**P**	**22 27 24.2**	**-0.7**
MTP				IAmb	IAmb	22 27 41.0	
	comp=Z,341nm,1.2s						
GRTK	**Grand Turk**	**22.60**	**22**	P	**P**	**22 27 24.3**	**-1.1**
GRTK				IAmb	IAmb	22 28 05.1	
	comp=Z,264nm,1.1s						
PB11	**IPOC Station P**	**22.62**	**154**	P	**P**	**22 27 25.3**	**-0.5**
PB11				IAmb	IAmb	22 27 34.7	
	comp=Z,230nm,1.0s						
GO01	**Chusmiza**	**22.74**	**153**	P	**P**	**22 27 27.1**	**-0.5**
CDVI	**St. Croix**	**22.79**	**41**	P	**P**	**22 27 26.8**	**-0.7**
TA02	**Huaiquique**	**22.86**	**155**	P	**P**	**22 27 28.3**	**0.0**
TA02				IAmb	IAmb	22 27 50.2	
	comp=Z,211nm,1.1s						
CUPR	**Culebra, Puert**	**22.87**	**39**	P	**P**	**22 27 27.6**	**-0.7**
MCLT	**Moule a Chique**	**23.03**	**55**	*e*P	**P**	**22 27 25.5**	**-4.6**
TA01	**Diego Aracena**	**23.11**	**156**	P	**P**	**22 27 30.6**	**-0.1**
TA01				IAmb	IAmb	22 28 01.3	
	comp=Z,293nm,1.2s						
STVI	**Saint Thomas**	**23.11**	**39**	P	**P**	**22 27 30.1**	**-0.7**
SLBI	**Saint Lucia, B**	**23.17**	**54**	*e*P	**P**	**22 27 26.7**	**-4.8**
PB08	**IPOC Station P**	**23.17**	**153**	P	**P**	**22 27 32.1**	**+0.2**
PB08				IAmb	IAmb	22 27 50.7	
	comp=Z,335nm,1.7s						
PATCX	**Punta Patache**	**23.34**	**156**	P	**P**	**22 27 31.6**	**-1.7**
BIM	**Bigot**	**23.37**	**53**	P	**P**	**22 27 30.8**	**-2.8**
BIM				IAmb	IAmb	22 28 08.2	
	comp=Z,165nm,0.9s						
BIM				IAMs_20	IAMs_20	22 36 51.4	
	comp=Z,7μm,22.0s						
BIM	**Bigot**	**23.37**

GOGA Godfrey 32.85 355 P **P** 22 28 57.5 -1.0
GOGA IAmb IAmb 22 29 02.5
comp=Z,94nm,1.7s
GOGA Godfrey 32.85 355 IAMs_20 IAMs_20 22 41 23.1
comp=Z,4µm,21.0s
GOGA Godfrey 32.85 355 P **P** 22 28 58.5 +0.1
baz=174,SNR=10
GOGA Godfrey 32.85 355 P **P** 22 28 57.6 -0.8
baz=174,SNR=10
GOGA S **S** 22 34 11.5 -3.5
baz=174
HKT Hockley 32.87 334 *ce*P **P** 22 28 59.3 +0.7
HKT pmax pmax
comp=Z,67nm,1.5s
HKT MLR MLR
comp=Z,2µm,22.0s
HKT Hockley 32.87 334 P **P** 22 28 58.9 +0.3
HKT IAmb IAmb 22 29 05.9
comp=Z,70nm,1.4s
HKT Hockley 32.87 334 P **P** 22 28 59.5 +0.9
baz=150
C2SB Chapadao do Su 32.93 127 *e*P **P** 22 28 59.3 0.0
Z51A Franklin 32.95 352 P **P** 22 28 60.0 +0.6
baz=171
LRAL Lakeview Retre 32.97 349 P **P** 22 28 58.7 -0.8
LRAL Lakeview Retre 32.97 349 P **P** 22 29 00.0 +0.5
baz=167,SNR=16
LRAL Lakeview Retre 32.97 349 P **P** 22 28 58.7 -0.8
baz=167,SNR=16
LRAL S **S** 22 34 14.8 -2.0
baz=167
VBMS Vicksburg 33.02 344 P **P** 22 28 58.9 -0.9
baz=161
VBMS S **S** 22 34 15.8 -1.8
baz=161
146A Union 33.03 346 P **P** 22 28 59.7 -0.3
146A IAmb IAmb 22 29 29.7
comp=Z,81nm,1.1s
833A Chaparral WMA, 33.24 328 P **P** 22 29 02.9 +0.9
baz=143,SNR=12
833A Chaparral WMA, 33.24 328 P **P** 22 29 01.1 -0.8
baz=143,SNR=12
833A S **S** 22 34 22.1 +0.9
baz=143
Z47A Carrollton 33.35 348 P **P** 22 29 03.0 +0.2
baz=165
Y52A Lilburn 33.36 354 P **P** 22 29 03.4 +0.5
baz=173,SNR=5.8
Y52A P **P** 22 29 03.4 +0.5
baz=173,SNR=5.8
HODGE Hodges 33.58 357 P **P** 22 29 04.0 -0.8
HODGE IAmb IAmb 22 29 06.0
comp=Z,57nm,1.3s
HODGE Hodges 33.58 357 P **P** 22 29 04.1 -0.7
baz=176,SNR=14
JSC Jenkinsville 33.59 358 P **P** 22 29 02.2 -2.6
baz=178,SNR=8.5
Y49A Blount Mountai 33.67 350 P **P** 22 29 05.5 -0.1
baz=168
SMTB Santa Maria do 33.69 107 *e*P **P** 22 29 05.1 -1.0
ZON Zonda 33.69 162 P **P** 22 29 06.3 +0.4
ZON pmax pmax
comp=Z,172nm,1.9s
ZON Zonda 33.69 162 P **P** 22 29 06.3 +0.4
ZON IAmb IAmb 22 29 09.4
comp=Z,172nm,1.9s
BIRD Birdtown, Kers 33.93 359 P **P** 22 29 07.2 -0.7
BIRD IAmb IAmb 22 29 09.1
comp=Z,135nm,1.8s
BIRD Birdtown, Kers 33.93 359 P **P** 22 29 07.4 -0.5
baz=179,SNR=9.1
VA06 Catapilco 33.95 167 P **P** 22 29 09.0 +1.0
VA06 IAmb IAmb 22 29 32.8
comp=Z,138nm,1.8s
PEXB Peixe 33.96 113 *e*P **P** 22 29 07.8 -0.6
NATX Nacogdoches 33.98 337 P **P** 22 29 08.0 -0.4
NATX Nacogdoches 33.98 337 P **P** 22 29 07.9 -0.4
baz=153
NATX S **S** 22 34 30.9 -1.6
baz=153
PAULI Pauline 34.14 357 P **P** 22 29 09.6 -0.1
baz=177,SNR=8.5
X51A Calhoun 34.15 353 P **P** 22 29 09.8 +0.1
baz=171
X51A P **P** 22 29 09.8 +0.1
baz=171
FPAL Fort Paine 34.22 352 P **P** 22 29 09.8 -0.6
VA01 Torpederas 34.32 167 P **P** 22 29 12.8 +1.6
VA01 IAmb IAmb 22 29 14.3
comp=Z,88nm,1.1s
Y45A Yeager Farm, C 34.32 346 P **P** 22 29 12.9 +1.7
baz=163
VA03 San Esteban 34.32 166 P **P** 22 29 12.3 +0.9
VA03 IAmb IAmb 22 29 41.3
comp=Z,66nm,1.1s
X48A Hartselle 34.36 350 P **P** 22 29 11.3 -0.3
baz=168
435B Jarrell 34.36 333 P **P** 22 29 12.8 +1.1
baz=148
435B Jarrell 34.36 333 P **P** 22 29 10.4 -1.3
baz=148
435B S **S** 22 34 37.8 -0.7
baz=148
CASEE Lake Jocassee 34.38 356 P **P** 22 29 12.0 +0.2
baz=175,SNR=17
W57A Gilead 34.44 0 P **P** 22 29 11.8 -0.5
baz=180,SNR=9.2
W57A P **P** 22 29 11.8 -0.5
baz=180,SNR=9.2
KMSC Kings Mountain 34.45 358 P **P** 22 29 11.5 -0.9
KMSC IAmb IAmb 22 29 13.6
comp=Z,119nm,1.4s
KMSC Kings Mountain 34.45 358 P **P** 22 29 12.7 +0.4
baz=178,SNR=7.5
KMSC Kings Mountain 34.45 358 P **P** 22 29 11.8 -0.5
baz=178,SNR=7.5
KMSC S **S** 22 34 39.0 -0.6
baz=178
CPUP Villa Florida 34.57 142 P **P** 22 29 12.4 -1.1
comp=Z,13nm,0.8s,baz=321,slow=9.2,SNR=20
CPUP LR LR 22 46 32.1
comp=Z,14µm,18.1s,baz=324,slow=42
CPUP Villa Florida 34.57 142 P **P** 22 29 12.6 -0.9
CPUP pmax pmax
comp=Z,18nm,1.0s
CPUP Villa Florida 34.57 142 P **P** 22 29 12.6 -0.9
CPUP Villa Florida 34.57 142 *e*P **P** 22 29 12.7 -0.8
CNNC Cliffs of the 34.58 3 IAMs_20 IAMs_20 22 44 25.7
comp=Z,3µm,18.0s
CNNC Cliffs of the 34.58 3 P **P** 22 29 12.4 -1.1
baz=184
CNNC S **S** 22 34 42.2 +0.4
baz=184
237A Washetta, Mont 34.64 336 P **P** 22 29 15.0 +0.9
baz=152,SNR=7.5
PEL Peldehue 34.65 166 P **P** 22 29 14.6 +0.4
PEL pmax pmax
comp=Z,42nm,1.0s
PEL MLR MLR
comp=Z,3µm,19.0s
PEL Peldehue 34.65 166 P **P** 22 29 14.6 +0.4
PEL IAMs_20 IAMs_20 22 42 30.2
comp=Z,3µm,19.0s
MT02 Curacav 34.66 167 P **P** 22 29 15.2 +1.0
MT02 IAmb IAmb 22 29 22.7
comp=Z,190nm,1.8s
Z41A Richland Creek 34.68 341 P **P** 22 29 14.2 -0.2
Z41A IAmb IAmb 22 29 19.0
comp=Z,83nm,1.1s
Z41A Richland Creek 34.68 341 P **P** 22 29 14.8 +0.5
baz=157
Z41A P **P** 22 29 14.8 +0.5
baz=157
Z41A Richland Creek 34.68 341 P **P** 22 29 13.2 -1.1
baz=157
Z41A S **S** 22 34 41.6 -1.7
baz=157
W50A Signal Mountai 34.83 352 P **P** 22 29 15.7 +0.1
baz=171,SNR=22
MT05 Renca 34.88 166 P **P** 22 29 16.4 +0.2
OXF Oxford 34.91 346 P **P** 22 29 15.6 -0.7
OXF pmax pmax
comp=Z,72nm,1.1s
OXF MLR MLR
comp=Z,2µm,21.0s
OXF Oxford 34.91 346 P **P** 22 29 15.6 -0.7
OXF IAmb IAmb 22 29 31.7
comp=Z,72nm,1.1s
OXF Oxford 34.91 346 P **P** 22 29 16.6 +0.3
baz=164
OXF Oxford 34.91 346 P **P** 22 29 14.5 -1.8
baz=164
OXF S **S** 22 34 42.6 -4.1
baz=164
SWET Sewanee 34.93 352 P **P** 22 29 15.6 -1.0
VA05 Santo Domingo 34.94 168 P **P** 22 29 17.8 +1.2
VA05 IAmb IAmb 22 29 24.2
comp=Z,171nm,1.6s
CCAR Cane Creek 34.97 343 P **P** 22 29 16.5 -0.4
CPCT Cooper Cave 34.98 354 P **P** 22 29 16.7 -0.3
CPCT IAmb IAmb 22 29 22.7
comp=Z,62nm,0.9s
MT03 Universidad Ad 35.03 166 P **P** 22 29 18.1 +0.6
MT03 IAmb IAmb 22 29 26.1
comp=Z,145nm,1.4s
V53A Saluda 35.04 356 P **P** 22 29 18.1 +0.5
baz=175,SNR=14
V53A P **P** 22 29 18.1 +0.5
baz=175,SNR=14
PLAL Pickwick Lake 35.07 349 P **P** 22 29 16.6 -1.1
V58A Windy Hill, Pi 35.09 1 P **P** 22 29 18.0 +0.2
baz=182,SNR=8.6
V58A P **P** 22 29 18.0 +0.2
baz=182,SNR=8.6
TKL Tuckaleechee C 35.11 355 LR LR 22 43 05.0
comp=Z,4µm,20.9s,baz=174,slow=36
TKL Tuckaleechee C 35.11 355 P **P** 22 29 17.5 -0.6
TKL pmax pmax
comp=Z,130nm,1.7s
TKL Tuckaleechee C 35.11 355 P **P** 22 29 17.5 -0.6
TKL IAmb IAmb 22 29 19.7
comp=Z,130nm,1.6s
TKL Tuckaleechee C 35.11 355 P **P** 22 29 18.3 +0.2
baz=174,SNR=15
V55A Taylorsville 35.15 358 P **P** 22 29 19.3 +0.9
baz=178,SNR=7.7
V55A P **P** 22 29 19.3 +0.9
baz=178,SNR=7.7
JCT Junction City 35.18 330 P **P** 22 29 19.3 +0.5
JCT pmax pmax
comp=Z,168nm,1.2s
JCT Junction City 35.18 330 P **P** 22 29 19.3 +0.5
JCT Junction City 35.18 330 P **P** 22 29 20.1 +1.2
baz=144,SNR=26
JCT Junction City 35.18 330 P **P** 22 29 19.7 +0.9
baz=144,SNR=26
JCT S **S** 22 34 51.3 +0.1
baz=144
MT09 Talagante 35.19 167 P **P** 22 29 19.9 +1.0
MT01 Popeta 35.21 167 P **P** 22 29 19.1 +0.1
MT01 IAmb IAmb 22 29 45.6
comp=Z,118nm,1.6s
V52A Sevierville 35.28 355 P **P** 22 29 19.2 -0.3
baz=174,SNR=25
V51A Loudon 35.31 354 P **P** 22 29 19.8 0.0
baz=172,SNR=24
WHTX Lake Whitney, 35.33 334 P **P** 22 29 20.4 +0.3
baz=149,SNR=20
WHTX Lake Whitney, 35.33 334 P **P** 22 29 20.4 +0.3
baz=149,SNR=20
WHTX S **S** 22 34 52.3 -1.1
baz=149
TRCB Terra Rica 35.38 133 *e*P **P** 22 29 20.2 -0.4
ITRB Iturama 35.41 126 *e*P **P** 22 29 20.2 -0.7
Z38A Mt. Pleasant 35.44 338 P **P** 22 29 21.7 +0.8
baz=154
LMEL Las Melosas 35.44 166 P **P** 22 29 21.8 +0.7
BO04 La Punta 35.48 166 P **P** 22 29 22.6 +1.3
BO04 IAmb IAmb 22 29 29.5
comp=Z,155nm,1.6s
BDFB Brasilia 35.52 118 P **P** 22 29 21.7 -0.3
comp=Z,15nm,0.9s,baz=283,slow=9.4,SNR=18
BDFB LR LR 22 45 15.5
comp=Z,5µm,19.2s,baz=296,slow=39
BDFB Brasilia 35.52 118 P **P** 22 29 21.0 -1.0
BDFB pmax pmax
comp=Z,45nm,0.9s
BDFB Brasilia 35.52 118 P **P** 22 29 21.0 -1.0
V48A Smith Brothers 35.58 351 P **P** 22 29 22.4 +0.2
baz=168,SNR=24
U56A King 35.63 360 P **P** 22 29 22.9 +0.3
baz=179,SNR=8.1
U56A P **P** 22 29 22.9 +0.3
baz=179,SNR=8.1
U59A Littleton 35.70 3 P **P** 22 29 23.9 +0.8
baz=184,SNR=8.3
U59A P **P** 22 29 23.9 +0.8
baz=184,SNR=8.3
PCMB Pacaembu 35.72 130 *e*P **P** 22 29 22.2 -1.3
BO01 Tunca 35.76 167 P **P** 22 29 24.0 +0.3
BO01 IAmb IAmb 22 29 56.4
comp=Z,89nm,1.2s
X40A Basin Creek Fa 35.82 342 P **P** 22 29 24.0 -0.2
baz=158,SNR=13
X40A P **P** 22 29 24.0 -0.2
baz=158,SNR=13
X40A Basin Creek Fa 35.82 342 P **P** 22 29 23.5 -0.7
baz=158,SNR=13
X40A S **S** 22 34 57.6 -3.2
baz=158
U54A Nelsons Funny 35.84 358 P **P** 22 29 24.5 +0.1
baz=177,SNR=9.4
U54A P **P** 22 29 24.5 +0.1
baz=177,SNR=9.4
HPIG 35.97 319 P **P** 22 29 25.9 +0.1
TZTN Tazewell 35.97 355 P **P** 22 29 24.8 -0.7
TZTN IAmb IAmb 22 29 30.5
comp=Z,72nm,1.0s
TZTN IAMs_20 IAMs_20 22 43 20.3
comp=Z,4µm,21.0s
TZTN Tazewell 35.97 355 P **P** 22 29 25.4 -0.1
baz=174,SNR=24
TZTN Tazewell 35.97 355 P **P** 22 29 24.7 -0.7
baz=174,SNR=24
TZTN S **S** 22 35 00.3 -2.8
baz=174
ROSB Rosrio 36.10 96 *e*P **P** 22 29 24.7 -2.2
MIAR Mount Ida 36.11 341 P **P** 22 29 26.2 -0.5
MIAR pmax pmax
comp=Z,35nm,1.0s
MIAR MLR MLR
comp=Z,1µm,22.0s
MIAR Mount Ida 36.11 341 P **P** 22 29 26.2 -0.5
MIAR Mount Ida 36.11 341 P **P** 22 29 26.7 0.0
baz=157,SNR=17
MIAR Mount Ida 36.11 341 P **P** 22 29 25.7 -1.0
baz=157,SNR=17
MIAR S **S** 22 35 02.4 -2.9
baz=157
WVT Waverly 36.14 349 P **P** 22 29 25.4 -1.4
WVT pmax pmax
comp=Z,23nm,0.9s
WVT MLR MLR
comp=Z,2µm,22.0s
WVT Waverly 36.14 349 P **P** 22 29 25.4 -1.4
WVT Waverly 36.14 349 P **P** 22 29 25.4 -1.4
baz=167,SNR=20
WVT Waverly 36.14 349 P **P** 22 29 24.9 -1.9
baz=167
WVT S **S** 22 35 01.1 -4.6
baz=167
GO05 Huala 36.18 169 P **P** 22 29 27.6 +0.3
U49A Red Boiling Sp 36.18 352 P **P** 22 29 26.0 -1.2
baz=170,SNR=17
W41B Gary Mavity, V 36.28 343 P **P** 22 29 27.9 -0.2
baz=159,SNR=20
W41B Gary Mavity, V 36.28 343 P **P** 22 29 27.3 -0.8
baz=159,SNR=20
W41B S **S** 22 35 04.8 -3.0
baz=159
T57A Hurt 36.29 1 P **P** 22 29 28.0 -0.2
baz=181,SNR=11
T57A P **P** 22 29 28.0 -0.2
baz=181,SNR=11
T59A Double "B" Far 36.33 3 P **P** 22 29 28.3 -0.2
baz=184,SNR=9.7
T59A P **P** 22 29 28.3 -0.2
baz=184,SNR=9.7
IPMB Ipameri, GO 36.35 122 *e*P **P** 22 29 28.1 -0.9
Z35A Perchaven, San 36.40 335 P **P** 22 29 29.5 +0.4
baz=150,SNR=7.9
TXAR Lajitas Array 36.41 324 P **P** 22 29 30.0 +0.5
comp=Z,9.7nm,1.1s,baz=144,slow=8.8,SNR=41
TXAR PcP **PcP** 22 31 54.4 +0.8
comp=Z,14nm,1.0s,baz=144,slow=7.1,SNR=9.5
TXAR Lajitas Array 36.41 324 P **P** 22 29 29.3 -0.2
TXAR Lajitas Array 36.41 324 P **P** 22 29 29.3 -0.2
TX31 Lajitas Ar. Si 36.41 324 P **P** 22 29 29.8 +0.3
baz=138,SNR=14
TX32 Lajitas Array 36.41 324 P **P** 22 29 29.5 0.0
BLA Blacksburg 36.49 360 P **P** 22 29 29.6 -0.4
BLA pmax pmax
comp=Z,47nm,1.0s
BLA MLR MLR
comp=Z,2µm,22.0s
BLA Blacksburg 36.49 360 P **P** 22 29 29.6 -0.4
BLA Blacksburg 36.49 360 P **P** 22 29 30.4 +0.5
baz=179,SNR=7.7
BLA Blacksburg 36.49 360 P **P** 22 29 28.8 -1.2
baz=179,SNR=7.7
BLA S **S** 22 35 10.3 -0.8
baz=179
T50A Nancy 36.57 354 P **P** 22 29 30.4 -0.2
baz=172
T50A P **P** 22 29 30.4 -0.2
baz=172
X37A Clayton 36.77 339 P **P** 22 29 32.8 +0.5
baz=154,SNR=13
W39A Magazine 36.77 341 P **P** 22 29 32.8 +0.5
baz=157,SNR=25
W39A Magazine 36.77 341 P **P** 22 29 31.4 -0.9
baz=157,SNR=25
W39A S **S** 22 35 13.3 -2.1
baz=157
LCAR Lake Charles 36.82 345 P **P** 22 29 32.4 -0.3
baz=161,SNR=20
T47A Sharon Grove 36.85 351 P **P** 22 29 31.9 -1.0
baz=168,SNR=11
ABTX Abilene, Hawle 36.86 332 P **P** 22 29 33.4 +0.3
ABTX IAmb IAmb 22 29 41.2
comp=Z,85nm,1.1s
ABTX Abilene, Hawle 36.86 332 P **P** 22 29 33.4 +0.3
baz=146,SNR=20
ABTX Abilene, Hawle 36.86 332 P **P** 22 29 32.4 -0.8
baz=146,SNR=20
ABTX S **S** 22 35 16.1 -0.7
baz=146
PTGB Pitanga 36.97 135 *e*P **P** 22 29 33.8 -0.5
SLBS Sierra La Lagu 36.99 311 P **P** 22 29 34.6 +0.2
SLBS IAmb IAmb 22 29 41.0
comp=Z,120nm,1.3s
ML02 Panimavida 37.01 168 P **P** 22 29 34.4 +0.1
ML02 IAmb IAmb 22 29 41.8
comp=Z,108nm,1.0s
JSRW J. Sargeant Re 37.03 3 P **P** 22 29 33.9 -0.6
S57A Dark Hollow, R 37.05 1 P **P** 22 29 35.1 +0.4
baz=182,SNR=7.7
S57A P **P** 22 29 35.1 +0.4
baz=182,SNR=7.7
S51A Beattyville 37.06 355 P **P** 22 29 34.4 -0.3
baz=174,SNR=24
S51A P **P** 22 29 34.4 -0.3
baz=174,SNR=24
FRBT Francisco Beit 37.08 137 *e*P **P** 22 29 34.2 -1.0
S54A Dingess, Beckl 37.10 358 P **P** 22 29 35.3 +0.2
baz=178,SNR=12
S54A P **P** 22 29 35.3 +0.2
baz=178,SNR=12
SDBA SAO DESIDERIO 37.20 111 *e*P **P** 22 29 35.5 -0.9
R58B Mineral 37.30 3 P **P** 22 29 37.2 +0.5
baz=184,SNR=6.5
R58B P **P** 22 29 37.2 +0.5
baz=184,SNR=6.5
ITQB Itaqui 37.46 145 P **P** 22 29 38.0 -0.2
ITQB Itaqui 37.46 145 *e*P **P** 22 29 38.7 +0.4
LPIG La Paz 37.50 311 LR LR 22 41 36.4
comp=Z,2µm,19.9s,baz=107,slow=31
U40A Yellville 37.56 343 P **P** 22 29 38.8 -0.1
U40A IAmb IAmb 22 29 42.5
comp=Z,242nm,1.9s
U40A Yellville 37.56 343 P **P** 22 29 38.9 -0.1
baz=159,SNR=40
U40A P **P** 22 29 38.9 -0.1
baz=159,SNR=40
U40A Yellville 37.56 343 P **P** 22 29 37.4 -1.6
baz=159,SNR=40
U40A S **S** 22 35 25.2 -2.2
baz=159
R55A Marlinton 37.56 360 P **P** 22 29 39.9 +0.8
baz=180,SNR=10
R55A P **P** 22 29 39.9 +0.8
baz=180,SNR=10
CBN Corbin Frederi 37.56 3 P **P** 22 29 37.7 -1.3
baz=184
CBN S **S** 22 35 27.9 +0.6
baz=184
BB19B Bebedouro 37.58 127 *e*P **P** 22 29 38.8 -0.6
BI05 Punta Hualpn 37.65 171 P **P** 22 29 39.4 -0.3
BI05 IAmb IAmb 22 29 47.1
comp=Z,65nm,0.9s
R53A Hurricane 37.65 358 P **P** 22 29 39.2 -0.5
baz=177,SNR=12
R53A P **P** 22 29 39.2 -0.5
baz=177,SNR=12
R50A Paris 37.76 355 P **P** 22 29 40.3 -0.4
baz=173,SNR=20
R50A P **P** 22 29 40.3 -0.4
baz=173,SNR=20
HHAR Hobbs 37.82 342 P **P** 22 29 41.3 0.0
baz=157
R49A Shelbyville 37.86 353 P **P** 22 29 40.5 -1.0
baz=172,SNR=17
R49A P **P** 22 29 40.5 -1.0
baz=172,SNR=17
S44A Carbondale 37.93 348 P **P** 22 29 41.6 -0.5
baz=165,SNR=9.1
FRTB Fartura 37.99 131 *e*P **P** 22 29 41.8 -1.1
TUL1 Leonard 38.10 339 P **P** 22 29 43.6 0.0
TUL1 Leonard 38.10 339 P **P** 22 29 43.4 -0.2
baz=154,SNR=15
TUL1 Leonard 38.10 339 P **P** 22 29 42.5 -1.1
baz=154,SNR=15
TUL1 S **S** 22 35 34.6 -1.0
baz=154
MGMO Mountain Grove 38.14 344 P **P** 22 29 42.9 -1.0
MGMO IAmb IAmb 22 29 48.1
comp=Z,84nm,1.1s
WMOK Wichita Mounta 38.25 335 P **P** 22 29 44.9 0.0
WMOK pmax pmax
comp=Z,26nm,1.0s
WMOK Wichita Mounta 38.25 335 P **P** 22 29 44.9 0.0
WMOK Wichita Mounta 38.25 335 P **P** 22 29 44.6 -0.3
baz=149,SNR=26
WMOK Wichita Mounta 38.25 335 P **P** 22 29 44.5 -0.4
baz=149,SNR=26
WMOK S **S** 22 35 36.7 -1.2
baz=149
Q54A Coxs Mills 38.27 359 P **P** 22 29 43.5 -1.4
baz=179,SNR=14
Q54A P **P** 22 29 43.5 -1.4
baz=179,SNR=14
Q52A Bidwell 38.29 357 P **P** 22 29 45.1 0.0
baz=176,SNR=15
Q52A P **P** 22 29 45.1 0.0
baz=176,SNR=15
Q56A Snyder Ridge, 38.33 1 P **P** 22 29 46.1 +0.6
baz=181,SNR=9.6
Q56A P **P** 22 29 46.1 +0.6
baz=181,SNR=9.6
Q51A Peebles 38.42 356 P **P** 22 29 45.7 -0.5
baz=175,SNR=25
Q51A P **P** 22 29 45.7 -0.5
baz=175,SNR=25
FVM French Village 38.46 347 P **P** 22 29 45.7 -0.9
FVM pmax pmax
comp=Z,87nm,1.0s
FVM French Village 38.46 347 P **P** 22 29 45.7 -0.9
FVM IAmb IAmb 22 29 51.0
comp=Z,87nm,0.9s
FVM French Village 38.46 347 P **P** 22 29 45.8 -0.8
baz=163,SNR=39
ITAB Concordia 38.53 138 P **P** 22 29 46.5 -0.8
ITAB Concordia 38.53 138 *e*P **P** 22 29 46.5 -0.8
JANB Januaria 38.61 115 *e*P **P** 22 29 47.0 -1.2
OLIL Olney 38.72 350 P **P** 22 29 48.1 -0.6
baz=167,SNR=16
CCM Cathedral Cave 38.72 346 P **P** 22 29 47.4 -1.4
CCM pmax pmax
comp=Z,54nm,0.9s
CCM Cathedral Cave 38.72 346 P **P** 22 29 47.4 -1.4
CCM Cathedral Cave 38.72 346 P **P** 22 29 47.9 -0.9

baz=162,SNR=39
CCM Cathedral Cave 38.72 346 P P 22 29 46.9 -1.8
baz=162
CCM S S 22 35 40.2 -4.7
baz=162
P53A Whipple 38.78 358 P P 22 29 49.1 -0.1
baz=178,SNR=14
P53A P P 22 29 49.1 -0.1
baz=178,SNR=14
SDMD Soldier's Deli 38.80 4 P P 22 29 48.2 -1.2
P57A Homestead Farm 38.80 3 P P 22 29 50.9 +1.4
baz=183
P57A P P 22 29 50.9 +1.4
baz=183
P51A Williamsport 38.85 356 P P 22 29 49.2 -0.7
baz=175
P51A P P 22 29 49.2 -0.7
baz=175
NBPS Pedro II - PI 38.91 98 *eP* **P 22 29 49.9 -0.9**
MCWV Mont Chateau 38.93 0 P P 22 29 49.6 -0.9
MCWV IAMs_20 IAMs_20 22 46 26.7
comp=Z,3µm,21.0s
MCWV Mont Chateau 38.93 0 P P 22 29 49.7 -0.9
baz=180
S39A Bolivar 38.94 343 P P 22 29 50.2 -0.3
baz=159,SNR=40
P52A Corning 38.95 357 IAMs_20 IAMs_20 22 48 59.5
comp=Z,3µm,20.0s
P52A Corning 38.95 357 P P 22 29 49.5 -1.2
baz=177,SNR=14
P52A S S 22 35 45.5 -2.9
baz=177
P49A Miami Univ. Ec 39.04 354 IAMs_20 IAMs_20 22 45 05.9
comp=Z,5µm,21.0s
P49A Miami Univ. Ec 39.04 354 P P 22 29 50.2 -1.3
baz=173,SNR=10
P49A Miami Univ. Ec 39.04 354 P P 22 29 49.5 -2.0
baz=173,SNR=10
P49A S S 22 35 44.9 -4.8
baz=173
P48A Milroy 39.04 353 P P 22 29 50.5 -0.9
baz=171,SNR=12
P48A P P 22 29 50.5 -0.9
baz=171,SNR=12
Q44A Meyer Farm, Va 39.05 349 P P 22 29 50.5 -1.0
baz=166,SNR=15
RCLB Rio Claro- Sao 39.07 128 *eP* **P 22 29 48.9 -3.1**
MNTX Cornudas Mount 39.15 325 P P 22 29 52.2 -0.3
MNTX IAmb IAmb 22 29 58.2
comp=Z,147nm,1.3s
MNTX Cornudas Mount 39.15 325 P P 22 29 53.2 +0.7
baz=137,SNR=104
MNTX Cornudas Mount 39.15 325 P P 22 29 52.5 0.0
baz=137,SNR=104
MNTX S S 22 35 53.6 +2.0
baz=137
R40A Maddies Statio 39.20 345 P P 22 29 51.8 -1.0
baz=160,SNR=26
T35B Sooner Cattle 39.26 339 P P 22 29 53.7 +0.4
baz=153,SNR=31
GEDE Greenville 39.30 5 P P 22 29 55.0 +1.5
baz=187
RPN Rapa Nui 39.35 223 LR LR 22 41 45.3
comp=Z,3µm,21.1s,baz=45,slow=29
RPN Rapa Nui 39.35 223 IAMs_20 IAMs_20 22 41 31.7
comp=Z,4µm,21.0s
WUPA West Chester U 39.42 5 P P 22 29 54.2 -0.3
O52A Adamsville 39.42 358 P P 22 29 54.5 -0.1
baz=177,SNR=12
O52A P P 22 29 54.5 -0.1
baz=177,SNR=12
O54A Avella 39.46 360 P P 22 29 55.1 +0.2
baz=179,SNR=11
O54A P P 22 29 55.1 +0.2
baz=179,SNR=11
MSTX Muleshoe 39.48 330 P P 22 29 55.4 +0.1
MSTX IAmb IAmb 22 30 01.6
comp=Z,206nm,1.2s
MSTX Muleshoe 39.48 330 P P 22 29 55.9 +0.6
baz=143,SNR=47
MSTX Muleshoe 39.48 330 P P 22 29 54.9 -0.4
baz=143,SNR=47
MSTX S S 22 35 58.3 +1.7
baz=143
MC01 Montes Claros 39.53 117 *eP* **P 22 29 55.2 -0.7**
O53A New Philadelph 39.54 359 IAMs_20 IAMs_20 22 49 15.9
comp=Z,3µm,20.0s
O53A New Philadelph 39.54 359 P P 22 29 54.2 -1.3
baz=178,SNR=16
O53A S S 22 35 53.9 -3.2
baz=178
TIJ01 Guaruva-PR 39.55 133 *eP* **P 22 29 55.7 -0.3**
ACSO Alum Creek Sta 39.59 357 P P 22 29 54.9 -1.1
ACSO IAmb IAmb 22 30 00.6
comp=Z,84nm,0.9s
ACSO IAMs_20 IAMs_20 22 49 11.5
comp=Z,4µm,18.0s
ACSO Alum Creek Sta 39.59 357 P P 22 29 55.7 -0.3
baz=175,SNR=23
ACSO Alum Creek Sta 39.59 357 P P 22 29 54.4 -1.6
baz=175,SNR=23
ACSO S S 22 35 54.1 -3.9
baz=175
PAGS Pennsylvania G 39.62 4 P P 22 29 55.6 -0.6
PAGS IAmb IAmb 22 29 57.9
comp=Z,150nm,1.5s
O49A Covington 39.65 355 P P 22 29 55.2 -1.3
O49A Covington 39.65 355 P P 22 29 55.9 -0.7
baz=173
O49A P P 22 29 55.9 -0.7
baz=173
AMTX Amarillo 39.68 332 P P 22 29 57.8 +0.9
baz=145,SNR=23
AMTX Amarillo 39.68 332 P P 22 29 57.7 +0.7
baz=145
AMTX S S 22 35 59.4 -0.2
baz=145
TUPA Temple Univers 39.69 6 P P 22 29 57.7 +0.9
baz=188
U32A Winter Ranch, 39.75 336 P P 22 29 58.1 +0.7
baz=150,SNR=30
O48B Farmland 39.80 354 P P 22 29 56.8 -1.0
baz=172,SNR=14
O48B Farmland 39.80 354 P P 22 29 55.6 -2.2
baz=172,SNR=14
O48B S S 22 35 54.8 -6.3
baz=172
VAO Valinhos 39.81 128 *eP* **P 22 29 56.4 -1.8**
P43A Skaggs, Pawnee 39.86 349 P P 22 29 57.5 -0.7
baz=165,SNR=9.6
CPSB Cacapava Do Su 39.87 143 *eP* **P 22 29 57.7 -0.8**
PANJ Princeton 39.95 6 P P 22 29 59.6 +0.7
baz=188,SNR=9.8
SSPA Standing Stone 39.96 3 P P 22 29 58.4 -0.7
SSPA Standing Stone 39.96 3 P P 22 29 59.7 +0.7
baz=183,SNR=18
SSPA Standing Stone 39.96 3 P P 22 29 58.0 -1.1
baz=183
LC01 Cunco 39.96 170 P P 22 29 59.0 -0.1
N53A Lisbon 40.09 359 P P 22 29 59.8 -0.4
baz=179,SNR=9.5
N53A P P 22 29 59.8 -0.4
baz=179,SNR=9.5
SFIN Lafayette 40.16 352 P P 22 29 57.9 -2.9
baz=169
SFIN S S 22 35 58.1 -8.3
baz=169
N58A Sunbury 40.23 4 P P 22 30 01.1 -0.2
baz=185,SNR=10
N58A P P 22 30 01.1 -0.2
baz=185,SNR=10
N51A Ashland 40.25 357 P P 22 30 00.7 -0.8
baz=176,SNR=11
N51A P P 22 30 00.7 -0.8
baz=176,SNR=11
PET01 Itanhaem-SP 40.26 130 *eP* **P 22 30 00.6 -1.2**
P40A Paris 40.32 346 P P 22 30 00.9 -1.1
baz=161,SNR=15
N49A Columbus Grove 40.37 355 P P 22 30 01.7 -0.7
baz=174
N49A P P 22 30 01.7 -0.7
baz=174
DIAM Diamantina, MG 40.39 120 *eP* **P 22 30 02.2 -1.0**
N47A Urbana 40.48 353 P P 22 30 02.0 -1.4
baz=171,SNR=8.5
N47A P P 22 30 02.0 -1.4
baz=171,SNR=8.5
BSCB Bom Sucesso 40.61 124 *eP* **P 22 30 03.7 -1.1**
PAL Palisades 40.67 7 P P 22 30 04.1 -0.8
baz=189
PAL S S 22 36 15.9 +2.0
baz=189
M57A Sunshine Farm, 40.70 3 P P 22 30 05.4 +0.2
baz=184,SNR=19
M57A P P 22 30 05.4 +0.2
baz=184,SNR=19
HDIL Hopedale 40.70 349 P P 22 30 03.9 -1.4
HDIL IAmb IAmb 22 30 08.5
comp=Z,78nm,0.7s
HDIL Hopedale 40.70 349 P P 22 30 03.7 -1.6
baz=166,SNR=10
HDIL Hopedale 40.70 349 P P 22 30 02.8 -2.5
baz=166,SNR=10
HDIL S S 22 36 07.5 -7.1
baz=166
M53A WI Miller and 40.72 359 IAMs_20 IAMs_20 22 47 34.1
comp=Z,3µm,20.0s
M53A WI Miller and 40.72 359 P P 22 30 03.8 -1.5
baz=179,SNR=7.8
M53A P P 22 30 03.8 -1.5
baz=179
CNLB Canela 40.75 139 *eP* **P 22 30 04.9 -1.0**
PLTB Pedras Altas 40.75 144 P P 22 30 05.4 -0.4
PLTB IAmb IAmb 22 30 12.8
comp=Z,135nm,1.3s
PLTB Pedras Altas 40.75 144 *eP* **P 22 30 05.6 -0.2**
M55A Ridgway 40.76 2 P P 22 30 04.9 -0.8
M55A IAmb IAmb 22 30 07.6
comp=Z,179nm,1.9s
M55A Ridgway 40.76 2 P P 22 30 05.3 -0.5
baz=182,SNR=6.4
M55A P P 22 30 05.3 -0.5
baz=182,SNR=6.4
M50A Fremont 40.77 357 P P 22 30 04.5 -1.2
baz=175,SNR=9.9
M50A P P 22 30 04.5 -1.2
baz=175,SNR=9.9
TRNY Table Rock, Ra 40.77 7 P P 22 30 05.2 -0.5
P38A Dawn 40.80 344 P P 22 30 04.8 -1.2
M52A Chesterland 40.83 359 P P 22 30 05.1 -1.2
HSIG 40.87 317 P P 22 30 06.4 -0.4
NBPB Pedra_Branca-C 40.89 99 *eP* **P 22 30 05.9 -1.3**
KSPA Keystone Colle 41.02 5 P P 22 30 07.9 +0.1
baz=186,SNR=18
PARB Paraibuna 41.05 128 *eP* **P 22 30 07.9 -0.5**
BRNY Black Rk. Fore 41.06 7 P P 22 30 09.3 +1.1
baz=189
121A Cookes Peak, D 41.16 323 P P 22 30 10.5 +1.1
121A Cookes Peak, D 41.16 323 P P 22 30 11.4 +2.0
baz=135,SNR=51
121A Cookes Peak, D 41.16 323 P P 22 30 10.9 +1.5
baz=135,SNR=51
121A S S 22 36 23.9 +1.9
baz=135
N41A Harden Midland 41.16 348 P P 22 30 07.9 -1.1
baz=164,SNR=14
NBPN Ponto Novo - B 41.23 107 *eP* **P 22 30 08.5 -1.5**
KSU1 Kansas State U 41.26 340 P P 22 30 09.6 -0.2
baz=154,SNR=23
KSU1 Kansas State U 41.26 340 P P 22 30 08.9 -0.9
baz=154,SNR=23
KSU1 S S 22 36 20.1 -2.7
baz=154
319A Douglas 41.29 321 P P 22 30 10.8 +0.4
NPNY Mohonk Preserv 41.38 7 P P 22 30 11.2 +0.4
baz=189,SNR=10.0
ERPA Erie 41.39 0 P P 22 30 10.1 -0.8
ERPA IAMs_20 IAMs_20 22 47 53.5
comp=Z,2µm,20.0s
ERPA Erie 41.39 0 P P 22 30 09.2 -1.7
baz=180
ERPA S S 22 36 20.3 -4.4
baz=180
TER01 Tubaro-SC 41.40 137 *eP* **P 22 30 09.9 -1.2**
R32A Long Quarter, 41.40 338 P P 22 30 12.1 +1.0
baz=151,SNR=23
SLP01 Ubatuba-SP 41.41 127 *eP* **P 22 30 10.4 -1.1**
L56A Greenwood 41.47 3 P P 22 30 10.8 -0.8
baz=184,SNR=9.8
L56A P P 22 30 10.8 -0.8
baz=184,SNR=9.8
BINY Binghamton 41.64 5 P P 22 30 12.5 -0.4
BINY IAmb IAmb 22 30 14.5
comp=Z,164nm,1.4s
BINY Binghamton 41.64 5 P P 22 30 13.4 +0.5
baz=186,SNR=17
BINY Binghamton 41.64 5 P P 22 30 12.6 -0.3
baz=186,SNR=17
BINY S S 22 36 27.5 -0.9
baz=186
BNM Barren Site 41.66 326 P P 22 30 14.6 +1.1
Y22A Socorro 41.70 326 P P 22 30 15.0 +1.2
baz=137,SNR=25
AAM Ann Arbor 41.70 356 IAMs_20 IAMs_20 22 50 16.7
comp=Z,3µm,19.0s
AAM Ann Arbor 41.70 356 P P 22 30 11.9 -1.5
baz=175
AAM S S 22 36 25.1 -4.1
baz=175
WVNY West Valley, N 41.70 2 P P 22 30 13.0 -0.5
WVNY West Valley, N 41.70 2 P P 22 30 12.8 -0.7
baz=182,SNR=11
L59A Walton 41.71 6 P P 22 30 14.4 +0.9
baz=188,SNR=9.9
L59A P P 22 30 14.4 +0.9
baz=188,SNR=9.9
M65A Busby, Falmout 41.72 11 P P 22 30 13.0 -0.5
baz=194
M65A S S 22 36 30.7 +1.2
baz=194
Y22D IRIS PASSCAL I 41.77 326 IAMs_20 IAMs_20 22 47 29.8
comp=Z,2µm,18.0s
Y22D IRIS PASSCAL I 41.77 326 P P 22 30 16.4 +2.1
baz=137
N38A Joes South For 41.81 345 P P 22 30 13.8 -0.6
baz=160,SNR=12
ESAR Angra dos Reis 41.83 126 *eP* **P 22 30 14.6 -0.2**
LL04 Puerto Octay 41.84 171 P P 22 30 14.8 +0.2
LL04 IAmb IAmb 22 30 21.6
comp=Z,124nm,0.9s
NBMA Muriti-CE 41.95 102 *eP* **P 22 30 12.2 -3.7**
PLCA Paso Flores 41.98 169 P P 22 30 17.1 +1.3
comp=Z,42nm,0.9s,baz=345,slow=9.5,SNR=38
PLCA Paso Flores 41.98 169 P P 22 30 16.4 +0.5
PLCA pmax pmax
comp=Z,103nm,1.0s
PLCA Paso Flores 41.98 169 P P 22 30 16.4 +0.5
PLCA IAmb IAmb 22 30 23.5
comp=Z,103nm,0.9s
PLCA Paso Flores 41.98 169 *eP* **P 22 30 16.9 +1.0**
L44A Lake County Fo 42.05 351 IAMs_20 IAMs_20 22 51 00.5
comp=Z,3µm,18.0s
L44A Lake County Fo 42.05 351 P P 22 30 15.0 -1.2
baz=168
L44A S S 22 36 37.4 +3.0
baz=168
MMNY Mt. Morris Dam 42.05 2 P P 22 30 15.5 -0.8
K50A Casco 42.11 357 P P 22 30 16.5 -0.2
baz=176
K50A P P 22 30 16.5 -0.2
baz=176
K57A Scipio Center 42.13 4 P P 22 30 17.2 +0.3
baz=185,SNR=20
CBKS Cedar Bluff 42.14 337 P P 22 30 18.2 +1.0
CBKS pmax pmax
comp=Z,229nm,1.1s
CBKS Cedar Bluff 42.14 337 P P 22 30 18.2 +1.0
CBKS Cedar Bluff 42.14 337 P P 22 30 18.1 +1.0
baz=150,SNR=39
CBKS Cedar Bluff 42.14 337 P P 22 30 17.8 +0.6
baz=150,SNR=39
CBKS S S 22 36 35.8 -0.3
baz=150
MAN01 Angra dos Reis 42.14 126 *eP* **P 22 30 16.4 -1.0**
ANMO Albuquerque 42.16 327 LR LR 22 47 48.3
comp=Z,1µm,21.3s,baz=136,slow=36
ANMO Albuquerque 42.16 327 *d/i* **P P 22 30 18.3 +0.8**
ANMO pmax pmax
comp=Z,164nm,1.1s
ANMO MLR MLR
comp=Z,1µm,14.0s
ANMO Albuquerque 42.16 327 P P 22 30 17.6 +0.1
ANMO IAmb IAmb 22 30 24.6
comp=Z,149nm,1.1s
ANMO Albuquerque 42.16 327 P P 22 30 19.2 +1.7
baz=139,SNR=170
ANMO Albuquerque 42.16 327 P P 22 30 18.6 +1.1
baz=139
ANMO S S 22 36 39.3 +2.6
baz=139
L42A Oliver, Polo 42.17 349 P P 22 30 15.7 -1.6
baz=166,SNR=7.9
L61B Northampton 42.25 8 P P 22 30 17.8 -0.1
baz=191
HCNY Howe Caverns 42.28 6 P P 22 30 18.9 +0.8
baz=188,SNR=11
VAS01 Vassouras-RJ 42.30 125 *eP* **P 22 30 16.6 -2.0**
TRY Troy 42.40 7 P P 22 30 19.5 +0.5
baz=189,SNR=7.6
MEDO Medina 42.46 2 P P 22 30 19.1 -0.5
HRV Adam Dziewonsk 42.48 9 P P 22 30 19.9 +0.2
HRV pmax pmax
comp=Z,24nm,0.9s
HRV MLR MLR
comp=Z,2µm,19.0s
HRV Adam Dziewonsk 42.48 9 P P 22 30 19.9 +0.2
HRV Adam Dziewonsk 42.48 9 P P 22 30 20.2 +0.4
baz=193
L40A Anamosa 42.54 348 P P 22 30 19.3 -1.0
baz=163,SNR=14
GDU01 Guandu, BA 42.55 111 *eP* **P 22 30 20.5 -0.3**
N35A Tabor 42.55 342 P P 22 30 19.4 -0.9
J55A Hilton 42.59 2 P P 22 30 20.3 -0.3
baz=183,SNR=7.7
J55A P P 22 30 20.3 -0.3
baz=183,SNR=7.7
J56A Wolcott 42.65 3 P P 22 30 21.1 0.0
baz=185,SNR=14
J56A P P 22 30 21.1 0.0
baz=185,SNR=14
SJMB Sao Joao De Ma 42.72 119 *eP* **P 22 30 20.8 -1.3**
J47A Sunmer 42.72 355 P P 22 30 20.9 -0.8
baz=173,SNR=5.1
J47A P P 22 30 20.9 -0.8
baz=173,SNR=5.1
T25A Trinidad 42.80 331 P P 22 30 23.9 +1.1
T25A IAmb IAmb 22 30 30.2
comp=Z,187nm,1.4s
T25A Trinidad 42.80 331 P P 22 30 24.6 +1.8
baz=143,SNR=66
T25A S S 22 36 49.8 +3.6
baz=143
J57A Williamstown 42.84 4 P P 22 30 22.6 0.0
baz=186,SNR=8.0
J57A P P 22 30 22.6 0.0
baz=186,SNR=8.0
J58A Remsen 42.85 5 P P 22 30 22.5 -0.2
baz=187,SNR=16
J58A P P 22 30 22.5 -0.2
baz=187,SNR=16
SCIA State Center 42.85 346 P P 22 30 21.6 -1.2
SCIA IAmb IAmb 22 30 26.8
comp=Z,95nm,0.8s
SCIA State Center 42.85 346 P P 22 30 22.1 -0.7
baz=160,SNR=16
SCIA State Center 42.85 346 P P 22 30 20.9 -1.9
baz=160,SNR=16
SCIA S S 22 36 40.7 -5.7
baz=160
TUC Tucson 42.86 321 P P 22 30 23.2 0.0
TUC pmax pmax
comp=Z,106nm,1.4s
TUC MLR MLR
comp=Z,4µm,18.0s
TUC Tucson 42.86 321 P P 22 30 23.2 0.0
TUC IAmb IAmb 22 30 29.2
comp=Z,106nm,1.4s
TUC Tucson 42.86 321 P P 22 30 23.3 +0.2
baz=131
J59A Piesco 43.03 6 P P 22 30 24.2 0.0
baz=188,SNR=15
J59A P P 22 30 24.2 0.0
baz=188,SNR=15
ACCN Adirondack Com 43.04 7 P P 22 30 24.1 -0.2
ACCN Adirondack Com 43.04 7 P P 22 30 25.0 +0.7
baz=189,SNR=13
BSFB Barra de Sao F 43.06 119 *eP* **P 22 30 23.9 -0.9**
CMC01 Camacan, BA 43.08 113 *eP* **P 22 30 24.5 -0.5**
DUB01 Friburgo-RJ 43.09 124 *eP* **P 22 30 24.2 -0.9**
JFWS Jewell Farm 43.16 349 P P 22 30 23.6 -1.7
JFWS pmax pmax
comp=Z,61nm,1.0s
JFWS MLR MLR
comp=Z,2µm,18.0s
JFWS Jewell Farm 43.16 349 P P 22 30 23.6 -1.7
JFWS Jewell Farm 43.16 349 IAMs_20 IAMs_20 22 51 27.6
comp=Z,2µm,18.0s
JFWS Jewell Farm 43.16 349 P P 22 30 24.2 -1.1
baz=165,SNR=14
JFWS Jewell Farm 43.16 349 P P 22 30 23.0 -2.3
baz=165,SNR=14
JFWS S S 22 36 44.2 -6.7
baz=165
GUA01 Guaratinga, BA 43.20 115 *eP* **P 22 30 25.4 -0.7**
I49A Point Hope 43.28 357 P P 22 30 24.1 -2.1
baz=176,SNR=10
I49A P P 22 30 24.1 -2.1
baz=176,SNR=10
NAN01 Guarapari, ES 43.34 117 *eP* **P 22 30 26.2 -0.9**
K38A Parkersburg 43.44 346 P P 22 30 26.3 -1.3
baz=161,SNR=15
KSCO Kaye Shedlock' 43.50 334 P P 22 30 29.6 +1.3
baz=146
KSCO S S 22 36 59.5 +3.2
baz=146
HNH Hanover 43.54 8 P P 22 30 30.1 +1.8
baz=191,SNR=8.2
NCB Newcomb 43.56 6 P P 22 30 28.6 +0.1
baz=188,SNR=7.6
NBLA Lagarto - SE 43.57 107 *eP* **P 22 30 27.4 -1.7**
CAM01 Campos-RJ 43.57 123 *eP* **P 22 30 28.4 -0.5**
RIB01 Linhares ES 43.64 119 *eP* **P 22 30 28.4 -1.1**
MCVT Middlebury Col 43.69 7 P P 22 30 30.2 +0.6
baz=190,SNR=8.9
SDCO Great Sand Dun 43.81 331 P P 22 30 31.7 +0.7
SDCO IAmb IAmb 22 30 38.1
comp=Z,135nm,1.1s
SDCO Great Sand Dun 43.81 331 P P 22 30 32.6 +1.6
baz=142,SNR=151
SDCO Great Sand Dun 43.81 331 P P 22 30 32.6 +1.6
baz=142,SNR=151
SDCO S S 22 37 04.8 +3.7
baz=142
BGNE Belgrade 43.84 340 P P 22 30 30.4 -0.5
baz=153
BGNE S S 22 36 58.1 -2.9
baz=153
DELO Deloro Mine 43.84 3 P P 22 30 29.6 -1.1
DELO IAmb IAmb 22 30 30.9
comp=Z,86nm,1.4s
ALF01 Guarapari-ES 43.86 121 *eP* **P 22 30 30.0 -1.3**
I42A Draeger Farm, 43.88 351 P P 22 30 29.6 -1.5
baz=167,SNR=21
214A Organ Pipe Nat 43.95 319 P P 22 30 32.2 +0.3
baz=129,SNR=39
214A S S 22 37 06.0 +3.2
baz=129
SADO Sadowa 44.05 1 P P 22 30 31.0 -1.4
SADO IAmb IAmb 22 30 32.1
comp=Z,109nm,1.6s
VT1 Waterbury 44.09 8 P P 22 30 33.2 +0.5
baz=190,SNR=11
LBNH Lisbon 44.11 8 P P 22 30 33.0 +0.1
LBNH pmax pmax
comp=Z,89nm,1.4s
LBNH MLR MLR
comp=Z,1µm,21.0s
LBNH Lisbon 44.11 8 P P 22 30 33.0 +0.1
LBNH IAmb IAmb 22 30 35.0
comp=Z,89nm,1.4s
LBNH Lisbon 44.11 8 P P 22 30 33.1 +0.1
baz=192,SNR=7.5
LBNH Lisbon 44.11 8 P P 22 30 33.0 +0.1
baz=192,SNR=7.5
LBNH S S 22 37 07.1 +2.4
baz=192
W18A Petrified Fore 44.13 324 P P 22 30 33.8 +0.3
baz=135,SNR=34
W18A S S 22 37 10.2 +4.5
baz=135
I63A Otisfield 44.14 10 P P 22 30 33.8 +0.7

baz=194,SNR=9.0
I63A P P 22 30 33.8 +0.7
baz=194,SNR=9.0
LL02 Futaleuf 44.16 171 P P 22 30 34.2 +0.9
LONY Lake Ozonia 44.16 6 P P 22 30 32.7 -0.6
LONY IAMs_20 IAMs_20 22 51 18.7
comp=Z,2µm,18.0s
LONY Lake Ozonia 44.16 6 P P 22 30 31.9 -1.4
baz=188,SNR=12
I40A Norwalk 44.18 349 P P 22 30 31.8 -1.7
baz=165,SNR=9.0
H43A Windswept, Lux 44.27 352 P P 22 30 33.5 -0.7
baz=169,SNR=10
GLMI Grayling 44.28 355 P P 22 30 31.9 -2.3
baz=173
GLMI S S 22 37 01.3 -5.8
baz=173
BMNY Brushton-Moira 44.39 6 P P 22 30 34.9 -0.2
baz=188,SNR=12
S22A 4UR Ranch, Cre 44.48 329 P P 22 30 37.8 +1.5
baz=140,SNR=68
S22A S S 22 37 13.1 +2.2
baz=140
FRNY Flat Rock 44.48 7 P P 22 30 34.7 -1.2
FRNY IAmb IAmb 22 30 37.1
comp=Z,92nm,1.6s
FRNY Flat Rock 44.48 7 P P 22 30 36.1 +0.2
baz=189,SNR=7.3
RCBR Riachuelo 44.56 99 LR LR 22 49 45.2
comp=Z,7µm,21.0s,baz=54,slow=37
RCBR Riachuelo 44.56 99 *e*P P 22 30 36.5 -0.6
G45A Suttons Bay 44.59 354 P P 22 30 35.4 -1.3
G45A Suttons Bay 44.59 354 P P 22 30 36.1 -0.6
baz=172,SNR=7.5
G45A P P 22 30 36.1 -0.6
baz=172,SNR=7.5
Q24A Divide 44.60 332 P P 22 30 37.7 +0.4
Q24A IAmb IAmb 22 30 44.2
comp=Z,119nm,1.4s
Q24A Divide 44.60 332 P P 22 30 38.4 +1.1
baz=143,SNR=29
Q24A S S 22 37 15.1 +2.4
baz=143
NBAN Anadia - AL 44.77 104 *e*P P 22 30 37.6 -1.0
SFX San Felipe 44.78 316 P P 22 30 39.1 +0.6
SFX IAmb IAmb 22 30 44.5
comp=Z,78nm,1.3s
OGNE Ogallala 44.88 336 P P 22 30 40.1 +0.9
OGNE Ogallala 44.88 336 P P 22 30 40.1 +0.9
baz=148,SNR=49
OGNE Ogallala 44.88 336 P P 22 30 40.1 +0.9
baz=148,SNR=49
OGNE S S 22 37 17.0 +0.9
baz=148
MVCO Mesa Verde 44.95 327 P P 22 30 40.7 +0.7
MVCO IAMs_20 IAMs_20 22 49 59.4
comp=Z,3µm,18.0s
MVCO Mesa Verde 44.95 327 P P 22 30 40.6 +0.5
baz=138,SNR=53
MVCO S S 22 37 18.0 +0.4
baz=138
113A Mohawk Valley, 45.09 319 P P 22 30 40.9 0.0
113A IAmb IAmb 22 30 47.0
comp=Z,103nm,1.3s
K31A O'Neill 45.13 341 P P 22 30 41.3 +0.2
baz=153,SNR=28
MNTQ Montreal, Queb 45.13 6 P P 22 30 40.6 -0.4
AY01 Puyuhuapi 45.25 173 P P 22 30 42.0 +0.1
G62A West of Eustis 45.29 9 P P 22 30 43.5 +1.2
baz=193,SNR=20
G62A P P 22 30 43.5 +1.2
baz=193,SNR=20
Y14A Wickenburg 45.33 321 P P 22 30 43.0 +0.1
Y14A IAmb IAmb 22 30 49.2
comp=Z,88nm,1.3s
WUAZ Wupatki 45.38 323 P P 22 30 44.2 +0.9
WUAZ IAMs_20 IAMs_20 22 49 07.2
comp=Z,3µm,18.0s
WUAZ Wupatki 45.38 323 P P 22 30 44.7 +1.3
baz=133,SNR=109
WUAZ S S 22 37 27.6 +3.9
baz=133
G40A Rib Lake 45.43 350 P P 22 30 42.1 -1.3
baz=166,SNR=19
ECSD EROS Data Cent 45.47 343 P P 22 30 42.2 -1.6
ECSD EROS Data Cent 45.47 343 P P 22 30 43.0 -0.8
baz=156,SNR=38
ECSD EROS Data Cent 45.47 343 P P 22 30 42.2 -1.6
baz=156,SNR=38
ECSD S S 22 37 18.5 -5.9
baz=156
ISCO Idaho Springs 45.49 332 P P 22 30 44.4 0.0
ISCO pmax pmax
comp=Z,72nm,1.5s
ISCO MLR MLR
comp=Z,2µm,19.0s
ISCO Idaho Springs 45.49 332 P P 22 30 44.4 0.0
ISCO IAmb IAmb 22 30 54.9
comp=Z,72nm,1.5s
ISCO IAMs_20 IAMs_20 22 52 05.9
comp=Z,2µm,19.0s
ISCO Idaho Springs 45.49 332 P P 22 30 45.8 +1.4
baz=143,SNR=39
ISCO Idaho Springs 45.49 332 P P 22 30 45.4 +1.1
baz=143,SNR=39
ISCO S S 22 37 28.6 +3.2
baz=143
PKME Peaks-Kenny Pk 45.55 11 P P 22 30 44.3 0.0
PKME IAmb IAmb 22 30 46.4
comp=Z,149nm,1.6s
PKME Peaks-Kenny Pk 45.55 11 P P 22 30 44.4 0.0
baz=195,SNR=7.9
PKME Peaks-Kenny Pk 45.55 11 P P 22 30 44.5 +0.2
baz=195,SNR=7.9
PKME S S 22 37 25.3 -0.1
baz=195
F42A Maple Grove Fa 45.59 352 P P 22 30 43.8 -0.9
baz=169
SMCO Snowmass 45.65 331 P P 22 30 46.4 +0.6
SMCO IAmb IAmb 22 30 52.1
comp=Z,73nm,1.1s
TRQ Mont Tremblant 45.75 5 P P 22 30 45.2 -0.8
E46A Sault Ste Mari 45.79 356 P P 22 30 44.7 -1.6
baz=174,SNR=41
SPMN Marine on St. 45.90 347 P P 22 30 45.3 -1.8
SPMN IAmb IAmb 22 30 50.1
comp=Z,82nm,1.1s
SPMN Marine on St. 45.90 347 P P 22 30 45.8 -1.3
baz=162
SPMN Marine on St. 45.90 347 P P 22 30 44.9 -2.3
baz=162
GGN Saint George 45.91 13 P P 22 30 47.6 +0.4
GGN IAmb IAmb 22 30 50.3
comp=Z,134nm,1.6s
GLA Glamis 45.96 318 P P 22 30 48.1 +0.2
GLA pmax pmax
comp=Z,104nm,1.3s
GLA Glamis 45.96 318 P P 22 30 48.1 +0.2
GLA IAmb IAmb 22 30 54.0
comp=Z,104nm,1.3s
GLA Glamis 45.96 318 P P 22 30 48.8 +0.9
baz=128,SNR=6.1
GLA S S 22 37 32.8 +0.8
baz=128
E43A Lone Tree Farm 46.05 353 P P 22 30 47.0 -1.2
baz=170,SNR=26
COWI Conover 46.07 351 P P 22 30 47.2 -1.2
COWI IAMs_20 IAMs_20 22 51 13.8
comp=Z,2µm,19.0s
BLYC Blythe 46.19 319 P P 22 30 49.8 +0.1
BLYC IAmb IAmb 22 30 55.8
comp=Z,69nm,1.4s
PDMCI Parker Dam,Lak 46.29 320 P P 22 30 51.7 +1.3
baz=129,SNR=6.7
PDMCI S S 22 37 39.3 +2.8
baz=129
F64A Sherman 46.30 11 P P 22 30 50.8 +0.5
baz=196,SNR=8.0
F64A P P 22 30 50.8 +0.5
baz=196,SNR=8.0
COYC Coyhaique 46.46 172 P P 22 30 52.5 +1.0
N23A Red Feather La 46.51 333 P P 22 30 52.1 -0.3
baz=143,SNR=30
N23A S S 22 37 42.3 +2.2
baz=143
RMX La Rumorosa 46.54 317 P P 22 30 52.7 +0.1
RMX IAmb IAmb 22 30 59.0
comp=Z,67nm,1.2s
SWSC Sam W. Stewart 46.55 317 P P 22 30 53.1 +0.7
baz=126,SNR=19
SWSC S S 22 37 39.0 -1.3
baz=126
IKP In-Ko-Pah, Jac 46.59 317 P P 22 30 53.5 +0.6
baz=126,SNR=29
F36A Milaca 46.66 347 P P 22 30 51.8 -1.3
baz=161,SNR=27
BC3 Big Chuckawall 46.75 318 P P 22 30 54.7 +0.6
baz=127,SNR=39
CBX Cerro Bola 46.77 316 P P 22 30 54.2 -0.2
SUSD Miller 46.82 341 P P 22 30 53.5 -0.9
baz=154,SNR=15
SUSD Miller 46.82 341 P P 22 30 52.9 -1.5
baz=154,SNR=15
SUSD S S 22 37 39.3 -4.6
baz=154
E63A Oxbow 46.83 11 P P 22 30 54.3 -0.1
baz=196,SNR=12
E63A P P 22 30 54.3 -0.1
baz=196,SNR=12
IRM Iron Mountain 46.85 319 P P 22 30 55.6 +0.8
baz=128,SNR=35
NEE2 Needles Airpor 46.89 320 P P 22 30 55.8 +0.7
baz=129
D41A Chassel 46.92 352 P P 22 30 53.9 -1.2
baz=168,SNR=16
MONP2 Monument Peak 46.94 317 P P 22 30 56.8 +1.0
baz=126,SNR=28
MONP2 S S 22 37 49.2 +2.9
baz=126
E38A The Farm, Brul 46.97 349 P P 22 30 54.9 -0.6
baz=164
O20A White River Ci 47.01 330 P P 22 30 56.5 +0.3
O20A IAmb IAmb 22 31 02.2
comp=Z,72nm,1.2s
O20A White River Ci 47.01 330 P P 22 30 56.8 +0.6
baz=140,SNR=28
O20A S S 22 37 50.0 +2.9
baz=140
LMN Caledonia Moun 47.09 15 P P 22 30 56.2 -0.2
LATQ La Tuque 47.09 7 P P 22 30 56.3 -0.1
BELC Belle Mtn. Jos 47.31 318 P P 22 30 59.4 +0.7
baz=127,SNR=25
BELC S S 22 37 56.1 +4.6
baz=127
F33A 5 Mile Ranch, 47.32 345 P P 22 30 57.2 -1.0
baz=158,SNR=21
D62A Allapoint, All 47.35 10 P P 22 30 59.4 +1.0
baz=195,SNR=23
D62A P P 22 30 59.4 +1.0
baz=195,SNR=23
TPFO Pinon Flats 47.38 318 P P 22 30 59.8 +0.7
baz=126,SNR=25
PFO Pinyon Flats O 47.39 318 LR LR 22 50 48.5
comp=Z,2µm,18.1s,baz=122,slow=36
PFO Pinyon Flats O 47.39 318 ‖ *e*P P 22 30 59.7 +0.5
PFO pmax pmax
comp=Z,90nm,1.3s
PFO MLR MLR
comp=Z,3µm,16.0s
PFO Pinyon Flats O 47.39 318 P P 22 30 59.1 -0.1
PFO IAmb IAmb 22 31 05.4
comp=Z,59nm,1.2s
PFO Pinyon Flats O 47.39 318 P P 22 30 59.9 +0.7
baz=126,SNR=28
109C Camp Elliot, M 47.41 317 P P 22 30 59.6 +0.5
109C Camp Elliot, M 47.41 317 P P 22 30 59.6 +0.5
baz=125,SNR=5.3
SRU San Rafael Swe 47.42 328 P P 22 30 59.6 +0.2
SRU pmax pmax
comp=Z,149nm,1.2s
SRU San Rafael Swe 47.42 328 P P 22 30 59.6 +0.2
VLDQ Val d'Or 47.44 2 P P 22 30 57.9 -1.3
VLDQ IAmb IAmb 22 30 59.0
comp=Z,54nm,1.6s
GMRC Granite Mounta 47.57 320 P P 22 31 01.5 +0.9
baz=128,SNR=21
RWWY Rawlins 47.72 333 IAMs_20 IAMs_20 22 52 00.1
comp=Z,2µm,20.0s
MURC Murrieta 47.88 317 P P 22 31 03.7 +0.8
baz=126
HEC Hector,Ludlow 48.04 319 P P 22 31 04.6 +0.5
baz=127
ELS Elsinore Mount 48.07 317 P P 22 31 04.7 +0.3
ELS IAmb IAmb 22 31 12.4
comp=Z,49nm,1.2s
BBRC Big Bear Solar 48.09 318 P P 22 31 05.1 +0.4
baz=126
BATG Bathurst New B 48.13 13 P P 22 31 04.6 +0.1
BATG IAmb IAmb 22 31 06.4
comp=Z,64nm,1.3s
TUQ Turquoise Moun 48.14 320 P P 22 31 06.0 +1.0
baz=128,SNR=17
K22A Casper 48.18 334 P P 22 31 05.6 +0.5
K22A Casper 48.18 334 P P 22 31 06.0 +0.8
baz=143,SNR=13
K22A Casper 48.18 334 P P 22 31 05.8 +0.6
baz=143
EYMN Ely 48.25 350 P P 22 31 03.9 -1.5
EYMN Ely 48.25 350 IAMs_20 IAMs_20 22 54 51.6
comp=Z,3µm,18.0s
EYMN Ely 48.25 350 P P 22 31 04.1 -1.4
baz=165,SNR=8.0
EYMN Ely 48.25 350 P P 22 31 02.9 -2.6
baz=165,SNR=8.0
EYMN S S 22 37 58.2 -5.8
baz=165
SHPR Sheep Range 48.33 322 P P 22 31 07.2 +0.8
SHPR IAmb IAmb 22 31 12.9
comp=Z,101nm,1.4s
RSSD Black Hills 48.35 337 P P 22 31 07.4 +0.9
RSSD pmax pmax
comp=Z,74nm,1.0s
RSSD MLR MLR
comp=Z,2µm,19.0s
RSSD Black Hills 48.35 337 P P 22 31 07.4 +0.9
RSSD Black Hills 48.35 337 IAMs_20 IAMs_20 22 54 46.5
comp=Z,2µm,19.0s
RSSD Black Hills 48.35 337 P P 22 31 08.1 +1.6
baz=147,SNR=57
RSSD Black Hills 48.35 337 P P 22 31 07.2 +0.7
baz=147
RSSD S S 22 38 08.7 +2.7
baz=147
SCI2 San Clemente I 48.46 316 P P 22 31 08.3 +0.9
baz=124,SNR=5.7
RRX Edison Barstow 48.50 319 P P 22 31 08.2 +0.6
baz=127
BFSC Mount Baldy Ra 48.57 318 P P 22 31 09.1 +0.8
baz=126,SNR=34
CIS Catalina Islan 48.60 316 P P 22 31 09.5 +1.0
baz=124,SNR=7.3
GSC Goldstone, Bar 48.63 319 P P 22 31 09.4 +0.7
GSC pmax pmax
comp=Z,60nm,1.3s
GSC Goldstone, Bar 48.63 319 P P 22 31 09.4 +0.7
GSC IAmb IAmb 22 31 15.0
comp=Z,60nm,1.2s
GSC Goldstone, Bar 48.63 319 P P 22 31 09.4 +0.7
baz=127,SNR=24
SHOC Shoshone, Teco 48.65 320 P P 22 31 09.1 +0.3
baz=128,SNR=21
SHOC S S 22 38 11.7 +1.5
baz=128
FMP Fort Macarthur 48.70 317 P P 22 31 09.0 -0.1
baz=125
PSUT Pine Spring 48.88 325 P P 22 31 11.6 +0.9
PASC Pasadena Art C 48.88 317 P P 22 31 11.0 +0.5
PASC IAmb IAmb 22 31 16.8
comp=Z,73nm,1.3s
DECC Green Verdugo 49.03 317 P P 22 31 12.0 +0.3
baz=125
DECC S S 22 38 17.1 +1.6
baz=125
GWY Greenwater Val 49.08 320 P P 22 31 12.3 0.0
EDW2 Edwards Air Fo 49.16 318 P P 22 31 13.1 +0.3
baz=126,SNR=36
E28A Huff 49.28 341 P P 22 31 14.1 +0.7
baz=152,SNR=15
TPNV Topopah Spring 49.29 321 P P 22 31 14.7 +0.9
TPNV pmax pmax
comp=Z,23nm,1.1s
TPNV MLR MLR
comp=Z,900nm,21.0s
TPNV Topopah Spring 49.29 321 P P 22 31 14.6 +0.7
baz=129,SNR=42
TPNV S S 22 38 21.5 +2.1
baz=129
LRMC Laurel Mtn Rad 49.31 319 P P 22 31 14.5 +0.5
baz=126,SNR=8.0
CCAC Calif City Air 49.34 318 P P 22 31 14.8 +0.6
CCAC IAmb IAmb 22 31 21.0
comp=Z,91nm,1.1s
FURC Furnace Creek, 49.38 321 P P 22 31 15.0 +0.8
baz=128,SNR=27
DUG Dugway, Tooele 49.43 327 P P 22 31 15.8 +0.9
DUG pmax pmax
comp=Z,118nm,1.5s
DUG MLR MLR
comp=Z,4µm,18.0s
DUG Dugway, Tooele 49.43 327 P P 22 31 15.8 +0.9
DUG IAmb IAmb 22 31 21.1
comp=Z,118nm,1.4s
DUG Dugway, Tooele 49.43 327 P P 22 31 16.1 +1.2
baz=135,SNR=47
DUG S S 22 38 24.6 +3.4
baz=135
AGMN Agassiz Nation 49.50 346 P P 22 31 13.9 -1.1
AGMN Agassiz Nation 49.50 346 P P 22 31 14.3 -0.7
baz=159,SNR=15
AGMN Agassiz Nation 49.50 346 P P 22 31 12.9 -2.1
baz=159,SNR=15
AGMN S S 22 38 16.2 -5.3
baz=159
OSI Osito Audit: C 49.50 317 P P 22 31 16.1 +0.7
baz=125
OSI S S 22 38 24.6 +2.4
baz=125
MPMC Manual Prospec 49.53 320 P P 22 31 16.1 +0.4
baz=127,SNR=26
BW06 Boulder Array 49.66 332 IAMs_20 IAMs_20 22 53 16.4
comp=Z,3µm,20.0s
BW06 Boulder Array 49.66 332 P P 22 31 16.3 -0.4
baz=140,SNR=36
BW06 S S 22 38 25.1 +0.6
baz=140
PD31 Pinedale Array 49.66 332 P P 22 31 16.4 -0.2
PDAR Pinedale Array 49.66 332 P P 22 31 16.7 +0.1
comp=Z,13nm,0.8s,baz=125,slow=8.7,SNR=47
PDAR LR LR 22 53 26.3
comp=Z,3µm,19.9s,baz=141,slow=38
PDAR Pinedale Array 49.66 332 P P 22 31 16.4 -0.3
R11A Troy Canyon, C 49.77 323 P P 22 31 17.2 -0.3
baz=130,SNR=42
R11A S S 22 38 27.5 +1.3
baz=130
HWUT Hardware Ranch 49.78 329 P P 22 31 17.7 +0.1
HWUT IAmb IAmb 22 31 23.0
comp=Z,92nm,1.1s
HWUT IAMs_20 IAMs_20 22 52 41.8
comp=Z,3µm,18.0s
ARVC Arvin 49.87 318 P P 22 31 18.7 +0.7
baz=125
ARVC S S 22 38 30.4 +3.2
baz=125
ISA Isabella, Lake 49.94 319 P P 22 31 19.3 +0.6
ISA pmax pmax
comp=Z,58nm,1.4s
ISA Isabella, Lake 49.94 319 P P 22 31 19.3 +0.6
ISA IAmb IAmb 22 31 25.0
comp=Z,58nm,1.4s
ISA Isabella, Lake 49.94 319 P P 22 31 19.1 +0.4
baz=126,SNR=18
GRAC Grapevine Rang 50.02 321 P P 22 31 19.3 0.0
baz=128,SNR=8.2
MDND Maddock 50.08 343 P P 22 31 19.9 +0.4
baz=154,SNR=16
MDND Maddock 50.08 343 P P 22 31 18.7 -0.8
baz=154,SNR=16
MDND S S 22 38 25.9 -3.9
baz=154
SBC Santa Barbara 50.08 317 P P 22 31 19.1 -0.6
baz=124
CWC Cottonwood Cre 50.14 320 P P 22 31 20.6 +0.3
baz=127
PKM Mcpherson Peak 50.40 317 P P 22 31 22.2 -0.2
baz=124,SNR=18
AHID Auburn Hatcher 50.40 330 P P 22 31 22.1 -0.2
AHID IAmb IAmb 22 31 29.0
comp=Z,89nm,1.5s
AHID IAMs_20 IAMs_20 22 53 10.1
comp=Z,3µm,19.0s
VES Vestal, Richgr 50.45 318 P P 22 31 22.6 +0.1
baz=125,SNR=5.2
TIN Tinemaha, Big 50.60 320 P P 22 31 24.1 +0.4
baz=127
ECR Eagle Creek 50.75 331 P P 22 31 24.7 -0.2
SMMC Simmler 50.76 317 P P 22 31 25.1 +0.2
baz=124,SNR=22
LOHW Long Hollow 50.80 332 IAMs_20 IAMs_20 22 53 38.5
comp=Z,2µm,19.0s
VOG Valley Oaks Go 50.92 319 P P 22 31 26.7 +0.7
baz=125
MOOW Moose Ponds 50.97 332 IAMs_20 IAMs_20 22 54 23.0
comp=Z,3µm,18.0s
ELK Elko 51.16 326 LR LR 22 52 00.8
comp=Z,1µm,21.1s,baz=132,slow=35
ELK Elko 51.16 326 P P 22 31 28.3 +0.3
ELK pmax pmax
comp=Z,66nm,1.3s
ELK MLR MLR
comp=Z,2µm,20.0s
ELK Elko 51.16 326 P P 22 31 28.3 +0.3
ELK IAmb IAmb 22 31 34.0
comp=Z,66nm,1.2s
ELK IAMs_20 IAMs_20 22 51 40.2
comp=Z,2µm,20.0s
PAGB Antelope Grade 51.16 318 P P 22 31 28.3 +0.4
PAGB IAmb IAmb 22 31 34.1
comp=Z,78nm,1.3s
FLWY Flagg Ranch 51.20 332 IAMs_20 IAMs_20 22 54 02.1
comp=Z,3µm,19.0s
ULM Lac du Bonnet 51.33 347 P P 22 31 27.6 -1.2
comp=Z,48nm,0.9s,baz=154,slow=7.1,SNR=20
ULM LR LR 22 53 54.5
comp=Z,1µm,21.8s,baz=158,slow=37
ULM Lac du Bonnet 51.33 347 *c i*P P 22 31 26.9 -1.9
ULM Lac du Bonnet 51.33 347 P P 22 31 27.2 -1.6
ULM IAmb IAmb 22 31 32.7
comp=Z,70nm,1.1s
MLAC Mammoth, Mammo 51.33 320 P P 22 31 30.0 +0.6
baz=127
MLAC S S 22 38 45.1 -2.9
baz=127
LAO LASA Array 51.34 337 P P 22 31 29.4 +0.4
LAO IAmb IAmb 22 31 34.2
comp=Z,75nm,1.4s
LAO IAMs_20 IAMs_20 22 56 28.7
comp=Z,2µm,18.0s
LAO LASA Array 51.34 337 P P 22 31 29.5 +0.4
baz=146,SNR=12
LAO LASA Array 51.34 337 P P 22 31 28.2 -0.9
baz=146,SNR=12
LAO S S 22 38 45.4 -2.0
baz=146
RLMT Red Lodge 51.34 334 P P 22 31 29.5 +0.2
RLMT IAMs_20 IAMs_20 22 53 37.9
comp=Z,2µm,21.0s
RLMT Red Lodge 51.34 334 P P 22 31 29.7 +0.4
baz=141
RLMT S S 22 38 46.7 -1.2
baz=141
H17A Grant Village 51.38 332 P P 22 31 30.4 +0.8
baz=140,SNR=13
NV11 Mina Array Sit 51.39 322 P P 22 31 31.1 +1.4
NV11 IAmb IAmb 22 31 37.1
comp=Z,123nm,1.2s
LKWY Lake 51.42 333 IAMs_20 IAMs_20 22 54 10.1
comp=Z,2µm,21.0s
NVAR Mina Array Bea 51.48 322 P P 22 31 31.3 +0.8
comp=Z,27nm,0.8s,baz=138,slow=7.0,SNR=54
NVAR LR LR 22 52 37.4
comp=Z,2µm,18.2s,baz=128,slow=35
NVAR Mina Array Bea 51.48 322 P P 22 31 30.9 +0.4
GO09 Cerro Castillo 52.03 174 P P 22 31 34.9 +0.8
GO09 IAmb IAmb 22 31 42.7
comp=Z,81nm,1.1s
DGMT Dagmar 52.09 340 P P 22 31 35.0 +0.4
DGMT IAmb IAmb 22 31 40.4
comp=Z,66nm,1.1s
DGMT Dagmar 52.09 340 P P 22 31 36.1 +1.5

baz=149
DGMT Dagmar 52.09 340 P P 22 31 34.6 -0.1
DGMT baz=149 S S 22 38 59.2 +1.5
QLMT Earthquake Lak 52.11 332 P P 22 31 35.9 +0.9
BBGB Big Mountain B 52.16 318 P P 22 31 36.0 +0.6
BBGB IAmb IAmb 22 31 49.1
comp=Z,94nm,1.2s
DRLN Deer Lake 52.26 19 P P 22 31 35.8 0.0
DRLN IAmb IAmb 22 31 37.0
comp=Z,146nm,1.8s
SAO San Andreas Ge 52.54 318 P P 22 31 38.8 +0.7
SAO pmax pmax
comp=Z,44nm,1.3s
SAO San Andreas Ge 52.54 318 P P 22 31 38.8 +0.7
CMB Columbia Colle 52.56 320 P P 22 31 38.5 +0.2
CMB pmax pmax
comp=Z,22nm,1.3s
CMB MLR MLR
comp=Z,1μm,19.0s
CMB Columbia Colle 52.56 320 P P 22 31 38.5 +0.2
CMB IAMs_20 IAMs_20 22 52 49.7
comp=Z,1μm,19.0s
HLID Hailey 52.65 329 P P 22 31 39.7 +0.6
HLID IAmb IAmb 22 31 45.0
comp=Z,62nm,1.0s
HLID IAMs_20 IAMs_20 22 57 46.7
comp=Z,2μm,18.0s
HLID Hailey 52.65 329 P P 22 31 39.9 +0.9
baz=135,SNR=78
HLID S S 22 39 06.4 +0.6
baz=135
BOZ Bozeman (W) 52.77 333 P P 22 31 40.5 +0.6
BOZ pmax pmax
comp=Z,111nm,1.2s
BOZ MLR MLR
comp=Z,2μm,19.0s
BOZ Bozeman (W) 52.77 333 P P 22 31 40.5 +0.6
BOZ IAmb IAmb 22 31 45.6
comp=Z,111nm,1.2s
BOZ IAMs_20 IAMs_20 22 55 18.8
comp=Z,2μm,19.0s
BOZ Bozeman (W) 52.77 333 P P 22 31 39.7 -0.2
baz=139,SNR=78
BOZ S S 22 39 11.0 +3.6
baz=139
DLMT Dillon 53.05 332 IAMs_20 IAMs_20 22 55 25.2
comp=Z,3μm,18.0s
MFID Camas Ranch 53.29 328 IAMs_20 IAMs_20 22 55 20.6
comp=Z,2μm,18.0s
EGMT Eagleton 53.83 336 P P 22 31 48.1 +0.6
EGMT IAmb IAmb 22 31 53.0
comp=Z,97nm,1.3s
EGMT Eagleton 53.83 336 P P 22 31 47.5 -0.1
baz=142,SNR=38
EGMT S S 22 39 22.1 +0.6
baz=142
WVOR Wild Horse Val 54.19 325 IAMs_20 IAMs_20 22 54 43.4
comp=Z,2μm,18.0s
MCCM Marconi Confer 54.25 319 IAMs_20 IAMs_20 22 53 26.4
comp=Z,2μm,19.0s
MSO Missoula 54.77 332 P P 22 31 54.8 +0.4
MSO IAMs_20 IAMs_20 22 56 03.5
comp=Z,2μm,19.0s
MSO Missoula 54.77 332 P P 22 31 54.1 -0.3
baz=137,SNR=52
MSO S S 22 39 34.3 +0.1
baz=137
O03E Paynes Creek 54.77 321 IAMs_20 IAMs_20 22 56 06.0
comp=Z,2μm,18.0s
O03E Paynes Creek 54.77 321 P P 22 31 54.4 -0.1
baz=126,SNR=5.3
MG03 Isla Dawson 54.79 173 P P 22 31 55.4 +1.2
MG03 IAmb IAmb 22 32 02.1
comp=Z,80nm,1.2s
MOD Modoc Plateau 54.82 324 P P 22 31 55.6 +0.6
MOD IAMs_20 IAMs_20 22 54 50.2
comp=Z,2μm,19.0s
BMO Blue Mountains 55.05 328 P P 22 31 56.3 -0.2
BMO pmax pmax
comp=Z,30nm,1.2s
BMO MLR MLR
comp=Z,2μm,19.0s
BMO Blue Mountains 55.05 328 P P 22 31 56.3 -0.2
BMO IAMs_20 IAMs_20 22 56 22.1
comp=Z,2μm,19.0s
DSPA Despedida 55.18 172 P P 22 31 58.2 +1.1
SCHQ Schefferville 55.20 9 P P 22 31 55.9 -1.4
comp=Z,24nm,1.3s,baz=200,slow=6.3,SNR=19
SCHQ LR LR 22 55 12.5
comp=Z,811nm,21.6s,baz=198,slow=36
SCHQ Schefferville 55.20 9 P P 22 31 56.0 -1.2
SCHQ IAmb IAmb 22 31 57.5
comp=Z,105nm,1.6s
EFI East Falkland 55.25 163 P P 22 31 58.0 +0.4
EFI pmax pmax
comp=Z,221nm,1.6s
EFI East Falkland 55.25 163 P P 22 31 58.0 +0.4
O02D Mt. Diablo Mer 55.32 321 P P 22 31 57.6 -0.9
baz=124,SNR=5.3
M04C Macdoel 55.66 323 P P 22 32 00.5 -0.5
baz=126,SNR=15
N02D Trinity Center 55.72 322 P P 22 32 00.5 -0.8
baz=125
USHA Ushuaia 56.01 172 LR LR 22 55 05.8
comp=Z,2μm,18.8s,baz=350,slow=35
M02C Callahan 56.05 322 P P 22 32 03.0 -0.7
baz=125,SNR=7.0
K04D Chiloquin, OR 56.11 324 P P 22 32 03.5 -0.7
baz=127
YBH Yreka Blue Hor 56.16 322 LR LR 22 55 43.3
comp=Z,2μm,20.3s,baz=136,slow=36
YBH Yreka Blue Hor 56.16 322 IAMs_20 IAMs_20 22 55 20.8
comp=Z,2μm,21.0s
L04D Klamath Falls 56.20 323 P P 22 32 04.6 -0.3
baz=126,SNR=20
J05D Fort Rock, OR 56.21 325 P P 22 32 04.8 -0.1
baz=128,SNR=55
G08A Pilot Rock 56.21 328 P P 22 32 05.5 +0.6
G08A IAmb IAmb 22 32 10.6
comp=Z,60nm,1.1s
MG01 Puerto William 56.23 171 P P 22 32 06.1 +1.5
MG01 IAmb IAmb 22 32 11.9
comp=Z,72nm,1.2s
WALA Waterton Lakes 56.40 334 P P 22 32 06.4 +0.3
WALA IAmb IAmb 22 32 11.7
comp=Z,54nm,1.1s
KRPM Rodgers 56.65 321 P P 22 32 08.1 +0.1
J04D Umpqua Nationa 56.69 324 P P 22 32 08.2 -0.2
J04D IAmb IAmb 22 32 24.2
comp=Z,66nm,0.9s
J04D IAMs_20 IAMs_20 23 01 04.7
comp=Z,2μm,18.0s
J04D Umpqua Nationa 56.69 324 P P 22 32 07.9 -0.5
baz=127,SNR=19
J04D S S 22 40 00.7 +0.5
baz=127
HUMO Hull Mountain 56.82 323 IAMs_20 IAMs_20 22 56 47.2
comp=Z,2μm,18.0s
I05D Terrebonne, OR 56.91 326 P P 22 32 09.7 -0.1
baz=128,SNR=5.5
FFC Flin Flon 56.92 345 P P 22 32 09.3 -0.2
FFC pmax pmax
comp=Z,49nm,1.2s
FFC MLR MLR
comp=Z,1μm,19.0s
FFC Flin Flon 56.92 345 P P 22 32 09.3 -0.2
FFC IAmb IAmb 22 32 14.3
comp=Z,50nm,1.1s
L02E Cave Junction 56.95 322 IAMs_20 IAMs_20 22 55 58.7
comp=Z,2μm,19.0s
L02E Cave Junction 56.95 322 P P 22 32 09.9 -0.1
baz=125,SNR=14
L02E S S 22 40 03.8 +0.5
baz=125
HAWA Hanford 57.24 328 IAMs_20 IAMs_20 22 57 17.0
comp=Z,2μm,19.0s
K02D Willamette Mer 57.30 323 P P 22 32 11.6 -0.9
baz=125,SNR=37
K02D S S 22 40 08.2 +0.3
baz=125
NEW Newport 57.30 331 LR LR 22 57 32.0
comp=Z,1μm,19.3s,baz=140,slow=37
NEW Newport 57.30 331 P P 22 32 12.3 -0.1
NEW pmax pmax
comp=Z,62nm,1.4s
NEW MLR MLR
comp=Z,1μm,19.0s
NEW Newport 57.30 331 P P 22 32 12.3 -0.1
NEW IAmb IAmb 22 32 17.6
comp=Z,62nm,1.4s
NEW Newport 57.30 331 IAMs_20 IAMs_20 22 56 38.5
comp=Z,1μm,19.0s
NEW Newport 57.30 331 P P 22 32 11.7 -0.7
baz=134,SNR=18
NEW S S 22 40 08.7 +1.0
baz=134
G05D Wamic, OR 57.46 326 P P 22 32 13.0 -0.6
baz=129,SNR=7.3
I03D Drain, OR 57.69 324 P P 22 32 14.3 -0.9
baz=126,SNR=7.9
I03D S S 22 40 13.9 +1.1
baz=126
J01E Myrtle Point 57.72 323 IAMs_20 IAMs_20 22 57 09.1
comp=Z,2μm,18.0s
J01E Myrtle Point 57.72 323 P P 22 32 15.3 -0.1
baz=125,SNR=24
J01E S S 22 40 16.1 +2.8
baz=125
H04D Lebanon 57.82 325 IAMs_20 IAMs_20 22 56 16.6
comp=Z,2μm,20.0s
H04D Lebanon 57.82 325 P P 22 32 15.7 -0.4
baz=127
F05D White Salmon 57.94 327 P P 22 32 17.0 +0.1
baz=129,SNR=6.1
F05D S S 22 40 21.3 +5.1
baz=129
COR Corvallis 58.18 325 P P 22 32 18.8 +0.2
COR pmax pmax
comp=Z,137nm,1.3s
COR MLR MLR
comp=Z,1μm,21.0s
COR Corvallis 58.18 325 P P 22 32 18.8 +0.2
COR Corvallis 58.18 325 IAMs_20 IAMs_20 22 55 37.2
comp=Z,1μm,21.0s
I02E Swisshome, OR 58.22 324 P P 22 32 18.9 0.0
baz=126,SNR=8.2
G03D McMinnville, O 58.53 325 IAMs_20 IAMs_20 22 57 51.4
comp=Z,2μm,18.0s
G03D McMinnville, O 58.53 325 P P 22 32 21.4 +0.3
baz=127
G03D S S 22 40 25.4 +1.6
baz=127
F04D Rainier, OR 58.92 326 P P 22 32 23.9 +0.2
baz=127
C06D Leavenworth 58.94 329 P P 22 32 23.9 0.0
baz=130
E04D Cinebar 58.96 327 P P 22 32 24.3 +0.2
baz=128,SNR=7.2
FCC Fort Churchill 59.10 352 P P 22 32 23.2 -1.5
FCC pmax pmax
comp=Z,42nm,1.1s
FCC Fort Churchill 59.10 352 P P 22 32 23.2 -1.5
FCC IAmb IAmb 22 32 28.3
comp=Z,42nm,1.1s
EDM Edmonton 59.32 337 P P 22 32 26.2 -0.3
EDM pmax pmax
comp=Z,144nm,1.3s
EDM Edmonton 59.32 337 P P 22 32 26.2 -0.3
D04E Lakebay 59.45 328 P P 22 32 27.2 -0.2
baz=128
B05A Bryant 59.78 329 P P 22 32 29.9 +0.3
baz=129
B05A S S 22 40 40.6 +0.7
baz=129
D03D Eldon 59.84 328 P P 22 32 30.1 0.0
baz=128,SNR=17
D03D S S 22 40 43.0 +2.2
baz=128
NLWA Neilton Lookou 60.18 327 P P 22 32 32.6 +0.1
NLWA IAmb IAmb 22 32 38.8
comp=Z,68nm,1.1s
A04D Lummi Island 60.38 329 P P 22 32 33.8 +0.1
baz=129,SNR=6.4
TAOE Nuku Hiva Isla 60.55 260 *e*S **S 22 40 47.5 -3.6**
comp=Z,645nm,33.3s
TAOE *e*LR LR 22 50 30.3
comp=Z,4μm,22.9s,baz=84
PGC Sidney 60.72 329 P P 22 32 36.6 +0.6
PGC IAmb IAmb 22 32 42.2
comp=Z,68nm,1.2s
CBB Campbell River 62.56 329 P P 22 32 49.1 +0.7
MBO M'Bour 63.88 74 IAMs_20 IAMs_20 23 05 58.9
comp=Z,2μm,18.0s
BBB Bella Bella 65.22 330 LR LR 23 03 08.3
comp=Z,920nm,18.1s,baz=142,slow=38
PMSA Palmer Station 66.21 173 *e*P **P 22 33 12.9 +0.8**
NUUK Nuuk 66.81 13 *i* P **P 22 33 15.6 -0.3**
NUUK IAmb IAmb 22 33 20.7
comp=Z,29nm,0.8s
YKA Yellowknife Ar 67.00 343 P P 22 33 16.9 -0.3
comp=Z,29nm,1.0s,baz=137,slow=6.4,SNR=110
YKA PKKP **PKKPdf 22 53 25.2 -5.3**
comp=Z,0.3nm,0.8s,baz=1.0,slow=3.7,SNR=4.0
YKA LR LR 23 05 38.3
comp=Z,789nm,18.2s,baz=136,slow=39
YKA Yellowknife Ar 67.00 343 P P 22 33 16.4 -0.8
YKA Yellowknife Ar 67.00 343 P P 22 33 16.4 -0.8
PMOZ Porto Moniz, M 67.12 54 *e*LR LR 22 54 35.1
comp=Z,519nm,20.0s
SFJD Kangerlussuaq 69.46 12 LR LR 23 04 59.7
comp=Z,608nm,19.2s,baz=211,slow=37
SFJD Kangerlussuaq 69.46 12 P P 22 33 31.4 -1.1
SFJD pmax pmax
comp=Z,31nm,0.9s
SFJD Kangerlussuaq 69.46 12 P P 22 33 31.4 -1.1
SFJD IAmb IAmb 22 33 41.6
comp=Z,31nm,0.9s
SFJD Kangerlussuaq 69.46 12 *i* **P P 22 33 29.7 -2.8**
SFJD IAmb IAmb 22 33 41.0
comp=Z,10nm,0.8s
CRAG Craig 69.51 331 P P 22 33 32.9 -0.1
baz=122
WRAK Wrangell Islan 69.65 332 IAMs_20 IAMs_20 23 03 56.1
comp=Z,1μm,21.0s
WRAK Wrangell Islan 69.65 332 P P 22 33 33.9 0.0
baz=122
WRAK S S 22 42 46.1 +4.9
baz=122
DLBC Dease Lake 69.73 335 LR LR 23 05 51.8
comp=Z,514nm,19.5s,baz=108,slow=37
DLBC Dease Lake 69.73 335 P P 22 33 35.5 +1.1
DY2G Dye2 70.00 14 *i* **P P 22 33 33.2 -3.0**
DY2G IAmb IAmb 22 33 41.0
comp=Z,18nm,0.7s
WRGLY Wrigley 70.28 341 P P 22 33 37.3 -0.2
baz=133
WRGLY S S 22 42 48.1 -0.3
baz=133
PPT Papeete 70.65 251 LR LR 22 56 49.8
comp=Z,3μm,19.8s,baz=66,slow=29
PPT2 Papeete2 70.65 251 *e*S **S 22 42 50.0 -4.6**
comp=Z,949nm,24.0s
PPT2 Papeete2 70.65 251 *e*LR LR 22 55 13.7
comp=Z,3μm,21.8s,baz=80
TGTN Hyland Airport 70.87 338 P P 22 33 42.2 +0.8
baz=128
TGTN S S 22 42 57.5 +1.9
baz=128
ILULI Ilulissat 71.28 11 P P 22 33 42.5 -1.1
ILULI pmax pmax
comp=Z,79nm,1.1s
ILULI Ilulissat 71.28 11 P P 22 33 42.5 -1.1
ILULI Ilulissat 71.28 11 *i* **P P 22 33 42.1 -1.5**
ILULI IAmb IAmb 22 33 48.5
comp=Z,25nm,0.8s
TBI Tubuai 71.34 245 *e*S **S 22 43 00.5 -1.7**
comp=Z,831nm,26.2s
TBI Tubuai 71.34 245 *e*LR LR 22 55 32.9
comp=Z,3μm,26.2s,baz=74
SIT Sitka 71.38 332 P P 22 33 44.9 +0.5
baz=120
SIT S S 22 43 06.7 +5.3
baz=120
JIS Juneau Island 71.56 333 P P 22 33 46.5 +1.0
JIS IAmb IAmb 22 33 52.2
comp=Z,63nm,1.2s
JIS IAMs_20 IAMs_20 23 06 22.8
comp=Z,1μm,19.0s
BESE Bessie Mountai 71.93 333 P P 22 33 48.9 +1.0
BESE IAmb IAmb 22 33 54.1
comp=Z,69nm,1.2s
SKAG Skagway 72.60 334 P P 22 33 52.1 +0.5
baz=120
SKAG S S 22 43 18.9 +3.6
baz=120
MMPY Sheldon Lake, 72.66 338 P P 22 33 52.9 +0.8
baz=125
MMPY S S 22 43 18.6 +2.5
baz=125
NUUG Nuugaatsiaq 72.96 9 *i* **P P 22 33 51.9 -1.7**
NUUG IAmb IAmb 22 33 59.8
comp=Z,15nm,0.8s
WHY Whitehorse 73.02 335 P P 22 33 54.5 +0.2
WHY Whitehorse 73.02 335 P P 22 33 55.1 +0.8
baz=121
WHY S S 22 43 23.1 +2.6
baz=121
FARO Faro, Yukon 73.24 337 P P 22 33 57.2 +1.7
baz=123
ICESG Greenland Ices 73.62 14 *i* **P P 22 33 56.5 -1.6**
ICESG IAmb IAmb 22 34 03.2
comp=Z,47nm,0.7s
M31M Drury Creek, Y 73.64 337 IAMs_20 IAMs_20 23 06 32.4
comp=Z,1μm,20.0s
M31M Drury Creek, Y 73.64 337 P P 22 33 58.2 +0.3
baz=122
M31M S S 22 43 29.0 +1.8
baz=122
N31M Braeburn, Yuko 73.82 336 IAMs_20 IAMs_20 23 07 03.3
comp=Z,1μm,20.0s
N31M Braeburn, Yuko 73.82 336 P P 22 33 59.4 +0.4
baz=121
N31M S S 22 43 32.7 +3.3
baz=121
TTIG Tnine Tigouga, 73.95 58 P P 22 34 03.0 +2.5
HYT Haines Junctio 74.22 335 P P 22 34 02.1 +0.7
HYT Haines Junctio 74.22 335 P P 22 34 01.9 +0.5
baz=119
HYT S S 22 43 38.2 +4.2
baz=119
PNL Peninsula 74.51 333 P P 22 34 03.1 +0.1
baz=117
PNL S S 22 43 41.2 +4.1
baz=117
OUK Oukaimeden 74.54 58 P P 22 34 07.0 +2.8
RES Resolute Bay 74.58 356 LR LR 23 06 26.9
comp=Z,1μm,21.2s,baz=160,slow=36
RES Resolute Bay 74.58 356 P P 22 34 01.2 -1.9
RES pmax pmax
comp=Z,49nm,2.0s
RES Resolute Bay 74.58 356 P P 22 34 01.2 -1.9
YUK6 Outpost Mounta 74.65 334 P P 22 34 04.7 +0.7
baz=118
YUK6 S S 22 43 42.3 +3.3
baz=118
C36M Paulatuk 74.69 345 P P 22 34 04.0 +0.2
baz=134
C36M S S 22 43 34.5 -4.2
baz=134
SRHM Skhour des Reh 74.71 57 P P 22 34 07.0 +2.2
BCPM Bancas Point 74.75 333 IAMs_20 IAMs_20 23 08 18.9
comp=Z,2μm,19.0s
M30M Minto, Yukon 74.79 336 P P 22 34 04.0 -0.6
M30M IAmb IAmb 22 34 10.9
comp=Z,54nm,1.2s
M30M IAMs_20 IAMs_20 23 08 58.9
comp=Z,1μm,20.0s
M30M Minto, Yukon 74.79 336 P P 22 34 04.4 -0.2
baz=120
M30M S S 22 43 40.9 +0.7
baz=120
LIS Lisbon 74.85 50 *e*P **P 22 34 06.2 +0.9**
LIS IAmb IAmb 22 34 07.9
comp=Z,198nm,1.4s
LIS Lisbon 74.85 50 *e*P **P 22 34 06.2 +0.9**
MORF Marmelete 74.95 52 *e*P **P 22 34 06.9 +0.8**
MORF IAmb IAmb 22 34 08.3
comp=Z,101nm,1.4s
MORF *e*S **S 22 43 44.7 +1.7**
MORF Marmelete 74.95 52 *e*P **P 22 34 06.9 +0.8**
MORF *e*S **S 22 43 44.7 +1.7**
YUK4 Talbot Arm 74.96 335 P P 22 34 05.7 -0.1
baz=118
LIC Lamto 75.08 84 *e*PKP1 **P 22 34 08.3 +1.1**
comp=Z,89nm,1.5s
PINM Pinnacle 75.09 333 P P 22 34 05.6 -0.9
baz=116
TIC Toumodi 75.10 83 *e*PKP1 **P 22 34 07.2 -0.1**
AVE Averroes 75.25 56 P P 22 34 09.8 +2.0
DBIC Dimbokro 75.26 83 P P 22 34 05.8 -2.4
comp=Z,14nm,1.0s,baz=276,slow=6.7,SNR=20
DBIC LR LR 23 05 31.2
comp=Z,2μm,18.1s,baz=262,slow=34
DBIC Dimbokro 75.26 83 P P 22 34 07.1 -1.1
DBIC pmax pmax
comp=Z,252nm,1.9s
DBIC Dimbokro 75.26 83 P P 22 34 07.0 -1.1
KIC Kosan Boka 75.37 84 *e*PKP1 **P 22 34 08.2 -0.7**
comp=Z,31nm,0.8s
OUZM OUZ 75.44 58 P P 22 34 12.0 +2.9
PCAS Casmilo, Conde 75.61 49 *e*P **P 22 34 11.2 +1.4**
comp=Z,103nm,1.6s
PVAQ Vaqueiros 75.70 52 *e*LR LR 22 58 27.6
comp=Z,980nm,20.0s
COI Coimbra 75.71 49 P P 22 34 10.5 +0.2
COI pmax pmax
comp=Z,190nm,1.6s
COI Coimbra 75.71 49 P P 22 34 10.5 +0.2
LOGN Logan Glacier 75.74 334 P P 22 34 11.2 +1.0
LOGN IAmb IAmb 22 34 17.2
comp=Z,58nm,1.3s
YUK3 Moose Creek 75.93 335 P P 22 34 11.4 0.0
baz=116
YUK3 S S 22 43 55.5 +2.4
baz=116
CTG Chitna Glacier 75.95 334 P P 22 34 11.4 0.0
baz=115
CTG S S 22 43 55.0 +1.7
baz=115
GRNC Granite Creek 76.04 334 IAMs_20 IAMs_20 23 09 07.0
comp=Z,1μm,19.0s
PESTR Estremoz 76.07 50 *e*P **P 22 34 12.6 +0.2**
comp=Z,145nm,1.6s
PESTR Estremoz 76.07 50 P P 22 34 12.3 -0.1
PESTR IAmb IAmb 22 34 14.3
comp=Z,76nm,1.6s
PESTR Estremoz 76.07 50 P P 22 34 13.3 +0.9
PGAV Gavieira, Arco 76.17 47 *e*LR LR 22 58 32.8
comp=Z,942nm,20.0s
TULEG Thule 76.18 3 P P 22 34 11.2 -1.0
TULEG IAMs_20 IAMs_20 23 07 19.7
comp=Z,1μm,20.0s
TULEG Thule 76.18 3 *i* **P P 22 34 13.3 +1.0**
TULEG IAmb IAmb 22 34 16.4
comp=Z,9.6nm,0.9s
ISLE Juniper Island 76.25 333 P P 22 34 13.2 +0.1
ISLE IAmb IAmb 22 34 19.6
comp=Z,64nm,1.1s
ISLE IAMs_20 IAMs_20 23 11 46.5
comp=Z,1μm,18.0s
J29M Klondike Camp 76.27 338 P P 22 34 13.1 0.0
baz=119
J29M S S 22 43 57.8 +1.2
baz=119
ZGR Zagora 76.30 59 P P 22 34 17.0 +2.9
PMRV Marv??o 76.33 50 *e*LR LR 22 58 44.2
comp=Z,662nm,22.0s
PBAR Barrancos 76.37 51 *e*P P 22 34 21.4 +7.3
comp=Z,40nm,1.8s
KOWA Kowa 76.37 75 P P 22 34 14.2 -0.4
BVCY Beaver Creek 76.38 335 P P 22 34 14.3 +0.6
baz=116
BVCY S S 22 44 00.4 +2.6
baz=116
MTE Manteigas 76.40 49 *e*LR LR 22 58 32.8
comp=Z,558nm,18.0s
WAX Waxell Ridge 76.42 333 P P 22 34 15.1 +1.1
WAX IAMs_20 IAMs_20 23 10 33.9
comp=Z,1μm,18.0s
TZRR Tazzarine 76.43 59 P P 22 34 18.0 +3.2
TGL Tana Glacier 76.53 333 P P 22 34 15.7 +1.1
TGL IAMs_20 IAMs_20 23 11 53.9
comp=Z,1μm,19.0s
DAWY Dawson 76.54 337 P P 22 34 14.4 -0.2
baz=118
DAWY S S 22 44 01.6 +2.1
baz=118
BORG Borgarnes 76.65 22 LR LR 23 05 29.4
comp=Z,902nm,22.0s,baz=240,slow=34

INK **Inuvik** **76.70 342** LR LR 23 11 12.7
comp=Z,925nm,18.3s,baz=110,slow=38
INK **Inuvik** **76.70 342** P **P** **22 34 16.1 +0.8**
INK pmax pmax
comp=Z,70nm,1.1s
INK **Inuvik** **76.70 342** P **P** **22 34 16.1 +0.8**
INK IAmb IAmb 22 34 21.4
comp=Z,70nm,1.1s
INK **Inuvik** **76.70 342** P **P** **22 34 15.3 0.0**
baz=124
INK S **S** **22 44 01.8 +1.0**
baz=124
I29M **Ogilvie Camp,** **76.75 339** P **P** **22 34 16.0 +0.3**
I29M IAmb IAmb 22 34 22.0
comp=Z,79nm,1.2s
I29M IAMs_20 IAMs_20 23 10 26.5
comp=Z,1µm,22.0s
I29M **Ogilvie Camp,** **76.75 339** P **P** **22 34 15.6 -0.2**
baz=119
I29M S **S** **22 44 03.4 +1.8**
baz=119
BERG **Berg Lake** **76.78 333** IAMs_20 IAMs_20 23 09 22.6
comp=Z,1000nm,20.0s
M27K **Edge Creek, AK** **76.78 335** P **P** **22 34 16.8 +0.7**
M27K IAmb IAmb 22 34 22.7
comp=Z,61nm,1.1s
M27K **Edge Creek, AK** **76.78 335** P **P** **22 34 15.5 -0.6**
baz=115
M27K S **S** **22 44 04.6 +2.2**
baz=115
A36M **Sachs Harbour** **76.81 347** P **P** **22 34 15.0 -0.9**
A36M IAmb IAmb 22 34 27.9
comp=Z,49nm,0.8s
A36M **Sachs Harbour** **76.81 347** P **P** **22 34 14.3 -1.5**
baz=133
A36M S **S** **22 43 57.6 -4.4**
baz=133
MCARA **McCarthy VSAT** **76.87 334** IAMs_20 IAMs_20 23 09 17.9
comp=Z,1µm,20.0s
MCARA **McCarthy VSAT** **76.87 334** P **P** **22 34 16.1 -0.3**
baz=114
MCARA S **S** **22 44 05.4 +2.3**
baz=114
MVO **Moncorvo** **76.92 48** *e*LR LR 22 58 53.9
comp=Z,507nm,22.0s
VRDI **Verde Repeater** **77.00 334** IAMs_20 IAMs_20 23 10 34.3
comp=Z,916nm,19.0s
BCAR **Beaver Creek A** **77.05 336** P **P** **22 34 17.8 +0.3**
L27K **Beaver Creek,** **77.06 336** IAMs_20 IAMs_20 23 13 49.0
comp=Z,1µm,19.0s
L27K **Beaver Creek,** **77.06 336** P **P** **22 34 18.0 +0.4**
baz=115
L27K S **S** **22 44 08.1 +2.9**
baz=115
CZD **Col de Zad** **77.18 56** P **P** **22 34 22.0 +2.8**
GLB **Gilahina Butte** **77.24 334** IAMs_20 IAMs_20 23 09 18.7
comp=Z,970nm,20.0s
PBRG **Braganca** **77.26 47** *e*P **P** **22 34 20.1 +1.0**
comp=Z,69nm,1.8s
M26K **Nabesna, AK** **77.27 335** IAMs_20 IAMs_20 23 11 05.7
comp=Z,1µm,18.0s
M26K **Nabesna, AK** **77.27 335** P **P** **22 34 18.5 -0.3**
baz=114
M26K S **S** **22 44 09.6 +2.1**
baz=114
BMRM **Bremner River** **77.41 333** P **P** **22 34 20.4 +0.8**
BMRM IAMs_20 IAMs_20 23 12 34.3
comp=Z,1µm,21.0s
BMRM **Bremner River** **77.41 333** P **P** **22 34 20.0 +0.5**
baz=112
BMRM S **S** **22 44 11.0 +1.9**
baz=112
LCRM **LCR** **77.42 56** P **P** **22 34 23.0 +2.7**
MDT **Midelt** **77.51 57** LR LR 23 04 58.2
comp=Z,752nm,21.5s,baz=290,slow=33
MDT **Midelt** **77.51 57** P **P** **22 34 23.2 +2.5**
EGAK **Eagle** **77.55 337** P **P** **22 34 20.7 +0.5**
EGAK IAMs_20 IAMs_20 23 13 09.6
comp=Z,1µm,19.0s
EGAK **Eagle** **77.55 337** P **P** **22 34 20.1 0.0**
baz=116
N25K **Chitina, Valde** **77.65 334** IAMs_20 IAMs_20 23 14 15.6
comp=Z,893nm,20.0s
N25K **Chitina, Valde** **77.65 334** P **P** **22 34 20.8 -0.1**
baz=112
N25K S **S** **22 44 12.7 +1.0**
baz=112
L26K **Log Cabin Wild** **77.68 335** P **P** **22 34 22.0 +1.0**
baz=114
EYAK **Cordova Ski Ar** **77.78 333** P **P** **22 34 21.8 +0.3**
baz=111
HARP **HAARP** **78.20 334** P **P** **22 34 24.4 +0.5**
baz=112
HARP S **S** **22 44 18.0 +0.5**
baz=112
KLU **Klutina** **78.20 333** IAMs_20 IAMs_20 23 12 32.1
comp=Z,968nm,21.0s
KLU **Klutina** **78.20 333** P **P** **22 34 24.1 +0.1**
baz=111
KLU S **S** **22 44 18.0 +0.4**
baz=111
SCRK **Sand Creek** **78.32 336** IAMs_20 IAMs_20 23 10 23.2
comp=Z,1µm,20.0s
SCRK **Sand Creek** **78.32 336** P **P** **22 34 24.9 +0.2**
baz=114
SCRK S **S** **22 44 21.3 +2.3**
baz=114
J26L **Joseph Creek** **78.37 337** P **P** **22 34 25.2 +0.4**
baz=114
J26L S **S** **22 44 21.5 +2.2**
baz=114
GLI **Glacier Island** **78.51 333** IAMs_20 IAMs_20 23 13 21.4
comp=Z,1µm,20.0s
M24K **Tolsona, Glenn** **78.53 334** P **P** **22 34 25.8 0.0**
baz=111
PAX **Paxson** **78.55 335** P **P** **22 34 25.6 -0.3**
baz=112
PAX S **S** **22 44 20.9 -0.4**
baz=112
RIDG **Independent Ri** **78.58 336** P **P** **22 34 25.6 -0.4**
RIDG IAmb IAmb 22 34 32.2
comp=Z,59nm,1.0s
RIDG IAMs_20 IAMs_20 23 14 52.2
comp=Z,1µm,20.0s
RIDG **Independent Ri** **78.58 336** P **P** **22 34 25.9 -0.1**
baz=113
RIDG S **S** **22 44 21.4 -0.2**
baz=113
PAB **San Pablo** **78.67 50** P **P** **22 34 27.1 +0.1**
PAB pmax pmax
comp=Z,196nm,2.0s
PAB **San Pablo** **78.67 50** P **P** **22 34 27.1 +0.1**
SCM **Sheep Creek Mo** **78.95 334** IAMs_20 IAMs_20 23 09 06.9
comp=Z,1µm,20.0s
SCM **Sheep Creek Mo** **78.95 334** P **P** **22 34 27.5 -0.6**
baz=110
SCM S **S** **22 44 24.4 -1.2**
baz=110
ESDC **Sonseca Array** **78.98 50** P **P** **22 34 28.8 0.0**
comp=Z,9.0nm,1.0s,baz=267,slow=4.4,SNR=31
ESDC LR LR 23 06 43.8
comp=Z,462nm,21.6s,baz=250,slow=34
ESDC **Sonseca Array** **78.98 50** P **P** **22 34 28.7 0.0**
ESDC IAmb IAmb 22 34 31.0
comp=Z,143nm,1.8s
ESBB **Sonseca Array** **78.98 50** P **P** **22 34 28.8 +0.1**
K24K **Donnelly Dome** **78.99 336** P **P** **22 34 28.4 +0.2**
baz=112
PWL **Port Wells** **79.08 332** P **P** **22 34 27.5 -1.3**
baz=109
M23K **Glacier View** **79.11 333** P **P** **22 34 28.7 -0.2**
baz=110
J25K **Salcha River,** **79.13 336** P **P** **22 34 29.0 0.0**
J25K IAmb IAmb 22 34 35.0
comp=Z,37nm,1.0s
J25K IAMs_20 IAMs_20 23 10 17.5
comp=Z,1µm,20.0s
J25K **Salcha River,** **79.13 336** P **P** **22 34 28.2 -0.8**
baz=112
J25K S **S** **22 44 28.0 +0.6**
baz=112
SCO **Scoresbysund** **79.27 17** P **P** **22 34 31.1 +1.5**
SCO pmax pmax
comp=Z,18nm,1.2s
SCO **Scoresbysund** **79.27 17** P **P** **22 34 31.1 +1.5**
SCO **Scoresbysund** **79.27 17** *i* P **P** **22 34 30.1 +0.5**
SCO IAmb IAmb 22 34 52.5
comp=Z,4.1nm,0.8s
KNK **Knik Glacier** **79.31 333** IAMs_20 IAMs_20 23 13 44.8
comp=Z,1µm,20.0s
KNK **Knik Glacier** **79.31 333** P **P** **22 34 28.8 -1.3**
baz=109
KNK S **S** **22 44 29.3 -0.1**
baz=109
SEW **Seward** **79.36 332** P **P** **22 34 30.0 -0.3**
baz=108
SEW S **S** **22 44 29.3 -0.6**
baz=108
WAT6 **Susitna Watana** **79.38 334** P **P** **22 34 29.6 -1.0**
baz=110
WAT6 S **S** **22 44 29.0 -1.4**
baz=110
SML **Sawmill** **79.39 333** IAMs_20 IAMs_20 23 11 50.6
comp=Z,1µm,19.0s
SML **Sawmill** **79.39 333** P **P** **22 34 29.6 -0.8**
baz=109
SML S **S** **22 44 29.7 -0.5**
baz=109
DHY **Denali Highway** **79.40 335** P **P** **22 34 30.6 0.0**
DHY IAMs_20 IAMs_20 23 10 50.7
comp=Z,827nm,18.0s
DHY **Denali Highway** **79.40 335** P **P** **22 34 29.5 -1.2**
baz=110
O22K **Cooper Landing** **79.61 332** IAMs_20 IAMs_20 23 09 53.5
comp=Z,1µm,21.0s
O22K **Cooper Landing** **79.61 332** P **P** **22 34 30.7 -0.9**
baz=108
GHO **Glory Hole Cre** **79.64 333** P **P** **22 34 32.1 +0.3**
GHO IAmb IAmb 22 34 37.5
comp=Z,78nm,1.1s
PMR **Palmer** **79.68 333** P **P** **22 34 33.2 +1.3**
PMR pmax pmax
comp=Z,65nm,1.5s
PMR **Palmer** **79.68 333** P **P** **22 34 33.2 +1.3**
PMR IAmb IAmb 22 34 50.0
comp=Z,65nm,1.5s
PMR **Palmer** **79.68 333** P **P** **22 34 32.1 +0.2**
baz=108
PMR S **S** **22 44 32.3 -0.9**
baz=108
IL31 **79.79 336** P **P** **22 34 32.7 +0.3**
ILAR **Eielson Array** **79.79 336** P **P** **22 34 32.6 +0.1**
comp=Z,16nm,0.9s,baz=120,slow=3.9,SNR=40
ILAR PP **PP** **22 37 35.5 +1.6**
comp=Z,2.4nm,0.9s,baz=105,slow=7.3,SNR=4.7
ILAR LR LR 23 11 59.0
comp=Z,1µm,18.8s,baz=149,slow=37
ILAR **Eielson Array** **79.79 336** P **P** **22 34 32.5 -0.1**
RC01 **Rabbit Creek A** **79.80 332** P **P** **22 34 32.6 0.0**
RC01 IAmb IAmb 22 34 38.4
comp=Z,58nm,1.1s
RC01 IAMs_20 IAMs_20 23 13 29.5
comp=Z,1µm,21.0s
RC01 **Rabbit Creek A** **79.80 332** P **P** **22 34 32.2 -0.4**
baz=108
BRSE **Bradley Lake S** **79.88 331** P **P** **22 34 32.5 -0.6**
baz=106
BMAR **Burnt Mountain** **79.93 339** P **P** **22 34 33.9 +0.6**
CCB **Clear Creek Bu** **80.12 336** IAMs_20 IAMs_20 23 11 35.6
comp=Z,1µm,20.0s
POKR **Poker Plat Res** **80.13 337** IAMs_20 IAMs_20 23 11 28.0
comp=Z,1µm,20.0s
POKR **Poker Plat Res** **80.13 337** P **P** **22 34 33.9 -0.5**
baz=110
POKR S **S** **22 44 38.0 0.0**
baz=110
RND **Reindeer** **80.14 335** IAMs_20 IAMs_20 23 11 03.3
comp=Z,1µm,19.0s
WRH **Wood River Hil** **80.17 336** IAMs_20 IAMs_20 23 12 29.2
comp=Z,1µm,19.0s
M22K **Willow** **80.18 333** P **P** **22 34 35.0 +0.3**
M22K IAMs_20 IAMs_20 23 13 17.4
comp=Z,1µm,19.0s
M22K **Willow** **80.18 333** P **P** **22 34 34.2 -0.4**
baz=107
COLA **College** **80.22 336** *e* *i* P **P** **22 34 33.4 -1.4**
COLA pmax pmax
comp=Z,34nm,1.2s
COLA MLR MLR
comp=Z,1µm,17.0s
COLA **College** **80.22 336** P **P** **22 34 34.8 0.0**
baz=110
COLA S **S** **22 44 37.4 -1.2**
baz=110
TCOL **CIGO, UAF Yank** **80.22 336** P **P** **22 34 34.7 -0.1**
baz=110
TCOL S **S** **22 44 37.1 -1.6**
baz=110
FIGM **Figuig** **80.24 58** P **P** **22 34 38.0 +2.1**
KDAK **Kodiak Island** **80.27 329** LR LR 23 11 47.3
comp=Z,489nm,18.0s,baz=123,slow=37
KDAK **Kodiak Island** **80.27 329** P **P** **22 34 35.3 +0.1**
baz=105
MCK **McKinley** **80.28 335** P **P** **22 34 35.6 +0.4**
MCK pmax pmax
comp=Z,37nm,1.1s
MCK MLR MLR
comp=Z,1µm,18.0s
MCK **McKinley** **80.28 335** P **P** **22 34 35.5 +0.4**
MCK IAMs_20 IAMs_20 23 12 13.1
comp=Z,1µm,18.0s
MCK **McKinley** **80.28 335** P **P** **22 34 35.0 -0.2**
baz=109
MCK S **S** **22 44 39.7 +0.2**
baz=109
MDM **Murphy Dome** **80.40 336** P **P** **22 34 35.9 0.0**
MDM IAmb IAmb 22 34 41.5
comp=Z,65nm,1.2s
CUT **Chulitna** **80.44 334** P **P** **22 34 36.0 0.0**
CUT IAMs_20 IAMs_20 23 12 21.2
comp=Z,961nm,18.0s
CUT **Chulitna** **80.44 334** P **P** **22 34 35.7 -0.3**
baz=107
OHAK **Old Harbor** **80.50 328** P **P** **22 34 35.9 -0.6**
baz=104
H24K **Noodor Dome** **80.56 337** P **P** **22 34 36.5 -0.2**
baz=110
H24K S **S** **22 44 43.8 +1.4**
baz=110
RAR **Rarotonga** **80.59 249** LR LR 23 01 26.3
comp=Z,2µm,20.5s,baz=96,slow=29
NEA2 **Nenana** **80.61 336** IAMs_20 IAMs_20 23 12 32.8
comp=Z,760nm,20.0s
NEA2 **Nenana** **80.61 336** P **P** **22 34 36.5 -0.5**
baz=109
NEA2 S **S** **22 44 41.8 -1.1**
baz=109
BWN **Browne** **80.64 335** P **P** **22 34 37.2 +0.1**
BWN IAmb IAmb 22 34 44.4
comp=Z,64nm,1.0s
BWN IAMs_20 IAMs_20 23 16 33.7
comp=Z,931nm,20.0s
TRF **Thorofare Moun** **80.77 335** IAMs_20 IAMs_20 23 16 08.8
comp=Z,942nm,20.0s
TRF **Thorofare Moun** **80.77 335** P **P** **22 34 37.4 -0.7**
baz=108
TRF S **S** **22 44 43.3 -1.6**
baz=108
SII **Sitkinak Islan** **80.83 327** P **P** **22 34 38.1 -0.2**
baz=103
QUIF **Quistinic** **80.84 42** *e* P **P** **22 34 39.9 +1.4**
QUIF pmax pmax
comp=Z,129nm,1.8s
I23K **Minto, Yukon-K** **80.91 336** IAMs_20 IAMs_20 23 12 01.6
comp=Z,1µm,19.0s
I23K **Minto, Yukon-K** **80.91 336** P **P** **22 34 38.1 -0.4**
baz=109
I23K S **S** **22 44 45.7 -0.3**
baz=109
SPCR **Spur Chakacha** **80.98 332** P **P** **22 34 38.4 -0.7**
baz=106
RSO **Redoubt South** **81.04 331** P **P** **22 34 40.0 +0.4**
KTH **Kantishna Hill** **81.07 335** IAMs_20 IAMs_20 23 16 18.8
comp=Z,847nm,20.0s
P19K **Oil Pt** **81.07 331** P **P** **22 34 38.9 -0.7**
baz=104
Q19K **Cape Douglas,** **81.10 330** P **P** **22 34 38.9 -0.8**
baz=104
H23K **Yukon River** **81.20 337** IAMs_20 IAMs_20 23 13 12.2
comp=Z,1µm,19.0s
H23K **Yukon River** **81.20 337** P **P** **22 34 39.6 -0.6**
baz=109
BPAW **Bear Paw Mtn.** **81.25 335** P **P** **22 34 39.5 -0.9**
baz=107
BPAW S **S** **22 44 54.7 +5.0**
baz=107
PPLA **Purkeypile** **81.43 334** P **P** **22 34 40.8 -0.8**
baz=106
PPLA S **S** **22 44 50.4 -1.4**
baz=106
CHIR **Chirikof Islan** **81.45 326** P **P** **22 34 41.5 -0.1**
baz=102
SJPF **Ste Jean** **81.49 47** *e* P **P** **22 34 42.8 +0.6**
SJPF pmax pmax
comp=Z,227nm,2.2s
CAST **Castle Rocks** **81.53 334** IAMs_20 IAMs_20 23 12 26.0
comp=Z,1µm,19.0s
CAST **Castle Rocks** **81.53 334** P **P** **22 34 41.2 -0.7**
baz=106
DBG **Daneborg** **81.62 14** *i* P **P** **22 34 44.6 +2.4**
DBG IAmb IAmb 22 34 49.8
comp=Z,2.5nm,0.8s
O19K **Port Alsworth** **81.73 331** P **P** **22 34 41.9 -1.1**
baz=103
CHUM **Lake Minchumin** **81.75 335** P **P** **22 34 42.2 -0.8**
baz=106
TOA0 **Torodi Ar. Sit** **81.87 77** P **P** **22 34 43.7 -1.0**
TORD **Torodi Ar. Bea** **81.87 77** P **P** **22 34 43.8 -0.8**
comp=Z,22nm,1.1s,baz=298,slow=0.7,SNR=69
TORD LR LR 23 10 16.1
comp=Z,2µm,19.4s,baz=217,slow=35
TORD **Torodi Ar. Bea** **81.87 77** P **P** **22 34 43.6 -1.1**
COLD **Coldfoot** **81.90 338** P **P** **22 34 44.6 +0.9**
COLD **Coldfoot** **81.90 338** P **P** **22 34 44.0 +0.3**
baz=108
COLD S **S** **22 44 57.1 +0.9**
baz=108
ETSF **Etsaut** **81.95 47** *e* P **P** **22 34 42.1 -2.6**
ETSF pmax pmax
comp=Z,121nm,2.0s
N19K **Bonanza Creek** **81.96 332** P **P** **22 34 43.2 -1.1**
baz=103
I21K **Tanana** **81.98 336** IAMs_20 IAMs_20 23 12 36.8
comp=Z,814nm,18.0s
I21K **Tanana** **81.98 336** P **P** **22 34 43.5 -0.7**
baz=106
BELA **Belgrano 2** **82.00 171** P **P** **22 34 43.8 -0.3**
BELA IAmb IAmb 22 34 51.1
comp=Z,45nm,1.2s
L20K **Farewell, AK** **82.08 333** P **P** **22 34 43.5 -1.3**
baz=104
O18K **Koktuh Hills** **82.09 330** P **P** **22 34 44.3 -0.6**
baz=103
ESK **Eskdalemuir** **82.10 34** P **P** **22 34 44.2 -0.8**
ESK pmax pmax
comp=Z,136nm,1.8s
ESK **Eskdalemuir** **82.10 34** P **P** **22 34 44.2 -0.8**
TOLK **Toolik Lake Re** **82.12 340** IAMs_20 IAMs_20 23 13 32.5
comp=Z,1µm,22.0s
TOLK **Toolik Lake Re** **82.12 340** P **P** **22 34 44.2 -0.8**
baz=109
M19K **Big River Lodg** **82.17 333** P **P** **22 34 44.8 -0.5**
baz=104
K20K **Telida** **82.38 334** P **P** **22 34 45.7 -0.6**
baz=104
K20K S **S** **22 44 57.3 -4.0**
baz=104
GRR **Gorron** **82.44 41** *e* P **P** **22 34 46.9 0.0**
GRR pmax pmax
comp=Z,136nm,1.8s
H21K **Melozitna Rive** **82.44 336** IAMs_20 IAMs_20 23 12 58.0
comp=Z,1µm,20.0s
H21K **Melozitna Rive** **82.44 336** P **P** **22 34 45.7 -0.9**
baz=106
L19K **White Mountain** **82.45 333** IAMs_20 IAMs_20 23 12 14.5
comp=Z,918nm,19.0s
L19K **White Mountain** **82.45 333** P **P** **22 34 46.1 -0.7**
baz=103
N18K **Kilae Creek** **82.60 331** P **P** **22 34 46.7 -0.9**
baz=102
J20K **Nowinta River** **82.61 335** IAMs_20 IAMs_20 23 15 17.7
comp=Z,900nm,19.0s
J20K **Nowinta River** **82.61 335** P **P** **22 34 46.6 -0.9**
baz=104
EPF **Esparros** **82.62 47** *e* P **P** **22 34 48.7 +0.6**
EPF pmax pmax
comp=Z,151nm,1.8s
MFF **Saint Martin d** **82.69 43** *e* P **P** **22 34 48.4 +0.1**
MFF pmax pmax
comp=Z,127nm,1.8s
FLN **La Foliniere** **82.73 41** *e* P **P** **22 34 48.6 +0.1**
FLN pmax pmax
comp=Z,181nm,1.9s
IMAR **Indian Mountai** **82.90 337** P **P** **22 34 48.4 -0.6**
LDF **La Druitiere** **82.95 41** *e* P **P** **22 34 49.5 -0.1**
LDF pmax pmax
comp=Z,121nm,1.9s
CHGN **Chignik** **83.08 327** P **P** **22 34 48.4 -1.6**
baz=99
LFF **La Frestale** **83.11 45** *e* P **P** **22 34 50.7 +0.2**
LFF pmax pmax
comp=Z,22nm,1.0s
TTA **Tatalina** **83.14 333** P **P** **22 34 49.5 -0.9**
baz=102
DAG **Danmarks Havn** **83.15 12** P **P** **22 34 49.3 -0.8**
DAG **Danmarks Havn** **83.15 12** *i* P **P** **22 34 49.0 -1.1**
DAG IAmb IAmb 22 35 04.9
comp=Z,5.2nm,0.8s
RJF **Les Rejaudoux** **83.70 45** *e* P **P** **22 34 54.5 +0.9**
RJF pmax pmax
comp=Z,165nm,1.8s
GCSA **Galena City Sc** **83.89 335** P **P** **22 34 53.3 -0.8**
baz=102
GCSA S **S** **22 45 18.1 +1.6**
baz=102
MTLF **Montolieu** **84.02 47** *e* P **P** **22 34 55.3 0.0**
MTLF pmax pmax
comp=Z,119nm,1.6s
SDPT **Sand Point** **84.09 326** P **P** **22 34 53.8 -1.5**
baz=98
TCF **Toulx Ste Croi** **84.27 44** *e* P **P** **22 34 56.2 -0.3**
TCF pmax pmax
comp=Z,72nm,1.8s
VNA3 **Neumayer Olymp** **84.28 162** P **P** **22 34 57.3 +1.2**
CLF **Chambon-Foret** **84.47 42** P **P** **22 34 56.9 -0.5**
BGF **Bois d'Agland** **84.74 43** *e* P **P** **22 34 58.2 -0.6**
BGF pmax pmax
comp=Z,179nm,1.8s
VNA2 **Neumayer--Watz** **84.89 162** P **P** **22 35 00.1 +1.0**
baz=302,slow=3.0
AVF **Avril sur Loir** **85.10 43** *e* P **P** **22 35 00.2 -0.4**
AVF pmax pmax
comp=Z,80nm,1.8s
SSF **Saint Saulge** **85.23 43** *e* P **P** **22 35 00.9 -0.4**
SSF pmax pmax
comp=Z,85nm,1.7s
LOR **Lormes** **85.48 43** *e* P **P** **22 35 02.0 -0.6**
LOR pmax pmax
comp=Z,151nm,2.0s
NOR **Nord** **85.69 8** *i* P **P** **22 35 07.5 +4.6**
NOR IAmb IAmb 22 35 46.5
comp=Z,2.2nm,0.8s
SSB **Saint Sauveur** **85.83 45** P **P** **22 35 03.8 -0.6**
SSB pmax pmax
comp=Z,99nm,1.8s
SSB **Saint Sauveur** **85.83 45** P **P** **22 35 03.8 -0.6**
SSB IAmb IAmb 22 35 06.5
comp=Z,99nm,1.8s
VIVF **Saint-Julien-l** **85.89 45** *e* P **P** **22 35 07.8 +3.1**
VIVF pmax pmax
comp=Z,113nm,2.0s
BAIF **Baives** **85.91 40** *e* P **P** **22 35 04.5 -0.1**
BAIF pmax pmax
comp=Z,133nm,2.1s
DOU **Dourbes** **86.16 40** *d* P **P** **22 35 05.4 -0.4**
comp=Z,14nm,1.6s
BMRD **Maredsous** **86.29 40** *d* P **P** **22 35 06.6 +0.1**
comp=Z,11nm,1.9s
GIVF **Givet** **86.31 40** *e* P **P** **22 35 06.7 +0.1**
GIVF pmax pmax
comp=Z,247nm,1.8s
BGES **Gesves** **86.50 40** *d* P **P** **22 35 08.1 +0.6**
comp=Z,12nm,1.9s
SNAA **Sanae** **86.50 162** P **P** **22 35 08.0 +0.8**
SNAA **Sanae** **86.50 162** LR LR 23 13 08.6
comp=Z,1µm,21.4s,baz=296,slow=35
SNAA **Sanae** **86.50 162** µ *i* P **P** **22 35 07.4 +0.2**
SNAA pmax pmax
comp=Z,32nm,1.4s
SNAA MLR MLR

comp=Z,1µm,20.0s
SNAA Sanae 86.50 162 P **P** **22 35 07.0 -0.2**
SNAA IAmb IAmb 22 35 38.1
comp=Z,41nm,1.4s
RCHB Rochefort 86.57 40 *dP* **P** **22 35 08.3 +0.5**
BCLA Clavier 86.64 40 *dP* **P** **22 35 08.7 +0.6**
BSTI Sart Tilman 86.81 40 *dP* **P** **22 35 10.0 +1.0**
BHOU Houvegnez 87.08 40 *dP* **P** **22 35 11.2 +0.8**
comp=Z,14nm,0.0s
MEM Membach 87.09 40 *dP* **P** **22 35 11.0 +0.6**
comp=Z,11nm,1.3s
WLF Walferdange 87.14 40 P **P** **22 35 10.5 -0.2**
WLF pmax pmax
comp=Z,235nm,1.9s
WLF Walferdange 87.14 40 P **P** **22 35 10.5 -0.2**
WLF Walferdange 87.14 40 *eP* **P** **22 35 10.1 -0.6**
comp=Z,278nm,2.0s,baz=271,slow=4.8
WLF Walferdange 87.14 40 *dP* **P** **22 35 11.2 +0.5**
BTNL Ternell 87.17 40 *dP* **P** **22 35 12.2 +1.3**
HAU Haudompre 87.20 42 *eP* **P** **22 35 10.7 -0.3**
HAU pmax pmax
comp=Z,143nm,1.9s
BNI Bardonecchia 87.33 45 P **P** **22 35 11.4 -0.4**
BNI pmax pmax
comp=Z,48nm,1.6s
BNI MLR MLR
comp=Z,800nm,20.0s
BNI Bardonecchia 87.33 45 P **P** **22 35 11.4 -0.4**
BNI IAmb IAmb 22 35 35.7
comp=Z,48nm,1.6s
BNI IAMs_20 IAMs_20 23 17 32.7
comp=Z,814nm,20.0s
LPL La Plagne 87.38 45 *eP* **P** **22 35 16.5 +4.3**
LPL pmax pmax
comp=Z,38nm,1.4s
UNV Unalaska Valle 87.45 324 P **P** **22 35 10.0 -2.0**
baz=92
UNV S **S** **22 45 52.0 +0.1**
baz=92
ANM Nome 87.49 334 IAMs_20 IAMs_20 23 16 26.5
comp=Z,863nm,20.0s
ANM Nome 87.49 334 P **P** **22 35 11.3 -0.7**
baz=94
ANM S **S** **22 45 53.4 +1.5**
baz=94
ECH Echery 87.75 42 P **P** **22 35 13.1 -0.6**
ECH pmax pmax
comp=Z,124nm,1.8s
ECH Echery 87.75 42 P **P** **22 35 13.1 -0.6**
AHRW Bad Neuenahr-A 87.77 40 *eP* **P** **22 35 13.7 0.0**
comp=Z,105nm,1.6s,baz=271,slow=4.8
SENIN Lac Senin/Sane 87.80 44 P **P** **22 35 13.4 -0.8**
CDF Champ du Feu 87.84 42 *eP* **P** **22 35 14.0 -0.2**
CDF pmax pmax
comp=Z,114nm,2.0s
BUG Bochum--Univer 87.92 39 *eP* **P** **22 35 14.2 -0.2**
comp=Z,90nm,1.8s,baz=271,slow=4.8
TROLL Troll, Antarti 88.22 162 P **P** **22 35 16.7 +1.2**
IBBN Ibbenburen 88.25 38 *eP* **P** **22 35 16.1 +0.2**
baz=271,slow=4.8
HLG Helgoland 88.37 36 *eP* **P** **22 35 16.4 +0.1**
comp=Z,602nm,1.2s,baz=271,slow=4.8
BFO Black Forest 88.54 42 *eP* **P** **22 35 16.9 -0.5**
baz=271,slow=4.8
TNA Tin City 88.62 335 S **S** **22 46 04.6 +2.1**
baz=92
KASTN Kahler Asten 88.64 39 *eP* **P** **22 35 17.8 -0.1**
comp=Z,68nm,2.2s,baz=271,slow=4.8
TNS Taunus Mts 88.64 40 *eP* **P** **22 35 17.9 0.0**
comp=Z,131nm,2.1s,baz=271,slow=4.8
NIKH Nikolski High 88.83 323 P **P** **22 35 17.6 -1.0**
baz=91
TUE Stuetta 89.22 44 P **P** **22 35 20.4 -0.5**
TUE IAmb IAmb 22 35 33.4
comp=Z,48nm,1.4s
KEST Kesra 89.22 54 LR LR 23 12 17.9
comp=Z,626nm,21.8s,baz=222,slow=34
RETH Rethem/Aller, 89.23 37 *eP* **P** **22 35 21.2 +0.8**
baz=271,slow=4.8
DAVA Damuels 89.58 43 *eP* **P** **22 35 22.6 +0.1**
comp=Z,23nm,1.5s,SNR=7.6
DAVOX Davos/Dischmat 89.58 43 LR LR 23 11 44.7
comp=Z,485nm,21.7s,baz=269,slow=33
GTTG Gottingen 89.61 39 *eP* **P** **22 35 22.7 +0.4**
baz=271,slow=4.8
UBBA Unterbreizbach 89.64 39 *eP* **P** **22 35 22.7 +0.4**
baz=271,slow=4.8
SPIA Saint Paul Isl 89.64 327 P **P** **22 35 21.3 -0.9**
baz=90
NRDL Niedersach Rie 89.69 38 *eP* **P** **22 35 22.8 +0.3**
baz=271,slow=4.8
UBR Ueberruh 89.73 43 *eP* **P** **22 35 23.4 +0.3**
comp=Z,136nm,1.9s,baz=271,slow=4.8
CLZ Clausthal 89.86 38 *eP* **P** **22 35 24.2 +0.7**
comp=Z,79nm,2.2s,baz=271,slow=4.8
KBS Kingsbay 89.86 11 IAMs_20 IAMs_20 23 15 00.4
comp=Z,991nm,21.0s
ASSE Asse, Remlinge 90.04 38 *eP* **P** **22 35 25.0 +0.8**
baz=271,slow=4.8
NOA NORSAR Array B 90.16 29 P **P** **22 35 24.2 -0.6**
comp=Z,1.9nm,1.2s,baz=269,slow=4.8,SNR=2.4
NOA LR LR 23 15 55.1
comp=Z,171nm,18.2s,baz=270,slow=36
FETA Feichten 90.16 43 *eP* **P** **22 35 25.5 +0.2**
comp=Z,14nm,1.4s,SNR=8.1
RETA Reutte 90.18 43 *eP* **P** **22 35 25.4 +0.2**
comp=Z,19nm,1.6s
GAMB Gambell 90.24 334 IAMs_20 IAMs_20 23 19 28.5
comp=Z,928nm,20.0s
GAMB Gambell 90.24 334 P **P** **22 35 24.4 -0.5**
baz=88
FLTG Flechtingen 90.39 38 *eP* **P** **22 35 26.6 +0.7**
baz=271,slow=4.8
MOTA Moosalm 90.41 43 *eP* **P** **22 35 26.2 -0.2**
comp=Z,19nm,1.4s,SNR=6.3
GRF Grafenberg Arr 90.44 40 *eP* **P** **22 35 27.0 +0.8**
comp=Z,58nm,2.1s,baz=271,slow=4.8
GRF *eL* L 23 13 41.9
comp=Z,561nm,21.6s
SQTA Sankt Quirin 90.49 43 *eP* **P** **22 35 26.6 -0.1**
comp=Z,20nm,1.7s,SNR=8.9
FUR Furstenfeldbru 90.51 42 *eP* **P** **22 35 27.4 +0.8**
comp=Z,150nm,2.2s,baz=271,slow=4.8
QSPA South Pole Qui 90.59 180 P **P** **22 35 27.7 +1.0**
MOX Moxa 90.67 40 *eP* **P** **22 35 27.9 +0.7**
baz=271,slow=4.8
MOX *eL* L 23 18 54.4
comp=Z,477nm,20.2s
WATA Walderalm 90.73 43 *eP* **P** **22 35 27.8 -0.1**
comp=Z,15nm,1.6s
NEUB Neuenburg 90.75 39 *eP* **P** **22 35 28.2 +0.6**
baz=271,slow=4.8
WTTA Wattenberg 90.78 43 *eP* **P** **22 35 27.9 -0.2**
comp=Z,22nm,1.8s,SNR=6.6
CTI Castel Tesino 90.82 44 P **P** **22 35 28.4 +0.1**
CTI pmax pmax
comp=Z,99nm,1.9s
CTI Castel Tesino 90.82 44 P **P** **22 35 28.4 +0.1**
MANZ Manzenberg 91.00 40 *eP* **P** **22 35 29.4 +0.5**
comp=Z,16nm,2.2s,baz=271,slow=4.8
PLN Plauen 91.02 40 *eP* **P** **22 35 29.7 +0.8**
baz=271,slow=4.8
ROTZ Rotzenmuhle 91.08 40 *eP* **P** **22 35 30.1 +0.9**
comp=Z,16nm,2.0s,baz=271,slow=4.8
GUNZ Gunzen 91.13 40 *eP* **P** **22 35 30.6 +1.1**
comp=Z,89nm,2.3s,baz=271,slow=4.8
NVL N'lazarevskaya 91.14 161 *eP* **P** **22 35 30.2 +1.2**
NVL *eS* **SKSac** **22 45 58.5 -1.3**
NVL pmax pmax
comp=Z,13nm,0.9s
WERN Wernitzgruen 91.16 40 *eP* **P** **22 35 30.8 +1.1**
baz=271,slow=4.8
NKC Novy Kostel 91.21 40 AMS AMS 23 13 30.0
comp=Z,700nm,17.4s
TANN Tannenbergstha 91.21 40 *eP* **P** **22 35 30.9 +1.0**
comp=Z,46nm,1.9s,baz=271,slow=4.8
ABTA Abfaltersbach 91.39 43 *eP* **P** **22 35 30.6 -0.2**
comp=Z,22nm,1.7s
HFS Hagfors 91.42 30 LR LR 23 12 24.7
comp=Z,337nm,21.2s,baz=266,slow=33
CLL Collm 91.52 39 *i* P **P** **22 35 31.4 +0.2**
CLL *i* *PP **sP** **22 35 42.2 +2.1**
CLL *e* 22 46 08.0
CLL *eS* **ScS** **22 46 32.0 -0.8**
CLL pmax pmax
comp=Z,49nm,2.2s
CLL MLR MLR
comp=Z,600nm,20.6s
CLL Collm 91.52 39 IAMs_20 IAMs_20 23 16 54.2
comp=Z,594nm,19.0s
CLL Collm 91.52 39 *i* P **P** **22 35 31.4 +0.2**
comp=Z,49nm,2.2s
CLL *i* x x 22 35 42.2
CLL *e*PP **PP** **22 39 10.0 +0.8**
CLL *ex* x 22 45 19.0
CLL *e*SKSac **SKSac** **22 46 08.0 +5.2**
CLL *eS* **ScS** **22 46 32.0 -0.8**
CLL *ePS* **PnS** **22 47 48.0 +6.0**
CLL *eSS* **SS** **22 52 36.0 -0.2**
CLL *e*SSS SSS 22 56 24.0
CLL LmV 23 18 00.0
comp=Z,600nm,20.6s
CLL Collm 91.52 39 *eP* **P** **22 35 32.0 +0.9**
baz=271,slow=4.8
WET Wettzell 91.54 41 *eP* **P** **22 35 31.9 +0.5**
comp=Z,82nm,1.9s,baz=271,slow=4.8
RGN Rugen 91.55 36 *eP* **P** **22 35 31.9 +0.7**
baz=271,slow=4.8
RJOB Jochberg 91.55 42 *eP* **P** **22 35 31.5 -0.1**
comp=Z,59nm,2.0s,baz=271,slow=4.8
FBE Freiberg 91.76 39 *eP* **P** **22 35 32.4 +0.1**
baz=271,slow=4.8
AFI Afiamalu 91.78 256 LR LR 23 06 50.8
comp=Z,1µm,21.6s,baz=94,slow=29
KBA Koelnbreinsper 91.95 43 *eP* **P** **22 35 33.3 -0.3**
comp=Z,19nm,1.9s,SNR=5.4
KHC Kasperske Hory 92.00 41 ⇑*iP* **P** **22 35 33.2 -0.3**
KHC pmax pmax
comp=Z,43nm,1.7s
KHC Kasperske Hory 92.00 41 P **P** **22 35 33.5 0.0**
KHC IAmb IAmb 22 35 35.8
comp=Z,33nm,1.7s
KHC Kasperske Hory 92.00 41 *eP* **P** **22 35 33.2 -0.3**
KHC AMS AMS 23 12 50.0
comp=Z,900nm,25.4s
GEC2 GERESS Array S 92.09 41 P **P** **22 35 34.3 +0.2**
GEC2 GERESS Array S 92.09 41 *eP* **P** **22 35 34.1 +0.1**
baz=271,slow=4.8
GERES GERESS Array B 92.09 41 P **P** **22 35 34.2 +0.1**
comp=Z,0.7nm,0.7s,baz=231,slow=8.4,SNR=7.6
GERES LR LR 23 13 16.2
comp=Z,496nm,21.5s,baz=274,slow=33
GERES GERESS Array B 92.09 41 P **P** **22 35 33.4 -0.7**
GERES GERESS Array B 92.09 41 P **P** **22 35 33.4 -0.7**
BIOA Bad Ischl, Aus 92.12 42 *eP* **P** **22 35 34.5 +0.4**
comp=Z,27nm,1.6s,SNR=9.0
BRG Berggiesshubel 92.13 39 *eP* **P** **22 35 35.2 +1.1**
BRG Amp 22 35 38.2
comp=Z,22nm,1.9s
BRG Berggiesshubel 92.13 39 PP PP 22 39 06.0 -8.0
BRG Berggiesshubel 92.13 39 S S 22 46 47.0 +11
BRG Berggiesshubel 92.13 39 *eP* **P** **22 35 35.2 +1.1**
BRG 22 46 09.0
BRG PS PnS 22 47 49.0 -0.2
BRG pmax pmax
comp=Z,22nm,1.9s
BRG Berggiesshubel 92.13 39 *eP* **P** **22 35 34.5 +0.4**
baz=271,slow=4.8
MYKA Terra Mystica 92.17 43 *eP* **P** **22 35 34.6 +0.1**
comp=Z,4.2nm,0.6s
AQU L'Aquila 92.22 48 IAMs_20 IAMs_20 23 15 57.4
comp=Z,572nm,19.0s
CKRC Cesky Krumlov 92.50 41 *eP* **P** **22 35 36.2 +0.4**
MOA Molln 92.53 42 *eP* **P** **22 35 35.7 -0.3**
comp=Z,20nm,1.6s,SNR=6.1
PVCC Panska Ves 92.55 40 AMS AMS 23 17 20.0
comp=Z,800nm,23.1s
PRU Pruhonice 92.57 40 AMS AMS 23 15 40.0
comp=Z,700nm,23.0s
SOKA Soboth 93.13 43 *eP* **P** **22 35 38.7 -0.2**
comp=Z,3.8nm,0.9s
TREC Trest 93.24 41 *eP* **P** **22 35 40.8 +1.6**
TREC MLR MLR
comp=Z,600nm,23.1s
TREC Trest 93.24 41 *eP* **P** **22 35 40.8 +1.6**
TREC AMS AMS 23 13 40.0
comp=Z,600nm,23.1s
VAE Valguarnera 93.25 53 LR LR 23 17 45.9
comp=Z,516nm,18.6s,baz=332,slow=36
ARSA Arg 93.42 43 *eP* **P** **22 35 39.9 -0.2**
comp=Z,15nm,1.5s
UPC Upice 93.47 40 AMS AMS 23 16 50.0
comp=Z,700nm,18.9s
CHVC Chvalec 93.49 39 *eP* **P** **22 35 39.3 -1.1**
CHVC AMS AMS 23 16 50.0
comp=Z,800nm,24.9s
CONA Conrad Observa 93.59 42 *eP* **P** **22 35 40.8 -0.2**
comp=Z,16nm,1.6s,SNR=9.0
OSTC Ostas 93.60 39 *eP* **P** **22 35 40.9 0.0**
OSTC AMS AMS 23 15 10.0
comp=Z,800nm,23.3s
DPC Dobruska-Polom 93.68 40 *eP* **P** **22 35 42.3 +1.0**
DPC MLR MLR
comp=Z,700nm,19.0s
DPC Dobruska-Polom 93.68 40 *eP* **P** **22 35 42.3 +1.0**
DPC AMS AMS 23 15 20.0
comp=Z,700nm,19.0s
KRUC Moravsky 93.85 41 *eP* **P** **22 35 42.6 +0.6**
RONA Rosalia, Austr 93.91 42 *eP* **P** **22 35 42.4 +0.1**
comp=Z,12nm,1.3s
VRAC Vranov 93.96 41 LR LR 23 15 07.4
comp=Z,399nm,20.7s,baz=264,slow=34
VRAC Vranov 93.96 41 *eP* **P** **22 35 43.0 +0.5**
KRLC Kraliky 94.00 40 *eP* **P** **22 35 44.5 +1.7**
KRLC MLR MLR
comp=Z,800nm,24.7s
KRLC Kraliky 94.00 40 *eP* **P** **22 35 44.5 +1.7**
KRLC AMS AMS 23 16 50.0
comp=Z,800nm,24.7s
ZST Bratislava 94.40 42 *eP* **P** **22 35 46.2 +1.6**
ZST Bratislava 94.40 42 *eP* **P** **22 35 46.2 +1.6**
MODS Modra-Piesok 94.50 42 *eP* **P** **22 35 46.1 +1.0**
MODS Modra-Piesok 94.50 42 *eP* **P** **22 35 46.1 +1.0**
MORC Moravsky Berou 94.52 40 P **P** **22 35 45.1 -0.1**
MORC pmax pmax
comp=Z,58nm,1.9s
MORC Moravsky Berou 94.52 40 P **P** **22 35 45.0 -0.1**
MORC IAmb IAmb 22 35 47.7
comp=Z,58nm,1.9s
MORC Moravsky Berou 94.52 40 *eP* **P** **22 35 46.0 +0.8**
JAVC Velka Javorina 94.71 41 *eP* **P** **22 35 47.0 +0.9**
MPLH Magyarpolny 94.80 43 P **P** **22 35 46.8 +0.3**
OKC Ostrava-Krasne 94.91 40 *eP* **P** **22 35 47.1 +0.2**
OKC MLR MLR
comp=Z,700nm,20.7s
OKC Ostrava-Krasne 94.91 40 *eP* **P** **22 35 47.1 +0.2**
OKC AMS AMS 23 18 30.0
comp=Z,700nm,20.7s
ARCES ARCESS Array B 94.92 20 LR LR 23 15 56.9
comp=Z,180nm,20.2s,baz=284,slow=34
TIP Timpagrande 94.97 51 IAMs_20 IAMs_20 23 16 31.4
comp=Z,670nm,22.0s
LANS Liptovska Anna 95.85 41 *eP* **P** **22 35 54.2 +3.0**
LANS Liptovska Anna 95.85 41 *e*PDIFF **P** **22 35 54.2 +3.0**
OJC Ojcow 95.91 40 P **P** **22 35 51.3 -0.1**
OJC pmax pmax
comp=Z,27nm,1.7s
OJC Ojcow 95.91 40 P **P** **22 35 51.3 -0.1**
OJC IAmb IAmb 22 35 53.7
comp=Z,27nm,1.7s
PSZ Piszkesteto 96.29 42 P **P** **22 35 53.4 +0.1**
PSZ pmax pmax
comp=Z,62nm,2.0s
PSZ Piszkesteto 96.29 42 P **P** **22 35 53.4 +0.1**
PSZ Piszkesteto 96.29 42 P **P** **22 35 53.7 +0.4**
VNDA Vanda 96.40 191 P **P** **22 35 54.3 +1.2**
comp=Z,1.4nm,0.8s,baz=109,slow=9.5,SNR=3.2
RAO Raoul Island 97.11 241 LR LR 23 12 51.0
comp=Z,994nm,18.0s,baz=123,slow=31
TIR Tirane 97.11 48 IAMs_20 IAMs_20 23 23 31.9
comp=Z,547nm,20.0s
FINES FINESS Array B 97.21 28 LR LR 23 16 23.9
comp=Z,471nm,21.5s,baz=286,slow=33
TSUM Tsumeb 97.42 109 LR LR 23 16 45.4
comp=Z,3µm,20.5s,baz=261,slow=34
TSUM Tsumeb 97.42 109 P **P** **22 35 58.3 -0.8**
TSUM IAmb IAmb 22 36 04.6
comp=Z,23nm,1.6s
UZH Uzhgorod 97.77 41 *deP* Pdif 22 36 00.0 +0.1
UZH *i* 22 36 08.5
BILL Bilibino 98.18 340‖ *eP* Pdif 22 36 02.0 +0.7
BILL *e* 22 40 02.3
BILL *eSS* SS 22 54 16.4 +6.5
BILL pmax pmax
comp=Z,9.0nm,1.1s
BILL Bilibino 98.18 340 P **P** **22 36 00.4 -0.9**
NACGM Naroch 99.20 34 *eP* **Pdif** **22 36 08.1 +2.0**
SUR Sutherland 99.49 123 LR LR 23 17 48.0
comp=Z,3µm,21.1s,baz=264,slow=33
MNK Minsk 99.92 34 *i* P **Pdif** **22 36 15.7 +6.4**
MNK *i* 22 40 22.0
MNK *i* PPP PPP 22 42 28.4
MNK *i* S **SKSac** **22 46 53.2 +6.1**
MNK *i* SS **SS** **22 54 43.0 +8.1**
MNK pmax pmax
comp=N,18nm,1.2s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK Minsk 99.92 34 *i* P **Pdif** **22 36 15.7 +6.4**
comp=E,2.0nm,0.8s
MNK *i* P **Pdif** **22 36 15.7 +6.4**
comp=N,18nm,1.2s
MNK *i* P **Pdif** **22 36 15.7 +6.4**
comp=Z,8.0nm,0.8s,baz=285
MNK *i* PP PP 22 40 22.0 +7.9
MNK *i* PPP PPP 22 42 28.4
MNK *i* S **SKSac** **22 46 53.2 +6.1**
MNK *i* SS **SS** **22 54 43.1 +8.1**
MNK *i* SSS SSS 22 58 35.9
MNK *i* LQ LQ 23 15 26.4
MNK *i* LR LR 23 20 20.4
MNK *i* LRM MLR 23 25 46.0
comp=N,55nm,8.9s
MNK *i* LRM MLR 23 25 48.6
comp=E,79nm,24.2s
MNK *i* LRM MLR 23 26 07.7
comp=Z,586nm,22.9s
OBN Obninsk 104.48 32 IAMs_20 IAMs_20 23 24 40.5
comp=Z,701nm,20.0s
TIXI Tiksi 105.56 351 IAMs_20 IAMs_20 23 27 44.6
comp=Z,842nm,20.0s
BRTR Keskin Array B 107.71 48 PKKPbc PKKPbc 22 52 10.4 +3.1
comp=Z,0.8nm,0.8s,baz=145,slow=4.5,SNR=5.3
MA2 Magadan 108.26 335 IAMs_20 IAMs_20 23 35 51.6
comp=Z,773nm,21.0s
SOC Sochi 110.77 42 *i* PKIKP **PKiKP** **22 40 56.8 -1.0**
SOC *e* 22 41 34.3
SOC *e* 22 47 28.1
SOC *ePS* **PS** **22 50 56.5 -9.3**
SOC *eSS* SS 22 57 02.9 -0.9
SOC *e*SSS SSS 23 01 10.3
SOC MLR MLR
comp=Z,209nm,19.0s
H11N3 WAKE ISLAND Hyl 111.41 291 T T 00 41 39.8
baz=77,slow=74,SNR=28
H11N2 WAKE ISLAND Hyl 111.42 291 T T 00 41 46.2
baz=77,slow=74,SNR=33
H11N1 WAKE ISLAND Hyl 111.43 291 T T 00 41 41.1
baz=77,slow=74,SNR=31
GHAJ Ghor Haditha 111.45 56 IAMs_20 IAMs_20 23 38 42.0
comp=Z,661nm,18.0s
H11S2 WAKE ISLAND Hyl 111.78 290 T T 00 42 11.1
baz=85,slow=75,SNR=33
H11S1 WAKE ISLAND Hyl 111.79 290 T T 00 42 08.2
baz=85,slow=75,SNR=35
H11S3 WAKE ISLAND Hyl 111.80 290 T T 00 42 11.4
baz=85,slow=75,SNR=16
DZM Mont Dzumac 111.90 246 *ePS* PS 22 51 14.1 -3.3
comp=Z,770nm,27.8s
DZM *eSS* SS 22 57 16.7 -3.9
comp=Z,478nm,29.0s
DZM Mont Dzumac 111.90 246 *eLR* LR 23 14 22.6
comp=Z,1µm,22.6s
KIV Kislovodsk 112.61 41 *i* PKIKP **PKiKP** **22 41 02.4 +1.0**
KIV *e* 22 41 48.5
KIV *ePS* **PS** **22 51 23.5 +0.6**
KIV *eSS* SS 22 57 30.8 +2.5
KIV *e*SSS SSS 23 01 36.0
KIV pmax pmax
comp=Z,2.0nm,1.1s
KIV MLR MLR
comp=Z,269nm,21.0s
KBZ Khabaz 112.84 41 *i* PKIKP **PKiKP** **22 41 02.6 +0.9**
YAK Yakutsk 113.64 345 IAMs_20 IAMs_20 23 32 45.1
comp=Z,597nm,22.0s
ARU Arti 114.15 24 *i* PKIKP PKPdf 22 41 19.5 +16
ARU 22 41 59.5
ARU Arti 114.15 24 IAMs_20 IAMs_20 23 32 31.7
comp=Z,566nm,20.0s
MAK Makhachkala 116.19 40 *i* P **Pdif** **22 37 17.7 -4.3**
MAK *i* 22 41 05.1
MAK *e* 22 47 50.4
MAK *ePS* **PS** **22 51 59.2 +3.7**
MAK pmax pmax
comp=Z,27nm,1.3s
ABKAR Akbulak array 119.67 29 **PKPdf** **22 41 14.6 -0.1**
ABKAR Akbulak array 119.67 29 PKPdf **PKPdf** **22 41 14.6 -0.1**
BRVK Borovoye 121.14 20 ⇑*i*PKIKP **PKiKP** **22 41 18.0 +0.5**
BRVK Borovoye 121.14 20 PKPdf **PKPdf** **22 41 17.4 0.0**
BRVK Borovoye 121.14 20 IAMs_20 IAMs_20 23 42 18.3
comp=Z,571nm,20.0s
ZEA Zeya 121.35 341‖ *e*PKIKP **PKiKP** **22 41 20.0 +2.1**
KLR Kul'dur 123.36 336⇑ *i*PKIKP **PKPdf** **22 41 21.5 -0.3**
ZAA0 Zalesovo Array 124.27 11 PKPdf **PKPdf** **22 41 22.7 -0.7**
ZALV Zalesovo Beam 124.27 11 PKP **PKPdf** **22 41 23.4 0.0**
comp=Z,3.5nm,0.8s,baz=264,slow=3.0,SNR=18
ZALV PKKPbc **PKKPbc** **22 51 10.2 +0.8**
comp=Z,1.4nm,1.0s,baz=129,slow=2.1,SNR=5.2
ZALV Zalesovo Beam 124.27 11 PKIKP **PKPdf** **22 41 22.2 -1.2**
ZALV Zalesovo Beam 124.27 11 PKPdf **PKPdf** **22 41 22.2 -1.2**
BRZS Berezniki 124.53 21 *e*PKIKP **PKPdf** **22 41 23.5 -0.5**
BRZS Berezniki 124.53 21 *e*PKP **PKPdf** **22 41 23.5 -0.5**
baz=21
GEYT Alibeck 125.71 40 PKP **PKiKP** **22 41 27.3 +0.2**
comp=Z,2.4nm,0.8s,baz=60,slow=27,SNR=5.8
KURK Kurchatov 125.81 17*c i*PKIKP **PKPdf** **22 41 25.3 -1.1**
KURK Kurchatov 125.81 17 PKPdf **PKPdf** **22 41 25.6 -0.8**
SEM Semipalatinsk 126.53 16 *e*PKIKP **PKPdf** **22 41 26.8 -1.3**
SEM Semipalatinsk 126.53 16 *e*PKP **PKPdf** **22 41 26.8 -1.3**
baz=16
USRK Ussuriysk Ar. 127.08 331 PKP **PKPdf** **22 41 29.0 -0.1**
comp=Z,8.6nm,1.0s,baz=2.7,slow=1.2,SNR=8.7
MOY Mondy 127.98 359 *e*PKIKP **PKPdf** **22 41 30.7 0.0**
MOY pmax pmax
comp=Z,18nm,1.5s
MAJO Matsushiro 128.80 320⇑ *i*PKIKP **PKPdf** **22 41 32.4 -0.2**
MAJO Matsushiro 128.80 320 IAMs_20 IAMs_20 23 27 32.6
comp=Z,462nm,21.0s
KNGR Kungurtug, Tuv 129.01 2‖ *i*PKIKP **PKPdf** **22 41 32.6 -0.1**
BTLS Baital 129.15 24 *e*PKIKP **PKPdf** **22 41 31.0 -2.0**
BTLS pmax pmax
comp=Z,9.0nm,2.0s
BTLS Baital 129.15 24 *e*PKP **PKPdf** **22 41 31.1 -2.0**
comp=Z,9.3nm,2.0s,baz=23
KKAR Karatay Array 129.17 28 PKIKP **PKiKP** **22 41 33.5 -0.4**
KKAR Karatay Array 129.17 28 PKPdf **PKiKP** **22 41 33.5 -0.4**
ZAK Zakamensk 129.19 357 *e*PKIKP **PKPdf** **22 41 32.6 -0.5**
ZAK pmax pmax
comp=Z,11nm,1.4s
IUG Iuzhnay 129.68 29 *e*PKIKP **PKPdf** **22 41 32.9 -1.3**
IUG Iuzhnay 129.68 29 *e*PKP **PKPdf** **22 41 32.9 -1.3**
baz=29
DZA Taraz 129.71 27 *e*PKIKP **PKPdf** **22 41 32.6 -1.6**
DZA Taraz 129.71 27 *e*PKP **PKPdf** **22 41 32.6 -1.6**
baz=27
STKA Stephens Creek 129.82 227 PKP **PKPdf** **22 41 34.7 +0.1**
comp=Z,15nm,1.0s,baz=205,slow=1.6,SNR=13
STKA PP **PP** **22 43 49.7 +4.2**
comp=Z,4.1nm,1.1s,baz=169,slow=9.2,SNR=4.6
STKA Stephens Creek 129.82 227‖ *i*PKIKP **PKPdf** **22 41 35.1 +0.4**
STKA Stephens Creek 129.82 227 PKPdf **PKiKP** **22 41 35.5 0.0**
MAKZ Makanchi 130.29 16 PKIKP **PKPdf** **22 41 34.3 -0.9**
MAKZ MLR MLR
comp=Z,500nm,19.0s
MAKZ Makanchi 130.29 16 PKPdf **PKPdf** **22 41 34.3 -0.9**
MAKZ IAMs_20 IAMs_20 23 45 52.0
comp=Z,481nm,19.0s
MK31 Makanchi Array 130.39 16*d i*PKIKP **PKPdf** **22 41 34.4 -1.0**
MK31 Makanchi Array 130.39 16 PKPdf **PKPdf** **22 41 34.3 -1.1**
MKAR Makanchi Array 130.39 16 PKP **PKPdf** **22 41 34.2 -1.1**
comp=Z,2.8nm,0.9s,baz=357,slow=2.7,SNR=12
MKAR Makanchi Array 130.39 16 PKIKP **PKPdf** **22 41 35.0 -0.4**
MKAR Makanchi Array 130.39 16 PKPdf **PKPdf** **22 41 35.0 -0.4**
ZSN Zaisan 130.43 13 *e*PKIKP **PKPdf** **22 41 34.3 -1.1**
ZSN Zaisan 130.43 13 *e*PKP **PKPdf** **22 41 34.4 -1.1**

baz=13
HRA Herat 130.49 42 PKPdf **PKPdf** **22 41 34.9 -1.3**
SGDS Sogindy 130.69 24 *e*PKIKP **PKPdf** **22 41 35.0 -1.1**
SGDS pmax pmax
comp=Z,18nm,1.3s
SGDS Sogindy 130.69 24 *e*PKP **PKPdf** **22 41 35.1 -1.1**
comp=Z,18nm,1.3s,baz=24
UOSS Minazif 130.71 56 PKPdf **PKPdf** **22 41 36.2 -0.4**
UOSS Minazif 130.71 56 IAMs_20 IAMs_20 23 46 49.1
comp=Z,533nm,18.0s
USP Ospenovka 130.79 24 P **PKiKP** **22 41 37.0 -0.1**
SNR=14
TDK Taldyqorghan 130.80 20 *e*PKIKP **PKPdf** **22 41 34.7 -1.5**
TDK Taldyqorghan 130.80 20 *e*PKP **PKPdf** **22 41 34.7 -1.5**
baz=20
EKS2 Erkin-Say 130.98 26 P **PKiKP** **22 41 37.9 +0.2**
SNR=16
KUU Kurty 131.00 23 *e*PKIKP **PKPdf** **22 41 35.0 -1.6**
KUU pmax pmax
comp=Z,29nm,1.9s
KUU Kurty 131.00 23 *e*PKP **PKPdf** **22 41 35.1 -1.6**
comp=Z,29nm,1.9s,baz=22
ARXS Arharly 131.28 21 *e*PKIKP **PKPdf** **22 41 36.3 -0.9**
CHKK Chushkaly 131.28 22 *e*PKIKP **PKPdf** **22 41 35.9 -1.2**
CHKK Chushkaly 131.28 22 *e*PKP **PKPdf** **22 41 36.0 -1.2**
baz=22
AAK Ala-Archa 131.31 25 P **PKiKP** **22 41 38.4 0.0**
SNR=9.1
AAK Ala-Archa 131.31 25*c i*PKIKP **PKPdf** **22 41 37.5 +0.1**
AAK Ala-Archa 131.31 25 PKPdf **PKPdf** **22 41 37.7 +0.3**
AAK Ala-Archa 131.31 25 IAMs_20 IAMs_20 23 45 07.6
comp=Z,456nm,19.0s
AML Almayashu 131.38 26 P **PKiKP** **22 41 38.4 -0.4**
SNR=9.2
ULN Ulaanbaatar 131.39 354*c i*PKIKP **PKPdf** **22 41 36.6 -0.8**
ULN Ulaanbaatar 131.39 354 PKPdf **PKPdf** **22 41 36.7 -0.7**
KBK Karagaybulak 131.48 25 P **PKiKP** **22 41 39.4 +0.6**
SNR=7.5
SONM Songino Array 131.49 354 PKP **PKPdf** **22 41 38.0 +0.4**
comp=Z,9.2nm,1.1s,baz=335,slow=0.9,SNR=17
SONM SKPbc **SKPab** **22 45 03.0 +0.6**
comp=Z,4.2nm,1.2s,baz=359,slow=2.0,SNR=6.2
SONM Songino Array 131.49 354 PKIKP **PKPdf** **22 41 37.0 -0.6**
SONM Songino Array 131.49 354 PKPdf **PKPdf** **22 41 37.0 -0.6**
TKM2 Tokmak 2 131.53 24 P **PKiKP** **22 41 38.5 -0.3**
SNR=11
BTK Batken 131.65 30 PKIKP **PKPdf** **22 41 37.7 -0.4**
BTK Batken 131.65 30 PKPdf **PKPdf** **22 41 37.6 -0.4**
UCH Uchtor 131.65 25 P **PKiKP** **22 41 39.7 +0.3**
SNR=16
AAA Alma-Ata 131.81 23 *e*PKIKP **PKPdf** **22 41 36.7 -1.5**
AAA Alma-Ata 131.81 23 *e*PKP **PKPdf** **22 41 36.7 -1.5**
baz=22
MDOK Medeo 131.90 22 *e*PKIKP **PKPdf** **22 41 36.9 -1.6**
MDOK Medeo 131.90 22 *e*PKP **PKPdf** **22 41 37.0 -1.6**
baz=22
TNSS Tian-Shan 131.96 23 *e*PKIKP **PKPdf** **22 41 38.2 -0.7**
TNSS Tian-Shan 131.96 23 *e*PKP **PKPdf** **22 41 38.3 -0.7**
baz=22
BOOM Boomskoye usch 132.03 24 PKIKP **PKPdf** **22 41 38.9 +0.1**
BOOM Boomskoye usch 132.03 24 PKPdf **PKPdf** **22 41 38.9 +0.1**
GAR Garm 132.19 31 PKPdf **PKPdf** **22 41 39.4 +0.3**
KPKS Kokpek 132.24 21 *e*PKIKP **PKPdf** **22 41 37.4 -1.7**
KPKS pmax pmax
comp=Z,25nm,1.7s
KPKS Kokpek 132.24 21 *e*PKP **PKPdf** **22 41 37.4 -1.7**
comp=Z,24nm,1.7s,baz=21
ULHL Ulahol 132.35 24 P **PKPdf** **22 41 40.0 +0.5**
SNR=18
SATY Saty 132.49 21 *e*PKIKP **PKPdf** **22 41 37.8 -1.8**
SATY pmax pmax
comp=Z,11nm,2.1s
SATY Saty 132.49 21 *e*PKP **PKPdf** **22 41 37.8 -1.8**
comp=Z,10nm,2.1s,baz=21
UZB Uzynbulak 132.64 21 *e*PKIKP **PKPdf** **22 41 38.7 -1.2**
UZB pmax pmax
comp=Z,32nm,1.9s
UZB Uzynbulak 132.64 21 *e*PKP **PKPdf** **22 41 38.7 -1.2**
comp=Z,32nm,1.9s,baz=21
SNY Shenyang 132.71 336 ⇓PKP **PKiKP** **22 41 41.0 +0.1**
SNY PP **PP** **22 44 03.1 -0.2**
SNY AMB AMB
comp=Z,240nm,12.0s
SNY LR LR
comp=Z,540nm,21.0s
SNY LR LR
comp=Z,490nm,17.6s
SNY LR LR
comp=Z,930nm,21.8s
SHLS Shalkode 132.78 20 *e*PKIKP **PKPdf** **22 41 39.0 -1.1**
SHLS pmax pmax
comp=Z,18nm,1.8s
SHLS Shalkode 132.78 20 *e*PKP **PKPdf** **22 41 39.0 -1.1**
comp=Z,18nm,1.8s,baz=20
KDJ Kajisay 132.82 23 PKIKP **PKPdf** **22 41 40.6 +0.3**
KDJ Kajisay 132.82 23 PKPdf **PKPdf** **22 41 40.6 +0.3**
BBOO Buckleboo 133.24 223 PKPdf **PKPdf** **22 41 40.0 -1.1**
TARG Taragay, Kyrgy 133.41 23 **PKPdf** **22 41 40.5 -1.2**
XLT XiLinHaoTe 133.46 344 *e*PKP **PKPdf** **22 41 41.8 +0.5**
XLT sPKP 22 41 56.0
XLT PP **PP** **22 44 12.8 +4.8**
XLT SKS **SKSdf** **22 48 52.3 +0.4**
XLT SS **SS** **23 01 50.3 -1.1**
XLT AMB AMB
comp=Z,160nm,11.0s
XLT LR LR
comp=Z,51nm,19.4s
XLT LR LR
comp=Z,400nm,18.5s
XLT LR LR
comp=Z,800nm,20.6s
KSRS Korea Array 134.18 329 PKP **PKPdf** **22 41 42.3 -0.4**
comp=Z,7.3nm,1.1s,baz=16,slow=1.5,SNR=10
KSRS SKPbc **SKPbc** **22 45 11.0 -0.3**
comp=Z,0.4nm,0.3s,baz=48,slow=2.0,SNR=4.3
KSAR Wonju Array Be 134.21 329 PKIKP **PKPdf** **22 41 41.9 -0.9**
KSAR Wonju Array Be 134.21 329 PKPdf **PKPdf** **22 41 41.9 -0.9**
WMQ Urumqi 134.50 12 PKP **PKiKP** **22 41 44.0 -0.7**
WMQ sPKP 22 41 57.9
WMQ PP **PP** **22 44 20.4 +5.9**
WMQ PKS **PKSdf** **22 45 13.0 -6.6**
WMQ SS SS 23 02 04.5 +0.7
WMQ AMB AMB
comp=Z,210nm,6.7s
WMQ LR LR
comp=Z,480nm,19.9s
WMQ LR LR
comp=Z,430nm,21.7s
WMQ LR LR
comp=Z,380nm,20.9s
KSH Kashi 134.51 26 PKP **PKiKP** **22 41 45.0 +0.1**
KSH PP **PP** **22 44 21.5 +6.5**
KSH PKS **PKSdf** **22 45 16.3 -3.6**
KSH LR LR
comp=Z,320nm,19.6s
KSH LR LR
comp=Z,460nm,21.9s
KSH LR LR
comp=Z,460nm,21.6s
BJT Baijiatuau 136.99 342 IAMs_20 IAMs_20 23 49 07.1
comp=Z,586nm,20.0s
HHC Hu-ho-hao-te 137.47 347 *e*PKP **PKPdf** **22 41 46.9 -2.0**
HHC PP **PP** **22 44 32.0 -1.2**
HHC LR LR
comp=Z,470nm,19.7s
HHC LR LR
comp=Z,250nm,19.0s
HHC LR LR
comp=Z,690nm,19.7s
BTO Baotou 138.03 348 *e*PKP **PKPdf** **22 41 46.3 -3.7**
BTO LR LR
comp=Z,2μm,17.8s
BTO LR LR
comp=Z,2μm,18.5s
AS31 Alice Springs 139.82 233 PKPdf **PKPdf** **22 41 53.0 -0.6**
ASAR Alice Springs 139.82 233 PKhKP PKPpre 22 41 44.1
comp=Z,2.0nm,0.9s,baz=123,slow=3.3,SNR=12
ASAR PKP **PKPdf** **22 41 54.6 +1.0**
comp=Z,11nm,0.9s,baz=134,slow=1.9,SNR=12
ASAR Alice Springs 139.82 233 PKIKP **PKPdf** **22 41 54.1 +0.5**
ASAR Alice Springs 139.82 233 PKPdf **PKPdf** **22 41 54.1 +0.5**
HNS HongShan 139.85 342 ⇑PKP **PKiKP** **22 41 54.4 -1.2**
HNS PP PP 22 44 57.8 +10
HNS SS SS 23 03 05.4 -2.0
HNS LR LR
comp=Z,520nm,20.2s
HNS LR LR
comp=Z,590nm,20.2s
HNS LR LR
comp=Z,750nm,21.7s
GTA Gaotai 140.24 0 PKP **PKPdf** **22 41 54.1 0.0**
GTA PP **PP** **22 44 57.4 +7.1**
GTA SS SS 23 03 08.3 -3.6
GTA AMB AMB
comp=Z,200nm,10.8s
GTA LR LR
comp=Z,440nm,23.5s
GTA LR LR
comp=Z,400nm,20.7s
GTA LR LR
comp=Z,790nm,23.9s
WB2 Warramunga Arr 141.18 238 PKPdf **PKPdf** **22 41 53.3 -2.8**
WRAB Tennant Creek 141.18 238*d i*PKIKP **PKPdf** **22 41 53.0 -3.1**
WRAB Tennant Creek 141.18 238 **PKPdf** **22 41 53.3 -2.9**
WRA Warramunga Arr 141.19 238 PKhKP PKPpre 22 41 49.4
comp=Z,3.3nm,0.9s,baz=119,slow=1.8,SNR=11
WRA Warramunga Arr 141.19 238 PKIKP **PKPdf** **22 41 53.4 -2.7**
WRA Warramunga Arr 141.19 238 **PKPdf** **22 41 53.4 -2.7**
WB0 Warramunga Arr 141.22 238 PKPdf **PKPdf** **22 41 53.3 -2.9**
GOMU GeErMu 143.14 7 PKP PKPbc 22 41 56.9 +0.4
GOMU pPKP PKiKP 22 42 01.5 -1.4
GOMU PP **PP** **22 45 12.8 +4.6**
GOMU SKS **SKSdf** **22 49 06.5 -2.5**
GOMU SS **SS** **23 03 44.5 -1.7**
GOMU AMB AMB
comp=Z,130nm,4.1s
GOMU LR LR
comp=Z,260nm,22.1s
GOMU LR LR
comp=Z,320nm,21.6s
GOMU LR LR
comp=Z,270nm,22.1s
LYN LuoYang 143.17 343 ⇓PKP PKPab 22 41 55.3 +0.5
LYN SS SS 23 03 41.8 -4.2
LYN AMB AMB
comp=Z,220nm,4.3s
LYN LR LR
comp=Z,730nm,20.2s
LYN LR LR
comp=Z,350nm,18.8s
LYN LR LR
comp=Z,1μm,20.4s
XAN Xi'an 144.58 347 PKP **PKPab** **22 41 59.3 -0.9**
XAN pPKP pPKPdf 22 42 07.1 -1.5
XAN PP **PP** **22 45 20.4 +3.8**
XAN AMB AMB
comp=Z,240nm,9.6s
XAN LR LR
comp=Z,550nm,22.0s
XAN LR LR
comp=Z,540nm,19.8s
XAN LR LR
comp=Z,590nm,23.4s
WHN Wuhan 146.18 337 ⇑PKPbc **PKPdf** **22 42 03.9 -0.7**
WHN PP **PP** **22 45 30.0 +3.8**
WHN LR LR
comp=Z,2μm,20.1s
WHN LR LR
comp=Z,490nm,15.6s
WHN LR LR
comp=Z,2μm,22.8s
MTN Manton Dam 146.74 247 **PKPbc** **22 42 07.0 -0.6**
PYUN Piuthan 147.22 28 *e*P **PKPdf** **22 42 07.0 +0.3**
comp=Z,298nm,1.6s
DANN Dangsing 147.36 27 *e*P **PKPdf** **22 42 07.7 +0.6**
comp=Z,287nm,1.1s
NACB Ninganchiao 147.66 321 **PKPdf** **22 42 08.2 +1.0**
NACB IAMs_20 IAMs_20 23 49 29.1
comp=Z,491nm,20.0s
MORW Morawa 147.72 207 **PKPdf** **22 42 07.8 +0.5**
KOLN Koldanda 147.78 28 *e*P **PKPdf** **22 42 07.8 +0.2**
comp=Z,331nm,1.7s
KNRA Kununurra 147.81 241 PKPdf **PKPdf** **22 42 07.6 -0.1**
ENH Enshi 148.03 344 **PKPdf** **22 42 07.4 -0.4**
GKN Gorkha 148.05 26 *e*P **PKPdf** **22 42 08.3 +0.3**
comp=Z,382nm,1.5s
SSLB Suanglung 148.34 321 PKPdf **PKPdf** **22 42 08.1 -0.4**
CD2 Chengdu 148.51 354 PKPbc **PKPdf** **22 42 08.9 +0.3**
CD2 PP **PP** **22 45 44.3 +4.6**
CD2 SKS **SKSdf** **22 49 13.0 -3.3**
CD2 AMB AMB
comp=Z,260nm,5.6s
CD2 LR LR
comp=Z,40nm,16.4s
CD2 LR LR
comp=Z,280nm,15.4s
CD2 LR LR
comp=Z,370nm,17.0s
KKN Kakani 148.52 25 *e*P **PKPdf** **22 42 08.7 -0.2**
DMN Daman 148.60 26 *e*P **PKPdf** **22 42 09.3 +0.2**
GUN Gumba 148.66 24 *e*P **PKPbc** **22 42 11.4 -1.6**
comp=Z,217nm,1.1s
PKI Pulchoki 148.76 25 *e*P **PKPdf** **22 42 09.2 -0.2**
comp=Z,313nm,1.7s
LSA Lhasa 148.79 15 PKIKP **PKPdf** **22 42 09.2 -0.4**
LSA MLR MLR
comp=Z,500nm,20.0s
LSA Lhasa 148.79 15 **PKPdf** **22 42 09.2 -0.4**
LSA IAMs_20 IAMs_20 23 56 50.5
comp=Z,504nm,20.0s
CNSH ChangSha 148.84 337 ⇓PKPbc **PKPbc** **22 42 12.8 -0.1**
CNSH PP **PP** **22 45 43.5 +1.7**
CNSH AMB AMB
comp=Z,320nm,9.2s
CNSH LR LR
comp=Z,370nm,19.4s
CNSH LR LR
comp=Z,330nm,20.6s
CNSH LR LR
comp=Z,440nm,19.4s
QZH Quanzhou 148.88 326 *e*PKPbc **PKPbc** **22 42 12.6 -0.5**
QZH PP **PP** **22 45 45.8 +3.3**
QZH SS SS 23 04 57.6 +5.6
QZH LR LR
comp=Z,430nm,18.5s
QZH LR LR
comp=Z,310nm,18.5s
QZH LR LR
comp=Z,610nm,21.8s
JIRN Jiri 149.01 24 *e*P **PKPdf** **22 42 11.3 +1.4**
comp=Z,16nm,1.0s
FITZ Fitzroy Crossi 149.29 234 PKP **PKPdf** **22 42 10.0 0.0**
comp=Z,6.8nm,0.7s,baz=168,slow=3.8,SNR=28
FITZ PKPbc **PKPbc** **22 42 14.2 -0.2**
comp=Z,15nm,0.8s,baz=125,slow=1.3,SNR=20
FITZ Fitzroy Crossi 149.29 234 **PKPbc** **22 42 13.6 -0.7**
RAMN Ramite 149.81 24 *e*P **PKPdf** **22 42 11.1 +0.1**
comp=Z,18nm,0.7s
TAPN Taplejung 149.89 22 *e*P **PKPdf** **22 42 12.4 +1.2**
comp=Z,299nm,1.6s
ODAN Odare 150.21 23 *e*P **PKPdf** **22 42 11.8 +0.2**
comp=Z,309nm,1.4s
PSA00 Pilbara Seismi 151.46 222 PKPdf **PKPdf** **22 42 13.0 -0.4**
GYA Guiyang 152.38 347 ⇑PKPbc **PKPdf** **22 42 13.3 -1.5**
GYA pPKP pPKPdf 22 42 19.4 -2.2
GYA PKPab **pPKPab** **22 42 34.9 -3.2**
GYA AMB AMB
comp=Z,150nm,5.8s
GYA LR LR
comp=Z,390nm,19.8s
GYA LR LR
comp=Z,400nm,20.2s
GYA LR LR
comp=Z,960nm,19.8s
HYBB Hyderabad (bro 152.41 49 *e*PKPdf **PKPdf** **22 42 13.6 -1.4**
HYBB *e*PKiKP **sPKPdf** **22 42 22.5 -1.5**
HYBB *e*PP **PP** **22 46 04.7 +1.2**
HYBB *e*SKKSac SKKSac 22 52 54.8 +0.6
TNTI Ternate 152.52 273 IAMs_20 IAMs_20 23 37 15.3
comp=Z,348nm,22.0s
PZH PanZhiHua 153.06 356 PKPbc **PKPdf** **22 42 15.5 -0.3**
PZH pPKP **PKiKP** **22 42 23.8 +0.5**
PZH PKPab **PKPab** **22 42 33.4 -0.9**
PZH PP **PP** **22 46 05.5 -0.4**
PZH SS SS 23 05 40.0 +2.8
PZH AMB AMB
comp=Z,230nm,7.3s
PZH LR LR
comp=Z,280nm,18.6s
PZH LR LR
comp=Z,320nm,18.0s
PZH LR LR
comp=Z,420nm,17.8s
PCHI Peechi 154.10 64 *e*P **PKPdf** **22 42 10.6 -6.8**
PCHI *ex* x 22 53 15.3
KMI Kunming 154.34 354 ⇓PKPbc **PKPdf** **22 42 18.0 +0.2**
KMI sPKP 22 42 26.6
KMI LR LR
comp=Z,370nm,23.3s
KMI LR LR
comp=Z,410nm,20.4s
KMI LR LR
comp=Z,630nm,23.3s
MMRI Maumere 156.36 249 IAMs_20 IAMs_20 00 04 52.2
comp=Z,404nm,20.0s
QIZ Qiongzhong 158.25 334 PKP **PKPdf** **22 42 21.8 -0.9**
QIZ PP **PP** **22 46 35.0 -0.1**
QIZ SS SS 23 06 37.0 +3.1
QIZ AMB AMB
comp=Z,210nm,6.8s
QIZ LR LR
comp=Z,290nm,22.3s
QIZ LR LR
comp=Z,320nm,14.3s
QIZ LR LR
comp=Z,360nm,23.1s
TOLI2 Tolitoli 159.07 274 IAMs_20 IAMs_20 00 10 12.9
comp=Z,450nm,21.0s
CHTO Chiang Mai 160.74 3 PKIKP **PKPdf** **22 42 24.9 -0.7**
CHTO 22 43 05.7
CHTO Chiang Mai 160.74 3 PKPdf **PKPdf** **22 42 24.9 -0.7**
CHTO PKPab **PKPab** **22 43 05.7 -1.6**
CMAR Chiang Mai Arr 161.10 3 PKP **PKPdf** **22 42 26.1 0.0**
comp=Z,1.2nm,0.3s,baz=317,slow=2.1,SNR=15
CMAR PKPab **PKPab** **22 43 08.9 +0.1**
comp=Z,6.7nm,0.8s,baz=338,slow=4.8,SNR=12
CMAR Chiang Mai Arr 161.10 3 PKIKP **PKPdf** **22 42 25.5 -0.5**
CMAR 22 43 08.2
CMAR Chiang Mai Arr 161.10 3 PKPdf **PKPdf** **22 42 25.4 -0.5**
CMAR PKPab **PKPab** **22 43 08.2 -0.6**

*ROM **19** 22:31:26.5±0.3, 41°.90N±0°.02×10°.30E±0°.02, h21km±2km, ML2.7/6, Error ellipse: s-maj=1.9km s-min=1.3km az=40.0*
*STR **19** 22:31:26.3±0.8, 42°.N±7°×1°.0E±°, h0km, ML v2.8/12, preliminary*
*LDG **19** 22:31:27.9±0.3, 41°.87N×10°.24E, h10km, Md2.8/2, Ml2.8/12, Error ellipse: s-maj=7.5km s-min=5.3km az=75.0*
ISC 19 22:31:27.3±1.3, 41°.93N±0°.06×10°.31E±0°.03, h33km±4km, n45, σ1°.9 17/68, 1C, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPL	**Sampolo**	**0.78**	**282**	Pg	**Pn**	**22 31 41.1**	**-0.9**
MAON	**Monte Argentar**	**0.79**	**51**	⇑P	**Pb**	**22 31 41.7**	**-1.0**
MAON				S	**Sn**	**22 31 52.7**	**-0.1**
MAON				AML	AML		
	comp=N,818μm,0.3s						
MAON				AML	AML		
	comp=E,1035μm,0.9s						
CELB	**S.Piero in Cam**	**0.82**	**355**	P	**Pb**	**22 31 42.7**	**-0.5**
CELB				S	**Sb**	**22 31 54.7**	**+0.8**
CORF	**Corte**	**0.93**	**293**	Pg	**Pn**	**22 31 43.6**	**-0.6**
CORF				Pn	**Pb**	**22 31 45.1**	**0.0**
CORF	**Corte**	**0.93**	**293**	P	**Pn**	**22 31 44.3**	**+0.1**
CASP	**Castiglione de**	**0.95**	**26**	P	**Pn**	**22 31 44.1**	**-0.3**
CASP				S	**Sb**	**22 31 59.2**	**+1.5**
PGF	**Pioggiola**	**1.15**	**303**	*e*Pn	**Pn**	**22 31 47.4**	**+0.2**
PGF				*e*Sn	**Sb**	**22 32 03.7**	**+0.3**
	comp=E,105nm,0.4s						
PGF	**Pioggiola**	**1.15**	**303**	Pg	**Pn**	**22 31 47.5**	**+0.2**
PGF				Sg	**Sb**	**22 32 03.6**	**+0.1**
AJAC	**Base Areonaval**	**1.15**	**270**	Pg	**Pb**	**22 31 48.1**	**-0.6**
AJAC				Sg	**Sb**	**22 32 03.9**	**+0.6**
ARCI	**Arcidosso**	**1.26**	**43**	P	**Pb**	**22 31 49.2**	**-1.4**
ARCI				S	**Sb**	**22 32 07.2**	**+0.6**
ARCI				AML	AML		
	comp=E,202μm,0.7s						
ARCI				AML	AML		
	comp=N,177μm,0.4s						
TOLF	**Tolfa**	**1.27**	**83**	P	**Pb**	**22 31 50.6**	**0.0**
TOLF				S	**Sb**	**22 32 08.2**	**+1.5**
FROS	**Frosini**	**1.42**	**26**	P	**Pb**	**22 31 51.9**	**-1.4**
FROS				S	**Sb**	**22 32 11.4**	**+0.3**
FROS				AML	AML		
	comp=E,722μm,1.3s						
FROS				AML	AML		
	comp=N,756μm,0.3s						
SACS	**San Casciano d**	**1.50**	**52**	P	**Pb**	**22 31 52.9**	**-1.7**
SACS				AML	AML		
	comp=E,106μm,0.8s						
SACS				AML	AML		
	comp=N,104μm,0.4s						
MGAB	**Montegabbione**	**1.66**	**53**	P	**Pn**	**22 31 54.8**	**+0.7**
MGAB				AML	AML		
	comp=E,135μm,0.7s						
MGAB				AML	AML		
	comp=N,101μm,0.9s						
PII	**Pisa**	**1.80**	**5**	P	**Pn**	**22 31 57.2**	**+1.2**
PII				AML	AML		
	comp=E,183μm,0.3s						
PII				AML	AML		
	comp=N,196μm,0.3s						
SBF	**Sospel**	**2.86**	**313**	*e*Pn	**Pn**	**22 32 10.7**	**0.0**
SBF				*e*Sn	**Sn**	**22 32 43.9**	**-0.1**
	comp=N,21nm,0.2s						
SAOF	**Saorge**	**2.88**	**316**	Pn	**Pn**	**22 32 10.8**	**-0.1**
SAOF				Sn	**Sn**	**22 32 43.3**	**-1.2**
TURF	**col de Turini**	**2.96**	**315**	Pn	**Pn**	**22 32 12.2**	**0.0**
TURF				Sn	**Sn**	**22 32 46.1**	**-0.4**
MVIF	**Mont Vial**	**3.04**	**311**	Pn	**Pn**	**22 32 13.2**	**0.0**
CALF	**Calern**	**3.08**	**307**	Pn	**Pn**	**22 32 13.8**	**0.0**
CALF				Sn	**Sn**	**22 32 48.8**	**-0.8**
SPIF	**crte de Spivo**	**3.10**	**314**	Pn	**Pn**	**22 32 14.5**	**+0.5**
SPIF				Sn	**Sn**	**22 32 50.0**	**+0.1**
LMR	**La Mourre**	**3.13**	**298**	*e*Pn	**Pn**	**22 32 14.5**	**+0.1**
LMR				*e*Sn	**Sn**	**22 32 50.7**	**+0.1**
	comp=N,9.4nm,0.3s						
ISO	**Isola**	**3.28**	**314**	Pn	**Pn**	**22 32 17.2**	**+0.7**
FLAF	**Flassans-sur-l**	**3.32**	**297**	Pn	**Pn**	**22 32 17.6**	**+0.7**
TRIGF	**Trigance**	**3.39**	**304**	Pn	**Pn**	**22 32 18.8**	**+0.8**
SURF	**Saint Ours**	**3.61**	**316**	Pn	**Pn**	**22 32 23.1**	**+2.0**
SURF				Sn	**Sn**	**22 33 04.6**	**+2.0**
ARTF	**Artigues**	**3.71**	**298**	Pn	**Pn**	**22 32 23.0**	**+0.8**
BLAF	**les Blancs**	**3.72**	**304**	Pn	**Pn**	**22 32 23.7**	**+1.2**
MBDF	**Montbardon**	**3.80**	**318**	*e*Pn	**Pn**	**22 32 25.6**	**+1.9**
MBDF				*e*Sn	**Sn**	**22 33 07.8**	**+0.4**
	comp=N,19nm,0.6s						
BSTF	**la Bastide-des**	**3.94**	**301**	Pn	**Pn**	**22 32 25.9**	**+0.5**
SMRF	**Simiane la Rot**	**4.03**	**302**	*e*Pn	**Pn**	**22 32 28.1**	**+1.4**
SMRF				*e*Sn	**Sn**	**22 33 11.7**	**-1.1**
	comp=N,2.0nm,0.4s						
RUSF	**Rustrel**	**4.07**	**301**	Pn	**Pn**	**22 32 28.6**	**+1.3**
ORIF	**Oris-en-Rattie**	**4.39**	**314**	*e*Pn	**Pn**	**22 32 34.0**	**+2.2**
ORIF				*e*Sn	**Sn**	**22 33 21.7**	**-0.1**
	comp=N,6.3nm,0.6s						
ORIF	**Oris-en-Rattie**	**4.39**	**314**	Pn	**Pn**	**22 32 33.8**	**+2.1**
LPG	**La Plagne**	**4.40**	**325**	*e*Pn	**Pn**	**22 32 35.3**	**+3.3**
LPG				*e*Sn	**Sn**	**22 33 22.7**	**+0.5**
	comp=N,2.7nm,0.5s						
LPL	**La Plagne**	**4.42**	**325**	*e*Pn	**Pn**	**22 32 33.7**	**+1.4**
LPL				*e*Sn	**Sn**	**22 33 23.0**	**+0.3**
	comp=N,2.5nm,0.3s						
VIVF	**Saint-Julien-l**	**5.04**	**307**	*e*Pn	**Pn**	**22 32 41.5**	**+0.9**
VIVF				*e*Sn	**Sn**	**22 33 36.3**	**-1.4**
	comp=N,0.9nm,0.2s						
ABTA	**Abfaltersbach**	**5.07**	**17**	*e*P	**Pn**	**22 32 44.1**	**+3.0**
	comp=N,1.1nm,0.4s						
LASF	**Ste Croix**	**5.19**	**297**	*e*Pn	**Pn**	**22 32 43.0**	**+0.3**
LASF				*e*Sn	**Sn**	**22 33 40.5**	**-0.9**
	comp=N,1.2nm,0.3s						
SQTA	**Sankt Quirin**	**5.33**	**7**	*e*P	**Pn**	**22 32 44.4**	**-0.2**
	comp=N,1.4nm,0.2s						
DAVA	**Damuels**	**5.36**	**357**	*e*P	**Pn**	**22 32 44.1**	**-1.0**
	comp=N,0.4nm,0.2s						
WTTA	**Wattenberg**	**5.42**	**10**	*e*P	**Pn**	**22 32 43.9**	**-1.9**
	comp=N,1.0nm,0.3s						
MOTA	**Moosalm**	**5.44**	**6**	*e*P	**Pn**	**22 32 43.7**	**-2.5**
	comp=N,0.8nm,0.3s						
KBA	**Koelnbreinsper**	**5.58**	**22**	*e*P	Pn	22 32 43.2	-5.0
	comp=N,0.4nm,0.2s						
MTLF	**Montolieu**	**6.13**	**286**	*e*Pn	**Pn**	**22 32 55.8**	**+0.2**

IDC ***19*** *22:31:35.2±1.3, 14°.55S×166°.82E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/32, mbtmp3.9/7, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/64, Error ellipse: s-maj=51.1km s-min=26.2km az=136.0*

NEIC ***19*** *22:31:41.4±1.8, 14°.69S±0°.04×166°.9E±0°.1, h35km±2km, mb4.6/10, Error ellipse: s-maj=17.1km s-min=6.6km az=96.0*

NOU ***19*** *22:31:47.0, 15°.02S×167°.12E, h0km, MLv4.3/6, Vanuatu Islands*

ISC 19 22:31:42.5±0.6, 14°.73S±0°.07×166°.8E±0°.1, h50km, n30, σ1§40/32, mb4.4/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.80**	**153**	Pn	**Pn**	**22 31 54.9**	**-2.7**
SANVU				Sn	**Sn**	**22 32 06.0**	**-2.6**
SANVU	**Saraoutou**	**0.80**	**153**	P	**Pn**	**22 31 55.2**	**-2.4**
DVP	**Devils Point**	**3.26**	**156**	P	**Pn**	**22 32 33.9**	**+2.9**
KOUNC	**Koumac, New Ca**	**6.27**	**202**	Pn	**Pn**	**22 33 11.7**	**-0.8**
DZM	**Mont Dzumac**	**7.31**	**183**	Pn	**Pn**	**22 33 26.0**	**-0.8**
	0.7nm,0.3s,baz=259,slow=23,SNR=2.3						
DZM				Sn	**Sn**	**22 34 48.1**	**-0.4**
	0.5nm,0.3s,baz=127,slow=22,SNR=1.4						
DZM				LR	LR	22 35 46.3	
	comp=Z,204nm,19.3s,baz=138,slow=34						
DZM	**Mont Dzumac**	**7.31**	**183**		**Pn**	**22 33 25.5**	**-1.2**
OUENC	**Ouen Island, N**	**7.65**	**180**	Pn	**Pn**	**22 33 30.6**	**-0.7**
PINNC	**Pines Island,**	**7.86**	**176**	Pn	**Pn**	**22 33 35.7**	**+1.4**
URZ	**Urewera**	**25.14**	**161**	P	**P**	**22 37 05.0**	**+2.1**
URZ				IAmb	IAmb	22 37 21.4	
	comp=Z,20nm,1.4s						
BKZ	**Black Stump Fm**	**25.79**	**163**	P	**P**	**22 37 10.4**	**+1.6**
BKZ				IAmb	IAmb	22 37 14.2	
	comp=Z,17nm,1.5s						
WB0	**Warramunga Arr**	**31.34**	**256**	P	**P**	**22 37 58.0**	**-0.5**
WRA	**Warramunga Arr**	**31.40**	**256**	P	**P**	**22 37 58.1**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=85,slow=9.2,SNR=2.7						
AS31	**Alice Springs**	**32.27**	**249**	P	**P**	**22 38 07.0**	**+0.4**
ASAR	**Alice Springs**	**32.27**	**249**	P	**P**	**22 38 06.1**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=82,slow=8.6,SNR=4.7						
ASAR	**Alice Springs**	**32.27**	**249**	P	**P**	**22 38 06.7**	**0.0**
FITZ	**Fitzroy Crossi**	**39.59**	**259**	P	**P**	**22 39 09.3**	**0.0**
	comp=Z,3.5nm,1.0s,baz=90,slow=11,SNR=2.0						
MORW	**Morawa**	**48.88**	**244**	P	**P**	**22 40 23.5**	**0.0**
MORW				IAmb	IAmb	22 40 35.8	
	comp=Z,20nm,1.4s						
JSD	**Sado**	**58.94**	**334**	P	**P**	**22 41 35.1**	**-1.6**
PEA0B	**Petropavlovsk-**	**68.02**	**354**	P	**P**	**22 42 37.0**	**+0.7**
QSPA	**South Pole Qui**	**75.30**	**180**		**P**	**22 43 21.5**	**+1.3**
QSPA				IAmb	IAmb	22 43 28.6	
	comp=Z,7.9nm,1.3s						
CAST	**Castle Rocks**	**84.12**	**17**	P	**P**	**22 44 08.1**	**+0.4**
CAST				IAmb	IAmb	22 44 17.5	
	comp=Z,9.2nm,1.5s						
I21K	**Tanana**	**85.51**	**16**	P	**P**	**22 44 15.0**	**+0.4**
I21K				IAmb	IAmb	22 44 18.2	
	comp=Z,5.1nm,0.9s						
IMAR	**Indian Mountai**	**85.68**	**15**	P	**P**	**22 44 16.6**	**+1.1**
ILAR	**Eielson Array**	**86.66**	**18**	P	**P**	**22 44 19.3**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=230,slow=4.4,SNR=18						
ILAR	**Eielson Array**	**86.66**	**18**	P	**P**	**22 44 20.1**	**-0.3**
MKAR	**Makanchi Array**	**96.90**	**316**	P	**P**	**22 45 08.4**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=100,slow=6.7,SNR=1.9						
YKA	**Yellowknife Ar**	**97.75**	**27**	P	**P**	**22 45 10.1**	**-1.7**
	comp=Z,0.2nm,0.8s,baz=255,slow=4.4,SNR=2.3						
ARCES	**ARCESS Array B**	**120.14**	**345**	PKP	**PKPdf**	**22 50 28.0**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=55,slow=2.9,SNR=8.2						
ARCES	**ARCESS Array B**	**120.14**	**345**		**PKPdf**	**22 50 28.3**	**+1.1**
CLL	**Collm**	**137.88**	**336**	*e*PKPdf	**PKPdf**	**22 51 03.0**	**+1.6**

VAO ***19*** *22:36:22.3±1.3, 24°.44S×70°.51W, h10km, mb4.7*

SJA ***19*** *22:37:09.9±0.7, 23°.96S×66°.90W, h221km±4km, ML4.6, MW4.2*

NEIC ***19*** *22:37:11.0±1.8, 23°.98S±0°.06×66°.82W±0°.09, h186km±7km, mb4.4/27, Md4.1(SJA), Error ellipse: s-maj=12.0km s-min=9.1km az=81.0*

IDC ***19*** *22:37:10.5±1.0, 24°.05S×66°.79W, h185km±9km, mb3.6/9, mb1 3.9/14, mb1mx3.8/25, mbtmp4.2/14, Error ellipse: s-maj=18.2km s-min=12.0km az=17.0*

GUC ***19*** *22:37:13.0±0.8, 24°.00S×67°.27W, h229km±18km, ML4.8*

ISC 19 22:37:11.2±0.6, 24°.01S±0°.04×66°.97W±0°.04, h197km±6km, n169, σ1§33/211, mb4.1/21, 2C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.51**	**118**	*e*P	**Pn**	**22 37 46.1**	**+1.2**
SLA				*e*S	**Sn**	**22 38 12.7**	**+1.5**
HJA	**Humahuaca**	**1.64**	**61**	*e*P	**Pn**	**22 37 47.1**	**+0.7**
LVC	**Limon Verde**	**2.26**	**308**	P	**Pn**	**22 37 54.2**	**+1.4**
	163nm,0.3s,baz=166,slow=5.9,SNR=1728						
LVC				S	**Sn**	**22 38 25.9**	**+0.9**
	105nm,0.3s,baz=281,slow=19,SNR=21						
LVC	**Limon Verde**	**2.26**	**308**	*i* P	**Pn**	**22 37 54.1**	**+1.4**
LVC				*e*S	**Sn**	**22 38 24.7**	**-0.2**
LVC	**Limon Verde**	**2.26**	**308**	*e*P	**Pn**	**22 37 54.2**	**+1.4**
LVC				*e*S	**Sn**	**22 38 26.7**	**+1.7**
YJA	**Yavi**	**2.27**	**37**	*e*P	**Pn**	**22 37 53.4**	**+0.5**
YJA				*e*P	**Pn**	**22 37 53.6**	**+0.8**
YJA				*e*S	**Sn**	**22 38 25.7**	**+0.5**
FSA	**Cafayete**	**2.27**	**157**	*e*P	**Pn**	**22 37 53.7**	**+1.0**
FSA				*e*S	**Sn**	**22 38 25.7**	**+0.7**
PB15	**IPOC Station P**	**2.43**	**289**		**Pn**	**22 37 56.2**	**+1.8**
PB15				Sn	**Sn**	**22 38 28.4**	**+0.4**
PB15	**IPOC Station P**	**2.43**	**289**	⇑*i*P	**Pn**	**22 37 55.9**	**+1.5**
PB15				*e*S	**Sn**	**22 38 28.3**	**+0.4**
PB15	**IPOC Station P**	**2.43**	**289**	*e*P	**Pn**	**22 37 56.0**	**+1.5**
PB15				*e*S	**Sn**	**22 38 29.1**	**+1.2**
PB15				IAML		22 38 34.7	
	comp=Z,6μm,0.2s						
GO02	**Mina Guanaco**	**2.65**	**244**		**Pn**	**22 37 58.6**	**+1.7**
GO02	**Mina Guanaco**	**2.65**	**244**	⇑*i*P	**Pn**	**22 37 58.5**	**+1.6**
GO02				*e*S	**Sn**	**22 38 33.4**	**+0.9**
GO02				IAML		22 38 36.5	
	comp=E,3μm,0.5s						
GO02	**Mina Guanaco**	**2.65**	**244**	*e*P	**Pn**	**22 37 58.5**	**+1.7**
GO02				*e*S	**Sn**	**22 38 34.5**	**+2.0**
PB06	**IPOC Station P**	**2.72**	**298**		**Pn**	**22 37 59.0**	**+1.3**
PB06	**IPOC Station P**	**2.72**	**298**	*i* P	**Pn**	**22 37 59.0**	**+1.3**
PB06				*e*S	**Sn**	**22 38 33.5**	**-0.3**
PB06				IAML		22 38 35.7	
	comp=E,2μm,0.1s						
PB06	**IPOC Station P**	**2.72**	**298**	*e*P	**Pn**	**22 37 59.0**	**+1.3**
PB06				*e*S	**Sn**	**22 38 34.1**	**+0.4**
PB06				IAML		22 38 35.6	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**3.04**	**316**		**Pn**	**22 38 02.5**	**+1.1**
PB09	**IPOC Station P**	**3.04**	**316**	*e*P	**Pn**	**22 38 02.8**	**+1.4**
PB09				*e*S	**Sn**	**22 38 40.1**	**-0.5**
PB09				IAML		22 38 43.9	
	comp=E,784nm,0.1s						
PB09	**IPOC Station P**	**3.04**	**316**	*e*P	**Pn**	**22 38 02.4**	**+1.1**
PB09				*e*S	**Sn**	**22 38 41.3**	**+0.7**
PB09				IAML		22 38 42.8	
	comp=Z,660nm,0.4s						
PB14	**IPOC Station P**	**3.19**	**258**		**Pn**	**22 38 04.0**	**+0.8**
PB14	**IPOC Station P**	**3.19**	**258**	*e*P	**Pn**	**22 38 04.2**	**+0.9**
PB14				*e*S	**Sn**	**22 38 42.6**	**-1.4**
PB14	**IPOC Station P**	**3.19**	**258**	*e*P	**Pn**	**22 38 04.7**	**+1.4**
PB14				*e*S	**Sn**	**22 38 44.5**	**+0.6**
PB14				IAML		22 38 52.6	
	comp=Z,497nm,0.3s						
PB10	**IPOC Station P**	**3.32**	**278**		**Pn**	**22 38 05.4**	**+0.9**
PB10	**IPOC Station P**	**3.32**	**278**	*i* P	**Pn**	**22 38 05.8**	**+1.3**
PB10	**IPOC Station P**	**3.32**	**278**	*e*P	**Pn**	**22 38 05.8**	**+1.3**
PB10				*e*S	**Sn**	**22 38 46.5**	**+0.3**
PB10				IAML		22 38 48.0	
	comp=Z,353nm,0.2s						
AC02	**Maricunga**	**3.42**	**214**		**Pn**	**22 38 07.2**	**+1.0**
PB07	**IPOC Station P**	**3.52**	**310**		**Pn**	**22 38 07.6**	**+0.4**
PB07	**IPOC Station P**	**3.52**	**310**	*e*P	**Pn**	**22 38 07.8**	**+0.6**
PB07				*e*S	**Sn**	**22 38 48.4**	**-2.6**
PB07	**IPOC Station P**	**3.52**	**310**	*e*P	**Pn**	**22 38 07.8**	**+0.6**
PB07				*e*S	**Sn**	**22 38 49.6**	**-1.3**
PB07				IAML		22 38 52.9	
	comp=Z,654nm,0.3s						
PB02	**IPOC Station P**	**3.81**	**314**	Pn	**Pn**	**22 38 10.5**	**-0.1**
PB02	**IPOC Station P**	**3.81**	**314**	*e*P	**Pn**	**22 38 10.8**	**+0.1**
PB02	**IPOC Station P**	**3.81**	**314**	*e*P	**Pn**	**22 38 10.8**	**+0.1**
PB02				*e*S	**Sn**	**22 38 55.6**	**-1.5**
PB02				IAML		22 38 57.0	
	comp=Z,2μm,0.4s						
AC01	**Pan de Azucar**	**3.92**	**236**		**Pn**	**22 38 12.0**	**+0.2**
PATCX	**Punta Patache**	**4.33**	**317**	Pn	**Pn**	**22 38 16.5**	**-0.7**
PATCX	**Punta Patache**	**4.33**	**317**	*e*P	**Pn**	**22 38 16.5**	**-0.7**
PATCX				*e*S	**Sn**	**22 39 05.3**	**-3.6**
PATCX	**Punta Patache**	**4.33**	**317**	*e*P	**Pn**	**22 38 16.9**	**-0.3**
PATCX				*e*P	**Pn**	**22 38 16.9**	**-0.3**
PATCX				*e*P	**Pn**	**22 38 17.1**	**-0.1**
PATCX				*e*P	**Pn**	**22 38 17.1**	**0.0**
PATCX				*e*S	**Sn**	**22 39 06.8**	**-2.1**
PATCX				IAML		22 39 10.6	
	comp=Z,424nm,0.5s						
PB08	**IPOC Station P**	**4.35**	**332**		**Pn**	**22 38 18.7**	**+1.0**
PB08	**IPOC Station P**	**4.35**	**332**	*e*P	**Pn**	**22 38 18.6**	**+1.0**
PB08				*e*S	**Sn**	**22 39 08.8**	**-1.2**
PB08	**IPOC Station P**	**4.35**	**332**	*e*P	**Pn**	**22 38 18.8**	**+1.0**
PB08				*e*S	**Sn**	**22 39 09.2**	**-0.8**
PB08				IAML		22 39 13.6	
	comp=Z,294nm,0.3s						
AC06	**Mina Casimiro**	**4.52**	**222**	Pn	**Pn**	**22 38 18.7**	**-0.7**
AC06	**Mina Casimiro**	**4.52**	**222**	*e*P	**Pn**	**22 38 19.0**	**-0.4**
TA01	**Diego Aracena**	**4.54**	**318**	Pn	**Pn**	**22 38 19.4**	**-0.4**
TA01	**Diego Aracena**	**4.54**	**318**	*e*P	**Pn**	**22 38 19.3**	**-0.4**
TA01	**Diego Aracena**	**4.54**	**318**	*e*P	**Pn**	**22 38 19.8**	**+0.1**
TA01				*e*P	**Pn**	**22 38 19.9**	**+0.1**
TA01				*e*S	**Sn**	**22 39 11.9**	**-1.6**
TA01				IAML		22 39 14.7	
	comp=Z,167nm,0.4s						
HMBC	**Humberstone**	**4.59**	**323**	*e*P	**Pn**	**22 38 19.5**	**-1.1**
HMBC				*e*S	**Sn**	**22 39 10.8**	**-4.3**
GO03	**Copiap**	**4.62**	**219**		**Pn**	**22 38 20.6**	**-0.3**
GO03	**Copiap**	**4.62**	**219**	*e*P	**Pn**	**22 38 20.5**	**-0.3**
GO03				*e*S	**Sn**	**22 39 13.9**	**-1.7**
GO03	**Copiap**	**4.62**	**219**	*e*P	**Pn**	**22 38 20.9**	**+0.1**
GO03				*e*S	**Sn**	**22 39 14.8**	**-0.8**
TA02	**Huaiquique**	**4.74**	**321**		**Pn**	**22 38 22.7**	**+0.4**
GO01	**Chusmiza**	**4.79**	**334**		**Pn**	**22 38 23.8**	**+0.3**
GO01	**Chusmiza**	**4.79**	**334**	*e*P	**Pn**	**22 38 24.0**	**+0.6**
GO01				*e*S	**Sn**	**22 39 19.1**	**-1.1**
GO01				*e*S	**Sn**	**22 39 20.9**	**+0.7**
VCA	**Vinchina**	**4.83**	**193**	*e*P	**Pn**	**22 38 25.8**	**+2.2**
VCA				*e*S	**Sn**	**22 39 19.9**	**-0.7**
PB11	**IPOC Station P**	**4.91**	**329**	Pn	**Pn**	**22 38 23.9**	**-0.7**
PB11	**IPOC Station P**	**4.91**	**329**	*e*P	**Pn**	**22 38 24.3**	**-0.4**
PB11				*e*S	**Sn**	**22 39 19.1**	**-3.2**
PB11				*e*S	**Sn**	**22 39 19.6**	**-2.8**
PB11				IAML		22 39 21.2	
	comp=Z,306nm,0.6s						
ACLC	**CERRO LA CRUZ**	**5.39**	**180**	*e*P	**Pn**	**22 38 31.5**	**+0.7**
ACLC				*e*S	**Sn**	**22 39 34.1**	**+0.6**
AC04	**Llanos de Chal**	**5.57**	**221**	Pn	**Pn**	**22 38 31.9**	**-0.9**
LCO	**Las Campanas**	**6.00**	**213**	Pn	**Pn**	**22 38 37.8**	**-0.8**
PB16	**IPOC Station P**	**6.12**	**337**		**Pn**	**22 38 40.4**	**-0.3**
PB12	**IPOC Station P**	**6.22**	**329**	Pn	**Pn**	**22 38 40.1**	**-1.3**
PB12	**IPOC Station P**	**6.22**	**329**	*e*P	**Pn**	**22 38 40.3**	**-1.1**
PB12				*e*S	**Sn**	**22 39 47.9**	**-4.9**
PB12				IAML		22 39 50.3	
	comp=Z,86nm,0.3s						
APLL	**PUNTA DE LOS L**	**6.37**	**177**	*e*P	**Pn**	**22 38 42.8**	**-0.4**
APLL				*e*S	**Sn**	**22 39 53.2**	**-3.0**
AROD	**Rodeo**	**6.52**	**199**	*e*S	**Sn**	**22 39 59.4**	**-0.8**
CO01	**Juntas del Tor**	**6.56**	**204**	Pn	**Pn**	**22 38 46.3**	**+0.4**
AVFE	**Valle Fertil**	**6.64**	**184**	*e*P	**Pn**	**22 38 46.4**	**-0.4**
ACCO	**Cerro Coronel**	**6.81**	**195**	*e*P	**Pn**	**22 38 50.4**	**+1.1**
GO04	**Tololo Observa**	**7.02**	**208**	Pn	**Pn**	**22 38 50.5**	**-1.4**
ACHE	**Chepes**	**7.13**	**178**	*e*P	**Pn**	**22 38 52.9**	**-0.2**
ACHE				*e*S	**Sn**	**22 40 10.3**	**-3.8**
CO03	**El Pedregal**	**7.56**	**205**	Pn	**Pn**	**22 38 57.5**	**-1.2**
CO02	**Combarbal**	**8.01**	**206**		**Pn**	**22 39 03.1**	**-1.5**
CPUP	**Villa Florida**	**9.03**	**107**	P	**Pn**	**22 39 14.4**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=299,slow=12,SNR=7.8						
CPUP	**Villa Florida**	**9.03**	**107**	Pn	**Pn**	**22 39 14.9**	**-3.0**
VA03	**San Esteban**	**9.27**	**199**	Pn	**Pn**	**22 39 21.9**	**+0.9**
SIV	**San Ignacio**	**9.71**	**36**	P	**Pn**	**22 39 24.7**	**-2.2**
	comp=Z,4.0nm,0.3s,baz=219,slow=11,SNR=16						
MT09	**Talagante**	**10.35**	**199**	Pn	**Pn**	**22 39 34.2**	**-0.9**
MT01	**Popeta**	**10.51**	**200**	Pn	**Pn**	**22 39 35.1**	**-1.9**
FRBT	**Francisco Belt**	**12.77**	**102**	*e*P	**Pn**	**22 40 06.7**	**+0.7**
TRCB	**Terra Rica**	**13.22**	**88**	*e*P	**P**	**22 40 15.3**	**+0.6**
PTGB	**Pitanga**	**13.61**	**96**	*e*P	**P**	**22 40 19.6**	**+0.6**
ITAB	**Concordia**	**13.77**	**107**	Pn	**Pn**	**22 40 17.1**	**-1.2**
ITAB	**Concordia**	**13.77**	**107**	*e*P	**Pn**	**22 40 17.6**	**-0.8**
PLTB	**Pedras Altas**	**14.11**	**126**	Pn	**Pn**	**22 40 21.6**	**-1.1**
PCMB	**Pacaembu**	**14.68**	**84**	*e*P	**P**	**22 40 31.6**	**+0.7**
CNLB	**Canela**	**15.34**	**114**	*e*P	**Pn**	**22 40 36.6**	**-1.2**
DVLD	**Doverlandia**	**15.70**	**65**	*e*P	**Pn**	**22 40 43.7**	**+1.5**
PDRB	**Porto dos Gac**	**15.71**	**40**	*e*P	**P**	**22 40 34.9**	**-7.3**
FRTB	**Faitura**	**15.96**	**91**	*e*P	**P**	**22 40 44.5**	**-0.5**
ITRB	**Iturama**	**16.00**	**78**	*e*P	**Pn**	**22 40 46.6**	**+0.7**
TIJ01	**Guaruva-PR**	**16.39**	**98**	*e*P	**Pn**	**22 40 50.4**	**-0.1**
TER01	**Tubaro-SC**	**16.62**	**110**	*e*P	**P**	**22 40 51.7**	**-0.5**
PLCA	**Paso Flores**	**16.94**	**189**	P	**P**	**22 40 56.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=354,slow=8.8,SNR=5.7						
PLCA	**Paso Flores**	**16.94**	**189**	P	**Pn**	**22 40 56.6**	**-0.3**
BB19B	**Bebedouro**	**17.29**	**84**	*e*P	**Pn**	**22 41 00.9**	**-0.2**
RCLB	**Rio Claro- Sao**	**17.94**	**89**	*e*P	**P**	**22 41 05.9**	**-0.9**
PET01	**Itanhaem-SP**	**17.98**	**95**	*e*P	**P**	**22 41 06.4**	**-0.7**
VAO	**Valinhos**	**18.38**	**91**	*e*P	**P**	**22 41 10.5**	**-1.0**
IPMB	**Ipameri, GO**	**18.51**	**75**	*e*P	**P**	**22 41 12.5**	**-0.4**
SNDB	**Serra Nova Dou**	**19.10**	**54**	*e*P	**P**	**22 41 18.1**	**-1.2**
LL02	**Futaleuf**	**19.55**	**191**	P	**P**	**22 41 25.1**	**+1.3**
LL02				IAmb	IAmb	22 41 28.3	
	comp=Z,12nm,0.8s						
PARB	**Paraibuna**	**19.57**	**92**	*e*P	**P**	**22 41 23.8**	**-0.5**
BDFB	**Brasilia**	**19.67**	**68**	P	**P**	**22 41 25.0**	**-0.5**
	comp=Z,4.9nm,0.3s,baz=241,slow=11,SNR=66						
BDFB	**Brasilia**	**19.67**	**68**	P	**P**	**22 41 24.7**	**-0.8**
SLP01	**Ubatuba-SP**	**19.99**	**92**	*e*P	**P**	**22 41 28.7**	**-0.2**
ESAR	**Angra dos Reis**	**20.68**	**92**	*e*P	**P**	**22 41 35.7**	**-0.5**
BSCB	**Bom Sucesso**	**20.72**	**86**	*e*P	**P**	**22 41 35.6**	**-1.1**
MAN01	**Angra dos Reis**	**21.14**	**92**	*e*P	**P**	**22 41 40.2**	**-0.9**
PEXB	**Peixe**	**21.31**	**60**	*e*P	**P**	**22 41 41.0**	**-1.8**
VAS01	**Vassouras-RJ**	**21.70**	**90**	*e*P	**P**	**22 41 46.2**	**-0.6**
DIAM	**Diamantina, MG**	**22.45**	**80**	*e*P	**P**	**22 41 52.8**	**-1.3**
DUB01	**Friburgo-RJ**	**22.71**	**90**	*e*P	**P**	**22 41 55.7**	**-0.7**
MC01	**Montes Claros**	**22.76**	**76**	*e*P	**P**	**22 41 54.9**	**-2.0**
JANB	**Januaria**	**23.11**	**71**	*e*P	**P**	**22 41 58.7**	**-1.3**
SDBA	**SAO DESIDERIO**	**23.89**	**65**	*e*P	**P**	**22 42 05.6**	**-1.6**
ALF01	**Guarapari-ES**	**24.50**	**87**	*e*P	**P**	**22 42 11.5**	**-1.0**
SJMB	**Sao Joao De Ma**	**24.57**	**83**	*e*P	**P**	**22 42 11.7**	**-1.5**
BSFB	**Barra de Sao F**	**24.84**	**83**	*e*P	**P**	**22 42 14.2**	**-1.5**
RIB01	**Linhares ES**	**25.12**	**84**	*e*P	**P**	**22 42 16.6**	**-1.6**
NAN01	**Guarapari, ES**	**25.79**	**81**	*e*P	**P**	**22 42 22.5**	**-1.7**
GUA01	**Guaratinga, BA**	**26.50**	**79**	*e*P	**P**	**22 42 29.3**	**-1.3**
CMC01	**Camacan, BA**	**27.20**	**77**	*e*P	**P**	**22 42 35.5**	**-1.4**
GDU01	**Guandu, BA**	**27.82**	**73**	*e*P	**P**	**22 42 40.3**	**-2.1**
NBPN	**Ponto Novo - B**	**28.63**	**67**	*e*P	**P**	**22 42 47.8**	**-1.9**
NBLA	**Lagarto - SE**	**30.61**	**70**	*e*P	**P**	**22 43 04.8**	**-2.3**
NBPS	**Pedro II - PI**	**31.39**	**56**	*e*P	**P**	**22 43 10.3**	**-3.7**
NBMA	**Muriti-CE**	**31.70**	**63**	*e*P	**P**	**22 43 14.9**	**-1.7**
NBAN	**Anadia - AL**	**32.56**	**69**	*e*P	**P**	**22 43 21.8**	**-2.3**
RCBR	**Riachuelo**	**34.91**	**64**	P	**P**	**22 43 43.2**	**-1.1**
833A	**Chaparral WMA,**	**60.69**	**327**	P	**P**	**22 47 03.1**	**+1.3**
833A				IAmb	IAmb	22 47 04.2	
	comp=Z,9.7nm,0.7s						
FPAL	**Fort Paine**	**60.86**	**342**	P	**P**	**22 47 03.2**	**+0.3**
FPAL				IAmb	IAmb	22 47 03.8	
	comp=Z,3.2nm,0.8s						
TKL	**Tuckaleechee C**	**61.44**	**344**	P	**P**	**22 47 06.8**	**+0.1**
TKL				IAmb	IAmb	22 47 07.2	
	comp=Z,20nm,1.5s						
WVT	**Waverly**	**62.98**	**341**	P	**P**	**22 47 16.9**	**0.0**
TXAR	**Lajitas Array**	**63.70**	**324**	P	**P**	**22 47 23.4**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=152,slow=8.3,SNR=8.3						
TXAR	**Lajitas Array**	**63.70**	**324**	P	**P**	**22 47 22.4**	**+0.4**
TX31	**Lajitas Ar. Si**	**63.70**	**324**	P	**P**	**22 47 22.6**	**+0.6**
TX31				IAmb	IAmb	22 47 36.6	
	comp=Z,3.4nm,1.1s						
CCM	**Cathedral Cave**	**65.81**	**339**	P	**P**	**22 47 35.9**	**+0.6**
CCM				IAmb	IAmb	22 47 36.4	
	comp=Z,8.1nm,0.6s						
S39A	**Bolivar**	**66.19**	**337**	P	**P**	**22 47 38.3**	**+0.6**
S39A				IAmb	IAmb	22 47 39.3	
	comp=Z,6.7nm,0.7s						
QSPA	**South Pole Qui**	**66.19**	**180**	P	**P**	**22 47 39.6**	**+2.0**
QSPA				IAmb	IAmb	22 47 40.4	
	comp=Z,3.1nm,0.6s						
R40A	**Maddies Statio**	**66.37**	**338**	P	**P**	**22 47 39.5**	**+0.7**
R40A				IAmb	IAmb	22 47 39.9	
	comp=Z,2.4nm,0.6s						
DBIC	**Dimbokro**	**67.78**	**72**	P	**P**	**22 47 47.5**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=227,slow=6.6,SNR=4.6						
DBIC	**Dimbokro**	**67.78**	**72**	P	**P**	**22 47 47.1**	**-1.1**
DBIC				IAmb	IAmb	22 47 51.5	
	comp=Z,7.9nm,1.2s						
LMN	**Caledonia Moun**	**69.56**	**2**	P	**P**	**22 47 58.9**	**+0.4**
LMN				IAmb	IAmb	22 48 18.5	
	comp=Z,11nm,1.1s						
BGNE	**Belgrade**	**71.22**	**336**	P	**P**	**22 48 09.7**	**+1.0**
SDCO	**Great Sand Dun**	**71.31**	**329**	P	**P**	**22 48 11.9**	**+2.2**
KOWA	**Kowa**	**72.42**	**65**	P	**P**	**22 48 16.2**	**-0.2**
DRLN	**Deer Lake**	**73.42**	**6**	P	**P**	**22 48 22.3**	**+0.8**
VNDA	**Vanda**	**74.69**	**190**	P	**P**	**22 48 28.6**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=45,slow=2.5,SNR=6.4						
TOA0	**Torodi Ar. Sit**	**76.55**	**69**	P	**P**	**22 48 39.6**	**-0.6**
TOA0				IAmb	IAmb	22 48 42.4	
	comp=Z,3.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.55**	**69**	P	**P**	**22 48 39.8**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=270,slow=7.2,SNR=47						
TORD	**Torodi Ar. Bea**	**76.55**	**69**	P	**P**	**22 48 39.5**	**-0.7**
PD31	**Pinedale Array**	**77.17**	**329**	P	**P**	**22 48 44.2**	**+0.9**
PDAR	**Pinedale Array**	**77.17**	**329**	P	**P**	**22 48 45.0**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=131,slow=8.4,SNR=7.9						
PDAR	**Pinedale Array**	**77.17**	**329**	P	**P**	**22 48 44.9**	**+1.6**
NVAR	**Mina Array Bea**	**78.56**	**321**	P	**P**	**22 48 52.1**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=140,slow=4.1,SNR=4.2						
KVN	**Kaiserville**	**78.87**	**322**	P	**P**	**22 48 54.2**	**+1.4**
YHH	**Holmes Hill**	**79.32**	**330**	P	**P**	**22 48 57.4**	**+2.2**
YHH				IAmb	IAmb	22 48 58.8	
	comp=Z,2.2nm,0.7s						
MCMT	**McKenzie Canyo**	**80.29**	**329**	P	**P**	**22 49 02.3**	**+2.0**
BOSA	**Boshof**	**80.70**	**117**	P	**P**	**22 49 03.0**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=331,slow=2.3,SNR=7.6						
LBTB	**Lobatse**	**82.36**	**114**	P	**P**	**22 49 11.4**	**-0.2**
LBTB				IAmb	IAmb	22 49 36.0	
	comp=Z,7.7nm,1.4s						
ESDC	**Sonseca Array**	**86.39**	**44**	P	**P**	**22 49 32.5**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=224,slow=5.7,SNR=1.8						
YKA	**Yellowknife Ar**	**94.14**	**340**	P	**P**	**22 50 07.9**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=135,slow=4.5,SNR=24						
YKA	**Yellowknife Ar**	**94.14**	**340**	P	**P**	**22 50 07.8**	**+0.9**
ASAR	**Alice Springs**	**128.46**	**205**	PKP	**PKiKP**	**22 55 56.3**	**+0.4

ELK				LR		LR	23 38 00.1		
	comp=Z,145nm,21.7s,baz=154,slow=36								
PDAR	**Pinedale Array**	**14.97**	**7**	Pn		**P**	**23 33 43.1**	**-0.5**	
	0.0nm,0.3s,baz=174,slow=11,SNR=8.5								
PDAR				LR		LR	23 39 44.3		
	comp=Z,233nm,18.8s,baz=146,slow=39								
YBH	**Yreka Blue Hor**	**16.43 330**		LR		LR	23 40 55.2		
	comp=Z,175nm,18.3s,baz=222,slow=40								
NEW	**Newport**	**20.76 350**		P		**P**	**23 34 48.2**	**+1.0**	
	2.2nm,0.9s,baz=164,slow=9.7,SNR=4.1								
TKL	**Tuckaleechee C**	**25.04**	**65**	LR		LR	23 46 11.8		
	comp=Z,110nm,18.3s,baz=61,slow=39								
ULM	**Lac du Bonnet**	**25.44**	**24**	LR		LR	23 45 31.1		
	comp=Z,139nm,20.3s,baz=106,slow=37								

*NEIC **19** 23:34:14.5±1.0, 17°.6S±0°.4×178°.5W±0°.2, h590km±18km, mb4.1/15, Error ellipse: s-maj=58.6km s-min=6.1km az=150.0*
*IDC **19** 23:34:14.2±1.3, 17°.72S×178°.63W, h578km±16km, mb3.0/7, mb1 3.3/11, mb1mx3.0/36, mbtmp4.1/11, Error ellipse: s-maj=32.9km s-min=13.5km az=157.0*
ISC 19 23:34:15.2±0.6, 17°.7S±0°.2×178°.6W±0°.1, h600km, n32, σ1§08/32, mb4.0/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.22**	**269**	P	**P**	**23 35 32.6**	**-3.1**
	4.8nm,0.3s,baz=146,slow=8.4,SNR=8.8						
MSVF	**Nonsavu**	**3.22**	**269**	P	**P**	**23 35 34.6**	**-1.2**
AFI	**Afiamalu**	**7.54**	**61**	P	**P**	**23 36 08.1**	**-2.3**
	3.2nm,0.3s,baz=84,slow=22,SNR=1.6						
AFI	**Afiamalu**	**7.54**	**61**	P	**P**	**23 36 08.6**	**-1.9**
DZM	**Mont Dzumac**	**14.75**	**250**	P	**P**	**23 37 21.5**	**+0.2**
	0.5nm,0.3s,baz=68,slow=16,SNR=7.0						
DZM	**Mont Dzumac**	**14.75**	**250**	P	**P**	**23 37 22.1**	**+0.8**
RAR	**Rarotonga**	**18.08**	**104**	P	**P**	**23 37 52.5**	**+0.9**
	1.7nm,0.3s,baz=37,slow=11,SNR=1.6						
EIDS	**Eidsvold**	**29.20**	**250**	P	**P**	**23 39 30.1**	**0.0**
EIDS				IAmb	IAmb	23 39 46.8	
	comp=Z,2.8nm,0.8s						
CTAO	**Charters Tower**	**33.33**	**260**	P	**P**	**23 40 04.6**	**-0.8**
COEN	**Coen**	**36.94**	**270**	P	**P**	**23 40 36.3**	**+0.9**
TOO	**Toolangi**	**37.19**	**230**	P	**P**	**23 40 37.3**	**+0.2**
TOO				IAmb	IAmb	23 40 37.7	
	comp=Z,4.2nm,0.7s						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**23 40 48.5**	**0.0**
	comp=Z,3.4nm,0.4s,baz=94,slow=10,SNR=16						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**23 40 48.6**	**0.0**
BBOO	**Buckleboo**	**43.38**	**241**	P	**P**	**23 41 25.9**	**-0.3**
WR0	**Warramunga Arr**	**44.33**	**259**	P	**P**	**23 41 33.3**	**-0.5**
WR0				IAmb	IAmb	23 41 41.5	
	comp=Z,4.2nm,1.2s						
WB0	**Warramunga Arr**	**44.48**	**260**	P	**P**	**23 41 34.6**	**-0.4**
WB0				IAmb	IAmb	23 41 34.8	
	comp=Z,9.0nm,1.2s						
WB2	**Warramunga Arr**	**44.51**	**259**	P	**P**	**23 41 34.5**	**-0.6**
WB2				IAmb	IAmb	23 41 35.4	
	comp=Z,4.3nm,0.5s						
WRAB	**Tennant Creek**	**44.51**	**259**	P	**P**	**23 41 34.5**	**-0.7**
WRAB				IAmb	IAmb	23 41 35.0	
	comp=Z,5.7nm,1.1s						
WRA	**Warramunga Arr**	**44.52**	**259**	P	**P**	**23 41 34.3**	**-1.0**
	comp=Z,2.4nm,0.4s,baz=92,slow=8.0,SNR=55						
WRA	**Warramunga Arr**	**44.52**	**259**	P	**P**	**23 41 34.2**	**-1.0**
AS31	**Alice Springs**	**44.70**	**254**	P	**P**	**23 41 36.3**	**-0.4**
AS31				IAmb	IAmb	23 41 37.1	
	comp=Z,5.9nm,0.7s						
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**23 41 36.6**	**0.0**
	comp=Z,22nm,0.6s,baz=88,slow=8.4,SNR=270						
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**23 41 36.8**	**+0.2**
KNRA	**Kununurra**	**50.35**	**264**	P	**P**	**23 42 19.2**	**+0.5**
KNRA				IAmb	IAmb	23 42 36.1	
	comp=Z,10nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.91**	**260**	P	**P**	**23 42 37.5**	**+0.4**
PSA00	**Pilbara Seismi**	**57.81**	**255**	P	**P**	**23 43 11.1**	**+0.1**
MBWA	**Marble Bar**	**57.98**	**256**	P	**P**	**23 43 11.8**	**-0.3**
MBWA				IAmb	IAmb	23 43 30.9	
	comp=Z,10nm,1.1s						
QSPA	**South Pole Qui**	**72.38**	**180**	P	**P**	**23 44 41.2**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=105,slow=18,SNR=2.9						
NVAR	**Mina Array Bea**	**79.37**	**44**	P	**P**	**23 45 22.3**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=222,slow=6.6,SNR=3.5						
ILAR	**Eielson Array**	**85.70**	**13**	P	**P**	**23 45 52.1**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=219,slow=6.1,SNR=4.8						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**23 45 53.8**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=236,slow=8.9,SNR=4.0						
PDAR	**Pinedale Array**	**87.30**	**43**	P	**P**	**23 46 01.1**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=218,slow=5.2,SNR=4.7						

*NEIC **19** 23:35:06.7±2.6, 63°.2S±0°.1×145°.1E±0°.4, h10km±1km, mb4.3/10, Error ellipse: s-maj=28.7km s-min=20.4km az=102.0*
*IDC **19** 23:35:06.3±0.9, 63°.03S×144°.89E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/20, mbtmp4.1/4, Error ellipse: s-maj=45.2km s-min=21.5km az=92.0*
ISC 19 23:35:06.8±0.6, 63°.22S±0°.10×145°.2E±0°.1, h10km, n38, σ1§18/38, mb4.2/8, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CASY	**Casey**	**14.97**	**243**	Pn	**Pn**	**23 38 37.7**	**-0.4**
VNDA	**Vanda**	**15.30**	**166**	Pn	**Pn**	**23 38 40.1**	**-2.3**
	0.6nm,0.3s,baz=329,slow=13,SNR=24						
VNDA				Sn	Sn	23 41 19.9	-12
	0.5nm,0.3s,baz=236,slow=23,SNR=3.8						
VNDA	**Vanda**	**15.30**	**166**	Pn	**Pn**	**23 38 40.0**	**-2.4**
VNDA				IAmb	IAmb	23 38 56.7	
	comp=Z,5.6nm,0.6s						
SBA	**Scott Base**	**16.16**	**164**	Pn	**Pn**	**23 38 51.9**	**-1.6**
QSPA	**South Pole Qui**	**26.87**	**180**	P	**P**	**23 40 50.1**	**+2.8**
	comp=Z,2.1nm,0.6s,baz=299,slow=0.9,SNR=17						
QSPA	**South Pole Qui**	**26.87**	**180**	P	**P**	**23 40 50.0**	**+2.6**
QSPA				IAmb	IAmb	23 41 15.3	
	comp=Z,5.3nm,0.7s						
BHW	**Baring Head**	**27.94**	**53**	P	**P**	**23 40 56.5**	**-0.4**
H01W1	**Cape Leeuwin H**	**34.23**	**311**	T	T	00 18 04.6	
	baz=155						
H01W2	**Cape Leeuwin H**	**34.23**	**311**	T	T	00 18 06.0	
	baz=155						
H01W3	**Cape Leeuwin H**	**34.24**	**311**	T	T	00 18 01.5	
	baz=155						
EIDS	**Eidsvold**	**38.04**	**9**	P	**P**	**23 42 25.7**	**+0.6**
ASAR	**Alice Springs**	**40.25**	**344**	P	**P**	**23 42 43.2**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=166,slow=9.8,SNR=7.8						
ASAR	**Alice Springs**	**40.25**	**344**	P	**P**	**23 42 43.0**	**-0.6**
WR0	**Warramunga Arr**	**43.83**	**345**	P	**P**	**23 43 11.4**	**-1.4**
WR0				IAmb	IAmb	23 43 19.6	
	comp=Z,5.6nm,1.1s						
WB2	**Warramunga Arr**	**43.87**	**345**	P	**P**	**23 43 11.4**	**-1.8**
WB2				IAmb	IAmb	23 43 21.0	
	comp=Z,6.1nm,0.8s						
WRA	**Warramunga Arr**	**43.87**	**345**	P	**P**	**23 43 12.2**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=170,slow=7.0,SNR=18						
WRA	**Warramunga Arr**	**43.87**	**345**	P	**P**	**23 43 11.8**	**-1.4**
WRAB	**Tennant Creek**	**43.88**	**345**	P	**P**	**23 43 12.0**	**-1.2**
WRAB				IAmb	IAmb	23 43 21.0	
	comp=Z,5.5nm,0.8s						
WB0	**Warramunga Arr**	**44.04**	**345**	P	**P**	**23 43 13.0**	**-1.5**
WB0				IAmb	IAmb	23 43 22.3	
	comp=Z,3.4nm,0.8s						
BOSA	**Boshof**	**76.94**	**231**	P	**P**	**23 47 00.7**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=186,slow=7.4,SNR=6.0						
BOSA	**Boshof**	**76.94**	**231**	P	**P**	**23 46 57.8**	**-1.5**
NVAR	**Mina Array Bea**	**126.31**	**76**	PKP	**PKiKP**	**23 54 10.4**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=192,slow=6.5,SNR=6.2						
YKA	**Yellowknife Ar**	**145.78**	**54**	PKPbc	**PKPbc**	**23 54 44.6**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=236,slow=2.9,SNR=28						
YKA	**Yellowknife Ar**	**145.78**	**54**		**PKPdf**	**23 54 44.0**	**+0.2**
SOKA	**Soboth**	**147.95**	**263**	*eP*	**PKiKP**	**23 54 53.5**	**+0.5**
	comp=Z,2.2nm,1.0s						
OBKA	**Obir**	**148.04**	**262**	*eP*	**PKiKP**	**23 54 53.8**	**+0.6**
	comp=Z,5.4nm,1.0s						
ABTA	**Abfaltersbach**	**149.14**	**260**	*eP*	**PKiKP**	**23 54 55.4**	**0.0**
	comp=Z,1.7nm,0.6s						
WTTA	**Wattenberg**	**149.92**	**260**	*eP*	**PKiKP**	**23 54 57.0**	**-0.2**
	comp=Z,1.8nm,0.5s						
SQTA	**Sankt Quirin**	**150.08**	**260**	*eP*	**PKiKP**	**23 54 57.3**	**-0.1**
	comp=Z,3.1nm,0.5s						
ESDC	**Sonseca Array**	**150.12**	**233**	PKPbc	**PKiKP**	**23 54 58.2**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=166,slow=1.0,SNR=14						
ESDC				PKPab	**PKPab**	**23 55 03.5**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=147,slow=1.0,SNR=11						
ESDC	**Sonseca Array**	**150.12**	**233**		**PKiKP**	**23 54 57.8**	**+0.2**
FETA	**Feichten**	**150.14**	**259**	*eP*	**PKPbc**	**23 54 56.9**	**+0.1**
	comp=Z,2.3nm,0.9s						
GERES	**GERESS Array B**	**150.17**	**264**	PKPbc	**PKPbc**	**23 54 56.9**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=132,slow=2.0,SNR=8.7						
GERES				PKPab	**pPKPab**	**23 55 04.0**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=144,slow=4.8,SNR=9.8						
MOTA	**Moosalm**	**150.22**	**260**	*eP*	**PKiKP**	**23 54 58.2**	**+0.4**
	comp=Z,6.8nm,1.4s						
DAVOX	**Davos/Dischmat**	**150.33**	**258**	PKPbc	**PKPbc**	**23 54 57.2**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=173,slow=4.4,SNR=4.7						
DAVOX				PKPab	**PKPab**	**23 55 03.8**	**0.0**
	comp=Z,2.4nm,0.6s,baz=246,slow=1.9,SNR=5.5						
RETA	**Reutte**	**150.48**	**259**	*eP*	**PKiKP**	**23 54 58.3**	**+0.1**
	comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**152.59**	**294**	PKPbc	**PKiKP**	**23 55 01.8**	**-0.1**
	comp=Z,4.4nm,1.1s,baz=186,slow=1.9,SNR=4.6						
FINES	**FINESS Array B**	**152.59**	**294**	PKPbc	**PKiKP**	**23 55 02.0**	**+0.1**

*MDD **19** 23:40:07.0±0.5, 35°.65N×2°.27W, h19km±4km, mb_Lg2.9/14, Error ellipse: s-maj=4.0km s-min=2.1km az=168.0*
*CNRM **19** 23:40:06.8, 35°.62N×2°.27W, h26km, ml3.1*
*INMG **19** 23:40:07.2±1.2, 35°.68N×2°.27W, h21km±4km, ML2.4, Error ellipse: s-maj=2.9km s-min=2.4km az=173.0*
ISC 19 23:40:06.3±1.2, 35°.68N±0°.03×2°.27W±0°.03, h29km±13km, n55, σ1§05/93, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.68**	**293**	Pg	**Pb**	**23 40 19.6**	**+0.1**
EALB				Sg	**Sn**	**23 40 29.1**	**-0.4**
EALB				*i* Vmb_Lg		23 40 29.9	
EMEL	**Melilla**	**0.68**	**236**	Pg	**Pb**	**23 40 18.8**	**-0.7**
EMEL				Sg	**Sb**	**23 40 29.0**	**+0.4**
TAF	**Taforalt**	**0.87**	**188**	P	**Pb**	**23 40 32.8**	**-0.1**
TAF				S	**Sb**	**23 40 33.1**	**-1.1**
ENIJ	**Nijar**	**1.29**	**2**	Pn	**Pn**	**23 40 28.2**	**-0.3**
ENIJ				Sn	**Sn**	**23 40 43.7**	**-1.1**
ENIJ				*i* Vmb_Lg		23 40 46.1	
EBER	**Berja**	**1.32**	**338**	Pn	**Pn**	**23 40 28.5**	**-0.4**
EBER				Sn	**Sn**	**23 40 45.6**	**0.0**
EBER				*i* Vmb_Lg		23 40 58.2	
JBK	**JBK**	**1.36**	**190**	P	**Pn**	**23 40 30.0**	**+0.4**
PALE	**Palemas**	**1.44**	**252**	P	**Pn**	**23 40 30.8**	**+0.4**
PALE				S	**Sn**	**23 40 48.3**	**-0.1**
ELGU	**Los Guajares,**	**1.62**	**318**	Pn	**Pn**	**23 40 32.2**	**-0.7**
ELGU				Sn	**Sn**	**23 40 52.5**	**-0.4**
ELGU				*i* Vmb_Lg		23 40 54.7	
AKLM	**AKL**	**1.75**	**229**	P	**Pn**	**23 40 35.4**	**+0.6**
EQUE	**Quentar**	**1.79**	**329**	Pn	**Pn**	**23 40 35.9**	**+0.5**
EQUE				Sn	**Sn**	**23 40 56.8**	**-0.4**
EQUE				*i* Vmb_Lg		23 41 07.9	
TLOR	**Lorca, Murcia**	**2.03**	**13**	Pn	**Pn**	**23 40 39.2**	**+0.7**
TLOR				Sn	**Sn**	**23 41 02.8**	**-0.1**
EGOR	**Sierra Gorda,**	**2.06**	**314**	Pn	**Pn**	**23 40 39.8**	**+0.7**
EGOR				Sn	**Sn**	**23 41 04.2**	**+0.3**
EGOR				*i* Vmb_Lg		23 41 13.4	
CART	**Cartagena**	**2.16**	**28**	P	**Pn**	**23 40 39.6**	**-0.7**
EMIJ	**Mijas**	**2.21**	**294**	Pn	**Pn**	**23 40 41.7**	**+0.7**
EMIJ				Sn	**Sn**	**23 41 06.1**	**-1.4**
EMIJ				*i* Vmb_Lg		23 41 12.5	
EZAR	**Zarzadilla de**	**2.24**	**12**	Pn	**Pn**	**23 40 42.3**	**+0.7**
EZAR				Sn	**Sn**	**23 41 08.4**	**+0.2**
EMUR	**La Murta**	**2.31**	**21**	Pn	**Pn**	**23 40 42.5**	**+0.1**
EMUR				Sn	**Sn**	**23 41 09.5**	**-0.5**
EMUR				*i* Vmb_Lg		23 41 11.8	
ECEU	**Ceuta**	**2.54**	**276**	Pn	**Pn**	**23 40 45.3**	**-0.2**
ECEU				Sn	**Sn**	**23 41 14.3**	**-1.1**
CHEFC	**Chefchaouen**	**2.57**	**258**	P	**Pn**	**23 40 47.5**	**+1.4**
TDRA	**Tendrara**	**2.64**	**176**	P	**Pn**	**23 40 48.0**	**+0.8**
EJIF	**Jimena Fronter**	**2.71**	**287**	Pn	**Pn**	**23 40 48.0**	**+0.2**
EJIF				Sn	**Sn**	**23 41 19.1**	**-0.5**
LCRM	**LCR**	**2.92**	**228**	P	**Pn**	**23 40 52.5**	**+1.6**
ETOB	**Tobarra**	**3.02**	**11**	Pn	**Pn**	**23 40 53.6**	**+1.4**
ETOB				Sn	**Sn**	**23 41 27.5**	**+0.2**
ETOB				*i* Vmb_Lg		23 41 28.9	
EADA	**Adamuz**	**3.10**	**324**	Pn	**Pn**	**23 40 54.6**	**+1.3**
EADA				Sn	**Sn**	**23 41 29.3**	**0.0**
EADA				*i* Vmb_Lg		23 41 38.1	
ESPR	**Espera**	**3.13**	**293**	Pn	**Pn**	**23 40 55.0**	**+1.4**
ESPR				Sn	**Sn**	**23 41 30.2**	**+0.1**
AFON	**Font Roja**	**3.28**	**24**	Pn	**Pn**	**23 40 57.4**	**+1.5**
AFON				Sn	**Sn**	**23 41 33.6**	**-0.4**
AFON				*i* Vmb_Lg		23 41 42.9	
MDT	**Midelt**	**3.45**	**215**	P	**Pn**	**23 40 59.4**	**+1.1**
ECAB	**El Cabril**	**3.48**	**314**	Pn	**Pn**	**23 40 58.7**	**+0.2**
ECAB				Sn	**Sn**	**23 41 38.3**	**-0.4**
MD31	**MD31**	**3.48**	**217**	P	**Pn**	**23 40 59.9**	**+1.4**
CZD	**Col de Zad**	**3.50**	**222**	P	**Pn**	**23 40 59.9**	**+0.9**
ECHE	**Chera**	**4.04**	**14**	Pn	**Pn**	**23 41 07.9**	**+1.7**
ECHE				Sn	**Sn**	**23 41 52.0**	**-0.6**
EMIN	**Mina Concepcio**	**4.11**	**302**	Pn	**Pn**	**23 41 07.6**	**+0.5**
EMIN				Sn	**Sn**	**23 41 53.2**	**-0.9**
PAB	**San Pablo**	**4.20**	**337**	Pn	**Pn**	**23 41 09.3**	**+0.9**
PAB				Sn	**Sn**	**23 41 56.6**	**0.0**
PAB	**San Pablo**	**4.20**	**337**	P	**Pn**	**23 41 11.0**	**+2.6**
ESDC	**Sonseca Array**	**4.21**	**342**	Pn	**Pn**	**23 41 10.2**	**+1.6**
ESDC				Sn	**Sn**	**23 41 54.9**	**-1.9**
EIBI	**Ibiza**	**4.41**	**40**	Pn	**Pn**	**23 41 11.6**	**+0.3**
EIBI				Sn	**Sn**	**23 42 00.6**	**-1.0**
PBAR	**Barrancos**	**4.56**	**305**	*ePn*	**Pn**	**23 41 14.4**	**+1.1**
PBAR				*eSn*	**Sn**	**23 42 04.8**	**-0.6**
PBAR				A	A	23 42 14.7	
	1.8nm,0.5s						
EGRO	**El Granado**	**4.59**	**295**	Pn	**Pn**	**23 41 14.1**	**+0.5**
EGRO				Sn	**Sn**	**23 42 05.3**	**-0.6**
PVAQ	**Vaqueiros**	**4.71**	**293**	*ePn*	**Pn**	**23 41 16.3**	**+0.9**
PVAQ				*eSn*	**Sn**	**23 42 07.3**	**-1.8**
PVAQ				A	A	23 42 13.2	
	3.7nm,0.4s						
PVAQ	**Vaqueiros**	**4.71**	**293**	P	**Pn**	**23 41 16.4**	**+0.9**
PBDV	**Barranco-do-Ve**	**4.82**	**291**	*ePn*	**Pn**	**23 41 18.2**	**+1.2**
PBDV				*eSn*	**Sn**	**23 42 10.8**	**-1.1**
PBDV				A	A	23 42 12.3	
	4.3nm,0.9s						
EBAD	**Badajoz**	**4.88**	**310**	Pn	**Pn**	**23 41 17.5**	**-0.2**
EBAD				Sn	**Sn**	**23 42 10.7**	**-2.4**
EMOS	**Mosqueruela**	**4.89**	**16**	Pn	**Pn**	**23 41 20.3**	**+2.3**
EMOS				Sn	**Sn**	**23 42 12.7**	**-1.0**
PCVE	**Castro Verde**	**5.03**	**294**	*ePn*	**Pn**	**23 41 21.7**	**+1.9**
PCVE				*eSn*	**Sn**	**23 42 15.8**	**-1.2**
PCVE				A	A	23 42 26.2	
	2.7nm,0.9s						
ETOR	**Torete**	**5.13**	**2**	Pn	**Pn**	**23 41 23.0**	**+1.7**
ETOR				Sn	**Sn**	**23 42 18.5**	**-1.1**
PESTR	**Estremoz**	**5.30**	**308**	*ePn*	**Pn**	**23 41 24.2**	**+0.6**
PESTR				*eSn*	**Sn**	**23 42 23.0**	**-0.7**
PESTR				A	A	23 42 37.1	
	2.8nm,0.7s						
PESTR	**Estremoz**	**5.30**	**308**	P	**Pn**	**23 41 24.7**	**+1.1**
EPLA	**Plasencia**	**5.32**	**327**	Pn	**Pn**	**23 41 24.8**	**+1.1**
MORF	**Marmelete**	**5.39**	**289**	*ePn*	**Pn**	**23 41 25.5**	**+0.7**
PFVI	**Vila Bisbo**	**5.49**	**287**	*ePn*	**Pn**	**23 41 27.1**	**+1.1**
PTEO	**Sao Teotonio**	**5.52**	**292**	*ePn*	**Pn**	**23 41 27.2**	**+0.7**
PMRV	**Marv??o**	**5.53**	**314**	*ePn*	**Pn**	**23 41 28.3**	**+1.7**
PMRV				*eSn*	**Sn**	**23 42 28.4**	**-0.9**
PNCL	**Nicolau / Gran**	**5.57**	**298**	*ePn*	**Pn**	**23 41 28.6**	**+1.4**
PNCL				*eSn*	**Sn**	**23 42 29.3**	**-1.0**
PNCL				A	A	23 42 34.2	
	3.1nm,0.7s						
ERTA	**Horta de San J**	**5.65**	**20**	Pn	**Pn**	**23 41 29.7**	**+1.4**
ERTA				Sn	**Sn**	**23 42 30.8**	**-1.5**
ETOS	**Mallorca**	**5.73**	**43**	Pn	**Pn**	**23 41 29.8**	**+0.4**
ETOS				Sn	**Sn**	**23 42 33.0**	**-1.3**
PSBE	**So Bento**	**6.44**	**308**	*ePn*	**Pn**	**23 41 40.2**	**+1.0**

DJA 19 23:44:07.0±0.9, 9°S±4°×12°4E±°, h87km±16km, M4.0/6, mb4.5/2, mB4.8/1, MLv3.8/6, Mw(mB)4.0/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.07**	**189**	P	Pn	23 44 28.8	+1.4
BATI				S	Sn	23 44 43.0	+0.3
MMRI	**Maumere**	**1.66**	**287**	P	Pn	23 44 34.7	0.0
BASI	**Baing, Sumba**	**3.39**	**251**	P	Pn	23 44 57.5	-0.3
WBSI	**Waikabubak, Su**	**4.42**	**263**	P	Pn	23 45 10.1	-1.7
BSSI	**Bau Bau, Buton**	**4.46**	**312**	P	Pn	23 45 12.6	+0.3
PLAI	**Plampang**	**6.00**	**272**	P	Pn	23 45 33.1	-0.1

*AZER **19** 23:50:07.2±0.1, 39°.15N×43°.14E, h6km±3km, Error ellipse: s-maj=4.0km s-min=1.0km az=68.0*
*NSSP **19** 23:50:08.5, 38°.82N×43°.52E, h5km, Ms4.0*
*ISK **19** 23:50:09.6, 38°.88N×43°.53E, h4km, ML3.9/20*
*IDC **19** 23:50:10.0±1.1, 39°.22N×43°.26E, h0km, mb3.6/4, mb1 3.4/8, mb1mx3.2/51, mbtmp3.4/8, ML2.5/4, Error ellipse: s-maj=17.4km s-min=11.8km az=144.0*
*DDA **19** 23:50:10.9±0.0, 38°.90N×43°.55E, h11km, MW4.0*
ISC 19 23:50:10.3±0.8, 38°.91N±0°.02×43°.55E±0°.02, h11km±5km, n110, σ1§93/173, mb3.6/4, 7C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.08**	**13**	P	**Pg**	**23 50 12.6**	**-0.5**
VMUR				*i* AML	AML	23 50 15.0	
	comp=N,11μm,0.5s						
VMUR				S	**Sg**	**23 50 15.4**	**+0.4**
VMUR				*i* AML	AML	23 50 16.0	
	comp=E,12μm,0.7s						
ERCV	**ERCIS-VAN**	**0.20**	**304**	PG	**Pg**	**23 50 14.4**	**-0.3**
VANB	**Van**	**0.34**	**202**	PG	**Pb**	**23 50 17.8**	**-0.7**
CLDR	**Caldiran**	**0.37**	**51**	PG	**Pg**	**23 50 17.4**	**-0.4**
CLDR				SG	**Sg**	**23 50 24.1**	**+1.4**
CLDR	**Caldiran**	**0.37**	**51**	P	**Pg**	**23 50 17.4**	**-0.4**
CLDR				*i* AML	AML	23 50 24.0	
	comp=E,1μm,0.7s						
CLDR				S	**Sg**	**23 50 24.2**	**+1.4**
CLDR				*i* AML	AML	23 50 30.0	
	comp=N,2μm,1.3s						
TVAN	**Van**	**0.40**	**196**	P	**Pg**	**23 50 17.9**	**-0.3**
TVAN				S	**Sb**	**23 50 25.2**	**-0.5**
TVAN				*i* AML	AML	23 50 28.0	
	comp=N,9μm,0.4s						
TVAN				*i* AML	AML	23 50 29.0	
	comp=E,1μm,0.7s						
DYDN	**Diyadin**	**0.64**	**10**	P	**Pg**	**23 50 22.1**	**-0.8**
DYDN				S	**Sb**	**23 50 32.5**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.65**	**261**	P	**Pb**	**23 50 22.6**	**-1.2**
ADCV				S	**Sb**	**23 50 33.2**	**+0.2**
ADCV				*i* AML	AML	23 50 36.0	
	comp=N,4μm,0.3s						
AKDM	**Akdamar-Van**	**0.73**	**218**	PG	**Pg**	**23 50 23.4**	**-1.1**
AKDM				SG	**Sb**	**23 50 34.3**	**-1.0**
AGRB	**Hanur-Agry**	**0.79**	**327**	PG	**Pg**	**23 50 25.0**	**-0.7**
AGRB				SG	**Sb**	**23 50 37.2**	**+0.1**
MLAZ	**Malazgirt-MUS**	**0.81**	**287**	PG	**Pb**	**23 50 25.8**	**-0.7**
MLAZ				SG	**Sb**	**23 50 37.6**	**0.0**
KOTA	**Agri, Merkez-K**	**0.93**	**344**	P	**Pg**	**23 50 27.6**	**-0.7**
KOTA				S	**Sb**	**23 50 41.0**	**0.0**
KOTA				*i* AML	AML	23 50 46.0	
	comp=E,486nm,0.4s						
KOTA				*i* AML	AML	23 50 48.0	
	comp=N,471nm,1.0s						
IGDI	**IGDIR**	**1.04**	**23**	P	**Pg**	**23 50 29.5**	**-0.9**
IGDI				S	**Sn**	**23 50 45.6**	**+0.1**
IGDI				*i* AML	AML	23 50 50.0	
	comp=E,1μm,0.4s						
IGDI				*i* AML	AML	23 50 51.0	
	comp=N,1μm,0.5s						
EKAR	**Karacoban**	**1.21**	**287**	P	**Pn**	**23 50 33.1**	**-0.2**
EKAR				S	**Sn**	**23 50 54.1**	**+4.3**
VNNZ	**Vanand**	**1.21**	**10**	↑*iP*	**Pg**	**23 50 33.2**	**-0.4**
VNNZ				↑*iS*	**Sn**	**23 50 51.2**	**+1.5**
BLIS	**Bitlis-Merkez**	**1.23**	**247**	P	**Pg**	**23 50 31.8**	**-2.1**
BLIS				S	**Sb**	**23 50 49.3**	**-0.2**
BLIS				*i* AML	AML	23 50 50.0	
	comp=N,2μm,0.6s						
BLIS				*i* AML	AML	23 50 52.0	
	comp=E,1μm,0.5s						
GURO	**Guroymak-BITLI**	**1.24**	**254**	PN	**Pg**	**23 50 32.1**	**-2.1**
GURO				SN	**Sn**	**23 50 50.1**	**-0.4**
**PERV

SNR=40
QRD S Sb 23 51 38.6 -1.3
AGDM Agdam 3.00 65 P Pn 23 50 57.9 +0.1
SNR=55
AGDM S Sn 23 51 37.5 +3.7
BAYT Aydıntepe-Bayb 3.02 300 PN Pn 23 50 59.6 +1.4
ERZN Erzincan 3.05 284 PN Pn 23 51 00.2 +1.6
CHOM Cayeli-Rize 3.06 316 PN Pn 23 51 00.4 +1.8
BRDA Brd 3.11 63 P Pn 23 50 59.3 -0.1
SNR=10
BRDA S Sn 23 51 39.9 +3.4
TNCL Tunceli-Merkez 3.13 275 P Pb 23 51 05.8 -0.2
BLQ Beylaqan 3.21 74 P Pn 23 51 01.5 +0.8
SNR=26
BLQ S Sb 23 51 43.8 -2.8
MNGR Mingechevir, A 3.30 55 P Pn 23 51 01.3 -0.6
SNR=13
MNGR S Sn 23 51 43.2 +2.2
SVRC Sivrice-ELAZID 3.36 262 PN Pn 23 51 04.4 +1.4
ZRD Zardab 3.48 66 P Pn 23 51 04.5 +0.2
SNR=9.9
ZRD S Sn 23 51 49.2 +3.7
ZKTA Zakatala 3.60 40 P Pn 23 51 04.2 -1.8
SNR=18
ZKTA S Sn 23 51 48.6 +0.1
SEKA Sheki 3.62 50 P Pn 23 51 06.2 -0.2
SNR=6.3
SEKA S Sn 23 51 52.0 +2.9
YRD Yardimli 3.66 88 P Pn 23 51 08.6 +1.5
SNR=55
YRD S Sb 23 51 56.3 -3.3
LRK Lerik 3.75 93 P Pn 23 51 10.1 +1.7
SNR=14
LRK S Sb 23 51 59.1 -3.2
GLBA Clilabad 3.79 83 P Pn 23 51 10.0 +1.4
SNR=19
GLBA S Sb 23 51 59.0 -4.0
KDMR Kurdemir 3.87 66 P Pn 23 51 10.0 +0.3
SNR=4.4
KDMR S Sn 23 51 58.8 +3.8
QBL Gabala 3.87 57 P Pn 23 51 09.4 -0.5
SNR=14
QBL S Sn 23 51 57.8 +2.4
SAAT Saatly 3.90 74 P Pn 23 51 10.4 +0.3
SNR=7.0
SAAT S Sn 23 51 59.7 +3.9
IML Ismayilli 4.03 61 P Pn 23 51 11.8 -0.3
SNR=10
IML S Sn 23 52 02.2 +2.9
LKRN Lenkeran, Azer 4.09 91 P Pn 23 51 14.6 +1.9
SNR=13
LKRN S Sb 23 52 07.2 -4.6
ASTR Astara 4.12 93 P Pn 23 51 15.1 +1.9
SNR=6.0
ASTR S Sb 23 52 08.0 -4.5
XNQ Khinaliq 4.19 56 P Pn 23 51 13.6 -0.7
SNR=13
XNQ S Sn 23 52 05.3 +2.0
PQL Pirkuli 4.31 63 P Pn 23 51 15.8 -0.2
SNR=7.3
PQL S Sn 23 52 09.3 +3.0
ALIB Äli-Bayra 4.35 74 P Pn 23 51 17.2 +0.8
ALIB S Sn 23 52 11.9 +4.8
QSAR Qusar 4.45 53 P Pn 23 51 16.8 -0.9
SNR=4.8
QSAR S Sn 23 52 11.2 +1.7
GBS Qobustan 4.46 67 P Pn 23 51 18.2 +0.2
GBS S Sn 23 52 13.6 +3.7
QUBA Quba, Azerbaij 4.51 56 P Pn 23 51 17.9 -0.7
SNR=4.9
QUBA S Sn 23 52 13.2 +2.2
ATGJ Altiaghaj 4.58 63 P Pn 23 51 19.5 -0.2
SNR=6.7
ATGJ S Sn 23 52 16.0 +3.1
SIZA Siyzn 4.64 61 P Pn 23 51 20.1 -0.3
SNR=4.1
SIZA S Sn 23 52 17.2 +2.8
KBZ Khabaz 4.84 354 Pg Pb 23 51 29.5 -5.6
0.1nm,0.3s,baz=54,slow=19,SNR=3.6
KBZ Sn Sn 23 52 16.0 -3.0
0.0nm,0.3s,baz=177,slow=9.6,SNR=3.9
GOBA Gobu 5.00 71 P Pn 23 51 25.8 +0.5
GOBA S Sn 23 52 27.3 +4.2
KVAR Kislovodsk Arr 5.08 353 Pg Pb 23 51 34.0 -5.3
baz=94,slow=23,SNR=1.3
NDR Nardaran 5.24 69 P Pn 23 51 28.9 +0.4
NDR S Sn 23 52 32.9 +4.0
GALA Gala 5.31 72 S Sn 23 52 35.2 +4.4
BRTR Keskin Array B 7.72 279 Pn Pn 23 52 04.2 +1.3
0.0nm,0.3s,baz=88,slow=14,SNR=2.5
MMAI Mount Meron Ar 8.84 231 Pn Pn 23 52 19.8 +1.7
0.2nm,0.3s,baz=178,slow=36,SNR=2.4
AKTO Aktyubinsk 15.42 37 Pn Pn 23 53 43.9 -3.7
0.1nm,0.3s,baz=225,slow=20,SNR=1.2
ARU Arti 20.15 25 P P 23 54 43.8 -0.6
0.0nm,0.3s,baz=88,slow=20,SNR=1.3
KURBB Kurchatov Arra 27.20 53 P P 23 55 56.1 +2.2
0.5nm,0.6s,baz=265,slow=9.2,SNR=5.4
MKAR Makanchi Array 29.24 62 P P 23 56 13.8 +1.7
0.3nm,0.7s,baz=268,slow=6.9,SNR=2.4
ESDC Sonseca Array 36.44 287 P P 23 57 13.7 -1.4
0.8nm,0.7s,baz=57,slow=7.8,SNR=6.9
TORD Torodi Ar. Bea 44.97 247 P P 23 58 24.6 -1.1
1.0nm,0.9s,baz=40,slow=7.5,SNR=5.1

*IDC **19** 23:54:13.9±1.3,23˚.26S×179˚.34E, h548km±12km, mb3.8/22, mb1 3.8/24, mb1mx3.8/41, mbtmp4.6/24, Error ellipse: s-maj=17.1km s-min=11.3km az=126.0*
*NEIC **19** 23:54:13.0±2.2,23˚.3S±0˚.1×179˚.5E±0˚.1, h532km±6km, mb4.4/44, Error ellipse: s-maj=16.9km s-min=14.0km az=131.0*
*NOU **19** 23:54:14.0,23˚.18S×179˚.68E, h568km, mb4.7/14, South of Fiji Islands*
*BGR **19** 23:54:15.5±0.0,23˚.25S×179˚.65E, h575km*
ISC 19 23:54:13.3±0.3,**23˚31S**±0˚05×**179˚42E**±0˚07,**h548**km, **n280**,σ1°**24**/299,**mb4.4**/47,**14C-15D**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.70**	**347**	P	**P**	**23 55 49.3**	**-0.1**
	3.8nm,0.3s,baz=146,slow=13,SNR=7.4						
MSVF				S	**S**	**23 57 07.1**	**-0.6**
	1.5nm,0.3s,baz=348,slow=21,SNR=1.6						
MSVF	**Nonsavu**	**5.70**	**347**	P	**P**	**23 55 49.1**	**-0.3**
MSVF	**Nonsavu**	**5.70**	**347**	P	**P**	**23 55 49.5**	**+0.1**
MARNC	**Mare, Loyalty**	**10.69**	**278**	P	**P**	**23 56 39.3**	**+0.9**
NIUE	**Niue**	**10.80**	**69**	P	**P**	**23 56 38.3**	**-1.2**
NIUE	**Niue**	**10.80**	**69**	P	**P**	**23 56 38.5**	**-1.0**
PINNC	**Pines Island,**	**11.05**	**271**	P	**P**	**23 56 44.0**	**+1.9**
LIFNC	**LIFOU**	**11.57**	**280**	P	**P**	**23 56 47.4**	**-0.1**
OUENC	**Ouen Island, N**	**11.63**	**272**	P	**P**	**23 56 49.5**	**+1.4**
DZM	**Mont Dzumac**	**12.04**	**273**	P	**P**	**23 56 52.8**	**+0.4**
	0.2nm,0.3s,baz=70,slow=16,SNR=3.0						
DZM	**Mont Dzumac**	**12.04**	**273**	P	**P**	**23 56 54.0**	**+1.6**
AFI	**Afiamalu**	**12.53**	**43**	P	**P**	**23 56 54.1**	**-3.5**
	4.8nm,0.3s,baz=29,slow=9.2,SNR=9.4						
AFI	**Afiamalu**	**12.53**	**43**	P	**P**	**23 56 55.0**	**-2.6**
OUZ	**Omahuta**	**12.90**	**202**	P	**P**	**23 57 04.4**	**+3.4**
OUZ	**Omahuta**	**12.90**	**202**	P	**P**	**23 57 04.9**	**+3.9**
KUZ	**Kuaotunu**	**13.76**	**193**	P	**P**	**23 57 11.6**	**+1.7**
MXZ	**Matakaoa Point**	**14.23**	**184**	P	**P**	**23 57 15.0**	**+0.2**
MXZ	**Matakaoa Point**	**14.23**	**184**	P	**P**	**23 57 14.5**	**-0.2**
HAZ	**Te Kaha**	**14.46**	**185**	P	**P**	**23 57 18.9**	**+1.8**
HAZ				S	**S**	**23 59 45.7**	**-2.9**
WMGZ	**Waiomatatini S**	**14.48**	**183**	P	**P**	**23 57 19.7**	**+2.3**
WMGZ				S	**S**	**23 59 49.8**	**+0.9**
PKGZ	**Pakihiroa**	**14.57**	**184**	P	**P**	**23 57 17.7**	**-0.7**
RUGZ	**Raukumara Rang**	**14.68**	**185**	P	**P**	**23 57 21.3**	**+1.8**
RUGZ				S	**S**	**23 59 51.5**	**-1.4**
PUZ	**Puketiti**	**14.74**	**184**	P	**P**	**23 57 20.2**	**+0.2**
TOZ	**Tahuroa Road**	**14.76**	**192**	P	**P**	**23 57 23.3**	**+3.1**
TWGZ	**Tauwhareparae**	**14.87**	**184**	P	**P**	**23 57 21.7**	**+0.4**
TWGZ				S	**S**	**23 59 55.7**	**-0.5**
URZ	**Urewera**	**15.03**	**187**	P	**P**	**23 57 20.4**	**-2.5**
	5.1nm,0.3s,baz=40,slow=2.6,SNR=24						
URZ				S	**S**	**23 59 53.5**	**-5.5**
	0.5nm,0.3s,baz=335,slow=18,SNR=2.4						
URZ	**Urewera**	**15.03**	**187**	P	**P**	**23 57 21.7**	**-1.2**
URZ				S	**S**	**23 59 53.6**	**-5.5**
MWZ	**Matawai**	**15.06**	**186**	P	**P**	**23 57 23.4**	**+0.1**
MWZ				S	**S**	**23 59 56.1**	**-3.6**
CNGZ	**Carnagh Statio**	**15.16**	**184**	P	**P**	**23 57 23.9**	**-0.4**
RTZ	**Ruatahuna**	**15.39**	**187**	P	**P**	**23 57 27.7**	**+0.9**
SNGZ	**Shannon Statio**	**15.52**	**186**	P	**P**	**23 57 28.2**	**+0.1**
WHTZ	**Whakaora**	**15.59**	**190**	P	**P**	**23 57 27.2**	**-1.6**
HIZ	**Hauiti**	**15.64**	**193**	P	**P**	**23 57 30.3**	**+1.0**
MTHZ	**Maungataniwha**	**15.64**	**187**	P	**P**	**23 57 28.1**	**-1.2**
MTHZ				S	**S**	**00 00 08.0**	**-1.8**
RAHZ	**Arahi**	**15.68**	**187**	P	**P**	**23 57 31.0**	**+1.4**
NMHZ	**Naumai**	**15.89**	**187**	P	**P**	**23 57 31.3**	**-0.5**
BKZ	**Black Stump Fm**	**16.00**	**188**	P	**P**	**23 57 30.5**	**-2.3**
BKZ				IAmb	IAmb	23 57 37.5	
	comp=Z,15nm,0.9s						
WTVZ	**West Tongariro**	**16.09**	**191**	P	**P**	**23 57 34.7**	**+1.0**
NNVZ	**North Ngauruho**	**16.10**	**191**	P	**P**	**23 57 34.9**	**+1.1**
OTVZ	**Oturere**	**16.12**	**191**	P	**P**	**23 57 34.1**	**0.0**
NGZ	**Ngauruhoe**	**16.14**	**191**	P	**P**	**23 57 33.1**	**-1.2**
SNVZ	**South Ngauruho**	**16.15**	**191**	P	**P**	**23 57 34.8**	**+0.5**
TUVZ	**Tukino**	**16.22**	**191**	P	**P**	**23 57 35.8**	**+0.7**
FWVZ	**Far West T-bar**	**16.23**	**191**	P	**P**	**23 57 35.4**	**+0.2**
VRZ	**Vera Road**	**16.25**	**193**	P	**P**	**23 57 38.6**	**+3.5**
KWHZ	**Kaweka Forest**	**16.26**	**188**	P	**P**	**23 57 32.4**	**-2.9**
KWHZ				S	**S**	**00 00 18.7**	**-1.4**
WNVZ	**Wahianoa**	**16.29**	**191**	P	**P**	**23 57 36.2**	**+0.5**
PKVZ	**Pokaka**	**16.30**	**191**	P	**P**	**23 57 37.0**	**+1.4**
MOVZ	**Moawhango**	**16.34**	**190**	P	**P**	**23 57 36.0**	**-0.1**
BHHZ	**Black Hill Sta**	**16.38**	**189**	P	**P**	**23 57 35.7**	**-0.6**
KRHZ	**Kereru**	**16.48**	**188**	P	**P**	**23 57 37.9**	**+0.6**
NEZ	**North Egmont**	**16.54**	**195**	P	**P**	**23 57 42.8**	**+4.9**
KAHZ	**Kahuranaki**	**16.57**	**187**	P	**P**	**23 57 38.1**	**-0.1**
PNHZ	**Pukenui**	**16.77**	**189**	P	**P**	**23 57 40.2**	**+0.3**
PXZ	**Pawanui**	**16.81**	**187**	P	**P**	**23 57 39.6**	**-0.6**
TSZ	**Takapari Road**	**16.95**	**189**	P	**P**	**23 57 42.5**	**+0.9**
DVHZ	**Dannevirke**	**17.16**	**188**	P	**P**	**23 57 43.5**	**+0.1**
BFZ	**Birch Farm**	**17.52**	**188**	P	**P**	**23 57 47.2**	**+0.5**
SNZO	**South Karori**	**18.38**	**191**	P	**P**	**23 57 55.1**	**+0.6**
MSWZ	**Moikau Station**	**18.39**	**190**	P	**P**	**23 57 54.0**	**-0.6**
QRZ	**Quartz Range**	**18.40**	**197**	P	**P**	**23 57 56.8**	**+2.0**
MQZ	**McQueen's Vall**	**21.09**	**194**	P	**P**	**23 58 19.0**	**-0.1**
RPZ	**Rata Peaks**	**21.48**	**197**	P	**P**	**23 58 23.1**	**+0.4**
	comp=Z,16nm,0.6s,baz=64,slow=0.3,SNR=14						
RPZ	**Rata Peaks**	**21.48**	**197**	P	**P**	**23 58 23.7**	**+1.0**
ARMA	**Armidale**	**25.74**	**248**	P	**P**	**23 59 02.5**	**+1.6**
ARMA				IAmb	IAmb	23 59 03.6	
	comp=Z,10nm,0.8s						
ARMA	**Armidale**	**25.74**	**248**	P	**P**	**23 59 03.0**	**+2.2**
EIDS	**Eidsvold**	**25.88**	**260**	P	**P**	**23 59 01.7**	**-0.3**
EIDS				IAmb	IAmb	23 59 26.7	
	comp=Z,8.2nm,1.2s						
MGCD	**Mangrove Creek**	**26.74**	**242**	P	**P**	**23 59 11.9**	**+2.4**
CNB	**Canberra Magne**	**28.69**	**239**	P	**P**	**23 59 28.8**	**+2.2**
CAN	**Canberra**	**28.98**	**239**	P	**P**	**23 59 30.5**	**+1.4**
CAN	**Canberra**	**28.98**	**239**	P	**P**	**23 59 31.5**	**+2.4**
CMSA	**Cobar Meteorol**	**30.94**	**247**	P	**P**	**23 59 47.3**	**+1.3**
CTA	**Charters Tower**	**30.94**	**270**	P	**P**	**23 59 46.3**	**+0.1**
	comp=Z,15nm,0.4s,baz=97,slow=9.9,SNR=7.9						
TOO	**Toolangi**	**32.32**	**236**	P	**P**	**23 59 58.3**	**+0.5**
TOO				IAmb	IAmb	00 00 01.3	
	comp=Z,7.7nm,0.7s						
TAU	**Tasmania Unive**	**32.95**	**226**	P	**P**	**00 00 03.8**	**+0.9**
PMG	**Port Moresby**	**33.80**	**289**	P	**P**	**00 00 10.6**	**+0.2**
STKA	**Stephens Creek**	**34.45**	**247**	P	**P**	**00 00 16.6**	**+0.8**
	comp=Z,2.0nm,0.4s,baz=88,slow=8.8,SNR=7.5						
STKA	**Stephens Creek**	**34.45**	**247**	P	**P**	**00 00 16.9**	**+1.2**
COEN	**Coen**	**35.49**	**279**	P	**P**	**00 00 24.6**	**0.0**
COEN				IAmb	IAmb	00 00 26.9	
	comp=Z,13nm,1.1s						
BBOO	**Buckleboo**	**39.19**	**246**	P	**P**	**00 00 54.7**	**+0.1**
ASAR	**Alice Springs**	**41.60**	**260**	P	**P**	**00 01 14.2**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=94,slow=7.9,SNR=34						
ASAR				PcP	**PcP**	**00 02 58.3**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=107,slow=4.2,SNR=9.7						
ASAR				S	**S**	**00 06 48.6**	**-2.5**
	comp=Z,0.9nm,0.8s,baz=100,slow=15,SNR=7.3						
WR0	**Warramunga Arr**	**41.73**	**266**	P	**P**	**00 01 14.0**	**-1.0**
WR0				IAmb	IAmb	00 01 15.6	
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**41.90**	**266**	P	**P**	**00 01 16.0**	**-0.4**
WB2				IAmb	IAmb	00 01 16.7	
	comp=Z,7.6nm,0.8s						
WB0	**Warramunga Arr**	**41.90**	**266**	P	**P**	**00 01 16.0**	**-0.4**
WB0				IAmb	IAmb	00 01 16.7	
	comp=Z,9.8nm,0.7s						
WRAB	**Tennant Creek**	**41.91**	**266**	P	**P**	**00 01 15.4**	**-1.0**
WRA	**Warramunga Arr**	**41.91**	**266**	P	**P**	**00 01 16.1**	**-0.5**
	comp=Z,5.5nm,0.6s,baz=95,slow=8.1,SNR=31						
WRA				PcP	**PcP**	**00 02 60.0**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=98,slow=3.6,SNR=5.3						
WRA				S	**S**	**00 06 51.0**	**-4.6**
	comp=Z,0.9nm,0.8s,baz=95,slow=13,SNR=5.4						
WRA	**Warramunga Arr**	**41.91**	**266**	P	**P**	**00 01 16.0**	**-0.5**
FORT	**Forrest**	**46.02**	**249**	P	**P**	**00 01 46.1**	**-1.9**
KNRA	**Kununurra**	**48.16**	**269**	P	**P**	**00 02 04.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.34**	**265**	P	**P**	**00 02 20.6**	**+0.1**
SIJI	**Sorong**	**51.74**	**288**	P	**P**	**00 02 30.2**	**-0.5**
	comp=Z,30nm,0.8s,baz=120,slow=7.7,SNR=10						
PSA00	**Pilbara Seismi**	**54.74**	**259**	P	**P**	**00 02 50.7**	**-1.2**
MORW	**Morawa**	**56.57**	**250**	P	**P**	**00 03 04.3**	**-0.2**
MORW				IAmb	IAmb	00 03 10.4	
	comp=Z,22nm,1.4s						
CASY	**Casey**	**60.40**	**206**	P	**P**	**00 03 30.2**	**+0.6**
TOLI2	**Tolitoli**	**61.91**	**285**	P	**P**	**00 03 39.4**	**-0.9**
TOLI2				IAmb	IAmb	00 03 41.4	
	comp=Z,14nm,0.9s						
QSPA	**South Pole Qui**	**66.77**	**180**	P	**P**	**00 04 12.0**	**+1.6**
UGM	**Wanagama**	**67.56**	**271**	P	**P**	**00 04 15.0**	**-1.0**
JOW	**Kunigami**	**70.20**	**312**	P	**P**	**00 04 31.4**	**-0.2**
	comp=Z,30nm,0.8s,baz=213,slow=3.7,SNR=5.0						
JOW	**Kunigami**	**70.20**	**312**	P	**P**	**00 04 31.8**	**+0.2**
LEM	**Lembang**	**70.63**	**271**	P	**P**	**00 04 34.3**	**-0.3**
	comp=Z,28nm,0.7s,baz=118,slow=23,SNR=4.0						
MJAR	**Matsushiro Arr**	**71.11**	**326**	P	**P**	**00 04 36.6**	**-0.2**
	comp=Z,2.4nm,0.3s,baz=152,slow=5.4,SNR=7.2						
MJAR	**Matsushiro Arr**	**71.11**	**326**	P	**P**	**00 04 36.4**	**-0.3**
KIWB	**Kanaga Island**	**74.90**	**2**	P	**P**	**00 04 58.4**	**+0.4**
ADK	**Adak**	**74.95**	**3**	P	**P**	**00 04 58.1**	**-0.1**
ASAJ	**Asahikawa**	**75.10**	**333**	P	**P**	**00 04 59.8**	**+0.5**
	comp=Z,5.4nm,0.4s,baz=210,slow=9.1,SNR=4.9						
NIKH	**Nikolski High**	**76.65**	**7**	P	**P**	**00 05 07.9**	**+0.3**
KSRS	**Korea Array**	**77.46**	**320**	P	**P**	**00 05 12.8**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=129,slow=5.7,SNR=8.5						
PEA0B	**Petropavlovsk-**	**78.41**	**347**	P	**P**	**00 05 17.9**	**+0.7**
PEA0B				IAmb	IAmb	00 05 18.5	
	comp=Z,17nm,0.8s						
PETK	**Petropavlovsk-**	**78.41**	**347**	P	**P**	**00 05 17.3**	**+0.1**
	comp=Z,13nm,0.8s,baz=153,slow=8.3,SNR=12						
PETK	**Petropavlovsk-**	**78.41**	**347**	P	**P**	**00 05 17.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**79.98**	**327**	P	**P**	**00 05 26.8**	**+1.0**
	comp=Z,5.8nm,0.9s,baz=132,slow=2.6,SNR=7.2						
IPM	**Ipoh**	**81.15**	**279**	P	**P**	**00 05 32.6**	**+0.1**
IPM				IAmb	IAmb	00 05 33.4	
	comp=Z,10.0nm,0.6s						
KULM	**Kulim**	**81.82**	**279**	P	**P**	**00 05 35.8**	**-0.1**
KULM				IAmb	IAmb	00 05 37.1	
	comp=Z,6.7nm,0.8s						
PSI	**Prapat**	**82.38**	**276**	P	**P**	**00 05 37.8**	**-1.2**
	comp=Z,1.3nm,0.2s,baz=307,slow=19,SNR=6.7						
O02D	**Mt. Diablo Mer**	**82.96**	**41**	P	**P**	**00 05 43.2**	**+2.0**
SLBS	**Sierra La Lagu**	**82.98**	**61**	P	**P**	**00 05 44.0**	**+2.3**
SLBS				IAmb	IAmb	00 05 49.6	
	comp=Z,14nm,1.2s						
CN2	**Changchun**	**83.10**	**324**	*e*P	**P**	**00 05 42.3**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TIA	**Tai'an**	**83.44**	**314**	⇑P	**P**	**00 05 44.8**	**+1.2**
TIA				pmax	pmax		
	comp=Z,16nm,0.8s						
M02C	**Callahan**	**83.68**	**40**	P	**P**	**00 05 46.7**	**+1.9**
KLR	**Kludur**	**83.76**	**331**	P	**P**	**00 05 45.3**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=89,slow=1.9,SNR=6.1						
NVAR	**Mina Array Bea**	**84.71**	**44**	P	**P**	**00 05 51.8**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=226,slow=8.0,SNR=9.4						
NVAR	**Mina Array Bea**	**84.71**	**44**	P	**P**	**00 05 51.5**	**+1.4**
PINE	**Pine Mountain**	**86.27**	**39**	P	**P**	**00 05 58.3**	**+0.9**
PINE				IAmb	IAmb	00 06 00.7	
	comp=Z,12nm,1.4s						
I07A	**Izee**	**87.27**	**39**	P	**P**	**00 06 03.3**	**+1.3**
I07A				IAmb	IAmb	00 06 04.9	
	comp=Z,5.2nm,1.0s						
XAN	**Xi'an**	**87.96**	**308**	P	**P**	**00 06 06.4**	**+1.0**
XAN				pP	PcP	00 06 12.6	+6.0
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,100nm,7.6s						
XAN				LR	LR		
	comp=N,170nm,14.7s						
XAN				LR	LR		
	comp=E,210nm,16.3s						
XAN				LR	LR		
	comp=Z,290nm,11.4s						
SEY	**Seymchan**	**88.59**	**348**	P	**P**	**00 06 08.3**	**+0.8**
	comp=Z,5.1nm,0.6s,baz=156,slow=6.5,SNR=12						
CMAR	**Chiang Mai Arr**	**88.82**	**291**	P	**P**	**00 06 10.6**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=133,slow=3.5,SNR=14						
CMAR	**Chiang Mai Arr**	**88.82**	**291**	P	**P**	**00 06 10.9**	**+1.3**
CHTO	**Chiang Mai**	**88.97**	**291**		**P**	**00 06 11.0**	**+0.6**
CHTO				IAmb	IAmb	00 06 12.7	
	comp=Z,8.8nm,1.3s						
CAST	**Castle Rocks**	**89.31**	**12**	P	**P**	**00 06 10.1**	**-0.9**
CAST				IAmb	IAmb	00 06 10.8	
	comp=Z,7.2nm,0.9s						
HHC	**Hu-ho-hao-te**	**89.63**	**315**	*e*P	**P**	**00 06 14.6**	**+1.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,6.1s						
TMUT	**Trail Mountain**	**89.83**	**47**	P	**P**	**00 06 16.4**	**+2.2**
PZH	**PanZhiHua**	**89.93**	**299**	P	**P**	**00 06 15.3**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
RND	**Reindeer**	**89.97**	**14**	P	**P**	**00 06 14.3**	**+0.2**
RND				IAmb	IAmb	00 06 15.6	
	comp=Z,7.9nm,1.0s						
HVU	**Hansel Valley**	**90.09**	**44**	P	**P**	**00 06 16.4**	**+1.2**
HVU				IAmb	IAmb	00 06 17.7	
	comp=Z,4.1nm,0.8s						
SRU	**San Rafael Swe**	**90.19**	**47**	P	**P**	**00 06 16.9**	**+1.1**
SRU				IAmb	IAmb	00 06 18.3	
	comp=Z,5.1nm,0.8s						
TXAR	**Lajitas Array**	**90.58**	**58**	P	**P**	**00 06 18.5**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=204,slow=5.5,SNR=9.5						
ILAR	**Eielson Array**	**91.59**	**14**	P	**P**	**00 06 20.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=244,slow=5.5,SNR=8.8						
ILAR	**Eielson Array**	**91.59**	**14**	P	**P**	**00 06 22.0**	**+0.6**
PDAR	**Pinedale Array**	**92.64**	**44**	P	**P**	**00 06 27.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=213,slow=3.5,SNR=7.4						
SONM	**Songino Array**	**96.31**	**320**	P	**P**	**00 06 43.1**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=145,slow=5.3,SNR=5.3						
MKAR	**Makanchi Array**	**111.36**	**313**	Pdiff	**Pdif**	**00 07 50.7**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=112,slow=3.5,SNR=2.8						
GAR	**Garm**	**118.75**	**303**	PKPdf	**PKiKP**	**00 12 00.1**	**+0.2**
KKAR	**Karatay Array**	**119.08**	**308**	PKPdf	**PKiKP**	**00 12 00.2**	**0.0**
BVAR	**Borovoye Array**	**119.65**	**319**	PKP	**PKPdf**	**00 12 00.7**	**-0.2**
	comp=Z,1.4nm,0.4s						
ARU	**Arti**	**126.10**	**324**	PKP	**PKiKP**	**00 12 13.5**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=46,slow=4.0,SNR=7.2						
ARU	**Arti**	**126.10**	**324**		**PKPdf**	**00 12 13.3**	**+0.1**
AKTO	**Aktyubinsk**	**127.51**	**317**	PKP	**PKiKP**	**00 12 16.8**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=60,slow=3.1,SNR=5.5						
KIRV	**Kirov**	**130.15**	**328**	PKP	**PKPdf**	**00 12 20.2**	**-0.5**
	comp=Z,4.7nm,0.5s,baz=62,slow=2.7,SNR=5.9						
ARCES	**ARCESS Array B**	**131.21**	**348**	PKP	**PKPdf**	**00 12 22.2**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=86,slow=3.5,SNR=14						
ARCES	**ARCESS Array B**	**131.21**	**348**		**PKPdf**	**00 12 21.6**	**-0.9**
BELG	**Belogornoye**	**133.35**	**321**	PKP	**PKiKP**	**00 12 27.7**	**-0.6**
	comp=Z,8.2nm,0.7s,baz=203,slow=2.3,SNR=3.8						
FINES	**FINESS Array B**	**137.72**	**341**	PKhKP	PKPpre	00 12 24.0	
	comp=Z,1.6nm,0.8s,baz=48,slow=2.8,SNR=6.5						
FINES				PKP	**PKPdf**	**00 12 35.3**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=52,slow=2.1,SNR=6.8						
FINES				SKP		00 15 17.5	
	comp=Z,1.8nm,0.8s,baz=48,slow=2.1,SNR=2.3						
FINES	**FINESS Array B**	**137.72**	**341**		PKPpre	00 12 25.3	
DOMB	**Dombas**	**140.73**	**353**	*e*PKPdf	**PKPdf**	**00 12 41.1**	**+0.7**
NB2	**NORSAR Subarra**	**141.42**	**351**	PKP	**PKPdf**	**00 12 36.7**	**-5.0**
	comp=Z,1.3nm,0.6s,baz=16,slow=3.1						
NOA	**NORSAR Array B**	**141.42**	**351**	PKhKP	PKPpre	00 12 36.8	
	comp=Z,0.4nm,0.5s,baz=63,slow=1.6,SNR=11						
NC602	**NORSAR Array S**	**141.66**	**350**	*e*PKPdf	**PKPdf**	**00 12 37.6**	**-4.4**
SUE	**Sulen**	**142.10**	**356**	*e*PKPdf	**PKiKP**	**00 12 45.1**	**-0.8**
SKAR	**Skarslia**	**142.15**	**353**	*e*PKPdf	**PKPdf**	**00 12 42.9**	**-0.1**
KONO	**Kongsberg**	**142.99**	**351**	*e*PKPdf	**PKPdf**	**00 12 41.8**	**-2.6**
ODD1	**Odda**	**143.08**	**354**	*e*PKPab	PKPbc	00 12 42.7	-0.1
BLS5	**Blasjo**	**143.58**	**354**	*e*PKPab	PKPbc	00 12 44.6	+0.3
KMY	**Karmoy**	**143.89**	**355**	*e*PKPbc	PKPab	00 12 45.5	+0.2
AKASG	**Malin Array Be**	**144.19**	**327**	PKP	PKPbc	00 12 46.0	-0.5
	comp=Z,6.0nm,0.4s,baz=48,slow=4.3,SNR=39						
AKBB	**Malin Array Si**	**144.19**	**327**		PKPbc	00 12 46.1	-0.3
HOMB	**Homborsund**	**144.47**	**352**	*e*PKPbc	PKPbc	00 12 47.3	+0.2
SUW	**Suwalki**	**

BRG	**Berggiesshubel**	**150.26**	**341**	*e*PKPbc	**PKiKP**	**00 13 03.1**	**0.0**
	baz=22,slow=2.2						
CLZ	**Clausthal**	**150.29**	**346**	*e*PKPbc	**PKiKP**	**00 13 03.1**	**-0.1**
	baz=22,slow=2.2						
PVCC	**Panska Ves**	**150.38**	**340**	*e*PKP	**PKiKP**	**00 13 03.3**	**0.0**
FBE	**Freiberg**	**150.39**	**342**	*e*PKPbc	**PKiKP**	**00 13 03.5**	**+0.1**
	baz=22,slow=2.2						
FOEL	**Foel Wylfa**	**150.40**	**3**	*e*P	**PKPbc**	**00 13 02.9**	**+0.1**
PSZ	**Piszkesteto**	**150.52**	**331**	PKP	**PKiKP**	**00 13 05.0**	**+1.2**
NEUB	**Neuenburg**	**150.55**	**344**	*e*PKPbc	**PKiKP**	**00 13 03.7**	**+0.1**
	baz=22,slow=2.2						
JAVC	**Velka Javorina**	**150.70**	**335**	*e*PKP	**PKiKP**	**00 13 05.3**	**+1.1**
JAVC				*e*		00 13 15.0	
VRAC	**Vranov**	**150.74**	**337**	⇓P	**PKiKP**	**00 13 04.4**	**+0.2**
VRAC	**Vranov**	**150.74**	**337**	*e*PKP	**PKiKP**	**00 13 04.3**	**+0.1**
VRAC				*e*		00 13 14.2	
HLM1	**Long Mynd**	**150.79**	**3**	*e*P	**PKPbc**	**00 13 03.1**	**-0.7**
PRU	**Pruhonice**	**150.86**	**340**	*e*PKP	**PKiKP**	**00 13 04.3**	**-0.1**
GZR	**Gura Zlata**	**150.92**	**325**	⇑P	**PKiKP**	**00 13 04.6**	**-0.1**
AKAS	**Kas**	**150.93**	**303**	PKPbc	**PKPbc**	**00 13 04.4**	**-0.4**
KRUC	**Moravsky**	**151.01**	**337**	*e*PKP	**PKiKP**	**00 13 04.7**	**0.0**
KRUC				*e*		00 13 15.2	
TANN	**Tannenbergstha**	**151.09**	**343**	*e*PKPbc	**PKiKP**	**00 13 04.8**	**-0.1**
	baz=22,slow=2.2						
MOX	**Moxa**	**151.11**	**344**	*e*PKPbc	**PKiKP**	**00 13 04.8**	**-0.1**
	baz=22,slow=2.2						
TREC	**Trest**	**151.14**	**338**	*e*PKP	**PKiKP**	**00 13 05.1**	**+0.1**
NKC	**Novy Kostel**	**151.26**	**342**	*e*PKP	**PKiKP**	**00 13 05.7**	**+0.5**
MCH1	**Michaelchurch**	**151.30**	**3**	*e*P	**PKPbc**	**00 13 04.5**	**-0.4**
BZS	**Buzias**	**151.37**	**326**	⇓P	**PKiKP**	**00 13 05.5**	**-0.1**
HERR	**Herculane**	**151.45**	**324**	⇓P	**PKiKP**	**00 13 05.7**	**-0.1**
MANZ	**Manzenberg**	**151.58**	**343**	*e*PKPbc	**PKiKP**	**00 13 05.9**	**0.0**
	baz=22,slow=2.2						
KHC	**Kasperske Hory**	**151.91**	**340**	PKPbc	**PKiKP**	**00 13 07.0**	**+0.4**
KHC	**Kasperske Hory**	**151.91**	**340**	*e*PKP	**PKiKP**	**00 13 06.6**	**0.0**
KHC				*ex*	x	00 13 18.1	
CKRC	**Cesky Krumlov**	**151.95**	**339**	*e*PKP	**PKPbc**	**00 13 06.4**	**-0.1**
CKRC				*ex*	x	00 13 18.9	
GEC2	**GERESS Array S**	**152.12**	**340**	*e*PKPbc	**PKiKP**	**00 13 07.2**	**0.0**
	baz=22,slow=2.2						
GERES	**GERESS Array B**	**152.12**	**340**	PKPbc	**PKiKP**	**00 13 07.2**	**0.0**
	comp=Z,1.8nm,0.6s,baz=43,slow=2.4,SNR=16						
GERES				PKPab	**PKPab**	**00 13 19.5**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=56,slow=5.0,SNR=6.0						
GERES	**GERESS Array B**	**152.12**	**340**		**PKPbc**	**00 13 06.7**	**-0.3**
CONA	**Conrad Observa**	**152.16**	**336**	*e*P	**PKiKP**	**00 13 07.6**	**+0.4**
	comp=Z,4.0nm,0.7s						
CONA				*e*P	**PKPab**	**00 13 20.5**	**+1.1**
	comp=Z,7.0nm,0.8s						
RONA	**Rosalia, Austr**	**152.18**	**335**	*e*P	**PKiKP**	**00 13 07.7**	**+0.4**
	comp=Z,5.9nm,0.5s						
RONA				*e*P	**PKPab**	**00 13 20.7**	**+1.2**
	comp=Z,9.7nm,1.2s						
BTNL	**Ternell**	**152.28**	**351**	*d*PKiKP	**PKiKP**	**00 13 07.6**	**+0.3**
VTS	**Vitosha**	**152.41**	**320**	⇓P	**PKPab**	**00 13 22.4**	**+1.6**
BHOU	**Houvegnez**	**152.52**	**351**	*d*PKiKP	**PKiKP**	**00 13 07.9**	**+0.1**
BHOU				*d*PKPab	**PKPab**	**00 13 21.2**	**+0.4**
KOVH	**Kovagotottos**	**152.71**	**331**	PKP	**PKiKP**	**00 13 08.7**	**+0.4**
ARSA	**Arzberg**	**152.85**	**336**	*e*P	**PKPab**	**00 13 23.1**	**+0.8**
	comp=Z,4.8nm,1.1s						
SOKA	**Soboth**	**153.51**	**335**	*e*P	**PKPab**	**00 13 25.5**	**+0.3**
	comp=Z,0.9nm,0.4s						
KBA	**Koelnbreinsper**	**153.78**	**338**	*e*P	**PKPab**	**00 13 27.5**	**+1.0**
	comp=Z,1.6nm,0.6s						
OBKA	**Obir**	**153.83**	**336**	*e*P	**PKPab**	**00 13 27.2**	**+0.6**
	comp=Z,1.3nm,0.5s						
WATA	**Walderalm**	**154.12**	**341**	*e*P	**PKiKP**	**00 13 12.3**	**+0.9**
	comp=Z,1.3nm,0.4s						
WATA				*e*P	**PKPab**	**00 13 28.2**	**+0.3**
	comp=Z,1.1nm,0.4s						
WTTA	**Wattenberg**	**154.17**	**341**	*e*P	**PKiKP**	**00 13 11.7**	**+0.2**
	comp=Z,1.4nm,0.4s						
WTTA				*e*P	**PKPab**	**00 13 28.9**	**+0.8**
	comp=Z,4.0nm,0.7s						
RETA	**Reutte**	**154.22**	**342**	*e*P	**PKPab**	**00 13 28.9**	**+0.7**
	comp=Z,1.2nm,0.4s						
MOTA	**Moosalm**	**154.25**	**342**	*e*P	**PKPbc**	**00 13 12.0**	**+0.3**
	comp=Z,0.4nm,0.3s						
MOTA				*e*P	**PKPab**	**00 13 28.6**	**+0.2**
	comp=Z,1.4nm,0.5s						
SQTA	**Sankt Quirin**	**154.34**	**341**	*e*P	**PKPbc**	**00 13 12.0**	**+0.2**
	comp=Z,0.7nm,0.3s						
SQTA				*e*P	**PKPab**	**00 13 30.0**	**+1.2**
	comp=Z,8.1nm,1.2s						
ABTA	**Abfaltersbach**	**154.35**	**339**	*e*P	**PKiKP**	**00 13 11.5**	**-0.3**
	comp=Z,1.8nm,0.6s						
ABTA				*e*P	**PKPab**	**00 13 29.2**	**+0.4**
	comp=Z,0.9nm,0.4s						
DAVA	**Damuels**	**154.65**	**343**	*e*P	**PKPab**	**00 13 30.2**	**0.0**
ESDC	**Sonseca Array**	**163.44**	**9**	PKPab	**PKPab**	**00 14 06.7**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=338,slow=3.5,SNR=6.6						
ESDC	**Sonseca Array**	**163.44**	**9**	PKPdf	**PKPdf**	**00 13 13.0**	**-0.7**
ESDC					**PKPab**	**00 14 07.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**169.66**	**192**	PKP	**PKPdf**	**00 13 18.4**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=40,slow=1.1,SNR=5.3						
TORD				PKPab	**PKPab**	**00 14 37.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=170,slow=3.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**169.66**	**192**		**PKPdf**	**00 13 17.9**	**-1.1**
TORD				PKPab	**PKPab**	**00 14 36.9**	**+0.6**

*IDC **20** 00:05:44.7±0.7,55˚.62S×27˚.03W,h0km,mb4.2/7, mb1 4.3/8,mb1mx3.9/26,mbtmp4.2/8,ML4.0/1,MS3.5/5, Ms1 3.4/5,ms1mx3.1/44,Error ellipse: s-maj=24.8km s-min=18.0km az=63.0*

*NEIC **20** 00:05:48.4±1.4,55˚.7S±0˚.1×27˚.1W±0˚.2,h26km±6km, mb4.6/24,Error ellipse: s-maj=21.2km s-min=15.7km az=49.0*

ISC 20 00:05:48.1±0.6,55˚.7S±0˚.1×27˚.07W±0˚.09,h25km,n46, σ0s79/38,mb4.5/13,MS3.4/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.60**	**280**		Pn	**Pn**	**00 07 09.5**	**-0.1**
EFI	**East Falkland**	**18.70**	**269**		P	**Pn**	**00 10 04.8**	**0.0**
EFI					IAmb	IAmb	00 10 18.0	
	comp=Z,106nm,1.4s							
SNAA	**Sanae**	**19.09**	**157**		P	**Pn**	**00 10 10.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=298,slow=5.9,SNR=1.6							
SNAA	**Sanae**	**19.09**	**157**		P	**P**	**00 10 08.3**	**-0.1**
PMSA	**Palmer Station**	**20.22**	**228**		LR	LR	00 16 21.2	
	comp=Z,162nm,19.5s,baz=3.5,slow=31							
BELA	**Belgrano 2**	**22.49**	**184**		P	**P**	**00 10 44.2**	**-0.9**
DSPA	**Despedida**	**23.57**	**257**		P	**P**	**00 10 54.8**	**-1.4**
MG02	**Cerro Sombrero**	**24.54**	**259**		P	**P**	**00 11 04.7**	**-0.7**
MG03	**Isla Dawson**	**24.81**	**256**		P	**P**	**00 11 07.6**	**-0.2**
GO08	**Villa O'Higgin**	**28.44**	**265**		P	**P**	**00 11 39.5**	**-1.0**
PLTB	**Pedras Altas**	**30.28**	**311**		P	**P**	**00 11 57.2**	**+0.1**
PLTB					IAmb	IAmb	00 12 03.4	
	comp=Z,9.5nm,1.2s							
PLCA	**Paso Flores**	**32.00**	**279**		P	**P**	**00 12 11.9**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=180,slow=3.0,SNR=3.0							
PLCA					LR	LR	00 24 10.6	
	comp=Z,34nm,20.7s,baz=136,slow=34							
QSPA	**South Pole Qui**	**34.61**	**180**		P	**P**	**00 12 34.0**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=210,slow=2.5,SNR=21							
QSPA	**South Pole Qui**	**34.61**	**180**		P	**P**	**00 12 35.1**	**+0.4**
QSPA					IAmb	IAmb	00 12 44.5	
	comp=Z,4.7nm,0.8s							
CPUP	**Villa Florida**	**36.60**	**311**		P	**P**	**00 12 51.9**	**0.0**
	comp=Z,4.3nm,0.9s,baz=164,slow=9.8,SNR=5.6							
CPUP	**Villa Florida**	**36.60**	**311**		P	**P**	**00 12 51.9**	**0.0**
CPUP					IAmb	IAmb	00 12 53.6	
	comp=Z,13nm,1.2s							
MT09	**Talagante**	**37.25**	**287**		P	**P**	**00 12 56.9**	**-0.8**
MT09					IAmb	IAmb	00 12 57.6	
	comp=Z,8.3nm,0.9s							
CO02	**Combarbal**	**39.24**	**290**		P	**P**	**00 13 15.1**	**+0.7**
MAW	**Mawson**	**40.44**	**144**		P	**P**	**00 13 23.9**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=258,slow=9.3,SNR=2.7							
LCO	**Las Campanas**	**40.81**	**292**		P	**P**	**00 13 27.6**	**-0.1**
LCO					IAmb	IAmb	00 13 49.5	
	comp=Z,20nm,1.2s							
GO02	**Mina Guanaco**	**43.37**	**297**		P	**P**	**00 13 49.0**	**+0.4**
LVC	**Limon Verde**	**45.16**	**300**		P	**P**	**00 14 04.7**	**+1.7**
LVC					IAmb	IAmb	00 14 06.8	
	comp=Z,13nm,1.1s							
BOSA	**Boshof**	**45.80**	**76**		P	**P**	**00 14 07.0**	**-0.7**
	comp=Z,4.7nm,1.2s,baz=207,slow=10,SNR=3.6							
BOSA					LR	LR	00 29 15.5	
	comp=Z,86nm,21.4s,baz=64,slow=31							
PB09	**IPOC Station P**	**46.01**	**300**		P	**P**	**00 14 10.5**	**+1.0**
VNDA	**Vanda**	**46.98**	**183**		P	**P**	**00 14 17.6**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=193,slow=5.6,SNR=12							
VNDA	**Vanda**	**46.98**	**183**		P	**P**	**00 14 17.2**	**+1.0**
SIV	**San Ignacio**	**47.35**	**313**		LR	LR	00 36 29.0	
	comp=Z,37nm,18.0s,baz=125,slow=39							
H10S2	**ASCENSION HYDR**	**47.59**	**17**		T	T	01 05 49.0	
	baz=30,slow=74,SNR=5.3							
H10S3	**ASCENSION HYDR**	**47.59**	**17**		T	T	01 05 45.4	
	baz=190,slow=74,SNR=6.4							
GO01	**Chusmiza**	**47.79**	**301**		P	**P**	**00 14 25.3**	**+1.5**
H10N1	**ASCENSION HYDR**	**48.71**	**17**		T	T	01 07 45.8	
	baz=197,SNR=5.6							
H10N3	**ASCENSION HYDR**	**48.71**	**17**		T	T	01 07 13.1	
	baz=197,slow=74,SNR=6.3							
H10N2	**ASCENSION HYDR**	**48.73**	**17**		T	T	01 07 11.2	
	baz=197,slow=74,SNR=6.1							
LPAZ	**La Paz**	**50.20**	**305**		P	**P**	**00 14 43.5**	**+1.1**
	baz=172,slow=4.7,SNR=5.8							
LPAZ	**La Paz**	**50.20**	**305**		P	**P**	**00 14 43.0**	**+0.6**
LPAZ					IAmb	IAmb	00 14 44.6	
	comp=Z,7.1nm,1.1s							
TOA0	**Torodi Ar. Sit**	**72.67**	**29**		P	**P**	**00 17 13.5**	**+0.1**
TOA0					IAmb	IAmb	00 17 22.9	
	comp=Z,9.2nm,1.4s							
TORD	**Torodi Ar. Bea**	**72.67**	**29**		P	**P**	**00 17 13.9**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=201,slow=6.4,SNR=16							
TORD	**Torodi Ar. Bea**	**72.67**	**29**		P	**P**	**00 17 13.4**	**0.0**
SDV	**Santo Domingo**	**73.77**	**315**		LR	LR	00 52 17.3	
	comp=Z,30nm,18.1s,baz=166,slow=38							
FINES	**FINESS Array B**	**123.99**	**28**		PKP	**PKiKP**	**00 24 42.7**	**-0.1**
	comp=Z,1.9nm,1.1s,baz=350,slow=2.1,SNR=3.6							
ARCES	**ARCESS Array B**	**130.54**	**22**		PKP	**PKiKP**	**00 24 57.0**	**+1.3**
	comp=Z,4.5nm,1.1s,baz=212,slow=3.1,SNR=2.3							
YKA	**Yellowknife Ar**	**135.91**	**318**		PKP	**PKiKP**	**00 25 05.8**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=134,slow=2.2,SNR=6.4							
MKAR	**Makanchi Array**	**136.69**	**71**		PKP	**PKiKP**	**00 25 08.6**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=222,slow=1.9,SNR=2.5							
ILAR	**Eielson Array**	**149.90**	**312**		PKPbc	**PKiKP**	**00 25 34.7**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=131,slow=1.6,SNR=17							
ILAR	**Eielson Array**	**149.90**	**312**			**PKPbc**	**00 25 34.1**	**-0.3**
SONM	**Songino Array**	**150.63**	**86**		PKPbc	**PKiKP**	**00 25 37.1**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=225,slow=3.5,SNR=9.6							

*SOME **20** 00:09:24.0,43˚.53N×83˚.82E,h5km*

*IDC **20** 00:09:26.3±1.3,43˚.06N×83˚.58E,h0km,mb3.8/5, mb1 3.7/10,mb1mx3.4/50,mbtmp3.6/10,ML2.9/5,Error ellipse: s-maj=23.3km s-min=14.3km az=82.0*

*NNC **20** 00:09:30.5±1.9,43˚.21N×83˚.49E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=17.3km s-min=8.3km az=142.0*

ISC 20 00:09:29.2±0.9,43˚.17N±0˚.05×83˚.55E±0˚.05,h10km,n65, σ2s51/94,mb3.7/5,11C-7D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.96**	**294**		*e*P	**Pb**	**00 10 20.5**	**-1.6**
	2.2nm,0.1s							
DJR					*e*S	**Sb**	**00 11 00.8**	**+2.4**
	42nm,0.2s							
DJR	**Jarkent**	**2.96**	**294**		Pg	**Pb**	**00 10 20.5**	**-1.6**
	2.2nm,0.3s							
DJR					Lg	Lg	00 11 00.8	
	42nm,0.5s							
PDGK	**Podgornoye**	**2.97**	**274**		Pg	**Pb**	**00 10 21.4**	**-0.8**
	9.4nm,0.5s							
PDGK					Lg	Lg	00 11 02.7	
	59nm,0.5s							
PDGK	**Podgornoye**	**2.97**	**274**		⇑Pn	**Pb**	**00 10 20.1**	**-2.2**
	9.7nm,0.9s							
PDGK					⇓Lg	Lg	00 11 05.6	
	170nm,0.8s							
SHLS	**Shalkode**	**2.99**	**271**		*e*P	**Pn**	**00 10 18.0**	**+1.3**
	11nm,0.4s							
SHLS					*e*S	**Sb**	**00 10 57.1**	**-2.2**
	243nm,0.4s							
SHLS	**Shalkode**	**2.99**	**271**		Pg	**Pn**	**00 10 18.0**	**+1.3**
	11nm,0.4s							
SHLS					Lg	Lg	00 10 57.1	
	243nm,0.4s							
UZB	**Uzyndulak**	**3.31**	**271**		*e*P	**Pb**	**00 10 29.3**	**+1.2**
	5.8nm,0.1s							
UZB					*e*S	**Sg**	**00 11 16.7**	**+1.1**
	83nm,0.1s							
UZB	**Uzyndulak**	**3.31**	**271**		Pg	**Pb**	**00 10 29.3**	**+1.2**
	5.8nm,0.2s							
UZB					Lg	Lg	00 11 16.7	
	82nm,0.3s							
KPKS	**Kokpek**	**3.56**	**276**		*e*P	**Pb**	**00 10 32.8**	**+0.4**
	6.2nm,0.1s							
KPKS					*e*S	**Sg**	**00 11 22.6**	**-1.0**
	112nm,0.2s							
KAPS	**Kapalarasan**	**3.68**	**307**		*e*P	**Pn**	**00 10 30.7**	**+4.5**
	4.6nm,0.3s							
KAPS					*e*S	**Sb**	**00 11 18.6**	**-0.5**
	38nm,0.1s							
KAPS	**Kapalarasan**	**3.68**	**307**		Pg	**Pn**	**00 10 30.4**	**+4.2**
	5.0nm,0.3s							
MK31	**Makanchi Array**	**3.73**	**347**		Pn	**Pn**	**00 10 28.8**	**+1.9**
	0.7nm,0.3s,baz=168,slow=14,SNR=122							
MK31					⇓Pg	**Pg**	**00 10 39.7**	**-1.0**
	4.6nm,0.4s,baz=153,slow=16,SNR=31							
MK31					⇑Lg	Lg	00 11 29.2	
	24nm,0.6s,baz=166,slow=32,SNR=4.8							
MKAR	**Makanchi Array**	**3.73**	**347**		Pn	**Pn**	**00 10 29.1**	**+2.2**
	0.9nm,0.3s,baz=161,slow=14,SNR=36							
MKAR					Pg	**Pb**	**00 10 37.3**	**+2.1**
	3.7nm,0.3s,baz=153,slow=16,SNR=18							
MKAR					Lg	Lg	00 11 28.8	
	6.6nm,0.3s,baz=163,slow=28,SNR=7.9							
ZHN	**Zhinishke**	**3.74**	**272**		*e*P	**Pb**	**00 10 37.4**	**+1.9**
	44nm,0.1s							
ZHN					*e*S	**Sg**	**00 11 30.1**	**+0.8**
	133nm,0.1s							
ZHN	**Zhinishke**	**3.74**	**272**		Pg	**Pb**	**00 10 37.4**	**+1.9**
	44nm,0.1s							
ZHN					Lg	Lg	00 11 30.1	
	133nm,0.3s							
SATY	**Saty**	**3.77**	**270**		*e*P	**Pb**	**00 10 37.1**	**+1.3**
	3.7nm,0.0s							
SATY					*e*S	**Sg**	**00 11 29.4**	**-0.8**
	41nm,0.5s							
SATY	**Saty**	**3.77**	**270**		Pg	**Pb**	**00 10 35.8**	**-0.1**
	4.3nm,0.2s							
SATY					Lg	Lg	00 11 27.7	
	59nm,0.3s							
BLB	**Baldybastay**	**3.80**	**286**		*e*P	**Pb**	**00 10 36.8**	**+0.5**
	15nm,0.1s							
BLB					*e*S	**Sg**	**00 11 28.7**	**-2.4**
	53nm,0.2s							
BLB	**Baldybastay**	**3.80**	**286**		Pg	**Pb**	**00 10 38.8**	**+2.5**
	18nm,0.4s							
BLB					Lg	Lg	00 11 32.5	
	54nm,0.4s							
MAKZ	**Makanchi**	**3.81**	**343**		⇑Pn	**Pn**	**00 10 29.7**	**+1.8**
	1.4nm,0.6s							
MAKZ					⇑Pg	**Pg**	**00 10 40.5**	**-1.6**
	27nm,1.1s							
MAKZ					⇑Lg	Lg	00 11 33.3	
	18nm,0.7s							
KURS	**Kuram**	**3.94**	**276**		*e*P	**Pb**	**00 10 40.0**	**+1.3**
	7.4nm,0.7s							
KURS					*e*S	**Sg**	**00 11 34.3**	**-1.3**
	32nm,0.1s							
KURS	**Kuram**	**3.94**	**276**		Pg	**Pb**	**00 10 40.9**	**+2.2**
	7.4nm,0.7s							
KURS					Lg	Lg	00 11 36.5	
	30nm,0.4s							
TDK	**Taldyqorghan**	**4.13**	**298**		*e*P	**Pb**	**00 10 40.7**	**-1.3**
	56nm,0.0s							
TDK					*e*S	**Sb**	**00 11 35.6**	**+3.6**
	118nm,0.1s							
TDK	**Taldyqorghan**	**4.13**	**298**		Pg	**Pb**	**00 10 40.7**	**-1.3**
	56nm,0.3s							
ARXS	**Arharly**	**4.28**	**286**		*e*P	**Pb**	**00 10 44.9**	**+0.3**
	12nm,0.0s							
ARXS					*e*S	**Sg**	**00 11 43.5**	**-3.1**
	135nm,0.1s							
ARXS	**Arharly**	**4.28**	**286**		Pg	**Pb**	**00 10 42.5**	**-2.1**
	15nm,0.4s							
ZSN	**Zaisan**	**4.38**	**12**		*e*P	**Pn**	**00 10 37.4**	**+1.7**
	4.6nm,0.1s							
ZSN					*e*S	**Sn**	**00 11 30.7**	**+3.8**
	23nm,0.0s							
KOTS	**Kotyrbulak**	**4.71**	**273**		*e*P	**Pb**	**00 10 55.9**	**+4.0**
	9.4nm,0.1s							
KOTS					*e*S	**Sg**	**00 12 01.8**	**+1.5**
	76nm,0.3s							
KOTS	**Kotyrbulak**	**4.71**	**273**		Pg	**Pb**	**00 10 55.9**	**+4.0**
	14nm,0.6s							
KOTS					Lg	Lg	00 12 01.8	
	117nm,0.8s							
MDOK	**Medeo**	**4.76**	**272**		*e*P	**Pb**	**00 10 55.5**	**+2.8**
	8.6nm,0.7s							
MDOK					*e*S	**Sg**	**00 12 00.8**	**-1.0**
	34nm,1.0s							
MDOK	**Medeo**	**4.76**	**272**		Pn	**Pn**	**00 10 44.1**	**+3.1**
	1.8nm,0.4s							
MDOK					Pg	**Pg**	**00 10 57.3**	**-3.0**
	8.5nm,0.6s							
MDOK					Lg	Lg	00 12 03.9	
	32nm,0.6s							
MDOK	**Medeo**	**4.76**	**272**		Pg	**Pb**	**00 10 57.0**	**+4.3**
	8.6nm,0.7s							
MDOK					Lg	Lg	00 12 03.6	
	34nm,1.0s							
KNDC	**Almaty**	**4.81**	**273**		⇑Lg	Lg	00 12 07.7	
	24nm,0.2s							
CHKK	**Chushkaly**	**4.82**	**280**		*e*P	**Pb**	**00 10 55.8**	**+2.0**
	2.7nm,0.3s							
CHKK					*e*S	**Sg**	**00 12 01.9**	**-2.0**
	28nm,0.1s							
CHKK	**Chushkaly**	**4.82**	**280**		Pg	**Pb**	**00 10 56.0**	**+2.3**
	2.7nm,0.3s							
CHKK					Lg	Lg	00 12 01.9	
	31nm,0.3s							
TNSS	**Tian-Shan**	**4.84**	**271**		*e*P	**Pb**	**00 10 57.5**	**+3.3**
	4.8nm,0.1s							
TNSS					*e*S	**Sg**	**00 12 04.3**	**-0.2**
	8.0nm,0.0s							
TNSS	**Tian-Shan**	**4.84**	**271**		Pg	**Pb**	**00 10 54.9**	**+0.6**
	5.5nm,0.3s							
KTBS	**Karatobe**	**5.03**	**279**		*e*P	**Pb**	**00 10 59.5**	**+2.1**
	1.3nm,0.1s							
KTBS					*e*S	**Sg**	**00 12 08.6**	**-2.0**
	96nm,0.3s							
KTBS	**Karatobe**	**5.03**	**279**		Pg	**Pb**	**00 10 59.9**	**+2.5**
	3.0nm,0.3s							
KTBS					Lg	Lg	00 12 08.6	
	44nm,0.7s							
MTBS	**Maitube**	**5.21**	**272**		*e*P	**Pb**	**00 11 05.1**	**+4.7**
	2.7nm,0.1s							
MTBS					*e*S	**Sg**	**00 12 18.0**	**+1.6**
	23nm,0.0s							
MTBS	**Maitube**	**5.21**	**272**		Pg	**Pb**	**00 11 05.1**	**+4.7**
	2.7nm,0.5s							
KUU	**Kurty**	**5.29**	**280**		*e*P	**Pb**	**00 11 06.2**	**+4.4**
	1.2nm,0.1s							
KUU					*e*S	**Sg**	**00 12 19.2**	**+0.1**
	30nm,0.2s							
KUU	**Kurty**	**5.29**	**280**		Pg	**Pb**	**00 11 06.2**	**+4.4**
	1.5nm,0.2s							
KUU					Lg	Lg	00 12 19.7	
	29nm,0.5s							
KST	**Kastek**	**5.56**	**271**		*e*P	**Pb**	**00 11 10.5**	**+4.2**
	3.1nm,0.3s							
KST					*e*S	**Sg**	**00 12 26.5**	**-1.0**
	33nm,0.0s							
KST	**Kastek**	**5.56**	**271**		Pg	**Pb**	**00 11 10.1**	**+3.8**
	4.5nm,0.9s							
KST					Lg	Lg	00 12 26.5	
	44nm,0.7s							
DGS	**Degeres**	**5.69**	**273**		*e*P	**Pb**	**00 11 12.8**	**+4.2**
	4.5nm,0.2s							
DGS					*e*S	**Sg**	**00 12 31.6**	**-0.1**
	18nm,0.8s							
DGS	**Degeres**	**5.69**	**273**		Pg	**Pg**	**00 11 15.4**	**-2.6**
	12nm,0.7s							
KRBS	**Karabastau**	**5.76**	**278**		*e*P	**Pb**	**00 11 13.7**	**+3.9**
	4.0nm,0.1s							
KRBS					*e*S	**Sg**	**00 12 32.8**	**-1.2**
	7.5nm,0.2s							
KRBS	**Karabastau**	**5.76**	**278**		Pg	**Pb**	**00 11 13.7**	**+3.9**
	4.0nm,0.6s							
KRBS					Lg	Lg	00 12 32.8	
	13nm,0.5s							
TKM2	**Tokmak 2**	**5.83**	**270**		⇓Pn	**Pn**	**00 10 59.3**	**+3.4**
	2.3nm,0.8s							
TKM2					⇑Pg	**Pb**	**00 11 15.4**	**+4.3**
	2.2nm,0.4s							
TKM2					⇑Lg	Lg	00 12 36.9	
	18nm,0.8s							
CHMS	**Chumysh**	**6.45**	**271**		⇑Pg	**Pg**	**00 11 32.0**	**-0.5**
	1.6nm,0.4s							
CHMS					⇓Lg	Lg	00 12 55.

h634km,4km,**h634**km:**pP-P**,**n728**,σ1s**24**/664,**mb4.6**/183,
16C-37D,**Fiji Islands region**

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.34**	**277**	P	**P**	**00 21 14.2**	**+0.8**
	65nm,0.3s,baz=133,slow=3.7,SNR=145						
MSVF				S	**S**	**00 22 24.6**	**+2.9**
	baz=28,slow=21,SNR=31						
MSVF	**Nonsavu**	**3.34**	**277**	P	**P**	**00 21 13.5**	**+0.2**
MSVF	**Nonsavu**	**3.34**	**277**	P	**P**	**00 21 14.4**	**+1.0**
AFI	**Afiamalu**	**7.72**	**57**	P	**P**	**00 21 45.8**	**-1.8**
	12nm,0.3s,baz=98,slow=2.2,SNR=7.4						
AFI				S	**S**	**00 23 18.7**	**-5.4**
	2.6nm,0.3s,baz=190,slow=22,SNR=2.1						
AFI	**Afiamalu**	**7.72**	**57**	P	**P**	**00 21 46.4**	**-1.1**
NIUE	**Niue**	**8.15**	**98**	P	**P**	**00 21 52.1**	**+0.8**
NIUE	**Niue**	**8.15**	**98**	P	**P**	**00 21 50.4**	**-0.9**
FUNA	**Funafuti**	**9.88**	**346**	P	**P**	**00 22 05.2**	**-2.6**
RAO	**Raoul Island**	**11.02**	**177**	S	**S**	**00 24 23.1**	**+2.2**
	134nm,0.3s,baz=93,slow=22,SNR=5.8						
GLKZ	**Green Lake**	**11.03**	**177**	P	**P**	**00 22 15.9**	**-2.9**
GLKZ				S	**S**	**00 24 23.1**	**+2.0**
RTV	**Rentapao**	**12.47**	**270**	P	**P**	**00 22 32.6**	**0.0**
DVP	**Devils Point**	**12.70**	**270**	P	**P**	**00 22 35.0**	**+0.2**
MARNC	**Mare, Loyalty**	**13.11**	**253**	P	**P**	**00 22 37.9**	**-0.8**
MARNC	**Mare, Loyalty**	**13.11**	**253**	P	**P**	**00 22 38.4**	**-0.2**
LIFNC	**LIFOU**	**13.71**	**257**	P	**P**	**00 22 42.5**	**-1.8**
LIFNC	**LIFOU**	**13.71**	**257**	P	**P**	**00 22 43.3**	**-1.1**
PINNC	**Pines Island,**	**13.91**	**249**	P	**P**	**00 22 45.8**	**-0.4**
SANVU	**Saraoutou**	**13.98**	**279**	P	**P**	**00 22 45.5**	**-1.5**
YATNC	**Mamie plateau,**	**14.27**	**252**	P	**P**	**00 22 49.3**	**-0.3**
OUENC	**Ouen Island, N**	**14.40**	**251**	P	**P**	**00 22 50.7**	**0.0**
OUENC	**Ouen Island, N**	**14.40**	**251**	P	**P**	**00 22 51.1**	**+0.4**
DZM	**Mont Dzumac**	**14.68**	**252**	P	**P**	**00 22 53.2**	**-0.2**
	15nm,0.3s,baz=88,slow=4.7,SNR=91						
DZM	**Mont Dzumac**	**14.68**	**252**	P	**P**	**00 22 53.0**	**-0.4**
DZM	**Mont Dzumac**	**14.68**	**252**	P	**P**	**00 22 53.8**	**+0.4**
ONTNC	**Ouen Toro**	**14.72**	**251**	P	**P**	**00 22 53.5**	**-0.2**
ONTNC	**Ouen Toro**	**14.72**	**251**	P	**P**	**00 22 54.2**	**+0.5**
NOUC	**Port Laguerre**	**14.81**	**252**	P	**P**	**00 22 54.9**	**+0.4**
KOUNC	**Koumac, New Ca**	**16.44**	**259**	P	**P**	**00 23 09.7**	**+0.4**
KOUNC	**Koumac, New Ca**	**16.44**	**259**	P	**P**	**00 23 11.0**	**+1.7**
KNTN	**Kanton**	**16.70**	**24**	P	**P**	**00 23 10.1**	**-1.7**
KNTN	**Kanton**	**16.70**	**24**	P	**P**	**00 23 10.2**	**-1.6**
OUZ	**Omahuta**	**18.36**	**201**	P	**P**	**00 23 29.6**	**+2.9**
OUZ				IAmb	IAmb	00 23 32.0	
	comp=Z,72nm,1.4s						
OUZ				PcP	**PcP**	**00 27 25.9**	**+1.5**
OUZ	**Omahuta**	**18.36**	**201**	P	**P**	**00 23 30.3**	**+3.6**
WCZ	**Waipu Caves**	**18.78**	**198**	P	**P**	**00 23 33.6**	**+3.2**
KUZ	**Kuaotunu**	**19.17**	**194**	P	**P**	**00 23 34.9**	**+1.0**
MXZ	**Matakaoa Point**	**19.50**	**188**	P	**P**	**00 23 35.5**	**-1.4**
MXZ	**Matakaoa Point**	**19.50**	**188**	P	**P**	**00 23 36.2**	**-0.7**
WMGZ	**Waiomatatini S**	**19.74**	**187**	P	**P**	**00 23 39.6**	**+0.6**
HAZ	**Te Kaha**	**19.76**	**189**	P	**P**	**00 23 36.8**	**-2.5**
HAZ				S	**S**	**00 26 39.0**	**-5.7**
PKGZ	**Pakihiroa**	**19.85**	**188**	P	**P**	**00 23 36.8**	**-3.4**
RUGZ	**Raukumara Rang**	**19.98**	**189**	P	**P**	**00 23 40.5**	**-0.9**
RUGZ				S	**S**	**00 26 42.7**	**-5.8**
PUZ	**Puketiti**	**20.01**	**188**	P	**P**	**00 23 42.4**	**+0.8**
TWGZ	**Tauwhareparae**	**20.15**	**188**	P	**P**	**00 23 44.0**	**+1.2**
TWGZ				S	**S**	**00 26 48.3**	**-2.6**
TOZ	**Tahuroa Road**	**20.17**	**194**	P	**P**	**00 23 45.4**	**+2.5**
URZ	**Urewera**	**20.36**	**190**	P	**P**	**00 23 42.9**	**-1.7**
	comp=Z,17nm,0.3s,baz=359,slow=4.4,SNR=20						
URZ				S	**S**	**00 26 49.9**	**-4.2**
	comp=Z,20nm,0.7s,baz=13,slow=20,SNR=3.0						
URZ	**Urewera**	**20.36**	**190**	P	**P**	**00 23 42.2**	**-2.4**
MWZ	**Matawai**	**20.37**	**189**	P	**P**	**00 23 43.7**	**-1.0**
MWZ				S	**S**	**00 26 47.6**	**-6.8**
RAGZ	**Rawiri**	**20.54**	**189**	P	**P**	**00 23 46.9**	**+0.5**
RIGZ	**Rimuhau**	**20.70**	**188**	P	**P**	**00 23 47.6**	**-0.1**
RIGZ				S	**S**	**00 26 59.1**	**-0.4**
RTZ	**Ruatahuna**	**20.73**	**190**	P	**P**	**00 23 46.5**	**-1.5**
TLZ	**Tolley Road**	**20.73**	**193**	P	**P**	**00 23 50.3**	**+2.3**
SNGZ	**Shannon Statio**	**20.83**	**189**	P	**P**	**00 23 48.6**	**-0.3**
MTHZ	**Maungataniwha**	**20.98**	**190**	P	**P**	**00 23 49.0**	**-1.3**
MTHZ				S	**S**	**00 27 01.3**	**-2.7**
RAHZ	**Arahi**	**21.00**	**190**	P	**P**	**00 23 50.4**	**-0.1**
HIZ	**Hauiti**	**21.06**	**195**	P	**P**	**00 23 53.8**	**+2.8**
HIZ	**Hauiti**	**21.06**	**195**	P	**P**	**00 23 51.3**	**+0.4**
MHGZ	**Mahia Peninsul**	**21.12**	**188**	P	**P**	**00 23 51.7**	**+0.3**
BKZ	**Black Stump Fm**	**21.35**	**191**	P	**P**	**00 23 51.8**	**-1.7**
BKZ				IAmb	IAmb	00 23 52.7	
	comp=Z,14nm,0.5s						
BKZ	**Black Stump Fm**	**21.35**	**191**	P	**P**	**00 23 51.9**	**-1.7**
BKZ				S	**S**	**00 27 03.8**	**-6.0**
BKZ	**Black Stump Fm**	**21.35**	**191**	P	**P**	**00 23 52.2**	**-1.5**
TMVZ	**Te Maari**	**21.45**	**192**	P	**P**	**00 23 54.0**	**-0.5**
ETVZ	**East Tongariro**	**21.47**	**192**	P	**P**	**00 23 54.1**	**-0.6**
WTVZ	**West Tongariro**	**21.47**	**193**	P	**P**	**00 23 54.3**	**-0.5**
NNVZ	**North Ngauruho**	**21.48**	**193**	P	**P**	**00 23 55.5**	**+0.7**
OTVZ	**Oturere**	**21.50**	**193**	P	**P**	**00 23 54.1**	**-0.9**
NGZ	**Ngauruhoe**	**21.53**	**193**	P	**P**	**00 23 55.0**	**-0.2**
SNVZ	**South Ngauruho**	**21.53**	**193**	P	**P**	**00 23 54.8**	**-0.5**
MCHZ	**McNeill Hill**	**21.58**	**190**	P	**P**	**00 23 54.8**	**-0.8**
TUVZ	**Tukino**	**21.61**	**192**	P	**P**	**00 23 55.3**	**-0.6**
KWHZ	**Kaweka Forest**	**21.61**	**191**	P	**P**	**00 23 54.7**	**-1.1**
VRZ	**Vera Road**	**21.67**	**194**	P	**P**	**00 23 58.4**	**+2.2**
WNVZ	**Wahianoa**	**21.68**	**193**	P	**P**	**00 23 55.8**	**-0.8**
PKVZ	**Pokaka**	**21.69**	**193**	P	**P**	**00 23 56.5**	**-0.1**
MOVZ	**Moawhango**	**21.72**	**192**	P	**P**	**00 23 55.7**	**-1.1**
CKHZ	**Cape Kidnapper**	**21.73**	**189**	P	**P**	**00 23 54.8**	**-2.0**
BHHZ	**Black Hill Sta**	**21.74**	**191**	P	**P**	**00 23 55.7**	**-1.3**
KAHZ	**Kahuranaki**	**21.90**	**190**	P	**P**	**00 23 57.5**	**-0.9**
KHEZ	**Kahui Hut**	**22.01**	**196**	P	**P**	**00 24 03.3**	**+3.8**
PNHZ	**Pukenui**	**22.13**	**191**	P	**P**	**00 23 59.5**	**-0.9**
PXZ	**Pawanui**	**22.13**	**190**	P	**P**	**00 23 59.5**	**-0.9**
PRHZ	**Porangahau**	**22.40**	**190**	P	**P**	**00 24 02.3**	**-0.5**
DVHZ	**Dannevirke**	**22.51**	**191**	P	**P**	**00 24 03.0**	**-0.8**
BFZ	**Birch Farm**	**22.86**	**190**	P	**P**	**00 24 05.4**	**-1.5**
SNZO	**South Karori**	**23.77**	**193**	P	**P**	**00 24 14.1**	**-0.7**
QRZ	**Quartz Range**	**23.84**	**197**	P	**P**	**00 24 16.7**	**+1.1**
BSWZ	**Blackbirch Sta**	**24.34**	**194**	P	**P**	**00 24 19.3**	**-0.6**
KHZ	**Kahutara**	**25.08**	**194**	P	**P**	**00 24 25.8**	**-0.6**
MQZ	**McQueen's Vall**	**26.51**	**195**	P	**P**	**00 24 38.3**	**-0.6**
RPZ	**Rata Peaks**	**26.93**	**197**	P	**P**	**00 24 41.6**	**-1.1**
	comp=Z,12nm,0.6s,baz=317,slow=2.7,SNR=12						
RPZ				S	**S**	**00 28 31.1**	**-6.1**
	comp=Z,17nm,1.0s,baz=151,slow=20,SNR=3.5						
RPZ	**Rata Peaks**	**26.93**	**197**	P	**P**	**00 24 41.3**	**-1.3**
FOZ	**Fox Glacier**	**27.13**	**199**	P	**P**	**00 24 44.0**	**-0.3**
FOZ				PcP	**PcP**	**00 27 42.3**	**-0.5**
PPT	**Papeete**	**27.50**	**93**	P	**P**	**00 24 49.6**	**+1.6**
	comp=Z,67nm,0.7s,baz=183,slow=8.7,SNR=4.0						
PPTF	**Pamatai, Papee**	**27.51**	**93**	P	**P**	**00 24 49.5**	**+1.5**
ODZ	**Otahua Downs**	**28.27**	**196**	P	**P**	**00 24 53.8**	**-0.4**
XMAS	**Kiritimati**	**28.87**	**48**	P	**P**	**00 24 59.9**	**+0.1**
EIDS	**Eidsvold**	**29.11**	**250**	P	**P**	**00 25 01.3**	**-0.5**
EIDS	**Eidsvold**	**29.11**	**250**	P	**P**	**00 25 01.6**	**-0.2**
ARMA	**Armidale**	**29.74**	**240**	P	**P**	**00 25 08.0**	**+0.7**
ARMA				IAmb	IAmb	00 25 09.1	
	comp=Z,22nm,0.8s						
ARMA	**Armidale**	**29.74**	**240**	P	**P**	**00 25 08.4**	**+1.1**
MGCD	**Mangrove Creek**	**31.08**	**235**	P	**P**	**00 25 19.9**	**+1.4**
RMQ	**Roma**	**31.34**	**249**	P	**P**	**00 25 21.7**	**+0.8**
CNB	**Canberra Magne**	**33.20**	**233**	P	**P**	**00 25 37.9**	**+1.5**
CTA	**Charters Tower**	**33.34**	**261**	P	**P**	**00 25 37.6**	**-0.1**
	comp=Z,8.3nm,0.4s,baz=98,slow=10,SNR=12						
CTA	**Charters Tower**	**33.34**	**261**	P	**P**	**00 25 37.8**	**+0.1**
CTAO	**Charters Tower**	**33.34**	**261**	P	**P**	**00 25 37.2**	**-0.6**
CTAO				IAmb	IAmb	00 25 39.1	
	comp=Z,10nm,0.6s						
CAN	**Canberra**	**33.48**	**233**	P	**P**	**00 25 39.7**	**+1.0**
CAN	**Canberra**	**33.48**	**233**	P	**P**	**00 25 39.9**	**+1.2**
CMSA	**Cobar Meteorol**	**34.95**	**241**	P	**P**	**00 25 51.8**	**+0.8**
QLP	**Quilpie**	**35.38**	**250**	P	**P**	**00 25 54.9**	**+0.4**
JOHN	**Johnston Islan**	**35.81**	**15**	P	**P**	**00 25 57.7**	**-0.4**
GLAD	**Gladstone**	**36.60**	**225**	P	**P**	**00 26 05.3**	**+1.0**
TOO	**Toolangi**	**36.94**	**231**	P	**P**	**00 26 08.1**	**+0.9**
TOO				IAmb	IAmb	00 26 09.9	
	comp=Z,13nm,0.7s						
TOO	**Toolangi**	**36.94**	**231**	P	**P**	**00 26 08.6**	**+1.4**
COEN	**Coen**	**37.05**	**271**	P	**P**	**00 26 08.4**	**+0.1**
COEN				IAmb	IAmb	00 26 09.2	
	comp=Z,16nm,0.6s						
COEN	**Coen**	**37.05**	**271**	P	**P**	**00 26 08.9**	**+0.6**
TAU	**Tasmania Unive**	**37.99**	**222**	P	**P**	**00 26 16.0**	**+0.6**
TAU				IAmb	IAmb	00 26 16.5	
	comp=Z,47nm,1.5s						
TAOE	**Nuku Hiva Isla**	**38.33**	**81**	P	**P**	**00 26 20.1**	**+1.3**
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**00 26 20.4**	**+1.1**
	comp=Z,6.2nm,0.5s,baz=82,slow=8.8,SNR=24						
STKA				PcP	**PcP**	**00 28 16.2**	**+0.8**
	comp=Z,6.8nm,0.6s,baz=56,slow=2.9,SNR=5.3						
STKA				S	**S**	**00 31 30.5**	**-0.7**
	comp=Z,5.2nm,0.7s,baz=306,slow=20,SNR=7.9						
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**00 26 20.4**	**+1.1**
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**00 26 20.7**	**+1.4**
ARPS	**Mount Arapiles**	**39.43**	**234**	P	**P**	**00 26 28.1**	**+0.9**
QIS	**Mount Isa**	**39.54**	**260**	P	**P**	**00 26 28.0**	**-0.3**
HTT	**Hallett**	**40.95**	**240**	P	**P**	**00 26 40.1**	**+0.8**
LCRK	**Leigh Creek**	**41.08**	**244**	P	**P**	**00 26 40.8**	**+0.5**
NAPP	**Napperby**	**41.54**	**240**	P	**P**	**00 26 44.9**	**+1.0**
OOD	**Oodnadatta**	**43.06**	**249**	P	**P**	**00 26 56.7**	**+0.9**
BBOO	**Buckleboo**	**43.21**	**241**	P	**P**	**00 26 57.0**	**+0.1**
BBOO				IAmb	IAmb	00 26 58.0	
	comp=Z,29nm,0.9s						
BBOO				PcP	**PcP**	**00 28 30.8**	**-0.6**
BBOO	**Buckleboo**	**43.21**	**241**	P	**P**	**00 26 57.3**	**+0.4**
KHU	**Kahuku**	**43.46**	**32**	P	**P**	**00 26 58.1**	**-1.0**
KHLU	**Kahalu`u**	**43.61**	**32**	P	**P**	**00 27 00.2**	**+0.1**
AIN	**Ainahou**	**43.64**	**32**	P	**P**	**00 27 00.2**	**-0.3**
MLOA	**Mauna Loa Obse**	**43.72**	**32**	P	**P**	**00 27 00.9**	**-0.5**
MLH	**Mauna Loa**	**43.78**	**32**	P	**P**	**00 27 02.3**	**+0.6**
HMH	**Humu'ula Sheep**	**43.82**	**32**	P	**P**	**00 27 02.4**	**+0.3**
HPAH	**Hawaii Prepara**	**44.08**	**32**	P	**P**	**00 27 03.8**	**+0.1**
MHA	**Mahukona**	**44.11**	**31**	P	**P**	**00 27 04.4**	**+0.5**
WR0	**Warramunga Arr**	**44.33**	**260**	P	**P**	**00 27 05.4**	**-0.3**
WR0				PcP	**PcP**	**00 28 34.9**	**-0.6**
HLK	**Haleakala**	**44.42**	**30**	P	**P**	**00 27 06.8**	**+0.2**
WB0	**Warramunga Arr**	**44.49**	**260**	P	**P**	**00 27 06.4**	**-0.5**
WB0				IAmb	IAmb	00 27 07.0	
	comp=Z,12nm,0.5s						
WB0				PcP	**PcP**	**00 28 35.8**	**-0.3**
WB2	**Warramunga Arr**	**44.51**	**260**	P	**P**	**00 27 06.5**	**-0.6**
WB2				IAmb	IAmb	00 27 07.2	
	comp=Z,21nm,1.2s						
WB2				PcP	**PcP**	**00 28 36.4**	**+0.3**
WRAB	**Tennant Creek**	**44.51**	**260**	P	**P**	**00 27 06.3**	**-0.8**
WRAB				IAmb	IAmb	00 27 07.1	
	comp=Z,18nm,1.1s						
WRAB				PcP	**PcP**	**00 28 36.0**	**-0.1**
WRAB	**Tennant Creek**	**44.51**	**260**	P	**P**	**00 27 06.7**	**-0.4**
WRA	**Warramunga Arr**	**44.52**	**260**	P	**P**	**00 27 06.7**	**-0.5**
	comp=Z,6.0nm,0.3s,baz=95,slow=7.1,SNR=143						
WRA				PcP	**PcP**	**00 28 36.2**	**+0.1**
	comp=Z,4.7nm,0.4s,baz=90,slow=3.8,SNR=9.4						
WRA				S	**S**	**00 32 54.0**	**-4.6**
	comp=Z,5.5nm,0.8s,baz=100,slow=13,SNR=11						
WRA	**Warramunga Arr**	**44.52**	**260**	P	**P**	**00 27 06.6**	**-0.5**
WRA				PcP	**PcP**	**00 28 35.9**	**-0.2**
MULG	**Mulgathing**	**44.63**	**245**	P	**P**	**00 27 08.0**	**+0.1**
AS31	**Alice Springs**	**44.65**	**255**	P	**P**	**00 27 07.9**	**-0.3**
AS31				PcP	**PcP**	**00 28 36.5**	**-0.1**
ASAR	**Alice Springs**	**44.65**	**255**	P	**P**	**00 27 08.1**	**-0.1**
	comp=Z,28nm,0.6s,baz=88,slow=8.1,SNR=374						
ASAR				PcP	**PcP**	**00 28 36.5**	**-0.1**
	comp=Z,11nm,0.5s,baz=106,slow=3.3,SNR=17						
ASAR				pP	**pP**	**00 28 56.8**	**-0.2**
	comp=Z,5.9nm,1.0s,baz=83,slow=8.7,SNR=2.2						
ASAR				S	**S**	**00 32 58.0**	**-2.4**
	comp=Z,16nm,0.8s,baz=89,slow=15,SNR=54						
ASAR	**Alice Springs**	**44.65**	**255**	P	**P**	**00 27 07.9**	**-0.3**
ASAR				PcP	**PcP**	**00 28 36.1**	**-0.5**
MTN	**Manton Dam**	**48.73**	**269**	P	**P**	**00 27 37.9**	**-0.9**
MTN				IAmb	IAmb	00 27 38.9	
	comp=Z,16nm,0.7s						
WRKA	**Warakurna**	**49.70**	**252**	P	**P**	**00 27 45.7**	**-0.1**
FORT	**Forrest**	**49.83**	**245**	P	**P**	**00 27 45.8**	**-0.7**
FORT				PcP	**PcP**	**00 28 55.2**	**0.0**
FORT	**Forrest**	**49.83**	**245**	P	**P**	**00 27 46.0**	**-0.6**
KNRA	**Kununurra**	**50.40**	**264**	P	**P**	**00 27 50.2**	**-0.7**
KNRA				IAmb	IAmb	00 27 51.1	
	comp=Z,22nm,0.8s						
SWI	**Sorong**	**52.25**	**283**	P	**P**	**00 28 04.2**	**0.0**
FITZ	**Fitzroy Crossi**	**52.92**	**261**	P	**P**	**00 28 08.3**	**-0.6**
SANI	**Sanana**	**56.73**	**280**	P	**P**	**00 28 34.7**	**-0.7**
	comp=Z,29nm,0.9s						
PSA00	**Pilbara Seismi**	**57.78**	**256**	P	**P**	**00 28 41.6**	**-0.8**
PSA00				IAmb	IAmb	00 28 42.6	
	comp=Z,30nm,0.8s						
PSA00				PcP	**PcP**	**00 29 25.7**	**-0.4**
PSA00	**Pilbara Seismi**	**57.78**	**256**	P	**P**	**00 28 41.8**	**-0.6**
MBWA	**Marble Bar**	**57.95**	**256**	P	**P**	**00 28 42.8**	**-0.7**
MEEK	**Meekatharra**	**58.27**	**250**	P	**P**	**00 28 45.1**	**-0.6**
KLBR	**Kellerberrin**	**58.65**	**244**	P	**P**	**00 28 47.6**	**-0.5**
NWAO	**Narrogin (SRO)**	**59.02**	**242**	P	**P**	**00 28 50.0**	**-0.6**
BLDU	**Ballidu**	**59.60**	**245**	P	**P**	**00 28 54.0**	**-0.4**
SBA	**Scott Base**	**60.13**	**184**	P	**P**	**00 28 59.9**	**+2.8**
SBA				IAmb	IAmb	00 29 00.4	
	comp=Z,33nm,0.7s						
SBA				PcP	**PcP**	**00 29 36.5**	**+2.0**
VNDA	**Vanda**	**60.15**	**185**	P	**P**	**00 28 59.0**	**+1.9**
	comp=Z,11nm,0.6s,baz=356,slow=7.8,SNR=65						
VNDA	**Vanda**	**60.15**	**185**	P	**P**	**00 28 58.9**	**+1.7**
MORW	**Morawa**	**60.31**	**246**	P	**P**	**00 28 58.0**	**-1.1**
MORW	**Morawa**	**60.31**	**246**	P	**P**	**00 28 58.6**	**-0.5**
APSI	**Ampana**	**61.19**	**279**	P	**P**	**00 29 05.3**	**+0.2**
	comp=Z,24nm,0.9s						
BNSI	**Bone**	**61.51**	**275**	P	**P**	**00 29 07.4**	**+0.3**
	comp=Z,21nm,1.0s						
SPSI	**Sidrap Palu**	**61.96**	**275**	P	**P**	**00 29 09.3**	**-0.8**
	comp=Z,15nm,0.8s						
PLAI	**Plampang**	**62.43**	**269**	P	**P**	**00 29 13.1**	**0.0**
	comp=Z,44nm,0.9s						
PLAI	**Plampang**	**62.43**	**269**	P	**P**	**00 29 12.6**	**-0.5**
TOLI2	**Tolitoli**	**62.71**	**281**	P	**P**	**00 29 13.8**	**-1.1**
GIRL	**Giralia**	**62.75**	**253**	P	**P**	**00 29 15.6**	**+0.5**
GIRL	**Giralia**	**62.75**	**253**	P	**P**	**00 29 15.9**	**+0.9**
MPSI	**Mapaga**	**63.26**	**280**	P	**P**	**00 29 18.1**	**-0.3**
	comp=Z,23nm,1.0s						
CASY	**Casey**	**65.85**	**205**	P	**P**	**00 29 34.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**65.97**	**269**	P	**P**	**00 29 33.9**	**-1.5**
	comp=Z,57nm,0.7s						
PWJI	**Pagerwojo**	**68.33**	**268**	P	**P**	**00 29 50.1**	**+0.3**
	comp=Z,35nm,0.8s						
PCJI	**Pacitan**	**68.88**	**268**	P	**P**	**00 29 53.1**	**+0.1**
	comp=Z,2µmcomp=Z,210nm,0.7s						
UGM	**Wanagama**	**69.58**	**268**	P	**P**	**00 29 56.9**	**-0.4**
UGM	**Wanagama**	**69.58**	**268**	P	**P**	**00 29 57.6**	**+0.3**
	comp=150nm,1.1s						
UGM	**Wanagama**	**69.58**	**268**	P	**P**	**00 29 56.8**	**-0.4**
KIWB	**Kanaga Island**	**69.76**	**1**	P	**P**	**00 29 56.5**	**-0.9**
ADK	**Adak**	**69.80**	**1**	P	**P**	**00 29 56.8**	**-0.8**
ADK	**Adak**	**69.80**	**1**	P	**P**	**00 29 56.9**	**-0.8**
GSTR	**Great Sitkin T**	**70.02**	**2**	P	**P**	**00 29 58.2**	**-0.8**
ATKA	**Atka Island**	**70.20**	**3**	P	**P**	**00 29 59.0**	**-1.0**
SHEM	**Shemya Is, Ala**	**70.92**	**355**	P	**P**	**00 30 02.7**	**-1.5**
	comp=Z,27nm,0.6s,baz=119,slow=8.1,SNR=4.4						
SMY	**Shemya**	**70.92**	**355**	P	**P**	**00 30 03.2**	**-1.0**
STKI	**Sintang**	**71.09**	**276**	P	**P**	**00 30 06.5**	**+0.3**
SBUM	**Sibu**	**71.19**	**279**	P	**P**	**00 30 06.8**	**+0.1**
KPJI	**Karang Pucung**	**71.25**	**268**	P	**P**	**00 30 07.4**	**+0.3**
	comp=Z,38nm,0.7s						
NIKH	**Nikolski High**	**71.36**	**6**	P	**P**	**00 30 05.6**	**-1.1**
NIKH	**Nikolski High**	**71.36**	**6**	P	**P**	**00 30 05.6**	**-1.1**
	baz=190						
QSPA	**South Pole Qui**	**71.86**	**180**	P	**P**	**00 30 11.1**	**+1.3**
	comp=Z,95nm,0.8s,baz=349,slow=0.4,SNR=498						
QSPA	**South Pole Qui**	**71.86**	**180**	P	**P**	**00 30 11.0**	**+1.2**
SSLB	**Suanglung**	**72.34**	**303**	P	**P**	**00 30 11.7**	**-1.5**
SSLB				IAmb	IAmb	00 30 12.4	
	comp=Z,12nm,0.5s						
SSLB	**Suanglung**	**72.34**	**303**	P	**P**	**00 30 12.2**	**-1.0**
UNV	**Unalaska Valle**	**72.48**	**7**	P	**P**	**00 30 11.6**	**-1.5**
UNV				IAmb	IAmb	00 30 12.5	
	comp=Z,26nm,0.7s						
UNV	**Unalaska Valle**	**72.48**	**7**	P	**P**	**00 30 12.0**	**-1.2**
	baz=192						
KSM	**Kuching**	**72.66**	**277**	P	**P**	**00 30 14.8**	**-0.4**
FALS	**False Pass**	**73.89**	**9**	P	**P**	**00 30 23.2**	**+2.1**
	baz=195						
PEA0B	**Petropavlovsk-**	**73.94**	**345**	P	**P**	**00 30 21.0**	**-0.5**
PEA0B				IAmb	IAmb	00 30 21.6	
	comp=Z,19nm,0.8s						
PETK	**Petropavlovsk-**	**73.94**	**345**	P	**P**	**00 30 21.3**	**-0.2**
	comp=Z,11nm,0.6s,baz=137,slow=7.7,SNR=12						
PETK	**Petropavlovsk-**	**73.94**	**345**	P	**P**	**00 30 20.9**	**-0.6**
CGJI	**Cibinong**	**74.54**	**268**	P	**P**	**00 30 24.6**	**-1.2**
	comp=Z,1µmcomp=Z,115nm,0.5s						
KSRS	**Korea Array**	**74.88**	**318**	pP	pP	00 32 36.2	+0.9
	comp=Z,0.8nm,0.5s,baz=128,slow=8.2,SNR=2.6						
KASI	**Kota Agung**	**75.99**	**269**	P	**P**	**00 30 33.6**	**-0.2**
	comp=Z,62nm,0.8s						
CHGN	**Chignik**	**76.11**	**11**	P	**P**	**00 30 32.5**	**-0.9**
CHGN	**Chignik**	**76.11**	**11**	P	**P**	**00 30 32.5**	**-0.9**
	baz=200						
CHIR	**Chirikof Islan**	**76.22**	**13**	P	**P**	**00 30 33.7**	**-0.4**
CHIR	**Chirikof Islan**	**76.22**	**13**	P	**P**	**00 30 33.7**	**-0.4**
	baz=202						
SCI2	**San Clemente I**	**76.57**	**48**	P	**P**	**00 30 37.6**	**+1.1**
	baz=238						
SAO	**San Andreas Ge**	**76.67**	**44**	P	**P**	**00 30 38.2**	**+1.2**
SAO				IAmb	IAmb	00 30 39.2	
	comp=Z,22nm,0.8s						
PKM	**Mcpherson Peak**	**76.72**	**46**	P	**P**	**00 30 38.9**	**+1.3**
	baz=237,SNR=11						
SMMC	**Simmler**	**76.83**	**46**	P	**P**	**00 30 39.5**	**+1.5**
	baz=236						
BBGB	**Big Mountain B**	**76.84**	**44**	P	**P**	**00 30 39.3**	**+1.3**
BBGB				IAmb	IAmb	00 30 40.9	
	comp=Z,34nm,1.2s						
CIS	**Catalina Islan**	**76.89**	**48**	P	**P**	**00 30 39.1**	**+0.8**
	baz=238						
HOPS	**Hopland Field**	**76.93**	**41**	IAmb	IAmb	00 30 40.5	
	comp=Z,23nm,1.1s						
BCW	**Bitter Crk WRg**	**77.02**	**46**	IAmb	IAmb	00 30 41.6	
	comp=Z,25nm,0.8s						
KCPM	**Cahto Peak**	**77.03**	**40**	IAmb	IAmb	00 30 41.4	
	comp=Z,34nm,1.5s						
KMPM	**Mount Pierce**	**77.14**	**40**	IAmb	IAmb	00 30 42.1	
	comp=Z,25nm,1.0s						
SII	**Sitkinak Islan**	**77.22**	**14**	P	**P**	**00 30 39.8**	**+0.3**
	baz=204						
KMRM	**Mail Ridge**	**77.27**	**40**	P	**P**	**00 30 41.4**	**+1.1**
ARVC	**Arvin**	**77.53**	**46**	P	**P**	**00 30 42.4**	**+0.7**
	baz=237						
109C	**Camp Elliot, M**	**77.55**	**49**	P	**P**	**00 30 43.0**	**+1.1**
	baz=239						
ELS	**Elsinore Mount**	**77.72**	**48**	P	**P**	**00 30 43.9**	**+1.0**
VES	**Vestal, Richgr**	**77.74**	**46**	P	**P**	**00 30 43.4**	**+0.6**
	baz=237						
O02D	**Mt. Diablo Mer**	**77.81**	**40**	IAmb	IAmb	00 30 45.9	
	comp=Z,23nm,1.1s						
O02D	**Mt. Diablo Mer**

comp=Z,15nm,0.9s
214A Organ Pipe Nat 80.24 52 P P 00 30 57.7 +1.6
baz=242,SNR=7.9
TPNV Topopah Spring 80.26 46 P P 00 30 57.4 +1.1
baz=239,SNR=15
HEBO Mount Hebo 80.30 36 P P 00 30 57.2 +1.1
MOD Modoc Plateau 80.34 40 IAmb IAmb 00 30 58.5
comp=Z,23nm,0.8s
PDMCI Parker Dam,Lak 80.40 49 P P 00 30 58.0 +1.2
baz=240,SNR=6.8
H04D Lebanon 80.45 37 IAmb IAmb 00 30 58.9
comp=Z,27nm,1.2s
H04D Lebanon 80.45 37 P P 00 30 57.8 +1.0
baz=233
O19K Port Alsworth 80.54 12 P P 00 30 56.2 -0.7
baz=203
G03D McMinnville, O 80.57 36 IAmb IAmb 00 30 58.9
comp=Z,23nm,0.9s
G03D McMinnville, O 80.57 36 P P 00 30 58.4 +1.0
baz=232
J05D Fort Rock, OR 80.58 38 P P 00 30 59.0 +1.2
baz=234,SNR=60
HOM Homer 80.61 13 P P 00 30 57.9 +0.7
baz=206
N18K Kilae Creek 80.69 11 P P 00 30 57.4 -0.3
baz=202
O20K Slope Mountain 80.78 13 P P 00 30 58.2 -0.1
baz=205
H04A Detroit Lake 80.86 37 IAmb IAmb 00 30 59.9
comp=Z,19nm,0.6s
BRSE Bradley Lake S 80.88 14 P P 00 30 58.6 -0.1
baz=207
SMAI San Martin Ant 80.91 159 P P 00 31 00.8 +1.9
S11A Rachel 80.97 46 IAmb IAmb 00 31 01.8
comp=Z,23nm,1.0s
N19K Bonanza Creek 81.07 12 P P 00 30 59.2 -0.6
baz=203
I05D Terrebonne, OR 81.14 38 P P 00 31 01.2 +0.7
baz=234
F04D Rainier, OR 81.24 35 P P 00 31 02.0 +1.2
baz=232
PRN Pahroc Range 81.32 46 IAmb IAmb 00 31 04.1
comp=Z,22nm,0.9s
R11A Troy Canyon, C 81.44 45 P P 00 31 03.0 +0.7
baz=239,SNR=14
BMN Battle Mountai 81.46 43 IAmb IAmb 00 31 04.3
comp=Z,24nm,1.0s
F04A Amboy 81.48 36 IAmb IAmb 00 31 03.7
comp=Z,25nm,1.1s
NLWA Neilton Lookou 81.58 34 P P 00 31 03.5 +0.8
NLWA IAmb IAmb 00 31 04.6
comp=Z,24nm,1.1s
WVOR Wild Horse Val 81.67 40 IAmb IAmb 00 31 05.3
comp=Z,24nm,1.0s
G05D Wamic, OR 81.69 37 P P 00 31 04.0 +0.8
baz=234
E04D Cinebar 81.77 35 IAmb IAmb 00 31 05.7
comp=Z,28nm,1.1s
E04D Cinebar 81.77 35 P P 00 31 04.6 +1.1
baz=233,SNR=8.3
O22K Cooper Landing 81.78 14 P P 00 31 02.9 -0.3
baz=208
GAMB Gambell 81.88 3 P P 00 31 04.0 +0.4
baz=187
SPCR Spurr Chakacha 81.88 13 P P 00 31 02.6 -1.2
baz=205
TUC Tucson 81.92 52 P P 00 31 06.2 +1.5
TUC Tucson 81.92 52 P P 00 31 06.5 +1.7
baz=243
F05D White Salmon 81.99 36 IAmb IAmb 00 31 06.4
comp=Z,13nm,0.8s
F05D White Salmon 81.99 36 P P 00 31 05.6 +0.9
baz=234
D04E Lakebay 82.04 35 P P 00 31 06.3 +1.5
baz=232
I07A Izee 82.07 39 P P 00 31 06.1 +0.8
I07A IAmb IAmb 00 31 07.3
comp=Z,22nm,0.9s
D03D Eldon 82.09 34 P P 00 31 06.1 +1.0
baz=232,SNR=9.8
M19K Big River Lodg 82.10 11 IAmb IAmb 00 31 05.1
comp=Z,14nm,0.7s
M19K Big River Lodg 82.10 11 P P 00 31 04.3 -0.6
baz=203
L19K White Mountain 82.27 11 IAmb IAmb 00 31 06.8
comp=Z,18nm,0.8s
L19K White Mountain 82.27 11 P P 00 31 05.5 -0.3
baz=203,SNR=9.6
J08A Circle Bar Ran 82.28 40 IAmb IAmb 00 31 08.4
comp=Z,33nm,1.2s
CLRS Cowichan Lake 82.34 33 IAmb IAmb 00 31 07.9
comp=Z,16nm,0.9s
LCMT Little Creek M 82.37 47 IAmb IAmb 00 31 09.2
comp=Z,12nm,0.9s
IPM Ipoh 82.40 277 P P 00 31 07.8 +0.3
IPM IAmb IAmb 00 31 08.7
comp=Z,23nm,0.8s
X16A Lo Mia Camp, P 82.41 50 IAmb IAmb 00 31 10.0
comp=Z,15nm,1.1s
PWL Port Wells 82.43 14 P P 00 31 05.8 -0.7
baz=209
D05A Enumclaw 82.47 35 IAmb IAmb 00 31 09.3
comp=Z,33nm,1.0s
CBB Campbell River 82.48 31 IAmb IAmb 00 31 08.8
comp=Z,12nm,0.9s
PGC Sidney 82.58 33 IAmb IAmb 00 31 08.6
comp=Z,14nm,0.8s
319A Douglas 82.64 54 IAmb IAmb 00 31 11.4
comp=Z,19nm,0.8s
KNB Kanab 82.67 47 IAmb IAmb 00 31 10.9
comp=Z,11nm,0.9s
PSUT Pine Spring 82.70 46 IAmb IAmb 00 31 10.5
comp=Z,11nm,0.8s
L20K Farewell, AK 82.72 11 P P 00 31 07.5 -0.5
baz=204
GLI Glacier Island 82.75 15 P P 00 31 07.6 -0.5
GLI Glacier Island 82.75 15 P P 00 31 07.2 -0.9
baz=210,SNR=6.2
U15A North Rim 82.76 48 IAmb IAmb 00 31 11.7
comp=Z,21nm,0.9s
TTA Tatalina 82.77 10 P P 00 31 08.2 -0.1
TTA IAmb IAmb 00 31 09.3
comp=Z,17nm,1.0s
TTA Tatalina 82.77 10 P P 00 31 08.3 0.0
baz=202,SNR=9.3
EYAK Cordova Ski Ar 82.80 16 P P 00 31 07.8 -0.6
baz=211
M22K Willow 82.82 13 P P 00 31 07.5 -0.9
baz=207,SNR=6.0
KNK Knik Glacier 82.89 14 IAmb IAmb 00 31 09.2
comp=Z,21nm,0.7s
KNK Knik Glacier 82.89 14 P P 00 31 08.2 -0.6
baz=209,SNR=7.0
PMR Palmer 82.89 14 IAmb IAmb 00 31 08.6
comp=Z,15nm,0.6s
PMR Palmer 82.89 14 P P 00 31 08.0 -0.7
baz=208,SNR=5.0
WUAZ Wupatki 82.98 49 IAmb IAmb 00 31 12.6
comp=Z,13nm,1.1s
WUAZ Wupatki 82.98 49 P P 00 31 11.6 +1.5
baz=242
A04D Lummi Island 83.02 33 P P 00 31 10.8 +1.1
baz=232
B05A Bryant 83.06 34 P P 00 31 10.6 +0.7
baz=233,SNR=9.2
G08A Pilot Rock 83.07 38 IAmb IAmb 00 31 12.1
comp=Z,23nm,1.2s
BERG Berg Lake 83.20 17 P P 00 31 10.2 -0.2
PKCU Pink Cliffs 83.23 47 IAmb IAmb 00 31 14.6
comp=Z,23nm,1.1s
LTY Liberty 83.24 35 IAmb IAmb 00 31 12.3
comp=Z,11nm,0.8s
SML Sawmill 83.27 14 P P 00 31 09.8 -1.0
SML IAmb IAmb 00 31 28.9
comp=Z,20nm,1.1s
SML Sawmill 83.27 14 P P 00 31 09.9 -0.8
baz=209
E07A Sunnyside 83.28 36 IAmb IAmb 00 31 13.0
comp=Z,23nm,1.0s
CUT Chulitna 83.37 13 P P 00 31 10.3 -0.9
baz=207,SNR=6.4
HAWA Hanford 83.37 37 IAmb IAmb 00 31 13.4
comp=Z,21nm,0.9s
PPLA Purkeypile 83.43 12 P P 00 31 10.2 -1.4
PPLA IAmb IAmb 00 31 24.2
comp=Z,13nm,1.1s
BMRM Bremner River 83.45 16 IAmb IAmb 00 31 12.2
comp=Z,30nm,1.0s
BMRM Bremner River 83.45 16 P P 00 31 11.2 -0.5
baz=212,SNR=7.0
K20K Telida 83.50 11 P P 00 31 11.3 -0.5
K20K IAmb IAmb 00 31 12.5
comp=Z,21nm,0.8s
K20K Telida 83.50 11 P P 00 31 11.5 -0.3
baz=203,SNR=14
SCM Sheep Creek Mo 83.52 14 P P 00 31 11.6 -0.4
baz=210,SNR=17
KLU Klutina 83.56 15 P P 00 31 11.8 -0.4
baz=211
MAW Mawson 83.57 200 P P 00 31 13.1 +0.9
comp=Z,33nm,0.7s,baz=140,slow=4.7,SNR=59
TGL Tana Glacier 83.75 17 IAmb IAmb 00 31 14.0
comp=Z,31nm,1.2s
ISLE Juniper Island 83.75 17 IAmb IAmb 00 31 14.0
comp=Z,18nm,0.8s
WRAK Wrangell Islan 83.80 24 P P 00 31 14.0 +0.6
baz=224
PNL Peninsula 83.85 19 P P 00 31 13.8 +0.2
baz=217
CAST Castle Rocks 83.92 12 P P 00 31 12.2 -1.8
CAST Castle Rocks 83.92 12 P P 00 31 12.1 -1.8
baz=205,SNR=19
TABL Table Mountain 83.96 18 IAmb IAmb 00 31 15.2
comp=Z,21nm,0.7s
VRDI Verde Repeater 83.97 16 IAmb IAmb 00 31 15.0
comp=Z,16nm,0.9s
N25K Chitina, Valde 83.99 16 P P 00 31 14.0 -0.3
baz=212,SNR=19
GRNC Granite Creek 84.02 17 IAmb IAmb 00 31 15.5
comp=Z,29nm,1.2s
M24K Tolsona, Glenn 84.03 15 P P 00 31 14.7 +0.2
baz=211,SNR=6.7
GLB Gilahina Butte 84.06 16 P P 00 31 14.3 -0.3
WAT6 Susitna Watana 84.08 14 P P 00 31 14.2 -0.6
baz=209,SNR=13
D08A Wollman Farm, 84.10 36 IAmb IAmb 00 31 16.9
comp=Z,15nm,0.9s
MCARA McCarthy VSAT 84.22 16 P P 00 31 15.4 0.0
baz=214
DUG Dugway, Tooele 84.23 45 P P 00 31 16.7 +0.6
baz=241
J20K Nowinta River 84.24 10 IAmb IAmb 00 31 16.2
comp=Z,11nm,0.8s
J20K Nowinta River 84.24 10 P P 00 31 15.0 -0.4
baz=203,SNR=9.3
KTH Kantishna Hill 84.27 12 IAmb IAmb 00 31 15.5
comp=Z,15nm,0.8s
121A Cookes Peak, D 84.29 53 P P 00 31 18.1 +1.4
baz=244,SNR=6.8
CHUM Lake Minchumin 84.30 11 P P 00 31 14.3 -1.4
baz=205,SNR=7.3
TRF Thorofare Moun 84.30 12 P P 00 31 14.6 -1.4
baz=207,SNR=26
LOGN Logan Glacier 84.31 17 IAmb IAmb 00 31 16.8
comp=Z,27nm,1.2s
BARN Barnard Glacie 84.32 17 IAmb IAmb 00 31 17.0
comp=Z,20nm,0.8s
CTG Chitna Glacier 84.33 17 P P 00 31 15.5 -0.6
baz=215,SNR=7.1
CTGM Chitina Glacie 84.33 17 IAmb IAmb 00 31 16.9
comp=Z,19nm,0.9s
ENH Enshi 84.38 304 IAmb IAmb 00 31 18.4
comp=Z,13nm,0.8s
F10A Beach Ranch, E 84.46 38 IAmb IAmb 00 31 18.4
comp=Z,19nm,0.8s
BESE Bessie Mountai 84.48 21 IAmb IAmb 00 31 18.3
comp=Z,16nm,1.0s
HARP HAARP 84.53 15 P P 00 31 16.7 -0.2
baz=212,SNR=5.4
RND Reindeer 84.56 13 P P 00 31 16.5 -0.6
LLLB Lillooet 84.59 32 IAmb IAmb 00 31 18.8
comp=Z,17nm,0.9s
DHY Denali Highway 84.59 14 IAmb IAmb 00 31 17.1
comp=Z,7,8nm,0.6s
DHY Denali Highway 84.59 14 P P 00 31 16.6 -0.8
baz=210,SNR=5.4
B08A Colville Reser 84.61 35 IAmb IAmb 00 31 18.6
comp=Z,15nm,0.8s
GSI Gunungsitoli 84.66 273 P P 00 31 18.9 +0.3
comp=Z,47nm,1.0s
BPAW Bear Paw Mtn. 84.75 12 P P 00 31 16.5 -1.4
baz=206
MCK McKinley 84.83 13 IAmb IAmb 00 31 19.0
comp=Z,18nm,0.8s
MCK McKinley 84.83 13 P P 00 31 17.0 -1.3
baz=208,SNR=12
C09A Chrisman Ranch 84.88 36 IAmb IAmb 00 31 20.3
comp=Z,12nm,0.8s
HLID Hailey 84.89 41 IAmb IAmb 00 31 21.4
comp=Z,10nm,0.8s
HLID Hailey 84.89 41 P P 00 31 20.3 +1.0
baz=239
PAX Paxson 84.94 14 P P 00 31 17.9 -1.1
PAX Paxson 84.94 14 P P 00 31 17.9 -1.1
baz=211,SNR=5.5
SKAG Skagway 84.99 21 P P 00 31 20.3 +1.2
baz=221
M26K Nabesna, AK 85.08 16 IAmb IAmb 00 31 21.0
comp=Z,18nm,1.0s
M26K Nabesna, AK 85.08 16 P P 00 31 19.2 -0.3
baz=214,SNR=13
YUK6 Outpost Mounta 85.18 18 P P 00 31 20.1 -0.3
baz=218
YUK3 Moose Creek 85.24 17 P P 00 31 20.5 -0.1
baz=216,SNR=20
M27K Edge Creek, AK 85.33 16 IAmb IAmb 00 31 22.1
comp=Z,27nm,1.2s
M27K Edge Creek, AK 85.33 16 P P 00 31 20.9 0.0
baz=215,SNR=13
MENT Mentasta 85.34 15 IAmb IAmb 00 31 21.1
comp=Z,7,2nm,0.7s
HYT Haines Junctio 85.35 19 IAmb IAmb 00 31 22.2
comp=Z,11nm,1.0s
HYT Haines Junctio 85.35 19 P P 00 31 21.1 +0.1
baz=219,SNR=6.3
MG05 Puerto Natales 85.41 143 P P 00 31 23.1 +1.7
YUK4 Talbot Arm 85.41 18 P P 00 31 21.6 +0.3
baz=218
L26K Log Cabin Wild 85.51 15 P P 00 31 21.4 -0.2
baz=213
I21K Tanana 85.54 11 P P 00 31 20.9 -0.7
baz=205
MG03 Isla Dawson 85.65 146 P P 00 31 23.9 +1.3
BVCY Beaver Creek 85.65 17 P P 00 31 22.5 +0.2
baz=216
WRH Wood River Hil 85.66 13 IAmb IAmb 00 31 23.0
comp=Z,30nm,1.3s
GO09 Cerro Castillo 85.67 143 P P 00 31 23.7 +1.0
GO09 IAmb IAmb 00 31 33.9
comp=Z,27nm,1.2s
RIDG Independent Ri 85.75 14 IAmb IAmb 00 31 23.3
comp=Z,10nm,0.8s
RIDG Independent Ri 85.75 14 P P 00 31 22.1 -0.6
baz=212,SNR=6.0
NEW Newport 85.78 36 P P 00 31 23.4 +0.1
baz=237,SNR=5.5
MNTX Cornudas Mount 85.79 55 P P 00 31 24.8 +1.1
MNTX Cornudas Mount 85.79 55 P P 00 31 25.0 +1.4
baz=246
H21K Melozitna Rive 85.83 10 P P 00 31 22.6 -0.4
baz=204
DOT Dot Lake 85.86 15 IAmb IAmb 00 31 23.7
comp=Z,17nm,1.1s
XLT XiLinHaoTe 85.92 319 eP P 00 31 28.4 +4.3
XLT pP pP 00 33 36.5 -1.2
XLT sP sP 00 34 34.3 -6.4
XLT PP PP 00 35 03.8 +7.2
XLT pmax pmax
comp=Z,5.0nm,1.1s
XLT pmax pmax
comp=Z,220nm,5.1s
L27K Beaver Creek, 85.93 16 P P 00 31 23.3 -0.3
baz=215,SNR=6.3
BCAR Beaver Creek A 85.94 16 P P 00 31 23.6 -0.1
IMAR Indian Mountai 85.97 10 P P 00 31 23.1 -0.6
I23K Minto, Yukon-K 86.00 12 P P 00 31 22.7 -1.1
baz=208
WHY Whitehorse 86.05 20 P P 00 31 24.4 +0.1
baz=221,SNR=9.0
MDM Murphy Dome 86.06 12 IAmb IAmb 00 31 23.9
comp=Z,11nm,0.9s
TCOL CIGO, UAF Yank 86.06 13 P P 00 31 23.1 -1.0
baz=209
COLA College 86.07 13 P P 00 31 23.1 -0.9
COLA College 86.07 13 P P 00 31 23.3 -0.8
baz=209
SCRK Sand Creek 86.15 14 P P 00 31 24.0 -0.7
baz=213,SNR=6.2
IL31 86.18 13 P P 00 31 23.6 -1.0
IL31 IAmb IAmb 00 31 24.6
comp=Z,10nm,0.9s
ILAR Eielson Array 86.18 13 P P 00 31 23.6 -1.1
comp=Z,6.4nm,0.7s,baz=222,slow=5.0,SNR=57
ILAR pP pP 00 33 38.6 +0.2
comp=Z,5.9nm,1.1s,baz=224,slow=5.8,SNR=15
ILAR PP PP 00 34 59.8 +1.7
comp=Z,1.5nm,0.8s,baz=220,slow=7.1,SNR=5.0
ILAR PKKPbc PKKPdf 00 49 18.1 +3.3
comp=Z,0.5nm,0.6s,baz=332,slow=2.1,SNR=6.7
TX32 Lajitas Array 86.20 58 IAmb IAmb 00 31 28.9
comp=Z,13nm,0.9s
TXAR Lajitas Array 86.20 58 P P 00 31 27.8 +2.0
comp=Z,8.6nm,0.8s,baz=220,slow=5.8,SNR=79
TXAR pP pP 00 33 40.8 +1.3
comp=Z,0.2nm,0.6s,baz=183,slow=5.4,SNR=1.6
TXAR PKKPbc PKKPbc 00 49 20.1 -0.2
comp=Z,0.2nm,0.5s,baz=132,slow=4.0,SNR=3.7
ANMO Albuquerque 86.32 52 P P 00 31 26.4 +0.1
ANMO Albuquerque 86.32 52 P P 00 31 27.2 +0.9
baz=245
POKR Poker Plat Res 86.37 13 IAmb IAmb 00 31 25.2
comp=Z,12nm,0.8s
POKR Poker Plat Res 86.37 13 P P 00 31 24.3 -1.2
baz=210
J25K Salcha River, 86.38 14 IAmb IAmb 00 31 25.9
comp=Z,12nm,0.6s
J25K Salcha River, 86.38 14 P P 00 31 25.1 -0.6
baz=211
XAN Xi'an 86.39 307 P P 00 31 27.4 +1.0
XAN pP PcP 00 31 33.5 +5.5
XAN pmax pmax
comp=Z,14nm,0.9s
XAN pmax pmax
comp=Z,110nm,3.7s
N31M Braeburn, Yuko 86.39 19 IAmb IAmb 00 31 27.1
comp=Z,13nm,0.9s
N31M Braeburn, Yuko 86.39 19 P P 00 31 26.0 +0.2
baz=220,SNR=7.1
H23K Yukon River 86.57 12 P P 00 31 26.2 -0.4
baz=208
J26L Joseph Creek 86.70 14 P P 00 31 27.0 -0.3
baz=213,SNR=26
BILL Bilibino 86.71 354 P P 00 31 26.5 -0.6
MSO Missoula 86.85 38 IAmb IAmb 00 31 29.9
comp=Z,4.5nm,0.5s
MSO Missoula 86.85 38 P P 00 31 27.9 -0.5
baz=239,SNR=7.3
H24K Noodor Dome 86.91 12 P P 00 31 26.4 -1.7
baz=209
DLMT Dillon 86.92 40 IAmb IAmb 00 31 30.7
comp=Z,20nm,1.4s
M30M Minto, Yukon 86.93 18 IAmb IAmb 00 31 29.2
comp=Z,16nm,0.8s
M30M Minto, Yukon 86.93 18 P P 00 31 28.1 -0.2
baz=219,SNR=17
TPAW Teton Pass 87.04 42 IAmb IAmb 00 31 31.8
comp=Z,12nm,1.1s
REDW Red Top Meadow 87.04 42 IAmb IAmb 00 31 31.6
comp=Z,17nm,1.1s
SNOW Snow King Moun 87.15 42 IAmb IAmb 00 31 32.3
comp=Z,20nm,1.1s
S22A 4UR Ranch, Cre 87.24 49 P P 00 31 30.8 +0.1
baz=245,SNR=5.2
O20A White River Ci 87.30 46 P P 00 31 31.2 +0.4
O20A IAmb IAmb 00 31 32.7
comp=Z,7.4nm,0.8s
O20A White River Ci 87.30 46 P P 00 31 31.5 +0.7
baz=244
M31M Drury Creek, Y 87.37 19 P P 00 31 29.7 -0.6
baz=222,SNR=8.4
DAWY Dawson 87.38 16 IAmb IAmb 00 31 31.3
comp=Z,4.4nm,0.9s
DAWY Dawson 87.38 16 P P 00 31 30.1 -0.2
baz=217,SNR=8.3
HHC Hu-ho-hao-te 87.43 314 eP P 00 31 35.1 +3.8
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,140nm,6.3s
FLWY Flagg Ranch 87.48 42 IAmb IAmb 00 31 34.0
comp=Z,15nm,1.1s
EGAK Eagle 87.51 15 IAmb IAmb 00 31 31.6
comp=Z,12nm,0.8s
EGAK Eagle 87.51 15 P P 00 31 30.5 -0.4
baz=215,SNR=16
YMR Madison River 87.59 41 IAmb IAmb 00 31 34.8
comp=Z,17nm,1.1s
BW06 Boulder Array 87.60 43 IAmb IAmb 00 31 33.5
comp=Z,7.8nm,0.8s
BW06 Boulder Array 87.60 43 P P 00 31 32.2 0.0
baz=243,SNR=16
PD31 Pinedale Array 87.60 43 IAmb IAmb 00 31 33.5
comp=Z,7.3nm,0.8s
PDAR Pinedale Array 87.60 43 P P 00 31 32.5 +0.3
comp=Z,6.2nm,0.7s,baz=216,slow=3.3,SNR=69
PDAR pP pP 00 33 45.9 -0.5
comp=Z,0.1nm,0.4s,baz=234,slow=4.3,SNR=2.4
PDAR PP PP 00 35 07.5 -2.6
comp=Z,2.7nm,1.1s,baz=243,slow=6.5,SNR=10
PDAR PKKPbc PKKPbc 00 49 16.8 -1.0
comp=Z,0.5nm,0.8s,baz=58,slow=3.4,SNR=5.2
BOZ Bozeman (W) 87.62 40 P P 00 31 32.8 +0.7
BOZ Bozeman (W) 87.62 40 P P 00 31 32.9 +0.7
baz=241,SNR=10
COLD Coldfoot 87.71 11 IAmb IAmb 00 31 32.8
comp=Z,12nm,0.9s
COLD Coldfoot 87.71 11 P P 00 31 31.9 +0.1
baz=207
H17A Grant Village 87.71 42 IAmb IAmb 00 31 35.8
comp=Z,9.2nm,0.8s
H17A Grant Village 87.71 42 P P 00 31 34.7 +2.1
baz=242,SNR=10.0
FARO Faro, Yukon 87.71 19 P P 00 31 32.0 0.0
baz=222
LKWY Lake 87.90 42 IAmb IAmb 00 31 36.9
comp=Z,8.1nm,0.9s
COYC Coyhaique 88.14 138 P P 00 31 36.5 +2.1
SDCO Great Sand Dun 88.20 49 P P 00 31 35.8 +0.7
baz=246
MMPY Sheldon Lake, 88.66 20 P P 00 31 36.8 +0.4
baz=224,SNR=20
RWWY Rawlins 88.68 45 IAmb IAmb 00 31 39.4
comp=Z,12nm,1.2s
I29M Ogilvie Camp, 88.70 16 P P 00 31 36.2 -0.3
baz=218
MSTX Muleshoe 88.71 54 IAmb IAmb 00 31 39.0
comp=Z,12nm,1.1s
MSTX Muleshoe 88.71 54 P P 00 31 38.0 +0.6
baz=247
RLMT Red Lodge 88.87 41 IAmb IAmb 00 31 40.2
comp=Z,6.7nm,1.0s
RLMT Red Lodge 88.87 41 P P 00 31 39.0 +1.0
baz=243,SNR=5.7
TGTN Hyland Airport 88.90 22 P P 00 31 38.5 +1.0
baz=227
CMAR Chiang Mai Arr 88.92 290 P P 00 31 39.6 +1.0
comp=Z,5.8nm,0.9s,baz=113,slow=2.7,SNR=32
CMAR Chiang Mai Arr 88.92 290 P P 00 31 39.1 +0.6
Q24A Divide 88.95 48 P P 00 31 39.6 +0.9
baz=246
ISCO Idaho Springs 88.97 47 P P 00 31 39.5 +0.8
baz=245
CHTO Chiang Mai 89.04 290 P P 00 31 39.5 +0.4
CHTO IAmb IAmb 00 31 40.7
comp=Z,6.4nm,0.8s
TOLK Toolik Lake Re 89.08 10 P P 00 31 37.8 -0.4
baz=207
N23A Red Feather La 89.20 46 IAmb IAmb 00 31 41.8
comp=Z,7.2nm,0.9s
N23A Red Feather La 89.20 46 P P 00 31 40.7 +1.0
baz=245,SNR=6.1
PZH PanZhiHua 89.24 298 P P 00 31 40.9 +0.9
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,5.4s
LL02 Futaleuf 89.27 136 P P 00 31 41.0 +1.3
JCT Junction City 89.74 58 P P 00 31 42.4 +0.3
baz=249
AMTX Amarillo 89.89 53 P P 00 31 43.5 +0.7
baz=248
EGMT Eagleton 89.91 39 P P 00 31 43.2 +0.6
baz=242
TROLL Troll, Antarti 90.02 180 P P 00 31 43.2 +0.4

TROLL	Troll, Antarti	90.02	180		pP		pP	00 33 57.8	-0.1
SNAA	Sanae	90.31	179		P		P	00 31 44.1	+0.1
SNAA	Sanae	90.31	179		P		P	00 31 43.5	-0.6
VNA3	Neumayer Olymp	90.46	176		P		P	00 31 45.3	+0.6
VNA3	Neumayer Olymp	90.46	176		pP		pP	00 34 00.9	+0.9
ABTX	Abilene, Hawle	90.64	56		IAmb		IAmb	00 31 48.6	
	comp=Z,6.8nm,0.8s								
ABTX	Abilene, Hawle	90.64	56		P		P	00 31 47.2	+1.0
	baz=249								
KSCO	Kaye Shedlock'	90.77	49		P		P	00 31 47.5	+0.7
	baz=247								
VNA2	Neumayer--Watz	90.89	177		P		P	00 31 47.1	+0.4
	baz=189,slow=4.0								
VNA1	Neumayer--Stat	91.12	177		P		P	00 31 48.8	+1.1
VNA1	Neumayer--Stat	91.12	177		pP		pP	00 34 01.6	-1.5
PLCA	Paso Flores	91.18	134		P		P	00 31 50.8	+2.0
	comp=Z,3.5nm,0.7s,baz=247,slow=6.8,SNR=13								
PLCA	Paso Flores	91.18	134		P		P	00 31 49.8	+1.1
PLCA					IAmb		IAmb	00 31 51.6	
	comp=Z,11nm,1.3s								
LAO	LASA Array	91.47	41		IAmb		IAmb	00 31 52.1	
	comp=Z,9.6nm,0.8s								
LAO	LASA Array	91.47	41		P		P	00 31 51.2	+1.5
	baz=245								
RSSD	Black Hills	91.81	44		P		P	00 31 51.4	-0.2
RSSD					IAmb		IAmb	00 31 52.8	
	comp=Z,6.1nm,1.0s								
RSSD	Black Hills	91.81	44		P		P	00 31 51.9	+0.3
	baz=246								
INK	Inuvik	92.18	15		PKKPbc		PKKPbc	00 49 04.4	-2.5
	comp=Z,0.6nm,0.5s,baz=14,slow=2.5,SNR=5.0								
INK	Inuvik	92.18	15		P		P	00 31 51.4	-1.0
INK					IAmb		IAmb	00 31 52.6	
	comp=Z,7.7nm,1.0s								
INK	Inuvik	92.18	15		P		P	00 31 51.7	-0.7
	baz=222								
DGMT	Dagmar	93.45	40		P		P	00 31 59.3	+0.5
	baz=246								
SONM	Songino Array	93.73	319		P		P	00 32 00.6	+0.4
	comp=Z,0.3nm,0.6s,baz=137,slow=3.0,SNR=2.2								
SONM					pP		pP	00 34 16.5	+0.2
	comp=Z,0.1nm,0.3s,baz=206,slow=44,SNR=1.3								
SONM					PKKPbc		PKKPdf	00 49 00.3	-0.7
	comp=Z,0.2nm,0.4s,baz=249,slow=5.4,SNR=3.5								
YKA	Yellowknife Ar	94.62	25		P		P	00 32 03.1	-0.5
	comp=Z,2.5nm,0.8s,baz=241,slow=4.4,SNR=20								
YKA					PP		PP	00 35 53.5	-10
	comp=Z,0.2nm,0.6s,baz=238,slow=6.7,SNR=4.3								
YKA					PKKPbc		PKKPdf	00 48 54.9	-4.7
	comp=Z,0.6nm,0.4s,baz=41,slow=2.1,SNR=15								
KSU1	Kansas State U	95.18	51		P		P	00 32 06.7	-0.1
KSU1	Kansas State U	95.18	51		P		P	00 32 07.9	+1.1
	baz=251								
C36M	Paulatuk	95.39	17		IAmb		IAmb	00 32 07.5	
	comp=Z,3.2nm,0.8s								
C36M	Paulatuk	95.39	17		P		P	00 32 06.4	-0.5
	baz=231								
ECSD	EROS Data Cent	96.67	46		P		P	00 32 12.8	-0.6
	baz=251								
A36M	Sachs Harbour	96.77	15		P		P	00 32 13.5	+0.4
	baz=230								
GOMU	GeErMu	97.96	305		P		Pdif	00 32 17.5	-2.2
GOMU					pP		P	00 32 21.3	+1.5
GOMU					sP		PcP	00 32 23.0	+3.3
GOMU					pmax		pmax		
	comp=Z,1.0nm,0.5s								
GOMU					pmax		pmax		
	comp=Z,120nm,5.6s								
ZALV	Zalesovo Beam	108.42	322		PKiKP		PKiKP	00 37 05.8	-1.2
	comp=Z,1.2nm,0.5s,baz=327,slow=0.3,SNR=7.5								
ZALV					PKKPbc		PKKPbc	00 48 19.4	-1.1
	comp=Z,0.8nm,0.4s,baz=250,slow=4.0,SNR=4.6								
MKAR	Makanchi Array	109.29	314		PKiKP		PKiKP	00 37 07.7	-1.2
	comp=Z,1.7nm,0.5s,baz=162,slow=0.7,SNR=32								
MKAR					PKKPbc		PKKPbc	00 48 17.2	-0.5
	comp=Z,0.6nm,0.4s,baz=265,slow=4.2,SNR=7.5								
MKAR	Makanchi Array	109.29	314		PKiKP		PKiKP	00 37 07.3	-1.7
KURBB	Kurchatov Arra	112.05	318		PKKPbc		PKKPbc	00 48 08.4	-0.4
	comp=Z,1.7nm,0.7s,baz=271,slow=4.0,SNR=15								
BRVK	Borovoye	117.09	321		PKPdf		PKPdf	00 37 22.2	-1.4
SCHQ	Schefferville	117.13	37		PKP		PKPdf	00 37 22.2	-1.4
	comp=Z,1.1nm,0.7s,baz=82,slow=12,SNR=1.9								
KK31	Karatay Array	117.45	310		PKPdf		PKPdf	00 37 23.2	-1.5
KBL	Kabul	118.38	300		PKPdf		PKPdf	00 37 26.1	-0.9
SPITS	Spitsbergen Ar	119.55	357		PKKPbc		PKKPbc	00 47 41.6	-2.1
	comp=Z,4.2nm,0.8s,baz=159,slow=7.2,SNR=6.3								
BDFB	Brasilia	120.74	121		PKP		PKPdf	00 37 30.9	-1.0
	comp=Z,2.4nm,0.5s,baz=129,slow=6.5,SNR=5.1								
BDFB	Brasilia	120.74	121		PKPdf		PKPdf	00 37 30.1	-1.8
ARU	Arti	123.06	326		PKKPbc		PKKPbc	00 47 29.6	-0.8
	comp=Z,0.9nm,0.5s,baz=214,slow=4.5,SNR=5.3								
ARU	Arti	123.06	326		PKPdf		PKPdf	00 37 34.0	-1.0
ARCES	ARCESS Array B	126.59	350		PKP		PKPdf	00 37 40.9	-0.5
	comp=Z,4.0nm,0.6s,baz=30,slow=1.2,SNR=37								
ARCES					PKKPbc		PKKPab	00 47 14.3	+0.1
	comp=Z,2.3nm,0.7s,baz=210,slow=2.5,SNR=11								
GEYT	Alibeck	127.15	304		PKP		PKPdf	00 37 43.3	-0.1
	comp=Z,3.8nm,0.8s,baz=105,slow=9.7,SNR=7.2								
BOSA	Boshof	128.12	207		PKP		PKPdf	00 37 47.0	+1.2
	comp=Z,5.7nm,0.8s,baz=53,slow=1.2,SNR=10								
KLMR	Klimovskoe	129.60	337		ePKPdf		PKPdf	00 37 45.9	-1.4
KLMR					AMP			00 37 51.2	
	comp=Z,7.0nm,1.2s								
KLMR					ePP		PP	00 40 10.0	+2.2
FINES	FINESS Array B	133.45	344		PKhKP		PKPpre	00 37 41.5	
	comp=Z,0.9nm,0.7s,baz=56,slow=4.8,SNR=3.7								
FINES					PKP		PKPdf	00 37 53.9	-0.6
	comp=Z,3.8nm,0.7s,baz=25,slow=1.2,SNR=14								
FINES					SKPbc		SKPbc	00 40 25.6	+0.6
	comp=Z,4.1nm,0.8s,baz=40,slow=3.2,SNR=4.8								
FINES					PKKPbc		PKKPbc	00 46 54.5	
	comp=Z,1.0nm,0.9s,baz=150,slow=7.9,SNR=3.3								
NB2	NORSAR Subarra	136.65	353		PKP		PKPdf	00 37 52.6	-8.0
	comp=Z,0.6nm,0.6s,baz=13,slow=3.2								
NOA	NORSAR Array B	136.65	353		PKhKP		PKPpre	00 37 52.4	
	comp=Z,0.8nm,0.6s,baz=22,slow=3.8,SNR=5.7								
NOA					SKPbc		SKPbc	00 40 37.4	+2.4
	comp=Z,0.9nm,0.8s,baz=14,slow=4.3,SNR=3.1								
KBZ	Khabaz	136.97	315		PKP		PKPdf	00 38 02.9	+1.2
	comp=Z,1.6nm,0.9s,baz=98,slow=3.4,SNR=5.4								
KBZ					SKPbc		SKPbc	00 40 37.2	+0.9
	comp=Z,2.3nm,1.0s,baz=222,slow=7.0,SNR=3.9								
LSZ	Lusaka	137.61	220				PKPdf	00 38 02.0	-1.9
KMBO	Kilima Mbogo	139.95	245		PKhKP		PKPpre	00 38 02.6	
	comp=Z,1.3nm,0.6s,baz=71,slow=6.0,SNR=7.0								
KMBO					PKP		PKiKP	00 38 10.8	-0.2
	comp=Z,1.9nm,0.5s,baz=75,slow=6.1,SNR=4.0								
AKASG	Malin Array Be	140.78	332		PKhKP		PKPpre	00 38 01.9	
	comp=Z,2.2nm,0.4s,baz=46,slow=4.5,SNR=12								
AKASG					SKPbc		SKPbc	00 40 46.6	+0.1
	comp=Z,1.7nm,0.5s,baz=40,slow=4.1,SNR=8.8								
DIKM	Dikmen	142.94	316		⇑P		PKPdf	00 38 11.0	-1.5
SORM	Soroca	143.01	330		⇑P		PKPdf	00 38 09.3	-3.1
BZK	Bozkurt	143.60	318		⇓P		PKPab	00 38 12.9	+0.1
MILM	Milestii Mici	143.62	328		⇓P		PKPab	00 38 11.5	-1.2
LEOM	Leova	144.21	328		⇑P		PKPbc	00 38 14.5	0.0
KWP	Kalwaria Pacla	144.31	336		eP		PKPbc	00 38 14.8	0.0
VASR	Vaslui	144.32	328		⇓P		PKPbc	00 38 14.8	-0.1
VLDR	Vladesti	144.72	327		⇓P		PKPbc	00 38 16.7	+0.6
TLCR		144.78	326		⇑P		PKPdf	00 38 15.8	+0.3
BUR01	Bucovina Ar. S	144.84	332		⇓P		PKPab	00 38 17.6	0.0
BURAR	Bucovina Array	144.84	332		PKPdf		PKPdf	00 38 16.4	+0.7
OJC	Ojcow	144.86	340		eP		PKPdf	00 38 16.3	+0.7
GHRR		144.92	328		⇓P		PKPab	00 38 17.8	0.0
BR131	Keskin Array S	144.94	314		PKPdf		PKPdf	00 38 15.7	-0.6
BR131					PKPbc		PKPbc	00 38 16.9	-0.2
BRTR	Keskin Array B	144.94	314		PKP		PKPdf	00 38 16.6	+0.4
	comp=Z,6.6nm,0.7s,baz=136,slow=4.7,SNR=50								
BRTR					pPKP		pPKPdf	00 40 40.8	-0.8
	comp=Z,2.0nm,1.0s,baz=354,slow=1.2,SNR=5.7								
BRTR					SKPbc		SKPbc	00 40 56.6	-0.4
	comp=Z,1.5nm,0.8s,baz=109,slow=2.8,SNR=4.5								
TESR	Tescani	144.97	329		⇑P		PKPbc	00 38 17.4	+0.5
RETH	Rethem/Aller,	144.99	352		ePKPbc		PKPbc	00 38 17.2	+0.5
	baz=17,slow=2.6								
KOLS	Kolonicke sedl	145.04	336		ePKP		PKPbc	00 38 17.4	+0.4
FLTG	Flechtingen	145.09	350		ePKPbc		PKPbc	00 38 17.2	+0.2
	baz=17,slow=2.6								
CFR	Carcaliu	145.14	326		⇓P		PKPbc	00 38 17.4	0.0
TPGR	Topolog	145.20	326		⇓P		PKPbc	00 38 18.2	+0.6
KSP	Ksiaz	145.37	343		eP		PKPbc	00 38 18.3	+0.4
NIE	Niedzica	145.37	338		eP		PKPab	00 38 19.2	-0.3
VRI	Vrincioaia	145.39	328		⇓P		PKPdf	00 38 16.9	+0.3
ANTO	Ankara	145.44	315		PKPbc		PKPbc	00 38 18.3	-0.2
PLOR	Plostina	145.44	328		⇓P		PKPdf	00 38 17.8	+1.1
BMR	Baia Mare	145.54	333		⇑P		PKPbc	00 38 18.6	+0.2
OSTC	Ostas	145.65	343		ePKP		PKPbc	00 38 19.2	+0.5
CHVC	Chvalec	145.66	344		ePKP		PKPbc	00 38 19.0	+0.3
COVR	Voineasa-Covas	145.66	329		⇑P		PKPdf	00 38 17.6	+0.5
CLZ	Clausthal	145.71	350		ePKPbc		PKPbc	00 38 18.8	-0.1
	baz=17,slow=2.6								
OKC	Ostrava-Krasne	145.72	341		ePKP		PKPbc	00 38 18.9	0.0
CLL	Collm	145.73	347		i/iPKPbc		PKPbc	00 38 18.8	0.0
	comp=Z,28nm,0.6s								
CLL					e(SKPdf)			00 40 56.0	
CLL	Collm	145.73	347		ePKPbc		PKPbc	00 38 19.0	+0.2
	baz=17,slow=2.6								
UPC	Upice	145.75	344		ePKP		PKPbc	00 38 19.3	+0.4
DPC	Dobruska-Polom	145.81	343		ePKP		PKPbc	00 38 19.6	+0.4
DPC					epPKP		pPKPdf	00 40 42.7	0.0
LANS	Liptovska Anna	145.88	339		ePKP		PKPbc	00 38 20.4	+1.0
NEHR	Nehoiu	145.92	328		⇑P		PKPbc	00 38 19.6	-0.1
KRLC	Kraliky	145.92	342		ePKP		PKPbc	00 38 19.9	+0.4
BRG	Berggiesshubel	145.93	346		i PKP		PKPbc	00 38 19.6	+0.1
BRG					Amp			00 38 20.5	
	comp=Z,10nm,0.6s								
BRG	Berggiesshubel	145.93	346		ePKPbc		PKPbc	00 38 19.5	+0.1
	baz=17,slow=2.6								
MORC	Moravsky Berou	145.96	341		⇓P		PKPbc	00 38 19.5	-0.1
MORC	Moravsky Berou	145.96	341		ePKP		PKPbc	00 38 19.5	-0.1
DOPR	Dopca	145.97	330		⇓P		PKPbc	00 38 20.6	+0.8
FBE	Freiberg	146.02	347		ePKPbc		PKPbc	00 38 19.8	+0.1
	baz=17,slow=2.6								
MLR	Muntele Rosu	146.04	329		⇑P		PKPbc	00 38 19.7	-0.4
MLR	Muntele Rosu	146.04	329		PKPbc		PKPbc	00 38 19.6	-0.5
NEUB	Neuenburg	146.07	348		ePKPbc		PKPbc	00 38 19.9	+0.1
	baz=17,slow=2.6								
PVCC	Panska Ves	146.10	345		ePKP		PKPbc	00 38 20.2	+0.3
SECR		146.31	328		⇓P		PKPbc	00 38 20.0	-0.6
LTVH	Ltavrtes, Hu	146.44	335		⇑P		PKPbc	00 38 21.5	+0.6
LTVH	Ltavrtes, Hu	146.44	335		PKP		PKPbc	00 38 21.7	+0.8
VOIR		146.52	329		⇓P		PKPbc	00 38 22.0	+0.7
DRGR		146.57	333		⇓P		PKPbc	00 38 21.7	+0.3
PRU	Pruhonice	146.61	345		ePKP		PKPbc	00 38 21.4	+0.1
PRU					epPKP		pPKPdf	00 40 46.1	+2.1
VRAC	Vranov	146.66	342		⇓P		PKPdf	00 38 18.0	-0.7
VRAC	Vranov	146.66	342		ePKP		PKPbc	00 38 21.5	0.0
VYHS	Vyhne	146.66	339		ePKP		PKPbc	00 38 21.9	+0.4
VYHS					e			00 38 25.9	
PLN	Plauen	146.68	348		ePKPbc		PKPbc	00 38 21.5	0.0
	baz=17,slow=2.6								
TANN	Tannenbergstha	146.69	347		ePKPbc		PKPbc	00 38 21.7	+0.1
	baz=17,slow=2.6								
WERD	Werda	146.69	347		ePKPbc		PKPbc	00 38 21.8	+0.3
	baz=17,slow=2.6								
JAVC	Velka Javorina	146.73	340		ePKP		PKPbc	00 38 22.9	+1.1
KOLL	Kolacno	146.74	339		ePKP		PKPbc	00 38 22.2	+0.5
GUNZ	Gunzen	146.76	347		ePKPbc		PKPbc	00 38 22.1	+0.3
	baz=17,slow=2.6								
ARR	Arges	146.77	330		⇓P		PKPbc	00 38 23.0	+1.0
PSZ	Piszkesteto	146.78	337		⇓P		PKPbc	00 38 21.6	-0.4
PSZ	Piszkesteto	146.78	337		PKP		PKPbc	00 38 22.6	+0.7
WERN	Wernitzgruen	146.82	347		ePKPbc		PKPbc	00 38 22.0	+0.1
	baz=17,slow=2.6								
NKC	Novy Kostel	146.86	347		ePKP		PKPbc	00 38 22.3	+0.3
KRUC	Moravsky	146.94	342		ePKP		PKPbc	00 38 22.2	0.0
TREC	Trest	146.99	343		ePKP		PKPbc	00 38 22.3	-0.1
SMOL	Smolenice	147.11	340		ePKP		PKPbc	00 38 23.6	+0.9
LOT	Lotru	147.12	331		⇓P		PKPbc	00 38 23.4	+0.4
MANZ	Manzenberg	147.17	347		ePKPbc		PKPbc	00 38 22.9	+0.1
	baz=17,slow=2.6								
CSS	Mathiatis	147.20	307		PKPbc		PKPbc	00 38 22.4	-1.0
MODS	Modra-Piesok	147.28	340		ePKP		PKPbc	00 38 23.8	+0.6
ROTZ	Rotzenmuhle	147.35	347		ePKPbc		PKPbc	00 38 23.5	+0.3
	baz=17,slow=2.6								
MEM	Membach	147.47	355		dPKPbc		PKPbc	00 38 23.4	-0.2
BTNL	Ternell	147.48	355		dP		PKPbc	00 38 23.6	0.0
BSTI	Sart Tilman	147.53	355		dP		PKPbc	00 38 23.9	+0.2
TNS	Taunus Mts	147.57	352		ePKPbc		PKPbc	00 38 24.0	+0.1
	baz=17,slow=2.6								
GZR	Gura Zlata	147.62	332		⇑P		PKPbc	00 38 23.5	-0.7
KHC	Kasperske Hory	147.64	345		ePKP		PKPbc	00 38 24.3	+0.2
KHC					epPKP		pPKPab	00 40 48.8	+1.4
BCLA	Clavier	147.71	355		dPKPbc		PKPbc	00 38 24.2	+0.1
BCLA					dPKPab		PKPab	00 38 28.2	-0.7
BHOU	Houvegnez	147.72	355		dPKPbc		PKPbc	00 38 24.4	+0.2
BHOU					dPKPab		PKPab	00 38 27.9	-1.0
CKRC	Cesky Krumlov	147.74	344		ePKP		PKPbc	00 38 24.5	+0.2
BGES	Gesves	147.76	356		dPKPbc		PKPbc	00 38 24.1	-0.1
BGES					dPKPab		PKPab	00 38 28.5	-0.5
BMRD	Maredsous	147.86	356		dPKPbc		PKPbc	00 38 24.5	-0.1
GEC2	GERESS Array S	147.87	345		PKPbc		PKPbc	00 38 23.8	-0.9
GEC2	GERESS Array S	147.87	345		ePKPbc		PKPbc	00 38 25.0	+0.2
	baz=17,slow=2.6								
GERES	GERESS Array B	147.87	345		PKP		PKPdf	00 38 20.2	-0.6
	comp=Z,3.6nm,0.6s,baz=251,slow=2.4,SNR=4.1								
GERES					PKPbc		PKPbc	00 38 24.6	-0.1
	comp=Z,3.9nm,0.6s,baz=37,slow=4.0,SNR=26								
GERES					pPKPbc		pPKPab	00 40 48.9	+0.7
	comp=Z,0.7nm,0.7s,baz=4.8,slow=3.2,SNR=4.4								
VLAD	Vladila	147.88	328		⇑P		PKPbc	00 38 25.6	+0.8
BZS	Buzias	147.96	333		⇑P		PKPbc	00 38 24.7	-0.3
RCHB	Rochefort	147.98	356		dPKPbc		PKPbc	00 38 24.9	+0.1
DOU	Dourbes	148.08	356		dPKPbc		PKPbc	00 38 25.2	+0.2
CONA	Conrad Observa	148.12	342		i P		PKPbc	00 38 25.6	+0.3
	comp=Z,3.9nm,0.6s,SNR=6.4								
HERR	Herculane	148.18	331		⇓P		PKPbc	00 38 24.9	-0.6
RONA	Rosalia, Austr	148.19	341		eP		PKPbc	00 38 25.7	+0.2
	comp=Z,7.1nm,0.6s								
BANR	Banloc	148.35	333		⇓P		PKPbc	00 38 26.3	+0.4
WLF	Walferdange	148.39	354		ePKPbc		PKPbc	00 38 26.5	+0.7
	baz=17,slow=2.6								
WLF	Walferdange	148.39	354		dPKPbc		PKPbc	00 38 26.7	+0.9
MDVR	Moldovita	148.57	332		⇑P		PKPbc	00 38 26.4	-0.2
MOA	Molln	148.64	343		eP		PKPbc	00 38 26.5	-0.1
	comp=Z,1.2nm,0.4s								
ARSA	Arzberg	148.83	341		eP		PKPbc	00 38 27.1	0.0
	comp=Z,0.7nm,0.3s								
BIOA	Bad Ischl, Aus	148.96	344		eP		PKPbc	00 38 27.5	+0.1
	comp=Z,1.1nm,0.2s								
KOVH	Kovagotottos	148.98	337		PKP		PKPbc	00 38 27.3	-0.1
BLKB	Belogradchik	149.01	329		⇑P		PKPbc	00 38 27.5	-0.1
FUR	Furstenfeldbru	149.07	347		ePKPbc		PKPbc	00 38 27.8	+0.2
	baz=17,slow=2.6								
FRGS	Fruska Gora	149.09	334		⇓P		PKPbc	00 38 27.0	-0.7
RJOB	Jochberg	149.13	345		ePKPbc		PKPbc	00 38 28.0	+0.2
	baz=17,slow=2.6								
BFO	Black Forest	149.44	351		PKPbc		PKPbc	00 38 28.6	+0.2
BFO	Black Forest	149.44	351		ePKPbc		PKPbc	00 38 28.6	+0.2
	baz=17,slow=2.6								
BOVS	Bovan	149.46	330		⇓P		PKPbc	00 38 27.7	-0.9
SOKA	Soboth	149.49	342		eP		PKPbc	00 38 28.0	-0.7
	comp=Z,4.5nm,0.6s								
KBA	Koelnbreinsper	149.60	344		eP		PKPbc	00 38 28.2	-0.9
	comp=Z,6.3nm,0.7s								
UBR	Ueberruh	149.76	348		ePKPbc		PKPbc	00 38 29.4	+0.1
	baz=17,slow=2.6								
OBKA	Obir	149.78	342		eP		PKPbc	00 38 28.6	-0.8
	comp=Z,2.8nm,0.6s								
WATA	Walderalm	149.79	346		i P		PKPbc	00 38 29.3	-0.2
	comp=Z,4.1nm,0.3s,SNR=6.5								
RETA	Reutte	149.82	347		eP		PKPbc	00 38 29.2	-0.3
	comp=Z,3.4nm,0.5s								
WTTA	Wattenberg	149.84	346		i P		PKPbc	00 38 29.5	-0.2
	comp=Z,15nm,0.5s,SNR=6.9								
MOTA	Moosalm	149.88	347		eP		PKPbc	00 38 29.6	-0.2
	comp=Z,11nm,1.0s								
MYKA	Terra Mystica	149.93	343		eP		PKPbc	00 38 28.9	-0.9
	comp=Z,10nm,0.7s								
SQTA	Sankt Quirin	149.98	347		i P		PKPbc	00 38 29.7	-0.3
	comp=Z,10nm,0.6s,SNR=5.5								
ABTA	Abfaltersbach	150.12	345		i P		PKPbc	00 38 29.4	-0.8
	comp=Z,14nm,0.6s,SNR=7.1								
DAVA	Damuels	150.19	349		eP		PKPbc	00 38 30.9	+0.5
	comp=Z,3.6nm,0.4s								
LJU	Ljubljana	150.21	342		i PKPbc		PKPbc	00 38 30.1	-0.2
CRNS	Crni Vrh	150.26	342		i PKPbc		PKPbc	00 38 29.8	-0.7
FETA	Feichten	150.27	347		i P		PKPbc	00 38 30.5	-0.1
	comp=Z,8.8nm,0.8s,SNR=6.1								
BOJS	Bojanci	150.47	340		i PKPbc		PKPbc	00 38 30.9	0.0
CTI	Castel Tesino	150.99	345		PKPbc		PKPbc	00 38 30.1	-2.2
TUE	Stuetta	151.07	349		PKPbc		PKPbc	00 38 31.7	-0.9
IDI	Anoyia	153.18	314		⇓P		PKPbc	00 38 37.3	0.0
ESDC	Sonseca Array	158.07	11		PKPab		PKPab	00 39 12.2	-1.1
	comp=Z,1.3nm,1.0s,baz=349,slow=3.2,SNR=5.5								
MDT	Midelt	164.43	20		PKPab		PKPab	00 39 40.8	-0.7
	baz=266,slow=16								
DBIC	Dimbokro	166.96	151		PKP		PKPdf	00 38 43.2	-1.6
	comp=Z,5.6nm,0.7s,baz=127,slow=1.4,SNR=6.5								
DBIC					PKPab		PKPab	00 39 53.5	+0.6
	comp=Z,2.8nm,0.6s,baz=211,slow=3.4,SNR=4.5								
KOWA	Kowa	173.53	124				PKPdf	00 38 46.9	-1.4
KOWA					PKPab		PKPab	00 40 20.1	-2.1
TOA0	Torodi Ar. Sit	174.98	182				PKPdf	00 38 47.5	-1.3
TOA0					PKPab		PKPab	00 40 28.9	+0.6
TORD	Torodi Ar. Bea	174.98	182		PKP		PKPdf	00 38 47.6	-1.2
	comp=Z,3.5nm,0.9s,baz=340,slow=1.2,SNR=19								
TORD					PKPab		PKPab	00 40 28.4	+0.1
	comp=Z,3.1nm,0.6s,baz=189,slow=3.9,SNR=20								
TORD					PP		PP	00 44 21.1	+1.2
	comp=Z,2.1nm,0.8s,baz=167,slow=4.3,SNR=7.8								
TORD	Torodi Ar. Bea	174.98	182				PKPdf	00 38 47.7	-1.0
TORD					PKPab		PKPab	00 40 28.8	+0.4

PRU 20 00:36:36.5±0.0, 49°83N×18°42E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.18	273	ePG	Pg	00 36 39.8	-0.1
OKC				eSG	Sg	00 36 42.5	+0.3
	comp=Z,15nm,0.6s						
MORC	Moravsky Berou	0.57	265	ePG	Pg	00 36 47.0	-0.4
MORC				eSG	Sg	00 36 54.7	-0.1
LANS	Liptovska Anna	0.96	134	eSG	Sn	00 37 11.1	-0.7
KRLC	Kraliky	1.09	284	ePG	Pg	00 36 55.4	-1.9
KRLC				eSG	Sg	00 37 10.6	-0.8
VRAC	Vranov	1.30	247	ePG	Pg	00 37 00.3	-1.1
VRAC				eSG	Sg	00 37 17.5	-0.7
DPC	Dobruska-Polom	1.45	292	ePG	Pn	00 37 02.4	-1.6
DPC				eSG	Sg	00 37 22.6	-0.4
KRUC	Mo

CPWZ	**Castlepoint**	**5.49**	**196**	P	Pn	00 46 03.9	-1.5
HOWZ	**Holdsworth Sta**	**5.66**	**202**	P	Pn	00 46 04.4	-3.2
OGWZ	**Otaki Gorge**	**5.70**	**204**	P	Pn	00 46 04.8	-3.2
TMWZ	**Te Maipa**	**5.75**	**198**	P	Pn	00 46 06.2	-2.5

*IDC **20** 00:46:38.8±2.6,30.°70S×71.°53W,h0km,mb3.5/2,*
mb1 3.8/2,mb1mx3.6/19,mbtmp3.5/2,ML3.3/1,Error
ellipse: s-maj=88.0km s-min=56.8km az=37.0
*GUC **20** 00:46:43.8±0.7,30.°41S×71.°66W,h23km±3km,ML4.1*
*NEIC **20** 00:46:43.1±1.7,30.°41S±0.°04×71.°70W±0.°07,h23km±9km,*
mb3.7/1,ML4.0(GUC),Error ellipse: s-maj=9.3km
s-min=3.5km az=118.0
ISC 20 00:46:42.9±1.0,30.°40S±0.°03×71.°71W±0.°06,h24km±7km,
n51,σ1°36/65,mb3.6/3,1C-4D,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.28**	**167**		**Pb**	**00 46 49.5**	**0.0**
CO06				Sg	**Sb**	**00 46 54.2**	**+0.1**
CO06	**Fray Jorge**	**0.28**	**167**	⇓*i*P	**Pb**	**00 46 49.6**	**0.0**
CO06				*i* S	**Sb**	**00 46 54.3**	**+0.2**
CO06				IAML		00 46 54.5	
	comp=E,32μm,0.2s						
CO05	**La Serena**	**0.63**	**40**		**Pb**	**00 46 55.3**	**0.0**
CO05				Sg	**Sb**	**00 47 04.2**	**+0.5**
CO05	**La Serena**	**0.63**	**40**	⇓*i*P	**Pb**	**00 46 55.4**	**0.0**
CO05				*i* S	**Sb**	**00 47 04.3**	**+0.5**
CO05				IAML		00 47 06.4	
	comp=N,8μm,0.2s						
GO04	**Tololo Observa**	**0.82**	**74**		**Pn**	**00 46 58.6**	**-0.6**
GO04				Sg	**Sb**	**00 47 09.0**	**-0.3**
GO04	**Tololo Observa**	**0.82**	**74**	⇓*i*P	**Pn**	**00 46 58.6**	**-0.6**
GO04				*i* S	**Sb**	**00 47 09.1**	**-0.3**
GO04				IAML		00 47 14.9	
	comp=N,17μm,0.2s						
CO03	**El Pedregal**	**0.98**	**117**		**Pb**	**00 47 00.7**	**-0.6**
CO02	**Combarbal**	**1.00**	**143**		**Pb**	**00 47 01.2**	**-0.6**
CO02	**Combarbal**	**1.00**	**143**	*e*P	**Pb**	**00 47 01.1**	**-0.6**
CO02				*i* S	**Sn**	**00 47 14.7**	**-0.4**
CO02				IAML		00 47 18.4	
	comp=E,19μm,0.2s						
CO01	**Juntas del Tor**	**1.46**	**74**		**Pb**	**00 47 08.9**	**-0.7**
CO01	**Juntas del Tor**	**1.46**	**74**	*e*P	**Pb**	**00 47 08.9**	**-0.7**
CO01				*i* S	**Sn**	**00 47 25.5**	**-1.1**
LCO	**Las Campanas**	**1.64**	**33**		**Pn**	**00 47 10.9**	**+0.3**
LCO	**Las Campanas**	**1.64**	**33**	*i* P	**Pn**	**00 47 11.0**	**+0.4**
LCO				*i* S	**Sb**	**00 47 33.1**	**0.0**
VA06	**Catapilco**	**2.18**	**171**	Pn	**Pn**	**00 47 17.5**	**-0.3**
VA06	**Catapilco**	**2.18**	**171**	⇓*i*P	**Sn**	**00 47 17.5**	**-0.3**
VA06				*e*S	**Sb**	**00 47 47.7**	**-0.6**
VA06				IAML		00 47 56.9	
	comp=E,1μm,0.5s						
AC04	**Llanos de Chal**	**2.26**	**14**	Pn	**Pn**	**00 47 18.3**	**-0.5**
AC04	**Llanos de Chal**	**2.26**	**14**	*e*P	**Pn**	**00 47 18.2**	**-0.6**
VA03	**San Esteban**	**2.55**	**158**		**Pn**	**00 47 24.1**	**+1.1**
VA03	**San Esteban**	**2.55**	**158**	*e*P	**Pn**	**00 47 24.0**	**+1.1**
VA03				IAML		00 48 06.6	
	comp=E,970nm,0.5s						
VA01	**Torpederas**	**2.61**	**179**	Pn	**Pn**	**00 47 22.7**	**-0.9**
PEL	**Peldehue**	**2.87**	**163**	Pn	**Pn**	**00 47 27.4**	**+0.2**
MT02	**Curacav**	**2.89**	**170**	Pn	**Pn**	**00 47 27.5**	**0.0**
MT02	**Curacav**	**2.89**	**170**	⇑*i*P	**Pn**	**00 47 26.9**	**-0.6**
MT02				*e*S	**Sb**	**00 48 05.8**	**-2.9**
GO03	**Copiap**	**3.08**	**25**	Pn	**Pn**	**00 47 30.5**	**+0.3**
MT05	**Renca**	**3.09**	**165**		**Pn**	**00 47 31.0**	**+0.7**
MT05	**Renca**	**3.09**	**165**	*e*P	**Pn**	**00 47 32.5**	**+2.1**
MT05				*e*S	**Sb**	**00 48 10.7**	**-3.9**
MT05				IAML		00 48 22.7	
	comp=E,817nm,0.3s						
MT03	**Universidad Ad**	**3.25**	**162**	Pn	**Pn**	**00 47 33.5**	**+1.0**
MT03	**Universidad Ad**	**3.25**	**162**	*e*P	**Pn**	**00 47 33.5**	**+1.0**
MT03				*e*S	**Sn**	**00 48 13.5**	**+3.0**
MT03				IAML		00 48 28.4	
	comp=N,776nm,0.4s						
VA05	**Santo Domingo**	**3.25**	**179**		**Pn**	**00 47 31.5**	**-0.9**
AC06	**Mina Casimiro**	**3.26**	**22**	Pn	**Pn**	**00 47 32.5**	**-0.1**
MT09	**Talagante**	**3.42**	**170**		**Pn**	**00 47 35.3**	**+0.4**
MT09	**Talagante**	**3.42**	**170**	*e*P	**Pn**	**00 47 35.3**	**+0.4**
MT09				*e*S	**Sn**	**00 48 17.6**	**+2.8**
MT09				IAML		00 48 33.8	
	comp=N,375nm,0.5s						
MT01	**Popeta**	**3.47**	**174**		**Pn**	**00 47 35.0**	**-0.6**
VCA	**Vinchina**	**3.47**	**62**	*e*P	**Pb**	**00 47 40.7**	**-3.2**
LMEL	**Las Melosas**	**3.67**	**160**		**Pn**	**00 47 40.0**	**+1.7**
BO04	**La Punta**	**3.70**	**166**	Pn	**Pn**	**00 47 39.0**	**+0.4**
BO01	**Tunca**	**4.01**	**173**	Pn	**Pn**	**00 47 42.2**	**-0.7**
AC02	**Maricunga**	**4.22**	**33**		**Pn**	**00 47 47.1**	**+0.9**
AC01	**Pan de Azucar**	**4.35**	**13**	Pn	**Pn**	**00 47 45.4**	**-2.3**
GO05	**Huala**	**4.60**	**182**		**Pn**	**00 47 49.2**	**-1.8**
ML02	**Panimavida**	**5.35**	**177**	Pn	**Pn**	**00 48 01.7**	**+0.4**
GO02	**Mina Guanaco**	**5.55**	**20**	Pn	**Pn**	**00 48 04.0**	**-0.4**
H03N1	**Juan Fernandez**	**6.83**	**242**	Pn	**Pn**	**00 48 18.9**	**-2.5**
	baz=112,slow=19,SNR=39						
H03N1				T	T	00 55 20.0	
	baz=70,slow=72,SNR=4226						
H03N2	**Juan Fernandez**	**6.85**	**242**	Pn	**Pn**	**00 48 19.3**	**-2.3**
	baz=112,slow=19,SNR=34						
H03N2				T	T	00 55 21.7	
	baz=70,slow=72,SNR=4605						
H03N3	**Juan Fernandez**	**6.85**	**242**	Pn	**Pn**	**00 48 18.9**	**-2.8**
	baz=112,slow=19,SNR=33						
H03N3				T	T	00 55 13.1	
	baz=70,slow=72,SNR=3983						
LC01	**Cunco**	**8.48**	**181**	Pn	**Pn**	**00 48 42.3**	**-2.0**
LPAZ	**La Paz**	**14.43**	**14**	Pn	**Pn**	**00 50 08.3**	**+2.0**
	comp=N,0.1nm,0.3s,baz=190,slow=6.1,SNR=3.1						
QSPA	**South Pole Qui**	**59.82**	**180**	P	**P**	**00 56 46.2**	**0.0**
QSPA				IAmb	IAmb	00 56 54.5	
	comp=Z,0.7nm,1.0s						
TXAR	**Lajitas Array**	**66.76**	**330**	P	**P**	**00 57 34.2**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=156,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**82.73**	**70**	P	**P**	**00 59 04.7**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=268,slow=4.3,SNR=2.0						
ZALV	**Zalesovo Beam**	**151.00**	**29**	PKPbc	**PKPbc**	**01 06 33.2**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=312,slow=3.6,SNR=7.2						

*KRSC **20** 00:50:56.6±1.1,48.°54N×152.°81E,h256km±34km,ML4.8*
*SKHL **20** 00:50:58.5±0.8,48.°80N×152.°30E,h256km±4km,mb5.5/5,*
msha5.6/5
*MOS **20** 00:50:59.3±1.2,49.°07N×152.°08E,h251km,mb4.2/30,*
Error ellipse: s-maj=8.2km s-min=3.7km az=62.1
*IDC **20** 00:51:01.6±1.3,49.°19N×151.°94E,h251km±13km,*
mb3.7/24,mb1 3.9/30,mb1mx3.7/52,mbtmp4.4/30,Error
ellipse: s-maj=11.7km s-min=7.3km az=145.0
*NEIC **20** 00:51:01.4±1.2,49.°16N±0.°05×152.°0E±0.°1,h245km±7km,*
mb4.3/103,Error ellipse: s-maj=10.7km s-min=5.7km
az=61.0
*JMA **20** 00:51:02.6±0.8,47.°46N×153.°22E,h285km,M4.5*
ISC 20 00:51:00.2±0.4,48.°96N±0.°05×152.°18E±0.°04,h250km,
n460,σ1°60/495,mb4.2/93,10C-10D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.08**	**54**	⇓*i*PN	**Pn**	**00 51 52.6**	**-0.7**
SKR				*e*S	**S**	**00 52 34.7**	**-0.8**
SKR				pmax	pmax		
	comp=Z,961nm,0.6s						
SKR				smax	smax		
	comp=N,165nm,0.5s						
SKR				smax	smax		
	comp=E,175nm,0.5s						
SKR	**Severo-Kuril's**	**3.08**	**54**	*e*P	**Pn**	**00 51 52.6**	**-0.7**
SKR	**Severo-Kuril's**	**3.08**	**54**	*i* P	**Pn**	**00 51 52.1**	**-1.2**
SKR				AMB	AMB	00 51 53.2	
	comp=E,790nm,0.5s						
SKR				*e*S	**S**	**00 52 34.2**	**-1.3**
SKR				A	A	00 52 38.9	
	comp=E,170nm,0.4s						
SKR				A	A	00 52 38.9	
	comp=E,180nm,0.4s						
PAU	**Pauzhetka**	**3.89**	**48**	PN	**Pn**	**00 52 01.7**	**-0.8**
PAU				S	**S**	**00 52 51.0**	**-1.1**
PAU	**Pauzhetka**	**3.89**	**48**	*e*P	**Pn**	**00 52 01.7**	**-0.8**
PAU	**Pauzhetka**	**3.89**	**48**	*e*P	**Pn**	**00 52 01.6**	**-0.9**
PAU				AMB	AMB	00 52 02.0	
	comp=E,480nm,0.5s						
PAU				*e*S	**S**	**00 52 51.2**	**-0.9**
PAU				A	A	00 52 53.3	
	comp=E,210nm,0.2s						
PAU				A	A	00 52 53.3	
	comp=E,160nm,0.2s						
MIPR	**Malaya Ipel'ka**	**4.42**	**40**	PN	**Pn**	**00 52 08.4**	**-0.4**
MIPR	**Malaya Ipel'ka**	**4.42**	**40**	*e*P	**Pn**	**00 52 08.4**	**-0.4**
MIPR				S	**S**	**00 53 01.4**	**-2.0**
KDTR	**Khodutka, Kamc**	**4.73**	**51**	PN	**Pn**	**00 52 10.6**	**-1.9**
KDTR	**Khodutka, Kamc**	**4.73**	**51**	*e*P	**Pn**	**00 52 10.6**	**-1.9**
KDTR				S	**S**	**00 53 04.3**	**-5.8**
KUR	**Kuril'sk**	**4.75**	**220**	*e*PN	**Pn**	**00 52 13.5**	**+0.6**
KUR				*e*S	**S**	**00 53 14.2**	**+3.3**
KUR				pmax	pmax		
	comp=E,47nm,0.9s						
KUR				pmax	pmax		
	comp=Z,212nm,0.9s						
KUR				pmax	pmax		
	comp=N,34nm,0.3s						
KUR				smax	smax		
	comp=N,107nm,0.4s						
KUR				smax	smax		
	comp=E,69nm,0.3s						
KUR	**Kuril'sk**	**4.75**	**220**	*e*P	**Pn**	**00 52 12.0**	**-0.9**
KUR				AMB	AMB	00 52 14.3	
	comp=E,320nm,0.5s						
KUR				*e*S	**S**	**00 53 08.6**	**-2.3**
KUR				A	A	00 53 16.5	
	comp=E,100nm,0.5s						
KUR				A	A	00 53 16.5	
	comp=E,90nm,0.5s						
ASAK	**Asacha**	**4.99**	**45**	PN	**Pn**	**00 52 15.7**	**-0.1**
ASAK	**Asacha**	**4.99**	**45**	*e*P	**Pn**	**00 52 15.7**	**-0.1**
APC	**Apacha**	**5.06**	**37**	PN	**Pn**	**00 52 16.2**	**-0.3**
APC	**Apacha**	**5.06**	**37**	*e*P	**Pn**	**00 52 16.2**	**-0.3**
APC				S	**S**	**00 53 14.8**	**-2.7**
GRL	**Gorelyy**	**5.18**	**44**	PN	**Pn**	**00 52 18.4**	**+0.2**
GRL				S	**S**	**00 53 18.8**	**-1.7**
GRL	**Gorelyy**	**5.18**	**44**	*e*P	**Pn**	**00 52 18.4**	**+0.2**
MTVR	**Mutnovka**	**5.19**	**45**	PN	**Pn**	**00 52 17.8**	**-0.5**
MTVR				S	**S**	**00 53 17.7**	**-2.9**
MTVR	**Mutnovka**	**5.19**	**45**	P	**Pn**	**00 52 18.0**	**-0.3**
MTVR				S	**S**	**00 53 17.4**	**-3.2**
RUS	**Russkaya**	**5.32**	**47**	PN	**Pn**	**00 52 18.1**	**-1.6**
RUS				S	**S**	**00 53 17.9**	**-5.2**
RUS	**Russkaya**	**5.32**	**47**	P	**Pn**	**00 52 18.1**	**-1.6**
RUS				S	**S**	**00 53 17.7**	**-5.4**
KRMR	**Karymshinskiy**	**5.40**	**42**	PN	**Pn**	**00 52 20.2**	**-0.5**
KRMR	**Karymshinskiy**	**5.40**	**42**	*e*P	**Pn**	**00 52 20.2**	**-0.5**
PEA0B	**Petropavlovsk-**	**5.42**	**38**	PN	**Pn**	**00 52 20.9**	**0.0**
PEA0B	**Petropavlovsk-**	**5.42**	**38**	Pn	**Pn**	**00 52 20.9**	**0.0**
PETK	**Petropavlovsk-**	**5.42**	**38**	P	**Pn**	**00 52 20.6**	**-0.4**
	comp=E,2.3nm,0.3s,baz=236,slow=21,SNR=42						
PETK				S	**S**	**00 53 24.2**	**-1.2**
	baz=134,slow=6.4,SNR=1.9						
PETK	**Petropavlovsk-**	**5.42**	**38**	PN	**Pn**	**00 52 20.1**	**-0.8**
PETK	**Petropavlovsk-**	**5.42**	**38**	Pn	**Pn**	**00 52 20.1**	**-0.8**
PET	**Petropavlovsk**	**5.76**	**43**	⇓*e*PN	**Pn**	**00 52 25.7**	**+0.5**
PET	**Petropavlovsk**	**5.76**	**43**	Pn	**Pn**	**00 52 25.4**	**+0.3**
PET	**Petropavlovsk**	**5.76**	**43**	*e*P	**Pn**	**00 52 24.5**	**-0.7**
PET				*e*S	**S**	**00 53 29.3**	**-3.9**
DALK	**Dalny**	**5.81**	**43**	PN	**Pn**	**00 52 25.9**	**+0.1**
DALK				S	**S**	**00 53 30.7**	**-3.6**
DALK	**Dalny**	**5.81**	**43**	P	**Pn**	**00 52 25.7**	**-0.1**
DALK				S	**S**	**00 53 30.6**	**-3.7**
KOK	**Koryaka**	**5.94**	**41**	PN	**Pn**	**00 52 28.0**	**+0.5**
KOK	**Koryaka**	**5.94**	**41**	P	**Pn**	**00 52 28.2**	**+0.7**
KOK	**Koryaka**	**5.94**	**41**	*e*P	**Pn**	**00 52 28.0**	**+0.5**
GNL	**Ganaly**	**5.96**	**35**	PN	**Pn**	**00 52 27.5**	**-0.2**
GNL	**Ganaly**	**5.96**	**35**	*e*P	**Pn**	**00 52 27.5**	**-0.2**
AVH	**Avacha**	**5.96**	**41**	PN	**Pn**	**00 52 28.8**	**+1.0**
AVH				S	**S**	**00 53 36.9**	**-1.0**
AVH	**Avacha**	**5.96**	**41**	*e*P	**Pn**	**00 52 28.8**	**+1.0**
UGLR	**Uglovaya**	**5.96**	**42**	PN	**Pn**	**00 52 28.3**	**+0.5**
UGLR				S	**S**	**00 53 34.2**	**-3.7**
UGLR	**Uglovaya**	**5.96**	**42**	P	**Pn**	**00 52 28.3**	**+0.5**
SMAR	**Somma**	**5.99**	**42**	PN	**Pn**	**00 52 28.6**	**+0.3**
SMAR	**Somma**	**5.99**	**42**	*e*P	**Pn**	**00 52 28.6**	**+0.3**
KRER	**Koryakskii**	**6.00**	**41**	PN	**Pn**	**00 52 28.9**	**+0.6**
KRER	**Koryakskii**	**6.00**	**41**	P	**Pn**	**00 52 29.0**	**+0.6**
SDLR	**Sedlovina**	**6.04**	**42**	PN	**Pn**	**00 52 28.8**	**+0.1**
SDLR				S	**S**	**00 53 36.0**	**-3.6**
SDLR	**Sedlovina**	**6.04**	**42**	P	**Pn**	**00 52 28.6**	**-0.1**
SDLR				*e*S	**S**	**00 53 36.0**	**-3.6**
NLC	**Nalytchevo**	**6.17**	**44**	PN	**Pn**	**00 52 28.2**	**-2.1**
NLC	**Nalytchevo**	**6.17**	**44**	P	**Pn**	**00 52 28.2**	**-2.1**
SHO	**Shikotan**	**6.29**	**218**	*c i*PN	**Pn**	**00 52 28.8**	**-3.2**
SHO				pmax	pmax		
	comp=E,89nm,0.3s						
SHO				pmax	pmax		
	comp=Z,172nm,0.3s						
SHO				pmax	pmax		
	comp=N,53nm,0.2s						
SHO	**Shikotan**	**6.29**	**218**	*i* P	**Pn**	**00 52 29.1**	**-2.9**
SHO				AMB	AMB	00 52 30.4	
	comp=N,170nm,0.3s						
SHO				*e*S	**S**	**00 53 38.4**	**-7.0**
SHO				A	A	00 53 48.0	
	comp=N,210nm,0.2s						
SHO				A	A	00 53 48.0	
	comp=N,160nm,0.2s						
TYV	**Tymovskoe**	**6.44**	**291**	*e*P	**Pn**	**00 52 31.8**	**-1.9**
TYV				*e*S	**S**	**00 53 47.5**	**-1.0**
SPN	**Mys Shipunski**	**6.45**	**47**	PN	**Pn**	**00 52 31.0**	**-2.7**
SPN	**Mys Shipunski**	**6.45**	**47**	P	**Pn**	**00 52 31.1**	**-2.7**
YUK	**Yuzh-Kuril'sk**	**6.58**	**224**	*e*PN	**Pn**	**00 52 35.0**	**-0.5**
YUK				S	**S**	**00 53 46.3**	**-5.6**
YUK				pmax	pmax		
	comp=Z,759nm,0.5s						
YUK				pmax	pmax		
	comp=N,60nm,0.2s						
YUK				pmax	pmax		
	comp=E,193nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**6.58**	**224**	*e*P	**Pn**	**00 52 34.3**	**-1.2**
YUK				AMB	AMB	00 52 36.0	
	comp=E,760nm,0.5s						
YUK				*e*S	**S**	**00 53 49.6**	**-2.3**
YUK				A	A	00 53 54.3	
	comp=E,360nm,0.6s						
YUK				A	A	00 53 54.3	
	comp=E,250nm,0.6s						
YSS	**Yuzh-Sakhalins**	**6.64**	**256**	⇓*e*PN	**Pn**	**00 52 37.5**	**+1.2**
YSS				*e*S	**S**	**00 53 51.9**	**-1.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax	smax		
	comp=E,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.64**	**256**	Pn	**Pn**	**00 52 37.3**	**+1.0**
YSS	**Yuzh-Sakhalins**	**6.64**	**256**	*e*P	**Pn**	**00 52 36.4**	**+0.1**
YSS				*e*S	**S**	**00 53 51.8**	**-1.5**
RUSJ	**Misakicho**	**6.82**	**227**	*e*PN	**Pn**	**00 52 38.7**	**+0.2**
RUSJ				*e*S	**S**	**00 54 01.6**	**+4.3**
GLVR	**Golovnino**	**6.97**	**224**	*e*PN	**Pn**	**00 52 44.3**	**+3.9**
GLVR				S	**S**	**00 54 02.7**	**+1.9**
JRA	**Rausu**	**7.00**	**227**	P	**Pn**	**00 52 40.7**	**-0.1**
NEM2	**Nemuro 2**	**7.16**	**221**	P	**Pn**	**00 52 39.8**	**-3.0**
NEM2				*e*S	S	00 53 54.8	-10
NMR	**Nemuro--Hokkai**	**7.17**	**221**	*e*PN	**Pn**	**00 52 39.6**	**-3.3**
NMR	**Nemuro--Hokkai**	**7.17**	**221**	*e*P	**Pn**	**00 52 39.6**	**-3.3**
JNK	**Nakash**	**7.46**	**227**	P	**Pn**	**00 52 46.3**	**-0.3**
JNK				*e*S	**S**	**00 54 07.6**	**-4.5**
JTKR	**Abashiri--Toko**	**7.58**	**232**	P	**Pn**	**00 52 49.0**	**+0.8**
JTKR				*e*S	**S**	**00 54 13.4**	**-1.6**
AKK	**Akkeshi**	**7.84**	**223**	*e*P	**Pn**	**00 52 48.2**	**-3.2**
JAK	**Akkeshi**	**7.92**	**224**	P	**Pn**	**00 52 49.3**	**-3.1**
JAK				*e*S	S	00 54 13.0	-10
TUMR	**Tumrok**	**8.00**	**35**	PN	**Pn**	**00 52 53.3**	**-0.1**
TUMR	**Tumrok**	**8.00**	**35**	*e*P	**Pn**	**00 52 53.9**	**+0.5**
TUMR				S	**S**	**00 54 23.6**	**-1.0**
ESO	**Esso**	**8.03**	**27**	PN	**Pn**	**00 52 53.7**	**+0.1**
ESO	**Esso**	**8.03**	**27**	P	**Pn**	**00 52 54.0**	**+0.4**
ESO	**Esso**	**8.03**	**27**	*e*P	**Pn**	**00 52 53.7**	**+0.1**
TUMD	**Tumrok D**	**8.04**	**36**	*e*P	**Pn**	**00 52 53.3**	**-0.5**
TUMD				S	**S**	**00 54 22.7**	**-2.6**
JAR	**Ashorobuto**	**8.14**	**229**	P	**Pn**	**00 52 54.1**	**-1.1**
JAR				*e*S	**S**	**00 54 24.1**	**-3.7**
MKZ	**Mys Kozlova**	**8.15**	**43**	PN	**Pn**	**00 52 52.5**	**-2.6**
MKZ	**Mys Kozlova**	**8.15**	**43**	P	**Pn**	**00 52 52.5**	**-2.6**
MKZ	**Mys Kozlova**	**8.15**	**43**	*e*P	**Pn**	**00 52 52.5**	**-2.6**
JKA	**Kamikawa-asahi**	**8.19**	**237**	Pn	**Pn**	**00 52 58.1**	**+2.3**
ASAJ	**Asahikawa**	**8.19**	**237**	P	**Pn**	**00 52 57.8**	**+1.9**
	comp=E,3.5nm,0.3s,baz=65,slow=12,SNR=26						
JKK2	**Kamakawa 2**	**8.27**	**236**	P	**Pn**	**00 52 58.1**	**+1.3**
JOB	**Onbets**	**8.40**	**227**	P	**Pn**	**00 52 56.7**	**-1.7**
JOB				*e*S	S	00 54 24.5	-9.3
KMNR	**Kamenistaya**	**8.40**	**33**	PN	**Pn**	**00 52 59.1**	**+0.7**
KMNR	**Kamenistaya**	**8.40**	**33**	*e*P	**Pn**	**00 52 59.1**	**+0.7**
JCH	**Churui**	**8.84**	**227**	P	**Pn**	**00 53 00.9**	**-3.2**
JCH				*e*S	S	00 54 32.9	-11
JNBK	**Urakawa-nobuka**	**9.39**	**228**	P	**Pn**	**00 53 07.7**	**-3.3**
JNBK				*e*S	S	00 54 43.8	-13
ERM	**Erimo**	**9.40**	**226**	*de*PN	**Pn**	**00 53 09.5**	**-1.6**
ERM	**Erimo**	**9.40**	**226**	Pn	**Pn**	**00 53 08.9**	**-2.2**
KBG	**Krutoberegovo**	**9.70**	**37**	PN	**Pn**	**00 53 13.5**	**-1.2**
KBG	**Krutoberegovo**	**9.70**	**37**	*e*P	**Pn**	**00 53 13.5**	**-1.2**
KBG	**Krutoberegovo**	**9.70**	**37**	*e*P	**Pn**	**00 53 13.5**	**-1.2**
KBTR	**Krutoberegovo**	**9.71**	**38**	PN	**Pn**	**00 53 13.6**	**-1.3**
BKI	**Bering**	**10.53**	**48**	PN	**Pn**	**00 53 23.2**	**-1.9**
BKI	**Bering**	**10.53**	**48**	*e*P	**Pn**	**00 53 23.2**	**-1.9**
BKI	**Bering**	**10.53**	**48**	*e*P	**Pn**	**00 53 23.2**	**-1.9**
MA2	**Magadan**	**10.67**	**356**	P	**Pn**	**00 53 25.5**	**-1.3**
	comp=E,1.0nm,0.3s,baz=162,slow=9.2,SNR=10						
MA2	**Magadan**	**10.67**	**356**	*c i*PN	**Pn**	**00 53 25.3**	**-1.5**
MA2				pmax	pmax		
	comp=Z,12nm,0.7s						
MA2	**Magadan**	**10.67**	**356**	Pn	**Pn**	**00 53 25.1**	**-1.8**
JANG	**Nango**	**11.45**	**225**	P	Pn	00 53 32.6	-4.3
KLR	**Kul'dur**	**13.39**	**279**	P	**P**	**00 54 02.9**	**+0.8**
	comp=Z,5.1nm,0.3s,baz=81,slow=12,SNR=58						
KLR	**Kul'dur**	**13.39**	**279**	⇓*e*PN	**P**	**00 54 01.6**	**-0.4**
KLR	**Kul'dur**	**13.39**	**279**	*e*P	**P**	**00 54 01.6**	**-0.4**
JMM	**Marumori**	**13.82**	**221**		**P**	**00 54 07.9**	**+1.0**
SEY	**Seymchan**	**14.00**	**0**	P	**P**	**00 54 08.4**	**-0.3**
	comp=Z,3.2nm,0.3s,baz=178,slow=10,SNR=34						
SEY	**Seymchan**	**14.00**	**0**	⇑*e*P	**Pn**	**00 54 08.0**	**0.0**
SEY				pmax	pmax		
	comp=Z,16nm,0.7s						
SEY	**Seymchan**	**14.00**	**0**	*e*P	**Pn**	**00 54 08.0**	**0.0**
USA0B	**Ussuriysk Arra**	**14.67**	**259**	P	**P**	**00 54 16.0**	**-0.2**
USA0B	**Ussuriysk Arra**	**14.67**	**259**		**P**	**00 54 15.9**	**-0.2**
USRK	**Ussuriysk Ar.**	**14.67**	**259**	P	**Pn**	**00 54 16.8**	**+0.6**
	baz=65,slow=13,SNR=14						
USRK	**Ussuriysk Ar.**	**14.67**	**259**		**P**	**00 54 15.9**	**-0.2**
JSD	**Sado**	**14.85**	**228**	P	**P**	**00 54 18.8**	**+0.6**
MDJ	**Mudanjiang**	**16.05**	**263**	P	**P**	**00 54 31.2**	**-0.2**
MDJ	**Mudanjiang**	**16.05**	**263**	P	**Pn**	**00 54 36.1**	**+3.4**
MDJ				pmax	pmax		
	comp=Z,31nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,80nm,3.9s						
MJB9	**Matsu-Tunnel**	**16.07**	**225**	P	**Pn**	**00 54 33.1**	**+0.1**
MAJO	**Matsushiro**	**16.07**	**225**	P	**Pn**	**00 54 33.2**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,37nm,0.5s						
MAJO	**Matsushiro**	**16.07**	**225**	P	**Pn**	**00 54 33.2**	**+0.1**
MJAR	**Matsushiro Arr**	**16.07**	**225**	P	**Pn**	**00 54 33.3**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=308,slow=9.9,SNR=26						
MJAR	**Matsushiro Arr**	**16.07**	**225**	P	**Pn**	**00 54 33.1**	**0.0**
MJAR				pmax	pmax		
	comp=Z,11nm,0.6s						
MJAR	**Matsushiro Arr**	**16.07**	**225**	P	**P**	**00 54 33.1**	**0.0**
MJAR				IAmb	IAmb	00 54 33.5	
	comp=Z,11nm,0.6s						
ZEA	**Zeya**	**16.25**	**297**	*e*P	**Pn**	**00 54 34.6**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZEA	**Zeya**	**16.25**	**297**	*e*P	**Pn**	**00 54 34.6**	**-0.4**
JGF	**Kuroka**	**17.24**	**225**	P	**Pn**	**00 54 46.2**	**-0.6**
JGF				IAmb	IAmb	00 54 49.3	
	comp=Z,9.2nm,0.6s						
INU	**Inuyama**	**17.60**	**225**	P	**P**	**00 54 49.6**	**+1.2**
CN2	**Changchun**	**19.10**	**264**	*e*P	**P**	**00 55 01.0**	**-3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JHS	**Saijyo**	**19.81**	**232**	P	**P**	**00 55 12.6**	**+0.4**
BILL	**Bilibino**	**20.40**	**15**	*i* P	**P**	**00 55 15.6**	**-2.4**
BILL				p

PPLA **Purkeypile** 32.97 44 P P 00 57 12.8 +1.4
PPLA **Purkeypile** 32.97 44 P P 00 57 12.8 +1.4
baz=272
CAST **Castle Rocks** 33.01 43 P P 00 57 13.0 +1.4
CAST IAmb IAmb 00 57 13.5
comp=Z,5.6nm,0.6s
CAST **Castle Rocks** 33.01 43 P P 00 57 13.0 +1.4
baz=271,SNR=5.4
SPCR **Spurr Chakacha** 33.04 47 P P 00 57 13.5 +1.6
baz=274
I21K **Tanana** 33.07 40 P P 00 57 13.2 +1.2
baz=268
KDAK **Kodiak Island** 33.24 53 P P 00 57 14.3 +0.7
KDAK pmax pmax
comp=Z,55nm,1.3s
KDAK **Kodiak Island** 33.24 53 P P 00 57 14.3 +0.7
BPAW **Bear Paw Mtn.** 33.48 42 P P 00 57 17.0 +1.3
BPAW IAmb IAmb 00 57 17.7
comp=Z,5.7nm,0.7s
BPAW **Bear Paw Mtn.** 33.48 42 P P 00 57 16.9 +1.3
baz=271,SNR=6.6
TRF **Thorofare Moun** 33.81 43 P P 00 57 19.9 +1.3
TRF **Thorofare Moun** 33.81 43 P P 00 57 19.7 +1.1
baz=273
CUT **Chulitna** 33.88 45 P P 00 57 19.7 +0.7
baz=274
COLD **Coldfoot** 33.88 36 P P 00 57 20.1 +1.1
COLD IAmb IAmb 00 57 20.9
comp=Z,5.8nm,0.8s
COLD **Coldfoot** 33.88 36 P P 00 57 19.9 +0.9
baz=267,SNR=8.9
BRSE **Bradley Lake S** 33.91 50 P P 00 57 20.6 +1.3
baz=278
H23K **Yukon River** 34.10 39 P P 00 57 22.4 +1.5
baz=270,SNR=7.7
I23K **Minto, Yukon-K** 34.17 40 P P 00 57 22.9 +1.4
baz=271
TOLK **Toolik Lake Re** 34.22 34 P P 00 57 22.9 +0.9
TOLK IAmb IAmb 00 57 23.4
comp=Z,7.4nm,0.6s
TOLK **Toolik Lake Re** 34.22 34 P P 00 57 22.9 +0.9
baz=266,SNR=9.6
NEA2 **Nenana** 34.31 41 P P 00 57 23.9 +1.2
NEA2 IAmb IAmb 00 57 25.4
comp=Z,8.7nm,0.7s
NEA2 **Nenana** 34.31 41 P P 00 57 23.7 +1.0
baz=272
MCK **McKinley** 34.40 42 P P 00 57 24.5 +0.9
MCK pmax pmax
comp=Z,8.0nm,0.8s
MCK **McKinley** 34.40 42 P P 00 57 24.5 +0.9
MCK IAmb IAmb 00 57 25.3
comp=Z,8.0nm,0.8s
MCK **McKinley** 34.40 42 P P 00 57 24.1 +0.6
baz=273,SNR=5.8
RND **Reindeer** 34.46 43 P P 00 57 24.4 +0.3
RND pmax pmax
comp=Z,12nm,1.1s
RND **Reindeer** 34.46 43 P P 00 57 24.4 +0.3
RND IAmb IAmb 00 57 25.8
comp=Z,12nm,1.1s
PMR **Palmer** 34.48 46 P P 00 57 25.0 +0.9
PMR pmax pmax
comp=Z,17nm,1.4s
PMR **Palmer** 34.48 46 P P 00 57 25.0 +0.9
PMR IAmb IAmb 00 57 49.1
comp=Z,17nm,1.4s
MDM **Murphy Dome** 34.66 40 P P 00 57 27.1 +1.4
MDM IAmb IAmb 00 57 27.8
comp=Z,5.2nm,0.8s
KNGR **Kungurtug, Tuv** 34.66 294 *eP* P 00 57 26.3 +0.3
H24K **Noodor Dome** 34.78 39 P P 00 57 28.2 +1.4
baz=271
TCOL **CIGO, UAF Yank** 34.82 40 P P 00 57 28.2 +1.2
baz=273
KNK **Knik Glacier** 34.82 46 P P 00 57 28.1 +1.0
KNK **Knik Glacier** 34.82 46 P P 00 57 28.0 +0.9
baz=277
COLA **College** 34.82 40 *c iP* P 00 57 28.2 +1.2
COLA pmax pmax
comp=Z,14nm,1.0s
COLA **College** 34.82 40 P P 00 57 28.4 +1.3
COLA **College** 34.82 40 P P 00 57 28.3 +1.2
baz=273
SML **Sawmill** 34.84 46 P P 00 57 28.3 +1.0
SML **Sawmill** 34.84 46 P P 00 57 28.2 +0.9
baz=277,SNR=7.6
CCB **Clear Creek Bu** 34.85 41 P P 00 57 27.9 +0.6
PWL **Port Wells** 34.95 47 P P 00 57 29.9 +1.6
POKR **Poker Plat Res** 34.99 40 P P 00 57 30.0 +1.5
POKR IAmb IAmb 00 57 30.4
comp=Z,6.9nm,0.8s
POKR **Poker Plat Res** 34.99 40 P P 00 57 29.7 +1.2
baz=273
WAT6 **Susitna Watana** 35.03 44 P P 00 57 29.8 +0.7
baz=276
DHY **Denali Highway** 35.15 43 P P 00 57 30.8 +0.7
DHY IAmb IAmb 00 57 31.4
comp=Z,4.4nm,0.5s
DHY **Denali Highway** 35.15 43 P P 00 57 31.0 +1.0
baz=276
IL31 **35.24** 40 P P 00 57 31.4 +0.9
IL31 IAmb IAmb 00 57 33.1
comp=Z,6.7nm,1.0s
ILAR **Eielson Array** 35.24 40 P P 00 57 31.1 +0.4
comp=Z,1.9nm,0.5s,baz=266,slow=5.3,SNR=43
ILAR **Eielson Array** 35.24 40 P P 00 57 31.3 +0.7
SCM **Sheep Creek Mo** 35.31 46 P P 00 57 32.4 +1.1
SCM pmax pmax
comp=Z,22nm,1.2s
SCM **Sheep Creek Mo** 35.31 46 P P 00 57 32.4 +1.1
SCM **Sheep Creek Mo** 35.31 46 P P 00 57 32.6 +1.3
baz=278
K24K **Donnelly Dome** 35.80 42 P P 00 57 35.8 +0.4
baz=276
M24K **Tolsona, Glenn** 35.81 45 P P 00 57 37.3 +1.7
M24K **Tolsona, Glenn** 35.81 45 P P 00 57 37.0 +1.4
baz=278
FID **Port Fidalgo** 35.87 47 P P 00 57 36.4 +0.4
J25K **Salcha River,** 35.90 41 P P 00 57 36.7 +0.4
baz=275
KLU **Klutina** 36.02 46 P P 00 57 38.3 +0.9
KLU IAmb IAmb 00 57 43.6
comp=Z,5.3nm,0.8s
KLU **Klutina** 36.02 46 P P 00 57 38.5 +1.1
baz=279
PAX **Paxson** 36.03 43 P P 00 57 39.6 +2.1
PAX pmax pmax
comp=Z,2.0nm,0.8s
PAX **Paxson** 36.03 43 P P 00 57 39.5 +2.1
BMAR **Burnt Mountain** 36.06 36 P P 00 57 39.4 +1.8
DIV **Divide** 36.15 47 P P 00 57 39.4 +0.9
DIV IAmb IAmb 00 57 40.2
comp=Z,6.5nm,0.7s
RIDG **Independent Ri** 36.22 42 P P 00 57 38.9 -0.1
RIDG **Independent Ri** 36.22 42 P P 00 57 39.7 +0.8
baz=277
HARP **HAARP** 36.24 44 P P 00 57 40.7 +1.5
baz=278
NRIK **Noril'sk** 36.55 327 *i P* P 00 57 43.1 +1.5
NRIK pmax pmax
comp=Z,11nm,3.7s
SCRK **Sand Creek** 36.57 42 P P 00 57 42.3 +0.3
SCRK IAmb IAmb 00 57 42.9
comp=Z,5.9nm,1.0s
SCRK **Sand Creek** 36.57 42 P P 00 57 42.2 +0.2
baz=277,SNR=6.8
J26L **Joseph Creek** 36.69 41 P P 00 57 43.4 +0.4
baz=277
BMRM **Bremner River** 36.73 47 P P 00 57 44.8 +1.4
BMRM IAmb IAmb 00 57 45.5
comp=Z,12nm,1.2s
BMRM **Bremner River** 36.73 47 P P 00 57 44.6 +1.2
baz=281
GLB **Gilahina Butte** 37.03 46 P P 00 57 47.0 +1.2
GLB IAmb IAmb 00 57 57.1
comp=Z,10.0nm,1.2s
VRDI **Verde Repeater** 37.24 46 P P 00 57 49.1 +1.4
VRDI IAmb IAmb 00 57 54.9
comp=Z,8.4nm,1.3s
M26K **Nabesna, AK** 37.24 44 P P 00 57 49.4 +1.8
M26K IAmb IAmb 00 57 50.5
comp=Z,6.6nm,0.8s
M26K **Nabesna, AK** 37.24 44 P P 00 57 49.6 +2.0
baz=280,SNR=7.8
MCARA **McCarthy VSAT** 37.41 46 P P 00 57 50.0 +1.0
baz=281
L27K **Beaver Creek,** 37.66 43 P P 00 57 52.9 +1.8
L27K IAmb IAmb 00 57 53.9
comp=Z,12nm,0.9s
L27K **Beaver Creek,** 37.66 43 P P 00 57 53.0 +1.9
baz=280,SNR=18
BCAR **Beaver Creek A** 37.67 43 P P 00 57 53.1 +1.9
EGAK **Eagle** 37.68 40 P P 00 57 51.5 +0.4
EGAK **Eagle** 37.68 40 P P 00 57 51.5 +0.4
baz=278,SNR=5.4
M27K **Edge Creek, AK** 37.76 44 P P 00 57 53.9 +1.9
M27K IAmb IAmb 00 57 54.9
comp=Z,9.0nm,0.8s
M27K **Edge Creek, AK** 37.76 44 P P 00 57 54.0 +1.9
baz=281,SNR=6.0
GTA **Gaotai** 38.06 276 *eP* P 00 57 55.5 +0.6
GTA pP P 00 58 00.4 +5.5
GTA sP P 00 58 03.8 +8.9
GTA pmax pmax
comp=Z,7.0nm,1.0s
BVCY **Beaver Creek** 38.21 44 P P 00 57 57.3 +1.6
baz=282
CTG **Chitna Glacier** 38.29 46 P P 00 57 58.2 +1.7
baz=283
CTGM **Chitina Glacie** 38.30 46 P P 00 57 58.3 +1.7
CTGM IAmb IAmb 00 57 59.0
comp=Z,9.4nm,0.7s
YUK3 **Moose Creek** 38.53 45 P P 00 57 59.7 +1.2
baz=283
DAWY **Dawson** 38.55 41 P P 00 57 59.8 +1.2
baz=281
I29M **Ogilvie Camp,** 38.78 39 P P 00 58 01.5 +1.1
baz=280,SNR=13
PINM **Pinnacle** 39.02 47 P P 00 58 04.1 +1.6
baz=285
YUK4 **Talbot Arm** 39.48 45 P P 00 58 07.8 +1.4
baz=285
YUK6 **Outpost Mounta** 39.71 46 P P 00 58 09.9 +1.6
baz=285
M30M **Minto, Yukon** 40.02 43 P P 00 58 12.3 +1.8
baz=285
INK **Inuvik** 40.14 34 P P 00 58 12.6 +1.2
comp=Z,3.9nm,0.5s,baz=281,slow=5.9,SNR=24
INK **Inuvik** 40.14 34 P P 00 58 12.5 +1.2
INK pmax pmax
comp=Z,6.0nm,1.1s
INK **Inuvik** 40.14 34 P P 00 58 12.5 +1.2
INK **Inuvik** 40.14 34 P P 00 58 12.6 +1.2
baz=281,SNR=7.3
HYT **Haines Junctio** 40.15 46 P P 00 58 14.1 +2.3
HYT **Haines Junctio** 40.15 46 P P 00 58 13.9 +2.1
baz=286,SNR=6.0
N31M **Braeburn, Yuko** 40.77 44 P P 00 58 19.2 +2.5
N31M **Braeburn, Yuko** 40.77 44 P P 00 58 19.0 +2.3
baz=287
ZAA0 **Zalesovo Array** 40.84 303 P P 00 58 16.9 -0.4
ZALV **Zalesovo Beam** 40.84 303 P P 00 58 17.0 -0.3
comp=Z,1.3nm,0.3s,baz=56,slow=7.2,SNR=9.7
ZALV PcP PcP 01 00 13.3 +0.5
comp=Z,1.0nm,0.3s,baz=69,slow=2.2,SNR=9.6
ZALV **Zalesovo Beam** 40.84 303 P P 00 58 17.2 -0.1
ZALV **Zalesovo Beam** 40.84 303 P P 00 58 17.2 -0.1
M31M **Drury Creek, Y** 41.20 43 P P 00 58 22.3 +2.1
baz=287
WHY **Whitehorse** 41.43 45 P P 00 58 24.2 +2.1
baz=288
FARO **Faro, Yukon** 41.66 43 P P 00 58 25.6 +1.7
baz=288
A36M **Sachs Harbour** 42.16 27 P P 00 58 28.8 +1.1
A36M **Sachs Harbour** 42.16 27 P P 00 58 29.0 +1.3
baz=284,SNR=43
MMPY **Sheldon Lake,** 42.46 42 P P 00 58 32.5 +2.1
baz=289,SNR=6.0
GOMU **GeErMu** 43.14 275 P P 00 58 35.3 -1.2
GOMU pP P 00 58 39.9 +3.4
GOMU sP P 00 58 41.1 +4.6
GOMU pmax pmax
comp=Z,10.0nm,0.8s
GOMU pmax pmax
comp=Z,83nm,5.2s
C36M **Paulatuk** 43.23 31 P P 00 58 37.4 +1.0
C36M **Paulatuk** 43.23 31 P P 00 58 37.3 +1.0
baz=287,SNR=28
WMQ **Urumqi** 43.58 289 *eP* P 00 58 41.8 +2.2
WMQ pmax pmax
comp=Z,19nm,0.7s
MK31 **Makanchi Array** 45.40 295 *c iP* P 00 58 53.5 -0.3
MK31 **Makanchi Array** 45.40 295 P P 00 58 53.8 -0.1
MKAR **Makanchi Array** 45.40 295 P P 00 58 53.5 -0.3
comp=Z,6.4nm,0.8s,baz=65,slow=7.7,SNR=47
MKAR PcP PcP 01 00 29.1 +0.6
comp=Z,1.3nm,0.4s,baz=63,slow=4.4,SNR=9.3
MAKZ **Makanchi** 45.58 295 P P 00 58 55.3 0.0
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
MAKZ **Makanchi** 45.58 295 P P 00 58 55.3 0.0
WRGLY **Wrigley** 45.58 39 P P 00 58 55.9 +1.0
baz=294
KURK **Kurchatov** 45.64 301 *d iP* P 00 58 54.9 -0.7
KURK pmax pmax
comp=Z,9.0nm,0.6s
KURK **Kurchatov** 45.64 301 P P 00 58 55.5 -0.1
KURK IAmb IAmb 00 58 56.1
comp=Z,11nm,0.6s
KURK **Kurchatov** 45.64 301 *eP* P 00 58 54.9 -0.7
KURBB **Kurchatov Arra** 45.74 301 P P 00 58 56.2 -0.1
comp=Z,8.2nm,0.6s,baz=69,slow=8.4,SNR=53
KURBB PcP PcP 01 00 29.2 -0.3
comp=Z,1.4nm,0.6s,baz=65,slow=3.4,SNR=8.9
KURBB **Kurchatov Arra** 45.74 301 P P 00 58 55.8 -0.5
GRNB **Grenville Isla** 46.53 53 P P 00 59 05.1 +2.6
GRNB IAmb IAmb 00 59 05.8
comp=Z,13nm,0.7s
PDGK **Podgornoye** 48.90 292 P P 00 59 20.9 -0.1
RES **Resolute Bay** 48.94 19 P P 00 59 20.7 +0.1
RES pmax pmax
comp=Z,6.0nm,1.1s
RES **Resolute Bay** 48.94 19 P P 00 59 20.7 +0.1
BRVK **Borovoye** 49.03 308 *deP* P 00 59 21.2 -0.4
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK **Borovoye** 49.03 308 P P 00 59 21.3 -0.2
BRVK IAmb IAmb 00 59 22.0
comp=Z,6.0nm,0.6s
BRVK **Borovoye** 49.03 308 *eP* P 00 59 21.2 -0.4
YKA **Yellowknife Ar** 49.54 38 P P 00 59 26.4 +1.2
comp=Z,6.0nm,0.5s,baz=300,slow=7.2,SNR=48
YKA **Yellowknife Ar** 49.54 38 *i P* P 00 59 26.3 +1.0
YKA pmax pmax
comp=Z,6.0nm,0.5s
YKA **Yellowknife Ar** 49.54 38 P P 00 59 26.6 +1.3
SPITS **Spitsbergen Ar** 50.32 349 P P 00 59 29.2 -1.8
comp=Z,3.4nm,0.7s,baz=78,slow=7.8,SNR=8.5
OTUK **Ortayu** 50.42 301 P P 00 59 32.0 -0.2
KDJ **Kajisay** 50.98 292 P P 00 59 36.8 +0.2
KDJ pmax pmax
comp=Z,5.0nm,0.6s
KDJ **Kajisay** 50.98 292 P P 00 59 36.8 +0.2
KDJ IAmb IAmb 00 59 37.6
comp=Z,5.4nm,0.6s
BOOM **Boomskoye usch** 51.53 293 P P 00 59 40.8 +0.1
BOOM pmax pmax
comp=Z,11nm,1.2s
BOOM **Boomskoye usch** 51.53 293 P P 00 59 40.8 +0.1
BOOM IAmb IAmb 00 59 42.0
comp=Z,11nm,1.2s
CHTO **Chiang Mai** 52.07 254 P P 00 59 45.5 +0.8
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO **Chiang Mai** 52.07 254 P P 00 59 45.5 +0.8
AAK **Ala-Archa** 52.32 294 *deP* P 00 59 46.2 -0.2
AAK pmax pmax
comp=Z,5.0nm,0.7s
AAK **Ala-Archa** 52.32 294 P P 00 59 46.7 +0.3
AAK IAmb IAmb 00 59 47.8
comp=Z,5.5nm,0.8s
AAK **Ala-Archa** 52.32 294 *eP* P 00 59 46.2 -0.2
CMAR **Chiang Mai Arr** 52.33 254 P P 00 59 47.8 +1.1
comp=Z,0.7nm,0.4s,baz=37,slow=7.8,SNR=5.5
ARU **Arti** 52.97 316 P P 00 59 50.0 -0.7
comp=Z,1.4nm,0.4s,baz=71,slow=6.3,SNR=6.3
ARU **Arti** 52.97 316 *c iP* P 00 59 49.7 -1.0
ARU *PP pP 01 00 42.4 -2.2
ARU 01 00 55.1
ARU 01 01 49.0
ARU S S 01 07 01.2 +1.2
ARU SS SS 01 10 42.4 +0.4
ARU pmax pmax
comp=Z,11nm,1.8s
ARU **Arti** 52.97 316 P P 00 59 49.7 -1.0
ARU **Arti** 52.97 316 *eP* P 00 59 49.7 -1.0
NLWA **Neilton Lookou** 53.20 58 P P 00 59 54.8 +2.2
NLWA IAmb IAmb 00 59 55.7
comp=Z,7.8nm,1.1s
KSH **Kashi** 53.26 290 P P 00 59 57.5 +4.2
KSH pmax pmax
comp=Z,4.0nm,0.6s
JIRN **Jiri** 54.19 272 *eP* P 01 00 00.5 +0.1
GUN **Gumba** 54.22 273 *eP* P 01 00 00.6 -0.1
comp=Z,20nm,0.5s
RAMN **Ramite** 54.39 271 *eP* P 01 00 01.4 -0.4
comp=Z,20nm,0.4s
KK31 **Karatay Array** 54.41 297 *i P* P 01 00 01.0 -0.4
KK31 **Karatay Array** 54.41 297 P P 01 00 01.2 -0.2
KKAR **Karatay Array** 54.41 297 P P 01 00 00.6 -0.8
KKAR **Karatay Array** 54.41 297 P P 01 00 00.6 -0.8
KKN **Kakani** 54.70 273 *eP* P 01 00 04.2 +0.3
comp=Z,15nm,0.5s
PKI **Pulchoki** 54.76 273 *eP* P 01 00 04.1 -0.4
comp=Z,9.1nm,0.5s
PKIN **Phulchoki** 54.76 273 *eP* P 01 00 04.6 +0.1
comp=Z,9.3nm,0.5s
DMN **Daman** 54.93 273 *eP* P 01 00 06.2 +0.5
GKN **Gorkha** 54.98 274 *eP* P 01 00 05.6 -0.3
comp=Z,17nm,0.3s
DANN **Dangsing** 55.32 275 *eP* P 01 00 09.0 +0.5
comp=Z,38nm,0.5s
ARCES **ARCESS Array B** 55.55 340 P P 01 00 07.6 -1.5
comp=Z,0.6nm,0.3s,baz=39,slow=7.5,SNR=17
ARCES **ARCESS Array B** 55.55 340 P P 01 00 08.2 -0.9
ARCES pmax pmax
comp=Z,21nm,1.5s
ARCES **ARCESS Array B** 55.55 340 P P 01 00 08.2 -0.9
ARCES IAmb IAmb 01 00 31.2
comp=Z,21nm,1.4s
I03D **Drain, OR** 55.68 61 P P 01 00 12.9 +2.5
baz=308
KOLN **Koldanda** 55.82 274 *eP* P 01 00 12.2 +0.3
comp=Z,5.2nm,0.3s
PYUN **Piuthan** 56.00 275 *eP* P 01 00 13.2 +0.1
BTK **Batken** 56.08 294 P P 01 00 12.9 -0.5
BTK pmax pmax
comp=Z,11nm,0.7s
BTK **Batken** 56.08 294 P P 01 00 12.9 -0.5
NEW **Newport** 56.34 53 P P 01 00 17.2 +2.1
baz=308
I05D **Terrebonne, OR** 56.44 59 P P 01 00 18.1 +2.3
baz=308
AB31 **Akbulak array** 56.54 308 *i P* P 01 00 15.8 -0.6
ABKAR **Akbulak array** 56.54 308 P P 01 00 15.7 -0.7
GAR **Garm** 57.04 293 P P 01 00 19.2 -1.0
J05D **Fort Rock, OR** 57.15 60 P P 01 00 23.6 +2.7
baz=309
L04D **Klamath Falls** 57.19 62 P P 01 00 24.1 +2.8
baz=309
M02C **Callahan** 57.39 63 P P 01 00 25.3 +2.7
baz=309
WALA **Waterton Lakes** 57.52 51 P P 01 00 24.3 +0.8
WALA IAmb IAmb 01 00 25.3
comp=Z,4.1nm,0.6s
M04C **Macdoel** 57.74 62 P P 01 00 28.0 +2.9
baz=309
N02D **Trinity Center** 57.74 63 P P 01 00 27.7 +2.7
baz=309
CHGR **Chuyangaron** 57.96 294 P P 01 00 25.9 -0.7
O03E **Paynes Creek** 58.70 63 P P 01 00 33.2 +1.6
O03E IAmb IAmb 01 00 34.2
comp=Z,5.1nm,1.0s
O03E **Paynes Creek** 58.70 63 P P 01 00 33.3 +1.6
baz=310
MSO **Missoula** 58.92 53 P P 01 00 34.6 +1.5
baz=310
FFC **Flin Flon** 59.45 40 P P 01 00 37.4 +0.9
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC **Flin Flon** 59.45 40 P P 01 00 37.4 +0.9
FFC IAmb IAmb 01 00 38.6
comp=Z,5.5nm,0.8s
HRY **Holter Researc** 60.10 52 P P 01 00 43.0 +1.8
EGMT **Eagleton** 60.30 50 P P 01 00 44.2 +1.7
baz=312
LRM **Limekiln Ridge** 60.36 53 P P 01 00 44.8 +1.7
PAHR **Pah Rah Range** 60.50 62 P P 01 00 45.7 +1.7
KBL **Kabul** 60.69 290 P P 01 00 44.0 -1.4
KBL pmax pmax
comp=Z,6.0nm,0.7s
KBL **Kabul** 60.69 290 P P 01 00 44.0 -1.4
KBL IAmb IAmb 01 00 45.4
comp=Z,6.0nm,0.7s
PNTR **Pine Nut** 60.78 63 P P 01 00 48.0 +2.0
PNTR IAmb IAmb 01 00 49.1
comp=Z,3.6nm,0.8s
HLID **Hailey** 60.79 56 P P 01 00 47.9 +2.0
baz=312
BOZ **Bozeman (W)** 60.94 53 P P 01 00 48.0 +1.1
BOZ pmax pmax
comp=Z,4.0nm,0.7s
BOZ **Bozeman (W)** 60.94 53 P P 01 00 48.0 +1.1
BOZ IAmb IAmb 01 00 49.6
comp=Z,3.7nm,0.7s
BOZ **Bozeman (W)** 60.94 53 P P 01 00 49.0 +2.1
baz=312
CMB **Columbia Colle** 61.00 64 P P 01 00 49.0 +1.7
CMB pmax pmax
comp=Z,2.0nm,0.9s
CMB **Columbia Colle** 61.00 64 P P 01 00 49.0 +1.7
YHL **Hebgen Lake** 61.68 53 P P 01 00 53.0 +1.1
FINES **FINESS Array B** 61.77 334 P P 01 00 50.7 -1.2
comp=Z,3.1nm,0.4s,baz=33,slow=7.9,SNR=62
GCMT **Greycliff** 61.84 52 P P 01 00 54.9 +2.0
YHH **Holmes Hill** 61.89 53 P P 01 00 54.9 +1.5
NVAR **Mina Array Bea** 61.97 63 P P 01 00 56.0 +2.1
comp=Z,2.1nm,0.8s,baz=293,slow=6.9,SNR=17
NVAR **Mina Array Bea** 61.97 63 P P 01 00 56.0 +2.1
H17A **Grant Village** 62.30 53 P P 01 00 58.7 +2.6
H17A **Grant Village** 62.30 53 P P 01 00 58.6 +2.5
baz=313
RLMT **Red Lodge** 62.50 52 P P 01 00 59.4 +2.1
baz=313
TPAW **Teton Pass** 62.72 54 P P 01 01 01.4 +2.6
TPAW IAmb IAmb 01 01 02.4
comp=Z,3.1nm,0.8s
DGMT **Dagmar** 62.74 47 P P 01 01 00.1 +1.5
baz=314
LAO **LASA Array** 62.98 49 P P 01 01 02.5 +2.3
baz=314
FRB **Frobisher Bay** 63.16 19 P P 01 01 00.2 -0.8
FRB pmax pmax
comp=Z,16nm,0.7s
CWC **Cottonwood Cre** 63.44 64 P P 01 01 05.6 +2.1
baz=313
GRAC **Grapevine Rang** 63.48 63 P P 01 01 05.9 +2.3
baz=313
R11A **Troy Canyon, C** 63.61 61 P P 01 01 06.0 +1.3
R11A **Troy Canyon, C** 63.61 61 P P 01 01 06.5 +1.9
baz=313
ISA **Isabella, Lake** 63.73 65 P P 01 01 06.4 +1.0
baz=313
SBC **Santa Barbara** 63.81 67 P P 01 01 06.7 +1.0
baz=313
DUG **Dugway, Tooele** 63.93 58 P P 01 01 09.2 +2.5
DUG pmax pmax
comp=Z,5.0nm,1.5s
DUG **Dugway, Tooele** 63.93 58 P P 01 01 08.8 +2.1
baz=313
BW06 **Boulder Array** 63.95 54 P P 01 01 08.5 +1.6
baz=314
PD31 **Pinedale Array** 63.95 54 P P 01 01 07.8 +0.9
PD31 IAmb IAmb 01 01 09.3
comp=Z,3.0nm,0.8s
PDAR **Pinedale Array** 63.95 54 P P 01 01 08.3 +1.4
comp=Z,3.1nm,0.8s,baz=313,slow=1.1,SNR=41
MPMC **Manual Prospec** 64.05 64 P P 01 01 09.3 +1.8
baz=313
FURC **Furnace Creek,** 64.14 64 P P 01 01 10.2 +2.3
baz=313
TPNV **Topopah Spring** 64.17 63 P P 01 01 10.4 +2.1
baz=313
PSI **Prapat** 64.51 242 P P 01 01 11.7 +1.0
comp=Z,2.3nm,0.4s,baz=15,slow=4.8,SNR=4.6
EDW2 **Edwards Air Fo** 64.55 66 P P 01 01 12.7 +2.1

baz=314
RPSI Rantau Prapat 64.60 242 P P 01 01 11.7 +0.6
GEYT Alibeck 64.95 299 P P 01 01 12.9 -0.2
comp=Z,3.0nm,0.6s,baz=39,slow=9.6,SNR=6.2
GEYT Alibeck 64.95 299 P P 01 01 14.2 +1.0
GEYT IAmb IAmb 01 01 14.4
comp=Z,2.7nm,0.7s
GSC Goldstone, Bar 64.97 65 P P 01 01 14.5 +1.1
baz=314
TUQ Turquoise Moun 65.40 64 P P 01 01 18.1 +1.9
baz=314
RDMU Red Mountain 65.47 56 P P 01 01 18.4 +1.7
RDMU IAmb IAmb 01 01 19.6
comp=Z,5.5nm,0.8s
RSSD Black Hills 65.88 50 P P 01 01 20.0 +0.8
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 65.88 50 P P 01 01 20.0 +0.8
RSSD IAmb IAmb 01 01 21.2
comp=Z,3.5nm,0.7s
RSSD Black Hills 65.88 50 P P 01 01 20.4 +1.1
baz=316
NB2 NORSAR Subarra 65.93 340 P P 01 01 18.0 -1.0
comp=Z,0.1nm,0.3s,baz=26,slow=6.9
NOA NORSAR Array B 65.93 340 P P 01 01 18.4 -0.7
comp=Z,0.8nm,0.8s,baz=30,slow=6.7,SNR=9.0
GMRC Granite Mounta 66.00 64 P P 01 01 20.7 +0.6
baz=314
NORES NORESS Array B 66.13 340 P P 01 01 19.2 -1.0
O20A White River Ci 66.50 56 P P 01 01 25.1 +2.0
baz=315
AGMN Agassiz Nation 66.72 42 P P 01 01 24.6 +0.4
baz=319
IRM Iron Mountain 66.74 64 P P 01 01 26.7 +2.0
baz=315
MONP2 Monument Peak 66.86 66 P P 01 01 27.3 +1.7
baz=315
PV13 Radium Mtn., P 67.58 57 P P 01 01 31.7 +1.7
PV13 IAmb IAmb 01 01 32.6
comp=Z,4.1nm,0.6s
ISCO Idaho Springs 68.15 54 P P 01 01 35.6 +1.9
baz=316
MVCO Mesa Verde 68.43 58 P P 01 01 36.9 +1.5
baz=316
S22A 4UR Ranch, Cre 68.97 56 P P 01 01 40.8 +2.1
baz=316
OGNE Ogallala 69.20 51 P P 01 01 41.2 +1.4
baz=318
AKASG Malin Array Be 69.36 325 P P 01 01 38.7 -1.8
comp=Z,0.7nm,0.4s,baz=31,slow=6.2,SNR=1.9
SDCO Great Sand Dun 69.70 56 P P 01 01 44.8 +1.7
baz=317
ECSD EROS Data Cent 69.80 46 P P 01 01 43.2 -0.1
ECSD EROS Data Cent 69.80 46 P P 01 01 44.1 +0.8
baz=320
WRAB Tennant Creek 70.41 198 eP P 01 01 48.5 +1.4
WRAB pmax pmax
comp=Z,18nm,2.5s
WRA Warramunga Arr 70.42 198 P P 01 01 48.5 +1.3
comp=Z,1.6nm,0.7s,baz=20,slow=6.8,SNR=19
WRA Warramunga Arr 70.42 198 P P 01 01 47.8 +0.6
WRA Warramunga Arr 70.42 198 P P 01 01 47.8 +0.6
ANMO Albuquerque 71.20 58 P P 01 01 53.0 +0.8
baz=317
SCHQ Schefferville 71.51 23 P P 01 01 53.7 +0.3
comp=Z,1.8nm,0.4s,baz=324,slow=5.2,SNR=16
JFWS Jewell Farm 73.37 43 P P 01 02 05.5 +0.9
baz=323
AMTX Amarillo 73.88 55 P P 01 02 09.0 +1.2
baz=319
ASAR Alice Springs 74.12 197 P P 01 02 11.2 +2.2
comp=Z,1.4nm,0.4s,baz=12,slow=5.4,SNR=10
ASAR Alice Springs 74.12 197 P P 01 02 10.9 +1.9
ASAR Alice Springs 74.12 197 P P 01 02 10.8 +1.9
MNTX Cornudas Mount 74.20 60 P P 01 02 11.1 +1.5
baz=318
CCM Cathedral Cave 76.77 46 P P 01 02 24.4 +0.4
baz=323
TX31 Lajitas Ar. Si 76.94 60 P P 01 02 26.1 +0.9
TX31 IAmb IAmb 01 02 41.2
comp=Z,8.3nm,1.4s
TX32 Lajitas Array 76.95 60 P P 01 02 26.4 +1.1
TXAR Lajitas Array 76.95 60 P P 01 02 26.9 +1.6
comp=Z,0.9nm,0.6s,baz=298,slow=5.1,SNR=6.7
TXAR pP **pP 01 03 22.4 -0.7**
comp=Z,0.7nm,0.7s,baz=289,slow=3.8,SNR=2.2
TXAR Lajitas Array 76.95 60 P P 01 02 26.5 +1.3
TXAR Lajitas Array 76.95 60 P P 01 02 26.5 +1.3
U40A Yellville 77.33 49 P P 01 02 27.6 +0.5
baz=323
W39A Magazine 77.78 50 P P 01 02 30.1 +0.5
baz=322
MIAR Mount Ida 78.39 50 P P 01 02 33.8 +0.8
baz=322
W41B Gary Mavity, V 78.56 49 P P 01 02 34.7 +0.8
baz=323
WVT Waverly 79.93 45 P P 01 02 41.9 +0.6
baz=325

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*IDC **20** 00:52:54.0±0.9, 14°.54S×174°.27W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/28, mbtmp4.0/7, ML4.5/1, MS3.2/2, Ms1 3.3/2, ms1mx2.8/66, Error ellipse: s-maj=45.7km s-min=21.6km az=147.0*
*NOU **20** 00:53:20.1, 13°.52S×172°.35W, h58km, MLv2.9/4, Samoa Islands*
ISC 20 00:52:58.7±0.8, 14°.7S±0°.2×174°.1W±0°.1, h35km, n16, σ1s09/13, mb3.8/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.37**	**72**	Pn	**Pn**	**00 53 35.2**	**0.0**
	92nm,0.3s,baz=161,slow=1.0,SNR=43						
AFI				Sn	**Sn**	**00 54 01.8**	**-1.2**
	80nm,0.3s,baz=58,slow=19,SNR=6.3						
AFI				LR	LR	00 54 08.8	
	comp=Z,151nm,21.7s,baz=237,slow=30						
AFI	**Afiamalu**	**2.37**	**72**	P	**Pn**	**00 53 35.1**	**0.0**
URZ	**Urewera**	**24.77**	**197**	P	**P**	**00 58 17.6**	**+0.5**
	5.5nm,0.8s,baz=61,slow=4.4,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**37.98**	**330**	T	T	01 40 06.9	
	baz=148,slow=74,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**38.00**	**330**	T	T	01 39 32.7	
	baz=148,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**38.00**	**330**	T	T	01 40 08.0	
	baz=148,slow=74,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**38.94**	**331**	T	T	01 41 37.2	
	baz=152,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**38.94**	**331**	T	T	01 41 24.5	
	baz=152,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hy**	**38.95**	**331**	T	T	01 41 02.0	
	baz=152,slow=74,SNR=6.5						
STKA	**Stephens Creek**	**43.83**	**239**	P	**P**	**01 01 01.0**	**-0.6**
	1.3nm,0.7s,baz=98,slow=6.1,SNR=4.1						
WRA	**Warramunga Arr**	**49.36**	**256**	P	**P**	**01 01 43.1**	**-2.1**
	0.7nm,0.9s,baz=87,slow=7.3,SNR=4.0						
WRA				PcP	**PcP**	**01 03 08.2**	**+0.7**
	0.6nm,0.9s,baz=84,slow=3.5,SNR=2.5						
ASAR	**Alice Springs**	**49.71**	**251**	P	**P**	**01 01 47.2**	**-0.6**
	7.9nm,0.8s,baz=85,slow=8.5,SNR=63						
ASAR				PcP	**PcP**	**01 03 09.4**	**+0.8**
	0.6nm,0.6s,baz=79,slow=4.8,SNR=2.4						
ILAR	**Eielson Array**	**81.85**	**11**	P	**P**	**01 05 13.4**	**-0.5**
	0.3nm,0.6s,baz=206,slow=6.0,SNR=2.1						
ILAR				LR	LR	01 34 06.5	
	comp=Z,36nm,20.0s,baz=162,slow=30						
YKA	**Yellowknife Ar**	**89.69**	**24**	P	**P**	**01 05 54.1**	**+1.4**
	0.3nm,0.8s,baz=242,slow=4.0,SNR=3.3						
BRTR	**Keskin Array B**	**145.16**	**321**	PKP	**PKPdf**	**01 12 33.5**	**+0.5**
	2.4nm,0.8s,baz=90,slow=3.4,SNR=20						
KMBO	**Kilima Mbogo**	**145.24**	**246**	PKPbc	**PKPdf**	**01 12 35.4**	**+1.3**
	2.0nm,0.8s,baz=50,slow=4.1,SNR=6.3						

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*BJI **20** 01:05:38.8±0.0, 15°.94S×168°.32E, h179km, mb4.7/33, mB4.7/23*
*NEIC **20** 01:05:40.8±1.7, 16°.13S±0°.07×168°.03E±0°.09, h175km±5km, mb4.9/52, Error ellipse: s-maj=12.6km s-min=9.6km az=72.0*
*IDC **20** 01:05:40.4±0.7, 16°.13S×168°.03E, h176km±5km, mb4.2/20, mb1 4.3/21, mb1mx4.2/33, mbtmp4.7/21, MS3.5/8, Ms1 3.5/8, ms1mx3.0/62, Error ellipse: s-maj=12.3km s-min=9.6km az=91.0*
*NOU **20** 01:05:41.0, 16°.13S×168°.00E, h176km, mb5.0/63, Vanuatu Islands*
*GCMT **20** 01:05:42.8±0.4, 16°.15S±0°.02×167°.74E±0°.03, h183km±4km, MW4.9/79, Moment Tensor Solution. s16,c17; s79,c95; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.56±.11; Mθθ -1.24±.15; Mϕϕ -0.31±.13; Mrθ -1.79±.11; Mϕθ 1.25±.12; Mrϕ -0.56±.10; Best double couple: M0 2.65400×10^16 NP1: ϕs 152.00000°, δ36.00000°, λ143.00000°. NP2: ϕs 273.00000°, δ69.00000°, λ60.00000°. Principal axes: T 2.8030, Plg55.0000°, Azm144.0000°; N -0.2900, Plg28.0000°, Azm285.0000°; P -2.5060, Plg19.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 01:05:40.2±0.4, 16°.14S±0°.04×168°.00E±0°.05, h176km±3km, h175km: pP-P, n293, σ1s27/330, mb4.8/79, 36C-19D, Fault plane solution: NP1: ϕs 286.25089°, δ75.31481°, λ68.63601°. NP2: ϕs 163.30466°, δ25.72827°, λ144.26903°. Principal axes: T Plg54.7125°, Azm169.7693°; N Plg20.6337°, Azm291.9141°; P Plg27.2420°, Azm33.0926°; Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.03**	**312**		**Pn**	**01 06 07.9**	**+0.2**
SANVU				Sn	**Sn**	**01 06 29.5**	**+0.6**
SANVU	**Saraoutou**	**1.03**	**312**	P	**Pn**	**01 06 08.7**	**+1.0**
DVP	**Devils Point**	**1.59**	**174**	P	**Pn**	**01 06 13.8**	**+1.1**
RTV	**Rentapao**	**1.70**	**166**	P	**Pn**	**01 06 15.0**	**+1.2**
LIFNC	**LIFOU**	**4.67**	**189**	Pn	**Pn**	**01 06 49.8**	**-0.1**
LIFNC	**LIFOU**	**4.67**	**189**	P	**Pn**	**01 06 49.8**	**-0.1**
MARNC	**Mare, Loyalty**	**5.32**	**180**	Pn	**Pn**	**01 06 57.8**	**-0.5**
MARNC	**Mare, Loyalty**	**5.32**	**180**	P	**Pn**	**01 06 58.5**	**+0.3**
	34nm,0.6s						
KOUNC	**Koumac, New Ca**	**5.63**	**218**	Pn	**Pn**	**01 07 04.2**	**+1.9**
KOUNC	**Koumac, New Ca**	**5.63**	**218**	P	**Pn**	**01 07 04.6**	**+2.2**
	2um,0.9s						
YATNC	**Mamie plateau,**	**5.98**	**190**	P	**Pn**	**01 07 06.7**	**-0.3**
	400nm,0.8s						
DZM	**Mont Dzumac**	**6.08**	**194**	P	**Pn**	**01 07 09.1**	**+0.7**
	12nm,0.3s,baz=78,slow=6.7,SNR=78						
DZM				LR	LR	01 08 37.8	
	comp=Z,253nm,19.5s,baz=120,slow=29						
DZM	**Mont Dzumac**	**6.08**	**194**	Pn	**Pn**	**01 07 08.8**	**+0.4**
DZM	**Mont Dzumac**	**6.08**	**194**	P	**Pn**	**01 07 09.4**	**+1.0**
	266nm,0.8s						
NOUC	**Port Laguerre**	**6.15**	**195**	P	**Pn**	**01 07 10.3**	**+1.2**
	190nm,0.9s						
ONTNC	**Ouen Toro**	**6.31**	**193**	Pn	**Pn**	**01 07 12.3**	**+1.1**
ONTNC	**Ouen Toro**	**6.31**	**193**	P	**Pn**	**01 07 12.7**	**+1.4**
	374nm,1.0s						
OUENC	**Ouen Island, N**	**6.34**	**190**	Pn	**Pn**	**01 07 12.6**	**+0.9**
OUENC	**Ouen Island, N**	**6.34**	**190**	P	**Pn**	**01 07 13.0**	**+1.3**
	247nm,1.0s						
PINNC	**Pines Island,**	**6.46**	**185**	Pn	**Pn**	**01 07 14.1**	**+0.8**
PINNC	**Pines Island,**	**6.46**	**185**	P	**Pn**	**01 07 14.2**	**+0.9**
	827nm,1.0s						
MSVF	**Nonsavu**	**9.75**	**101**	P	**Pn**	**01 08 00.8**	**+4.1**
	1.7nm,0.3s,baz=270,slow=9.4,SNR=9.9						
MSVF				LR	LR	01 11 21.3	
	comp=Z,40nm,20.7s,baz=144,slow=35						
MSVF	**Nonsavu**	**9.75**	**101**		**Pn**	**01 07 58.0**	**+1.3**
HNR	**Honiara**	**10.30**	**309**	P	**Pn**	**01 08 08.1**	**+4.3**
	29nm,0.3s,baz=53,slow=0.9,SNR=6.2						
HNR	**Honiara**	**10.30**	**309**		**Pn**	**01 08 02.4**	**-1.5**
HNR	**Honiara**	**10.30**	**309**	P	**Pn**	**01 08 05.2**	**+1.4**
	334nm,0.7s						
TARA	**Tarawa**	**18.05**	**16**	P	**P**	**01 09 38.4**	**0.0**
TARA	**Tarawa**	**18.05**	**16**	P	**Pn**	**01 09 39.8**	**-0.5**
	176nm,0.9s						
EIDS	**Eidsvold**	**18.28**	**237**		**P**	**01 09 42.0**	**+1.2**
EIDS				IAmb	IAmb	01 09 43.3	
	comp=Z,17nm,0.5s						
EIDS	**Eidsvold**	**18.28**	**237**	P	**Pn**	**01 09 43.0**	**+0.1**
	comp=Z,25nm,1.0s						
OUZ	**Omahuta**	**19.65**	**166**	P	**P**	**01 09 55.8**	**+0.3**
OUZ				IAmb	IAmb	01 10 02.5	
	comp=Z,42nm,0.9s						
OUZ				PcP	**PcP**	**01 14 08.1**	**+0.8**
OUZ	**Omahuta**	**19.65**	**166**	P	**P**	**01 09 56.2**	**+0.7**
RMQ	**Roma**	**20.65**	**237**	P	**P**	**01 10 07.7**	**+1.4**
	comp=Z,34nm,0.7s						
ARMA	**Armidale**	**20.66**	**224**	P	**P**	**01 10 05.4**	**-1.1**
ARMA				IAmb	IAmb	01 10 10.5	
	comp=Z,38nm,1.4s						
ARMA				PcP	**PcP**	**01 14 10.7**	**+1.2**
ARMA	**Armidale**	**20.66**	**224**	P	**P**	**01 10 07.6**	**+1.1**
	comp=Z,21nm,0.9s						
CTA	**Charters Tower**	**21.03**	**256**	P	**P**	**01 10 11.5**	**+1.0**
	comp=Z,29nm,0.8s,baz=83,slow=10,SNR=21						
CTA	**Charters Tower**	**21.03**	**256**	P	**P**	**01 10 11.6**	**+1.0**
	comp=Z,51nm,0.8s						
CTAO	**Charters Tower**	**21.03**	**256**	P	**P**	**01 10 10.8**	**+0.3**
CTAO				IAmb	IAmb	01 10 13.8	
	comp=Z,33nm,0.8s						
PMG	**Port Moresby**	**21.39**	**286**	P	**P**	**01 10 16.2**	**+1.9**
	comp=Z,15nm,0.5s,baz=33,slow=4.0,SNR=4.1						
MKAZ	**Moumakai**	**21.83**	**164**	P	**P**	**01 10 19.3**	**+0.7**
TOZ	**Tahuroa Road**	**22.51**	**164**	P	**P**	**01 10 26.9**	**+1.8**
MTSU	**Mount Surprise**	**22.72**	**262**	P	**P**	**01 10 28.3**	**+0.9**
	comp=Z,46nm,0.9s						
MGCD	**Mangrove Creek**	**22.85**	**219**	P	**P**	**01 10 29.5**	**+1.2**
	comp=Z,73nm,0.7s						
TLZ	**Tolley Road**	**23.08**	**165**	P	**P**	**01 10 32.5**	**+2.0**
HIZ	**Hauiti**	**23.09**	**166**	P	**P**	**01 10 31.7**	**+1.2**
HIZ	**Hauiti**	**23.09**	**166**	P	**P**	**01 10 32.5**	**+2.0**
HAZ	**Te Kaha**	**23.20**	**160**	P	**P**	**01 10 32.7**	**+1.2**
MXZ	**Matakaoa Point**	**23.20**	**159**	P	**P**	**01 10 33.8**	**+2.2**
RUGZ	**Raukumara Rang**	**23.36**	**160**	P	**P**	**01 10 33.7**	**+0.6**
PKGZ	**Pakihiroa**	**23.42**	**160**	P	**P**	**01 10 34.5**	**+1.0**
SYDH	**Sydney Hard Ro**	**23.45**	**218**	P	**P**	**01 10 35.0**	**+1.2**
	comp=Z,29nm,0.9s						
URZ	**Urewera**	**23.45**	**162**	P	**P**	**01 10 34.6**	**+0.9**
	comp=Z,26nm,0.6s,baz=320,slow=3.6,SNR=24						
URZ				LR	LR	01 18 19.3	
	comp=Z,95nm,18.1s,baz=31,slow=32						
URZ	**Urewera**	**23.45**	**162**	P	**P**	**01 10 33.8**	**0.0**
URZ				IAmb	IAmb	01 10 36.8	
	comp=Z,38nm,0.7s						
URZ	**Urewera**	**23.45**	**162**	P	**P**	**01 10 34.9**	**+1.1**
URZ	**Urewera**	**23.45**	**162**	P	**P**	**01 10 34.9**	**+1.1**
	comp=Z,252nm,1.0s						
WMGZ	**Waiomatatini S**	**23.47**	**159**	P	**P**	**01 10 34.7**	**+0.8**
PUZ	**Puketiti**	**23.65**	**159**	P	**P**	**01 10 36.4**	**+0.9**
MWZ	**Matawai**	**23.65**	**161**	P	**P**	**01 10 36.6**	**+1.0**
TWGZ	**Tauwhareparae**	**23.65**	**160**	P	**P**	**01 10 36.6**	**+0.9**
NTVZ	**North Tongarir**	**23.84**	**165**	P	**P**	**01 10 39.5**	**+2.1**
NNVZ	**North Ngauruho**	**23.86**	**165**	P	**P**	**01 10 39.8**	**+2.1**
OTVZ	**Oturere**	**23.90**	**165**	P	**P**	**01 10 40.3**	**+2.3**
COEN	**Coen**	**24.07**	**272**	P	**P**	**01 10 39.9**	**+0.2**
COEN				IAmb	IAmb	01 10 42.9	
	comp=Z,14nm,0.8s						
COEN				PcP	**PcP**	**01 14 16.2**	**-0.3**
COEN	**Coen**	**24.07**	**272**	P	**P**	**01 10 40.3**	**+0.6**
	comp=Z,22nm,0.9s						
BKZ	**Black Stump Fm**	**24.12**	**164**	P	**P**	**01 10 40.1**	**+0.2**
BKZ				IAmb	IAmb	01 10 41.4	
	comp=Z,32nm,0.6s						
BKZ	**Black Stump Fm**	**24.12**	**164**	P	**P**	**01 10 40.5**	**+0.6**
BKZ	**Black Stump Fm**	**24.12**	**164**	P	**P**	**01 10 41.0**	**+1.1**
	comp=Z,243nm,0.6s						
QLP	**Quilpie**	**24.41**	**241**	P	**P**	**01 10 43.3**	**+0.7**
	comp=Z,113nm,0.7s						
QRZ	**Quartz Range**	**24.91**	**172**	P	**P**	**01 10 48.7**	**+1.7**
	comp=Z,52nm,1.2s						
CNB	**Canberra Magne**	**25.35**	**218**	P	**P**	**01 10 51.9**	**+0.8**
	comp=Z,23nm,1.1s						
CMSA	**Cobar Meteorol**	**25.45**	**229**	P	**P**	**01 10 52.2**	**+0.2**
BFZ	**Birch Farm**	**25.48**	**165**	P	**P**	**01 10 52.2**	**0.0**
	comp=Z,47nm,0.6s						
CAN	**Canberra**	**25.57**	**218**	P	**P**	**01 10 53.3**	**+0.2**
CAN	**Canberra**	**25.57**	**218**	P	**P**	**01 10 53.8**	**+0.7**
	comp=Z,11nm,1.1s						
TUWZ	**Tuamarina**	**25.72**	**170**	P	**P**	**01 10 54.1**	**-0.2**
QIS	**Mount Isa**	**27.29**	**256**	P	**P**	**01 11 09.9**	**+1.3**
	comp=Z,20nm,0.7s						
RPZ	**Rata Peaks**	**27.61**	**175**	P	**P**	**01 11 11.6**	**+0.3**
	comp=Z,31nm,0.6s,baz=295,slow=3.0,SNR=44						
RPZ	**Rata Peaks**	**27.61**	**175**	P	**P**	**01 11 11.5**	**+0.3**
RPZ				IAmb	IAmb	01 11 12.8	
	comp=Z,34nm,0.6s						
INKA	**Innaminka**	**27.73**	**241**	P	**P**	**01 11 13.5**	**+1.1**
	comp=Z,82nm,0.6s						
STKA	**Stephens Creek**	**28.65**	**232**	P	**P**	**01 11 21.1**	**+0.5**
	comp=Z,15nm,0.7s,baz=46,slow=7.7,SNR=39						
STKA				PcP	**PcP**	**01 14 27.3**	**+0.3**
	comp=Z,12nm,0.7s,baz=27,slow=1.8,SNR=14						
STKA				ScP	**ScP**	**01 17 52.4**	**+0.6**
	comp=Z,8.3nm,0.9s,baz=32,slow=3.9,SNR=13						
STKA				PKiKP	**PKiKP**	**01 21 59.5**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=325,slow=4.2,SNR=3.0						
STKA	**Stephens Creek**	**28.65**	**232**	P	**P**	**01 11 20.5**	**-0.1**
STKA				PcP	**PcP**	**01 14 27.1**	**+0.1**
STKA	**Stephens Creek**	**28.65**	**232**	P	**P**	**01 11 21.3**	**+0.7**
	comp=Z,5.3nm,1.4s						
TOO	**Toolangi**	**29.17**	**219**	P	**P**	**01 11 25.5**	**+0.4**
TOO	**Toolangi**	**29.17**	**219**	P	**P**	**01 11 26.4**	**+1.3**
	comp=Z,15nm,1.2s						
GLAD	**Gladstone**	**30.20**	**211**	P	**P**	**01 11 34.6**	**+0.4**
	comp=Z,28nm,0.8s						
LCRK	**Leigh Creek**	**30.73**	**237**	P	**P**	**01 11 39.2**	**+0.3**
	comp=Z,26nm,0.7s						
ARPS	**Mount Arapiles**	**30.98**	**223**	P	**P**	**01 11 42.1**	**+1.0**
	comp=Z,14nm,0.8s						
HTT	**Hallett**	**31.36**	**231**	P	**P**	**01 11 44.9**	**+0.4**
	comp=Z,15nm,1.6s						
NAPP	**Napperby**	**31.84**	**232**	P	**P**	**01 11 49.5**	**+0.8**
	comp=Z,14nm,1.0s						
TAU	**Tasmania Unive**	**32.01**	**209**	P	**P**	**01 11 49.9**	**0.0**
TAU				IAmb	IAmb	01 12 14.6	
	comp=Z,40nm,1.5s						
TAU				PcP	**PcP**	**01 14 36.6**	**+1.1**
WR0	**Warramunga Arr**	**32.01**	**258**	P	**P**	**01 11 48.5**	**-1.7**
WR0				PcP	**PcP**	**01 14 36.3**	**+0.3**
OOD	**Oodnadatta**	**32.03**	**243**	P	**P**	**01 11 51.2**	**+0.8**
	comp=Z,36nm,0.9s						
WB0	**Warramunga Arr**	**32.14**	**258**		**P**	**01 11 50.0**	**-1.5**
WB0				IAmb	IAmb	01 11 51.3	
	comp=Z,31nm,0.6s						
WB2	**Warramunga Arr**	**32.19**	**258**		**P**	**01 11 50.6**	**-1.2**
WB2				IAmb	IAmb	01 11 51.8	
	comp=Z,15nm,0.7s						
WB2				PcP	**PcP**	**01 14 36.8**	**+0.3**
WRAB	**Tennant Creek**	**32.19**	**258**	P	**P**	**01 11 50.8**	**-1.1**
WRAB				IAmb	IAmb	01 11 51.7	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**32.19**	**258**	P	**P**	**01 11 50.9**	**-0.9**
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**32.19**	**258**	P	**P**	**01 11 50.8**	**-1.1**
WRAB				pP	**pwP**	**01 12 31.4**	**-1.4**
WRAB				X		01 14 36.7	
WRAB				ScP	**ScP**	**01 18 04.8**	**+1.1**
WRA	**Warramunga Arr**	**32.20**	**258**	P	**P**	**01 11 51.1**	**-0.8**
	comp=Z,14nm,0.8s,baz=78,slow=5.9,SNR=190						
WRA				PcP	**PcP**	**01 14 36.5**	**0.0**
	comp=Z,4.2nm,0.6s,baz=90,slow=3.1,SNR=10						
WRA				S	**S**	**01 16 52.3**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=79,slow=14,SNR=5.7						
WRA				ScP	**ScP**	**01 18 03.8**	**0.0**
	comp=Z,4.7nm,0.8s,baz=86,slow=3.8,SNR=20						
WRA				PKiKP	**PKiKP**	**01 22 02.5**	**-1.7**
	comp=Z,1.2nm,0.8s,baz=348,slow=0.3,SNR=11						
WRA	**Warramunga Arr**	**32.20**	**258**	P	**P**	**01 11 50.2**	**-1.8**
WRA				PcP	**PcP**	**01 14 36.7**	**+0.2**
WHYH	**Whyalla**	**32.22**	**233**	P	**P**	**01 11 52.7**	**+0.8**
	comp=Z,36nm,0.7s						
TWOA	**Tennyson Woods**	**32.35**	**229**	P	**P**	**01 11 53.8**	**+0.8**
	comp=Z,22nm,0.6s						
AS31	**Alice Springs**	**32.86**	**251**	P	**P**	**01 11 57.1**	**-0.6**
ASAR	**Alice Springs**	**32.86**	**251**	P	**P**	**01 11 57.5**	**-0.3**
	comp=Z,114nm,0.5s,baz=76,slow=9.2,SNR=988						
ASAR				PcP	**PcP**	**01 14 38.0**	**-0.4**
	comp=Z,5.6nm,0.7s,baz=90,slow=3.1,SNR=12						
ASAR				S	**S**	**01 17 00.2**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=90,slow=16,SNR=4.8						
ASAR				ScP	**ScP**	**01 18 06.2**	**+0.2**
	comp=Z,7.6nm,0.8s,baz=97,slow=3.3,SNR=28						
ASAR				PKiKP	**PKiKP**	**01 22 02.6**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=112,slow=1.2,SNR=4.9						
ASAR				LR	LR	01 24 12.9	
	comp=Z,73nm,19.1s,baz=101,slow=34						
BBOO	**Buckleboo**	**33.30**	**234**	P	**P**	**01 12 01.4**	**0.0**
BBOO				IAmb	IAmb	01 12 02.3	
	comp=Z,27nm,0.7s						
BBOO	**Buckleboo**	**33.30**	**234**	P	**P**	**01 12 01.6**	**+0.2**
	comp=Z,41nm,0.9s						
MULG	**Mulgathing**	**34.08**	**240**	P	**P**	**01 12 08.2**	**+0.1**
	comp=Z,55nm,1.1s						
MTN	**Manton Dam**	**35.81**	**270**	P	**P**	**01 12 22.8**	**-0.3**
MTN				IAmb	IAmb	01 12 35.2	
	comp=Z,24nm,1.1s						
MTN				PcP	**PcP**	**01 14 47.4**	**+0.5**
FAKI	**Fak Fak**	**37.54**	**287**	P	**P**	**01 12 37.1**	**-0.6**
KNRA	**Kununurra**	**37.70**	**265**	P	**P**	**01 12 37.1**	**-1.9**
KNRA	**Kununurra**	**37.70**	**265**	P	**P**	**01 12 38.8**	**-0.3**
	comp=Z,63nm,0.8s						
WRKA	**Warakurna**	**38.09**	**250**	P	**P**	**01 12 42.1**	**-0.3**
	comp=Z,46nm,1.4s						
FORT	**Forrest**	**39.21**	**241**	P	**P**	**01 12 50.9**	**-0.6**
FORT				PcP	**PcP**	**01 14 57.0**	**-0.2**
FORT	**Forrest**	**39.21**	**241**	P	**P**	**01 12 51.8**	**+0.3**
	comp=Z,86nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.47**	**261**	P	**P**	**01 13 01.5**	**-0.5**
SANI	**Sanana**	**43.66**	**284**	P	**P**	**01 13 28.4**	**+0.5**
	comp=Z,15nm,0.6s						
SANI	**Sanana**	**43.66**	**284**	P	**P**	**01 13 29.0**	**+1.1**
	comp=Z,15nm,0.6s						
PSA00	**Pilbara Seismi**	**45.75**	**255**	P	**P**	**01 13 43.9**	**-0.5**
PSA00				IAmb	IAmb	01 13 46.1	
	comp=Z,21nm,0.7s						
PSA00	**Pilbara Seismi**	**45.75**	**255**	P	**P**	**01 13 43.7**	**-0.7**
PSA00				IAmb	IAmb	01 13 46.0	
	comp=Z,49nm,0.6s						
PSA00	**Pilbara Seismi**	**45.75**	**255**	P	**P**	**01 13 44.8**	**+0.4**
	comp=Z,86nm,0.7s						
MBWA	**Marble Bar**	**45.87**	**256**	P	**P**	**01 13 45.8**	**+0.4**
MEEK	**Meekatharra**	**46.91**	**248**	P	**P**	**01 13 53.6**	**+0.2**
	comp=Z,75nm,0.8s						
KLBR	**Kellerberrin**	**48.05**	**242**	P	**P**	**01 14 01.5**	**-0.6**
	comp=Z,37nm,0.6s						
KAPI	**Kappang**	**48.58**	**278**	P	**P**	**01 14 05.7**	**-0.6**
KAPI				IAmb	IAmb	01 14 07.

VNDA	**Vanda**	**61.48**	**182**	P	**P**	**01 15 38.4**	**+0.5**
VNDA				IAmb	IAmb	01 15 40.2	
	comp=Z,10nm,0.8s						
VNDA				PcP	**pP**	**01 16 19.0**	**+1.0**
CGJI	**Cibinong**	**61.62**	**271**	P	**P**	**01 15 38.9**	**-0.9**
SBA	**Scott Base**	**61.74**	**180**	P	**P**	**01 15 40.6**	**+1.1**
SBA				PcP	**pP**	**01 16 20.5**	**+0.8**
SBA	**Scott Base**	**61.74**	**180**	P	**P**	**01 15 41.4**	**+1.9**
SBA				pP	**pP**	**01 16 20.4**	**+0.8**
CASY	**Casey**	**62.50**	**203**	P	**P**	**01 15 44.5**	**-0.2**
CASY				IAmb	IAmb	01 15 46.1	
	comp=Z,29nm,1.0s						
CASY	**Casey**	**62.50**	**203**	P	**P**	**01 15 44.8**	**0.0**
MDSI	**Maura Dua**	**63.63**	**273**	P	**P**	**01 15 52.4**	**-0.7**
CCD	**Concordia, Ant**	**63.67**	**192**	P	**P**	**01 15 53.1**	**+0.3**
JKA	**Kamikawa-asahi**	**64.30**	**340**	P	**P**	**01 15 58.6**	**+1.9**
JKA				IAmb	IAmb	01 15 59.0	
	comp=Z,12nm,0.7s						
ASAJ	**Asahikawa**	**64.30**	**340**	P	**P**	**01 15 57.1**	**+0.3**
	comp=Z,10nm,0.7s,baz=205,slow=5.4,SNR=6.3						
KSRS	**Korea Array**	**65.29**	**326**	P	**P**	**01 16 04.2**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=140,slow=6.3,SNR=5.6						
NJ2	**Nanjing**	**67.17**	**316**	*e*P	**P**	**01 16 18.1**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**68.45**	**333**	P	**P**	**01 16 24.5**	**+1.3**
	comp=Z,3.9nm,0.7s,baz=165,slow=7.9,SNR=7.7						
USRK	**Ussuriysk Ar.**	**68.45**	**333**	P	**P**	**01 16 23.7**	**+0.5**
MDJ	**Mudanjiang**	**69.85**	**332**	P	**P**	**01 16 32.4**	**+0.6**
MDJ				IAmb	IAmb	01 16 33.8	
	comp=Z,19nm,0.9s						
MDJ	**Mudanjiang**	**69.85**	**332**	P	**P**	**01 16 33.3**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,27nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,97nm,5.5s						
MDJ	**Mudanjiang**	**69.85**	**332**	P	**P**	**01 16 33.1**	**+1.3**
PSI	**Prapat**	**70.77**	**279**	LR	LR	01 49 20.5	
	comp=Z,78nm,18.0s,baz=202,slow=37						
CN2	**Changchun**	**71.21**	**329**	*e*P	**P**	**01 16 40.9**	**+0.9**
GYA	**Guiyang**	**73.09**	**305**	⇑P	**P**	**01 16 52.8**	**+1.0**
GYA				pmax	pmax		
	comp=Z,11nm,0.8s						
HNS	**HongShan**	**73.11**	**318**	⇓P	**P**	**01 16 52.8**	**+1.3**
HNS				pmax	pmax		
	comp=Z,12nm,0.9s						
BJI	**Beijing**	**73.80**	**321**	P	**P**	**01 16 56.3**	**+0.9**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
QSPA	**South Pole Qui**	**73.90**	**180**	P	**P**	**01 16 56.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**76.16**	**294**	P	**P**	**01 17 10.9**	**+1.4**
	comp=Z,3.2nm,0.6s,baz=131,slow=4.3,SNR=14						
CMAR	**Chiang Mai Arr**	**76.16**	**294**	P	**P**	**01 17 10.2**	**+0.7**
XLT	**XiLinHaoTe**	**76.25**	**324**	*e*P	**P**	**01 17 10.5**	**+1.0**
XLT				PcP	**PcP**	**01 17 18.9**	**-1.8**
XLT				pP	pwP	01 17 57.4	+3.4
XLT				sP	sP	01 18 13.4	+3.4
XLT				S	**S**	**01 26 37.3**	**-2.2**
XLT				sS	sS	01 27 53.9	+1.5
XLT				pmax	pmax		
	comp=Z,17nm,1.0s						
XLT				pmax	pmax		
	comp=Z,140nm,6.1s						
CHTO	**Chiang Mai**	**76.30**	**294**	P	**P**	**01 17 09.2**	**-1.0**
PZH	**PanZhiHua**	**77.05**	**303**	P	**P**	**01 17 14.6**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,6.8s						
HHC	**Hu-ho-hao-te**	**77.11**	**320**	*e*P	**P**	**01 17 16.6**	**+2.2**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,6.1s						
HHC				LR	LR		
	comp=Z,140nm,15.2s						
HHC				LR	LR		
	comp=Z,180nm,14.8s						
HHC				LR	LR		
	comp=Z,190nm,16.5s						
CD2	**Chengdu**	**77.42**	**308**	P	**P**	**01 17 17.6**	**+1.3**
CD2				S	**S**	**01 26 54.5**	**+1.9**
CD2				sS	sS	01 28 08.0	+2.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.6s						
CD2				LR	LR		
	comp=Z,30nm,10.9s						
CD2				LR	LR		
	comp=Z,290nm,11.7s						
CD2				LR	LR		
	comp=Z,310nm,12.9s						
SEY	**Seymchan**	**79.76**	**353**	P	**P**	**01 17 28.2**	**0.0**
	comp=Z,1.0nm,0.3s,baz=154,slow=5.5,SNR=7.8						
MAW	**Mawson**	**80.85**	**202**	P	**P**	**01 17 34.7**	**+0.5**
	comp=Z,13nm,0.9s,baz=105,slow=6.7,SNR=13						
MAW	**Mawson**	**80.85**	**202**	P	**P**	**01 17 34.6**	**+0.4**
PAF	**Port-aux-Franc**	**82.89**	**221**	P	**P**	**01 17 46.4**	**+1.2**
ULN	**Ulaanbaatar**	**83.68**	**324**	P	**P**	**01 17 50.3**	**+1.0**
SONM	**Songino Array**	**84.04**	**323**	P	**P**	**01 17 52.0**	**+0.8**
	comp=Z,4.7nm,0.8s,baz=141,slow=5.2,SNR=27						
SONM				pP	**pP**	**01 18 33.1**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=37,slow=12,SNR=2.0						
SONM	**Songino Array**	**84.04**	**323**	P	**P**	**01 17 51.4**	**+0.3**
GTA	**Gaotai**	**84.14**	**314**	*e*P	**P**	**01 17 53.1**	**+1.2**
GTA				pP	pwP	01 18 38.9	+1.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BELA	**Belgrano 2**	**85.27**	**175**	P	**P**	**01 17 56.0**	**-0.8**
YBH	**Yreka Blue Hor**	**85.92**	**45**	LR	LR	01 50 59.8	
	comp=Z,35nm,18.6s,baz=222,slow=32						
RND	**Reindeer**	**86.05**	**18**	P	**P**	**01 18 00.7**	**0.0**
GOMU	**GeErMu**	**86.42**	**309**	P	**P**	**01 18 05.0**	**+1.4**
GOMU				pmax	pmax		
	comp=Z,45nm,6.1s						
SYO	**Syowa Base**	**87.56**	**196**	⇑*e*P	**P**	**01 18 07.8**	**-0.2**
ILAR	**Eielson Array**	**87.64**	**18**	P	**P**	**01 18 06.9**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=224,slow=5.0,SNR=2.9						
NVAR	**Mina Array Bea**	**87.66**	**49**	PKKPbc	PKKPbc	01 35 57.5	-0.3
	comp=Z,0.7nm,0.7s,baz=85,slow=4.0,SNR=7.8						
DLBC	**Dease Lake**	**89.85**	**28**	LR	LR	01 50 57.8	
	comp=Z,38nm,21.2s,baz=156,slow=30						
ELK	**Elko**	**90.71**	**48**	LR	LR	01 52 46.3	
	comp=Z,32nm,19.2s,baz=133,slow=31						
U15A	**North Rim**	**91.42**	**53**	P	**P**	**01 18 28.1**	**+1.1**
TROLL	**Troll, Antarti**	**91.52**	**184**	P	**P**	**01 18 26.6**	**-0.1**
SNAA	**Sanae**	**92.19**	**183**	P	**P**	**01 18 29.0**	**-0.6**
SNAA	**Sanae**	**92.19**	**183**	P	**P**	**01 18 28.9**	**-0.8**
SNAA				IAmb	IAmb	01 18 30.0	
	comp=Z,14nm,0.7s						
VNA3	**Neumayer Olymp**	**92.83**	**181**	P	**P**	**01 18 31.8**	**-0.7**
VNA2	**Neumayer--Watz**	**93.10**	**182**	P	**P**	**01 18 33.3**	**-0.5**
	baz=191,slow=4.0						
VNA1	**Neumayer--Stat**	**93.40**	**181**	P	**P**	**01 18 34.4**	**-0.7**
WMQ	**Urumqi**	**94.21**	**314**	*e*P	**P**	**01 18 41.1**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
PDAR	**Pinedale Array**	**95.38**	**47**	PKKPbc	PKKPbc	01 35 36.4	-1.9
	comp=Z,0.9nm,0.8s,baz=94,slow=6.1,SNR=11						
TXAR	**Lajitas Array**	**96.33**	**61**	P	**P**	**01 18 49.7**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=238,slow=5.2,SNR=2.7						
TXAR				PKKPbc	**PKKPbc**	**01 35 34.6**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=128,slow=3.7,SNR=3.6						
TXAR	**Lajitas Array**	**96.33**	**61**	P	**P**	**01 18 49.8**	**+0.4**
YKA	**Yellowknife Ar**	**98.47**	**27**	P	Pdif	01 18 58.1	0.0
	comp=Z,0.4nm,0.7s,baz=262,slow=4.5,SNR=5.5						
YKA				pP	pP	01 19 42.7	+1.2
	comp=Z,2.1nm,0.9s,baz=253,slow=4.5,SNR=11						
YKA				PKKPbc	**PKKPbc**	**01 35 26.6**	**-3.7**
	comp=Z,0.1nm,0.5s,baz=82,slow=2.9,SNR=4.4						
YKA	**Yellowknife Ar**	**98.47**	**27**	P	**P**	**01 18 57.1**	**-1.0**
MKAR	**Makanchi Array**	**98.70**	**316**	P	Pdif	01 18 59.8	+0.2
	comp=Z,1.0nm,0.6s,baz=89,slow=6.1,SNR=10						
MKAR				pP	pP	01 19 45.1	+2.2
	comp=Z,0.5nm,0.6s,baz=96,slow=3.7,SNR=2.6						
MKAR				PKiKP	**PKiKP**	**01 23 29.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=218,slow=1.7,SNR=10.0						
MKAR				PKKPbc	**PKKPbc**	**01 35 25.6**	**-3.4**
	comp=Z,0.8nm,0.6s,baz=290,slow=3.5,SNR=8.6						
MKAR	**Makanchi Array**	**98.70**	**316**	P	Pdif	01 19 00.1	+0.5
MKAR					**PKiKP**	**01 23 29.6**	**-0.5**
ZALV	**Zalesovo Beam**	**98.94**	**324**	P	**P**	**01 18 59.6**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=104,slow=6.3,SNR=5.1						
ZALV				pP	**pP**	**01 19 43.9**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=56,slow=23,SNR=1.7						
ULM	**Lac du Bonnet**	**106.12**	**42**	PKiKP	**PKiKP**	**01 23 48.2**	**+4.8**
	comp=Z,2.2nm,0.5s,baz=154,slow=3.3,SNR=2.6						
RES	**Resolute Bay**	**107.33**	**16**	PKiKP	**PKiKP**	**01 23 44.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=179,slow=1.9,SNR=4.9						
RES	**Resolute Bay**	**107.33**	**16**		**PKiKP**	**01 23 43.8**	**-1.2**
GEYT	**Alibeck**	**115.31**	**305**	PKP	**PKPdf**	**01 24 01.2**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=62,slow=19,SNR=4.9						
SPA0	**Spitsbergen Ar**	**116.40**	**354**	*e*PKPdf	**PKPdf**	**01 24 02.0**	**-0.2**
CPUP	**Villa Florida**	**118.98**	**133**	PKP	**PKPdf**	**01 24 07.7**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=9.8,slow=4.8,SNR=4.0						
CPUP	**Villa Florida**	**118.98**	**133**		**PKPdf**	**01 24 07.3**	**-1.4**
HAMF	**Hammerfest**	**121.38**	**347**	*e*PKPdf	**PKPdf**	**01 24 11.5**	**-0.4**
ARA0	**ARCESS Array S**	**121.78**	**345**	*e*PKPdf	**PKPdf**	**01 24 12.6**	**-0.1**
ARCES	**ARCESS Array B**	**121.78**	**345**	PKP	**PKPdf**	**01 24 12.6**	**-0.1**
	comp=Z,4.3nm,0.4s,baz=56,slow=1.9,SNR=78						
ARCES				PKKPbc	**PKKPab**	**01 34 11.1**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=215,slow=3.0,SNR=11						
KLMR	**Klimovskoe**	**122.25**	**333**	*e*PKPdf	**PKPdf**	**01 24 12.4**	**-1.4**
KLMR				AMP		01 24 13.9	
	comp=Z,6.0nm,0.6s						
KTK1	**Kautokeino**	**122.72**	**346**	*e*PKPdf	**PKPdf**	**01 24 14.2**	**-0.4**
BOSA	**Boshof**	**122.75**	**219**	PKP	**PKPdf**	**01 24 15.8**	**-0.2**
	comp=Z,4.9nm,0.7s,baz=154,slow=2.5,SNR=22						
JETT	**Jettan, Norway**	**122.94**	**347**	*e*PKPdf	**PKPdf**	**01 24 14.6**	**-0.4**
SCHQ	**Schefferville**	**123.06**	**34**	PKP	**PKPdf**	**01 24 14.5**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=227,slow=4.6,SNR=5.5						
SCHQ				PKKPbc	**PKKPab**	**01 34 07.3**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=100,slow=3.5,SNR=16						
STEI	**Steigen**	**125.36**	**348**	*e*PKPdf	**PKPdf**	**01 24 19.2**	**-0.4**
FAUS	**Fauske**	**125.81**	**347**	*e*PKPdf	**PKPdf**	**01 24 19.8**	**-0.7**
KBZ	**Khabaz**	**126.22**	**313**	PKP	**PKiKP**	**01 24 22.4**	**0.0**
	comp=Z,1.8nm,0.7s,baz=196,slow=1.9,SNR=8.4						
KONS	**Konsvik**	**127.01**	**348**	*e*PKPdf	**PKPdf**	**01 24 22.9**	**+0.2**
MOR8	**Moi Rana**	**127.01**	**347**	*e*PKPdf	**PKPdf**	**01 24 22.3**	**-0.6**
FINES	**FINESS Array B**	**127.28**	**338**	PKP	**PKPdf**	**01 24 23.6**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=82,slow=3.1,SNR=18						
FINES				SKPbc	SKPbc	01 27 23.4	
	comp=Z,1.2nm,0.5s,baz=40,slow=3.2,SNR=5.9						
KMBO	**Kilima Mbogo**	**128.45**	**255**	PKP	**PKiKP**	**01 24 27.9**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=41,slow=3.3,SNR=5.6						
NSS	**Namsos**	**128.96**	**347**	*e*PKPdf	**PKPdf**	**01 24 26.4**	**-0.1**
NB2	**NORSAR Subarra**	**132.16**	**345**	PKPdf	**PKPdf**	**01 24 32.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**132.16**	**345**	PKP	**PKiKP**	**01 24 33.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=32,slow=1.9,SNR=6.3						
NOA				SKPbc	**SKPbc**	**01 27 42.1**	**-0.8**
	comp=Z,2.7nm,0.9s,baz=33,slow=2.8,SNR=7.5						
AKASG	**Malin Array Be**	**132.29**	**325**	PKP	**PKPdf**	**01 24 33.7**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=61,slow=2.6,SNR=14						
AKASG				SKPbc	**SKPbc**	**01 27 43.5**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=50,slow=5.0,SNR=13						
BDFB	**Brasilia**	**132.45**	**130**	PKP	**PKPdf**	**01 24 33.8**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=305,slow=2.2,SNR=7.3						
BDFB				SKPbc	**SKPbc**	**01 27 43.9**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=216,slow=7.7,SNR=4.4						
OSL	**Oslo**	**133.23**	**345**	*e*Pdif	**Pdif**	**01 21 37.2**	**+4.4**
SUE	**Sulen**	**133.55**	**349**	*e*Pdif	**Pdif**	**01 21 37.2**	**+3.0**
BRTR	**Keskin Array B**	**133.95**	**310**	PKP	**PKPdf**	**01 24 37.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=138,slow=4.1,SNR=13						
BRTR				SKPbc	**SKPbc**	**01 27 49.2**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=169,slow=3.3,SNR=3.0						
SORM	**Soroca**	**134.08**	**323**	⇑P	**PKPdf**	**01 24 36.0**	**-0.7**
MILM	**Milestii Mici**	**134.41**	**321**	⇓P	**PKPdf**	**01 24 37.1**	**-0.3**
HOMB	**Homborsund**	**135.25**	**345**	*e*Pdif	**Pdif**	**01 21 41.5**	**-0.3**
HOMB				*e*PKPdf	**PKiKP**	**01 24 40.1**	**0.0**
TESR	**Tescani**	**135.90**	**322**	⇑P	**PKPdf**	**01 24 38.1**	**-2.1**
BURAR	**Bucovina Array**	**136.16**	**324**	⇓P	**PKiKP**	**01 24 42.3**	**-0.2**
DOPR	**Dopca**	**136.93**	**322**	⇑P	**PKiKP**	**01 24 43.2**	**-0.9**
SECR		**136.99**	**320**	⇓P	**PKPdf**	**01 24 42.4**	**+0.1**
KOLS	**Kolonicke sedl**	**137.00**	**327**	*e*PKP	**PKPdf**	**01 24 42.9**	**+0.7**
CRVS	**Cervenica-Dubn**	**137.44**	**327**	*e*PKP	**PKiKP**	**01 24 44.8**	**-0.2**
MTUR	**Matau**	**137.51**	**321**	⇓P	**PKPdf**	**01 24 41.5**	**-1.9**
ARR	**Arges**	**137.70**	**321**	⇓P	**PKPdf**	**01 24 44.2**	**+0.6**
DRGR		**138.03**	**324**	⇑P	**PKPdf**	**01 24 44.3**	**0.0**
LANS	**Liptovska Anna**	**138.29**	**329**	*e*PKP	**PKPdf**	**01 24 45.5**	**+0.9**
OSTC	**Ostas**	**138.84**	**333**	*e*PKPDF	**PKPdf**	**01 24 46.5**	**+0.9**
KRLC	**Kraliky**	**138.94**	**332**	*e*PKPDF	**PKiKP**	**01 24 47.2**	**-0.8**
VYHS	**Vyhne**	**139.04**	**329**	*e*PKP	**PKiKP**	**01 24 48.3**	**+0.1**
HERR	**Herculane**	**139.28**	**322**	⇑P	PKPdf	01 24 34.4	-12
PUNG	**Punghina**	**139.30**	**321**	⇓P	**PKPdf**	**01 24 40.7**	**-5.9**
CLL	**Collm**	**139.62**	**336**	*e*PKPdf	**PKiKP**	**01 24 49.0**	**-0.3**
	comp=Z,5.0nm,0.8s						
MODS	**Modra-Piesok**	**139.89**	**330**	*e*PKP	**PKPdf**	**01 24 48.4**	**+0.9**
VTS	**Vitosha**	**139.98**	**319**	⇓P	**PKPdf**	**01 24 48.1**	**+0.1**
RONA	**Rosalia, Austr**	**140.83**	**330**	*e*P	**PKiKP**	**01 24 52.4**	**+0.4**
	comp=Z,2.9nm,0.5s						
CONA	**Conrad Observa**	**140.88**	**330**	*e*P	**PKiKP**	**01 24 52.4**	**+0.2**
	comp=Z,2.7nm,0.4s						
KHC	**Kasperske Hory**	**141.05**	**333**	*e*PKPpre	PKPpre	01 24 43.8	
KHC				*e*PKPDF	**PKiKP**	**01 24 52.6**	**+0.2**
GERES	**GERESS Array B**	**141.21**	**333**	PKhKP	PKPpre	01 24 43.9	
	comp=Z,1.5nm,0.7s,baz=47,slow=2.5,SNR=11						
GERES				SKPbc	**SKPbc**	**01 28 09.4**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=255,slow=2.6,SNR=5.4						
GERES	**GERESS Array B**	**141.21**	**333**	PKPpre	PKPpre	01 24 44.7	
MOA	**Molln**	**141.69**	**331**	*e*P	**PKPdf**	**01 24 47.0**	**-3.8**
	comp=Z,1.5nm,0.4s						
SOKA	**Soboth**	**142.16**	**329**	*i* P	**PKPdf**	**01 24 47.8**	**-3.9**
	comp=Z,2.3nm,0.6s						
OBKA	**Obir**	**142.52**	**330**	*e*P	**PKPdf**	**01 24 48.9**	**-3.5**
	comp=Z,3.4nm,0.7s						
MEM	**Membach**	**142.68**	**341**	*d*PKPdf	**PKPdf**	**01 24 53.4**	**+1.0**
KBA	**Koelnbreinsper**	**142.68**	**331**	*e*P	**PKPdf**	**01 24 49.5**	**-3.3**
	comp=Z,1.5nm,0.3s						
LJU	**Ljubljana**	**142.86**	**329**	*i* PKPbc	**PKPdf**	**01 24 50.1**	**-2.8**
CRNS	**Crni Vrh**	**142.96**	**329**	*i* PKPbc	**PKPdf**	**01 24 50.1**	**-3.0**
WATA	**Walderalm**	**143.28**	**333**	*e*P	PKPbc	01 24 51.5	+0.2
	comp=Z,1.8nm,0.4s						
ABTA	**Abfaltersbach**	**143.31**	**331**	*i* P	PKPbc	01 24 51.0	-0.4
	comp=Z,1.8nm,0.5s,SNR=10						
WTTA	**Wattenberg**	**143.31**	**333**	*e*P	PKPbc	01 24 52.3	+0.8
	comp=Z,2.1nm,0.3s						
RCHB	**Rochefort**	**143.32**	**341**	*d*PKPdf	**PKPdf**	**01 24 54.1**	**+0.6**
BMRD	**Maredsous**	**143.33**	**342**	*d*PKPdf	**PKPdf**	**01 24 53.7**	**+0.2**
WLF	**Walferdange**	**143.45**	**340**	*d*PKPdf	PKPbc	01 24 52.1	+0.5
MOTA	**Moosalm**	**143.48**	**333**	*e*P	PKPbc	01 24 52.3	+0.3
	comp=Z,7.3nm,0.8s						
MOTA				*e*S	**SKPbc**	**01 28 16.1**	**-0.1**
	comp=Z,2.1nm,0.5s						
RETA	**Reutte**	**143.52**	**334**	*e*P	PKPbc	01 24 52.8	+0.8
	comp=Z,0.6nm,0.2s						
SQTA	**Sankt Quirin**	**143.53**	**333**	*e*P	PKPbc	01 24 52.6	+0.5
	comp=Z,9.8nm,0.6s,SNR=6.7						
SQTA				*e*S	**SKiKP**	**01 28 16.7**	**-0.6**
	comp=Z,1.1nm,0.3s						
DOU	**Dourbes**	**143.56**	**342**	*d*PKPdf	**PKPdf**	**01 24 53.0**	**-0.9**
DOU				*d*PKiKP	**PKiKP**	**01 24 57.2**	**-0.2**
FETA	**Feichten**	**143.90**	**333**	*i* P	PKPbc	01 24 53.8	+0.6
	comp=Z,7.8nm,0.6s,SNR=8.2						
FETA				*e*S	**SKiKP**	**01 28 17.3**	**-0.8**
	comp=Z,4.9nm,1.0s						
DAVA	**Damuels**	**144.05**	**334**	*e*P	**PKPdf**	**01 24 54.4**	**-0.7**
	comp=Z,6.6nm,0.5s						
KEST	**Kesra**	**152.74**	**320**	PKPbc	**PKPbc**	**01 25 16.7**	**0.0**
	comp=Z,5.9nm,0.5s,baz=154,slow=1.2,SNR=44						
ESDC	**Sonseca Array**	**155.52**	**345**	PKPab	**PKPab**	**01 25 39.7**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=3.3,slow=3.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**166.42**	**259**	PKP	**PKPdf**	**01 25 24.6**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=334,slow=1.1,SNR=23						
TORD				PKPab	**PKPab**	**01 26 27.9**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=102,slow=3.4,SNR=13						
TORD	**Torodi Ar. Bea**	**166.42**	**259**	PKPdf	**PKPdf**	**01 25 24.9**	**-0.5**
TORD					**PKPab**	**01 26 26.7**	**-1.5**
KIC	**Kosan Boka**	**167.96**	**217**	*e*PKiKP	**PKPdf**	**01 25 25.5**	**-1.1**
	comp=Z,25nm,1.3s						
LIC	**Lamto**	**168.01**	**216**	*e*PKiKP	**PKPdf**	**01 25 26.1**	**-0.6**
	comp=Z,19nm,1.2s						
DBIC	**Dimbokro**	**168.28**	**217**	PKP	**PKPdf**	**01 25 25.7**	**-1.1**
	comp=Z,6.1nm,0.9s,baz=353,slow=0.4,SNR=5.2						
DBIC				PKPab	**PKPab**	**01 26 35.9**	**-0.2**
	comp=Z,5.9nm,0.6s,baz=155,slow=5.6,SNR=12						
TIC	**Toumodi**	**168.35**	**217**	*e*PKiKP	**PKPdf**	**01 25 25.8**	**-1.1**

*IDC **20** 01:12:59.5±1.7,59.°86N×153.°24W,h80^{km}±27^{km},mb3.4/2, mb1 3.7/7,mb1mx3.3/50,mbtmp3.8/7 Error ellipse: s-maj=28.5km s-min=10.8km az=109.0*

*NEIC **20** 01:13:00.6±1.1,59.°78N±0.°02×153.°11W±0.°07, h106^{km}±3^{km}, Error ellipse: s-maj=5.1km s-min=3.4km az=103.0*

*ANF **20** 01:13:00.8±0.2,59.°78N×153.°06W,h100^{km}±3^{km}, ML3.7/48, Error ellipse: s-maj=2.4km s-min=1.9km az=28.0*

*AEIC **20** 01:13:01±1.1,59.°77N±0.°03×153.°10W±0.°06,h102^{km}±4km, ML3.5,mb3.6/2(NEIC),ML3.7/124(NEIC), Error ellipse: s-maj=5.1km s-min=3.7km az=148.0*

ISC 20 01:13:00.8±0.7,59.°78N±0.°03×153.°06W±0.°03, h107^{km}±5^{km},n237,σ0877/267,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.15**	**216**		**Pn**	**01 13 15.5**	**-0.3**
P19K	**Oil Pt**	**0.15**	**216**		**Pn**	**01 13 15.4**	**-0.4**
P19K					**Sn**	**01 13 26.1**	**-0.9**
P19K	**Oil Pt**	**0.15**	**216**	P	**Pn**	**01 13 15.6**	**-0.2**
	baz=29						
P19K				S	**Sn**	**01 13 26.3**	**-0.7**
	baz=29						
IVE	**Iliamna Volcan**	**0.24**	**5**		**Pn**	**01 13 15.8**	**-0.4**
IVE					**Sn**	**01 13 26.8**	**-0.8**
O20K	**Slope Mountain**	**0.38**	**35**		**Pn**	**01 13 16.5**	**-0.2**
O20K					**Sn**	**01 13 28.4**	**-0.2**
O20K	**Slope Mountain**	**0.38**	**35**	P	**Pn**	**01 13 16.6**	**-0.2**
	baz=218,SNR=14						
O20K				S	**Sn**	**01 13 28.3**	**-0.3**
	baz=218						
AUH	**Augustine H**	**0.46**	**206**		**Pn**	**01 13 17.1**	**0.0**
AUQ	**Augustine Qik'**	**0.46**	**203**		**Pn**	**01 13 17.1**	**-0.1**
RED	**Redoubt Volcan**	**0.66**	**12**		**Pn**	**01 13 18.3**	**-0.3**
RSO	**Redoubt South**	**0.70**	**12**		**Pn**	**01 13 19.0**	**-0.2**
RDWB	**Redoubt West**	**0.72**	**9**		**Pn**	**01 13 18.8**	**-0.4**
RDWB					**Sn**	**01 13 32.1**	**-1.0**
HOM	**Homer**	**0.73**	**99**		**Pn**	**01 13 19.3**	**+0.2**
HOM				IAML		01 13 34.8	
	comp=E,3μm,1.1s						
HOM	**Homer**	**0.73**	**99**	P	**Pn**	**01 13 19.4**	**+0.3**
	baz=280,SNR=11						
HOM				S	**Sn**	**01 13 33.3**	**+0.5**
	baz=280						
O19K	**Port Alsworth**	**0.76**	**304**		**Pn**	**01 13 18.9**	**-0.4**
O19K					**Sn**	**01 13 32.3**	**-1.0**
O19K				IAML		01 13 32.9	
	comp=E,5μm,0.5s						
O19K				IAML		01 13 33.5	
	comp=N,4μm,0.4s						
O19K	**Port Alsworth**	**0.76**	**304**	P	**Pn**	**01 13 19.0**	**-0.4**
	baz=124,SNR=12						
O19K				S	**Sn**	**01 13 32.3**	**-1.0**
	baz=124						
RDJH	**Redoubt Jeurge**	**0.83**	**9**		**Pn**	**01 13 19.9**	**-0.3**
Q19K	**Cape Douglas,**	**0.90**	**200**	Pn	**Pn**	**01 13 20.4**	**-0.4**
Q19K				Sn	**Sn**	**01 13 35.0**	**-0.9**
Q19K	**Cape

KNK	**Knik Glacier**	**2.80**	**52**	Pn	**Pn**	**01 13 43.6**	**-0.5**
KNK	**Knik Glacier**	**2.80**	**52**	P	**Pn**	**01 13 43.4**	**-0.7**
	baz=236,SNR=14						
KNK				S	**Sn**	**01 14 15.4**	**-1.9**
	baz=236						
GHO	**Glory Hole Cre**	**2.85**	**44**		**Pn**	**01 13 44.7**	**-0.1**
CUT	**Chulitna**	**2.96**	**26**	Pn	**Pn**	**01 13 46.8**	**+0.6**
CUT				IAML		01 14 22.5	
	comp=N,415nm,0.4s						
CUT	**Chulitna**	**2.96**	**26**	P	**Pn**	**01 13 46.5**	**+0.3**
	baz=209,SNR=14						
SML	**Sawmill**	**3.08**	**47**	Pn	**Pn**	**01 13 47.0**	**-0.9**
SML				IAML		01 14 25.0	
	comp=N,312nm,0.4s						
SML				IAML		01 14 27.7	
	comp=E,238nm,0.7s						
SML	**Sawmill**	**3.08**	**47**	P	**Pn**	**01 13 47.2**	**-0.6**
	baz=231						
SML				S	**Sn**	**01 14 21.9**	**-2.2**
	baz=231						
PPLA	**Purkeypile**	**3.16**	**7**	Pn	**Pn**	**01 13 49.9**	**+1.0**
PPLA	**Purkeypile**	**3.16**	**7**	P	**Pn**	**01 13 50.0**	**+1.1**
	baz=188,SNR=18						
GLI	**Glacier Island**	**3.16**	**67**	Pn	**Pn**	**01 13 48.1**	**-0.7**
GLI	**Glacier Island**	**3.16**	**67**	P	**Pn**	**01 13 47.1**	**-1.7**
	baz=252						
SII	**Sitkinak Islan**	**3.28**	**191**	Pn	**Pn**	**01 13 49.1**	**-1.4**
SII				IAML		01 14 40.6	
	comp=E,185nm,0.8s						
SII				IAML		01 14 54.2	
	comp=N,207nm,2.2s						
SII	**Sitkinak Islan**	**3.28**	**191**	P	**Pn**	**01 13 49.3**	**-1.2**
	baz=9.6						
FID	**Port Fidalgo**	**3.42**	**71**	Pn	**Pn**	**01 13 50.3**	**-2.0**
Q23K	**Middleton Isla**	**3.43**	**93**	Pn	**Pn**	**01 13 52.3**	**0.0**
Q23K				IAML		01 14 58.1	
	comp=N,226nm,2.3s						
Q23K				IAML		01 16 09.0	
	comp=E,188nm,1.9s						
Q23K	**Middleton Isla**	**3.43**	**93**	P	**Pn**	**01 13 52.1**	**-0.2**
	baz=279						
MID	**Middleton Isla**	**3.43**	**93**	Pn	**Pn**	**01 13 52.2**	**-0.2**
MID				IAML		01 14 45.1	
	comp=E,194nm,1.7s						
MID				IAML		01 14 58.1	
	comp=N,211nm,2.2s						
JPK	**Jack Peak**	**3.45**	**65**		**Pn**	**01 13 51.8**	**-0.9**
TT01	**Tatalina**	**3.45**	**337**		**Pn**	**01 13 52.2**	**-0.4**
TTA	**Tatalina**	**3.47**	**337**	Pn	**Pn**	**01 13 52.4**	**-0.6**
TTA	**Tatalina**	**3.47**	**337**	P	**Pn**	**01 13 52.4**	**-0.6**
	baz=155,SNR=29						
SCM	**Sheep Creek Mo**	**3.48**	**51**	Pn	**Pn**	**01 13 51.0**	**-2.2**
SCM				IAML		01 14 35.1	
	comp=E,275nm,0.6s						
SCM				IAML		01 14 39.4	
	comp=N,251nm,0.6s						
SCM	**Sheep Creek Mo**	**3.48**	**51**	P	**Pn**	**01 13 52.7**	**-0.5**
	baz=236						
K20K	**Telida**	**3.63**	**353**	Pn	**Pn**	**01 13 55.2**	**+0.1**
K20K	**Telida**	**3.63**	**353**	P	**Pn**	**01 13 54.9**	**-0.1**
	baz=172,SNR=25						
CAST	**Castle Rocks**	**3.69**	**7**	Pn	**Pn**	**01 13 56.5**	**+0.6**
CAST	**Castle Rocks**	**3.69**	**7**	P	**Pn**	**01 13 55.9**	**+0.1**
	baz=188,SNR=65						
EYAK	**Cordova Ski Ar**	**3.73**	**75**	Pn	**Pn**	**01 13 55.5**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.73**	**75**	P	**Pn**	**01 13 55.4**	**-1.0**
	baz=261,SNR=5.5						
WAT6	**Susitna Watana**	**3.81**	**40**		**Pn**	**01 13 57.3**	**-0.4**
WAT6	**Susitna Watana**	**3.81**	**40**	P	**Pn**	**01 13 57.2**	**-0.4**
	baz=225,SNR=15						
DIV	**Divide**	**3.85**	**66**	Pn	**Pn**	**01 13 57.9**	**-0.2**
KLU	**Klutina**	**3.91**	**61**		**Pn**	**01 13 58.3**	**-0.6**
KLU				IAML		01 14 45.0	
	comp=E,193nm,0.4s						
KLU	**Klutina**	**3.91**	**61**	P	**Pn**	**01 13 58.1**	**-0.9**
	baz=247,SNR=21						
TRF	**Thorofare Moun**	**3.92**	**19**	Pn	**Pn**	**01 13 59.3**	**+0.3**
TRF				IAML		01 14 46.5	
	comp=N,92nm,0.5s						
TRF				IAML		01 15 06.3	
	comp=E,66nm,0.8s						
TRF	**Thorofare Moun**	**3.92**	**19**	P	**Pn**	**01 13 58.7**	**-0.4**
	baz=201,SNR=28						
KTH	**Kantishna Hill**	**3.92**	**14**	Pn	**Pn**	**01 13 59.1**	**+0.1**
KTH				IAML		01 14 45.5	
	comp=N,47nm,0.6s						
M24K	**Tolsona, Glenn**	**4.09**	**52**		**Pn**	**01 14 01.3**	**0.0**
M24K				IAML		01 14 56.7	
	comp=E,173nm,0.7s						
M24K	**Tolsona, Glenn**	**4.09**	**52**	P	**Pn**	**01 14 01.1**	**-0.2**
	baz=238						
CHUM	**Lake Minchumin**	**4.14**	**5**		**Pn**	**01 14 02.5**	**+0.7**
CHUM	**Lake Minchumin**	**4.14**	**5**	P	**Pn**	**01 14 01.9**	**0.0**
	baz=186,SNR=36						
RND	**Reindeer**	**4.16**	**27**	Pn	**Pn**	**01 14 02.4**	**+0.1**
RND				IAML		01 14 56.5	
	comp=N,36nm,0.5s						
RND				IAML		01 15 09.7	
	comp=E,59nm,0.9s						
CHIR	**Chirikof Islan**	**4.20**	**200**	Pn	**Pn**	**01 14 01.6**	**-1.1**
CHIR				IAML		01 14 42.1	
	comp=E,136nm,2.7s						
RAGM	**Ragged Mountai**	**4.24**	**78**	Pn	**Pn**	**01 14 02.8**	**-0.5**
RAGM				IAML		01 14 58.0	
	comp=E,128nm,0.5s						
DHY	**Denali Highway**	**4.29**	**37**		**Pn**	**01 14 04.0**	**0.0**
DHY				IAML		01 14 53.6	
	comp=N,89nm,0.3s						
DHY				IAML		01 14 53.7	
	comp=E,97nm,0.4s						
DHY	**Denali Highway**	**4.29**	**37**	P	**Pn**	**01 14 03.6**	**-0.5**
	baz=222,SNR=13						
KAIM	**Kayak Island**	**4.36**	**84**	Pn	**Pn**	**01 14 04.8**	**-0.1**
KAIM	**Kayak Island**	**4.36**	**84**	P	**Pn**	**01 14 04.4**	**-0.4**
	baz=272						
BMRM	**Bremner River**	**4.36**	**70**	Pn	**Pn**	**01 14 04.9**	**0.0**
BMRM				IAML		01 15 07.2	
	comp=N,72nm,0.6s						
BMRM				IAML		01 15 07.9	
	comp=E,78nm,0.5s						
BMRM	**Bremner River**	**4.36**	**70**	P	**Pn**	**01 14 04.3**	**-0.6**
	baz=258,SNR=23						
MCK	**McKinley**	**4.43**	**24**	Pn	**Pn**	**01 14 06.2**	**+0.4**
MCK				IAML		01 14 55.6	
	comp=E,33nm,0.4s						
MCK				IAML		01 14 59.4	
	comp=N,38nm,0.5s						
MCK	**McKinley**	**4.43**	**24**	P	**Pn**	**01 14 05.8**	**+0.1**
	baz=208,SNR=28						
HMT	**Hamilton**	**4.44**	**79**	Pn	**Pn**	**01 14 04.4**	**-1.6**
HMT				IAML		01 15 25.2	
	comp=N,90nm,0.5s						
J20K	**Nowinta River**	**4.45**	**354**	Pn	**Pn**	**01 14 06.1**	**+0.1**
J20K	**Nowinta River**	**4.45**	**354**	P	**Pn**	**01 14 06.0**	**0.0**
	baz=173,SNR=56						
BPAW	**Bear Paw Mtn.**	**4.45**	**12**	Pn	**Pn**	**01 14 05.7**	**-0.4**
BPAW	**Bear Paw Mtn.**	**4.45**	**12**	P	**Pn**	**01 14 05.4**	**-0.7**
	baz=194,SNR=18						
CHGN	**Chignik**	**4.50**	**222**	Pn	**Pn**	**01 14 07.0**	**+0.2**
CHGN				IAML		01 14 58.5	
	comp=E,45nm,0.1s						
CHGN				IAML		01 15 08.9	
	comp=N,59nm,2.0s						
N25K	**Chitina, Valde**	**4.54**	**63**	Pn	**Pn**	**01 14 06.8**	**-0.7**
N25K				IAML		01 14 59.7	
	comp=N,96nm,0.5s						
N25K	**Chitina, Valde**	**4.54**	**63**	P	**Pn**	**01 14 06.6**	**-0.9**
	baz=250,SNR=24						
NICHA	**Nichawak Mount**	**4.59**	**80**		**Pn**	**01 14 07.5**	**-0.4**
SUCK	**Suckling Hills**	**4.68**	**82**	Pn	**Pn**	**01 14 08.4**	**-0.7**
SUCK				IAML		01 15 29.9	
	comp=N,99nm,1.9s						
SUCK				IAML		01 15 56.9	
	comp=E,108nm,2.1s						
BERG	**Berg Lake**	**4.72**	**78**		**Pn**	**01 14 09.8**	**0.0**
BERG				IAML		01 15 02.7	
	comp=N,95nm,0.2s						
BERG				IAML		01 15 03.7	
	comp=E,108nm,0.3s						
BWN	**Browne**	**4.72**	**19**	Pn	**Pn**	**01 14 09.8**	**+0.1**
BWN				IAML		01 15 42.7	
	comp=N,51nm,0.7s						
BWN				IAML		01 15 45.7	
	comp=E,46nm,0.9s						
GLB	**Gilahina Butte**	**4.85**	**66**	Pn	**Pn**	**01 14 12.2**	**+0.6**
GLB				IAML		01 15 07.2	
	comp=E,78nm,0.8s						
PAX	**Paxson**	**4.86**	**45**	Pn	**Pn**	**01 14 12.3**	**+0.7**
PAX	**Paxson**	**4.86**	**45**	P	**Pn**	**01 14 11.3**	**-0.4**
	baz=232,SNR=11						
GRIN	**Grindle Hills**	**4.91**	**80**		**Pn**	**01 14 12.5**	**+0.2**
KHIT	**Khitrov Hills**	**4.95**	**78**		**Pn**	**01 14 12.8**	**-0.1**
VRDI	**Verde Repeater**	**4.97**	**69**	Pn	**Pn**	**01 14 13.5**	**+0.3**
VRDI				IAML		01 15 09.4	
	comp=N,43nm,0.4s						
VRDI				IAML		01 15 13.0	
	comp=E,24nm,0.6s						
PS10	**TAPS Pump St10**	**5.05**	**40**		**Pn**	**01 14 15.1**	**+1.0**
SNH	**Sunshine Point**	**5.15**	**81**	Pn	**Pn**	**01 14 15.8**	**+0.3**
SNH				IAML		01 15 54.3	
	comp=N,57nm,1.9s						
SNH				IAML		01 17 18.9	
	comp=E,58nm,1.7s						
WAX	**Waxell Ridge**	**5.15**	**78**	Pn	**Pn**	**01 14 15.8**	**+0.2**
NEA2	**Nenana**	**5.18**	**19**		**Pn**	**01 14 15.1**	**-0.9**
NEA2	**Nenana**	**5.18**	**19**	P	**Pn**	**01 14 15.1**	**-0.9**
	baz=203,SNR=36						
TGL	**Tana Glacier**	**5.19**	**75**	Pn	**Pn**	**01 14 16.3**	**+0.2**
TGL				IAML		01 15 16.4	
	comp=E,41nm,0.4s						
TGL				IAML		01 15 18.4	
	comp=N,46nm,0.6s						
MCARA	**McCarthy VSAT**	**5.20**	**68**		**Pn**	**01 14 16.9**	**+0.7**
MCARA				IAML		01 15 18.3	
	comp=E,68nm,0.4s						
MCARA	**McCarthy VSAT**	**5.20**	**68**	P	**Pn**	**01 14 16.0**	**-0.2**
	baz=256,SNR=11						
WRH	**Wood River Hil**	**5.25**	**24**		**Pn**	**01 14 16.7**	**-0.2**
WRH				IAML		01 15 14.9	
	comp=E,26nm,0.7s						
WRH				IAML		01 15 15.5	
	comp=N,24nm,0.5s						
GCSA	**Galena City Sc**	**5.30**	**342**	P	**Pn**	**01 14 17.0**	**-0.5**
	baz=159						
ISLE	**Juniper Island**	**5.41**	**77**	Pn	**Pn**	**01 14 19.1**	**-0.1**
PTPK	**Patty Peak**	**5.43**	**70**		**Pn**	**01 14 19.0**	**-0.4**
KIAG	**Kiagna River**	**5.43**	**73**		**Pn**	**01 14 19.1**	**-0.5**
I21K	**Tanana**	**5.45**	**5**	Pn	**Pn**	**01 14 19.5**	**0.0**
I21K	**Tanana**	**5.45**	**5**	P	**Pn**	**01 14 19.4**	**-0.1**
	baz=186,SNR=15						
BALM	**Baldy**	**5.46**	**72**		**Pn**	**01 14 19.1**	**-0.7**
CCB	**Clear Creek Bu**	**5.47**	**24**		**Pn**	**01 14 19.3**	**-0.5**
MENT	**Mentasta**	**5.50**	**51**	Pn	**Pn**	**01 14 20.6**	**+0.3**
BAGL	**Bagley Icefiel**	**5.53**	**78**		**Pn**	**01 14 21.0**	**+0.4**
M26K	**Nabesna, AK**	**5.54**	**57**	Pn	**Pn**	**01 14 22.2**	**+1.3**
M26K	**Nabesna, AK**	**5.54**	**57**	P	**Pn**	**01 14 20.8**	**-0.1**
	baz=246						
RIDG	**Independent Ri**	**5.57**	**41**	Pn	**Pn**	**01 14 22.1**	**+0.9**
RIDG	**Independent Ri**	**5.57**	**41**	P	**Pn**	**01 14 21.2**	**0.0**
	baz=228,SNR=10						
I23K	**Minto, Yukon-K**	**5.66**	**16**		**Pn**	**01 14 22.3**	**0.0**
I23K	**Minto, Yukon-K**	**5.66**	**16**	P	**Pn**	**01 14 22.2**	**-0.2**
	baz=200,SNR=32						
TCOL	**CIGO, UAF Yank**	**5.66**	**23**		**Pn**	**01 14 22.0**	**-0.3**
TCOL	**CIGO, UAF Yank**	**5.66**	**23**	P	**Pn**	**01 14 22.1**	**-0.3**
	baz=208,SNR=9.5						
COLA	**College**	**5.66**	**23**	Pn	**Pn**	**01 14 22.6**	**+0.2**
COLA	**College**	**5.66**	**23**	P	**Pn**	**01 14 22.3**	**-0.1**
	baz=208						
MDM	**Murphy Dome**	**5.66**	**21**		**Pn**	**01 14 21.8**	**-0.7**
GRNC	**Granite Creek**	**5.71**	**75**		**Pn**	**01 14 23.9**	**+0.6**
DOT	**Dot Lake**	**5.78**	**44**		**Pn**	**01 14 24.8**	**+0.8**
IL31		**5.78**	**27**		**Pn**	**01 14 23.6**	**-0.4**
ILAR	**Eielson Array**	**5.78**	**27**	P	**Pn**	**01 14 23.1**	**-0.9**
	comp=N,4.3nm,0.3s,baz=217,slow=14,SNR=136						
ILAR				S	**Sn**	**01 15 26.1**	**-2.8**
	comp=N,3.4nm,0.3s,baz=191,slow=16,SNR=4.6						
ILAR	**Eielson Array**	**5.78**	**27**	Pn	**Pn**	**01 14 23.6**	**-0.5**
BARN	**Barnard Glacie**	**5.79**	**72**		**Pn**	**01 14 25.1**	**+0.8**
H21K	**Melozitna Rive**	**5.91**	**1**	Pn	**Pn**	**01 14 25.6**	**-0.2**
H21K	**Melozitna Rive**	**5.91**	**1**	P	**Pn**	**01 14 25.6**	**-0.2**
	baz=181,SNR=15						
CTG	**Chitna Glacier**	**5.93**	**73**	P	**Pn**	**01 14 26.0**	**-0.3**
	baz=264,SNR=22						
CTGM	**Chitina Glacie**	**5.94**	**73**		**Pn**	**01 14 27.1**	**+0.8**
POKR	**Poker Plat Res**	**5.96**	**24**		**Pn**	**01 14 26.4**	**-0.1**
POKR	**Poker Plat Res**	**5.96**	**24**	P	**Pn**	**01 14 26.1**	**-0.4**
	baz=209						
TABL	**Table Mountain**	**6.00**	**78**		**Pn**	**01 14 27.7**	**+0.5**
SCRK	**Sand Creek**	**6.01**	**42**	Pn	**Pn**	**01 14 27.0**	**-0.2**
SCRK	**Sand Creek**	**6.01**	**42**	P	**Pn**	**01 14 26.7**	**-0.6**
	baz=230,SNR=7.8						
M27K	**Edge Creek, AK**	**6.01**	**60**	Pn	**Pn**	**01 14 28.5**	**+1.2**
M27K	**Edge Creek, AK**	**6.01**	**60**	P	**Pn**	**01 14 27.2**	**-0.1**
	baz=250,SNR=13						
J25K	**Salcha River,**	**6.04**	**33**	Pn	**Pn**	**01 14 27.5**	**-0.1**
J25K	**Salcha River,**	**6.04**	**33**	P	**Pn**	**01 14 27.0**	**-0.5**
	baz=220						
LOGN	**Logan Glacier**	**6.08**	**75**		**Pn**	**01 14 29.0**	**+0.7**
IM03		**6.24**	**357**		**Pn**	**01 14 30.7**	**+0.5**
IMAR	**Indian Mountai**	**6.24**	**357**	Pn	**Pn**	**01 14 30.9**	**+0.6**
H23K	**Yukon River**	**6.28**	**13**	Pn	**Pn**	**01 14 30.3**	**-0.5**
H23K	**Yukon River**	**6.28**	**13**	P	**Pn**	**01 14 30.1**	**-0.8**
	baz=197,SNR=32						
L27K	**Beaver Creek,**	**6.31**	**54**	Pn	**Pn**	**01 14 31.8**	**+0.5**
L27K	**Beaver Creek,**	**6.31**	**54**	P	**Pn**	**01 14 31.0**	**-0.3**
	baz=244						
BCAR	**Beaver Creek A**	**6.33**	**54**	Pn	**Pn**	**01 14 31.9**	**+0.3**
PCA	**Pinnacle**	**6.44**	**82**	Pn	**Pn**	**01 14 34.0**	**+0.9**
BVCY	**Beaver Creek**	**6.48**	**61**	P	**Pn**	**01 14 33.7**	**+0.2**
	baz=251,SNR=5.9						
YUK3	**Moose Creek**	**6.49**	**67**	P	**Pn**	**01 14 34.0**	**+0.2**
	baz=258,SNR=24						
J26L	**Joseph Creek**	**6.50**	**39**	P	**Pn**	**01 14 33.6**	**-0.2**
	baz=228,SNR=14						
H24K	**Noodor Dome**	**6.53**	**19**		**Pn**	**01 14 33.8**	**-0.4**
H24K	**Noodor Dome**	**6.53**	**19**	P	**Pn**	**01 14 33.5**	**-0.7**
	baz=204,SNR=12						
BCPM	**Bancs Point**	**6.76**	**83**	Pn	**Pn**	**01 14 37.8**	**+0.5**
PNL	**Peninsula**	**6.91**	**85**	P	**Pn**	**01 14 39.2**	**-0.1**
	baz=277,SNR=30						
YUK4	**Talbot Arm**	**7.27**	**71**	P	**Pn**	**01 14 45.2**	**+0.7**
	baz=263,SNR=12						
YUK6	**Outpost Mounta**	**7.38**	**75**	P	**Pn**	**01 14 45.9**	**-0.1**
	baz=267,SNR=9.4						
EGAK	**Eagle**	**7.47**	**43**	Pn	**Pn**	**01 14 45.9**	**-1.0**
COLD	**Coldfoot**	**7.59**	**8**	Pn	**Pn**	**01 14 47.7**	**-0.8**
COLD	**Coldfoot**	**7.59**	**8**	P	**Pn**	**01 14 48.4**	**-0.1**
	baz=191,SNR=7.6						
HYT	**Haines Junctio**	**7.80**	**76**	Pn	**Pn**	**01 14 51.5**	**0.0**
HYT	**Haines Junctio**	**7.80**	**76**	P	**Pn**	**01 14 51.4**	**-0.1**
	baz=269,SNR=10						
M30M	**Minto, Yukon**	**8.34**	**63**	Pn	**Pn**	**01 14 57.5**	**-1.3**
M30M	**Minto, Yukon**	**8.34**	**63**	P	**Pn**	**01 14 59.0**	**+0.2**
	baz=258						
BMAR	**Burnt Mountain**	**8.55**	**23**	Pn	**Pn**	**01 14 59.8**	**-1.8**
N31M	**Braeburn, Yuko**	**8.66**	**71**	Pn	**Pn**	**01 15 03.4**	**+0.3**
N31M	**Braeburn, Yuko**	**8.66**	**71**	P	**Pn**	**01 15 03.2**	**+0.1**
	baz=266,SNR=14						
SKAG	**Skagway**	**8.99**	**84**	Pn	**Pn**	**01 15 08.8**	**+1.3**
TOLK	**Toolik Lake Re**	**9.03**	**8**	Pn	**Pn**	**01 15 08.7**	**+0.6**
TOLK	**Toolik Lake Re**	**9.03**	**8**	P	**Pn**	**01 15 07.2**	**-0.9**
	baz=191,SNR=6.9						
WHY	**Whitehorse**	**9.09**	**77**	Pn	**Pn**	**01 15 09.1**	**+0.1**
WHY	**Whitehorse**	**9.09**	**77**	P	**Pn**	**01 15 08.6**	**-0.4**
	baz=272,SNR=27						
M31M	**Drury Creek, Y**	**9.38**	**67**	Pn	**Pn**	**01 15 13.1**	**+0.2**
M31M	**Drury Creek, Y**	**9.38**	**67**	P	**Pn**	**01 15 12.8**	**-0.1**
	baz=263,SNR=8.1						
BESE	**Bessie Mountai**	**9.42**	**89**	Pn	**Pn**	**01 15 14.0**	**+0.6**
JIS	**Juneau Island**	**9.74**	**91**	Pn	**Pn**	**01 15 19.9**	**+2.2**
FARO	**Faro, Yukon**	**9.87**	**67**	P	**Pn**	**01 15 20.3**	**+0.8**
	baz=264,SNR=7.5						
MMPY	**Sheldon Lake,**	**10.87**	**65**	P	**Pn**	**01 15 33.9**	**+0.7**
	baz=265,SNR=7.8						
CRAG	**Craig**	**11.51**	**103**	Pn	**Pn**	**01 15 41.5**	**0.0**
DLBC	**Dease Lake**	**11.90**	**86**	P	**Pn**	**01 15 48.1**	**+1.3**
	comp=N,2.7nm,0.3s,baz=289,slow=7.1,SNR=32						
DLBC				S	**Sn**	**01 17 58.1**	**+0.7**
	comp=N,0.6nm,0.3s,baz=229,slow=11,SNR=4.1						
DLBC	**Dease Lake**	**11.90**	**86**	Pn	**Pn**	**01 15 49.1**	**+2.2**
INK	**Inuvik**	**12.03**	**37**	P	**Pn**	**01 15 48.1**	**-0.3**
	comp=N,0.1nm,0.3s,baz=237,slow=18,SNR=7.7						
INK	**Inuvik**	**12.03**	**37**	Pn	**Pn**	**01 15 48.8**	**+0.4**
INK	**Inuvik**	**12.03**	**37**	P	**Pn**	**01 15 48.5**	**0.0**
	baz=234						
DIB	**Dawson Inlet,**	**13.10**	**111**	Pn	**Pn**	**01 16 04.4**	**+1.9**
MOBC	**Moresby Island**	**13.38**	**110**	Pn	**Pn**	**01 16 07.2**	**+1.0**
C36M	**Paulatuk**	**15.53**	**40**	Pn	**Pn**	**01 16 31.6**	**-1.9**
C36M				IAmb	IAmb	01 16 48.4	
	comp=Z,3.8nm,1.2s						
A36M	**Sachs Harbour**	**16.46**	**31**	Pn	**Pn**	**01 16 44.7**	**-0.3**
A36M				IAmb	IAmb	01 16 48.5	
	comp=Z,3.4nm,0.7s						
YKA	**Yellowknife Ar**	**18.57**	**65**	P	**Pn**	**01 17 10.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=276,slow=9.9,SNR=13						
YKA	**Yellowknife Ar**	**18.57**	**65**	P	**P**	**01 17 09.7**	**+0.7**
SONM	**Songino Array**	**54.90**	**306**	P	**P**	**01 22 21.2**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=41,slow=6.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**57.54**	**324**	P	**P**	**01 22 38.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=30,slow=6.8,SNR=1.7						

JMA 20 01:14:02.4, 32°.55N×130°.65E, h9km±1km, M3.5, 1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.14**	**90**	||P	Pg	01 14 05.6	+0.1
JIU3				eS		Sg	01 14 08.1	+0.5

*NEIC **20** 01:16:40.5±2.3, 11°.43S±0°.06×166°.09E±0°.08, h35km±2km, mb4.5/14, Error ellipse: s-maj=15.0km s-min=8.3km az=302.0*

*IDC **20** 01:16:43.0±3.5, 11°.49S×166°.00E, h69km±29km, mb3.7/8, mb1 4.0/10, mb1mx3.6/45, mbtmp4.2/10, ML4.9/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/65, Error ellipse: s-maj=23.8km s-min=23.3km az=99.0*

ISC 20 01:16:39.7±0.7, 11°.39S±0°.10×166°.14E±0°.09, h37km, n48, σ1§46/40, mb4.3/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.17**	**166**	Pn	**Pn**	**01 17 42.6**	**+1.9**
HNR	**Honiara**	**6.39**	**287**	P	**Pn**	**01 18 12.9**	**+1.5**
	62nm,0.3s,baz=219,slow=1.9,SNR=6.1						
HNR				S	**Sn**	**01 19 25.0**	**+1.8**
	15nm,0.3s,baz=233,slow=17,SNR=1.4						
HNR	**Honiara**	**6.39**	**287**	Pn	**Pn**	**01 18 13.0**	**+1.6**
KOUNC	**Koumac, New Ca**	**9.29**	**191**	Pn	**Pn**	**01 18 52.5**	**+1.5**
MARNC	**Mare, Loyalty**	**10.20**	**170**	Pn	**Pn**	**01 19 05.5**	**+1.9**
DZM	**Mont Dzumac**	**10.63**	**178**	P	**Pn**	**01 19 11.0**	**+1.5**
	3.4nm,0.3s,baz=337,slow=9.6,SNR=31						
DZM	**Mont Dzumac**	**10.63**	**178**	Pn	**Pn**	**01 19 10.7**	**+1.1**
DZM	**Mont Dzumac**	**10.63**	**178**	P	**Pn**	**01 19 11.3**	**+1.7**
YATNC	**Mamie plateau,**	**10.64**	**176**	P	**Pn**	**01 19 10.4**	**+0.8**
NOUC	**Port Laguerre**	**10.66**	**179**	P	**Pn**	**01 19 12.4**	**+2.6**
ONTNC	**Ouen Toro**	**10.86**	**178**	Pn	**Pn**	**01 19 14.1**	**+1.4**
ONTNC	**Ouen Toro**	**10.86**	**178**	P	**Pn**	**01 19 15.1**	**+2.4**
OUENC	**Ouen Island, N**	**10.99**	**177**	Pn	**Pn**	**01 19 16.1**	**+1.7**
OUENC	**Ouen Island, N**	**10.99**	**177**	P	**Pn**	**01 19 16.4**	**+2.0**
PINNC	**Pines Island,**	**11.23**	**174**	Pn	**Pn**	**01 19 19.8**	**+2.0**
KRVT	**Keravat (AS076**	**15.64**	**296**	LR	LR	01 26 46.4	
	comp=Z,61nm,18.4s,baz=259,slow=39						
PMG	**Port Moresby**	**18.77**	**274**	LR	LR	01 27 46.9	
	comp=Z,94nm,20.4s,baz=69,slow=36						
CTA	**Charters Tower**	**20.99**	**243**	LR	LR	01 28 10.1	
	comp=Z,59nm,20.2s,baz=80,slow=33						
BKZ	**Black Stump Fm**	**29.16**	**163**	P	**P**	**01 22 37.5**	**0.0**
BKZ				IAmb	IAmb	01 22 43.0	
	comp=Z,15nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**29.69**	**1**	T	T	01 53 08.5	
	baz=181,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.70**	**1**	T	T	01 53 08.8	
	baz=181,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.71**	**1**	T	T	01 53 09.6	
	baz=181,slow=76,SNR=3.9						
STKA	**Stephens Creek**	**30.46**	**224**	P	**P**	**01 22 48.1**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=40,slow=8.1,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**30.91**	**1**	T	T	01 54 40.1	
	baz=182,slow=76,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**30.92**	**1**	T	T	01 54 40.9	
	baz=182,slow=76,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**30.93**	**1**	T	T	01 54 41.4	
	baz=182,slow=76,SNR=4.6						
WR0	**Warramunga Arr**	**31.55**	**250**	P	**P**	**01 22 57.4**	**-1.4**
WB0	**Warramunga Ar**	**31.65**	**251**	P	**P**	**01 22 58.4**	**-1.3**
WB0				IAmb	IAmb	01 22 59.4	
	comp=Z,7.7nm,0.8s						
WB2	**Warramunga Arr**	**31.72**	**250**	P	**P**	**01 22 59.1**	**-1.2**
WB2				IAmb	IAmb	01 23

O19K IAML 01 30 14.1
comp=N,5µm,0.4s
O19K Port Alsworth 0.69 291 P **Pn** **01 29 59.4 -0.5**
baz=110,SNR=18
O19K S **Sn** **01 30 12.9 -1.0**
baz=110
HOM Homer 0.77 113 **Pn** **01 30 00.8 +0.1**
HOM **Sn** **01 30 15.4 +0.3**
HOM Homer 0.77 113 P **Pn** **01 30 00.7 +0.1**
baz=294,SNR=44
HOM S **Sn** **01 30 15.7 +0.6**
baz=294
CNPM China Poot 1.01 115 Pn **Pn** **01 30 02.8 -0.1**
CNPM Sn **Sn** **01 30 18.5 -0.8**
CNPM IAML 01 30 20.7
comp=E,5µm,0.5s
CNPM IAML 01 30 20.7
comp=N,5µm,0.6s
Q19K Cape Douglas, 1.08 197 Pn **Pn** **01 30 03.1 -0.6**
Q19K IAML 01 30 23.3
comp=E,2µm,0.7s
Q19K IAML 01 30 25.0
comp=N,2µm,0.9s
Q19K Cape Douglas, 1.08 197 P **Pn** **01 30 03.1 -0.6**
baz=16,SNR=76
Q19K S **Sn** **01 30 19.8 -0.8**
baz=16
O18K Koktuh Hills 1.10 265 **Pn** **01 30 03.3 -0.6**
O18K Sn **Sn** **01 30 18.6 -2.3**
O18K Koktuh Hills 1.10 265 P **Pn** **01 30 03.2 -0.7**
baz=84
O18K S **Sn** **01 30 19.5 -1.4**
baz=84
BRLK Bradley Lake 1.10 99 Pn **Pn** **01 30 03.8 -0.1**
BRLK IAML 01 30 21.4
comp=E,3µm,0.4s
BRLK IAML 01 30 22.1
comp=N,2µm,0.3s
N19K Bonanza Creek 1.12 321 Pn **Pn** **01 30 03.7 -0.4**
N19K Sn **Sn** **01 30 20.0 -1.5**
N19K Bonanza Creek 1.12 321 P **Pn** **01 30 03.7 -0.4**
baz=140,SNR=111
N19K S **Sn** **01 30 20.6 -0.8**
baz=140
BRSE Bradley Lake S 1.18 100 **Pn** **01 30 04.5 -0.1**
BRSE **Sn** **01 30 22.1 -0.4**
BRSE Bradley Lake S 1.18 100 P **Pn** **01 30 04.6 -0.1**
baz=281,SNR=87
BRSE S **Sn** **01 30 21.9 -0.5**
baz=281
CAPN Captain Cook N 1.24 48 **Pn** **01 30 06.8 +1.6**
CAPN Captain Cook N 1.24 48 P **Pn** **01 30 07.0 +1.7**
baz=230,SNR=6.2
SPCR Spurr Chakacha 1.31 18 **Pn** **01 30 06.2 0.0**
SPCR Spurr Chakacha 1.31 18 P **Pn** **01 30 06.2 0.0**
baz=199,SNR=87
SPCR S **Sn** **01 30 24.9 -0.2**
baz=199
CKN Chakachatna No 1.34 18 **Pn** **01 30 06.7 +0.2**
SPWE Spurr West 1.34 10 **Pn** **01 30 07.0 +0.4**
SPBG Spurr Blockage 1.35 14 **Pn** **01 30 06.9 +0.3**
SPCG Spurr Capps Gl 1.43 20 **Pn** **01 30 07.7 +0.1**
SLKM Skilak Lake 1.51 67 **Pn** **01 30 08.1 -0.3**
SLKM **Sn** **01 30 28.2 -0.9**
N18K Kilae Creek 1.59 298 Pn **Pn** **01 30 08.8 -0.6**
N18K Kilae Creek 1.59 298 P **Pn** **01 30 08.8 -0.6**
baz=116,SNR=55
N18K S **Sn** **01 30 29.3 -1.6**
baz=116
SVW2 Sparrevohn 1.70 313 **Pn** **01 30 10.0 -0.7**
O22K Cooper Landing 1.73 71 **Pn** **01 30 11.1 0.0**
O22K Cooper Landing 1.73 71 P **Pn** **01 30 11.0 -0.1**
baz=254,SNR=27
O22K S **Sn** **01 30 32.6 -1.2**
baz=254
SEW Seward 1.80 84 **Pn** **01 30 11.6 -0.4**
SEW Seward 1.80 84 P **Pn** **01 30 11.3 -0.7**
baz=267,SNR=62
SEW S **Sn** **01 30 34.3 -1.1**
baz=267
FIS Fire Island 1.83 48 Pn **Pn** **01 30 12.3 0.0**
FIS IAML 01 30 42.1
comp=E,3µm,0.5s
FIS IAML 01 30 45.8
comp=N,2µm,0.8s
RC01 Rabbit Creek A 1.99 54 **Pn** **01 30 14.2 0.0**
RC01 Rabbit Creek A 1.99 54 P **Pn** **01 30 14.1 -0.1**
baz=237,SNR=58
RC01 S **Sn** **01 30 38.7 -0.7**
baz=237
M19K Big River Lodg 2.06 342 Pn **Pn** **01 30 14.9 -0.3**
M19K Big River Lodg 2.06 342 P **Pn** **01 30 15.0 -0.2**
baz=161,SNR=194
KELA Mount Kelaz 2.06 224 **Pn** **01 30 15.0 -0.4**
ANCK Angle Creek 2.17 217 **Pn** **01 30 16.7 0.0**
KDAK Kodiak Island 2.20 174 P **Pn** **01 30 15.7 -1.2**
comp=N,174nm,0.3s,baz=36,slow=7.9,SNR=815
KDAK S **Sn** **01 30 42.3 -1.9**
comp=N,143nm,0.3s,baz=137,slow=24,SNR=41
KDAK Kodiak Island 2.20 174 IAML 01 30 44.2
comp=N,2µm,0.3s
KDAK IAML 01 30 44.3
comp=N,2µm,0.4s
KDAK Kodiak Island 2.20 174 P **Pn** **01 30 15.8 -1.2**
baz=354
KDAK S **Sn** **01 30 42.4 -1.7**
baz=354
CAHL Cahill 2.24 212 **Pn** **01 30 17.7 +0.1**
M22K Willow 2.30 37 **Pn** **01 30 18.4 +0.2**
M22K Willow 2.30 37 P **Pn** **01 30 18.2 +0.1**
baz=220,SNR=79
M22K S **Sn** **01 30 47.0 +0.5**
baz=220
KJL Kejulik 2.32 216 **Pn** **01 30 18.8 +0.3**
L19K White Mountain 2.40 339 **Pn** **01 30 19.2 -0.4**
L19K White Mountain 2.40 339 P **Pn** **01 30 19.2 -0.4**
baz=158,SNR=103
PWL Port Wells 2.50 67 Pn **Pn** **01 30 19.8 -1.1**
PWL IAML 01 30 52.5
comp=E,1µm,0.4s
PWL Port Wells 2.50 67 P **Pn** **01 30 19.7 -1.1**
baz=251,SNR=28
PWL S **Sn** **01 30 49.3 -2.0**
baz=251
PMR Palmer 2.52 48 Pn **Pn** **01 30 20.3 -0.7**
PMR IAML 01 30 50.5
comp=E,829nm,0.5s
PMR IAML 01 30 51.1
comp=N,788nm,0.6s
PMR Palmer 2.52 48 P **Pn** **01 30 20.0 -1.0**
baz=231,SNR=25
PMR S **Sn** **01 30 49.2 -2.4**
baz=231
L20K Farewell, AK 2.56 351 **Pn** **01 30 21.7 +0.1**
L20K Farewell, AK 2.56 351 P **Pn** **01 30 21.8 +0.1**
baz=171,SNR=120
KNK Knik Glacier 2.68 55 Pn **Pn** **01 30 22.2 -1.0**
KNK Knik Glacier 2.68 55 P **Pn** **01 30 22.2 -1.0**
baz=239,SNR=15
KNK S **Sn** **01 30 53.7 -1.7**
baz=239
GHO Glory Hole Cre 2.71 46 **Pn** **01 30 23.0 -0.6**
OHAK Old Harbor 2.75 183 Pn **Pn** **01 30 22.2 -1.8**
OHAK IAML 01 30 56.2
comp=N,440nm,0.3s
OHAK Old Harbor 2.75 183 P **Pn** **01 30 22.3 -1.8**
baz=2.5,SNR=24
CUT Chulitna 2.80 27 **Pn** **01 30 25.2 +0.6**
CUT IAML 01 31 05.2
comp=N,1µm,0.4s
CUT Chulitna 2.80 27 P **Pn** **01 30 24.8 +0.2**
baz=210,SNR=40
SML Sawmill 2.95 49 **Pn** **01 30 26.0 -0.8**
SML IAML 01 31 09.7
comp=N,848nm,0.7s
SML IAML 01 31 13.0
comp=E,804nm,0.8s
SML Sawmill 2.95 49 P **Pn** **01 30 25.7 -1.1**
baz=233,SNR=16
PPLA Purkeypile 2.98 7 **Pn** **01 30 27.7 +0.5**
PPLA Purkeypile 2.98 7 P **Pn** **01 30 27.9 +0.7**
baz=188,SNR=58
GLI Glacier Island 3.09 70 Pn **Pn** **01 30 27.9 -0.5**
GLI IAML 01 31 04.7
comp=E,888nm,0.6s
GLI IAML 01 31 09.9
comp=N,558nm,0.6s
GLI Glacier Island 3.09 70 P **Pn** **01 30 27.3 -1.2**
baz=255,SNR=7.3
TT01 Tatalina 3.29 335 **Pn** **01 30 30.6 -0.6**
TTA Tatalina 3.31 336 Pn **Pn** **01 30 30.6 -0.8**
TTA Tatalina 3.31 336 P **Pn** **01 30 30.6 -0.8**
baz=153,SNR=50
FID Port Fidalgo 3.35 73 Pn **Pn** **01 30 31.2 -0.8**
FID IAML 01 31 08.8
comp=E,610nm,0.3s
SCM Sheep Creek Mo 3.36 54 Pn **Pn** **01 30 31.8 -0.4**
SCM IAML 01 31 15.2
comp=N,717nm,0.9s
SCM Sheep Creek Mo 3.36 54 P **Pn** **01 30 31.5 -0.7**
baz=238,SNR=9.4
JPK Jack Peak 3.37 68 **Pn** **01 30 32.6 +0.4**
Q23K Middleton Isla 3.43 96 Pn **Pn** **01 30 32.5 -0.4**
Q23K IAML 01 31 14.7
comp=N,378nm,0.4s
Q23K IAML 01 31 15.0
comp=E,328nm,1.5s
Q23K Middleton Isla 3.43 96 P **Pn** **01 30 32.4 -0.6**
baz=282
MID Middleton Isla 3.44 96 Pn **Pn** **01 30 32.6 -0.5**
MID IAML 01 31 14.2
comp=N,348nm,0.5s
MID IAML 01 31 15.0
comp=E,370nm,1.1s
K20K Telida 3.45 352 Pn **Pn** **01 30 33.3 0.0**
K20K Telida 3.45 352 P **Pn** **01 30 33.2 0.0**
baz=172,SNR=76
SII Sitkinak Islan 3.46 191 Pn **Pn** **01 30 31.7 -1.9**
SII IAML 01 31 12.6
comp=E,277nm,0.3s
SII IAML 01 31 14.7
comp=N,346nm,0.6s
SII Sitkinak Islan 3.46 191 P **Pn** **01 30 31.7 -1.9**
baz=9.5,SNR=10
CAST Castle Rocks 3.50 7 Pn **Pn** **01 30 34.0 0.0**
CAST Castle Rocks 3.50 7 P **Pn** **01 30 34.0 0.0**
baz=188,SNR=148
WAT6 Susitna Watana 3.67 42 **Pn** **01 30 35.5 -0.9**
WAT6 Susitna Watana 3.67 42 P **Pn** **01 30 35.4 -0.9**
baz=227,SNR=65
EYAK Cordova Ski Ar 3.68 78 Pn **Pn** **01 30 35.3 -1.0**
EYAK Cordova Ski Ar 3.68 78 P **Pn** **01 30 35.2 -1.1**
baz=264,SNR=8.3
TRF Thorofare Moun 3.74 19 **Pn** **01 30 37.0 -0.3**
TRF IAML 01 31 20.4
comp=E,163nm,0.3s
TRF IAML 01 31 21.3
comp=N,221nm,0.5s
TRF Thorofare Moun 3.74 19 P **Pn** **01 30 36.4 -0.9**
baz=202,SNR=85
KTH Kantishna Hill 3.74 15 Pn **Pn** **01 30 36.9 -0.3**
KTH IAML 01 31 23.0
comp=N,185nm,0.8s
DIV Divide 3.77 69 **Pn** **01 30 36.6 -1.1**
KLU Klutina 3.82 63 Pn **Pn** **01 30 37.1 -1.1**
KLU Klutina 3.82 63 P **Pn** **01 30 37.1 -1.1**
baz=249,SNR=15
CHUM Lake Minchumin 3.95 5 **Pn** **01 30 40.0 +0.1**
CHUM Lake Minchumin 3.95 5 P **Pn** **01 30 40.1 +0.1**
baz=185,SNR=95
M24K Tolsona, Glenn 3.97 54 Pn **Pn** **01 30 40.1 -0.2**
M24K Tolsona, Glenn 3.97 54 P **Pn** **01 30 39.9 -0.4**
baz=240,SNR=17
RND Reindeer 3.99 28 Pn **Pn** **01 30 40.0 -0.6**
RND IAML 01 31 29.9
comp=E,153nm,0.3s
RND IAML 01 31 48.5
comp=N,119nm,0.9s
DHY Denali Highway 4.14 38 **Pn** **01 30 42.1 -0.5**
DHY IAML 01 31 32.8
comp=N,295nm,0.5s
DHY IAML 01 31 33.1
comp=E,313nm,0.5s
DHY Denali Highway 4.14 38 P **Pn** **01 30 42.1 -0.5**
baz=224,SNR=39
RAGM Ragged Mountai 4.20 81 **Pn** **01 30 43.1 -0.2**
MCK McKinley 4.25 25 Pn **Pn** **01 30 44.0 -0.1**
MCK IAML 01 31 35.1
comp=N,121nm,0.6s
MCK McKinley 4.25 25 P **Pn** **01 30 43.6 -0.5**
baz=209,SNR=75
BPAW Bear Paw Mtn. 4.27 12 Pn **Pn** **01 30 43.6 -0.6**
BPAW Bear Paw Mtn. 4.27 12 P **Pn** **01 30 43.1 -1.1**
baz=194,SNR=68
J20K Nowinta River 4.27 353 **Pn** **01 30 44.2 +0.1**
J20K Nowinta River 4.27 353 P **Pn** **01 30 44.2 +0.1**
baz=173,SNR=87
BMRM Bremner River 4.29 73 Pn **Pn** **01 30 44.4 -0.2**
BMRM IAML 01 31 52.2
comp=E,178nm,0.9s
BMRM IAML 01 31 52.6
comp=N,277nm,0.7s
BMRM Bremner River 4.29 73 P **Pn** **01 30 42.8 -1.9**
baz=260,SNR=28
KAIM Kayak Island 4.33 87 Pn **Pn** **01 30 45.2 +0.1**
KAIM IAML 01 31 36.8
comp=E,238nm,1.2s
KAIM IAML 01 31 38.9
comp=N,279nm,0.5s
KAIM Kayak Island 4.33 87 P **Pn** **01 30 44.9 -0.2**
baz=274,SNR=5.6
CHIR Chirikof Islan 4.37 200 Pn **Pn** **01 30 43.5 -2.1**
CHIR IAML 01 31 31.7
comp=N,170nm,2.0s
CHIR IAML 01 33 41.0
comp=E,201nm,3.0s
CHIR Chirikof Islan 4.37 200 P **Pn** **01 30 43.6 -2.1**
baz=17
HMT Hamilton 4.40 81 Pn **Pn** **01 30 45.9 -0.1**
N25K Chitina, Valde 4.45 65 Pn **Pn** **01 30 45.9 -0.9**
N25K IAML 01 31 37.6
comp=N,312nm,0.4s
N25K IAML 01 31 38.2
comp=E,250nm,0.4s
N25K Chitina, Valde 4.45 65 P **Pn** **01 30 45.7 -1.1**
baz=252,SNR=15
HARP HAARP 4.53 54 **Pn** **01 30 48.5 +0.7**
HARP HAARP 4.53 54 P **Pn** **01 30 46.5 -1.2**
baz=241,SNR=12
NICHA Nichawak Mount 4.55 83 **Pn** **01 30 47.9 -0.1**
BWN Browne 4.55 20 Pn **Pn** **01 30 47.7 -0.3**
BWN IAML 01 32 14.4
comp=N,156nm,1.1s
BWN IAML 01 32 20.5
comp=E,182nm,1.1s
CHGN Chignik 4.64 220 Pn **Pn** **01 30 48.7 -0.6**
CHGN IAML 01 31 42.0
comp=N,94nm,0.5s
CHGN Chignik 4.64 220 P **Pn** **01 30 48.6 -0.6**
baz=36
SUCK Suckling Hills 4.65 85 Pn **Pn** **01 30 49.7 +0.3**
SUCK IAML 01 31 48.6
comp=E,132nm,1.9s
SUCK IAML 01 31 59.0
comp=N,127nm,1.9s
BERG Berg Lake 4.68 81 **Pn** **01 30 49.4 -0.4**
BERG IAML 01 31 44.2
comp=E,250nm,0.5s
PAX Paxson 4.72 47 Pn **Pn** **01 30 50.3 -0.1**
PAX Paxson 4.72 47 P **Pn** **01 30 49.9 -0.4**
baz=234,SNR=32
GLB Gilahina Butte 4.77 68 **Pn** **01 30 50.1 -0.9**
GLB IAML 01 31 45.4
comp=N,145nm,0.6s
GLB IAML 01 31 45.8
comp=E,147nm,0.4s
GRIN Grindle Hills 4.87 82 **Pn** **01 30 52.3 0.0**
BGLC Bering Glacier 4.89 84 P **Pn** **01 30 53.5 +1.0**
baz=272
VRDI Verde Repeater 4.89 71 Pn **Pn** **01 30 52.7 -0.1**
VRDI IAML 01 31 48.6
comp=N,136nm,0.4s
VRDI IAML 01 31 49.5
comp=E,86nm,0.5s
PS10 TAPS Pump St10 4.90 42 **Pn** **01 30 53.3 +0.6**
KHIT Khitrov Hills 4.91 80 **Pn** **01 30 52.5 -0.4**
VNHG Veniaminof 1 4.96 224 **Pn** **01 30 54.1 +0.5**
NEA2 Nenana 5.00 20 Pn **Pn** **01 30 53.4 -0.7**
NEA2 Nenana 5.00 20 P **Pn** **01 30 53.5 -0.6**
baz=204,SNR=183
WRH Wood River Hil 5.08 25 **Pn** **01 30 54.5 -0.6**
WRH IAML 01 31 51.5
comp=N,73nm,0.7s
WRH IAML 01 31 54.4
comp=E,53nm,0.6s
WAX Waxell Ridge 5.10 80 **Pn** **01 30 55.5 -0.1**
SNH Sunshine Point 5.11 83 **Pn** **01 30 56.0 +0.4**
SNH IAML 01 31 53.8
comp=E,125nm,0.6s
SNH IAML 01 31 55.0
comp=N,135nm,0.3s
MCARA McCarthy VSAT 5.13 70 Pn **Pn** **01 30 56.1 +0.3**
MCARA McCarthy VSAT 5.13 70 P **Pn** **01 30 54.9 -0.9**
baz=258,SNR=8.1
GCSA Galena City Sc 5.13 341 **Pn** **01 30 55.4 -0.3**
GCSA Galena City Sc 5.13 341 P **Pn** **01 30 55.0 -0.7**
baz=158,SNR=15
TGL Tana Glacier 5.13 77 Pn **Pn** **01 30 56.0 +0.1**
TGL IAML 01 31 56.6
comp=N,113nm,0.7s
TGL IAML 01 32 01.4
comp=E,88nm,0.7s
I21K Tanana 5.26 5 Pn **Pn** **01 30 57.4 -0.2**
I21K Tanana 5.26 5 P **Pn** **01 30 56.7 -0.8**
baz=186,SNR=77
CYK Cape Yakataga 5.29 84 **Pn** **01 30 58.5 +0.5**
CCB Clear Creek Bu 5.30 25 Pn **Pn** **01 30 57.1 -0.9**
CCB IAML 01 31 56.8
comp=N,67nm,0.4s
CCB IAML 01 31 59.9
comp=E,70nm,0.5s
PTPK Patty Peak 5.36 72 **Pn** **01 30 58.3 -0.7**
ISLE Juniper Island 5.36 78 Pn **Pn** **01 30 59.1 0.0**
ISLE IAML 01 32 00.8
comp=E,130nm,0.7s
ISLE IAML 01 32 03.2
comp=N,112nm,0.8s
MENT Mentasta 5.37 52 **Pn** **01 30 59.7 +0.6**
MENT IAML 01 32 20.9
comp=N,162nm,0.8s
BALM Baldy 5.39 74 **Pn** **01 30 58.4 -1.1**
RIDG Independent Ri 5.42 42 Pn **Pn** **01 30 59.9 +0.1**
RIDG Independent Ri 5.42 42 P **Pn** **01 30 59.3 -0.5**
baz=229,SNR=64
PS08 TAPS Pump Stn8 5.44 30 **Pn** **01 30 59.3 -0.6**
M26K Nabesna, AK 5.44 59 **Pn** **01 30 59.7 -0.3**
M26K Nabesna, AK 5.44 59 P **Pn** **01 30 59.3 -0.7**
baz=248,SNR=22
I23K Minto, Yukon-K 5.48 16 Pn **Pn** **01 31 00.4 0.0**
I23K Minto, Yukon-K 5.48 16 P **Pn** **01 30 59.9 -0.6**
baz=200,SNR=199
BAGL Bagley Icefiel 5.48 80 **Pn** **01 31 01.1 +0.6**
TCOL CIGO, UAF Yank 5.49 24 Pn **Pn** **01 31 00.4 -0.1**
TCOL CIGO, UAF Yank 5.49 24 P **Pn** **01 30 59.9 -0.6**
baz=208,SNR=38
COLA College 5.49 24 Pn **Pn** **01 31 00.6 0.0**
COLA College 5.49 24 P **Pn** **01 30 60.0 -0.6**
baz=208
MDM Murphy Dome 5.49 22 Pn **Pn** **01 31 00.3 -0.4**
IL31 5.61 28 Pn **Pn** **01 31 01.6 -0.6**
ILAR Eielson Array 5.61 28 P **Pn** **01 31 01.1 -1.1**
comp=N,22nm,0.3s,baz=216,slow=14,SNR=931
ILAR S **Sn** **01 32 02.5 -2.9**
comp=N,17nm,0.3s,baz=198,slow=18,SNR=2.7
ILAR Eielson Array 5.61 28 Pn **Pn** **01 31 01.5 -0.8**
DOT Dot Lake 5.64 45 Pn **Pn** **01 31 03.0 +0.3**
GRNC Granite Creek 5.66 77 Pn **Pn** **01 31 03.6 +0.4**
H21K Melozitna Rive 5.72 1 Pn **Pn** **01 31 03.7 -0.1**
H21K Melozitna Rive 5.72 1 P **Pn** **01 31 03.2 -0.6**
baz=181,SNR=73
BARN Barnard Glacie 5.73 74 Pn **Pn** **01 31 04.8 +0.7**
POKR Poker Plat Res 5.79 24 **Pn** **01 31 04.2 -0.5**
POKR Poker Plat Res 5.79 24 P **Pn** **01 31 03.7 -1.0**
baz=209,SNR=29
SCRK Sand Creek 5.87 43 Pn **Pn** **01 31 04.9 -1.0**
SCRK Sand Creek 5.87 43 P **Pn** **01 31 04.5 -1.3**
baz=231,SNR=36
CTG Chitna Glacier 5.87 75 P **Pn** **01 31 06.3 +0.4**
baz=265,SNR=46
CTGM Chitina Glacie 5.88 75 Pn **Pn** **01 31 06.7 +0.7**
J25K Salcha River, 5.88 34 Pn **Pn** **01 31 05.4 -0.6**
J25K Salcha River, 5.88 34 P **Pn** **01 31 05.3 -0.6**
baz=221
M27K Edge Creek, AK 5.91 61 Pn **Pn** **01 31 06.6 +0.1**
M27K Edge Creek, AK 5.91 61 P **Pn** **01 31 05.7 -0.8**
baz=251
TABL Table Mountain 5.95 80 Pn **Pn** **01 31 07.5 +0.4**
LOGN Logan Glacier 6.03 77 **Pn** **01 31 08.6 +0.5**
IMAR Indian Mountai 6.06 357 Pn **Pn** **01 31 08.6 +0.3**
H23K Yukon River 6.10 14 Pn **Pn** **01 31 09.0 +0.1**
H23K Yukon River 6.10 14 P **Pn** **01 31 08.0 -0.9**
baz=197,SNR=211
SDPT Sand Point 6.11 224 P **Pn** **01 31 08.0 -0.9**
baz=38
L27K Beaver Creek, 6.20 55 Pn **Pn** **01 31 10.5 +0.2**
L27K Beaver Creek, 6.20 55 P **Pn** **01 31 09.6 -0.7**
baz=245,SNR=8.0
BCAR Beaver Creek A 6.22 55 Pn **Pn** **01 31 10.5 -0.1**
J26L Joseph Creek 6.35 40 P **Pn** **01 31 11.4 -1.0**
baz=228,SNR=58
H24K Noodor Dome 6.35 20 Pn **Pn** **01 31 12.1 -0.2**
H24K Noodor Dome 6.35 20 P **Pn** **01 31 11.6 -0.8**
baz=204,SNR=83
YUK3 Moose Creek 6.41 68 P **Pn** **01 31 12.8 -0.4**
baz=259,SNR=14
PCA Pinnacle 6.41 83 Pn **Pn** **01 31 13.7 +0.6**
BCPM Bancas Point 6.73 84 Pn **Pn** **01 31 17.9 +0.4**
YKU2 Yakutat 6.77 88 Pn **Pn** **01 31 18.3 +0.3**
PNL Peninsula 6.89 87 P **Pn** **01 31 18.9 -0.6**
baz=278,SNR=86
YUK4 Talbot Arm 7.21 73 P **Pn** **01 31 24.2 +0.2**
baz=265
YUK6 Outpost Mounta 7.32 76 P **Pn** **01 31 25.5 -0.2**
baz=269,SNR=16
EGAK Eagle 7.33 44 Pn **Pn** **01 31 24.6 -0.9**
ANM Nome 7.38 314 Pn **Pn** **01 31 26.7 +0.6**
COLD Coldfoot 7.41 9 Pn **Pn** **01 31 26.6 +0.1**
COLD Coldfoot 7.41 9 P **Pn** **01 31 26.2 -0.3**
baz=191,SNR=52
DAWY Dawson 7.62 51 Pn **Pn** **01 31 29.5 0.0**
HYT Haines Junctio 7.74 77 Pn **Pn** **01 31 31.4 +0.2**
HYT Haines Junctio 7.74 77 P **Pn** **01 31 30.8 -0.4**
baz=270,SNR=7.6
M30M Minto, Yukon 8.25 64 Pn **Pn** **01 31 39.0 +1.0**
BMAR Burnt Mountain 8.38 23 Pn **Pn** **01 31 37.9 -1.8**
N31M Braeburn, Yuko 8.59 72 Pn **Pn** **01 31 42.2 -0.4**
N31M Braeburn, Yuko 8.59 72 P **Pn** **01 31 41.9 -0.7**
baz=267,SNR=6.1
I29M Ogilvie Camp, 8.66 45 Pn **Pn** **01 31 43.1 -0.4**
TOLK Toolik Lake Re 8.84 8 Pn **Pn** **01 31 46.5 +0.5**
TOLK Toolik Lake Re 8.84 8 P **Pn** **01 31 45.9 -0.1**
baz=191,SNR=31
SKAG Skagway 8.96 86 **Pn** **01 31 49.2 +1.6**
WHY Whitehorse 9.04 78 Pn **Pn** **01 31 48.3 -0.4**
WHY Whitehorse 9.04 78 P **Pn** **01 31 47.6 -1.1**
baz=274,SNR=19
M31M Drury Creek, Y 9.30 68 **Pn** **01 31 52.7 +0.5**
M31M Drury Creek, Y 9.30 68 P **Pn** **01 31 51.9 -0.4**
baz=264
BESE Bessie Mountai 9.41 91 Pn **Pn** **01 31 54.8 +1.1**
UNV Unalaska Valle 9.57 236 Pn **Pn** **01 31 55.2 -0.6**
SIT Sitka 9.71 100 Pn **Pn** **01 31 55.9 -1.8**
SIT Sitka 9.71 100 P **Pn** **01 31 56.3 -1.3**
baz=295
JIS Juneau Island 9.73 92 Pn **Pn** **01 31 59.1 +1.1**
MMPY Sheldon Lake, 10.79 66 P **Pn** **01 32 12.6 +0.2**
baz=266
WRAK Wrangell Islan 11.46 99 Pn **Pn** **01 32 22.1 +0.8**
CRAG Craig 11.54 104 Pn **Pn** **01 32 20.9 -1.4**
CRAG Craig 11.54 104 P **Pn** **01 32 21.5 -0.9**
baz=301
DLBC Dease Lake 11.88 87 P **Pn** **01 32 27.9 +1.1**
comp=N,4.6nm,0.3s,baz=259,slow=4.0,SNR=49
DLBC S **Sn** **01 34 36.5 -0.9**
comp=N,0.9nm,0.3s,baz=132,slow=23,SNR=2.4
DLBC Dease Lake 11.88 87 Pn **Pn** **01 32 28.6 +1.8**
INK Inuvik 11.88 37 P **Pn** **01 32 24.6 -2.1**
comp=N,0.6nm,0.3s,baz=234,slow=15,SNR=20
INK Inuvik 11.88 37 Pn **Pn** **01 32 24.5 -2.2**
INK Inuvik 11.88 37 P **Pn** **01 32 26.1 -0.6**
baz=235,SNR=6.5
DIB Dawson Inlet, 13.16 112 Pn **Pn** **01 32 43.8 +0.3**
MOBC Moresby Island 13.43 111 Pn **Pn** **01 32 49.1 +1.9**
RUBB Prince Rupert 13.55 105 Pn **P** **01 32 51.6 -2.0**
GRNB Grenville Isla 13.97 106 Pn **P** **01 32 56.4 -2.0**
C36M Paulatuk 15.38 40 Pn **Pn** **01 33 09.6 -2.2**
C36M IAmb IAmb 01 33 12.3

comp=Z,8.4nm,0.5s
C36M Paulatuk 15.38 40 P Pn 01 33 08.7 -3.1
baz=247,SNR=23
ADK Adak 15.45 249 Pn P 01 33 13.6 -1.1
KIWB Kanaga Island 15.69 250 Pn P 01 33 16.3 -1.1
BBB Bella Bella 15.86 108 P P 01 33 21.1 +1.8
comp=Z,0.2nm,0.3s,baz=324,slow=11,SNR=1.3
BBB S Sn 01 36 12.5 -0.9
comp=Z,0.3nm,0.3s,baz=167,slow=8.9,SNR=1.2
A36M Sachs Harbour 16.30 31 Pn Pn 01 33 22.4 -0.6
A36M IAmb IAmb 01 33 29.2
comp=Z,16nm,0.8s
A36M Sachs Harbour 16.30 31 P Pn 01 33 20.0 -3.1
baz=237,SNR=17
YKA Yellowknife Ar 18.48 66 P P 01 33 48.6 +0.6
comp=Z,0.8nm,0.3s,baz=277,slow=9.9,SNR=73
YKA ScP ScP 01 41 37.0 -0.3
comp=Z,0.1nm,0.3s,baz=291,slow=2.2,SNR=12
YKA Yellowknife Ar 18.48 66 P P 01 33 47.0 -1.0
LTY Liberty 22.75 109 P P 01 34 34.4 +0.8
RES Resolute Bay 25.35 32 P P 01 34 57.0 0.0
comp=Z,2.0nm,0.7s,baz=278,slow=21,SNR=6.2
RES Resolute Bay 25.35 32 P P 01 34 57.6 +0.6
JTMT Jette 25.51 101 P P 01 35 00.3 +1.4
MA2 Magadan 27.58 294 P P 01 35 18.0 +0.8
comp=Z,3.3nm,0.3s,baz=173,slow=19,SNR=3.7
HVU Hansel Valley 30.59 108 P P 01 35 44.2 0.0
HVU IAmb IAmb 01 35 44.6
comp=Z,2.4nm,0.7s
LCH Last Change Ra 32.00 119 P P 01 35 58.0 +1.4
LCH IAmb IAmb 01 35 58.7
comp=Z,1.3nm,0.6s
KLR Kul'dur 42.54 290 P P 01 37 25.4 +0.3
comp=Z,2.1nm,0.7s,baz=60,slow=6.1,SNR=8.4
SCHQ Schefferville 43.60 57 P P 01 37 33.9 +0.2
comp=Z,1.0nm,0.6s,baz=301,slow=7.1,SNR=3.8
SCHQ Schefferville 43.60 57 P P 01 37 33.7 +0.1
U38A Gravette 43.77 95 P P 01 37 38.0 +2.8
U38A IAmb IAmb 01 37 38.9
comp=Z,2.7nm,0.7s
USRK Ussuriysk Ar. 46.03 285 LR LR 01 57 22.9
comp=Z,79nm,21.6s,baz=171,slow=36
M55A Ridgway 47.73 78 P P 01 38 07.5 +1.3
BATG Bathurst New B 49.38 64 P P 01 38 19.2 +0.4
BATG IAmb IAmb 01 38 21.9
comp=Z,5.5nm,1.2s
BORG Borgarnes 50.43 25 LR LR 02 04 57.4
comp=Z,15nm,18.1s,baz=352,slow=42
LMN Caledonia Moun 51.03 64 P P 01 38 31.3 +0.1
KSRS Korea Array 53.17 283 P P 01 38 47.9 +0.7
comp=Z,2.3nm,0.6s,baz=45,slow=7.0,SNR=8.5
SONM Songino Array 54.80 306 P P 01 39 00.0 +1.0
comp=Z,3.4nm,0.8s,baz=46,slow=7.3,SNR=11
SONM Songino Array 54.80 306 P P 01 39 00.1 +1.1
SONM IAmb IAmb 01 39 00.5
comp=Z,2.6nm,0.7s
ZAA0 Zalesovo Array 57.40 324 P P 01 39 17.1 -0.1
ZAA0 IAmb IAmb 01 39 17.6
comp=Z,1.4nm,0.5s
ZALV Zalesovo Beam 57.40 324 P P 01 39 17.1 -0.1
comp=Z,1.4nm,0.5s,baz=32,slow=7.9,SNR=6.2
ZALV Zalesovo Beam 57.40 324 P P 01 39 17.0 -0.2
MKAR Makanchi Array 64.45 321 P P 01 40 03.9 -1.1
comp=Z,0.2nm,0.5s,baz=15,slow=6.0,SNR=1.9
ABKAR Akbulak array 67.89 337 P P 01 40 26.1 -0.9

*JMA **20** 01:35:55.9±0.2,24.°00N×122.°49E,h20km,M2.2*
*TAP **20** 01:35:55.3,23.°90N×122.°43E,h17km,ML2.8,D*
ISC 20 01:35:54.6±1.3,**23.°91N**±0.°03×**122.°49E**±0.°02,**h18**km±4km,
n59,σ0°**43**/81,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.68**	**38**	P	**Pb**	**01 36 07.8**	**-0.1**
JYNG				*eS*	**Sb**	**01 36 15.7**	**-1.2**
YOJ	**Yonaguni jima**	**0.73**	**41**	P	**Pb**	**01 36 08.5**	**-0.2**
YOJ				S	**Sb**	**01 36 16.9**	**-1.4**
EHP	**Heping Village**	**0.79**	**300**	*eP*	**Pg**	**01 36 10.2**	**+0.2**
	baz=303						
ETL	**Fush Village**	**0.83**	**287**	*i* P	**Pg**	**01 36 10.9**	**+0.1**
	baz=289						
TWD	**Chiawan**	**0.83**	**282**	*i* P	**Pg**	**01 36 10.8**	**-0.1**
	baz=283						
EWUT	**Wuta**	**0.84**	**309**	*i* P	**Pg**	**01 36 11.0**	**+0.1**
	baz=312						
EWUT				*i* S	**Sn**	**01 36 22.8**	**-0.5**
	baz=312						
ENA	**Nanau**	**0.85**	**307**	*i* P	**Pg**	**01 36 11.3**	**0.0**
	baz=310						
NACB	**Ninganchiao**	**0.86**	**288**	*i* P	**Pg**	**01 36 11.2**	**-0.1**
	baz=289						
NACB				*i* S	**Sg**	**01 36 23.0**	**+0.3**
	baz=289						
TWC	**Suao**	**0.91**	**320**	*i* P	**Pb**	**01 36 11.7**	**0.0**
	baz=323						
ETM	**Tongmen**	**0.91**	**274**	*i* P	**Pg**	**01 36 12.2**	**-0.1**
	baz=274						
ETLH	**Xiulin Townshi**	**0.96**	**288**	*eP*	**Pb**	**01 36 13.0**	**+0.2**
	baz=289						
ETLH				*eS*	**Sg**	**01 36 25.9**	**-0.2**
	baz=289						
NDS	**Dongshan**	**1.01**	**316**	P	**Pn**	**01 36 13.9**	**+0.1**
	baz=318						
NDS				*eS*	**Sn**	**01 36 27.8**	**+0.3**
	baz=318						
HGSD	**Ruisui**	**1.06**	**247**	*eP*	**Pn**	**01 36 14.7**	**+0.2**
	baz=246						
HGSD				*eS*	**Sb**	**01 36 28.1**	**+0.2**
	baz=246						
LATG	**Datong**	**1.07**	**305**	*eP*	**Pn**	**01 36 15.0**	**+0.2**
	baz=307						
TWE	**Neicheng**	**1.10**	**317**	*eP*	**Pg**	**01 36 15.8**	**-0.1**
	baz=320						
ENTT	**Nioudou**	**1.11**	**311**	P	**Pg**	**01 36 15.7**	**-0.4**
	baz=313						
NTC	**Toucheng**	**1.11**	**328**	*eP*	**Pg**	**01 36 16.1**	**-0.1**
	baz=330						
ECBN	**Changbin**	**1.12**	**238**	*eP*	**Pb**	**01 36 15.5**	**+0.1**
	baz=237						
NDT	**Datong Townshi**	**1.12**	**308**	*eP*	**Pg**	**01 36 16.0**	**-0.4**
	baz=310						
NNSB	**Datong**	**1.13**	**297**	P	**Pb**	**01 36 15.9**	**+0.2**
	baz=299						
NNSB				S	**Sn**	**01 36 31.1**	**+0.3**
	baz=299						
WHF	**Hehuan Shan**	**1.14**	**282**	*eP*	**Pb**	**01 36 15.7**	**-0.3**
	baz=283						
EHY	**Hungye**	**1.14**	**249**	P	**Pn**	**01 36 15.6**	**0.0**
	baz=248						
EHY				*eS*	**Sb**	**01 36 30.3**	**0.0**
	baz=248						
NNS	**Nan Shan**	**1.15**	**298**	P	**Pb**	**01 36 16.2**	**+0.3**
	baz=299						
NNS				*eS*	**Sn**	**01 36 31.1**	**0.0**
	baz=299						
FUSB	**Fushanzhiwuyua**	**1.18**	**316**	P	**Pb**	**01 36 16.9**	**+0.4**
	baz=318						
FUSB				*eS*	**Sg**	**01 36 32.6**	**-0.2**
	baz=318						
OWD	**Renai**	**1.20**	**272**	*eP*	**Pb**	**01 36 17.0**	**+0.2**
	baz=272						
OWD				*eS*	**Sb**	**01 36 31.9**	**-0.2**
	baz=272						
CHGB	**Renai**	**1.21**	**277**	*eP*	**Pn**	**01 36 17.0**	**+0.2**
	baz=278						
CHGB				*eS*	**Sn**	**01 36 33.0**	**+0.1**
	baz=278						
IRIF	**Iriomote-Funau**	**1.21**	**69**	P	**Pb**	**01 36 17.3**	**+0.4**
IRIF				S	**Sn**	**01 36 32.7**	**+0.2**
HATJ	**Hateruma jima**	**1.21**	**83**	*eS*	**Sn**	**01 36 32.6**	**0.0**
TIPB	**Shuangxi**	**1.22**	**330**	*eP*	**Pg**	**01 36 17.7**	**-0.5**
	baz=332						
TIPB				*eS*	**Sn**	**01 36 33.1**	**+0.4**
	baz=332						
TWF1	**Yuli**	**1.23**	**243**	P	**Pb**	**01 36 17.2**	**0.0**
	baz=242						
VWDT	**VWDT**	**1.24**	**263**	*eP*	**Pb**	**01 36 17.4**	**-0.1**
	baz=263						
VWDT				*eS*	**Sn**	**01 36 33.3**	**+0.1**
	baz=263						
NWLT	**Wulai**	**1.24**	**314**	P	**Pb**	**01 36 17.8**	**+0.2**
	baz=316						
NWLT				*eS*	**Sn**	**01 36 34.1**	**+0.7**
	baz=316						
YHNB	**Yeheng**	**1.26**	**307**	*eP*	**Pb**	**01 36 17.9**	**0.0**
	baz=308						
NSK	**Sanguang**	**1.28**	**307**	P	**Pb**	**01 36 18.2**	**0.0**
	baz=308						
SXI1	**Grass Mountain**	**1.30**	**335**	*eP*	**Pn**	**01 36 18.3**	**+0.3**
	baz=337						
NWF	**Wu-fen Shan**	**1.32**	**331**	*eP*	**Pb**	**01 36 18.8**	**-0.1**
	baz=333						
WFSB	**Wu-fen Shan**	**1.32**	**331**	*eP*	**Pb**	**01 36 18.7**	**-0.1**
	baz=333						
SSLB	**Suanglung**	**1.41**	**265**	*eP*	**Pb**	**01 36 20.4**	**0.0**
	baz=265						
JKRS	**Kuro-shima**	**1.43**	**77**	P	**Pb**	**01 36 21.3**	**+0.7**
JKRS				*eS*	**Sb**	**01 36 39.4**	**+0.9**
DPDB	**Guoxing**	**1.43**	**275**	*eP*	**Pb**	**01 36 20.5**	**-0.3**
	baz=275						
EDH	**Donghe**	**1.43**	**230**	*eP*	**Pn**	**01 36 19.7**	**0.0**
	baz=228						
EDH				*eS*	**Sn**	**01 36 36.4**	**-1.7**
	baz=228						
NFF	**Wufeng Townshi**	**1.44**	**300**	*eP*	**Pb**	**01 36 21.3**	**+0.4**
	baz=301						
WCS	**Beigang Elemen**	**1.45**	**276**	*eP*	**Pb**	**01 36 21.1**	**+0.1**
	baz=276						
SMLT	**Sun Moon Lake**	**1.45**	**269**	*eP*	**Pb**	**01 36 21.7**	**+0.5**
	baz=269						
WHP	**Taichung City**	**1.46**	**285**	*eP*	**Pb**	**01 36 21.6**	**+0.4**
	baz=285						
YM01	**YM01**	**1.49**	**326**	*eP*	**Pb**	**01 36 21.6**	**-0.1**
	baz=327						
TYC	**Yuchr**	**1.49**	**270**	*eP*	**Pb**	**01 36 22.4**	**+0.7**
	baz=270						
LIOB	**Emei**	**1.53**	**299**	*eP*	**Pb**	**01 36 23.0**	**+0.6**
	baz=300						
NSTT	**Nanjuang**	**1.53**	**298**	*eP*	**Pb**	**01 36 22.9**	**+0.4**
	baz=299						
LDUT	**Ludao**	**1.55**	**217**	*eP*	**Pn**	**01 36 20.5**	**-0.7**
	baz=215						
JIJ	**Ishigaki jima**	**1.58**	**73**	P	**Pn**	**01 36 22.0**	**+0.4**
JIJ				*eS*	**Sn**	**01 36 41.5**	**-0.1**
TWGBT	**Beinan**	**1.69**	**230**	*eP*	**Pn**	**01 36 23.4**	**+0.2**
	baz=229						
TWGBT				*eS*	**Sn**	**01 36 44.1**	**-0.2**
	baz=229						
TWG	**Pinlang**	**1.69**	**230**	*eP*	**Pn**	**01 36 23.4**	**+0.1**
	baz=229						
TWG				*eS*	**Sn**	**01 36 44.2**	**-0.2**
	baz=229						
STYH	**Taoyuan**	**1.74**	**245**	*eP*	**Pn**	**01 36 24.4**	**+0.6**
	baz=244						
STYT	**Tauyuan**	**1.75**	**245**	*eP*	**Pn**	**01 36 24.9**	**+0.8**
	baz=244						
JISG	**Ishigakijimahi**	**1.79**	**68**	*eS*	**Sn**	**01 36 46.7**	**-0.2**
WTK	**Tuku**	**1.94**	**264**	*eP*	**Pb**	**01 36 29.0**	**-0.3**
	baz=263						
CHN1	**Nanshi**	**1.94**	**248**	*eP*	**Pb**	**01 36 29.7**	**+0.3**
	baz=247						
LYUB	**Lan-yu**	**2.08**	**204**	*eP*	**Pn**	**01 36 28.8**	**+0.4**
	baz=202						

*IDC **20** 01:40:55.4±0.6,27.°44N×140.°10E,h417km±5km,mb3.3/24, mb1 3.5/27,mb1mx3.4/48,mbtmp4.0/27,Error ellipse: s-maj=14.0km s-min=11.0km az=67.0*
*JMA **20** 01:40:56.9±0.1,27.°72N×140.°79E,h434km,M4.3*
ISC 20 01:40:54.7±0.5,**27.°49N**±0.°08×**140.°08E**±0.°09,**h400**km,**n48,**
σ1°**92**/53,**mb3.7**/27,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.91**	**101**	P	**Pn**	**01 41 53.1**	**+3.0**
CBIJ				S	**S**	**01 42 37.5**	**+2.6**
JCJ	**Chichijima**	**1.91**	**101**	P	**Pn**	**01 41 53.0**	**+2.9**
	73nm,0.3s,baz=23,slow=9.8,SNR=56						
JCJ				S	**S**	**01 42 38.0**	**+3.1**
	94nm,0.3s,baz=291,slow=22,SNR=11						
JHH2	**Haha-jima-NKT2**	**2.05**	**114**	P	**Pn**	**01 41 54.6**	**+3.6**
JHH2				S	**S**	**01 42 40.2**	**+3.7**
JHJ	**Hachijo jima 2**	**5.62**	**357**	P	**Pn**	**01 42 26.1**	**+3.0**
	19nm,0.3s,baz=251,slow=12,SNR=1.7						
TTO1	**TONANKAI O.B.S**	**6.75**	**336**	P	P	01 42 41.0	+5.3
BSO3	**Boso 3**	**7.30**	**3**	P	**P**	**01 42 43.6**	**+1.7**
JKN2	**Miekihoku**	**7.49**	**335**	P	**P**	**01 42 48.5**	**+4.3**
JOD2	**Odawara 2**	**7.80**	**354**	P	**P**	**01 42 49.3**	**+1.5**
MRT2	**Murotomisaki 2**	**7.80**	**320**	P	P	01 42 53.0	+5.2
JAG	**Ashikaga**	**8.93**	**357**	P	**Pn**	**01 43 00.4**	**+0.2**
JAG				*eS*	**S**	**01 44 40.0**	**-3.3**
JHO	**Hitachi**	**9.11**	**2**	P	**P**	**01 43 03.8**	**+1.5**
MJAR	**Matsushiro Arr**	**9.17**	**350**	P	**Pn**	**01 43 05.3**	**+2.2**
	0.5nm,0.3s,baz=199,slow=8.2,SNR=6.2						
JHS	**Saijyo**	**9.57**	**323**	P	**Pn**	**01 43 12.1**	**+4.4**
KSRS	**Korea Array**	**14.27**	**317**	P	**P**	**01 44 02.6**	**+3.5**
	0.3nm,0.3s,baz=139,slow=8.5,SNR=1.6						
JOSM	**Okushiri--Mats**	**14.57**	**358**	P	**P**	**01 44 04.6**	**+2.3**
USRK	**Ussuriysk Ar.**	**17.91**	**341**	P	**P**	**01 44 39.5**	**+1.5**
	baz=146,slow=9.6,SNR=9.0						
KLR	**Kul'dur**	**22.64**	**346**	P	**P**	**01 45 23.8**	**+0.9**
	0.6nm,0.5s,baz=203,slow=7.7,SNR=4.6						
SONM	**Songino Array**	**33.15**	**317**	P	**P**	**01 46 56.2**	**+0.6**
	0.3nm,0.5s,baz=138,slow=13,SNR=2.1						
JIRN	**Jiri**	**47.44**	**283**	*eP*	**P**	**01 48 52.3**	**+0.6**
	8.6nm,0.8s						
WRA	**Warramunga Arr**	**47.47**	**187**	P	**P**	**01 48 50.4**	**-1.1**
	0.5nm,0.4s,baz=4.2,slow=7.6,SNR=18						
WRA				pP	**PcP**	**01 50 15.1**	**+0.7**
	0.4nm,0.7s,baz=13,slow=9.2,SNR=2.1						
ZALV	**Zalesovo Beam**	**47.97**	**319**	P	**P**	**01 48 54.4**	**-0.4**
	2.2nm,0.8s,baz=100,slow=8.0,SNR=5.4						
ZALV				PcP	**pP**	**01 50 12.8**	**-0.6**
	1.2nm,0.3s,baz=118,slow=3.1,SNR=6.3						
DMN	**Daman**	**48.39**	**284**	*eP*	**P**	**01 49 00.1**	**+1.3**
MKAR	**Makanchi Array**	**48.78**	**309**	P	**P**	**01 49 01.1**	**-0.1**
	0.4nm,0.5s,baz=91,slow=9.7,SNR=5.5						
MKAR				PcP	**PcP**	**01 50 17.2**	**-1.7**
	0.6nm,0.5s,baz=80,slow=8.4,SNR=6.0						
DANN	**Dangsing**	**49.38**	**285**	*eP*	**P**	**01 49 06.4**	**+0.2**
	20nm,0.7s						
PYUN	**Piuthan**	**50.10**	**285**	*eP*	**P**	**01 49 11.6**	**+0.1**
	13nm,0.4s						
ASAR	**Alice Springs**	**51.20**	**187**	P	**P**	**01 49 18.9**	**-0.4**
	0.2nm,0.3s,baz=354,slow=5.3,SNR=4.9						
NRIK	**Noril'sk**	**51.61**	**339**	P	**P**	**01 49 21.4**	**-0.3**
	3.7nm,0.7s,baz=108,slow=8.7,SNR=5.9						
ILAR	**Eielson Array**	**58.27**	**29**	P	**P**	**01 50 07.8**	**-1.0**
	0.6nm,0.6s,baz=251,slow=6.2,SNR=11						
INK	**Inuvik**	**63.45**	**25**	P	**P**	**01 50 41.4**	**-1.7**
	0.6nm,0.4s,baz=286,slow=6.3,SNR=11						
ARCES	**ARCESS Array B**	**72.56**	**340**	P	**P**	**01 51 38.5**	**-0.6**
	0.8nm,0.5s,baz=73,slow=9.0,SNR=12						
YKA	**Yellowknife Ar**	**72.68**	**28**	P	**P**	**01 51 39.0**	**-0.9**
	2.3nm,0.5s,baz=297,slow=6.1,SNR=36						
KBZ	**Khabaz**	**76.37**	**312**	P	**P**	**01 52 01.4**	**+0.2**
	1.7nm,0.9s,baz=65,slow=6.0,SNR=5.9						
FINES	**FINESS Array B**	**76.77**	**333**	P	**P**	**01 52 02.0**	**-1.0**
	4.1nm,0.5s,baz=66,slow=5.4,SNR=58						
YBH	**Yreka Blue Hor**	**77.23**	**50**	P	**P**	**01 52 06.2**	**0.0**
	0.8nm,0.5s,baz=287,slow=9.5,SNR=5.0						
AKASG	**Malin Array Be**	**81.19**	**323**	P	**P**	**01 52 25.7**	**-1.3**
	0.2nm,0.3s,baz=55,slow=6.5,SNR=4.9						
NVAR	**Mina Array Bea**	**81.74**	**51**	P	**P**	**01 52 30.4**	**0.0**
	1.1nm,0.6s,baz=289,slow=5.2,SNR=13						
NB2	**NORSAR Subarra**	**82.55**	**338**	P	**P**	**01 52 31.9**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=45,slow=4.8						
NOA	**NORSAR Array B**	**82.55**	**338**	P	**P**	**01 52 32.2**	**-1.7**
	comp=Z,2.0nm,0.7s,baz=46,slow=4.9,SNR=8.5						
ELK	**Elko**	**82.68**	**48**	P	**P**	**01 52 35.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=306,slow=7.4,SNR=5.1						
BRTR	**Keskin Array B**	**84.36**	**312**	P	**P**	**01 52 42.1**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=76,slow=4.1,SNR=4.8						
PDAR	**Pinedale Array**	**85.24**	**44**	P	**P**	**01 52 46.6**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=290,slow=4.4,SNR=4.9						
PFO	**Pinyon Flats O**	**85.39**	**55**	P	**P**	**01 52 47.8**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=294,slow=5.0,SNR=5.2						
GERES	**GERESS Array B**	**90.20**	**328**	P	**P**	**01 53 09.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=264,slow=40,SNR=1.5						
ANMO	**Albuquerque**	**91.65**	**49**	P	**P**	**01 53 17.6**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=221,slow=4.2,SNR=3.9						
TXAR	**Lajitas Array**	**96.86**	**52**	P	**P**	**01 53 41.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=297,slow=3.5,SNR=6.5						
TORD	**Torodi Ar. Bea**	**122.91**	**310**	PKP	**PKPdf**	**01 59 03.0**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=129,slow=1.1,SNR=5.1						
PLCA	**Paso Flores**	**151.56**	**126**	PKPbc	**PKPbc**	**02 00 01.4**	**-1.0**
	comp=Z,2.4nm,1.0s,baz=210,slow=21,SNR=3.2						
LPAZ	**La Paz**	**151.62**	**73**	PKPbc	**PKPbc**	**02 00 02.9**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=280,slow=2.1,SNR=6.3						

*IDC **20** 01:45:08.6±1.1,27.°53N×126.°78E,h0km,mb3.5/6, mb1 3.7/6,mb1mx3.5/45,mbtmp3.5/6,MS3.3/4,Ms1 3.3/4, ms1mx2.7/68,Error ellipse: s-maj=32.3km s-min=17.3km az=53.0*
ISC 20 01:45:13.6±1.0,**27.°5N**±0.°2×**126.°7E**±0.°1,**h35**km,**n11,**
σ1°**72**/8,**mb3.5**/6,**MS3.4**/3,**Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.53**	**116**	Pn	**Pn**	**01 45 36.3**	**-2.1**
	17nm,0.3s,baz=294,slow=10.0,SNR=18						
JOW				Sn	**Sn**	**01 45 59.5**	**+2.4**
	35nm,0.3s,baz=126,slow=26,SNR=4.5						
MJAR	**Matsushiro Arr**	**13.24**	**44**	LR	LR	01 52 57.9	
	comp=Z,47nm,20.7s,baz=258,slow=36						
KLR	**Kul'dur**	**22.02**	**9**	P	**P**	**01 50 05.0**	**+0.3**
	1.6nm,0.8s,baz=209,slow=4.1,SNR=5.3						
SONM	**Songino Array**	**25.75**	**327**	P	**P**	**01 50 39.5**	**-1.5**
	0.7nm,0.8s,baz=141,slow=7.1,SNR=3.0						
YAK	**Yakutsk**	**34.56**	**2**	LR	LR	02 07 39.3	
	comp=Z,69nm,18.2s,baz=86,slow=39						
MKAR	**Makanchi Array**	**39.68**	**311**	P	**P**	**01 52 43.6**	**+1.3**
	0.5nm,0.6s,baz=104,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**47.76**	**170**	P	**P**	**01 53 47.0**	**-0.3**
	0.5nm,0.6s,baz=350,slow=8.1,SNR=0.8						
ASAR	**Alice Springs**	**51.36**	**172**	P	**P**	**01 54 15.3**	**+0.6**
	0.2nm,0.3s,baz=357,slow=14,SNR=4.9						
ARCES	**ARCESS Array B**	**68.32**	**338**	LR	LR	02 32 46.0	
	comp=Z,40nm,19.5s,baz=56,slow=42						
NOA	**NORSAR Array B**	**77.57**	**333**	LR	LR	02 36 43.6	
	comp=Z,15nm,19.2s,baz=40,slow=40						
YKA	**Yellowknife Ar**	**77.91**	**25**	P	**P**	**01 57 07.7**	**+0.2**
	0.4nm,0.9s,baz=298,slow=5.7,SNR=4.4						

*NEIC **20** 01:48:11.3±3.2,0.°63N±0.°08×79.°93W±0.°04,h10km±1km, mb4.2/7,Error ellipse: s-maj=14.5km s-min=6.4km az=350.0*
*IDC **20** 01:48:11.5±1.6,1.°03N×79.°22W,h0km,mb3.5/5,mb1 3.8/5, mb1mx3.4/40,mbtmp3.6/5,Error ellipse: s-maj=76.3km s-min=24.2km az=52.0*
*IGQ **20** 01:48:12±0.7,1.°N±3.°×8.°0W±.°,h6km*
ISC 20 01:48:11.1±0.8,**0.°53N**±0.°03×**79.°94W**±0.°06,**h10**km,**n89,**
σ1°**52**/83,**mb4.0**/7,**Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AV21	**Acelerografo,**	**0.41**	**72**	P	**Pg**	**01 48 20.0**	**+0.8**
AMA1	**Acelerografo,**	**0.45**	**28**	P	**Pg**	**01 48 20.0**	**0.0**
AMA1				S	**Sb**	**01 48 29.0**	**+1.0**
AV18	**Acelerografo,**	**0.51**	**115**	P	**Pb**	**01 48 23.0**	**+0.8**
MAG1	**Magdalena**	**0.62**	**165**	P	**Pg**	**01 48 24.0**	**+0.8**
FLF1	**Flavio Alfaro-**	**0.89**	**174**	P	**Pg**	**01 48 29.0**	**+0.7**
PAC1	**Pacto, Paraso**	**1.18**	**103**	*eP*	**Pb**	**01 48 33.9**	**+0.3**
PAC1	**Pacto, Paraso**	**1.18**	**103**	P	**Pb**	**01 48 32.0**	**-1.6**
APR1	**Acelerografo,**	**1.44**	**113**	P	**Pn**	**01 48 37.0**	**-0.7**
HPAL	**Hacienda Las P**	**1.49**	**120**	P	**Pn**	**01 48 38.0**	**-0.2**
PINO	**Pino**	**1.50**	**117**	P	**Pn**	**01 48 38.0**	**-0.6**
TERV	**Terraza Guagua**	**1.51**	**118**	P	**Pn**	**01 48 38.0**	**-0.7**
YANA	**Yana**	**1.51**	**115**	P	**Pn**	**01 48 39.0**	**+0.3**
OTAV	**Otavalo**	**1.52**	**101**	Pn	**Pn**	**01 48 38.7**	**0.0**
GGPT	**Toaza - Volcan**	**1.52**	**120**	P	**Pn**	**01 48 38.0**	**-0.7**
PULU	**Pululahua**	**1.52**	**109**	Pn	**Pn**	**01 48 39.2**	**+0.5**
PULU	**Pululahua**	**1.52**	**109**	P	**Pn**	**01 48 39.0**	**+0.2**
JUA2	**San Juan 2**	**1.52**	**119**	P	**Pn**	**01 48 39.0**	**+0.1**
CUSE	**Cuicocha Este**	**1.55**	**98**	*eP*	**Pn**	**01 48 38.7**	**-0.5**
CUSE	**Cuicocha Este**	**1.55**	**98**	P	**Pn**	**01 48 39.0**	**-0.2**
CUIC	**Cuicocha-Domo**	**1.59**	**98**	P	**Pn**	**01 48 40.0**	**+0.3**
ALIT	**Ecuador-Imbabu**	**1.60**	**81**	P	**Pn**	**01 48 39.0**	**-0.6**
CUSW	**Cuicocha Oeste**	**1.60**	**99**	P	**Pn**	**01 48 40.0**	**+0.1**
COTA	**Cotacachi**	**1.61**	**97**	P	**Pn**	**01 48 40.0**	**-0.1**
URCU	**Urcuqui**	**1.68**	**93**	P	**Pn**	**01 48 40.0**	**-1.0**
PAST	**Pastocalle**	**1.78**	**133**	P	**Pn**	**01 48 43.0**	**+0.7**
AIB2	**Ibarra (Univer**	**1.84**	**96**	P	**Pg**	**01 48 47.0**	**+0.5**
PITA	**Cotopaxi Volc**	**1.85**	**126**	P	**Pn**	**01 48 44.0**	**+0.6**
CAMI	**Rancho Maria**	**1.87**	**130**	P	**Pn**	**01 48 45.0**	**+1.4**
BNAS	**Cotopaxi Volca**	**1.88**	**129**	P	**Pn**	**01 48 45.0**	**+1.1**
CHMA	**Chilma**	**1.90**	**80**	P	**Pn**	**01 48 43.0**	**-0.9**
BREF	**Cotopaxi Volca**	**1.91**	**129**	P	**Pn**	**01 48 45.0**	**+0.6**
BVC2	**Cotopaxi Volca**	**1.93**	**128**	P	**Pn**	**01 48 46.0**	**+1.5**
BMOR	**Cotopaxi Volca**	**1.94**	**130**	P	**Pn**	**01 48 46.0**	**+1.3**
LNGL	**El Angel-Carch**	**1.94**	**84**	P	**Pn**	**01 48 45.0**	**+0.3**
BTAM	**Cotopaxi Volca**	**1.95**	**128**	P	**Pn**	**01 48 46.0**	**+1.2**
ANTG	**Antisana-Guama**	**1.97**	**121**	P	**Pn**	**01 48 46.0**	**+0.9**
TAMB	**Tambo**	**1.99**	**128**	P	**Pn**	**01 48 46.0**	**+0.7**
ECEN	**Cerro Negro**	**1.99**	**82**	P	**Pn**	**01 48 45.0**	**-0.3**
ANGU	**Angureal**	**1.99**	**104**	P	**Pb**	**01 48 48.0**	**+0.2**
CAYR	**Refugio Cayamb**	**2.00**	**105**	P	**Pb**	**01 48 48.0**	**+0.1**
CHL1	**Volc¡n Chiles**	**2.01**	**83**	P	**Pn**	**01 48 45.0**	**-0.6**
ANTI	**Antisana**	**2.03**	**119**	P	**P

σ1§47/96, **mb4.0**/13, **MS3.2**/3, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMA1	**Acelerografo,**	**0.35**	**36**	P	**Pn**	**01 49 26.0**	**-0.8**
AV21	**Acelerografo,**	**0.39**	**88**	P	**Pn**	**01 49 26.0**	**-1.2**
AV18	**Acelerografo,**	**0.56**	**126**	P	**Pn**	**01 49 29.0**	**-0.7**
MAG1	**Magdalena**	**0.73**	**167**	P	**Pb**	**01 49 30.0**	**-0.8**
BV15	**Puerto Quito-O**	**0.86**	**124**	P	**Pn**	**01 49 33.0**	**-0.8**
BV15				S	**Sn**	**01 49 49.0**	**+3.0**
FLF1	**Flavio Alfaro-**	**1.00**	**175**	P	**Pb**	**01 49 34.0**	**-1.4**
APR2	**Miler**	**1.12**	**120**	P	**Pn**	**01 49 37.0**	**-0.4**
PAC1	**Pacto, Paraso**	**1.20**	**108**	*eP*	**Pg**	**01 49 41.1**	**+1.3**
PAC1	**Pacto, Paraso**	**1.20**	**108**	P	**Pn**	**01 49 38.0**	**-0.6**
APR1	**Acelerografo,**	**1.49**	**118**	P	**Pg**	**01 49 44.0**	**-1.2**
OTAV	**Otavalo**	**1.54**	**105**	Pn	**Pb**	**01 49 44.5**	**-0.2**
PINO	**Pino**	**1.55**	**121**	P	**Pb**	**01 49 44.0**	**-1.0**
PULU	**Pululahua**	**1.56**	**114**	Pn	**Pg**	**01 49 45.1**	**-1.4**
PULU	**Pululahua**	**1.56**	**114**	P	**Pb**	**01 49 45.0**	**-0.1**
TERV	**Terraza Guagua**	**1.56**	**122**	P	**Pg**	**01 49 46.0**	**-0.6**
YANA	**Yana**	**1.56**	**119**	P	**Pb**	**01 49 44.0**	**-1.2**
CUSE	**Cuicocha Este**	**1.57**	**103**	*eP*	**Pg**	**01 49 45.9**	**-0.9**
CUSE	**Cuicocha Este**	**1.57**	**103**	P	**Pb**	**01 49 45.0**	**-0.3**
ALIT	**Ecuador-Imbabu**	**1.58**	**85**	P	**Pb**	**01 49 44.0**	**-1.3**
JUA2	**San Juan 2**	**1.58**	**123**	P	**Pn**	**01 49 44.0**	**-0.1**
CUIC	**Cuicocha-Domo**	**1.61**	**102**	P	**Pg**	**01 49 46.0**	**-1.5**
CUSW	**Cuicocha Oeste**	**1.62**	**103**	P	**Pb**	**01 49 46.0**	**-0.2**
COTA	**Cotacachi**	**1.62**	**101**	P	**Pb**	**01 49 46.0**	**-0.3**
URCU	**Urcuqui**	**1.69**	**97**	P	**Pb**	**01 49 46.0**	**-1.3**
ILLI	**Illinizas Sur**	**1.81**	**138**	P	**Pn**	**01 49 47.0**	**-0.3**
PAST	**Pastocalle**	**1.86**	**136**	P	**Pb**	**01 49 49.0**	**-1.2**
YAHU	**Yahuarcocha**	**1.88**	**98**	P	**Pg**	**01 49 51.0**	**-1.7**
PITA	**Cotopaxi Volc**	**1.92**	**129**	P	**Pb**	**01 49 50.0**	**-1.3**
LNGL	**El Angel-Carch**	**1.93**	**87**	P	**Pb**	**01 49 51.0**	**-0.5**
CAMI	**Rancho Maria**	**1.94**	**119**	P	**Pb**	**01 49 51.0**	**-0.7**
ECEN	**Cerro Negro**	**1.97**	**85**	P	**Pb**	**01 49 51.0**	**-1.2**
BREF	**Cotopaxi Volca**	**1.99**	**131**	P	**Pb**	**01 49 52.0**	**-0.5**
CHL1	**Volc¡n Chiles**	**1.99**	**86**	P	**Pb**	**01 49 52.0**	**-0.6**
BVC2	**Cotopaxi Volca**	**2.00**	**130**	P	**Pb**	**01 49 51.0**	**-1.7**
BMOR	**Cotopaxi Volca**	**2.01**	**133**	P	**Pb**	**01 49 51.0**	**-1.9**
ANGU	**Angureal**	**2.02**	**107**	P	**Pg**	**01 49 54.0**	**-1.2**
CHL2	**Volc¡n Chiles**	**2.02**	**86**	P	**Pb**	**01 49 52.0**	**-1.0**
BTAM	**Cotopaxi Volca**	**2.02**	**131**	P	**Pb**	**01 49 52.0**	**-1.1**
ANTG	**Antisana-Guama**	**2.03**	**124**	P	**Pb**	**01 49 52.0**	**-1.2**
TAMB	**Tambo**	**2.06**	**130**	P	**Pb**	**01 49 53.0**	**-0.7**
ANTI	**Antisana**	**2.08**	**122**	P	**Pb**	**01 49 54.0**	**-0.1**
ANTS	**Antisana-Sarah**	**2.10**	**123**	P	**Pb**	**01 49 54.0**	**-0.4**
VCES	**Cotopaxi**	**2.11**	**133**	P	**Pb**	**01 49 53.0**	**-1.5**
TULM	**Tulcn-Chalpat**	**2.15**	**88**	Pn	**Pb**	**01 49 54.9**	**-0.2**
TULM	**Tulcn-Chalpat**	**2.15**	**88**	*eP*	**Pg**	**01 49 56.4**	**-1.3**
TULM	**Tulcn-Chalpat**	**2.15**	**88**	P	**Pb**	**01 49 55.0**	**-0.2**
ATUL	**Tulcn**	**2.27**	**87**	P	**Pb**	**01 49 56.0**	**-0.2**
PIAT	**Ana Tenorio**	**2.34**	**134**	P	**Pb**	**01 49 57.0**	**-1.4**
PORT	**Chimborazo Vol**	**2.40**	**151**	Pn	**Pb**	**01 49 57.1**	**-2.4**
CONE	**Cono NE Rev Vo**	**2.40**	**107**	P	**Pb**	**01 50 00.0**	**+0.6**
BONI	**La Bonita**	**2.41**	**95**	P	**Pb**	**01 49 59.0**	**-0.6**
JUI6	**Juive**	**2.53**	**145**	P	**Pb**	**01 49 59.0**	**-2.6**
POND	**Pondoa**	**2.53**	**144**	P	**Pb**	**01 49 59.0**	**-2.7**
BRUN	**Tungurahua Vol**	**2.56**	**144**	P	**Pb**	**01 50 00.0**	**-2.1**
RETU	**Refugio**	**2.56**	**145**	P	**Pb**	**01 50 00.0**	**-2.3**
BMAS	**Trigal station**	**2.58**	**146**	P	**Pb**	**01 50 00.0**	**-2.6**
ARRY	**Arrayan**	**2.60**	**145**	P	**Pb**	**01 50 00.0**	**-2.9**
BPAT	**Tungurahua Vol**	**2.61**	**145**	P	**Pb**	**01 50 01.0**	**-2.1**
GR1C	**Gorgona, Isla**	**2.93**	**37**	*eP*	**Pg**	**01 50 09.9**	**-2.8**
CRUC	**La Cruz**	**3.12**	**73**	*eP*	**Pb**	**01 50 08.9**	**-2.8**
PCON	**Cinco Dias**	**3.91**	**65**	*eP*	**Pb**	**01 50 22.3**	**-2.9**
BOSC	**San Juan Bosco**	**4.04**	**159**	Pn	**Pn**	**01 50 17.7**	**0.0**
GARC	**Garzon, Huila**	**4.69**	**71**	*eP*	Pn	01 50 31.0	+4.2
YOTC	**Yotoco, Valle**	**4.88**	**47**	*eP*	Pn	01 50 33.9	+4.6
MCRA	**Macar, Loja**	**4.99**	**180**		**Pn**	**01 50 31.4**	**+0.8**
PTLC	**Puerto Leguiza**	**5.16**	**95**	*eP*	Pn	01 50 37.7	+4.7
ORTC	**Ortega, Tolima**	**5.69**	**55**	*eP*	**Pn**	**01 50 42.5**	**+2.1**
MACC	**Macarena, Meta**	**6.26**	**76**	*eP*	**Pn**	**01 50 52.1**	**+3.9**
GUY2C	**Guyana, Caldas**	**6.44**	**45**	*eP*	Pn	01 50 58.8	+7.8
CBOC	**Ciudad Bolivar**	**6.49**	**37**	*eP*	Pb	01 51 01.7	-7.4
ROSC	**El Rosal**	**6.98**	**53**	Pn	**Pn**	**01 50 59.0**	**+0.7**
	0.4nm,0.3s,baz=122,slow=22,SNR=0.9						
ROSC	**El Rosal**	**6.98**	**53**	Pn	**Pn**	**01 50 56.5**	**-1.8**
ROSC	**El Rosal**	**6.98**	**53**	*eP*	Pn	01 51 05.5	+7.2
NORC	**Norcasia**	**7.03**	**46**	*eP*	Pn	01 51 06.5	+7.8
VILC	**Villavicencio,**	**7.12**	**61**	*eP*	Pn	01 51 06.5	+6.5
CHIC	**Chingaza**	**7.35**	**57**	*eP*	Pn	01 51 09.3	+5.9
PTBC	**PUERTO BERRIO,**	**8.01**	**43**	*eP*	Pn	01 51 17.0	+4.9
RUSC	**La Rusia**	**8.59**	**53**	*eP*	Pn	01 51 30.5	+10
DRK0	**Durika**	**9.17**	**339**	Pn	**Pn**	**01 51 30.1**	**+1.8**
SRBA	**San Rafael, Bu**	**9.18**	**338**	Pn	**Pn**	**01 51 30.5**	**+2.2**
BAUV	**El Baul**	**14.43**	**55**	P	**P**	**01 52 44.1**	**-2.7**
BIRV	**Birongo**	**16.73**	**54**	P	**P**	**01 53 12.8**	**+0.4**
BIRV				IAmb	IAmb	01 53 33.8	
	comp=Z,28nm,1.1s						
LPAZ	**La Paz**	**20.47**	**146**	P	Pn	01 53 55.4	-0.9
	comp=Z,3.3nm,0.7s,baz=327,slow=10,SNR=11						
LPAZ	**La Paz**	**20.47**	**146**	P	Pn	01 53 55.0	-1.3
PB16	**IPOC Station P**	**21.47**	**152**	P	**Pn**	**01 54 05.1**	**+0.2**
PB11	**IPOC Station P**	**22.65**	**154**		**P**	**01 54 18.2**	**+1.1**
GO01	**Chusmiza**	**22.77**	**153**	P	**P**	**01 54 20.3**	**+1.6**
GO01				IAmb	IAmb	01 54 27.3	
	comp=Z,23nm,1.4s						
SIV	**San Ignacio**	**24.90**	**132**	P	**P**	**01 54 38.4**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=300,slow=9.3,SNR=6.6						
MDP	**Montagnes des**	**27.61**	**80**	LR	LR	02 06 54.4	
	comp=Z,64nm,18.4s,baz=194,slow=39						
TX31	**Lajitas Ar. Si**	**36.41**	**324**	P	**P**	**01 56 22.9**	**+2.5**
TX31				IAmb	IAmb	01 56 35.9	
	comp=Z,4.6nm,1.3s						
S44A	**Carbondale**	**37.85**	**348**	P	**P**	**01 56 33.1**	**+0.7**
S44A				IAmb	IAmb	01 56 49.1	
	comp=Z,6.0nm,1.1s						
ITAB	**Concordia**	**38.52**	**138**	P	**P**	**01 56 37.6**	**-0.5**
PLCA	**Paso Flores**	**42.06**	**169**	P	**P**	**01 57 07.2**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=1.6,slow=14,SNR=3.3						
PLCA	**Paso Flores**	**42.06**	**169**	P	**P**	**01 57 07.2**	**-0.3**
PLCA				IAmb	IAmb	01 57 14.3	
	comp=Z,12nm,1.3s						
ANMO	**Albuquerque**	**42.15**	**327**	P	**P**	**01 57 08.7**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=160,slow=7.4,SNR=3.1						
ANMO				LR	LR	02 15 05.1	
	comp=Z,25nm,19.4s,baz=142,slow=37						
ANMO	**Albuquerque**	**42.15**	**327**	P	**P**	**01 57 08.6**	**+0.3**
SDCO	**Great Sand Dun**	**43.79**	**330**	P	**P**	**01 57 22.9**	**+1.2**
PV13	**Radium Mtn., P**	**45.80**	**328**	P	**P**	**01 57 37.5**	**-0.3**
MTPU	**Mount Pierson**	**47.58**	**325**	P	**P**	**01 57 54.0**	**+2.3**
MTPU				IAmb	IAmb	01 58 17.7	
	comp=Z,2.2nm,1.2s						
PDAR	**Pinedale Array**	**49.63**	**331**	P	**P**	**01 58 06.9**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=138,slow=6.8,SNR=2.4						
NVAR	**Mina Array Bea**	**51.49**	**321**	P	**P**	**01 58 22.6**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=131,slow=6.1,SNR=12						
NVAR	**Mina Array Bea**	**51.49**	**321**	P	**P**	**01 58 21.6**	**+0.1**
YKA	**Yellowknife Ar**	**66.93**	**343**	P	**P**	**02 00 05.5**	**-2.2**
	comp=Z,0.6nm,0.9s,baz=138,slow=5.8,SNR=7.5						
KOWA	**Kowa**	**76.20**	**75**	P	**P**	**02 01 05.8**	**+1.2**
INK	**Inuvik**	**76.64**	**342**	P	**P**	**02 01 05.0**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=159,slow=4.7,SNR=3.4						
MCARA	**McCarthy VSAT**	**76.84**	**334**	P	**P**	**02 01 08.4**	**+1.2**
TOA0	**Torodi Ar. Sit**	**81.70**	**77**	P	**P**	**02 01 34.4**	**-0.3**
TOA0				IAmb	IAmb	02 01 40.2	
	comp=Z,4.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**81.70**	**77**	P	**P**	**02 01 33.4**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=276,slow=4.8,SNR=15						
TORD	**Torodi Ar. Bea**	**81.70**	**77**	P	**P**	**02 01 34.3**	**-0.4**
TORD				IAmb	IAmb	02 01 44.2	
	comp=Z,2.5nm,1.2s						
SNAA	**Sanae**	**86.56**	**162**	LR	LR	02 40 33.0	
	comp=Z,51nm,19.8s,baz=36,slow=36						
WRA	**Warramunga Arr**	**141.37**	**238**	PKhKP	PKPpre	02 08 42.7	
	comp=Z,0.3nm,0.7s,baz=113,slow=2.3,SNR=2.4						

*IDC **20** 01:50:36.0±0.9, 0°.76N×79°.91W, h0km, mb3.8/10, mb1 4.1/11, mb1mx3.8/39, mbtmp3.8/11, ML2.4/1, MS3.1/5, Ms1 3.1/5, ms1mx2.7/60, Error ellipse: s-maj=39.5km s-min=16.1km az=58.0*

*IGQ **20** 01:50:38±2.0, 1°.1N±7°×8°.0W±1°.4, h3km*

*NEIC **20** 01:50:39.0±2.1, 0°.69N±0°.06×80°.03W±0°.07, h10km±1km, mb4.4/24, Error ellipse: s-maj=11.9km s-min=9.7km az=229.0*

ISC 20 01:50:39.1±0.5, **0°.64N**±0°.04×**79°.99W**±0°.05, **h17km**, **n99,** σ1§34/89, **mb4.1**/17, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**0.74**	**163**	P	**Pb**	**01 50 53.0**	**-0.7**
FLF1	**Flavio Alfaro-**	**1.00**	**172**	P	**Pb**	**01 50 58.0**	**-0.2**
FLF1				S	**Sn**	**01 51 14.0**	**+1.7**
PAC1	**Pacto, Paraso**	**1.25**	**107**	*eP*	**Pn**	**01 51 01.7**	**-0.4**
APR1	**Acelerografo,**	**1.54**	**116**	P	**Pn**	**01 51 07.0**	**+0.8**
OTAV	**Otavalo**	**1.59**	**105**	Pn	**Pb**	**01 51 08.1**	**-0.3**
PINO	**Pino**	**1.59**	**120**	P	**Pn**	**01 51 08.0**	**+0.8**
TERV	**Terraza Guagua**	**1.61**	**120**	P	**Pn**	**01 51 08.0**	**+0.7**
YANA	**Yana**	**1.61**	**118**	P	**Pn**	**01 51 08.0**	**+0.8**
PULU	**Pululahua**	**1.61**	**113**	Pn	**Pb**	**01 51 08.9**	**+0.2**
PULU	**Pululahua**	**1.61**	**113**	P	**Pn**	**01 51 08.0**	**+0.8**
GGPT	**Toaza - Volcan**	**1.62**	**122**	P	**Pn**	**01 51 08.0**	**+0.7**
CUSE	**Cuicocha Este**	**1.62**	**102**	*eP*	**Pb**	**01 51 09.3**	**+0.4**
CUSE	**Cuicocha Este**	**1.62**	**102**	P	**Pb**	**01 51 09.0**	**0.0**
JUA2	**San Juan 2**	**1.62**	**122**	P	**Pn**	**01 51 08.0**	**+0.5**
CUIC	**Cuicocha-Domo**	**1.66**	**102**	P	**Pn**	**01 51 09.0**	**+1.1**
CUSW	**Cuicocha Oeste**	**1.68**	**102**	P	**Pb**	**01 51 10.0**	**+0.2**
COTA	**Cotacachi**	**1.68**	**101**	P	**Pb**	**01 51 10.0**	**+0.1**
URCU	**Urcuqui**	**1.75**	**97**	P	**Pn**	**01 51 10.0**	**+0.9**
PAST	**Pastocalle**	**1.89**	**135**	P	**Pn**	**01 51 12.0**	**+0.9**
YAHU	**Yahuarcocha**	**1.94**	**98**	P	**Pb**	**01 51 14.0**	**-0.3**
CAMI	**Rancho Maria**	**1.98**	**131**	P	**Pb**	**01 51 14.0**	**-1.1**
LNGL	**El Angel-Carch**	**1.99**	**87**	P	**Pn**	**01 51 14.0**	**+1.5**
BREF	**Cotopaxi Volca**	**2.02**	**130**	P	**Pb**	**01 51 15.0**	**-0.9**
ECEN	**Cerro Negro**	**2.03**	**85**	P	**Pn**	**01 51 14.0**	**+1.0**
BVC2	**Cotopaxi Volca**	**2.04**	**129**	P	**Pb**	**01 51 15.0**	**-1.1**
CHL1	**Volc¡n Chiles**	**2.05**	**86**	P	**Pn**	**01 51 15.0**	**+1.7**
BMOR	**Cotopaxi Volca**	**2.05**	**132**	P	**Pn**	**01 51 14.0**	**+0.6**
ANGU	**Angureal**	**2.07**	**107**	P	**Pb**	**01 51 17.0**	**+0.4**
ANTG	**Antisana-Guama**	**2.08**	**123**	P	**Pn**	**01 51 15.0**	**+1.3**
CHL2	**Volc¡n Chiles**	**2.08**	**86**	P	**Pn**	**01 51 15.0**	**+1.3**
TAMB	**Tambo**	**2.10**	**129**	P	**Pb**	**01 51 16.0**	**-1.1**
ANTI	**Antisana**	**2.13**	**121**	P	**Pb**	**01 51 17.0**	**-0.6**
ANTS	**Antisana-Sarah**	**2.14**	**122**	P	**Pb**	**01 51 17.0**	**-0.9**
VCES	**Cotopaxi**	**2.15**	**132**	P	**Pn**	**01 51 16.0**	**+1.3**
TULM	**Tulcn-Chalpat**	**2.20**	**88**	Pn	**Pb**	**01 51 18.9**	**0.0**
TULM	**Tulcn-Chalpat**	**2.20**	**88**	*eP*	**Pb**	**01 51 18.0**	**-0.9**
ATUL	**Tulcn**	**2.27**	**87**	P	**Pb**	**01 51 20.0**	**+0.1**
PORT	**Chimborazo Vol**	**2.42**	**150**	Pn	**Pn**	**01 51 20.1**	**+1.6**
CONE	**Cono NE Rev Vo**	**2.45**	**107**	P	**Pb**	**01 51 23.0**	**0.0**
BONI	**La Bonita**	**2.47**	**94**	P	**Pb**	**01 51 22.0**	**-1.2**
GR1C	**Gorgona, Isla**	**2.97**	**38**	*eP*	**Pb**	**01 51 33.3**	**+1.7**
CRUC	**La Cruz**	**3.17**	**73**	*eP*	**Pb**	**01 51 32.4**	**-3.0**
BOSC	**San Juan Bosco**	**4.05**	**158**	Pn	**Pn**	**01 51 44.2**	**+3.5**
GARC	**Garzon, Huila**	**4.75**	**71**	*eP*	**Pn**	**01 51 51.6**	**+1.3**
YOTC	**Yotoco, Valle**	**4.93**	**48**	*eP*	Pn	01 51 39.1	-13
PTLC	**Puerto Leguiza**	**5.21**	**95**	*eP*	**Pn**	**01 51 57.3**	**+0.9**
ORTC	**Ortega, Tolima**	**5.74**	**56**	*eP*	**Pn**	**01 52 05.0**	**+1.3**
MACC	**Macarena, Meta**	**6.32**	**76**	*eP*	**Pn**	**01 52 15.6**	**+3.9**
GUY2C	**Guyana, Caldas**	**6.48**	**45**	*eP*	Pn	01 52 19.4	+5.1
CBOC	**Ciudad Bolivar**	**6.53**	**37**	*eP*	**Pn**	**01 52 14.6**	**-0.1**
ROSC	**El Rosal**	**7.03**	**54**	Pn	**Pn**	**01 52 24.5**	**+2.7**
	2.0nm,0.3s,baz=200,slow=17,SNR=2.0						
ROSC	**El Rosal**	**7.03**	**54**	*eP*	**Pn**	**01 52 25.2**	**+3.4**
NORC	**Norcasia**	**7.07**	**46**	*eP*	Pn	01 52 30.9	+8.9
VILC	**Villavicencio,**	**7.17**	**61**	*eP*	Pn	01 52 30.9	+7.5
CHIC	**Chingaza**	**7.40**	**58**	*eP*	**Pn**	**01 52 29.0**	**+2.2**
PTBC	**PUERTO BERRIO,**	**8.05**	**43**	*eP*	Pn	01 52 46.3	+11
RUSC	**La Rusia**	**8.64**	**53**	*eP*	Pn	01 52 53.9	+10
DRK0	**Durika**	**9.15**	**339**	Pn	**Pn**	**01 52 51.6**	**+0.9**
SRBA	**San Rafael, Bu**	**9.17**	**339**	Pn	**Pn**	**01 52 52.0**	**+1.2**
RIMA	**Rio Macho**	**9.85**	**337**	Pn	**Pn**	**01 53 02.0**	**+1.7**
PAYG	**Puerto Ayora**	**10.38**	**263**	Pn	**Pn**	**01 53 06.4**	**-1.0**
JTS	**Las Juntas de**	**10.78**	**333**	LR	LR	01 55 59.7	
	comp=Z,73nm,18.0s,baz=209,slow=30						
SDV	**Santo Domingo**	**12.40**	**48**	Pn	**Pn**	**01 53 33.5**	**-1.8**
	0.2nm,0.3s,baz=240,slow=14,SNR=1.3						
SDV				LR	LR	01 58 16.0	
	comp=Z,86nm,19.0s,baz=202,slow=38						
NNA	**Nana**	**12.93**	**166**	LR	LR	01 58 44.8	
	comp=Z,98nm,20.5s,baz=342,slow=38						
BAUV	**El Baul**	**14.47**	**55**	P	**P**	**01 54 07.7**	**-2.4**
BIRV	**Birongo**	**16.78**	**54**	P	**P**	**01 54 36.1**	**+0.4**
LPAZ	**La Paz**	**20.50**	**146**	P	**P**	**01 55 18.2**	**+1.1**
	3.7nm,0.6s,baz=336,slow=13,SNR=9.1						
LPAZ	**La Paz**	**20.50**	**146**	P	Pn	01 55 18.5	-0.8
MLPR	**Magueyes Islan**	**21.41**	**36**	P	**P**	**01 55 26.3**	**0.0**
PB16	**IPOC Station P**	**21.49**	**152**	P	**P**	**01 55 29.3**	**+1.4**
PB16				IAmb	IAmb	01 55 36.2	
	comp=Z,15nm,1.1s						
CMIG	**Matias Romero**	**21.96**	**319**	LR	LR	02 02 07.2	
	comp=Z,54nm,20.3s,baz=146,slow=32						
SJG	**San Juan**	**22.05**	**37**	P	**P**	**01 55 35.9**	**+2.6**
	comp=Z,4.6nm,0.6s,baz=352,slow=16,SNR=1.3						
SJG				LR	LR	02 05 20.0	
	comp=Z,39nm,19.4s,baz=204,slow=40						
PB11	**IPOC Station P**	**22.67**	**154**	P	**P**	**01 55 41.4**	**+1.4**
GO01	**Chusmiza**	**22.79**	**153**	P	**P**	**01 55 43.8**	**+2.1**
GO01				IAmb	IAmb	01 55 54.5	
	comp=Z,9.0nm,0.8s						
SIV	**San Ignacio**	**24.94**	**132**	P	**P**	**01 56 02.1**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=299,slow=10,SNR=5.7						
CPUP	**Villa Florida**	**34.60**	**142**	P	**P**	**01 57 26.3**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=323,slow=12,SNR=3.4						
TX31	**Lajitas Ar. Si**	**36.38**	**324**	P	**P**	**01 57 42.9**	**0.0**
BI05	**Punta Hualpn**	**37.73**	**171**	P	**P**	**01 57 55.6**	**+1.5**
S44A	**Carbondale**	**37.85**	**348**	P	**P**	**01 57 55.4**	**+0.4**
S44A				IAmb	IAmb	01 58 21.1	
	comp=Z,14nm,1.5s						
ITAB	**Concordia**	**38.55**	**138**	P	**P**	**01 58 00.7**	**-0.4**
PLCA	**Paso Flores**	**42.07**	**169**	P	**P**	**01 58 30.2**	**0.0**
	comp=Z,3.1nm,0.9s,baz=330,slow=10.0,SNR=4.7						
PLCA	**Paso Flores**	**42.07**	**169**	P	**P**	**01 58 30.4**	**+0.2**
PLCA				IAmb	IAmb	01 58 41.9	
	comp=Z,9.6nm,1.2s						
ANMO	**Albuquerque**	**42.12**	**327**	P	**P**	**01 58 29.8**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=151,slow=10,SNR=4.3						
ANMO	**Albuquerque**	**42.12**	**327**	P	**P**	**01 58 29.4**	**-1.5**
WUAZ	**Wupatki**	**45.34**	**323**	P	**P**	**01 58 57.1**	**+0.3**
WUAZ				IAmb	IAmb	01 59 03.5	
	comp=Z,4.7nm,1.0s						
PV13	**Radium Mtn., P**	**45.78**	**328**	P	**P**	**01 58 59.8**	**-0.5**
PV13				IAmb	IAmb	01 59 05.4	
	comp=Z,3.9nm,0.6s						
PDAR	**Pinedale Array**	**49.61**	**332**	P	**P**	**01 59 30.9**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=120,slow=8.4,SNR=2.0						
NVAR	**Mina Array Bea**	**51.46**	**321**	P	**P**	**01 59 43.5**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=140,slow=6.1,SNR=4.3						
BOZ	**Bozeman (W)**	**52.73**	**332**	P	**P**	**01 59 53.5**	**+0.3**
YKA	**Yellowknife Ar**	**66.92**	**343**	P	**P**	**02 01 28.5**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=139,slow=6.4,SNR=4.4						
YKA	**Yellowknife Ar**	**66.92**	**343**	P	**P**	**02 01 29.2**	**-1.2**
KOWA	**Kowa**	**76.26**	**75**	P	**P**	**02 02 28.0**	**+0.4**
KOWA				IAmb	IAmb	02 02 28.1	
	comp=Z,7.0nm,1.4s						
INK	**Inuvik**	**76.63**	**342**	P	**P**	**02 02 27.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=131,slow=16,SNR=6.6						
INK	**Inuvik**	**76.63**	**342**	P	**P**	**02 02 27.6**	**-1.0**
INK				IAmb	IAmb	02 02 28.6	
	comp=Z,2.6nm,1.1s						
MCARA	**McCarthy VSAT**	**76.82**	**334**	P	**P**	**02 02 27.9**	**-1.9**
TOA0	**Torodi Ar. Sit**	**81.75**	**77**	P	**P**	**02 02 56.7**	**-1.1**
TOA0				IAmb	IAmb	02 03 00.4	
	comp=Z,3.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**81.75**	**77**	P	**P**	**02 02 56.6**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=282,slow=6.1,SNR=16						
TORD	**Torodi Ar. Bea**	**81.75**	**77**	P	**P**	**02 02 57.1**	**-0.7**
TORD				IAmb	IAmb	02 03 04.2	
	comp=Z,2.3nm,1.3s						
WRA	**Warramunga Arr**	**141.32**	**238**	PKhKP	PKPpre	02 10 06.3	
	comp=Z,0.2nm,0.5s,baz=111,slow=2.3,SNR=1.9						

IDC 20 01:51:44.8±1.7, **0°.18N**×**80°.15W**, **h0km**, **mb3.7**/4, **mb1 4.0**/4, **mb1mx3.5**/39, **mbtmp3.7**/4, **Error ellipse: s-maj=79.0km s-min=31.2km az=72.0, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**20.21**	**145**	P	Pn	01 56 23.7	-0.2
	2.6nm,0.9s,baz=334,slow=15,SNR=2.0						
PLCA	**Paso Flores**	**41.65**	**169**	P	P	01 59 34.2	-0.8
	1.3nm,0.6s,baz=325,slow=8.4,SNR=3.1						
YKA	**Yellowknife Ar**	**67.32**	**343**	P	P	02 02 41.6	+0.4
	0.4nm,0.7s,baz=141,slow=5.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**82.02**	**77**	P	P	02 04 07.0	-0.6
	0.2nm,0.5s,baz=276,slow=5.7,SNR=1.4						

*IDC **20** 02:27:47.6±2.3, 1°.22N×79°.46W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/26, mbtmp3.5/4, Error ellipse: s-maj=95.8km s-min=30.5km az=65.0*

ISC 20 02:27:50.1±1.3, **1°.07N**±0°.06×**79°.7W**±0°.1, **h20km**, **n22,** σ1§40/17, **mb3.6**/3, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**1.17**	**133**	*eP*	**Pb**	**02 28 10.4**	**-1.4**
CUSE	**Cuicocha Este**	**1.46**	**121**	*eP*	**Pb**	**02 28 17.1**	**+0.2**
TULM	**Tulcn-Chalpat**	**1.90**	**101**	*eP*	Pb	02 28 28.7	+4.3
GCUF	**Volcan Galeras**	**2.31**	**86**	*eP*	**Pb**	**02 28 33.5**	**+2.0**
GR1C	**Gorgona, Isla**	**2.43**	**38**	*eP*	Pb	02 28 42.1	+9.0
SOTA	**Rioblanco**	**3.22**	**71**	*eP*	**Pb**	**02 28 46.9**	**0.0**
POPC	**Popayan, Colom**	**3.31**	**64**	*eP*	**Pb**	**02 28 47.9**	**-0.5**
PCON	**Cinco Dias**	**3.48**	**69**	*eP*	**Pb**	**02 28 51.8**	**+0.2**
MARP	**Paez Belalcaza**	**4.09**	**64**	*eP*	**Pb**	**02 28 59.4**	**-2.3**
GARC	**Garzon, Huila**	**4.30**	**75**	*eP*	**Pb**	**02 29 02.3**	**-3.0**
YOTC	**Yotoco, Valle**	**4.39**	**49**	*eP*	**Pb**	**02 29 08.1**	**+1.3**
PTLC	**Puerto Leguiza**	**4.93**	**100**	*eP*	Pb	02 29 09.1	-6.9
PLMC	**San Jos del P**	**5.08**	**41**	*eP*	**Pb**	**02 29 18.7**	**+0.2**
ORTC	**Ortega, Tolima**	**5.23**	**57**	*eP*	**Pb**	**02 29 20.0**	**-0.4**
GUY2C	**Guyana, Cald

THAL	Thalero	0.65	193	P		Pg	02 40 19.7	-0.9
THAL				S		Sb	02 40 31.3	+0.5
	comp=E,8μm,0.3s							
MAKR	Makrakomi, Fth	0.65	302	P		Pg	02 40 20.0	-0.7
MAKR	Makrakomi, Fth	0.65	302	P		Pg	02 40 19.9	-0.9
MAKR				S		Sb	02 40 30.0	-1.1
	comp=E,10μm,0.6s							
NEO	Neokhori	0.70	25	P		Pg	02 40 20.9	-0.8
NEO	Neokhori	0.70	25	P		Pg	02 40 21.0	-0.7
NEO				S		Sb	02 40 31.4	-1.1
	comp=E,10μm,0.4s							
ALIK	Aliki, Aigiali	0.70	235	P		Pg	02 40 20.8	-0.9
ALIK				S		Sb	02 40 31.7	-0.8
ANX	Ano Chora	0.73	264	P		Pg	02 40 20.9	-1.2
ANX	Ano Chora	0.73	264	P		Pg	02 40 20.8	-1.3
ANX				S		Sb	02 40 32.5	-0.8
	comp=E,10μm,0.8s							
XOR	Xorichti	0.75	21	P		Pg	02 40 21.8	-0.8
XOR	Xorichti	0.75	21	P		Pg	02 40 21.7	-0.8
XOR				S		Sb	02 40 32.7	-1.1
	comp=E,6μm,0.6s							
EFP	Efpalio	0.77	252	P		Pg	02 40 21.5	-1.5
EFP	Efpalio	0.77	252	P		Pg	02 40 21.3	-1.7
EFP				S		Sg	02 40 33.3	+0.2
	comp=E,7μm,0.4s							
LAKA	Lakka	0.80	238	P		Pg	02 40 22.7	-0.8
LAKA	Lakka	0.80	238	P		Pg	02 40 22.6	-1.0
KLV	Kalavryta, Ach	0.83	221	P		Pg	02 40 22.6	-1.5
KLV	Kalavryta, Ach	0.83	221	P		Pg	02 40 22.7	-1.4
EVR	Evrytania	0.85	287	P		Pg	02 40 23.0	-1.4
EVR	Evrytania	0.85	287	P		Pg	02 40 22.6	-1.8
UPR	University Cam	0.92	245	P		Pg	02 40 24.4	-1.3
UPR				S		Sb	02 40 38.9	+0.3
ATH	Athens Observa	0.98	135	P		Pg	02 40 26.1	-0.8
ATH	Athens Observa	0.98	135	P		Pg	02 40 25.9	-1.0
ATH				S		Sb	02 40 40.8	+0.4
	comp=E,5μm,0.4s							
KYMI	Kymi, Euboea I	0.98	92	P		Pg	02 40 25.5	-1.5
KYMI	Kymi, Euboea I	0.98	92	P		Pg	02 40 25.6	-1.5
KYMI				S		Sn	02 40 41.9	-0.5
	comp=E,2μm,0.8s							
PTL	Penteli	1.01	127	P		Pg	02 40 26.3	-1.3
PTL	Penteli	1.01	127	P		Pg	02 40 26.3	-1.3
PTL				S		Sb	02 40 41.8	+0.3
	comp=E,4μm,0.6s							
ATHU	Athens Univers	1.02	133	P		Pg	02 40 26.6	-1.1
ATHU	Athens Univers	1.02	133	P		Pg	02 40 26.6	-1.1
ATHU				S		Sn	02 40 42.9	-0.4
	comp=E,3μm,0.7s							
PVO	Paravola	1.03	268	P		Pg	02 40 26.4	-1.5
DION	Dionisos Attik	1.04	124	P		Pg	02 40 26.9	-1.2
DION	Dionisos Attik	1.04	124	P		Pg	02 40 26.9	-1.2
DION				S		Sn	02 40 43.3	-0.5
EPID	Epidavros	1.07	168	P		Pg	02 40 27.9	-0.9
EPID				S		Sn	02 40 44.5	-0.1
	comp=E,2μm,0.4s							
THL	Klokotos Trika	1.10	324	P		Pg	02 40 28.1	-1.2
THL	Klokotos Trika	1.10	324	P		Pg	02 40 28.1	-1.2
VLY	Voula,Athens	1.11	137	P		Pg	02 40 28.3	-1.1
VLY	Voula,Athens	1.11	137	P		Pg	02 40 28.4	-1.0
VLY				S		Sb	02 40 44.0	-0.1
	comp=E,2μm,0.4s							
DRO	Drossia	1.14	232	P		Pg	02 40 28.3	-1.8
TYRN	Tyrnavos	1.14	336	P		Pg	02 40 29.3	-0.8
TYRN				S		Sn	02 40 45.8	-0.5
	comp=E,960nm,0.6s							
RLS	Riolos of Patr	1.24	241	P		Pn	02 40 30.6	-1.2
RLS	Riolos of Patr	1.24	241	P		Pn	02 40 29.6	-2.2
KRND	KRANIDI	1.31	169	P		Pn	02 40 31.7	-1.0
KRND	KRANIDI	1.31	169	P		Pn	02 40 31.5	-1.2
KARY	Karystos	1.41	116	P		Pn	02 40 33.2	-0.8
PAIG	Paliouri	1.41	27	P		Pn	02 40 33.0	-1.2
LIT	Litokhoron	1.46	349	P		Pn	02 40 34.4	-0.4
LIT	Litokhoron	1.46	349	P		Pn	02 40 34.1	-0.7
LIT				S		Sg	02 40 54.8	-0.2
	comp=E,630nm,0.5s							
LIT	Litokhoron	1.46	349	P		Pn	02 40 34.0	-0.7
LIT				S		Sg	02 40 54.3	-0.7
LIT				*i* AML		AML	02 41 04.0	
	comp=E,422nm,0.5s							
ITM	Ithomi	1.65	206	P		Pn	02 40 37.7	+0.2
ITM	Ithomi	1.65	206	P		Pn	02 40 37.7	+0.2
ITM	Ithomi	1.65	206	PN		Pn	02 40 37.6	+0.1
NYDR	Nydri-Lefkada	1.68	272	P		Pb	02 40 39.2	-0.1
EVGI	Lefkada island	1.71	269	P		Pb	02 40 39.2	-0.7
LKD2	Lefkada island	1.71	275	P		Pb	02 40 39.6	-0.3
TSLK	Tsoukalades, L	1.72	276	P		Pg	02 40 40.3	-0.8
KPRO	Kipourio	1.72	319	P		Pn	02 40 38.7	+0.2
PLG	Polygyros	1.77	15	P		Pn	02 40 37.9	-1.1
PLG				S		Sn	02 41 00.6	-1.1
	comp=E,258nm,0.5s							
FSK	Fiskardo	1.80	264	P		Pb	02 40 41.3	0.0
KZN	Kozani	1.83	333	P		Pn	02 40 40.4	+0.4
VLS	Valsamata	1.84	255	P		Pn	02 40 40.6	+0.6
PSDA	Pessada-Kefalo	1.86	253	P		Pb	02 40 41.2	-1.2
OUR	Ouranopolis	1.88	28	P		Pn	02 40 39.7	-0.9
OUR	Ouranopolis	1.88	28	PN		Pn	02 40 39.4	-1.2
OUR				SN		Sn	02 41 03.1	-1.4
HORT	Hortiatis	1.94	6	P		Pn	02 40 40.6	-0.8
HORT	Hortiatis	1.94	6	PN		Pn	02 40 40.4	-1.0
HORT				SN		Sn	02 41 05.1	-0.9
VLI	Veliai	1.95	178	P		Pn	02 40 40.8	-0.7
PYL	PYLOS	1.97	207	P		Pb	02 40 43.2	-1.1
DMLN	Damoulianata-K	1.99	258	P		Pb	02 40 43.8	-0.7
KEF3	Kipouria, Keph	2.01	257	P		Pb	02 40 43.7	-1.3
SOH	Sokhos	2.19	10	P		Pn	02 40 44.7	-0.1
NEST	Nestorio	2.23	322	P		Pn	02 40 46.5	+1.0
LSK	Leskovik	2.28	311	P		Pb	02 40 45.7	-1.3
GRG	Griva	2.31	352	PN		Pn	02 40 45.9	-0.6
KOKK	Kokkinochori,	2.32	22	P		Pn	02 40 45.5	-1.2
FNA	Florina	2.40	332	P		Pn	02 40 48.5	+0.8
FNA	Florina	2.40	332	PN		Pn	02 40 47.3	-0.4
FNA	Florina	2.40	332	P		Pn	02 40 47.9	+0.2
KTHR	Kythira	2.41	177	P		Pn	02 40 47.9	+0.1
KTHA	Kythira Island	2.42	176	P		Pn	02 40 48.0	+0.1
SRS	Serrai	2.51	13	P		Pn	02 40 48.8	-0.5
KBN	Korca	2.52	322	P		Pb	02 40 51.1	-2.5
SRN	Sarande	2.52	300	P		Pb	02 40 51.5	-2.0
CHOS	Chios island	2.54	95	P		Pn	02 40 49.4	-0.2
CHOS	Chios island	2.54	95	PN		Pn	02 40 48.9	-0.7
KAVA	Kavala	2.66	28	P		Pn	02 40 50.0	-1.2
VAY	Valandovo	2.66	356	*i* Pn		Pn	02 40 51.5	+0.2
VAY				*e*Sn		Sn	02 41 22.9	-0.7
APE	Apeiranthos	2.66	126	P		Pn	02 40 50.7	-0.7
KOCA	Canakkale, Ayv	2.70	71	P		Pn	02 40 46.3	-5.5
NVR	Nevrokopi	2.79	16	P		Pn	02 40 52.6	-0.5
GOKA	canakkale-Gk	2.82	56	P		Pn	02 40 51.2	-2.2
OHR	Ohrid	2.90	328	*i* Pn		Pb	02 40 58.6	-1.5
OHR				*e*Sn		Sn	02 41 32.2	+2.4
URLA	Izmir	2.96	95	P		Pn	02 40 55.0	-0.4
MMB	Musomiste	2.99	13	P		Pn	02 40 55.3	-0.6
THR5	Thira Island,	3.00	138	P		Pn	02 40 56.6	+0.6
STIP	Stip	3.06	351	*i* Pn		Pn	02 40 57.6	+0.7
STIP				*e*Sn		Sn	02 41 35.0	+1.3
AYVA	Ayvalik	3.06	77	P		Pn	02 40 55.0	-1.8
BAYC	CANAKKALE_Bayr	3.07	68	P		Pn	02 40 52.8	-4.1
RODP	Rodopos	3.19	166	P		Pn	02 40 58.3	-0.3
KKB	Krupnik	3.20	3	P		Pn	02 41 00.4	+1.7
RDO	Rodhopi	3.23	39	P		Pn	02 40 58.0	-1.1
SMG	Samos	3.29	106	P		Pn	02 40 59.8	-0.2
ZEDA	zmir-Bergama	3.32	84	P		Pn	02 40 59.4	-0.9
IMMV	Iera Moni Meta	3.33	164	P		Pn	02 41 00.3	-0.2
RZN	Rozhen	3.34	25	P		Pn	02 41 00.5	-0.3
BUHA	Balikesir, Bur	3.40	75	P		Pg	02 41 10.4	-2.8
TIR	Tirane	3.52	320	⇑P		Pn	02 41 05.5	+2.4
IDI	Anoyia	3.75	153	⇑P		Pn	02 41 06.4	0.0
IDI				⇑S		Sn	02 41 48.9	-1.9
IDI	Anoyia	3.75	153	P		Pn	02 41 06.6	+0.2
KRBG	Karabiga-Canak	3.85	62	P		Pn	02 41 06.0	-1.6
GVD	Gavdhos	3.95	165	P		Pn	02 41 10.9	+1.9
VTS	Vitosha	3.96	4	⇑P		Pn	02 41 09.9	+0.6
VTS	Vitosha	3.96	4	P		Pn	02 41 10.8	+1.5
DAT	Datca	4.22	116	P		Pn	02 41 13.5	+0.6
PDG	Podgorica	4.65	325	⇑P		Pn	02 41 20.2	+1.6
PDG				⇓S		Sn	02 42 14.9	+2.2
TIP	Timpagrande	4.77	278	⇑P		Pn	02 41 21.7	+1.3
FETY	Fethiye	5.35	110	P		Pn	02 41 31.0	+2.7
BANR	Banloc	6.83	350	⇓P		Pg	02 42 16.6	-2.3
VOIR		6.96	13	⇓P		Pn	02 41 51.0	+0.5
MLR	Muntele Rosu	7.20	18	⇑P		Pn	02 41 54.5	+0.8
VRI	Vrincioaia	7.75	21	⇑P		Pn	02 42 02.4	+1.2
BRTR	Keskin Array B	8.45	79	Pn		Pn	02 42 12.7	+1.7
	comp=E,0.1nm,0.3s,baz=259,slow=13,SNR=5.6							
BRTR				LR		LR	02 46 23.9	
	comp=E,45nm,19.7s,baz=314,slow=45							
ESDC	Sonseca Array	20.79	281	P		Pn	02 44 52.6	+0.5
	comp=E,1.6nm,1.0s,baz=79,slow=11,SNR=4.0							
FINES	FINESS Array B	22.89	4	P		P	02 45 13.5	+1.5
	comp=E,2.1nm,0.8s,baz=225,slow=14,SNR=2.4							
TORD	Torodi Ar. Bea	31.59	222	P		P	02 46 30.9	-0.5
	comp=E,0.4nm,0.6s,baz=33,slow=8.8,SNR=13							
MKAR	Makanchi Array	43.49	59	P		P	02 48 14.5	+2.7
	comp=E,0.3nm,0.6s,baz=273,slow=6.7,SNR=2.6							
YKA	Yellowknife Ar	73.54	341	P		P	02 51 43.0	+1.9
	comp=E,0.2nm,0.7s,baz=35,slow=5.1,SNR=3.2							

IDC ***20*** *02:53:16.5±4.3, 7.°14N×73.°43W, h128km±142km, mb3.2/2, mb1 3.4/4, mb1mx3.0/30, mbtmp3.7/4, ML2.8/2, Error ellipse: s-maj=278.9km s-min=8.5km az=132.0*

RSNC ***20*** *02:53:17.5±0.9, 6.°83N×73.°14W, h149km±3km, ML3.2*

ISC 20 02:53:16.4±0.9, 6.°83N±0.°03×73.°13W±0.°03, h157km±6km, n36, σ1°30/68, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.24	194	*e*P		Pn	02 53 37.8	-0.2
BARC				*e*S		Sn	02 53 52.8	-1.7
BARC				*i*			02 53 54.5	
	comp=Z,371nm,0.2s							
PAMC	Pamplona, Colo	0.66	40⇑	*e*P		Pn	02 53 40.7	+0.6
PAMC				*e*S		Sn	02 53 57.4	-0.7
PAMC				*i*			02 54 00.0	
	comp=Z,222nm,0.5s							
RUSC	La Rusia	0.93	177	*e*P		Pn	02 53 41.8	0.0
RUSC				*e*S		Sn	02 54 00.8	-0.6
RUSC				*i*			02 54 02.2	
	comp=Z,165nm,0.2s							
PTBC	PUERTO BERRIO,	1.35	258	*e*P		Pn	02 53 44.3	-0.7
PTBC				*e*S		Sn	02 54 05.8	-1.2
PTBC				*i*			02 54 07.8	
	comp=Z,152nm,0.5s							
TAMC	Tame, Arauca	1.38	106⇓	*i*P		Pn	02 53 46.2	+0.9
TAMC				*i*			02 54 07.1	
	comp=Z,85nm,0.4s							
TAMC				*e*S		Sn	02 54 07.9	+0.4
OCAC	Ocana	1.42	352	*e*P		Pn	02 53 45.7	-0.1
OCAC				*e*S		Sn	02 54 07.9	-0.7
OCAC				*i*			02 54 11.2	
	comp=Z,355nm,0.2s							
SPBC	San Pablo de B	1.50	219	*e*P		Pn	02 53 46.5	-0.1
SPBC				*e*S		Sn	02 54 08.8	-1.0
SPBC				*i*			02 54 13.6	
	comp=Z,299nm,0.3s							
ZARC	Zaragoza, Cauc	1.84	291	*e*P		Pn	02 53 50.4	+0.2
ZARC				*e*S		Sn	02 54 15.8	-0.4
ZARC				*i*			02 54 21.1	
	comp=Z,202nm,0.3s							
NORC	Norcasia	2.14	234	*e*P		Pn	02 53 53.6	-0.1
NORC				*e*S		Sn	02 54 22.8	+0.4
NORC				*i*			02 54 27.8	
	comp=Z,129nm,0.2s							
CHIC	Chingaza	2.26	195	*e*P		Pn	02 53 55.7	+0.2
CHIC				*e*S		Sn	02 54 25.4	-0.2
CHIC				*i*			02 54 27.5	
	comp=Z,85nm,0.3s							
ROSC	El Rosal	2.30	211	P		Pn	02 53 58.0	+2.1
	comp=Z,30nm,0.3s,baz=86,slow=16,SNR=61							
ROSC				S		Sn	02 54 27.1	+0.8
	comp=Z,26nm,0.3s,baz=217,slow=23,SNR=6.9							
ROSC	El Rosal	2.30	211	*e*P		Pn	02 53 57.8	+1.9
ROSC				*e*S		Sn	02 54 27.2	+0.8
ROSC				*i*			02 54 32.3	
	comp=Z,252nm,0.5s							
HELC	Santa Helena	2.47	255	*e*P		Pn	02 53 58.5	+0.6
HELC				*e*S		Sn	02 54 29.8	0.0
UREC	San Jos de Ur	2.56	291	*e*P		Pn	02 53 58.4	-0.2
UREC				*e*S		Sn	02 54 28.2	-3.0
UREC				*i*			02 54 44.8	
	comp=Z,67nm,0.3s							
SOCV	Socops	2.68	57⇑	*e*P		Pn	02 54 00.6	+0.6
SOCV				*e*S		Sn	02 54 32.7	-1.2
LL1C	La Loma 1 Cana	2.73	351	*e*P		Pn	02 54 02.4	+1.6
LL1C				*e*S		Sn	02 54 38.5	+3.4
LL1C				*i*			02 54 45.1	
	comp=Z,230nm,0.5s							
GUY2C	Guyana, Caldas	2.74	235	*e*P		Pn	02 54 01.9	+0.7
GUY2C				*e*S		Sn	02 54 36.1	+0.3
GUY2C				*i*			02 54 44.0	
	comp=Z,95nm,0.3s							
VILC	Villavicencio,	2.75	192	*e*P		Pn	02 54 01.8	+0.7
VILC				*e*S		Sn	02 54 35.8	0.0
PTGC	Puerto Gaitan,	2.79	159	*e*P		Pn	02 54 00.9	-0.6
PTGC				*e*S		Sn	02 54 34.3	-2.1
PTGC				*i*			02 54 37.2	
	comp=Z,77nm,0.8s							
LL6C	La Loma 6 Bece	2.90	357	*e*P		Pn	02 54 02.3	-0.5
LL6C				*e*S		Sn	02 54 38.3	-0.5
LL6C				*i*			02 54 43.9	
	comp=Z,38nm,0.4s							
CBOC	Ciudad Bolivar	3.02	252	*e*P		Pn	02 54 05.3	+0.8
CBOC				*e*S		Sn	02 54 42.0	+0.3
CBOC				*i*			02 54 50.1	
	comp=Z,24nm,0.3s							
DBBC	Dabeiba	3.07	274	*e*P		Pn	02 54 05.2	+0.3
DBBC				*e*S		Sn	02 54 42.0	-0.6
DBBC				*i*			02 54 45.8	
	comp=Z,205nm,0.3s							
SDV	Santo Domingo	3.21	50	P		Pn	02 54 07.4	+0.5
	comp=Z,15nm,0.3s,baz=203,slow=3.4,SNR=67							
SDV				S		Sn	02 54 45.5	-0.4
	comp=Z,11nm,0.3s,baz=36,slow=17,SNR=15							
SDV	Santo Domingo	3.21	50	*e*P		Pn	02 54 07.4	+0.5
SDV				*e*S		Sn	02 54 44.8	-1.2
SDV				*i*			02 54 47.8	
	comp=Z,24nm,0.4s							
ORTC	Ortega, Tolima	3.58	216	*e*P		Pn	02 54 11.9	+0.4
ORTC				*e*S		Sn	02 54 54.5	+0.1
ORTC				*i*			02 55 04.7	
	comp=Z,39nm,0.6s							
SJCC	San Jacinto, C	3.67	326	*e*P		Pn	02 54 11.6	-1.0
SJCC				*e*S		Sn	02 54 52.9	-3.4
SJCC				*i*			02 54 57.3	
	comp=Z,22nm,0.5s							
PLMC	San Jos del P	3.67	239	*e*P		Pn	02 54 13.3	+0.6
PLMC				*e*S		Sn	02 54 57.2	+0.7
PLMC				*i*			02 55 07.4	
	comp=Z,17nm,0.3s							
YOTC	Yotoco, Valle	4.27	229	*e*P		Pn	02 54 20.2	-0.3
YOTC				*e*S		Sn	02 55 10.4	0.0
GUVC	San Jose del G	4.28	173	*e*P		Pn	02 54 20.4	-0.1
GUVC				*e*S		Sn	02 55 08.4	-2.2
GUVC				*i*			02 55 12.9	
	comp=Z,60nm,0.2s							
SMRC	Santa Marta, M	4.45	346	*e*P		Pn	02 54 22.4	-0.3
SMRC				*e*S		Sn	02 55 10.8	-3.7
MACC	Macarena, Meta	4.70	189	*e*P		Pn	02 54 25.0	-1.1
MACC				*e*S		Sn	02 55 16.2	-4.3
MARP	Paez Belalcaza	4.86	216	*e*P		Pn	02 54 28.3	-0.1
GARC	Garzon, Huila	5.18	207	*e*P		Pn	02 54 31.9	-0.6
POPC	Popayan, Colom	5.54	220	*e*P		Pn	02 54 37.3	+0.1
POPC				*e*S		Sn	02 55 39.0	-1.5
SCHQ	Schefferville	48.14	5	P		P	03 01 41.5	+1.2
	comp=Z,0.6nm,0.5s,baz=196,slow=7.4,SNR=1.2							
YKA	Yellowknife Ar	63.26	340	P		P	03 03 28.1	+0.2
	comp=Z,0.3nm,0.5s,baz=134,slow=7.1,SNR=7.6							

DJA 20 02:55:16.9±0.7, 3.°3S±5.°×13.°7E±°, h61km±23km, M3.7/5, MLv3.7/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	1.14	319	P		Pn	02 55 36.9	+0.1
SRPI				S		Sn	02 55 52.2	+0.6
SMPI	Sarmi	1.87	67	P		Pn	02 55 46.9	+0.3
SMPI				S		Sn	02 56 09.3	+0.1

IDC 20 03:06:43.3±10.0, 3.°65N×127.°77E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/40, mbtmp3.7/3, Error ellipse: s-maj=169.3km s-min=147.9km az=156.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.31	165	P		P	03 12 03.1	+0.2
	0.8nm,0.4s,baz=344,slow=10,SNR=24							
ASAR	Alice Springs	27.80	168	P		P	03 12 34.8	+0.5
	0.2nm,0.4s,baz=358,slow=14,SNR=1.9							
STKA	Stephens Creek	37.70	161	P		P	03 13 59.8	-0.8
	1.0nm,0.3s,baz=314,slow=8.0,SNR=3.0							

NNC ***20*** *03:28:23.7±5.5, 36.°76N×70.°27E, h0km, mb5.7, mpv5.5, Error ellipse: s-maj=50.9km s-min=45.1km az=120.0*

MOS ***20*** *03:28:25.2±1.0, 36.°50N×70.°27E, h222km, mb4.7/48, Error ellipse: s-maj=5.2km s-min=3.3km az=81.2*

NEIC ***20*** *03:28:26.6±1.5, 36.°52N±0.°06×70.°13E±0.°08, h221km±4km, mb4.8/153, Error ellipse: s-maj=9.2km s-min=8.4km az=139.0*

IDC ***20*** *03:28:26.9±0.5, 36.°37N×70.°27E, h230km±4km, mb4.2/34, mb1 4.3/38, mb1mx4.1/55, mbtmp4.8/38, Error ellipse: s-maj=8.1km s-min=6.8km az=10.0*

BJI ***20*** *03:28:26.0±0.0, 36.°51N×70.°32E, h219km, mb4.5/52, mB4.7/31*

GCMT ***20*** *03:28:27.6±0.4, 36.°55N±0.°03×69.°94E±0.°04, h222km±3km, MW4.8/78, Moment Tensor Solution. s15,c15; s78,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.64±.10; $M_{\theta\theta}$-1.82±.21; $M_{\phi\phi}$-0.82±.20; $M_{r\theta}$0.31±.12; $M_{r\phi}$-0.49±.17; $M_{\theta\phi}$0.08±.11; Best double couple: M_o2.35400×10^{16} NP1:ϕ247.00000°, δ41.00000°, λ89.00000°. NP2: ϕ68.00000°, δ49.00000°, λ91.00000°. Principal axes: T 2.6620, Plg86.0000°, Azm349.0000°; N -0.6190, Plg1.0000°, Azm248.0000°; P -2.0460, Plg4.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 03:28:26.3±0.3, 36.°44N±0.°03×70.°22E±0.°03, h221km±3km, h221km: pP-P, n618, σ1°55/635, mb4.7/162, 71C-71D, Fault plane solution: NP1:ϕ286.80423°, δ39.11269°, λ110.84162°. **NP2:**ϕ80.66953°, δ53.87352°, λ73.86642°. **Principal axes:** T Plg74.9143°, Azm301.6474°; N Plg12.9703°, Azm90.3479°; P Plg7.5713°, Azm182.1023°;

Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.12	207	PN		Pn	03 29 07.9	+0.1
KBL	Kabul	2.12	207	Pn		Pn	03 29 07.9	+0.1
KBL	Kabul	2.12	207	P		Pn	03 29 08.0	+0.1
	SNR=284							
CHGR	Chuyangaron	2.37	340	PN		Pn	03 29 09.0	-1.1
CHGR	Chuyangaron	2.37	340	Pn		Pn	03 29 09.0	-1.1
GAR	Garm	2.56	2	Pn		Pn	03 29 11.4	-0.8
CEP	Cherat	2.96	152	P		Pn	03 29 17.7	+1.0
CEP				S		S	03 29 56.0	0.0
DRK	Karamyk	3.28	22	Pn		Pn	03 29 20.2	-0.3
BTK	Batken	3.65	7	PN		Pn	03 29 24.7	+0.2
BTK	Batken	3.65	7	Pn		Pn	03 29 24.7	+0.2
CHCP	Chirah Chowk	3.73	137	P		Pn	03 29 26.8	+1.1
THW	Thamme Wali	3.85	160	P		Pn	03 29 27.6	+0.5
TAS	Tashkent	4.93	352	PN		Pn	03 29 40.0	-0.3
TAS	Tashkent	4.93	352	Pn		Pn	03 29 40.0	-0.3
SARP	Sargodha	4.94	155	P		Pn	03 29 40.5	0.0
KSH	Kashi	5.49	54	P		Pn	03 29 42.1	-5.3
KSH				S		S	03 30 39.4	-12
KSH				smax		smax		
	comp=N,1μm,0.6s							
KSH				smax		smax		
	comp=E,1μm,0.7s							
IUG	Iuzhnay	5.70	359	*e*PN		Pn	03 29 49.1	-0.9
IUG	Iuzhnay	5.70	359	*e*P		Pn	03 29 49.2	-0.9
	baz=358							
CHM	Chimkent	5.89	356	*e*PN		Pn	03 29 52.2	-0.2
CHM	Chimkent	5.89	356	*e*P		Pn	03 29 52.2	-0.2
	baz=355							
THN	Thein Dam	6.05	130	*e*P		Pn	03 29 54.3	-0.2
THN				*e*S		S	03 31 01.8	-2.6
AML	Almayashu	6.29	24	P		Pn	03 29 56.7	-1.1
	SNR=1051							
AML	Almayashu	6.29	24	P		Pn	03 29 56.8	-1.0
AML	Almayashu	6.29	24	*i* P		Pn	03 29 56.7	-1.1
	SNR=2168							
DZA	Taraz	6.50	7	*e*PN		Pn	03 29 59.4	-0.7
DZA	Taraz	6.50	7	*e*P		Pn	03 29 59.5	-0.7
	baz=7.0							
BRLS	Borolday	6.59	358	*e*PN		Pn	03 29 56.7	-4.6
BRLS	Borolday	6.59	358	*e*P		Pn	03 29 56.8	-4.6
	baz=356							
KK31	Karatay Array	6.66	2	PN		Pn	03 30 00.9	-1.3
KK31	Karatay Array	6.66	2	Pn		Pn	03 30 00.8	-1.4
KK31	Karatay Array	6.66	2	P		Pn	03 30 00.9	-1.3
	49nm,0.4s,baz=176,slow=12,SNR=1352							
KK31				⇑S		S	03 31 10.2	-8.4
	60nm,0.5s,baz=184,slow=24,SNR=4.4							
KKAR	Karatay Array

AAA Alma-Ata 8.50 35 *e*P Pn 03 30 25.6 -0.2
baz=35
MDOK Medeo 8.53 36 *i* PN Pn 03 30 25.7 -0.6
MDOK Medeo 8.53 36 *i* P Pn 03 30 25.8 -0.6
baz=36
MDOK Medeo 8.53 36 ⇑P Pn 03 30 25.8 -0.6
comp=N,334nm,0.8s
MDOK ⇓S S 03 32 02.3 -0.4
comp=N,117nm,0.9s
KUU Kurty 8.79 30 *i* PN Pn 03 30 27.7 -1.9
KUU pmax pmax
comp=Z,44nm,0.3s
KUU Kurty 8.79 30 *i* P Pn 03 30 27.8 -1.9
comp=Z,44nm,0.3s,baz=30
DDI Dehra Dun 8.95 131 *e*P Pn 03 30 31.1 -0.8
DDI *e*S S 03 32 07.5 -5.2
DDI IAML 03 32 12.9
comp=N,922nm,0.4s
CHKK Chushkaly 9.04 33 *e*PN Pn 03 30 30.8 -1.9
CHKK Chushkaly 9.04 33 *e*P Pn 03 30 30.9 -1.9
baz=33
BTLS Baital 9.07 17 *d i*P Pn 03 30 31.9 -1.2
BTLS pmax pmax
comp=Z,10.0nm,0.4s
BTLS Baital 9.07 17 ⇓ *i*P Pn 03 30 32.0 -1.2
comp=Z,10nm,0.4s,baz=17
SATY Saty 9.13 41 *d i*P Pn 03 30 32.7 -1.4
SATY pmax pmax
comp=Z,88nm,0.8s
SATY Saty 9.13 41 ⇓ *i*P Pn 03 30 32.8 -1.4
comp=Z,88nm,0.8s,baz=41
ZHN Zhinishke 9.22 41 *e*P Pn 03 30 34.2 -1.0
ZHN Zhinishke 9.22 41 *e*P Pn 03 30 34.2 -1.0
baz=41
UZB Uzynbulak 9.53 43 *i* P Pn 03 30 37.7 -1.4
UZB pmax pmax
comp=Z,36nm,0.5s
UZB Uzynbulak 9.53 43 *i* P Pn 03 30 37.8 -1.4
comp=Z,36nm,0.5s,baz=43
KPKS Kokpek 9.56 40 *e*P Pn 03 30 38.3 -1.3
KPKS Kokpek 9.56 40 *e*P Pn 03 30 38.3 -1.3
baz=40
NDI New Delhi 9.73 141 *e*P Pn 03 30 39.6 -2.2
NDI *e*P P 03 30 41.0 -8.2
NDI *e*S S 03 32 21.7 -9.3
GEYT Alibeck 9.77 282 P Pn 03 30 40.0 -2.3
comp=Z,16nm,0.3s,baz=109,slow=13,SNR=172
GEYT S S 03 32 24.3 -7.6
comp=Z,3.0nm,0.3s,baz=27,slow=45,SNR=1.5
GEYT Alibeck 9.77 282 Pn Pn 03 30 39.9 -2.4
GYA0B ALIBECK ARRAY 9.77 282 Pn Pn 03 30 40.0 -2.2
SHLS Shalkode 9.77 44 *i* P Pn 03 30 44.2 +1.9
SHLS pmax pmax
comp=Z,30nm,0.6s
SHLS Shalkode 9.77 44 *i* P Pn 03 30 44.2 +1.9
comp=Z,30nm,0.6s,baz=45
KUDL Kundal 9.82 146 *e*P Pn 03 30 41.4 -1.6
KUDL *e*S S 03 32 26.4 -6.9
AYAN Aya Nagar 9.85 142 *e*P Pn 03 30 43.9 +0.7
AYAN *e*S S 03 32 26.5 -7.3
PDGK Podgornoye 9.90 43 P Pn 03 30 42.9 -1.1
PDGK Podgornoye 9.90 43 P Pn 03 30 42.9 -1.1
comp=Z,168nm,0.7s
SONA Sohna 10.02 143 *e*P Pn 03 30 44.9 -0.6
SONA *e*S S 03 32 28.6 -9.4
AJM Ajmer 10.62 158 *e*P Pn 03 30 52.5 -0.7
PTH Pithoragarh 10.84 126 *e*P Pn 03 30 53.2 -3.0
PTH *e*S S 03 32 48.4 -9.3
OTUK Ortayu 11.90 7 P Pn 03 31 07.4 -1.8
OTUK Ortayu 11.90 7 ⇓P Pn 03 31 07.5 -1.8
comp=Z,35nm,0.8s
OTUK ⇑S S 03 33 28.3 +7.7
comp=Z,28nm,0.9s
JHNI Jhansi 13.05 145 *e*P Pn 03 31 23.2 -0.6
JHNI *e*S S 03 33 40.2 -8.1
MAKZ Makanchi 13.57 37 P Pn 03 31 29.2 -0.9
MAKZ Makanchi 13.57 37 Pn Pn 03 31 29.2 -0.9
MAKZ Makanchi 13.57 37 ⇓P Pn 03 31 28.9 -1.1
comp=Z,127nm,0.5s
PYUN Piuthan 13.62 124 *e*P Pn 03 31 29.5 -1.6
comp=Z,192nm,0.4s
BRZS Berezniki 13.65 7 *e*P Pn 03 31 29.2 -1.8
BRZS pmax pmax
comp=Z,32nm,0.7s
BRZS Berezniki 13.65 7 *e*P Pn 03 31 29.2 -1.8
comp=Z,32nm,0.7s,baz=6.6
MK31 Makanchi Array 13.72 37 *d i*P Pn 03 31 30.8 -1.0
MK31 Makanchi Array 13.72 37 Pn 03 31 30.9 -1.0
MK31 Makanchi Array 13.72 37 P Pn 03 31 30.7 -1.0
comp=Z,21nm,0.5s,baz=214,slow=10,SNR=322
MKAR Makanchi Array 13.72 37 P Pn 03 31 30.6 -1.2
comp=Z,7.2nm,0.3s,baz=230,slow=11,SNR=226
MKAR S S 03 34 01.2 -2.2
baz=57,slow=29,SNR=1.3
DANN Dangsing 13.99 121 *e*P Pn 03 31 35.0 -0.6
comp=Z,439nm,0.5s
KOLN Koldanda 14.25 124 *e*P Pn 03 31 37.7 -1.0
comp=Z,156nm,0.4s
BHPL Bhopal 14.56 153 *e*P P 03 31 43.7 +0.7
BHPL *e*S S 03 34 12.1 -11
VLK Valmikinagar 14.72 124 *e*P Pn 03 31 43.8 -0.4
VLK *e*S S 03 34 17.9 -9.3
GKN Gorkha 14.81 121 *e*P Pn 03 31 45.2 -0.3
comp=Z,324nm,0.4s
AB31 Akbulak array 14.84 333 *e*P Pn 03 31 43.6 -1.9
ABKAR Akbulak array 14.84 333 Pn 03 31 43.4 -2.1
ABKAR Akbulak array 14.84 333 Pn 03 31 43.4 -2.1
ALBI Allahabad 14.89 135 *e*P Pn 03 31 44.9 -1.4
ALBI *e*S S 03 34 22.9 -8.1
WMQ Urumqi 15.25 56 ⇓P Pn 03 31 50.8 +0.2
WMQ sP sP 03 32 48.8 -6.9
WMQ S S 03 34 37.3 -1.8
WMQ PcP PcP 03 36 41.4 +0.9
WMQ pmax pmax
comp=Z,58nm,0.9s
WMQ pmax pmax
comp=Z,200nm,4.1s
WMQ LR LR
comp=Z,570nm,8.3s
WMQ LR LR
comp=Z,600nm,7.9s
WMQ LR LR
comp=Z,260nm,17.1s
DMN Daman 15.38 121 *e*P Pn 03 31 52.5 0.0
comp=Z,175nm,0.4s
KKN Kakani 15.39 120 *e*P P 03 31 52.2 -0.2
comp=Z,242nm,0.5s
KURBB Kurchatov Arra 15.39 20 P P 03 31 49.7 -2.2
comp=Z,1.4nm,0.3s,baz=214,slow=9.5,SNR=64
KURBB S S 03 34 43.0 +1.1
baz=195,slow=17,SNR=4.4
ZSN Zaisan 15.46 40 *e*P P 03 31 51.4 -1.3
ZSN *e*S S 03 34 42.6 -1.0
ZSN Zaisan 15.46 40 *e*P P 03 31 51.5 -1.3
baz=40
ZSN *e*S S 03 34 42.6 -1.0
baz=40
KURK Kurchatov 15.50 20 P P 03 31 51.4 -1.7
KURK pmax pmax
comp=Z,19nm,0.7s
KURK Kurchatov 15.50 20 P P 03 31 51.4 -1.7
KURK IAmb IAmb 03 31 59.5
comp=Z,18nm,0.7s
KURK Kurchatov 15.50 20 P P 03 31 51.6 -1.5
PKIN Phulchoki 15.60 120 *e*P P 03 31 54.6 -0.2
comp=Z,522nm,0.7s
PKI Pulchoki 15.61 120 *e*P P 03 31 54.9 -0.1
comp=Z,297nm,0.5s
JBP Jabalpur 15.70 145 *e*P Pn 03 31 58.0 +2.0
JBP *ex* x 03 31 58.0
JBP *e*S S 03 34 40.7 -8.5
SEM Semipalatinsk 15.73 24 *e*P P 03 31 55.1 -0.8
SEM pmax pmax
comp=Z,13nm,0.6s
SEM Semipalatinsk 15.73 24 *e*P P 03 31 55.1 -0.8
comp=Z,13nm,0.6s,baz=24
GUN Gumba 15.74 118 *e*P P 03 31 56.5 +0.1
comp=Z,320nm,0.6s
BANOM Banah 15.85 232 P Pn 03 31 57.9 0.0
SNR=10
BANOM Banah 15.85 232 *i* P P 03 31 57.4 +0.2
SNR=15
SHME Shamm 15.86 233 P Pn 03 31 58.0 0.0
JIRN Jiri 16.11 118 *e*P Pn 03 32 01.4 0.0
comp=Z,210nm,0.6s

MASF Masafi 16.33 231 P Pn 03 32 04.7 +1.1
SNR=12
MSFE Esma-Masafi 16.34 231 *i* P Pn 03 32 04.2 +0.5
SNR=12
AKTO Aktyubinsk 16.53 332 P Pn 03 32 05.2 -0.5
comp=Z,10nm,0.3s,baz=142,slow=9.5,SNR=63
AKTO S S 03 35 00.6 -5.3
comp=Z,0.8nm,0.3s,baz=176,slow=14,SNR=2.0
AKTO Aktyubinsk 16.53 332 *i* P P 03 32 04.8 +0.3
AKTO pmax pmax
comp=Z,45nm,0.5s
AKTO Aktyubinsk 16.53 332 ⇑P P 03 32 04.8 +0.3
comp=Z,45nm,0.6s
UMQ Umm Al-Quwin 16.54 233 P Pn 03 32 07.2 +1.2
WSAR Wadi Sarin 16.54 220 P Pn 03 32 06.7 +0.6
comp=Z,4.3nm,0.3s,baz=67,slow=8.6,SNR=39
WSAR S S 03 35 06.0 -0.6
comp=Z,0.2nm,0.3s,baz=136,slow=5.0,SNR=5.4
WSAR Wadi Sarin 16.54 220 P Pn 03 32 07.0 +0.9
SNR=12
BIDO Bidbid 16.57 222 P Pn 03 32 06.7 +0.2
UOSS Minazif 16.61 230 P P 03 32 05.9 +0.3
UOSS Minazif 16.61 230 P Pn 03 32 07.4 +0.5
UOSS Minazif 16.61 230 *i* P P 03 32 04.3 -1.3
SNR=14
BRVK Borovoye 16.62 0 *d i*P P 03 32 05.5 +0.1
BRVK pmax pmax
comp=Z,86nm,0.8s
BRVK Borovoye 16.62 0 P P 03 32 05.3 -0.1
BRVK Borovoye 16.62 0 ⇑P P 03 32 05.6 +0.1
comp=Z,52nm,0.5s
HATD Hatta, Dubai 16.74 230 P Pn 03 32 09.5 +1.1
SNR=12
HATD Hatta, Dubai 16.74 230 *i* P Pn 03 32 08.4 0.0
SNR=11
AKL Akola 16.77 157 *e*P Pn 03 32 14.4 +5.6
RAMN Ramite 16.83 120 *e*P Pn 03 32 09.5 -0.3
comp=Z,309nm,0.5s
WBK Wadi Bani Khal 16.88 218 P Pn 03 32 10.6 +0.4
SNR=26
ASHO Ashiyiah 16.89 230 P Pn 03 32 09.8 -0.4
SNR=30
ASHO Ashiyiah 16.89 230 *i* P Pn 03 32 09.9 -0.4
SNR=19
NAZ Nazwa, Dubai 16.91 232 P Pn 03 32 11.2 +0.6
SNR=24
NAZ Nazwa, Dubai 16.91 232 *i* P Pn 03 32 10.8 +0.2
SNR=24
HOQ Hoqain 16.98 225 P Pn 03 32 10.8 -0.5
SMDO Samad 16.99 222 P Pn 03 32 12.3 +0.7
SNR=9.9
SOHO SOHO 17.01 228 P Pn 03 32 11.7 +0.1
SOHO SOHO 17.01 228 *i* P P 03 32 09.7 -0.2
SNR=11
JLN Jalan Bani Buh 17.05 216 P Pn 03 32 12.4 +0.2
SNR=6.2
FAQ Al Faqa, Dubai 17.13 231 P Pn 03 32 12.8 -0.3
SNR=6.8
FAQ Al Faqa, Dubai 17.13 231 P Pn 03 32 12.8 -0.3
LKRN Lenkeran, Azer 17.14 284 P Pn 03 32 13.1 0.0
TAPN Taplejung 17.38 116 *e*P Pn 03 32 16.1 -0.2
comp=Z,162nm,0.5s
ASUD Al Ashush, Dub 17.38 232 P Pn 03 32 15.9 -0.1
SNR=9.2
ASUD Al Ashush, Dub 17.38 232 *i* P P 03 32 15.0 +1.0
SNR=5.8
ODAN Odare 17.44 118 *e*P Pn 03 32 17.1 +0.1
comp=Z,238nm,0.6s
JMDO Jabal Madar 17.52 220 P Pn 03 32 17.5 -0.2
SNR=13
ALNE Al Ain 17.54 229 P P 03 32 16.6 +0.9
SNR=12
ALNE Al Ain 17.54 229 *i* P P 03 32 16.7 +0.9
SNR=6.7
ARQ Araqi 17.62 226 P Pn 03 32 17.9 -0.9
SNR=8.3
AJN Ajban 17.65 232 P Pn 03 32 18.0 -1.1
BSY Bisya 17.70 223 P Pn 03 32 19.5 -0.3
SEKA Sheki 18.54 292 P P 03 32 27.5 +1.0
MNGR Mingechevir, A 18.57 291 P Pn 03 32 28.5 -1.3
MAK Makhachkala 18.62 297 *e*P P 03 32 27.6 +0.3
MAK *e*S S 03 35 48.2 +0.6
MAK pmax pmax
comp=Z,16nm,0.3s
MHTO MHTO 18.75 218 P Pn 03 32 30.8 -1.2
SNR=11
LSA Lhasa 18.77 105 P Pn 03 32 31.9 -0.9
LSA pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 18.77 105 P Pn 03 32 31.9 -0.9
LSA IAmb IAmb 03 32 36.6
comp=Z,34nm,0.8s
LSA Lhasa 18.77 105 P Pn 03 32 33.0 +0.2
JRN Qarnain Island 18.79 237 P P 03 32 28.9 -0.4
UMZA Um Al Zommool 18.90 228 P P 03 32 31.1 +0.6
ZKTA Zakatala 19.03 293 P P 03 32 33.4 +1.7
GANJ Ganja 19.14 290 P P 03 32 34.0 +1.0
KHOR Al-Khor Airpor 19.28 241 P P 03 32 34.6 0.0
SHMA Al-Shehemyia 19.53 243 P P 03 32 37.3 +0.1
NAX Nakhchivan 19.71 285 P Pn 03 32 41.8 -1.6
MZR Muzera 19.72 232 P P 03 32 38.6 -0.7
MZR Muzera 19.72 232 P P 03 32 38.3 -1.0
SAKB Bahrain 19.77 244 P P 03 32 39.8 +0.1
GOMU GeErMu 19.81 83 P P 03 32 42.0 +1.4
GOMU pP Pn 03 32 45.4 +0.4
GOMU S S 03 36 11.9 +0.1
GOMU pmax pmax
comp=Z,6.0nm,0.5s
GOMU pmax pmax
comp=Z,71nm,3.9s
GOMU LR LR
comp=Z,53nm,6.4s
GOMU LR LR
comp=Z,70nm,6.1s
GOMU LR LR
comp=Z,64nm,5.9s
DQM DQM 19.85 217 P P 03 32 41.5 +0.9
GROC Groznyy 19.90 297 *e*P P 03 32 43.2 +2.2
GROC *e*S S 03 36 14.4 +1.8
GROC pmax pmax
comp=Z,55nm,1.0s
TRNA Turayna 20.05 240 P P 03 32 41.8 -1.0
SLWR Sila 20.16 237 P P 03 32 44.3 +0.4
ZAA0 Zalesovo Array 20.24 26 P P 03 32 44.0 -0.5
ZALV Zalesovo Beam 20.24 26 P P 03 32 44.1 -0.4
comp=Z,49nm,0.4s,baz=219,slow=11,SNR=187
ZALV S S 03 36 16.2 -2.7
comp=Z,17nm,0.7s,baz=218,slow=17,SNR=6.2
ZALV Zalesovo Beam 20.24 26 P P 03 32 44.0 -0.5
GNI Garni 20.31 288 P Pn 03 32 48.9 -2.0
comp=Z,16nm,0.5s,baz=111,slow=3.3,SNR=10
GNI Garni 20.31 288 ⇑ *e*P P 03 32 47.8 +2.1
GNI pmax pmax
comp=Z,105nm,1.3s
GNI Garni 20.31 288 P P 03 32 45.1 -0.5
SMRA Abu-Samra 20.32 240 P P 03 32 44.6 -1.0
HYBB Hyderabad (bro 20.33 157 *e*P P 03 32 46.9 +1.0
HYBB *e*pP pP 03 33 23.3 +1.3
HYBB *e*sP sP 03 33 51.6 +1.5
HYBB *e*S S 03 36 23.6 +2.2
HYBB IVMs_BB IVMs_BB 03 39 09.5
comp=Z,124nm,3.6s
ZEI Tsey 21.19 295 *e*P P 03 32 55.8 +0.9
ZEI pmax pmax
comp=Z,13nm,0.8s
SVE Sverdlovsk 21.39 345 ⇑ *e*P P 03 32 56.9 +0.4
SVE *e*S S 03 36 43.0 +4.0
SVE pmax pmax
comp=Z,75nm,1.2s
SHL Shillong 21.45 114 P P 03 32 57.8 +0.1
SHL pmax pmax
comp=Z,59nm,0.8s
SHL Shillong 21.45 114 P P 03 32 57.8 +0.1
SHL Shillong 21.45 114 P P 03 32 57.9 +0.1
SNR=16
ARU Arti 21.49 342 P P 03 32 58.0 +0.5
comp=Z,31nm,0.6s,baz=152,slow=6.5,SNR=69
ARU Arti 21.49 342 *c i*P P 03 32 57.7 +0.2
ARU *PP pP 03 33 31.0 -4.2
ARU 03 33 40.6
ARU S S 03 36 42.2 +1.5
ARU pmax pmax
comp=Z,144nm,1.0s
ONI Oni 21.49 295 P P 03 32 57.6 -0.2
ONI pmax pmax
comp=Z,12nm,0.7s
ONI Oni 21.49 295 P P 03 32 57.6 -0.2
NCK Nalchik 21.53 297 ⇓ *e*P P 03 32 59.2 +1.1
NCK pmax pmax
comp=Z,17nm,0.6s
KBZ Khabaz 22.07 298 P P 03 33 03.8 +0.6
comp=Z,3.0nm,0.7s,baz=132,slow=8.5,SNR=11
GOF Gofitskoye 22.23 301 ⇑ *e*P P 03 33 06.9 +2.2
GOF pmax pmax
comp=Z,28nm,0.9s
KIV Kislovodsk 22.26 298 *e*P P 03 33 06.8 +1.7
KIV *e*S S 03 36 56.1 +2.7
KIV pmax pmax
comp=Z,7.0nm,1.0s
SHAO Shalim 22.42 219 P P 03 33 08.0 +1.4
BELG Belogornoye 22.55 322 P P 03 33 08.0 +0.6
comp=Z,99nm,0.6s,baz=303,slow=1.2,SNR=39
BELG Belogornoye 22.55 322 *i* P P 03 33 08.1 +0.6
BELG pmax pmax
comp=Z,18nm,0.7s
DOK Doka 22.72 223 P P 03 33 09.9 +0.6
DMTO DMTO 23.02 220 P P 03 33 12.6 +0.5
WHFO Wadi Hawf 23.48 223 P P 03 33 18.1 +1.8
SNR=6.8
GTA Gaotai 23.49 74 ⇓P P 03 33 18.1 +1.8
GTA pP pP 03 34 02.6 +4.8
GTA PcP PcP 03 36 55.3 -0.1
GTA pmax pmax
comp=Z,9.0nm,1.0s
RBK Rabkut 23.59 221 P P 03 33 17.6 +0.3
ABTO Aybut 24.20 223 P P 03 33 23.1 +0.3
SNR=9.2
VRH Novokhopyorsk 25.10 315 *e*P P 03 33 34.7 +4.1
VRH pmax pmax
comp=Z,10.0nm,0.6s
KIRV Kirov 26.02 335 P P 03 33 39.5 +0.7
comp=Z,92nm,0.6s,baz=124,slow=3.8,SNR=32
KIRV Kirov 26.02 335 *c i*P P 03 33 39.3 +0.5
ANN Anapa 26.11 299 *e*P P 03 33 43.9 +4.2
ANN *e* 03 34 30.1
ANN *e*S S 03 38 02.5 +8.1
ANN pmax pmax
comp=Z,30nm,1.1s
VSR Storozhevoye 26.59 314 *e*P P 03 33 43.3 -0.6
VSR pmax pmax
comp=Z,8.0nm,0.8s
MOY Mondy 26.60 45 *e*P P 03 33 46.2 +2.0
MOY pmax pmax
comp=Z,19nm,1.7s
LZH Lanzhou 27.04 81 *e*P P 03 33 52.6 +4.2
LZH pP pP 03 34 38.1 +4.4
LZH sP sP 03 35 03.5 +3.5
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.9s
LPSR Galich'ya Gora 27.26 316 *e*P P 03 33 49.1 -0.8
LPSR pmax pmax
comp=Z,10.0nm,0.9s
ZAK Zakamensk 27.51 49 *e*P P 03 33 53.2 +0.9
ZAK pmax pmax
comp=Z,12nm,1.4s
CD2 Chengdu 28.36 91 P P 03 33 59.8 -0.2
CD2 pmax pmax
comp=Z,10.0nm,1.1s
PZH PanZhiHua 28.55 101 P P 03 34 02.9 +1.1
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.2s
BR131 Keskin Array S 28.85 288 ⇑ *e*P P 03 34 05.1 +0.7
BR131 Keskin Array S 28.85 288 P P 03 34 05.7 +1.4
BRTR Keskin Array B 28.85 288 P P 03 34 05.5 +1.1
comp=Z,1.5nm,0.7s,baz=94,slow=9.4,SNR=11
BRTR pP pP 03 34 51.1 +2.4
comp=Z,3.7nm,0.9s,baz=108,slow=7.9,SNR=4.7
BRTR Keskin Array B 28.85 288 P P 03 34 02.9 -1.5
SONM Songino Array 28.89 55 P P 03 34 06.1 +1.5
comp=Z,6.8nm,0.8s,baz=253,slow=10,SNR=21
SONM pP pP 03 34 51.6 +1.4
comp=Z,4.0nm,0.9s,baz=252,slow=9.8,SNR=3.0
SONM Songino Array 28.89 55 P P 03 34 04.8 +0.3
MOS Moscow 29.31 322 *e*P P 03 34 07.5 -0.5
MOS *e* 03 35 07.5
MOS pmax pmax
comp=Z,35nm,0.9s
ULN Ulaanbaatar 29.33 55 *c i*P P 03 34 09.7 +1.2
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 29.33 55 P P 03 34 09.2 +0.7
ULN Ulaanbaatar 29.33 55 P P 03 34 10.0 +1.5
PRGR Permogore 29.57 336 *e*P P 03 34 08.5 -1.7
PRGR pmax pmax
comp=Z,68nm,0.6s
OBN Obninsk 29.57 320 P P 03 34 10.3 0.0
comp=Z,3.1nm,0.4s,baz=186,slow=19,SNR=6.2
OBN Obninsk 29.57 320 *i* P P 03 34 09.0 -1.3
OBN *i* 03 35 16.4
OBN *i* S S 03 38 51.8 +3.2
OBN pmax pmax
comp=Z,26nm,1.3s
OBN Obninsk 29.57 320 P P 03 34 09.9 -0.4
KMI Kunming 30.00 103 ⇓P P 03 34 15.1 +0.4
KMI pmax pmax
comp=Z,11nm,0.6s
CHTO Chiang Mai 30.75 117 P P 03 34 22.6 +1.5
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 30.75 117 P P 03 34 24.2 +3.1
comp=Z,3.7nm,0.8s
CMAR Chiang Mai Arr 30.98 118 P P 03 34 23.8 +0.6
comp=Z,7.8nm,0.8s,baz=297,slow=8.0,SNR=42
CMAR PcP PcP 03 37 13.4 -0.2
comp=Z,1.3nm,0.4s,baz=292,slow=4.7,SNR=4.1
CMAR ScP ScP 03 40 31.9 -3.3
comp=Z,1.2nm,0.3s,baz=291,slow=5.9,SNR=4.1
CMAR Chiang Mai Arr 30.98 118 *i* P P 03 34 24.7 +1.5
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 30.98 118 P P 03 34 23.9 +0.8
CMAR PcP 03 37 13.6 -0.1
CMAR ScP 03 40 34.8 -0.5
KLMR Klimovskoe 31.23 331 *e*P P 03 34 23.4 -1.3
KLMR *e* 03 37 11.0
KLMR pmax pmax
comp=Z,48nm,1.1s
KLMR Klimovskoe 31.23 331 *e*P P 03 34 23.5 -1.3
KLMR AMP 03 34 25.6
comp=Z,48nm,1.1s
KLMR *e*PcP PcP 03 37 11.1 -2.4
XAN Xi'an 31.56 83 P P 03 34 28.6 +0.4
XAN pmax pmax
comp=Z,11nm,1.0s
XAN pmax pmax
comp=Z,130nm,4.3s
ELL Elmali 32.20 283 P P 03 34 33.7 0.0
ELL pmax pmax
comp=Z,47nm,0.7s
ELL Elmali 32.20 283 P P 03 34 33.7 0.0
HHC Hu-ho-hao-te 32.38 69 *e*P P 03 34 36.9 +1.7
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,130nm,7.2s
GYA Guiyang 32.48 97 ⇑P P 03 34 36.9 +0.6
GYA pP pP 03 35 26.1 +3.9
GYA pmax pmax
comp=Z,24nm,0.9s
AKASG Malin Array Be 32.49 309 P P 03 34 36.0 +0.1
comp=Z,1.7nm,0.4s,baz=80,slow=8.2,SNR=10
AKASG pP pP 03 35 23.8 +3.1
comp=Z,1.7nm,0.4s,baz=79,slow=7.9,SNR=3.0
AKBB Malin Array Si 32.49 309 ⇓ *i*P P 03 34 36.2 +0.3
AKBB pmax pmax
comp=Z,15nm,1.6s
AKBB Malin Array Si 32.49 309 P P 03 34 35.7 -0.2
MNK Minsk 34.10 316 *i* P P 03 34 50.1 +0.4
MNK *i* *PP pP 03 35 34.9 +0.1
MNK *i* 03 36 12.2
MNK *i* 03 37 21.9
MNK *i* S S 03 39 58.9 +0.1
MNK *i* *SS sS 03 41 20.6 +0.3
MNK *i* 03 44 48.3
MNK pmax pmax
comp=Z,12nm,1.1s

MNK pmax pmax
comp=E,3.0nm,1.3s
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK MLR MLR
comp=N,139nm,20.0s
MNK MLR MLR
comp=Z,41nm,16.0s
MNK MLR MLR
comp=E,33nm,23.0s
MNK Minsk 34.10 316 *i* P **P 03 34 50.1 +0.4**
comp=E,3.0nm,1.3s
MNK *i* P **P 03 34 50.1 +0.4**
comp=N,4.0nm,0.7s
MNK *i* P **P 03 34 50.1 +0.4**
comp=Z,12nm,1.1s,baz=286
MNK *i* pP **pP 03 35 35.0 +0.1**
MNK *i* PP **PnPn 03 36 12.2 0.0**
MNK *i* S **S 03 39 58.9 +0.1**
MNK *i* sS **sS 03 41 20.7 +0.3**
MNK *i* SS **SS 03 42 36.3 +2.4**
MNK *i* LRM MLR 03 50 07.5
comp=N,139nm,20.0s
MNK *i* LRM MLR 03 50 19.8
comp=Z,41nm,16.1s
MNK *i* LRM MLR 03 50 22.8
comp=E,33nm,23.2s
MLR Muntele Rosu 34.26 299 P **P 03 34 51.8 +0.4**
MLR pmax pmax
comp=Z,12nm,0.8s
MLR Muntele Rosu 34.26 299 P **P 03 34 51.8 +0.4**
NRIK Noril'sk 34.30 11 P **P 03 34 52.5 +1.2**
comp=Z,39nm,0.5s,baz=205,slow=6.0,SNR=44
NRIK Noril'sk 34.30 11⇑ *e*P **P 03 34 52.5 +1.2**
NRIK pmax pmax
comp=Z,60nm,0.9s
NRIK Noril'sk 34.30 11 P **P 03 34 51.8 +0.5**
KARP Karpathos 34.63 282 P **P 03 34 54.4 -0.3**
BUR08 Bucovina Ar. S 34.80 303 P **P 03 34 54.7 -1.3**
NACGM Naroch 34.82 316 *e*P **P 03 34 57.9 +2.0**
VOIR 34.89 299 P **P 03 34 58.0 +1.2**
VOIR pmax pmax
comp=Z,4.0nm,0.8s
VALR Valaam 35.04 328*c i*P **P 03 34 57.5 -0.2**
VALR pmax pmax
comp=Z,27nm,0.8s
HNS HongShan 35.34 75 *e*P **P 03 35 02.0 +1.4**
XLT XiLinHaoTe 35.46 63 *e*P **P 03 35 05.0 +3.4**
XLT PcP **PcP 03 37 30.4 +4.4**
XLT S **S 03 40 23.0 +3.0**
XLT ScP **ScP 03 40 52.8 +2.1**
XLT sS sS 03 41 45.3 +3.4
XLT pmax pmax
comp=Z,7.0nm,0.9s
XLT pmax pmax
comp=Z,180nm,5.2s
XLT LR LR
comp=Z,320nm,16.9s
BOD Bodaibo 35.80 39 *e*P **P 03 35 04.9 +0.7**
BOD pmax pmax
comp=Z,24nm,1.5s
VSU Vasula 35.84 322 *i* P **P 03 35 04.3 -0.3**
VSU pmax pmax
comp=Z,87nm,1.3s
KWP Kalwaria Pacla 36.54 306 P **P 03 35 10.6 0.0**
KWP pmax pmax
comp=Z,20nm,0.9s
KWP Kalwaria Pacla 36.54 306 P **P 03 35 10.6 0.0**
KWP IAmb IAmb 03 35 18.7
comp=Z,20nm,0.9s
FIA1 FINESS Array S 37.18 326 P **P 03 35 15.7 -0.2**
FIA1 IAmb IAmb 03 35 17.1
comp=Z,16nm,0.8s
FINES FINESS Array B 37.18 326 P **P 03 35 16.2 +0.4**
comp=Z,13nm,0.8s,baz=105,slow=12,SNR=31
FINES pP **pP 03 36 05.0 +3.4**
comp=Z,5.1nm,0.6s,baz=108,slow=11,SNR=3.8
LVZ Lovozero 37.28 339*c i*P **P 03 35 16.6 -0.1**
LVZ pmax pmax
comp=Z,30nm,0.7s
LVZ Lovozero 37.28 339 P **P 03 35 16.9 +0.2**
LVZ IAmb IAmb 03 35 17.5
comp=Z,30nm,0.8s
TIA Tai'an 37.50 76 ⇓P **P 03 35 20.4 +1.5**
TIA pmax pmax
comp=Z,10.0nm,0.7s
UBPT Khong Chiam 37.78 115 P **P 03 35 21.4 0.0**
MSF Maaselka 37.96 334 P **P 03 35 23.0 +0.6**
NJ2 Nanjing 40.11 82 *e*P **P 03 35 41.3 +0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ARA0 ARCESS Array S 40.96 338 *e*P **P 03 35 47.6 +0.5**
ARCES ARCESS Array B 40.96 338 P **P 03 35 47.6 +0.6**
comp=Z,25nm,0.7s,baz=113,slow=8.7,SNR=120
ARCES ARCESS Array B 40.96 338 P **P 03 35 47.4 +0.4**
ARCES IAmb IAmb 03 35 48.6
comp=Z,36nm,0.8s
KTK1 Kautokeino 41.42 337 *e*P **P 03 35 50.8 0.0**
HAMF Hammerfest 42.05 339 *e*P **P 03 35 56.6 +0.8**
BRG Berggiesshubel 42.16 308 *e*P **P 03 35 57.6 +0.5**
BRG Amp 03 35 59.4
comp=Z,3.8nm,0.8s
BRG Berggiesshubel 42.16 308 *e*P **P 03 35 57.5 +0.5**
BRG pmax pmax
comp=Z,4.0nm,0.8s
DEL Delary 42.27 317 *i* P **P 03 35 57.0 -0.8**
KHC Kasperske Hory 42.51 306⇓ *e*P **P 03 36 00.7 +0.8**
KHC pmax pmax
comp=Z,25nm,2.6s
JETT Jettan, Norway 42.56 337 *e*P **P 03 36 00.6 +0.6**
IPM Ipoh 42.58 131 P **P 03 36 00.6 -0.1**
IPM IAmb IAmb 03 36 01.7
comp=Z,19nm,0.8s
IPM Ipoh 42.58 131 P **P 03 36 01.0 +0.3**
comp=Z,28nm,0.9s
ZEA Zeya 42.58 47 *e*P **P 03 36 02.1 +1.8**
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,0.9s
PSI Prapat 42.68 135 P **P 03 35 59.9 -1.8**
comp=Z,6.4nm,0.7s,baz=304,slow=7.6,SNR=9.7
CLL Collm 42.74 309 *e*P **P 03 36 01.0 -0.6**
CLL *e*(pP) **pP 03 36 51.0 +2.6**
CLL *e*PP **PP 03 37 46.0 +0.6**
RPSI Rantau Prapat 42.77 135 P **P 03 35 59.9 -2.4**
GSI Gunungsitoli 43.17 138 P **P 03 36 06.5 +1.0**
GSI IAmb IAmb 03 36 11.1
comp=Z,25nm,0.8s
GSI Gunungsitoli 43.17 138 P P 03 36 10.7 +5.3
GSI Gunungsitoli 43.17 138 P P 03 36 10.7 +5.3
comp=Z,33nm,0.9s
MOR8 Moi Rana 43.56 331 *e*P **P 03 36 07.5 -0.5**
FAUS Fauske 43.57 333 *e*P **P 03 36 08.2 +0.3**
STEI Steigen 43.74 333 *e*P **P 03 36 09.6 +0.3**
NC405 NORSAR Array S 43.82 323 P **P 03 36 09.6 -0.5**
NC602 NORSAR Array S 43.86 323 *e*P **P 03 36 10.0 -0.4**
NORES NORESS Array B 43.86 323 P **P 03 36 10.1 -0.3**
NC303 NORSAR Array S 44.00 323 P **P 03 36 11.4 -0.1**
NC303 IAmb IAmb 03 36 12.8
comp=Z,38nm,0.9s
NB2 NORSAR Subarra 44.05 323 P **P 03 36 11.2 -0.7**
comp=Z,12nm,0.7s,baz=99,slow=7.9
NOA NORSAR Array B 44.05 323 P **P 03 36 11.3 -0.7**
comp=Z,15nm,0.9s,baz=97,slow=7.8,SNR=33
NOA pP **pP 03 37 01.5 +2.4**
comp=Z,1.8nm,0.5s,baz=97,slow=8.0,SNR=2.2
KONS Konsvik 44.16 331 *e*P **P 03 36 12.8 +0.1**
STOK Stokkvaagen 44.16 331 *e*P **P 03 36 12.8 +0.1**
OSL Oslo 44.19 322 *e*P **P 03 36 13.3 +0.3**
NAO01 NORSAR Array S 44.19 323 P **P 03 36 12.0 -1.0**
NAO01 IAmb IAmb 03 36 13.4
comp=Z,44nm,1.1s
NSS Namsos 44.22 328 *e*P **P 03 36 13.1 0.0**
NBO00 NORSAR Array S 44.26 323 IAmb IAmb 03 36 14.4
comp=Z,35nm,1.0s
NC204 NORSAR Array S 44.29 323 P **P 03 36 13.7 -0.3**
NC204 IAmb IAmb 03 36 14.7
comp=Z,35nm,0.9s
YAK Yakutsk 44.38 35 P **P 03 36 14.6 +0.1**
comp=Z,14nm,0.3s,baz=231,slow=2.0,SNR=7.8
YAK Yakutsk 44.38 35*ce*P **P 03 36 14.5 +0.1**
YAK pmax pmax
comp=Z,61nm,0.8s
YAK Yakutsk 44.38 35 P **P 03 36 14.6 +0.1**

LOF Lofoten 44.41 333 *e*P **P 03 36 14.8 +0.1**
MNSI Mandailing Nat 44.69 136 P **P 03 36 18.8 +1.2**
KONO Kongsberg 44.73 321 *e*P **P 03 36 17.6 +0.2**
TBLU Trondheim 44.76 326 *e*P **P 03 36 17.4 -0.1**
BJO1 Bjornoya 45.14 343 *e*P **P 03 36 21.0 +0.7**
DOMB Dombas 45.17 324 *e*P **P 03 36 21.1 +0.3**
SKAR Skarslia 45.44 322 *e*P **P 03 36 23.6 +0.7**
KSRS Korea Array 45.50 71 P **P 03 36 23.6 0.0**
comp=Z,4.4nm,0.5s,baz=283,slow=7.0,SNR=13
KSRS PcP **PcP 03 37 57.5 -1.0**
comp=Z,1.1nm,0.7s,baz=294,slow=4.0,SNR=5.5
KLR Kul'dur 45.69 54 P **P 03 36 25.8 +0.8**
comp=Z,9.1nm,0.6s,baz=279,slow=9.2,SNR=27
KLR Kul'dur 45.69 54*c i*P **P 03 36 25.5 +0.5**
KLR pmax pmax
comp=Z,25nm,1.7s
LODK Lodwar 45.92 233 P **P 03 36 28.6 +1.3**
TIXI Tiksi 46.07 22*c i*P **P 03 36 27.8 +0.2**
TIXI pmax pmax
comp=Z,31nm,1.0s
TIXI Tiksi 46.07 22 P **P 03 36 27.7 +0.2**
TIXI IAmb IAmb 03 36 28.7
comp=Z,24nm,0.9s
USRK Ussuriysk Ar. 46.75 60 P **P 03 36 33.4 +0.1**
comp=Z,2.5nm,0.5s,baz=265,slow=9.3,SNR=7.0
VLA Vladivostok 46.92 62⇓ *e*P **P 03 36 35.4 +0.7**
VLA pmax pmax
comp=Z,46nm,0.8s
SENIN Lac Senin/Sane 47.09 303 P **P 03 36 35.5 -0.7**
BTNL Ternell 47.13 309 *d*P **P 03 36 36.8 +0.5**
comp=Z,5.4nm,0.9s
SUE Sulen 47.18 323 *e*P **P 03 36 36.1 -0.3**
WLF Walferdange 47.26 307 *d*P **P 03 36 38.2 +1.1**
SPB2 Spitsbergen Ar 47.40 347 P **P 03 36 38.1 +0.2**
SPB2 IAmb IAmb 03 36 40.0
comp=Z,34nm,0.8s
SPITS Spitsbergen Ar 47.41 347 P **P 03 36 38.0 0.0**
SPITS pmax pmax
comp=Z,29nm,0.9s
BMRD Maredsous 48.04 308 *d*P **P 03 36 44.2 +1.0**
comp=Z,5.2nm,1.0s
DOU Dourbes 48.18 308 *d*P **P 03 36 43.8 -0.5**
comp=Z,5.1nm,1.3s
KMBO Kilima Mbogo 48.33 227 P **P 03 36 47.2 +1.2**
comp=Z,1.8nm,0.5s,baz=36,slow=9.6,SNR=6.9
KMBO Kilima Mbogo 48.33 227 P **P 03 36 45.8 -0.2**
KMBO Kilima Mbogo 48.33 227 P **P 03 36 46.7 +0.6**
KMBO Kilima Mbogo 48.33 227 P **P 03 36 47.0 +1.0**
KEST Kesra 48.45 288 P **P 03 36 47.9 +1.2**
comp=Z,3.6nm,0.7s,baz=60,slow=1.9,SNR=8.0
KEST Kesra 48.45 288 P **P 03 36 47.6 +0.9**
KBS Kingsbay 48.53 347*ce*P **P 03 36 48.2 +1.7**
KBS pmax pmax
comp=Z,58nm,2.5s
KBS Kingsbay 48.53 347 P **P 03 36 46.6 +0.1**
KBS IAmb IAmb 03 36 48.5
comp=Z,37nm,0.9s
DSRI Dabo 48.64 131 P **P 03 36 48.7 +0.5**
KIBK Kibwezi 48.85 225 P **P 03 36 49.9 +0.1**
KIBK Kibwezi 48.85 225 P **P 03 36 51.4 +1.6**
KKM Kota Kinabalu 51.76 114 P **P 03 37 12.4 +0.7**
KKM IAmb IAmb 03 37 13.9
comp=Z,39nm,1.0s
KKM Kota Kinabalu 51.76 114 P **P 03 37 14.3 +2.6**
comp=Z,39nm,1.3s
MBAR Mbarara 51.96 234*ce*P **P 03 37 14.3 +1.1**
MBAR pmax pmax
comp=Z,5.0nm,0.7s
MBAR Mbarara 51.96 234 P **P 03 37 13.5 +0.3**
MBAR Mbarara 51.96 234 P **P 03 37 14.3 +1.1**
YSS Yuzh-Sakhalins 53.37 55 *e*P **P 03 37 23.5 +0.6**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 53.37 55 P **P 03 37 24.7 +1.8**
comp=Z,42nm,1.1s
MJB9 Matsu-Tunnel 53.56 68 P **P 03 37 24.4 -0.2**
MAJO Matsushiro 53.56 68 P **P 03 37 24.2 -0.3**
MAJO pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 53.56 68 P **P 03 37 24.2 -0.3**
MAJO Matsushiro 53.56 68 P **P 03 37 25.0 +0.5**
comp=Z,15nm,0.9s
MJAR Matsushiro Arr 53.56 68 P **P 03 37 23.8 -0.7**
comp=Z,9.0nm,0.8s,baz=301,slow=8.7,SNR=11
MJAR Matsushiro Arr 53.56 68 P **P 03 37 24.2 -0.4**
MJAR pmax pmax
comp=Z,5.0nm,1.0s
MJAR Matsushiro Arr 53.56 68 P **P 03 37 24.2 -0.4**
MA2 Magadan 54.80 38*c i*P **P 03 37 32.7 -0.3**
MA2 pmax pmax
comp=Z,29nm,1.7s
MA2 Magadan 54.80 38 P **P 03 37 33.5 +0.5**
MA2 IAmb IAmb 03 37 35.1
comp=Z,12nm,0.8s
MA2 Magadan 54.80 38 P **P 03 37 34.3 +1.3**
comp=Z,20nm,1.1s
SEY Seymchan 54.82 34⇑ *i*P **P 03 37 33.7 +0.6**
SEY pmax pmax
comp=Z,18nm,1.0s
ESDC Sonseca Array 56.93 298 P **P 03 37 48.5 0.0**
comp=Z,3.7nm,1.0s,baz=60,slow=7.1,SNR=12
MPSI Mapaga 58.32 116 P **P 03 37 59.6 +1.2**
BILL Bilibino 58.94 26*d i*P **P 03 38 02.6 +0.7**
BILL *i* 03 38 47.9
BILL *i* *PP **pP 03 38 54.1 +1.5**
BILL *i* 03 40 14.1
BILL pmax pmax
comp=Z,15nm,1.2s
BILL Bilibino 58.94 26 P **P 03 38 02.3 +0.4**
BILL IAmb IAmb 03 38 03.3
comp=Z,8.3nm,0.6s
ABPO Ambohimpanom 59.28 205 P **P 03 38 05.3 +0.2**
ABPO pmax pmax
comp=Z,14nm,1.2s
ABPO Ambohimpanom 59.28 205 P **P 03 38 05.3 +0.2**
MRSI Marisa 59.71 115 P **P 03 38 07.1 -0.8**
comp=Z,95nm,1.0s
APSI Ampana 60.44 116 P **P 03 38 13.5 +0.6**
PETK Petropavlovsk- 60.45 44 P **P 03 38 10.7 -1.8**
comp=Z,4.0nm,0.6s,baz=289,slow=4.5,SNR=8.1
TTSI Tana Toraja 60.62 119 P **P 03 38 16.3 +2.2**
VOI Vohitsoka 62.11 205 P **P 03 38 25.5 +1.5**
VOI IAmb IAmb 03 38 26.0
comp=Z,20nm,1.0s
EUNU Eureka 63.02 356 P **P 03 38 29.6 +0.3**
ICESG Greenland Ices 63.03 338 *i* P **P 03 38 28.9 -0.8**
ICESG IAmb IAmb 03 38 31.2
comp=Z,6.7nm,0.7s
TNTI Ternate 63.56 110 P **P 03 38 33.1 -0.6**
TNTI Ternate 63.56 110 P **P 03 38 35.2 +1.6**
TNTI Ternate 63.56 110 P **P 03 38 35.2 +1.6**
comp=Z,60nm,1.1s
SANI Sanana 64.39 114 P **P 03 38 38.2 -0.8**
SANI Sanana 64.39 114 P **P 03 38 38.2 -0.8**
comp=Z,40nm,0.8s
TULEG Thule 64.39 350 P **P 03 38 38.5 +0.4**
TULEG IAmb IAmb 03 38 38.6
comp=Z,12nm,1.1s
LSZ Lusaka 64.96 225 P **P 03 38 42.6 -0.2**
LSZ pmax pmax
comp=Z,6.0nm,0.9s
LSZ Lusaka 64.96 225 P **P 03 38 42.6 -0.2**
TOA0 Torodi Ar. Sit 65.08 268 P **P 03 38 42.5 -1.0**
TOA0 Torodi Ar. Sit 65.08 268 P **P 03 38 42.2 -1.4**
TORD Torodi Ar. Bea 65.08 268 P **P 03 38 42.3 -1.3**
comp=Z,5.8nm,0.7s,baz=50,slow=5.5,SNR=90
TORD pP **pP 03 39 34.5 0.0**
comp=Z,5.5nm,1.1s,baz=30,slow=5.8,SNR=3.7
TORD Torodi Ar. Bea 65.08 268 P **P 03 38 42.6 -1.0**
NLAI Namlea 66.00 114 P **P 03 38 52.2 +2.8**
ILULI Ilulissat 66.25 341 *i* P **P 03 38 48.1 -2.0**
ILULI IAmb IAmb 03 38 50.7
comp=Z,15nm,0.8s
DY2G Dye2 66.59 337 *i* P **P 03 38 50.3 -2.4**
DY2G AMP 03 38 53.1
comp=Z,17nm,0.8s
SWI Sorong 67.57 109 P **P 03 38 59.0 -0.3**
BATI Baumata 68.37 122 P **P 03 39 06.3 +2.1**
comp=Z,15nm,0.4s,baz=334,slow=7.7,SNR=3.5
RES Resolute Bay 68.72 356 P **P 03 39 05.8 +0.4**
RES pmax pmax
comp=Z,4.0nm,1.0s
RES Resolute Bay 68.72 356 P **P 03 39 05.8 +0.4**
TNA Tin City 68.86 22 P **P 03 39 07.2 +0.7**
baz=313

KOWA Kowa 68.94 273 P **P 03 39 07.3 -0.5**
KOWA IAmb IAmb 03 39 08.7
comp=Z,12nm,0.6s
ANM Nome 70.33 22 IAmb IAmb 03 39 17.4
comp=Z,14nm,0.8s
ANM Nome 70.33 22 P **P 03 39 16.4 +0.9**
baz=315
TOLK Toolik Lake Re 71.14 14 P **P 03 39 20.7 +0.3**
baz=327
A36M Sachs Harbour 71.32 5 P **P 03 39 21.8 +0.4**
baz=347
COLD Coldfoot 72.20 15 IAmb IAmb 03 39 28.0
comp=Z,25nm,1.0s
COLD Coldfoot 72.20 15 P **P 03 39 27.0 +0.3**
baz=327
GCSA Galena City Sc 72.62 19 P **P 03 39 29.4 +0.3**
baz=322,SNR=7.0
H21K Melozitna Rive 72.91 17 IAmb IAmb 03 39 32.1
comp=Z,22nm,1.1s
H21K Melozitna Rive 72.91 17 P **P 03 39 31.0 +0.1**
baz=325,SNR=14
I21K Tanana 73.50 17 P **P 03 39 34.5 +0.2**
baz=326,SNR=7.0
H23K Yukon River 73.52 16 IAmb IAmb 03 39 36.3
comp=Z,17nm,0.8s
H23K Yukon River 73.52 16 P **P 03 39 35.3 +0.8**
baz=328
J20K Nowinta River 73.79 19 P **P 03 39 36.5 +0.5**
J20K Nowinta River 73.79 19 P **P 03 39 36.4 +0.4**
baz=324,SNR=20
H24K Noodor Dome 73.88 15 IAmb IAmb 03 39 38.2
comp=Z,13nm,0.8s
H24K Noodor Dome 73.88 15 P **P 03 39 37.2 +0.6**
baz=329
C36M Paulatuk 74.00 5 P **P 03 39 36.9 -0.1**
baz=348
DBIC Dimbokro 74.06 267 P **P 03 39 37.6 -0.8**
comp=Z,6.3nm,0.7s,baz=51,slow=6.4,SNR=7.1
INK Inuvik 74.06 9 IAmb IAmb 03 39 38.5
comp=Z,19nm,0.7s
INK Inuvik 74.06 9 P **P 03 39 38.0 +0.5**
baz=340
I23K Minto, Yukon-K 74.14 16 IAmb IAmb 03 39 39.5
comp=Z,18nm,0.9s
I23K Minto, Yukon-K 74.14 16 P **P 03 39 38.5 +0.5**
baz=328,SNR=14
KIC Kosan Boka 74.15 266 *e*P **P 03 39 37.7 -1.2**
comp=Z,15nm,0.7s
TIC Toumodi 74.21 267 *e*P **P 03 39 37.8 -1.5**
LBTB Lobatse 74.21 221 IAmb IAmb 03 39 40.5
comp=Z,16nm,0.9s
TTA Tatalina 74.30 20 P **P 03 39 38.2 -0.9**
TTA pmax pmax
comp=Z,6.0nm,0.7s
TTA Tatalina 74.30 20 P **P 03 39 38.2 -0.9**
TTA Tatalina 74.30 20 P **P 03 39 39.4 +0.4**
baz=323
TSUM Tsumeb 74.38 231 P **P 03 39 39.7 -0.5**
LIC Lamto 74.46 266 *e*P **P 03 39 40.1 -0.6**
comp=Z,21nm,0.9s
K20K Telida 74.48 19 IAmb IAmb 03 39 41.5
comp=Z,24nm,0.9s
K20K Telida 74.48 19 P **P 03 39 40.1 +0.1**
baz=324,SNR=14
CHUM Lake Minchumin 74.50 18 P **P 03 39 40.2 +0.1**
baz=326,SNR=15
MDM Murphy Dome 74.55 16 IAmb IAmb 03 39 41.7
comp=Z,26nm,1.0s
POKR Poker Plat Res 74.59 16 P **P 03 39 41.1 +0.4**
baz=329
BPAW Bear Paw Mtn. 74.64 17 IAmb IAmb 03 39 41.7
comp=Z,19nm,1.1s
BPAW Bear Paw Mtn. 74.64 17 P **P 03 39 40.5 -0.4**
baz=327,SNR=12
NEA2 Nenana 74.68 16 P **P 03 39 40.9 -0.2**
baz=328,SNR=30
TCOL CIGO, UAF Yank 74.71 16 P **P 03 39 41.2 -0.1**
baz=329,SNR=12
COLA College 74.71 16*c i*P **P 03 39 41.3 +0.1**
COLA College 74.71 16 P **P 03 39 41.4 +0.2**
COLA College 74.71 16 P **P 03 39 41.6 +0.3**
baz=329
CAST Castle Rocks 74.94 18 P **P 03 39 42.7 0.0**
baz=326,SNR=32
IL31 75.01 16 IAmb IAmb 03 39 43.4
comp=Z,16nm,1.1s
ILAR Eielson Array 75.01 16 P **P 03 39 42.5 -0.6**
comp=Z,8.3nm,0.8s,baz=314,slow=4.7,SNR=66
ILAR pP **pP 03 40 36.2 +0.2**
comp=Z,0.8nm,0.9s,baz=179,slow=24,SNR=1.8
KTH Kantishna Hill 75.12 18 IAmb IAmb 03 39 44.6
comp=Z,20nm,0.8s
L19K White Mountain 75.22 20 IAmb IAmb 03 39 45.9
comp=Z,17nm,1.1s
L19K White Mountain 75.22 20 P **P 03 39 44.4 +0.1**
baz=324,SNR=5.9
L20K Farewell, AK 75.25 20 P **P 03 39 44.3 -0.1**
baz=325
PPLA Purkeypile 75.35 19 IAmb IAmb 03 39 46.3
comp=Z,13nm,0.6s
PPLA Purkeypile 75.35 19 P **P 03 39 44.7 -0.4**
baz=326,SNR=7.6
TRF Thorofare Moun 75.36 18 P **P 03 39 44.6 -0.7**
baz=327
FITZ Fitzroy Crossi 75.36 126 pP pP 03 40 38.5 -0.9
comp=Z,2.3nm,0.9s,baz=323,slow=7.9,SNR=2.0
MCK McKinley 75.44 17 IAmb IAmb 03 39 46.2
comp=Z,15nm,0.6s
MCK McKinley 75.44 17 P **P 03 39 44.8 -0.7**
baz=328,SNR=9.1
J25K Salcha River, 75.47 15 IAmb IAmb 03 39 46.2
comp=Z,12nm,0.8s
M19K Big River Lodg 75.58 20 P **P 03 39 46.8 +0.5**
baz=324
RND Reindeer 75.74 17 IAmb IAmb 03 39 47.4
comp=Z,18nm,0.7s
J26L Joseph Creek 75.94 14 P **P 03 39 48.3 -0.1**
baz=333,SNR=24
I29M Ogilvie Camp, 76.12 12 IAmb IAmb 03 39 50.1
comp=Z,21nm,0.9s
I29M Ogilvie Camp, 76.12 12 P **P 03 39 49.1 -0.2**
baz=337
N18K Kilae Creek 76.14 21 P **P 03 39 49.9 +0.4**
baz=323
EGAK Eagle 76.15 13 P **P 03 39 49.4 -0.1**
baz=334,SNR=8.7
SCRK Sand Creek 76.32 15 IAmb IAmb 03 39 51.7
comp=Z,16nm,0.8s
SCRK Sand Creek 76.32 15 P **P 03 39 50.6 +0.1**
baz=332,SNR=20
RIDG Independent Ri 76.35 15 IAmb IAmb 03 39 51.8
comp=Z,9.5nm,0.7s
RIDG Independent Ri 76.35 15 P **P 03 39 50.0 -0.7**
baz=332,SNR=6.5
DHY Denali Highway 76.37 17 P **P 03 39 50.2 -0.7**
baz=330,SNR=20
DOT Dot Lake 76.59 15 IAmb IAmb 03 39 52.8
comp=Z,12nm,0.8s
WAT6 Susitna Watana 76.71 17 P **P 03 39 51.9 -1.0**
baz=330,SNR=10
M22K Willow 76.84 18 P **P 03 39 52.6 -0.7**
baz=328
PAX Paxson 76.89 16 P **P 03 39 53.4 -0.4**
baz=331,SNR=17
J29M Klondike Camp 76.97 12 P **P 03 39 54.5 +0.3**
baz=337,SNR=8.7
O18K Koktuh Hills 77.00 22 P **P 03 39 54.8 +0.5**
baz=324
DAWY Dawson 77.12 13 IAmb IAmb 03 39 56.0
comp=Z,19nm,1.0s
DAWY Dawson 77.12 13 P **P 03 39 54.8 -0.2**
baz=336,SNR=21
PMR Palmer 77.22 18 P **P 03 39 54.8 -0.7**
baz=328,SNR=5.8
SML Sawmill 77.24 18 P **P 03 39 54.8 -0.9**
baz=329,SNR=9.4
BOSA Boshof 77.30 220 P **P 03 39 56.3 -0.2**
comp=Z,4.8nm,0.5s,baz=14,slow=3.8,SNR=17
BOSA pP **pP 03 40 49.9 -0.1**
comp=Z,2.9nm,0.8s,baz=185,slow=4.9,SNR=1.5
BOSA Boshof 77.30 220 P **P 03 39 56.4 0.0**
BOSA pmax pmax
comp=Z,16nm,1.0s
BOSA Boshof 77.30 220 P **P 03 39 56.4 0.0**
BOSA IAmb IAmb 03 39 57.4
comp=Z,16nm,1.0s
L26K Log Cabin Wild 77.30 15 P **P 03 39 56.1 +0.1**
baz=333

MENT	**Mentasta**	**77.30**	**15**	IAmb	IAmb	03 39 57.5		
	comp=Z,6.6nm,0.4s							
CAPN	**Captain Cook N**	**77.40**	**19**	P	**P**	**03 39 56.6**	**+0.2**	
	baz=327							
SCM	**Sheep Creek Mo**	**77.46**	**17**	P	**P**	**03 39 56.2**	**-0.7**	
	baz=330,SNR=5.1							
HARP	**HAARP**	**77.46**	**16**	P	**P**	**03 39 57.4**	**+0.5**	
	baz=332,SNR=16							
M24K	**Tolsona, Glenn**	**77.49**	**17**	P	**P**	**03 39 57.2**	**+0.1**	
	baz=331,SNR=9.7							
RC01	**Rabbit Creek A**	**77.50**	**19**	P	**P**	**03 39 56.8**	**-0.2**	
	baz=328							
KNK	**Knik Glacier**	**77.54**	**18**	P	**P**	**03 39 57.1**	**-0.3**	
	baz=329							
L27K	**Beaver Creek,**	**77.58**	**14**	IAmb	IAmb	03 39 59.1		
	comp=Z,12nm,0.8s							
L27K	**Beaver Creek,**	**77.58**	**14**	P	**P**	**03 39 58.0**	**+0.5**	
	baz=334,SNR=14							
P19K	**Oil Pt**	**77.75**	**21**	P	**P**	**03 39 58.5**	**0.0**	
	baz=326							
M26K	**Nabesna, AK**	**77.93**	**15**	P	**P**	**03 39 59.5**	**0.0**	
	baz=333							
PWL	**Port Wells**	**78.05**	**18**	P	**P**	**03 40 00.3**	**+0.2**	
	baz=329							
KLU	**Klutina**	**78.09**	**17**	IAmb	IAmb	03 40 02.1		
	comp=Z,22nm,0.9s							
KLU	**Klutina**	**78.09**	**17**	P	**P**	**03 40 00.3**	**-0.1**	
	baz=331,SNR=7.2							
M27K	**Edge Creek, AK**	**78.20**	**15**	P	**P**	**03 40 01.4**	**+0.3**	
	baz=334,SNR=21							
N25K	**Chitina, Valde**	**78.29**	**16**	P	**P**	**03 40 01.7**	**+0.2**	
	baz=332							
GLI	**Glacier Island**	**78.34**	**18**	P	**P**	**03 40 01.6**	**-0.1**	
	baz=330							
BVCY	**Beaver Creek**	**78.35**	**14**	P	**P**	**03 40 02.0**	**+0.2**	
	baz=335							
MCARA	**McCarthy VSAT**	**78.83**	**16**	IAmb	IAmb	03 40 05.6		
	comp=Z,13nm,1.0s							
MCARA	**McCarthy VSAT**	**78.83**	**16**	P	**P**	**03 40 04.5**	**+0.1**	
	baz=333							
BMRM	**Bremner River**	**78.85**	**16**	IAmb	IAmb	03 40 05.9		
	comp=Z,22nm,1.0s							
BMRM	**Bremner River**	**78.85**	**16**	P	**P**	**03 40 04.7**	**+0.2**	
	baz=332							
VRDI	**Verde Repeater**	**78.88**	**16**	IAmb	IAmb	03 40 06.1		
	comp=Z,20nm,1.2s							
EYAK	**Cordova Ski Ar**	**78.95**	**17**	P	**P**	**03 40 05.1**	**+0.1**	
	baz=331							
M30M	**Minto, Yukon**	**78.96**	**12**	P	**P**	**03 40 05.0**	**-0.1**	
	baz=338,SNR=6.0							
YUK3	**Moose Creek**	**79.01**	**14**	P	**P**	**03 40 05.8**	**+0.2**	
	baz=335,SNR=12							
BARN	**Barnard Glacie**	**79.42**	**15**	IAmb	IAmb	03 40 09.8		
	comp=Z,12nm,0.9s							
TGL	**Tana Glacier**	**79.44**	**16**	IAmb	IAmb	03 40 09.0		
	comp=Z,22nm,1.2s							
KDAK	**Kodiak Island**	**79.49**	**22**	P	**P**	**03 40 07.6**	**-0.3**	
	baz=326							
CTG	**Chitna Glacier**	**79.57**	**15**	P	**P**	**03 40 08.3**	**-0.2**	
	baz=335,SNR=9.6							
CTGM	**Chitina Glacie**	**79.57**	**15**	IAmb	IAmb	03 40 10.0		
	comp=Z,15nm,0.8s							
GRNC	**Granite Creek**	**79.69**	**15**	IAmb	IAmb	03 40 10.5		
	comp=Z,12nm,0.8s							
M31M	**Drury Creek, Y**	**79.71**	**11**	IAmb	IAmb	03 40 10.3		
	comp=Z,17nm,0.9s							
M31M	**Drury Creek, Y**	**79.71**	**11**	P	**P**	**03 40 09.2**	**+0.1**	
	baz=340,SNR=17							
OHAK	**Old Harbor**	**79.74**	**22**	P	**P**	**03 40 09.2**	**-0.1**	
	baz=326							
YUK4	**Talbot Arm**	**79.76**	**14**	P	**P**	**03 40 09.6**	**-0.1**	
	baz=337,SNR=19							
LOGN	**Logan Glacier**	**79.77**	**15**	IAmb	IAmb	03 40 11.0		
	comp=Z,16nm,0.9s							
MMPY	**Sheldon Lake,**	**79.78**	**10**	P	**P**	**03 40 09.9**	**+0.4**	
	baz=343,SNR=12							
FARO	**Faro, Yukon**	**79.85**	**11**	P	**P**	**03 40 09.9**	**+0.1**	
	baz=341,SNR=13							
WRGLY	**Wrigley**	**80.07**	**6**	P	**P**	**03 40 11.6**	**+0.7**	
	baz=349,SNR=24							
N31M	**Braeburn, Yuko**	**80.15**	**12**	IAmb	IAmb	03 40 12.7		
	comp=Z,27nm,1.1s							
N31M	**Braeburn, Yuko**	**80.15**	**12**	P	**P**	**03 40 11.5**	**0.0**	
	baz=339,SNR=17							
YUK6	**Outpost Mounta**	**80.19**	**14**	P	**P**	**03 40 12.1**	**+0.1**	
	baz=337							
HYT	**Haines Junctio**	**80.46**	**13**	IAmb	IAmb	03 40 14.9		
	comp=Z,14nm,0.8s							
HYT	**Haines Junctio**	**80.46**	**13**	P	**P**	**03 40 13.6**	**+0.3**	
	baz=338,SNR=12							
WHY	**Whitehorse**	**81.08**	**12**	P	**P**	**03 40 16.1**	**-0.5**	
	baz=340,SNR=15							
PNL	**Peninsula**	**81.16**	**15**	P	**P**	**03 40 17.0**	**+0.1**	
	baz=336							
TGTN	**Hyland Airport**	**81.22**	**9**	P	**P**	**03 40 18.0**	**+0.7**	
	baz=345,SNR=5.5							
YKA	**Yellowknife Ar**	**81.33**	**2**	P	**P**	**03 40 17.6**	**-0.1**	
	comp=Z,17nm,0.8s,baz=348,slow=5.2,SNR=236							
YKA				pP	**pP**	**03 41 11.6**	**+0.4**	
	comp=Z,7.3nm,0.6s,baz=348,slow=5.3,SNR=12							
YKA	**Yellowknife Ar**	**81.33**	**2**	*i* P	**P**	**03 40 17.6**	**-0.1**	
YKA				pmax	pmax			
	comp=Z,18nm,0.7s							
SCHQ	**Schefferville**	**81.90**	**337**	P	**P**	**03 40 20.8**	**0.0**	
	comp=Z,9.4nm,0.8s,baz=40,slow=6.1,SNR=24							
SCHQ	**Schefferville**	**81.90**	**337**	P	**P**	**03 40 20.4**	**-0.5**	
SCHQ				IAmb	IAmb	03 40 21.6		
	comp=Z,11nm,0.8s							
SKAG	**Skagway**	**82.13**	**13**	P	**P**	**03 40 22.2**	**+0.3**	
	baz=340,SNR=8.2							
WB0	**Warramunga Arr**	**82.42**	**121**	IAmb	IAmb	03 40 23.2		
	comp=Z,11nm,0.9s							
WRA	**Warramunga Arr**	**82.50**	**121**	P	**P**	**03 40 22.8**	**-1.6**	
	comp=Z,10nm,0.8s,baz=324,slow=4.9,SNR=82							
WRA				PKKPbc	**PKKPbc**	**03 58 47.8**	**-0.5**	
	comp=Z,0.6nm,0.5s,baz=137,slow=2.1,SNR=8.9							
WRAB	**Tennant Creek**	**82.50**	**121**	*c i* P	**P**	**03 40 22.7**	**-1.7**	
WRAB				pmax	pmax			
	comp=Z,25nm,1.7s							
WRAB	**Tennant Creek**	**82.50**	**121**	P	**P**	**03 40 23.1**	**-1.3**	
WRAB				IAmb	IAmb	03 40 23.7		
	comp=Z,16nm,0.8s							
WRAB	**Tennant Creek**	**82.50**	**121**	P	**P**	**03 40 23.1**	**-1.3**	
	comp=Z,20nm,0.9s							
WB2	**Warramunga Arr**	**82.50**	**121**	IAmb	IAmb	03 40 23.7		
	comp=Z,16nm,0.8s							
SUR	**Sutherland**	**82.60**	**220**	P	**P**	**03 40 25.9**	**+1.1**	
WR0	**Warramunga Arr**	**82.65**	**121**	IAmb	IAmb	03 40 24.3		
	comp=Z,11nm,0.9s							
DLBC	**Dease Lake**	**83.97**	**11**	IAmb	IAmb	03 40 33.0		
	comp=Z,10nm,0.8s							
FCC	**Fort Churchill**	**84.25**	**352**	IAmb	IAmb	03 40 33.9		
	comp=Z,22nm,1.1s							
SIT	**Sitka**	**84.39**	**14**	P	**P**	**03 40 33.4**	**-0.1**	
	baz=340							
ASAR	**Alice Springs**	**84.74**	**124**	P	**P**	**03 40 34.5**	**-1.2**	
	comp=Z,9.8nm,0.8s,baz=318,slow=5.3,SNR=88							
ASAR				pP	**pP**	**03 41 30.6**	**-0.2**	
	comp=Z,3.7nm,0.9s,baz=325,slow=5.3,SNR=3.4							
ASAR				PKKPbc	**PKKPbc**	**03 58 42.6**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=97,slow=2.5,SNR=5.4							
ASAR	**Alice Springs**	**84.74**	**124**	P	**P**	**03 40 34.3**	**-1.4**	
WRAK	**Wrangell Islan**	**85.53**	**12**	P	**P**	**03 40 39.1**	**0.0**	
	baz=342							
FORT	**Forrest**	**86.09**	**133**	P	**P**	**03 40 41.7**	**-0.4**	
FFC	**Flin Flon**	**88.95**	**355**	P	**P**	**03 40 54.3**	**-1.2**	
FFC				pmax	pmax			
	comp=Z,14nm,1.2s							
FFC	**Flin Flon**	**88.95**	**355**	P	**P**	**03 40 54.3**	**-1.2**	
FFC				IAmb	IAmb	03 40 56.5		
	comp=Z,14nm,1.1s							
VLDQ	**Val d'Or**	**91.01**	**339**	IAmb	IAmb	03 41 07.0		
	comp=Z,12nm,1.1s							
CTA	**Charters Tower**	**91.09**	**114**	P	**P**	**03 41 04.2**	**-1.8**	
	comp=Z,4.7nm,0.6s,baz=240,slow=4.5,SNR=4.0							
LBNH	**Lisbon**	**92.66**	**334**	P	**P**	**03 41 12.9**	**-0.1**	
	baz=30							
ULM	**Lac du Bonnet**	**92.81**	**351**	P	**P**	**03 41 12.6**	**-0.9**	
	comp=Z,4.6nm,0.7s,baz=18,slow=3.4,SNR=4.4							
ULM	**Lac du Bonnet**	**92.81**	**351**	IAmb	IAmb	03 41 13.6		
	comp=Z,7.5nm,0.9s							
LONY	**Lake Ozonia**	**93.25**	**336**	P	**P**	**03 41 15.4**	**-0.3**	
	baz=28							
DELO	**Deloro Mine**	**94.31**	**338**	IAmb	IAmb	03 41 21.3		
	comp=Z,4.8nm,0.8s							
EYMN	**Ely**	**94.42**	**348**	IAmb	IAmb	03 41 21.6		
	comp=Z,11nm,1.1s							
EYMN	**Ely**	**94.42**	**348**	P	**P**	**03 41 20.2**	**-0.7**	
	baz=15							
L61B	**Northampton**	**94.49**	**333**	P	**P**	**03 41 21.4**	**+0.1**	
	baz=29							
AGMN	**Agassiz Nation**	**94.73**	**351**	IAmb	IAmb	03 41 22.7		
	comp=Z,4.3nm,1.0s							
AGMN	**Agassiz Nation**	**94.73**	**351**	P	**P**	**03 41 22.1**	**-0.2**	
	baz=11							
WALA	**Waterton Lakes**	**94.80**	**3**	IAmb	IAmb	03 41 23.4		
	comp=Z,3.8nm,0.9s							
B05A	**Bryant**	**94.96**	**8**	P	**P**	**03 41 23.3**	**-0.1**	
	baz=350							
STKA	**Stephens Creek**	**95.26**	**126**	P	**P**	**03 41 23.1**	**-1.9**	
	comp=Z,0.8nm,0.7s,baz=354,slow=18,SNR=3.3							
DGMT	**Dagmar**	**95.32**	**356**	P	**P**	**03 41 25.0**	**-0.1**	
	baz=4.6							
NEW	**Newport**	**95.42**	**5**	P	**P**	**03 41 25.5**	**0.0**	
	baz=354							
D03D	**Eldon**	**95.56**	**9**	P	**P**	**03 41 26.4**	**+0.3**	
	baz=349							
MDND	**Maddock**	**95.60**	**353**	P	**P**	**03 41 25.8**	**-0.5**	
	baz=8.3							
BINY	**Binghamton**	**95.86**	**335**	P	**P**	**03 41 26.9**	**-0.8**	
	baz=27							
EGMT	**Eagleton**	**95.91**	**360**	P	**P**	**03 41 27.4**	**-0.5**	
	baz=0.1							
GLMI	**Grayling**	**95.96**	**342**	P	**P**	**03 41 27.5**	**-0.6**	
	baz=20							
PAL	**Palisades**	**96.20**	**334**	P	**P**	**03 41 28.6**	**-0.5**	
	baz=28							
E04D	**Cinebar**	**96.58**	**9**	P	**P**	**03 41 30.7**	**-0.1**	
	baz=350							
MSO	**Missoula**	**97.02**	**3**	P	**P**	**03 41 32.6**	**-0.3**	
	baz=357							
LAO	**LASA Array**	**97.19**	**358**	IAmb	IAmb	03 41 35.4		
	comp=Z,2.8nm,0.8s							
LAO	**LASA Array**	**97.19**	**358**	P	**P**	**03 41 33.3**	**-0.3**	
	baz=3.0							
BOZ	**Bozeman (W)**	**98.32**	**1**	P	**P**	**03 41 37.8**	**-1.0**	
	baz=359							
RLMT	**Red Lodge**	**98.81**	**360**	P	Pdif	03 41 40.7	-0.5	
	baz=0.5							
ECSD	**EROS Data Cent**	**99.31**	**350**	P	**Pdif**	**03 41 42.7**	**-0.5**	
	baz=11							
NVAR	**Mina Array Bea**	**105.09**	**7**	PKKPbc	PKKPbc	03 57 51.1	+1.7	
	comp=Z,0.5nm,0.7s,baz=176,slow=5.7,SNR=3.9							
TXAR	**Lajitas Array**	**114.32**	**354**	PKKPbc	PKKPbc	03 57 21.8	+2.0	
	comp=Z,0.6nm,0.8s,baz=165,slow=5.2,SNR=3.9							
URZ	**Urewera**	**123.31**	**116**	PKP	**PKPdf**	**03 46 53.4**	**-3.3**	
	comp=Z,6.1nm,0.9s,baz=112,slow=0.3,SNR=6.8							
URZ	**Urewera**	**123.31**	**116**		**PKPdf**	**03 46 53.8**	**-2.8**	
VNDA	**Vanda**	**125.61**	**164**	PKP	**PKPdf**	**03 46 58.7**	**-1.3**	
	comp=Z,1.1nm,0.8s,baz=34,slow=24,SNR=2.8							
ROSC	**El Rosal**	**127.22**	**313**	PKP	**PKPdf**	**03 47 04.9**	**-0.5**	
	comp=Z,3.8nm,0.4s,baz=72,slow=23,SNR=6.1							
SALV	**Santo Antonio**	**128.03**	**278**	*eP*	**PKPdf**	**03 47 05.6**	**-0.7**	
SIV	**San Ignacio**	**132.35**	**282**	PKP	**PKPdf**	**03 47 13.8**	**-0.8**	
	comp=Z,1.4nm,0.6s,baz=294,slow=1.3,SNR=6.7							
CPUP	**Villa Florida**	**134.58**	**267**	PKP	**PKPdf**	**03 47 17.0**	**-1.4**	
	comp=Z,2.7nm,0.6s,baz=37,slow=2.3,SNR=6.5							
CPUP	**Villa Florida**	**134.58**	**267**	PKIKP	**PKPdf**	**03 47 17.5**	**-0.9**	
CPUP	**Villa Florida**	**134.58**	**267**		**PKPdf**	**03 47 17.5**	**-0.9**	
PLCA	**Paso Flores**	**149.21**	**250**	PKPbc	**PKPbc**	**03 47 48.3**	**-0.2**	
	comp=Z,7.2nm,0.8s,baz=114,slow=6.5,SNR=9.2							
PLCA	**Paso Flores**	**149.21**	**250**	*eP*	**PKPdf**	**03 47 44.3**	**+0.3**	

IDC ***20*** *03:29:25.5±2.4, 6°.00N×127°.16E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/43, mbtmp3.6/4 Error ellipse: s-maj=134.3km s-min=28.4km az=69.0*

ISC 20 03:29:33.0±1.8, 5°.8N±0°.3×127°.0E±0°.3, h50km, n6, σ1^{6}2/7, mb3.4/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.91**	**312**	Sn	**Sn**	**03 30 28.3**	**+2.3**
	71nm,0.3s,baz=309,slow=14,SNR=1.5						
KCP	**Kidapawan**	**2.26**	**303**	*i* P	**Pn**	**03 30 08.3**	**+0.3**
KCP				*i* S	**Sn**	**03 30 33.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**23.77**	**183**	P	**P**	**03 34 41.0**	**0.0**
	1.3nm,0.8s,baz=6.1,slow=10,SNR=1.7						
WRA	**Warramunga Arr**	**26.56**	**164**	P	**P**	**03 35 07.8**	**+1.3**
	0.5nm,0.5s,baz=347,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**30.03**	**167**	P	**P**	**03 35 37.9**	**+0.4**
	0.2nm,0.5s,baz=349,slow=7.6,SNR=2.4						
MKAR	**Makanchi Array**	**56.05**	**324**	P	**P**	**03 39 05.6**	**-1.3**
	0.6nm,0.5s,baz=136,slow=6.8,SNR=1.6						

IDC ***20*** *03:41:54.7±0.8, 9°.33S×158°.42E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/30, mbtmp4.0/8, MS3.4/4, Ms1 3.4/4, ms1mx2.8/63, Error ellipse: s-maj=29.3km s-min=19.6km az=158.0*

ISC 20 03:41:58.9±0.8, 9°.4S±0°.2×158°.51E±0°.09, h30km, n19, σ0^{8}87/12, mb3.9/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.42**	**91**	Pn	**Pn**	**03 42 22.3**	**-0.4**
	74nm,0.3s,baz=190,slow=6.7,SNR=12						
HNR				Sn	**Sn**	**03 42 39.9**	**-0.5**
	198nm,0.3s,baz=156,slow=23,SNR=13						
PMG	**Port Moresby**	**11.20**	**269**	LR	LR	03 48 39.2	
	comp=Z,249nm,18.7s,baz=86,slow=36						
CTA	**Charters Tower**	**15.90**	**227**	LR	LR	03 50 08.0	
	comp=Z,68nm,20.6s,baz=82,slow=31						
WRA	**Warramunga Arr**	**25.58**	**243**	P	**P**	**03 47 25.4**	**-0.3**
	1.4nm,0.6s,baz=70,slow=10.0,SNR=7.3						
WRA				PcP	**PcP**	**03 50 57.0**	**+0.5**
	0.6nm,0.6s,baz=72,slow=2.7,SNR=8.8						
STKA	**Stephens Creek**	**27.31**	**213**	P	**P**	**03 47 41.4**	**+0.3**
	2.0nm,1.0s,baz=48,slow=15,SNR=4.0						
ASAR	**Alice Springs**	**27.45**	**236**	P	**P**	**03 47 41.9**	**-0.7**
	0.4nm,0.4s,baz=58,slow=8.8,SNR=2.6						
ASAR				PcP	**PcP**	**03 51 01.2**	**+0.3**
	0.6nm,0.7s,baz=64,slow=2.6,SNR=5.3						
H11S3	**WAKE ISLAND Hy 28.88**	**16**		T	T	04 16 29.8	
	baz=199,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy 28.88**	**16**		T	T	04 16 47.4	
	baz=199,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy 28.89**	**16**		T	T	04 16 47.6	
	baz=199,slow=75,SNR=9.0						
AFI	**Afiamalu**	**29.43**	**102**	LR	LR	03 57 13.0	
	comp=Z,70nm,20.9s,baz=259,slow=31						
H11N1	**WAKE ISLAND Hy 30.09**	**16**		T	T	04 18 27.6	
	baz=195,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy 30.10**	**16**		T	T	04 18 20.4	
	baz=195,slow=76,SNR=5.7						
H11N2	**WAKE ISLAND Hy 30.11**	**16**		T	T	04 18 28.4	
	baz=195,slow=76,SNR=8.5						
PSI	**Prapat**	**60.59**	**279**	LR	LR	04 22 02.3	
	comp=Z,48nm,18.1s,baz=95,slow=40						
CMAR	**Chiang Mai Arr**	**64.96**	**295**	P	**P**	**03 52 36.5**	**+0.2**
	1.9nm,0.4s,baz=113,slow=4.6,SNR=5.9						
SONM	**Songino Array**	**73.25**	**326**	P	**P**	**03 53 26.9**	**-0.5**
	2.2nm,0.8s,baz=144,slow=5.4,SNR=6.9						
ILAR	**Eielson Array**	**84.36**	**21**	P	**P**	**03 54 27.5**	**-0.4**
	0.5nm,0.5s,baz=242,slow=5.1,SNR=7.3						
MKAR	**Manchi Array**	**87.51**	**318**	P	**P**	**03 54 43.2**	**-0.8**
	0.4nm,0.5s,baz=95,slow=6.1,SNR=4.2						
NVAR	**Mina Array Bea**	**90.49**	**51**	P	**P**	**03 55 00.6**	**+2.1**
	1.0nm,0.8s,baz=254,slow=7.4,SNR=8.9						

DJA ***20*** *03:55:39.3±0.9, 3°.5S±4°.×10°.1E±°, h23km±9km, M3.9/6, MLv3.9/6*

IDC ***20*** *03:55:41.6±5.8, 2°.89S×101°.19E, h66km±47km, mb3.5/6, mb1 3.6/7, mb1mx3.2/47, mbtmp3.7/7, ML3.2/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/63, Error ellipse: s-maj=122.6km s-min=18.3km az=52.0*

ISC 20 03:55:39.7±0.9, 3°.01S±0°.07×101°.02E±0°.07, h46km, n19, σ1^{9}07/14, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**1.01**	**26**	P	**Pn**	**03 55 57.9**	**+0.3**
KRJI				S	**Sn**	**03 56 12.5**	**+1.7**
PPSI	**Pulau Pagai**	**1.03**	**284**	P	**Pn**	**03 55 58.9**	**+1.1**
MNAI	**Manna**	**2.36**	**125**	P	**Pn**	**03 56 16.2**	**+0.3**
MNAI				S	**Sn**	**03 56 44.1**	**+0.5**
SISI	**Saibi**	**2.55**	**311**	P	**Pn**	**03 56 19.2**	**+0.7**
MDSI	**Maura Dua**	**3.48**	**115**	P	**Pn**	**03 56 32.6**	**+1.3**
LWLI	**Liwa**	**3.63**	**123**	P	Pn	03 56 40.6	+7.1
KASI	**Kota Agung**	**4.28**	**126**	P	Pn	03 56 48.5	+6.2
PSI	**Prapat**	**6.14**	**340**	P	**Pn**	**03 57 07.8**	**-0.2**
	0.6nm,0.3s,baz=341,slow=23,SNR=1.7						
PSI				LR	LR	03 59 56.2	
	comp=Z,85nm,19.5s,baz=34,slow=42						
LEM	**Lembang**	**7.59**	**120**	LR	LR	04 00 38.1	
	comp=Z,68nm,20.3s,baz=346,slow=40						
FITZ	**Fitzroy Crossi**	**28.41**	**124**	P	**P**	**04 01 31.2**	**+1.1**
	1.9nm,1.0s,baz=322,slow=12,SNR=1.9						
H08S2	**Diego Garcia H**	**28.76**	**260**	T	T	04 30 46.5	
	baz=82,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**28.77**	**260**	T	T	04 30 49.5	
	baz=82,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**28.78**	**260**	T	T	04 30 50.4	
	baz=82,slow=75,SNR=13						
WRA	**Warramunga Arr**	**36.61**	**120**	P	**P**	**04 02 40.3**	**-1.5**
	0.6nm,0.4s,baz=302,slow=9.1,SNR=23						
ASAR	**Alice Springs**	**37.84**	**126**	P	**P**	**04 02 51.2**	**-1.1**
	0.4nm,0.5s,baz=302,slow=8.1,SNR=6.2						
STKA	**Stephens Creek**	**47.73**	**132**	P	**P**	**04 04 11.8**	**-0.4**
	1.1nm,0.5s,baz=319,slow=9.7,SNR=4.9						
MKAR	**Makanchi Array**	**52.27**	**344**	P	**P**	**04 04 45.9**	**-0.5**
	0.5nm,0.6s,baz=161,slow=8.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**58.34**	**349**	P	**P**	**04 05 29.2**	**-0.8**
	0.5nm,0.5s,baz=157,slow=6.6,SNR=1.8						
BDFB	**Brasilia**	**144.19**	**238**	PKP	PKPbc	04 15 10.7	+0.8
	0.7nm,0.4s,baz=90,slow=2.0,SNR=1.6						

IDC ***20*** *04:07:04.8±2.2, 38°.48N×141°.90E, h62km±21km, mb3.6/14, mb1 3.9/18, mb1mx3.6/51, mbtmp3.9/18, MS3.1/4, Ms1 3.1/4, ms1mx2.5/84, Error ellipse: s-maj=21.6km s-min=15.8km az=113.0*

NEIC ***20*** *04:07:04.9±1.8, 38°.52N±0°.03×142°.0E±0°.1, h64km±7km, mb4.4/5, Error ellipse: s-maj=15.9km s-min=4.0km az=96.0*

NIED ***20*** *04:07:04.7, 38°.51N×141°.93E, h56km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.50; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-4.02; $M_{r\theta}$4.25; $M_{\theta\phi}$-1.01; $M_{\phi r}$-3.80; Fault plane solution: $M_0$6.84000×10^{14} NP1:ϕ_s26.00000°, δ28.00000°, λ139.00000°. NP2:ϕ_s153.00000°, δ72.00000°, λ68.00000°.*

JMA ***20*** *04:07:04.7, 38°.50N×141°.93E, h56km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s17.00000°, δ53.00000°, λ123.00000°. NP2: ϕ_s149.00000°, δ48.00000°, λ54.00000°. Principal axes: T Plg64.0000°, Azm348.0000°; N Plg26.0000°, Azm175.0000°; P Plg3.0000°, Azm84.0000°;*

JMA Felt I J1.

ISC 20 04:07:03.6±1.0, 38°.47N±0°.04×142°.03E±0°.08, h55km±8km, n86, σ1^{8}26/96, mb3.9/16, 1C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.47**	**250**	↑P	**Pn**	**04 07 15.4**	**+0.5**
JIKH				S	**Sn**	**04 07 22.9**	**-0.1**
JIO	**Ouri**	**0.54**	**268**	↓P	**Pn**	**04 07 15.9**	**+0.3**
JIO				S	**Sn**	**04 07 23.8**	**-0.4**
JKMT	**Kesennumamotoy**	**0.55**	**308**	↓P	**Pn**	**04 07 16.1**	**+0.3**
JKMT				eS	**Sn**	**04 07 24.1**	**-0.5**
OFUJ	**Ofunato**	**0.67**	**335**	↓P	**Pn**	**04 07 17.7**	**+0.5**
OFUJ				eS	**Sn**	**04 07 27.0**	**-0.1**
JMK	**Ichinoseki**	**0.79**	**307**	↓P	**Pn**	**04 07 19.1**	**+0.3**
JMK				S	**Sn**	**04 07 29.5**	**-0.4**
JOU	**Okura**	**1.08**	**265**	↓P	**Pn**	**04 07 22.7**	**+0.2**
JOU				S	**Sn**	**04 07 36.0**	**-0.5**
JMM	**Marumori**	**1.15**	**239**	↓P	**Pn**	**04 07 23.6**	**+0.2**
JMM				S	**Sn**	**04 07 37.5**	**-0.6**
JMM	**Marumori**	**1.15**	**239**		**Pn**	**04 07 23.7**	**+0.3**
JOM	**Ohasama**	**1.15**	**330**	↓P	**Pn**	**04 07 24.0**	**+0.5**
JOM				S	**Sn**	**04 07 38.7**	**+0.4**
JYK	**Kaneyama**	**1.38**	**289**	↓P	**Pn**	**04 07 26.9**	**+0.3**
JYK				S	**Sn**	**04 07 43.7**	**-0.1**
JRG	**Rokugo**	**1.43**	**311**	↓P	**Pn**	**04 07 27.4**	**+0.2**
JRG				S	**Sn**	**04 07 44.3**	**-0.6**
JFK	**Kawauchi**	**1.43**	**220**	P	**Pn**	**04 07 27.9**	**+0.6**
JFK				S	**Sn**	**04 07 45.1**	**0.0**
JYS	**Shirataka**	**1.56**	**261**	↓P	**Pn**	**04 07 29.6**	**+0.5**
JYS				S	**Sn**	**04 07 48.2**	**-0.1**
JFT	**Otama**	**1.64**	**235**	↓P	**Pn**	**04 07 31.1**	**+

WR1	**Warramunga Arr**	**58.55**	**188**	P	**P**	**04 16 54.5**	**0.0**
WR1				IAmb	IAmb	04 17 11.0	
	comp=Z,3.3nm,0.9s						
WRA	**Warramunga Arr**	**58.55**	**188**	P	**P**	**04 16 54.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=4.5,slow=6.8,SNR=7.1						
WRA				LR	LR	04 44 05.1	
	comp=Z,45nm,18.1s,baz=39,slow=38						
WRA	**Warramunga Arr**	**58.55**	**188**	P	**P**	**04 16 55.2**	**+0.7**
YKA	**Yellowknife Ar**	**62.32**	**31**	P	**P**	**04 17 20.9**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=301,slow=6.5,SNR=12						
YKA	**Yellowknife Ar**	**62.32**	**31**	P	**P**	**04 17 18.2**	**-1.6**
FINES	**FINESS Array B**	**67.77**	**332**	P	**P**	**04 17 54.6**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=250,slow=5.5,SNR=4.1						
FINES	**FINESS Array B**	**67.77**	**332**	P	**P**	**04 17 53.9**	**-1.2**
NB2	**NORSAR Subarra**	**73.05**	**337**	P	**P**	**04 18 27.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**73.05**	**337**	P	**P**	**04 18 27.6**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=37,slow=6.1,SNR=4.4						
NOA				LR	LR	04 54 24.7	
	comp=Z,18nm,19.5s,baz=0.0,slow=39						
AKASG	**Malin Array Be**	**73.46**	**322**	P	**P**	**04 18 29.6**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=46,slow=6.4,SNR=5.5						
NVAR	**Mina Array Bea**	**73.74**	**54**	P	**P**	**04 18 33.5**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=285,slow=5.9,SNR=6.1						
NVAR	**Mina Array Bea**	**73.74**	**54**	P	**P**	**04 18 29.7**	**-2.4**
PD01	**Pinedale Array**	**76.29**	**46**	P	**P**	**04 18 47.7**	**+0.9**
PD02	**Pinedale Array**	**76.30**	**46**	P	**P**	**04 18 47.1**	**+0.3**
PDAR	**Pinedale Array**	**76.31**	**46**	P	**P**	**04 18 48.4**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=276,slow=1.6,SNR=17						
PDAR	**Pinedale Array**	**76.31**	**46**	P	**P**	**04 18 45.2**	**-1.7**
TXAR	**Lajitas Array**	**88.86**	**53**	P	**P**	**04 19 52.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=298,slow=1.9,SNR=6.7						
LPAZ	**La Paz**	**145.53**	**59**	PKPbc	**PKPdf**	**04 26 37.0**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=304,slow=3.6,SNR=5.3						
LPAZ	**La Paz**	**145.53**	**59**		**PKPdf**	**04 26 34.9**	**-1.8**

*DJA **20** 04:11:47.7±0.8, 8˚S±4˚×10˚7E±˚, h23km±6km, M4.2/14, mb4.5/3, MLv4.1/14*
*IDC **20** 04:11:49.7±4.9, 7.42S×106.69E, h81km±39km, mb3.4/4, mb1 3.5/4, mb1mx3.1/42, mbtmp3.7/4, MS2.6/1, Ms1 2.6/1, ms1mx2.3/33, Error ellipse: s-maj=67.7km s-min=21.4km az=54.0*
ISC 20 04:11:47.3±0.9, 7.79S±0.08×106.84E±0.06, h46km, n41, σ1s65/38, mb3.7/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.55**	**31**	P	**Pn**	**04 12 00.2**	**+1.2**
CNJI				S	**Sn**	**04 12 07.6**	**+0.2**
CNJI	**Cibinong**	**0.55**	**31**	P	**Pn**	**04 11 59.9**	**+0.9**
CNJI				S	**Sn**	**04 12 07.1**	**-0.3**
SKJI	**Sukabumi**	**0.83**	**340**	P	**Pn**	**04 12 04.5**	**+1.8**
SKJI				S	**Sn**	**04 12 15.3**	**+1.5**
SKJI	**Sukabumi**	**0.83**	**340**	P	**Pn**	**04 12 04.5**	**+1.8**
SKJI				S	**Sn**	**04 12 15.2**	**+1.5**
LEM	**Lembang**	**1.22**	**39**	P	**Pn**	**04 12 09.5**	**+1.4**
	428nm,0.3s,baz=252,slow=21,SNR=80						
LEM				S	**Sn**	**04 12 25.8**	**+2.1**
	129nm,0.3s,baz=139,slow=22,SNR=6.3						
LEM				LR	LR	04 12 49.2	
	comp=Z,111nm,18.4s,baz=226,slow=54						
LEM	**Lembang**	**1.22**	**39**	P	**Pn**	**04 12 09.6**	**+1.4**
LEM	**Lembang**	**1.22**	**39**	P	**Pn**	**04 12 09.4**	**+1.2**
DBJI	**Dramaga**	**1.23**	**356**	P	**Pn**	**04 12 09.8**	**+1.7**
DBJI	**Dramaga**	**1.23**	**356**	P	**Pn**	**04 12 10.0**	**+1.9**
CMJI	**Cimerak**	**1.59**	**90**	P	**Pn**	**04 12 14.0**	**+0.9**
CMJI	**Cimerak**	**1.59**	**90**	P	**Pn**	**04 12 13.9**	**+0.9**
TNG	**Tangerang**	**1.61**	**353**	P	**Pn**	**04 12 15.5**	**+2.0**
TNG	**Tangerang**	**1.61**	**353**	P	**Pn**	**04 12 15.4**	**+2.0**
CGJI	**Cibinong**	**1.63**	**315**	P	**Pn**	**04 12 15.5**	**+1.9**
JCJI	**Jatiwangi**	**1.91**	**48**	P	**Pn**	**04 12 17.2**	**-0.3**
KPJI	**Karang Pucung**	**2.12**	**78**	P	**Pn**	**04 12 21.8**	**+1.5**
KASI	**Kota Agung**	**3.24**	**314**	P	**Pn**	**04 12 37.3**	**+1.6**
KASI	**Kota Agung**	**3.24**	**314**	P	**Pn**	**04 12 38.8**	**+3.1**
UGM	**Wanagama**	**3.65**	**92**	P	**Pn**	**04 12 42.5**	**+1.2**
MDSI	**Maura Dua**	**4.21**	**321**	P	**Pn**	**04 12 50.7**	**+1.6**
PCJI	**Pacitan**	**4.31**	**96**	P	**Pn**	**04 12 51.8**	**+1.4**
PCJI	**Pacitan**	**4.31**	**96**	P	**Pn**	**04 12 51.4**	**+1.0**
PWJI	**Pagerwojo**	**4.92**	**93**	P	**Pn**	**04 13 00.1**	**+1.3**
MNAI	**Manna**	**5.15**	**311**	P	**Pn**	**04 13 04.2**	**+2.2**
	0.5nm52nm,0.9s						
PPSI	**Pulau Pagai**	**8.44**	**306**	P	**Pn**	**04 13 47.6**	**+0.5**
	53nm,0.9s						
PPSI	**Pulau Pagai**	**8.44**	**306**	P	**Pn**	**04 13 47.8**	**+0.7**
SISI	**Saibi**	**10.04**	**309**	P	**Pn**	**04 14 08.2**	**-0.9**
SISI	**Saibi**	**10.04**	**309**	P	**Pn**	**04 14 08.5**	**-0.6**
KAPI	**Kappang**	**13.12**	**79**	LR	LR	04 21 09.4	
	comp=Z,29nm,20.1s,baz=312,slow=42						
FITZ	**Fitzroy Crossi**	**20.97**	**121**	P	Pn	04 16 30.0	+0.2
	3.3nm,1.1s,baz=311,slow=9.3,SNR=4.2						
H01W3	**Cape Leeuwin H**	**27.79**	**167**	T	T	04 47 11.8	
	baz=343,slow=78,SNR=21						
H01W1	**Cape Leeuwin H**	**27.80**	**167**	T	T	04 47 11.8	
	baz=343,slow=78,SNR=26						
H01W2	**Cape Leeuwin H**	**27.80**	**167**	T	T	04 47 12.4	
	baz=343,slow=78,SNR=30						
WRA	**Warramunga Arr**	**29.24**	**117**	P	**P**	**04 17 45.5**	**+0.3**
	0.3nm,0.5s,baz=290,slow=11,SNR=5.0						
H08S2	**Diego Garcia H**	**34.03**	**268**	T	T	04 54 06.4	
	baz=91,slow=76,SNR=23						
H08S3	**Diego Garcia H**	**34.05**	**268**	T	T	04 54 04.5	
	baz=91,slow=76,SNR=20						
H08S1	**Diego Garcia H**	**34.05**	**268**	T	T	04 54 05.1	
	baz=91,slow=76,SNR=22						
STKA	**Stephens Creek**	**40.24**	**131**	P	**P**	**04 19 21.6**	**+1.8**
	1.3nm,0.5s,baz=306,slow=10,SNR=7.7						
SONM	**Songino Array**	**55.38**	**360**	PcP	**PcP**	**04 22 14.6**	**-2.3**
	1.0nm,0.4s,baz=173,slow=3.9,SNR=2.6						
MKAR	**Makanchi Array**	**58.57**	**340**	P	**P**	**04 21 35.8**	**-3.6**
	0.3nm,0.4s,baz=161,slow=7.2,SNR=4.7						
LPAZ	**La Paz**	**155.57**	**192**	PKP	**PKPdf**	**04 31 36.6**	**-1.2**
	0.5nm,0.3s,baz=158,slow=2.8,SNR=2.1						

*BER **20** 04:28:36.0±1.3, 70˚64N×29˚36E, h0km, ML1.0, Suspected explosion*
HEL 20 04:28:31.6±0.3, 69˚39N×30˚77E, h0km, ML1.6, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEV	**Kevo**	**1.37**	**287**	*e*P	Pg	04 28 56.5	-1.3
KEV				*e*S	Sg	04 29 13.7	-1.9
KEV	**Kevo**	**1.37**	**287**	PG	Pg	04 28 56.3	-1.6
	baz=106						
KEV				MSG		04 29 12.8	
	comp=Z,2.8nm,0.2s						
KEV				SG	Sg	04 29 14.2	-1.4
VRF	**Varrio**	**1.71**	**195**	PG	Pn	04 29 02.3	-0.3
VRF				MSG		04 29 22.7	
	comp=Z,5.9nm,0.2s						
VRF				SN	Sn	04 29 25.0	-0.1
ARA0	**ARCESS Array S**	**1.86**	**277**	*e*P	Pn	04 29 05.2	+0.5
ARA0				*e*S	Sn	04 29 26.9	-2.0
ARA0				IAML		04 29 34.1	
	comp=Z,3.0nm,0.7s						
ARA0	**ARCESS Array S**	**1.86**	**277**	PG	Pn	04 29 04.8	+0.1
	baz=92						
ARA0				SN	Sn	04 29 28.9	0.0
SGF	**Sodankyl**	**2.51**	**221**	PG	Pb	04 29 16.4	-1.0
	baz=33						
SGF				SG	Sb	04 29 48.4	-0.5
KTK1	**Kautokeino**	**2.72**	**265**	*e*P	Pb	04 29 19.3	-1.7
KTK1				*e*S	Sn	04 29 49.2	-0.8
KTK1				IAML		04 29 55.4	
	comp=Z,1.3nm,0.2s						
HEF	**Hetta**	**2.76**	**252**	PG	Pb	04 29 20.2	-1.5
HEF				MSG		04 29 52.7	
	comp=Z,1.8nm,0.2s						
HEF				SG	Sb	04 29 53.7	-2.3
OLKF	**Oulanka, Finla**	**3.13**	**190**	SN	Sn	04 30 00.4	+0.3
LANU	**Lannavaara**	**3.48**	**251**	PN	Pn	04 29 26.6	-0.2
ERTU	**Ertsjaerv**	**4.31**	**233**	SN	Sn	04 30 28.4	-0.7

*IDC **20** 04:41:15.4±1.9, 54˚74N×163˚89E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/43, mbtmp3.3/3, ML2.2/1, MS2.4/1, Ms1 2.4/1, ms1mx2.0/54, Error ellipse: s-maj=140.8km s-min=26.2km az=155.0*
*KRSC **20** 04:41:18.7±0.6, 55.51N×162.64E, h68km±15km, ML3.9*
ISC 20 04:41:21.2±1.0, 55.54N±0.04×162.65E±0.04, h52km±13km, n41, σ1s18/57, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.68**	**8**	*e*P	**Pn**	**04 41 34.3**	**-0.5**
KBTR				*e*S	**Sn**	**04 41 45.7**	**+1.1**
KBG	**Krutoberegovo**	**0.72**	**2**	*e*P	**Pn**	**04 41 34.7**	**-0.6**
KBG				*e*S	**Sn**	**04 41 46.6**	**+1.2**
MKZ	**Mys Kozlova**	**1.12**	**209**	*e*P	**Pn**	**04 41 39.3**	**-1.2**
MKZ				*e*S	**Sn**	**04 41 54.9**	**+0.1**
ZLN	**Zelenaya**	**1.15**	**295**	*e*P	**Pn**	**04 41 41.3**	**+0.2**
ZLN				*e*S	**Sn**	**04 41 56.6**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.18**	**291**	*e*P	**Pn**	**04 41 41.3**	**-0.1**
BZGR				*e*S	**Sn**	**04 41 56.5**	**0.0**
CIRR	**Tsirk**	**1.22**	**299**	*e*S	**Sn**	**04 41 57.7**	**+0.1**
LGNR	**Loginova**	**1.23**	**297**	*e*P	**Pn**	**04 41 42.0**	**-0.4**
LGNR				*e*S	**Sn**	**04 41 58.8**	**+0.7**
SMKR	**Semkarok**	**1.24**	**328**	*e*P	**Pn**	**04 41 41.7**	**-0.6**
SMKR				*e*S	**Sn**	**04 41 58.7**	**+0.8**
BZMR	**Bezymyannaya**	**1.28**	**289**	*e*P	**Pn**	**04 41 42.5**	**-0.5**
BZWR	**Bezymyannyi-We**	**1.29**	**290**	*e*P	**Pn**	**04 41 42.8**	**-0.2**
BZWR				*e*S	**Sn**	**04 41 59.4**	**+0.1**
BDR	**Baidarnaya**	**1.31**	**322**	*e*P	**Pn**	**04 41 42.9**	**-0.4**
BDR				*e*S	**Sn**	**04 42 01.0**	**+1.3**
TUMD	**Tumrok D**	**1.33**	**256**	*e*P	**Pn**	**04 41 42.6**	**-0.8**
TUMD				*e*S	**Sn**	**04 41 59.5**	**-0.5**
KRSR	**Krestovskiy**	**1.36**	**301**	*e*P	**Pn**	**04 41 42.8**	**-1.1**
KRSR				*e*S	**Sn**	**04 41 59.6**	**-1.3**
KLY	**Klyuchi**	**1.37**	**305**	*e*P	**Pn**	**04 41 42.0**	**-1.9**
KLY				*e*S	**Sn**	**04 41 58.7**	**-2.2**
KIRR	**Kirishev**	**1.37**	**289**	*e*P	**Pn**	**04 41 43.9**	**-0.2**
KIRR				*e*S	**Sn**	**04 42 02.2**	**+1.0**
KMNR	**Kamenistaya**	**1.39**	**280**	*e*P	**Pn**	**04 41 44.4**	**+0.1**
SRKR	**Sorokina**	**1.39**	**324**	*e*P	**Pn**	**04 41 44.0**	**-0.3**
KPT	**Kopyto**	**1.44**	**288**	*e*P	**Pn**	**04 41 44.9**	**-0.1**
TUMR	**Tumrok**	**1.45**	**261**	*e*P	**Pn**	**04 41 45.0**	**-0.2**
TUMR				*e*S	**Sn**	**04 42 04.2**	**+1.1**
BKI	**Bering**	**1.93**	**99**	*e*P	**Pn**	**04 41 51.9**	**+0.4**
BKI				*e*S	**Sn**	**04 42 14.8**	**+0.3**
ESO	**Esso**	**2.27**	**281**	*e*P	**Pn**	**04 41 56.1**	**-0.1**
SPN	**Mys Shipunski**	**2.89**	**213**	*e*P	**Pn**	**04 42 03.0**	**-1.7**
SPN				*e*S	**Sn**	**04 42 35.3**	**-2.9**
NLC	**Nalytchevo**	**3.06**	**221**	*e*P	**Pn**	**04 42 06.3**	**-0.7**
SDLR	**Sedlovina**	**3.16**	**226**	*e*P	**Pn**	**04 42 08.5**	**0.0**
KRER	**Koryakskii**	**3.19**	**227**	*e*P	**Pn**	**04 42 10.0**	**+0.9**
SMAR	**Somma**	**3.20**	**226**	*e*P	**Pn**	**04 42 09.4**	**+0.2**
AVH	**Avacha**	**3.23**	**227**	*e*P	**Pn**	**04 42 09.7**	**+0.3**
UGLR	**Uglovaya**	**3.23**	**225**	*e*P	**Pn**	**04 42 09.7**	**+0.2**
KOK	**Koryaka**	**3.25**	**228**	*e*P	**Pn**	**04 42 10.2**	**+0.4**
GNL	**Ganaly**	**3.30**	**238**	*e*P	**Pn**	**04 42 11.0**	**+0.5**
DALK	**Dalny**	**3.40**	**224**	*e*P	**Pn**	**04 42 11.5**	**-0.1**
PETK	**Petropavlovsk-**	**3.79**	**232**	Pn	**Pn**	**04 42 18.1**	**+1.1**
	0.8nm,0.3s,baz=74,slow=17,SNR=8.8						
PETK				Sn	**Sn**	**04 43 05.9**	**+5.6**
	1.0nm,0.3s,baz=40,slow=17,SNR=1.1						
KRMR	**Karymshinskiy**	**3.80**	**226**	*e*P	**Pn**	**04 42 17.1**	**0.0**
RUS	**Russkaya**	**3.96**	**220**	*e*P	**Pn**	**04 42 18.9**	**-0.4**
GRL	**Gorelyy**	**4.03**	**224**	*e*P	**Pn**	**04 42 21.4**	**+1.0**
MTVR	**Mutnovka**	**4.04**	**223**	*e*P	**Pn**	**04 42 20.7**	**+0.1**
ASAK	**Asacha**	**4.23**	**224**	*e*P	**Pn**	**04 42 24.2**	**+1.1**
KDTR	**Khodutka, Kamc**	**4.62**	**218**	*e*P	**Pn**	**04 42 27.2**	**-1.2**
MA2	**Magadan**	**7.56**	**307**	LR	LR	04 47 00.3	
	comp=Z,25nm,18.1s,baz=230,slow=40						
ILAR	**Eielson Array**	**26.05**	**49**	P	**P**	**04 46 49.2**	**0.0**
	0.4nm,0.9s,baz=257,slow=8.2,SNR=2.6						
TXAR	**Lajitas Array**	**68.34**	**70**	P	**P**	**04 52 16.6**	**-0.4**
	0.4nm,0.7s,baz=316,slow=2.6,SNR=4.1						

*MOS **20** 05:08:18.1±1.5, 44˚23N×149˚68E, h32km, mb4.0/4, Error ellipse: s-maj=10.3km s-min=9.6km az=36.7*
*NIED **20** 05:08:20.3, 44˚38N×149˚39E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.63; Mθθ-2.80; Mϕϕ-0.84; Mrθ4.58; Mθϕ-3.95; Mrϕ6.85; Fault plane solution: Mo9.61000×10¹⁴ NP1: ϕs260.00000°, δ20.00000°, λ135.00000°. NP2: ϕs34.00000°, δ76.00000°, λ176.00000°.*
*SKHL **20** 05:08:20.1±0.0, 44˚30N×149˚60E, h55km±5km, mb4.9/7*
*IDC **20** 05:08:27.4±3.2, 44˚27N×149˚12E, h99km±29km, mb3.4/14, mb1 3.6/15, mb1mx3.5/44, mbtmp3.7/15, MS3.3/5, Ms1 3.3/5, ms1mx2.7/59, Error ellipse: s-maj=23.2km s-min=18.0km az=151.0*
ISC 20 05:08:20.9±0.8, 44˚24N±0˚07×149˚52E±0˚10, h35km±3km, n64, σ1s74/59, mb3.5/15, 6C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.54**	**311**	*c i*PN	**Pn**	**05 08 44.2**	**-1.7**
KUR				*e*S	**Sn**	**05 09 03.5**	**-1.1**
KUR				pmax	pmax		
	comp=N,331nm,0.4s						
KUR				pmax	pmax		
	comp=E,278nm,0.4s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				smax	smax		
	comp=N,3μm,0.4s						
KUR				smax	smax		
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	**1.54**	**311**	*e*P	**Pn**	**05 08 44.2**	**-1.7**
KUR				AMB	AMB	05 08 45.1	
	comp=E,1μm,0.6s						
KUR				*e*S	**Sn**	**05 09 02.3**	**-2.3**
KUR				A	A	05 09 05.6	
	comp=E,3μm,0.5s						
KUR				A	A	05 09 05.6	
	comp=E,2μm,0.5s						
SHO	**Shikotan**	**1.98**	**260**	*e*PN	**Pn**	**05 08 49.9**	**-1.9**
SHO				*e*S	**Sn**	**05 09 13.5**	**-1.8**
SHO				pmax	pmax		
	comp=N,26nm,0.3s						
SHO				pmax	pmax		
	comp=Z,74nm,0.3s						
SHO				pmax	pmax		
	comp=E,30nm,0.2s						
SHO				smax	smax		
	comp=N,528nm,0.6s						
SHO				smax	smax		
	comp=E,506nm,0.6s						
SHO	**Shikotan**	**1.98**	**260**	*e*P	**Pn**	**05 08 51.2**	**-0.6**
SHO				AMB	AMB	05 08 56.7	
	comp=E,70nm,0.3s						
SHO				*e*S	**Sn**	**05 09 14.5**	**-0.8**
SHO				A	A	05 09 23.8	
	comp=E,530nm,0.5s						
SHO				A	A	05 09 23.8	
	comp=E,510nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.64**	**267**	*d i*PN	**Pn**	**05 09 01.3**	**+0.3**
YUK				*e*S	**Sn**	**05 09 32.6**	**+0.8**
YUK				pmax	pmax		
	comp=Z,226nm,0.2s						
YUK				smax	smax		
	comp=N,350nm,0.5s						
YUK				smax	smax		
	comp=E,704nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.64**	**267**	*i* P	**Pn**	**05 09 00.5**	**-0.5**
YUK				AMB	AMB	05 09 05.7	
	comp=E,230nm,0.2s						
YUK				*e*S	**Sn**	**05 09 30.6**	**-1.2**
YUK				A	A	05 09 39.0	
	comp=E,350nm,0.5s						
YUK				A	A	05 09 39.0	
	comp=E,700nm,0.5s						
NMR	**Nemuro--Hokkai**	**2.88**	**254**	*e*PN	**Pn**	**05 09 02.2**	**-2.1**
NMR	**Nemuro--Hokkai**	**2.88**	**254**	*e*P	**Pn**	**05 09 02.2**	**-2.1**
NMR				*e*S	**Sn**	**05 09 34.0**	**-3.6**
GLVR	**Golovnino**	**2.93**	**262**	*e*PN	**Pn**	**05 09 04.8**	**-0.1**
GLVR				pmax	pmax		
	comp=Z,256nm,0.5s						
GLVR				pmax	pmax		
	comp=E,87nm,0.2s						
GLVR				pmax	pmax		
	comp=N,65nm,0.1s						
GLVR	**Golovnino**	**2.93**	**262**	*e*P	**Pn**	**05 09 04.6**	**-0.3**
GLVR				AMB	AMB	05 09 08.5	
	comp=N,260nm,0.5s						
GLVR				*e*S	**Sn**	**05 09 38.3**	**-0.6**
GLVR				A	A	05 09 46.5	
	comp=N,170nm,0.4s						
GLVR				A	A	05 09 46.5	
	comp=N,840nm,0.4s						
RUSJ	**Misakicho**	**3.08**	**269**	*i*P	**Pn**	**05 09 09.2**	**+2.2**
RUSJ				*e*S	**Sn**	**05 09 45.2**	**+2.7**
AKK	**Akkeshi**	**3.61**	**252**	*e*P	**Pn**	**05 09 14.3**	**0.0**

JKA	**Kamikawa-asahi**	**4.98**	**271**	*e*P	**Pn**	**05 09 36.3**	**+3.2**
ASAJ	**Asahikawa**	**4.98**	**271**	P	**Pn**	**05 09 36.3**	**+3.2**
	comp=N,0.8nm,0.3s,baz=137,slow=21,SNR=2.4						
ASAJ				S	**Sn**	**05 10 29.8**	**+0.3**
	comp=N,0.8nm,0.3s,baz=233,slow=24,SNR=1.5						
ASAJ				LR	LR	05 11 41.1	
	comp=N,290nm,18.9s,baz=211,slow=41						
ERM	**Erimo**	**5.16**	**247**	*ce*PN	**Pn**	**05 09 36.6**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.47**	**302**	*e*PN	**Pn**	**05 09 43.6**	**+3.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**5.47**	**302**	*e*P	**Pn**	**05 09 41.3**	**+1.5**
YSS				AMB	AMB	05 09 42.9	
	comp=Z,10.0nm,0.3s						
UGL	**Uglegorsk**	**7.05**	**316**	*e*PN	**Pn**	**05 10 00.3**	**-1.2**
UGL	**Uglegorsk**	**7.05**	**316**	*e*P	**Pn**	**05 10 01.1**	**-0.4**
UGL				AMB	AMB	05 10 04.0	
	comp=Z,30nm,0.3s						
PEA0B	**Petropavlovsk-**	**10.38**	**28**	*i* PN	**Pn**	**05 10 47.2**	**0.0**
PETK	**Petropavlovsk-**	**10.38**	**28**	P	**Pn**	**05 10 48.6**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=202,slow=11,SNR=5.3						
MJAR	**Matsushiro Arr**	**11.55**	**232**	P	**Pn**	**05 11 03.2**	**-0.1**
	baz=37,slow=13,SNR=1.5						
KLR	**Kul'dur**	**13.16**	**299**	LR	LR	05 16 37.6	
	comp=Z,100nm,18.6s,baz=86,slow=38						
MA2	**Magadan**	**15.38**	**2**	LR	LR	05 18 00.8	
	comp=Z,55nm,18.2s,baz=190,slow=37						
SEY	**Seymchan**	**18.80**	**4**	P	**P**	**05 12 35.7**	**-1.3**
	baz=192,slow=20,SNR=1.0						
SEY	**Seymchan**	**18.80**	**4**	*e*P	**P**	**05 12 35.8**	**-1.3**
SEY				pmax	pmax		
	comp=Z,3.0nm,1.3s						
YAK	**Yakutsk**	**21.27**	**334**	LR	LR	05 21 14.1	
	comp=Z,76nm,20.7s,baz=86,slow=36						
JOW	**Kunigami**	**24.39**	**232**	LR	LR	05 23 22.1	
	comp=Z,213nm,20.5s,baz=118,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.42**	**144**	T	T	05 45 09.1	
	baz=334,slow=75,SNR=63						
H11N1	**WAKE ISLAND Hy**	**28.43**	**144**	T	T	05 45 09.7	
	baz=334,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.43**	**144**	T	T	05 45 10.4	
	baz=334,slow=75,SNR=52						
TIK	**Tiksi**	**29.24**	**347**	*e*P	**P**	**05 14 16.6**	**-2.3**
TIXI	**Tiksi**	**29.25**	**347**	*i*P	**P**	**05 14 16.6**	**-2.5**
H11S1	**WAKE ISLAND Hy**	**29.43**	**145**	T	T	05 46 27.3	
	baz=335,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.43**	**145**	T	T	05 46 28.0	
	baz=335,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**29.45**	**145**	T	T	05 46 29.5	
	baz=335,slow=76,SNR=40						
ILAR	**Eielson Array**	**40.08**	**37**	P	**P**	**05 15 51.9**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=267,slow=8.8,SNR=3.9						
ILAR	**Eielson Array**	**40.08**	**37**	*e*P	P	05 15 58.5	+6.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**45.11**	**31**	P	**P**	**05 16 34.1**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=286,slow=9.3,SNR=10						
MKAR	**Makanchi Array**	**45.87**	**298**	P	**P**	**05 16 38.3**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=68,slow=9.5,SNR=6.6						
MKAR	**Makanchi Array**	**45.87**	**298**	*e*P	**P**	**05 16 42.8**	**+3.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**52.68**	**296**	*ce*P	**P**	**05 17 32.4**	**+0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**52.68**	**296**	*e*P	**P**	**05 17 32.4**	**+0.6**
YKA	**Yellowknife Ar**	**54.44**	**35**	P	**P**	**05 17 45.0**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=299,slow=6.8,SNR=4.8						
YKA	**Yellowknife Ar**	**54.44**	**35**	*e*P	P	05 17 50.9	+6.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**65.20**	**334**	P	**P**	**05 18 55.6**	**-2.6**
	comp=Z,0.7nm,0.5s,baz=49,slow=6.1,SNR=7.0						
FINES	**FINESS Array B**	**65.20**	**334**	*e*P	**P**	**05 18 58.1**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**65.36**	**196**	P	**P**	**05 18 58.3**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=360,slow=20,SNR=1.5						
NVAR	**Mina Array Bea**	**65.86**	**59**	P	**P**	**05 19 05.4**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=272,slow=7.0,SNR=2.1						
PDAR	**Pinedale Array**	**68.28**	**51**	P	**P**	**05 19 18.6**	**+

EADA					Sn	**Sn**	**05 28 11.8**	**+0.6**
EADA					Sg	**Sb**	**05 28 16.3**	**+0.6**
EADA					*i* Vmb_Lg		05 28 21.8	
EMUR	**La Murta**	**2.70**	**41**		Pn	**Pn**	**05 27 43.5**	**-0.1**
EMUR					Sn	**Sn**	**05 28 12.7**	**-3.6**
EMUR					*i* Vmb_Lg		05 28 17.5	
ECAB	**El Cabril**	**2.72**	**326**		Pn	**Pn**	**05 27 44.6**	**+0.7**
ECAB					Sn	**Sn**	**05 28 16.4**	**-0.5**
ECAB					Sg	**Sb**	**05 28 22.9**	**+0.5**
ECAB					*i* Vmb_Lg		05 28 34.0	
TDRA	**Tendrara**	**3.03**	**156**		P	**Pn**	**05 27 49.6**	**+1.2**
CZD	**Col de Zad**	**3.07**	**205**		P	**Pn**	**05 27 49.4**	**+0.4**
MD31	**MD31**	**3.14**	**200**		P	**Pn**	**05 27 51.1**	**+1.4**
MDT	**Midelt**	**3.15**	**197**		P	**Pn**	**05 27 51.3**	**+1.4**
EMIN	**Mina Concepcio**	**3.21**	**308**		Pn	**Pn**	**05 27 50.4**	**-0.1**
EMIN					Sn	**Sn**	**05 28 29.2**	**+0.5**
EMIN					*i* Vmb_Lg		05 28 55.2	
ETOB	**Tobarra**	**3.21**	**28**		Pn	**Pn**	**05 27 51.8**	**+1.1**
ETOB					Sn	**Sn**	**05 28 28.8**	**0.0**
ETOB					*i* Vmb_Lg		05 28 51.3	
EGRO	**El Granado**	**3.63**	**299**		Pn	**Pn**	**05 27 56.7**	**+0.3**
EGRO					Sn	**Sn**	**05 28 40.1**	**+0.8**
EGRO					*i* Vmb_Lg		05 28 56.5	
PBAR	**Barrancos**	**3.68**	**311**	*e*Pn		**Pn**	**05 27 58.0**	**+0.9**
PBAR				*e*Sn		**Sn**	**05 28 40.1**	**-0.4**
PBAR				A		A	05 28 53.2	
	2.3nm,0.6s							
PVAQ	**Vaqueiros**	**3.75**	**296**	*e*Pn		**Pn**	**05 27 58.8**	**+0.8**
PVAQ				*e*Sn		**Sn**	**05 28 41.5**	**-0.6**
PVAQ				A		A	05 28 48.5	
	5.5nm,0.8s							
PVAQ	**Vaqueiros**	**3.75**	**296**	P		**Pn**	**05 27 58.8**	**+0.8**
PAB	**San Pablo**	**3.77**	**350**	Pn		**Pn**	**05 27 59.8**	**+1.4**
PAB				Sn		**Sn**	**05 28 42.6**	**-0.2**
PAB				Sg		**Sb**	**05 28 56.2**	**+3.6**
PAB				*i* Vmb_Lg			05 29 01.4	
PAB	**San Pablo**	**3.77**	**350**	P		**Pn**	**05 27 59.9**	**+1.5**
PBDV	**Barranco-do-Ve**	**3.85**	**293**	*e*Pn		**Pn**	**05 28 00.3**	**+0.9**
PBDV				*e*Sn		**Sn**	**05 28 44.5**	**-0.1**
PBDV				A		A	05 28 57.4	
	4.8nm,0.8s							
ESDC	**Sonseca Array**	**3.86**	**355**	Pn		**Pn**	**05 28 00.4**	**+0.8**
ESDC				Sn		**Sn**	**05 28 44.0**	**-0.9**
ESDC				*i* Vmb_Lg			05 29 03.5	
EBAD	**Badajoz**	**4.05**	**317**	Pn		**Pn**	**05 28 01.9**	**-0.3**
EBAD				Sn		**Sn**	**05 28 50.4**	**+0.8**
EBAD				*i* Vmb_Lg			05 28 58.7	
PCVE	**Castro Verde**	**4.08**	**298**	*e*Pn		**Pn**	**05 28 03.9**	**+1.4**
PCVE				*e*Sn		**Sn**	**05 28 49.7**	**-0.5**
PCVE				A		A	05 28 59.2	
	4.4nm,0.4s							
MORF	**Marmelete**	**4.41**	**291**	*e*P		**Pn**	**05 28 08.1**	**+1.0**
MORF				*e*S		**Sn**	**05 28 56.4**	**-2.1**
MORF				IAML			05 29 04.7	
	comp=N,7.6nm,0.1s							
MORF	**Marmelete**	**4.41**	**291**	*e*Pn		**Pn**	**05 28 08.5**	**+1.4**
MORF				*e*Sn		**Sn**	**05 28 57.8**	**-0.7**
MORF				A		A	05 29 19.0	
	comp=N,4.9nm,0.6s							
PESTR	**Estremoz**	**4.46**	**314**	*e*Pn		**Pn**	**05 28 09.3**	**+1.5**
PESTR				*e*Sn		**Sn**	**05 28 59.4**	**-0.2**
PESTR				A		A	05 29 17.1	
	comp=N,3.1nm,0.4s							
PESTR	**Estremoz**	**4.46**	**314**	P		**Pn**	**05 28 09.1**	**+1.3**
PFVI	**Vila Bisbo**	**4.50**	**288**	*e*Pn		**Pn**	**05 28 09.2**	**+0.9**
PFVI				*e*Sn		**Sn**	**05 28 59.6**	**-0.9**
PFVI				A		A	05 29 22.0	
	comp=N,15nm,0.7s							
PTEO	**Sao Teotonio**	**4.54**	**294**	*e*Pn		**Pn**	**05 28 09.9**	**+1.0**
PTEO				*e*Sn		**Sn**	**05 29 00.9**	**-0.8**
PTEO				A		A	05 29 15.8	
	comp=N,9.0nm,0.6s							
PNCL	**Nicolau / Gran**	**4.63**	**301**	*e*Pn		**Pn**	**05 28 11.4**	**+1.2**
PNCL				*e*Sn		**Sn**	**05 29 03.5**	**-0.4**
PNCL				A		A	05 29 16.3	
	comp=N,2.5nm,0.8s							
EPLA	**Plasencia**	**4.70**	**335**	Pn		**Pn**	**05 28 11.9**	**+0.8**
EPLA				*i* Vmb_Lg			05 29 34.6	
PMRV	**Marv??o**	**4.74**	**320**	*e*Pn		**Pn**	**05 28 13.2**	**+1.5**
PMRV				*e*Sn		**Sn**	**05 29 06.8**	**+0.1**
PMRV				A		A	05 29 41.5	
	comp=N,4.3nm,0.5s							
PMTG	**Montargil**	**4.97**	**312**	*e*Pn		**Pn**	**05 28 16.3**	**+1.6**
PMTG				*e*Sn		**Sn**	**05 29 12.1**	**0.0**
PMTG				A		A	05 29 30.3	
	comp=N,3.1nm,0.5s							
PSBE	**So Bento**	**5.59**	**313**	*e*Pn		**Pn**	**05 28 25.3**	**+2.0**
OUZM	**OUZ**	**5.62**	**210**	P		**Pn**	**05 28 26.1**	**+2.3**
TTIG	**Tnine Tigouga,**	**6.71**	**220**	P		**Pn**	**05 28 39.9**	**+1.1**

IDC ***20*** *05:27:42.7±0.8,33°.20N×131°.56E, h0km,mb3.9/15, mb1 4.0/17,mb1mx3.9/50,mbtmp3.8/17,ML3.3/2,MS3.3/18, Ms1 3.3/18,ms1mx3.0/93,Error ellipse: s-maj=15.7km s-min=8.0km az=164.0*

JMA ***20*** *05:27:43.8,33°.30N×131°.48E,h8km±1km,M3.9 Broadband fault plane solution: P waves. NP1: ϕs=103.00000°,δ57.00000°,λ-50.00000°. NP2: ϕs=226.00000°,δ50.00000°,λ-135.00000°. Principal axes: T Plg4.0000°, Azm166.0000°; N Plg33.0000°, Azm259.0000°; P Plg57.0000°, Azm70.0000°;*

JMA Felt IV J1.

NIED ***20*** *05:27:43.8,33°.30N×131°.48E,h8km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.41; Mθθ2.13; Mϕϕ-0.71; Mrθ0.06; Mθϕ0.48; Mϕr0.81; Fault plane solution: M₀2.09000×10¹⁵ NP1: ϕs110.00000°,δ51.00000°,λ-44.00000°. NP2: ϕs232.00000°,δ57.00000°,λ-132.00000°.*

NEIC ***20*** *05:27:45.4±1.7,33°.24N±0°.05×131°.42E±0°.04,h14km±1km, mb4.4/17 Error ellipse: s-maj=7.8km s-min=5.0km az=164.0*

ISC 20 05:27:43.7±1.0,33°.26N±0°.03×131°.48E±0°.03,h5km±6km, n66,σ1§04/56,mb4.0/19,MS3.4/13,3C-2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.10**	**323**	⇓P	**Pg**	**05 27 45.8**	**0.0**
JBEP				S	**Sg**	**05 27 47.2**	**0.0**
JUS	**Usuki**	**0.30**	**130**	⇑P	**Pg**	**05 27 50.2**	**+0.6**
JUS				S	**Sg**	**05 27 54.7**	**+1.1**
JKI	**Kunimi**	**0.38**	**12**	⇑P	**Pg**	**05 27 50.7**	**-0.4**
JKI				S	**Sg**	**05 27 55.5**	**-0.6**
JNU	**Nakatsue**	**0.52**	**255**	Pg	**Pg**	**05 27 54.2**	**+0.4**
	338nm,0.3s,baz=21,slow=19,SNR=399						
JNU				Lg	Lg	05 28 02.0	
	349nm,0.3s,baz=168,slow=19,SNR=9.3						
JNU	**Nakatsue**	**0.52**	**255**		**Pb**	**05 27 54.6**	**-0.7**
JNA	**Nagahama**	**0.89**	**70**	P	**Pg**	**05 28 00.1**	**-0.7**
JIU3	**Izumi3**	**0.90**	**218**	⇑P	**Pg**	**05 28 01.2**	**+0.2**
UWA2	**Uwa jima 2**	**0.96**	**92**	⇓P	**Pg**	**05 28 02.0**	**-0.2**
JSU	**Suzuyama**	**1.95**	**207**	Pn	**Pn**	**05 28 17.8**	**+0.3**
JMN	**Monobe**	**2.06**	**76**		**Pb**	**05 28 20.7**	**-0.9**
JTU	**Tsushima**	**2.14**	**307**		**Pn**	**05 28 19.6**	**-0.4**
JHS	**Saijyo**	**2.21**	**38**	Pn	**Pn**	**05 28 21.6**	**+0.5**
TJN	**Taejon**	**4.59**	**314**	Pn	**Pn**	**05 28 54.0**	**+0.1**
INU	**Inuyama**	**5.04**	**64**	Pn	**Pn**	**05 29 01.2**	**+1.2**
KSRS	**Korea Array**	**5.09**	**326**	Pn	**Pn**	**05 29 01.5**	**+0.8**
	0.7nm,0.3s,baz=147,slow=15,SNR=4.7						
KSRS				Pg	**Pb**	**05 29 13.3**	**+0.1**
	0.7nm,0.3s,baz=142,slow=15,SNR=12						
KSRS				Sn	**Sn**	**05 30 02.5**	**+2.7**
	1.2nm,0.3s,baz=146,slow=30,SNR=4.3						
KSRS				Lg	Lg	05 30 27.6	
	1.7nm,0.3s,baz=158,slow=28,SNR=5.7						
KSRS				LR	LR	05 31 05.6	
	comp=Z,289nm,20.7s,baz=140,slow=39						
KSAR	**Wonju Array Be**	**5.10**	**326**	Pn	**Pn**	**05 29 03.4**	**+2.6**
KS19	**Wonju Array Si**	**5.16**	**326**	Pn	**Pn**	**05 29 01.7**	**+0.1**
JGF	**Kuroka**	**5.39**	**63**	Pn	**Pn**	**05 29 05.3**	**+0.5**
MAJO	**Matsushiro**	**6.43**	**57**	Pn	**Pn**	**05 29 20.4**	**+1.3**
MJB9	**Matsu-Tunnel**	**6.43**	**57**	Pn	**Pn**	**05 29 20.9**	**+1.9**
MJAR	**Matsushiro Arr**	**6.43**	**58**	Pn	**Pn**	**05 29 20.2**	**+1.1**
	0.8nm,0.3s,baz=231,slow=13,SNR=14						
MJAR				Lg	Lg	05 31 05.8	
	0.1nm,0.3s,baz=255,slow=28,SNR=1.4						
MJAR				LR	LR	05 31 40.5	
	comp=Z,152nm,18.0s,baz=236,slow=37						
USRK	**Ussuriysk Ar.**	**10.93**	**2**	LR	LR	05 34 14.9	
	comp=Z,184nm,18.7s,baz=170,slow=36						
ASAJ	**Asahikawa**	**13.88**	**35**	LR	LR	05 36 09.7	

	comp=Z,95nm,18.2s,baz=81,slow=36								
KLR	**Kulʲdur**	**15.96**	**1**	Pn		**P**	**05 31 32.2**	**-0.3**
	0.5nm,0.3s,baz=169,slow=8.6,SNR=14								
KLR				LR		LR	05 37 14.2		
	comp=Z,88nm,20.6s,baz=201,slow=36								
ULN	**Ulaanbaatar**	**23.47**	**316**	P		**P**	**05 32 55.4**	**+1.1**
ULN				IAmb		IAmb	05 32 57.1		
	comp=Z,15nm,1.2s								
SONM	**Songino Array**	**23.84**	**315**	P		**P**	**05 32 59.0**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=142,slow=13,SNR=5.0								
SONM				LR		LR	05 42 34.6		
	comp=Z,48nm,21.8s,baz=339,slow=37								
SONM	**Songino Array**	**23.84**	**315**	IAmb		IAmb	05 32 59.6		
	comp=Z,3.7nm,1.0s								
DAV	**Davao City (W)**	**26.63**	**193**	LR		LR	05 45 44.0		
	comp=Z,44nm,18.2s,baz=150,slow=41								
YAK	**Yakutsk**	**28.81**	**358**	LR		LR	05 44 57.9		
	comp=Z,64nm,19.9s,baz=280,slow=36								
CMAR	**Chiang Mai Arr**	**32.62**	**251**	P		**P**	**05 34 16.5**	**0.0**
	comp=Z,1.3nm,0.4s,baz=56,slow=6.9,SNR=5.6								
LUWI	**Luwuk**	**35.09**	**195**	P		**P**	**05 34 36.9**	**-1.1**
TIXI	**Tiksi**	**38.48**	**359**	LR		LR	05 51 01.7		
	comp=Z,62nm,20.3s,baz=181,slow=36								
ZALV	**Zalesovo Beam**	**38.72**	**317**	P		**P**	**05 35 08.5**	**0.0**
	comp=Z,1.9nm,0.9s,baz=93,slow=7.4,SNR=6.1								
ZAB5	**Zalesovo Array**	**38.73**	**317**	P		**P**	**05 35 07.9**	**-0.7**
MK31	**Makanchi Array**	**39.39**	**305**	P		**P**	**05 35 13.8**	**-0.4**
MKAR	**Makanchi Array**	**39.39**	**305**	P		**P**	**05 35 14.5**	**+0.3**
	comp=Z,3.9nm,1.0s,baz=92,slow=9.9,SNR=21								
MKAR	**Makanchi Array**	**39.39**	**305**	P		**P**	**05 35 13.1**	**-1.1**
MAKZ	**Makanchi**	**39.60**	**305**	P		**P**	**05 35 13.2**	**-2.9**
KAPI	**Kappang**	**39.65**	**198**	LR		LR	05 51 22.5		
	comp=Z,23nm,20.6s,baz=24,slow=36								
KURK	**Kurchatov**	**42.01**	**311**	P		**P**	**05 35 34.8**	**-1.1**
KURK				IAmb		IAmb	05 35 37.1		
	comp=Z,9.0nm,1.1s								
TARG	**Taragay, Kyrgy**	**42.82**	**297**	P		**P**	**05 35 40.9**	**-2.1**
TARG				IAmb		IAmb	05 35 45.8		
	comp=Z,3.5nm,1.0s								
NRIK	**Noril'sk**	**43.57**	**339**	P		**P**	**05 35 48.2**	**0.0**
	comp=Z,1.0nm,0.3s,baz=130,slow=7.1,SNR=4.2								
PMG	**Port Moresby**	**44.98**	**158**	LR		LR	05 55 26.2		
	comp=Z,71nm,18.3s,baz=104,slow=37								
AAK	**Ala-Archa**	**45.15**	**299**	LR		LR	05 56 09.8		
	comp=Z,52nm,18.8s,baz=78,slow=38								
BRVK	**Borovoye**	**47.24**	**314**	P		**P**	**05 36 17.6**	**0.0**
BRVK				IAmb		IAmb	05 36 19.2		
	comp=Z,3.9nm,0.8s								
KK31	**Karatay Array**	**47.97**	**300**	P		**P**	**05 36 23.7**	**+0.3**
KKAR	**Karatay Array**	**47.97**	**300**	P		**P**	**05 36 23.4**	**0.0**
KKAR	**Karatay Array**	**47.97**	**300**	IAmb		IAmb	05 36 25.7		
	comp=Z,9.0nm,0.9s								
GAR	**Garm**	**48.92**	**295**	P		**P**	**05 36 30.8**	**-0.2**
CHGR	**Chuyangaron**	**49.88**	**295**	P		**P**	**05 36 38.6**	**+0.4**
WRA	**Warramunga Arr**	**52.97**	**177**	P		**P**	**05 37 00.0**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=352,slow=8.1,SNR=5.0								
WRA				LR		LR	05 58 16.9		
	comp=Z,24nm,21.3s,baz=78,slow=35								
ARU	**Arti**	**53.80**	**319**	LR		LR	06 00 29.5		
	comp=Z,26nm,18.3s,baz=123,slow=36								
ABKAR	**Akbulak array**	**54.11**	**310**	P		**P**	**05 37 08.8**	**-0.6**
ASAR	**Alice Springs**	**56.66**	**177**	P		**P**	**05 37 27.4**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=0.2,slow=4.8,SNR=6.2								
ILAR	**Eielson Array**	**56.95**	**30**	P		**P**	**05 37 30.5**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=278,slow=6.2,SNR=2.8								
INK	**Inuvik**	**61.34**	**25**	P		**P**	**05 38 01.5**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=292,slow=4.3,SNR=5.4								
INK	**Inuvik**	**61.34**	**25**	IAmb		IAmb	05 38 10.4		
	comp=Z,3.9nm,1.4s								
ARCES	**ARCESS Array B**	**64.54**	**338**	P		**P**	**05 38 22.3**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=59,slow=7.5,SNR=8.1								
KBZ	**Khabaz**	**66.98**	**308**	P		**P**	**05 38 37.9**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=220,slow=1.1,SNR=8.7								
FINES	**FINESS Array B**	**68.17**	**330**	P		**P**	**05 38 43.8**	**-0.9**
	comp=Z,3.7nm,0.9s,baz=90,slow=7.6,SNR=11								
FINES				LR		LR	06 10 21.6		
	comp=Z,41nm,19.0s,baz=38,slow=38								
YKA	**Yellowknife Ar**	**70.99**	**27**	P		**P**	**05 39 01.2**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=299,slow=5.5,SNR=3.7								
AKASG	**Malin Array Be**	**72.05**	**319**	P		**P**	**05 39 08.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=42,slow=6.2,SNR=1.2								
BORG	**Borgarnes**	**80.01**	**349**	LR		LR	06 15 26.7		
	comp=Z,18nm,18.1s,baz=342,slow=36								
SFJD	**Kangerlussuaq**	**80.05**	**1**	LR		LR	06 16 28.6		
	comp=Z,21nm,18.3s,baz=316,slow=36								
NVAR	**Mina Array Bea**	**83.66**	**48**	P		**P**	**05 40 13.7**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=298,slow=1.9,SNR=2.3								
SCHQ	**Schefferville**	**90.86**	**10**	LR		LR	06 22 11.9		
	comp=Z,33nm,21.5s,baz=86,slow=36								

IDC 20 05:30:12.2±3.5,6°.05S×147°.96E,h0km,mb3.7/2, mb1 3.7/4,mb1mx3.4/42,mbtmp3.5/4,ML3.5/1,Error ellipse: s-maj=79.2km s-min=36.3km az=96.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.43**	**193**	Pn	Pn	05 31 07.6	+0.7
	2.9nm,0.3s,baz=326,slow=14,SNR=2.0						
PMG				Sn	Sn	05 31 49.4	+1.1
	2.6nm,0.3s,baz=179,slow=23,SNR=1.9						
WRA	**Warramunga Arr**	**19.13**	**223**	P	P	05 34 36.5	-0.5
	0.1nm,0.3s,baz=49,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**22.13**	**216**	P	P	05 35 09.7	+0.1
	0.8nm,0.4s,baz=50,slow=9.5,SNR=17						
FITZ	**Fitzroy Crossi**	**24.86**	**239**	P	P	05 35 37.1	+0.4
	2.0nm,0.6s,baz=83,slow=8.1,SNR=7.2						
TORD	**Torodi Ar. Bea**	**146.03**	**285**	PKPbc	PKPdf	05 49 53.8	-0.6
	0.2nm,0.4s,baz=90,slow=3.4,SNR=2.2						

MDD ***20*** *05:34:55.5±0.5,35°.53N×3°.80W,h0km,mb_Lg2.5/9,Error ellipse: s-maj=3.9km s-min=3.2km az=171.0*

SFS ***20*** *05:34:55.0,35°.52N×3°.79W,ML2.5,ALBORAN SUR*

CNRM ***20*** *05:34:57.5,35°.50N×3°.88W,h16km,ml2.4*

INMG ***20*** *05:34:59.3±0.9,35°.49N×4°.02W,h0km,ML2.0,Error ellipse: s-maj=3.6km s-min=2.2km az=86.0*

ISC 20 05:34:55.2±1.3,35°.54N±0°.03×3°.81W±0°.03,h7km±11km, n26,σ1§25/44,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.34**	**198**	P	Pb	**05 35 02.7**	**-0.7**
PALE				S	**Sg**	**05 35 06.4**	**+0.3**
PVLZ	**Peæn de**	**0.54**	**228**	P	Pb	**05 35 07.4**	**+0.5**
PVLZ				S	**Sg**	**05 35 11.5**	**-1.2**
EMEL	**Melilla**	**0.74**	**108**	Pg	**Pg**	**05 35 09.4**	**+0.1**
EMEL				Sg	**Sg**	**05 35 19.3**	**+0.4**
AKLM	**AKL**	**1.02**	**182**	P	**Pn**	**05 35 18.0**	**+2.0**
EMIJ	**Mijas**	**1.29**	**323**	Pg	**Pn**	**05 35 18.7**	**-0.9**
EMIJ				Sg	**Sn**	**05 35 36.2**	**-0.9**
EMIJ				*i* Vmb_Lg		05 35 43.3	
CHEFC	**Chefchaouen**	**1.32**	**252**	P	**Pg**	**05 35 21.5**	**+1.0**
ECEU	**Ceuta**	**1.32**	**286**	Pg	**Pn**	**05 35 20.0**	**0.0**
ECEU				Sg	**Sn**	**05 35 36.0**	**-1.9**
ECEU				*i* Vmb_Lg		05 35 40.5	
ELGU	**Los Guajares,**	**1.34**	**6**	Pg	**Pn**	**05 35 20.0**	**-0.3**
ELGU				Sg	**Sn**	**05 35 38.7**	**+0.3**
ELGU				*i* Vmb_Lg		05 35 43.4	
TAF	**Taforalt**	**1.35**	**122**	P	**Pg**	**05 35 21.8**	**+0.7**
EBER	**Berja**	**1.55**	**28**	Pg	**Pn**	**05 35 23.1**	**-0.3**
EBER				Sg	**Sn**	**05 35 43.9**	**+0.1**
EBER				*i* Vmb_Lg		05 35 54.9	
JBK	**JBK**	**1.57**	**139**	P	**Pb**	**05 35 24.2**	**-0.5**
JBK				S	**Sb**	**05 35 44.5**	**-0.4**
EGOR	**Sierra Gorda,**	**1.59**	**351**	Pg	**Pn**	**05 35 23.8**	**-0.1**
EGOR				Sn	**Sn**	**05 35 44.3**	**-0.4**
EGOR				*i* Vmb_Lg		05 35 56.7	
ENIJ	**Nijar**	**1.93**	**42**	Sn	**Sn**	**05 35 53.2**	**+0.2**
ENIJ				*i* Vmb_Lg		05 36 13.0	
CZD	**Col de Zad**	**2.70**	**203**	P	**Pn**	**05 35 38.3**	**-0.9**
MD31	**MD31**	**2.78**	**197**	P	**Pb**	**05 35 42.8**	**-2.3**
MD31				S	**Sn**	**05 36 13.6**	**-0.3**
MDT	**Midelt**	**2.79**	**194**	P	**Pb**	**05 35 42.7**	**-2.8**
ECAB	**El Cabril**	**2.84**	**333**	Pn	**Pn**	**05 35 40.5**	**-0.5**
ECAB				Sn	**Sn**	**05 36 16.5**	**+1.0**
ECAB				*i* Vmb_Lg		05 36 28.9	
TDRA	**Tendrara**	**2.89**	**149**	P	**Pn**	**05 35 43.6**	**+1.8**
EMIN	**Mina Concepcio**	**3.20**	**315**	Pn	**Pn**	**05 35 45.2**	**-0.6**
EMIN				Sn	**Sn**	**05 36 24.4**	**+0.1**
EMIN				*i* Vmb_Lg		05 36 32.9	
EGRO	**El Granado**	**3.57**	**305**	Pn	**Pn**	**05 35 50.5**	**-0.4**
EGRO				Sn	**Sn**	**05 36 33.6**	**+0.4**
EGRO				*i* Vmb_Lg		05 36 40.1	
PVAQ	**Vaqueiros**	**3.66**	**302**	*e*Pn	**Pn**	**05 35 54.3**	**+2.2**
PVAQ				*e*Sn	**Sn**	**05 36 35.9**	**+0.4**
PVAQ				A	A	05 36 37.9	
	3.6nm,0.5s						
PVAQ	**Vaqueiros**	**3.66**	**302**	P	**Pn**	**05 35 53.8**	**+1.6**
PVAQ				S	**Sn**	**05 36 34.5**	**-1.0**
PBAR	**Barrancos**	**3.69**	**316**	*e*Pn	**Pn**	**05 35 55.3**	**+2.7**
PBAR				*e*Sn	**Sn**	**05 36 37.1**	**+0.7**
PBDV	**Barranco-do-Ve**	**3.73**	**298**	*e*Pn	**Pn**	**05 35 55.4**	**+2.2**
PBDV				*e*Sn	**Sn**	**05 36 37.6**	**+0.1**
PBDV				A	A	05 36 41.9	
	5.1nm,0.7s						
PESTR	**Estremoz**	**4.49**	**319**	*e*Sn	**Sn**	**05 36 57.0**	**+1.0**
PESTR				A	A	05 36 58.8	
	2.7nm,0.6s						
PNCL	**Nicolau / Gran**	**4.58**	**306**	*e*Pn	**Pn**	**05 36 07.4**	**+2.7**
PNCL				*e*Sn	**Sn**	**05 36 58.2**	**+0.1**

IDC ***20*** *05:35:24.3±0.5,6°.80N×72°.98W,h154km±4km,mb3.7/15, mb1 3.9/18,mb1mx3.7/37,mbtmp4.2/18,MS2.7/2, Ms1 2.7/2,ms1mx2.3/63,Error ellipse: s-maj=11.7km s-min=6.8km az=130.0*

NEIC ***20*** *05:35:25.0±2.0,6°.84N±0°.07×72°.98W±0°.07,h151km±6km, mb4.2/19,Error ellipse: s-maj=10.1km s-min=9.4km az=133.0*

RSNC ***20*** *05:35:25.3±0.9,6°.80N×73°.14W,h146km±3km,ML4.1, Mw4.3,Fault plane solution: NP1:ϕs58.00000°, δ14.00000°,λ158.00000°.*

ISC 20 05:35:24.1±0.5,6°.83N±0°.03×73°.10W±0°.03,h151km±4km, n95,σ1§52/143,mb4.1/20,17C-8D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**200**	⇑*i*P	**Pn**	**05 35 45.3**	**+0.3**
BARC				*e*S	**Sn**	**05 35 59.8**	**-1.2**
BARC				*i*		05 36 01.1	
	comp=Z,6µm,0.2s						
PAMC	**Pamplona, Colo**	**0.64**	**38**	⇓*e*P	**Pn**	**05 35 48.2**	**+1.2**
PAMC				*e*S	**Sn**	**05 36 05.1**	**+0.7**
PAMC				*i*		05 36 07.6	
	comp=Z,5µm,0.6s						
RUSC	**La Rusia**	**0.93**	**179**	⇑*e*P	**Pn**	**05 35 49.2**	**+0.2**
RUSC				*e*S	**Sn**	**05 36 07.4**	**-0.6**
RUSC				*i*		05 36 09.4	
	comp=Z,2µm,0.4s						
TAMC	**Tame, Arauca**	**1.35**	**107**	⇓*i*P	**Pn**	**05 35 53.8**	**+1.4**
TAMC				*e*S	**Sn**	**05 36 14.9**	**+1.0**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	⇑*e*P	**Pn**	**05 35 51.9**	**-0.7**
PTBC				*e*S	**Sn**	**05 36 12.7**	**-1.7**
PTBC				*i*		05 36 16.7	
	comp=Z,1µm,0.3s						
OCAC	**Ocana**	**1.42**	**351**		**Pn**	**05 35 53.9**	**+0.7**
OCAC	**Ocana**	**1.42**	**351**	⇑*e*P	**Pn**	**05 35 53.8**	**+0.7**
OCAC				*e*S	**Sn**	**05 36 15.3**	**-0.2**
OCAC				*i*		05 36 23.3	
	comp=Z,5µm,0.6s						
SPBC	**San Pablo de B**	**1.52**	**220**	⇑*i*P	**Pn**	**05 35 54.2**	**+0.1**
SPBC				*e*S	**Sn**	**05 36 16.3**	**-0.7**
SPBC				*i*		05 36 18.7	
	comp=Z,2µm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	Pn	**Pn**	**05 35 58.5**	**+0.6**
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	⇑*e*P	**Pn**	**05 35 58.0**	**+0.2**
ZARC				*e*S	**Sn**	**05 36 24.2**	**+0.4**
ZARC				*i*		05 36 29.1	
	comp=Z,2µm,0.4s						
NORC	**Norcasia**	**2.16**	**235**	⇑*e*P	**Pn**	**05 36 01.0**	**-0.3**
NORC				*e*S	**Sn**	**05 36 29.1**	**-0.9**
NORC				*i*		05 36 33.7	
	comp=Z,825nm,0.7s

PTAC *i* 05 37 29.9
comp=Z,86nm,0.3s
MACC Macarena, Meta 4.71 189ǁ *e*P Pn 05 36 32.2 -1.7
MACC *e*S Sn **05 37 22.2 -6.0**
MACC *i* 05 37 30.9
comp=Z,87nm,0.6s
BETC Betania 4.74 210 *e*P Pn 05 36 33.7 -0.5
BETC *e*S Sn **05 37 26.8 -2.0**
BETC *i* 05 37 36.6
comp=Z,85nm,0.5s
DABV Dabajuro 4.74 31 ǁ *i*P Pn 05 36 35.1 +0.9
DABV *e*S Sn **05 37 26.3 -2.5**
MARP Paez Belalcaza 4.88 216 *e*P Pn 05 36 36.5 +0.2
MARP *e*S Sn **05 37 30.5 -1.9**
GARC Garzon, Huila 5.19 208ǁ *e*P Pn 05 36 39.9 -0.6
GARC *e*S Sn **05 37 36.1 -3.9**
GARC *i* 05 37 43.0
comp=Z,94nm,0.6s
BAUV El Baul 5.43 67 Pn **Pn 05 36 41.9 -1.4**
PCON Cinco Dias 5.55 217 *e*P Pn 05 36 47.3 +1.8
PCON *e*S Sn **05 37 54.0 +5.1**
PCON *i* 05 38 00.4
comp=Z,38nm,0.5s
POPC Popayan, Colom 5.56 220ǁ *e*P Pn 05 36 45.2 0.0
POPC *e*S Sn **05 37 46.9 -1.6**
SOTA Rioblanco 5.83 217 *e*P Pn 05 36 50.6 +1.5
SOTA *e*S Sn **05 37 51.5 -4.0**
SOTA *i* 05 38 06.3
comp=Z,84nm,0.5s
BCIP Isla Barro Col 7.07 290 Pn **Pn 05 37 04.2 -0.9**
BCIP Isla Barro Col 7.07 290 *e*P Pn 05 37 04.2 -0.9
BCIP *e*S Sn **05 38 22.7 -1.7**
OTAV Otavalo 8.45 219 Pn 05 37 24.2 +0.2
JTS Las Juntas de 12.22 287 P **P 05 38 19.5 +0.1**
comp=Z,3.2nm,0.3s,baz=196,slow=2.5,SNR=19
JTS Las Juntas de 12.22 287 Pn **P 05 38 21.3 +1.8**
ORTG Ortega, Santa 12.72 287 Pn **P 05 38 27.6 +2.5**
PDPR Patillas Dam, 13.09 31 Pn **Pn 05 38 23.6 -0.8**
SJG San Juan 13.10 30 P **Pn 05 38 23.7 -0.9**
comp=Z,4.5nm,0.3s,baz=322,slow=19,SNR=7.7
GTBY Guantanamo Bay 13.17 352 P **P 05 38 29.8 -0.1**
GCPR Guaynabo City 13.30 30 Pn **Pn 05 38 26.6 -0.6**
MTP Monte Pirata 13.40 33 Pn **Pn 05 38 27.0 -1.4**
CDVI St. Croix 13.56 36 Pn **Pn 05 38 29.7 -0.8**
MTO3 Montecristo 17.66 297 P **P 05 39 20.9 +1.0**
MTO3 IAmb IAmb 05 39 24.7
comp=Z,8.4nm,0.8s
MDP Montagnes des 20.41 94 P **P 05 39 50.2 +0.6**
comp=Z,12nm,0.8s,baz=249,slow=10.0,SNR=4.1
MDP LR LR 05 47 48.0
comp=Z,29nm,19.4s,baz=138,slow=37
LPAZ La Paz 23.49 168 P **P 05 40 20.8 -0.2**
comp=Z,1.2nm,0.7s,baz=347,slow=12,SNR=3.6
BDFB Brasilia 33.40 132 P **P 05 41 48.7 +0.1**
comp=Z,3.7nm,0.7s,baz=293,slow=10,SNR=11
BDFB Brasilia 33.40 132 IAmb IAmb 05 41 49.3
comp=Z,3.6nm,0.6s
FCAR Ozark Folk Cen 33.78 332 P **P 05 41 52.8 +1.3**
FCAR IAmb IAmb 05 41 52.9
comp=Z,2.7nm,0.7s
U40A Yellville 34.50 331 P **P 05 41 59.1 +1.3**
CCM Cathedral Cave 35.18 335 P **P 05 42 04.7 +1.1**
CCM IAmb IAmb 05 42 05.6
comp=Z,5.9nm,0.8s
TX32 Lajitas Array 36.48 312 P **P 05 42 16.0 +1.1**
TXAR Lajitas Array 36.48 312 P **P 05 42 16.2 +1.3**
comp=Z,1.5nm,0.6s,baz=127,slow=9.1,SNR=21
TXAR PcP **PcP 05 44 36.6 +1.0**
comp=Z,0.3nm,0.6s,baz=145,slow=5.1,SNR=4.1
TXAR Lajitas Array 36.48 312 P **P 05 42 16.0 +1.1**
TX31 Lajitas Ar. Si 36.48 312 P **P 05 42 16.4 +1.4**
P38A Dawn 37.47 334 P **P 05 42 23.8 +0.8**
P38A IAmb IAmb 05 42 26.0
comp=Z,3.8nm,0.8s
MNTX Cornudas Mount 38.98 314 P **P 05 42 36.9 +1.0**
MNTX IAmb IAmb 05 42 38.6
comp=Z,4.2nm,0.8s
SDCO Great Sand Dun 42.56 321 P **P 05 43 07.2 +1.8**
EYMN Ely 43.87 342 P **P 05 43 16.0 +0.6**
EYMN IAmb IAmb 05 43 16.9
comp=Z,4.1nm,0.7s
PV13 Radium Mtn., P 44.91 319 P **P 05 43 25.9 +1.8**
PV13 IAmb IAmb 05 43 26.8
comp=Z,3.6nm,0.8s
ULM Lac du Bonnet 47.29 340 P **P 05 43 42.2 0.0**
comp=Z,2.3nm,0.4s,baz=156,slow=8.4,SNR=3.0
ULM Lac du Bonnet 47.29 340 IAmb IAmb 05 43 43.9
comp=Z,2.9nm,0.6s
PDAR Pinedale Array 48.09 324 P **P 05 43 49.2 +0.4**
comp=Z,0.5nm,0.5s,baz=126,slow=9.5,SNR=6.2
PDAR PcP **PcP 05 45 15.9 +1.8**
comp=Z,0.3nm,0.5s,baz=132,slow=5.3,SNR=2.8
SCHQ Schefferville 48.13 5 P **P 05 43 49.1 +0.5**
comp=Z,12nm,0.6s,baz=192,slow=6.3,SNR=56
SCHQ ScP **ScP 05 48 52.8 -1.4**
comp=Z,1.9nm,0.8s,baz=201,slow=5.5,SNR=4.9
SCHQ Schefferville 48.13 5 P **P 05 43 49.6 +1.0**
NVAR Mina Array Bea 51.49 315 P **P 05 44 15.1 +0.5**
comp=Z,0.7nm,0.7s,baz=120,slow=6.4,SNR=7.6
NVAR PcP **PcP 05 45 27.4 +0.7**
comp=Z,0.2nm,0.5s,baz=142,slow=4.5,SNR=2.1
YBH Yreka Blue Hor 55.95 317 P **P 05 44 46.4 -0.4**
comp=Z,0.5nm,0.3s,baz=112,slow=3.6,SNR=5.1
YKA Yellowknife Ar 63.27 340 P **P 05 45 37.0 +0.7**
comp=Z,2.3nm,0.5s,baz=133,slow=6.6,SNR=86
YKA pP **pP 05 46 13.0 +0.6**
comp=Z,0.9nm,0.5s,baz=132,slow=6.9,SNR=3.9
DBIC Dimbokro 67.71 86 P **P 05 46 04.0 -1.8**
comp=Z,3.7nm,0.7s,baz=296,slow=6.8,SNR=5.4
TORD Torodi Ar. Bea 73.71 78 P **P 05 46 40.2 -1.9**
comp=Z,0.4nm,0.3s,baz=282,slow=5.9,SNR=8.0
TORD pP **pP 05 47 18.6 -1.4**
comp=Z,0.3nm,0.6s,baz=285,slow=6.4,SNR=2.1
NB2 NORSAR Subarra 81.31 29 P **P 05 47 23.7 +0.2**
comp=Z,0.6nm,0.5s,baz=268,slow=5.6
NOA NORSAR Array B 81.31 29 P **P 05 47 22.9 -0.5**
comp=Z,0.8nm,0.5s,baz=266,slow=5.4,SNR=4.2
GERES GERESS Array B 82.80 42 P **P 05 47 30.9 -0.7**
comp=Z,0.3nm,0.2s,baz=186,slow=1.3,SNR=3.7
ARCES ARCESS Array B 86.66 20 P **P 05 47 50.4 +0.1**
comp=Z,0.5nm,0.5s,baz=302,slow=2.7,SNR=7.7
ZALV Zalesovo Beam 116.66 14 PKP **PKPdf 05 53 49.9 -0.4**
comp=Z,1.0nm,0.4s,baz=241,slow=2.0,SNR=5.3
MKAR Makanchi Array 122.31 20 PKP **PKPdf 05 54 01.0 -0.5**
comp=Z,0.8nm,0.4s,baz=328,slow=2.8,SNR=6.0
ASAR Alice Springs 149.13 234 PKP **PKPdf 05 54 50.6 -0.6**
comp=Z,1.7nm,0.6s,baz=119,slow=3.5,SNR=2.8
ASAR PKPbc **PKPbc 05 54 55.1 -0.4**
comp=Z,1.7nm,0.5s,baz=119,slow=3.4,SNR=22
WRA Warramunga Arr 150.36 241 PKP **PKPdf 05 54 53.1 -0.1**
comp=Z,1.6nm,0.5s,baz=106,slow=2.7,SNR=2.3
WRA PKPbc **PKPbc 05 54 58.1 -0.4**
comp=Z,1.5nm,0.4s,baz=107,slow=2.8,SNR=40
WRA pPKPbc **pPKPbc 05 55 38.8 -0.1**
comp=Z,1.2nm,0.5s,baz=107,slow=2.8,SNR=4.0
CMAR Chiang Mai Arr 153.68 17 PKPbc **PKPbc 05 55 05.9 -0.2**
comp=Z,1.3nm,0.4s,baz=331,slow=4.3,SNR=6.3

*IDC **20** 05:40:39.9±0.8,51˚.93N×178˚.57E, h91km±6km, mb3.9/22, mb1 4.1/26, mb1mx4.0/55, mbtmp4.3/26, MS3.1/15, Ms1 3.1/15, ms1mx2.8/100, Error ellipse: s-maj=17.1km s-min=7.6km az=174.0*
*MOS **20** 05:40:40.8±1.0,51˚.86N×178˚.59E, h110km, mb4.5/28, Error ellipse: s-maj=9.3km s-min=6.3km az=36.6*
*NEIC **20** 05:40:40.7±1.4,51˚.9N±0˚.1×178˚.53E±0˚.08, h96km±7km, mb4.5/165, ML4.6(AEIC), Error ellipse: s-maj=18.9km s-min=7.4km az=184.0*
*AEIC **20** 05:40:41±1.4, 51˚.8N±0˚.1×178˚.51E±0˚.08, h96km±5km, Error ellipse: s-maj=18.6km s-min=7.3km az=183.0*
ISC 20 05:40:41.7±0.5, 51˚.82N±0˚.09×178˚.61E±0˚.04, h113km, n431, σ1°18/361, mb4.5/121, 8C-12D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.58**	**90**			**Pn**	**05 41 07.8**	**-1.8**
GALAA	**Gareloi Lava P**	**1.63**	**91**			**Pn**	**05 41 08.7**	**-1.5**
GAEA	**Gareloi East**	**1.64**	**90**			**Pn**	**05 41 08.8**	**-1.6**
TASE	**Tanaga Southea**	**2.08**	**88**			**Pn**	**05 41 14.5**	**-1.4**
TAFP	**Tanaga Falls P**	**2.12**	**86**			**Pn**	**05 41 14.7**	**-1.6**
TAFP						**Sn**	**05 41 41.4**	**-1.3**
TAPA	**Tanaga Point A**	**2.22**	**89**			**Pn**	**05 41 16.2**	**-1.5**
KIMD	**Kanaga Island**	**2.58**	**90**			**Pn**	**05 41 20.9**	**-1.4**
KICM	**Kanaga Island**	**2.60**	**86**			**Pn**	**05 41 21.4**	**-1.1**
KIKV	**Kanaga Island**	**2.62**	**87**			**Pn**	**05 41 21.3**	**-1.4**
KIWB	**Kanaga Island**	**2.63**	**88**	Pn		**Pn**	**05 41 21.5**	**-1.4**
SHEM	**Shemya Is, Ala**	**2.92**	**290**	P		**Pn**	**05 41 24.0**	**-2.6**
	72nm,0.3s,baz=60,slow=3.4,SNR=68							
SHEM				S		**Sn**	**05 41 57.3**	**-3.9**
	441nm,0.3s,baz=270,slow=23,SNR=5.3							
SHEM				LR		LR	05 42 22.6	
	comp=Z,216nm,21.9s,baz=124,slow=36							
SMY	**Shemya**	**2.92**	**290**	Pn		**Pn**	**05 41 23.8**	**-2.9**
SMY	**Shemya**	**2.92**	**290**			**Sn**	**05 41 57.4**	**-3.8**
ADK	**Adak**	**2.92**	**87**	Pn		**Pn**	**05 41 25.1**	**-1.5**
GSCK	**Great Sitkin C**	**3.24**	**85**			**Pn**	**05 41 29.5**	**-1.5**
GSTD	**Great Sitkin T**	**3.26**	**84**			**Pn**	**05 41 29.4**	**-1.8**
GSTD						**Sn**	**05 42 07.7**	**-1.7**
GSTR	**Great Sitkin T**	**3.31**	**83**	Pn		**Pn**	**05 41 30.4**	**-1.5**
ATKA	**Atka Island**	**4.46**	**82**			**Pn**	**05 41 46.0**	**-1.2**
KOKL	**Mount Kliuchef**	**4.47**	**81**			**Pn**	**05 41 46.7**	**-0.7**
KOFP	**Korovin Flat P**	**4.53**	**81**			**Pn**	**05 41 47.7**	**-0.5**
NIKH	**Nikolski High**	**7.76**	**77**	Pn		**Pn**	**05 42 32.7**	**+0.9**
NIKH	**Nikolski High**	**7.76**	**77**	P		**Pn**	**05 42 32.7**	**+0.9**
	baz=270,SNR=9.3							
BKI	**Bering**	**8.26**	**299**	P		**Pn**	**05 42 37.6**	**-0.9**
SPIA	**Saint Paul Isl**	**8.41**	**46**	Pn		**Pn**	**05 42 42.2**	**+1.6**
SPIA	**Saint Paul Isl**	**8.41**	**46**	P		**Pn**	**05 42 42.0**	**+1.4**
	baz=237,SNR=10.0							
UNV	**Unalaska Valle**	**9.24**	**71**	Pn		**Pn**	**05 42 53.0**	**+1.2**
UNV	**Unalaska Valle**	**9.24**	**71**	P		**Pn**	**05 42 52.9**	**+1.2**
	baz=266							
KBTR	**Krutoberegovo**	**10.27**	**302**	P		**Pn**	**05 43 04.6**	**-1.2**
MKZ	**Mys Kozlova**	**10.49**	**292**	P		**Pn**	**05 43 06.9**	**-1.8**
TILK	**Tilichiki**	**11.07**	**326**	P		**Pn**	**05 43 17.7**	**+1.2**
FALS	**False Pass**	**11.16**	**67**	Pn		**Pn**	**05 43 20.1**	**+2.4**
FALS	**False Pass**	**11.16**	**67**	P		**Pn**	**05 43 18.9**	**+1.1**
	baz=264							
TUMR	**Tumrok**	**11.51**	**295**	P		**Pn**	**05 43 22.1**	**-0.4**
KII	**Karymskiy**	**11.77**	**288**	P		**Pn**	**05 43 26.0**	**+0.1**
SDLR	**Sedlovina**	**12.09**	**285**	P		**Pn**	**05 43 29.7**	**-0.5**
UGLR	**Uglekaya**	**12.13**	**284**	P		**Pn**	**05 43 30.1**	**-0.6**
SMAR	**Somma**	**12.14**	**285**	P		**Pn**	**05 43 31.3**	**+0.3**
KRER	**Koryakskii**	**12.17**	**285**	P		**Pn**	**05 43 31.7**	**+0.3**
AVH	**Avacha**	**12.18**	**285**	P		**Pn**	**05 43 31.3**	**-0.1**
KOK	**Koryaka**	**12.24**	**285**	P		**Pn**	**05 43 32.5**	**+0.3**
RUS	**Russkaya**	**12.36**	**281**	P		**Pn**	**05 43 33.2**	**-0.5**
MTVR	**Mutnovka**	**12.56**	**281**	P		**Pn**	**05 43 37.0**	**+0.6**
MTVR				S		Sn	05 45 44.0	-11
GRL	**Gorelyy**	**12.62**	**281**	P		**Pn**	**05 43 38.4**	**+1.2**
GNL	**Ganaly**	**12.65**	**287**	P		**Pn**	**05 43 38.3**	**+0.7**
KDTR	**Khodutka, Kamc**	**12.70**	**278**	P		**Pn**	**05 43 37.5**	**-0.6**
ASAK	**Asacha**	**12.74**	**281**	P		**Pn**	**05 43 40.1**	**+1.4**
PETK	**Petropavlovsk-**	**12.81**	**284**	P		**Pn**	**05 43 38.2**	**-1.3**
	1.0nm,0.3s,baz=98,slow=15,SNR=10							
PETK				S		Sn	05 45 50.5	-10
	0.8nm,0.3s,baz=121,slow=16,SNR=1.3							
PETK				LR		LR	05 48 04.4	
	comp=Z,86nm,21.7s,baz=99,slow=35							
SDPT	**Sand Point**	**12.91**	**66**	P		**Pn**	**05 43 38.9**	**-1.8**
	baz=264,SNR=6.9							
N18K	**Kilae Creek**	**16.62**	**48**	P		**P**	**05 44 29.4**	**+1.2**
N18K	**Kilae Creek**	**16.62**	**48**	P		**Pn**	**05 44 27.7**	**+0.1**
	baz=250							
O18K	**Koktuh Hills**	**16.67**	**51**	P		**P**	**05 44 29.1**	**+0.4**
	baz=254							
OHAK	**Old Harbor**	**17.11**	**61**	P		**P**	**05 44 32.5**	**-1.0**
	baz=265							
O19K	**Port Alsworth**	**17.19**	**50**	P		**P**	**05 44 34.2**	**-0.3**
	baz=254							
N19K	**Bonanza Creek**	**17.31**	**48**	P		**Pn**	**05 44 37.6**	**+1.4**
N19K				IAmb		IAmb	05 44 40.5	
	comp=Z,36nm,1.1s							
N19K	**Bonanza Creek**	**17.31**	**48**	P		**Pn**	**05 44 36.3**	**+0.2**
	baz=252,SNR=5.4							
BILL	**Bilibino**	**17.34**	**344**	*d* *i*P		**Pn**	**05 44 38.4**	**+2.1**
BILL				pmax		pmax		
	comp=Z,16nm,1.3s							
BILL	**Bilibino**	**17.34**	**344**			**Pn**	**05 44 37.3**	**+1.0**
MA2	**Magadan**	**17.40**	**307**	LR		LR	05 50 27.6	
	comp=Z,14nm,18.3s,baz=141,slow=34							
TTA	**Tatalina**	**17.50**	**41**	P		**Pn**	**05 44 39.1**	**+0.8**
TTA				pmax		pmax		
	comp=Z,22nm,1.1s							
TTA	**Tatalina**	**17.50**	**41**	P		**Pn**	**05 44 39.1**	**+0.8**
TTA	**Tatalina**	**17.50**	**41**	P		**Pn**	**05 44 38.3**	**0.0**
	baz=243,SNR=8.4							
KDAK	**Kodiak Island**	**17.56**	**59**	P		**P**	**05 44 36.1**	**-2.4**
	comp=Z,2.0nm,0.3s,baz=248,slow=2.7,SNR=39							
KDAK				LR		LR	05 50 56.3	
	comp=Z,90nm,20.6s,baz=245,slow=35							
KDAK	**Kodiak Island**	**17.56**	**59**	ǁ *e*P		**P**	**05 44 36.6**	**-1.9**
KDAK	**Kodiak Island**	**17.56**	**59**	IAmb		IAmb	05 44 57.0	
	comp=Z,47nm,1.2s							
KDAK	**Kodiak Island**	**17.56**	**59**	P		**Pn**	**05 44 38.8**	**-0.2**
	baz=264							
P19K	**Oil Pt**	**17.58**	**53**	P		**Pn**	**05 44 39.9**	**+0.6**
	baz=257							
L19K	**White Mountain**	**17.65**	**44**	P		**Pn**	**05 44 41.5**	**+1.4**
L19K	**White Mountain**	**17.65**	**44**	P		**P**	**05 44 39.7**	**+0.2**
	baz=247							
M19K	**Big River Lodg**	**17.74**	**45**	P		**Pn**	**05 44 43.2**	**+1.9**
M19K				IAmb		IAmb	05 45 09.4	
	comp=Z,39nm,1.4s							
M19K	**Big River Lodg**	**17.74**	**45**	P		**Pn**	**05 44 41.6**	**+0.3**
	baz=249							
SEY	**Seymchan**	**17.84**	**319**	ǁ *e*P		**Pn**	**05 44 38.6**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=358,slow=23,SNR=1.5							
SEY	**Seymchan**	**17.84**	**319**	ǁ *e*P		**Pn**	**05 44 43.9**	**+1.5**
RSO	**Redoubt South**	**18.02**	**50**	P		**Pn**	**05 44 45.7**	**+0.9**
GCSA	**Galena City Sc**	**18.10**	**35**	P		**Pn**	**05 44 45.6**	**+0.2**
	baz=237,SNR=8.6							
HOM	**Homer**	**18.36**	**53**	P		**Pn**	**05 44 48.4**	**-0.3**
	baz=259							
K20K	**Telida**	**18.48**	**41**	P		**Pn**	**05 44 49.7**	**-0.2**
	baz=245,SNR=7.0							
SPCR	**Spurr Chakacha**	**18.48**	**48**	P		**Pn**	**05 44 50.3**	**+0.1**
	baz=254,SNR=9.5							
J20K	**Nowinta River**	**18.82**	**38**	P		**Pn**	**05 44 53.5**	**-0.5**
J20K				IAmb		IAmb	05 44 56.5	
	comp=Z,13nm,0.8s							
J20K	**Nowinta River**	**18.82**	**38**	P		**Pn**	**05 44 53.5**	**-0.5**
	baz=242,SNR=12							
PPLA	**Purkeypile**	**19.07**	**43**	P		**Pn**	**05 44 56.7**	**-0.4**
	baz=249							
CAST	**Castle Rocks**	**19.31**	**42**	P		**Pn**	**05 44 59.5**	**-0.4**
	baz=248,SNR=7.0							
CHUM	**Lake Minchumin**	**19.41**	**40**	P		**Pn**	**05 45 00.3**	**-0.6**
	baz=246,SNR=19							
O22K	**Cooper Landing**	**19.48**	**51**	P		**P**	**05 45 00.0**	**+0.6**
	baz=259							
SEW	**Seward**	**19.53**	**52**	P		**P**	**05 44 59.8**	**-0.2**
	baz=260							
RC01	**Rabbit Creek A**	**19.61**	**49**	P		**P**	**05 45 00.7**	**-0.1**
	baz=257							
CUT	**Sulitna**	**19.73**	**45**	P		**P**	**05 45 03.3**	**+1.2**
	baz=253							
KTH	**Kantishna Hill**	**19.85**	**42**	P		**P**	**05 45 04.6**	**+1.2**
KTH				IAmb		IAmb	05 45 11.0	
	comp=Z,37nm,1.3s							
PMR	**Palmer**	**20.02**	**48**	P		**P**	**05 45 05.7**	**+0.5**
	baz=256							
BPAW	**Bear Paw Mtn.**	**20.03**	**40**	P		Pn	05 45 06.9	-1.3
	baz=247,SNR=9.7							
H21K	**Melozitna Rive**	**20.04**	**35**	P		**P**	**05 45 06.3**	**+0.8**
H21K				IAmb		IAmb	05 45 08.0	
	comp=Z,20nm,0.8s							
H21K	**Melozitna Rive**	**20.04**	**35**	P		**P**	**05 45 06.8**	**+1.3**
	baz=241,SNR=24							
TRF	**Thorofare Moun**	**20.07**	**43**	IAmb		IAmb	05 45 12.6	
	comp=Z,23nm,1.0s							
TRF	**Thorofare Moun**	**20.07**	**43**	P		**P**	**05 45 07.2**	**+1.2**
	baz=250,SNR=9.6							
I21K	**Tanana**	**20.11**	**37**	IAmb		IAmb	05 45 08.9	
	comp=Z,28nm,0.9s							
I21K	**Tanana**	**20.11**	**37**	P		Pn	05 45 07.7	-1.4
	baz=243,SNR=23							
PWL	**Port Wells**	**20.23**	**51**	P		**P**	**05 45 07.1**	**-0.4**
	baz=259,SNR=5.2							
KNK	**Knik Glacier**	**20.29**	**49**	P		**P**	**05 45 08.1**	**-0.1**
	baz=258,SNR=5.3							
SML	**Sawmill**	**20.44**	**48**	P		**P**	**05 45 09.9**	**+0.1**
	baz=257							
M23K	**Glacier View**	**20.72**	**48**	P		**P**	**05 45 12.3**	**-0.5**
	baz=258							
MCK	**McKinley**	**20.74**	**42**	P		**P**	**05 45 13.3**	**+0.3**
MCK				pmax		pmax		
	comp=Z,12nm,0.8s							
MCK	**McKinley**	**20.74**	**42**	P		**P**	**05 45 13.3**	**+0.3**
	baz=251							
GLI	**Glacier Island**	**20.82**	**51**	P		**P**	**05 45 13.8**	**-0.2**
	baz=261							
WAT6	**Susitna Watana**	**20.91**	**46**	P		**P**	**05 45 14.6**	**-0.3**
	baz=255,SNR=9.7							
SCM	**Sheep Creek Mo**	**20.91**	**48**	P		**P**	**05 45 14.5**	**-0.4**
	baz=258							
Q23K	**Middleton Isla**	**20.99**	**55**	P		**P**	**05 45 16.4**	**+0.7**
	baz=265							
NEA2	**Nenana**	**20.99**	**40**	IAmb		IAmb	05 45 40.7	
	comp=Z,21nm,0.9s							
NEA2	**Nenana**	**20.99**	**40**	P		**P**	**05 45 15.5**	**-0.2**
	baz=249,SNR=7.9							
I23K	**Minto, Yukon-K**	**21.10**	**39**	P		**P**	**05 45 16.9**	**+0.1**
	baz=247							
FID	**Port Fidalgo**	**21.10**	**51**	IAmb		IAmb	05 45 18.3	
	comp=Z,39nm,0.9s							
DHY	**Denali Highway**	**21.20**	**45**	IAmb		IAmb	05 45 43.5	
	comp=Z,25nm,0.6s							
DHY	**Denali Highway**	**21.20**	**45**	P		**P**	**05 45 18.5**	**+0.4**
	baz=255,SNR=14							
H23K	**Yukon River**	**21.31**	**37**	P		**P**	**05 45 19.3**	**+0.2**
H23K	**Yukon River**	**21.31**	**37**	P		**P**	**05 45 19.3**	**+0.2**
	baz=245,SNR=10							
EYAK	**Cordova Ski Ar**	**21.43**	**52**	IAmb		IAmb	05 45 24.5	
	comp=Z,32nm,1.0s							
EYAK	**Cordova Ski Ar**	**21.43**	**52**	P		**P**	**05 45 20.8**	**+0.5**
	baz=263							
MDM	**Murphy Dome**	**21.46**	**40**	IAmb		IAmb	05 45 47.0	
	comp=Z,17nm,0.8s							
KLU	**Klutina**	**21.50**	**49**	P		**P**	**05 45 21.2**	**0.0**
	baz=260							
M24K	**Tolsona, Glenn**	**21.50**	**48**	P		**P**	**05 45 22.5**	**+1.3**
M24K	**Tolsona, Glenn**	**21.50**	**48**	P		**P**	**05 45 21.4**	**+0.2**
	baz=258							
TCOL	**CIGO, UAF Yank**	**21.58**	**40**	P		**P**	**05 45 21.6**	**-0.3**
	baz=250							
COLA	**College**	**21.58**	**40**	ǁ *e*P		**P**	**05 45 22.5**	**+0.6**
COLA	**College**	**21.58**	**40**	P		**P**	**05 45 21.6**	**-0.3**
	baz=250							
POKR	**Poker Plat Res**	**21.84**	**39**	P		**P**	**05 45 24.1**	**-0.6**
	baz=250							
ILAR	**Eielson Array**	**21.93**	**41**	P		**P**	**05 45 23.7**	**-2.0**
	comp=Z,2.8nm,0.7s,baz=239,slow=7.7,SNR=26							
ILAR	**Eielson Array**	**21.93**	**41**	*e*P		**P**	**05 45 26.2**	**+0.5**
ILAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
H24K	**Noodor Dome**	**21.94**	**37**	P		**P**	**05 45 25.7**	**-0.1**
	baz=247,SNR=14							
KAIM	**Kayak Island**	**22.01**	**54**	P		**P**	**05 45 27.9**	**+1.3**
	baz=266							
PAX	**Paxson**	**22.02**	**46**	P		**P**	**05 45 26.6**	**-0.1**
	baz=257,SNR=9.3							
HARP	**HAARP**	**22.03**	**47**	P		**P**	**05 45 26.3**	**-0.4**
	baz=259							
BMRM	**Bremner River**	**22.04**	**51**	P		**P**	**05 45 27.0**	**+0.1**
	baz=263							
K24K	**Donnelly Dome**	**22.10**	**43**	P		**P**	**05 45 27.0**	**-0.4**
	baz=255							
N25K	**Chitina, Valde**	**22.14**	**49**	P		**P**	**05 45 28.1**	**+0.1**
	baz=261							
RIDG	**Independent Ri**	**22.48**	**44**	P		**P**	**05 45 31.5**	**+0.1**
	baz=256,SNR=9.7							
J25K	**Salcha River,**	**22.50**	**41**	P		**P**	**05 45 30.5**	**-1.1**
	baz=253							
TOLK	**Toolik Lake Re**	**22.67**	**30**	P		**P**	**05 45 33.4**	**+0.2**
TOLK				IAmb		IAmb	05 45 36.1	
	comp=Z,14nm,0.8s							
TOLK	**Toolik Lake Re**	**22.67**	**30**	P		**P**	**05 45 33.3**	**+0.1**
	baz=239,SNR=15							
MCARA	**McCarthy VSAT**	**22.85**	**50**	P		**P**	**05 45 36.1**	**+1.1**
	baz=264,SNR=12							
SCRK	**Sand Creek**	**22.91**	**44**	P		**P**	**05 45 35.1**	**-0.6**
	baz=256,SNR=6.8							
L26K	**Log Cabin Wild**	**22.97**	**46**	P		**P**	**05 45 36.3**	**+0.1**
	baz=259,SNR=12							
M26K	**Nabesna, AK**	**23.02**	**48**	P		**P**	**05 45 37.0**	**+0.3**
	baz=261							
J26L	**Joseph Creek**	**23.22**	**42**	P		**P**	**05 45 37.6**	**-0.9**
	baz=256,SNR=18							
M27K	**Edge Creek, AK**	**23.52**	**48**	P		**P**	**05 45 42.7**	**+1.3**
	baz=262,SNR=8.7							
CTG	**Chitina Glacier**	**23.62**	**52**	P		**P**	**05 45 42.5**	**+0.2**
	baz=266,SNR=12							
L27K	**Beaver Creek,**	**23.66**	**46**	P		**P**	**05 45 43.0**	**+0.4**
L27K				IAmb		IAmb	05 45 45.9	
	comp=Z,16nm,0.7s							
L27K	**Beaver Creek,**	**23.66**	**46**	P		**P**	**05 45 42.9**	**+0.3**
	baz=261,SNR=27							
YSS	**Yuzh-Sakhalins**	**23.68**	**272**	*e*P		**P**	**05 45 44.5**	**+1.7**
YSS				pmax		pmax		
	comp=Z,30nm,1.1s							
YSS	**Yuzh-Sakhalins**	**23.68**	**272**	P		**P**	**05 45 43.8**	**+1.0**
BVCY	**Beaver Creek**	**24.00**	**48**	P		**P**	**05 45 46.2**	**+0.6**
	baz=263,SNR=8.4							
PINM	**Pinnacle**	**24.11**	**54**	P		**P**	**05 45 46.1**	**-0.6**
	baz=269							
YUK3	**Moose Creek**	**24.12**	**50**	P		**P**	**05 45 46.5**	**-0.4**
	baz=265,SNR=33							
EGAK	**Eagle**	**24.29**	**42**	IAmb		IAmb	05 45 49.7	
	comp=Z,16nm,0.8s							
EGAK	**Eagle**	**24.29**	**42**	P		**P**	**05 45 48.6**	**+0.5**
	baz=258							
PNL	**Peninsula**	**24.54**	**55**	P		**P**	**05 45 50.6**	**+0.1**
	baz=271

H11N2 **WAKE ISLAND Hy** 33.32 200 T T 06 22 49.6
baz=11,slow=76,SNR=46
H11N3 **WAKE ISLAND Hy** 33.33 200 T T 06 22 48.1
baz=11,slow=76,SNR=63
H11N1 **WAKE ISLAND Hy** 33.33 200 T T 06 22 47.5
baz=11,slow=76,SNR=60
JGF **Kuroka** 33.42 257 P P **05 47 09.5 0.0**
BNX **BinXian** 33.69 280 ⇑P P **05 47 10.8 -0.9**
BNX pmax pmax
comp=Z,28nm,0.8s
BNX pmax pmax
comp=Z,170nm,4.5s
H11S1 **WAKE ISLAND Hy** 34.54 200 T T 06 24 20.7
baz=9.9,slow=79
H11S2 **WAKE ISLAND Hy** 34.56 200 T T 06 24 13.9
baz=9.9,slow=79
H11S3 **WAKE ISLAND Hy** 34.56 200 T T 06 24 21.9
baz=9.9,slow=79
YKA **Yellowknife Ar** 36.10 46 P P **05 47 32.7 +0.5**
comp=Z,2.0nm,0.5s,baz=284,slow=7.8,SNR=44
YKA ScP **ScP** **05 53 31.2 +0.1**
comp=Z,0.2nm,0.5s,baz=288,slow=3.5,SNR=4.3
D03D **Eldon** 37.10 73 P P **05 47 41.0 +0.2**
baz=300,SNR=5.1
B05A **Bryant** 37.34 71 P P **05 47 43.6 +0.8**
baz=299
E04D **Cinebar** 37.89 74 P P **05 47 48.0 +0.5**
baz=301
KSRS **Korea Array** 38.02 268 P P **05 47 49.6 +0.9**
comp=Z,4.0nm,0.8s,baz=54,slow=8.9,SNR=11
KSRS **Korea Array** 38.02 268 *e*P P **05 47 50.4 +1.7**
KSRS pmax pmax
comp=Z,4.0nm,0.8s
H04D **Lebanon** 38.84 77 P P **05 47 56.4 +0.9**
baz=303
B08A **Colville Reser** 38.91 70 IAmb IAmb 05 47 57.6
comp=Z,7.8nm,1.2s
I03D **Drain, OR** 38.92 78 P P **05 47 56.6 +0.5**
baz=304
TJN **Taejon** 39.05 267 *de*P P **05 47 58.6 +1.3**
H04A **Detroit Lake** 39.09 76 IAmb IAmb 05 48 00.1
comp=Z,4.0nm,0.7s
K02D **Willamette Mer** 39.28 80 P P **05 48 00.7 +1.5**
baz=305
G05D **Wamic, OR** 39.32 75 P P **05 48 00.7 +1.2**
baz=303
L02E **Cave Junction** 39.62 81 P P **05 48 03.8 +1.8**
baz=305
I05D **Terrebonne, OR** 39.79 76 P P **05 48 04.7 +1.2**
baz=304
J04D **Umpqua Nationa** 39.92 78 P P **05 48 05.8 +1.1**
baz=304
NEW **Newport** 40.24 69 LR LR 06 05 28.4
comp=Z,34nm,18.1s,baz=292,slow=37
NEW **Newport** 40.24 69 P P **05 48 07.2 +0.1**
NEW pmax pmax
comp=Z,6.0nm,0.6s
NEW **Newport** 40.24 69 IAmb IAmb 05 48 07.9
comp=Z,3.8nm,0.6s
NEW **Newport** 40.24 69 P P **05 48 06.7 -0.4**
baz=301,SNR=9.3
L04D **Klamath Falls** 40.38 80 P P **05 48 09.3 +0.9**
baz=306
YBH **Yreka Blue Hor** 40.41 81 IAmb IAmb 05 48 12.0
comp=Z,4.4nm,0.6s
J05D **Fort Rock, OR** 40.43 78 P P **05 48 10.0 +1.1**
baz=305
K04D **Chiloquin, OR** 40.48 79 P P **05 48 10.1 +0.8**
baz=305
M02C **Callahan** 40.52 81 P P **05 48 11.4 +1.9**
baz=306
KMRM **Mail Ridge** 40.68 83 P P **05 48 13.4 +2.6**
KMRM IAmb IAmb 05 48 14.4
comp=Z,5.3nm,0.7s
N02D **Trinity Center** 40.85 81 IAmb IAmb 05 48 15.8
comp=Z,3.9nm,0.6s
N02D **Trinity Center** 40.85 81 P P **05 48 13.8 +1.5**
baz=307,SNR=5.3
M04C **Macdoel** 40.91 80 P P **05 48 14.0 +1.2**
baz=306,SNR=10
O02D **Mt. Diablo Mer** 41.27 83 P P **05 48 17.0 +1.3**
baz=307
XLT **XiLinHaoTe** 41.52 285 *e*P P **05 48 14.6 -3.1**
XLT pP pP 05 48 34.8 -8.6
XLT sP sP 05 48 50.4 -5.8
XLT PcP **PcP** **05 50 15.8 +2.8**
XLT S **S** **05 54 23.3 -1.5**
XLT sS sS 05 54 58.6 -10
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,120nm,5.3s
XLT LR LR
comp=N,24nm,14.3s
XLT LR LR
comp=E,470nm,16.8s
WALA **Waterton Lakes** 41.68 66 P P **05 48 19.2 +0.2**
WALA IAmb IAmb 05 48 20.4
comp=Z,5.3nm,0.7s
MOD **Modoc Plateau** 41.78 79 IAmb IAmb 05 48 22.4
comp=Z,3.2nm,0.6s
O03E **Paynes Creek** 41.81 82 IAmb IAmb 05 48 21.9
comp=Z,5.9nm,0.6s
O03E **Paynes Creek** 41.81 82 P P **05 48 21.2 +1.1**
baz=307,SNR=5.7
JTMT **Jette** 42.14 68 P P **05 48 22.8 +0.1**
JTMT IAmb IAmb 05 48 23.3
comp=Z,3.9nm,0.5s
WVOR **Wild Horse Val** 42.48 77 P P **05 48 26.8 +1.2**
WVOR pmax pmax
comp=Z,5.0nm,0.5s
MSO **Missoula** 42.82 69 IAmb IAmb 05 48 28.5
comp=Z,4.6nm,0.5s
MSO **Missoula** 42.82 69 P P **05 48 27.7 -0.6**
baz=303,SNR=11
BEKR **Beckworth** 42.95 81 IAmb IAmb 05 48 31.5
comp=Z,4.2nm,0.5s
NRIK **Noril'sk** 43.20 329⇑ *e*P P **05 48 30.8 -0.1**
NRIK pmax pmax
comp=Z,2.0nm,0.8s
PAHR **Pah Rah Range** 43.64 81 IAmb IAmb 05 48 37.5
comp=Z,4.5nm,0.6s
EMB **Emerald Bay** 43.65 82 P P **05 48 36.2 +1.1**
EMB IAmb IAmb 05 48 37.7
comp=Z,4.6nm,0.6s
VCNR **Virginia City** 43.73 81 IAmb IAmb 05 48 40.5
comp=Z,7.0nm,0.6s
YERR **Yerington** 44.17 81 IAmb IAmb 05 48 43.7
comp=Z,4.6nm,0.7s
HLID **Hailey** 44.37 73 P P **05 48 41.3 +0.5**
baz=306
EGMT **Eagleton** 44.57 65 P P **05 48 42.4 +0.2**
baz=304
ULN **Ulaanbaatar** 44.61 295⇑ *e*P P **05 48 43.3 +0.7**
ULN pmax pmax
comp=Z,3.0nm,1.0s
KVN **Kaiserville** 44.83 81 IAmb IAmb 05 48 46.9
comp=Z,4.1nm,0.5s
RYN **Ryan** 44.83 81 IAmb IAmb 05 48 46.7
comp=Z,6.5nm,0.5s
BOZ **Bozeman (W)** 44.84 69 IAmb IAmb 05 48 45.1
comp=Z,7.6nm,0.6s
BOZ **Bozeman (W)** 44.84 69 P P **05 48 44.3 -0.2**
baz=305,SNR=21
SONM **Songino Array** 45.00 295 P P **05 48 46.5 +0.8**
comp=Z,3.2nm,0.7s,baz=62,slow=9.7,SNR=10
LHV **Little Huntoon** 45.08 82 IAmb IAmb 05 48 49.4
comp=Z,9.4nm,1.4s
NVAR **Mina Array Bea** 45.09 81 P P **05 48 47.8 +1.1**
comp=Z,4.9nm,0.6s,baz=299,slow=7.3,SNR=71
NVAR PcP **PcP** **05 50 25.9 +0.5**
comp=Z,0.8nm,0.8s,baz=287,slow=3.7,SNR=1.9
NVAR ScP **ScP** **05 54 08.9 +1.7**
comp=Z,0.3nm,0.7s,baz=271,slow=5.0,SNR=4.4
MDPB **Devils Postpil** 45.12 83 IAmb IAmb 05 48 49.9
comp=Z,4.4nm,0.6s
OMMB **Old Mammoth Mi** 45.17 83 P P **05 48 47.5 +0.1**
NV11 **Mina Array Sit** 45.18 81 IAmb IAmb 05 48 49.8
comp=Z,3.5nm,0.6s
TIA **Tai'an** 45.51 275 ⇓P P **05 48 50.8 +1.1**
TIA pmax pmax
comp=Z,15nm,0.9s
YHL **Hebgen Lake** 45.53 70 IAmb IAmb 05 48 50.9
comp=Z,3.5nm,0.5s
ELK **Elko** 45.54 77 LR LR 06 05 51.6
comp=Z,34nm,18.2s,baz=302,slow=33
ELK **Elko** 45.54 77 IAmb IAmb 05 48 52.0
comp=Z,3.5nm,0.6s
YHH **Holmes Hill** 45.76 70 IAmb IAmb 05 48 52.7
comp=Z,4.8nm,0.6s
TPH **Tonopah** 45.98 81 P P **05 48 54.5 +0.9**
TPH pmax pmax
comp=Z,26nm,0.6s
TPH **Tonopah** 45.98 81 P P **05 48 54.5 +0.9**
HHC **Hu-ho-hao-te** 46.01 284 *e*P P **05 48 52.8 -0.9**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,81nm,4.9s
H17A **Grant Village** 46.14 70 IAmb IAmb 05 48 57.2
comp=Z,3.9nm,0.6s
H17A **Grant Village** 46.14 70 P P **05 48 55.8 +0.9**
baz=306,SNR=7.2
HNS **HongShan** 46.24 278 ⇑P P **05 48 56.8 +1.5**
HNS pmax pmax
comp=Z,13nm,0.7s
VES **Vestal, Richgr** 46.26 85 P P **05 48 56.8 +1.3**
baz=311
HVU **Hansel Valley** 46.39 74 IAmb IAmb 05 48 58.2
comp=Z,7.0nm,0.5s
PKM **Mcpherson Peak** 46.43 86 P P **05 48 57.2 +0.1**
baz=312
RLMT **Red Lodge** 46.48 68 P P **05 48 57.7 +0.2**
RLMT **Red Lodge** 46.48 68 P P **05 48 57.5 0.0**
baz=306
CWC **Cottonwood Cre** 46.49 83 P P **05 48 58.7 +1.1**
baz=311
ISA **Isabella, Lake** 46.75 85 P P **05 49 00.6 +1.1**
baz=311
R11A **Troy Canyon, C** 46.81 80 IAmb IAmb 05 49 01.6
comp=Z,3.4nm,0.5s
R11A **Troy Canyon, C** 46.81 80 P P **05 49 00.5 +0.5**
baz=310,SNR=10
MPMC **Manual Prospec** 47.10 83 P P **05 49 03.0 +0.6**
baz=311,SNR=7.9
FURC **Furnace Creek,** 47.22 83 P P **05 49 04.0 +1.0**
baz=311,SNR=7.8
TPNV **Topopah Spring** 47.29 82 IAmb IAmb 05 49 06.2
comp=Z,3.9nm,0.7s
TPNV **Topopah Spring** 47.29 82 P P **05 49 04.8 +1.0**
baz=311,SNR=14
LAO **LASA Array** 47.31 65 P P **05 49 03.4 -0.2**
baz=306
DUG **Dugway, Tooele** 47.34 76 P P **05 49 05.1 +1.0**
DUG pmax pmax
comp=Z,11nm,0.5s
DUG **Dugway, Tooele** 47.34 76 P P **05 49 04.7 +0.6**
baz=309,SNR=14
GWY **Greenwater Val** 47.52 83 IAmb IAmb 05 49 07.9
comp=Z,4.0nm,0.7s
BW06 **Boulder Array** 47.70 71 IAmb IAmb 05 49 07.9
comp=Z,3.6nm,0.6s
BW06 **Boulder Array** 47.70 71 P P **05 49 06.9 -0.1**
baz=308,SNR=7.7
PD31 **Pinedale Array** 47.70 71 IAmb IAmb 05 49 07.9
comp=Z,3.1nm,0.6s
PDAR **Pinedale Array** 47.70 71 P P **05 49 06.8 -0.1**
comp=Z,3.1nm,0.5s,baz=314,slow=3.4,SNR=49
PRN **Pahroc Range** 47.73 80 IAmb IAmb 05 49 09.6
comp=Z,4.4nm,0.6s
PSUT **Pine Spring** 47.74 78 IAmb IAmb 05 49 08.8
comp=Z,5.2nm,0.5s
SHOC **Shoshone, Teco** 47.95 83 P P **05 49 09.6 +0.9**
baz=311,SNR=10
GSC **Goldstone, Bar** 48.02 84 P P **05 49 09.9 +0.6**
GSC pmax pmax
comp=Z,8.0nm,0.6s
GSC **Goldstone, Bar** 48.02 84 P P **05 49 09.9 +0.6**
GSC IAmb IAmb 05 49 11.8
comp=Z,7.9nm,0.6s
GSC **Goldstone, Bar** 48.02 84 P P **05 49 10.3 +1.0**
baz=312,SNR=14
TUQ **Turquise Moun** 48.47 83 P P **05 49 13.8 +1.0**
baz=312
HEC **Hector,Ludlow** 48.62 84 P P **05 49 14.9 +1.0**
baz=312
TMUT **Trail Mountain** 48.86 76 IAmb IAmb 05 49 18.2
comp=Z,6.0nm,0.6s
P17A **Butcher Ranch,** 49.03 75 IAmb IAmb 05 49 18.9
comp=Z,2.7nm,0.7s
RDMU **Red Mountain** 49.05 73 IAmb IAmb 05 49 47.3
comp=Z,5.6nm,0.8s
GMRC **Granite Mounta** 49.06 83 P P **05 49 18.4 +1.0**
baz=312,SNR=9.0
Q16A **Castle Valley** 49.13 76 IAmb IAmb 05 49 19.8
comp=Z,4.1nm,0.6s
P18A **Preston Nutter** 49.23 75 IAmb IAmb 05 49 22.2
comp=Z,2.7nm,0.6s
KNB **Kanab** 49.34 79 IAmb IAmb 05 49 21.7
comp=Z,3.3nm,0.5s
PFO **Pinyon Flats O** 49.35 85 P P **05 49 19.6 0.0**
baz=313
TPFO **Pinon Flats** 49.35 85 P P **05 49 20.2 +0.6**
baz=313
BELC **Belle Mtn. Jos** 49.37 84 P P **05 49 19.9 +0.1**
baz=313,SNR=6.6
SRU **San Rafael Swe** 49.39 76 IAmb IAmb 05 49 21.9
comp=Z,4.5nm,0.5s
K22A **Casper** 49.55 69 P P **05 49 20.8 -0.2**
baz=309
IRM **Iron Mountain** 49.80 84 P P **05 49 23.6 +0.8**
baz=313
MONP2 **Monument Peak** 49.85 86 P P **05 49 24.0 +0.5**
baz=313
BC3 **Big Chuckawall** 49.94 84 P P **05 49 24.3 +0.3**
baz=313
W13A **Hualapai Mount** 49.95 82 IAmb IAmb 05 49 26.6
comp=Z,2.7nm,0.7s
RSSD **Black Hills** 50.07 66 P P **05 49 23.8 -1.3**
baz=308
O20A **White River Ci** 50.11 73 IAmb IAmb 05 49 52.4
comp=Z,5.2nm,0.8s
O20A **White River Ci** 50.11 73 P P **05 49 24.9 -0.4**
baz=310,SNR=6.6
IKP **In-Ko-Pah, Jac** 50.21 86 P P **05 49 26.5 +0.4**
baz=314
MDND **Maddock** 50.27 60 P P **05 49 23.4 -2.7**
baz=308
PDMCI **Parker Dam,Lak** 50.32 83 P P **05 49 27.4 +0.7**
baz=313
GLA **Glamis** 50.73 84 P P **05 49 31.2 +1.2**
baz=313
N23A **Red Feather La** 50.98 71 P P **05 49 31.3 -0.7**
baz=310
WUAZ **Wupatki** 51.21 80 P P **05 49 34.7 +1.1**
baz=312
Y14A **Wickenburg** 51.26 82 IAmb IAmb 05 49 35.8
comp=Z,1.9nm,0.5s
ISCO **Idaho Springs** 51.88 72 P P **05 49 39.3 +0.6**
baz=311
X16A **Lo Mia Camp, P** 51.90 81 IAmb IAmb 05 49 41.4
comp=Z,2.5nm,0.6s
AGMN **Agassiz Nation** 51.98 58 P P **05 49 38.7 -0.3**
baz=309
S22A **4UR Ranch, Cre** 52.49 74 P P **05 49 44.0 +0.8**
baz=312
ZALV **Zalesovo Beam** 52.54 312 PcP **PcP** **05 50 53.0 +1.3**
comp=Z,1.0nm,0.7s,baz=18,slow=5.0,SNR=2.2
214A **Organ Pipe Nat** 52.72 84 P P **05 49 45.5 +0.7**
baz=314
SUSD **Miller** 52.73 63 P P **05 49 45.2 +0.6**
baz=310
X18A **Snowflake** 52.74 80 IAmb IAmb 05 49 47.1
comp=Z,3.8nm,0.5s
SDCO **Great Sand Dun** 53.28 74 P P **05 49 49.2 +0.2**
baz=312
FRB **Frobisher Bay** 53.48 31 P P **05 49 49.9 +0.2**
FRB pmax pmax
comp=Z,7.0nm,0.8s
LZH **Lanzhou** 53.71 284 *e*P P **05 49 53.5 +1.5**
LZH pP P 05 49 58.1 +6.1
LZH pmax pmax
comp=Z,21nm,1.4s
TUC **Tucson** 53.73 82 P P **05 49 52.9 +0.8**
baz=314
GTA **Gaotai** 53.90 290 ⇑P P **05 49 54.3 +1.0**
GTA pP P 05 50 00.0 +6.7
GTA sP P 05 50 03.8 +10
GTA pmax pmax
comp=Z,7.0nm,0.9s
KSCO **Kaye Shedlock'** 54.14 71 P P **05 49 55.5 +0.4**
baz=312
T25A **Trinidad** 54.33 73 P P **05 49 56.9 +0.3**
baz=312
EYMN **Ely** 54.47 56 P P **05 49 56.7 -0.5**
baz=311
ECSD **EROS Data Cent** 54.47 62 P P **05 49 56.5 -0.8**
baz=311
ANMO **Albuquerque** 54.58 77 LR LR 06 10 11.7
comp=Z,13nm,20.0s,baz=293,slow=32
121A **Cookes Peak, D** 55.42 80 IAmb IAmb 05 50 06.8
comp=Z,2.9nm,0.7s
121A **Cookes Peak, D** 55.42 80 P P **05 50 05.1 +0.7**
baz=314
SPMN **Marine on St.** 55.56 59 P P **05 50 04.3 -0.7**
baz=312
CBKS **Cedar Bluff** 55.96 69 P P **05 50 07.4 -0.6**
baz=313
ARCES **ARCESS Array B** 57.37 349 P P **05 50 16.6 -0.8**
comp=Z,1.2nm,0.6s,baz=35,slow=7.8,SNR=8.3
ARCES **ARCESS Array B** 57.37 349 *e*P P **05 50 19.6 +2.1**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
MNTX **Cornudas Mount** 57.46 79 P P **05 50 19.0 +0.2**
baz=315,SNR=6.3
MSTX **Muleshoe** 57.46 75 IAmb IAmb 05 50 20.1
comp=Z,3.3nm,0.6s
MSTX **Muleshoe** 57.46 75 P P **05 50 18.2 -0.6**
baz=314
AMTX **Amarillo** 57.48 74 P P **05 50 18.5 -0.4**
baz=314
KURK **Kurchatov** 57.53 312 *ce*P P **05 50 19.4 +0.5**
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURK **Kurchatov** 57.53 312 P P **05 50 19.1 +0.2**
KURK IAmb IAmb 05 50 45.8
comp=Z,7.0nm,0.9s
SCIA **State Center** 57.56 62 P P **05 50 19.1 -0.1**
baz=313
KSU1 **Kansas State U** 57.56 67 P P **05 50 18.2 -1.1**
baz=314
WMQ **Urumqi** 57.74 301 *e*P P **05 50 20.9 +0.3**
JFWS **Jewell Farm** 58.48 60 P P **05 50 24.5 -1.1**
baz=314
MK31 **Makanchi Array** 58.48 307 *d i*P P **05 50 25.6 -0.1**
MK31 **Makanchi Array** 58.48 307 P P **05 50 25.5 -0.2**
MKAR **Makanchi Array** 58.48 307 P P **05 50 25.6 -0.1**
comp=Z,1.9nm,0.7s,baz=51,slow=8.0,SNR=19
MKAR pP **pP** **05 50 47.8 -5.0**
comp=Z,1.9nm,0.8s,baz=50,slow=9.7,SNR=5.8
GOMU **GeErMu** 58.98 290 P P **05 50 29.6 -0.1**
GOMU pP P 05 50 34.0 +4.3
GOMU sP P 05 50 35.8 +6.1
GOMU pmax pmax
comp=Z,3.0nm,0.7s
GOMU pmax pmax
comp=Z,78nm,5.8s
E46A **Sault Ste Mari** 59.16 53 IAmb IAmb 05 50 32.1
comp=Z,4.4nm,0.8s
WMOK **Wichita Mounta** 59.30 72 P P **05 50 31.7 +0.2**
WMOK pmax pmax
comp=Z,2.0nm,0.7s
WMOK **Wichita Mounta** 59.30 72 P P **05 50 31.4 -0.1**
baz=315
BRVK **Borovoye** 59.51 318 *de*P P **05 50 33.7 +1.1**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK **Borovoye** 59.51 318 P P **05 50 32.8 +0.2**
W35A **Tecumseh** 60.13 70 P P **05 50 37.4 +0.3**
TX32 **Lajitas Array** 60.17 80 IAmb IAmb 05 50 39.3
comp=Z,3.2nm,0.6s
TXAR **Lajitas Array** 60.17 80 P P **05 50 38.4 +0.8**
comp=Z,2.6nm,0.5s,baz=308,slow=5.1,SNR=72
TXAR pP **pP** **05 50 59.0 -5.9**
comp=Z,0.7nm,0.5s,baz=316,slow=5.1,SNR=2.9
TUL1 **Leonard** 60.23 69 P P **05 50 38.3 +0.5**
baz=315
HDIL **Hopedale** 60.63 61 P P **05 50 40.1 -0.3**
baz=315
SCHQ **Schefferville** 60.64 37 P P **05 50 40.2 -0.1**
comp=Z,1.7nm,0.6s,baz=298,slow=6.7,SNR=7.3
SCHQ pP **pP** **05 51 04.3 -3.4**
comp=Z,2.9nm,0.9s,baz=315,slow=8.6,SNR=3.3
SCHQ **Schefferville** 60.64 37 P P **05 50 40.2 -0.1**
CCM **Cathedral Cave** 61.31 64 P P **05 50 44.1 -0.9**
baz=316
ARU **Arti** 61.36 327 *d i*P P **05 50 46.6 +1.5**
ARU 05 51 25.3
ARU 05 52 59.4
ARU S **S** **05 59 01.5 +5.0**
ARU SS **SS** **06 02 58.8 +0.9**
ARU pmax pmax
comp=Z,7.0nm,0.7s
U40A **Yellville** 61.60 67 IAmb IAmb 05 50 48.4
comp=Z,4.8nm,0.8s
U40A **Yellville** 61.60 67 P P **05 50 45.4 -1.7**
baz=316,SNR=5.8
JCT **Junction City** 61.70 76 P P **05 50 47.0 -0.8**
baz=316
W39A **Magazine** 61.89 68 IAmb IAmb 05 50 49.9
comp=Z,3.5nm,0.7s
W39A **Magazine** 61.89 68 P P **05 50 49.0 0.0**
baz=316
SFIN **Lafayette** 61.94 60 P P **05 50 48.4 -0.8**
baz=316,SNR=5.7
WHTX **Lake Whitney,** 62.02 73 P P **05 50 50.3 +0.4**
baz=316
DAV **Davao City (W)** 62.20 244 LR LR 06 20 29.4
comp=Z,8.6nm,18.2s,baz=178,slow=38
PBMO **Poplar Bluff** 62.67 65 IAmb IAmb 05 50 54.4
comp=Z,4.2nm,0.7s
WHAR **Wooly Hollow** 62.69 67 P P **05 50 53.7 -0.6**
WHAR IAmb IAmb 05 50 55.1
comp=Z,8.7nm,1.3s
W41B **Gary Mavity, V** 62.79 67 P P **05 50 54.3 -0.7**
baz=316,SNR=8.5
X40A **Basin Creek Fa** 62.95 68 P P **05 50 56.9 +0.8**
baz=316
O48B **Farmland** 63.06 59 P P **05 50 55.3 -1.4**
baz=317
833A **Chaparral WMA,** 63.50 77 P P **05 50 59.8 0.0**
baz=317
P49A **Miami Univ. Ec** 63.81 59 P P **05 51 00.5 -1.2**
baz=317
NATX **Nacogdoches** 63.84 71 P P **05 51 02.5 +0.6**
baz=317
KDJ **Kajisay** 64.37 306 IAmb IAmb 05 51 07.2
comp=Z,3.9nm,0.7s
WVT **Waverly** 64.59 63 P P **05 51 06.4 -0.4**
baz=317
OXF **Oxford** 64.88 66 P P **05 51 08.4 -0.3**
baz=317,SNR=6.3
FINES **FINESS Array B** 64.98 346 P P **05 51 07.8 -1.0**
comp=Z,2.1nm,0.9s,baz=338,slow=8.2,SNR=4.4
FINES **FINESS Array B** 64.98 346 *e*P P **05 51 10.0 +1.1**
FINES pmax pmax
comp=Z,2.0nm,0.9s
O53A **New Philadelph** 65.12 56 P P **05 51 09.1 -1.1**
baz=318
AAK **Ala-Archa** 65.33 308 ⇓ *e*P P **05 51 13.1 +1.4**
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK **Ala-Archa** 65.33 308 P P **05 51 12.6 +0.9**
CLTN **Cedars of Leba** 65.45 62 IAmb IAmb 05 51 14.0
comp=Z,5.2nm,0.7s
T50A **Nancy** 65.58 61 IAmb IAmb 05 51 13.9
comp=Z,3.7nm,0.6s
LSA **Lhasa** 65.77 288 P P **05 51 17.2 +2.1**
LSA pmax pmax
comp=Z,8.0nm,0.8s
BINY **Binghamton** 66.28 51 P P **05 51 16.5 -1.1**
baz=320
AKTO **Aktyubinsk** 66.37 323 LR LR 06 21 58.3
comp=Z,18nm,20.8s,baz=42,slow=37
SSPA **Standing Stone** 66.53 54 P P **05 51 18.6 -0.5**
baz=319
ABKAR **Akbulak array** 66.59 321 P P **05 51 20.6 +1.2**
KK31 **Karatay Array** 66.88 311 P P **05 51 21.4 -0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KK31 **Karatay Array** 66.88 311 P P **05 51 21.4 -0.1**
KK31 IAmb IAmb 05 51 22.9
comp=Z,3.0nm,0.8s
KKAR **Karatay Array** 66.88 311 P P **05 51 21.5 +0.1**
KKAR **Karatay Array** 66.88 311 P P **05 51 21.5 +0.1**
KKAR **Karatay Array** 66.88 311 IAmb IAmb 05 51 22.9
comp=Z,3.0nm,0.8s
KSH **Kashi** 66.93 305 P P 05 51 28.4 +6.5
KSH pmax pmax
comp=Z,5.0nm,0.6s
NB2 **NORSAR Subarra** 67.04 353 P pP 05 51 46.0 -3.7
comp=Z,0.6nm,0.7s,baz=9.2,slow=6.5

NOA	**NORSAR Array B**	**67.04**	**353**	P	**P**		**05 51 19.4**	**-2.8**
	comp=Z,0.4nm,0.6s,baz=21,slow=2.8,SNR=1.6							
NOA				pP	**PcP**		**05 51 45.6**	**-4.0**
	comp=Z,0.7nm,0.6s,baz=10,slow=6.4,SNR=3.0							
TKL	**Tuckaleechee C**	**67.17**	**61**	LR	LR		06 19 25.5	
	comp=Z,17nm,21.3s,baz=336,slow=35							
LRAL	**Lakeview Retre**	**67.33**	**65**	P	**P**		**05 51 23.5**	**-0.8**
	baz=318							
SHL	**Shillong**	**68.37**	**284**	P	**P**		**05 51 31.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**69.36**	**274**	P	**P**		**05 51 37.6**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=22,slow=7.1,SNR=12							
CMAR	**Chiang Mai Arr**	**69.36**	**274**	*e*P	**P**		**05 51 38.2**	**+1.0**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TAPN	**Taplejung**	**69.53**	**288**	*e*P	**P**		**05 51 39.7**	**+1.1**
GAR	**Garm**	**70.15**	**308**	IAmb	IAmb		05 51 44.2	
	comp=Z,7.7nm,0.7s							
GUN	**Gumba**	**70.19**	**290**	*e*P	**P**		**05 51 43.6**	**+1.0**
	comp=Z,17nm,0.4s							
PKI	**Pulchoki**	**70.72**	**290**	*e*P	**P**		**05 51 45.9**	**+0.1**
	comp=Z,12nm,0.5s							
PKIN	**Phulchoki**	**70.72**	**290**	*e*P	**P**		**05 51 46.1**	**+0.3**
	comp=Z,11nm,0.6s							
DANN	**Dangsing**	**71.09**	**292**	*e*P	**P**		**05 51 49.1**	**+1.1**
	comp=Z,28nm,0.8s							
KOLN	**Koldanda**	**71.62**	**292**	*e*P	**P**		**05 51 51.4**	**+0.3**
PYUN	**Piuthan**	**71.72**	**292**	*e*P	**P**		**05 51 52.5**	**+0.8**
	comp=Z,16nm,0.8s							
KBL	**Kabul**	**74.28**	**306**	P	**P**		**05 52 06.7**	**0.0**
KBL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KBL	**Kabul**	**74.28**	**306**	P	**P**		**05 52 06.7**	**0.0**
KBL				IAmb	IAmb		05 52 07.9	
	comp=Z,9.4nm,1.0s							
AKASG	**Malin Array Be**	**74.61**	**340**	P	**P**		**05 52 08.0**	**0.0**
	comp=Z,0.6nm,0.3s,baz=20,slow=6.3,SNR=4.3							
KIV	**Kislovodsk**	**77.28**	**329**	*e*P	**P**		**05 52 25.7**	**+2.3**
KIV				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KBZ	**Khabaz**	**77.41**	**329**	P	**P**		**05 52 25.1**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=76,slow=4.2,SNR=5.1							
KBZ	**Khabaz**	**77.41**	**329**	⇑*i*P	**P**		**05 52 26.3**	**+2.3**
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.9s							
WRA	**Warramunga Arr**	**81.24**	**222**	P	**P**		**05 52 45.5**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=31,slow=6.0,SNR=13							
WRA	**Warramunga Arr**	**81.24**	**222**	*e*P	**P**		**05 52 46.2**	**+1.2**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**83.48**	**230**	P	**P**		**05 52 57.6**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=357,slow=6.3,SNR=3.9							
ASAR	**Alice Springs**	**84.75**	**220**	P	**P**		**05 53 04.5**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=24,slow=5.5,SNR=8.3							
JTS	**Las Juntas de**	**85.95**	**79**	LR	LR		06 33 52.6	
	comp=Z,14nm,18.1s,baz=146,slow=37							
TORD	**Torodi Ar. Bea**	**115.25**	**357**	PKP	**PKiKP**		**05 59 09.0**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=350,slow=3.6,SNR=4.4							
LBTB	**Lobatse**	**146.26**	**312**	PKPbc	**PKPdf**		**06 00 08.3**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=39,slow=2.0,SNR=6.0							
BOSA	**Boshof**	**149.46**	**309**	PKPbc	**PKiKP**		**06 00 18.5**	**0.0**
	comp=Z,1.8nm,0.5s,baz=13,slow=4.3,SNR=7.1							

*AEIC **20** 05:45:34±2.0, 60.65N±0.02×142.83W±0.05, h21km±6km, ML3.3,ML3.4/60(NEIC), Error ellipse: s-maj=4.3km s-min=1.7km az=129.0*
*ANF **20** 05:45:34.3±0.4, 60.66N×142.91W, h5km±2km, ML3.6/44, Error ellipse: s-maj=2.5km s-min=1.7km az=163.0*
*NEIC **20** 05:45:35.1±1.6, 60.65N±0.03×142.81W±0.07, h16km±7km, Error ellipse: s-maj=6.2km s-min=2.3km az=125.0*

ISC 20 05:45:35.3±0.9, 60.64N±0.02×142.83W±0.02, h18km±4km, n114, σ0=90/124, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TGL	**Tana Glacier**	**0.12**	**1**			**Sg**	**05 45 43.2**	**+1.3**
TGL	**Tana Glacier**	**0.12**	**1**	Pg		**Pg**	**05 45 39.2**	**0.0**
TGL				IAML			05 45 39.6	
	comp=N,4μm,0.3s							
TGL				IAML			05 45 39.8	
	comp=E,5μm,0.2s							
WAX	**Waxell Ridge**	**0.19**	**183**	Pg		**Pb**	**05 45 39.9**	**-0.1**
WAX				IAML			05 45 41.6	
	comp=E,14μm,0.2s							
ISLE	**Juniper Island**	**0.25**	**98**	Pg		**Pb**	**05 45 40.5**	**-0.6**
ISLE	**Juniper Island**	**0.25**	**98**			**Sb**	**05 45 44.5**	**-0.5**
ISLE	**Juniper Island**	**0.25**	**98**	IAML			05 45 45.0	
	comp=E,8μm,0.6s							
ISLE				IAML			05 45 45.8	
	comp=N,7μm,0.5s							
KHIT	**Khitrov Hills**	**0.28**	**227**			**Pg**	**05 45 41.4**	**-0.2**
KHIT						**Sb**	**05 45 46.3**	**0.0**
KIAG	**Kiagna River**	**0.37**	**39**			**Pg**	**05 45 42.8**	**-0.3**
BAGL	**Bagley Icefiel**	**0.40**	**112**			**Pg**	**05 45 42.9**	**-0.6**
BAGL						**Sg**	**05 45 48.7**	**-0.2**
GRIN	**Grindle Hills**	**0.43**	**214**			**Pg**	**05 45 43.9**	**-0.2**
GRIN						**Sb**	**05 45 50.9**	**+0.3**
SNH	**Sunshine Point**	**0.46**	**180**			**Pg**	**05 45 44.3**	**-0.3**
SNH	**Sunshine Point**	**0.46**	**180**	IAML			05 45 53.1	
	comp=E,4μm,0.5s							
SNH				IAML			05 45 54.3	
	comp=N,3μm,1.0s							
BALM	**Baldy**	**0.47**	**31**			**Pg**	**05 45 44.2**	**-0.6**
BALM						**Sg**	**05 45 50.9**	**-0.2**
BERG	**Berg Lake**	**0.50**	**241**			**Pg**	**05 45 44.9**	**-0.4**
GRNC	**Granite Creek**	**0.54**	**80**			**Pb**	**05 45 45.1**	**-1.2**
GRNC	**Granite Creek**	**0.54**	**80**	IAML			05 45 53.8	
	comp=E,1μm,0.5s							
GRNC				IAML			05 45 54.3	
	comp=N,2μm,0.5s							
BGLC	**Bering Glacier**	**0.57**	**204**	P		**Pb**	**05 45 46.8**	**+0.2**
	baz=25,SNR=13							
PTPK	**Patty Peak**	**0.58**	**18**			**Pb**	**05 45 46.3**	**-0.6**
PTPK						**Sb**	**05 45 54.5**	**-0.5**
CYK	**Cape Yakataga**	**0.58**	**163**			**Pb**	**05 45 46.5**	**-0.4**
CYK						**Sg**	**05 45 55.9**	**+1.3**
VRDI	**Verde Repeater**	**0.66**	**333**			**Pb**	**05 45 47.4**	**-1.0**
VRDI	**Verde Repeater**	**0.66**	**333**	IAML			05 45 56.7	
	comp=E,1μm,0.5s							
VRDI				IAML			05 46 01.6	
	comp=N,1μm,0.9s							
NICHA	**Nichawak Mount**	**0.69**	**235**			**Pb**	**05 45 48.5**	**-0.3**
BARN	**Barnard Glacie**	**0.71**	**53**			**Pb**	**05 45 47.9**	**-1.3**
BARN						**Sb**	**05 45 57.6**	**-1.2**
BARN	**Barnard Glacie**	**0.71**	**53**	IAML			05 45 57.9	
	comp=N,2μm,0.4s							
BARN				IAML			05 45 58.1	
	comp=E,2μm,0.6s							
MCARA	**McCarthy VSAT**	**0.75**	**353**			**Pb**	**05 45 48.7**	**-1.1**
MCARA	**McCarthy VSAT**	**0.75**	**353**	P		**Pb**	**05 45 48.7**	**-1.1**
	baz=171,SNR=33							
MCARA				S		**Sb**	**05 45 58.6**	**-1.2**
	baz=171							
CTG	**Chitna Glacier**	**0.80**	**65**	P		**Pb**	**05 45 49.2**	**-1.6**
	baz=246							
BMRM	**Bremner River**	**0.93**	**292**	P		**Pb**	**05 45 51.5**	**-1.4**
	baz=109,SNR=14							
BMRM				S		**Sb**	**05 46 03.9**	**-1.0**
	baz=109							
KAIM	**Kayak Island**	**1.06**	**229**			**Pb**	**05 45 54.5**	**-0.7**
KAIM	**Kayak Island**	**1.06**	**229**	P		**Pb**	**05 45 54.4**	**-0.8**
	baz=48,SNR=9.0							
N25K	**Chitina, Valde**	**1.29**	**319**	Pn		**Pn**	**05 45 58.1**	**-0.4**
N25K				IAML			05 46 19.1	
	comp=N,493nm,0.7s							
N25K	**Chitina, Valde**	**1.29**	**319**	P		**Pn**	**05 45 57.5**	**-1.0**
	baz=137,SNR=15							
N25K				S		**Sn**	**05 46 14.4**	**-1.0**
	baz=137							
PCA	**Pinnacle**	**1.39**	**112**	Pn		**Pn**	**05 45 59.3**	**-0.5**
EYAK	**Cordova Ski Ar**	**1.44**	**268**			**Pn**	**05 46 00.1**	**-0.3**
EYAK	**Cordova Ski Ar**	**1.44**	**268**	P		**Pn**	**05 46 00.3**	**-0.2**
	baz=85							
EYAK				S		**Sb**	**05 46 20.1**	**+0.5**
	baz=85							
DIV	**Divide**	**1.52**	**290**			**Pn**	**05 46 01.3**	**-0.3**
YUK3	**Moose Creek**	**1.62**	**44**	P		**Pn**	**05 46 03.9**	**+0.8**
	baz=226							
YUK3				S		**Sb**	**05 46 25.1**	**+0.2**
	baz=226							
KLU	**Klutina**	**1.73**	**301**	Pn		**Pn**	**05 46 04.7**	**+0.2**
KLU				IAML			05 46 32.9	
	comp=N,620nm,0.6s							
KLU	**Klutina**	**1.73**	**301**	P		**Pn**	**05 46 04.5**	**0.0**
	baz=118,SNR=9.9							
BCPM	**Bancas Point**	**1.73**	**112**	Pn		**Pn**	**05 46 04.1**	**-0.4**
BCPM				IAML			05 46 28.9	
	comp=N,629nm,0.7s							
M26K	**Nabesna, AK**	**1.77**	**358**	Pn		**Pn**	**05 46 05.8**	**+0.7**
M26K				IAML			05 46 31.2	
	comp=N,296nm,0.6s							
M26K	**Nabesna, AK**	**1.77**	**358**	P		**Pn**	**05 46 05.7**	**+0.7**
	baz=177,SNR=17							
M27K	**Edge Creek, AK**	**1.79**	**14**	P		**Pn**	**05 46 06.3**	**+1.0**
	baz=195,SNR=40							
FID	**Port Fidalgo**	**1.80**	**275**	Pn		**Pn**	**05 46 05.5**	**+0.2**
FID				IAML			05 46 33.1	
	comp=E,397nm,0.3s							
FID				IAML			05 46 33.7	
	comp=N,511nm,0.6s							
YKU2	**Yakutat**	**1.95**	**124**	Pn		**Pn**	**05 46 07.9**	**+0.6**
PNL	**Peninsula**	**1.98**	**118**	P		**Pn**	**05 46 06.8**	**-1.0**
	baz=302							
PNL				S		**Sn**	**05 46 33.0**	**+0.9**
	baz=302							
BVCY	**Beaver Creek**	**2.02**	**27**	P		**Pn**	**05 46 10.0**	**+1.6**
	baz=208,SNR=52							
HARP	**HAARP**	**2.09**	**329**	P		**Pn**	**05 46 09.9**	**+0.5**
	baz=146,SNR=7.9							
GLI	**Glacier Island**	**2.11**	**278**	Pn		**Pn**	**05 46 08.8**	**-0.8**
GLI				IAML			05 46 43.5	
	comp=N,295nm,0.5s							
GLI				IAML			05 46 44.2	
	comp=E,281nm,0.5s							
GLI	**Glacier Island**	**2.11**	**278**	P		**Pn**	**05 46 09.0**	**-0.6**
	baz=94							
Q23K	**Middleton Isla**	**2.14**	**237**	Pn		**Pn**	**05 46 09.1**	**-1.0**
Q23K				IAML			05 46 38.3	
	comp=N,238nm,1.4s							
Q23K				IAML			05 47 24.9	
	comp=E,273nm,1.9s							
Q23K	**Middleton Isla**	**2.14**	**237**	S		**Sn**	**05 46 36.7**	**+0.5**
	baz=54							
YUK4	**Talbot Arm**	**2.16**	**69**	P		**Pb**	**05 46 13.1**	**-0.8**
	baz=251							
M24K	**Tolsona, Glenn**	**2.18**	**314**	Pn		**Pn**	**05 46 11.8**	**+1.2**
M24K				IAML			05 46 56.0	
	comp=N,329nm,1.1s							
M24K	**Tolsona, Glenn**	**2.18**	**314**	P		**Pn**	**05 46 11.6**	**+0.9**
	baz=130							
YUK6	**Outpost Mounta**	**2.21**	**80**	P		**Pn**	**05 46 12.1**	**+0.9**
	baz=264,SNR=16							
YUK6				S		**Sb**	**05 46 41.5**	**-0.5**
	baz=264							
L26K	**Log Cabin Wild**	**2.41**	**354**	P		**Pn**	**05 46 14.5**	**+0.7**
	baz=173,SNR=8.6							
BC01	**Beaver Creek A**	**2.48**	**11**	Pn		**Pn**	**05 46 15.6**	**+0.9**
L27K	**Beaver Creek,**	**2.48**	**11**	P		**Pn**	**05 46 15.4**	**+0.7**
	baz=191							
SCM	**Sheep Creek Mo**	**2.48**	**301**	P		**Pn**	**05 46 14.9**	**+0.1**
	baz=116							
HYT	**Haines Junctio**	**2.62**	**84**	P		**Pn**	**05 46 17.5**	**+0.7**
	baz=268,SNR=5.6							
PAX	**Paxson**	**2.65**	**333**	P		**Pn**	**05 46 17.4**	**+0.2**
	baz=150,SNR=7.5							
PWL	**Port Wells**	**2.71**	**277**	Pn		**Pn**	**05 46 20.7**	**+2.8**
PWL				IAML			05 47 08.1	
	comp=N,134nm,1.0s							
PWL	**Port Wells**	**2.71**	**277**	P		**Pn**	**05 46 17.4**	**-0.5**
	baz=92							
KNK	**Knik Glacier**	**2.85**	**288**	Pn		**Pn**	**05 46 20.9**	**+1.1**
KNK				IAML			05 47 06.5	
	comp=E,213nm,0.6s							
KNK	**Knik Glacier**	**2.85**	**288**	P		**Pn**	**05 46 20.0**	**+0.2**
	baz=103							
SML	**Sawmill**	**2.91**	**296**	P		**Pn**	**05 46 20.7**	**0.0**
	baz=111							
WAT6	**Susitna Watana**	**3.05**	**312**	P		**Pn**	**05 46 22.9**	**+0.2**
	baz=127							
GHO	**Glory Hole Cre**	**3.16**	**294**	Pn		**Pn**	**05 46 23.9**	**-0.3**
GHO				IAML			05 47 18.0	
	comp=E,118nm,0.6s							
PMR	**Palmer**	**3.20**	**290**	P		**Pn**	**05 46 24.7**	**+0.1**
	baz=104							
RIDG	**Independent Ri**	**3.25**	**344**	Pn		**Pn**	**05 46 27.2**	**+1.8**
RIDG				IAML			05 47 26.7	
	comp=E,72nm,1.0s							
DHY	**Denali Highway**	**3.26**	**321**	P		**Pn**	**05 46 25.7**	**+0.2**
	baz=136							
SEW	**Seward**	**3.33**	**264**	P		**Pn**	**05 46 25.1**	**-1.3**
	baz=78							
SCRK	**Sand Creek**	**3.39**	**351**	P		**Pn**	**05 46 27.9**	**+0.5**
	baz=170							
O22K	**Cooper Landing**	**3.41**	**270**	P		**Pn**	**05 46 26.8**	**-0.6**
	baz=84							
RC01	**Rabbit Creek A**	**3.41**	**281**	Pn		**Pn**	**05 46 27.4**	**-0.1**
RC01				IAML			05 47 21.9	
	comp=N,113nm,0.6s							
RC01				IAML			05 47 25.7	
	comp=E,79nm,0.6s							
RC01	**Rabbit Creek A**	**3.41**	**281**	P		**Pn**	**05 46 27.4**	**-0.1**
	baz=94							
M30M	**Minto, Yukon**	**3.48**	**53**	P		**Pn**	**05 46 27.6**	**-0.9**
M30M				IAML			05 47 31.0	
	comp=E,45nm,1.3s							
M30M				IAML			05 47 36.3	
	comp=N,53nm,1.1s							
M30M	**Minto, Yukon**	**3.48**	**53**	P		**Pn**	**05 46 29.2**	**+0.7**
	baz=239							
DAWY	**Dawson**	**3.79**	**24**	P		**Pn**	**05 46 33.9**	**+1.1**
	baz=206							
WHY	**Whitehorse**	**3.92**	**86**	P		**Pn**	**05 46 34.2**	**-0.3**
	baz=273							
SKAG	**Skagway**	**3.94**	**104**			**Pn**	**05 46 33.0**	**-1.8**
SKAG				IAML			05 47 34.3	
	comp=E,42nm,0.7s							
RND	**Reindeer**	**3.97**	**317**	Pn		**Pn**	**05 46 35.8**	**+0.5**
RND				IAML			05 47 35.0	
	comp=N,51nm,0.9s							
RND				IAML			05 47 37.8	
	comp=E,50nm,0.9s							
CUT	**Chulitna**	**3.98**	**300**	Pn		**Pn**	**05 46 36.8**	**+1.5**
MCK	**McKinley**	**4.22**	**320**	Pn		**Pn**	**05 46 40.0**	**+1.3**
MCK				IAML			05 47 42.8	
	comp=E,38nm,0.7s							
MCK				IAML			05 47 49.2	
	comp=N,49nm,1.3s							
MCK	**McKinley**	**4.22**	**320**	P		**Pn**	**05 46 39.4**	**+0.8**
	baz=134							
EGAK	**Eagle**	**4.22**	**10**	P		**Pn**	**05 46 40.3**	**+1.7**
	baz=191							
EGAK				S		**Sn**	**05 47 31.4**	**+3.9**
	baz=191							
M31M	**Drury Creek, Y**	**4.35**	**65**	P		**Pn**	**05 46 41.6**	**+1.2**
	baz=252							
J29M	**Klondike Camp**	**4.38**	**27**	P		**Pn**	**05 46 42.1**	**+1.1**
	baz=211,SNR=7.9							
TRF	**Thorofare Moun**	**4.50**	**312**	P		**Pn**	**05 46 43.3**	**+0.6**
	baz=125							
BESE	**Bessie Mountai**	**4.55**	**114**	Pn		**Pn**	**05 46 43.4**	**+0.2**
IL01		**4.55**	**338**	Pn		**Pn**	**05 46 44.1**	**+1.0**
ILAR	**Eielson Array**	**4.55**	**338**			**Pn**	**05 46 43.0**	**-0.1**
KTH	**Kantishna Hill**	**4.79**	**311**			**Pn**	**05 46 47.5**	**+0.9**
KTH				IAML			05 48 02.6	
	comp=E,36nm,1.1s							
COLA	**College**	**4.83**	**334**	P		**Pn**	**05 46 47.3**	**+0.2**
	baz=149							
TCOL	**CIGO, UAF Yank**	**4.84**	**334**	P		**Pn**	**05 46 47.1**	**0.0**
	baz=149							
POKR	**Poker Plat Res**	**4.96**	**337**	P		**Pn**	**05 46 49.3**	**+0.5**
	baz=153							
PPLA	**Purkeypile**	**4.99**	**301**	P		**Pn**	**05 46 49.9**	**+0.6**
	baz=113							
BPAW	**Bear Paw Mtn.**	**5.14**	**316**	P		**Pn**	**05 46 51.0**	**-0.3**
	baz=129							
I29M	**Ogilvie Camp,**	**5.17**	**22**	P		**Pn**	**05 46 53.1**	**+1.5**
	baz=205							
CAST	**Castle Rocks**	**5.17**	**307**	P		**Pn**	**05 46 52.1**	**+0.4**
	baz=118							
SIT	**Sitka**	**5.30**	**129**	P		**Pn**	**05 46 52.8**	**-0.6**
	baz=316							
I23K	**Minto, Yukon-K**	**5.42**	**329**	P		**Pn**	**05 46 55.3**	**+0.2**
	baz=143							
CHUM	**Lake Minchumin**	**5.50**	**310**	P		**Pn**	**05 46 56.2**	**+0.1**
	baz=122							
H24K	**Noodor Dome**	**5.69**	**339**	P		**Pn**	**05 46 59.8**	**+1.0**
	baz=154							
Q19K	**Cape Douglas,**	**5.72**	**257**	P		**Pn**	**05 46 59.9**	**+0.6**
	baz=68							
MMPY	**Sheldon Lake,**	**5.86**	**65**	P		**Pn**	**05 47 01.8**	**+0.6**
	baz=255							
K20K	**Telida**	**5.95**	**302**	P		**Pn**	**05 47 02.3**	**-0.1**
	baz=112							
L19K	**White Mountain**	**5.98**	**290**	P		**Pn**	**05 47 03.0**	**+0.2**
	baz=100							
H23K	**Yukon River**	**6.02**	**333**	P		**Pn**	**05 47 03.9**	**+0.5**
	baz=146							
J20K	**Nowinta River**	**6.34**	**309**	P		**Pn**	**05 47 07.7**	**0.0**
	baz=119							
TTA	**Tatalina**	**6.66**	**296**	P		**Pn**	**05 47 11.8**	**-0.4**
	baz=104							
H21K	**Melozitna Rive**	**6.76**	**322**	P		**Pn**	**05 47 13.4**	**-0.1**
	baz=133							
BMAR	**Burnt Mountain**	**6.86**	**354**			**Pn**	**05 47 16.8**	**+1.9**

*IDC **20** 05:53:03.2±0.9, 55.56S×26.79W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/24, mbtmp4.1/6, ML3.5/1, MS3.7/16, Ms1 3.7/16, ms1mx3.4/45, Error ellipse: s-maj=38.8km s-min=19.7km az=75.0*
*NEIC **20** 05:53:05.2±0.5, 55.5S±0.1×26.9W±0.2, h10km±1km, mb4.5/12, Error ellipse: s-maj=25.5km s-min=8.7km az=50.0*

ISC 20 05:53:06.9±0.8, 55.6S±0.1×26.9W±0.1, h25km, n34, σ0=63/19, mb4.3/6, MS3.7/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**5.69**	**279**	Pn		**Pn**	**05 54 29.5**	**-0.2**
SNAA	**Sanae**	**19.13**	**157**	P		**Pn**	**05 57 27.7**	**-1.0**
	0.2nm,0.3s,baz=33,slow=21,SNR=1.1							
SNAA	**Sanae**	**19.13**	**157**	P		**Pn**	**05 57 29.5**	**+0.8**
PMSA	**Palmer Station**	**20.36**	**228**	LR	LR		06 04 19.5	
	comp=Z,198nm,19.1s,baz=60,slow=33							
BELA	**Belgrano 2**	**22.59**	**184**	P		**P**	**05 58 05.3**	**+0.4**
MG05	**Puerto Natales**	**26.96**	**259**	P		**P**	**05 58 45.3**	**-0.7**
QSPA	**South Pole Qui**	**34.70**	**180**	P		**P**	**05 59 54.1**	**-0.3**
	2.9nm,0.7s,baz=220,slow=1.5,SNR=21							
QSPA	**South Pole Qui**	**34.70**	**180**	P		**P**	**05 59 55.0**	**+0.7**
CPUP	**Villa Florida**	**36.62**	**310**	P		**P**	**06 00 10.7**	**-0.3**
	3.1nm,0.9s,baz=176,slow=9.0,SNR=4.6							
CPUP	**Villa Florida**	**36.62**	**310**	P		**P**	**06 00 11.1**	**+0.2**
SUR	**Sutherland**	**40.34**	**75**	LR	LR		06 14 07.9	
	comp=Z,124nm,18.8s,baz=204,slow=31							
LVC	**Limon Verde**	**45.21**	**299**	LR	LR		06 24 15.9	
	comp=Z,31nm,18.0s,baz=176,slow=41							
LVC	**Limon Verde**	**45.21**	**299**	P		**P**	**06 01 23.2**	**+1.1**
BOSA	**Boshof**	**45.68**	**76**	LR	LR		06 17 12.4	
	comp=Z,191nm,18.3s,baz=207,slow=32							
VNDA	**Vanda**	**47.08**	**183**	P		**P**	**06 01 35.8**	**0.0**
	1.8nm,0.7s,baz=190,slow=5.1,SNR=12							
VNDA				LR	LR		06 20 04.9	
	comp=Z,50nm,19.5s,baz=192,slow=34							
VNDA	**Vanda**	**47.08**	**183**	IAmb	IAmb		06 01 39.2	
	comp=Z,3.6nm,0.9s							
LBTB	**Lobatse**	**48.70**	**73**	LR	LR		06 19 42.3	
	comp=Z,62nm,18.1s,baz=178,slow=33							
TSUM	**Tsumeb**	**49.28**	**61**	LR	LR		06 19 27.2	
	comp=Z,57nm,18.6s,baz=167,slow=32							
LPAZ	**La Paz**	**50.24**	**305**	P		**P**	**06 02 02.1**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=128,slow=7.3,SNR=9.5							
LPAZ				LR	LR		06 23 47.8	
	comp=Z,20nm,19.8s,baz=346,slow=37							
LPAZ	**La Paz**	**50.24**	**305**	P		**P**	**06 02 02.1**	**+0.6**
LPAZ				IAmb	IAmb		06 02 16.5	
	comp=Z,6.6nm,1.1s							
LSZ	**Lusaka**	**58.03**	**69**	LR	LR		06 25 43.5	
	comp=Z,124nm,18.0s,baz=168,slow=34							
NNA	**Nana**	**58.17**	**298**	LR	LR		06 30 43.0	
	comp=Z,18nm,18.5s,baz=78,slow=39							
DBIC	**Dimbokro**	**64.64**	**24**	LR	LR		06 26 46.9	
	comp=Z,80nm,19.6s,baz=182,slow=31							
OPO	**Ambohidratompo**	**65.89**	**88**	LR	LR		06 26 15.7	
	comp=Z,54nm,20.5s,baz=31,slow=30							
MBAR	**Mbarara**	**71.77**	**63**	LR	LR		06 33 17.4	
	comp=Z,42nm,18.1s,baz=186,slow=34							
TOA0	**Torodi Ar. Sit**	**72.53**	**29**	P		**P**	**06 04 31.6**	**+0.2**
TOA0				IAmb	IAmb		06 04 32.7	
	comp=Z,4.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**72.53**	**29**	P		**P**	**06 04 31.5**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=188,slow=7.1,SNR=12							
TORD	**Torodi Ar. Bea**	**72.53**	**29**	P		**P**	**06 04 31.5**	**+0.1**
TORD				IAmb	IAmb		06 04 32.7	
	comp=Z,2.5nm,0.9s							
KMBO	**Kilima Mbogo**	**74.69**	**69**	LR	LR		06 35 15.4	
	comp=Z,64nm,18.9s,baz=131,slow=34							
ATD	**Arta Tunnel**	**88.31**	**67**	LR	LR		06 42 35.1	
	comp=Z,30nm,20.4s,baz=345,slow=34							
MDT	**Midelt**	**90.06**	**19**	LR	LR		06 43 16.5	
	comp=Z,55nm,19.4s,baz=170,slow=34							
YKA	**Yellowknife Ar**	**135.92**	**318**	PKP		**PKiKP**	**06 12 24.5**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=129,slow=2.2,SNR=7.2							
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc		**PKiKP**	**06 12 54.0**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=128,slow=1.7,SNR=24							
ILAR	**Eielson Array**	**149.91**	**312**			**PKiKP**	**06 12 53.6**	**-0.6**

*ROM **20**

comp=N,583μm,0.2s
STAL AML AML
comp=E,463μm,0.3s
STAL AML AML
comp=N,462μm,0.8s
CSO Casso 0.48 201⇑ *e*Pg **Pg 06 07 30.9 -0.5**
CSO *e*Sg **Sg 06 07 37.4 -0.4**
BOO Bordano 0.54 138 *e*Pg **Pg 06 07 32.0 -0.4**
MPRI Monte Prat 0.56 150 *e*Pg **Pg 06 07 32.3 -0.4**
MPRI Monte Prat 0.56 150 P **Pg 06 07 32.3 -0.4**
MPRI S **Sb 06 07 40.4 -1.4**
MPRI AML AML
comp=N,200μm,0.5s
MPRI AML AML
comp=E,144μm,1.4s
MLNI Malnisio 0.57 178 *e*Pg **Pg 06 07 32.5 -0.6**
GEPF Gemona 0.59 139 P **Pb 06 07 33.4 -0.9**
GEPF S **Sb 06 07 41.5 -1.1**
PTCC Patocco-Chiusa 0.62 121 P **Pg 06 07 33.7 -0.2**
PTCC S **Sb 06 07 42.6 -1.0**
PTCC AML AML
comp=E,190μm,0.2s
PTCC AML AML
comp=N,144μm,1.2s
BUA Buia 0.63 143 *e*Pg **Pg 06 07 33.9 -0.2**
KBA Koelnbreinsper 0.63 56 *i* Pg **Pg 06 07 34.0 -0.2**
comp=N,8.2nm,0.1s,SNR=21
KBA *i* Sg **Sg 06 07 42.6 +0.1**
comp=N,24nm,0.1s
FAU Forcella Aurin 0.65 220⇑ *e*Pg **Pg 06 07 33.9 -0.5**
FAU *e*Sg **Sg 06 07 43.2 +0.3**
ACOM Acomizza, Ital 0.67 105 *e*Pg **Pg 06 07 34.7 -0.2**
ACOM Acomizza, Ital 0.67 105 P **Pg 06 07 34.6 -0.2**
ACOM S **Sb 06 07 44.1 -0.9**
ACOM AML AML
comp=E,754μm,1.0s
ACOM AML AML
comp=N,1058μm,1.1s
BAD Bernadia 0.67 137⇑ *e*Pg **Pg 06 07 34.5 -0.3**
BAD *e*Sg **Sb 06 07 44.0 -0.9**
LSR Lussari 0.70 110 *e*Pg **Pg 06 07 35.1 -0.4**
PRED Cave del Predi 0.74 112 *e*Pg **Pg 06 07 35.5 -0.6**
PRED *e*Sg **Sb 06 07 45.9 -1.0**
MYKA Terra Mystica 0.74 97 *i* Pg **Pg 06 07 35.8 -0.4**
comp=N,1.6nm,0.1s
MYKA *e*Sg **Sb 06 07 45.8 -1.1**
comp=N,15nm,0.1s
ROBS Robic 0.80 126 *i* Pg **Pg 06 07 36.7 -0.7**
ROBS *i* Sg **Sb 06 07 47.6 -1.1**
ROBS IAML 06 07 49.7
comp=Z,7.2nm,0.1s
VARN Col Varnada, M 0.80 204 *e*Pg **Pg 06 07 36.8 -0.5**
VARN Col Varnada, M 0.80 204 P **Pg 06 07 36.8 -0.5**
VARN AML AML
comp=E,206μm,1.3s
VARN AML AML
comp=N,158μm,0.3s
COLI Coloredo 0.81 137 *e*Pg **Pg 06 07 36.9 -0.6**
ROSI Rosskopf 0.83 285 ⇓P **Pg 06 07 37.3 -0.6**
ROSI S **Sg 06 07 49.0 +0.3**
ROSI AML AML
comp=E,211μm,0.3s
ROSI AML AML
comp=N,240μm,1.5s
ZIAN Ziano 0.83 238 *e*Pg **Pg 06 07 37.3 -0.7**
WTTA Wattenberg 0.84 310 *i* Pg **Pg 06 07 37.9 -0.2**
comp=N,8.9nm,0.1s,SNR=16
WTTA *e*Sg **Sg 06 07 49.3 +0.1**
comp=N,21nm,0.2s
WTTA Wattenberg 0.84 310 P **Pg 06 07 38.0 -0.2**
WTTA S **Sb 06 07 49.9 -0.2**
WTTA AML AML
comp=E,120μm,0.4s
WTTA AML AML
comp=N,120μm,0.4s
ABSI Aberstueckl 0.87 271 P **Pg 06 07 38.0 -0.6**
ABSI S **Sg 06 07 49.1 -0.8**
ABSI AML AML
comp=E,576μm,0.6s
ABSI AML AML
comp=N,452μm,0.6s
KOSI Kohlern 0.87 253 ⇑P **Pg 06 07 38.0 -0.7**
KOSI AML AML
comp=N,108μm,0.2s
KOSI AML AML
comp=E,99μm,0.5s
WATA Walderalm 0.92 312 *e*Pg **Pg 06 07 39.4 -0.2**
comp=E,4.2nm,0.2s,SNR=5.0
WATA *e*Sg **Sg 06 07 51.4 -0.2**
comp=E,27nm,0.2s
CTI Castel Tesino 0.93 224 P **Pg 06 07 39.3 -0.6**
CTI AML AML
comp=N,144μm,0.8s
CTI AML AML
comp=E,120μm,0.5s
CTI AML AML
comp=N,144μm,0.8s
CADS Cadrg 0.94 121 *i* Pg **Pg 06 07 39.4 -0.6**
CADS *i* Sg **Sn 06 07 53.4 -1.2**
CADS IAML 06 07 55.4
comp=Z,31nm,0.3s
APPI Appiano 0.96 256 P **Pg 06 07 39.6 -0.8**
APPI S **Sb 06 07 53.4 -0.1**
APPI AML AML
comp=E,166μm,0.2s
APPI AML AML
comp=E,166μm,0.2s
APPI AML AML
comp=N,196μm,0.2s
SABO M.te Sabotino 1.03 136 P **Pb 06 07 41.3 -0.4**
SABO AML AML
comp=E,1024μm,0.6s
SABO AML AML
comp=E,1020μm,0.6s
SABO AML AML
comp=N,172μm,0.6s
SABO AML AML
comp=N,613μm,0.7s
SABO AML AML
comp=E,247μm,0.6s
ASOL Asolo 1.04 207 P **Pb 06 07 41.9 +0.1**
GORS Gorjuse 1.06 112 *i* Pg **Pb 06 07 42.0 -0.3**
GORS *i* Sg **Sn 06 07 57.1 -0.5**
GORS IAML 06 07 59.1
comp=Z,7.8nm,0.1s
SQTA Sankt Quirin 1.06 298 *e*Pg **Pg 06 07 41.8 -0.5**
comp=Z,4.1nm,0.2s
SQTA *e*Sg **Sg 06 07 55.7 -0.4**
comp=Z,22nm,0.2s
MOTA Moosalm 1.19 302 *e*Pg **Pb 06 07 44.0 -0.5**
comp=Z,2.1nm,0.2s
MOTA *e*Sg **Sb 06 07 59.5 -0.5**
comp=Z,8.9nm,0.2s
BIOA Bad Ischl, Aus 1.21 36 *e*Sg **Sg 06 08 00.6 -0.2**
comp=Z,34nm,0.3s
DOSS Dosso del Somm 1.28 229 P **Pn 06 07 45.7 -0.2**
DOSS S **Sg 06 08 03.0 -0.1**
DOSS AML AML
comp=N,137μm,0.6s
DOSS AML AML
comp=E,136μm,1.3s
GAGG Gaggia 1.29 241 P **Pn 06 07 45.7 -0.4**
GAGG AML AML
comp=E,81μm,1.1s
GAGG AML AML
comp=N,108μm,1.3s
GAGG AML AML
comp=E,81μm,1.1s
FETA Feichten 1.30 284 *e*Pg **Pn 06 07 46.1 -0.1**
comp=E,1.6nm,0.2s
FETA *e*Sg **Sb 06 08 02.5 -0.9**
comp=E,4.1nm,0.2s
TRI Trieste 1.31 141 P **Pg 06 07 47.0 0.0**
TRI AML AML
comp=E,65μm,1.5s
TRI AML AML
comp=N,39μm,1.4s
JAVS Javornik 1.32 128 *i* Pg **Pn 06 07 45.7 -0.7**
JAVS *i* Sg **Sg 06 08 06.5 +2.1**
JAVS IAML 06 08 09.2
comp=Z,8.4nm,0.2s
OBKA Obir 1.37 98 *e*Pg **Pb 06 07 47.3 -0.4**
comp=Z,9.3nm,0.4s,SNR=4.9
OBKA *e*Sg **Sg 06 08 07.0 +0.9**
comp=Z,17nm,0.3s
MOSI Grossmontoni 1.40 266 P **Pn 06 07 47.8 +0.1**
MOSI S **Sn 06 08 06.5 +0.3**
MOSI AML AML
comp=N,321μm,0.5s
MOSI AML AML
comp=E,320μm,0.7s
ROVR Rover Verones 1.50 225 P **Pb 06 07 49.8 -0.1**
ROVR AML AML
comp=E,32μm,0.3s
ROVR AML AML
comp=N,88μm,0.7s
MABI Malga Bissina 1.58 246 P **Pb 06 07 50.9 -0.4**
MABI S **Sb 06 08 11.6 +0.3**
MABI AML AML
comp=E,40μm,0.9s
MABI AML AML
comp=E,40μm,0.9s
MABI AML AML
comp=N,38μm,0.6s
MOA Molln 1.61 45 *e*Pg **Pg 06 07 52.9 +0.2**
comp=N,5.8nm,0.1s,SNR=24
MOA *e*Sg **Sg 06 08 15.1 +1.5**
comp=N,18nm,0.3s
MAGA Magasa 1.65 236 P **Pb 06 07 52.6 +0.2**
MAGA AML AML
comp=E,243μm,0.3s
MAGA AML AML
comp=N,148μm,0.6s
SOKA Soboth 1.69 91 *e*Sg **Sg 06 08 15.8 -0.3**
comp=N,2.0nm,0.2s
DAVA Damuels 1.93 288 *e*Sg **Sg 06 08 25.1 +1.2**
comp=N,32nm,0.4s
BRJN Brijuni 1.99 155 *i* Pn **Pb 06 07 56.9 -1.3**
BRJN Sn **Sb 06 08 23.5 +0.5**
BRJN Brijuni 1.99 155 P **Pb 06 07 56.7 -1.5**
SMRN Sveta Marina 2.02 146 *e*Pn **Pn 06 07 56.3 +0.5**
SMRN Sn **Sn 06 08 20.8 -0.2**
SBPO S.Benedetto Po 2.04 215 ⇓P **Pg 06 08 01.8 +0.9**
ARSA Arzberg 2.08 74 Sg **Sg 06 08 28.6 -0.2**
comp=N,1.4nm,0.3s
CKRC Cesky Krumlov 2.40 28 *e*SG **Sb 06 08 36.4 +1.6**
comp=N,8.9nm,0.3s
KHC Kasperske Hory 2.50 15 *e*PN **Pn 06 08 04.3 +1.7**
KHC *e*PG **Pg 06 08 10.0 +0.2**
KHC *e*SG **Sg 06 08 40.6 -1.6**
comp=N,13nm,0.7s
CONA Conrad Observa 2.54 60 *e*Sg **Sg 06 08 46.0 +2.6**
comp=N,1.8nm,0.3s
EUCT Pavia 2.84 239 P **Pg 06 08 15.6 -0.8**
EUCT S **Sn 06 08 42.0 +0.5**
GRAM Graiana 2.85 219 S **Sb 06 08 50.0 +2.4**
NARO Abbazia di Nar 3.11 180 S **Pn 06 08 08.8 -2.2**
DUGI Dugi Otok 3.24 147 *e*Pn **Pn 06 08 14.0 +1.3**
PP3 Marolino 3.42 167 P **Pb 06 08 23.6 +1.1**
PRU Pruhonice 3.52 21 *e*SG **Sg 06 09 12.7 -2.1**
comp=N,5.0nm,0.3s
ARCI Arcidosso 3.95 192 S **Sn 06 09 11.0 +2.0**
CANO Canova, Maglio 3.96 232 S **Sn 06 09 10.0 +0.9**
DPC Dobruska-Polom 4.40 33 *e*SG **Sg 06 09 39.7 -3.3**
comp=N,4.5nm,0.6s
PZZ Stroppo 4.43 242⇑ P **Pn 06 08 28.9 -0.3**
STON Ston 5.30 135 P **Pb 06 08 56.4 +1.9**
MCRV Calabrutti - M 6.23 162 P **Pn 06 08 55.4 +1.5**

MDD ***20*** *06:12:47.9±0.8, 35°.72N×2°.33W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=8.2km s-min=3.8km az=124.0*
CNRM ***20*** *06:12:53.5, 35°.40N×2°.60W, h21km, ml1.7*
ISC 20 06:12:46.8±1.6, 35°.68N±0°.03×2°.31W±0°.06, h15km±12km, n13, σ1s 01/21, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.65**	**235**	P		**Pg**		**06 12 59.1**	**-0.5**
EMEL				S		**Sn**		**06 13 10.4**	**-1.0**
TAF	**Taforalt**	**0.87**	**186**	P		**Pg**		**06 13 04.3**	**+0.6**
TAF				S		**Sb**		**06 13 15.0**	**0.0**
ENIJ	**Nijar**	**1.29**	**4**	P		**Pn**		**06 13 10.2**	**-0.2**
ENIJ				S		**Sb**		**06 13 26.9**	**-0.4**
ENIJ				*i*	Vmb_Lg			06 13 29.4	
EBER	**Berja**	**1.30**	**339**	P		**Pn**		**06 13 10.6**	**-0.1**
EBER				S		**Sn**		**06 13 28.8**	**+0.8**
JBK	**JBK**	**1.36**	**189**	P		**Pn**		**06 13 11.9**	**+0.5**
JBK				S		**Sn**		**06 13 28.0**	**-1.2**
ELGU	**Los Guajares,**	**1.59**	**318**	P		**Pn**		**06 13 14.9**	**+0.3**
ELGU				S		**Sn**		**06 13 35.2**	**+0.2**
ELGU				*i*	Vmb_Lg			06 13 39.9	
TLOR	**Lorca, Murcia**	**2.04**	**14**	S		**Sb**		**06 13 47.9**	**-0.8**
EMIJ	**Mijas**	**2.18**	**295**	S		**Sn**		**06 13 49.3**	**-0.1**
EMUR	**La Murta**	**2.32**	**21**	P		**Pn**		**06 13 25.2**	**+0.6**
EMUR				S		**Sn**		**06 13 52.4**	**-0.4**
EMUR				*i*	Vmb_Lg			06 14 06.0	
TDRA	**Tendrara**	**2.64**	**175**	P		**Pb**		**06 13 33.6**	**-0.4**
TDRA				S		**Sb**		**06 14 04.5**	**-1.8**
ETOB	**Tobarra**	**3.02**	**11**	S		**Sn**		**06 14 11.4**	**+1.3**
MDT	**Midelt**	**3.43**	**214**	P		**Pn**		**06 13 41.8**	**+1.9**
MD31	**MD31**	**3.46**	**217**	P		**Pn**		**06 13 42.0**	**+1.8**

INET ***20*** *06:21:33.9±5.9, 13°.64N×88°.49W, h68km±63km, ML2.1, MW2.5*
SNET 20 06:21:37.6±0.3, 13°.70N×89°.25W, h3km±1km, ML1.0,1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UEES	**Universidad Ev**	**0.02**	**38**	*e*P			Pg	06 21 38.8	+0.4
UEES				*e*S			Sg	06 21 39.9	+0.9
UEES				IAML				06 21 42.2	
comp=Z,324nm,0.2s									
SNET	**Serv Nac Est T**	**0.02**	**132**	*i* P			Pg	06 21 38.9	+0.4
SNET				*e*S			Sg	06 21 39.8	+0.7
SNET				IAML				06 21 42.0	
comp=Z,146nm,0.2s									
SNET	**Serv Nac Est T**	**0.02**	**132**	*e*P			Pg	06 21 45.8	+7.3
SEMO	**Seminario San**	**0.03**	**89**	*e*P			Pg	06 21 38.9	+0.4
SEMO				*e*S			Sg	06 21 39.9	+0.9
ITCA	**Escuela Especi**	**0.04**	**223**	⇑*i* P			Pg	06 21 39.3	+0.6
ITCA				*e*S			Sg	06 21 40.5	+1.1
BOQS	**Boqueron**	**0.04**	**317**	*e*P			Pg	06 21 39.5	+0.7
UTEC	**Universidad Te**	**0.05**	**93**	*e*P			Pg	06 21 39.2	+0.4
UTEC				*e*S			Sg	06 21 40.6	+1.1
UTEC				IAML				06 21 41.2	
comp=Z,297nm,0.1s									
PMON	**Piamonte**	**0.06**	**278**	*e*P			Pg	06 21 39.8	+0.8
PMON				*e*S			Sg	06 21 41.3	+1.3
LALI	**Alcalda de L**	**0.22**	**198**	*e*P			Pg	06 21 50.7	+8.8
LALI				IAML				06 22 58.2	
comp=Z,25nm,1.5s									
PAVA	**Las Pavas**	**0.30**	**88**	*e*S			Sb	06 21 57.3	+6.2
PAVA				IAML				06 21 57.8	
comp=Z,141nm,0.3s									

SNET 20 06:21:45.2±0.8, 13°.69N×89°.26W, h2km±2km, ML2.6, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ITCA	**Escuela Especi**	**0.03**	**232**	*e*P			Pg	06 21 46.1	+0.2
SNET	**Serv Nac Est T**	**0.03**	**95**	*e*P			Pg	06 21 46.5	+0.6
SNET				*e*S			Sg	06 21 47.3	+0.8
UEES	**Universidad Ev**	**0.03**	**34**	*e*P			Pg	06 21 46.8	+0.7
UEES				*e*S			Sg	06 21 47.5	+0.9
UEES				IAML				06 21 49.9	
comp=Z,8μm,0.2s									
SEMO	**Seminario San**	**0.04**	**67**	*e*P			Pg	06 21 46.4	+0.3
SEMO				*e*S			Sg	06 21 47.4	+0.7
BOQS	**Boqueron**	**0.05**	**335**	*e*P			Pg	06 21 47.4	+1.0
BOQS				*e*S			Sg	06 21 48.6	+1.4
UTEC	**Universidad Te**	**0.06**	**78**	*e*P			Pg	06 21 47.2	+0.8
UTEC				*e*S			Sg	06 21 48.3	+1.1
UTEC				IAML				06 21 49.1	
comp=Z,6μm,0.3s									
PMON	**Piamonte**	**0.06**	**293**	*e*P			Pg	06 21 47.6	+1.1
PMON				*e*S			Sg	06 21 48.9	+1.5
UESS	**Universidad de**	**0.06**	**61**	*e*P			Pg	06 21 47.4	+0.8
UESS				*e*S			Sg	06 21 48.5	+1.1
UESS				IAML				06 21 49.2	
comp=Z,6μm,0.2s									
IGN	**Direccin Gen**	**0.09**	**74**	*e*P			Pg	06 21 48.0	+1.0
IGN				*e*P			Pg	06 21 48.0	+1.0
IGN				*e*S			Sg	06 21 49.5	+1.3
UDBS	**Universidad Do**	**0.10**	**75**	*e*P			Pg	06 21 48.1	+0.9
UDBS				*e*S			Sg	06 21 50.2	+1.5
UDBS				IAML				06 21 51.9	
comp=Z,5μm,0.3s									
AEIL	**Aeropuerto Ilo**	**0.14**	**87**	*i* P			Pg	06 21 49.1	+1.2
AEIL				*e*S			Sg	06 21 52.1	+2.4
JAYA	**Jayaque - finc**	**0.19**	**259**	*e*P			Pg	06 21 50.0	+1.1
JAYA				*e*S			Sg	06 21 52.8	+1.4
JAYA				IAML				06 21 55.6	
comp=Z,1μm,0.2s									
LFRS	**El Faro**	**0.20**	**109**	*e*P			Pg	06 21 50.1	+1.0
LALI	**Alcalda de L**	**0.21**	**197**	*e*P			Pg	06 21 50.0	+0.8
SJTE	**Alcalda de S**	**0.26**	**107**	*e*P			Pg	06 21 51.0	+0.9
PAVA	**Las Pavas**	**0.31**	**86**	*e*P			Pg	06 21 52.4	+1.1
COEG	**Centro de Oper**	**0.37**	**101**	*e*P			Pg	06 21 53.1	+0.7
COEG	**Centro de Oper**	**0.37**	**101**	*e*P			Pg	06 21 53.1	+0.7
COEG				*e*S			Sb	06 21 59.3	-1.6
COEG				IAML				06 22 01.0	
comp=Z,58nm,0.3s									

NIED ***20*** *06:27:28.4, 33°.01N×131°.23E, h11km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr-0.46; Mθθ1.51; Mϕϕ-1.05; Mrθ-1.00; Mθϕ2.08; Mϕr-0.65; Fault plane solution: M0 2.64000×10^14 NP1: ϕs 288.00000°, δ75.00000°, λ11.00000°. NP2: ϕs 195.00000°, δ79.00000°, λ164.00000°.*
JMA 20 06:27:28.4, 33°.00N×131°.23E, h11km±1km, M3.6, 2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.32**	**292**	⇓P			Pg	06 27 34.9	0.0
JNU				S			Sg	06 27 39.3	+0.1
JUS	**Usuki**	**0.44**	**81**	P			Pg	06 27 36.8	-0.3
JUS				S			Sg	06 27 43.2	+0.2
JIU3	**Izumi3**	**0.57**	**218**	P			Pg	06 27 39.4	-0.1
JIU3				*e*S			Sg	06 27 47.3	+0.2
JTA	**Tamana**	**0.59**	**267**	⇓P			Pg	06 27 39.7	-0.1
JTA				S			Sg	06 27 47.6	0.0

IDC 20 06:55:59.4±1.4, 14°.46S×166°.17E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/41, mbtmp3.9/5, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/61, Error ellipse: s-maj=49.5km s-min=27.5km az=131.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.57**	**178**	P		Pn	Pn	06 57 51.1	-0.1
DZM	0.9nm,0.3s,baz=307,slow=22,SNR=18			S		Sn	Sn	06 59 11.3	-6.6
DZM	baz=341,slow=22,SNR=1.2			LR		LR	LR	07 00 21.0	
comp=Z,99nm,20.1s,baz=45,slow=35									
WRA	**Warramunga Arr**	**30.86**	**255**	P		P	P	07 02 17.3	-0.4
ASAR	0.3nm,0.7s,baz=88,slow=8.7,SNR=2.2 **Alice Springs**	**31.78**	**248**	P		P	P	07 02 26.1	+0.3
ILAR	0.4nm,0.5s,baz=76,slow=9.3,SNR=7.8 **Eielson Array**	**86.60**	**18**	P		P	P	07 08 44.2	-0.1
YKA	1.8nm,0.7s,baz=238,slow=5.1,SNR=29 **Yellowknife Ar**	**97.80**	**27**	P		P	P	07 09 36.2	-0.1
	0.5nm,0.6s,baz=258,slow=4.8,SNR=9.8								

IDC 20 06:57:03.7±2.3, 17°.49S×178°.94W, h585km±20km, mb3.2/4, mb1 3.4/5, mb1mx3.0/39, mbtmp4.1/5, Error ellipse: s-maj=114.1km s-min=28.4km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.88**	**265**	P		P	P	06 58 21.0	0.0
STKA	2.4nm,0.3s,baz=128,slow=12,SNR=6.1 **Stephens Creek**	**38.39**	**241**	P		P	P	07 03 36.0	-0.3
WRA	2.2nm,0.5s,baz=96,slow=10,SNR=6.1 **Warramunga Arr**	**44.21**	**259**	P		P	P	07 04 22.0	-0.3
ASAR	1.3nm,0.5s,baz=94,slow=7.0,SNR=33 **Alice Springs**	**44.42**	**254**	P		P	P	07 04 24.1	+0.1
ASAR	11nm,0.6s,baz=88,slow=8.3,SNR=143			PcP		PcP	PcP	07 05 54.2	-0.5
TXAR	0.3nm,0.3s,baz=94,slow=4.1,SNR=2.8 **Lajitas Array**	**86.20**	**58**	P		P	P	07 08 44.5	0.0
	0.2nm,0.6s,baz=232,slow=7.8,SNR=3.0								

IDC ***20*** *07:01:27.4±0.6, 32°.74N×130°.72E, h0km, mb3.9/21, mb1 4.1/24, mb1mx4.0/58, mbtmp3.9/24, ML2.8/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/94, Error ellipse: s-maj=15.9km s-min=7.2km az=112.0*
NEIC ***20*** *07:01:29.5±1.3, 32°.81N±0°.04×130°.69E±0°.07, h9km±4km, mb4.4/23, Error ellipse: s-maj=8.3km s-min=5.1km az=109.0*
NIED ***20*** *07:01:30.3, 32°.84N×130°.80E, h15km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr-1.05; Mθθ1.25; Mϕϕ-0.20; Mrθ-0.51; Mθϕ0.07; Mϕr0.13; Fault plane solution: M0 1.27000×10^15 NP1: ϕs 258.00000°, δ34.00000°, λ-105.00000°. NP2: ϕs 96.00000°, δ57.00000°, λ-80.00000°.*
JMA ***20*** *07:01:30.2, 32°.84N×130°.80E, h15km, M4.0 Broadband fault plane solution: P waves. NP1: ϕs 87.00000°, δ55.00000°, λ-90.00000°. NP2: ϕs 267.00000°, δ35.00000°, λ-91.00000°. Principal axes: T Plg10.0000°, Azm177.0000°; N Plg0.0000°, Azm87.0000°; P Plg80.0000°, Azm359.0000°;*
JMA Felt III J1.
ISC 20 07:01:29.8±0.5, 32°.81N±0°.03×130°.72E±0°.05, h12km, n60, σ1s 00/64, mb4.3/33, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.22**	**313**	⇑P			Pb	**07 01 35.8**	**+0.1**
JTA				S			**Sg**	**07 01 39.9**	**+2.2**
JIU3	**Izumi3**	**0.28**	**164**	⇑P			**Pg**	**07 01 36.4**	**+1.0**
JIU3				S			**Sg**	**07 01 40.7**	**+1.5**
JNU	**Nakatsue**	**0.33**	**23**	Pg			**Pg**	**07 01 35.7**	**-0.8**
2μm,0.3s,baz=206,slow=6.1,SNR=3193									
JNU				Lg			Lg	07 01 40.5	
JNU	**Nakatsue**	**0.33**	**23**	⇑P			**Pg**	**07 01 36.6**	**+0.1**
JNU				S			**Sg**	**07 01 40.9**	**-0.2**
JNU	**Nakatsue**	**0.33**	**23**				**Pg**	**07 01 36.6**	**+0.1**
JNU				Sg			**Sg**	**07 01 40.9**	**-0.2**
JTZ	**Takazaki**	**0.96**	**161**	⇑P			**Pg**	**07 01 48.6**	**+0.3**
JTZ				S			**Sg**	**07 02 01.2**	**+0.4**
JSU	**Suzuyama**	**1.32**	**190**	Pn			**Pn**	**07 01 54.6**	**+0.5**
JTU	**Tsushima**	**2.03**	**327**	Pn			**Pn**	**07 02 03.5**	**-0.4**
JMN	**Monobe**	**2.80**	**70**				**Pn**	**07 02 15.0**	**+0.6**
JHS	**Saijyo**	**2.95**	**42**	Pn			**Pn**	**07 02 17.6**	**+1.1**
KS14	**Wonju Array Si**	**5.15**	**334**	Pn			**Pn**	**07 02 48.7**	**+2.0**
KSRS	**Korea Array**	**5.17**	**334**	Pn			**Pn**	**07 02 47.0**	**+0.2**
	0.6nm,0.3s,baz=149,slow=14,SNR=3.7								
KSRS				Pg			**Pb**	**07 03 04.5**	**+4.5**
KSRS	1.7nm,0.3s,baz=152,slow=17,SNR=22			Lg			Lg	07 04 09.1	
	4.0nm,0.3s,baz=338,slow=22,SNR=8.2								
INU	**Inuyama**	**5.80**	**62**	Pn			**Pn**	**07 02 55.7**	**+0.1**
MJAR	**Matsushiro Arr**	**7.20**	**57**	Pn			**Pn**	**07 03 16.0**	**+1.2**
	0.2nm,0.3s,baz=238,slow=12,SNR=6.1								
MJAR				LR			LR	07 06 22.1	
	comp=Z,100nm,20.9s,baz=246,slow=41								
USRK	**Ussuriysk Ar.**	**11.41**	**5**	Pn			**Pn**	**07 04 12.4**	**-0.2**
	baz=149,slow=38,SNR=2.4								
USRK				LR			LR	07 08 21.7	
	comp=Z,68nm,19.2s,baz=174,slow=36								
KLR	**Kul'dur**	**16.42**	**2**	Pn			**P**	**07 05 23.8**	**+1.1**
	0.2nm,0.3s,baz=166,slow=7.8,SNR=21								
SONM	**Songino Array**	**23.72**	**316**	P			**P**	**07 06 42.2**	**+0.5**
	1.5nm,0.7s,baz=127,slow=11,SNR=2.6								
UBPT	**Khong Chiam**	**28.80**	**239**	P			**P**	**07 07 27.1**	**-0.7**
UBPT				IAmb			IAmb	07 07 46.6	
	comp=Z,19nm,1.5s								
MKAR	**Makanchi Array**	**39.13**	**305**	P			**P**	**07 08 57.1**	**0.0**
	comp=Z,0.9nm,0.9s,baz=86,slow=8.6,SNR=6.5								
KURBB	**Kurchatov Arra**	**41.88**	**311**	P			**P**	**07 09 20.1**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=98,slow=8.8,SNR=14								
NRIK	**Noril'sk**	**43.76**	**339**	P			**P**	**07 09 35.0**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=122,slow=11,SNR=3.7								
BVAR	**Borovoye Array**	**47.03**	**314**	P			**P**	**07 09 59.5**	**-1.4**
	comp=Z,0.9nm,0.5s								
KKAR	**Karatay Array**	**47.65**	**301**	P			**P**	**07 10 05.8**	**-0.1**
WB0	**Warramunga Arr**	**52.40**	**176**	P			**P**	**07 10 41.2**	**-0.9**
WB0				IAmb			IAmb	07 10 42.3	
	comp=Z,6.6nm,1.3s								

WRAB	Tennant Creek	52.56	176	P		P	07 10 41.8	-1.5	
WRA	Warramunga Arr	52.57	176	P		P	07 10 42.7	-0.6	
	comp=Z,0.8nm,0.8s,baz=354,slow=8.5,SNR=5.9								
WR0	Warramunga Arr	52.60	175	P		P	07 10 42.6	-0.9	
WR0				IAmb	IAmb		07 10 45.0		
	comp=Z,4.9nm,1.2s								
ARU	Arti	53.72	319	P		P	07 10 51.6	+0.2	
	comp=Z,1.4nm,0.2s,baz=6.0,slow=1.8,SNR=4.4								
ARU	Arti	53.72	319	IAmb	IAmb		07 10 53.0		
	comp=Z,14nm,1.5s								
ABKAR	Akbulak array	53.91	310	P		P	07 10 52.6	-0.3	
J20K	Nowinta River	54.58	31	P		P	07 10 57.8	+0.2	
J20K				IAmb	IAmb		07 10 59.0		
	comp=Z,4.6nm,1.1s								
M19K	Big River Lodg	54.62	34	P		P	07 10 57.2	-0.7	
K20K	Telida	54.66	32	P		P	07 10 59.0	+0.8	
K20K				IAmb	IAmb		07 11 20.4		
	comp=Z,8.8nm,1.5s								
AKTO	Aktyubinsk	54.92	312	P		P	07 11 00.4	+0.2	
	comp=Z,1.6nm,0.8s,baz=152,slow=2.7,SNR=5.1								
PPLA	Purkeypile	55.55	33	P		P	07 11 04.1	-0.7	
ASAR	Alice Springs	56.25	176	P		P	07 11 09.1	-0.9	
	comp=Z,0.5nm,0.4s,baz=357,slow=7.0,SNR=11								
H23K	Yukon River	56.41	29	P		P	07 11 11.6	+0.9	
H23K				IAmb	IAmb		07 11 22.9		
	comp=Z,5.7nm,1.5s								
RND	Reindeer	57.00	32	P		P	07 11 15.1	+0.1	
RND				IAmb	IAmb		07 11 31.6		
	comp=Z,12nm,1.5s								
ILAR	Eielson Array	57.65	30	P		P	07 11 19.2	-0.3	
	comp=Z,0.4nm,0.8s,baz=284,slow=7.9,SNR=6.7								
SCRK	Sand Creek	59.03	31	P		P	07 11 29.4	+0.1	
SCRK				IAmb	IAmb		07 11 30.0		
	comp=Z,3.8nm,1.0s								
L26K	Log Cabin Wild	59.52	32	P		P	07 11 33.1	+0.5	
L26K				IAmb	IAmb		07 11 36.7		
	comp=Z,2.3nm,0.8s								
M26K	Nabesna, AK	59.82	33	P		P	07 11 34.9	+0.2	
M26K				IAmb	IAmb		07 11 36.8		
	comp=Z,4.6nm,1.1s								
BCAR	Beaver Creek A	60.20	32	P		P	07 11 38.4	+1.1	
M27K	Edge Creek, AK	60.34	32	P		P	07 11 39.3	+0.9	
INK	Inuvik	62.01	25	P		P	07 11 49.1	-0.3	
	comp=Z,1.5nm,0.9s,baz=297,slow=6.6,SNR=5.8								
INK	Inuvik	62.01	25	P		P	07 11 50.0	+0.6	
INK				IAmb	IAmb		07 11 50.9		
	comp=Z,2.7nm,1.1s								
WHY	Whitehorse	64.05	33	P		P	07 12 03.7	+0.5	
WHY				IAmb	IAmb		07 12 05.2		
	comp=Z,3.5nm,1.1s								
STKA	Stephens Creek	65.16	170	P		P	07 12 10.2	-0.4	
	comp=Z,1.2nm,0.4s,baz=332,slow=7.2,SNR=4.5								
STKA	Stephens Creek	65.16	170	IAmb	IAmb		07 12 16.0		
	comp=Z,1.9nm,1.5s								
EUNU	Eureka	65.52	7	P		P	07 12 12.9	+0.4	
EUNU				IAmb	IAmb		07 12 13.6		
	comp=Z,1.9nm,0.8s								
KBZ	Khabaz	66.75	308	P		P	07 12 22.3	+1.4	
	comp=Z,3.4nm,1.0s,baz=122,slow=13,SNR=7.4								
FINES	FINESS Array B	68.24	330	P		P	07 12 29.1	-0.9	
	comp=Z,3.0nm,0.8s,baz=66,slow=4.6,SNR=7.3								
DGAR	Diego Garcia	68.28	245	P		P	07 12 28.9	-2.0	
YKA	Yellowknife Ar	71.67	26	P		P	07 12 50.7	-0.4	
	comp=Z,0.4nm,0.7s,baz=302,slow=6.1,SNR=9.5								
AKASG	Malin Array Be	71.97	319	P		P	07 12 52.2	-0.9	
	comp=Z,1.7nm,0.5s,baz=56,slow=6.5,SNR=11								
NOA	NORSAR Array B	74.38	334	P		P	07 13 06.3	-0.9	
	comp=Z,1.0nm,0.9s,baz=53,slow=5.1,SNR=3.1								
BRTR	Keskin Array B	74.74	308	P		P	07 13 09.6	-0.2	
	comp=Z,2.0nm,0.9s,baz=104,slow=5.2,SNR=7.3								
GERES	GERESS Array B	81.25	323	P		P	07 13 44.9	-0.9	
	comp=Z,0.3nm,0.3s,baz=343,slow=4.2,SNR=4.5								
NVAR	Mina Array Bea	84.43	47	P		P	07 14 02.2	-0.4	
	comp=Z,0.7nm,0.9s,baz=297,slow=4.8,SNR=6.0								
PDAR	Pinedale Array	86.70	40	P		P	07 14 13.2	-0.7	
	comp=Z,0.2nm,0.6s,baz=355,slow=1.6,SNR=3.8								

IDC ***20*** *07:12:26.6±0.4, 14°.61S×166°.32E, h0km, mb4.7/27, mb1 4.8/31, mb1mx4.8/41, mbtmp4.8/31, ML4.1/3, MS4.7/54, Ms1 4.7/54, ms1mx4.6/67, Error ellipse: s-maj=15.6km s-min=12.0km az=92.0*

MOS ***20*** *07:12:28.6±1.0, 14°.52S×166°.07E, h11km, mb5.3/33, MS4.6/5, Error ellipse: s-maj=9.1km s-min=8.4km az=21.0*

BJI ***20*** *07:12:28.0±0.0, 14°.60S×166°.20E, h10km, mb5.0/67, mB5.4/58, Ms5.0/73, Ms7 4.7/71*

NEIC ***20*** *07:12:30.0±2.4, 14°.55S±0°.07×166°.24E±0°.07, h10km±2km, mb5.2/221, Error ellipse: s-maj=11.8km s-min=7.7km az=46.0*

GCMT ***20*** *07:12:33.0±0.1, 14°.47S±0°.01×166°.11E±0°.01, h12km, MW5.3/126, Moment Tensor Solution. s66,c103; s126,c214; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.68±.02; Mθθ=0.25±.02; Mφφ=0.43±.02; Mrθ=-0.23±.04; Mrφ=-0.68±.01; Mθφ=-0.57±.04; Best double couple: Mo1.09600×10^17 NP1:φs=109.00000°, δ46.00000°, λ=-141.00000°. NP2:φs=350.00000°, δ63.00000°, λ=-51.00000°. Principal axes: T 1.0800, Plg10.0000°, Azm53.0000°; N 0.0330, Plg34.0000°, Azm150.0000°; P -1.1130, Plg54.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***20*** *07:12:33.5, 14°.61S×166°.14E, h30km, mb5.2/81, Vanuatu Islands*

ISC 20 07:12:29.8±0.5, 14°.59S±0°.04×166°.19E±0°.04, h12km±2km, h12km:pP-P, n570, σ1s80/532, mb5.2/230, MS4.7/82, 18C-10D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	Saraoutou	1.29	131			Pn	07 12 52.3	-1.4
DVP	Devils Point	3.66	149	P		Pn	07 13 27.9	+1.7
RTV	Rentapao	3.84	146	P		Pn	07 13 31.2	+2.5
KOUNC	Koumac, New Ca	6.20	197	Pn		Pn	07 14 01.9	+0.7
KOUNC	Koumac, New Ca	6.20	197	P		Pn	07 14 02.4	+1.2
	614nm,0.7s							
LIFNC	LIFOU	6.23	171	Pn		Pn	07 14 01.2	-0.4
MARNC	Mare, Loyalty	7.07	166	Pn		Pn	07 14 14.1	+0.9
DZM	Mont Dzumac	7.44	178	Pn		Pn	07 14 18.1	-0.2
	12nm,0.3s,baz=164,slow=17,SNR=96							
DZM				Sn		Sn	07 15 42.5	-0.3
	14nm,0.3s,baz=306,slow=23,SNR=4.4							
DZM				LR		LR	07 16 56.0	
	comp=Z,7μm,18.4s,baz=14,slow=36							
DZM	Mont Dzumac	7.44	178	*e*Pn		Pn	07 14 18.4	0.0
	199nm,0.6s							
DZM				*e*Sn		Sn	07 15 37.6	-5.2
	156nm,0.8s							
DZM				*e*LR		LR	07 16 01.5	
	comp=Z,6μm,24.2s							
DZM	Mont Dzumac	7.44	178	Pn		Pn	07 14 18.5	+0.2
YATNC	Mamie plateau,	7.46	175	P		Pn	07 14 19.4	+0.9
	193nm,0.8s							
NOUC	Port Laguerre	7.47	179	P		Pn	07 14 19.8	+1.2
	130nm,0.8s							
ONTNC	Ouen Toro	7.68	178	Pn		Pn	07 14 21.2	-0.3
OUENC	Ouen Island, N	7.81	176	Pn		Pn	07 14 22.3	-1.0
HNR	Honiara	7.98	309	Pn		Pn	07 14 25.6	-0.1
	78nm,0.3s,baz=238,slow=5.3,SNR=14							
HNR				Sn		Sn	07 15 58.0	+2.1
	18nm,0.3s,baz=59,slow=21,SNR=1.1							
HNR				LR		LR	07 17 24.5	
	comp=Z,8μm,18.3s,baz=152,slow=37							
HNR	Honiara	7.98	309	P		Pn	07 14 26.1	+0.4
HNR							07 15 58.0	
HNR	Honiara	7.98	309	Pn		Pn	07 14 26.1	+0.4
HNR	Honiara	7.98	309	P		Pn	07 14 27.5	+1.8
	1μm,1.0s							
PINNC	Pines Island,	8.06	172	Pn		Pn	07 14 28.1	+1.3
MSVF	Nonsavu	11.81	107	Pn		Pn	07 15 23.0	+4.7
	baz=235,slow=4.0,SNR=11							
MSVF				LR		LR	07 19 02.2	
	comp=Z,8μm,19.7s,baz=276,slow=34							
MSVF	Nonsavu	11.81	107	P		Pn	07 15 22.8	+4.5
MSVF	Nonsavu	11.81	107	Pn		Pn	07 15 22.8	+4.5
MSVF	Nonsavu	11.81	107	P		Pn	07 15 21.5	+3.2
	154nm,1.6s							
RK1H	Rockhampton Ha	17.22	237	P		P	07 16 31.1	-0.7
	33nm,0.7s							
KRVT	Keravat (AS076	17.30	305	LR		LR	07 22 38.0	
	comp=Z,2μm,22.0s,baz=269,slow=35							
EIDS	Eidsvold	17.77	231	P		P	07 16 39.5	+1.5
	baz=18,SNR=7.8							
EIDS	Eidsvold	17.77	231	P		P	07 16 38.5	+0.4
EIDS	Eidsvold	17.77	231	P		P	07 16 38.4	+0.4
	45nm,1.6s							
PMG	Port Moresby	19.31	283	P		Pn	07 16 56.2	+0.2
	2.3nm,0.3s,baz=98,slow=6.8,SNR=29							
PMG				LR		LR	07 23 31.4	
	comp=Z,7μm,18.7s,baz=32,slow=34							
PMG	Port Moresby	19.31	283	*de*P		Pn	07 16 56.3	+0.2
PMG				pmax		pmax		
	comp=Z,267nm,1.2s							
PMG	Port Moresby	19.31	283			Pn	07 16 56.2	+0.2
PMG				IAmb		IAmb	07 16 59.6	
	comp=Z,328nm,1.1s							
PMG	Port Moresby	19.31	283	P		Pn	07 16 56.3	+0.2
	comp=Z,249nm,1.6s							
PMG	Port Moresby	19.31	283	P		Pn	07 16 56.2	+0.2
	comp=Z,249nm,1.6s							
CTA	Charters Tower	19.80	251	P		P	07 17 00.8	+0.5
	comp=Z,0.6nm,0.3s,baz=78,slow=12,SNR=24							
CTA				LR		LR	07 23 13.3	
	comp=Z,4μm,21.2s,baz=78,slow=32							
CTA	Charters Tower	19.80	251	P		Pn	07 17 01.1	-0.7
	baz=20							
CTA	Charters Tower	19.80	251	P		Pn	07 17 01.9	+0.1
	comp=Z,95nm,1.4s							
CTAO	Charters Tower	19.80	251	P		Pn	07 17 01.4	-0.4
CTAO				pmax		pmax		
	comp=Z,253nm,1.6s							
CTAO	Charters Tower	19.80	251	P		Pn	07 17 01.4	-0.4
CTAO				IAmb		IAmb	07 17 03.9	
	comp=Z,253nm,1.6s							
RMQ	Roma	20.13	231	P		Pn	07 17 06.1	+0.3
	baz=20,SNR=35							
RMQ	Roma	20.13	231	P		Pn	07 17 06.1	+0.3
	comp=Z,87nm,0.8s							
ARMA	Armidale	20.68	218	P		Pn	07 17 12.5	+0.3
	baz=21,SNR=6.2							
ARMA	Armidale	20.68	218			Pn	07 17 11.2	-1.0
ARMA	Armidale	20.68	218	P		P	07 17 10.5	+0.6
	comp=Z,24nm,1.9s							
RAO	Raoul Island	20.70	137	LR		LR	07 23 42.2	
	comp=Z,1μm,18.6s,baz=309,slow=33							
MTSU	Mount Surprise	21.28	258	P		P	07 17 17.4	+0.9
	baz=21,SNR=6.0							
MTSU	Mount Surprise	21.28	258	P		P	07 17 17.3	+0.9
	comp=Z,31nm,1.1s							
AFI	Afiamalu	21.36	91	LR		LR	07 23 47.7	
	comp=Z,2μm,19.2s,baz=269,slow=32							
OUZ	Omahuta	21.59	163	P		P	07 17 22.6	+3.1
OUZ				IAmb		IAmb	07 17 25.5	
	comp=Z,87nm,1.0s							
COEN	Coen	22.32	269	P		P	07 17 27.1	-0.5
COEN	Coen	22.32	269	P		P	07 17 28.0	+0.4
	comp=Z,82nm,1.7s							
MANU	Manus Island	22.39	302	P		P	07 17 28.5	+0.2
MANU				IAmb		IAmb	07 17 35.7	
	comp=Z,164nm,1.8s							
MGCD	Mangrove Creek	23.05	214	P		P	07 17 36.7	+1.6
	baz=23,SNR=5.1							
MGCD	Mangrove Creek	23.05	214	P		P	07 17 37.6	+2.5
	comp=Z,41nm,0.9s							
RIV	Riverview	23.50	213	P		P	07 17 41.2	+1.6
RIV				pmax		pmax		
	comp=Z,102nm,1.6s							
SYDH	Sydney Hard Ro	23.67	214	P		P	07 17 42.8	+1.5
	comp=Z,25nm,1.1s							
QLP	Quilpie	23.72	236	P		P	07 17 43.3	+1.4
	comp=Z,111nm,1.6s							
KNTN	Kanton	24.76	64	P		P	07 17 53.5	+1.9
CMSA	Cobar Meteorol	25.23	225	P		P	07 17 55.7	0.0
	baz=25,SNR=60							
CMSA	Cobar Meteorol	25.23	225	P		P	07 17 55.6	-0.1
	comp=Z,38nm,1.0s							
URZ	Urewera	25.48	160	P		P	07 18 00.1	+2.2
	comp=Z,25nm,0.8s,baz=71,slow=2.3,SNR=13							
URZ				S		S	07 22 25.9	+1.0
	comp=Z,4.9nm,0.9s,baz=81,slow=11,SNR=2.3							
URZ				LR		LR	07 26 56.5	
	comp=Z,2μm,18.1s,baz=31,slow=34							
URZ	Urewera	25.48	160	P		P	07 18 01.1	+3.3
CNB	Canberra Magne	25.59	213	P		P	07 18 00.5	+1.5
	baz=26,SNR=12							
CNB	Canberra Magne	25.59	213	P		P	07 17 59.7	+0.7
	comp=Z,42nm,0.9s							
CAN	Canberra	25.78	214	P		P	07 18 02.3	+1.5
CAN				pmax		pmax		
	comp=Z,26nm,1.4s							
CAN	Canberra	25.78	214	P		P	07 18 02.2	+1.5
	comp=Z,26nm,1.4s							
QIS	Mount Isa	26.01	253	P		P	07 18 02.5	-0.4
	baz=26,SNR=13							
QIS	Mount Isa	26.01	253	P		P	07 18 02.9	-0.1
	comp=Z,33nm,1.6s							
BKZ	Black Stump Fm	26.10	162	P		P	07 18 06.1	+2.5
BKZ				IAmb		IAmb	07 18 22.9	
	comp=Z,25nm,0.6s							
BKZ	Black Stump Fm	26.10	162	P		P	07 18 05.6	+2.0
	comp=Z,153nm,0.8s							
INKA	Innaminka	27.03	237	P		P	07 18 12.6	+0.6
	comp=Z,123nm,1.4s							
BFZ	Birch Farm	27.43	163	IAmb		IAmb	07 18 31.2	
	comp=Z,52nm,1.2s							
BFZ	Birch Farm	27.43	163	P		P	07 18 17.9	+2.4
	comp=Z,49nm,2.3s							
THZ	Tophouse	27.69	169	P		P	07 18 20.4	+2.5
STKA	Stephens Creek	28.30	228	P		P	07 18 22.9	-0.4
	comp=Z,16nm,0.9s,baz=45,slow=8.1,SNR=27							
STKA				LR		LR	07 29 35.1	
	comp=Z,5μm,18.4s,baz=51,slow=36							
STKA	Stephens Creek	28.30	228	P		P	07 18 23.5	+0.1
	baz=28,SNR=7.8							
STKA	Stephens Creek	28.30	228	*d*iP		P	07 18 24.1	+0.7
STKA	Stephens Creek	28.30	228	P		P	07 18 23.2	-0.2
STKA	Stephens Creek	28.30	228	P		P	07 18 23.8	+0.4
	comp=Z,6.0nm,1.5s							
LTZ	Lake Taylor	28.57	171	P		P	07 18 27.6	+1.8
LTZ				IAmb		IAmb	07 18 48.5	
	comp=Z,32nm,0.8s							
OXZ	Oxford	29.07	171	IAmb		IAmb	07 18 52.6	
	comp=Z,26nm,0.8s							
RPZ	Rata Peaks	29.32	173	P		P	07 18 29.3	-3.0
	comp=Z,6.5nm,0.9s,baz=21,slow=8.6,SNR=2.2							
RPZ				LR		LR	07 29 44.7	
	comp=Z,3μm,18.2s,baz=350,slow=36							
TOO	Toolangi	29.35	215	P		P	07 18 33.2	+0.5
TOO				pmax		pmax		
	comp=Z,25nm,1.4s							
TOO	Toolangi	29.35	215	P		P	07 18 33.2	+0.5
TOO	Toolangi	29.35	215	P		P	07 18 34.2	+1.5
	comp=Z,11nm,1.6s							
SMPI	Sarmi	29.89	292	P		P	07 18 37.7	0.0
	comp=Z,26nm,1.3s							
LCRK	Leigh Creek	30.16	234	P		P	07 18 40.2	+0.3
	comp=Z,68nm,1.5s							
WR0	Warramunga Arr	30.66	255	IAmb		IAmb	07 18 44.3	
	comp=Z,25nm,1.2s							
WB0	Warramunga Arr	30.78	256	IAmb		IAmb	07 18 46.0	
	comp=Z,76nm,1.6s							
WB2	Warramunga Arr	30.84	256	P		P	07 18 44.5	-1.6
	baz=31							
WB2	Warramunga Arr	30.84	256	IAmb		IAmb	07 18 46.5	
	comp=Z,72nm,1.6s							
WRAB	Tennant Creek	30.84	256	*ce*P		P	07 18 44.9	-1.2
WRAB				pmax		pmax		
	comp=Z,53nm,1.7s							
WRAB	Tennant Creek	30.84	256	P		P	07 18 44.6	-1.5
WRAB				IAmb		IAmb	07 18 46.5	
	comp=Z,62nm,1.5s							
WRAB	Tennant Creek	30.84	256	P		P	07 18 44.9	-1.2
	comp=Z,26nm,1.4s							
WRA	Warramunga Arr	30.85	256	P		P	07 18 44.1	-2.1
	comp=Z,13nm,1.1s,baz=84,slow=8.7,SNR=41							
WRA				PcP		PcP	07 21 42.1	-1.2
	comp=Z,7.0nm,1.2s,baz=73,slow=2.3,SNR=5.3							
WRA				LR		LR	07 30 08.2	
	comp=Z,3μm,20.2s,baz=80,slow=34							
WRA	Warramunga Arr	30.85	256	*i* P		P	07 18 44.5	-1.7
WRA				pmax		pmax		
	comp=Z,13nm,1.1s							
WRA	Warramunga Arr	30.85	256			PcP	07 21 42.9	-0.3
WC4	Warramunga Arr	30.85	255	P		P	07 18 44.3	-1.8
WC4				IAmb		IAmb	07 18 46.6	
	comp=Z,83nm,1.6s							
HTT	Hallett	31.03	228	P		P	07 18 48.3	+0.6
	baz=31,SNR=7.3							
HTT	Hallett	31.03	228	P		P	07 18 48.4	+0.8
	comp=Z,33nm,1.1s							
OOD	Oodnadatta	31.23	240	P		P	07 18 49.7	+0.3
	comp=Z,51nm,0.8s							
NAPP	Napperby	31.47	229	P		P	07 18 52.8	+1.4
	comp=Z,24nm,1.0s							
AS31	Alice Springs	31.75	249	P		P	07 18 52.3	-1.8
ASAR	Alice Springs	31.75	249	P		P	07 18 52.6	-1.5
	comp=Z,14nm,0.9s,baz=76,slow=9.2,SNR=63							
ASAR				PcP		PcP	07 21 43.8	-1.8
	comp=Z,2.9nm,1.0s,baz=71,slow=2.4,SNR=4.9							
ASAR				ScP		ScP	07 25 29.9	+0.9
	comp=Z,0.9nm,0.9s,baz=79,slow=2.0,SNR=4.2							
ASAR				LR		LR	07 30 30.0	
	comp=Z,3μm,21.7s,baz=88,slow=34							
ASAR	Alice Springs	31.75	249	P		P	07 18 53.3	-0.8
ASAR							07 21 43.2	
ASAR	Alice Springs	31.75	249	P		P	07 18 53.3	-0.8
ASAR						PcP	07 21 43.2	-2.4
ASPA	Alice Springs	31.75	249	P		P	07 18 52.7	-1.4
	baz=32							
WHYH	Whyalla	31.82	230	P		P	07 18 55.1	+0.6
	comp=Z,29nm,0.9s							
KDU	Kakadu	32.81	269	P		P	07 19 02.2	-1.2
	baz=33,SNR=4.6							
KDU	Kakadu	32.81	269	P		P	07 19 03.2	-0.2
	comp=Z,18nm,1.4s							
BBOO	Buckleboo	32.84	231	P		P	07 19 03.5	-0.1
	baz=33,SNR=24							
BBOO	Buckleboo	32.84	231	P		P	07 19 03.9	+0.3
BBOO				IAmb		IAmb	07 19 05.0	
	comp=Z,58nm,1.1s							
BBOO	Buckleboo	32.84	231	P		P	07 19 03.9	+0.3
	comp=Z,58nm,1.5s							
RAR	Rarotonga	33.00	106	LR		LR	07 30 05.3	
	comp=Z,487nm,21.2s,baz=282,slow=32							
MULG	Mulgathing	33.41	237	P		P	07 19 08.2	-0.3
	comp=Z,50nm,0.8s							
GUMO	Guam	35.07	322	LR		LR	07 33 17.0	
	comp=Z,772nm,19.0s,baz=136,slow=36							
KNRA	Kununurra	36.12	263	P		P	07 19 31.7	-0.4
	baz=36,SNR=4.5							
KNRA	Kununurra	36.12	263	P		P	07 19 30.7	-1.4
KNRA				IAmb		IAmb	07 19 32.9	
	comp=Z,95nm,1.4s							
KNRA	Kununurra	36.12	263	P		P	07 19 31.8	-0.3
	comp=Z,45nm,1.2s							
WRKA	Warakurna	37.02	248	P		P	07 19 38.3	-1.5
	baz=37,SNR=24							
WRKA	Warakurna	37.02	248	P		P	07 19 38.8	-1.0
	comp=Z,40nm,1.2s							
BNDI	Bandanaira	37.10	282	P		P	07 19 41.0	+0.5
	comp=Z,204nm,1.3s							
SIJI	Sorong	37.11	288	LR		LR	07 35 30.9	
	comp=Z,2μm,18.8s,baz=98,slow=37							
FORT	Forrest	38.47	239	P		P	07 19 51.7	-0.2
	baz=39,SNR=24							
FORT	Forrest	38.47	239	P		P	07 19 51.8	-0.2
FORT	Forrest	38.47	239	P		P	07 19 52.0	+0.1
	comp=Z,139nm,1.0s							
FITZ	Fitzroy Crossi	39.02	259	LR		LR	07 36 02.7	
	comp=Z,3μm,18.0s,baz=84,slow=36							
NLAI	Namlea	40.16	283	P		P	07 20 07.5	+1.3
	comp=Z,3μmcomp=Z,152nm,1.4s							
SANI	Sanana	41.60	284	P		P	07 20 17.6	-0.5
	comp=Z,1μmcomp=Z,53nm,1.5s							
SANI	Sanana	41.60	284	P		P	07 20 18.5	+0.4
	comp=Z,52nm,1.2s							
BATI	Baumata	41.72	271	LR		LR	07 36 52.1	
	comp=Z,2μm,20.7s,baz=132,slow=35							
BATI	Baumata	41.72	271	P		P	07 20 17.1	-2.0
	comp=Z,796nmcomp=Z,41nm,1.6s							
PPT2	Papeete2	42.53	100	*e*S		S	07 26 56.0	+7.7
	comp=Z,159nm,20.7s							
PPT2				*e*LQ		LQ	07 30 29.2	
	comp=Z,3μm,29.8s							
PPT2				*e*LR		LR	07 32 26.6	
	comp=Z,1μm,24.0s,baz=266							
PPT	Papeete	42.53	100	LR		LR	07 33 31.4	
	comp=Z,863nm,21.7s,baz=267,slow=30							
TBI	Tubuai	42.69	109	*e*S		S	07 26 58.2	+7.8
	comp=Z,247nm,27.5s							
TBI				*e*LQ		LQ	07 30 38.4	
	comp=Z,3μm,29.8s							
TBI				*e*LR		LR	07 32 26.9	
	comp=Z,1μm,25.0s,baz=280							
MMRI	Maumere	43.41	273	P		P	07 20 31.4	-1.4
	comp=Z,47nm,0.9s							
MMRI	Maumere	43.41	273	P		P	07 20 33.0	+0.2
	comp=Z,70nm,1.1s							
PSA00	Pilbara Seismi	44.47	254	P		P	07 20 40.3	-1.0
PSA00				IAmb		IAmb	07 20 43.9	
	comp=Z,94nm,1.6s							
PSA00	Pilbara Seismi	44.47	254	P		P	07 20 40.6	-0.7
	comp=Z,28nm,1.3s							
LUWI	Luwuk	44.96	283	P		P	07 20 45.6	+0.3
LUWI	Luwuk	44.96	283	P		P	07 20 45.2	-0.1
	comp=Z,5μmcomp=Z,40nm,0.9s							
LUWI	Luwuk	44.96	283	P		P	07 20 45.5	+0.3
	comp=Z,39nm,1.2s							
BSSI	Bau Bau, Buton	45.66	276	P		P	07 20 51.1	+0.3
	comp=Z,739nmcomp=Z,36nm,1.5s							
DAV	Davao City (W)	45.67	295	LR		LR	07 37 56.4	
	comp=Z,568nm,21.5s,baz=150,slow=33							
MEEK	Meekatharra	45.88	247	P		P	07 20 51.9	-0.5
	baz=46,SNR=52							
MEEK	Meekatharra	45.88	247	P		P	07 20 52.1	-0.4
	comp=Z,105nm,0.9s							
APSI	Ampana	46.

GMJI	**Gumukmas**	**51.99**	**271**	P	**P**	**07**	**21**	**42.0 +2.5**
	comp=Z,53nm,1.2s							
TAOE	**Nuku Hiva Isla**	**52.75**	**90**	*e*LR	LR	07	37	08.0
	comp=Z,2µm,26.7s							
PWJI	**Pagerwojo**	**53.63**	**271**	P	**P**	**07**	**21**	**54.9 +3.3**
	comp=Z,28nm,1.0s							
KKM	**Kota Kinabalu**	**53.63**	**289**	P	**P**	**07**	**21**	**51.6 -0.2**
KKM	**Kota Kinabalu**	**53.63**	**289**	P	**P**	**07**	**21**	**52.3 +0.6**
	comp=Z,129nm,1.5s							
JHJ	**Hachijo jima 2**	**53.73**	**332**	LR	LR	07	46	37.6
	comp=Z,275nm,18.0s,baz=96,slow=38							
PCJI	**Pacitan**	**54.20**	**270**	P	**P**	**07**	**21**	**56.6 +0.8**
	comp=Z,2µmcomp=Z,146nm,1.4s							
UGM	**Wanagama**	**54.89**	**271**	P	**P**	**07**	**22**	**02.8 +1.9**
	comp=Z,149nm,1.5s							
UGM	**Wanagama**	**54.89**	**271**	P	**P**	**07**	**22**	**02.2 +1.3**
	comp=Z,147nm,1.5s							
SMRI	**Semarang**	**55.16**	**272**	P	**P**	**07**	**22**	**05.3 +2.5**
	comp=Z,125nm,1.3s							
SMRI	**Semarang**	**55.16**	**272**	P	**P**	**07**	**22**	**04.2 +1.4**
	comp=Z,78nm,0.9s							
JOW	**Kunigami**	**55.25**	**318**	P	**P**	**07**	**22**	**02.6 -0.5**
	comp=Z,17nm,0.8s,baz=169,slow=7.2,SNR=2.7							
STKI	**Sintang**	**56.02**	**280**	P	**P**	**07**	**22**	**11.2 +2.3**
KPJI	**Karang Pucung**	**56.56**	**271**	P	**P**	**07**	**22**	**13.5 +0.7**
	comp=Z,49µmcomp=Z,1µmcomp=Z,46nm,1.2s							
INU	**Inuyama**	**56.85**	**332**	P	**P**	**07**	**22**	**15.8 +1.4**
	comp=Z,21nm,1.8s							
MJAR	**Matsushiro Arr**	**57.31**	**333**	P	**P**	**07**	**22**	**16.0 -1.7**
	comp=Z,7.5nm,0.8s,baz=158,slow=6.9,SNR=9.7							
MAJO	**Matsushiro**	**57.31**	**333**	P	**P**	**07**	**22**	**18.1 +0.4**
MAJO				pmax	pmax			
	comp=Z,19nm,1.0s							
MAJO	**Matsushiro**	**57.31**	**333**	P	**P**	**07**	**22**	**18.1 +0.4**
MAJO				IAmb	IAmb	07	22	26.4
	comp=Z,19nm,1.0s							
MAJO	**Matsushiro**	**57.31**	**333**	P	**P**	**07**	**22**	**18.2 +0.5**
	comp=Z,23nm,0.7s							
MJB9	**Matsu-Tunnel**	**57.32**	**333**	P	**P**	**07**	**22**	**16.4 -1.3**
MJB9				IAmb	IAmb	07	22	26.4
	comp=Z,21nm,1.1s							
KSM	**Kuching**	**57.56**	**281**	P	**P**	**07**	**22**	**20.5 +0.6**
	comp=Z,41nm,1.5s							
LEM	**Lembang**	**57.94**	**271**	LR	LR	07	48	42.5
	comp=Z,432nm,19.5s,baz=98,slow=38							
CNJI	**Cibinong**	**58.31**	**270**	P	**P**	**07**	**22**	**28.5 +3.4**
	comp=Z,1µmcomp=Z,78nm,0.8s							
TPUB	**Ta-pu**	**58.35**	**310**	P	**P**	**07**	**22**	**25.2 -0.1**
	comp=Z,42nm,1.1s							
SSLB	**Suanglung**	**58.40**	**310**	IAmb	IAmb	07	22	26.9
	comp=Z,54nm,1.3s							
SSLB	**Suanglung**	**58.40**	**310**	P	**P**	**07**	**22**	**25.9 +0.3**
	comp=Z,33nm,1.8s							
JHS	**Saijyo**	**58.46**	**328**	P	**P**	**07**	**22**	**25.7 -0.2**
JHS				IAmb	IAmb	07	22	47.4
	comp=Z,50nm,1.6s							
YHNB	**Yeheng**	**58.61**	**311**	P	**P**	**07**	**22**	**27.1 0.0**
	comp=Z,55nm,1.2s							
CGJI	**Cibinong**	**59.85**	**271**	P	**P**	**07**	**22**	**35.6 -0.3**
	comp=Z,2µmcomp=Z,85nm,0.9s							
PPBI	**Pangkal Pinang**	**60.51**	**276**	P	**P**	**07**	**22**	**42.1 +1.7**
QZH	**Quanzhou**	**60.82**	**310**	⇓*i*P	**P**	**07**	**22**	**43.5 +1.3**
QZH				S	**S**	**07**	**31**	**03.1 +3.4**
QZH				pmax	pmax			
	comp=Z,300nm,4.0s							
QZH				LR	LR			
	comp=Z,310nm,18.6s							
QZH				LR	LR			
	comp=Z,410nm,16.1s							
QZH				LR	LR			
	comp=Z,410nm,17.2s							
KASI	**Kota Agung**	**61.26**	**272**	P	**P**	**07**	**22**	**46.2 +0.7**
	comp=Z,59nm,1.4s							
MDSI	**Maura Dua**	**61.81**	**273**	P	**P**	**07**	**22**	**48.6 -0.6**
	comp=Z,2µmcomp=Z,21nm,1.7s							
ASAJ	**Asahikawa**	**62.27**	**341**	P	**P**	**07**	**22**	**50.0 -1.7**
	comp=Z,10nm,0.9s,baz=56,slow=30,SNR=3.3							
TJN	**Taejon**	**62.56**	**325**	*ce*P	**P**	**07**	**22**	**54.2 +0.5**
VNDA	**Vanda**	**62.97**	**181**	P	**P**	**07**	**22**	**55.4 -0.6**
	comp=Z,2.7nm,0.8s,baz=358,slow=6.7,SNR=7.5							
VNDA				LR	LR	07	46	27.2
	comp=Z,520nm,20.3s,baz=14,slow=32							
VNDA	**Vanda**	**62.97**	**181**	P	**P**	**07**	**22**	**55.9 0.0**
VNDA				pmax	pmax			
	comp=Z,52nm,1.8s							
VNDA	**Vanda**	**62.97**	**181**	P	**P**	**07**	**22**	**55.9 0.0**
VNDA				IAmb	IAmb	07	23	01.9
	comp=Z,52nm,1.8s							
KSRS	**Korea Array**	**63.05**	**326**	P	**P**	**07**	**22**	**56.6 -0.3**
	comp=Z,3.3nm,0.9s,baz=150,slow=5.7,SNR=8.2							
KSRS				LR	LR	07	48	36.8
	comp=Z,320nm,20.1s,baz=130,slow=34							
SBA	**Scott Base**	**63.27**	**180**	P	**P**	**07**	**22**	**59.3 +1.4**
SBA				pmax	pmax			
	comp=Z,94nm,1.8s							
SBA	**Scott Base**	**63.27**	**180**	P	**P**	**07**	**22**	**59.2 +1.4**
QIZ	**Qiongzhong**	**64.76**	**299**	P	**P**	**07**	**23**	**10.5 +1.8**
QIZ				S	**S**	**07**	**31**	**48.4 -1.1**
QIZ				sS	**sS**	**07**	**31**	**55.6 +1.2**
QIZ				SS	**SS**	**07**	**36**	**03.3 +2.2**
QIZ				pmax	pmax			
	comp=Z,300nm,4.4s							
QIZ				LR	LR			
	comp=Z,340nm,21.1s							
QIZ				LR	LR			
	comp=Z,320nm,24.5s							
QIZ				LR	LR			
	comp=Z,410nm,18.3s							
YSS	**Yuzh-Sakhalins**	**64.78**	**342**	*e*P	**P**	**07**	**23**	**08.7 +0.5**
YSS				*e*S	**S**	**07**	**31**	**46.9 -1.8**
YSS				pmax	pmax			
	comp=Z,40nm,1.2s							
YSS				pmax	pmax			
	comp=Z,500nm,7.1s							
YSS				smax	smax			
	comp=E,600nm,10.8s							
YSS	**Yuzh-Sakhalins**	**64.78**	**342**	P	**P**	**07**	**23**	**07.7 -0.5**
YSS	**Yuzh-Sakhalins**	**64.78**	**342**	P	**P**	**07**	**23**	**10.0 +1.8**
	comp=E,35nm,1.2s							
NJ2	**Nanjing**	**64.86**	**316**	*e*P	**P**	**07**	**23**	**10.0 +1.0**
NJ2				pP	**pwP**	**07**	**23**	**14.6 -1.9**
NJ2				sP	**sP**	**07**	**23**	**16.9 +4.3**
NJ2				pmax	pmax			
	comp=E,6.0nm,0.5s							
NJ2				LR	LR			
	comp=E,640nm,18.3s							
NJ2				LR	LR			
	comp=E,950nm,18.3s							
NJ2				LR	LR			
	comp=E,350nm,16.4s							
MSHR	**Mys Shultsa**	**65.37**	**332**	*i* P	**P**	**07**	**23**	**13.1 +1.0**
MSHR				pmax	pmax			
	comp=Z,29nm,1.2s							
USA0B	**Ussuriysk Arra**	**66.30**	**334**	IAmb	IAmb	07	23	20.7
	comp=Z,36nm,1.2s							
USRK	**Ussuriysk Ar.**	**66.30**	**334**	P	**P**	**07**	**23**	**17.7 -0.3**
	comp=Z,23nm,1.2s,baz=140,slow=6.2,SNR=15							
USRK				LR	LR	07	51	30.6
	comp=Z,188nm,19.6s,baz=140,slow=35							
CNSH	**ChangSha**	**66.82**	**310**	⇓P	**P**	**07**	**23**	**22.9 +1.1**
CNSH				S	**S**	**07**	**32**	**18.1 +3.7**
CNSH				pmax	pmax			
	comp=Z,24nm,1.6s							
CNSH				LR	LR			
	comp=Z,300nm,16.7s							
CNSH				LR	LR			
	comp=Z,320nm,19.5s							
CNSH				LR	LR			
	comp=Z,490nm,22.2s							
UBPT	**Khong Chiam**	**66.96**	**294**	IAmb	IAmb	07	23	26.0
	comp=Z,26nm,1.3s							
WHN	**Wuhan**	**67.08**	**313**	⇑P	**P**	**07**	**23**	**22.5 -0.9**
WHN				pP	**sP**	**07**	**23**	**27.9 +0.9**
WHN				S	**S**	**07**	**32**	**17.4 0.0**
WHN				SS	**SS**	**07**	**36**	**36.3 -0.5**
WHN				pmax	pmax			
	comp=Z,180nm,1.7s							
WHN				pmax	pmax			
	comp=Z,620nm,3.1s							
WHN				LR	LR			
	comp=Z,930nm,22.8s							
IPM	**Ipoh**	**67.30**	**281**	P	**P**	**07**	**23**	**26.0 +0.9**
	comp=Z,47nm,1.5s							
GULI	**GuiLin**	**67.30**	**306**	⇑P	**P**	**07**	**23**	**26.1 +1.2**
GULI				S	**S**	**07**	**32**	**25.8 +5.5**
GULI				pmax	pmax			
	comp=Z,40nm,1.2s							
GULI				LR	LR			
	comp=Z,410nm,18.6s							
GULI				LR	LR			
	comp=Z,360nm,21.2s							
GULI				LR	LR			
	comp=Z,590nm,21.4s							
SHEM	**Shemya Is, Ala**	**67.39**	**5**	LR	LR	07	48	18.2
	comp=Z,390nm,19.2s,baz=162,slow=32							
DL2	**Dalian**	**67.57**	**324**	P	**P**	**07**	**23**	**27.0 +0.7**
DL2				S	**S**	**07**	**32**	**27.8 +4.9**
DL2				pmax	pmax			
	comp=Z,130nm,5.9s							
DL2				LR	LR			
	comp=Z,540nm,16.4s							
DL2				LR	LR			
	comp=Z,450nm,14.5s							
MNSI	**Mandailing Nat**	**67.62**	**277**	P	**P**	**07**	**23**	**27.7 +0.6**
	comp=Z,32nm,0.7s							
MDJ	**Mudanjiang**	**67.68**	**333**	IAmb	IAmb	07	23	28.5
	comp=Z,40nm,1.3s							
MDJ	**Mudanjiang**	**67.68**	**333**	P	**P**	**07**	**23**	**27.8 +1.0**
	comp=Z,18nm,1.1s							
PEA0B	**Petropavlovsk-**	**67.82**	**354**	*i* P	**P**	**07**	**23**	**28.6 +1.0**
PETK	**Petropavlovsk-**	**67.82**	**354**	P	**P**	**07**	**23**	**27.7 +0.2**
	comp=Z,12nm,1.1s,baz=80,slow=11,SNR=5.8							
PETK				LR	LR	07	49	01.6
	comp=Z,308nm,20.2s,baz=154,slow=32							
SNY	**Shenyang**	**68.52**	**327**	⇓P	**P**	**07**	**23**	**31.9 -0.3**
SNY				S	**S**	**07**	**32**	**37.3 +3.1**
SNY				SS	**SS**	**07**	**36**	**58.9 +0.2**
SNY				pmax	pmax			
	comp=Z,330nm,6.6s							
SNY				LR	LR			
	comp=Z,340nm,13.7s							
SNY				LR	LR			
	comp=Z,280nm,15.6s							
SNY				LR	LR			
	comp=Z,430nm,16.1s							
TIA	**Tai'an**	**68.55**	**319**	⇑P	**P**	**07**	**23**	**32.3 -0.2**
TIA				S	**S**	**07**	**32**	**38.8 +4.0**
TIA				pmax	pmax			
	comp=Z,12nm,1.3s							
TIA				pmax	pmax			
	comp=Z,210nm,5.5s							
TIA				LR	LR			
	comp=Z,190nm,15.9s							
TIA				LR	LR			
	comp=Z,290nm,14.7s							
TIA				LR	LR			
	comp=Z,500nm,22.0s							
PSI	**Prapat**	**68.81**	**279**	LR	LR	07	54	32.9
	comp=Z,226nm,19.8s,baz=115,slow=37							
CN2	**Changchun**	**69.00**	**330**	*e*P	**P**	**07**	**23**	**35.1 0.0**
CN2				*ep*P	sP	07	23	39.8 +1.0
CN2				*e*S	**S**	**07**	**32**	**39.6 -0.2**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
CN2				pmax	pmax			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=Z,300nm,17.0s							
CN2				LR	LR			
	comp=Z,300nm,17.0s							
CN2				LR	LR			
	comp=Z,400nm,17.0s							
BNX	**BinXian**	**69.53**	**332**	⇓P	**P**	**07**	**23**	**38.1 -0.3**
BNX				pmax	pmax			
	comp=Z,160nm,1.8s							
BNX				pmax	pmax			
	comp=Z,440nm,6.0s							
GSI	**Gunungsitoli**	**69.68**	**277**	P	**P**	**07**	**23**	**38.7 -1.4**
GSI	**Gunungsitoli**	**69.68**	**277**	P	**P**	**07**	**23**	**41.0 +0.9**
	comp=Z,48nm,1.5s							
GSI	**Gunungsitoli**	**69.68**	**277**	P	**P**	**07**	**23**	**40.9 +0.9**
	comp=Z,48nm,1.5s							
SRIT	**Nakonsritamara**	**69.93**	**285**	P	**P**	**07**	**23**	**40.6 -1.0**
KLR	**Kul'dur**	**70.47**	**337**	P	**P**	**07**	**23**	**43.1 -1.0**
	comp=Z,13nm,1.2s,baz=134,slow=4.9,SNR=16							
KLR	**Kul'dur**	**70.47**	**337**	*ce*P	**P**	**07**	**23**	**43.6 -0.5**
KLR				pmax	pmax			
	comp=Z,43nm,1.7s							
LYN	**LuoYang**	**70.64**	**315**	⇑*i*P	**P**	**07**	**23**	**45.9 +0.4**
LYN				S	**S**	**07**	**32**	**59.0 -0.5**
LYN				SS	**SS**	**07**	**37**	**29.4 -2.3**
LYN				pmax	pmax			
	comp=Z,40nm,1.4s							
LYN				pmax	pmax			
	comp=Z,350nm,5.5s							
LYN				LR	LR			
	comp=Z,610nm,15.7s							
LYN				LR	LR			
	comp=Z,340nm,15.4s							
LYN				LR	LR			
	comp=Z,620nm,21.6s							
GYA	**Guiyang**	**70.78**	**305**	⇑*i*P	**P**	**07**	**23**	**46.9 +0.2**
GYA				S	**S**	**07**	**33**	**04.1 +2.4**
GYA				pmax	pmax			
	comp=Z,18nm,1.2s							
GYA				pmax	pmax			
	comp=Z,280nm,3.5s							
GYA				LR	LR			
	comp=Z,140nm,7.9s							
GYA				LR	LR			
	comp=Z,340nm,18.1s							
GYA				LR	LR			
	comp=Z,320nm,16.8s							
HNS	**HongShan**	**70.81**	**319**	⇑P	**P**	**07**	**23**	**47.1 +0.7**
HNS				S	**S**	**07**	**33**	**02.6 +1.3**
HNS				pmax	pmax			
	comp=Z,23nm,1.7s							
HNS				pmax	pmax			
	comp=Z,280nm,7.3s							
HNS				LR	LR			
	comp=Z,260nm,21.7s							
HNS				LR	LR			
	comp=Z,310nm,23.0s							
HNS				LR	LR			
	comp=Z,450nm,22.8s							
NKL	**Nikolayevsk**	**70.95**	**344**	*e*P	**P**	**07**	**23**	**46.1 -0.8**
NKL				*e*		07	24	04.0
NKL				*e*S	**S**	**07**	**33**	**09.5 +7.2**
NKL				pmax	pmax			
	comp=E,3.0nm,0.8s							
NKL				pmax	pmax			
	comp=N,1.0nm,0.6s							
NKL				pmax	pmax			
	comp=Z,25nm,1.9s							
NKL				pmax	pmax			
	comp=Z,53nm,3.4s							
NKL				smax	smax			
	comp=N,1.0nm,3.9s							
NKL				smax	smax			
	comp=E,3.0nm,3.9s							
NKL				MLR	MLR			
	comp=E,22nm,17.0s							
NKL				MLR	MLR			
	comp=N,2.0nm,14.0s							
NKL				MLR	MLR			
	comp=Z,214nm,15.0s							
BJT	**Baijiatuau**	**71.50**	**322**	IAmb	IAmb	07	23	53.0
	comp=Z,61nm,1.7s							
BJI	**Beijing**	**71.51**	**322**	P	**P**	**07**	**23**	**50.8 +0.2**
BJI				sP	**pwP**	**07**	**23**	**57.3 -0.8**
BJI				S	**S**	**07**	**33**	**11.3 +2.0**
BJI				pmax	pmax			
	comp=Z,18nm,1.4s							
BJI				pmax	pmax			
	comp=Z,320nm,4.2s							
BJI				LR	LR			
	comp=Z,270nm,18.0s							
BJI				LR	LR			
	comp=Z,230nm,18.3s							
BJI				LR	LR			
	comp=Z,310nm,18.8s							
UNV	**Unalaska Valle**	**72.06**	**17**	P	**P**	**07**	**23**	**53.9 +0.4**
	baz=208							
TIY	**Taiyuan**	**72.46**	**318**	*e*P	**P**	**07**	**23**	**58.6 +2.1**
TIY				S	**SKiKP**	**07**	**33**	**26.8 -5.2**
TIY				pmax	pmax			
	comp=Z,43nm,0.7s							
TIY				pmax	pmax			
	comp=Z,390nm,5.3s							
TIY				LR	LR			
	comp=Z,270nm,14.4s							
TIY				LR	LR			
	comp=Z,350nm,17.9s							
TIY				LR	LR			
	comp=Z,400nm,17.9s							
XAN	**Xi'an**	**72.83**	**313**	P	**P**	**07**	**23**	**58.8 0.0**
XAN				pP	sP	07	24	03.8 +1.3
XAN				sP	pwP	07	24	08.3 +2.0
XAN				S	**S**	**07**	**33**	**24.8 -0.1**
XAN				sS	SKiKP	07	33	37.4 +4.7
XAN				pmax	pmax			
	comp=Z,19nm,1.1s							
XAN				pmax	pmax			
	comp=Z,340nm,5.5s							
XAN				LR	LR			
	comp=Z,420nm,15.7s							
XAN				LR	LR			
	comp=Z,360nm,16.9s							
XAN				LR	LR			
	comp=Z,560nm,17.7s							
KMI	**Kunming**	**73.35**	**302**	⇓P	**P**	**07**	**24**	**02.4 +0.2**
KMI				sP	pwP	07	24	10.0 +1.3
KMI				S	**SKiKP**	**07**	**33**	**33.6 -0.3**
KMI				pmax	pmax			
	comp=Z,55nm,1.4s							
KMI				pmax	pmax			
	comp=Z,370nm,6.2s							
KMI				LR	LR			
	comp=Z,170nm,20.1s							
KMI				LR	LR			
	comp=Z,200nm,25.3s							
KMI				LR	LR			
	comp=Z,330nm,24.7s							
CMAR	**Chiang Mai Arr**	**73.94**	**294**	P	**P**	**07**	**24**	**06.2 +0.7**
	comp=Z,12nm,0.9s,baz=123,slow=4.0,SNR=57							
CMAR				LR	LR	07	57	25.7
	comp=Z,148nm,19.6s,baz=110,slow=36							
CMAR	**Chiang Mai Arr**	**73.94**	**294**	*i* P	**P**	**07**	**24**	**06.9 +1.3**
CMAR				pmax	pmax			
	comp=Z,13nm,0.9s							
XLT	**XiLinHaoTe**	**73.99**	**325**	*e*P	**P**	**07**	**24**	**06.4 +1.0**
XLT				pP	pwP	07	24	11.3 -1.6
XLT				sP	sP	07	24	14.8 +5.7
XLT				PcP	**PcP**	**07**	**24**	**21.5 +0.8**
XLT				S	**S**	**07**	**33**	**37.8 +0.1**
XLT				sS	sS	07	33	45.4 +3.3
XLT				pmax	pmax			
	comp=Z,31nm,1.3s							
XLT				pmax	pmax			
	comp=Z,380nm,5.6s							
XLT				LR	LR			
	comp=Z,640nm,17.3s							
XLT				LR	LR			
	comp=Z,520nm,16.8s							
CHTO	**Chiang Mai**	**74.08**	**295**	P	**P**	**07**	**24**	**06.5 +0.2**
CHTO				pmax	pmax			
	comp=Z,46nm,1.2s							
CHTO	**Chiang Mai**	**74.08**	**295**	P	**P**	**07**	**24**	**06.5 +0.2**
CHTO				IAmb	IAmb	07	24	09.4
	comp=Z,46nm,1.2s							
CHTO	**Chiang Mai**	**74.08**	**295**	P	**P**	**07**	**24**	**07.2 +0.9**
	comp=Z,21nm,1.5s							
PZH	**PanZhiHua**	**74.75**	**303**	P	**P**	**07**	**24**	**10.3 0.0**
PZH				PcP	**PcP**	**07**	**24**	**26.3 +1.9**
PZH				S	**S**	**07**	**33**	**47.3 +0.3**
PZH				SS	**SS**	**07**	**38**	**38.4 +3.3**
PZH				pmax	pmax			
	comp=Z,20nm,1.1s							
PZH				pmax	pmax			
	comp=Z,290nm,7.0s							
PZH				LR	LR			
	comp=Z,550nm,22.9s							
PZH				LR	LR			
	comp=Z,570nm,22.4s							
PZH				LR	LR			
	comp=Z,770nm,21.8s							
HHC	**Hu-ho-hao-te**	**74.81**	**320**	*e*P	**P**	**07**	**24**	**11.8 +1.5**
HHC				sP	pwP	07	24	19.0 +1.2
HHC				S	**S**	**07**	**33**	**52.6 +5.5**
HHC				SKS	**SKSac**	**07**	**34**	**18.0 -1.0**
HHC				pmax	pmax			
	comp=Z,21nm,1.0s							
HHC				pmax	pmax			
	comp=Z,250nm,5.8s							
HHC				LR	LR			
	comp=Z,290nm,15.3s							
HHC				LR	LR			
	comp=Z,320nm,16.5s							
HHC				LR	LR			
	comp=Z,480nm,16.2s							
MA2	**Magadan**	**74.96**	**352**	P	**P**	**07**	**24**	**08.2 -2.4**
	comp=Z,1.8nm,0.3s,baz=156,slow=8.4,SNR=8.8							
MA2				LR	LR	07	56	04.2
	comp=Z,99nm,18.2s,baz=168,slow=35							
MA2	**Magadan**	**74.96**	**352**	*ce*P	**P**	**07**	**24**	**09.9 -0.7**
MA2				pmax	pmax			
	comp=Z,17nm,1.3s							
MA2	**Magadan**	**74.96**	**352**	P	**P**	**07**	**24**	**09.5 -1.1**
MA2				IAmb	IAmb	07	24	11.7
	comp=Z,20nm,1.3s							
MA2	**Magadan**	**74.96**	**352**	P	**P**	**07**	**24**	**10.4 -0.2**
	comp=Z,11nm,0.8s							
CD2	**Chengdu**	**75.10**	**308**	P	**P**	**07**	**24**	**12.6 +0.5**
CD2				pP	sP	07	24	15.8 0.0
CD2				S	**S**	**07**	**33**	**52.0 +1.4**
CD2				ScS	**ScS**	**07**	**34**	**25.3 +0.4**
CD2				SS	**SS**	**07**	**38**	**43.5 +3.3**
CD2				pmax	pmax			
	comp=Z,40nm,1.4s							
CD2				pmax	pmax			
	comp=Z,350nm,4.8s							
CD2				LR	LR			
	comp=Z,50nm,19.3s							
CD2				LR	LR			
	comp=Z,390nm,19.0s							
CD2				LR	LR			
	comp=Z,420nm,18.4s							
SDPT	**Sand Point**	**75.14**	**19**	P	**P**	**07**	**24**	**12.0 +0.4**
	baz=213							
QSPA	**South Pole Qui**	**75.43**	**180**	LR	LR	07	54	44.8
	comp=Z,302nm,18.5s,baz=32,slow=34							
QSPA	**South Pole Qui**	**75.43**	**180**	P	**P**	**07**	**24**	**13.7 +0.2**
ZEA	**Zeya**	**75.76**	**337**	*e*P	**P**	**07**	**24**	**16.2 +0.9**
ZEA				pmax	pmax			
	comp=Z,20nm,1.1s							
ZEA				MLR	MLR			
	comp=Z,200nm,15.0s							
LZH	**Lanzhou**	**77.46**	**313**	*e*P	**P**	**07**	**24**	**27.0 +1.4**
LZH				sP	PcP	07	24	35.0 -0.9
LZH				*e*S	**S**	**07**	**34**	**19.4 +2.8**
LZH				sS	SKSac	07	34	32.8 -6.2
LZH				pmax	pmax			
	comp=Z,41nm,1.2s							
LZH				pmax	pmax			
	comp=Z,400nm,4.3s							
LZH				LR	LR			
	comp=Z,480nm,14.4s							
LZH				LR	LR			
	comp=Z,320nm,15.7s							
LZH				LR	LR			
	comp=Z,1µm,17.6s							
SEY	**Seymchan**	**78.03**	**354**	P	**P**	**07**	**24**	**26.0 -1.8**
	comp=Z,7.2nm,0.9s,baz=156,slow=4.2,SNR=17							
SEY				LR	LR	07	53	38.8
	comp=Z,216nm,21.4s,baz=172,slow=32							
SEY	**Seymchan**	**78.03**	**354**	*ce*P	**P**	**07**	**24**	**27.2 -0.7**
KDAK	**Kodiak Island**	**79.71**	**21**	LR	LR	07	54	33.5
	comp=Z,1µm,20.0s,baz=232,slow=32							
GAMB	**Gambell**	**79.97**	**10**	P	**P**	**07**	**24**	**38.9 +0.4**
	baz=202							
Q19K	**Cape Douglas,**	**80.23**	**20**	P	**P**	**07**	**24**	**40.0 -0.1**
	baz=219							
ULN	**Ulaanbaatar**	**81.42**	**324**	*ce*P	**P**	**07**	**24**	**47.0 +0.2**
ULN				pmax	pmax			
	comp=Z,40nm,1.7s							
ULN	**Ulaanbaatar**	**81.42**	**324**	P	**P**	**07**	**24**	**46.7 -0.1**
ULN				IAmb	IAmb	07	24	49.4
	comp=Z,36nm,1.4s							
N19K	**Bonanza Creek**	**81.44**	**18**	P	**P**	**07**	**24**	**46.4 -0.2**
	baz=218							
HOM	**Homer**	**81.45**	**20**	P	**P**	**07**	**24**	**47.0 +0.5**
	baz=221							
YAK	**Yakutsk**	**81.60**	**344**	P	**P**	**07**	**24**	**45.9 -1.4**
	comp=Z,8.2nm,0.4s,baz=105,slow=1.1,SNR=1.5							
YAK	**Yakutsk**	**81.60**	**344**	*d i*P	**P**	**07**	**24**	**46.9 -0.3**
YAK				*e**PP	**PcP**	**07**	**24**	**52.9 -0.2**
YAK				*e*		07	27

YAK eSSS SSS 07 43 39.3
YAK pmax pmax
comp=Z,30nm,1.3s
YAK pmax pmax
comp=N,14nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,124nm,3.2s
YAK pmax pmax
comp=N,34nm,2.5s
YAK pmax pmax
comp=E,59nm,3.3s
YAK smax smax
comp=E,106nm,4.2s
YAK smax smax
comp=N,74nm,3.1s
YAK MLR MLR
comp=Z,318nm,16.0s
MAW Mawson 81.62 202 P **P** **07 24 44.9 -2.6**
comp=Z,8.3nm,1.1s,baz=103,slow=7.6,SNR=5.3
MAW LR LR 07 55 04.4
comp=Z,632nm,20.9s,baz=97,slow=31
MAW Mawson 81.62 202 P **P** **07 24 46.8 -0.6**
baz=82,SNR=4.1
MAW Mawson 81.62 202 P **P** **07 24 47.8 +0.4**
MAW pmax pmax
comp=Z,6.0nm,1.5s
MAW Mawson 81.62 202 P **P** **07 24 47.8 +0.4**
SONM Songino Array 81.77 324 P **P** **07 24 48.6 -0.1**
comp=Z,8.6nm,1.1s,baz=151,slow=3.0,SNR=21
SONM S **S** **07 35 04.2 +2.5**
comp=Z,0.9nm,0.6s,baz=110,slow=21,SNR=1.0
SONM Songino Array 81.77 324 IAmb IAmb 07 24 51.1
comp=Z,32nm,1.4s
BRLK Bradley Lake 81.79 20 IAmb IAmb 07 24 53.9
comp=Z,34nm,0.8s
BRSE Bradley Lake S 81.82 20 P **P** **07 24 48.6 +0.1**
baz=222
GTA Gaotai 81.83 314 ⇑P **P** **07 24 50.3 +1.1**
GTA pP pwP 07 24 58.0 +1.2
GTA sP PcP 07 25 01.8 +7.0
GTA S **S** **07 35 03.8 +1.2**
GTA sS SKSac 07 35 09.8 +0.4
GTA pmax pmax
comp=Z,26nm,1.3s
GTA pmax pmax
comp=Z,270nm,6.0s
GTA LR LR
comp=Z,260nm,16.7s
GTA LR LR
comp=Z,420nm,19.9s
GTA LR LR
comp=Z,500nm,20.3s
ANM Nome 81.85 12 IAmb IAmb 07 24 51.1
comp=Z,22nm,1.2s
ANM Nome 81.85 12 P **P** **07 24 48.1 -0.4**
baz=208
TNA Tin City 82.26 11 P **P** **07 24 50.6 0.0**
baz=205
M19K Big River Lodg 82.33 18 IAmb IAmb 07 24 56.6
comp=Z,22nm,1.1s
M19K Big River Lodg 82.33 18 P **P** **07 24 50.1 -1.0**
baz=218
BILL Bilibino 82.41 0 *c iP* **P** **07 24 50.1 -1.3**
BILL pmax pmax
comp=Z,19nm,1.3s
BILL Bilibino 82.41 0 P **P** **07 24 49.8 -1.6**
BILL IAmb IAmb 07 25 06.6
comp=Z,39nm,1.4s
L19K White Mountain 82.41 17 P **P** **07 24 52.2 +0.6**
L19K IAmb IAmb 07 24 57.4
comp=Z,16nm,1.1s
L19K White Mountain 82.41 17 P **P** **07 24 51.0 -0.5**
baz=218
TTA Tatalina 82.68 16 IAmb IAmb 07 24 58.5
comp=Z,28nm,1.3s
TTA Tatalina 82.68 16 P **P** **07 24 52.1 -0.9**
baz=217
O22K Cooper Landing 82.71 20 P **P** **07 24 51.8 -1.3**
baz=223
L20K Farewell, AK 82.93 17 P **P** **07 24 52.9 -1.3**
baz=219
RC01 Rabbit Creek A 83.16 20 P **P** **07 24 54.1 -1.3**
baz=223
PWL Port Wells 83.46 21 P **P** **07 24 57.5 +0.5**
baz=224
M22K Willow 83.52 19 P **P** **07 24 57.5 +0.3**
baz=222
K20K Telida 83.56 17 P **P** **07 24 57.7 +0.2**
baz=218
PMR Palmer 83.72 20 IAmb IAmb 07 25 03.9
comp=Z,30nm,1.0s
PMR Palmer 83.72 20 P **P** **07 24 58.2 -0.1**
baz=223
PPLA Purkeypile 83.75 18 P **P** **07 24 58.0 -0.6**
baz=220
KNK Knik Glacier 83.81 20 P **P** **07 24 58.4 -0.4**
baz=224
GLI Glacier Island 83.90 21 P **P** **07 24 58.9 -0.4**
baz=225
BOD Bodaibo 83.91 335 *eP* **P** **07 24 58.5 -0.9**
BOD pmax pmax
comp=Z,20nm,1.6s
GCSA Galena City Sc 83.92 15 P **P** **07 24 58.6 -0.7**
baz=216
CUT Chulitna 83.96 19 P **P** **07 24 59.1 -0.4**
baz=222
GOMU GeErMu 84.10 310 P **P** **07 25 03.3 +2.0**
GOMU pP PcP 07 25 07.0 +1.8
GOMU sP pwP 07 25 08.6 -0.3
GOMU PP **PP** **07 28 16.8 +1.1**
GOMU S **S** **07 35 24.3 -2.1**
GOMU sS ScS 07 35 42.3 +3.6
GOMU SS **SS** **07 40 54.3 -1.2**
GOMU pmax pmax
comp=Z,9.0nm,0.8s
GOMU pmax pmax
comp=Z,120nm,4.7s
GOMU LR LR
comp=Z,150nm,16.7s
GOMU LR LR
comp=Z,290nm,20.0s
GOMU LR LR
comp=Z,360nm,20.4s
EYAK Cordova Ski Ar 84.14 22 P **P** **07 24 60.0 -0.5**
baz=226
SML Sawmill 84.14 20 P **P** **07 25 00.2 -0.3**
baz=224
CAST Castle Rocks 84.18 18 P **P** **07 24 59.0 -1.6**
baz=220,SNR=36
J20K Nowinta River 84.18 16 IAmb IAmb 07 25 14.4
comp=Z,29nm,1.2s
J20K Nowinta River 84.18 16 P **P** **07 24 59.4 -1.2**
baz=218,SNR=7.4
CHUM Lake Minchumin 84.47 17 P **P** **07 25 00.8 -1.2**
baz=220,SNR=11
SCM Sheep Creek Mo 84.49 20 P **P** **07 25 01.8 -0.6**
baz=225,SNR=7.2
DIV Divide 84.53 21 IAmb IAmb 07 25 15.3
comp=Z,29nm,1.0s
HOPS Hopland Field 84.72 48 IAmb IAmb 07 25 08.2
comp=Z,10nm,1.1s
TRF Thorofare Moun 84.73 18 P **P** **07 25 01.9 -1.7**
baz=222,SNR=15
KLU Klutina 84.73 21 IAmb IAmb 07 25 09.1
comp=Z,25nm,1.2s
KLU Klutina 84.73 21 P **P** **07 25 02.7 -0.9**
baz=226
KMRM Mail Ridge 84.76 46 IAmb IAmb 07 25 08.8
comp=Z,8.5nm,0.9s
BMRM Bremner River 84.84 22 P **P** **07 25 03.0 -1.1**
baz=227
WAT6 Susitna Watana 84.89 20 P **P** **07 25 03.5 -1.0**
baz=224,SNR=8.1
KHMM Horse Mountain 85.01 46 IAmb IAmb 07 25 12.8
comp=Z,12nm,1.2s
BPAW Bear Paw Mtn. 85.01 17 IAmb IAmb 07 25 16.9
comp=Z,22nm,1.2s
BPAW Bear Paw Mtn. 85.01 17 P **P** **07 25 03.4 -1.4**
baz=221
M24K Tolsona, Glenn 85.08 20 P **P** **07 25 04.2 -1.1**
baz=226
WAX Waxell Ridge 85.13 23 IAmb IAmb 07 25 14.9
comp=Z,29nm,1.0s
N25K Chitina, Valde 85.27 21 IAmb IAmb 07 25 10.3
comp=Z,17nm,0.9s
N25K Chitina, Valde 85.27 21 P **P** **07 25 05.3 -1.0**
baz=227
TGL Tana Glacier 85.34 23 IAmb IAmb 07 25 30.8
comp=Z,19nm,1.1s
MCK McKinley 85.35 18 P **P** **07 25 05.5 -1.1**
baz=223,SNR=27
DHY Denali Highway 85.36 19 IAmb IAmb 07 25 19.6
comp=Z,27nm,1.2s
DHY Denali Highway 85.36 19 P **P** **07 25 05.6 -1.2**
baz=225
O02D Mt. Diablo Mer 85.39 47 P **P** **07 25 06.4 -1.0**
O02D IAmb IAmb 07 25 11.6
comp=Z,9.2nm,0.9s
O02D Mt. Diablo Mer 85.39 47 P **P** **07 25 05.7 -1.7**
baz=247
ISLE Juniper Island 85.42 23 IAmb IAmb 07 25 15.0
comp=Z,24nm,1.0s
VRDI Verde Repeater 85.43 22 IAmb IAmb 07 25 43.1
comp=Z,26nm,1.4s
GLB Gilahina Butte 85.44 22 IAmb IAmb 07 25 19.8
comp=Z,17nm,1.2s
I21K Tanana 85.55 16 P **P** **07 25 06.7 -0.8**
baz=220,SNR=42
L02E Cave Junction 85.62 45 P **P** **07 25 07.2 -1.2**
baz=246
HARP HAARP 85.62 21 P **P** **07 25 07.2 -0.7**
baz=227
MCARA McCarthy VSAT 85.69 22 IAmb IAmb 07 25 13.7
comp=Z,20nm,1.0s
MCARA McCarthy VSAT 85.69 22 P **P** **07 25 07.3 -0.9**
baz=229
H21K Melozitna Rive 85.70 16 IAmb IAmb 07 25 12.4
comp=Z,34nm,1.1s
H21K Melozitna Rive 85.70 16 P **P** **07 25 07.5 -0.7**
baz=220,SNR=31
GRNC Granite Creek 85.73 23 IAmb IAmb 07 25 12.8
comp=Z,14nm,0.8s
N02D Trinity Center 85.76 46 P **P** **07 25 09.4 +0.2**
N02D Trinity Center 85.76 46 P **P** **07 25 07.5 -1.8**
baz=247
TABL Table Mountain 85.77 23 IAmb IAmb 07 25 13.1
comp=Z,22nm,0.8s
K02D Willamette Mer 85.80 44 P **P** **07 25 08.3 -1.0**
baz=246
M02C Callahan 85.83 45 P **P** **07 25 08.5 -1.1**
baz=246
NEA2 Nenana 85.94 18 P **P** **07 25 08.3 -1.2**
baz=223,SNR=15
PNL Peninsula 85.97 24 P **P** **07 25 08.1 -1.6**
baz=232
BARN Barnard Glacie 85.97 23 IAmb IAmb 07 25 13.8
comp=Z,27nm,1.0s
CTG Chitna Glacier 86.03 23 P **P** **07 25 09.4 -0.8**
baz=230,SNR=11
CTGM Chitina Glacie 86.04 23 IAmb IAmb 07 25 14.0
comp=Z,30nm,1.0s
YBH Yreka Blue Hor 86.06 45 LR LR 07 54 52.2
comp=Z,292nm,21.8s,baz=276,slow=30
LOGN Logan Glacier 86.07 23 IAmb IAmb 07 25 14.1
comp=Z,29nm,1.1s
O03E Paynes Creek 86.13 47 P **P** **07 25 09.0 -2.0**
baz=247
WRH Wood River Hil 86.14 18 IAmb IAmb 07 25 13.7
comp=Z,28nm,1.0s
DBO Dodson Butte 86.25 44 IAmb IAmb 07 25 37.3
comp=Z,41nm,2.0s
I23K Minto, Yukon-K 86.26 17 IAmb IAmb 07 25 19.2
comp=Z,34nm,1.6s
I23K Minto, Yukon-K 86.26 17 P **P** **07 25 09.5 -1.5**
baz=223,SNR=7.9
M26K Nabesna, AK 86.37 21 IAmb IAmb 07 25 15.6
comp=Z,18nm,0.9s
M26K Nabesna, AK 86.37 21 P **P** **07 25 10.6 -1.1**
baz=229,SNR=16
MENT Mentasta 86.48 21 IAmb IAmb 07 25 18.2
comp=Z,9.5nm,0.9s
TCOL CIGO, UAF Yank 86.50 18 IAmb IAmb 07 25 15.5
comp=Z,39nm,1.1s
TCOL CIGO, UAF Yank 86.50 18 P **P** **07 25 11.3 -0.8**
baz=224,SNR=8.5
COLA College 86.50 18 *i* P **P** **07 25 12.7 +0.5**
COLA pmax pmax
comp=Z,32nm,1.1s
COLA College 86.50 18 P **P** **07 25 10.8 -1.3**
COLA IAmb IAmb 07 25 16.5
comp=Z,27nm,0.9s
COLA College 86.50 18 P **P** **07 25 11.3 -0.8**
baz=224
L04D Klamath Falls 86.53 45 P **P** **07 25 10.8 -2.3**
baz=247
RIDG Independent Ri 86.64 20 P **P** **07 25 11.2 -1.8**
baz=227,SNR=10
L26K Log Cabin Wild 86.66 21 IAmb IAmb 07 25 17.2
comp=Z,11nm,0.9s
L26K Log Cabin Wild 86.66 21 P **P** **07 25 12.2 -0.9**
baz=228,SNR=10
M04C Macdoel 86.68 45 IAmb IAmb 07 25 17.3
comp=Z,16nm,1.4s
M04C Macdoel 86.68 45 P **P** **07 25 11.6 -2.2**
baz=247
H23K Yukon River 86.71 17 IAmb IAmb 07 25 26.6
comp=Z,35nm,1.3s
H23K Yukon River 86.71 17 P **P** **07 25 12.4 -0.9**
baz=223,SNR=17
ILAR Eielson Array 86.72 18 P **P** **07 25 11.0 -2.3**
comp=Z,12nm,0.8s,baz=235,slow=5.4,SNR=50
ILAR S **SKSac** **07 35 39.0 -0.7**
comp=Z,0.5nm,1.0s,baz=235,slow=7.6,SNR=2.1
ILAR LR LR 07 58 32.1
comp=Z,1μm,20.7s,baz=178,slow=32
M27K Edge Creek, AK 86.73 22 IAmb IAmb 07 25 17.8
comp=Z,16nm,1.1s
M27K Edge Creek, AK 86.73 22 P **P** **07 25 12.0 -1.6**
baz=230,SNR=8.0
POKR Poker Plat Res 86.80 18 IAmb IAmb 07 25 34.5
comp=Z,11nm,0.8s
POKR Poker Plat Res 86.80 18 P **P** **07 25 12.0 -1.7**
baz=225
DOT Dot Lake 86.84 20 IAmb IAmb 07 25 17.9
comp=Z,17nm,1.0s
YUK3 Moose Creek 86.88 22 P **P** **07 25 12.9 -1.5**
baz=231,SNR=11
ISA Isabella, Lake 86.89 52 P **P** **07 25 12.2 -2.7**
baz=250
BELA Belgrano 2 86.94 176 P **P** **07 25 13.2 -1.1**
BFSC Mount Baldy Ra 87.03 54 P **P** **07 25 13.2 -2.5**
baz=250
J25K Salcha River, 87.08 19 IAmb IAmb 07 25 17.5
comp=Z,21nm,1.0s
SCRK Sand Creek 87.09 20 IAmb IAmb 07 25 17.8
comp=Z,15nm,0.9s
SCRK Sand Creek 87.09 20 P **P** **07 25 14.0 -1.2**
baz=228,SNR=21
YUK6 Outpost Mounta 87.16 24 P **P** **07 25 15.2 -0.7**
baz=233
OMMB Old Mammoth Mi 87.17 50 IAmb IAmb 07 25 40.3
comp=Z,21nm,2.0s
H24K Noodor Dome 87.19 17 IAmb IAmb 07 25 28.8
comp=Z,13nm,1.4s
H24K Noodor Dome 87.19 17 P **P** **07 25 14.4 -1.2**
baz=224
WRAK Wrangell Islan 87.20 29 IAmb IAmb 07 25 20.6
comp=Z,7.7nm,0.8s
WRAK Wrangell Islan 87.20 29 P **P** **07 25 14.1 -1.7**
baz=238
L27K Beaver Creek, 87.21 21 P **P** **07 25 14.7 -1.0**
baz=230,SNR=7.7
BESE Bessie Mountai 87.23 27 IAmb IAmb 07 25 21.6
comp=Z,9.0nm,0.9s
BBB Bella Bella 87.25 34 LR LR 07 57 19.8
comp=Z,530nm,20.2s,baz=256,slow=31
PNTR Pine Nut 87.26 49 IAmb IAmb 07 25 28.0
comp=Z,29nm,1.9s
YUK4 Talbot Arm 87.29 23 P **P** **07 25 15.5 -1.0**
baz=233,SNR=5.1
HYT Haines Junctio 87.43 24 IAmb IAmb 07 25 21.1
comp=Z,8.4nm,0.9s
HYT Haines Junctio 87.43 24 P **P** **07 25 15.4 -1.6**
baz=234,SNR=6.8
CWC Cottonwood Cre 87.45 51 P **P** **07 25 15.4 -2.3**
baz=250
PALK Pallekele 87.48 278 LR LR 08 05 00.3
comp=Z,190nm,18.9s,baz=217,slow=36
PALK Pallekele 87.48 278 *d iP* **P** **07 25 19.6 +1.4**
PALK pmax pmax
comp=Z,38nm,1.3s
PALK Pallekele 87.48 278 P **P** **07 25 18.5 +0.3**
SKAG Skagway 87.52 26 IAmb IAmb 07 25 29.9
comp=Z,14nm,1.2s
SKAG Skagway 87.52 26 P **P** **07 25 15.9 -1.4**
baz=236,SNR=5.2
J26L Joseph Creek 87.58 19 P **P** **07 25 16.5 -1.1**
baz=228
COLD Coldfoot 87.58 16 IAmb IAmb 07 25 21.9
comp=Z,16nm,1.0s
COLD Coldfoot 87.58 16 P **P** **07 25 17.4 0.0**
baz=222
PAHR Pah Rah Range 87.64 48 IAmb IAmb 07 25 32.7
comp=Z,15nm,1.6s
J05D Fort Rock, OR 87.67 44 P **P** **07 25 16.6 -2.0**
baz=248
K05A Summer Lake 87.69 45 IAmb IAmb 07 25 26.5
comp=Z,10nm,1.1s
LHV Little Huntoon 87.76 50 IAmb IAmb 07 25 28.0
comp=Z,26nm,1.8s
PFO Pinyon Flats O 87.76 55 LR LR 08 00 25.9
comp=Z,869nm,18.0s,baz=262,slow=33
PFO Pinyon Flats O 87.76 55 P **P** **07 25 17.3 -2.0**
baz=251
MPMC Manual Prospec 87.78 52 P **P** **07 25 17.7 -1.6**
baz=250
CBB Campbell River 87.82 37 IAmb IAmb 07 26 22.9
comp=Z,13nm,0.7s
RYN Ryan 87.88 49 IAmb IAmb 07 25 33.5
comp=Z,20nm,1.9s
NVAR Mina Array Bea 87.97 50 P **P** **07 25 18.9 -1.4**
comp=Z,3.9nm,1.0s,baz=230,slow=5.0,SNR=15
NVAR PKPPKP **P'P'df** **07 51 14.2 +1.6**
comp=Z,0.6nm,0.9s,baz=48,slow=1.3,SNR=4.5
NVAR LR LR 07 57 30.3
comp=Z,1μm,20.2s,baz=246,slow=31
GSC Goldstone, Bar 88.05 53 IAmb IAmb 07 25 28.3
comp=Z,12nm,1.5s
GSC Goldstone, Bar 88.05 53 P **P** **07 25 18.8 -1.8**
baz=251
SWSC Sam W. Stewart 88.07 55 P **P** **07 25 19.1 -1.5**
baz=251
NV11 Mina Array Sit 88.08 50 IAmb IAmb 07 25 29.4
comp=Z,10nm,1.2s
D03D Eldon 88.14 40 P **P** **07 25 19.6 -0.9**
baz=246
D04E Lakebay 88.19 40 P **P** **07 25 19.7 -1.0**
baz=246
BELC Belle Mtn. Jos 88.25 54 P **P** **07 25 19.8 -1.8**
baz=251
KVN Kaiserville 88.34 49 IAmb IAmb 07 25 26.2
comp=Z,11nm,1.4s
PGC Sidney 88.37 39 IAmb IAmb 07 25 24.9
comp=Z,9.5nm,1.0s
WHY Whitehorse 88.39 25 P **P** **07 25 20.4 -1.2**
baz=236
FURC Furnace Creek, 88.39 52 P **P** **07 25 20.3 -1.7**
baz=251
GWY Greenwater Val 88.44 52 IAmb IAmb 07 26 18.2
comp=Z,18nm,1.9s
N31M Braeburn, Yuko 88.49 24 IAmb IAmb 07 25 25.7
comp=Z,9.4nm,0.9s
N31M Braeburn, Yuko 88.49 24 P **P** **07 25 20.8 -1.2**
baz=235
SYO Syowa Base 88.53 197 ⇑*eP* **P** **07 25 23.0 +0.9**
EGAK Eagle 88.54 20 IAmb IAmb 07 25 34.8
comp=Z,10nm,0.9s
EGAK Eagle 88.54 20 P **P** **07 25 21.5 -0.5**
baz=230
SHOC Shoshone, Teco 88.65 52 P **P** **07 25 22.0 -1.3**
baz=251
DAWY Dawson 88.69 21 P **P** **07 25 21.4 -1.4**
baz=232,SNR=6.8
M30M Minto, Yukon 88.73 23 P **P** **07 25 22.5 -0.6**
baz=234
GMRC Granite Mounta 88.77 54 P **P** **07 25 22.3 -1.7**
baz=251
TUQ Turquoise Moun 88.77 53 P **P** **07 25 22.3 -1.7**
baz=251
TOLK Toolik Lake Re 88.79 15 IAmb IAmb 07 25 41.5
comp=Z,9.2nm,1.0s
TOLK Toolik Lake Re 88.79 15 P **P** **07 25 22.7 -0.5**
baz=222
A04D Lummi Island 88.85 39 P **P** **07 25 23.1 -0.7**
baz=246
IRM Iron Mountain 88.97 54 P **P** **07 25 23.2 -1.6**
baz=252
TPNV Topopah Spring 89.01 51 P **P** **07 25 24.3 -0.8**
baz=251
B05A Bryant 89.04 39 P **P** **07 25 24.6 -0.1**
baz=247
WVOR Wild Horse Val 89.13 46 IAmb IAmb 07 25 34.2
comp=Z,24nm,1.6s
DLBC Dease Lake 89.31 28 LR LR 07 58 25.7
comp=Z,448nm,20.7s,baz=248,slow=31
J29M Klondike Camp 89.33 21 P **P** **07 25 24.6 -1.3**
baz=233
LTY Liberty 89.54 41 IAmb IAmb 07 25 35.6
comp=Z,14nm,1.6s
J08A Circle Bar Ran 89.57 45 IAmb IAmb 07 25 31.0
comp=Z,15nm,1.1s
TIXI Tiksi 89.64 349 P **P** **07 25 25.5 -1.5**
comp=Z,0.8nm,0.3s,baz=271,slow=23,SNR=4.0
TIXI Tiksi 89.64 349 *i* P **P** **07 25 26.7 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.5s
PDMCI Parker Dam,Lak 89.81 55 P **P** **07 25 26.1 -2.6**
baz=252
I29M Ogilvie Camp, 89.85 20 P **P** **07 25 25.8 -2.4**
baz=233
FARO Faro, Yukon 89.86 24 P **P** **07 25 25.1 -3.2**
baz=237
R11A Troy Canyon, C 89.96 50 P **P** **07 25 27.3 -2.3**
baz=251
PRN Pahroc Range 90.06 51 IAmb IAmb 07 25 34.5
comp=Z,12nm,1.0s
LPIG La Paz 90.09 65 LR LR 07 56 38.4
comp=Z,397nm,21.2s,baz=218,slow=30
214A Organ Pipe Nat 90.18 57 P **P** **07 25 29.5 -1.1**
baz=253
ELK Elko 90.97 48 LR LR 08 01 25.9
comp=Z,613nm,19.0s,baz=246,slow=32
F10A Beach Ranch, E 91.30 43 IAmb IAmb 07 25 42.7
comp=Z,6.9nm,0.8s
PSUT Pine Spring 91.31 51 IAmb IAmb 07 25 50.0
comp=Z,14nm,1.7s
CCUT Cedar City 91.39 52 IAmb IAmb 07 26 01.8
comp=Z,14nm,1.9s
TGTN Hyland Airport 91.58 26 P **P** **07 25 36.3 0.0**
baz=242
SZCU Shurtz Canyon 91.61 52 IAmb IAmb 07 26 09.2
comp=Z,13nm,1.6s
KNB Kanab 91.64 52 IAmb IAmb 07 26 11.1
comp=Z,10nm,1.3s
WMQ Urumqi 91.89 315 *eP* **P** **07 25 38.5 +0.2**
WMQ pP pwP 07 25 45.8 -0.1
WMQ PP **PP** **07 29 21.5 +3.7**
WMQ S **S** **07 36 42.6 +2.9**
WMQ pmax pmax
comp=Z,28nm,1.3s
WMQ pmax pmax
comp=Z,240nm,3.7s
WMQ LR LR
comp=Z,220nm,19.3s
WMQ LR LR
comp=Z,240nm,17.5s
WMQ LR LR
comp=Z,230nm,19.1s
TUC Tucson 91.92 57 P **P** **07 25 39.3 +0.6**
TUC pmax pmax
comp=Z,5.0nm,1.4s
TUC Tucson 91.92 57 P **P** **07 25 39.3 +0.6**
TUC Tucson 91.92 57 P **P** **07 25 38.5 -0.2**
baz=254
HYBB Hyderabad (bro 92.09 287 *eP* **P** **07 25 39.9 +0.2**
HYBB *ep*P **pP** **07 25 42.9 +0.4**
HYBB *e*PP **PP** **07 29 20.0 +0.1**
HYBB *e*SKsac **SKSac** **07 36 13.0 -0.4**
NEW Newport 92.14 41 LR LR 08 05 10.2
comp=Z,264nm,18.0s,baz=247,slow=34
NEW Newport 92.14 41 P **P** **07 25 38.9 -0.3**
baz=250
PKCU Pink Cliffs 92.16 52 IAmb IAmb 07 26 12.6
comp=Z,22nm,1.6s
PMSA Palmer Station 92.24 161 LR LR 08 03 54.3
comp=Z,242nm,18.9s,baz=263,slow=34
WUAZ Wupatki 92.34 54 P **P** **07 25 40.2 -0.5**
baz=254
TCRU Three Creeks R 92.39 51 IAmb IAmb 07 26 10.2
comp=Z,22nm,1.9s
HLID Hailey 92.43 46 P **P** **07 25 39.8 -1.1**

	baz=252								
PCHI	**Peechi**		**92.46**	**280**	*e*P		**P**	**07 25 42.4**	**+1.0**
PCHI					*e*S		**SKSac**	**07 36 21.9**	**+6.4**
DUG	**Dugway, Tooele**		**92.57**	**49**	P		**P**	**07 25 41.3**	**-0.3**
	baz=253								
HVU	**Hansel Valley**		**93.06**	**48**	IAmb		IAmb	07 26 28.3	
	comp=Z,12nm,1.8s								
INK	**Inuvik**		**93.09**	**19**	LR		LR	08 03 00.8	
	comp=Z,903nm,20.1s,baz=212,slow=33								
INK	**Inuvik**		**93.09**	**19**	P		**P**	**07 25 43.1**	**0.0**
	baz=237								
SNAA	**Sanae**		**93.62**	**183**	LR		LR	08 06 27.3	
	comp=Z,288nm,19.0s,baz=182,slow=35								
BOZ	**Bozeman (W)**		**94.92**	**44**	P		**P**	**07 25 50.5**	**-1.8**
	baz=254								
PDAR	**Pinedale Array**		**95.62**	**47**	P		**P**	**07 25 54.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=319,slow=4.8,SNR=2.0								
PDAR					LR		LR	08 04 34.8	
	comp=Z,301nm,18.6s,baz=276,slow=33								
O20A	**White River Ci**		**95.93**	**50**	P		**P**	**07 25 56.4**	**-0.8**
	baz=256								
ANMO	**Albuquerque**		**96.08**	**56**	LR		LR	08 01 40.1	
	comp=Z,533nm,20.5s,baz=254,slow=31								
ANMO	**Albuquerque**		**96.08**	**56**	*ce*P		**P**	**07 25 58.5**	**+0.6**
ANMO					pmax		pmax		
	comp=Z,1.0nm,1.2s								
ANMO	**Albuquerque**		**96.08**	**56**	P		**P**	**07 25 57.2**	**-0.7**
	baz=256								
MK31	**Makanchi Array**		**96.39**	**317**	IAmb		IAmb	07 26 00.6	
	comp=Z,12nm,1.4s								
MKAR	**Makanchi Array**		**96.39**	**317**	P		**P**	**07 25 58.0**	**-0.8**
	comp=Z,5.0nm,1.1s,baz=100,slow=5.0,SNR=20								
MKAR					PP		**PP**	**07 29 49.8**	**-3.0**
	comp=Z,1.4nm,0.9s,baz=93,slow=6.3,SNR=6.3								
MKAR					PKKPbc		**PKKPbc**	**07 42 43.3**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=284,slow=3.2,SNR=10								
MKAR					LR		LR	08 12 03.3	
	comp=Z,104nm,18.5s,baz=89,slow=37								
MKAR	**Makanchi Array**		**96.39**	**317**	*i* P		**P**	**07 25 58.4**	**-0.4**
MKAR					pmax		pmax		
	comp=Z,5.0nm,1.1s								
MKAR	**Makanchi Array**		**96.39**	**317**	P		**P**	**07 25 57.8**	**-1.0**
MAKZ	**Makanchi**		**96.60**	**317**	P		**P**	**07 26 00.2**	**+0.4**
MAKZ					pmax		pmax		
	comp=Z,21nm,1.5s								
MAKZ	**Makanchi**		**96.60**	**317**	P		**P**	**07 26 00.2**	**+0.4**
MAKZ					IAmb		IAmb	07 26 00.8	
	comp=Z,21nm,1.5s								
C36M	**Paulatuk**		**96.61**	**20**	IAmb		IAmb	07 26 01.6	
	comp=Z,5.7nm,1.0s								
C36M	**Paulatuk**		**96.61**	**20**	P		**P**	**07 25 57.1**	**-2.0**
	baz=246								
ZALV	**Zalesovo Beam**		**96.67**	**324**	P		**P**	**07 25 58.0**	**-1.8**
	comp=Z,1.9nm,0.6s,baz=117,slow=5.2,SNR=13								
ZALV					S		**SKSac**	**07 36 37.3**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=132,slow=4.1,SNR=1.1								
ZALV					LR		LR	08 11 56.6	
	comp=Z,80nm,18.4s,baz=112,slow=37								
ZALV	**Zalesovo Beam**		**96.67**	**324**	*i* P		**P**	**07 25 58.4**	**-1.4**
ZALV					pmax		pmax		
	comp=Z,2.0nm,0.6s								
TXAR	**Lajitas Array**		**97.13**	**62**	P		**P**	**07 26 01.5**	**-1.2**
	comp=Z,0.1nm,0.7s,baz=221,slow=5.4,SNR=1.7								
TXAR					PP		**PP**	**07 29 58.0**	**-1.0**
	comp=Z,0.2nm,0.9s,baz=257,slow=12,SNR=1.7								
TXAR					S		**SKSac**	**07 36 40.1**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=261,slow=40,SNR=2.8								
A36M	**Sachs Harbour**		**97.35**	**17**	IAmb		IAmb	07 26 06.9	
	comp=Z,8.9nm,0.9s								
A36M	**Sachs Harbour**		**97.35**	**17**	P		**P**	**07 26 01.4**	**-1.0**
	baz=245								
YKA	**Yellowknife Ar**		**97.91**	**27**	P		**P**	**07 26 02.9**	**-2.4**
	comp=Z,8.1nm,0.9s,baz=254,slow=4.5,SNR=27								
YKA					PP		**PP**	**07 30 02.6**	**-1.3**
	comp=Z,0.3nm,1.0s,baz=246,slow=6.7,SNR=2.1								
YKA					PKIKP		**PKiKP**	**07 30 38.3**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=241,slow=1.4,SNR=2.5								
KSH	**Kashi**		**99.30**	**308**	P		**Pdif**	**07 26 15.0**	**+2.8**
KSH					PP		**PP**	**07 30 17.3**	**+1.9**
KSH					SKS		**SKSac**	**07 36 54.3**	**+3.5**
KSH					LR		LR		
	comp=Z,260nm,18.4s								
KSH					LR		LR		
	comp=Z,340nm,19.0s								
KSH					LR		LR		
	comp=Z,330nm,24.1s								
NRIK	**Noril'sk**		**99.58**	**339**	P		**Pdif**	**07 26 10.1**	**-2.5**
	comp=Z,1.4nm,0.5s,baz=127,slow=5.0,SNR=2.2								
NRIK					LR		LR	08 11 10.1	
	comp=Z,234nm,20.8s,baz=96,slow=35								
NRIK	**Noril'sk**		**99.58**	**339**	*ce*P		**Pdif**	**07 26 11.8**	**-0.8**
NRIK					pmax		pmax		
	comp=Z,5.0nm,1.1s								
KURK	**Kurchatov**		**99.63**	**320**	*ce*P		**Pdif**	**07 26 13.0**	**-0.2**
KURK					pmax		pmax		
	comp=Z,9.0nm,1.1s								
KURBB	**Kurchatov Arra**		**99.66**	**320**	PP		**PP**	**07 30 11.9**	**-5.8**
	comp=Z,0.6nm,0.6s,baz=96,slow=6.6,SNR=4.2								
KURBB					PKKPbc		**PKKPbc**	**07 42 34.6**	**-1.9**
	comp=Z,1.5nm,0.9s,baz=275,slow=3.1,SNR=8.1								
KURBB					LR		LR	08 15 01.0	
	comp=Z,181nm,18.0s,baz=72,slow=38								
AAK	**Ala-Archa**		**100.96**	**311**	*i* P		**Pdif**	**07 26 18.7**	**-0.9**
AAK					pmax		pmax		
	comp=Z,1.0nm,0.9s								
ARU	**Arti**		**111.78**	**325**	*i* PKIKP		**PKiKP**	**07 31 05.0**	**+0.6**
ARU								07 31 46.5	
ARU								07 38 17.2	
ARU					SS		SS	07 47 17.7	-5.3
LPAZ	**La Paz**		**118.19**	**118**	PKP		**PKPdf**	**07 31 17.3**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=283,slow=4.2,SNR=8.8								
BELG	**Belogornoye**		**118.79**	**322**	PKP		**PKPdf**	**07 31 17.1**	**-0.8**
	comp=Z,27nm,1.2s,baz=173,slow=4.1,SNR=3.8								
ARCES	**ARCESS Array B**		**119.86**	**345**	PKP		**PKPdf**	**07 31 18.2**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=47,slow=2.4,SNR=6.5								
KLMR	**Klimovskoe**		**120.09**	**333**	*e*PKIKP		**PKPdf**	**07 31 18.5**	**-1.6**
KLMR					pmax		pmax		
	comp=Z,22nm,1.5s								
KLMR	**Klimovskoe**		**120.09**	**333**	AMP			07 31 20.8	
	comp=Z,22nm,1.5s								
KLMR	**Klimovskoe**		**120.09**	**333**	*e*PKPdf		**PKPdf**	**07 31 18.6**	**-1.6**
CPUP	**Villa Florida**		**121.30**	**134**	PKP		**PKPdf**	**07 31 22.2**	**-1.5**
	comp=Z,3.0nm,0.9s,baz=119,slow=3.4,SNR=3.7								
SCHQ	**Schefferville**		**122.76**	**33**	PKP		**PKPdf**	**07 31 23.4**	**-2.2**
	comp=Z,1.3nm,0.8s,baz=243,slow=2.3,SNR=2.0								
ZEI	**Tsey**		**123.38**	**312**	*i* PKIKP		**PKiKP**	**07 31 29.1**	**+1.5**
ZEI					pmax		pmax		
	comp=Z,5.0nm,1.2s								
VORR	**Voronezh**		**123.96**	**323**	*e*PKIKP		**PKiKP**	**07 31 28.2**	**0.0**
KIV	**Kislovodsk**		**124.00**	**313**	*i* PKIKP		**PKiKP**	**07 31 29.2**	**+0.5**
KIV					*e*			07 33 12.9	
KIV					*e*PS		**PS**	**07 43 10.8**	**-0.1**
KIV					pmax		pmax		
	comp=Z,7.0nm,1.0s								
KIV					MLR		MLR		
	comp=Z,113nm,23.0s								
OBN	**Obninsk**		**124.03**	**328**	*i* PKIKP		**PKPdf**	**07 31 27.6**	**-0.3**
OBN					*i*			07 33 08.5	
OBN					pmax		pmax		
	comp=Z,10.0nm,1.7s								
SDV	**Santo Domingo**		**124.19**	**89**	PKPdf		**PKPdf**	**07 31 28.4**	**-1.3**
FINES	**FINESS Array B**		**125.21**	**338**	PKP		**PKPdf**	**07 31 28.0**	**-2.0**
	comp=Z,1.8nm,0.7s,baz=36,slow=2.6,SNR=2.1								
MNK	**Minsk**		**128.69**	**330**	*i* PKIKP		**PKPdf**	**07 31 29.3**	**-7.5**
MNK					*i*			07 38 40.9	
MNK					*i* PS		**PS**	**07 43 51.8**	**+0.6**
MNK					*i* SS		SS	07 50 54.5	-5.1
MNK					*i* SSS		SSS	07 55 39.6	
MNK					pmax		pmax		
	comp=N,30nm,0.8s								
MNK					pmax		pmax		
	comp=E,4.0nm,0.7s								
MNK					pmax		pmax		
	comp=Z,27nm,0.7s								
MNK					MLR		MLR		
	comp=E,79nm,20.0s								
MNK					MLR		MLR		
	comp=N,897nm,25.0s								
MNK					MLR		MLR		
	comp=Z,180nm,22.0s								
MNK	**Minsk**		**128.69**	**330**	*i* PKP		**PKPdf**	**07 31 29.3**	**-7.5**
	comp=E,4.0nm,0.7s								
MNK					*i* PKP		**PKPdf**	**07 31 29.3**	**-7.5**
	comp=N,30nm,0.8s								
MNK					*i* PKP		**PKPdf**	**07 31 29.3**	**-7.5**
	comp=Z,27nm,0.7s,baz=56								
MNK					*i* PP		**PP**	**07 33 35.0**	**-7.6**
MNK					*i* PPP		PPP	07 36 20.9	
MNK					*i* SKS		**SKSdf**	**07 38 41.0**	**-7.4**
MNK					*i* PS		**PS**	**07 43 51.9**	**+0.6**
MNK					*i* SS		**SS**	**07 50 54.5**	**-5.1**
MNK					*i* SSS		SSS	07 55 39.7	
MNK					*i* LR		LR	08 24 46.8	
MNK					*i* LRM		MLR	08 28 31.1	
	comp=E,79nm,19.6s								
MNK					*i* LRM		MLR	08 28 38.9	
	comp=N,897nm,24.6s								
MNK					*i* LRM		MLR	08 28 50.5	
	comp=Z,180nm,21.7s								
NB2	**NORSAR Subarra**		**130.22**	**344**	SKPa			07 35 06.7	
	comp=Z,5.2nm,1.2s,baz=38,slow=4.8								
NOA	**NORSAR Array B**		**130.22**	**344**	SKPbc		**SKPbc**	**07 35 02.6**	**0.0**
	comp=Z,0.3nm,0.7s,baz=148,slow=7.6,SNR=2.6								
BRTR	**Keskin Array B**		**131.63**	**311**	SKPbc		**SKPab**	**07 35 09.9**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=302,slow=38,SNR=1.2								
BDFB	**Brasilia**		**134.77**	**130**	PKP		**PKPdf**	**07 31 48.2**	**-1.5**
	comp=Z,2.9nm,0.8s,baz=99,slow=3.6,SNR=4.5								
BDFB					SKPbc		**SKPbc**	**07 35 19.5**	**-0.5**
	comp=Z,13nm,1.0s,baz=12,slow=0.2,SNR=14								
UZH	**Uzhgorod**		**134.94**	**326**	*e*PKHKP		PKPpre	07 31 37.4	
UZH					*e*			07 31 46.9	
BRG	**Berggiesshubel**		**137.44**	**334**	*e*PKP		**PKiKP**	**07 31 55.3**	**-0.1**
BRG					Amp			07 31 57.2	
	comp=Z,3.6nm,0.8s								
BRG					*ex*		x	07 32 09.7	
BRG					Amp			07 32 10.6	
	comp=Z,4.3nm,1.0s								
BRG					*ex*		x	07 35 35.3	
BRG					Amp			07 35 37.1	
	comp=Z,6.7nm,1.2s								
BRG	**Berggiesshubel**		**137.44**	**334**	*e*PKIKP		**PKiKP**	**07 31 55.3**	**-0.1**
BRG					pmax		pmax		
	comp=Z,4.0nm,0.8s								
BRG					pmax		pmax		
	comp=Z,4.0nm,1.0s								
BRG					pmax		pmax		
	comp=Z,7.0nm,1.2s								
CLL	**Collm**		**137.50**	**335**	*e*PKIKP		**PKPdf**	**07 31 52.0**	**-1.6**
CLL	**Collm**		**137.50**	**335**	*e*PKPdf		**PKPdf**	**07 31 52.0**	**-1.6**
CLL					*ex*		x	07 32 05.0	
CLL					*e*PKSdf		**PKSdf**	**07 35 33.0**	**+3.5**
CLL					*e*(pSKPdf)			07 35 35.0	
CLL					*e*SS		SS	07 52 48.0	+1.8
GERES	**GERESS Array B**		**139.04**	**332**	PKP		**PKPdf**	**07 31 55.2**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=225,slow=3.6,SNR=3.8								
GERES					SKPbc		**SKPbc**	**07 35 32.0**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=248,slow=36,SNR=1.3								
TUE	**Stuetta**		**142.77**	**333**			**PKPdf**	**07 32 02.1**	**-1.5**
BNI	**Bardonecchia**		**145.03**	**334**	PKIKP		**PKPbc**	**07 32 05.3**	**-1.5**
BNI	**Bardonecchia**		**145.03**	**334**			**PKPbc**	**07 32 05.3**	**-1.5**
SSB	**Saint Sauveur**		**145.70**	**337**	PKIKP		**PKPdf**	**07 32 07.3**	**-1.2**
SSB	**Saint Sauveur**		**145.70**	**337**	PKPdf		**PKPdf**	**07 32 07.3**	**-1.2**
KEST	**Kesra**		**150.44**	**320**	PKP		**PKPdf**	**07 32 16.3**	**-0.3**
	comp=Z,13nm,1.1s,baz=63,slow=9.0,SNR=2.3								
KEST					PKPbc		**PKPbc**	**07 32 21.8**	**-0.1**
	comp=Z,21nm,1.1s,baz=278,slow=1.9,SNR=6.4								
KEST	**Kesra**		**150.44**	**320**			**PKPdf**	**07 32 18.9**	**+2.3**
ESDC	**Sonseca Array**		**153.56**	**343**	PKPbc		**PKPbc**	**07 32 26.7**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=343,slow=4.0,SNR=2.7								
ESDC					PKPab		**PKPab**	**07 32 40.4**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=0.0,slow=1.8,SNR=5.7								
TORD	**Torodi Ar. Bea**		**164.88**	**266**	PKP		**PKPdf**	**07 32 32.5**	**-2.4**
	comp=Z,1.0nm,1.0s,baz=215,slow=1.8,SNR=5.7								
TORD					PKPab		**PKPab**	**07 33 29.9**	**-1.1**
	comp=Z,8.0nm,1.2s,baz=80,slow=2.4,SNR=12								
TORD					P4KPbc			08 04 55.4	
	comp=Z,0.8nm,0.6s,baz=18,slow=0.4,SNR=8.2								
TORD	**Torodi Ar. Bea**		**164.88**	**266**			**PKPdf**	**07 32 33.1**	**-1.7**

*IDC **20** 07:16:15.8±1.1, 55°.26S×28°.72W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/19, mbtmp4.0/4, Error ellipse: s-maj=41.3km s-min=32.2km az=61.0*
*NEIC **20** 07:16:19.6±0.6, 55°.3S±0°.1×28°.9W±0°.3, h22km±9km, mb4.3/7, Error ellipse: s-maj=30.8km s-min=12.5km az=60.0*

ISC 20 07:16:19.3±0.9, 55°.3S±0°.1×28°.8W±0°.1, h24km, n14, σ0s67/13, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.56**	**279**	Pn		**Pn**	**07 17 26.9**	**+0.2**
SNAA	**Sanae**	**19.83**	**156**	P		**P**	**07 20 47.3**	**-0.7**
SMAI	**San Martin Ant**	**21.79**	**219**	P		**P**	**07 21 08.4**	**-0.6**
SMAI				IAmb		IAmb	07 21 10.7	
	comp=Z,17nm,1.3s							
DSPA	**Despedida**	**22.69**	**257**	P		**P**	**07 21 18.6**	**-0.2**
MG02	**Cerro Sombrero**	**23.64**	**259**	P		**P**	**07 21 28.1**	**-0.3**
QSPA	**South Pole Qui**	**34.99**	**180**	P		**P**	**07 23 10.4**	**+1.0**
QSPA				IAmb		IAmb	07 23 19.1	
	comp=Z,2.8nm,0.8s							
CPUP	**Villa Florida**	**35.61**	**313**	P		**P**	**07 23 14.9**	**0.0**
	comp=Z,1.7nm,0.7s,baz=124,slow=7.0,SNR=3.7							
VNDA	**Vanda**	**47.31**	**183**	P		**P**	**07 24 50.6**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=103,slow=17,SNR=1.5							
LPAZ	**La Paz**	**49.17**	**306**	P		**P**	**07 25 06.1**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=142,slow=5.5,SNR=5.5							
TORD	**Torodi Ar. Bea**	**72.84**	**31**	P		**P**	**07 27 46.4**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=205,slow=6.8,SNR=8.1							
TORD	**Torodi Ar. Bea**	**72.84**	**31**	IAmb		IAmb	07 27 52.6	
	comp=Z,5.6nm,1.5s							
YKA	**Yellowknife Ar**	**134.98**	**319**	PKP		**PKiKP**	**07 35 35.3**	**-0.9**
	comp=Z,0.9nm,1.0s,baz=122,slow=2.5,SNR=4.9							
ILAR	**Eielson Array**	**148.91**	**313**	PKPbc		**PKPbc**	**07 36 03.8**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=122,slow=1.7,SNR=14							
SONM	**Songino Array**	**151.59**	**86**	PKPbc		**PKPbc**	**07 36 09.5**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=318,slow=4.1,SNR=1.8							

HLW 20 07:18:45.5, 34°.03N×27°.70E, h11km±9km, Md3.5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SLUM	**Salum**	**3.29**	**220**	P		Pn	07 19 37.3	+0.3
	baz=221							
SLUM				S		Sn	07 20 15.0	-1.2
	baz=221							
SWA2		**5.14**	**202**	P		Pn	07 20 03.0	+0.5
	baz=203							
SWA2				S		Sn	07 20 59.6	-2.3
	baz=203							
RYAN	**Fayoum**	**5.40**	**155**	P		Pg	07 20 44.2	+15
	baz=155							

*IDC **20** 07:26:13.3±4.2, 36°.41N×71°.28E, h213km±35km, mb3.1/7, mb1 3.3/11, mb1mx3.1/61, mbtmp3.8/11, MS2.7/2, Ms1 2.7/2, ms1mx2.3/40, Error ellipse: s-maj=32.4km s-min=25.2km az=5.0*
*NNC **20** 07:26:20.1±2.2, 37°.18N×71°.50E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=17.2km s-min=15.9km az=150.0*

ISC 20 07:26:14.1±0.8, 36°.68N±0°.08×71°.10E±0°.10, h200km, n33, σ1s77/36, mb3.5/7, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.80**	**19**	P		**Pn**	**07 27 41.4**	**+2.4**
	SNR=35							
UCH	**Uchtor**	**6.14**	**24**	P		**Pn**	**07 27 46.0**	**+2.5**
	SNR=30							
KK31	**Karatay Array**	**6.43**	**356**	P		**Pn**	**07 27 49.3**	**+2.5**
	2.3nm,0.4s,baz=177,slow=12,SNR=21							
KK31				⇓S		**Sn**	**07 28 59.9**	**-0.5**
	13nm,0.5s,baz=179,slow=18,SNR=14							
AAK	**Ala-Archa**	**6.50**	**23**	P		**Pn**	**07 27 50.8**	**+2.8**
	SNR=5.9							
AAK	**Ala-Archa**	**6.50**	**23**	P		**Pn**	**07 27 50.7**	**+2.8**
	1.8nm,0.3s,baz=168,slow=4.4,SNR=12							
AAK				S		**Sn**	**07 29 01.2**	**-1.1**
	0.8nm,0.3s,baz=184,slow=22,SNR=4.4							
AAK				LR		LR	07 30 16.8	
	comp=Z,17nm,18.9s,baz=334,slow=36							
ULHL	**Ulahol**	**6.83**	**34**	P		**Pn**	**07 27 54.0**	**+1.8**
	SNR=7.9							
CHMS	**Chumysh**	**6.91**	**23**	⇑P		**Pn**	**07 27 55.4**	**+2.4**
	1.8nm,0.4s							
CHMS				⇓S		**Sn**	**07 29 08.9**	**-2.7**
	12nm,1.0s							
TKM2	**Tokmak 2**	**7.13**	**28**	P		**Pn**	**07 27 58.3**	**+2.3**
	SNR=5.7							
TKM2	**Tokmak 2**	**7.13**	**28**	⇑P		**Pn**	**07 27 57.2**	**+1.1**
	8.4nm,1.3s							
TKM2				⇓S		**Sn**	**07 29 13.9**	**-3.2**
	14nm,1.1s							
MKAR	**Makanchi Array**	**13.10**	**36**	P		**P**	**07 29 16.1**	**+0.4**
	0.2nm,0.3s,baz=205,slow=12,SNR=4.8							
PYUN	**Piuthan**	**13.19**	**127**	*e*P		**P**	**07 29 18.3**	**+1.2**
	2.4nm,0.2s							
DANN	**Dangsing**	**13.52**	**124**	*e*P		**P**	**07 29 20.7**	**-0.2**
	3.7nm,0.3s							
KOLN	**Koldanda**	**13.80**	**126**	*e*P		**P**	**07 29 25.7**	**+1.8**
	3.9nm,0.3s							
GKN	**Gorkha**	**14.33**	**123**	*e*P		**P**	**07 29 30.0**	**+0.3**
	5.5nm,0.3s							
DMN	**Daman**	**14.90**	**123**	*e*P		**P**	**07 29 38.2**	**+2.0**
	10nm,0.5s							
KKN	**Kakani**	**14.90**	**122**	*e*P		**P**	**07 29 37.3**	**+1.2**
	17nm,0.5s							
KURBB	**Kurchatov Arra**	**14.93**	**19**	P		**Pn**	**07 29 35.5**	**+0.3**
	0.0nm,0.3s,baz=209,slow=11,SNR=2.5							
PKIN	**Phulchoki**	**15.12**	**123**	*e*P		**P**	**07 29 40.1**	**+1.5**
	9.0nm,0.4s							
PKI	**Pulchoki**	**15.13**	**123**	*e*P		**P**	**07 29 40.3**	**+1.5**
	3.1nm,0.3s							
GUN	**Gumba**	**15.24**	**121**	*e*P		**P**	**07 29 40.9**	**+0.9**
	4.5nm,0.3s							
JIRN	**Jiri**	**15.61**	**121**	*e*P		**P**	**07 29 44.8**	**+0.7**
	3.6nm,0.4s							
RAMN	**Ramite**	**16.34**	**122**	*e*P		**Pn**	**07 29 54.3**	**+1.5**
	9.4nm,0.3s							
AKTO	**Aktyubinsk**	**16.67**	**330**	P		**Pn**	**07 29 56.7**	**+0.6**
	0.8nm,0.3s,baz=120,slow=5.8,SNR=9.9							
ZALV	**Zalesovo Beam**	**19.72**	**25**	P		**P**	**07 30 27.6**	**-0.5**
	0.6nm,0.3s,baz=212,slow=11,SNR=4.5							
BRTR	**Keskin Array B**	**29.46**	**287**	LR		LR	07 47 35.4	
	comp=Z,40nm,20.0s,baz=319,slow=43							
FINES	**FINESS Array B**	**37.38**	**326**	P		**P**	**07 33 08.2**	**+1.1**
	0.7nm,0.4s,baz=116,slow=4.4,SNR=4.4							
ARCES	**ARCESS Array B**	**41.01**	**337**	P		**P**	**07 33 37.9**	**+0.8**
	2.1nm,0.9s,baz=118,slow=7.3,SNR=1.8							
NB2	**NORSAR Subarra**	**44.28**	**323**	P		**P**	**07 34 03.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.28**	**323**	P		**P**	**07 34 03.4**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=98,slow=7.9,SNR=3.2							
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P		**P**	**07 36 36.6**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=56,slow=5.2,SNR=4.7							
INK	**Inuvik**	**73.72**	**9**	P		**P**	**07 37 25.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=316,slow=4.2,SNR=5.4							
YKA	**Yellowknife Ar**	**81.06**	**3**	P		**P**	**07 38 05.6**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=350,slow=5.4,SNR=6.8							
WRA	**Warramunga Arr**	**82.02**	**122**	P		**P**	**07 38 08.6**	**-3.4**
	comp=Z,0.1nm,0.4s,baz=326,slow=5.2,SNR=1.5							

IDC 20 07:26:32.7±1.5, 14°.51S×166°.27E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/49, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=50.2km s-min=30.1km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.52**	**179**	Pn		Pn	07 28 24.5	+0.6
	1.3nm,0.3s,baz=317,slow=24,SNR=15							
DZM				Sn		Sn	07 29 45.4	-4.5
	baz=198,slow=17,SNR=1.9							
WRA	**Warramunga Arr**	**30.94**	**255**	P		P	07 32 51.9	+0.1
	0.4nm,0.8s,baz=90,slow=9.6,SNR=2.1							
ASAR	**Alice Springs**	**31.85**	**248**	P		P	07 32 59.5	-0.2
	0.6nm,0.8s,baz=75,slow=8.9,SNR=5.3							
ILAR	**Eielson Array**	**86.62**	**18**	P		P	07 39 17.4	-0.4
	0.4nm,0.7s,baz=244,slow=5.1,SNR=5.2							
YKA	**Yellowknife Ar**	**97.80**	**27**	P		Pdif	07 40 09.8	+0.1
	0.5nm,1.0s,baz=260,slow=4.5,SNR=3.0							

*NNC **20** 07:26:51.9±3.4, 53°.47N×88°.33E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=27.2km s-min=18.9km az=56.0, Suspected Mining explosion.*
*IDC **20** 07:26:53.8±3.2, 53°.74N×88°.16E, h0km, mb1 3.3/2, mb1mx3.1/62, mbtmp3.3/2, ML2.8/2, Error ellipse: s-maj=29.6km s-min=18.1km az=50.0*

**ISC 20 07:26:51.0±2.2,

0.5nm,0.3s,baz=321,slow=21,SNR=1.5
URZ S Sn 07 35 05.1 +4.7
3.9nm,0.3s,baz=42,slow=16,SNR=13
MSVF Nonsavu 11.72 348 P Pn 07 33 46.4 -1.1
1.3nm,0.3s,baz=65,slow=22,SNR=4.2
PRWZ Pori Road 11.84 197 P Pn 07 33 51.4 +2.6
BFZ Birch Farm 11.89 196 P Pn 07 33 46.0 -3.5
MRZ Mangatainoka R 12.04 198 P Pn 07 33 48.9 -2.5
MRZ S Sn 07 36 00.1 -4.4
HOWZ Holdsworth Sta 12.28 198 P Pn 07 33 52.5 -2.1
HOWZ S Sn 07 36 06.2 -4.1
TMWZ Te Maipa 12.38 196 P Pn 07 33 53.7 -2.2
TMWZ S Sn 07 36 11.7 -0.9
KIW Kapiti Island 12.42 200 P Pn 07 33 56.9 +0.5
KIW S Sn 07 36 12.3 -1.3
MTW Mount Morrison 12.53 198 P Pn 07 33 59.6 +1.9
MTW S Sn 07 36 11.7 -4.5
TUWZ Tuamarina 13.24 202 P Pn 07 34 05.7 -1.2
TUWZ S Sn 07 36 29.7 -3.6
ASAR Alice Springs 41.87 266 P P 07 38 42.4 +2.0
0.2nm,0.3s,baz=96,slow=7.3,SNR=5.3
WRA Warramunga Arr 42.76 272 P P 07 38 49.3 +1.7
0.3nm,0.6s,baz=110,slow=7.0,SNR=8.0
VNDA Vanda 49.08 185 P P 07 39 36.0 -0.2
1.9nm,1.2s,baz=22,slow=7.8,SNR=6.3

IDC 20 07:31:53.9±3.8, 4°.95S×149°.29E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.6/51, mbtmp3.4/4, ML1.5/1, Error ellipse: s-maj=111.0km s-min=44.5km az=109.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.91**	**205**	Pn	Pn	07 33 09.5	+0.5
	1.5nm,0.3s,baz=255,slow=14,SNR=1.1						
PMG				Sn	Sn	07 34 00.2	-6.3
	1.7nm,0.3s,baz=135,slow=22,SNR=1.8						
WRA	**Warramunga Arr**	**20.83**	**223**	P	P	07 36 37.5	+0.2
	0.7nm,0.8s,baz=50,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**23.80**	**217**	P	P	07 37 07.7	-0.9
	0.2nm,0.4s,baz=46,slow=9.0,SNR=1.6						
FITZ	**Fitzroy Crossi**	**26.55**	**230**	P	P	07 37 34.2	+0.5
	2.0nm,0.7s,baz=53,slow=8.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**147.01**	**287**	PKPbc	PKPbc	07 51 38.8	-0.9
	0.6nm,0.7s,baz=166,slow=4.7,SNR=4.9						

*IDC **20** 07:40:21.6±0.8, 32°.19N×141°.83E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.8/54, mbtmp3.7/11, ML3.6/3, Error ellipse: s-maj=23.1km s-min=16.0km az=71.0*
*JMA **20** 07:40:25.4±0.4, 32°.37N×141°.85E, h29km, M3.6*
ISC 20 07:40:25.5±0.7, 32°.20N±0°.06×141°.85E±0°.09, h29km, n24, σ1s19/30, mb3.6/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.79**	**279**	P	Pn	07 40 54.9	+0.5
JHCJ	**Hachijojimakas**	**1.94**	**297**	P	Pn	07 40 56.2	-0.3
JHJ2	**Mitsune**	**1.94**	**298**	P	Pn	07 40 56.4	-0.1
JHJ	**Hachijo jima 2**	**1.97**	**298**	Pn	Pn	07 40 56.6	-0.3
	56nm,0.3s,baz=209,slow=23,SNR=12						
JHJ				Sn	Sn	07 41 19.9	-0.8
	67nm,0.3s,baz=86,slow=20,SNR=2.7						
JMKN	**Mikurajimanish**	**2.54**	**312**	P	Pn	07 41 04.9	+0.1
BSO1	**Boso 1**	**2.56**	**344**	P	Pn	07 41 03.8	-0.7
BSO3	**Boso 3**	**2.83**	**337**	P	Pn	07 41 08.2	-0.3
BSO4	**Boso 4**	**3.06**	**336**	P	Pn	07 41 11.6	-0.2
JOD2	**Odawara 2**	**3.83**	**324**	P	Pn	07 41 22.6	+0.1
JOD2				eS	Sn	07 42 04.4	-2.1
JHU	**Hanno**	**4.22**	**330**	P	Pn	07 41 27.4	-0.5
JHU				eS	Sn	07 42 13.8	-2.4
JHO	**Hitachi**	**4.53**	**347**	P	Pn	07 41 30.7	-1.4
JRY	**Ryogami san**	**4.53**	**328**	P	Pn	07 41 32.9	+0.8
JAG	**Ashikaga**	**4.66**	**335**	P	Pn	07 41 33.7	-0.2
JAG				eS	Sn	07 42 25.0	-2.0
JCJ	**Chichijima**	**5.09**	**177**	Pn	Pn	07 41 39.1	-0.8
	13nm,0.3s,baz=346,slow=18,SNR=13						
JCJ				Sn	Sn	07 42 34.5	-3.2
	8.0nm,0.3s,baz=105,slow=22,SNR=1.5						
MJAR	**Matsushiro Arr**	**5.28**	**326**	Pn	Pn	07 41 42.4	0.0
	0.6nm,0.3s,baz=149,slow=12,SNR=7.7						
MJAR				Sn	Sn	07 42 42.4	+0.1
	0.1nm,0.3s,baz=231,slow=14,SNR=1.3						
KLR	**Kul'dur**	**18.63**	**339**	P	P	07 44 39.1	-1.5
	0.1nm,0.3s,baz=201,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**47.13**	**306**	P	P	07 48 55.8	+0.8
	1.1nm,0.7s,baz=91,slow=10.0,SNR=12						
WRA	**Warramunga Arr**	**52.34**	**189**	P	P	07 49 35.2	+0.4
	2.4nm,0.5s,baz=4.0,slow=7.6,SNR=65						
ILAR	**Eielson Array**	**53.45**	**30**	P	P	07 49 43.6	+1.2
	0.5nm,1.0s,baz=278,slow=6.3,SNR=3.3						
ASAR	**Alice Springs**	**56.07**	**189**	P	P	07 50 02.0	+0.1
	0.4nm,0.4s,baz=8.9,slow=6.7,SNR=9.1						
YKA	**Yellowknife Ar**	**67.82**	**29**	P	P	07 51 20.9	+0.5
	0.2nm,0.5s,baz=291,slow=6.0,SNR=3.7						
FINES	**FINESS Array B**	**73.27**	**333**	P	P	07 51 53.9	+0.2
	0.7nm,0.6s,baz=63,slow=7.1,SNR=1.1						
NVAR	**Mina Array Bea**	**77.62**	**52**	P	P	07 52 19.6	+0.2
	0.1nm,0.5s,baz=252,slow=1.8,SNR=2.1						
PDAR	**Pinedale Array**	**80.33**	**45**	P	P	07 52 38.7	+1.9
	0.2nm,0.4s,baz=302,slow=1.7,SNR=2.2						

*IDC **20** 07:48:59.9±2.9, 21°.64S×177°.70W, h674km±28km, mb2.8/4, mb1 3.2/6, mb1mx2.9/27, mbtmp4.2/6, Error ellipse: s-maj=57.2km s-min=25.9km az=67.0*
ISC 20 07:49:00.6±1.9, 21°.95S±0°.1×177°.9W±0°.3, h650km, n67, σ3s07/71, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.62**	**317**	P	P	07 50 41.9	+0.3
	10nm,0.3s,baz=268,slow=21,SNR=12						
GLKZ	**Green Lake**	**7.34**	**180**	P	P	07 50 55.9	+0.3
OUZ	**Omahuta**	**15.22**	**207**	P	P	07 52 10.4	+1.7
KUZ	**Kuaotunu**	**15.80**	**199**	P	P	07 52 15.5	+1.5
MXZ	**Matakaoa Point**	**15.96**	**191**	P	P	07 52 19.2	+3.8
WIAZ	**Waiheke Island**	**16.03**	**201**	P	P	07 52 18.7	+2.6
WMGZ	**Waiomatatini S**	**16.19**	**190**	P	P	07 52 21.5	+4.0
HAZ	**Te Kaha**	**16.24**	**192**	P	P	07 52 20.5	+2.5
PUZ	**Puketiti**	**16.46**	**191**	P	P	07 52 23.6	+3.6
RUGZ	**Raukumara Rang**	**16.46**	**192**	P	P	07 52 22.5	+2.3
TWGZ	**Tauwhareparae**	**16.61**	**191**	P	P	07 52 24.8	+3.4
KARZ	**Kaharoa**	**16.85**	**196**	P	P	07 52 28.2	+4.6
MWZ	**Matawai**	**16.85**	**192**	P	P	07 52 25.8	+2.2
MWZ				S	S	07 55 07.7	-0.6
URZ	**Urewera**	**16.87**	**194**	P	P	07 52 24.5	+0.8
	5.6nm,0.3s,baz=258,slow=2.4,SNR=44						
URZ				S	S	07 55 02.0	-6.5
	0.2nm,0.3s,baz=174,slow=12,SNR=1.6						
URZ	**Urewera**	**16.87**	**194**	P	P	07 52 24.7	+1.0
URZ				S	S	07 55 03.1	-5.4
TKGZ	**Te Karaka**	**16.89**	**192**	P	P	07 52 27.8	+3.9
RAGZ	**Rawiri**	**17.03**	**193**	P	P	07 52 28.3	+3.0
RRRZ	**Republican Roa**	**17.08**	**195**	P	P	07 52 28.9	+3.2
RIGZ	**Rimuhau**	**17.17**	**192**	P	P	07 52 29.3	+2.8
RIGZ				S	S	07 55 12.1	-1.3
RTZ	**Ruatahuna**	**17.24**	**194**	P	P	07 52 29.2	+2.0
PRRZ	**Plateau Road**	**17.26**	**195**	P	P	07 52 29.5	+2.2
SNGZ	**Shannon Statio**	**17.32**	**193**	P	P	07 52 30.8	+2.9
TLZ	**Tolley Road**	**17.33**	**198**	P	P	07 52 32.2	+4.2
MTHZ	**Maungataniwha**	**17.50**	**194**	P	P	07 52 31.9	+2.4
MHGZ	**Mahia Peninsul**	**17.57**	**191**	P	P	07 52 33.8	+3.7
MRHZ	**Matea Rd**	**17.57**	**195**	P	P	07 52 32.6	+2.4
HIZ	**Hauiti**	**17.70**	**199**	P	P	07 52 35.6	+4.4
NMHZ	**Naumai**	**17.74**	**194**	P	P	07 52 34.7	+3.0
RATZ	**Rangitukua**	**17.77**	**196**	P	P	07 52 34.4	+2.5
BKZ	**Black Stump Fm**	**17.87**	**194**	P	P	07 52 33.9	+1.0
KATZ	**Kakaramea**	**17.89**	**196**	P	P	07 52 36.4	+3.2
NTVZ	**North Tongarir**	**18.01**	**196**	P	P	07 52 36.8	+2.6
TMVZ	**Te Maari**	**18.02**	**196**	P	P	07 52 36.5	+2.2
ETVZ	**East Tongariro**	**18.04**	**196**	P	P	07 52 36.2	+1.7
TWVZ	**Taurewa**	**18.05**	**197**	P	P	07 52 37.8	+3.2
WTVZ	**West Tongariro**	**18.05**	**197**	P	P	07 52 37.1	+2.5
OTVZ	**Oturere**	**18.07**	**196**	P	P	07 52 36.8	+2.0
MCHZ	**McNeill Hill**	**18.09**	**194**	P	P	07 52 37.5	+2.6
SNVZ	**South Ngauruho**	**18.10**	**196**	P	P	07 52 37.5	+2.4
NGZ	**Ngauruhoe**	**18.10**	**196**	P	P	07 52 38.3	+3.2
KWHZ	**Kaweka Forest**	**18.14**	**194**	P	P	07 52 36.5	+1.2
TUVZ	**Tukino**	**18.17**	**196**	P	P	07 52 37.8	+2.1
FWVZ	**Far West T-bar**	**18.19**	**196**	P	P	07 52 38.5	+2.5
TRVZ	**Turoa**	**18.23**	**196**	P	P	07 52 38.6	+2.2
WNVZ	**Wahianoa**	**18.25**	**196**	P	P	07 52 38.1	+1.7
MOVZ	**Moawhango**	**18.28**	**196**	P	P	07 52 39.5	+2.8
BHHZ	**Black Hill Sta**	**18.28**	**195**	P	P	07 52 38.0	+1.4
VRZ	**Vera Road**	**18.29**	**198**	P	P	07 52 41.2	+4.6
KRHZ	**Kereru**	**18.36**	**194**	P	P	07 52 38.9	+1.6
KAHZ	**Kahuranaki**	**18.39**	**193**	P	P	07 52 40.8	+3.2
PXZ	**Pawanui**	**18.62**	**193**	P	P	07 52 42.2	+2.6
NEZ	**North Egmont**	**18.62**	**200**	P	P	07 52 45.2	+5.4
PNHZ	**Pukenui**	**18.65**	**194**	P	P	07 52 42.3	+2.4
PREZ	**Palmer Road**	**18.67**	**200**	P	P	07 52 46.1	+6.0
WAZ	**Wanganui**	**18.81**	**197**	P	P	07 52 44.6	+3.3
NMEZ	**Namu Road**	**18.82**	**200**	P	P	07 52 46.5	+5.1
TSZ	**Takapari Road**	**18.85**	**195**	P	P	07 52 44.8	+3.1
PRHZ	**Porangahau**	**18.90**	**193**	P	P	07 52 45.9	+3.8
DVHZ	**Dannevirke**	**19.03**	**194**	P	P	07 52 46.2	+2.9
ANWZ	**Angora Road**	**19.11**	**193**	P	P	07 52 47.6	+3.5
BFZ	**Birch Farm**	**19.38**	**194**	P	P	07 52 48.9	+2.5
OGWZ	**Otaki Gorge**	**19.76**	**196**	P	P	07 52 52.0	+2.2
RPZ	**Rata Peaks**	**23.61**	**200**	P	P	07 53 26.5	+2.4
	6.1nm,0.6s,baz=356,slow=1.9,SNR=3.8						
STKA	**Stephens Creek**	**37.28**	**246**	P	P	07 55 19.9	-0.4
	1.3nm,0.4s,baz=88,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**44.30**	**258**	P	P	07 56 16.0	+0.3
	0.3nm,0.3s,baz=100,slow=8.7,SNR=7.0						
WRA	**Warramunga Arr**	**44.51**	**263**	P	P	07 56 17.2	-0.2
	0.4nm,0.3s,baz=96,slow=8.2,SNR=46						
ARCES	**ARCESS Array B**	**130.30**	**349**	PKP	PKPdf	08 06 54.2	-3.9
	1.4nm,0.8s,baz=60,slow=2.2,SNR=3.7						

*IDC **20** 07:52:30.6±1.8, 24°.44S×179°.87W, h492km±19km, mb3.4/8, mb1 3.6/11, mb1mx3.4/27, mbtmp4.3/11, Error ellipse: s-maj=24.0km s-min=15.9km az=156.0*
*NEIC **20** 07:52:32.9±1.6, 24°.3S±0°.2×180°.0E±0°.2, h509km±10km, mb4.3/14, Error ellipse: s-maj=23.6km s-min=20.5km az=182.0*
ISC 20 07:52:32.5±0.6, 24°.30S±0°.07×179°.97E±0°.08, h517km, n66, σ2s07/77, mb4.2/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**5.29**	**160**	P	P	07 54 04.3	+1.4
GLKZ				S	S	07 55 10.2	-6.6
MARNC	**Mare, Loyalty**	**11.36**	**282**	P	P	07 55 02.9	-1.4
PINNC	**Pines Island,**	**11.62**	**276**	P	P	07 55 06.9	-0.1
DZM	**Mont Dzumac**	**12.63**	**277**	P	P	07 55 18.4	+0.5
	0.4nm,0.3s,baz=127,slow=18,SNR=2.3						
AFI	**Afiamalu**	**12.95**	**38**	P	P	07 55 18.5	-2.7
	1.2nm,0.3s,baz=278,slow=20,SNR=1.4						
RUGZ	**Raukumara Rang**	**13.76**	**188**	P	P	07 55 31.1	+1.7
RUGZ				S	S	07 57 54.3	-1.0
TOZ	**Tahuroa Road**	**13.92**	**195**	P	P	07 55 36.0	+5.0
KMRZ	**Kaimai**	**13.93**	**193**	P	P	07 55 35.6	+4.4
TWGZ	**Tauwhareparae**	**13.93**	**187**	P	P	07 55 33.8	+2.6
TWGZ				S	S	07 58 01.9	+3.4
URZ	**Urewera**	**14.12**	**189**	P	P	07 55 30.6	-2.6
	2.0nm,0.3s,baz=290,slow=3.2,SNR=14						
URZ				S	S	07 57 59.1	-3.0
	1.4nm,0.3s,baz=30,slow=23,SNR=10.0						
URZ	**Urewera**	**14.12**	**189**	P	P	07 55 31.6	-1.6
URZ	**Urewera**	**14.12**	**189**	P	P	07 55 33.9	+0.7
URZ				S	S	07 57 59.4	-2.7
MWZ	**Matawai**	**14.14**	**188**	P	P	07 55 33.2	-0.2
MWZ				S	S	07 58 03.6	+1.1
RAGZ	**Rawiri**	**14.31**	**188**	P	P	07 55 37.0	+1.8
RAGZ				S	S	07 58 06.2	+0.3
RIGZ	**Rimuhau**	**14.48**	**187**	P	P	07 55 39.3	+2.3
RIGZ				S	S	07 58 07.8	-1.2
TLZ	**Tolley Road**	**14.48**	**194**	P	P	07 55 40.6	+3.7
RTZ	**Ruatahuna**	**14.49**	**189**	P	P	07 55 38.4	+1.3
RTZ				S	S	07 58 10.4	+1.1
HIZ	**Hauiti**	**14.82**	**196**	P	P	07 55 41.8	+1.4
HIZ	**Hauiti**	**14.82**	**196**	P	P	07 55 45.7	+5.3
NTVZ	**North Tongarir**	**15.19**	**193**	P	P	07 55 46.0	+1.5
TMVZ	**Te Maari**	**15.20**	**193**	P	P	07 55 46.1	+1.5
TWVZ	**Taurewa**	**15.22**	**194**	P	P	07 55 46.3	+1.7
ETVZ	**East Tongariro**	**15.22**	**193**	P	P	07 55 45.7	+0.9
OTVZ	**Oturere**	**15.26**	**193**	P	P	07 55 44.9	-0.2
SNVZ	**South Ngauruho**	**15.29**	**193**	P	P	07 55 46.6	+1.1
TUVZ	**Tukino**	**15.36**	**193**	P	P	07 55 47.0	+0.7
FWVZ	**Far West T-bar**	**15.37**	**193**	P	P	07 55 47.0	+0.6
KWHZ	**Kaweka Forest**	**15.37**	**190**	P	P	07 55 46.8	+0.6
TRVZ	**Turoa**	**15.41**	**193**	P	P	07 55 48.4	+1.6
VRZ	**Vera Road**	**15.42**	**195**	P	P	07 55 50.0	+3.3
WNVZ	**Wahianoa**	**15.43**	**193**	P	P	07 55 46.9	-0.1
KRHZ	**Kereru**	**15.59**	**190**	P	P	07 55 47.9	-0.6
KAHZ	**Kahuranaki**	**15.66**	**189**	P	P	07 55 49.3	+0.1
PKE	**Pukeiti**	**15.69**	**197**	P	P	07 55 54.1	+4.6
NEZ	**North Egmont**	**15.73**	**197**	P	P	07 55 54.4	+4.4
PNHZ	**Pukenui**	**15.89**	**191**	P	P	07 55 51.3	-0.3
PXZ	**Pawanui**	**15.90**	**189**	P	P	07 55 51.4	-0.2
TSZ	**Takapari Road**	**16.07**	**191**	P	P	07 55 53.5	+0.1
PRHZ	**Porangahau**	**16.16**	**189**	P	P	07 55 54.5	+0.2
DVHZ	**Dannevirke**	**16.27**	**190**	P	P	07 55 54.3	-1.1
BFZ	**Birch Farm**	**16.63**	**190**	P	P	07 55 56.8	-2.2
MRZ	**Mangatainoka R**	**16.72**	**192**	P	P	07 55 56.2	-3.7
SNZO	**South Karori**	**17.52**	**193**	P	P	07 56 06.7	-0.7
TUWZ	**Tuamarina**	**17.80**	**195**	P	P	07 56 09.8	-0.2
OXZ	**Oxford**	**20.07**	**197**	P	P	07 56 31.4	+0.8
RPZ	**Rata Peaks**	**20.70**	**199**	P	P	07 56 34.7	-1.8
	4.3nm,0.5s,baz=316,slow=5.9,SNR=6.4						
CTA	**Charters Tower**	**31.45**	**271**	P	P	07 58 12.6	+1.0
	13nm,0.4s,baz=95,slow=11,SNR=26						
CTAO	**Charters Tower**	**31.45**	**271**	P	P	07 58 12.7	+1.2
STKA	**Stephens Creek**	**34.55**	**249**	P	P	07 58 38.8	+1.2
	0.7nm,0.3s,baz=80,slow=9.3,SNR=4.4						
ASAR	**Alice Springs**	**41.94**	**261**	P	P	07 59 38.5	+0.6
	3.5nm,0.8s,baz=92,slow=7.0,SNR=34						
ASAR				ScP	ScP	08 04 24.7	+2.1
	1.4nm,1.0s,baz=103,slow=3.7,SNR=7.4						
ASAR				S	S	08 05 13.4	-5.6
	0.1nm,0.4s,baz=87,slow=14,SNR=1.2						
WB2	**Warramunga Arr**	**42.34**	**267**	P	P	07 59 41.3	+0.2
WB2				IAmb	IAmb	07 59 42.0	
	comp=Z,7.6nm,0.9s						
WRAB	**Tennant Creek**	**42.34**	**267**	P	P	07 59 41.0	-0.1
WRAB				IAmb	IAmb	07 59 42.0	
	comp=Z,10.0nm,1.1s						
WB0	**Warramunga Arr**	**42.35**	**267**	P	P	07 59 41.3	+0.1
WB0				IAmb	IAmb	07 59 42.0	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**42.35**	**267**	P	P	07 59 41.2	0.0
	comp=Z,4.3nm,0.4s,baz=98,slow=8.2,SNR=134						
WRA				ScP	ScP	08 04 27.0	+2.7
	comp=Z,2.6nm,1.0s,baz=103,slow=4.3,SNR=8.5						
WRA				S	S	08 05 20.5	-4.4
	comp=Z,0.6nm,1.1s,baz=113,slow=13,SNR=2.2						
WRA	**Warramunga Arr**	**42.35**	**267**	P	P	07 59 40.2	-1.0
FORT	**Forrest**	**46.14**	**250**	P	P	08 00 09.8	-0.6
KNRA	**Kununurra**	**48.66**	**270**	P	P	08 00 30.1	+0.6
KNRA				IAmb	IAmb	08 00 52.8	
	comp=Z,24nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.77**	**266**	P	P	08 00 45.4	+0.4
MBWA	**Marble Bar**	**55.27**	**260**	P	P	08 01 17.1	0.0
MBWA				IAmb	IAmb	08 01 33.9	
	comp=Z,20nm,1.5s						
QSPA	**South Pole Qui**	**65.78**	**180**	P	P	08 02 27.7	+1.7
QSPA				IAmb	IAmb	08 02 28.5	
	comp=Z,7.2nm,1.0s						
NVAR	**Mina Array Bea**	**85.06**	**44**	P	P	08 04 12.7	-1.0
	comp=Z,0.3nm,0.7s,baz=221,slow=7.1,SNR=4.3						
TUC	**Tucson**	**86.79**	**52**	P	P	08 04 22.7	+0.7
I07A	**Izee**	**87.72**	**39**	P	P	08 04 27.6	+1.5
I07A				IAmb	IAmb	08 04 28.0	
	comp=Z,5.9nm,1.2s						
TXAR	**Lajitas Array**	**90.67**	**58**	P	P	08 04 41.2	+1.0
	comp=Z,1.3nm,0.8s,baz=211,slow=6.7,SNR=14						
PDAR	**Pinedale Array**	**93.00**	**44**	P	P	08 04 51.2	+0.5
	comp=Z,0.3nm,0.7s,baz=220,slow=8.3,SNR=2.5						
ARCES	**ARCESS Array B**	**132.27**	**348**	PKP	PKPdf	08 10 47.3	+0.5
	comp=Z,3.5nm,1.1s,baz=46,slow=3.9,SNR=4.0						

IDC 20 08:02:49.1±2.4, 21°.04S×177°.55W, h452km±33km, mb3.1/3, mb1 3.5/5, mb1mx3.0/34, mbtmp4.2/5, Error ellipse: s-maj=30.9km s-min=18.1km az=109.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.97**	**39**	P	P	08 04 55.4	+0.2
	6.4nm,0.3s,baz=258,slow=6.2,SNR=8.1						
AFI				S	S	08 06 35.3	-3.6
	3.6nm,0.3s,baz=66,slow=20,SNR=2.4						
URZ	**Urewera**	**17.77**	**194**	P	P	08 06 29.0	-0.3
	1.9nm,0.3s,baz=266,slow=4.3,SNR=16						
URZ				S	S	08 09 30.6	+0.4
	0.4nm,0.3s,baz=61,slow=21,SNR=5.7						
ASAR	**Alice Springs**	**44.81**	**257**	P	P	08 10 21.7	+0.1
	1.6nm,0.7s,baz=96,slow=7.9,SNR=18						
ASAR				PcP	PcP	08 11 53.6	-0.8
	0.4nm,0.8s,baz=102,slow=3.5,SNR=5.4						
WRA	**Warramunga Arr**	**44.95**	**262**	P	P	08 10 22.5	-0.2
	1.4nm,0.2s,baz=94,slow=8.7,SNR=82						
ILAR	**Eielson Array**	**88.74**	**13**	P	P	08 14 53.2	+0.2
	0.3nm,0.8s,baz=220,slow=6.0,SNR=4.2						

*IDC **20** 08:25:03.2±0.6, 0°.65N×80°.24W, h0km, mb4.2/16, mb1 4.4/19, mb1mx4.3/29, mbtmp4.3/19, ML2.9/3, Error ellipse: s-maj=21.9km s-min=12.1km az=56.0*
*IGQ **20** 08:25:05±1.3, 1°.1N±5°×8°.0W±°, h5km*
*NEIC **20** 08:25:07.5±2.4, 0°.66N±0°.05×80°.30W±0°.06, h19km±4km, mb4.5/134, Error ellipse: s-maj=9.8km s-min=6.5km az=55.0*
*VAO **20** 08:25:09.4±0.5, 0°.49N×79°.70W, h10km, mb4.7*
ISC 20 08:25:06.1±0.4, 0°.67N±0°.04×80°.22W±0°.05, h17km, n256, σ1s45/199, mb4.5/75, 12C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMA1	**Acelerografo,**	**0.56**	**62**	P	Pb	08 25 18.0	+0.6
AV21	**Acelerografo,**	**0.67**	**91**	P	Pg	08 25 19.0	-0.3
AV18	**Acelerografo,**	**0.82**	**116**	P	Pn	08 25 23.0	+0.1
MAG1	**Magdalena**	**0.86**	**149**	P	Pb	08 25 22.0	-0.7
FLF1	**Flavio Alfaro-**	**1.09**	**160**	P	Pb	08 25 26.0	-0.5
BV15	**Puerto Quito-O**	**1.12**	**117**	P	Pn	08 25 26.0	-1.0
APR2	**Miler**	**1.39**	**115**	P	Pn	08 25 30.0	-0.7
PAC1	**Pacto, Paraso**	**1.48**	**106**	P	ePn	08 25 32.2	+0.1
PAC1	**Pacto, Paraso**	**1.48**	**106**	P	Pn	08 25 32.0	-0.1
APR1	**Acelerografo,**	**1.76**	**114**	P	Pn	08 25 36.0	-0.1
HPAL	**Hacienda Las P**	**1.80**	**119**	P	Pn	08 25 36.0	-0.7
PINO	**Pino**	**1.81**	**117**	P	Pn	08 25 37.0	0.0
TERV	**Terraza Guagua**	**1.82**	**117**	P	Pn	08 25 37.0	-0.1
YANA	**Yana**	**1.83**	**115**	P	Pn	08 25 37.0	-0.2
GGPT	**Toaza - Volcan**	**1.83**	**119**	P	Pn	08 25 37.0	-0.1
PULU	**Pululahua**	**1.84**	**111**	Pn	Pb	08 25 38.5	-0.9
PULU	**Pululahua**	**1.84**	**111**	P	Pn	08 25 37.0	-0.2
JUA2	**San Juan 2**	**1.84**	**119**	P	Pn	08 25 37.0	-0.3
CUSE	**Cuicocha Este**	**1.86**	**101**	P	ePn	08 25 38.4	+0.8
CUSE	**Cuicocha Este**	**1.86**	**101**	P	Pn	08 25 38.0	+0.5
ALIT	**Ecuador-Imbabu**	**1.86**	**86**	P	Pn	08 25 37.0	-0.3
CTUM2	**Tumaco**	**1.88**	**53**	P	ePn	08 25 36.5	-1.0
CUIC	**Cuicocha-Domo**	**1.90**	**101**	P	Pn	08 25 38.0	0.0
CUSW	**Cuicocha Oeste**	**1.91**	**102**	P	Pn	08 25 38.0	-0.2
COTA	**Cotacachi**	**1.91**	**100**	P	Pn	08 25 39.0	+0.6
URCU	**Urcuqui**	**1.98**	**97**	P	Pn	08 25 39.0	-0.2
AV11	**Acelerografo,**	**1.99**	**112**	P	Pb	08 25 42.0	0.0
ILLI	**Illinizas Sur**	**2.03**	**133**	P	Pn	08 25 40.0	0.0
PAST	**Pastocalle**	**2.08**	**131**	P	Pn	08 25 41.0	+0.4
AIB2	**Ibarra (Univer**	**2.14**	**99**	P	Pn	08 25 43.0	+1.7
CHMA	**Chilma**	**2.17**	**85**	P	Pn	08 25 41.0	-0.7
PITA	**Cotopaxi Volc**	**2.17**	**124**	P	Pn	08 25 43.0	+1.2
YAHU	**Yahuarcocha**	**2.17**	**98**	P	Pn	08 25 43.0	+1.2
CAMI	**Rancho Maria**	**2.18**	**128**	P	Pn	08 25 43.0	+1.0
NAS2	**Nasa**	**2.19**	**127**	P	Pn	08 25 41.0	-1.1
BNAS	**Cotopaxi Volca**	**2.19**	**127**	P	Pn	08 25 43.0	+0.8
LNGL	**El Angel-

SDV	Santo Domingo	12.56	49	*eP*		Pn	08 28 05.6	+1.3	
SDV	Santo Domingo	12.56	49	*eP*		Pn	08 28 05.2	+1.0	
NNA	Nana	13.02	165	Pn		Pn	08 28 13.2	+2.7	
	0.5nm,0.3s,baz=354,slow=5.3,SNR=2.1								
BAUV	El Baul	14.65	56	Pn		Pn	08 28 32.8	+0.1	
TGUH	Tegucigalpa,Un	15.02	333	Pn		Pn	08 28 39.5	+1.7	
TGUH	Tegucigalpa,Un	15.02	333	*eP*		Pn	08 28 39.2	+1.4	
ESQI	Esquipulas	16.48	327	IAmb	IAmb		08 29 05.8		
	comp=Z,56nm,1.1s								
BIRV	Birongo	16.95	54			P	08 29 04.4	0.0	
BIRV				IAmb	IAmb		08 29 09.7		
	comp=Z,41nm,0.9s								
ETMB	Extrema	17.41	127	*eP*		Pn	08 29 05.7	-2.6	
MACA	Manacapuru-AM	19.90	101	*eP*		P	08 29 35.9	-1.1	
LPAZ	La Paz	20.65	145	P		P	08 29 46.6	+0.9	
	comp=Z,4.4nm,0.7s,baz=316,slow=7.2,SNR=24								
LPAZ	La Paz	20.65	145	IAmb	IAmb		08 29 59.1		
	comp=Z,26nm,1.1s								
PB16	IPOC Station P	21.63	151	IAmb	IAmb		08 30 05.6		
	comp=Z,27nm,0.9s								
CMIG	Matias Romero	21.79	319	P		P	08 29 56.5	-0.8	
	comp=Z,4.1nm,0.7s,baz=102,slow=12,SNR=5.1								
CELP	Cerrillos	21.88	37	P		P	08 29 57.7	-0.7	
SJG	San Juan	22.17	38	P		P	08 30 01.0	-0.5	
	comp=Z,3.7nm,0.3s,baz=326,slow=18,SNR=0.9								
SJG	San Juan	22.17	38	P		P	08 30 00.5	-0.9	
PDPR	Patillas Dam,	22.18	38	P		P	08 30 00.0	-1.5	
CDVI	St. Croix	22.78	41	P		P	08 30 08.3	+0.4	
PB11	IPOC Station P	22.80	154	P		P	08 30 08.1	-0.2	
GO01	Chusmiza	22.93	152	IAmb	IAmb		08 30 18.8		
	comp=Z,18nm,0.9s								
VILB	Vilhena	24.03	125	*eP*		P	08 30 19.6	-0.9	
ITTB	Itaituba	24.97	102	*eP*		P	08 30 27.6	-1.4	
SIV	San Ignacio	25.13	132	P		P	08 30 30.9	+0.4	
	comp=Z,7.1nm,0.8s,baz=307,slow=8.1,SNR=25								
LVC	Limon Verde	25.63	155	P		P	08 30 34.1	-1.2	
	comp=Z,2.9nm,0.5s,baz=295,slow=15,SNR=1.9								
LVC	Limon Verde	25.63	155	P		P	08 30 36.7	+1.4	
LVC	Limon Verde	25.63	155	*eP*		P	08 30 37.4	+2.0	
NPGB	Novo Progresso	25.96	108	*eP*		P	08 30 36.3	-1.8	
PTLB	Pontes e Lacer	26.28	128	*eP*		P	08 30 41.0	+0.2	
PDRB	Porto dos Gac	26.34	118	*eP*		P	08 30 40.4	-1.0	
CLDB	Colider	26.86	116	*eP*		P	08 30 45.5	-0.7	
NBRS	Nobres	28.42	123	*eP*		P	08 30 59.9	-0.2	
SALV	Santo Antonio	29.29	125	*eP*		P	08 31 10.0	+2.2	
PP1B	Ponte de Pedra	30.86	127	*eP*		P	08 31 21.7	0.0	
SNDB	Serra Nova Dou	31.35	115	*eP*		P	08 31 25.4	-0.7	
AQDB	Aquidauana	31.91	133	*eP*		P	08 31 32.8	+1.9	
DVLD	Doverlandia	32.58	123	*eP*		P	08 31 36.8	-0.2	
CPUP	Villa Florida	34.76	142	P		P	08 31 54.2	-1.6	
	comp=Z,2.2nm,1.0s,baz=340,slow=9.9,SNR=3.3								
CPCT	Cooper Cave	34.83	354	IAmb	IAmb		08 32 01.3		
	comp=Z,6.8nm,1.0s								
JCT	Junction City	35.00	330	IAmb	IAmb		08 32 00.6		
	comp=Z,4.9nm,0.8s								
V51A	Loudon	35.16	354	IAmb	IAmb		08 32 00.8		
	comp=Z,8.4nm,1.0s								
BDFB	Brasilia	35.71	118	P		P	08 32 03.7	-0.5	
	comp=Z,1.9nm,0.6s,baz=313,slow=9.2,SNR=3.4								
BDFB	Brasilia	35.71	118	IAmb	IAmb		08 32 15.2		
	comp=Z,6.4nm,1.1s								
PCMB	Pacaembu	35.91	130	*eP*		P	08 32 04.1	-1.7	
TXAR	Lajitas Array	36.22	324	P		P	08 32 09.1	+0.7	
	comp=Z,0.8nm,0.9s,baz=150,slow=10,SNR=3.5								
TXAR				PcP		PcP	08 34 34.2	+0.5	
	comp=Z,0.7nm,0.9s,baz=179,slow=5.4,SNR=5.5								
GO05	Huala	36.34	168	P		P	08 32 09.3	+0.1	
IPMB	Ipameri, GO	36.54	122	*eP*		P	08 32 10.2	-1.1	
LCAR	Lake Charles	36.65	345	IAmb	IAmb		08 32 16.5		
	comp=Z,5.9nm,0.8s								
PTGB	Pitanga	37.16	135	*eP*		P	08 32 15.5	-0.9	
ML02	Panimavida	37.17	168	P		P	08 32 17.0	+0.8	
FRBT	Francisco Belt	37.27	137	*eP*		P	08 32 18.2	+0.8	
SDBA	SAO DESIDERIO	37.38	112	*eP*		P	08 32 17.5	-0.9	
ITQB	Itaqui	37.65	145	*eP*		P	08 32 20.4	0.0	
MGMO	Mountain Grove	37.97	344	IAmb	IAmb		08 32 40.1		
	comp=Z,6.6nm,1.1s								
FVM	French Village	38.30	347	IAmb	IAmb		08 32 30.4		
	comp=Z,8.0nm,0.9s								
ITAB	Concordia	38.73	138	P		P	08 32 28.4	-1.1	
ITAB	Concordia	38.73	138	*eP*		P	08 32 28.7	-0.8	
Q44A	Meyer Farm, Va	38.89	349	IAmb	IAmb		08 32 34.9		
	comp=Z,17nm,1.1s								
MNTX	Cornudas Mount	38.96	325	P		P	08 32 31.3	-0.2	
121A	Cookes Peak, D	40.97	323	IAmb	IAmb		08 32 57.0		
	comp=Z,11nm,0.9s								
319A	Douglas	41.09	321	IAmb	IAmb		08 32 53.9		
	comp=Z,9.7nm,0.9s								
R32A	Long Quarter,	41.23	338	IAmb	IAmb		08 32 52.6		
	comp=Z,14nm,1.1s								
CBKS	Cedar Bluff	41.96	337	IAmb	IAmb		08 32 59.6		
	comp=Z,12nm,1.1s								
ANMO	Albuquerque	41.97	327	P		P	08 32 57.0	+0.5	
ANMO				IAmb	IAmb		08 33 01.2		
	comp=Z,7.7nm,0.9s								
PLCA	Paso Flores	42.14	169	P		P	08 32 56.9	-0.8	
	comp=Z,8.3nm,0.8s,baz=340,slow=8.0,SNR=7.4								
PLCA	Paso Flores	42.14	169	P		P	08 32 57.6	-0.1	
L40A	Anamosa	42.38	348	IAmb	IAmb		08 33 02.9		
	comp=Z,8.5nm,0.8s								
TUC	Tucson	42.67	321	P		P	08 33 01.5	-0.6	
CMC01	Camacan, BA	43.26	113	*eP*		P	08 33 06.5	-0.5	
SDCO	Great Sand Dun	43.63	331	IAmb	IAmb		08 33 14.8		
	comp=Z,5.7nm,0.8s								
214A	Organ Pipe Nat	43.76	319	P		P	08 33 10.3	-0.6	
214A				IAmb	IAmb		08 33 14.8		
	comp=Z,5.5nm,0.8s								
X16A	Lo Mia Camp, P	44.48	322	IAmb	IAmb		08 33 21.4		
	comp=Z,5.1nm,0.8s								
MVCO	Mesa Verde	44.76	328	IAmb	IAmb		08 33 22.9		
	comp=Z,4.4nm,0.8s								
113A	Mohawk Valley,	44.89	319	P		P	08 33 18.9	-1.1	
113A				IAmb	IAmb		08 33 24.1		
	comp=Z,4.7nm,0.9s								
SMCO	Snowmass	45.47	331	IAmb	IAmb		08 33 29.9		
	comp=Z,4.0nm,0.8s								
SPMN	Marine on St.	45.74	348	IAmb	IAmb		08 33 30.1		
	comp=Z,7.0nm,1.1s								
YUH	Yuha Desert	46.27	317	P		P	08 33 31.2	+0.4	
YUH				IAmb	IAmb		08 33 35.0		
	comp=Z,8.1nm,1.3s								
W13A	Hualapai Mount	46.44	321	IAmb	IAmb		08 33 36.5		
	comp=Z,3.6nm,0.7s								
F36A	Milaca	46.50	347	IAmb	IAmb		08 33 36.9		
	comp=Z,5.1nm,1.1s								
KNB	Kanab	47.06	324	IAmb	IAmb		08 33 44.3		
	comp=Z,4.4nm,1.0s								
SRU	San Rafael Swe	47.24	328	IAmb	IAmb		08 33 43.1		
	comp=Z,5.8nm,0.9s								
P18A	Preston Nutter	47.47	328	IAmb	IAmb		08 33 51.0		
	comp=Z,3.9nm,1.0s								
SZCU	Shurtz Canyon	47.61	324	IAmb	IAmb		08 33 46.0		
	comp=Z,4.2nm,1.1s								
P17A	Butcher Ranch,	47.61	328	IAmb	IAmb		08 33 48.9		
	comp=Z,6.5nm,1.1s								
RDMU	Red Mountain	47.82	330	IAmb	IAmb		08 33 46.9		
	comp=Z,5.6nm,0.9s								
SHPR	Sheep Range	48.14	322	IAmb	IAmb		08 33 50.1		
	comp=Z,5.9nm,1.2s								
RSSD	Black Hills	48.17	337	P		P	08 33 45.3	-0.4	
GSC	Goldstone, Bar	48.44	319	IAmb	IAmb		08 34 04.4		
	comp=Z,6.4nm,1.5s								
JLU	Jordanelle	48.81	328	IAmb	IAmb		08 33 54.8		
	comp=Z,5.7nm,1.2s								
PDAR	Pinedale Array	49.47	332	P		P	08 33 55.6	-0.2	
	comp=Z,1.0nm,0.7s,baz=120,slow=8.8,SNR=8.6								
HWUT	Hardware Ranch	49.60	329	IAmb	IAmb		08 34 04.2		
	comp=Z,7.6nm,1.2s								
BGU	Big Grassy Mou	49.88	328	IAmb	IAmb		08 34 02.9		
	comp=Z,6.8nm,1.2s								
REDW	Red Top Meadow	50.54	331	IAmb	IAmb		08 34 08.6		
	comp=Z,11nm,1.4s								
ULM	Lac du Bonnet	51.17	347	P		P	08 34 08.1	-0.1	
	comp=Z,5.4nm,0.7s,baz=152,slow=5.6,SNR=3.5								
ULM	Lac du Bonnet	51.17	347	IAmb	IAmb		08 34 12.3		
	comp=Z,5.6nm,0.8s								
OMMB	Old Mammoth Mi	51.24	320	IAmb	IAmb		08 34 13.5		
	comp=Z,4.7nm,0.9s								
LKWY	Lake	51.24	333	IAmb	IAmb		08 34 17.2		
	comp=Z,6.1nm,1.1s								
NVAR	Mina Array Bea	51.29	322	P		P	08 34 10.3	+0.7	
	comp=Z,5.9nm,0.8s,baz=136,slow=7.3,SNR=37								
MDPB	Devils Postpil	51.30	320	IAmb	IAmb		08 34 14.5		
	comp=Z,5.8nm,1.0s								
LHV	Little Huntoon	51.31	321	IAmb	IAmb		08 34 14.3		
	comp=Z,7.4nm,0.9s								
YMR	Madison River	51.58	332	IAmb	IAmb		08 34 14.7		
	comp=Z,5.5nm,1.1s								
PMPB	Monarch Peak	51.61	318	IAmb	IAmb		08 34 15.8		
	comp=Z,6.2nm,0.9s								
YHL	Hebgen Lake	51.82	332	IAmb	IAmb		08 34 18.5		
	comp=Z,10.0nm,1.3s								
BMN	Battle Mountai	51.90	324	IAmb	IAmb		08 34 18.2		
	comp=Z,6.7nm,1.0s								
HLID	Hailey	52.47	329	IAmb	IAmb		08 34 22.3		
	comp=Z,4.2nm,0.9s								
BOZ	Bozeman (W)	52.59	333	IAmb	IAmb		08 34 23.1		
	comp=Z,4.6nm,0.9s								
EGMT	Eagleton	53.65	336	IAmb	IAmb		08 34 29.0		
	comp=Z,3.6nm,0.8s								
ORV	Oroville	53.96	321	IAmb	IAmb		08 34 33.7		
	comp=Z,6.1nm,1.1s								
WVOR	Wild Horse Val	54.00	325	IAmb	IAmb		08 34 42.9		
	comp=Z,7.0nm,1.1s								
PLID	Pearl Lake	54.35	329	IAmb	IAmb		08 34 35.4		
	comp=Z,5.7nm,1.4s								
MSO	Missoula	54.58	332	IAmb	IAmb		08 34 37.3		
	comp=Z,8.6nm,1.2s								
JTMT	Jette	55.41	333	IAmb	IAmb		08 34 43.1		
	comp=Z,3.1nm,0.7s								
G08A	Pilot Rock	56.02	328	IAmb	IAmb		08 34 48.0		
	comp=Z,4.4nm,1.0s								
PINE	Pine Mountain	56.16	325	IAmb	IAmb		08 34 49.6		
	comp=Z,4.9nm,0.9s								
FFC	Flin Flon	56.76	345	P		P	08 34 48.3	-0.6	
H04A	Detroit Lake	57.41	326	IAmb	IAmb		08 35 10.0		
	comp=Z,5.0nm,1.1s								
YKA	Yellowknife Ar	66.83	343	P		P	08 35 55.1	-1.6	
	baz=141,slow=5.3,SNR=20								
DBIC	Dimbokro	75.39	83	P		P	08 36 50.6	+1.1	
	comp=Z,5.2nm,0.9s,baz=215,slow=10.0,SNR=3.4								
KOWA	Kowa	76.48	75	P		P	08 36 54.9	-0.9	
INK	Inuvik	76.53	342	IAmb	IAmb		08 37 02.4		
	comp=Z,6.5nm,1.1s								
M27K	Edge Creek, AK	76.60	335	IAmb	IAmb		08 36 59.8		
	comp=Z,3.7nm,0.9s								
BCAR	Beaver Creek A	76.87	336	P		P	08 36 58.0	+1.0	
L27K	Beaver Creek,	76.88	336	P		P	08 36 58.6	+1.5	
L27K				IAmb	IAmb		08 37 09.4		
	comp=Z,8.6nm,1.4s								
SCRK	Sand Creek	78.14	336	P		P	08 37 05.3	+1.0	
SCRK				IAmb	IAmb		08 37 10.0		
	comp=Z,8.9nm,1.5s								
ESDC	Sonseca Array	79.00	50	P		P	08 37 09.2	-0.2	
	comp=Z,1.4nm,0.8s,baz=268,slow=5.6,SNR=4.9								
ESDC	Sonseca Array	79.00	50	IAmb	IAmb		08 37 10.3		
	comp=Z,5.2nm,1.4s								
ILAR	Eielson Array	79.61	336	P		P	08 37 12.0	-0.1	
	comp=Z,2.4nm,1.1s,baz=124,slow=3.8,SNR=8.3								
TORD	Torodi Ar. Bea	81.97	77	P		P	08 37 24.7	-1.1	
	comp=Z,3.6nm,1.1s,baz=270,slow=6.4,SNR=7.4								
TORD	Torodi Ar. Bea	81.97	77	P		P	08 37 24.3	-1.5	
STKA	Stephens Creek	129.80	228	PKP		PKiKP	08 44 16.2	+0.2	
	comp=Z,1.8nm,0.9s,baz=18,slow=2.2,SNR=3.1								
ASAR	Alice Springs	139.78	233	PKP		PKPdf	08 44 33.4	-0.7	
	comp=Z,0.2nm,0.3s,baz=213,slow=39,SNR=5.5								
WRA	Warramunga Arr	141.14	238	PKhKP	PKPpre		08 44 31.5		
	comp=Z,1.6nm,1.1s,baz=106,slow=2.2,SNR=4.6								

IDC 20 08:26:02.2±3.2, 53.60N×87.81E, h0km, mb1 2.9/1, mb1mx2.8/34, mbtmp2.9/1, ML3.0/1, Error ellipse: s-maj=28.1km s-min=15.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.81	282	*i*		08 38 20.0	
	baz=97,slow=326,SNR=1.3						
ZALV	Zalesovo Beam	1.81	282	Pn	Pn	08 26 34.6	0.0
	1.8nm,0.3s,baz=101,slow=9.8,SNR=22						
ZALV				Lg	Lg	08 26 59.7	
	3.6nm,0.3s,baz=99,slow=25,SNR=16						
MKAR	Makanchi Array	7.68	210	Pn	Pn	08 27 56.7	+1.5
	0.2nm,0.3s,baz=28,slow=14,SNR=8.8						
MKAR				Sn	Sn	08 29 22.1	-0.7
	0.1nm,0.3s,baz=23,slow=19,SNR=2.1						
MKAR				Lg	Lg	08 30 03.8	
	0.1nm,0.3s,baz=49,slow=30,SNR=1.8						

*IGQ **20** 08:33:43±0.9, 1°N±3°×8°W±°, h4km*

*IDC **20** 08:33:44.2±0.4, 0.°77N×80.°17W, h0km, mb4.9/42, mb1 5.0/46, mb1mx4.9/55, mbtmp4.9/46, ML4.1/3, MS5.7/12, Ms1 5.7/12, ms1mx5.5/28, Error ellipse: s-maj=15.2km s-min=8.4km az=55.0*

*VAO **20** 08:33:45.9±0.3, 0.°67N×80.°07W, h10km, mb5.4*

*MOS **20** 08:33:46.4±1.5, 0.°71N×80.°29W, h22km, mb5.8/55, MS5.8/38, Error ellipse: s-maj=7.8km s-min=5.6km az=85.8*

*BJI **20** 08:33:46.3±0.0, 0.°60N×80.°27W, h4km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr0.51; Mθθ0.20; Mϕϕ-0.70; Mrθ-0.38; Mθϕ-0.12; Mϕr-2.65; Fault plane solution: Mo2.75000×1018 NP1:ϕs188.23000°, δ83.56000°, λ,90.19000°. NP2:ϕs6.51000°, δ6.44000°, λ88.29000°. Principal axes: T 2.6418, Plg51.0000°, Azm98.0000°; N 0.2121, Plg0.0000°, Azm8.0000°; P -2.8540, Plg39.0000°, Azm278.0000°;*

*NEIC **20** 08:33:47.3±1.7, 0.°64N±0.°04×80.°21W±0.°05, h14km±1km, mb5.6/720, Ms_20 5.9/390, Mwb6.2/83, Mww6.2 Error ellipse: s-maj=9.2km s-min=6.8km az=287.0*

*GCMT **20** 08:33:50.3±0.1, 0.°62N±0.°01×80.°57W±0.°01, h12km, MW6.0/165, Moment Tensor Solution. s148,c284; s165,c390; Duration: 2s6 Moment tensor: Scale 1018 Nm; Mrr0.71±.01; Mθθ0.01±.01; Mϕϕ-0.71±.01; Mrθ-0.19±.02; Mθϕ-0.16±.01; Mϕr-1.25±.02; Best double couple: Mo1.45700×1018 NP1:ϕs16.00000°, δ15.00000°, λ97.00000°. NP2:ϕs189.00000°, δ75.00000°, λ88.00000°. Principal axes: T 1.4390, Plg60.0000°, Azm96.0000°; N 0.0380, Plg2.0000°, Azm189.0000°; P -1.4760, Plg30.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*BGR **20** 08:33:52.1±0.0, 0.°67N×80.°21W, h39km, mb5.5*

*NEIC **20** 08:33:55, 0.°81N×80.°26W, h12km, Moment Tensor Solution. Duration: 14s0 Moment tensor: Scale 1018Nm; Mrr0.77; Mθθ0.00; Mϕϕ-0.77; Mrθ0.03; Mθϕ-0.31; Mϕr-2.00; Fault plane solution: Mo2.17000×1018 NP1:ϕs38.00000°, δ13.00000°, λ,127.00000°. NP2:ϕs181.00000°, δ79.00000°, λ82.00000°. Principal axes: T 2.1603, Plg55.0000°, Azm81.0000°; N 0.0122, Plg8.0000°, Azm182.0000°; P -2.1725, Plg34.0000°, Azm278.0000°;*

ISC 20 08:33:45.1±0.4, 0.°62N±0.°02×80.°28W±0.°03, h10km±2km, h10km: pP-P, n1885, σ2s30/2045, mb5.6/456, MS5.9/264, 163C-117D, Fault plane solution: NP1:ϕs180.94174°, δ87.22207°, λ108.52989°. **NP2:**ϕs279.16946°, δ18.72973°, λ8.68096°. **Principal axes:** T Plg44.7433°, Azm109.3862°; N Plg18.5073°, Azm0.0111°; P Plg39.4490°, Azm254.0231°; **Fault plane solution: NP1:**ϕs184.16386°, δ85.58040°, λ53.74400°. **NP2:** ϕs88.16560°, δ36.48768°, λ172.55415°. **Principal axes:** T Plg38.5350°, Azm61.8471°; N Plg36.1312°, Azm187.3985°; P Plg30.9315°, Azm303.3410°; **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTGL	Punta Galera	0.30	57	P	Pb	08 33 52.0	-0.6
ASAM	Ecuador-Same-C	0.43	59	P	Pg	08 33 53.0	-0.6
ASAM				S	Sb	08 34 01.0	-0.4
AATC	Ecuador-Atacam	0.48	60	P	Pg	08 33 55.0	+0.4
AATC				S	Sb	08 34 04.0	+1.1
ATON	Ecuador-Tonsup	0.54	60	P	Pg	08 33 55.0	-0.6
ATON				S	Sb	08 34 05.0	+0.4
APED	Ecuador-Perden	0.59	158	P	Pg	08 33 57.0	+0.4
APED				S	Sn	08 34 09.0	-0.3
AMA1	Acelerografo,	0.64	61	P	Pb	08 33 58.0	-0.4
AES1	Ecuador-Esmera	0.68	60	P	Pb	08 33 59.0	-0.1
AES1				S	Sn	08 34 13.0	+1.4
AES2	Ecuador-Puerto	0.74	60	P	Pg	08 33 58.0	-1.3
AES2				S	Sn	08 34 14.0	+1.1
AV21	Acelerografo,	0.74	87	P	Pb	08 34 00.0	-0.1

CHIB	CHIBUNGA	0.85	147	P		Pn	08 34 04.0	+0.8	
MAG1	Magdalena	0.85	143	P		Pn	08 34 03.0	-0.3	
AV18	Acelerografo,	0.86	111	P		Pn	08 34 03.0	-0.3	
JAMA	Jama	0.88	175	P		Pb	08 34 03.0	+0.5	
JAMA				S		Sn	08 34 17.0	+0.5	
FLF1	Flavio Alfaro-	1.06	156	P		Pn	08 34 07.0	+0.8	
BV15	Puerto Quito-O	1.15	113	P		Pb	08 34 07.0	-0.2	
ACHN	Ecuador-Chone-	1.32	171	P		Pg	08 34 11.0	+0.4	
APR2	Miler	1.42	112	P		Pn	08 34 11.0	-0.1	
ASDO	Santo Domingo	1.45	127	P		Pn	08 34 11.0	-0.5	
PAC1	Pacto, Paraso	1.53	103	*eP*		Pn	08 34 12.5	-0.2	
PAC1				*eS*		Sn	08 34 32.7	-0.1	
PAC1	Pacto, Paraso	1.53	103	P		Pn	08 34 12.0	-0.7	
ACHO	Acelerografo,	1.56	104	P		Pn	08 34 12.0	-1.0	
ALOR	Ecuador-San Lo	1.58	65	P		Pn	08 34 12.0	-1.3	
BUFE	BUENA FE, CENT	1.71	153	P		Pn	08 34 15.0	0.0	
APR1	Acelerografo,	1.79	112	P		Pn	08 34 17.0	+0.5	
HPAL	Hacienda Las P	1.83	117	P		Pn	08 34 16.0	-1.0	
PINO	Pino	1.84	115	P		Pn	08 34 17.0	-0.4	
TERV	Terraza Guagua	1.85	115	P		Pn	08 34 17.0	-0.5	
GGPT	Toaza - Volcan	1.86	117	P		Pn	08 34 17.0	-0.5	
YANA	Yana	1.86	113	P		Pn	08 34 18.0	+0.5	
JUA2	San Juan 2	1.87	116	P		Pn	08 34 18.0	+0.3	
OTAV	Otavalo	1.87	102	P		Pn	08 34 18.6	+1.0	
OTAV	Otavalo	1.87	102	Pn		Pn	08 34 18.6	+1.0	
PULU	Pululahua	1.88	108	Pn		Pn	08 34 18.6	+0.9	
PULU	Pululahua	1.88	108	P		Pn	08 34 18.0	+0.3	
CUSE	Cuicocha Este	1.91	99	*eP*		Pn	08 34 18.6	+0.5	
CUSE				*eS*		Sb	08 34 44.0	-0.5	
CUSE	Cuicocha Este	1.91	99	P		Pn	08 34 18.0	-0.1	
LLOA	Lloa	1.92	116	P		Pn	08 34 18.0	-0.3	
LITE1	Lita	1.93	85	P		Pn	08 34 17.0	-1.2	
ALIT	Ecuador-Imbabu	1.93	85	P		Pn	08 34 18.0	-0.2	
SADP	Ecuador-Quito-	1.93	109	P		Pb	08 34 20.0	-0.7	
PRAM	Casa Patricio	1.94	113	P		Pn	08 34 19.0	+0.5	
CUIC	Cuicocha-Domo	1.95	99	P		Pn	08 34 19.0	+0.4	
ZALD	Colegio Gonzal	1.95	117	P		Pn	08 34 19.0	+0.3	
SANF	Convento San F	1.95	115	P		Pn	08 34 19.0	+0.3	
FENY	Casa Vinicio C	1.96	113	P		Pn	08 34 19.0	+0.3	
VIFL	Administracin	1.96	116	P		Pn	08 34 19.0	+0.2	
QUIB	Administracin	1.96	118	P		Pn	08 34 19.0	+0.2	
CUSW	Cuicocha Oeste	1.96	100	P		Pn	08 34 19.0	+0.2	
LILI	Casa Paps Lil	1.96	117	P		Pn	08 34 19.0	+0.2	
CTUM2	Tumaco	1.96	52	*eP*		Pn	08 34 16.8	-1.7	
CRPG	Carapungo - Pi	1.96	111	P		Pb	08 34 21.0	-0.2	
CIRC	Crculo Milita	1.97	114	P		Pn	08 34 20.0	+1.1	
EPNL	EPN Laboratori	1.97	115	P		Pn	08 34 19.0	+0.1	
CIVI	Edificio de In	1.97	115	P		Pb	08 34 21.0	-0.4	
C24MA	Colegio 24 de	1.97	114	P		Pn	08 34 20.0	+1.0	
ISPT	Isla de la Pla	2.03	203	P		Pn	08 34 18.0	-1.4	
AV11	Acelerografo,	2.03	110	P		Pb	08 34 22.0	-0.3	
URCU	Urcuqui	2.04	95	P		Pn	08 34 20.0	+0.1	
TING	Casa Alexandra	2.04	116	P		Pn	08 34 21.0	+1.1	
ILLI	Illinizas Sur	2.04	130	P		Pn	08 34 20.0	0.0	
AOTA	Otavalo	2.06	101	P		Pb	08 34 22.0	-0.9	
AAT1	Ecuador-Atunta	2.09	98	P		Pb	08 34 22.0	-1.3	
PAST	Pastocalle	2.10	128	P		Pn	08 34 21.0	+0.3	
AIB1	Ecuador-Imbabu	2.17	97	P		Pn	08 34 23.0	+1.3	
PITA	Cotopaxi Volc	2.19	122	P		Pb	08 34 24.0	-1.1	
CAMI	Rancho Maria	2.19	126	P		Pn	08 34 23.0	+0.9	
AIB2	Ibarra (Univer	2.20	97	P		Pb	08 34 24.0	-1.1	
NAS2	Nasa	2.21	125	P		Pb	08 34 24.0	-1.5	
BNAS	Cotopaxi Volca	2.21	125	P		Pb	08 34 24.0	-1.5	
YAHU	Yahuarcocha	2.23	96	P		Pn	08 34 24.0	+1.5	
CHMA	Chilma	2.23	84	P		Pn	08 34 22.0	-0.5	
SLOR	San Lorenzo -	2.23	127	P		Pn	08 34 24.0	+1.4	
BREF	Cotopaxi Volca	2.24	125	P		Pb	08 34 25.0	-1.2	
VC1	Cotopaxi 1	2.26	124	P		Pb	08 34 25.0	-1.4	
BVC2	Cot

VILC Villavicencio, 7.44 62 eP Pn 08 35 35.0 +1.0
CHIC Chingaza 7.66 59⇑eP Pn 08 35 35.8 -1.4
PNME Penonome 7.81 360 eP Pn 08 35 46.1 +7.1
GUVC San Jose del G 7.89 76 eP Pn 08 35 41.2 +1.2
GUVC San Jose del G 7.89 76 eP Pg 08 36 23.1 +6.9
SPBC San Pablo de B 7.96 51⇑eP Pn 08 35 39.4 -1.8
UPD2 Meteti 8.19 16 eP Pn 08 35 44.5 +0.4
PTBC PUERTO BERRIO, 8.27 45⇑eP Pn 08 35 43.2 -2.0
CDITO Canoas 8.31 342 Pn 08 35 47.1 +1.3
UPA Univ. de Panam 8.34 5 eP Pn 08 35 46.3 +0.1
BRU2 Volcan 8.47 344 Pn Pn 08 35 49.4 +1.3
BCIP Isla Barro Col 8.50 3 P Pn 08 35 50.7 +2.3
BCIP Isla Barro Col 8.50 3 Pn Pn 08 35 50.7 +2.3
BCIP Isla Barro Col 8.50 3 eP Pn 08 35 51.8 +3.3
BCIP Isla Barro Col 8.50 3 ⇓P Pn 08 35 47.9 -0.6
UREC San Jos de Ur 8.52 34⇑eP Pn 08 35 48.9 +0.2
RIOS Rincon, Osa 8.65 338 Pn 08 35 51.1 +0.7
ZARC Zaragoza, Cauc 8.71 38 Pn Pn 08 35 52.3 +1.0
ZARC Zaragoza, Cauc 8.71 38⇑eP Pn 08 35 50.2 -1.1
PTGC Puerto Gaitan, 8.88 66⇑eP Pn 08 35 52.7 -1.0
RUSC La Rusia 8.89 54⇑eP Pn 08 35 53.1 -1.1
LCBC Los crdobas, 9.06 25 eP Pn 08 35 58.0 +1.8
DRK0 Durika 9.08 341 Pn 08 35 58.1 +1.6
BARC Barichara 9.24 50 eP Pn 08 35 57.5 -1.2
RIMA Rio Macho 9.76 339 Pn 08 36 06.0 +0.2
BATAN Batan 9.91 342 Pn 08 36 09.5 +1.8
JACO JACO, Garabito 9.98 334 Pn Pn 08 36 10.9 +2.1
HDC Heredia 10.07 338 Pn 08 36 11.6 +1.6
HDC Heredia 10.07 338 ⇓P Pn 08 36 11.3 +1.3
PAYG Puerto Ayora 10.09 263 Pn Pn 08 36 12.6 +2.4
PAYG Puerto Ayora 10.09 263⇓eP Pn 08 36 11.9 +1.8
PAYG Puerto Ayora 10.09 263 ⇓P Pn 08 36 12.0 +1.8
PAMC Pamplona, Colo 10.09 48 eP Pn 08 36 14.3 +3.7
CAO2 Cobano, Puntar 10.21 332 Pn 08 36 13.2 +1.3
TAMC Tame, Arauca 10.25 56⇑eP Pn 08 36 10.7 -1.9
OCAC Ocana 10.27 42 Pn 08 36 14.9 +2.1
OCAC Ocana 10.27 42 eP Pn 08 36 08.7 -4.1
SJCC San Jacinto, C 10.52 29 Pn Pn 08 36 17.7 +1.5
SJCC San Jacinto, C 10.52 29⇑eP Pn 08 36 17.1 +0.9
JTS Las Juntas de 10.67 334 Pn Pn 08 36 19.1 +0.9
1.4nm,0.3s,baz=204,slow=6.9,SNR=20
JTS Las Juntas de 10.67 334 i P Pn 08 36 19.7 +1.5
JTS Las Juntas de 10.67 334 Pn Pn 08 36 20.7 +2.5
JTS Las Juntas de 10.67 334⇓eP Pn 08 36 18.0 -0.2
JTS Las Juntas de 10.67 334 ⇓P Pn 08 36 17.4 -0.8
DUNO Dulce Nombre, 10.73 331 Pn 08 36 20.0 +1.0
ORTG Ortega, Santa 10.96 332 Pn 08 36 23.6 +1.3
LL1C La Loma 1 Cana 11.11 37⇑eP Pn 08 36 25.3 +1.1
LL5C La Loma 5 El P 11.18 36⇑eP Pn 08 36 22.7 -2.4
CZSB Cruzeiro do Su 11.22 138 eP Pn 08 36 25.8 +0.1
HZTE Horizontes, Gu 11.33 332 Pn 08 36 28.2 +1.0
TBTG Tabatinga, AM 11.41 115⇑eP Pn 08 36 29.1 +0.7
TBTG Tabatinga, AM 11.41 115 eP Pn 08 36 28.7 +0.4
LL6C La Loma 6 Bece 11.43 37⇑eP Pn 08 36 25.7 -2.9
SMRC Santa Marta, M 12.08 30⇑eP Pn 08 36 37.7 +0.2
ESPN Las Esperanzas 12.17 341 Pn 08 36 40.8 +2.1
SDV Santo Domingo 12.64 49 Pn Pn 08 36 44.5 -0.8
5.6nm,0.3s,baz=170,slow=1.4,SNR=36
SDV LR LR 08 42 20.6
comp=Z,47µm,19.2s,baz=216,slow=42
SDV Santo Domingo 12.64 49 Pn 08 36 45.0 -0.3
SDV Santo Domingo 12.64 49 eP Pn 08 36 43.7 -1.6
PRVC Isla de Provid 12.72 355 Pn 08 36 47.8 +1.6
PRVC Isla de Provid 12.72 355 eP Pn 08 36 51.1 +4.9
BOAB BOACO BROADBAN 12.91 336 Pn Pn 08 36 50.5 +1.7
BOAB BOACO BROADBAN 12.91 336 ⇓P Pn 08 36 49.9 +1.1
NNA Nana 12.98 165 Pn Pn 08 36 51.5 +1.7
2.1nm,0.3s,baz=323,slow=7.1,SNR=8.9
NNA Sn Sn 08 39 18.7 +4.1
3.5nm,0.3s,baz=234,slow=19,SNR=1.7
NNA LR LR 08 41 22.5
comp=Z,30µm,20.6s,baz=340,slow=35
NNA Nana 12.98 165 ceP Pn 08 36 51.9 +2.0
NNA pmax pmax
comp=Z,168nm,1.0s
NNA Nana 12.98 165 Pn 08 36 49.4 -0.4
NNA Nana 12.98 165 ⇑P Pn 08 36 50.9 +1.1
CNGN Cerro Negro 13.41 332 Pn 08 36 58.5 +2.8
CRIN San Cristobal 13.75 331 Pn 08 37 02.2 +1.8
DABV Dabajuro 14.02 43 eP Pn 08 37 00.1 -4.0
BAUV El Baul 14.73 55 Pn 08 37 13.6 -0.1
TGUH Tegucigalpa,Un 15.04 333 Pn 08 37 20.6 +2.6
TGUH Tegucigalpa,Un 15.04 333⇓eP Pn 08 37 19.6 +1.6
TGUH Tegucigalpa,Un 15.04 333 ⇓P Pn 08 37 19.6 +1.6
SNET Serv Nac Est T 15.72 326 Pn 08 37 28.5 +1.6
SNET IAmb IAmb 08 37 47.9
comp=Z,747nm,1.4s
HATO Hato, Curacao 16.07 44 Pn 08 37 32.1 +0.7
HATO IAmb IAmb 08 37 45.0
comp=Z,608nm,1.0s
MTO3 Montecristo 16.37 327 P 08 37 37.1 -1.2
MTO3 IAmb IAmb 08 37 44.9
comp=Z,486nm,1.4s
ESQI Esquipulas 16.50 328 P 08 37 38.7 -0.9
MTDJ Mount Denham 17.70 9 P P 08 37 53.2 +0.2
MTDJ IAmb IAmb 08 38 33.5
comp=Z,553nm,1.4s
MTDJ Mount Denham 17.70 9⇑eP Pn 08 37 51.9 -0.2
MTDJ Mount Denham 17.70 9 ⇑P P 08 37 52.8 -0.2
HUEH Huehuetenango 18.33 323 P P 08 38 02.1 +2.1
HUEH IAmb IAmb 08 38 18.5
comp=Z,723nm,1.9s
JAKH Jacmel 19.10 23 P Pn 08 38 11.0 +2.0
JAKH IAmb IAmb 08 38 43.0
comp=Z,542nm,1.5s
LGNH Logne 19.31 23 P Pn 08 38 12.3 +0.7
LGNH IAmb IAmb 08 38 28.5
comp=Z,406nm,1.2s
CCIG Comitan 19.46 324 P Pn 08 38 13.6 0.0
CCIG IAmb IAmb 08 38 34.3
comp=Z,421nm,1.7s
BOAV Boa Vista 19.83 85 eP P 08 38 15.7 -0.6
GTBY Guantanamo Bay 19.85 14 P Pn 08 38 18.3 +0.4
GTBY Guantanamo Bay 19.85 14⇑eP Pn 08 38 17.9 0.0
MACA Manacapuru-AM 19.95 101 eP P 08 38 16.0 -1.5
BANI BANI 20.17 28 P Pn 08 38 21.3 -0.7
SDDR Presa de Saban 20.27 25 P Pn 08 38 22.4 -0.7
SDDR IAmb IAmb 08 38 56.5
comp=Z,869nm,1.8s
SDDR Presa de Saban 20.27 25⇑eP Pn 08 38 23.0 -0.1
SDDR Presa de Saban 20.27 25 ⇑P Pn 08 38 22.8 -0.3
SDD Santo Domingo 20.44 29 P Pn 08 38 24.5 -0.5
LPAZ La Paz 20.64 145 P Pn 08 38 27.3 -0.7
comp=Z,101nm,1.2s,baz=328,slow=12,SNR=62
LPAZ La Paz 20.64 145⇑eP Pn 08 38 27.5 -0.5
LPAZ La Paz 20.64 145 ⇑P Pn 08 38 27.2 -0.8
LPAZ La Paz 20.64 145 eP P 08 38 26.3 +0.6
SC01 Santiago de Io 20.91 26 IAmb IAmb 08 39 13.7
comp=Z,669nm,1.4s
PB12 IPOC Station P 21.47 153 P P 08 38 33.2 -0.9
MLPR Magueyes Islan 21.60 36 IAmb IAmb 08 38 41.2
comp=Z,772nm,1.6s
GRFF Grenada Fort F 21.62 58 eP P 08 38 30.9 -4.8
GRGR Grenville 21.73 58 P P 08 38 36.5 -0.5
GRGR Grenville 21.73 58 eP P 08 38 31.5 -5.4
CMIG Matias Romero 21.79 319 P P 08 38 37.6 +0.2
comp=Z,39nm,1.0s,baz=116,slow=7.5,SNR=20
CMIG LR LR 08 44 10.0
comp=Z,9µm,19.1s,baz=160,slow=29
AOPR Arecibo Observ 22.07 36 eP P 08 38 39.8 -0.6
GCMP Grenada, Carri 22.11 57 eP P 08 38 34.5 -6.4
SJG San Juan 22.25 38 P P 08 38 42.1 -0.2
comp=Z,56nm,1.0s,baz=219,slow=8.5,SNR=18
SJG San Juan 22.25 38 P P 08 38 42.2 -0.2
SJG pmax pmax
comp=Z,1µm,1.9s
SJG MLR MLR
comp=Z,22µm,20.0s
SJG San Juan 22.25 38 P P 08 38 42.2 -0.2
SJG San Juan 22.25 38⇑eP P 08 38 42.8 +0.5
PDPR Patillas Dam, 22.26 38 IAmb IAmb 08 38 49.8
comp=Z,690nm,1.8s
TOSP Speyside 22.30 61 P P 08 38 39.4 -3.5
GCPR Guaynabo City 22.44 38 IAmb IAmb 08 38 57.7
comp=Z,470nm,1.1s
HUMP Col San Antoni 22.46 38 IAmb IAmb 08 39 00.2
comp=Z,493nm,1.3s
GRTK Grand Turk 22.60 23 P P 08 38 46.0 -0.1
GRTK IAmb IAmb 08 39 15.6
comp=Z,468nm,1.4s
SVB Belmont 22.66 55 P P 08 38 45.6 -1.2
PB11 IPOC Station P 22.78 153 P P 08 38 48.5 +0.3

CDVI St. Croix 22.86 41 eP P 08 38 47.7 -1.2
CUPR Culebra, Puert 22.94 39 IAmb IAmb 08 39 18.4
comp=Z,172nm,1.1s
MCLT Moule a Chique 23.15 55 eP P 08 38 47.1 -4.8
STVI Saint Thomas 23.18 40 IAmb IAmb 08 39 15.0
comp=Z,417nm,1.2s
BIM Bigot 23.48 53 eP P 08 38 52.6 -2.7
FDF Fort de France 23.54 53 P P 08 38 55.5 -0.4
FDF pmax pmax
comp=Z,484nm,1.4s
FDF Fort de France 23.54 53 ⇑P P 08 38 54.0 -1.9
FDF Fort de France 23.54 53 eP P 08 38 52.4 -3.5
MPOM Morne Pois Mar 23.61 54 eP P 08 38 51.9 -4.7
DSLB Salisbury 23.74 51 eP P 08 38 54.2 -3.6
ILAM Ilet Lapin Mar 23.79 53 IAMs_20 IAMs_20 08 48 24.2
comp=Z,40µm,21.0s
ILAM Ilet Lapin Mar 23.79 53 eP P 08 38 57.2 -1.0
DLPL La Plaine 23.81 51 eP P 08 38 56.6 -1.9
TBG Guadaloupe-3 23.82 50 eP P 08 38 57.8 -0.7
TDBA Terre de Bas, 23.82 50 eP P 08 38 56.6 -1.9
MLYT Lee's Yard 23.95 47 eP P 08 38 58.1 -1.7
MBFL Flemmings, Mon 23.95 47 eP P 08 39 00.1 +0.3
CBE Ff, Capester 23.98 49 eP P 08 38 56.3 -3.8
BBGH Gun Hill 24.01 58 eP P 08 39 00.1 -0.3
VILB Villena 24.05 125 eP P 08 39 00.3 -0.5
BBSP Saint Philip 24.07 58 eP P 08 39 00.1 -0.9
MAGL Barre de l'ile 24.15 50 eP P 08 38 57.2 -4.5
SMRT St. Maarten 24.21 43 IAmb IAmb 08 39 28.1
comp=Z,305nm,1.1s
ABD La Joyeuse, An 24.32 49 eP P 08 39 00.6 -2.6
BPA Boggy Peak 24.40 47 eP P 08 39 00.1 -3.9
PB07 IPOC Station P 24.42 156 i P P 08 39 06.8 +2.5
ANDO Antigua, Disas 24.47 47 eP P 08 39 04.1 -0.5
ANBD Bethesda, Anti 24.47 47 eP P 08 38 59.4 -5.2
TLIG Tlapa 24.64 314 P P 08 39 07.8 +1.5
TLIG IAmb IAmb 08 39 51.4
comp=Z,218nm,1.7s
ANWB Willy Bob 24.86 46 P P 08 39 07.2 -0.9
ANWB Willy Bob 24.86 46 ⇑P P 08 39 06.7 -1.4
ANWB Willy Bob 24.86 46 eP P 08 39 03.3 -4.8
ITTB Itaituba 25.02 102 eP P 08 39 07.1 -2.6
061Z Ochoppi 25.11 359 S S 08 43 36.6 +1.7
baz=178
SIV San Ignacio 25.14 132 P P 08 39 11.3 +0.6
comp=Z,34nm,0.8s,baz=318,slow=9.0,SNR=42
PB06 IPOC Station P 25.42 156 IAmb IAmb 08 39 43.5
comp=Z,272nm,1.1s
LVC Limon Verde 25.61 155 P P 08 39 17.8 +2.5
comp=Z,92nm,1.1s,baz=325,slow=6.7,SNR=28
LVC LR LR 08 50 56.2
comp=Z,27µm,20.4s,baz=326,slow=40
LVC Limon Verde 25.61 155 P P 08 39 17.3 +2.0
LVC Limon Verde 25.61 155 ⇑P P 08 39 17.8 +2.5
LVC Limon Verde 25.61 155 i P P 08 39 18.0 +2.7
LVC Limon Verde 25.61 155 eP P 08 39 16.1 +0.8
PB10 IPOC Station P 25.79 159 P P 08 39 16.9 +0.5
PB10 IPOC Station P 25.79 159 i P P 08 39 18.2 +1.8
PB15 IPOC Station P 25.91 157 P P 08 39 18.0 +0.1
PB15 IPOC Station P 25.91 157 i P P 08 39 20.5 +2.6
NPGB Novo Progresso 26.01 107 eP P 08 39 16.3 -2.4
MALB Monte Alegre 26.13 95 eP P 08 39 18.3 -1.4
UNM Universidad Na 26.24 316 IAMs_20 IAMs_20 08 48 29.0
comp=Z,42µm,19.0s
060A Indiantown 26.27 360 S S 08 43 55.7 +2.3
baz=180
PTLB Pontes e Lacer 26.30 128 eP P 08 39 21.8 +0.7
PDRB Porto dos Gac 26.37 118 eP P 08 39 21.5 -0.3
PB14 IPOC Station P 26.86 160 i P P 08 39 28.3 +1.8
CLDB Colider 26.89 116 eP P 08 39 25.6 -1.0
DWPF Disney Wildern 27.36 358 S S 08 44 11.2 +0.6
baz=177
DWPF Disney Wildern 27.36 358 P P 08 39 32.8 +2.2
baz=177
DWPF S S 08 44 12.6 +2.1
baz=177
GO02 Mina Guanaco 27.64 159 IAmb IAmb 08 40 13.8
comp=Z,247nm,1.2s
HJA Humahuaca 27.75 150 i P P 08 39 37.1 +2.5
MDP Montagnes des 27.96 80 P P 08 39 35.7 -0.5
comp=Z,96nm,1.3s,baz=268,slow=8.2,SNR=16
AC01 Pan de Azucar 28.20 161 IAmb IAmb 08 40 32.4
comp=Z,302nm,1.6s
MCPB Macapa, AP 28.24 92 eP P 08 39 38.2 -0.5
NBRS Nobres 28.44 122 eP P 08 39 40.3 -0.2
656A Willston 28.67 356 S S 08 44 30.6 -0.7
baz=175
SLA San Lorenzo 28.98 151 i P P 08 39 48.1 +2.8
SLA i P pP 08 39 48.4 +0.1
SLA i P sP 08 39 48.5 -0.9
SALV Santo Antonio 29.31 125 eP P 08 39 47.6 -0.5
AC06 Mina Casimiro 29.41 162 P P 08 39 51.5 +2.5
AC06 IAmb IAmb 08 40 40.6
comp=Z,280nm,1.7s
GO03 Copiap 29.67 162 IAmb IAmb 08 40 11.1
comp=Z,240nm,1.7s
553A Crawfordville 29.67 353 S S 08 44 47.1 +0.1
baz=172
FSA Cafayete 29.95 154 i P P 08 39 56.2 +2.3
456A Hilliard 29.99 357 S S 08 44 49.8 -2.0
baz=176
451A Vernon 30.28 351 S S 08 44 53.3 -3.2
baz=169
TIGA Tifton 30.81 354 IAmb IAmb 08 40 09.8
comp=Z,120nm,1.6s
TIGA Tifton 30.81 354 P P 08 40 02.5 +1.2
baz=173
TIGA S S 08 45 03.8 -1.1
baz=173
CFSA Confresa 30.86 111 eP P 08 40 02.3 +0.4
LCO Las Campanas 30.86 163 P P 08 40 03.7 +1.7
LCO pmax pmax
comp=Z,197nm,1.6s
LCO MLR MLR
comp=Z,15µm,19.0s
LCO Las Campanas 30.86 163 P P 08 40 03.7 +1.7
LCO IAmb IAmb 08 40 19.8
comp=Z,197nm,1.6s
PP1B Ponte de Pedra 30.88 127 eP P 08 40 02.1 +0.1
ZAIG Zacatecas 30.89 317 P P 08 40 03.6 +1.2
352A Blakely 31.01 352 S S 08 45 07.3 -0.6
baz=171
BRAL Brewton 31.05 349 IAMs_20 IAMs_20 08 53 14.4
comp=Z,20µm,18.0s
BRAL Brewton 31.05 349 P P 08 40 04.6 +1.2
baz=167
BRAL S S 08 45 08.3 -0.3
baz=167
PRPB Parauapebas 31.15 103 eP P 08 40 02.4 -2.2
257A Skidaway Islan 31.20 359 S S 08 45 10.6 -0.2
baz=178
255A Hazlehurst 31.21 356 S S 08 45 11.6 +0.6
baz=176
SNDB Serra Nova Dou 31.39 114 eP P 08 40 04.7 -1.9
VCA Vinchina 31.40 159 i P P 08 40 10.1 +3.5
VCA i P sP 08 40 10.3 -0.5
VCA i P pP 08 40 12.9 +3.3
CO05 La Serena 31.57 165 IAmb IAmb 08 40 27.6
comp=Z,143nm,1.4s
KVTX Kingsville 31.66 329 S S 08 45 21.1 +2.9
baz=145
250A Grady 31.70 350 S S 08 45 21.6 +2.8
baz=168
346A Big Creek Wild 31.81 345 S S 08 45 15.6 -5.0
baz=162
AQDB Aquidauana 31.92 132 IAmb IAmb 08 40 17.6
comp=Z,164nm,1.2s
AQDB Aquidauana 31.92 132 eP P 08 40 09.4 -1.7
154A Montrose 31.93 355 IAmb IAmb 08 40 19.8
comp=Z,119nm,1.2s
154A Montrose 31.93 355 P P 08 40 11.1 0.0
baz=174
154A S S 08 45 21.6 -0.7
baz=174
CO01 Juntas del Tor 31.94 163 IAmb IAmb 08 41 24.6
comp=Z,203nm,1.8s
152A Waverly Hall 32.15 353 IAmb IAmb 08 40 21.4
comp=Z,112nm,1.7s
152A Waverly Hall 32.15 353 P P 08 40 12.8 -0.2
baz=172
152A S S 08 45 23.6 -2.2
baz=172
344A Westbrook Farm 32.22 343 IAmb IAmb 08 40 23.3
comp=Z,102nm,1.1s
344A Westbrook Farm 32.22 343 P P 08 40 15.1 +1.4
baz=160
344A S S 08 45 23.4 -3.5
baz=160
AROD Rodeo 32.30 162 i P P 08 40 17.3 +2.5
NHSC New Hope 32.32 0 IAMs_20 IAMs_20 08 55 42.4
comp=Z,22µm,21.0s
NHSC New Hope 32.32 0 P P 08 40 15.1 +0.6
baz=180
NHSC S S 08 45 28.9 +0.6
baz=180
NHSC New Hope 32.32 0 P P 08 40 15.5 +1.0
baz=180
NHSC S S 08 45 27.9 -0.4
baz=180
TMAB Tom-Au,PA,Br 32.32 95 eP P 08 40 15.1 +0.4
441A DeRidder 32.37 339 S S 08 45 29.4 +0.2
baz=155
ACDV Cuesta del Vie 32.41 162 i P P 08 40 18.5 +2.9
ACLC CERRO LA CRUZ 32.48 158 i P P 08 40 18.8 +2.6
HAW Hawthorne Fire 32.59 358 P P 08 40 16.4 -0.4
baz=177,SNR=9.3
HAW S S 08 45 30.8 -1.9
baz=177
DVLD Doverlandia 32.60 123 eP P 08 40 17.1 -0.1
342B Flagon Creek P 32.65 341 S S 08 45 33.8 +0.3
baz=157
735A Kenedy 32.69 331 S S 08 45 32.4 -1.9
baz=146
HKT Hockley 32.71 334 i P P 08 40 18.5 +0.6
HKT pmax pmax
comp=Z,78nm,1.8s
HKT MLR MLR
comp=Z,9µm,18.0s
HKT Hockley 32.71 334 P P 08 40 19.1 +1.2
HKT IAmb IAmb 08 40 28.5
comp=Z,153nm,1.9s
GOGA Godfrey 32.76 355 IAmb IAmb 08 40 28.0
comp=Z,106nm,1.6s
GOGA Godfrey 32.76 355 IAMs_20 IAMs_20 08 53 08.2
comp=Z,21µm,20.0s
GOGA Godfrey 32.76 355 S S 08 45 33.4 -1.8
baz=174
GOGA Godfrey 32.76 355 P P 08 40 18.7 +0.4
baz=174
GOGA S S 08 45 34.3 -0.9
baz=174
ACCO Cerro Coronel 32.82 162 i P P 08 40 21.7 +2.4
Z51A Franklin 32.85 352 P P 08 40 19.5 +0.3
baz=171
Z51A S S 08 45 33.9 -2.8
baz=171
LRAL Lakeview Retre 32.86 350 P P 08 40 19.3 +0.1
baz=168
LRAL S S 08 45 33.5 -3.3
baz=168
LRAL Lakeview Retre 32.86 350 P P 08 40 20.9 +1.7
baz=168
LRAL S S 08 45 34.2 -2.6
baz=168
VBMS Vicksburg 32.88 344 S S 08 45 35.0 -2.1
baz=161
VBMS Vicksburg 32.88 344 P P 08 40 19.9 +0.5
baz=161
VBMS S S 08 45 34.8 -2.3
baz=161
146A Union 32.90 346 IAmb IAmb 08 40 28.7
comp=Z,124nm,1.4s
146A Union 32.90 346 S S 08 45 35.8 -1.7
baz=164
833A Chaparral WMA, 33.07 328 IAmb IAmb 08 40 43.6
comp=Z,135nm,1.4s
833A Chaparral WMA, 33.07 328 P P 08 40 21.7 +0.6
baz=143,SNR=7.4
833A S S 08 45 38.8 -1.4
baz=143
833A Chaparral WMA, 33.07 328 P P 08 40 22.6 +1.4
baz=143,SNR=7.4
833A S S 08 45 40.1 -0.1
baz=143
Y58A Scranton 33.12 1 S S 08 45 39.0 -1.8
baz=181
Y58A S S 08 45 39.0 -1.8
baz=181
C2SB Chapadao do Su 33.14 127 eP P 08 40 22.5 +0.6
Y59A Loris 33.22 2 IAmb IAmb 08 41 14.8
comp=Z,71nm,1.0s
Y59A Loris 33.22 2 S S 08 45 43.0 +0.6
baz=182
Y59A S S 08 45 43.0 +0.6
baz=182
Y57A Sumter 33.22 360 IAmb IAmb 08 40 32.0
comp=Z,130nm,1.7s
Y57A Sumter 33.22 360 P P 08 40 22.8 +0.4
baz=180
Y57A P P 08 40 22.8 +0.4
baz=180
Y57A S S 08 45 40.8 -1.7
baz=180
Y57A S S 08 45 40.8 -1.7
baz=180
Z47A Carrollton 33.23 348 P P 08 40 23.4 +1.0
baz=166
Z47A S S 08 45 38.9 -3.6
baz=166
Y52A Lilburn 33.26 354 IAmb IAmb 08 40 31.2
comp=Z,133nm,1.9s
Y52A Lilburn 33.26 354 S S 08 45 40.6 -2.5
baz=173
Y52A S S 08 45 40.6 -2.5
baz=173
Y60A Bolivia 33.27 3 S S 08 45 43.9 +0.8
baz=184
Y60A S S 08 45 43.9 +0.8
baz=184
AVFE Valle Fertil 33.41 160 i P P 08 40 26.4 +2.1
HODGE Hodges 33.49 357 IAmb IAmb 08 40 33.3
comp=Z,106nm,1.6s
HODGE Hodges 33.49 357 P P 08 40 23.9 -0.8
baz=176
HODGE S S 08 45 44.2 -2.3
baz=176
JSC Jenkinsville 33.50 359 S S 08 45 44.9 -1.8
baz=178
APLL PUNTA DE LOS L 33.51 158 i P P 08 40 27.1 +2.0
Y49A Blount Mountai 33.56 351 S S 08 45 44.3 -3.4
baz=169
143A Socs Landing, 33.59 343 IAmb IAmb 08 40 34.9
comp=Z,118nm,1.4s
143A Socs Landing, 33.59 343 S S 08 45 39.2 -8.9
baz=160
RTLL Cerro Villicun 33.69 162 i P P 08 40 28.6 +2.0
X58A Rowland 33.77 1 S S 08 45 48.9 -2.0
baz=182
X58A S S 08 45 48.9 -2.0
baz=182
NATX Nacogdoches 33.83 338 S S 08 45 50.0 -1.9
baz=154
NATX Nacogdoches 33.83 338 P P 08 40 28.3 +0.6
baz=154
NATX S S 08 45 50.4 -1.5
baz=154
ZON Zonda 33.83 162 i P P 08 40 28.8 +1.0
SJA San Juan 33.85 162 i P P 08 40 34.4 +6.4
BIRD Birdtown, Kers 33.85 360 IAmb IAmb 08 40 37.5
comp=Z,125nm,1.7s
BIRD Birdtown, Kers 33.85 360 P P 08 40 28.0 +0.1
baz=180
BIRD S S 08 45 51.5 -0.6
baz=180
RTLS Leoncito 33.88 163 i P P 08 40 31.9 +3.3
SMTB Santa Maria do 33.91 107 eP P 08 40 28.1 -0.6
X51A Calhoun 34.04 353 IAmb IAmb 08 40 37.8
comp=Z,160nm,1.9s
X51A Calhoun 34.04 353 S S 08 45 53.3 -1.9
baz=172
X51A S S 08 45 53.3 -1.9
baz=172
PAULI Pauline 34.06 358 IAmb IAmb 08 40 38.4
comp=Z,73nm,1.4s
PAULI Pauline 34.06 358 P P 08 40 30.0 +0.4
baz=177
PAULI S S 08 45 54.5 -0.9
baz=177
ACHE Chepes 34.15 159 i P P 08 40 32.7 +2.0
PEXB Peixe 34.18 113 eP P 08 40 30.3 -0.8
Y45A Yeager Farm, C 34.19 346 P P 08 40 31.8 +0.9
baz=163,SNR=13
Y45A S S 08 45 55.4 -2.0

baz=163
435B Jarrell 34.20 333 IAmb IAmb 08 40 41.4
comp=Z,195nm,1.9s
435B Jarrell 34.20 333 P **P** **08 40 30.8 -0.2**
baz=148
435B S **S** **08 45 56.0 -1.7**
baz=148
X48A Hartselle 34.25 350 P **P** **08 40 30.9 -0.4**
baz=168
X48A S **S** **08 45 53.6 -4.6**
baz=168
AUSP Uspallata 34.25 163 *i* P **P** **08 40 35.0 +3.2**
BG3 Lake Jocassee 34.29 356 IAmb IAmb 08 40 40.5
comp=Z,95nm,1.4s
CASEE Lake Jocassee 34.29 356 P **P** **08 40 31.1 -0.6**
baz=175,SNR=12
CASEE S **S** **08 45 57.9 -1.1**
baz=175
W57A Gilead 34.36 0 S **S** **08 45 59.0 -0.9**
baz=180
W57A S **S** **08 45 59.0 -0.9**
baz=180
KMSC Kings Mountain 34.36 358 IAmb IAmb 08 40 41.0
comp=Z,79nm,1.3s
KMSC Kings Mountain 34.36 358 P **P** **08 40 31.3 -1.0**
baz=178,SNR=10.0
KMSC S **S** **08 45 58.2 -1.8**
baz=178
KMSC Kings Mountain 34.36 358 P **P** **08 40 33.1 +0.8**
baz=178,SNR=10.0
KMSC S **S** **08 45 58.2 -1.8**
baz=178
VA01 Torpederas 34.44 167 IAmb IAmb 08 40 41.0
comp=Z,166nm,1.4s
W52A Murphy 34.47 355 P **P** **08 40 33.5 +0.2**
baz=173,SNR=6.8
W52A S **S** **08 46 00.9 -0.9**
baz=173
237A Washetta, Mont 34.49 336 S **S** **08 46 01.6 -0.5**
baz=152
CNNC Cliffs of the 34.52 3 P **P** **08 40 33.8 +0.2**
baz=184
Z41A Richland Creek 34.53 341 IAmb IAmb 08 40 43.3
comp=Z,108nm,1.4s
Z41A Richland Creek 34.53 341 S **S** **08 46 00.9 -1.9**
baz=158
Z41A S **S** **08 46 00.9 -1.9**
baz=158
Z41A Richland Creek 34.53 341 P **P** **08 40 34.5 +0.7**
baz=158
Z41A S **S** **08 46 01.1 -1.7**
baz=158
W50A Signal Mountai 34.72 353 P **P** **08 40 35.2 -0.3**
baz=171,SNR=16
W50A S **S** **08 45 58.9 -6.8**
baz=171
CPUP Villa Florida 34.76 142 P **P** **08 40 35.8 -0.1**
comp=Z,20nm,1.1s,baz=330,slow=9.5,SNR=14
CPUP Villa Florida 34.76 142 P **P** **08 40 35.9 +0.1**
CPUP Villa Florida 34.76 142 IAmb IAmb 08 40 41.9
comp=Z,125nm,1.3s
CPUP Villa Florida 34.76 142 ⇑P **P** **08 40 35.7 -0.1**
CPUP Villa Florida 34.76 142 *e*P **P** **08 40 34.8 -1.0**
ASAL Salagasta 34.76 163 *i* P **P** **08 40 39.4 +3.5**
PEL Peldehue 34.78 166 P **P** **08 40 32.8 -3.2**
PEL Peldehue 34.78 166 IAMs_20 IAMs_20 08 54 24.7
comp=Z,18µm,19.0s
PEL Peldehue 34.78 166 ⇑P **P** **08 40 38.5 +2.5**
PEL Peldehue 34.78 166 *i* P **P** **08 40 38.7 +2.7**
OXF Oxford 34.78 347 IAmb IAmb 08 40 43.6
comp=Z,71nm,1.2s
OXF IAMs_20 IAMs_20 08 56 27.1
comp=Z,16µm,19.0s
OXF Oxford 34.78 347 P **P** **08 40 36.9 +1.0**
baz=164
OXF S **S** **08 46 03.8 -2.8**
baz=164
MT02 Curacav 34.78 166 IAmb IAmb 08 40 58.6
comp=Z,180nm,1.4s
SWET Sewanee 34.82 352 IAmb IAmb 08 40 44.2
comp=Z,183nm,1.9s
CCAR Cane Creek 34.83 343 P **P** **08 40 36.9 +0.6**
baz=160
CCAR S **S** **08 46 02.4 -5.0**
baz=160
BBSR BB Station 34.84 23 S **S** **08 46 04.7 -2.8**
baz=208
V53A Saluda 34.95 356 P **P** **08 40 37.1 -0.4**
baz=176
V53A P **P** **08 40 37.1 -0.4**
baz=176
V53A S **S** **08 46 06.7 -2.5**
baz=176
V53A S **S** **08 46 06.7 -2.5**
baz=176
ARCO CERRO ARCO 34.96 163 *i* P **P** **08 40 40.8 +3.1**
MT05 Renca 35.00 166 P **P** **08 40 40.0 +2.0**
JCT Junction City 35.01 330 ⇓P **P** **08 40 39.1 +1.1**
JCT Junction City 35.01 330 P **P** **08 40 39.2 +1.1**
baz=144,SNR=23
JCT S **S** **08 46 11.9 +1.6**
baz=144
JCT Junction City 35.01 330 P **P** **08 40 39.2 +1.1**
baz=144,SNR=23
JCT S **S** **08 46 11.9 +1.6**
baz=144
TKL Tuckaleechee C 35.01 355 P **P** **08 40 37.4 -0.6**
comp=Z,18nm,1.1s,baz=172,slow=8.9,SNR=12
TKL LR LR 08 54 18.6
comp=Z,22µm,18.7s,baz=176,slow=35
TKL Tuckaleechee C 35.01 355 IAmb IAmb 08 40 46.2
comp=Z,156nm,1.7s
TKL Tuckaleechee C 35.01 355 P **P** **08 40 39.2 +1.3**
baz=174,SNR=14
TKL S **S** **08 46 08.4 -1.7**
baz=174
V58A Windy Hill, Pi 35.01 2 S **S** **08 46 09.4 -0.6**
baz=182
V58A S **S** **08 46 09.4 -0.6**
baz=182
WLAR White Oak Lake 35.03 341 IAmb IAmb 08 40 48.1
comp=Z,192nm,1.5s
VA05 Santo Domingo 35.06 167 IAmb IAmb 08 40 46.1
comp=Z,238nm,1.9s
V55A Taylorsville 35.06 359 IAmb IAmb 08 40 48.5
comp=Z,180nm,1.9s
V55A Taylorsville 35.06 359 S **S** **08 46 08.2 -2.7**
baz=178
V55A S **S** **08 46 08.2 -2.7**
baz=178
TCA Tanti 35.10 156 *i* P **P** **08 40 39.1 +0.3**
V61A Roper 35.16 5 S **S** **08 46 13.8 +1.4**
baz=186
V61A S **S** **08 46 13.8 +1.4**
baz=186
WHTX Lake Whitney, 35.17 334 S **S** **08 46 08.6 -4.0**
baz=149
WHTX Lake Whitney, 35.17 334 P **P** **08 40 39.9 +0.5**
baz=149
WHTX S **S** **08 46 11.4 -1.2**
baz=149
V52A Sevierville 35.18 355 P **P** **08 40 39.1 -0.3**
baz=174,SNR=15
V52A S **S** **08 46 09.8 -2.9**
baz=174
V51A Loudon 35.21 354 IAmb IAmb 08 40 48.0
comp=Z,68nm,1.1s
V51A Loudon 35.21 354 P **P** **08 40 39.5 -0.2**
baz=173,SNR=14
V51A S **S** **08 46 10.9 -2.2**
baz=173
AAGR Agrelo 35.22 163 *i* P **P** **08 40 42.8 +2.9**
Z38A Mt. Pleasant 35.29 338 IAmb IAmb 08 40 50.4
comp=Z,226nm,1.5s
Z38A Mt. Pleasant 35.29 338 P **P** **08 40 40.2 -0.1**
baz=154
Z38A S **S** **08 46 08.8 -5.6**
baz=154
MT01 Popeta 35.34 167 IAmb IAmb 08 41 32.2
comp=Z,242nm,1.9s
W45A Hickory Valley 35.35 347 IAmb IAmb 08 40 48.5
comp=Z,113nm,1.1s
W45A Hickory Valley 35.35 347 P **P** **08 40 41.4 +0.5**
baz=164
W45A S **S** **08 46 11.9 -3.4**
baz=164
V48A Smith Brothers 35.47 351 IAmb IAmb 08 40 49.8
comp=Z,64nm,0.9s
V48A Smith Brothers 35.47 351 P **P** **08 40 41.4 -0.5**
baz=169,SNR=15
V48A S **S** **08 46 12.9 -4.2**
baz=169
U56A King 35.55 360 IAmb IAmb 08 40 51.5
comp=Z,99nm,1.4s
U56A King 35.55 360 S **S** **08 46 18.3 -0.1**
baz=180
U56A S **S** **08 46 18.3 -0.1**
baz=180
TRCB Terra Rica 35.58 133 *e*P **P** **08 40 42.6 -0.5**
BO04 La Punta 35.61 166 IAmb IAmb 08 41 02.1
comp=Z,206nm,1.4s
ITRB Iturama 35.62 126 *e*P **P** **08 40 43.3 -0.1**
MRA San Martin 35.63 159 *i* P **P** **08 40 44.6 +1.2**
MRA *i* P **pP** **08 40 45.0 -1.3**
MRA *i* P **sP** **08 40 46.1 -1.5**
U59A Littleton 35.63 3 S **S** **08 46 19.8 +0.3**
baz=184
U59A S **S** **08 46 19.8 +0.3**
baz=184
AVIZ Vizcacheras 35.67 163 *i* P **P** **08 40 47.4 +3.6**
X40A Basin Creek Fa 35.68 342 IAmb IAmb 08 40 53.0
comp=Z,98nm,1.7s
X40A Basin Creek Fa 35.68 342 S **S** **08 46 17.5 -2.9**
baz=158
X40A S **S** **08 46 17.5 -2.9**
baz=158
X40A Basin Creek Fa 35.68 342 P **P** **08 40 43.5 -0.2**
baz=158
X40A S **S** **08 46 17.9 -2.5**
baz=158
BDFB Brasilia 35.74 118 P **P** **08 40 45.6 +1.0**
comp=Z,26nm,0.9s,baz=280,slow=14,SNR=12
BDFB LR LR 08 55 40.6
comp=Z,43µm,18.0s,baz=289,slow=37
BDFB Brasilia 35.74 118 P **P** **08 40 44.0 -0.6**
BDFB pmax pmax
comp=Z,80nm,1.1s
BDFB Brasilia 35.74 118 P **P** **08 40 44.0 -0.6**
BDFB IAmb IAmb 08 41 08.9
comp=Z,80nm,1.1s
U54A Nelsons Funny 35.75 358 IAmb IAmb 08 40 53.9
comp=Z,230nm,1.8s
U54A Nelsons Funny 35.75 358 P **P** **08 40 44.3 -0.1**
baz=177,SNR=8.9
U54A P **P** **08 40 44.3 -0.1**
baz=177,SNR=8.9
U54A S **S** **08 46 20.0 -1.5**
baz=177
U54A S **S** **08 46 20.0 -1.5**
baz=177
TZTN Tazewell 35.87 356 IAmb IAmb 08 40 54.6
comp=Z,163nm,1.6s
TZTN IAMs_20 IAMs_20 08 54 34.7
comp=Z,20µm,19.0s
TZTN Tazewell 35.87 356 P **P** **08 40 45.1 -0.3**
baz=174,SNR=13
TZTN S **S** **08 46 21.1 -2.2**
baz=174
TZTN Tazewell 35.87 356 P **P** **08 40 45.5 +0.1**
baz=174,SNR=13
TZTN S **S** **08 46 20.1 -3.2**
baz=174
BO01 Tunca 35.88 167 IAmb IAmb 08 40 56.4
comp=Z,244nm,1.6s
PCMB Pacaembu 35.93 130 *e*P **P** **08 40 44.9 -1.2**
WVT Waverly 36.02 350 P **P** **08 40 45.3 -1.3**
WVT pmax pmax
comp=Z,159nm,2.0s
WVT MLR MLR
comp=Z,12µm,21.0s
WVT Waverly 36.02 350 P **P** **08 40 45.3 -1.3**
WVT IAmb IAmb 08 40 53.6
comp=Z,159nm,1.9s
WVT Waverly 36.02 350 ⇓P **P** **08 40 45.4 -1.3**
WVT Waverly 36.02 350 P **P** **08 40 44.7 -1.9**
baz=167,SNR=12
WVT S **S** **08 46 20.4 -5.1**
baz=167
WVT Waverly 36.02 350 P **P** **08 40 46.1 -0.5**
baz=167
WVT S **S** **08 46 20.4 -5.1**
baz=167
HBAR Harrisburg 36.08 346 S **S** **08 46 23.7 -2.7**
baz=162
U49A Red Boiling Sp 36.08 352 IAmb IAmb 08 40 54.9
comp=Z,115nm,1.6s
U49A Red Boiling Sp 36.08 352 P **P** **08 40 46.5 -0.6**
baz=171,SNR=14
U49A S **S** **08 46 22.9 -3.5**
baz=171
W41B Gary Mavity, V 36.14 343 IAmb IAmb 08 40 56.9
comp=Z,217nm,2.0s
W41B Gary Mavity, V 36.14 343 P **P** **08 40 47.3 -0.3**
baz=159,SNR=20
W41B S **S** **08 46 24.3 -3.2**
baz=159
W41B Gary Mavity, V 36.14 343 P **P** **08 40 47.5 -0.2**
baz=159,SNR=20
W41B S **S** **08 46 25.4 -2.1**
baz=159
T57A Hurt 36.21 1 P **P** **08 40 47.3 -0.9**
baz=182,SNR=9.6
T57A P **P** **08 40 47.3 -0.9**
baz=182,SNR=9.6
T57A S **S** **08 46 27.6 -0.9**
baz=182
T57A S **S** **08 46 27.6 -0.9**
baz=182
TXAR Lajitas Array 36.23 324 P **P** **08 40 49.7 +1.0**
comp=Z,2.1nm,0.9s,baz=149,slow=8.9,SNR=18
TXAR PcP **PcP** **08 43 15.0 +1.0**
comp=Z,4.5nm,1.0s,baz=211,slow=1.6,SNR=2.7
TXAR LR LR 08 54 53.0
comp=Z,9µm,21.1s,baz=137,slow=35
TX31 Lajitas Ar. Si 36.23 324 IAmb IAmb 08 41 27.6
comp=Z,89nm,1.4s
TX31 Lajitas Ar. Si 36.23 324 ⇓P **P** **08 40 49.5 +0.9**
TX31 Lajitas Ar. Si 36.23 324 P **P** **08 40 50.4 +1.7**
baz=138,SNR=12
TX31 S **S** **08 46 30.7 +1.5**
baz=138
Z35A Perchaven, San 36.24 336 IAmb IAmb 08 40 59.6
comp=Z,112nm,1.4s
Z35A Perchaven, San 36.24 336 P **P** **08 40 49.1 +0.6**
baz=150
T59A Double "B" Far 36.26 4 IAmb IAmb 08 41 14.2
comp=Z,106nm,1.6s
T59A Double "B" Far 36.26 4 P **P** **08 40 48.9 +0.3**
baz=184
T59A P **P** **08 40 48.9 +0.3**
baz=184
T59A S **S** **08 46 28.5 -0.6**
baz=184
T59A S **S** **08 46 28.5 -0.6**
baz=184
WHAR Wooly Hollow 36.27 343 IAmb IAmb 08 40 57.8
comp=Z,99nm,1.4s
GO05 Huala 36.30 168 IAmb IAmb 08 41 10.8
comp=Z,318nm,1.9s
GO05 Huala 36.30 168 *i* P **P** **08 40 50.0 +1.0**
GNAR Gosnell 36.31 347 IAmb IAmb 08 40 57.1
comp=Z,174nm,1.5s
ROSB Rosrio 36.31 96 *e*P **P** **08 40 47.7 -1.7**
LNXT Lenox 36.33 347 S **S** **08 46 26.4 -3.8**
baz=164
BLA Blacksburg 36.41 360 IAmb IAmb 08 40 59.8
comp=Z,202nm,2.0s
BLA IAMs_20 IAMs_20 08 57 37.9
comp=Z,16µm,21.0s
BLA Blacksburg 36.41 360 P **P** **08 40 50.4 +0.4**
baz=180
BLA S **S** **08 46 31.9 +0.2**
baz=180
BLA Blacksburg 36.41 360 P **P** **08 40 50.5 +0.5**
baz=180
BLA S **S** **08 46 30.7 -0.9**
baz=180
T50A Nancy 36.47 354 P **P** **08 40 49.4 -1.0**
baz=172
T50A P **P** **08 40 49.4 -1.0**
baz=172
T50A S **S** **08 46 28.7 -3.6**
baz=172
T50A S **S** **08 46 28.7 -3.6**
baz=172
T60A Surry 36.49 5 S **S** **08 46 32.4 -0.2**
baz=186
T60A S **S** **08 46 32.4 -0.2**
baz=186
IPMB Ipameri, GO 36.57 122 *e*P **P** **08 40 50.6 -1.0**
X37A Clayton 36.62 339 P **P** **08 40 52.9 +1.1**
baz=154
W39A Magazine 36.63 341 IAmb IAmb 08 41 00.7
comp=Z,83nm,1.2s
W39A Magazine 36.63 341 P **P** **08 40 52.4 +0.6**
baz=157,SNR=17
W39A S **S** **08 46 31.8 -3.1**
baz=157
W39A Magazine 36.63 341 P **P** **08 40 51.6 -0.2**
baz=157,SNR=17
W39A S **S** **08 46 33.5 -1.5**
baz=157
LCAR Lake Charles 36.69 345 IAmb IAmb 08 41 00.1
comp=Z,69nm,0.9s
LCAR Lake Charles 36.69 345 P **P** **08 40 51.6 -0.7**
baz=162,SNR=44
LCAR S **S** **08 46 28.4 -7.4**
baz=162
ABTX Abilene, Hawle 36.69 332 IAmb IAmb 08 41 13.7
comp=Z,104nm,1.4s
ABTX Abilene, Hawle 36.69 332 P **P** **08 40 52.4 0.0**
baz=146,SNR=13
ABTX S **S** **08 46 35.6 -0.4**
baz=146
ABTX Abilene, Hawle 36.69 332 P **P** **08 40 52.6 +0.2**
baz=146,SNR=13
ABTX S **S** **08 46 35.8 -0.2**
baz=146
HICK Hickman 36.69 348 IAmb IAmb 08 41 30.0
comp=Z,169nm,1.2s
T47A Sharon Grove 36.73 351 IAmb IAmb 08 41 01.1
comp=Z,299nm,2.0s
T47A Sharon Grove 36.73 351 P **P** **08 40 51.7 -1.0**
baz=168,SNR=8.2
T47A S **S** **08 46 31.6 -4.9**
baz=168
FCAR Ozark Folk Cen 36.78 344 IAmb IAmb 08 41 00.8
comp=Z,219nm,2.0s
SLBS Sierra La Lagu 36.79 311 P **P** **08 40 53.7 +0.3**
SLBS IAmb IAmb 08 41 05.1
comp=Z,347nm,2.0s
SLBS Sierra La Lagu 36.79 311 ⇓P **P** **08 40 55.0 +1.6**
RFA San Rafael 36.90 164 *i* P **P** **08 40 57.0 +2.8**
RFA *i* P **pP** **08 40 57.5 +0.2**
RFA *i* P **sP** **08 40 58.6 +0.2**
PARMO Parma 36.92 347 IAmb IAmb 08 41 02.1
comp=Z,120nm,1.0s
S51A Beattyville 36.97 356 P **P** **08 40 53.7 -1.0**
baz=174,SNR=14
S51A P **P** **08 40 53.7 -1.0**
baz=174,SNR=14
S51A S **S** **08 46 37.2 -2.8**
baz=174
S51A S **S** **08 46 37.2 -2.8**
baz=174
S57A Dark Hollow, R 36.98 2 P **P** **08 40 54.8 0.0**
baz=182
S57A P **P** **08 40 54.8 0.0**
baz=182
S57A S **S** **08 46 38.9 -1.3**
baz=182
S57A S **S** **08 46 38.9 -1.3**
baz=182
S54A Dingess, Beckl 37.01 359 P **P** **08 40 54.8 -0.3**
baz=178
S54A P **P** **08 40 54.8 -0.3**
baz=178
S54A S **S** **08 46 39.2 -1.5**
baz=178
S54A S **S** **08 46 39.2 -1.5**
baz=178
T45B Paducah 37.03 349 S **S** **08 46 35.0 -6.0**
baz=166
S61A Accomac 37.12 6 S **S** **08 46 44.0 +1.7**
baz=188
S61A S **S** **08 46 44.0 +1.7**
baz=188
ML02 Panimavida 37.13 168 IAmb IAmb 08 41 03.7
comp=Z,246nm,1.3s
PTGB Pitanga 37.17 135 *e*P **P** **08 40 55.8 -0.9**
PBMO Poplar Bluff 37.19 346 IAmb IAmb 08 41 04.3
comp=Z,189nm,1.8s
PBMO Poplar Bluff 37.19 346 P **P** **08 40 55.9 -0.7**
baz=163,SNR=12
PBMO S **S** **08 46 40.8 -2.6**
baz=163
R58B Mineral 37.23 3 S **S** **08 46 42.4 -1.5**
baz=184
R58B S **S** **08 46 42.4 -1.5**
baz=184
FRBT Francisco Belt 37.28 137 *e*P **P** **08 40 56.8 -0.8**
LPIG La Paz 37.30 311 P **P** **08 40 59.6 +2.0**
comp=Z,6.5nm,0.4s,baz=232,slow=2.3,SNR=2.1
LPIG LR LR 08 53 50.5
comp=Z,6µm,19.4s,baz=105,slow=32
SDBA SAO DESIDERIO 37.42 111 *e*P **P** **08 40 57.8 -1.1**
U40A Yellville 37.42 343 P **P** **08 40 58.4 -0.2**
baz=159,SNR=24
U40A P **P** **08 40 58.4 -0.2**
baz=159,SNR=24
U40A S **S** **08 46 43.3 -3.7**
baz=159
U40A S **S** **08 46 43.3 -3.7**
baz=159
U40A Yellville 37.42 343 P **P** **08 40 57.7 -0.8**
baz=159,SNR=24
U40A S **S** **08 46 45.2 -1.8**
baz=159
R55A Marlinton 37.48 0 IAmb IAmb 08 42 23.0
comp=Z,114nm,1.6s
R55A Marlinton 37.48 0 P **P** **08 40 58.8 -0.3**
baz=180
R55A P **P** **08 40 58.8 -0.3**
baz=180
R55A S **S** **08 46 47.7 -0.3**
baz=180
R55A S **S** **08 46 47.7 -0.3**
baz=180
CBN Corbin Frederi 37.50 4 P **P** **08 40 59.3 +0.2**
baz=185
CBN S **S** **08 46 48.4 +0.4**
baz=185
R53A Hurricane 37.56 358 P **P** **08 40 59.1 -0.6**
baz=177
R53A P **P** **08 40 59.1 -0.6**
baz=177
R53A S **S** **08 46 46.4 -2.6**
baz=177
R53A S **S** **08 46 46.4 -2.6**
baz=177
X34A Smith Ranch, M 37.58 336 IAmb IAmb 08 41 10.5
comp=Z,88nm,1.2s
EDS3 Malargue 37.60 165 *i* P **P** **08 41 02.7 +2.5**
ITQB Itaqui 37.64 145 P **P** **08 41 00.6 0.0**
ITQB Itaqui 37.64 145 *e*P **P** **08 41 00.5 0.0**
R50A Paris 37.66 355 IAmb IAmb 08 41 08.4
comp=Z,127nm,1.6s
R50A Paris 37.66 355 P **P** **08 40 59.8 -0.7**
baz=173
R50A P **P** **08 40 59.8 -0.7**
baz=173
R50A S **S** **08 46 47.0 -3.6**
baz=173
R50A S **S** **08 46 47.0 -3.6**
baz=173
HHAR Hobbs 37.68 342 P **P** **08 41 00.7 -0.1**
baz=157
R49A Shelbyville 37.76 354 IAmb IAmb 08 41 09.9
comp=Z,230nm,1.8s
R49A Shelbyville 37.76 354 P **P** **08 40 59.8 -1.6**
baz=172,SNR=13
R49A P **P** **08 40 59.8 -1.6**
baz=172,SNR=13
R49A S **S** **08 46 46.7 -5.3**
baz=172
R49A S **S** **08 46 46.7 -5.3**
baz=172
USIN University of 37.78 350 IAmb IAmb 08 41 08.7
comp=Z,211nm,1.6s
BB19B Bebedouro 37.79 127 *e*P **P** **08 41 00.7 -1.3**
R61A Willards 37.80 6 S **S** **08 46 56.5 +3.9**
baz=188
R61A S **S** **08 46 56.5 +3.9**
baz=188

S44A	**Carbondale**	**37.81**	**348**	S	**S**	**08 46 48.8**	**-3.9**
	baz=165								
SIUC	**Southern Illin**	**37.82**	**348**	IAmb	IAmb	08 41 09.4	
	comp=Z,126nm,1.4s								
TUL1	**Leonard**	**37.96**	**339**	IAmb	IAmb	08 41 12.5	
	comp=Z,193nm,1.6s								
TUL1	**Leonard**	**37.96**	**339**	P	**P**	**08 41 03.5**	**+0.5**
	baz=154,SNR=10								
TUL1	**Leonard**	**37.96**	**339**	P	**P**	**08 41 02.8**	**-0.3**
	baz=154,SNR=10								
TUL1				S	**S**	**08 46 53.1**	**-2.0**
	baz=154								
MGMO	**Mountain Grove**	**38.01**	**344**	IAmb	IAmb	08 41 11.6	
	comp=Z,297nm,1.8s								
WMOK	**Wichita Mounta**	**38.09**	**335**	⇑P	**P**	**08 41 04.6**	**+0.3**
WMOK	**Wichita Mounta**	**38.09**	**335**	P	**P**	**08 41 04.5**	**+0.3**
	baz=149,SNR=13								
WMOK				S	**S**	**08 46 53.7**	**-3.6**
	baz=149								
WMOK	**Wichita Mounta**	**38.09**	**335**	P	**P**	**08 41 03.5**	**-0.8**
	baz=149,SNR=13								
WMOK				S	**S**	**08 46 56.2**	**-1.1**
	baz=149								
Q54A	**Coxs Mills**	**38.18**	**359**	IAmb	IAmb	08 41 13.1	
	comp=Z,153nm,1.8s								
Q54A	**Coxs Mills**	**38.18**	**359**	P	**P**	**08 41 04.4**	**-0.5**
	baz=179								
Q54A				P	**P**	**08 41 04.4**	**-0.5**
	baz=179								
Q54A				S	**S**	**08 46 55.0**	**-3.4**
	baz=179								
Q54A				S	**S**	**08 46 55.0**	**-3.4**
	baz=179								
FRTB	**Fartura**	**38.20**	**131**	*e*P	**P**	**08 41 04.2**	**-1.2**
Q52A	**Bidwell**	**38.20**	**357**	IAmb	IAmb	08 41 13.1	
	comp=Z,192nm,1.7s								
Q52A	**Bidwell**	**38.20**	**357**	P	**P**	**08 41 04.7**	**-0.4**
	baz=177,SNR=11								
Q52A				P	**P**	**08 41 04.7**	**-0.4**
	baz=177,SNR=11								
Q52A				S	**S**	**08 46 56.0**	**-2.7**
	baz=177								
Q52A				S	**S**	**08 46 56.0**	**-2.7**
	baz=177								
Q56A	**Snyder Ridge,**	**38.25**	**1**	P	**P**	**08 41 05.6**	**+0.1**
	baz=182								
Q56A				P	**P**	**08 41 05.6**	**+0.1**
	baz=182								
Q56A				S	**S**	**08 46 58.9**	**-0.6**
	baz=182								
Q56A				S	**S**	**08 46 58.9**	**-0.6**
	baz=182								
Q51A	**Peebles**	**38.33**	**356**	P	**P**	**08 41 05.4**	**-0.7**
	baz=175,SNR=17								
Q51A				P	**P**	**08 41 05.4**	**-0.7**
	baz=175,SNR=17								
Q51A				S	**S**	**08 46 57.7**	**-3.0**
	baz=175								
Q51A				S	**S**	**08 46 57.7**	**-3.0**
	baz=175								
FVM	**French Village**	**38.34**	**347**	IAmb	IAmb	08 41 13.8	
	comp=Z,94nm,1.2s								
FVM	**French Village**	**38.34**	**347**	P	**P**	**08 41 05.8**	**-0.4**
	baz=163,SNR=20								
FVM				S	**S**	**08 46 54.4**	**-6.4**
	baz=163								
MIDE	**Milford**	**38.35**	**6**	S	**S**	**08 47 03.6**	**+2.8**
	baz=188								
CCM	**Cathedral Cave**	**38.60**	**346**	P	**P**	**08 41 07.0**	**-1.4**
CCM				pmax	pmax		
	comp=Z,72nm,1.1s								
CCM	**Cathedral Cave**	**38.60**	**346**	P	**P**	**08 41 07.0**	**-1.4**
CCM	**Cathedral Cave**	**38.60**	**346**	⇓P	**P**	**08 41 07.6**	**-0.8**
CCM	**Cathedral Cave**	**38.60**	**346**	P	**P**	**08 41 07.3**	**-1.1**
	baz=162,SNR=29								
CCM				S	**S**	**08 46 58.8**	**-5.9**
	baz=162								
CCM	**Cathedral Cave**	**38.60**	**346**	P	**P**	**08 41 07.7**	**-0.8**
	baz=162								
CCM				S	**S**	**08 46 59.6**	**-5.1**
	baz=162								
OLIL	**Olney**	**38.60**	**350**	P	**P**	**08 41 07.2**	**-1.2**
	baz=167,SNR=16								
OLIL				S	**S**	**08 46 59.7**	**-5.0**
	baz=167								
P53A	**Whipple**	**38.70**	**359**	P	**P**	**08 41 07.8**	**-1.5**
	baz=178,SNR=12								
P53A				P	**P**	**08 41 07.8**	**-1.5**
	baz=178,SNR=12								
P53A				S	**S**	**08 47 02.4**	**-3.8**
	baz=178								
P53A				S	**S**	**08 47 02.4**	**-3.8**
	baz=178								
P57A	**Homestead Farm**	**38.73**	**3**	P	**P**	**08 41 12.6**	**+3.0**
	baz=184								
P57A				P	**P**	**08 41 12.6**	**+3.0**
	baz=184								
P57A				S	**S**	**08 47 06.9**	**+0.2**
	baz=184								
P57A				S	**S**	**08 47 06.9**	**+0.2**
	baz=184								
SDMD	**Soldier's Deli**	**38.73**	**4**	P	**P**	**08 41 09.7**	**+0.1**
	baz=185								
SDMD				S	**S**	**08 47 05.8**	**-1.0**
	baz=185								
P51A	**Williamsport**	**38.76**	**357**	P	**P**	**08 41 08.9**	**-0.9**
	baz=176								
P51A				P	**P**	**08 41 08.9**	**-0.9**
	baz=176								
P51A				S	**S**	**08 47 04.4**	**-2.8**
	baz=176								
P51A				S	**S**	**08 47 04.4**	**-2.8**
	baz=176								
BLO	**Bloomington**	**38.79**	**352**	IAmb	IAmb	08 41 17.2	
	comp=Z,152nm,1.6s								
S39A	**Bolivar**	**38.80**	**343**	P	**P**	**08 41 09.0**	**-1.2**
	baz=159,SNR=16								
S39A				S	**S**	**08 46 59.7**	**-8.1**
	baz=159								
JANB	**Januaria**	**38.83**	**115**	*e*P	**P**	**08 41 09.3**	**-1.5**
MCWV	**Mont Chateau**	**38.86**	**1**	IAMs_20	IAMs_20	09 00 02.5	
	comp=Z,18µm,21.0s								
MCWV	**Mont Chateau**	**38.86**	**1**	S	**S**	**08 47 03.7**	**-4.8**
	baz=181								
MCWV	**Mont Chateau**	**38.86**	**1**	P	**P**	**08 41 08.4**	**-2.2**
	baz=181								
MCWV				S	**S**	**08 47 06.8**	**-1.8**
	baz=181								
P52A	**Corning**	**38.87**	**358**	IAMs_20	IAMs_20	08 56 24.9	
	comp=Z,20µm,20.0s								
P52A	**Corning**	**38.87**	**358**	P	**P**	**08 41 10.0**	**-0.7**
	baz=177								
P52A				S	**S**	**08 47 05.4**	**-3.4**
	baz=177								
SLM	**Saint Louis**	**38.92**	**348**	S	**S**	**08 47 04.4**	**-5.2**
	baz=164								
Q44A	**Meyer Farm, Va**	**38.93**	**349**	IAmb	IAmb	08 41 18.3	
	comp=Z,152nm,1.5s								
Q44A	**Meyer Farm, Va**	**38.93**	**349**	P	**P**	**08 41 10.3**	**-0.9**
	baz=166,SNR=14								
Q44A				S	**S**	**08 47 03.6**	**-6.1**
	baz=166								
P48A	**Milroy**	**38.94**	**354**	IAmb	IAmb	08 41 18.1	
	comp=Z,181nm,1.7s								
P48A	**Milroy**	**38.94**	**354**	P	**P**	**08 41 09.8**	**-1.6**
	baz=172,SNR=9.9								
P48A				P	**P**	**08 41 09.8**	**-1.6**
	baz=172,SNR=9.9								
P48A				S	**S**	**08 47 03.1**	**-6.8**
	baz=172								
P48A				S	**S**	**08 47 03.1**	**-6.8**
	baz=172								
P49A	**Miami Univ. Ec**	**38.94**	**355**	P	**P**	**08 41 09.1**	**-2.3**
	baz=173,SNR=9.4								
P49A				S	**S**	**08 47 02.5**	**-7.3**
	baz=173								
P49A	**Miami Univ. Ec**	**38.94**	**355**	P	**P**	**08 41 10.2**	**-1.1**
	baz=173,SNR=9.4								
P49A				S	**S**	**08 47 05.5**	**-4.4**
	baz=173								
MNTX	**Cornudas Mount**	**38.97**	**325**	IAmb	IAmb	08 41 22.4	
	comp=Z,193nm,1.6s								
MNTX	**Cornudas Mount**	**38.97**	**325**	P	**P**	**08 41 12.0**	**+0.2**
	baz=138,SNR=97								
MNTX				S	**S**	**08 47 14.1**	**+3.5**
	baz=138								
MNTX	**Cornudas Mount**	**38.97**	**325**	P	**P**	**08 41 12.1**	**+0.4**
	baz=138,SNR=97								
MNTX				S	**S**	**08 47 12.8**	**+2.2**
	baz=138								
R40A	**Maddies Statio**	**39.08**	**345**	P	**P**	**08 41 11.4**	**-1.0**
	baz=161,SNR=21								
T35A	**Sooner Cattle**	**39.12**	**339**	IAmb	IAmb	08 41 21.5	
	comp=Z,183nm,1.4s								
T35B	**Sooner Cattle**	**39.12**	**339**	P	**P**	**08 41 13.3**	**+0.4**
	baz=154,SNR=25								
T35B				S	**S**	**08 47 11.0**	**-1.6**
	baz=154								
NBPS	**Pedro II - PI**	**39.12**	**98**	*e*P	**P**	**08 41 12.1**	**-1.2**
P61A	**Hammonton**	**39.19**	**7**	S	**S**	**08 47 15.2**	**+1.6**
	baz=189								
P61A				S	**S**	**08 47 15.2**	**+1.6**
	baz=189								
GEDE	**Greenville**	**39.24**	**6**	P	**P**	**08 41 14.4**	**+0.6**
	baz=187								
GEDE				S	**S**	**08 47 14.4**	**+0.2**
	baz=187								
RPN	**Rapa Nui**	**39.27**	**223**	LR	LR	08 53 37.9	
	comp=Z,12µm,18.8s,baz=52,slow=30								
RPN	**Rapa Nui**	**39.27**	**223**	P	**P**	**08 41 13.8**	**-0.4**
RPN	**Rapa Nui**	**39.27**	**223**	IAMs_20	IAMs_20	08 53 49.3	
	comp=Z,19µm,18.0s								
RCLB	**Rio Claro- Sao**	**39.28**	**128**	*e*P	**P**	**08 41 13.8**	**-0.7**
MSTX	**Muleshoe**	**39.30**	**330**	P	**P**	**08 41 15.3**	**+0.7**
	baz=143,SNR=35								
MSTX				S	**S**	**08 47 16.7**	**+0.9**
	baz=143								
MSTX	**Muleshoe**	**39.30**	**330**	P	**P**	**08 41 15.0**	**+0.4**
	baz=143,SNR=35								
MSTX				S	**S**	**08 47 15.2**	**-0.6**
	baz=143								
P46A	**Rosedale**	**39.33**	**352**	S	**S**	**08 47 09.7**	**-5.9**
	baz=169								
O52A	**Adamsville**	**39.34**	**358**	P	**P**	**08 41 13.7**	**-1.0**
	baz=177,SNR=11								
O52A				P	**P**	**08 41 13.7**	**-1.0**
	baz=177,SNR=11								
O52A				S	**S**	**08 47 12.6**	**-3.3**
	baz=177								
O52A				S	**S**	**08 47 12.6**	**-3.3**
	baz=177								
O54A	**Avella**	**39.38**	**360**	P	**P**	**08 41 14.4**	**-0.6**
	baz=180,SNR=11								
O54A				P	**P**	**08 41 14.4**	**-0.6**
	baz=180,SNR=11								
O54A				S	**S**	**08 47 12.9**	**-3.6**
	baz=180								
O54A				S	**S**	**08 47 12.9**	**-3.6**
	baz=180								
O53A	**New Philadelph**	**39.45**	**359**	IAMs_20	IAMs_20	08 58 12.4	
	comp=Z,20µm,20.0s								
O53A	**New Philadelph**	**39.45**	**359**	P	**P**	**08 41 13.2**	**-2.4**
	baz=178,SNR=13								
O53A				S	**S**	**08 47 13.8**	**-3.8**
	baz=178								
ACSO	**Alum Creek Sta**	**39.50**	**357**	IAmb	IAmb	08 41 23.6	
	comp=Z,154nm,1.6s								
ACSO				IAMs_20	IAMs_20	08 59 35.8	
	comp=Z,18µm,18.0s								
ACSO	**Alum Creek Sta**	**39.50**	**357**	P	**P**	**08 41 15.0**	**-1.0**
	baz=176,SNR=11								
ACSO	**Alum Creek Sta**	**39.50**	**357**	P	**P**	**08 41 13.6**	**-2.4**
	baz=176,SNR=11								
ACSO				S	**S**	**08 47 13.7**	**-4.6**
	baz=176								
AMTX	**Amarillo**	**39.51**	**332**	IAmb	IAmb	08 41 26.9	
	comp=Z,220nm,1.6s								
AMTX	**Amarillo**	**39.51**	**332**	P	**P**	**08 41 18.0**	**+1.7**
	baz=145,SNR=31								
AMTX				S	**S**	**08 47 16.8**	**-2.0**
	baz=145								
AMTX	**Amarillo**	**39.51**	**332**	P	**P**	**08 41 15.9**	**-0.3**
	baz=145								
AMTX				S	**S**	**08 47 17.9**	**-0.8**
	baz=145								
O49A	**Covington**	**39.56**	**355**	S	**S**	**08 47 12.4**	**-6.7**
	baz=174								
O49A				S	**S**	**08 47 12.4**	**-6.7**
	baz=174								
U32A	**Winter Ranch,**	**39.59**	**336**	IAmb	IAmb	08 41 27.0	
	comp=Z,128nm,1.1s								
U32A	**Winter Ranch,**	**39.59**	**336**	P	**P**	**08 41 17.7**	**+0.8**
	baz=150,SNR=25								
U32A				S	**S**	**08 47 20.6**	**+0.7**
	baz=150								
TUPA	**Temple Univers**	**39.63**	**6**	S	**S**	**08 47 19.7**	**-0.5**
	baz=188								
KIDD	**KIDD Seismic O**	**39.68**	**324**	S	**S**	**08 47 23.4**	**+1.9**
	baz=136								
O48B	**Farmland**	**39.70**	**354**	P	**P**	**08 41 15.5**	**-2.1**
	baz=172,SNR=12								
O48B				S	**S**	**08 47 15.1**	**-6.2**
	baz=172								
O48B	**Farmland**	**39.70**	**354**	P	**P**	**08 41 15.7**	**-2.0**
	baz=172,SNR=12								
O48B				S	**S**	**08 47 14.8**	**-6.5**
	baz=172								
P43A	**Skaggs, Pawnee**	**39.74**	**349**	IAmb	IAmb	08 41 26.2	
	comp=Z,342nm,1.9s								
P43A	**Skaggs, Pawnee**	**39.74**	**349**	S	**S**	**08 47 16.0**	**-5.9**
	baz=165								
TIJ01	**Guaruva-PR**	**39.75**	**133**	*e*P	**P**	**08 41 18.9**	**+0.5**
MC01	**Montes Claros**	**39.75**	**117**	*e*P	**P**	**08 41 17.3**	**-1.2**
SSPA	**Standing Stone**	**39.89**	**3**	P	**P**	**08 41 19.5**	**+0.2**
SSPA	**Standing Stone**	**39.89**	**3**	P	**P**	**08 41 19.1**	**-0.1**
	baz=184								
SSPA				S	**S**	**08 47 23.3**	**-0.8**
	baz=184								
SSPA	**Standing Stone**	**39.89**	**3**	P	**P**	**08 41 17.2**	**-2.0**
	baz=184								
SSPA				S	**S**	**08 47 22.8**	**-1.3**
	baz=184								
PANJ	**Princeton**	**39.90**	**7**	P	**P**	**08 41 19.7**	**+0.4**
	baz=189								
PANJ				S	**S**	**08 47 25.3**	**+1.1**
	baz=189								
N53A	**Lisbon**	**40.00**	**359**	P	**P**	**08 41 19.6**	**-0.6**
	baz=179								
N53A				P	**P**	**08 41 19.6**	**-0.6**
	baz=179								
N53A				S	**S**	**08 47 21.2**	**-4.6**
	baz=179								
N53A				S	**S**	**08 47 21.2**	**-4.6**
	baz=179								
VAO	**Valinhos**	**40.02**	**128**	*e*P	**P**	**08 41 18.8**	**-1.9**
O44A	**Mansfield**	**40.05**	**350**	IAmb	IAmb	08 41 29.3	
	comp=Z,251nm,1.8s								
O44A	**Mansfield**	**40.05**	**350**	S	**S**	**08 47 19.4**	**-7.1**
	baz=167								
SFIN	**Lafayette**	**40.06**	**352**	P	**P**	**08 41 18.0**	**-2.6**
	baz=169								
SFIN				S	S	08 47 16.8	-10
	baz=169								
LC01	**Cunco**	**40.08**	**170**	IAmb	IAmb	08 41 24.7	
	comp=Z,143nm,1.3s								
N51A	**Ashland**	**40.16**	**358**	S	**S**	**08 47 24.2**	**-4.0**
	baz=177								
N51A				S	**S**	**08 47 24.2**	**-4.0**
	baz=177								
N58A	**Sunbury**	**40.16**	**4**	P	**P**	**08 41 21.2**	**-0.2**
	baz=185,SNR=7.4								
N58A				P	**P**	**08 41 21.2**	**-0.2**
	baz=185,SNR=7.4								
N58A				S	**S**	**08 47 27.0**	**-1.2**
	baz=185								
N58A				S	**S**	**08 47 27.0**	**-1.2**
	baz=185								
P40A	**Paris**	**40.19**	**346**	P	**P**	**08 41 20.6**	**-1.2**
	baz=162,SNR=7.7								
BRNJ	**Basking Ridge**	**40.21**	**7**	S	**S**	**08 47 30.1**	**+1.2**
	baz=189								
N49A	**Columbus Grove**	**40.27**	**355**	S	**S**	**08 47 24.3**	**-5.5**
	baz=174								
N49A				S	**S**	**08 47 24.3**	**-5.5**
	baz=174								
N47A	**Urbana**	**40.37**	**354**	P	**P**	**08 41 21.6**	**-1.7**
	baz=172								
N47A				P	**P**	**08 41 21.6**	**-1.7**
	baz=172								
N47A				S	**S**	**08 47 24.6**	**-6.8**
	baz=172								
N47A				S	**S**	**08 47 24.6**	**-6.8**
	baz=172								
NBMO	**Morrinhos-CE**	**40.41**	**96**	*e*P	**P**	**08 41 22.8**	**-1.2**
PET01	**Itanhaem-SP**	**40.47**	**130**	*e*P	**P**	**08 41 23.8**	**-0.5**
FOR	**Fordham**	**40.48**	**7**	S	**S**	**08 47 32.8**	**0.0**
	baz=190								
HDIL	**Hopedale**	**40.59**	**349**	P	**P**	**08 41 23.6**	**-1.4**
	baz=166,SNR=11								
HDIL				S	**S**	**08 47 28.3**	**-6.2**
	baz=166								
HDIL	**Hopedale**	**40.59**	**349**	P	**P**	**08 41 23.0**	**-2.0**
	baz=166,SNR=11								
HDIL				S	**S**	**08 47 27.6**	**-6.9**
	baz=166								
N62A	**Caumsett State**	**40.60**	**8**	S	**S**	**08 47 35.5**	**+0.9**
	baz=190								
N62A				S	**S**	**08 47 35.5**	**+0.9**
	baz=190								
DIAM	**Diamantina, MG**	**40.60**	**119**	*e*P	**P**	**08 41 25.7**	**0.0**
ODNJ	**Ogdensburg**	**40.60**	**7**	S	**S**	**08 47 35.0**	**+0.3**
	baz=189								
PAL	**Palisades**	**40.61**	**7**	IAMs_20	IAMs_20	08 59 48.8	
	comp=Z,18µm,19.0s								
PAL	**Palisades**	**40.61**	**7**	S	**S**	**08 47 34.5**	**-0.3**
	baz=190								
PAL	**Palisades**	**40.61**	**7**	P	**P**	**08 41 23.4**	**-1.8**
	baz=190								
PAL				S	**S**	**08 47 35.3**	**+0.4**
	baz=190								
M57A	**Sunshine Farm,**	**40.63**	**4**	P	**P**	**08 41 25.8**	**+0.4**
	baz=185,SNR=15								
M57A				P	**P**	**08 41 25.8**	**+0.4**
	baz=185,SNR=15								
M57A				S	**S**	**08 47 33.6**	**-1.6**
	baz=185								
M57A				S	**S**	**08 47 33.6**	**-1.6**
	baz=185								
M53A	**WI Miller and**	**40.63**	**360**	IAMs_20	IAMs_20	08 57 53.6	
	comp=Z,19µm,20.0s								
M53A	**WI Miller and**	**40.63**	**360**	P	**P**	**08 41 24.0**	**-1.4**
	baz=179								
M53A				S	**S**	**08 47 31.0**	**-4.2**
	baz=179								
P38A	**Dawn**	**40.66**	**344**	P	**P**	**08 41 25.0**	**-0.7**
	baz=159								
P38A				S	**S**	**08 47 31.2**	**-4.5**
	baz=159								
M50A	**Fremont**	**40.67**	**357**	P	**P**	**08 41 25.2**	**-0.5**
	baz=176								
M50A				P	**P**	**08 41 25.2**	**-0.5**
	baz=176								
M50A				S	**S**	**08 47 30.7**	**-5.1**
	baz=176								
M50A				S	**S**	**08 47 30.7**	**-5.1**
	baz=176								
M55A	**Ridgway**	**40.69**	**2**	P	**P**	**08 41 25.3**	**-0.5**
	baz=182								
M55A				P	**P**	**08 41 25.3**	**-0.5**
	baz=182								
M55A				S	**S**	**08 47 33.8**	**-2.2**
	baz=182								
M55A				S	**S**	**08 47 33.8**	**-2.2**
	baz=182								
M52A	**Chesterland**	**40.75**	**359**	S	**S**	**08 47 32.1**	**-4.8**
	baz=178								
M52A				S	**S**	**08 47 32.1**	**-4.8**
	baz=178								
BSCB	**Bom Sucesso**	**40.82**	**124**	*e*P	**P**	**08 41 26.6**	**-0.7**
ALLY	**Alegheny Colle**	**40.84**	**0**	S	**S**	**08 47 33.7**	**-4.6**
	baz=180								
WSPT	**Westport, CT**	**40.85**	**8**	IAMs_20	IAMs_20	09 00 16.1	
	comp=Z,17µm,18.0s								
PLTB	**Pedras Altas**	**40.94**	**144**	P	**P**	**08 41 28.2**	**+0.2**
PLTB				IAmb	IAmb	08 41 35.6	
	comp=Z,240nm,1.4s								
PLTB	**Pedras Altas**	**40.94**	**144**	*e*P	**P**	**08 41 28.1**	**+0.1**
CNLB	**Canela**	**40.94**	**139**	*e*P	**P**	**08 41 29.2**	**+1.0**
KSPA	**Keystone Colle**	**40.95**	**5**	P	**P**	**08 41 27.9**	**-0.1**
	baz=187,SNR=13								
KSPA				S	**S**	**08 47 38.0**	**-2.0**
	baz=187								
121A	**Cookes Peak, D**	**40.98**	**323**	P	**P**	**08 41 30.7**	**+2.1**
	baz=135,SNR=36								
121A				S	**S**	**08 47 41.7**	**+0.7**
	baz=135								
121A	**Cookes Peak, D**	**40.98**	**323**	P	**P**	**08 41 29.2**	**+0.6**
	baz=135,SNR=36								
121A				S	**S**	**08 47 43.8**	**+2.8**
	baz=135								
BRNY	**Black Rk. Fore**	**41.00**	**7**	P	**P**	**08 41 27.1**	**-1.3**
	baz=189								
BRNY				S	**S**	**08 47 39.4**	**-1.3**
	baz=189								
N41A	**Harden Midland**	**41.04**	**348**	IAmb	IAmb	08 41 36.6	
	comp=Z,155nm,1.5s								
N41A	**Harden Midland**	**41.04**	**348**	P	**P**	**08 41 27.6**	**-1.2**
	baz=164,SNR=8.9								
N41A				S	**S**	**08 47 35.1**	**-6.1**
	baz=164								
YLE	**Yale**	**41.05**	**8**	IAMs_20	IAMs_20	08 59 44.3	
	comp=Z,15µm,18.0s								
LPA	**La Plata**	**41.07**	**152**	*de*P	P	08 41 23.3	-5.7
LPA				pPP		08 43 18.1	
LPA				S	**S**	**08 47 43.1**	**+1.3**
LPA				SS	**SnSn**	**08 50 49.0**	**-3.0**
LPA				SCS	**ScS**	**08 51 34.7**	**+0.5**
NBPB	**Pedra_Branca-C**	**41.10**	**99**	*e*P	**P**	**08 41 28.2**	**-1.5**
KSU1	**Kansas State U**	**41.11**	**341**	IAmb	IAmb	08 41 37.8	
	comp=Z,94nm,1.1s								
KSU1	**Kansas State U**	**41.11**	**341**	⇓P	**P**	**08 41 29.6**	**+0.3**
KSU1	**Kansas State U**	**41.11**	**341**	P	**P**	**08 41 29.5**	**+0.2**
	baz=155,SNR=17								
KSU1				S	**S**	**08 47 39.1**	**-3.3**
	baz=155								
KSU1	**Kansas State U**	**41.11**	**341**	P	**P**	**08 41 28.5**	**-0.9**
	baz=155,SNR=17								
KSU1				S	**S**	**08 47 39.3**	**-3.1**
	baz=155								
M44A	**Midewin, Midew**	**41.19**	**351**	S	S	08 47 34.1	-9.3
	baz=168								
R32A	**Long Quarter,**	**41.25**	**338**	IAmb	IAmb	08 41 40.0	
	comp=Z,140nm,1.2s								
R32A	**Long Quarter,**	**41.25**	**338**	P	**P**	**08 41 31.7**	**+1.1**
	baz=151,SNR=24								
R32A				S	**S**	**08 47 42.2**	**-2.4**
	baz=151								
PARB	**Paraibuna**	**41.26**	**128**	*e*P	**P**	**08 41 29.4**	**-1.5**
M63A	**Gales Ferry**	**41.28**	**9**	IAmb	IAmb	08 41 38.8	
	comp=Z,119nm,0.9s								
M63A	**Gales Ferry**	**41.28**	**9**	P	**P**	**08 41 31.6**	**+1.0**
	baz=192,SNR=11								
M63A				P	**P**	**08 41 31.6**	**+1.0**
	baz=192,SNR=11								
M63A				S	**S**	**08 47 46.1**	**+1.4**
	baz=192								
M63A				S	**S**	**08 47 46.1**	**+1.4**
	baz=192								
L48A	**N Adams**	**41.31**	**355**	S	**S**	**08 47 37.0**	**-8.2**
	baz=174								
L48A				S	**S**	**08 47 37.0**	**-8.2**
	baz=174								
ERPA	**Erie**	**41.31**	**0**	IAMs_20	IAMs_20	08 59 42.5	
	comp=Z,19µm,18.0s								
ERPA	**Erie**	**41.31**	**0**	P	**P**	**08 41 30.0**	**-0.9**
	baz=180								
ERPA				S	**S**	**08 47 40.6**	**-4.7**
	baz=180								
NPNY	**Mohonk Preserv**	**41.32**	**7**	P	**P**	**08 41 31.4**	**+0.4**
	baz=189								
NPNY				S	**S**	**08 47 45.7**	**+0.3**
	baz=189								
L56A	**Greenwood**	**41.40**	**3**	P	**P**	**08 41 31.7**	**-0.1**
	baz=184								
L56A				P	**P**	**08 41 31.7**	**-0.1**
	baz=184								
L56A				S	**S**	**08 47 42.8**	**-3.9**
	baz=184								
L56A				S	**S**	**08 47 42.8**	**-3.9**
	baz=184								
NBPN	**Ponto Novo - B**	**41.45**	**107**	*e*P	**P**	**08 41 31.4**	**-1.1**
Y22A	**Socorro**	**41.52**	**326**	P	**P**	**08 41 34.4**	**+1.4**
	baz=137,SNR=40								
Y22A				S	**S**	**08 47 52.9**	**+4.0**
	baz=137								
BINY	**Binghamton**	**41.57**	**5**	IAMs_20	IAMs_20	09 00 18.5	
	comp=Z,11µm,18.0s								
BINY	**Binghamton**	**41.57**	**5**	P

baz=186
Y22D IRIS PASSCAL I 41.59 326 S **S** 08 47 54.6 +4.6
baz=138
Y22D IRIS PASSCAL I 41.59 326 P **P** 08 41 33.8 +0.3
baz=138
Y22D S **S** 08 47 53.9 +3.9
baz=138
TER01 Tubaro-SC 41.59 137 *e*P **P** 08 41 33.2 -0.3
AAM Ann Arbor 41.61 356 IAmb IAmb 08 41 40.8
comp=Z,210nm,2.0s
AAM IAMs_20 IAMs_20 08 57 53.4
comp=Z,20µm,19.0s
AAM Ann Arbor 41.61 356 S **S** 08 47 45.1 -4.5
baz=175
AAM Ann Arbor 41.61 356 P **P** 08 41 32.0 -1.3
baz=175
AAM S **S** 08 47 45.0 -4.7
baz=175
SLP01 Ubatuba-SP 41.62 127 *e*P **P** 08 41 33.9 -0.1
WVNY West Valley, N 41.63 2 P **P** 08 41 33.1 -0.5
baz=182,SNR=6.0
WVNY S **S** 08 47 46.9 -3.1
baz=182
L59A Walton 41.65 6 P **P** 08 41 32.5 -1.3
baz=188,SNR=5.8
L59A P **P** 08 41 32.5 -1.3
baz=188,SNR=5.8
L59A S **S** 08 47 49.6 -0.9
baz=188
L59A S **S** 08 47 49.6 -0.9
baz=188
M65A Busby, Falmout 41.68 11 P **P** 08 41 31.2 -2.7
baz=194
M65A S **S** 08 47 50.9 +0.3
baz=194
N38A Joes South For 41.68 345 IAmb IAmb 08 41 41.4
comp=Z,116nm,1.2s
N38A Joes South For 41.68 345 P **P** 08 41 33.4 -0.6
baz=160,SNR=12
N38A S **S** 08 47 45.7 -5.1
baz=160
BRYW Bryant College 41.86 10 IAMs_20 IAMs_20 09 00 50.7
comp=Z,12µm,19.0s
L44A Lake County Fo 41.94 352 IAMs_20 IAMs_20 08 57 32.2
comp=Z,15µm,20.0s
L44A Lake County Fo 41.94 352 S **S** 08 47 46.1 -8.4
baz=168
L44A Lake County Fo 41.94 352 P **P** 08 41 33.7 -2.4
baz=168
L44A S **S** 08 47 47.7 -6.9
baz=168
LL04 Puerto Octay 41.95 171 IAmb IAmb 08 43 07.1
comp=Z,82nm,0.9s
ANMO Albuquerque 41.98 327 P **P** 08 41 37.5 +0.6
comp=Z,60nm,1.1s,baz=147,slow=9.9,SNR=39
ANMO Albuquerque 41.98 327 *de*P **P** 08 41 38.2 +1.3
ANMO pmax pmax
comp=Z,123nm,1.3s
ANMO MLR MLR
comp=Z,8µm,13.0s
ANMO Albuquerque 41.98 327 P **P** 08 41 37.1 +0.3
ANMO IAmb IAmb 08 41 47.3
comp=Z,133nm,1.2s
ANMO Albuquerque 41.98 327 ⇓P **P** 08 41 37.6 +0.8
ANMO Albuquerque 41.98 327 P **P** 08 41 38.2 +1.3
baz=139,SNR=190
ANMO S **S** 08 47 59.5 +3.7
baz=139
ANMO Albuquerque 41.98 327 P **P** 08 41 36.2 -0.6
baz=139
ANMO S **S** 08 47 57.6 +1.7
baz=139
CBKS Cedar Bluff 41.99 337 ⇓P **P** 08 41 38.2 +1.6
CBKS Cedar Bluff 41.99 337 P **P** 08 41 37.9 +1.3
baz=150,SNR=34
CBKS S **S** 08 47 56.3 +0.8
baz=150
CBKS Cedar Bluff 41.99 337 P **P** 08 41 37.3 +0.7
baz=150,SNR=34
CBKS S **S** 08 47 54.4 -1.2
baz=150
L64A Middleborough 42.00 11 S **S** 08 47 53.8 -1.7
baz=194
L64A S **S** 08 47 53.8 -1.7
baz=194
K50A Casco 42.02 357 IAmb IAmb 08 41 43.8
comp=Z,142nm,1.4s
K50A Casco 42.02 357 S **S** 08 47 51.3 -4.5
baz=176
K50A S **S** 08 47 51.3 -4.5
baz=176
ESAR Angra dos Reis 42.05 126 *e*P **P** 08 41 34.7 -2.5
L42A Oliver, Polo 42.06 350 S **S** 08 47 48.2 -8.1
baz=166
K57A Scipio Center 42.06 4 P **P** 08 41 36.5 -0.6
baz=186,SNR=18
K57A S **S** 08 47 54.1 -2.3
baz=186
QUA2 Belchertown 42.08 9 IAMs_20 IAMs_20 09 00 24.6
comp=Z,13µm,20.0s
PLCA Paso Flores 42.10 169 P **P** 08 41 38.9 +1.4
comp=Z,41nm,0.8s,baz=344,slow=8.8,SNR=29
PLCA Paso Flores 42.10 169 *e*P **P** 08 41 39.2 +1.6
PLCA Paso Flores 42.10 169 P **P** 08 41 38.7 +1.2
PLCA IAmb IAmb 08 41 48.1
comp=Z,114nm,1.1s
PLCA Paso Flores 42.10 169 ⇑P **P** 08 41 39.0 +1.4
PLCA Paso Flores 42.10 169 *e*P **P** 08 41 39.1 +1.6
NBMA Muriti-CE 42.16 102 *e*P **P** 08 41 35.9 -2.5
L61B Northampton 42.20 8 IAMs_20 IAMs_20 09 02 18.8
comp=Z,12µm,18.0s
L61B Northampton 42.20 8 P **P** 08 41 37.0 -1.2
baz=191
L61B S **S** 08 47 57.2 -1.2
baz=191
HCNY Howe Caverns 42.22 6 P **P** 08 41 37.8 -0.6
baz=189,SNR=11
HCNY S **S** 08 47 56.2 -2.6
baz=189
NBCL Cascavel-CE 42.23 97 *e*P **P** 08 41 38.2 -0.8
TRY Troy 42.34 7 IAMs_20 IAMs_20 09 00 41.5
comp=Z,14µm,19.0s
TRY Troy 42.34 7 S **S** 08 47 59.4 -1.1
baz=190
WES Weston 42.35 10 IAMs_20 IAMs_20 09 02 42.7
comp=Z,12µm,18.0s
WES Weston 42.35 10 S **S** 08 48 01.7 +1.0
baz=193
MAN01 Angra dos Reis 42.35 126 *e*P **P** 08 41 39.8 -0.1
N35A Tabor 42.41 343 IAmb IAmb 08 41 47.5
comp=Z,159nm,1.8s
N35A Tabor 42.41 343 S **S** 08 47 57.3 -4.3
baz=157
L40A Anamosa 42.42 348 IAmb IAmb 08 41 47.9
comp=Z,300nm,1.9s
L40A Anamosa 42.42 348 P **P** 08 41 38.5 -1.5
baz=164,SNR=9.2
L40A S **S** 08 47 54.5 -7.1
baz=164
HRV Adam Dziewonsk 42.43 10 P **P** 08 41 41.7 +1.6
HRV pmax pmax
comp=Z,36nm,1.0s
HRV MLR MLR
comp=Z,12µm,19.0s
HRV Adam Dziewonsk 42.43 10 P **P** 08 41 41.7 +1.6
HRV Adam Dziewonsk 42.43 10 IAMs_20 IAMs_20 09 00 54.8
comp=Z,12µm,19.0s
HRV Adam Dziewonsk 42.43 10 ⇑P **P** 08 41 40.6 +0.5
HRV Adam Dziewonsk 42.43 10 S **S** 08 48 02.6 +0.8
baz=193
HRV Adam Dziewonsk 42.43 10 P **P** 08 41 39.7 -0.4
baz=193
HRV S **S** 08 48 01.6 -0.3
baz=193
K62A Royalston 42.48 9 S **S** 08 48 00.7 -1.8
baz=192
K62A S **S** 08 48 00.7 -1.8
baz=192
J54A Appleton 42.49 2 S **S** 08 47 58.4 -4.2
baz=182
J54A S **S** 08 47 58.4 -4.2
baz=182
VAS01 Vassouras-RJ 42.51 125 *e*P **P** 08 41 40.8 -0.3
J55A Hilton 42.52 3 S **S** 08 47 59.5 -3.6
baz=184
J55A S **S** 08 47 59.5 -3.6
baz=184
K43A Burlington 42.52 351 S **S** 08 47 54.8 -8.3
baz=168
J56A Wolcott 42.58 4 S **S** 08 47 58.8 -5.1
baz=185
J56A S **S** 08 47 58.8 -5.1
baz=185
J47A Sunmer 42.62 355 P **P** 08 41 40.9 -0.8
baz=173
J47A P **P** 08 41 40.9 -0.8
baz=173
J47A S **S** 08 47 57.3 -7.3
baz=173
J47A S **S** 08 47 57.3 -7.3
baz=173
T25A Trinidad 42.63 331 IAmb IAmb 08 41 53.8
comp=Z,239nm,1.6s
T25A Trinidad 42.63 331 P **P** 08 41 43.1 +1.0
baz=143,SNR=59
T25A S **S** 08 48 08.4 +3.0
baz=143
TUC Tucson 42.67 321 P **P** 08 41 42.7 +0.4
TUC pmax pmax
comp=Z,180nm,1.9s
TUC MLR MLR
comp=Z,26µm,18.0s
TUC Tucson 42.67 321 P **P** 08 41 42.7 +0.4
TUC IAmb IAmb 08 41 53.5
comp=Z,180nm,1.9s
TUC Tucson 42.67 321 ⇓P **P** 08 41 43.4 +1.1
TUC Tucson 42.67 321 P **P** 08 41 42.7 +0.4
baz=132
TUC S **S** 08 48 07.5 +1.6
baz=132
SCIA State Center 42.73 346 IAmb IAmb 08 41 50.8
comp=Z,379nm,1.9s
SCIA State Center 42.73 346 P **P** 08 41 41.8 -0.7
baz=161,SNR=7.9
SCIA S **S** 08 47 59.6 -6.6
baz=161
SCIA State Center 42.73 346 P **P** 08 41 40.9 -1.7
baz=161,SNR=7.9
SCIA S **S** 08 48 00.5 -5.7
baz=161
GDU01 Guandu, BA 42.77 111 *e*P **P** 08 41 42.7 -0.6
J58A Remsen 42.79 5 P **P** 08 41 43.0 0.0
baz=187
J58A P **P** 08 41 43.0 0.0
baz=187
J58A S **S** 08 48 05.8 -1.3
baz=187
J58A S **S** 08 48 05.8 -1.3
baz=187
N33B J Bar K, Exete 42.87 341 P **P** 08 41 44.1 +0.4
baz=154,SNR=11
N33B S **S** 08 48 02.1 -6.3
baz=154
N33A J Bar K, Exete 42.87 341 IAmb IAmb 08 41 52.3
comp=Z,271nm,1.2s
SJMB Sao Joao De Ma 42.94 119 *e*P **P** 08 41 44.4 -0.2
J59A Piesco 42.97 6 P **P** 08 41 43.9 -0.6
baz=188,SNR=17
J59A P **P** 08 41 43.9 -0.6
baz=188,SNR=17
J59A S **S** 08 48 09.0 -0.8
baz=188
J59A S **S** 08 48 09.0 -0.8
baz=188
ACCN Adirondack Com 42.99 7 P **P** 08 41 44.5 -0.1
baz=190,SNR=9.5
ACCN S **S** 08 48 10.2 +0.2
baz=190
JFWS Jewell Farm 43.05 349 IAMs_20 IAMs_20 09 02 01.6
comp=Z,14µm,19.0s
JFWS Jewell Farm 43.05 349 S **S** 08 48 03.3 -7.6
baz=165
JFWS Jewell Farm 43.05 349 P **P** 08 41 43.1 -2.0
baz=165
JFWS S **S** 08 48 04.6 -6.3
baz=165
J61A Chester 43.10 8 P **P** 08 41 46.5 +1.0
baz=191
J61A P **P** 08 41 46.5 +1.0
baz=191
J61A S **S** 08 48 13.9 +2.3
baz=191
J61A S **S** 08 48 13.9 +2.3
baz=191
UNH University of 43.12 10 S **S** 08 48 13.8 +1.9
baz=194
I49A Point Hope 43.19 357 IAmb IAmb 08 41 51.9
comp=Z,79nm,1.0s
I49A Point Hope 43.19 357 P **P** 08 41 45.0 -1.3
baz=176,SNR=19
I49A P **P** 08 41 45.0 -1.3
baz=176,SNR=19
I49A S **S** 08 48 06.1 -6.9
baz=176
I49A S **S** 08 48 06.1 -6.9
baz=176
BSFB Barra de Sao F 43.28 119 *e*P **P** 08 41 46.1 -1.2
CMC01 Camacan, BA 43.30 113 *e*P **P** 08 41 47.0 -0.6
DUB01 Friburgo-RJ 43.30 124 *e*P **P** 08 41 47.5 -0.1
K38A Parkersburg 43.32 347 P **P** 08 41 45.9 -1.5
baz=162,SNR=11
K38A S **S** 08 48 13.3 -1.5
baz=162
KSCO Kaye Shedlock' 43.34 334 P **P** 08 41 50.2 +2.5
baz=146,SNR=14
KSCO S **S** 08 48 17.9 +2.3
baz=146
KSCO Kaye Shedlock' 43.34 334 P **P** 08 41 48.9 +1.2
baz=146,SNR=14
KSCO S **S** 08 48 17.7 +2.1
baz=146
FFD Franklin Falls 43.35 9 IAMs_20 IAMs_20 09 01 12.2
comp=Z,13µm,20.0s
WCNY West Carthage 43.37 5 P **P** 08 41 48.2 +0.5
baz=187
WCNY S **S** 08 48 11.7 -3.9
baz=187
GUA01 Guaratinga, BA 43.42 115 *e*P **P** 08 41 47.7 -0.8
HNH Hanover 43.49 8 S **S** 08 48 18.7 +1.4
baz=192
NCB Newcomb 43.50 6 S **S** 08 48 15.8 -1.7
baz=189
NAN01 Guarapari, ES 43.56 117 *e*P **P** 08 41 49.7 0.0
MCVT Middlebury Col 43.63 8 S **S** 08 48 20.2 +0.7
baz=190
SDCO Great Sand Dun 43.64 331 IAmb IAmb 08 42 00.8
comp=Z,99nm,1.2s
SDCO Great Sand Dun 43.64 331 P **P** 08 41 51.6 +1.2
baz=142,SNR=112
SDCO S **S** 08 48 20.3 -0.1
baz=142
SDCO Great Sand Dun 43.64 331 P **P** 08 41 51.9 +1.5
baz=142,SNR=112
SDCO S **S** 08 48 23.5 +3.2
baz=142
L34A Svendsen Farm, 43.64 343 P **P** 08 41 49.5 -0.5
baz=156
L34A S **S** 08 48 13.7 -6.0
baz=156
X18A Snowflake 43.66 324 IAmb IAmb 08 42 02.0
comp=Z,264nm,2.0s
BGNE Belgrade 43.70 340 P **P** 08 41 50.9 +0.4
baz=154,SNR=9.0
BGNE S **S** 08 48 18.4 -2.2
baz=154
BGNE Belgrade 43.70 340 P **P** 08 41 50.2 -0.3
baz=154,SNR=9.0
BGNE S **S** 08 48 16.7 -3.9
baz=154
214A Organ Pipe Nat 43.76 319 P **P** 08 41 51.2 +0.1
baz=129,SNR=39
214A S **S** 08 48 25.7 +4.0
baz=129
I42A Draeger Farm, 43.77 351 IAmb IAmb 08 41 58.8
comp=Z,272nm,1.8s
I42A Draeger Farm, 43.77 351 P **P** 08 41 49.0 -1.9
baz=167,SNR=12
I42A S **S** 08 48 14.4 -7.0
baz=167
NBLA Lagarto - SE 43.79 107 *e*P **P** 08 41 50.4 -1.1
CAM01 Campos-RJ 43.79 123 *e*P **P** 08 41 48.7 -2.7
I62A Tamworth 43.80 9 S **S** 08 48 21.8 -0.1
baz=193
I62A S **S** 08 48 21.8 -0.1
baz=193
RIB01 Linhares ES 43.86 119 *e*P **P** 08 41 47.4 -4.6
W18A Petrified Fore 43.95 324 P **P** 08 41 53.8 +1.0
baz=135,SNR=41
W18A S **S** 08 48 29.4 +4.6
baz=135
SADO Sadowa 43.97 1 P **P** 08 41 51.1 -1.4
comp=Z,12nm,1.0s,baz=237,slow=4.3,SNR=8.3
SADO LR LR 09 00 07.6
comp=Z,7µm,21.3s,baz=183,slow=36
VT1 Waterbury 44.04 8 IAMs_20 IAMs_20 09 01 50.0
comp=Z,14µm,18.0s
VT1 Waterbury 44.04 8 S **S** 08 48 26.2 +0.8
baz=191
I40A Norwalk 44.06 349 IAmb IAmb 08 42 01.1
comp=Z,208nm,1.9s
LBNH Lisbon 44.06 9 IAMs_20 IAMs_20 09 01 24.1
comp=Z,12µm,20.0s
LBNH Lisbon 44.06 9 S **S** 08 48 25.9 +0.1
baz=192
LBNH Lisbon 44.06 9 P **P** 08 41 53.1 -0.2
baz=192
LBNH S **S** 08 48 26.7 +0.9
baz=192
ALF01 Guarapari-ES 44.08 121 *e*P **P** 08 41 53.9 +0.1
I63A Otisfield 44.10 10 S **S** 08 48 26.1 -0.1
baz=194
I63A S **S** 08 48 26.1 -0.1
baz=194
LONY Lake Ozonia 44.10 6 IAMs_20 IAMs_20 09 02 02.2
comp=Z,11µm,18.0s
LONY Lake Ozonia 44.10 6 P **P** 08 41 52.4 -1.2
baz=188,SNR=8.0
LONY S **S** 08 48 23.0 -3.3
baz=188
H43A Windswept, Lux 44.17 352 IAmb IAmb 08 42 03.1
comp=Z,250nm,1.9s
H43A Windswept, Lux 44.17 352 P **P** 08 41 52.3 -1.8
baz=169,SNR=11
H43A S **S** 08 48 19.3 -7.9
baz=169
GLMI Grayling 44.19 356 IAmb IAmb 08 42 03.5
comp=Z,66nm,1.0s
GLMI Grayling 44.19 356 P **P** 08 41 52.5 -1.8
baz=174
GLMI S **S** 08 48 21.7 -5.8
baz=174
S22A 4UR Ranch, Cre 44.30 330 IAmb IAmb 08 42 06.0
comp=Z,97nm,1.6s
S22A 4UR Ranch, Cre 44.30 330 P **P** 08 41 55.4 -0.3
baz=140,SNR=33
S22A S **S** 08 48 31.3 +1.3
baz=140
BMNY Brushton-Moira 44.33 6 P **P** 08 41 54.8 -0.6
baz=188,SNR=14
BMNY S **S** 08 48 27.5 -2.0
baz=188
FRNY Flat Rock 44.43 7 S **S** 08 48 31.1 +0.1
baz=189
Q24A Divide 44.44 332 IAmb IAmb 08 42 07.9
comp=Z,156nm,1.5s
Q24A Divide 44.44 332 P **P** 08 41 57.4 +0.6
baz=143,SNR=42
Q24A S **S** 08 48 34.9 +2.9
baz=143
X16A Lo Mia Camp, P 44.48 322 IAmb IAmb 08 42 07.6
comp=Z,101nm,1.4s
G45A Suttons Bay 44.49 355 IAmb IAmb 08 42 02.8
comp=Z,75nm,0.7s
G45A Suttons Bay 44.49 355 P **P** 08 41 54.1 -2.5
baz=172,SNR=19
G45A P **P** 08 41 54.1 -2.5
baz=172,SNR=19
G45A S **S** 08 48 25.5 -6.4
baz=172
G45A S **S** 08 48 25.5 -6.4
baz=172
H62A Milan 44.51 9 S **S** 08 48 34.5 +2.2
baz=193
H62A S **S** 08 48 34.5 +2.2
baz=193
SFX San Felipe 44.58 316 IAmb IAmb 08 42 08.7
comp=Z,185nm,1.9s
OGNE Ogallala 44.72 336 P **P** 08 42 00.3 +1.6
baz=148,SNR=19
OGNE S **S** 08 48 31.3 -4.3
baz=148
OGNE Ogallala 44.72 336 P **P** 08 41 59.8 +1.0
baz=148,SNR=19
OGNE S **S** 08 48 37.8 +2.2
baz=148
I37B Waseca 44.76 347 P **P** 08 41 57.5 -1.3
baz=161,SNR=8.1
I37B S **S** 08 48 28.0 -7.9
baz=161
WVL Waterville 44.76 11 IAMs_20 IAMs_20 09 01 47.4
comp=Z,13µm,21.0s
WVL Waterville 44.76 11 P **P** 08 41 59.2 +0.3
baz=195
MVCO Mesa Verde 44.77 328 IAMs_20 IAMs_20 09 02 42.4
comp=Z,14µm,18.0s
MVCO Mesa Verde 44.77 328 P **P** 08 42 00.3 +0.9
baz=138,SNR=50
MVCO S **S** 08 48 39.4 +2.6
baz=138
RCBR Riachuelo 44.77 99 P **P** 08 41 59.5 0.0
comp=Z,16nm,0.9s,baz=37,slow=6.8,SNR=3.9
RCBR Riachuelo 44.77 99 P **P** 08 41 59.5 0.0
RCBR pmax pmax
comp=Z,109nm,1.7s
RCBR MLR MLR
comp=Z,45µm,19.0s
RCBR Riachuelo 44.77 99 IAmb IAmb 08 43 46.2
comp=Z,109nm,1.7s
RCBR Riachuelo 44.77 99 *e*P **P** 08 41 59.2 -0.3
113A Mohawk Valley, 44.89 319 IAmb IAmb 08 42 11.2
comp=Z,238nm,1.8s
NBAN Anadia - AL 44.98 104 *e*P **P** 08 42 00.1 -1.1
K31A O'Neill 44.99 341 P **P** 08 42 00.9 +0.2
baz=153,SNR=48
K31A S **S** 08 48 34.5 -4.8
baz=153
NBCA Caruaru-PE 44.99 102 *e*P **P** 08 42 01.6 +0.3
WUAZ Wupatki 45.19 324 IAMs_20 IAMs_20 09 00 00.7
comp=Z,13µm,20.0s
WUAZ Wupatki 45.19 324 ⇓P **P** 08 42 03.6 +0.9
WUAZ Wupatki 45.19 324 P **P** 08 42 03.4 +0.8
baz=133,SNR=69
WUAZ S **S** 08 48 46.7 +4.0
baz=133
G62A West of Eustis 45.24 10 IAmb IAmb 08 42 11.0
comp=Z,116nm,1.0s
G62A West of Eustis 45.24 10 P **P** 08 42 03.3 +0.6
baz=194,SNR=13
G62A P **P** 08 42 03.3 +0.6
baz=194,SNR=13
G62A S **S** 08 48 42.0 -0.8
baz=194
G62A S **S** 08 48 42.0 -0.8
baz=194
G40A Rib Lake 45.32 350 IAmb IAmb 08 42 11.3
comp=Z,154nm,1.8s
G40A Rib Lake 45.32 350 P **P** 08 42 01.8 -1.5
baz=166,SNR=14
G40A S **S** 08 48 36.9 -7.1
baz=166
ISCO Idaho Springs 45.32 332 P **P** 08 42 05.5 +1.7
baz=143,SNR=51
ISCO S **S** 08 48 47.5 +2.7
baz=143
ISCO Idaho Springs 45.32 332 P **P** 08 42 05.5 +1.7
baz=143,SNR=51
ISCO S **S** 08 48 46.4 +1.6
baz=143
ECSD EROS Data Cent 45.33 343 IAmb IAmb 08 42 13.8
comp=Z,91nm,1.6s
ECSD EROS Data Cent 45.33 343 P **P** 08 42 01.8 -1.7
baz=157,SNR=23
ECSD S **S** 08 48 36.7 -7.5
baz=157
ECSD EROS Data Cent 45.33 343 P **P** 08 42 02.6 -0.9
baz=157,SNR=23
ECSD S **S** 08 48 38.2 -6.0
baz=157
EMMW East Machias 45.35 13 S **S** 08 48 45.6 +1.3
baz=198
SMCO Snowmass 45.48 331 IAmb IAmb 08 42 21.2
comp=Z,143nm,1.5s
SMCO IAMs_20 IAMs_20 09 03 46.1

comp=Z,14µm,19.0s
SMCO Snowmass 45.48 331 ⇓P P 08 42 06.6 +1.4
F42A Maple Grove Fa 45.48 352 lAmb lAmb 08 42 11.8
comp=Z,53nm,1.0s
F42A **Maple Grove Fa** 45.48 352 S S 08 48 40.2 -6.1
baz=169
PKME Peaks-Kenny Pk 45.51 11 lAmb lAmb 08 42 12.8
comp=Z,55nm,1.1s
PKME lAMs_20 lAMs_20 09 02 09.2
comp=Z,12µm,21.0s
PKME Peaks-Kenny Pk 45.51 11 S S 08 48 46.9 +0.3
baz=195
PKME Peaks-Kenny Pk 45.51 11 P P 08 42 05.4 +0.7
baz=195
PKME S S 08 48 48.6 +2.0
baz=195
PV13 Radium Mtn., P 45.65 328 lAmb lAmb 08 42 16.3
comp=Z,103nm,1.0s
E46A Sault Ste Mari 45.70 356 lAmb lAmb 08 42 41.1
comp=Z,85nm,1.2s
E46A Sault Ste Mari 45.70 356 P P 08 42 04.5 -1.7
baz=174,SNR=22
E46A S S 08 48 43.8 -5.5
baz=174
PV07 Paradox Valley 45.76 329 lAmb lAmb 08 42 17.3
comp=Z,90nm,1.2s
GLA Glamis 45.77 318 P P 08 42 07.5 +0.3
baz=128
GLA S S 08 48 55.1 +4.2
baz=128
SPMN Marine on St. 45.78 348 lAmb lAmb 08 42 13.6
comp=Z,78nm,1.3s
SPMN Marine on St. 45.78 348 P P 08 42 05.1 -1.8
baz=162,SNR=13
SPMN S S 08 48 42.8 -7.8
baz=162
SPMN Marine on St. 45.78 348 P P 08 42 05.7 -1.2
baz=162,SNR=13
SPMN S S 08 48 42.8 -7.8
baz=162
G65A Princeton 45.80 13 S S 08 48 52.8 +2.0
baz=198
G65A S S 08 48 52.8 +2.0
baz=198
GGN Saint George 45.88 13 lAmb lAmb 08 42 15.7
comp=Z,61nm,1.1s
PV10 Paradox Valley 45.92 328 lAmb lAmb 08 42 17.7
comp=Z,98nm,1.1s
E43A Lone Tree Farm 45.95 354 lAmb lAmb 08 42 17.5
comp=Z,49nm,0.8s
E43A Lone Tree Farm 45.95 354 P P 08 42 07.2 -1.0
baz=171,SNR=41
E43A S S 08 48 47.5 -5.5
baz=171
COWI Conover 45.96 351 lAmb lAmb 08 42 15.5
comp=Z,73nm,1.4s
COWI lAMs_20 lAMs_20 09 02 40.8
comp=Z,14µm,18.0s
COWI Conover 45.96 351 P P 08 42 06.7 -1.7
baz=168
COWI S S 08 48 46.7 -6.5
baz=168
F63A Nahmakanta, Br 45.97 11 S S 08 48 54.1 +0.9
baz=196
F63A S S 08 48 54.1 +0.9
baz=196
BLYC Blythe 46.00 319 lAmb lAmb 08 42 19.0
comp=Z,115nm,1.6s
PDMCI Parker Dam,Lak 46.10 320 P P 08 42 09.9 +0.2
baz=129
PDMCI S S 08 48 58.3 +2.7
baz=129
F64A Sherman 46.27 12 P P 08 42 11.0 +0.2
F64A lAmb lAmb 08 42 18.5
comp=Z,42nm,0.9s
F64A Sherman 46.27 12 P P 08 42 11.4 +0.7
baz=196
F64A P P 08 42 11.4 +0.7
baz=196
F64A S S 08 48 58.2 +0.7
baz=196
F64A S S 08 48 58.2 +0.7
baz=196
RMX La Rumorosa 46.34 317 lAmb lAmb 08 42 18.8
comp=Z,80nm,1.4s
N23A Red Feather La 46.35 333 lAmb lAmb 08 42 21.7
comp=Z,94nm,1.4s
N23A Red Feather La 46.35 333 P P 08 42 12.6 +0.7
baz=143,SNR=35
N23A S S 08 49 02.5 +3.0
baz=143
SWSC Sam W. Stewart 46.36 318 P P 08 42 11.8 +0.1
baz=127,SNR=19
SWSC S S 08 49 04.2 +4.9
baz=127
IKP In-Ko-Pah, Jac 46.39 317 P P 08 42 12.3 +0.2
baz=126,SNR=20
IKP S S 08 49 03.5 +3.5
baz=126
PHWY Pilot Hill 46.46 334 lAmb lAmb 08 42 23.6
comp=Z,166nm,1.7s
F36A Milaca 46.54 347 lAmb lAmb 08 42 19.6
comp=Z,98nm,1.7s
F36A Milaca 46.54 347 P P 08 42 11.0 -1.9
baz=162,SNR=14
F36A S S 08 48 54.1 -7.4
baz=162
BC3 Big Chuckawall 46.55 319 P P 08 42 14.3 +0.9
baz=128,SNR=24
BC3 S S 08 49 06.2 +3.9
baz=128
COYC Coyhaique 46.56 172 P P 08 42 15.6 +2.5
IRM Iron Mountain 46.66 319 P P 08 42 15.3 +1.2
baz=128,SNR=32
IRM S S 08 49 05.1 +1.5
baz=128
SUSD Miller 46.68 342 P P 08 42 13.5 -0.6
baz=154,SNR=15
SUSD S S 08 48 59.7 -3.9
baz=154
SUSD Miller 46.68 342 P P 08 42 12.7 -1.3
baz=154,SNR=15
SUSD S S 08 48 59.3 -4.4
baz=154
TKX Tecate 46.69 317 lAmb lAmb 08 42 25.5
comp=Z,178nm,1.9s
NEE2 Needles Airpor 46.70 320 P P 08 42 14.8 +0.4
baz=129
NEE2 S S 08 49 06.4 +2.3
baz=129
MONP2 Monument Peak 46.75 317 P P 08 42 14.7 -0.4
baz=126,SNR=25
MONP2 S S 08 49 08.2 +2.9
baz=126
E63A Oxbow 46.79 11 P P 08 42 14.7 -0.1
baz=196,SNR=5.5
E63A P P 08 42 14.7 -0.1
baz=196,SNR=5.5
E63A S S 08 49 05.3 +0.3
baz=196
E63A S S 08 49 05.3 +0.3
baz=196
BAR Barrett 46.79 317 lAmb lAmb 08 42 25.1
comp=Z,116nm,1.8s
D41A Chassel 46.82 352 P P 08 42 14.2 -0.8
baz=168,SNR=14
D41A S S 08 49 00.2 -5.2
baz=168
O20A White River Ci 46.84 330 P P 08 42 15.7 +0.1
baz=140,SNR=26
O20A S S 08 49 09.3 +2.9
baz=140
E38A The Farm, Brul 46.85 349 P P 08 42 14.0 -1.4
baz=164,SNR=7.2
E38A S S 08 49 00.2 -5.7
baz=164
LATQ La Tuque 47.03 7 lAmb lAmb 08 42 23.6
comp=Z,58nm,1.1s
LMN Caledonia Moun 47.06 15 lAmb lAmb 08 42 24.6
comp=Z,71nm,1.2s
BELC Belle Mtn. Jos 47.12 319 P P 08 42 18.9 +1.1
baz=127,SNR=22
BELC S S 08 49 14.2 +3.7
baz=127
F33A 5 Mile Ranch, 47.19 345 lAmb lAmb 08 42 25.9
comp=Z,168nm,1.8s
F33A 5 Mile Ranch, 47.19 345 P P 08 42 16.4 -1.6
baz=158,SNR=16
F33A S S 08 48 56.1 -15
baz=158
TPFO Pinon Flats 47.19 318 P P 08 42 19.9 +1.5
baz=126,SNR=23
TPFO S S 08 49 16.7 +5.2
baz=126
PFO Pinyon Flats O 47.20 318 P P 08 42 19.5 +1.0
comp=Z,10nm,1.0s,baz=128,slow=8.1,SNR=13
PFO Pinyon Flats O 47.20 318 *i* P P 08 42 20.5 +2.1
PFO pmax pmax
comp=Z,108nm,1.8s
PFO MLR MLR
comp=Z,15µm,16.0s
PFO Pinyon Flats O 47.20 318 P P 08 42 19.4 +1.0
PFO lAmb lAmb 08 42 29.7
comp=Z,150nm,1.9s
PFO Pinyon Flats O 47.20 318 P P 08 42 19.9 +1.5
baz=126,SNR=25
PFO S S 08 49 16.2 +4.7
baz=126
109C Camp Elliot, M 47.21 317 lAmb lAmb 08 42 29.4
comp=Z,167nm,1.7s
109C Camp Elliot, M 47.21 317 P P 08 42 18.9 +0.5
baz=125
109C S S 08 49 12.8 +1.3
baz=125
D62A Allapoint, All 47.30 10 P P 08 42 18.6 -0.3
D62A lAmb lAmb 08 42 26.8
comp=Z,76nm,0.9s
D62A Allapoint, All 47.30 10 P P 08 42 19.3 +0.4
baz=195,SNR=12
D62A P P 08 42 19.3 +0.4
baz=195,SNR=12
D62A S S 08 49 11.1 -1.2
baz=195
D62A S S 08 49 11.1 -1.2
baz=195
GMRC Granite Mounta 47.38 320 P P 08 42 21.4 +1.5
baz=128,SNR=14
GMRC S S 08 49 14.7 +0.6
baz=128
MTPU Mount Pierson 47.40 325 lAmb lAmb 08 42 45.4
comp=Z,144nm,1.9s
P18A Preston Nutter 47.48 328 lAmb lAmb 08 42 31.7
comp=Z,136nm,1.4s
LMQ La Malbaie 47.54 9 lAmb lAmb 08 42 26.5
comp=Z,46nm,1.0s
RWWY Rawlins 47.56 333 lAmb lAmb 08 42 31.1
comp=Z,107nm,1.1s
SZCU Shurtz Canyon 47.61 324 lAmb lAmb 08 42 31.9
comp=Z,125nm,1.7s
MURC Murrieta 47.69 317 P P 08 42 23.5 +1.3
baz=126
MURC S S 08 49 21.0 +2.7
baz=126
TMUT Trail Mountain 47.75 327 lAmb lAmb 08 42 33.8
comp=Z,178nm,1.8s
RDMU Red Mountain 47.83 330 lAmb lAmb 08 42 32.9
comp=Z,73nm,1.1s
HEC Hector,Ludlow 47.84 319 P P 08 42 24.5 +1.1
baz=128,SNR=20
HEC S S 08 49 25.3 +4.6
baz=128
ELS Elsinore Mount 47.87 317 lAmb lAmb 08 42 30.8
comp=Z,66nm,1.6s
BBRC Big Bear Solar 47.89 318 P P 08 42 25.1 +1.1
baz=126,SNR=26
BBRC S S 08 49 26.6 +5.0
baz=126
TUQ Turquoise Moun 47.95 320 P P 08 42 25.8 +1.5
baz=128
TUQ S S 08 49 24.1 +1.9
baz=128
K22A Casper 48.02 334 P P 08 42 25.7 +1.0
baz=144,SNR=18
K22A S S 08 49 25.2 +2.2
baz=144
K22A Casper 48.02 334 P P 08 42 25.3 +0.6
baz=144,SNR=18
K22A S S 08 49 25.9 +2.9
baz=144
BATG Bathurst New B 48.10 13 lAmb lAmb 08 42 32.8
comp=Z,61nm,1.0s
EYMN Ely 48.13 350 lAmb lAmb 09 06 31.4
comp=Z,17µm,18.0s
EYMN Ely 48.13 350 P P 08 42 23.6 -1.8
baz=165,SNR=7.4
EYMN S S 08 49 18.3 -5.9
baz=165
EYMN Ely 48.13 350 P P 08 42 24.1 -1.2
baz=165,SNR=7.4
EYMN S S 08 49 18.1 -6.1
baz=165
RSSD Black Hills 48.20 337 P P 08 42 27.4 +1.3
RSSD pmax pmax
comp=Z,418nm,1.9s
RSSD MLR MLR
comp=Z,9µm,21.0s
RSSD Black Hills 48.20 337 P P 08 42 27.4 +1.3
RSSD Black Hills 48.20 337 ⇑P P 08 42 27.3 +1.1
RSSD Black Hills 48.20 337 P P 08 42 27.2 +1.0
baz=147,SNR=41
RSSD S S 08 49 28.5 +2.9
baz=147
RSSD Black Hills 48.20 337 P P 08 42 27.0 +0.9
baz=147
RSSD S S 08 49 28.4 +2.8
baz=147
SCI2 San Clemente I 48.26 316 P P 08 42 26.4 -0.1
baz=124
SCI2 S S 08 49 30.9 +4.5
baz=124
RRX Edison Barstow 48.30 319 P P 08 42 27.7 +0.8
baz=127
RRX S S 08 49 30.3 +3.3
baz=127
BFSC Mount Baldy Ra 48.37 318 P P 08 42 28.8 +1.2
baz=126,SNR=11
BFSC S S 08 49 30.8 +2.6
baz=126
CIS Catalina Islan 48.41 316 P P 08 42 27.5 -0.2
baz=124
CIS S S 08 49 33.5 +5.0
baz=124
GSC Goldstone, Bar 48.44 319 lAmb lAmb 08 42 39.4
comp=Z,189nm,1.9s
GSC Goldstone, Bar 48.44 319 P P 08 42 29.3 +1.3
baz=127,SNR=28
GSC S S 08 49 28.9 -0.2
baz=127
SHOC Shoshone, Teco 48.46 320 P P 08 42 29.3 +1.3
baz=128,SNR=30
SHOC S S 08 49 33.5 +4.3
baz=128
FMP Fort Macarthur 48.50 317 P P 08 42 29.3 +1.0
baz=125
FMP S S 08 49 32.3 +2.5
baz=125
D32A Dogwood Acres, 48.58 345 lAmb lAmb 08 42 45.2
comp=Z,76nm,1.8s
D32B Dogwood Acres, 48.58 345 S S 08 49 23.4 -7.0
baz=157
PRN Pahroc Range 48.66 323 lAmb lAmb 08 42 41.3
comp=Z,151nm,1.8s
PRN Pahroc Range 48.66 323 ⇑P P 08 42 32.2 +2.5
KAPO Kapuskasing 48.68 358 ⇓P P 08 42 27.6 -1.9
NLU North Lily Min 48.69 327 lAmb lAmb 08 42 41.1
comp=Z,155nm,1.9s
PASC Pasadena Art C 48.69 317 lAmb lAmb 08 42 41.2
comp=Z,174nm,1.8s
PSUT Pine Spring 48.69 325 lAmb lAmb 08 42 57.7
comp=Z,105nm,1.7s
DECC Green Verdugo 48.83 317 P P 08 42 31.9 +0.9
baz=125
DECC S S 08 49 38.8 +4.3
baz=125
QSM Queen of Sheba 48.88 320 lAmb lAmb 08 42 42.4
comp=Z,76nm,1.4s
B35A Bob, Littlefor 48.96 348 P P 08 42 29.7 -2.0
baz=162
B35A S S 08 49 27.4 -8.3
baz=162
EDW2 Edwards Air Fo 48.97 318 P P 08 42 33.4 +1.3
baz=126,SNR=34
EDW2 S S 08 49 38.9 +2.4
baz=126
SNCC San Nicolas Is 49.09 315 P P 08 42 33.9 +0.9
baz=123
SNCC S S 08 49 40.8 +2.6
baz=123
TPNV Topopah Spring 49.10 322 ⇑P P 08 42 34.7 +1.6
TPNV Topopah Spring 49.10 322 P P 08 42 33.4 +0.3
baz=129,SNR=21
TPNV S S 08 49 42.9 +4.5
baz=129
LRMC Laurel Mtn Rad 49.12 319 P P 08 42 33.5 +0.2
baz=127,SNR=5.7
LRMC S S 08 49 43.0 +4.3
baz=127
E28A Huff 49.14 341 P P 08 42 33.0 -0.1
baz=152,SNR=19
E28A S S 08 49 34.4 -4.0
baz=152
CCAC Calif City Air 49.14 318 lAmb lAmb 08 42 41.4
comp=Z,96nm,1.2s
FURC Furnace Creek, 49.18 321 P P 08 42 34.5 +0.9
baz=128,SNR=25
FURC S S 08 49 44.6 +5.3
baz=128
DUG Dugway, Tooele 49.26 327 lAmb_20 lAmb_20 09 03 01.2
comp=Z,17µm,21.0s
DUG Dugway, Tooele 49.26 327 P P 08 42 34.5 +0.2
baz=135,SNR=39
DUG S S 08 49 44.8 +4.2
baz=135
OSI Osito Audit: C 49.30 317 P P 08 42 35.3 +0.7
baz=125
OSI S S 08 49 44.4 +3.2
baz=125
MPMC Manual Prospec 49.34 320 P P 08 42 35.8 +0.8
baz=127,SNR=24
MPMC S S 08 49 45.7 +3.8
baz=127
AGMN Agassiz Nation 49.37 346 P P 08 42 33.2 -1.6
baz=159,SNR=15
AGMN S S 08 49 34.8 -6.8
baz=159
AGMN Agassiz Nation 49.37 346 P P 08 42 34.2 -0.6
baz=159,SNR=15
AGMN S S 08 49 36.0 -5.6
baz=159
BW06 Boulder Array 49.49 332 lAmb lAmb 08 42 46.2
comp=Z,85nm,1.5s
BW06 lAMs_20 lAMs_20 09 04 09.2
comp=Z,14µm,19.0s
BW06 Boulder Array 49.49 332 P P 08 42 36.2 +0.1
baz=140,SNR=27
BW06 S S 08 49 44.2 +0.2
baz=140
PD31 Pinedale Array 49.49 332 lAmb lAmb 08 42 46.2
comp=Z,70nm,1.4s
PD31 Pinedale Array 49.49 332 ⇑P P 08 42 36.5 +0.4
PDAR Pinedale Array 49.49 332 P P 08 42 36.2 +0.1
comp=Z,8.7nm,1.0s,baz=131,slow=8.4,SNR=23
R11A Troy Canyon, C 49.59 323 P P 08 42 37.8 +0.9
baz=131,SNR=33
R11A S S 08 49 49.7 +4.4
baz=131
HWUT Hardware Ranch 49.61 329 lAmb_20 lAmb_20 09 06 39.5
comp=Z,14µm,18.0s
ARVC Arvin 49.67 318 P P 08 42 38.5 +1.2
baz=125,SNR=17
ARVC S S 08 49 50.2 +4.0
baz=125
ISA Isabella, Lake 49.74 319 lAmb lAmb 08 42 49.4
comp=Z,109nm,1.7s
ISA Isabella, Lake 49.74 319 P P 08 42 38.7 +0.7
baz=126,SNR=14
ISA S S 08 49 51.3 +3.9
baz=126
GRAC Grapevine Rang 49.83 321 lAmb lAmb 08 42 50.1
comp=Z,183nm,1.6s
GRAC Grapevine Rang 49.83 321 P P 08 42 39.2 +0.6
baz=128
GRAC S S 08 49 52.4 +4.0
baz=128
SBC Santa Barbara 49.88 317 P P 08 42 39.0 +0.1
baz=124
SBC S S 08 49 52.8 +3.6
baz=124
MDND Maddock 49.94 343 P P 08 42 39.4 +0.2
baz=154,SNR=23
MDND S S 08 49 46.7 -2.9
baz=154
MDND Maddock 49.94 343 P P 08 42 38.7 -0.5
baz=154,SNR=23
MDND S S 08 49 47.8 -1.9
baz=154
CWC Cottonwood Cre 49.95 320 P P 08 42 39.2 -0.5
baz=127
CWC S S 08 49 54.8 +4.4
baz=127
BCW Bitter Crk WRg 49.96 317 lAmb lAmb 08 42 59.0
comp=Z,187nm,1.7s
LCH Last Change Ra 50.15 321 lAmb lAmb 08 43 05.1
comp=Z,94nm,1.9s
PKM Mcpherson Peak 50.20 317 P P 08 42 40.6 -1.0
baz=124,SNR=20
PKM S S 08 49 56.2 +2.2
baz=124
AHID Auburn Hatcher 50.23 331 lAmb lAmb 08 42 51.8
comp=Z,165nm,1.7s
AHID lAMs_20 lAMs_20 09 05 53.9
comp=Z,13µm,18.0s
VES Vestal, Richgr 50.25 319 P P 08 42 43.0 +1.2
baz=126,SNR=31
VES S S 08 50 00.6 +6.3
baz=126
TIN Tinemaha, Big 50.41 320 P P 08 42 43.4 +0.3
baz=127
TIN S S 08 50 00.8 +4.1
baz=127
REDW Red Top Meadow 50.56 331 lAmb_20 lAmb_20 09 04 56.5
comp=Z,11µm,18.0s
SMMC Simmler 50.56 317 P P 08 42 45.1 +0.9
baz=124,SNR=28
SMMC S S 08 50 03.4 +4.7
baz=124
SNOW Snow King Moun 50.59 331 lAmb lAmb 08 42 55.1
comp=Z,165nm,1.6s
SNOW lAMs_20 lAMs_20 09 05 43.2
comp=Z,10µm,18.0s
LOHW Long Hollow 50.63 332 lAmb lAmb 08 42 54.0
comp=Z,102nm,1.7s
LOHW lAMs_20 lAMs_20 09 05 56.3
comp=Z,12µm,19.0s
TPAW Teton Pass 50.70 331 lAmb lAmb 08 42 57.1
comp=Z,94nm,1.4s
TPAW lAMs_20 lAMs_20 09 05 01.3
comp=Z,10µm,18.0s
VOG Valley Oaks Go 50.73 319 P P 08 42 44.0 -1.3
baz=126
VOG S S 08 50 04.2 +3.3
baz=126
MOOW Moose Ponds 50.80 332 lAmb lAmb 08 42 55.2
comp=Z,89nm,1.6s
MOOW lAMs_20 lAMs_20 09 06 26.8
comp=Z,10µm,18.0s
ELK Elko 50.98 326 P P 08 42 48.2 +0.8
comp=Z,11nm,1.1s,baz=132,slow=5.3,SNR=18
FLWY Flagg Ranch 51.03 332 lAmb lAmb 08 42 58.4
comp=Z,249nm,1.9s
FLWY lAMs_20 lAMs_20 09 05 04.9
comp=Z,11µm,18.0s
MLAC Mammoth, Mammo 51.14 321 P P 08 42 49.3 +0.5
baz=127
MLAC S S 08 50 10.3 +3.2
baz=127
RLMT Red Lodge 51.18 334 lAmb lAmb 08 42 57.8
comp=Z,175nm,1.9s
RLMT lAMs_20 lAMs_20 09 05 43.8
comp=Z,9µm,20.0s
RLMT Red Lodge 51.18 334 P P 08 42 49.2 +0.3
baz=142,SNR=26
RLMT S S 08 50 06.4 -1.0
baz=142
LAO LASA Array 51.19 337 P P 08 42 49.1 +0.4
baz=146,SNR=11
LAO S S 08 50 07.0 -0.1
baz=146
LAO LASA Array 51.19 337 P P 08 42 48.2 -0.5
baz=146,SNR=11
LAO S S 08 50 06.5 -0.6
baz=146
NV11 Mina Array Sit 51.20 322 lAmb lAmb 08 42 59.3
comp=Z,137nm,1.3s

ULM	**Lac du Bonnet**	**51.20**	**347**	P		**P**	**08 42 46.7**	**-2.0**	
	comp=Z,23nm,0.7s,baz=157,slow=7.8,SNR=18								
ULM	**Lac du Bonnet**	**51.20**	**347**	*i* P		**P**	**08 42 47.6**	**-1.1**	
ULM	**Lac du Bonnet**	**51.20**	**347**	IAmb		IAmb	08 42 50.9		
	comp=Z,138nm,1.6s								
ULM	**Lac du Bonnet**	**51.20**	**347**	⇑P		**P**	**08 42 47.2**	**-1.4**	
H17A	**Grant Village**	**51.21**	**332**	IAmb		IAmb	08 43 02.0		
	comp=Z,174nm,1.8s								
H17A	**Grant Village**	**51.21**	**332**	P		**P**	**08 42 50.5**	**+1.3**	
H17A	baz=140			S		**S**	**08 50 11.6**	**+3.7**	
OMMB	**Old Mammoth Mi**	**51.24**	**320**	IAmb		IAmb	08 42 57.5		
	comp=Z,72nm,1.3s								
LKWY	**Lake**	**51.26**	**333**	IAmb		IAmb	08 43 00.9		
	comp=Z,65nm,1.2s								
NVAR	**Mina Array Bea**	**51.29**	**322**	P		**P**	**08 42 50.4**	**+0.5**	
	comp=Z,37nm,1.0s,baz=137,slow=7.2,SNR=68								
LHV	**Little Huntoon**	**51.31**	**321**	IAmb		IAmb	08 43 00.3		
	comp=Z,103nm,1.2s								
RYN	**Ryan**	**51.55**	**322**	IAmb		IAmb	08 43 01.7		
	comp=Z,92nm,1.4s								
KVN	**Kaiserville**	**51.55**	**322**	IAmb		IAmb	08 43 02.7		
	comp=Z,75nm,1.3s								
YMR	**Madison River**	**51.60**	**332**	IAmb		IAmb	08 43 03.2		
	comp=Z,193nm,1.6s								
PMPB	**Monarch Peak**	**51.61**	**318**	IAmb		IAmb	08 43 03.8		
	comp=Z,172nm,1.7s								
DGMT	**Dagmar**	**51.95**	**340**	IAmb		IAmb	08 43 03.9		
	comp=Z,170nm,1.6s								
DGMT	**Dagmar**	**51.95**	**340**	P		**P**	**08 42 55.2**	**+0.8**	
DGMT	baz=149,SNR=13			S		**S**	**08 50 18.6**	**+1.2**	
	baz=149								
DGMT	**Dagmar**	**51.95**	**340**	P		**P**	**08 42 55.0**	**+0.7**	
DGMT	baz=149,SNR=13			S		**S**	**08 50 18.7**	**+1.2**	
	baz=149								
BBGB	**Big Mountain B**	**51.97**	**318**	IAmb		IAmb	08 43 05.5		
	comp=Z,93nm,1.2s								
GO09	**Cerro Castillo**	**52.14**	**174**	IAmb		IAmb	08 43 18.0		
	comp=Z,188nm,1.6s								
YERR	**Yerington**	**52.21**	**322**	IAmb		IAmb	08 43 06.7		
	comp=Z,147nm,1.6s								
DRLN	**Deer Lake**	**52.25**	**19**	IAmb		IAmb	08 43 03.5		
	comp=Z,57nm,0.9s								
DRLN	**Deer Lake**	**52.25**	**19**	⇓P		**P**	**08 42 56.9**	**+0.4**	
SAO	**San Andreas Ge**	**52.34**	**318**	P		**P**	**08 42 56.8**	**-0.7**	
SAO	**San Andreas Ge**	**52.34**	**318**	IAMs_20		IAMs_20	09 05 25.4		
	comp=Z,9μm,18.0s								
CMB	**Columbia Colle**	**52.37**	**320**	P		**P**	**08 42 56.8**	**-0.9**	
CMB	**Columbia Colle**	**52.37**	**320**	IAmb		IAmb	08 43 08.6		
	comp=Z,136nm,1.9s								
HLID	**Hailey**	**52.48**	**329**	IAmb		IAmb	08 43 09.5		
	comp=Z,226nm,1.7s								
HLID				IAMs_20		IAMs_20	09 07 49.4		
	comp=Z,12μm,19.0s								
HLID	**Hailey**	**52.48**	**329**	P		**P**	**08 42 58.6**	**0.0**	
HLID	baz=135,SNR=74			S		**S**	**08 50 28.9**	**+3.7**	
	baz=135								
PNTR	**Pine Nut**	**52.50**	**322**	IAmb		IAmb	08 43 27.4		
	comp=Z,212nm,1.9s								
BOZ	**Bozeman (W)**	**52.61**	**333**	P		**P**	**08 43 00.2**	**+0.8**	
BOZ	baz=139,SNR=99			S		**S**	**08 50 27.0**	**+0.1**	
	baz=139								
VCNR	**Virginia City**	**52.65**	**322**	IAmb		IAmb	08 43 11.3		
	comp=Z,135nm,1.6s								
EMB	**Emerald Bay**	**52.74**	**321**	IAmb		IAmb	08 43 12.2		
	comp=Z,220nm,2.0s								
RUBR	**Rubicon Trail**	**52.82**	**321**	IAmb		IAmb	08 43 12.8		
	comp=Z,189nm,1.8s								
DLMT	**Dillon**	**52.89**	**332**	IAmb		IAmb	08 43 23.1		
	comp=Z,77nm,1.4s								
BEKR	**Beckworth**	**53.43**	**322**	IAmb		IAmb	08 43 16.8		
	comp=Z,73nm,1.4s								
EGMT	**Eagleton**	**53.68**	**336**	IAmb		IAmb	08 43 16.4		
	comp=Z,159nm,1.4s								
EGMT	**Eagleton**	**53.68**	**336**	P		**P**	**08 43 07.9**	**+0.7**	
EGMT	baz=142,SNR=42			S		**S**	**08 50 41.3**	**+0.1**	
	baz=142								
WVOR	**Wild Horse Val**	**54.00**	**325**	IAmb		IAmb	08 43 19.1		
	comp=Z,122nm,1.4s								
WVOR				IAMs_20		IAMs_20	09 05 54.9		
	comp=Z,11μm,20.0s								
WVOR	**Wild Horse Val**	**54.00**	**325**	⇓P		**P**	**08 43 10.2**	**+0.5**	
MCCM	**Marconi Confer**	**54.06**	**319**	IAmb		IAmb	08 43 17.8		
	comp=Z,70nm,1.2s								
MCCM	**Marconi Confer**	**54.06**	**319**	⇓P		**P**	**08 43 10.9**	**+1.0**	
PLID	**Pearl Lake**	**54.36**	**329**	IAmb		IAmb	08 43 22.3		
	comp=Z,165nm,1.8s								
PLID				IAMs_20		IAMs_20	09 08 58.1		
	comp=Z,14μm,18.0s								
J08A	**Circle Bar Ran**	**54.51**	**326**	IAmb		IAmb	08 43 23.8		
	comp=Z,62nm,1.4s								
O03E	**Paynes Creek**	**54.58**	**322**	IAMs_20		IAMs_20	09 05 32.4		
	comp=Z,9μm,21.0s								
O03E	**Paynes Creek**	**54.58**	**322**	P		**P**	**08 43 13.6**	**-0.3**	
O03E	baz=126			S		**S**	**08 50 55.6**	**+1.9**	
	baz=126								
MSO	**Missoula**	**54.60**	**332**	IAMs_20		IAMs_20	09 08 13.3		
	comp=Z,10μm,18.0s								
MSO	**Missoula**	**54.60**	**332**	P		**P**	**08 43 14.1**	**+0.2**	
MSO	baz=137,SNR=65			S		**S**	**08 50 52.9**	**-0.8**	
	baz=137								
MOD	**Modoc Plateau**	**54.63**	**324**	IAmb		IAmb	08 43 24.8		
	comp=Z,152nm,1.8s								
MOD				IAMs_20		IAMs_20	09 06 28.7		
	comp=Z,11μm,18.0s								
HOPS	**Hopland Field**	**54.65**	**320**	IAmb		IAmb	08 43 24.5		
	comp=Z,148nm,1.7s								
HOPS				IAMs_20		IAMs_20	09 05 11.3		
	comp=Z,9μm,20.0s								
BMO	**Blue Mountains**	**54.87**	**328**	IAmb		IAmb	08 43 24.4		
	comp=Z,95nm,1.9s								
BMO				IAMs_20		IAMs_20	09 09 03.7		
	comp=Z,9μm,20.0s								
MG03	**Isla Dawson**	**54.89**	**173**	P		**P**	**08 43 16.8**	**+1.1**	
MG03				IAmb		IAmb	08 43 38.8		
	comp=Z,148nm,1.4s								
O02D	**Mt. Diablo Mer**	**55.13**	**321**	P		**P**	**08 43 17.5**	**-0.4**	
O02D	baz=125			S		**S**	**08 51 01.5**	**+0.5**	
	baz=125								
SCHQ	**Schefferville**	**55.15**	**9**	P		**P**	**08 43 16.4**	**-1.3**	
	comp=Z,10nm,0.9s,baz=188,slow=4.4,SNR=8.7								
SCHQ	**Schefferville**	**55.15**	**9**	IAmb		IAmb	08 44 28.4		
	comp=Z,98nm,1.7s								
SCHQ	**Schefferville**	**55.15**	**9**	⇓P		**P**	**08 43 17.0**	**-0.7**	
KCPM	**Cahto Peak**	**55.36**	**320**	P		**P**	**08 43 20.4**	**+0.8**	
KCPM				IAmb		IAmb	08 43 31.2		
	comp=Z,115nm,1.3s								
EFI	**East Falkland**	**55.39**	**163**	*ce*P		**P**	**08 43 21.4**	**+2.0**	
EFI				pmax		pmax			
	comp=Z,171nm,1.7s								
EFI				MLR		MLR			
	comp=Z,9μm,17.0s								
EFI	**East Falkland**	**55.39**	**163**	IAMs_20		IAMs_20	09 10 22.9		
	comp=Z,12μm,20.0s								
M04C	**Macdoel**	**55.48**	**323**	IAmb		IAmb	08 43 27.1		
	comp=Z,64nm,1.4s								
M04C				IAMs_20		IAMs_20	09 06 36.0		
	comp=Z,11μm,18.0s								
M04C	**Macdoel**	**55.48**	**323**	P		**P**	**08 43 20.1**	**-0.4**	
M04C	baz=126,SNR=13			S		**S**	**08 51 09.0**	**+3.3**	
	baz=126								
N02D	**Trinity Center**	**55.53**	**322**	P		**P**	**08 43 18.8**	**-2.0**	
N02D	baz=125,SNR=9.4			S		**S**	**08 51 05.9**	**-0.5**	
	baz=125								
F10A	**Beach Ranch, E**	**55.59**	**329**	⇑P		**P**	**08 43 22.1**	**+1.0**	
KMRM	**Mail Ridge**	**55.74**	**320**	IAmb		IAmb	08 43 32.5		
	comp=Z,161nm,1.5s								
M02C	**Callahan**	**55.87**	**322**	P		**P**	**08 43 22.2**	**-1.0**	
M02C	baz=125			S		**S**	**08 51 11.3**	**+0.5**	
	baz=125								
K04D	**Chiloquin, OR**	**55.93**	**324**	P		**P**	**08 43 24.8**	**+1.2**	
K04D	baz=127			S		**S**	**08 51 13.8**	**+2.1**	
	baz=127								
YBH	**Yreka Blue Hor**	**55.97**	**322**	P		**P**	**08 43 23.1**	**-0.9**	
	comp=Z,8.0nm,0.8s,baz=91,slow=5.6,SNR=20								
YBH	**Yreka Blue Hor**	**55.97**	**322**	IAmb		IAmb	08 43 32.0		
	comp=Z,104nm,1.9s								
L04D	**Klamath Falls**	**56.01**	**323**	IAMs_20		IAMs_20	09 07 12.2		
	comp=Z,10μm,20.0s								
L04D	**Klamath Falls**	**56.01**	**323**	P		**P**	**08 43 24.4**	**+0.1**	
L04D	baz=126,SNR=25			S		**S**	**08 51 14.4**	**+1.5**	
	baz=126								
J05D	**Fort Rock, OR**	**56.02**	**325**	P		**P**	**08 43 25.1**	**+0.7**	
	baz=128,SNR=28								
J05D				S		**S**	**08 51 15.0**	**+1.9**	
	baz=128								
G08A	**Pilot Rock**	**56.04**	**328**	IAmb		IAmb	08 43 35.0		
	comp=Z,164nm,1.5s								
KMPM	**Mount Pierce**	**56.11**	**320**	IAmb		IAmb	08 43 36.3		
	comp=Z,103nm,1.3s								
KHMM	**Horse Mountain**	**56.12**	**321**	IAmb		IAmb	08 43 36.1		
	comp=Z,105nm,1.1s								
USHA	**Ushuaia**	**56.12**	**172**	P		**P**	**08 43 24.5**	**-0.1**	
	comp=Z,12nm,1.0s,baz=48,slow=3.3,SNR=3.9								
USHA				LR		LR	09 06 20.9		
	comp=Z,9μm,18.2s,baz=356,slow=35								
WALA	**Waterton Lakes**	**56.24**	**334**	IAmb		IAmb	08 43 35.1		
	comp=Z,48nm,1.1s								
WALA	**Waterton Lakes**	**56.24**	**334**	⇑P		**P**	**08 43 26.8**	**+1.0**	
J04D	**Umpqua Nationa**	**56.51**	**324**	IAMs_20		IAMs_20	09 11 23.2		
	comp=Z,8μm,18.0s								
J04D	**Umpqua Nationa**	**56.51**	**324**	P		**P**	**08 43 28.3**	**+0.4**	
J04D	baz=127			S		**S**	**08 51 22.4**	**+2.8**	
	baz=127								
HUMO	**Hull Mountain**	**56.63**	**323**	IAMs_20		IAMs_20	09 07 31.6		
	comp=Z,8μm,19.0s								
HUMO	**Hull Mountain**	**56.63**	**323**	⇑P		**P**	**08 43 28.6**	**0.0**	
I05D	**Terrebonne, OR**	**56.73**	**326**	P		**P**	**08 43 30.6**	**+1.3**	
	baz=128,SNR=41								
I05D				S		**S**	**08 51 25.5**	**+3.3**	
	baz=128								
L02E	**Cave Junction**	**56.76**	**322**	IAmb		IAmb	08 44 04.1		
	comp=Z,72nm,1.6s								
L02E				IAMs_20		IAMs_20	09 07 20.1		
	comp=Z,8μm,19.0s								
L02E	**Cave Junction**	**56.76**	**322**	P		**P**	**08 43 29.2**	**-0.2**	
	baz=125								
L02E				S		**S**	**08 51 22.7**	**+0.1**	
	baz=125								
FFC	**Flin Flon**	**56.79**	**345**	P		**P**	**08 43 28.5**	**-0.9**	
FFC				pmax		pmax			
FFC	comp=Z,130nm,1.7s			MLR		MLR			
	comp=Z,8μm,19.0s								
FFC	**Flin Flon**	**56.79**	**345**	P		**P**	**08 43 28.5**	**-0.9**	
FFC				IAmb		IAmb	08 43 37.9		
	comp=Z,130nm,1.7s								
FFC	**Flin Flon**	**56.79**	**345**	IAMs_20		IAMs_20	09 08 41.2		
	comp=Z,8μm,19.0s								
FFC	**Flin Flon**	**56.79**	**345**	⇑P		**P**	**08 43 29.1**	**-0.3**	
HAWA	**Hanford**	**57.06**	**329**	IAmb		IAmb	08 44 55.6		
	comp=Z,74nm,1.8s								
HAWA				IAMs_20		IAMs_20	09 09 59.7		
	comp=Z,11μm,20.0s								
K02D	**Willamette Mer**	**57.11**	**323**	P		**P**	**08 43 32.6**	**+0.5**	
	baz=125,SNR=23								
K02D				S		**S**	**08 51 29.1**	**+1.8**	
	baz=125								
NEW	**Newport**	**57.13**	**332**	P		**P**	**08 43 31.8**	**-0.2**	
	comp=Z,14nm,1.1s,baz=145,slow=6.3,SNR=16								
NEW	**Newport**	**57.13**	**332**	IAmb		IAmb	08 43 42.2		
	comp=Z,196nm,1.9s								
NEW	**Newport**	**57.13**	**332**	IAMs_20		IAMs_20	09 08 03.3		
	comp=Z,9μm,19.0s								
NEW	**Newport**	**57.13**	**332**	P		**P**	**08 43 31.8**	**-0.2**	
NEW	baz=134,SNR=20			S		**S**	**08 51 27.4**	**+0.1**	
	baz=134								
D08A	**Wollman Farm,**	**57.19**	**329**	IAmb		IAmb	08 44 34.3		
	comp=Z,77nm,1.5s								
G05D	**Wamic, OR**	**57.28**	**327**	P		**P**	**08 43 34.1**	**+0.9**	
	baz=129,SNR=7.8								
G05D				S		**S**	**08 51 33.9**	**+4.5**	
	baz=129								
H04A	**Detroit Lake**	**57.42**	**326**	IAmb		IAmb	08 43 44.4		
	comp=Z,103nm,1.3s								
I03D	**Drain, OR**	**57.50**	**324**	P		**P**	**08 43 34.9**	**+0.3**	
	baz=126,SNR=5.6								
I03D				S		**S**	**08 51 33.9**	**+1.7**	
	baz=126								
J01E	**Myrtle Point**	**57.54**	**323**	IAMs_20		IAMs_20	09 08 01.6		
	comp=Z,11μm,20.0s								
J01E	**Myrtle Point**	**57.54**	**323**	P		**P**	**08 43 35.4**	**+0.5**	
	baz=125,SNR=18								
J01E				S		**S**	**08 51 34.1**	**+1.4**	
	baz=125								
H04D	**Lebanon**	**57.64**	**325**	P		**P**	**08 43 36.1**	**+0.5**	
	baz=127								
H04D				S		**S**	**08 51 32.9**	**-1.1**	
	baz=127								
F05D	**White Salmon**	**57.76**	**327**	IAmb		IAmb	08 43 46.6		
	comp=Z,165nm,1.6s								
F05D	**White Salmon**	**57.76**	**327**	P		**P**	**08 43 37.0**	**+0.5**	
	baz=129								
F05D				S		**S**	**08 51 40.7**	**+5.1**	
	baz=129								
COR	**Corvallis**	**58.00**	**325**	P		**P**	**08 43 39.6**	**+1.5**	
COR				pmax		pmax			
COR	comp=Z,370nm,1.9s			MLR		MLR			
	comp=Z,7μm,18.0s								
COR	**Corvallis**	**58.00**	**325**	P		**P**	**08 43 39.6**	**+1.5**	
COR	**Corvallis**	**58.00**	**325**	IAMs_20		IAMs_20	09 08 42.7		
	comp=Z,7μm,18.0s								
I02E	**Swisshome, OR**	**58.04**	**324**	IAMs_20		IAMs_20	09 12 09.7		
	comp=Z,8μm,20.0s								
I02E	**Swisshome, OR**	**58.04**	**324**	P		**P**	**08 43 37.8**	**-0.6**	
	baz=126,SNR=22								
I02E				S		**S**	**08 51 40.6**	**+1.4**	
	baz=126								
RKT	**Rikitea**	**58.14**	**242**	*e*T		T	09 46 21.2		
	comp=Z,2.4nm,0.3s								
LTY	**Liberty**	**58.22**	**329**	IAmb		IAmb	08 43 49.3		
	comp=Z,108nm,1.6s								
G03D	**McMinnville, O**	**58.35**	**326**	IAMs_20		IAMs_20	09 07 54.0		
	comp=Z,8μm,21.0s								
G03D	**McMinnville, O**	**58.35**	**326**	P		**P**	**08 43 40.5**	**-0.1**	
	baz=127								
G03D				S		**S**	**08 51 43.8**	**+0.5**	
	baz=127								
F04D	**Rainier, OR**	**58.74**	**326**	P		**P**	**08 43 44.0**	**+0.8**	
	baz=128								
F04D				S		**S**	**08 51 52.0**	**+3.7**	
	baz=128								
C06D	**Leavenworth**	**58.77**	**329**	P		**P**	**08 43 43.6**	**+0.2**	
	baz=130								
C06D				S		**S**	**08 51 51.7**	**+3.1**	
	baz=130								
E04D	**Cinebar**	**58.78**	**327**	IAmb		IAmb	08 43 54.0		
	comp=Z,155nm,1.8s								
E04D	**Cinebar**	**58.78**	**327**	P		**P**	**08 43 43.5**	**-0.1**	
	baz=128								
E04D				S		**S**	**08 51 51.3**	**+2.5**	
	baz=128								
D05A	**Enumclaw**	**58.87**	**328**	IAmb		IAmb	08 43 52.2		
	comp=Z,77nm,1.0s								
H07S1	**FLORES T-PHASE**	**59.04**	**43**	*e*P		**P**	**08 43 47.2**	**+1.7**	
PNT	**Penticton**	**59.05**	**331**	⇑P		**P**	**08 43 46.7**	**+1.3**	
H07N1	**FLORES T-PHASE**	**59.25**	**43**	*e*P		**P**	**08 43 48.5**	**+1.5**	
D04E	**Lakebay**	**59.28**	**328**	P		**P**	**08 43 47.6**	**+0.6**	
	baz=128								
D04E				S		**S**	**08 51 57.7**	**+2.5**	
	baz=128								
B05A	**Bryant**	**59.60**	**329**	P		**P**	**08 43 49.2**	**0.0**	
	baz=129								
B05A				S		**S**	**08 52 00.0**	**+0.6**	
	baz=129								
D03D	**Eldon**	**59.67**	**328**	P		**P**	**08 43 49.8**	**+0.1**	
	baz=128,SNR=7.7								
D03D				S		**S**	**08 52 02.4**	**+2.1**	
	baz=128								
NLWA	**Neilton Lookou**	**60.00**	**327**	P		**P**	**08 43 53.8**	**+1.8**	
NLWA	**Neilton Lookou**	**60.00**	**327**	⇑P		**P**	**08 43 54.1**	**+2.1**	
A04D	**Lummi Island**	**60.21**	**329**	P		**P**	**08 43 54.0**	**+0.6**	
	baz=129,SNR=40								
A04D				S		**S**	**08 52 08.6**	**+1.5**	
	baz=129								
B04A	**Port Angeles**	**60.21**	**328**	P		**P**	**08 43 54.8**	**+1.3**	
TAOE	**Nuku Hiva Isla**	**60.37**	**260**	*e*S		**S**	**08 52 06.3**	**-4.3**	
	comp=Z,10μm,26.7s								
TAOE				*e*LR		LR	09 01 47.7		
	comp=Z,11μm,23.2s,baz=89								
PCED	**Cedros**	**60.44**	**45**	*e*P		**P**	**08 43 58.2**	**+3.0**	
HOR	**Horta**	**60.45**	**45**	*e*P		P	08 44 00.1	+4.9	
PCAN	**Candelaria**	**60.52**	**45**	*e*P		**P**	**08 43 55.4**	**-0.3**	
	comp=Z,86nm,1.7s								
PICO	**Pico**	**60.58**	**45**	*e*P		**P**	**08 43 58.2**	**+2.0**	
	comp=Z,111nm,1.4s								
PID	**Ribeirinha**	**60.77**	**45**	*e*P		**P**	**08 44 00.5**	**+3.0**	
	comp=Z,107nm,1.4s								
ROSA	**Rosais**	**60.80**	**45**	*e*P		**P**	**08 43 58.8**	**+1.1**	
	comp=Z,121nm,1.3s								
PMAN	**Manadas**	**60.87**	**45**	*e*P		**P**	**08 43 57.6**	**-0.5**	
	comp=Z,105nm,1.6s								
LLLB	**Lillooet**	**61.01**	**331**	P		**P**	**08 44 00.6**	**+1.7**	
CLRS	**Cowichan Lake**	**61.01**	**328**	IAmb		IAmb	08 44 11.2		
	comp=Z,46nm,1.3s								
SRBC	**Serra Branca**	**61.08**	**45**	*e*P		**P**	**08 44 00.5**	**+1.0**	
	comp=Z,221nm,1.3s								
PGRA	**Graciosa**	**61.12**	**45**	*e*P		**P**	**08 44 00.0**	**+0.2**	
	comp=Z,111nm,0.7s								
ADH	**Angra Heroismo**	**61.49**	**45**	*e*P		**P**	**08 44 03.6**	**+1.3**	
	comp=Z,38nm,0.6s								
PAGU	**Agualva, Azore**	**61.57**	**45**	*e*P		**P**	**08 44 04.5**	**+1.6**	
	comp=Z,183nm,1.6s								
PSET	**Sete Cidades**	**62.24**	**47**	*e*P		**P**	**08 44 08.9**	**+1.4**	
	comp=Z,305nm,2.3s								
PDA	**Ponta Delgada**	**62.26**	**47**	*e*P		**P**	**08 44 07.3**	**-0.2**	
PSMA	**Santa Maria**	**62.36**	**48**	*e*P		**P**	**08 44 09.1**	**+0.9**	
	comp=Z,87nm,2.0s								
CBB	**Campbell River**	**62.38**	**329**	IAmb		IAmb	08 44 18.6		
	comp=Z,98nm,1.2s								
PCALD	**Caldeiras da R**	**62.41**	**47**	*e*P		**P**	**08 44 09.9**	**+1.4**	
	comp=Z,118nm,0.3s								
PSMN	**Pico do Norte,**	**62.41**	**48**	*e*P		**P**	**08 44 10.1**	**+1.5**	
	comp=Z,88nm,1.6s								
BART	**Pico Bartolome**	**62.63**	**47**	*e*P		**P**	**08 44 11.0**	**+0.9**	
	comp=Z,249nm,1.4s								
FRB	**Frobisher Bay**	**63.58**	**6**	P		**P**	**08 44 13.6**	**-2.1**	
	comp=Z,6.6nm,0.9s,baz=198,slow=5.9,SNR=12								
FRB	**Frobisher Bay**	**63.58**	**6**	P		**P**	**08 44 11.5**	**-4.2**	
FRB	**Frobisher Bay**	**63.58**	**6**	⇑P		**P**	**08 44 13.6**	**-2.1**	
MBO	**M'Bour**	**64.05**	**74**	IAMs_20		IAMs_20	09 15 23.2		
	comp=Z,8μm,19.0s								
BBB	**Bella Bella**	**65.05**	**330**	P		**P**	**08 44 26.4**	**+0.8**	
	comp=Z,22nm,1.1s,baz=142,slow=16,SNR=1.5								
BBB	**Bella Bella**	**65.05**	**330**	⇑P		**P**	**08 44 30.1**	**+4.5**	
IVI	**Ivigtut**	**65.20**	**16**	P		**P**	**08 44 25.1**	**-1.2**	
IVI				IAmb		IAmb	08 44 32.7		
	comp=Z,48nm,1.0s								
IVI	**Ivigtut**	**65.20**	**16**	*i* P		**P**	**08 44 24.2**	**-2.2**	
IVI				IAmb		IAmb	08 44 31.9		
	comp=Z,17nm,0.8s								
HOPE	**Hope Point**	**65.51**	**154**	IAMs_20		IAMs_20	09 14 07.7		
	comp=Z,11μm,19.0s								
NRS	**Narsarsuaq**	**65.97**	**18**	*i* P		**P**	**08 44 31.1**	**-0.3**	
NRS				IAmb		IAmb	08 44 39.8		
	comp=Z,14nm,0.8s								
PMSA	**Palmer Station**	**66.31**	**172**	IAMs_20		IAMs_20	09 11 56.8		
	comp=Z,7μm,19.0s								
MACI	**Morro de la Ar**	**66.74**	**59**	P		**P**	**08 44 37.3**	**0.0**	
NUUK	**Nuuk**	**66.78**	**13**	*i* P		**P**	**08 44 35.5**	**-1.0**	
NUUK	**Nuuk**	**66.78**	**13**	⇓P		**P**	**08 44 36.4**	**-0.1**	
YKA	**Yellowknife Ar**	**66.86**	**343**	P		**P**	**08 44 36.3**	**-0.8**	
	comp=Z,14nm,0.9s,baz=137,slow=5.9,SNR=119								
PMOZ	**Porto Moniz, M**	**67.24**	**55**	*e*P		**P**	**08 44 38.9**	**-1.3**	
PMOZ				*e*S		**S**	**08 53 42.9**	**+7.4**	
PMOZ	**Porto Moniz, M**	**67.24**	**55**	*e*LR		LR	09 05 13.7		
	comp=Z,3μm,22.0s								
PMPST	**Porto Santo, M**	**68.00**	**54**	*e*P		**P**	**08 44 45.8**	**+0.8**	
SMAI	**San Martin Ant**	**69.22**	**175**	P		**P**	**08 44 53.6**	**+1.8**	
CRAG	**Craig**	**69.34**	**331**	P		**P**	**08 44 52.5**	**-0.3**	
CRAG	baz=122			S		**S**	**08 54 05.7**	**+6.1**	
	baz=122								
SFJD	**Kangerlussuaq**	**69.43**	**12**	P		**P**	**08 44 52.0**	**-1.1**	
	comp=Z,11nm,0.9s,baz=195,slow=6.1,SNR=6.4								
SFJD	**Kangerlussuaq**	**69.43**	**12**	P		**P**	**08 44 51.7**	**-1.4**	
SFJD				pmax		pmax			
SFJD	comp=Z,55nm,1.1s			MLR		MLR			
	comp=Z,7μm,21.0s								
SFJD	**Kangerlussuaq**	**69.43**	**12**	P		**P**	**08 44 51.7**	**-1.4**	
SFJD				IAmb		IAmb	08 44 58.7		
	comp=Z,55nm,1.1s								
SFJD	**Kangerlussuaq**	**69.43**	**12**	IAMs_20		IAMs_20	09 15 43.7		
	comp=Z,7μm,21.0s								
SFJD	**Kangerlussuaq**	**69.43**	**12**	*i* P		**P**	**08 44 51.0**	**-2.2**	
SFJD				IAmb		IAmb	08 44 57.4		
	comp=Z,11nm,0.9s								
SFJD	**Kangerlussuaq**	**69.43**	**12**	⇓P		**P**	**08 44 52.0**	**-1.1**	
SFJD				⇑P		**pP**	**08 44 56.5**	**+0.2**	
SFJD				⇓p		**sP**	**08 44 57.4**	**0.0**	
WRAK	**Wrangell Islan**	**69.48**	**332**	IAmb		IAmb	08 45 03.4		
	comp=Z,131nm,1.9s								
WRAK	**Wrangell Islan**	**69.48**	**332**	IAMs_20

MMPY S S 08 54 38.7 +2.5
baz=125
WHY Whitehorse 72.86 335 P P 08 45 14.0 -0.3
baz=121
WHY S S 08 54 42.3 +1.8
baz=121
NUUG Nuugaatsiaq 72.91 9 *i* P P 08 45 12.3 -1.8
NUUG IAmb IAmb 08 45 21.1
comp=Z,12nm,0.7s
FARO Faro, Yukon 73.09 337 P P 08 45 15.5 +0.1
baz=123,SNR=26
FARO S S 08 54 45.1 +2.3
baz=123
M31M Drury Creek, Y 73.48 337 IAmb IAmb 08 45 27.5
comp=Z,101nm,1.6s
M31M IAMs_20 IAMs_20 09 20 08.4
comp=Z,6µm,18.0s
M31M Drury Creek, Y 73.48 337 P P 08 45 18.0 +0.3
baz=122,SNR=20
M31M S SKiKP 08 54 50.4 +1.6
baz=122
ICESG Greenland Ices 73.59 14 *i* P P 08 45 16.2 -2.5
ICESG IAmb IAmb 08 45 24.3
comp=Z,58nm,0.8s
N31M Braeburn, Yuko 73.67 336 IAmb IAmb 08 45 28.4
comp=Z,95nm,1.4s
N31M IAMs_20 IAMs_20 09 22 28.4
comp=Z,8µm,18.0s
N31M Braeburn, Yuko 73.67 336 P P 08 45 19.5 +0.7
baz=121,SNR=24
N31M S S 08 54 51.0 +1.6
baz=121
HYT Haines Junctio 74.06 335 IAmb IAmb 08 45 31.3
comp=Z,141nm,1.9s
HYT Haines Junctio 74.06 335 P P 08 45 21.6 +0.3
baz=119,SNR=9.6
HYT S S 08 54 57.3 +3.2
baz=119
TTIG Tnine Tigouga, 74.08 58 P P 08 45 24.0 +1.9
PNL Peninsula 74.35 333 P P 08 45 23.5 +0.6
baz=117,SNR=7.4
PNL S S 08 55 01.9 +4.8
baz=117
RES Resolute Bay 74.48 356 P P 08 45 21.8 -1.5
comp=Z,10nm,1.2s,baz=173,slow=8.1,SNR=15
YUK6 Outpost Mounta 74.49 335 P P 08 45 24.3 +0.4
baz=118
YUK6 S S 08 55 03.2 +4.2
baz=118
C36M Paulatuk 74.56 345 P P 08 45 23.9 +0.1
baz=134
C36M S S 08 54 54.8 -4.3
baz=134
BCPM Bancas Point 74.59 333 IAmb IAmb 08 45 34.1
comp=Z,105nm,1.2s
BCPM IAMs_20 IAMs_20 09 19 31.8
comp=Z,7µm,20.0s
M30M Minto, Yukon 74.63 336 IAmb IAmb 08 45 33.8
comp=Z,102nm,1.6s
M30M IAMs_20 IAMs_20 09 21 18.9
comp=Z,7µm,19.0s
M30M Minto, Yukon 74.63 336 P P 08 45 24.5 0.0
baz=120,SNR=21
M30M S S 08 55 03.6 +3.3
baz=120
OUK Oukaimeden 74.67 58 P P 08 45 28.0 +2.2
YUK4 Talbot Arm 74.80 335 P P 08 45 25.7 0.0
baz=118,SNR=19
YUK4 S S 08 55 06.5 +4.0
baz=118
MAYO Mayo, Yukon 74.80 338 S S 08 55 04.6 +2.5
baz=121
SRHM Skhour des Reh 74.84 57 P P 08 45 28.0 +1.6
PFVI Vila Bisbo 74.89 52 *eP* P 08 45 27.7 +1.2
comp=Z,203nm,1.8s
PMAFR Mafra 74.90 50 *eP* P 08 45 27.4 +0.9
PMST Lisbon--Monsan 74.93 50 *eP* P 08 45 27.6 +0.9
comp=Z,209nm,2.1s
LIS Lisbon 74.95 50 *eP* P 08 45 27.7 +0.9
LIS *eS* S 08 55 05.2 +0.6
LIS IAMs_20 IAMs_20 09 15 53.4
comp=Z,6µm,24.7s
LIS Lisbon 74.95 50 *eP* P 08 45 27.7 +0.9
LIS *eS* S 08 55 05.1 +0.6
PTEO Sao Teotonio 75.05 51 *eP* P 08 45 26.8 -0.6
comp=Z,133nm,1.5s
MORF Marmelete 75.06 52 *eP* P 08 45 28.4 +0.9
MORF *ePP* PP 08 48 15.7 +0.1
MORF *eS* S 08 55 06.6 +0.5
MORF IAMs_20 IAMs_20 09 20 02.5
comp=Z,5µm,17.4s
MORF Marmelete 75.06 52 *eP* P 08 45 28.9 +1.4
comp=Z,198nm,2.1s
MORF Marmelete 75.06 52 *eP* P 08 45 28.4 +0.9
MORF *e* 08 48 15.7
MORF *eS* S 08 55 06.5 +0.5
LIC Lamto 75.28 84 *eP* P 08 45 28.7 -0.4
comp=Z,232nm,1.9s
TIC Toumodi 75.29 83 *eP* P 08 45 28.1 -1.1
PNCL Nicolau / Gran 75.31 51 *eP* P 08 45 28.8 -0.1
comp=Z,105nm,1.9s
AVE Averroes 75.37 56 P P 08 45 29.5 +0.2
AVE S S 08 55 11.9 +2.4
AVE Averroes 75.37 56 ⇑*p* P 08 45 31.0 +1.7
PSBE So Bento 75.38 49 *eP* P 08 45 30.4 +1.1
comp=Z,143nm,1.7s
DBIC Dimbokro 75.45 83 P P 08 45 30.2 +0.1
comp=Z,38nm,1.2s,baz=278,slow=7.5,SNR=22
DBIC Dimbokro 75.45 83 P P 08 45 29.6 -0.6
DBIC pmax pmax
comp=Z,341nm,1.8s
DBIC Dimbokro 75.45 83 P P 08 45 29.6 -0.6
TABL Table Mountain 75.48 333 IAmb IAmb 08 45 39.3
comp=Z,98nm,1.4s
KIC Kosan Boka 75.56 84 *eP* P 08 45 29.8 -1.0
comp=Z,601nm,2.1s
OUZM OUZ 75.57 58 P P 08 45 33.0 +2.3
LOGN Logan Glacier 75.58 334 IAmb IAmb 08 45 48.9
comp=Z,103nm,1.5s
PCVE Castro Verde 75.60 51 *eP* P 08 45 30.6 0.0
comp=Z,74nm,1.8s
PBDV Barranco-do-Ve 75.62 52 *eP* P 08 45 29.6 -1.1
comp=Z,98nm,1.6s
PCAS Casmilo, Conde 75.71 49 *eP* P 08 45 31.2 0.0
comp=Z,137nm,2.0s
PMTG Montargil 75.73 50 *eP* P 08 45 31.2 0.0
comp=Z,55nm,1.8s
YUK3 Moose Creek 75.77 335 P P 08 45 31.6 +0.4
baz=116,SNR=23
YUK3 S S 08 55 16.0 +2.8
baz=116
CTGM Chitina Glacie 75.79 334 IAmb IAmb 08 45 41.3
comp=Z,70nm,1.3s
EVO Evora 75.79 50 P P 08 45 30.6 -1.1
EVO S S 08 55 13.9 -0.1
CTG Chitna Glacier 75.79 334 P P 08 45 30.7 -0.6
baz=116,SNR=11
CTG S S 08 55 16.7 +3.3
baz=116
COI Coimbra 75.81 49 *eP* P 08 45 33.1 +1.4
comp=Z,173nm,1.6s
COI Coimbra 75.81 49 IAmb IAmb 08 46 06.0
comp=Z,104nm,1.1s
PVAQ Vaqueiros 75.81 52 *eP* P 08 45 31.5 -0.3
comp=Z,70nm,2.4s
PVAQ Vaqueiros 75.81 52 *eLR* LR 09 09 01.7
comp=Z,4µm,20.0s
GRNC Granite Creek 75.88 334 IAmb IAmb 08 45 41.6
comp=Z,82nm,1.2s
BARN Barnard Glacie 75.97 334 IAmb IAmb 08 45 42.4
comp=Z,105nm,1.5s
ZHG ZHG 76.03 56 P P 08 45 36.0 +2.8
ISLE Juniper Island 76.08 333 IAmb IAmb 08 45 42.5
comp=Z,81nm,1.2s
ISLE IAMs_20 IAMs_20 09 22 44.4
comp=Z,8µm,20.0s
TULEG Thule 76.11 3 IAMs_20 IAMs_20 09 19 26.5
comp=Z,9µm,22.0s
TULEG Thule 76.11 3 *i* P P 08 45 31.6 -1.0
TULEG IAmb IAmb 08 45 49.7
comp=Z,7.8nm,0.9s
TULEG IVmB_BB 08 47 42.5
comp=Z,773nm,7.1s
J29M Klondike Camp 76.12 338 P P 08 45 34.1 +1.0
baz=119,SNR=13
J29M S S 08 55 19.1 +2.3
baz=119

SNH Sunshine Point 76.14 333 IAmb IAmb 08 45 43.5
comp=Z,112nm,1.2s
PESTR Estremoz 76.18 50 *eP* P 08 45 34.1 +0.3
comp=Z,102nm,1.9s
PESTR Estremoz 76.18 50 IAmb IAmb 08 45 41.7
comp=Z,76nm,1.6s
BVCY Beaver Creek 76.22 335 P P 08 45 33.8 +0.2
baz=116,SNR=12
BVCY S S 08 55 21.1 +3.2
baz=116
PGAV Gavieira, Arco 76.27 47 *eP* P 08 45 35.4 +1.0
comp=Z,90nm,1.8s
PGAV *eS* S 08 55 21.0 +1.7
PGAV *eSS* SS 09 00 18.8 +5.6
PGAV *eLR* LR 09 10 16.6
comp=Z,5µm,20.0s
BGLC Bering Glacier 76.31 333 P P 08 45 33.9 -0.2
baz=114
BGLC S S 08 55 23.1 +4.3
baz=114
TGL Tana Glacier 76.37 333 IAmb IAmb 08 45 44.1
comp=Z,118nm,1.3s
TGL IAMs_20 IAMs_20 09 22 52.8
comp=Z,6µm,20.0s
DAWY Dawson 76.39 337 IAmb IAmb 08 45 43.4
comp=Z,70nm,1.4s
DAWY Dawson 76.39 337 P P 08 45 33.9 -0.7
baz=118,SNR=28
DAWY S S 08 55 22.0 +2.4
baz=118
PMRV Marv??o 76.43 50 *eP* P 08 45 35.1 -0.2
comp=Z,51nm,1.7s
PMRV *eS* S 08 55 24.2 +3.2
PMRV Marv??o 76.43 50 *eLR* LR 09 10 22.6
comp=Z,3µm,20.0s
ZGR Zagora 76.44 59 P P 08 45 39.0 +3.4
PCBR Castelo Branco 76.44 49 *eP* P 08 45 38.2 +2.9
comp=Z,79nm,1.6s
PBAR Barrancos 76.48 51 *eP* P 08 45 34.5 -1.0
comp=Z,37nm,2.0s
MTE Manteigas 76.50 49 *eP* P 08 45 40.0 +4.3
comp=Z,94nm,1.8s
MTE *eS* S 08 55 24.4 +2.6
MTE *eSS* SS 09 00 29.4 +13
MTE *eLR* LR 09 10 27.8
comp=Z,3µm,22.0s
POLO Lamas de Olo 76.50 48 *eP* P 08 45 36.6 +0.9
comp=Z,48nm,2.0s
EPYK Eagle Plains 76.55 340 IAMs_20 IAMs_20 09 21 21.2
comp=Z,5µm,19.0s
EPYK Eagle Plains 76.55 340 P P 08 45 34.8 -0.6
baz=121
EPYK S S 08 55 24.4 +3.1
baz=121
KOWA Kowa 76.55 75 P P 08 45 35.9 -0.4
KOWA IAMs_20 IAMs_20 09 20 33.6
comp=Z,8µm,18.0s
KOWA Kowa 76.55 75 ⇓*P* P 08 45 36.4 +0.1
KOWA ⇓*P* P 08 45 36.5 +0.1
KOWA Kowa 76.55 75 P P 08 45 36.5 +0.1
INK Inuvik 76.56 342 P P 08 45 35.7 +0.4
comp=Z,33nm,1.0s,baz=108,slow=6.2,SNR=68
INK Inuvik 76.56 342 P P 08 45 33.0 -2.3
INK Inuvik 76.56 342 P P 08 45 34.9 -0.5
baz=124,SNR=64
INK S S 08 55 23.0 +1.8
baz=124
TZRR Tazzarine 76.56 59 P P 08 45 39.0 +2.7
I29M Ogilvie Camp, 76.60 339 IAmb IAmb 08 45 44.9
comp=Z,164nm,1.8s
I29M IAMs_20 IAMs_20 09 23 07.7
comp=Z,8µm,21.0s
I29M Ogilvie Camp, 76.60 339 P P 08 45 34.9 -0.8
baz=119,SNR=36
I29M S S 08 55 24.3 +2.4
baz=119
BERG Berg Lake 76.61 333 IAmb IAmb 08 45 55.6
comp=Z,136nm,1.4s
M27K Edge Creek, AK 76.62 335 IAmb IAmb 08 45 45.7
comp=Z,77nm,1.2s
M27K Edge Creek, AK 76.62 335 P P 08 45 35.2 -0.8
baz=115,SNR=27
M27K S S 08 55 26.9 +4.3
baz=115
BORG Borgarnes 76.65 22 IAMs_20 IAMs_20 09 17 18.6
comp=Z,7µm,22.0s
A36M Sachs Harbour 76.68 347 P P 08 45 34.9 -1.0
baz=133,SNR=46
A36M S S 08 55 18.8 -3.7
baz=133
MCARA McCarthy VSAT 76.71 334 P P 08 45 37.2 +0.8
baz=114,SNR=26
MCARA S S 08 55 26.8 +3.7
baz=114
KAIM Kayak Island 76.76 332 IAMs_20 IAMs_20 09 17 42.5
comp=Z,8µm,21.0s
KAIM Kayak Island 76.76 332 P P 08 45 36.2 -0.5
baz=112
KAIM S S 08 55 29.1 +5.3
baz=112
VRDI Verde Repeater 76.83 334 IAmb IAmb 08 45 46.8
comp=Z,94nm,1.3s
VRDI IAMs_20 IAMs_20 09 23 14.3
comp=Z,7µm,20.0s
SFS San Fernando 76.85 53 P P 08 45 37.5 -0.2
SFS S S 08 55 32.3 +6.7
L27K Beaver Creek, 76.91 336 IAmb IAmb 08 45 47.2
comp=Z,150nm,1.6s
L27K IAMs_20 IAMs_20 09 20 26.0
comp=Z,5µm,19.0s
L27K Beaver Creek, 76.91 336 P P 08 45 37.6 +0.1
baz=116,SNR=42
L27K S S 08 55 28.9 +3.6
baz=116
MVO Moncorvo 77.02 48 *eP* P 08 45 38.6 -0.1
comp=Z,72nm,1.6s
MVO *eS* S 08 55 31.9 +4.4
MVO Moncorvo 77.02 48 *eLR* LR 09 09 57.3
comp=Z,3µm,20.0s
RAGM Ragged Mountai 77.06 333 IAmb IAmb 08 45 48.2
comp=Z,119nm,1.3s
GLB Gilahina Butte 77.08 334 IAmb IAmb 08 45 48.1
comp=Z,88nm,1.3s
GLB IAMs_20 IAMs_20 09 23 20.7
comp=Z,7µm,20.0s
M26K Nabesna, AK 77.11 335 IAmb IAmb 08 45 49.0
comp=Z,95nm,1.5s
M26K Nabesna, AK 77.11 335 P P 08 45 38.8 +0.1
baz=114,SNR=19
M26K S S 08 55 30.1 +2.4
baz=114
BMRM Bremner River 77.25 333 IAmb IAmb 08 45 49.0
comp=Z,131nm,1.4s
BMRM Bremner River 77.25 333 P P 08 45 39.1 -0.4
baz=112,SNR=11
BMRM S S 08 55 30.3 +1.2
baz=112
IFR Ifrane 77.30 56 P P 08 45 40.2 -0.3
IFR S S 08 55 33.6 +2.5
CZD Col de Zad 77.30 56 P P 08 45 44.0 +3.3
PBRG Braganca 77.35 47 *eP* P 08 45 39.8 -0.7
comp=Z,66nm,1.9s
EGAK Eagle 77.39 337 IAmb IAmb 08 45 49.3
comp=Z,94nm,1.2s
EGAK IAMs_20 IAMs_20 09 22 18.8
comp=Z,8µm,19.0s
EGAK Eagle 77.39 337 P P 08 45 40.4 +0.2
baz=116,SNR=44
EGAK S S 08 55 32.2 +1.7
baz=116
CEU Ceuta 77.43 53 P P 08 45 42.3 +1.4
CEU S S 08 55 35.9 +4.0
N25K Chitina, Valde 77.49 334 IAMs_20 IAMs_20 09 23 23.6
comp=Z,6µm,20.0s
N25K Chitina, Valde 77.49 334 P P 08 45 41.1 +0.2
baz=113
N25K S S 08 55 33.7 +1.8
baz=113
L26K Log Cabin Wild 77.52 335 IAmb IAmb 08 45 45.3
comp=Z,47nm,1.2s
L26K IAMs_20 IAMs_20 09 21 27.2
comp=Z,8µm,20.0s
L26K Log Cabin Wild 77.52 335 P P 08 45 41.3 +0.4
baz=114,SNR=19
L26K S S 08 55 34.3 +2.3
baz=114
LCRM LCR 77.54 56 P P 08 45 45.1 +3.2

EYAK Cordova Ski Ar 77.61 333 IAmb IAmb 08 45 51.0
comp=Z,104nm,1.6s
EYAK Cordova Ski Ar 77.61 333 P P 08 45 41.4 -0.1
baz=111
EYAK S S 08 55 33.9 +0.9
baz=111
MDT Midelt 77.64 57 LR LR 09 17 11.3
comp=Z,5µm,21.0s,baz=286,slow=34
MDT Midelt 77.64 57 P P 08 45 44.0 +1.7
MENT Mentasta 77.64 335 IAmb IAmb 08 45 52.0
comp=Z,143nm,1.9s
DIV Divide 77.84 333 IAmb IAmb 08 45 51.8
comp=Z,88nm,1.6s
KLU Klutina 78.04 333 IAmb IAmb 08 45 52.9
comp=Z,61nm,1.1s
KLU IAMs_20 IAMs_20 09 25 14.0
comp=Z,6µm,20.0s
KLU Klutina 78.04 333 P P 08 45 43.9 0.0
baz=111,SNR=9.1
KLU S S 08 55 38.2 +0.4
baz=111
HARP HAARP 78.04 334 P P 08 45 43.3 -0.5
baz=112
HARP S S 08 55 39.2 +1.6
baz=112
DOT Dot Lake 78.07 336 IAmb IAmb 08 45 53.2
comp=Z,78nm,1.4s
SCRK Sand Creek 78.17 336 IAmb IAmb 08 45 53.8
comp=Z,92nm,1.6s
SCRK IAMs_20 IAMs_20 09 23 26.3
comp=Z,8µm,18.0s
SCRK Sand Creek 78.17 336 P P 08 45 45.1 +0.5
baz=114,SNR=20
SCRK S S 08 55 41.4 +2.3
baz=114
PVLZ Peæn de 78.19 54 P P 08 45 42.2 -3.0
PVLZ S S 08 55 40.2 0.0
J26L Joseph Creek 78.21 337 P P 08 45 45.3 +0.5
baz=114,SNR=36
J26L S S 08 55 41.7 +2.1
baz=114
GLI Glacier Island 78.35 333 IAMs_20 IAMs_20 09 25 21.4
comp=Z,7µm,18.0s
GLI Glacier Island 78.35 333 P P 08 45 45.0 -0.6
baz=110
GLI S S 08 55 41.4 +0.4
baz=110
M24K Tolsona, Glenn 78.37 334 IAMs_20 IAMs_20 09 23 49.9
comp=Z,5µm,18.0s
M24K Tolsona, Glenn 78.37 334 P P 08 45 46.2 +0.5
baz=111,SNR=8.4
M24K S S 08 55 41.0 -0.3
baz=111
PAX Paxson 78.39 335 IAmb IAmb 08 45 54.6
comp=Z,68nm,1.4s
PAX Paxson 78.39 335 P P 08 45 45.4 -0.4
baz=112,SNR=14
PAX S S 08 55 41.6 +0.1
baz=112
RIDG Independent Ri 78.42 336 IAmb IAmb 08 45 55.1
comp=Z,108nm,1.4s
RIDG IAMs_20 IAMs_20 09 22 17.1
comp=Z,6µm,20.0s
RIDG Independent Ri 78.42 336 P P 08 45 46.5 +0.5
baz=113,SNR=14
RIDG S S 08 55 43.3 +1.5
baz=113
PAB San Pablo 78.77 50 P P 08 45 48.7 +0.3
PAB pmax pmax
comp=Z,30nm,1.0s
PAB MLR MLR
comp=Z,4µm,20.0s
PAB San Pablo 78.77 50 P P 08 45 48.7 +0.3
SCM Sheep Creek Mo 78.78 334 IAmb IAmb 08 46 10.1
comp=Z,72nm,1.1s
SCM IAMs_20 IAMs_20 09 25 45.8
comp=Z,6µm,18.0s
SCM Sheep Creek Mo 78.78 334 P P 08 45 47.8 -0.2
baz=110
SCM S S 08 55 46.8 +1.0
baz=110
PWL Port Wells 78.91 332 IAMs_20 IAMs_20 09 23 17.3
comp=Z,7µm,20.0s
PWL Port Wells 78.91 332 P P 08 45 48.3 -0.4
baz=109
PWL S S 08 55 46.0 -1.1
baz=109
J25K Salcha River, 78.97 337 IAmb IAmb 08 45 58.0
comp=Z,115nm,1.6s
GUD Guadarrama 79.08 49 P P 08 45 46.1 -4.1
ESDC Sonseca Array 79.08 50 P P 08 45 50.2 0.0
comp=Z,8.3nm,0.9s,baz=267,slow=5.2,SNR=36
ESDC Sonseca Array 79.08 50 IAmb IAmb 08 45 58.4
comp=Z,164nm,1.9s
ESBB Sonseca Array 79.09 50 IAmb IAmb 08 45 51.8
comp=Z,160nm,1.8s
KNK Knik Glacier 79.15 333 IAmb IAmb 08 45 59.0
comp=Z,76nm,1.2s
KNK Knik Glacier 79.15 333 P P 08 45 49.6 -0.4
baz=109,SNR=7.9
KNK S S 08 55 49.3 -0.3
baz=109
SEW Seward 79.20 332 P P 08 45 50.5 +0.3
baz=108
SEW S S 08 55 49.5 -0.5
baz=108
WAT6 Susitna Watana 79.22 334 P P 08 45 50.2 -0.3
baz=110,SNR=23
WAT6 S S 08 55 49.7 -0.9
baz=110
SML Sawmill 79.22 333 IAmb IAmb 08 45 59.3
comp=Z,122nm,1.4s
SML IAMs_20 IAMs_20 09 24 52.4
comp=Z,6µm,18.0s
SML Sawmill 79.22 333 P P 08 45 49.6 -0.8
baz=109,SNR=5.4
SML S S 08 55 49.7 -0.7
baz=109
DHY Denali Highway 79.24 335 IAMs_20 IAMs_20 09 23 32.7
comp=Z,6µm,18.0s
DHY Denali Highway 79.24 335 P P 08 45 50.3 -0.3
baz=110
DHY S S 08 55 49.7 -1.0
baz=110
SCO Scoresbysund 79.25 17 P P 08 45 48.1 -2.2
SCO Scoresbysund 79.25 17 IAMs_20 IAMs_20 09 22 48.2
comp=Z,7µm,19.0s
O22K Cooper Landing 79.44 332 IAMs_20 IAMs_20 09 22 45.3
comp=Z,6µm,19.0s
O22K Cooper Landing 79.44 332 P P 08 45 50.5 -1.0
baz=108
O22K S S 08 55 51.8 -0.7
baz=108
JBK JBK 79.51 55 P P 08 45 55.2 +2.4
PMR Palmer 79.52 333 P P 08 45 49.9 -2.0
PMR Palmer 79.52 333 IAmb IAmb 08 46 00.6
comp=Z,74nm,1.5s
PMR Palmer 79.52 333 P P 08 45 52.0 +0.1
baz=108
PMR S S 08 55 53.7 +0.4
baz=108
RC01 Rabbit Creek A 79.64 332 IAmb IAmb 08 46 01.4
comp=Z,191nm,1.8s
RC01 IAMs_20 IAMs_20 09 23 40.4
comp=Z,5µm,20.0s
RC01 Rabbit Creek A 79.64 332 P P 08 45 52.4 -0.2
baz=108
RC01 S S 08 55 54.4 -0.3
baz=108
IL31 79.64 336 IAmb IAmb 08 46 01.1
comp=Z,95nm,1.6s
ILAR Eielson Array 79.64 336 P P 08 45 52.4 -0.1
comp=Z,12nm,1.1s,baz=121,slow=3.7,SNR=37
BRSE Bradley Lake S 79.71 331 S S 08 55 56.3 +0.7
baz=107
UCM Universidad Co 79.72 49 P P 08 45 53.0 -0.5
UCM S S 08 55 59.7 +3.2
BRLK Bradley Lake 79.79 331 IAmb IAmb 08 45 57.2
comp=Z,115nm,1.3s
BRLK IAMs_20 IAMs_20 09 22 30.6
comp=Z,4µm,20.0s
TDRA Tendrara 79.82 57 P P 08 45 58.0 +3.5
FIS Fire Island 79.88 332 IAMs_20 IAMs_20 09 25 20.7
comp=Z,6µm,20.0s
CNPM China Poot 79.89 331 IAMs_20 IAMs_20 09 24 42.2
comp=Z,5µm,20.0s
CCB Clear Creek Bu 79.96 336 IAMs_20 IAMs_20 09 24 08.7
comp=Z,6µm,19.0s

POKR	**Poker Plat Res**	79.98	337	P		**P**	08 45 54.5	+0.1	
	baz=111								
POKR				S		**S**	08 55 55.7	-2.5	
	baz=111								
RND	**Reindeer**	79.98	335	IAmb		IAmb	08 46 13.5		
RND	comp=Z,124nm,1.5s			IAMs_20		IAMs_20	09 22 27.3		
	comp=Z,7μm,19.0s								
M22K	**Willow**	80.01	333	IAmb		IAmb	08 45 58.9		
	comp=Z,90nm,1.1s								
M22K	**Willow**	80.01	333	P		**P**	08 45 53.8	-0.8	
	baz=108,SNR=6.8								
M22K				S		**S**	08 55 58.4	-0.2	
	baz=108								
WRH	**Wood River Hil**	80.02	336	IAMs_20		IAMs_20	09 23 58.2		
	comp=Z,6μm,19.0s								
COLA	**College**	80.06	336	*d* P		**P**	08 45 54.7	-0.1	
COLA				pmax		pmax			
	comp=Z,56nm,1.8s								
COLA				MLR		MLR			
	comp=Z,5μm,17.0s								
COLA	**College**	80.06	336	P		**P**	08 45 55.1	+0.3	
COLA				IAmb		IAmb	08 46 03.3		
	comp=Z,131nm,1.9s								
COLA	**College**	80.06	336	IAMs_20		IAMs_20	09 24 13.4		
	comp=Z,6μm,19.0s								
COLA	**College**	80.06	336	P		**P**	08 45 55.0	+0.2	
	baz=110								
COLA				S		**S**	08 55 58.2	-0.8	
	baz=110								
TCOL	**CIGO, UAF Yank**	80.06	336	IAmb		IAmb	08 46 03.3		
	comp=Z,106nm,1.8s								
TCOL				IAMs_20		IAMs_20	09 24 13.4		
	comp=Z,6μm,19.0s								
TCOL	**CIGO, UAF Yank**	80.06	336	P		**P**	08 45 55.0	+0.2	
	baz=110								
TCOL				S		**S**	08 55 58.7	-0.3	
	baz=110								
KDAK	**Kodiak Island**	80.10	329	*i* P		**P**	08 45 55.6	+0.5	
KDAK				pmax		pmax			
	comp=Z,72nm,1.3s								
KDAK				MLR		MLR			
	comp=Z,6μm,16.0s								
KDAK	**Kodiak Island**	80.10	329	IAMs_20		IAMs_20	09 20 52.0		
	comp=Z,5μm,19.0s								
KDAK	**Kodiak Island**	80.10	329	S		**S**	08 56 00.3	+0.7	
	baz=105								
MCK	**McKinley**	80.12	335	IAmb		IAmb	08 46 04.0		
	comp=Z,85nm,1.6s								
MCK				IAMs_20		IAMs_20	09 22 59.0		
	comp=Z,6μm,20.0s								
MCK	**McKinley**	80.12	335	P		**P**	08 45 54.8	-0.4	
	baz=109,SNR=9.7								
MCK				S		**S**	08 55 59.0	-0.8	
	baz=109								
CAPN	**Captain Cook N**	80.20	332	P		**P**	08 45 55.7	+0.1	
	baz=106								
CAPN				S		**S**	08 56 02.4	+1.8	
	baz=106								
MDM	**Murphy Dome**	80.24	336	IAmb		IAmb	08 46 04.5		
	comp=Z,83nm,1.5s								
MDM				IAMs_20		IAMs_20	09 24 19.1		
	comp=Z,7μm,20.0s								
CUT	**Chulitna**	80.28	334	IAmb		IAmb	08 46 14.4		
	comp=Z,118nm,1.3s								
CUT				IAMs_20		IAMs_20	09 24 39.2		
	comp=Z,5μm,19.0s								
CUT	**Chulitna**	80.28	334	P		**P**	08 45 54.8	-1.2	
	baz=108,SNR=5.4								
CUT				S		**S**	08 56 01.3	0.0	
	baz=108								
OHAK	**Old Harbor**	80.33	328	P		**P**	08 45 55.1	-1.3	
	baz=104								
OHAK				S		**S**	08 56 00.6	-1.5	
	baz=104								
FIGM	**Figuig**	80.37	58	P		**P**	08 45 60.0	+2.6	
H24K	**Noodor Dome**	80.41	337	IAmb		IAmb	08 46 05.8		
	comp=Z,104nm,1.6s								
H24K	**Noodor Dome**	80.41	337	P		**P**	08 45 56.4	-0.4	
	baz=110,SNR=28								
H24K				S		**S**	08 56 03.0	+0.2	
	baz=110								
RAR	**Rarotonga**	80.43	248	IAMs_20		IAMs_20	09 13 50.2		
	comp=Z,7μm,20.0s								
NEA2	**Nenana**	80.46	336	IAmb		IAmb	08 46 05.6		
	comp=Z,84nm,1.5s								
NEA2				IAMs_20		IAMs_20	09 23 16.8		
	comp=Z,5μm,20.0s								
NEA2	**Nenana**	80.46	336	P		**P**	08 45 57.5	+0.5	
	baz=109								
NEA2				S		**S**	08 56 02.3	-1.0	
	baz=109								
BWN	**Browne**	80.48	335	IAmb		IAmb	08 46 12.6		
	comp=Z,122nm,1.4s								
BWN				IAMs_20		IAMs_20	09 25 14.8		
	comp=Z,6μm,22.0s								
TRF	**Thorofare Moun**	80.61	335	IAmb		IAmb	08 46 07.6		
	comp=Z,165nm,1.9s								
TRF				IAMs_20		IAMs_20	09 24 25.8		
	comp=Z,7μm,18.0s								
TRF	**Thorofare Moun**	80.61	335	P		**P**	08 45 57.0	-1.0	
	baz=108								
TRF				S		**S**	08 56 04.0	-1.1	
	baz=108								
SII	**Sitkinak Islan**	80.65	327	IAMs_20		IAMs_20	09 27 25.6		
	comp=Z,5μm,19.0s								
SII	**Sitkinak Islan**	80.65	327	P		**P**	08 45 57.8	-0.3	
	baz=103								
O20K	**Slope Mountain**	80.72	331	P		**P**	08 45 57.1	-1.4	
	baz=105								
O20K				S		**S**	08 56 06.1	-0.1	
	baz=105								
I23K	**Minto, Yukon-K**	80.76	336	IAmb		IAmb	08 46 07.4		
	comp=Z,100nm,1.5s								
I23K				IAMs_20		IAMs_20	09 24 33.7		
	comp=Z,6μm,18.0s								
I23K	**Minto, Yukon-K**	80.76	336	P		**P**	08 45 57.6	-0.9	
	baz=109,SNR=19								
I23K				S		**S**	08 56 05.8	-0.4	
	baz=109								
P19K	**Oil Pt**	80.90	331	P		**P**	08 45 57.5	-2.0	
	baz=104								
P19K				S		**S**	08 56 07.1	-1.0	
	baz=104								
KTH	**Kantishna Hill**	80.91	335	IAmb		IAmb	08 46 07.9		
	comp=Z,65nm,1.4s								
KTH				IAMs_20		IAMs_20	09 24 43.8		
	comp=Z,7μm,18.0s								
Q19K	**Cape Douglas,**	80.93	330	P		**P**	08 45 57.2	-2.5	
	baz=104								
Q19K				S		**S**	08 56 07.7	-0.7	
	baz=104								
H23K	**Yukon River**	81.05	337	IAmb		IAmb	08 46 08.9		
	comp=Z,88nm,1.9s								
H23K				IAMs_20		IAMs_20	09 23 17.3		
	comp=Z,8μm,21.0s								
H23K	**Yukon River**	81.05	337	P		**P**	08 45 58.7	-1.4	
	baz=109,SNR=10								
H23K				S		**S**	08 56 07.9	-1.5	
	baz=109								
BPAW	**Bear Paw Mtn.**	81.10	335	IAmb		IAmb	08 46 08.9		
	comp=Z,80nm,1.4s								
BPAW	**Bear Paw Mtn.**	81.10	335	P		**P**	08 45 58.5	-1.9	
	baz=107,SNR=19								
BPAW				S		**S**	08 56 07.7	-2.3	
	baz=107								
CART	**Cartagena**	81.13	52	P		**P**	08 45 58.8	-2.3	
CART				S		**S**	08 56 14.8	+3.6	
PPLA	**Purkeypile**	81.27	334	P		**P**	08 46 00.1	-1.5	
	baz=106,SNR=12								
PPLA				S		**S**	08 56 10.1	-2.0	
	baz=106								
CAST	**Castle Rocks**	81.37	334	IAMs_20		IAMs_20	09 23 21.0		
	comp=Z,7μm,19.0s								
CAST	**Castle Rocks**	81.37	334	P		**P**	08 46 00.6	-1.3	
	baz=106,SNR=12								
CAST				S		**S**	08 56 10.6	-2.2	
	baz=106								
O19K	**Port Alsworth**	81.57	331	IAmb		IAmb	08 46 15.4		
	comp=Z,164nm,2.0s								
O19K				IAMs_20		IAMs_20	09 25 46.5		
	comp=Z,4μm,19.0s								
O19K	**Port Alsworth**	81.57	331	P		**P**	08 46 00.3	-2.6	
	baz=104								
O19K				S		**S**	08 56 12.6	-2.2	
	baz=104								
SJPF	**Ste Jean**	81.59	47	*eP*		**P**	08 46 04.2	+0.7	
SJPF				pmax		pmax			
	comp=Z,428nm,2.5s								
CHUM	**Lake Minchumin**	81.60	335	P		**P**	08 46 02.0	-1.0	
	baz=106,SNR=9.0								
CHUM				S		**S**	08 56 11.8	-3.3	
	baz=106								
DBG	**Daneborg**	81.60	14	*i* P		**P**	08 46 02.2	-0.6	
DBG				IVmB_BB			08 46 06.2		
	comp=Z,948nm,9.2s								
DBG				IAmb		IAmb	08 46 12.3		
	comp=Z,2.4nm,0.8s								
COLD	**Coldfoot**	81.75	338	IAmb		IAmb	08 46 13.5		
	comp=Z,75nm,1.5s								
COLD	**Coldfoot**	81.75	338	P		**P**	08 46 02.4	-1.4	
	baz=108,SNR=23								
COLD				S		**S**	08 56 19.0	+2.5	
	baz=108								
N19K	**Bonanza Creek**	81.79	332	IAmb		IAmb	08 46 33.3		
	comp=Z,84nm,1.8s								
N19K	**Bonanza Creek**	81.79	332	P		**P**	08 46 02.4	-1.9	
	baz=104								
N19K				S		**S**	08 56 14.3	-3.2	
	baz=104								
I21K	**Tanana**	81.82	336	IAmb		IAmb	08 46 12.5		
	comp=Z,116nm,2.0s								
I21K				IAMs_20		IAMs_20	09 21 45.9		
	comp=Z,5μm,21.0s								
I21K	**Tanana**	81.82	336	P		**P**	08 46 03.0	-1.2	
	baz=106								
I21K				S		**S**	08 56 15.4	-1.9	
	baz=106								
L20K	**Farewell, AK**	81.91	333	P		**P**	08 46 03.2	-1.6	
	baz=104								
L20K				S		**S**	08 56 15.9	-2.6	
	baz=104								
O18K	**Koktuh Hills**	81.92	331	IAmb		IAmb	08 48 17.1		
	comp=Z,68nm,1.4s								
O18K	**Koktuh Hills**	81.92	331	P		**P**	08 46 03.7	-1.2	
	baz=103								
O18K				S		**S**	08 56 16.9	-1.7	
	baz=103								
TOLK	**Toolik Lake Re**	81.98	340	P		**P**	08 46 04.9	-0.2	
	baz=109,SNR=9.4								
TOLK				S		**S**	08 56 18.3	-0.7	
	baz=109								
M19K	**Big River Lodg**	82.01	333	IAmb		IAmb	08 46 22.7		
	comp=Z,95nm,1.8s								
M19K				IAMs_20		IAMs_20	09 26 13.0		
	comp=Z,7μm,20.0s								
M19K	**Big River Lodg**	82.01	333	P		**P**	08 46 03.9	-1.3	
	baz=104								
M19K				S		**S**	08 56 18.9	-0.6	
	baz=104								
TOA0	**Torodi Ar. Sit**	82.05	77	P		**P**	08 46 05.7	-0.7	
TORD	**Torodi Ar. Bea**	82.05	77	P		**P**	08 46 05.4	-1.0	
	comp=Z,19nm,1.1s,baz=269,slow=3.6,SNR=64								
TORD	**Torodi Ar. Bea**	82.05	77	P		**P**	08 46 05.3	-1.1	
BELA	**Belgrano 2**	82.11	171	P		**P**	08 46 06.0	+0.4	
ESK	**Eskdalemuir**	82.15	34	P		**P**	08 46 05.4	-0.7	
ESK				pmax		pmax			
	comp=Z,44nm,1.2s								
ESK	**Eskdalemuir**	82.15	34	P		**P**	08 46 05.4	-0.7	
ESK				IAmb		IAmb	08 46 16.4		
	comp=Z,44nm,1.1s								
EKA	**Eskdalemuir Ar**	82.18	34	P		**P**	08 46 06.0	-0.3	
	comp=Z,7.4nm,0.9s,baz=255,slow=4.3,SNR=16								
K20K	**Telida**	82.22	334	IAmb		IAmb	08 46 14.7		
	comp=Z,91nm,1.4s								
K20K				IAMs_20		IAMs_20	09 25 28.4		
	comp=Z,6μm,18.0s								
K20K	**Telida**	82.22	334	P		**P**	08 46 05.5	-0.9	
	baz=104,SNR=14								
K20K				S		**S**	08 56 19.5	-2.1	
	baz=104								
L19K	**White Mountain**	82.28	333	IAMs_20		IAMs_20	09 25 09.3		
	comp=Z,6μm,19.0s								
L19K	**White Mountain**	82.28	333	P		**P**	08 46 06.0	-0.7	
	baz=103,SNR=9.5								
L19K				S		**S**	08 56 20.8	-1.5	
	baz=103								
H21K	**Melozitna Rive**	82.28	336	IAMs_20		IAMs_20	09 24 07.1		
	comp=Z,7μm,21.0s								
H21K	**Melozitna Rive**	82.28	336	P		**P**	08 46 05.2	-1.5	
	baz=106								
H21K				S		**S**	08 56 21.3	-0.8	
	baz=106								
N18K	**Kilae Creek**	82.43	331	IAmb		IAmb	08 46 15.8		
	comp=Z,118nm,1.5s								
N18K				IAMs_20		IAMs_20	09 27 01.4		
	comp=Z,6μm,18.0s								
N18K	**Kilae Creek**	82.43	331	P		**P**	08 46 07.0	-0.5	
	baz=102,SNR=10.0								
N18K				S		**S**	08 56 20.6	-3.3	
	baz=102								
J20K	**Nowinta River**	82.45	335	IAmb		IAmb	08 46 15.8		
	comp=Z,92nm,1.7s								
J20K				IAMs_20		IAMs_20	09 26 15.6		
	comp=Z,6μm,18.0s								
J20K	**Nowinta River**	82.45	335	P		**P**	08 46 06.5	-1.1	
	baz=104,SNR=12								
J20K				S		**S**	08 56 22.2	-1.7	
	baz=104								
GRR	**Gorron**	82.51	41	*eP*		**P**	08 46 08.2	0.0	
GRR				pmax		pmax			
	comp=Z,66nm,1.1s								
EPF	**Esparros**	82.72	47	*eP*		**P**	08 46 09.7	+0.2	
EPF				pmax		pmax			
	comp=Z,92nm,1.6s								
MFF	**Saint Martin d**	82.77	43	*eP*		**P**	08 46 09.7	+0.1	
MFF				pmax		pmax			
	comp=Z,60nm,1.3s								
TTA	**Tatalina**	82.97	333	IAmb		IAmb	08 46 19.3		
	comp=Z,50nm,1.5s								
TTA	**Tatalina**	82.97	333	P		**P**	08 46 09.6	-0.8	
	baz=102,SNR=6.9								
TTA				S		**S**	08 56 27.4	-2.1	
	baz=102								
LDF	**La Druitiere**	83.02	41	*eP*		**P**	08 46 10.9	+0.1	
LDF				pmax		pmax			
	comp=Z,58nm,1.1s								
DAG	**Danmarks Havn**	83.11	12	P		**P**	08 46 07.7	-3.0	
DAG	**Danmarks Havn**	83.11	12	*i* P		**P**	08 46 08.0	-2.7	
DAG				IVmB_BB			08 49 40.6		
	comp=Z,1μm,6.3s								
GCSA	**Galena City Sc**	83.73	335	P		**P**	08 46 14.3	+0.2	
	baz=102,SNR=9.5								
GCSA				S		**S**	08 56 35.2	-1.6	
	baz=102								
RJF	**Les Rejaudoux**	83.78	45	*eP*		**P**	08 46 15.0	+0.1	
RJF				pmax		pmax			
	comp=Z,151nm,1.9s								
SDPT	**Sand Point**	83.91	326	S		**S**	08 56 40.6	+1.6	
	baz=98								
CAF	**Calviac**	84.14	45	*eP*		**P**	08 46 16.9	+0.2	
CAF				pmax		pmax			
	comp=Z,142nm,1.8s								
TCF	**Toulx Ste Croi**	84.36	44	*eP*		**P**	08 46 17.6	-0.2	
TCF				pmax		pmax			
	comp=Z,35nm,1.1s								
VNA3	**Neumayer Olymp**	84.42	162	P		**P**	08 46 19.0	+1.5	
VNA1	**Neumayer--Stat**	84.68	161	P		**P**	08 46 20.2	+1.4	
BGF	**Bois d'Agland**	84.82	43	*eP*		**P**	08 46 20.2	+0.1	
BGF				pmax		pmax			
	comp=Z,137nm,1.7s								
VNA2	**Neumayer--Watz**	85.03	162	P		**P**	08 46 21.9	+1.3	
	baz=297,slow=2.0								
A21K	**Barrow**	85.05	342	IAMs_20		IAMs_20	09 30 39.8		
	comp=Z,6μm,19.0s								
A21K	**Barrow**	85.05	342	S		**S**	08 56 47.3	-2.4	
	baz=103								
AVF	**Avril sur Loir**	85.18	43	*eP*		**P**	08 46 21.6	-0.3	
AVF				pmax		pmax			
	comp=Z,31nm,1.1s								
SSF	**Saint Saulge**	85.31	43	*eP*		**P**	08 46 22.2	-0.3	
SSF				pmax		pmax			
	comp=Z,82nm,1.7s								
MAHO	**Mahon**	85.42	50	P		**P**	08 46 23.2	+0.1	
MAHO				S		**S**	08 56 57.3	+2.7	
LOR	**Lormes**	85.56	43	*eP*		**P**	08 46 23.5	-0.3	
LOR				pmax		pmax			
	comp=Z,120nm,2.0s								
NOR	**Nord**	85.64	8	*i* P		**P**	08 46 23.9	+0.4	
NOR				IVmB_BB			08 47 59.3		
	comp=Z,1μm,3.9s								
NOR				IAmb		IAmb	08 49 52.7		
	comp=Z,2.8nm,0.8s								
SSB	**Saint Sauveur**	85.91	45	P		**P**	08 46 26.3	+0.7	
DOU	**Dourbes**	86.23	40	*dP*		**P**	08 46 27.5	+0.5	
	comp=Z,22nm,1.1s								
BMRD	**Maredsous**	86.36	40	*dP*		**P**	08 46 28.1	+0.5	
	comp=Z,8.6nm,1.0s								
GIVF	**Givet**	86.38	40	*eP*		**P**	08 46 28.0	+0.2	
GIVF				pmax		pmax			
	comp=Z,144nm,1.6s								
BGES	**Gesves**	86.56	40	*dP*		**P**	08 46 28.8	+0.2	
	comp=Z,15nm,1.1s								
SNAA	**Sanae**	86.64	162	P		**P**	08 46 29.9	+1.2	
SNAA	**Sanae**	86.64	162	*eP*		**P**	08 46 28.8	+0.1	
SNAA				pmax		pmax			
	comp=Z,112nm,2.5s								
SNAA				MLR		MLR			
	comp=Z,8μm,21.0s								
SNAA	**Sanae**	86.64	162	P		**P**	08 46 28.9	+0.2	
RCHB	**Rochefort**	86.64	40	*dP*		**P**	08 46 29.2	+0.2	
	comp=Z,19nm,1.0s								
BCLA	**Clavier**	86.70	40	*dP*		**P**	08 46 29.6	+0.2	
BSTI	**Sart Tilman**	86.88	40	*dP*		**P**	08 46 30.6	+0.5	
BEBN	**Eben Emael**	86.96	39	*dP*		**P**	08 46 30.9	+0.4	
BHOU	**Houvegnez**	87.15	40	*dP*		**P**	08 46 31.7	+0.1	
	comp=Z,15nm,1.1s								
WLF	**Walferdange**	87.22	40	P		**P**	08 46 30.3	-1.6	
WLF	**Walferdange**	87.22	40	IAmb		IAmb	08 46 39.9		
	comp=Z,39nm,0.9s								
WLF				IAMs_20		IAMs_20	09 22 52.5		
	comp=Z,4μm,21.0s								
WLF	**Walferdange**	87.22	40	*dP*		**P**	08 46 32.5	+0.7	
BTNL	**Ternell**	87.24	40	*dP*		**P**	08 46 31.8	-0.2	
UNV	**Unalaska Valle**	87.27	324	P		**P**	08 46 29.4	-2.6	
	baz=93								
UNV				S		**S**	08 57 13.1	+1.0	
	baz=93								
HAU	**Haudompre**	87.28	42	*eP*		**P**	08 46 32.2	-0.1	
HAU				pmax		pmax			
	comp=Z,53nm,1.4s								
ANM	**Nome**	87.33	334	IAMs_20		IAMs_20	09 27 25.5		
	comp=Z,7μm,21.0s								
ANM	**Nome**	87.33	334	P		**P**	08 46 30.4	-1.7	
	baz=94								
ANM				S		**S**	08 57 14.4	+2.1	
	baz=94								
BNI	**Bardonecchia**	87.41	45	P		**P**	08 46 31.8	-1.3	
BNI	**Bardonecchia**	87.41	45	IAmb		IAmb	08 46 40.7		
	comp=Z,107nm,1.9s								
BNI				IAMs_20		IAMs_20	09 28 23.9		
	comp=Z,5μm,20.0s								
HINF	**Hinteralfeld**	87.61	42	*eP*		**P**	08 46 33.5	-0.4	
HINF				pmax		pmax			
	comp=Z,60nm,1.7s								
ECH	**Echery**	87.83	42	IAmb		IAmb	08 46 41.8		
	comp=Z,29nm,1.1s								
SENIN	**Lac Senin/Sane**	87.88	44	IAmb		IAmb	08 46 58.0		
	comp=Z,32nm,1.2s								
CDF	**Champ du Feu**	87.92	42	*eP*		**P**	08 46 35.4	0.0	
CDF				pmax		pmax			
	comp=Z,59nm,1.6s								
TROLL	**Troll, Antarti**	88.36	162	P		**P**	08 46 38.6	+1.6	
TNA	**Tin City**	88.46	335	P		**P**	08 46 34.5	-2.9	
	baz=92								
TNA				S		**S**	08 57 25.2	+2.2	
	baz=92								
NIKH	**Nikolski High**	88.65	323	S		**S**	08 57 25.6	+0.3	
	baz=91								
SLE	**Schleitheim**	88.72	42	P		**P**	08 46 36.8	-2.3	
TUE	**Stuetta**	89.30	44	IAmb		IAmb	08 47 00.3		
	comp=Z,52nm,1.4s								
KEST	**Kesra**	89.34	54	P		**P**	08 46 42.9	+0.5	
	comp=Z,7.1nm,0.9s,baz=228,slow=7.6,SNR=4.2								
KEST	**Kesra**	89.34	54	IAmb		IAmb	08 47 26.4		
	comp=Z,43nm,1.4s								
KONO	**Kongsberg**	89.41	31	*i* P		**P**	08 46 44.9	+2.9	
KONO				pmax		pmax			
	comp=Z,60nm,1.9s								
KONO				MLR		MLR			
	comp=Z,4μm,20.0s								
KONO	**Kongsberg**	89.41	31	IAMs_20		IAMs_20	09 26 19.0		
	comp=Z,4μm,19.0s								
DAVA	**Damuels**	89.66	43	*eP*		**P**	08 46 44.6	+0.8	
	comp=Z,20nm,1.4s								
DAVOX	**Davos/Dischmat**	89.67	43	P		**P**	08 46 44.4	+0.6	
	comp=Z,9.3nm,0.9s,baz=340,slow=3.3,SNR=9.0								
KBS	**Kingsbay**	89.83	11	IAMs_20		IAMs_20	09 24 42.7		
	comp=Z,5μm,21.0s								
GAMB	**Gambell**	90.08	334	P		**P**	08 46 44.1	-1.0	
	baz=88								
GAMB				S		**S**	08 57 44.7	+6.4	
	baz=88								
FETA	**Feichten**	90.24	43	*eP*		**P**	08 46 47.2	+0.7	
	comp=Z,17nm,1.3s								
RETA	**Reutte**	90.26	43	*eP*		**P**	08 46 47.1	+0.7	
	comp=Z,11nm,1.4s								
MOTA	**Moosalm**	90.49	43	*eP*		**P**	08 46 47.9	+0.3	
	comp=Z,15nm,1.3s								
GRFO	**Grafenberg**	90.51	40	IAMs_20		IAMs_20	09 30 53.5		
	comp=Z,5μm,18.0s								
GRA1	**Grafenberg Arr**	90.51	40	IAMs_20		IAMs_20	09 30 53.6		
	comp=Z,5μm,19.0s								
GRF	**Grafenberg Arr**	90.51	40	*eP*		**P**	08 46 48.0	+0.6	
	comp=Z,75nm,2.1s,baz=264,slow=5.5								
SQTA	**Sankt Quirin**	90.57	43	*eP*		**P**	08 46 49.0	+1.1	
	comp=Z,15nm,1.2s								
QSPA	**South Pole Qui**	90.67	180	P		**P**	08 46 48.8	+0.8	
QSPA	**South Pole Qui**	90.67	180	IAMs_20		IAMs_20	09 25 48.7		
	comp=Z,4μm,19.0s								
WATA	**Walderalm**	90.81	43	*eP*		**P**	08 46 49.7	+0.7	
	comp=Z,8.3nm,0.7s								
WTTA	**Wattenberg**	90.86	43	*eP*		**P**	08 46 50.2	+0.9	
	comp=Z,9.8nm,0.9s								
NKC	**Novy Kostel**	91.28	40	*eP*		**P**	08 46 53.1	+2.1	
NKC				MLR		MLR			
	comp=Z,3μm,17.2s								
NKC	**Novy Kostel**	91.28	40	*eP*		**P**	08 46 53.1	+2.1	
NKC				AMS		AMS	09 30 30.0		
	comp=Z,3μm,17.2s								
NVL	**N'lazarevskaya**	91.28	161	*eP*		**P**	08 46 49.7	-0.8	
NVL				pmax		pmax			
	comp=Z,55nm,1.7s								
NVL				MLR

BRG Amp 08 46 58.8
comp=Z,19nm,1.7s
BRG ex x 08 47 18.1
BRG Amp 08 47 21.2
comp=Z,22nm,1.6s
BRG Berggiesshubel 92.20 39 S S 08 58 09.0 +11
BRG Berggiesshubel 92.20 39 PS PS 08 59 00.0 -10
BRG Berggiesshubel 92.20 39 SS SS 09 04 16.0 +8.3
BRG Amp 09 27 16.0
comp=E,1.6nm,17.6s
BRG Amp 09 27 22.0
comp=Z,2.6nm,20.7s
BRG Amp 09 27 23.0
comp=N,0.7nm,17.3s
BRG Berggiesshubel 92.20 39 *e*P **P** **08 46 55.8 +0.6**
BRG pmax pmax
comp=Z,19nm,1.7s
BRG pmax pmax
comp=Z,23nm,1.6s
MYKA Terra Mystica 92.26 43 *e*P **P** **08 46 57.3 +1.6**
comp=Z,11nm,1.2s
CKRC Cesky Krumlov 92.57 41 *e*P **P** **08 46 57.7 +0.7**
CKRC *e*SKS **SKSac** **08 57 28.2 -2.7**
CKRC AMS AMS 09 25 30.0
comp=Z,3μm,21.1s
MOA Molln 92.61 42 P **P** **08 46 58.4 +1.2**
comp=Z,19nm,1.4s
PVCC Panska Ves 92.62 40 AMS AMS 09 37 50.0
comp=Z,3μm,16.4s
PRU Pruhonice 92.64 40 *e*P **P** **08 46 58.6 +1.3**
PRU *e* 08 57 31.1
PRU MLR MLR
comp=Z,4μm,19.8s
PRU Pruhonice 92.64 40 *e*P **P** **08 46 58.6 +1.3**
PRU *e*SKS **SKSac** **08 57 31.1 -0.1**
PRU AMS AMS 09 25 50.0
comp=Z,4μm,19.8s
CEY Cerknica 92.86 44 *i* P **P** **08 46 58.9 +0.5**
OBKA Obir 92.89 44 *i* P **P** **08 47 00.5 +1.9**
comp=Z,13nm,1.1s
VNDS Vrh nad Dolski 93.02 44 *i* P **P** **08 47 00.0 +0.8**
VNDS *e* 08 50 11.8
VNDS *e* 08 50 36.0
VNDS *e* 08 52 03.8
SOKA Soboth 93.21 43 *e*P **P** **08 47 00.6 +0.4**
comp=Z,8.4nm,1.0s
TREC Trest 93.31 41 *e*SKS **SKSac** **08 57 33.7 -1.3**
TREC AMS AMS 09 26 20.0
comp=Z,2μm,17.4s
ARSA Arzberg 93.50 43 *e*P **P** **08 47 01.8 +0.5**
comp=Z,14nm,1.3s
UPC Upice 93.54 39 *e*P **P** **08 47 02.7 +1.3**
UPC *e* 08 57 36.3
UPC MLR MLR
comp=Z,4μm,17.6s
UPC Upice 93.54 39 *e*P **P** **08 47 02.7 +1.3**
UPC *e*SKS **SKSac** **08 57 36.3 +0.1**
UPC AMS AMS 09 33 20.0
comp=Z,4μm,17.6s
CHVC Chvalec 93.56 39 *e*P **P** **08 47 03.4 +1.8**
CHVC AMS AMS 09 33 10.0
comp=Z,3μm,18.9s
OSTC Ostas 93.67 39 *e*SKS **SKSac** **08 57 37.4 +0.5**
OSTC AMS AMS 09 33 20.0
comp=Z,3μm,17.8s
CONA Conrad Observa 93.67 42 *e*P **P** **08 47 02.8 +0.6**
comp=Z,12nm,1.2s
KSP Ksiaz 93.69 39 *e*P **P** **08 47 03.2 +1.1**
KSP *e*S **S** **08 58 16.8 +5.5**
DPC Dobruska-Polom 93.75 40 *e*P **P** **08 47 03.8 +1.3**
DPC *e* 08 57 28.5
DPC MLR MLR
comp=Z,4μm,18.4s
DPC Dobruska-Polom 93.75 40 *e*P **P** **08 47 03.8 +1.3**
DPC *ex* x 08 57 28.5
DPC AMS AMS 09 33 20.0
comp=Z,4μm,18.4s
KRUC Moravsky 93.92 41 *e*P **P** **08 47 03.4 +0.2**
RONA Rosalia, Austr 93.98 42 *e*P **P** **08 47 04.2 +0.6**
comp=Z,10nm,1.4s
VRAC Vranov 94.03 41 P **P** **08 47 04.8 +1.1**
comp=Z,1.2nm,0.3s,baz=270,slow=4.8,SNR=7.6
VRAC Vranov 94.03 41 *e*P **P** **08 47 04.1 +0.4**
KRLC Kraliky 94.07 40 *e*P **P** **08 47 05.1 +1.1**
KRLC *e* 08 57 37.5
KRLC MLR MLR
comp=Z,3μm,26.0s
KRLC Kraliky 94.07 40 *e*P **P** **08 47 05.1 +1.1**
KRLC *e*SKS **SKSac** **08 57 37.5 -1.7**
KRLC AMS AMS 09 26 50.0
comp=Z,3μm,26.0s
MODS Modra-Piesok 94.57 42 *e*P P 08 47 13.6 +7.3
MODS pmax pmax
comp=Z,22nm,0.9s
MODS Modra-Piesok 94.57 42 *e*P P 08 47 13.6 +7.3
MORC Moravsky Berou 94.59 40 IAmb IAmb 08 47 12.5
comp=Z,49nm,1.9s
MORC Moravsky Berou 94.59 40 *e*P **P** **08 47 07.0 +0.6**
JAVC Velka Javorina 94.78 41 *e*P **P** **08 47 09.0 +1.8**
ARCES ARCESS Array B 94.91 20 P **P** **08 47 07.6 +0.3**
comp=Z,2.8nm,0.9s,baz=290,slow=5.6,SNR=1.7
ARCES ARCESS Array B 94.91 20 P **P** **08 47 07.6 +0.3**
ARCES pmax pmax
comp=Z,93nm,2.0s
OKC Ostrava-Krasne 94.98 40 *e*P **P** **08 47 09.2 +1.2**
OKC MLR MLR
comp=Z,3μm,16.1s
OKC Ostrava-Krasne 94.98 40 *e*P **P** **08 47 09.2 +1.2**
OKC AMS AMS 09 26 20.0
comp=Z,3μm,16.1s
SBA Scott Base 95.34 191 IAMs_20 IAMs_20 09 23 10.8
comp=Z,3μm,20.0s
KOVH Kovagotottos 95.38 44 P **P** **08 47 10.2 +0.3**
KLNR Kaliningrad 95.58 35 *i* P **P** **08 47 12.8 +2.2**
KLNR pmax pmax
comp=Z,75nm,0.9s
KLNR MLR MLR
comp=Z,2μm,15.0s
OJC Ojcow 95.98 39 *e*P **P** **08 47 13.5 +0.9**
OJC *e*S **S** **08 58 32.6 +1.3**
OJC *e*L L 09 24 03.7
comp=Z,3μm,23.8s
OJC Ojcow 95.98 39 IAMs_20 IAMs_20 09 34 11.3
comp=Z,3μm,20.0s
NIE Niedzica 96.42 40 *e*P **P** **08 47 16.9 +2.2**
NIE *e*S **S** **08 58 41.2 +5.9**
NIE *e*L L 09 28 47.5
comp=Z,2μm,20.6s
VNDA Vanda 96.44 191 P **P** **08 47 16.2 +2.1**
comp=Z,1.6nm,1.1s,baz=334,slow=1.8,SNR=4.7
VNDA Vanda 96.44 191 IAmb IAmb 08 47 30.7
comp=Z,32nm,1.8s
DIVS Divibare 96.95 46 IAMs_20 IAMs_20 09 30 31.4
comp=Z,3μm,19.0s
PABE Paberze 97.54 34 IAMs_20 IAMs_20 09 30 37.2
comp=Z,4μm,20.0s
TSUM Tsumeb 97.63 109 P **P** **08 47 20.7 -0.2**
TSUM IAmb IAmb 08 47 28.1
comp=Z,38nm,1.4s
UZH Uzhgorod 97.84 41 *d* *i*P **P** **08 47 17.7 -3.3**
UZH *e* 08 47 20.8
UZH *e* 08 51 17.8
UZH *i* S S 08 58 37.3 -10
BILL Bilibino 98.03 340 *i* P **P** **08 47 20.7 -0.8**
BILL *i* 08 47 27.3
BILL *i* 08 51 21.3
BILL *i* S **S** **08 58 42.0 -6.2**
BILL *i* SS **SS** **09 05 27.6 -2.0**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 98.03 340 IAMs_20 IAMs_20 09 37 13.0
comp=Z,4μm,20.0s
APA Apatity 98.29 21 ⇓ *i*P **P** **08 47 20.4 -2.3**
APA *i* 08 51 22.0
APA *i* 08 58 01.0
APA *i* S S 08 58 40.0 -10
APA *i* PS **PS** **09 00 09.0 -6.7**
APA pmax pmax
comp=Z,5.0nm,1.2s
VSU Vasula 98.32 31 *i* P Pdif 08 47 25.6 +2.6
LVZ Lovozero 98.60 20 *i* P Pdif 08 47 26.1 +2.0
LVZ pmax pmax
comp=Z,68nm,1.8s
LVZ MLR MLR
comp=Z,2μm,17.0s

LVV L'vov 98.74 39 *e*P P 08 47 19.8 -5.3
LVV *e* 09 00 13.7
NACGM Naroch 99.25 34 PP PP 08 51 38.3 +8.6
MXZ Matakaoa Point 99.42 232 IAMs_20 IAMs_20 09 24 59.2
comp=Z,5μm,18.0s
VALR Valaam 99.47 27 *i* P **Pdif** **08 47 30.1 +2.1**
VALR pmax pmax
comp=Z,47nm,2.0s
VALR MLR MLR
comp=Z,617nm,15.0s
PUL Pulkovo 99.72 29 *i* P **Pdif** **08 47 31.8 +2.6**
PUL pmax pmax
comp=Z,35nm,0.7s
PUL MLR MLR
comp=Z,2μm,15.0s
MNK Minsk 99.97 34 *i* P **Pdif** **08 47 30.2 -0.2**
MNK *i* 08 51 35.0
MNK *i* PPP PPP 08 53 42.3
MNK *i* 08 58 09.3
MNK *i* S **ScS** **08 58 59.8 -5.2**
MNK *i* PS **PS** **09 00 35.3 +1.0**
MNK *i* SS **SS** **09 06 02.4 +5.0**
MNK *i* SSS SSS 09 09 49.3
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK MLR MLR
comp=E,257nm,22.0s
MNK MLR MLR
comp=N,784nm,19.0s
MNK MLR MLR
comp=Z,2μm,22.0s
MNK Minsk 99.97 34 *i* P **Pdif** **08 47 30.2 -0.2**
comp=E,2.0nm,0.9s
MNK *i* P **Pdif** **08 47 30.2 -0.2**
comp=N,17nm,0.9s
MNK *i* P **Pdif** **08 47 30.2 -0.2**
comp=Z,9.0nm,0.8s,baz=104
MNK *i* PP **PP** **08 51 35.0 -0.2**
MNK *i* PPP PPP 08 53 42.3
MNK *i* SKS **SKSac** **08 58 09.3 0.0**
MNK *i* S **ScS** **08 58 59.8 -5.2**
MNK *i* PS **PS** **09 00 35.3 +1.0**
MNK *i* SS **SS** **09 06 02.4 +5.0**
MNK *i* SSS SSS 09 09 49.4
MNK *i* LR LR 09 29 07.8
MNK *i* LRM MLR 09 32 47.0
comp=E,257nm,21.7s
MNK *i* LRM MLR 09 32 50.1
comp=N,784nm,19.2s
MNK *i* LRM MLR 09 32 52.7
comp=Z,2μm,21.7s
BKZ Black Stump Fm 100.64 230 IAMs_20 IAMs_20 09 23 06.2
comp=Z,6μm,21.0s
SYO Syowa Base 100.92 161 ⇓ *e*X **Pdif** **08 47 28.0 -6.3**
HIZ Hauiti 102.00 231 IAMs_20 IAMs_20 09 27 14.2
comp=Z,3μm,18.0s
KIS Kishinev 102.48 41 *e*P **Pdif** **08 47 41.0 -0.8**
KIS *e*SKS 08 58 19.0
KIS Kishinev 102.48 41 PS PS 09 00 57.0 -4.4
KIS LRM MLR 09 32 50.0
comp=Z,600nm,18.0s
KIS Kishinev 102.48 41 *e*P **Pdif** **08 47 41.0 -0.8**
KIS *e* 08 58 19.0
KIS *e*PS **PS** **09 00 57.0 -4.4**
MILM Milestii Mici 102.50 42 *e*P **Pdif** **08 47 39.0 -2.9**
comp=Z,450nm,11.8s
MILM Milestii Mici 102.50 42 *e*PP **PP** **08 51 50.0 -4.6**
MILM *e*SKS 08 58 18.0
MILM Milestii Mici 102.50 42 *e*PS PS 09 00 55.0 -6.6
MILM *e*LR LR 09 26 08.0
comp=Z,1μm,20.0s
MILM Milestii Mici 102.50 42 *e*P **Pdif** **08 47 39.0 -2.9**
MILM *e* 08 58 18.0
MILM *e*PS **PS** **09 00 55.0 -6.6**
MILM pmax pmax
comp=Z,450nm,11.8s
TIRR Tirgusor 102.83 44 IAMs_20 IAMs_20 09 35 27.7
comp=Z,6μm,21.0s
OUZ Omahuta 103.50 234 IAMs_20 IAMs_20 09 24 37.4
comp=Z,4μm,21.0s
LBZ Lake Benmore 104.31 224 IAMs_20 IAMs_20 09 24 54.8
comp=Z,6μm,21.0s
OBN Obninsk 104.52 32 *i* P **Pdif** **08 47 48.3 -2.3**
OBN *i* 08 52 10.3
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN MLR MLR
comp=Z,3μm,20.0s
PYZ Puysegur Point 106.24 222 IAMs_20 IAMs_20 09 30 33.6
comp=Z,4μm,18.0s
MA2 Magadan 108.10 335 IAMs_20 IAMs_20 09 47 45.5
comp=Z,4μm,19.0s
ANN Anapa 108.88 42 *i* P **Pdif** **08 48 09.6 -0.7**
ANN *e* 08 52 40.9
ANN *e*PPP PPP 08 54 59.5
ANN *e* 08 58 52.2
ANN *e*SS SS 09 07 59.2 -0.8
ANN pmax pmax
comp=Z,35nm,0.8s
SOC Sochi 110.85 42 *i* PKIKP **PKiKP** **08 52 19.1 +0.3**
SOC *e* 08 52 56.6
SOC *e*PPP PPP 08 55 17.0
SOC *e*PS **PS** **09 02 21.7 -5.5**
SOC *e*SS SS 09 08 32.8 +6.2
SOC *e*SSS SSS 09 12 34.0
SOC MLR MLR
comp=Z,1μm,19.0s
GHAJ Ghor Haditha 111.57 56 IAMs_20 IAMs_20 09 44 52.1
comp=Z,3μm,20.0s
DZM Mont Dzumac 111.75 247 *e*PP **PP** **08 53 01.5 -2.0**
comp=Z,401nm,24.5s
DZM *e*SKSac **SKSac** **08 58 57.2 -6.3**
comp=Z,1μm,25.6s
DZM Mont Dzumac 111.75 247 *e*PS PS 09 02 35.0 -1.6
comp=Z,3μm,29.9s
DZM *e*SS SS 09 08 36.5 -3.8
comp=Z,3μm,25.8s
DZM Mont Dzumac 111.75 247 *e*LR LR 09 25 42.9
comp=Z,4μm,22.0s
KIV Kislovodsk 112.68 41 *i* PKIKP **PKiKP** **08 52 24.3 +1.8**
KIV *e* 08 53 11.5
KIV *e* 08 59 08.1
KIV *e*PS **PS** **09 02 47.0 +2.8**
KIV *e*SS SS 09 08 55.5 +4.4
KIV *e*SSS SSS 09 12 58.3
KIV pmax pmax
comp=Z,5.0nm,1.0s
YAK Yakutsk 113.51 345 *c* *i*PKIKP **PKiKP** **08 52 24.3 +1.0**
YAK pmax pmax
comp=Z,16nm,0.5s
YAK MLR MLR
comp=Z,2μm,19.0s
YAK Yakutsk 113.51 345 IAMs_20 IAMs_20 09 47 40.7
comp=Z,4μm,19.0s
KOUNC Koumac, New Ca 113.96 248 IAMs_20 IAMs_20 09 31 09.7
comp=Z,4μm,22.0s
ARU Arti 114.16 24 *i* PKIKP PKPdf 08 52 27.6 +2.8
ARU 08 53 22.9
ARU PPP PPP 08 55 48.3
ARU 08 59 39.8
ARU Arti 114.16 24 IAMs_20 IAMs_20 09 40 20.2
comp=Z,2μm,19.0s
MAK Makhachkala 116.26 40 *i* P **Pdif** **08 48 38.2 -5.0**
MAK *i* 08 52 26.5
MAK *e* 08 53 32.8
MAK *e*PPP PPP 08 56 00.3
MAK *e* 08 59 18.0
MAK *e*PS **PS** **09 03 15.0 -1.8**
MAK pmax pmax
comp=Z,30nm,0.3s
NKL Nikolayevsk 116.50 334 *e*P **Pdif** **08 48 47.5 +3.5**
NKL *e* 08 53 37.9
NKL *e*PPP PPP 08 56 02.1
NKL *e*SS SS 09 09 41.8 +1.7
NKL *e*SSS SSS 09 14 00.6
AKTO Aktyubinsk 117.98 29 PKP **PKiKP** **08 52 33.6 +1.3**
comp=Z,1.8nm,0.6s,baz=172,slow=12,SNR=3.9
HNR Honiara 119.45 260 IAMs_20 IAMs_20 09 33 22.6
comp=Z,3μm,22.0s
YSS Yuzh-Sakhalins 119.53 328 *i* PKIKP **PKiKP** **08 52 37.7 +2.3**

YSS pmax pmax
comp=Z,7.0nm,1.0s
YSS Yuzh-Sakhalins 119.53 328 IAMs_20 IAMs_20 09 47 34.6
comp=Z,3μm,20.0s
ABKAR Akbulak array 119.70 29 **PKiKP** **08 52 36.0 +0.3**
ABKAR Akbulak array 119.70 29 **PKiKP** **08 52 35.7 0.0**
BRVK Borovoye 121.14 20 *i* PKIKP **PKiKP** **08 52 40.7 +2.3**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 121.14 20 IAMs_20 IAMs_20 09 43 07.4
comp=Z,2μm,21.0s
ATD Arta Tunnel 122.24 76 IAMs_20 IAMs_20 09 48 57.3
comp=Z,4μm,20.0s
KLR Kul'dur 123.20 335 *i* PKIKP **PKiKP** **08 52 43.6 +1.0**
KLR pmax pmax
comp=Z,7.0nm,1.5s
KLR MLR MLR
comp=Z,5μm,23.0s
ZALV Zalesovo Beam 124.23 11 PKP **PKPdf** **08 52 44.1 -0.1**
comp=Z,2.1nm,0.5s,baz=298,slow=3.1,SNR=2.0
BRZS Berezniki 124.53 21 *e*PKIKP **PKiKP** **08 52 45.6 +0.4**
BRZS *i* 08 54 32.6
BRZS Berezniki 124.53 21 *e*PKP **PKiKP** **08 52 45.6 +0.4**
baz=21
BRZS *i* PP **PP** **08 54 32.6 +2.3**
baz=21
GEYT Alibeck 125.78 40 PKP **PKiKP** **08 52 48.0 -0.1**
comp=Z,2.3nm,0.5s,baz=23,slow=9.6,SNR=2.4
KURK Kurchatov 125.79 16 *c* *i*PKIKP **PKPdf** **08 52 46.5 -0.8**
KURK pmax pmax
comp=Z,12nm,1.3s
KURK Kurchatov 125.79 16 PKPdf **PKPdf** **08 52 44.3 -2.9**
KURBB Kurchatov Arra 125.85 16 PKP **PKiKP** **08 52 47.6 -0.2**
comp=Z,3.4nm,0.8s,baz=324,slow=2.3,SNR=30
SEM Semipalatinsk 126.51 15 *e*PKIKP **PKiKP** **08 52 50.5 +1.0**
SEM *e*PPP PPP 08 57 28.4
SEM Semipalatinsk 126.51 15 *e*PKP **PKiKP** **08 52 50.5 +1.0**
baz=15
SEM *e*SKP 08 56 25.6
baz=15
SEM *e*PPP PPP 08 57 28.4
baz=15
SEM LR LR 09 50 23.7
comp=Z,994nm,13.4s,baz=15
IRK Irkutsk 127.19 356 *e*PKIKP **PKiKP** **08 52 51.6 +1.1**
IRK pmax pmax
comp=Z,72nm,2.2s
SLWR Sila 127.37 59 PKPdf **PKPdf** **08 52 45.9 -5.2**
MDJ Mudanjiang 127.71 333 IAMs_20 IAMs_20 09 58 25.5
comp=Z,4μm,20.0s
VLA Vladivostok 127.77 330 *i* PKIKP **PKiKP** **08 52 53.4 +1.6**
JRN Qarnain Island 128.03 57 PKiKP **PKiKP** **08 52 54.1 +1.2**
GHWR Ruwais 128.42 58 PKPdf **PKPdf** **08 52 50.7 -2.4**
MSHR Mys Shultsa 128.53 330 *i* PKIKP **PKPdf** **08 52 52.7 -0.1**
MSHR pmax pmax
comp=Z,25nm,1.0s
MJAR Matsushiro Arr 128.60 320 PKP **PKiKP** **08 52 53.9 +0.1**
comp=Z,2.3nm,0.6s,baz=297,slow=16,SNR=2.4
BTLS Baital 129.15 23 *e*PKIKP **PKPdf** **08 52 54.0 +0.1**
BTLS *e* 08 55 03.2
BTLS pmax pmax
comp=Z,18nm,2.9s
BTLS Baital 129.15 23 *e*PKP **PKPdf** **08 52 54.1 +0.1**
comp=Z,18nm,2.9s,baz=23
BTLS *e*PP **PP** **08 55 03.3 +2.3**
baz=23
MZR Muzera 129.28 59 PKPdf **PKPdf** **08 52 54.7 -0.1**
MZWR Madinat Zayed 129.34 58 PKiKP **PKiKP** **08 52 57.4 +1.8**
IUG luzhnay 129.71 29 *e*PKIKP **PKiKP** **08 52 55.7 -0.2**
IUG luzhnay 129.71 29 *e*PKP **PKiKP** **08 52 55.7 -0.2**
baz=28
STKA Stephens Creek 129.72 228 PKP **PKPdf** **08 52 55.5 +0.1**
comp=Z,7.5nm,1.1s,baz=78,slow=3.0,SNR=9.7
DZA Taraz 129.74 27 *e*PKIKP **PKPdf** **08 52 55.2 +0.1**
DZA Taraz 129.74 27 *e*PKP **PKPdf** **08 52 55.3 +0.1**
baz=27
AJN Ajban 129.97 57 pPKPdf pPKPdf 08 53 00.8 +1.5
CN2 Changchun 130.15 336 PKP **PKPdf** **08 52 51.8 -4.0**
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,3μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,3μm,21.0s
ASUD Al Ashush, Dub 130.23 57 PKiKP **PKiKP** **08 52 58.1 +0.7**
MAKZ Makanchi 130.27 16 PKiKP **PKPdf** **08 52 55.2 -0.8**
MAKZ MLR MLR
comp=Z,3μm,21.0s
MAKZ Makanchi 130.27 16 PKPdf **PKPdf** **08 52 55.2 -0.8**
MAKZ IAMs_20 IAMs_20 09 51 44.8
comp=Z,3μm,21.0s
SHME Shamm 130.31 54 PKPdf **PKPdf** **08 52 54.7 -1.9**
MKAR Makanchi Array 130.37 16 PKP **PKPdf** **08 52 56.0 -0.2**
comp=Z,2.7nm,0.9s,baz=343,slow=2.5,SNR=16
ZSN Zaisan 130.40 13 *e*PKIKP **PKiKP** **08 52 56.9 -0.2**
ZSN Zaisan 130.40 13 *e*PKP **PKiKP** **08 52 56.9 -0.2**
baz=13
ZSN *e*SKP 08 56 31.7
baz=13
FAQ Al Faqa, Dubai 130.40 56 PKiKP **PKiKP** **08 52 58.1 +0.4**
SGDS Sogindy 130.70 24 *i* PKIKP **PKiKP** **08 52 57.6 -0.2**
SGDS pmax pmax
comp=Z,42nm,2.2s
SGDS Sogindy 130.70 24 *i* PKP **PKiKP** **08 52 57.7 -0.2**
comp=Z,42nm,2.2s,baz=24
ALNE Al Ain 130.81 57 PKPdf **PKPdf** **08 52 57.4 -0.3**
ASHO Ashiyiah 130.81 56 PKPdf **PKPdf** **08 52 54.7 -3.0**
UMZA Um Al Zommool 130.83 59 PKPdf **PKPdf** **08 52 57.4 -0.3**
UOSS Minazif 130.83 56 IAMs_20 IAMs_20 09 54 13.1
comp=Z,3μm,20.0s
ABTO Aybut 130.93 66 PKPdf **PKPdf** **08 52 57.4 -0.7**
WHFO Wadi Hawf 131.20 65 PKPdf **PKPdf** **08 52 56.7 -1.9**
CHKK Chushkaly 131.28 22 *e*PKIKP **PKPdf** **08 52 57.6 -0.4**
CHKK Chushkaly 131.28 22 *e*PKP **PKPdf** **08 52 57.7 -0.4**
baz=22
ULN Ulaanbaatar 131.29 353 *c* *i*PKIKP **PKiKP** **08 52 59.4 +0.4**
ULN pmax pmax
comp=Z,25nm,2.5s
DOK Doka 131.31 64 PKiKP **PKiKP** **08 53 00.1 +0.4**
AAK Ala-Archa 131.32 25 PKP **PKiKP** **08 52 59.1 -0.1**
comp=Z,5.9nm,0.9s,baz=113,slow=1.3,SNR=11
AAK Ala-Archa 131.32 25 *c* *i*PKIKP **PKiKP** **08 52 59.6 +0.3**
AAK pmax pmax
comp=Z,29nm,2.5s
AAK Ala-Archa 131.32 25 IAMs_20 IAMs_20 10 02 20.1
comp=Z,2μm,20.0s
SONM Songino Array 131.39 354 PKiKP **PKPdf** **08 52 58.1 -0.1**
SONM Songino Array 131.39 354 PKPdf **PKPdf** **08 52 58.1 -0.1**
RBK Rabkut 131.72 66 PKiKP **PKiKP** **08 53 02.8 +2.2**
ARQ Araqi 131.75 57 PKPdf **PKiKP** **08 53 00.1 -0.4**
AAA Alma-Ata 131.81 22 *e*PKIKP **PKiKP** **08 53 00.0 -0.1**
AAA Alma-Ata 131.81 22 *e*PKP **PKiKP** **08 53 00.1 -0.1**
baz=22
MDOK Medeo 131.90 22 *i* PKIKP **PKPdf** **08 52 59.8 +0.4**
MDOK Medeo 131.90 22 *i* PKP **PKPdf** **08 52 59.9 +0.4**
baz=22
MDOK LR LR 09 53 14.9
comp=Z,990nm,17.4s,baz=22
TNSS Tian-Shan 131.97 22 *e*PKIKP **PKPdf** **08 53 00.1 +0.3**
TNSS Tian-Shan 131.97 22 *e*PKP **PKPdf** **08 53 00.2 +0.3**
baz=22
PMG Port Moresby 132.00 258 IAMs_20 IAMs_20 09 39 32.1
comp=Z,4μm,21.0s
KPKS Kokpek 132.24 21 *e*PKIKP **PKPdf** **08 53 00.2 +0.3**
KPKS pmax pmax
comp=Z,63nm,3.2s
KPKS Kokpek 132.24 21 *e*PKP **PKPdf** **08 53 00.2 +0.3**
comp=Z,63nm,3.2s,baz=21
DMTO DMTO 132.33 65 PKPdf **PKPdf** **08 52 59.4 -1.2**
SATY Saty 132.49 21 *e*PKIKP **PKPdf** **08 53 00.3 -0.2**
SATY Saty 132.49 21 *e*PKP **PKPdf** **08 53 00.3 -0.2**
baz=21
SNY Shenyang 132.56 336 AMB AMB
comp=Z,2μm,9.0s
SNY Shenyang 132.56 336 ⇑ PKP **PKPdf** **08 52 59.8 -0.6**
SNY PP **PP** **08 55 27.1 +4.0**
SNY SKKS 09 02 18.9
SNY AMB AMB
comp=Z,780nm,11.1s
SNY LR LR
comp=Z,3μm,19.9s
SNY LR LR
comp=Z,3μm,19.7s

SNY					LR	LR			
	comp=Z,4μm,19.9s								
SNY	**Shenyang**	**132.56**	**336**		SS	SS	09 14 19.4		+77
SNY	**Shenyang**	**132.56**	**336**		LR	LR			
	comp=Z,5μm,20.4s								
SNY	**Shenyang**	**132.56**	**336**		LR	LR			
	comp=E,2μm,18.2s								
SNY	**Shenyang**	**132.56**	**336**		LR	LR			
	comp=N,3μm,20.1s								
SHLS	**Shalkode**	**132.78**	**20**	*e*PKIKP		**PKiKP**	**08 53 01.6**		**-0.5**
SHLS	**Shalkode**	**132.78**	**20**	*e*PKP		**PKiKP**	**08 53 01.7**		**-0.5**
	baz=20								
SHAO	**Shalim**	**132.85**	**65**	PKPdf		**PKPdf**	**08 53 02.1**		**+0.5**
BIDO	**Bidbid**	**133.02**	**56**	PKPdf		**PKPdf**	**08 52 59.4**		**-2.4**
GUMO	**Guam**	**133.09**	**289**	IAMs_20		IAMs_20	09 38 58.1		
	comp=Z,3μm,21.0s								
XLT	**XiLinHaoTe**	**133.32**	**344**	*e*PKP		**PKPdf**	**08 53 00.8**		**-1.2**
XLT				PP		**PP**	**08 55 33.5**		**+5.6**
XLT				PKS		**PKSdf**	**08 56 37.9**		**-0.5**
XLT				AMB		AMB			
	comp=Z,920nm,8.8s								
XLT				LR		LR			
	comp=Z,350nm,20.2s								
XLT				LR		LR			
	comp=Z,2μm,21.9s								
XLT				LR		LR			
	comp=Z,5μm,21.1s								
JMDO	**Jabal Madar**	**133.47**	**58**	PKPdf		**PKPdf**	**08 53 00.8**		**-2.0**
MHTO	**MHTO**	**133.89**	**60**	PKPdf		**PKPdf**	**08 53 01.4**		**-2.1**
KSRS	**Korea Array**	**134.01**	**328**	PKP		**PKPdf**	**08 53 03.2**		**0.0**
	comp=Z,2.0nm,0.6s,baz=2.9,slow=1.1,SNR=5.4								
WBK	**Wadi Bani Khal**	**134.10**	**57**	PKPdf		**PKPdf**	**08 53 00.1**		**-3.8**
WMQ	**Urumqi**	**134.47**	**12**	*e*PKP		**PKiKP**	**08 53 05.4**		**-0.1**
WMQ				PP		**PP**	**08 55 37.4**		**+2.3**
WMQ				PKS		**PKSdf**	**08 56 36.3**		**-4.2**
WMQ				SS		SS	09 13 29.0		+3.8
WMQ				AMB		AMB			
	comp=Z,610nm,6.3s								
WMQ				LR		LR			
	comp=Z,2μm,19.5s								
WMQ				LR		LR			
	comp=Z,2μm,19.5s								
WMQ				LR		LR			
	comp=Z,2μm,19.5s								
KSH	**Kashi**	**134.52**	**26**	PKP		**PKiKP**	**08 53 06.3**		**+0.5**
KSH				PP		**PP**	**08 55 42.3**		**+6.4**
KSH				PKS		**PKSdf**	**08 56 39.3**		**-1.6**
KSH				SKKS			09 02 36.0		
KSH				SS		**SS**	**09 13 31.5**		**+4.8**
KSH				AMB		AMB			
	comp=Z,870nm,7.6s								
KSH				LR		LR			
	comp=Z,1μm,22.9s								
KSH				LR		LR			
	comp=Z,3μm,19.7s								
KSH				LR		LR			
	comp=Z,3μm,24.8s								
JLN	**Jalan Bani Buh**	**134.66**	**57**	PKPdf		**PKPdf**	**08 52 58.7**		**-6.2**
DL2	**Dalian**	**135.82**	**335**	SS		SS	09 13 43.3		+1.5
DL2				AMB		AMB			
	comp=Z,690nm,10.2s								
DL2				LR		LR			
	comp=N,3μm,20.6s								
DL2				LR		LR			
	comp=Z,3μm,22.2s								
BJI	**Beijing**	**136.83**	**341**	PKP		**PKiKP**	**08 53 12.3**		**+2.0**
BJI				sPKP			08 53 15.8		
BJI				PP		**PP**	**08 55 52.6**		**+2.6**
BJI				SKS		**SKSdf**	**09 00 18.6**		**-1.1**
BJI				AMB		AMB			
	comp=Z,420nm,9.4s								
BJI				LR		LR			
	comp=Z,2μm,19.4s								
BJI				LR		LR			
	comp=Z,2μm,19.8s								
BJI				LR		LR			
	comp=Z,4μm,19.5s								
BJT	**Baijiatuau**	**136.85**	**341**	IAMs_20		IAMs_20	10 01 19.4		
	comp=Z,3μm,20.0s								
HHC	**Hu-ho-hao-te**	**137.34**	**347**	*e*PKP		**PKPdf**	**08 53 07.9**		**-1.7**
HHC				PP		**PP**	**08 56 00.6**		**+7.4**
HHC				AMB		AMB			
	comp=Z,490nm,10.5s								
HHC				LR		LR			
	comp=Z,4μm,18.2s								
HHC				LR		LR			
	comp=Z,840nm,17.8s								
HHC				LR		LR			
	comp=Z,5μm,20.7s								
BTO	**Baotou**	**137.91**	**348**	*e*PKP		**PKiKP**	**08 53 12.3**		**-0.3**
BTO				LR		LR			
	comp=Z,10μm,21.2s								
BTO				LR		LR			
	comp=Z,11μm,20.4s								
ASAR	**Alice Springs**	**139.70**	**233**	PKhKP		PKPpre	08 53 07.2		
	comp=Z,1.0nm,0.8s,baz=126,slow=3.6,SNR=5.4								
ASAR				PKP		**PKPdf**	**08 53 14.4**		**+0.1**
	comp=Z,6.3nm,0.9s,baz=117,slow=3.6,SNR=6.9								
ASAR	**Alice Springs**	**139.70**	**233**	PKIKP		**PKPdf**	**08 53 09.9**		**-4.4**
ASAR	**Alice Springs**	**139.70**	**233**	PKPdf		**PKPdf**	**08 53 09.9**		**-4.4**
HNS	**HongShan**	**139.71**	**341**	⇑PKP		**PKiKP**	**08 53 17.4**		**+1.2**
HNS				PP		**PP**	**08 56 12.8**		**+5.0**
HNS				PKS		**PKSdf**	**08 56 50.6**		**+0.7**
HNS				AMB		AMB			
	comp=Z,340nm,6.5s								
HNS				LR		LR			
	comp=Z,4μm,19.5s								
HNS				LR		LR			
	comp=Z,3μm,19.4s								
HNS				LR		LR			
	comp=Z,4μm,19.4s								
TIY	**Taiyuan**	**140.09**	**344**	⇓PKP		**PKPdf**	**08 53 15.0**		**+0.3**
TIY				PP		**PP**	**08 56 17.0**		**+6.7**
TIY				AMB		AMB			
	comp=Z,450nm,6.5s								
TIY				LR		LR			
	comp=Z,4μm,22.7s								
TIY				LR		LR			
	comp=Z,2μm,21.3s								
TIY				LR		LR			
	comp=Z,5μm,19.9s								
GTA	**Gaotai**	**140.16**	**360**	PKP		**PKiKP**	**08 53 19.6**		**+2.3**
GTA				AMB		AMB			
	comp=Z,430nm,8.4s								
GTA				LR		LR			
	comp=Z,1μm,21.5s								
GTA				LR		LR			
	comp=Z,2μm,21.5s								
GTA				LR		LR			
	comp=Z,2μm,21.1s								
WRAB	**Tennant Creek**	**141.05**	**238**	*d* iPKIKP		**PKPdf**	**08 53 16.9**		**+0.1**
WRAB				pmax		pmax			
	comp=Z,34nm,1.7s								
WRAB	**Tennant Creek**	**141.05**	**238**			**PKPdf**	**08 53 13.7**		**-3.1**
WRA	**Warramunga Arr**	**141.06**	**238**	PKhKP		PKPpre	08 53 10.9		
	comp=Z,1.4nm,0.9s,baz=139,slow=0.3,SNR=7.9								
WRA				PKP		**PKPdf**	**08 53 16.7**		**-0.1**
	comp=Z,4.0nm,0.9s,baz=110,slow=2.8,SNR=14								
SSE	**Sheshan**	**142.44**	**329**	PKP		**PKPdf**	**08 53 15.3**		**-3.6**
SSE				SS		SS	09 15 06.6		+6.3
SSE				LR		LR			
	comp=Z,1μm,17.9s								
SSE				LR		LR			
	comp=Z,560nm,17.7s								
SSE				LR		LR			
	comp=Z,2μm,17.9s								
NJ2	**Nanjing**	**142.80**	**333**	⇓PKP		**PKPdf**	**08 53 18.1**		**-1.5**
NJ2				PP		PP	08 56 37.3		+10
NJ2				SS		SS	09 15 12.4		+8.3
NJ2				AMB		AMB			
	comp=Z,1μm,6.8s								
NJ2				LR		LR			
	comp=Z,2μm,14.0s								
NJ2				LR		LR			
	comp=Z,730nm,16.9s								
NJ2				LR		LR			
	comp=Z,2μm,16.8s								
LYN	**LuoYang**	**143.03**	**342**	*e*PKP		PKPab	08 53 15.5		+0.4
LYN				PP		**PP**	**08 56 29.9**		**+1.8**
LYN				AMB		AMB			
	comp=Z,730nm,4.1s								
LYN				LR		LR			
	comp=Z,4μm,21.4s								
LYN				LR		LR			
	comp=Z,1μm,20.0s								
LYN				LR		LR			
	comp=Z,4μm,21.2s								
GOMU	**GeErMu**	**143.09**	**7**	PKP		PKPbc	08 53 18.0		+0.8
GOMU				pPKP		PKiKP	08 53 23.3		-0.4
GOMU				sPKP			08 53 28.4		
GOMU				SKS		**SKSdf**	**09 00 24.5**		**-6.5**
GOMU				AMB		AMB			
	comp=Z,110nm,4.1s								
GOMU				LR		LR			
	comp=Z,1μm,22.4s								
GOMU				LR		LR			
	comp=Z,1μm,22.8s								
GOMU				LR		LR			
	comp=Z,1μm,23.3s								
LZH	**Lanzhou**	**143.28**	**354**	*e*PKP		PKPbc	08 53 18.8		+1.4
LZH				pPKP		sPKPdf	08 53 28.3		+3.3
LZH				SKKS			09 03 21.9		
LZH				LR		LR			
	comp=Z,4μm,16.0s								
LZH				LR		LR			
	comp=Z,990nm,16.5s								
LZH				LR		LR			
	comp=Z,6μm,17.9s								
NWAO	**Narrogin (SRO)**	**143.88**	**205**	PKIKP		**PKPdf**	**08 53 20.5**		**-1.0**
NWAO				MLR		MLR			
	comp=Z,3μm,20.0s								
NWAO	**Narrogin (SRO)**	**143.88**	**205**			**PKPdf**	**08 53 20.5**		**-1.0**
NWAO	**Narrogin (SRO)**	**143.88**	**205**	IAMs_20		IAMs_20	09 59 48.0		
	comp=Z,3μm,20.0s								
XAN	**Xi'an**	**144.46**	**347**	PKP		**PKPab**	**08 53 20.0**		**-0.7**
XAN				pPKP		sPKPdf	08 53 28.4		+1.5
XAN				AMB		AMB			
	comp=Z,1μm,9.8s								
XAN				LR		LR			
	comp=Z,4μm,18.8s								
XAN				LR		LR			
	comp=Z,3μm,15.6s								
XAN				LR		LR			
	comp=Z,5μm,17.9s								
WHN	**Wuhan**	**146.02**	**337**	PKPbc		**PKPdf**	**08 53 25.3**		**+0.1**
WHN				PKPab		**pPKPdf**	**08 53 28.1**		**-0.4**
WHN				PP		PP	08 56 56.9		+11
WHN				SS		SS	09 15 43.5		+2.6
WHN				AMB		AMB			
	comp=Z,2μm,9.8s								
WHN				LR		LR			
	comp=Z,4μm,20.3s								
WHN				LR		LR			
	comp=Z,5μm,16.3s								
WHN				LR		LR			
	comp=Z,7μm,20.5s								
TATO	**Taipei**	**146.96**	**322**	IAMs_20		IAMs_20	10 11 55.7		
	comp=Z,3μm,19.0s								
PYUN	**Piuthan**	**147.24**	**28**	*e*P		**PKPbc**	**08 53 29.5**		**-0.4**
YHNB	**Yeheng**	**147.25**	**322**	IAMs_20		IAMs_20	10 11 56.6		
	comp=Z,3μm,20.0s								
DANN	**Dangsing**	**147.38**	**27**	*e*P		**PKPdf**	**08 53 28.4**		**+0.4**
	comp=Z,170nm,0.9s								
NACB	**Ninganchiao**	**147.47**	**321**	IAMs_20		IAMs_20	10 01 35.6		
	comp=Z,3μm,20.0s								
KNRA	**Kununurra**	**147.67**	**241**			**PKPbc**	**08 53 30.9**		**-0.2**
MORW	**Morawa**	**147.70**	**207**	PKPab		**PKPbc**	**08 53 31.7**		**+0.9**
ENHI	**Enshi**	**147.90**	**344**			**PKPdf**	**08 53 29.6**		**+1.1**
GKN	**Gorkha**	**148.07**	**26**	*e*P		**PKPbc**	**08 53 31.6**		**-0.5**
YULB	**Yu-li**	**148.22**	**320**	IAMs_20		IAMs_20	10 14 00.5		
	comp=Z,3μm,19.0s								
CD2	**Chengdu**	**148.41**	**353**	PKPbc		**PKPdf**	**08 53 30.0**		**+0.7**
CD2				PP		**PP**	**08 57 06.6**		**+6.7**
CD2				SKS		**SKSdf**	**09 00 35.0**		**-3.2**
CD2				AMB		AMB			
	comp=Z,1μm,8.6s								
CD2				LR		LR			
	comp=Z,2μm,19.4s								
CD2				LR		LR			
	comp=Z,3μm,18.4s								
KKN	**Kakani**	**148.53**	**25**	*e*P		**PKPbc**	**08 53 33.1**		**-0.3**
DMN	**Daman**	**148.62**	**25**	*e*P		**PKPbc**	**08 53 33.3**		**-0.3**
GUN	**Gumba**	**148.68**	**24**	*e*P		**PKPbc**	**08 53 32.8**		**-1.1**
	comp=Z,168nm,1.0s								
CNSH	**ChangSha**	**148.68**	**337**	⇓PKPbc		**PKiKP**	**08 53 35.5**		**+0.6**
QZH	**Quanzhou**	**148.70**	**326**	⇓PKPbc		**PKiKP**	**08 53 35.1**		**+0.1**
QZH				PP		**PP**	**08 57 02.5**		**+0.2**
QZH				SS		SS	09 16 15.0		+3.1
QZH				AMB		AMB			
	comp=Z,930nm,8.3s								
QZH				LR		LR			
	comp=Z,2μm,19.4s								
QZH				LR		LR			
	comp=Z,1μm,18.7s								
QZH				LR		LR			
	comp=Z,3μm,18.4s								
TPUB	**Ta-pu**	**148.71**	**321**	IAMs_20		IAMs_20	10 05 43.4		
	comp=Z,2μm,20.0s								
LSA	**Lhasa**	**148.76**	**14**	IAMs_20		IAMs_20	10 08 00.0		
	comp=Z,2μm,22.0s								
LSA	**Lhasa**	**148.76**	**14**	PKPbc		**PKPbc**	**08 53 33.5**		**-0.7**
LSA				LR		LR			
	comp=Z,2μm,18.9s								
LSA				LR		LR			
	comp=Z,1μm,18.2s								
LSA				LR		LR			
	comp=Z,2μm,18.9s								
PKIN	**Phulchoki**	**148.77**	**25**	*e*P		**PKPbc**	**08 53 33.3**		**-0.7**
TWG	**Pinlang**	**148.77**	**320**	IAMs_20		IAMs_20	10 02 30.1		
	comp=Z,2μm,20.0s								
PKI	**Pulchoki**	**148.78**	**25**	*e*P		**PKPbc**	**08 53 33.4**		**-0.7**
	comp=Z,75nm,1.0s								
JIRN	**Jiri**	**149.02**	**24**	*e*P		**PKPbc**	**08 53 34.3**		**-0.5**
	comp=Z,83nm,1.1s								
KNMB	**Chin-men Tao**	**149.19**	**325**	IAMs_20		IAMs_20	10 06 59.2		
	comp=Z,3μm,20.0s								
TAPN	**Taplejung**	**149.89**	**22**	*e*P		**PKPbc**	**08 53 36.6**		**-0.3**
MBWA	**Marble Bar**	**151.74**	**222**			**PKPbc**	**08 53 40.4**		**-0.6**
GULI	**GuiLin**	**152.26**	**339**	PKPbc		**PKPbc**	**08 53 41.3**		**-0.8**
GULI				PP		PP	08 57 05.1		-17
GULI				SS		**PP**	**08 57 22.9**		**+0.6**
GULI				AMB		AMB			
	comp=Z,850nm,7.7s								
GULI				LR		LR			
	comp=N,1μm,22.1s								
GULI				LR		LR			
	comp=E,2μm,19.4s								
GULI				LR		LR			
	comp=Z,3μm,22.8s								
GYA	**Guiyang**	**152.26**	**347**	⇑PKPbc		**PKPdf**	**08 53 35.6**		**+0.1**
GYA				sPKP			08 53 44.0		
GYA				PKPab		**pPKPab**	**08 53 54.3**		**-0.8**
GYA				LR		LR			
	comp=Z,1μm,20.5s								
GYA				LR		LR			
	comp=Z,3μm,19.2s								
GYA				LR		LR			
	comp=Z,3μm,20.4s								
TNTI	**Ternate**	**152.32**	**273**	IAMs_20		IAMs_20	09 48 38.9		
	comp=Z,2μm,22.0s								
HYBB	**Hyderabad (bro**	**152.51**	**48**	*e*P		**PKPdf**	**08 53 35.0**		**-0.9**
HYBB				*e*PKiKP		**pPKPbc**	**08 53 44.7**		**-1.5**
HYBB				eSKSdf		**SKSdf**	**09 00 42.0**		**-1.9**
HYBB				eSKKSac		**SKKSac**	**09 04 14.3**		**-2.4**
HYBB	**Hyderabad (bro**	**152.51**	**48**	eSKKSac		SKKSac	09 04 14.2		-2.6
HYBB	**Hyderabad (bro**	**152.51**	**48**	*e*P		**PKPdf**	**08 53 36.4**		**+0.5**
HYBB	**Hyderabad (bro**	**152.51**	**48**	eSKSdf		**SKSdf**	**09 00 41.6**		**-2.3**
PZH	**PanZhiHua**	**152.96**	**356**	PKPbc		**PKPdf**	**08 53 36.3**		**-0.3**
PZH				pPKP		**PKPbc**	**08 53 43.4**		**-0.4**
PZH				PKPab		**pPKPab**	**08 53 58.5**		**+0.5**
PZH				SKKS			09 04 20.1		
PZH				SS		**SS**	**09 17 02.3**		**+4.3**
PZH				AMB		AMB			
	comp=Z,620nm,11.4s								
PZH				LR		LR			
	comp=Z,1μm,21.0s								
PZH				LR		LR			
	comp=Z,1μm,21.4s								
PZH				LR		LR			
	comp=Z,2μm,21.4s								
DAV	**Davao City (W)**	**153.09**	**287**	IAMs_20		IAMs_20	10 15 55.6		
	comp=Z,2μm,22.0s								
KMI	**Kunming**	**154.24**	**354**	⇑PKPbc		**PKPdf**	**08 53 38.9**		**+0.3**
KMI				PP		PP	08 57 41.6		+8.1
KMI				SKS		**SKSdf**	**09 00 43.8**		**-2.3**
KMI				AMB		AMB			
	comp=Z,520nm,7.5s								
KMI				LR		LR			
	comp=Z,2μm,21.1s								
KMI				LR		LR			
	comp=Z,1μm,21.7s								
KMI				LR		LR			
	comp=Z,4μm,21.1s								
PCHI	**Peechi**	**154.25**	**64**	⇑*e*P		**PKPdf**	**08 53 38.6**		**+0.1**
PCHI				*ex*		x	09 04 27.9		
MMRI	**Maumere**	**156.20**	**250**	IAMs_20		IAMs_20	10 02 44.0		
	comp=Z,2μm,20.0s								
LUWI	**Luwuk**	**156.94**	**269**	IAMs_20		IAMs_20	10 19 30.6		
	comp=Z,2μm,21.0s								
QIZ	**Qiongzhong**	**158.09**	**334**	PKP		**PKPdf**	**08 53 43.5**		**+0.1**
QIZ				PP		**PP**	**08 57 56.8**		**+1.7**
QIZ				SS		SS	09 17 54.3		+0.2
QIZ				AMB		AMB			
	comp=Z,1μm,8.8s								
QIZ				LR		LR			
	comp=Z,2μm,18.3s								
QIZ				LR		LR			
	comp=Z,3μm,19.5s								
QIZ				LR		LR			
	comp=Z,3μm,19.1s								
TOLI2	**Tolitoli**	**158.87**	**275**	IAMs_20		IAMs_20	10 21 51.4		
	comp=Z,2μm,22.0s								
KAPI	**Kappang**	**159.52**	**257**	IAMs_20		IAMs_20	10 16 11.7		
	comp=Z,2μm,21.0s								
CMAR	**Chiang Mai Arr**	**161.03**	**2**	PKP		**PKPdf**	**08 53 46.7**		**-0.1**
	comp=Z,0.8nm,0.3s,baz=300,slow=2.1,SNR=7.9								
CMAR				PKPab		**PKPab**	**08 54 30.1**		**+0.7**
	comp=Z,3.2nm,0.6s,baz=343,slow=4.9,SNR=7.2								
CMAR	**Chiang Mai Arr**	**161.03**	**2**	PKIKP		**PKPdf**	**08 53 46.6**		**-0.2**

IDC ***20*** *08:35:07.6±0.5, 0.75N×79.96W, h0km, mb4.8/29, mb1 5.0/33, mb1mx4.8/53, mbtmp4.9/33, ML4.4/2, MS5.8/11, Ms1 5.8/11, ms1mx5.5/28 Error ellipse: s-maj=19.1km s-min=11.1km az=57.0*

IGQ ***20*** *08:35:07±0.6, 1°N±2°×8°W±°, h4km*

NEIC ***20*** *08:35:10.6±2.9, 0.71N±0.06×80.04W±0.07, h10km±1km, mb5.5/54, Mwb6.0/54, Error ellipse: s-maj=11.4km s-min=9.5km az=257.0*

GCMT ***20*** *08:35:11.6±0.1, 0.57N±0.01×80.36W±0.01, h22km, MW6.1/157, Moment Tensor Solution. s157,c359; Duration: 2s6 Moment tensor: Scale 10¹⁸Nm; Mrr1.25±.05; Mθθ-0.19±.02; Mϕϕ-1.06±.03; Mrθ0.03±.03; Mθϕ-0.23±.01; Mϕr-1.02±.04; Best double couple: M₀1.56000×10¹⁸ NP1:ϕ₁20.00000°, δ25.00000°, λ105.00000°. NP2:ϕ₂184.00000°, δ65.00000°, λ83.00000°. Principal axes: T 1.6420, Plg69.0000°, Azm81.0000°; N -0.1610, Plg6.0000°, Azm187.0000°; P -1.4770, Plg20.0000°, Azm279.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***20*** *08:35:11, 0.70N×80.01W, h11km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.36; Mθθ0.16; Mϕϕ-0.52; Mrθ-0.35; Mθϕ-0.09; Mϕr-1.01; Fault plane solution: M₀1.17000×10¹⁸ NP1:ϕ₁199.22000°, δ79.00000°, λ97.01000°. NP2:ϕ₂346.41000°, δ13.03000°, λ57.87000°. Principal axes: T 1.0925, Plg55.0000°, Azm118.0000°; N 0.1412, Plg7.0000°, Azm18.0000°; P -1.2338, Plg34.0000°, Azm283.0000°;*

ISC 20 08:35:09.6±0.8, 0.65N±0.02×80.12W±0.03, h13km±4km, n207, σ1§25/219, mb5.2/46, MS5.7/10, 1C-8D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTGL	**Punta Galera**	**0.16**	**35**	P	**Pg**	**08 35 13.0**	**-0.4**
ASAM	**Ecuador-Same-C**	**0.28**	**48**	P	**Pg**	**08 35 14.0**	**-1.5**
ASAM				S	**Sg**	**08 35 20.0**	**+0.6**
AATC	**Ecuador-Atacam**	**0.33**	**51**	P	**Pg**	**08 35 16.0**	**-0.4**
AATC				S	**Sb**	**08 35 23.0**	**+0.4**
ATON	**Ecuador-Tonsup**	**0.39**	**53**	P	**Pg**	**08 35 16.0**	**-1.4**
ATON				S	**Sb**	**08 35 24.0**	**-0.2**
AMA1	**Acelerografo,**	**0.48**	**55**	P	**Pg**	**08 35 19.0**	**-0.2**
AMA1				S	**Sn**	**08 35 30.0**	**-0.7**
AES1	**Ecuador-Esmera**	**0.53**	**55**	P	**Pg**	**08 35 20.0**	**0.0**
AES1				S	**Sn**	**08 35 31.0**	**-0.7**
AV21	**Acelerografo,**	**0.57**	**89**	P	**Pg**	**08 35 21.0**	**+0.1**
AV21				S	**Sn**	**08 35 32.0**	**-0.8**
AES2	**Ecuador-Puerto**	**0.58**	**55**	P	**Pg**	**08 35 20.0**	**-1.0**
AES2				S	**Sn**	**08 35 32.0**	**-1.0**
APED	**Ecuador-Perden**	**0.58**	**174**	P	**Pg**	**08 35 19.0**	**-2.1**
APED				S	**Sg**	**08 35 29.0**	**+0.1**
AV18	**Acelerografo,**	**0.73**	**118**	P	**Pg**	**08 35 24.0**	**+0.2**
JAMA	**Jama**	**0.91**	**185**	P	**Pg**	**08 35 25.0**	**-2.3**
JAMA				S	**Sg**	**08 35 38.0**	**-1.3**
BV15	**Puerto Quito-O**	**1.02**	**119**	P	**Pb**	**08 35 29.0**	**-0.2**
BV15				S	**Sn**	**08 35 44.0**	**0.0**
FLF1	**Flavio Alfaro-**	**1.04**	**165**	S	**Sn**	**08 35 46.0**	**+1.5**
APR2	**Miler**	**1.29**	**116**	P	**Pn**	**08 35 32.0**	**-1.4**
APR2				S	**Sg**	**08 35 51.0**	**-0.2**
ASDO	**Santo Domingo**	**1.35**	**132**	P	**Pn**	**08 35 32.0**	**-2.3**
ASDO				S	**Sb**	**08 35 51.0**	**-1.1**
PAC1	**Pacto, Paraso**	**1.38**	**106**	*e*P	**Pn**	**08 35 34.5**	**-0.3**
PAC1	**Pacto, Paraso**	**1.38**	**106**	P	**Pn**	**08 35 34.0**	**-0.8**
ACHO	**Acelerografo,**	**1.41**	**107**	P	**Pn**	**08 35 33.0**	**-2.1**
ACHO				S	**Sb**	**08 35 54.0**	**+0.2**
ALOR	**Ecuador-San Lo**	**1.42**	**64**	P	**Pn**	**08 35 34.0**	**-1.2**
APR1	**Acelerografo,**	**1.66**	**115**	P	**Pn**	**08 35 38.0**	**-0.8**
BUFE	**BUENA FE, CENT**	**1.67**	**158**	P	**Pn**	**08 35 38.0**	**-0.6**
OTAV	**Otavalo**	**1.72**	**104**	Pn	**Pn**	**08 35 39.5**	**-0.2**
GGPT	**Toaza - Volcan**	**1.73**	**120**	P	**Pb**	**08 35 41.0**	**-0.6**
PULU	**Pululahua**	**1.74**	**111**		**Pn**	**08 35 40.1**	**+0.1**
PULU	**Pululahua**	**1.74**	**111**	P	**Pn**	**08 35 40.0**	**+0.1**
CUSE	**Cuicocha Este**	**1.76**	**101**	*e*P	**Pn**	**08 35 40.4**	**+0.2**
CUSE				*e*P	**Pb**	**08 35 40.7**	**-1.3**
CUSE	**Cuicocha Este**	**1.76**	**101**	P	**Pn**	**08 35 40.0**	**-0.2**
ALIT	**Ecuador-Imbabu**	**1.77**	**85**	P	**Pn**	**08 35 39.0**	**-1.1**
LITE1	**Lita**	**1.77**	**85**	P	**Pn**	**08 35 41.0**	**+0.9**
LLOA	**Lloa**	**1.79**	**119**	P	**Pn**	**08 35 40.0**	**-0.7**
CUIC	**Cuicocha-Domo**	**1.79**	**101**	P	**Pn**	**08 35 41.0**	**+0.3**
SADP	**Ecuador-Quito-**	**1.79**	**111**	P	**Pn**	**08 35 40.0**	**-0.6**
CUSW	**Cuicocha Oeste**	**1.81**	**102**	P	**Pn**	**08 35 41.0**	**+0.1**
PRAM	**Casa Patricio**	**1.81**	**116**	P	**Pn**	**08 35 41.0**	**+0.1**
CTUM2	**Tumaco**	**1.81**	**50**	*e*P	**Pn**	**08 35 39.8**	**-0.8**
FENY	**Casa Vilonio C**	**1.82**	**116**	P	**Pn**	**08 35 41.0**	**0.0**
SANF	**Convento San F**	**1.82**	**118**	P	**Pn**	**08 35 41.0**	**-0.1**
ZALD	**Colegio Gonzal**	**1.82**	**120**	P	**Pn**	**08 35 41.0**	**-0.1**
CRPG	**Carapungo - Pi**	**1.83**	**114**	P	**Pn**	**08 35 42.0**	**+0.9**
VIFL	**Administracin**	**1.83

baz=206,slow=21,SNR=1.1
ROSC LR LR 08 40 01.4
comp=Z,240µm,18.1s,baz=74,slow=42
ROSC El Rosal 7.13 54 Pn **Pn 08 36 55.9 +1.8**
CHIC Chingaza 7.50 58 *eP* **Pn 08 37 02.8 +3.5**
BRU2 Volcan 8.48 343 Pn **Pn 08 37 14.3 +1.9**
PAYG Puerto Ayora 10.25 263 *eP* **Pn 08 37 37.2 +0.6**
JTS Las Juntas de 10.71 334 Pn **Pn 08 37 43.6 +0.7**
1.7nm,0.3s,baz=185,slow=11,SNR=5.7
JTS Sn **Sn 08 39 40.9 -1.9**
0.7nm,0.3s,baz=174,slow=22,SNR=1.8
ORTG Ortega, Santa 11.01 331 Pn **Pn 08 37 48.7 +1.7**
HZTE Horizontes, Gu 11.38 332 Pn **Pn 08 37 53.1 +1.0**
ESPN Las Esperanzas 12.19 340 Pn **Pn 08 38 04.0 +0.8**
SDV Santo Domingo 12.49 49 Pn **Pn 08 38 06.4 -1.1**
baz=213,slow=16,SNR=1.5
NNA Nana 12.97 166 Pn **Pn 08 38 16.2 +2.3**
5.3nm,0.3s,baz=352,slow=14,SNR=1.3
NNA Sn **Sn 08 40 36.9 -1.4**
11nm,0.3s,baz=23,slow=7.1,SNR=2.6
NNA Nana 12.97 166 Pn **Pn 08 38 14.9 +1.0**
TGUH Tegucigalpa,Un 15.08 332 Pn **Pn 08 38 43.1 +0.4**
SNET Serv Nac Est T 15.78 326 **Pn 08 38 51.7 -0.2**
SNET IAmb IAmb 08 39 03.6
comp=Z,436nm,1.2s
BIRV Birongo 16.88 54 **Pn 08 39 06.7 +0.9**
LPAZ La Paz 20.58 145 P **P 08 39 49.5 +0.4**
comp=Z,48nm,0.7s,baz=278,slow=12,SNR=1.5
LPAZ LR LR 08 48 52.1
comp=Z,101µm,19.2s,baz=314,slow=40
LPAZ La Paz 20.58 145 P **P 08 39 49.1 0.0**
LPAZ IAmb IAmb 08 39 58.0
comp=Z,306nm,1.4s
DR12 Loma Pena Alta 20.88 30 P **P 08 39 52.3 +0.6**
CRPR Cabo Rojo, PR 21.47 36 P **P 08 39 58.4 +0.4**
CRPR IAmb IAmb 08 40 07.5
comp=Z,119nm,1.0s
GRGR Grenville 21.58 57 P **P 08 39 60.0 +0.7**
CMIG Matias Romero 21.86 319 P **P 08 40 03.4 +1.1**
comp=Z,62nm,1.2s,baz=112,slow=9.7,SNR=2.0
SJG San Juan 22.12 38 P **P 08 40 02.9 -2.2**
comp=Z,27nm,0.8s,baz=176,slow=5.0,SNR=1.0
TOSP Speyside 22.14 61 P **P 08 40 03.9 -1.4**
TOSP IAmb IAmb 08 40 10.2
comp=Z,254nm,1.0s
PB08 IPOC Station P 23.29 153 P **P 08 40 19.6 +1.8**
PB08 IAmb IAmb 08 40 46.1
comp=Z,291nm,1.3s
FDF Fort de France 23.39 52 P **P 08 40 19.4 +0.9**
ILAM Ilet Lapin Mar 23.64 53 P **P 08 40 21.6 +0.8**
PB02 IPOC Station P 24.02 156 P **P 08 40 26.9 +2.4**
PB02 IAmb IAmb 08 40 41.1
comp=Z,248nm,1.1s
PB07 IPOC Station P 24.39 156 P **P 08 40 30.4 +2.4**
SIV San Ignacio 25.05 132 P **P 08 40 34.7 +0.8**
comp=Z,26nm,0.8s,baz=323,slow=12,SNR=1.6
SIV LR LR 08 50 57.7
comp=Z,32µm,20.8s,baz=320,slow=38
LVC Limon Verde 25.57 155 P **P 08 40 40.1 +1.1**
comp=Z,52nm,1.1s,baz=356,slow=5.1,SNR=1.3
MDP Montagnes des 27.79 80 P **P 08 40 57.4 -1.4**
comp=Z,97nm,1.1s,baz=262,slow=8.9,SNR=5.8
LRAL Lakeview Retre 32.85 349 P **P 08 41 42.9 -0.4**
CPUP Villa Florida 34.68 142 P **P 08 41 58.0 -1.2**
comp=Z,15nm,0.9s,baz=330,slow=8.1,SNR=3.7
CPUP Villa Florida 34.68 142 P **P 08 41 58.4 -0.9**
CPUP IAmb IAmb 08 42 11.2
comp=Z,170nm,1.9s
CPCT Cooper Cave 34.86 354 P **P 08 41 59.2 -1.4**
TKL Tuckaleechee C 34.99 355 P **P 08 42 01.3 -0.5**
comp=Z,21nm,1.1s,baz=173,slow=9.4,SNR=3.5
MT09 Talagante 35.31 167 P **P 08 42 06.6 +1.9**
BDFB Brasilia 35.61 118 P **P 08 42 06.5 -1.0**
comp=Z,22nm,0.8s,baz=350,slow=5.4,SNR=2.2
BDFB Brasilia 35.61 118 P **P 08 42 07.2 -0.3**
BDFB IAmb IAmb 08 42 14.6
comp=Z,167nm,1.5s
TXAR Lajitas Array 36.30 324 P **P 08 42 14.5 +1.2**
comp=Z,1.9nm,0.8s,baz=139,slow=9.8,SNR=3.7
TXAR PcP **PcP 08 44 39.2 +1.0**
comp=Z,2.1nm,0.8s,baz=163,slow=7.2,SNR=1.5
HDIL Hopedale 40.58 349 P **P 08 42 46.0 -3.0**
M50A Fremont 40.65 357 P **P 08 42 48.6 -0.9**
TRNY Table Rock, Ra 40.66 7 P **P 08 42 48.4 -1.2**
LENM Lemitar 41.75 326 P **P 08 43 00.8 +1.9**
ANMO Albuquerque 42.04 327 P **P 08 43 01.4 +0.1**
comp=Z,20nm,0.8s,baz=152,slow=9.1,SNR=2.5
ANMO Albuquerque 42.04 327 P **P 08 43 01.3 -0.1**
PLCA Paso Flores 42.10 169 P **P 08 43 01.2 -0.4**
comp=Z,36nm,0.9s,baz=346,slow=9.5,SNR=5.5
PLCA Paso Flores 42.10 169 P **P 08 43 01.1 -0.5**
PLCA IAmb IAmb 08 43 10.2
comp=Z,120nm,1.1s
J47A Sunmer 42.60 355 P **P 08 43 04.8 -0.8**
I49A Point Hope 43.17 357 P **P 08 43 07.4 -2.7**
PFO Pinyon Flats O 47.28 318 P **P 08 43 43.3 +0.2**
comp=Z,6.9nm,1.1s,baz=217,slow=4.8,SNR=1.6
PDAR Pinedale Array 49.54 330 P **P 08 44 00.5 0.0**
comp=Z,6.8nm,0.9s,baz=128,slow=8.1,SNR=4.1
ULM Lac du Bonnet 51.21 347 P **P 08 44 09.4 -3.3**
comp=Z,20nm,1.0s,baz=151,slow=12,SNR=2.4
ULM LR LR 09 06 37.2
comp=Z,5µm,21.7s,baz=161,slow=37
ULM Lac du Bonnet 51.21 347 IAmb IAmb 08 44 10.6
comp=Z,36nm,1.1s
NVAR Mina Array Bea 51.37 322 P **P 08 44 14.7 +0.3**
comp=Z,4.2nm,0.7s,baz=123,slow=6.0,SNR=1.3
NVAR ScP **ScP 08 49 29.0 +3.3**
comp=Z,0.8nm,0.8s,baz=108,slow=5.8,SNR=2.8
SCHQ Schefferville 55.09 9 LR LR 09 08 09.3
comp=Z,7µm,21.5s,baz=197,slow=36
YBH Yreka Blue Hor 56.05 322 P **P 08 44 47.3 -1.3**
comp=Z,3.5nm,0.6s,baz=145,slow=1.3,SNR=1.8
USHA Ushuaia 56.13 172 P **P 08 44 49.3 +0.6**
comp=Z,14nm,1.0s,baz=314,slow=6.6,SNR=1.9
NEW Newport 57.18 331 P **P 08 44 57.6 +1.2**
comp=Z,5.4nm,0.8s,baz=102,slow=4.8,SNR=2.0
SFJD Kangerlussuaq 69.36 12 P **P 08 46 14.9 -1.8**
comp=Z,11nm,0.9s,baz=144,slow=4.4,SNR=4.1
SFJD LR LR 09 16 06.9
comp=Z,5µm,20.6s,baz=214,slow=36
SFJD Kangerlussuaq 69.36 12 IAmb IAmb 08 46 23.3
comp=Z,22nm,1.1s
DLBC Dease Lake 69.61 335 P **P 08 46 18.7 +0.2**
comp=Z,15nm,0.9s,baz=233,slow=22,SNR=8.1
DLBC Dease Lake 69.61 335 IAmb IAmb 08 46 43.1
comp=Z,46nm,1.2s
LIC Lamto 75.11 84 *e*PKP1 **P 08 46 53.5 +1.3**
comp=Z,106nm,1.6s
TIC Toumodi 75.12 83 *e*PKP1 **P 08 46 53.0 +0.7**
DBIC Dimbokro 75.29 83 P **P 08 46 53.1 -0.1**
comp=Z,18nm,1.0s,baz=266,slow=6.2,SNR=4.1
DBIC Dimbokro 75.29 83 IAmb IAmb 08 46 55.9
comp=Z,274nm,2.0s
KIC Kosan Boka 75.40 84 *e*PKP1 **P 08 46 54.1 +0.2**
comp=Z,61nm,0.9s
KOWA Kowa 76.38 75 P **P 08 46 58.8 -0.6**
BORG Borgarnes 76.56 22 LR LR 09 17 39.9
comp=Z,4µm,20.8s,baz=242,slow=33
INK Inuvik 76.58 342 P **P 08 46 58.1 -1.4**
comp=Z,13nm,0.9s,baz=108,slow=11,SNR=3.1
INK Inuvik 76.58 342 IAmb IAmb 08 47 23.3
comp=Z,50nm,1.2s
M27K Edge Creek, AK 76.66 335 P **P 08 47 00.6 +0.4**
M27K IAmb IAmb 08 47 28.7
comp=Z,43nm,1.4s
GLB Gilahina Butte 77.12 334 P **P 08 47 02.3 -0.5**
GLB IAmb IAmb 08 47 07.3
comp=Z,71nm,1.6s
BMRM Bremner River 77.29 333 P **P 08 47 03.6 -0.1**
BMRM IAmb IAmb 08 47 38.3
comp=Z,140nm,1.8s
SCRK Sand Creek 78.20 336 P **P 08 47 09.1 +0.3**
RIDG Independent Ri 78.46 336 P **P 08 47 10.6 +0.4**
RIDG IAmb IAmb 08 47 15.8
comp=Z,78nm,1.4s
PAB San Pablo 78.63 50 P **P 08 47 12.0 +0.4**
PAB IAmb IAmb 08 47 35.6
comp=Z,121nm,1.9s
ESDC Sonseca Array 78.94 50 P **P 08 47 12.1 -1.2**
comp=Z,10nm,1.1s,baz=267,slow=5.6,SNR=2.2
ESDC Sonseca Array 78.94 50 IAmb IAmb 08 47 42.3
comp=Z,126nm,1.9s
ILAR Eielson Array 79.67 336 P **P 08 47 17.1 +0.4**
comp=Z,2.5nm,0.8s,baz=121,slow=5.1,SNR=1.9
PPLA Purkeypile 81.31 334 P **P 08 47 26.4 +0.7**

TOA0 Torodi Ar. Sit 81.88 77 P **P 08 47 28.0 -1.5**
TORD Torodi Ar. Bea 81.88 77 P **P 08 47 27.5 -2.1**
comp=Z,8.8nm,0.7s,baz=285,slow=6.2,SNR=8.4
TORD LR LR 09 21 03.4
comp=Z,4µm,21.8s,baz=250,slow=34
TORD Torodi Ar. Bea 81.88 77 P **P 08 47 27.8 -1.8**
EKA Eskdalemuir Ar 82.06 34 P **P 08 47 28.6 -1.0**
comp=Z,6.6nm,0.9s,baz=253,slow=4.9,SNR=2.5
BELA Belgrano 2 82.12 171 P **P 08 47 31.4 +1.8**
BELA IAmb IAmb 08 47 54.5
comp=Z,62nm,1.5s
N18K Kilae Creek 82.48 331 P **P 08 47 33.2 +1.4**
N18K IAmb IAmb 08 47 36.2
comp=Z,29nm,1.1s
J20K Nowinta River 82.49 335 P **P 08 47 33.5 +1.8**
J20K IAmb IAmb 08 49 29.1
comp=Z,116nm,1.9s
JMIC Jan Mayen 83.45 18 LR LR 09 23 11.0
comp=Z,2µm,20.1s,baz=245,slow=35
BMRD Maredsous 86.22 40 *d*P **P 08 47 50.8 -0.2**
BMRD *d*PcP **PcP 08 47 53.4 -0.1**
BGES Gesves 86.44 40 *d*PcP **PcP 08 47 54.4 -0.1**
RCHB Rochefort 86.51 40 *d*P **P 08 47 51.9 -0.5**
RCHB *d*PcP **PcP 08 47 54.6 -0.2**
BCLA Clavier 86.57 40 *d*PcP **PcP 08 47 55.2 +0.1**
BHOU Houvegnez 87.02 40 *d*P **P 08 47 54.8 -0.1**
WLF Walferdange 87.08 40 *d*P **P 08 47 54.6 -0.6**
TUE Stuetta 89.16 44 P **P 08 48 05.0 -0.5**
TUE IAmb IAmb 08 48 33.1
comp=Z,45nm,1.4s
KEST Kesra 89.19 54 P **P 08 48 05.7 +0.1**
comp=Z,5.4nm,0.9s,baz=197,slow=3.8,SNR=2.0
DAVOX Davos/Dischmat 89.53 43 P **P 08 48 07.8 +0.6**
comp=Z,6.7nm,0.7s,baz=342,slow=8.1,SNR=4.1
QSPA South Pole Qui 90.70 180 P **P 08 48 11.3 -0.7**
QSPA IAmb IAmb 08 48 20.3
comp=Z,53nm,1.1s
HFS Hagfors 91.35 30 LR LR 09 25 07.2
comp=Z,3µm,21.8s,baz=270,slow=33
CLL Collm 91.45 39 *i* P **P 08 48 15.8 0.0**
comp=Z,81nm,2.1s
CLL *i* x x 08 48 35.3
CLL *e*Sx **S 08 59 16.0 +1.0**
BRG Berggiesshubel 92.07 39 *e*P **P 08 48 18.2 -0.4**
BRG Amp 08 48 21.2
comp=Z,71nm,2.1s
VAE Valguarnera 93.21 53 LR LR 09 29 40.8
comp=Z,3µm,18.5s,baz=155,slow=35
KRUC Moravsky 93.79 41 *e*P **P 08 48 24.8 -1.8**
VRAC Vranov 93.90 41 *e*P **P 08 48 27.2 +0.1**
MORC Moravsky Berou 94.46 40 *e*P **P 08 48 29.8 0.0**
JAVC Velka Javorina 94.65 41 *e*P **P 08 48 31.4 +0.8**
VNDA Vanda 96.50 191 P **P 08 48 40.1 +1.7**
comp=Z,0.6nm,0.8s,baz=130,slow=5.6,SNR=1.4
VNDA Vanda 96.50 191 P **P 08 48 40.5 +2.1**
VNDA IAmb IAmb 08 50 00.1
comp=Z,26nm,1.9s
SYO Syowa Base 100.90 161 *e*PdiffpPdif 08 49 01.0 -1.6
ZALV Zalesovo Beam 124.17 11 PKP **PKPdf 08 54 06.6 -1.5**
comp=Z,4.2nm,0.9s,baz=321,slow=1.8,SNR=2.2
KURBB Kurchatov Arra 125.77 17 PKP **PKPdf 08 54 08.9 -2.3**
comp=Z,4.1nm,0.6s,baz=327,slow=2.4,SNR=4.8
STKA Stephens Creek 129.87 228 PKP **PKPdf 08 54 19.2 -0.5**
comp=Z,2.3nm,0.8s,baz=20,slow=2.2,SNR=3.1
MKAR Makanchi Array 130.29 16 PKP **PKPdf 08 54 17.9 -2.2**
comp=Z,1.6nm,0.7s,baz=300,slow=0.6,SNR=2.7
KSRS Korea Array 134.06 329 PKP **PKPdf 08 54 27.8 +0.4**
comp=Z,1.8nm,0.7s,baz=2.5,slow=1.1,SNR=2.5
KSAR Wonju Array Be 134.09 329 PKPdf **PKiKP 08 54 28.3 -0.5**
WMQ Urumqi 134.40 12 *e*P **PKiKP 08 54 29.5 +0.2**
WMQ LR LR
comp=N,2µm,19.7s
WMQ LR LR
comp=E,2µm,21.7s
WMQ LR LR
comp=Z,3µm,21.7s
ASAR Alice Springs 139.85 233 PKhKP PKPpre 08 54 30.6
comp=Z,1.7nm,0.8s,baz=121,slow=3.0,SNR=1.2
WRA Warramunga Arr 141.21 238 PKhKP PKPpre 08 54 35.2
comp=Z,5.7nm,0.9s,baz=118,slow=2.2,SNR=5.2
WB0 Warramunga Arr 141.24 238 PKPdf **PKPdf 08 54 41.0 -0.1**
NJ2 Nanjing 142.84 333 *e*P **PKPdf 08 54 44.0 +0.4**
LZH Lanzhou 143.26 355 *e*PKP PKPab 08 54 38.4 -1.8
LZH pPKP pPKPdf 08 54 48.8 -0.2
LZH sPKP 08 54 54.3
MTN Manton Dam 146.74 247 PKPdf **PKPdf 08 54 50.4 -0.5**
KNRA Kununurra 147.83 241 PKPdf **PKPdf 08 54 53.3 +0.7**
HYBB Hyderabad (bro 152.36 48 *e*SKPdf **PKPdf 08 54 58.5 -1.2**
HYBB *e*SKPbc **pPKPbc 08 55 11.3 +0.3**
HYBB *e*SKPdf **SKPdf 08 58 32.4 -0.6**
HYBB *e*PP **PP 08 58 49.6 +1.5**
HYBB *e*SKSdf **SKSdf 09 02 06.6 -0.8**
HYBB *e*SKKSdf **SKKSdf 09 10 52.5 -0.1**
PZH PanZhiHua 152.94 356 PKPbc **PKPdf 08 55 00.5 0.0**
QIZ Qiongzhong 158.13 334 PKP **PKPdf 08 55 07.8 +0.3**
QIZ PP **PP 08 59 21.3 +2.0**

*IGQ **20** 08:53:40±0.7, 1°N±3°×8°0W±°, h5km*
*IDC **20** 08:54:14.8±1.8, 0.45N×80.45W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/35, mbtmp3.7/5, ML2.5/1, Error ellipse: s-maj=42.1km s-min=29.7km az=71.0*
ISC 20 08:54:16.3±1.3, 0.2N±0.1×80.3W±0.1, h10km, n13, σ1§40/13, mb3.8/3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
PAC1	**Pacto, Paraso**	**1.47**	**86**	*e*P	**Pn**	**08 54 43.2**	**+0.1**
PAC1				*e*S	**Sn**	**08 55 01.2**	**-1.2**
CUSE	**Cuicocha Este**	**1.87**	**86**	*e*P	**Pn**	**08 54 49.2**	**+0.5**
CTUM2	**Tumaco**	**2.25**	**43**	*e*P	Pn	08 54 49.1	-4.6
TULM	**Tulcn-Chalpat**	**2.53**	**78**	*e*P	**Pb**	**08 55 00.9**	**-1.2**
CMBC	**Cumbal**	**2.55**	**72**	*e*P	**Pn**	**08 54 58.5**	**+0.3**
CRUC	**La Cruz**	**3.59**	**67**	*e*P	**Pn**	**08 55 12.4**	**0.0**
SOTA	**Rioblanco**	**4.14**	**62**	*e*P	**Pn**	**08 55 20.0**	**-0.1**
ROSC	**El Rosal**	**7.53**	**52**	Pn	**Pn**	**08 56 07.8**	**+1.1**
ROSC	1.5nm,0.3s,baz=328,slow=24,SNR=1.5			Sn	**Sn**	**08 57 34.5**	**+2.1**
	baz=290,slow=22,SNR=0.9						
LPAZ	**La Paz**	**20.26**	**144**	P	Pn	08 58 57.7	+3.0
	2.4nm,0.7s,baz=341,slow=8.7,SNR=5.4						
SIV	**San Ignacio**	**24.83**	**131**	P	**P**	**08 59 41.8**	**+2.8**
	0.8nm,0.4s,baz=292,slow=11,SNR=2.3						
YKA	**Yellowknife Ar**	**67.30**	**344**	P	**P**	**09 05 09.6**	**-1.4**
	0.1nm,0.7s,baz=140,slow=5.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**82.13**	**77**	P	**P**	**09 06 37.3**	**-0.7**
	0.4nm,0.5s,baz=278,slow=6.5,SNR=6.7						
WRA	**Warramunga Arr**	**140.84**	**238**	PKP	**PKPdf**	**09 13 48.1**	**+0.5**
	0.3nm,0.7s,baz=109,slow=2.2,SNR=2.1						

TRN 20 08:56:19.7, 18.18N×61.45W, h21km, MD4.0, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
ANWB	**Willy Bob**	**0.59**	**212**	*e*P	Pn	08 56 33.4	+0.5
ANWB				*e*S	Sn	08 56 44.0	+2.1
ANDO	**Antigua, Disas**	**1.12**	**199**	*e*P	Pb	08 56 41.7	+1.4
ANDO				*e*S	Sn	08 56 57.9	+3.1
ANBD	**Bethesda, Anti**	**1.16**	**195**	*e*P	Pb	08 56 42.2	+1.1
ANBD				*e*S	Sn	08 56 58.5	+2.6
BPA	**Boggy Peak**	**1.19**	**199**	*e*P	Pb	08 56 41.8	+0.2
BPA				*e*S	Sn	08 56 59.6	+3.0
SKOC	**St. Kitts, UWI**	**1.50**	**234**	*e*P	Pb	08 56 47.1	+0.2
SKOC				*e*S	Sb	08 57 07.3	+1.8
SMRT	**St. Maarten**	**1.55**	**266**	*e*P	Pb	08 56 47.2	-0.5
SMRT				*e*S	Sb	08 57 08.5	+1.7
MBFL	**Flemmings, Mon**	**1.59**	**207**	*e*P	Pb	08 56 48.7	+0.2
MBFL				*e*S	Sb	08 57 09.8	+1.7
SEUS	**St. Eustatius**	**1.61**	**245**	*e*P	Pb	08 56 48.4	-0.3
SEUS				*e*S	Sb	08 57 10.7	+2.2
MLYT	**Lee's Yard**	**1.61**	**206**	*e*P	Pb	08 56 48.3	-0.4
MLYT				*e*S	Sb	08 57 09.2	+0.6
ABD	**La Joyeuse, An**	**1.69**	**181**	*e*P	Pb	08 56 49.8	-0.3
ABD				*e*S	Sb	08 57 12.0	+1.0
CBE	**Ff, Capester**	**2.10**	**184**	*e*P	Pb	08 56 56.0	-1.1
CBE				*e*S	Sb	08 57 21.8	-0.9
MAGL	**Barre de l'ile**	**2.22**	**176**	*e*P	Pb	08 56 57.6	-1.5
MAGL				*e*S	Sb	08 57 24.7	-1.4
TBG	**Guadaloupe-3**	**2.32**	**185**	*e*S	Sn	08 57 26.3	+1.8
TDBA	**Terre de Bas,**	**2.32**	**184**	*e*P	Pb	08 56 59.2	-1.6
TDBA				*e*S	Sb	08 57 27.5	-1.6
DSLB	**Salisbury**	**2.72**	**179**	*e*P	Pn	08 57 04.9	+2.6
DSLB				*e*S	Sn	08 57 36.4	+1.9
ILAM	**Ilet Lapin Mar**	**3.43**	**171**	*e*S	Sn	08 57 54.3	+2.5
FDF	**Fort de France**	**3.44**	**175**	*e*S	Sn	08 57 53.4	+1.2
BIM	**Bigot**	**3.66**	**174**	*e*P	Pn	08 57 16.9	+1.8
BIM				*e*S	Sn	08 58 00.3	+2.7
MPOM	**Morne Pois Mar**	**3.75**	**171**	*e*P	Pn	08 57 18.6	+2.2
MPOM				*e*S	Sn	08 58 01.3	+1.3
SLBI	**Saint Lucia, B**	**4.15**	**174**	*e*P	Pn	08 57 24.1	+2.2
SLBI	**Saint Lucia, B**	**4.15**	**174**	*e*S	Sn	08 58 10.4	+0.6

*IDC **20** 08:56:45.7±1.0, 0.52N×80.23W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/36, mbtmp3.8/9, ML2.6/2, Error ellipse: s-maj=29.4km s-min=19.0km az=59.0*
*IGQ **20** 08:56:51±1.0, 1°N±3°×8°0W±°, h7km*
*NEIC **20** 08:56:51.0±2.7, 0.47N±0.04×80.06W±0.06, h20km±5km, mb4.1/4, Error ellipse: s-maj=9.5km s-min=4.8km az=73.0*
ISC 20 08:56:49.2±0.7, 0.53N±0.04×80.09W±0.05, h17km, n73, σ1§53/71, mb3.9/6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
AMA1	**Acelerografo,**	**0.54**	**43**	P	**Pg**	**08 56 59.0**	**-1.1**
AMA1				S	**Sn**	**08 57 10.0**	**-1.0**
MAG1	**Magdalena**	**0.68**	**152**	P	**Pb**	**08 57 03.0**	**+0.3**
FLF1	**Flavio Alfaro-**	**0.92**	**164**	P	**Pn**	**08 57 08.0**	**+0.6**
BV15	**Puerto Quito-O**	**0.95**	**113**	P	**Pb**	**08 57 07.0**	**-0.2**
PAC1	**Pacto, Paraso**	**1.33**	**101**	*e*P	**Pn**	**08 57 12.8**	**-0.4**
PAC1				*e*S	**Sb**	**08 57 31.5**	**+0.8**
PAC1	**Pacto, Paraso**	**1.33**	**101**	P	**Pn**	**08 57 12.0**	**-1.2**
HPAL	**Hacienda Las P**	**1.62**	**117**	P	**Pn**	**08 57 16.0**	**-1.4**
PINO	**Pino**	**1.64**	**115**	P	**Pn**	**08 57 17.0**	**-0.8**
TERV	**Terraza Guagua**	**1.65**	**115**	P	**Pn**	**08 57 18.0**	**+0.1**
GGPT	**Toaza - Volcan**	**1.65**	**117**	P	**Pn**	**08 57 18.0**	**+0.1**
YANA	**Yana**	**1.65**	**113**	P	**Pn**	**08 57 17.0**	**-0.9**
JUA2	**San Juan 2**	**1.66**	**116**	P	**Pn**	**08 57 18.0**	**-0.1**
OTAV	**Otavalo**	**1.67**	**100**	Pn	**Pn**	**08 57 18.2**	**+0.1**
PULU	**Pululahua**	**1.67**	**108**		**Pn**	**08 57 18.6**	**+0.5**
PULU	**Pululahua**	**1.67**	**108**	P	**Pn**	**08 57 18.0**	**-0.1**
CUSE	**Cuicocha Este**	**1.71**	**98**	*e*P	**Pn**	**08 57 18.8**	**+0.2**
CUSE				*e*S	**Sb**	**08 57 43.0**	**+1.2**
CUSE	**Cuicocha Este**	**1.71**	**98**	P	**Pn**	**08 57 18.0**	**-0.7**
CUIC	**Cuicocha-Domo**	**1.75**	**97**	P	**Pn**	**08 57 19.0**	**-0.2**
CUSW	**Cuicocha Oeste**	**1.76**	**98**	P	**Pn**	**08 57 19.0**	**-0.3**
URCU	**Urcuqui**	**1.84**	**93**	P	**Pn**	**08 57 21.0**	**+0.5**
CTUM2	**Tumaco**	**1.88**	**47**	*e*P	**Pn**	**08 57 19.0**	**-1.6**
PAST	**Pastocalle**	**1.89**	**130**	P	**Pn**	**08 57 20.0**	**-1.2**
PITA	**Cotopaxi Volc**	**1.98**	**123**	P	**Pn**	**08 57 24.0**	**+1.5**
CAMI	**Rancho Maria**	**1.99**	**127**	P	**Pn**	**08 57 23.0**	**+0.4**
AIB2	**Ibarra (Univer**	**2.00**	**95**	P	**Pn**	**08 57 24.0**	**+1.5**
YAHU	**Yahuarcocha**	**2.03**	**95**	P	**Pn**	**08 57 25.0**	**-0.9**
CHMA	**Chilma**	**2.06**	**81**	P	**Pn**	**08 57 23.0**	**-0.3**
BTAM	**Cotopaxi Volca**	**2.08**	**125**	P	**Pn**	**08 57 25.0**	**+1.2**
ANTG	**Antisana-Guama**	**2.11**	**119**	P	**Pn**	**08 57 25.0**	**+0.8**
TAMB	**Tambo**	**2.11**	**125**	P	**Pn**	**08 57 26.0**	**+1.7**
ECEN	**Cerro Negro**	**2.14**	**82**	P	**Pn**	**08 57 24.0**	**-0.7**
CAYR	**Refugio Cayamb**	**2.15**	**104**	P	**Pb**	**08 57 27.0**	**-1.1**
CHL1	**Volc-n Chiles**	**2.16**	**83**	P	**Pn**	**08 57 25.0**	**0.0**
ANTI	**Antisana**	**2.16**	**117**	P	**Pb**	**08 57 27.0**	**-1.3**
CHL2	**Volc-n Chiles**	**2.19**	**83**	P	**Pn**	**08 57 25.0**	**-0.4**
CMBC	**Cumbal**	**2.30**	**80**	*e*P	**Pn**	**08 57 27.2**	**+0.4**
TULM	**Tulcn-Chalpat**	**2.31**	**85**	*e*P	**Pn**	**08 57 27.5**	**+0.5**
CONE	**Cono NE Rev Vo**	**2.52**	**104**	P	**Pb**	**08 57 33.0**	**-1.3**
CCUFI	**Cufio, Nario**	**2.83**	**76**	*e*P	**Pn**	**08 57 34.7**	**+0.5**
GCUF	**Volcan Galeras**	**2.83**	**76**	*e*P	**Pn**	**08 57 35.0**	**+0.8**
CPAS2	**Pasto**	**2.92**	**76**	*e*P	**Pn**	**08 57 37.0**	**+1.7**
COHC	**Cochancay**	**3.09**	**164**	Pn	**Pn**	**08 57 38.5**	**+1.2**
GR1C	**Gorgona, Isla**	**3.12**	**38**	*e*P	**Pb**	**08 57 43.3**	**-1.0**
CRUC	**La Cruz**	**3.31**	**72**	*e*P	**Pn**	**08 57 41.5**	**+0.9**
SOTA	**Rioblanco**	**3.83**	**65**	*e*P	**Pn**	**08 57 48.8**	**+0.8**
POPC	**Popayan, Colom**	**3.96**	**60**	*e*P	**Pn**	**08 57 49.2**	**-0.2**
PCON	**Cinco Dias**	**4.10**	**64**	*e*P	**Pn**	**08 57 52.0**	**+0.3**
MARP	**Paez Belalcaza**	**4.73**	**61**	*e*P	**Pn**	**08 58 01.9**	**+1.8**
GARC	**Garzon, Huila**	**4.88**	**70**	*e*P	**Pn**	**08 58 03.0**	**+0.8**
YOTC	**Yotoco, Valle**	**5.08**	**47**	*e*P	**Pn**	**08 58 08.9**	**+4.2**
PTLC	**Puerto Leguiza**	**5.31**	**94**	*e*P	**Pn**	**08 58 10.7**	**+2.8**
PLMC	**San Jos del P**	**5.78**	**41**	*e*P	Pn	08 58 20.5	+6.2
ORTC	**Ortega, Tolima**	**5.89**	**55**	*e*P	**Pn**	**08 58 20.1**	**+4.2**
MACC	**Macarena, Meta**	**6.45**	**76**	*e*P	**Pn**	**08 58 26.1**	**+2.6**
GUY2C	**Guyana, Caldas**	**6.63**	**45**	*e*P	Pn	08 58 33.8	+7.3
ROSC	**El Rosal**	**7.18**	**53**	Pn	**Pn**	**08 58 36.1**	**+2.3**
	2.2nm,0.3s,baz=306,slow=21,SNR=1.9						
ROSC				Sn	**Sn**	**09 00 00.1**	**+4.7**
	1.4nm,0.3s,baz=94,slow=21,SNR=1.8						
HELC	**Santa Helena**	**7.24**	**39**	*e*P	Pn	08 58 42.6	+8.0
VILC	**Villavicencio,**	**7.32**	**61**	*e*P	**Pn**	**08 58 38.2**	**+2.6**
SPBC	**San Pablo de B**	**7.87**	**50**	*e*P	**Pn**	**08 58 46.8**	**+3.6**
ZARC	**Zaragoza, Cauc**	**8.66**	**37**	*e*P	Pn	08 59 05.3	+11
SRBA	**San Rafael, Bu**	**9.23**	**339**		**Pn**	**08 59 04.2**	**+2.4**
PAYG	**Puerto Ayora**	**10.26**	**263**	Pn	**Pn**	**08 59 17.2**	**+1.4**
SDV	**Santo Domingo**	**12.55**	**48**	Pn	**Pn**	**08 59 48.0**	**+0.6**
	0.2nm,0.3s,baz=32,slow=12,SNR=1.9						
BIRV	**Birongo**	**16.93**	**54**	Pn	**P**	**09 00 46.8**	**-0.6**
BIRV				IAmb	IAmb	09 01 00.8	
	comp=Z,19nm,1.1s						
LPAZ	**La Paz**	**20.46**	**145**	P	**P**	**09 01 28.0**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=312,slow=7.5,SNR=7.6						
SIV	**San Ignacio**	**24.95**	**132**	P	**P**	**09 02 11.6**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=301,slow=7.1,SNR=5.5						
PLCA	**Paso Flores**	**41.98**	**169**	P	**P**	**09 04 38.6**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=349,slow=10,SNR=3.1						
PDAR	**Pinedale Array**	**49.66**	**332**	P	**P**	**09 05 38.3**	**-2.1**
	comp=Z,0.1nm,0.4s,baz=138,slow=5.7,SNR=1.9						
NVAR	**Mina Array Bea**	**51.48**	**322**	P	**P**	**09 05 54.2**	**0.0**
	comp=Z,1.4nm,0.9s,baz=143,slow=6.8,

ZALV			Lg	Lg	09 13 35.4		
	2.7nm,0.3s,baz=64,slow=26,SNR=3.7						
KURK	**Kurchatov**	**6.73 239**	⇑Pn	Pn	09 14 25.5	+2.8	
	2.0nm,0.8s						
KURK			⇓Sn	Sn	09 15 39.9	-0.1	
	1.7nm,1.0s						
KURBB	**Kurchatov Arra**	**6.83 238**	Pn	Pn	09 14 26.6	+2.6	
	0.1nm,0.3s,baz=54,slow=14,SNR=16						
KURBB			Sn	Sn	09 15 35.0	-7.5	
	baz=273,slow=34,SNR=0.7						
KURBB	**Kurchatov Arra**	**6.83 238**	⇓Pn	Pn	09 14 24.1	0.0	
	2.2nm,0.6s						
KURBB			⇑Sn	Sn	09 15 42.7	+0.2	
	3.7nm,0.5s						
MK31	**Makanchi Array**	**8.51 206**	Pn	Pn	09 14 47.8	+0.7	
	0.8nm,0.8s,baz=24,slow=13,SNR=8.2						
MK31			⇑Lg	Lg	09 17 09.6		
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**8.51 206**	Pn	Pn	09 14 52.5	+5.4	
	0.2nm,0.3s,baz=24,slow=13,SNR=6.6						
MKAR			Sn	Sn	09 16 23.5	-0.2	
	0.1nm,0.3s,baz=22,slow=28,SNR=4.5						
MKAR			Lg	Lg	09 17 11.9		
	0.1nm,0.3s,baz=23,slow=30,SNR=5.6						

*IGQ **20** 09:13:14.4±1.3, 1°N±7°×8°W±°, h12km*
*IDC **20** 09:13:14.2±0.6, 0.°76N×79.°90W, h0km, mb4.2/15, mb1 4.5/17, mb1mx4.4/32, mbtmp4.3/17, ML3.7/2, Error ellipse: s-maj=33.7km s-min=11.5km az=58.0*
*NEIC **20** 09:13:17.2±2.5, 0.°50N±0.°04×80.°13W±0.°05, h10km±1km, mb4.6/138, Error ellipse: s-maj=10.4km s-min=2.8km az=230.0*
*VAO **20** 09:13:33.1±0.4, 0.°25N×79.°21W, h102km, mb4.8*
ISC 20 09:13:17.1±0.4,**0.°51N**±0.°04×**80.°15W**±0.°04,**h17**km,**n229,**
σ1**§56**/186,**mb4.6**/75,**Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMA1	**Acelerografo,**	**0.60**	**45**	P	**Pg**	**09 13 28.0**	**-1.0**
AV21	**Acelerografo,**	**0.62**	**76**	P	**Pb**	**09 13 29.0**	**-0.5**
AV21				S	**Sn**	**09 13 41.0**	**+0.2**
MAG1	**Magdalena**	**0.69**	**147**	P	**Pn**	**09 13 32.0**	**-0.2**
AV18	**Acelerografo,**	**0.70**	**106**	P	**Pb**	**09 13 31.0**	**+0.1**
JAMA	**Jama**	**0.77**	**184**	P	**Pb**	**09 13 32.0**	**-0.1**
FLF1	**Flavio Alfaro-**	**0.91**	**160**	P	**Pn**	**09 13 36.0**	**+0.7**
BV15	**Puerto Quito-O**	**0.99**	**111**	P	**Pn**	**09 13 36.0**	**-0.3**
APR2	**Miler**	**1.26**	**110**	P	**Pn**	**09 13 39.0**	**-1.0**
PAC1	**Pacto, Paraso**	**1.38**	**100**	*eP*	**Pn**	**09 13 41.2**	**-0.6**
PAC1				*eS*	**Sg**	**09 14 04.0**	**+2.3**
PAC1	**Pacto, Paraso**	**1.38**	**100**	P	**Pn**	**09 13 41.0**	**-0.8**
APR1	**Acelerografo,**	**1.63**	**110**	P	**Pb**	**09 13 46.0**	**-1.0**
HPAL	**Hacienda Las P**	**1.66**	**116**	P	**Pn**	**09 13 46.0**	**+0.2**
GGPT	**Toaza - Volcan**	**1.69**	**115**	P	**Pn**	**09 13 46.0**	**-0.3**
YANA	**Yana**	**1.70**	**112**	P	**Pn**	**09 13 46.0**	**-0.4**
PULU	**Pululahua**	**1.72**	**106**	Pn	**Pb**	**09 13 47.4**	**-1.1**
PULU	**Pululahua**	**1.72**	**106**	P	**Pn**	**09 13 47.0**	**+0.4**
OTAV	**Otavalo**	**1.72**	**99**		**Pb**	**09 13 47.3**	**-1.3**
CUSE	**Cuicocha Este**	**1.76**	**97**	*eP*	**Pb**	**09 13 48.0**	**-1.3**
CUIC	**Cuicocha-Domo**	**1.80**	**96**	P	**Pn**	**09 13 48.0**	**+0.2**
COTA	**Cotacachi**	**1.82**	**95**	P	**Pb**	**09 13 49.0**	**-1.3**
URCU	**Urcuqui**	**1.89**	**92**	P	**Pn**	**09 13 49.0**	**-0.1**
CTUM2	**Tumaco**	**1.93**	**47**	*eP*	**Pn**	**09 13 46.8**	**-2.5**
CMBC	**Cumbal**	**2.36**	**80**	*eP*	**Pn**	**09 13 55.5**	**0.0**
TULM	**Tulcn-Chalpat**	**2.37**	**85**		**Pn**	**09 13 57.0**	**+1.3**
TULM	**Tulcn-Chalpat**	**2.37**	**85**	*eP*	**Pn**	**09 13 57.2**	**+1.5**
PORT	**Chimborazo Vol**	**2.39**	**145**	Pn	**Pn**	**09 13 57.3**	**+1.2**
CCUFI	**Cufio, Nario**	**2.89**	**76**	*eP*	**Pn**	**09 14 02.1**	**-0.8**
GCUF	**Volcan Galeras**	**2.89**	**76**	*eP*	**Pn**	**09 14 03.2**	**+0.3**
CPAS1	**Pasto**	**2.91**	**77**	*eP*	**Pn**	**09 14 04.5**	**+1.5**
CPAS2	**Pasto**	**2.98**	**76**	*eP*	**Pn**	**09 14 02.3**	**-1.7**
COHC	**Cochancay**	**3.09**	**163**		**Pn**	**09 14 04.9**	**-0.2**
GR1C	**Gorgona, Isla**	**3.17**	**39**	*eP*	**Pn**	**09 14 01.9**	**-4.4**
CRUC	**La Cruz**	**3.37**	**72**	*eP*	**Pn**	**09 14 09.8**	**+0.5**
SOTA	**Rioblanco**	**3.89**	**65**	*eP*	**Pn**	**09 14 16.5**	**-0.1**
BOSC	**San Juan Bosco**	**3.99**	**156**	Pn	**Pn**	**09 14 21.9**	**+4.2**
POPC	**Popayan, Colom**	**4.01**	**60**	*eP*	**Pn**	**09 14 17.1**	**-1.1**
ARNL	**Arenillas**	**4.03**	**179**		**Pn**	**09 14 19.5**	**+1.4**
PCON	**Cinco Dias**	**4.16**	**64**	*eP*	**Pn**	**09 14 19.8**	**-0.6**
MARP	**Paez Belalcaza**	**4.79**	**61**	*eP*	**Pn**	**09 14 28.0**	**-0.8**
MCRA	**Macar, Loja**	**4.85**	**178**	Pn	**Pn**	**09 14 31.4**	**+1.9**
GARC	**Garzon, Huila**	**4.94**	**70**	*eP*	**Pn**	**09 14 31.4**	**+0.5**
YOTC	**Yotoco, Valle**	**5.13**	**48**	*eP*	**Pn**	**09 14 34.8**	**+1.4**
BETC	**Betania**	**5.18**	**65**	*eP*	**Pn**	**09 14 38.2**	**+4.2**
PTLC	**Puerto Leguiza**	**5.36**	**94**	*eP*	**Pn**	**09 14 38.1**	**+1.7**
PLMC	**San Jos del P**	**5.83**	**41**	*eP*	**Pn**	**09 14 43.1**	**+0.1**
ORTC	**Ortega, Tolima**	**5.95**	**55**	*eP*	**Pn**	**09 14 44.4**	**-0.1**
MACC	**Macarena, Meta**	**6.51**	**75**	*eP*	**Pn**	**09 14 52.7**	**+0.5**
GUY2C	**Guyana, Caldas**	**6.69**	**45**	*eP*	**Pn**	**09 14 56.2**	**+1.0**
CBOC	**Ciudad Bolivar**	**6.73**	**38**	*eP*	**Pn**	**09 14 54.9**	**-0.5**
ROSC	**El Rosal**	**7.24**	**53**	Pn	**Pn**	**09 15 05.0**	**+2.4**
	1.9nm,0.3s,baz=146,slow=8.0,SNR=15						
ROSC				Sn	**Sn**	**09 16 32.6**	**+8.0**
	0.9nm,0.3s,baz=242,slow=22,SNR=1.3						
ROSC	**El Rosal**	**7.24**	**53**	Pn	**Pn**	**09 15 06.0**	**+3.4**
ROSC	**El Rosal**	**7.24**	**53**	*eP*	**Pn**	**09 15 04.7**	**+2.1**
NORC	**Norcasia**	**7.28**	**46**	*eP*	**Pn**	**09 15 04.5**	**+1.6**
HELC	**Santa Helena**	**7.29**	**39**	*eP*	**Pn**	**09 15 06.1**	**+2.8**
VILC	**Villavicencio,**	**7.38**	**61**	*eP*	**Pn**	**09 15 03.2**	**-1.1**
CHIC	**Chingaza**	**7.61**	**57**	*eP*	**Pn**	**09 15 16.4**	**+6.9**
SPBC	**San Pablo de B**	**7.93**	**50**	*eP*	**Pn**	**09 15 12.1**	**+0.2**
PTBC	**PUERTO BERRIO,**	**8.26**	**43**	*eP*	**Pn**	**09 15 18.5**	**+2.3**
UREC	**San Jos de Ur**	**8.54**	**32**	*eP*	**Pn**	**09 15 17.4**	**-2.8**
BRU2	**Volcan**	**8.61**	**343**	Pn	**Pn**	**09 15 23.3**	**+2.0**
ZARC	**Zaragoza, Cauc**	**8.71**	**37**		**Pn**	**09 15 24.7**	**+2.2**
ZARC	**Zaragoza, Cauc**	**8.71**	**37**	*eP*	**Pn**	**09 15 24.9**	**+2.3**
RIOS	**Rincon, Osa**	**8.80**	**338**		**Pn**	**09 15 25.4**	**+1.6**
RUSC	**La Rusia**	**8.85**	**53**	*eP*	Pn	09 15 31.3	+6.5
BARC	**Barichara**	**9.21**	**49**	*eP*	**Pn**	**09 15 33.7**	**+4.2**
DRK0	**Durika**	**9.23**	**341**	Pn	**Pn**	**09 15 30.1**	**+0.3**
SRBA	**San Rafael, Bu**	**9.24**	**340**		**Pn**	**09 15 31.7**	**+1.9**
PEZE	**Perez Zeledon,**	**9.49**	**338**	Pn	**Pn**	**09 15 36.0**	**+2.7**
RIMA	**Rio Macho**	**9.91**	**338**	Pn	**Pn**	**09 15 41.2**	**+2.1**
PAYG	**Puerto Ayora**	**10.21**	**263**	Pn	**Pn**	**09 15 43.6**	**+0.6**
OCAC	**Ocana**	**10.26**	**41**		**Pn**	**09 15 45.5**	**+1.6**
JTS	**Las Juntas de**	**10.83**	**334**	Pn	**Pn**	**09 15 51.3**	**-0.2**
	0.2nm,0.3s,baz=218,slow=8.6,SNR=5.8						
JTS	**Las Juntas de**	**10.83**	**334**	Pn	**Pn**	**09 15 53.6**	**+2.0**
CZSB	**Cruzeiro do Su**	**11.05**	**138**	*eP*	**Pn**	**09 15 55.6**	**+1.1**
TBTG	**Tabatinga, AM**	**11.24**	**115**	*eP*	**Pn**	**09 15 58.0**	**+0.7**
HZTE	**Horizontes, Gu**	**11.49**	**332**	Pn	**Pn**	**09 16 02.6**	**+2.0**
SDV	**Santo Domingo**	**12.61**	**48**	Pn	**Pn**	**09 16 15.6**	**-0.5**
	0.4nm,0.3s,baz=255,slow=5.8,SNR=6.7						
SDV	**Santo Domingo**	**12.61**	**48**	Pn	**Pn**	**09 16 15.7**	**-0.4**
SDV	**Santo Domingo**	**12.61**	**48**	*eP*	**Pn**	**09 16 14.6**	**-1.5**
SDV	**Santo Domingo**	**12.61**	**48**	*eP*	**Pn**	**09 16 16.3**	**+0.2**
NNA	**Nana**	**12.84**	**165**	Pn	**Pn**	**09 16 22.3**	**+3.2**
	1.1nm,0.3s,baz=266,slow=8.6,SNR=2.5						
NNA				Sn	**Sn**	**09 18 43.3**	**+1.5**
	1.1nm,0.3s,baz=198,slow=8.7,SNR=1.6						
NNA	**Nana**	**12.84**	**165**		**Pn**	**09 16 19.2**	**+0.1**
TGUH	**Tegucigalpa,Un**	**15.20**	**333**	Pn	**Pn**	**09 16 53.2**	**+1.9**
MTO3	**Montecristo**	**16.54**	**327**	P	**P**	**09 17 13.5**	**+2.3**
ESQI	**Esquipulas**	**16.66**	**327**	IAmb	IAmb	09 17 20.3	
	comp=Z,61nm,1.3s						
BIRV	**Birongo**	**16.98**	**54**	P	**P**	**09 17 15.2**	**-0.8**
ETMB	**Extrema**	**17.25**	**127**	*eP*	**Pn**	**09 17 15.2**	**-2.3**
BOAV	**Boa Vista**	**19.71**	**84**	*eP*	**Pn**	**09 17 48.1**	**+0.7**
MACA	**Manacapuru-AM**	**19.80**	**101**	*eP*	**P**	**09 17 45.9**	**-1.0**
LPAZ	**La Paz**	**20.48**	**145**	P	**P**	**09 17 55.6**	**+0.6**
	comp=Z,9.3nm,0.7s,baz=341,slow=12,SNR=22						
LPAZ	**La Paz**	**20.48**	**145**	*eP*	**P**	**09 17 55.1**	**+0.2**
LPAZ	**La Paz**	**20.48**	**145**	*eP*	**P**	**09 17 55.3**	**+0.4**
SC01	**Santiago de lo**	**20.95**	**26**	P	Pn	09 18 01.4	-0.6
PB16	**IPOC Station P**	**21.45**	**151**	IAmb	IAmb	09 18 19.7	
	comp=Z,26nm,0.9s						
CMIG	**Matias Romero**	**21.96**	**319**	P	**P**	**09 18 10.5**	**+0.3**
	comp=Z,11nm,1.2s,baz=110,slow=9.3,SNR=2.6						
GCPR	**Guaynabo City**	**22.45**	**37**	P	**P**	**09 18 14.9**	**-0.6**
PB11	**IPOC Station P**	**22.62**	**154**	P	**P**	**09 18 18.1**	**+0.6**
GO01	**Chusmiza**	**22.75**	**152**	P	**P**	**09 18 20.3**	**+1.1**
VILB	**Vilhena**	**23.88**	**125**	*eP*	**P**	**09 18 29.9**	**-0.2**
ITTB	**Itaituba**	**24.87**	**101**	*eP*	**P**	**09 18 38.0**	**-1.2**
SIV	**San Ignacio**	**24.97**	**132**	P	**P**	**09 18 40.1**	**0.0**
	comp=Z,6.9nm,0.8s,baz=300,slow=9.2,SNR=29						
LVC	**Limon Verde**	**25.45**	**155**	P	**P**	**09 18 46.5**	**+1.7**
	comp=Z,12nm,0.9s,baz=335,slow=5.3,SNR=7.1						
LVC	**Limon Verde**	**25.45**	**155**	P	**P**	**09 18 45.4**	**+0.6**
LVC	**Limon Verde**	**25.45**	**155**	*eP*	**P**	**09 18 45.6**	**+0.8**
NPGB	**Novo Progresso**	**25.85**	**107**	*eP*	**P**	**09 18 46.0**	**-2.1**
MALB	**Monte Alegre**	**25.99**	**95**	*eP*	**P**	**09 18 48.3**	**-1.0**

PTLB	**Pontes e Lacer**	**26.12**	**128**	*eP*	**P**	**09 18 50.7**	**+0.1**
PDRB	**Porto dos Gac**	**26.20**	**118**	*eP*	**P**	**09 18 50.7**	**-0.6**
CLDB	**Colider**	**26.72**	**116**	*eP*	**P**	**09 18 55.3**	**-0.7**
NBRS	**Nobres**	**28.27**	**122**	*eP*	**P**	**09 19 09.4**	**-0.5**
PP1B	**Ponte de Pedra**	**30.70**	**127**	*eP*	**P**	**09 19 31.5**	**0.0**
SNDB	**Serra Nova Dou**	**31.22**	**114**	*eP*	**P**	**09 19 35.4**	**-0.7**
AQDB	**Aquidauana**	**31.74**	**132**	P	**P**	**09 19 40.2**	**-0.3**
AQDB				IAmb	IAmb	09 19 40.8	
	comp=Z,15nm,1.2s						
AQDB	**Aquidauana**	**31.74**	**132**	*eP*	**P**	**09 19 40.1**	**-0.5**
DVLD	**Doverlandia**	**32.43**	**123**	*eP*	**P**	**09 19 46.8**	**+0.1**
SMTB	**Santa Maria do**	**33.74**	**107**	*eP*	**P**	**09 19 55.6**	**-2.6**
PEXB	**Peixe**	**34.01**	**113**	*eP*	**P**	**09 19 59.5**	**-1.0**
CPUP	**Villa Florida**	**34.59**	**142**	P	**P**	**09 20 03.4**	**-1.9**
	comp=Z,5.4nm,1.0s,baz=343,slow=7.7,SNR=7.7						
CPUP	**Villa Florida**	**34.59**	**142**	P	**P**	**09 20 05.7**	**+0.4**
CPUP	**Villa Florida**	**34.59**	**142**	*eP*	**P**	**09 20 04.6**	**-0.7**
MT05	**Renca**	**34.87**	**166**	P	**P**	**09 20 07.8**	**+0.1**
CPCT	**Cooper Cave**	**35.00**	**354**	IAmb	IAmb	09 20 11.9	
	comp=Z,7.9nm,1.1s						
JCT	**Junction City**	**35.17**	**330**	P	**P**	**09 20 10.3**	**0.0**
JCT				IAmb	IAmb	09 20 15.2	
	comp=Z,14nm,1.2s						
WHTX	**Lake Whitney,**	**35.33**	**334**	P	**P**	**09 20 11.0**	**-0.6**
WHTX				IAmb	IAmb	09 20 16.9	
	comp=Z,13nm,1.1s						
BO04	**La Punta**	**35.47**	**166**	P	**P**	**09 20 13.5**	**+0.7**
BO04				IAmb	IAmb	09 20 35.9	
	comp=Z,11nm,1.1s						
BDFB	**Brasilia**	**35.57**	**118**	P	**P**	**09 20 13.3**	**-0.7**
	comp=Z,4.8nm,0.8s,baz=267,slow=5.4,SNR=5.7						
BDFB	**Brasilia**	**35.57**	**118**	P	**P**	**09 20 13.8**	**-0.3**
BDFB				IAmb	IAmb	09 20 19.8	
	comp=Z,11nm,1.2s						
PCMB	**Pacaembu**	**35.76**	**130**	*eP*	**P**	**09 20 14.4**	**-1.1**
GO05	**Huala**	**36.16**	**169**	P	**P**	**09 19 2.4**	**+0.5**
IPMB	**Ipameri, GO**	**36.39**	**122**	*eP*	**P**	**09 20 20.5**	**-0.5**
TXAR	**Lajitas Array**	**36.40**	**324**	P	**P**	**09 20 22.0**	**+1.0**
	comp=Z,1.4nm,1.1s,baz=147,slow=5.2,SNR=7.8						
TXAR				PcP	**PcP**	**09 22 44.4**	**-0.9**
	comp=Z,1.9nm,1.1s,baz=106,slow=5.7,SNR=3.9						
TXAR	**Lajitas Array**	**36.40**	**324**	P	**P**	**09 20 22.8**	**+1.8**
TX31	**Lajitas Ar. Si**	**36.40**	**324**	P	**P**	**09 20 22.5**	**+1.5**
PTGB	**Pitanga**	**37.00**	**135**	*eP*	**P**	**09 20 25.4**	**-0.7**
FRBT	**Francisco Belt**	**37.10**	**137**	*eP*	**P**	**09 20 26.1**	**-1.0**
SDBA	**SAO DESIDERIO**	**37.26**	**111**	*eP*	**P**	**09 20 27.2**	**-1.3**
ITQB	**Itaqui**	**37.48**	**145**	*eP*	**P**	**09 20 29.2**	**-0.8**
BB19B	**Bebedouro**	**37.62**	**127**	*eP*	**P**	**09 20 30.6**	**-0.9**
HHAR	**Hobs**	**37.83**	**342**	P	**P**	**09 20 34.7**	**+1.8**
USIN	**University of**	**37.91**	**350**	P	**P**	**09 20 34.0**	**+0.5**
ITAB	**Concordia**	**38.56**	**138**	*eP*	**P**	**09 20 38.8**	**-0.4**
JANB	**Januaria**	**38.66**	**115**	*eP*	**P**	**09 20 39.1**	**-1.2**
MNTX	**Cornudas Mount**	**39.14**	**325**	P	**P**	**09 20 43.6**	**-0.4**
T35A	**Sooner Cattle**	**39.27**	**339**	P	**P**	**09 20 44.5**	**-0.5**
T35A				IAmb	IAmb	09 20 51.4	
	comp=Z,11nm,1.1s						
WUPA	**West Chester U**	**39.46**	**5**	P	**P**	**09 20 46.6**	**+0.1**
MSTX	**Muleshoe**	**39.47**	**330**	P	**P**	**09 20 46.4**	**-0.5**
MSTX				IAmb	IAmb	09 20 51.9	
	comp=Z,17nm,1.2s						
MC01	**Montes Claros**	**39.58**	**117**	*eP*	**P**	**09 20 47.1**	**-1.0**
AMTX	**Amarillo**	**39.67**	**332**	IAmb	IAmb	09 20 53.0	
	comp=Z,22nm,1.4s						
CPSB	**Cacapava Do Su**	**39.89**	**143**	*eP*	**P**	**09 20 49.4**	**-0.9**
319A	**Douglas**	**41.27**	**321**	P	**P**	**09 21 02.6**	**+0.8**
R32A	**Long Quarter,**	**41.41**	**338**	P	**P**	**09 21 02.1**	**-0.7**
R32A				IAmb	IAmb	09 21 07.7	
	comp=Z,12nm,1.0s						
PLCA	**Paso Flores**	**41.97**	**169**	P	**P**	**09 21 08.1**	**+0.8**
	comp=Z,14nm,0.9s,baz=347,slow=9.4,SNR=17						
PLCA	**Paso Flores**	**41.97**	**169**	P	**P**	**09 21 07.7**	**+0.3**
PLCA				IAmb	IAmb	09 21 09.1	
	comp=Z,15nm,0.8s						
PLCA	**Paso Flores**	**41.97**	**169**	*eP*	**P**	**09 21 08.4**	**+1.1**
CBKS	**Cedar Bluff**	**42.14**	**337**	P	**P**	**09 21 08.7**	**-0.1**
ANMO	**Albuquerque**	**42.15**	**327**	P	**P**	**09 21 09.3**	**+0.2**
ANMO				IAmb	IAmb	09 21 14.9	
	comp=Z,16nm,1.1s						
T25A	**Trinidad**	**42.79**	**331**	P	**P**	**09 21 14.0**	**-0.4**
T25A				IAmb	IAmb	09 21 20.6	
	comp=Z,15nm,1.1s						
CMC01	**Camacan, BA**	**43.13**	**113**	*eP*	**P**	**09 21 16.9**	**-0.2**
KSCO	**Kaye Shedlock'**	**43.50**	**334**	P	**P**	**09 21 19.3**	**-0.6**
KSCO				IAmb	IAmb	09 21 25.6	
	comp=Z,16nm,1.2s						
NBLA	**Lagarto - SE**	**43.63**	**106**	*eP*	**P**	**09 21 19.4**	**-1.8**
SDCO	**Great Sand Dun**	**43.80**	**331**	P	**P**	**09 21 22.0**	**-0.6**
SDCO				IAmb	IAmb	09 21 27.9	
	comp=Z,13nm,1.2s						
X16A	**Lo Mia Camp, P**	**44.65**	**322**	P	**P**	**09 21 30.7**	**+1.4**
SFX	**San Felipe**	**44.75**	**316**	P	**P**	**09 21 30.8**	**+0.9**
SFX				IAmb	IAmb	09 21 34.8	
	comp=Z,6.7nm,1.0s						
MVCO	**Mesa Verde**	**44.94**	**328**	IAmb	IAmb	09 21 36.5	
	comp=Z,8.7nm,1.2s						
113A	**Mohawk Valley,**	**45.06**	**319**	P	**P**	**09 21 32.8**	**+0.4**
113A				IAmb	IAmb	09 21 37.2	
	comp=Z,7.1nm,1.1s						
Y14A	**Wickenburg**	**45.31**	**321**	IAmb	IAmb	09 21 39.4	
	comp=Z,6.6nm,1.2s						
WUAZ	**Wupatki**	**45.36**	**324**	P	**P**	**09 21 35.6**	**+0.8**
SMCO	**Snowmass**	**45.64**	**331**	IAmb	IAmb	09 21 42.5	
	comp=Z,9.1nm,1.2s						
PV15	**Paradox Valley**	**45.77**	**329**	IAmb	IAmb	09 21 44.0	
	comp=Z,15nm,1.3s						
PV13	**Radium Mtn., P**	**45.81**	**328**	P	**P**	**09 21 38.3**	**-0.3**
PV07	**Paradox Valley**	**45.93**	**329**	IAmb	IAmb	09 21 45.0	
	comp=Z,10.0nm,1.1s						
W13A	**Hualapai Mount**	**46.62**	**321**	IAmb	IAmb	09 21 50.2	
	comp=Z,5.2nm,1.1s						
KNB	**Kanab**	**47.23**	**324**	IAmb	IAmb	09 21 55.1	
	comp=Z,7.5nm,1.3s						
PFO	**Pinyon Flats O**	**47.37**	**318**	P	**P**	**09 21 51.3**	**+0.6**
PFO				IAmb	IAmb	09 21 55.6	
	comp=Z,6.9nm,1.2s						
LCMT	**Little Creek M**	**47.48**	**324**	IAmb	IAmb	09 21 56.1	
	comp=Z,7.4nm,1.4s						
Q16A	**Castle Valley**	**47.62**	**327**	IAmb	IAmb	09 21 57.5	
	comp=Z,4.3nm,1.1s						
P18A	**Preston Nutter**	**47.64**	**328**	IAmb	IAmb	09 21 57.9	
	comp=Z,5.4nm,1.3s						
SZCU	**Shurtz Canyon**	**47.78**	**324**	IAmb	IAmb	09 21 59.6	
	comp=Z,6.1nm,1.2s						
CCUT	**Cedar City**	**47.91**	**324**	IAmb	IAmb	09 22 00.5	
	comp=Z,8.7nm,1.2s						
TMUT	**Trail Mountain**	**47.91**	**327**	IAmb	IAmb	09 22 00.2	
	comp=Z,6.8nm,1.3s						
SHPR	**Sheep Range**	**48.31**	**322**	P	**P**	**09 22 02.4**	**+4.4**
SHPR				IAmb	IAmb	09 22 03.7	
	comp=Z,6.3nm,1.3s						
RSSD	**Black Hills**	**48.35**	**337**	P	**P**	**09 21 57.8**	**-0.4**
RSSD				IAmb	IAmb	09 22 03.8	
	comp=Z,8.4nm,1.2s						
JLU	**Jordanelle**	**48.98**	**328**	IAmb	IAmb	09 22 07.9	
	comp=Z,8.2nm,1.4s						
E28A	**Huff**	**49.28**	**341**	IAmb	IAmb	09 22 26.7	
	comp=Z,7.8nm,0.8s						
S11A	**Rachel**	**49.40**	**323**	IAmb	IAmb	09 22 13.7	
	comp=Z,6.8nm,1.1s						
DUG	**Dugway, Tooele**	**49.42**	**327**	IAmb	IAmb	09 22 11.3	
	comp=Z,10nm,1.4s						
PDAR	**Pinedale Array**	**49.65**	**332**	P	**P**	**09 22 06.7**	**-1.6**
	comp=Z,2.5nm,1.2s,baz=117,slow=11,SNR=7.2						
HWUT	**Hardware Ranch**	**49.77**	**329**	IAmb	IAmb	09 22 14.0	
	comp=Z,7.6nm,1.3s						
BGU	**Big Grassy Mou**	**50.05**	**328**	IAmb	IAmb	09 22 15.9	
	comp=Z,11nm,1.4s						
REDW	**Red Top Meadow**	**50.72**	**331**	P	**P**	**09 22 15.8**	**-0.6**
REDW				IAmb	IAmb	09 22 21.3	
	comp=Z,10nm,1.4s						
ULM	**Lac du Bonnet**	**51.34**	**347**	P	**P**	**09 22 17.3**	**-3.3**
	comp=Z,1.7nm,0.4s,baz=152,slow=7.0,SNR=2.2						
NV11	**Mina Array Sit**	**51.37**	**322**	P	**P**	**09 22 23.0**	**+1.7**
NV11				IAmb	IAmb	09 22 25.8	
	comp=Z,14nm,1.4s						
OMMB	**Old Mammoth Mi**	**51.41**	**320**	IAmb	IAmb	09 22 26.6	
	comp=Z,8.5nm,1.2s						
NVAR	**Mina Array Bea**	**51.46**	**322**	P	**P**	**09 22 21.8**	**-0.2**
	comp=Z,6.7nm,1.1s,baz=137,slow=6.6,SNR=20						
MDPB	**Devils Postpil**	**51.47**	**320**	IAmb	IAmb	09 22 27.6	
	comp=Z,7.5nm,1.1s						
LHV	**Little Huntoon**	**51.48**	**321**	IAmb	IAmb	09 22 27.4	
	comp=Z,14nm,1.2s						
RYN	**Ryan**	**51.72**	**322**	IAmb	IAmb	09 22 29.3	
	comp=Z,9.2nm,1.3s						

YMR	**Madison River**	**51.76**	**332**	IAmb	IAmb	09 22 28.5	
	comp=Z,11nm,1.5s						
YHL	**Hebgen Lake**	**52.00**	**332**	IAmb	IAmb	09 22 32.7	
	comp=Z,12nm,1.3s						
BMN	**Battle Mountai**	**52.07**	**324**	IAmb	IAmb	09 22 31.2	
	comp=Z,13nm,1.3s						
YERR	**Yerington**	**52.38**	**322**	IAmb	IAmb	09 22 34.3	
	comp=Z,8.0nm,1.3s						
HLID	**Hailey**	**52.64**	**329**	IAmb	IAmb	09 22 34.6	
	comp=Z,11nm,1.4s						
BOZ	**Bozeman (W)**	**52.77**	**333**	IAmb	IAmb	09 22 36.1	
	comp=Z,10.0nm,1.2s						
MPK	**Martis Peak**	**53.06**	**322**	IAmb	IAmb	09 22 39.1	
	comp=Z,7.9nm,1.2s						
MFID	**Camas Ranch**	**53.28**	**328**	P	**P**	**09 22 35.4**	**+0.1**
MFID				IAmb	IAmb	09 22 40.8	
	comp=Z,14nm,1.2s						
ORV	**Oroville**	**54.13**	**321**	IAmb	IAmb	09 22 46.1	
	comp=Z,9.7nm,1.3s						
WVOR	**Wild Horse Val**	**54.17**	**325**	IAmb	IAmb	09 22 46.2	
	comp=Z,7.3nm,1.2s						
JTMT	**Jette**	**55.59**	**333**	IAmb	IAmb	09 22 55.9	
	comp=Z,5.5nm,1.2s						
F10A	**Beach Ranch, E**	**55.76**	**329**	IAmb	IAmb	09 23 03.2	
	comp=Z,5.8nm,1.1s						
PINE	**Pine Mountain**	**56.34**	**325**	IAmb	IAmb	09 23 02.7	
	comp=Z,8.5nm,1.2s						
WALA	**Waterton Lakes**	**56.40**	**334**	IAmb	IAmb	09 23 11.8	
	comp=Z,9.9nm,1.4s						
YKA	**Yellowknife Ar**	**67.01**	**343**	P	**P**	**09 24 06.8**	**-2.1**
	comp=Z,1.8nm,0.9s,baz=137,slow=6.0,SNR=21						
DLBC	**Dease Lake**	**69.73**	**335**	P	**P**	**09 24 26.5**	**+0.3**
M27K	**Edge Creek, AK**	**76.78**	**335**	P	**P**	**09 25 11.7**	**+3.9**
M27K				IAmb	IAmb	09 25 13.7	
	comp=Z,7.1nm,1.2s						

CPAS1	Pasto	3.09	67	*e*P		Pn	09 36 32.8	+3.4
CPAS2	Pasto	3.17	67	*e*P		Pn	09 36 33.0	+2.6
ARNL	Arenillas	3.51	178			Pn	09 36 35.6	+0.9
ARNL	Arenillas	3.51	178	P		Pn	09 36 37.0	+2.3
BOSC	San Juan Bosco	3.53	152	Pn		Pn	09 36 39.0	+3.7
BOSC	San Juan Bosco	3.53	152	P		Pn	09 36 39.0	+3.7
CRUC	La Cruz	3.58	64	*e*P		Pn	09 36 38.6	+2.6
GR1C	Gorgona, Isla	3.61	34	*e*P		Pn	09 36 37.3	+1.1
SOTA	Rioblanco	4.15	59	*e*P		Pn	09 36 46.3	+2.2
POPC	Popayan, Colom	4.32	54	*e*P		Pn	09 36 47.3	+1.2
MCRA	Macar, Loja	4.33	177			Pn	09 36 47.7	+1.6
PCON	Cinco Dias	4.43	58	*e*P		Pn	09 36 50.3	+2.3
MARP	Paez Belalcaza	5.08	56	*e*P		Pn	09 36 58.8	+2.1
GARC	Garzon, Huila	5.16	65	*e*P		Pn	09 37 00.2	+2.5
PTLC	Puerto Leguiza	5.37	88	*e*P		Pn	09 37 02.3	+1.8
BETC	Betania	5.43	60	*e*P		Pn	09 37 03.0	+1.7
PLMC	San Jos del P	6.24	38	*e*P		Pn	09 37 12.6	+0.1
ORTC	Ortega, Tolima	6.28	52	*e*P		Pn	09 37 14.6	+1.7
MACC	Macarena, Meta	6.67	71	*e*P		Pn	09 37 20.3	+2.0
GUY2C	Guyana, Caldas	7.08	43	*e*P		Pn	09 37 24.8	+0.4
CBOC	Ciudad Bolivar	7.17	35	*e*P		Pn	09 37 27.4	+2.2
ROSC	El Rosal	7.58	50	Pn		Pn	09 37 34.6	+3.6
	4.4nm,0.3s,baz=135,slow=17,SNR=4.6							
ROSC				Sn		Sn	09 39 02.6	+5.6
	2.9nm,0.3s,baz=114,slow=22,SNR=1.4							
ROSC	El Rosal	7.58	50	Pn		Pn	09 37 31.1	0.0
NORC	Norcasia	7.66	44	*e*P		Pn	09 37 35.7	+3.7
HELC	Santa Helena	7.71	37	*e*P		Pn	09 37 40.2	+7.3
CHIC	Chingaza	7.92	54	*e*P		Pn	09 37 39.1	+3.4
SPBC	San Pablo de B	8.29	47	*e*P		Pn	09 37 42.2	+1.6
PTBC	PUERTO BERRIO,	8.66	41	*e*P		Pn	09 37 46.7	+1.1
ZARC	Zaragoza, Cauc	9.15	35	Pn		Pn	09 37 53.9	+1.5
RUSC	La Rusia	9.19	50	*e*P		Pn	09 37 55.3	+1.9
OCAC	Ocana	10.67	40	Pn		Pn	09 38 13.8	+0.5
NNA	Nana	12.34	165	Pn		Pn	09 38 37.9	+1.8
	2.0nm,0.3s,baz=309,slow=13,SNR=4.9							
NNA	Nana	12.34	165			Pn	09 38 36.5	+0.5
SDV	Santo Domingo	12.98	47	Pn		Pn	09 38 48.1	+3.1
	0.3nm,0.3s,baz=229,slow=9.3,SNR=3.5							
BIRV	Birongo	17.31	53	P		Pn	09 39 42.6	+0.5
BIRV				IAmb		IAmb	09 40 01.0	
	comp=Z,17nm,1.0s							
MTDJ	Mount Denham	18.32	8	P		Pn	09 39 55.5	+0.9
LPAZ	La Paz	20.06	144	P		P	09 40 14.4	+0.2
	comp=Z,4.0nm,0.7s,baz=338,slow=9.8,SNR=14							
LPAZ	La Paz	20.06	144			P	09 40 14.2	-0.1
SIV	San Ignacio	24.64	131	P		P	09 41 00.7	-0.3
	comp=Z,1.9nm,0.5s,baz=298,slow=10.0,SNR=7.7							
MDP	Montagnes des	27.95	79	P		P	09 41 31.9	+0.9
	comp=Z,8.4nm,0.8s,baz=38,slow=17,SNR=1.9							
U54A	Nelsons Funny	36.39	358	P		P	09 42 44.7	0.0
TZTN	Tazewell	36.52	355	P		P	09 42 45.2	-0.4
TZTN				IAmb		IAmb	09 42 50.0	
	comp=Z,11nm,1.4s							
TXAR	Lajitas Array	36.81	324	P		P	09 42 48.6	+0.2
	comp=Z,0.2nm,0.6s,baz=147,slow=8.4,SNR=2.6							
TXAR				PcP		PcP	09 45 10.3	-0.1
	comp=Z,0.3nm,0.8s,baz=161,slow=5.7,SNR=3.5							
TXAR	Lajitas Array	36.81	324	P		P	09 42 48.4	-0.1
MSTX	Muleshoe	39.91	330	P		P	09 43 14.7	+0.2
MSTX				IAmb		IAmb	09 43 22.8	
	comp=Z,4.8nm,0.8s							
PLCA	Paso Flores	41.45	169	P		P	09 43 24.8	-2.3
	comp=Z,2.9nm,0.7s,baz=358,slow=10,SNR=5.5							
PLCA	Paso Flores	41.45	169	P		P	09 43 25.8	-1.2
PLCA				IAmb		IAmb	09 43 41.5	
	comp=Z,11nm,1.4s							
NVAR	Mina Array Bea	51.86	322	P		P	09 44 49.0	0.0
	comp=Z,0.1nm,0.6s,baz=138,slow=8.3,SNR=3.7							
YKA	Yellowknife Ar	67.50	343	P		P	09 46 35.0	-1.0
	comp=Z,0.6nm,0.7s,baz=139,slow=5.8,SNR=18							
YKA	Yellowknife Ar	67.50	343	P		P	09 46 36.1	+0.2
ESDC	Sonseca Array	79.41	50	P		P	09 47 46.3	-0.4
	comp=Z,0.3nm,0.5s,baz=261,slow=5.1,SNR=4.1							
TORD	Torodi Ar. Bea	82.08	77	P		P	09 48 00.1	-1.2
	comp=Z,0.7nm,0.5s,baz=280,slow=5.8,SNR=16							
TORD	Torodi Ar. Bea	82.08	77	P		P	09 47 59.9	-1.5
TORD				IAmb		IAmb	09 48 07.5	
	comp=Z,2.6nm,1.4s							
QSPA	South Pole Qui	90.03	180	P		P	09 48 36.9	-2.9
QSPA				IAmb		IAmb	09 49 03.7	
	comp=Z,4.9nm,1.4s							
ASAR	Alice Springs	139.41	232	PKP		PKPdf	09 55 05.3	-3.3
	comp=Z,0.2nm,0.5s,baz=116,slow=4.2,SNR=2.5							
WRA	Warramunga Arr	140.82	238	PKP		PKPdf	09 55 09.3	-1.8
	comp=Z,0.3nm,0.6s,baz=116,slow=2.2,SNR=2.2							

*IDC **20** 09:38:37.0±1.6, 0.°69N×80.°60W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.6/32, mbtmp3.5/5, Error ellipse: s-maj=87.4km s-min=27.1km az=50.0*
*IGQ **20** 09:38:37±1.1, 1.°1N±5.°×8.°0W±.°, h8km*
ISC 20 09:38:38.3±0.9, 0.°73N±0.°05×80.°36W±0.°06, h11km, n36, σ1§20/39, mb3.6/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AMA1	Acelerografo,	0.66	72	P		P	Pg	09 38 52.0	+0.9
AV21	Acelerografo,	0.81	95	P		P	Pg	09 38 53.0	-1.0
AV21				S		S	Sg	09 39 06.0	+1.4
AV18	Acelerografo,	0.97	115	P		P	Pg	09 38 57.0	0.0
MAG1	Magdalena	0.99	144	P		P	Pg	09 38 57.0	-0.3
FLF1	Flavio Alfaro-	1.20	155	P		P	Pb	09 39 00.0	-1.0
BV15	Puerto Quito-O	1.27	117	P		P	Pn	09 39 00.0	-1.9
BV15				S		S	Sb	09 39 19.0	+0.5
PAC1	Pacto, Paraso	1.63	106	*e*P		Pn	Pn	09 39 06.3	-0.8
PAC1				*e*S		Sn	Sn	09 39 26.3	-1.8
PAC1	Pacto, Paraso	1.63	106	P		Pn	Pn	09 39 06.0	-1.1
HPAL	Hacienda Las P	1.95	119	P		Pn	Pn	09 39 11.0	-0.6
CTUM2	Tumaco	1.96	56	*e*P		Pn	Pn	09 39 10.9	-0.5
PINO	Pino	1.96	117	P		Pn	Pn	09 39 11.0	-1.1
YANA	Yana	1.97	115	P		Pn	Pn	09 39 11.0	-1.1
GGPT	Toaza - Volcan	1.98	112	P		Pn	Pn	09 39 11.0	-1.1
PULU	Pululahua	1.98	111	P		Pn	Pn	09 39 12.0	-0.1
JUA2	San Juan 2	1.99	118	P		Pn	Pn	09 39 12.0	-0.3
CUSE	Cuicocha Este	2.00	102	*e*P		Pn	Pn	09 39 13.1	+0.7
CUSE	Cuicocha Este	2.00	102	P		Pn	Pn	09 39 12.0	-0.4
CUIC	Cuicocha-Domo	2.04	102	P		Pn	Pn	09 39 12.0	-0.9
URCU	Urcuqui	2.12	98	P		Pn	Pn	09 39 14.0	0.0
PAST	Pastocalle	2.22	130	P		Pn	Pn	09 39 15.0	-0.5
CHL2	Volc¡n Chiles	2.44	88	P		Pn	Pn	09 39 18.0	-0.5
TAMB	Tambo	2.44	125	P		Pn	Pn	09 39 19.0	+0.4
ANTS	Antisana-Sarah	2.50	119	P		Pn	Pn	09 39 20.0	+0.5
CMBC	Cumbal	2.54	85	*e*P		Pn	Pn	09 39 20.0	+0.2
TULM	Tulcn-Chalpat	2.57	90	*e*P		Pb	Pb	09 39 22.9	-1.8
GCUF	Volcan Galeras	3.05	81	*e*P		Pb	Pb	09 39 31.4	-1.5
GR1C	Gorgona, Isla	3.14	44	*e*P		Pn	Pn	09 39 24.9	-2.8
CRUC	La Cruz	3.50	76	*e*P		Pn	Pn	09 39 34.8	+1.7
SOTA	Rioblanco	4.00	70	*e*P		Pn	Pn	09 39 41.5	+1.5
POPC	Popayan, Colom	4.03	64	*e*P		Pn	Pn	09 39 40.6	-0.4
LPAZ	La Paz	20.77	145	P		P	P	09 43 20.7	+0.6
	0.6nm,0.5s,baz=222,slow=15,SNR=1.8								
PDAR	Pinedale Array	49.36	332	P		P	P	09 47 27.8	-0.3
	0.3nm,0.7s,baz=121,slow=11,SNR=3.7								
NVAR	Mina Array Bea	51.16	322	P		P	P	09 47 42.3	+0.5
	1.4nm,0.7s,baz=138,slow=7.3,SNR=14								
YKA	Yellowknife Ar	66.73	343	P		P	P	09 49 28.1	-1.2
	0.4nm,0.7s,baz=139,slow=5.7,SNR=8.0								
TORD	Torodi Ar. Bea	82.09	77	P		P	P	09 51 02.8	+3.1
	0.4nm,0.8s,baz=295,slow=7.8,SNR=2.8								
WRA	Warramunga Arr	141.05	238	PKP		PKPdf	PKPdf	09 58 10.4	+0.6
	0.7nm,1.2s,baz=111,slow=2.7,SNR=1.9								

IDC 20 09:47:02.0±3.6, 55.°64N×86.°36E, h0km, mb1 2.8/2, mb1mx2.7/50, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=29.1km s-min=27.1km az=11.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.92	208	*i*				09 59 00.0	
	baz=26,slow=324,SNR=4.3								
ZALV	Zalesovo Beam	1.92	208	Pg		Pn	Pn	09 47 36.2	+0.4
	2.1nm,0.3s,baz=31,slow=17,SNR=19								
ZALV				Lg		Lg	Lg	09 48 02.5	
	1.9nm,0.3s,baz=31,slow=28,SNR=7.9								
KURBB	Kurchatov Arra	6.88	226	Pn		Pn	Pn	09 48 43.0	-1.1
	0.0nm,0.3s,baz=42,slow=14,SNR=3.7								
KURBB				Lg		Lg	Lg	09 50 42.2	
	0.0nm,0.3s,baz=51,slow=32,SNR=7.4								
MKAR	Makanchi Array	9.22	198	Pn		Pn	Pn	09 49 17.3	+1.2
	0.2nm,0.3s,baz=18,slow=16,SNR=4.2								
MKAR				Lg		Lg	Lg	09 51 49.4	
	0.1nm,0.3s,baz=8.8,slow=29,SNR=1.9								

*IDC **20** 10:00:08.5±1.9, 32.°68N×130.°66E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.2/55, mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=28.2km s-min=13.0km az=122.0*
*JMA **20** 10:00:10.6, 32.°75N×130.°75E, h10km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs118.00000°, δ88.00000°, λ54.00000°. NP2: φs26.00000°, δ36.00000°, λ177.00000°. Principal axes: T Plg36.0000°, Azm357.0000°; N Plg36.0000°, Azm119.0000°; P Plg33.0000°, Azm238.0000°;*
JMA Felt III J1.
ISC 20 10:00:11.1±1.1, 32.°71N±0.°04×130.°73E±0.°07, h11km±8km, n10, σ1§90/14, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	Izumi3	0.17	155	⇑P		P	Pg	10 00 15.1	+0.3
JTA	Tamana	0.31	328	⇑P		P	Pg	10 00 16.4	-0.9
JTA				S		S	Sg	10 00 20.4	-1.0
JNU	Nakatsue	0.43	17	Pg		Pg	Pg	10 00 18.2	-1.4
	305nm,0.3s,baz=172,slow=5.9,SNR=828								
JNU				Lg		Lg	Lg	10 00 23.6	
	baz=9.5,slow=13								
JNU	Nakatsue	0.43	17	⇑P		Pg	Pn	10 00 18.4	-1.3
JNU				S		Sg	Sn	10 00 23.8	-1.6
JTZ	Takazaki	0.86	159	⇑P		Pn	Pn	10 00 28.2	-0.9
JTZ				S		Sn	Sn	10 00 40.0	-1.6
KSRS	Korea Array	5.27	335	Pn		Pn	Pn	10 01 29.4	-0.3
	0.4nm,0.3s,baz=156,slow=13,SNR=4.3								
KSRS				Pg		Pb	Pb	10 01 46.5	+3.4
	1.0nm,0.3s,baz=152,slow=17,SNR=10								
KSRS				Lg		Lg	Lg	10 02 56.1	
	1.6nm,0.3s,baz=154,slow=30,SNR=9.1								
MJAR	Matsushiro Arr	7.26	56	Pn		Pn	Pn	10 01 58.8	+1.7
	0.2nm,0.3s,baz=228,slow=15,SNR=4.2								
KLR	Kul'dur	16.53	2	Pn		P	P	10 04 08.0	+2.6
	0.1nm,0.3s,baz=165,slow=8.5,SNR=12								
FINES	FINESS Array B	68.34	330	P		P	P	10 11 10.5	-1.5
	0.8nm,0.4s,baz=88,slow=4.4,SNR=6.4								
YKA	Yellowknife Ar	71.77	26	P		P	P	10 11 32.2	-0.9
	0.1nm,0.8s,baz=311,slow=5.8,SNR=1.7								

IDC 20 10:01:19.5±154.0, 52.°34N×160.°19E, h0km, Error ellipse: s-maj=385.2km s-min=10.5km az=129.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H11N2	WAKE ISLAND Hy	32.96	168	H		H	H	10 42 36.0	
	baz=354,slow=76,SNR=2397								
H11N3	WAKE ISLAND Hy	32.98	168	H		H	H	10 42 37.1	
	baz=354,slow=76,SNR=2005								
H11N1	WAKE ISLAND Hy	32.98	168	H		H	H	10 42 37.3	
	baz=354,slow=76,SNR=1876								
H11S1	WAKE ISLAND Hy	34.15	169	H		H	H	10 44 05.1	
	baz=352,slow=76,SNR=23								
H11S3	WAKE ISLAND Hy	34.16	169	H		H	H	10 44 05.6	
	baz=352,slow=76,SNR=50								
H11S2	WAKE ISLAND Hy	34.16	169	H		H	H	10 44 06.7	
	baz=352,slow=76,SNR=14								
H03N2	Juan Fernandez	134.14	90	H		H	H	12 49 23.1	
	baz=314,slow=77,SNR=788								
H03N1	Juan Fernandez	134.16	90	H		H	H	12 49 24.4	
	baz=314,slow=77,SNR=774								
H03N3	Juan Fernandez	134.16	90	H		H	H	12 49 25.4	
	baz=314,slow=77,SNR=560								

*IDC **20** 10:02:59.0±1.7, 0.°90N×79.°82W, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/32, mbtmp3.4/5, Error ellipse: s-maj=89.4km s-min=24.9km az=52.0*
*IGQ **20** 10:03:00.1±1.0, 1.°1N±4.°×8.°0W±.°, h8km*
ISC 20 10:03:00.5±1.6, 0.°62N±0.°04×80.°23W±0.°06, h14km±9km, n74, σ1§28/90, mb3.4/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AMA1	Acelerografo,	0.59	58	P		Pg	Pg	10 03 12.0	-0.2
AMA1				S		Sn	Sn	10 03 23.0	-1.1
AV21	Acelerografo,	0.68	86	P		Pg	Pg	10 03 13.0	-0.9
AV18	Acelerografo,	0.81	112	P		Pg	Pg	10 03 16.0	-0.3
MAG1	Magdalena	0.82	146	P		Pg	Pg	10 03 16.0	-0.5
FLF1	Flavio Alfaro-	1.04	158	P		Pg	Pg	10 03 20.0	-0.7
BV15	Puerto Quito-O	1.10	114	P		Pg	Pg	10 03 20.0	-1.9
BV15				S		Sn	Sn	10 03 38.0	+1.3
APR2	Miler	1.37	113	P		Pn	Pn	10 03 24.0	-1.3
PAC1	Pacto, Paraso	1.48	104	*e*P		Pn	Pn	10 03 26.1	-0.8
PAC1				*e*S		Sb	Sb	10 03 48.1	+1.5
PAC1	Pacto, Paraso	1.48	104	P		Pn	Pn	10 03 26.0	-0.9
APR1	Acelerografo,	1.75	112	P		Pn	Pn	10 03 31.0	+0.3
HPAL	Hacienda Las P	1.78	118	P		Pn	Pn	10 03 30.0	-1.2
PINO	Pino	1.79	115	P		Pn	Pn	10 03 31.0	-0.6
TERV	Terraza Guagua	1.81	116	P		Pn	Pn	10 03 31.0	-0.7
YANA	Yana	1.81	114	P		Pn	Pn	10 03 31.0	-0.8
GGPT	Toaza - Volcan	1.81	117	P		Pn	Pn	10 03 31.0	-0.7
JUA2	San Juan 2	1.82	117	P		Pn	Pn	10 03 31.0	-0.9
PULU	Pululahua	1.83	109	P		Pn	Pn	10 03 32.0	+0.1
CUSE	Cuicocha Este	1.86	100	*e*P		Pn	Pn	10 03 32.5	+0.1
CUSE				*e*S		Sb	Sb	10 03 58.1	+0.3
CUSE				*i*				10 04 02.8	
	comp=Z,2µm,0.4s								
CUSE	Cuicocha Este	1.86	100	P		Pn	Pn	10 03 32.0	-0.3
CUIC	Cuicocha-Domo	1.89	99	P		Pn	Pn	10 03 33.0	+0.2
CUSW	Cuicocha Oeste	1.91	100	P		Pn	Pn	10 03 33.0	0.0
COTA	Cotacachi	1.91	98	P		Pn	Pn	10 03 33.0	-0.2
URCU	Urcuqui	1.98	95	P		Pn	Pn	10 03 33.0	-1.0
ILLI	Illinizas Sur	2.00	131	P		Pn	Pn	10 03 34.0	-0.4
PAST	Pastocalle	2.05	129	P		Pn	Pn	10 03 35.0	-0.1
PITA	Cotopaxi Volc	2.14	123	P		Pn	Pn	10 03 37.0	+0.7
CAMI	Rancho Maria	2.15	127	P		Pn	Pn	10 03 37.0	+0.6
NAS2	Nasa	2.16	125	P		Pn	Pn	10 03 37.0	+0.4
BNAS	Cotopaxi Volca	2.17	126	P		Pn	Pn	10 03 37.0	+0.3
YAHU	Yahuarcocha	2.17	97	P		Pn	Pn	10 03 37.0	+0.4
CHIMA	Chilma	2.18	74	P		Pn	Pn	10 03 38.0	-1.7
BREF	Cotopaxi Volca	2.20	126	P		Pn	Pn	10 03 38.0	+0.8
BVC2	Cotopaxi Volca	2.21	125	P		Pn	Pn	10 03 38.0	+0.6
BMOR	Cotopaxi Volca	2.22	127	P		Pn	Pn	10 03 38.0	+0.5
BTAM	Cotopaxi Volca	2.24	125	P		Pn	Pn	10 03 38.0	+0.3
ANTG	Antisana-Guama	2.27	119	P		Pn	Pn	10 03 39.0	+0.9
ECEN	Cerro Negro	2.27	85	P		Pn	Pn	10 03 38.0	-0.1
TAMB	Tambo	2.27	125	P		Pn	Pn	10 03 39.0	+0.9
CHL1	Volc¡n Chiles	2.29	86	P		Pn	Pn	10 03 38.0	-0.4
CAYR	Refugio Cayamb	2.30	105	P		Pn	Pn	10 03 40.0	+1.4
VCES	Cotopaxi	2.31	128	P		Pn	Pn	10 03 39.0	+0.3
CHL2	Volc¡n Chiles	2.32	85	P		Pn	Pn	10 03 38.0	-0.8
ANTI	Antisana	2.32	117	P		Pn	Pn	10 03 40.0	+1.1
ANTS	Antisana-Sarah	2.34	118	P		Pn	Pn	10 03 40.0	+0.9
CMBC	Cumbal	2.42	82	*e*P		Pn	Pn	10 03 41.3	+1.1
CMBC				*e*S		Sb	Sb	10 04 16.1	+2.0
TULM	Tulcn-Chalpat	2.44	88	*e*P		Pn	Pn	10 03 41.9	+1.4
TULM				*e*S		Sb	Sb	10 04 16.5	+1.8
TULM				*i*				10 04 24.8	
	comp=Z,53nm,0.7s								
TULM	Tulcn-Chalpat	2.44	88	P		Pn	Pn	10 03 41.0	+0.5
PORT	Chimborazo Vol	2.53	145	P		Pn	Pn	10 03 42.0	+0.3
TAMH	Tambohuasha Ch	2.59	146	P		Pn	Pn	10 03 43.0	+0.5
CONE	Cono NE Rev Vo	2.67	105	P		Pb	Pn	10 03 47.0	-1.4
JUI6	Juive	2.69	139	P		Pn	Pn	10 03 45.0	+1.4
POND	Pondoa	2.69	139	P		Pn	Pn	10 03 46.0	+2.2
BONI	La Bonita	2.71	93	P		Pn	Pn	10 03 46.0	+2.1
BRUN	Tungurahua Vol	2.72	138	P		Pn	Pn	10 03 46.0	+1.8
RETU	Refugio	2.72	139	P		Pn	Pn	10 03 46.0	+1.7
BMAS	Trigal station	2.74	140	P		Pn	Pn	10 03 46.0	+1.6
ARRY	Arrayan	2.76	140	P		Pn	Pn	10 03 46.0	+1.3
BPAT	Tungurahua Vol	2.77	140	P		Pn	Pn	10 03 47.0	+2.1
GCUF	Volcan Galeras	2.95	78	*e*P		Pn	Pn	10 03 48.1	+0.7
GCUF				*e*S		Sb	Sb	10 04 30.5	+1.3
GR1C	Gorgona, Isla	3.14	41	*e*P		Pb	Pb	10 03 56.0	-0.2
GR1C				*e*S		Sg	Sg	10 04 42.6	+1.1
GR1C				*i*				10 04 50.1	
	comp=Z,452nm,0.6s								
CRUC	La Cruz	3.41	74	*e*P		Pn	Pn	10 03 54.8	+1.2
CRUC				*e*S		Sg	Sg	10 04 51.5	+1.2
CRUC				*i*				10 04 52.9	
	comp=Z,67nm,0.5s								
SOTA	Rioblanco	3.92	67	*e*P		Pn	Pn	10 04 00.5	-0.3
SOTA				*e*S		Sb	Sb	10 04 56.4	-0.9
POPC	Popayan, Colom	4.03	62	*e*P		Pn	Pn	10 04 02.0	-0.1
POPC				*e*S		Sn	Sn	10 04 53.2	+3.9
PCON	Cinco Dias	4.19	66	*e*P		Pn	Pn	10 04 05.0	+0.5
PCON				*e*S		Sb	Sb	10 05 06.7	+1.5
PCON				*i*				10 05 11.3	
	comp=Z,33nm,0.5s								
GARC	Garzon, Huila	4.98	72	*e*P		Pn	Pn	10 04 16.1	+0.9
YOTC	Yotoco, Valle	5.12	49	*e*P		Pn	Pn	10 04 18.4	+1.4
YOTC				*e*S		Sn	Sn	10 05 13.8	-2.2
PTLC	Puerto Leguiza	5.45	95	*e*P		Pn	Pn	10 04 22.7	+1.3
PTLC				*e*S		Sn	Sn	10 05 19.9	-4.1
PLMC	San Jos del P	5.80	43	*e*P		Pn	Pn	10 04 25.0	-1.3
PLMC				*e*S		Sn	Sn	10 05 29.9	-2.8
ORTC	Ortega, Tolima	5.96	57	*e*P		Pn	Pn	10 04 30.1	+1.7
ORTC				*e*S		Sn	Sn	10 05 38.3	+1.8
LPAZ	La Paz	20.61	145	P		P	P	10 07 40.6	+0.4
	comp=Z,1.4nm,0.7s,baz=45,slow=5.7,SNR=3.3								
SIV	San Ignacio	25.10	132	P		P	Pn	10 08 24.6	-0.5
	comp=Z,0.4nm,0.3s,baz=270,slow=20,SNR=2.2								
NVAR	Mina Array Bea	51.33	322	P		P	P	10 12 06.3	+1.4
	comp=Z,0.2nm,0.6s,baz=135,slow=9.0,SNR=2.9								
YKA	Yellowknife Ar	66.88	343	P		P	P	10 13 51.2	-0.7
	comp=Z,0.2nm,0.8s,baz=135,slow=6.3,SNR=4.7								
TORD	Torodi Ar. Bea	81.99	77	P		P	P	10 15 19.7	-1.1
	comp=Z,0.2nm,0.5s,baz=283,slow=5.9,SNR=4.2								

IDC 20 10:07:41.7±2.5, 12.°05S×167.°22E, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/36, mbtmp3.5/4, Error ellipse: s-maj=154.4km s-min=28.0km az=145.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.52	252	P		P	P	10 14 14.7	+0.1
	0.3nm,0.7s,baz=84,slow=8.5,SNR=2.5								
ASAR	Alice Springs	33.66	245	P		P		10 14 24.5	-0.1
	0.5nm,0.7s,baz=72,slow=9.1,SNR=8.9								
ILAR	Eielson Array	84.00	18	P		P	P	10 20 13.5	-0.2
	0.3nm,0.5s,baz=239,slow=5.1,SNR=10								
NVAR	Mina Array Bea	85.57	49	P		P	P	10 20 22.7	+0.3
	0.3nm,0.7s,baz=230,slow=8.1,SNR=1.7								

*UPA **20** 10:11:48.9±1.5, 8.°93N×82.°79W, h22km±6km, MW3.5*
*INET **20** 10:11:49.4±2.3, 8.°95N×83.°02W, h2km±16km, ML3.2, MW2.8*
*UCR **20** 10:11:49.6±2.0, 8.°91N×82.°92W, h21km±3km, MW3.7*
ISC 20 10:11:48.0±1.0, 8.°94N±0.°03×82.°84W±0.°03, h21km±1km, n42, σ0§94/67, 12C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLIR3	Monte Lirio, C	0.15	173	⇑*i*P		P	Pb	10 11 53.8	-0.4
MLIR3				*e*S		Sb	Sb	10 11 58.4	-0.2
EDSV	San Vito	0.18	227	⇑*i*P		P	Pb	10 11 54.0	-0.1
EDSV			

KRVT Sn **Sn** **10 42 45.6 +5.4**
3µm,0.3s,baz=140,slow=21,SNR=12
MANU Manus Island 6.66 298 Pn Pn 10 43 32.5 +0.2
PMG Port Moresby 7.39 235 Pn **Pn 10 43 41.0 -1.2**
15nm,0.3s,baz=60,slow=5.7,SNR=27
PMG Sn **Sn** **10 45 03.7 -1.0**
43nm,0.3s,baz=221,slow=18,SNR=14
PMG LR LR 10 46 25.8
comp=Z,3µm,21.6s,baz=52,slow=37
PMG Port Moresby 7.39 235*c iP* **Pn 10 43 41.7 -0.5**
PMG pmax pmax
comp=Z,50nm,0.7s
PMG Port Moresby 7.39 235 Pn **Pn 10 43 40.6 -1.6**
PMG Port Moresby 7.39 235 P **Pn 10 43 41.1 -1.2**
HNR Honiara 7.86 123 Pn **Pn 10 43 48.5 -0.2**
comp=Z,4.2nm,0.3s,baz=114,slow=5.2,SNR=2.4
HNR Sn **Sn** **10 45 23.4 +7.0**
comp=Z,9.6nm,0.3s,baz=264,slow=15,SNR=2.0
HNR LR LR 10 46 59.3
comp=Z,5µm,19.9s,baz=285,slow=40
PATS Pohnpei 12.94 23 Pn **Pn 10 44 57.0 -1.0**
PATS Pohnpei 12.94 23 P **Pn 10 44 57.1 -1.0**
COEN Coen 13.24 228 Pn **Pn 10 44 59.3 -3.1**
COEN Coen 13.24 228 P **Pn 10 44 59.3 -3.1**
SMPI Sarmi 14.87 282 P **Pn 10 45 24.5 +0.5**
comp=Z,1µmcomp=Z,101nm,1.1s
MTSU Mount Surprise 15.58 213 P **Pn 10 45 31.6 -1.6**
CTA Charters Tower 16.33 204 Pn **Pn 10 45 41.8 -0.9**
comp=Z,0.4nm,0.3s,baz=21,slow=13,SNR=6.4
CTA LR LR 10 50 54.6
comp=Z,3µm,20.2s,baz=9.5,slow=33
CTA Charters Tower 16.33 204 P **Pn 10 45 43.2 +0.5**
comp=Z,25nm,2.1s
CTAO Charters Tower 16.33 204 P **Pn 10 45 41.0 -1.7**
CTAO pmax pmax
comp=Z,19nm,1.0s
CTAO Charters Tower 16.33 204 Pn 10 45 41.0 -1.7
SANVU Saraoutou 17.08 128 Pn 10 45 52.0 -0.1
SANVU IAmb IAmb 10 46 38.3
comp=Z,324nm,1.3s
KOUNC Koumac, New Ca 18.67 146 P 10 46 09.2 -1.3
KOUNC Koumac, New Ca 18.67 146 P **Pn 10 46 11.9 +0.5**
EIDS Eidsvold 20.20 186 P **P 10 46 26.7 -0.6**
EIDS IAmb IAmb 10 46 30.2
comp=Z,120nm,1.6s
QIS Mount Isa 20.27 220 P **P 10 46 27.9 -0.1**
GUMO Guam 20.41 336 P **P 10 46 30.3 +0.7**
comp=Z,128nm,1.0s,baz=222,slow=13,SNR=4.8
GUMO LR LR 10 54 48.4
comp=Z,901nm,18.6s,baz=154,slow=38
GUMO Guam 20.41 336 P **P 10 46 31.2 +1.6**
GUMO pmax pmax
comp=Z,498nm,1.2s
GUMO Guam 20.41 336 P P 10 46 31.2 +1.6
LIFNC LIFOU 20.61 140 P P 10 46 30.4 -1.3
LIFNC LIFOU 20.61 140 P P 10 46 32.6 +0.9
TARA Tarawa 20.67 72 P P 10 46 31.4 -1.0
NOUC Port Laguerre 21.04 144 P P 10 46 37.1 +0.8
DZM Mont Dzumac 21.10 144 P P 10 46 36.9 -0.1
comp=Z,31nm,0.6s,baz=264,slow=4.8,SNR=24
DZM LR LR 10 54 02.4
comp=Z,2µm,19.9s,baz=320,slow=35
DZM Mont Dzumac 21.10 144*eP* **P 10 46 36.6 -0.5**
comp=Z,139nm,1.2s
DZM *e*LR LR 10 51 40.5
comp=Z,3µm,23.6s
DZM Mont Dzumac 21.10 144 P P 10 46 36.5 -0.5
DZM Mont Dzumac 21.10 144 P P 10 46 37.1 +0.1
ONTNC Ouen Toro 21.29 144 P P 10 46 36.0 -2.9
ONTNC IAmb IAmb 10 47 05.0
comp=Z,249nm,1.6s
YATNC Mamie plateau, 21.35 143 P P 10 46 40.5 +0.8
OUENC Ouen Island, N 21.60 144 P P 10 46 41.0 -1.2
OUENC Ouen Island, N 21.60 144 P P 10 46 43.4 +1.1
MARNC Mare, Loyalty 21.63 140 P P 10 46 41.9 -0.7
KDU Kakadu 21.85 249 P P 10 46 44.0 -1.1
PINNC Pines Island, 22.11 143 P P 10 46 48.1 +0.4
PINNC IAmb IAmb 10 46 57.3
comp=Z,78nm,1.1s
SIJI Sorong 22.38 280 P P 10 46 49.6 -1.2
comp=Z,25nm,0.4s,baz=75,slow=7.7,SNR=15
SWI Sorong 22.39 280 P P 10 46 50.2 -0.7
SWI pmax pmax
comp=Z,57nm,0.8s
SWI Sorong 22.39 280 P P 10 46 50.3 -0.7
comp=Z,57nm,0.8s
QLP Quilpie 22.98 201 P P 10 46 55.8 -1.2
MTN Manton Dam 23.15 249 P P 10 46 55.7 -3.0
MTN IAmb IAmb 10 47 21.3
comp=Z,57nm,1.1s
WB0 Warramunga Arr 23.42 230 P P 10 46 59.6 -1.7
WB0 IAmb IAmb 10 47 25.9
comp=Z,40nm,0.8s
WRAB Tennant Creek 23.55 230 P P 10 47 00.9 -1.7
WRAB pmax pmax
comp=Z,36nm,0.8s
WRAB Tennant Creek 23.55 230 P P 10 47 00.9 -1.7
WRAB IAmb IAmb 10 47 42.9
comp=Z,36nm,0.8s
WRAB Tennant Creek 23.55 230 P P 10 47 01.2 -1.4
WB2 Warramunga Arr 23.56 230 P P 10 47 01.1 -1.5
WRA Warramunga Arr 23.57 230 P P 10 47 01.0 -1.7
comp=Z,4.8nm,0.7s,baz=54,slow=9.8,SNR=22
WRA PcP **PcP** **10 50 49.1 +2.4**
comp=Z,7.9nm,0.8s,baz=56,slow=2.7,SNR=7.5
WRA ScP **ScP** **10 54 26.6 +6.2**
comp=Z,7.1nm,1.0s,baz=58,slow=3.3,SNR=11
WRA LR LR 10 55 38.8
comp=Z,1µm,21.2s,baz=40,slow=35
WRA Warramunga Arr 23.57 230 P P 10 47 01.2 -1.5
WRA pmax pmax
comp=Z,2.0nm,1.2s
WRA Warramunga Arr 23.57 230 P P 10 47 01.1 -1.5
ARMA Armidale 25.17 183 P P 10 47 16.7 -0.6
ARMA Armidale 25.17 183 P P 10 47 19.6 +2.3
INKA Innaminka 25.42 207 P P 10 47 20.5 +1.0
AS31 Alice Springs 26.21 224 P P 10 47 28.1 +1.4
ASAR Alice Springs 26.21 224 P **P 10 47 25.3 -1.4**
comp=Z,1.6nm,0.5s,baz=60,slow=8.7,SNR=37
ASAR PcP **PcP** **10 50 55.0 +2.4**
comp=Z,6.3nm,0.8s,baz=57,slow=2.6,SNR=9.2
ASAR ScP **ScP** **10 54 33.8 +5.9**
comp=Z,5.2nm,0.9s,baz=55,slow=3.1,SNR=14
ASAR LR LR 10 58 04.8
comp=Z,634nm,18.7s,baz=34,slow=37
ASAR Alice Springs 26.21 224 P P 10 47 28.6 +1.9
ASAR Alice Springs 26.21 224 P P 10 47 28.6 +1.9
KNRA Kununurra 26.24 245 P P 10 47 26.3 -0.7
KNRA IAmb IAmb 10 47 49.9
comp=Z,56nm,0.8s
KNRA Kununurra 26.24 245 P P 10 47 26.5 -0.5
TNTI Ternate 26.54 282 P P 10 47 29.7 0.0
H11S3 WAKE ISLAND Hy 26.97 29 T T 11 15 53.5
baz=208,slow=74,SNR=9.7
H11S2 WAKE ISLAND Hy 26.98 29 T T 11 16 04.1
baz=208,slow=74,SNR=8.6
H11S1 WAKE ISLAND Hy 26.99 29 T T 11 15 55.3
baz=208,slow=74,SNR=7.4
CMSA Cobar Meteorol 27.19 194 P P 10 47 37.0 +1.6
MSVF Nonsavu 27.26 119 LR LR 10 57 39.5
comp=Z,1µm,19.9s,baz=290,slow=35
SANI Sanana 27.40 275 P **P 10 47 35.6 -1.9**
comp=Z,20nm,0.9s
OOD Oodnadatta 28.05 215 P P 10 47 41.8 -1.3
STKA Stephens Creek 28.74 201 P P 10 47 47.8 -1.5
comp=Z,2.1nm,0.5s,baz=356,slow=7.8,SNR=5.1
STKA PcP **PcP** **10 50 59.7 +1.3**
comp=Z,4.3nm,0.8s,baz=134,slow=0.8,SNR=2.9
STKA ScP **ScP** **10 54 42.0 +6.7**
comp=Z,14nm,1.1s,baz=46,slow=3.6,SNR=11
STKA LR LR 10 59 28.1
comp=Z,1µm,19.0s,baz=3.2,slow=37
STKA Stephens Creek 28.74 201 ⇓*iP* **P 10 47 47.2 -2.1**
STKA Stephens Creek 28.74 201 P P 10 47 47.5 -1.7
LCRK Leigh Creek 28.88 208 P P 10 47 49.5 -1.0
FITZ Fitzroy Crossi 29.90 242 P P 10 47 58.6 -1.1
comp=Z,8.8nm,0.6s,baz=50,slow=7.3,SNR=22
FITZ ScP **ScP** **10 54 46.9 +7.7**
comp=Z,6.0nm,0.9s,baz=182,slow=10,SNR=5.0
FITZ LR LR 11 01 26.8
comp=Z,724nm,18.6s,baz=56,slow=39
DAV Davao City (W) 30.19 293 LR LR 10 59 38.9
comp=Z,773nm,18.5s,baz=100,slow=35
CAN Canberra 30.27 187 P P 10 48 01.3 -1.5
CAN pmax pmax
comp=Z,45nm,1.7s
CAN Canberra 30.27 187 P **P 10 48 01.3 -1.5**
CAN IAmb IAmb 10 48 14.4
comp=Z,45nm,1.7s
LUWI Luwuk 30.73 277 P P 10 48 05.4 -1.6
LUWI IAmb IAmb 10 48 23.4
comp=Z,46nm,1.2s
LUWI Luwuk 30.73 277 P P 10 48 06.3 -0.7
comp=Z,3µmcomp=Z,38nm,1.0s
MULG Mulgathing 30.86 214 P P 10 48 06.4 -1.6
WRKA Warakurna 31.06 228 P P 10 48 08.2 -1.8
HTT Hallett 31.14 204 P P 10 48 09.1 -1.4
APSI Ampana 31.86 277 P P 10 48 16.5 -0.5
comp=Z,27nm,1.0s
BBOO Buckleboo 31.86 208 P P 10 48 14.9 -1.9
KAPI Kappang 33.39 269 LR LR 11 04 44.1
comp=Z,286nm,18.4s,baz=105,slow=41
KAPI Kappang 33.39 269*eP* **P 10 48 28.9 -1.5**
KAPI pmax pmax
comp=Z,27nm,1.6s
MPSI Mapaga 33.78 278 P P 10 48 33.0 -0.8
comp=Z,15nm,0.8s
FORT Forrest 34.81 220 P P 10 48 41.2 -1.3
FORT Forrest 34.81 220 P P 10 48 41.4 -1.1
PLAI Plampang 35.41 262 P P 10 48 48.9 +1.0
comp=Z,19nm,0.7s
MBWA Marble Bar 36.20 241 P P 10 48 53.8 -0.8
PSA00 Pilbara Seismi 36.26 240 P P 10 48 53.2 -1.9
PSA00 IAmb IAmb 10 49 21.1
comp=Z,20nm,0.9s
MEEK Meekatharra 39.37 233 P P 10 49 21.8 +0.5
URZ Urewera 39.44 150 P P 10 49 21.1 -0.5
comp=Z,2.0nm,0.3s,baz=351,slow=7.6,SNR=2.3
URZ LR LR 11 05 31.3
comp=Z,674nm,18.2s,baz=186,slow=36
URZ Urewera 39.44 150 IAmb IAmb 10 49 36.7
comp=Z,23nm,0.9s
URZ Urewera 39.44 150 P P 10 49 22.3 +0.7
QRZ Quartz Range 39.49 157 P P 10 49 23.6 +1.6
BKZ Black Stump Fm 39.84 151 P P 10 49 25.7 +0.6
JOW Kunigami 39.96 324 LR LR 11 03 05.2
comp=Z,806nm,21.9s,baz=146,slow=32
JOW Kunigami 39.96 324 P P 10 49 26.9 +0.8
JOW Kunigami 39.96 324 P P 10 49 27.8 +1.6
JHJ Hachijo jima 2 40.17 342 LR LR 11 05 34.3
comp=Z,558nm,18.6s,baz=214,slow=36
SNZO South Karori 40.78 155 P P 10 49 34.8 +2.1
BFZ Birch Farm 40.94 153 P P 10 49 34.0 -0.1
KHZ Kahutara 41.24 157 P P 10 49 36.2 -0.3
RPZ Rata Peaks 41.47 160 P P 10 49 38.8 +0.4
comp=Z,11nm,0.8s,baz=333,slow=4.5,SNR=5.8
RPZ LR LR 11 05 29.8
comp=Z,2µm,19.9s,baz=300,slow=34
RPZ Rata Peaks 41.47 160 P P 10 49 39.3 +0.9
YULB Yu-li 42.19 314 P P 10 49 45.9 +1.3
YULB IAmb IAmb 10 50 12.3
comp=Z,23nm,0.8s
TPUB Ta-pu 42.62 313 P P 10 49 48.9 +0.9
TPUB Ta-pu 42.62 313 P P 10 49 49.0 +0.9
BLDU Ballidu 42.70 229 P P 10 49 49.7 +1.1
YHNB Yeheng 42.93 315 P P 10 49 51.4 +0.8
JYT Yasato 42.96 344 P P 10 49 50.1 -0.4
JYT IAmb IAmb 10 49 51.0
comp=Z,31nm,0.8s
INU Inuyama 43.10 340 P P 10 49 50.2 -1.5
INU Inuyama 43.10 340 P P 10 49 50.8 -0.9
INU pP **pP** **10 50 00.4 -4.8**
INU PP **PcP** **10 51 42.0 +1.2**
JGF Kuroka 43.22 341 P P 10 49 53.6 +0.9
JNU Nakatsue 43.60 332 P P 10 49 55.6 -0.3
MJAR Matsushiro Arr 43.82 342 P P 10 49 56.3 -1.2
comp=Z,7.4nm,0.5s,baz=187,slow=24,SNR=18
MJAR PcP **PcP** **10 51 44.1 +0.9**
comp=Z,16nm,0.9s,baz=36,slow=8.9,SNR=13
MJAR LR LR 11 06 07.5
comp=Z,656nm,21.4s,baz=182,slow=33
MJAR Matsushiro Arr 43.82 342 P P 10 49 55.4 -2.1
MJAR pmax pmax
comp=Z,15nm,1.2s
MJAR Matsushiro Arr 43.82 342 P P 10 49 55.4 -2.1
MAJO Matsushiro 43.82 342 P P 10 49 55.8 -1.7
MAJO pmax pmax
comp=Z,30nm,1.1s
MAJO Matsushiro 43.82 342 P P 10 49 55.8 -1.7
MAJO IAmb IAmb 10 49 57.1
comp=Z,30nm,1.1s
MAJO Matsushiro 43.82 342 P P 10 49 57.3 -0.2
MAJO Matsushiro 43.82 342 P P 10 49 56.1 -1.4
MAJO pP pP 10 50 02.6 -8.5
MAJO PP **PcP** **10 51 44.7 +1.4**
MJB9 Matsu-Tunnel 43.82 342 P P 10 49 56.2 -1.3
MJB9 IAmb IAmb 10 49 57.1
comp=Z,31nm,1.1s
JHS Saijyo 44.23 336 P P 10 50 00.5 -0.3
JHS IAmb IAmb 10 50 01.7
comp=Z,23nm,0.8s
JMM Marumori 44.36 346 P P 10 50 01.0 -0.8
JMM IAmb IAmb 10 50 03.6
comp=Z,33nm,0.8s
JSD Sado 45.19 343 P P 10 50 07.7 -0.6
LEM Lembang 45.43 266 LR LR 11 11 23.1
comp=Z,259nm,21.4s,baz=38,slow=39
JTU Tsushima 45.45 332 P P 10 50 11.2 +0.8
JTM Tenmabayashi 47.08 347 P P 10 50 23.5 +0.4
ERM Erimo 47.85 350 P P 10 50 31.3 +2.2
TJN Taejon 47.92 332*c iP* **P 10 50 30.1 +0.3**
RAR Rarotonga 48.20 114 LR LR 11 07 51.6
comp=Z,307nm,21.4s,baz=286,slow=32
KSRS Korea Array 48.53 333 P P 10 50 34.9 +0.4
comp=Z,10nm,0.9s,baz=152,slow=8.7,SNR=26
KSRS PcP **PcP** **10 52 01.9 +2.3**
comp=Z,3.9nm,0.7s,baz=158,slow=3.1,SNR=7.1
KSRS ScP **ScP** **10 55 54.6 +4.6**
comp=Z,1.5nm,0.7s,baz=156,slow=3.4,SNR=4.5
KSRS LR LR 11 10 33.4
comp=Z,253nm,18.3s,baz=175,slow=36
KSAR Wonju Array Be 48.54 333 P P 10 50 34.8 +0.2
KSAR Wonju Array Be 48.54 333 P P 10 50 34.8 +0.2
KS19 Wonju Array Si 48.60 333 P P 10 50 35.1 +0.1
KS19 IAmb IAmb 10 50 36.1
comp=Z,33nm,1.1s
INCN Inchon 49.15 332 P P 10 50 40.2 +0.9
INCN pmax pmax
comp=Z,76nm,1.0s
INCN Inchon 49.15 332 P P 10 50 40.2 +0.9
INCN Inchon 49.15 332 P P 10 50 40.4 +1.1
INCN pP **pP** **10 50 46.3 -7.4**
INCN sP **pwP** **10 50 57.8 +2.2**
NJ2 Nanjing 49.42 321*eP* **P 10 50 43.3 +1.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
JKA Kamikawa-asahi 49.99 350 P P 10 50 45.9 +0.4
ASAJ Asahikawa 49.99 350 LR LR 11 09 55.8
comp=Z,666nm,20.0s,baz=173,slow=34
ASAJ Asahikawa 49.99 350 P P 10 50 45.9 +0.4
ASAJ pmax pmax
comp=Z,70nm,0.7s
WHN Wuhan 51.44 316 ⇓*iP* **P 10 50 58.0 +1.3**
WHN pmax pmax
comp=Z,26nm,0.8s
YSS Yuzh-Sakhalins 52.72 351*eP* **P 10 51 06.5 +0.6**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS Yuzh-Sakhalins 52.72 351 P P 10 51 06.5 +0.6
YSS pP **pP** **10 51 13.7 -6.5**
USA0B Ussuriysk Arra 52.74 341 P P 10 51 06.5 +0.4
USA0B pmax pmax
comp=Z,52nm,0.9s
USA0B Ussuriysk Arra 52.74 341 P P 10 51 06.5 +0.4
USRK Ussuriysk Ar. 52.74 341 P P 10 51 06.5 +0.5
comp=Z,36nm,0.8s,baz=172,slow=8.2,SNR=53
USRK Ussuriysk Ar. 52.74 341 P P 10 51 06.4 +0.3
USRK Ussuriysk Ar. 52.74 341 P P 10 51 06.4 +0.3
TIA Tai'an 53.28 323 ⇑*iP* **P 10 51 10.4 +0.1**
TIA pmax pmax
comp=Z,19nm,1.1s
MDJ Mudanjiang 53.92 339 P P 10 51 15.1 +0.3
MDJ pmax pmax
comp=Z,52nm,1.6s
MDJ pmax pmax
comp=Z,210nm,7.3s
MDJ Mudanjiang 53.92 339 P P 10 51 15.3 +0.5
MDJ pP pP 10 51 21.4 -7.6
ENH Enshi 54.75 313 P P 10 51 21.7 +0.6
CN2 Changchun 54.82 336*eP* **P 10 51 21.5 +0.2**
CN2 *ep*P pP 10 51 34.0 -1.6
CN2 PcP **PcP** **10 52 23.1 0.0**
CN2 pmax pmax
comp=Z,30nm,1.3s
LYN LuoYang 55.12 319*eP* **P 10 51 24.8 +1.1**
LYN LR LR
comp=Z,610nm,16.7s
LYN LR LR
comp=Z,520nm,19.2s
LYN LR LR
comp=Z,970nm,17.5s
HNS HongShan 55.52 323 ⇑P **P 10 51 27.0 +0.5**
HNS pmax pmax
comp=Z,41nm,1.4s
BNX BinXian 55.68 338 ⇓P **P 10 51 27.8 +0.3**
BNX pmax pmax
comp=Z,110nm,1.1s
BNX pmax pmax
comp=Z,680nm,9.5s
POHA Pohakuloa 56.09 62 P **P 10 51 31.7 +0.5**
POHA pP **pP** **10 51 38.9 -6.0**
POHA pwP **pwP** **10 51 43.4 -7.3**
POHA sP **sP** **10 51 49.9 -0.8**
BJI Beijing 56.45 326 P **P 10 51 32.9 -0.2**
BJI sP **pwP** **10 51 49.6 -0.5**
BJI pmax pmax
comp=Z,10.0nm,1.5s
XAN Xi'an 57.21 316 P **P 10 51 38.9 +0.2**
XAN pmax pmax
comp=Z,32nm,0.9s
XAN pmax pmax
comp=Z,110nm,5.5s
XAN LR LR
comp=Z,500nm,18.9s
XAN LR LR
comp=Z,640nm,18.6s
XAN LR LR
comp=Z,700nm,16.5s
XAN Xi'an 57.21 316 P **P 10 51 38.9 +0.2**
KLR Kul'dur 57.32 343*c iP* **P 10 51 39.6 +0.5**
KLR pmax pmax
comp=Z,112nm,1.3s
KMI Kunming 57.58 304 ⇑P **P 10 51 44.5 +2.9**
KMI pmax pmax
comp=Z,13nm,1.0s
PETK Petropavlovsk- 58.17 3 P **P 10 51 45.5 +0.5**
comp=Z,11nm,0.8s,baz=175,slow=8.3,SNR=20
PETK LR LR 11 12 50.2
comp=Z,395nm,21.5s,baz=190,slow=32
CMAR Chiang Mai Arr 58.46 295 P **P 10 51 49.3 +1.7**
comp=Z,14nm,0.8s,baz=118,slow=5.1,SNR=40
CMAR LR LR 11 15 04.7
comp=Z,141nm,21.9s,baz=110,slow=34
CMAR Chiang Mai Arr 58.46 295 P **P 10 51 48.2 +0.6**
CMAR Chiang Mai Arr 58.46 295 P **P 10 51 48.2 +0.6**
CHTO Chiang Mai 58.57 296 P **P 10 51 49.3 +0.9**
CHTO pmax pmax
comp=Z,31nm,1.4s
CHTO Chiang Mai 58.57 296 P **P 10 51 49.3 +0.9**
CHTO IAmb IAmb 10 51 51.3
comp=Z,31nm,1.4s
CHTO Chiang Mai 58.57 296 P **P 10 51 49.9 +1.5**
CHTO sP **pP** **10 52 04.4 +1.3**
PZH PanZhiHua 58.97 305 P **P 10 51 53.1 +1.9**
PZH S **S** **10 59 54.1 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH LR LR
comp=Z,1µm,21.2s
PZH LR LR
comp=Z,890nm,21.0s
PZH LR LR
comp=Z,1µm,20.8s
XLT XiLinHaoTe 59.22 329*eP* **P 10 51 52.8 +0.3**
XLT pP pP 10 52 04.4 -2.7
XLT sP pwP 10 52 10.8 +1.1
XLT PcP **PcP** **10 52 38.1 -2.3**
XLT sS sS 11 00 16.3 -6.0
XLT ScS **ScS** **11 01 35.0 -2.9**
XLT pmax pmax
comp=Z,31nm,1.0s
XLT LR LR
comp=Z,54nm,21.1s
XLT LR LR
comp=Z,490nm,19.4s
XLT LR LR
comp=Z,720nm,23.2s
CD2 Chengdu 59.33 311 ⇓*iP* **P 10 51 54.5 +1.0**
CD2 pmax pmax
comp=Z,50nm,0.7s
HHC Hu-ho-hao-te 59.62 324*eP* **P 10 51 56.4 +1.0**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,830nm,9.1s
SHEM Shemya Is, Ala 60.32 14 LR LR 11 15 31.3
comp=Z,685nm,19.4s,baz=210,slow=34
BTO Baotou 60.37 323*eP* **P 10 52 02.0 +1.4**
HIA Hailar 61.55 336 IAmb IAmb 10 52 10.1
comp=Z,28nm,1.1s
LZH Lanzhou 61.82 316*eP* **P 10 52 12.3 +1.8**
LZH sP pwP 10 52 29.4 +1.7
LZH pmax pmax
comp=Z,52nm,1.2s
DRV Dumont d'Urvil 62.09 186 P **P 10 52 14.1 +2.5**
DRV pP **pP** **10 52 19.2 -6.6**
ZEA Zeya 62.63 343*eP* **P 10 52 16.1 +0.8**
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,40nm,0.8s
ZEA pmax pmax
comp=Z,70nm,0.8s
MA2 Magadan 64.56 359*c iP* **P 10 52 28.1 +0.1**
MA2 pmax pmax
comp=Z,55nm,0.7s
MA2 Magadan 64.56 359 P **P 10 52 27.1 -0.9**
MA2 Magadan 64.56 359 P **P 10 52 28.3 +0.3**
MA2 pP pP 10 52 34.4 -7.8
MA2 sP **pwP** **10 52 43.6 -3.6**
MOKO MOKOCHONG 64.90 302*eP* **P 10 52 31.2 +0.1**
MOKO IAmb IAmb 10 52 33.0
comp=Z,22nm,1.0s
KOHI KOHIMA 65.04 301*eP* **P 10 52 32.1 +0.1**
KOHI IAmb IAmb 10 52 32.6
comp=Z,32nm,0.9s
GTA Gaotai 66.24 317 ⇑P **P 10 52 41.0 +1.5**
GTA pP pwP 10 52 55.8 -1.1
GTA sP sP 10 53 03.0 +2.7
GTA pmax pmax
comp=Z,32nm,1.2s
GTA pmax pmax
comp=Z,610nm,9.3s
GTA LR LR
comp=Z,250nm,15.9s
GTA LR LR
comp=Z,460nm,20.3s
GTA LR LR
comp=Z,430nm,19.5s
TEZP TEZPUR 66.45 302*eP* **P 10 52 41.4 +0.5**
TEZP IAmb IAmb 10 52 42.1
comp=Z,30nm,0.6s
ULN Ulaanbaatar 66.55 328*c iP* **P 10 52 42.7 +1.4**
ULN pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 66.55 328 P **P 10 52 42.4 +1.1**
ULN IAmb IAmb 10 52 43.8
comp=Z,24nm,1.0s
ULN Ulaanbaatar 66.55 328 P **P 10 52 42.7 +1.4**
ULN pP **pP** **10 52 49.9 -6.2**
SONM Songino Array 66.88 328 P **P 10 52 44.5 +1.2**
comp=Z,11nm,0.9s,baz=147,slow=5.0,SNR=11
SONM LR LR 11 20 05.5
comp=Z,405nm,21.7s,baz=142,slow=34
SONM Songino Array 66.88 328 P **P 10 52 44.6 +1.2**
SONM pmax pmax
comp=Z,30nm,1.4s
SONM Songino Array 66.88 328 P **P 10 52 44.6 +1.2**
SONM IAmb IAmb 10 52 45.8
comp=Z,30nm,1.4s
SHL Shillong 66.90 300 P **P 10 52 44.3 +0.3**
SHL pmax pmax
comp=Z,52nm,0.9s
SHL Shillong 66.90 300 P **P 10 52 44.3 +0.3**

SHL Shillong 66.90 300 eP P 10 52 43.9 -0.1
GUWA GUWAHATI 67.26 301 eP P 10 52 46.3 +0.3
GUWA IAmb IAmb 10 52 47.9
comp=Z,30nm,0.8s
UNV Unalaska Valle 67.75 24 P P 10 52 49.5 +1.0
baz=224
SEY Seymchan 67.91 360⇑ iP P 10 52 49.7 +0.3
SEY pmax pmax
comp=Z,15nm,0.9s
TURI Tura 68.23 300 eP P 10 52 53.4 +1.3
TURI IAmb IAmb 10 52 54.0
comp=Z,61nm,1.0s
GOMU GeErMu 68.35 312 P P 10 52 54.6 +1.4
GOMU PP PP 10 55 25.8 +1.1
GOMU pmax pmax
comp=Z,5.0nm,0.8s
GOMU LR LR
comp=Z,190nm,17.3s
GOMU LR LR
comp=Z,300nm,18.5s
GOMU LR LR
comp=Z,310nm,20.8s
SPIA Saint Paul Isl 68.83 20 P P 10 52 56.9 +1.7
baz=219
LSA Lhasa 68.83 304 P P 10 52 54.2 -2.2
LSA pmax pmax
comp=Z,18nm,0.8s
LSA Lhasa 68.83 304 P P 10 52 54.2 -2.2
LSA IAmb IAmb 10 52 58.9
comp=Z,18nm,0.8s
YAK Yakutsk 69.42 348c iP P 10 52 59.1 +0.3
YAK e*PP pP 10 53 09.3 -4.4
YAK e 10 53 22.0
YAK e 10 55 30.9
YAK eS S 11 02 05.2 +3.7
YAK e*SS sS 11 02 35.3 +8.2
YAK eSS SS 11 06 33.0 +3.1
YAK eSSS SSS 11 09 42.4
YAK pmax pmax
comp=Z,93nm,1.0s
YAK pmax pmax
comp=N,34nm,1.1s
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=Z,745nm,15.6s
YAK pmax pmax
comp=N,111nm,6.9s
YAK pmax pmax
comp=E,647nm,16.5s
YAK smax smax
comp=E,125nm,5.8s
YAK Yakutsk 69.42 348 P P 10 52 58.4 -0.4
ZAK Zakamensk 70.05 329 eP P 10 53 03.5 +0.5
ZAK pmax pmax
comp=Z,45nm,1.0s
BOD Bodaibo 70.30 339 eP P 10 53 04.0 -0.3
BOD pmax pmax
comp=Z,57nm,1.4s
TAPN Taplejung 71.00 301 eP P 10 53 10.2 +0.6
comp=Z,106nm,1.2s
ODAN Odare 71.13 300 eP P 10 53 10.8 +0.5
comp=Z,123nm,1.0s
MOY Mondy 71.97 329 eP P 10 53 15.9 +1.2
MOY pmax pmax
comp=Z,35nm,2.0s
CCD Concordia, Ant 71.97 188 P P 10 53 16.6 +1.9
JIRN Jiri 72.38 301 eP P 10 53 18.6 +0.6
comp=Z,44nm,0.9s
VNDA Vanda 72.45 178 P P 10 53 17.4 +0.4
comp=Z,3.6nm,0.7s,baz=328,slow=6.7,SNR=19
VNDA Vanda 72.45 178 P P 10 53 17.7 +0.7
VNDA pmax pmax
comp=Z,43nm,2.0s
VNDA Vanda 72.45 178 P P 10 53 17.7 +0.7
VNDA IAmb IAmb 10 53 31.6
comp=Z,43nm,1.9s
GUN Gumba 72.71 301 eP P 10 53 20.6 +0.7
comp=Z,159nm,0.8s
RAGD RAYAGADA 72.82 292⇑ eP P 10 53 20.1 -0.2
PKI Pulchoki 73.02 301 eP P 10 53 22.0 +0.2
comp=Z,122nm,1.1s
PKIN Phulchoki 73.04 301 eP P 10 53 22.1 +0.4
comp=Z,131nm,1.2s
KKN Kakani 73.19 301 eP P 10 53 23.1 +0.5
comp=Z,79nm,0.9s
KNGR Kungurtug, Tuv 73.25 327d iP P 10 53 24.2 +1.9
DMN Daman 73.29 301 eP P 10 53 24.0 +0.7
comp=Z,195nm,0.9s
PALK Pallekele 73.46 279 P P 10 53 24.5 +0.2
comp=Z,6.5nm,0.8s,baz=165,slow=2.5,SNR=7.1
PALK Pallekele 73.46 279⇑ iP P 10 53 24.6 +0.4
PALK pmax pmax
comp=Z,32nm,1.9s
PALK Pallekele 73.46 279 P P 10 53 24.4 +0.2
BILL Bilibino 73.61 5 iP P 10 53 23.5 -0.4
BILL i 10 53 29.7
BILL i 10 53 37.0
BILL pmax pmax
comp=Z,26nm,1.0s
BILL Bilibino 73.61 5 P P 10 53 24.2 +0.3
BILL IAmb IAmb 10 53 27.3
comp=Z,18nm,0.7s
GKN Gorkha 73.80 301 eP P 10 53 26.5 +0.4
comp=Z,172nm,0.9s
KOLN Koldamda 74.62 300 eP P 10 53 31.3 +0.3
comp=Z,147nm,0.8s
DANN Dangsing 74.63 301 eP P 10 53 31.1 0.0
comp=Z,80nm,0.8s
SII Sitkinak Islan 74.87 27 P P 10 53 32.2 +0.6
baz=235
VJD Vijayawada 74.93 289⇓ eP P 10 53 29.2 -3.4
PYUN Piuthan 75.23 301 eP P 10 53 34.7 +0.2
comp=Z,174nm,0.9s
ALBI Allahabad 75.61 298⇑ eP P 10 53 36.0 -0.4
ANM Nome 75.98 17 P P 10 53 38.5 +0.8
baz=223
TNA Tin City 76.02 16 P P 10 53 39.0 +1.2
baz=220
KDAK Kodiak Island 76.29 27 P P 10 53 40.3 +0.8
baz=236
WMQ Urumqi 76.33 317 eP P 10 53 42.0 +1.8
WMQ sP sP 10 54 02.4 +1.0
WMQ pmax pmax
comp=Z,67nm,1.5s
WMQ LR LR
comp=Z,130nm,21.3s
WMQ LR LR
comp=Z,120nm,21.3s
WMQ LR LR
comp=Z,170nm,22.1s
O18K Koktuh Hills 76.37 24 P P 10 53 40.4 +0.3
baz=233
N18K Kilae Creek 76.60 23 P P 10 53 42.2 +0.9
baz=232
HYB Hyderabad 77.06 289 eP P 10 53 43.7 -1.1
HYB IAmb IAmb 10 53 45.5
comp=Z,39nm,1.2s
HOM Homer 77.73 25 P P 10 53 49.3 +1.7
baz=237
LGTI Lohaghat 77.89 301⇑ eP P 10 53 49.7 +0.6
L19K White Mountain 77.90 22 IAmb IAmb 10 54 14.2
comp=Z,21nm,1.0s
L19K White Mountain 77.90 22 P P 10 53 49.5 +0.9
baz=233
M19K Big River Lodg 77.91 23 P P 10 53 49.8 +1.1
baz=234
TTA Tatalina 77.93 21 P P 10 53 48.9 +0.1
TTA pmax pmax
comp=Z,17nm,1.3s
TTA Tatalina 77.93 21 P P 10 53 48.9 +0.1
TTA IAmb IAmb 10 54 14.1
comp=Z,17nm,1.3s
TTA Tatalina 77.93 21 P P 10 53 49.3 +0.5
baz=232
TIXI Tiksi 78.32 352c iP P 10 53 50.9 +0.3
TIXI pmax pmax
comp=Z,47nm,1.3s
TIXI Tiksi 78.32 352 P P 10 53 50.3 -0.3
L20K Farewell, AK 78.45 22 P P 10 53 52.3 +0.7
baz=234
JHNI Jhansi 78.53 297⇑ eP P 10 53 50.8 -2.1
GCSA Galena City Sc 78.77 20 P P 10 53 53.5 +0.3
baz=231,SNR=6.8
K20K Telida 78.89 21 P P 10 53 54.5 +0.4
K20K IAmb IAmb 10 54 19.2
comp=Z,18nm,1.1s
K20K Telida 78.89 21 P P 10 53 54.5 +0.4
baz=234
SEW Seward 78.91 25 P P 10 53 54.3 +0.2
baz=239
BHPL Bhopal 79.11 295 eP P 10 53 55.1 -1.0
BHPL IAmb IAmb 10 53 56.9
comp=Z,34nm,0.8s
J20K Nowinta River 79.35 21 P P 10 53 57.1 +0.6
J20K IAmb IAmb 10 54 43.8
comp=Z,22nm,1.1s
J20K Nowinta River 79.35 21 P P 10 53 57.1 +0.6
baz=234,SNR=8.5
M22K Willow 79.50 24 P P 10 53 57.2 -0.1
baz=238
CAST Castle Rocks 79.66 22 IAmb IAmb 10 54 22.7
comp=Z,18nm,0.9s
CAST Castle Rocks 79.66 22 P P 10 53 57.5 -0.7
baz=236,SNR=7.6
PMR Palmer 79.82 24 P P 10 53 59.2 +0.2
baz=239
CHUM Lake Minchumin 79.84 21 P P 10 53 58.8 -0.4
baz=235,SNR=8.0
KNK Knik Glacier 80.00 25 P P 10 54 00.1 0.0
baz=239
SML Sawmill 80.26 24 P P 10 54 01.0 -0.5
baz=239
GLI Glacier Island 80.31 25 P P 10 54 01.1 -0.6
baz=241
TRF Thorofare Moun 80.35 22 P P 10 54 01.0 -1.1
TRF Thorofare Moun 80.35 22 P P 10 54 01.2 -1.0
baz=237
BPAW Bear Paw Mtn. 80.45 22 P P 10 54 02.1 -0.3
baz=236
IMAR Indian Mountai 80.57 19 P P 10 54 03.0 -0.1
H21K Melozitna Rive 80.69 20 P P 10 54 03.6 -0.1
baz=235,SNR=5.7
I21K Tanana 80.70 20 IAmb IAmb 10 54 29.8
comp=Z,21nm,0.9s
I21K Tanana 80.70 20 P P 10 54 04.0 +0.3
baz=235,SNR=8.7
KUDL Kundal 80.84 299⇑ eP P 10 54 04.2 -1.1
SMLA Simla 80.85 303 eP P 10 54 04.7 -0.6
SMLA IAmb IAmb 10 54 06.5
comp=Z,34nm,0.9s
RND Reindeer 80.88 23 IAmb IAmb 10 54 29.0
comp=Z,22nm,0.9s
MK31 Makanchi Array 80.91 319 eP P 10 54 06.5 +1.2
MKAR Makanchi Array 80.91 319 P P 10 54 06.5 +1.2
comp=Z,17nm,0.8s,baz=100,slow=7.5,SNR=19
MCK McKinley 81.01 22 P P 10 54 04.6 -0.9
baz=238,SNR=5.5
KLU Klutina 81.10 25 IAmb IAmb 10 54 31.4
comp=Z,39nm,1.2s
KLU Klutina 81.10 25 P P 10 54 06.2 +0.1
baz=242
MAKZ Makanchi 81.12 319 P P 10 54 06.0 -0.4
MNCY Minicoy 81.12 279 eP P 10 54 01.2 -5.9
MNCY IAmb IAmb 10 54 03.6
comp=Z,61nm,1.0s
DHY Denali Highway 81.28 23 IAmb IAmb 10 54 31.5
comp=Z,52nm,1.7s
DHY Denali Highway 81.28 23 P P 10 54 06.7 -0.4
baz=240
M24K Tolsona, Glenn 81.29 24 P P 10 54 07.4 +0.3
baz=241
NEA2 Nenana 81.42 22 IAmb IAmb 10 54 31.6
comp=Z,17nm,0.8s
NEA2 Nenana 81.42 22 P P 10 54 06.3 -1.3
baz=238,SNR=6.1
BMRM Bremner River 81.42 26 P P 10 54 07.4 -0.4
baz=243
I23K Minto, Yukon-K 81.61 21 P P 10 54 08.3 -0.3
baz=238
ZAA0 Zalesovo Array 81.71 326 P P 10 54 09.0 -0.4
ZAA0 IAmb IAmb 10 54 10.5
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 81.71 326 P P 10 54 09.3 0.0
comp=Z,18nm,0.8s,baz=110,slow=5.5,SNR=75
ZALV Zalesovo Beam 81.71 326 P P 10 54 09.2 -0.1
ZALV Zalesovo Beam 81.71 326 P P 10 54 09.2 -0.1
WRH Wood River Hil 81.72 22 IAmb IAmb 10 54 32.7
comp=Z,20nm,1.0s
N25K Chitina, Valde 81.72 25 P P 10 54 09.2 -0.2
baz=243
HARP HAARP 81.85 24 P P 10 54 09.9 -0.1
baz=242
H23K Yun River 81.90 20 P P 10 54 10.2 0.0
baz=238
GLB Gilahina Butte 81.98 26 IAmb IAmb 10 54 35.9
comp=Z,18nm,0.9s
PAX Paxson 81.99 24 P P 10 54 10.3 -0.5
baz=242
TCOL CIGO, UAF Yank 82.01 22 IAmb IAmb 10 54 34.6
comp=Z,20nm,0.8s
TCOL CIGO, UAF Yank 82.01 22 P P 10 54 10.1 -0.5
baz=239
COLA College 82.01 22c iP P 10 54 09.3 -1.3
COLA pmax pmax
comp=Z,11nm,0.8s
COLA College 82.01 22 P P 10 54 09.8 -0.9
COLA IAmb IAmb 10 54 34.6
comp=Z,20nm,0.8s
COLA College 82.01 22 P P 10 54 09.8 -0.9
baz=239
VRDI Verde Repeater 82.04 26 IAmb IAmb 10 54 35.8
comp=Z,16nm,1.0s
MCARA McCarthy VSAT 82.29 26 IAmb IAmb 10 54 46.4
comp=Z,24nm,1.0s
MCARA McCarthy VSAT 82.29 26 P P 10 54 11.8 -0.4
baz=244
IL31 82.31 22 P P 10 54 11.1 -1.1
IL31 IAmb IAmb 10 54 36.0
comp=Z,11nm,0.8s
ILAR Eielson Array 82.31 22 P P 10 54 10.7 -1.6
comp=Z,4.0nm,0.8s,baz=252,slow=5.5,SNR=34
COLD Coldfoot 82.44 19 P P 10 54 12.9 0.0
COLD Coldfoot 82.44 19 P P 10 54 12.8 0.0
baz=237
H24K Noodor Dome 82.49 21 P P 10 54 13.1 -0.2
baz=239
RIDG Independent Ri 82.60 23 IAmb IAmb 10 54 58.9
comp=Z,16nm,1.0s
RIDG Independent Ri 82.60 23 P P 10 54 13.5 -0.3
baz=242
M26K Nabesna, AK 82.75 25 P P 10 54 14.6 -0.1
baz=244
BARN Barnard Glacie 82.75 26 IAmb IAmb 10 54 40.4
comp=Z,13nm,0.8s
J25K Salcha River, 82.81 22 IAmb IAmb 10 54 39.2
comp=Z,18nm,0.8s
CTG Chitna Glacier 82.86 27 P P 10 54 15.3 -0.1
baz=246
CTGM Chitina Glacie 82.86 27 IAmb IAmb 10 54 40.9
comp=Z,22nm,0.9s
DOT Dot Lake 82.87 24 IAmb IAmb 10 54 40.2
comp=Z,19nm,0.9s
L26K Log Cabin Wild 82.88 24 P P 10 54 15.1 -0.2
L26K Log Cabin Wild 82.88 24 P P 10 54 14.9 -0.3
baz=244,SNR=5.4
SCRK Sand Creek 83.05 23 P P 10 54 15.6 -0.7
SCRK Sand Creek 83.05 23 P P 10 54 15.6 -0.7
baz=243
M27K Edge Creek, AK 83.20 25 IAmb IAmb 10 54 42.9
comp=Z,27nm,0.8s
M27K Edge Creek, AK 83.20 25 P P 10 54 16.8 -0.4
baz=245,SNR=8.8
PNL Peninsula 83.23 28 P P 10 54 17.2 0.0
baz=248
TOLK Toolik Lake Re 83.41 18 P P 10 54 18.2 +0.2
baz=237
J26L Joseph Creek 83.45 23 P P 10 54 18.3 0.0
baz=243
L27K Beaver Creek, 83.52 25 P P 10 54 18.5 -0.1
baz=245,SNR=6.0
BCAR Beaver Creek A 83.54 25 P P 10 54 18.7 0.0
YUK3 Moose Creek 83.57 26 P P 10 54 19.4 +0.3
baz=246
BVCY Beaver Creek 83.66 25 P P 10 54 19.8 +0.5
baz=246
YUK6 Outpost Mounta 84.19 27 P P 10 54 22.0 -0.3
baz=248
YUK4 Talbot Arm 84.21 27 P P 10 54 23.0 +0.6
baz=248
KURK Kurchatov 84.34 322c iP P 10 54 23.4 +0.4
KURK pmax pmax
comp=Z,48nm,1.0s
KURK Kurchatov 84.34 322 P P 10 54 23.5 +0.5
KURBB Kurchatov Arra 84.37 322 P P 10 54 23.6 +0.4
comp=Z,20nm,0.9s,baz=108,slow=4.1,SNR=98
KURBB Kurchatov Arra 84.37 322 P P 10 54 22.8 -0.4
EGAK Eagle 84.50 23 P P 10 54 23.6 0.0
EGAK Eagle 84.50 23 P P 10 54 23.8 +0.2
baz=246
HYT Haines Junctio 84.54 27 IAmb IAmb 10 54 50.0
comp=Z,17nm,0.9s
HYT Haines Junctio 84.54 27 P P 10 54 24.3 +0.3
baz=249,SNR=7.0
QSPA South Pole Qui 84.80 180 P P 10 54 25.5 +0.3
comp=Z,14nm,0.8s,baz=326,slow=1.0,SNR=46
QSPA South Pole Qui 84.80 180 P P 10 54 25.3 0.0
QSPA IAmb IAmb 10 54 28.6
comp=Z,17nm,0.8s
DAWY Dawson 84.92 24 IAmb IAmb 10 55 13.7
comp=Z,18nm,1.5s
DAWY Dawson 84.92 24 P P 10 54 25.5 -0.2
baz=247,SNR=5.9
SKAG Skagway 85.10 29 IAmb IAmb 10 55 16.5
comp=Z,22nm,1.5s
SKAG Skagway 85.10 29 P P 10 54 26.8 +0.2
baz=251
MAW Mawson 85.42 203 P P 10 54 28.6 +0.5
comp=Z,3.2nm,0.7s,baz=298,slow=2.2,SNR=3.7
M30M Minto, Yukon 85.47 26 IAmb IAmb 10 55 28.2
comp=Z,18nm,1.6s
M30M Minto, Yukon 85.47 26 P P 10 54 28.8 +0.3
baz=250
J29M Klondike Camp 85.55 24 P P 10 54 29.4 +0.5
baz=248
N31M Braeburn, Yuko 85.55 27 IAmb IAmb 10 54 55.8
comp=Z,14nm,0.9s
N31M Braeburn, Yuko 85.55 27 P P 10 54 29.3 +0.4
baz=251
WHY Whitehorse 85.69 28 P P 10 54 29.8 0.0
baz=252
I29M Ogilvie Camp, 85.85 23 IAmb IAmb 10 55 17.1
comp=Z,30nm,1.7s
I29M Ogilvie Camp, 85.85 23 P P 10 54 30.1 -0.2
baz=248
M31M Drury Creek, Y 86.40 27 P P 10 54 32.9 -0.3
M31M IAmb IAmb 10 55 20.4
comp=Z,12nm,1.4s
M31M Drury Creek, Y 86.40 27 P P 10 54 32.8 -0.3
baz=252,SNR=6.6
NRIK Noril'sk 86.46 341 P P 10 54 33.3 +0.2
comp=Z,13nm,0.7s,baz=126,slow=5.7,SNR=17
NRIK Noril'sk 86.46 341c iP P 10 54 33.3 +0.2
NRIK pmax pmax
comp=Z,22nm,0.9s
EPYK Eagle Plains 86.82 22 IAmb IAmb 10 54 36.1
comp=Z,17nm,0.9s
EPYK Eagle Plains 86.82 22 P P 10 54 35.4 +0.3
baz=250
FARO Faro, Yukon 86.88 27 P P 10 54 35.1 -0.3
baz=253,SNR=7.7
DLBC Dease Lake 87.45 31 P P 10 54 38.3 0.0
DLBC IAmb IAmb 10 55 14.7
comp=Z,13nm,1.4s
GAR Garm 87.76 309 P P 10 54 41.0 +0.7
INK Inuvik 88.62 21 P P 10 54 43.1 -0.4
INK pmax pmax
comp=Z,16nm,1.5s
INK Inuvik 88.62 21 P P 10 54 43.1 -0.4
INK IAmb IAmb 10 55 18.8
comp=Z,16nm,1.4s
INK Inuvik 88.62 21 P P 10 54 43.5 -0.1
baz=252
M02C Callahan 88.79 48 P P 10 54 44.7 -0.4
baz=262
BVAR Borovoye Array 89.81 323 P P 10 54 49.3 -0.2
comp=Z,35nm,0.8s
BRVK Borovoye 89.88 323c iP P 10 54 49.5 -0.3
BRVK pmax pmax
comp=Z,31nm,0.9s
BRVK Borovoye 89.88 323 P P 10 54 49.4 -0.4
BRVK Borovoye 89.88 323 ⇑Pn P 10 54 48.2 -1.6
comp=Z,28nm,0.9s
J05D Fort Rock, OR 90.22 47 P P 10 54 51.3 -0.5
baz=263
I05D Terrebonne, OR 90.27 46 P P 10 54 51.7 -0.2
baz=263
LHV Little Huntoon 91.76 52 P P 10 54 59.0 +0.1
LHV IAmb IAmb 10 55 29.6
comp=Z,7.8nm,1.1s
NVAR Mina Array Bea 91.94 52 P P 10 55 00.4 +0.4
comp=Z,1.1nm,0.8s,baz=255,slow=6.1,SNR=14
KVN Kaiserville 92.15 51 P P 10 55 00.6 -0.3
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 92.15 51 P P 10 55 00.6 -0.3
C36M Paulatuk 92.20 21 P P 10 54 59.2 -1.0
C36M Paulatuk 92.20 21 P P 10 54 59.8 -0.4
baz=261
A36M Sachs Harbour 92.24 18 IAmb IAmb 10 55 04.1
comp=Z,5.2nm,0.8s
A36M Sachs Harbour 92.24 18 P P 10 54 59.7 -0.6
baz=260
MPMC Manual Prospec 92.39 54 P P 10 55 02.0 -0.1
baz=265
FURC Furnace Creek, 92.92 54 P P 10 55 04.0 -0.3
baz=266
HEC Hector,Ludlow 93.23 55 P P 10 55 05.6 -0.3
baz=266
SHOC Shoshone, Teco 93.36 54 P P 10 55 06.1 -0.3
baz=266
NEW Newport 93.55 42 P P 10 55 06.3 -0.7
baz=266
YKA Yellowknife Ar 95.52 28 P P 10 55 15.1 -0.5
comp=Z,1.9nm,0.9s
YKA PKiKP PKiKP 10 59 56.2 +0.7
comp=Z,0.4nm,0.8s,baz=274,slow=1.6,SNR=4.5
WALA Waterton Lakes 95.71 41 P P 10 55 15.0 -2.0
WALA IAmb IAmb 10 55 57.3
comp=Z,12nm,1.4s
ABKAR Akbulak array 96.05 319 P P 10 55 16.2 -2.2
EDM Edmonton 96.12 37 P P 10 55 17.7 -1.0
EDM pmax pmax
comp=Z,9.0nm,1.2s
EDM Edmonton 96.12 37 P P 10 55 17.7 -1.0
EDM IAmb IAmb 10 56 17.3
comp=Z,8.6nm,1.2s
WSAR Wadi Sarin 96.27 293 P P 10 55 19.1 -0.8
comp=Z,4.0nm,0.8s,baz=152,slow=5.3,SNR=3.6
ARU Arti 96.88 326 P P 10 55 21.0 -0.9
comp=Z,2.3nm,0.2s,baz=200,slow=0.8,SNR=12
ARU Arti 96.88 326d iP P 10 55 20.7 -1.2
ARU 10 59 17.1
ARU S SKSac 11 05 55.0 +0.9
ARU SP SP 11 08 01.3 +1.0
ARU SS SS 11 13 19.5 +3.3
ARU pmax pmax
comp=Z,11nm,0.9s
ARU Arti 96.88 326 P P 10 55 20.5 -1.4
AKTO Aktyubinsk 97.30 320 P P 10 55 22.6 -1.4
comp=Z,4.4nm,1.1s,baz=103,slow=5.4,SNR=5.9
PDAR Pinedale Array 98.74 48 P P 10 55 30.0 -1.0
comp=Z,0.1nm,0.5s,baz=272,slow=4.4,SNR=2.0
BUJR Buynaksk 105.34 313⇓ eP Pdif 10 55 57.8 -2.2
BUJR pmax pmax
comp=Z,64nm,0.4s
KLMR Klimovskoe 105.92 332 ePdif Pdif 10 55 54.0 -8.1
KLMR AMP 10 56 03.0
comp=Z,15nm,1.3s
KLMR ePP PKiKP 11 00 12.9 -1.3
ARCES ARCESS Array B 107.35 343 PKiKP PKiKP 11 00 17.5 +0.7
comp=Z,1.7nm,0.8s,baz=83,slow=2.3,SNR=5.6
AKASG Malin Array Be 115.06 324 PKP PKPdf 11 00 32.5 +0.7
comp=Z,3.4nm,0.7s,baz=67,slow=2.3,SNR=11
BRTR Keskin Array B 115.89 312 PKP PKiKP 11 00 34.2 +0.3
comp=Z,1.4nm,0.7s,baz=108,slow=2.0,SNR=7.6
NOA NORSAR Array B 117.41 340 PKP PKiKP 11 00 36.5 +0.3
comp=Z,1.7nm,0.8s,baz=44,slow=1.9,SNR=5.7
PLCA Paso Flores 119.21 143 PKP PKiKP 11 00 41.0 +0.6
comp=Z,4.2nm,1.0s,baz=214,slow=4.3,SNR=2.4
BOSA Boshof 119.79 233 PKP PKiKP 11 00 43.5 +1.6
comp=Z,3.5nm,0.7s,baz=348,slow=0.7,SNR=9.3
MATP Matopo 120.12 243 PKP PKiKP 11 00 43.6 +0.9
LBTB Lobatse 120.98 237 PKP PKiKP 11 00 45.2 +0.9
SUR Sutherland 121.42 227 PKP PKiKP 11 00 46.8 +1.7
comp=Z,3.5nm,0.8s,baz=162,slow=9.7,SNR=2.2
LSZ Lusaka 121.95 249 PKP PKiKP 11 00 47.7 +1.3
comp=Z,1.8nm,0.4s,baz=109,slow=3.6,SNR=5.5
MORC Moravsky Berou 122.03 328 ePKP PKiKP 11 00 46.5 +1.0
JAVC Velka Javorina 122.49 327 ePKP PKiKP 11 00 48.5 +2.0

VRAC	**Vranov**	**122.81 328**	*e*PKP	**PKiKP**	**11 00 48.1 +1.1**	
KRUC	**Moravsky**	**123.06 328**	*e*PKP	**PKiKP**	**11 00 48.4 +0.9**	
CLL	**Collm**	**123.39 331**	*e*PKIKP	**PKPdf**	**11 00 48.0 +0.2**	
CLL			pmax	pmax		
	comp=Z,11nm,0.8s					
CLL	**Collm**	**123.39 331**	*e*PKPdf	**PKPdf**	**11 00 48.0 +0.2**	
	comp=Z,11nm,0.8s					
IDI	**Anoyia**	**123.87 309**	PKP	**PKiKP**	**11 00 50.3 +0.6**	
	comp=Z,6.2nm,0.8s,baz=239,slow=15,SNR=2.1					
GERES	**GERESS Array B**	**124.51 329**	PKP	**PKiKP**	**11 00 51.0 +0.2**	
	comp=Z,2.8nm,0.7s,baz=180,slow=0.7,SNR=22					
BTNL	**Ternell**	**127.03 334**	*d*PKP	**PKiKP**	**11 00 56.2 +0.8**	
MEM	**Membach**	**127.06 334**	*d*PKP	**PKiKP**	**11 00 55.3 -0.1**	
BMRD	**Maredsous**	**127.82 335**	*d*PKP	**PKiKP**	**11 00 57.2 +0.3**	
TSUM	**Tsumeb**	**130.12 240**	PKP	**PKiKP**	**11 01 03.6 +1.0**	
	comp=Z,1.3nm,0.3s,baz=116,slow=3.2,SNR=7.4					
TORD	**Torodi Ar. Bea**	**150.87 288**	PKPbc	**PKPbc**	**11 01 44.5 +0.2**	
	comp=Z,29nm,0.7s,baz=72,slow=1.8,SNR=36					
TORD	**Torodi Ar. Bea**	**150.87 288**		**PKiKP**	**11 01 44.7 -0.2**	

TAP 20 10:49:46.0, 23°.17N × 120°.64E, h6 km ± 1 km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WTP	**Ta-pu**	**0.08**	**346**	*i* P		Pg	10 49 48.4	+0.5
	baz=351							
WTP				*i* S		Sg	10 49 50.1	+0.9
	baz=351							
SGST	**Jiashian**	**0.10**	**209**	*i* P		Pg	10 49 48.3	+0.1
	baz=204							
SGST				*i* S		Sg	10 49 50.9	+1.3
	baz=204							
CHN1	**Nanshi**	**0.10**	**279**	P		Pg	10 49 48.6	+0.4
	baz=279							
CHN1				*i* S		Sg	10 49 51.2	+1.5
	baz=279							
STYT	**Tauyuan**	**0.11**	**93**	*i* P		Pg	10 49 49.4	+0.9
	baz=93							
STYT				S		Sg	10 49 51.7	+1.6
	baz=93							
STYH	**Taoyuan**	**0.13**	**89**	*i* P		Pg	10 49 49.8	+1.1
	baz=85							
STYH				S		Sg	10 49 52.4	+1.9
	baz=85							
TPUB	**Ta-pu**	**0.13**	**358**	P		Pg	10 49 49.6	+0.8
	baz=357							
TPUB				S		Sg	10 49 51.9	+1.3
	baz=357							
SNST	**Tainan City**	**0.14**	**292**	P		Pg	10 49 49.9	+1.0
	baz=292							
SNST				*e*S		Sg	10 49 52.7	+2.0
	baz=292							
TWK	**Hsinying**	**0.17**	**306**	P		Pg	10 49 50.0	+0.6
	baz=307							
CHN4	**Tsaushan**	**0.18**	**348**	*i* P		Pg	10 49 50.7	+1.0
	baz=348							
CHN4				*e*S		Sg	10 49 53.9	+1.7
	baz=348							

IDC ***20*** *10:51:36.8±0.3, 13°.21N×56°.03W, h0 km, mb5.2/37, mb1 5.3/40, mb1mx5.3/42, mbtmp5.2/40, ML5.6/2, MS4.9/76, Ms1 4.9/76, ms1mx4.9/80, Error ellipse: s-maj=10.5km s-min=10.2km az=96.0*

MOS ***20*** *10:51:37.7±0.8, 13°.22N×56°.03W, h14 km, mb5.7/73, MS4.9/18, Error ellipse: s-maj=6.4km s-min=5.1km az=64.0*

NEIC ***20*** *10:51:41.3, 13°.20N×55°.89W, h24 km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr1.63; Mθθ-1.40; Mφφ-0.23; Mrθ0.58; Mrφ0.60; Mθφ-0.54; Fault plane solution: M0 1.82000×10^17 NP1:φs121.38000°, δ57.80000°, λ99.14000°. NP2:φs284.57000°, δ33.34000°, λ75.84000°. Principal axes: T 1.8286, Plg75.0000°, Azm58.0000°; N -0.0125, Plg8.0000°, Azm296.0000°; P -1.8161, Plg12.0000°, Azm205.0000°;*

NEIC ***20*** *10:51:42.1±2.1, 13°.20N±0°.07×55°.89W±0°.07, h28 km±1 km, mb5.8/850, Ms_20 5.1/253, Mwb5.4/55, Mww5.6 Error ellipse: s-maj=12.3km s-min=9.9km az=42.0*

NEIC ***20*** *10:51:43, 13°.40N×55°.82W, h46 km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^17 Nm; Mrr1.90; Mθθ-3.69; Mφφ1.79; Mrθ-0.85; Mθφ-0.18; Mrφ1.68; Fault plane solution: M0 3.71000×10^17 NP1:φs53.00000°, δ52.00000°, λ31.00000°. NP2:φs302.00000°, δ66.00000°, λ137.00000°. Principal axes: T 3.5969, Plg46.0000°, Azm262.0000°; N 0.2177, Plg42.0000°, Azm99.0000°; P -3.8147, Plg9.0000°, Azm1.0000°;*

TRN ***20*** *10:51:43.6, 13°.26N×56°.18W, h43 km, MD6.2*

BGR ***20*** *10:51:44.7±0.0, 13°.25N×56°.13W, h26 km±1 km, mb5.0*

GCMT ***20*** *10:51:44.0±0.1, 13°.27N±0°.01×55°.91W±0°.01, h41 km, MW5.6/151, Moment Tensor Solution. s122,c214; s151,z293; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr1.85±.04; Mθθ-3.42±.03; Mφφ1.57±.04; Mrθ0.25±.04; Mθφ-0.07±.03; Mrφ1.53±.04; Best double couple: M0 3.34200×10^17 NP1:φs303.00000°, δ56.00000°, λ144.00000°. NP2:φs55.00000°, δ61.00000°, λ40.00000°. Principal axes: T 3.2490, Plg48.0000°, Azm272.0000°; N 0.1870, Plg42.0000°, Azm85.0000°; P -3.4360, Plg3.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 10:51:41.3±0.3, 13°.20N±0°.03×56°.00W±0°.03, h29 km±1 km, h29 km: pP-P, n1990, σ1s42/1707, mb5.7/532, MS5.1/219, 545C-80D, Fault plane solution: NP1:φs44.06401°, δ77.29260°, λ43.94605°. **NP2:**φs302.09317°, δ47.39172°, λ162.60992°. **Principal axes:** T Plg39.3638°, Azm272.8781°; N Plg44.6165°, Azm56.9197°; P Plg18.8538°, Azm166.6100°; **Fault plane solution: NP1:**φs298.78537°, δ49.15880°, λ99.78141°. **NP2:** φs104.01724°, δ41.79558°, λ78.88118°. **Principal axes:** T Plg81.7257°, Azm265.3748°; N Plg7.3844°, Azm112.3530°; P Plg3.7122°, Azm21.8712°; **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**3.37**	**269**	*e*P		**Pn**	**10 52 35.1**	**+3.2**
BBSP				*e*S		**Sn**	**10 53 12.3**	**+1.3**
BBGH	**Gun Hill**	**3.46**	**270**			**Pn**	**10 52 36.6**	**+3.3**
BBGH				Sn		**Sn**	**10 53 15.5**	**+2.1**
BBGH	**Gun Hill**	**3.46**	**270**	*e*P		**Pn**	**10 52 36.4**	**+3.1**
BBGH				*e*S		**Sn**	**10 53 13.0**	**-0.4**
BCHC	**Barbados, Cave**	**3.54**	**269**	*e*P		**Pn**	**10 52 36.9**	**+2.6**
TOSP	**Speyside**	**4.82**	**247**			**Pn**	**10 52 54.5**	**+2.6**
TOSP	**Speyside**	**4.82**	**247**	*e*P		**Pn**	**10 52 54.5**	**+2.6**
TOSP	**Speyside**	**4.82**	**247**	*e*S		**Sn**	**10 53 44.3**	**-2.5**
MCLT	**Moule a Chique**	**4.83**	**277**			**Pn**	**10 52 51.3**	**-0.8**
MCLT	**Moule a Chique**	**4.83**	**277**	*e*P		**Pn**	**10 52 53.0**	**+0.9**
MCLT	**Moule a Chique**	**4.83**	**277**	*e*S		**Sn**	**10 53 42.6**	**-4.6**
H05S1	**Guadeloupe/Mar**	**4.85**	**285**	Pn		**Pn**	**10 52 52.9**	**+0.5**
H05S1				Sn		**Sn**	**10 53 43.8**	**-3.8**
MPOM	**Morne Pois Mar**	**4.88**	**285**			**Pn**	**10 52 53.2**	**+0.4**
MPOM	**Morne Pois Mar**	**4.88**	**285**	*e*P		**Pn**	**10 52 53.2**	**+0.4**
MPOM	**Morne Pois Mar**	**4.88**	**285**	*e*S		**Sn**	**10 53 44.3**	**-3.9**
SLBI	**Saint Lucia, B**	**4.90**	**280**	*e*P		**Pn**	**10 52 54.2**	**+1.1**
SLBI	**Saint Lucia, B**	**4.90**	**280**	*e*S		**Sn**	**10 53 45.3**	**-3.6**
SLCP	**Castries, St.**	**4.92**	**280**	*e*P		**Pn**	**10 52 54.1**	**+0.8**
SLCP	**Castries, St.**	**4.92**	**280**	*e*S		**Sn**	**10 53 46.4**	**-2.8**
MVM	**Montagne Vaucl**	**4.94**	**286**	*e*P		**Pn**	**10 52 54.4**	**+0.7**
ILAM	**Ilet Lapin Mar**	**4.98**	**289**			**Pn**	**10 52 55.0**	**+0.9**
ILAM				Sn		**Sn**	**10 53 47.0**	**-3.8**
ILAM	**Ilet Lapin Mar**	**4.98**	**289**	*e*P		**Pn**	**10 52 55.1**	**+0.9**
ILAM	**Ilet Lapin Mar**	**4.98**	**289**	*e*S		**Sn**	**10 53 47.2**	**-3.6**
LPMF	**Morne Lapointe**	**5.01**	**286**	*e*P		**Pn**	**10 52 55.3**	**+0.8**
ZAM	**Aeronautique**	**5.07**	**286**	*e*P		**Pn**	**10 52 56.2**	**+0.8**
TRMF	**Trois Ilets**	**5.08**	**286**	*e*P		**Pn**	**10 52 56.2**	**+0.7**
SVOC	**Richmond Hill,**	**5.08**	**270**	*e*P		**Pn**	**10 52 57.0**	**+1.4**
SVOC	**Richmond Hill,**	**5.08**	**270**	*e*S		**Sn**	**10 53 50.5**	**-2.9**
BIM	**Bigot**	**5.10**	**286**			**Pn**	**10 52 56.6**	**+0.8**
BIM	**Bigot**	**5.10**	**286**	*e*P		**Pn**	**10 52 56.6**	**+0.8**
BIM	**Bigot**	**5.10**	**286**	*e*S		**Sn**	**10 53 50.7**	**-3.0**
SVB	**Belmont**	**5.11**	**271**			**Pn**	**10 52 57.0**	**+1.0**
SVB	**Belmont**	**5.11**	**271**	*e*P		**Pn**	**10 52 57.3**	**+1.3**
SVB	**Belmont**	**5.11**	**271**	*e*S		**Sn**	**10 53 51.0**	**-3.1**
FDF	**Fort de France**	**5.23**	**288**	P		**Pn**	**10 52 58.5**	**+0.9**
FDF	**Fort de France**	**5.23**	**288**			**Pn**	**10 52 58.5**	**+0.9**
FDF				Sn		**Sn**	**10 53 53.9**	**-3.0**
FDF	**Fort de France**	**5.23**	**288**	*e*P		**Pn**	**10 52 58.6**	**+1.1**
FDF	**Fort de France**	**5.23**	**288**	*e*S		**Sn**	**10 53 54.0**	**-3.0**
BAMF	**Morne Balai**	**5.25**	**288**	*e*P		**Pn**	**10 52 59.1**	**+1.2**
GBMF	**Grand Be**	**5.26**	**288**	*e*P		**Pn**	**10 52 59.2**	**+1.1**
CXM	**Morne La Croix**	**5.27**	**288**	*e*P		**Pn**	**10 52 58.5**	**+0.2**
PML	**Morne Lenard**	**5.27**	**288**	*e*P		**Pn**	**10 52 59.4**	**+1.2**
SVN	**Savane Anatole**	**5.27**	**289**			**Pn**	**10 52 59.5**	**+1.3**
SVN	**Savane Anatole**	**5.27**	**289**	*e*P		**Pn**	**10 52 59.4**	**+1.2**
PCM	**Pelee Case Pet**	**5.31**	**288**	*e*P		**Pn**	**10 52 59.4**	**+0.7**
PCM	**Pelee Case Pet**	**5.31**	**288**	*e*P		**Pn**	**10 52 59.9**	**+1.2**
GCMP	**Grenada, Carri**	**5.34**	**263**	*e*P		**Pn**	**10 53 00.2**	**+1.1**
GCMP	**Grenada, Carri**	**5.34**	**263**	*e*S		**Sn**	**10 53 56.6**	**-3.0**
DLPL	**La Plaine**	**5.51**	**293**			**Pn**	**10 53 02.5**	**+1.1**
DLPL	**La Plaine**	**5.51**	**293**	*e*P		**Pn**	**10 53 02.6**	**+1.2**
DLPL	**La Plaine**	**5.51**	**293**	*e*S		**Sn**	**10 54 00.7**	**-3.2**
GRSS	**Sisters**	**5.55**	**261**	*e*P		**Pn**	**10 53 03.7**	**+1.8**
GRSS	**Sisters**	**5.55**	**261**	*e*S		**Sn**	**10 54 00.8**	**-3.9**
GRHS	**Sauteurs**	**5.59**	**261**	*e*P		**Pn**	**10 53 04.9**	**+2.4**
GRHS	**Sauteurs**	**5.59**	**261**	*e*S		**Sn**	**10 54 01.4**	**-4.4**
GRGR	**Grenville**	**5.62**	**260**			**Pn**	**10 53 03.7**	**+0.8**
GRGR	**Grenville**	**5.62**	**260**	*e*P		**Pn**	**10 53 04.3**	**+1.4**
GRGR	**Grenville**	**5.62**	**260**	*e*S		**Sn**	**10 54 03.2**	**-3.3**
MDN	**Morne-Daniel**	**5.64**	**293**	*e*P		**Pn**	**10 53 04.6**	**+1.4**
MDN	**Morne-Daniel**	**5.64**	**293**	*e*S		**Sn**	**10 54 04.4**	**-2.6**
DSLB	**Salisbury**	**5.71**	**294**	*e*P		**Pn**	**10 53 05.2**	**+1.1**
DSLB	**Salisbury**	**5.71**	**294**	*e*S		**Sn**	**10 54 04.3**	**-4.5**
GRFF	**Grenada Fort F**	**5.71**	**259**	*e*P		**Pn**	**10 53 06.1**	**+1.9**
GRFF	**Grenada Fort F**	**5.71**	**259**	*e*S		**Sn**	**10 54 05.1**	**-3.8**
MDVC	**Dominica, Viel**	**5.76**	**295**	*e*P		**Pn**	**10 53 06.0**	**+1.1**
MDVC	**Dominica, Viel**	**5.76**	**295**	*e*S		**Sn**	**10 54 06.9**	**-3.1**
H05N1	**Guadeloupe/Mar**	**5.79**	**303**	Pn		**Pn**	**10 53 05.1**	**-0.2**
H05N1				Sn		**Sn**	10 53 59.9	-1.1
GDSD	**La Dsirade Is**	**5.80**	**303**			**Pn**	**10 53 04.8**	**-0.6**
MAGL	**Barre de l'ile**	**5.80**	**299**			**Pn**	**10 53 06.2**	**+0.8**
MAGL	**Barre de l'ile**	**5.80**	**299**	*e*P		**Pn**	**10 53 06.2**	**+0.8**
MAGL	**Barre de l'ile**	**5.80**	**299**	*e*S		**Sn**	**10 54 06.7**	**-4.3**
TRN	**Trinidad (W)**	**5.86**	**245**	*e*P		**Pn**	**10 53 09.1**	**+2.8**
TRN	**Trinidad (W)**	**5.86**	**245**	*e*S		**Sn**	**10 54 08.5**	**-4.0**
TPP	**Pointe-a-Pierr**	**6.05**	**242**	*e*P		**Pn**	**10 53 12.9**	**+4.0**
TDBA	**Terre de Bas,**	**6.06**	**296**			**Pn**	**10 53 10.1**	**+1.1**
TDBA	**Terre de Bas,**	**6.06**	**296**	*e*P		**Pn**	**10 53 10.1**	**+1.1**
TDBA	**Terre de Bas,**	**6.06**	**296**	*e*S		**Sn**	**10 54 14.2**	**-3.2**
TBG	**Guadaloupe-3**	**6.07**	**296**	*e*P		**Pn**	**10 53 10.6**	**+1.4**
TBG	**Guadaloupe-3**	**6.07**	**296**	*e*S		**Sn**	**10 54 15.1**	**-2.5**
CBE	**Ff, Capester**	**6.13**	**298**			**Pn**	**10 53 11.1**	**+1.1**
CBE	**Ff, Capester**	**6.13**	**298**	*e*P		**Pn**	**10 53 11.2**	**+1.1**
CBE	**Ff, Capester**	**6.13**	**298**	*e*S		**Sn**	**10 54 16.2**	**-3.0**
ABD	**La Joyeuse, An**	**6.23**	**302**			**Pn**	**10 53 11.3**	**0.0**
ABD	**La Joyeuse, An**	**6.23**	**302**	*e*P		**Pn**	**10 53 11.3**	**0.0**
ABD	**La Joyeuse, An**	**6.23**	**302**	*e*S		**Sn**	**10 54 16.9**	**-4.6**
GDHS	**Morne Mazeau,**	**6.36**	**299**			**Pn**	**10 53 14.1**	**+0.9**
ANBD	**Bethesda, Anti**	**6.76**	**305**	*e*P		**Pn**	**10 53 19.1**	**+0.5**
ANBD	**Bethesda, Anti**	**6.76**	**305**	*e*S		**Sn**	**10 54 30.5**	**-4.0**
BPA	**Boggy Peak**	**6.83**	**305**	*e*P		**Pn**	**10 53 19.8**	**+0.2**
BPA	**Boggy Peak**	**6.83**	**305**	*e*S		**Sn**	**10 54 30.9**	**-5.5**
ANDO	**Antigua, Disas**	**6.84**	**305**	*e*P		**Pn**	**10 53 20.2**	**+0.4**
ANDO	**Antigua, Disas**	**6.84**	**305**	*e*S		**Sn**	**10 54 31.9**	**-4.8**
MLYT	**Lee's Yard**	**6.93**	**301**	*e*P		**Pn**	**10 53 21.9**	**+0.9**
MLYT	**Lee's Yard**	**6.93**	**301**	*e*S		**Sn**	**10 54 35.5**	**-3.5**
MBFL	**Flemmings, Mon**	**6.96**	**301**	*e*P		**Pn**	**10 53 21.9**	**+0.5**
MBFL	**Flemmings, Mon**	**6.96**	**301**	*e*S		**Sn**	**10 54 36.1**	**-3.6**
ANWB	**Willy Bob**	**7.13**	**309**	Pn		**Pn**	**10 53 22.7**	**-1.0**
ANWB	**Willy Bob**	**7.13**	**309**	*e*P		**Pn**	**10 53 24.5**	**+0.8**
ANWB	**Willy Bob**	**7.13**	**309**	*e*S		**Sn**	**10 54 38.2**	**-5.6**
NVDO	**Nevis, Disaste**	**7.49**	**302**	*e*P		**Pn**	**10 53 29.4**	**+0.8**
NVDO	**Nevis, Disaste**	**7.49**	**302**	*e*S		**Sn**	**10 54 48.1**	**-4.4**
SKOC	**St. Kitts, UWI**	**7.67**	**303**	*e*P		**Pn**	**10 53 32.0**	**+1.0**
SKOC	**St. Kitts, UWI**	**7.67**	**303**	*e*S		**Sn**	**10 54 53.0**	**-3.9**
SEUS	**St. Eustatius**	**7.97**	**303**			**Pn**	**10 53 35.9**	**+0.6**
SEUS	**St. Eustatius**	**7.97**	**303**	*e*P		**Pn**	**10 53 36.2**	**+0.9**
SEUS	**St. Eustatius**	**7.97**	**303**	*e*S		**Sn**	**10 54 58.8**	**-5.8**
SMRT	**St. Maarten**	**8.35**	**306**	Pn		**Pn**	**10 53 39.6**	**-0.8**
SMRT	**St. Maarten**	**8.35**	**306**	*e*P		**Pn**	**10 53 40.9**	**+0.5**
SMRT	**St. Maarten**	**8.35**	**306**	*e*S		**Sn**	**10 55 09.2**	**-4.6**
MDP	**Montagnes des**	**8.70**	**157**	Pn		**Pn**	**10 53 42.1**	**-3.1**
	40nm,0.3s,baz=336,slow=17,SNR=149							
MDP				Sn		**Sn**	**10 55 15.3**	**-7.2**
	558nm,0.3s,baz=82,slow=5.2,SNR=32							
MDP				LR		LR	10 57 15.3	
	comp=Z,19μm,19.5s,baz=340,slow=39							
CDVI	**St. Croix**	**9.59**	**299**	Pn		**Pn**	**10 53 57.2**	**-0.1**
CDVI	**St. Croix**	**9.59**	**299**	*e*P		**Pn**	**10 53 57.6**	**+0.3**
CDVI	**St. Croix**	**9.59**	**299**	*e*S		**Sn**	**10 55 39.0**	**-5.1**
STVI	**Saint Thomas**	**10.03**	**302**	Pn		**Pn**	**10 54 03.3**	**-0.1**
CUPR	**Culebra, Puert**	**10.28**	**301**	Pn		**Pn**	**10 54 06.8**	**0.0**
BIRV	**Birongo**	**10.41**	**256**	Pn		**Pn**	**10 54 09.4**	**+0.7**
MTP	**Monte Pirata**	**10.41**	**299**	Pn		**Pn**	**10 54 09.1**	**+0.4**
HUMP	**Col San Antoni**	**10.68**	**299**			**Pn**	**10 54 12.9**	**+0.5**
CBYP	**Canovanas**	**10.74**	**299**			**Pn**	**10 54 13.7**	**+0.4**
PDPR	**Patillas Dam,**	**10.78**	**298**	Pn		**Pn**	**10 54 14.0**	**+0.3**
SJG	**San Juan**	**10.93**	**298**	Pn		**Pn**	**10 54 16.0**	**+0.2**
	88nm,0.3s,baz=106,slow=11,SNR=62							
SJG				Sn		**Sn**	**10 56 12.4**	**-4.7**
	40nm,0.3s,baz=6.0,slow=23,SNR=13							
SJG				LR		LR	10 58 39.1	
	comp=Z,6μm,22.0s,baz=131,slow=39							
SJG	**San Juan**	**10.93**	**298**			**Pn**	**10 54 16.1**	**+0.4**
SJG	**San Juan**	**10.93**	**298**	*i* P		**Pn**	**10 54 16.1**	**+0.4**
SJG				*e*S		**Sn**	**10 56 10.9**	**-6.2**
SJG				*i*			10 56 33.6	
	comp=Z,489nm,0.1s							
SJG	**San Juan**	**10.93**	**298**	*e*P		**Pn**	**10 54 16.1**	**+0.4**
SJG	**San Juan**	**10.93**	**298**	*e*S		**Sn**	**10 56 12.1**	**-5.0**
GCPR	**Guaynabo City**	**10.96**	**299**			**Pn**	**10 54 16.9**	**+0.8**
ICMP	**Isla Caja de M**	**11.16**	**296**	Pn		**Pn**	**10 54 19.4**	**+0.4**
CELP	**Cerrillos**	**11.28**	**297**	Pn		**Pn**	**10 54 21.2**	**+0.8**
OBIP	**Obispado Ponce**	**11.29**	**297**			**Pn**	**10 54 21.0**	**+0.2**
AOPR	**Arecibo Observ**	**11.54**	**298**			**Pn**	**10 54 24.8**	**+0.5**
AOPR	**Arecibo Observ**	**11.54**	**298**	*e*P		**Pn**	**10 54 24.7**	**+0.5**
AOPR	**Arecibo Observ**	**11.54**	**298**	*e*S		**Sn**	**10 56 25.7**	**-6.6**
BOAV	**Boa Vista**	**11.63**	**203**	*e*P		**Pn**	**10 54 22.7**	**-2.7**
MLPR	**Magueyes Islan**	**11.65**	**295**	Pn		**Pn**	**10 54 26.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**11.72**	**295**			**Pn**	**10 54 26.6**	**0.0**
PRSN	**Puerto Rico Se**	**11.83**	**296**			**Pn**	**10 54 28.2**	**0.0**
AGPR	**Aguadilla, PR**	**11.90**	**298**			**Pn**	**10 54 29.7**	**+0.5**
BAUV	**El Baul**	**12.55**	**252**	Pn		**Pn**	**10 54 36.6**	**-1.4**
HATO	**Hato, Curacao**	**12.68**	**267**	Pn		**Pn**	**10 54 39.3**	**-0.5**
PCDR	**Punta Cana, DR**	**13.03**	**296**	Pn		**Pn**	**10 54 44.7**	**+0.2**
DR12	**Loma Pena Alta**	**14.01**	**295**			**Pn**	**10 54 56.6**	**-1.4**
SDD	**Santo Domingo**	**14.37**	**293**			**Pn**	**10 55 03.0**	**+0.2**
DABV	**Dabajuro**	**14.49**	**263**	*e*P		**Pn**	**10 55 03.6**	**-1.0**
BANI	**BANI**	**14.75**	**292**			**Pn**	**10 55 09.0**	**+0.9**
SDV	**Santo Domingo**	**14.98**	**255**	Pn		**Pn**	**10 55 10.2**	**-1.2**
	comp=Z,5.1nm,0.3s,baz=78,slow=8.2,SNR=143							
SDV				Sn		Sn	10 57 44.3	-12
	comp=Z,10nm,0.3s,baz=337,slow=17,SNR=1.8							
SDV				LR		LR	11 02 09.7	
	comp=Z,2μm,21.7s,baz=68,slow=42							
SDV	**Santo Domingo**	**14.98**	**255**	Pn		**Pn**	**10 55 10.2**	**-1.2**
SDV				IAmb		IAmb	10 55 13.7	
	comp=Z,633nm,1.2s							
SDV	**Santo Domingo**	**14.98**	**255**	*e*P		**Pn**	**10 55 09.1**	**-2.3**
SDV	**Santo Domingo**	**14.98**	**255**	*e*P		**Pn**	**10 55 09.9**	**-1.5**
SOCV	**Socops**	**15.39**	**253**	*e*P		**Pn**	**10 55 14.0**	**-2.5**
SC01	**Santiago de lo**	**15.43**	**296**			**Pn**	**10 55 10.1**	**-0.9**
SC01				IAmb		IAmb	10 55 37.2	
	comp=Z,1μm,1.0s							
SDDR	**Presa de Saban**	**15.77**	**293**	Pn		**Pn**	**10 55 20.6**	**-0.9**
SDDR				IAmb		IAmb	10 55 30.6	
	comp=Z,586nm,0.9s							
SDDR	**Presa de Saban**	**15.77**	**293**	*e*P		**Pn**	**10 55 19.6**	**-1.9**
SDDR	**Presa de Saban**	**15.77**	**293**	*e*P		**Pn**	**10 55 21.6**	**+0.1**
GRTK	**Grand Turk**	**16.63**	**302**	Pn		**Pn**	**10 55 30.4**	**-2.0**
GRTK	**Grand Turk**	**16.63**	**302**	*e*P		**P**	**10 55 37.3**	**+2.7**
GRTK				IVmB_BB			10 58 52.4	
	comp=Z,7μm,2.2s							
GRTK				IVmB_BB			10 58 59.6	
	comp=Z,9μm,5.1s							
CRJC	**Cerrejon, Guaj**	**16.65**	**264**	*e*P		**Pn**	**10 55 29.5**	**-3.2**
JAKH	**Jacmel**	**16.67**	**290**	Pn		**Pn**	**10 55 32.8**	**-0.1**
JAKH				IAmb		IAmb	10 55 39.8	
	comp=Z,599nm,1.0s							
LGNH	**Logne**	**16.82**	**290**	Pn		**Pn**	**10 55 34.8**	**-0.1**
LGNH	**Logne**	**16.82**	**290**	*e*P		**Pn**	**10 55 34.7**	**-0.1**
LGNH				IAmb		IAmb	10 58 40.8	
	comp=E,2μm,1.7s							
LGNH				IVmB_BB			10 58 57.8	
	comp=N,3μm,0.6s							
TAMC	**Tame, Arauca**	**16.94**	**248**	*e*P		**Pn**	**10 55 35.6**	**-0.8**
CVALL	**Valledupar, Ce**	**17.10**	**263**	*e*P		**Pn**	**10 55 38.5**	**+0.1**
LL6C	**La Loma 6 Bece**	**17.27**	**260**	*i* P		**Pn**	**10 55 40.3**	**-0.2**
PAMC	**Pamplona, Colo**	**17.43**	**252**	*e*P		**Pn**	**10 55 41.8**	**-1.1**
LL1C	**La Loma 1 Cana**	**17.59**	**260**	*i* P		**Pn**	**10 55 44.6**	**+0.2**
LL5C	**La Loma 5 El P**	**17.70**	**261**	*e*P		**P**	**10 55 46.7**	**+0.2**
OCAC	**Ocana**	**17.71**	**256**			**Pn**	**10 55 46.2**	**+0.1**
OCAC				IAmb		IAmb	10 55 53.3	
	comp=Z,704nm,1.3s							
OCAC	**Ocana**	**17.71**	**256**	*i* P		**Pn**	**10 55 45.5**	**-0.6**
SMRC	**Santa Marta, M**	**17.93**	**266**	*e*P		**Pn**	**10 55 44.4**	**-4.2**
BARC	**Barichara**	**18.14**	**250**	*e*P		Pn	10 55 44.1	-7.4
PTGC	**Puerto Gaitan,**	**18.27**	**242**	*i* P		**P**	**10 55 52.4**	**-0.4**
RUSC	**La Rusia**	**18.33**	**248**	*i* P		**Pn**	**10 55 54.2**	**+0.2**
MASC	**Masc**	**18.78**	**294**	*e*P		**Pn**	**10 55 59.1**	**+0.1**
MASC				IVmB_BB			10 59 48.5	
	comp=E,1μm,1.6s							
MASC				IVmB_BB			10 59 51.5	
	comp=N,2μm,2.6s							
SJCC	**San Jacinto, C**	**19.07**	**262**	P		**P**	**10 56 00.9**	**-0.8**
SJCC				IAmb		IAmb	10 56 22.9	
	comp=Z,533nm,1.0s							
SJCC	**San Jacinto, C**	**19.07**	**262**	*i* P		**P**	**10 56 00.7**	**-1.0**
SPBC	**San Pablo de B**	**19.33**	**249**	*i* P		**Pn**	**10 56 06.5**	**+0.8**
PTBC	**PUERTO BERRIO,**	**19.34**	**252**	*i* P		**P**	**10 56 03.5**	**-1.1**
ZARC	**Zaragoza, Cauc**	**19.39**	**255**	*e*P		**P**	**10 56 02.9**	**-2.2**
CHIC	**Chingaza**	**19.46**	**246**	*i* P		**Pn**	**10 56 09.7**	**+2.1**
GTBY	**Guantanamo Bay**	**19.49**	**293**	P		**P**	**10 56 06.2**	**0.0**
GTBY	**Guantanamo Bay**	**19.49**	**293**	*e*P		**P**	**10 56 04.0**	**-2.2**
GTBY	**Guantanamo Bay**	**19.49**	**293**	*e*P		**P**	**10 56 05.2**	**-1.0**
GTBY				IVmB_BB			11 00 43.1	
	comp=Z,2μm,2.7s							
GTBY				IVmB_BB			11 00 58.2	
	comp=Z,2μm,6.1s							
MOAC	**Moa**	**19.59**	**295**	*e*P		**P**	**10 56 07.2**	**+0.1**
MOAC				IVmB_BB			11 00 03.7	
	comp=N,2μm,2.2s							
MOAC				IVmB_BB			11 00 04.5	
	comp=E,992nm,2.1s		

comp=Z,301nm,1.1s
NBMA Muriti-CE 26.65 139 *e*P **P** **10 57 18.1 +0.2**
CDITO Canoas 26.77 263 P **P** **10 57 21.0 +2.1**
PORT Chimborazo Vol 26.88 239 P **P** **10 57 22.8 +2.3**
DRK0 Durika 27.00 265 P **P** **10 57 23.5 +2.4**
SRBA San Rafael, Bu 27.11 265 P **P** **10 57 24.6 +2.5**
SRBA IAmb IAmb 10 57 25.9
comp=Z,438nm,1.2s
PJRO Carate, Puerto 27.26 263 *e*P **P** **10 57 26.0 +2.7**
NBRS Nobres 27.34 180 *e*P **P** **10 57 24.5 +0.5**
SOR Soroa 27.36 294 IAmb IAmb 10 58 07.7
comp=Z,362nm,1.5s
SOR Soroa 27.36 294 *e*P **P** **10 57 20.9 -3.3**
SOR IVmB_BB 11 02 36.7
comp=E,1µm,3.3s
SOR IVmB_BB 11 03 00.2
comp=N,2µm,8.7s
PEZE Perez Zeledon, 27.39 265 IAmb IAmb 10 57 51.2
comp=Z,224nm,1.2s
PEZE Perez Zeledon, 27.39 265 *e*P **P** **10 57 27.1 +2.4**
CDM Cerro de Muert 27.45 265 *e*P **P** **10 57 27.6 +2.1**
RCBR Riachuelo 27.49 132 P **P** **10 57 26.4 +1.0**
comp=Z,56nm,1.0s,baz=115,slow=8.9,SNR=8.1
RCBR LR LR 11 06 55.0
comp=Z,2µm,18.9s,baz=104,slow=33
RCBR Riachuelo 27.49 132 P **P** **10 57 24.6 -0.8**
RCBR IAmb IAmb 10 57 51.7
comp=Z,374nm,1.4s
RCBR Riachuelo 27.49 132 *e*P **P** **10 57 26.7 +1.3**
RIMA Rio Macho 27.51 266 *e*P **P** **10 57 28.6 +2.8**
BOSC San Juan Bosco 27.61 236 P **P** **10 57 26.9 +0.3**
BOSC IAmb IAmb 10 58 23.8
comp=Z,158nm,1.2s
LCR2 La Lucha 2 27.65 266 *e*P **P** **10 57 29.5 +2.5**
HDC Heredia 27.71 266 *e*P **P** **10 57 30.5 +2.9**
SDBA SAO DESIDERIO 27.72 156 *e*P **P** **10 57 27.6 +0.2**
DWPF Disney Wildern 27.96 306 P **P** **10 57 30.7 +1.3**
DWPF IAmb IAmb 10 57 31.7
comp=Z,247nm,1.5s
DWPF Disney Wildern 27.96 306 P **P** **10 57 30.3 +0.9**
baz=117
DWPF Disney Wildern 27.96 306 IVmB_BB 11 02 55.2
comp=Z,774nm,0.6s
DWPF IVmB_BB 11 03 11.4
comp=Z,990nm,0.7s
DWPF Disney Wildern 27.96 306 P **P** **10 57 30.6 +1.2**
SRA1 San Ramn 28.05 267 *e*P **P** **10 57 32.0 +1.4**
ARE1 Arenal 1 28.23 268 *e*P **P** **10 57 34.0 +1.9**
JACO JACO, Garabito 28.30 266 P **P** **10 57 33.9 +1.3**
JACO IAmb IAmb 10 57 38.3
comp=Z,147nm,1.0s
JACO JACO, Garabito 28.30 266 *e*P **P** **10 57 34.2 +1.6**
NBPV Pedro Velho 28.34 132 *e*P **P** **10 57 35.0 +2.1**
JTS Las Juntas de 28.48 267 P **P** **10 57 35.3 +1.0**
comp=Z,36nm,0.8s,baz=117,slow=4.1,SNR=17
JTS LR LR 11 08 22.6
comp=Z,593nm,21.2s,baz=146,slow=35
JTS Las Juntas de 28.48 267 *i* P **P** **10 57 35.0 +0.7**
JTS pmax pmax
comp=Z,89nm,1.1s
JTS Las Juntas de 28.48 267 P **P** **10 57 35.3 +1.0**
JTS IAmb IAmb 10 58 18.2
comp=Z,192nm,1.4s
JTS Las Juntas de 28.48 267 *e*P **P** **10 57 34.5 +0.2**
JTS Las Juntas de 28.48 267 ⇑P **P** **10 57 35.3 +1.0**
JTS pP **pwP** **10 57 45.5 -2.2**
JTS sP sP 10 57 53.2 +8.9
ACON Acoyapa 28.49 271 IAmb IAmb 10 57 37.9
comp=Z,254nm,1.1s
LAFE Finca La Fe, P 28.52 266 *e*P **P** **10 57 36.0 +1.4**
VMAR Armenia, Volca 28.57 268 *e*P **P** **10 57 36.9 +1.8**
NBPN Ponto Novo - B 28.57 146 *e*P **P** **10 57 35.5 +0.5**
PTLB Pontes e Lacer 28.63 186 *e*P **P** **10 57 36.1 +0.7**
CAO2 Cobano, Puntar 28.73 266 *e*P **P** **10 57 38.0 +1.5**
SALV Santo Antonio 28.91 179 *e*P **P** **10 57 39.2 +1.2**
ORTG Ortega, Santa 28.96 268 IAmb IAmb 10 57 40.9
comp=Z,174nm,0.9s
DUNO Dulce Nombre, 29.04 267 IAmb IAmb 10 58 23.9
comp=Z,328nm,1.4s
HZTE Horizontes, Gu 29.05 268 IAmb IAmb 10 57 41.6
comp=Z,351nm,1.1s
HZTE Horizontes, Gu 29.05 268 *e*P **P** **10 57 40.2 +0.9**
NBCA Caruaru-PE 29.10 136 *e*P **P** **10 57 40.6 +0.8**
MATN Matagalpa 29.14 273 IAmb IAmb 10 57 44.2
comp=Z,347nm,1.3s
Y59A Loris 29.33 319 P **P** **10 57 42.7 +1.2**
baz=129,SNR=13
Y59A P **P** **10 57 42.7 +1.2**
baz=129,SNR=13
656A Williston 29.39 307 IAmb IAmb 10 57 44.8
comp=Z,203nm,1.4s
SIV San Ignacio 29.43 190 P **P** **10 57 43.1 +0.5**
comp=Z,2.7nm,0.8s,baz=8.6,slow=9.3,SNR=9.6
SIV LR LR 11 10 18.2
comp=Z,4µm,20.0s,baz=39,slow=38
CNNC Cliffs of the 29.54 322 P **P** **10 57 44.0 +0.6**
baz=132
CNNC Cliffs of the 29.54 322 P **P** **10 57 44.2 +0.8**
baz=132
257A Skidaway Islan 29.59 313 P **P** **10 57 44.9 +1.0**
baz=123
NHSC New Hope 29.65 316 P **P** **10 57 44.9 +0.5**
NHSC IAmb IAmb 10 58 42.7
comp=Z,324nm,1.7s
NHSC PcP **PcP** **11 00 48.7 +0.2**
NHSC New Hope 29.65 316 P **P** **10 57 45.4 +1.0**
baz=126
456A Hilliard 29.66 310 P **P** **10 57 45.6 +1.1**
456A IAmb IAmb 10 58 33.7
comp=Z,91nm,0.5s
BDFB Brasilia 29.72 164 P **P** **10 57 46.4 +1.2**
comp=Z,25nm,0.9s,baz=342,slow=9.9,SNR=19
BDFB LR LR 11 09 40.4
comp=Z,6µm,20.4s,baz=339,slow=36
BDFB Brasilia 29.72 164 P **P** **10 57 47.0 +1.7**
BDFB pmax pmax
comp=Z,115nm,1.1s
BDFB Brasilia 29.72 164 P **P** **10 57 47.0 +1.7**
DVLD Doverlandia 29.88 173 *e*P **P** **10 57 47.4 +0.8**
CNGN Cerro Negro 29.93 272 P **P** **10 57 49.0 +1.9**
X58A Rowland 29.99 319 P **P** **10 57 48.2 +0.8**
X58A IAmb IAmb 10 57 49.4
comp=Z,146nm,0.9s
X58A Rowland 29.99 319 P **P** **10 57 48.4 +1.1**
baz=129,SNR=10
X58A P **P** **10 57 48.4 +1.1**
baz=129,SNR=10
NBAN Anadia - AL 29.99 138 *e*P **P** **10 57 48.1 +0.5**
U59A Littleton 30.24 323 P **P** **10 57 50.2 +0.6**
U59A Littleton 30.24 323 P **P** **10 57 50.4 +0.8**
baz=134,SNR=7.3
U59A P **P** **10 57 50.4 +0.8**
baz=134,SNR=7.3
Y57A Sumter 30.34 317 P **P** **10 57 51.3 +0.8**
JANB Januaria 30.36 157 *e*P **P** **10 57 51.4 +0.5**
TGUH Tegucigalpa,Un 30.39 275 ⇑ *i*P **P** **10 57 54.5 +3.1**
T59A Double "B" Far 30.54 325 P **P** **10 57 52.9 +0.7**
255A Hazlehurst 30.61 312 P **P** **10 57 53.7 +0.9**
255A IAmb IAmb 10 57 55.4
comp=Z,239nm,1.6s
255A Hazlehurst 30.61 312 P **P** **10 57 53.9 +1.0**
baz=122,SNR=8.5
PP1B Ponte de Pedra 30.62 178 *e*P **P** **10 57 54.6 +1.5**
V58A Windy Hill, Pi 30.65 321 P **P** **10 57 53.8 +0.6**
V58A Windy Hill, Pi 30.65 321 P **P** **10 57 54.0 +0.8**
baz=131,SNR=13
V58A P **P** **10 57 54.0 +0.8**
baz=131,SNR=13
BIRD Birdtown, Kers 30.77 318 P **P** **10 57 55.3 +1.0**
BIRD IAmb IAmb 10 57 56.4
comp=Z,120nm,1.0s
BIRD Birdtown, Kers 30.77 318 P **P** **10 57 55.2 +1.0**
baz=128,SNR=25
HAW Hawthorne Fire 30.77 315 P **P** **10 57 55.1 +0.8**
baz=125,SNR=21
W57A Gilead 30.78 319 IAmb IAmb 10 57 56.4
comp=Z,115nm,1.0s
W57A Gilead 30.78 319 P **P** **10 57 55.5 +1.2**
baz=129,SNR=24
W57A P **P** **10 57 55.5 +1.2**
baz=129,SNR=24
M65A Busby, Falmout 31.01 338 IAMs_20 IAMs_20 11 07 35.6
comp=Z,5µm,21.0s
JSC Jenkinsville 31.07 317 P **P** **10 57 57.6 +0.7**
JSC pmax pmax
comp=Z,42nm,1.0s
JSC Jenkinsville 31.07 317 P **P** **10 57 57.6 +0.7**
JSC Jenkinsville 31.07 317 P **P** **10 57 57.9 +1.0**
baz=126,SNR=11
TIGA Tifton 31.18 310 P **P** **10 57 59.2 +1.3**
TIGA Tifton 31.18 310 P **P** **10 57 59.7 +1.8**
baz=119,SNR=17
TIGA Tifton 31.18 310 P **P** **10 57 59.3 +1.3**
baz=119,SNR=17
553A Crawfordville 31.23 307 IAmb IAmb 10 58 00.9
comp=Z,82nm,0.9s
553A Crawfordville 31.23 307 P **P** **10 58 00.4 +2.0**
baz=117,SNR=5.9
GDU01 Guandu, BA 31.30 148 *e*P **P** **10 57 59.4 +0.3**
CBN Corbin Frederi 31.33 326 P **P** **10 57 59.8 +0.7**
CBN Corbin Frederi 31.33 326 P **P** **10 57 59.8 +0.7**
baz=137
CBN Corbin Frederi 31.33 326 P **P** **10 57 59.9 +0.7**
baz=137
M63A Gales Ferry 31.40 336 P **P** **10 58 00.9 +1.1**
154A Montrose 31.42 312 IAmb IAmb 10 59 08.8
comp=Z,230nm,1.6s
154A Montrose 31.42 312 P **P** **10 58 01.4 +1.3**
baz=122
R58B Mineral 31.43 326 P **P** **10 58 00.6 +0.5**
R58B Mineral 31.43 326 P **P** **10 58 00.7 +0.7**
baz=136,SNR=8.2
R58B P **P** **10 58 00.7 +0.7**
baz=136,SNR=8.2
SACV Santiago Islan 31.45 83 IAMs_20 IAMs_20 11 07 21.7
comp=Z,4µm,20.0s
T57A Hurt 31.54 323 P **P** **10 58 01.7 +0.7**
T57A Hurt 31.54 323 P **P** **10 58 01.5 +0.5**
baz=133,SNR=11
T57A P **P** **10 58 01.5 +0.5**
baz=133,SNR=11
KMSC Kings Mountain 31.64 318 P **P** **10 58 02.9 +0.9**
KMSC IAmb IAmb 10 58 04.0
comp=Z,118nm,1.0s
KMSC Kings Mountain 31.64 318 P **P** **10 58 03.0 +1.1**
baz=127,SNR=26
KMSC Kings Mountain 31.64 318 P **P** **10 58 02.9 +0.9**
baz=127,SNR=26
BRYW Bryant College 31.65 338 IAMs_20 IAMs_20 11 08 15.5
comp=Z,4µm,20.0s
LPAZ La Paz 31.65 203 P **P** **10 58 03.2 +0.3**
comp=Z,6.8nm,1.0s,baz=38,slow=10,SNR=9.9
LPAZ LR LR 11 11 23.4
comp=Z,3µm,21.8s,baz=18,slow=38
LPAZ La Paz 31.65 203 P **P** **10 58 04.0 +1.1**
LPAZ pmax pmax
comp=Z,64nm,1.0s
LPAZ La Paz 31.65 203 P **P** **10 58 04.0 +1.1**
LPAZ La Paz 31.65 203 *e*P **P** **10 58 03.8 +0.9**
YLE Yale 31.68 335 IAMs_20 IAMs_20 11 07 33.4
comp=Z,4µm,22.0s
HODGE Hodges 31.71 316 P **P** **10 58 03.6 +1.0**
HODGE IAmb IAmb 10 58 04.9
comp=Z,104nm,1.1s
HODGE Hodges 31.71 316 P **P** **10 58 03.7 +1.1**
baz=125,SNR=42
PAULI Pauline 31.76 317 P **P** **10 58 04.2 +1.1**
PAULI Pauline 31.76 317 P **P** **10 58 04.4 +1.4**
baz=126,SNR=18
U56A King 31.79 321 P **P** **10 58 04.1 +0.8**
U56A King 31.79 321 P **P** **10 58 04.2 +1.0**
baz=130,SNR=8.4
U56A P **P** **10 58 04.2 +1.0**
baz=130,SNR=8.4
PAL Palisades 31.83 334 IAMs_20 IAMs_20 11 08 11.4
comp=Z,3µm,20.0s
PAL Palisades 31.83 334 P **P** **10 58 05.2 +1.7**
baz=145
BRNJ Basking Ridge 31.85 333 P **P** **10 58 03.9 +0.1**
BCX Boston College 31.88 338 IAMs_20 IAMs_20 11 11 11.6
comp=Z,4µm,20.0s
S57A Dark Hollow, R 31.89 324 P **P** **10 58 05.0 +0.9**
baz=134,SNR=15
S57A P **P** **10 58 05.0 +0.9**
baz=134,SNR=15
IPMB Ipameri, GO 31.92 166 *e*P **P** **10 58 05.4 +0.8**
SDMD Soldier's Deli 31.94 329 P **P** **10 58 05.4 +0.9**
baz=139
WES Weston 31.98 338 IAMs_20 IAMs_20 11 07 54.2
comp=Z,5µm,22.0s
V55A Taylorsville 31.99 319 IAmb IAmb 10 58 07.6
comp=Z,143nm,1.1s
V55A Taylorsville 31.99 319 P **P** **10 58 06.4 +1.3**
baz=128,SNR=38
V55A P **P** **10 58 06.4 +1.3**
baz=128,SNR=38
HAL Halifax 32.00 350 IAmb IAmb 10 58 22.1
comp=Z,104nm,0.8s
MC01 Montes Claros 32.01 158 *e*P **P** **10 58 06.5 +1.1**
GOGA Godfrey 32.10 313 P **P** **10 58 07.3 +1.3**
GOGA pmax pmax
comp=Z,43nm,1.4s
GOGA Godfrey 32.10 313 P **P** **10 58 06.8 +0.7**
baz=122,SNR=12
GOGA Godfrey 32.10 313 P **P** **10 58 07.1 +1.1**
baz=122,SNR=12
MVL Millersville 32.15 330 P **P** **10 58 07.2 +0.8**
LUPA Lehigh Univers 32.15 332 IAmb IAmb 10 58 08.7
comp=Z,158nm,1.5s
HRV Adam Dziewonsk 32.17 338 P **P** **10 58 07.2 +0.7**
HRV pmax pmax
comp=Z,40nm,1.0s
HRV Adam Dziewonsk 32.17 338 P **P** **10 58 07.2 +0.7**
HRV Adam Dziewonsk 32.17 338 IAMs_20 IAMs_20 11 08 21.2
comp=Z,4µm,21.0s
HRV Adam Dziewonsk 32.17 338 P **P** **10 58 07.1 +0.6**
baz=150
HRV Adam Dziewonsk 32.17 338 P **P** **10 58 07.5 +1.0**
HRV pP **sP** **10 58 16.4 -0.1**
HRV sP **pwP** **10 58 26.8 +6.7**
ODNJ Ogdensburg 32.19 333 P **P** **10 58 07.3 +0.6**
baz=144
352A Blakely 32.20 309 P **P** **10 58 07.8 +0.9**
352A IAmb IAmb 10 58 09.8
comp=Z,243nm,1.1s
352A Blakely 32.20 309 P **P** **10 58 08.6 +1.7**
baz=118,SNR=21
BRNY Black Rk. Fore 32.21 334 P **P** **10 58 07.5 +0.7**
baz=146
QUA2 Belchertown 32.27 337 IAMs_20 IAMs_20 11 08 23.9
comp=Z,4µm,20.0s
BLA Blacksburg 32.37 322 P **P** **10 58 09.0 +0.6**
BLA pmax pmax
comp=Z,82nm,0.9s
BLA Blacksburg 32.37 322 P **P** **10 58 09.0 +0.6**
BLA IAmb IAmb 10 58 10.9
comp=Z,82nm,0.9s
BLA Blacksburg 32.37 322 P **P** **10 58 09.7 +1.3**
baz=131,SNR=18
BLA Blacksburg 32.37 322 P **P** **10 58 09.7 +1.3**
baz=131,SNR=18
MTO3 Montecristo 32.40 276 P **P** **10 58 11.5 +2.3**
451A Vernon 32.44 307 IAmb IAmb 10 58 11.9
comp=Z,179nm,1.1s
451A Vernon 32.44 307 P **P** **10 58 10.8 +1.7**
baz=116,SNR=9.6
NNA Nana 32.45 220 LR LR 11 13 06.3
comp=Z,3µm,18.1s,baz=42,slow=40
NNA Nana 32.45 220 *i* P **P** **10 58 10.7 +1.4**
NNA pmax pmax
comp=Z,51nm,1.1s
NNA Nana 32.45 220 IAMs_20 IAMs_20 11 13 02.8
comp=Z,3µm,19.0s
PAGS Pennsylvania G 32.51 330 P **P** **10 58 09.8 +0.4**
L61B Northampton 32.54 337 P **P** **10 58 10.3 +0.6**
L61B IAMs_20 IAMs_20 11 08 42.1
comp=Z,4µm,20.0s
L61B Northampton 32.54 337 P **P** **10 58 10.3 +0.6**
baz=149
L61B Northampton 32.54 337 P **P** **10 58 10.2 +0.5**
baz=149
NPNY Mohonk Preserv 32.54 334 P **P** **10 58 10.9 +1.1**
baz=146,SNR=5.7
K62A Royalston 32.55 337 P **P** **10 58 10.8 +0.9**
baz=150
K62A P **P** **10 58 10.8 +0.9**
baz=150
P57A Homestead Farm 32.60 327 P **P** **10 58 10.8 +0.5**
BG3 Lake Jocassee 32.60 316 P **P** **10 58 11.3 +0.8**
BG3 IAmb IAmb 10 58 13.4
comp=Z,191nm,1.1s
CASEE Lake Jocassee 32.60 316 P **P** **10 58 12.2 +1.7**
baz=125,SNR=41
152A Waverly Hall 32.62 311 P **P** **10 58 12.1 +1.5**
152A IAmb IAmb 10 58 13.3
comp=Z,136nm,1.1s
152A Waverly Hall 32.62 311 P **P** **10 58 11.9 +1.3**
baz=120,SNR=36
CMC01 Camacan, BA 32.73 150 *e*P **P** **10 58 12.8 +1.1**
Y52A Lilburn 32.76 314 P **P** **10 58 13.2 +1.3**
baz=122,SNR=12
Y52A P **P** **10 58 13.2 +1.3**
baz=122,SNR=12
U54A Nelsons Funny 32.79 320 P **P** **10 58 13.6 +1.4**
baz=128,SNR=22
U54A P **P** **10 58 13.6 +1.4**
baz=128,SNR=22
PETF Flores 32.89 281 P **P** **10 58 15.8 +2.7**
EMMW East Machias 32.90 345 IAMs_20 IAMs_20 11 08 28.1
comp=Z,3µm,21.0s
R55A Marlinton 32.91 324 P **P** **10 58 13.6 +0.4**
R55A Marlinton 32.91 324 P **P** **10 58 15.1 +1.9**
baz=133,SNR=13
R55A P **P** **10 58 15.1 +1.9**
baz=133,SNR=13
Q56A Snyder Ridge, 32.91 326 P **P** **10 58 13.7 +0.6**
Q56A IAmb IAmb 10 58 15.8
comp=Z,107nm,1.0s
Q56A Snyder Ridge, 32.91 326 P **P** **10 58 14.8 +1.6**
baz=135,SNR=24
Q56A P **P** **10 58 14.8 +1.6**
baz=135,SNR=24
V53A Saluda 32.92 317 IAmb IAmb 10 58 15.7
comp=Z,132nm,0.9s
V53A Saluda 32.92 317 P **P** **10 58 14.7 +1.4**
baz=126,SNR=58
V53A P **P** **10 58 14.7 +1.4**
baz=126,SNR=58
N58A Sunbury 32.97 330 P **P** **10 58 14.3 +0.7**
baz=141,SNR=9.8
N58A P **P** **10 58 14.3 +0.7**
baz=141,SNR=9.8
FFD Franklin Falls 33.04 339 IAMs_20 IAMs_20 11 08 46.4
comp=Z,4µm,20.0s
KSPA Keystone Colle 33.09 332 P **P** **10 58 15.5 +0.9**
KSPA Keystone Colle 33.09 332 P **P** **10 58 15.2 +0.6**
baz=143,SNR=9.9
GGN Saint George 33.13 346 IAmb IAmb 10 58 31.9
comp=Z,101nm,0.8s
ITRB Iturama 33.16 170 *e*P **P** **10 58 16.6 +1.2**
TRY Troy 33.16 336 IAMs_20 IAMs_20 11 09 10.7
comp=Z,3µm,20.0s
TRY Troy 33.16 336 P **P** **10 58 16.0 +0.8**
baz=147,SNR=8.3
J61A Chester 33.26 338 P **P** **10 58 17.7 +1.7**
baz=150
J61A P **P** **10 58 17.7 +1.7**
baz=150
Z51A Franklin 33.27 312 IAmb IAmb 10 58 18.9
comp=Z,109nm,1.3s
Z51A Franklin 33.27 312 P **P** **10 58 17.7 +1.4**
baz=120,SNR=11
L59A Walton 33.28 334 P **P** **10 58 17.1 +0.8**
baz=144,SNR=10
L59A P **P** **10 58 17.1 +0.8**
baz=144,SNR=10
S54A Dingess, Beckl 33.29 322 P **P** **10 58 17.6 +1.1**
baz=131,SNR=11
S54A P **P** **10 58 17.6 +1.1**
baz=131,SNR=11
W52A Murphy 33.34 316 P **P** **10 58 18.1 +1.2**
baz=124,SNR=10
WVL Waterville 33.37 342 IAMs_20 IAMs_20 11 08 42.9
comp=Z,3µm,21.0s
WVL Waterville 33.37 342 P **P** **10 58 18.2 +1.3**
baz=155,SNR=9.1
SSPA Standing Stone 33.39 329 P **P** **10 58 18.2 +1.0**
SSPA Standing Stone 33.39 329 P **P** **10 58 18.4 +1.1**
baz=139,SNR=14
SSPA Standing Stone 33.39 329 P **P** **10 58 18.4 +1.1**
baz=139
SSPA Standing Stone 33.39 329 ⇑P **P** **10 58 18.3 +1.0**
SSPA sP pwP 10 58 40.1 +9.1
LMN Caledonia Moun 33.39 349 IAmb IAmb 10 58 34.0
comp=Z,155nm,0.8s
HCNY Howe Caverns 33.43 335 P **P** **10 58 19.4 +1.8**
baz=146
250A Grady 33.45 309 P **P** **10 58 19.1 +1.3**
250A Grady 33.45 309 P **P** **10 58 19.1 +1.3**
baz=117,SNR=24
AQDB Aquidauana 33.46 179 P **P** **10 58 19.6 +1.6**
AQDB IAmb IAmb 10 58 37.6
comp=Z,158nm,1.0s
AQDB Aquidauana 33.46 179 *e*P **P** **10 58 19.4 +1.4**
HNH Hanover 33.47 338 IAMs_20 IAMs_20 11 09 10.8
comp=Z,4µm,20.0s
V52A Sevierville 33.54 317 IAmb IAmb 10 58 20.8
comp=Z,106nm,1.1s
V52A Sevierville 33.54 317 P **P** **10 58 19.5 +0.9**
baz=125,SNR=29
TKL Tuckaleechee C 33.55 317 LR LR 11 10 03.7
comp=Z,2µm,21.0s,baz=124,slow=33
TKL Tuckaleechee C 33.55 317 IAmb IAmb 10 58 21.0
comp=Z,225nm,1.3s
TKL Tuckaleechee C 33.55 317 P **P** **10 58 19.8 +1.1**
baz=125,SNR=57
M57A Sunshine Farm, 33.55 331 IAmb IAmb 10 58 21.1
comp=Z,128nm,1.0s
M57A Sunshine Farm, 33.55 331 P **P** **10 58 20.0 +1.3**
baz=140,SNR=36
M57A P **P** **10 58 20.0 +1.3**
baz=140,SNR=36
DIAM Diamantina, MG 33.57 158 *e*P **P** **10 58 20.1 +1.0**
GUA01 Guaratinga, BA 33.64 151 *e*P **P** **10 58 20.4 +0.8**
BRAL Brewton 33.69 307 P **P** **10 58 22.1 +2.1**
BRAL Brewton 33.69 307 P **P** **10 58 21.8 +1.8**
baz=115,SNR=12
BRAL Brewton 33.69 307 P **P** **10 58 21.7 +1.8**
baz=115,SNR=12
X51A Calhoun 33.69 314 P **P** **10 58 21.4 +1.4**
baz=122,SNR=11
X51A P **P** **10 58 21.4 +1.4**
baz=122,SNR=11
BINY Binghamton 33.70 333 IAmb IAmb 10 58 22.2
comp=Z,94nm,1.1s
BINY IAMs_20 IAMs_20 11 09 31.2
comp=Z,3µm,21.0s
BINY Binghamton 33.70 333 P **P** **10 58 20.9 +1.0**
baz=143,SNR=16
BINY Binghamton 33.70 333 P **P** **10 58 21.0 +1.0**
baz=143,SNR=16
MCWV Mont Chateau 33.71 326 IAmb IAmb 10 58 22.8
comp=Z,110nm,1.0s
MCWV IAMs_20 IAMs_20 11 09 05.7
comp=Z,3µm,22.0s
MCWV Mont Chateau 33.71 326 P **P** **10 58 21.4 +1.4**
baz=135,SNR=14
MCWV Mont Chateau 33.71 326 P **P** **10 58 21.5 +1.4**
baz=135,SNR=14
ACCN Adirondack Com 33.71 337 P **P** **10 58 20.6 +0.5**
baz=148,SNR=8.0
Q54A Coxs Mills 33.80 324 P **P** **10 58 21.8 +1.0**
Q54A IAmb IAmb 10 58 23.5
comp=Z,157nm,1.4s
Q54A Coxs Mills 33.80 324 P **P** **10 58 22.4 +1.6**
baz=133,SNR=26
Q54A P **P** **10 58 22.4 +1.6**
baz=133,SNR=26
LBNH Lisbon 33.81 339 P **P** **10 58 20.9 0.0**
LBNH pmax pmax
comp=Z,43nm,1.0s
LBNH Lisbon 33.81 339 P **P** **10 58 20.9 0.0**
LBNH IAMs_20 IAMs_20 11 09 09.6
comp=Z,4µm,20.0s
LBNH Lisbon 33.81 339 P **P** **10 58 21.9 +1.1**
baz=151,SNR=9.2
LBNH Lisbon 33.81 339 P **P** **10 58 22.0 +1.1**
baz=151,SNR=9.2
H62A Milan 33.85 340 P **P** **10 58 22.8 +1.6**
H62A IAmb IAmb 10 58 46.6
comp=Z,180nm,1.4s
H62A Milan 33.85 340 P **P** **10 58 22.9 +1.7**
baz=153,SNR=12
H62A P **P** **10 58 22.9 +1.7**
baz=153,SNR=12
PKME Peaks-Kenny Pk 33.90 343 P **P** **10 58 22.2 +0.6**
PKME IAMs_20 IAMs_20 11 09 51.8
comp=Z,3µm,19.0s
PKME Peaks-Kenny Pk 33.90 343 P **P** **10 58 22.7 +1.1**

baz=156
TZTN Tazewell 33.91 318 P **P** **10 58 23.3 +1.4**
baz=156,SNR=55
TZTN Tazewell 33.91 318 P **P** **10 58 23.2 +1.4**
baz=126,SNR=55
CPCT Cooper Cave 33.94 316 IAmb IAmb 10 58 24.5
comp=Z,173nm,1.5s
MCVT Middlebury Col 33.94 338 P **P** **10 58 22.8 +0.7**
baz=149,SNR=5.7
V51A Loudon 34.02 316 IAmb IAmb 10 58 25.1
comp=Z,144nm,1.2s
V51A Loudon 34.02 316 P **P** **10 58 23.8 +1.0**
baz=124,SNR=31
R53A Hurricane 34.02 322 IAmb IAmb 10 58 25.1
comp=Z,97nm,0.8s
R53A Hurricane 34.02 322 P **P** **10 58 24.1 +1.4**
baz=130,SNR=22
R53A P **P** **10 58 24.1 +1.4**
baz=130,SNR=22
J59A Piesco 34.11 336 P **P** **10 58 24.6 +1.1**
baz=146,SNR=6.6
J59A P **P** **10 58 24.6 +1.1**
baz=146,SNR=6.6
VT1 Waterbury 34.18 338 IAMs_20 IAMs_20 11 09 31.3
comp=Z,4µm,21.0s
FPAL Fort Paine 34.21 313 IAmb IAmb 10 58 27.1
comp=Z,162nm,1.6s
J58A Remsen 34.34 335 P **P** **10 58 26.5 +1.0**
baz=145,SNR=9.9
J58A P **P** **10 58 26.5 +1.0**
baz=145,SNR=9.9
W50A Signal Mountai 34.34 315 IAmb IAmb 10 58 28.4
comp=Z,119nm,1.1s
W50A Signal Mountai 34.34 315 P **P** **10 58 27.3 +1.6**
baz=122,SNR=36
K57A Scipio Center 34.37 333 P **P** **10 58 26.5 +0.8**
baz=143,SNR=11
O54A Avella 34.37 326 P **P** **10 58 26.9 +1.1**
baz=135,SNR=15
O54A P **P** **10 58 26.9 +1.1**
baz=135,SNR=15
L56A Greenwood 34.38 331 P **P** **10 58 26.5 +0.7**
L56A Greenwood 34.38 331 P **P** **10 58 26.6 +0.8**
baz=141,SNR=16
L56A P **P** **10 58 26.6 +0.8**
baz=141,SNR=16
NCB Newcomb 34.42 336 P **P** **10 58 27.2 +1.0**
baz=147,SNR=12
Y49A Blount Mountai 34.44 312 P **P** **10 58 27.6 +1.2**
baz=119,SNR=18
M55A Ridgway 34.46 329 P **P** **10 58 27.4 +0.9**
M55A IAmb IAmb 10 58 28.6
comp=Z,84nm,0.8s
M55A Ridgway 34.46 329 P **P** **10 58 27.5 +0.9**
baz=138,SNR=24
M55A P **P** **10 58 27.5 +0.9**
baz=138,SNR=24
P53A Whipple 34.46 324 P **P** **10 58 27.8 +1.3**
baz=132,SNR=20
P53A P **P** **10 58 27.8 +1.3**
baz=132,SNR=20
LRAL Lakeview Retre 34.48 310 IAmb IAmb 10 58 29.6
comp=Z,177nm,1.1s
LRAL Lakeview Retre 34.48 310 P **P** **10 58 28.4 +1.6**
baz=118,SNR=82
LRAL Lakeview Retre 34.48 310 P **P** **10 58 28.3 +1.6**
baz=118,SNR=82
NAN01 Guarapari, ES 34.59 153 *eP* **P** **10 58 28.6 +0.8**
S51A Beattyville 34.60 320 IAmb IAmb 10 58 30.1
comp=Z,151nm,0.9s
S51A Beattyville 34.60 320 P **P** **10 58 29.0 +1.3**
baz=127,SNR=54
S51A P **P** **10 58 29.0 +1.3**
baz=127,SNR=54
Q52A Bidwell 34.62 323 IAmb IAmb 10 58 30.1
comp=Z,154nm,1.2s
Q52A Bidwell 34.62 323 P **P** **10 58 29.0 +1.1**
baz=131,SNR=22
Q52A P **P** **10 58 29.0 +1.1**
baz=131,SNR=22
J57A Williamstown 34.68 334 P **P** **10 58 29.5 +1.1**
baz=144,SNR=9.2
J57A P **P** **10 58 29.5 +1.1**
baz=144,SNR=9.2
E63A Oxbow 34.74 345 P **P** **10 58 30.2 +1.4**
baz=158,SNR=7.9
E63A P **P** **10 58 30.2 +1.4**
baz=158,SNR=7.9
SWET Sewanee 34.78 314 IAmb IAmb 10 58 32.2
comp=Z,320nm,1.8s
BB19B Bebedouro 34.83 168 *eP* **P** **10 58 30.8 +0.8**
PQI Presque Isle 34.87 345 IAMs_20 IAMs_20 11 09 39.4
comp=Z,3µm,21.0s
O53A New Philadelph 34.88 325 IAmb IAmb 10 58 32.4
comp=Z,140nm,1.0s
O53A IAMs_20 IAMs_20 11 09 53.5
comp=Z,3µm,22.0s
O53A New Philadelph 34.88 325 P **P** **10 58 31.3 +1.1**
baz=133,SNR=29
PCMB Pacaembu 34.90 172 *eP* **P** **10 58 31.8 +1.3**
SJMB Sao Joao De Ma 34.90 155 *eP* **P** **10 58 31.6 +1.1**
FRNY Flat Rock 34.92 338 P **P** **10 58 31.8 +1.4**
baz=145,SNR=16
J56A Wolcott 34.95 333 IAmb IAmb 10 58 32.3
comp=Z,90nm,0.8s
J56A Wolcott 34.95 333 P **P** **10 58 31.2 +0.5**
baz=143,SNR=12
J56A P **P** **10 58 31.2 +0.5**
baz=143,SNR=12
P52A Corning 34.98 324 IAmb IAmb 10 58 33.1
comp=Z,156nm,0.9s
P52A Corning 34.98 324 P **P** **10 58 32.0 +0.9**
baz=132,SNR=38
WCNY West Carthage 35.01 335 P **P** **10 58 31.8 +0.6**
baz=145,SNR=6.8
T50A Nancy 35.03 318 IAmb IAmb 10 58 34.0
comp=Z,93nm,0.8s
T50A Nancy 35.03 318 P **P** **10 58 32.9 +1.4**
baz=125
T50A P **P** **10 58 32.9 +1.4**
baz=125
N53A Lisbon 35.06 326 IAmb IAmb 10 58 34.0
comp=Z,123nm,1.2s
N53A Lisbon 35.06 326 P **P** **10 58 33.0 +1.3**
baz=134,SNR=16
N53A P **P** **10 58 33.0 +1.3**
baz=134,SNR=16
WVNY West Valley, N 35.08 330 IAmb IAmb 10 58 33.9
comp=Z,106nm,1.1s
WVNY West Valley, N 35.08 330 P **P** **10 58 32.9 +1.0**
baz=139,SNR=17
LONY Lake Ozonia 35.11 337 IAMs_20 IAMs_20 11 10 01.1
comp=Z,4µm,20.0s
LONY Lake Ozonia 35.11 337 P **P** **10 58 32.7 +0.6**
baz=147,SNR=7.7
O52A Adamsville 35.13 325 IAmb IAmb 10 58 34.5
comp=Z,116nm,1.1s
O52A Adamsville 35.13 325 P **P** **10 58 33.5 +1.2**
baz=132,SNR=21
O52A P **P** **10 58 33.5 +1.2**
baz=132,SNR=21
GO01 Chusmiza 35.15 202 IAmb IAmb 10 59 50.5
comp=Z,67nm,0.5s
BSFB Barra de Sao F 35.16 155 *eP* **P** **10 58 34.2 +1.5**
X48A Hartselle 35.19 312 P **P** **10 58 34.1 +1.3**
baz=119
BMNY Brushton-Moira 35.27 337 P **P** **10 58 34.6 +1.2**
baz=148,SNR=8.0
ALLY Alegheny Colle 35.29 328 IAmb IAmb 10 58 35.7
comp=Z,128nm,1.0s
ALLY Alegheny Colle 35.29 328 P **P** **10 58 34.8 +1.1**
baz=136,SNR=6.9
Q51A Peebles 35.30 322 IAmb IAmb 10 58 36.2
comp=Z,112nm,0.9s
Q51A Peebles 35.30 322 P **P** **10 58 35.2 +1.3**
baz=129,SNR=30
Q51A P **P** **10 58 35.2 +1.3**
baz=129,SNR=30
Z47A Carrollton 35.35 310 P **P** **10 58 36.0 +1.7**
baz=117,SNR=36
ABR01 Abrolhos, BA 35.36 151 *eP* **P** **10 58 34.2 -0.3**
U49A Red Boiling Sp 35.37 316 IAmb IAmb 10 58 36.9
comp=Z,116nm,1.1s
U49A Red Boiling Sp 35.37 316 P **P** **10 58 35.7 +1.2**
baz=123,SNR=59
J55A Hilton 35.37 332 P **P** **10 58 34.6 +0.2**
baz=141,SNR=7.2
J55A P **P** **10 58 34.6 +0.2**
baz=141,SNR=7.2
PB11 IPOC Station P 35.40 203 P **P** **10 58 34.0 -1.0**
PB11 IAmb IAmb 10 59 13.0
comp=Z,134nm,0.9s
M53A WI Miller and 35.42 327 P **P** **10 58 35.4 +0.6**
baz=135,SNR=10.0
P51A Williamsport 35.42 323 IAmb IAmb 10 58 36.9
comp=Z,139nm,0.9s
P51A Williamsport 35.42 323 P **P** **10 58 36.0 +1.2**
baz=130,SNR=7.2
P51A P **P** **10 58 36.0 +1.2**
baz=130,SNR=7.2
R50A Paris 35.45 320 P **P** **10 58 36.8 +1.7**
baz=127,SNR=20
R50A P **P** **10 58 36.8 +1.7**
baz=127,SNR=20
MNTQ Montreal, Queb 35.50 338 P **P** **10 58 36.4 +0.9**
D62A Allapoint, All 35.51 345 P **P** **10 58 36.4 +0.9**
D62A **PcP** 11 01 03.9 -0.5
D62A Allapoint, All 35.51 345 P **P** **10 58 36.5 +1.0**
baz=158,SNR=14
D62A P **P** **10 58 36.5 +1.0**
baz=158,SNR=14
CLTN Cedars of Leba 35.52 315 P **P** **10 58 37.0 +1.3**
CLTN IAmb IAmb 10 58 38.3
comp=Z,123nm,1.4s
ERPA Erie 35.55 329 IAmb IAmb 10 58 37.9
comp=Z,109nm,1.3s
ERPA Erie 35.55 329 P **P** **10 58 37.0 +1.1**
baz=137,SNR=5.8
ERPA Erie 35.55 329 P **P** **10 58 36.6 +0.7**
baz=137,SNR=5.8
346A Big Creek Wild 35.67 306 IAmb IAmb 10 58 40.0
comp=Z,176nm,1.1s
346A Big Creek Wild 35.67 306 P **P** **10 58 38.7 +1.6**
baz=113,SNR=6.1
BSCB Bom Sucesso 35.73 162 *eP* **P** **10 58 38.8 +1.2**
J54A Appleton 35.76 331 IAmb IAmb 10 58 39.3
comp=Z,117nm,1.1s
J54A Appleton 35.76 331 P **P** **10 58 38.6 +1.0**
baz=140,SNR=9.5
J54A P **P** **10 58 38.6 +1.0**
baz=140,SNR=9.5
RIB01 Linhares ES 35.78 154 *eP* **P** **10 58 39.1 +1.1**
M52A Chesterland 35.85 327 P **P** **10 58 39.7 +1.2**
baz=134,SNR=7.8
M52A P **P** **10 58 39.7 +1.2**
baz=134,SNR=7.8
146A Union 35.86 308 IAmb IAmb 10 58 41.7
comp=Z,144nm,1.1s
146A Union 35.86 308 P **P** **10 58 40.5 +1.8**
baz=115,SNR=6.7
ACSO Alum Creek Sta 35.87 324 IAmb IAmb 10 58 40.8
comp=Z,129nm,1.0s
ACSO Alum Creek Sta 35.87 324 P **P** **10 58 39.8 +1.1**
baz=131,SNR=23
ACSO Alum Creek Sta 35.87 324 P **P** **10 58 39.7 +1.0**
baz=131,SNR=23
TRCB Terra Rica 35.92 175 *eP* **P** **10 58 40.2 +0.9**
N51A Ashland 35.98 325 P **P** **10 58 40.1 +0.5**
baz=132,SNR=6.7
N51A P **P** **10 58 40.1 +0.5**
baz=132,SNR=6.7
R49A Shelbyville 35.99 319 IAmb IAmb 10 58 42.3
comp=Z,191nm,1.0s
R49A Shelbyville 35.99 319 P **P** **10 58 41.0 +1.2**
baz=126,SNR=50
R49A P **P** **10 58 41.0 +1.2**
baz=126,SNR=50
PLAL Pickwick Lake 36.19 312 IAmb IAmb 10 58 44.1
comp=Z,250nm,1.4s
LMQ La Malbaie 36.28 344 IAmb IAmb 10 58 54.1
comp=Z,279nm,1.7s
RCLB Rio Claro- Sao 36.35 167 *eP* **P** **10 58 44.3 +1.3**
P49A Miami Univ. Ec 36.45 321 P **P** **10 58 44.9 +1.2**
baz=128,SNR=36
P49A Miami Univ. Ec 36.45 321 P **P** **10 58 44.7 +1.0**
baz=128,SNR=36
TRQ Mont Tremblant 36.46 338 IAmb IAmb 10 58 45.6
comp=Z,140nm,1.2s
T47A Sharon Grove 36.52 316 IAmb IAmb 10 58 46.6
comp=Z,86nm,0.9s
T47A Sharon Grove 36.52 316 P **P** **10 58 45.5 +1.2**
baz=122,SNR=25
PATCX Punta Patache 36.55 203 IAmb IAmb 10 59 25.5
comp=Z,124nm,1.3s
WVT Waverly 36.58 314 P **P** **10 58 45.7 +0.9**
WVT pmax pmax
comp=Z,80nm,1.0s
WVT MLR MLR
comp=Z,2µm,21.0s
WVT Waverly 36.58 314 P **P** **10 58 45.7 +0.9**
WVT Waverly 36.58 314 P **P** **10 58 45.7 +0.9**
baz=120,SNR=59
WVT Waverly 36.58 314 P **P** **10 58 45.7 +0.9**
baz=120
WVT Waverly 36.58 314 P **P** **10 58 45.5 +0.7**
WVT pP **pwP** **10 58 55.6 -2.8**
WVT sP sP 10 59 04.8 +10
O49A Covington 36.63 322 IAmb IAmb 10 58 47.0
comp=Z,111nm,0.9s
O49A Covington 36.63 322 P **P** **10 58 46.1 +0.9**
baz=129,SNR=21
O49A P **P** **10 58 46.1 +0.9**
baz=129,SNR=21
M50A Fremont 36.68 325 IAmb IAmb 10 58 47.5
comp=Z,116nm,1.1s
M50A Fremont 36.68 325 P **P** **10 58 46.9 +1.3**
baz=132,SNR=8.8
M50A P **P** **10 58 46.9 +1.3**
baz=132,SNR=8.8
PAYG Puerto Ayora 36.68 251 P **P** **10 58 47.0 +1.1**
PAYG Puerto Ayora 36.68 251 ⇑P **P** **10 58 48.0 +2.1**
PAYG pP **pwP** **10 58 58.2 -1.2**
PAYG sP sP 10 59 06.2 +10
344A Westbrook Farm 36.69 305 P **P** **10 58 48.2 +2.3**
baz=112,SNR=18
Y45A Yeager Farm, C 36.75 310 P **P** **10 58 47.9 +1.6**
baz=116,SNR=29
ALF01 Guarapari-ES 36.80 156 *eP* **P** **10 58 48.3 +1.5**
VBMS Vicksburg 36.82 307 IAmb IAmb 10 58 50.0
comp=Z,252nm,1.3s
VBMS Vicksburg 36.82 307 P **P** **10 58 49.0 +2.1**
baz=113,SNR=13
VBMS Vicksburg 36.82 307 P **P** **10 58 48.7 +1.9**
baz=113,SNR=13
P48A Milroy 36.84 321 IAmb IAmb 10 58 48.6
comp=Z,198nm,1.1s
P48A Milroy 36.84 321 P **P** **10 58 47.5 +0.5**
baz=127,SNR=31
P48A P **P** **10 58 47.5 +0.5**
baz=127,SNR=31
FRTB Fartura 36.86 170 *eP* **P** **10 58 48.4 +1.1**
PB02 IPOC Station P 36.91 202 IAmb IAmb 10 59 12.9
comp=Z,130nm,1.0s
OXF Oxford 36.94 311 P **P** **10 58 48.9 +1.0**
baz=117,SNR=112
OXF Oxford 36.94 311 P **P** **10 58 48.7 +0.9**
baz=117,SNR=112
N49A Columbus Grove 37.01 324 P **P** **10 58 48.9 +0.5**
baz=130,SNR=8.4
N49A P **P** **10 58 48.9 +0.5**
baz=130,SNR=8.4
VAO Valinhos 37.05 166 *eP* **P** **10 58 50.5 +1.5**
W45A Hickory Valley 37.07 312 P **P** **10 58 49.9 +0.9**
baz=118,SNR=28
PB09 IPOC Station P 37.12 201 IAmb IAmb 10 59 13.5
comp=Z,203nm,1.4s
SADO Sadowa 37.14 332 LR LR 11 11 49.1
comp=Z,3µm,21.3s,baz=170,slow=33
O48B Farmland 37.16 322 P **P** **10 58 50.3 +0.6**
baz=128,SNR=14
O48B Farmland 37.16 322 P **P** **10 58 50.1 +0.4**
baz=128,SNR=14
VAS01 Vassouras-RJ 37.34 161 *eP* **P** **10 58 52.8 +1.3**
BLO Bloomington 37.36 319 P **P** **10 58 52.8 +1.4**
BLO pmax pmax
comp=Z,101nm,0.8s
BLO Bloomington 37.36 319 P **P** **10 58 52.8 +1.4**
BLO IAmb IAmb 10 58 53.7
comp=Z,101nm,0.8s
BLO PcP **PcP** **11 01 09.6 -0.5**
K50A Casco 37.39 327 IAmb IAmb 10 58 53.3
comp=Z,109nm,0.9s
K50A Casco 37.39 327 P **P** **10 58 52.2 +0.7**
baz=134,SNR=7.6
K50A P **P** **10 58 52.2 +0.7**
baz=134,SNR=7.6
USIN University of 37.42 317 IAmb IAmb 10 58 54.2
comp=Z,156nm,0.8s
DUB01 Friburgo-RJ 37.52 159 *eP* **P** **10 58 54.3 +1.3**
HALT Halls 37.53 313 IAmb IAmb 10 58 54.9
comp=Z,292nm,1.4s
CAM01 Campos-RJ 37.54 158 *eP* **P** **10 58 53.7 +0.7**
T45B Paducah 37.59 315 P **P** **10 58 54.9 +1.5**
baz=120,SNR=6.6
T45A Paducah 37.59 315 IAmb IAmb 10 58 55.5
comp=Z,204nm,0.8s
AAM Ann Arbor 37.62 326 IAmb IAmb 10 58 55.7
comp=Z,157nm,0.9s
AAM Ann Arbor 37.62 326 P **P** **10 58 54.9 +1.4**
baz=132,SNR=6.0
AAM Ann Arbor 37.62 326 P **P** **10 58 54.5 +1.0**
baz=132,SNR=6.0
CMIG Matias Romero 37.69 281 LR LR 11 12 48.1
comp=Z,874nm,22.0s,baz=96,slow=34
143A Socs Landing, 37.69 307 P **P** **10 58 56.1 +1.9**
baz=113,SNR=43
PARB Paraibuna 37.70 164 *eP* **P** **10 58 55.7 +1.2**
MAN01 Angra dos Reis 37.73 162 *eP* **P** **10 58 55.8 +1.1**
ESAR Angra dos Reis 37.73 162 *eP* **P** **10 58 56.0 +1.4**
LNXT Lenox 37.73 313 P **P** **10 58 55.5 +0.9**
baz=119,SNR=6.2
HICK Hickman 37.76 314 IAmb IAmb 10 58 56.9
comp=Z,273nm,1.1s
LVC Limon Verde 37.77 200 LR LR 11 15 45.3
comp=Z,3µm,21.3s,baz=348,slow=38
LVC Limon Verde 37.77 200 P **P** **10 58 56.3 +1.0**
LVC pmax pmax
comp=Z,186nm,1.6s
LVC MLR MLR
comp=Z,4µm,22.0s
LVC Limon Verde 37.77 200 P **P** **10 58 56.3 +1.0**
LVC IAmb IAmb 10 59 23.5
comp=Z,186nm,1.6s
LVC Limon Verde 37.77 200 IAMs_20 IAMs_20 11 15 11.2
comp=Z,4µm,22.0s
LVC Limon Verde 37.77 200 *eP* **P** **10 58 56.1 +0.7**
LVC Limon Verde 37.77 200 P **P** **10 58 55.9 +0.5**
L48A N Adams 37.81 325 IAmb IAmb 10 58 57.1
comp=Z,179nm,1.2s
L48A N Adams 37.81 325 P **P** **10 58 56.1 +0.9**
baz=131,SNR=17
L48A P **P** **10 58 56.1 +0.9**
baz=131,SNR=17
SLP01 Ubatuba-SP 37.81 164 *eP* **P** **10 58 56.7 +1.2**
N47A Urbana 37.87 322 P **P** **10 58 56.4 +0.8**
N47A IAmb IAmb 10 58 57.5
comp=Z,186nm,0.8s
N47A Urbana 37.87 322 P **P** **10 58 56.5 +0.8**
baz=128,SNR=39
N47A P **P** **10 58 56.5 +0.8**
baz=128,SNR=39
PTGB Pitanga 37.88 174 *eP* **P** **10 58 57.0 +1.1**
342B Flagon Creek P 37.94 305 P **P** **10 58 58.7 +2.3**
baz=110,SNR=29
PEBM Pemiscott Bayo 38.00 313 P **P** **10 58 57.5 +0.7**
PEBM IAmb IAmb 10 58 58.8
comp=Z,382nm,1.5s
GNAR Gosnell 38.05 313 IAmb IAmb 10 58 59.3
comp=Z,264nm,1.3s
P46A Rosedale 38.05 320 IAmb IAmb 10 58 59.7
comp=Z,186nm,0.8s
P46A Rosedale 38.05 320 P **P** **10 58 58.7 +1.5**
baz=125,SNR=50
OLIL Olney 38.13 318 IAmb IAmb 10 59 00.3
comp=Z,211nm,0.9s
OLIL Olney 38.13 318 P **P** **10 58 59.2 +1.4**
baz=123,SNR=48
PET01 Itanhaem-SP 38.22 167 *eP* **P** **10 58 59.9 +1.1**
I49A Point Hope 38.31 328 IAmb IAmb 10 59 00.7
comp=Z,104nm,0.9s
I49A Point Hope 38.31 328 P **P** **10 58 59.7 +0.4**
baz=135,SNR=17
I49A P **P** **10 58 59.7 +0.4**
baz=135,SNR=17
SIUC Southern Illin 38.34 316 IAmb IAmb 10 59 02.1
comp=Z,210nm,0.9s
S44A Carbondale 38.35 315 IAmb IAmb 10 59 02.1
comp=Z,207nm,0.9s
S44A Carbondale 38.35 315 P **P** **10 59 01.0 +1.2**
baz=121,SNR=69
SFIN Lafayette 38.42 321 IAmb IAmb 10 59 02.4
comp=Z,93nm,0.8s
SFIN Lafayette 38.42 321 P **P** **10 59 01.5 +1.2**
baz=126,SNR=11
SFIN Lafayette 38.42 321 P **P** **10 59 01.3 +1.0**
baz=126,SNR=11
441A DeRidder 38.43 303 IAmb IAmb 10 59 03.8
comp=Z,229nm,1.2s
441A DeRidder 38.43 303 P **P** **10 59 02.5 +1.9**
baz=109,SNR=15
CCAR Cane Creek 38.45 309 P **P** **10 59 02.1 +1.4**
CCAR Cane Creek 38.45 309 P **P** **10 59 02.2 +1.5**
baz=114,SNR=30
PBMO Poplar Bluff 38.72 313 P **P** **10 59 03.1 +0.2**
baz=118,SNR=49
Q44A Meyer Farm, Va 38.82 317 IAmb IAmb 10 59 05.9
comp=Z,147nm,0.8s
Q44A Meyer Farm, Va 38.82 317 P **P** **10 59 05.0 +1.2**
baz=122,SNR=38
J47A Sunmer 38.88 326 IAmb IAmb 10 59 06.1
comp=Z,187nm,0.9s
J47A Sunmer 38.88 326 P **P** **10 59 04.8 +0.7**
baz=132,SNR=17
J47A P **P** **10 59 04.8 +0.7**
baz=132,SNR=17
TIJ01 Guaruva-PR 38.89 170 *eP* **P** **10 59 05.2 +0.8**
LCAR Lake Charles 38.91 312 P **P** **10 59 05.2 +0.6**
baz=117,SNR=41
L46A Eue Claire 38.93 323 P **P** **10 59 05.4 +0.8**
baz=128
L46A P **P** **10 59 05.4 +0.8**
baz=128
Z41A Richland Creek 38.99 307 IAmb IAmb 10 59 07.9
comp=Z,226nm,1.4s
Z41A Richland Creek 38.99 307 P **P** **10 59 06.5 +1.3**
baz=112,SNR=7.6
Z41A P **P** **10 59 06.5 +1.3**
baz=112,SNR=7.6
Z41A Richland Creek 38.99 307 P **P** **10 59 06.5 +1.3**
baz=112,SNR=7.6
FRBT Francisco Belt 39.04 176 *eP* **P** **10 59 06.2 +0.6**
O44A Mansfield 39.15 319 P **P** **10 59 07.5 +1.1**
baz=124,SNR=45
FVM French Village 39.30 315 P **P** **10 59 08.6 +0.8**
baz=120,SNR=29
CPUP Villa Florida 39.31 182 P **P** **10 59 07.1 -0.8**
comp=Z,52nm,0.8s,baz=3.4,slow=8.2,SNR=69
CPUP LR LR 11 17 08.6
comp=Z,3µm,18.5s,baz=0.0,slow=39
CPUP Villa Florida 39.31 182 *eP* **P** **10 59 07.1 -0.8**
W41B Gary Mavity, V 39.33 310 IAmb IAmb 10 59 10.2
comp=Z,269nm,1.1s
W41B Gary Mavity, V 39.33 310 P **P** **10 59 09.0 +1.0**
baz=115,SNR=123
W41B Gary Mavity, V 39.33 310 P **P** **10 59 09.0 +1.0**
baz=115,SNR=123
WLAR White Oak Lake 39.39 308 IAmb IAmb 10 59 11.5
comp=Z,278nm,1.0s
WHAR Wooly Hollow 39.41 310 IAmb IAmb 10 59 10.8
comp=Z,269nm,1.2s
X40A Basin Creek Fa 39.49 309 IAmb IAmb 10 59 11.6
comp=Z,150nm,1.0s
X40A Basin Creek Fa 39.49 309 P **P** **10 59 10.2 +0.8**
baz=113,SNR=87
X40A P **P** **10 59 10.2 +0.8**
baz=113,SNR=87
X40A Basin Creek Fa 39.49 309 P **P** **10 59 10.2 +0.8**
baz=113,SNR=87
SLM Saint Louis 39.50 316 P **P** **10 59 10.0 +0.6**
baz=120
FCAR Ozark Folk Cen 39.54 311 IAmb IAmb 10 59 11.6
comp=Z,218nm,1.1s
P43A Skaggs, Pawnee 39.55 318 P **P** **10 59 10.9 +1.1**
baz=122,SNR=89
M44A Midewin, Midew 39.59 321 IAmb IAmb 10 59 11.8
comp=Z,135nm,1.1s
M44A Midewin, Midew 39.59 321 P **P** **10 59 10.4 +0.3**
baz=126,SNR=8.1
GLMI Grayling 39.84 328 IAmb IAmb 10 59 14.2
comp=Z,258nm,0.9s
GLMI Grayling 39.84 328 P **P** **10 59 12.9 +0.7**
baz=133,SNR=18

GLMI	**Grayling**	39.84	328	P	P	10 59	13.1 +0.9
	baz=133,SNR=18						
HDIL	**Hopedale**	39.90	319	IAmb	IAmb	10 59	14.5
	comp=Z,230nm,0.8s						
HDIL	**Hopedale**	39.90	319	P	P	10 59	13.7 +1.0
	baz=124,SNR=34						
HDIL	**Hopedale**	39.90	319	P	P	10 59	13.5 +0.8
	baz=124,SNR=34						
CCM	**Cathedral Cave**	39.90	315	P	P	10 59	13.1 +0.4
CCM				pmax	pmax		
	comp=Z,121nm,1.0s						
CCM				MLR	MLR		
	comp=Z,2µm,20.0s						
CCM	**Cathedral Cave**	39.90	315	P	P	10 59	13.1 +0.4
CCM				IAmb	IAmb	10 59	14.4
	comp=Z,121nm,0.9s						
CCM	**Cathedral Cave**	39.90	315	P	P	10 59	13.3 +0.5
	baz=119,SNR=52						
CCM	**Cathedral Cave**	39.90	315	P	P	10 59	13.1 +0.4
	baz=119						
CCM	**Cathedral Cave**	39.90	315	P	P	10 59	13.2 +0.4
CCM				pP	pwP	10 59	23.7 -2.7
CCM				sP	sP	10 59	29.8 +7.0
NATX	**Nacogdoches**	39.95	304	IAmb	IAmb	10 59	16.0
	comp=Z,350nm,1.4s						
NATX	**Nacogdoches**	39.95	304	P	P	10 59	14.7 +1.5
	baz=109,SNR=14						
NATX	**Nacogdoches**	39.95	304	P	P	10 59	14.6 +1.4
	baz=109,SNR=14						
L44A	**Lake County Fo**	39.98	322	IAmb	IAmb	10 59	15.4
	comp=Z,333nm,1.2s						
L44A				IAMs_20	IAMs_20	11 14	55.8
	comp=Z,2µm,19.0s						
L44A	**Lake County Fo**	39.98	322	P	P	10 59	14.3 +1.0
	baz=127,SNR=7.8						
L44A	**Lake County Fo**	39.98	322	P	P	10 59	14.2 +0.9
	baz=127,SNR=7.8						
I45A	**Fountain**	40.18	326	IAmb	IAmb	10 59	16.6
	comp=Z,193nm,0.8s						
I45A	**Fountain**	40.18	326	P	P	10 59	15.6 +0.6
	baz=130,SNR=9.0						
I45A				P	P	10 59	15.6 +0.6
	baz=130,SNR=9.0						
MGMO	**Mountain Grove**	40.20	313	IAmb	IAmb	10 59	17.2
	comp=Z,349nm,1.9s						
U40A	**Yellville**	40.27	312	IAmb	IAmb	10 59	17.6
	comp=Z,170nm,1.2s						
U40A	**Yellville**	40.27	312	P	P	10 59	16.2 +0.4
	baz=115,SNR=72						
U40A				P	P	10 59	16.2 +0.4
	baz=115,SNR=72						
U40A	**Yellville**	40.27	312	P	P	10 59	16.2 +0.4
	baz=115,SNR=72						
GO02	**Mina Guanaco**	40.36	199	P	P	10 59	17.2 +0.2
ITAB	**Concordia**	40.36	175	*e*P	P	10 59	17.9 +1.2
HKT	**Hockley**	40.38	301	P	P	10 59	17.1 +0.4
HKT				pmax	pmax		
	comp=Z,158nm,1.5s						
HKT				MLR	MLR		
	comp=Z,2µm,22.0s						
HKT	**Hockley**	40.38	301	P	P	10 59	17.1 +0.4
HKT	**Hockley**	40.38	301	P	P	10 59	17.4 +0.6
	baz=106						
HKT	**Hockley**	40.38	301	P	P	10 59	17.4 +0.7
HKT				pP	pwP	10 59	28.9 -1.5
HKT				sP	sP	10 59	37.9 +11
PMOZ	**Porto Moniz, M**	40.41	54	*e*LR	LR	11 09	12.1
	comp=Z,1µm,18.0s						
W39A	**Magazine**	40.48	309	IAmb	IAmb	10 59	20.6
	comp=Z,291nm,1.0s						
W39A	**Magazine**	40.48	309	P	P	10 59	19.4 +1.7
	baz=113,SNR=120						
W39A	**Magazine**	40.48	309	P	P	10 59	19.3 +1.7
	baz=113,SNR=120						
G45A	**Suttons Bay**	40.53	327	P	P	10 59	18.8 +0.9
G45A	**Suttons Bay**	40.53	327	P	P	10 59	18.8 +0.9
	baz=132,SNR=11						
G45A				P	P	10 59	18.8 +0.9
	baz=132,SNR=11						
K43A	**Burlington**	40.55	323	P	P	10 59	18.5 +0.5
K43A	**Burlington**	40.55	323	P	P	10 59	18.4 +0.5
	baz=127,SNR=7.9						
Z38A	**Mt. Pleasant**	40.70	306	IAmb	IAmb	10 59	21.8
	comp=Z,340nm,1.2s						
Z38A	**Mt. Pleasant**	40.70	306	P	P	10 59	20.6 +1.2
	baz=110,SNR=13						
R40A	**Maddies Statio**	40.72	314	IAmb	IAmb	10 59	21.0
	comp=Z,269nm,1.6s						
R40A	**Maddies Statio**	40.72	314	P	P	10 59	19.9 +0.3
	baz=118,SNR=53						
E46A	**Sault Ste Mari**	40.76	330	IAmb	IAmb	10 59	21.6
	comp=Z,119nm,0.8s						
E46A	**Sault Ste Mari**	40.76	330	P	P	10 59	20.4 +0.7
	baz=135,SNR=60						
L42A	**Oliver, Polo**	40.94	321	P	P	10 59	21.9 +0.5
	baz=124,SNR=92						
237A	**Washetta, Mont**	40.95	304	IAmb	IAmb	10 59	23.9
	comp=Z,234nm,1.1s						
237A	**Washetta, Mont**	40.95	304	P	P	10 59	22.4 +0.9
	baz=108,SNR=5.3						
N41A	**Harden Midland**	40.98	319	IAmb	IAmb	10 59	22.9
	comp=Z,224nm,0.7s						
N41A	**Harden Midland**	40.98	319	P	P	10 59	22.1 +0.4
	baz=122,SNR=70						
HHAR	**Hobbs**	41.04	311	IAmb	IAmb	10 59	23.8
	comp=Z,249nm,1.5s						
HHAR	**Hobbs**	41.04	311	P	P	10 59	22.5 +0.3
	baz=114						
P40A	**Paris**	41.17	316	P	P	10 59	23.4 +0.2
	baz=119,SNR=49						
S39A	**Bolivar**	41.19	313	IAmb	IAmb	10 59	24.9
	comp=Z,244nm,0.8s						
S39A	**Bolivar**	41.19	313	P	P	10 59	23.9 +0.4
	baz=116,SNR=168						
TLIG	**Tlapa**	41.21	282	IAmb	IAmb	10 59	27.5
	comp=Z,219nm,1.1s						
H43A	**Windswept, Lux**	41.31	325	IAmb	IAmb	10 59	26.1
	comp=Z,164nm,0.8s						
H43A	**Windswept, Lux**	41.31	325	P	P	10 59	24.9 +0.6
	baz=129,SNR=38						
X37A	**Clayton**	41.47	308	P	P	10 59	26.5 +0.7
X37A				IAmb	IAmb	10 59	27.8
	comp=Z,166nm,1.2s						
X37A	**Clayton**	41.47	308	P	P	10 59	26.4 +0.7
	baz=111,SNR=39						
KVTX	**Kingsville**	41.58	297	IAmb	IAmb	10 59	53.6
	comp=Z,470nm,1.9s						
I42A	**Draeger Farm,**	41.60	324	P	P	10 59	27.5 +0.8
	baz=127,SNR=28						
735A	**Kenedy**	41.78	299	IAmb	IAmb	10 59	30.4
	comp=Z,248nm,1.2s						
735A	**Kenedy**	41.78	299	P	P	10 59	29.1 +0.8
	baz=103,SNR=8.1						
JFWS	**Jewell Farm**	41.81	322	IAmb	IAmb	10 59	30.0
	comp=Z,102nm,0.8s						
JFWS	**Jewell Farm**	41.81	322	IAMs_20	IAMs_20	11 14	23.3
	comp=Z,3µm,22.0s						
JFWS	**Jewell Farm**	41.81	322	P	P	10 59	29.0 +0.5
	baz=125,SNR=39						
JFWS	**Jewell Farm**	41.81	322	P	P	10 59	28.9 +0.5
	baz=125,SNR=39						
L40A	**Anamosa**	41.94	320	IAmb	IAmb	10 59	30.5
	comp=Z,185nm,0.8s						
L40A	**Anamosa**	41.94	320	P	P	10 59	29.6 +0.1
	baz=123,SNR=76						
TER01	**Tubaro-SC**	42.01	171	*e*P	P	10 59	30.6 +0.5
435B	**Jarrell**	42.06	301	IAmb	IAmb	10 59	32.3
	comp=Z,245nm,1.7s						
435B	**Jarrell**	42.06	301	P	P	10 59	31.0 +0.3
	baz=105						
435B	**Jarrell**	42.06	301	P	P	10 59	31.0 +0.3
	baz=105						
E43A	**Lone Tree Farm**	42.12	328	P	P	10 59	31.8 +0.8
	baz=132,SNR=41						
P38A	**Dawn**	42.22	316	IAmb	IAmb	10 59	33.4
	comp=Z,138nm,1.1s						
P38A	**Dawn**	42.22	316	P	P	10 59	32.4 +0.5
	baz=118,SNR=63						
TUL1	**Leonard**	42.27	309	P	P	10 59	33.0 +0.6
	baz=112,SNR=74						
TUL1	**Leonard**	42.27	309	P	P	10 59	32.9 +0.6
	baz=112,SNR=74						
WHTX	**Lake Whitney,**	42.28	303	P	P	10 59	32.9 +0.4
	baz=107,SNR=23						
WHTX	**Lake Whitney,**	42.28	303	P	P	10 59	32.8 +0.4
	baz=107,SNR=23						
F42A	**Maple Grove Fa**	42.32	326	P	P	10 59	33.4 +0.8
	baz=130,SNR=6.6						
SCHQ	**Schefferville**	42.40	351	P	P	10 59	34.0 +1.0
	comp=Z,69nm,0.8s,baz=164,slow=6.7,SNR=82						
SCHQ				LR	LR	11 14	60.0
	comp=Z,2µm,20.8s,baz=176,slow=33						
SCHQ	**Schefferville**	42.40	351	IAmb	IAmb	10 59	53.9
	comp=Z,116nm,0.8s						
Z35A	**Perchaven, San**	42.52	305	IAmb	IAmb	10 59	36.7
	comp=Z,337nm,1.1s						
Z35A	**Perchaven, San**	42.52	305	P	P	10 59	35.5 +1.2
	baz=108,SNR=46						
CNLB	**Canela**	42.55	173	*e*P	P	10 59	35.9 +1.2
N38A	**Joes South For**	42.58	317	P	P	10 59	35.2 +0.5
	baz=119,SNR=88						
I40A	**Norwalk**	42.59	323	IAmb	IAmb	10 59	36.4
	comp=Z,214nm,0.8s						
I40A	**Norwalk**	42.59	323	P	P	10 59	35.5 +0.7
	baz=125,SNR=72						
ITQB	**Itaqui**	42.62	181	P	P	10 59	34.7 -0.4
ITQB	**Itaqui**	42.62	181	*e*P	P	10 59	34.7 -0.4
833A	**Chaparral WMA,**	43.03	297	P	P	10 59	38.7 +0.1
	baz=101,SNR=34						
833A	**Chaparral WMA,**	43.03	297	P	P	10 59	38.5 -0.1
	baz=101,SNR=34						
COWI	**Conover**	43.08	326	IAMs_20	IAMs_20	11 14	33.6
	comp=Z,3µm,22.0s						
COWI	**Conover**	43.08	326	P	P	10 59	39.5 +0.8
	baz=129						
SCIA	**State Center**	43.12	319	IAmb	IAmb	10 59	40.6
	comp=Z,160nm,0.8s						
SCIA				IAMs_20	IAMs_20	11 16	50.1
	comp=Z,3µm,20.0s						
SCIA	**State Center**	43.12	319	P	P	10 59	39.4 +0.3
	baz=120,SNR=21						
SCIA	**State Center**	43.12	319	P	P	10 59	39.5 +0.4
	baz=120,SNR=21						
G40A	**Rib Lake**	43.16	325	P	P	10 59	40.2 +0.9
G40A				IAmb	IAmb	10 59	41.4
	comp=Z,148nm,1.2s						
G40A	**Rib Lake**	43.16	325	P	P	10 59	40.3 +0.9
	baz=127,SNR=49						
T35A	**Sooner Cattle**	43.19	310	P	P	10 59	40.2 +0.4
T35A				IAmb	IAmb	10 59	41.3
	comp=Z,278nm,0.9s						
T35B	**Sooner Cattle**	43.19	310	P	P	10 59	40.2 +0.5
	baz=112,SNR=129						
K38A	**Parkersburg**	43.22	320	IAmb	IAmb	10 59	40.9
	comp=Z,188nm,0.8s						
K38A	**Parkersburg**	43.22	320	P	P	10 59	40.0 +0.1
	baz=122,SNR=50						
FNO	**Franklin**	43.26	308	IAmb	IAmb	10 59	41.9
	comp=Z,254nm,1.2s						
VCA	**Vinchina**	43.32	196	*i* P	P	10 59	41.2 +0.2
D41A	**Chassel**	43.39	328	IAmb	IAmb	10 59	43.3
	comp=Z,186nm,0.9s						
D41A	**Chassel**	43.39	328	P	P	10 59	42.2 +1.1
	baz=130,SNR=83						
CPSB	**Cacapava Do Su**	43.42	177	*e*P	P	10 59	40.4 -1.1
AC04	**Llanos de Chal**	43.67	199	IAmb	IAmb	11 00	24.4
	comp=Z,138nm,1.2s						
ACLC	**CERRO LA CRUZ**	43.67	194	*i* P	P	10 59	42.5 -1.4
JCT	**Junction City**	43.84	300	IAmb	IAmb	10 59	46.4
	comp=Z,132nm,1.1s						
JCT	**Junction City**	43.84	300	P	P	10 59	45.3 +0.2
	baz=103,SNR=44						
JCT	**Junction City**	43.84	300	P	P	10 59	45.1 0.0
	baz=103,SNR=44						
KSU1	**Kansas State U**	44.13	313	IAmb	IAmb	10 59	47.9
	comp=Z,284nm,1.6s						
KSU1	**Kansas State U**	44.13	313	IAMs_20	IAMs_20	11 17	33.0
	comp=Z,2µm,20.0s						
KSU1	**Kansas State U**	44.13	313	P	P	10 59	46.9 -0.4
	baz=114,SNR=22						
KSU1	**Kansas State U**	44.13	313	P	P	10 59	46.7 -0.5
	baz=114,SNR=22						
WMOK	**Wichita Mounta**	44.16	307	P	P	10 59	47.6 -0.1
WMOK				pmax	pmax		
	comp=Z,171nm,1.2s						
WMOK				MLR	MLR		
	comp=Z,2µm,19.0s						
WMOK	**Wichita Mounta**	44.16	307	P	P	10 59	47.6 -0.1
WMOK				IAmb	IAmb	10 59	48.8
	comp=Z,171nm,1.1s						
WMOK	**Wichita Mounta**	44.16	307	P	P	10 59	47.6 -0.1
	baz=108,SNR=57						
WMOK	**Wichita Mounta**	44.16	307	P	P	10 59	47.6 -0.1
	baz=108,SNR=57						
N35A	**Tabor**	44.22	316	P	P	10 59	48.1 +0.2
N35A				IAmb	IAmb	10 59	49.5
	comp=Z,294nm,1.4s						
N35A	**Tabor**	44.22	316	P	P	10 59	48.2 +0.2
	baz=117,SNR=21						
ABTX	**Abilene, Hawle**	44.24	303	IAmb	IAmb	10 59	49.8
	comp=Z,254nm,1.2s						
ABTX	**Abilene, Hawle**	44.24	303	P	P	10 59	48.5 +0.3
	baz=106,SNR=57						
ABTX	**Abilene, Hawle**	44.24	303	P	P	10 59	48.4 +0.2
	baz=106,SNR=57						
LCO	**Las Campanas**	44.30	199	P	P	10 59	48.5 -0.5
LCO				pmax	pmax		
	comp=Z,58nm,1.2s						
LCO	**Las Campanas**	44.30	199	P	P	10 59	48.5 -0.5
LCO	**Las Campanas**	44.30	199	P	P	10 59	48.7 -0.3
LCO				pP	pwP	11 00	03.1 +0.6
LCO				sP	sP	11 00	16.9 +18
I37A	**Lemond, Waseca**	44.33	321	IAmb	IAmb	10 59	49.7
	comp=Z,150nm,0.7s						
I37B	**Waseca**	44.33	321	P	P	10 59	48.6 -0.2
	baz=126,SNR=46						
SPMN	**Marine on St.**	44.63	323	IAmb	IAmb	10 59	52.4
	comp=Z,157nm,0.8s						
SPMN	**Marine on St.**	44.63	323	P	P	10 59	51.3 0.0
	baz=124,SNR=46						
SPMN	**Marine on St.**	44.63	323	P	P	10 59	51.2 0.0
	baz=124,SNR=46						
E38A	**The Farm, Brul**	44.72	325	P	P	10 59	52.1 +0.3
	baz=126,SNR=31						
PLTB	**Pedras Altas**	44.76	177	P	P	10 59	51.9 -0.4
PLTB				IAmb	IAmb	11 00	13.7
	comp=Z,209nm,2.0s						
PLTB	**Pedras Altas**	44.76	177	*e*P	P	10 59	51.7 -0.6
U32A	**Winter Ranch,**	44.87	309	P	P	10 59	53.9 +0.7
	baz=110,SNR=88						
ACDV	**Cuesta del Vie**	44.93	196	*i* P	P	10 59	53.6 -0.3
AVFE	**Valle Fertil**	44.97	194	*i* P	P	10 59	53.2 -0.9
AROD	**Rodeo**	45.02	197	*i* P	P	10 59	54.7 -0.1
ZAIG	**Zacatecas**	45.14	289	P	P	10 59	57.7 +1.8
ZAIG				IAmb	IAmb	11 00	00.9
	comp=Z,101nm,1.2s						
L34A	**Svendsen Farm,**	45.22	317	P	P	10 59	56.0 +0.1
	baz=117,SNR=66						
ACCO	**Cerro Coronel**	45.31	196	*i* P	P	10 59	56.3 -0.7
R32A	**Long Quarter,**	45.37	312	P	P	10 59	57.7 +0.5
	baz=112,SNR=69						
N33B	**J Bar K, Exete**	45.40	315	P	P	10 59	57.6 +0.2
	baz=115,SNR=22						
F36A	**Milaca**	45.41	323	IAmb	IAmb	11 01	37.0
	comp=Z,117nm,0.8s						
F36A	**Milaca**	45.41	323	P	P	10 59	57.0 -0.4
	baz=124,SNR=88						
EYMN	**Ely**	45.49	327	P	P	10 59	58.0 0.0
EYMN	**Ely**	45.49	327	IAMs_20	IAMs_20	11 17	04.4
	comp=Z,2µm,19.0s						
EYMN	**Ely**	45.49	327	P	P	10 59	57.9 -0.1
	baz=128,SNR=24						
EYMN	**Ely**	45.49	327	P	P	10 59	57.7 -0.3
	baz=128,SNR=24						
BGNE	**Belgrade**	46.16	316	P	P	11 00	03.6 +0.2
	baz=115,SNR=59						
BGNE	**Belgrade**	46.16	316	P	P	11 00	03.6 +0.2
	baz=115,SNR=59						
ECSD	**EROS Data Cent**	46.20	319	IAmb	IAmb	11 01	40.1
	comp=Z,193nm,0.9s						
ECSD	**EROS Data Cent**	46.20	319	IAMs_20	IAMs_20	11 17	36.4
	comp=Z,2µm,21.0s						
ECSD	**EROS Data Cent**	46.20	319	P	P	11 00	03.5 -0.1
	baz=118,SNR=104						
ECSD	**EROS Data Cent**	46.20	319	P	P	11 00	03.5 -0.1
	baz=118,SNR=104						
H10N3	**ASCENSION HYDR**	46.21	115	T	T	11 52	31.1
	baz=298						
H10N2	**ASCENSION HYDR**	46.22	115	T	T	11 52	15.9
	baz=298						
H10N1	**ASCENSION HYDR**	46.23	115	T	T	11 52	05.2
	baz=298						
CBKS	**Cedar Bluff**	46.26	312	IAMs_20	IAMs_20	11 18	21.6
	comp=Z,2µm,21.0s						
CBKS	**Cedar Bluff**	46.26	312	P	P	11 00	04.7 +0.4
	baz=111,SNR=59						
CBKS	**Cedar Bluff**	46.26	312	P	P	11 00	04.6 +0.4
	baz=111,SNR=59						
MRA	**San Martin**	46.30	191	*i* P	P	11 00	01.8 -2.8
AMTX	**Amarillo**	46.48	306	P	P	11 00	06.2 +0.1
	baz=106,SNR=69						
AMTX	**Amarillo**	46.48	306	P	P	11 00	06.3 +0.1
	baz=106						
RTLS	**Leoncito**	46.52	196	*i* P	P	11 00	06.2 -0.4
TX31	**Lajitas Ar. Si**	46.90	298	IAmb	IAmb	11 01	44.0
	comp=Z,187nm,1.2s						
TX31	**Lajitas Ar. Si**	46.90	298	P	P	11 00	10.1 +0.5
	baz=100,SNR=113						
TXAR	**Lajitas Array**	46.90	298	P	P	11 00	09.9 +0.4
	comp=Z,16nm,0.7s,baz=113,slow=6.2,SNR=189						
TXAR				PcP	PcP	11 01	42.7 +0.6
	comp=Z,27nm,0.9s,baz=120,slow=4.9,SNR=11						
TXAR				LR	LR	11 23	18.7
	comp=Z,427nm,20.8s,baz=75,slow=41						
B35A	**Bob, Littlefor**	46.94	326	IAmb	IAmb	11 01	42.2
	comp=Z,94nm,1.1s						
B35A	**Bob, Littlefor**	46.94	326	P	P	11 00	09.1 -0.3
	baz=125,SNR=60						
AUSP	**Uspallata**	46.95	196	*i* P	P	11 00	09.5 -0.4
F33A	**5 Mile Ranch,**	47.04	322	P	P	11 00	09.8 -0.4
	baz=121,SNR=34						
K31A	**O'Neill**	47.09	317	P	P	11 00	10.9 +0.2
	baz=116,SNR=98						
MSTX	**Muleshoe**	47.12	304	P	P	11 00	11.4 +0.3
	baz=104,SNR=325						
MSTX	**Muleshoe**	47.12	304	P	P	11 00	11.3 +0.2
	baz=104,SNR=325						
ASAL	**Salagasta**	47.15	195	*i* P	P	11 00	10.4 -0.9
VA03	**San Esteban**	47.77	197	IAmb	IAmb	11 00	58.4
	comp=Z,71nm,0.9s						
AVIZ	**Vizcacheras**	47.92	194	*i* P	P	11 00	16.8 -0.4
SUSD	**Miller**	48.02	319	P	P	11 00	17.8 -0.1
SUSD	**Miller**	48.02	319	P	P	11 00	17.5 -0.3
	baz=117,SNR=32						
SUSD	**Miller**	48.02	319	P	P	11 00	17.6 -0.3
	baz=117,SNR=32						
AGMN	**Agassiz Nation**	48.08	325	P	P	11 00	18.1 -0.2
AGMN				IAMs_20	IAMs_20	11 17	28.0
	comp=Z,2µm,22.0s						
AGMN	**Agassiz Nation**	48.08	325	P	P	11 00	18.2 0.0
	baz=123,SNR=141						
AGMN	**Agassiz Nation**	48.08	325	P	P	11 00	18.1 -0.2
	baz=123,SNR=141						
D32B	**Dogwood Acres,**	48.13	323	P	P	11 00	18.6 -0.1
	baz=121,SNR=19						
PEL	**Peldehue**	48.16	197	IAmb	IAmb	11 00	43.2
	comp=Z,76nm,1.2s						
PEL	**Peldehue**	48.16	197	P	P	11 00	18.0 -1.1
PEL				pP	sP	11 00	29.9 +0.6
IVI	**Ivigtut**	48.27	5	P	P	11 00	20.0 +0.6
IVI				IAmb	IAmb	11 00	32.0
	comp=Z,84nm,1.3s						
IVI	**Ivigtut**	48.27	5	*i* P	P	11 00	19.6 +0.2
IVI				IAmb	IAmb	11 00	41.3
	comp=Z,17nm,1.2s						
IVI	**Ivigtut**	48.27	5	P	P	11 00	20.4 +0.9
IVI				pP	sP	11 00	28.5 -1.2
IVI				pwP	pwP	11 00	31.8 -1.5
IVI				sP	pP	11 00	38.5 +12
HPIG		48.32	294	P	P	11 00	21.9 +1.2
MT02	**Curacav**	48.40	197	IAmb	IAmb	11 01	06.1
	comp=Z,98nm,1.3s						
MT03	**Universidad Ad**	48.45	196	IAmb	IAmb	11 00	45.5
	comp=Z,82nm,1.1s						
KSCO	**Kaye Shedlock'**	48.45	311	P	P	11 00	22.0 +0.6
	baz=109,SNR=104						
KSCO	**Kaye Shedlock'**	48.45	311	P	P	11 00	21.9 +0.5
	baz=109,SNR=104						
MORF	**Marmelete**	48.47	52	*e*P	P	11 00	22.3 +0.8
MORF				IAmb	IAmb	11 00	23.3
	comp=Z,74nm,1.0s						
MORF				*e*S	S	11 07	24.0 +3.1
MORF	**Marmelete**	48.47	52	*e*P	P	11 00	22.5 +1.0
	comp=Z,140nm,1.6s						
MORF	**Marmelete**	48.47	52	*e*P	P	11 00	22.3 +0.8
MORF				*e*S	S	11 07	23.9 +3.1
PTEO	**Sao Teotonio**	48.48	51	*e*P	P	11 00	22.7 +1.2
	comp=Z,138nm,2.3s						
NRS	**Narsarsuaq**	48.50	7	P	P	11 00	21.4 +0.1
NRS				pmax	pmax		
	comp=Z,88nm,0.9s						
NRS	**Narsarsuaq**	48.50	7	P	P	11 00	21.4 +0.1
NRS				IAmb	IAmb	11 00	41.1
	comp=Z,88nm,0.9s						
NRS				IAMs_20	IAMs_20	11 16	18.8
	comp=Z,4µm,22.0s						
NRS	**Narsarsuaq**	48.50	7	*i* P	P	11 00	21.0 -0.2
NRS				IAmb	IAmb	11 00	40.3
	comp=Z,51nm,0.8s						
OGNE	**Ogallala**	48.68	313	IAMs_20	IAMs_20	11 20	15.4
	comp=Z,2µm,19.0s						
OGNE	**Ogallala**	48.68	313	P	P	11 00	23.6 +0.5
	baz=111,SNR=18						
OGNE	**Ogallala**	48.68	313	P	P	11 00	23.4 +0.3
	baz=111,SNR=18						
MNTX	**Cornudas Mount**	48.77	301	P	P	11 00	24.6 +0.7
	baz=101,SNR=303						
MNTX	**Cornudas Mount**	48.77	301	P	P	11 00	24.6 +0.7
	baz=101,SNR=303						
PNCL	**Nicolau / Gran**	48.80	51	*e*P	P	11 00	24.6 +0.7
	comp=Z,84nm,1.7s						
MT09	**Talagante**	48.84	197	IAmb	IAmb	11 00	48.3
	comp=Z,94nm,1.2s						
PBDV	**Barranco-do-Ve**	49.00	52	*e*P	P	11 00	26.5 +0.9
	comp=Z,132nm,1.5s						
PCVE	**Castro Verde**	49.03	51	*e*P	P	11 00	26.6 +0.9
	comp=Z,74nm,1.7s						
ULM	**Lac du Bonnet**	49.17	327	P	P	11 00	25.9 -0.7
	comp=Z,113nm,0.9s,baz=126,slow=7.6,SNR=84						
ULM				PcP	PcP	11 01	49.0 -0.6
	comp=Z,71nm,1.0s,baz=110,slow=3.6,SNR=6.3						
ULM				LR	LR	11 20	07.8
	comp=Z,3µm,20.2s,baz=120,slow=35						
ULM	**Lac du Bon

comp=Z,157nm,1.1s
SDCO Great Sand Dun 50.23 308 P **P** 11 00 36.0 +0.7
baz=106,SNR=231
SDCO Great Sand Dun 50.23 308 P **P** 11 00 35.8 +0.6
baz=106,SNR=231
PGAV Gavieira, Arco 50.23 46 *e*P **P** 11 00 35.4 +0.4
comp=Z,93nm,1.8s
PGAV Gavieira, Arco 50.23 46 *e*LR LR 11 13 14.2
comp=Z,1µm,18.0s
ANMO Albuquerque 50.30 305 LR LR 11 25 00.6
comp=Z,670nm,19.9s,baz=100,slow=40
ANMO Albuquerque 50.30 305 *ce*P **P** 11 00 36.5 +0.8
ANMO pmax pmax
comp=Z,159nm,1.0s
ANMO Albuquerque 50.30 305 P **P** 11 00 36.7 +1.0
ANMO IAmb IAmb 11 00 38.0
comp=Z,163nm,1.1s
ANMO Albuquerque 50.30 305 P **P** 11 00 36.8 +1.0
baz=102,SNR=218
ANMO Albuquerque 50.30 305 P **P** 11 00 36.7 +1.0
baz=102
ANMO Albuquerque 50.30 305 P **P** 11 00 36.6 +1.0
ANMO pP **pwP** 11 00 47.3 -2.3
ANMO sP sP 11 00 55.9 +10
Q24A Divide 50.30 310 IAmb IAmb 11 00 38.4
comp=Z,125nm,1.1s
Q24A Divide 50.30 310 P **P** 11 00 36.2 +0.4
baz=107,SNR=50
PCAB Cabril 50.32 46 *e*P **P** 11 00 35.8 +0.3
comp=Z,114nm,1.6s
POLO Lamas de Olo 50.37 47 *e*P **P** 11 00 36.4 +0.4
comp=Z,58nm,1.6s
KOWA Kowa 50.40 82 P **P** 11 00 36.2 -0.3
KOWA IAmb IAmb 11 00 44.9
comp=Z,137nm,1.1s
KOWA Kowa 50.40 82 P **P** 11 00 37.1 +0.6
KOWA pP **pP** 11 00 44.1 +0.2
KOWA sP **pwP** 11 00 51.7 +1.4
Y22D IRIS PASSCAL I 50.50 303 P **P** 11 00 38.6 +1.5
baz=102,SNR=19
Y22D IRIS PASSCAL I 50.50 303 P **P** 11 00 38.5 +1.3
baz=102,SNR=19
Y22A Socorro 50.51 303 P **P** 11 00 38.0 +0.8
baz=101,SNR=185
TIC Toumodi 50.57 92 *e*P **P** 11 00 37.9 +0.1
LIC Lamto 50.65 93 *e*P **P** 11 00 39.0 +0.7
comp=Z,84nm,0.8s
MDT Midelt 50.65 58 LR LR 11 19 04.2
comp=Z,681nm,18.2s,baz=291,slow=32
DBIC Dimbokro 50.72 92 P **P** 11 00 39.7 +0.8
comp=Z,27nm,0.9s,baz=291,slow=8.1,SNR=19
DBIC LR LR 11 18 48.3
comp=Z,1µm,19.1s,baz=286,slow=32
DBIC Dimbokro 50.72 92 P **P** 11 00 39.4 +0.4
DBIC IAmb IAmb 11 00 55.0
comp=Z,132nm,0.8s
MVO Moncorvo 50.85 47 *e*S **S** 11 07 56.7 +2.7
MVO *e*LR LR 11 14 43.9
comp=Z,1µm,18.0s
ISCO Idaho Springs 50.89 311 IAmb IAmb 11 00 42.7
comp=Z,280nm,1.4s
ISCO IAMs_20 IAMs_20 11 21 33.1
comp=Z,2µm,20.0s
ISCO Idaho Springs 50.89 311 P **P** 11 00 41.4 +1.2
baz=107,SNR=163
ISCO Idaho Springs 50.89 311 P **P** 11 00 41.4 +1.2
baz=107,SNR=163
KIC Kosan Boka 50.90 93 *e*P **P** 11 00 40.3 0.0
comp=Z,88nm,0.8s
121A Cookes Peak, D 50.92 301 P **P** 11 00 42.1 +1.6
baz=100,SNR=165
121A Cookes Peak, D 50.92 301 P **P** 11 00 42.0 +1.6
baz=100,SNR=165
NUUK Nuuk 51.01 2 *i* P **P** 11 00 39.0 -1.2
NUUK IAmb IAmb 11 01 00.4
comp=Z,22nm,0.9s
RSSD Black Hills 51.22 317 P **P** 11 00 42.8 +0.3
RSSD pmax pmax
comp=Z,41nm,0.9s
RSSD Black Hills 51.22 317 P **P** 11 00 42.8 +0.3
RSSD Black Hills 51.22 317 IAMs_20 IAMs_20 11 20 16.4
comp=Z,2µm,21.0s
RSSD Black Hills 51.22 317 P **P** 11 00 42.7 +0.2
baz=112,SNR=34
RSSD Black Hills 51.22 317 P **P** 11 00 42.8 +0.3
baz=112
RSSD Black Hills 51.22 317 P **P** 11 00 42.8 +0.3
RSSD pP **pwP** 11 00 53.9 -2.4
RSSD sP sP 11 01 01.1 +8.4
PHWY Pilot Hill 51.23 313 P **P** 11 00 43.5 +0.8
PHWY IAmb IAmb 11 00 44.9
comp=Z,237nm,1.2s
PHWY IAMs_20 IAMs_20 11 21 40.1
comp=Z,2µm,20.0s
FRB Frobisher Bay 51.25 353 LR LR 11 20 22.2
comp=Z,3µm,21.4s,baz=160,slow=34
FRB Frobisher Bay 51.25 353 P **P** 11 00 41.7 -0.3
S22A 4UR Ranch, Cre 51.25 308 IAmb IAmb 11 00 45.2
comp=Z,126nm,1.0s
S22A 4UR Ranch, Cre 51.25 308 P **P** 11 00 44.0 +1.1
baz=104,SNR=169
PBRG Braganca 51.26 47 *e*P **P** 11 00 43.1 +0.5
comp=Z,92nm,1.8s
N23A Red Feather La 51.46 312 IAmb IAmb 11 00 46.9
comp=Z,218nm,1.3s
N23A Red Feather La 51.46 312 P **P** 11 00 45.5 +1.1
baz=108,SNR=84
SMCO Snowmass 51.73 310 IAmb IAmb 11 00 48.9
comp=Z,216nm,1.1s
SLBS Sierra La Lagu 51.97 290 P **P** 11 00 49.8 +1.6
SLBS Sierra La Lagu 51.97 290 ⇑P **P** 11 00 50.0 +1.8
SLBS sP **pwP** 11 01 07.2 +5.2
319A Douglas 52.01 300 IAmb IAmb 11 00 51.3
comp=Z,213nm,1.2s
PAB San Pablo 52.34 50 P **P** 11 00 51.7 +0.9
PAB pmax pmax
comp=Z,171nm,2.0s
PAB San Pablo 52.34 50 P **P** 11 00 51.7 +0.9
PAB IAmb IAmb 11 01 07.6
comp=Z,171nm,2.0s
PAB San Pablo 52.34 50 IAMs_20 IAMs_20 11 18 08.0
comp=Z,2µm,20.0s
PAB San Pablo 52.34 50 P **P** 11 00 51.1 +0.4
PAB pP **sP** 11 01 00.1 -0.8
PAB sP **pwP** 11 01 09.5 +4.8
MVCO Mesa Verde 52.41 307 IAMs_20 IAMs_20 11 23 57.5
comp=Z,2µm,21.0s
MVCO Mesa Verde 52.41 307 P **P** 11 00 52.5 +1.0
baz=103,SNR=53
K22A Casper 52.41 314 IAmb IAmb 11 00 53.3
comp=Z,166nm,1.2s
K22A Casper 52.41 314 P **P** 11 00 52.0 +0.6
baz=108,SNR=77
K22A Casper 52.41 314 P **P** 11 00 52.0 +0.6
baz=108,SNR=77
RWWY Rawlins 52.61 313 IAmb IAmb 11 00 55.3
comp=Z,154nm,1.4s
RWWY IAMs_20 IAMs_20 11 22 23.4
comp=Z,2µm,19.0s
ESDC Sonseca Array 52.66 50 P **P** 11 00 54.0 +0.9
comp=Z,18nm,0.9s,baz=257,slow=7.5,SNR=57
ESDC PcP **PcP** 11 02 03.1 +0.3
comp=Z,6.7nm,0.9s,baz=268,slow=3.4,SNR=1.8
ESDC LR LR 11 18 20.4
comp=Z,2µm,19.7s,baz=247,slow=30
ESDC Sonseca Array 52.66 50 P **P** 11 00 53.6 +0.5
GUD Guadarrama 52.77 49 P **P** 11 00 53.9 -0.1
PV07 Paradox Valley 52.81 308 IAmb IAmb 11 00 56.9
comp=Z,232nm,1.2s
O20A White River Ci 52.92 311 IAmb IAmb 11 00 57.7
comp=Z,132nm,1.1s
O20A White River Ci 52.92 311 P **P** 11 00 56.3 +1.0
baz=105,SNR=93
W18A Petrified Fore 52.97 304 P **P** 11 00 56.7 +1.0
baz=100,SNR=25
DGMT Dagmar 53.03 322 IAMs_20 IAMs_20 11 20 36.2
comp=Z,2µm,20.0s
DGMT Dagmar 53.03 322 P **P** 11 00 56.4 +0.6
baz=115,SNR=99
DGMT Dagmar 53.03 322 P **P** 11 00 56.3 +0.6
baz=115,SNR=99
X18A Snowflake 53.04 303 IAmb IAmb 11 00 59.1
comp=E,108nm,1.2s
PV23 Carpenter Ridg 53.09 308 IAmb IAmb 11 00 58.8
comp=Z,141nm,1.1s
PV10 Paradox Valley 53.09 308 IAmb IAmb 11 00 58.8
comp=Z,241nm,1.2s

TUC Tucson 53.40 300 P **P** 11 00 59.7 +1.0
TUC pmax pmax
comp=Z,160nm,1.1s
TUC Tucson 53.40 300 P **P** 11 00 59.7 +1.0
TUC IAmb IAmb 11 01 01.1
comp=Z,160nm,1.1s
TUC Tucson 53.40 300 P **P** 11 00 59.9 +1.1
baz=98
TUC Tucson 53.40 300 P **P** 11 00 59.9 +1.1
TUC sP **pwP** 11 01 15.8 +3.1
LAO LASA Array 53.59 319 IAmb IAmb 11 02 07.6
comp=Z,100nm,0.9s
LAO IAMs_20 IAMs_20 11 21 35.2
comp=Z,2µm,21.0s
LAO LASA Array 53.59 319 P **P** 11 01 00.8 +1.0
baz=112,SNR=57
LAO LASA Array 53.59 319 P **P** 11 01 00.7 +0.9
baz=112,SNR=57
FCC Fort Churchill 53.62 336 IAmb IAmb 11 01 00.5
comp=Z,108nm,1.0s
DY2G Dye2 53.62 5 *i* P **P** 11 00 58.8 -1.2
DY2G IAmb IAmb 11 01 17.3
comp=Z,56nm,0.5s
ANGG Ammassalik, Gr 53.84 9 IAmb IAmb 11 01 13.1
comp=Z,109nm,1.5s
SFJD Kangerlussuaq 53.87 3 LR LR 11 22 18.5
comp=Z,912nm,18.8s,baz=188,slow=34
SFJD Kangerlussuaq 53.87 3 P **P** 11 01 02.0 +0.6
SFJD pmax pmax
comp=Z,131nm,1.4s
SFJD Kangerlussuaq 53.87 3 P **P** 11 01 01.9 +0.6
SFJD IAmb IAmb 11 01 13.6
comp=Z,131nm,1.4s
SFJD Kangerlussuaq 53.87 3 *i* P **P** 11 01 00.2 -1.2
SFJD IAmb IAmb 11 01 02.4
comp=Z,10.0nm,0.9s
SFJD Kangerlussuaq 53.87 3 P **P** 11 01 02.2 +0.8
SFJD pP **sP** 11 01 10.4 -1.2
SRIG Santa Rosalia 54.19 294 IAmb IAmb 11 01 07.0
comp=Z,106nm,1.1s
X16A Lo Mia Camp, P 54.24 303 IAmb IAmb 11 01 07.9
comp=Z,158nm,1.1s
WUAZ Wupatki 54.36 304 P **P** 11 01 07.4 +1.6
baz=100,SNR=245
BW06 Boulder Array 54.59 313 IAmb IAmb 11 01 09.0
comp=Z,260nm,1.6s
BW06 Boulder Array 54.59 313 P **P** 11 01 07.7 +0.3
baz=106,SNR=136
PD31 Pinedale Array 54.59 313 IAmb IAmb 11 01 09.0
comp=Z,216nm,1.6s
PDAR Pinedale Array 54.59 313 P **P** 11 01 07.5 +0.1
comp=Z,21nm,0.6s,baz=114,slow=9.2,SNR=209
PDAR PcP **PcP** 11 02 09.9 -0.4
comp=Z,24nm,1.0s,baz=116,slow=3.4,SNR=6.1
PDAR LR LR 11 23 47.9
comp=Z,791nm,20.6s,baz=114,slow=35
PDAR Pinedale Array 54.59 313 P **P** 11 01 07.7 +0.3
FFC Flin Flon 54.73 329 P **P** 11 01 07.5 -0.4
FFC pmax pmax
comp=Z,66nm,0.9s
FFC MLR MLR
comp=Z,2µm,19.0s
FFC Flin Flon 54.73 329 P **P** 11 01 07.5 -0.4
FFC IAmb IAmb 11 02 11.8
comp=Z,66nm,0.9s
FFC Flin Flon 54.73 329 IAMs_20 IAMs_20 11 24 08.7
comp=Z,2µm,19.0s
FFC Flin Flon 54.73 329 ⇑P **P** 11 01 07.6 -0.4
FFC pP **pP** 11 01 14.8 -0.5
FFC sP **pwP** 11 01 22.8 +0.8
Q16A Castle Valley 54.84 308 IAmb IAmb 11 01 11.4
comp=Z,63nm,0.9s
214A Organ Pipe Nat 55.06 300 IAmb IAmb 11 01 13.6
comp=Z,71nm,1.1s
214A Organ Pipe Nat 55.06 300 P **P** 11 01 12.1 +1.3
baz=96,SNR=46
RLMT Red Lodge 55.07 316 P **P** 11 01 11.7 +0.9
baz=108,SNR=142
PLCA Paso Flores 55.32 193 P **P** 11 01 11.8 -0.7
comp=Z,8.7nm,0.9s,baz=9.3,slow=6.2,SNR=8.9
PLCA LR LR 11 26 15.6
comp=Z,2µm,21.9s,baz=18,slow=38
PLCA Paso Flores 55.32 193 *e*P **P** 11 01 11.9 -0.5
PLCA Paso Flores 55.32 193 P **P** 11 01 11.7 -0.7
PLCA pP **pP** 11 01 19.7 -0.2
PLCA sP **pwP** 11 01 29.1 +2.9
Y14A Wickenburg 55.46 302 IAmb IAmb 11 01 16.3
comp=Z,158nm,1.1s
LOHW Long Hollow 55.55 314 IAmb IAmb 11 01 16.1
comp=Z,231nm,1.9s
YMP Mirror Lake Pl 55.56 316 IAmb IAmb 11 01 16.6
comp=Z,140nm,1.3s
SNOW Snow King Moun 55.62 314 IAmb IAmb 11 01 17.0
comp=Z,244nm,1.6s
LKWY Lake 55.67 315 IAmb IAmb 11 01 18.2
comp=Z,113nm,1.4s
HWUT Hardware Ranch 55.73 312 IAMs_20 IAMs_20 11 22 52.2
comp=Z,1µm,19.0s
NLU North Lily Min 55.74 309 IAmb IAmb 11 01 18.1
comp=Z,164nm,1.3s
FLWY Flag Ranch 55.75 315 IAmb IAmb 11 01 18.9
comp=Z,140nm,1.4s
FLWY IAMs_20 IAMs_20 11 23 09.4
comp=Z,2µm,22.0s
H17A Grant Village 55.75 315 IAmb IAmb 11 01 20.1
comp=Z,122nm,1.6s
H17A Grant Village 55.75 315 P **P** 11 01 16.8 +1.0
baz=106,SNR=31
TCRU Three Creeks R 55.76 308 IAmb IAmb 11 01 18.8
comp=Z,162nm,1.4s
TPAW Teton Pass 55.76 314 IAmb IAmb 11 01 17.8
comp=Z,95nm,1.1s
YUF Upper Falls 55.79 315 IAmb IAmb 11 01 24.4
comp=Z,75nm,1.2s
YPP Pitchstone Pla 55.87 315 P **P** 11 01 17.8 +1.0
YNR Norris Junctio 55.91 315 IAmb IAmb 11 01 19.2
comp=Z,76nm,0.9s
113A Mohawk Valley, 55.95 301 IAmb IAmb 11 01 19.5
comp=Z,95nm,1.2s
YHH Holmes Hill 56.05 315 IAmb IAmb 11 01 19.8
comp=Z,72nm,0.9s
ILULI Ilulissat 56.06 2 IAmb IAmb 11 01 29.1
comp=Z,94nm,1.1s
ILULI Ilulissat 56.06 2 *i* P **P** 11 01 16.4 -0.8
ILULI IAML 11 01 34.2
comp=Z,33nm,0.9s
TOA0 Torodi Ar. Sit 56.06 83 IAmb IAmb 11 01 27.1
comp=Z,72nm,1.1s
TORD Torodi Ar. Bea 56.06 83 P **P** 11 01 18.2 0.0
comp=Z,14nm,0.8s,baz=281,slow=5.0,SNR=94
TORD LR LR 11 23 02.0
comp=Z,4µm,18.4s,baz=230,slow=34
TORD Torodi Ar. Bea 56.06 83 P **P** 11 01 17.7 -0.5
TORD IAmb IAmb 11 01 26.3
comp=Z,174nm,1.6s
CCUT Cedar City 56.28 306 IAmb IAmb 11 01 22.2
comp=Z,174nm,1.1s
EGMT Eagleton 56.31 319 IAMs_20 IAMs_20 11 28 07.0
comp=Z,2µm,18.0s
EGMT Eagleton 56.31 319 P **P** 11 01 20.1 +0.6
baz=109,SNR=114
W13A Hualapai Mount 56.33 303 IAmb IAmb 11 01 23.0
comp=Z,167nm,1.2s
DUG Dugway, Tooele 56.35 310 P **P** 11 01 21.0 +1.0
baz=102,SNR=304
PDMCI Parker Dam,Lak 56.44 302 P **P** 11 01 21.8 +1.3
baz=97,SNR=31
HVU Hansel Valley 56.65 311 IAmb IAmb 11 01 23.8
comp=Z,191nm,1.3s
BLYC Blythe 56.69 302 IAmb IAmb 11 01 25.0
comp=Z,91nm,0.9s
SFX San Felipe 56.71 299 IAmb IAmb 11 01 25.1
comp=Z,86nm,1.0s
BORG Borgarnes 56.74 17 LR LR 11 20 00.2
comp=Z,2µm,21.4s,baz=241,slow=30
BOZ Bozeman (W) 56.80 316 IAmb IAmb 11 01 25.2
comp=Z,203nm,1.4s
BOZ IAMs_20 IAMs_20 11 23 54.2
comp=Z,2µm,22.0s
BOZ Bozeman (W) 56.80 316 P **P** 11 01 24.0 +0.8
baz=106,SNR=163
ICESG Greenland Ices 56.83 7 *i* P **P** 11 01 21.8 -1.4
ICESG IAmb IAmb 11 01 46.9
comp=Z,31nm,0.7s
GLA Glamis 56.87 301 IAmb IAmb 11 01 26.4
comp=Z,204nm,1.2s
GLA Glamis 56.87 301 P **P** 11 01 25.1 +1.4
baz=96,SNR=26
NEE2 Needles Airpor 56.89 303 P **P** 11 01 25.1 +1.3
baz=97
CPBX Cerro Prieto 57.21 300 IAmb IAmb 11 01 28.7
comp=Z,51nm,0.7s
SOEG Soedalen 57.24 11 *i* P **P** 11 01 25.1 -0.5
SOEG IAmb IAmb 11 01 48.1
comp=Z,15nm,0.7s
IRM Iron Mountain 57.25 302 P **P** 11 01 28.2 +1.8
baz=96,SNR=129
BC3 Big Chuckawall 57.45 302 P **P** 11 01 29.3 +1.4
baz=96,SNR=115
SWSC Sam W. Stewart 57.67 301 P **P** 11 01 30.9 +1.6
baz=95,SNR=29
GMRC Granite Mounta 57.74 303 P **P** 11 01 31.3 +1.3
baz=96,SNR=72
YUH Yuha Desert 57.75 300 IAmb IAmb 11 01 32.9
comp=Z,128nm,1.1s
IKP In-Ko-Pah, Jac 57.91 300 P **P** 11 01 32.8 +1.6
baz=95,SNR=50
BELC Belle Mtn. Jos 57.94 302 P **P** 11 01 32.8 +1.4
baz=96,SNR=46
TUQ Turquoise Moun 58.03 304 P **P** 11 01 33.5 +1.5
baz=96,SNR=162
R11A Troy Canyon, C 58.14 307 P **P** 11 01 34.1 +1.4
baz=98,SNR=257
MONP2 Monument Peak 58.19 301 P **P** 11 01 35.0 +1.8
baz=95,SNR=272
HLID Hailey 58.22 313 IAmb IAmb 11 01 35.3
comp=Z,97nm,0.9s
HLID Hailey 58.22 313 P **P** 11 01 34.2 +0.9
baz=102,SNR=167
ELK Elko 58.27 310 LR LR 11 26 34.6
comp=Z,932nm,20.4s,baz=90,slow=36
ELK Elko 58.27 310 IAmb IAmb 11 01 35.8
comp=Z,97nm,1.0s
TPFO Pinon Flats 58.28 301 P **P** 11 01 35.2 +1.5
baz=95,SNR=54
PFO Pinyon Flats O 58.28 301 LR LR 11 32 10.1
comp=Z,429nm,18.4s,baz=70,slow=42
PFO Pinyon Flats O 58.28 301 *c* P **P** 11 01 34.9 +1.1
PFO pmax pmax
comp=Z,103nm,1.0s
PFO Pinyon Flats O 58.28 301 P **P** 11 01 35.0 +1.3
PFO IAmb IAmb 11 01 36.5
comp=Z,79nm,1.1s
PFO Pinyon Flats O 58.28 301 P **P** 11 01 35.2 +1.5
baz=95,SNR=46
PFO Pinyon Flats O 58.28 301 ⇑P **P** 11 01 35.1 +1.3
HEC Hector,Ludlow 58.30 303 P **P** 11 01 35.4 +1.6
baz=96,SNR=152
CCX Cicese 58.32 299 P **P** 11 01 35.2 +1.3
CCX IAmb IAmb 11 01 36.9
comp=Z,72nm,1.2s
TKX Tecate 58.32 300 P **P** 11 01 35.1 +1.1
TKX IAmb IAmb 11 01 36.4
comp=Z,110nm,1.0s
CBX Cerro Bola 58.35 300 IAmb IAmb 11 01 37.3
comp=Z,63nm,0.9s
SHOC Shoshone, Teco 58.36 304 P **P** 11 01 35.8 +1.6
baz=96,SNR=88
BAR Barrett 58.38 300 IAmb IAmb 11 01 36.9
comp=Z,147nm,1.0s
TPNV Topopah Spring 58.47 305 IAmb IAmb 11 01 38.0
comp=Z,92nm,1.1s
TPNV Topopah Spring 58.47 305 P **P** 11 01 36.8 +1.7
baz=97,SNR=179
EKA Eskdalemuir Ar 58.52 32 LR LR 11 21 32.9
comp=Z,3µm,18.9s,baz=248,slow=31
MSO Missoula 58.68 317 IAmb IAmb 11 02 27.7
comp=Z,112nm,1.4s
MSO Missoula 58.68 317 P **P** 11 01 36.5 +0.2
baz=105,SNR=12
GWY Greenwater Val 58.71 304 IAmb IAmb 11 01 39.4
comp=Z,111nm,1.0s
BBRC Big Bear Solar 58.72 302 P **P** 11 01 38.8 +1.9
baz=95,SNR=13
GSC Goldstone, Bar 58.73 303 IAmb IAmb 11 01 39.5
comp=Z,119nm,1.2s
GSC Goldstone, Bar 58.73 303 P **P** 11 01 38.3 +1.5
baz=96,SNR=76
109C Camp Elliot, M 58.76 301 P **P** 11 01 38.2 +1.3
baz=94,SNR=25
RRX Edison Barstow 58.84 303 P **P** 11 01 39.5 +1.9
baz=96,SNR=15
MURC Murrieta 58.89 301 P **P** 11 01 39.4 +1.5
baz=95,SNR=42
FURC Furnace Creek, 58.90 305 P **P** 11 01 39.7 +1.8
baz=96,SNR=97
ELS Elsinore Mount 59.09 301 IAmb IAmb 11 01 41.8
comp=Z,113nm,0.9s
JTMT Jette 59.14 318 IAmb IAmb 11 01 40.3
comp=Z,52nm,0.7s
MFID Camas Ranch 59.20 313 IAmb IAmb 11 01 42.1
comp=Z,85nm,1.1s
MFID IAMs_20 IAMs_20 11 26 49.9
comp=Z,1µm,20.0s
CLF Chambon-Foret 59.20 42 P **P** 11 01 40.9 +1.2
CLF pP **sP** 11 01 48.0 -2.0
CLF sP **pwP** 11 01 56.6 +2.8
WALA Waterton Lakes 59.26 320 IAmb IAmb 11 02 29.8
comp=Z,56nm,1.0s
BFSC Mount Baldy Ra 59.33 302 P **P** 11 01 42.2 +1.1
baz=95,SNR=64
MPMC Manual Prospec 59.36 304 P **P** 11 01 42.7 +1.4
baz=96,SNR=95
GRAC Grapevine Rang 59.36 305 P **P** 11 01 42.7 +1.6
baz=96,SNR=28
LRMC Laurel Mtn Rad 59.46 303 P **P** 11 01 43.1 +1.1
baz=95,SNR=16
LCH Last Change Ra 59.61 305 IAmb IAmb 11 01 45.6
comp=Z,171nm,1.4s
EDW2 Edwards Air Fo 59.66 303 P **P** 11 01 44.6 +1.4
baz=95,SNR=144
PASC Pasadena Art C 59.76 302 IAmb IAmb 11 01 46.1
comp=Z,129nm,0.9s
FMP Fort Macarthur 59.82 301 P **P** 11 01 45.7 +1.5
baz=94,SNR=8.3
CWC Cottonwood Cre 59.87 305 P **P** 11 01 46.3 +1.4
baz=96
DECC Green Verdugo 59.89 302 P **P** 11 01 45.8 +1.0
baz=94,SNR=11
CIS Catalina Islan 59.90 301 P **P** 11 01 46.4 +1.6
baz=94,SNR=36
SCI2 San Clemente I 59.98 301 P **P** 11 01 46.9 +1.6
baz=93,SNR=8.6
TIN Tinemaha, Big 60.06 305 P **P** 11 01 47.4 +1.4
baz=96,SNR=8.9
SSB Saint Sauveur 60.08 45 IAMs_20 IAMs_20 11 22 47.1
comp=Z,1µm,20.0s
SSB Saint Sauveur 60.08 45 P **P** 11 01 47.5 +1.6
SSB pP **sP** 11 01 54.6 -1.6
SSB sP **pwP** 11 02 02.4 +2.3
ISA Isabella, Lake 60.12 304 IAmb IAmb 11 01 49.5
comp=Z,96nm,1.2s
ISA Isabella, Lake 60.12 304 P **P** 11 01 48.0 +1.6
baz=95,SNR=53
EDM Edmonton 60.19 324 P **P** 11 01 46.2 -0.3
EDM pmax pmax
comp=Z,139nm,1.1s
EDM Edmonton 60.19 324 P **P** 11 01 46.1 -0.3
EDM IAmb IAmb 11 01 47.0
comp=Z,139nm,1.1s
KVN Kaiserville 60.19 308 IAmb IAmb 11 01 48.4
comp=Z,61nm,1.0s
OSI Osito Audit: C 60.24 302 P **P** 11 01 48.1 +0.9
baz=94
NVAR Mina Array Bea 60.27 307 P **P** 11 01 48.5 +1.0
comp=Z,123nm,0.8s,baz=96,slow=6.4,SNR=855
NVAR Mina Array Bea 60.27 307 P **P** 11 01 48.4 +0.8
COYC Coyhaique 60.27 193 P **P** 11 01 46.4 -0.6
COYC sP pwP 11 02 08.4 +7.5
ARVC Arvin 60.36 303 P **P** 11 01 49.8 +1.8
baz=94,SNR=51
RYN Ryan 60.46 307 IAmb IAmb 11 01 50.9
comp=Z,110nm,0.9s
BMO Blue Mountains 60.52 314 IAmb IAmb 11 01 50.4
comp=Z,159nm,1.4s
BMO IAMs_20 IAMs_20 11 27 23.9
comp=Z,2µm,20.0s
MLAC Mammoth, Mammo 60.60 306 P **P** 11 01 51.6 +1.8
baz=96,SNR=20
VES Vestal, Richgr 60.63 304 P **P** 11 01 51.1 +1.3
baz=95,SNR=18
F10A Beach Ranch, E 60.69 315 IAmb IAmb 11 01 51.4
comp=Z,148nm,1.9s
SNCC San Nicolas Is 60.81 301 P **P** 11 01 52.1 +1.0

SNCC San Nicolas Is 60.81 301 P P 11 01 52.4 +1.3
baz=93,SNR=5.9
VOG Valley Oaks Go 60.91 304 P P 11 01 52.1 +0.4
baz=95
SCO Scoresbysund 61.00 12 P P 11 01 51.9 +0.3
SCO pmax pmax
comp=Z,91nm,1.7s
SCO Scoresbysund 61.00 12 P P 11 01 51.9 +0.3
SCO IAmb IAmb 11 01 53.8
comp=Z,91nm,1.7s
SCO IAMs_20 IAMs_20 11 22 24.8
comp=Z,1µm,20.0s
SBC Santa Barbara 61.04 302 P P 11 01 53.9 +1.3
baz=94,SNR=6.6
WVOR Wild Horse Val 61.06 311 IAmb IAmb 11 01 54.4
comp=Z,85nm,1.6s
WVOR IAMs_20 IAMs_20 11 29 43.2
comp=Z,1µm,20.0s
YERR Yerington 61.06 307 IAmb IAmb 11 01 55.8
comp=Z,48nm,0.9s
J08A Circle Bar Ran 61.09 312 IAmb IAmb 11 01 54.5
comp=Z,120nm,1.0s
NEW Newport 61.12 318 LR LR 11 26 47.2
comp=Z,1µm,21.8s,baz=97,slow=34
NEW Newport 61.12 318 IAmb IAmb 11 01 53.6
comp=Z,72nm,0.8s
NEW Newport 61.12 318 IAMs_20 IAMs_20 11 24 52.2
comp=Z,2µm,22.0s
NEW Newport 61.12 318 P P 11 01 52.7 -0.2
baz=103,SNR=86
SNF Seneffe 61.13 39 *d*P P 11 01 53.5 +0.6
SNF *dx* x 11 02 09.0
SNF *d*PcP PcP 11 02 32.5 -3.1
PKM Mcpherson Peak 61.15 303 P P 11 01 55.1 +1.5
baz=94,SNR=86
DOU Dourbes 61.22 40 *d*P P 11 01 53.1 -0.4
SMMC Simmler 61.33 303 P P 11 01 56.3 +1.7
baz=94,SNR=120
PNTR Pine Nut 61.35 307 IAmb IAmb 11 01 58.0
comp=Z,69nm,0.7s
BMRD Maredsous 61.38 40 *dx* x 11 02 02.2
BMRD *dx* x 11 02 10.3
VCNR Virginia City 61.41 308 IAmb IAmb 11 01 58.3
comp=Z,72nm,0.9s
E09A Wood Farm, Sta 61.42 316 IAmb IAmb 11 01 56.4
comp=Z,200nm,1.7s
BNI Bardonecchia 61.52 46 IAMs_20 IAMs_20 11 23 18.2
comp=Z,2µm,20.0s
PAGB Antelope Grade 61.56 304 IAmb IAmb 11 01 57.9
comp=Z,52nm,0.9s
BGES Gesves 61.60 40 *d*P P 11 01 57.0 +1.0
comp=Z,26nm,1.2s
RCHB Rochefort 61.63 40 *d*P P 11 01 56.2 -0.1
comp=Z,32nm,1.1s
RCHB *dx* x 11 02 11.4
BCLA Clavier 61.74 40 *d*P P 11 01 57.7 +0.7
comp=Z,25nm,1.3s
RUBR Rubicon Trail 61.77 307 IAmb IAmb 11 02 41.2
comp=Z,93nm,0.9s
CMB Columbia Colle 61.86 306 IAmb IAmb 11 02 00.3
comp=Z,75nm,1.1s
CMB IAMs_20 IAMs_20 11 29 20.7
comp=Z,1µm,20.0s
I07A Izee 61.94 313 IAmb IAmb 11 02 00.6
comp=Z,107nm,1.1s
BEKR Beckworth 62.02 308 IAmb IAmb 11 02 01.4
comp=Z,58nm,0.9s
E08A Dider Farm, El 62.04 316 IAmb IAmb 11 02 00.6
comp=Z,99nm,1.4s
PMPB Monarch Peak 62.05 304 IAmb IAmb 11 02 01.5
comp=Z,117nm,1.1s
D08A Wollman Farm, 62.05 316 IAmb IAmb 11 02 00.8
comp=Z,218nm,1.8s
WLF Walferdange 62.09 41 P P 11 02 00.6 +1.2
WLF pmax pmax
comp=Z,90nm,1.3s
WLF Walferdange 62.09 41 P P 11 02 00.6 +1.2
WLF IAmb IAmb 11 02 16.6
comp=Z,90nm,1.3s
WLF Walferdange 62.09 41 *e*P P 11 02 00.3 +0.9
comp=Z,11nm,0.8s,baz=260,slow=6.5
WLF Walferdange 62.09 41 *d*P P 11 02 00.2 +0.8
WLF *dx* x 11 02 07.5
BHOU Houvegnez 62.16 40 *d*P P 11 02 00.3 +0.4
comp=Z,32nm,1.2s
MOD Modoc Plateau 62.21 311 IAMs_20 IAMs_20 11 32 12.8
comp=Z,1µm,19.0s
MEM Membach 62.22 39 *d*P P 11 02 00.8 +0.6
comp=Z,22nm,1.0s
BTNL Ternell 62.29 40 *d*P P 11 02 01.8 +1.1
comp=Z,22nm,1.3s
BTNL *dx* x 11 02 17.1
HAWA Hanford 62.34 316 IAmb IAmb 11 02 02.9
comp=Z,180nm,1.5s
ECH Echery 62.44 42 IAmb IAmb 11 02 18.8
comp=Z,102nm,1.5s
ECH Echery 62.44 42 P P 11 02 02.4 +0.6
ECH pP **sP** 11 02 09.6 -2.5
ECH sP **pwP** 11 02 17.1 +1.1
KEST Kesra 62.46 57 P P 11 02 03.1 +0.8
comp=Z,13nm,0.9s,baz=221,slow=3.6,SNR=9.2
KEST LR LR 11 26 57.8
comp=Z,843nm,18.9s,baz=206,slow=34
E07A Sunnyside 62.59 316 IAmb IAmb 11 02 04.9
comp=Z,88nm,1.2s
SAO San Andreas Ge 62.60 305 IAmb IAmb 11 02 05.6
comp=Z,107nm,1.1s
VSL Villasalto 62.77 52 P P 11 02 03.4 -0.8
VSL IAmb IAmb 11 02 13.2
comp=Z,119nm,1.2s
VSL IAMs_20 IAMs_20 11 24 23.2
comp=Z,1µm,20.0s
ORV Oroville 62.86 308 IAmb IAmb 11 02 06.8
comp=Z,129nm,1.1s
AHRW Bad Neuenahr-A 62.87 40 *e*P P 11 02 05.6 +1.0
comp=Z,16nm,0.9s,baz=260,slow=6.5
J05D Fort Rock, OR 63.07 312 P P 11 02 07.2 +1.0
baz=97,SNR=76
O03E Paynes Creek 63.16 309 P P 11 02 06.8 0.0
baz=95,SNR=44
BUG Bochum--Univer 63.19 39 *e*P P 11 02 07.6 +1.0
baz=260,slow=6.5
BFO Black Forest 63.23 42 P P 11 02 07.1 0.0
BFO pmax pmax
comp=Z,36nm,1.1s
BFO Black Forest 63.23 42 P P 11 02 07.1 0.0
BFO Black Forest 63.23 42 *e*P P 11 02 07.6 +0.6
baz=260,slow=6.5
BFO Black Forest 63.23 42 P P 11 02 07.3 +0.3
BFO pP **sP** 11 02 15.0 -2.4
BFO pwP **pwP** 11 02 18.2 -3.0
BFO sP pP 11 02 23.1 +8.5
I05D Terrebonne, OR 63.28 313 P P 11 02 09.2 +1.7
baz=98,SNR=127
M04C Macdoel 63.34 310 IAMs_20 IAMs_20 11 29 44.6
comp=Z,1µm,19.0s
M04C Macdoel 63.34 310 P P 11 02 08.9 +0.8
baz=96,SNR=71
K04D Chiloquin, OR 63.37 311 P P 11 02 09.1 +0.9
baz=96,SNR=25
G05D Wamic, OR 63.39 314 P P 11 02 09.6 +1.4
baz=98,SNR=41
MSSA Maissana 63.41 47 IAmb IAmb 11 02 17.6
comp=Z,125nm,1.5s
C06D Leavenworth 63.52 317 P P 11 02 08.6 -0.4
baz=100
F05D White Salmon 63.58 315 IAMs_20 IAMs_20 11 28 45.8
comp=Z,2µm,19.0s
F05D White Salmon 63.58 315 P P 11 02 10.6 +1.2
baz=98,SNR=42
TUE Stuetta 63.60 45 IAMs_20 IAMs_20 11 24 56.1
comp=Z,2µm,20.0s
TNS Taunus Mts 63.66 40 *e*P P 11 02 10.6 +0.7
comp=Z,20nm,1.0s,baz=260,slow=6.5
IBBN Ibbenburen 63.68 38 *e*P P 11 02 10.5 +0.7
baz=260,slow=6.5
J04D Umpqua Nationa 63.70 312 IAMs_20 IAMs_20 11 29 06.0
comp=Z,1µm,20.0s
J04D Umpqua Nationa 63.70 312 P P 11 02 11.4 +0.9
baz=97,SNR=92
TULEG Thule 63.70 357 IAmb IAmb 11 02 11.4
comp=Z,192nm,1.5s
TULEG Thule 63.70 357 *i* P P 11 02 07.9 -1.7
TULEG IAmb IAmb 11 02 26.3
comp=Z,23nm,0.8s
L04D Klamath Falls 63.73 311 P P 11 02 11.0 +0.4
baz=96,SNR=81

KASTN Kahler Asten 63.84 39 *e*P P 11 02 11.9 +0.8
baz=260,slow=6.5
STU Stuttgart 63.87 42 *e*P P 11 02 12.0 +0.8
comp=Z,52nm,0.8s,baz=260,slow=6.5
O02D Mt. Diablo Mer 63.90 308 IAMs_20 IAMs_20 11 29 15.7
comp=Z,2µm,21.0s
O02D Mt. Diablo Mer 63.90 308 P P 11 02 10.8 -0.9
baz=95,SNR=14
N02D Trinity Center 63.91 309 P P 11 02 11.0 -0.8
baz=95,SNR=22
YBH Yreka Blue Hor 63.98 310 P P 11 02 11.7 -0.5
YBH pmax pmax
comp=Z,59nm,1.0s
YBH Yreka Blue Hor 63.98 310 P P 11 02 11.7 -0.5
YBH IAmb IAmb 11 02 12.6
comp=Z,59nm,0.9s
DAVOX Davos/Dischmat 64.01 44 LR LR 11 24 49.2
comp=Z,2µm,21.8s,baz=262,slow=31
B06A Marblemount 64.02 318 IAmb IAmb 11 02 47.6
comp=Z,42nm,0.8s
M02C Callahan 64.06 310 IAMs_20 IAMs_20 11 29 53.7
comp=Z,2µm,19.0s
M02C Callahan 64.06 310 P P 11 02 12.2 -0.5
baz=95,SNR=43
DAVA Damuels 64.08 44 *i* P P 11 02 13.9 +1.1
comp=Z,56nm,1.2s,SNR=7.4
YKA Yellowknife Ar 64.12 334 P P 11 02 11.3 -1.3
comp=Z,41nm,0.7s,baz=107,slow=7.6,SNR=452
YKA Yellowknife Ar 64.12 334 P P 11 02 11.5 -1.1
YKA Yellowknife Ar 64.12 334 P P 11 02 11.5 -1.1
CASP Castiglione de 64.20 49 IAmb IAmb 11 02 22.3
comp=Z,73nm,1.1s
HUMO Hull Mountain 64.25 311 IAMs_20 IAMs_20 11 29 56.7
comp=Z,2µm,20.0s
F04A Amboy 64.25 315 IAmb IAmb 11 02 15.0
comp=Z,158nm,1.4s
UBR Ueberruh 64.30 43 *e*P P 11 02 15.1 +0.9
comp=Z,12nm,0.8s,baz=260,slow=6.5
H04D Lebanon 64.30 313 IAMs_20 IAMs_20 11 29 27.8
comp=Z,1µm,22.0s
H04D Lebanon 64.30 313 P P 11 02 14.3 +0.2
baz=97,SNR=49
DBG Daneborg 64.32 10 *i* P P 11 02 13.7 -0.1
DBG IAmb IAmb 11 02 31.1
comp=Z,32nm,0.8s
B05A Bryant 64.38 317 P P 11 02 12.7 -1.8
baz=99,SNR=19
E04D Cinebar 64.44 315 IAmb IAmb 11 02 29.9
comp=Z,87nm,1.4s
E04D IAMs_20 IAMs_20 11 28 37.4
comp=Z,1µm,20.0s
E04D Cinebar 64.44 315 P P 11 02 14.4 -0.6
baz=98,SNR=12
ZCCA Zocca 64.45 47 IAmb IAmb 11 02 32.9
comp=Z,73nm,0.9s
KCPM Cahto Peak 64.48 308 IAmb IAmb 11 02 18.4
comp=Z,148nm,1.1s
DBO Dodson Butte 64.51 312 IAmb IAmb 11 02 17.1
comp=Z,68nm,1.1s
JMIC Jan Mayen 64.53 16 LR LR 11 25 46.1
comp=Z,656nm,18.6s,baz=228,slow=32
OSSC Osservatorio P 64.56 48 IAmb IAmb 11 02 25.1
comp=Z,97nm,1.3s
ASK Askoy 64.57 29 *e*P P 11 02 16.6 +1.0
BER Bergen 64.60 29 *e*P P 11 02 16.6 +0.8
KMRM Mail Ridge 64.61 308 P P 11 02 17.7 +1.4
FETA Feichten 64.62 44 *i* P P 11 02 17.2 +0.8
comp=Z,150nm,1.3s,SNR=16
LLLB Lillooet 64.63 320 P P 11 02 16.1 -0.2
LLLB IAmb IAmb 11 02 17.3
comp=Z,191nm,1.4s
I03D Drain, OR 64.64 312 P P 11 02 16.8 +0.4
baz=96,SNR=36
D04E Lakebay 64.67 316 P P 11 02 16.2 -0.3
baz=98,SNR=7.3
KHMM Horse Mountain 64.67 309 P P 11 02 17.6 +0.7
KHMM IAmb IAmb 11 02 18.9
comp=Z,184nm,1.4s
F04D Rainier, OR 64.68 315 P P 11 02 16.7 +0.1
baz=97
L02E Cave Junction 64.68 310 IAMs_20 IAMs_20 11 31 12.2
comp=Z,2µm,20.0s
L02E Cave Junction 64.68 310 P P 11 02 16.7 0.0
baz=95,SNR=16
RETA Reutte 64.70 44 *i* P P 11 02 17.2 +0.4
comp=Z,224nm,2.7s,SNR=8.2
COR Corvallis 64.71 313 P P 11 02 17.8 +1.0
COR pmax pmax
comp=Z,268nm,1.2s
COR Corvallis 64.71 313 P P 11 02 17.8 +1.0
COR Corvallis 64.71 313 IAMs_20 IAMs_20 11 29 39.7
comp=Z,2µm,21.0s
COR Corvallis 64.71 313 P P 11 02 17.8 +1.0
UBBA Unterbreizbach 64.75 40 *e*P P 11 02 18.2 +1.3
baz=260,slow=6.5
UBBA *e*pP **sP** 11 02 25.2 -1.9
G03D McMinnville, O 64.75 314 IAMs_20 IAMs_20 11 29 15.8
comp=Z,2µm,22.0s
G03D McMinnville, O 64.75 314 P P 11 02 18.3 +1.2
baz=97,SNR=79
K02D Willamette Mer 64.78 311 P P 11 02 17.8 +0.3
baz=95,SNR=35
BLS5 Blasjo 64.84 30 *e*P P 11 02 18.0 +0.5
A04D Lummi Island 64.85 318 P P 11 02 16.4 -1.2
baz=99
GTTG Gottingen 64.86 39 *e*P P 11 02 18.6 +1.0
baz=260,slow=6.5
SNART Snarmo 64.90 31 *e*P P 11 02 18.4 +0.7
MOTA Moosalm 64.92 44 *i* P P 11 02 18.9 +0.5
comp=Z,398nm,2.3s,SNR=7.2
D03D Eldon 64.93 316 P P 11 02 17.4 -0.7
baz=98,SNR=14
SQTA Sankt Quirin 64.97 44 *i* P P 11 02 19.4 +0.7
comp=Z,256nm,1.8s,SNR=7.8
J01E Myrtle Point 65.02 312 IAMs_20 IAMs_20 11 29 56.9
comp=Z,2µm,22.0s
J01E Myrtle Point 65.02 312 P P 11 02 19.9 +1.1
baz=95,SNR=50
I02E Swisshome, OR 65.05 313 P P 11 02 20.2 +1.2
baz=96,SNR=38
TEOL Teolo 65.06 46 IAmb IAmb 11 02 35.2
comp=Z,102nm,0.9s
ODD1 Odda 65.07 30 *e*P P 11 02 19.8 +0.9
CTI Castel Tesino 65.12 45 P P 11 02 19.4 -0.2
CTI pmax pmax
comp=Z,48nm,1.1s
CTI Castel Tesino 65.12 45 P P 11 02 19.4 -0.2
NRDL Niedersach Rie 65.12 38 *e*P P 11 02 20.4 +1.1
comp=Z,17nm,1.0s,baz=260,slow=6.5
RES Resolute Bay 65.16 349 LR LR 11 31 07.7
comp=Z,1µm,18.6s,baz=134,slow=36
RES Resolute Bay 65.16 349 P P 11 02 19.1 -0.1
RES pmax pmax
comp=Z,46nm,1.2s
RES Resolute Bay 65.16 349 P P 11 02 19.1 -0.1
CLZ Clausthal 65.16 39 *e*P P 11 02 20.4 +0.7
comp=Z,10.0nm,0.9s,baz=260,slow=6.5
HYA Hoyanger 65.25 28 *e*P P 11 02 21.0 +1.0
WTTA Wattenberg 65.26 44 *i* P P 11 02 20.9 +0.3
comp=Z,142nm,1.9s,SNR=5.5
B04A Port Angeles 65.28 317 IAmb IAmb 11 02 21.9
comp=Z,194nm,1.6s
PGC Sidney 65.33 318 IAmb IAmb 11 02 20.9
comp=Z,54nm,0.8s
GRF Grafenberg Arr 65.33 41 *e*P P 11 02 21.7 +0.9
baz=260,slow=6.5
GRF *e*pP **sP** 11 02 28.8 -2.3
ASSE Asse, Remlinge 65.40 39 *e*P P 11 02 21.9 +0.9
comp=Z,12nm,1.0s,baz=260,slow=6.5
ASSE *e*pP **sP** 11 02 29.4 -2.0
RPN Rapa Nui 65.45 232 P P 11 02 22.2 +0.4
RPN pmax pmax
comp=Z,661nm,1.6s
RPN Rapa Nui 65.45 232 P P 11 02 22.2 +0.4
MURB Monte Urbino 65.46 48 IAmb IAmb 11 03 05.9
comp=Z,60nm,1.1s
BSEG Bad Segeberg 65.53 37 *e*P P 11 02 22.9 +1.0
baz=260,slow=6.5
CLTB Caltabellotta 65.65 55 IAmb IAmb 11 02 33.3
comp=Z,130nm,1.2s
MOX Moxa 65.73 40 *e*P P 11 02 23.8 +0.5
comp=Z,4.6nm,0.9s,baz=260,slow=6.5
MOX *e*pP **sP** 11 02 31.4 -2.3
FLTG Flechtingen 65.78 38 *e*P P 11 02 24.3 +0.8
comp=Z,8.1nm,0.8s,baz=260,slow=6.5
FLTG *e*pP **sP** 11 02 31.9 -2.0
ABTA Abfaltersbach 65.80 45 *i* P P 11 02 24.2 +0.3
comp=Z,41nm,1.0s,SNR=6.0
NRCA Norcia 65.86 49 IAmb IAmb 11 02 41.7
comp=Z,116nm,1.9s
AKN Aaknes 65.94 27 *e*P P 11 02 25.1 +0.6
MANZ Manzenberg 65.94 41 *e*P P 11 02 25.5 +0.7
comp=Z,2.9nm,0.9s,baz=260,slow=6.5
MANZ *e*pP **sP** 11 02 33.0 -2.2
ROTZ Rotzenmuhle 65.98 41 *e*P P 11 02 25.7 +0.7
comp=Z,1.7nm,0.8s,baz=260,slow=6.5
ROTZ *e*pP **sP** 11 02 32.9 -2.4
AQU L'Aquila 66.03 49 IAMs_20 IAMs_20 11 25 49.7
comp=Z,1µm,20.0s
SKAR Skarslia 66.09 29 *e*P P 11 02 26.1 +0.6
RJOB Jochberg 66.10 43 *e*P P 11 02 26.4 +0.5
comp=Z,7.6nm,0.8s,baz=260,slow=6.5
WERD Werda 66.14 41 *e*P P 11 02 26.8 +0.8
comp=Z,11nm,1.1s,baz=260,slow=6.5
WERD *e*pP **sP** 11 02 34.3 -2.0
GUNZ Gunzen 66.14 41 *e*P P 11 02 26.9 +0.8
comp=Z,4.9nm,0.8s,baz=260,slow=6.5
WERN Wernitzgruen 66.16 41 *e*P P 11 02 27.0 +0.9
baz=260,slow=6.5
WERN *e*pP **sP** 11 02 34.4 -2.1
MG05 Puerto Natales 66.17 191 P P 11 02 25.4 -0.6
MG05 IAmb IAmb 11 02 47.3
comp=Z,167nm,1.8s
NKC Novy Kostel 66.20 41 *e*P P 11 02 27.2 +0.8
NKC *e**PP **sP** 11 02 34.7 -2.0
NKC Novy Kostel 66.20 41 *e*P P 11 02 27.2 +0.8
NKC *e*pP **sP** 11 02 34.7 -2.0
TANN Tannenbergstha 66.23 41 *e*P P 11 02 27.6 +1.0
baz=260,slow=6.5
TANN *e*pP **sP** 11 02 34.8 -2.2
WET Wettzell 66.33 42 *e*P P 11 02 28.0 +0.7
comp=Z,8.8nm,1.0s,baz=260,slow=6.5
KBA Koelnbreinsper 66.40 44 *i* P P 11 02 28.0 +0.1
comp=Z,50nm,1.3s,SNR=9.5
KONO Kongsberg 66.44 30 *i* P P 11 02 31.0 +3.3
KONO pmax pmax
comp=Z,62nm,2.2s
DAG Danmarks Havn 66.48 9 *i* P P 11 02 26.0 -1.7
DAG IAmb IAmb 11 02 46.9
comp=Z,28nm,0.9s
TRI Trieste 66.56 46 P P 11 02 28.2 -0.5
TRI pmax pmax
comp=Z,61nm,1.2s
TRI Trieste 66.56 46 P P 11 02 28.2 -0.5
TRI IAmb IAmb 11 02 37.5
comp=Z,61nm,1.2s
MYKA Terra Mystica 66.56 45 *i* P P 11 02 29.2 +0.4
comp=Z,62nm,1.5s,SNR=7.4
VAE Valguarnera 66.60 55 LR LR 11 30 19.4
comp=Z,765nm,18.1s,baz=335,slow=35
BIOA Bad Ischl, Aus 66.66 44 *i* P P 11 02 29.4 -0.1
comp=Z,138nm,1.8s,SNR=8.5
CLL Collm 66.70 40 ⇑ *i*P P 11 02 30.0 +0.5
CLL *i* 11 02 37.5
CLL *e*S S 11 11 24.0 +4.6
CLL pmax pmax
comp=Z,40nm,1.6s
CLL MLR MLR
comp=Z,900nm,18.8s
CLL Collm 66.70 40 P P 11 02 29.8 +0.3
CLL IAMs_20 IAMs_20 11 26 39.1
comp=Z,918nm,18.0s
CLL Collm 66.70 40 ⇑ *i*P P 11 02 30.0 +0.5
comp=Z,40nm,1.6s
CLL *i* pP **sP** 11 02 37.5 -2.3
comp=Z,67nm,1.3s
CLL *e*sP **pwP** 11 02 42.0 -1.7
CLL *e*S S 11 11 24.0 +4.6
CLL *e*PPS PPS 11 12 00.0
CLL *e*SS **SS** 11 15 30.0 -7.1
CLL *e*SSS SSS 11 18 53.0
CLL *e*SSSS 11 19 42.0
CLL LmV 11 26 00.0
comp=Z,900nm,18.8s
CLL Collm 66.70 40 *e*P P 11 02 30.4 +0.9
comp=Z,8.4nm,0.8s,baz=260,slow=6.5
OZB Mount Ozzard 66.70 318 IAmb IAmb 11 02 31.4
comp=Z,139nm,1.5s
CBB Campbell River 66.75 319 IAmb IAmb 11 02 31.1
comp=Z,186nm,1.6s
KHC Kasperske Hory 66.78 42 *i* P P 11 02 30.6 +0.4
KHC pmax pmax
comp=Z,83nm,1.7s
KHC Kasperske Hory 66.78 42 P P 11 02 29.9 -0.2
KHC IAmb IAmb 11 02 47.5
comp=Z,150nm,1.8s
KHC Kasperske Hory 66.78 42 *e*P P 11 02 30.6 +0.4
KHC *e*pP **sP** 11 02 38.0 -2.5
KHC *e*S S 11 11 32.5 +12
KHC AMS AMS 11 28 20.0
comp=Z,800nm,16.3s
DOMB Dombas 66.82 28 *e*P P 11 02 31.2 +1.0
GEC2 GERESS Array S 66.83 42 IAmb IAmb 11 02 39.9
comp=Z,137nm,1.3s
GEC2 GERESS Array S 66.83 42 *e*P P 11 02 30.9 +0.4
comp=Z,27nm,1.0s,baz=260,slow=6.5
GEC2 *e*pP **sP** 11 02 38.7 -2.2
GERES GERESS Array B 66.83 42 P P 11 02 31.1 +0.6
comp=Z,12nm,0.9s,baz=246,slow=6.7,SNR=40
GERES LR LR 11 26 15.6
comp=Z,542nm,21.0s,baz=252,slow=31
GERES GERESS Array B 66.83 42 P P 11 02 30.8 +0.2
PAOL Paolisi 66.83 51 P P 11 02 30.4 -0.3
FBE Freiberg 66.86 40 *e*P P 11 02 31.6 +1.1
comp=Z,7.4nm,0.8s,baz=260,slow=6.5
FBE *e*pP **sP** 11 02 39.0 -1.9
MOA Molln 67.10 43 *i* P P 11 02 32.5 +0.3
comp=Z,54nm,1.4s,SNR=17
LJU Ljubljana 67.12 45 *i* P P 11 02 33.1 +0.8
OBKA Obir 67.17 45 *i* P P 11 02 33.2 +0.4
comp=Z,50nm,0.8s,SNR=10
BRG Berggiesshubel 67.23 40 *e*P P 11 02 33.4 +0.5
BRG Amp 11 02 34.6
comp=Z,20nm,0.9s
BRG *ex* x 11 02 41.2
BRG Amp 11 02 42.1
comp=Z,56nm,1.2s
BRG *ex* x 11 02 48.1
BRG Amp 11 02 51.1
comp=Z,91nm,1.6s
BRG *ex* x 11 02 55.6
BRG Amp 11 02 57.1
comp=Z,49nm,1.2s
BRG Amp 11 24 29.0
comp=E,0.6nm,20.7s
BRG Amp 11 24 36.0
comp=Z,1.7nm,24.9s
BRG Amp 11 24 36.0
comp=N,0.4nm,15.0s
BRG Berggiesshubel 67.23 40 *e*P P 11 02 33.4 +0.5
BRG *e* 11 02 41.2
BRG *e* 11 02 55.6
BRG pmax pmax
comp=Z,20nm,0.9s
BRG pmax pmax
comp=Z,56nm,1.2s
BRG pmax pmax
comp=Z,91nm,1.6s
BRG pmax pmax
comp=Z,49nm,1.2s
BRG Berggiesshubel 67.23 40 *e*P P 11 02 33.7 +0.8
comp=Z,9.6nm,0.8s,baz=260,slow=6.5
BRG *e*pP **sP** 11 02 41.2 -2.0
CKRC Cesky Krumlov 67.23 42 *e*P P 11 02 33.4 +0.4
CKRC *e*pP **pP** 11 02 40.7 +0.2
CKRC *e*S S 11 11 36.8 +11
CKRC AMS AMS 11 27 30.0
comp=Z,500nm,17.3s
GO10 Punta Arenas 67.33 190 P P 11 02 33.6 +0.2
GO10 IAmb IAmb 11 02 36.8
comp=Z,106nm,1.1s
NC204 NORSAR Array S 67.41 29 IAmb IAmb 11 02 36.1
comp=Z,93nm,1.4s
PRU Pruhonice 67.50 41 *e*P P 11 02 35.6 +0.9
PRU *e**PP **sP** 11 02 43.1 -1.9
PRU *e*S S 11 11 27.5 -1.7
PRU MLR MLR
comp=Z,1µm,17.9s
PRU Pruhonice 67.50 41 *e*P P 11 02 35.6 +0.9
PRU *e*pP **sP** 11 02 43.1 -1.9
PRU *e*S S 11 11 27.5 -1.7
PRU AMS AMS 11 30 20.0

comp=Z,1µm,17.9s
SOKA Soboth 67.52 45 *i* P **P 11 02 34.9 -0.1**
comp=Z,61nm,1.4s,SNR=5.6
NB2 NORSAR Subarra 67.56 29 P **P 11 02 35.2 +0.3**
comp=Z,161nm,2.5s,baz=253,slow=6.5
NB2 NORSAR Subarra 67.56 29 P **P 11 02 34.9 0.0**
NB2 pmax pmax
comp=Z,287nm,2.8s
NB2 NORSAR Subarra 67.56 29 P **P 11 02 35.2 +0.3**
baz=253,slow=6.5
NOA NORSAR Array B 67.56 29 P **P 11 02 35.6 +0.7**
comp=Z,7.6nm,0.9s,baz=254,slow=6.6,SNR=9.5
NOA LR LR 11 26 59.4
comp=Z,956nm,19.7s,baz=275,slow=31
BOJS Bojanci 67.58 46 *i* P **P 11 02 35.7 +0.4**
NC303 NORSAR Array S 67.68 29 IAmb IAmb 11 02 53.6
comp=Z,65nm,1.3s
TBLU Trondheim 67.69 27 *e*P **P 11 02 37.1 +1.6**
DOBS Dobrina 67.78 45 *i* P **P 11 02 37.0 +0.6**
DOBS *e*S **S 11 11 31.3 -1.3**
NC405 NORSAR Array S 67.81 29 IAmb IAmb 11 02 54.4
comp=Z,74nm,1.1s
ARSA Arzberg 67.89 44 *i* P **P 11 02 37.4 +0.1**
comp=Z,110nm,1.6s,SNR=12
TREC Trest 68.04 42 *e*P P 11 02 46.4 +8.3
TREC Trest 68.04 42 *e*pP pP 11 02 46.4 +0.7
CONA Conrad Observa 68.18 44 *i* P **P 11 02 39.5 +0.4**
comp=Z,75nm,1.6s,SNR=22
WRGLY Wrigley 68.20 333 P **P 11 02 38.4 -0.4**
baz=104,SNR=41
EUNU Eureka 68.32 355 IAmb IAmb 11 02 41.2
comp=Z,175nm,1.4s
RONA Rosalia, Austr 68.45 44 *e*P **P 11 02 41.0 +0.2**
comp=Z,130nm,1.7s,SNR=9.3
TIP Timpagrande 68.47 53 IAMs_20 IAMs_20 11 28 28.1
comp=Z,1µm,20.0s
UPC Upice 68.49 41 *e*P **P 11 02 41.5 +0.6**
UPC *e**PP **sP 11 02 48.7 -2.6**
UPC MLR MLR
comp=Z,2µm,23.5s
UPC Upice 68.49 41 *e*P **P 11 02 41.5 +0.6**
UPC *e*pP **sP 11 02 48.7 -2.6**
UPC AMS AMS 11 24 50.0
comp=Z,2µm,23.5s
CHVC Chvalec 68.53 41 *e*P **P 11 02 41.3 +0.1**
HFS Hagfors 68.56 30 LR LR 11 28 44.1
comp=Z,1µm,18.6s,baz=270,slow=32
MG01 Puerto William 68.57 187 IAmb IAmb 11 02 42.5
comp=Z,193nm,1.4s
USHA Ushuaia 68.58 188 LR LR 11 33 59.3
comp=Z,2µm,22.0s,baz=14,slow=37
KRUC Moravsky 68.62 42 *e*P **P 11 02 41.8 +0.1**
OSTC Ostas 68.63 41 *e*P **P 11 02 41.5 -0.3**
OSTC *e*pP **sP 11 02 50.0 -2.1**
OSTC AMS AMS 11 24 50.0
comp=Z,1µm,25.0s
DPC Dobruska-Polom 68.68 41 *e*P **P 11 02 42.7 +0.6**
DPC *e**PP **sP 11 02 50.3 -2.2**
DPC MLR MLR
comp=Z,1µm,22.5s
DPC Dobruska-Polom 68.68 41 *e*P **P 11 02 42.7 +0.6**
DPC *e*pP **sP 11 02 50.3 -2.2**
DPC AMS AMS 11 24 50.0
comp=Z,1µm,22.5s
KSP Ksiaz 68.70 40 *e*P **P 11 02 42.8 +0.6**
KSP Ksiaz 68.70 40 P **P 11 02 43.1 +0.9**
BBB Bella Bella 68.72 321 LR LR 11 33 40.5
comp=Z,870nm,18.5s,baz=93,slow=37
NSS Namsos 68.75 25 *e*P **P 11 02 42.5 +0.3**
VRAC Vranov 68.77 42 ⇓P **P 11 02 43.8 +1.1**
VRAC Vranov 68.77 42 LR LR 11 28 50.6
comp=Z,605nm,19.7s,baz=269,slow=32
VRAC Vranov 68.77 42 ⇓P **P 11 02 43.8 +1.1**
VRAC Vranov 68.77 42 *e*P **P 11 02 42.9 +0.3**
KRLC Kraliky 68.95 41 *e*P P 11 02 52.6 +8.8
KRLC *e**PP pwP 11 03 00.1 +2.1
KRLC MLR MLR
comp=Z,700nm,18.9s
KRLC Kraliky 68.95 41 *e*P P 11 02 52.6 +8.8
KRLC *ex* x 11 03 00.1
KRLC AMS AMS 11 28 20.0
comp=Z,700nm,18.9s
ZST Bratislava 69.03 43 *e*P **P 11 02 45.3 +1.1**
ZST pmax pmax
comp=Z,156nm,1.5s
ZST Bratislava 69.03 43 *e*P **P 11 02 45.3 +1.1**
MODS Modra-Piesok 69.15 43 *e*P **P 11 02 46.0 +0.9**
MODS pmax pmax
comp=Z,111nm,1.4s
MODS Modra-Piesok 69.15 43 *e*P **P 11 02 46.0 +0.9**
MPLH Magyarpolny 69.26 44 P **P 11 02 45.9 +0.2**
MPLH Magyarpolny 69.26 44 P **P 11 02 46.3 +0.5**
ALE Alert 69.39 359 IAMs_20 IAMs_20 11 29 21.1
comp=Z,1µm,20.0s
ALE Alert 69.39 359 P **P 11 02 45.8 -0.2**
ALE pP **pP 11 02 53.5 0.0**
ALE sP **pwP 11 03 02.0 +1.9**
MORC Moravsky Berou 69.42 42 ⇑P **P 11 02 47.6 +0.9**
MORC Moravsky Berou 69.42 42 ⇑P **P 11 02 47.6 +0.9**
MORC Moravsky Berou 69.42 42 *e*P **P 11 02 47.1 +0.4**
JAVC Velka Javorina 69.44 43 *e*P **P 11 02 48.0 +1.1**
KOVH Kovagotottos 69.60 46 P **P 11 02 48.8 +0.9**
KOVH Kovagotottos 69.60 46 P **P 11 02 48.5 +0.7**
KONS Konsvik 69.70 24 *e*P **P 11 02 48.9 +0.9**
OKC Ostrava-Krasne 69.81 42 P **P 11 02 51.2 +2.1**
OKC Ostrava-Krasne 69.81 42 AMS AMS 11 28 50.0
comp=Z,600nm,15.8s
KOLL Kolacno 69.91 43 *e*P **P 11 02 50.3 +0.6**
MORH Mrgy, Hungar 69.98 45 ⇑P **P 11 02 51.0 +0.9**
MORH Mrgy, Hungar 69.98 45 P **P 11 02 50.7 +0.6**
MORH Mrgy, Hungar 69.98 45 P **P 11 02 50.8 +0.6**
TGTN Hyland Airport 70.05 331 P **P 11 02 51.2 +0.9**
baz=99,SNR=10.0
C36M Paulatuk 70.06 340 P **P 11 02 48.5 -1.6**
baz=106,SNR=20
WTLY Watson Lake, Y 70.09 329 P **P 11 02 51.5 +0.9**
baz=98,SNR=5.7
MOR8 Moi Rana 70.14 24 *e*P **P 11 02 52.2 +1.4**
VYHS Vyhne 70.20 43 *e*P **P 11 02 52.0 +0.5**
VYHS *e* 11 02 52.3
VYHS Vyhne 70.20 43 *e*P **P 11 02 52.0 +0.5**
VYHS Vyhne 70.20 43 *e*P **P 11 02 52.3 +0.8**
LOF Lofoten 70.26 22 *e*P **P 11 02 52.0 +0.6**
PDG Podgorica 70.37 49 ⇓P **P 11 02 54.4 +1.8**
PDG Podgorica 70.37 49 IAmb IAmb 11 03 02.3
comp=Z,85nm,1.2s
NOR Nord 70.42 6 *i* P **P 11 02 50.8 -1.5**
NOR IAmb IAmb 11 03 08.4
comp=Z,17nm,0.9s
DLBC Dease Lake 70.50 328 LR LR 11 32 12.1
comp=Z,2µm,21.0s,baz=94,slow=35
DLBC Dease Lake 70.50 328 IAmb IAmb 11 02 55.5
comp=Z,69nm,1.1s
LANS Liptovska Anna 70.64 42 P **P 11 02 57.2 +3.0**
FAUS Fauske 70.73 23 *e*P **P 11 02 55.3 +0.9**
FRGS Fruska Gora 70.78 47 ⇑P **P 11 02 55.9 +0.7**
STEI Steigen 70.83 22 *e*P **P 11 02 55.4 +0.5**
PSZ Piszkesteto 70.88 44 ⇓P **P 11 02 57.0 +1.2**
PSZ Piszkesteto 70.88 44 ⇓P **P 11 02 57.0 +1.2**
PSZ Piszkesteto 70.88 44 IAMs_20 IAMs_20 11 32 00.9
comp=Z,884nm,19.0s
PSZ Piszkesteto 70.88 44 P **P 11 02 56.5 +0.8**
PSZ Piszkesteto 70.88 44 P **P 11 02 56.9 +1.1**
OJC Ojcow 70.89 41 *e*P **P 11 02 56.6 +0.9**
OJC Ojcow 70.89 41 P **P 11 02 56.8 +1.1**
DIVS Divibare 70.91 48 IAmb IAmb 11 03 05.7
comp=Z,65nm,1.1s
DIVS IAMs_20 IAMs_20 11 29 39.5
comp=Z,832nm,19.0s
A36M Sachs Harbour 71.16 342 P **P 11 02 56.3 -0.5**
baz=106,SNR=92
NIE Niedzica 71.19 42 *e*P **P 11 02 59.8 +2.3**
NIE *e*PcP **PcP 11 03 15.3 -2.1**
NIE Niedzica 71.19 42 P **P 11 03 00.2 +2.6**
OHR Ohrid 71.54 51 *i* P **P 11 03 02.1 +2.2**
KBN Korca 71.55 51 IAmb IAmb 11 03 10.6
comp=Z,143nm,1.2s
WRAK Wrangell Islan 71.56 325 P **P 11 03 00.2 +0.7**
baz=94,SNR=8.6
MMPY Sheldon Lake, 71.60 332 P **P 11 03 00.0 +0.2**
baz=97,SNR=9.5
CRAG Craig 71.94 324 IAmb IAmb 11 03 04.0
comp=Z,91nm,1.3s
CRAG Craig 71.94 324 P **P 11 03 02.2 +0.4**
baz=93,SNR=5.7
CRVS Cervenica-Dubn 71.94 43 *e*P **P 11 03 03.6 +1.5**
CRVS pmax pmax
comp=Z,49nm,1.1s
CRVS Cervenica-Dubn 71.94 43 *e*P **P 11 03 03.6 +1.5**
SKO Skopje 72.00 50 *i* P **P 11 03 03.8 +1.2**
BZS Buzias 72.05 46 ⇑P **P 11 03 04.1 +1.3**
BZS Buzias 72.05 46 ⇑P **P 11 03 04.1 +1.3**
MDVR Moldovita 72.13 47 ⇑P **P 11 03 04.3 +0.9**
TRO Tromso 72.47 21 *e*P **P 11 03 05.7 +0.9**
UZH Uzhgorod 72.49 43 *e*P **P 11 03 03.9 -1.4**
UZH *i* 11 03 05.6
UZH *e* 11 03 10.6
UZH *e* 11 03 21.6
UZH *e*S **S 11 12 25.3 -2.4**
FARO Faro, Yukon 72.52 331 P **P 11 03 05.8 +0.5**
baz=95,SNR=57
STIP Stip 72.56 50 *i* P **P 11 03 08.0 +2.0**
ITM Ithomi 72.59 55 IAmb IAmb 11 03 25.1
comp=Z,71nm,0.9s
HERR Herculane 72.63 47 ⇑P **P 11 03 07.1 +0.8**
KWP Kalwaria Pacla 72.76 42 *e*P **P 11 03 08.5 +1.5**
KWP *e*PcP **PcP 11 03 24.1 -0.1**
DRGR 72.80 45 ⇑P **P 11 03 08.1 +0.8**
DRGR 72.80 45 ⇑P **P 11 03 08.1 +0.8**
VAY Valandovo 72.87 51 *i* P **P 11 03 08.9 +1.2**
GZR Gura Zlata 72.87 46 ⇑P **P 11 03 08.7 +1.0**
GZR Gura Zlata 72.87 46 ⇑P **P 11 03 08.7 +1.0**
KBS Kingsbay 72.95 11 *ce*P **P 11 03 08.8 +1.3**
KBS pmax pmax
comp=Z,47nm,1.3s
KBS Kingsbay 72.95 11 P **P 11 03 08.7 +1.3**
KBS IAmb IAmb 11 03 25.8
comp=Z,58nm,0.9s
KBS Kingsbay 72.95 11 *i* P **P 11 03 08.1 +0.6**
KBS IAmb IAmb 11 03 25.3
comp=Z,86nm,0.8s
KBS Kingsbay 72.95 11 *e*P **P 11 03 08.7 +1.2**
DEV Deva 72.95 46 P **P 11 03 10.5 +2.4**
JETT Jettan, Norway 72.98 21 *e*P **P 11 03 08.5 +0.6**
M31M Drury Creek, Y 73.01 331 IAmb IAmb 11 03 10.5
comp=Z,240nm,1.8s
M31M IAMs_20 IAMs_20 11 30 37.7
comp=Z,1µm,22.0s
M31M Drury Creek, Y 73.01 331 P **P 11 03 09.0 +0.8**
baz=94,SNR=49
BESE Bessie Mountai 73.03 327 P **P 11 03 08.9 +0.5**
SUW Suwalki 73.08 37 P **P 11 03 09.3 +0.6**
SUW pmax pmax
comp=Z,159nm,1.6s
SUW Suwalki 73.08 37 P **P 11 03 09.3 +0.6**
SUW IAmb IAmb 11 03 25.8
comp=Z,159nm,1.6s
HSPB Hornsund (broa 73.10 13 *e*P **P 11 03 08.9 +0.5**
HSPB *e*PcP **PcP 11 03 26.0 +1.0**
HSPB Hornsund (broa 73.10 13 *e*P **P 11 03 10.2 +1.9**
WHY Whitehorse 73.15 330 P **P 11 03 09.5 +0.3**
WHY IAmb IAmb 11 03 10.9
comp=Z,97nm,1.5s
WHY Whitehorse 73.15 330 P **P 11 03 09.3 +0.2**
baz=93,SNR=27
INK Inuvik 73.22 338 P **P 11 03 08.6 -0.6**
comp=Z,74nm,0.9s,baz=79,slow=5.5,SNR=244
INK LR LR 11 33 00.4
comp=Z,2µm,21.5s,baz=90,slow=34
INK Inuvik 73.22 338 P **P 11 03 08.7 -0.5**
baz=97,SNR=126
KKB Krupnik 73.23 50 P **P 11 03 11.8 +1.9**
SIT Sitka 73.23 326 P **P 11 03 10.4 +0.9**
baz=92,SNR=8.8
VTS Vitosha 73.31 49 ⇑P **P 11 03 11.8 +1.3**
VTS Vitosha 73.31 49 ⇑P **P 11 03 11.8 +1.3**
VTS Vitosha 73.31 49 P **P 11 03 11.6 +1.1**
SKAG Skagway 73.31 328 IAmb IAmb 11 03 12.2
comp=Z,108nm,1.5s
SKAG Skagway 73.31 328 P **P 11 03 10.8 +0.8**
baz=92,SNR=27
PABE Paberze 73.56 36 IAmb IAmb 11 03 35.6
comp=Z,86nm,1.1s
PABE IAMs_20 IAMs_20 11 31 13.9
comp=Z,1µm,20.0s
LOT Lotru 73.57 46 ⇑P **P 11 03 13.0 +1.1**
SPA0 Spitsbergen Ar 73.58 12 *e*P **P 11 03 12.1 +0.8**
SPITS Spitsbergen Ar 73.58 12 LR LR 11 33 06.3
comp=Z,322nm,18.2s,baz=6.0,slow=34
SPITS Spitsbergen Ar 73.58 12 P **P 11 03 12.1 +0.8**
SPITS pmax pmax
comp=Z,62nm,1.0s
SPB2 Spitsbergen Ar 73.58 12 P **P 11 03 12.0 +0.8**
LVV L'vov 73.62 42 *e*P **P 11 03 12.0 0.0**
LVV *e*S **SKiKP 11 12 36.0 -4.2**
LVV MLR MLR
comp=Z,340nm,18.0s
N31M Braeburn, Yuko 73.62 331 IAMs_20 IAMs_20 11 31 59.0
comp=Z,2µm,21.0s
N31M Braeburn, Yuko 73.62 331 P **P 11 03 12.6 +0.8**
baz=92,SNR=100
MPEP Malo Peshtene 73.64 48 P **P 11 03 14.2 +2.0**
MMB Musomiste 73.72 50 P **P 11 03 14.5 +1.7**
KTK1 Kautokeino 73.91 22 *e*P **P 11 03 13.9 +0.5**
ARCR ARCALIA 73.91 45 ⇑P **P 11 03 14.3 +0.5**
PGB Panagyurishte 74.00 49 P **P 11 03 15.6 +1.2**
M30M Minto, Yukon 74.14 332 P **P 11 03 15.3 +0.4**
baz=92,SNR=52
ARR Arges 74.18 46 ⇑P **P 11 03 16.1 +0.6**
HAMF Hammerfest 74.22 20 *e*P **P 11 03 15.7 +0.6**
EPYK Eagle Plains 74.28 336 IAmb IAmb 11 03 16.4
comp=Z,87nm,1.4s
EPYK Eagle Plains 74.28 336 P **P 11 03 15.1 -0.5**
baz=93
HYT Haines Junctio 74.44 330 IAmb IAmb 11 03 19.2
comp=Z,140nm,1.3s
HYT Haines Junctio 74.44 330 P **P 11 03 17.8 +1.0**
baz=91,SNR=62
RZN Rozhen 74.46 50 P **P 11 03 18.7 +1.4**
BUR08 Bucovina Ar. S 74.47 44 IAmb IAmb 11 03 27.3
comp=Z,133nm,1.1s
VOIR 74.47 46 ⇑P **P 11 03 18.3 +1.2**
VOIR 74.47 46 ⇑P **P 11 03 18.3 +1.2**
HUMR Humele 74.47 47 ⇓P **P 11 03 18.3 +1.2**
BUR01 Bucovina Ar. S 74.48 44 ⇑P **P 11 03 18.9 +1.7**
BURAR Bucovina Array 74.48 44 ⇑P **P 11 03 18.8 +1.6**
BURAR Bucovina Array 74.48 44 ⇑P **P 11 03 18.8 +1.6**
BURAR Bucovina Array 74.48 44 P **P 11 03 18.5 +1.3**
BURAR IAmb IAmb 11 03 27.7
comp=Z,91nm,0.9s
DOPR Dopca 74.68 46 ⇑P **P 11 03 19.2 +0.9**
FINES FINESS Array B 74.73 30 P **P 11 03 18.3 +0.1**
comp=Z,18nm,0.7s,baz=257,slow=4.0,SNR=54
FINES LR LR 11 32 06.6
comp=Z,1µm,18.7s,baz=282,slow=32
FINES FINESS Array B 74.73 30 P **P 11 03 18.2 0.0**
ARA0 ARCESS Array S 74.76 21 *e*P **P 11 03 18.7 +0.4**
ARCES ARCESS Array B 74.76 21 P **P 11 03 18.4 +0.1**
comp=Z,41nm,0.9s,baz=251,slow=5.4,SNR=51
ARCES LR LR 11 29 25.1
comp=Z,1µm,21.3s,baz=280,slow=30
ARCES ARCESS Array B 74.76 21 P **P 11 03 18.6 +0.3**
ARCES pmax pmax
comp=Z,62nm,1.1s
ARCES ARCESS Array B 74.76 21 P **P 11 03 18.6 +0.3**
J29M Klondike Camp 74.83 334 P **P 11 03 19.6 +0.7**
baz=91,SNR=19
YUK6 Outpost Mounta 74.86 330 P **P 11 03 20.4 +1.1**
baz=90,SNR=52
I29M Ogilvie Camp, 74.89 335 IAMs_20 IAMs_20 11 31 35.2
comp=Z,1µm,22.0s
I29M Ogilvie Camp, 74.89 335 P **P 11 03 18.5 -0.6**
baz=91,SNR=30
OZUR 74.95 45 ⇑P **P 11 03 20.4 +0.5**
KDZ Kurdzhali 74.98 50 P **P 11 03 20.7 +0.6**
YUK4 Talbot Arm 75.00 330 P **P 11 03 20.6 +0.5**
baz=90,SNR=46
DIM Dimitrovgrad 75.04 50 P **P 11 03 21.9 +1.5**
VSU Vasula 75.07 33 *i* P **P 11 03 20.1 -0.1**
VSU pmax pmax
comp=Z,132nm,0.9s
MLR Muntele Rosu 75.10 46 ⇓P **P 11 03 22.3 +1.5**
MLR Muntele Rosu 75.10 46 LR LR 11 31 48.0
comp=Z,860nm,21.1s,baz=266,slow=32
MLR Muntele Rosu 75.10 46 ⇓P **P 11 03 22.3 +1.5**
IDI Anoyia 75.13 57 ⇑P **P 11 03 22.4 +1.2**
IDI Anoyia 75.13 57 LR LR 11 33 14.4
comp=Z,213nm,21.6s,baz=270,slow=33
IDI Anoyia 75.13 57 *e*P **P 11 03 22.4 +1.2**
IDI Anoyia 75.13 57 IAmb IAmb 11 03 31.2
comp=Z,174nm,1.1s
HOPEN Hopen 75.16 14 *e*P **P 11 03 20.9 +0.5**
NACGM Naroch 75.18 36 *e*P **P 11 03 21.1 +0.1**
SZH Strazhica 75.24 48 P **P 11 03 22.4 +0.8**
COVR Voineasa-Covas 75.25 46 ⇑P **P 11 03 23.4 +1.8**
KEV Kevo 75.29 21 P **P 11 03 21.2 -0.1**
KEV pmax pmax
comp=Z,103nm,1.4s
KEV Kevo 75.29 21 P **P 11 03 21.2 -0.1**
KEV IAmb IAmb 11 03 40.2
comp=Z,103nm,1.4s
DAWY Dawson 75.34 333 P **P 11 03 22.0 +0.2**
baz=90,SNR=56
NEHR Nehoiu 75.35 46 ⇑P **P 11 03 23.3 +1.1**
PNL Peninsula 75.39 329 P **P 11 03 22.8 +0.7**
baz=89,SNR=12
BCPM Bancas Point 75.50 329 IAmb IAmb 11 03 24.8
comp=Z,100nm,1.2s
BCPM IAMs_20 IAMs_20 11 33 00.8
comp=Z,1µm,21.0s
TESR Tescani 75.52 45 ⇓P **P 11 03 24.1 +1.0**
ISR Istrita 75.54 46 ⇑P **P 11 03 24.3 +1.0**
ISR Istrita 75.54 46 ⇑P **P 11 03 24.3 +1.0**
PLOR Plostina 75.56 46 ⇑P **P 11 03 25.7 +2.3**
PLOR Plostina 75.56 46 ⇑P **P 11 03 25.7 +2.3**
ENEZ Enez 75.61 51 *e*P **P 11 03 24.8 +1.1**
VRI Vrincioaia 75.62 46 ⇑P **P 11 03 24.7 +1.0**
VRI Vrincioaia 75.62 46 *e*P **P 11 03 23.1 -0.6**
VRI Vrincioaia 75.62 46 ⇑P **P 11 03 24.7 +1.0**
JMB Yambol 75.78 49 P **P 11 03 25.6 +0.9**
EZN Ezine 75.83 52 *e*P **P 11 03 25.7 +0.8**
MNK Minsk 75.83 37 *i* P **P 11 03 25.4 +0.7**
MNK *i* 11 03 37.5
MNK *i* 11 06 13.6
MNK *i* PPP PPP 11 08 01.6
MNK *i* S **S 11 13 08.3 +3.4**
MNK *i* SS **SS 11 18 02.0 +5.0**
MNK pmax pmax
comp=Z,41nm,1.1s
MNK pmax pmax
comp=N,24nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=E,124nm,19.0s
MNK MLR MLR
comp=N,1µm,19.0s
MNK MLR MLR
comp=Z,519nm,23.0s
MNK Minsk 75.83 37 *i* P **P 11 03 25.4 +0.7**
comp=E,3.0nm,0.8s
MNK *i* P **P 11 03 25.4 +0.7**
comp=N,24nm,0.8s
MNK *i* P **P 11 03 25.4 +0.7**
comp=Z,41nm,1.1s,baz=274
MNK *i* PcP **pwP 11 03 37.6 -1.4**
MNK *i* PP **PP 11 06 13.6 -1.2**
MNK *i* PPP PPP 11 08 01.7
MNK *i* S **S 11 13 08.3 +3.4**
MNK *i* SS **SS 11 18 02.0 +5.0**
MNK *i* SSS SSS 11 21 24.9
MNK *i* LR LR 11 27 58.1
MNK *i* LRM MLR 11 39 00.7
comp=E,124nm,19.3s
MNK *i* LRM MLR 11 39 18.7
comp=N,1µm,19.4s
MNK *i* LRM MLR 11 39 23.9
comp=Z,519nm,23.2s
YUK3 Moose Creek 75.86 331 P **P 11 03 25.4 +0.4**
baz=88,SNR=51
ERIK Erikli-Kesan 75.89 51 *e*P **P 11 03 26.2 +0.9**
EDRB Edirne 75.96 50 *e*P **P 11 03 26.5 +0.8**
BVCY Beaver Creek 76.03 331 P **P 11 03 26.3 +0.5**
baz=88,SNR=22
EGAK Eagle 76.10 334 IAMs_20 IAMs_20 11 33 06.3
comp=Z,2µm,22.0s
EGAK Eagle 76.10 334 P **P 11 03 25.8 -0.3**
baz=88,SNR=39
LOGN Logan Glacier 76.15 330 IAmb IAmb 11 03 28.8
comp=Z,122nm,1.2s
CTGM Chitina Glacie 76.31 330 IAmb IAmb 11 03 29.9
comp=Z,125nm,1.1s
CTG Chitna Glacier 76.31 330 P **P 11 03 28.6 +1.1**
baz=88,SNR=32
PRD Provadia 76.32 48 P **P 11 03 28.7 +1.0**
BCAR Beaver Creek A 76.44 332 P **P 11 03 28.5 +0.4**
L27K Beaver Creek, 76.45 332 IAmb IAmb 11 03 30.0
comp=Z,27nm,1.8s
L27K Beaver Creek, 76.45 332 P **P 11 03 28.5 +0.4**
baz=88,SNR=50
BARN Barnard Glacie 76.47 330 IAmb IAmb 11 03 30.9
comp=Z,156nm,1.2s
M27K Edge Creek, AK 76.51 331 IAmb IAmb 11 03 30.5
comp=Z,145nm,1.2s
M27K Edge Creek, AK 76.51 331 P **P 11 03 29.1 +0.5**
baz=87,SNR=54
ICOR Ion Corvin 76.52 47 P **P 11 03 29.9 +1.1**
GRNC Granite Creek 76.53 330 IAmb IAmb 11 03 31.0
comp=Z,78nm,1.3s
GRNC IAMs_20 IAMs_20 11 37 10.9
comp=Z,1µm,20.0s
SORM Soroca 76.55 43 ⇓P **P 11 03 28.7 -0.2**
SORM Soroca 76.55 43 ⇓P **P 11 03 28.7 -0.2**
CFR Carcaliu 76.66 46 ⇑P P 11 03 22.8 -6.8
CFR Carcaliu 76.66 46 ⇑P P 11 03 22.8 -6.8
ISLE Juniper Island 76.82 330 IAmb IAmb 11 03 32.3
comp=Z,136nm,1.6s
ISLE IAMs_20 IAMs_20 11 37 20.7
comp=Z,1µm,19.0s
PUL Pulkovo 76.86 31 *i* P **P 11 03 31.4 +1.0**
PUL pmax pmax
comp=Z,51nm,0.7s
AKASG Malin Array Be 76.90 41 P **P 11 03 30.5 -0.3**
comp=Z,11nm,0.9s,baz=266,slow=4.4,SNR=30
AKASG LR LR 11 32 17.3
comp=Z,420nm,21.4s,baz=269,slow=32
AKASG Malin Array Be 76.90 41 IAmb IAmb 11 04 26.0
comp=Z,86nm,0.8s
AKBB Malin Array Si 76.90 41 *i* P **P 11 03 30.2 -0.6**
KARP Karpathos 76.95 56 *e*P **P 11 03 32.3 +0.8**
KARP Karpathos 76.95 56 IAmb IAmb 11 03 40.5
comp=Z,171nm,1.1s
KIS Kishinev 76.97 44 *e*P **P 11 03 30.7 -0.6**
KIS *e*L L 11 33 09.0
comp=Z,200nm,20.0s
KIS Kishinev 76.97 44 *e*P **P 11 03 31.0 -0.3**
KIS *i* 11 03 38.0
MILM Milestii Mici 76.97 44 ⇑*i*P **P 11 03 30.0 -1.3**
comp=Z,180nm,1.4s
MILM *e*S **S 11 13 15.0 -2.7**
MILM *e*L L 11 31 16.0
MILM LRM MLR 11 33 02.0
comp=Z,500nm,20.0s
MILM Milestii Mici 76.97 44 P **P 11 03 31.5 +0.2**
MILM Milestii Mici 76.97 44*c* *i*P **P 11 03 30.0 -1.3**
MILM *i* 11 03 38.0
MILM *i* 11 03 46.0
MILM *e*S **S 11 13 15.0 -2.7**
MILM pmax pmax
comp=Z,180nm,1.4s
M26K Nabesna, AK 77.03 331 IAMs_20 IAMs_20 11 42 52.8
comp=Z,1µm,21.0s
M26K Nabesna, AK 77.03 331 P **P 11 03 31.4 0.0**
baz=86,SNR=18
BALB Balikesir 77.04 52 *e*P **P 11 03 32.2 +0.4**
BALB Balikesir 77.04 52 IAmb IAmb 11 03 41.3
comp=Z,189nm,1.1s
VALR Valaam 77.04 30*c* *i*P **P 11 03 30.9 -0.5**
VALR pmax pmax
comp=Z,58nm,0.9s
TGL Tana Glacier 77.05 330 IAmb IAmb 11 03 33.5
comp=Z,91nm,1.2s
WAX Waxell Ridge 77.08 329 IAmb IAmb 11 03 34.0
comp=Z,214nm,1.8s
SNH Sunshine Point 77.10 329 IAmb IAmb 11 03 34.4
comp=Z,157nm,1.1s
MCARA McCarthy VSAT 77.11 330 P **P 11 03 32.6 +0.8**
baz=86,SNR=22
DAT Datca 77.14 55 *e*P **P 11 03 32.6 0.0**
L26K Log Cabin Wild 77.15 332 P **P 11 03 32.4 +0.3**
baz=86,SNR=36
J26L Joseph Creek 77.15 334 P **P 11 03 31.6 -0.5**
baz=86,SNR=24

MENT	**Mentasta**	**77.32**	**332**	IAmb	IAmb	11 03 34.7		
	comp=Z,152nm,1.6s							
SCRK	**Sand Creek**	**77.37**	**333**	P	**P**	**11 03 33.1**	**-0.2**	
	baz=86,SNR=24							
BMAR	**Burnt Mountain**	**77.38**	**337**	P	**P**	**11 03 33.4**	**+0.1**	
BMAR					**sP**	**11 03 42.4**	**-1.3**	
BERG	**Berg Lake**	**77.51**	**329**	IAmb	IAmb	11 03 36.3		
	comp=Z,112nm,1.2s							
APA	**Apatity**	**77.68**	**23**	*i*P	**P**	**11 03 34.4**	**-0.5**	
APA				*i*		11 03 51.5		
APA				*i*		11 06 29.0		
APA				*i* PPP	PPP	11 08 24.0		
APA				*i* S	**S**	**11 13 22.0**	**-2.7**	
APA				*i* PS	**pS**	**11 13 37.0**	**+2.7**	
APA				pmax	pmax			
	comp=Z,17nm,0.9s							
RIDG	**Independent Ri**	**77.77**	**333**	P	**P**	**11 03 35.3**	**-0.2**	
	baz=85,SNR=11							
ISK	**Istanbul-Kandi**	**77.77**	**50**	*e*P	**P**	**11 03 36.6**	**+0.7**	
HMT	**Hamilton**	**77.79**	**329**	IAmb	IAmb	11 03 37.6		
	comp=Z,66nm,1.1s							
N25K	**Chitina, Valde**	**77.84**	**331**	P	**P**	**11 03 36.3**	**+0.3**	
	baz=85,SNR=12							
BMRM	**Bremner River**	**77.90**	**330**	IAmb	IAmb	11 03 38.0		
	comp=Z,138nm,1.5s							
BMRM	**Bremner River**	**77.90**	**330**	P	**P**	**11 03 36.3**	**0.0**	
	baz=85,SNR=10							
KAIM	**Kayak Island**	**77.91**	**329**	P	**P**	**11 03 36.2**	**-0.1**	
	baz=84							
PMSA	**Palmer Station**	**77.98**	**184**	LR	LR	11 39 53.9		
	comp=Z,894nm,19.1s,baz=6.0,slow=37							
DALY	**Dalyan (Mula)**	**77.99**	**55**	*e*P	**P**	**11 03 37.3**	**+0.1**	
HARP	**HAARP**	**78.03**	**332**	P	**P**	**11 03 37.0**	**+0.1**	
	baz=84,SNR=14							
PAX	**Paxson**	**78.12**	**332**	P	**P**	**11 03 37.1**	**-0.5**	
	baz=84,SNR=14							
LVZ	**Lovozero**	**78.13**	**23**	*i* P	**P**	**11 03 38.5**	**+1.1**	
LVZ				pmax	pmax			
	comp=Z,46nm,1.3s							
TVSB	**Tavsanli**	**78.28**	**52**	*e*P	**P**	**11 03 39.7**	**+0.8**	
FETY	**Fethiye**	**78.35**	**55**	*e*P	**P**	**11 03 38.9**	**-0.4**	
KLU	**Klutina**	**78.48**	**331**	P	**P**	**11 03 39.5**	**-0.1**	
	baz=84,SNR=7.1							
EYAK	**Cordova Ski Ar**	**78.50**	**330**	IAmb	IAmb	11 03 41.4		
	comp=Z,116nm,1.6s							
EYAK	**Cordova Ski Ar**	**78.50**	**330**	P	**P**	**11 03 40.0**	**+0.5**	
	baz=84							
M24K	**Tolsona, Glenn**	**78.53**	**331**	P	**P**	**11 03 39.7**	**-0.1**	
	baz=84							
IL31		**78.55**	**334**	IAmb	IAmb	11 03 40.7		
	comp=Z,68nm,1.1s							
ILAR	**Eielson Array**	**78.55**	**334**	P	**P**	**11 03 39.2**	**-0.6**	
	comp=Z,25nm,0.9s,baz=94,slow=4.8,SNR=169							
ILAR				LR	LR	11 38 13.7		
	comp=Z,831nm,19.2s,baz=90,slow=36							
ILAR	**Eielson Array**	**78.55**	**334**	P	**P**	**11 03 39.1**	**-0.7**	
POKR	**Poker Plat Res**	**78.74**	**334**	IAmb	IAmb	11 03 42.1		
	comp=Z,205nm,1.6s							
POKR				IAMs_20	IAMs_20	11 36 46.9		
	comp=Z,942nm,20.0s							
POKR	**Poker Plat Res**	**78.74**	**334**	P	**P**	**11 03 40.7**	**-0.1**	
	baz=83,SNR=8.6							
AKAS	**Kas**	**78.83**	**55**	*e*P	**P**	**11 03 42.8**	**+0.8**	
AKAS	**Kas**	**78.83**	**55**	IAmb	IAmb	11 03 51.3		
	comp=Z,119nm,1.2s							
FID	**Port Fidalgo**	**78.84**	**330**	IAMs_20	IAMs_20	11 36 52.5		
	comp=Z,2µm,21.0s							
H24K	**Noodor Dome**	**78.84**	**335**	IAmb	IAmb	11 03 42.9		
	comp=Z,115nm,1.2s							
H24K	**Noodor Dome**	**78.84**	**335**	P	**P**	**11 03 41.5**	**+0.1**	
	baz=83,SNR=52							
Q23K	**Middleton Isla**	**78.94**	**329**	P	**P**	**11 03 42.9**	**+0.9**	
	baz=83							
GULT	**Gulveren**	**78.95**	**51**	*e*P	**P**	**11 03 43.5**	**+0.9**	
COLA	**College**	**78.95**	**334**	*c i*P	**P**	**11 03 41.1**	**-0.8**	
COLA				pmax	pmax			
	comp=Z,135nm,1.4s							
COLA	**College**	**78.95**	**334**	P	**P**	**11 03 41.8**	**-0.1**	
COLA				IAmb	IAmb	11 03 43.0		
	comp=Z,106nm,1.1s							
COLA	**College**	**78.95**	**334**	IAMs_20	IAMs_20	11 38 02.6		
	comp=Z,896nm,19.0s							
COLA	**College**	**78.95**	**334**	P	**P**	**11 03 41.8**	**-0.1**	
	baz=82							
TCOL	**CIGO, UAF Yank**	**78.95**	**334**	IAmb	IAmb	11 03 43.0		
	comp=Z,106nm,1.1s							
TCOL				IAMs_20	IAMs_20	11 38 02.6		
	comp=Z,968nm,19.0s							
TCOL	**CIGO, UAF Yank**	**78.95**	**334**	P	**P**	**11 03 41.7**	**-0.3**	
	baz=82,SNR=12							
CCB	**Clear Creek Bu**	**78.96**	**334**	IAMs_20	IAMs_20	11 40 20.7		
	comp=Z,1µm,20.0s							
DHY	**Denali Highway**	**78.97**	**332**	P	**P**	**11 03 41.9**	**-0.4**	
	baz=83,SNR=8.9							
BORA	**Eskisehir**	**78.98**	**51**	IAmb	IAmb	11 03 52.1		
	comp=Z,87nm,1.1s							
ELL	**Elmali**	**78.99**	**55**	*e*P	**P**	**11 03 44.8**	**+1.9**	
MDM	**Murphy Dome**	**79.10**	**334**	IAmb	IAmb	11 03 43.8		
	comp=Z,185nm,1.3s							
WRH	**Wood River Hil**	**79.10**	**334**	IAmb	IAmb	11 03 43.6		
	comp=Z,70nm,1.1s							
SCM	**Sheep Creek Mo**	**79.11**	**331**	IAmb	IAmb	11 03 44.0		
	comp=Z,76nm,1.1s							
SCM	**Sheep Creek Mo**	**79.11**	**331**	P	**P**	**11 03 42.8**	**-0.2**	
	baz=82,SNR=9.4							
TOLK	**Toolik Lake Re**	**79.11**	**338**	P	**P**	**11 03 43.3**	**+0.4**	
	baz=82,SNR=24							
GLI	**Glacier Island**	**79.12**	**330**	P	**P**	**11 03 42.8**	**-0.1**	
	baz=82							
WAT6	**Susitna Watana**	**79.20**	**332**	P	**P**	**11 03 43.0**	**-0.5**	
	baz=82,SNR=14							
SHUT	**Suhut-Afyon**	**79.24**	**53**	*e*P	**P**	**11 03 45.5**	**+1.3**	
TSUM	**Tsumeb**	**79.28**	**113**	P	**P**	**11 03 45.3**	**+0.6**	
	comp=Z,6.7nm,0.6s,baz=284,slow=5.8,SNR=15							
TSUM				LR	LR	11 30 47.4		
	comp=Z,1µm,22.0s,baz=328,slow=30							
TSUM	**Tsumeb**	**79.28**	**113**	P	**P**	**11 03 45.1**	**+0.3**	
TSUM	**Tsumeb**	**79.28**	**113**	IAMs_20	IAMs_20	11 30 46.9		
	comp=Z,1µm,21.0s							
KORT	**Korkueli**	**79.31**	**54**	*e*P	**P**	**11 03 46.2**	**+1.5**	
ISP	**Isparta**	**79.32**	**54**	*i* P	**P**	**11 03 44.7**	**0.0**	
ISP				pmax	pmax			
	comp=Z,35nm,1.4s							
MDUB	**Mudurnu**	**79.46**	**51**	*e*P	**P**	**11 03 46.2**	**+0.8**	
NEA2	**Nenana**	**79.50**	**334**	IAmb	IAmb	11 03 46.0		
	comp=Z,127nm,1.1s							
NEA2				IAMs_20	IAMs_20	11 36 10.2		
	comp=Z,1µm,21.0s							
NEA2	**Nenana**	**79.50**	**334**	P	**P**	**11 03 44.7**	**-0.3**	
	baz=81,SNR=73							
CIFT	**Ciftler, Eski**	**79.52**	**52**	*e*P	P	11 03 53.9	+8.2	
H23K	**Yukon River**	**79.52**	**335**	IAmb	IAmb	11 03 46.8		
	comp=Z,122nm,1.4s							
H23K	**Yukon River**	**79.52**	**335**	P	**P**	**11 03 45.5**	**+0.4**	
	baz=81,SNR=38							
I23K	**Minto, Yukon-K**	**79.55**	**335**	IAmb	IAmb	11 03 46.4		
	comp=Z,98nm,1.2s							
I23K				IAMs_20	IAMs_20	11 37 20.1		
	comp=Z,1µm,21.0s							
I23K	**Minto, Yukon-K**	**79.55**	**335**	P	**P**	**11 03 45.1**	**0.0**	
	baz=81,SNR=53							
COLD	**Coldfoot**	**79.56**	**337**	P	**P**	**11 03 45.8**	**+0.5**	
	baz=81,SNR=27							
MCK	**McKinley**	**79.58**	**333**	P	**P**	**11 03 45.1**	**-0.3**	
	baz=81,SNR=17							
SML	**Sawmill**	**79.58**	**331**	P	**P**	**11 03 45.3**	**-0.3**	
	baz=82,SNR=5.4							
RND	**Reindeer**	**79.59**	**333**	IAmb	IAmb	11 03 47.1		
	comp=Z,147nm,1.5s							
KNK	**Knik Glacier**	**79.70**	**331**	P	**P**	**11 03 46.1**	**0.0**	
	baz=81,SNR=5.3							
PWL	**Port Wells**	**79.72**	**330**	IAmb	IAmb	11 03 47.7		
	comp=Z,95nm,1.4s							
PWL	**Port Wells**	**79.72**	**330**	P	**P**	**11 03 46.5**	**+0.2**	
	baz=81							
BWN	**Browne**	**79.74**	**334**	IAmb	IAmb	11 03 47.1		
	comp=Z,156nm,1.1s							
SVRH	**Sivrihisar-ESK**	**79.86**	**52**	*e*P	**P**	**11 03 48.1**	**+0.6**	
GHO	**Glory Hole Cre**	**79.87**	**331**	IAmb	IAmb	11 03 48.4		
	comp=Z,81nm,1.3s							
PMR	**Palmer**	**79.99**	**331**	P	**P**	**11 03 47.5**	**-0.1**	
	baz=81,SNR=6.9							
TRF	**Thorofare Moun**	**80.22**	**333**	IAmb	IAmb	11 03 51.6		
	comp=Z,119nm,1.0s							
TRF	**Thorofare Moun**	**80.22**	**333**	P	**P**	**11 03 49.3**	**+0.2**	
	baz=80,SNR=32							
RC01	**Rabbit Creek A**	**80.36**	**331**	P	**P**	**11 03 49.9**	**+0.2**	
	baz=80							
CUT	**Chulitna**	**80.39**	**332**	IAmb	IAmb	11 03 51.1		
	comp=Z,158nm,1.2s							
CUT	**Chulitna**	**80.39**	**332**	P	**P**	**11 03 49.9**	**+0.1**	
	baz=80,SNR=9.2							
SEW	**Seward**	**80.39**	**330**	P	**P**	**11 03 49.9**	**+0.1**	
	baz=80							
BPAW	**Bear Paw Mtn.**	**80.41**	**334**	IAmb	IAmb	11 03 50.8		
	comp=Z,124nm,1.2s							
BPAW				IAMs_20	IAMs_20	11 36 14.1		
	comp=Z,1µm,22.0s							
BPAW	**Bear Paw Mtn.**	**80.41**	**334**	P	**P**	**11 03 49.7**	**-0.3**	
	baz=80,SNR=54							
M22K	**Willow**	**80.43**	**331**	IAmb	IAmb	11 03 51.2		
	comp=Z,129nm,1.1s							
M22K	**Willow**	**80.43**	**331**	P	**P**	**11 03 49.8**	**-0.2**	
	baz=80,SNR=7.7							
O22K	**Cooper Landing**	**80.46**	**330**	P	**P**	**11 03 50.3**	**+0.1**	
	baz=80							
KTH	**Kantishna Hill**	**80.48**	**333**	IAmb	IAmb	11 03 51.7		
	comp=Z,172nm,1.2s							
I21K	**Tanana**	**80.63**	**335**	IAmb	IAmb	11 03 52.4		
	comp=Z,194nm,1.9s							
I21K	**Tanana**	**80.63**	**335**	P	**P**	**11 03 50.8**	**-0.2**	
	baz=79,SNR=25							
LADK	**Ladik-KONYA**	**80.70**	**53**	*e*P	**P**	**11 03 53.0**	**+0.8**	
ANTO	**Ankara**	**80.76**	**51**	P	**P**	**11 03 52.6**	**+0.2**	
ANTO				pmax	pmax			
	comp=Z,122nm,1.4s							
ANTO	**Ankara**	**80.76**	**51**	P	**P**	**11 03 52.6**	**+0.2**	
ANTO				IAmb	IAmb	11 04 03.0		
	comp=Z,122nm,1.4s							
OBN	**Obninsk**	**80.76**	**36**	LR	LR	11 34 46.2		
	comp=Z,327nm,21.7s,baz=308,slow=32							
OBN	**Obninsk**	**80.76**	**36**	*c i*P	**P**	**11 03 52.3**	**+0.4**	
OBN				*i*		11 03 59.5		
OBN				*i*		11 06 55.8		
OBN				*i* S	**S**	**11 13 52.7**	**-5.1**	
OBN				pmax	pmax			
	comp=Z,85nm,1.2s							
OBN				MLR	MLR			
	comp=Z,390nm,17.0s							
OBN	**Obninsk**	**80.76**	**36**	IAMs_20	IAMs_20	11 34 32.3		
	comp=Z,1µm,21.0s							
H21K	**Melozitna Rive**	**80.88**	**335**	IAmb	IAmb	11 03 54.0		
	comp=Z,136nm,1.4s							
H21K	**Melozitna Rive**	**80.88**	**335**	P	**P**	**11 03 52.6**	**+0.2**	
	baz=78,SNR=44							
SIM	**Simferopol'**	**80.89**	**46**	*e*P	**P**	**11 03 52.5**	**-0.4**	
SIM				*e*		11 03 53.9		
SIM				*e*		11 04 01.0		
SIM				*e*S	**S**	**11 13 52.0**	**-7.7**	
SIM				pmax	pmax			
	comp=Z,64nm,1.1s							
A21K	**Barrow**	**80.97**	**341**	P	**P**	**11 03 54.1**	**+1.3**	
	baz=76							
GAZI	**Gazipasa**	**80.99**	**55**	*e*P	**P**	**11 03 53.2**	**-0.4**	
CAST	**Castle Rocks**	**81.02**	**333**	IAmb	IAmb	11 03 54.1		
	comp=Z,114nm,1.5s							
CAST	**Castle Rocks**	**81.02**	**333**	P	**P**	**11 03 52.7**	**-0.5**	
	baz=78,SNR=26							
CHUM	**Lake Minchumin**	**81.03**	**334**	P	**P**	**11 03 52.9**	**-0.3**	
	baz=78,SNR=36							
AFSR	**Afar-Bala (An**	**81.04**	**52**	*e*P	**P**	**11 03 54.9**	**+1.0**	
PPLA	**Purkeypile**	**81.17**	**333**	IAmb	IAmb	11 03 56.4		
	comp=Z,251nm,1.6s							
PPLA	**Purkeypile**	**81.17**	**333**	P	**P**	**11 03 54.0**	**-0.2**	
	baz=78,SNR=13							
IMAR	**Indian Mountai**	**81.19**	**336**	P	**P**	**11 03 54.3**	**+0.2**	
MOS	**Moscow**	**81.24**	**35**	*e*P	**P**	**11 03 53.8**	**-0.7**	
MOS				*e*		11 04 01.0		
MOS				*e*S	**S**	**11 14 02.6**	**-0.3**	
MOS				pmax	pmax			
	comp=Z,98nm,1.3s							
CANT	**Cankiri**	**81.26**	**50**	*e*P	**P**	**11 03 56.3**	**+1.3**	
KLMR	**Klimovskoe**	**81.26**	**30**	*e*P	**P**	**11 03 52.1**	**-2.4**	
KLMR				*e*		11 06 56.4		
KLMR				pmax	pmax			
	comp=Z,77nm,1.5s							
KLMR	**Klimovskoe**	**81.26**	**30**	*e*P	**P**	**11 03 52.1**	**-2.4**	
KLMR				AMP		11 03 55.6		
	comp=Z,77nm,1.5s							
KLMR				*e*PP	**PP**	**11 06 56.5**	**-3.4**	
BZK	**Bozkurt**	**81.31**	**49**	*e*P	**P**	**11 03 55.0**	**-0.1**	
BR131	**Keskin Array S**	**81.42**	**51**	*c i*P	**P**	**11 03 56.0**	**-0.1**	
BR131	**Keskin Array S**	**81.42**	**51**	IAmb	IAmb	11 04 05.3		
	comp=Z,70nm,1.1s							
BRTR	**Keskin Array B**	**81.42**	**51**	P	**P**	**11 03 56.4**	**+0.3**	
	comp=Z,27nm,0.9s,baz=266,slow=3.7,SNR=64							
BRTR				LR	LR	11 36 59.2		
	comp=Z,337nm,20.1s,baz=268,slow=33							
BRTR	**Keskin Array B**	**81.42**	**51**	*e*P	**P**	**11 03 55.9**	**-0.1**	
SPCR	**Spur Chakacha**	**81.52**	**331**	P	**P**	**11 03 55.8**	**-0.2**	
	baz=78,SNR=8.8							
HOM	**Homer**	**81.56**	**329**	P	**P**	**11 03 56.7**	**+0.7**	
	baz=78							
TEKE	**Tekeli-Mersin**	**81.64**	**55**	*e*P	**P**	**11 03 57.3**	**+0.3**	
BERE	**Bereket-Mersin**	**81.69**	**55**	*e*P	**P**	**11 03 58.6**	**+1.1**	
YAYX	**Yaylak**	**81.69**	**52**	*e*P	**P**	**11 03 57.5**	**+0.1**	
J20K	**Nowinta River**	**81.75**	**334**	P	**P**	**11 03 56.5**	**-0.5**	
	baz=77,SNR=25							
K20K	**Telida**	**81.90**	**333**	IAmb	IAmb	11 03 58.9		
	comp=Z,184nm,1.1s							
K20K				IAMs_20	IAMs_20	11 39 11.6		
	comp=Z,1µm,20.0s							
K20K	**Telida**	**81.90**	**333**	P	**P**	**11 03 57.6**	**-0.2**	
	baz=77,SNR=76							
O20K	**Slope Mountain**	**81.95**	**330**	P	**P**	**11 03 58.3**	**+0.1**	
	baz=78							
AKKU	**Akkuyu-Mersin**	**81.99**	**55**	*e*P	**P**	**11 03 59.7**	**+0.9**	
L20K	**Farewell, AK**	**82.02**	**332**	P	**P**	**11 03 58.2**	**-0.4**	
	baz=77,SNR=7.0							
CSS	**Mathiatis**	**82.03**	**56**	*e*P	**P**	**11 04 00.0**	**+0.9**	
KEBE	**Keten-Mersin**	**82.06**	**54**	*e*P	**P**	**11 03 59.9**	**+0.6**	
IKL	**Isikli**	**82.08**	**55**	*e*P	**P**	**11 04 00.1**	**+0.8**	
LFK	**Lefkose**	**82.13**	**56**	*e*P	**P**	**11 04 00.8**	**+1.1**	
P19K	**Oil Pt**	**82.35**	**329**	P	**P**	**11 04 00.8**	**+0.5**	
	baz=77							
M19K	**Big River Lodg**	**82.39**	**332**	IAMs_20	IAMs_20	11 46 34.5		
	comp=Z,1µm,20.0s							
M19K	**Big River Lodg**	**82.39**	**332**	P	**P**	**11 04 00.6**	**+0.2**	
	baz=76							
KDAK	**Kodiak Island**	**82.43**	**328**	P	**P**	**11 04 01.2**	**+0.5**	
	comp=Z,72nm,0.8s,baz=114,slow=5.9,SNR=13							
KDAK				LR	LR	11 41 23.9		
	comp=Z,832nm,18.4s,baz=87,slow=36							
KDAK	**Kodiak Island**	**82.43**	**328**	*i* P	**P**	**11 04 01.0**	**+0.3**	
KDAK				pmax	pmax			
	comp=Z,291nm,1.4s							
KDAK	**Kodiak Island**	**82.43**	**328**	P	**P**	**11 04 01.6**	**+0.9**	
KDAK				IAmb	IAmb	11 04 02.6		
	comp=Z,142nm,1.1s							
KDAK	**Kodiak Island**	**82.43**	**328**	P	**P**	**11 04 01.3**	**+0.7**	
	baz=77							
L19K	**White Mountain**	**82.53**	**332**	IAmb	IAmb	11 04 02.3		
	comp=Z,81nm,1.0s							
L19K	**White Mountain**	**82.53**	**332**	P	**P**	**11 04 01.1**	**-0.1**	
	baz=76,SNR=29							
EREN	**Erenkoy**	**82.60**	**55**	*e*P	**P**	**11 04 02.6**	**+0.6**	
LPSR	**Galich'ya Gora**	**82.61**	**38**	*e*P	**P**	**11 04 01.8**	**+0.1**	
LPSR				pmax	pmax			
	comp=Z,120nm,1.1s							
MERS	**Mersin**	**82.62**	**54**	*e*P	**P**	**11 04 02.2**	**-0.1**	
N19K	**Bonanza Creek**	**82.69**	**331**	IAmb	IAmb	11 04 03.3		
	comp=Z,74nm,0.9s							
N19K	**Bonanza Creek**	**82.69**	**331**	P	**P**	**11 04 02.1**	**-0.1**	
	baz=76,SNR=17							
Q19K	**Cape Douglas,**	**82.72**	**329**	P	**P**	**11 04 02.6**	**+0.3**	
	baz=77,SNR=6.6							
O19K	**Port Alsworth**	**82.76**	**330**	IAmb	IAmb	11 04 03.5		
	comp=Z,120nm,1.0s							
O19K	**Port Alsworth**	**82.76**	**330**	P	**P**	**11 04 02.3**	**-0.1**	
	baz=76,SNR=17							
GCSA	**Galena City Sc**	**82.76**	**335**	P	**P**	**11 04 03.0**	**+0.7**	
	baz=74,SNR=53							
CMRD	**Camardi-Nigde**	**82.84**	**53**	*e*P	**P**	**11 04 03.5**	**0.0**	
TTA	**Tatalina**	**82.86**	**333**	P	**P**	**11 04 02.6**	**-0.4**	
	baz=75,SNR=16							
OHAK	**Old Harbor**	**82.93**	**327**	P	**P**	**11 04 03.9**	**+0.6**	
	baz=77							
VORR	**Voronezh**	**82.97**	**39**	*e*P	**P**	**11 04 04.0**	**+0.4**	
VORR				pmax	pmax			
	comp=Z,89nm,1.3s							
KVT	**Kavak**	**82.98**	**50**	*e*P	**P**	**11 04 04.2**	**+0.2**	
VSR	**Storozhevoye**	**83.04**	**39**	*e*P	**P**	**11 04 03.5**	**-0.5**	
VSR				pmax	pmax			
	comp=Z,60nm,1.1s							
SVW2	**Sparrevohn**	**83.14**	**331**	IAmb	IAmb	11 04 05.5		
	comp=Z,120nm,1.0s							
ANN	**Anapa**	**83.24**	**46**	*e*P	**P**	**11 04 00.9**	**-4.3**	
ANN				*e*		11 07 15.4		
ANN				pmax	pmax			
	comp=Z,103nm,1.0s							
ANN				MLR	MLR			
	comp=Z,630nm,17.0s							
BNN	**Bunyan**	**83.27**	**52**	*e*P	**P**	**11 04 06.3**	**+0.6**	
O18K	**Koktuh Hills**	**83.27**	**330**	P	**P**	**11 04 05.5**	**+0.4**	
	baz=75,SNR=26							
N18K	**Kilae Creek**	**83.39**	**331**	IAmb	IAmb	11 04 06.9		
	comp=Z,132nm,1.1s							
N18K	**Kilae Creek**	**83.39**	**331**	P	**P**	**11 04 05.7**	**+0.1**	
	baz=75,SNR=20							
TOKT	**Tokat**	**83.50**	**50**	*e*P	**P**	**11 04 07.2**	**+0.5**	
KOZT	**Kozan**	**83.53**	**53**	*e*P	**P**	**11 04 07.3**	**+0.4**	
SII	**Sitkinak Islan**	**83.56**	**327**	P	**P**	**11 04 07.1**	**+0.5**	
	baz=76							
SARI	**SarD1z-Kayseri**	**83.80**	**52**	*e*P	**P**	**11 04 09.7**	**+1.3**	
SVSK	**Karacayir**	**83.93**	**51**	*e*P	P	11 04 16.4	+7.6	
PRGR	**Permogore**	**83.94**	**28**	*e*P	P	11 04 00.4	-8.0	
PRGR				pmax	pmax			
	comp=Z,15nm,0.4s							
MMAI	**Mount Meron Ar**	**84.09**	**58**	P	**P**	**11 04 09.5**	**-0.4**	
	comp=Z,9.9nm,0.7s,baz=221,slow=15,SNR=10.0							
MMAI				LR	LR	11 42 06.1		
	comp=Z,245nm,19.4s,baz=97,slow=36							
MMLI	**Mount Malkishu**	**84.22**	**58**	*e*P	**P**	**11 04 12.7**	**+2.1**	
EIL	**Elat**	**84.40**	**61**	LR	LR	11 41 03.1		
	comp=Z,1µm,19.6s,baz=278,slow=35							
EIL	**Elat**	**84.40**	**61**	*e*P	**P**	**11 04 13.3**	**+1.9**	
CHIR	**Chirikof Islan**	**84.53**	**326**	P	**P**	**11 04 12.3**	**+0.8**	
	baz=75							
GHAJ	**Ghor Haditha**	**84.58**	**59**	IAMs_20	IAMs_20	11 41 31.8		
	comp=Z,952nm,21.0s							
DARE	**Darende-Malaty**	**84.58**	**52**	*e*P	**P**	**11 04 13.5**	**+1.2**	
VRH	**Novokhopyorsk**	**84.61**	**39**	*e*P	**P**	**11 04 11.5**	**-0.5**	
VRH				pmax	pmax			
	comp=Z,90nm,1.7s							
SOC	**Sochi**	**85.11**	**47**	*e*P	**P**	**11 04 13.4**	**-1.3**	
SOC				*e*PPP	PPP	11 09 27.4		
SOC				*e*S	**S**	**11 14 37.1**	**-5.5**	
SOC				*e*SS	**SS**	**11 20 21.3**	**+5.3**	
SOC				*e*SSS	SSS	11 23 49.6		
SOC				pmax	pmax			
	comp=Z,81nm,1.0s							
SOC				MLR	MLR			
	comp=Z,277nm,18.0s							
ARPR	**Arapgir-MALATY**	**85.12**	**51**	*e*P	**P**	**11 04 16.8**	**+1.7**	
ASF	**Jabal al Asfar**	**85.50**	**58**	P	**P**	**11 04 16.4**	**-0.6**	
	comp=Z,35nm,0.9s,baz=313,slow=1.0,SNR=6.7							
CHGN	**Chignik**	**85.89**	**327**	P	**P**	**11 04 18.4**	**+0.1**	
	baz=72							
SVRC	**Sivrice-ELAZID**	**86.02**	**52**	*e*P	**P**	**11 04 20.8**	**+1.2**	
SUR	**Sutherland**	**86.15**	**124**	LR	LR	11 35 09.6		
	comp=Z,1µm,20.8s,baz=275,slow=30							
SUR	**Sutherland**	**86.15**	**124**	P	**P**	**11 04 20.3**	**0.0**	
SUR				IAmb	IAmb	11 04 37.9		
	comp=Z,81nm,1.5s							
ANM	**Nome**	**86.27**	**336**	P	**P**	**11 04 20.7**	**+0.7**	
	baz=67,SNR=9.1							
CHOM	**Cayeli-Rize**	**86.45**	**49**	*e*P	**P**	**11 04 21.7**	**+0.2**	
KIRV	**Kirov**	**86.70**	**30**	P	**P**	**11 04 21.6**	**-0.6**	
	comp=Z,12nm,0.8s,baz=283,slow=7.3,SNR=11							
KIRV				LR	LR	11 39 09.1		
	comp=Z,894nm,18.6s,baz=298,slow=33							
KIRV	**Kirov**	**86.70**	**30**	*c e*P	**P**	**11 04 21.4**	**-0.8**	
TNA	**Tin City**	**86.85**	**337**	P	**P**	**11 04 23.8**	**+0.9**	
	baz=65,SNR=7.2							
BNGB	**Bingl**	**86.91**	**51**	*e*P	**P**	**11 04 24.2**	**+0.3**	
MBAR	**Mbarara**	**86.96**	**91**	*i* P	**P**	**11 04 25.3**	**+0.6**	
MBAR	**Mbarara**	**86.96**	**91**	P	**P**	**11 04 24.5**	**-0.2**	
MBAR				IAmb	IAmb	11 04 43.1		
	comp=Z,66nm,1.5s							
MBAR	**Mbarara**	**86.96**	**91**	IAMs_20	IAMs_20	11 42 32.1		
	comp=Z,1µm,18.0s							
GOF	**Gofitskoye**	**87.05**	**44**	*e*P	**P**	**11 04 24.7**	**+0.4**	
KIV	**Kislovodsk**	**87.10**	**46**	*e*P	**P**	**11 04 25.4**	**+0.7**	
KIV				*e*		11 14 52.1		
KIV				pmax	pmax			
	comp=Z,37nm,1.1s							
KIV				pmax	pmax			
	comp=Z,48nm,4.2s							
KIV				MLR	MLR			
	comp=Z,219nm,20.0s							
KIV	**Kislovodsk**	**87.10**	**46**	P	**P**	**11 04 25.6**	**+0.9**	
KVAR	**Kislovodsk Arr**	**87.10**	**46**	P	**P**	**11 04 25.7**	**+1.0**	
	comp=Z,3.6nm,0.5s,baz=266,slow=23,SNR=1.9							
KVAR				LR	LR	11 39 58.5		
	comp=Z,187nm,21.7s,baz=212,slow=33							
MAZI	**Mazidag**	**87.11**	**52**	*e*P	**P**	**11 04 25.6**	**+0.7**	
SHA1	**Shidzhatmaz**	**87.14**	**46**	*c i*P	**P**	**11 04 25.3**	**+0.3**	
SDPT	**Sand Point**	**87.30**	**326**	P	**P**	**11 04 25.6**	**+0.3**	
	baz

GNI	**Garni**	**89.63**	**49**	*ce*P	**P**		**11 04 37.8**	**+0.9**	
GNI				pmax	pmax				
	comp=Z,83nm,1.7s								
VNA1	**Neumayer--Stat**	**89.74**	**166**	P	**P**		**11 04 37.0**	**+0.7**	
VNA3	**Neumayer Olymp**	**89.83**	**166**	P	**P**		**11 04 36.8**	**+0.1**	
VNA2	**Neumayer--Watz**	**90.14**	**166**	P	**P**		**11 04 37.3**	**-0.9**	
	baz=313,slow=4.0								
LODK	**Lodwar**	**90.56**	**86**	IAMs_20	IAMs_20		11 42 43.0		
	comp=Z,777nm,19.0s								
MAK	**Makhachkala**	**90.74**	**46**	*e*P	P		11 04 36.2	-5.5	
MAK				*e*			11 08 14.7		
MAK				*e*			11 15 04.6		
MAK				*e*SSS	SSS		11 25 16.6		
MAK				pmax	pmax				
	comp=Z,103nm,1.0s								
UNV	**Unalaska Valle**	**91.11**	**326**	IAmb	IAmb		11 04 44.3		
	comp=Z,75nm,1.1s								
UNV	**Unalaska Valle**	**91.11**	**326**	P	**P**		**11 04 44.2**	**+1.0**	
	baz=66								
SPIA	**Saint Paul Isl**	**91.58**	**330**	P	**P**		**11 04 45.9**	**+0.6**	
	baz=62								
SNAA	**Sanae**	**91.74**	**165**	P	**P**		**11 04 45.8**	**0.0**	
SNAA	**Sanae**	**91.74**	**165**	LR	LR		11 42 31.1		
	comp=Z,922nm,21.6s,baz=341,slow=33								
SNAA	**Sanae**	**91.74**	**165**	*ce*P	**P**		**11 04 45.1**	**-0.6**	
SNAA				pmax	pmax				
	comp=Z,43nm,3.0s								
ARU	**Arti**	**92.08**	**30**	P	**P**		**11 04 47.9**	**+0.3**	
	comp=Z,1.7nm,0.3s,baz=247,slow=3.7,SNR=6.3								
ARU				LR	LR		11 43 03.3		
	comp=Z,1μm,18.8s,baz=298,slow=34								
ARU	**Arti**	**92.08**	**30**	*d i*P	**P**		**11 04 48.2**	**+0.5**	
ARU							11 08 28.3		
ARU				S	**SKSac**		**11 15 21.1**	**+2.4**	
ARU				SP	SP		11 17 03.1	+5.9	
ARU				pmax	pmax				
	comp=Z,5.0nm,1.4s								
FURI	**Furi**	**92.50**	**80**	IAMs_20	IAMs_20		11 43 07.6		
	comp=Z,1μm,20.0s								
SVE	**Sverdlovsk**	**92.90**	**29**	*e*P	**P**		**11 04 52.2**	**+0.8**	
SVE				pmax	pmax				
	comp=Z,31nm,0.9s								
KMBO	**Kilima Mbogo**	**93.42**	**90**	P	**P**		**11 04 55.6**	**+0.5**	
	comp=Z,0.8nm,0.3s,baz=136,slow=6.5,SNR=3.4								
KMBO				LR	LR		11 46 16.7		
	comp=Z,445nm,18.6s,baz=274,slow=35								
KMBO	**Kilima Mbogo**	**93.42**	**90**	*i* P	**P**		**11 04 57.0**	**+2.0**	
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KMBO	**Kilima Mbogo**	**93.42**	**90**	P	**P**		**11 04 54.2**	**-0.8**	
BILL	**Bilibino**	**93.49**	**345**	*d i*P	**P**		**11 04 53.6**	**-0.3**	
BILL				*i*			11 04 57.6		
BILL				*i*			11 08 35.5		
BILL				*i* SS	SS		11 22 19.8	+3.7	
BILL				pmax	pmax				
	comp=Z,71nm,1.4s								
BILL				MLR	MLR				
	comp=Z,1μm,19.0s								
BILL	**Bilibino**	**93.49**	**345**	P	**P**		**11 04 53.6**	**-0.3**	
BILL				IAmb	IAmb		11 04 55.0		
	comp=Z,62nm,1.2s								
NRIK	**Noril'sk**	**93.78**	**12**	P	**P**		**11 04 54.2**	**-1.0**	
	comp=Z,2.6nm,0.5s,baz=3.2,slow=3.8,SNR=6.8								
NRIK				LR	LR		11 45 34.4		
	comp=Z,378nm,19.1s,baz=6.5,slow=34								
NRIK	**Noril'sk**	**93.78**	**12**	*ce*P	**P**		**11 04 55.0**	**-0.3**	
NRIK				pmax	pmax				
	comp=Z,15nm,1.9s								
KIBK	**Kibwezi**	**94.47**	**91**	IAMs_20	IAMs_20		11 48 07.1		
	comp=Z,955nm,19.0s								
AKTO	**Aktyubinsk**	**94.54**	**36**	P	**P**		**11 04 59.4**	**+0.2**	
	comp=Z,8.4nm,1.0s,baz=316,slow=3.8,SNR=18								
AKTO				LR	LR		11 46 04.1		
	comp=Z,724nm,18.2s,baz=299,slow=35								
TIXI	**Tiksi**	**95.29**	**358**	*ce*P	**P**		**11 05 01.3**	**-0.8**	
TIXI				pmax	pmax				
	comp=Z,36nm,1.3s								
TIXI	**Tiksi**	**95.29**	**358**	P	**P**		**11 05 01.7**	**-0.4**	
TIXI				IAmb	IAmb		11 05 03.0		
	comp=Z,35nm,1.2s								
TIXI				IAMs_20	IAMs_20		11 49 23.8		
	comp=Z,514nm,19.0s								
ATD	**Arta Tunnel**	**95.84**	**77**	LR	LR		11 45 28.8		
	comp=Z,2μm,21.3s,baz=300,slow=34								
ABKAR	**Akbulak array**	**96.19**	**36**	IAmb	IAmb		11 06 23.4		
	comp=Z,22nm,0.3s								
PPT	**Papeete**	**97.24**	**254**	LR	LR		11 44 43.4		
	comp=Z,208nm,20.0s,baz=78,slow=33								
BRVK	**Borovoye**	**99.62**	**30**	*i* P	**Pdif**		**11 05 22.4**	**+0.4**	
BRVK				pmax	pmax				
	comp=Z,6.0nm,1.5s								
SEY	**Seymchan**	**100.97**	**347**	*i* P	**Pdif**		**11 05 28.5**	**+0.7**	
SEY				pmax	pmax				
	comp=Z,12nm,1.1s								
UOSS	**Minazif**	**103.83**	**60**	IAMs_20	IAMs_20		11 53 11.6		
	comp=Z,844nm,20.0s								
YAK	**Yakutsk**	**104.89**	**357**	IAMs_20	IAMs_20		11 52 24.0		
	comp=Z,684nm,20.0s								
KURK	**Kurchatov**	**105.06**	**28**	IAMs_20	IAMs_20		11 50 09.4		
	comp=Z,787nm,20.0s								
AAK	**Ala-Archa**	**108.28**	**36**	IAMs_20	IAMs_20		11 52 15.3		
	comp=Z,608nm,19.0s								
MAKZ	**Makanchi**	**109.40**	**29**	IAMs_20	IAMs_20		11 51 34.3		
	comp=Z,643nm,20.0s								
MKAR	**Makanchi Array**	**109.56**	**29**	PKKPbc	PKKPbc		11 21 12.3	-2.9	
	comp=Z,1.1nm,0.7s,baz=133,slow=3.4,SNR=9.6								
KSH	**Kashi**	**111.11**	**38**	PKP	**PKiKP**		**11 10 14.0**	**+1.4**	
KSH				LR	LR				
	comp=Z,400nm,17.8s								
KSH				LR	LR				
	comp=Z,550nm,17.5s								
KSH				LR	LR				
	comp=Z,850nm,24.9s								
MAW	**Mawson**	**112.94**	**159**	PKKPbc	PKKPbc		11 21 02.2	-2.4	
	comp=Z,3.4nm,0.9s,baz=5.4,slow=7.1,SNR=3.7								
WMQ	**Urumqi**	**114.31**	**28**	*e*PKP	PKPdf		11 10 20.1	+1.6	
WMQ				LR	LR				
	comp=Z,510nm,17.7s								
WMQ				LR	LR				
	comp=Z,590nm,17.7s								
WMQ				LR	LR				
	comp=Z,860nm,21.9s								
ULN	**Ulaanbaatar**	**117.36**	**13**	IAMs_20	IAMs_20		12 03 00.6		
	comp=Z,544nm,19.0s								
KLR	**Kul'dur**	**117.47**	**354**	PKP	**PKPdf**		**11 10 23.8**	**-0.6**	
	comp=Z,1.9nm,0.8s,baz=7.4,slow=9.0,SNR=3.7								
KLR	**Kul'dur**	**117.47**	**354**	*i* PKIKP	**PKPdf**		**11 10 24.0**	**-0.4**	
KLR				pmax	pmax				
	comp=Z,4.0nm,1.1s								
HIA	**Hailar**	**117.70**	**3**	IAMs_20	IAMs_20		12 02 07.5		
	comp=Z,619nm,20.0s								
YSS	**Yuzh-Sakhalins**	**117.81**	**346**	IAMs_20	IAMs_20		12 02 29.5		
	comp=Z,724nm,20.0s								
BNX	**BinXian**	**121.26**	**357**	⇓PKP	**PKPdf**		**11 10 31.8**	**0.0**	
MDJ	**Mudanjiang**	**122.24**	**355**	IAMs_20	IAMs_20		12 02 53.1		
	comp=Z,595nm,20.0s								
USRK	**Ussuriysk Ar.**	**122.42**	**353**	PKP	**PKPdf**		**11 10 32.6**	**-1.4**	
	comp=Z,6.7nm,1.0s,baz=232,slow=2.2,SNR=5.1								
GTA	**Gaotai**	**123.02**	**22**	PKP	**PKPdf**		**11 10 35.0**	**-0.5**	
GTA				LR	LR				
	comp=Z,370nm,21.5s								
GTA				LR	LR				
	comp=Z,300nm,23.1s								
GTA				LR	LR				
	comp=Z,580nm,23.1s								
CN2	**Changchun**	**123.27**	**359**	PKP	**PKPdf**		**11 10 32.6**	**-3.1**	
CN2				PP	**PP**		**11 12 15.6**	**+0.9**	
CN2				LR	LR				
	comp=Z,500nm,17.0s								
CN2				LR	LR				
	comp=Z,500nm,17.0s								
CN2				LR	LR				
	comp=Z,600nm,17.0s								
VLA	**Vladivostok**	**123.50**	**353**	*i* PKIKP	**PKiKP**		**11 10 37.2**	**+0.9**	
VLA				pmax	pmax				
	comp=Z,25nm,0.7s								
MSHR	**Mys Shultsa**	**124.11**	**354**	*i* PKIKP	**PKPdf**		**11 10 35.5**	**-1.8**	
MSHR				pmax	pmax				
	comp=Z,54nm,1.7s								
HHC	**Hu-ho-hao-te**	**125.01**	**12**	*e*PKP	**PKPdf**		**11 10 35.5**	**-3.8**	
HHC				LR	LR				
	comp=Z,660nm,19.0s								
HHC				LR	LR				
	comp=Z,200nm,18.2s								
HHC				LR	LR				
	comp=Z,810nm,18.8s								
HYBB	**Hyderabad (bro**	**125.79**	**57**	*e*PKiKP	**PKPdf**		**11 10 41.0**	**-0.2**	
HYBB				*e*PP	**PP**		**11 12 32.8**	**-0.6**	
HYBB				⇑*e*SKPd			11 14 13.7		
BJI	**Beijing**	**126.54**	**7**	PKP	**PKPdf**		**11 10 41.3**	**-0.7**	
BJI				sPKP			11 10 45.8		
BJT	**Baijiatuau**	**126.56**	**7**	IAMs_20	IAMs_20		12 07 12.0		
	comp=Z,569nm,20.0s								
LSA	**Lhasa**	**126.88**	**36**	IAMs_20	IAMs_20		12 06 49.9		
	comp=Z,532nm,20.0s								
URZ	**Urewera**	**126.88**	**232**	PKP	**PKPdf**		**11 10 42.5**	**-0.2**	
	comp=Z,12nm,0.9s,baz=274,slow=2.4,SNR=6.8								
URZ	**Urewera**	**126.88**	**232**	PKPdf	**PKPdf**		**11 10 42.1**	**-0.5**	
LZH	**Lanzhou**	**127.41**	**21**	*e*PKP	**PKiKP**		**11 10 44.8**	**+0.2**	
LZH				LR	LR				
	comp=Z,1μm,18.2s								
LZH				LR	LR				
	comp=Z,250nm,17.1s								
LZH				LR	LR				
	comp=Z,1μm,19.0s								
MSVF	**Nonsavu**	**127.85**	**258**	PKP	**PKPdf**		**11 10 44.9**	**-0.3**	
	comp=Z,39nm,0.9s,baz=137,slow=9.3,SNR=7.8								
MSVF	**Nonsavu**	**127.85**	**258**	PKPdf	**PKPdf**		**11 10 44.2**	**-1.0**	
MJB9	**Matsu-Tunnel**	**128.74**	**345**	PKPdf	**PKPdf**		**11 10 45.8**	**-0.6**	
MAJO	**Matsushiro**	**128.75**	**345**	PKIKP	**PKPdf**		**11 10 45.5**	**-0.9**	
MAJO				MLR	MLR				
	comp=Z,500nm,22.0s								
MAJO	**Matsushiro**	**128.75**	**345**	PKPdf	**PKPdf**		**11 10 45.5**	**-0.9**	
MAJO	**Matsushiro**	**128.75**	**345**	IAMs_20	IAMs_20		12 06 47.1		
	comp=Z,526nm,22.0s								
MJAR	**Matsushiro Arr**	**128.75**	**345**	PKP	**PKPdf**		**11 10 45.7**	**-0.7**	
	comp=Z,6.4nm,0.9s,baz=25,slow=15,SNR=30								
MJAR	**Matsushiro Arr**	**128.75**	**345**	PKIKP	**PKPdf**		**11 10 46.0**	**-0.4**	
MJAR	**Matsushiro Arr**	**128.75**	**345**	PKPdf	**PKPdf**		**11 10 46.0**	**-0.4**	
HNS	**HongShan**	**128.92**	**10**	⇓PKP	**PKiKP**		**11 10 47.3**	**0.0**	
HNS				*e*PP	**PP**		**11 12 57.8**	**+5.5**	
HNS				*e*SS	SS		11 30 15.4	+7.0	
HNS				LR	LR				
	comp=Z,320nm,21.0s								
HNS				LR	LR				
	comp=Z,550nm,21.0s								
HNS				LR	LR				
	comp=Z,530nm,20.6s								
KSRS	**Korea Array**	**129.49**	**356**	PKP	**PKPdf**		**11 10 47.2**	**-0.5**	
	comp=Z,6.7nm,1.1s,baz=48,slow=1.7,SNR=16								
KSAR	**Wonju Array Be**	**129.50**	**356**	PKIKP	**PKPdf**		**11 10 46.9**	**-0.9**	
KSAR	**Wonju Array Be**	**129.50**	**356**	PKPdf	**PKPdf**		**11 10 46.9**	**-0.9**	
INCN	**Inchon**	**129.53**	**357**	IAMs_20	IAMs_20		12 07 25.1		
	comp=Z,593nm,20.0s								
RPZ	**Rata Peaks**	**129.59**	**224**	PKP	**PKPdf**		**11 10 47.2**	**-0.5**	
	comp=Z,9.0nm,0.9s,baz=136,slow=4.0,SNR=3.7								
INU	**Inuyama**	**130.17**	**346**	IAMs_20	IAMs_20		12 06 44.7		
	comp=Z,408nm,22.0s								
SHL	**Shillong**	**130.37**	**39**	PKIKP	**PKPdf**		**11 10 49.1**	**-0.9**	
SHL	**Shillong**	**130.37**	**39**	PKPdf	**PKPdf**		**11 10 49.1**	**-0.9**	
TIA	**Tai'an**	**130.43**	**7**	⇑PKP	**PKPdf**		**11 10 49.3**	**-0.3**	
XAN	**Xi'an**	**130.88**	**17**	PKP	**PKPdf**		**11 10 50.3**	**-0.3**	
LYN	**LuoYang**	**131.27**	**13**	⇑PKP	**PKPdf**		**11 10 50.9**	**-0.3**	
LYN				LR	LR				
	comp=Z,680nm,23.3s								
LYN				LR	LR				
	comp=Z,820nm,20.6s								
PALK	**Pallekele**	**132.43**	**67**	PKP	**PKPdf**		**11 10 53.0**	**-0.9**	
	comp=Z,3.1nm,0.6s,baz=350,slow=4.0,SNR=6.9								
PALK	**Pallekele**	**132.43**	**67**	IAMs_20	IAMs_20		12 05 54.0		
	comp=Z,464nm,21.0s								
ENH	**Enshi**	**134.58**	**18**		**PKPdf**		**11 10 57.4**	**-0.3**	
NJ2	**Nanjing**	**134.74**	**6**	*e*PKP	**PKPdf**		**11 10 57.8**	**0.0**	
PZH	**PanZhiHua**	**135.00**	**29**	PKP	**PKPdf**		**11 10 57.6**	**-1.0**	
PZH				PP	**PP**		**11 13 34.8**	**+2.7**	
PZH				AMB	AMB				
	comp=Z,240nm,8.8s								
PZH				LR	LR				
	comp=Z,1μm,22.0s								
PZH				LR	LR				
	comp=Z,770nm,22.2s								
PZH				LR	LR				
	comp=Z,2μm,23.5s								
WHN	**Wuhan**	**135.53**	**12**	PKP	**PKPdf**		**11 10 56.4**	**-2.9**	
KMI	**Kunming**	**136.64**	**29**	⇓PKP	**PKiKP**		**11 11 02.8**	**-0.8**	
DZM	**Mont Dzumac**	**138.71**	**252**	PKP	**PKPdf**		**11 11 05.7**	**+0.2**	
	comp=Z,35nm,1.1s,baz=81,slow=12,SNR=7.7								
CHTO	**Chiang Mai**	**139.73**	**38**	PKIKP	**PKPdf**		**11 11 06.8**	**-0.6**	
CHTO	**Chiang Mai**	**139.73**	**38**		**PKPdf**		**11 11 06.8**	**-0.6**	
CHTO	**Chiang Mai**	**139.73**	**38**	IAMs_20	IAMs_20		12 19 25.4		
	comp=Z,406nm,20.0s								
CMAR	**Chiang Mai Ar**	**140.00**	**39**	PKP	**PKPdf**		**11 11 07.4**	**-0.5**	
	comp=Z,7.5nm,0.8s,baz=286,slow=3.3,SNR=4.9								
HNR	**Honiara**	**144.57**	**272**	PKP	PKPbc		11 11 14.9	+0.1	
	comp=Z,137nm,0.9s,baz=187,slow=5.9,SNR=4.5								
QIZ	**Qingzhong**	**145.07**	**24**	PKPbc	**PKPbc**		**11 11 12.3**	**-3.9**	
QIZ				PP	**PP**		**11 14 36.8**	**+3.1**	
QIZ				SS	SS		11 33 24.8	+3.5	
QIZ				LR	LR				
	comp=Z,410nm,21.5s								
QIZ				LR	LR				
	comp=Z,420nm,20.7s								
QIZ				LR	LR				
	comp=Z,430nm,22.3s								
GUMO	**Guam**	**146.30**	**321**	PKPbc	**PKPdf**		**11 11 17.0**	**-2.0**	
	comp=Z,322nm,0.9s,baz=184,slow=6.7,SNR=8.4								
GUMO	**Guam**	**146.30**	**321**	PKPdf	**PKPdf**		**11 11 17.5**	**-1.5**	
SRIT	**Nakonsritamara**	**147.51**	**49**		**PKPbc**		**11 11 23.6**	**-0.1**	
CAN	**Canberra**	**148.47**	**221**	PKP2	**PKPbc**		**11 11 25.5**	**-0.2**	
KULM	**Kulim**	**150.42**	**53**	PKPdf	**PKPdf**		**11 11 24.6**	**-1.2**	
KULM					**PKPbc**		**11 11 31.3**	**+0.2**	
PSI	**Prapat**	**150.47**	**59**	PKP	**PKPdf**		**11 11 25.6**	**-0.4**	
	comp=Z,32nm,0.9s,baz=238,slow=5.2,SNR=16								
PSI				PKPbc	**PKPbc**		**11 11 30.8**	**-0.6**	
	comp=Z,46nm,0.8s,baz=266,slow=3.3,SNR=28								
KRVT	**Keravat (AS076**	**150.96**	**285**	PKPbc	**PKPbc**		**11 11 31.8**	**-0.6**	
	comp=Z,431nm,1.0s,baz=220,slow=1.6,SNR=28								
IPM	**Ipoh**	**151.21**	**54**	PKPdf	**PKPdf**		**11 11 25.5**	**-1.5**	
IPM				PKPbc	**PKPbc**		**11 11 32.6**	**-0.3**	
IPM				IAMs_20	IAMs_20		12 31 53.6		
	comp=Z,471nm,19.0s								
STKA	**Stephens Creek**	**155.37**	**218**	PKP	**PKPdf**		**11 11 32.4**	**-0.1**	
	comp=Z,9.6nm,0.8s,baz=87,slow=1.6,SNR=18								
PMG	**Port Moresby**	**156.98**	**277**	PKP	**PKPdf**		**11 11 35.4**	**+0.3**	
	comp=Z,17nm,0.9s,baz=152,slow=5.1,SNR=4.2								
PMG				PKPab	**PKPab**		**11 12 05.9**	**+0.5**	
	comp=Z,48nm,1.2s,baz=73,slow=5.6,SNR=5.4								
PMG	**Port Moresby**	**156.98**	**277**		**PKPdf**		**11 11 34.0**	**-1.1**	
PMG					**PKPab**		**11 12 06.4**	**+1.1**	
CTA	**Charters Tower**	**157.62**	**249**	PKP	**PKPdf**		**11 11 35.7**	**0.0**	
	comp=Z,7.5nm,1.0s,baz=222,slow=9.7,SNR=4.1								
CTA				PKPab	**PKPab**		**11 12 08.8**	**+0.8**	
	comp=Z,64nm,1.2s,baz=109,slow=4.1,SNR=16								
CTAO	**Charters Tower**	**157.62**	**249**	PKIKP	**PKPdf**		**11 11 35.5**	**-0.3**	
CTAO	**Charters Tower**	**157.62**	**249**	PKPdf	**PKPdf**		**11 11 35.5**	**-0.3**	
CTAO					**PKPab**		**11 12 08.6**	**+0.7**	
AS31	**Alice Springs**	**165.98**	**221**		**PKPdf**		**11 11 43.1**	**-1.3**	
ASAR	**Alice Springs**	**165.98**	**221**	PKP	**PKPdf**		**11 11 43.5**	**-0.8**	
	comp=Z,7.4nm,0.9s,baz=142,slow=1.0,SNR=54								
ASAR				PKPab	**PKPab**		**11 12 43.0**	**-1.3**	
	comp=Z,5.4nm,0.7s,baz=136,slow=3.8,SNR=18								
ASAR	**Alice Springs**	**165.98**	**221**		**PKPdf**		**11 11 43.0**	**-1.3**	
ASAR				PKPab	**PKPab**		**11 12 44.5**	**+0.2**	
LUWI	**Luwuk**	**167.86**	**6**		**PKPdf**		**11 11 42.9**	**-3.0**	
WB2	**Warramunga Arr**	**168.02**	**235**		**PKPdf**		**11 11 44.6**	**-1.3**	
WB2				PKPab	**PKPab**		**11 12 53.8**	**+0.3**	
WRAB	**Tennant Creek**	**168.03**	**235**	PKIKP	**PKPdf**		**11 11 44.5**	**-1.4**	
WRAB	**Tennant Creek**	**168.03**	**235**		**PKPdf**		**11 11 44.5**	**-1.4**	
WRA	**Warramunga Arr**	**168.03**	**235**	PKP	**PKPdf**		**11 11 44.6**	**-1.3**	
	comp=Z,16nm,1.1s,baz=76,slow=0.4,SNR=63								
WRA				PKPab	**PKPab**		**11 12 53.2**	**-0.3**	
	comp=Z,7.6nm,0.9s,baz=108,slow=4.3,SNR=20								
WB0	**Warramunga Arr**	**168.08**	**235**		**PKPdf**		**11 11 44.6**	**-1.3**	
WB0				PKPab	**PKPab**		**11 12 54.0**	**+0.2**	
PSA00	**Pilbara Seismi**	**170.78**	**155**		**PKPdf**		**11 11 46.0**	**-1.5**	
MTN	**Manton Dam**	**173.04**	**272**		**PKPdf**		**11 11 47.3**	**-1.4**	
MTN				PKPab	**PKPab**		**11 13 15.7**	**-0.3**	

IDC ***20*** *10:52:34.8±2.1, 42.87N×78.24E, h0km, mb3.9/3, mb1 4.0/6, mb1mx3.6/50, mbtmp3.9/6, ML3.5/3 Error ellipse: s-maj=43.1km s-min=9.7km az=149.0*
MOS ***20*** *10:52:37.6±1.0, 43.00N×78.20E, h15km, mb4.3/1, Error ellipse: s-maj=7.8km s-min=5.5km az=156.3*
KRNET ***20*** *10:52:38.0±0.1, 42.91N×78.19E, h24km, mb4.3*
NNC ***20*** *10:52:37.0±0.5, 42.88N×78.18E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=5.2km s-min=1.7km az=171.0*
SOME ***20*** *10:52:38.4, 42.93N×78.17E, h5km, MS2.7*
ISC 20 10:52:38.0±0.8**, 42.96N**±0.02×**78.10E**±0.01**, h12**km±6km**,**

n154,σ1§61/249, mb3.8/4, 45C-21D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.25**	**66**	*c i*PG		**Pg**	**10 52 43.4**	**+0.1**
SATY				*e*S		**Sg**	**10 52 46.4**	**-0.5**
SATY	**Saty**	**0.25**	**66**	⇑*e*P		**Pg**	**10 52 43.5**	**+0.1**
	baz=47							
SATY				⇑*e*S		**Sg**	**10 52 47.4**	**+0.4**
	baz=47							
SATY	**Saty**	**0.25**	**66**	⇑*e*P		**Pg**	**10 52 43.5**	**+0.1**
	998nm,0.0s							
SATY				*e*S		**Sg**	**10 52 47.3**	**+0.4**
	18μm,0.1s							
SATY	**Saty**	**0.25**	**66**	⇑*i*P		**Pg**	**10 52 43.4**	**+0.1**
	baz=54							
SATY				*e*S		**Sg**	**10 52 46.5**	**-0.5**
	baz=54							
SATY	**Saty**	**0.25**	**66**	P		**Pg**	**10 52 43.5**	**+0.1**
	998nm,0.1s							
SATY				S		**Sg**	**10 52 47.3**	**+0.4**
	18μm,0.2s							
ZHN	**Zhinishke**	**0.33**	**49**	*i* PG		**Pg**	**10 52 44.9**	**+0.2**
ZHN				*e*S		**Sg**	**10 52 49.7**	**+0.5**
ZHN	**Zhinishke**	**0.33**	**49**	*e*P		**Pg**	**10 52 44.9**	**+0.2**
	baz=35							
ZHN				*e*S		**Sg**	**10 52 49.8**	**+0.5**
	baz=35							
ZHN	**Zhinishke**	**0.33**	**49**	*e*P		**Pg**	**10 52 44.9**	**+0.2**
	2μm,0.1s							
ZHN				*e*S		**Sg**	**10 52 49.8**	**+0.5**
	42μm,0.2s							
ZHN	**Zhinishke**	**0.33**	**49**	*i* P		**Pg**	**10 52 44.9**	**+0.2**
	baz=38							
ZHN				*e*S		**Sg**	**10 52 49.7**	**+0.5**
	baz=38							
ZHN	**Zhinishke**	**0.33**	**49**	P		**Pg**	**10 52 44.9**	**+0.2**
	2μm,0.1s							
ZHN				S		**Sg**	**10 52 49.8**	**+0.5**
	42μm,0.2s							
ANVS	**Anan'yevo**	**0.36**	**241**	*i* PG		**Pb**	**10 52 46.5**	**0.0**
ANVS				*i* S		**Sb**	**10 52 52.9**	**+0.8**
ANVS	**Anan'yevo**	**0.36**	**241**	⇑*i*P		**Pb**	**10 52 46.5**	**0.0**
	baz=52							
ANVS				⇑*i*S		**Sb**	**10 52 52.9**	**+0.8**
	baz=52							
KURS	**Kuram**	**0.54**	**6**	*e*P		**Pb**	**10 52 49.4**	**0.0**
	baz=59							
KURS				*e*S		**Sb**	**10 52 57.4**	**+0.3**
	baz=59							
KURS	**Kuram**	**0.54**	**6**	*e*P		**Pb**	**10 52 49.4**	**0.0**
	1μm,0.0s							
KURS				*e*S		**Sb**	**10 52 57.4**	**+0.3**
	2μm,0.1s							
KURS	**Kuram**	**0.54**	**6**	P		**Pb**	**10 52 49.4**	**0.0**
	954nm,0.2s							
KURS				S		**Sb**	**10 52 57.4**	**+0.3**
	2μm,0.2s							
KPKS	**Kokpek**	**0.67**	**40**	*d i*PG		**Pg**	**10 52 50.7**	**-0.3**
KPKS				*e*S		**Sg**	**10 52 59.8**	**0.0**
KPKS	**Kokpek**	**0.67**	**40**	*e*P		**Pg**	**10 52 50.8**	**-0.3**
	baz=33							
KPKS				*e*S		**Sg**	**10 53 00.0**	**+0.1**
	baz=33							
KPKS	**Kokpek**	**0.67**	**40**	*e*P		**Pg**	**10 52 50.8**	**-0.3**
	719nm,0.1s							
KPKS				*e*S		**Sg**	**10 52 60.0**	**+0.1**
	7μm,0.2s							
KPKS	**Kokpek**	**0.67**	**40**	⇓*i*P		**Pg**	**10 52 50.8**	**-0.3**
	baz=34							
KPKS				*e*S		**Sg**	**10 52 59.9**	**0.0**
	baz=34							
UZB	**Uzunbulak**	**0.71**	**74**	*c i*PG		**Pg**	**10 52 50.5**	**-1.3**
UZB				*e*S		**Sg**	**10 52 59.4**	**-1.7**
UZB	**Uzunbulak**	**0.71**	**74**	⇑*e*P		**Pg**	**10 52 50.5**	**-1.3**
	baz=69							
UZB				⇑*e*S		**Sg**	**10 52 59.3**	**-1.7**
	baz=

	535nm,0.1s								
SHLS	**Shalkode**	**1.02**	**78**	*i*	P		**Pn**	**10 53 01.5**	**+3.1**
	baz=80								
SHLS	**Shalkode**	**1.02**	**78**		P		**Pn**	**10 53 01.7**	**+3.4**
	54nm,0.1s								
SHLS					S		**Sn**	**10 53 18.7**	**+6.0**
	535nm,0.3s								
KDJ	**Kajisay**	**1.07**	**220**	*i*	PG		**Pg**	**10 52 58.0**	**-0.6**
KDJ					*i* S		**Sb**	**10 53 12.4**	**-0.1**
KDJ	**Kajisay**	**1.07**	**220**	⇑*i*	P		**Pg**	**10 52 58.0**	**-0.6**
	baz=23								
KDJ				⇑	*i* S		**Sb**	**10 53 12.4**	**-0.1**
	baz=23								
PDGK	**Podgornoye**	**1.09**	**69**		PG		**Pg**	**10 52 56.8**	**-2.2**
PDGK					S		**Sg**	**10 53 10.7**	**-2.4**
PDGK	**Podgornoye**	**1.09**	**69**		P		**Pg**	**10 52 56.9**	**-2.1**
	84nm,0.3s								
PDGK					S		**Sg**	**10 53 10.5**	**-2.7**
	335nm,0.6s								
PDGK	**Podgornoye**	**1.09**	**69**	⇑	P		**Pg**	**10 52 56.9**	**-2.1**
	62nm,0.3s								
PDGK				⇑	S		**Sg**	**10 53 10.8**	**-2.4**
	545nm,0.7s								
IZV	**Izvestkoviy**	**1.09**	**275**	*e*	P		**Pg**	**10 52 58.0**	**-1.1**
	114nm,0.1s								
IZV				*e*	S		**Sg**	**10 53 12.1**	**-1.1**
	1µm,0.9s								
IZV	**Izvestkoviy**	**1.09**	**275**		P		**Pg**	**10 52 57.7**	**-1.4**
	66nm,0.1s								
IZV					S		**Sg**	**10 53 12.0**	**-1.3**
	1µm,0.9s								
BLB	**Baldybastay**	**1.18**	**14**	⇑	*e*P		**Pb**	**10 53 00.3**	**-0.1**
	3µm,0.2s								
BLB					*e*S		**Sb**	**10 53 16.1**	**+0.5**
	2µm,0.0s								
BLB	**Baldybastay**	**1.18**	**14**		P		**Pb**	**10 53 00.3**	**-0.1**
	3µm,0.2s								
BLB					S		**Sb**	**10 53 16.1**	**+0.5**
	2µm,0.4s								
CHKK	**Chushkaly**	**1.21**	**318**	*i*	PG		**Pg**	**10 53 01.6**	**+0.4**
CHKK					*e*S		**Sn**	**10 53 17.8**	**+0.8**
CHKK	**Chushkaly**	**1.21**	**318**	*e*	P		**Pg**	**10 53 01.7**	**+0.4**
	baz=18								
CHKK					*e*S		**Sn**	**10 53 18.8**	**+1.7**
	baz=18								
CHKK	**Chushkaly**	**1.21**	**318**	*e*	P		**Pg**	**10 53 01.7**	**+0.4**
	349nm,0.1s								
CHKK					*e*S		**Sn**	**10 53 18.8**	**+1.7**
	4µm,0.4s								
CHKK	**Chushkaly**	**1.21**	**318**	*i*	P		**Pg**	**10 53 01.6**	**+0.4**
	baz=317								
CHKK					*e*S		**Sn**	**10 53 17.8**	**+0.8**
	baz=317								
CHKK	**Chushkaly**	**1.21**	**318**		P		**Pg**	**10 53 01.7**	**+0.4**
	332nm,0.3s								
CHKK					S		**Sn**	**10 53 18.8**	**+1.7**
	4µm,0.5s								
MTBS	**Maitube**	**1.23**	**279**	*e*	P		**Pg**	**10 53 02.3**	**+0.5**
	baz=80								
MTBS					*e*S		**Sn**	**10 53 19.9**	**+2.1**
	baz=80								
MTBS	**Maitube**	**1.23**	**279**	*e*	P		**Pg**	**10 53 02.3**	**+0.5**
	52nm,0.1s								
MTBS					*e*S		**Sn**	**10 53 19.8**	**+2.1**
	404nm,0.3s								
MTBS	**Maitube**	**1.23**	**279**		P		**Pg**	**10 53 02.3**	**+0.5**
	49nm,0.2s								
MTBS					S		**Sn**	**10 53 19.8**	**+2.1**
	334nm,0.5s								
TARG	**Taragay, Kyrgy**	**1.24**	**190**	*i*	PG		**Pb**	**10 53 00.5**	**-1.2**
TARG					*i* S		**Sg**	**10 53 16.5**	**-1.7**
TARG	**Taragay, Kyrgy**	**1.24**	**190**	⇑	*i*P		**Pb**	**10 53 00.5**	**-1.2**
	baz=94								
TARG				⇑	*i*S		**Sg**	**10 53 16.5**	**-1.7**
	baz=94								
ARXS	**Arharly**	**1.27**	**351**	*e*	P		**Pb**	**10 53 02.4**	**+0.4**
	519nm,0.2s								
ARXS					*e*S		**Sn**	**10 53 20.0**	**+1.2**
	4µm,0.1s								
ARXS	**Arharly**	**1.27**	**351**		P		**Pb**	**10 53 02.4**	**+0.4**
	513nm,0.6s								
ARXS					S		**Sn**	**10 53 20.0**	**+1.2**
	4µm,0.5s								
KTBS	**Karatobe**	**1.28**	**307**	*e*	P		**Pg**	**10 53 03.0**	**+0.4**
	baz=7.0								
KTBS					*e*S		**Sg**	**10 53 20.9**	**+1.6**
	baz=7.0								
KTBS	**Karatobe**	**1.28**	**307**	*e*	P		**Pg**	**10 53 03.0**	**+0.4**
	290nm,0.0s								
KTBS					*e*S		**Sg**	**10 53 20.9**	**+1.6**
	2µm,0.1s								
KTBS	**Karatobe**	**1.28**	**307**		P		**Pg**	**10 53 03.0**	**+0.4**
	290nm,0.2s								
KTBS					S		**Sg**	**10 53 20.9**	**+1.6**
	1µm,0.3s								
ULHL	**Ulahol**	**1.54**	**243**		P		**Pb**	**10 53 06.5**	**-0.1**
	SNR=94								
ULHL	**Ulahol**	**1.54**	**243**	⇓	*i*PN		**Pb**	**10 53 06.8**	**+0.2**
ULHL					*i* S		**Sg**	**10 53 27.9**	**+0.2**
ULHL	**Ulahol**	**1.54**	**243**	⇓	*i*P		**Pb**	**10 53 06.8**	**+0.2**
	baz=46								
ULHL				⇓	*i*S		**Sg**	**10 53 27.9**	**+0.2**
	baz=46								
BOOM	**Boomskoye usch**	**1.66**	**254**	*i*	PN		Pg	10 53 18.7	+8.9
BOOM					*i* S		**Sg**	**10 53 31.1**	**-0.2**
BOOM	**Boomskoye usch**	**1.66**	**254**	⇑	*i*P		**Pb**	**10 53 08.7**	**+0.1**
	baz=57								
BOOM				⇑	*i*S		**Sg**	**10 53 31.1**	**-0.2**
	baz=57								
DGS	**Degeres**	**1.73**	**280**	*e*	P		**Pg**	**10 53 11.2**	**0.0**
	206nm,0.6s								
DGS					*e*S		**Sg**	**10 53 35.0**	**+1.5**
	1µm,0.2s								
DGS	**Degeres**	**1.73**	**280**		P		**Pg**	**10 53 11.2**	**0.0**
	366nm,0.7s								
DGS					S		**Sg**	**10 53 35.0**	**+1.5**
	1µm,0.7s								
TKM2	**Tokmak 2**	**1.83**	**270**		P		**Pg**	**10 53 12.6**	**-0.6**
	SNR=527								
TKM2	**Tokmak 2**	**1.83**	**270**	*e*	PN		**Pb**	**10 53 11.5**	**-0.1**
TKM2	**Tokmak 2**	**1.83**	**270**	⇑	*i*P		**Pb**	**10 53 11.5**	**-0.1**
	baz=71								
TKM2				⇑	*i*S		**Sb**	**10 53 36.0**	**+1.4**
	baz=71								
TKM2	**Tokmak 2**	**1.83**	**270**	⇑	Pg		**Pg**	**10 53 12.7**	**-0.6**
	261nm,0.6s								
TKM2				⇓	Lg		Lg	10 53 38.8	
	1µm,0.8s								
DJR	**Jarkent**	**1.85**	**41**	*e*	P		**Pb**	**10 53 11.7**	**-0.1**
	67nm,0.1s								
DJR					*e*S		**Sb**	**10 53 35.6**	**+0.8**
	2µm,0.2s								
DJR	**Jarkent**	**1.85**	**41**		P		**Pb**	**10 53 11.4**	**-0.4**
DJR					S		**Sb**	**10 53 35.4**	**+0.5**
	2µm,0.4s								
KRBS	**Karabastau**	**1.92**	**294**	*e*	P		**Pb**	**10 53 13.7**	**+0.7**
	113nm,0.3s								
KRBS					*e*S		**Sg**	**10 53 39.5**	**-0.1**
	622nm,0.1s								
KRBS	**Karabastau**	**1.92**	**294**		Pg		**Pb**	**10 53 13.6**	**+0.7**
	113nm,0.3s								
KRBS					Lg		Lg	10 53 39.6	
	434nm,0.2s								
KBK	**Karagaybulak**	**2.33**	**264**		P		**Pb**	**10 53 20.2**	**0.0**
	SNR=87								
KBK	**Karagaybulak**	**2.33**	**264**	*e*	PN		Pg	10 53 28.4	+5.6
KBK					*i* S		**Sb**	**10 53 47.8**	**-1.2**
KBK	**Karagaybulak**	**2.33**	**264**	⇑	*e*P		**Pn**	**10 53 18.4**	**+2.0**
	baz=65								
KBK				⇑	*i*S		**Sb**	**10 53 47.8**	**-1.2**
	baz=65								
CHMS	**Chumysh**	**2.45**	**272**		P		**Pb**	**10 53 21.9**	**-0.3**
	SNR=35								
CHMS	**Chumysh**	**2.45**	**272**	*i*	PN		**Pn**	**10 53 20.2**	**+2.3**
CHMS					*i* S		**Sb**	**10 53 50.6**	**-1.7**
CHMS	**Chumysh**	**2.45**	**272**	⇑	*i*P		**Pn**	**10 53 20.2**	**+2.3**
	baz=73								
CHMS				⇑	*i*S		**Sb**	**10 53 50.6**	**-1.7**
	baz=73								
CHMS	**Chumysh**	**2.45**	**272**	⇓	Pg		**Pb**	**10 53 21.8**	**-0.3**
	59nm,0.6s								
CHMS				⇓	Lg		Lg	10 53 55.7	
	206nm,0.5s								
FRU1	**Bishkek**	**2.55**	**268**	*e*	PN		**Pn**	**10 53 21.6**	**+2.3**
FRU1					*i* S		**Sb**	**10 53 53.3**	**-1.8**
FRU1	**Bishkek**	**2.55**	**268**	⇑	*e*P		**Pn**	**10 53 21.6**	**+2.3**
	baz=69								
FRU1				⇑	*i*S		**Sb**	**10 53 53.3**	**-1.8**
	baz=69								
SGDS	**Sogindy**	**2.58**	**282**	*i*	PN		**Pb**	**10 53 22.4**	**-1.9**
SGDS	**Sogindy**	**2.58**	**282**	*e*	P		**Pb**	**10 53 25.1**	**+0.8**
	16nm,0.1s								
SGDS					*e*S		**Sb**	**10 53 58.6**	**+2.6**
	119nm,0.3s								
SGDS	**Sogindy**	**2.58**	**282**	*i*	Pn		**Pb**	**10 53 22.4**	**-1.9**
	baz=282								
SGDS	**Sogindy**	**2.58**	**282**		Pg		**Pb**	**10 53 24.0**	**-0.3**
	17nm,0.6s								
SGDS					Lg		Lg	10 53 56.8	
	74nm,0.7s								
USP	**Ospenovka**	**2.65**	**278**		P		**Pb**	**10 53 23.8**	**-1.6**
	SNR=51								
USP	**Ospenovka**	**2.65**	**278**	*e*	PN		**Pn**	**10 53 23.0**	**+2.4**
USP	**Ospenovka**	**2.65**	**278**	⇑	*i*P		**Pn**	**10 53 23.0**	**+2.4**
	baz=79								
USP				⇑	*i*S		**Sn**	**10 53 55.6**	**+2.9**
	baz=79								
AAK	**Ala-Archa**	**2.67**	**264**		P		**Pb**	**10 53 24.6**	**-1.2**
	SNR=58								
AAK	**Ala-Archa**	**2.67**	**264**		Pn		**Pb**	**10 53 24.5**	**-1.3**
	12nm,0.3s,baz=113,slow=4.4,SNR=50								
AAK					Lg		Lg	10 54 02.9	
	31nm,0.3s,baz=313,slow=17,SNR=18								
AAK	**Ala-Archa**	**2.67**	**264**	*i*	PN		**Pb**	**10 53 24.3**	**-1.5**
AAK	**Ala-Archa**	**2.67**	**264**	⇓	*e*P		**Pn**	**10 53 23.1**	**+2.1**
	baz=65								
AAK				⇓	*i*S		**Sn**	**10 53 55.7**	**+2.4**
	baz=65								
UCH	**Uchtor**	**2.74**	**256**		P		**Pb**	**10 53 26.0**	**-1.3**
	SNR=42								
UCH	**Uchtor**	**2.74**	**256**	⇓	*e*PN		**Pn**	**10 53 24.0**	**+1.7**
UCH					*i* S		**Sn**	**10 53 57.5**	**+1.9**
UCH	**Uchtor**	**2.74**	**256**	⇓	*e*P		**Pn**	**10 53 24.0**	**+1.7**
	baz=57								
UCH				⇓	*i*S		**Sn**	**10 53 57.5**	**+1.9**
	baz=57								
EKS2	**Erkin-Say**	**3.19**	**266**		P		**Pb**	**10 53 31.8**	**-2.9**
	SNR=8.4								
EKS2	**Erkin-Say**	**3.19**	**266**	*e*	PN		**Pn**	**10 53 30.3**	**+2.2**
EKS2					*i* S		**Sn**	**10 54 08.3**	**+2.2**
EKS2	**Erkin-Say**	**3.19**	**266**	⇑	*e*P		**Pn**	**10 53 30.3**	**+2.2**
	baz=67								
EKS2				⇑	*i*S		**Sn**	**10 54 08.3**	**+2.2**
	baz=67								
AML	**Almayashu**	**3.35**	**257**		P		**Pn**	**10 53 34.1**	**+3.5**
	SNR=17								
AML	**Almayashu**	**3.35**	**257**	*e*	PN		**Pn**	**10 53 32.4**	**+1.8**
AML					*i* S		**Sn**	**10 54 12.3**	**+1.7**
MRKS	**Merke**	**3.59**	**268**	*e*	P		**Pg**	**10 53 44.6**	**-2.1**
	7.3nm,0.0s								
MRKS					*e*S		**Sg**	**10 54 32.2**	**-1.0**
	85nm,0.1s								
MRKS	**Merke**	**3.59**	**268**		Pg		**Pg**	**10 53 46.0**	**-0.7**
	62nm,0.6s								
BTLS	**Baital**	**3.59**	**307**	*e*	PN		**Pg**	**10 53 44.7**	**-2.1**
BTLS	**Baital**	**3.59**	**307**	*e*	P		**Pg**	**10 53 44.5**	**-2.3**
	23nm,0.1s								
BTLS					*e*S		**Sg**	**10 54 31.6**	**-1.7**
	72nm,0.2s								
BTLS	**Baital**	**3.59**	**307**	*e*	Pg		**Pg**	**10 53 44.7**	**-2.1**
	baz=306								
BTLS	**Baital**	**3.59**	**307**		Lg		Lg	10 54 28.9	
	122nm,0.7s								
KSH	**Kashi**	**3.79**	**206**		Pg		**Pg**	**10 53 55.0**	**+4.4**
KSH					Sg		Sg	10 54 52.8	+13
KSH					smax		smax		
	comp=N,100nm,0.7s								
KSH					smax		smax		
	comp=E,54nm,0.9s								
MAKZ	**Makanchi**	**4.74**	**34**		PN		**Pn**	**10 53 45.5**	**-3.8**
MAKZ	**Makanchi**	**4.74**	**34**	⇓	Pn		**Pn**	**10 53 49.0**	**-0.3**
	2.3nm,0.5s								
MAKZ				⇑	Pg		**Pb**	**10 54 00.1**	**-0.9**
	67nm,1.4s								
MAKZ				⇓	Lg		Lg	10 55 07.6	
	31nm,0.7s								
MK31	**Makanchi Array**	**4.86**	**36**	*i*	PN		**Pn**	**10 53 51.8**	**+0.8**
MK31	**Makanchi Array**	**4.86**	**36**	⇑	Pn		**Pn**	**10 53 50.7**	**-0.2**
	6.5nm,0.2s,baz=213,slow=13,SNR=313								
MK31				⇓	Sn		**Sn**	**10 54 49.7**	**+2.5**
	20nm,0.7s,baz=219,slow=24,SNR=5.2								
MK31				⇓	Lg		Lg	10 55 11.3	
	38nm,0.7s,baz=217,slow=25,SNR=8.1								
MKAR	**Makanchi Array**	**4.86**	**36**		Pn		**Pn**	**10 53 51.9**	**+0.9**
	4.4nm,0.3s,baz=218,slow=17,SNR=285								
MKAR					Sn		**Sn**	**10 54 47.4**	**+0.2**
	4.8nm,0.3s,baz=220,slow=24,SNR=9.5								
MKAR					Lg		Lg	10 55 06.3	
	12nm,0.3s,baz=213,slow=24,SNR=9.7								
DZA	**Taraz**	**4.97**	**272**	*e*	PN		**Pn**	**10 53 54.1**	**+1.7**
DZA					*e*			10 54 10.7	
DZA	**Taraz**	**4.97**	**272**	*e*	Pn		**Pn**	**10 53 54.1**	**+1.7**
	baz=272								
DZA				*e*	Pg		**Pg**	**10 54 10.7**	**-2.4**
	baz=272								
KK31	**Karatay Array**	**5.56**	**274**	*i*	PN		**Pn**	**10 54 03.0**	**+2.5**
KK31	**Karatay Array**	**5.56**	**274**		Pn		**Pn**	**10 54 03.1**	**+2.5**
	0.4nm,0.4s,baz=80,slow=13,SNR=14								
KK31					Pg		**Pg**	**10 54 21.2**	**-3.3**
	5.8nm,0.5s,baz=89,slow=18,SNR=19								
KK31				⇓	Lg		Lg	10 55 34.6	
	50nm,0.7s,baz=89,slow=30,SNR=6.5								
IUG	**Iuzhnay**	**6.01**	**265**	*e*	P		**Pg**	**10 54 30.9**	**-2.2**
	104nm,0.1s								
IUG					*e*S		**Sg**	**10 55 53.0**	**+2.1**
	34nm,0.1s								
IUG	**Iuzhnay**	**6.01**	**265**	*e*	Pg		**Pg**	**10 54 32.1**	**-1.0**
	baz=265								
OTUK	**Ortayu**	**6.65**	**325**	⇓	Pn		**Pn**	**10 54 13.5**	**-2.1**
	11nm,0.8s								
OTUK				⇓	Lg		Lg	10 56 10.5	
	67nm,0.8s								
KURBB	**Kurchatov Arra**	**7.68**	**2**		Lg		Lg	10 56 36.8	
	1.0nm,0.3s,baz=183,slow=28,SNR=16								
KURBB	**Kurchatov Arra**	**7.68**	**2**	⇑	Pn		**Pn**	**10 54 27.2**	**-2.4**
	30nm,1.0s								
KURBB				⇓	Lg		Lg	10 56 42.6	
	172nm,0.7s								
KURK	**Kurchatov**	**7.77**	**2**	⇑	Pn		**Pn**	**10 54 27.9**	**-3.0**
	43nm,1.0s								
KURK				⇑	Lg		Lg	10 56 44.7	
	49nm,0.7s								
BRZS	**Berezniki**	**7.96**	**334**	*e*	P		**Pn**	**10 54 33.2**	**-0.2**
BRZS	**Berezniki**	**7.96**	**334**	*e*	Pn		**Pn**	**10 54 33.3**	**-0.2**
	baz=334								
BVAR	**Borovoye Array**	**11.31**	**336**		Sn		**Sn**	**10 57 21.4**	**-4.2**
BVAR					Lg		Lg	10 58 31.5	
BRVK	**Borovoye**	**11.37**	**335**	⇑	Sn		**Sn**	**10 57 31.2**	**+4.1**
	4.9nm,0.8s								
BRVK				⇑	Lg		Lg	10 58 40.8	
	44nm,1.1s								
ZALV	**Zalesovo Beam**	**11.86**	**20**		Pn		**Pn**	**10 55 27.3**	**+0.4**
	0.4nm,0.3s,baz=211,slow=14,SNR=4.7								
ZALV					Lg		Lg	10 58 52.0	
	0.1nm,0.3s,baz=225,slow=26,SNR=2.9								
ZALV	**Zalesovo Beam**	**11.86**	**20**	*i*	P		**Pn**	**10 55 27.2**	**+0.4**
ZALV					pmax		pmax		
	comp=Z,2.0nm,0.4s								
GOMU	**GeErMu**	**14.54**	**112**		P		**Pn**	**10 56 01.8**	**-2.1**
KNGR	**Kungurtau, Tuv**	**15.32**	**53**	*i*	P		**Pn**	**10 56 13.8**	**-0.2**
AKTO	**Aktyubinsk**	**15.64**	**306**		Lg		Lg	11 00 49.3	
	comp=Z,0.1nm,0.3s,baz=71,slow=22,SNR=1.4								
ARU	**Arti**	**18.39**	**324**	*i*	P		**P**	**10 56 52.9**	**+0.3**
ARU					pmax		pmax		
	comp=Z,5.0nm,1.4s								
NRIK	**Noril'sk**	**26.90**	**7**	*i*	P		**P**	**10 58 17.8**	**-0.7**
HIA	**Hailar**	**29.26**	**63**	*i*	P		**P**	**10 58 40.6**	**+0.8**
HIA					pmax		pmax		
	comp=Z,2.0nm,0.9s								
ARCES	**ARCESS Array B**	**37.58**	**333**		P		**P**	**10 59 51.5**	**-0.4**
	comp=Z,2.5nm,1.0s,baz=103,slow=10,SNR=3.5								
NB2	**NORSAR Subarra**	**42.83**	**319**		PKPdf		**P**	**11 00 36.9**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=40,slow=1.8								
ILAR	**Eielson Array**	**66.99**	**19**		P		**P**	**11 03 29.2**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=314,slow=5.8,SNR=4.5								
TORD	**Tomodi Ar. Bea**	**71.24**	**271**		P		**P**	**11 03 55.5**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=51,slow=6.9,SNR=1.3								

*IDC **20** 10:58:36.8±2.4, 18°.86S×175°.52W, h182km±23km, mb3.8/9, mb1 4.0/10, mb1mx3.6/41, mbtmp4.4/10, Error ellipse: s-maj=23.4km s-min=14.9km az=131.0*
*NEIC **20** 10:58:37.4±1.2, 18°.9S±0°.1×175°.4W±0°.1, h185km±8km, mb4.2/23, Error ellipse: s-maj=18.5km s-min=14.6km az=173.0*

ISC 20 10:58:40.5±0.5, 18°.76S±0°.08×175°.29W±0°.07, h231km, n50, σ1985/54, mb4.1/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**5.08**	**94**			**Pn**	**10 59 55.7**	**-1.0**
NIUE				Sn		**S**	**11 00 53.8**	**-3.4**
AFI	**Afiamalu**	**5.88**	**35**	P		**Pn**	**11 00 05.3**	**-1.5**
	11nm,0.3s,baz=202,slow=2.4,SNR=22							
AFI				S		**S**	**11 01 09.4**	**-6.2**
	28nm,0.3s,baz=235,slow=23,SNR=11							
DZM	**Mont Dzumac**	**17.44**	**256**	P		**P**	**11 02 26.0**	**-2.4**
DZM				IAmb		IAmb	11 02 34.9	
	comp=Z,13nm,1.0s							
DZM	**Mont Dzumac**	**17.44**	**256**	Sn		**P**	**11 02 25.9**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=230,slow=22,SNR=1.4							
MXZ	**Matakaoa Point**	**19.56**	**195**	P		**P**	**11 02 48.3**	**-2.6**
WMGZ	**Waiomatatini S**	**19.77**	**195**	P		**P**	**11 02 52.9**	**-0.4**
HAZ	**Te Kaha**	**19.88**	**196**	P		**P**	**11 02 53.0**	**-1.3**
PUZ	**Puketiti**	**20.05**	**195**	P		**P**	**11 02 55.2**	**-1.1**
RUGZ	**Raukumara Rang**	**20.10**	**196**	P		**P**	**11 02 55.8**	**-1.0**
TGRZ	**Tauranga**	**20.30**	**200**	P		**P**	**11 02 59.2**	**+0.4**
MWZ	**Matawai**	**20.49**	**196**	P		**P**	**11 02 59.6**	**-1.3**
URZ	**Urewera**	**20.53**	**197**	P		**P**	**11 02 57.8**	**-3.5**
	comp=Z,10nm,0.3s,baz=337,slow=2.0,SNR=40							
URZ	**Urewera**	**20.53**	**197**	P		**P**	**11 02 58.1**	**-3.3**
URZ	**Urewera**	**20.53**	**197**	P		**P**	**11 02 58.6**	**-2.7**
RAGZ	**Rawiri**	**20.67**	**196**	P		**P**	**11 03 01.4**	**-1.5**
RIGZ	**Rimuhau**	**20.78**	**195**	P		**P**	**11 03 02.4**	**-1.6**
BFZ	**Birch Farm**	**23.03**	**197**	P		**P**	**11 03 23.9**	**-1.4**
RPZ	**Rata Peaks**	**27.41**	**202**	P		**P**	**11 04 04.5**	**-0.2**
	comp=Z,5.3nm,0.4s,baz=307,slow=1.3,SNR=7.6							
ARMA	**Armidale**	**32.13**	**242**	P		**P**	**11 04 46.4**	**-0.2**
ARMA				IAmb		IAmb	11 04 54.8	
	comp=Z,13nm,1.5s							
CTA	**Charters Tower**	**36.24**	**261**	P		**P**	**11 05 21.6**	**-0.3**
	comp=Z,4.1nm,0.4s,baz=91,slow=12,SNR=12							
CTAO	**Charters Tower**	**36.24**	**261**	P		**P**	**11 05 22.1**	**+0.2**
TOO	**Toolangi**	**38.98**	**233**	P		**P**	**11 05 43.9**	**-0.7**
TOO				IAmb		IAmb	11 05 58.5	
	comp=Z,8.5nm,1.5s							
STKA	**Stephens Creek**	**40.85**	**243**	P		**P**	**11 05 59.1**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=88,slow=11,SNR=3.7							
STKA	**Stephens Creek**	**40.85**	**243**	P		**P**	**11 05 59.0**	**-0.9**
BBOO	**Buckleboo**	**45.61**	**242**	P		**P**	**11 06 36.4**	**-1.6**
BBOO				IAmb		IAmb	11 06 36.7	
	comp=Z,12nm,1.4s							
WR0	**Warramunga Arr**	**47.21**	**260**	P		**P**	**11 06 49.4**	**-1.2**
WB0	**Warramunga Arr**	**47.37**	**260**	P		**P**	**11 06 50.6**	**-1.2**
WB0				IAmb		IAmb	11 06 51.9	
	comp=Z,4.6nm,0.9s							
WB2	**Warramunga Arr**	**47.39**	**260**	P		**P**	**11 06 50.9**	**-1.1**
WB2				IAmb		IAmb	11 06 52.1	
	comp=Z,8.5nm,1.2s							
WRAB	**Tennant Creek**	**47.39**	**260**	P		**P**	**11 06 50.8**	**-1.1**
WRAB				IAmb		IAmb	11 06 51.3	
	comp=Z,5.3nm,1.0s							
WRA	**Warramunga Arr**	**47.40**	**260**	P		**P**	**11 06 51.0**	**-1.1**
	comp=Z,3.0nm,0.3s,baz=96,slow=7.4,SNR=282							
WRA				PcP		**PcP**	**11 08 19.8**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=91,slow=3.8,SNR=6.0							
WRA	**Warramunga Arr**	**47.40**	**260**	P		**P**	**11 06 50.9**	**-1.2**
AS31	**Alice Springs**	**47.42**	**255**	P		**P**	**11 06 52.0**	**-0.2**
ASAR	**Alice Springs**	**47.42**	**255**	P		**P**	**11 06 51.3**	**-0.9**
	comp=Z,6.6nm,0.6s,baz=92,slow=7.6,SNR=84							
ASAR				PcP		**PcP**	**11 08 19.8**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=107,slow=4.1,SNR=12							
ASAR	**Alice Springs**	**47.42**	**255**	P		**P**	**11 06 51.5**	**-0.8**
MTN	**Manton Dam**	**51.74**	**268**	P		**P**	**11 07 24.2**	**-0.6**
MTN				IAmb		IAmb	11 07 33.3	
	comp=Z,16nm,1.5s							
FORT	**Forrest**	**52.34**	**245**	P		**P**	**11 07 27.6**	**-1.4**
KNRA	**Kununurra**	**53.35**	**264**	P		**P**	**11 07 36.2**	**-0.4**
KNRA				IAmb		IAmb	11 07 36.8	
	comp=Z,7.3nm,0.8s							
FITZ	**Fitzroy Crossi**	**55.81**	**261**	P		**P**	**11 07 54.2**	**0.0**
VNDA	**Vanda**	**59.87**	**186**	P		**P**	**11 08 22.7**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=355,slow=6.5,SNR=5.

IUG	**Iuzhnay**	**6.06**	**351**	⇓	*i* P		**Pn**	**11 04 17.8**	**-0.8**
	baz=351									
IUG					*e*S		**Sn**	**11 05 24.4**	**-2.1**
	baz=351									
AML	**Almayashu**	**6.26**	**17**		P		**Pn**	**11 04 21.5**	**-0.1**
	SNR=547									
BHK	**Bhakra**	**6.39**	**136**		*e*P		**Pn**	**11 04 23.4**	**+0.3**
BHK					*e*PN		**Pn**	**11 04 25.0**	**+1.9**
BHK					*e*S		**Sn**	**11 05 30.0**	**-4.7**
BHK					*e*SN		**Sn**	**11 05 34.0**	**-0.7**
UCH	**Uchtor**	**6.57**	**22**		P		**Pn**	**11 04 25.6**	**-0.3**
	SNR=127									
EKS2	**Erkin-Say**	**6.79**	**16**		P		**Pn**	**11 04 28.6**	**+0.1**
	SNR=63									
AAK	**Ala-Archa**	**6.94**	**20**		P		**Pn**	**11 04 30.9**	**+0.2**
	SNR=56									
AAK	**Ala-Archa**	**6.94**	**20**		P		**Pn**	**11 04 30.6**	**0.0**
	34nm,0.3s,baz=204,slow=8.2,SNR=141									
AAK					S		**Sn**	**11 05 45.0**	**-3.2**
	8.2nm,0.3s,baz=173,slow=24,SNR=12									
BRLS	**Borolday**	**6.95**	**351**		*e*PN		**Pn**	**11 04 26.4**	**-4.2**
BRLS					pmax		pmax			
	comp=Z,3.0nm,0.2s									
BRLS	**Boroldaу**	**6.95**	**351**		*e*P		**Pn**	**11 04 26.5**	**-4.2**
	comp=Z,3.2nm,0.2s,baz=350									
KK31	**Karatay Array**	**6.96**	**356**		*e*PN		**Pn**	**11 04 29.9**	**-0.9**
KK31	**Karatay Array**	**6.96**	**356**		Pn		**Pn**	**11 04 29.8**	**-0.9**
KK31	**Karatay Array**	**6.96**	**356**		P		**Pn**	**11 04 30.0**	**-0.9**
	comp=Z,36nm,0.3s,baz=177,slow=12,SNR=659									
KK31					⇓S		**Sn**	**11 05 42.6**	**-5.8**
	comp=Z,72nm,0.4s,baz=188,slow=22,SNR=15									
KKAR	**Karatay Array**	**6.96**	**356**		PN		**Pn**	**11 04 29.7**	**-1.1**
KKAR	**Karatay Array**	**6.96**	**356**		Pn		**Pn**	**11 04 29.7**	**-1.1**
KKAR	**Karatay Array**	**6.96**	**356**				**Pn**	**11 04 29.8**	**-1.0**
SMLA	**Simla**	**7.04**	**134**		*e*P		**Pn**	**11 04 30.2**	**-1.7**
SMLA					*e*S		**Sn**	**11 05 47.4**	**-2.9**
SMLA					IAML			11 05 49.6	
	comp=N,231nm,0.5s									
SMLA					IAML			11 05 49.6	
	comp=E,282nm,0.6s									
KBK	**Karagaybulak**	**7.10**	**23**		P		**Pn**	**11 04 33.4**	**+0.7**
	SNR=11									
FRU1	**Bishkek**	**7.14**	**20**		PN		**Pn**	**11 04 34.2**	**+0.9**
FRU1	**Bishkek**	**7.14**	**20**				**Pn**	**11 04 34.2**	**+0.9**
ULHL	**Ulahol**	**7.21**	**31**		P		**Pn**	**11 04 34.1**	**-0.3**
	SNR=15									
BOOM	**Boomskoye usch**	**7.30**	**28**		PN		**Pn**	**11 04 35.3**	**-0.2**
BOOM	**Boomskoye usch**	**7.30**	**28**				**Pn**	**11 04 35.3**	**-0.2**
CHMS	**Chumysh**	**7.35**	**21**		P		**Pn**	**11 04 36.1**	**0.0**
	SNR=35									
CHMS	**Chumysh**	**7.35**	**21**	*i*	PN		**Pn**	**11 04 35.6**	**-0.5**
CHMS					pmax		pmax			
	comp=Z,49nm,0.4s									
CHMS	**Chumysh**	**7.35**	**21**	⇑	P		**Pn**	**11 04 35.7**	**-0.5**
	comp=Z,40nm,0.5s									
CHMS					⇓S		**Sn**	**11 05 55.6**	**-2.3**
	comp=Z,113nm,1.0s									
USP	**Ospenovka**	**7.53**	**18**		P		**Pn**	**11 04 37.8**	**-0.7**
	SNR=79									
KDJ	**Kajisay**	**7.54**	**36**		PN		**Pn**	**11 04 39.2**	**+0.4**
KDJ	**Kajisay**	**7.54**	**36**				**Pn**	**11 04 39.1**	**+0.4**
TKM2	**Tokmak 2**	**7.54**	**25**		P		**Pn**	**11 04 39.1**	**+0.2**
	SNR=85									
TKM2	**Tokmak 2**	**7.54**	**25**	*i*	PN		**Pn**	**11 04 38.8**	**-0.1**
TKM2					pmax		pmax			
	comp=Z,47nm,0.5s									
TKM2	**Tokmak 2**	**7.54**	**25**	⇓	P		**Pn**	**11 04 38.9**	**-0.1**
	comp=Z,47nm,0.5s									
TKM2				⇑	S		**Sn**	**11 06 01.1**	**-1.8**
	comp=Z,36nm,1.0s									
TARG	**Taragay, Kyrgy**	**7.55**	**41**		Pn		**Pn**	**11 04 38.1**	**-1.1**
SGDS	**Sogindy**	**7.74**	**19**	*i*	PN		**Pn**	**11 04 40.3**	**-1.1**
SGDS					pmax		pmax			
	comp=Z,6.0nm,0.7s									
SGDS	**Sogindy**	**7.74**	**19**	*i*	P		**Pn**	**11 04 40.3**	**-1.1**
	comp=Z,5.5nm,0.7s,baz=18									
SGDS					*e*S		**Sn**	**11 06 04.6**	**-2.8**
	baz=18									
MDOK	**Medeo**	**8.30**	**31**	*i*	PN		**Pn**	**11 04 50.0**	**+0.8**
MDOK	**Medeo**	**8.30**	**31**	*i*	P		**Pn**	**11 04 50.1**	**+0.8**
	baz=31									
MDOK	**Medeo**	**8.30**	**31**		P		**Pn**	**11 04 49.9**	**+0.8**
	comp=Z,19nm,0.8s									
MDOK					S		**Sn**	**11 06 23.5**	**+2.2**
	comp=Z,36nm,1.3s									
SATY	**Saty**	**8.83**	**37**		*e*PN		**Pn**	**11 04 55.4**	**-0.9**
SATY	**Saty**	**8.83**	**37**		*e*P		**Pn**	**11 04 55.4**	**-0.9**
	baz=36									
CHKK	**Chushkaly**	**8.86**	**28**		*e*PN		**Pn**	**11 04 55.6**	**-0.9**
CHKK	**Chushkaly**	**8.86**	**28**		*e*P		**Pn**	**11 04 55.7**	**-0.9**
	baz=28									
KHET	**Khetri**	**8.94**	**153**		*e*P		**Pn**	**11 04 55.0**	**-2.7**
KHET					*e*S		Sn	11 06 27.6	-9.0
NDI	**New Delhi**	**9.00**	**144**		*e*P		**Pn**	**11 04 57.0**	**-1.5**
NDI					*e*P		**Pn**	**11 04 57.9**	**-0.6**
NDI					*e*S		**Sn**	**11 06 31.9**	**-6.2**
AYAN	**Aya Nagar**	**9.12**	**145**		*e*P		**Pn**	**11 04 57.4**	**-2.9**
AYAN					*e*S		**Sn**	**11 06 35.3**	**-5.9**
BTLS	**Baital**	**9.13**	**13**		*e*P		**Pn**	**11 04 58.6**	**-1.5**
BTLS					pmax		pmax			
	comp=Z,2.0nm,0.6s									
BTLS	**Baital**	**9.13**	**13**		*e*P		**Pn**	**11 04 58.7**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=12									
KUDL	**Kundal**	**9.14**	**149**		*e*P		**Pn**	**11 04 58.2**	**-2.2**
KUDL					*e*S		Sn	11 06 32.2	-9.3
KPKS	**Kokpek**	**9.27**	**36**		*e*P		**Pn**	**11 05 01.1**	**-1.1**
KPKS					pmax		pmax			
	comp=Z,4.0nm,0.7s									
KPKS	**Kokpek**	**9.27**	**36**		*e*P		**Pn**	**11 05 01.2**	**-1.1**
	comp=Z,3.7nm,0.7s,baz=36									
SONA	**Sohna**	**9.30**	**146**		*e*P		**Pn**	**11 04 59.1**	**-3.6**
PTH	**Pithoragarh**	**10.01**	**129**		*e*P		**Pn**	**11 05 08.7**	**-3.8**
PTH					*e*S		**Sn**	**11 06 56.6**	**-6.4**
AJM	**Ajmer**	**10.07**	**162**		*e*P		**Pn**	**11 05 11.3**	**-1.9**
AJM					*e*S		**Sn**	**11 06 58.2**	**-6.2**
GEYT	**Alibeck**	**10.64**	**283**		P		**Pn**	**11 05 18.1**	**-2.8**
	comp=Z,2.7nm,0.3s,baz=107,slow=9.5,SNR=9.8									
GEYT					S		Sn	11 07 05.7	-12
	comp=Z,1.6nm,0.3s,baz=102,slow=38,SNR=1.8									
GEYT	**Alibeck**	**10.64**	**283**				**Pn**	**11 05 17.9**	**-3.0**
GYA0	**ALIBECK ARRAY**	**10.64**	**283**		P		**Pn**	**11 05 18.5**	**-2.4**
GYA0B	**ALIBECK ARRAY**	**10.64**	**283**				**Pn**	**11 05 18.5**	**-2.4**
JHNI	**Jhansi**	**12.36**	**148**		*e*P		Pn	11 05 39.1	-4.8
PYUN	**Piuthan**	**12.78**	**126**		*e*P		**Pn**	**11 05 45.2**	**-4.4**
	comp=Z,86nm,0.4s									
DANN	**Dangsing**	**13.13**	**123**		*e*P		**Pn**	**11 05 50.6**	**-3.7**
	comp=Z,82nm,0.5s									
MAKZ	**Makanchi**	**13.33**	**34**		P		**Pn**	**11 05 54.3**	**-2.1**
MAKZ	**Makanchi**	**13.33**	**34**				**Pn**	**11 05 54.3**	**-2.1**
KOLN	**Koldanda**	**13.40**	**125**		*e*P		**Pn**	**11 05 53.4**	**-4.4**
	comp=Z,54nm,0.4s									
MK31	**Makanchi Array**	**13.46**	**34**	*i*	P		**Pn**	**11 05 57.5**	**-0.7**
MK31					pmax		pmax			
	comp=Z,4.0nm,0.5s									
MK31	**Makanchi Array**	**13.46**	**34**				**Pn**	**11 05 57.7**	**-0.5**
MK31	**Makanchi Array**	**13.46**	**34**	⇑	P		**Pn**	**11 05 57.5**	**-0.7**
	comp=Z,3.9nm,0.6s,baz=247,slow=11,SNR=36									
MKAR	**Makanchi Array**	**13.46**	**34**		P		**Pn**	**11 05 56.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=220,slow=14,SNR=18									
MKAR	**Makanchi Array**	**13.46**	**34**	*i*	P		**Pn**	**11 05 57.7**	**-0.5**
MKAR					pmax		pmax			
	comp=Z,4.0nm,0.9s									
MKAR	**Makanchi Array**	**13.46**	**34**				**Pn**	**11 05 57.6**	**-0.5**
BRZS	**Berezniki**	**13.86**	**4**		*e*P		**Pn**	**11 06 02.6**	**-0.7**
BRZS	**Berezniki**	**13.86**	**4**		*e*P		**Pn**	**11 06 02.6**	**-0.7**
	baz=3.7									
BHPL	**Bhopal**	**13.94**	**156**		*e*P		**Pn**	**11 06 01.1**	**-3.5**
BHPL					IAmb		IAmb	11 06 03.1	
	comp=Z,13nm,0.5s									
BHPL					*e*S		Sn	11 08 26.7	-11
GKN	**Gorkha**	**13.95**	**122**		*e*P		**Pn**	**11 06 01.1**	**-3.8**
	comp=Z,98nm,0.5s									
DMN	**Daman**	**14.52**	**122**		*e*P		**Pn**	**11 06 08.3**	**-4.0**
	comp=Z,53nm,0.6s									
KKN	**Kakani**	**14.53**	**121**		*e*P		**Pn**	**11 06 08.2**	**-4.1**
	comp=Z,45nm,0.5s									
WMQ	**Urumqi**	**14.74**	**54**		*e*P		**Pn**	**11 06 16.1**	**+1.4**
WMQ					pmax		pmax			
	comp=Z,16nm,0.7s									
PKIN	**Phulchoki**	**14.74**	**121**		*e*P		**Pn**	**11 06 11.6**	**-3.5**
	comp=Z,62nm,0.5s									
PKI	**Pulchoki**	**14.76**	**121**		*e*P		**Pn**	**11 06 11.2**	**-4.1**
	comp=Z,34nm,0.4s									
GUN	**Gumba**	**14.88**	**119**		*e*P		**Pn**	**11 06 12.7**	**-4.2**
	comp=Z,26nm,0.4s									
JIRN	**Jiri**	**15.24**	**120**		*e*P		**Pn**	**11 06 17.8**	**-3.8**
	comp=Z,69nm,0.5s									
KURBB	**Kurchatov Arra**	**15.39**	**18**		P		**Pn**	**11 06 19.1**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=207,slow=10,SNR=13									
AB31	**Akbulak array**	**15.48**	**331**		P		**Pn**	**11 06 20.7**	**-3.3**
ABKAR	**Akbulak array**	**15.48**	**331**		Pn		**Pn**	**11 06 21.2**	**-2.7**
KURK	**Kurchatov**	**15.49**	**18**	*i*	P		**Pn**	**11 06 24.4**	**+0.3**
KURK					pmax		pmax			
	comp=Z,14nm,0.9s									
KURK	**Kurchatov**	**15.49**	**18**		Pn		**Pn**	**11 06 23.9**	**-0.2**
SEM	**Semipalatinsk**	**15.66**	**22**	*e*	P		**Pn**	**11 06 25.6**	**-0.9**
SEM	**Semipalatinsk**	**15.66**	**22**	*e*	P		**Pn**	**11 06 25.6**	**-0.9**
	baz=22									
RAMN	**Ramite**	**15.97**	**121**	*e*	P		**Pn**	**11 06 26.4**	**-4.1**
	comp=Z,38nm,0.4s									
AKL	**Akola**	**16.20**	**160**	*e*	P		**Pn**	**11 06 31.9**	**-1.3**
TAPN	**Taplejung**	**16.51**	**117**	*e*	P		**Pn**	**11 06 33.4**	**-3.9**
	comp=Z,13nm,0.3s									
ODAN	**Odare**	**16.58**	**119**	*e*	P		**Pn**	**11 06 34.7**	**-3.3**
	comp=Z,69nm,0.6s									
BVAR	**Borovoye Array**	**16.88**	**358**		P		**Pn**	**11 06 41.2**	**0.0**
BRVK	**Borovoye**	**16.91**	**358**	*i*	P		**Pn**	**11 06 41.7**	**0.0**
BRVK					pmax		pmax			
	comp=Z,13nm,0.7s									
BRVK	**Borovoye**	**16.91**	**358**				**Pn**	**11 06 41.1**	**-0.5**
BRVK					IAmb		IAmb	11 06 44.0		
	comp=Z,15nm,0.8s									
UOSS	**Minazif**	**17.08**	**233**				**Pn**	**11 06 44.1**	**+0.1**
AKTO	**Aktyubinsk**	**17.18**	**330**		P		**Pn**	**11 06 43.7**	**-1.2**
	comp=Z,3.6nm,0.3s,baz=133,slow=15,SNR=29									
AKTO					S		Sn	11 09 41.4	-14
	comp=Z,0.6nm,0.3s,baz=48,slow=19,SNR=2.7									
AKTO	**Aktyubinsk**	**17.18**	**330**	*i*	P		**Pn**	**11 06 44.1**	**-0.8**
AKTO					pmax		pmax			
	comp=Z,40nm,0.7s									
AKTO	**Aktyubinsk**	**17.18**	**330**	⇓	P		**Pn**	**11 06 44.1**	**-0.8**
	comp=Z,40nm,0.7s									
GOMU	**GeErMu**	**19.02**	**83**		P		**Pn**	**11 07 07.4**	**-0.1**
GOMU					sS		sS	11 10 56.8	-13
GOMU					pmax		pmax			
	comp=Z,6.0nm,0.8s									
GOMU					pmax		pmax			
	comp=Z,57nm,4.4s									
GOMU					LR		LR			
	comp=Z,230nm,17.5s									
GOMU					LR		LR			
	comp=Z,300nm,21.8s									
GOMU					LR		LR			
	comp=Z,380nm,21.8s									
HYBB	**Hyderabad (bro**	**19.76**	**159**	*e*	P		**P**	**11 07 14.3**	**+0.9**
HYBB				*e*	pP		**pP**	**11 07 39.7**	**+6.5**
HYBB				*e*	S		S	**11 10 54.0**	**+3.3**
HYBB					IVMs_BB		IVMs_BB	11 11 25.4	
	comp=Z,81nm,3.8s									
HYBB	**Hyderabad (bro**	**19.76**	**159**		IVMs_BB		IVMs_BB	11 11 25.6	
	comp=Z,81nm,3.8s									
HYBB	**Hyderabad (bro**	**19.76**	**159**	*e*	S		**S**	**11 10 52.8**	**+2.1**
HYBB	**Hyderabad (bro**	**19.76**	**159**	*e*	P		**P**	**11 07 14.4**	**+0.9**
ZAA0	**Zalesovo Array**	**20.15**	**24**		P		**P**	**11 07 16.6**	**-0.8**
ZAA0					IAmb		IAmb	11 07 17.8	
	comp=Z,31nm,1.2s									
ZALV	**Zalesovo Beam**	**20.15**	**24**		P		**P**	**11 07 16.8**	**-0.6**
	comp=Z,18nm,0.4s,baz=206,slow=10,SNR=94									
ZALV	**Zalesovo Beam**	**20.15**	**24**		P		**P**	**11 07 16.6**	**-0.7**
SHL	**Shillong**	**20.58**	**115**		P		**P**	**11 07 23.0**	**+0.5**
SHL					pmax		pmax			
	comp=Z,10.0nm,0.7s									
SHL	**Shillong**	**20.58**	**115**		P		**P**	**11 07 23.0**	**+0.5**
GNI	**Garni**	**21.19**	**289**	*i*	P		**P**	**11 07 29.6**	**+0.7**
GNI					pmax		pmax			
	comp=Z,21nm,0.9s									
ARU	**Arti**	**22.02**	**341**		P		**P**	**11 07 37.4**	**+0.1**
	comp=Z,4.4nm,0.5s,baz=150,slow=6.2,SNR=16									
ARU					S		**S**	**11 11 36.9**	**+3.1**
	comp=Z,1.4nm,0.2s,baz=281,slow=5.0,SNR=1.5									
ARU	**Arti**	**22.02**	**341**	*c*	*i* P		**P**	**11 07 37.0**	**-0.3**
ARU								11 08 04.8	
ARU					S		**S**	**11 11 34.8**	**+1.0**
ARU					SS		**SnSn**	**11 12 19.3**	**+10**
ARU					pmax		pmax			
	comp=Z,42nm,0.9s									
ARU	**Arti**	**22.02**	**341**		P		**P**	**11 07 37.7**	**+0.4**
ARU					IAmb		IAmb	11 07 41.4		
	comp=Z,33nm,0.8s									
ZEI	**Tsey**	**22.07**	**296**	*e*	P		**P**	**11 07 40.7**	**+2.5**
ZEI					pmax		pmax			
	comp=Z,7.0nm,1.3s									
NCK	**Nalchik**	**22.40**	**298**	*i*	P		**P**	**11 07 40.9**	**-0.5**
NCK					pmax		pmax			
	comp=Z,22nm,0.4s									
GTA	**Gaotai**	**22.77**	**73**	*e*	P		**P**	**11 07 48.0**	**+2.6**
GTA					pmax		pmax			
	comp=Z,11nm,1.1s									
KBZ	**Khabaz**	**22.93**	**298**		P		**P**	**11 07 46.3**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=92,slow=7.5,SNR=2.5									
KBZ					S		**S**	**11 11 59.5**	**+11**
	comp=Z,1.6nm,0.7s,baz=37,slow=22,SNR=2.1									
KBZ	**Khabaz**	**22.93**	**298**	*i*	P		**P**	**11 07 47.3**	**+0.5**
KBZ					pmax		pmax			
	comp=Z,3.0nm,1.0s									
KIV	**Kislovodsk**	**23.12**	**298**	*e*	P		**P**	**11 07 50.1**	**+1.4**
KIV					*e*S		**S**	**11 11 54.5**	**+2.4**
KIV					pmax		pmax			
	comp=Z,10.0nm,1.1s									
KIV					MLR		MLR			
	comp=Z,138nm,14.0s									
BELG	**Belogornoye**	**23.28**	**322**		P		**P**	**11 07 50.0**	**0.0**
	comp=Z,8.2nm,0.3s,baz=136,slow=0.7,SNR=9.0									
BELG	**Belogornoye**	**23.28**	**322**	*i*	P		**P**	**11 07 50.4**	**+0.5**
BELG					pmax		pmax			
	comp=Z,3.0nm,0.9s									
PZH	**PanZhiHua**	**27.68**	**102**		P		**P**	**11 08 33.6**	**+3.6**
PZH					pmax		pmax			
	comp=Z,10.0nm,0.5s									
PZH					pmax		pmax			
	comp=Z,120nm,5.6s									
CMAR	**Chiang Mai Arr**	**30.12**	**118**		P		**P**	**11 08 51.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=301,slow=7.8,SNR=7.0									
CMAR	**Chiang Mai Arr**	**30.12**	**118**	*i*	P		**P**	**11 08 53.5**	**+1.9**
CMAR	**Chiang Mai Arr**	**30.12**	**118**		P		**P**	**11 08 51.5**	**-0.1**
OBN	**Obninsk**	**30.33**	**320**	*i*	P		**P**	**11 08 53.1**	**+0.1**
OBN					pmax		pmax			
	comp=Z,7.0nm,0.9s									
HHC	**Hu-ho-hao-te**	**31.70**	**69**	*e*	P		**P**	**11 09 06.5**	**+1.0**
HHC					pmax		pmax			
	comp=Z,19nm,1.1s									
HHC					pmax		pmax			
	comp=Z,170nm,5.5s									
KLMR	**Klimovskoe**	**31.88**	**331**	*e*	P		**P**	**11 09 04.3**	**-2.3**
KLMR					pmax		pmax			
	comp=Z,5.0nm,0.7s									
KLMR	**Klimovskoe**	**31.88**	**331**	*e*	P		**P**	**11 09 04.4**	**-2.2**
KLMR					AMP			11 09 07.3		
	comp=Z,5.0nm,0.7s									
ELL	**Elmali**	**33.07**	**284**		P		**P**	**11 09 18.5**	**+1.0**
ELL					pmax		pmax			
	comp=Z,24nm,0.7s									
ELL	**Elmali**	**33.07**	**284**		P		**P**	**11 09 18.5**	**+1.0**
AKASG	**Malin Array Be**	**33.31**	**309**		P		**P**	**11 09 18.2**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=79,slow=8.0,SNR=3.3									
NRIK	**Noril'sk**	**34.43**	**10**		P		**P**	**11 09 29.4**	**+0.7**
	comp=Z,3.9nm,0.6s,baz=199,slow=5.4,SNR=4.3									
NRIK	**Noril'sk**	**34.43**	**10**	*i*	P		**P**	**11 09 29.0**	**+0.3**
NRIK					pmax		pmax			
	comp=Z,4.0nm,0.9s									
MNK	**Minsk**	**34.88**	**316**	*i*	P		P	11 09 27.5	-5.3
MNK				*i*	*PP		pP	11 09 50.2	-6.8
MNK				*i*				11 10 47.4	
MNK				*i*				11 11 58.0	
MNK				*i*	S		**S**	**11 14 50.9**	**-5.4**
MNK				*i*	*SS		sS	11 15 31.8	-6.7
MNK				*i*				11 19 37.9	
MNK					pmax		pmax			
	comp=Z,9.0nm,0.6s									
MNK					pmax		pmax			
	comp=E,3.0nm,0.6s									
MNK					pmax		pmax			
	comp=N,7.0nm,0.6s									
MNK					MLR		MLR			
	comp=N,781nm,24.0s									
MNK					MLR		MLR			
	comp=E,164nm,24.0s									
MNK					MLR		MLR			
	comp=Z,331nm,23.0s									
MNK	**Minsk**	**34.88**	**316**	*i*	P		P	11 09 27.5	-5.3
	comp=E,3.0nm,0.6s									
MNK				*i*	P		P	11 09 27.5	-5.3
	comp=N,7.0nm,0.6s									
MNK				*i*	P		P	11 09 27.5	-5.3
	comp=Z,9.0nm,0.6s,baz=105									
MNK				*i*	pP		pP	11 09 50.2	-6.8
MNK				*i*	PP		**PnPn**	**11 10 47.5**	**-5.2**
MNK				*i*	S		**S**	**11 14 50.9**	**-5.4**
MNK				*i*	sS		sS	11 15 31.9	-6.7
MNK				*i*	SS		**SnSn**	**11 17 23.2**	**+1.8**
MNK				*i*	LR		LR	11 23 16.7	
MNK				*i*	LRM		MLR	11 25 03.0	
	comp=N,781nm,23.9s									
MNK				*i*	LRM		MLR	11 25 05.6	
	comp=E,164nm,23.8s									
MNK				*i*	LRM		MLR	11 25 17.9	
	comp=Z,331nm,22.6s									
FIA1	**FINESS Array S**	**37.88**	**326**		P		**P**	**11 09 59.0**	**+0.8**
FINES	**FINESS Array B**	**37.88**	**326**		P		**P**	**11 09 58.6**	**+0.5**
	comp=Z,3.9nm,0.4s,baz=119,slow=8.2,SNR=24									
FINES	**FINESS Array B**	**37.88**	**326**	*i*	P		**P**	**11 09 59.0**	**+0.8**
FINES					pmax		pmax			
	comp=Z,4.0nm,0.4s									
FINES	**FINESS Array B**	**37.88**	**326**		P		**P**	**11 09 58.7**	**+0.6**
NJ2	**Nanjing**	**39.33**	**82**	*e*	P		**P**	**11 10 12.0**	**+1.3**
NJ2					pmax		pmax			
	comp=Z,6.0nm,0.5s									
KEV	**Kevo**	**41.19**	**338**		P		**P**	**11 10 26.6**	**+1.0**
KEV					pmax		pmax			
	comp=Z,35nm,1.5s									
KEV	**Kevo**	**41.19**	**338**		P		**P**	**11 10 26.6**	**+1.0**
ARA0	**ARCESS Array S**	**41.54**	**338**	*e*	P		**P**	**11 10 29.4**	**+1.0**
ARCES	**ARCESS Array B**	**41.54**	**338**		P		**P**	**11 10 29.2**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=116,slow=7.7,SNR=52									
ARCES	**ARCESS Array B**	**41.54**	**338**		P		**P**	**11 10 29.5**	**+1.1**
ARCES					pmax		pmax			
	comp=Z,8.0nm,0.9s									
ARCES	**ARCESS Array B**	**41.54**	**338**		P		**P**	**11 10 29.5**	**+1.1**
ARCES					IAmb		IAmb	11 10 31.1		
	comp=Z,8.1nm,0.9s									
KTK1	**Kautokeino**	**42.01**	**336**	*e*	P		**P**	**11 10 32.6**	**+0.3**
ZEA	**Zeya**	**42.16**	**47**	*e*	P		**P**	**11 10 26.2**	**-7.4**
HAMF	**Hammerfest**	**42.62**	**339**	*e*	P		**P**	**11 10 38.0**	**+0.8**
JETT	**Jettan, Norway**	**43.15**	**337**	*e*	P		**P**	**11 10 42.8**	**+1.3**
FAUS	**Fauske**	**44.20**	**333**	*e*	P		**P**	**11 10 50.1**	**+0.3**
MOR8	**Moi Rana**	**44.21**	**331**	*e*	P		**P**	**11 10 49.9**	**-0.1**
STEI	**Steigen**	**44.37**	**333**	*e*	P		**P**	**11 10 51.6**	**+0.4**
NC405	**NORSAR Array S**	**44.54**	**323**		P		**P**	**11 10 53.4**	**+0.7**
NC602	**NORSAR Array S**	**44.59**	**323**		P		**P**	**11 10 53.3**	**+0.2**
NC602					IAmb		IAmb	11 10 53.5		
	comp=Z,7.0nm,0.9s									
NC602	**NORSAR Array S**	**44.59**	**323**	*e*	P		**P**	**11 10 53.2**	**+0.2**
NORES	**NORESS Array B**	**44.59**	**323**		P		**P**	**11 10 53.0**	**0.0**
NACB	**Ninganchiao**	**44.70**	**91**		P		**P**	**11 10 54.3**	**-0.1**
NC303	**NORSAR Array S**	**44.72**	**324**		P		**P**	**11 10 55.0**	**+0.9**
NB201	**NORSAR Array S**	**44.74**	**323**		P		**P**	**11 10 54.1**	**-0.1**
NB2	**NORSAR Subarra**	**44.77**	**323**		P		**P**	**11 10 54.5**	**-0.1**
	comp=Z,4.5nm,0.5s,baz=96,slow=7.9									
NB2	**NORSAR Subarra**	**44.77**	**323**		P		**P**	**11 10 54.5**	**-0.1**
	baz=96,slow=7.9									
NOA	**NORSAR Array B**	**44.77**	**323**		P		**P**	**11 10 54.8**	**+0.2**
	comp=Z,4.8nm,0.5s,baz=96,slow=7.8,SNR=19									
KSRS	**Korea Array**	**44.

LBTB	**Lobatse**	**74.56**	**222**	*i* P		P		11 14 10.0	-9.3
LBTB	**Lobatse**	**74.56**	**222**	*i* P		P		11 14 10.0	-9.3
MDM	**Murphy Dome**	**74.59**	**16**	P		**P**		**11 14 19.4**	**+0.5**
MDM				IAmb		IAmb		11 14 20.0	
	comp=Z,5.9nm,1.0s								
POKR	**Poker Plat Res**	**74.64**	**16**	P		**P**		**11 14 19.7**	**+0.5**
BPAW	**Bear Paw Mtn.**	**74.66**	**18**	P		**P**		**11 14 19.2**	**-0.1**
NEA2	**Nenana**	**74.71**	**17**	P		**P**		**11 14 19.9**	**+0.3**
NEA2				IAmb		IAmb		11 14 20.2	
	comp=Z,3.3nm,0.6s								
TCOL	**CIGO, UAF Yank**	**74.75**	**16**	P		**P**		**11 14 20.6**	**+0.8**
TCOL				IAmb		IAmb		11 14 20.7	
	comp=Z,5.7nm,0.8s								
COLA	**College**	**74.75**	**16**	P		**P**		**11 14 20.6**	**+0.8**
COLA				pmax		pmax			
	comp=Z,6.0nm,0.8s								
COLA	**College**	**74.75**	**16**	P		**P**		**11 14 20.6**	**+0.8**
COLA				IAmb		IAmb		11 14 20.7	
	comp=Z,5.7nm,0.8s								
KNRA	**Kununurra**	**74.88**	**123**	P		**P**		**11 14 22.4**	**+1.2**
KNRA				IAmb		IAmb		11 14 22.9	
	comp=Z,8.2nm,0.8s								
DBIC	**Dimbokro**	**74.88**	**267**	P		**P**		**11 14 20.0**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=149,slow=11,SNR=1.7								
CAST	**Castle Rocks**	**74.94**	**19**	P		**P**		**11 14 21.5**	**+0.5**
CAST				IAmb		IAmb		11 14 22.0	
	comp=Z,5.2nm,0.9s								
WRH	**Wood River Hil**	**75.04**	**17**	P		**P**		**11 14 21.6**	**+0.1**
IL31		**75.06**	**16**	P		**P**		**11 14 21.1**	**-0.4**
ILAR	**Eielson Array**	**75.06**	**16**	P		**P**		**11 14 20.4**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=300,slow=4.5,SNR=12								
ILAR	**Eielson Array**	**75.06**	**16**	P		**P**		**11 14 21.0**	**-0.6**
ILAR	**Eielson Array**	**75.06**	**16**	P		**P**		**11 14 21.0**	**-0.6**
KTH	**Kantishna Hill**	**75.13**	**18**	P		**P**		**11 14 22.4**	**+0.3**
KTH				IAmb		IAmb		11 14 34.4	
	comp=Z,19nm,1.4s								
BOSA	**Boshof**	**77.61**	**220**	P		**P**		**11 14 37.4**	**+0.7**
	comp=Z,11nm,0.7s,baz=29,slow=4.0,SNR=26								
BOSA	**Boshof**	**77.61**	**220**	P		**P**		**11 14 37.9**	**+1.3**
BOSA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
BOSA	**Boshof**	**77.61**	**220**	P		**P**		**11 14 37.9**	**+1.3**
BOSA				IAmb		IAmb		11 14 38.4	
	comp=Z,10.0nm,0.8s								
BOSA	**Boshof**	**77.61**	**220**	*i* P		**P**		**11 14 37.6**	**+1.0**
BOSA	**Boshof**	**77.61**	**220**	*i* P		**P**		**11 14 37.6**	**+1.0**
M27K	**Edge Creek, AK**	**78.26**	**15**	P		**P**		**11 14 40.8**	**+1.0**
M27K				IAmb		IAmb		11 14 41.8	
	comp=Z,7.8nm,1.2s								
WRA	**Warramunga Arr**	**81.64**	**122**	P		**P**		**11 14 58.5**	**0.0**
	comp=Z,1.6nm,0.6s,baz=326,slow=4.9,SNR=17								
WRA	**Warramunga Arr**	**81.64**	**122**	P		**P**		**11 14 58.3**	**-0.2**
WRAB	**Tennant Creek**	**81.64**	**122**	P		**P**		**11 14 58.5**	**0.0**
WRAB				pmax		pmax			
	comp=Z,15nm,1.5s								
WRAB	**Tennant Creek**	**81.64**	**122**	P		**P**		**11 14 58.5**	**0.0**
WRAB				IAmb		IAmb		11 15 20.5	
	comp=Z,15nm,1.5s								
WB2	**Warramunga Arr**	**81.65**	**122**	P		**P**		**11 14 58.7**	**+0.2**
WB2				IAmb		IAmb		11 15 26.6	
	comp=Z,5.3nm,0.9s								
WR0	**Warramunga Arr**	**81.79**	**122**	P		**P**		**11 14 59.4**	**+0.2**
WR0				IAmb		IAmb		11 15 03.7	
	comp=Z,6.5nm,1.2s								
SUR	**Sutherland**	**82.93**	**221**	P		**P**		**11 15 05.1**	**0.0**
SUR				IAmb		IAmb		11 15 32.3	
	comp=Z,15nm,1.3s								
ASAR	**Alice Springs**	**83.89**	**125**	P		**P**		**11 15 10.2**	**0.0**
	comp=Z,1.3nm,0.6s,baz=309,slow=4.9,SNR=11								
ASAR	**Alice Springs**	**83.89**	**125**	P		**P**		**11 15 10.7**	**+0.6**
ASAR	**Alice Springs**	**83.89**	**125**	P		**P**		**11 15 10.7**	**+0.6**
DLBC	**Dease Lake**	**84.09**	**11**	P		**P**		**11 15 11.5**	**+0.8**
FORT	**Forrest**	**85.29**	**134**	P		**P**		**11 15 17.4**	**+0.6**
FFC	**Flin Flon**	**89.30**	**356**	P		**P**		**11 15 36.1**	**+0.1**
FFC				pmax		pmax			
	comp=Z,4.0nm,1.0s								
FFC	**Flin Flon**	**89.30**	**356**	P		**P**		**11 15 36.1**	**+0.1**
FFC				IAmb		IAmb		11 15 37.0	
	comp=Z,3.8nm,0.9s								
CTA	**Charters Tower**	**90.22**	**115**	P		**P**		**11 15 40.2**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=6.8,slow=16,SNR=1.8								

*BUC **20** 11:08:15.3±0.4,45°.41N×26°.09E,h127km±2km,ml3.5/29, Error ellipse: s-maj=2.7km s-min=1.8km az=155.0*
ISC 20 11:08:14.1±1.5,**45°.40N**±0°.04×**26°.10E**±0°.03,**h139**km±8km, **n37**,σ0**s79**/66,**36C-27D**,**Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
MLR	**Muntele Rosu**	**0.14**	**309**	⇑P	**Pn**	**11 08 33.6**	**+0.5**
MLR				⇑S	**Sn**	**11 08 46.6**	**-0.8**
NEHR	**Nehoiu**	**0.14**	**80**	⇑P	**Pn**	**11 08 33.7**	**+0.7**
NEHR				⇓S	**Sn**	**11 08 46.9**	**-0.3**
SECR		**0.37**	**184**	⇓P	**Pn**	**11 08 34.4**	**+0.8**
ISR	**Istrita**	**0.42**	**132**	⇑P	**Pn**	**11 08 34.3**	**+0.4**
ISR				⇓S	**Sn**	**11 08 49.2**	**+0.3**
COVR	**Voineasa-Covas**	**0.45**	**9**	⇑P	**Pn**	**11 08 34.2**	**+0.2**
COVR				⇑S	**Sn**	**11 08 47.9**	**-1.2**
BISRR	**Bisoca**	**0.45**	**71**	⇑P	**Pn**	**11 08 34.8**	**+0.8**
BISRR				⇑S	**Sn**	**11 08 48.7**	**-0.5**
PLOR	**Plostina**	**0.59**	**41**	⇓P	**Pn**	**11 08 35.4**	**+0.6**
PLOR				⇑S	**Sn**	**11 08 49.5**	**-1.0**
VRI	**Vrincioaia**	**0.64**	**43**	⇑P	**Pn**	**11 08 35.8**	**+0.8**
VRI				⇓S	**Sn**	**11 08 51.0**	**+0.1**
OZUR		**0.73**	**343**	⇑P	**Pn**	**11 08 36.0**	**+0.4**
OZUR				⇑S	**Sn**	**11 08 50.9**	**-1.2**
SULR		**0.73**	**171**	⇑P	**Pn**	**11 08 36.3**	**+0.7**
SULR				⇓S	**Sn**	**11 08 52.4**	**+0.4**
VOIR		**0.74**	**273**	⇑P	**Pn**	**11 08 36.2**	**+0.5**
VOIR				⇓S	**Sn**	**11 08 51.3**	**-0.9**
DOPR	**Dopca**	**0.75**	**319**	⇑P	**Pn**	**11 08 36.1**	**+0.3**
DOPR				⇑S	**Sn**	**11 08 51.0**	**-1.3**
PGOR	**Pogoanele**	**0.80**	**128**	⇑P	**Pn**	**11 08 36.5**	**+0.4**
PGOR				⇑S	**Sn**	**11 08 53.5**	**+0.7**
PANC	**Panciu**	**0.87**	**57**	⇓P	**Pn**	**11 08 38.0**	**+1.3**
PANC				⇓S	**Sn**	**11 08 53.8**	**-0.1**
STFAR	**Stefanesti-Arg**	**0.97**	**237**	⇓P	**Pn**	**11 08 38.0**	**+0.4**
STFAR				⇓S	**Sn**	**11 08 54.7**	**-0.6**
ARR	**Arges**	**1.03**	**269**	⇓P	**Pn**	**11 08 38.8**	**+0.7**
ARR				⇓S	**Sn**	**11 08 55.7**	**-0.8**
LEHL	**Lehliu**	**1.06**	**151**	⇑P	**Pn**	**11 08 38.5**	**+0.1**
LEHL				⇑S	**Sn**	**11 08 56.9**	**+0.1**
TUDR		**1.12**	**80**	⇑P	**Pn**	**11 08 39.1**	**+0.2**
TUDR				⇓S	**Sn**	**11 08 56.8**	**-0.9**
TESR	**Tescani**	**1.17**	**19**	⇑P	**Pn**	**11 08 40.1**	**+0.7**
TESR				⇓S	**Sn**	**11 08 58.1**	**-0.7**
HUMR	**Humele**	**1.18**	**223**	⇓P	**Pn**	**11 08 40.0**	**+0.5**
HUMR				⇑S	**Sn**	**11 08 58.3**	**-0.5**
SGRR	**Singureni**	**1.18**	**184**	⇑S	**Sn**	**11 08 57.8**	**-1.0**
SLCR	**Slobozia Conac**	**1.19**	**80**	⇑S	**Sn**	**11 08 57.3**	**-1.6**
BIR	**Birlad**	**1.37**	**51**	⇓P	**Pn**	**11 08 42.5**	**+1.1**
BIR				⇓S	**Sn**	**11 09 01.9**	**-0.4**
COPA	**Copaceanca**	**1.42**	**207**	⇓P	**Pn**	**11 08 41.5**	**-0.4**
COPA				⇓S	**Sn**	**11 09 02.2**	**-0.9**
VLDR	**Vladesti**	**1.46**	**72**	⇑P	**Pn**	**11 08 43.3**	**+1.0**
VLDR				⇑S	**Sn**	**11 09 03.4**	**-0.4**
LOT	**Lotru**	**1.64**	**272**	⇑P	**Pn**	**11 08 45.8**	**+1.3**
LOT				⇑S	**Sn**	**11 09 08.2**	**+0.5**
VASR	**Vaslui**	**1.71**	**43**	⇑P	**Pn**	**11 08 46.0**	**+0.9**
VASR				⇑S	**Sn**	**11 09 08.2**	**-0.7**
TPGR	**Topolog**	**1.73**	**108**	⇑P	**Pn**	**11 08 45.6**	**+0.2**
LEOM	**Leova**	**1.84**	**54**	⇑P	**Pn**	**11 08 46.6**	**0.0**
LEOM				⇓S	**Sn**	**11 09 11.2**	**-0.3**
VLAD	**Vladila**	**1.85**	**221**	⇓P	**Pn**	**11 08 47.0**	**+0.2**
TIRR	**Tirgusor**	**1.90**	**119**	⇓P	**Pn**	**11 08 47.5**	**+0.3**
TLCR		**1.93**	**96**	⇑P	**Pn**	**11 08 48.6**	**+1.0**
TLCR				⇓S	**Sn**	**11 09 12.8**	**-0.5**
GZR	**Gura Zlata**	**2.34**	**271**	⇑P	**Pn**	**11 08 54.3**	**+1.6**
GZR				⇓S	**Sn**	**11 09 22.2**	**-0.2**
MILM	**Milestii Mici**	**2.42**	**50**	⇓*i*P	**Pn**	**11 08 54.3**	**+0.7**
	40nm,0.1s						
MILM				*e*S	**Sn**	**11 09 22.3**	**-1.7**
	30nm,0.1s						
MILM	**Milestii Mici**	**2.42**	**50**	⇓P	**Pn**	**11 08 54.3**	**+0.7**
KIS	**Kishinev**	**2.47**	**49**	*e*P	**Pn**	**11 08 55.0**	**+0.8**
	70nm,0.3s						
KIS				*e*S	**Sn**	**11 09 24.0**	**-1.2**
	40nm,0.2s						
HERR	**Herculane**	**2.66**	**260**	⇑P	**Pn**	**11 08 56.2**	**-0.5**

*IDC **20** 11:23:20.8±0.6,0°.03S×80°.32W,h0km,mb4.4/22, mb1 4.6/25,mb1mx4.4/46,mbtmp4.4/25,ML3.0/2,MS4.2/2, Ms1 4.2/2,ms1mx3.4/68,Error ellipse: s-maj=22.7km s-min=10.5km az=57.0*
*NEIC **20** 11:23:22.9±2.0,0°.22S±0°.04×80°.37W±0°.05,h10km±1km, mb4.6/150,Mwr4.3/21,Error ellipse: s-maj=9.2km s-min=6.5km az=244.0*
*IGQ **20** 11:23:22±2.1,0°.5S±5°×8°.0W±1°.4,h6km*
*VAO **20** 11:23:26.4±1.4,0°.36S×80°.18W,h23km±9km,mb5.0*
*NEIC **20** 11:23:28.1,0°.23S×80°.38W,h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.10; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-2.85; $M_{r\theta}$-0.19; $M_{\theta\phi}$-0.56; $M_{\phi r}$-0.68; Fault plane solution: M_o3.11000×10^{15} NP1:ϕ_s192.45000°, δ51.53000°,λ91.12000°. NP2:ϕ_s10.65000°,δ38.48000°, λ88.59000°. Principal axes: T 3.1776, Plg83.0000°, Azm109.0000°; N -0.1326, Plg1.0000°, Azm12.0000°; P -3.0450, Plg7.0000°, Azm282.0000°;*
ISC 20 11:23:21.9±0.3,**0°.11S**±0°.04×**80°.38W**±0°.04,**h9**km,**n423**, σ1**s21**/416,**mb4.6**/87,**Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.23**	**131**	P	**Pg**	**11 23 28.0**	**+1.3**
JAMA				S	**Sg**	**11 23 34.0**	**+4.1**
FLF1	**Flavio Alfaro-**	**0.59**	**115**	P	**Pn**	**11 23 36.0**	**-0.6**
MAG1	**Magdalena**	**0.61**	**87**	P	**Pn**	**11 23 37.0**	**+0.2**
AV18	**Acelerografo,**	**1.00**	**65**	P	**Pn**	**11 23 43.0**	**+0.9**
BV15	**Puerto Quito-O**	**1.19**	**77**	P	**Pn**	**11 23 45.0**	**+0.2**
HPAL	**Hacienda Las P**	**1.73**	**94**	P	**Pb**	**11 23 53.0**	**-1.2**
APR1	**Acelerografo,**	**1.77**	**88**	P	**Pb**	**11 23 54.0**	**-0.8**
TERV	**Terraza Guagua**	**1.78**	**92**	P	**Pb**	**11 23 54.0**	**-1.1**
PAST	**Pastocalle**	**1.83**	**108**	P	**Pb**	**11 23 55.0**	**-1.0**
PULU	**Pululahua**	**1.89**	**86**	Pn	**Pn**	**11 23 55.6**	**-1.2**
PULU				Sn	**Sn**	**11 24 18.4**	**-0.4**
CAMI	**Rancho Maria**	**1.96**	**107**	P	**Pb**	**11 23 57.0**	**-1.1**
OTAV	**Otavalo**	**1.96**	**80**		**Pn**	**11 23 56.2**	**+0.4**
NAS2	**Nasa**	**1.99**	**106**	P	**Pb**	**11 23 58.0**	**-0.6**
PITA	**Cotopaxi Volc**	**2.00**	**103**	P	**Pb**	**11 23 58.0**	**-0.8**
BREF	**Cotopaxi Volca**	**2.02**	**106**	P	**Pb**	**11 23 58.0**	**-1.2**
CUSE	**Cuicocha Este**	**2.02**	**78**	*e*P	**Pb**	**11 23 58.6**	**-0.6**
CUSE				*e*S	**Sg**	**11 24 27.6**	**+0.5**
CUSE	**Cuicocha Este**	**2.02**	**78**	P	**Pb**	**11 23 58.0**	**-1.2**
CHSH	**Refugio Sur-Vo**	**2.04**	**132**	P	**Pn**	**11 23 57.0**	**-0.1**
VC1	**Cotopaxi 1**	**2.05**	**105**	P	**Pb**	**11 23 59.0**	**-0.7**
CUIC	**Cuicocha-Domo**	**2.06**	**79**	P	**Pb**	**11 23 59.0**	**-0.8**
COTA	**Cotacachi**	**2.09**	**78**	P	**Pb**	**11 24 00.0**	**-0.4**
TAMB	**Tambo**	**2.10**	**106**	P	**Pb**	**11 24 00.0**	**-0.5**
PORT	**Chimborazo Vol**	**2.10**	**130**	Pn	**Pn**	**11 23 58.3**	**+0.5**
VCES	**Cotopaxi**	**2.10**	**109**	P	**Pb**	**11 23 59.0**	**-1.6**
TAMH	**Tambohuasha Ch**	**2.14**	**132**	P	**Pn**	**11 23 59.0**	**+0.7**
ANTG	**Antisana-Guama**	**2.18**	**97**	P	**Pb**	**11 24 01.0**	**-0.6**
IGUA	**Iguiata**	**2.22**	**128**	P	**Pb**	**11 24 02.0**	**-0.6**
ANTS	**Antisana-Sarah**	**2.25**	**100**	P	**Pb**	**11 24 02.0**	**-1.1**
ANTI	**Antisana**	**2.25**	**99**	P	**Pb**	**11 24 02.0**	**-1.1**
RETU	**Refugio**	**2.35**	**125**	P	**Pb**	**11 24 03.0**	**-1.8**
COHC	**Cochancay**	**2.60**	**154**		**Pn**	**11 24 03.3**	**-0.9**
TULM	**Tulcn-Chalpat**	**2.72**	**72**	Pn	**Pb**	**11 24 10.2**	**-0.9**
TULM	**Tulcn-Chalpat**	**2.72**	**72**	*e*P	**Pb**	**11 24 10.9**	**-0.2**
CCUFI	**Cufio, Nario**	**3.31**	**66**	*e*P	**Pb**	**11 24 18.6**	**-2.6**
GCUF	**Volcan Galeras**	**3.31**	**66**	*e*P	**Pb**	**11 24 18.1**	**-3.1**
ARNL	**Arenillas**	**3.43**	**175**	Pn	**Pn**	**11 24 15.8**	**+0.2**
BOSC	**San Juan Bosco**	**3.56**	**148**	Pn	**Pn**	**11 24 19.3**	**+1.7**
GR1C	**Gorgona, Isla**	**3.80**	**36**	*e*P	**Pn**	**11 24 19.8**	**-0.9**
CRUC	**La Cruz**	**3.81**	**64**	*e*P	**Pn**	**11 24 25.0**	**+3.8**
MCRA	**Macar, Loja**	**4.25**	**174**		**Pn**	**11 24 26.6**	**-0.4**
SOTA	**Rioblanco**	**4.38**	**59**	*e*P	**Pn**	**11 24 31.8**	**+2.6**
POPC	**Popayan, Colom**	**4.54**	**55**	*e*P	**Pn**	**11 24 33.1**	**+1.9**
PCON	**Cinco Dias**	**4.66**	**59**	*e*P	**Pn**	**11 24 36.3**	**+3.2**
MARP	**Paez Belalcaza**	**5.31**	**56**	*e*P	**Pn**	**11 24 45.0**	**+3.3**
GARC	**Garzon, Huila**	**5.39**	**65**	*e*P	**Pn**	**11 24 45.8**	**+2.9**
PTLC	**Puerto Leguiza**	**5.59**	**87**	*e*P	**Pn**	**11 24 48.8**	**+3.4**
BETC	**Betania**	**5.66**	**61**	*e*P	**Pn**	**11 24 49.1**	**+2.7**
YOTC	**Yotoco, Valle**	**5.73**	**45**	*e*P	**Pn**	**11 24 48.4**	**+1.1**
PLMC	**San Jos del P**	**6.45**	**39**	*e*P	Pn	11 25 03.4	+6.2
PLMC				*e*S	**Sn**	**11 26 08.5**	**-2.6**
ORTC	**Ortega, Tolima**	**6.50**	**52**	*e*P	**Pn**	**11 25 01.0**	**+3.1**
MACC	**Macarena, Meta**	**6.91**	**71**	*e*P	**Pn**	**11 25 06.7**	**+3.3**
GUY2C	**Guyana, Caldas**	**7.29**	**43**	*e*P	**Pn**	**11 25 13.4**	**+4.2**
ROSC	**El Rosal**	**7.80**	**51**	Pn	**Pn**	**11 25 16.6**	**+0.5**
	2.8nm,0.3s,baz=136,slow=23,SNR=1.9						
ROSC				Sn	Sn	11 26 56.6	+12
	1.8nm,0.3s,baz=31,slow=24,SNR=0.8						
ROSC	**El Rosal**	**7.80**	**51**	Pn	**Pn**	**11 25 16.4**	**+0.4**
ROSC	**El Rosal**	**7.80**	**51**	*e*P	Pn	11 25 23.8	+7.7
NORC	**Norcasia**	**7.88**	**44**	*e*P	Pn	11 25 23.1	+6.3
VILC	**Villavicencio,**	**7.89**	**58**	*e*P	**Pn**	**11 25 20.1**	**+3.0**
HELC	**Santa Helena**	**7.91**	**38**	*e*P	Pn	11 25 23.2	+5.6
CHIC	**Chingaza**	**8.14**	**55**	*e*P	**Pn**	**11 25 23.6**	**+2.8**
PTBC	**PUERTO BERRIO,**	**8.87**	**42**	*e*P	**Pn**	**11 25 33.2**	**+2.8**
BRU2	**Volcan**	**9.14**	**345**	Pn	**Pn**	**11 25 35.8**	**+1.6**
URCC	**San Jos de Ur**	**9.18**	**32**	*e*P	**Pn**	**11 25 39.5**	**+4.8**
ZARC	**Zaragoza, Cauc**	**9.35**	**36**	Pn	Pn	11 25 42.0	+5.0
ZARC	**Zaragoza, Cauc**	**9.35**	**36**	*e*P	Pn	11 25 42.0	+5.0
RUSC	**La Rusia**	**9.41**	**51**	*e*P	**Pn**	**11 25 40.5**	**+2.2**
DRK0	**Durika**	**9.74**	**343**		**Pn**	**11 25 45.6**	**+3.1**
SRBA	**San Rafael, Bu**	**9.74**	**342**		**Pn**	**11 25 45.1**	**+2.6**
PAYG	**Puerto Ayora**	**9.92**	**267**		**Pn**	**11 25 45.6**	**+0.8**
CZSB	**Cruzeiro do Su**	**10.77**	**135**	*e*P	**Pn**	**11 25 55.0**	**-1.4**
CAO2	**Cobano, Puntar**	**10.81**	**334**	Pn	**Pn**	**11 25 59.5**	**+2.5**
OCAC	**Ocana**	**10.88**	**40**	Pn	**Pn**	**11 26 02.6**	**+4.6**
TBTG	**Tabatinga, AM**	**11.22**	**111**	*e*P	**Pn**	**11 26 02.4**	**-0.2**
JTS	**Las Juntas de**	**11.29**	**336**	Pn	**Pn**	**11 26 03.8**	**+0.3**
	0.3nm,0.3s,baz=355,slow=22,SNR=2.5						
DUNO	**Dulce Nombre,**	**11.33**	**333**	Pn	Pn	11 26 09.2	+5.1
NNA	**Nana**	**12.31**	**164**	Pn	**Pn**	**11 26 19.4**	**+1.7**
	10nm,0.3s,baz=324,slow=15,SNR=13						
NNA				Sn	**Sn**	**11 28 31.2**	**-3.9**
	4.0nm,0.3s,baz=137,slow=9.8,SNR=2.1						
SDV	**Santo Domingo**	**13.20**	**47**	Pn	**Pn**	**11 26 31.5**	**+1.7**
	0.5nm,0.3s,baz=194,slow=12,SNR=3.5						
SDV	**Santo Domingo**	**13.20**	**47**		**Pn**	**11 26 33.5**	**+3.7**
SDV	**Santo Domingo**	**13.20**	**47**	*e*P	**Pn**	**11 26 33.8**	**+3.9**
BAUV	**El Baul**	**15.23**	**53**		**P**	**11 27 02.0**	**-0.3**
BAUV				IAmb	IAmb	11 27 26.6	
	comp=Z,20nm,0.8s						
TGUH	**Tegucigalpa,Un**	**15.64**	**334**	Pn	**P**	**11 27 06.4**	**-0.7**
MTO3	**Montecristo**	**16.93**	**329**		**P**	**11 27 23.9**	**+2.3**
ETMB	**Extrema**	**17.08**	**125**	*e*P	**Pn**	**11 27 18.2**	**-2.9**
BIRV	**Birongo**	**17.54**	**53**		**P**	**11 27 30.3**	**+2.3**
MACA	**Manacapuru-AM**	**19.92**	**99**	*e*P	**Pn**	**11 27 54.7**	**-1.1**
CCIG	**Comitan**	**19.99**	**325**	P	Pn	11 27 59.1	+2.3
BOAV	**Boa Vista**	**20.01**	**83**	*e*P	**Pn**	**11 27 57.1**	**+0.2**
LPAZ	**La Paz**	**20.11**	**144**	P	Pn	11 27 58.7	0.0
	comp=Z,18nm,0.7s,baz=320,slow=9.9,SNR=24						
LPAZ	**La Paz**	**20.11**	**144**	P	**P**	**11 27 57.3**	**+0.4**
LPAZ				IAmb	IAmb	11 28 07.0	
	comp=Z,21nm,0.7s						
LPAZ	**La Paz**	**20.11**	**144**	*e*P	**P**	**11 27 56.2**	**-0.8**
DR12	**Loma Pena Alta**	**21.66**	**29**	P	**P**	**11 28 16.9**	**+3.8**
PB11	**IPOC Station P**	**22.18**	**152**	P	**P**	**11 28 18.6**	**-0.2**
CMIG	**Matias Romero**	**22.28**	**321**	P	**P**	**11 28 20.7**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=136,slow=4.1,SNR=4.1						
PB08	**IPOC Station P**	**22.74**	**152**	P	**P**	**11 28 25.2**	**+0.3**
PB08				IAmb	IAmb	11 28 51.3	
	comp=Z,20nm,0.8s						
SJG	**San Juan**	**22.89**	**37**	P	**P**	**11 28 25.9**	**-0.1**
	comp=Z,5.5nm,0.3s,baz=298,slow=18,SNR=1.6						
PATCX	**Punta Patache**	**22.89**	**155**	P	**P**	**11 28 26.7**	**+0.6**
PDPR	**Patillas Dam,**	**22.89**	**37**	P	**P**	**11 28 28.7**	**+2.6**
PDPR				IAmb	IAmb	11 28 42.1	
	comp=Z,42nm,1.2s						
CBYP	**Canovanas**	**23.18**	**37**	P	**P**	**11 28 31.5**	**+2.2**
PB02	**IPOC Station P**	**23.44**	**155**	P	**P**	**11 28 33.3**	**+1.5**
VILB	**Vilhena**	**23.73**	**123**	*e*P	**P**	**11 28 35.0**	**+0.3**
PB09	**IPOC Station P**	**24.14**	**154**	P	**P**	**11 28 39.5**	**+0.9**
SIV	**San Ignacio**	**24.74**	**131**	P	**P**	**11 28 44.8**	**+0.8**
	comp=Z,14nm,0.7s,baz=302,slow=9.1,SNR=63						
SIV				LR	LR	11 38 08.2	
	comp=Z,589nm,19.6s,baz=290,slow=36						
ITTB	**Itaituba**	**24.98**	**100**	*e*P	**P**	**11 28 46.6**	**+0.3**
LVC	**Limon Verde**	**25.00**	**154**	P	**P**	**11 28 48.0**	**+1.3**
	comp=Z,11nm,0.7s,baz=325,slow=6.3,SNR=14						
LVC	**Limon Verde**	**25.00**	**154**	P	**P**	**11 28 47.4**	**+0.7**
LVC				IAmb	IAmb	11 29 14.0	
	comp=Z,26nm,1.1s						
LVC	**Limon Verde**	**25.00**	**154**	*e*P	**P**	**11 28 47.0**	**+0.3**
NPGB	**Novo Progresso**	**25.89**	**106**	*e*P	**P**	**11 28 54.0**	**-0.6**
PTLB	**Pontes e Lacer**	**25.94**	**127**	*e*P	**P**	**11 28 55.1**	**+0.2**
PDRB	**Porto dos Gac**	**26.12**	**117**	*e*P	**P**	**11 28 56.1**	**-0.5**
MALB	**Monte Alegre**	**26.17**	**94**	*e*P	**P**	**11 28 57.5**	**+0.4**

CLDB	**Colider**	**26.67**	**114**	*e*P		**P**		**11 29 01.3**	**-0.3**
GO02	**Mina Guanaco**	**27.00**	**158**	P		**P**		**11 29 04.7**	**-0.1**
GO02				IAmb		IAmb		11 29 06.9	
	comp=Z,20nm,1.1s								
AC01	**Pan de Azucar**	**27.55**	**161**	P		**P**		**11 29 10.1**	**+0.8**
AC01				IAmb		IAmb		11 29 37.1	
	comp=Z,22nm,1.1s								
NBRS	**Nobres**	**28.14**	**121**	*e*P		**P**		**11 29 15.7**	**+0.9**
MDP	**Montagnes des**	**28.18**	**79**	P		**P**		**11 29 14.6**	**-0.6**
	comp=Z,9.2nm,0.9s,baz=153,slow=9.9,SNR=1.7								
MCPB	**Macapa, AP**	**28.33**	**91**	*e*P		**P**		**11 29 16.8**	**+0.3**
AC02	**Maricunga**	**28.70**	**159**	P		**P**		**11 29 21.5**	**+1.4**
AC02				IAmb		IAmb		11 29 22.7	
	comp=Z,13nm,1.0s								
SALV	**Santo Antonio**	**28.99**	**124**	*e*P		**P**		**11 29 22.9**	**+0.6**
PP1B	**Ponte de Pedra**	**30.52**	**126**	*e*P		**P**		**11 29 36.9**	**+1.0**
PRPB	**Parauapebas**	**31.10**	**102**	*e*P		**P**		**11 29 40.9**	**-0.2**
SNDB	**Serra Nova Dou**	**31.19**	**113**	*e*P		**P**		**11 29 42.5**	**+0.8**
AQDB	**Aquidauana**	**31.51**	**131**	P		**P**		**11 29 44.3**	**-0.2**
AQDB	**Aquidauana**	**31.51**	**131**	*e*P		**P**		**11 29 44.5**	**+0.1**
DVLD	**Doverlandia**	**32.30**	**122**	*e*P		**P**		**11 29 51.9**	**+0.4**
GOGA	**Godfrey**	**33.47**	**355**	P		**P**		**11 30 01.2**	**-0.3**
	baz=174								
LRAL	**Lakeview Retre**	**33.55**	**350**	P		**P**		**11 30 03.4**	**+1.1**
LRAL				IAmb		IAmb		11 30 03.5	
	comp=Z,6.0nm,0.9s								
LRAL	**Lakeview Retre**	**33.55**	**350**	P		**P**		**11 30 01.5**	**-0.7**
	baz=168								
833A	**Chaparral WMA,**	**33.63**	**329**	P		**P**		**11 30 04.5**	**+1.5**
833A				IAmb		IAmb		11 30

	comp=Z,14nm,0.8s						
121A	**Cookes Peak, D**	**41.50**	**324**	P	**P**	**11 31 10.4**	**+0.5**
121A	**Cookes Peak, D** baz=136	**41.50**	**324**	P	**P**	**11 31 11.4**	**+1.5**
ALLY	**Alegheny Colle**	**41.57**	**0**	P	**P**	**11 31 09.2**	**-0.9**
319A	**Douglas**	**41.60**	**321**	P	**P**	**11 31 11.3**	**+0.8**
319A				IAmb	IAmb	11 31 16.2	
	comp=Z,7.6nm,0.6s						
KSU1	**Kansas State U**	**41.76**	**341**	P	**P**	**11 31 11.8**	**+0.1**
KSU1	**Kansas State U** baz=155	**41.76**	**341**	P	**P**	**11 31 11.9**	**+0.3**
R32A	**Long Quarter,**	**41.89**	**338**	P	**P**	**11 31 13.9**	**+1.2**
Y22D	**IRIS PASSCAL I** baz=138	**42.14**	**326**	P	**P**	**11 31 16.0**	**+1.0**
LENM	**Lemitar**	**42.23**	**326**	P	**P**	**11 31 16.8**	**+1.0**
ANMO	**Albuquerque**	**42.54**	**328**	P	**P**	**11 31 19.7**	**+1.3**
ANMO				IAmb	IAmb	11 31 24.1	
	comp=Z,8.2nm,0.6s						
ANMO	**Albuquerque** baz=140	**42.54**	**328**	P	**P**	**11 31 19.3**	**+1.0**
CBKS	**Cedar Bluff** baz=151	**42.62**	**338**	P	**P**	**11 31 19.3**	**+0.6**
CMC01	**Camacan, BA**	**43.10**	**113**	*e*P	**P**	**11 31 22.5**	**-0.5**
T25A	**Trinidad**	**43.22**	**332**	P	**P**	**11 31 25.7**	**+1.9**
T25A				IAmb	IAmb	11 31 27.2	
	comp=Z,14nm,1.2s						
T25A	**Trinidad** baz=144,SNR=6.2	**43.22**	**332**	P	**P**	**11 31 23.8**	**0.0**
NBLA	**Lagarto - SE**	**43.68**	**106**	*e*P	**P**	**11 31 26.6**	**-1.1**
SDCO	**Great Sand Dun**	**44.23**	**331**	P	**P**	**11 31 33.3**	**+1.3**
SDCO				IAmb	IAmb	11 31 38.0	
	comp=Z,9.0nm,1.3s						
SDCO	**Great Sand Dun** baz=143,SNR=9.6	**44.23**	**331**	P	**P**	**11 31 32.7**	**+0.7**
214A	**Organ Pipe Nat**	**44.23**	**319**	P	**P**	**11 31 32.8**	**+0.9**
214A	**Organ Pipe Nat** baz=130	**44.23**	**319**	P	**P**	**11 31 33.2**	**+1.3**
BGNE	**Belgrade** baz=154	**44.35**	**341**	P	**P**	**11 31 32.7**	**+0.1**
W18A	**Petrified Fore** baz=136	**44.48**	**325**	P	**P**	**11 31 34.6**	**+0.6**
LONY	**Lake Ozonia** baz=188	**44.83**	**6**	P	**P**	**11 31 33.4**	**-3.1**
NBAN	**Anadia - AL**	**44.91**	**104**	*e*P	**P**	**11 31 36.3**	**-1.1**
X16A	**Lo Mia Camp, P**	**45.00**	**323**	P	**P**	**11 31 38.9**	**+0.7**
X16A				IAmb	IAmb	11 31 43.7	
	comp=Z,3.9nm,0.7s						
Q24A	**Divide** baz=144	**45.03**	**333**	P	**P**	**11 31 38.8**	**+0.3**
MVCO	**Mesa Verde**	**45.33**	**328**	P	**P**	**11 31 41.8**	**+1.0**
MVCO				IAmb	IAmb	11 31 53.9	
	comp=Z,5.2nm,0.9s						
MVCO	**Mesa Verde** baz=139	**45.33**	**328**	P	**P**	**11 31 41.6**	**+0.8**
K31A	**O'Neill**	**45.64**	**341**	P	**P**	**11 31 43.1**	**+0.2**
Y14A	**Wickenburg**	**45.64**	**321**	P	**P**	**11 31 43.8**	**+0.8**
WUAZ	**Wupatki**	**45.72**	**324**	P	**P**	**11 31 45.2**	**+1.4**
WUAZ	**Wupatki** baz=134,SNR=6.7	**45.72**	**324**	P	**P**	**11 31 44.3**	**+0.6**
ECSD	**EROS Data Cent** baz=157	**46.00**	**344**	P	**P**	**11 31 45.0**	**-0.6**
PV13	**Radium Mtn., P**	**46.21**	**329**	P	**P**	**11 31 48.5**	**+0.8**
PV13				IAmb	IAmb	11 31 53.0	
	comp=Z,6.4nm,0.7s						
PV11	**David Mesa, Pa**	**46.34**	**329**	P	**P**	**11 31 48.9**	**+0.2**
PV11				IAmb	IAmb	11 31 57.1	
	comp=Z,6.3nm,0.7s						
E43A	**Lone Tree Farm**	**46.66**	**354**	P	**P**	**11 31 49.6**	**-1.2**
U15A	**North Rim**	**46.88**	**324**	P	**P**	**11 31 53.4**	**+0.3**
BC3	**Big Chuckawall** baz=128	**47.03**	**319**	P	**P**	**11 31 55.4**	**+1.3**
MONP2	**Monument Peak** baz=127	**47.21**	**318**	P	**P**	**11 31 56.6**	**+1.0**
SUSD	**Miller** baz=154	**47.34**	**342**	P	**P**	**11 31 56.0**	**-0.2**
D41A	**Chassel**	**47.52**	**352**	P	**P**	**11 31 56.4**	**-1.1**
PKCU	**Pink Cliffs**	**47.60**	**325**	P	**P**	**11 31 59.7**	**+1.0**
SRU	**San Rafael Swe**	**47.81**	**328**	P	**P**	**11 32 00.4**	**+0.2**
SRU				IAmb	IAmb	11 32 05.3	
	comp=Z,5.2nm,1.0s						
F33A	**5 Mile Ranch,**	**47.86**	**345**	P	**P**	**11 31 59.6**	**-0.5**
F33A				IAmb	IAmb	11 32 00.6	
	comp=Z,6.9nm,1.3s						
SZCU	**Shurtz Canyon**	**48.15**	**325**	P	**P**	**11 32 03.5**	**+0.7**
SZCU				IAmb	IAmb	11 32 08.5	
	comp=Z,5.2nm,1.1s						
P17A	**Butcher Ranch,**	**48.19**	**328**	P	**P**	**11 32 03.5**	**+0.4**
P17A				IAmb	IAmb	11 32 08.2	
	comp=Z,3.9nm,0.9s						
CCUT	**Cedar City**	**48.27**	**325**	P	**P**	**11 32 04.3**	**+0.5**
CCUT				IAmb	IAmb	11 32 06.9	
	comp=Z,6.9nm,1.2s						
HEC	**Hector,Ludlow** baz=128	**48.33**	**320**	P	**P**	**11 32 04.7**	**+0.6**
RDMU	**Red Mountain**	**48.41**	**330**	P	**P**	**11 32 05.5**	**+0.7**
TUQ	**Turquoise Moun** baz=129	**48.44**	**321**	P	**P**	**11 32 06.0**	**+0.9**
RSSD	**Black Hills**	**48.82**	**337**	P	**P**	**11 32 09.5**	**+1.6**
RSSD				IAmb	IAmb	11 32 25.6	
	comp=Z,3.5nm,0.7s						
EYMN	**Ely** baz=165	**48.83**	**350**	P	**P**	**11 32 06.3**	**-1.3**
CIS	**Catalina Islan** baz=125	**48.86**	**317**	P	**P**	**11 32 09.5**	**+1.3**
GSC	**Goldstone, Bar** baz=128	**48.92**	**320**	P	**P**	**11 32 10.4**	**+1.7**
SHOC	**Shoshone, Teco** baz=129	**48.96**	**321**	P	**P**	**11 32 10.0**	**+1.1**
EDW2	**Edwards Air Fo** baz=127	**49.44**	**319**	P	**P**	**11 32 13.6**	**+0.9**
TPNV	**Topopah Spring**	**49.60**	**322**	P	**P**	**11 32 16.1**	**+2.1**
TPNV	**Topopah Spring** baz=130	**49.60**	**322**	P	**P**	**11 32 15.5**	**+1.5**
FURC	**Furnace Creek,** baz=129	**49.68**	**321**	P	**P**	**11 32 15.3**	**+0.9**
DUG	**Dugway, Tooele** baz=136	**49.81**	**327**	P	**P**	**11 32 16.6**	**+1.1**
AGMN	**Agassiz Nation** baz=160	**50.05**	**347**	P	**P**	**11 32 16.2**	**-0.7**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.7s,baz=124,slow=5.9,SNR=1.5	**50.08**	**332**	P	**P**	**11 32 16.7**	**-0.9**
PDAR	**Pinedale Array**	**50.08**	**332**	P	**P**	**11 32 18.4**	**+0.8**
R11A	**Troy Canyon, C**	**50.11**	**324**	P	**P**	**11 32 18.8**	**+1.0**
R11A	**Troy Canyon, C** baz=132	**50.11**	**324**	P	**P**	**11 32 18.9**	**+1.0**
ISA	**Isabella, Lake** baz=127	**50.22**	**319**	P	**P**	**11 32 20.1**	**+1.5**
PKM	**Mcpherson Peak** baz=125	**50.66**	**318**	P	**P**	**11 32 23.1**	**+1.0**
TPH	**Tonopah**	**50.92**	**322**	P	**P**	**11 32 24.9**	**+0.9**
SMMC	**Simmler** baz=125	**51.03**	**318**	P	**P**	**11 32 26.1**	**+1.5**
Q09A	**Carvers**	**51.38**	**323**	P	**P**	**11 32 26.4**	**-0.9**
NV11	**Mina Array Sit**	**51.71**	**322**	P	**P**	**11 32 30.6**	**+0.7**
NV11				IAmb	IAmb	11 32 37.3	
	comp=Z,5.6nm,1.0s						
OMMB	**Old Mammoth Mi**	**51.73**	**321**	P	**P**	**11 32 30.6**	**+0.4**
RLMT	**Red Lodge** baz=142	**51.79**	**334**	P	**P**	**11 32 30.3**	**0.0**
MDPB	**Devils Postpil**	**51.80**	**321**	P	**P**	**11 32 31.4**	**+0.8**
NVAR	**Mina Array Bea** comp=Z,2.7nm,0.7s,baz=137,slow=7.3,SNR=19	**51.80**	**322**	P	**P**	**11 32 31.2**	**+0.6**
NVAR	**Mina Array Bea**	**51.80**	**322**	P	**P**	**11 32 31.5**	**+0.9**
LHV	**Little Huntoon**	**51.81**	**322**	P	**P**	**11 32 31.7**	**+1.4**
LHV				IAmb	IAmb	11 32 32.9	
	comp=Z,6.4nm,1.1s						
ULM	**Lac du Bonnet** comp=Z,7.1nm,0.6s,baz=156,slow=8.0,SNR=8.0	**51.89**	**347**	P	**P**	**11 32 30.0**	**-0.7**
ULM	**Lac du Bonnet**	**51.89**	**347**	P	**P**	**11 32 30.1**	**-0.7**
ULM				IAmb	IAmb	11 32 30.6	
	comp=Z,7.9nm,0.8s						
KVN	**Kaiserville**	**52.07**	**323**	P	**P**	**11 32 33.2**	**+0.7**
BMN	**Battle Mountai**	**52.43**	**325**	P	**P**	**11 32 36.1**	**+0.9**
BMN				IAmb	IAmb	11 32 40.4	
	comp=Z,6.5nm,0.8s						
HLID	**Hailey**	**53.05**	**329**	P	**P**	**11 32 40.8**	**+1.1**
HLID	**Hailey** baz=136,SNR=5.2	**53.05**	**329**	P	**P**	**11 32 39.4**	**-0.3**
BOZ	**Bozeman (W)**	**53.21**	**333**	P	**P**	**11 32 41.6**	**+0.7**
BOZ	**Bozeman (W)** baz=140	**53.21**	**333**	P	**P**	**11 32 41.5**	**+0.7**
MFID	**Camas Ranch**	**53.68**	**328**	P	**P**	**11 32 44.8**	**+0.6**
BEKR	**Beckworth**	**53.94**	**322**	P	**P**	**11 32 47.0**	**+0.7**
EGMT	**Eagleton** baz=143	**54.30**	**336**	P	**P**	**11 32 48.7**	**0.0**
ORV	**Oroville**	**54.46**	**321**	P	**P**	**11 32 50.7**	**+0.7**
ORV				IAmb	IAmb	11 32 52.6	
	comp=Z,5.2nm,0.9s						
WVOR	**Wild Horse Val**	**54.55**	**326**	P	**P**	**11 32 51.3**	**+0.6**
WVOR				IAmb	IAmb	11 32 55.5	
	comp=Z,6.1nm,1.1s						
J08A	**Circle Bar Ran**	**55.06**	**327**	P	**P**	**11 32 55.1**	**+0.8**
O03E	**Paynes Creek** baz=126	**55.09**	**322**	P	**P**	**11 32 55.4**	**+0.9**
MSO	**Missoula** baz=138	**55.19**	**332**	P	**P**	**11 32 55.8**	**+0.5**
O02D	**Mt. Diablo Mer** baz=125	**55.63**	**321**	P	**P**	**11 32 59.0**	**+0.5**
N02D	**Trinity Center** baz=126	**56.04**	**322**	P	**P**	**11 33 02.0**	**+0.6**
I07A	**Izee**	**56.10**	**327**	P	**P**	**11 33 02.4**	**+0.7**
L04D	**Klamath Falls**	**56.53**	**323**	P	**P**	**11 33 04.4**	**-0.5**
L04D				IAmb	IAmb	11 33 06.5	
	comp=Z,9.8nm,1.0s						
L04D	**Klamath Falls** baz=127	**56.53**	**323**	P	**P**	**11 33 05.2**	**+0.2**
J05D	**Fort Rock, OR** baz=129,SNR=8.5	**56.56**	**325**	P	**P**	**11 33 05.5**	**+0.3**
G08A	**Pilot Rock**	**56.60**	**328**	P	**P**	**11 33 05.3**	**0.0**
KHMM	**Horse Mountain**	**56.62**	**321**	P	**P**	**11 33 06.1**	**+0.5**
KHMM				IAmb	IAmb	11 33 10.9	
	comp=Z,9.3nm,0.9s						
PINE	**Pine Mountain**	**56.71**	**326**	P	**P**	**11 33 07.0**	**+0.8**
PINE				IAmb	IAmb	11 33 08.2	
	comp=Z,6.3nm,1.0s						
J04D	**Umpqua Nationa**	**57.04**	**325**	P	**P**	**11 33 09.1**	**+0.5**
J04D	**Umpqua Nationa** baz=128,SNR=7.3	**57.04**	**325**	P	**P**	**11 33 08.7**	**+0.1**
I05D	**Terrebonne, OR** baz=129	**57.28**	**326**	P	**P**	**11 33 10.9**	**+0.8**
L02E	**Cave Junction** baz=126	**57.28**	**323**	P	**P**	**11 33 10.7**	**+0.6**
FFC	**Flin Flon**	**57.46**	**345**	P	**P**	**11 33 11.6**	**+0.5**
FFC				IAmb	IAmb	11 33 12.4	
	comp=Z,9.3nm,1.4s						
K02D	**Willamette Mer** baz=126	**57.63**	**323**	P	**P**	**11 33 13.0**	**+0.3**
NEW	**Newport** baz=135	**57.72**	**332**	P	**P**	**11 33 13.0**	**-0.1**
G05D	**Wamic, OR** baz=129	**57.83**	**327**	P	**P**	**11 33 14.5**	**+0.5**
I03D	**Drain, OR** baz=127	**58.03**	**324**	P	**P**	**11 33 16.3**	**+1.0**
J01E	**Myrtle Point** baz=126	**58.06**	**324**	P	**P**	**11 33 16.3**	**+0.8**
H04D	**Lebanon** baz=128	**58.18**	**325**	P	**P**	**11 33 16.7**	**+0.3**
I02E	**Swisshome, OR** baz=126	**58.56**	**324**	P	**P**	**11 33 19.5**	**+0.5**
EDM	**Edmonton**	**59.80**	**338**	P	**P**	**11 33 27.7**	**+0.1**
EDM				IAmb	IAmb	11 33 28.9	
	comp=Z,6.6nm,0.8s						
FRB	**Frobisher Bay** comp=Z,2.5nm,0.7s,baz=210,slow=5.1,SNR=5.2	**64.31**	**6**	P	**P**	**11 33 55.9**	**-1.6**
YKA	**Yellowknife Ar** comp=Z,4.6nm,0.8s,baz=138,slow=5.9,SNR=87	**67.53**	**344**	P	**P**	**11 34 18.0**	**-0.3**
DLBC	**Dease Lake** comp=Z,4.5nm,0.8s,baz=113,slow=4.8,SNR=12	**70.19**	**335**	P	**P**	**11 34 35.1**	**0.0**
DLBC	**Dease Lake**	**70.19**	**335**	P	**P**	**11 34 35.4**	**+0.3**
DLBC				IAmb	IAmb	11 34 37.0	
	comp=Z,5.3nm,0.9s						
DY2G	**Dye2**	**70.69**	**14**	*i* P	**P**	**11 34 36.4**	**-1.8**
DY2G				IAmb	IAmb	11 34 37.4	
	comp=Z,5.2nm,0.7s						
WRGLY	**Wrigley** baz=134,SNR=6.6	**70.79**	**341**	P	**P**	**11 34 37.9**	**-0.6**
SKAG	**Skagway** baz=121	**73.04**	**334**	P	**P**	**11 34 52.0**	**-0.1**
MMPY	**Sheldon Lake,** baz=126,SNR=7.9	**73.14**	**338**	P	**P**	**11 34 51.9**	**-0.9**
WHY	**Whitehorse** baz=122	**73.48**	**335**	P	**P**	**11 34 55.1**	**+0.2**
FARO	**Faro, Yukon** baz=124	**73.71**	**337**	P	**P**	**11 34 55.9**	**-0.2**
M31M	**Drury Creek, Y**	**74.11**	**337**	P	**P**	**11 34 59.3**	**+0.9**
M31M	**Drury Creek, Y** baz=123	**74.11**	**337**	P	**P**	**11 34 58.0**	**-0.3**
N31M	**Braeburn, Yuko**	**74.29**	**336**	P	**P**	**11 34 59.9**	**+0.5**
N31M				IAmb	IAmb	11 35 15.2	
	comp=Z,4.9nm,1.0s						
N31M	**Braeburn, Yuko** baz=121	**74.29**	**336**	P	**P**	**11 34 59.0**	**-0.4**
ICESG	**Greenland Ices**	**74.32**	**14**	*i* P	**P**	**11 34 57.1**	**-2.8**
ICESG				IAmb	IAmb	11 34 59.4	
	comp=Z,6.1nm,0.9s						
HYT	**Haines Junctio** baz=120	**74.67**	**335**	P	**P**	**11 35 02.1**	**+0.3**
RES	**Resolute Bay** comp=Z,1.6nm,0.9s,baz=188,slow=8.2,SNR=5.7	**75.20**	**356**	P	**P**	**11 35 03.6**	**-0.8**
RES	**Resolute Bay**	**75.20**	**356**	P	**P**	**11 35 03.4**	**-1.1**
C36M	**Paulatuk** baz=134	**75.24**	**345**	P	**P**	**11 35 04.0**	**-0.7**
M30M	**Minto, Yukon**	**75.26**	**336**	P	**P**	**11 35 05.4**	**+0.4**
M30M	**Minto, Yukon** baz=121	**75.26**	**336**	P	**P**	**11 35 05.0**	**-0.1**
YUK4	**Talbot Arm** baz=119	**75.41**	**335**	P	**P**	**11 35 06.2**	**0.0**
LIC	**Lamto** comp=Z,19nm,1.0s	**75.45**	**84**	*e*P	**P**	**11 35 07.7**	**+0.6**
TIC	**Toumodi**	**75.47**	**83**	*e*P	**P**	**11 35 07.3**	**0.0**
DBIC	**Dimbokro** comp=Z,5.1nm,0.7s,baz=295,slow=5.5,SNR=5.0	**75.64**	**83**	P	**P**	**11 35 08.1**	**-0.1**
DBIC	**Dimbokro**	**75.64**	**83**	P	**P**	**11 35 07.7**	**-0.4**
KIC	**Kosan Boka** comp=Z,22nm,0.7s	**75.74**	**83**	*e*P	**P**	**11 35 09.0**	**+0.2**
YUK3	**Moose Creek** baz=117	**76.38**	**335**	P	**P**	**11 35 11.5**	**-0.3**
CTG	**Chitna Glacier** baz=116	**76.40**	**334**	P	**P**	**11 35 11.6**	**-0.1**
PESTR	**Estremoz**	**76.72**	**50**	P	**P**	**11 35 13.8**	**0.0**
J29M	**Klondike Camp** baz=120	**76.75**	**338**	P	**P**	**11 35 13.4**	**-0.2**
KOWA	**Kowa**	**76.83**	**75**	P	**P**	**11 35 15.8**	**+0.9**
BVCY	**Beaver Creek** baz=117	**76.84**	**335**	P	**P**	**11 35 13.7**	**-0.4**
DAWY	**Dawson**	**77.01**	**337**	P	**P**	**11 35 15.4**	**+0.4**
DAWY				IAmb	IAmb	11 35 16.0	
	comp=Z,6.4nm,0.9s						
DAWY	**Dawson** baz=118,SNR=8.4	**77.01**	**337**	P	**P**	**11 35 14.5**	**-0.5**
EPYK	**Eagle Plains** baz=122	**77.19**	**340**	P	**P**	**11 35 15.4**	**-0.6**
INK	**Inuvik** comp=Z,6.8nm,1.0s,baz=114,slow=6.0,SNR=22	**77.22**	**342**	P	**P**	**11 35 16.3**	**+0.3**
INK	**Inuvik**	**77.22**	**342**	P	**P**	**11 35 16.7**	**+0.7**
INK	**Inuvik** baz=125,SNR=8.8	**77.22**	**342**	P	**P**	**11 35 14.9**	**-1.1**
I29M	**Ogilvie Camp,**	**77.24**	**339**	P	**P**	**11 35 16.9**	**+0.7**
I29M				IAmb	IAmb	11 35 21.7	
	comp=Z,9.1nm,1.1s						
I29M	**Ogilvie Camp,** baz=120,SNR=7.8	**77.24**	**339**	P	**P**	**11 35 15.0**	**-1.3**
M27K	**Edge Creek, AK**	**77.24**	**335**	P	**P**	**11 35 17.3**	**+0.8**
M27K				IAmb	IAmb	11 35 18.2	
	comp=Z,5.7nm,0.9s						
M27K	**Edge Creek, AK** baz=116	**77.24**	**335**	P	**P**	**11 35 16.1**	**-0.3**
MCARA	**McCarthy VSAT**	**77.31**	**334**	P	**P**	**11 35 18.5**	**+1.7**
MCARA	**McCarthy VSAT** baz=114	**77.31**	**334**	P	**P**	**11 35 16.6**	**-0.1**
A36M	**Sachs Harbour** baz=134,SNR=30	**77.37**	**347**	P	**P**	**11 35 15.6**	**-1.1**
BCAR	**Beaver Creek A**	**77.51**	**336**	P	**P**	**11 35 18.7**	**+0.9**
L27K	**Beaver Creek,**	**77.52**	**336**	P	**P**	**11 35 19.0**	**+1.1**
L27K				IAmb	IAmb	11 35 19.7	
	comp=Z,7.4nm,1.3s						
L27K	**Beaver Creek,** baz=116	**77.52**	**336**	P	**P**	**11 35 17.6**	**-0.4**
GLB	**Gilahina Butte**	**77.68**	**334**	P	**P**	**11 35 19.6**	**+0.7**
M26K	**Nabesna, AK** baz=115	**77.73**	**335**	P	**P**	**11 35 18.6**	**-0.5**
BMRM	**Bremner River** baz=113	**77.85**	**333**	P	**P**	**11 35 19.6**	**-0.2**
EGAK	**Eagle**	**78.03**	**338**	P	**P**	**11 35 21.3**	**+0.7**
EGAK				IAmb	IAmb	11 35 21.9	
	comp=Z,8.7nm,0.9s						
EGAK	**Eagle** baz=117,SNR=8.2	**78.03**	**338**	P	**P**	**11 35 20.2**	**-0.4**
N25K	**Chitina, Valde** baz=113	**78.10**	**334**	P	**P**	**11 35 20.5**	**-0.7**
L26K	**Log Cabin Wild** baz=114	**78.14**	**335**	P	**P**	**11 35 20.7**	**-0.6**
DOT	**Dot Lake**	**78.69**	**336**	P	**P**	**11 35 25.1**	**+0.8**
DOT				IAmb	IAmb	11 35 26.2	
	comp=Z,4.8nm,1.0s						
SCRK	**Sand Creek** baz=114	**78.79**	**336**	P	**P**	**11 35 24.3**	**-0.8**
J26L	**Joseph Creek** baz=115,SNR=6.2	**78.84**	**337**	P	**P**	**11 35 24.2**	**-1.0**
M24K	**Tolsona, Glenn** baz=112	**78.98**	**334**	P	**P**	**11 35 25.6**	**-0.4**
PAX	**Paxson** baz=113	**79.00**	**335**	P	**P**	**11 35 25.5**	**-0.7**
RIDG	**Independent Ri** baz=113	**79.04**	**336**	P	**P**	**11 35 25.6**	**-0.7**
SCM	**Sheep Creek Mo** baz=111	**79.39**	**334**	P	**P**	**11 35 27.7**	**-0.6**
ESDC	**Sonseca Array** comp=Z,3.6nm,0.8s,baz=265,slow=6.3,SNR=16	**79.63**	**50**	P	**P**	**11 35 31.0**	**+1.0**
ESDC	**Sonseca Array**	**79.63**	**50**	P	**P**	**11 35 30.5**	**+0.5**
ESDC				IAmb	IAmb	11 35 32.5	
	comp=Z,5.7nm,1.1s						
SML	**Sawmill** baz=110	**79.83**	**333**	P	**P**	**11 35 30.1**	**-0.5**
WAT6	**Susitna Watana** baz=110	**79.83**	**334**	P	**P**	**11 35 30.1**	**-0.7**
EUNU	**Eureka**	**80.15**	**359**	P	**P**	**11 35 33.0**	**+0.8**
ILAR	**Eielson Array** comp=Z,1.8nm,0.9s,baz=117,slow=3.5,SNR=12	**80.26**	**336**	P	**P**	**11 35 32.6**	**-0.2**
ILAR	**Eielson Array**	**80.26**	**336**	P	**P**	**11 35 33.1**	**+0.2**
BRSE	**Bradley Lake S** baz=107	**80.29**	**331**	P	**P**	**11 35 32.3**	**-0.8**
BMAR	**Burnt Mountain**	**80.43**	**339**	P	**P**	**11 35 34.1**	**+0.4**
MDM	**Murphy Dome**	**80.86**	**336**	P	**P**	**11 35 36.1**	**0.0**
MDM				IAmb	IAmb	11 35 37.6	
	comp=Z,6.8nm,1.2s						
H24K	**Noodor Dome** baz=111	**81.03**	**337**	P	**P**	**11 35 36.9**	**-0.2**
NEA2	**Nenana** baz=110	**81.08**	**336**	P	**P**	**11 35 37.2**	**-0.1**
BWN	**Browne**	**81.10**	**336**	P	**P**	**11 35 37.8**	**+0.5**
TRF	**Thorofare Moun** baz=108	**81.22**	**335**	P	**P**	**11 35 37.7**	**-0.6**
I23K	**Minto, Yukon-K** baz=109	**81.38**	**336**	P	**P**	**11 35 38.5**	**-0.3**
SPCR	**Spurr Chakacha** baz=106	**81.41**	**332**	P	**P**	**11 35 38.8**	**-0.3**
BELA	**Belgrano 2**	**81.41**	**171**	P	**P**	**11 35 38.4**	**-0.4**
BELA				IAmb	IAmb	11 35 39.5	
	comp=Z,5.9nm,1.0s						
H23K	**Yukon River** baz=109	**81.67**	**337**	P	**P**	**11 35 40.1**	**-0.3**
BPAW	**Bear Paw Mtn.**	**81.71**	**335**	P	**P**	**11 35 40.6**	**-0.1**
BPAW				IAmb	IAmb	11 35 45.3	
	comp=Z,7.3nm,1.0s						
BPAW	**Bear Paw Mtn.** baz=108	**81.71**	**335**	P	**P**	**11 35 40.0**	**-0.7**
CAST	**Castle Rocks** baz=107	**81.98**	**334**	P	**P**	**11 35 41.9**	**-0.2**
CHUM	**Lake Minchumin** baz=106	**82.21**	**335**	P	**P**	**11 35 42.4**	**-0.8**
TOA0	**Torodi Ar. Sit**	**82.31**	**77**	P	**P**	**11 35 44.4**	**-0.4**
TOA0				IAmb	IAmb	11 36 12.7	
	comp=Z,12nm,1.4s						
TORD	**Torodi Ar. Bea** comp=Z,1.7nm,0.7s,baz=278,slow=6.4,SNR=12	**82.31**	**77**	P	**P**	**11 35 44.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**82.31**	**77**	P	**P**	**11 35 44.6**	**-0.2**
TORD				IAmb	IAmb	11 35 54.4	
	comp=Z,6.1nm,1.2s						
N19K	**Bonanza Creek** baz=104	**82.38**	**332**	P	**P**	**11 35 44.0**	**-0.3**
COLD	**Coldfoot** baz=109	**82.38**	**338**	P	**P**	**11 35 44.2**	**+0.1**
I21K	**Tanana** baz=107	**82.44**	**336**	P	**P**	**11 35 44.1**	**-0.4**
O18K	**Koktuh Hills** baz=103	**82.50**	**331**	P	**P**	**11 35 44.6**	**-0.3**
TOLK	**Toolik Lake Re** baz=110	**82.62**	**340**	P	**P**	**11 35 44.4**	**-1.0**
K20K	**Telida** baz=105	**82.82**	**334**	P	**P**	**11 35 46.1**	**-0.3**
L19K	**White Mountain** baz=104	**82.88**	**333**	P	**P**	**11 35 45.8**	**-1.0**
N18K	**Kilae Creek** baz=103	**83.02**	**331**	P	**P**	**11 35 47.1**	**-0.5**
J20K	**Nowinta River** baz=105	**83.06**	**335**	P	**P**	**11 35 46.8**	**-0.9**
TTA	**Tatalina** baz=103	**83.58**	**334**	P	**P**	**11 35 49.5**	**-1.0**
DAG	**Danmarks Havn**	**83.84**	**12**	*i* P	**P**	**11 35 49.0**	**-2.5**
DAG				IAmb	IAmb	11 35 50.9	
	comp=Z,1.9nm,0.7s						
GCSA	**Galena City Sc** baz=102	**84.35**	**335**	P	**P**	**11 35 53.1**	**-1.1**
QSPA	**South Pole Qui**	**89.94**	**180**	P	**P**	**11 36 22.1**	**+0.6**
QSPA				IAmb	IAmb	11 36 26.4	
	comp=Z,6.6nm,1.1s						
H11S2	**WAKE ISLAND Hyl** baz=81	**11.72**	**290**	T	T	13 42 53.8	
H11S1	**WAKE ISLAND Hyl** baz=81	**11.72**	**290**	T	T	13 42 56.6	
H11S3	**WAKE ISLAND Hyl** baz=81	**11.74**	**290**	T	T	13 42 58.6	
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.5s,baz=259,slow=1.5,SNR=5.0	**124.96**	**11**	PKP	**PKPdf**	**11 42 21.6**	**-0.9**
ZALV	**Zalesovo Beam**	**124.96**	**11**		**PKPdf**	**11 42 21.8**	**-0.8**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.8s,baz=297,slow=5.3,SNR=4.0	**131.09**	**16**	PKP	**PKPdf**	**11 42 34.4**	**-0.2**
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.3s,baz=339,slow=5.6,SNR=7.6	**161.75**	**2**	PKPab	**PKPab**	**11 44 09.0**	**-0.5**

IDC 20 11:23:55.4±2.0, 3°24S×151°15E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/38, mbtmp3.5/3, Error ellipse: s-maj=41.5km s-min=22.5km az=31.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076** 44nm,0.3s,baz=225,slow=2.1,SNR=70	**1.38**	**141**	Pn	Pg	11 24 21.1	-0.6
KRVT	105nm,0.3s,baz=141,slow=22,SNR=15			Sn	Sn	11 24 42.8	+2.0
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=49,slow=10,SNR=5.7	**23.34**	**223**	P	P	11 29 06.5	+1.0
ASAR	**Alice Springs** 0.4nm,0.7s,baz=52,slow=9.5,SNR=2.4	**26.28**	**218**	P	P	11 29 33.3	+0.6
FITZ	**Fitzroy Crossi** 1.0nm,0.7s,baz=54,slow=9.9,SNR=1.7	**29.03**	**238**	P	P	11 29 56.6	-0.8
TORD	**Torodi Ar. Bea** 0.6nm,0.4s,baz=76,slow=1.9,SNR=12	**148.24**	**290**	PKPbc	PKPbc	11 43 43.7	-0.9

*MOS **20** 11:33:23.8±1.0, 18°.99S×177°.40W, h301km, mb5.3/44, Error ellipse: s-maj=8.4km s-min=7.3km az=70.2*
*NEIC **20** 11:33:28.9±2.6, 19°.20S±0°.09×177°.16W±0°.09, h342km±5km, mb5.4/482, Error ellipse: s-maj=13.1km s-min=11.8km az=154.0*
*BJI **20** 11:33:29.0±0.0, 19°.30S×177°.30W, h359km, mb5.0/62, mB5.2/38*
*NOU **20** 11:33:29.2, 19°.26S×176°.90W, h361km, ML5.2/122, Fiji Islands Region*
*BGR **20** 11:33:30.4±0.0, 19°.20S×177°.31W, h356km*
*GCMT **20** 11:33:32.9±0.3, 19°.26S±0°.04×177°.28W±0°.03, h368km±2km, MW5.6/84, Moment Tensor Solution. s84,c122; Duration: 1ᵽ6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.63±.09; $M_{\theta\theta}$-1.07±.14; $M_{\phi\phi}$1.70±.13; $M_{r\theta}$-3.09±.11; $M_{\

3.6nm,0.3s,baz=138,slow=15,SNR=6.6
MSVF Nonsavu 4.76 287 Pn **Pn** **11 34 46.0 -2.1**
MSVF Nonsavu 4.76 287 P **Pn** **11 34 48.9 +0.7**
NIUE Niue 6.85 90 P Pn 11 35 06.3 -5.0
baz=6.8,SNR=66
NIUE S **S** **11 36 28.3 -5.3**
baz=6.8
NIUE Niue 6.85 90 Pn **Pn** **11 35 10.4 -0.9**
AFI Afiamalu 7.37 45 P **Pn** **11 35 13.3 -4.2**
40nm,0.3s,baz=196,slow=3.5,SNR=52
AFI S **S** **11 36 37.0 -7.8**
43nm,0.3s,baz=161,slow=22,SNR=4.2
AFI Afiamalu 7.37 45 P **Pn** **11 35 13.0 -4.5**
AFI Afiamalu 7.37 45 Pn **Pn** **11 35 13.0 -4.5**
AFI Afiamalu 7.37 45 P **Pn** **11 35 14.2 -3.3**
RIZ Raoul Island 10.03 184 S **S** **11 37 36.1 -5.9**
RIZ Raoul Island 10.03 184 S **S** **11 37 36.2 -5.7**
RAO Raoul Island 10.04 184 S **S** **11 37 38.0 -4.0**
1µm,0.3s,baz=274,slow=23,SNR=14
GLKZ Green Lake 10.05 184 P **Pn** **11 35 46.1 -2.6**
GLKZ S **S** **11 37 36.1 -6.2**
GLKZ Green Lake 10.05 184 P **Pn** **11 35 47.0 -1.7**
GLKZ S **S** **11 37 37.1 -5.2**
FUNA Funafuti 11.17 341 **P** **11 36 00.5 -1.7**
FUNA Funafuti 11.17 341 P **Pn** **11 36 03.3 +1.1**
RTV Rentapao 13.73 274 P **Pn** **11 36 33.2 +1.0**
DVP Devils Point 13.97 274 P **Pn** **11 36 35.7 +0.8**
MARNC Mare, Loyalty 14.07 258 P **P** **11 36 33.1 -0.8**
MARNC Mare, Loyalty 14.07 258 P **Pn** **11 36 35.0 -0.9**
LIFNC LIFOU 14.74 261 P **P** **11 36 40.7 -0.7**
LIFNC LIFOU 14.74 261 P **P** **11 36 42.1 +0.7**
PINNC Pines Island, 14.77 254 P **P** **11 36 41.1 -0.6**
PINNC Pines Island, 14.77 254 P **Pn** **11 36 44.9 +0.9**
YATNC Mamie plateau, 15.19 256 P **Pn** **11 36 47.8 -1.1**
OUENC Ouen Island, N 15.29 255 P **P** **11 36 46.7 -0.6**
OUENC Ouen Island, N 15.29 255 P **Pn** **11 36 49.3 -0.7**
SANVU Saraoutou 15.38 282 P **P** **11 36 48.5 +0.2**
SANVU IAmb IAmb 11 36 51.2
comp=Z,179nm,0.8s
SANVU Saraoutou 15.38 282 P **Pn** **11 36 50.0 -1.1**
DZM Mont Dzumac 15.60 257 P **P** **11 36 51.5 +0.6**
comp=Z,5.3nm,0.3s,baz=88,slow=13,SNR=132
DZM Mont Dzumac 15.60 257 *e*P **Pn** **11 36 52.4 -1.4**
comp=Z,2µm,1.2s
DZM Mont Dzumac 15.60 257 P **P** **11 36 51.0 +0.1**
DZM Mont Dzumac 15.60 257 P **Pn** **11 36 53.4 -0.4**
ONTNC Ouen Toro 15.63 256 P **P** **11 36 51.0 -0.1**
ONTNC Ouen Toro 15.63 256 P **Pn** **11 36 53.5 -0.4**
NOUC Port Laguerre 15.74 257 P **Pn** **11 36 55.1 -0.1**
NFK Norfolk Island 16.75 231 P **P** **11 37 01.2 -1.8**
baz=17,SNR=9.6
NFK Norfolk Island 16.75 231 P **P** **11 37 03.3 +0.3**
KNTN Kanton 17.17 19 P **P** **11 37 07.3 -0.3**
KNTN IAmb IAmb 11 37 12.1
comp=Z,209nm,0.8s
KNTN Kanton 17.17 19 P **P** **11 37 06.8 -0.9**
KOUNC Koumac, New Ca 17.50 262 P **P** **11 37 11.1 0.0**
KOUNC Koumac, New Ca 17.50 262 P **P** **11 37 12.2 +1.1**
OUZ Omahuta 17.94 205 P **P** **11 37 15.8 +0.3**
OUZ IAmb IAmb 11 37 22.2
comp=Z,207nm,0.9s
OUZ Omahuta 17.94 205 P **P** **11 37 15.3 -0.3**
OUZ Omahuta 17.94 205 P **P** **11 37 15.9 +0.3**
GRZ Great Barrier 18.19 199 P **P** **11 37 18.5 +0.1**
WCZ Waipu Caves 18.28 202 P **P** **11 37 19.0 -0.4**
WCZ Waipu Caves 18.28 202 P **P** **11 37 19.3 0.0**
MXZ Matakaoa Point 18.73 191 P **P** **11 37 23.8 -0.1**
MXZ Matakaoa Point 18.73 191 P **P** **11 37 23.9 -0.1**
MXZ S **S** **11 40 35.7 -1.7**
MXZ Matakaoa Point 18.73 191 P **P** **11 37 22.7 -1.3**
WHRZ Whale Island 19.29 194 P **P** **11 37 31.5 +1.6**
WHRZ S **S** **11 40 50.4 +3.0**
WHRZ Whale Island 19.29 194 P **P** **11 37 29.8 -0.1**
TGRZ Tauranga 19.34 196 P **P** **11 37 32.1 +1.7**
OPRZ Ohinepanea 19.38 195 P **P** **11 37 31.8 +1.0**
MARZ Manawahe 19.48 195 P **P** **11 37 33.8 +1.9**
KMRZ Kaimai 19.53 196 P **P** **11 37 34.0 +1.5**
KARZ Kaharoa 19.62 196 P **P** **11 37 35.7 +2.4**
MWZ Matawai 19.62 192 P **P** **11 37 31.4 -2.0**
MWZ S **S** **11 40 52.1 -0.9**
MWZ Matawai 19.62 192 P **P** **11 37 31.4 -2.0**
MWZ S **S** **11 40 49.6 -3.3**
CNGZ Carnagh Statio 19.64 191 P **P** **11 37 32.1 -1.3**
CNGZ S **S** **11 40 55.5 +2.4**
URZ Urewera 19.64 193 P **P** **11 37 32.0 -1.4**
comp=Z,18nm,0.3s,baz=17,slow=3.2,SNR=78
URZ S **S** **11 40 46.9 -6.1**
comp=Z,5.3nm,0.3s,baz=336,slow=9.6,SNR=2.5
URZ Urewera 19.64 193 P **P** **11 37 30.6 -2.9**
URZ IAmb IAmb 11 37 43.9
comp=Z,170nm,0.7s
URZ Urewera 19.64 193 P **P** **11 37 31.8 -1.7**
URZ Urewera 19.64 193 P **P** **11 37 30.4 -3.1**
URZ S **S** **11 40 47.8 -5.3**
URZ Urewera 19.64 193 P **P** **11 37 32.2 -1.3**
TKGZ Te Karaka 19.66 192 P **P** **11 37 32.4 -1.2**
TKGZ S **S** **11 40 53.1 -0.3**
TKGZ Te Karaka 19.66 192 P **P** **11 37 31.2 -2.5**
TKGZ S **S** **11 40 50.7 -2.7**
MKRZ Makatiti 19.68 195 P **P** **11 37 37.6 +3.6**
NGRZ Ngongotaha 19.71 196 P **P** **11 37 36.3 +2.1**
UTU Utuhina 19.78 196 P **P** **11 37 40.3 +5.4**
RAGZ Rawiri 19.80 193 P **P** **11 37 33.7 -1.5**
RAGZ S **S** **11 40 56.6 +0.7**
RAGZ Rawiri 19.80 193 P **P** **11 37 32.8 -2.5**
RAGZ S **S** **11 40 54.8 -1.1**
RIGZ Rimuhau 19.94 192 P **P** **11 37 34.5 -2.0**
RIGZ Rimuhau 19.94 192 P **P** **11 37 35.5 -1.0**
RIGZ S **S** **11 40 57.1 -0.8**
GRRZ Galatos Road 19.96 196 P **P** **11 37 39.9 +3.2**
RTZ Ruatahuna 20.01 193 P **P** **11 37 35.8 -1.4**
RTZ Ruatahuna 20.01 193 P **P** **11 37 34.5 -2.7**
RTZ S **S** **11 40 57.0 -2.2**
PRRZ Plateau Road 20.04 195 P **P** **11 37 37.5 +0.1**
SNGZ Shannon Statio 20.09 193 P **P** **11 37 37.0 -1.0**
SNGZ S **S** **11 40 59.2 -1.3**
TLZ Tolley Road 20.10 197 P **P** **11 37 39.6 +1.6**
ALRZ Allen Road 20.11 195 P **P** **11 37 37.5 -0.6**
PRGZ Paritu Road 20.12 191 P **P** **11 37 39.3 +1.0**
PRGZ Paritu Road 20.12 191 P **P** **11 37 38.4 +0.2**
PRGZ S **S** **11 41 02.2 +1.3**
KUTZ Kaahu Road 20.17 196 P **P** **11 37 39.5 +0.8**
KNZ Kokohu 20.26 192 P **P** **11 37 39.6 +0.2**
KNZ Kokohu 20.26 192 P **P** **11 37 39.4 0.0**
KNZ S **S** **11 41 03.2 +0.2**
MTHZ Maungataniwha 20.27 194 P **P** **11 37 39.2 -0.4**
MTHZ S **S** **11 41 02.6 -0.7**
RAHZ Arahi 20.28 193 P **P** **11 37 39.6 0.0**
RAHZ S **S** **11 41 06.9 +3.5**
RAHZ Arahi 20.28 193 P **P** **11 37 38.2 -1.4**
RAHZ S **S** **11 41 03.3 -0.1**
WHTZ Whakaora 20.30 196 P **P** **11 37 44.3 +4.4**
MHGZ Mahia Peninsul 20.34 191 P **P** **11 37 41.1 +0.9**
MHGZ Mahia Peninsul 20.34 191 P **P** **11 37 40.3 +0.1**
MHGZ S **S** **11 41 06.6 +2.2**
MRHZ Matea Rd 20.35 195 P **P** **11 37 39.5 -0.8**
MRHZ S **S** **11 41 04.3 -0.3**
WATZ Wairara 20.40 196 P **P** **11 37 41.2 +0.4**
WHHZ Waihua 20.40 193 P **P** **11 37 39.5 -1.2**
WHHZ Waihua 20.40 193 P **P** **11 37 36.6 -4.2**
WHHZ S **S** **11 41 04.1 -1.2**
HIZ Hauiti 20.46 198 P **P** **11 37 39.6 -1.7**
HIZ Hauiti 20.46 198 P **P** **11 37 43.2 +1.9**
NMHZ Naumai 20.51 193 P **P** **11 37 41.3 -0.5**
NMHZ Naumai 20.51 193 P **P** **11 37 41.3 -0.5**
RATZ Rangitukua 20.54 196 P **P** **11 37 41.5 -0.6**
ARHZ Aropaoanui 20.63 193 P **P** **11 37 43.8 +1.0**
BKZ Black Stump Fm 20.65 194 P **P** **11 37 41.1 -1.9**
BKZ IAmb IAmb 11 37 46.4
comp=Z,84nm,0.6s
BKZ Black Stump Fm 20.65 194 P **P** **11 37 41.3 -1.7**
BKZ Black Stump Fm 20.65 194 P **P** **11 37 41.3 -1.7**
BKZ Black Stump Fm 20.65 194 P **P** **11 37 42.3 -0.7**
KATZ Kakaramea 20.66 196 P **P** **11 37 44.4 +1.1**
NTVZ North Tongariro 20.78 196 P **P** **11 37 43.5 -0.8**
TMVZ Te Maari 20.79 196 P **P** **11 37 43.2 -1.2**
ETVZ East Tongariro 20.81 196 P **P** **11 37 43.5 -1.1**
WTVZ West Tongariro 20.82 196 P **P** **11 37 44.2 -0.4**
NNVZ North Ngauruho 20.83 196 P **P** **11 37 44.6 -0.1**
OTVZ Oturere 20.85 196 P **P** **11 37 43.1 -1.8**
MCHZ McNeill Hill 20.87 193 P **P** **11 37 43.7 -1.3**
MCHZ McNeill Hill 20.87 193 P **P** **11 37 42.4 -2.5**
NGZ Ngauruhoe 20.87 196 P **P** **11 37 44.3 -0.8**
SNVZ South Ngauruho 20.87 196 P **P** **11 37 44.0 -1.2**
KWHZ Kaweka Forest 20.91 194 P **P** **11 37 44.0 -1.4**
TUVZ Tukino 20.95 196 P **P** **11 37 45.0 -0.9**
TUVZ Tukino 20.95 196 P **P** **11 37 44.0 -1.8**
FWVZ Far West T-bar 20.96 196 P **P** **11 37 45.0 -1.0**
WHVZ Whangaehu Hut 20.98 196 P **P** **11 37 45.3 -0.8**
CKHZ Cape Kidnapper 20.99 192 P **P** **11 37 46.6 +0.5**
CKHZ Cape Kidnapper 20.99 192 P **P** **11 37 46.3 +0.3**
TRVZ Turoa 21.00 196 P **P** **11 37 45.5 -0.9**
WNVZ Wahianoa 21.02 196 P **P** **11 37 44.8 -1.7**
PKVZ Pokaka 21.05 196 P **P** **11 37 46.4 -0.3**
MOVZ Moawhango 21.05 195 P **P** **11 37 45.9 -0.7**
MOVZ Moawhango 21.05 195 P **P** **11 37 44.6 -2.1**
BHHZ Black Hill Sta 21.06 195 P **P** **11 37 45.1 -1.6**
BHHZ Black Hill Sta 21.06 195 P **P** **11 37 44.5 -2.2**
VRZ Vera Road 21.06 198 P **P** **11 37 47.9 +1.3**
KRHZ Kereru 21.13 194 P **P** **11 37 45.9 -1.4**
MHEZ Mangahewa 21.14 199 P **P** **11 37 51.1 +3.7**
KAHZ Kahuranaki 21.16 193 P **P** **11 37 47.4 -0.2**
KAHZ Kahuranaki 21.16 193 P **P** **11 37 47.2 -0.4**
DREZ Durham Road 21.28 199 P **P** **11 37 51.9 +3.2**
PKE Pukeiti 21.35 199 P **P** **11 37 52.1 +2.8**
NEZ North Egmont 21.39 199 P **P** **11 37 52.1 +2.4**
PXZ Pawanui 21.39 193 P **P** **11 37 49.6 0.0**
PXZ Pawanui 21.39 193 P **P** **11 37 48.0 -1.7**
PNHZ Pukenui 21.43 194 P **P** **11 37 49.3 -0.8**
PNHZ Pukenui 21.43 194 P **P** **11 37 47.0 -3.0**
KHEZ Kahui Hut 21.43 199 P **P** **11 37 52.4 +2.2**
PREZ Palmer Road 21.43 199 P **P** **11 37 53.2 +3.1**
NBEZ Newall Road No 21.47 199 P **P** **11 37 53.7 +3.4**
LREZ Lake Rotokare 21.47 198 P **P** **11 37 51.8 +1.5**
WPHZ Waipukurau 21.52 193 P **P** **11 37 52.5 +1.7**
WAZ Wanganui 21.58 197 P **P** **11 37 51.3 -0.1**
NMEZ Namu Road 21.59 199 P **P** **11 37 54.2 +2.8**
TSZ Takapari Road 21.62 194 P **P** **11 37 51.5 -0.3**
PRHZ Porangahau 21.67 193 P **P** **11 37 52.3 +0.1**
DVHZ Dannevirke 21.80 194 P **P** **11 37 52.3 -1.1**
ANWZ Angora Road 21.89 193 P **P** **11 37 53.8 -0.3**
POWZ Post Office Ro 21.98 195 P **P** **11 37 55.6 +0.6**
PRWZ Pori Road 22.09 194 P **P** **11 37 56.8 +0.7**
BFZ Birch Farm 22.15 193 P **P** **11 37 54.8 -1.7**
BFZ IAmb IAmb 11 37 58.9
comp=Z,187nm,1.0s
BFZ Birch Farm 22.15 193 P **P** **11 37 55.4 -1.2**
BFZ Birch Farm 22.15 193 P **P** **11 37 55.2 -1.4**
CPWZ Castlepoint 22.38 193 P **P** **11 38 01.3 +2.6**
OGWZ Otaki Gorge 22.53 195 P **P** **11 37 59.2 -0.8**
TARA Tarawa 22.62 333 P **P** **11 38 00.2 -0.9**
TARA Tarawa 22.62 333 P **P** **11 38 00.5 -0.6**
comp=Z,894nm,1.2s
TMWZ Te Maipa 22.64 194 P **P** **11 38 00.8 -0.2**
MTW Mount Morrison 22.77 194 P **P** **11 38 01.4 -0.9**
TRWZ Traveller 22.96 194 P **P** **11 38 03.5 -0.5**
WEL Wellington 23.07 196 P **P** **11 38 06.3 +1.4**
MSWZ Moikau Station 23.08 195 P **P** **11 38 04.0 -1.0**
MSWZ Moikau Station 23.08 195 P **P** **11 38 04.9 -0.1**
SNZO South Karori 23.11 196 P **P** **11 38 04.3 -1.0**
SNZO South Karori 23.11 196 P **P** **11 38 05.1 -0.2**
BHW Baring Head 23.16 195 P **P** **11 38 04.2 -1.5**
PLWZ Palliser 23.22 195 P **P** **11 38 04.7 -1.6**
QRZ Quartz Range 23.30 200 P **P** **11 38 06.6 -0.4**
QRZ Quartz Range 23.30 200 P **P** **11 38 07.5 +0.5**
NNZ Nelson 23.39 198 P **P** **11 38 07.2 -0.5**
NNZ IAmb IAmb 11 38 10.3
comp=Z,166nm,0.7s
TUWZ Tuamarina 23.43 197 P **P** **11 38 06.0 -2.1**
CMWZ Cape Campbell 23.65 196 P **P** **11 38 10.0 -0.2**
CMWZ Cape Campbell 23.65 196 P **P** **11 38 12.9 +2.8**
BSWZ Blackbirch Sta 23.71 197 P **P** **11 38 09.8 -0.9**
THZ Tophouse 24.03 198 P **P** **11 38 13.3 -0.4**
THZ IAmb IAmb 11 38 17.9
comp=Z,141nm,0.8s
KHZ Kahutara 24.45 197 P **P** **11 38 15.8 -1.5**
KHZ Kahutara 24.45 197 P **P** **11 38 16.6 -0.7**
LHI Lord Howe Isla 24.68 236 P **P** **11 38 16.9 -2.5**
baz=25,SNR=7.5
LHI Lord Howe Isla 24.68 236 P **P** **11 38 20.5 +1.1**
LHI Lord Howe Isla 24.68 236 P **P** **11 38 20.6 +1.1**
LTZ Lake Taylor 25.16 199 P **P** **11 38 21.6 -2.1**
OXZ Oxford 25.72 198 P **P** **11 38 26.6 -2.1**
MQZ McQueen's Vall 25.89 197 P **P** **11 38 28.4 -1.8**
MQZ IAmb IAmb 11 38 38.2
comp=Z,79nm,0.6s
RPZ Rata Peaks 26.38 199 P **P** **11 38 32.9 -1.6**
comp=Z,31nm,0.5s,baz=287,slow=0.6,SNR=20
RPZ Rata Peaks 26.38 199 P **P** **11 38 32.4 -2.1**
RPZ IAmb IAmb 11 38 41.9
comp=Z,132nm,0.6s
RPZ Rata Peaks 26.38 199 P **P** **11 38 32.2 -2.3**
FOZ Fox Glacier 26.62 201 P **P** **11 38 35.2 -1.4**
FOZ IAmb IAmb 11 38 38.9
comp=Z,144nm,0.8s
LBZ Lake Benmore 27.25 200 P **P** **11 38 40.4 -1.9**
ODZ Otahua Downs 27.70 199 P **P** **11 38 46.6 +0.4**
ODZ Otahua Downs 27.70 199 P **P** **11 38 44.8 -1.4**
WKZ Wanaka 28.03 201 P **P** **11 38 47.5 -1.6**
MLZ Mavora Lakes 28.82 202 P **P** **11 38 55.0 -1.1**
DCZ Deep Cove 29.25 203 P **P** **11 39 00.5 +0.8**
DCZ IAmb IAmb 11 39 01.4
comp=Z,149nm,1.1s
WHZ Wether Hill Ro 29.33 201 P **P** **11 39 00.3 -0.2**
WHZ IAmb IAmb 11 39 03.1
comp=Z,181nm,0.7s
EIDS Eidsvold 29.97 252 P **P** **11 39 04.7 -1.6**
baz=30,SNR=27
EIDS Eidsvold 29.97 252 P **P** **11 39 06.1 -0.3**
EIDS Eidsvold 29.97 252 P **P** **11 39 07.1 +0.7**
ARMA Armidale 30.35 242 P **P** **11 39 10.1 +0.3**
baz=30,SNR=181
ARMA Armidale 30.35 242 P **P** **11 39 09.9 0.0**
ARMA Armidale 30.35 242 P **P** **11 39 10.4 +0.6**
RK1H Rockhampton Ha 30.38 256 P **P** **11 39 09.7 -0.3**
comp=Z,99nm,0.7s
NTLS Newcastle Soft 30.95 238 P **P** **11 39 16.5 +1.7**
NTLH Newcastle Hard 30.99 238 P **P** **11 39 16.5 +1.3**
comp=Z,218nm,0.9s
MGCD Mangrove Creek 31.56 237 P **P** **11 39 21.1 +0.9**
baz=32,SNR=37
MGCD Mangrove Creek 31.56 237 P **P** **11 39 21.8 +1.6**
RIV Riverview 31.72 236 P **P** **11 39 22.3 +0.8**
baz=32,SNR=9.8
RIV Riverview 31.72 236 P **P** **11 39 22.5 +1.0**
RIV pmax pmax
comp=Z,273nm,1.2s
SYDH Sydney Hard Ro 32.02 237 P **P** **11 39 24.6 +0.4**
comp=Z,597nm,0.8s
RMQ Roma 32.16 251 P **P** **11 39 26.0 +0.6**
baz=32,SNR=129
RMQ Roma 32.16 251 P **P** **11 39 25.7 +0.2**
KRVT Keravat (AS076 33.50 292 P **P** **11 39 35.2 -1.9**
comp=Z,40nm,0.5s,baz=265,slow=19,SNR=1.8
CNB Canberra Magne 33.61 235 P **P** **11 39 38.0 +0.2**
baz=34,SNR=425
CNB Canberra Magne 33.61 235 P **P** **11 39 39.2 +1.3**
CAN Canberra 33.89 235 P **P** **11 39 39.8 -0.4**
CAN pmax pmax
comp=Z,300nm,0.9s
CAN Canberra 33.89 235 P **P** **11 39 39.8 -0.4**
CAN Canberra 33.89 235 P **P** **11 39 41.4 +1.1**
CAN Canberra 33.89 235 P **P** **11 39 40.4 +0.2**
CAN pP **pP** **11 40 46.4 -1.8**
CAN sP **PP** **11 41 03.7 -2.6**
CTA Charters Tower 34.42 262 P **P** **11 39 44.4 -0.5**
comp=Z,243nm,0.8s,baz=92,slow=11
CTA Charters Tower 34.42 262 P **P** **11 39 45.0 +0.1**
CTAO Charters Tower 34.42 262 P **P** **11 39 44.2 -0.7**
CTAO pmax pmax
comp=Z,212nm,0.7s
CTAO Charters Tower 34.42 262 P **P** **11 39 44.2 -0.7**
CTAO Charters Tower 34.42 262 P **P** **11 39 45.0 +0.1**
PATS Pohnpei 35.39 315 P **P** **11 39 52.6 -0.5**
baz=36,SNR=6.0
PATS Pohnpei 35.39 315 P **P** **11 39 52.9 -0.2**
PATS Pohnpei 35.39 315 P **P** **11 39 55.1 +2.0**
comp=Z,292nm,1.3s
CMSA Cobar Meteorol 35.57 242 P **P** **11 39 54.0 -0.4**
baz=36,SNR=392
CMSA Cobar Meteorol 35.57 242 P **P** **11 39 55.3 +0.8**
PMG Port Moresby 35.84 281 *ce*P **P** **11 39 56.4 -0.5**
PMG pmax pmax
comp=Z,97nm,0.8s
PMG Port Moresby 35.84 281 P **P** **11 39 55.4 -1.5**
PMG IAmb IAmb 11 39 58.2
comp=Z,102nm,0.9s
PMG Port Moresby 35.84 281 P **P** **11 39 56.9 0.0**
comp=Z,131nm,0.9s
PMG Port Moresby 35.84 281 P **P** **11 39 56.0 -0.9**
PMG pP **PP** **11 41 19.1 -8.7**
QLP Quilpie 36.20 251 P **P** **11 39 59.3 -0.6**
baz=36,SNR=95
QLP Quilpie 36.20 251 P **P** **11 40 00.7 +0.8**
MTSU Mount Surprise 36.45 265 P **P** **11 40 01.6 -0.4**
baz=36,SNR=63
MTSU Mount Surprise 36.45 265 P **P** **11 40 02.1 0.0**
GLAD Gladstone 36.78 226 P **P** **11 40 04.5 0.0**
comp=Z,197nm,0.8s
TOO Toolangi 37.30 233 P **P** **11 40 08.6 -0.2**
baz=37,SNR=414
TOO Toolangi 37.30 233 P **P** **11 40 08.7 -0.2**
TOO pmax pmax
comp=Z,452nm,0.8s
TOO Toolangi 37.30 233 P **P** **11 40 08.7 -0.2**
TOO Toolangi 37.30 233 P **P** **11 40 09.9 +1.0**
CORO Coronation Par 37.58 226 P **P** **11 40 11.4 +0.4**
comp=Z,529nm,0.8s
MOO Moorlands 37.98 225 P **P** **11 40 14.3 -0.1**
baz=38,SNR=16
MOO Moorlands 37.98 225 P **P** **11 40 15.2 +0.8**
TAU Tasmania Unive 38.10 224 P **P** **11 40 15.1 -0.3**
TAU pmax pmax
comp=Z,139nm,0.8s
TAU Tasmania Unive 38.10 224 P **P** **11 40 15.1 -0.3**
TAU IAmb IAmb 11 40 16.6
comp=Z,139nm,0.8s
TAU Tasmania Unive 38.10 224 P **P** **11 40 16.1 +0.7**
TAU Tasmania Unive 38.10 224 P **P** **11 40 15.1 -0.3**
COEN Coen 38.30 272 P **P** **11 40 17.0 -0.5**
COEN Coen 38.30 272 P **P** **11 40 17.2 -0.2**
comp=Z,109nm,0.9s
GEXS Deakin Univers 38.40 232 P **P** **11 40 18.3 +0.4**
comp=Z,478nm,0.9s
BRAT Ballarat 38.47 233 P **P** **11 40 18.9 +0.4**
comp=Z,325nm,1.0s
MANU Manus Island 38.66 292 P **P** **11 40 19.9 -0.5**
STKA Stephens Creek 39.07 243 P **P** **11 40 23.2 -0.3**
comp=Z,148nm,0.8s,baz=89,slow=9.6,SNR=234
STKA Stephens Creek 39.07 243 P **P** **11 40 23.4 -0.1**
baz=39,SNR=269
STKA Stephens Creek 39.07 243 *c*P **P** **11 40 24.0 +0.5**
STKA Stephens Creek 39.07 243 P **P** **11 40 22.7 -0.8**
STKA Stephens Creek 39.07 243 P **P** **11 40 24.7 +1.2**
INKA Innaminka 39.38 249 P **P** **11 40 27.6 +1.5**
MCQ Macquarie Isla 39.69 202 P **P** **11 40 27.4 -0.7**
baz=40,SNR=5.5
MCQ Macquarie Isla 39.69 202 P **P** **11 40 28.5 +0.3**
MCQ pmax pmax
comp=Z,309nm,1.0s
MCQ Macquarie Isla 39.69 202 P **P** **11 40 28.5 +0.3**
MCQ IAmb IAmb 11 40 31.1
comp=Z,309nm,1.0s
ARPS Mount Arapiles 39.86 235 P **P** **11 40 29.5 -0.5**
baz=40,SNR=106
ARPS Mount Arapiles 39.86 235 P **P** **11 40 31.1 +1.2**
QIS Mount Isa 40.59 261 P **P** **11 40 35.3 -0.8**
baz=40,SNR=16
QIS Mount Isa 40.59 261 P **P** **11 40 35.7 -0.4**
WAKE Wake Island 41.40 337 P **P** **11 40 42.6 +0.2**
WAKE Wake Island 41.40 337 P **P** **11 40 44.0 +1.5**
WAKE Wake Island 41.40 337 P **P** **11 40 42.2 -0.3**
HTT Hallett 41.53 241 P **P** **11 40 43.0 -0.5**
baz=42,SNR=197
HTT Hallett 41.53 241 P **P** **11 40 44.8 +1.2**
LCRK Leigh Creek 41.77 246 P **P** **11 40 46.0 +0.5**
TWOA Tennyson Woods 42.07 239 P **P** **11 40 47.5 -0.3**
comp=Z,319nm,0.8s
NAPP Napperby 42.14 242 P **P** **11 40 48.4 +0.1**
comp=Z,271nm,0.9s
PTPS Port Pirie 42.26 242 P **P** **11 40 49.9 +0.6**
comp=Z,526nm,0.6s
WHYH Whyalla 42.59 242 P **P** **11 40 51.9 -0.1**
comp=Z,405nm,0.8s
KHLU Kahalu`u 43.83 30 P **P** **11 41 02.9 +1.0**
KHLU IAmb IAmb 11 41 04.9
comp=Z,243nm,1.0s
BBOO Buckleboo 43.83 242 P **P** **11 41 01.1 -0.7**
baz=44,SNR=594
BBOO Buckleboo 43.83 242 P **P** **11 41 00.9 -0.9**
BBOO Buckleboo 43.83 242 P **P** **11 41 01.9 +0.1**
OOD Oodnadatta 43.85 250 P **P** **11 41 03.5 +1.5**
KIP Kipapa 44.51 26 P **P** **11 41 05.3 -1.8**
KIP pmax pmax
comp=Z,182nm,1.3s
KIP Kipapa 44.51 26 P **P** **11 41 05.3 -1.8**
KIP IAmb IAmb 11 41 10.8
comp=Z,182nm,1.2s
KIP Kipapa 44.51 26 P **P** **11 41 06.1 -1.0**
KIP Kipapa 44.51 26 P **P** **11 41 05.9 -1.2**
KIP Kipapa 44.51 26 P **P** **11 41 09.4 +2.3**
MULG Mulgathing 45.35 246 P **P** **11 41 14.2 +0.5**
WR0 Warramunga Arr 45.38 261 P **P** **11 41 12.2 -1.8**
WB2 Warramunga Arr 45.56 261 P **P** **11 41 13.5 -2.0**
WRAB Tennant Creek 45.56 261 *ce*P **P** **11 41 14.1 -1.4**
WRAB pmax pmax
comp=Z,89nm,1.3s
WRAB Tennant Creek 45.56 261 P **P** **11 41 13.1 -2.3**
WRAB Tennant Creek 45.56 261 P **P** **11 41 15.7 +0.2**
WRAB Tennant Creek 45.56 261 P **P** **11 41 14.5 -0.9**
WRA Warramunga Arr 45.57 261 P **P** **11 41 14.6 -0.9**
comp=Z,47nm,0.5s,baz=97,slow=6.2,SNR=764
WRA pP **pwP** **11 42 31.5 -0.2**
comp=Z,7.7nm,0.8s,baz=97,slow=7.7,SNR=1.7
WRA PcP **PcP** **11 42 47.0 -0.2**
comp=Z,14nm,1.0s,baz=96,slow=5.1,SNR=3.0
WRA S **S** **11 47 22.9 -7.0**
comp=Z,11nm,0.9s,baz=97,slow=13,SNR=12
AS31 Alice Springs 45.59 255 P **P** **11 41 15.1 -0.6**
ASAR Alice Springs 45.59 255 P **P** **11 41 15.7 0.0**
comp=Z,320nm,0.7s,baz=88,slow=8.3,SNR=1373
ASAR PcP **PcP** **11 42 47.4 +0.2**
comp=Z,16nm,0.8s,baz=92,slow=6.8,SNR=2.3
ASAR ScP **ScP** **11 46 03.1 -1.5**
comp=Z,2.9nm,0.7s,baz=100,slow=3.3,SNR=3.1
ASAR S **S** **11 47 25.9 -4.3**
comp=Z,25nm,0.9s,baz=88,slow=16,SNR=22
ASAR Alice Springs 45.59 255 P **P** **11 41 14.9 -0.8**
MIDW Midway 47.13 360 P **P** **11 41 27.3 +0.1**
MIDW Midway 47.13 360 P **P** **11 41 27.9 +0.7**
KDU Kakadu 48.72 270 P **P** **11 41 37.8 -1.8**
baz=49,SNR=42
KDU Kakadu 48.72 270 P **P** **11 41 39.3 -0.3**
GUMO Guam 49.59 308 P **P** **11 41 44.8 -1.2**
comp=Z,140nm,0.6s,baz=182,slow=12,SNR=5.5
GUMO Guam 49.59 308 P **P** **11 41 46.0 0.0**
GUMO pmax pmax
comp=Z,276nm,1.0s
GUMO Guam 49.59 308 P **P** **11 41 46.0 0.0**
GUMO Guam 49.59 308 P **P** **11 41 47.5 +1.4**
comp=Z,383nm,1.2s
GUMO Guam 49.59 308 P **P** **11 41 45.8 -0.2**
GUMO pP pP 11 42 50.6 -10
MTN Manton Dam 49.95 269 P **P** **11 41 47.8 -1.0**
baz=50,SNR=17
MTN Manton Dam 49.95 269 P **P** **11 41 48.2 -0.6**
MTN Manton Dam 49.95 269 P **P** **11 41 48.9 +0.1**
FORT Forrest 50.53 246 P **P** **11 41 51.7 -1.3**
baz=50,SNR=122
FORT Forrest 50.53 246 P **P** **11 41 52.0 -0.9**
FORT Forrest 50.53 246 P **P** **11 41 53.2 +0.2**
WRKA Warakurna 50.58 253 P **P** **11 41 52.6 -0.9**
baz=50,SNR=1000
WRKA Warakurna 50.58 253 P **P** **11 41 53.8 +0.3**
KNRA Kununurra 51.54 265 P **P** **11 41 59.9 -0.6**
baz=52,SNR=60
KNRA Kununurra 51.54 265 P **P** **11 42 00.4 -0.1**
KNRA Kununurra 51.54 265 P **P** **11 42 00.8 +0.3**
BNDI Bandanaira 53.59 279 P **P** **11 42 16.3 +0.9**
SIJI Sorong 53.67 284 P **P** **11 42 15.2 -0.9**
comp=Z,86nm,0.5s,baz=84,slow=7.1,SNR=45
FITZ Fitzroy Crossi 53.98 261 S **S** **11 49 24.2 -1.2**
comp=Z,4.4nm,1.1s,baz=279,slow=23,SNR=2.4
DRV Dumont d'Urvil 54.84 199 P **P** **11 42 24.5 +1.0**
DRV pP **pP** **11 43 39.5 +0.4**
NLAI Namlea 56.65 279 P **P** **11 42 37.1 0.0**
comp=Z,874nmcomp=Z,68nm,0.8s
LBMI Labuha 57.23 282 P **P** **11 42 41.2 0.0**

BATI **Baumata** 57.70 270 P P 11 42 46.1 +1.7
comp=Z,78nm,0.7s
TNTI **Ternate** 57.90 284 P P 11 42 46.3 +0.6
TNTI **Ternate** 57.90 284 P P 11 42 45.3 -0.5
comp=Z,95nm,0.9s
TNTI **Ternate** 57.90 284 P P 11 42 48.4 +2.6
SANI **Sanana** 58.11 280 P P 11 42 46.0 -1.2
comp=Z,577nmcomp=Z,79nm,0.8s
SANI **Sanana** 58.11 280 P P 11 42 47.0 -0.2
PSA00 **Pilbara Seismi** 58.73 256 P P 11 42 50.5 -0.9
PSA00 **Pilbara Seismi** 58.73 256 P P 11 42 51.6 +0.2
MBWA **Marble Bar** 58.91 256 P P 11 42 51.8 -0.7
MBWA **Marble Bar** 58.91 256 P P 11 42 52.8 +0.2
MEEK **Meekatharra** 59.09 250 P P 11 42 52.6 -1.2
baz=59,SNR=85
MEEK **Meekatharra** 59.09 250 P P 11 42 53.6 -0.2
SBA **Scott Base** 59.22 184 P P 11 42 56.8 +3.1
SBA pmax pmax
comp=Z,93nm,0.9s
SBA **Scott Base** 59.22 184 P P 11 42 56.8 +3.1
SBA IAmb IAmb 11 42 58.3
comp=Z,93nm,0.9s
SBA **Scott Base** 59.22 184 ⇓P P 11 42 57.1 +3.3
SBA pP pwP 11 44 18.0 +4.4
VNDA **Vanda** 59.28 185 P P 11 42 56.1 +2.0
comp=Z,27nm,1.0s,baz=356,slow=7.7,SNR=63
VNDA **Vanda** 59.28 185 P P 11 42 55.7 +1.6
KLBR **Kellerberrin** 59.32 244 P P 11 42 54.6 -0.6
baz=59,SNR=100
KLBR **Kellerberrin** 59.32 244 P P 11 42 55.9 +0.7
MMRI **Maumere** 59.49 271 P P 11 42 55.4 -1.3
MMRI IAmb IAmb 11 42 57.3
comp=Z,108nm,0.7s
MMRI **Maumere** 59.49 271 P P 11 42 56.2 -0.5
comp=Z,180nm,0.8s
MMRI **Maumere** 59.49 271 P P 11 42 57.1 +0.4
NWAO **Narrogin (SRO)** 59.66 243 P P 11 42 57.3 -0.1
NWAO pmax pmax
comp=Z,204nm,1.1s
NWAO **Narrogin (SRO)** 59.66 243 P P 11 42 57.3 -0.1
NWAO IAmb IAmb 11 42 58.7
comp=Z,204nm,1.1s
NWAO **Narrogin (SRO)** 59.66 243 P P 11 42 57.4 -0.1
RKGY **Rocky Gully** 59.76 241 P P 11 42 57.2 -1.0
baz=60,SNR=29
RKGY **Rocky Gully** 59.76 241 P P 11 42 59.0 +0.9
BLDU **Ballidu** 60.30 245 P P 11 43 00.7 -1.2
baz=60,SNR=43
BLDU **Ballidu** 60.30 245 P P 11 43 02.0 +0.1
JCJ **Chichijima** 60.58 318 P P 11 43 02.9 -0.7
comp=Z,105nm,0.9s,baz=246,slow=17,SNR=2.6
MUN **Mundaring** 60.60 244 P P 11 43 04.3 +0.5
baz=60,SNR=36
MUN **Mundaring** 60.60 244 P P 11 43 05.1 +1.3
BASI **Baing, Sumba** 60.61 269 P P 11 43 04.9 +0.8
comp=Z,1μmcomp=Z,148nm,1.0s
MTKN **Mount Kenneth** 60.97 244 P P 11 43 07.8 +1.5
MORW **Morawa** 61.05 247 P P 11 43 07.1 +0.2
baz=61,SNR=15
MORW **Morawa** 61.05 247 P P 11 43 06.4 -0.5
MORW IAmb IAmb 11 43 07.9
comp=Z,227nm,1.3s
MORW **Morawa** 61.05 247 P P 11 43 08.5 +1.6
LUWI **Luwuk** 61.47 280 P P 11 43 09.9 +0.1
LUWI **Luwuk** 61.47 280 P P 11 43 10.9 +1.0
comp=Z,76nm,1.0s
WBSI **Waikabubak, Su** 61.89 269 P P 11 43 12.2 -0.5
comp=Z,979nmcomp=Z,85nm,0.9s
H01W1 **Cape Leeuwin H** 62.06 240 P P 11 43 15.2 +2.0
baz=108,slow=8.6,SNR=17
H01W3 **Cape Leeuwin H** 62.07 240 P P 11 43 14.8 +1.5
baz=108,slow=8.6,SNR=21
H01W2 **Cape Leeuwin H** 62.07 240 P P 11 43 13.7 +0.5
baz=108,slow=8.6,SNR=17
BKSI **Bulukumba** 62.51 274 P P 11 43 16.1 -0.6
comp=Z,21nm,0.9s
APSI **Ampana** 62.57 279 P P 11 43 17.4 +0.3
comp=Z,516nmcomp=Z,44nm,0.7s
MRSI **Marisa** 62.80 281 P P 11 43 18.2 -0.4
comp=Z,699nmcomp=Z,44nm,0.8s
BNSI **Bone** 62.82 275 P P 11 43 18.1 -0.7
comp=Z,53nm,1.2s
KAPI **Kappang** 62.95 274 *i* P P 11 43 19.4 -0.2
KAPI pmax pmax
comp=Z,44nm,1.5s
KAPI **Kappang** 62.95 274 P P 11 43 19.5 -0.1
KAPI **Kappang** 62.95 274 P P 11 43 21.7 +2.1
KAPI **Kappang** 62.95 274 P P 11 43 19.8 +0.2
SPSI **Sidrap Palu** 63.28 275 P P 11 43 20.9 -0.9
comp=Z,32nm,0.9s
PLAI **Plampang** 63.65 269 P P 11 43 24.1 -0.1
comp=Z,2μmcomp=Z,265nm,0.9s
PLAI **Plampang** 63.65 269 P P 11 43 25.0 +0.8
GIRL **Giralia** 63.66 254 P P 11 43 25.7 +1.6
baz=64,SNR=16
GIRL **Giralia** 63.66 254 P P 11 43 25.0 +0.9
GIRL **Giralia** 63.66 254 P P 11 43 25.9 +1.8
CCD **Concordia, Ant** 63.92 194 P P 11 43 26.5 +1.1
CCD pP pP 11 44 43.7 0.0
CCD pwP pwP 11 44 50.1 +3.3
TOLI2 **Tolitoli** 64.11 281 P P 11 43 27.2 +0.1
MPSI **Mapaga** 64.65 280 P P 11 43 30.8 +0.2
comp=Z,40nm,0.7s
CASY **Casey** 65.47 205 P P 11 43 34.7 -0.2
CASY IAmb IAmb 11 43 36.8
comp=Z,60nm,0.9s
CASY **Casey** 65.47 205 P P 11 43 35.1 +0.2
CASY pP pwP 11 44 55.9 -0.1
CASY pwP pP 11 45 03.0 +9.0
IGBI **Denpasar** 66.14 269 P P 11 43 40.1 0.0
comp=Z,2μmcomp=Z,208nm,1.0s
JHJ2 **Mitsune** 66.28 321 P P 11 43 40.9 +0.5
SRBI **Singaraja** 66.29 269 P P 11 43 40.8 -0.2
comp=Z,1μmcomp=Z,154nm,1.1s
JHJ **Hachijo jima 2** 66.30 321 P P 11 43 40.3 -0.3
comp=Z,321nm,1.0s,baz=233,slow=9.1,SNR=4.2
JAGI **Jajag, Banyuwa** 67.18 269 P P 11 43 45.5 -1.1
JAGI **Jajag, Banyuwa** 67.18 269 P P 11 43 45.6 -1.0
comp=Z,2μmcomp=Z,196nm,0.9s
JAGI **Jajag, Banyuwa** 67.18 269 P P 11 43 46.9 +0.3
ABJI **Asem Bagus** 67.31 269 P P 11 43 47.2 -0.1
comp=Z,135nm,0.9s
KMMI **Kalianget** 67.78 270 P P 11 43 50.2 -0.1
comp=Z,108nm,0.8s
GMJI **Gumukmas** 67.91 269 P P 11 43 50.8 -0.3
comp=Z,844nmcomp=Z,96nm,0.8s
JYT **Yasato** 68.29 324 P P 11 43 52.5 -0.4
JMM **Marumori** 69.16 325 P P 11 43 58.1 0.0
JGF **Kuroka** 69.47 322 P P 11 43 59.8 -0.4
INU **Inuyama** 69.49 321 P P 11 44 00.9 +0.6
INU **Inuyama** 69.49 321 P P 11 44 01.8 +1.5
INU **Inuyama** 69.49 321 P P 11 44 01.7 +1.4
INU pP pP 11 45 03.0 -17
MJAR **Matsushiro Arr** 69.63 323 P P 11 44 00.1 -1.0
comp=Z,17nm,0.6s,baz=156,slow=6.5,SNR=26
MJAR **Matsushiro Arr** 69.63 323 P P 11 44 00.1 -1.0
MJAR pmax pmax
comp=Z,14nm,0.8s
MJAR **Matsushiro Arr** 69.63 323 P P 11 44 00.1 -1.0
MAJO **Matsushiro** 69.63 323 *i* P P 11 44 01.1 0.0
MAJO pmax pmax
comp=Z,50nm,1.3s
MAJO **Matsushiro** 69.63 323 P P 11 44 00.5 -0.6
MAJO **Matsushiro** 69.63 323 P P 11 44 02.4 +1.3
MAJO **Matsushiro** 69.63 323 P P 11 44 00.5 -0.6
MAJO pP pP 11 45 25.8 +4.4
MJB9 **Matsu-Tunnel** 69.64 323 P P 11 44 00.6 -0.6
JOW **Kunigami** 69.94 309 P P 11 44 02.8 -0.4
comp=Z,98nm,0.9s,baz=149,slow=5.6,SNR=12
JOW **Kunigami** 69.94 309 P P 11 44 03.2 0.0
JOW **Kunigami** 69.94 309 P P 11 44 04.1 +0.9
PCJI **Pacitan** 70.08 268 P P 11 44 04.8 +0.5
comp=Z,3μmcomp=Z,273nm,1.1s
KKM **Kota Kinabalu** 70.19 284 P P 11 44 03.2 -1.8
JSD **Sado** 70.66 324 P P 11 44 06.1 -1.2
JSD IAmb IAmb 11 44 09.3
comp=Z,46nm,0.7s
KIWB **Kanaga Island** 70.74 0 P P 11 44 06.6 -0.8
ADK **Adak** 70.77 0 P P 11 44 06.9 -0.6
ADK pmax pmax
comp=Z,69nm,0.9s
ADK **Adak** 70.77 0 P P 11 44 06.9 -0.6
ADK IAmb IAmb 11 44 08.6
comp=Z,69nm,0.9s
ADK **Adak** 70.77 0 P P 11 44 07.1 -0.4

ADK **Adak** 70.77 0 P P 11 44 06.6 -1.0
ADK pP pP 11 45 26.1 -1.7
UGM **Wanagama** 70.78 268 P P 11 44 09.1 +0.6
QSPA **South Pole Qui** 70.87 180 P P 11 44 09.6 +1.3
QSPA **South Pole Qui** 70.87 180 ⇓P P 11 44 09.9 +1.6
QSPA pP pwP 11 45 31.5 -0.4
QSPA pwP pP 11 45 38.5 +10
SMRI **Semarang** 71.11 269 P P 11 44 11.7 +1.1
SMRI **Semarang** 71.11 269 P P 11 44 10.3 -0.2
comp=Z,150nm,0.8s
SMRI **Semarang** 71.11 269 P P 11 44 12.3 +1.8
comp=Z,150nm,0.9s
ATKA **Atka Island** 71.14 2 P P 11 44 09.3 -0.4
JTM **Tenmabayashi** 71.17 328 P P 11 44 11.2 +0.9
PBKI **Pangkalan Bun** 71.33 274 P P 11 44 12.5 +0.7
comp=Z,124nm,1.1s
JHS **Saijyo** 71.63 319 P P 11 44 13.2 +0.1
JNU **Nakatsue** 71.87 316 P P 11 44 14.0 -0.6
JNU IAmb IAmb 11 46 02.3
comp=Z,57nm,0.6s
SHEM **Shemya Is, Ala** 72.02 354 P P 11 44 13.6 -1.3
comp=Z,22nm,0.4s,baz=39,slow=5.1,SNR=9.9
NIKH **Nikolski High** 72.22 5 P P 11 44 16.2 +0.1
NIKH **Nikolski High** 72.22 5 P P 11 44 16.3 +0.2
baz=188,SNR=6.2
KPJI **Karang Pucung** 72.45 268 P P 11 44 18.8 +0.4
comp=Z,27μmcomp=Z,74nm,1.0s
SBUM **Sibu** 72.56 279 P P 11 44 18.6 -0.4
CMJI **Cimerak** 72.78 268 P P 11 44 19.1 -1.2
comp=Z,54nm,1.1s
ASAJ **Asahikawa** 72.96 331 P P 11 44 20.2 -0.5
comp=Z,14nm,0.8s,baz=270,slow=3.7,SNR=10
UNV **Unalaska Valle** 73.31 7 P P 11 44 22.6 +0.1
UNV IAmb IAmb 11 44 23.2
comp=Z,87nm,1.0s
UNV **Unalaska Valle** 73.31 7 P P 11 44 22.7 +0.2
baz=190,SNR=5.1
TWG **Pinlang** 73.34 302 P P 11 44 21.8 -1.6
YULB **Yu-li** 73.45 303 P P 11 44 22.3 -1.7
NACB **Ninganchiao** 73.60 303 P P 11 44 23.8 -1.0
LEM **Lembang** 73.85 268 P P 11 44 27.4 +0.7
comp=Z,1μmcomp=Z,160nm,0.8s
SSLB **Suanglung** 73.92 303 P P 11 44 25.2 -1.5
SSLB IAmb IAmb 11 44 26.9
comp=Z,68nm,1.1s
SSLB **Suanglung** 73.92 303 P P 11 44 26.1 -0.6
TPUB **Ta-pu** 73.93 302 P P 11 44 25.3 -1.4
TPUB **Ta-pu** 73.93 302 P P 11 44 27.2 +0.4
KSM **Kuching** 74.01 277 P P 11 44 27.1 -0.3
KSM IAmb IAmb 11 44 30.0
comp=Z,96nm,1.1s
KSM **Kuching** 74.01 277 P P 11 44 28.5 +1.1
YHNB **Yeheng** 74.02 304 P P 11 44 27.3 0.0
YHNB IAmb IAmb 11 44 28.5
comp=Z,123nm,1.1s
YHNB **Yeheng** 74.02 304 P P 11 44 27.9 +0.6
FALS **False Pass** 74.68 8 P P 11 44 29.7 -0.6
baz=193
YSS **Yuzh-Sakhalins** 75.09 333 *e*P P 11 44 32.8 0.0
YSS pmax pmax
comp=Z,50nm,1.2s
YSS **Yuzh-Sakhalins** 75.09 333 P P 11 44 32.8 0.0
YSS IAmb IAmb 11 44 34.9
comp=Z,81nm,1.2s
YSS **Yuzh-Sakhalins** 75.09 333 P P 11 44 33.0 +0.3
TPI **Tanjungpandan** 75.10 272 P P 11 44 34.6 +1.0
comp=Z,369nmcomp=Z,30nm,1.0s
PEA0B **Petropavlovsk-** 75.22 345 *e*P P 11 44 33.9 +0.5
PEA0B **Petropavlovsk-** 75.22 345 P P 11 44 32.9 -0.5
PEA0B IAmb IAmb 11 44 34.6
comp=Z,49nm,0.9s
PETK **Petropavlovsk-** 75.22 345 P P 11 44 32.0 -1.4
comp=Z,34nm,0.9s,baz=115,slow=7.0,SNR=24
PETK **Petropavlovsk-** 75.22 345 P P 11 44 32.9 -0.5
PETK **Petropavlovsk-** 75.22 345 P P 11 44 32.9 -0.5
SDPT **Sand Point** 75.59 10 P P 11 44 35.2 -0.2
baz=196
CGJI **Cibinong** 75.73 268 P P 11 44 36.3 -0.9
comp=Z,2μmcomp=Z,246nm,0.7s
SNCC **San Nicolas Is** 75.79 47 P P 11 44 38.6 +1.5
baz=235
TJN **Taejon** 76.15 317 *i* P P 11 44 39.0 0.0
TJN **Taejon** 76.15 317 P P 11 44 41.5 +2.5
TJN **Taejon** 76.15 317 P P 11 44 40.1 +1.1
SCI2 **San Clemente I** 76.32 48 P P 11 44 41.4 +1.4
baz=236
SBC **Santa Barbara** 76.34 46 P P 11 44 41.8 +1.7
baz=235
QZH **Quanzhou** 76.36 303 ⇑*i* P P 11 44 41.8 +1.4
QZH S S 11 53 56.4 +1.5
QZH pmax pmax
comp=Z,67nm,0.7s
KSRS **Korea Array** 76.44 318 P P 11 44 40.9 +0.3
comp=Z,11nm,1.0s,baz=142,slow=6.1,SNR=28
KSRS PP PP 11 47 37.3 -1.2
comp=Z,1.0nm,0.6s,baz=123,slow=8.7,SNR=2.6
KSAR **Wonju Array Be** 76.45 318 P P 11 44 40.7 0.0
KSAR **Wonju Array Be** 76.45 318 P P 11 44 40.7 0.0
KS19 **Wonju Array Si** 76.50 318 P P 11 44 42.3 +1.4
KS19 IAmb IAmb 11 44 44.3
comp=Z,91nm,1.6s
PKM **Mcpherson Peak** 76.53 45 P P 11 44 43.4 +2.0
baz=235,SNR=22
SAO **San Andreas Ge** 76.55 43 P P 11 44 43.1 +1.9
SAO pmax pmax
comp=Z,49nm,1.1s
SAO **San Andreas Ge** 76.55 43 P P 11 44 43.1 +1.9
SAO IAmb IAmb 11 44 45.3
comp=Z,49nm,1.1s
PMPB **Monarch Peak** 76.64 44 P P 11 44 43.9 +2.0
PMPB IAmb IAmb 11 44 46.1
comp=Z,129nm,1.5s
CIS **Catalina Islan** 76.64 47 P P 11 44 43.0 +1.1
baz=236,SNR=5.2
SMMC **Simmler** 76.65 45 P P 11 44 43.4 +1.6
baz=235,SNR=13
BBGB **Big Mountain B** 76.70 43 P P 11 44 44.1 +1.9
BBGB IAmb IAmb 11 44 46.9
comp=Z,122nm,1.4s
PAGB **Antelope Grade** 76.72 44 P P 11 44 44.3 +2.1
PAGB IAmb IAmb 11 44 46.5
comp=Z,123nm,1.8s
BCW **Bitter Crk WRg** 76.83 46 P P 11 44 44.1 +1.1
BCW IAmb IAmb 11 44 47.4
comp=Z,78nm,1.1s
HOPS **Hopland Field** 76.87 40 P P 11 44 45.4 +2.4
HOPS IAmb IAmb 11 44 47.0
comp=Z,56nm,1.1s
FMP **Fort Macarthur** 76.90 47 P P 11 44 45.0 +1.8
baz=236
GDXM **Geysers** 76.93 41 P P 11 44 46.0 +2.6
KCPM **Cahto Peak** 76.99 40 P P 11 44 46.1 +2.3
KCPM IAmb IAmb 11 44 47.9
comp=Z,84nm,1.3s
CCX **Cicese** 77.04 49 P P 11 44 46.4 +2.3
OSI **Osito Audit: C** 77.11 46 P P 11 44 46.7 +2.3
baz=236
KMPM **Mount Pierce** 77.13 39 P P 11 44 47.3 +2.8
KMPM IAmb IAmb 11 44 48.8
comp=Z,92nm,1.1s
DECC **Green Verdugo** 77.17 47 P P 11 44 47.1 +2.3
baz=236
KASI **Kota Agung** 77.20 269 P P 11 44 44.3 -1.1
comp=Z,1μmcomp=Z,167nm,1.0s
PASC **Pasadena Art C** 77.23 47 IAmb IAmb 11 44 48.7
comp=Z,64nm,1.1s
INCN **Inchon** 77.27 317 P P 11 44 45.1 -0.1
INCN pmax pmax
comp=Z,51nm,1.1s
INCN **Inchon** 77.27 317 P P 11 44 45.1 -0.1
INCN IAmb IAmb 11 44 47.8
comp=Z,51nm,1.1s
INCN **Inchon** 77.27 317 P P 11 44 46.6 +1.4
109C **Camp Elliot, M** 77.28 48 IAmb IAmb 11 44 49.2
comp=Z,55nm,1.3s
109C **Camp Elliot, M** 77.28 48 P P 11 44 48.1 +2.7
baz=237
ARVC **Arvin** 77.32 46 P P 11 44 47.8 +2.3
baz=235,SNR=16
JCC **Jacoby Creek,** 77.44 38 IAmb IAmb 11 44 50.1
comp=Z,53nm,1.1s
TKX **Tecate** 77.46 49 IAmb IAmb 11 44 50.4
comp=Z,62nm,1.4s
ELS **Elsinore Mount** 77.47 48 IAmb IAmb 11 44 50.4
comp=Z,53nm,1.1s

BAR **Barrett** 77.47 49 P P 11 44 45.7 -0.8
VES **Vestal, Richgr** 77.56 45 P P 11 44 48.3 +1.5
baz=235,SNR=24
MURC **Murrieta** 77.60 48 P P 11 44 48.4 +1.2
baz=237,SNR=7.5
BFSC **Mount Baldy Ra** 77.63 47 P P 11 44 48.2 +0.8
baz=236,SNR=15
VOG **Valley Oaks Go** 77.64 44 P P 11 44 48.6 +1.4
baz=235
KHMM **Horse Mountain** 77.65 39 IAmb IAmb 11 44 51.7
comp=Z,56nm,1.1s
VLA **Vladivostok** 77.67 324 *i* P P 11 44 47.8 +0.6
VLA pmax pmax
comp=Z,18nm,1.0s
MSHR **Mys Shultsa** 77.72 324 *i* P P 11 44 47.7 +0.2
MSHR pmax pmax
comp=Z,37nm,0.9s
EDW2 **Edwards Air Fo** 77.75 46 P P 11 44 49.8 +1.8
baz=236,SNR=73
MONP2 **Monument Peak** 77.76 49 P P 11 44 49.6 +1.3
baz=237,SNR=14
O02D **Mt. Diablo Mer** 77.78 40 P P 11 44 49.6 +1.6
O02D IAmb IAmb 11 44 52.5
comp=Z,75nm,1.1s
O02D **Mt. Diablo Mer** 77.78 40 P P 11 44 49.6 +1.6
baz=232,SNR=50
RMX **La Rumorosa** 77.86 49 IAmb IAmb 11 44 52.9
comp=Z,49nm,1.0s
IKP **In-Ko-Pah, Jac** 77.86 49 P P 11 44 51.2 +2.6
baz=238,SNR=18
ISA **Isabella, Lake** 77.87 45 IAmb IAmb 11 44 52.7
comp=Z,84nm,1.1s
ISA **Isabella, Lake** 77.87 45 P P 11 44 49.8 +1.1
baz=236,SNR=49
CCAC **Calif City Air** 77.89 46 IAmb IAmb 11 44 52.8
comp=Z,45nm,0.9s
SII **Sitkinak Islan** 77.90 13 P P 11 44 49.9 +1.6
baz=202,SNR=5.6
SII **Sitkinak Islan** 77.90 13 P P 11 44 48.5 +0.3
CMB **Columbia Colle** 77.98 42 IAmb IAmb 11 44 52.8
comp=Z,40nm,1.0s
SRIG **Santa Rosalia** 78.05 55 IAmb IAmb 11 44 53.8
comp=Z,63nm,1.1s
PFO **Pinyon Flats O** 78.12 48 *i* P P 11 44 52.1 +2.0
PFO pmax pmax
comp=Z,57nm,1.1s
PFO **Pinyon Flats O** 78.12 48 P P 11 44 51.9 +1.8
PFO IAmb IAmb 11 44 54.1
comp=Z,43nm,1.1s
PFO **Pinyon Flats O** 78.12 48 P P 11 44 52.1 +2.0
baz=237,SNR=9.3
TPFO **Pinon Flats** 78.12 48 P P 11 44 51.8 +1.7
baz=237,SNR=9.7
TYV **Tymovskoe** 78.18 335 *e*P P 11 44 49.9 +0.1
TYV pmax pmax
comp=Z,40nm,1.1s
TYV pmax pmax
comp=Z,200nm,4.2s
SLBS **Sierra La Lagu** 78.18 60 P P 11 44 53.0 +2.4
SLBS IAmb IAmb 11 44 55.2
comp=Z,45nm,1.1s
ORV **Oroville** 78.18 41 P P 11 44 51.8 +1.6
ORV pmax pmax
comp=Z,52nm,1.2s
ORV **Oroville** 78.18 41 P P 11 44 51.8 +1.6
ORV IAmb IAmb 11 44 53.8
comp=Z,52nm,1.2s
SWSC **Sam W Stewart** 78.23 49 P P 11 44 53.1 +2.5
baz=238,SNR=11
LRMC **Laurel Mtn Rad** 78.30 46 P P 11 44 53.0 +2.0
baz=236,SNR=5.4
N02D **Trinity Center** 78.32 39 P P 11 44 51.6 +0.6
N02D IAmb IAmb 11 44 55.3
comp=Z,93nm,1.4s
N02D **Trinity Center** 78.32 39 P P 11 44 53.0 +2.1
baz=232,SNR=32
USA0B **Ussuriysk Arra** 78.33 325 IAmb IAmb 11 44 54.6
comp=Z,62nm,1.4s
USRK **Ussuriysk Ar.** 78.33 325 P P 11 44 51.0 +0.2
comp=Z,8.7nm,0.7s,baz=164,slow=4.9,SNR=14
RRX **Edison Barstow** 78.44 47 P P 11 44 53.7 +2.1
baz=237
O03E **Paynes Creek** 78.44 40 P P 11 44 52.1 +0.5
O03E **Paynes Creek** 78.44 40 P P 11 44 53.3 +1.7
baz=232
M02C **Callahan** 78.49 39 IAmb IAmb 11 44 56.4
comp=Z,92nm,1.4s
M02C **Callahan** 78.49 39 P P 11 44 54.1 +2.2
baz=231,SNR=44
L02E **Cave Junction** 78.53 38 P P 11 44 53.7 +1.7
L02E **Cave Junction** 78.53 38 P P 11 44 54.1 +2.1
baz=231,SNR=7.8
CWC **Cottonwood Cre** 78.57 45 P P 11 44 54.1 +1.6
baz=236
MDPB **Devils Postpil** 78.58 43 IAmb IAmb 11 44 57.0
comp=Z,66nm,1.0s
BELC **Belle Mtn. Jos** 78.66 48 P P 11 44 54.7 +1.6
baz=238,SNR=12
OHAK **Old Harbor** 78.70 13 P P 11 44 53.4 +0.9
baz=203
EMB **Emerald Bay** 78.71 42 IAmb IAmb 11 44 57.1
comp=Z,82nm,1.7s
RUBR **Rubicon Trail** 78.72 42 IAmb IAmb 11 44 58.1
comp=Z,105nm,1.5s
MLAC **Mammoth, Mammo** 78.74 44 P P 11 44 55.1 +1.6
baz=235,SNR=7.8
MPMC **Manual Prospec** 78.75 45 P P 11 44 55.3 +1.8
baz=236,SNR=46
YBH **Yreka Blue Hor** 78.79 38 IAmb IAmb 11 44 57.6
comp=Z,58nm,1.1s
GSC **Goldstone, Bar** 78.80 46 IAmb IAmb 11 44 57.6
comp=Z,49nm,1.1s
GSC **Goldstone, Bar** 78.80 46 P P 11 44 56.0 +2.3
baz=237,SNR=29
TIN **Tinemaha, Big** 78.81 44 P P 11 44 56.5 +2.7
baz=236,SNR=14
K02D **Willamette Mer** 78.84 37 P P 11 44 56.1 +2.3
baz=231,SNR=13
BC3 **Big Chuckawall** 78.86 48 P P 11 44 56.3 +2.2
baz=238,SNR=18
HEC **Hector,Ludlow** 78.87 47 P P 11 44 55.7 +1.6
baz=237,SNR=31
MPK **Martis Peak** 78.94 42 P P 11 44 56.0 +1.4
J01E **Myrtle Point** 78.98 37 IAmb IAmb 11 44 58.2
comp=Z,66nm,1.1s
J01E **Myrtle Point** 78.98 37 P P 11 44 56.6 +2.3
baz=230,SNR=9.1
GLA **Glamis** 78.99 49 P P 11 44 57.5 +2.8
GLA pmax pmax
comp=Z,97nm,1.2s
GLA **Glamis** 78.99 49 P P 11 44 57.5 +2.8
GLA IAmb IAmb 11 44 59.3
comp=Z,97nm,1.2s
GLA **Glamis** 78.99 49 P P 11 44 57.2 +2.5
baz=238,SNR=19
BEKR **Beckworth** 79.07 41 IAmb IAmb 11 44 58.9
comp=Z,44nm,1.0s
QSM **Queen of Sheba** 79.12 46 P P 11 44 56.0 +0.7
VCNR **Virginia City** 79.18 42 P P 11 44 56.8 +1.0
VCNR IAmb IAmb 11 44 59.7
comp=Z,49nm,1.1s
HUMO **Hull Mountain** 79.19 38 IAmb IAmb 11 44 59.8
comp=Z,70nm,1.2s
YERR **Yerington** 79.26 42 P P 11 44 57.6 +1.4
LCH **Last Change Ra** 79.30 44 P P 11 44 58.0 +1.5
GMRC **Granite Mounta** 79.31 47 P P 11 44 58.9 +2.3
baz=238,SNR=21
LHV **Little Huntoon** 79.31 43 P P 11 44 58.6 +2.3
LHV IAmb IAmb 11 45 00.5
comp=Z,81nm,1.0s
L04D **Klamath Falls** 79.32 38 P P 11 44 58.2 +1.7
L04D IAmb IAmb 11 45 00.2
comp=Z,57nm,0.9s
L04D **Klamath Falls** 79.32 38 P P 11 44 57.7 +1.3
baz=232,SNR=29
M04C **Macdoel** 79.33 39 IAmb IAmb 11 45 00.4
comp=Z,55nm,1.1s
M04C **Macdoel** 79.33 39 P P 11 44 58.6 +2.1
baz=232,SNR=38
IRM **Iron Mountain** 79.34 48 P P 11 44 58.7 +2.1
baz=238,SNR=36
GRAC **Grapevine Rang** 79.35 45 P P 11 44 58.7 +2.0
GRAC IAmb IAmb 11 45 00.9
comp=Z,69nm,0.9s
GRAC **Grapevine Rang** 79.35 45 P P 11 44 58.6 +2.0
baz=236,SNR=20
KDAK **Kodiak Island** 79.37 13 P P 11 44 56.2 +0.2

comp=Z,78nm,1.0s,baz=220,slow=1.9,SNR=14
KDAK Kodiak Island 79.37 13 P **P** **11 44 56.4 +0.3**
KDAK pmax pmax
comp=Z,220nm,1.4s
KDAK Kodiak Island 79.37 13 P **P** **11 44 56.4 +0.3**
KDAK Kodiak Island 79.37 13 P **P** **11 44 57.2 +1.1**
baz=204
GWY Greenwater Val 79.38 46 P **P** **11 44 58.5 +1.6**
FURC Furnace Creek, 79.40 45 P **P** **11 44 57.7 +0.9**
baz=236,SNR=13
TUQ Turquoise Moun 79.48 47 P **P** **11 44 59.4 +2.0**
baz=237,SNR=26
SHOC Shoshone, Teco 79.49 46 P **P** **11 44 59.3 +2.0**
baz=237,SNR=16
RYN Ryan 79.51 43 P **P** **11 44 59.8 +2.2**
RYN IAmb IAmb 11 45 01.4
comp=Z,39nm,1.0s
NVAR Mina Array Bea 79.54 43 P **P** **11 44 59.6 +1.8**
comp=Z,47nm,0.9s,baz=226,slow=7.9,SNR=105
NVAR pP **pwP** **11 46 23.2 +0.1**
comp=Z,7.7nm,1.1s,baz=224,slow=7.5,SNR=3.5
NVAR Mina Array Bea 79.54 43 P **P** **11 44 59.5 +1.7**
BLYC Blythe 79.57 49 P **P** **11 44 59.5 +1.8**
BLYC IAmb IAmb 11 45 02.0
comp=Z,49nm,0.9s
PAHR Pah Rah Range 79.59 42 IAmb IAmb 11 45 01.7
comp=Z,52nm,1.0s
113A Mohawk Valley, 79.60 50 IAmb IAmb 11 45 02.2
comp=Z,47nm,1.1s
I02E Swisshome, OR 79.63 36 IAmb IAmb 11 45 01.8
comp=Z,89nm,1.1s
I02E Swisshome, OR 79.63 36 P **P** **11 44 59.1 +1.3**
baz=230,SNR=6.7
NV11 Mina Array Sit 79.64 43 IAmb IAmb 11 45 02.0
comp=Z,59nm,1.0s
I03D Drain, OR 79.65 37 P **P** **11 44 58.8 +0.9**
baz=231,SNR=14
NJ2 Nanjing 79.66 309 ⇓P **P** **11 44 58.8 +0.6**
NJ2 S **S** **11 54 32.9 +3.4**
NJ2 SKS **SKSac** **11 54 38.4 -1.1**
NJ2 pmax pmax
comp=Z,62nm,0.9s
NJ2 pmax pmax
comp=Z,200nm,3.5s
214A Organ Pipe Nat 79.89 51 IAmb IAmb 11 45 04.2
comp=Z,44nm,1.1s
214A Organ Pipe Nat 79.89 51 P **P** **11 45 01.8 +2.2**
baz=240
K04D Chiloquin, OR 79.90 38 P **P** **11 45 00.8 +1.3**
baz=232,SNR=8.5
MDJ Mudanjiang 79.91 324 P **P** **11 44 59.4 +0.1**
MDJ IAmb IAmb 11 45 03.0
comp=Z,58nm,0.9s
MDJ Mudanjiang 79.91 324 P **P** **11 45 00.1 +0.8**
MDJ pmax pmax
comp=Z,33nm,1.2s
MDJ pmax pmax
comp=Z,440nm,3.8s
MDJ Mudanjiang 79.91 324 P **P** **11 45 00.0 +0.8**
KVN Kaiserville 80.03 43 P **P** **11 45 01.7 +1.4**
KVN pmax pmax
comp=Z,37nm,0.9s
KVN Kaiserville 80.03 43 P **P** **11 45 01.7 +1.4**
KVN IAmb IAmb 11 45 04.0
comp=Z,37nm,0.9s
NEE2 Needles Airpor 80.03 48 P **P** **11 45 01.2 +1.0**
baz=238
J04D Umpqua Nationa 80.07 37 P **P** **11 45 01.9 +1.5**
J04D Umpqua Nationa 80.07 37 P **P** **11 45 02.0 +1.6**
baz=232,SNR=45
TPNV Topopah Spring 80.07 45 P **P** **11 45 01.9 +1.3**
TPNV pmax pmax
comp=Z,13nm,0.9s
TPNV Topopah Spring 80.07 45 P **P** **11 45 01.9 +1.3**
TPNV Topopah Spring 80.07 45 P **P** **11 45 01.7 +1.1**
baz=237,SNR=20
PDMCI Parker Dam,Lak 80.12 48 P **P** **11 45 02.5 +1.8**
baz=239,SNR=14
BUCK Buck Mountain 80.17 36 IAmb IAmb 11 45 04.7
comp=Z,69nm,0.9s
MYKOM Kota Tinggi 80.19 275 IAmb IAmb 11 45 03.5
comp=Z,47nm,0.8s
Q19K Cape Douglas, 80.21 12 P **P** **11 45 01.0 +0.4**
baz=202
COR Corvallis 80.23 36 P **P** **11 45 02.3 +1.3**
COR pmax pmax
comp=Z,70nm,1.1s
COR Corvallis 80.23 36 P **P** **11 45 02.3 +1.3**
COR IAmb IAmb 11 45 05.0
comp=Z,70nm,1.1s
MOD Modoc Plateau 80.32 39 IAmb IAmb 11 45 05.5
comp=Z,56nm,1.0s
K05A Summer Lake 80.46 38 P **P** **11 45 04.1 +1.6**
H04D Lebanon 80.51 36 P **P** **11 45 03.3 +0.8**
H04D IAmb IAmb 11 45 06.3
comp=Z,92nm,1.1s
H04D Lebanon 80.51 36 P **P** **11 45 03.8 +1.3**
baz=231,SNR=22
SHPR Sheep Range 80.57 46 IAmb IAmb 11 45 07.5
comp=Z,56nm,1.4s
J05D Fort Rock, OR 80.60 38 P **P** **11 45 05.0 +1.9**
baz=232,SNR=97
G03D McMinnville, O 80.65 35 P **P** **11 45 05.0 +1.8**
baz=231,SNR=17
BELA Belgrano 2 80.75 173 IAmb IAmb 11 45 05.3
comp=Z,49nm,0.8s
O18K Koktuh Hills 80.78 11 P **P** **11 45 03.4 -0.1**
baz=201,SNR=12
S11A Rachel 80.79 45 IAmb IAmb 11 45 08.2
comp=Z,69nm,1.1s
H04A Detroit Lake 80.92 36 P **P** **11 45 05.0 +0.3**
H04A IAmb IAmb 11 45 07.9
comp=Z,54nm,0.7s
P19K Oil Pt 80.96 12 P **P** **11 45 04.8 +0.3**
baz=203
QIZ Qiongzhong 81.04 294 P **P** **11 45 07.4 +1.6**
QIZ S **S** **11 54 42.9 -1.5**
QIZ SS **SS** **12 00 14.0 +5.2**
QIZ pmax pmax
comp=Z,20nm,1.8s
PRN Pahroc Range 81.13 45 P **P** **11 45 08.3 +2.2**
PRN IAmb IAmb 11 45 10.4
comp=Z,84nm,1.2s
I05D Terrebonne, OR 81.18 37 P **P** **11 45 07.8 +1.7**
baz=232,SNR=33
O19K Port Alsworth 81.26 11 P **P** **11 45 05.0 -0.9**
O19K Port Alsworth 81.26 11 P **P** **11 45 05.3 -0.6**
baz=202,SNR=14
R11A Troy Canyon, C 81.28 44 P **P** **11 45 08.7 +1.8**
baz=237,SNR=30
F04D Rainier, OR 81.34 35 P **P** **11 45 08.6 +1.8**
baz=231,SNR=6.9
BMN Battle Mountai 81.36 42 IAmb IAmb 11 45 11.1
comp=Z,103nm,1.2s
N18K Kilae Creek 81.43 10 P **P** **11 45 06.9 0.0**
baz=200
O20K Slope Mountain 81.48 12 P **P** **11 45 08.0 +0.7**
baz=203
BRLK Bradley Lake 81.55 13 IAmb IAmb 11 45 09.5
comp=Z,82nm,1.0s
BRSE Bradley Lake S 81.56 13 P **P** **11 45 08.4 +0.8**
baz=205,SNR=7.9
TUC Tucson 81.56 52 P **P** **11 45 08.9 +0.5**
TUC pmax pmax
comp=Z,73nm,1.1s
TUC Tucson 81.56 52 P **P** **11 45 08.9 +0.5**
TUC IAmb IAmb 11 45 13.3
comp=Z,73nm,1.1s
TUC Tucson 81.56 52 P **P** **11 45 11.3 +2.9**
baz=241
WISH Wishkah 81.60 34 P **P** **11 45 09.9 +1.9**
HOOD Mount Hood Mea 81.61 36 P **P** **11 45 08.8 +0.4**
HG4B Hotspring 81.63 27 P **P** **11 45 09.7 +1.6**
HG4B IAmb IAmb 11 45 11.4
comp=Z,76nm,0.9s
WVOR Wild Horse Val 81.63 40 IAmb IAmb 11 45 12.4
comp=Z,98nm,1.1s
SNY Shenyang 81.72 320 ⇑P **P** **11 45 10.3 +1.5**
SNY S **S** **11 54 54.1 +3.8**
SNY pmax pmax
comp=Z,23nm,1.2s
SNY LR LR
comp=Z,600nm,18.7s
SNY LR LR
comp=Z,340nm,19.2s
SNY LR LR
comp=Z,700nm,16.6s
NLWA Neilton Lookou 81.72 33 IAmb IAmb 11 45 12.6
comp=Z,89nm,1.1s
G05D Wamic, OR 81.75 36 P **P** **11 45 10.6 +1.6**
baz=232,SNR=17
CN2 Changchun 81.75 322 *e*P **P** **11 45 09.6 +0.7**
CN2 *e*S **S** **11 54 52.8 +2.2**
CN2 pmax pmax
comp=Z,40nm,1.3s
DIB Dawson Inlet, 81.77 25 IAmb IAmb 11 45 11.7
comp=Z,82nm,1.1s
N19K Bonanza Creek 81.80 11 P **P** **11 45 08.4 -0.6**
baz=202,SNR=7.2
KLR Kul'dur 81.81 329 P **P** **11 45 09.8 +0.7**
comp=Z,8.6nm,1.0s,baz=114,slow=4.2,SNR=13
KLR PP **PP** **11 48 21.7 -0.9**
comp=Z,2.1nm,0.9s,baz=141,slow=11,SNR=3.6
KLR Kul'dur 81.81 329 *de*P **P** **11 45 08.6 -0.5**
KLR pmax pmax
comp=Z,14nm,1.3s
BNX BinXian 81.81 324 ⇓P **P** **11 45 09.5 +0.3**
BNX S **S** **11 54 53.3 +2.2**
BNX sS **sS** **11 57 20.3 +2.2**
BNX pmax pmax
comp=Z,120nm,1.1s
BNX pmax pmax
comp=Z,370nm,5.2s
E04D Cinebar 81.88 35 P **P** **11 45 11.1 +1.6**
E04D Cinebar 81.88 35 P **P** **11 45 11.3 +1.7**
baz=231,SNR=45
F05D White Salmon 82.06 36 P **P** **11 45 11.5 +1.0**
F05D IAmb IAmb 11 45 14.1
comp=Z,62nm,0.9s
F05D White Salmon 82.06 36 P **P** **11 45 12.0 +1.4**
baz=232,SNR=11
I07A Izee 82.08 38 P **P** **11 45 12.7 +1.9**
X16A Lo Mia Camp, P 82.11 50 IAmb IAmb 11 45 15.9
comp=Z,72nm,1.0s
LCMT Little Creek M 82.15 47 IAmb IAmb 11 45 15.5
comp=Z,38nm,1.0s
D04E Lakebay 82.16 34 P **P** **11 45 13.4 +2.4**
baz=231,SNR=11
SEW Seward 82.17 14 P **P** **11 45 12.3 +1.6**
baz=206
D03D Eldon 82.22 34 P **P** **11 45 12.8 +1.5**
baz=230,SNR=28
Q23K Middleton Isla 82.30 15 P **P** **11 45 12.3 +0.9**
baz=209
WHN Wuhan 82.31 306 ⇑P **P** **11 45 13.8 +1.7**
WHN sP **sP** **11 47 17.0 +2.9**
WHN S **S** **11 54 58.6 +1.9**
WHN pmax pmax
comp=Z,93nm,1.0s
WHN pmax pmax
comp=Z,620nm,4.1s
WHN LR LR
comp=Z,2μm,17.5s
B04A Port Angeles 82.34 33 IAmb IAmb 11 45 15.8
comp=Z,68nm,0.9s
CNSH ChangSha 82.34 303 ⇑P **P** **11 45 13.0 +0.6**
CNSH S **S** **11 54 57.0 -0.2**
CNSH pmax pmax
comp=Z,40nm,1.1s
CNSH LR LR
comp=Z,520nm,19.0s
CNSH LR LR
comp=Z,240nm,17.7s
CNSH LR LR
comp=Z,640nm,17.5s
CCUT Cedar City 82.34 46 P **P** **11 45 13.6 +1.2**
CCUT IAmb IAmb 11 45 16.8
comp=Z,49nm,1.0s
KNB Kanab 82.44 47 IAmb IAmb 11 45 17.2
comp=Z,42nm,0.9s
O22K Cooper Landing 82.45 13 P **P** **11 45 12.9 +0.8**
baz=206
U15A North Rim 82.51 47 IAmb IAmb 11 45 17.9
comp=Z,80nm,1.0s
CLRS Cowichan Lake 82.51 32 P **P** **11 45 14.1 +1.4**
CLRS IAmb IAmb 11 45 16.2
comp=Z,90nm,1.1s
SZCU Shurtz Canyon 82.55 46 IAmb IAmb 11 45 17.8
comp=Z,54nm,1.1s
SPCR Spurr Chakacha 82.59 12 P **P** **11 45 11.9 -1.0**
baz=204,SNR=9.8
WUAZ Wupatki 82.70 49 IAmb IAmb 11 45 18.7
comp=Z,65nm,1.1s
WUAZ Wupatki 82.70 49 P **P** **11 45 16.6 +2.3**
baz=240,SNR=24
MA2 Magadan 82.74 344 P **P** **11 45 12.5 -1.1**
comp=Z,18nm,0.9s,baz=140,slow=5.2,SNR=24
MA2 Magadan 82.74 344 ⇑ *e*P **P** **11 45 12.6 -1.1**
MA2 pmax pmax
comp=Z,36nm,1.2s
MA2 Magadan 82.74 344 P **P** **11 45 12.6 -1.1**
MA2 Magadan 82.74 344 P **P** **11 45 12.7 -1.0**
PGC Sidney 82.75 33 P **P** **11 45 15.3 +1.4**
ELK Elko 82.80 43 P **P** **11 45 16.1 +1.4**
ELK pmax pmax
comp=Z,52nm,1.0s
ELK Elko 82.80 43 P **P** **11 45 16.1 +1.4**
ELK IAmb IAmb 11 45 18.3
comp=Z,52nm,0.9s
GAMB Gambell 82.81 2 P **P** **11 45 14.3 +0.5**
baz=185
M19K Big River Lodg 82.84 11 P **P** **11 45 14.1 0.0**
baz=202
BBB Bella Bella 82.89 28 P **P** **11 45 15.4 +0.9**
comp=Z,73nm,1.1s,baz=276,slow=4.0,SNR=28
BBB Bella Bella 82.89 28 P **P** **11 45 14.9 +0.4**
BBB IAmb IAmb 11 45 17.7
comp=Z,60nm,0.8s
F07A Phinny Hill Vi 82.92 36 IAmb IAmb 11 45 18.5
comp=Z,57nm,1.0s
TIA Tai'an 82.98 312 ⇓P **P** **11 45 16.4 +1.0**
TIA S **S** **11 55 03.5 +0.2**
TIA pmax pmax
comp=Z,25nm,1.3s
TIA pmax pmax
comp=Z,200nm,5.7s
TIA LR LR
comp=Z,230nm,12.9s
TIA LR LR
comp=Z,390nm,17.3s
TIA LR LR
comp=Z,490nm,16.1s
RC01 Rabbit Creek A 82.99 13 IAmb IAmb 11 45 16.7
comp=Z,83nm,1.1s
RC01 Rabbit Creek A 82.99 13 P **P** **11 45 14.3 -0.6**
baz=206,SNR=11
L19K White Mountain 83.02 10 IAmb IAmb 11 45 18.2
comp=Z,74nm,1.4s
L19K White Mountain 83.02 10 P **P** **11 45 15.5 +0.4**
baz=201,SNR=13
MAW Mawson 83.05 200 P **P** **11 45 15.5 +0.2**
comp=Z,11nm,0.7s,baz=160,slow=2.9,SNR=21
MAW pP **pwP** **11 46 45.4 +3.8**
comp=Z,19nm,0.9s,baz=157,slow=6.4,SNR=4.1
MAW Mawson 83.05 200 P **P** **11 45 16.0 +0.7**
baz=83,SNR=12
MAW Mawson 83.05 200 P **P** **11 45 15.9 +0.7**
MAW pmax pmax
comp=Z,5.0nm,1.0s
MAW Mawson 83.05 200 P **P** **11 45 15.9 +0.7**
PWL Port Wells 83.09 14 P **P** **11 45 15.9 +0.4**
PWL Port Wells 83.09 14 P **P** **11 45 15.5 0.0**
baz=207,SNR=8.7
G08A Pilot Rock 83.11 37 P **P** **11 45 16.7 +0.7**
A04D Lummi Island 83.17 33 P **P** **11 45 17.3 +1.2**
baz=231,SNR=40
B05A Bryant 83.20 33 P **P** **11 45 17.5 +1.3**
baz=231,SNR=64
CRAG Craig 83.21 23 P **P** **11 45 17.8 +1.7**
baz=221
KAIM Kayak Island 83.22 16 P **P** **11 45 17.4 +1.3**
baz=211
GRNB Grenville Isla 83.27 26 P **P** **11 45 17.3 +0.8**
GRNB IAmb IAmb 11 45 19.8
comp=Z,64nm,1.0s
LTY Liberty 83.33 35 IAmb IAmb 11 45 20.2
comp=Z,56nm,1.0s
GLI Glacier Island 83.39 14 P **P** **11 45 16.0 -1.0**
baz=208,SNR=11
MTPU Mount Pierson 83.40 46 IAmb IAmb 11 45 22.7
comp=Z,68nm,1.0s
FID Port Fidalgo 83.42 15 IAmb IAmb 11 45 18.7
comp=Z,84nm,1.2s
EYAK Cordova Ski Ar 83.43 15 P **P** **11 45 17.0 -0.1**
baz=210
HAWA Hanford 83.44 36 IAmb IAmb 11 45 21.2
comp=Z,80nm,0.9s
UBPT Khong Chiam 83.45 289 IAmb IAmb 11 45 20.5
comp=Z,41nm,0.9s
L20K Farewell, AK 83.46 11 P **P** **11 45 17.5 +0.2**
baz=202
TCRU Three Creeks R 83.51 45 IAmb IAmb 11 45 22.8
comp=Z,62nm,1.1s
M22K Willow 83.51 13 P **P** **11 45 17.5 0.0**
M22K Willow 83.51 13 P **P** **11 45 17.1 -0.3**
baz=206,SNR=16
TTA Tatalina 83.53 10 P **P** **11 45 18.0 +0.3**
TTA pmax pmax
comp=Z,71nm,1.2s
TTA Tatalina 83.53 10 P **P** **11 45 18.0 +0.3**
TTA IAmb IAmb 11 45 20.1
comp=Z,71nm,1.2s
TTA Tatalina 83.53 10 P **P** **11 45 17.7 0.0**
baz=200,SNR=26
KNK Knik Glacier 83.56 13 IAmb IAmb 11 45 19.6
comp=Z,39nm,0.9s
KNK Knik Glacier 83.56 13 P **P** **11 45 17.0 -0.8**
baz=207,SNR=10
PMR Palmer 83.57 13 P **P** **11 45 17.8 0.0**
PMR pmax pmax
comp=Z,86nm,1.4s
PMR Palmer 83.57 13 P **P** **11 45 17.8 0.0**
PMR IAmb IAmb 11 45 19.5
comp=Z,86nm,1.4s
PMR Palmer 83.57 13 P **P** **11 45 17.4 -0.4**
baz=206,SNR=12
HMT Hamilton 83.62 16 IAmb IAmb 11 45 20.3
comp=Z,53nm,1.0s
SIT Sitka 83.63 22 P **P** **11 45 20.1 +2.0**
baz=219
W18A Petrified Fore 83.67 50 IAmb IAmb 11 45 23.5
comp=Z,41nm,1.1s
W18A Petrified Fore 83.67 50 P **P** **11 45 21.4 +2.1**
baz=241,SNR=12
B06A Marblemount 83.68 34 IAmb IAmb 11 45 21.5
comp=Z,63nm,1.0s
IPM Ipoh 83.74 277 P **P** **11 45 19.4 -0.4**
E08A Dider Farm, El 83.76 36 IAmb IAmb 11 45 22.8
comp=Z,67nm,1.1s
GHO Glory Hole Cre 83.78 13 IAmb IAmb 11 45 20.7
comp=Z,74nm,0.8s
BMO Blue Mountains 83.81 38 P **P** **11 45 21.0 +1.4**
BMO pmax pmax
comp=Z,40nm,1.0s
BMO Blue Mountains 83.81 38 P **P** **11 45 21.0 +1.4**
BMO IAmb IAmb 11 45 22.9
comp=Z,40nm,1.0s
MFID Camas Ranch 83.89 40 IAmb IAmb 11 45 23.6
comp=Z,56nm,1.1s
121A Cookes Peak, D 83.91 53 IAmb IAmb 11 45 25.3
comp=Z,71nm,1.1s
121A Cookes Peak, D 83.91 53 P **P** **11 45 23.8 +3.3**
baz=243
121A Cookes Peak, D 83.91 53 P **P** **11 45 23.2 +2.7**
baz=243,SNR=31
DIV Divide 83.93 15 IAmb IAmb 11 45 21.6
comp=Z,82nm,1.0s
SML Sawmill 83.94 13 IAmb IAmb 11 45 21.6
comp=Z,98nm,1.6s
SML Sawmill 83.94 13 P **P** **11 45 19.6 -0.2**
baz=207,SNR=6.1
ANM Nome 83.98 5 P **P** **11 45 20.8 +0.9**
baz=191
CUT Chulitna 84.07 12 P **P** **11 45 20.3 0.0**
CUT Chulitna 84.07 12 P **P** **11 45 19.5 -0.8**
baz=205,SNR=21
BMRM Bremner River 84.07 15 P **P** **11 45 20.9 +0.5**
BMRM Bremner River 84.07 15 P **P** **11 45 20.1 -0.3**
baz=211,SNR=19
DUG Dugway, Tooele 84.08 44 P **P** **11 45 21.5 +0.5**
baz=239,SNR=13
PPLA Purkeypile 84.15 11 P **P** **11 45 20.0 -0.9**
baz=204
D08A Wollman Farm, 84.17 36 IAmb IAmb 11 45 24.8
comp=Z,52nm,0.9s
SCM Sheep Creek Mo 84.18 14 P **P** **11 45 20.4 -0.5**
baz=208,SNR=20
KLU Klutina 84.21 14 IAmb IAmb 11 45 23.1
comp=Z,62nm,1.2s
KLU Klutina 84.21 14 P **P** **11 45 20.6 -0.6**
baz=210,SNR=12
WRAK Wrangell Islan 84.21 23 P **P** **11 45 21.9 +0.8**
baz=222
K20K Telida 84.25 10 IAmb IAmb 11 45 23.2
comp=Z,70nm,0.9s
K20K Telida 84.25 10 P **P** **11 45 21.0 -0.2**
baz=202,SNR=35
E09A Wood Farm, Sta 84.28 37 IAmb IAmb 11 45 25.0
comp=Z,60nm,1.1s
TGL Tana Glacier 84.35 16 IAmb IAmb 11 45 24.1
comp=Z,82nm,1.0s
KULM Kulim 84.37 278 IAmb IAmb 11 45 25.2
comp=Z,36nm,0.8s
PNL Peninsula 84.40 18 P **P** **11 45 22.0 0.0**
baz=216,SNR=18
Q16A Castle Valley 84.52 46 IAmb IAmb 11 45 27.8
comp=Z,55nm,1.3s
KIDD KIDD Seismic O 84.53 54 P **P** **11 45 26.5 +3.0**
baz=244
TABL Table Mountain 84.54 17 IAmb IAmb 11 45 25.3
comp=Z,81nm,1.0s
BCPM Bancas Point 84.56 18 IAmb IAmb 11 45 25.3
comp=Z,60nm,1.1s
VRDI Verde Repeater 84.59 16 IAmb IAmb 11 45 25.3
comp=Z,67nm,1.0s
GRNC Granite Creek 84.61 17 IAmb IAmb 11 45 25.6
comp=Z,68nm,1.0s
N25K Chitina, Valde 84.62 15 IAmb IAmb 11 45 25.3
comp=Z,66nm,0.8s
N25K Chitina, Valde 84.62 15 P **P** **11 45 23.2 0.0**
baz=211,SNR=40
CAST Castle Rocks 84.65 11 IAmb IAmb 11 45 23.7
comp=Z,86nm,1.1s
CAST Castle Rocks 84.65 11 P **P** **11 45 21.4 -1.8**
baz=204,SNR=55
GLB Gilahina Butte 84.68 15 IAmb IAmb 11 45 25.5
comp=Z,51nm,0.8s
M24K Tolsona, Glenn 84.69 14 P **P** **11 45 23.7 +0.3**
baz=209,SNR=17
TMUT Trail Mountain 84.69 45 IAmb IAmb 11 45 28.5
comp=Z,48nm,0.9s
PLID Pearl Lake 84.71 39 IAmb IAmb 11 45 27.4
comp=Z,42nm,1.1s
B08A Colville Reser 84.72 35 IAmb IAmb 11 45 26.7
comp=Z,49nm,0.9s
WAT6 Susitna Watana 84.75 13 P **P** **11 45 23.5 -0.4**
baz=208,SNR=42
LLLB Lillooet 84.78 32 IAmb IAmb 11 45 27.2
comp=Z,81nm,1.2s
TNA Tin City 84.78 4 P **P** **11 45 23.7 -0.1**
baz=189
MCARA McCarthy VSAT 84.83 16 IAmb IAmb 11 45 26.4
comp=Z,64nm,1.0s
MCARA McCarthy VSAT 84.83 16 P **P** **11 45 24.4 +0.3**
baz=212,SNR=19
HLID Hailey 84.83 40 P **P** **11 45 25.6 +0.8**
HLID Hailey 84.83 40 P **P** **11 45 25.5 +0.8**
baz=237,SNR=66
JIS Juneau Island 84.89 21 P **P** **11 45 24.8 +0.3**
LOGN Logan Glacier 84.89 17 IAmb IAmb 11 45 26.9
comp=Z,64nm,0.9s
CTG Chitna Glacier 84.92 17 P **P** **11 45 24.6 -0.1**
baz=214,SNR=20
CTGM Chitina Glacie 84.92 17 IAmb IAmb 11 45 27.0
comp=Z,64nm,1.0s
C09A Chrisman Ranch 84.96 35 IAmb IAmb 11 45 28.3
comp=Z,48nm,0.9s
BESE Bessie Mountai 84.97 21 IAmb IAmb 11 45 27.9
comp=Z,50nm,1.0s
KTH Kantishna Hill 84.99 11 IAmb IAmb 11 45 25.7
comp=Z,54nm,1.0s
J20K Nowinta River 85.00 10 IAmb IAmb 11 45 26.9
comp=Z,45nm,1.0s
J20K Nowinta River 85.00 10 P **P** **11 45 24.5 -0.4**
baz=202,SNR=32
TRF Thorofare Moun 85.01 12 P **P** **11 45 24.3 -0.9**
baz=205,SNR=35
CHUM Lake Minchumin 85.04 11 P **P** **11 45 23.9 -1.2**
baz=204,SNR=25
SRU San Rafael Swe 85.06 46 IAmb IAmb 11 45 29.6
comp=Z,35nm,0.9s
GCSA Galena City Sc 85.12 9 P **P** **11 45 26.1 +0.7**

baz=199,SNR=16
Y22A Socorro 85.15 52 P P 11 45 29.1 +2.5
baz=243,SNR=39
HARP HAARP 85.18 14 P P 11 45 25.8 0.0
baz=210,SNR=15
Y22D IRIS PASSCAL I 85.25 52 IAmb IAmb 11 45 31.6
comp=Z,94nm,1.3s
Y22D IRIS PASSCAL I 85.25 52 P P 11 45 30.4 +3.3
baz=243
Y22D IRIS PASSCAL I 85.25 52 P P 11 45 29.3 +2.3
baz=243
DHY Denali Highway 85.27 13 IAmb IAmb 11 45 28.1
comp=Z,54nm,1.2s
DHY Denali Highway 85.27 13 P P 11 45 26.1 -0.3
baz=208,SNR=21
SEY Seymchan 85.29 347 P P 11 45 25.6 -0.7
comp=Z,43nm,1.0s,baz=145,slow=5.3,SNR=80
SEY Seymchan 85.29 347 *ce*P P 11 45 25.3 -1.0
SEY pmax pmax
comp=Z,67nm,1.3s
MNTX Cornudas Mount 85.36 54 IAmb IAmb 11 45 31.9
comp=Z,69nm,1.1s
MNTX Cornudas Mount 85.36 54 P P 11 45 30.1 +2.7
baz=244,SNR=97
MNTX Cornudas Mount 85.36 54 P P 11 45 30.0 +2.5
baz=244,SNR=97
BPAW Bear Paw Mtn. 85.47 11 P P 11 45 26.3 -0.9
baz=205,SNR=9.5
SKAG Skagway 85.49 20 IAmb IAmb 11 45 30.9
comp=Z,62nm,1.1s
SKAG Skagway 85.49 20 P P 11 45 29.0 +1.6
baz=219,SNR=26
BJT Baijiatuau 85.51 315 IAmb IAmb 11 45 30.4
comp=Z,55nm,1.4s
BJI Beijing 85.52 315 P P 11 45 29.5 +1.5
BJI SKS S 11 55 19.6 -8.4
BJI pmax pmax
comp=Z,28nm,1.7s
BJI pmax pmax
comp=Z,290nm,4.2s
BJI LR LR
comp=Z,500nm,20.7s
BJI LR LR
comp=Z,310nm,19.3s
BJI LR LR
comp=Z,570nm,20.4s
MCK McKinley 85.53 12 P P 11 45 27.0 -0.6
baz=207,SNR=49
LYN LuoYang 85.54 309⇓ *i*P P 11 45 29.0 +0.8
LYN PP PP 11 48 51.4 -1.7
LYN S S 11 55 31.6 +3.1
LYN pmax pmax
comp=Z,70nm,1.1s
LYN pmax pmax
comp=Z,130nm,3.5s
MVCO Mesa Verde 85.55 48 P P 11 45 29.3 +0.7
baz=242,SNR=7.8
PAX Paxson 85.60 14 IAmb IAmb 11 45 29.4
comp=Z,37nm,1.0s
PAX Paxson 85.60 14 P P 11 45 27.0 -0.9
baz=210,SNR=24
TX31 Lajitas Ar. Si 85.69 57 P P 11 45 31.8 +2.6
TX31 Lajitas Ar. Si 85.69 57 P P 11 45 32.2 +3.0
baz=245
TX32 Lajitas Array 85.69 57 P P 11 45 31.6 +2.4
TX32 IAmb IAmb 11 45 34.1
comp=Z,78nm,1.1s
TXAR Lajitas Array 85.70 57 P P 11 45 32.0 +2.7
comp=Z,50nm,1.0s,baz=219,slow=5.6,SNR=224
M26K Nabesna, AK 85.70 15 P P 11 45 28.5 +0.1
baz=212,SNR=65
YUK6 Outpost Mounta 85.74 18 P P 11 45 29.8 +1.0
baz=216,SNR=14
PV13 Radium Mtn., P 85.77 47 P P 11 45 30.9 +1.3
PV23 Carpenter Ridg 85.77 47 IAmb IAmb 11 45 33.1
comp=Z,49nm,1.2s
YUK3 Moose Creek 85.83 17 P P 11 45 29.7 +0.4
baz=214,SNR=51
NEW Newport 85.86 35 P P 11 45 30.5 +0.9
comp=Z,11nm,0.7s,baz=240,slow=3.9,SNR=24
NEW Newport 85.86 35 P P 11 45 30.0 +0.5
baz=235
HYT Haines Junctio 85.89 18 IAmb IAmb 11 45 32.3
comp=Z,45nm,1.1s
HYT Haines Junctio 85.89 18 P P 11 45 30.8 +1.3
baz=217,SNR=36
GSI Gunungsitoli 85.94 273 IAmb IAmb 11 45 33.2
comp=Z,49nm,0.8s
GSI Gunungsitoli 85.94 273 P P 11 45 31.9 +1.2
M27K Edge Creek, AK 85.94 16 P P 11 45 30.3 +0.6
baz=213,SNR=62
ENH Enshi 85.96 304 P P 11 45 29.9 -0.5
ANMO Albuquerque 85.98 51 *d* *i*P P 11 45 32.7 +2.0
ANMO pmax pmax
comp=Z,41nm,1.2s
ANMO Albuquerque 85.98 51 P P 11 45 32.0 +1.4
ANMO IAmb IAmb 11 45 34.5
comp=Z,35nm,1.1s
ANMO Albuquerque 85.98 51 P P 11 45 32.7 +2.0
baz=243,SNR=57
ANMO Albuquerque 85.98 51 P P 11 45 32.9 +2.3
baz=243
YUK4 Talbot Arm 85.98 18 P P 11 45 30.7 +0.7
baz=216,SNR=17
MENT Mentasta 85.98 15 IAmb IAmb 11 45 32.0
comp=Z,49nm,1.1s
L26K Log Cabin Wild 86.14 15 IAmb IAmb 11 45 32.8
comp=Z,36nm,1.1s
L26K Log Cabin Wild 86.14 15 P P 11 45 30.6 0.0
baz=212,SNR=31
BVCY Beaver Creek 86.25 16 P P 11 45 31.4 +0.3
baz=214,SNR=27
NEA2 Nenana 86.28 12 P P 11 45 30.9 -0.2
baz=206,SNR=16
I21K Tanana 86.29 10 IAmb IAmb 11 45 32.9
comp=Z,77nm,1.2s
I21K Tanana 86.29 10 P P 11 45 31.3 +0.1
baz=204,SNR=33
RDMU Red Mountain 86.41 45 IAmb IAmb 11 45 35.8
comp=Z,61nm,1.9s
RIDG Independent Ri 86.41 14 IAmb IAmb 11 45 33.8
comp=Z,65nm,1.2s
RIDG Independent Ri 86.41 14 P P 11 45 31.7 -0.1
baz=210,SNR=23
AHID Auburn Hatcher 86.49 42 IAmb IAmb 11 45 36.5
comp=Z,45nm,1.4s
DOT Dot Lake 86.51 14 IAmb IAmb 11 45 34.2
comp=Z,42nm,1.0s
L27K Beaver Creek, 86.55 15 P P 11 45 32.4 -0.1
baz=213,SNR=19
DLBC Dease Lake 86.55 23 P P 11 45 33.9 +1.3
comp=Z,17nm,1.0s,baz=217,slow=6.6,SNR=29
DLBC Dease Lake 86.55 23 IAmb IAmb 11 45 35.7
comp=Z,35nm,1.1s
WHY Whitehorse 86.56 19 IAmb IAmb 11 45 35.5
comp=Z,35nm,1.1s
WHY Whitehorse 86.56 19 P P 11 45 33.1 +0.4
baz=220,SNR=23
H21K Melozitna Rive 86.59 10 IAmb IAmb 11 45 35.7
comp=Z,54nm,1.4s
H21K Melozitna Rive 86.59 10 P P 11 45 32.6 0.0
baz=203,SNR=21
GYA Guiyang 86.69 299⇑ *i*P P 11 45 35.6 +1.5
GYA S S 11 55 42.8 +2.7
GYA pmax pmax
comp=Z,44nm,1.0s
GYA pmax pmax
comp=Z,290nm,3.5s
I23K Minto, Yukon-K 86.73 11 IAmb IAmb 11 45 35.2
comp=Z,46nm,1.4s
I23K Minto, Yukon-K 86.73 11 P P 11 45 32.4 -0.8
baz=206,SNR=19
TCOL CIGO, UAF Yank 86.77 12 P P 11 45 33.4 0.0
baz=208,SNR=24
COLA College 86.77 12 *i*P P 11 45 33.0 -0.4
COLA pmax pmax
comp=Z,87nm,1.0s
COLA College 86.77 12 P P 11 45 32.5 -0.9
COLA College 86.77 12 P P 11 45 32.8 -0.6
baz=208
SCRK Sand Creek 86.81 14 P P 11 45 33.8 0.0
baz=211,SNR=17
MSO Missoula 86.86 38 P P 11 45 35.1 +0.6
baz=238
IL31 86.87 13 IAmb IAmb 11 45 35.4
comp=Z,60nm,1.1s
ILAR Eielson Array 86.87 13 P P 11 45 33.2 -0.7
comp=Z,24nm,1.0s,baz=213,slow=4.8,SNR=98
ILAR pP pwP 11 47 00.4 -0.6
comp=Z,14nm,1.2s,baz=223,slow=4.5,SNR=5.2
ILAR PP PP 11 49 03.0 -0.2
comp=Z,6.0nm,1.1s,baz=228,slow=7.3,SNR=4.5
ZEA Zeya 86.88 331 *eP* P 11 45 34.6 +0.4
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,30nm,1.0s
DLMT Dillon 86.89 40 IAmb IAmb 11 45 38.4
comp=Z,56nm,0.9s
N31M Braeburn, Yuko 86.93 19 IAmb IAmb 11 45 37.1
comp=Z,72nm,1.1s
N31M Braeburn, Yuko 86.93 19 P P 11 45 34.8 +0.5
baz=219,SNR=28
REDW Red Top Meadow 86.95 42 IAmb IAmb 11 45 38.7
comp=Z,58nm,1.3s
S22A 4UR Ranch, Cre 86.97 48 IAmb IAmb 11 45 39.3
comp=Z,39nm,1.1s
S22A 4UR Ranch, Cre 86.97 48 P P 11 45 37.4 +2.0
baz=243,SNR=63
J25K Salcha River, 87.05 13 IAmb IAmb 11 45 36.7
comp=Z,61nm,1.4s
SNOW Snow King Moun 87.06 42 IAmb IAmb 11 45 39.4
comp=Z,35nm,0.9s
POKR Poker Plat Res 87.07 12 IAmb IAmb 11 45 36.0
comp=Z,78nm,1.6s
POKR Poker Plat Res 87.07 12 P P 11 45 33.3 -1.5
baz=208,SNR=6.4
O20A White River Ci 87.09 46 P P 11 45 37.2 +1.4
baz=242
LOHW Long Hollow 87.23 42 IAmb IAmb 11 45 40.0
comp=Z,58nm,1.5s
H23K Yukon River 87.30 11 P P 11 45 35.7 -0.3
baz=206,SNR=6.2
J26L Joseph Creek 87.36 14 P P 11 45 36.8 +0.5
baz=212,SNR=43
FLWY Flagg Ranch 87.40 41 IAmb IAmb 11 45 41.3
comp=Z,61nm,1.1s
BW06 Boulder Array 87.48 43 P P 11 45 39.1 +1.4
baz=241,SNR=23
PDAR Pinedale Array 87.48 43 P P 11 45 38.7 +1.0
comp=Z,11nm,0.9s,baz=205,slow=3.1,SNR=59
PDAR pP pwP 11 47 04.7 -0.2
comp=Z,3.3nm,1.0s,baz=232,slow=5.6,SNR=3.8
XLT XiLinHaoTe 87.48 318 *eP* P 11 45 38.0 +0.6
XLT PP PP 11 49 05.1 -3.5
XLT pmax pmax
comp=Z,30nm,1.0s
XLT pmax pmax
comp=Z,250nm,4.9s
M30M Minto, Yukon 87.49 17 IAmb IAmb 11 45 39.4
comp=Z,57nm,1.0s
M30M Minto, Yukon 87.49 17 P P 11 45 37.0 0.0
baz=218,SNR=72
YMR Madison River 87.53 41 IAmb IAmb 11 45 42.1
comp=Z,59nm,1.0s
BOZ Bozeman (W) 87.59 40 P P 11 45 39.2 +1.2
baz=239,SNR=112
H24K Noodor Dome 87.62 12 P P 11 45 38.3 +0.8
baz=208,SNR=5.3
H17A Grant Village 87.63 41 IAmb IAmb 11 45 43.2
comp=Z,41nm,1.1s
H17A Grant Village 87.63 41 P P 11 45 41.4 +3.1
baz=240,SNR=28
YHH Holmes Hill 87.66 41 IAmb IAmb 11 45 43.7
comp=Z,38nm,1.0s
YNR Norris Junctio 87.73 41 IAmb IAmb 11 45 44.3
comp=Z,44nm,1.2s
BILL Bilibino 87.82 354 *i* P P 11 45 37.3 -1.0
BILL *i* 11 49 12.2
BILL pmax pmax
comp=Z,11nm,1.0s
BILL Bilibino 87.82 354 P P 11 45 37.9 -0.5
LKWY Lake 87.83 41 IAmb IAmb 11 45 44.3
comp=Z,57nm,1.1s
YUF Upper Falls 87.83 41 IAmb IAmb 11 45 43.6
comp=Z,48nm,1.4s
M31M Drury Creek, Y 87.91 19 P P 11 45 39.4 +0.5
baz=220,SNR=18
SDCO Great Sand Dun 87.91 49 P P 11 45 41.5 +1.6
baz=244,SNR=27
SDCO Great Sand Dun 87.91 49 P P 11 45 40.5 +0.6
baz=244,SNR=27
XAN Xi'an 87.97 307 P P 11 45 40.8 +0.9
XAN S S 11 55 52.1 +0.4
XAN pmax pmax
comp=Z,71nm,1.0s
XAN pmax pmax
comp=Z,320nm,4.4s
XAN LR LR
comp=Z,840nm,22.1s
XAN LR LR
comp=Z,480nm,21.6s
XAN LR LR
comp=Z,810nm,20.6s
DAWY Dawson 88.00 16 IAmb IAmb 11 45 41.7
comp=Z,46nm,1.1s
DAWY Dawson 88.00 16 P P 11 45 39.7 +0.4
baz=215,SNR=40
YMP Mirror Lake Pl 88.06 41 IAmb IAmb 11 45 56.3
comp=Z,42nm,1.3s
WALA Waterton Lakes 88.07 36 P P 11 45 41.1 +0.9
WALA IAmb IAmb 11 45 43.3
comp=Z,32nm,1.0s
HIA Hailar 88.09 324 P P 11 45 40.3 +0.2
HIA pmax pmax
comp=Z,12nm,0.9s
HIA Hailar 88.09 324 P P 11 45 40.3 +0.2
EGAK Eagle 88.15 15 IAmb IAmb 11 45 42.2
comp=Z,50nm,1.1s
EGAK Eagle 88.15 15 P P 11 45 40.2 +0.3
baz=214,SNR=32
WTLY Watson Lake, Y 88.19 22 P P 11 45 41.8 +1.5
baz=225
FARO Faro, Yukon 88.24 19 P P 11 45 41.5 +1.0
baz=221,SNR=17
MSTX Muleshoe 88.31 53 IAmb IAmb 11 45 45.1
comp=Z,48nm,1.0s
MSTX Muleshoe 88.31 53 P P 11 45 43.4 +1.8
baz=246
MSTX Muleshoe 88.31 53 P P 11 45 43.0 +1.4
baz=246
T25A Trinidad 88.43 50 P P 11 45 43.6 +1.3
baz=244,SNR=21
COLD Coldfoot 88.46 10 IAmb IAmb 11 45 43.7
comp=Z,32nm,0.9s
COLD Coldfoot 88.46 10 P P 11 45 41.8 +0.4
baz=205,SNR=32
RWWY Rawlins 88.51 45 IAmb IAmb 11 45 45.7
comp=Z,45nm,1.1s
J29M Klondike Camp 88.61 16 P P 11 45 43.0 +0.8
baz=216,SNR=17
Q24A Divide 88.70 48 P P 11 45 44.9 +1.4
baz=244,SNR=11
833A Chaparral WMA, 88.73 60 P P 11 45 45.2 +1.6
baz=247
ISCO Idaho Springs 88.74 47 P P 11 45 45.7 +2.0
baz=244
RLMT Red Lodge 88.80 41 IAmb IAmb 11 45 47.7
comp=Z,55nm,1.1s
RLMT Red Lodge 88.80 41 P P 11 45 45.2 +1.4
baz=241,SNR=46
N23A Red Feather La 89.00 46 P P 11 45 46.9 +2.1
baz=243
HHC Hu-ho-hao-te 89.00 314 *eP* P 11 45 46.3 +1.6
HHC S S 11 56 03.3 +2.1
HHC pmax pmax
comp=Z,31nm,1.1s
HHC pmax pmax
comp=Z,79nm,4.9s
HHC LR LR
comp=Z,670nm,19.2s
HHC LR LR
comp=Z,200nm,18.4s
HHC LR LR
comp=Z,800nm,18.4s
TROLL Troll, Antarti 89.03 180 P P 11 45 44.8 +0.4
MMPY Sheldon Lake, 89.18 19 P P 11 45 45.1 +0.2
baz=223,SNR=49
JCT Junction City 89.23 57 P P 11 45 47.8 +1.9
baz=247,SNR=6.8
JCT Junction City 89.23 57 P P 11 45 47.6 +1.8
baz=247
SNAA Sanae 89.29 178 P P 11 45 45.7 +0.3
SNAA Sanae 89.29 178 *ce*P P 11 45 47.1 +1.6
SNAA pmax pmax
comp=Z,34nm,2.5s
SNAA Sanae 89.29 178 P P 11 45 45.8 +0.3
I29M Ogilvie Camp, 89.32 15 IAmb IAmb 11 45 47.3
comp=Z,39nm,1.2s
I29M Ogilvie Camp, 89.32 15 P P 11 45 45.9 +0.4
baz=216,SNR=27
TGTN Hyland Airport 89.37 21 P P 11 45 46.7 +0.9
baz=225,SNR=14
VNA3 Neumayer Olymp 89.39 176 P P 11 45 46.4 +0.5
K22A Casper 89.40 44 IAmb IAmb 11 45 49.9
comp=Z,49nm,1.3s
K22A Casper 89.40 44 P P 11 45 48.1 +1.5
baz=243
K22A Casper 89.40 44 P P 11 45 47.8 +1.2
baz=243
KMI Kunming 89.46 297 ⇑P P 11 45 48.8 +1.5
KMI pmax pmax
comp=Z,40nm,1.2s
KMI LR LR
comp=Z,450nm,18.3s
KMI LR LR
comp=Z,300nm,16.8s
KMI LR LR
comp=Z,600nm,20.7s
AMTX Amarillo 89.51 53 IAmb IAmb 11 45 50.4
comp=Z,37nm,0.9s
AMTX Amarillo 89.51 53 P P 11 45 48.9 +1.7
baz=246
AMTX Amarillo 89.51 53 P P 11 45 48.3 +1.2
baz=246
PLCA Paso Flores 89.60 133 P P 11 45 50.4 +2.8
comp=Z,1.6nm,0.8s,baz=194,slow=8.9,SNR=3.4
VNA2 Neumayer--Watz 89.84 177 P P 11 45 48.8 +0.8
baz=177,slow=4.0
TOLK Toolik Lake Re 89.84 10 P P 11 45 47.7 -0.1
baz=206,SNR=14
EGMT Eagleton 89.92 38 IAmb IAmb 11 45 52.1
comp=Z,67nm,1.5s
EGMT Eagleton 89.92 38 P P 11 45 49.8 +1.1
baz=241,SNR=20
BTO Baotou 89.95 313 *eP* P 11 45 50.4 +1.3
BTO S S 11 56 06.9 -3.0
BTO LR LR
comp=Z,690nm,15.5s
BTO LR LR
comp=Z,800nm,17.3s
NVL N'lazarevskaya 90.06 183 *eP* P 11 45 48.3 -0.6
NVL pmax pmax
comp=Z,45nm,0.9s
VNA1 Neumayer--Stat 90.06 176 P P 11 45 50.0 +1.1
ABTX Abilene, Hawle 90.18 55 P P 11 45 52.1 +1.9
baz=247,SNR=34
ABTX Abilene, Hawle 90.18 55 P P 11 45 51.3 +1.0
baz=247,SNR=34
CM31 Chiang Mai Arr 90.42 289 IAmb IAmb 11 45 55.2
comp=Z,54nm,1.1s
CMAR Chiang Mai Arr 90.42 289 P P 11 45 52.8 +1.2
comp=Z,26nm,0.9s,baz=114,slow=2.8,SNR=105
CMAR Chiang Mai Arr 90.42 289 *ce*P P 11 45 53.0 +1.4
CMAR pmax pmax
comp=Z,32nm,0.9s
KSCO Kaye Shedlock' 90.50 49 IAmb IAmb 11 45 56.2
comp=Z,60nm,1.2s
KSCO Kaye Shedlock' 90.50 49 P P 11 45 53.4 +1.7
baz=246,SNR=7.3
KSCO Kaye Shedlock' 90.50 49 P P 11 45 53.1 +1.5
baz=246,SNR=7.3
EPYK Eagle Plains 90.52 15 IAmb IAmb 11 45 53.1
comp=Z,51nm,1.0s
EPYK Eagle Plains 90.52 15 P P 11 45 51.1 0.0
baz=218,SNR=36
CHTO Chiang Mai 90.54 290 P P 11 45 52.8 +0.7
CHTO pmax pmax
comp=Z,47nm,1.0s
CHTO Chiang Mai 90.54 290 P P 11 45 52.8 +0.7
CHTO IAmb IAmb 11 45 54.8
comp=Z,47nm,1.0s
CHTO Chiang Mai 90.54 290 P P 11 45 53.8 +1.7
EDM Edmonton 90.59 33 IAmb IAmb 11 45 54.1
comp=Z,44nm,0.8s
CD2 Chengdu 90.75 302 P P 11 45 54.3 +1.4
CD2 S S 11 56 18.3 +0.9
CD2 sS sS 11 58 49.8 +1.8
CD2 SS SS 12 02 32.4 +2.4
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 pmax pmax
comp=Z,120nm,5.2s
PZH PanZhiHua 90.79 298 P P 11 45 54.3 +1.0
PZH S S 11 56 19.6 +1.5
PZH SS SS 12 02 29.3 -1.7
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,60nm,3.5s
435B Jarrell 91.11 58 IAmb IAmb 11 45 58.3
comp=Z,26nm,0.8s
435B Jarrell 91.11 58 P P 11 45 56.2 +1.7
baz=248
YAK Yakutsk 91.20 338 *eP* P 11 45 53.5 -0.6
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
LAO LASA Array 91.41 41 P P 11 45 58.2 +2.6
baz=243
LAO LASA Array 91.41 41 P P 11 45 57.6 +1.9
baz=243,SNR=48
WMOK Wichita Mounta 91.65 54 P P 11 45 59.1 +2.1
baz=248,SNR=10
WMOK Wichita Mounta 91.65 54 P P 11 45 58.0 +1.1
baz=248
WHTX Lake Whitney, 91.66 57 P P 11 45 59.0 +2.0
baz=248,SNR=6.4
WHTX Lake Whitney, 91.66 57 P P 11 45 57.5 +0.5
baz=248,SNR=6.4
RSSD Black Hills 91.67 44 P P 11 45 57.9 +0.8
RSSD pmax pmax
comp=Z,64nm,1.0s
RSSD Black Hills 91.67 44 P P 11 45 57.9 +0.8
RSSD Black Hills 91.67 44 P P 11 45 58.4 +1.3
baz=245
RSSD Black Hills 91.67 44 P P 11 45 57.9 +0.8
baz=245
OGNE Ogallala 91.70 47 P P 11 45 58.8 +1.7
baz=246
WRGLY Wrigley 92.18 21 P P 11 45 59.6 +1.0
baz=230,SNR=6.8
HKT Hockley 92.22 59 *c* *i*P P 11 46 02.9 +3.3
HKT pmax pmax
comp=Z,29nm,1.5s
Z35A Perchaven, San 92.30 56 IAmb IAmb 11 46 03.4
comp=Z,40nm,0.9s
Z35A Perchaven, San 92.30 56 P P 11 46 01.8 +1.8
baz=248,SNR=5.9
X34A Smith Ranch, M 92.32 54 IAmb IAmb 11 46 04.1
comp=Z,43nm,1.0s
CBKS Cedar Bluff 92.48 50 P P 11 46 02.6 +1.9
baz=247,SNR=6.6
CBKS Cedar Bluff 92.48 50 P P 11 46 02.0 +1.3
baz=247
LZH Lanzhou 92.60 307 *eP* P 11 46 03.3 +1.8
LZH sP sP 11 48 05.5 +1.3
LZH *eS* S 11 56 39.3 +5.5
LZH pmax pmax
comp=Z,36nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.6s
INK Inuvik 92.81 15 P P 11 46 01.1 -0.3
comp=Z,34nm,1.1s,baz=222,slow=4.5,SNR=63
INK PP PP 11 49 49.0 -0.8
comp=Z,5.6nm,1.2s,baz=184,slow=9.6,SNR=3.4
INK Inuvik 92.81 15 IAmb IAmb 11 46 03.1
comp=Z,43nm,1.1s
INK Inuvik 92.81 15 P P 11 46 01.7 +0.3
baz=221
R32A Long Quarter, 93.08 50 P P 11 46 05.5 +2.1
baz=248,SNR=29
DGMT Dagmar 93.42 40 P P 11 46 07.0 +2.2
baz=245,SNR=56
DGMT Dagmar 93.42 40 P P 11 46 06.3 +1.5
baz=245
NATX Nacogdoches 93.80 58 P P 11 46 08.4 +1.5
baz=250
T35A Sooner Cattle 94.16 52 IAmb IAmb 11 46 11.7
comp=Z,21nm,0.9s

T35B	Sooner Cattle	94.16	52	P		P		11 46 09.5	+1.0
	baz=249,SNR=6.4								
BGNE	Belgrade	94.58	48	P		P		11 46 12.4	+2.1
	baz=248,SNR=8.5								
BGNE	Belgrade	94.58	48	P		P		11 46 10.6	+0.3
	baz=248,SNR=8.5								
K31A	O'Neill	94.61	47	P		P		11 46 12.2	+1.8
	baz=248,SNR=13								
E28A	Huff	94.83	42	IAmb		IAmb		11 46 13.3	
	comp=Z,28nm,1.3s								
KSU1	Kansas State U	94.86	50	P		P		11 46 11.8	+0.3
KSU1				IAmb		IAmb		11 46 15.1	
	comp=Z,44nm,1.2s								
KSU1	Kansas State U	94.86	50	P		P		11 46 14.1	+2.6
	baz=249								
KSU1	Kansas State U	94.86	50	P		P		11 46 13.0	+1.5
	baz=249								
ULN	Ulaanbaatar	94.89	319	*ce*P		P		11 46 10.9	-0.8
ULN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ULN	Ulaanbaatar	94.89	319	P		P		11 46 11.4	-0.3
YKA	Yellowknife Ar	95.00	24	P		P		11 46 12.0	+0.4
	comp=Z,24nm,1.0s,baz=240,slow=4.4,SNR=14								
YKA				PP		PP		11 50 06.7	-0.2
	comp=Z,0.4nm,0.8s,baz=237,slow=7.4,SNR=2.5								
YKA				PKKP		PKKPdf		12 03 05.6	-1.8
	comp=Z,0.2nm,0.6s,baz=41,slow=2.2,SNR=5.5								
SUSD	Miller	95.15	45	IAmb		IAmb		11 46 15.4	
	comp=Z,43nm,1.4s								
SUSD	Miller	95.15	45	P		P		11 46 13.6	+0.8
	baz=248								
W39A	Magazine	95.64	55	P		P		11 46 15.8	+0.6
	baz=250								
C36M	Paulatuk	95.98	17	P		P		11 46 16.5	+0.6
	baz=229								
MDND	Maddock	96.00	41	P		P		11 46 18.1	+1.6
	baz=248,SNR=8.4								
MDND	Maddock	96.00	41	P		P		11 46 17.5	+1.0
	baz=248,SNR=8.4								
N35A	Tabor	96.16	49	P		P		11 46 19.7	+2.2
	baz=250,SNR=9.7								
ECSD	EROS Data Cent	96.47	46	IAmb		IAmb		11 46 21.4	
	comp=Z,35nm,1.4s								
ECSD	EROS Data Cent	96.47	46	P		P		11 46 19.8	+1.1
	baz=250,SNR=16								
ECSD	EROS Data Cent	96.47	46	P		P		11 46 19.8	+1.1
	baz=250								
U40A	Yellville	96.74	54	P		P		11 46 22.1	+1.9
	baz=251								
U40A				P		P		11 46 22.1	+1.9
	baz=251								
U40A	Yellville	96.74	54	P		P		11 46 21.0	+0.8
	baz=251,SNR=5.1								
GTA	Gaotai	96.75	309	*e*P		P		11 46 21.5	+1.2
GTA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
S39A	Bolivar	96.81	53	P		P		11 46 22.1	+1.7
	baz=251								
W41B	Gary Mavity, V	96.83	55	IAmb		IAmb		11 49 14.4	
	comp=Z,38nm,1.9s								
W41B	Gary Mavity, V	96.83	55	P		P		11 46 21.3	+0.8
	baz=251								
F33A	5 Mile Ranch,	97.41	44	IAmb		IAmb		11 46 25.3	
	comp=Z,16nm,1.1s								
F33A	5 Mile Ranch,	97.41	44	P		Pdif		11 46 23.7	+0.8
	baz=250,SNR=10.0								
A36M	Sachs Harbour	97.42	14	P		Pdif		11 46 23.1	+0.7
	baz=229								
MGMO	Mountain Grove	97.44	53	IAmb		IAmb		11 46 26.3	
	comp=Z,16nm,1.1s								
TIXI	Tiksi	97.69	345	P		P		11 46 22.0	-1.6
	comp=Z,3.8nm,0.9s,baz=268,slow=15,SNR=12								
TIXI				PP		PP		11 50 25.3	-1.9
	comp=Z,2.3nm,0.8s,baz=89,slow=23,SNR=6.0								
TIXI	Tiksi	97.69	345	*ce*P		P		11 46 21.8	-1.7
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.0s								
TIXI	Tiksi	97.69	345	P		P		11 46 22.0	-1.6
X43A	Marvell	97.69	56	IAmb		IAmb		11 46 33.9	
	comp=Z,38nm,1.4s								
LCAR	Lake Charles	97.95	55	P		P		11 46 25.5	-0.1
P40A	Paris	98.34	51	P		P		11 46 28.8	+1.6
P40A				IAmb		IAmb		11 46 31.4	
	comp=Z,18nm,1.4s								
CCM	Cathedral Cave	98.49	53	P		P		11 46 29.3	+1.4
	baz=252								
AGMN	Agassiz Nation	98.50	42	P		P		11 46 28.9	+1.1
	baz=251								
SPMN	Marine on St.	99.53	45	P		Pdif		11 46 34.3	+1.9
	baz=252								
GOMU	GeErMu	99.53	305	P		Pdif		11 46 32.9	-0.2
GOMU				PP		PP		11 50 43.6	+1.1
GOMU				sS		sS		12 00 04.0	-2.6
GOMU				SS		SS		12 04 33.8	-0.6
GOMU				pmax		pmax			
	comp=Z,5.0nm,0.4s								
GOMU				pmax		pmax			
	comp=Z,100nm,5.3s								
GOMU				LR		LR			
	comp=Z,950nm,15.9s								
GOMU				LR		LR			
	comp=Z,2μm,16.4s								
GOMU				LR		LR			
	comp=Z,2μm,14.2s								
SIV	San Ignacio	108.08	115	PKKPab		PKKPab		12 02 43.1	-1.5
	comp=Z,0.7nm,0.5s,baz=101,slow=2.4,SNR=5.0								
NRIK	Noril'sk	109.65	338	PP		PP		11 51 53.5	-1.9
	comp=Z,2.4nm,0.4s,baz=118,slow=5.7,SNR=3.8								
ZALV	Zalesovo Beam	109.96	321	PKiKP		PKiKP		11 51 16.5	-1.9
	comp=Z,0.9nm,0.5s,baz=126,slow=2.6,SNR=4.9								
ZALV				PP		PP		11 51 56.5	-1.6
	comp=Z,3.9nm,1.0s,baz=99,slow=6.6,SNR=6.4								
MKAR	Makanchi Array	110.87	314	Pdiff		Pdif		11 47 23.3	+0.5
	comp=Z,0.3nm,0.7s,baz=104,slow=4.6,SNR=3.4								
MKAR				PKiKP		PKiKP		11 51 19.0	-1.4
	comp=Z,0.8nm,0.4s,baz=220,slow=1.2,SNR=13								
MKAR				PP		PP		11 52 03.5	-1.4
	comp=Z,2.5nm,1.1s,baz=91,slow=6.4,SNR=5.5								
MKAR	Makanchi Array	110.87	314	*i* PKiKP		PKiKP		11 51 19.0	-1.4
KURK	Kurchatov	113.56	318	*ic* PKiKP		PKiKP		11 51 25.1	-0.2
KURK				pmax		pmax			
	comp=Z,4.0nm,1.0s								
AAK	Ala-Archa	116.10	309	*c* PKiKP		PKiKP		11 51 31.3	+0.6
AAK				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BRVK	Borovoye	118.64	321	*c* PKiKP		PKPdf		11 51 34.7	-0.3
BRVK				pmax		pmax			
	comp=Z,5.0nm,1.0s								
BRVK	Borovoye	118.64	321			PKPdf		11 51 33.0	-2.0
KK31	Karatay Array	119.03	309	PKiKP		PKPdf		11 51 35.0	-1.1
KK31	Karatay Array	119.03	309			PKPdf		11 51 35.0	-1.1
KKAR	Karatay Array	119.03	309	PKiKP		PKPdf		11 51 34.9	-1.2
KKAR	Karatay Array	119.03	309			PKPdf		11 51 34.6	-1.5
KKAR	Karatay Array	119.03	309			PKPdf		11 51 34.9	-1.2
DAG	Danmarks Havn	121.37	6	*i* P		PKPdf		11 51 37.0	-2.6
DY2G	Dye2	123.21	21	*i* P		PKPdf		11 51 43.5	-0.3
DBG	Daneborg	123.44	7	*i* P		PKPdf		11 51 42.1	-1.6
ICESG	Greenland Ices	123.73	17	*i* P		PKPdf		11 51 40.9	-3.9
ARU	Arti	124.56	326	*i* PKiKP		PKPdf		11 51 46.0	-0.3
ARU								11 53 37.8	
ARU								11 58 22.2	
ARU				SS		SS		12 10 00.7	-1.4
IVI	Ivigtut	125.02	27	*e*P		PKPdf		11 51 46.6	-0.4
ABKAR	Akbulak array	125.67	317	PKPdf		PKPdf		11 51 48.2	-0.4
BOSA	Boshof	127.77	205	PKhKP		PKPpre		11 51 43.9	
	comp=Z,2.3nm,0.9s,baz=129,slow=16,SNR=3.3								
BOSA				PKP		PKiKP		11 51 54.2	+0.1
	comp=Z,2.4nm,0.7s,baz=107,slow=16,SNR=3.1								
ARCES	ARCESS Array B	127.78	350	PKP		PKPdf		11 51 51.8	-0.3
	comp=Z,9.4nm,0.9s,baz=7.0,slow=1.5,SNR=24								
KLMR	Klimovskoe	130.99	337	*e*PKiKP		PKPdf		11 51 58.5	+0.1
KLMR				pmax		pmax			
	comp=Z,16nm,1.1s								
KLMR	Klimovskoe	130.99	337	*e*PKPdf		PKPdf		11 51 58.5	+0.1
KLMR				AMP				11 52 00.0	
	comp=Z,16nm,1.1s								
KLMR				*e*SKPab		SKPbc		11 54 47.8	-0.2
FINES	FINESS Array B	134.73	345	PKP		PKPdf		11 52 05.4	0.0
	comp=Z,2.7nm,0.6s,baz=0.0,slow=2.3,SNR=11								
FINES				SKP				11 55 01.5	
	comp=Z,4.5nm,0.9s,baz=72,slow=5.0,SNR=5.6								
FINES	FINESS Array B	134.73	345	*c* PKiKP		PKiKP		11 52 06.6	-0.3
FINES				pmax		pmax			
	comp=Z,3.0nm,0.6s								
OBN	Obninsk	135.97	333	*i* PKiKP		PKPdf		11 52 08.2	+0.3
OBN				pmax		pmax			
	comp=Z,11nm,0.6s								
NB2	NORSAR Subarra	137.78	354	PKP		PKiKP		11 52 12.7	-0.5
	comp=Z,6.3nm,1.4s,baz=17,slow=2.6								
NOA	NORSAR Array B	137.78	354	PKP		PKPdf		11 52 11.7	+0.6
	comp=Z,0.8nm,0.5s,baz=13,slow=4.0,SNR=4.4								
ZEI	Tsey	138.22	313	*i* PKiKP		PKPdf		11 52 12.6	-0.2
ZEI				pmax		pmax			
	comp=Z,3.0nm,1.0s								
GNI	Garni	138.50	309	*c i* PKiKP		PKPdf		11 52 14.0	+0.7
GNI				pmax		pmax			
	comp=Z,4.0nm,0.7s								
KBZ	Khabaz	138.54	315	PKP		PKPdf		11 52 12.9	-0.1
	comp=Z,1.4nm,0.8s,baz=42,slow=1.6,SNR=3.6								
KBZ				PP		PP		11 55 07.3	-0.6
	comp=Z,2.0nm,0.8s,baz=52,slow=8.9,SNR=4.7								
KBZ	Khabaz	138.54	315	*c i* PKiKP		PKPdf		11 52 13.9	+0.9
KIV	Kislovodsk	138.59	316	*e* PKiKP		PKPdf		11 52 12.8	-0.5
KIV				pmax		pmax			
	comp=Z,6.0nm,1.1s								
NACGM	Naroch	139.96	339	*e*PKP		PKiKP		11 52 16.8	-1.0
KMBO	Kilima Mbogo	140.63	243	PP		PP		11 55 22.7	+1.1
	comp=Z,8.0nm,1.1s,baz=120,slow=2.1,SNR=10								
AKASG	Malin Array Be	142.24	333	PKhKP		PKPpre		11 52 14.1	
	comp=Z,1.3nm,0.3s,baz=46,slow=4.4,SNR=14								
SIM	Simferopol'	143.47	322	*ce* PKiKP		PKPbc		11 52 19.8	-0.3
SIM				pmax		pmax			
	comp=Z,73nm,1.0s								
ESK	Eskdalemuir	143.65	6	PKiKP		PKPbc		11 52 20.6	+0.3
ESK	Eskdalemuir	143.65	6	PKPdf		PKPbc		11 52 20.6	+0.3
SORM	Soroca	144.48	330	⇑P		PKPbc		11 52 22.2	-0.8
SORM	Soroca	144.48	330	⇑PKiKP		PKPbc		11 52 22.2	-0.8
BEL	Belsk	144.50	341	*e*PKP		PKPdf		11 52 23.3	-0.1
DIKM	Dikmen	144.51	316	⇑P		PKPdf		11 52 24.2	+0.5
BSEG	Bad Segeberg	144.84	352	*e*PKP		PKPab		11 52 24.3	+0.1
LVV	L'vov	145.05	336	*e*PKiKP		PKPbc		11 52 24.9	+0.2
KIS	Kishinev	145.06	328	*e*PKP		PKPbc		11 52 25.0	+0.2
	comp=Z,110nm,1.0s								
KIS	Kishinev	145.06	328	*e*PKiKP		PKPbc		11 52 25.0	+0.2
KIS				pmax		pmax			
	comp=Z,110nm,1.0s								
MILM	Milestii Mici	145.11	328	⇓*i* PKP		PKPdf		11 52 24.8	+0.2
	comp=Z,200nm,1.4s								
MILM	Milestii Mici	145.11	328	⇑P		PKPbc		11 52 25.2	+0.2
MILM	Milestii Mici	145.11	328	⇑PKiKP		PKPbc		11 52 25.2	+0.2
BZK	Bozkurt	145.16	317	⇑P		PKPbc		11 52 25.4	+0.1
VASR	Vaslui	145.81	329	⇑P		PKPdf		11 52 25.9	+0.1
OJC	Ojcow	146.21	340	*e*PKP		PKPbc		11 52 28.1	-0.1
VLDR	Vladesti	146.22	328	⇑P		PKPbc		11 52 28.8	+0.5
MBAR	Mbarara	146.28	237	*c i* PKHKP		PKPpre		11 52 26.3	
MBAR				*i*				11 52 31.4	
MBAR				pmax		pmax			
	comp=Z,26nm,1.3s								
FLTG	Flechtingen	146.28	351	*e*PKP		PKPbc		11 52 28.0	-0.2
NRDL	Niedersach Rie	146.28	352	*e*PKPbc		PKPbc		11 52 28.1	0.0
TLCR		146.29	326	⇑P		PKPdf		11 52 27.1	+0.5
TLCR		146.29	326	⇑PKiKP		PKPdf		11 52 27.1	+0.5
BURAR	Bucovina Array	146.29	332	⇑P		PKPab		11 52 29.9	-0.3
BURAR	Bucovina Array	146.29	332	⇑PKP2		PKPab		11 52 29.9	-0.3
SCTR	Scanteiesti	146.38	327	⇑P		PKPbc		11 52 28.2	-0.6
GHRR		146.41	328	⇑P		PKPbc		11 52 29.7	+0.9
KOLS	Kolonicke sedl	146.44	337	*e*PKP2		PKPbc		11 52 29.6	+0.7
KOLS	Kolonicke sedl	146.44	337	*e*PKP		PKPbc		11 52 29.5	+0.7
TESR	Tescani	146.45	330	⇑P		PKPbc		11 52 28.8	-0.1
BRTR	Keskin Array B	146.51	314	PKPbc		PKPdf		11 52 28.3	+0.9
	comp=Z,13nm,0.9s,baz=128,slow=2.0,SNR=23								
BRTR				pPKPbc		pPKPab		11 54 03.4	+5.5
	comp=Z,5.8nm,1.1s,baz=70,slow=1.7,SNR=3.0								
BRTR	Keskin Array B	146.51	314	*c i* PKiKP		PKPbc		11 52 29.1	-0.4
BRTR				pmax		pmax			
	comp=Z,13nm,0.9s								
ASSE	Asse, Remlinge	146.56	351	*e*PKPbc		PKPbc		11 52 29.3	+0.4
CFR	Carcaliu	146.65	327	⇑P		PKPbc		11 52 29.4	-0.1
CFR	Carcaliu	146.65	327	⇑PKP2		PKPbc		11 52 29.4	-0.1
KSP	Ksiaz	146.66	344	*e*PKP		PKPbc		11 52 29.8	+0.5
UZH	Uzhgorod	146.68	336	*e*PKiKP		PKPdf		11 52 28.0	+0.8
UZH				*i*				11 52 30.5	
TPGR	Topolog	146.72	326	⇓P		PKPbc		11 52 30.1	+0.4
IBBN	Ibbenburen	146.73	354	*e*PKPbc		PKPbc		11 52 30.1	+0.7
NIE	Niedzica	146.74	339	*e*PKP		PKPab		11 52 31.0	-0.8
CRVS	Cervenica-Dubn	146.77	337	*e*PKP2		PKPbc		11 52 30.0	+0.2
CRVS	Cervenica-Dubn	146.77	337	*e*PKP		PKPbc		11 52 30.0	+0.2
ODBI	Odobesti	146.79	328	⇑P		PKPab		11 52 34.6	+2.5
VRI	Vrincioaia	146.88	329	⇓P		PKPbc		11 52 30.2	+0.1
VRI	Vrincioaia	146.88	329	⇓PKP2		PKPbc		11 52 30.2	+0.1
CLZ	Clausthal	146.88	351	*e*PKPbc		PKPbc		11 52 30.3	+0.3
PLOR	Plostina	146.93	329	⇓P		PKPbc		11 52 31.1	+0.8
PLOR	Plostina	146.93	329	⇓PKP2		PKPbc		11 52 31.1	+0.8
OSTC	Ossos	146.94	344	*e*PKP		PKPbc		11 52 30.7	+0.5
CHVC	Chvalec	146.95	344	*e*PKP		PKPbc		11 52 30.4	+0.2
CLL	Collm	146.96	348	PKiKP		PKPdf		11 52 28.9	+1.3
CLL	Collm	146.96	348	PKPdf		PKPdf		11 52 28.9	+1.3
CLL	Collm	146.96	348	*i* PKPbc		PKPbc		11 52 30.0	-0.2
	comp=Z,59nm,0.9s								
CLL				*i* PKPab		PKPab		11 52 32.9	+0.3
	comp=Z,40nm,1.3s								
CLL				*ep*PKiKP		pPKiKP		11 54 01.0	-0.6
CLL				*es*PKiKP		sPKPab		11 54 36.0	+0.1
CLL	Collm	146.96	348	*e*PKPbc		PKPbc		11 52 30.4	+0.2
TIRR	Tirgusor	146.98	325	⇑P		PKPab		11 52 33.7	+0.8
TIRR	Tirgusor	146.98	325	⇑PKP2		PKPab		11 52 33.7	+0.8
ANTO	Ankara	147.01	315	PKHKP		PKPpre		11 52 27.0	
ANTO	Ankara	147.01	315			PKPdf		11 52 27.0	-1.1
UPC	Upice	147.04	344	*e*PKP2		PKPbc		11 52 30.6	+0.2
UPC	Upice	147.04	344	*e*PKP		PKPbc		11 52 30.6	+0.2
ARCR	ARCALIA	147.07	333	⇑P		PKiKP		11 52 31.8	-0.9
HARR	Harsova	147.09	326	⇑P		PKPdf		11 52 24.3	-3.7
HARR	Harsova	147.09	326	⇑PKHKP		PKPpre		11 52 24.3	
DPC	Dobruska-Polom	147.10	344	*e*PKP2		PKPbc		11 52 31.1	+0.4
DPC	Dobruska-Polom	147.10	344	*e*PKP		PKPbc		11 52 31.1	+0.4
OZUR		147.17	330	⇑P		PKiKP		11 52 32.3	-0.7
BRG	Berggiesshubel	147.18	347	*e*PKP		PKPbc		11 52 29.6	-1.2
BRG				Amp				11 52 32.7	
	comp=Z,30nm,1.1s								
BRG				*ex*		x		11 52 57.4	
BRG				Amp				11 52 58.1	
	comp=Z,10nm,1.0s								
BRG	Berggiesshubel	147.18	347	*e*PKiKP		PKPbc		11 52 29.6	-1.2
BRG				pmax		pmax			
	comp=Z,30nm,1.1s								
BRG				pmax		pmax			
	comp=Z,11nm,1.0s								
BRG	Berggiesshubel	147.18	347	*e*PKPbc		PKPbc		11 52 30.7	0.0
GTTG	Gottingen	147.23	352	*e*PKPbc		PKPbc		11 52 31.0	+0.2
KRLC	Kraliky	147.23	343	*e*PKP2		PKPbc		11 52 31.6	+0.6
KRLC	Kraliky	147.23	343	*e*PKP		PKPbc		11 52 31.6	+0.6
LANS	Liptovska Anna	147.25	340	*e*PKP2		PKPbc		11 52 32.0	+0.9
LANS	Liptovska Anna	147.25	340	*e*PKP		PKPbc		11 52 32.0	+0.9
FBE	Freiberg	147.26	348	*e*PKPbc		PKPbc		11 52 31.6	+0.7
MORC	Moravsky Berou	147.29	342	⇑P		PKiKP		11 52 32.3	-0.8
MORC	Moravsky Berou	147.29	342	⇑PKP2		PKiKP		11 52 32.3	-0.8
MORC	Moravsky Berou	147.29	342			PKPbc		11 52 32.0	+0.8
MORC	Moravsky Berou	147.29	342	*e*PKP		PKPbc		11 52 31.3	+0.1
PVCC	Panska Ves	147.37	346	*e*PKP2		PKPbc		11 52 32.0	+0.7
PVCC	Panska Ves	147.37	346	*e*PKP		PKPbc		11 52 32.0	+0.7
NEHR	Nehoiu	147.41	329	⇑P		PKPbc		11 52 32.0	+0.4
DOPR	Dopca	147.45	330	⇑P		PKPbc		11 52 32.3	+0.6
KECS	Kecovo	147.47	338	*e*PKP2		PKPab		11 52 34.7	0.0
KECS	Kecovo	147.47	338	*e*PKP		PKPab		11 52 34.7	0.0
ISR	Istrita	147.50	328	⇓P		PKPbc		11 52 32.6	+0.7
ISR	Istrita	147.50	328	⇓PKP2		PKPbc		11 52 32.6	+0.7
MLR	Muntele Rosu	147.53	329	⇑P		PKPbc		11 52 32.8	+0.7
MLR	Muntele Rosu	147.53	329	⇑PKP2		PKPbc		11 52 32.8	+0.7
MLR	Muntele Rosu	147.53	329			PKPbc		11 52 32.5	+0.5
BUG	Bochum--Univer	147.63	355	*e*PKPbc		PKPbc		11 52 32.4	+0.5
KASTN	Kahler Asten	147.75	353	*e*PKPbc		PKPbc		11 52 32.4	+0.1
MOX	Moxa	147.85	349	*e*PKPbc		PKPbc		11 52 32.6	0.0
PRU	Pruhonice	147.88	346	*e*PKP2		PKPbc		11 52 33.1	+0.5
PRU	Pruhonice	147.88	346	*e*PKP		PKPbc		11 52 33.1	+0.5
WERD	Werda	147.91	349	*e*PKPbc		PKPbc		11 52 33.0	+0.2
TANN	Tannenbergstha	147.91	348	*e*PKPbc		PKPbc		11 52 32.9	+0.1
UBBA	Unterbreizbach	147.93	351	*e*PKPbc		PKPbc		11 52 33.1	+0.5
VRAC	Vranov	147.98	343	⇓P		PKPbc		11 52 33.7	+0.7
VRAC	Vranov	147.98	343	*e*PKP		PKPbc		11 52 33.3	+0.3
GUNZ	Gunzen	147.99	348	*e*PKPbc		PKPbc		11 52 33.5	+0.5
VOIR		148.00	330	⇑P		PKPdf		11 52 30.7	+1.1
VOIR		148.00	330	⇑PKiKP		PKPdf		11 52 30.7	+1.1
VYHS	Vyhne	148.03	340	*e*PKP2		PKPbc		11 52 33.4	+0.3
VYHS	Vyhne	148.03	340	*e*PKP		PKPbc		11 52 33.4	+0.3
WERN	Wernitzgruen	148.05	348	*e*PKPbc		PKPbc		11 52 33.6	+0.4
JAVC	Velka Javorina	148.07	341	*e*PKP		PKPbc		11 52 34.0	+0.7
NKC	Novy Kostel	148.09	348	*e*PKP2		PKPbc		11 52 33.0	-0.2
NKC	Novy Kostel	148.09	348	*e*PKP		PKPbc		11 52 33.0	-0.2
KOLL	Kolacno	148.09	340	*e*PKP		PKiKP		11 52 34.5	-0.2
PSZ	Piszkesteto	148.16	338	⇑P		PKiKP		11 52 34.6	-0.4
PSZ	Piszkesteto	148.16	338	⇑PKP2		PKiKP		11 52 34.6	-0.4
PSZ	Piszkesteto	148.16	338			PKPbc		11 52 34.3	+0.7
PSZ				PKPab		PKPab		11 52 39.0	+1.4
ARR	Arges	148.25	330	⇑P		PKiKP		11 52 34.7	-0.6
KRUC	Moravsky	148.26	343	*e*PKP		PKPbc		11 52 33.4	-0.3
MANZ	Manzenberg	148.39	349	*e*PKPbc		PKPbc		11 52 34.5	+0.5
MEM	Membach	148.55	356	*d*PKP		PKPbc		11 52 35.0	-0.6
BTNL	Ternell	148.56	356	*d*PKP		PKPbc		11 52 34.9	+0.5
ROTZ	Rotzenmuhle	148.58	348	*e*PKPbc		PKPbc		11 52 34.6	+0.2
BSTI	Sart Tilman	148.60	357	*d*PKP		PKPbc		11 52 35.0	+0.5
MODS	Modra-Piesok	148.62	341	*e*PKP2		PKiKP		11 52 35.5	-0.4
MODS	Modra-Piesok	148.62	341	*e*PKP		PKiKP		11 52 35.5	-0.4
TNS	Taunus Mts	148.72	353	*e*PKP		PKPbc		11 52 35.2	+0.4
BCLA	Clavier	148.78	357	*d*PKiKP		PKiKP		11 52 36.3	+0.2
CSS	Mathiatis	148.78	306	PKPdf		PKPdf		11 52 31.0	-0.1
CSS						PKPbc		11 52 35.5	+0.1
BHOU	Houvegnez	148.81	356	*d*PKiKP		PKiKP		11 52 36.4	+0.2
GRF	Grafenberg Arr	148.84	349	*e*PKPbc		PKiKP		11 52 36.4	+0.2
KHC	Kasperske Hory	148.90	346	PKiKP		PKPdf		11 52 31.1	+0.2
KHC	Kasperske Hory	148.90	346	PKPdf		PKPdf		11 52 31.1	+0.2
KHC						PKiKP		11 52 36.0	-0.4
KHC	Kasperske Hory	148.90	346	*e*PKP		PKPbc		11 52 35.7	+0.4
KHC				*ex*		x		11 52 40.5	
KHC				*ex*		x		11 54 11.3	
BMRD	Maredsous	148.92	358	*d*PKP		PKPbc		11 52 35.7	+0.4
CKRC	Cesky Krumlov	149.02	345	*e*PKP		PKPbc		11 52 35.8	+0.2
WET	Wettzell	149.04	347	*e*PKP		PKiKP		11 52 36.4	-0.3
RCHB	Rochefort	149.05	357	*d*PKiKP		PKiKP		11 52 36.4	-0.2
GZR	Gura Zlata	149.08	332	⇑P		PKPbc		11 52 35.7	-0.3
GZR	Gura Zlata	149.08	332	⇑PKHKP		PKPpre		11 52 35.7	
DOU	Dourbes	149.13	358	*d*PKiKP		PKiKP		11 52 37.0	+0.2
GEC2	GERESS Array S	149.14	346			PKPbc		11 52 36.5	+0.5
GEC2	GERESS Array S	149.14	346	*e*PKPbc		PKPbc		11 52 36.6	+0.5
GERES	GERESS Array B	149.14	346	PKPbc		PKPbc		11 52 35.7	-0.3
	comp

BFZ	**Birch Farm**	**1.85**	**173**	P	Pn	11 34 36.4 +0.3
OGWZ	**Otaki Gorge**	**2.07**	**197**	P	Pn	11 34 38.1 -0.6

*IDC **20** 11:54:35.7±9.2,30.00S×179.51W,h418km±96km, mb2.5/2, mb1 3.0/3, mb1mx2.5/47, mbtmp3.7/3, Error ellipse: s-maj=88.9km s-min=47.7km az=24.0*

ISC 20 11:54:31.7±1.4,29.78S±0.10×179.4W±0.2, h362km, n51, σ2s00/65, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.39**	**69**	S	**S**	**11 56 00.1**	**+0.4**
MXZ	**Matakaoa Point**	**7.99**	**193**	P	**P**	**11 56 31.3**	**+4.5**
MXZ				S	**S**	**11 57 58.7**	**-0.3**
WMGZ	**Waiomatatini S**	**8.22**	**192**	P	**P**	**11 56 32.4**	**+1.7**
HAZ	**Te Kaha**	**8.29**	**196**	P	**P**	**11 56 31.6**	**+0.2**
HAZ				S	**S**	**11 58 05.8**	**+0.4**
PKGZ	**Pakihiroa**	**8.35**	**194**	P	**P**	**11 56 33.3**	**+1.1**
PKGZ				S	**S**	**11 58 04.9**	**-2.0**
PUZ	**Puketiti**	**8.50**	**193**	P	**P**	**11 56 34.5**	**+0.7**
PUZ				S	**S**	**11 58 08.6**	**-1.3**
RUGZ	**Raukumara Rang**	**8.52**	**196**	P	**P**	**11 56 35.4**	**+1.3**
RUGZ				S	**S**	**11 58 08.7**	**-1.8**
TWGZ	**Tauwhareparae**	**8.65**	**194**	P	**P**	**11 56 37.3**	**+1.8**
TWGZ				S	**S**	**11 58 11.4**	**-1.9**
MARZ	**Manawahe**	**8.81**	**201**	P	**P**	**11 56 41.1**	**+3.9**
MWZ	**Matawai**	**8.90**	**196**	P	**P**	**11 56 39.2**	**+1.0**
MWZ				S	**S**	**11 58 16.0**	**-2.8**
TKGZ	**Te Karaka**	**8.93**	**194**	P	**P**	**11 56 39.2**	**+0.6**
TKGZ				S	**S**	**11 58 18.5**	**-0.8**
URZ	**Urewera**	**8.94**	**198**	P	**P**	**11 56 39.0**	**+0.4**
	3.9nm,0.3s,baz=0.0,slow=20,SNR=26						
URZ				S	**S**	**11 58 18.9**	**-0.6**
	1.5nm,0.3s,baz=234,slow=20,SNR=9.4						
URZ	**Urewera**	**8.94**	**198**	P	**P**	**11 56 38.9**	**+0.3**
URZ				S	**S**	**11 58 17.3**	**-2.1**
RAGZ	**Rawiri**	**9.08**	**196**	P	**Pn**	**11 56 38.9**	**+0.2**
RIGZ	**Rimuhau**	**9.21**	**194**	P	**P**	**11 56 42.0**	**+0.3**
RIGZ				S	**S**	**11 58 23.9**	**-1.6**
RTZ	**Ruatahuna**	**9.31**	**198**	P	**P**	**11 56 43.1**	**+0.3**
RTZ				S	**S**	**11 58 26.7**	**-1.0**
PRRZ	**Plateau Road**	**9.37**	**201**	P	**P**	**11 56 47.0**	**+3.6**
SNGZ	**Shannon Statio**	**9.37**	**196**	P	**P**	**11 56 44.3**	**+0.8**
SNGZ				S	**S**	**11 58 27.9**	**-1.1**
WPRZ	**Whakapapatarin**	**9.46**	**202**	P	**P**	**11 56 48.0**	**+3.5**
TLZ	**Tolley Road**	**9.50**	**205**	P	P	11 56 50.7	+5.7
KUTZ	**Kaahu Road**	**9.54**	**203**	P	**P**	**11 56 50.1**	**+4.7**
RAHZ	**Arahi**	**9.56**	**197**	P	**P**	**11 56 46.9**	**+1.3**
RAHZ				S	**S**	**11 58 30.5**	**-2.7**
MTHZ	**Maungataniwha**	**9.57**	**198**	P	**P**	**11 56 47.0**	**+1.3**
MRHZ	**Matea Rd**	**9.67**	**200**	P	**P**	**11 56 48.2**	**+1.4**
NMHZ	**Naumai**	**9.80**	**198**	P	**P**	**11 56 49.5**	**+1.2**
NMHZ				S	**S**	**11 58 39.1**	**+0.6**
HATZ	**Hinemaiaia**	**9.82**	**201**	P	**P**	**11 56 51.2**	**+2.8**
ARHZ	**Aropaoanui**	**9.91**	**196**	P	**P**	**11 56 51.6**	**+2.1**
HIZ	**Hauiti**	**9.92**	**207**	P	P	11 56 54.8	+5.2
BKZ	**Black Stump Fm**	**9.96**	**199**	P	**Pn**	**11 56 49.4**	**+0.4**
BKZ				S	**S**	**11 58 38.1**	**-3.5**
NTVZ	**North Tongarir**	**10.14**	**202**	P	**P**	**11 56 54.4**	**+2.3**
TMVZ	**Te Maari**	**10.15**	**202**	P	**P**	**11 56 54.7**	**+2.5**
MCHZ	**McNeill Hill**	**10.16**	**197**	P	**P**	**11 56 54.4**	**+2.2**
ETVZ	**East Tongariro**	**10.16**	**202**	P	**P**	**11 56 54.4**	**+2.0**
NNVZ	**North Ngauruho**	**10.19**	**202**	P	**P**	**11 56 55.7**	**+3.0**
TWVZ	**Taurewa**	**10.20**	**203**	P	**P**	**11 56 55.6**	**+2.9**
OTVZ	**Oturere**	**10.20**	**202**	P	**P**	**11 56 54.8**	**+1.9**
SNVZ	**South Ngauruho**	**10.23**	**202**	P	**P**	**11 56 55.4**	**+2.1**
NGZ	**Ngauruhoe**	**10.24**	**202**	P	**P**	**11 56 56.1**	**+2.9**
TUVZ	**Tukino**	**10.30**	**202**	P	**P**	**11 56 56.3**	**+2.4**
FWVZ	**Far West T-bar**	**10.32**	**202**	P	**P**	**11 56 56.4**	**+2.1**
BHHZ	**Black Hill Sta**	**10.38**	**200**	P	**Pn**	**11 56 54.9**	**+0.9**
KRHZ	**Kereru**	**10.43**	**198**	P	**P**	**11 56 56.0**	**+0.7**
KAHZ	**Kahuranaki**	**10.45**	**196**	P	**P**	**11 56 56.7**	**+1.2**
MTVZ	**Mangateitei**	**10.47**	**202**	P	**P**	**11 56 58.2**	**+2.5**
PNHZ	**Pukenui**	**10.73**	**198**	P	**P**	**11 56 59.3**	**+0.7**
TSZ	**Takapari Road**	**10.94**	**199**	P	**Pn**	**11 57 01.5**	**+0.9**
PRHZ	**Porangahau**	**10.95**	**196**	P	**Pn**	**11 57 01.5**	**+0.7**
TMWZ	**Te Maipa**	**11.93**	**197**	P	**Pn**	**11 57 13.5**	**+1.2**
ASAR	**Alice Springs**	**41.92**	**267**	P	**P**	**12 01 46.8**	**-1.6**
	0.1nm,0.3s,baz=94,slow=7.5,SNR=1.4						
WRA	**Warramunga Arr**	**42.85**	**272**	P	**P**	**12 01 54.8**	**-1.1**
	0.4nm,0.4s,baz=111,slow=7.4,SNR=18						
FINES	**FINESS Array B**	**144.14**	**339**	PKP	**PKPab**	**12 13 21.5**	**-1.4**
	0.8nm,0.4s,baz=49,slow=4.2,SNR=7.9						

*IDC **20** 12:01:52.0±1.1,0.86N×79.99W,h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/37, mbtmp3.7/5, Error ellipse: s-maj=86.2km s-min=20.7km az=60.0*

ISC 20 12:01:53.8±1.1,0.65N±0.09×80.29W±0.09, h11km, n17, σ1s33/19, mb3.7/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSE	**Cuicocha Este**	**1.92**	**100**	*eP*	**Pn**	**12 02 26.7**	**-0.2**
CUSE				*eS*	**Sb**	**12 02 54.8**	**+1.5**
TULM	**Tulcn-Chalpat**	**2.50**	**89**	*eP*	**Pn**	**12 02 35.9**	**+1.1**
TULM				*eP*	**Pb**	**12 02 36.8**	**-2.2**
GCUF	**Volcan Galeras**	**3.00**	**79**	*eP*	**Pn**	**12 02 39.6**	**-2.1**
GR1C	**Gorgona, Isla**	**3.15**	**42**	*eP*	**Pb**	**12 02 50.0**	**+0.1**
SOTA	**Rioblanco**	**3.96**	**68**	*eP*	**Pn**	**12 02 55.2**	**+0.2**
POPC	**Popayan, Colom**	**4.07**	**63**	*eP*	**Pn**	**12 02 55.9**	**-0.4**
PCON	**Cinco Dias**	**4.23**	**67**	*eP*	**Pn**	**12 02 57.9**	**-0.9**
MARP	**Paez Belalcaza**	**4.85**	**63**	*eP*	**Pn**	**12 03 07.2**	**+0.2**
YOTC	**Yotoco, Valle**	**5.14**	**50**	*eP*	**Pn**	**12 03 10.6**	**-0.3**
PTLC	**Puerto Leguiza**	**5.51**	**95**	*eP*	**Pn**	**12 03 17.2**	**+1.3**
ORTC	**Ortega, Tolima**	**5.99**	**57**	*eP*	**Pn**	**12 03 24.6**	**+2.1**
MACC	**Macarena, Meta**	**6.61**	**77**	*eP*	**Pn**	**12 03 32.8**	**+1.8**
LPAZ	**La Paz**	**20.67**	**145**	P	**P**	**12 06 35.9**	**+1.3**
	1.5nm,0.7s,baz=337,slow=13,SNR=4.9						
SIV	**San Ignacio**	**25.17**	**132**	P	**P**	**12 07 18.5**	**-1.0**
	1.0nm,0.6s,baz=311,slow=12,SNR=4.1						
PLCA	**Paso Flores**	**42.13**	**169**	P	**P**	**12 09 46.5**	**+0.2**
	3.0nm,0.8s,baz=352,slow=9.3,SNR=3.8						
NVAR	**Mina Array Bea**	**51.27**	**322**	P	**P**	**12 10 58.8**	**+0.6**
	0.8nm,0.7s,baz=134,slow=7.7,SNR=8.2						
YKA	**Yellowknife Ar**	**66.83**	**343**	P	**P**	**12 12 44.2**	**-1.1**
	0.4nm,0.8s,baz=136,slow=6.0,SNR=8.5						

*IDC **20** 12:02:01.4±1.1,1.10N×125.66E,h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/63, mbtmp3.5/5, Error ellipse: s-maj=82.4km s-min=20.3km az=70.0*
*DJA **20** 12:02:11.3±1.0,1°N±3°×12°6E±°, h23km±10km, M4.2/12, mb4.2/5, mB4.7/2, MLv4.2/12, Mw(mB)3.9/2, MwMwp5.7/1, Mwp5.8/1*

ISC 20 12:02:09.5±1.0,1°24N±0°09×126°17E±0°05, h50km, n18, σ2s26/20, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.29**	**111**	P	**Pn**	**12 02 34.9**	**+3.8**
KMSI	**Cibinong**	**2.28**	**253**	P	**Pn**	**12 02 46.9**	**+2.1**
KMSI				S	**Sn**	**12 03 14.2**	**+2.5**
LBMI	**Labuha**	**2.29**	**144**	P	**Pn**	**12 02 47.5**	**+2.6**
LBMI				S	**Sn**	**12 03 14.2**	**+2.2**
GTOI	**Gorontalo**	**3.21**	**259**	P	**Pn**	**12 03 00.6**	**+3.1**
SANI	**Sanana**	**3.27**	**183**	P	**Pn**	**12 02 58.0**	**-0.4**
LUWI	**Luwuk**	**4.08**	**236**	P	**Pn**	**12 03 11.4**	**+1.9**
MRSI	**Marisa**	**4.29**	**260**	P	**Pn**	**12 03 14.2**	**+1.9**
NLAI	**Namlea**	**4.55**	**168**	P	**Pn**	**12 03 16.5**	**+0.7**
APSI	**Ampana**	**5.00**	**245**	P	**Pn**	**12 03 24.3**	**+2.3**
AAI	**Ambon**	**5.30**	**158**	P	**Pn**	**12 03 27.8**	**+1.6**
	0.3nm38nm,0.7s						
MSAI	**Masohi**	**5.33**	**149**	P	**Pn**	**12 03 27.7**	**+1.1**
	0.1nm287nm5.4nm,0.7s						
SPSI	**Sidrap Palu**	**8.22**	**231**	P	**Pn**	**12 04 07.0**	**+0.7**
	8.5nm,0.6s						
BNSI	**Bone**	**8.25**	**227**	P	**Pn**	**12 04 08.4**	**+1.7**
WRA	**Warramunga Arr**	**22.53**	**160**	P	**P**	**12 07 02.0**	**-3.3**
	0.4nm,0.4s,baz=334,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.88**	**164**	P	**P**	**12 07 36.5**	**-0.3**
	0.2nm,0.6s,baz=335,slow=7.6,SNR=5.0						
KSRS	**Korea Array**	**36.07**	**2**	P	**P**	**12 09 05.4**	**-1.0**
	0.7nm,0.6s,baz=182,slow=10.0,SNR=4.5						
MKAR	**Makanchi Array**	**59.28**	**326**	P	**P**	**12 12 03.5**	**-2.6**
	0.4nm,0.5s,baz=112,slow=7.9,SNR=4.7						
KURBB	**Kurchatov Arra**	**63.53**	**328**	P	**P**	**12 12 33.4**	**-1.2**
	0.5nm,0.6s,baz=128,slow=6.0,SNR=5.9						

*IDC **20** 12:05:57.7±1.4,14.60S×165.98E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.6/49,mbtmp3.8/5,ML3.8/1, Error ellipse: s-maj=40.6km s-min=26.7km az=119.0*
*NEIC **20** 12:06:04±1.6,14.7S±0.1°×166.18E±0.05,h35km±1km, mb4.5/7, Error ellipse: s-maj=17.8km s-min=8.1km az=10.0*

ISC 20 12:06:03.1±1.0,14.6S±0.1°×166.22E±0.09, h35km, n18, σ1s41/19, mb4.3/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.25**	**131**		**Pn**	**12 06 22.4**	**-1.7**
SANVU				Sn	**Sn**	**12 06 40.1**	**+0.4**
KOUNC	**Koumac, New Ca**	**6.17**	**197**	Pn	**Pn**	**12 07 31.6**	**-0.1**
DZM	**Mont Dzumac**	**7.40**	**178**	Pn	**Pn**	**12 07 48.5**	**-0.3**
	1.6nm,0.3s,baz=17,slow=19,SNR=19						
DZM				Sn	**Sn**	**12 09 11.8**	**+0.2**
	baz=293,slow=24,SNR=1.6						
DZM	**Mont Dzumac**	**7.40**	**178**		**Pn**	**12 07 48.6**	**-0.1**
ONTNC	**Ouen Toro**	**7.64**	**178**	Pn	**Pn**	**12 07 51.1**	**-0.8**
PINNC	**Pines Island,**	**8.03**	**172**	Pn	**Pn**	**12 07 56.4**	**-0.8**
MSWZ	**Moikau Station**	**27.82**	**165**	P	**P**	**12 11 50.5**	**+1.5**
WB0	**Warramunga Arr**	**30.80**	**256**	P	**P**	**12 12 15.2**	**-0.6**
WB0				IAmb	IAmb	12 12 37.7	
	comp=Z,6.2nm,1.3s						
WB2	**Warramunga Arr**	**30.85**	**256**	P	**P**	**12 12 15.3**	**-1.0**
WRA	**Warramunga Arr**	**30.86**	**256**	P	**P**	**12 12 13.3**	**-3.0**
	comp=Z,0.8nm,0.9s,baz=85,slow=8.3,SNR=4.5						
ASAR	**Alice Springs**	**31.76**	**249**	P	**P**	**12 12 22.8**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=74,slow=9.3,SNR=7.2						
TAU	**Tasmania Unive**	**32.53**	**206**	P	**P**	**12 12 31.1**	**+0.4**
TAU				IAmb	IAmb	12 12 48.9	
	comp=Z,22nm,1.4s						
MTN	**Manton Dam**	**34.11**	**269**	P	**P**	**12 12 45.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**39.03**	**259**	P	**P**	**12 13 23.7**	**-3.0**
FITZ				IAmb	IAmb	12 13 24.4	
	comp=Z,4.9nm,0.8s						
QSPA	**South Pole Qui**	**75.39**	**180**	P	**P**	**12 17 44.0**	**+0.9**
QSPA				IAmb	IAmb	12 17 51.9	
	comp=Z,6.7nm,1.1s						
IL31		**86.75**	**18**	P	**P**	**12 18 44.6**	**+1.6**
IL31				IAmb	IAmb	12 18 50.9	
	comp=Z,3.6nm,1.1s						
ILAR	**Eielson Array**	**86.75**	**18**	P	**P**	**12 18 43.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=240,slow=5.0,SNR=10						
YKA	**Yellowknife Ar**	**97.93**	**27**	P	Pdif	12 19 35.4	+0.4
	comp=Z,0.1nm,0.4s,baz=243,slow=4.3,SNR=3.8						

*IDC **20** 12:07:56.4±1.1,7.02N×123.45E,h0km, mb3.9/6, mb1 4.1/7, mb1mx3.6/72, mbtmp3.9/7, ML4.6/1, Error ellipse: s-maj=28.9km s-min=19.7km az=58.0*
*MAN **20** 12:07:58.1,7.18N×123.48E,h3km, mb4.9, ML3.8, MS3.8, Hypocentre not reviewed by the ISC*
*NEIC **20** 12:08:02.4±1.5,6.95N±0.10×123.57E±0.07,h33km±5km, mb4.3/14, Error ellipse: s-maj=14.0km s-min=9.7km az=172.0*

ISC 20 12:08:01.2±1.5,7.05N±0.05×123.58E±0.04, h33km±11km, n42, σ1s60/48, mb4.2/14, 5C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.69**	**76**	*iP*	**Pn**	**12 08 12.2**	**-2.3**
CTBH				*i* S	**Sb**	**12 08 21.9**	**-2.2**
PAGZ	**Pagadian**	**0.81**	**346**	*eP*	Pn	12 08 11.5	-4.9
PAGZ				*i* S	Sn	12 08 21.5	-5.8
ZCP	**Zamboanga City**	**1.50**	**265**	*iP*	**Pn**	**12 08 24.4**	**-1.4**
ZCP				*i* S	**Sn**	**12 08 43.7**	**-0.5**
KCP	**Kidapawan**	**1.50**	**92**	*eP*	**Pn**	**12 08 26.3**	**+0.4**
KCP				*i* S	**Sn**	**12 08 46.8**	**+2.3**
DCPH	**Dipolog City**	**1.54**	**352**	*eP*	Pn	12 08 23.6	-2.8
DCPH				eS	Sn	12 08 35.5	-10
GSPH	**General Santos**	**1.67**	**125**	*i* P	**Pb**	**12 08 33.2**	**+1.8**
GSPH				*i* S	Sb	12 09 01.4	+9.3
DAV	**Davao City (W)**	**1.99**	**89**	Pn	**Pn**	**12 08 33.6**	**+1.1**
	194nm,0.3s,baz=270,slow=7.4,SNR=9.7						
DAV				Sn	**Sb**	**12 09 00.2**	**-1.0**
	106nm,0.3s,baz=127,slow=23,SNR=12						
DAV	**Davao City (W)**	**1.99**	**89**	Pn	**Pn**	**12 08 34.3**	**+1.8**
SNPH	**Sibulan**	**2.30**	**352**	*iP*	**Pn**	**12 08 35.7**	**-1.2**
SNPH				*i* S	**Sn**	**12 09 02.9**	**-1.2**
CNOP	**Candoni, Negro**	**2.91**	**341**	*eP*	**Pn**	**12 08 44.5**	**-0.7**
CNOP				*i* S	**Sn**	**12 09 24.8**	**+5.7**
BIPH	**Bislig**	**2.98**	**68**	*iP*	**Pn**	**12 08 45.4**	**-0.9**
BIPH				*i* S	**Sn**	**12 09 20.1**	**-0.7**
LLP	**Lapu-Lapu**	**3.27**	**7**	*iP*	**Pn**	**12 08 54.3**	**+4.2**
LLP				*i* S	Sn	12 09 22.2	-5.7
MSLP	**Maasin**	**3.31**	**22**	*eP*	**Pn**	**12 08 48.7**	**-2.1**
JAP	**San Jose, Anti**	**4.01**	**336**	*eP*	**Pn**	**12 08 58.7**	**-1.7**
RCP	**Roxas**	**4.55**	**350**	*eP*	**Pn**	**12 09 09.0**	**+1.1**
MYLDM	**Lahad Datu**	**5.38**	**250**		**Pn**	**12 09 21.6**	**+2.3**
TOLI2	**Tolitoli**	**6.53**	**205**	Pn	**Pn**	**12 09 33.1**	**-1.9**
TNTI	**Ternate**	**7.29**	**149**	Pn	**Pn**	**12 09 44.7**	**-0.9**
KKM	**Kota Kinabalu**	**7.38**	**263**	Pn	**Pn**	**12 09 47.0**	**+0.1**
LUWI	**Luwuk**	**8.08**	**186**	Pn	**Pn**	**12 09 56.9**	**+0.5**
SAUI	**Saumlaki**	**16.80**	**153**	Pn	**Pn**	**12 11 53.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**25.07**	**175**	P	**P**	**12 13 23.2**	**+0.4**
	5.5nm,0.8s,baz=11,slow=9.7,SNR=18						
COEN	**Coen**	**28.53**	**137**	P	**P**	**12 13 52.9**	**-1.2**
COEN				IAmb	IAmb	12 14 08.3	
	comp=Z,15nm,1.2s						
PSA00	**Pilbara Seismi**	**28.68**	**187**	P	**P**	**12 13 56.2**	**+0.9**
PSA00				IAmb	IAmb	12 14 11.9	
	comp=Z,8.4nm,0.9s						
WB0	**Warramunga Arr**	**28.70**	**158**	P	**P**	**12 13 55.2**	**-0.3**
WB0				IAmb	IAmb	12 14 08.8	
	comp=Z,6.0nm,1.2s						
WRAB	**Tennant Creek**	**28.84**	**159**	P	**P**	**12 13 55.9**	**-0.8**
WRAB				IAmb	IAmb	12 14 09.6	
	comp=Z,7.7nm,1.3s						
WRA	**Warramunga Arr**	**28.84**	**159**	P	**P**	**12 13 56.1**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=334,slow=10,SNR=11						
WRA	**Warramunga Arr**	**28.84**	**159**	P	**P**	**12 13 56.7**	**-0.1**
WB2	**Warramunga Arr**	**28.85**	**159**	P	**P**	**12 13 56.2**	**-0.6**
WB2				IAmb	IAmb	12 14 09.8	
	comp=Z,4.7nm,1.1s						
WR0	**Warramunga Arr**	**28.93**	**158**	P	**P**	**12 13 57.0**	**-0.6**
WR0				IAmb	IAmb	12 14 00.6	
	comp=Z,6.0nm,1.4s						
AS31	**Alice Springs**	**32.15**	**162**	P	**P**	**12 14 25.6**	**-0.5**
ASAR	**Alice Springs**	**32.16**	**162**	P	**P**	**12 14 26.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=345,slow=7.3,SNR=28						
ASAR				PcP	**PcP**	**12 17 13.3**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=340,slow=3.1,SNR=4.3						
ASAR	**Alice Springs**	**32.16**	**162**	P	**P**	**12 14 24.8**	**-1.3**
NWAO	**Narrogin (SRO)**	**40.21**	**188**	P	**P**	**12 15 34.8**	**0.0**
BBOO	**Buckleboo**	**41.38**	**164**	P	**P**	**12 15 45.3**	**+0.9**
BBOO				IAmb	IAmb	12 15 54.9	
	comp=Z,19nm,1.5s						
STKA	**Stephens Creek**	**42.36**	**157**	P	**P**	**12 15 53.2**	**+0.7**
	comp=Z,5.7nm,0.7s,baz=331,slow=10,SNR=15						
STKA	**Stephens Creek**	**42.36**	**157**	P	**P**	**12 15 53.2**	**+0.7**
CAN	**Canberra**	**48.48**	**152**	P	**P**	**12 16 40.0**	**-1.0**
TOO	**Toolangi**	**48.88**	**157**	P	**P**	**12 16 43.9**	**-0.1**
TOO				IAmb	IAmb	12 16 46.6	
	comp=Z,6.8nm,1.3s						
MKAR	**Makanchi Array**	**53.05**	**325**	P	**P**	**12 17 15.5**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=109,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**53.05**	**325**	P	**P**	**12 17 16.1**	**+0.8**
KURBB	**Kurchatov Arra**	**57.27**	**328**	P	**P**	**12 17 45.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=128,slow=5.5,SNR=3.1						

*IDC **20** 12:13:12.7±1.1,0.67N×79.95W,h0km, mb3.8/6, mb1 4.1/6, mb1mx3.7/41, mbtmp3.8/6, Error ellipse: s-maj=60.1km s-min=20.6km az=59.0*
*NEIC **20** 12:13:14.9±1.8,0.62N±0.04×80.14W±0.06,h10km±1km, mb4.2/8, Error ellipse: s-maj=10.8km s-min=7.6km az=275.0*
*IGQ **20** 12:13:15±1.3,1°N±4°×8°0W±1°0, h5km*

ISC 20 12:13:15.3±0.7,0.61N±0.04×80.13W±0.05, h17km, n91, σ1s19/92, mb3.9/6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMA1	**Acelerografo,**	**0.51**	**52**	P	**Pg**	**12 13 26.0**	**+0.4**
AV21	**Acelerografo,**	**0.58**	**85**	P	**Pg**	**12 13 26.0**	**-0.8**
AV18	**Acelerografo,**	**0.71**	**115**	P	**Pb**	**12 13 30.0**	**+0.7**
MAG1	**Magdalena**	**0.77**	**153**	P	**Pb**	**12 13 29.0**	**-1.2**
FLF1	**Flavio Alfaro-**	**1.01**	**164**	P	**Pb**	**12 13 33.0**	**-1.3**
BV15	**Puerto Quito-O**	**1.01**	**117**	P	**Pb**	**12 13 33.0**	**-1.4**
PAC1	**Pacto, Paraso**	**1.38**	**105**	*eP*	**Pn**	**12 13 39.5**	**-0.4**
PAC1	**Pacto, Paraso**	**1.38**	**105**	P	**Pn**	**12 13 39.0**	**-0.9**
APR1	**Acelerografo,**	**1.65**	**113**	P	**Pn**	**12 13 44.0**	**+0.2**
HPAL	**Hacienda Las P**	**1.69**	**119**	P	**Pn**	**12 13 43.0**	**-1.4**
PINO	**Pino**	**1.70**	**117**	P	**Pn**	**12 13 44.0**	**-0.8**
TERV	**Terraza Guagua**	**1.71**	**117**	P	**Pn**	**12 13 44.0**	**-0.9**
OTAV	**Otavalo**	**1.72**	**103**		**Pn**	**12 13 44.9**	**+0.1**
OTAV				Sn	**Sb**	**12 14 10.0**	**+1.8**
YANA	**Yana**	**1.72**	**115**	P	**Pn**	**12 13 44.0**	**-0.9**
GGPT	**Toaza - Volcan**	**1.72**	**119**	P	**Pn**	**12 13 44.0**	**-0.9**
PULU	**Pululahua**	**1.73**	**110**		**Pn**	**12 13 45.2**	**+0.3**
PULU	**Pululahua**	**1.73**	**110**	P	**Pn**	**12 13 44.0**	**-0.9**
JUA2	**San Juan 2**	**1.73**	**118**	P	**Pb**	**12 13 47.0**	**+0.1**
CUSE	**Cuicocha Este**	**1.75**	**100**	*eP*	**Pn**	**12 13 45.7**	**+0.3**
CUSE				*eS*	**Sn**	**12 14 08.3**	**+0.7**
CUSE	**Cuicocha Este**	**1.75**	**100**	P	**Pn**	**12 13 45.0**	**-0.3**
CUIC	**Cuicocha-Domo**	**1.79**	**100**	P	**Pn**	**12 13 46.0**	**+0.2**
CUSW	**Cuicocha Oeste**	**1.81**	**100**	P	**Pn**	**12 13 46.0**	**0.0**
COTA	**Cotacachi**	**1.81**	**99**	P	**Pn**	**12 13 47.0**	**+0.8**
URCU	**Urcuqui**	**1.88**	**95**	P	**Pn**	**12 13 47.0**	**0.0**
ILLI	**Illinizas Sur**	**1.92**	**133**	P	**Pn**	**12 13 47.0**	**-0.7**
PAST	**Pastocalle**	**1.97**	**131**	P	**Pn**	**12 13 48.0**	**-0.4**
PITA	**Cotopaxi Volc**	**2.06**	**125**	P	**Pn**	**12 13 50.0**	**+0.5**
CAMI	**Rancho Maria**	**2.07**	**128**	P	**Pn**	**12 13 50.0**	**+0.3**
YAHU	**Yahuarcocha**	**2.07**	**97**	P	**Pn**	**12 13 51.0**	**+1.4**
NAS2	**Nasa**	**2.08**	**127**	P	**Pn**	**12 13 51.0**	**+1.1**
CHMA	**Chilma**	**2.08**	**83**	P	**Pn**	**12 13 49.0**	**-0.7**
BNAS	**Cotopaxi Volca**	**2.08**	**128**	P	**Pn**	**12 13 50.0**	**+0.1**
BREF	**Cotopaxi Volca**	**2.11**	**127**	P	**Pn**	**12 13 51.0**	**+0.5**
LNGL	**El Angel-Carch**	**2.13**	**87**	P	**Pn**	**12 13 51.0**	**+0.5**
BVC2	**Cotopaxi Volca**	**2.13**	**126**	P	**Pn**	**12 13 51.0**	**+0.4**
BTAM	**Cotopaxi Volca**	**2.15**	**127**	P	**Pn**	**12 13 52.0**	**+1.1**
ECEN	**Cerro Negro**	**2.16**	**84**	P	**Pn**	**12 13 51.0**	**-0.1**
ANTG	**Antisana-Guama**	**2.18**	**121**	P	**Pn**	**12 13 52.0**	**+0.7**
CHL1	**Volcn Chiles**	**2.19**	**85**	P	**Pn**	**12 13 51.0**	**-0.4**
ANGU	**Angureal**	**2.19**	**105**	P	**Pn**	**12 13 54.0**	**+2.5**
CAYR	**Refugio Cayamb**	**2.20**	**106**	P	**Pn**	**12 13 53.0**	**+1.3**
CHL2	**Volcn Chiles**	**2.22**	**85**	P	**Pn**	**12 13 51.0**	**-0.8**
ANTI	**Antisana**	**2.23**	**118**	P	**Pn**	**12 13 53.0**	**+1.0**
ANTS	**Antisana-Sarah**	**2.25**	**119**	P	**Pn**	**12 13 53.0**	**+0.7**
TULM	**Tulcn-Chalpat**	**2.34**	**88**		**Pn**	**12 13 55.2**	**+1.7**
TULM	**Tulcn-Chalpat**	**2.34**	**88**	*eP*	**Pn**	**12 13 55.0**	**+1.6**
TULM	**Tulcn-Chalpat**	**2.34**	**88**	P	**Pn**	**12 13 54.0**	**+0.5**
PIAT	**Ana Tenorio**	**2.46**	**131**	P	**Pn**	**12 13 55.0**	**0.0**
PORT	**Chimborazo Vol**	**2.47**	**147**		**Pn**	**12 13 54.5**	**-0.8**
PORT	**Chimborazo Vol**	**2.47**	**147**	P	**Pn**	**12 13 55.0**	**-0.3**
BONI	**La Bonita**	**2.60**	**94**	P	**Pn**	**12 13 59.0**	**+2.1**
JUI6	**Juive**	**2.62**	**141**	P	**Pn**	**12 13 58.0**	**+0.9**
POND	**Pondoa**	**2.62**	**140**	P	**Pn**	**12 13 58.0**	**+0.7**

MOS ***20*** *12:19:39.6± 1.1, 37.˝83N× 141.˝59E, h18km, mb5.8/108, MS5.6/45, Error ellipse: s-maj=5.1km s-min=3.1km az=107.9*

BJI ***20*** *12:19:42.0± 0.0, 37.˝75N× 141.˝60E, h47km, mb5.5/74, mB5.6/81, Ms5.8/99, Ms7 5.6/92*

NIED ***20*** *12:19:43.6, 37.˝77N× 141.˝69E, h49km, MW5.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr3.22; Mθθ0.31; Mϕϕ -3.52; Mrθ2.30; Mθϕ -1.37; Mϕr6.24; Fault plane solution: M0 7.56000×10^17 NP1: ϕs194.00000°, δ14.00000°, λ84.00000°. NP2: ϕs20.00000°, δ76.00000°, λ91.00000°.*

NEIC ***20*** *12:19:44.0± 1.6, 37.˝80N± 0.˝05× 141.˝62E± 0.˝06, h33km± 3km, mb5.8/621, Ms_20 5.4/329, Mwb5.8/85, Mww5.9 Error ellipse: s-maj=7.2km s-min=6.8km az=122.0*

JMA ***20*** *12:19:43.6, 37.˝77N× 141.˝69E, h49km± 1km, M5.8 Broadband fault plane solution: P waves. NP1: ϕs25.00000°, δ55.00000°, λ94.00000°. NP2: ϕs198.00000°, δ35.00000°, λ85.00000°. Principal axes: T Plg80.0000°, Azm309.0000°; N Plg3.0000°, Azm203.0000°; P Plg10.0000°, Azm112.0000°;*

JMA Felt III J1.

NEIC ***20*** *12:19:44.8, 37.˝82N× 141.˝57E, h35km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr3.74; Mθθ-0.24; Mϕϕ-3.51; Mrθ1.90; Mθϕ-1.08; Mϕr3.58; Fault plane solution: M0 5.55000×10^17 NP1: ϕs188.42000°, δ22.22000°, λ74.70000°. NP2: ϕs24.89000°, δ68.60000°, λ96.15000°. Principal axes: T 5.5447, Plg66.0000°, Azm306.0000°; N 0.0061, Plg6.0000°, Azm203.0000°; P -5.5508, Plg23.0000°, Azm110.0000°;*

KEA ***20*** *12:19:45.2, 37.˝81N× 141.˝78E, h37km, MS4.2/3*

IDC ***20*** *12:19:45.1± 0.4, 37.˝86N× 141.˝48E, h46km± 4km, mb5.0/49, mb1 5.1/55, mb1mx5.0/67, mbtmp5.3/55, MS5.4/95, Ms1 5.4/95, ms1mx5.4/98, Error ellipse: s-maj=9.1km s-min=6.9km az=96.0*

GCMT ***20*** *12:19:46.9± 0.1, 37.˝81N× 141.˝77E, h48km, MW5.9/160, Moment Tensor Solution. s156, c340; s160, c481; Duration: 2s2 Moment tensor: Scale 10^18Nm; Mrr0.70±.01; Mθθ-0.06±.01; Mϕϕ-0.64±.01; Mrθ0.28±.01; Mθϕ-0.22±.00; Mϕr0.62±.01; Best double couple: M0 0.98100×10^18 NP1: ϕs193.00000°, δ23.00000°, λ81.00000°. NP2: ϕs23.00000°, δ67.00000°, λ94.00000°. Principal axes: T 0.9750, Plg68.0000°, Azm300.0000°; N 0.0120, Plg3.0000°, Azm201.0000°; P -0.9870, Plg22.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BGR ***20*** *12:19:47.8± 0.0, 37.˝89N× 141.˝63E, h51km, mb5.4*

NEIC ***20*** *12:19:49, 37.˝91N× 141.˝59E, h50km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^17Nm; Mrr5.14; Mθθ0.21; Mϕϕ -5.36; Mrθ2.75; Mθϕ -1.00; Mϕr5.78; Fault plane solution: M0 8.34000×10^17 NP1: ϕs177.00000°, δ21.00000°, λ67.00000°. NP2: ϕs22.00000°, δ70.00000°, λ99.00000°. Principal axes: T 8.2694, Plg64.0000°, Azm306.0000°; N 0.1382, Plg8.0000°, Azm199.0000°; P -8.4076, Plg25.0000°, Azm105.0000°;*

ISC 20 12:19:44.5± 0.2, 37.˝83N± 0.˝02× 141.˝57E± 0.˝02, h46km± 1km, h46km: pP-P, n2028, σ 1.9 71/2079, mb5.7/554, MS5.5/305, 380C-106D, Fault plane solution: NP1: ϕs 181.71695°, δ29.54351°, λ52.38877°. NP2: ϕs 43.24359°, δ67.00774°, λ109.08068°. Principal axes: T Plg63.0460°, Azm343.9048°; N Plg17.5134°, Azm215.5488°; P Plg19.8141°, Azm119.0205°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.48**	**350**	⇓P		**Pn**	**12 19 55.6**	**+0.2**
JIKH				S		**Sn**	**12 20 03.8**	**+0.7**
JMST	**Minamisoumatoc**	**0.55**	**259**	⇓P		**Pn**	**12 19 56.5**	**+0.3**
JMST				S		**Sn**	**12 20 05.5**	**+1.0**
JMM	**Marumori**	**0.62**	**273**	⇓P		**Pn**	**12 19 57.5**	**+0.5**
JMM				S		**Sn**	**12 20 07.9**	**+1.9**
JMM	**Marumori**	**0.62**	**273**			**Pn**	**12 19 57.5**	**+0.5**
JMM					Sn	**Sn**	**12 20 05.7**	**-0.4**
JIO	**Ouri**	**0.65**	**344**	⇓P		**Pn**	**12 19 57.8**	**+0.4**
JIO				S		**Sn**	**12 20 07.9**	**+1.2**
JFK	**Kawauchi**	**0.72**	**230**	⇓P		**Pn**	**12 19 58.1**	**-0.4**
JFK				S		**Sn**	**12 20 08.7**	**+0.2**
JOU	**Okura**	**0.89**	**307**	⇓P		**Pn**	**12 20 01.5**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.95**	**220**	⇓P		**Pn**	**12 20 01.0**	**-0.6**
JKMT	**Kesennumamotoy**	**0.98**	**356**	⇓P		**Pn**	**12 20 02.1**	**+0.2**
JKMT				S		**Sn**	**12 20 15.1**	**+0.4**
JFT	**Otama**	**1.03**	**253**	⇓P		**Pn**	**12 20 03.5**	**+0.9**
JFT				S		**Sn**	**12 20 18.3**	**+2.4**
JMK	**Ichinoseki**	**1.15**	**346**	⇓P		**Pn**	**12 20 04.9**	**+0.7**
JYS	**Shirataka**	**1.25**	**289**	⇓P		**Pn**	**12 20 06.6**	**+1.0**
JFY	**Yanaizu**	**1.54**	**255**	⇓P		**Pn**	**12 20 10.4**	**+0.8**
JYT	**Yasato**	**1.94**	**215**	Pn		**Pn**	**12 20 15.2**	**+0.1**
JSD	**Sado**	**2.63**	**275**			**Pn**	**12 20 25.1**	**+0.6**
I30JP	**ISUMI INFRASON**	**2.71**	**202**	P		Pn	12 20 31.5	+5.9
	baz=57,slow=34,SNR=0.8							
I30JP				*i*			12 33 30.0	
	baz=18,slow=324,SNR=0.7							
JTM	**Tenmabayashi**	**2.98**	**353**	Pn		**Pn**	**12 20 31.1**	**+1.9**
MJAR	**Matsuhiro Arr**	**2.98**	**245**	P		**Pn**	**12 20 30.1**	**+0.8**
	16nm,0.3s,baz=68,slow=13,SNR=200							
MJAR				LR		LR	12 22 00.1	
	comp=Z,140μm,21.3s,baz=58,slow=46							
MJAR	**Matsuhiro Arr**	**2.98**	**245**			**Pn**	**12 20 30.6**	**+1.4**
MAJO	**Matsushiro**	**2.98**	**245**	*d*	*i* P	**Pn**	**12 20 29.7**	**+0.4**
MAJO	**Matsushiro**	**2.98**	**245**			**Pn**	**12 20 31.0**	**+1.7**
MJB9	**Matsu-Tunnel**	**2.98**	**246**			**Pn**	**12 20 31.0**	**+1.7**
JGF	**Kuroka**	**4.05**	**238**	Pn		**Pn**	**12 20 46.2**	**+2.2**
ERM	**Erimo**	**4.35**	**16**	*i* P		**Pn**	**12 20 48.8**	**+0.7**
ERM	**Erimo**	**4.35**	**16**			**Pn**	**12 20 48.4**	**+0.3**
INU	**Inuyama**	**4.42**	**237**			**Pn**	**12 20 51.5**	**+2.4**
JHJ2	**Mitsune**	**4.92**	**197**	Pn		**Pn**	**12 20 56.1**	**+0.1**
JHJ	**Hachijo jima 2**	**4.92**	**198**	P		**Pn**	**12 20 56.0**	**0.0**
	324nm,0.3s,baz=317,slow=14,SNR=70							
JHJ				S		**Sn**	**12 21 49.0**	**-2.6**
	815nm,0.3s,baz=278,slow=23,SNR=7.2							
JHJ				LR		LR	12 23 13.8	
	comp=Z,34μm,21.1s,baz=17,slow=42							
JEW	**Eniwo**	**5.00**	**359**	Pn		**Pn**	**12 20 59.8**	**+2.8**
ASAJ	**Asahikawa**	**6.33**	**7**	P		**Pn**	**12 21 14.7**	**-0.5**
	18nm,0.3s,baz=212,slow=12,SNR=126							
ASAJ				S		**Sn**	**12 22 25.6**	**-0.5**
	39nm,0.3s,baz=72,slow=20,SNR=2.3							
JKA	**Kamikawa-asahi**	**6.33**	**7**			**Pn**	**12 21 16.0**	**+0.8**
JKA	**Kamikawa-asahi**	**6.33**	**7**			**Sn**	**12 22 25.6**	**-0.5**
NMR	**Nemuro--Hokkai**	**6.37**	**28**	⇓ *i* P		**Pn**	**12 21 13.3**	**-2.5**
NMR				*i* S		**Sn**	**12 22 20.6**	**-6.6**
RUSJ	**Misakicho**	**6.86**	**23**	*e* P		**Pn**	**12 21 21.4**	**-1.0**
RUSJ				*e* S		**Sn**	**12 22 36.8**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**7.00**	**26**	*e* P		**Pn**	**12 21 22.9**	**-1.4**
YUK				*e* S		**Sn**	**12 22 37.4**	**-5.1**
YUK					pmax	pmax		
	comp=Z,2μm,0.4s							
YUK					pmax	pmax		
	comp=E,564nm,0.2s							
YUK					pmax	pmax		
	comp=N,711nm,0.3s							
YUK					MLR	MLR		
	comp=Z,13μm,16.0s							
YUK					MLR	MLR		
	comp=N,10μm,13.0s							
JHS	**Saijyo**	**7.38**	**250**	Pn		**Pn**	**12 21 32.8**	**+3.1**
JMN	**Monobe**	**7.47**	**239**	Pn		**Pn**	**12 21 28.1**	**-2.9**
TEY	**Ternei**	**8.11**	**334**	‖ *e* P		Pn	12 21 45.5	+6.0
TEY				*e* S		**Sn**	**12 23 07.3**	**-2.5**
TEY					pmax	pmax		
	comp=N,60nm,0.8s							
TEY					pmax	pmax		
	comp=E,110nm,0.8s							
TEY					pmax	pmax		
	comp=Z,90nm,0.8s							
TEY					smax	smax		
	comp=N,1μm,4.1s							
KUR	**Kuril'sk**	**8.77**	**31**	*d* *i* P		**Pn**	**12 21 47.1**	**-1.5**
KUR				*i* S		**Sn**	**12 23 20.6**	**-5.5**
KUR					pmax	pmax		
	comp=Z,3μm,4.3s							
KUR					pmax	pmax		
	comp=N,3μm,4.6s							
KUR					pmax	pmax		
	comp=E,2μm,4.4s							
KUR					pmax	pmax		
	comp=Z,476nm,0.4s							
KUR					pmax	pmax		
	comp=N,202nm,0.5s							
KUR					pmax	pmax		
	comp=E,281nm,0.6s							
KUR					smax	smax		
	comp=N,2μm,0.6s							
KUR					smax	smax		
	comp=E,849nm,0.5s							
KUR					smax	smax		
	comp=E,9μm,5.8s							
VLA	**Vladivostok**	**9.07**	**309**	*d* *i* P		**Pn**	**12 21 54.4**	**+1.6**
VLA					pmax	pmax		
	comp=Z,482nm,1.5s							
VLA					MLR	MLR		
	comp=Z,35μm,16.0s							
YSS	**Yuzh-Sakhalins**	**9.16**	**5**	*ce* P		**Pn**	**12 21 53.9**	**-0.1**
YSS				*e* S		**Sn**	**12 23 34.6**	**-1.0**
YSS					pmax	pmax		
	comp=Z,1μm,5.5s							
YSS					pmax	pmax		
	comp=N,900nm,5.6s							
YSS					pmax	pmax		
	comp=Z,180nm,0.8s							
YSS					smax	smax		
	comp=E,3μm,6.1s							
YSS					MLR	MLR		
	comp=Z,9μm,15.0s							
YSS					MLR	MLR		
	comp=N,11μm,16.0s							
YSS	**Yuzh-Sakhalins**	**9.16**	**5**	Pn		**Pn**	**12 21 53.5**	**-0.5**
MSHR	**Mys Shultsa**	**9.27**	**304**	*ce* P		**Pn**	**12 21 58.0**	**+2.5**
MSHR					pmax	pmax		
	comp=Z,142nm,0.9s							
MSHR					MLR	MLR		
	comp=Z,19μm,16.0s							
USA0B	**Ussuriysk Arra**	**9.63**	**314**	P		**Pn**	**12 22 02.4**	**+1.9**
USA0B	**Ussuriysk Arra**	**9.63**	**314**			**Pn**	**12 22 02.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**9.63**	**314**	P		**Pn**	**12 22 02.7**	**+2.2**
	baz=126,slow=12,SNR=76							
USRK					LR	LR	12 25 37.2	
	comp=Z,56μm,18.8s,baz=117,slow=37							
USRK	**Ussuriysk Ar.**	**9.63**	**314**	P		**Pn**	**12 22 01.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**9.63**	**314**			**Pn**	**12 22 01.0**	**+0.5**
JNU	**Nakatsue**	**9.90**	**245**	LR		LR	12 26 20.5	
	comp=Z,53μm,19.5s,baz=59,slow=40							
JTU	**Tsushima**	**10.38**	**255**			**Pn**	**12 22 13.6**	**+2.9**
JCJ	**Chichijima**	**10.72**	**177**	P		**Pn**	**12 22 11.8**	**-3.6**
	comp=Z,64nm,0.3s,baz=276,slow=14,SNR=28							
JCJ					S	Sn	12 24 02.9	-11
	comp=Z,84nm,0.3s,baz=262,slow=22,SNR=2.8							
KSRS	**Korea Array**	**10.83**	**272**	P		**Pn**	**12 22 21.4**	**+4.5**
	comp=Z,3.0nm,0.3s,baz=87,slow=14,SNR=86							
KSRS					LR	LR	12 26 24.5	
	comp=Z,37μm,19.0s,baz=85,slow=37							
KSAR	**Wonju Array Be**	**10.86**	**272**	P		**Pn**	**12 22 20.6**	**+3.2**
KSAR	**Wonju Array Be**	**10.86**	**272**			**Pn**	**12 22 20.6**	**+3.2**
KS19	**Wonju Array Si**	**10.87**	**272**			**Pn**	**12 22 20.5**	**+3.0**
HHU	**Hamhung**	**11.15**	**285**	P		**Pn**	**12 22 24.1**	**+3.0**
HHU				pP			12 22 32.9	
HHU				S		**Sn**	**12 24 28.7**	**+4.3**
HHU					AMS	AMS		
	comp=N,175nm,3.4s							
HHU					AMS	AMS		
	comp=E,51nm,1.0s							
HHU					AMS	AMS		
	comp=Z,75nm,1.5s							
UGL	**Uglegorsk**	**11.25**	**2**	*e* P		**Pn**	**12 22 24.0**	**+1.5**
UGL				*e* S		**Sn**	**12 24 23.2**	**-3.5**
UGL					pmax	pmax		
	comp=Z,121nm,1.2s							
UGL					pmax	pmax		
	comp=Z,2μm,3.0s							
UGL					smax	smax		
	comp=N,2μm,4.0s							
UGL					smax	smax		
	comp=E,1μm,3.0s							
UGL					MLR	MLR		
	comp=Z,6μm,13.0s							
UGL					MLR	MLR		
	comp=E,10μm,15.0s							
UGL					MLR	MLR		
	comp=N,8μm,11.0s							
MDJ	**Mudanjiang**	**11.28**	**311**	Pn		**Pn**	**12 22 25.1**	**+2.1**
MDJ	**Mudanjiang**	**11.28**	**311**	P		Pn	12 22 29.1	+6.1
MDJ				S		Sn	12 24 38.8	+11
MDJ					pmax	pmax		
	comp=N,250nm,2.0s							
MDJ					pmax	pmax		
	comp=N,1μm,4.2s							
MDJ					LR	LR		
	comp=N,21μm,19.6s							
MDJ					LR	LR		
	comp=N,30μm,19.0s							
MDJ					LR	LR		
	comp=N,52μm,18.4s							
TJN	**Taejon**	**11.44**	**267**	*ce* P		**Pn**	**12 22 25.8**	**+0.6**
TJN	**Taejon**	**11.44**	**267**			**Pn**	**12 22 28.2**	**+3.0**
INCN	**Inchon**	**11.85**	**273**	P		**Pn**	**12 22 32.2**	**+1.3**
INCN	**Inchon**	**11.85**	**273**			**Pn**	**12 22 32.2**	**+1.3**
PYAG	**Pyongyang**	**12.46**	**280**	P		**Pn**	**12 22 42.7**	**+3.5**
PYAG				pP		**P**	**12 22 49.8**	**0.0**
PYAG				S		Sn	12 25 05.8	+9.3
PYAG					AMS	AMS		
PYAG					AMS	AMS		
PYAG					AMS	AMS		
HJU	**Haeju**	**12.52**	**276**	P		**Pn**	**12 22 43.1**	**+3.2**
HJU				pP		**P**	**12 22 48.3**	**-2.2**
HJU				S		**Sn**	**12 25 06.7**	**+8.9**
HJU					AMS	AMS		
	comp=N,53nm,1.5s							
HJU					AMS	AMS		
	comp=E,70nm,2.0s							
HJU					AMS	AMS		
	comp=Z,92nm,2.6s							
TYV	**Tymovskoe**	**13.05**	**3**	*e* P		**Pn**	**12 22 49.0**	**+1.9**
TYV				*e* S		**Sn**	**12 25 15.1**	**+4.3**
TYV					pmax	pmax		
	comp=Z,50nm,0.9s							
TYV					pmax	pmax		
	comp=Z,2μm,5.4s							
TYV					smax	smax		
	comp=N,20nm,1.4s							
TYV					smax	smax		
	comp=E,31nm,1.4s							
TYV					smax	smax		
	comp=N,1μm,6.7s							
TYV					smax	smax		
	comp=E,3μm,6.7s							
BNX	**BinXian**	**13.18**	**311**	⇓P		**Pn**	**12 22 50.3**	**+1.3**
BNX				S		**Sn**	**12 25 16.9**	**+2.8**
BNX					pmax	pmax		
	comp=E,61nm,1.1s							
BNX					pmax	pmax		
	comp=E,2μm,5.6s							
BNX					LR	LR		
	comp=E,20μm,12.5s							
BNX					LR	LR		
	comp=E,41μm,15.3s							
BNX					LR	LR		
	comp=E,79μm,19.0s							
KLR	**Kul'dur**	**13.42**	**331**	P		**Pn**	**12 22 53.2**	**+1.0**
	comp=E,0.5nm,0.3s,baz=127,slow=14,SNR=13							
KLR					LR	LR	12 28 09.0	
	comp=E,32μm,18.4s,baz=144,slow=38							
KLR	**Kul'dur**	**13.42**	**331**	*ce* P		**Pn**	**12 22 51.1**	**-1.1**
KLR					pmax	pmax		
	comp=Z,54nm,1.7s							
KLR					MLR	MLR		
	comp=Z,25μm,16.0s							
GRNR	**Gornyy**	**13.44**	**346**	⇓ *i* P		**Pn**	**12 22 53.5**	**+1.0**
GRNR				*e* S		**Sn**	**12 25 23.9**	**+3.5**
GRNR					pmax	pmax		
	comp=N,10.0nm,0.6s							
GRNR					pmax	pmax		
	comp=E,8.0nm,0.6s							
GRNR					pmax	pmax		
	comp=Z,10.0nm,0.6s							
GRNR					smax	smax		
	comp=N,5.0nm,0.7s							
GRNR					MLR	MLR		
	comp=E,8μm,15.0s							
GRNR					MLR	MLR		
	comp=N,11μm,16.0s							
GRNR					MLR	MLR		
	comp=Z,19μm,15.0s							
SUJ	**Sinuiju**	**13.48**	**285**	P		**Pn**	**12 22 54.7**	**+1.6**
SUJ				pP		**P**	**12 23 02.5**	**+1.3**
SUJ				S		**Sn**	**12 25 20.3**	**-1.1**
SUJ					AMS	AMS		
	comp=N,15nm,1.6s							
SUJ					AMS	AMS		
	comp=E,14nm,1.5s							
SUJ					AMS	AMS		
	comp=Z,21nm,2.3s							
CN2	**Changchun**	**13.58**	**301**	*e* P		**Pn**	**12 22 56.6**	**+2.2**
CN2				*e* S		**Sn**	**12 25 27.5**	**+3.7**
CN2					pmax	pmax		
	comp=Z,20nm,1.0s							
CN2					pmax	pmax		
	comp=E,6μm,8.0s							
CN2					LR	LR		
	comp=Z,9μm,16.0s							
CN2					LR	LR		
	comp=Z,21μm,16.0s							
CN2					LR	LR		
	comp=Z,23μm,17.0s							
SNY	**Shenyang**	**14.39**	**292**	⇓P		**P**	**12 23 08.3**	**-2.9**
SNY					pmax	pmax		
	comp=Z,42nm,1.1s							
SNY					LR	LR		
	comp=Z,9μm,14.0s							
SNY					LR	LR		
	comp=Z,45μm,16.1s							
SNY					LR	LR		
	comp=Z,61μm,15.9s							
NKL	**Nikolayevsk**	**15.33**	**358**	*e* P		**Pn**	**12 23 13.1**	**-4.5**
NKL				*e* S		**Sn**	**12 26 07.7**	**+1.5**
NKL					pmax	pmax		
	comp=N,1.0nm,0.6s							
NKL					pmax	pmax		
	comp=E,3.0nm,1.2s							
NKL					pmax	pmax		
	comp=Z,53nm,1.2s							
NKL					MLR	MLR		
	comp=Z,5μm,17.0s							
DL2	**Dalian**	**15.68**	**280**	P		**Pn**	**12 23 23.9**	**+1.6**
DL2				S		**Sn**	**12 26 19.0**	**+4.1**
DL2					pmax	pmax		
	comp=Z,230nm,0.9s							
DL2					pmax	pmax		
	comp=Z,3μm,7.2s							
DL2					LR	LR		
	comp=Z,18μm,20.7s							
DL2					LR	LR		
	comp=Z,21μm,21.6s							
JOW	**Kunigami**	**15.68**	**229**	P		**Pn**	**12 23 22.6**	**+0.2**
	comp=Z,4.0nm,0.3s,baz=34,slow=9.4,SNR=5.6							
JOW					LR	LR	12 29 03.5	
	comp=Z,6μm,21.8s,baz=68,slow=36							
JOW	**Kunigami**	**15.68**	**229**			**Pn**	**12 23 21.9**	**-0.5**
OKH	**Okha**	**15.75**	**3**	*c* *i* P		**Pn**	**12 23 21.4**	**-1.6**
OKH				*i* S		**Sn**	**12 26 17.0**	**+0.7**
OKH					smax	smax		
	comp=N,1μm,10.1s							
OKH					smax	smax		
	comp=E,1μm,9.3s							
SKR	**Severo-Kuril's**	**16.50**	**34**	*e* P		**P**	**12 23 36.1**	**+1.5**
SKR				*e* S		**S**	**12 26 41.4**	**-3.2**
SKR					pmax	pmax		
	comp=Z,123nm,0.8s							
SKR					pmax	pmax		
	comp=Z,1μm,3.9s							
SSE	**Sheshan**	**18.09**	**254**	P		**P**	**12 23 51.3**	**-1.0**
SSE				S		**Sn**	**12 27 10.5**	**-2.7**
SSE					pmax	pmax		
	comp=Z,130nm,1.1s							
SSE					pmax	pmax		
	comp=Z,1μm,7.3s							
SSE					LR	LR		
	comp=Z,6μm,18.9s							
SSE					LR	LR		
	comp=Z,5μm,19.4s							
ZEA	**Zeya**	**18.72**	**333**	*ce* P		**P**	**12 23 58.5**	**-0.6**
ZEA				*e*			12 27 22.0	
ZEA					pmax	pmax		
	comp=N,100nm,0.9s							
ZEA					pmax	pmax		
	comp=E,50nm,0.9s							
ZEA					pmax	pmax		
	comp=Z,160nm,0.9s							
ZEA					pmax	pmax		
	comp=N,600nm,10.5s							
ZEA					pmax	pmax		
	comp=Z,1μm,10.4s							
PEA0B	**Petropavlovsk-**	**18.94**	**31**	*i* P		**P**	**12 24 01.2**	**-0.3**
PEA0B	**Petropavlovsk-**	**18.94**	**31**	P		**P**	**12 24 01.6**	**+0.1**
PETK	**Petropavlovsk-**	**18.94**	**31**	P		**Pn**	**12 24 02.3**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=209,slow=15,SNR=22							
PETK					LR	LR	12 31 15.1	
	comp=Z,5μm,20.9s,baz=220,slow=36							
PETK	**Petropavlovsk-**	**18.94**	**31**	P		**P**	**12 24 01.6**	**+0.1**
PET	**Petropavlovsk**	**19.27**	**33**	*e* P		**P**	**12 24 05.3**	**+0.2**
PET				*e* S		**S**	**12 27 34.5**	**-6.2**
PET					pmax	pmax		
	comp=Z,2μm,4.9s							
PET					pmax	pmax		
	comp=Z,2μm,7.1s							
PET					pmax	pmax		
	comp=Z,226nm,1.2s							
PET					MLR	MLR		
	comp=Z,7μm,15.0s							
PET					MLR	MLR		
	comp=Z,7μm,15.0s							
PET	**Petropavlovsk**	**19.27**	**33**	P		**P**	**12 24 05.7**	**+0.6**
PET				IAmb		IAmb	12 24 27.9	
	comp=Z,974nm,1.8s							
HIA	**Hailar**	**19.44**	**313**	*i* P		**P**	**12 24 05.3**	**-1.8**
HIA					pmax	pmax		
	comp=Z,27nm,0.8s							
HIA	**Hailar**	**19.44**	**313**	P		**P**	**12 24 05.5**	**-1.6**
NJ2	**Nanjing**	**19.48**	**260**	*e* P		**P**	**12 24 06.6**	**-0.9**
NJ2				pP		**pP**	**12 24 17.3**	**-1.1**
NJ2				PP		**sP**	**12 24 25.9**	**+1.7**
NJ2				S		**Sn**	**12 27 48.4**	**+1.7**
NJ2				sS		**sS**	**12 27 56.8**	**-5.7**
NJ2				PcP		**PcP**	**12 28 27.3**	**+0.4**
NJ2					pmax	pmax		
	comp=Z,25nm,1.0s							
NJ2					pmax	pmax		
	comp=Z,2μm,8.6s							
NJ2					LR	LR		
	comp=Z,17μm,15.5s							
NJ2					LR	LR		
	comp=Z,18μm,15.4s							
NJ2					LR	LR		
	comp=Z,19μm,16.4s							
TIA	**Tai'an**	**19.58**	**273**	⇓P		**P**	**12 24 08.5**	**-0.1**
TIA				S		**Sn**	**12 27 50.3**	**+1.1**
TIA					pmax	pmax		
	comp=Z,49nm,1.0s							
TIA					pmax	pmax		
	comp=Z,2μm,9.2s							
TIA					LR	LR		
	comp=Z,7μm,16.9s							
TIA					LR	LR		
	comp=Z,11μm,18.6s							
TIA					LR	LR		
	comp=Z,15μm,18.8s							
BJI	**Beijing**	**19.86**	**284**	P		**P**	**12 24 10.9**	**-0.7**
BJI				pP		**pP**	**12 24 19.8**	**-2.7**
BJI				sP		**sP**	**12 24 24.3**	**-4.1**
BJI				PP		**PnPn**	**12 24 27.6**	**-0.8**
BJI				S		**S**	**12 27 45.0**	**-7.7**
BJI					pmax	pmax		
	comp=Z,56nm,1.3s							
BJI					pmax	pmax		
	comp=Z,1μm,9.2s							
BJI					LR	LR		
	comp=Z,7μm,16.3s							
BJI					LR	LR		
	comp=Z,6μm,18.2s							
BJI					LR	LR		
	comp=Z,10μm,21.2s							
BJT	**Baijiatuau**	**19.87**	**284**	P		**P**	**12 24 11.1**	**-0.6**
BJT					pmax	pmax		
	comp=Z,115nm,0.7s							
BJT	**Baijiatuau**	**19.87**	**284**	P		**P**	**12 24 11.1**	**-0.6**
XLT	**XiLinHaoTe**	**20.17**	**296**	*e* P		**P**	**12 24 13.0**	**-2.1**

XLT				S	**S**	**12 27 54.8**	**-4.1**		
XLT				sS	Sn	12 28 07.9	+4.5		
XLT				SS	**SnSn**	**12 28 23.9**	**+5.8**		
XLT				PcP	**PcP**	**12 28 25.3**	**-2.8**		
XLT				pmax	pmax				
	comp=Z,2µm,5.6s								
XLT				LR	LR				
	comp=Z,14µm,19.8s								
XLT				LR	LR				
	comp=Z,18µm,19.8s								
YOJ	**Yonaguni jima**	**20.68**	**235**	P	**P**	**12 24 20.1**	**-0.6**		
YOJ				pmax	pmax				
	comp=Z,295nm,1.5s								
YOJ	**Yonaguni jima**	**20.68**	**235**	P	**P**	**12 24 20.1**	**-0.6**		
HNS	**HongShan**	**21.26**	**277**⇑	*i*P	**P**	**12 24 24.8**	**-2.0**		
HNS				pP	**pP**	**12 24 33.8**	**-4.0**		
HNS				PP	**sP**	**12 24 45.6**	**+2.0**		
HNS				S	**S**	**12 28 12.1**	**-8.4**		
HNS				sS	Sn	12 28 29.3	-0.3		
HNS				SS	**SnSn**	**12 28 52.9**	**+8.0**		
HNS				pmax	pmax				
	comp=Z,170nm,0.9s								
HNS				LR	LR				
	comp=Z,8µm,17.4s								
HNS				LR	LR				
	comp=Z,14µm,20.3s								
HNS				LR	LR				
	comp=Z,17µm,20.6s								
TATO	**Taipei**	**21.35**	**239**	P	**P**	**12 24 27.0**	**-0.8**		
TATO				IAmb	IAmb	12 24 45.5			
	comp=Z,145nm,1.1s								
YHNB	**Yeheng**	**21.63**	**238**	P	**P**	**12 24 29.8**	**-1.1**		
YHNB				IAmb	IAmb	12 24 50.5			
	comp=Z,69nm,0.9s								
YHNB				IAMs_20	IAMs_20	12 33 04.1			
	comp=Z,6µm,22.0s								
NACB	**Ninganchiao**	**21.82**	**237**	P	**P**	**12 24 33.0**	**+0.2**		
SSLB	**Suanglung**	**22.51**	**237**	P	**P**	**12 24 39.1**	**-1.2**		
MA2	**Magadan**	**22.55**	**12**	P	**P**	**12 24 40.5**	**+0.1**		
	comp=Z,101nm,0.8s,baz=194,slow=7.9,SNR=68								
MA2				LR	LR	12 33 25.1			
	comp=Z,4µm,21.4s,baz=200,slow=36								
MA2	**Magadan**	**22.55**	**12**	*e*P	**P**	**12 24 40.3**	**-0.1**		
MA2				pmax	pmax				
	comp=Z,124nm,0.8s								
MA2	**Magadan**	**22.55**	**12**	P	**P**	**12 24 40.2**	**-0.1**		
MA2				IAmb	IAmb	12 24 57.5			
	comp=Z,811nm,1.8s								
YULB	**Yu-li**	**22.55**	**236**	P	**P**	**12 24 40.3**	**-0.5**		
YULB				IAmb	IAmb	12 25 12.4			
	comp=Z,97nm,1.1s								
YULB				IAMs_20	IAMs_20	12 33 48.5			
	comp=Z,5µm,21.0s								
TIY	**Taiyuan**	**23.00**	**279**⇓	P	**P**	**12 24 45.3**	**-0.1**		
TIY				PP	sP	12 25 14.4	+12		
TIY				S	**S**	**12 28 53.5**	**+1.0**		
TIY				sS	Sn	12 29 03.4	-7.8		
TIY				pmax	pmax				
	comp=Z,1µm,8.6s								
TIY				LR	LR				
	comp=Z,8µm,18.2s								
TIY				LR	LR				
	comp=Z,11µm,16.8s								
TIY				LR	LR				
	comp=Z,15µm,18.5s								
TPUB	**Ta-pu**	**23.05**	**237**	P	**P**	**12 24 44.3**	**-1.7**		
TPUB				IAmb	IAmb	12 25 17.3			
	comp=Z,311nm,1.2s								
TPUB				IAMs_20	IAMs_20	12 34 50.9			
	comp=Z,10µm,21.0s								
TWG	**Pinlang**	**23.10**	**235**	P	**P**	**12 24 45.0**	**-1.4**		
HHC	**Hu-ho-hao-te**	**23.35**	**287**	*e*P	**P**	**12 24 46.0**	**-2.9**		
HHC				S	**S**	**12 28 57.8**	**-0.5**		
HHC				sS	sS	12 29 08.8	-10		
HHC				SS	**SnSn**	**12 29 41.8**	**+5.6**		
HHC				pmax	pmax				
	comp=Z,63nm,1.2s								
HHC				pmax	pmax				
	comp=Z,1µm,8.2s								
HHC				LR	LR				
	comp=Z,3µm,17.1s								
HHC				LR	LR				
	comp=Z,13µm,15.3s								
HHC				LR	LR				
	comp=Z,16µm,14.2s								
QZH	**Quanzhou**	**23.38**	**243**	*e*P	**P**	**12 24 48.4**	**-0.7**		
QZH				S	**S**	**12 28 57.0**	**-1.7**		
QZH				pmax	pmax				
	comp=Z,1µm,7.0s								
QZH				LR	LR				
	comp=Z,5µm,15.3s								
QZH				LR	LR				
	comp=Z,5µm,16.7s								
QZH				LR	LR				
	comp=Z,10µm,19.0s								
WHN	**Wuhan**	**23.61**	**260**	⇑P	**P**	**12 24 50.4**	**-0.9**		
WHN				S	**S**	**12 29 02.3**	**-0.1**		
WHN				pmax	pmax				
	comp=Z,3µm,4.9s								
WHN				LR	LR				
	comp=Z,10µm,15.0s								
WHN				LR	LR				
	comp=Z,34µm,14.9s								
WHN				LR	LR				
	comp=Z,44µm,15.9s								
LYN	**LuoYang**	**23.67**	**271**	⇑P	**P**	**12 24 49.8**	**-2.0**		
LYN				PP	sP	12 25 23.0	+14		
LYN				S	**S**	**12 29 03.3**	**-0.1**		
LYN				pmax	pmax				
	comp=Z,110nm,0.9s								
LYN				pmax	pmax				
	comp=Z,2µm,7.6s								
LYN				LR	LR				
	comp=Z,16µm,16.3s								
LYN				LR	LR				
	comp=Z,13µm,20.4s								
LYN				LR	LR				
	comp=Z,17µm,17.6s								
KNMB	**Chin-men Tao**	**23.82**	**243**	P	**P**	**12 24 52.8**	**-0.4**		
KNMB				IAMs_20	IAMs_20	12 34 45.2			
	comp=Z,11µm,20.0s								
CIT	**Chita**	**24.20**	**315**	*e*P	**P**	**12 24 57.8**	**+1.2**		
CIT				*e*		12 25 28.2			
CIT				*e*		12 25 39.2			
CIT				pmax	pmax				
	comp=Z,825nm,1.2s								
GUMO	**Guam**	**24.32**	**172**	LR	LR	12 34 30.8			
	comp=Z,4µm,21.5s,baz=24,slow=36								
BTO	**Baotou**	**24.53**	**286**	*e*P	**P**	**12 24 58.4**	**-1.4**		
BTO				S	**S**	**12 29 18.3**	**+0.9**		
BTO				LR	LR				
	comp=Z,39µm,15.9s								
BTO				LR	LR				
	comp=Z,46µm,19.0s								
YAK	**Yakutsk**	**25.32**	**347**	P	**P**	**12 25 06.2**	**-0.4**		
	comp=Z,137nm,0.6s,baz=182,slow=0.3,SNR=48								
YAK				LR	LR	12 35 24.7			
	comp=Z,13µm,20.2s,baz=160,slow=37								
YAK	**Yakutsk**	**25.32**	**347**	*c i*P	**P**	**12 25 05.6**	**-1.0**		
YAK				*e*		12 25 41.7			
YAK				*e*S	**S**	**12 29 28.2**	**-1.0**		
YAK				*e*		12 36 07.5			
YAK				pmax	pmax				
	comp=Z,265nm,0.9s								
YAK				pmax	pmax				
	comp=N,135nm,1.1s								
YAK				pmax	pmax				
	comp=E,44nm,1.1s								
YAK				pmax	pmax				
	comp=Z,237nm,1.0s								
YAK				pmax	pmax				
	comp=N,620nm,2.5s								
YAK				pmax	pmax				
	comp=E,245nm,2.4s								
YAK				smax	smax				
	comp=N,8µm,7.2s								
YAK	**Yakutsk**	**25.32**	**347**	P	**P**	**12 25 06.5**	**-0.1**		
YAK				IAmb	IAmb	12 25 10.8			
	comp=Z,310nm,0.7s								
CNSH	**ChangSha**	**25.79**	**257**	⇑P	**P**	**12 25 11.1**	**-0.1**		
CNSH				S	**S**	**12 29 38.1**	**+0.8**		
CNSH				pmax	pmax				
	comp=Z,2µm,6.6s								
CNSH				LR	LR				
	comp=Z,8µm,21.1s								
CNSH				LR	LR				
	comp=Z,7µm,24.6s								
CNSH				LR	LR				
	comp=Z,9µm,26.8s								
SEY	**Seymchan**	**25.98**	**11**	P	**P**	**12 25 13.7**	**+1.1**		
	comp=Z,76nm,0.9s,baz=201,slow=6.8,SNR=124								
SEY				LR	LR	12 37 36.0			
	comp=Z,4µm,18.2s,baz=191,slow=41								
SEY	**Seymchan**	**25.98**	**11**	*ce*P	**P**	**12 25 12.7**	**+0.1**		
SEY				pmax	pmax				
	comp=Z,220nm,1.7s								
SEY				MLR	MLR				
	comp=Z,7µm,22.0s								
XAN	**Xi'an**	**26.63**	**272**	P	**P**	**12 25 18.9**	**+0.1**		
XAN				S	**S**	**12 29 47.3**	**-3.3**		
XAN				sS	sS	12 30 05.8	-5.2		
XAN				pmax	pmax				
	comp=Z,76nm,0.8s								
XAN				pmax	pmax				
	comp=Z,2µm,5.6s								
XAN				LR	LR				
	comp=Z,9µm,17.9s								
XAN				LR	LR				
	comp=Z,7µm,15.9s								
XAN				LR	LR				
	comp=Z,10µm,15.3s								
APYP	**Conner**	**26.70**	**227**	*e*P	**P**	**12 25 17.4**	**-2.1**		
BOD	**Bodaibo**	**26.93**	**327**	*e*P	**P**	**12 25 20.0**	**-1.2**		
BOD				pmax	pmax				
	comp=Z,188nm,1.0s								
ULN	**Ulaanbaatar**	**27.02**	**303**	*ce*P	**P**	**12 25 20.9**	**-1.4**		
ULN				pmax	pmax				
	comp=Z,60nm,0.8s								
ULN	**Ulaanbaatar**	**27.02**	**303**	P	**P**	**12 25 22.4**	**+0.1**		
ULN	**Ulaanbaatar**	**27.02**	**303**	IAMs_20	IAMs_20	12 36 16.0			
	comp=Z,11µm,18.0s								
SHEM	**Shemya Is, Ala**	**27.02**	**46**	P	**P**	**12 25 24.7**	**+2.6**		
	comp=Z,72nm,1.0s,baz=270,slow=20,SNR=3.5								
SHEM				LR	LR	12 34 11.7			
	comp=Z,4µm,22.0s,baz=250,slow=32								
SMY	**Shemya**	**27.02**	**46**	P	**P**	**12 25 22.6**	**+0.6**		
SMY				pmax	pmax				
	comp=Z,379nm,1.2s								
SMY	**Shemya**	**27.02**	**46**	P	**P**	**12 25 22.6**	**+0.6**		
SMY				IAmb	IAmb	12 26 13.1			
	comp=Z,380nm,1.2s								
CAUP	**Cauayan**	**27.10**	**225**	*e*P	**P**	**12 25 23.6**	**+0.6**		
SONM	**Songino Array**	**27.45**	**303**	P	**P**	**12 25 25.9**	**-0.2**		
	comp=Z,68nm,0.9s,baz=97,slow=9.0,SNR=34								
SONM				LR	LR	12 36 41.0			
	comp=Z,11µm,19.4s,baz=109,slow=37								
SONM	**Songino Array**	**27.45**	**303**	P	**P**	**12 25 26.2**	**0.0**		
SONM				pmax	pmax				
	comp=Z,91nm,1.0s								
SONM	**Songino Array**	**27.45**	**303**	P	**P**	**12 25 26.1**	**0.0**		
SAMP	**Sagada Mountai**	**27.52**	**227**	*e*P	**P**	**12 25 25.9**	**-0.9**		
ENH	**Enshi**	**27.54**	**264**	P	**P**	**12 25 27.0**	**+0.1**		
ENH				IAmb	IAmb	12 25 35.2			
	comp=Z,293nm,0.9s								
ENH				IAMs_20	IAMs_20	12 36 33.4			
	comp=Z,8µm,20.0s								
BALP	**Baler**	**28.21**	**224**	*e*P	**P**	**12 25 34.5**	**+1.5**		
HKPS	**Hong Kong Po S**	**28.22**	**244**	IAMs_20	IAMs_20	12 37 36.7			
	comp=Z,9µm,19.0s								
GZH	**Guangzhou**	**28.29**	**247**	P	**P**	**12 25 30.1**	**-3.6**		
GZH				S	**S**	**12 30 10.3**	**-6.5**		
GZH				pmax	pmax				
	comp=Z,2µm,4.9s								
GZH				LR	LR				
	comp=Z,12µm,15.6s								
GZH				LR	LR				
	comp=Z,16µm,16.7s								
SMPP	**San Manuel, Pa**	**28.39**	**226**	*e*P	**P**	**12 25 33.0**	**-1.6**		
H11N2	**WAKE ISLAND Hy**	**28.46**	**122**	T	T	12 55 13.8			
	baz=315,slow=74								
H11N1	**WAKE ISLAND Hy**	**28.46**	**122**	T	T	12 55 56.0			
	baz=315,slow=74								
H11N3	**WAKE ISLAND Hy**	**28.48**	**122**	T	T	12 55 09.6			
	baz=315								
WAKE	**Wake Island**	**28.61**	**123**	IAMs_20	IAMs_20	12 34 35.7			
	comp=Z,11µm,20.0s								
PCPH	**Palayan**	**28.62**	**225**⇓	*e*P	**P**	**12 25 35.2**	**-1.5**		
PVCP	**Virac**	**28.68**	**217**	*e*P	**P**	**12 25 36.3**	**-0.9**		
H11S1	**WAKE ISLAND Hy**	**29.20**	**124**	T	T	12 56 39.2			
	baz=316,slow=74,SNR=622								
H11S3	**WAKE ISLAND Hy**	**29.20**	**124**	T	T	12 56 48.7			
	baz=316,slow=74,SNR=763								
H11S2	**WAKE ISLAND Hy**	**29.21**	**124**	T	T	12 56 10.0			
	baz=316,SNR=1334								
GULI	**GuiLin**	**29.24**	**254**	⇑P	**P**	**12 25 43.6**	**+1.5**		
GULI				S	**S**	**12 30 25.8**	**-5.9**		
GULI				pmax	pmax				
	comp=Z,110nm,1.4s								
GULI				LR	LR				
	comp=Z,4µm,15.5s								
GULI				LR	LR				
	comp=Z,3µm,16.1s								
GULI				LR	LR				
	comp=Z,6µm,15.2s								
IRK	**Irkutsk**	**29.66**	**311**	*e*P	**P**	**12 25 41.8**	**-3.8**		
IRK				pmax	pmax				
	comp=Z,85nm,1.6s								
ZAK	**Zakamensk**	**29.88**	**307**	*e*P	**P**	**12 25 48.1**	**+0.4**		
ZAK				pmax	pmax				
	comp=Z,113nm,1.4s								
TGY	**Tagaytay City**	**29.91**	**223**	P	**P**	**12 25 48.3**	**+0.2**		
	comp=Z,100nm,0.3s,baz=76,slow=7.4,SNR=4.0								
LZH	**Lanzhou**	**30.07**	**278**	*e*P	**P**	**12 25 50.0**	**+0.5**		
LZH				PP	PP	12 26 46.8	-11		
LZH				PcP	**PcP**	**12 28 48.3**	**-2.2**		
LZH				*e*S	**S**	**12 30 37.6**	**-7.3**		
LZH				pmax	pmax				
	comp=Z,36nm,1.1s								
LZH				pmax	pmax				
	comp=Z,1µm,5.4s								
LZH				LR	LR				
	comp=Z,9µm,16.8s								
LZH				LR	LR				
	comp=Z,14µm,17.4s								
LZH				LR	LR				
	comp=Z,19µm,19.2s								
PGP	**Puerto Galera**	**30.39**	**223**⇓	*e*P	**P**	**12 25 51.6**	**-0.8**		
LUBP	**Lubang**	**30.59**	**224**⇓	*e*P	**P**	**12 25 50.8**	**-3.2**		
LUBP	**Lubang**	**30.59**	**224**	*e*P	**P**	**12 25 54.0**	**-0.1**		
RCP	**Roxas**	**31.12**	**218**⇓	*e*P	P	12 26 11.6	+13		
GLSP	**General Luna,**	**31.20**	**210**	*e*P	**P**	**12 25 58.3**	**-1.2**		
MSLP	**Maasin**	**31.41**	**213**	*e*P	**P**	**12 26 01.1**	**-0.2**		
GYA	**Guiyang**	**31.49**	**259**⇑	*i*P	**P**	**12 26 01.9**	**-0.2**		
GYA				pP	pP	12 26 10.0	-4.3		
GYA				S	**S**	**12 31 07.3**	**+0.1**		
GYA				pmax	pmax				
	comp=Z,190nm,1.0s								
GYA				pmax	pmax				
	comp=Z,750nm,3.5s								
GYA				LR	LR				
	comp=Z,5µm,16.7s								
GYA				LR	LR				
	comp=Z,6µm,25.0s								
GYA				LR	LR				
	comp=Z,13µm,24.6s								
MOY	**Mondy**	**31.53**	**309**	*e*P	**P**	**12 26 02.0**	**-0.2**		
MOY				pmax	pmax				
	comp=Z,46nm,1.2s								
CD2	**Chengdu**	**31.81**	**269**⇑	*i*P	**P**	**12 26 04.5**	**-0.3**		
CD2				pP	pP	12 26 15.0	-2.0		
CD2				S	**S**	**12 31 09.4**	**-2.6**		
CD2				sS	sS	12 31 31.0	-1.4		
CD2				pmax	pmax				
	comp=Z,50nm,1.0s								
CD2				pmax	pmax				
	comp=Z,1µm,9.8s								
CD2				LR	LR				
	comp=Z,1µm,17.1s								
CD2				LR	LR				
	comp=Z,10µm,20.8s								
CD2				LR	LR				
	comp=Z,9µm,18.1s								
KIWB	**Kanaga Island**	**31.99**	**51**	P	**P**	**12 26 04.5**	**-1.6**		
BUTP	**Butuan**	**32.14**	**211**	*e*P	P	12 26 21.6	+14		
ADK	**Adak**	**32.28**	**51**	P	**P**	**12 26 09.5**	**+0.9**		
ADK				pmax	pmax				
	comp=Z,121nm,1.2s								
ADK	**Adak**	**32.28**	**51**	P	**P**	**12 26 09.4**	**+0.9**		
ADK				IAmb	IAmb	12 26 26.5			
	comp=Z,121nm,1.1s								
ADK	**Adak**	**32.28**	**51**	IAMs_20	IAMs_20	12 36 45.6			
	comp=Z,7µm,21.0s								
ADK	**Adak**	**32.28**	**51**	P	**P**	**12 25 10.3**	**+1.7**		
ADK				pP	**pP**	**12 26 20.4**	**-0.3**		
GTA	**Gaotai**	**32.46**	**286**⇑	P	**P**	**12 26 10.4**	**-0.1**		
GTA				pP	pP	12 26 19.8	-2.9		
GTA				sP	sP	12 26 25.8	-2.4		
GTA				PP	**PP**	**12 27 22.8**	**-1.5**		
GTA				S	**S**	**12 31 22.8**	**+0.7**		
GTA				pmax	pmax				
	comp=Z,14nm,0.8s								
GTA				pmax	pmax				
	comp=Z,1µm,9.6s								
GTA				LR	LR				
	comp=Z,6µm,21.5s								
GTA				LR	LR				
	comp=Z,11µm,20.7s								
GTA				LR	LR				
	comp=Z,15µm,23.9s								
BIPH	**Bislig**	**32.57**	**209**⇓	*e*P	**P**	**12 26 09.9**	**-1.6**		
CNOP	**Candoni, Negro**	**32.68**	**216**	*e*P	**P**	**12 26 12.8**	**+0.3**		
CNOP	**Candoni, Negro**	**32.68**	**216**	*e*P	P	12 26 24.7	+12		
BILL	**Bilibino**	**33.23**	**17**	*d i*P	**P**	**12 26 16.5**	**-0.2**		
BILL				*i*		12 27 25.1			
BILL				*i*		12 28 57.1			
BILL				*i* S	**S**	**12 31 25.4**	**-7.8**		
BILL				*i* SS	**SnSn**	**12 33 34.0**	**-2.0**		
BILL				pmax	pmax				
	comp=Z,29nm,1.1s								
BILL				MLR	MLR				
	comp=Z,3µm,23.0s								
BILL	**Bilibino**	**33.23**	**17**	P	**P**	**12 26 17.1**	**+0.3**		
BILL	**Bilibino**	**33.23**	**17**	P	**P**	**12 26 17.6**	**+0.8**		
BILL				pP	**pP**	**12 26 30.1**	**+1.2**		
BILL				sP	**sP**	**12 26 39.9**	**+5.5**		
QIZ	**Qiongzhong**	**33.38**	**245**	IAMs_20	IAMs_20	12 41 02.6			
	comp=Z,8µm,19.0s								
QIZ	**Qiongzhong**	**33.38**	**245**	P	**P**	**12 26 19.6**	**+1.0**		
QIZ				sP	**sP**	**12 26 33.8**	**-2.5**		
QIZ				S	**S**	**12 31 38.9**	**+2.4**		
QIZ				sS	**sS**	**12 31 56.4**	**-0.5**		
QIZ				pmax	pmax				
	comp=Z,31nm,1.7s								
QIZ				pmax	pmax				
	comp=Z,980nm,7.4s								
QIZ				LR	LR				
	comp=Z,8µm,17.5s								
QIZ				LR	LR				
	comp=Z,5µm,18.7s								
QIZ				LR	LR				
	comp=Z,8µm,13.9s								
QIZ	**Qiongzhong**	**33.38**	**245**	P	**P**	**12 26 20.3**	**+1.7**		
QIZ				pP	**pP**	**12 26 27.5**	**-3.3**		
KNGR	**Kungurtug, Tuv**	**33.56**	**307**	*i*P	**P**	**12 26 20.3**	**+0.3**		
DAV	**Davao City (W)**	**33.89**	**209**	LR	LR	12 38 17.9			
	comp=Z,4µm,21.4s,baz=64,slow=33								
DAV	**Davao City (W)**	**33.89**	**209**	IAMs_20	IAMs_20	12 38 18.5			
	comp=Z,5µm,22.0s								
PAGZ	**Pagadian**	**34.09**	**213**	*e*P	P	12 26 38.2	+13		
KCP	**Kidapawan**	**34.14**	**210**⇑	*e*P	P	12 26 30.9	+5.7		
PATS	**Pohnpei**	**34.40**	**150**	P	**P**	**12 26 26.9**	**-0.4**		
PATS				IAMs_20	IAMs_20	12 38 17.9			
	comp=Z,9µm,20.0s								
TIXI	**Tiksi**	**34.51**	**353**	P	**P**	**12 26 27.1**	**-0.7**		
	comp=Z,23nm,0.6s,baz=90,slow=20,SNR=68								
TIXI				LR	LR	12 41 48.4			
	comp=Z,8µm,18.1s,baz=180,slow=38								
TIXI	**Tiksi**	**34.51**	**353**	*ce*P	**P**	**12 26 27.4**	**-0.4**		
TIXI				pmax	pmax				
	comp=Z,27nm,0.7s								
TIXI				MLR	MLR				
	comp=Z,6µm,16.0s								
TIXI	**Tiksi**	**34.51**	**353**	P	**P**	**12 26 27.1**	**-0.7**		
TIXI				IAMs_20	IAMs_20	12 41 27.6			
	comp=Z,7µm,20.0s								
TIXI	**Tiksi**	**34.51**	**353**	P	**P**	**12 26 27.6**	**-0.3**		
TIXI				pP	**pP**	**12 26 35.3**	**-4.8**		
TIXI				sP	**sP**	**12 26 40.8**	**-4.8**		
DDMP	**Don Marcelino,**	**34.72**	**208**	*e*P	**P**	**12 26 28.8**	**-1.4**		
KMI	**Kunming**	**35.21**	**260**	⇑P	**P**	**12 26 35.3**	**+0.6**		
KMI				pP	pP	12 26 44.4	-2.6		
KMI				sP	sP	12 26 52.3	-0.1		
KMI				PP	**PP**	**12 27 58.1**	**+3.0**		
KMI				S	**S**	**12 32 04.0**	**-1.2**		
KMI				sS	sS	12 32 29.9	+4.2		
KMI				pmax	pmax				
	comp=Z,120nm,1.0s								
KMI				pmax	pmax				
	comp=Z,1µm,7.1s								
KMI				LR	LR				
	comp=Z,6µm,23.7s								
KMI				LR	LR				
	comp=Z,6µm,23.7s								
KMI				LR	LR				
	comp=Z,12µm,25.9s								
KMI	**Kunming**	**35.21**	**260**	P	**P**	**12 26 35.9**	**+1.2**		
KMI				pP	**pP**	**12 26 44.3**	**-2.7**		
KMI				pwP	**sP**	**12 26 46.6**	**-5.9**		
KMI				sP	sP	12 26 54.5	+2.1		
PZH	**PanZhiHua**	**35.31**	**263**	P	**P**	**12 26 35.8**	**+0.4**		
PZH				pP	**pP**	**12 26 45.8**	**-1.9**		
PZH				PP	**PP**	**12 27 58.8**	**+2.7**		
PZH				PcP	**PcP**	**12 29 04.8**	**-0.3**		
PZH				S	**S**	**12 32 05.9**	**-0.6**		
PZH				sS	**sS**	**12 32 25.8**	**-1.3**		
PZH				pmax	pmax				
	comp=Z,60nm,1.1s								
PZH				pmax	pmax				
	comp=Z,1µm,5.9s								
PZH				LR	LR				
	comp=Z,6µm,16.4s								
PZH				LR	LR				
	comp=Z,11µm,16.9s								
PZH				LR	LR				
	comp=Z,16µm,16.5s								
MIDW	**Midway**	**35.50**	**93**	P	**P**	**12 26 36.1**	**-0.7**		
BATP	**Bataraza**	**36.00**	**223**	*e*P	**P**	**12 26 41.8**	**+0.6**		
SPIA	**Saint Paul Isl**	**36.89**	**43**	P	**P**	**12 26 48.7**	**+0.4**		
	baz=259								
GOMU	**GeErMu**	**37.07**	**282**	pP	pP	12 27 07.9	+4.9		
GOMU				sP	sP	12 27 08.9	+0.5		
GOMU				PcP	**PcP**	**12 29 09.3**	**-1.2**		
GOMU				pmax	pmax				
	comp=Z,45nm,0.6s								
GOMU				AMB	AMB				
	comp=Z,1µm,4.6s								
GOMU				LR	LR				
	comp=N,4µm,16.2s								
GOMU				LR	LR				
	comp=E,3µm,17.7s								
GOMU				LR	LR				
	comp=Z,4µm,18.0s								
GOMU	**GeErMu**	**37.07**	**282**	P	**P**	**12 26 50.8**	**+0.2**		
GOMU				PP	**PP**	**12 28 15.1**	**-0.5**		
GOMU				S	**S**	**12 32 27.9**	**-5.8**		
GOMU				pmax	pmax				
	comp=Z,45nm,1.0s								
GOMU				pmax	pmax				
	comp=Z,730nm,4.9s								
GOMU				LR	LR				
	comp=Z,6µm,21.0s								
GOMU				LR	LR				
	comp=Z,6µm,19.4s								
GOMU				LR	LR				
	comp=Z,7µm,21.7s								
GOMU	**GeErMu**	**37.07**	**282**	PP	PP	12 28 39.8	+24		
GOMU	**GeErMu**	**37.07**	**282**	P	P	12 27 06.5	+16		
NIKH	**Nikolski High**	**37.16**	**50**	P	**P**	**12 26 51.6**	**+0.9**		
NIKH	**Nikolski High**	**37.16**	**50**	P	**P**	**12 26 50.4**	**-0.3**		
	baz=266								
NIKH				S	**S**	**12 32 28.3**	**-5.6**		
	baz=266								
GAMB	**Gambell**	**37.97**	**32**	P	**P**	**12 26 57.8**	**+0.4**		
	baz=250								
GAMB				S	**S**	**12 32 48.5**	**+2.6**		
	baz=250				

comp=Z,431nm,1.8s
KKM IAMs_20 IAMs_20 12 43 47.0
comp=Z,3μm,21.0s
SWI Sorong 39.66 196 P **P** **12 27 11.6 -0.5**
comp=Z,2μmcomp=Z,67nm,0.8s
SIJI Sorong 39.67 196 P **P** **12 27 11.3 -0.9**
comp=Z,8.1nm,0.5s,baz=24,slow=7.0,SNR=6.6
SIJI LR LR 12 42 18.0
comp=Z,3μm,20.9s,baz=5.0,slow=34
MANU Manus Island 40.04 171 P **P** **12 27 15.4 +0.2**
TNA Tin City 40.10 30 P **P** **12 27 15.5 +0.3**
TNA Tin City 40.10 30 P **P** **12 27 16.0 +0.8**
baz=252
TNA S **S** **12 33 19.8 +1.9**
baz=252
LBMI Labuha 40.43 202 P **P** **12 27 18.2 -0.2**
comp=Z,2μmcomp=Z,68nm,0.8s
FALS False Pass 40.46 47 P **P** **12 27 19.6 +1.3**
baz=268
WMQ Urumqi 40.60 296 P **P** **12 27 21.5 +1.8**
WMQ pP pP 12 27 29.8 -2.4
WMQ sP sP 12 27 39.3 +1.7
WMQ S **S** **12 33 27.6 +1.6**
WMQ pmax pmax
comp=Z,190nm,1.1s
WMQ pmax pmax
comp=Z,2μm,4.7s
WMQ LR LR
comp=Z,5μm,14.3s
WMQ LR LR
comp=Z,6μm,17.5s
WMQ LR LR
comp=Z,10μm,20.7s
WMQ Urumqi 40.60 296 P **P** **12 27 21.6 +1.8**
WMQ pP **pP** **12 27 31.0 -1.2**
WMQ sP **sP** **12 27 41.4 +3.8**
GTOI Gorontalo 40.77 209 P **P** **12 27 20.4 -0.9**
comp=Z,1μmcomp=Z,52nm,0.9s
ANM Nome 40.85 32 P **P** **12 27 22.8 +1.4**
ANM pmax pmax
comp=Z,109nm,1.4s
ANM Nome 40.85 32 P **P** **12 27 22.8 +1.4**
ANM Nome 40.85 32 P **P** **12 27 22.6 +1.2**
baz=255,SNR=7.3
ANM S **S** **12 33 33.2 +4.1**
baz=255
MOKO MOKOCHONG 41.10 268 *e*P **P** **12 27 25.0 +0.8**
MOKO IAmb IAmb 12 27 28.6
comp=Z,481nm,0.7s
JORH JORHAT 41.12 269 *e*P **P** **12 27 25.8 +1.7**
JORH IAmb IAmb 12 27 28.6
comp=Z,332nm,0.7s
MRSI Marisa 41.34 211 P **P** **12 27 26.5 +0.6**
comp=Z,3μmcomp=Z,174nm,1.2s
ZAA0 Zalesovo Array 41.47 312 P **P** **12 27 26.5 -0.2**
ZALV Zalesovo Beam 41.47 312 P **P** **12 27 26.4 -0.3**
comp=Z,104nm,0.9s,baz=88,slow=7.4,SNR=209
ZALV LR LR 12 45 27.5
comp=Z,15μm,18.2s,baz=86,slow=37
ZALV Zalesovo Beam 41.47 312 *i* P **P** **12 27 27.2 +0.5**
ZALV pmax pmax
comp=Z,104nm,0.9s
ZALV Zalesovo Beam 41.47 312 P **P** **12 27 26.8 +0.1**
CHTO Chiang Mai 41.61 255 P **P** **12 27 28.6 +0.3**
CHTO pmax pmax
comp=Z,125nm,1.5s
CHTO MLR MLR
comp=Z,3μm,20.0s
CHTO Chiang Mai 41.61 255 P **P** **12 27 28.6 +0.3**
CHTO Chiang Mai 41.61 255 P **P** **12 27 29.9 +1.7**
CHTO pP **pP** **12 27 40.2 -0.6**
CHTO sP **sP** **12 27 48.9 +2.8**
KOHI KOHIMA 41.71 267 *e*P **P** **12 27 28.6 -0.6**
KOHI IAmb IAmb 12 27 32.5
comp=Z,115nm,1.4s
CM31 Chiang Mai Arr 41.83 255 P **P** **12 27 30.3 +0.3**
CM31 Chiang Mai Arr 41.83 255 P **P** **12 27 31.4 +1.4**
SNR=18
CM31 P **P** **12 27 31.4 +1.4**
SNR=18
CMAR Chiang Mai Arr 41.83 255 P **P** **12 27 29.7 -0.3**
comp=Z,9.7nm,0.6s,baz=44,slow=7.3,SNR=34
CMAR LR LR 12 47 13.3
comp=Z,4μm,18.2s,baz=55,slow=40
CMAR Chiang Mai Arr 41.83 255 *ce*P **P** **12 27 30.7 +0.7**
CMAR pmax pmax
comp=Z,10.0nm,0.6s
CMAR Chiang Mai Arr 41.83 255 P **P** **12 27 30.3 +0.3**
ZSN Zaisan 41.96 302 *c i*P **P** **12 27 31.9 +1.1**
ZSN *e*S **S** **12 33 47.8 +1.7**
ZSN pmax pmax
comp=Z,103nm,1.0s
ZSN Zaisan 41.96 302 ⇑ *i*P **P** **12 27 31.9 +1.1**
comp=Z,103nm,1.0s,baz=302
ZSN *e*S **S** **12 33 47.8 +1.7**
baz=302
SDPT Sand Point 42.16 46 P **P** **12 27 32.7 +0.5**
baz=270
SANI Sanana 42.22 204 P **P** **12 27 31.9 -1.3**
comp=Z,2μmcomp=Z,143nm,0.8s
LSA Lhasa 42.27 274 P **P** **12 27 35.3 +1.3**
LSA pmax pmax
comp=Z,82nm,0.9s
LSA MLR MLR
comp=Z,6μm,22.0s
LSA Lhasa 42.27 274 P **P** **12 27 35.3 +1.3**
LSA IAMs_20 IAMs_20 12 45 39.3
comp=Z,6μm,22.0s
LSA Lhasa 42.27 274 P **P** **12 27 35.1 +1.1**
LSA S **S** **12 33 52.0 +0.2**
LSA pmax pmax
comp=Z,1μm,7.5s
LSA LR LR
comp=Z,4μm,21.4s
LSA LR LR
comp=Z,4μm,24.2s
LSA LR LR
comp=Z,5μm,25.6s
LSA Lhasa 42.27 274 P **P** **12 27 35.3 +1.3**
LSA pP **pP** **12 27 43.9 -2.7**
MPSI Mapaga 42.32 213 P **P** **12 27 33.8 -0.2**
comp=Z,2μmcomp=Z,46nm,1.5s
TEZP TEZPUR 42.33 269 *e*P **P** **12 27 34.9 +0.9**
TEZP IAmb IAmb 12 27 41.8
comp=Z,57nm,0.7s
LUWI Luwuk 42.40 209 P **P** **12 27 33.2 -1.5**
LUWI IAmb IAmb 12 28 14.5
comp=Z,285nm,1.4s
LUWI Luwuk 42.40 209 P **P** **12 27 32.7 -1.9**
comp=Z,2μmcomp=Z,139nm,1.0s
NRIK Noril'sk 42.60 335 P **P** **12 27 35.1 -0.5**
comp=Z,28nm,0.5s,baz=108,slow=8.7,SNR=39
NRIK LR LR 12 46 25.4
comp=Z,13μm,18.6s,baz=108,slow=38
NRIK Noril'sk 42.60 335 *ce*P **P** **12 27 35.9 +0.3**
NRIK pmax pmax
comp=Z,34nm,0.6s
NRIK MLR MLR
comp=Z,13μm,18.0s
NRIK Noril'sk 42.60 335 P **P** **12 27 35.7 0.0**
APSI Ampana 42.72 210 P **P** **12 27 36.4 -0.8**
comp=Z,2μmcomp=Z,146nm,1.2s
RABL Rabaul 42.95 164 P **P** **12 27 39.2 +0.1**
NLAI Namlea 43.01 201 P **P** **12 27 40.4 +0.8**
comp=Z,2μmcomp=Z,112nm,1.3s
KRVT Keravat (AS076 43.04 165 P **P** **12 27 39.3 -0.5**
comp=Z,21nm,0.7s,baz=326,slow=3.6,SNR=2.3
KRVT LR LR 12 44 28.4
comp=Z,1μm,21.4s,baz=118,slow=34
AAI Ambon 43.14 200 P **P** **12 27 41.0 +0.4**
comp=Z,4μmcomp=Z,191nm,0.8s
GUWA GUWAHATI 43.40 269 *e*P **P** **12 27 42.4 -0.2**
GUWA IAmb IAmb 12 27 46.2
comp=Z,74nm,1.0s
SHL Shillong 43.55 269 P **P** **12 27 43.3 -0.8**
SHL pmax pmax
comp=Z,113nm,0.8s
SHL Shillong 43.55 269 P **P** **12 27 43.3 -0.8**
SHL IAmb IAmb 12 28 24.6
comp=Z,113nm,0.8s
SHL Shillong 43.55 269 *e*P **P** **12 27 44.0 0.0**
SHL IAmb IAmb 12 27 49.1
comp=Z,67nm,0.6s
SHL Shillong 43.55 269 P **P** **12 27 45.8 +1.7**
SNR=42
MK31 Makanchi Array 43.81 301 *i* P **P** **12 27 46.3 +0.5**
MK31 pmax pmax
comp=Z,184nm,1.0s
MK31 Makanchi Array 43.81 301 P **P** **12 27 46.1 +0.4**
MK31 IAmb IAmb 12 28 13.4
comp=Z,148nm,1.1s
MKAR Makanchi Array 43.81 301 P **P** **12 27 46.0 +0.3**
comp=Z,58nm,0.9s,baz=86,slow=8.6,SNR=196
MKAR LR LR 12 46 30.5
comp=Z,4μm,20.9s,baz=77,slow=37
MKAR Makanchi Array 43.81 301 *ce*P **P** **12 27 46.0 +0.3**
MKAR pmax pmax
comp=Z,60nm,0.9s
MAKZ Makanchi 44.02 302 P **P** **12 27 47.6 +0.2**
MAKZ pmax pmax
comp=Z,158nm,1.1s
MAKZ MLR MLR
comp=Z,6μm,18.0s
MAKZ Makanchi 44.02 302 P **P** **12 27 47.6 +0.2**
MAKZ IAmb IAmb 12 28 16.3
comp=Z,158nm,1.1s
MAKZ IAMs_20 IAMs_20 12 46 35.5
comp=Z,6μm,18.0s
MAKZ Makanchi 44.02 302 P **P** **12 27 48.0 +0.6**
MAKZ pP **pP** **12 27 56.5 -3.5**
MAKZ sP **sP** **12 28 06.9 +1.5**
SBUM Sibu 44.32 225 P **P** **12 27 50.2 +0.1**
GCSA Galena City Sc 44.48 33 P **P** **12 27 50.0 -0.7**
baz=264,SNR=11
GCSA S **S** **12 34 24.0 +1.7**
baz=264
SEM Semipalatinsk 44.56 307 *e*P **P** **12 27 51.4 -0.6**
SEM *e*S **S** **12 34 23.6 -0.8**
SEM pmax pmax
comp=Z,45nm,0.7s
SEM MLR MLR
comp=Z,5μm,16.0s
SEM Semipalatinsk 44.56 307 *e*P **P** **12 27 51.4 -0.6**
comp=Z,45nm,0.7s,baz=307
SEM *e*S **S** **12 34 23.7 -0.8**
baz=307
SEM LR LR 12 45 43.3
comp=Z,5μm,15.6s,baz=307
N18K Kilae Creek 44.65 38 P **P** **12 27 52.0 -0.3**
baz=269,SNR=6.8
N18K S **S** **12 34 28.3 +3.2**
baz=269
TTA Tatalina 44.70 35 P **P** **12 27 53.1 +0.4**
TTA pmax pmax
comp=Z,73nm,1.5s
TTA Tatalina 44.70 35 P **P** **12 27 53.1 +0.4**
TTA Tatalina 44.70 35 P **P** **12 27 52.2 -0.5**
baz=266
TTA S **S** **12 34 28.0 +2.2**
baz=266
TURI Tura 44.78 270 *e*P **P** **12 27 55.6 +1.8**
DHUB DHUBRI 44.83 270 *e*P **P** **12 27 53.5 -0.6**
AGT Agartala 44.87 267 *e*P **P** **12 27 56.8 +2.3**
AGT IAmb IAmb 12 27 59.8
comp=Z,203nm,1.0s
CHIR Chirikof Islan 44.89 45 IAMs_20 IAMs_20 12 46 40.8
comp=Z,6μm,20.0s
CHIR Chirikof Islan 44.89 45 P **P** **12 27 53.9 -0.4**
baz=274
O18K Koktuh Hills 44.98 40 P **P** **12 27 55.7 +0.7**
O18K Koktuh Hills 44.98 40 P **P** **12 27 54.8 -0.1**
baz=270
O18K S **S** **12 34 33.3 +3.4**
baz=270
L19K White Mountain 45.19 36 P **P** **12 27 57.0 +0.4**
L19K White Mountain 45.19 36 P **P** **12 27 56.4 -0.2**
baz=268,SNR=7.9
L19K S **S** **12 34 35.3 +2.4**
baz=268
N19K Bonanza Creek 45.34 38 P **P** **12 27 57.8 -0.1**
baz=270
N19K S **S** **12 34 37.8 +2.5**
baz=270
TTSI Tana Toraja 45.40 211 P **P** **12 27 55.8 -2.9**
comp=Z,1μmcomp=Z,30nm,0.9s
M19K Big River Lodg 45.40 37 P **P** **12 27 58.4 +0.1**
baz=269
M19K S **S** **12 34 37.6 +1.7**
baz=269
O19K Port Alsworth 45.43 39 P **P** **12 27 59.8 +1.4**
O19K Port Alsworth 45.43 39 P **P** **12 27 58.2 -0.2**
baz=270
O19K S **S** **12 34 39.1 +2.9**
baz=270
KURK Kurchatov 45.54 308 *ce*P **P** **12 27 59.4 -0.1**
KURK pmax pmax
comp=Z,283nm,1.3s
KURK Kurchatov 45.54 308 P **P** **12 27 59.9 +0.4**
KURK Kurchatov 45.54 308 P **P** **12 28 00.5 +1.0**
KURK sP **sP** **12 28 18.6 +1.2**
K20K Telida 45.60 35 P **P** **12 28 01.4 +1.6**
K20K Telida 45.60 35 P **P** **12 27 59.0 -0.8**
baz=268,SNR=13
K20K S **S** **12 34 41.1 +2.4**
baz=268
J20K Nowinta River 45.61 34 P **P** **12 27 59.8 0.0**
J20K Nowinta River 45.61 34 P **P** **12 27 59.7 -0.1**
baz=267,SNR=29
J20K S **S** **12 34 40.2 +1.5**
baz=267
KURBB Kurchatov Arra 45.61 307 P **P** **12 27 60.0 -0.1**
comp=Z,126nm,0.9s,baz=82,slow=8.6,SNR=180
KURBB LR LR 12 47 50.9
comp=Z,15μm,19.8s,baz=60,slow=37
KURBB Kurchatov Arra 45.61 307 P **P** **12 28 00.7 +0.7**
SII Sitkinak Islan 45.64 44 IAMs_20 IAMs_20 12 47 35.7
comp=Z,5μm,19.0s
SII Sitkinak Islan 45.64 44 P **P** **12 28 00.8 +0.6**
baz=274
SII S **S** **12 34 38.8 -0.7**
baz=274
L20K Farewell, AK 45.66 36 P **P** **12 28 01.1 +0.8**
baz=268
L20K S **S** **12 34 43.9 +4.3**
baz=268
A21K Barrow 45.68 23 P **P** **12 28 01.4 +1.2**
baz=257
A21K S **S** **12 34 38.8 -0.7**
baz=257
MTKI Muara Teweh, K 45.78 219 P **P** **12 28 00.9 -0.8**
comp=Z,81nm,0.9s
Q19K Cape Douglas, 45.80 41 P **P** **12 28 02.1 +0.6**
baz=272
IMAR Indian Mountai 45.90 31 P **P** **12 28 02.7 +0.6**
P19K Oil Pt 45.99 40 P **P** **12 28 03.3 +0.4**
baz=272
TAPN Taplejung 46.02 273 *e*P **P** **12 28 04.9 +1.0**
OHAK Old Harbor 46.09 43 P **P** **12 28 04.0 +0.3**
baz=274
OHAK S **S** **12 34 44.9 -0.8**
baz=274
KSM Kuching 46.20 226 P **P** **12 28 06.3 +1.3**
RSO Redoubt South 46.20 39 P **P** **12 28 05.7 +0.9**
SPSI Sidrap Palu 46.25 211 P **P** **12 28 03.9 -1.5**
comp=Z,2μmcomp=Z,96nm,1.1s
H21K Melozitna Rive 46.27 32 P **P** **12 28 06.4 +1.4**
H21K Melozitna Rive 46.27 32 P **P** **12 28 05.9 +0.9**
baz=266,SNR=23
H21K S **S** **12 34 50.7 +2.4**
baz=266
O20K Slope Mountain 46.28 39 P **P** **12 28 05.6 +0.4**
baz=272
TARA Tarawa 46.34 134 P **P** **12 28 06.1 -0.1**
TARA IAmb IAmb 12 28 10.3
comp=Z,186nm,1.1s
CHUM Lake Minchumin 46.40 34 P **P** **12 28 07.1 +1.0**
baz=269,SNR=16
CHUM S **S** **12 34 52.4 +2.3**
baz=269
KDAK Kodiak Island 46.42 42 P **P** **12 28 07.1 +0.8**
comp=Z,50nm,0.8s,baz=288,slow=4.3,SNR=11
KDAK LR LR 12 47 29.0
comp=Z,6μm,21.4s,baz=265,slow=36
KDAK Kodiak Island 46.42 42 *i* P **P** **12 28 06.1 -0.2**
KDAK pmax pmax
comp=Z,111nm,1.0s
KDAK Kodiak Island 46.42 42 P **P** **12 28 07.0 +0.7**
KDAK IAmb IAmb 12 28 34.5
comp=Z,108nm,0.9s
KDAK Kodiak Island 46.42 42 IAMs_20 IAMs_20 12 46 45.9
comp=Z,6μm,21.0s
KDAK Kodiak Island 46.42 42 P **P** **12 28 06.7 +0.4**
baz=274
KDAK S **S** **12 34 49.9 -0.7**
baz=274
KDAK Kodiak Island 46.42 42 P **P** **12 28 08.0 +1.7**
KDAK sP **sP** **12 28 27.6 +3.4**
PPLA Purkeypile 46.44 35 P **P** **12 28 08.3 +1.7**
PPLA IAmb IAmb 12 29 05.2
comp=Z,146nm,1.2s
PPLA Purkeypile 46.44 35 P **P** **12 28 07.9 +1.3**
baz=270,SNR=5.8
PPLA S **S** **12 34 52.7 +1.6**
baz=270
SPCR Spurr Chakacha 46.45 38 P **P** **12 28 07.7 +1.2**
baz=271,SNR=11
SPCR S **S** **12 34 53.1 +2.0**
baz=271
ODAN Odare 46.49 273 *e*P **P** **12 28 07.7 +0.1**
CAST Castle Rocks 46.50 35 P **P** **12 28 08.0 +1.1**
CAST Castle Rocks 46.50 35 P **P** **12 28 08.1 +1.3**
baz=269,SNR=17
CAST S **S** **12 34 53.4 +1.9**
baz=269
BNSI Bone 46.51 210 P **P** **12 28 07.3 -0.1**
comp=Z,2μmcomp=Z,204nm,1.1s
PDGK Podgornoye 46.52 297 P **P** **12 28 07.2 -0.2**
SHLS Shalkode 46.58 297 *c i*P **P** **12 28 05.7 -2.2**
SHLS *e*S **S** **12 34 50.5 -3.0**
SHLS pmax pmax
comp=Z,24nm,0.7s
SHLS Shalkode 46.58 297 ⇑ *i*P **P** **12 28 05.8 -2.2**
comp=Z,24nm,0.7s,baz=297
SHLS *e*S **S** **12 34 50.5 -3.0**
baz=297
BBSI Bau Bau 46.59 206 P **P** **12 28 10.2 +2.2**
comp=Z,213nmcomp=Z,17nm,1.0s
I21K Tanana 46.59 32 P **P** **12 28 08.9 +1.5**
I21K Tanana 46.59 32 P **P** **12 28 08.5 +1.1**
baz=268,SNR=13
I21K S **S** **12 34 55.5 +2.7**
baz=268
HOM Homer 46.79 40 P **P** **12 28 10.4 +1.2**
baz=273
UZB Uzynbulak 46.90 297 *c i*P **P** **12 28 10.3 -0.1**
UZB *e*S **S** **12 34 58.3 +0.3**
UZB pmax pmax
comp=Z,58nm,1.2s
UZB Uzynbulak 46.90 297 ⇑ *i*P **P** **12 28 10.4 0.0**
comp=Z,58nm,1.2s,baz=297
UZB *e*S **S** **12 34 58.4 +0.3**
baz=297
CAPN Captain Cook N 46.98 38 P **P** **12 28 11.3 +0.7**
baz=273
BPAW Bear Paw Mtn. 46.99 34 P **P** **12 28 11.6 +0.9**
BPAW Bear Paw Mtn. 46.99 34 P **P** **12 28 11.7 +0.9**
baz=270,SNR=12
BPAW S **S** **12 35 00.9 +2.3**
baz=270
KTH Kantishna Hill 47.02 34 P **P** **12 28 11.8 +0.9**
KTH IAmb IAmb 12 28 39.9
comp=Z,120nm,1.1s
KPKS Kokpek 47.05 298 *c i*P **P** **12 28 11.7 +0.2**
KPKS *e*S **S** **12 35 00.6 +0.5**
KPKS pmax pmax
comp=Z,31nm,0.6s
KPKS Kokpek 47.05 298 ⇑ *i*P **P** **12 28 11.8 +0.2**
comp=Z,31nm,0.6s,baz=298
KPKS *e*S **S** **12 35 00.7 +0.5**
baz=298
JIRN Jiri 47.08 275 *e*P **P** **12 28 13.5 +1.2**
comp=Z,232nm,1.1s
RAMN Ramite 47.08 273 *e*P **P** **12 28 12.7 +0.6**
GUN Gumba 47.21 275 *e*P **P** **12 28 14.2 +0.9**
comp=Z,658nm,1.0s
KAPI Kappang 47.21 210 P **P** **12 28 13.8 +0.9**
comp=Z,17nm,0.3s,baz=12,slow=5.7,SNR=14
KAPI LR LR 12 48 13.1
comp=Z,1μm,20.5s,baz=6.0,slow=36
KAPI Kappang 47.21 210 *c i*P **P** **12 28 11.8 -1.1**
KAPI pmax pmax
comp=Z,90nm,1.3s
KAPI Kappang 47.21 210 P **P** **12 28 13.6 +0.6**
KAPI Kappang 47.21 210 P **P** **12 28 14.3 +1.4**
KAPI pP **pP** **12 28 27.8 +2.2**
KAPI sP **sP** **12 28 37.9 +7.0**
BRSE Bradley Lake S 47.24 40 P **P** **12 28 13.8 +1.1**
baz=274
PMG Port Moresby 47.28 172 P **P** **12 28 15.9 +2.5**
comp=Z,14nm,0.9s,baz=297,slow=11,SNR=2.4
PMG LR LR 12 47 33.9
comp=Z,2μm,21.8s,baz=328,slow=35
PMG Port Moresby 47.28 172 *i* P **P** **12 28 14.6 +1.2**
PMG pmax pmax
comp=Z,67nm,1.7s
ZHN Zhinishke 47.30 297 *e*P **P** **12 28 13.5 0.0**
ZHN *e*S **S** **12 35 04.3 +0.5**
ZHN Zhinishke 47.30 297 *e*P **P** **12 28 13.6 0.0**
baz=297
ZHN *e*S **S** **12 35 04.3 +0.5**
baz=297
TRF Thorofare Moun 47.30 35 P **P** **12 28 13.5 +0.2**
TRF Thorofare Moun 47.30 35 P **P** **12 28 13.5 +0.2**
baz=271,SNR=6.8
TRF S **S** **12 35 02.4 -1.0**
baz=271
CUT Chulitna 47.34 36 P **P** **12 28 13.8 +0.5**
CUT IAmb IAmb 12 29 43.5
comp=Z,173nm,1.3s
CUT Chulitna 47.34 36 P **P** **12 28 14.0 +0.6**
baz=272
CUT S **S** **12 35 03.3 -0.2**
baz=272
BKSI Bulukumba 47.35 210 P **P** **12 28 13.8 -0.1**
comp=Z,1μmcomp=Z,67nm,1.1s
SATY Saty 47.35 297 *e*P **P** **12 28 14.4 +0.4**
SATY *e*S **S** **12 35 04.3 -0.3**
SATY pmax pmax
comp=Z,13nm,0.6s
SATY Saty 47.35 297 *e*P **P** **12 28 14.4 +0.4**
comp=Z,13nm,0.6s,baz=297
SATY *e*S **S** **12 35 04.3 -0.3**
baz=297
COLD Coldfoot 47.40 29 P **P** **12 28 14.7 +0.9**
COLD Coldfoot 47.40 29 P **P** **12 28 14.7 +0.9**
baz=267,SNR=9.5
COLD S **S** **12 35 05.1 +0.8**
baz=267
M22K Willow 47.43 37 P **P** **12 28 14.9 +0.8**
baz=272
H23K Yukon River 47.62 31 P **P** **12 28 17.2 +1.6**
baz=269,SNR=34
H23K S **S** **12 35 10.1 +2.6**
baz=269
RC01 Rabbit Creek A 47.65 38 P **P** **12 28 15.8 0.0**
baz=274
RC01 S **S** **12 35 05.7 -2.3**
baz=274
I23K Minto, Yukon-K 47.69 32 IAmb IAmb 12 28 38.8
comp=Z,140nm,1.6s
I23K Minto, Yukon-K 47.69 32 P **P** **12 28 17.1 +1.0**
baz=270,SNR=22
I23K S **S** **12 35 10.7 +2.2**
baz=270
O22K Cooper Landing 47.70 39 IAMs_20 IAMs_20 12 48 53.9
comp=Z,4μm,21.0s
O22K Cooper Landing 47.70 39 P **P** **12 28 16.5 +0.3**
baz=274
TOLK Toolik Lake Re 47.70 28 P **P** **12 28 17.1 +0.9**
baz=267,SNR=51
TOLK S **S** **12 35 09.8 +1.1**
baz=267
SRIT Nakonsritamara 47.71 243 IAmb IAmb 12 28 37.9
comp=Z,80nm,0.9s
PKI Pulchoki 47.73 275 *e*P **P** **12 28 17.9 +0.6**
comp=Z,146nm,0.9s
KKN Kakani 47.73 275 *e*P **P** **12 28 18.0 +0.8**
comp=Z,464nm,1.0s
PKIN Phulchoki 47.74 275 *e*P **P** **12 28 17.8 +0.5**
comp=Z,66nm,0.7s
NEA2 Nenana 47.82 33 IAmb IAmb 12 28 32.3
comp=Z,169nm,1.6s
NEA2 Nenana 47.82 33 P **P** **12 28 17.8 +0.7**
baz=271,SNR=17
NEA2 S **S** **12 35 11.0 +0.6**
baz=271
SEW Seward 47.86 39 IAmb IAmb 12 28 49.5
comp=Z,121nm,1.1s
SEW Seward 47.86 39 P **P** **12 28 17.8 +0.3**
baz=275

MCK McKinley 47.90 34 P P 12 28 18.3 +0.5
baz=272,SNR=11
MCK S S 12 35 10.3 -1.3
baz=272
PMR Palmer 47.91 37 P P 12 28 17.7 -0.1
baz=274,SNR=8.8
PMR S S 12 35 11.0 -0.6
baz=274
DMN Daman 47.95 275 eP P 12 28 19.7 +0.7
BSSI Bau Bau, Buton 47.96 209 P P 12 28 17.8 -0.9
BBKI Banjar Baru 47.99 217 P P 12 28 18.9 -0.1
comp=Z,2µmcomp=Z,124nm,1.0s
GHO Glory Hole Cre 48.00 37 P P 12 28 19.4 +0.7
GHO IAmb IAmb 12 28 33.0
comp=Z,138nm,1.3s
GHO IAMs_20 IAMs_20 12 47 47.8
comp=Z,3µm,22.0s
CHKK Chushkaly 48.12 299 eP P 12 28 20.1 +0.3
CHKK Chushkaly 48.12 299 eP P 12 28 20.2 +0.4
baz=299
GKN Gorkha 48.14 276 eP P 12 28 21.2 +0.9
comp=Z,1µm,1.0s
TARG Taragay, Kyrgy 48.16 296 IAmb IAmb 12 28 25.9
comp=Z,94nm,0.7s
MDM Murphy Dome 48.17 33 P P 12 28 20.6 +0.7
MDM IAmb IAmb 12 28 35.0
comp=Z,176nm,1.6s
KNK Knik Glacier 48.25 37 P P 12 28 20.9 +0.4
baz=274,SNR=6.6
KNK S S 12 35 14.9 -1.6
baz=274
WRH Wood River Hil 48.25 33 P P 12 28 20.7 +0.3
MDOK Medeo 48.28 298 i P P 12 28 21.8 +0.7
MDOK eS S 12 35 18.7 +1.0
MDOK MLR MLR
comp=Z,6µm,19.0s
MDOK Medeo 48.28 298 i P P 12 28 21.8 +0.7
baz=298
MDOK eS S 12 35 18.8 +1.0
baz=298
MDOK LR LR 12 47 57.1
comp=Z,6µm,19.3s,baz=298
SML Sawmill 48.28 37 P P 12 28 21.1 +0.3
SML pmax pmax
comp=Z,86nm,1.0s
SML Sawmill 48.28 37 P P 12 28 21.1 +0.3
SML IAmb IAmb 12 29 15.2
comp=Z,86nm,1.0s
SML Sawmill 48.28 37 P P 12 28 21.0 +0.3
baz=274,SNR=14
SML S S 12 35 16.8 -0.2
baz=274
H24K Noodor Dome 48.31 31 P P 12 28 21.7 +0.8
baz=271,SNR=20
H24K S S 12 35 21.0 +3.7
baz=271
TCOL CIGO, UAF Yank 48.33 33 P P 12 28 21.9 +0.9
baz=272,SNR=6.8
TCOL S S 12 35 19.6 +2.0
baz=272
COLA College 48.34 33 c iP P 12 28 20.7 -0.4
COLA pmax pmax
comp=Z,47nm,1.8s
COLA College 48.34 33 P P 12 28 22.2 +1.2
COLA College 48.34 33 P P 12 28 21.9 +0.8
baz=272
COLA S S 12 35 18.3 +0.7
baz=272
COLA College 48.34 33 P P 12 28 23.3 +2.2
COLA pP pP 12 28 33.7 -0.1
COLA pwP sP 12 28 37.2 -1.9
COLA sP sP 12 28 42.0 +2.9
PWL Port Wells 48.35 38 IAMs_20 IAMs_20 12 51 12.7
comp=Z,4µm,20.0s
PWL Port Wells 48.35 38 P P 12 28 21.6 +0.3
baz=275
PWL S S 12 35 17.1 -0.9
baz=275
AAA Alma-Ata 48.36 298 eP P 12 28 22.5 +0.9
AAA eS S 12 35 20.0 +1.4
AAA pmax pmax
comp=Z,56nm,0.6s
AAA MLR MLR
comp=Z,11µm,20.0s
AAA Alma-Ata 48.36 298 eP P 12 28 22.6 +0.9
comp=Z,56nm,0.6s,baz=298
AAA eS S 12 35 20.1 +1.4
baz=298
AAA LR LR 12 48 14.8
comp=Z,11µm,19.5s,baz=298
TNSS Tian-Shan 48.38 298 i P P 12 28 23.1 +0.8
TNSS Tian-Shan 48.38 298 i P P 12 28 23.1 +0.8
baz=298
KDJ Kajisay 48.49 296 IAmb IAmb 12 28 26.0
comp=Z,47nm,0.6s
WAT6 Susitna Watana 48.50 36 P P 12 28 22.4 -0.2
baz=274,SNR=11
POKR Poker Plat Res 48.51 32 IAmb IAmb 12 28 37.8
comp=Z,215nm,1.4s
POKR Poker Plat Res 48.51 32 P P 12 28 23.7 +1.3
baz=272,SNR=27
POKR S S 12 35 21.9 +1.8
baz=272
KUU Kurty 48.56 299 eP P 12 28 23.1 -0.1
KUU eS S 12 35 21.3 -0.1
KUU pmax pmax
comp=Z,80nm,0.7s
KUU MLR MLR
comp=Z,3µm,16.0s
KUU Kurty 48.56 299 eP P 12 28 23.1 -0.1
comp=Z,80nm,0.7s,baz=299
KUU eS S 12 35 21.4 -0.1
baz=299
KUU LR LR 12 48 58.9
comp=Z,3µm,16.5s,baz=299
M23K Glacier View 48.57 37 P P 12 28 23.5 +0.6
baz=275
DHY Denali Highway 48.63 35 P P 12 28 23.9 +0.3
baz=274,SNR=12
DHY S S 12 35 21.9 -0.3
baz=274
DANN Dangsing 48.68 277 eP P 12 28 25.3 +0.7
comp=Z,1µm,0.9s
SCM Sheep Creek Mo 48.75 37 IAmb IAmb 12 29 18.9
comp=Z,122nm,1.1s
SCM Sheep Creek Mo 48.75 37 P P 12 28 24.9 +0.5
baz=275,SNR=9.5
SCM S S 12 35 24.4 +0.7
baz=275
ILAR Eielson Array 48.76 33 P P 12 28 24.8 +0.4
comp=Z,13nm,0.8s,baz=264,slow=5.8,SNR=110
ILAR LR LR 12 50 07.0
comp=Z,2µm,21.4s,baz=270,slow=37
ILAR Eielson Array 48.76 33 P P 12 28 24.6 +0.2
PBKI Pangkalan Bun 48.93 221 P P 12 28 25.4 -0.8
comp=Z,2µmcomp=Z,69nm,0.6s
GLI Glacier Island 48.95 38 P P 12 28 26.5 +0.6
GLI Glacier Island 48.95 38 P P 12 28 26.5 +0.6
baz=276
GLI S S 12 35 28.0 +1.5
baz=276
KOLN Koldanda 49.07 276 eP P 12 28 27.9 +0.4
comp=Z,500nm,1.1s
ULHL Ulahol 49.12 297 P P 12 28 28.9 +1.2
SNR=6.7
BOOM Boomskoye usch 49.26 297 IAmb IAmb 12 28 59.5
comp=Z,126nm,0.9s
FID Port Fidalgo 49.27 38 IAmb IAmb 12 28 42.6
comp=Z,158nm,1.6s
FID IAMs_20 IAMs_20 12 50 47.5
comp=Z,3µm,20.0s
M24K Tolsona, Glenn 49.27 36 IAmb IAmb 12 29 57.4
comp=Z,170nm,1.3s
M24K Tolsona, Glenn 49.27 36 P P 12 28 29.6 +1.3
baz=276,SNR=6.6
M24K S S 12 35 33.3 +2.4
baz=276
K24K Donnelly Dome 49.30 34 P P 12 28 28.2 -0.3
baz=274
KULM Kulim 49.33 239 P P 12 28 28.5 -0.8
KULM IAMs_20 IAMs_20 12 49 48.9
comp=Z,5µm,20.0s
TKM2 Tokmak 2 49.37 298 P P 12 28 30.7 +1.1
SNR=191
TKM2 Tokmak 2 49.37 298 i P P 12 28 29.2 -0.4
TKM2 pmax pmax
comp=Z,97nm,0.6s

PYUN Piuthan 49.40 277 eP P 12 28 30.9 +0.9
comp=Z,619nm,0.9s
J25K Salcha River, 49.42 33 P P 12 28 28.9 -0.5
baz=274
BRZS Berezniki 49.42 308 eP P 12 28 29.1 -0.5
BRZS pmax pmax
comp=Z,41nm,1.0s
BRZS Berezniki 49.42 308 eP P 12 28 29.2 -0.5
comp=Z,41nm,1.0s,baz=308
KLU Klutina 49.45 37 P P 12 28 30.6 +0.8
KLU IAMs_20 IAMs_20 12 51 12.8
comp=Z,4µm,20.0s
KLU Klutina 49.45 37 P P 12 28 30.4 +0.7
baz=276,SNR=12
KLU S S 12 35 35.4 +1.8
baz=276
PAX Paxson 49.51 35 P P 12 28 31.3 +1.1
PAX pmax pmax
comp=Z,53nm,1.3s
PAX Paxson 49.51 35 P P 12 28 31.3 +1.1
PAX Paxson 49.51 35 P P 12 28 30.4 +0.2
baz=275,SNR=7.4
PAX S S 12 35 34.5 +0.2
baz=275
DIV Divide 49.57 37 P P 12 28 31.4 +0.8
DIV IAmb IAmb 12 28 45.5
comp=Z,174nm,1.4s
DGPR DIGLIPUR 49.61 254 eP P 12 28 32.7 +1.3
DGPR IAmb IAmb 12 28 36.0
comp=Z,194nm,0.8s
MMRI Maumere 49.63 205 P P 12 28 31.2 -0.3
MMRI IAmb IAmb 12 28 47.6
comp=Z,109nm,0.8s
MMRI Maumere 49.63 205 P P 12 28 31.0 -0.5
comp=Z,4µmcomp=Z,162nm,1.0s
EYAK Cordova Ski Ar 49.65 38 P P 12 28 31.7 +0.5
baz=277
EYAK S S 12 35 37.2 +1.1
baz=277
IPM Ipoh 49.66 238 IAmb IAmb 12 28 51.0
comp=Z,86nm,1.1s
IPM IAMs_20 IAMs_20 12 50 27.8
comp=Z,4µm,20.0s
HARP HAARP 49.71 36 P P 12 28 31.4 -0.3
baz=276,SNR=7.2
HARP S S 12 35 38.7 +1.6
baz=276
RIDG Independent Ri 49.72 34 IAMs_20 IAMs_20 12 53 08.8
comp=Z,3µm,20.0s
RIDG Independent Ri 49.72 34 P P 12 28 31.1 -0.7
baz=275,SNR=6.9
RIDG S S 12 35 36.4 -0.7
baz=275
BTLS Baital 49.81 301 eP P 12 28 32.5 -0.1
BTLS eS S 12 35 39.1 +0.3
BTLS pmax pmax
comp=Z,29nm,0.8s
BTLS Baital 49.81 301 eP P 12 28 32.6 -0.1
comp=Z,29nm,0.8s,baz=301
BTLS eS S 12 35 39.1 +0.3
baz=301
MYKOM Kota Tinggi 49.84 233 P P 12 28 33.6 +0.4
MYKOM IAmb IAmb 12 28 49.4
comp=Z,172nm,1.8s
MYKOM IAMs_20 IAMs_20 12 50 04.4
comp=Z,3µm,20.0s
SGDS Sogindy 49.88 299 c iP P 12 28 33.5 +0.2
SGDS eS S 12 35 40.7 +0.7
SGDS pmax pmax
comp=Z,21nm,0.9s
SGDS Sogindy 49.88 299 i iP P 12 28 33.5 +0.2
comp=Z,21nm,0.9s,baz=299
SGDS eS S 12 35 40.8 +0.7
baz=299
KBK Karagaybulak 49.90 298 P P 12 28 34.4 +0.8
SNR=101
CHMS Chumysh 49.93 298 P P 12 28 33.5 -0.1
SNR=25
USP Ospenovka 50.02 299 P P 12 28 34.9 +0.5
SNR=72
HNR Honiara 50.06 156 LR LR 12 48 47.9
comp=Z,6µm,20.3s,baz=324,slow=35
HNR Honiara 50.06 156 P P 12 28 37.4 +2.6
HNR Honiara 50.06 156 IAMs_20 IAMs_20 12 48 27.4
comp=Z,6µm,20.0s
N25K Chitina, Valde 50.07 37 P P 12 28 35.1 +0.6
baz=277,SNR=7.1
N25K S S 12 35 44.0 +1.9
baz=277
SCRK Sand Creek 50.07 34 IAmb IAmb 12 29 02.6
comp=Z,159nm,1.6s
SCRK Sand Creek 50.07 34 P P 12 28 34.4 -0.1
baz=276,SNR=30
SCRK S S 12 35 41.4 -0.8
baz=276
FRU1 Bishkek 50.08 298 IAmb IAmb 12 28 39.2
comp=Z,132nm,0.8s
TPRI Tanjung Pinang 50.09 232 P P 12 28 35.5 +0.5
comp=Z,72nm,1.1s
BMRM Bremner River 50.15 38 IAmb IAmb 12 29 18.6
comp=Z,69nm,0.9s
BMRM IAMs_20 IAMs_20 12 49 36.3
comp=Z,4µm,22.0s
BMRM Bremner River 50.15 38 P P 12 28 36.0 +1.0
baz=278,SNR=9.2
BMRM S S 12 35 45.3 +2.1
baz=278
BRVK Borovoye 50.19 312 P P 12 28 35.9 +0.5
BRVK pmax pmax
comp=Z,49nm,0.9s
BRVK MLR MLR
comp=Z,12µm,18.0s
BRVK Borovoye 50.19 312 P P 12 28 35.9 +0.5
BRVK Borovoye 50.19 312 P P 12 28 36.1 +0.7
BRVK pP pP 12 28 47.5 -0.6
BRVK sP sP 12 28 56.0 +2.5
KSH Kashi 50.20 294 P P 12 28 41.1 +5.3
KSH pP sP 12 28 54.0 0.0
KSH sP pP 12 28 59.1 +10
KSH S S 12 35 53.8 +9.1
KSH pmax pmax
comp=Z,63nm,1.1s
KSH pmax pmax
comp=Z,2µm,7.3s
KSH LR LR
comp=Z,9µm,16.7s
KSH LR LR
comp=Z,11µm,16.1s
KSH LR LR
comp=Z,16µm,15.1s
J26L Joseph Creek 50.20 33 P P 12 28 34.8 -0.7
baz=276,SNR=11
J26L S S 12 35 43.4 -0.6
baz=276
AAK Ala-Archa 50.23 298 P P 12 28 36.6 +0.5
SNR=79
AAK Ala-Archa 50.23 298 LR LR 12 51 23.9
comp=Z,11µm,18.5s,baz=78,slow=38
AAK Ala-Archa 50.23 298 c eP P 12 28 36.4 +0.4
AAK pmax pmax
comp=Z,66nm,0.8s
AAK Ala-Archa 50.23 298 P P 12 28 36.5 +0.5
AAK IAmb IAmb 12 29 10.2
comp=Z,70nm,0.8s
AAK Ala-Archa 50.23 298 i P P 12 28 36.6 +0.5
SNR=90
AAK Ala-Archa 50.23 298 P P 12 28 36.6 +0.5
AAK sP sP 12 28 56.8 +2.6
UCH Uchtor 50.34 297 P P 12 28 38.1 +0.8
SNR=76
KAIM Kayak Island 50.39 39 P P 12 28 37.1 +0.3
baz=279
KAIM S S 12 35 50.1 +3.6
baz=279
GLB Gilahina Butte 50.47 37 IAMs_20 IAMs_20 12 49 43.9
comp=Z,4µm,22.0s
L26K Log Cabin Wild 50.47 35 IAMs_20 IAMs_20 12 52 11.6
comp=Z,3µm,20.0s
L26K Log Cabin Wild 50.47 35 P P 12 28 38.6 +1.2
baz=277,SNR=24
L26K S S 12 35 49.7 +2.1
baz=277
BATI Baumata 50.64 203 sP sP 12 28 57.1 -0.1
comp=Z,103nm,0.6s,baz=70,slow=12,SNR=7.8
BATI LR LR 12 47 24.9
comp=Z,1µm,21.7s,baz=20,slow=33
BATI Baumata 50.64 203 P P 12 28 38.1 -1.1
comp=Z,1µmcomp=Z,106nm,1.0s
VRDI Verde Repeater 50.67 37 IAMs_20 IAMs_20 12 50 05.9
comp=Z,4µm,22.0s
BERG Berg Lake 50.67 38 IAmb IAmb 12 29 36.2
comp=Z,138nm,1.3s
M26K Nabesna, AK 50.71 36 IAMs_20 IAMs_20 12 52 16.0
comp=Z,4µm,20.0s
M26K Nabesna, AK 50.71 36 P P 12 28 40.2 +1.0
baz=278,SNR=16
M26K S S 12 35 54.5 +3.5
baz=278
EKS2 Erkin-Say 50.72 298 P P 12 28 40.9 +1.1
SNR=35
MCARA McCarthy VSAT 50.85 37 IAmb IAmb 12 29 56.7
comp=Z,118nm,1.2s
MCARA IAMs_20 IAMs_20 12 50 13.7
comp=Z,3µm,21.0s
MCARA McCarthy VSAT 50.85 37 P P 12 28 41.7 +1.5
baz=279,SNR=16
MCARA S S 12 35 54.9 +2.0
baz=279
BGLC Bering Glacier 50.92 39 P P 12 28 41.2 +0.4
baz=280
LGTI Lohaghat 50.94 280 i eP P 12 28 43.5 +2.1
AML Almayashu 50.95 297 P P 12 28 42.9 +1.1
SNR=251
AML Almayashu 50.95 297 i P P 12 28 42.5 +0.7
SNR=37
SNH Sunshine Point 51.13 38 IAmb IAmb 12 29 43.8
comp=Z,358nm,1.9s
DSRI Dabo 51.15 231 P P 12 28 43.6 +0.6
comp=Z,4µmcomp=Z,1µmcomp=Z,20nm,1.3s
L27K Beaver Creek, 51.15 35 IAMs_20 IAMs_20 12 52 31.6
comp=Z,3µm,20.0s
L27K Beaver Creek, 51.15 35 P P 12 28 43.7 +1.1
baz=278,SNR=32
L27K S S 12 35 59.4 +2.4
baz=278
TPI Tanjungpandan 51.16 226 P P 12 28 43.8 +0.7
EGAK Eagle 51.20 32 P P 12 28 43.3 +0.5
baz=278,SNR=11
EGAK S S 12 35 57.2 -0.4
baz=278
M27K Edge Creek, AK 51.23 36 IAMs_20 IAMs_20 12 50 37.9
comp=Z,4µm,22.0s
M27K Edge Creek, AK 51.23 36 P P 12 28 43.7 +0.4
baz=279,SNR=23
M27K S S 12 36 01.4 +3.0
baz=279
ISLE Juniper Island 51.30 38 IAMs_20 IAMs_20 12 48 43.8
comp=Z,4µm,22.0s
MTN Manton Dam 51.35 193 IAmb IAmb 12 29 06.9
comp=Z,83nm,1.0s
PLAI Plampang 51.47 211 P P 12 28 43.6 -1.8
comp=Z,1µmcomp=Z,129nm,0.9s
COEN Coen 51.53 178 IAmb IAmb 12 29 00.8
comp=Z,120nm,1.2s
KMMI Kalianget 51.54 216 P P 12 28 45.0 -0.9
comp=Z,2µmcomp=Z,130nm,1.5s
BVCY Beaver Creek 51.69 35 P P 12 28 47.3 +0.7
baz=280,SNR=14
CTG Chitna Glacier 51.72 37 P P 12 28 47.2 +0.2
baz=280,SNR=13
CTG S S 12 36 07.0 +1.9
baz=280
SRBI Singaraja 51.89 214 P P 12 28 48.3 -0.2
comp=Z,3µmcomp=Z,188nm,1.3s
LHMI Lhok Sumawe 51.94 243 IAMs_20 IAMs_20 12 50 54.0
comp=Z,6µm,22.0s
LHMI Lhok Sumawe 51.94 243 P P 12 28 50.5 +1.5
comp=Z,3µmcomp=Z,156nm,1.1s
YUK3 Moose Creek 51.99 36 P P 12 28 49.8 +0.8
baz=281,SNR=21
YUK3 S S 12 36 10.7 +1.7
baz=281
DAWY Dawson 52.06 33 P P 12 28 50.5 +1.1
baz=280,SNR=10.0
DAWY S S 12 36 10.6 +0.9
baz=280
ABJI Asem Bagus 52.07 215 P P 12 28 50.4 +0.5
comp=Z,3µmcomp=Z,119nm,1.0s
I29M Ogilvie Camp, 52.30 31 P P 12 28 52.0 +0.9
baz=280,SNR=41
I29M S S 12 36 14.3 +1.5
baz=280
PSI Prapat 52.31 239 LR LR 12 51 16.3
comp=Z,4µm,21.5s,baz=24,slow=36
BLJI Banyuglugur 52.32 216 P P 12 28 51.2 -0.5
comp=Z,873nmcomp=Z,30nm,0.9s
DZA Taraz 52.34 299 eP P 12 28 52.0 +0.3
DZA pmax pmax
comp=Z,22nm,0.7s
DZA Taraz 52.34 299 eP P 12 28 52.0 +0.3
comp=Z,22nm,0.7s,baz=299
UWJI Ujung Watu 52.46 220 P P 12 28 52.6 -0.2
comp=Z,4µmcomp=Z,140nm,0.9s
J29M Klondike Camp 52.50 33 P P 12 28 53.6 +1.0
baz=280
J29M S S 12 36 17.8 +2.1
baz=280
IGBI Denpasar 52.57 214 P P 12 28 50.9 -2.7
comp=Z,1µmcomp=Z,89nm,0.9s
KCSI Kotacane, Aceh 52.58 240 P P 12 28 51.8 -1.9
comp=Z,813nmcomp=Z,40nm,1.0s
SMLA Simla 52.59 283 eP P 12 28 53.3 -0.3
SMLA IAmb IAmb 12 28 57.8
comp=Z,148nm,0.8s
JMBI JAMBI 52.63 231 P P 12 28 54.2 +0.2
comp=Z,2µmcomp=Z,77nm,1.4s
JAGI Jajag, Banyuwa 52.70 215 P P 12 28 54.4 -0.2
JAGI IAmb IAmb 12 29 17.7
comp=Z,111nm,1.1s
BKNI Bangkinang 52.75 235 P P 12 28 55.6 +0.6
BCPM Bancas Point 52.75 38 P P 12 28 55.4 +0.9
BCPM IAMs_20 IAMs_20 12 48 54.3
comp=Z,3µm,22.0s
EPYK Eagle Plains 52.77 30 IAmb IAmb 12 29 34.9
comp=Z,131nm,1.0s
EPYK Eagle Plains 52.77 30 P P 12 28 55.3 +0.7
baz=280,SNR=61
EPYK S S 12 36 21.1 +1.9
baz=280
KK31 Karatay Array 52.84 300 i P P 12 28 55.6 +0.2
KK31 Karatay Array 52.84 300 IAmb IAmb 12 29 05.8
comp=Z,105nm,1.1s
KKAR Karatay Array 52.84 300 IAmb IAmb 12 29 05.8
comp=Z,105nm,1.1s
YUK4 Talbot Arm 52.93 36 P P 12 28 57.2 +1.2
baz=282,SNR=24
PNL Peninsula 52.94 39 P P 12 28 57.0 +1.2
baz=283
PNL S S 12 36 24.2 +2.7
baz=283
BLSP Bilaspur 52.98 271 i eP P 12 28 57.0 +0.3
BHK Bhakra 53.04 284 ex x 12 29 02.0
YUK6 Outpost Mounta 53.15 37 P P 12 28 59.1 +1.5
baz=283,SNR=7.1
YUK6 S S 12 36 27.5 +2.6
baz=283
SMRI Semarang 53.25 220 P P 12 28 58.7 0.0
comp=Z,4µmcomp=Z,161nm,1.1s
MNSI Mandailing Nat 53.35 236 P P 12 28 58.7 -0.7
comp=Z,60nm,0.7s
PWJI Pagerwojo 53.41 218 P P 12 28 58.3 -1.5
comp=Z,3µmcomp=Z,178nm,0.8s
IUG Iuzhnay 53.50 299 c iP P 12 29 00.9 +0.5
IUG Iuzhnay 53.50 299 i iP P 12 29 01.0 +0.5
baz=299
M30M Minto, Yukon 53.51 35 P P 12 29 01.6 +1.6
M30M Minto, Yukon 53.51 35 P P 12 29 01.6 +1.6
baz=283,SNR=27
M30M S S 12 36 31.4 +2.1
baz=283
HYT Haines Junctio 53.59 37 P P 12 29 02.1 +1.4
HYT IAmb IAmb 12 29 24.2
comp=Z,89nm,1.0s
HYT Haines Junctio 53.59 37 P P 12 29 02.2 +1.4
baz=284,SNR=46
HYT S S 12 36 33.0 +2.4
baz=284
INK Inuvik 53.62 27 P P 12 29 01.5 +0.8
comp=Z,24nm,0.8s,baz=296,slow=6.7,SNR=111
INK Inuvik 53.62 27 P P 12 29 01.0 +0.4
baz=282,SNR=54
INK S S 12 36 31.9 +1.4
baz=282
MAYO Mayo, Yukon 53.68 33 S S 12 36 35.7 +4.1
baz=283

SONA Sohna 53.95 280⇑ *e*P P 12 29 04.3 +0.6
N31M Braeburn, Yuko 54.23 36 P P 12 29 07.4 +2.1
N31M IAmb IAmb 12 29 42.9
comp=Z,96nm,1.2s
N31M Braeburn, Yuko 54.23 36 P P 12 29 06.9 +1.5
baz=285,SNR=20
N31M S S 12 36 43.3 +4.2
baz=285
KPJI Karang Pucung 54.27 221 P P 12 29 04.9 -1.2
comp=Z,2µmcomp=Z,145nm,1.0s
GSI Gunungsitoli 54.32 239 IAMs_20 IAMs_20 12 53 09.7
comp=Z,5µm,20.0s
GSI Gunungsitoli 54.32 239 P P 12 29 05.7 -0.8
comp=Z,6µmcomp=Z,420nm,1.3s
KUDL Kundal 54.47 280⇑ *e*P P 12 29 07.4 -0.1
GAR Garm 54.47 295 IAmb IAmb 12 29 17.4
comp=Z,167nm,1.0s
LEM Lembang 54.54 223 LR LR 12 53 00.8
comp=Z,794nm,19.5s,baz=8.5,slow=37
LEM Lembang 54.54 223 P P 12 29 07.6 -0.7
comp=Z,2µmcomp=Z,134nm,1.4s
KNRA Kununurra 54.57 195 IAmb IAmb 12 29 37.8
comp=Z,106nm,0.8s
SVE Sverdlovsk 54.63 318 *d i*P P 12 29 09.5 +1.2
SVE *e* 12 31 12.1
SVE *e* 12 32 21.6
SVE *e*S S 12 36 45.0 +0.5
SVE *e* 12 38 48.4
SVE pmax pmax
comp=Z,190nm,1.0s
SVE MLR MLR
comp=Z,17µm,17.0s
SVE MLR MLR
comp=E,13µm,16.0s
M31M Drury Creek, Y 54.69 35 IAMs_20 IAMs_20 12 53 42.2
comp=Z,3µm,20.0s
M31M Drury Creek, Y 54.69 35 P P 12 29 09.7 +1.1
baz=285,SNR=31
M31M S S 12 36 49.3 +4.1
baz=285
WHY Whitehorse 54.87 37 P P 12 29 11.5 +1.4
baz=286,SNR=18
WHY S S 12 36 52.6 +4.7
baz=286
SKAG Skagway 54.99 38 IAmb IAmb 12 29 27.6
comp=Z,157nm,1.9s
SKAG Skagway 54.99 38 P P 12 29 12.1 +1.3
baz=286,SNR=14
SKAG S S 12 36 52.1 +2.9
baz=286
KHET Khetri 55.03 280⇑ *e*P P 12 29 11.8 +0.3
FARO Faro, Yukon 55.15 35 P P 12 29 12.7 +0.8
baz=286,SNR=35
FARO S S 12 36 54.6 +3.2
baz=286
SISI Saibi 55.27 235 P P 12 29 12.2 -1.1
comp=Z,1µmcomp=Z,41nm,1.1s
A36M Sachs Harbour 55.47 22 IAmb IAmb 12 29 33.2
comp=Z,134nm,1.1s
A36M Sachs Harbour 55.47 22 P P 12 29 14.9 +0.9
baz=286,SNR=135
A36M S S 12 36 56.6 +1.3
baz=286
BESE Bessie Mountai 55.48 39 IAmb IAmb 12 29 31.0
comp=Z,230nm,2.0s
SIT Sitka 55.70 41 P P 12 29 15.9 0.0
SIT pmax pmax
comp=Z,104nm,1.6s
SIT Sitka 55.70 41 P P 12 29 15.9 0.0
SIT Sitka 55.70 41 P P 12 29 17.8 +1.9
baz=288
SIT S S 12 37 03.5 +4.8
baz=288
JIS Juneau Island 55.81 39 P P 12 29 18.6 +2.0
ARU Arti 55.85 318 LR LR 12 55 35.2
comp=Z,15µm,18.1s,baz=68,slow=38
ARU Arti 55.85 318 *c i*P P 12 29 17.7 +0.7
ARU 12 30 12.4
ARU PPP PPP 12 32 37.1
ARU S S 12 37 03.1 +2.3
ARU 12 39 07.0
ARU SS SS 12 40 55.0 +8.7
ARU SSS SSS 12 42 57.8
ARU pmax pmax
comp=Z,199nm,1.0s
ARU MLR MLR
comp=Z,15µm,17.0s
ARU Arti 55.85 318 P P 12 29 17.9 +0.9
ARU pP pP 12 29 30.4 +0.5
MMPY Sheldon Lake, 55.97 34 P P 12 29 19.3 +1.5
baz=287,SNR=19
MMPY S S 12 37 07.1 +4.7
baz=287
BHPL Bhopal 56.13 275 *e*P P 12 29 19.0 -0.5
BHPL IAmb IAmb 12 29 22.6
comp=Z,70nm,1.1s
C36M Paulatuk 56.65 25 P P 12 29 23.0 +0.5
C36M IAmb IAmb 12 29 41.0
comp=Z,98nm,1.1s
C36M Paulatuk 56.65 25 P P 12 29 23.0 +0.5
baz=289,SNR=85
C36M S S 12 37 11.9 +0.9
baz=289
AJM Ajmer 56.70 279⇑ *e*P P 12 29 23.9 +0.3
KBL Kabul 57.25 291 P P 12 29 27.3 -0.3
KBL pmax pmax
comp=Z,126nm,1.0s
KBL Kabul 57.25 291 P P 12 29 27.3 -0.3
KBL IAmb IAmb 12 29 31.0
comp=Z,126nm,1.0s
KBL Kabul 57.25 291 P P 12 29 28.4 +0.8
SNR=69
CRAG Craig 57.39 42 P P 12 29 29.8 +1.9
CRAG IAmb IAmb 12 29 44.6
comp=Z,160nm,1.8s
CRAG Craig 57.39 42 P P 12 29 29.6 +1.8
baz=290
CRAG S S 12 37 26.4 +5.3
baz=290
WRAK Wrangell Islan 57.46 41 P P 12 29 30.5 +2.1
WRAK IAmb IAmb 12 29 45.4
comp=Z,141nm,1.7s
WRAK Wrangell Islan 57.46 41 P P 12 29 30.0 +1.5
baz=290
WRAK S S 12 37 25.6 +3.6
baz=290
AB31 Akbulak array 57.52 310 P P 12 29 27.8 -1.2
ABKAR Akbulak array 57.52 310 P P 12 29 28.9 -0.1
ABKAR Akbulak array 57.52 310 P P 12 29 28.7 -0.3
ABKAR IAmb IAmb 12 29 32.5
comp=Z,69nm,1.0s
FITZ Fitzroy Crossi 57.62 198 LR LR 12 54 35.6
comp=Z,307nm,21.3s,baz=18,slow=36
TGTN Hyland Airport 57.65 35 P P 12 29 31.1 +1.3
baz=290,SNR=15
TGTN S S 12 37 27.9 +3.3
baz=290
WB0 Warramunga Arr 57.69 188 P P 12 29 30.0 -0.4
CTA Charters Tower 57.78 175 P P 12 29 31.0 0.0
comp=Z,5.6nm,0.6s,baz=357,slow=7.2,SNR=13
CTA LR LR 12 55 11.6
comp=Z,552nm,20.5s,baz=346,slow=37
CTAO Charters Tower 57.78 175 P P 12 29 30.8 -0.2
CTAO pmax pmax
comp=Z,220nm,1.9s
CTAO Charters Tower 57.78 175 P P 12 29 30.8 -0.2
CTAO IAmb IAmb 12 29 45.6
comp=Z,220nm,1.9s
CTAO Charters Tower 57.78 175 P P 12 29 32.0 +1.0
CTAO pP pP 12 29 44.3 +0.3
AKL Akola 57.78 272⇑ *e*P P 12 29 32.1 +0.8
WRAB Tennant Creek 57.86 188 *ce*P P 12 29 31.1 -0.5
WRAB pmax pmax
comp=Z,97nm,1.7s
WRAB Tennant Creek 57.86 188 P P 12 29 31.4 -0.1
WRAB Tennant Creek 57.86 188 P P 12 29 30.9 -0.7
WRAB pP pP 12 29 38.6 -5.9
WR0 Warramunga Arr 57.86 188 P P 12 29 31.2 -0.4
WB2 Warramunga Arr 57.87 188 P P 12 29 31.4 -0.3
WRA Warramunga Arr 57.87 188 P P 12 29 30.7 -1.0
comp=Z,28nm,0.6s,baz=4.6,slow=7.2,SNR=349
WRA S S 12 37 24.4 -3.6
comp=Z,1.0nm,1.1s,baz=4.2,slow=12,SNR=3.1
WRA LR LR 12 53 49.6
comp=Z,2µm,21.2s,baz=16,slow=35
WRA PKP2bc 12 59 28.9
comp=Z,1.6nm,1.1s,baz=185,slow=2.3,SNR=4.5
WRA PKP2ab 12 59 43.6
comp=Z,1.5nm,0.9s,baz=186,slow=2.6,SNR=5.7
WRA Warramunga Arr 57.87 188 P P 12 29 30.9 -0.7
WRA S S 12 37 24.4 -3.6
WRA pmax pmax
comp=Z,23nm,1.1s
WRA Warramunga Arr 57.87 188 P P 12 29 30.9 -0.7
WTLY Watson Lake, Y 57.91 36 P P 12 29 32.9 +1.2
baz=291
DLBC Dease Lake 57.92 38 LR LR 12 53 15.9
comp=Z,2µm,21.7s,baz=306,slow=35
DLBC Dease Lake 57.92 38 P P 12 29 33.3 +1.6
DLBC IAmb IAmb 12 29 48.2
comp=Z,98nm,1.4s
SANVU Saraoutou 58.21 151 P P 12 29 34.0 -0.1
SANVU IAmb IAmb 12 29 36.5
comp=Z,92nm,0.7s
SANVU IAMs_20 IAMs_20 12 50 03.5
comp=Z,3µm,21.0s
SANVU Saraoutou 58.21 151 P P 12 29 35.1 +1.0
SANVU pP pP 12 29 42.0 -5.0
AKTO Aktyubinsk 58.24 312 P P 12 29 34.0 0.0
comp=Z,48nm,0.9s,baz=77,slow=6.9,SNR=31
AKTO LR LR 12 55 54.4
comp=Z,8µm,18.4s,baz=67,slow=37
HYB Hyderabad 58.35 268 *e*P P 12 29 35.2 -0.1
HYB IAmb IAmb 12 29 38.9
comp=Z,75nm,0.8s
HYBB Hyderabad (bro 58.35 268 *e*P P 12 29 36.0 +0.7
HYBB IVmB_BB 12 29 37.5
comp=Z,463nm,3.3s
HYBB *e*PP PP 12 31 45.6 +0.9
HYBB *e*PcS PcS 12 34 28.6 +0.8
HYBB *e*S S 12 37 37.3 +2.5
HYBB *e*ScS ScS 12 39 21.2 -0.2
HYBB *e*ScS ScS 12 39 23.2 +1.7
HYBB IVMs_BB IVMs_BB 12 56 47.2
comp=Z,442nm,17.3s
DIB Dawson Inlet, 58.56 45 P P 12 29 37.2 +1.1
DIB IAmb IAmb 12 29 55.4
comp=Z,134nm,1.7s
WRGLY Wrigley 59.10 32 P P 12 29 39.3 -0.5
baz=293,SNR=33
WRGLY S S 12 37 45.9 +2.7
baz=293
KNTN Kanton 59.14 122 P P 12 29 42.6 +1.9
HOPEN Hopen 59.30 346 *e*P P 12 29 41.8 +0.8
ALE Alert 59.31 4 IAMs_20 IAMs_20 12 56 12.7
comp=Z,4µm,21.0s
ALE Alert 59.31 4 P P 12 29 42.2 +1.3
ALE pP pP 12 29 54.3 +0.4
RUBB Prince Rupert 59.35 43 P P 12 29 42.3 +0.7
RUBB IAmb IAmb 12 29 57.8
comp=Z,130nm,1.8s
LATR Latur 59.38 270 *e*P P 12 29 42.3 0.0
KIRV Kirov 59.69 323 LR LR 12 58 47.7
comp=Z,4µm,18.9s,baz=67,slow=39
KIRV Kirov 59.69 323 *ce*P P 12 29 44.2 +0.3
GRNB Grenville Isla 59.70 43 P P 12 29 45.5 +1.4
SPA0 Spitsbergen Ar 59.77 349⇑ *i*P P 12 29 45.0 +0.8
SPITS Spitsbergen Ar 59.77 349 P P 12 29 42.8 -1.4
comp=Z,5.6nm,0.6s,baz=111,slow=9.1,SNR=10.0
SPITS LR LR 12 57 26.3
comp=Z,5µm,20.6s,baz=256,slow=38
SPITS Spitsbergen Ar 59.77 349 P P 12 29 44.7 +0.5
SPITS pmax pmax
comp=Z,68nm,1.2s
KBS Kingsbay 59.89 350 *ce*P P 12 29 45.8 +0.7
KBS pmax pmax
comp=Z,43nm,0.9s
KBS Kingsbay 59.89 350 P P 12 29 45.7 +0.7
KBS Kingsbay 59.89 350 IAMs_20 IAMs_20 12 59 00.6
comp=Z,2µm,18.0s
KBS Kingsbay 59.89 350 *i* P P 12 29 43.1 -1.9
KBS Kingsbay 59.89 350⇑ *i*P P 12 29 45.6 +0.6
KBS Kingsbay 59.89 350 P P 12 29 46.7 +1.7
KBS pP pP 12 29 55.1 -2.9
KBS sP sP 12 30 06.3 +2.9
PRGR Permogore 60.17 327 *e*P P 12 29 46.2 -0.9
PRGR *e* 12 32 01.3
PRGR *e*S S 12 37 58.2 +1.2
PRGR pmax pmax
comp=Z,93nm,1.0s
NOR Nord 60.27 356 *i* P P 12 29 46.6 -1.0
HSPB Hornsund (broa 60.69 348 *e*P P 12 29 51.7 +1.2
HSPB Hornsund (broa 60.69 348 *e*P P 12 29 51.9 +1.4
BHV Bhavnagar 61.07 276⇑ *e*P P 12 29 55.4 +1.5
BBB Bella Bella 61.41 45 LR LR 12 54 12.7
comp=Z,1µm,21.4s,baz=292,slow=34
LVZ Lovozero 61.44 336 *ce*P P 12 29 54.5 -1.2
LVZ MLR MLR
comp=Z,9µm,18.0s
LVZ Lovozero 61.44 336 P P 12 29 56.6 +0.8
LVZ pP pP 12 30 05.0 -3.8
POO Poona 61.46 272 *e*P P 12 29 56.5 -0.1
POO IAmb IAmb 12 29 59.1
comp=Z,104nm,1.2s
AS31 Alice Springs 61.59 188 P P 12 29 57.0 -0.2
ASAR Alice Springs 61.59 188 P P 12 29 57.2 0.0
comp=Z,14nm,0.7s,baz=13,slow=6.1,SNR=142
ASAR LR LR 12 56 05.5
comp=Z,2µm,21.7s,baz=4.0,slow=35
ASAR PKP2bc 12 59 18.4
comp=Z,1.8nm,0.9s,baz=174,slow=2.4,SNR=9.3
ASAR Alice Springs 61.59 188 P P 12 29 56.8 -0.5
RES Resolute Bay 61.80 15 P P 12 29 58.0 0.0
comp=Z,32nm,0.8s,baz=308,slow=7.5,SNR=87
RES LR LR 13 00 16.2
comp=Z,885nm,19.5s,baz=318,slow=39
RES Resolute Bay 61.80 15 P P 12 29 58.3 +0.3
RES pmax pmax
comp=Z,48nm,0.9s
RES Resolute Bay 61.80 15 P P 12 29 58.3 +0.3
KAD Karad 61.87 271⇑ *e*P P 12 29 59.0 -0.4
SALM Salem 61.95 263⇑ *e*P P 12 30 02.7 +2.8
APA Apatity 62.01 336⇑ *i*P P 12 29 59.3 -0.2
APA *i* 12 32 14.0
APA *i* PPP PPP 12 33 47.0
APA *i* S S 12 38 19.0 -1.3
APA *i* PS 12 38 36.0
APA *i* 12 39 43.0
APA pmax pmax
comp=Z,42nm,0.9s
MBWA Marble Bar 62.17 203 P P 12 30 00.9 -0.1
MBWA IAmb IAmb 12 30 19.9
comp=Z,203nm,1.8s
MBWA Marble Bar 62.17 203 P P 12 30 00.8 -0.3
MBWA pP pP 12 30 15.7 +1.5
HRA Herat 62.31 293 P P 12 30 02.7 +0.3
HRA IAmb IAmb 12 30 27.9
comp=Z,90nm,1.2s
PSA00 Pilbara Seismi 62.52 203 P P 12 30 03.5 +0.1
PALK Pallekele 62.66 257 LR LR 13 00 16.9
comp=Z,2µm,19.6s,baz=152,slow=39
PALK Pallekele 62.66 257 *c i*P P 12 30 05.1 +0.4
PALK pmax pmax
comp=Z,50nm,1.4s
PALK Pallekele 62.66 257 IAMs_20 IAMs_20 12 59 01.6
comp=Z,2µm,22.0s
PALK Pallekele 62.66 257 P P 12 30 03.5 -1.3
KEV Kevo 62.74 339 P P 12 30 05.1 +0.8
KEV pmax pmax
comp=Z,54nm,1.0s
KEV MLR MLR
comp=Z,7µm,18.0s
KEV Kevo 62.74 339 P P 12 30 05.1 +0.8
KEV Kevo 62.74 339 P P 12 30 04.9 +0.6
YKA Yellowknife Ar 63.06 30 P P 12 30 06.5 0.0
comp=Z,9.4nm,0.7s,baz=303,slow=6.7,SNR=132
YKA LR LR 12 57 25.9
comp=Z,1µm,21.6s,baz=284,slow=36
YKA PKPPKP 12 59 07.0
comp=Z,0.9nm,1.0s,baz=128,slow=1.8,SNR=7.4
YKA PKP2ab 12 59 21.9
comp=Z,0.9nm,1.0s,baz=104,slow=3.1,SNR=4.8
YKA Yellowknife Ar 63.06 30 *ce*P P 12 30 06.5 0.0
YKA pmax pmax
comp=Z,10.0nm,0.7s
YKA Yellowknife Ar 63.06 30 P P 12 30 07.0 +0.4
HAMF Hammerfest 63.11 341 *e*P P 12 30 07.6 +0.8
KLMR Klimovskoe 63.15 328 *e*P P 12 30 05.4 -1.8
KLMR *e* 12 32 25.8
KLMR *e*S S 12 38 30.9 -3.8
KLMR *e*SS SS 12 42 38.7 -1.8
KLMR pmax pmax
comp=Z,85nm,1.0s
KLMR MLR MLR
comp=Z,7µm,18.0s
KLMR Klimovskoe 63.15 328 *e*P P 12 30 05.5 -1.8
KLMR AMP 12 30 09.8
comp=Z,85nm,1.0s
KLMR *e*PP PP 12 32 25.8 -0.2
KLMR *e*S S 12 38 31.0 -3.8
KLMR *e*S S 12 38 31.0 -3.8
KLMR *e*SS SS 12 42 38.7 -1.8
KLMR *e*SS SS 12 42 38.7 -1.8
KLMR LQ LQ 12 52 05.2
KLMR LQ LQ 12 52 05.2
KLMR LR LR 12 57 50.5
KLMR AMP 12 59 50.2
comp=Z,7µm,17.7s
GOA Goa 63.18 269 *e*P P 12 30 09.0 +1.0
GOA IAmb IAmb 12 30 10.9
comp=Z,159nm,1.2s
ARA0 ARCESS Array S 63.30 339⇑ *i*P P 12 30 09.0 +0.9
ARCES ARCESS Array B 63.30 339 P P 12 30 08.7 +0.6
comp=Z,16nm,0.8s,baz=55,slow=6.3,SNR=42
ARCES LR LR 13 01 51.5
comp=Z,3µm,18.6s,baz=49,slow=40
ARCES ARCESS Array B 63.30 339 P P 12 30 08.9 +0.8
ARCES pmax pmax
comp=Z,197nm,1.8s
ARCES ARCESS Array B 63.30 339 P P 12 30 08.9 +0.8
ARCES IAmb IAmb 12 30 38.3
comp=Z,197nm,1.8s
BELG Belogornoye 63.30 317 P P 12 30 08.8 +0.4
comp=Z,171nm,0.8s,baz=95,slow=2.7,SNR=21
BELG LR LR 12 59 28.4
comp=Z,5µm,19.6s,baz=56,slow=38
BELG Belogornoye 63.30 317 *c i*P P 12 30 08.3 -0.1
BELG pmax pmax
comp=Z,39nm,1.0s
BELG MLR MLR
comp=Z,2µm,16.0s
EIDS Eidsvold 63.50 170 P P 12 30 10.4 +0.5
EIDS IAmb IAmb 12 30 25.4
comp=Z,166nm,1.6s
GEYT Alibeck 63.56 299 P P 12 30 10.7 +0.3
comp=Z,124nm,1.3s,baz=54,slow=7.3,SNR=30
GEYT LR LR 13 00 51.2
comp=Z,4µm,18.1s,baz=74,slow=39
GEYT Alibeck 63.56 299 P P 12 30 10.8 +0.4
GEYT IAmb IAmb 12 30 36.4
comp=Z,112nm,1.2s
GYA0B ALIBECK ARRAY 63.56 299 P P 12 30 10.7 +0.3
GYA0B IAmb IAmb 12 30 36.9
comp=Z,123nm,1.1s
CBB Campbell River 63.93 46 P P 12 30 13.2 +0.7
NOUC Port Laguerre 63.99 154 P P 12 30 15.2 +2.0
DZM Mont Dzumac 64.01 154 P P 12 30 15.9 +2.5
baz=330,slow=8.1
DZM LR LR 12 55 41.2
comp=Z,7µm,20.9s,baz=328,slow=34
DZM Mont Dzumac 64.01 154 *e*P P 12 30 15.9 +2.5
comp=Z,284nm,1.7s
DZM *e*S S 12 38 47.1 +0.7
comp=Z,2µm,27.4s
DZM Mont Dzumac 64.01 154 *e*LR LR 12 49 24.3
comp=Z,11µm,21.5s
DZM Mont Dzumac 64.01 154 P P 12 30 16.5 +3.1
PCHI Peechi 64.08 263⇑ *e*P P 12 30 14.4 +0.4
KTK1 Kautokeino 64.25 339⇑ *i*P P 12 30 15.2 +0.8
TULEG Thule 64.29 8 P P 12 30 14.6 +0.1
TULEG IAmb IAmb 12 30 35.7
comp=Z,81nm,1.0s
TULEG IAMs_20 IAMs_20 12 59 56.6
comp=Z,2µm,20.0s
TULEG Thule 64.29 8 *i* P P 12 30 13.0 -1.5
TULEG IAmb IAmb 12 30 32.8
comp=Z,102nm,1.1s
JETT Jettan, Norway 64.67 341⇑ *i*P P 12 30 17.9 +0.8
DAG Danmarks Havn 64.99 355 P P 12 30 18.1 -1.0
DAG Danmarks Havn 64.99 355 *i* P P 12 30 18.0 -1.0
DAG IVmB_BB 12 30 47.3
comp=Z,1µm,3.1s
TRO Tromso 65.00 341 *e*P P 12 30 20.1 +0.8
MSVF Nonsavu 65.05 141 P P 12 30 22.5 +2.2
comp=Z,7.0nm,0.6s,baz=342,slow=8.6,SNR=4.3
MSVF LR LR 12 53 05.8
comp=Z,5µm,21.7s,baz=349,slow=31
CLRS Cowichan Lake 65.22 47 P P 12 30 22.4 +1.4
CLRS IAmb IAmb 12 30 37.2
comp=Z,117nm,1.5s
LLLB Lillooet 65.59 44 P P 12 30 25.1 +1.6
LLLB IAmb IAmb 12 30 40.4
comp=Z,171nm,1.3s
B04A Port Angeles 65.96 47 P P 12 30 26.4 +0.5
B04A IAmb IAmb 12 30 43.2
comp=Z,95nm,1.2s
A04D Lummi Island 66.09 46 P P 12 30 27.8 +1.2
baz=300
A04D S S 12 39 11.9 +0.7
baz=300
VALR Valaam 66.39 331 *i* P P 12 30 28.9 +0.6
VALR pmax pmax
comp=Z,99nm,0.9s
VALR MLR MLR
comp=Z,4µm,16.0s
D03D Eldon 66.47 47 P P 12 30 30.2 +1.1
baz=301,SNR=15
D03D S S 12 39 18.7 +2.7
baz=301
B05A Bryant 66.67 46 P P 12 30 31.3 +1.0
baz=301,SNR=9.5
B05A S S 12 39 19.0 +0.6
baz=301
MOS Moscow 66.69 323 *e*P P 12 30 28.9 -1.4
MOS *e* 12 30 58.1
MOS *e* 12 32 55.0
MOS *e*S S 12 39 16.7 -1.6
MOS *e*SS sS 12 39 40.3 -0.1
MOS *e* 12 40 24.8
MOS pmax pmax
comp=Z,141nm,1.2s
MOS MLR MLR
comp=Z,3µm,16.0s
E03A Lebam 66.70 48 IAmb IAmb 12 30 48.1
comp=Z,130nm,1.2s
D04E Lakebay 66.84 48 P P 12 30 33.3 +1.9
baz=301,SNR=5.7
B06A Marblemount 66.89 46 IAmb IAmb 12 30 48.5
comp=Z,150nm,1.3s
VRH Novokhopyorsk 67.07 318 *e*P P 12 30 32.1 -0.7
VRH *e*S S 12 39 19.7 -3.4
VRH pmax pmax
comp=Z,120nm,0.7s
VRH smax smax
comp=E,1µm,16.4s
VRH MLR MLR
comp=Z,14µm,16.0s
STEI Steigen 67.16 341 *e*P P 12 30 33.6 +0.5
F04D Rainier, OR 67.26 49 P P 12 30 35.0 +0.9
baz=301
F04D S S 12 39 27.1 +1.5
baz=301
E04D Cinebar 67.28 48 P P 12 30 35.2 +1.0
baz=301,SNR=7.5
E04D S S 12 39 28.8 +3.1
baz=301
LOF Lofoten 67.45 341⇑ *i*P P 12 30 35.1 +0.2
DBG Daneborg 67.48 355 *i* P P 12 30 34.6 -0.5
DBG IVmB_BB 12 30 52.3
comp=Z,620nm,1.9s
OBN Obninsk 67.53 323 LR LR 13 02 37.0
comp=Z,1µm,18.3s,baz=50,slow=38
OBN Obninsk 67.53 323 *c i*P P 12 30 36.3 +0.7
OBN *i* 12 31 03.9
OBN *i* 12 33 03.0
OBN *i* S S 12 39 22.7 -5.8
OBN pmax pmax
comp=Z,97nm,1.0s
OBN MLR MLR
comp=Z,4µm,17.0s
OBN Obninsk 67.53 323 P P 12 30 35.8 +0.2
OBN IAmb IAmb 12 30 38.6
comp=Z,116nm,1.1s
C06D Leavenworth 67.53 46 P P 12 30 36.6 +0.7
baz=302
C06D S S 12 39 30.4 +1.5

baz=302
FAUS Fauske 67.54 340 *e*P **P** **12 30 36.1 +0.6**
AFI Afiamalu 67.55 130 LR LR 12 54 54.1
comp=Z,3μm,21.1s,baz=306,slow=31
G03D McMinnville, O 67.56 50 P **P** **12 30 37.0 +1.0**
baz=302
G03D S **S** **12 39 32.3 +3.1**
baz=302
PUL Pulkovo 67.56 329 *i* P **P** **12 30 36.3 +0.5**
PUL pmax pmax
comp=Z,127nm,0.9s
PUL MLR MLR
comp=Z,5μm,17.0s
F04A Amboy 67.69 49 P **P** **12 30 38.5 +1.6**
F04A IAmb IAmb 12 30 54.1
comp=Z,155nm,1.2s
LPSR Galich'ya Gora 67.77 320 *e*P **P** **12 30 37.7 +0.5**
LPSR pmax pmax
comp=Z,170nm,1.0s
LPSR MLR MLR
comp=Z,16μm,17.0s
I02E Swisshome, OR 67.79 51 P **P** **12 30 38.6 +1.1**
baz=302
I02E S **S** **12 39 35.4 +3.5**
baz=302
COR Corvallis 67.87 50 P **P** **12 30 38.5 +0.5**
COR pmax pmax
comp=Z,237nm,1.3s
COR Corvallis 67.87 50 P **P** **12 30 38.5 +0.5**
COR Corvallis 67.87 50 P **P** **12 30 39.7 +1.8**
COR pP **pP** **12 30 52.8 +1.6**
LTY Liberty 68.02 47 P **P** **12 30 39.7 +0.7**
LTY IAmb IAmb 12 30 55.1
comp=Z,162nm,1.6s
MNCY Minicoy 68.04 263 *e*P P 12 30 56.3 +17
MAK Makhachkala 68.07 308 *e*P **P** **12 30 39.5 +0.3**
MAK *e* 12 31 06.1
MAK *e* 12 33 07.8
MAK *e*PPP PPP 12 34 48.0
MAK *e*S **S** **12 39 35.8 +0.5**
MAK *e**SS **sS** **12 39 59.9 +2.4**
MAK pmax pmax
comp=Z,183nm,1.3s
MAK MLR MLR
comp=Z,5μm,16.0s
VORR Voronezh 68.14 319 *e*P **P** **12 30 41.2 +1.7**
VORR pmax pmax
comp=Z,100nm,0.5s
FIA1 FINESS Array S 68.17 332 P **P** **12 30 39.5 0.0**
FIA1 IAmb IAmb 12 30 42.9
comp=Z,109nm,0.9s
FINES FINESS Array B 68.17 332 P **P** **12 30 39.8 +0.2**
comp=Z,72nm,0.8s,baz=60,slow=7.7,SNR=88
FINES LR LR 13 02 45.5
comp=Z,4μm,18.2s,baz=49,slow=38
B08A Colville Reser 68.19 45 P **P** **12 30 40.8 +0.8**
J01E Myrtle Point 68.23 52 P **P** **12 30 40.5 +0.2**
J01E IAmb IAmb 12 30 57.2
comp=Z,140nm,1.2s
J01E Myrtle Point 68.23 52 P **P** **12 30 41.4 +1.1**
baz=302
H04D Lebanon 68.25 50 P **P** **12 30 41.9 +1.5**
H04D IAmb IAmb 12 31 09.4
comp=Z,196nm,1.4s
H04D Lebanon 68.25 50 P **P** **12 30 41.5 +1.2**
baz=302
H04D S **S** **12 39 40.9 +3.5**
baz=302
F05D White Salmon 68.29 48 P **P** **12 30 42.2 +1.5**
baz=302,SNR=5.6
F05D S **S** **12 39 40.2 +2.2**
baz=302
I03D Drain, OR 68.31 51 P **P** **12 30 42.0 +1.3**
baz=302,SNR=10
I03D S **S** **12 39 39.0 +0.8**
baz=302
VSR Storozhevoye 68.42 319 *e*P **P** **12 30 40.9 -0.4**
VSR *e*S **S** **12 39 35.9 -3.3**
VSR pmax pmax
comp=Z,150nm,1.0s
VSR smax smax
comp=E,170nm,6.6s
VSR MLR MLR
comp=Z,12μm,16.0s
VORD Divnogorie 68.49 318 *e*P **P** **12 30 41.8 +0.1**
VORD pmax pmax
comp=Z,120nm,1.2s
H04A Detroit Lake 68.49 50 IAmb IAmb 12 30 59.1
comp=Z,177nm,1.2s
ARMA Armidale 68.55 171 IAmb IAmb 12 30 58.4
comp=Z,186nm,1.5s
K02D Willamette Mer 68.64 52 P **P** **12 30 44.3 +1.3**
baz=302,SNR=9.3
K02D S **S** **12 39 44.4 +2.0**
baz=302
MOR8 Moi Rana 68.66 340 *e*P **P** **12 30 41.8 -0.8**
G05D Wamic, OR 68.72 49 P **P** **12 30 44.7 +1.4**
baz=303,SNR=7.1
G05D S **S** **12 39 44.5 +1.4**
baz=303
KONS Konsvik 68.77 340 *e*P **P** **12 30 44.4 +1.1**
E07A Sunnyside 68.86 47 P **P** **12 30 45.3 +1.1**
E07A IAmb IAmb 12 31 01.6
comp=Z,199nm,1.5s
L02E Cave Junction 68.97 53 P **P** **12 30 46.2 +1.2**
baz=302,SNR=5.8
L02E S **S** **12 39 48.8 +2.6**
baz=302
GROC Groznyy 69.00 309 *e*P **P** **12 30 45.8 +0.7**
GROC *e* 12 31 09.6
GROC *e*S **S** **12 39 46.1 -0.3**
GROC *e**SS **sS** **12 40 12.5 +3.9**
GROC pmax pmax
comp=Z,83nm,1.1s
GROC MLR MLR
comp=Z,942nm,14.0s
C09A Chrisman Ranch 69.08 45 IAmb IAmb 12 31 02.5
comp=Z,187nm,1.4s
D08A Wollman Farm, 69.13 46 IAmb IAmb 12 31 02.0
comp=Z,173nm,1.5s
HAWA Hanford 69.14 47 IAmb IAmb 12 31 02.4
comp=Z,165nm,1.6s
F07A Phinny Hill Vi 69.18 48 P **P** **12 30 47.2 +1.0**
F07A IAmb IAmb 12 31 03.5
comp=Z,143nm,1.3s
I05D Terrebonne, OR 69.19 50 P **P** **12 30 46.6 +0.3**
baz=303,SNR=9.1
I05D S **S** **12 39 51.4 +2.6**
baz=303
SEKA Sheki 69.19 306 P **P** **12 30 46.5 +0.1**
J04D Umpqua Nationa 69.31 51 P **P** **12 30 48.2 +0.8**
baz=303,SNR=18
J04D S **S** **12 39 52.9 +2.3**
baz=303
ZKTA Zakatala 69.32 307 P **P** **12 30 47.5 +0.3**
STKA Stephens Creek 69.35 180 P **P** **12 30 47.1 0.0**
comp=Z,5.5nm,0.5s,baz=337,slow=8.8,SNR=15
STKA pP **pP** **12 31 00.9 +0.5**
comp=Z,22nm,0.9s,baz=343,slow=7.3,SNR=9.0
STKA LR LR 12 59 56.3
comp=Z,1μm,21.5s,baz=8.2,slow=35
STKA Stephens Creek 69.35 180 *i* P **P** **12 30 46.6 -0.5**
E08A Dider Farm, El 69.36 47 IAmb IAmb 12 31 03.6
comp=Z,109nm,1.4s
JMIC Jan Mayen 69.38 350 LR LR 13 04 31.1
comp=Z,804nm,18.3s,baz=33,slow=39
NEW Newport 69.47 44 P **P** **12 30 48.9 +0.9**
comp=Z,8.2nm,0.8s,baz=309,slow=4.2,SNR=16
NEW pP **pP** **12 31 02.3 +1.1**
comp=Z,62nm,1.2s,baz=309,slow=5.4,SNR=20
NEW LR LR 12 57 58.5
comp=Z,865nm,21.9s,baz=298,slow=33
NEW Newport 69.47 44 IAmb IAmb 12 31 04.9
comp=Z,168nm,1.4s
NEW Newport 69.47 44 P **P** **12 30 48.3 +0.3**
baz=304,SNR=14
NEW S **S** **12 39 53.1 +1.1**
baz=304
MNGR Mingechevir, A 69.50 306 P **P** **12 30 49.0 +0.8**
LKRN Lenkeran, Azer 69.50 303 P **P** **12 30 48.2 0.0**
KMPM Mount Pierce 69.57 54 IAmb IAmb 12 31 05.9
comp=Z,185nm,1.4s
KHMM Horse Mountain 69.58 54 IAmb IAmb 12 31 05.9
comp=Z,179nm,1.5s
MEF Metsahovi 69.59 332 *e*P **P** **12 30 49.2 +0.8**
GOF Gofitskoye 69.66 312⇑ *i*P **P** **12 30 50.2 +1.1**
GOF pmax pmax
comp=Z,234nm,1.0s
DDFL Dedoflistskaro 69.75 307 P **P** **12 30 53.5 +3.7**
L04D Klamath Falls 69.75 52 P **P** **12 30 49.8 -0.1**
baz=303,SNR=26
L04D S **S** **12 39 57.2 +1.6**
baz=303
YBH Yreka Blue Hor 69.76 53 P **P** **12 30 51.5 +1.5**
comp=Z,10nm,0.8s,baz=317,slow=3.2,SNR=5.7
YBH LR LR 12 56 40.8
comp=Z,1μm,20.3s,baz=302,slow=32
YBH Yreka Blue Hor 69.76 53 IAmb IAmb 12 31 06.8
comp=Z,117nm,1.4s
J05D Fort Rock, OR 69.83 51 P **P** **12 30 50.9 +0.5**
baz=303,SNR=31
J05D S **S** **12 39 59.0 +2.5**
baz=303
VSU Vasula 69.83 329*c* *i*P **P** **12 30 49.9 0.0**
VSU pmax pmax
comp=Z,217nm,1.0s
VSU Vasula 69.83 329 *e*P **P** **12 30 51.1 +1.3**
M02C Callahan 69.85 53 IAmb IAmb 12 31 07.6
comp=Z,111nm,1.4s
M02C Callahan 69.85 53 P **P** **12 30 51.5 +1.0**
baz=303,SNR=14
M02C S **S** **12 39 59.9 +3.2**
baz=303
K04D Chiloquin, OR 69.87 51 P **P** **12 30 51.4 +0.8**
baz=303,SNR=5.6
K04D S **S** **12 39 59.0 +2.0**
baz=303
KMRM Mail Ridge 69.94 54 P **P** **12 30 51.3 +0.2**
KMRM IAmb IAmb 12 31 08.2
comp=Z,102nm,1.4s
RAF Rauma 70.01 333 *e*P **P** **12 30 51.5 +0.5**
GANJ Ganja 70.05 306 P **P** **12 30 51.5 -0.2**
N02D Trinity Center 70.17 53 IAmb IAmb 12 31 09.4
comp=Z,113nm,1.4s
N02D Trinity Center 70.17 53 P **P** **12 30 54.1 +1.6**
baz=303,SNR=12
N02D S **S** **12 40 01.5 +1.0**
baz=303
M04C Macdoel 70.28 52 P **P** **12 30 53.9 +0.8**
baz=303,SNR=31
M04C S **S** **12 40 04.4 +2.7**
baz=303
ZEI Tsey 70.39 309 *e*P **P** **12 30 51.2 -2.7**
ZEI pmax pmax
comp=Z,35nm,1.0s
KVAR Kislovodsk Arr 70.47 311 P **P** **12 30 55.7 +1.4**
comp=Z,119nm,1.1s,baz=102,slow=20,SNR=12
KVAR LR LR 13 04 33.0
comp=Z,3μm,18.9s,baz=274,slow=38
KBZ Khabaz 70.48 311 P **P** **12 30 54.7 +0.6**
comp=Z,93nm,0.9s,baz=50,slow=3.9,SNR=87
KBZ PKPPKP **P'P'df** **12 58 57.5 -1.0**
comp=Z,1.3nm,0.6s,baz=242,slow=6.1,SNR=9.7
KBZ LR LR 13 04 30.2
comp=Z,4μm,18.7s,baz=45,slow=38
KBZ Khabaz 70.48 311*ce*P **P** **12 30 54.4 +0.3**
KBZ pmax pmax
comp=Z,85nm,1.1s
KIV Kislovodsk 70.48 311⇑P **P** **12 30 54.7 +0.4**
KIV Kislovodsk 70.48 311 *i*P **P** **12 30 55.5 +1.2**
KIV Kislovodsk 70.48 311 *e*P **P** **12 30 55.2 +0.9**
KIV *e* 12 33 31.6
KIV *e*S **S** **12 40 05.2 +1.2**
KIV *e*SS **SS** **12 44 38.0 +3.1**
KIV pmax pmax
comp=Z,368nm,4.2s
KIV pmax pmax
comp=Z,268nm,1.1s
KIV MLR MLR
comp=Z,3μm,18.0s
KIV Kislovodsk 70.48 311 P **P** **12 30 55.0 +0.7**
KIV Kislovodsk 70.48 311 *i*P **P** **12 30 55.0 +0.7**
SNR=44
KIV Kislovodsk 70.48 311 P **P** **12 30 56.5 +2.2**
KIV pP **sP** **12 31 10.5 -2.3**
O02D Mt. Diablo Mer 70.56 54 IAmb IAmb 12 31 11.8
comp=Z,144nm,1.3s
O02D IAMs_20 IAMs_20 12 55 51.6
comp=Z,2μm,20.0s
O02D Mt. Diablo Mer 70.56 54 P **P** **12 30 55.5 +0.6**
baz=303
O02D S **S** **12 40 07.2 +2.2**
baz=303
NSS Namsos 70.58 339⇑ *i*P **P** **12 30 55.0 +0.6**
SHA1 Shidzhatmaz 70.62 311*c* *i*P **P** **12 30 56.1 +0.8**
MORW Morawa 70.72 204 IAmb IAmb 12 31 27.9
comp=Z,108nm,1.4s
WALA Waterton Lakes 70.76 42 IAmb IAmb 12 31 13.0
comp=Z,117nm,1.2s
WSAR Wadi Sarin 70.78 285 LR LR 13 05 29.9
comp=Z,2μm,20.4s,baz=83,slow=39
WSAR Wadi Sarin 70.78 285 P **P** **12 30 57.7 +1.3**
SNR=5.1
JLN Jalan Bani Buh 70.79 283 P **P** **12 30 58.0 +1.6**
SNR=9.3
MTSE Matsula 70.82 331 *e*P **P** **12 30 56.3 +0.4**
NEY Neytrino 70.85 310*c* *i*P **P** **12 30 57.5 +0.8**
NEY pmax pmax
comp=Z,9.0nm,0.9s
WBK Wadi Bani Khal 70.87 284 P **P** **12 30 59.0 +2.1**
SNR=15
BIDO Bidbid 71.01 285 P **P** **12 30 60.0 +2.2**
SNR=6.4
HOPS Hopland Field 71.03 55 IAMs_20 IAMs_20 12 55 57.1
comp=Z,2μm,19.0s
BANOM Banah 71.08 288 P **P** **12 30 60.0 +1.8**
SNR=7.1
BANOM Banah 71.08 288 *i*P **P** **12 30 58.4 +0.3**
SNR=16
O03E Paynes Creek 71.12 53 P **P** **12 30 58.8 +0.6**
baz=304,SNR=12
O03E S **S** **12 40 12.9 +1.4**
baz=304
SHME Shamm 71.12 289 P **P** **12 30 59.3 +0.9**
SNR=5.5
SHME Shamm 71.12 289 *i*P **P** **12 30 59.0 +0.6**
SNR=13
MOD Modoc Plateau 71.17 51 IAmb IAmb 12 31 15.0
comp=Z,98nm,1.3s
AAL Aland 71.23 333 *e*P **P** **12 31 00.2 +1.8**
BMO Blue Mountains 71.30 47 IAmb IAmb 12 31 15.7
comp=Z,123nm,1.4s
GDXM Geysers 71.31 55 IAmb IAmb 12 31 16.2
comp=Z,133nm,1.5s
SMDO Samad 71.33 285 P **P** **12 31 02.0 +2.2**
SNR=14
GNI Garni 71.33 307 P **P** **12 31 00.4 +0.8**
baz=92,slow=5.0
GNI LR LR 13 05 03.8
comp=Z,4μm,18.5s,baz=63,slow=38
GNI Garni 71.33 307 *i*P **P** **12 31 01.4 +1.8**
GNI Garni 71.33 307 P **P** **12 31 00.9 +1.3**
GNI pmax pmax
comp=Z,177nm,1.1s
GNI MLR MLR
comp=Z,4μm,20.0s
GNI Garni 71.33 307 P **P** **12 31 00.9 +1.3**
GNI IAmb IAmb 12 31 29.8
comp=Z,177nm,1.1s
GNI Garni 71.33 307 P **P** **12 31 00.4 +0.8**
GNI Garni 71.33 307 P **P** **12 31 01.2 +1.6**
GNI pP **pP** **12 31 08.0 -5.0**
JTMT Jette 71.33 44 IAmb IAmb 12 31 15.9
comp=Z,127nm,1.4s
SCO Scoresbysund 71.33 354 *i*P **P** **12 30 58.9 0.0**
SCO IVmB_BB 12 31 29.4
comp=Z,1μm,3.0s
NAX Nakhchivan 71.39 305 P **P** **12 31 00.2 +0.3**
AKH Akhalkalaki 71.41 308⇑P **P** **12 31 01.7 +1.6**
AKH Akhalkalaki 71.41 308 *e*P **P** **12 31 00.6 +0.5**
J08A Circle Bar Ran 71.46 49 IAmb IAmb 12 31 17.8
comp=Z,139nm,1.2s
MASF Masafi 71.48 288 P **P** **12 31 03.1 +2.5**
SNR=6.9
MSFE Esma-Masafi 71.49 288 *i*P **P** **12 31 00.7 +0.1**
SNR=6.4
CHVG Ch'k'valeri 71.54 310⇑P **P** **12 31 01.8 +1.2**
HOQ Hoqain 71.60 286 P **P** **12 31 03.0 +1.7**
SNR=8.4
MCCM Marconi Confer 71.62 56 IAmb IAmb 12 31 17.1
comp=Z,116nm,1.3s
MCCM IAMs_20 IAMs_20 12 55 37.9
comp=Z,2μm,21.0s
JMDO Jabal Madar 71.67 284 P **P** **12 31 03.0 +1.2**
SNR=14
UOSS Minazif 71.69 288 P **P** **12 31 01.7 -0.1**
UOSS IAmb IAmb 12 31 27.1
comp=Z,108nm,0.9s
UOSS Minazif 71.69 288 IAMs_20 IAMs_20 13 06 24.6
comp=Z,2μm,21.0s
UOSS Minazif 71.69 288 *i*P **P** **12 31 01.8 0.0**
SNR=13
UOSS Minazif 71.69 288 P **P** **12 31 02.2 +0.4**
UOSS pP **pP** **12 31 10.2 -5.0**
UOSS sP **sP** **12 31 18.8 -1.6**
ORV Oroville 71.73 54 IAmb IAmb 12 31 17.5
comp=Z,110nm,1.4s
HATD Hatta, Dubai 71.81 288 P **P** **12 31 04.0 +1.4**
SNR=12
HATD Hatta, Dubai 71.81 288 *i*P **P** **12 31 02.7 +0.2**
SNR=10
IDID Didziasalis 71.88 327 *e*P **P** **12 31 03.4 +1.0**
SOHO SOHO 71.89 287 *i*P **P** **12 31 02.4 -0.6**
SNR=24
WVOR Wild Horse Val 71.89 50 IAmb IAmb 12 31 19.4
comp=Z,150nm,1.4s
MNK Minsk 71.91 326 *i*P **P** **12 31 04.2 +1.7**
MNK *i**PP **pP** **12 31 18.5 +2.6**
MNK *i* 12 33 45.7
MNK *i*PPP PPP 12 35 27.9
MNK *i*S **S** **12 40 20.5 +0.6**
MNK *i**SS **sS** **12 40 46.3 +4.1**
MNK *i* 12 41 05.4
MNK pmax pmax
comp=Z,144nm,1.0s
MNK pmax pmax
comp=E,12nm,1.0s
MNK pmax pmax
comp=N,81nm,1.0s
MNK MLR MLR
comp=E,351nm,19.0s
MNK MLR MLR
comp=Z,6μm,21.0s
MNK MLR MLR
comp=N,4μm,21.0s
MNK Minsk 71.91 326 *i*P **P** **12 31 04.3 +1.7**
comp=E,12nm,1.1s
MNK *i*P **P** **12 31 04.3 +1.7**
comp=N,81nm,1.0s
MNK *i*P **P** **12 31 04.3 +1.7**
comp=Z,144nm,1.0s,baz=229
MNK *i*pP **pP** **12 31 18.5 +2.6**
MNK *i*PP **PP** **12 33 45.8 +3.7**
MNK *i*PPP PPP 12 35 28.0
MNK *i*S **S** **12 40 20.6 +0.6**
MNK *i*sS **sS** **12 40 46.3 +4.1**
MNK *i*SSS SSS 12 48 19.8
MNK *i*LR LR 13 02 58.2
MNK *i*LRM MLR 13 05 15.4
comp=E,351nm,18.7s
MNK *i*LRM MLR 13 05 15.4
comp=Z,6μm,21.3s
MNK *i*LRM MLR 13 05 19.4
comp=N,4μm,20.6s
PLID Pearl Lake 71.92 47 IAmb IAmb 12 31 19.1
comp=Z,158nm,1.6s
PLID IAMs_20 IAMs_20 12 57 18.2
comp=Z,2μm,21.0s
ASHO Ashiyiah 71.94 287 P **P** **12 31 05.0 +1.6**
SNR=12
ASHO Ashiyiah 71.94 287 *i*P **P** **12 31 03.4 0.0**
SNR=19
ISAL Salakas 71.97 327 *e*P **P** **12 31 04.4 +1.4**
MSO Missoula 72.06 44 IAmb IAmb 12 31 19.8
comp=Z,171nm,1.6s
MSO Missoula 72.06 44 P **P** **12 31 03.9 0.0**
baz=306,SNR=13
MSO S **S** **12 40 20.4 -1.8**
baz=306
NAZ Nazwa, Dubai 72.07 288 P **P** **12 31 05.5 +1.4**
IIGN Ignalina 72.08 327 *e*P **P** **12 31 04.7 +1.1**
KARS Kars 72.11 308 *e*P **P** **12 31 05.6 +1.3**
NACGM Naroch 72.13 327 *e*P **P** **12 31 05.4 +1.5**
BSY Bisya 72.15 285 P **P** **12 31 06.0 +1.3**
SNR=8.9
BEKR Beckworth 72.28 53 IAmb IAmb 12 31 21.4
comp=Z,137nm,1.3s
UPP Uppsala 72.29 334 *e*P **P** **12 31 05.3 +0.6**
ARQ Araqi 72.34 286 P **P** **12 31 07.4 +1.6**
SNR=16
BATM Batumi 72.41 309⇑P **P** **12 31 06.9 +1.0**
BATM Batumi 72.41 309 P **P** **12 31 06.8 +0.9**
BATM Batumi 72.41 309 P **P** **12 31 07.5 +1.6**
SOC Sochi 72.46 312 *i*P **P** **12 31 06.5 +0.4**
ALNE Al Ain 72.52 287 P **P** **12 31 07.1 +0.3**
SNR=12
ALNE Al Ain 72.52 287 *i*P **P** **12 31 06.5 -0.3**
SNR=6.2
ASUD Al Ashush, Dub 72.52 288 P **P** **12 31 08.3 +1.5**
SNR=5.3
ASUD Al Ashush, Dub 72.52 288 *i*P **P** **12 31 06.3 -0.5**
SNR=7.7
MHTO MHTO 72.55 283 P **P** **12 31 08.0 +1.0**
SNR=38
SENK Senkaya-Erzuru 72.61 308 *e*P **P** **12 31 08.3 +1.0**
AGRB Hanur-Agry 72.77 307 *e*P **P** **12 31 09.2 +0.9**
MPK Martis Peak 72.81 53 IAmb IAmb 12 31 25.8
comp=Z,239nm,1.3s
ILULI Ilulissat 72.86 5 IAMs_20 IAMs_20 13 06 06.7
comp=Z,2μm,19.0s
ILULI Ilulissat 72.86 5 *i*P **P** **12 31 08.2 +0.2**
RUBR Rubicon Trail 72.87 54 IAmb IAmb 12 31 25.3
comp=Z,130nm,1.3s
KAAM Kaadhehdhoo 72.88 257 IAMs_20 IAMs_20 13 02 50.2
comp=Z,2μm,20.0s
PABE Paberze 72.93 328 IAmb IAmb 12 31 34.2
comp=Z,152nm,0.9s
PABE Paberze 72.93 328 *e*P **P** **12 31 09.9 +1.2**
EMB Emerald Bay 72.95 54 IAmb IAmb 12 31 25.8
comp=Z,178nm,1.4s
FFC Flin Flon 72.97 33 P **P** **12 31 09.3 +0.4**
FFC pmax pmax
comp=Z,69nm,1.0s
FFC Flin Flon 72.97 33 P **P** **12 31 09.2 +0.4**
PAHR Pah Rah Range 72.98 53 IAmb IAmb 12 31 25.8
comp=Z,133nm,1.3s
MFID Camas Ranch 73.00 48 IAmb IAmb 12 31 26.0
comp=Z,185nm,1.4s
ANN Anapa 73.07 314*c* *i*P **P** **12 31 09.3 -0.4**
ANN *i**PP **pP** **12 31 20.8 -2.2**
ANN *e*S **S** **12 40 32.6 -0.9**
ANN pmax pmax
comp=Z,158nm,1.2s
ANN MLR MLR
comp=Z,5μm,18.0s
CAN Canberra 73.11 174 P **P** **12 31 11.5 +1.6**
CAN Canberra 73.11 174 IAmb IAmb 12 31 25.9
comp=Z,142nm,1.4s
PNTR Pine Nut 73.20 53 IAmb IAmb 12 31 27.6
comp=Z,165nm,1.4s
FCC Fort Churchill 73.23 27 IAmb IAmb 12 31 28.5
comp=Z,128nm,1.4s
KOPR Koprukoy-ERZUR 73.24 308 *e*P **P** **12 31 12.2 +1.1**
CHOM Cayeli-Rize 73.28 309 P **P** **12 31 12.2 +1.2**
CMB Columbia Colle 73.31 55 IAmb IAmb 12 31 27.6
comp=Z,155nm,1.4s
CMB IAMs_20 IAMs_20 12 56 13.4
comp=Z,3μm,22.0s
NC303 NORSAR Array S 73.31 337 IAmb IAmb 12 31 32.2
comp=Z,148nm,1.4s
SAO San Andreas Ge 73.34 56 P **P** **12 31 12.3 +0.8**
DOMB Dombas 73.35 339 *e*P **P** **12 31 11.6 +0.6**
MOL Molde 73.35 340 *e*P **P** **12 31 12.3 +1.3**
ICESG Greenland Ices 73.39 0 *i*P **P** **12 31 12.1 +0.5**
HFS Hagfors 73.41 336 LR LR 13 06 15.1
comp=Z,12μm,19.7s,baz=38,slow=38
DQM DQM 73.48 283 P **P** **12 31 14.0 +1.5**
SNR=6.1
AKDM Akdamar-Van 73.49 306 *e*P **P** **12 31 12.7 +0.2**
YERR Yerington 73.49 53 IAmb IAmb 12 31 29.1
comp=Z,179nm,1.3s
NB2 NORSAR Subarra 73.50 337 P **P** **12 31 11.9 -0.1**
comp=Z,153nm,1.4s,baz=38,slow=6.2
NB2 NORSAR Subarra 73.50 337 P **P** **12 31 11.9 -0.1**
baz=38,slow=6.2
NOA NORSAR Array B 73.50 337 P **P** **12 31 12.0 -0.1**
comp=Z,39nm,0.8s,baz=38,slow=5.8,SNR=50
NOA LR LR 13 05 57.2
comp=Z,8μm,22.0s,baz=35,slow=38

NOA	NORSAR Array B	73.50	337		P		P		12 31 12.0	-0.1
EGMT	Eagleton	73.59	42		IAmb		IAmb		12 31 29.8	
	comp=Z,200nm,1.2s									
EGMT	Eagleton	73.59	42		P		P		12 31 13.4	+0.5
	baz=309,SNR=13									
EGMT					S		S		12 40 40.0	+0.5
	baz=309									
VIKU	Vikbolandet	73.61	333	*eP*			P		12 31 13.1	+0.5
NC602	NORSAR Array S	73.64	337		IAmb		IAmb		12 31 29.5	
	comp=Z,266nm,1.6s									
NC602	NORSAR Array S	73.64	337	*eP*			P		12 31 13.6	+0.8
NORES	NORESS Array B	73.64	337		P		P		12 31 16.4	+3.7
NORES					pmax		pmax			
	comp=Z,11nm,1.1s									
NBO00	NORSAR Array S	73.64	337		IAmb		IAmb		12 31 31.8	
	comp=Z,226nm,1.3s									
DLMT	Dillon	73.69	45		IAmb		IAmb		12 31 30.7	
	comp=Z,206nm,1.4s									
BBGB	Big Mountain B	73.71	56		IAmb		IAmb		12 31 30.4	
	comp=Z,87nm,1.1s									
HLID	Hailey	73.74	47		IAmb		IAmb		12 31 30.6	
	comp=Z,111nm,1.4s									
HLID	Hailey	73.74	47		P		P		12 31 14.8	+0.9
	baz=307,SNR=21									
HLID					S		S		12 40 42.3	+0.8
	baz=307									
AKASG	Malin Array Be	73.74	322		P		P		12 31 13.3	-0.2
	comp=Z,16nm,0.4s,baz=47,slow=6.7,SNR=96									
AKASG					LR		LR		13 07 16.0	
	comp=Z,4μm,20.6s,baz=50,slow=39									
AKBB	Malin Array Si	73.74	322	*ce*	P		P		12 31 13.4	-0.1
AKBB	Malin Array Si	73.74	322		IAmb		IAmb		12 31 38.2	
	comp=Z,71nm,0.8s									
NAO01	NORSAR Array S	73.75	337		IAmb		IAmb		12 31 34.7	
	comp=Z,132nm,1.2s									
AKN	Aaknes	73.82	340	*eP*			P		12 31 15.4	+1.5
BMN	Battle Mountai	73.91	51		IAmb		IAmb		12 31 31.7	
	comp=Z,149nm,1.3s									
KTUT	Trabzon	73.95	310	⇓	P		P		12 31 14.7	-0.3
KTUT	Trabzon	73.95	310	*eP*			P		12 31 15.2	+0.2
GURO	Guroymak-BITLI	73.97	306	*eP*			P		12 31 16.0	+0.7
BAYT	Aydıntepe-Bayb	74.07	309	*eP*			P		12 31 17.8	+1.9
PMPB	Monarch Peak	74.08	56		IAmb		IAmb		12 31 37.9	
	comp=Z,159nm,1.6s									
BOZ	Bozeman (W)	74.08	44		IAmb		IAmb		12 31 32.3	
	comp=Z,205nm,1.5s									
BOZ	Bozeman (W)	74.08	44		P		P		12 31 16.7	+0.9
	baz=308,SNR=34									
BOZ					S		S		12 40 45.3	0.0
	baz=308									
SOEG	Soedalen	74.15	357	*i*	P		P		12 31 16.0	+0.4
RYN	Ryan	74.16	53		IAmb		IAmb		12 31 33.0	
	comp=Z,134nm,1.3s									
KVN	Kaiserville	74.17	53		IAmb		IAmb		12 31 33.8	
	comp=Z,193nm,1.3s									
SUW	Suwalki	74.28	327		IAmb		IAmb		12 31 42.4	
	comp=Z,128nm,0.9s									
SUW	Suwalki	74.28	327	*eP*			P		12 31 17.3	+0.6
NVAR	Mina Array Bea	74.41	53		P		P		12 31 19.2	+1.3
	comp=Z,12nm,0.8s,baz=293,slow=5.8,SNR=61									
NVAR					pP		pP		12 31 31.9	+0.6
	comp=Z,61nm,1.1s,baz=284,slow=2.7,SNR=21									
NVAR					LR		LR		12 58 20.9	
	comp=Z,1μm,21.5s,baz=290,slow=31									
NV11	Mina Array Sit	74.50	53		IAmb		IAmb		12 31 35.0	
	comp=Z,135nm,1.4s									
OSL	Oslo	74.52	337	⇑	*iP*		P		12 31 18.9	+1.1
MLAC	Mammoth, Mammo	74.54	54		P		P		12 31 20.0	+1.3
	baz=306,SNR=11									
MLAC					S		S		12 40 53.4	+2.6
	baz=306									
BNGB	Bingl	74.56	307	*eP*			P		12 31 19.2	+0.5
ESPY	Espiye-Giresun	74.63	310	*eP*			P		12 31 18.6	-0.3
SKAR	Skarslia	74.66	338	⇑	*iP*		P		12 31 19.4	+0.7
PAGB	Antelope Grade	74.72	57		IAmb		IAmb		12 31 36.3	
	comp=Z,195nm,1.2s									
SVAN	Silvan-Diyarba	74.73	306	*eP*			P		12 31 20.1	+0.5
YHL	Hebgen Lake	74.79	45		IAmb		IAmb		12 31 36.9	
	comp=Z,156nm,1.5s									
ERZN	Erzincan	74.81	308	*eP*			P		12 31 21.4	+1.2
FOO	Floro	74.83	340	*eP*			P		12 31 20.6	+1.0
MZR	Muzera	74.83	287		P		P		12 31 22.0	+1.6
	SNR=8.4									
MZR	Muzera	74.83	287	*i*	P		P		12 31 20.1	-0.3
	SNR=8.9									
SIM	Simferopol'	74.85	315	*ce*	P		P		12 31 17.8	-2.3
SIM				*eS*			S		12 40 55.0	+1.5
HYA	Hoyanger	74.87	339	*eP*			P		12 31 21.1	+1.2
ELK	Elko	74.94	50		LR		LR		12 58 29.0	
	comp=Z,1μm,21.6s,baz=310,slow=31									
ELK	Elko	74.94	50		IAmb		IAmb		12 31 37.8	
	comp=Z,117nm,1.5s									
VOG	Valley Oaks Go	74.95	56		P		P		12 31 20.9	+0.1
	baz=306									
YMR	Madison River	75.03	45		IAmb		IAmb		12 31 38.3	
	comp=Z,174nm,1.4s									
SFJD	Kangerlussuaq	75.08	5		LR		LR		13 04 57.5	
	comp=Z,2μm,21.8s,baz=353,slow=36									
SFJD	Kangerlussuaq	75.08	5		P		P		12 31 21.6	+0.6
SFJD					pmax		pmax			
	comp=Z,46nm,1.1s									
SFJD					MLR		MLR			
	comp=Z,2μm,22.0s									
SFJD	Kangerlussuaq	75.08	5		P		P		12 31 21.6	+0.6
SFJD	Kangerlussuaq	75.08	5		IAms_20		IAms_20		13 04 47.5	
	comp=Z,2μm,22.0s									
SFJD	Kangerlussuaq	75.08	5	*i*	P		P		12 31 21.9	+0.9
KONO	Kongsberg	75.09	337	*ce*	P		P		12 31 21.5	+0.3
KONO					pmax		pmax			
	comp=Z,42nm,1.2s									
KONO	Kongsberg	75.09	337		P		P		12 31 22.4	+1.2
KONO	Kongsberg	75.09	337	⇑	*iP*		P		12 31 22.3	+1.0
KLNR	Kaliningrad	75.11	329	*i*	P		P		12 31 22.1	+0.7
KLNR					pmax		pmax			
	comp=Z,115nm,0.9s									
TOO	Toolangi	75.12	177		P		P		12 31 22.0	+0.5
TOO					pmax		pmax			
	comp=Z,39nm,1.2s									
TOO	Toolangi	75.12	177		P		P		12 31 22.0	+0.5
SMMC	Simmler	75.14	57		P		P		12 31 23.1	+1.1
	baz=306,SNR=5.9									
YNR	Norris Junctio	75.16	45		IAmb		IAmb		12 31 40.4	
	comp=Z,140nm,1.4s									
TIN	Tinemaha, Big	75.27	55		P		P		12 31 23.5	+0.7
	baz=306									
TIN					S		S		12 41 00.3	+1.6
	baz=306									
SUE	Sulen	75.36	340	*eP*			P		12 31 23.9	+1.2
LKWY	Lake	75.41	45		IAmb		IAmb		12 31 41.9	
	comp=Z,196nm,1.5s									
H17A	Grant Village	75.42	45		P		P		12 31 25.6	+1.9
H17A	Grant Village	75.42	45		P		P		12 31 26.3	+2.6
	baz=309,SNR=24									
H17A					S		S		12 41 02.6	+2.2
	baz=309									
VES	Vestal, Richgr	75.43	56		P		P		12 31 23.9	+0.3
	baz=306,SNR=9.7									
YMP	Mirror Lake Pl	75.43	44		IAmb		IAmb		12 31 41.0	
	comp=Z,175nm,1.5s									
MARD	Mardin	75.50	306		IAmb		IAmb		12 31 50.2	
	comp=Z,66nm,0.8s									
PKM	Mcpherson Peak	75.51	57		P		P		12 31 25.1	+0.8
	baz=306,SNR=10.0									
DYBB	Diyarbakir	75.52	307	*eP*			P		12 31 25.1	+0.9
LCH	Last Change Ra	75.54	54		IAmb		IAmb		12 31 40.9	
	comp=Z,132nm,1.4s									
ILIC	ilic-Erzincan	75.61	309	*eP*			P		12 31 26.1	+1.4
MAZI	Mazidag	75.62	306	*eP*			P		12 31 26.0	+1.2
RLMT	Red Lodge	75.68	44		IAmb		IAmb		12 31 42.0	
	comp=Z,249nm,1.6s									
RLMT	Red Lodge	75.68	44		P		P		12 31 26.1	+1.0
	baz=310,SNR=21									
RLMT					S		S		12 41 03.4	+0.2
	baz=310									
ASK	Askoy	75.71	339	⇑	*iP*		P		12 31 25.7	+0.9
MOOW	Moose Ponds	75.73	45		IAmb		IAmb		12 31 42.6	
	comp=Z,259nm,1.6s									
CWC	Cottonwood Cre	75.73	55		P		P		12 31 25.7	+0.1
	baz=307									
CWC					S		S		12 41 03.9	0.0
	baz=307									
BER	Bergen	75.75	339	*eP*			P		12 31 26.4	+1.4
TPAW	Teton Pass	75.77	46		IAmb		IAmb		12 31 43.8	
	comp=Z,120nm,1.1s									
ODD1	Odda	75.77	338	*eP*			P		12 31 25.9	+0.7
RSDY	Resadiye-TOKAT	75.79	310	*eP*			P		12 31 26.9	+1.3
SVRC	Sivrice-ELAZID	75.79	308	*eP*			P		12 31 27.9	+2.0
SBC	Santa Barbara	75.84	57		P		P		12 31 26.3	+0.4
	baz=306									
DY2G	Dye2	75.85	3	*i*	P		P		12 31 26.0	+0.3
SORM	Soroca	75.86	321	⇑	P		P		12 31 26.2	+0.4
GRAC	Grapevine Rang	75.86	54		IAmb		IAmb		12 31 42.8	
	comp=Z,216nm,1.4s									
GRAC	Grapevine Rang	75.86	54		P		P		12 31 27.2	+1.1
	baz=307									
LOHW	Long Hollow	75.89	45		IAmb		IAmb		12 31 43.5	
	comp=Z,154nm,1.6s									
REDW	Red Top Meadow	75.91	46		IAmb		IAmb		12 31 44.2	
	comp=Z,175nm,1.4s									
ISA	Isabella, Lake	75.93	56		P		P		12 31 26.4	-0.2
	baz=307,SNR=10									
ISA					S		S		12 41 05.5	-0.6
	baz=307									
ARPR	Arapgir-MALATY	75.97	309	*i*	P		P		12 31 28.9	+2.1
FRB	Frobisher Bay	75.97	13		LR		LR		13 09 15.0	
	comp=Z,2μm,19.3s,baz=339,slow=39									
FRB	Frobisher Bay	75.97	13		P		P		12 31 25.6	-0.5
ARVC	Arvin	76.02	56		P		P		12 31 27.2	+0.3
	baz=306,SNR=5.9									
ARVC					S		S		12 41 07.3	+0.5
	baz=306									
SHAO	Shalim	76.05	282		P		P		12 31 28.9	+1.5
	SNR=7.5									
SHAO	Shalim	76.05	282	*i*	P		P		12 31 27.0	-0.4
	SNR=7.6									
DGMT	Dagmar	76.14	39		IAmb		IAmb		12 31 44.3	
	comp=Z,164nm,1.1s									
DGMT	Dagmar	76.14	39		IAms_20		IAms_20		13 01 31.6	
	comp=Z,2μm,20.0s									
DGMT	Dagmar	76.14	39		P		P		12 31 28.0	+0.5
	baz=312									
DGMT	Dagmar	76.14	39		P		P		12 31 27.5	0.0
	baz=312,SNR=9.7									
DGMT					S		S		12 41 07.6	-0.1
	baz=312									
KVT	Kavak	76.14	311	*eP*			P		12 31 29.4	+1.8
KVT	Kavak	76.14	311		P		P		12 31 29.8	+2.2
AHID	Auburn Hatcher	76.14	46		IAmb		IAmb		12 31 44.2	
	comp=Z,197nm,1.6s									
AHID					IAMs_20		IAMs_20		12 58 57.0	
	comp=Z,2μm,22.0s									
DEL	Delary	76.15	333	*eP*			P		12 31 28.2	+0.9
BGU	Big Grassy Mou	76.16	49		IAmb		IAmb		12 31 44.7	
	comp=Z,154nm,1.5s									
R11A	Troy Canyon, C	76.17	52		IAmb		IAmb		12 31 44.6	
	comp=Z,173nm,1.4s									
R11A	Troy Canyon, C	76.17	52		P		P		12 31 29.2	+1.2
	baz=307,SNR=44									
R11A					S		S		12 41 07.7	-1.1
	baz=307									
BLS5	Blasjo	76.22	338	*eP*			P		12 31 28.7	+1.0
DIKM	Dikmen	76.25	312	⇑	P		P		12 31 28.4	+0.3
DIKM	Dikmen	76.25	312	*eP*			P		12 31 29.7	+1.5
SVSK	Karacayir	76.28	310	*eP*			P		12 31 29.8	+1.4
LAO	LASA Array	76.29	41		P		P		12 31 29.7	+1.3
	baz=311									
LAO					S		S		12 41 08.6	-1.0
	baz=311									
LAO	LASA Array	76.29	41		P		P		12 31 29.0	+0.6
	baz=311,SNR=18									
LAO					S		S		12 41 09.2	-0.4
	baz=311									
TOKT	Tokat	76.31	311	*eP*			P		12 31 29.3	+0.7
MPMC	Manual Prospec	76.34	55		P		P		12 31 29.5	+0.4
	baz=307,SNR=26									
MPMC					S		S		12 41 11.1	+0.3
	baz=307									
KIS	Kishinev	76.37	319	⇑	*iP*		P		12 31 28.5	-0.2
	comp=Z,430nm,4.6s									
KIS					*eL*		L		12 59 16.0	
KIS					LRM		MLR		13 08 09.0	
	comp=Z,2μm,17.0s									
KIS	Kishinev	76.37	319	*c*	*iP*		P		12 31 28.5	-0.2
KIS					*e*				12 41 32.0	
KIS					pmax		pmax			
	comp=Z,430nm,4.6s									
KIS					MLR		MLR			
	comp=Z,4μm,16.0s									
KIS					MLR		MLR			
	comp=E,3μm,16.0s									
OSI	Osito Audit: C	76.39	57		P		P		12 31 29.5	+0.3
	baz=307									
OSI					S		S		12 41 11.1	0.0
	baz=307									
MILM	Milestii Mici	76.42	319	⇑	*iP*		P		12 31 27.9	-1.1
	comp=E,1μm,5.5s									
MILM	Milestii Mici	76.42	319	*e*	PcP		PcP		12 31 46.0	+5.3
MILM				*eS*			S		12 41 05.0	-5.8
MILM				*e*	ScS		SKSac		12 41 28.0	-8.6
MILM				*e*	LR		LR		12 56 34.0	
	comp=E,11μm,16.5s									
MILM	Milestii Mici	76.42	319	⇑	P		P		12 31 28.5	-0.5
MILM	Milestii Mici	76.42	319	*c*	*iP*		P		12 31 27.9	-1.1
MILM				*e*					12 31 46.0	
MILM				*eS*			S		12 41 05.0	-5.8
MILM				*e*					12 41 28.0	
MILM				*e*					12 42 04.0	
MILM					pmax		pmax			
	comp=Z,1μm,5.3s									
MILM					MLR		MLR			
	comp=N,6μm,16.0s									
MILM					MLR		MLR			
	comp=E,6μm,16.0s									
FURC	Furnace Creek,	76.50	54		P		P		12 31 30.5	+0.9
	baz=307,SNR=24									
FURC					S		S		12 41 11.6	-0.4
	baz=307									
CCAC	Calif City Air	76.54	56		IAmb		IAmb		12 31 46.9	
	comp=Z,143nm,1.2s									
HOMB	Homborsund	76.54	337	*eP*			P		12 31 30.3	+0.9
LRMC	Laurel Mtn Rad	76.56	56		P		P		12 31 30.7	+0.4
	baz=307									
TPNV	Topopah Spring	76.60	54		P		P		12 31 31.1	+0.6
	baz=307,SNR=24									
TPNV					S		S		12 41 14.8	+1.3
	baz=307									
SNCC	San Nicolas Is	76.67	58		P		P		12 31 31.6	+0.9
	baz=307									
EDW2	Edwards Air Fo	76.71	56		P		P		12 31 31.5	+0.5
	baz=307,SNR=22									
EDW2					S		S		12 41 13.9	-0.7
	baz=307									
DUG	Dugway, Tooele	76.74	49		IAmb		IAmb		12 31 48.7	
	comp=Z,170nm,1.2s									
DUG	Dugway, Tooele	76.74	49		P		P		12 31 31.8	+0.6
	baz=308,SNR=28									
DUG					S		S		12 41 16.5	+1.6
	baz=308									
DMTO	DMTO	76.75	282		P		P		12 31 31.2	-0.2
	SNR=8.1									
KMY	Karmoy	76.75	339	*eP*			P		12 31 31.9	+1.2
RAO	Raoul Island	76.75	144		LR		LR		13 02 01.2	
	comp=Z,2μm,20.0s,baz=360,slow=33									
BZK	Bozkurt	76.78	313	⇑	P		P		12 31 31.6	+0.5
BZK	Bozkurt	76.78	313	*eP*			P		12 31 32.1	+0.9
GWY	Greenwater Val	76.79	54		IAmb		IAmb		12 31 48.5	
	comp=Z,231nm,1.4s									
BSD	Bornholm Skovb	76.80	332		P		P		12 31 31.2	+0.2
BSD	Bornholm Skovb	76.80	332	*eP*			P		12 31 31.5	+0.5
BSD	Bornholm Skovb	76.80	332	*i*	P		P		12 31 30.8	-0.2
BSD					IVmB_BB				12 31 33.6	
	comp=Z,1μm,6.9s									
BSD					IAmb		IAmb		12 31 55.1	
	comp=Z,36nm,0.8s									
LVV	L'vov	76.81	324	*eP*			P		12 31 31.7	+0.5
LVV				*e*					12 34 24.5	
LVV				*e*					12 36 12.3	
LVV				*eS*			S		12 41 12.5	-2.5
LVV				*e*					12 41 32.4	
LVV				*e*					12 41 47.7	
LVV				*e*					12 46 12.3	
LVV					MLR		MLR			
	comp=E,6μm,16.0s									
LVV					MLR		MLR			
	comp=N,4μm,17.0s									
LVV					MLR		MLR			
	comp=Z,9μm,16.0s									
DARE	Darende-Malaty	76.81	309	*eP*			P		12 31 33.1	+1.5
BEL	Belsk	76.85	327	*eP*			P		12 31 32.7	+1.3
BEL	Belsk	76.85	327		P		P		12 31 34.3	+3.0
DOK	Doka	76.86	283		P		P		12 31 32.2	+0.2
	SNR=19									
DECC	Green Verdugo	76.86	57		P		P		12 31 33.8	+1.9
	baz=307									
DECC					S		S		12 41 15.7	-0.5
	baz=307									
BORG	Borgarnes	76.87	353		LR		LR		13 06 32.4	
	comp=Z,993nm,20.7s,baz=18,slow=36									
ANGG	Ammassalik, Gr	76.88	360		IAMs_20		IAMs_20		13 07 21.1	
	comp=Z,3μm,20.0s									
ANGG	Ammassalik, Gr	76.88	360	*i*	P		P		12 31 30.8	-0.4
ANGG					IAmb		IAmb		12 31 52.3	
	comp=Z,14nm,1.0s									
SNART	Snartemo	76.89	337	⇑	*iP*		P		12 31 32.3	+0.9
PASC	Pasadena Art C	77.01	57		IAMs_20		IAMs_20		12 57 30.5	
	comp=Z,3μm,22.0s									
BW06	Boulder Array	77.02	46		IAmb		IAmb		12 31 48.9	
	comp=Z,124nm,1.4s									
BW06					IAMs_20		IAMs_20		13 04 09.1	
	comp=Z,2μm,20.0s									
BW06	Boulder Array	77.02	46		P		P		12 31 33.5	+0.6
	baz=310,SNR=31									
BW06					S		S		12 41 17.0	-1.0
	baz=310									
PD31	Pinedale Array	77.02	46		IAmb		IAmb		12 31 48.9	
	comp=Z,112nm,1.4s									
PDAR	Pinedale Array	77.02	46		P		P		12 31 33.0	+0.1
	comp=Z,11nm,0.7s,baz=289,slow=1.2,SNR=95									
PDAR					pP		pP		12 31 47.3	+1.1
	comp=Z,22nm,0.7s,baz=309,slow=1.3,SNR=16									
PDAR					LR		LR		13 04 40.7	
	comp=Z,965nm,20.0s,baz=324,slow=35									
CTU	Camp Tracy	77.06	48		IAmb		IAmb		12 31 49.6	
	comp=Z,166nm,1.6s									
PRN	Pahroc Range	77.08	53		IAmb		IAmb		12 31 49.9	
	comp=Z,92nm,1.3s									
VASR	Vaslui	77.13	320	⇑	P		P		12 31 33.9	+0.8
PSUT	Pine Spring	77.13	51		IAmb		IAmb		12 31 50.8	
	comp=Z,123nm,1.2s									
FMP	Fort Macarthur	77.22	57		P		P		12 31 34.3	+0.6
	baz=307									
SHOC	Shoshone, Teco	77.22	54		P		P		12 31 34.3	+0.5
	baz=308,SNR=7.8									
SHOC					S		S		12 41 20.3	+0.3
	baz=308									
GSC	Goldstone, Bar	77.24	55		IAmb		IAmb		12 31 50.2	
	comp=Z,97nm,1.4s									
GSC	Goldstone, Bar	77.24	55		P		P		12 31 34.0	0.0
	baz=307,SNR=11									
GSC					S		S		12 41 19.1	-1.2
	baz=307									
COP	Copenhagen	77.27	333	*i*	P		P		12 31 33.6	0.0
COP					IVmB_BB				12 31 50.7	
	comp=Z,10μm,2.5s									
GKP	Gorka Klasztor	77.29	329	*eP*			P		12 31 34.5	+0.7
GOET	G??ttrup	77.30	336	*i*	P		P		12 31 34.7	+1.0
BFSC	Mount Baldy Ra	77.32	57		P		P		12 31 34.9	+0.4
	baz=307,SNR=7.9									
BFSC					S		S		12 41 19.9	-1.4
	baz=307									
CIS	Catalina Islan	77.32	58		P		P		12 31 34.7	+0.3
	baz=307									
CIS					S		S		12 41 20.3	-0.9
	baz=307									
NLU	North Lily Min	77.33	49		IAmb		IAmb		12 31 51.3	
	comp=Z,120nm,1.5s									
RRX	Edison Barstow	77.37	56		P		P		12 31 35.3	+0.6
	baz=307									
RRX					S		S		12 41 22.2	+0.5
	baz=307									
RBK	Rabkut	77.45	282		P		P		12 31 36.0	+0.6
	SNR=7.7									
SCI2	San Clemente I	77.49	58		P		P		12 31 36.5	+1.2
	baz=307									
SCI2					S		S		12 41 23.9	+1.0
	baz=307									
VLDR	Vladesti	77.52	319	⇑	P		P		12 31 36.4	+1.2
CORM	Corum	77.54	311	*eP*			P		12 31 36.7	+1.0
WHFO	Wadi Hawf	77.54	283		P		P		12 31 37.0	+1.1
	SNR=8.2									
KWP	Kalwaria Pacla	77.56	324	*eP*			P		12 31 36.3	+0.9
KWP	Kalwaria Pacla	77.56	324		P		P		12 31 36.8	+1.4
SHPR	Sheep Range	77.56	53		IAmb		IAmb		12 31 52.7	
	comp=Z,149nm,1.4s									
SARI	SarD1z-Kayseri	77.57	309	*eP*			P		12 31 37.7	+1.8
KURC	Kurucasile-Bar	77.58	314	*eP*			P		12 31 32.8	-2.9
BNN	Bunyan	77.64	310	*eP*			P		12 31 37.8	+1.6
GHRR		77.72	319	⇓	P		P		12 31 38.0	+1.6
TUQ	Turquoise Moun	77.73	55		P		P		12 31 37.0	+0.2
	baz=308,SNR=21									
TUQ					S		S		12 41 26.1	+0.4
	baz=308									
BURAR	Bucovina Array	77.76	322	⇑	P		P		12 31 37.7	+1.0
BURAR	Bucovina Array	77.76	322		P		P		12 31 37.4	+0.7
NUUK	Nuuk	77.78	6	*i*	P		P		12 31 36.7	+0.4
MUD	Monsted U'grnd	77.78	335	*i*	P		P		12 31 37.3	+0.8
MUD					IVmB_BB				12 31 57.4	
	comp=Z,1μm,3.9s									
BBRC	Big Bear Solar	77.79	56		P		P		12 31 38.0	+0.7
	baz=308,SNR=6.1									
BBRC					S		S		12 41 25.5	-1.1
	baz=308									
TESR	Tescani	77.80	320	⇑	P		P		12 31 37.7	+0.9
ELS	Elsinore Mount	77.83	57		IAmb		IAmb		12 31 53.4	
	comp=Z,172nm,1.6s									
HEC	Hector,Ludlow	77.83

UZH *i* SP **SKKSac** 12 41 53.1 +0.7
UZH *e*PS **PnS** 12 42 12.6 -6.1
UZH *e*SS SS 12 46 48.2 +13
UZH MLR MLR
comp=N,1µm,16.0s
UZH MLR MLR
comp=E,2µm,16.0s
UZH MLR MLR
comp=Z,2µm,16.0s
LCMT Little Creek M **78.46 52** IAmb IAmb 12 31 58.5
comp=Z,158nm,1.3s
MTPU Mount Pierson **78.47 51** IAmb IAmb 12 31 58.4
comp=Z,154nm,1.3s
COVR Voineasa-Covas **78.48 320** ⇓P **P** **12 31 42.2 +1.5**
PFO Pinyon Flats O **78.49 56** LR LR 12 59 25.2
comp=Z,3µm,21.8s,baz=293,slow=30
PFO Pinyon Flats O **78.49 56** P **P** **12 31 41.9 +0.8**
PFO pmax pmax
comp=Z,146nm,1.5s
PFO Pinyon Flats O **78.49 56** P **P** **12 31 41.9 +0.8**
PFO IAmb IAmb 12 31 57.2
comp=Z,146nm,1.4s
PFO Pinyon Flats O **78.49 56** P **P** **12 31 42.4 +1.3**
baz=308,SNR=10
PFO S **S** **12 41 31.4 -2.6**
baz=308
TPFO Pinon Flats **78.50 56** P **P** **12 31 41.8 +0.7**
baz=308,SNR=11
TPFO S **S** **12 41 32.4 -1.6**
baz=308
109C Camp Elliot, M **78.50 57** IAmb IAmb 12 31 57.2
comp=Z,174nm,1.6s
109C Camp Elliot, M **78.50 57** P **P** **12 31 41.3 +0.4**
baz=308
KOZT Kozan **78.51 309** P **P** **12 31 41.8 +0.9**
OZUR **78.52 320** ⇑P **P** **12 31 42.6 +1.7**
Q16A Castle Valley **78.53 49** IAmb IAmb 12 31 59.0
comp=Z,228nm,1.4s
ARCR ARCALIA **78.55 322** ⇑P **P** **12 31 42.1 +1.1**
BELC Belle Mtn. Jos **78.56 56** P **P** **12 31 41.5 +0.1**
baz=308,SNR=9.7
BMR Baia Mare **78.56 323** ⇓P **P** **12 31 42.1 +1.1**
BMR Baia Mare **78.56 323** P **P** **12 31 44.6 +3.6**
KAMT Kaman **78.60 311** *e*P **P** **12 31 42.0 +0.5**
P18A Preston Nutter **78.63 48** IAmb IAmb 12 31 58.8
comp=Z,259nm,1.5s
CRVS Cervenica-Dubn **78.65 324** *e*P **P** **12 31 42.7 +1.2**
CRVS pmax pmax
comp=Z,80nm,1.5s
CRVS Cervenica-Dubn **78.65 324** *e*P **P** **12 31 42.7 +1.2**
PKCU Pink Cliffs **78.77 51** IAmb IAmb 12 32 02.7
comp=Z,240nm,1.8s
ULM Lac du Bonnet **78.77 33** P **P** **12 31 41.5 -0.6**
comp=Z,9.1nm,0.8s,baz=322,slow=6.8,SNR=11
ULM LR LR 13 07 33.8
comp=Z,892nm,21.1s,baz=329,slow=36
ULM Lac du Bonnet **78.77 33** IAmb IAmb 12 31 57.7
comp=Z,165nm,1.6s
K22A Casper **78.79 44** P **P** **12 31 43.3 +0.8**
baz=312
K22A S **S** **12 41 34.8 -2.2**
baz=312
K22A Casper **78.79 44** P **P** **12 31 42.9 +0.3**
baz=312,SNR=10
K22A S **S** **12 41 35.1 -1.9**
baz=312
SRU San Rafael Swe **78.79 49** IAmb IAmb 12 31 59.9
comp=Z,233nm,1.4s
MDND Maddock **78.80 37** P **P** **12 31 42.9 +0.6**
baz=315
MDND S **S** **12 41 35.0 -1.5**
baz=315
MDND Maddock **78.80 37** P **P** **12 31 42.8 +0.5**
baz=315,SNR=11
MDND S **S** **12 41 35.1 -1.5**
baz=315
ISR Istrita **78.81 319** ⇑P **P** **12 31 43.1 +0.7**
NIE Niedzica **78.81 325** *e*P **P** **12 31 44.0 +1.7**
NIE Niedzica **78.81 325** P **P** **12 31 44.5 +2.1**
DOPR Dopca **78.81 320** ⇑P **P** **12 31 43.9 +1.4**
YAYX Yaylak **78.82 311** *e*P **P** **12 31 42.9 +0.2**
ANTO Ankara **78.83 312** *e*P **P** **12 31 43.0 +0.3**
ANTO Ankara **78.83 312** P **P** **12 31 43.7 +1.0**
ANTO pmax pmax
comp=Z,76nm,1.0s
ANTO Ankara **78.83 312** P **P** **12 31 43.7 +1.0**
ANTO IAmb IAmb 12 31 46.8
comp=Z,76nm,0.9s
LOD Lodumlu **78.83 312** *e*P **P** **12 31 42.9 +0.2**
BR231 Keskin MP Arra **78.85 312** P **P** **12 31 43.1 +0.2**
BR231 IAmb IAmb 12 31 47.0
comp=Z,82nm,1.1s
CEYT Ceyhan **78.86 308** P **P** **12 31 43.7 +0.9**
MLR Muntele Rosu **78.86 320** ⇓P **P** **12 31 43.5 +0.7**
MLR Muntele Rosu **78.86 320** LR LR 13 10 04.5
comp=Z,9µm,18.3s,baz=47,slow=38
PSN Preselentsi **78.91 317** P **P** **12 31 43.9 +0.9**
CMRD Camardi-Nigde **78.91 309** *e*P **P** **12 31 43.7 +0.4**
BAR Barrett **78.92 57** IAmb IAmb 12 31 59.5
comp=Z,178nm,1.6s
AFSR Afar-Bala (An **78.93 312** *e*P **P** **12 31 43.9 +0.6**
MONP2 Monument Peak **78.96 57** P **P** **12 31 44.0 +0.3**
baz=308,SNR=8.0
NEE2 Needles Airpor **78.98 55** P **P** **12 31 43.6 +0.1**
baz=308
NEE2 S **S** **12 41 38.4 -0.6**
baz=308
TAHT Tahtakopru-Hat **78.98 308** *e*P **P** **12 31 44.7 +1.2**
IRM Iron Mountain **79.02 55** P **P** **12 31 44.3 +0.5**
baz=308,SNR=16
IRM S **S** **12 41 39.3 -0.2**
baz=308
TKX Tecate **79.03 57** P **P** **12 31 44.4 +0.5**
TKX IAmb IAmb 12 32 00.0
comp=Z,161nm,1.6s
RWWY Rawlins **79.04 45** IAmb IAmb 12 32 00.3
comp=Z,183nm,1.4s
LEHL Lehliu **79.10 319** ⇓P **P** **12 31 45.1 +1.1**
SECR **79.11 319** ⇑P **P** **12 31 44.9 +0.9**
BC3 Big Chuckawall **79.13 56** P **P** **12 31 44.9 +0.4**
baz=308,SNR=12
BC3 S **S** **12 41 39.5 -1.2**
baz=308
KARA Karaisali **79.13 309** *e*P **P** **12 31 45.9 +1.6**
RSSD Black Hills **79.15 42** P **P** **12 31 45.0 +0.4**
RSSD pmax pmax
comp=Z,257nm,1.7s
RSSD Black Hills **79.15 42** P **P** **12 31 45.0 +0.4**
RSSD IAmb IAmb 12 32 00.6
comp=Z,257nm,1.6s
RSSD Black Hills **79.15 42** P **P** **12 31 44.6 0.0**
baz=313
RSSD S **S** **12 41 38.6 -2.3**
baz=313
RSSD Black Hills **79.15 42** P **P** **12 31 44.9 +0.3**
baz=313
RSSD S **S** **12 41 38.4 -2.5**
baz=313
E28A Huff **79.17 38** IAmb IAmb 12 32 01.3
comp=Z,188nm,1.2s
E28A Huff **79.17 38** P **P** **12 31 45.3 +0.9**
baz=314
CJR Cluj-Napoca **79.19 322** ⇑P **P** **12 31 45.1 +0.6**
CJR Cluj-Napoca **79.19 322** P **P** **12 31 47.3 +2.8**
YAYL Yayladag **79.25 307** *e*P **P** **12 31 46.1 +1.0**
RUE Ruedersdorf **79.25 331** *e*P **P** **12 31 46.0 +1.4**
IKP In-Ko-Pah, Jac **79.31 57** P **P** **12 31 46.3 +0.8**
baz=308,SNR=11
IKP S **S** **12 41 41.9 -0.8**
baz=308
SWSC Sam W. Stewart **79.34 57** P **P** **12 31 46.2 +0.7**
baz=308,SNR=8.9
SWSC S **S** **12 41 42.0 -0.7**
baz=308
VOIR **79.35 320** ⇓P **P** **12 31 46.4 +0.9**
MDUB Mudurnu **79.36 313** *e*P **P** **12 31 46.8 +1.1**
LANS Liptovska Anna **79.38 326** *e*P **P** **12 31 47.8 +2.3**
LANS pmax pmax
comp=Z,40nm,1.6s
LANS Liptovska Anna **79.38 326** *e*P **P** **12 31 47.8 +2.3**
BSEG Bad Segeberg **79.41 333** *e*P **P** **12 31 46.7 +1.3**
comp=Z,57nm,0.9s,baz=38,slow=5.3
CCX Cicese **79.42 58** IAmb IAmb 12 32 02.1
comp=Z,126nm,1.3s
YUH Yuha Desert **79.44 57** IAmb IAmb 12 32 02.3
comp=Z,181nm,1.5s

OKC Ostrava-Krasne **79.45 327** *e*P **P** **12 31 47.4 +1.6**
OKC *e*S **S** **12 41 39.5 -3.9**
OKC MLR MLR
comp=Z,7µm,17.5s
OKC Ostrava-Krasne **79.45 327** *e*P **P** **12 31 47.4 +1.6**
OKC *e*S **S** **12 41 39.5 -3.9**
OKC AMS AMS 13 09 50.0
comp=Z,7µm,17.5s
O20A White River Ci **79.47 47** IAmb IAmb 12 32 03.4
comp=Z,163nm,1.4s
O20A White River Ci **79.47 47** P **P** **12 31 47.1 +0.7**
baz=311,SNR=11
O20A S **S** **12 41 42.9 -1.5**
baz=311
KSP Ksiaz **79.49 328** *e*P **P** **12 31 46.9 +0.8**
KSP Ksiaz **79.49 328** P **P** **12 31 44.6 -1.4**
DRGR **79.56 322** ⇑P **P** **12 31 47.6 +1.0**
DRGR **79.56 322** P **P** **12 31 47.6 +1.0**
PDMCI Parker Dam,Lak **79.58 55** P **P** **12 31 47.2 +0.4**
baz=309,SNR=5.6
PDMCI S **S** **12 41 45.6 +0.4**
baz=309
YESY Yesilyurt **79.60 310** *e*P **P** **12 31 48.3 +1.3**
ARR Arges **79.61 320** ⇑P **P** **12 31 48.5 +1.6**
BLYC Blythe **79.68 55** IAmb IAmb 12 32 04.6
comp=Z,111nm,1.2s
MERS Mersin **79.71 309** *e*P **P** **12 31 46.7 -0.8**
OSTC Ostas **79.74 328** *e*P **P** **12 31 48.9 +1.5**
OSTC *e*S **S** **12 41 46.5 0.0**
OSTC AMS AMS 13 09 40.0
comp=Z,5µm,17.3s
MORC Moravsky Berou **79.76 327** ⇑P **P** **12 31 48.6 +1.0**
MORC Moravsky Berou **79.76 327** IAmb IAmb 12 32 05.9
comp=Z,110nm,1.4s
MORC Moravsky Berou **79.76 327** *e*P **P** **12 31 48.1 +0.5**
GULT Gulveren **79.78 314** *e*P **P** **12 31 47.9 0.0**
CHVC Chvalec **79.78 328** *e*P **P** **12 31 48.8 +1.1**
CHVC AMS AMS 13 09 40.0
comp=Z,6µm,18.1s
SILT Sile **79.80 315** *e*P **P** **12 31 48.6 +0.8**
SVRH Sivrihisar-ESK **79.84 312** *e*P **P** **12 31 47.4 -0.9**
DPC Dobruska-Polom **79.85 328** *e*P **P** **12 31 49.3 +1.3**
DPC *e*S **S** **12 41 49.0 +1.3**
DPC MLR MLR
comp=Z,5µm,17.2s
DPC Dobruska-Polom **79.85 328** *e*P **P** **12 31 49.3 +1.3**
DPC *e*S **S** **12 41 49.0 +1.3**
DPC AMS AMS 13 09 50.0
comp=Z,5µm,17.2s
UPC Upice **79.86 328** *e*P **P** **12 31 49.3 +1.2**
UPC *e*S **S** **12 41 46.8 -0.9**
UPC MLR MLR
comp=Z,6µm,17.4s
UPC Upice **79.86 328** *e*P **P** **12 31 49.3 +1.2**
UPC *e*S **S** **12 41 46.8 -0.9**
UPC AMS AMS 13 09 50.0
comp=Z,6µm,17.4s
KRLC Kraliky **79.86 327** *e*P **P** **12 31 49.6 +1.5**
KRLC MLR MLR
comp=Z,4µm,17.2s
KRLC Kraliky **79.86 327** *e*P **P** **12 31 49.6 +1.5**
KRLC AMS AMS 13 10 30.0
comp=Z,4µm,17.2s
GLA Glamis **79.91 56** IAmb IAmb 12 32 05.9
comp=Z,187nm,1.4s
GLA Glamis **79.91 56** P **P** **12 31 49.4 +0.6**
baz=309,SNR=6.3
GLA S **S** **12 41 45.8 -3.1**
baz=309
LOT Lotru **79.99 321** ⇑P **P** **12 31 50.1 +1.1**
LOT Lotru **79.99 321** *e*P **P** **12 31 48.6 -0.4**
KIZT Kizilcal **80.00 312** *e*P **P** **12 31 49.8 +0.6**
HRT Hereke **80.00 314** *e*P **P** **12 31 48.7 -0.4**
HUMR Humele **80.02 320** ⇑P **P** **12 31 50.1 +1.1**
KLYT Kilyos **80.07 315** *e*P **P** **12 31 49.6 +0.3**
PSZ Piszkesteto **80.08 324** ⇑P **P** **12 31 50.8 +1.4**
PSZ Piszkesteto **80.08 324** P **P** **12 31 50.2 +0.8**
PSZ Piszkesteto **80.08 324** IAmb IAmb 12 32 11.5
comp=Z,160nm,1.3s
PSZ Piszkesteto **80.08 324** P **P** **12 31 50.9 +1.5**
VYHS Vyhne **80.14 325** *e*P **P** **12 31 51.1 +1.5**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne **80.14 325** *e*P **P** **12 31 51.1 +1.5**
LADK Ladik-KONYA **80.16 311** *e*P **P** **12 31 50.1 +0.1**
CIFT Cifteler, Eski **80.17 313** *e*P **P** **12 31 49.6 -0.4**
COPA Copaceanca **80.17 319** ⇑P **P** **12 31 50.9 +1.1**
ISK Istanbul-Kandi **80.19 315** *e*P **P** **12 31 50.8 +0.9**
KAVV Kandilli-Istan **80.19 315** *e*P **P** **12 31 50.4 +0.4**
AGMN Agassiz Nation **80.21 35** IAmb IAmb 12 32 05.3
comp=Z,168nm,1.6s
AGMN IAMs_20 IAMs_20 13 05 54.9
comp=Z,2µm,21.0s
AGMN Agassiz Nation **80.21 35** P **P** **12 31 49.6 -0.3**
baz=317,SNR=16
AGMN S **S** **12 41 47.6 -3.8**
baz=317
AGMN Agassiz Nation **80.21 35** P **P** **12 31 49.5 -0.4**
baz=317,SNR=16
AGMN S **S** **12 41 47.3 -4.1**
baz=317
ADVT Abdulvahap **80.22 314** *e*P **P** **12 31 49.8 -0.4**
N23A Red Feather La **80.28 45** IAmb IAmb 12 32 08.5
comp=Z,214nm,1.3s
N23A Red Feather La **80.28 45** P **P** **12 31 51.9 +1.0**
baz=312,SNR=19
N23A S **S** **12 41 53.2 +0.1**
baz=312
PHWY Pilot Hill **80.28 45** IAmb IAmb 12 32 07.2
comp=Z,166nm,1.5s
KONT Konya--Tatoy **80.33 311** *e*P **P** **12 31 50.6 -0.2**
YLV Yalova **80.34 314** *e*P **P** **12 31 50.4 -0.5**
FLTG Flechtingen **80.34 332** *e*P **P** **12 31 51.5 +1.0**
comp=Z,53nm,0.9s,baz=38,slow=5.3
PV07 Paradox Valley **80.35 49** IAmb IAmb 12 32 07.8
comp=Z,175nm,1.5s
CTKS Kestanelik-??a **80.38 315** *e*P **P** **12 31 51.6 +0.6**
SZH Strazhica **80.39 318** P **P** **12 31 51.5 +0.4**
SILI Silifke-Mersin **80.40 309** *e*P **P** **12 31 49.8 -1.4**
BRG Berggiesshubel **80.43 329** *e*P **P** **12 31 52.1 +0.9**
BRG Amp 12 31 54.9
comp=Z,42nm,0.9s
BRG *ex* x 12 32 06.6
BRG Amp 12 32 09.1
comp=Z,71nm,1.3s
BRG *ex* x 12 32 15.9
BRG Amp 12 32 17.0
comp=Z,46nm,0.9s
BRG Berggiesshubel **80.43 329** *e*P **P** **12 31 52.0 +0.9**
BRG pmax pmax
comp=Z,42nm,0.9s
BRG pmax pmax
comp=Z,71nm,1.3s
BRG pmax pmax
comp=Z,47nm,0.9s
BRG pmax pmax
comp=N,4µm,19.6s
BRG MLR MLR
comp=E,4µm,19.7s
BRG MLR MLR
comp=Z,8µm,19.6s
BRG Berggiesshubel **80.43 329** *e*P **P** **12 31 52.0 +0.9**
comp=Z,29nm,0.9s,baz=38,slow=5.3
PVCC Panska Ves **80.44 329** *e*P **P** **12 31 54.0 +2.8**
PVCC Panska Ves **80.44 329** ⇑P **P** **12 31 54.0 +2.8**
SIRR Siria **80.44 322** ⇑P **P** **12 31 52.0 +0.7**
CLL Collm **80.47 330** *i* P **P** **12 31 51.6 +0.3**
CLL *i* 12 31 59.1
CLL *e*S **S** **12 41 59.0 +5.0**
CLL pmax pmax
comp=Z,70nm,0.9s
CLL MLR MLR
comp=Z,6µm,18.4s
CLL Collm **80.47 330** IAmb IAmb 12 32 16.7
comp=Z,68nm,0.8s
CLL Collm **80.47 330** *i* P **P** **12 31 51.6 +0.3**
comp=Z,70nm,0.9s
CLL *e*Pmax 12 31 56.0
CLL *i* PcP **PcP** **12 31 59.1 +0.9**
CLL *i* pP **pP** **12 32 04.3 -0.5**
CLL *i* sP **sP** **12 32 07.1 -2.9**
CLL *ex* x 12 32 11.0
CLL *i* x x 12 32 15.7
comp=Z,82nm,0.9s
CLL *ex* x 12 34 06.0

CLL *e*PP **PP** **12 34 57.0 +2.9**
CLL *e*PPP PPP 12 36 48.0
CLL *e*S **S** **12 41 59.0 +5.0**
CLL *e*PS **PnS** **12 42 48.0 +4.2**
CLL *e*SS **SS** **12 47 00.0 -5.4**
CLL *e*SSS SSS 12 51 00.0
CLL Lm MLR 13 10 00.0
comp=N,4µm,19.4s
CLL Lm MLR 13 10 00.0
comp=E,2µm,20.8s
CLL Lm MLR 13 10 00.0
comp=Z,6µm,18.4s
CLL Lmax 13 12 00.0
CLL Collm **80.47 330** *e*P **P** **12 31 52.2 +1.0**
comp=Z,55nm,0.9s,baz=38,slow=5.3
KEBE Keben-Mersin **80.47 309** *i* P **P** **12 31 52.7 +1.0**
VRAC Vranov **80.52 327** ⇑P **P** **12 31 53.0 +1.4**
VRAC Vranov **80.52 327** LR LR 13 11 33.0
comp=Z,5µm,18.3s,baz=32,slow=39
VRAC Vranov **80.52 327** P **P** **12 31 53.5 +1.9**
VRAC Vranov **80.52 327** *e*P **P** **12 31 52.4 +0.8**
GZR Gura Zlata **80.52 321** ⇑P **P** **12 31 52.1 +0.3**
GZR Gura Zlata **80.52 321** P **P** **12 31 52.7 +0.9**
RAR Rarotonga **80.53 126** LR LR 12 59 33.9
comp=Z,4µm,21.9s,baz=304,slow=30
D32B Dogwood Acres, **80.53 36** P **P** **12 31 52.5 +0.8**
baz=317
D32B S **S** **12 41 51.8 -3.0**
baz=317
TAU Tasmania Unive **80.53 176** IAMs_20 IAMs_20 13 05 07.8
comp=Z,2µm,19.0s
Y14A Wickenburg **80.54 54** IAmb IAmb 12 32 09.3
comp=Z,152nm,1.3s
WUAZ Wupatki **80.57 52** IAmb IAmb 12 32 09.9
comp=Z,250nm,1.4s
WUAZ Wupatki **80.57 52** P **P** **12 31 53.4 +1.1**
baz=310,SNR=24
WUAZ S **S** **12 41 57.9 +1.8**
baz=310
JMB Yambol **80.60 317** P **P** **12 31 53.3 +1.2**
IKL Isikli **80.63 309** *e*P **P** **12 31 51.8 -0.6**
FBE Freiberg **80.63 330** *e*P **P** **12 31 53.1 +1.0**
comp=Z,50nm,0.9s,baz=38,slow=5.3
NRDL Niedersach Rie **80.63 332** *e*P **P** **12 31 53.1 +1.0**
comp=Z,18nm,0.8s,baz=38,slow=5.3
TEVE Tevekalti-Mers **80.65 309** *e*P **P** **12 31 52.8 +0.2**
VLAD Vladila **80.68 319** ⇑P **P** **12 31 53.4 +0.8**
ASSE Asse, Remlinge **80.71 332** *e*P **P** **12 31 53.5 +1.0**
comp=Z,16nm,0.9s,baz=38,slow=5.3
SOCY Socotra **80.75 278** P **P** **12 31 51.5 -2.0**
SOCY IAmb IAmb 12 32 18.6
comp=Z,101nm,1.0s
SOCY IAMs_20 IAMs_20 13 09 36.0
comp=Z,2µm,20.0s
SOCY Socotra **80.75 278** P **P** **12 31 52.4 -1.1**
SNR=15
MDNY Mudanya-Bursa **80.75 314** *e*P **P** **12 31 52.6 -0.4**
SMOL Smolenice **80.75 326** *e*P **P** **12 31 54.7 +1.8**
SMOL pmax pmax
comp=Z,24nm,1.2s
SMOL Smolenice **80.75 326** *e*P **P** **12 31 54.7 +1.8**
AKKU Akkuyu-Mersin **80.76 309** *e*P **P** **12 31 53.3 +0.2**
113A Mohawk Valley, **80.78 56** IAmb IAmb 12 32 09.6
comp=Z,114nm,1.3s
KRUC Moravsky **80.79 327** *e*P **P** **12 31 53.7 +0.6**
BUD Budapest **80.80 325** P **P** **12 31 56.1 +3.0**
BUD Budapest **80.80 325** P **P** **12 31 54.8 +1.7**
BERE Bereket-Mersin **80.84 309** *e*P **P** **12 31 53.6 -0.2**
SMCO Snowmass **80.84 47** IAmb IAmb 12 32 11.5
comp=Z,104nm,1.3s
PRU Pruhonice **80.87 329** *e*P **P** **12 31 54.5 +1.0**
PRU *e*S **S** **12 41 57.1 -1.2**
PRU MLR MLR
comp=Z,5µm,17.1s
PRU Pruhonice **80.87 329** *e*P **P** **12 31 54.5 +1.0**
PRU *e*S **S** **12 41 57.1 -1.2**
PRU AMS AMS 13 10 40.0
comp=Z,5µm,17.1s
BHL Bhannes **80.88 306** *e*P **P** **12 31 54.0 0.0**
HDMB Hadim **80.89 310** *e*P **P** **12 31 53.9 -0.2**
MODS Modra-Piesok **80.92 326** *e*P **P** **12 31 55.8 +2.0**
MODS pmax pmax
comp=Z,97nm,1.3s
MODS Modra-Piesok **80.92 326** *e*P **P** **12 31 55.8 +2.0**
BZS Buzias **80.93 322** ⇑P **P** **12 31 54.0 +0.1**
BZS Buzias **80.93 322** P **P** **12 31 54.6 +0.7**
EDRB Edirne **80.94 317** *e*P **P** **12 31 53.8 -0.2**
EDRB Edirne **80.94 317** P **P** **12 31 53.5 -0.5**
IVI Ivigtut **80.99 5** *i* P **P** **12 31 53.6 -0.2**
SHUT Suhut-Afyon **81.00 312** *e*P **P** **12 31 55.3 +0.8**
TREC Trest **81.00 328** *e*P **P** **12 31 55.6 +1.4**
TREC MLR MLR
comp=Z,4µm,16.9s
TREC Trest **81.00 328** *e*P **P** **12 31 55.6 +1.4**
TREC AMS AMS 13 12 00.0
comp=Z,4µm,16.9s
NEUB Neuenburg **81.03 331** *e*P **P** **12 31 55.1 +0.9**
comp=Z,74nm,1.0s,baz=38,slow=5.3
TVSB Tavsanli **81.04 313** *e*P **P** **12 31 53.9 -0.8**
TEKE Tekeli-Mersin **81.04 309** *e*P **P** **12 31 54.7 +0.1**
CLZ Clausthal **81.06 332** *e*P **P** **12 31 55.3 +0.8**
comp=Z,52nm,0.9s,baz=38,slow=5.3
HERR Herculane **81.07 321** ⇑P **P** **12 31 55.2 +0.6**
B35A Bob, Littlefor **81.11 34** IAmb IAmb 12 32 10.4
comp=Z,166nm,1.5s
B35A Bob, Littlefor **81.11 34** P **P** **12 31 54.5 -0.3**
baz=319,SNR=22
B35A S **S** **12 41 56.7 -4.2**
baz=319
ZST Bratislava **81.14 326** *e*P **P** **12 31 56.9 +2.0**
ZST pmax pmax
comp=Z,1µm,3.1s
ZST Bratislava **81.14 326** *e*P **P** **12 31 56.9 +2.0**
SFX San Felipe **81.15 58** IAmb IAmb 12 32 12.8
comp=Z,109nm,1.1s
SHBL Chebaa **81.17 305** *e*P **P** **12 31 55.7 +0.1**
NRS Narsarsuaq **81.19 3** P **P** **12 31 53.8 -1.1**
NRS Narsarsuaq **81.19 3** IAMs_20 IAMs_20 13 07 27.0
comp=Z,2µm,22.0s
NRS Narsarsuaq **81.19 3** *i* P **P** **12 31 55.6 +0.6**
ISCO Idaho Springs **81.21 46** IAmb IAmb 12 32 12.7
comp=Z,189nm,1.6s
ISCO IAMs_20 IAMs_20 13 03 24.9
comp=Z,2µm,22.0s
ISCO Idaho Springs **81.21 46** P **P** **12 31 56.4 +0.5**
baz=312,SNR=17
ISCO S **S** **12 42 02.8 0.0**
baz=312
ISCO Idaho Springs **81.21 46** P **P** **12 31 56.7 +0.8**
baz=312,SNR=17
ISCO S **S** **12 42 03.8 +1.0**
baz=312
X16A Lo Mia Camp, P **81.23 53** IAmb IAmb 12 32 14.2
comp=Z,105nm,1.1s
MVCO Mesa Verde **81.24 49** IAmb IAmb 12 32 12.6
comp=Z,276nm,1.6s
MVCO Mesa Verde **81.24 49** P **P** **12 31 56.8 +0.9**
baz=311,SNR=14
MVCO S **S** **12 42 03.4 +0.3**
baz=311
LFK Lefkose **81.34 308** *e*P **P** **12 31 57.1 +0.8**
TANN Tannenbergstha **81.38 330** *e*P **P** **12 31 57.1 +0.8**
comp=Z,8.1nm,0.9s,baz=39,slow=5.3
WERD Werda **81.42 330** *e*P **P** **12 31 57.1 +0.7**
comp=Z,15nm,0.9s,baz=38,slow=5.3
GTTG Gottingen **81.45 332** *e*P **P** **12 31 57.5 +1.0**
comp=Z,44nm,0.9s,baz=38,slow=5.3
DIM Dimitrovgrad **81.45 317** P **P** **12 31 58.3 +1.6**
SUTC Sutluce-Ispart **81.45 311** *e*P **P** **12 31 57.4 +0.4**
GAZI Gazipasa **81.47 309** P **P** **12 31 56.1 -0.8**
GUNZ Gunzen **81.47 330** *e*P **P** **12 31 57.5 +0.8**
comp=Z,25nm,0.9s,baz=38,slow=5.3
MPEP Malo Peshtene **81.48 319** P **P** **12 31 58.8 +2.0**
MDVR Moldovita **81.49 321** ⇓P **P** **12 31 57.3 +0.4**
RKY Sarkoy-Tekirda **81.49 316** *e*P **P** **12 31 56.9 -0.1**
ISP Isparta **81.50 312** P **P** **12 31 57.1 -0.1**
ISP Isparta **81.50 312** IAMs_20 IAMs_20 13 12 24.0
comp=Z,2µm,22.0s
WERN Wernitzgruen **81.51 330** *e*P **P** **12 31 57.8 +0.8**
comp=Z,21nm,0.9s,baz=38,slow=5.3
NKC Novy Kostel **81.53 330** *e*P **P** **12 31 58.2 +1.2**
NKC MLR MLR
comp=Z,5µm,16.6s
NKC Novy Kostel **81.53 330** *e*P **P** **12 31 58.2 +1.2**
NKC AMS AMS 13 11 00.0

comp=Z,5µm,16.6s
MOX Moxa 81.53 330 *e*P **P** 12 31 57.7 +0.7
comp=Z,20nm,1.0s,baz=38,slow=5.3
SUSD Miller 81.54 39 IAmb IAmb 12 32 13.8
comp=Z,139nm,0.9s
SUSD Miller 81.54 39 P **P** 12 31 57.4 +0.3
baz=316,SNR=6.9
SUSD Miller 81.54 39 P **P** 12 31 57.3 +0.1
baz=316,SNR=6.9
SUSD S **S** 12 42 03.1 -2.4
baz=316
SIMA Simav-Kutahya 81.56 313 *e*P **P** 12 31 57.3 -0.2
MMAI Mount Meron Ar 81.61 305 LR LR 13 12 15.1
comp=Z,3µm,18.3s,baz=204,slow=39
EGYH Egyhazaskeszo 81.62 325 P **P** 12 31 59.2 +1.8
KRBG Karabiga-Canak 81.62 315 *e*P **P** 12 31 57.6 0.0
IBBN Ibbenburen 81.63 333 *e*P **P** 12 31 58.6 +1.1
comp=Z,50nm,0.9s,baz=38,slow=5.3
CSS Mathiatis 81.67 308 *e*P **P** 12 31 58.5 +0.5
CSS Mathiatis 81.67 308 IAMs_20 IAMs_20 13 12 24.9
comp=Z,2µm,20.0s
BCK Bucak 81.70 311 *e*P **P** 12 31 56.9 -1.3
MPLH Magyarpolny 81.71 325 P **P** 12 31 59.8 +1.8
SOP Sopron 81.76 326 P **P** 12 32 00.9 +2.7
SOP Sopron 81.76 326 P **P** 12 32 00.3 +2.1
KDZ Kurdzhali 81.79 317 P **P** 12 31 59.8 +1.3
BALB Balikesir 81.81 314 *e*P **P** 12 31 59.7 +1.1
BALB Balikesir 81.81 314 IAmb IAmb 12 32 24.4
comp=Z,98nm,1.1s
F33A 5 Mile Ranch, 81.82 37 P **P** 12 31 58.9 +0.3
baz=317,SNR=18
PGB Panagyurishte 81.82 318 P **P** 12 31 59.5 +0.8
BLKB Belogradchik 81.83 320 ⇑P **P** 12 31 59.5 +0.7
W18A Petrified Fore 81.85 52 P **P** 12 32 00.1 +0.9
baz=311
W18A S **S** 12 42 11.3 +1.9
baz=311
PLD Plovdiv 81.85 318 *e*P **P** 12 31 59.1 +0.3
PLD Plovdiv 81.85 318 P **P** 12 31 59.7 +0.9
MANZ Manzenberg 81.86 330 *e*P **P** 12 31 59.6 +0.8
comp=Z,6.4nm,0.9s,baz=38,slow=5.3
CKRC Cesky Krumlov 81.86 328 *e*P **P** 12 31 59.7 +0.9
CKRC *ex* x 12 32 15.4
CKRC *e*S **S** 12 42 09.1 +0.4
CKRC AMS AMS 13 12 50.0
comp=Z,6µm,16.9s
RONA Rosalia, Austr 81.87 326 *i* P **P** 12 31 59.8 +0.9
comp=Z,59nm,1.1s,SNR=20
ERIK Erikli-Kesan 81.87 316 *e*P **P** 12 32 00.1 +1.2
S22A 4UR Ranch, Cre 81.88 48 IAmb IAmb 12 32 16.6
comp=Z,182nm,1.4s
S22A 4UR Ranch, Cre 81.88 48 P **P** 12 32 00.4 +1.0
baz=312,SNR=15
S22A S **S** 12 42 12.0 +2.2
baz=312
CONA Conrad Observa 81.88 327 *i* P **P** 12 32 00.1 +1.1
comp=Z,49nm,1.1s,SNR=19
MORH Mrgy, Hungar 81.91 324 ⇑P **P** 12 31 59.6 +0.6
MORH Mrgy, Hungar 81.91 324 ⇑*i*P **P** 12 31 58.6 -0.4
MORH Mrgy, Hungar 81.91 324 P **P** 12 32 00.3 +1.3
214A Organ Pipe Nat 81.92 56 IAmb IAmb 12 32 16.0
comp=Z,134nm,1.4s
214A Organ Pipe Nat 81.92 56 P **P** 12 31 59.8 +0.4
baz=310,SNR=5.9
214A S **S** 12 42 11.4 +1.5
baz=310
KHC Kasperske Hory 81.93 328*c* *i*P **P** 12 31 59.7 +0.5
KHC pmax pmax
comp=Z,125nm,1.0s
KHC Kasperske Hory 81.93 328 *e*P **P** 12 31 59.7 +0.5
KHC *ex* x 12 32 06.0
KHC *e*S **S** 12 42 09.6 +0.2
KHC AMS AMS 13 12 40.0
comp=Z,5µm,17.6s
LPK Lapseki 81.94 316 *e*P **P** 12 31 58.6 -0.7
MMLI Mount Malkishu 81.96 305 *e*P **P** 12 31 59.9 +0.3
ALN Alexandroupoli 81.97 316 *e*P **P** 12 31 59.5 +0.1
ALN Alexandroupoli 81.97 316 P **P** 12 31 58.8 -0.6
ALN Alexandroupoli 81.97 316 P **P** 12 31 58.8 -0.6
ROTZ Rotzenmuhle 81.99 330 *e*P **P** 12 32 00.2 +0.8
comp=Z,7.6nm,1.1s,baz=38,slow=5.3
UBBA Unterbreizbach 82.02 331 *e*P **P** 12 32 00.5 +1.1
comp=Z,9.2nm,1.0s,baz=38,slow=5.3
ENEZ Enez 82.02 316 *e*P **P** 12 31 58.8 -0.9
Q24A Divide 82.04 46 P **P** 12 32 00.6 +0.4
baz=313,SNR=7.1
Q24A S **S** 12 42 10.5 -0.9
baz=313
RDO Rodhopi 82.07 317 *e*P **P** 12 31 59.5 -0.5
GELI Tayfur-Gelibol 82.08 316 *e*P **P** 12 31 59.5 -0.5
GEC2 GERESS Array S 82.10 328 *e*P **P** 12 32 00.7 +0.6
comp=Z,19nm,0.9s,baz=38,slow=5.3
GERES GERESS Array B 82.10 328 P **P** 12 31 59.9 -0.2
comp=Z,17nm,0.9s,baz=35,slow=3.3,SNR=50
GERES PKKPbc **PKKPbc** 12 50 29.8 +1.8
comp=Z,0.6nm,0.8s,baz=267,slow=5.9,SNR=3.6
GERES LR LR 13 13 03.3
comp=Z,3µm,18.1s,baz=41,slow=39
X18A Snowflake 82.10 52 IAmb IAmb 12 32 17.3
comp=Z,131nm,1.4s
KULA Kula-Manisa 82.13 313 *e*P **P** 12 32 00.9 +0.5
RZN Rozhen 82.14 318 P **P** 12 32 01.7 +1.1
FRGS Fruska Gora 82.14 323 ⇑P **P** 12 32 00.3 -0.1
FRGS Fruska Gora 82.14 323 ⇑*i*P **P** 12 31 59.6 -0.7
KORT Korkueli 82.15 311 *e*P **P** 12 32 00.9 +0.2
WET Wettzell 82.21 329 *e*P **P** 12 32 01.2 +0.6
comp=Z,26nm,0.9s,baz=38,slow=5.3
UJAP Al Uja 82.25 304 *e*P **P** 12 32 01.5 +0.5
KOVH Kovagootottos 82.26 324 P **P** 12 32 01.0 +0.2
VTS Vitosha 82.26 319 ⇑P **P** 12 32 02.1 +0.9
VTS Vitosha 82.26 319 P **P** 12 32 01.6 +0.4
VTS Vitosha 82.26 319 P **P** 12 32 01.9 +0.7
KASTN Kahler Asten 82.30 332 *e*P **P** 12 32 02.0 +1.0
comp=Z,18nm,0.9s,baz=38,slow=5.3
BOVS Bovan 82.32 321 ⇓P **P** 12 32 01.3 +0.1
MXZ Matakaoa Point 82.33 151 IAMs_20 IAMs_20 13 06 41.4
comp=Z,2µm,19.0s
EYMN Ely 82.40 33 IAmb IAmb 12 32 17.3
comp=Z,208nm,1.6s
EYMN Ely 82.40 33 P **P** 12 32 01.7 +0.1
baz=320,SNR=19
EYMN Ely 82.40 33 P **P** 12 32 01.0 -0.6
baz=320
EYMN S **S** 12 42 10.5 -3.7
baz=320
OGNE Ogallala 82.41 43 P **P** 12 32 02.6 +0.7
baz=314
OGNE Ogallala 82.41 43 P **P** 12 32 02.1 +0.2
baz=314,SNR=8.2
OGNE S **S** 12 42 13.4 -1.3
baz=314
EKA Eskdalemuir Ar 82.42 341 LR LR 13 11 52.0
comp=Z,3µm,21.0s,baz=34,slow=38
EKA Eskdalemuir Ar 82.42 341 P **P** 12 32 01.8 +0.3
GRA1 Grafenberg Arr 82.44 330 IAmb IAmb 12 32 23.9
comp=Z,207nm,1.3s
GRF Grafenberg Arr 82.44 330 *e*P **P** 12 32 02.5 +0.7
comp=Z,56nm,0.9s,baz=38,slow=5.3
GRFO Grafenberg 82.44 330 P **P** 12 32 02.9 +1.1
GRFO pmax pmax
comp=Z,210nm,1.3s
GRFO MLR MLR
comp=Z,4µm,19.0s
GRFO Grafenberg 82.44 330 P **P** 12 32 02.9 +1.1
GRFO IAmb IAmb 12 32 23.9
comp=Z,210nm,1.3s
ESK Eskdalemuir 82.45 341 P **P** 12 32 02.6 +0.9
ESK pmax pmax
comp=Z,38nm,1.2s
ESK MLR MLR
comp=Z,3µm,19.0s
ESK Eskdalemuir 82.45 341 P **P** 12 32 02.6 +0.9
URZ Urewera 82.50 153 P **P** 12 32 01.4 -0.5
comp=Z,10.0nm,0.9s,baz=300,slow=20,SNR=5.6
URZ LR LR 13 03 53.4
comp=Z,4µm,21.7s,baz=31,slow=32
URZ Urewera 82.50 153 IAmb IAmb 12 32 16.2
comp=Z,117nm,1.8s
BUG Bochum–Univer 82.52 333 *e*P **P** 12 32 03.2 +1.1
comp=Z,26nm,0.8s,baz=38,slow=5.3
GADA Gvkgeada 82.54 316 *e*P **P** 12 32 01.9 -0.5
ARSA Arzberg 82.55 326 *i* P **P** 12 32 03.1 +0.7
comp=Z,20nm,1.0s,SNR=11
EZN Ezine 82.56 315 *e*P **P** 12 32 01.8 -0.7
EZN Ezine 82.56 315 P **P** 12 32 02.0 -0.5

ELL Elmali 82.58 311 P **P** 12 32 02.3 -0.6
ELL Elmali 82.58 311 P **P** 12 32 04.8 +1.9
MOA Molln 82.63 327 *i* P **P** 12 32 04.0 +1.2
comp=Z,33nm,1.3s,SNR=9.8
SDCO Great Sand Dun 82.66 47 IAmb IAmb 12 32 20.3
comp=Z,118nm,1.5s
SDCO IAMs_20 IAMs_20 13 05 15.4
comp=Z,1µm,22.0s
SDCO Great Sand Dun 82.66 47 P **P** 12 32 04.4 +1.0
baz=313,SNR=14
SDCO Great Sand Dun 82.66 47 P **P** 12 32 04.5 +1.0
baz=313,SNR=14
SDCO S **S** 12 42 18.4 +0.6
baz=313
BOZC Bozcaada 82.70 316 *e*P **P** 12 32 01.5 -1.8
MMB Musomiste 82.73 318 P **P** 12 32 04.2 +0.7
DKL Dikili 82.75 315 *e*P **P** 12 32 03.2 -0.3
DIVS Divibare 82.83 322 ⇑*i*P **P** 12 32 04.1 +0.1
KOGS Kog 82.84 325 *e*P **P** 12 32 03.9 0.0
KOGS epP **pP** 12 32 17.9 +0.5
KKB Krupnik 82.88 319 P **P** 12 32 04.9 +0.7
K31A O'Neill 82.95 40 P **P** 12 32 05.0 +0.5
baz=316,SNR=9.4
TUC Tucson 83.01 54 P **P** 12 32 05.1 -0.1
TUC pmax pmax
comp=Z,172nm,1.7s
TUC Tucson 83.01 54 P **P** 12 32 05.1 -0.1
TUC IAmb IAmb 12 32 21.8
comp=Z,172nm,1.6s
TUC Tucson 83.01 54 IAMs_20 IAMs_20 13 00 57.2
comp=Z,2µm,22.0s
TUC Tucson 83.01 54 P **P** 12 32 05.4 +0.2
baz=311
BIOA Bad Ischl, Aus 83.02 328 *i* P **P** 12 32 06.0 +1.1
comp=Z,46nm,1.0s,SNR=12
TNS Taunus Mts 83.08 332 *e*P **P** 12 32 05.9 +0.8
comp=Z,20nm,0.9s,baz=38,slow=5.3
AKAS Kas 83.11 311 *e*P **P** 12 32 04.8 -0.9
AKAS Kas 83.11 311 IAmb IAmb 12 32 31.5
comp=Z,76nm,0.8s
BLCB Balcova 83.14 314 *e*P **P** 12 32 06.4 +0.8
BLCB Balcova 83.14 314 P **P** 12 32 05.2 -0.4
FETY Fethiye 83.15 312 *e*P **P** 12 32 05.5 -0.2
FETY Fethiye 83.15 312 P **P** 12 32 05.2 -0.5
PERS Pernice 83.20 326 *e*P **P** 12 32 06.0 +0.2
PERS *e*PP **PP** 12 35 20.6 +3.8
SOKA Soboth 83.20 326 *i* P **P** 12 32 06.2 +0.3
comp=Z,71nm,1.1s,SNR=41
ECSD EROS Data Cent 83.21 38 IAmb IAmb 12 32 22.5
comp=Z,86nm,1.1s
ECSD EROS Data Cent 83.21 38 IAMs_20 IAMs_20 13 04 19.6
comp=Z,2µm,22.0s
ECSD EROS Data Cent 83.21 38 P **P** 12 32 05.6 -0.3
baz=317,SNR=21
ECSD EROS Data Cent 83.21 38 P **P** 12 32 05.9 0.0
baz=317,SNR=21
ECSD S **S** 12 42 20.1 -2.5
baz=317
QRZ Quartz Range 83.25 157 IAMs_20 IAMs_20 13 03 49.3
comp=Z,2µm,22.0s
DALY Dalyan (Mula) 83.28 312 *e*P **P** 12 32 07.2 +0.9
YER Yerkesik 83.28 312 *e*P **P** 12 32 07.8 +1.4
YER Yerkesik 83.28 312 P **P** 12 32 06.5 +0.1
YER Yerkesik 83.28 312 P **P** 12 32 08.4 +2.0
BBLS Lazići 83.29 322 ⇑*i*P **P** 12 32 06.8 +0.4
AHRW Bad Neuenahr-A 83.33 333 *e*P **P** 12 32 07.3 +1.0
comp=Z,36nm,1.0s,baz=38,slow=5.3
RJOB Jochberg 83.34 328 *e*P **P** 12 32 07.3 +0.7
comp=Z,49nm,0.9s,baz=38,slow=5.3
E38A The Farm, Brul 83.41 34 IAmb IAmb 12 32 22.9
comp=Z,172nm,1.4s
E38A The Farm, Brul 83.41 34 P **P** 12 32 06.4 -0.4
baz=320,SNR=13
URLA Izmir 83.42 314 *e*P **P** 12 32 06.7 -0.4
KSCO Kaye Shedlock' 83.43 45 P **P** 12 32 08.3 +1.0
baz=314
KSCO Kaye Shedlock' 83.43 45 P **P** 12 32 07.6 +0.3
baz=314,SNR=10
KSCO S **S** 12 42 22.7 -2.6
baz=314
STIP Stip 83.47 319 *i* P **P** 12 32 07.2 0.0
MLSB Milas 83.47 313 P **P** 12 32 08.5 +1.1
GCAM G?zelcaml? 83.51 313 *e*P **P** 12 32 08.4 +0.9
VAY Valandovo 83.53 318 *i* P **P** 12 32 08.6 +1.1
OBKA Obir 83.55 326 *e*P **P** 12 32 07.4 -0.3
comp=Z,9.0nm,0.7s
TURN Turunc 83.55 312 P **P** 12 32 08.5 +0.8
BEBN Eben Emael 83.62 334 *d*P **P** 12 32 08.2 +0.4
KBA Koelnbreinsper 83.63 327 *i* P **P** 12 32 08.6 +0.4
comp=Z,38nm,0.7s,SNR=25
BTNL Ternell 83.63 333 *d*P **P** 12 32 08.2 +0.3
comp=Z,35nm,1.0s
FUR Furstenfeldbru 83.63 329 *e*P **P** 12 32 08.8 +0.8
comp=Z,66nm,0.8s,baz=38,slow=5.3
SKO Skopje 83.65 320 *i* P **P** 12 32 09.8 +1.6
MEM Membach 83.66 333 *d*P **P** 12 32 08.5 +0.5
CRES Cresnjev 83.67 325 ⇑*i*P **P** 12 32 07.8 -0.4
BLY Banja Luka 83.69 324 ⇑*i*P **P** 12 32 08.0 -0.3
PLE Pljevlja 83.69 322 *e*P **P** 12 32 09.1 +0.6
CHOS Chios island 83.70 314 *e*P **P** 12 32 07.4 -1.2
CHOS Chios island 83.70 314 P **P** 12 32 07.2 -1.4
T25A Trinidad 83.71 47 P **P** 12 32 09.3 +0.5
baz=313,SNR=26
T25A S **S** 12 42 28.8 +0.5
baz=313
PLG Polygyros 83.75 317 P **P** 12 32 08.4 -0.3
HORT Hortiatis 83.77 318 *e*P **P** 12 32 08.0 -0.9
IVA Berane 83.78 321 *e*P **P** 12 32 09.6 +0.7
MYKA Terra Mystica 83.85 327 *i* P **P** 12 32 09.2 0.0
comp=Z,23nm,0.7s,SNR=9.4
BHOU Houvegnez 83.87 333 *d*P **P** 12 32 09.0 -0.1
NNZ Nelson 83.87 156 IAMs_20 IAMs_20 13 05 59.8
comp=Z,2µm,20.0s
GRG Griva 83.89 318 *e*P **P** 12 32 08.4 -1.0
GRG Griva 83.89 318 P **P** 12 32 08.5 -1.0
BODT Bodrum 83.90 313 *e*P **P** 12 32 10.5 +1.0
BODT Bodrum 83.90 313 P **P** 12 32 09.7 +0.2
SPMN Marine on St. 83.91 35 IAmb IAmb 12 32 25.1
comp=Z,156nm,1.6s
SPMN Marine on St. 83.91 35 P **P** 12 32 08.8 -0.6
baz=320
LJU Ljubljana 83.92 326 ⇑*i*P **P** 12 32 08.9 -0.5
DAT Datca 83.97 312 *e*P **P** 12 32 10.1 +0.1
DAT Datca 83.97 312 P **P** 12 32 08.5 -1.5
STU Stuttgart 83.97 331 IAmb IAmb 12 32 31.9
comp=Z,118nm,1.2s
STU Stuttgart 83.97 331 *e*P **P** 12 32 10.6 +0.9
comp=Z,111nm,1.0s,baz=38,slow=5.3
ANMO Albuquerque 83.98 50 P **P** 12 32 11.1 +0.9
comp=Z,10.0nm,1.0s,baz=304,slow=6.3,SNR=20
ANMO pP **pP** 12 32 24.8 +1.0
comp=Z,86nm,1.1s,baz=307,slow=5.5,SNR=31
ANMO LR LR 13 05 32.3
comp=Z,1µm,20.4s,baz=314,slow=33
ANMO Albuquerque 83.98 50*c* *e*P **P** 12 32 08.4 -1.8
ANMO pmax pmax
comp=Z,11nm,1.2s
ANMO Albuquerque 83.98 50 P **P** 12 32 11.4 +1.2
ANMO IAmb IAmb 12 32 27.9
comp=Z,164nm,1.3s
ANMO Albuquerque 83.98 50 IAMs_20 IAMs_20 13 05 22.5
comp=Z,2µm,19.0s
ANMO Albuquerque 83.98 50 P **P** 12 32 11.7 +1.5
baz=312,SNR=25
ANMO Albuquerque 83.98 50 P **P** 12 32 11.1 +0.9
baz=312
ANMO S **S** 12 42 30.9 -0.2
baz=312
KOME Kolasin 83.98 321 *e*P **P** 12 32 10.5 +0.5
MGRS Mrkonjic Grad 83.99 324 ⇑*i*P **P** 12 32 11.2 +1.3
ARG Arkhangelos 84.00 312 P **P** 12 32 10.0 0.0
ARG Arkhangelos 84.00 312 P **P** 12 32 09.1 -0.9
EIL Elat 84.05 303 LR LR 13 14 12.3
comp=Z,2µm,18.9s,baz=59,slow=39
EIL Elat 84.05 303 *i* P **P** 12 32 11.1 +0.7
BCLA Clavier 84.06 334 *d*P **P** 12 32 09.0 -1.0
BGNE Belgrade 84.14 41 P **P** 12 32 11.1 +0.4
baz=317,SNR=6.3
BGNE Belgrade 84.14 41 P **P** 12 32 10.2 -0.5
baz=317,SNR=6.3
BGNE S **S** 12 42 29.9 -2.2
baz=317
BGES Gesves 84.17 334 *d*P **P** 12 32 11.2 +0.5
WATA Walderalm 84.17 328 *e*P **P** 12 32 11.4 +0.5
comp=Z,37nm,1.6s

CEY Cerknica 84.19 326 ⇑*i*P **P** 12 32 10.5 -0.4
CEY Cerknica 84.19 326 *i* P **P** 12 32 10.6 -0.4
CEY *i* pP **pP** 12 32 24.1 -0.4
CEY *e*S **S** 12 42 28.9 -3.5
WTTA Wattenberg 84.20 328 *i* P **P** 12 32 11.7 +0.6
comp=Z,30nm,1.4s,SNR=8.1
SRKY Kupres RS 84.21 323 ⇑*i*P **P** 12 32 11.3 +0.2
THZ Tophouse 84.22 157 IAmb IAmb 12 32 24.8
comp=Z,132nm,1.5s
ABTA Abfaltersbach 84.24 328 *i* P **P** 12 32 10.7 -0.5
comp=Z,26nm,1.1s,SNR=11
Y22D IRIS PASSCAL I 84.28 51 IAMs_20 IAMs_20 13 03 28.6
comp=Z,2µm,21.0s
Y22D IRIS PASSCAL I 84.28 51 P **P** 12 32 12.6 +0.9
baz=312
RCHB Rochefort 84.31 333 *d*P **P** 12 32 11.1 -0.3
comp=Z,26nm,1.0s
NKME Niksic 84.32 321 *e*P **P** 12 32 12.3 +0.7
D41A Chassel 84.33 32 P **P** 12 32 10.9 -0.6
baz=322,SNR=13
SNF Seneffe 84.34 334 *d*P **P** 12 32 12.4 +0.9
comp=Z,41nm,0.9s
Y22A Socorro 84.34 51 P **P** 12 32 13.5 +1.4
baz=312,SNR=5.3
BMRD Maredsous 84.35 334 *d*P **P** 12 32 11.9 +0.4
MOTA Moosalm 84.36 329 *i* P **P** 12 32 12.3 +0.4
comp=Z,49nm,1.1s,SNR=16
PHP Peshkopia 84.37 320 P **P** 12 32 11.7 -0.2
PMOR Pomariorio Ree 84.38 114 *e*P **P** 12 32 13.2 +1.1
comp=Z,310nm,1.4s
PMOR Pomariorio Ree 84.38 114 *e*T T 14 04 50.5
comp=Z,53nm,0.2s
RETA Reutte 84.38 329 *i* P **P** 12 32 12.7 +0.8
comp=Z,65nm,1.0s,SNR=38
WLF Walferdange 84.39 333 *d*P **P** 12 32 12.8 +1.1
SQTA Sankt Quirin 84.41 329 *i* P **P** 12 32 12.3 +0.2
comp=Z,20nm,0.8s,SNR=6.9
PDG Podgorica 84.42 321 ⇑P **P** 12 32 12.6 +0.6
PDG Podgorica 84.42 321 IAmb IAmb 12 32 15.6
comp=Z,110nm,1.0s
PDG Podgorica 84.42 321 ⇑*i*P **P** 12 32 11.9 -0.2
TTG Podgorica 84.42 321 *e*P **P** 12 32 12.6 +0.6
BRY Bratogost 84.43 322 ⇑*i*P **P** 12 32 12.0 -0.3
BRY Bratogost 84.43 322 *e*P **P** 12 32 12.3 0.0
LIT Litokhoron 84.45 318 P **P** 12 32 11.0 -1.3
LIT Litokhoron 84.45 318 P **P** 12 32 12.9 +0.6
RIY Rijeka 84.49 326 ⇑*i*P **P** 12 32 11.5 -0.8
UBR Ueberruh 84.49 329 *e*P **P** 12 32 13.1 +0.7
comp=Z,21nm,1.0s,baz=38,slow=5.3
GIVF Givet 84.50 334 *e*P **P** 12 32 13.2 +0.9
GIVF pmax pmax
comp=Z,33nm,1.2s
CEME Cevo 84.50 321 *e*P **P** 12 32 12.8 +0.2
SKDS Kadanscina 84.53 326 ⇑*i*P **P** 12 32 11.5 -1.1
SCHQ Schefferville 84.54 16 P **P** 12 32 12.3 -0.1
comp=Z,20nm,0.7s,baz=358,slow=5.8,SNR=13
SCHQ LR LR 13 12 04.0
comp=Z,2µm,21.0s,baz=342,slow=37
SCHQ Schefferville 84.54 16 IAmb IAmb 12 32 31.0
comp=Z,110nm,1.6s
STAL STALIGIAL 84.54 327 IAmb IAmb 12 32 20.6
comp=Z,66nm,1.0s
FNA Florina 84.55 319 *e*P **P** 12 32 13.1 +0.3
FNA Florina 84.55 319 P **P** 12 32 12.3 -0.5
FNA Florina 84.55 319 IAmb IAmb 12 32 31.6
comp=Z,72nm,1.2s
I37B Waseca 84.55 36 P **P** 12 32 12.6 -0.1
baz=319,SNR=17
DOU Dourbes 84.58 334 *d*P **P** 12 32 13.2 +0.4
OHR Ohrid 84.61 319 *i* P **P** 12 32 14.2 +1.1
L34A Svendsen Farm, 84.63 39 IAmb IAmb 12 32 29.6
comp=Z,112nm,0.9s
L34A Svendsen Farm, 84.63 39 P **P** 12 32 14.3 +1.1
baz=318,SNR=6.1
DRME Dracevica, Mon 84.64 321 ⇑*i*P **P** 12 32 13.4 +0.2
DRME Dracevica, Mon 84.64 321 *e*P **P** 12 32 14.0 +0.8
TREB Trebinje 84.66 322 ⇑*i*P **P** 12 32 13.5 +0.2
BFO Black Forest 84.67 331 *e*P **P** 12 32 14.2 +1.0
comp=Z,56nm,0.9s,baz=38,slow=5.3
BUM Brajici-Budva 84.70 321 *e*P **P** 12 32 14.1 +0.5
BAIF Baives 84.75 334 *e*P **P** 12 32 14.6 +1.0
BAIF pmax pmax
comp=Z,24nm,0.9s
FETA Feichten 84.77 329 *i* P **P** 12 32 14.4 +0.4
comp=Z,38nm,1.0s,SNR=13
ULC Ulcinj 84.77 321 *e*P **P** 12 32 14.7 +0.8
121A Cookes Peak, D 84.77 53 P **P** 12 32 16.1 +1.8
baz=312,SNR=11
121A Cookes Peak, D 84.77 53 P **P** 12 32 15.3 +1.0
baz=312,SNR=11
121A S **S** 12 42 40.2 +1.2
baz=312
HCY Herceg Novi 84.79 321 ⇑*i*P **P** 12 32 12.1 -1.8
HCY Herceg Novi 84.79 321 *e*P **P** 12 32 14.5 +0.6
COWI Conover 84.85 33 IAmb IAmb 12 32 29.9
comp=Z,85nm,1.3s
COWI IAMs_20 IAMs_20 13 11 27.5
comp=Z,1µm,20.0s
STON Ston 84.86 322 ⇑*i*P **P** 12 32 13.4 -0.8
PPT Papeete 84.88 117 LR LR 13 05 10.2
comp=Z,3µm,19.2s,baz=294,slow=32
PPT2 Papeete2 84.89 117 *e*P **P** 12 32 16.0 +1.2
comp=Z,100nm,1.3s
PPT2 Papeete2 84.89 117 *e*S **S** 12 42 38.2 -1.8
comp=Z,1µm,25.0s
PPT2 Papeete2 84.89 117 *e*LR LR 12 58 59.6
comp=Z,9µm,24.8s,baz=317
PPT2 Papeete2 84.89 117 *e*T T 14 05 28.9
comp=Z,11nm,0.3s
DAVA Damuels 84.90 329 *i* P **P** 12 32 15.4 +0.8
comp=Z,39nm,1.0s,SNR=23
PAE Paea 84.94 117 *e*T T 14 05 34.7
comp=Z,2.7nm,0.3s
CDF Champ du Feu 85.01 331 *e*P **P** 12 32 14.9 -0.1
CDF pmax pmax
comp=Z,57nm,1.0s
KARP Karpathos 85.03 312 *e*P **P** 12 32 15.7 +0.4
HSIG 85.04 57 IAmb IAmb 12 32 32.5
comp=Z,124nm,1.3s
G40A Rib Lake 85.04 34 IAmb IAmb 12 32 31.8
comp=Z,91nm,1.4s
G40A Rib Lake 85.04 34 P **P** 12 32 15.2 0.0
baz=321,SNR=22
DION Dionisos Attik 85.11 315 P **P** 12 32 14.2 -1.5
CBKS Cedar Bluff 85.17 43 P **P** 12 32 16.3 +0.3
baz=316
CBKS Cedar Bluff 85.17 43 P **P** 12 32 15.7 -0.2
baz=316,SNR=7.4
CBKS S **S** 12 42 38.4 -4.0
baz=316
ECH Echery 85.21 331 P **P** 12 32 16.5 +0.5
ECH Echery 85.21 331 IAmb IAmb 12 32 41.3
comp=Z,73nm,1.0s
LKR Lokris 85.22 316 P **P** 12 32 14.9 -1.2
ATHU Athens Univers 85.27 315 P **P** 12 32 15.5 -0.9
DAVOX Davos/Dischmat 85.31 329 LR LR 13 14 07.9
comp=Z,7µm,18.3s,baz=33,slow=38
AGG Agios Georgios 85.31 317 P **P** 12 32 17.2 +0.5
AGG Agios Georgios 85.31 317 IAmb IAmb 12 32 53.8
comp=Z,150nm,1.7s
LSK Leskovik 85.41 319 P **P** 12 32 17.4 +0.2
RPZ Rata Peaks 85.46 159 LR LR 13 09 09.1
comp=Z,2µm,19.0s,baz=340,slow=35
E43A Lone Tree Farm 85.53 31 IAmb IAmb 12 32 33.4
comp=Z,77nm,1.2s
E43A Lone Tree Farm 85.53 31 P **P** 12 32 17.7 +0.1
baz=324,SNR=24
F42A Maple Grove Fa 85.55 32 IAmb IAmb 12 32 33.7
comp=Z,107nm,1.5s
F42A Maple Grove Fa 85.55 32 P **P** 12 32 18.3 +0.7
baz=323
HINF Hinteralfeld 85.66 331 *e*P **P** 12 32 18.8 +0.6
HINF pmax pmax
comp=Z,20nm,0.9s
HAU Haudompre 85.69 332 *e*P **P** 12 32 17.9 -0.5
HAU pmax pmax
comp=Z,32nm,0.9s
TEOL Teolo 85.70 327 IAmb IAmb 12 32 37.0
comp=Z,154nm,1.6s
TUE Stuetta 85.78 329 IAmb IAmb 12 32 40.4
comp=Z,94nm,1.1s
N35A Tabor 85.82 40 P **P** 12 32 19.9 +0.7
baz=318,SNR=7.9
LBZ Lake Benmore 85.83 160 P **P** 12 32 21.0 +2.2
LBZ IAmb IAmb 12 32 33.9
comp=Z,113nm,1.3s

ANX	**Ano Chora**	**85.84**	**317**	P	**P**	**12 32 18.7**	**-0.7**
ZKR	**Zakros**	**85.88**	**312**	*e*P	**P**	**12 32 20.4**	**+0.9**
K38A	**Parkersburg**	**85.89**	**37**	P	**P**	**12 32 20.2**	**+0.8**
	baz=320						
DID	**Didima**	**85.90**	**315**	P	**P**	**12 32 16.1**	**-3.5**
EFP	**Efpalio**	**85.97**	**317**	P	**P**	**12 32 18.7**	**-1.2**
SALO	**Salr**	**85.98**	**328**	IAmb	IAmb	12 32 44.7	
	comp=Z,50nm,0.8s						
SCIA	**State Center**	**86.24**	**38**	IAMs_20	IAMs_20	13 07 37.6	
	comp=Z,2µm,22.0s						
SCIA	**State Center**	**86.24**	**38**	S	**S**	**12 42 50.4**	**-2.3**
	baz=320						
SCIA	**State Center**	**86.24**	**38**	P	**P**	**12 32 21.8**	**+0.6**
	baz=320						
SCIA				S	**S**	**12 42 49.9**	**-2.8**
	baz=320						
TAOE	**Nuku Hiva Isla**	**86.24**	**104**	*e*S	**S**	**12 42 51.9**	**-1.7**
	comp=Z,1µm,28.1s						
TAOE	**Nuku Hiva Isla**	**86.24**	**104**	*e*LR	LR	12 59 40.4	
	comp=Z,10µm,26.0s,baz=315						
TAOE	**Nuku Hiva Isla**	**86.24**	**104**	*e*T	T	14 07 09.5	
	comp=Z,21nm,0.2s						
DRO	**Drossia**	**86.42**	**317**	P	**P**	**12 32 20.6**	**-1.6**
IDI	**Anoyia**	**86.54**	**313**	⇑P	**P**	**12 32 21.9**	**-1.0**
IDI	**Anoyia**	**86.54**	**313**	P	**P**	**12 32 22.0**	**-0.8**
	baz=30,slow=6.7						
IDI				LR	LR	13 16 07.4	
	comp=Z,1µm,18.8s,baz=30,slow=39						
IDI	**Anoyia**	**86.54**	**313**	*e*P	**P**	**12 32 19.6**	**-3.2**
IDI	**Anoyia**	**86.54**	**313**	P	**P**	**12 32 20.6**	**-2.2**
IDI	**Anoyia**	**86.54**	**313**	IAMs_20	IAMs_20	13 15 46.4	
	comp=Z,2µm,21.0s						
SCTE	**Santa Cesarea**	**86.57**	**320**	IAmb	IAmb	12 32 25.2	
	comp=Z,99nm,1.0s						
E46A	**Sault Ste Mari**	**86.62**	**30**	P	**P**	**12 32 22.7**	**-0.3**
	baz=325,SNR=10						
KSU1	**Kansas State U**	**86.63**	**41**	IAMs_20	IAMs_20	13 11 22.2	
	comp=Z,2µm,22.0s						
KSU1	**Kansas State U**	**86.63**	**41**	P	**P**	**12 32 23.3**	**+0.2**
	baz=318						
KSU1	**Kansas State U**	**86.63**	**41**	P	**P**	**12 32 22.6**	**-0.5**
	baz=318						
SGRT	**San Giovanni R**	**86.65**	**323**	IAmb	IAmb	12 32 24.8	
	comp=Z,120nm,1.2s						
SENIN	**Lac Senin/Sane**	**86.68**	**330**	IAmb	IAmb	12 32 48.2	
	comp=Z,53nm,1.1s						
I42A	**Draeger Farm,**	**86.69**	**34**	IAmb	IAmb	12 32 40.2	
	comp=Z,117nm,1.3s						
I42A	**Draeger Farm,**	**86.69**	**34**	P	**P**	**12 32 23.9**	**+0.6**
	baz=322,SNR=10						
I42A				S	**S**	**12 42 52.8**	**-4.2**
	baz=322						
H43A	**Windswept, Lux**	**86.73**	**33**	P	**P**	**12 32 23.9**	**+0.4**
	baz=323,SNR=11						
H43A				S	**S**	**12 42 54.3**	**-3.0**
	baz=323						
ZCCA	**Zocca**	**86.80**	**327**	IAmb	IAmb	12 32 57.1	
	comp=Z,118nm,1.4s						
MNTX	**Cornudas Mount**	**86.84**	**52**	IAmb	IAmb	12 32 40.6	
	comp=Z,94nm,1.4s						
MNTX	**Cornudas Mount**	**86.84**	**52**	P	**P**	**12 32 25.0**	**+0.7**
	baz=313,SNR=8.6						
MNTX	**Cornudas Mount**	**86.84**	**52**	P	**P**	**12 32 24.5**	**+0.2**
	baz=313,SNR=8.6						
MNTX				S	**S**	**12 42 59.1**	**+0.2**
	baz=313						
JFWS	**Jewell Farm**	**86.86**	**35**	IAmb	IAmb	12 32 39.8	
	comp=Z,159nm,1.6s						
JFWS	**Jewell Farm**	**86.86**	**35**	IAMs_20	IAMs_20	13 10 06.9	
	comp=Z,2µm,20.0s						
JFWS	**Jewell Farm**	**86.86**	**35**	P	**P**	**12 32 23.5**	**-0.7**
	baz=322,SNR=5.4						
JFWS				S	**S**	**12 42 55.2**	**-3.5**
	baz=322						
JFWS	**Jewell Farm**	**86.86**	**35**	P	**P**	**12 32 23.1**	**-1.1**
	baz=322						
JFWS				S	**S**	**12 42 54.6**	**-4.1**
	baz=322						
MSTX	**Muleshoe**	**86.86**	**49**	IAmb	IAmb	12 32 40.5	
	comp=Z,130nm,1.4s						
MSTX	**Muleshoe**	**86.86**	**49**	P	**P**	**12 32 24.8**	**+0.3**
	baz=314,SNR=10						
MSTX				S	**S**	**12 42 59.1**	**-0.1**
	baz=314						
AMTX	**Amarillo**	**86.86**	**47**	IAMs_20	IAMs_20	13 06 55.7	
	comp=Z,1µm,19.0s						
AMTX	**Amarillo**	**86.86**	**47**	P	**P**	**12 32 25.9**	**+1.4**
	baz=315,SNR=7.5						
AMTX				S	**S**	**12 42 59.5**	**+0.3**
	baz=315						
AMTX	**Amarillo**	**86.86**	**47**	P	**P**	**12 32 24.7**	**+0.2**
	baz=315						
AMTX				S	**S**	**12 42 58.4**	**-0.8**
	baz=315						
IMMV	**Iera Moni Meta**	**86.94**	**314**	P	**P**	**12 32 25.1**	**+0.4**
CABF	**La Chapelle**	**86.95**	**331**	*e*P	**P**	**12 32 25.5**	**+0.8**
CABF				pmax	pmax		
	comp=Z,18nm,1.0s						
MURB	**Monte Urbino**	**86.98**	**325**	IAmb	IAmb	12 32 46.9	
	comp=Z,173nm,1.6s						
MATE	**Matera**	**87.02**	**321**	⇑P	**P**	**12 32 24.5**	**-0.4**
NRCA	**Norcia**	**87.05**	**325**	IAmb	IAmb	12 32 46.7	
	comp=Z,89nm,1.1s						
L40A	**Anamosa**	**87.07**	**36**	P	**P**	**12 32 25.5**	**+0.3**
	baz=321,SNR=7.5						
L40A				S	**S**	**12 42 57.4**	**-3.3**
	baz=321						
N38A	**Joes South For**	**87.08**	**38**	P	**P**	**12 32 26.1**	**+0.8**
	baz=320,SNR=6.9						
N38A				S	**S**	**12 42 58.8**	**-2.0**
	baz=320						
CLF	**Chambon-Foret**	**87.15**	**334**	IAmb	IAmb	12 32 51.4	
	comp=Z,83nm,1.0s						
G45A	**Suttons Bay**	**87.16**	**31**	P	**P**	**12 32 26.9**	**+1.3**
	baz=324						
G45A				P	**P**	**12 32 26.9**	**+1.3**
	baz=324						
G45A				S	**S**	**12 42 58.7**	**-2.8**
	baz=324						
G45A				S	**S**	**12 42 58.7**	**-2.8**
	baz=324						
LOR	**Lormes**	**87.23**	**333**	*e*P	**P**	**12 32 26.7**	**+0.8**
LOR				pmax	pmax		
	comp=Z,63nm,1.0s						
AQU	**L'Aquila**	**87.29**	**324**	IAmb	IAmb	12 32 36.4	
	comp=Z,60nm,1.0s						
AQU	**L'Aquila**	**87.29**	**324**	⇑/P	**P**	**12 32 26.4**	**0.0**
GVD	**Gavdhos**	**87.32**	**313**	*e*P	**P**	**12 32 27.1**	**+0.5**
GVD	**Gavdhos**	**87.32**	**313**	P	**P**	**12 32 25.8**	**-0.8**
U32A	**Winter Ranch,**	**87.32**	**45**	S	**S**	**12 43 02.8**	**-0.6**
	baz=316						
FLN	**La Foliniere**	**87.43**	**336**	*e*P	**P**	**12 32 27.7**	**+0.9**
LDF	**La Druitiere**	**87.46**	**336**	*e*P	**P**	**12 32 25.7**	**-1.3**
LDF				pmax	pmax		
	comp=Z,30nm,1.0s						
LPG	**La Plagne**	**87.61**	**330**	*e*P	**P**	**12 32 28.2**	**+0.1**
LPG				pmax	pmax		
	comp=Z,23nm,0.8s						
VLDQ	**Val d'Or**	**87.64**	**25**	IAmb	IAmb	12 32 43.6	
	comp=Z,71nm,1.1s						
GLMI	**Grayling**	**87.76**	**31**	P	**P**	**12 32 28.4**	**-0.1**
	baz=325						
GLMI				S	**S**	**12 43 04.5**	**-2.8**
	baz=325						
SMF	**Signal de Mont**	**87.76**	**332**	*e*P	**P**	**12 32 29.5**	**+1.0**
SMF				pmax	pmax		
	comp=Z,32nm,1.0s						
P38A	**Dawn**	**87.82**	**39**	IAmb	IAmb	12 32 45.8	
	comp=Z,80nm,0.8s						
P38A	**Dawn**	**87.82**	**39**	P	**P**	**12 32 29.5**	**+0.7**
	baz=320,SNR=12						
P38A				S	**S**	**12 43 05.6**	**-2.4**
	baz=320						
AVF	**Avril sur Loir**	**87.82**	**333**	*e*P	**P**	**12 32 28.7**	**0.0**
AVF				pmax	pmax		
	comp=Z,55nm,0.8s						
L42A	**Oliver, Polo**	**87.84**	**36**	IAmb	IAmb	12 32 50.4	
	comp=Z,62nm,1.1s						
L42A	**Oliver, Polo**	**87.84**	**36**	P	**P**	**12 32 29.5**	**+0.6**
	baz=322						
GRR	**Gorron**	**87.88**	**336**	*e*P	**P**	**12 32 30.2**	**+1.2**
GRR				pmax	pmax		
	comp=Z,112nm,1.4s						
BNI	**Bardonecchia**	**88.01**	**330**	P	**P**	**12 32 28.4**	**-1.5**
TIP	**Timpagrande**	**88.11**	**320**	⇑P	**P**	**12 32 30.3**	**-0.1**
BGF	**Bois d'Agland**	**88.20**	**333**	*e*P	**P**	**12 32 32.9**	**+2.3**
BGF				pmax	pmax		
	comp=Z,13nm,0.9s						
MBDF	**Montbardon**	**88.24**	**330**	*e*P	**P**	**12 32 30.0**	**-1.0**
MBDF				pmax	pmax		
	comp=Z,12nm,0.9s						
T35B	**Sooner Cattle**	**88.29**	**43**	S	**S**	**12 43 10.4**	**-2.3**
	baz=318						
N41A	**Harden Midland**	**88.30**	**37**	S	**S**	**12 43 10.5**	**-2.0**
	baz=321						
ORIF	**Oris-en-Rattie**	**88.44**	**330**	*e*P	**P**	**12 32 30.1**	**-1.7**
ORIF				pmax	pmax		
	comp=Z,11nm,0.8s						
L44A	**Lake County Fo**	**88.50**	**34**	IAMs_20	IAMs_20	13 10 49.2	
	comp=Z,3µm,22.0s						
L44A	**Lake County Fo**	**88.50**	**34**	P	**P**	**12 32 31.5**	**-0.5**
	baz=323						
SGMF	**Saint Gilles**	**88.54**	**337**	*e*P	**P**	**12 32 33.3**	**+1.2**
SGMF				pmax	pmax		
	comp=Z,63nm,1.5s						
P40A	**Paris**	**88.63**	**39**	P	**P**	**12 32 33.3**	**+0.7**
	baz=320,SNR=12						
P40A				S	**S**	**12 43 14.2**	**-1.5**
	baz=320						
WMOK	**Wichita Mounta**	**88.63**	**46**	IAmb	IAmb	12 32 49.0	
	comp=Z,124nm,1.4s						
WMOK	**Wichita Mounta**	**88.63**	**46**	IAMs_20	IAMs_20	13 07 53.5	
	comp=Z,1µm,21.0s						
WMOK	**Wichita Mounta**	**88.63**	**46**	P	**P**	**12 32 33.3**	**+0.4**
	baz=317,SNR=8.4						
WMOK				S	**S**	**12 43 13.6**	**-2.4**
	baz=317						
WMOK	**Wichita Mounta**	**88.63**	**46**	P	**P**	**12 32 33.3**	**+0.4**
	baz=317,SNR=8.4						
WMOK				S	**S**	**12 43 14.5**	**-1.5**
	baz=317						
SSB	**Saint Sauveur**	**88.66**	**331**	IAmb	IAmb	12 33 01.8	
	comp=Z,72nm,1.9s						
TCF	**Toulx Ste Croi**	**88.66**	**333**	*e*P	**P**	**12 32 33.9**	**+1.1**
TCF				pmax	pmax		
	comp=Z,26nm,1.2s						
LPIG	**La Paz**	**88.68**	**60**	LR	LR	13 07 10.1	
	comp=Z,1µm,19.5s,baz=314,slow=32						
ROSF	**Rostrenen**	**88.68**	**337**	*e*P	**P**	**12 32 35.0**	**+2.2**
ROSF				pmax	pmax		
	comp=Z,328nm,2.1s						
SBF	**Sospel**	**88.69**	**329**	*e*P	**P**	**12 32 34.3**	**+1.3**
SBF				pmax	pmax		
	comp=Z,21nm,0.9s						
TBI	**Tubuai**	**88.83**	**121**	*e*S	**S**	**12 43 16.5**	**-1.2**
	comp=Z,2µm,27.2s						
TBI	**Tubuai**	**88.83**	**121**	*e*LR	LR	13 00 36.3	
	comp=Z,8µm,31.5s,baz=311						
TBI	**Tubuai**	**88.83**	**121**	*e*T	T	14 10 24.9	
	comp=Z,198nm,0.3s						
J47A	**Sunmer**	**88.98**	**32**	S	**S**	**12 43 17.8**	**-1.1**
	baz=325						
J47A				S	**S**	**12 43 17.8**	**-1.1**
	baz=325						
FNO	**Franklin**	**89.03**	**45**		**P**	**12 32 34.9**	**+0.3**
PGF	**Pioggiola**	**89.10**	**327**	*e*P	**P**	**12 32 36.2**	**+1.2**
PGF				pmax	pmax		
	comp=Z,16nm,0.9s						
HDIL	**Hopedale**	**89.15**	**36**	IAMs_20	IAMs_20	13 14 40.6	
	comp=Z,2µm,21.0s						
HDIL	**Hopedale**	**89.15**	**36**	P	**P**	**12 32 35.0**	**-0.1**
	baz=322						
I49A	**Point Hope**	**89.22**	**30**	P	**P**	**12 32 37.0**	**+1.6**
	baz=326,SNR=6.4						
I49A				P	**P**	**12 32 37.0**	**+1.6**
	baz=326,SNR=6.4						
I49A				S	**S**	**12 43 19.3**	**-1.8**
	baz=326						
I49A				S	**S**	**12 43 19.3**	**-1.8**
	baz=326						
S39A	**Bolivar**	**89.39**	**40**	IAmb	IAmb	12 32 52.4	
	comp=Z,109nm,1.3s						
S39A	**Bolivar**	**89.39**	**40**	P	**P**	**12 32 36.4**	**+0.1**
	baz=320,SNR=7.0						
S39A				S	**S**	**12 43 17.8**	**-5.2**
	baz=320						
TUL1	**Leonard**	**89.43**	**43**	P	**P**	**12 32 36.8**	**+0.3**
	baz=318,SNR=5.4						
TUL1				S	**S**	**12 43 20.5**	**-2.8**
	baz=318						
R40A	**Maddies Statio**	**89.47**	**39**	P	**P**	**12 32 36.8**	**+0.1**
	baz=320,SNR=8.3						
R40A				S	**S**	**12 43 21.1**	**-2.6**
	baz=320						
TX31	**Lajitas Ar. Si**	**89.53**	**52**	P	**P**	**12 32 37.9**	**+0.7**
	baz=314						
TX32	**Lajitas Array**	**89.53**	**52**	IAmb	IAmb	12 32 53.6	
	comp=Z,40nm,0.9s						
TXAR	**Lajitas Array**	**89.54**	**52**	P	**P**	**12 32 37.6**	**+0.3**
	comp=Z,6.3nm,0.5s,baz=298,slow=3.0,SNR=111						
TXAR				pP	**pP**	**12 32 52.0**	**+1.1**
	comp=Z,22nm,0.8s,baz=302,slow=2.8,SNR=22						
TXAR				PKKPbc	**PKKPbc**	**12 50 12.9**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=125,slow=4.5,SNR=4.8						
TXAR				LR	LR	13 06 53.0	
	comp=Z,1µm,21.6s,baz=314,slow=32						
ABTX	**Abilene, Hawle**	**89.66**	**48**	P	**P**	**12 32 38.1**	**+0.4**
	baz=316,SNR=9.2						
ABTX				S	**S**	**12 43 23.6**	**-2.0**
	baz=316						
RJF	**Les Rejaudoux**	**89.75**	**333**	*e*P	**P**	**12 32 38.0**	**+0.1**
RJF				pmax	pmax		
	comp=Z,26nm,1.0s						
P43A	**Skaggs, Pawnee**	**89.77**	**37**	S	**S**	**12 43 23.5**	**-2.8**
	baz=322						
LATQ	**La Tuque**	**89.78**	**23**	IAmb	IAmb	12 32 54.0	
	comp=Z,109nm,1.7s						
ATD	**Arta Tunnel**	**89.80**	**284**	LR	LR	13 17 43.9	
	comp=Z,955nm,19.2s,baz=48,slow=39						
ATD	**Arta Tunnel**	**89.80**	**284**	IAMs_20	IAMs_20	13 17 40.6	
	comp=Z,2µm,22.0s						
CAF	**Calviac**	**89.88**	**333**	*e*P	**P**	**12 32 40.9**	**+2.4**
CAF				pmax	pmax		
	comp=Z,14nm,0.8s						
SADO	**Sadowa**	**89.93**	**28**	LR	LR	13 13 56.5	
	comp=Z,907nm,21.2s,baz=356,slow=36						
SADO	**Sadowa**	**89.93**	**28**	IAmb	IAmb	12 32 54.5	
	comp=Z,136nm,1.8s						
HHAR	**Hobbs**	**90.14**	**42**	IAmb	IAmb	12 32 55.5	
	comp=Z,171nm,1.7s						
HHAR	**Hobbs**	**90.14**	**42**	P	**P**	**12 32 40.5**	**+0.6**
	baz=319						
CCM	**Cathedral Cave**	**90.16**	**39**	P	**P**	**12 32 40.6**	**+0.7**
CCM				pmax	pmax		
	comp=Z,278nm,1.5s						
CCM				MLR	MLR		
	comp=Z,1µm,20.0s						
CCM	**Cathedral Cave**	**90.16**	**39**	P	**P**	**12 32 40.6**	**+0.7**
CCM	**Cathedral Cave**	**90.16**	**39**	P	**P**	**12 32 40.3**	**+0.4**
	baz=321,SNR=9.6						
CCM				S	**S**	**12 43 27.7**	**-2.4**
	baz=321						
CCM	**Cathedral Cave**	**90.16**	**39**	P	**P**	**12 32 39.8**	**-0.1**
	baz=321						
CCM				S	**S**	**12 43 27.5**	**-2.6**
	baz=321						
L48A	**N Adams**	**90.20**	**32**	P	**P**	**12 32 39.5**	**-0.5**
	baz=325,SNR=6.4						
L48A				P	**P**	**12 32 39.5**	**-0.5**
	baz=325,SNR=6.4						
L48A				S	**S**	**12 43 28.0**	**-2.3**
	baz=325						
L48A				S	**S**	**12 43 28.0**	**-2.3**
	baz=325						
SLM	**Saint Louis**	**90.21**	**38**	S	**S**	**12 43 28.6**	**-1.9**
	baz=322						
AAM	**Ann Arbor**	**90.24**	**32**	P	**P**	**12 32 39.6**	**-0.5**
	baz=326						
TRQ	**Mont Tremblant**	**90.25**	**24**	IAmb	IAmb	12 32 57.1	
	comp=Z,127nm,1.5s						
K50A	**Casco**	**90.27**	**31**	P	**P**	**12 32 40.8**	**+0.5**
SFIN	**Lafayette**	**90.31**	**35**	S	**S**	**12 43 29.2**	**-2.1**
	baz=324						
SFIN	**Lafayette**	**90.31**	**35**	P	**P**	**12 32 40.8**	**+0.2**
	baz=324,SNR=5.2						
SFIN				S	**S**	**12 43 28.1**	**-3.2**
	baz=324						
Z35A	**Perchaven, San**	**90.52**	**46**	P	**P**	**12 32 42.3**	**+0.6**
	baz=317,SNR=8.2						
N47A	**Urbana**	**90.53**	**34**	P	**P**	**12 32 41.7**	**+0.1**
	baz=324						
N47A				P	**P**	**12 32 41.7**	**+0.1**
	baz=324						
Q44A	**Meyer Farm, Va**	**90.59**	**37**	S	**S**	**12 43 31.0**	**-2.9**
	baz=322						
VAE	**Valguarnera**	**90.60**	**321**	LR	LR	13 17 47.3	
	comp=Z,5µm,18.2s,baz=44,slow=38						
FVM	**French Village**	**90.62**	**39**	S	**S**	**12 43 31.0**	**-3.4**
	baz=322						
X37A	**Clayton**	**90.64**	**44**	S	**S**	**12 43 31.1**	**-3.5**
	baz=318						
U40A	**Yellville**	**90.65**	**41**	IAMs_20	IAMs_20	13 13 22.6	
	comp=Z,1µm,22.0s						
U40A	**Yellville**	**90.65**	**41**	P	**P**	**12 32 42.2**	**0.0**
	baz=320,SNR=22						
U40A				P	**P**	**12 32 42.2**	**0.0**
	baz=320,SNR=22						
U40A				S	**S**	**12 43 29.5**	**-5.1**
	baz=320						
U40A				S	**S**	**12 43 29.5**	**-5.1**
	baz=320						
U40A	**Yellville**	**90.65**	**41**	P	**P**	**12 32 41.7**	**-0.6**
	baz=320						
U40A				S	**S**	**12 43 30.8**	**-3.9**
	baz=320						
DELO	**Deloro Mine**	**90.70**	**27**	IAmb	IAmb	12 32 59.1	
	comp=Z,126nm,1.5s						
W39A	**Magazine**	**91.04**	**42**	IAMs_20	IAMs_20	13 12 07.1	
	comp=Z,1µm,22.0s						
W39A	**Magazine**	**91.04**	**42**	P	**P**	**12 32 45.1**	**+1.0**
	baz=319						
W39A	**Magazine**	**91.04**	**42**	P	**P**	**12 32 44.3**	**+0.3**
	baz=319,SNR=6.7						
W39A				S	**S**	**12 43 33.0**	**-5.3**
	baz=319						
JCT	**Junction City**	**91.10**	**49**	IAMs_20	IAMs_20	13 08 05.1	
	comp=Z,2µm,22.0s						
JCT	**Junction City**	**91.10**	**49**	P	**P**	**12 32 45.7**	**+1.2**
	baz=316,SNR=5.3						
JCT	**Junction City**	**91.10**	**49**	P	**P**	**12 32 44.7**	**+0.2**
	baz=316,SNR=5.3						
JCT				S	**S**	**12 43 35.4**	**-3.7**
	baz=316						
D62A	**Allapoint, All**	**91.13**	**20**	IAmb	IAmb	12 33 03.1	
	comp=Z,43nm,1.3s						
MTLF	**Montolieu**	**91.18**	**332**	*e*P	**P**	**12 32 45.9**	**+1.3**
MTLF				pmax	pmax		
	comp=Z,24nm,1.1s						
MNTQ	**Montreal, Queb**	**91.20**	**24**	IAmb	IAmb	12 33 00.8	
	comp=Z,41nm,1.1s						
O48B	**Farmland**	**91.27**	**34**	P	**P**	**12 32 45.2**	**+0.1**
	baz=325						
O48B				S	**S**	**12 43 38.5**	**-1.6**
	baz=325						
WHTX	**Lake Whitney,**	**91.39**	**47**	P	**P**	**12 32 46.7**	**+0.9**
	baz=317,SNR=6.0						
WHTX	**Lake Whitney,**	**91.39**	**47**	P	**P**	**12 32 46.3**	**+0.6**
	baz=317,SNR=6.0						
WHTX				S	**S**	**12 43 38.6**	**-2.9**
	baz=317						
PECO	**Prince Edward**	**91.43**	**27**	IAmb	IAmb	12 33 02.5	
	comp=Z,81nm,1.3s						
MIAR	**Mount Ida**	**91.65**	**43**	IAMs_20	IAMs_20	13 11 37.2	
	comp=Z,1µm,20.0s						
MIAR	**Mount Ida**	**91.65**	**43**	P	**P**	**12 32 47.6**	**+0.7**
	baz=320						
MIAR				S	**S**	**12 43 39.2**	**-4.6**
	baz=320						
MIAR	**Mount Ida**	**91.65**	**43**	P	**P**	**12 32 47.2**	**+0.3**
	baz=320						
MIAR				S	**S**	**12 43 40.7**	**-3.0**
	baz=320						
LONY	**Lake Ozonia**	**91.66**	**25**	IAMs_20	IAMs_20	13 15 29.5	
	comp=Z,2µm,22.0s						
LONY	**Lake Ozonia**	**91.66**	**25**	P	**P**	**12 32 46.6**	**-0.2**
	baz=332						
LONY				S	**S**	**12 43 39.9**	**-3.7**
	baz=332						
O49A	**Covington**	**91.69**	**33**	S	**S**	**12 43 39.9**	**-4.0**
	baz=325						
O49A				S	**S**	**12 43 39.9**	**-4.0**
	baz=325						
LCAR	**Lake Charles**	**91.75**	**40**	S	**S**	**12 43 40.0**	**-4.5**
	baz=321						
M52A	**Chesterland**	**91.82**	**31**	S	**S**	**12 43 41.6**	**-3.5**
	baz=327						
M52A				S	**S**	**12 43 41.6**	**-3.5**
	baz=327						
W41B	**Gary Mavity, V**	**91.87**	**41**	P	**P**	**12 32 47.9**	**0.0**
	baz=320,SNR=5.2						
W41B	**Gary Mavity, V**	**91.87**	**41**	P	**P**	**12 32 48.0**	**+0.1**
	baz=320,SNR=5.2						
W41B				S	**S**	**12 43 41.1**	**-4.6**
	baz=320						
ERPA	**Erie**	**91.87**	**30**	IAMs_20	IAMs_20	13 17 33.3	
	comp=Z,1µm,21.0s						
ERPA	**Erie**	**91.87**	**30**	P	**P**	**12 32 47.6**	**-0.2**
	baz=328						
P49A	**Miami Univ. Ec**	**92.06**	**34**	IAMs_20	IAMs_20	13 13 30.4	
	comp=Z,2µm,20.0s						
P49A	**Miami Univ. Ec**	**92.06**	**34**	P	**P**	**12 32 48.9**	**+0.2**
	baz=325,SNR=5.8						
P49A				S	**S**	**12 43 42.8**	**-4.5**
	baz=325						
X40A	**Basin Creek Fa**	**92.09**	**42**	IAMs_20	IAMs_20	13 12 47.7	
	comp=Z,2µm,22.0s						
X40A	**Basin Creek Fa**	**92.09**	**42**	S	**S**	**12 43 43.9**	**-3.8**
	baz=320						
X40A				S	**S**	**12 43 43.9**	**-3.8**
	baz=320						
X40A	**Basin Creek Fa**	**92.09**	**42**	P	**P**	**12 32 48.8**	**-0.1**
	baz=320,SNR=7.1						
X40A				S	**S**	**12 43 43.8**	**-3.9**
	baz=320						
M53A	**WI Miller and**	**92.18**	**30**	IAMs_20	IAMs_20	13 16 26.5	
	comp=Z,2µm,21.0s						
M53A	**WI Miller and**	**92.18**	**30**	P	**P**	**12 32 49.4**	**+0.2**
	baz=328						
M53A				S	**S**	**12 43 44.3**	**-4.0**
	baz=328						
435B	**Jarrell**	**92.20**	**48**	IAMs_20	IAMs_20	13 09 52.0	
	comp=Z,1µm,20.0s						
435B	**Jarrell**	**92.20**	**48**	P	**P**	**12 32 49.1**	**-0.4**
	baz=317						
ACSO	**Alum Creek Sta**	**92.24**	**33**	IAMs_20	IAMs_20	13 14 12.2	
	comp=Z,1µm,21.0s						
ACSO	**Alum Creek Sta**	**92.24**	**33**	P	**P**	**12 32 49.6**	**+0.1**
	baz=326						
NCB	**Newcomb**	**92.36**	**25**	IAmb	IAmb	12 33 06.3	
	comp=Z,80nm,1.5s						
G62A	**West of Eustis**	**92.41**	**22**	IAmb	IAmb	12 33 07.1	
	comp=Z,76nm,1.4s						
VT1	**Waterbury**	**92.52**	**24**	IAMs_20	IAMs_20	13 20 28.7	
	comp=Z,2µm,20.0s						
ETSF	**Etsaut**	**92.58**	**333**	*e*P	**P**	**12 32 51.5**	**+0.4**
ETSF				pmax	pmax		
	comp=Z,48nm,2.0s						
J59A	**Piesco**	**92.71**	**25**	IAmb	IAmb	12 33 08.5	
	comp=Z,79nm,1.4s						
PKME	**Peaks-Kenny Pk**	**92.73**	**21**	IAmb	IAmb	12 33 08.4	
	comp=Z,102nm,1.6s						
PKME				IAMs_20	IAMs_20	13 18 24.5	
	comp=Z,1µm,20.0s						
PKME	**Peaks-Kenny Pk**	**92.73**	**21**	P	**P**	**12 32 51.2**	**-0.5**
	baz=336						
PKME				S	**S**	**12 43 50.0**	**-2.9**
	ba

Q51A	**Peebles** baz=326	**93.08**	**33**	P	**P**		**12 32 53.9**	**+0.5**	
Q51A	baz=326			P	**P**		**12 32 53.9**	**+0.5**	
P52A	**Corning** comp=Z,1µm,19.0s	**93.09**	**32**	IAMs_20	IAMs_20	13 20 09.8			
P52A	**Corning** baz=327	**93.09**	**32**	P	**P**		**12 32 54.2**	**+0.8**	
NATX	**Nacogdoches** baz=319	**93.15**	**45**	S	**S**		**12 43 57.0**	**-0.3**	
HNH	**Hanover** comp=Z,2µm,20.0s	**93.23**	**24**	IAMs_20	IAMs_20	13 19 22.3			
R50A	**Paris** comp=Z,62nm,1.3s	**93.26**	**34**	IAmb	IAmb	12 33 11.2			
WVL	**Waterville** comp=Z,2µm,21.0s	**93.26**	**22**	IAMs_20	IAMs_20	13 15 51.0			
G65A	**Princeton** comp=Z,66nm,1.4s	**93.27**	**20**	IAmb	IAmb	12 33 11.5			
BINY	**Binghamton** comp=Z,1µm,18.0s	**93.31**	**27**	IAMs_20	IAMs_20	13 21 04.0			
BINY	**Binghamton** baz=331	**93.31**	**27**	P	**P**		**12 32 54.7**	**+0.3**	
WVT	**Waverly**	**93.36**	**38**	P	**P**		**12 32 54.5**	**-0.2**	
WVT	comp=Z,89nm,1.7s			pmax	pmax				
WVT	**Waverly**	**93.36**	**38**	P	**P**		**12 32 54.5**	**-0.2**	
WVT	comp=Z,89nm,1.7s			IAmb	IAmb	12 33 10.8			
WVT	**Waverly** comp=Z,1µm,21.0s	**93.36**	**38**	IAMs_20	IAMs_20	13 10 22.1			
WVT	**Waverly** baz=323	**93.36**	**38**	P	**P**		**12 32 55.3**	**+0.5**	
WVT	baz=323			S	**S**		**12 43 58.8**	**-0.1**	
O54A	**Avella** comp=Z,43nm,0.8s	**93.36**	**31**	IAmb	IAmb	12 33 12.7			
LMN	**Caledonia Moun** comp=Z,31nm,1.0s	**93.38**	**18**	IAmb	IAmb	12 32 57.5			
I63A	**Otisfield** comp=Z,44nm,1.0s	**93.45**	**23**	IAmb	IAmb	12 33 13.9			
P53A	**Whipple** comp=Z,33nm,1.1s	**93.53**	**32**	IAmb	IAmb	12 33 13.2			
P53A	**Whipple** baz=327	**93.53**	**32**	P	**P**		**12 32 56.9**	**+1.4**	
P53A	baz=327			P	**P**		**12 32 56.9**	**+1.4**	
FFD	**Franklin Falls** comp=Z,2µm,19.0s	**93.64**	**24**	IAMs_20	IAMs_20	13 19 22.2			
TRY	**Troy** comp=Z,1µm,20.0s	**93.64**	**25**	IAMs_20	IAMs_20	13 20 49.3			
L59A	**Walton**	**93.65**	**26**	P	**P**		**12 32 56.7**	**+0.7**	
EMMW	**East Machias** comp=Z,1µm,19.0s	**93.75**	**20**	IAMs_20	IAMs_20	13 21 03.1			
HKT	**Hockley** comp=Z,1µm,20.0s	**93.83**	**47**	IAMs_20	IAMs_20	13 19 31.9			
OXF	**Oxford** comp=Z,1µm,21.0s	**93.85**	**40**	IAMs_20	IAMs_20	13 19 27.3			
OXF	**Oxford** baz=322,SNR=6.3	**93.85**	**40**	P	**P**		**12 32 57.5**	**+0.5**	
SSPA	**Standing Stone** comp=Z,1µm,19.0s	**93.96**	**29**	IAMs_20	IAMs_20	13 22 12.4			
SSPA	**Standing Stone** baz=330	**93.96**	**29**	P	**P**		**12 32 57.2**	**-0.2**	
SSPA	baz=330			S	**S**		**12 44 01.1**	**-3.0**	
MCWV	**Mont Chateau** baz=328	**94.02**	**31**	P	**P**		**12 32 57.5**	**-0.2**	
U49A	**Red Boiling Sp** comp=Z,61nm,1.4s	**94.03**	**36**	IAmb	IAmb	12 33 14.7			
T50A	**Nancy** comp=Z,87nm,1.6s	**94.06**	**36**	IAmb	IAmb	12 33 14.8			
T50A	**Nancy** baz=325	**94.06**	**36**	P	**P**		**12 32 58.1**	**+0.2**	
T50A	baz=325			P	**P**		**12 32 58.1**	**+0.2**	
PLAL	**Pickwick Lake** comp=Z,1µm,19.0s	**94.15**	**39**	IAMs_20	IAMs_20	13 14 51.1			
Q54A	**Coxs Mills** comp=Z,102nm,1.5s	**94.19**	**32**	IAmb	IAmb	12 33 15.6			
L61B	**Northampton** comp=Z,2µm,22.0s	**94.22**	**25**	IAMs_20	IAMs_20	13 15 43.4			
L61B	**Northampton** baz=334	**94.22**	**25**	S	**S**		**12 44 03.6**	**-2.7**	
KEST	**Kesra** comp=Z,14nm,1.0s,baz=0.0,slow=13,SNR=6.2	**94.47**	**323**	P	**P**		**12 32 59.9**	**-0.1**	
KEST	comp=Z,5µm,19.3s,baz=339,slow=39			LR	LR	13 20 47.4			
QUA2	**Belchertown** comp=Z,1µm,19.0s	**94.49**	**25**	IAMs_20	IAMs_20	13 20 05.5			
HRV	**Adam Dziewonsk** comp=Z,2µm,20.0s	**94.54**	**24**	IAMs_20	IAMs_20	13 20 00.5			
HRV	**Adam Dziewonsk** baz=334	**94.54**	**24**	P	**P**		**12 33 00.1**	**0.0**	
FURI	**Furi** comp=Z,1µm,21.0s	**94.63**	**285**	IAMs_20	IAMs_20	13 20 40.8			
SWET	**Sewanee** comp=Z,37nm,1.1s	**95.01**	**37**	IAmb	IAmb	12 33 23.8			
TZTN	**Tazewell** comp=Z,68nm,1.4s	**95.04**	**35**	IAmb	IAmb	12 33 19.3			
TZTN	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	13 13 33.4			
TZTN	**Tazewell** baz=326	**95.04**	**35**	P	**P**		**12 33 02.6**	**+0.1**	
TZTN	baz=326			S	**S**		**12 44 16.4**	**+2.7**	
BRYW	**Bryant College** comp=Z,2µm,19.0s	**95.08**	**24**	IAMs_20	IAMs_20	13 20 10.2			
R55A	**Marlinton** comp=Z,33nm,0.9s	**95.08**	**32**	IAmb	IAmb	12 33 20.5			
PAL	**Palisades** comp=Z,1µm,20.0s	**95.09**	**26**	IAMs_20	IAMs_20	13 21 43.3			
PAL	**Palisades** baz=333	**95.09**	**26**	P	**P**		**12 33 02.4**	**-0.2**	
WSPT	**Westport, CT** comp=Z,1µm,18.0s	**95.15**	**26**	IAMs_20	IAMs_20	13 23 09.1			
YLE	**Yale** comp=Z,1µm,18.0s	**95.15**	**25**	IAMs_20	IAMs_20	13 22 14.2			
TKL	**Tuckaleechee C** comp=Z,721nm,19.0s,baz=330,slow=38	**95.67**	**36**	LR	LR	13 20 41.2			
M65A	**Busby, Falmout** comp=Z,2µm,22.0s	**95.68**	**24**	IAMs_20	IAMs_20	13 16 04.8			
BLA	**Blacksburg** comp=Z,2µm,22.0s	**95.86**	**32**	IAMs_20	IAMs_20	13 15 12.9			
BLA	**Blacksburg** baz=328	**95.86**	**32**	P	**P**		**12 33 06.9**	**+0.6**	
LRAL	**Lakeview Retre** comp=Z,2µm,21.0s	**96.24**	**39**	IAMs_20	IAMs_20	13 16 54.4			
BG3	**Lake Jocassee** comp=Z,81nm,1.5s	**96.60**	**35**	IAmb	IAmb	12 33 26.5			
ESDC	**Sonseca Array** comp=Z,3.8nm,0.9s,baz=24,slow=3.0,SNR=14	**96.63**	**334**	P	**P**		**12 33 09.5**	**-0.2**	
ESDC	comp=Z,3.3nm,1.0s,baz=23,slow=6.5,SNR=4.4			PP	**PP**		**12 37 06.4**	**+2.8**	
ESDC	comp=Z,7µm,20.8s,baz=18,slow=38			LR	LR	13 21 25.9			
KMSC	**Kings Mountain** baz=327	**97.20**	**34**	P	**P**		**12 33 11.7**	**-0.6**	
GOGA	**Godfrey** comp=Z,2µm,22.0s	**97.66**	**37**	IAMs_20	IAMs_20	13 14 52.8			
GOGA	**Godfrey** baz=326	**97.66**	**37**	P	**P**		**12 33 13.7**	**-0.7**	
BRAL	**Brewton** comp=Z,1µm,21.0s	**97.71**	**40**	IAMs_20	IAMs_20	13 17 24.4			
LIS	**Lisbon**	**99.20**	**337**	*e*PP	**PP**		**12 37 24.9**	**+1.8**	
LIS	comp=N,7µm,25.1s			IAMs_20	IAMs_20	13 20 12.6			
TIGA	**Tifton** baz=325	**99.22**	**38**	S	**S**		**12 44 46.4**	**-3.1**	
NHSC	**New Hope** comp=Z,2µm,20.0s	**99.43**	**35**	IAMs_20	IAMs_20	13 15 46.5			
MORF	**Marmelete**	**100.33**	**336**	*e*PP	**PP**		**12 37 33.6**	**+1.8**	
MORF	comp=Z,5µm,20.3s			IAMs_20	IAMs_20	13 19 14.6			
LODK	**Lodwar** comp=Z,2µm,20.0s	**100.63**	**283**	IAMs_20	IAMs_20	13 25 24.8			
KMBO	**Kilima Mbogo** comp=Z,1.1nm,0.3s,baz=15,slow=5.2,SNR=3.3	**101.99**	**278**	P	**Pdif**		**12 33 35.0**	**+0.7**	
KMBO	**Kilima Mbogo**	**101.99**	**278**	*i* P	**Pdif**		**12 33 33.2**	**-1.1**	
KMBO	comp=Z,1.0nm,0.3s			pmax	pmax				
KMBO	**Kilima Mbogo** comp=Z,1µm,20.0s	**101.99**	**278**	IAMs_20	IAMs_20	13 26 42.2			
KIBK	**Kibwezi** comp=Z,1µm,22.0s	**102.11**	**276**	IAMs_20	IAMs_20	13 20 58.9			
DWPF	**Disney Wildern** comp=Z,2µm,22.0s	**103.02**	**38**	IAMs_20	IAMs_20	13 22 04.8			
MTO3	**Montecristo** comp=Z,1µm,21.0s	**109.43**	**53**	IAMs_20	IAMs_20	13 18 00.8			

SNET	**Serv Nac Est T** comp=Z,2µm,22.0s	**110.05**	**53**	IAMs_20	IAMs_20	13 17 10.3			
TGUH	**Tegucigalpa,Un** comp=Z,1µm,22.0s	**110.99**	**52**	IAMs_20	IAMs_20	13 20 46.3			
CRIN	**San Cristobal** comp=Z,1µm,22.0s	**112.17**	**52**	IAMs_20	IAMs_20	13 20 04.5			
MTDJ	**Mount Denham** comp=Z,860nm,22.0s	**113.21**	**41**	IAMs_20	IAMs_20	13 29 36.1			
ESPN	**Las Esperanzas** comp=Z,811nm,22.0s	**114.26**	**50**	IAMs_20	IAMs_20	13 20 48.6			
JTS	**Las Juntas de** comp=Z,897nm,22.0s	**115.33**	**52**	IAMs_20	IAMs_20	13 20 21.1			
VNDA	**Vanda** comp=Z,1.0nm,0.7s,baz=354,slow=2.5,SNR=6.2	**115.76**	**175**	PKP	**PKiKP**		**12 38 21.0**	**+0.5**	
HDC	**Heredia** comp=Z,926nm,22.0s	**116.07**	**52**	IAMs_20	IAMs_20	13 21 05.8			
TORD	**Torodi Ar. Bea** comp=Z,2.5nm,1.0s,baz=6.0,slow=1.8,SNR=7.9	**116.86**	**315**	PKP	**PKPdf**		**12 38 23.2**	**-1.3**	
TORD	comp=Z,12nm,1.2s,baz=35,slow=7.3,SNR=8.0			PP	**PP**		**12 39 31.5**	**-1.2**	
TORD	comp=Z,2.5nm,0.9s,baz=224,slow=3.5,SNR=8.0			PKKPab	**PKKPab**		**12 48 57.0**	**+0.4**	
LSZ	**Lusaka** comp=Z,1µm,20.0s	**117.59**	**272**	IAMs_20	IAMs_20	13 36 01.0			
SJG	**San Juan** comp=Z,947nm,20.0s	**118.55**	**30**	IAMs_20	IAMs_20	13 31 12.8			
SMRT	**St. Marten** comp=Z,1µm,21.0s	**119.78**	**27**	IAMs_20	IAMs_20	13 29 02.0			
MAW	**Mawson** comp=Z,4.4nm,0.9s,baz=357,slow=0.7,SNR=6.5	**120.31**	**206**	PKP	**PKiKP**		**12 38 30.3**	**+0.8**	
ANWB	**Willy Bob** comp=Z,1µm,20.0s	**120.58**	**26**	IAMs_20	IAMs_20	13 31 46.4			
ABD	**La Joyeuse, An** comp=Z,802nm,22.0s	**121.79**	**26**	IAMs_20	IAMs_20	13 32 09.4			
GDHS	**Morne Mazeau,** comp=Z,1µm,20.0s	**121.88**	**27**	IAMs_20	IAMs_20	13 32 58.8			
GDSD	**La Dsirade Is** comp=Z,871nm,21.0s	**122.09**	**26**	IAMs_20	IAMs_20	13 30 37.3			
CBE	**Ff, Capester** comp=Z,1µm,20.0s	**122.13**	**27**	IAMs_20	IAMs_20	13 32 56.3			
TDBA	**Terre de Bas,** comp=Z,1µm,22.0s	**122.32**	**27**	IAMs_20	IAMs_20	13 33 00.3			
MAGL	**Barre de l'ile** comp=Z,942nm,21.0s	**122.35**	**26**	IAMs_20	IAMs_20	13 30 26.2			
HATO	**Hato, Curacao** comp=Z,1µm,21.0s	**122.61**	**36**	IAMs_20	IAMs_20	13 28 35.6			
SVN	**Savane Anatole** comp=Z,1µm,22.0s	**123.42**	**27**	IAMs_20	IAMs_20	13 31 29.5			
FDF	**Fort de France** comp=Z,1µm,21.0s	**123.52**	**27**	IAMs_20	IAMs_20	13 31 21.3			
BIM	**Bigot** comp=Z,1µm,22.0s	**123.75**	**27**	IAMs_20	IAMs_20	13 31 38.4			
MPOM	**Morne Pois Mar** comp=Z,1µm,22.0s	**123.89**	**26**	IAMs_20	IAMs_20	13 31 40.0			
SDV	**Santo Domingo** comp=Z,12nm,0.7s,baz=285,slow=1.6	**124.63**	**40**	PKP	**PKPdf**		**12 38 39.5**	**-0.2**	
SDV	**Santo Domingo** comp=Z,897nm,20.0s	**124.63**	**40**	IAMs_20	IAMs_20	13 40 26.7			
SDV	**Santo Domingo**	**124.63**	**40**	*e*P	**PKiKP**		**12 38 39.9**	**-0.1**	
GRGR	**Grenville** comp=Z,1µm,22.0s	**125.74**	**28**	IAMs_20	IAMs_20	13 33 27.0			
DBIC	**Dimbokro** comp=Z,9.5nm,1.0s,baz=357,slow=1.7,SNR=7.4	**125.79**	**317**	PKP	**PKiKP**		**12 38 42.3**	**+0.2**	
DBIC	comp=Z,6.5nm,0.8s,baz=0.0,slow=8.6,SNR=3.2			PP	**PP**		**12 40 30.9**	**-2.6**	
TIC	**Toumodi**	**125.90**	**318**	*e*PKP1	**PKPdf**		**12 38 35.2**	**-6.7**	
TIC	**Toumodi**	**125.90**	**318**	*e*PKP2			12 40 31.5		
KIC	**Kosan Boka** comp=Z,16nm,1.0s	**125.99**	**317**	*e*PKP1	**PKPdf**		**12 38 36.1**	**-6.0**	
KIC	**Kosan Boka** comp=Z,16nm,1.0s	**125.99**	**317**	*e*PKP2			12 40 30.9		
ROSC	**El Rosal** comp=Z,8.0nm,0.4s,baz=36,slow=18,SNR=1.9	**126.02**	**46**	PKP	**PKiKP**		**12 38 44.4**	**+1.3**	
LIC	**Lamto** comp=Z,41nm,1.5s	**126.26**	**317**	*e*PKP1	**PKPdf**		**12 38 35.2**	**-7.4**	
LIC	**Lamto** comp=Z,38nm,1.3s	**126.26**	**317**	*e*PKP2			12 40 32.2		
POPC	**Popayan, Colom**	**126.47**	**50**	*e*P	**PKiKP**		**12 38 43.8**	**0.0**	
BOSA	**Boshof** comp=Z,7.9nm,0.9s,baz=67,slow=0.7,SNR=12	**126.84**	**260**	PKP	**PKiKP**		**12 38 44.4**	**+0.5**	
CMBC	**Cumbal**	**127.00**	**53**	*e*P	**PKiKP**		**12 38 49.6**	**+4.5**	
OTAV	**Otavalo** comp=Z,1µm,22.0s	**127.14**	**54**	IAMs_20	IAMs_20	13 26 33.0			
QSPA	**South Pole Qui**	**127.57**	**180**		**PKiKP**		**12 38 44.0**	**-0.1**	
QSPA	**South Pole Qui** comp=Z,965nm,22.0s	**127.57**	**180**	IAMs_20	IAMs_20	13 31 03.2			
SYO	**Syowa Base**	**128.97**	**207**	*e*Pdiff	**Pdif**		**12 35 38.4**	**+5.8**	
BOAV	**Boa Vista**	**135.05**	**32**	*e*P	**PKiKP**		**12 39 01.7**	**+1.0**	
CZSB	**Cruzeiro do Su**	**136.89**	**55**	*e*P	**PKiKP**		**12 39 03.7**	**-0.8**	
NNA	**Nana** comp=Z,8.2nm,0.5s,baz=11,slow=10,SNR=1.6	**137.15**	**63**	PKP	**PKPdf**		**12 39 03.5**	**+0.3**	
MACA	**Manacapuru-AM**	**139.92**	**36**	*e*P	**PKPdf**		**12 39 09.0**	**+0.8**	
TROLL	**Troll, Antarti**	**140.03**	**198**	PKPdf	**PKPdf**		**12 38 59.6**	**-7.2**	
SNAA	**Sanae**	**141.55**	**197**	PKPdf	**PKPdf**		**12 39 06.7**	**-2.7**	
ETMB	**Extrema**	**142.55**	**49**	*e*P	**PKiKP**		**12 39 14.8**	**-1.1**	
VNA2	**Neumayer--Watz** baz=119,slow=2.0	**143.12**	**196**	PKPdf	**PKPdf**		**12 39 11.9**	**-0.3**	
ITTB	**Itaituba**	**143.13**	**30**	*e*P	**PKPdf**		**12 39 14.1**	**+0.1**	
VNA3	**Neumayer Olymp**	**143.37**	**195**	PKPdf	PKPbc		12 39 11.1	+1.1	
VNA1	**Neumayer--Stat**	**143.52**	**196**	PKPdf	PKPbc		12 39 10.5	+0.2	
SAML	**Samuel** comp=Z,773nm,20.0s	**143.59**	**44**	IAMs_20	IAMs_20	13 42 32.6			
TMAB	**Tom-Au,PA,Br**	**143.61**	**16**	*e*P	PKPbc		12 39 13.4	+1.2	
ROSB	**Rosrio**	**144.84**	**10**	*e*P	PKPbc		12 39 16.3	+0.2	
NBMO	**Morrinhos-CE**	**145.61**	**3**	*e*P	**PKPab**		**12 39 18.9**	**+0.2**	
NPGB	**Novo Progresso**	**145.72**	**31**	*e*P	**PKPbc**		**12 39 18.9**	**+0.1**	
LPAZ	**La Paz** comp=Z,28nm,0.8s,baz=352,slow=3.8,SNR=42	**146.18**	**59**	PKPbc	**PKPbc**		**12 39 20.5**	**-0.5**	
LPAZ	**La Paz**	**146.18**	**59**	*e*P	**PKPbc**		**12 39 20.6**	**-0.3**	
NBCL	**Canavel-CE**	**146.55**	**360**	*e*P	**PKPbc**		**12 39 21.4**	**0.0**	
NBPS	**Pedro II - PI**	**146.60**	**5**	*e*P	**PKPbc**		**12 39 21.6**	**0.0**	
PRPB	**Parauapebas**	**146.83**	**21**	*e*P	**PKPbc**		**12 39 21.9**	**-0.3**	
H03N2	**Juan Fernandez** baz=291,slow=76,SNR=107	**146.97**	**95**	T	T		15 24 14.3		
H03N3	**Juan Fernandez** baz=291,slow=76,SNR=131	**146.99**	**95**	T	T		15 24 12.9		
H03N1	**Juan Fernandez** baz=291,slow=76,SNR=190	**146.99**	**95**	T	T		15 23 55.4		
NBPB	**Pedra_Branca-C**	**147.84**	**2**	*e*P	**PKPbc**		**12 39 23.8**	**-1.2**	
RCBR	**Riachuelo** comp=Z,834nm,19.0s	**148.06**	**355**	IAMs_20	IAMs_20	13 57 50.9			
RCBR	**Riachuelo**	**148.06**	**355**	*e*P	**PKPbc**		**12 39 24.3**	**-1.3**	
VILB	**Vilhena**	**148.53**	**44**	*e*P	**PKPbc**		**12 39 25.0**	**-1.7**	
NBPV	**Pedro Velho**	**148.60**	**354**	*e*P	**PKPdf**		**12 39 25.0**	**+1.7**	
CLDB	**Colider**	**148.96**	**35**	*e*P	**PKPdf**		**12 39 25.5**	**+1.7**	
PMSA	**Palmer Station**	**149.07**	**159**	*e*P	**PKPbc**		**12 39 24.5**	**-2.0**	
PDRB	**Porto dos Gac**	**149.17**	**37**	*e*P	**PKPdf**		**12 39 25.2**	**+1.1**	
NBMA	**Muriti-CE**	**149.67**	**1**	*e*P	**PKPbc**		**12 39 27.4**	**-2.2**	
LVC	**Limon Verde** comp=Z,12nm,0.8s,baz=285,slow=3.6,SNR=8.7	**149.77**	**69**	PKPbc	**PKiKP**		**12 39 30.6**	**-0.4**	
LVC	**Limon Verde**	**149.77**	**69**	*e*P	**PKPdf**		**12 39 27.2**	**+1.8**	
SMTB	**Santa Maria do**	**149.99**	**18**	*e*P	**PKPdf**		**12 39 26.0**	**+0.5**	
SIV	**San Ignacio** comp=Z,5.5nm,1.1s,baz=300,slow=1.7,SNR=9.4	**150.47**	**49**	PKP	**PKPdf**		**12 39 26.7**	**+0.5**	
SIV	comp=Z,17nm,0.9s,baz=305,slow=2.6,SNR=23			PKPbc	**PKiKP**		**12 39 32.5**	**+0.2**	
SIV	comp=Z,13nm,0.8s,baz=264,slow=6.1,SNR=6.9			PKPab	**PKPab**		**12 39 39.0**	**+0.9**	
PTLB	**Pontes e Lacer**	**151.15**	**45**	*e*P	**PKPdf**		**12 39 28.2**	**+1.0**	
SNDB	**Serra Nova Dou**	**151.79**	**27**	*e*P	**PKPdf**		**12 39 29.4**	**+1.1**	
NBAN	**Anadia - AL**	**151.89**	**355**	*e*P	**PKPdf**		**12 39 29.1**	**+0.7**	
GO04	**Tololo Observa**	**152.20**	**84**	*i* P	**PKPab**		**12 39 48.3**	**+2.9**	
PEXB	**Peixe**	**152.90**	**22**	*e*P	**PKPdf**		**12 39 30.8**	**+0.9**	
GO05	**Huala**	**152.98**	**94**	*i* P	**PKPab**		**12 39 49.8**	**+1.6**	
NBPN	**Ponto Novo - B**	**153.08**	**4**	*e*P	**PKPdf**		**12 39 31.6**	**+1.4**	
AROD	**Rodeo**	**153.24**	**83**	*i* P	**PKPab**		**12 39 46.5**	**-3.3**	
NBLA	**Lagarto - SE**	**153.27**	**359**	*e*P	**PKPdf**		**12 39 31.3**	**+0.9**	
SALV	**Santo Antonio**	**153.36**	**40**	*e*P	**PKPdf**		**12 39 31.8**	**+1.3**	
USHA	**La Ushuaia** comp=Z,7.2nm,0.7s,baz=333,slow=2.3,SNR=2.7	**153.49**	**140**	PKPbc	**PKiKP**		**12 39 38.0**	**+0.8**	
ACDV	**Cuesta del Vie**	**153.52**	**82**	*i* P	**PKPab**		**12 39 48.0**	**-2.8**	
VCA	**Vinchina**	**153.60**	**79**	*i* P	**PKPab**		**12 39 54.7**	**+3.5**	
ACCO	**Cerro Coronel**	**153.73**	**83**	*i* P	**PKPab**		**12 39 48.9**	**-3.0**	
RTLS	**Leoncito**	**154.03**	**86**	*i* P	**PKPab**		**12 39 55.8**	**+2.7**	
SDBA	**SAO DESIDERIO**	**154.03**	**15**	*e*P	**PKPdf**		**12 39 32.5**	**+1.0**	
AUSP	**Uspallata**	**154.11**	**87**	*i* P	**PKiKP**		**12 39 46.1**	**+6.4**	
SJA	**San Juan**	**154.50**	**85**	*i* P	**PKPab**		**12 39 53.8**	**-1.0**	
RTCV	**Cerro Valdivia**	**154.65**	**85**	*i* P	**PKPab**		**12 39 52.5**	**-3.0**	
ASAL	**Salagasta**	**154.68**	**87**	*i* P	**PKiKP**		**12 39 42.7**	**+2.2**	
ARCO	**CERRO ARCO**	**154.69**	**88**	*i* P	**PKiKP**		**12 39 41.9**	**+1.2**	
AAGR	**Agrelo**	**154.85**	**88**	*i* P	**PKPab**		**12 39 56.0**	**-0.3**	
ACLC	**CERRO LA CRUZ**	**154.89**	**79**	*i* P	**PKiKP**		**12 39 47.2**	**+5.9**	
PLCA	**Paso Flores** comp=Z,14nm,1.2s,baz=240,slow=2.5,SNR=5.7	**155.04**	**107**	PKPab	**PKPab**		**12 39 57.8**	**+0.8**	
AVIZ	**Vizcaceras**	**155.22**	**89**	*i* P	PKPab		12 39 50.0	-7.9	
APLL	**PUNTA DE LOS L**	**155.64**	**81**	*i* P	PKPab		12 39 49.6	-10	
BDFB	**Brasilia** comp=Z,4.9nm,0.6s,baz=337,slow=3.5,SNR=3.2	**156.33**	**24**	PKPab	**PKPab**		**12 40 04.0**	**+1.2**	
MRA	**San Martin**	**157.08**	**85**	*i* P	**PKPab**		**12 40 08.9**	**+2.9**	
AQDB	**Aquidauana**	**157.12**	**46**	*e*P	**PKPdf**		**12 39 35.2**	**-0.3**	
IPMB	**Ipameri, GO**	**158.45**	**26**	*e*P	**PKPdf**		**12 39 38.3**	**+1.1**	
PCMB	**Pacaembu**	**160.40**	**38**	*e*P	**PKPdf**		**12 39 41.0**	**+1.7**	
SJMB	**Sao Joao De Ma**	**160.79**	**8**	*e*P	**PKPdf**		**12 39 39.8**	**0.0**	

OTT 20 12:24:25.3±0.1, 44.81N×56.34W, h18km, ML3.8/16, Laurentian Slope Seismic Zone. 259km south from Grand Bank, Nl, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBN	**Guysborough**	**3.71**	**281**	PN	Pn	12 25 21.4	-0.3
GBN				SN	Sn	12 26 02.9	-2.0
GBN				Trac		12 26 07.0	
	comp=Z,35nm,0.1s						
SJNN	**Saint John's**	**3.77**	**41**	PN	Pn	12 25 22.1	-0.5
SJNN				SN	Sn	12 26 04.2	-2.2
SJNN				Trac		12 26 05.1	
	comp=Z,23nm,0.1s						
DRLN	**Deer Lake**	**4.52**	**350**	PN	Pn	12 25 32.3	-0.5
DRLN				SN	Sn	12 26 22.4	-2.4
DRLN				Trac		12 26 25.4	
	comp=Z,71nm,0.2s						
HAL	**Halifax**	**5.17**	**271**	PN	Pn	12 25 41.4	-0.4
HAL				SN	Sn	12 26 36.1	-4.8
HAL				Trac		12 26 37.9	
	comp=Z,28nm,0.1s						
LMN	**Caledonia Moun**	**6.06**	**283**	PN	Pn	12 25 53.4	-0.6
LMN				SN	Sn	12 26 58.6	-4.2
ELNB	**Elgin, New Bru**	**6.30**	**283**	PN	Pn	12 25 56.7	-0.5
ELNB				SN	Sn	12 27 04.3	-4.4
ELNB				Trac		12 27 07.1	
	comp=Z,2.1nm,0.1s						
HKNB	**Havelock Quarr**	**6.47**	**284**	PN	Pn	12 25 58.9	-0.7
HKNB				SN	Sn	12 27 08.1	-4.9
HKNB				Trac		12 27 11.7	
	comp=Z,15nm,0.1s						
GAAQ	**Galiote**	**6.50**	**316**	PN	Pn	12 25 59.7	-0.2
GAAQ				SN	Sn	12 27 09.1	-4.4
GAAQ				Trac		12 27 13.4	
	comp=Z,8.5nm,0.1s						
WCNB	**Wards Creek**	**6.53**	**281**	PN	Pn	12 25 59.6	-0.8
WCNB				SN	Sn	12 27 10.0	-4.4
WCNB				Trac		12 27 13.7	
	comp=Z,6.3nm,0.1s						
SRNB	**Snider Mountai**	**6.63**	**282**	PN	Pn	12 26 01.0	-0.9
SRNB				Trac		12 27 14.9	
	comp=Z,7.8nm,0.1s						
PCAQ	**Pointe Carleto**	**6.66**	**320**	PN	Pn	12 26 01.6	-0.6
PCAQ				SN	Sn	12 27 12.8	-4.8
PCAQ				Trac		12 27 20.2	
	comp=Z,8.2nm,0.1s						
NATG	**Natashquan Que**	**7.01**	**324**	PN	Pn	12 26 06.4	-0.6
NATG				Trac		12 27 26.2	
	comp=Z,20nm,0.1s						
BATG	**Bathurst New B**	**7.20**	**293**	PN	Pn	12 26 08.7	-0.9
BATG				Trac		12 27 29.5	
	comp=Z,5.5nm,0.0s						
GGN	**Saint George**	**7.46**	**276**	PN	Pn	12 26 12.0	-1.2
GGN				SN	Sn	12 27 31.8	-5.4
GGN				Trac		12 27 34.2	
	comp=Z,12nm,0.2s						
GSQ	**Grosses Roches**	**8.44**	**303**	PN	Pn	12 26 25.4	-1.3
GSQ				SN	Sn	12 27 56.7	-4.7
GSQ				Trac		12 28 03.9	
	comp=Z,4.8nm,0.2s						
ICQ	**Pointe Anglais**	**8.81**	**306**	PN	Pn	12 26 30.5	-1.2
ICQ				SN	Sn	12 28 03.3	-7.1
ICQ				Trac		12 28 09.0	
	comp=Z,32nm,0.5s						
SMQ	**Clarke City**	**8.86**	**311**	PN	Pn	12 26 30.1	-2.3
SMQ				SN	Sn	12 28 03.5	-8.1
SMQ				Trac		12 28 06.2	
	comp=Z,13nm,0.2s						
CNQ	**Baie Comeau**	**9.18**	**303**	PN	Pn	12 26 35.5	-1.3
CNQ				SN	Sn	12 28 11.8	-7.8
CNQ				Trac		12 28 18.7	
	comp=Z,2.3nm,0.1s						
PKME	**Peaks-Kenny Pk**	**9.18**	**277**	PN	Pn	12 26 35.0	-1.9
PKME

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.18**	**297**	Pg	**Pg**	**12 35 30.1**	**-0.9**
	2µm,0.3s,baz=180,slow=20,SNR=187						
JNU				Lg	Lg	12 35 33.1	
	2µm,0.3s,baz=346,slow=19,SNR=48						
JNU	**Nakatsue**	**0.18**	**297**	⇑P	**Pg**	**12 35 30.4**	**-0.5**
JNU				S	**Sg**	**12 35 33.8**	**+0.2**
JTA	**Tamana**	**0.46**	**261**	⇓P	**Pg**	**12 35 35.3**	**-0.7**
JIU3	**Izumi3**	**0.54**	**204**	P	**Pg**	**12 35 36.2**	**-1.3**
JIU3				S	**Sg**	**12 35 43.5**	**-1.0**
JUS	**Usuki**	**0.57**	**87**	P	**Pg**	**12 35 36.4**	**-1.8**
JUS				S	**Sg**	**12 35 44.3**	**-1.4**
KSRS	**Korea Array**	**5.10**	**331**	Pn	**Pn**	**12 36 44.1**	**+0.6**
	0.4nm,0.3s,baz=148,slow=14,SNR=5.8						
KSRS				Pg	**Pg**	**12 37 01.4**	**-3.4**
	1.2nm,0.3s,baz=146,slow=16,SNR=8.8						
KSRS				Sn	**Sn**	**12 37 42.3**	**-0.2**
	0.8nm,0.3s,baz=150,slow=26,SNR=4.3						
KSRS				Lg	Lg	12 38 04.7	
	1.7nm,0.3s,baz=153,slow=30,SNR=6.2						
MJAR	**Matsushiro Arr**	**6.83**	**57**	Pn	**Pn**	**12 37 10.7**	**+3.3**
	0.1nm,0.3s,baz=232,slow=14,SNR=5.7						
WRA	**Warramunga Arr**	**52.78**	**176**	P	**P**	**12 44 40.4**	**-2.0**
	0.3nm,0.7s,baz=356,slow=8.1,SNR=1.8						
ASAR	**Alice Springs**	**56.45**	**177**	P	**P**	**12 45 09.3**	**+0.2**
	0.5nm,1.0s,baz=10,slow=14,SNR=7.2						
YKA	**Yellowknife Ar**	**71.34**	**27**	P	**P**	**12 46 48.8**	**+2.1**
	0.2nm,0.8s,baz=301,slow=6.1,SNR=2.0						

TAP 20 12:42:25.7,24.25N×121.73E,h4km,ML1.8,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.06**	**13**	*e*P	Pg	12 42 27.6	+0.5
	baz=21						
EHP				*e*S	Sg	12 42 29.0	+0.9
ETL	**Fush Village**	**0.13**	**225**	P	Pg	12 42 29.5	+1.1
	baz=225						
ETL				S	Sg	12 42 31.8	+1.7
NACB	**Ninganchiao**	**0.14**	**237**	P	Pg	12 42 29.6	+1.0
	baz=237						
NACB				S	Sg	12 42 32.1	+1.7
	baz=237						
ENA	**Nanau**	**0.18**	**4**	P	Pg	12 42 30.3	+1.1
	baz=7.0						
ENA				*i* S	Sg	12 42 33.4	+1.9
	baz=7.0						
EWUT	**Wuta**	**0.20**	**14**	*i* P	Pg	12 42 30.6	+1.0
	baz=14						
EWUT				*e*S	Sg	12 42 33.7	+1.5
	baz=14						
ETLH	**Xiulin Townshi**	**0.23**	**259**	P	Pg	12 42 31.3	+1.2
	baz=258						
ETLH				S	Sg	12 42 35.1	+2.0
	baz=258						
HWA	**Hwalien**	**0.29**	**202**	P	Pb	12 42 32.8	-0.8
	baz=200						
HWA				*e*S	Sb	12 42 37.5	-1.3
	baz=200						
LATG	**Datong**	**0.34**	**327**	P	Pb	12 42 33.7	-0.6
	baz=327						
LATG				S	Sb	12 42 39.3	-0.8
	baz=327						
NNSB	**Datong**	**0.36**	**299**	P	Pb	12 42 34.2	-0.5
	baz=299						
NNS	**Nan Shan**	**0.37**	**300**	P	Pb	12 42 34.1	-0.9
	baz=300						
NNS				*i* S	Sb	12 42 40.0	-1.2
	baz=300						
TWC	**Suao**	**0.37**	**17**	P	Pb	12 42 34.1	-0.7
	baz=18						
NDS	**Dongshan**	**0.38**	**359**	*e*P	Pb	12 42 34.1	-0.9
	baz=358						
NDT	**Datong Townshi**	**0.40**	**331**	P	Pb	12 42 35.1	-0.2
	baz=330						
ENTT	**Nioudou**	**0.41**	**339**	*i* P	Pb	12 42 35.2	-0.4
	baz=340						
ENTT				*i* S	Sb	12 42 41.8	-0.4
	baz=340						
WHF	**Hehuan Shan**	**0.43**	**256**	*i* P	Pb	12 42 35.4	-0.8
	baz=255						
WHF				S	Sb	12 42 42.6	-0.6
	baz=255						
FUSS	**Fushou**	**0.44**	**270**	*e*P	Pb	12 42 35.6	-0.6
	baz=269						
FUSS				*e*S	Sb	12 42 43.3	+0.1
	baz=269						
TWE	**Neicheng**	**0.47**	**353**	*i* P	Pb	12 42 36.1	-0.4
	baz=355						
TWE				S	Sb	12 42 43.9	0.0
	baz=355						
ESL	**Shilin**	**0.51**	**212**	*e*P	Pb	12 42 37.1	-0.1
	baz=210						
ESL				*e*S	Sb	12 42 45.3	+0.3
	baz=210						
FUSB	**Fushanzhiwuyua**	**0.52**	**346**	P	Pb	12 42 37.2	-0.2
	baz=346						
FUSB				*e*S	Sb	12 42 45.4	0.0
	baz=346						
YHNB	**Yeheng**	**0.52**	**323**	P	Pb	12 42 37.4	-0.1
	baz=322						
YHNB				*e*S	Sb	12 42 45.4	-0.1
	baz=322						
CHGB	**Renai**	**0.54**	**249**	P	Pb	12 42 37.0	-0.8
	baz=249						
CHGB				*e*S	Sb	12 42 45.6	-0.4
	baz=249						
NWLT	**Wulai**	**0.56**	**339**	*e*P	Pb	12 42 38.1	0.0
	baz=338						
NWLT				*e*S	Sb	12 42 46.2	-0.3
	baz=338						
OWD	**Renai**	**0.58**	**240**	*e*P	Pb	12 42 38.3	-0.3
	baz=239						
NTC	**Toucheng**	**0.61**	**9**	*e*S	Sb	12 42 48.6	+0.8
	baz=8.0						
WUSB	**Renai**	**0.61**	**245**	*e*P	Pb	12 42 38.5	-0.6
	baz=245						
WUSB				*e*S	Sb	12 42 48.5	+0.4
	baz=245						
WHP	**Taichung City**	**0.71**	**272**	*e*S	Sb	12 42 51.5	+0.6
	baz=272						
TIPB	**Shuangxi**	**0.72**	**7**	*e*P	Pb	12 42 40.9	0.0
	baz=7.0						
TIPB				*e*S	Sb	12 42 52.2	+1.0
	baz=7.0						
VWDT	**VWDT**	**0.73**	**227**	*e*P	Pb	12 42 40.7	-0.3
	baz=227						
VWDT				*e*S	Sb	12 42 52.2	+1.0
	baz=227						
TWA	**Mucha**	**0.74**	**350**	*e*S	Sb	12 42 52.6	+1.1
	baz=350						

JMA 20 12:43:20.4±0.1,24.04N×122.94E,h36km±4km,M1.8,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.41**	**1**	P	Pn	12 43 29.5	-0.1
JYNG				*e*S	Sn	12 43 35.9	-0.4
YOJ	**Yonaguni jima**	**0.42**	**9**	P	Pn	12 43 30.0	+0.2
YOJ				*e*S	Sn	12 43 36.4	-0.2
IRIF	**Iriomote-Funau**	**0.78**	**68**	P	Pn	12 43 34.9	+0.1
IRIF				*e*S	Sn	12 43 46.2	+0.9
HATJ	**Hateruma jima**	**0.79**	**89**	P	Pn	12 43 34.9	-0.1
HATJ				*e*S	Sn	12 43 46.2	+0.6
JKRS	**Kuro-shima**	**1.00**	**78**	P	Pn	12 43 38.3	+0.5
JIJ	**Ishigaki jima**	**1.15**	**73**	P	Pn	12 43 40.4	+0.5
JIJ				S	Sn	12 43 55.4	+1.1
JISG	**Ishigakijimahi**	**1.36**	**66**	P	Pn	12 43 43.5	+0.6
JISG				*e*S	Sn	12 44 01.7	+2.0

TAP 20 12:44:07.3,24.25N×121.73E,h7km,ML2.1,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.06**	**13**	*e*P	Pg	12 44 10.6	+1.6
	baz=19						
ETL	**Fush Village**	**0.13**	**226**	P	Pg	12 44 11.0	+0.9
	baz=225						
ETL				S	Sg	12 44 13.4	+1.5
	baz=225						
NACB	**Ninganchiao**	**0.14**	**238**	P	Pg	12 44 11.2	+0.9
	baz=237						
NACB				S	Sg	12 44 13.7	+1.5
	baz=237						
ENA	**Nanau**	**0.18**	**4**	*i* P	Pg	12 44 11.9	+1.0
	baz=6.0						
ENA				*i* S	Sg	12 44 14.9	+1.5
	baz=6.0						
EWUT	**Wuta**	**0.20**	**14**	*i* P	Pg	12 44 12.2	+0.9
	baz=13						
EWUT				*i* S	Sg	12 44 15.6	+1.6
	baz=13						
TWD	**Chiawan**	**0.21**	**215**	P	Pg	12 44 12.3	+0.9
	baz=213						
TWD				S	Sg	12 44 15.5	+1.3
	baz=213						
ETLH	**Xiulin Townshi**	**0.23**	**259**	P	Pg	12 44 12.9	+1.1
	baz=259						
ETLH				S	Sg	12 44 17.0	+2.1
	baz=259						
HWA	**Hwalien**	**0.29**	**202**	*e*P	Pb	12 44 14.3	-0.5
	baz=200						
HWA				S	Sb	12 44 19.2	-0.7
	baz=200						
LATG	**Datong**	**0.34**	**327**	P	Pb	12 44 15.3	-0.5
	baz=327						
NNSB	**Datong**	**0.36**	**300**	*e*P	Pb	12 44 15.9	-0.2
	baz=299						
NNS	**Nan Shan**	**0.37**	**301**	P	Pb	12 44 15.6	-0.7
	baz=300						
NNS				S	Sb	12 44 21.8	-0.6
	baz=300						
TWC	**Suao**	**0.38**	**17**	P	Pb	12 44 15.7	-0.6
	baz=18						
TWC				*e*S	Sb	12 44 22.4	+0.1
	baz=18						
NDS	**Dongshan**	**0.38**	**359**	*e*P	Pb	12 44 16.0	-0.4
	baz=358						
NDS				*e*S	Sb	12 44 22.4	-0.1
	baz=358						
NDT	**Datong Townshi**	**0.40**	**331**	P	Pb	12 44 16.6	-0.1
	baz=331						
NDT				S	Sb	12 44 22.9	-0.2
	baz=331						
ENTT	**Nioudou**	**0.41**	**339**	P	Pb	12 44 16.4	-0.6
	baz=340						
ENTT				S	Sb	12 44 23.1	-0.5
	baz=340						
WHF	**Hehuan Shan**	**0.43**	**256**	*e*P	Pg	12 44 16.7	+0.8
	baz=255						
WHF				*e*S	Sb	12 44 23.3	-1.2
	baz=255						
TWE	**Neicheng**	**0.47**	**353**	P	Pb	12 44 17.8	-0.2
	baz=355						
TWE				S	Sb	12 44 24.8	-0.4
	baz=355						
ESL	**Shilin**	**0.51**	**212**	*e*P	Pb	12 44 18.4	-0.2
	baz=210						
ESL				S	Sb	12 44 26.2	0.0
	baz=210						
ILA	**Ilan**	**0.51**	**2**	*e*P	Pb	12 44 18.3	-0.3
	baz=3.0						
ILA				*e*S	Sb	12 44 26.1	-0.2
	baz=3.0						
FUSB	**Fushanzhiwuyua**	**0.52**	**346**	*e*P	Pb	12 44 18.9	+0.1
	baz=346						
FUSB				*e*S	Sb	12 44 26.3	-0.4
	baz=346						
YHNB	**Yeheng**	**0.53**	**323**	*e*P	Pb	12 44 19.0	+0.1
	baz=322						
YHNB				*e*S	Sb	12 44 26.9	+0.2
	baz=322						
CHGB	**Renai**	**0.54**	**250**	*e*P	Pb	12 44 18.9	-0.3
	baz=249						
CHGB				*e*S	Sb	12 44 27.1	-0.2
	baz=249						
NSK	**Sanguang**	**0.54**	**322**	P	Pb	12 44 19.1	-0.1
	baz=322						
NSK				S	Sb	12 44 26.9	-0.3
	baz=322						
WUSB	**Renai**	**0.61**	**245**	*e*P	Pb	12 44 20.2	-0.2
	baz=245						
WUSB				*e*S	Sb	12 44 29.6	+0.4
	baz=245						
EGFH	**Guangfu**	**0.64**	**205**	*e*P	Pb	12 44 20.7	-0.1
	baz=205						
WHP	**Taichung City**	**0.71**	**272**	*e*P	Pb	12 44 22.0	-0.1
	baz=272						
VWDT	**VWDT**	**0.73**	**227**	*e*P	Pb	12 44 22.4	+0.1
	baz=227						
VWDT				*e*S	Sb	12 44 33.1	+0.7
	baz=227						

*IDC **20** 13:17:14.5±0.9,62.05N×124.07W,h0km,mb2.7/1, mb1 3.7/6,mb1mx3.3/53,mbtmp3.5/6,ML3.5/5,MS3.6/1, Ms1 3.6/1,ms1mx3.0/13,Error ellipse: s-maj=16.3km s-min=8.7km az=169.0*
*ANF **20** 13:17:14.7±0.6,62.16N×124.31W,h1km,ML3.7/2,Error ellipse: s-maj=8.3km s-min=2.8km az=132.0*
*PGC **20** 13:17:14.6,62.03N×124.09W,h1km,ML3.6/12, 151km west of Fort Simpson, Nt Nw Territories - Nunavut, Canada*

ISC 20 13:17:11.7±1.2,62.03N±0.03×124.09W±0.03,h3km±9km, n64,σ2s47/116,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRGLY	**Wrigley**	**1.24**	**13**	P	**Pg**	**13 17 36.8**	**+1.4**
	baz=194,SNR=180						
WRGLY				S	**Sn**	**13 17 52.4**	**-0.6**
	baz=194						
TGTN	**Hyland Airport**	**2.05**	**258**	Pn	**Pb**	**13 17 49.5**	**-0.1**
TGTN				Sn	**Sb**	**13 18 14.7**	**-0.8**
TGTN	**Hyland Airport**	**2.05**	**258**	P	**Pb**	**13 17 49.6**	**-0.1**
	baz=74,SNR=151						
TGTN				S	**Sb**	**13 18 14.5**	**-1.0**
	baz=74						
NBC2	**NorthernBC 2**	**2.39**	**160**	Pn	**Pb**	**13 17 54.8**	**-0.5**
NBC2				Sg	**Sg**	**13 18 27.3**	**-1.1**
NBC3	**NorthernBC 3**	**2.93**	**144**	Pn	**Pb**	**13 18 01.6**	**-2.9**
NBC3				Sn	**Sn**	**13 18 34.5**	**-0.3**
NBC3				Sg	**Sg**	**13 18 45.5**	**-0.2**
WTLY	**Watson Lake, Y**	**2.99**	**232**	Sg	**Sg**	**13 18 47.5**	**-0.2**
WTLY	**Watson Lake, Y**	**2.99**	**232**	P	**Pn**	**13 18 02.2**	**+2.2**
	baz=48						
WTLY				Sb	**Sg**	**13 18 47.8**	**+0.2**
	baz=48						
FNBB	**Fort Nelson**	**3.20**	**170**	Pn	**Pn**	**13 18 05.0**	**+2.1**
FNBB				Sn	**Sn**	**13 18 43.4**	**+2.0**
MMPY	**Sheldon Lake,**	**3.40**	**283**	Pn	**Pn**	**13 18 07.2**	**+1.5**
MMPY				Sn	**Sn**	**13 18 48.1**	**+1.6**
MMPY	**Sheldon Lake,**	**3.40**	**283**	S	**Sn**	**13 18 46.5**	**0.0**
	baz=97						
NBC6	**NorthernBC 6**	**3.72**	**157**	Pn	**Pn**	**13 18 12.5**	**+2.5**
NBC6				Sn	**Sn**	**13 18 56.3**	**+2.1**
NBC6				Sg	**Sg**	**13 19 09.8**	**-1.2**
FARO	**Faro, Yukon**	**4.35**	**277**	Pn	**Pn**	**13 18 20.9**	**+2.2**
FARO	**Faro, Yukon**	**4.35**	**277**	P	**Pn**	**13 18 20.3**	**+1.6**
	baz=88						
FARO				Sb	**Sb**	**13 19 25.0**	**+3.4**
	baz=88						
YKA	**Yellowknife Ar**	**4.46**	**80**	Pn	**Pn**	**13 18 22.4**	**+2.3**
	0.6nm,0.3s,baz=267,slow=13,SNR=30						
YKA				Sn	**Sn**	**13 19 12.5**	**+0.1**
	3.5nm,0.3s,baz=265,slow=22,SNR=5.6						
YKA				Lg	Lg	13 19 33.1	
	5.9nm,0.3s,baz=270,slow=30,SNR=6.9						
NBC5	**NorthernBC 5**	**4.58**	**170**	Pn	**Pn**	**13 18 23.2**	**+1.3**
NBC5				Sn	**Sn**	**13 19 15.1**	**-0.5**
DLBC	**Dease Lake**	**4.66**	**222**	Pn	**Pn**	**13 18 25.9**	**+2.9**
	3.3nm,0.3s,baz=43,slow=9.1,SNR=31						
DLBC				Sn	**Sn**	**13 19 16.4**	**-1.2**
	3.1nm,0.3s,baz=317,slow=26,SNR=7.1						
DLBC				Lg	Lg	13 19 37.1	
	2.7nm,0.3s,baz=292,slow=25,SNR=6.2						
DLBC	**Dease Lake**	**4.66**	**222**	Pn	**Pn**	**13 18 25.7**	**+2.7**
DLBC				Sn	**Sn**	**13 19 16.0**	**-1.6**
DLBC				Sg	**Sg**	**13 19 38.4**	**-3.0**
M31M	**Drury Creek, Y**	**4.84**	**277**	P	**Pn**	**13 18 26.5**	**+1.0**
	baz=88						
M31M				Sb	**Sb**	**13 19 39.9**	**+4.2**
	baz=88						
WHY	**Whitehorse**	**5.37**	**260**	Pn	**Pn**	**13 18 34.0**	**+1.1**
WHY				Sn	**Sn**	**13 19 35.0**	**-0.2**
WHY				Sg	**Sg**	**13 19 59.2**	**-4.9**
WHY	**Whitehorse**	**5.37**	**260**	P	**Pn**	**13 18 34.5**	**+1.7**
	baz=70,SNR=6.6						
WHY				S	**Sn**	**13 19 35.7**	**+0.5**
	baz=70						
N31M	**Braeburn, Yuko**	**5.58**	**270**	Pn	**Pn**	**13 18 39.1**	**+3.5**
N31M	**Braeburn, Yuko**	**5.58**	**270**	P	**Pn**	**13 18 37.1**	**+1.6**
	baz=79						
N31M				S	**Sn**	**13 19 40.7**	**+0.6**
	baz=79						
M30M	**Minto, Yukon**	**5.95**	**281**	Pn	**Pn**	**13 18 42.2**	**+1.5**
M30M				Sn	**Sn**	**13 19 48.9**	**-0.4**
M30M	**Minto, Yukon**	**5.95**	**281**	P	**Pn**	**13 18 42.0**	**+1.4**
	baz=90						
SKAG	**Skagway**	**6.08**	**250**	P	**Pn**	**13 18 44.3**	**+1.9**
	baz=60,SNR=16						
SKAG				S	**Sn**	**13 19 53.2**	**+0.8**
	baz=60						
BMBC	**Bull Mountain**	**6.09**	**170**	Pn	**Pn**	**13 18 43.8**	**+1.2**
BMBC				Sn	**Sn**	**13 19 52.2**	**-0.6**
BMBC				Sg	**Sg**	**13 20 23.5**	**-3.6**
BESE	**Bessie Mountai**	**6.37**	**242**	Pn	**Pn**	**13 18 49.3**	**+2.9**
BESE				Sn	**Sn**	**13 19 58.7**	**-0.9**
BESE				Sg	**Sg**	**13 20 34.0**	**-2.0**
HYT	**Haines Junctio**	**6.55**	**265**	Pn	**Pn**	**13 18 50.7**	**+1.8**
HYT				Sn	**Sn**	**13 20 01.7**	**-2.5**
HYT	**Haines Junctio**	**6.55**	**265**	P	**Pn**	**13 18 50.7**	**+1.8**
	baz=74,SNR=10.0						
HYT				S	**Sn**	**13 20 04.2**	**+0.1**
	baz=74						
NBC4	**NorthernBC 4**	**6.61**	**163**	Pn	**Pn**	**13 18 51.9**	**+2.3**
NBC4				Sn	**Sn**	**13 20 03.7**	**-1.7**
YUK5	**Granite Creek**	**6.64**	**268**	Pn	**Pn**	**13 18 52.6**	**+2.5**
YUK5				Sn	**Sn**	**13 20 06.7**	**+0.4**
WTMTA	**White Mountain**	**6.83**	**156**	Sn	**Sn**	**13 20 06.2**	**-4.9**
YUK6	**Outpost Mounta**	**6.92**	**267**	Pn	**Pn**	**13 18 56.2**	**+2.0**
YUK6				Sn	**Sn**	**13 20 11.5**	**-1.9**
YUK6	**Outpost Mounta**	**6.92**	**267**	P	**Pn**	**13 18 56.0**	**+1.8**
	baz=75						
YUK7	**Dusty Glacier**	**6.94**	**264**	Pn	**Pn**	**13 18 56.9**	**+2.6**
YUK7				Sn	**Sn**	**13 20 14.8**	**+1.0**
YUK7				Sg	**Sg**	**13 20 49.8**	**-4.5**
KUKN	**Kugluktuk,NWT**	**6.95**	**29**	Pn	**Pn**	**13 18 56.0**	**+1.6**
KUKN				Sn	**Sn**	**13 20 07.4**	**-6.4**
YUK4	**Talbot Arm**	**6.96**	**271**	Pn	**Pn**	**13 18 55.5**	**+0.9**
YUK4				Sn	**Sn**	**13 20 07.4**	**-7.0**
YUK4				Sg	Sg	13 20 46.7	-8.3
YUK4	**Talbot Arm**	**6.96**	**271**	P	**Pn**	**13 18 55.4**	**+0.7**
	baz=79						
YUK4				S	**Sn**	**13 20 13.3**	**-1.0**
	baz=79						
EPYK	**Eagle Plains**	**7.02**	**314**	Pn	**Pn**	**13 18 56.9**	**+1.6**
EPYK				Sn	**Sn**	**13 20 13.3**	**-2.1**
EPYK	**Eagle Plains**	**7.02**	**314**	P	**Pn**	**13 18 57.0**	**+1.8**
	baz=122						
EPYK				S	**Sn**	**13 20 13.4**	**-2.1**
	baz=122						
WRAK	**Wrangell Islan**	**7.04**	**221**	P	**Pn**	**13 18 59.0**	**+3.5**
	baz=34						
DAWY	**Dawson**	**7.25**	**293**	Pn	**Pn**	**13 19 00.9**	**+2.5**
DAWY				Sn	**Sn**	**13 20 20.0**	**-1.1**
DAWY	**Dawson**	**7.25**	**293**	P	**Pn**	**13 18 60.0**	**+1.6**
	baz=99						
DAWY				S	**Sn**	**13 20 20.1**	**-1.1**
	baz=99						
C36M	**Paulatuk**	**7.35**	**0**	Pn	**Pn**	**13 19 00.2**	**+0.4**
C36M				Sn	**Sn**	**13 20 17.4**	**-6.1**
C36M	**Paulatuk**	**7.35**	**0**	P	**Pn**	**13 19 00.2**	**+0.4**
	baz=180						
C36M				S	**Sn**	**13 20 19.2**	**-4.3**
	baz=180						
INK	**Inuvik**	**7.44**	**332**	Pn	**Pn**	**13 19 01.9**	**+0.9**
	1.5nm,0.3s,baz=148,slow=9.8,SNR=67						
INK				Sn	**Sn**	**13 20 20.4**	**-5.3**
	1.7nm,0.3s,baz=180,slow=20,SNR=5.9						
INK				LR	LR	13 22 32.6	
	comp=Z,463nm,19.0s,baz=246,slow=43						
INK	**Inuvik**	**7.44**	**332**	Pn	**Pn**	**13 19 01.6**	**+0.6**
INK				Sn	**Sn**	**13 20 18.2**	**-7.5**
INK	**Inuvik**	**7.44**	**332**	P	**Pn**	**13 19 01.5**	**+0.6**
	baz=143,SNR=15						
INK				S	**Sn**	**13 20 22.3**	**-3.4**
	baz=143						
YUK8	**Steele Glacier**	**7.50**	**271**	Sg	**Sg**	**13 21 07.2**	**-5.1**
STPRA	**Salt Prairie L**	**7.69**	**143**	Sn	**Sn**	**13 20 30.2**	**-1.7**
BDMTA	**Bald Mountain**	**7.73**	**157**	Pn	**Pn**	**13 19 06.5**	**+1.4**
BDMTA				Sn	**Sn**	**13 20 29.4**	**-3.6**
BDMTA				Sg	**Sg**	**13 21 18.1**	**-1.6**
YUK3	**Moose Creek**	**7.74**	**275**	Pn	**Pn**	**13 19 07.8**	**+2.5**
YUK3				Sn	**Sn**	**13 20 30.7**	**-2.7**
PNL	**Peninsula**	**7.84**	**259**	Pn	**Pn**	**13 19 10.0**	**+3.4**
BVCY	**Beaver Creek**	**7.84**	**280**	Pn	**Pn**	**13 19 08.2**	**+1.6**
BVCY				Sn	**Sn**	**13 20 36.4**	**+0.5**
YUK2	**White River**	**7.91**	**276**	Pn	**Pn**	**13 19 08.7**	**+1.1**
YUK2				Sn	**Sn**	**13 20 38.0**	**+0.4**
EGAK	**Eagle**	**8.13**	**297**	P	**Pn**	**13 19 12.6**	**+2.1**
	baz=102						
KIAG	**Kiagna River**	**8.81**	**271**	Pn	**Pn**	**13 19 20.8**	**+0.8**
M26K	**Nabesna, AK**	**8.84**	**281**	P	**Pn**	**13 19 21.2**	**+1.0**
	baz=84						
A36M	**Sachs Harbour**	**10.01**	**358**	Pn	**Pn**	**13 19 36.5**	**+0.4**
MNB	**Mounoet Dainar**	**10.33**	**160**	Pn	**Pn**	**13 19 42.9**	**+2.0**
BLBC	**Blue River**	**10.35**	**163**	Pn	**Pn**	**13 19 43.4**	**+2.2**
ILAR	**Eielson Array**	**10.56**	**295**	Pn	**Pn**	**13 19 45.9**	**+2.2**
	0.1nm,0.3s,baz=95,slow=11,SNR=9.2						
ILAR				Lg	Lg	13 22 44.8	
	0.1nm,0.3s,baz=94,slow=28,SNR=4.2						
RES	**Resolute Bay**	**16.35**	**27**	Pn	**Pn**	**13 21 02.6**	**+0.8**
	1.0nm,0.3s,baz=228,slow=14,SNR=21						
RES				Sn	Sn	13 23 49.9	-13
	0.5nm,0.3s,baz=320,slow=19,SNR=7.4						
RES				Lg	Lg	13 25 44.8	
	0.2nm,0.3s,baz=126,slow=23,SNR=6.2						
PDAR	**Pinedale Array**	**21.14**	**149**	P	**P**	**13 22 01.9**	**+4.1**
	0.2nm,0.4s,baz=343,slow=8.8,SNR=2.5						

*DNK **20** 13:19:57.6±4.2,58.15N×6.22E,h0km,ML1.9,Explosion*
BER 20 13:20:00.2±1.0,58.24N×6.35E,h0km,ML1.3,2C, Explosion,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	**Snartemo**	**0.47**	**78**	*e*	Pg	13 20 08.4	-0.8
	baz=274,slow=18						
SNART				⇑*i*P	Pb	13 20 08.6	-2.6
SNART				IAML		13 20 47.0	
	comp=Z,27nm,0.1s						
SNART	**Snartemo**	**0.47**	**78**	⇑*i*P	Pg	13 20 08.6	-0.5
SNART				*e*S	Sg	13 20 14.2	-1.0
SNART				IAML		13 20 17.8	
	comp=Z,38nm,0.7s						
KMY	**Karmoy**	**1.13**	**330**	*e*P	Pg	13 20 20.0	-1.8
KMY				*e*S	Sg	13 20 35.4	-1.0
KMY				IAML		13 20 38.0	
	comp=Z,9.8nm,0.3s						
KMY	**Karmoy**	**1.13**	**330**	*e*P	Pg	13 20 20.0	-1.8
KMY				*e*S	Sg	13 20 35.4	-1.0
KMY				IAML		13 20 38.0	
	comp=Z,9.8nm,0.3s						
HOMB	**Homborsund**	**1.14**	**88**	*e*P	Pg	13 20 21.3	-0.8
HOMB				*e*S	Sb	13 20 37.7	-0.5
HOMB				IAML		13 20 38.5	
	comp=Z,9.0nm,0.4s						
HOMB	**Homborsund**	**1.14**	**88**	*e*P	Pg	13 20 21.3	-0.8
HOMB				*e*S	Sg	13

SNART	**Snartemo**	**0.39**	**95**	⇑*iP*	Pg	13 20 40.0	-0.5
SNART				*eS*	Sg	13 20 45.7	+0.1
SNART	**Snartemo**	**0.39**	**95**	⇑*iP*	Pg	13 20 40.0	-0.5
SNART				*eS*	Sg	13 20 45.7	+0.1
SNART	**Snartemo**	**0.39**	**95**	*i* S	Pg	13 20 39.8	-0.7
BLS5	**Blasjo**	**1.05**	**360**	*eP*	Pg	13 20 52.3	-0.9
BLS5				*eS*	Sg	13 21 07.4	+0.7
BLS5				IAML		13 21 12.9	
	comp=Z,16nm,0.3s						
BLS5	**Blasjo**	**1.05**	**360**	*eP*	Pg	13 20 52.3	-0.9
BLS5				*eS*	Sg	13 21 07.4	+0.7
BLS5				IAML		13 21 12.9	
	comp=Z,16nm,0.3s						
KMY	**Karmoy**	**1.05**	**323**	*eP*	Pg	13 20 51.4	-1.8
KMY				*eS*	Sg	13 21 06.2	-0.6
KMY				IAML		13 21 10.3	
	comp=Z,33nm,0.4s						
KMY	**Karmoy**	**1.05**	**323**	*eP*	Pg	13 20 51.4	-1.8
KMY				*eS*	Sg	13 21 06.2	-0.6
KMY				IAML		13 21 10.3	
	comp=Z,33nm,0.4s						
HOMB	**Homborsund**	**1.08**	**95**	*eP*	Pg	13 20 52.2	-1.4
HOMB				*eS*	Sg	13 21 07.3	-0.4
HOMB				IAML		13 21 10.4	
	comp=Z,28nm,0.3s						
HOMB	**Homborsund**	**1.08**	**95**	*eP*	Pg	13 20 52.2	-1.4
HOMB				*eS*	Sg	13 21 07.3	-0.4
HOMB				IAML		13 21 10.4	
	comp=Z,28nm,0.3s						
SKAR	**Skarslia**	**2.50**	**21**	*e*Pg	Pn	13 21 15.4	+0.5
SKAR				*e*Sg	Sb	13 21 49.9	-0.1
SKAR				IAML		13 21 53.4	
	comp=Z,5.9nm,0.4s						
SKAR	**Skarslia**	**2.50**	**21**	*e*Pg	Pn	13 21 15.4	+0.5
SKAR				*e*Sg	Sb	13 21 49.9	-0.1
SKAR				IAML		13 21 53.4	
	comp=Z,5.9nm,0.4s						

IDC 20 13:24:44.7±3.4, 49°72'N×30°16'W, h0km, mb3.6/2, mb1 3.6/2, mb1mx3.2/51, mbtmp3.6/2, Error ellipse: s-maj=126.9km s-min=43.5km az=72.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**44.85**	**133**	P	P	13 33 00.4	-0.2
	0.7nm,0.6s,baz=336,slow=8.0,SNR=5.4						
MKAR	**Makanchi Array**	**67.52**	**43**	P	P	13 35 42.5	+0.1
	0.3nm,0.7s,baz=336,slow=6.3,SNR=3.7						
ASAR	**Alice Springs**	**151.15**	**31**	PKPbc	PKPbc	13 44 39.6	-0.2
	0.3nm,0.7s,baz=346,slow=2.2,SNR=6.9						
ASAR				PKPab	PKPab	13 44 46.8	-0.7
	0.2nm,0.6s,baz=345,slow=2.6,SNR=5.0						

*IDC **20** 13:34:22.6±1.0, 27°.97N×18°.00W, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/41, mbtmp3.7/10, ML3.5/2, Error ellipse: s-maj=32.4km s-min=21.6km az=50.0*
*MDD **20** 13:34:24.8±0.4, 28°.01N×17°.90W, h0km, mb_Lg4.2/9, Error ellipse: s-maj=5.0km s-min=2.5km az=124.0*
*INMG **20** 13:34:25.7±1.3, 27°.90N×18°.05W, h36km±7km, ML3.8, Error ellipse: s-maj=5.0km s-min=4.3km az=53.0*
*CNRM **20** 13:34:29.8, 28°.71N×17°.38W, h0km, ml4.7*

ISC 20 13:34:24.3±0.9, 28°06'N±0°.03×17°84'W±0°.04, h17km±6km, n44, σ2s66/71, mb3.6/8, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTIG	**El Hierro**	**0.28**	**196**	P	**Pb**	**13 34 30.8**	**-0.1**
CTIG				S	**Sg**	**13 34 34.1**	**-0.4**
CTIG				*i* Vmb_Lg		13 34 34.6	
CHIE	**El Hierro**	**0.35**	**199**	P	**Pg**	**13 34 31.2**	**-0.3**
CHIE				S	**Sb**	**13 34 37.0**	**-0.3**
CCUM	**Cumbre, El Hie**	**0.35**	**209**	P	**Pg**	**13 34 31.2**	**-0.5**
CCUM				S	**Sg**	**13 34 34.9**	**-1.9**
CMCL	**Mercadel, El H**	**0.38**	**205**	P	**Pg**	**13 34 31.8**	**-0.4**
CMCL				S	**Sg**	**13 34 36.4**	**-1.2**
EHIG	**Higuera**	**0.50**	**3**	P	**Pb**	**13 34 37.0**	**+2.2**
EHIG				S	**Sb**	**13 34 44.7**	**+2.8**
EHIG				*i* Vmb_Lg		13 35 45.8	
EGOM	**La Gomera**	**0.56**	**79**	P	**Pn**	**13 34 37.5**	**-0.1**
EGOM				S	**Sn**	**13 34 46.0**	**-0.6**
EGOM				*i* Vmb_Lg		13 34 52.6	
TBT	**Taburiente**	**0.62**	**354**	P	**Pg**	**13 34 37.8**	**+1.1**
TBT				S	**Sg**	**13 34 46.2**	**+1.2**
TBT				*i* Vmb_Lg		13 34 48.1	
CRAJ	**Montana Rajada**	**1.11**	**79**	P	**Pb**	**13 34 45.3**	**-0.1**
CRAJ				S	**Sb**	**13 35 00.1**	**+0.4**
CRAJ				*i* Vmb_Lg		13 35 06.7	
MACI	**Morro de la Ar**	**1.19**	**80**	P	**Pn**	**13 34 46.5**	**0.0**
MACI				S	**Sb**	**13 35 01.6**	**-0.2**
MACI				*i* Vmb_Lg		13 35 06.4	
CGUI	**Guimar, Teneri**	**1.26**	**78**	P	**Pn**	**13 34 47.5**	**+0.2**
CGUI				S	**Sb**	**13 35 03.0**	**-0.7**
CGUI				*i* Vmb_Lg		13 35 10.9	
GGC	**Guia, Gran Can**	**1.94**	**88**	P	**Pn**	**13 34 56.1**	**-0.6**
GGC				S	**Sn**	**13 35 20.1**	**-0.6**
EOSO	**Osorio**	**2.02**	**89**	P	**Pn**	**13 34 57.1**	**-0.6**
EOSO				S	**Sn**	**13 35 22.2**	**-0.5**
CFUE	**Fuerteventura**	**3.49**	**79**	P	**Pn**	**13 35 17.5**	**-0.4**
CFUE				S	**Sn**	**13 35 55.1**	**-3.7**
CFUE				*i* Vmb_Lg		13 36 08.7	
EFAM	**Famara**	**3.94**	**73**	P	**Pn**	**13 35 23.9**	**-0.1**
EFAM				S	**Sn**	**13 36 07.5**	**-2.3**
EFAM				*i* Vmb_Lg		13 36 11.1	
FUL	**Funchal**	**4.65**	**10**	*e*P	**Pn**	**13 35 32.8**	**-1.0**
FUL				*e*S	**Sn**	**13 36 21.8**	**-5.6**
PMAR	**Madeira**	**4.72**	**10**	*e*P	**Pn**	**13 35 33.3**	**-1.7**
PMAR				*e*S	**Sn**	**13 36 25.3**	**-4.2**
PMAR				A	A	13 36 29.5	
	164nm,0.3s						
PMAR	**Madeira**	**4.72**	**10**	P	**Pn**	**13 35 32.5**	**-2.5**
PMAR				S	**Sn**	**13 35 23.4**	**-6.0**
PMOZ	**Porto Moniz, M**	**4.78**	**6**	*e*P	**Pn**	**13 35 34.4**	**-1.4**
PMOZ				*e*S	**Sn**	**13 36 26.4**	**-4.5**
PMOZ				A	A	13 36 33.6	
	442nm,0.5s						
PMOZ	**Porto Moniz, M**	**4.78**	**6**	P	**Pn**	**13 35 33.6**	**-2.2**
PMOZ				S	Sn	13 36 21.9	-9.0
PMPS	**Porto Santo**	**5.15**	**14**	*e*P	**Pn**	**13 35 39.7**	**-1.0**
PMPS				*e*S	**Sn**	**13 36 34.5**	**-5.3**
PMPS				A	A	13 36 39.3	
	48nm,0.4s						
PMPST	**Porto Santo, M**	**5.17**	**14**	*e*P	**Pn**	**13 35 40.3**	**-0.7**
PMPST				*e*S	**Sn**	**13 36 35.0**	**-5.3**
PMPST				A	A	13 36 42.9	
	103nm,0.5s						
TANT	**Tantan**	**5.84**	**85**	P	**Pn**	**13 35 52.2**	**+2.1**
TANT				S	**Sn**	**13 36 53.5**	**-3.3**
TTIG	**Tnine Tigouga,**	**8.57**	**71**	P	**Pn**	**13 36 26.9**	**-1.0**
TTIG				S	**Sn**	**13 37 59.7**	**-4.6**
OUZM	**OUZ**	**10.06**	**71**	P	**Pn**	**13 36 48.5**	**+0.3**
OUZM				S	**Sn**	**13 38 33.5**	**-7.4**
MD31	**MD31**	**12.26**	**64**	P	**Pn**	**13 37 17.5**	**-0.8**
MD31				S	**Sn**	**13 39 30.6**	**-4.0**
MDT	**Midelt**	**12.36**	**64**	Pn	**Pn**	**13 37 20.4**	**+0.8**
	0.3nm,0.3s,baz=261,slow=3.9,SNR=1.8						
MDT				Sn	**Sn**	**13 39 30.6**	**-6.6**
	0.8nm,0.3s,baz=252,slow=20,SNR=8.9						
MDT	**Midelt**	**12.36**	**64**	P	**Pn**	**13 37 17.5**	**-2.2**
MDT				S	**Sn**	**13 39 29.5**	**-7.7**
PMAN	**Manadas**	**13.58**	**324**	A	A	13 37 38.3	
	19nm,0.3s						
PMAN				*e*S	**Pn**	**13 37 35.9**	**-0.3**
PICO	**Pico**	**13.66**	**322**	A	A	13 37 37.8	
	74nm,0.2s						
PICO				*e*S	**Pn**	**13 37 37.3**	**-0.1**
PCAN	**Candelaria**	**13.67**	**322**	A	A	13 37 38.9	
	47nm,0.3s						
PCAN				*e*S	**Pn**	**13 37 38.2**	**+0.8**
ROSA	**Rosais**	**13.72**	**323**	A	A	13 37 38.9	
	54nm,0.3s						
ROSA				*e*S	**Pn**	**13 37 35.8**	**-2.4**
PCED	**Cedros**	**13.90**	**322**	A	A	13 37 40.5	
	143nm,0.3s						
PCED				*e*S	**Pn**	**13 37 38.9**	**-1.7**
PCAPE	**Capelo, Faial**	**13.95**	**322**	A	A	13 37 42.6	
	171nm,0.3s						
ESDC	**Sonseca Array**	**16.32**	**41**	Pn	**P**	**13 38 17.2**	**+1.5**
	0.0nm,0.3s,baz=239,slow=13,SNR=1.8						
TORD	**Torodi Ar. Bea**	**23.49**	**125**	P	**P**	**13 39 35.5**	**+2.0**
	0.9nm,0.8s,baz=309,slow=9.1,SNR=5.3						
TORD				S	**S**	**13 43 47.7**	**+1.0**
	0.5nm,0.8s,baz=306,slow=20,SNR=2.8						
DBIC	**Dimbokro**	**24.57**	**148**	P	**P**	**13 39 44.2**	**+0.6**
	10nm,0.8s,baz=342,slow=11,SNR=11						
ARCES	**ARCESS Array B**	**48.39**	**19**	P	**P**	**13 43 06.9**	**+1.8**
	4.7nm,1.1s,baz=236,slow=9.4,SNR=3.5						
YKA	**Yellowknife Ar**	**68.53**	**330**	P	**P**	**13 45 26.6**	**+1.0**
	0.4nm,0.7s,baz=75,slow=6.3,SNR=4.1						
PDAR	**Pinedale Array**	**72.72**	**310**	P	**P**	**13 45 52.6**	**+0.7**
	0.2nm,0.6s,baz=74,slow=6.7,SNR=2.2						
ZALV	**Zalesovo Beam**	**74.76**	**37**	P	**P**	**13 46 05.2**	**+1.9**
	0.4nm,0.4s,baz=302,slow=8.4,SNR=5.0						
MKAR	**Makanchi Array**	**76.52**	**44**	P	**P**	**13 46 15.3**	**+1.7**
	0.3nm,0.6s,baz=306,slow=5.0,SNR=3.6						
NVAR	**Mina Array Bea**	**80.59**	**308**	P	**P**	**13 46 37.4**	**+1.0**
	0.2nm,0.6s,baz=73,slow=4.0,SNR=2.0						
WRA	**Warramunga Arr**	**153.37**	**78**	PKPbc	**PKPbc**	**13 54 23.1**	**+0.8**
	0.4nm,0.8s,baz=305,slow=2.0,SNR=2.1						
ASAR	**Alice Springs**	**154.22**	**87**	PKPbc	**PKiKP**	**13 54 25.5**	**+1.3**
	0.2nm,0.6s,baz=293,slow=3.6,SNR=1.6						
ASAR				PKPab	**PKPab**	**13 54 39.8**	**+1.8**
	0.3nm,0.7s,baz=295,slow=3.6,SNR=2.3						

*IDC **20** 13:35:13.0±3.0, 62°.74N×151°.92W, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.2/52, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=46.7km s-min=23.2km az=161.0*
*AEIC **20** 13:35:16±1.9, 63°.04N±0°.03×151°.60W±0°.05, h12km±2km, ML3.4, ML3.6/102(NEIC), Error ellipse: s-maj=4.4km s-min=3.4km az=175.0*
*ANF **20** 13:35:16.4±0.2, 63°.03N×151°.62W, h10km±2km, ML3.8/56, Error ellipse: s-maj=1.7km s-min=1.6km az=130.0*
*NEIC **20** 13:35:17.5±2.0, 63°.03N±0°.03×151°.59W±0°.05, h17km±2km, Error ellipse: s-maj=4.1km s-min=3.1km az=200.0*

ISC 20 13:35:16.5±1.0, 63°03N±0°02×151°63W±0°02, h11km±8km, n176, σ0s83/169, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.29**	**243**	Pg	**Pg**	**13 35 22.5**	**+0.1**
PPLA	**Purkeypile**	**0.29**	**243**	P	**Pg**	**13 35 22.5**	**+0.1**
	baz=61,SNR=1000						
PPLA				S	**Sg**	**13 35 26.6**	**+0.2**
	baz=61						
CAST	**Castle Rocks**	**0.44**	**333**		**Pb**	**13 35 25.8**	**-0.6**
CAST	**Castle Rocks**	**0.44**	**333**	IAML		13 35 32.5	
	comp=E,2μm,0.3s						
CAST				IAML		13 35 32.7	
	comp=N,2μm,0.3s						
CAST	**Castle Rocks**	**0.44**	**333**	P	**Pb**	**13 35 25.7**	**-0.6**
	baz=150,SNR=1000						
CAST				S	**Sg**	**13 35 31.4**	**+0.3**
	baz=150						
KTH	**Kantishna Hill**	**0.62**	**31**		**Pg**	**13 35 28.5**	**0.0**
KTH					**Sg**	**13 35 36.7**	**0.0**
TRF	**Thorofare Moun**	**0.74**	**55**		**Pg**	**13 35 30.5**	**-0.4**
TRF					**Sg**	**13 35 41.0**	**+0.4**
TRF	**Thorofare Moun**	**0.74**	**55**	P	**Pg**	**13 35 30.5**	**-0.4**
	baz=236,SNR=148						
TRF				S	**Sg**	**13 35 40.9**	**+0.4**
	baz=236						
CUT	**Chulitna**	**0.89**	**134**		**Pg**	**13 35 33.1**	**-0.5**
CUT	**Chulitna**	**0.89**	**134**	IAML		13 35 44.7	
	comp=E,2μm,0.3s						
CUT	**Chulitna**	**0.89**	**134**	P	**Pg**	**13 35 33.2**	**-0.5**
	baz=317,SNR=328						
CUT				S	**Sg**	**13 35 44.2**	**-0.9**
	baz=317						
CHUM	**Lake Minchumin**	**0.91**	**341**		**Pb**	**13 35 34.5**	**+0.2**
CHUM					**Sb**	**13 35 46.7**	**+0.3**
CHUM	**Lake Minchumin**	**0.91**	**341**	P	**Pb**	**13 35 34.5**	**+0.2**
	baz=159,SNR=384						
CHUM				S	**Sb**	**13 35 46.8**	**+0.3**
	baz=159						
BPAW	**Bear Paw Mtn.**	**1.11**	**15**		**Pg**	**13 35 37.5**	**-0.4**
BPAW	**Bear Paw Mtn.**	**1.11**	**15**	IAML		13 35 54.3	
	comp=E,1μm,0.3s						
BPAW				IAML		13 35 55.1	
	comp=N,2μm,0.7s						
BPAW	**Bear Paw Mtn.**	**1.11**	**15**	P	**Pg**	**13 35 37.6**	**-0.4**
	baz=195,SNR=940						
BPAW				S	**Sb**	**13 35 52.2**	**-0.1**
	baz=195						
K20K	**Telida**	**1.15**	**288**		**Pb**	**13 35 38.5**	**0.0**
K20K					**Sn**	**13 35 54.2**	**-0.2**
K20K	**Telida**	**1.15**	**288**	P	**Pg**	**13 35 38.7**	**0.0**
	baz=105,SNR=776						
K20K				S	**Sg**	**13 35 53.8**	**+0.2**
	baz=105						
L20K	**Farewell, AK**	**1.17**	**243**		**Pb**	**13 35 38.0**	**-0.9**
L20K	**Farewell, AK**	**1.17**	**243**	P	**Pb**	**13 35 37.9**	**-0.9**
	baz=61,SNR=40						
L20K				S	**Sb**	**13 35 54.1**	**+0.2**
	baz=61						
RND	**Reindeer**	**1.31**	**72**		**Pn**	**13 35 40.3**	**-0.6**
RND					**Sn**	**13 35 58.5**	**0.0**
MCK	**McKinley**	**1.41**	**59**		**Pn**	**13 35 42.2**	**0.0**
MCK	**McKinley**	**1.41**	**59**	IAML		13 36 05.6	
	comp=N,1μm,0.8s						
MCK				IAML		13 36 08.8	
	comp=E,1μm,0.8s						
MCK	**McKinley**	**1.41**	**59**	P	**Pn**	**13 35 42.3**	**+0.2**
	baz=241,SNR=293						
MCK				S	**Sb**	**13 36 00.5**	**-0.2**
	baz=241						
M22K	**Willow**	**1.46**	**150**		**Pn**	**13 35 42.4**	**-0.4**
M22K	**Willow**	**1.46**	**150**	P	**Pn**	**13 35 42.4**	**-0.4**
	baz=333,SNR=122						
M22K				S	**Sn**	**13 36 01.4**	**-0.5**
	baz=333						
BWN	**Browne**	**1.50**	**39**		**Pn**	**13 35 43.6**	**+0.2**
BWN	**Browne**	**1.50**	**39**	IAML		13 36 12.2	
	comp=N,980nm,0.4s						
STLK	**Strandline Lak**	**1.54**	**184**		**Pn**	**13 35 43.8**	**-0.2**
J20K	**Nowinta River**	**1.61**	**317**		**Pn**	**13 35 45.3**	**+0.4**
J20K	**Nowinta River**	**1.61**	**317**	P	**Pn**	**13 35 45.2**	**+0.3**
	baz=134,SNR=281						
J20K				S	**Sg**	**13 36 07.7**	**-0.6**
	baz=134						
M19K	**Big River Lodg**	**1.71**	**230**		**Pn**	**13 35 46.9**	**+0.6**
M19K	**Big River Lodg**	**1.71**	**230**	IAML		13 36 11.7	
	comp=E,790nm,0.6s						
M19K				IAML		13 36 12.4	
	comp=N,732nm,0.5s						
M19K	**Big River Lodg**	**1.71**	**230**	P	**Pn**	**13 35 46.5**	**+0.3**
	baz=47,SNR=60						
M19K				S	**Sb**	**13 36 09.5**	**+0.1**
	baz=47						
L19K	**White Mountain**	**1.71**	**242**		**Pn**	**13 35 45.7**	**-0.7**
L19K	**White Mountain**	**1.71**	**242**	IAML		13 36 16.2	
	comp=E,484nm,0.8s						
L19K	**White Mountain**	**1.71**	**242**	P	**Pn**	**13 35 46.0**	**-0.4**
	baz=59,SNR=98						
GHO	**Glory Hole Cre**	**1.78**	**134**		**Pn**	**13 35 47.3**	**-0.1**
GHO	**Glory Hole Cre**	**1.78**	**134**	IAML		13 36 12.6	
	comp=N,591nm,0.4s						
GHO				IAML		13 36 12.9	
	comp=E,818nm,0.4s						
SPBG	**Spurr Blockage**	**1.81**	**191**		**Pb**	**13 35 49.0**	**-0.7**
CKN	**Chakachatna No**	**1.83**	**188**		**Pn**	**13 35 48.7**	**+0.8**
WAT6	**Susitna Watana**	**1.84**	**102**	P	**Pn**	**13 35 47.0**	**-1.3**
	baz=286,SNR=149						
WAT6				S	**Sn**	**13 36 12.0**	**+0.3**
	baz=286						
SPCR	**Spurr Chakacha**	**1.85**	**189**		**Pn**	**13 35 48.8**	**+0.4**
SPCR	**Spurr Chakacha**	**1.85**	**189**	P	**Pn**	**13 35 47.8**	**-0.5**
	baz=8.4,SNR=22						
PMR	**Palmer**	**1.86**	**140**		**Pn**	**13 35 48.2**	**0.0**
PMR	**Palmer**	**1.86**	**140**	IAML		13 36 15.6	
	comp=E,462nm,0.5s						
PMR	**Palmer**	**1.86**	**140**	P	**Pn**	**13 35 48.3**	**0.0**
	baz=323,SNR=100						
PMR				S	**Sn**	**13 36 12.0**	**+0.3**
	baz=323						
NEA2	**Nenana**	**1.94**	**35**		**Pn**	**13 35 48.3**	**-1.1**
NEA2	**Nenana**	**1.94**	**35**	P	**Pn**	**13 35 48.2**	**-1.2**
	baz=217,SNR=54						
DHY	**Denali Highway**	**1.94**	**87**		**Pn**	**13 35 49.4**	**-0.2**
DHY	**Denali Highway**	**1.94**	**87**	IAML		13 36 17.9	
	comp=N,612nm,0.7s						
DHY				IAML		13 36 18.5	
	comp=E,482nm,0.3s						
DHY	**Denali Highway**	**1.94**	**87**	P	**Pn**	**13 35 49.3**	**-0.2**
	baz=271,SNR=81						
DHY				S	**Sn**	**13 36 15.0**	**+1.0**
	baz=271						
SML	**Sawmill**	**1.97**	**127**		**Pn**	**13 35 49.8**	**-0.1**
SML	**Sawmill**	**1.97**	**127**	IAML		13 36 21.1	
	comp=N,558nm,0.8s						
SML	**Sawmill**	**1.97**	**127**	P	**Pn**	**13 35 50.1**	**+0.2**
	baz=311,SNR=99						
SML				S	**Sn**	**13 36 15.2**	**+0.7**
	baz=311						
TTA	**Tatalina**	**2.00**	**269**		**Pn**	**13 35 50.1**	**-0.3**
TTA	**Tatalina**	**2.00**	**269**	IAML		13 36 22.3	
	comp=E,594nm,0.4s						
TTA				IAML		13 36 22.4	
	comp=N,451nm,0.3s						
TTA	**Tatalina**	**2.00**	**269**	P	**Pn**	**13 35 49.9**	**-0.5**
	baz=85,SNR=94						
FIS	**Fire Island**	**2.00**	**160**		**Pb**	**13 35 52.0**	**-1.0**
TT01	**Tatalina**	**2.01**	**268**		**Pn**	**13 35 50.1**	**-0.2**
WRH	**Wood River Hil**	**2.14**	**46**		**Pn**	**13 35 51.3**	**-0.9**
RC01	**Rabbit Creek A**	**2.14**	**154**		**Pn**	**13 35 52.8**	**+0.6**
RC01				IAML		13 36 21.4	
	comp=N,398nm,0.5s						
RC01	**Rabbit Creek A**	**2.14**	**154**	P	**Pn**	**13 35 52.1**	**-0.1**
	baz=337						
I21K	**Tanana**	**2.17**	**356**		**Pn**	**13 35 52.7**	**+0.1**
I21K	**Tanana**	**2.17**	**356**	IAML		13 36 26.8	
	comp=E,421nm,0.7s						
I21K				IAML		13 36 33.4	
	comp=N,351nm,0.7s						
I21K	**Tanana**	**2.17**	**356**	P	**Pn**	**13 35 52.6**	**+0.1**
	baz=175,SNR=48						
KNK	**Knik Glacier**	**2.20**	**136**		**Pn**	**13 35 53.2**	**+0.1**
KNK	**Knik Glacier**	**2.20**	**136**	IAML		13 36 26.5	
	comp=N,378nm,0.5s						
KNK	**Knik Glacier**	**2.20**	**136**	P	**Pn**	**13 35 53.8**	**+0.8**
	baz=319,SNR=40						
M23K	**Glacier View**	**2.20**	**123**	P	**Pn**	**13 35 53.0**	**0.0**
	baz=306						
SCM	**Sheep Creek Mo**	**2.33**	**119**		**Pn**	**13 35 54.7**	**-0.2**
SCM	**Sheep Creek Mo**	**2.33**	**119**	IAML		13 36 29.1	
	comp=N,248nm,0.5s						
SCM				IAML		13 36 35.3	
	comp=E,434nm,0.8s						
SCM	**Sheep Creek Mo**	**2.33**	**119**	P	**Pn**	**13 35 54.6**	**-0.3**
	baz=303						
CCB	**Clear Creek Bu**	**2.35**	**45**		**Pn**	**13 35 54.1**	**-0.9**
CCB	**Clear Creek Bu**	**2.35**	**45**	IAML		13 36 33.4	
	comp=E,290nm,0.5s						
I23K	**Minto, Yukon-K**	**2.35**	**24**		**Pn**	**13 35 54.7**	**-0.4**
I23K	**Minto, Yukon-K**	**2.35**	**24**	IAML		13 36 32.3	
	comp=E,333nm,0.5s						
I23K				IAML		13 36 32.3	
	comp=N,341nm,0.5s						
I23K	**Minto, Yukon-K**	**2.35**	**24**	P	**Pn**	**13 35 54.4**	**-0.6**
	baz=206,SNR=26						
MDM	**Murphy Dome**	**2.45**	**36**		**Pn**	**13 35 55.6**	**-0.8**
TCOL	**CIGO, UAF Yank**	**2.49**	**40**		**Pn**	**13 35 56.3**	**-0.7**
TCOL	**CIGO, UAF Yank**	**2.49**	**40**	P	**Pn**	**13 35 56.2**	**-0.7**
	baz=224,SNR=20						
I53US	**FAIRBANKS INFR**	**2.49**	**40**	*i*		13 50 50.0	
	baz=223,slow=326,SNR=1.4						
COLA	**College**	**2.49**	**40**		**Pn**	**13 35 56.2**	**-0.7**
COLA	**College**	**2.49**	**40**	P	**Pn**	**13 35 56.3**	**-0.7**
	baz=224						
RDJH	**Redoubt Jeurge**	**2.51**	**193**		**Pn**	**13 35 59.0**	**+1.6**
N19K	**Bonanza Creek**	**2.60**	**213**		**Pn**	**13 35 59.6**	**+1.0**
N19K	**Bonanza Creek**	**2.60**	**213**	IAML		13 36 39.3	
	comp=E,270nm,0.8s						
N19K				IAML		13 36 40.5	
	comp=N,206nm,0.9s						
N19K	**Bonanza Creek**	**2.60**	**213**	P	**Pn**	**13 35 59.6**	**+1.0**
	baz=30,SNR=16						
SLKM	**Skilak Lake**	**2.62**	**165**		**Pn**	**13 35 59.0**	**+0.3**
PS08	**TAPS Pump Stn8**	**2.62**	**52**		**Pn**	**13 35 58.1**	**-0.7**
RED	**Redoubt Volcan**	**2.67**	**192**		**Pn**	**13 36 01.5**	**+1.9**
PWL	**Port Wells**	**2.68**	**143**		**Pn**	**13 36 00.4**	**+0.8**
PWL	**Port Wells**	**2.68**	**143**	IAML		13 36 45.4	
	comp=N,256nm,0.7s						
PWL				IAML		13 36 45.6	
	comp=E,259nm,0.8s						
PWL	**Port Wells**	**2.68**	**143**	P	**Pn**	**13 36 00.2**	**+0.7**
	baz=326,SNR=37						
PS10	**TAPS Pump St10**	**2.69**	**79**		**Pn**	**13 35 59.9**	**+0.2**
SVW2	**Sparrevohn**	**2.69**	**226**		**Pn**	**13 36 00.4**	**+0.7**
SVW2	**Sparrevohn**	**2.69**	**226**	IAML		13 36 42.9	
	comp=E,289nm,0.5s						
SVW2				IAML		13 36 43.2	
	comp=N,305nm,0.4s						
H21K	**Melozitna Rive**	**2.69**	**350**		**Pn**	**13 35 59.8**	**+0.1**
H21K	**Melozitna Rive**	**2.69**	**350**	IAML		13 36 42.5	
	comp=E,254nm,0.4s						
H21K				IAML		13 36 42.8	
	comp=N,208nm,0.5s						
H21K	**Melozitna Rive**	**2.69**	**350**	P	**Pn**	**13 35 59.9**	**+0.1**
	baz=168,SNR=48						
M24K	**Tolsona, Glenn**	**2.69**	**108**		**Pn**	**13 36 00.3**	**+0.4**
M24K	**Tolsona, Glenn**	**2.69**	**108**	P	**Pn**	**13 36 00.2**	**+0.4**
	baz=293,SNR=80						
O22K	**Cooper Landing**	**2.71**	**160**	P	**Pn**	**13 36 02.1**	**+2.1**
	baz=342,SNR=14						
IL31		**2.73**	**48**		**Pn**	**13 35 59.5**	**-0.7**
ILAR	**Eielson Array**	**2.73**	**48**	Pn	**Pn**	**13 35 59.2**	**-1.1**
	comp=N,1.8nm,0.3s,baz=235,slow=14,SNR=77						
ILAR				Pg	**Pb**	**13 36 06.8**	**+1.4**
	comp=N,7.2nm,0.3s,baz=229,slow=16,SNR=27						
ILAR				Lg	Lg	13 36 41.2	
	comp=N,28nm,0.3s,baz=233,slow=29,SNR=4.0						
ILAR	**Eielson Array**	**2

	baz=212,SNR=7.0							
FID	**Port Fidalgo**	**3.34**	**131**			**Pn**	**13 36 09.4**	**+0.7**
FID	**Port Fidalgo**	**3.34**	**131**		IAML		13 37 01.4	
	comp=E,190nm,0.5s							
FID					IAML		13 37 05.9	
	comp=N,171nm,0.7s							
DIV	**Divide**	**3.35**	**122**			**Pn**	**13 36 10.2**	**+1.3**
DOT	**Dot Lake**	**3.47**	**76**			**Pn**	**13 36 11.0**	**+0.5**
SCRK	**Sand Creek**	**3.56**	**71**	P	Pn		**13 36 12.0**	**+0.2**
	baz=258,SNR=16							
N25K	**Chitina, Valde**	**3.58**	**110**	P		**Pn**	**13 36 12.6**	**+0.6**
	baz=297,SNR=20							
MENT	**Mentasta**	**3.61**	**88**			**Pn**	**13 36 14.0**	**+1.6**
EYAK	**Cordova Ski Ar**	**3.74**	**129**	P		**Pn**	**13 36 15.3**	**+1.1**
	baz=315							
L26K	**Log Cabin Wild**	**3.78**	**86**	P		**Pn**	**13 36 16.6**	**+1.9**
	baz=274,SNR=43							
J26L	**Joseph Creek**	**3.88**	**64**	P		**Pn**	**13 36 16.7**	**+0.6**
	baz=251,SNR=32							
BMRM	**Bremner River**	**3.91**	**119**		Pn	**Pn**	**13 36 17.4**	**+0.9**
BMRM					IAML		13 37 25.2	
	comp=N,87nm,1.0s							
BMRM					IAML		13 37 25.2	
	comp=E,89nm,1.0s							
BMRM	**Bremner River**	**3.91**	**119**	P		**Pn**	**13 36 16.9**	**+0.4**
	baz=305							
GLB	**Gilahina Butte**	**3.99**	**110**			**Pn**	**13 36 19.1**	**+1.5**
GLB					IAML		13 37 23.0	
	comp=N,61nm,0.6s							
M26K	**Nabesna, AK**	**4.03**	**95**	P		**Pn**	**13 36 19.3**	**+1.1**
	baz=283,SNR=30							
COLD	**Coldfoot**	**4.26**	**8**	Pn		**Pn**	**13 36 21.7**	**+0.4**
COLD	**Coldfoot**	**4.26**	**8**	P		**Pn**	**13 36 21.9**	**+0.7**
	baz=189,SNR=28							
MCARA	**McCarthy VSAT**	**4.36**	**108**	P		**Pn**	**13 36 24.4**	**+1.8**
	baz=296,SNR=6.9							
L27K	**Beaver Creek,**	**4.46**	**85**	P		**Pn**	**13 36 25.3**	**+1.1**
	baz=274,SNR=23							
M27K	**Edge Creek, AK**	**4.54**	**94**	P		**Pn**	**13 36 27.0**	**+1.6**
	baz=283,SNR=8.0							
TGL	**Tana Glacier**	**4.75**	**115**	Pn		**Pn**	**13 36 29.4**	**+1.3**
TGL					IAML		13 37 48.1	
	comp=E,56nm,0.8s							
TGL					IAML		13 37 48.7	
	comp=N,49nm,0.8s							
WAX	**Waxell Ridge**	**4.91**	**118**			**Pn**	**13 36 30.9**	**+0.7**
EGAK	**Eagle**	**4.95**	**65**	Pn		**Pn**	**13 36 30.9**	**+0.2**
EGAK	**Eagle**	**4.95**	**65**	P		**Pn**	**13 36 31.0**	**+0.2**
	baz=254,SNR=6.7							
BVCY	**Beaver Creek**	**5.00**	**92**	P		**Pn**	**13 36 32.8**	**+1.4**
	baz=282							
BARN	**Barnard Glacie**	**5.09**	**108**			**Pn**	**13 36 33.7**	**+0.8**
CTG	**Chitna Glacier**	**5.27**	**108**	P		**Pn**	**13 36 36.6**	**+1.3**
	baz=298							
BMAR	**Burnt Mountain**	**5.32**	**31**	Pn		**Pn**	**13 36 35.0**	**-0.8**
YUK3	**Moose Creek**	**5.35**	**99**	P		**Pn**	**13 36 38.0**	**+1.6**
	baz=289,SNR=13							
DAWY	**Dawson**	**5.57**	**74**	Pn		**Pn**	**13 36 39.2**	**-0.1**
DAWY	**Dawson**	**5.57**	**74**	P		**Pn**	**13 36 39.3**	**-0.1**
	baz=265,SNR=8.8							
TOLK	**Toolik Lake Re**	**5.70**	**8**	Pn		**Pn**	**13 36 42.6**	**+1.5**
TOLK	**Toolik Lake Re**	**5.70**	**8**	P		**Pn**	**13 36 42.9**	**+1.8**
	baz=189,SNR=17							
I29M	**Ogilvie Camp,**	**6.27**	**62**			**Pn**	**13 36 48.9**	**0.0**
M30M	**Minto, Yukon**	**6.82**	**87**	Pn		**Pn**	**13 36 57.3**	**+0.9**
EPYK	**Eagle Plains**	**7.21**	**56**			**Pn**	**13 37 01.2**	**-0.5**
YKA	**Yellowknife Ar**	**16.81**	**75**	P		**P**	**13 39 13.4**	**-0.3**
	comp=N,0.1nm,0.3s,baz=287,slow=10,SNR=7.8							
MKAR	**Makanchi Array**	**62.47**	**321**	P		**P**	**13 45 38.8**	**-0.7**
	comp=N,0.1nm,0.4s,baz=41,slow=7.3,SNR=2.1							

*INET **20** 13:38:50.9±0.7, 10°.47′N×85°.38′W, h15km±5km, MW3.1*
*UCR **20** 13:38:50.6±1.6, 10°.59′N×85°.27′W, h10km±2km, MW3.9*
ISC 20 13:38:50.5±0.8, **10°.57′N**±0°.02×**85°.28′W**±0°.03, **h14**km±6km, **n41**, **σ0s62/61, 14C-11D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COLC	**Colonia**	**0.12**	**39**	⇓	*i*P		**Pg**	**13 38 53.6**	**-0.3**
COLC					*i*	S	**Sg**	**13 38 57.1**	**+0.9**
LIM1	**Limonal**	**0.13**	**12**	⇓	*i*P		**Pg**	**13 38 53.8**	**-0.2**
LIM1					*i*	S	**Sg**	**13 38 56.1**	**-0.3**
CUI	**Cuipilapa**	**0.14**	**53**	⇓	*i*P		**Pg**	**13 38 54.1**	**-0.1**
CUI					*i*	S	**Sg**	**13 38 56.7**	**0.0**
GUAB	**Guayabo de Bag**	**0.14**	**20**	⇓	*i*P		**Pg**	**13 38 53.9**	**-0.3**
HORNC	**Hornillas**	**0.17**	**35**	⇓	*i*P		**Pg**	**13 38 54.3**	**-0.3**
GPS2	**Hotel Rincn d**	**0.19**	**338**	⇑	*i*P		**Pg**	**13 38 55.0**	**0.0**
GPS3	**Bodega del ICE**	**0.20**	**335**	⇑	*i*P		**Pg**	**13 38 55.1**	**0.0**
PLVR	**Palo Verde**	**0.23**	**198**	⇓	*i*P		**Pb**	**13 38 56.0**	**-0.6**
PLVR					*e*S		**Sg**	**13 39 00.3**	**+1.1**
LAPC	**Finca la Perla**	**0.25**	**322**	⇑	*i*P		**Pg**	**13 38 55.8**	**0.0**
LAPC					*i*	S	**Sg**	**13 38 59.3**	**-0.1**
BUEV	**Buena Vista**	**0.26**	**330**	⇑	*i*P		**Pg**	**13 38 56.0**	**-0.1**
GB1A	**Borinquen Arri**	**0.27**	**334**	⇑	*i*P		**Pg**	**13 38 56.2**	**0.0**
GB1A					*i*	S	**Sg**	**13 38 59.8**	**-0.4**
GBS3	**Finca Las Img**	**0.27**	**320**	⇑	*i*P		**Pg**	**13 38 56.2**	**0.0**
GBS3					*i*	S	**Sg**	**13 39 00.3**	**+0.2**
ORTG	**Ortega, Santa**	**0.28**	**220**		*e*P		**Pb**	**13 38 56.7**	**-0.6**
BUAI	**Buenos Aires**	**0.31**	**350**	⇑	*i*P		**Pg**	**13 38 56.8**	**-0.1**
BUAI					*i*	S	**Sg**	**13 39 01.0**	**-0.2**
HZTE	**Horizontes, Gu**	**0.34**	**294**	⇑	*i*P		**Pg**	**13 38 57.9**	**+0.4**
HZTE					*e*S		**Sb**	**13 39 03.5**	**-0.2**
HZTE	**Horizontes, Gu**	**0.34**	**294**		*e*P		**Pg**	**13 38 57.9**	**+0.4**
HZTE					*e*S		**Sb**	**13 39 03.4**	**-0.3**
GUAI	**GUAI**	**0.38**	**217**	⇓	*i*P		**Pb**	**13 38 58.6**	**-0.4**
JTS	**Las Juntas de**	**0.43**	**131**	⇑	*i*P		**Pg**	**13 38 58.9**	**-0.1**
JTS					*e*S		**Sg**	**13 39 04.9**	**+0.1**
NICO	**Nicoya**	**0.47**	**201**	⇑	*e*P		**Pb**	**13 39 00.6**	**0.0**
NICO					*e*S		**Sb**	**13 39 08.3**	**+1.0**
DUNO	**Dulce Nombre,**	**0.54**	**203**	⇓	*i*P		**Pb**	**13 39 01.3**	**-0.4**
DUNO					*e*S		**Sb**	**13 39 09.8**	**+0.5**
DUNO	**Dulce Nombre,**	**0.54**	**203**		*e*P		**Pb**	**13 39 01.3**	**-0.4**
ARE1	**Arenal 1**	**0.56**	**101**	⇑	*i*P		**Pg**	**13 39 01.8**	**+0.3**
ARE1					*e*S		**Sg**	**13 39 10.9**	**+1.8**
INDI	**Punta indio, G**	**0.74**	**197**		*e*P		**Pb**	**13 39 04.6**	**-0.5**
GRZA	**Playa Garza**	**0.74**	**208**	⇓	*i*P		**Pb**	**13 39 05.1**	**-0.3**
GRZA					*e*S		**Sn**	**13 39 16.6**	**-1.1**
LAFE	**Finca La Fe, P**	**0.84**	**155**	⇑	*e*P		**Pg**	**13 39 06.0**	**-0.8**
LAFE					*e*S		**Sg**	**13 39 17.3**	**-0.6**
LAFE	**Finca La Fe, P**	**0.84**	**155**		*e*P		**Pg**	**13 39 05.9**	**-0.9**
LAFE					*e*S		**Sg**	**13 39 17.4**	**-0.6**
CONN	**Concepcion**	**1.04**	**341**		*e*P		**Pb**	**13 39 09.7**	**-0.7**
JACO	**JACO, Garabito**	**1.09**	**146**		*e*P		**Pb**	**13 39 10.1**	**-1.1**
CRPO	**Crater poas**	**1.10**	**110**		*e*P		**Pb**	**13 39 10.6**	**-0.9**
HDC	**Heredia**	**1.28**	**116**		*e*P		**Pn**	**13 39 13.7**	**-0.4**
HDC3	**Heredia 3**	**1.28**	**116**		*e*P		**Pn**	**13 39 13.4**	**-0.8**
HDC3	**Heredia 3**	**1.28**	**116**		*e*P		**Pn**	**13 39 14.2**	**0.0**
OCM	**Ochomogo**	**1.46**	**117**	⇓	*e*P		**Pn**	**13 39 16.7**	**0.0**
OCM					*e*S		**Sn**	**13 39 36.3**	**+0.5**
LCR2	**La Lucha 2**	**1.50**	**123**	⇑	*i*P		**Pn**	**13 39 17.0**	**-0.3**
LCR2					*e*S		**Sn**	**13 39 37.3**	**+0.6**
RIMA	**Rio Macho**	**1.61**	**120**		*e*P		**Pn**	**13 39 18.9**	**+0.2**
CDM	**Cerro de Muert**	**1.80**	**124**	⇑	*e*P		**Pn**	**13 39 21.8**	**+0.2**
CDM	**Cerro de Muert**	**1.80**	**124**		*e*P		**Pn**	**13 39 21.9**	**+0.2**
CDM					*e*S		**Sb**	**13 39 46.8**	**+0.5**
ESPN	**Las Esperanzas**	**1.88**	**31**	⇓	*i*P		**Pb**	**13 39 22.7**	**+0.5**
ESPN	**Las Esperanzas**	**1.88**	**31**		*e*P		**Pn**	**13 39 22.8**	**+0.5**
PEZE	**Perez Zeledon,**	**1.97**	**127**		*e*P		**Pn**	**13 39 24.7**	**+1.1**
DRK0	**Durika**	**2.39**	**123**		*e*P		**Pn**	**13 39 31.3**	**+1.8**

*IDC **20** 13:51:20.7±0.8, 14°.21′S×166°.08′E, h0km, mb4.3/9, mb1 4.5/11, mb1mx4.2/30, mbtmp4.3/11, ML4.3/2, MS3.8/9, Ms1 3.8/9, ms1mx3.3/63, Error ellipse: s-maj=24.3km s-min=20.3km az=118.0*
*NEIC **20** 13:51:23.6±1.3, 14°.23′S±0°.04×166°.17′E±0°.09, h15km±4km, mb4.7/22, Error ellipse: s-maj=12.6km s-min=5.6km az=79.0*
ISC 20 13:51:26.2±0.6, **14°.27′S**±0°.07×**166°.11′E**±0°.09, **h35**km, **n48, σ0s84/46, mb4.6/19, MS3.7/6, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.58**	**138**				**Pn**	**13 51 50.9**	**-0.8**
KOUNC	**Koumac, New Ca**	**6.49**	**195**		Pn		**Pn**	**13 52 59.3**	**+0.1**
MARNC	**Mare, Loyalty**	**7.41**	**166**		Pn		**Pn**	**13 53 10.4**	**-1.4**
HNR	**Honiara**	**7.71**	**308**		Pn		**Pn**	**13 53 15.4**	**-0.6**
	10nm,0.3s,baz=184,slow=6.2,SNR=5.5								
HNR						Sn	**Sn**	**13 54 43.7**	**+1.5**
	5.7nm,0.3s,baz=55,slow=22,SNR=1.1								
HNR						LR	LR	13 55 42.1	
	comp=Z,445nm,22.0s,baz=112,slow=34								

HNR	**Honiara**	**7.71**	**308**		Pn	**Pn**	**13 53 15.5**	**-0.5**
DZM	**Mont Dzumac**	**7.77**	**178**		Pn	**Pn**	**13 53 16.3**	**-0.6**
	1.8nm,0.3s,baz=12,slow=19,SNR=23							
DZM					Sn	**Sn**	**13 54 44.3**	**+0.6**
	0.4nm,0.3s,baz=241,slow=22,SNR=1.4							
ONTNC	**Ouen Toro**	**8.01**	**178**		Pn	**Pn**	**13 53 19.9**	**-0.2**
OUENC	**Ouen Island, N**	**8.14**	**175**		Pn	**Pn**	**13 53 21.8**	**-0.1**
PINNC	**Pines Island,**	**8.40**	**171**		Pn	**Pn**	**13 53 24.6**	**-0.8**
MSVF	**Nonsavu**	**11.99**	**108**		LR	LR	13 58 07.3	
	comp=Z,376nm,18.8s,baz=330,slow=34							
CTA	**Charters Tower**	**19.82**	**250**		LR	LR	14 01 55.7	
	comp=Z,191nm,20.4s,baz=67,slow=32							
COEN	**Coen**	**22.24**	**268**		P	**P**	**13 56 19.2**	**-1.0**
BKZ	**Black Stump Fm**	**26.44**	**162**		P	**P**	**13 57 00.5**	**+0.6**
BKZ					IAmb	IAmb	13 57 15.1	
	comp=Z,15nm,1.4s							
STKA	**Stephens Creek**	**28.45**	**228**		P	**P**	**13 57 18.5**	**+0.6**
	comp=Z,8.9nm,0.7s,baz=33,slow=7.8,SNR=26							
STKA					LR	LR	14 07 59.9	
	comp=Z,269nm,18.4s,baz=12,slow=35							
STKA	**Stephens Creek**	**28.45**	**228**		P	**P**	**13 57 18.4**	**+0.4**
RPZ	**Rata Peaks**	**29.65**	**173**		P	**P**	**13 57 29.5**	**+1.1**
	comp=Z,6.7nm,0.8s,baz=307,slow=10,SNR=2.6							
RPZ	**Rata Peaks**	**29.65**	**173**		IAmb	IAmb	13 57 42.9	
	comp=Z,15nm,1.2s							
WB0	**Warramunga Arr**	**30.79**	**255**		P	**P**	**13 57 37.2**	**-1.5**
WRA	**Warramunga Arr**	**30.85**	**255**		P	**P**	**13 57 37.0**	**-2.3**
	comp=Z,1.3nm,0.8s,baz=86,slow=8.7,SNR=11							
WRA					PcP	**PcP**	**14 00 36.2**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=74,slow=2.9,SNR=5.4							
WRA					LR	LR	14 09 19.2	
	comp=Z,148nm,18.2s,baz=168,slow=35							
AS31	**Alice Springs**	**31.79**	**248**		P	**P**	**13 57 46.2**	**-1.4**
ASAR	**Alice Springs**	**31.79**	**248**		P	**P**	**13 57 45.8**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=73,slow=9.6,SNR=17							
ASAR					PcP	**PcP**	**14 00 38.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=68,slow=2.9,SNR=5.0							
ASAR					LR	LR	14 10 14.8	
	comp=Z,163nm,18.9s,baz=22,slow=36							
BBOO	**Buckleboo**	**32.99**	**231**		P	**P**	**13 57 57.8**	**-0.1**
FORT	**Forrest**	**38.57**	**238**		P	**P**	**13 58 45.9**	**0.0**
FORT					IAmb	IAmb	13 59 05.0	
	comp=Z,23nm,1.1s							
FITZ	**Fitzroy Crossi**	**39.00**	**259**		LR	LR	14 13 26.8	
	comp=Z,122nm,21.7s,baz=56,slow=34							
FITZ	**Fitzroy Crossi**	**39.00**	**259**		P	**P**	**13 58 48.8**	**-0.8**
MORW	**Morawa**	**48.46**	**244**		P	**P**	**14 00 04.8**	**-0.7**
MORW					IAmb	IAmb	14 00 05.9	
	comp=Z,10nm,0.8s							
MJAR	**Matsushiro Arr**	**56.98**	**333**		LR	LR	14 26 07.7	
	comp=Z,51nm,18.8s,baz=314,slow=37							
CASY	**Casey**	**63.53**	**202**		P	**P**	**14 01 53.4**	**+0.6**
CASY					IAmb	IAmb	14 02 02.0	
	comp=Z,7.7nm,1.4s							
CMAR	**Chiang Mai Arr**	**73.73**	**294**		P	**P**	**14 02 58.0**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=119,slow=4.6,SNR=12							
CMAR	**Chiang Mai Arr**	**73.73**	**294**		P	**P**	**14 02 58.2**	**+1.0**
CHTO	**Chiang Mai**	**73.86**	**295**		P	**P**	**14 02 57.9**	**0.0**
QSPA	**South Pole Qui**	**75.76**	**180**		P	**P**	**14 03 08.9**	**+0.6**
QSPA					IAmb	IAmb	14 03 22.3	
	comp=Z,9.6nm,1.4s							
BILL	**Bilibino**	**82.08**	**0**		P	**P**	**14 03 43.0**	**+0.5**
BILL					IAmb	IAmb	14 03 43.7	
	comp=Z,5.4nm,0.9s							
J20K	**Nowinta River**	**83.89**	**16**		P	**P**	**14 03 53.0**	**+1.0**
J20K					IAmb	IAmb	14 03 56.2	
	comp=Z,6.2nm,1.3s							
KTH	**Kantishna Hill**	**84.33**	**18**		P	**P**	**14 03 53.6**	**-0.7**
KTH					IAmb	IAmb	14 03 55.7	
	comp=Z,8.8nm,1.1s							
TRF	**Thorofare Moun**	**84.45**	**18**		P	**P**	**14 03 54.4**	**-0.7**
RND	**Reindeer**	**84.86**	**19**		P	**P**	**14 03 57.0**	**0.0**
DHY	**Denali Highway**	**85.08**	**19**		P	**P**	**14 03 58.1**	**-0.1**
DHY					IAmb	IAmb	14 04 05.5	
	comp=Z,7.6nm,1.1s							
VRDI	**Verde Repeater**	**85.16**	**22**		P	**P**	**14 03 58.5**	**-0.2**
VRDI					IAmb	IAmb	14 04 00.5	
	comp=Z,7.4nm,1.2s							
I21K	**Tanana**	**85.26**	**16**		P	**P**	**14 03 59.0**	**+0.2**
IMAR	**Indian Mountai**	**85.42**	**15**		P	**P**	**14 03 59.7**	**+0.1**
CCB	**Clear Creek Bu**	**86.07**	**18**		P	**P**	**14 04 02.1**	**-0.8**
CCB					IAmb	IAmb	14 04 03.0	
	comp=Z,3.5nm,0.8s							
ILAR	**Eielson Array**	**86.44**	**18**		P	**P**	**14 04 04.1**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=231,slow=5.7,SNR=25							
BELA	**Belgrano 2**	**87.27**	**176**		P	**P**	**14 04 09.2**	**+0.4**
NVAR	**Mina Array Bea**	**87.83**	**50**		P	**P**	**14 04 12.5**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=227,slow=6.0,SNR=2.2							
NVAR					LR	LR	14 37 13.8	
	comp=Z,78nm,19.9s,baz=92,slow=31							
MKAR	**Makanchi Array**	**96.09**	**317**		P	**P**	**14 04 50.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=92,slow=6.3,SNR=7.1							
YKA	**Yellowknife Ar**	**97.66**	**27**		P	Pdif	14 04 55.6	-1.3
	comp=Z,1.1nm,0.9s,baz=255,slow=4.6,SNR=11							
ARCES	**ARCESS Array B**	**119.52**	**345**		PKP	**PKiKP**	**14 10 10.9**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=17,slow=1.3,SNR=5.4							

*NEIC **20** 14:22:04.5±1.2, 17°.00S±0°.04×174°.0W±0°.1, h64km±8km, mb4.5/18, Error ellipse: s-maj=15.8km s-min=3.8km az=75.0*
*IDC **20** 14:22:05.0±2.8, 17°.03S×174°.05W, h71km±25km, mb4.0/10, mb1 4.1/12, mb1mx3.9/28, mbtmp4.3/12, Error ellipse: s-maj=26.9km s-min=15.2km az=119.0*
ISC 20 14:22:06.4±0.6, **16°.93S**±0°.06×**173°.83W**±0°.08, **h100**km, **n69, σ2s02/72, mb4.3/19, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.60**	**34**		P		**Pn**	**14 23 00.7**	**+0.4**
	61nm,0.3s,baz=194,slow=3.0,SNR=71								
AFI						S	**Sn**	**14 23 39.4**	**-2.6**
	348nm,0.3s,baz=204,slow=12,SNR=17								
AFI	**Afiamalu**	**3.60**	**34**		Pn		**Pn**	**14 23 00.6**	**+0.3**
AFI					Sn		**Sn**	**14 23 39.0**	**-3.0**
NIUE	**Niue**	**4.28**	**120**		Pn		**Pn**	**14 23 09.8**	**+0.3**
NIUE					Sn		**Sn**	**14 23 53.9**	**-4.5**
DZM	**Mont Dzumac**	**19.28**	**251**		P		**Pn**	**14 26 21.5**	**-4.0**
	0.2nm,0.3s,baz=206,slow=20,SNR=1.6								
DZM	**Mont Dzumac**	**19.28**	**251**		IAmb		IAmb	14 26 30.8	
	comp=Z,17nm,1.0s								
OUZ	**Omahuta**	**21.39**	**209**		P		**P**	**14 26 48.3**	**+2.3**
MXZ	**Matakaoa Point**	**21.69**	**197**		P		**P**	**14 26 52.3**	**+3.1**
KUZ	**Kuaotunu**	**21.80**	**203**		P		**P**	**14 26 49.9**	**-0.4**
WMGZ	**Waiomatatini S**	**21.90**	**197**		P		**P**	**14 26 55.0**	**+3.6**
HAZ	**Te Kaha**	**22.02**	**198**		P		**P**	**14 26 54.0**	**+1.3**
PKGZ	**Pakihiroa**	**22.06**	**197**		P		**P**	**14 26 56.3**	**+3.2**
PUZ	**Puketiti**	**22.18**	**197**		P		**P**	**14 26 56.7**	**+2.3**
PUZ						S	S	14 30 40.8	-11
RUGZ	**Raukumara Rang**	**22.25**	**198**		P		**P**	**14 26 57.0**	**+1.8**
RUGZ						S	**S**	**14 30 49.1**	**-4.5**
TWGZ	**Tauwhareparae**	**22.35**	**197**		P		**P**	**14 26 59.9**	**+3.6**
MWZ	**Matawai**	**22.63**	**198**		P		**P**	**14 27 01.0**	**+2.0**
TKGZ	**Te Karaka**	**22.64**	**197**		P		**P**	**14 27 01.1**	**+2.0**
URZ	**Urewera**	**22.69**	**199**		P		**P**	**14 26 58.8**	**-0.7**
	comp=Z,14nm,0.5s,baz=359,slow=0.2,SNR=26								
URZ						S	**S**	**14 31 00.8**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=338,slow=13,SNR=1.2								
URZ	**Urewera**	**22.69**	**199**		P		**P**	**14 26 58.5**	**-1.0**
URZ					IAmb		IAmb	14 27 01.8	
	comp=Z,14nm,0.5s								
URZ	**Urewera**	**22.69**	**199**		P		**P**	**14 26 59.9**	**+0.3**
KMRZ	**Kaimai**	**22.70**	**201**		P		**P**	**14 27 02.8**	**+3.1**
TOZ	**Tahuroa Road**	**22.75**	**202**		P		**P**	**14 27 02.3**	**+2.1**
RAGZ	**Rawiri**	**22.81**	**198**		P		**P**	**14 27 01.5**	**+0.6**
RIGZ	**Rimuhau**	**22.91**	**197**		P		**P**	**14 27 04.8**	**+2.9**
HLRZ	**Highlands Stat**	**22.92**	**200**		P		**P**	**14 27 02.0**	**0.0**
MUGZ	**Murupara**	**22.99**	**199**		P		**P**	**14 27 03.4**	**+0.7**
RTZ	**Ruatahuna**	**23.05**	**199**		P		**P**	**14 27 04.4**	**+1.1**
SNGZ	**Shannon Statio**	**23.10**	**198**		P		**P**	**14 27 06.9**	**+3.2**
PRRZ	**Plateau Road**	**23.13**	**200**		P		**P**	**14 27 05.7**	**+1.7**
RAHZ	**Arahi**	**23.30**	**198**		P		**P**	**14 27 08.0**	**+2.5**
HIZ	**Hauiti**	**23.68**	**203**		P		**P**	**14 27 12.0**	**+3.1**
BKZ	**Black Stump Fm**	**23.71**	**199**		P		**P**	**14 27 08.9**	**-0.4**
BKZ	**Black Stump Fm**	**23.71**	**199**		P		**P**	**14 27 09.9**	**+0.7**
BKZ						S	**S**	**14 31 19.7**	**+2.7**
MCHZ	**McNeill Hill**	**23.90**	**198**		P		**P**	**14 27 12.8**	**+1.9**
NTVZ	**North Tongariro**	**23.91**	**200**		P		**P**	**14 27 12.8**	**+1.6**
TMVZ	**Te Maari**	**23.92**	**200**		P		**P**	**14 27 14.4**	**+3.2**
ETVZ	**East Tongariro**	**23.93**	**200**		P		**P**	**14 27 11.9**	**+0.6**
KWHZ	**Kaweka Forest**	**23.97**	**199**		P		**P**	**14 27 11.6**	**0.0**
OTVZ	**Oturere**	**23.97**	**200**		P		**P**	**14 27 12.4**	**+0.6**
SNVZ	**South Ngauruho**	**24.00**	**200**		P		**P**	**14 27 13.0**	**+1.0**
BHHZ	**Black Hill Sta**	**24.14**	**199**		P		**P**	**14 27 13.0**	**-0.1**

KAHZ	**Kahuranaki**	**24.17**	**198**		P	**P**	**14 27 16.8**	**+3.3**
NEZ	**North Egmont**	**24.62**	**203**		P	**P**	**14 27 22.0**	**+4.4**
QRZ	**Quartz Range**	**26.57**	**204**		P	**P**	**14 27 36.5**	**+1.4**
THZ	**Tophouse**	**27.24**	**202**		P	**P**	**14 27 39.8**	**-1.4**
THZ					IAmb	IAmb	14 28 12.1	
	comp=Z,31nm,1.4s							
LTZ	**Lake Taylor**	**28.36**	**202**		P	**P**	**14 27 49.6**	**-1.5**
LTZ					IAmb	IAmb	14 27 57.3	
	comp=Z,15nm,0.8s							
RPZ	**Rata Peaks**	**29.61**	**202**		P	**P**	**14 28 01.6**	**-0.6**
	comp=Z,5.6nm,0.8s,baz=32,slow=18,SNR=2.0							
ARMA	**Armidale**	**34.22**	**241**		P	**P**	**14 28 42.6**	**-0.2**
ARMA					IAmb	IAmb	14 28 44.4	
	comp=Z,18nm,1.4s							
TOO	**Toolangi**	**41.19**	**232**		P	**P**	**14 29 40.6**	**-0.7**
TOO					IAmb	IAmb	14 30 04.6	
	comp=Z,8.2nm,1.3s							
STKA	**Stephens Creek**	**42.93**	**241**		P	**P**	**14 29 55.5**	**0.0**
	comp=Z,5.7nm,0.7s,baz=81,slow=9.7,SNR=16							
STKA	**Stephens Creek**	**42.93**	**241**		P	**P**	**14 29 55.5**	**0.0**
BBOO	**Buckleboo**	**47.70**	**241**		P	**P**	**14 30 32.5**	**-0.7**
BBOO					IAmb	IAmb	14 30 57.4	
	comp=Z,5.8nm,1.1s							
WB2	**Warramunga Arr**	**49.10**	**258**		P	**P**	**14 30 42.9**	**-1.3**
WB2					IAmb	IAmb	14 30 47.6	
	comp=Z,2.3nm,0.8s							
WRAB	**Tennant Creek**	**49.10**	**258**		P	**P**	**14 30 43.3**	**-0.9**
WRAB					IAmb	IAmb	14 30 45.6	
	comp=Z,4.1nm,1.1s							
WRA	**Warramunga Arr**	**49.11**	**258**		P	**P**	**14 30 43.4**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=93,slow=7.3,SNR=81							
WRA					PcP	**PcP**	**14 32 07.4**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=92,slow=4.2,SNR=2.9							
AS31	**Alice Springs**	**49.26**	**253**		P	**P**	**14 30 44.7**	**-0.7**
ASAR	**Alice Springs**	**49.26**	**253**		P	**P**	**14 30 45.1**	**-0.3**
	comp=Z,23nm,0.6s,baz=87,slow=9.1,SNR=604							
ASAR					PcP

TURN				S	Sg	14 31 30.0	+3.7		
DALY	**Dalyan (Mula)**	**2.72**	**39**	PN	**Pn**	**14 30 51.2**	**+1.5**		
MLSB	**Milas**	**2.77**	**21**	PN	**Pn**	**14 30 51.9**	**+1.6**		
YER	**Yerkesik**	**2.81**	**30**	PN	**Pn**	**14 30 52.4**	**+1.5**		
FETY	**Fethiye**	**2.83**	**47**	PN	**Pn**	**14 30 52.3**	**+1.0**		
FETY	**Fethiye**	**2.83**	**47**	P	**Pn**	**14 30 50.1**	**-1.2**		
FETY				S	**Sg**	**14 31 42.2**	**+4.8**		
AKAS	**Kas**	**2.94**	**58**	P	**Pn**	**14 30 52.3**	**-0.5**		
AKAS				S	**Sb**	**14 31 31.9**	**-2.7**		
AYDN	**Tasoluk**	**3.14**	**20**	P	**Pn**	**14 30 53.6**	**-1.9**		
AYDN				S	**Sb**	**14 31 40.6**	**+0.6**		
TAVA	**DENIZLI_Tavas**	**3.36**	**35**	P	Pn	14 30 49.5	-9.0		
TAVA				S	**Sb**	**14 31 45.5**	**-1.0**		
AKUM	**Antalya-Kumluc**	**3.51**	**62**	P	**Pn**	**14 31 00.6**	**+0.1**		
AKUM				S	**Sb**	**14 31 50.3**	**-0.5**		
GOLH	**Golhisar**	**3.52**	**44**	P	**Pn**	**14 30 59.7**	**-1.1**		
GOLH				S	**Sg**	**14 31 59.4**	**-0.1**		
PASA	**Karahalli, USA**	**4.34**	**33**	P	**Pn**	**14 31 09.5**	**-2.5**		
ESDC	**Sonseca Array**	**24.71**	**291**	P	**P**	**14 35 27.3**	**+0.1**		
	comp=N,0.4nm,0.7s,baz=88,slow=8.4,SNR=2.1								
AKTO	**Aktyubinsk**	**27.75**	**46**	P	**P**	**14 35 55.4**	**+0.9**		
	comp=N,1.0nm,0.5s,baz=248,slow=9.4,SNR=4.4								
TORD	**Torodi Ar. Bea**	**31.08**	**232**	P	**P**	**14 36 25.4**	**+1.1**		
	comp=N,0.9nm,0.6s,baz=34,slow=9.2,SNR=6.3								
ARCES	**ARCESS Array B**	**34.87**	**359**	P	**P**	**14 36 55.5**	**-1.4**		
	comp=N,4.3nm,1.1s,baz=177,slow=8.1,SNR=3.9								
MKAR	**Makanchi Array**	**43.09**	**56**	P	**P**	**14 38 04.4**	**-1.6**		
	comp=N,0.8nm,0.6s,baz=283,slow=5.9,SNR=8.6								
ZALV	**Zalesovo Beam**	**44.51**	**46**	P	**P**	**14 38 17.2**	**-0.1**		
	comp=N,1.1nm,0.5s,baz=279,slow=8.0,SNR=6.0								
YKA	**Yellowknife Ar**	**78.20**	**343**	P	**P**	**14 42 06.8**	**+1.7**		
	comp=N,0.1nm,0.5s,baz=29,slow=5.8,SNR=2.6								

IDC 20 14:30:49.8±3.4, 32.80S×178.47W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.3/23, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=74.5km s-min=47.5km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.53**	**212**	Pn	Pn	14 32 26.4	-0.6
	1.1nm,0.3s,baz=264,slow=4.1,SNR=11						
URZ				Sn	Sn	14 33 38.2	-4.0
	0.6nm,0.3s,baz=325,slow=23,SNR=2.3						
ASAR	**Alice Springs**	**42.64**	**270**	P	P	14 38 47.6	-0.6
	0.2nm,0.5s,baz=112,slow=7.9,SNR=9.3						
WRA	**Warramunga Arr**	**43.84**	**275**	P	P	14 38 58.4	+0.4
	0.4nm,0.3s,baz=114,slow=7.7,SNR=21						
FINES	**FINESS Array B**	**147.24**	**338**	PKPbc	PKPbc	14 50 33.5	-0.8
	0.7nm,0.6s,baz=56,slow=3.5,SNR=0.9						

*IDC **20** 14:54:09.9±1.0, 55.51S×27.02W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/28, mbtmp4.0/4, MS3.6/2, Ms1 3.6/2, ms1mx2.9/46, Error ellipse: s-maj=49.1km s-min=26.5km az=68.0*

ISC 20 14:54:13.5±0.9, 55.5S±0.2×27.1W±0.3, h25km, n9, σ0.9 90/7, mb4.1/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**40.54**	**144**	P	**P**	**15 01 49.7**	**-0.3**
	2.0nm,0.6s,baz=243,slow=12,SNR=2.5						
BOSA	**Boshof**	**45.78**	**76**	LR	LR	15 19 32.9	
	comp=Z,73nm,18.3s,baz=235,slow=33						
VNDA	**Vanda**	**47.10**	**183**	P	**P**	**15 02 43.2**	**+0.5**
	1.6nm,0.6s,baz=185,slow=6.9,SNR=9.9						
LPAZ	**La Paz**	**50.13**	**305**	P	**P**	**15 03 07.5**	**+0.2**
	1.3nm,0.4s,baz=109,slow=5.4,SNR=4.7						
DBIC	**Dimbokro**	**64.66**	**25**	LR	LR	15 25 12.4	
	comp=Z,46nm,20.8s,baz=182,slow=29						
TORD	**Torodi Ar. Bea**	**72.56**	**29**	P	**P**	**15 05 38.8**	**+0.5**
	0.3nm,0.6s,baz=213,slow=6.4,SNR=2.4						
YKA	**Yellowknife Ar**	**135.82**	**318**	PKP	**PKPdf**	**15 13 28.8**	**-1.6**
	0.2nm,0.4s,baz=128,slow=2.2,SNR=4.6						
INK	**Inuvik**	**145.44**	**321**	PKPbc	**PKPab**	**15 13 48.0**	**+0.1**
	1.9nm,0.5s,baz=112,slow=1.9,SNR=11						
ILAR	**Eielson Array**	**149.81**	**312**	PKPbc	**PKPbc**	**15 13 59.7**	**0.0**
	1.4nm,0.7s,baz=128,slow=3.5,SNR=14						

IDC 20 14:54:53.4±1.8, 0.40N×80.06W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/35, mbtmp3.5/4, Error ellipse: s-maj=163.5km s-min=24.4km az=54.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**20.34**	**145**	P	P	14 59 31.5	-0.6
	1.9nm,0.7s,baz=316,slow=9.4,SNR=5.7						
SIV	**San Ignacio**	**24.83**	**132**	P	P	15 00 18.3	+0.6
	0.3nm,0.3s,baz=287,slow=20,SNR=1.5						
NVAR	**Mina Array Bea**	**51.60**	**322**	P	P	15 04 02.1	+0.1
	0.3nm,0.7s,baz=145,slow=9.0,SNR=4.4						
YKA	**Yellowknife Ar**	**67.13**	**343**	P	P	15 05 48.5	-0.2
	0.5nm,0.9s,baz=136,slow=6.0,SNR=5.8						

*IDC **20** 14:55:42.2±2.0, 61.56N×149.03W, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.4/48, mbtmp3.3/4, ML3.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/36, Error ellipse: s-maj=29.6km s-min=20.4km az=79.0*

*ANF **20** 14:55:43.0±0.2, 61.76N×148.19W, h0km, ML3.8/62, Error ellipse: s-maj=2.1km s-min=1.8km az=158.0*

*AEIC **20** 14:55:42±4.5, 61.75N±0.02×148.18W±0.03, h14km±4km, ML3.4, ML3.6/124(NEIC), Mwr3.5/44(NEIC), Error ellipse: s-maj=4.2km s-min=0.8km az=212.0*

*NEIC **20** 14:55:43.5±2.3, 61.74N±0.01×148.19W±0.03, h2km±7km, Error ellipse: s-maj=2.1km s-min=1.9km az=138.0*

*NEIC **20** 14:55:43, 61.73N×148.19W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=2.06; $M_{\theta\theta}$=0.22; $M_{\phi\phi}$=1.85; $M_{r\theta}$=0.14; $M_{\theta\phi}$=-0.85; $M_{\phi r}$=-0.25; Fault plane solution: M_o=2.16000×10^{14} NP1:ϕ_s=343.46000°, δ=47.77000°, λ=-81.15000°. NP2:ϕ_s=150.41000°, δ=42.98000°, λ=-99.62000°. Principal axes: T 2.2140, Plg2.0000°, Azm67.0000°; N -0.1159, Plg7.0000°; Azm157.0000°; P -2.0981, Plg83.0000°, Azm317.0000°;*

ISC 20 14:55:42.3±0.8, 61.73N±0.02×148.17W±0.01, h13km±5km, n215, σ1.98/198, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SML	**Sawmill**	**0.11**	**314**		**Pg**	**14 55 45.4**	**-0.1**
SML	**Sawmill**	**0.11**	**314**		**Sg**	**14 55 47.7**	**+0.1**
SML	**Sawmill**	**0.11**	**314**	IAML		14 55 46.9	
	comp=N,2μm,0.3s						
SML	**Sawmill**	**0.11**	**314**	P	**Pg**	**14 55 45.8**	**+0.4**
	baz=134,SNR=1000						
SML				S	**Sg**	**14 55 47.8**	**+0.1**
	baz=134						
M23K	**Glacier View**	**0.22**	**74**	P	**Pb**	**14 55 48.1**	**-0.1**
	baz=256						
M23K				S	**Sg**	**14 55 50.7**	**+0.3**
	baz=256						
KNK	**Knik Glacier**	**0.35**	**203**		**Pg**	**14 55 49.6**	**+0.2**
KNK					**Sg**	**14 55 54.4**	**+0.4**
KNK	**Knik Glacier**	**0.35**	**203**	IAML		14 55 55.9	
	comp=E,7μm,0.6s						
KNK				IAML		14 55 56.1	
	comp=N,4μm,0.6s						
KNK	**Knik Glacier**	**0.35**	**203**	P	**Pb**	**14 55 50.0**	**-0.5**
	baz=22,SNR=617						
KNK				S	**Sg**	**14 55 54.5**	**+0.4**
	baz=22						
GHO	**Glory Hole Cre**	**0.36**	**277**		**Pb**	**14 55 50.3**	**-0.4**
GHO					**Sb**	**14 55 55.6**	**-0.6**
GHO	**Glory Hole Cre**	**0.36**	**277**	IAML		14 55 56.3	
	comp=N,9μm,0.5s						
GHO				IAML		14 55 56.7	
	comp=E,7μm,0.6s						
SCM	**Sheep Creek Mo**	**0.41**	**76**		**Pb**	**14 55 51.5**	**-0.1**
SCM					**Sb**	**14 55 57.9**	**+0.1**
SCM	**Sheep Creek Mo**	**0.41**	**76**	IAML		14 55 58.3	
	comp=E,7μm,0.7s						
SCM				IAML		14 55 58.6	
	comp=N,7μm,0.6s						
SCM	**Sheep Creek Mo**	**0.41**	**76**	P	**Pb**	**14 55 51.6**	**0.0**
	baz=257,SNR=1000						
SCM				S	**Sb**	**14 55 57.5**	**-0.3**
	baz=257						
PMR	**Palmer**	**0.48**	**253**		**Pg**	**14 55 51.8**	**+0.1**
PMR					**Sg**	**14 55 58.0**	**0.0**
PMR	**Palmer**	**0.48**	**253**	IAML		14 55 58.3	
	comp=E,4μm,0.4s						
PMR				IAML		14 55 58.3	
	comp=N,2μm,0.5s						
PMR	**Palmer**	**0.48**	**253**	P	**Pg**	**14 55 51.8**	**+0.1**
	baz=72,SNR=626						
PMR				S	**Sg**	**14 55 57.9**	**-0.2**
	baz=72						
WAT6	**Susitna Watana**	**0.88**	**13**		**Pb**	**14 55 59.1**	**-0.4**
WAT6					**Sb**	**14 56 10.4**	**-0.7**
WAT6	**Susitna Watana**	**0.88**	**13**	P	**Pb**	**14 55 59.1**	**-0.4**
	baz=194,SNR=142						
WAT6				S	**Sb**	**14 56 10.6**	**-0.5**
	baz=194						
PWL	**Port Wells**	**0.88**	**185**		**Pn**	**14 55 59.8**	**-0.6**
PWL					**Sg**	**14 56 11.1**	**+0.2**
PWL	**Port Wells**	**0.88**	**185**	IAML		14 56 14.7	
	comp=E,3μm,0.5s						
PWL				IAML		14 56 15.0	
	comp=N,2μm,0.5s						
PWL	**Port Wells**	**0.88**	**185**	P	**Pn**	**14 55 59.8**	**-0.6**
	baz=4.8,SNR=96						
PWL				S	**Sg**	**14 56 11.0**	**+0.2**
	baz=4.8						
M22K	**Willow**	**0.93**	**272**		**Pg**	**14 55 59.8**	**-0.4**
M22K					**Sb**	**14 56 11.8**	**-0.7**
M22K	**Willow**	**0.93**	**272**	IAML		14 56 14.8	
	comp=E,3μm,0.7s						
M22K	**Willow**	**0.93**	**272**	P	**Pg**	**14 55 59.8**	**-0.4**
	baz=90,SNR=66						
M22K				S	**Sg**	**14 56 12.4**	**+0.1**
	baz=90						
RC01	**Rabbit Creek A**	**0.99**	**230**		**Pn**	**14 56 01.4**	**-0.5**
RC01	**Rabbit Creek A**	**0.99**	**230**	P	**Pn**	**14 56 01.4**	**-0.5**
	baz=48,SNR=167						
RC01				S	**Sn**	**14 56 14.9**	**-0.9**
	baz=48						
GLI	**Glacier Island**	**1.00**	**148**		**Pn**	**14 56 02.1**	**0.0**
GLI	**Glacier Island**	**1.00**	**148**	IAML		14 56 16.4	
	comp=E,2μm,0.6s						
GLI	**Glacier Island**	**1.00**	**148**	P	**Pn**	**14 56 02.7**	**+0.6**
	baz=329,SNR=94						
GLI				S	**Sn**	**14 56 15.6**	**-0.5**
	baz=329						
M24K	**Tolsona, Glenn**	**1.02**	**67**		**Pn**	**14 56 02.3**	**0.0**
M24K	**Tolsona, Glenn**	**1.02**	**67**	IAML		14 56 17.6	
	comp=N,2μm,0.7s						
M24K	**Tolsona, Glenn**	**1.02**	**67**	P	**Pn**	**14 56 02.3**	**0.0**
	baz=250,SNR=305						
M24K				S	**Sn**	**14 56 16.7**	**+0.2**
	baz=250						
JPK	**Jack Peak**	**1.02**	**131**		**Pn**	**14 56 02.3**	**0.0**
VMT	**TAPS TI Valdez**	**1.09**	**126**		**Pg**	**14 56 03.9**	**+0.7**
KLU	**Klutina**	**1.10**	**102**		**Pg**	**14 56 03.3**	**-0.2**
KLU	**Klutina**	**1.10**	**102**	IAML		14 56 19.4	
	comp=E,1μm,0.5s						
KLU	**Klutina**	**1.10**	**102**	P	**Pg**	**14 56 03.3**	**-0.2**
	baz=284,SNR=173						
KLU				S	**Sg**	**14 56 17.6**	**-0.3**
	baz=284						
FIS	**Fire Island**	**1.15**	**240**		**Pg**	**14 56 04.8**	**+0.5**
CUT	**Chulitna**	**1.20**	**305**		**Pg**	**14 56 04.9**	**-0.4**
CUT	**Chulitna**	**1.20**	**305**	P	**Pg**	**14 56 04.9**	**-0.4**
	baz=124,SNR=74						
CUT				S	**Sg**	**14 56 20.9**	**0.0**
	baz=124						
FID	**Port Fidalgo**	**1.28**	**140**		**Pg**	**14 56 07.0**	**0.0**
FID	**Port Fidalgo**	**1.28**	**140**	IAML		14 56 31.1	
	comp=N,868nm,0.5s						
DIV	**Divide**	**1.30**	**117**		**Pn**	**14 56 05.8**	**-0.5**
PS11	**TAPS Pump St11**	**1.32**	**74**		**Pg**	**14 56 07.5**	**-0.3**
DHY	**Denali Highway**	**1.40**	**15**		**Pb**	**14 56 07.8**	**-0.6**
DHY	**Denali Highway**	**1.40**	**15**	IAML		14 56 27.1	
	comp=E,2μm,0.4s						
DHY				IAML		14 56 27.9	
	comp=N,719nm,0.3s						
DHY	**Denali Highway**	**1.40**	**15**	P	**Pb**	**14 56 07.8**	**-0.6**
	baz=196,SNR=105						
DHY				S	**Sg**	**14 56 26.0**	**-1.3**
	baz=196						
O22K	**Cooper Landing**	**1.47**	**212**		**Pb**	**14 56 09.5**	**+0.1**
O22K	**Cooper Landing**	**1.47**	**212**	P	**Pb**	**14 56 09.3**	**-0.1**
	baz=30,SNR=24						
O22K				S	**Sg**	**14 56 30.6**	**+1.2**
	baz=30						
HARP	**HAARP**	**1.57**	**63**		**Pb**	**14 56 11.1**	**-0.1**
HARP	**HAARP**	**1.57**	**63**	P	**Pb**	**14 56 11.2**	**0.0**
	baz=246,SNR=99						
HARP				S	**Sg**	**14 56 32.6**	**-0.2**
	baz=246						
SLKM	**Skilak Lake**	**1.58**	**220**		**Pb**	**14 56 11.3**	**-0.1**
EYAK	**Cordova Ski Ar**	**1.67**	**134**		**Pg**	**14 56 13.6**	**-0.8**
EYAK	**Cordova Ski Ar**	**1.67**	**134**	P	**Pb**	**14 56 13.4**	**+0.4**
	baz=316,SNR=34						
RND	**Reindeer**	**1.71**	**350**		**Pb**	**14 56 13.2**	**-0.4**
RND	**Reindeer**	**1.71**	**350**	IAML		14 56 39.1	
	comp=E,685nm,0.9s						
N25K	**Chitina, Valde**	**1.71**	**93**		**Pb**	**14 56 12.3**	**-1.3**
N25K	**Chitina, Valde**	**1.71**	**93**	IAML		14 56 41.7	
	comp=N,542nm,0.6s						
N25K	**Chitina, Valde**	**1.71**	**93**	P	**Pb**	**14 56 12.4**	**-1.3**
	baz=276,SNR=95						
CAPN	**Captain Cook N**	**1.74**	**237**		**Pg**	**14 56 15.0**	**-0.6**
CAPN	**Captain Cook N**	**1.74**	**237**	P	**Pg**	**14 56 15.3**	**-0.3**
	baz=55						
SEW	**Seward**	**1.75**	**201**		**Pg**	**14 56 14.9**	**-0.9**
SEW	**Seward**	**1.75**	**201**	P	**Pb**	**14 56 14.8**	**+0.5**
	baz=20,SNR=12						
STLK	**Strandline Lak**	**1.77**	**264**		**Pb**	**14 56 14.2**	**-0.3**
PAX	**Paxson**	**1.77**	**44**		**Pb**	**14 56 13.7**	**-0.9**
PAX	**Paxson**	**1.77**	**44**	P	**Pb**	**14 56 13.7**	**-0.9**
	baz=227,SNR=57						
BMRM	**Bremner River**	**1.88**	**113**		**Pb**	**14 56 15.5**	**-1.1**
BMRM	**Bremner River**	**1.88**	**113**	IAML		14 56 46.3	
	comp=E,657nm,0.4s						
BMRM	**Bremner River**	**1.88**	**113**	P	**Pb**	**14 56 15.5**	**-1.1**
	baz=296,SNR=74						
SPCG	**Spurr Capps Gl**	**1.90**	**258**		**Pb**	**14 56 16.7**	**-0.2**
TRF	**Thorofare Moun**	**1.98**	**331**		**Pb**	**14 56 17.5**	**-0.8**
TRF	**Thorofare Moun**	**1.98**	**331**	IAML		14 56 46.3	
	comp=E,514nm,0.5s						
TRF				IAML		14 56 46.5	
	comp=N,600nm,0.4s						
TRF	**Thorofare Moun**	**1.98**	**331**	P	**Pb**	**14 56 17.5**	**-0.8**
	baz=150,SNR=87						
CKN	**Chakachatna No**	**1.99**	**257**		**Pb**	**14 56 18.4**	**0.0**
SPCR	**Spurr Chakacha**	**2.01**	**256**		**Pb**	**14 56 18.7**	**0.0**
SPCR	**Spurr Chakacha**	**2.01**	**256**	P	**Pb**	**14 56 18.2**	**-0.5**
	baz=73,SNR=15						
PS10	**TAPS Pump St10**	**2.03**	**32**		**Pb**	**14 56 18.7**	**-0.4**
MCK	**McKinley**	**2.04**	**350**		**Pb**	**14 56 18.5**	**-0.7**
MCK	**McKinley**	**2.04**	**350**	IAML		14 56 48.3	
	comp=E,430nm,0.4s						
MCK				IAML		14 56 49.1	
	comp=N,416nm,0.6s						
MCK	**McKinley**	**2.04**	**350**	P	**Pb**	**14 56 18.6**	**-0.6**
	baz=170,SNR=89						
SPBG	**Spurr Blockage**	**2.07**	**259**		**Pb**	**14 56 20.0**	**+0.3**
GLB	**Gilahina Butte**	**2.11**	**96**		**Pb**	**14 56 18.5**	**-1.9**
GLB	**Gilahina Butte**	**2.11**	**96**	IAML		14 56 51.5	
	comp=E,366nm,0.9s						
RAGM	**Ragged Mountai**	**2.17**	**127**		**Pb**	**14 56 21.6**	**+0.1**
PPLA	**Purkeypile**	**2.21**	**304**		**Pb**	**14 56 21.6**	**-0.6**
PPLA	**Purkeypile**	**2.21**	**304**	P	**Pb**	**14 56 21.2**	**-1.0**
	baz=120,SNR=51						
KTH	**Kantishna Hill**	**2.22**	**326**		**Pb**	**14 56 21.0**	**-1.4**
KTH	**Kantishna Hill**	**2.22**	**326**	IAML		14 56 55.5	
	comp=E,281nm,0.6s						
KTH				IAML		14 57 04.0	
	comp=N,262nm,0.7s						
VRDI	**Verde Repeater**	**2.32**	**101**		**Pn**	**14 56 21.8**	**+1.4**
VRDI	**Verde Repeater**	**2.32**	**101**	IAML		14 56 58.0	
	comp=N,392nm,0.7s						
VRDI				IAML		14 56 58.7	
	comp=E,241nm,0.8s						
BRSE	**Bradley Lake S**	**2.36**	**213**		**Pb**	**14 56 23.8**	**-0.9**
BRSE	**Bradley Lake S**	**2.36**	**213**	P	**Pb**	**14 56 23.5**	**-1.2**
	baz=31,SNR=24						
HMT	**Hamilton**	**2.36**	**125**		**Pb**	**14 56 23.8**	**-1.0**
BRLK	**Bradley Lake**	**2.38**	**215**		**Pb**	**14 56 24.5**	**-0.6**
BRLK	**Bradley Lake**	**2.38**	**215**	IAML		14 56 59.9	
	comp=E,371nm,0.5s						
BRLK				IAML		14 57 02.3	
	comp=N,299nm,0.6s						
CAST	**Castle Rocks**	**2.48**	**315**	Pn	**Pb**	**14 56 24.4**	**-2.3**
CAST				IAML		14 57 01.9	
	comp=E,282nm,0.5s						
CAST	**Castle Rocks**	**2.48**	**315**	P	**Pb**	**14 56 24.3**	**-2.3**
	baz=131,SNR=62						
MCARA	**McCarthy VSAT**	**2.49**	**96**		**Pb**	**14 56 25.1**	**-1.7**
MCARA	**McCarthy VSAT**	**2.49**	**96**	P	**Pb**	**14 56 24.6**	**-2.3**
	baz=280,SNR=69						
BWN	**Browne**	**2.52**	**347**		**Pb**	**14 56 24.9**	**-2.4**
BWN				IAML		14 57 08.4	
	comp=E,465nm,1.0s						
RDJH	**Redoubt Jeurge**	**2.52**	**245**		**Pb**	**14 56 26.5**	**-1.0**
M26K	**Nabesna, AK**	**2.53**	**72**		**Pb**	**14 56 26.4**	**-1.1**
M26K	**Nabesna, AK**	**2.53**	**72**	IAML		14 57 00.8	
	comp=N,413nm,0.5s						
M26K				IAML		14 57 01.0	
	comp=E,273nm,0.5s						
M26K	**Nabesna, AK**	**2.53**	**72**	P	**Pb**	**14 56 26.4**	**-1.1**
	baz=257,SNR=44						
RIDG	**Independent Ri**	**2.53**	**36**		**Pb**	**14 56 27.1**	**-0.5**
RIDG	**Independent Ri**	**2.53**	**36**	IAML		14 57 06.7	
	comp=E,297nm,0.9s						
RIDG	**Independent Ri**	**2.53**	**36**	P	**Pb**	**14 56 27.1**	**-0.5**
	baz=219,SNR=66						
NICHA	**Nichawak Mount**	**2.54**	**124**		**Pb**	**14 56 26.5**	**-1.3**
BERG	**Berg Lake**	**2.56**	**120**		**Pb**	**14 56 25.9**	**-2.1**
RSO	**Redoubt South**	**2.56**	**242**		**Pb**	**14 56 26.5**	**-1.8**
KAIM	**Kayak Island**	**2.58**	**133**	P	**Pb**	**14 56 26.2**	**-2.3**
	baz=316						
RDWB	**Redoubt West**	**2.59**	**243**		**Pb**	**14 56 27.4**	**-1.2**
L26K	**Log Cabin Wild**	**2.59**	**58**	P	**Pb**	**14 56 27.9**	**-0.8**
	baz=242,SNR=87						
RED	**Redoubt Volcan**	**2.59**	**241**		**Pb**	**14 56 27.7**	**-1.1**
CNPM	**China Poot**	**2.68**	**216**		**Pb**	**14 56 28.5**	**-1.6**
CNPM	**China Poot**	**2.68**	**216**	IAML		14 57 11.3	
	comp=N,231nm,0.7s						
CNPM				IAML		14 57 15.0	
	comp=E,324nm,0.7s						
HOM	**Homer**	**2.69**	**221**	P	**Pb**	**14 56 28.6**	**-1.7**
	baz=38						
DOT	**Dot Lake**	**2.70**	**43**		**Pb**	**14 56 29.7**	**-0.8**
BPAW	**Bear Paw Mtn.**	**2.70**	**333**		**Pn**	**14 56 27.1**	**+1.6**
BPAW	**Bear Paw Mtn.**	**2.70**	**333**	P	**Pn**	**14 56 27.1**	**+1.6**
	baz=150,SNR=40						
KHIT	**Khitrov Hills**	**2.72**	**116**		**Pb**	**14 56 29.1**	**-1.7**
O20K	**Slope Mountain**	**2.73**	**235**		**Pb**	**14 56 30.8**	**-0.3**
O20K	**Slope Mountain**	**2.73**	**235**	P	**Pb**	**14 56 30.2**	**-0.8**
	baz=51						
TGL	**Tana Glacier**	**2.76**	**108**		**Pb**	**14 56 29.5**	**-2.1**
GRIN	**Grindle Hills**	**2.78**	**120**		**Pb**	**14 56 29.8**	**-2.0**
L20K	**Farewell, AK**	**2.79**	**288**		**Pb**	**14 56 30.5**	**-1.5**
L20K	**Farewell, AK**	**2.79**	**288**	P	**Pb**	**14 56 30.3**	**-1.7**
	baz=103,SNR=24						
PTPK	**Patty Peak**	**2.79**	**99**		**Pb**	**14 56 29.6**	**-2.6**
CHUM	**Lake Minchumin**	**2.88**	**320**		**Pb**	**14 56 30.0**	**-3.5**
CHUM	**Lake Minchumin**	**2.88**	**320**	P	**Pb**	**14 56 30.2**	**-3.3**
	baz=137,SNR=65						
PS08	**TAPS Pump Stn8**	**2.89**	**12**		**Pb**	**14 56 30.9**	**-2.7**
WAX	**Waxell Ridge**	**2.89**	**114**		**Pb**	**14 56 31.2**	**-2.5**
BALM	**Baldy**	**2.89**	**101**		**Pn**	**14 56 30.5**	**+2.4**
NEA2	**Nenana**	**2.90**	**352**		**Pn**	**14 56 29.8**	**+1.6**
NEA2	**Nenana**	**2.90**	**352**	P	**Pn**	**14 56 29.7**	**+1.6**
	baz=172,SNR=27						
KIAG	**Kiagna River**	**2.92**	**104**		**Pn**	**14 56 30.9**	**+2.3**
CCB	**Clear Creek Bu**	**2.93**	**3**		**Pn**	**14 56 30.7**	**+2.1**
CCB	**Clear Creek Bu**	**2.93**	**3**	IAML		14 57 16.9	
	comp=E,156nm,0.8s						
SCRK	**Sand Creek**	**2.96**	**39**		**Pb**	**14 56 32.4**	**-2.5**
SCRK	**Sand Creek**	**2.96**	**39**	IAML		14 57 17.4	
	comp=N,160nm,0.8s						
SCRK				IAML		14 57 18.2	
	comp=E,191nm,0.6s						
SCRK	**Sand Creek**	**2.96**	**39**	P	**Pb**	**14 56 32.2**	**-2.7**
	baz=222,SNR=65						
M27K	**Edge Creek, AK**	**3.03**	**75**		**Pb**	**14 56 34.2**	**-2.0**
M27K	**Edge Creek, AK**	**3.03**	**75**	P	**Pb**	**14 56 34.1**	**-2.1**
	baz=261,SNR=21						
ISLE	**Juniper Island**	**3.05**	**109**		**Pb**	**14 56 33.3**	**-3.2**
ISLE	**Juniper Island**	**3.05**	**109**	IAML		14 57 21.3	
	comp=E,197nm,0.5s						
ISLE				IAML		14 57 26.0	
	comp=N,284nm,0.9s						
IL31		**3.10**	**10**		**Pb**	**14 56 33.5**	**-3.8**
ILAR	**Eielson Array**	**3.10**	**10**	Pn	**Pb**	**14 56 33.5**	**-3.9**
	comp=N,6.1nm,0.3s,baz=194,slow=13,SNR=206						
ILAR				Sn	**Sb**	**14 57 13.0**	**-2.1**
	comp=N,19nm,0.3s,baz=195,slow=17,SNR=3.6						
K20K	**Telida**	**3.18**	**303**		**Pb**	**14 56 35.8**	**-2.8**
K20K	**Telida**	**3.18**	**303**	IAML		14 57 23.3	
	comp=E,175nm,0.6s						
K20K				IAML		14 57 24.0	
	comp=N,139nm,0.4s						
K20K	**Telida**	**3.18**	**303**	P	**Pb**	**14 56 35.7**	**-3.0**
	baz=118,SNR=53						
N19K	**Bonanza Creek**	**3.18**	**256**	P	**Pb**	**14 56 35.3**	**-3.5**
	baz=70	

	baz=152,SNR=23							
N18K	**Kilae Creek**	**3.88**	**258**			**Pn**	**14 56 45.2**	**+3.5**
N18K	**Kilae Creek**	**3.88**	**258**	P		**Pn**	**14 56 44.7**	**+3.1**
	baz=71,SNR=8.6							
H24K	**Noodor Dome**	**4.12**	**2**			**Pn**	**14 56 47.9**	**+2.9**
H24K	**Noodor Dome**	**4.12**	**2**	IAML			14 57 56.5	
	comp=E,88nm,1.1s							
H24K	**Noodor Dome**	**4.12**	**2**	P		**Pn**	**14 56 47.6**	**+2.6**
	baz=182,SNR=12							
H23K	**Yukon River**	**4.15**	**352**			**Pn**	**14 56 47.7**	**+2.3**
H23K	**Yukon River**	**4.15**	**352**	P		**Pn**	**14 56 47.7**	**+2.3**
	baz=171,SNR=15							
EGAK	**Eagle**	**4.40**	**43**	P		**Pn**	**14 56 52.0**	**+3.3**
	baz=229,SNR=6.6							
H21K	**Melozitna Rive**	**4.45**	**334**			**Pn**	**14 56 51.5**	**+2.1**
H21K	**Melozitna Rive**	**4.45**	**334**	P		**Pn**	**14 56 51.6**	**+2.2**
	baz=150,SNR=26							
KDAK	**Kodiak Island**	**4.55**	**211**	P		**Pn**	**14 56 53.2**	**+2.5**
	baz=27							
DAWY	**Dawson**	**4.65**	**56**	P		**Pn**	**14 56 55.9**	**+3.7**
	baz=244,SNR=32							
PNL	**Peninsula**	**4.78**	**112**	P		Pn	14 56 58.5	+4.5
	baz=300							
GCSA	**Galena City Sc**	**4.96**	**311**	P		**Pn**	**14 56 59.6**	**+3.1**
	baz=124,SNR=11							
M30M	**Minto, Yukon**	**5.40**	**76**	P		**Pn**	**14 57 05.9**	**+3.4**
	baz=266							
COLD	**Coldfoot**	**5.59**	**352**	Pn		**Pn**	**14 57 07.2**	**+2.1**
COLD	**Coldfoot**	**5.59**	**352**	P		**Pn**	**14 57 07.6**	**+2.6**
	baz=170,SNR=38							
EPYK	**Eagle Plains**	**6.84**	**42**			**Pn**	**14 57 24.9**	**+2.7**
EPYK	**Eagle Plains**	**6.84**	**42**	P		**Pn**	**14 57 25.5**	**+3.2**
	baz=232							
TOLK	**Toolik Lake Re**	**6.96**	**356**	P		**Pn**	**14 57 27.6**	**+3.6**
	baz=174							
FARO	**Faro, Yukon**	**7.00**	**79**	P		**Pn**	**14 57 28.1**	**+3.6**
	baz=272							
INK	**Inuvik**	**9.03**	**37**	LR		LR	15 01 41.0	
	comp=E,144nm,21.6s,baz=74,slow=38							
YKA	**Yellowknife Ar**	**15.62**	**72**	Pn		**P**	**14 59 27.4**	**+1.3**
	comp=E,0.1nm,0.3s,baz=279,slow=12,SNR=7.4							
PDAR	**Pinedale Array**	**29.67**	**112**	P		P	15 01 53.7	+6.0
	comp=E,0.2nm,0.5s,baz=315,slow=10,SNR=2.3							
MKAR	**Makanchi Array**	**64.48**	**324**	P		**P**	**15 06 18.6**	**+0.4**
	comp=E,0.1nm,0.4s,baz=22,slow=8.3,SNR=2.4							

*IDC **20** 15:04:28.6±2.0, 14°.21S×165°.93E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.5/49, mbtmp3.9/6, ML4.1/2, Error ellipse: s-maj=41.6km s-min=31.7km az=99.0*

ISC 20 15:04:33.7±1.5, 14°.3S±0°.1×165°.9E±0°.2, h35km, n6, σ1♀04/7, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.61**	**309**	Pn	**Pn**	**15 06 21.9**	**-0.2**
	12nm,0.3s,baz=234,slow=16,SNR=3.0						
DZM	**Mont Dzumac**	**7.72**	**176**	Pn	**Pn**	**15 06 24.8**	**+1.0**
	0.5nm,0.3s,baz=103,slow=3.7,SNR=17						
DZM				Sn	**Sn**	**15 07 48.5**	**-1.6**
	baz=349,slow=8.7,SNR=1.9						
STKA	**Stephens Creek**	**28.29**	**228**	P	**P**	**15 10 24.7**	**+0.7**
	1.7nm,0.6s,baz=61,slow=7.1,SNR=4.4						
WRA	**Warramunga Arr**	**30.67**	**255**	P	**P**	**15 10 44.8**	**-0.5**
	0.3nm,0.8s,baz=85,slow=9.1,SNR=2.5						
ASAR	**Alice Springs**	**31.61**	**248**	P	**P**	**15 10 53.6**	**0.0**
	0.5nm,0.9s,baz=74,slow=9.8,SNR=5.7						
ILAR	**Eielson Array**	**86.55**	**18**	P	**P**	**15 17 12.5**	**-0.3**
	0.4nm,0.7s,baz=236,slow=5.1,SNR=2.4						

*IDC **20** 15:05:01.9±1.9, 14°.23S×166°.18E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/48, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=49.5km s-min=31.6km az=116.0*
*NEIC **20** 15:05:04.8±1.4, 14°.2S±0°.1×166°.22E±0°.09, h18km±7km, mb4.2/7, Error ellipse: s-maj=19.8km s-min=6.2km az=217.0*

ISC 20 15:05:06.9±0.9, 14°.26S±0°.09×166°.2E±0°.1, h35km, n18, σ1♀04/18, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.55**	**140**	Pn	**Pn**	**15 05 31.5**	**-0.4**
KOUNC	**Koumac, New Ca**	**6.50**	**196**	Pn	**Pn**	**15 06 40.4**	**+0.3**
HNR	**Honiara**	**7.75**	**308**	Pn	Pn	15 06 51.7	-5.6
	14nm,0.3s,baz=165,slow=2.7,SNR=2.7						
HNR	**Honiara**	**7.75**	**308**	Pn	**Pn**	**15 06 55.7**	**-1.6**
DZM	**Mont Dzumac**	**7.77**	**178**	Pn	**Pn**	**15 06 57.4**	**-0.2**
	0.4nm,0.3s,baz=96,slow=21,SNR=2.1						
DZM				Sn	**Sn**	**15 08 23.8**	**-0.6**
	baz=59,slow=15,SNR=1.5						
RABL	**Rabaul**	**17.05**	**305**	P	**P**	**15 09 04.5**	**+0.2**
RABL				IAmb	IAmb	15 09 07.6	
	comp=Z,20nm,0.5s						
BKZ	**Black Stump Fm**	**26.42**	**162**	P	**P**	**15 10 40.3**	**-0.1**
BKZ				IAmb	IAmb	15 10 48.7	
	comp=Z,13nm,1.3s						
STKA	**Stephens Creek**	**28.49**	**228**	P	**P**	**15 10 58.6**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=48,slow=10,SNR=4.0						
STKA	**Stephens Creek**	**28.49**	**228**	P	**P**	**15 10 59.6**	**+0.6**
STKA				IAmb	IAmb	15 11 17.0	
	comp=Z,1.2nm,1.2s						
WR0	**Warramunga Arr**	**30.72**	**255**	P	**P**	**15 11 21.0**	**+2.1**
WR0				IAmb	IAmb	15 11 35.5	
	comp=Z,6.5nm,1.4s						
WB0	**Warramunga Arr**	**30.84**	**255**	P	**P**	**15 11 17.9**	**-2.0**
WB0				IAmb	IAmb	15 11 41.9	
	comp=Z,4.1nm,1.3s						
WRA	**Warramunga Arr**	**30.91**	**255**	P	**P**	**15 11 21.9**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=87,slow=9.4,SNR=2.5						
AS31	**Alice Springs**	**31.84**	**248**	P	**P**	**15 11 29.2**	**+0.4**
ASAR	**Alice Springs**	**31.84**	**248**	P	**P**	**15 11 28.9**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=75,slow=9.9,SNR=2.7						
BBOO	**Buckleboo**	**33.03**	**231**	P	**P**	**15 11 39.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**73.78**	**294**	P	**P**	**15 16 38.5**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=124,slow=4.3,SNR=5.0						
ILAR	**Eielson Array**	**86.42**	**18**	P	**P**	**15 17 45.8**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=227,slow=6.7,SNR=4.0						
ILAR	**Eielson Array**	**86.42**	**18**	P	**P**	**15 17 46.5**	**+1.1**

*IDC **20** 15:09:17.8±0.9, 6°.01S×130°.48E, h0km, mb3.8/7, mb1 4.2/13, mb1mx3.9/41, mbtmp4.0/13, ML4.3/6, MS3.6/17, Ms1 3.6/17, ms1mx3.3/71, Error ellipse: s-maj=28.5km s-min=17.6km az=85.0*
*DJA **20** 15:09:22.9±0.2, 6°.3S×13°.0E±°, h77km±11km, M4.4/12, mB4.9/8, mb4.5/12, MLv4.5/11, Mw(mB)4.2/8*
*NEIC **20** 15:09:24.2±1.9, 6°.07S±0°.07×130°.40E±0°.08, h27km±3km, mb4.4/10, Error ellipse: s-maj=12.4km s-min=8.9km az=53.0*

ISC 20 15:09:23.5±0.6, 6°.05S±0°.05×130°.49E±0°.07, h50km, n66, σ2♀60/55, mb3.9/11, MS3.6/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.08**	**157**		**Pn**	**15 09 59.9**	**+4.0**
SAUI	**Saumlaki**	**2.08**	**157**	P	**Pn**	**15 10 00.6**	**+4.7**
MSAI	**Masohi**	**3.11**	**330**	P	**Pn**	**15 10 06.1**	**-4.0**
AAI	**Ambon**	**3.28**	**316**	P	**Pn**	**15 10 08.0**	**-4.4**
SIJI	**Sorong**	**5.21**	**9**	Pn	**Pn**	**15 10 36.0**	**-2.9**
	18nm,0.3s,baz=306,slow=23,SNR=74						
SIJI				Sn	**Sn**	**15 11 30.2**	**-7.4**
	33nm,0.3s,baz=174,slow=22,SNR=13						
SWI	**Sorong**	**5.21**	**8**	P	**Pn**	**15 10 35.6**	**-3.3**
	0.9nm3µm84nm,0.7s						
SANI	**Sanana**	**6.00**	**311**	P	**Pn**	**15 10 47.3**	**-2.5**
	0.3nm807nm79nm,0.9s						
LBMI	**Labuha**	**6.15**	**331**	P	**Pn**	**15 10 50.0**	**-1.8**
	0.2nm585nm26nm,1.0s						
MTN	**Manton Dam**	**6.78**	**175**	Pn	**Pn**	**15 11 01.7**	**+1.2**
BAKI	**Biak**	**7.39**	**49**	P	**Pn**	**15 11 08.8**	**-0.1**
TNTI	**Ternate**	**7.46**	**335**	Pn	**Pn**	**15 11 10.2**	**+0.4**
BBSI	**Bau Bau**	**7.90**	**274**	P	**Pn**	**15 11 14.2**	**-1.7**
	0.0nm99nm9.8nm,1.0s						
BATI	**Baumata**	**7.92**	**238**	Pn	**Pn**	**15 11 16.5**	**+0.4**
	7.8nm,0.3s,baz=82,slow=4.5,SNR=9.4						
BATI				Sn	**Sn**	**15 12 43.3**	**-1.2**
	baz=288,slow=22,SNR=1.2						
BATI				LR	LR	15 14 44.3	
	comp=Z,853nm,19.1s,baz=79,slow=41						
BATI	**Baumata**	**7.92**	**238**	P	**Pn**	**15 11 16.0**	**-0.2**
	0.1nm23nm,1.2s						
MMRI	**Maumere**	**8.58**	**252**		**Pn**	**15 11 25.5**	**+0.3**
LUWI	**Luwuk**	**9.17**	**303**	Pn	**Pn**	**15 11 33.0**	**-0.2**
LUWI	**Luwuk**	**9.17**	**303**	P	**Pn**	**15 11 31.6**	**-1.7**
KNRA	**Kununurra**	**9.72**	**190**	Pn	**Pn**	**15 11 39.7**	**-1.0**
GTOI	**Gorontalo**	**10.00**	**311**	P	**Pn**	**15 11 46.3**	**+1.7**
	144nm14nm,0.8s						
APSI	**Ampana**	**10.20**	**300**	P	**Pn**	**15 11 46.4**	**-0.9**
	873nm56nm,1.0s						
BKSI	**Bulukumba**	**10.35**	**273**	P	**Pn**	**15 11 47.3**	**-2.0**
	48nm,1.1s						
KAPI	**Kappang**	**10.74**	**275**	Pn	**Pn**	**15 11 54.1**	**-0.7**
	2.5nm,0.3s,baz=121,slow=7.5,SNR=11						
KAPI				LR	LR	15 15 39.5	
	comp=Z,548nm,21.1s,baz=74,slow=36						
KAPI	**Kappang**	**10.74**	**275**	Pn	**Pn**	**15 11 55.3**	**+0.5**
TOLI2	**Tolitoli**	**12.03**	**306**	Pn	**Pn**	**15 12 13.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**12.88**	**201**	Pn	**Pn**	**15 12 21.9**	**-2.0**
	0.6nm,0.3s,baz=11,slow=7.9,SNR=21						
FITZ				Sn	**Sn**	**15 14 40.4**	**-5.4**
	0.9nm,0.3s,baz=106,slow=11,SNR=4.2						
FITZ				LR	LR	15 17 49.2	
	comp=Z,244nm,20.2s,baz=21,slow=40						
FITZ	**Fitzroy Crossi**	**12.88**	**201**		**Pn**	**15 12 21.3**	**-2.6**
DAV	**Davao City (W)**	**13.93**	**339**	LR	LR	15 19 14.1	
	comp=Z,143nm,18.6s,baz=122,slow=43						
WB0	**Warramunga Arr**	**14.15**	**165**	Pn	**Pn**	**15 12 38.3**	**-3.0**
WRAB	**Tennant Creek**	**14.30**	**165**	Pn	**Pn**	**15 12 40.7**	**-2.5**
WRA	**Warramunga Arr**	**14.30**	**165**	Pn	**Pn**	**15 12 40.7**	**-2.7**
	1.0nm,0.3s,baz=347,slow=13,SNR=49						
WRA				Sn	Sn	15 15 14.8	-5.9
	1.3nm,0.3s,baz=334,slow=24,SNR=9.7						
WRA	**Warramunga Arr**	**14.30**	**165**	Pn	**Pn**	**15 12 40.8**	**-2.5**
WB2	**Warramunga Arr**	**14.31**	**165**	Pn	**Pn**	**15 12 40.6**	**-2.7**
WR0	**Warramunga Arr**	**14.37**	**164**	Pn	**Pn**	**15 12 42.5**	**-1.7**
COEN	**Coen**	**14.75**	**123**	Pn	**Pn**	**15 12 48.2**	**-1.0**
PMG	**Port Moresby**	**16.84**	**102**	Pn	**P**	**15 13 18.4**	**+0.9**
PMG				IAmb	IAmb	15 13 33.5	
	comp=Z,48nm,1.3s						
AS31	**Alice Springs**	**17.82**	**170**	Pn	**Pn**	**15 13 28.0**	**0.0**
ASAR	**Alice Springs**	**17.82**	**170**	P	**Pn**	**15 13 26.9**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=21,slow=13,SNR=67						
ASAR				S	**Sn**		**-6.7**
	comp=Z,0.3nm,0.3s,baz=355,slow=27,SNR=7.1					**15 16 39.2**	
ASAR				LR	LR	15 21 04.3	
	comp=Z,93nm,20.3s,baz=7.0,slow=40						
ASAR	**Alice Springs**	**17.82**	**170**	Pn	**Pn**	**15 13 27.7**	**-0.3**
PSA00	**Pilbara Seismi**	**18.56**	**213**		**P**	**15 13 36.4**	**+0.1**
PSA00				IAmb	IAmb	15 13 40.8	
	comp=Z,32nm,1.3s						
CTA	**Charters Tower**	**20.71**	**134**	LR	LR	15 22 35.1	
	comp=Z,106nm,21.1s,baz=312,slow=38						
BBOO	**Buckleboo**	**27.12**	**170**		**P**	**15 15 03.1**	**+1.2**
BBOO				IAmb	IAmb	15 15 25.7	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**27.71**	**159**	P	**P**	**15 15 09.1**	**+1.9**
	comp=Z,1.4nm,1.0s,baz=327,slow=11,SNR=5.0						
STKA				LR	LR	15 26 54.2	
	comp=Z,157nm,18.1s,baz=340,slow=38						
STKA	**Stephens Creek**	**27.71**	**159**	P	**P**	**15 15 09.3**	**+2.1**
PSI	**Prapat**	**32.73**	**285**	LR	LR	15 30 32.0	
	comp=Z,128nm,18.2s,baz=129,slow=39						
JOW	**Kunigami**	**32.76**	**356**	LR	LR	15 28 41.8	
	comp=Z,157nm,19.9s,baz=222,slow=36						
JCJ	**Chichijima**	**34.84**	**18**	LR	LR	15 30 47.9	
	comp=Z,85nm,19.1s,baz=105,slow=37						
CMAR	**Chiang Mai Arr**	**39.51**	**309**	P	**P**	**15 16 49.5**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=125,slow=6.9,SNR=6.0						
CMAR				LR	LR	15 33 32.9	
	comp=Z,28nm,20.8s,baz=215,slow=37						
CHTO	**Chiang Mai**	**39.72**	**309**	P	P	15 16 54.7	+3.3
CHTO				IAmb	IAmb	15 17 02.6	
	comp=Z,9.9nm,1.2s						
KSRS	**Korea Array**	**43.35**	**357**	P	**P**	**15 17 22.5**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=180,slow=9.4,SNR=2.1						
KSRS				LR	LR	15 34 18.3	
	comp=Z,47nm,21.2s,baz=190,slow=35						
PALK	**Pallekele**	**51.41**	**284**	LR	LR	15 39 23.4	
	comp=Z,59nm,21.4s,baz=194,slow=35						
MKAR	**Makanchi Array**	**67.71**	**326**	P	**P**	**15 20 15.5**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=118,slow=6.9,SNR=7.9						
MKAR	**Makanchi Array**	**67.71**	**326**	P	**P**	**15 20 16.4**	**+0.6**
MAKZ	**Makanchi**	**67.89**	**326**	P	**P**	**15 20 19.5**	**+2.7**
SEY	**Seymchan**	**70.79**	**10**	P	**P**	**15 20 36.1**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=252,slow=20,SNR=7.2						
ZAA0	**Zalesovo Array**	**70.96**	**333**	P	P	15 20 39.7	+4.1
ZAA0				IAmb	IAmb	15 20 45.0	
	comp=Z,3.5nm,1.1s						
ZALV	**Zalesovo Beam**	**70.96**	**333**	P	**P**	**15 20 37.1**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=139,slow=5.3,SNR=1.7						
ZALV	**Zalesovo Beam**	**70.96**	**333**	P	**P**	**15 20 38.7**	**+3.2**
GAR	**Garm**	**71.35**	**314**	P	**P**	**15 20 41.6**	**+3.1**
KURK	**Kurchatov**	**71.97**	**328**	P	P	15 20 45.3	+3.6
KURK				IAmb	IAmb	15 20 53.4	
	comp=Z,4.6nm,0.9s						
KKAR	**Karatay Array**	**72.96**	**318**	P	P	15 20 52.9	+5.0
VNDA	**Vanda**	**73.33**	**173**	LR	LR	15 51 16.0	
	comp=Z,66nm,20.8s,baz=321,slow=34						
WSAR	**Wadi Sarin**	**75.90**	**296**	LR	LR	15 56 35.6	
	comp=Z,26nm,20.3s,baz=138,slow=37						
ABKAR	**Akbulak array**	**82.08**	**321**	P	P	15 21 43.9	+5.3
ILAR	**Eielson Array**	**92.28**	**25**	P	**P**	**15 22 29.5**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=282,slow=4.5,SNR=1.9						
KBZ	**Khabaz**	**92.40**	**314**	LR	LR	16 09 36.9	
	comp=Z,32nm,19.8s,baz=59,slow=39						
BRTR	**Keskin Array B**	**99.10**	**309**	LR	LR	16 15 34.0	
	comp=Z,24nm,20.0s,baz=46,slow=40						

*IDC **20** 15:09:59.0±1.1, 55°.52S×26°.03W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/25, mbtmp4.0/3, Error ellipse: s-maj=49.6km s-min=30.6km az=94.0*
*NEIC **20** 15:10:00.3±2.1, 55°.6S±0°.1×26°.9W±0°.2, h10km±1km, mb4.4/11, Error ellipse: s-maj=26.6km s-min=20.0km az=41.0*

ISC 20 15:10:00.3±0.8, 55°.6S±0°.1×26°.9W±0°.1, h10km, n18, σ1♀33/18, mb4.3/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.69**	**279**		**Pn**	**15 11 23.8**	**-1.0**
SNAA	**Sanae**	**19.13**	**157**	P	**P**	**15 14 23.3**	**+0.1**
BELA	**Belgrano 2**	**22.59**	**184**	P	**P**	**15 14 59.0**	**-1.5**
QSPA	**South Pole Qui**	**34.70**	**180**	P	**P**	**15 16 50.5**	**+0.5**
QSPA				IAmb	IAmb	15 16 56.5	
	comp=Z,2.9nm,0.8s						
CPUP	**Villa Florida**	**36.62**	**310**	P	**P**	**15 17 07.0**	**+0.4**
CPUP				IAmb	IAmb	15 17 23.7	
	comp=Z,10nm,1.5s						
MT02	**Curacav**	**37.80**	**287**	P	**P**	**15 17 15.7**	**-0.9**
CO01	**Juntas del Tor**	**39.79**	**292**	P	**P**	**15 17 35.3**	**+1.7**
CO01				IAmb	IAmb	15 17 59.7	
	comp=Z,7.4nm,1.2s						
LVC	**Limon Verde**	**45.21**	**299**	P	**P**	**15 18 17.3**	**-0.5**
VNDA	**Vanda**	**47.08**	**183**	P	**P**	**15 18 32.1**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=190,slow=5.2,SNR=10						
VNDA	**Vanda**	**47.08**	**183**	P	**P**	**15 18 32.1**	**+0.6**
VNDA				IAmb	IAmb	15 18 54.6	
	comp=Z,6.6nm,1.4s						
PB16	**IPOC Station P**	**49.12**	**302**	P	**P**	**15 18 48.0**	**-0.7**
PB16				IAmb	IAmb	15 18 51.5	
	comp=Z,8.0nm,1.3s						
LPAZ	**La Paz**	**50.23**	**305**	P	**P**	**15 19 00.4**	**+3.2**
	comp=Z,1.3nm,0.5s,baz=154,slow=2.0,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**72.53**	**29**	P	**P**	**15 21 26.1**	**-1.1**
TOA0				IAmb	IAmb	15 21 36.4	
	comp=Z,6.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**72.53**	**29**	P	**P**	**15 21 26.1**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=199,slow=6.5,SNR=15						
TORD	**Torodi Ar. Bea**	**72.53**	**29**	P	**P**	**15 21 26.2**	**-1.0**
TORD				IAmb	IAmb	15 21 40.2	
	comp=Z,2.3nm,1.4s						
YKA	**Yellowknife Ar**	**135.92**	**318**	PKP	**PKPdf**	**15 29 18.9**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=119,slow=2.4,SNR=2.0						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKiKP**	**15 29 50.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=126,slow=1.5,SNR=10						
ILAR	**Eielson Array**	**149.91**	**312**		**PKPdf**	**15 29 46.2**	**+1.8**

IDC 20 15:12:45.2±1.9, 6°.00S×130°.41E, h0km, mb3.5/1, mb1 4.1/4, mb1mx3.5/33, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=92.8km s-min=28.8km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.17**	**10**	Pn	Pn	15 14 04.3	+0.4
	4.7nm,0.3s,baz=194,slow=18,SNR=8.7						
SIJI				Sn	Sn	15 14 58.7	-5.6
	13nm,0.3s,baz=286,slow=24,SNR=9.0						
WRA	**Warramunga Arr**	**14.38**	**165**	Pn	Pn	15 16 09.7	-0.5
	baz=349,slow=15,SNR=1.8						
WRA				Sn	Sn	15 18 46.9	-3.7
	0.7nm,0.3s,baz=336,slow=25,SNR=6.1						
ASAR	**Alice Springs**	**17.89**	**170**	P	P	15 16 56.1	-0.3
	0.7nm,0.3s,baz=346,slow=9.0,SNR=5.0						
MKAR	**Makanchi Array**	**67.62**	**326**	P	P	15 23 43.8	-0.2
	0.2nm,0.4s,baz=123,slow=5.6,SNR=2.4						

IDC 20 15:23:58.2±394.0, 54°.74N×0°.76E, h0km, Error ellipse: s-maj=166.0km s-min=51.2km az=23.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**9.95**	**121**	*i*		16 22 20.0	
	baz=310,slow=327,SNR=2.2						
I37NO	**I37NO**	**16.54**	**23**	*i*		17 08 50.0	
	baz=219,slow=330,SNR=1.2						
I48TN	**KESRA INFRASON**	**19.84**	**159**	*i*		17 30 00.0	
	baz=346,slow=324,SNR=0.9						

*IDC **20** 15:24:45.5±4.7, 9°.21N×126°.56E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/38, mbtmp3.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/36, Error ellipse: s-maj=395.4km s-min=25.7km az=66.0*
*MAN **20** 15:24:53.0, 9°.12N×126°.37E, h23km, mb4.5, ML3.4, MS3.2, Hypocentre not reviewed by the ISC*

ISC 20 15:24:52.0±1.3, 9°.14N±0°.06×126°.6E±0°.1, h54km, n12, σ2♀07/15, mb3.0/3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.82**	**322**	*eP*	**Pn**	**15 25 06.3**	**-1.2**
BIPH	**Bislig**	**0.99**	**196**	*iP*	**Pn**	**15 25 08.3**	**-1.4**
BIPH				*i* S	**Sn**	**15 25 19.4**	**-3.3**
BUTP	**Butuan**	**1.02**	**261**	*eP*	**Pn**	**15 25 07.5**	**-2.7**
SCPH	**Surigao**	**1.31**	**299**	*eP*	**Pn**	**15 25 12.5**	**-1.5**
SCPH				*i* S	**Sn**	**15 25 27.9**	**-2.5**
MSLP	**Maasin**	**2.02**	**299**	*eP*	**Pn**	**15 25 22.9**	**-0.8**
MSLP				*i* S	**Sn**	**15 25 51.7**	**+3.9**
KCP	**Kidapawan**	**2.62**	**216**	*eP*	**Pn**	**15 25 32.9**	**+1.0**
KCP				*i* S	**Sn**	**15 26 03.8**	**+1.3**
CTBH	**Cotabato--PC H**	**3.04**	**231**	*iP*	**Pn**	**15 25 37.7**	**0.0**
CNOP	**Candoni, Negro**	**4.01**	**280**	*eP*	**Pn**	**15 25 50.8**	**-0.1**
LEM	**Lembang**	**24.72**	**231**	LR	LR	15 41 48.4	
	comp=Z,41nm,19.3s,baz=178,slow=41						
WRA	**Warramunga Arr**	**29.87**	**165**	P	**P**	**15 30 56.1**	**+1.5**
	0.2nm,0.8s,baz=344,slow=8.0,SNR=4.8						
ASAR	**Alice Springs**	**33.37**	**168**	P	**P**	**15 31 26.2**	**+0.9**
	0.1nm,0.4s,baz=349,slow=7.1,SNR=7.9						
MKAR	**Makanchi Array**	**53.15**	**323**	P	**P**	**15 34 04.4**	**-0.1**
	0.6nm,0.6s,baz=126,slow=7.5,SNR=11						

*NAO **20** 15:25:38.1±1.0, 76°.11N×24°.34E, h12km±9km, ML2.8*
*BER **20** 15:25:39.6±2.2, 76°.12N×24°.77E, h21km±6km, ML2.3, MW2.8, ML2.8(NAO), Confirmed Earthquake*
*IEPN **20** 15:25:40.0, 76°.16N×24°.75E, h10km*
*KOLA **20** 15:25:43.4, 75°.84N×25°.71E, h0km, ML2.5*

ISC 20 15:25:38.0±1.2, 76°.10N±0°.03×25°.04E±0°.04, h34km±3km, n31, σ1♀99/62, 3C, Barents Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPEN	**Hopen**	**0.42**	**359**	Pg	**Pb**	**15 25 46.6**	**-0.8**
HOPEN				Lg	Lg	15 25 52.2	
HOPEN	**Hopen**	**0.42**	**359**	*iP*	**Pb**	**15 25 46.7**	**-0.8**
HOPEN				*eS*	**Sb**	**15 25 52.2**	**-1.7**
HOPEN				IAML		15 25 52.4	
	comp=Z,278nm,0.2s						
HOPEN	**Hopen**	**0.42**	**359**	*iP*	**Pb**	**15 25 46.6**	**-0.8**
HOPEN				*i* S	**Sb**	**15 25 52.1**	**-1.7**
BJO1	**Bjornoya**	**2.22**	**227**	Pn	**Pn**	**15 26 12.5**	**+0.2**
BJO1				Pg	**Pb**	**15 26 17.6**	**+0.2**
BJO1				Lg	Lg	15 26 44.7	
BJO1	**Bjornoya**	**2.22**	**227**	*eP*	**Pn**	**15 26 12.7**	**+0.4**
BJO1				*ePg*	**Pb**	**15 26 18.1**	**+0.7**
BJO1

comp=Z,1.9nm,0.7s

TERR	**Teriberka**	**7.54**	**152**	P	**Pn**	**15 27 28.4**	**+3.3**
TERR				S	**Sn**	15 28 46.8	-2.4
DAG	**Danmarks Havn**	**10.10**	**295**	*e*		15 30 14.6	

*IDC **20** 15:26:42.7±2.3,35°.81N×140°.48E, h68km±18km, mb3.0/3, mb1 3.5/6, mb1mx3.1/38, mbtmp3.7/6, Error ellipse: s-maj=28.2km s-min=9.7km az=66.0*

*JMA **20** 15:26:44.2±0.1,35°.81N×140°.19E, h61km±1km, M2.8*

ISC 20 15:26:43.2±1.0,**35°.79N**±0°.06×**140°.29E**±0°.06,**h70**km±9km, **n23,**σ1**89**/23,**mb3.4**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.19**	**139**	P	**Pn**	**15 26 54.8**	**+1.0**
JIHU	**Itakohorinouch**	**0.26**	**47**	P	**Pn**	**15 26 54.9**	**+0.7**
JIHU				*e*S	**Sn**	**15 27 03.6**	**+1.4**
JYT	**Yasato**	**0.44**	**350**	P	**Pn**	**15 26 55.6**	**0.0**
JYT				S	**Sn**	**15 27 03.9**	**-0.7**
JAG	**Ashikaga**	**0.93**	**313**	P	**Pn**	**15 27 01.1**	**+0.2**
JAG				S	**Sn**	**15 27 13.4**	**-0.6**
BSO3	**Boso 3**	**1.00**	**170**	P	**Pn**	**15 27 02.2**	**+0.7**
JOD2	**Odawara 2**	**1.11**	**242**	P	**Pn**	**15 27 02.9**	**-0.3**
JOD2				S	**Sn**	**15 27 16.6**	**-1.5**
JRY	**Ryogami san**	**1.15**	**282**	P	**Pn**	**15 27 04.2**	**+0.5**
JKT	**Katashina**	**1.29**	**319**	P	**Pn**	**15 27 05.9**	**+0.4**
JFNN	**Fujinakano**	**1.44**	**246**	P	**Pn**	**15 27 07.5**	**+0.1**
JYN	**Shimob**	**1.45**	**259**	P	**Pn**	**15 27 07.8**	**+0.1**
MJAR	**Matsushiro Arr**	**1.85**	**295**	P	**Pn**	**15 27 13.3**	**+0.4**
	2.9nm,0.3s,baz=76,slow=15,SNR=74						
MJAR				S	**Sn**	**15 27 37.7**	**+2.4**
	1.8nm,0.3s,baz=49,slow=6.7,SNR=2.8						
JHJ	**Hachijo jima 2**	**2.70**	**189**	P	**Pn**	**15 27 24.7**	**+0.4**
	23nm,0.3s,baz=314,slow=22,SNR=12						
JHJ				S	**Sn**	**15 27 57.0**	**+1.2**
	22nm,0.3s,baz=51,slow=24,SNR=6.4						
ASAJ	**Asahikawa**	**8.50**	**11**	P	**Pn**	**15 28 42.7**	**-0.8**
	0.2nm,0.3s,baz=304,slow=30,SNR=1.6						
JCJ	**Chichijima**	**8.82**	**169**	P	**Pn**	**15 28 45.4**	**-2.5**
	4.7nm,0.3s,baz=289,slow=16,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	16 02 02.4	
	baz=306						
H11N1	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	16 02 06.4	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**28.35**	**117**	T	T	16 02 01.6	
	baz=306						
H11S3	**WAKE ISLAND Hy**	**28.99**	**119**	T	T	16 02 43.4	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**28.99**	**119**	T	T	16 02 43.6	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**29.01**	**119**	T	T	16 02 45.6	
	baz=312						
MKAR	**Makanchi Array**	**44.02**	**303**	P	**P**	**15 34 43.6**	**-0.2**
	0.3nm,0.7s,baz=94,slow=7.3,SNR=2.3						
WRA	**Warramunga Arr**	**55.71**	**187**	P	**P**	**15 36 12.2**	**-0.4**
	0.5nm,0.5s,baz=0.7,slow=0.7,SNR=12						
ASAR	**Alice Springs**	**59.44**	**187**	P	**P**	**15 36 39.2**	**+0.5**
	0.2nm,0.6s,baz=12,slow=9.4,SNR=7.4						

*IDC **20** 15:27:08.8±2.4,31°.28S×59°.74E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/34, mbtmp3.7/4, Error ellipse: s-maj=78.4km s-min=37.2km az=49.0*

ISC 20 15:27:12.3±2.3,**31°.2S**±0°.4×**60°.1E**±0°.5,**h10**km,**n12,** σ0**89**/6,**mb3.9**/4,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**26.07**	**29**	T	T	15 59 53.6	
	baz=204,slow=76,SNR=47						
H08S2	**Diego Garcia H**	**26.08**	**29**	T	T	15 59 54.2	
	baz=204,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**26.09**	**29**	T	T	15 59 55.1	
	baz=204,slow=76,SNR=37						
H01W2	**Cape Leeuwin H**	**44.97**	**110**	T	T	16 23 47.5	
	baz=259,slow=75,SNR=258						
H01W3	**Cape Leeuwin H**	**44.98**	**110**	T	T	16 23 47.8	
	baz=259,slow=75,SNR=233						
H01W1	**Cape Leeuwin H**	**44.99**	**110**	T	T	16 23 48.8	
	baz=259,slow=75,SNR=258						
CMAR	**Chiang Mai Arr**	**61.82**	**42**	P	**P**	**15 37 31.6**	**-0.2**
	1.1nm,0.8s,baz=232,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**64.83**	**103**	P	**P**	**15 37 51.8**	**-0.1**
	0.4nm,0.6s,baz=241,slow=5.8,SNR=14						
WRA	**Warramunga Arr**	**66.79**	**100**	P	**P**	**15 38 04.8**	**+0.3**
	0.6nm,0.5s,baz=242,slow=5.7,SNR=15						
MKAR	**Makanchi Array**	**80.12**	**15**	P	**P**	**15 39 22.5**	**+0.2**
	0.4nm,0.8s,baz=191,slow=6.6,SNR=2.1						
ILAR	**Eielson Array**	**142.41**	**19**	PKP	**PKPdf**	**15 46 43.3**	**-1.2**
	0.3nm,0.8s,baz=296,slow=4.9,SNR=2.9						
YKA	**Yellowknife Ar**	**148.46**	**355**	PKPbc	**PKPdf**	**15 46 55.8**	**+0.9**
	1.8nm,0.8s,baz=356,slow=2.5,SNR=26						

*TEH **20** 15:49:35.4,27°.18N×54°.48E, h18km, ML3.5*

*DSN **20** 15:49:38.6±1.4,26°.93N×54°.45E, h10km, ML3.2/11, Error ellipse: s-maj=13.0km s-min=8.2km az=153.0*

*OMAN **20** 15:49:39.3±0.2,26°.82N×54°.37E, h10km, mb4.5/5, ml3.2/13, Error ellipse: s-maj=5.5km s-min=2.0km az=2.0*

ISC 20 15:49:35.2±1.2,**27°.12N**±0°.04×**54°.44E**±0°.03,**h15**km±11km, **n60,**σ1**83**/75,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAR1	**LAR**	**0.56**	**354**	*e*Pg	**Pg**	**15 49 44.3**	**-1.9**
LAR1				*e*		15 49 59.1	
	comp=Z,81μm,0.4s						
LMD1	**Lamerd**	**1.16**	**281**	*e*Pg	**Pg**	**15 49 58.0**	**+0.4**
LMD1				*e*		15 49 59.4	
	comp=Z,23μm,0.2s						
LMD1				*e*Sg	**Sg**	**15 50 16.0**	**+3.2**
GENO	**Geno**	**1.56**	**79**	*e*Sg	**Sg**	**15 50 26.4**	**+0.7**
GENO				*e*Pg	**Pb**	**15 50 03.6**	**-0.3**
GENO				*e*		15 50 35.9	
	comp=Z,5μm,0.4s						
JHRM	**Jahrom**	**1.58**	**331**	*e*		15 50 32.9	
	comp=Z,27μm,0.3s						
JHRM				*e*Pg	**Pg**	**15 50 04.9**	**-0.8**
QIR1	**Qir**	**1.84**	**318**	*e*Sg	**Sg**	**15 50 33.7**	**-0.7**
QIR1				*e*Pn	**Pb**	**15 50 08.0**	**-0.6**
SHME	**Shamm**	**1.85**	**125**	*e*Pn	**Pn**	**15 50 07.5**	**+1.0**
SHME	**Shamm**	**1.85**	**125**	P	**Pn**	**15 50 07.4**	**+1.0**
	SNR=10						
SHME	**Shamm**	**1.85**	**125**	*e*P	**Pn**	**15 50 07.5**	**+1.0**
	SNR=10						
IBND	**Bandar-abas**	**1.89**	**79**	*e*		15 50 55.7	
	comp=Z,5μm,0.8s						
IBND				*e*Pn	**Pb**	**15 50 08.2**	**-1.3**
BANOM	**Banah**	**2.04**	**125**	*e*Pn	**Pn**	**15 50 10.5**	**+1.4**
BANOM	**Banah**	**2.04**	**125**	P	**Pn**	**15 50 10.4**	**+1.3**
	SNR=32						
BANOM	**Banah**	**2.04**	**125**	*e*P	**Pn**	**15 50 10.3**	**+1.3**
	SNR=32						
BANOM				S	**Sb**	**15 50 36.7**	**-0.5**
MASF	**Masafi**	**2.32**	**138**	P	**Pn**	**15 50 15.1**	**+2.2**
MSFE	**Esma-Masafi**	**2.33**	**138**	*e*Pn	**Pb**	**15 50 15.5**	**-1.4**
MSFE	**Esma-Masafi**	**2.33**	**138**	P	**Pb**	**15 50 16.0**	**-0.9**
NAZ	**Nazwa, Dubai**	**2.38**	**152**	P	**Pb**	**15 50 16.9**	**-0.9**
NAZ	**Nazwa, Dubai**	**2.38**	**152**	P	**Pn**	**15 50 16.2**	**+2.5**
FAQ	**Al Faqa, Dubai**	**2.58**	**156**	P	**Pn**	**15 50 19.0**	**+2.6**
ASUD	**Al Ashush, Dub**	**2.60**	**162**	*e*Pn	**Pb**	**15 50 20.4**	**-1.2**
ASUD	**Al Ashush, Dub**	**2.60**	**162**	P	**Pb**	**15 50 20.5**	**-1.0**
	SNR=18						
ASUD	**Al Ashush, Dub**	**2.60**	**162**	*e*P	**Pn**	**15 50 18.9**	**+2.1**
	SNR=18						
UOSS	**Minazif**	**2.68**	**143**	*e*Pn	**Pn**	**15 50 20.1**	**+2.3**
UOSS	**Minazif**	**2.68**	**143**	P	**Pn**	**15 50 19.8**	**+2.0**
UOSS				S	**Sn**	**15 50 51.7**	**+1.8**
UOSS	**Minazif**	**2.68**	**143**	P	**Pn**	**15 50 19.6**	**+1.8**
HATD	**Hatta, Dubai**	**2.74**	**146**	P	**Pn**	**15 50 21.2**	**+2.5**
ASHO	**Ashiyiah**	**2.82**	**149**	*e*Pn	**Pn**	**15 50 22.3**	**+2.5**
ASHO	**Ashiyiah**	**2.82**	**149**	P	**Pn**	**15 50 22.3**	**+2.5**
	SNR=10						
ASHO				S	**Sn**	**15 50 56.4**	**+2.8**
ASHO	**Ashiyiah**	**2.82**	**149**	*e*P	**Pn**	**15 50 21.7**	**+1.9**
	SNR=10						
KHNJ	**Kahnooj**	**3.01**	**73**	*e*Pn	**Pn**	**15 50 23.3**	**+0.9**
NGRK	**Negar Kerman**	**3.23**	**38**	*e*Pn	**Pn**	**15 50 26.4**	**+0.7**
NGRK				*e*		15 51 10.4	
	comp=Z,466nm,0.4s						
ALNE	**Al Ain**	**3.27**	**159**	*e*Pn	**Pn**	**15 50 28.4**	**+2.5**
ALNE	**Al Ain**	**3.27**	**159**	P	**Pn**	**15 50 28.7**	**+2.8**
MZWR	**Madinat Zayed**	**3.38**	**189**	*e*Pn	**Pn**	**15 50 27.6**	**+0.2**
GHWR	**Ruwais**	**3.44**	**205**	P	**Pn**	**15 50 26.1**	**-2.1**
TVBK	**TV Kerman**	**3.51**	**35**	*e*Pn	**Pn**	**15 50 29.4**	**-0.2**
TVBK				*e*		15 51 20.9	
	comp=Z,830nm,0.3s						
TRNA	**Turayna**	**3.75**	**232**	P	**Pn**	**15 50 34.1**	**+1.6**
CHMN	**Cheshme madani**	**3.86**	**44**	*e*Pn	**Pn**	**15 50 35.5**	**+1.1**
CHMN				*e*		15 51 23.7	
	comp=Z,578nm,0.5s						
KBAM	**BAM**	**4.07**	**59**	*e*Pn	**Pn**	**15 50 38.6**	**+1.6**
KBAM				*e*		15 51 30.6	
	comp=Z,390nm,0.4s						
MZR	**Muzera**	**4.19**	**192**	*e*Pn	**Pn**	**15 50 40.0**	**+1.4**
MZR	**Muzera**	**4.19**	**192**	P	**Pn**	**15 50 40.3**	**+1.8**
	SNR=6.2						
MZR				S	**Sn**	**15 51 25.9**	**-1.3**
MZR	**Muzera**	**4.19**	**192**	*i* P	**Pn**	**15 50 39.6**	**+1.0**
	SNR=6.2						
ARQ	**Araqi**	**4.21**	**153**	P	**Pn**	**15 50 41.7**	**+2.8**
	SNR=9.0						
ARQ				S	**Sn**	**15 51 29.9**	**+2.1**
HOQ	**Hoqain**	**4.37**	**143**	P	**Pn**	**15 50 43.4**	**+2.3**
HOQ				S	**Sn**	**15 51 32.6**	**+0.9**
UMZA	**Um Al Zommool**	**4.43**	**171**	*e*Pn	**Pn**	**15 50 43.9**	**+2.0**
UMZA	**Um Al Zommool**	**4.43**	**171**	P	**Pn**	**15 50 43.9**	**+2.0**
UMZA				S	**Sn**	**15 51 33.7**	**+0.5**
IBAF	**Bafgh**	**4.57**	**12**	*e*Pn	**Pn**	**15 50 45.7**	**+1.8**
KLNJ	**Kolanjah**	**4.61**	**328**	*e*Pn	**Pn**	**15 50 45.9**	**+1.2**
IRAM	**Ramesheh**	**5.01**	**339**	*e*Pn	**Pn**	**15 50 51.6**	**+1.5**
WSAR	**Wadi Sarin**	**5.41**	**135**	P	**Pn**	**15 50 57.4**	**+2.0**
	SNR=21						
WSAR				S	**Sn**	**15 51 56.2**	**-1.2**
IZEF	**Zefreh**	**6.05**	**343**	*e*Pn	**Pn**	**15 51 04.9**	**+0.6**
WBK	**Wadi Bani Khal**	**6.08**	**137**	P	**Pn**	**15 51 05.7**	**+1.0**
	SNR=5.1						
WBK				S	**Sn**	**15 52 14.0**	**0.0**
ANAR	**Anarak**	**6.09**	**354**	*e*Pn	**Pn**	**15 51 05.3**	**+0.5**
IPIR	**Pirpir**	**6.35**	**332**	*e*Pn	**Pn**	**15 51 09.3**	**+0.8**
NHDN	**Nehbandan**	**6.49**	**48**	*e*Pn	**Pn**	**15 51 11.9**	**+1.6**
MHTO	**MHTO**	**6.90**	**151**	P	**Pn**	**15 51 17.3**	**+1.5**
MHTO				S	**Sn**	**15 52 31.5**	**-2.6**
DOK	**Doka**	**8.46**	**182**	P	**Pn**	**15 51 37.6**	**+0.3**
	SNR=5.9						
SHAO	**Shalim**	**9.11**	**173**	P	**Pn**	**15 51 46.2**	**0.0**
	SNR=17						
SHAO				S	**Sn**	**15 53 25.6**	**-3.1**
SHAO	**Shalim**	**9.11**	**173**	*i* P	**Pn**	**15 51 46.3**	**0.0**
	SNR=17						
WHFO	**Wadi Hawf**	**9.17**	**184**	P	**Pn**	**15 51 46.9**	**-0.2**
	SNR=34						
WHFO				S	**Sn**	**15 53 24.0**	**-6.2**
	SNR=7.0						
ABTO	**Aybut**	**9.77**	**186**	P	**Pn**	**15 51 55.7**	**+0.4**

IDC 20 15:55:49.5±76.0,**21°.31S**×**177°.87W, h0**km,**mb3.7**/3, **mb1 3.9**/3,**mb1mx3.6**/31,**mbtmp3.7**/3,**Error ellipse: s-maj=1393.0km s-min=185.6km az=84.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.55**	**245**	P	P	16 03 05.0	-0.7
	0.7nm,0.5s,baz=109,slow=7.4,SNR=3.0						
ASAR	**Alice Springs**	**44.46**	**258**	P	P	16 04 02.8	0.0
	0.8nm,0.8s,baz=98,slow=8.2,SNR=7.9						
WRA	**Warramunga Arr**	**44.62**	**263**	P	P	16 04 04.2	+0.1
	0.6nm,0.4s,baz=95,slow=8.3,SNR=5.5						

IDC 20 15:57:40.0±2.6,**6°.42S**×**130°.74E, h0**km,**mb3.3**/1, **mb1 3.5**/3,**mb1mx3.4**/28,**mbtmp3.3**/3,**ML3.4**/2,**MS3.4**/2, **Ms1 3.4**/2,**ms1mx2.7**/24,**Error ellipse: s-maj=137.4km s-min=33.2km az=71.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.63**	**203**	Sn	Sn	16 02 57.5	-5.2
	baz=325,slow=18						
WRA	**Warramunga Arr**	**13.89**	**166**	Pn	Pn	16 00 57.8	-0.6
	0.2nm,0.3s,baz=348,slow=13,SNR=15						
WRA				Sn	Sn	16 03 31.5	-2.0
	0.4nm,0.3s,baz=346,slow=24,SNR=8.1						
PMG	**Port Moresby**	**16.53**	**101**	LR	LR	16 08 58.2	
	comp=Z,92nm,20.3s,baz=77,slow=41						
ASAR	**Alice Springs**	**17.42**	**170**	P	Pn	16 01 45.1	+0.5
	0.2nm,0.3s,baz=356,slow=13,SNR=22						
JHJ	**Hachijo jima 2**	**40.25**	**12**	LR	LR	16 20 07.6	
	comp=Z,85nm,19.4s,baz=58,slow=34						
MKAR	**Makanchi Array**	**68.15**	**326**	P	P	16 08 42.1	0.0
	0.2nm,0.5s,baz=124,slow=7.2,SNR=2.1						

*MAN **20** 16:03:27.8,5°.46N×126°.68E, h74km, mb5.3, ML4.2, MS4.4, Hypocentre not reviewed by the ISC*

*GCMT **20** 16:03:29.7±0.3,5°.64N±0°.02×126°.75E±0°.02, h103km±4km, MW4.9/88, Moment Tensor Solution. s20,c21; s88,c125; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.34±.10; Mθθ=-0.65±.10; Mφφ=-0.69±.11; Mrθ=-1.53±.06; Mθφ=1.43±.10; Mφr=0.53±.07; Best double couple: M=2.43500×10^16 NP1:φs166.00000°,δ44.00000°,λ146.00000°. NP2: φs281.00000°,δ67.00000°,λ51.00000°. Principal axes: T 2.6010, Plg51.0000°, Azm146.0000°; N -0.3340, Plg36.0000°, Azm299.0000°; P -2.2680, Plg13.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **20** 16:03:29.8±0.0,5°.70N×126°.71E, h100km, mb4.8/70, mB4.9/39*

*DJA **20** 16:03:30.7±0.4,6°N±3°×12°7E±°, h99km±4km, M4.8/38, mB5.2/28, mb5.0/38, MLv5.5/12, Mw(mB)4.6/28, MwMwp4.5/1, Mwp4.9/1*

*NEIC **20** 16:03:31.7±2.1,5°.60N±0°.05×126°.61E±0°.08, h109km±5km, mb4.8/120, Error ellipse: s-maj=12.1km s-min=7.0km az=71.0*

*IDC **20** 16:03:31.2±0.9,5°.56N×126°.51E, h108km±7km, mb4.4/27, mb1 4.5/31, mb1mx4.4/37, mbtmp4.8/31, MS3.5/19, Ms1 3.5/19, ms1mx3.2/75, Error ellipse: s-maj=14.8km s-min=7.3km az=76.0*

ISC 20 16:03:30.3±0.6,**5°.55N**±0°.03×**126°.58E**±0°.05,**h99**km±5km, **n461,**σ1**34**/469,**mb4.8**/104,**17C-5D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.02**	**302**	*e*P	**Pn**	**16 03 49.4**	**-1.6**
MATI	**Mati**	**1.42**	**347**	*e*P	**Pn**	**16 03 54.2**	**-1.5**
GSPH	**General Santos**	**1.71**	**288**	*i* P	**Pn**	**16 03 56.6**	**-2.7**
GSPH				*i* S	**Sn**	**16 04 16.9**	**-4.5**
DAV	**Davao City (W)**	**1.81**	**327**	P	**Pn**	**16 04 00.3**	**-0.2**
	392nm,0.3s,baz=128,slow=1.3,SNR=65						
DAV				S	**Sn**	**16 04 24.4**	**+1.0**
	1μm,0.3s,baz=131,slow=22,SNR=15						
DAV	**Davao City (W)**	**1.81**	**327**	Pn	**Pn**	**16 04 00.1**	**-0.3**
DAV				Sn	**Sn**	**16 04 23.4**	**0.0**
DAV	**Davao City (W)**	**1.81**	**327**	P	**Pn**	**16 04 01.0**	**+0.5**
KCP	**Kidapawan**	**2.07**	**314**	*e*P	**Pn**	**16 04 03.0**	**-0.9**
KCP				*i* S	**Sn**	**16 04 28.1**	**-1.4**
SGSI	**Sangihe**	**2.13**	**210**	P	**Pn**	**16 04 05.8**	**+1.2**
BIPH	**Bislig**	**2.62**	**355**	*e*P	**Pn**	**16 04 09.8**	**-1.3**
BIPH				*e*S	**Sn**	**16 04 41.9**	**-0.5**
CTBH	**Cotabato--PC H**	**2.85**	**306**	*i*P	**Pn**	**16 04 13.0**	**-1.1**
BUTP	**Butuan**	**3.52**	**344**	*e*P	**Pn**	**16 04 24.1**	**+1.0**
PAGZ	**Pagadian**	**3.91**	**306**	*e*P	**Pn**	**16 04 27.6**	**-0.7**
GLSP	**General Luna,**	**4.23**	**354**	*e*P	**Pn**	**16 04 32.6**	**-0.1**
SCPH	**Surigao**	**4.34**	**346**	*e*P	**Pn**	**16 04 34.5**	**+0.3**
SCPH				*e*S	**Sn**	**16 05 26.1**	**+2.4**
ZCP	**Zamboanga City**	**4.69**	**287**	*i*P	**Pn**	**16 04 39.1**	**+0.3**
ZCP				*i* S	**Sn**	**16 05 33.5**	**+1.4**
TNTI	**Ternate**	**4.81**	**171**	Pn	**Pn**	**16 04 41.0**	**+0.4**
TNTI	**Ternate**	**4.81**	**171**	P	**Pn**	**16 04 41.0**	**+0.4**
TNTI	**Ternate**	**4.81**	**171**	P	**Pn**	**16 04 41.7**	**+1.1**
MSLP	**Maasin**	**4.86**	**340**	*i*P	**Pn**	**16 04 41.1**	**-0.1**
MSLP				*i* S	**Sn**	**16 05 43.0**	**+6.7**
SNPH	**Sibulan**	**5.02**	**319**	*e*P	**Pn**	**16 04 45.4**	**+2.0**
SNPH				*e*S	**Sn**	**16 05 45.9**	**+5.6**
LLP	**Lapu-Lapu**	**5.40**	**331**	*e*P	**Pn**	**16 04 50.2**	**+1.8**
LLP				*e*S	**Sn**	**16 05 52.1**	**+2.7**
KMSI	**Cibinong**	**5.59**	**208**	P	**Pn**	**16 04 52.3**	**+1.2**
	4.0nm9μm972nm,1.0s						
CNOP	**Candoni, Negro**	**5.77**	**318**	*e*P	**Pn**	**16 04 49.8**	**-3.8**
CNOP	**Candoni, Negro**	**5.77**	**318**	*e*P	**Pn**	**16 04 53.6**	**+0.1**
CNOP				*i* S	**Sn**	**16 05 59.9**	**+1.5**
OCLP	**Ormoc**	**5.80**	**340**	*e*P	**Pn**	**16 04 54.0**	**+0.1**
GTOI	**Gorontalo**	**6.05**	**216**	P	**Pn**	**16 04 57.7**	**+0.4**
	1.1nm3μm385nm,0.8s						
LBMI	**Labuha**	**6.22**	**171**	P	**Pn**	**16 05 00.0**	**+0.3**
	2.6nm3μm241nm,0.8s						
MRSI	**Marisa**	**6.85**	**223**	P	**Pn**	**16 05 09.4**	**+1.2**
	4.3nm10μm1μm,0.7s						
JAP	**San Jose, Anti**	**6.91**	**319**	*e*P	**Pn**	**16 05 12.0**	**+3.0**
RCP	**Roxas**	**7.07**	**328**	*e*P	**Pn**	**16 05 12.6**	**+1.3**
TOLI2	**Tolitoli**	**7.28**	**233**	Pn	**Pn**	**16 05 13.3**	**-0.8**
TOLI2	**Tolitoli**	**7.28**	**233**	P	**Pn**	**16 05 14.3**	**+0.2**
SANI	**Sanana**	**7.58**	**185**	P	**Pn**	**16 05 15.3**	**-2.8**
	1.9nm1μm6μm217nm,0.6s						
LUWI	**Luwuk**	**7.58**	**210**	Pn	**Pn**	**16 05 20.7**	**+2.6**
LUWI	**Luwuk**	**7.58**	**210**	P	**Pn**	**16 05 21.5**	**+3.4**
	3.0nm8μm964nm,1.1s						
LUWI	**Luwuk**	**7.58**	**210**	P	**Pn**	**16 05 21.8**	**+3.7**
SWI	**Sorong**	**7.90**	**144**	P	**Pn**	**16 05 22.9**	**+0.3**
	0.6nm2μm145nm,0.8s						
SIJI	**Sorong**	**7.91**	**144**	P	**Pn**	**16 05 23.3**	**+0.6**
	20nm,0.3s,baz=336,slow=12,SNR=52						
SIJI				S	**Sn**	**16 06 49.7**	**-0.9**
	4.6nm,0.3s,baz=155,slow=23,SNR=2.1						
MYLDM	**Lahad Datu**	**8.06**	**268**	Pn	**Pn**	**16 05 26.0**	**+1.4**
APSI	**Ampana**	**8.09**	**218**	P	**Pn**	**16 05 29.4**	**+4.2**
	3μm333nm,1.2s						
MPSI	**Mapaga**	**8.45**	**232**	P	**Pn**	**16 05 29.7**	**-0.3**
	910nm81nm,0.8s						
SJMP	**San Jose**	**8.73**	**322**	*e*P	**Pn**	**16 05 34.8**	**+1.0**
MSAI	**Masohi**	**9.14**	**165**	P	**Pn**	**16 05 41.9**	**+2.4**
	236nm21nm,0.6s						
AAI	**Ambon**	**9.32**	**170**	P	**Pn**	**16 05 41.0**	**-0.9**
	2μm120nm,0.7s						
LQP	**Lukban**	**9.85**	**330**	*e*P	**Pn**	**16 05 52.3**	**+3.1**
TGY	**Tagaytay City**	**10.15**	**327**	P	**Pn**	**16 05 54.8**	**+1.6**
	baz=56,slow=3.2,SNR=4.9						
TGY	**Tagaytay City**	**10.15**	**327**	*e*P	**Pn**	**16 05 49.2**	**-4.0**
KKM	**Kota Kinabalu**	**10.33**	**273**	Pn	**Pn**	**16 05 58.5**	**+2.8**
KKM	**Kota Kinabalu**	**10.33**	**273**	P	**Pn**	**16 05 57.1**	**+1.4**
TTSI	**Tana Toraja**	**10.89**	**218**	P	**Pn**	**16 06 05.4**	**+2.2**
	2μm158nm,1.1s						
PCPH	**Palayan**	**11.31**	**332**	*e*P	**Pn**	**16 06 10.8**	**+1.9**
BAKI	**Biak**	**11.63**	**125**	P	**Pn**	**16 06 15.0**	**+1.7**
SPSI	**Sidrap Palu**	**11.65**	**216**	P	**Pn**	**16 06 15.0**	**+1.6**
	711nm58nm,0.8s						
BBSI	**Bau Bau**	**11.68**	**200**	P	**Pn**	**16 06 14.5**	**+0.7**
	89nm7.3nm,0.8s						
BNSI	**Bone**	**11.81**	**213**	P	**Pn**	**16 06 17.7**	**+2.0**
SMPP	**San Manuel, Pa**	**12.02**	**332**	*e*P	**Pn**	**16 06 17.5**	**-0.9**
CAUP	**Cauayan**	**12.24**	**338**	*e*P	**Pn**	**16 06 22.4**	**+1.1**
KAPI	**Kappang**	**12.52**	**213**	P	**Pn**	**16 06 25.6**	**+0.6**
	2.0nm,0.3s,baz=6.6,slow=9.1,SNR=8.3						
KAPI				LR	LR	16 11 34.0	
	comp=Z,245nm,18.4s,baz=58,slow=39						
KAPI	**Kappang**	**12.52**	**213**	Pn	**Pn**	**16 06 26.7**	**+1.7**
KAPI	**Kappang**	**12.52**	**213**	P	**Pn**	**16 06 28.9**	**+3.9**
BKSI	**Bulukumba**	**12.58**	**211**	P	**Pn**	**16 06 27.3**	**+1.4**
	419nm42nm,0.8s						
APYP	**Conner**	**13.30**	**337**	*e*P	**Pn**	**16 06 36.0**	**+0.8**
MTKI	**Muara Teweh, K**	**13.34**	**241**	P	**P**	**16 06 40.5**	**-1.3**
	2μm52nm,1.1s						
SMPI	**Sarmi**	**14.24**	**121**	P	**Pn**	**16 06 47.0**	**-0.6**
	24nm,1.2s						
SBUM	**Sibu**	**14.65**	**258**	P	**P**	**16 06 56.2**	**-0.3**
MMRI	**Maumere**	**14.75**	**197**	Pn	**Pn**	**16 06 54.1**	**+0.1**
MMRI	**Maumere**	**14.75**	**197**	P	**Pn**	**16 06 55.8**	**+1.8**
	1μm98nm,1.2s						
MMRI	**Maumere**	**14.75**	**197**	P	**Pn**	**16 06 56.0**	**+2.0**
BBKI	**Banjar Baru**	**14.76**	**233**	P	**Pn**	**16 06 56.3**	**+2.2**
	97nm,1.3s						
BATI	**Baumata**	**15.92**	**191**	P	**Pn**	**16 07 09.4**	**+0.5**
	16nm,0.3s,baz=12,slow=2.1,SNR=9.3						
BATI				S	**Sn**	**16 10 03.3**	**-2.0**
	1.3nm,0.3s,baz=52,slow=21,SNR=1.9						
BATI				LR	LR	16 14 16.7	
	comp=

comp=Z,12µmcomp=Z,59nm,0.5s
FITZ Fitzroy Crossi 23.52 182 P **P** **16 08 32.0 +0.4**
comp=Z,18nm,0.9s,baz=1.3,slow=7.2,SNR=36
FITZ S **S** **16 12 38.6 +0.4**
comp=Z,3.2nm,0.8s,baz=325,slow=23,SNR=1.7
FITZ Fitzroy Crossi 23.52 182 P **P** **16 08 31.9 +0.2**
baz=24,SNR=23
FITZ Fitzroy Crossi 23.52 182 P **P** **16 08 31.9 +0.2**
FITZ Fitzroy Crossi 23.52 182 P **P** **16 08 32.5 +0.8**
LWLI Liwa 24.82 245 P P 16 09 00.2 +17
COEN Coen 25.43 140 P **P** **16 08 49.4 +0.3**
COEN IAmb IAmb 16 08 50.8
comp=Z,25nm,1.0s
COEN Coen 25.43 140 P **P** **16 08 49.7 +0.6**
JSU Suzuyama 26.07 8 P **P** **16 08 53.8 -0.9**
JCJ Chichijima 26.08 33 P **P** **16 08 52.4 -2.4**
JCJ Chichijima 26.08 33 P **P** **16 08 54.5 -0.3**
WB0 Warramunga Arr 26.31 163 P **P** **16 08 57.3 +0.3**
WRAB Tennant Creek 26.45 163 P **P** **16 08 58.2 0.0**
WRAB Tennant Creek 26.45 163 P **P** **16 08 58.7 +0.5**
WRA Warramunga Arr 26.46 163 P **P** **16 08 58.1 -0.2**
comp=Z,22nm,0.5s,baz=341,slow=10,SNR=103
WRA S **S** **16 13 22.9 -2.1**
comp=Z,0.4nm,0.5s,baz=344,slow=19,SNR=1.0
WRA Warramunga Arr 26.46 163 P **P** **16 08 58.6 +0.3**
WB2 Warramunga Arr 26.46 163 P **P** **16 08 58.0 -0.4**
WR0 Warramunga Arr 26.53 163 P **P** **16 08 59.0 +0.1**
KRVT Keravat (AS076 27.23 111 P **P** **16 09 05.0 -0.4**
comp=Z,14nm,0.8s,baz=307,slow=20,SNR=2.2
NJ2 Nanjing 27.34 346 *e*P **P** **16 09 07.1 +1.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
WHN Wuhan 27.40 337 ⇑P **P** **16 09 09.1 +2.5**
WHN pP **pP** **16 09 27.9 -0.6**
WHN S **S** **16 13 46.3 +6.7**
WHN pmax pmax
comp=Z,66nm,1.1s
WHN LR LR
comp=Z,1µm,38.4s
PSI Prapat 27.72 265 P **P** **16 09 08.8 -1.0**
comp=Z,5.4nm,0.7s,baz=106,slow=5.8,SNR=6.0
JNU Nakatsue 27.72 8 P **P** **16 09 08.7 -0.8**
comp=Z,9.8nm,0.7s,baz=238,slow=14,SNR=6.0
JNU Nakatsue 27.72 8 P **P** **16 09 08.3 -1.2**
JNU IAmb IAmb 16 09 09.8
comp=Z,28nm,0.9s
RPSI Rantau Prapat 27.73 265 P **P** **16 09 08.8 -0.9**
PSA00 Pilbara Seismi 27.75 194 P **P** **16 09 09.3 -0.6**
PSA00 IAmb IAmb 16 09 35.0
comp=Z,23nm,0.8s
PSA00 Pilbara Seismi 27.75 194 P **P** **16 09 10.0 +0.1**
QIS Mount Isa 28.93 154 P **P** **16 09 21.1 +0.8**
baz=29,SNR=72
QIS Mount Isa 28.93 154 P **P** **16 09 21.6 +1.2**
GSI Gunungsitoli 29.25 263 P **P** **16 09 21.3 -2.0**
GSI IAmb IAmb 16 09 42.7
comp=Z,27nm,1.0s
GSI Gunungsitoli 29.25 263 P P 16 09 37.3 +14
MTSU Mount Surprise 29.33 144 P **P** **16 09 25.6 +1.7**
baz=30,SNR=8.6
MTSU Mount Surprise 29.33 144 P **P** **16 09 25.2 +1.3**
ENH Enshi 29.39 329 P **P** **16 09 23.8 -0.6**
ENH IAmb IAmb 16 09 27.9
comp=Z,37nm,1.1s
CMAR Chiang Mai Arr 29.86 298 P **P** **16 09 28.5 -0.2**
comp=Z,2.5nm,0.7s,baz=116,slow=7.5,SNR=21
CMAR ScP **ScP** **16 16 02.0 -1.0**
comp=Z,1.7nm,1.0s,baz=127,slow=1.5,SNR=9.8
CMAR Chiang Mai Arr 29.86 298 P **P** **16 09 27.6 -1.1**
AS31 Alice Springs 29.91 166 P **P** **16 09 28.8 -0.2**
ASAR Alice Springs 29.91 166 P **P** **16 09 29.4 +0.4**
comp=Z,8.3nm,0.4s,baz=342,slow=7.2,SNR=216
ASAR ScP **ScP** **16 16 02.5 -0.5**
comp=Z,1.1nm,0.7s,baz=343,slow=3.1,SNR=4.5
ASAR Alice Springs 29.91 166 P **P** **16 09 28.9 -0.1**
CHTO Chiang Mai 30.00 298 P **P** **16 09 29.6 -0.2**
CHTO Chiang Mai 30.00 298 P **P** **16 09 29.7 -0.2**
KMI Kunming 30.02 313 ⇑P **P** **16 09 32.1 +1.9**
KMI pP pP 16 09 52.3 +0.4
KMI pmax pmax
comp=Z,9.0nm,0.6s
WRKA Warakurna 30.45 177 P **P** **16 09 34.0 +0.3**
baz=31,SNR=19
WRKA Warakurna 30.45 177 P **P** **16 09 34.5 +0.7**
GIRL Giralia 30.52 203 P **P** **16 09 35.9 +1.6**
GIRL Giralia 30.52 203 P **P** **16 09 35.7 +1.4**
PZH PanZhiHua 31.56 314 P **P** **16 09 47.0 +3.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,70nm,4.6s
LYN LuoYang 31.68 337 ⇑*i*P **P** **16 09 46.6 +2.2**
LYN S **S** **16 14 47.9 +1.2**
LYN SS **SnSn** **16 16 42.6 -1.3**
LYN pmax pmax
comp=Z,20nm,0.9s
TIA Tai'an 31.73 345 ⇑P **P** **16 09 45.4 +0.6**
TIA pmax pmax
comp=Z,20nm,1.1s
KSAR Wonju Array Be 31.76 2 P **P** **16 09 45.6 +0.5**
KSRS Korea Array 31.78 2 P **P** **16 09 45.4 +0.1**
comp=Z,4.4nm,1.0s,baz=169,slow=10,SNR=11
KSRS PcP **PcP** **16 12 35.2 +0.9**
comp=Z,1.2nm,0.6s,baz=202,slow=2.8,SNR=4.3
CTA Charters Tower 31.99 143 LR LR 16 24 11.8
comp=Z,104nm,20.5s,baz=322,slow=39
CTA Charters Tower 31.99 143 P **P** **16 09 49.3 +1.9**
XAN Xi'an 32.74 332 P **P** **16 09 52.8 -1.0**
XAN pmax pmax
comp=Z,110nm,1.0s
MEEK Meekatharra 32.92 193 P **P** **16 09 55.1 -0.3**
baz=33,SNR=25
MEEK Meekatharra 32.92 193 P **P** **16 09 55.4 0.0**
CD2 Chengdu 33.11 322 P **P** **16 10 00.1 +3.0**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
HNS HongShan 33.50 343 ⇑P **P** **16 10 00.6 +0.3**
HNS pmax pmax
comp=Z,56nm,0.9s
JSD Sado 34.04 17 P **P** **16 10 04.2 -0.8**
JSD IAmb IAmb 16 10 04.6
comp=Z,26nm,1.4s
OOD Oodnadatta 34.30 166 P **P** **16 10 08.1 +0.8**
JMM Marumori 34.67 20 P **P** **16 10 10.2 -0.2**
BJT Baijiatuau 35.57 346 P **P** **16 10 18.6 +0.4**
BJI Beijing 35.59 346 P **P** **16 10 18.5 +0.2**
BJI S **S** **16 15 42.5 -4.5**
BJI pmax pmax
comp=Z,41nm,1.0s
BJI pmax pmax
comp=Z,130nm,5.5s
INKA Innaminka 35.81 158 P **P** **16 10 21.6 +1.3**
MORW Morawa 35.88 196 P **P** **16 10 20.9 0.0**
baz=36,SNR=8.2
MORW Morawa 35.88 196 P **P** **16 10 20.5 -0.4**
MORW IAmb IAmb 16 10 46.1
comp=Z,9.9nm,0.8s
MORW Morawa 35.88 196 P **P** **16 10 20.9 0.0**
FORT Forrest 36.15 178 P **P** **16 10 23.8 +0.6**
baz=36,SNR=25
FORT Forrest 36.15 178 P **P** **16 10 23.7 +0.5**
FORT Forrest 36.15 178 P **P** **16 10 23.8 +0.6**
SNY Shenyang 36.22 356 ⇓P **P** **16 10 24.0 +0.4**
SNY pmax pmax
comp=Z,52nm,1.0s
QLP Quilpie 36.24 153 P **P** **16 10 24.3 +0.3**
baz=36,SNR=14
QLP Quilpie 36.24 153 P **P** **16 10 24.7 +0.7**
MULG Mulgathing 36.34 169 P **P** **16 10 25.9 +1.1**
LZH Lanzhou 36.87 329 *e*P **P** **16 10 31.5 +2.0**
LZH pmax pmax
comp=Z,49nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.6s
LZH LR LR
comp=Z,360nm,15.5s
LZH LR LR
comp=Z,210nm,13.3s
LZH LR LR
comp=Z,300nm,17.1s
BLDU Ballidu 37.19 194 P **P** **16 10 31.9 -0.1**
baz=37,SNR=19
BLDU Ballidu 37.19 194 P **P** **16 10 32.0 0.0**
LCRK Leigh Creek 37.49 163 P **P** **16 10 35.8 +1.3**
HHC Hu-ho-hao-te 37.63 341 *e*P **P** **16 10 37.9 +2.1**
HHC pmax pmax
comp=Z,48nm,1.1s
HHC pmax pmax
comp=Z,130nm,4.9s
KLBR Kellerberrin 37.88 192 P **P** **16 10 38.1 +0.2**
baz=38,SNR=13
KLBR Kellerberrin 37.88 192 P **P** **16 10 38.1 +0.2**
CN2 Changchun 38.11 359 *e*P **P** **16 10 39.3 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
RMQ Roma 38.42 147 P **P** **16 10 43.1 +0.6**
baz=39,SNR=10.0
RMQ Roma 38.42 147 P **P** **16 10 43.0 +0.5**
MUN Mundaring 38.61 194 P **P** **16 10 44.2 +0.3**
baz=39,SNR=12
MUN Mundaring 38.61 194 P **P** **16 10 44.4 +0.5**
USRK Ussuriysk Ar. 38.78 6 P **P** **16 10 45.7 +0.5**
comp=Z,7.2nm,0.5s,baz=193,slow=7.4,SNR=17
USRK LR LR 16 25 51.0
comp=Z,37nm,20.8s,baz=179,slow=34
USRK Ussuriysk Ar. 38.78 6 P **P** **16 10 45.6 +0.3**
USA0B Ussuriysk Arra 38.78 6 P **P** **16 10 45.3 0.0**
USA0B IAmb IAmb 16 10 46.4
comp=Z,22nm,1.2s
EIDS Eidsvold 38.88 143 P **P** **16 10 46.7 +0.4**
baz=39,SNR=3.7
EIDS Eidsvold 38.88 143 P **P** **16 10 46.3 0.0**
EIDS IAmb IAmb 16 10 49.0
comp=Z,14nm,1.1s
MDJ Mudanjiang 39.00 3 P **P** **16 10 47.1 +0.1**
MDJ Mudanjiang 39.00 3 P **P** **16 10 47.9 +0.9**
MDJ pmax pmax
comp=Z,63nm,0.9s
MDJ pmax pmax
comp=Z,160nm,3.6s
BBOO Buckleboo 39.20 167 P **P** **16 10 49.7 +0.9**
baz=39,SNR=108
BBOO Buckleboo 39.20 167 P **P** **16 10 49.5 +0.7**
BBOO Buckleboo 39.20 167 P **P** **16 10 49.9 +1.0**
XLT XiLinHaoTe 39.30 348 *e*P **P** **16 10 50.0 +0.4**
XLT pP pP 16 11 12.3 +0.1
XLT sP sP 16 11 24.5 +1.1
XLT PP **PP** **16 12 22.5 +0.8**
XLT PcP **PcP** **16 12 56.5 0.0**
XLT pmax pmax
comp=Z,43nm,0.7s
XLT pmax pmax
comp=Z,120nm,5.7s
STKA Stephens Creek 39.88 160 P **P** **16 10 55.4 +0.9**
comp=Z,37nm,0.8s,baz=334,slow=8.3,SNR=83
STKA Stephens Creek 39.88 160 P **P** **16 10 55.4 +0.9**
baz=40,SNR=52
STKA Stephens Creek 39.88 160 P **P** **16 10 55.2 +0.7**
STKA IAmb IAmb 16 10 56.5
comp=Z,11nm,1.0s
STKA Stephens Creek 39.88 160 P **P** **16 10 55.7 +1.2**
BNX BinXian 40.04 1 ⇓P **P** **16 10 55.6 0.0**
BNX pmax pmax
comp=Z,48nm,1.1s
BNX pmax pmax
comp=Z,130nm,4.1s
NAPP Napperby 40.06 165 P **P** **16 10 57.4 +1.5**
HTT Hallett 40.50 164 P **P** **16 11 01.0 +1.4**
baz=41,SNR=24
HTT Hallett 40.50 164 P **P** **16 11 01.1 +1.4**
ASAJ Asahikawa 40.91 18 LR LR 16 27 08.7
comp=Z,64nm,20.3s,baz=166,slow=35
RKGY Rocky Gully 40.96 192 P **P** **16 11 05.0 +1.7**
baz=41,SNR=5.5
CMSA Cobar Meteorol 41.15 155 P **P** **16 11 05.8 +0.8**
baz=41,SNR=28
CMSA Cobar Meteorol 41.15 155 P **P** **16 11 06.0 +1.0**
H11S3 WAKE ISLAND Hy 41.17 68 T T 16 55 21.6
baz=258,slow=75,SNR=26
H11S1 WAKE ISLAND Hy 41.18 68 T T 16 55 22.1
baz=258,slow=75,SNR=20
H11S2 WAKE ISLAND Hy 41.18 68 T T 16 55 21.0
baz=258,slow=75,SNR=42
GTA Gaotai 41.47 328 ⇑P **P** **16 11 08.9 +1.2**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,76nm,6.0s
GTA LR LR
comp=Z,200nm,16.3s
GTA LR LR
comp=Z,98nm,15.5s
GTA LR LR
comp=Z,170nm,20.1s
H11N1 WAKE ISLAND Hy 41.64 67 T T 16 55 60.0
baz=255,slow=75,SNR=13
H11N2 WAKE ISLAND Hy 41.65 66 T T 16 56 00.6
baz=255,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 41.66 67 T T 16 56 00.6
baz=255,slow=75,SNR=12
TWOA Tennyson Woods 41.92 165 P **P** **16 11 13.0 +1.8**
GOMU GeErMu 42.18 321 P **P** **16 11 18.0 +4.2**
GOMU S **S** **16 17 30.8 +3.9**
GOMU pmax pmax
comp=Z,2.0nm,0.8s
GOMU pmax pmax
comp=Z,90nm,5.6s
GOMU LR LR
comp=Z,79nm,14.5s
GOMU LR LR
comp=Z,82nm,12.4s
GOMU LR LR
comp=Z,60nm,10.9s
ARMA Armidale 43.07 148 P **P** **16 11 22.0 +1.3**
baz=43,SNR=12
ARMA Armidale 43.07 148 P **P** **16 11 21.6 +0.8**
ARMA IAmb IAmb 16 11 23.1
comp=Z,21nm,0.9s
ARMA Armidale 43.07 148 P **P** **16 11 22.3 +1.6**
HIA Hailar 43.95 354 P **P** **16 11 27.6 +0.1**
HIA IAmb IAmb 16 11 50.2
comp=Z,23nm,1.4s
ARPS Mount Arapiles 44.46 162 P **P** **16 11 33.2 +1.6**
baz=45,SNR=27
ARPS Mount Arapiles 44.46 162 P **P** **16 11 33.3 +1.7**
GUN Gumba 44.56 305 *e*P **P** **16 11 31.5 -1.6**
PKIN Phulchoki 44.83 304 *e*P **P** **16 11 33.9 -1.2**
KKN Kakani 45.00 304 *e*P **P** **16 11 35.7 -0.8**
DMN Daman 45.08 304 *e*P **P** **16 11 35.9 -1.2**
ULN Ulaanbaatar 45.35 342 P **P** **16 11 37.7 -1.1**
SONM Songino Array 45.54 341 P **P** **16 11 40.4 +0.2**
comp=Z,14nm,0.7s,baz=160,slow=9.1,SNR=11
SONM Songino Array 45.54 341 P **P** **16 11 39.5 -0.7**
SONM IAmb IAmb 16 11 43.1
comp=Z,17nm,0.8s
CAN Canberra 45.80 154 P **P** **16 11 42.9 +0.5**
CAN IAmb IAmb 16 11 45.4
comp=Z,22nm,0.9s
CAN Canberra 45.80 154 P **P** **16 11 44.4 +2.0**
CNB Canberra Magne 45.96 154 P **P** **16 11 45.6 +1.9**
baz=46,SNR=9.2
CNB Canberra Magne 45.96 154 P **P** **16 11 45.5 +1.9**
TOO Toolangi 46.38 159 P **P** **16 11 49.1 +2.2**
baz=47,SNR=7.8
TOO Toolangi 46.38 159 P **P** **16 11 48.5 +1.6**
TOO Toolangi 46.38 159 P **P** **16 11 49.0 +2.2**
KOLN Koldanda 46.39 303 *e*P **P** **16 11 46.0 -1.3**
comp=Z,7.8nm,0.2s
DANN Dangsing 46.46 304 *e*P **P** **16 11 46.2 -1.8**
comp=Z,7.9nm,0.4s
PYUN Piuthan 47.01 304 *e*P **P** **16 11 51.0 -1.2**
comp=Z,14nm,0.5s
DZM Mont Dzumac 47.72 127 LR LR 16 31 28.7
comp=Z,42nm,18.7s,baz=6.5,slow=35
DZM Mont Dzumac 47.72 127 P **P** **16 11 56.4 -1.1**
DZM Mont Dzumac 47.72 127 P **P** **16 11 58.7 +1.1**
LIFNC LIFOU 47.73 125 P **P** **16 11 58.8 +1.3**
GLAD Gladstone 50.31 159 P **P** **16 12 18.4 +1.5**
WMQ Urumqi 51.16 324 *e*P **P** **16 12 24.8 +1.4**
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ LR LR
comp=Z,360nm,18.7s
WMQ LR LR
comp=Z,130nm,20.1s
PETK Petropavlovsk- 53.81 23 P **P** **16 12 43.5 +0.8**
comp=Z,16nm,0.9s,baz=202,slow=6.4,SNR=12
PETK Petropavlovsk- 53.81 23 P **P** **16 12 42.9 +0.1**
MK31 Makanchi Array 55.99 325 P **P** **16 12 56.7 -1.9**
MK31 IAmb IAmb 16 13 03.1
comp=Z,6.9nm,0.9s
MKAR Makanchi Array 55.99 325 P **P** **16 12 57.3 -1.3**
comp=Z,2.9nm,0.5s,baz=122,slow=8.3,SNR=63
MKAR PcP **PcP** **16 13 55.5 -0.4**
comp=Z,6.5nm,0.8s,baz=124,slow=6.2,SNR=5.9
MKAR ScP **ScP** **16 17 44.2 -1.9**
comp=Z,0.4nm,0.7s,baz=119,slow=5.1,SNR=3.6
MKAR Makanchi Array 55.99 325 P **P** **16 12 56.9 -1.7**
MAKZ Makanchi 56.18 325 P **P** **16 12 58.1 -1.8**
MAKZ IAmb IAmb 16 13 04.4
comp=Z,11nm,1.1s
YAK Yakutsk 56.40 2 P **P** **16 13 00.7 -0.4**
KSH Kashi 56.66 314 P **P** **16 13 07.3 +3.6**
KSH pP pP 16 13 26.3 -1.0
KSH pmax pmax
comp=Z,2.0nm,0.6s
KDJ Kajisay 56.90 318 P **P** **16 13 04.1 -1.3**
MA2 Magadan 56.98 14 LR LR 16 37 49.6
comp=Z,26nm,19.7s,baz=200,slow=36
MA2 Magadan 56.98 14 P **P** **16 13 05.3 -0.1**
MA2 IAmb IAmb 16 13 06.6
comp=Z,6.3nm,0.8s
ZAA0 Zalesovo Array 58.91 333 P **P** **16 13 19.0 +0.1**
ZAA0 IAmb IAmb 16 13 21.6
comp=Z,14nm,0.9s
ZALV Zalesovo Beam 58.91 333 P **P** **16 13 17.4 -1.5**
comp=Z,3.7nm,0.3s,baz=102,slow=7.6,SNR=30
AAK Ala-Archa 58.92 317 LR LR 16 41 38.3
comp=Z,70nm,19.2s,baz=90,slow=39
AAK Ala-Archa 58.92 317 P **P** **16 13 18.3 -1.1**
DRK Karamyk 59.66 313 P **P** **16 13 23.4 -1.3**
DRK IAmb IAmb 16 13 28.5
comp=Z,7.2nm,0.7s
KURK Kurchatov 60.14 327 P **P** **16 13 25.8 -1.6**
KBL Kabul 60.31 307 P **P** **16 13 27.6 -1.6**
KBL IAmb IAmb 16 13 57.0
comp=Z,5.4nm,0.8s
BTK Batken 60.57 313 P **P** **16 13 29.5 -1.2**
BTK IAmb IAmb 16 13 52.0
comp=Z,17nm,1.4s
GAR Garm 60.60 312 P **P** **16 13 29.0 -1.9**
SHEM Shemya Is, Ala 60.98 31 LR LR 16 38 07.8
comp=Z,25nm,21.6s,baz=124,slow=34
CHGR Chuyangaron 61.35 311 P **P** **16 13 34.5 -1.6**
CHGR IAmb IAmb 16 13 58.6
comp=Z,8.6nm,0.8s
KK31 Karatay Array 61.81 316 P **P** **16 13 37.4 -1.5**
KKAR Karatay Array 61.81 316 P **P** **16 13 36.6 -2.3**
QRZ Quartz Range 62.44 142 P **P** **16 13 43.8 +0.7**
RPZ Rata Peaks 63.33 145 P **P** **16 13 49.6 +0.6**
URZ Urewera 63.97 137 LR LR 16 43 11.7
comp=Z,50nm,18.3s,baz=31,slow=37
KHZ Kahutara 63.99 143 P **P** **16 13 53.4 +0.1**
BKZ Black Stump Fm 64.03 139 P **P** **16 13 53.6 -0.1**
BKZ IAmb IAmb 16 14 13.0
comp=Z,13nm,1.1s
BKZ Black Stump Fm 64.03 139 P **P** **16 13 54.8 +1.1**
HRA Herat 65.76 305 P **P** **16 14 04.0 -1.3**
BRVK Borovoye 65.80 327 P **P** **16 14 03.3 -1.6**
TIXI Tiksi 66.03 1 LR LR 16 42 17.2
comp=Z,45nm,21.4s,baz=180,slow=35
TIXI Tiksi 66.03 1 P **P** **16 14 05.5 -0.5**
TIXI IAmb IAmb 16 14 07.4
comp=Z,16nm,1.1s
ATKA Atka Island 67.09 35 P **P** **16 14 12.9 -0.2**
BILL Bilibino 67.84 15 P **P** **16 14 16.6 -1.0**
NRIK Noril'sk 68.64 346 P **P** **16 14 22.8 +0.3**
comp=Z,18nm,0.7s,baz=124,slow=5.8,SNR=31
NRIK Noril'sk 68.64 346 P **P** **16 14 21.9 -0.6**
NRIK IAmb IAmb 16 14 24.8
comp=Z,18nm,0.8s
NIKH Nikolski High 70.42 35 P **P** **16 14 34.1 +0.3**
baz=252
ABKAR Akbulak array 70.66 320 P **P** **16 14 33.5 -1.8**
SPIA Saint Paul Isl 71.02 31 P **P** **16 14 37.7 +0.4**
baz=250
CASY Casey 72.60 187 P **P** **16 14 45.9 -0.7**
CASY IAmb IAmb 16 14 48.6
comp=Z,24nm,1.1s
GAMB Gambell 72.80 24 P **P** **16 14 48.6 +0.8**
baz=246
ARU Arti 73.33 327 P **P** **16 14 49.3 -1.8**
ARU IAmb IAmb 16 14 54.3
comp=Z,14nm,0.6s
SDPT Sand Point 75.78 34 P **P** **16 15 05.1 -0.1**
baz=259
KIRV Kirov 78.60 329 LR LR 16 50 58.4
comp=Z,45nm,21.5s,baz=120,slow=36
GCSA Galena City Sc 79.27 25 P **P** **16 15 24.7 +0.2**
baz=260
O18K Koktuh Hills 79.30 30 P **P** **16 15 24.9 +0.1**
baz=263
TTA Tatalina 79.35 27 P **P** **16 15 25.3 +0.1**
baz=261
SII Sitkinak Islan 79.45 34 P **P** **16 15 25.6 -0.1**
baz=264
L19K White Mountain 79.78 28 P **P** **16 15 27.6 +0.2**
baz=262
Q19K Cape Douglas, 79.99 31 P **P** **16 15 27.9 -0.8**
baz=264
OHAK Old Harbor 80.01 33 P **P** **16 15 28.8 +0.1**
baz=265
GNI Garni 80.21 310 LR LR 16 55 54.4
comp=Z,15nm,21.0s,baz=70,slow=39
L20K Farewell, AK 80.27 28 P **P** **16 15 30.5 +0.5**
baz=263
K20K Telida 80.28 27 P **P** **16 15 30.5 +0.4**
baz=263
J20K Nowinta River 80.35 26 P **P** **16 15 31.0 +0.5**
J20K Nowinta River 80.35 26 P **P** **16 15 31.0 +0.5**
baz=263
KDAK Kodiak Island 80.44 32 LR LR 16 45 25.9
comp=Z,45nm,20.7s,baz=224,slow=31
KDAK Kodiak Island 80.44 32 P **P** **16 15 31.2 +0.2**
baz=265
IMAR Indian Mountai 80.75 24 P **P** **16 15 32.6 +0.1**
SPCR Spurr Chakacha 80.92 29 P **P** **16 15 33.8 +0.1**
baz=265
PPLA Purkeypile 81.08 27 P **P** **16 15 34.3 -0.2**
PPLA IAmb IAmb 16 16 03.2
comp=Z,21nm,1.4s
PPLA Purkeypile 81.08 27 P **P** **16 15 34.1 -0.5**
baz=265
H21K Melozitna Rive 81.10 24 P **P** **16 15 35.1 +0.7**
H21K Melozitna Rive 81.10 24 P **P** **16 15 33.9 -0.5**
baz=264,SNR=6.6
CHUM Lake Minchumin 81.12 26 P **P** **16 15 33.9 -0.6**
baz=264
CAST Castle Rocks 81.18 27 P **P** **16 15 35.4 +0.5**
CAST Castle Rocks 81.18 27 P **P** **16 15 34.8 -0.1**
baz=265,SNR=6.1
I21K Tanana 81.39 25 P **P** **16 15 36.0 0.0**
I21K IAmb IAmb 16 15 56.0
comp=Z,9.9nm,0.8s
I21K Tanana 81.39 25 P **P** **16 15 36.3 +0.3**
baz=264,SNR=7.4
BRLK Bradley Lake 81.47 30 P **P** **16 15 36.1 -0.4**
KBZ Khabaz 81.63 313 P **P** **16 15 38.1 +0.6**
comp=Z,1.3nm,0.6s,baz=80,slow=11,SNR=3.0
KTH Kantishna Hill 81.71 27 P **P** **16 15 37.9 +0.1**
BPAW Bear Paw Mtn. 81.72 26 P **P** **16 15 38.7 +0.9**
BPAW IAmb IAmb 16 15 39.4
comp=Z,23nm,1.3s
BPAW Bear Paw Mtn. 81.72 26 P **P** **16 15 38.0 +0.2**
baz=266,SNR=9.3
M22K Willow 81.96 29 P **P** **16 15 39.1 +0.2**
baz=267
TRF Thorofare Moun 81.99 27 P **P** **16 15 39.4 0.0**
TRF IAmb IAmb 16 15 40.3
comp=Z,19nm,1.4s
TRF Thorofare Moun 81.99 27 P **P** **16 15 38.8 -0.5**
baz=266
O22K Cooper Landing 82.09 30 P **P** **16 15 39.2 -0.5**
baz=267
RC01 Rabbit Creek A 82.11 29 P **P** **16 15 39.3 -0.5**
RC01 IAmb IAmb 16 15 42.7
comp=Z,20nm,1.3s
RC01 Rabbit Creek A 82.11 29 P **P** **16 15 39.4 -0.4**
baz=267
SEW Seward 82.20 30 P **P** **16 15 40.7 +0.4**
baz=268
COLD Coldfoot 82.28 23 P **P** **16 15 40.0 -0.6**
COLD Coldfoot 82.28 23 P **P** **16 15 40.5 -0.1**
baz=266,SNR=6.9
BWN Browne 82.39 26 P **P** **16 15 40.6 -0.6**
BWN IAmb IAmb 16 15 56.0
comp=Z,22nm,1.2s

PMR	Palmer	82.43	29	P		P		16 15 41.1	-0.3
	baz=268								
H23K	Yukon River	82.45	24	P		P		16 15 42.1	+0.6
H23K				IAmb		IAmb		16 15 44.3	
	comp=Z,7.1nm,0.7s								
H23K	Yukon River	82.45	24	P		P		16 15 41.3	-0.2
	baz=267,SNR=10								
I23K	Minto, Yukon-K	82.49	25	P		P		16 15 42.5	+0.9
I23K				IAmb		IAmb		16 15 44.3	
	comp=Z,18nm,1.3s								
I23K	Minto, Yukon-K	82.49	25	P		P		16 15 42.1	+0.4
	baz=267,SNR=9.2								
NEA2	Nenana	82.59	26	P		P		16 15 42.5	+0.3
NEA2	Nenana	82.59	26	P		P		16 15 42.0	-0.2
	baz=267,SNR=5.5								
MCK	McKinley	82.61	27	P		P		16 15 42.3	0.0
MCK				IAmb		IAmb		16 16 10.1	
	comp=Z,15nm,1.1s								
MCK	McKinley	82.61	27	P		P		16 15 42.0	-0.4
	baz=268,SNR=5.9								
TOLK	Toolik Lake Re	82.61	22	P		P		16 15 43.2	+0.9
TOLK				IAmb		IAmb		16 16 08.4	
	comp=Z,9.7nm,0.8s								
TOLK	Toolik Lake Re	82.61	22	P		P		16 15 42.1	-0.3
	baz=266,SNR=7.9								
RND	Reindeer	82.63	27	P		P		16 15 42.3	-0.3
KNK	Knik Glacier	82.74	29	P		P		16 15 41.2	-1.9
KNK				IAmb		IAmb		16 15 42.4	
	comp=Z,14nm,1.2s								
KNK	Knik Glacier	82.74	29	P		P		16 15 42.2	-0.9
	baz=268								
PWL	Port Wells	82.78	29	P		P		16 15 42.4	-0.9
PWL				IAmb		IAmb		16 15 44.8	
	comp=Z,12nm,0.8s								
PWL	Port Wells	82.78	29	P		P		16 15 43.0	-0.3
	baz=268								
SML	Sawmill	82.81	28	P		P		16 15 42.3	-1.2
SML				IAmb		IAmb		16 16 11.1	
	comp=Z,25nm,1.2s								
SML	Sawmill	82.81	28	P		P		16 15 43.3	-0.2
	baz=268								
MDM	Murphy Dome	82.96	25	P		P		16 15 44.2	0.0
M23K	Glacier View	83.10	29	P		P		16 15 44.8	-0.2
	baz=269								
WAT6	Susitna Watana	83.11	28	P		P		16 15 44.5	-0.7
	baz=269								
CCB	Clear Creek Bu	83.13	26	P		P		16 15 44.4	-0.6
CCB				IAmb		IAmb		16 16 11.8	
	comp=Z,11nm,1.2s								
H24K	Noodor Dome	83.14	24	P		P		16 15 45.6	+0.5
H24K	Noodor Dome	83.14	24	P		P		16 15 45.3	+0.2
	baz=268,SNR=6.8								
SCM	Sheep Creek Mo	83.29	28	P		P		16 15 44.5	-1.5
SCM	Sheep Creek Mo	83.29	28	P		P		16 15 46.1	+0.1
	baz=269								
GLI	Glacier Island	83.39	29	P		P		16 15 46.3	-0.2
	baz=270								
IL31		83.53	26	P		P		16 15 46.7	-0.3
ILAR	Eielson Array	83.53	26	P		P		16 15 46.2	-0.8
	comp=Z,2.3nm,0.5s,baz=248,slow=5.2,SNR=28								
ILAR	Eielson Array	83.53	26	P		P		16 15 45.7	-1.3
FID	Port Fidalgo	83.69	30	P		P		16 15 47.9	-0.1
FID				IAmb		IAmb		16 16 07.5	
	comp=Z,22nm,1.2s								
KLMR	Klimovskoe	83.75	331	*e*P		P		16 15 47.5	-0.8
KLMR				AMP				16 15 51.5	
	comp=Z,18nm,0.8s								
KLMR				*e*PP		PP		16 19 02.8	+0.4
M24K	Tolsona, Glenn	83.84	28	P		P		16 15 49.5	+0.7
M24K				IAmb		IAmb		16 15 52.0	
	comp=Z,24nm,1.2s								
M24K	Tolsona, Glenn	83.84	28	P		P		16 15 48.6	-0.1
	baz=270								
KLU	Klutina	83.96	29	P		P		16 15 49.7	+0.3
KLU				IAmb		IAmb		16 16 15.4	
	comp=Z,8.2nm,0.9s								
KLU	Klutina	83.96	29	P		P		16 15 49.0	-0.4
	baz=270								
K24K	Donnelly Dome	84.01	26	P		P		16 15 49.3	-0.3
	baz=270								
PAX	Paxson	84.16	27	P		P		16 15 50.4	0.0
	baz=271								
J25K	Salcha River,	84.18	26	P		P		16 15 50.0	-0.5
	baz=271								
HARP	HAARP	84.31	28	P		P		16 15 50.6	-0.5
	baz=271								
RIDG	Independent Ri	84.43	27	P		P		16 15 51.8	+0.1
RIDG				IAmb		IAmb		16 16 18.4	
	comp=Z,22nm,1.2s								
RIDG	Independent Ri	84.43	27	P		P		16 15 51.9	+0.1
	baz=271								
BMAR	Burnt Mountain	84.46	23	P		P		16 15 53.1	+1.3
N25K	Chitina, Valde	84.59	29	P		P		16 15 53.3	+0.7
N25K				IAmb		IAmb		16 16 20.2	
	comp=Z,13nm,1.1s								
N25K	Chitina, Valde	84.59	29	P		P		16 15 52.7	0.0
	baz=272								
BMRM	Bremner River	84.61	29	P		P		16 15 52.4	-0.3
	baz=272								
HMT	Hamilton	84.80	30	P		P		16 15 53.8	+0.2
HMT				IAmb		IAmb		16 16 12.7	
	comp=Z,16nm,1.1s								
SCRK	Sand Creek	84.80	26	P		P		16 15 53.4	-0.3
	baz=272								
J26L	Joseph Creek	84.97	26	P		P		16 15 53.8	-0.7
	baz=272								
GLB	Gilahina Butte	84.98	29	P		P		16 15 54.8	+0.3
GLB				IAmb		IAmb		16 16 21.2	
	comp=Z,13nm,1.0s								
VNDA	Vanda	85.24	173	P		P		16 15 54.4	-1.0
	comp=Z,4.2nm,0.9s,baz=318,slow=5.1,SNR=12								
VNDA	Vanda	85.24	173	P		P		16 15 55.8	+0.4
M26K	Nabesna, AK	85.32	28	P		P		16 15 55.7	-0.5
	baz=273								
MAW	Mawson	85.40	200	P		P		16 15 56.2	-0.1
	comp=Z,3.2nm,0.9s,baz=296,slow=6.6,SNR=3.5								
MAW	Mawson	85.40	200	P		P		16 15 57.0	+0.7
WAX	Waxell Ridge	85.49	30	P		P		16 15 58.1	+1.0
L27K	Beaver Creek,	85.81	27	P		P		16 15 58.5	-0.1
	baz=274								
M27K	Edge Creek, AK	85.84	28	P		P		16 15 57.8	-1.1
	baz=274								
EGAK	Eagle	85.98	25	P		P		16 15 59.5	+0.1
	baz=274								
GRNC	Granite Creek	86.01	29	P		P		16 16 00.4	+0.5
GRNC				IAmb		IAmb		16 16 27.0	
	comp=Z,15nm,1.0s								
BARN	Barnard Glacie	86.03	29	P		P		16 16 00.9	+0.9
BARN				IAmb		IAmb		16 16 27.2	
	comp=Z,12nm,1.0s								
CTG	Chitna Glacier	86.20	29	P		P		16 16 00.7	0.0
	baz=274								
CTGM	Chitina Glacie	86.20	29	P		P		16 16 01.2	+0.5
CTGM				IAmb		IAmb		16 16 28.1	
	comp=Z,11nm,1.0s								
BVCY	Beaver Creek	86.31	28	P		P		16 16 00.1	-0.9
	baz=275								
DAWY	Dawson	86.81	26	P		P		16 16 03.5	0.0
	baz=276								
I29M	Ogilvie Camp,	87.13	25	P		P		16 16 04.8	-0.2
	baz=277								
HYT	Haines Junctio	88.08	29	P		P		16 16 09.4	-0.3
	baz=278								
M30M	Minto, Yukon	88.16	27	P		P		16 16 08.7	-1.3
	baz=278								
INK	Inuvik	88.53	21	P		P		16 16 10.8	-0.7
INK	Inuvik	88.53	21	P		P		16 16 11.5	-0.1
	baz=281								
SPA0	Spitsbergen Ar	88.67	349	*e*P		P		16 16 12.2	+0.1
ARA0	ARCESS Array S	88.70	340	*e*P		P		16 16 11.6	-0.7
ARCES	ARCESS Array B	88.70	340	P		P		16 16 11.6	-0.8
	comp=Z,7.7nm,0.6s,baz=81,slow=6.2,SNR=68								
ARCES	ARCESS Array B	88.70	340	P		P		16 16 11.2	-1.1
BRTR	Keskin Array B	88.75	310	P		P		16 16 11.3	-2.1
	comp=Z,2.1nm,0.9s,baz=124,slow=1.8,SNR=5.6								
HAMF	Hammerfest	89.05	341	*e*P		P		16 16 13.0	-0.9
M31M	Drury Creek, Y	89.33	28	P		P		16 16 15.3	-0.2
	baz=281								
KTK1	Kautokeino	89.61	339	*e*P		P		16 16 15.7	-0.9
FARO	Faro, Yukon	89.80	27	P		P		16 16 17.3	-0.4
	baz=282								
FINES	FINESS Array B	90.17	332	P		P		16 16 18.4	-0.9
	comp=Z,1.9nm,0.4s,baz=54,slow=5.2,SNR=18								
FINES	FINESS Array B	90.17	332	P		P		16 16 17.9	-1.4
A36M	Sachs Harbour	90.30	17	P		P		16 16 19.1	-0.7
A36M	Sachs Harbour	90.30	17	P		P		16 16 19.6	-0.1
	baz=289								
AKASG	Malin Array Be	90.39	321	P		P		16 16 20.9	+0.2
	comp=Z,1.0nm,0.6s,baz=64,slow=5.6,SNR=4.9								
JETT	Jettan, Norway	90.42	340	*e*P		P		16 16 20.0	-0.4
MMPY	Sheldon Lake,	90.67	27	P		P		16 16 22.1	+0.3
	baz=283								
C36M	Paulatuk	91.55	20	P		P		16 16 25.1	-0.5
C36M				IAmb		IAmb		16 16 25.9	
	comp=Z,3.7nm,0.6s								
C36M	Paulatuk	91.55	20	P		P		16 16 25.4	-0.2
	baz=290								
STEI	Steigen	92.75	339	*e*P		P		16 16 30.2	-1.0
FAUS	Fauske	92.93	339	*e*P		P		16 16 30.7	-1.4
LOF	Lofoten	93.26	340	*e*P		P		16 16 32.6	-0.9
MLR	Muntele Rosu	93.49	316	LR		LR		17 02 15.8	
	comp=Z,43nm,21.3s,baz=110,slow=38								
MOR8	Moi Rana	93.70	338	*e*P		P		16 16 33.3	-2.3
NSS	Namsos	95.31	337	*e*P		P		16 16 42.2	-0.7
DAG	Danmarks Havn	95.44	352	*i* P		P		16 16 42.0	-1.4
RES	Resolute Bay	96.06	10	P		P		16 16 45.8	-0.3
RES				IAmb		IAmb		16 16 47.4	
	comp=Z,2.5nm,0.9s								
HFS	Hagfors	96.35	332	LR		LR		17 02 40.7	
	comp=Z,40nm,20.2s,baz=51,slow=37								
NB2	NORSAR Subarra	97.10	334	P		P		16 16 49.4	-1.9
	comp=Z,5.2nm,0.9s,baz=64,slow=4.6								
NB2	NORSAR Subarra	97.10	334	P		P		16 16 49.4	-1.9
	baz=64,slow=4.6								
NOA	NORSAR Array B	97.10	334	P		P		16 16 49.6	-1.7
	comp=Z,1.5nm,0.7s,baz=65,slow=4.6,SNR=7.9								
NOA				LR		LR		17 05 16.5	
	comp=Z,22nm,20.3s,baz=65,slow=38								
OSL	Oslo	97.79	333	*e*P		P		16 16 53.6	-0.6
YKA	Yellowknife Ar	97.91	24	P		Pdif		16 16 54.6	-0.2
	comp=Z,0.8nm,0.6s,baz=297,slow=4.3,SNR=18								
SKAR	Skarslia	98.53	334	*e*P		P		16 16 56.6	-1.1
HYA	Hoyanger	99.21	335	*e*Pdif		Pdif		16 17 01.2	+0.6
BLS5	Blasjo	99.95	333	*e*Pdif		Pdif		16 17 02.9	-1.1
TXAR	Lajitas Array	120.59	51	PKP		PKiKP		16 22 12.6	+1.1
	comp=Z,0.2nm,0.6s,baz=261,slow=1.6,SNR=4.1								
TXAR	Lajitas Array	120.59	51	PKP		PKPdf		16 22 10.1	-1.3
TORD	Torodi Ar. Bea	122.20	289	PKP		PKPdf		16 22 14.1	-0.5
	comp=Z,1.1nm,0.4s,baz=64,slow=1.7,SNR=7.9								
TORD	Torodi Ar. Bea	122.20	289	PKPdf		PKPdf		16 22 12.4	-2.2
JTS	Las Juntas de	144.87	63	PKP		PKPdf		16 22 57.4	+0.5
	comp=Z,22nm,0.9s,baz=0.8,slow=4.3,SNR=5.3								
SDV	Santo Domingo	157.63	50	PKP		PKPdf		16 23 16.5	+0.1
	comp=Z,2.8nm,0.6s,baz=79,slow=7.0,SNR=4.4								
CPUP	Villa Florida	159.00	170	PKPab		PKPab		16 23 54.5	+0.4
	comp=Z,3.4nm,0.8s,baz=180,slow=4.5,SNR=4.8								
SIV	San Ignacio	167.19	145	PKP		PKPdf		16 23 26.2	+0.6
	comp=Z,1.5nm,0.8s,baz=274,slow=12,SNR=5.5								

UCR ***20*** *16:19:20.9±1.5, 8.22N±82.79W, h7km±4km, MW3.6*
UPA ***20*** *16:19:22.1±0.6, 8.33N±82.78W, h17km±1km, MW4.0*
ISC 20 16:19:22.0±1.0, 8.30N±0.04×82.79W±0.03, h19km±2km,
n27, σ1s83/45, 3C-8D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTPM	Petroterminale	0.12	222	↑*i*P		Pg		16 19 30.2	+0.1
PTPM				*e*S		Sg		16 19 30.2	+1.4
CDITO	Canoas	0.28	344	↓*i*P		Pg		16 19 28.6	+0.3
CDITO				*e*S		Sb		16 19 34.2	+1.4
DVD	David	0.37	68	↑*e*P		Pg		16 19 29.3	-0.4
DVD				*e*S		Sg		16 19 34.7	-0.3
BCO2	Palmira	0.49	32	↓*i*P		Pg		16 19 31.9	-0.1
BCO2				*e*S		Sb		16 19 39.9	+0.8
BRU2	Volcan	0.50	12	↓*i*P		Pg		16 19 32.1	-0.1
BRU2				*e*S		Sb		16 19 40.7	+1.3
BRU2	Volcan	0.50	12	↓*i*P		Pg		16 19 32.2	-0.1
BRU2				*e*S		Sb		16 19 40.3	+0.9
PIRO	Carate, Puerto	0.55	281	↓*i*P		Pb		16 19 32.2	-0.7
EDSV	San Vito	0.55	341	*e*P		Pb		16 19 33.2	+0.1
EDSV				*e*S		Sn		16 19 42.9	-0.8
LNBQ3	Los Naranjos,	0.60	35	↓*e*P		Pb		16 19 33.2	-0.8
LNBQ3				*e*S		Sb		16 19 42.4	+0.3
POTG	Potrero Grande	0.82	337	↓*i*P		Pb		16 19 37.2	-0.4
POTG				*e*S		Sg		16 19 49.6	+0.7
RIOS	Rincon, Osa	0.82	299	*e*P		Pb		16 19 36.4	-1.3
RIOS				*e*S		Sb		16 19 48.9	+0.6
EDPN	Palmar Norte	0.93	315	*e*P		Pb		16 19 38.6	-0.9
EDPN				*e*S		Sg		16 19 53.1	+0.7
PLAN	Los Planes de	0.95	293	*e*P		Pb		16 19 39.1	-0.8
DRK0	Durika	1.06	335	*e*P		Pb		16 19 40.9	-1.0
DRK0				*e*S		Sn		16 19 56.6	+0.2
SRBA	San Rafael, Bu	1.08	329	↓*e*P		Pb		16 19 41.1	-1.2
CNI2	El Empalme, Bo	1.16	16	*e*S		Sb		16 19 58.1	-0.2
PEZE	Perez Zeledon,	1.39	321	*e*P		Pn		16 19 47.1	+0.7
PEZE				*e*S		Sg		16 20 06.6	-0.4
EDDO	Dominical	1.42	312	*e*P		Pn		16 19 47.1	+0.3
EDDO				*e*S		Sg		16 20 07.7	-0.3
GMAL	Guarumal, Vera	1.63	109	*e*P		Pn		16 19 49.0	-0.8
GMAL				*e*S		Sn		16 20 08.8	-1.6
RIMA	Rio Macho	1.80	324	*e*P		Pn		16 19 52.4	+0.1
LCR2	La Lucha 2	1.87	320	↑*i*P		Pn		16 19 54.4	+1.1
LCR2				*e*S		Sb		16 20 19.4	+0.5
HDC	Heredia	2.14	322	*e*P		Pb		16 19 59.4	-0.8
HDC				*e*S		Sb		16 20 26.3	-0.2
JACO	JACO, Garabito	2.29	306	*e*P		Pn		16 19 58.3	-0.5
AZU	Azuero	2.54	101	*e*P		Pn		16 20 02.3	-0.1
AZU				*e*S		Sn		16 20 33.9	+1.0
SAJU	San Juanillo,	3.37	302	*e*P		Pn		16 20 13.6	-0.2
GR1C	Gorgona, Isla	6.99	139	*e*P		Pb		16 21 22.1	-0.8
CRUC	La Cruz	8.86	139	*e*P		Pn		16 21 31.4	+1.9

IDC ***20*** *16:20:33.2±0.6, 0.66N×80.35W, h0km, mb4.4/19, mb1 4.6/22, mb1mx4.5/34, mbtmp4.5/22, ML3.4/3, MS3.7/4, Ms1 3.7/4, ms1mx3.1/65, Error ellipse: s-maj=19.7km s-min=11.3km az=59.0*
NEIC ***20*** *16:20:36.7±2.4, 0.69N±0.05×80.22W±0.06, h10km±1km, mb4.7/166, Error ellipse: s-maj=10.7km s-min=8.6km az=237.0*
IGQ ***20*** *16:20:36±1.4, 1.1°N±5.5°×8.0°W±1.0°, h10km*
VAO ***20*** *16:20:41.1±1.9, 0.57N×79.55W, h10km, mb4.9*
ISC 20 16:20:35.2±0.4, 0.67N±0.03×80.25W±0.04, h10km, n277,
σ1s52/232, mb4.6/90, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AMA1	Acelerografo,	0.59	64	P		Pb		16 20 49.0	+1.4
AV21	Acelerografo,	0.71	91	P		Pb		16 20 51.0	+1.4
AV18	Acelerografo,	0.85	115	P		Pn		16 20 54.0	+0.7
MAG1	Magdalena	0.88	147	P		Pg		16 20 53.0	+0.8
JAMA	Jama	0.93	177	P		Pg		16 20 53.0	-0.1
JAMA				S		Sg		16 21 07.0	+1.7
FLF1	Flavio Alfaro-	1.10	158	P		Pb		16 20 57.0	+0.6
BV15	Puerto Quito-O	1.15	116	P		Pb		16 20 58.0	+0.8
APR2	Miler	1.42	115	P		Pn		16 21 02.0	+0.9
PAC1	Pacto, Paraso	1.52	105	*e*P		Pn		16 21 03.5	+0.9
PAC1	Pacto, Paraso	1.52	105	P		Pn		16 21 03.0	+0.4
APR1	Acelerografo,	1.79	114	P		Pn		16 21 07.0	+0.5
HPAL	Hacienda Las P	1.83	119	P		Pn		16 21 08.0	+0.9
PINO	Pino	1.84	117	P		Pn		16 21 08.0	+0.6
TERV	Terraza Guagua	1.85	117	P		Pn		16 21 08.0	+0.5
OTAV	Otavalo	1.85	103	Pn		Pn		16 21 08.7	+1.2
YANA	Yana	1.86	115	P		Pn		16 21 08.0	+0.4
GGPT	Toaza - Volcan	1.86	119	P		Pn		16 21 08.0	+0.5
PULU	Pululahua	1.87	110	Pn		Pn		16 21 09.4	+1.8
PULU	Pululahua	1.87	110	P		Pn		16 21 09.0	+1.4
JUA2	San Juan 2	1.87	118	P		Pn		16 21 08.0	+0.3
CUSE	Cuicocha Este	1.89	101	*e*P		Pn		16 21 09.5	+1.6
CUSE				*e*S		Sg		16 21 37.7	+1.6
CUSE	Cuicocha Este	1.89	101	P		Pn		16 21 09.0	+1.0
ALIT	Ecuador-Imbabu	1.90	86	P		Pn		16 21 08.0	+0.2
CUIC	Cuicocha-Domo	1.93	101	P		Pn		16 21 10.0	+1.5
CUSW	Cuicocha Oeste	1.94	101	P		Pn		16 21 10.0	+1.4
COTA	Cotacachi	1.94	100	P		Pn		16 21 10.0	+1.2
URCU	Urcuqui	2.01	97	P		Pn		16 21 10.0	+0.4
ILLI	Illinizas Sur	2.06	132	P		Pn		16 21 11.0	+0.7
PAST	Pastocalle	2.11	130	P		Pn		16 21 12.0	+1.0
PITA	Cotopaxi Volc	2.19	124	P		Pn		16 21 14.0	+1.8
YAHU	Yahuarcocha	2.20	98	P		Pb		16 21 15.0	-0.4
CAMI	Rancho Maria	2.20	127	P		Pn		16 21 14.0	+1.7
NAS2	Nasa	2.21	126	P		Pn		16 21 15.0	+2.5
BNAS	Cotopaxi Volca	2.22	127	P		Pn		16 21 14.0	+1.4
BREF	Cotopaxi Volca	2.25	126	P		Pn		16 21 15.0	+1.9
LNGL	El Angel-Carch	2.25	88	P		Pn		16 21 14.0	+1.0
VC1	Cotopaxi 1	2.27	125	P		Pn		16 21 15.0	+1.8
BVC2	Cotopaxi Volca	2.27	126	P		Pn		16 21 15.0	+1.7
BMOR	Cotopaxi Volca	2.27	128	P		Pn		16 21 15.0	+1.6
ECEN	Cerro Negro	2.29	86	P		Pn		16 21 14.0	+0.5
BTAM	Cotopaxi Volca	2.29	126	P		Pn		16 21 16.0	+2.4
CHL1	Volc¡n Chiles	2.31	87	P		Pn		16 21 15.0	+1.2
ANTG	Antisana-Guama	2.32	120	P		Pn		16 21 16.0	+2.1
ANGU	Angureal	2.33	105	P		Pn		16 21 16.0	+1.8
CHL2	Volc¡n Chiles	2.34	87	P		Pn		16 21 15.0	+0.8
VCES	Cotopaxi	2.37	128	P		Pn		16 21 16.0	+1.4
ANTI	Antisana	2.37	118	P		Pn		16 21 17.0	+2.3
ANTS	Antisana-Sarah	2.39	119	P		Pn		16 21 17.0	+2.1
CMBC	Cumbal	2.44	84	*e*P		Pn		16 21 17.1	+1.5
TULM	Tulcn-Chalpat	2.47	89	Pn		Pn		16 21 18.7	+2.8
TULM	Tulcn-Chalpat	2.47	89	*e*P		Pb		16 21 18.9	-1.0
PORT	Chimborazo Vol	2.59	145	Pn		Pn		16 21 19.0	+1.3
PORT	Chimborazo Vol	2.59	145	P		Pn		16 21 18.0	+0.3
TAMH	Tambohuasha Ch	2.65	146	P		Pn		16 21 19.0	+0.6
CONE	Cono NE Rev Vo	2.71	106	P		Pb		16 21 23.0	-1.1
BONI	La Bonita	2.73	95	P		Pn		16 21 22.0	+2.6
JUI6	Juive	2.74	139	P		Pn		16 21 22.0	+2.4
BBIL	Ulba Tungurahu	2.75	140	P		Pn		16 21 23.0	+3.3
POND	Pondoa	2.75	139	P		Pn		16 21 22.0	+2.2
RETU	Refugio	2.78	139	P		Pn		16 21 22.0	+1.7
BMAS	Trigal station	2.80	141	P		Pn		16 21 23.0	+2.6
ARRY	Arrayan	2.81	140	P		Pn		16 21 23.0	+2.4
CCUFI	Cufio, Nario	2.96	79	*e*P		Pn		16 21 24.4	+1.7
ARDO	Archidona, Ten	2.96	124	P		Pn		16 21 24.0	+1.6
GCUF	Volcan Galeras	2.96	79	*e*P		Pn		16 21 24.1	+1.4
COHC	Cochancay	3.27	162	Pn		Pn		16 21 26.8	+0.1
SOTA	Rioblanco	3.92	68	*e*P		Pn		16 21 37.0	+1.0
POPC	Popayan, Colom	4.03	63	*e*P		Pn		16 21 37.6	+0.4
BOSC	San Juan Bosco	4.19	155	Pn		Pn		16 21 43.3	+4.0
PCON	Cinco Dias	4.19	67	*e*P		Pn		16 21 40.6	+0.9
ARNL	Arenillas	4.20	177	Pn		Pn		16 21 42.7	+3.4
MARP	Paez Belalcaza	4.81	63	*e*P		Pn		16 21 52.2	+4.2
GARC	Garzon, Huila	4.99	72	*e*P		Pn		16 21 52.1	+1.6
MCRA	Macar, Loja	5.02	177	Pn		Pn		16 21 53.2	+2.5
YOTC	Yotoco, Valle	5.11	50	*e*P		Pn		16 21 54.3	+2.4
BETC	Betania	5.21	67	*e*P		Pn		16 21 58.7	+5.4
PTLC	Puerto Leguiza	5.48	95	*e*P		Pn		16 22 00.1	+3.1
PLMC	San Jos del P	5.78	43	*e*P		Pn		16 22 04.3	+3.1
ORTC	Ortega, Tolima	5.95	57	*e*P		Pn		16 22 08.7	+5.3
MACC	Macarena, Meta	6.57	77	*e*P		Pn		16 22 15.1	+3.1
GUY2C	Guyana, Caldas	6.65	47	*e*P		Pn		16 22 16.1	+2.5
CBOC	Ciudad Bolivar	6.67	39	*e*P		Pn		16 22 16.7	+3.2
ROSC	El Rosal	7.23	55	Pn		Pn		16 22 23.5	+2.1
	2.7nm,0.3s,baz=119,slow=19,SNR=2.1								
ROSC						Sn		**Sn**	**16 23 44.7**	**+0.9**
	3.4nm,0.3s,baz=268,slow=23,SNR=1.7								
ROSC	El Rosal	7.23	55	Pn		Pn		16 22 23.3	+1.9
ROSC	El Rosal	7.23	55	*e*P		Pn		16 22 30.4	+9.0
HELC	Santa Helena	7.23	41	*e*P		Pn		16 22 20.6	-0.8
NORC	Norcasia	7.25	48	*e*P		Pn		16 22 25.4	+4.1
VILC	Villavicencio,	7.39	62	*e*P		Pn		16 22 28.5	+5.1
DBBC	Dabeiba	7.48	33	*e*P		Pn		16 22 27.5	+3.0
CHIC	Chingaza	7.61	59	*e*P		Pn		16 22 30.0	+3.4
SPBC	San Pablo de B	7.91	51	*e*P		Pn		16 22 31.5	+1.1
PTBC	PUERTO BERRIO,	8.21	45	*e*P		Pn		16 22 38.7	+4.2
UREC	San Jos de Ur	8.46	34	*e*P		Pn		16 22 39.8	+1.9
ZAR

JCT	**Junction City**	**34.98**	**330**	P	**P**	**16 27 30.1**	**+2.2**
JCT				IAmb	IAmb	16 27 34.4	
	comp=Z,9.3nm,1.0s						
MT01	**Popeta**	**35.38**	**167**	P	**P**	**16 27 32.0**	**+0.8**
MT01				IAmb	IAmb	16 27 40.4	
	comp=Z,17nm,1.4s						
V48A	**Smith Brothers**	**35.42**	**351**	P	**P**	**16 27 30.5**	**-1.1**
V48A				IAmb	IAmb	16 27 58.8	
	comp=Z,8.8nm,1.1s						
BDFB	**Brasilia**	**35.74**	**118**	P	**P**	**16 27 34.2**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=256,slow=11,SNR=2.1						
BO01	**Tunca**	**35.93**	**167**	P	**P**	**16 27 37.3**	**+1.4**
TX32	**Lajitas Array**	**36.20**	**324**	P	**P**	**16 27 40.1**	**+1.6**
TXAR	**Lajitas Array**	**36.20**	**324**	P	**P**	**16 27 39.4**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=134,slow=7.2,SNR=8.4						
TXAR				PcP	**PcP**	**16 30 02.9**	**-1.1**
	comp=Z,1.9nm,1.2s,baz=138,slow=7.7,SNR=4.4						
TXAR	**Lajitas Array**	**36.20**	**324**	P	**P**	**16 27 39.7**	**+1.2**
TX31	**Lajitas Ar. Si**	**36.20**	**324**	P	**P**	**16 27 40.1**	**+1.6**
GO05	**Huala**	**36.34**	**168**	P	**P**	**16 27 40.4**	**+0.9**
GO05				IAmb	IAmb	16 27 40.9	
	comp=Z,9.4nm,0.7s						
IPMB	**Ipameri, GO**	**36.57**	**122**	*eP*	**P**	**16 27 41.3**	**-0.4**
W39A	**Magazine**	**36.59**	**341**	P	**P**	**16 27 44.9**	**+3.3**
LCAR	**Lake Charles**	**36.65**	**345**	P	**P**	**16 27 40.5**	**-1.4**
LCAR				IAmb	IAmb	16 27 46.5	
	comp=Z,7.3nm,0.7s						
ABTX	**Abilene, Hawle**	**36.66**	**332**	P	**P**	**16 27 43.8**	**+1.6**
SLBS	**Sierra La Lagu**	**36.77**	**311**	P	**P**	**16 27 44.4**	**+1.0**
SLBS				IAmb	IAmb	16 27 50.2	
	comp=Z,15nm,1.1s						
S51A	**Beattyville**	**36.91**	**356**	P	**P**	**16 27 43.5**	**-0.8**
U40A	**Yellville**	**37.38**	**343**	P	**P**	**16 27 47.3**	**-0.9**
R55A	**Marlinton**	**37.43**	**0**	P	**P**	**16 27 48.7**	**0.0**
R55A				IAmb	IAmb	16 28 00.6	
	comp=Z,14nm,1.3s						
S39A	**Bolivar**	**38.76**	**343**	P	**P**	**16 27 59.0**	**-0.9**
MNTX	**Cornudas Mount**	**38.94**	**325**	P	**P**	**16 28 01.2**	**-0.3**
R40A	**Maddies Statio**	**39.03**	**345**	P	**P**	**16 28 03.4**	**+1.3**
T35A	**Sooner Cattle**	**39.08**	**339**	P	**P**	**16 28 03.0**	**+0.4**
AMTX	**Amarillo**	**39.48**	**332**	P	**P**	**16 28 06.6**	**+0.6**
LC01	**Cunco**	**40.12**	**170**	P	**P**	**16 28 11.6**	**+0.3**
LC01				IAmb	IAmb	16 28 18.1	
	comp=Z,20nm,1.2s						
121A	**Cookes Peak, D**	**40.95**	**323**	P	**P**	**16 28 19.8**	**+1.4**
121A				IAmb	IAmb	16 28 27.4	
	comp=Z,16nm,1.1s						
PLTB	**Pedras Altas**	**40.96**	**144**	P	**P**	**16 28 18.5**	**+0.1**
KSU1	**Kansas State U**	**41.07**	**341**	P	**P**	**16 28 20.1**	**+1.0**
KSU1				IAmb	IAmb	16 28 25.8	
	comp=Z,15nm,0.8s						
319A	**Douglas**	**41.07**	**321**	P	**P**	**16 28 21.5**	**+2.1**
319A				IAmb	IAmb	16 28 26.3	
	comp=Z,11nm,1.0s						
BNM	**Barren Site**	**41.46**	**326**	P	**P**	**16 28 24.1**	**+1.5**
LENM	**Lemitar**	**41.66**	**326**	P	**P**	**16 28 26.7**	**+2.5**
ANMO	**Albuquerque**	**41.95**	**327**	P	**P**	**16 28 27.5**	**+0.8**
ANMO				IAmb	IAmb	16 28 35.1	
	comp=Z,13nm,1.0s						
PLCA	**Paso Flores**	**42.15**	**169**	P	**P**	**16 28 28.0**	**0.0**
	comp=Z,8.2nm,0.7s,baz=340,slow=9.6,SNR=16						
PLCA	**Paso Flores**	**42.15**	**169**	IAmb	IAmb	16 28 29.6	
	comp=Z,11nm,0.8s						
T25A	**Trinidad**	**42.60**	**331**	P	**P**	**16 28 34.8**	**+2.9**
T25A				IAmb	IAmb	16 28 41.4	
	comp=Z,16nm,1.2s						
TUC	**Tucson**	**42.65**	**321**	P	**P**	**16 28 32.0**	**-0.2**
214A	**Organ Pipe Nat**	**43.73**	**319**	P	**P**	**16 28 41.4**	**+0.4**
214A				IAmb	IAmb	16 28 49.3	
	comp=Z,9.3nm,1.0s						
X16A	**Lo Mia Camp, P**	**44.46**	**322**	IAmb	IAmb	16 28 53.3	
	comp=Z,8.0nm,0.8s						
MVCO	**Mesa Verde**	**44.74**	**328**	IAmb	IAmb	16 28 55.7	
	comp=Z,7.2nm,1.0s						
K31A	**O'Neill**	**44.95**	**341**	P	**P**	**16 28 49.7**	**-0.8**
Y14A	**Wickenburg**	**45.12**	**321**	P	**P**	**16 28 52.5**	**+0.4**
SMCO	**Snowmass**	**45.45**	**331**	IAmb	IAmb	16 29 01.8	
	comp=Z,7.6nm,0.9s						
PV15	**Paradox Valley**	**45.57**	**329**	P	**P**	**16 28 57.0**	**+1.2**
PV15				IAmb	IAmb	16 29 01.7	
	comp=Z,6.8nm,0.8s						
PV07	**Paradox Valley**	**45.73**	**329**	IAmb	IAmb	16 29 03.7	
	comp=Z,7.4nm,0.9s						
YUH	**Yuha Desert**	**46.24**	**317**	IAmb	IAmb	16 29 07.5	
	comp=Z,6.3nm,1.1s						
U15A	**North Rim**	**46.33**	**324**	P	**P**	**16 29 02.7**	**+0.8**
U15A				IAmb	IAmb	16 29 12.0	
	comp=Z,13nm,1.4s						
KNB	**Kanab**	**47.04**	**324**	P	**P**	**16 29 09.4**	**+2.1**
KNB				IAmb	IAmb	16 29 14.3	
	comp=Z,6.1nm,0.8s						
PFO	**Pinyon Flats O**	**47.17**	**318**	P	**P**	**16 29 10.4**	**+2.0**
PFO				IAmb	IAmb	16 29 12.1	
	comp=Z,5.7nm,1.1s						
SRU	**San Rafael Swe**	**47.22**	**328**	IAmb	IAmb	16 29 15.5	
	comp=Z,8.6nm,0.9s						
LCMT	**Little Creek M**	**47.29**	**324**	IAmb	IAmb	16 29 17.5	
	comp=Z,5.4nm,1.0s						
P17A	**Butcher Ranch,**	**47.60**	**328**	P	**P**	**16 29 12.2**	**+0.6**
P17A				IAmb	IAmb	16 29 17.8	
	comp=Z,4.9nm,1.0s						
CCUT	**Cedar City**	**47.72**	**324**	IAmb	IAmb	16 29 21.4	
	comp=Z,8.0nm,1.1s						
K22A	**Casper**	**47.98**	**334**	IAmb	IAmb	16 29 22.2	
	comp=Z,8.6nm,1.1s						
SHPR	**Sheep Range**	**48.12**	**322**	IAmb	IAmb	16 29 28.4	
	comp=Z,5.7nm,1.2s						
RSSD	**Black Hills**	**48.16**	**337**	P	**P**	**16 29 16.1**	**+0.2**
GSC	**Goldstone, Bar**	**48.41**	**319**	IAmb	IAmb	16 29 25.5	
	comp=Z,4.6nm,0.9s						
PSUT	**Pine Spring**	**48.67**	**325**	IAmb	IAmb	16 29 27.1	
	comp=Z,5.3nm,1.0s						
GWY	**Greenwater Val**	**48.86**	**320**	P	**P**	**16 29 22.7**	**+1.2**
GWY				IAmb	IAmb	16 29 23.7	
	comp=Z,6.8nm,1.2s						
PDAR	**Pinedale Array**	**49.46**	**332**	P	**P**	**16 29 26.1**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=134,slow=8.5,SNR=9.7						
R11A	**Troy Canyon, C**	**49.56**	**323**	P	**P**	**16 29 28.3**	**+1.5**
HWUT	**Hardware Ranch**	**49.58**	**329**	IAmb	IAmb	16 29 44.5	
	comp=Z,8.2nm,1.3s						
ISA	**Isabella, Lake**	**49.72**	**319**	P	**P**	**16 29 28.7**	**+0.8**
ISA				IAmb	IAmb	16 29 35.4	
	comp=Z,9.5nm,1.4s						
BGU	**Big Grassy Mou**	**49.86**	**328**	IAmb	IAmb	16 29 35.8	
	comp=Z,7.1nm,1.1s						
HVU	**Hansel Valley**	**50.33**	**329**	P	**P**	**16 29 34.2**	**+1.7**
MOOW	**Moose Ponds**	**50.77**	**332**	P	**P**	**16 29 36.6**	**+0.7**
FLWY	**Flagg Ranch**	**51.00**	**332**	IAmb	IAmb	16 29 50.1	
	comp=Z,15nm,1.5s						
ULM	**Lac du Bonnet**	**51.16**	**347**	P	**P**	**16 29 36.5**	**-1.9**
	comp=Z,6.0nm,0.6s,baz=145,slow=9.5,SNR=5.5						
ULM	**Lac du Bonnet**	**51.16**	**347**	IAmb	IAmb	16 29 37.2	
	comp=Z,6.4nm,0.7s						
NV11	**Mina Array Sit**	**51.18**	**322**	IAmb	IAmb	16 29 45.7	
	comp=Z,11nm,1.0s						
OMMB	**Old Mammoth Mi**	**51.21**	**320**	IAmb	IAmb	16 29 46.9	
	comp=Z,6.7nm,1.0s						
NVAR	**Mina Array Bea**	**51.27**	**322**	P	**P**	**16 29 39.7**	**-0.1**
	comp=Z,6.2nm,0.9s,baz=135,slow=6.3,SNR=31						
MDPB	**Devils Postpil**	**51.28**	**320**	IAmb	IAmb	16 29 46.8	
	comp=Z,9.4nm,1.0s						
LHV	**Little Huntoon**	**51.28**	**321**	P	**P**	**16 29 40.7**	**+1.2**
KVN	**Kaiserville**	**51.53**	**322**	IAmb	IAmb	16 29 48.8	
	comp=Z,8.6nm,1.1s						
RYN	**Ryan**	**51.53**	**322**	IAmb	IAmb	16 29 50.3	
	comp=Z,11nm,1.1s						
YMR	**Madison River**	**51.57**	**332**	IAmb	IAmb	16 29 49.4	
	comp=Z,9.2nm,1.2s						
BMN	**Battle Mountai**	**51.88**	**324**	IAmb	IAmb	16 29 52.2	
	comp=Z,8.8nm,1.1s						
YERR	**Yerington**	**52.19**	**322**	P	**P**	**16 29 47.2**	**+0.7**
MFID	**Camas Ranch**	**53.08**	**328**	IAmb	IAmb	16 30 01.1	
	comp=Z,9.9nm,1.1s						
LRM	**Limekiln Ridge**	**53.13**	**332**	P	**P**	**16 29 53.4**	**-0.1**
EGMT	**Eagleton**	**53.64**	**336**	IAmb	IAmb	16 30 03.4	
	comp=Z,9.6nm,1.0s						
ORV	**Oroville**	**53.94**	**321**	IAmb	IAmb	16 30 07.6	
	comp=Z,7.9nm,1.1s						
WVOR	**Wild Horse Val**	**53.98**	**325**	IAmb	IAmb	16 30 17.4	
	comp=Z,8.1nm,1.1s						
PLID	**Pearl Lake**	**54.33**	**329**	IAmb	IAmb	16 30 09.9	
	comp=Z,6.6nm,1.2s						
MSO	**Missoula**	**54.57**	**332**	IAmb	IAmb	16 30 12.8	
	comp=Z,8.8nm,1.2s						
JTMT	**Jette**	**55.40**	**333**	P	**P**	**16 30 09.7**	**-0.2**
JTMT				IAmb	IAmb	16 30 15.9	
	comp=Z,4.3nm,0.7s						
F10A	**Beach Ranch, E**	**55.56**	**329**	IAmb	IAmb	16 30 22.0	
	comp=Z,5.4nm,0.9s						
L04D	**Klamath Falls**	**55.99**	**323**	IAmb	IAmb	16 30 24.0	
	comp=Z,9.3nm,0.8s						
PINE	**Pine Mountain**	**56.14**	**325**	P	**P**	**16 30 16.5**	**+1.1**
PINE				IAmb	IAmb	16 30 21.8	
	comp=Z,10nm,1.1s						
USHA	**Ushuaia**	**56.17**	**172**	P	**P**	**16 30 12.7**	**-2.3**
	comp=Z,14nm,0.9s,baz=355,slow=1.8,SNR=3.6						
FFC	**Flin Flon**	**56.75**	**345**	P	**P**	**16 30 19.0**	**-0.2**
NEW	**Newport**	**57.10**	**331**	LR	LR	16 55 52.6	
	comp=Z,79nm,18.2s,baz=157,slow=37						
YKA	**Yellowknife Ar**	**66.82**	**343**	P	**P**	**16 31 26.1**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=137,slow=6.0,SNR=54						
DLBC	**Dease Lake**	**69.54**	**335**	IAmb	IAmb	16 31 52.7	
	comp=Z,7.1nm,0.9s						
DBIC	**Dimbokro**	**75.42**	**83**	P	**P**	**16 32 20.1**	**0.0**
	comp=Z,7.5nm,0.9s,baz=243,slow=9.5,SNR=3.0						
DBIC	**Dimbokro**	**75.42**	**83**		**P**	**16 32 19.4**	**-0.6**
DAWY	**Dawson**	**76.35**	**337**	IAmb	IAmb	16 32 24.9	
	comp=Z,3.8nm,0.8s						
KOWA	**Kowa**	**76.51**	**75**	P	**P**	**16 32 26.0**	**-0.2**
INK	**Inuvik**	**76.52**	**342**	IAmb	IAmb	16 32 32.6	
	comp=Z,6.7nm,0.9s						
I29M	**Ogilvie Camp,**	**76.56**	**339**	IAmb	IAmb	16 32 31.5	
	comp=Z,7.1nm,0.9s						
BCAR	**Beaver Creek A**	**76.85**	**336**	P	**P**	**16 32 26.9**	**-0.3**
L27K	**Beaver Creek,**	**76.87**	**336**	P	**P**	**16 32 27.2**	**-0.2**
L27K				IAmb	IAmb	16 32 35.3	
	comp=Z,6.9nm,1.1s						
DOT	**Dot Lake**	**78.03**	**336**	IAmb	IAmb	16 32 40.7	
	comp=Z,11nm,1.2s						
SCRK	**Sand Creek**	**78.13**	**336**	P	**P**	**16 32 33.8**	**-0.7**
SCRK				IAmb	IAmb	16 32 41.8	
	comp=Z,7.1nm,1.0s						
RIDG	**Independent Ri**	**78.39**	**336**	IAmb	IAmb	16 32 41.2	
	comp=Z,9.2nm,1.0s						
ESDC	**Sonoma Array**	**79.03**	**50**	P	**P**	**16 32 40.5**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=264,slow=5.8,SNR=9.1						
ESDC	**Sonseca Array**	**79.03**	**50**	P	**P**	**16 32 39.4**	**-0.5**
ILAR	**Eielson Array**	**79.60**	**336**	P	**P**	**16 32 41.8**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=122,slow=4.5,SNR=11						
ILAR	**Eielson Array**	**79.60**	**336**	P	**P**	**16 32 41.3**	**-1.1**
BMAR	**Burnt Mountain**	**79.75**	**339**	P	**P**	**16 32 43.1**	**-0.1**
I23K	**Minto, Yukon-K**	**80.72**	**336**	IAmb	IAmb	16 32 54.4	
	comp=Z,7.2nm,1.1s						
TOA0	**Torodi Ar. Sit**	**82.01**	**77**	IAmb	IAmb	16 33 01.6	
	comp=Z,9.7nm,1.2s						
TORD	**Torodi Ar. Bea**	**82.01**	**77**	P	**P**	**16 32 55.9**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=281,slow=6.8,SNR=17						
TORD	**Torodi Ar. Bea**	**82.01**	**77**	P	**P**	**16 32 55.7**	**-0.5**
TORD				IAmb	IAmb	16 33 01.6	
	comp=Z,7.7nm,1.1s						
ZALV	**Zalesovo Beam**	**124.17**	**11**	PKP	**PKPdf**	**16 39 32.4**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=289,slow=4.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**124.17**	**11**		**PKPdf**	**16 39 32.6**	**-1.5**
MKAR	**Makanchi Array**	**130.31**	**16**	PKP	**PKPdf**	**16 39 45.1**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=345,slow=1.4,SNR=6.5						
ASAR	**Alice Springs**	**139.76**	**233**	PKhKP	PKPpre	16 39 56.5	
	comp=Z,0.5nm,0.7s,baz=127,slow=3.0,SNR=7.3						
ASAR	**Alice Springs**	**139.76**	**233**		PKPpre	16 39 56.0	
WRA	**Warramunga Arr**	**141.11**	**238**	PKhKP	PKPpre	16 40 00.8	
	comp=Z,2.0nm,0.9s,baz=114,slow=2.6,SNR=7.3						
PZH	**PanZhiHua**	**152.91**	**356**	PKPbc	**PKPdf**	**16 40 25.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**160.97**	**2**	PKPab	**PKPab**	**16 41 16.6**	**-2.6**
	comp=Z,0.5nm,0.7s,baz=350,slow=4.8,SNR=2.9						

*IDC **20** 16:30:50.8±0.6,0.˚10S×80.˚43W,h0km,mb4.4/18,*
mb1 4.6/21,mb1mx4.4/37,mbtmp4.4/21,ML3.1/2,MS3.8/32,
Ms1 3.8/32,ms1mx3.6/65,Error ellipse: s-maj=25.5km
s-min=11.0km az=58.0
*IGQ **20** 16:30:52±0.7,0˚S±3˚×81˚W±˚,h3km*
*VAO **20** 16:30:52.5±0.7,0.˚23S×80.˚48W,h10km,mb4.9*
*NEIC **20** 16:30:53.5±2.7,0.˚26S±0.˚05×80.˚39W±0.˚06,h10km±1km,*
mb4.7/125,Error ellipse: s-maj=9.7km s-min=8.8km
az=242.0

ISC 20 16:30:52.4±0.4,0.˚20S±0.˚04×80.˚51W±0.˚04,h9km,n304,
σ1s32/248,mb4.7/77,MS3.7/33,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op		ISC	h	m	s	ISC
JAMA	**Jama**	**0.31**	**102**	P		**Pg**	**16**	**30**	**59.0**	**+0.4**
JAMA				S		**Sg**	**16**	**31**	**05.0**	**+2.3**
FLF1	**Flavio Alfaro-**	**0.68**	**103**	P		**Pb**	**16**	**31**	**07.0**	**+0.5**
MAG1	**Magdalena**	**0.75**	**80**	P		**Pg**	**16**	**31**	**07.0**	**+0.2**
AMNT	**Manta-Manabi**	**0.77**	**197**	P		**Pg**	**16**	**31**	**07.0**	**-0.3**
AV21	**Acelerografo,**	**1.29**	**48**	P		**Pn**	**16**	**31**	**15.0**	**-1.6**
AMA1	**Acelerografo,**	**1.37**	**35**	P		**Pn**	**16**	**31**	**17.0**	**-0.8**
APR2	**Miler**	**1.56**	**80**	P		**Pn**	**16**	**31**	**20.0**	**-0.5**
PAC1	**Pacto, Paraso**	**1.78**	**75**	*eP*		**Pn**	**16**	**31**	**21.2**	**-2.3**
PAC1				*eS*		**Sn**	**16**	**31**	**46.8**	**+0.5**
ILLI	**Illinizas Sur**	**1.85**	**106**	P		**Pn**	**16**	**31**	**24.0**	**-0.8**
HPAL	**Hacienda Las P**	**1.86**	**91**	P		**Pn**	**16**	**31**	**23.0**	**-1.7**
GGPT	**Toaza - Volcan**	**1.89**	**91**	P		**Pn**	**16**	**31**	**25.0**	**-0.2**
APR1	**Acelerografo,**	**1.90**	**85**	P		**Pn**	**16**	**31**	**25.0**	**-0.4**
PINO	**Pino**	**1.90**	**89**	P		**Pn**	**16**	**31**	**24.0**	**-1.6**
JUA2	**San Juan 2**	**1.90**	**90**	P		**Pn**	**16**	**31**	**25.0**	**-0.5**
TERV	**Terraza Guagua**	**1.90**	**89**	P		**Pn**	**16**	**31**	**25.0**	**-0.6**
PAST	**Pastocalle**	**1.93**	**105**	P		**Pn**	**16**	**31**	**25.0**	**-0.8**
YANA	**Yana**	**1.94**	**88**	P		**Pn**	**16**	**31**	**25.0**	**-1.0**
PULU	**Pululahua**	**2.02**	**84**	Pn		**Pn**	**16**	**31**	**27.2**	**+0.2**
PULU	**Pululahua**	**2.02**	**84**	P		**Pn**	**16**	**31**	**27.0**	**0.0**
CAMI	**Rancho Maria**	**2.06**	**103**	P		**Pn**	**16**	**31**	**27.0**	**-0.6**
BNAS	**Cotopaxi Volca**	**2.08**	**103**	P		**Pn**	**16**	**31**	**28.0**	**0.0**
CHSH	**Refugio Sur-Vo**	**2.08**	**128**	P		**Pn**	**16**	**31**	**29.0**	**+0.9**
NAS2	**Nasa**	**2.09**	**102**	P		**Pn**	**16**	**31**	**28.0**	**-0.1**
OTAV	**Otavalo**	**2.10**	**78**	Pn		**Pn**	**16**	**31**	**27.4**	**-0.8**
PITA	**Cotopaxi Volc**	**2.11**	**100**	P		**Pn**	**16**	**31**	**29.0**	**+0.7**
BMOR	**Cotopaxi Volca**	**2.12**	**104**	P		**Pn**	**16**	**31**	**29.0**	**+0.5**
BREF	**Cotopaxi Volca**	**2.12**	**103**	P		**Pn**	**16**	**31**	**29.0**	**+0.4**
PORT	**Chimborazo Vol**	**2.14**	**126**	Pn		**Pn**	**16**	**31**	**28.6**	**-0.2**
PORT	**Chimborazo Vol**	**2.14**	**126**	P		**Pn**	**16**	**31**	**29.0**	**+0.1**
BVC2	**Cotopaxi Volca**	**2.15**	**102**	P		**Pn**	**16**	**31**	**29.0**	**+0.1**
VC1	**Cotopaxi 1**	**2.15**	**102**	P		**Pn**	**16**	**31**	**30.0**	**+1.1**
BTAM	**Cotopaxi Volca**	**2.16**	**103**	P		**Pn**	**16**	**31**	**30.0**	**+0.9**
CUSE	**Cuicocha Este**	**2.17**	**77**	*eP*		**Pn**	**16**	**31**	**28.9**	**-0.1**
CUSE				*eS*		**Sn**	**16**	**31**	**57.0**	**+0.7**
CUSE	**Cuicocha Este**	**2.17**	**77**	P		**Pn**	**16**	**31**	**29.0**	**-0.1**
TAMH	**Tambohuasha Ch**	**2.18**	**128**	P		**Pn**	**16**	**31**	**30.0**	**+0.6**
VCES	**Cotopaxi**	**2.20**	**106**	P		**Pn**	**16**	**31**	**30.0**	**+0.4**
CUIC	**Cuicocha-Domo**	**2.21**	**77**	P		**Pn**	**16**	**31**	**30.0**	**+0.4**
CUSW	**Cuicocha Oeste**	**2.21**	**77**	P		**Pn**	**16**	**31**	**30.0**	**+0.4**
COTA	**Cotacachi**	**2.23**	**76**	P		**Pn**	**16**	**31**	**30.0**	**-0.1**
IGUA	**Igualata**	**2.27**	**124**	P		**Pn**	**16**	**31**	**32.0**	**+1.4**
ANTG	**Antisana-Guama**	**2.27**	**98**	P		**Pn**	**16**	**31**	**32.0**	**+1.3**
ANTS	**Antisana-Sarah**	**2.36**	**97**	P		**Pn**	**16**	**31**	**32.0**	**+0.2**
ANTI	**Antisana**	**2.36**	**96**	P		**Pn**	**16**	**31**	**33.0**	**+1.1**
ALLT	**Ecuador-Imbabu**	**2.36**	**65**	P		**Pn**	**16**	**31**	**32.0**	**+0.5**
BBIL	**Ulba Tungurahu**	**2.37**	**122**	P		**Pn**	**16**	**31**	**33.0**	**+1.2**
JUI6	**Juive**	**2.38**	**121**	P		**Pn**	**16**	**31**	**33.0**	**+1.2**
PIAT	**Ana Tenorio**	**2.38**	**109**	P		**Pn**	**16**	**31**	**33.0**	**+1.0**
POND	**Pondoa**	**2.39**	**121**	P		**Pn**	**16**	**31**	**33.0**	**+1.0**
BMAS	**Trigal station**	**2.41**	**123**	P		**Pn**	**16**	**31**	**33.0**	**+0.7**
RETU	**Refugio**	**2.41**	**121**	P		**Pn**	**16**	**31**	**34.0**	**+1.5**
ARRY	**Arrayan**	**2.43**	**122**	P		**Pn**	**16**	**31**	**34.0**	**+1.4**
BPAT	**Tungurahua Vol**	**2.45**	**122**	P		**Pn**	**16**	**31**	**35.0**	**+2.0**
YAHU	**Yahuarcocha**	**2.50**	**77**	P		**Pn**	**16**	**31**	**35.0**	**+1.4**
CAYR	**Refugio Cayamb**	**2.51**	**85**	P		**Pn**	**16**	**31**	**36.0**	**+2.0**
ANGU	**Angureal**	**2.51**	**84**	P		**Pb**	**16**	**31**	**37.0**	**-1.1**
COHC	**Cochancay**	**2.58**	**151**	Pn		**Pn**	**16**	**31**	**33.7**	**-0.7**
CHMA	**Chilma**	**2.66**	**67**	P		**Pn**	**16**	**31**	**35.0**	**-0.8**
LNGL	**El Angel-Carch**	**2.67**	**70**	P		**Pn**	**16**	**31**	**36.0**	**-0.1**
ECEN	**Cerro Negro**	**2.73**	**68**	P		**Pn**	**16**	**31**	**37.0**	**0.0**
CHL1	**Volcın Chiles**	**2.75**	**69**	P		**Pn**	**16**	**31**	**37.0**	**-0.1**
ISPG	**Isla Puna-Puer**	**2.77**	**173**	P		**Pn**	**16**	**31**	**38.0**	**+0.9**
CHL2	**Volcın Chiles**	**2.77**	**69**	P		**Pn**	**16**	**31**	**38.0**	**+0.5**
SANGA	**Volcan Sangay**	**2.82**	**131**	P		**Pn**	**16**	**31**	**39.0**	**+0.9**
ARDO	**Archidona, Ten**	**2.82**	**106**	P		**Pn**	**16**	**31**	**39.0**	**+1.2**
CONE	**Cono NE Rev Vo**	**2.87**	**87**	P		**Pb**	**16**	**31**	**42.0**	**-2.0**
TULM	**Tulcn-Chalpat**	**2.87**	**72**	Pn		**Pn**	**16**	**31**	**40.9**	**+2.1**
TULM	**Tulcn-Chalpat**	**2.87**	**72**	*eP*		**Pn**	**16**	**31**	**41.3**	**+2.6**
CMBC	**Cumbal**	**2.91**	**67**	*eP*		**Pn**	**16**	**31**	**41.3**	**+1.9**
BONI	**La Bonita**	**3.05**	**78**	P		**Pn**	**16**	**31**	**44.0**	**+2.9**
ARNL	**Arenillas**	**3.36**	**172**			**Pn**	**16**	**31**	**46.7**	**+1.7**
ARNL	**Arenillas**	**3.36**	**172**	P		**Pn**	**16**	**31**	**46.0**	**+1.0**
CCUFI	**Cufio, Nario**	**3.46**	**66**	*eP*		**Pn**	**16**	**31**	**49.1**	**+2.1**
GCUF	**Volcan Galeras**	**3.46**	**66**	*eP*		**Pn**	**16**	**31**	**49.0**	**+2.0**
BOSC	**San Juan Bosco**	**3.56**	**146**	Pn		**Pn**	**16**	**31**	**51.5**	**+3.5**
BOSC	**San Juan Bosco**	**3.56**	**146**	P		**Pn**	**16**	**31**	**51.0**	**+3.0**
GR1C	**Gorgona, Isla**	**3.95**	**36**	*eP*		**Pn**	**16**	**31**	**52.6**	**-0.6**
CRUC	**La Cruz**	**3.97**	**64**	*eP*		**Pn**	**16**	**31**	**55.9**	**+2.1**
MCRA	**Macar, Loja**	**4.18**	**172**	Pn		**Pn**	**16**	**31**	**57.9**	**+1.5**
SOTA	**Rioblanco**	**4.54**	**59**	*eP*		**Pn**	**16**	**32**	**03.0**	**+1.2**
POPC	**Popayan, Colom**	**4.70**	**55**	*eP*		**Pn**	**16**	**32**	**03.9**	**+0.1**
PCON	**Cinco Dias**	**4.82**	**59**	*eP*		**Pn**	**16**	**32**	**06.5**	**+0.9**
MARP	**Paez Belalcaza**	**5.46**	**56**	*eP*		**Pn**	**16**	**32**	**15.3**	**+1.0**
GARC	**Garzon, Huila**	**5.55**	**65**	*eP*		**Pn**	**16**	**32**	**16.9**	**+1.4**
PTLC	**Puerto Leguiza**	**5.72**	**86**	*eP*		**Pn**	**16**	**32**	**18.9**	**+1.3**
YOTC	**Yotoco, Valle**	**5.88**	**45**	*eP*		**Pn**	**16**	**32**	**20.7**	**+0.8**
ORTC	**Ortega, Tolima**	**6.66**	**52**	*eP*		**Pn**	**16**	**32**	**33.4**	**+2.9**
MACC	**Macarena, Meta**	**7.05**	**71**	*eP*		**Pn**	**16**	**32**	**36.8**	**+0.9**
GUY2C	**Guyana, Caldas**	**7.44**	**44**	*eP*		**Pn**	**16**	**32**	**46.1**	**+4.4**
CBOC	**Ciudad Bolivar**	**7.51**	**37**	*eP*		**Pn**	**16**	**32**	**45.6**	**+3.2**
ROSC	**El Rosal**	**7.95**	**51**	Pn		**Pn**	**16**	**32**	**52.1**	**+3.5**
	2.5nm,0.3s,baz=189,slow=8.7,SNR=6.1									
ROSC				LR		LR	16	36	14.6	
	comp=Z,955nm,18.4s,baz=190,slow=41									
ROSC	**El Rosal**	**7.95**	**51**	Pn		**Pn**	**16**	**32**	**51.6**	**+3.0**
ROSC	**El Rosal**	**7.95**	**51**	*eP*		**Pn**	**16**	**32**	**53.3**	**+4.6**
NORC	**Norcasia**	**8.03**	**44**	*eP*		Pn	16	32	55.7	+6.3
VILC	**Villavicencio,**	**8.04**	**58**	*eP*		**Pn**	**16**	**32**	**52.8**	**+3.2**
UREC	**San Jos de Ur**	**9.33**	**32**	*eP*		**Pn**	**16**

ITAB	Concordia	38.28	137	*eP*	P	16 38 13.0	-0.4	
TUL1	Leonard	38.64	340	P	P	16 38 15.3	-1.0	
TUL1				IAmb	IAmb	16 38 20.7		
	comp=Z,16nm,1.2s							
JANB	Januaria	38.69	114	*eP*	P	16 38 15.8	-1.3	
MGMO	Mountain Grove	38.73	345	IAmb	IAmb	16 38 17.2		
	comp=Z,13nm,1.1s							
RCLB	Rio Claro- Sao	38.96	127	*eP*	P	16 38 18.2	-1.0	
FVM	French Village	39.08	348	IAmb	IAmb	16 38 20.1		
	comp=Z,12nm,0.9s							
CCM	Cathedral Cave	39.33	347	P	P	16 38 20.4	-1.6	
MNTX	Cornudas Mount	39.51	326	P	P	16 38 23.5	-0.1	
MC01	Montes Claros	39.59	116	*eP*	P	16 38 23.8	-0.8	
VAO	Valinhos	39.71	127	*eP*	P	16 38 24.5	-0.9	
T35A	Sooner Cattle	39.80	340	P	P	16 38 25.9	0.0	
T35A				IAmb	IAmb	16 38 26.8		
	comp=Z,11nm,0.9s							
MSTX	Muleshoe	39.90	331	IAmb	IAmb	16 38 28.4		
	comp=Z,16nm,0.8s							
AMTX	Amarillo	40.12	333	P	P	16 38 28.9	+0.1	
DIAM	Diamantina, MG	40.41	119	*eP*	P	16 38 28.2	-3.2	
PLTB	Pedras Altas	40.41	144	P	P	16 38 30.9	-0.3	
PLTB				IAmb	IAmb	16 38 40.4		
	comp=Z,36nm,1.3s							
PLCA	Paso Flores	41.35	169	P	P	16 38 39.8	+1.0	
	comp=Z,14nm,1.0s,baz=343,slow=10,SNR=9.7							
PLCA	Paso Flores	41.35	169	P	P	16 38 39.2	+0.4	
121A	Cookes Peak, D	41.50	324	P	P	16 38 41.2	+0.9	
KSU1	Kansas State U	41.80	341	P	P	16 38 42.2	-0.3	
KSU1				IAmb	IAmb	16 38 43.1		
	comp=Z,19nm,0.9s							
BNM	Barren Site	42.04	327	P	P	16 38 45.5	+0.7	
ANMO	Albuquerque	42.55	328	P	P	16 38 49.2	+0.3	
TUC	Tucson	43.16	321	P	P	16 38 54.2	+0.5	
T25A	Trinidad	43.24	332	IAmb	IAmb	16 38 57.7		
	comp=Z,16nm,1.4s							
N33A	J Bar K, Exete	43.56	341	P	P	16 38 56.6	-0.2	
SDCO	Great Sand Dun	44.24	331	IAmb	IAmb	16 39 04.8		
	comp=Z,9.2nm,1.2s							
W18A	Petrified Fore	44.48	325	P	P	16 39 06.3	+1.9	
SADO	Sadowa	44.79	1	LR	LR	17 00 48.6		
	comp=Z,64nm,18.5s,baz=164,slow=40							
RCBR	Riachuelo	44.88	98	LR	LR	16 59 37.7		
	comp=Z,300nm,18.1s,baz=56,slow=38							
NBAN	Anadia - AL	45.01	103	*eP*	P	16 39 08.1	-0.7	
WUAZ	Wupatki	45.71	324	P	P	16 39 15.3	+1.1	
WUAZ				IAmb	IAmb	16 39 17.2		
	comp=Z,14nm,1.1s							
SMCO	Snowmass	46.08	331	P	P	16 39 17.8	+0.4	
PV13	Radium Mtn., P	46.22	329	IAmb	IAmb	16 39 20.0		
	comp=Z,5.6nm,0.9s							
YUH	Yuha Desert	46.71	318	P	P	16 39 22.0	+0.1	
YUH				IAmb	IAmb	16 39 27.5		
	comp=Z,12nm,1.4s							
U15A	North Rim	46.88	324	P	P	16 39 24.9	+1.3	
U15A				IAmb	IAmb	16 39 26.0		
	comp=Z,9.6nm,1.4s							
PKCU	Pink Cliffs	47.60	325	P	P	16 39 30.7	+1.5	
PFO	Pinyon Flats O	47.65	318	LR	LR	16 57 51.3		
	comp=Z,58nm,19.1s,baz=150,slow=34							
SRU	San Rafael Swe	47.82	328	P	P	16 39 29.6	-1.0	
P17A	Butcher Ranch,	48.20	328	IAmb	IAmb	16 39 35.1		
	comp=Z,5.5nm,1.1s							
CCUT	Cedar City	48.27	325	P	P	16 39 35.8	+1.5	
CCUT				IAmb	IAmb	16 39 36.8		
	comp=Z,6.8nm,1.3s							
SHPR	Sheep Range	48.64	322	IAmb	IAmb	16 39 42.8		
	comp=Z,7.9nm,1.4s							
RSSD	Black Hills	48.86	338	P	P	16 39 39.1	+0.5	
RSSD				IAmb	IAmb	16 39 40.5		
	comp=Z,7.0nm,1.2s							
PDAR	Pinedale Array	50.10	332	P	P	16 39 47.5	-0.7	
	comp=Z,0.2nm,0.5s,baz=132,slow=4.4,SNR=5.6							
TPH	Tonopah	50.91	323	P	P	16 39 55.2	+0.9	
ELK	Elko	51.52	326	LR	LR	17 01 40.8		
	comp=Z,61nm,19.4s,baz=140,slow=36							
ELK	Elko	51.52	326	P	P	16 39 59.4	+0.4	
FLWY	Flagg Ranch	51.65	332	IAmb	IAmb	16 40 04.3		
	comp=Z,9.8nm,1.4s							
OMMB	Old Mammoth Mi	51.72	321	P	P	16 40 01.4	+0.8	
NVAR	Mina Array Bea	51.79	322	P	P	16 40 01.9	+0.9	
	comp=Z,3.3nm,0.9s,baz=138,slow=7.1,SNR=20							
NVAR				LR	LR	17 01 11.9		
	comp=Z,118nm,18.5s,baz=162,slow=35							
NVAR	Mina Array Bea	51.79	322	P	P	16 40 01.8	+0.8	
LHV	Little Huntoon	51.81	322	IAmb	IAmb	16 40 03.3		
	comp=Z,7.9nm,1.2s							
ULM	Lac du Bonnet	51.95	348	P	P	16 40 00.2	-1.4	
	comp=Z,2.9nm,0.6s,baz=152,slow=5.7,SNR=4.2							
ULM	Lac du Bonnet	51.95	348	IAmb	IAmb	16 40 00.5		
	comp=Z,5.4nm,0.8s							
BMN	Battle Mountai	52.43	325	IAmb	IAmb	16 40 07.3		
	comp=Z,12nm,1.2s							
YERR	Yerington	52.71	322	P	P	16 40 08.8	+1.0	
MCMT	McKenzie Canyo	53.22	332	P	P	16 40 12.7	+1.2	
BOZ	Bozeman (W)	53.23	333	IAmb	IAmb	16 40 25.4		
	comp=Z,9.1nm,1.3s							
ORV	Oroville	54.45	321	IAmb	IAmb	16 40 22.4		
	comp=Z,6.2nm,0.9s							
WVOR	Wild Horse Val	54.55	326	IAmb	IAmb	16 40 25.4		
	comp=Z,11nm,1.3s							
YBH	Yreka Blue Hor	56.48	323	LR	LR	17 03 16.1		
	comp=Z,54nm,19.1s,baz=142,slow=34							
PINE	Pine Mountain	56.71	326	P	P	16 40 37.4	+0.6	
PINE				IAmb	IAmb	16 40 38.6		
	comp=Z,13nm,1.3s							
J04D	Umpqua Nationa	57.04	325	IAmb	IAmb	16 40 40.4		
	comp=Z,10nm,0.8s							
RKT	Rikitea	57.56	243	*eT*	T	17 42 11.6		
	comp=Z,1.8nm,0.3s							
H04A	Detroit Lake	57.97	326	IAmb	IAmb	16 41 05.7		
	comp=Z,8.6nm,1.3s							
HOOD	Mount Hood Mea	58.07	327	P	P	16 40 47.3	+1.1	
TAOE	Nuku Hiva Isla	60.00	260	*e*LR	LR	16 58 38.5		
	comp=Z,149nm,22.7s							
YKA	Yellowknife Ar	67.58	344	P	P	16 41 48.5	-0.5	
	comp=Z,3.7nm,0.9s,baz=136,slow=6.1,SNR=55							
PPT2	Papeete2	70.01	251	*e*LR	LR	17 03 18.6		
	comp=Z,204nm,25.8s							
SFJD	Kangerlussuaq	70.27	12	LR	LR	17 11 46.5		
	comp=Z,51nm,21.6s,baz=238,slow=35							
TBI	Tubuai	70.64	245	*e*LR	LR	17 03 38.6		
	comp=Z,113nm,27.8s							
TBI	Tubuai	70.64	245	*eT*	T	17 58 44.8		
	comp=Z,6.1nm,0.3s							
RES	Resolute Bay	75.28	356	P	P	16 42 33.6	-1.7	
	comp=Z,1.9nm,1.0s,baz=192,slow=8.7,SNR=4.7							
RES	Resolute Bay	75.28	356	IAmb	IAmb	16 42 34.9		
	comp=Z,6.2nm,1.3s							
M30M	Minto, Yukon	75.29	337	P	P	16 42 36.3	+0.6	
M30M				IAmb	IAmb	16 42 38.5		
	comp=Z,5.7nm,1.1s							
LIC	Lamto	75.59	84	*e*PKP2	P	16 42 36.7	-1.7	
	comp=Z,28nm,1.4s							
TIC	Toumodi	75.61	83	*e*PKP2	P	16 42 37.4	-1.1	
DBIC	Dimbokro	75.77	83	P	P	16 42 38.5	-0.9	
	comp=Z,11nm,1.1s,baz=326,slow=0.9,SNR=3.7							
DBIC				LR	LR	17 13 19.9		
	comp=Z,73nm,20.8s,baz=276,slow=34							
DBIC	Dimbokro	75.77	83	P	P	16 42 38.3	-1.1	
KIC	Kosan Boka	75.88	83	*e*PKP2	P	16 42 38.1	-1.9	
	comp=Z,20nm,1.0s							
PNCL	Nicolau / Gran	76.00	51	*eP*	P	16 42 41.3	+1.1	
	comp=Z,49nm,1.9s							
PESTR	Estremoz	76.87	50	*eP*	P	16 42 45.6	+0.4	
	comp=Z,70nm,1.7s							
KOWA	Kowa	76.97	75	P	P	16 42 44.2	-2.0	
PGAV	Gavieira, Arco	76.98	47	*eP*	P	16 42 46.5	+0.6	
	comp=Z,69nm,2.1s							
PVIS	Viseu	77.00	48	*eP*	P	16 42 46.3	+0.3	
	comp=Z,41nm,2.0s							
PMRV	Marv??o	77.13	49	*eP*	P	16 42 46.7	+0.1	
	comp=Z,20nm,1.6s							
PCBR	Castelo Branco	77.14	49	*eP*	P	16 42 47.5	+0.8	
	comp=Z,37nm,1.9s							
EPYK	Eagle Plains	77.23	340	IAmb	IAmb	16 42 53.4		
	comp=Z,10nm,1.4s							
INK	Inuvik	77.26	342	P	P	16 42 46.1	-0.6	
	comp=Z,8.7nm,1.1s,baz=118,slow=5.3,SNR=17							
M27K	Edge Creek, AK	77.27	335	IAmb	IAmb	16 42 48.6		
	comp=Z,5.9nm,1.0s							
I29M	Ogilvie Camp,	77.28	339	P	P	16 42 47.1	+0.2	
MCARA	McCarthy VSAT	77.34	334	IAmb	IAmb	16 42 49.2		
	comp=Z,12nm,1.1s							
BCAR	Beaver Creek A	77.54	336	P	P	16 42 48.1	-0.4	
L27K	Beaver Creek,	77.55	336	P	P	16 42 48.3	-0.2	
L27K				IAmb	IAmb	16 42 50.1		
	comp=Z,11nm,1.4s							
EGAK	Eagle	78.06	338	IAmb	IAmb	16 42 52.3		
	comp=Z,10nm,1.0s							
MDT	Midelt	78.27	57	LR	LR	17 15 12.6		
	comp=Z,24nm,21.2s,baz=348,slow=34							
DOT	Dot Lake	78.72	336	P	P	16 42 53.6	-1.4	
ESDC	Sonseca Array	79.78	50	P	P	16 43 01.3	-0.1	
	comp=Z,4.1nm,1.0s,baz=263,slow=6.3,SNR=14							
ESDC				LR	LR	17 16 24.3		
	comp=Z,38nm,20.1s,baz=308,slow=34							
ESDC	Sonseca Array	79.78	50	P	P	16 43 01.7	+0.3	
ESDC				IAmb	IAmb	16 43 02.9		
	comp=Z,10nm,1.2s							
ILAR	Eielson Array	80.29	337	P	P	16 43 02.5	-1.0	
	comp=Z,1.8nm,1.0s,baz=110,slow=3.7,SNR=9.8							
RND	Reindeer	80.62	335	IAmb	IAmb	16 43 06.4		
	comp=Z,11nm,1.2s							
H24K	Noodor Dome	81.07	337	P	P	16 43 07.5	-0.2	
H24K				IAmb	IAmb	16 43 12.2		
	comp=Z,12nm,1.4s							
NEA2	Nenana	81.11	336	IAmb	IAmb	16 43 08.4		
	comp=Z,6.9nm,1.2s							
BELA	Belgrano 2	81.34	171	P	P	16 43 09.0	+0.1	
BELA				IAmb	IAmb	16 43 09.6		
	comp=Z,9.0nm,1.2s							
BPAW	Bear Paw Mtn.	81.74	335	IAmb	IAmb	16 43 17.0		
	comp=Z,14nm,1.4s							
CAST	Castle Rocks	82.00	334	IAmb	IAmb	16 43 12.7		
	comp=Z,7.7nm,1.1s							
TOA0	Torodi Ar. Sit	82.45	77		P	16 43 15.5	-0.5	
TOA0				IAmb	IAmb	16 43 43.3		
	comp=Z,10nm,1.4s							
TORD	Torodi Ar. Bea	82.45	77	P	P	16 43 15.0	-1.0	
	comp=Z,4.8nm,1.2s,baz=266,slow=5.0,SNR=11							
TORD				LR	LR	17 19 20.1		
	comp=Z,63nm,20.1s,baz=264,slow=35							
TORD	Torodi Ar. Bea	82.45	77		P	16 43 14.9	-1.0	
TORD				IAmb	IAmb	16 43 17.0		
	comp=Z,8.0nm,1.3s							
KEST	Kesra	90.00	54	LR	LR	17 22 14.9		
	comp=Z,45nm,18.9s,baz=321,slow=34							
SPITS	Spitsbergen Ar	91.61	12	LR	LR	17 24 12.2		
	comp=Z,22nm,21.8s,baz=28,slow=35							
HFS	Hagfors	92.27	30	LR	LR	17 20 11.0		
	comp=Z,24nm,20.5s,baz=310,slow=32							
GERES	GERESS Array B	92.93	41	LR	LR	17 22 15.6		
	comp=Z,21nm,19.2s,baz=262,slow=33							
VAE	Valguarnera	94.03	53	LR	LR	17 25 50.1		
	comp=Z,28nm,19.0s,baz=211,slow=35							
VRAC	Vranov	94.79	41	LR	LR	17 23 46.8		
	comp=Z,25nm,20.0s,baz=292,slow=34							
TSUM	Tsumeb	97.58	109	LR	LR	17 25 51.3		
	comp=Z,80nm,19.6s,baz=312,slow=34							
SUR	Sutherland	99.45	123	LR	LR	17 27 25.1		
	comp=Z,80nm,18.0s,baz=284,slow=34							
DZM	Mont Dzumac	111.21	246	*e*LR	LR	17 22 31.0		
	comp=Z,1µm,36.5s							
ZALV	Zalesovo Beam	125.07	11	PKP	PKPdf	16 49 52.3	-1.0	
	comp=Z,0.5nm,0.5s,baz=107,slow=2.0,SNR=4.1							
MKAR	Makanchi Array	131.21	16	PKP	PKPdf	16 50 03.7	-1.5	
	comp=Z,0.5nm,1.0s,baz=11,slow=2.9,SNR=2.7							
MKAR	Makanchi Array	131.21	16		PKPdf	16 50 02.4	-2.9	
ASAR	Alice Springs	139.03	232	PKhKP	PKPpre	16 50 14.6		
	comp=Z,1.6nm,1.1s,baz=123,slow=3.0,SNR=8.5							
ASAR	Alice Springs	139.03	232	PKPpre	PKPpre	16 50 14.2		
WRA	Warramunga Arr	140.43	238	PKhKP	PKPpre	16 50 16.4		
	comp=Z,0.4nm,0.8s,baz=117,slow=2.3,SNR=3.2							
WRA				PKP	PKPdf	16 50 21.6	-1.5	
	comp=Z,1.0nm,0.7s,baz=108,slow=2.3,SNR=11							
WRA	Warramunga Arr	140.43	238	PKPpre	PKPpre	16 50 16.1		
PZH	PanZhiHua	153.76	355	PKPbc	PKPdf	16 50 45.1	0.0	
CMAR	Chiang Mai Arr	161.85	2	PKPab	PKPab	16 51 39.4	-1.0	
	comp=Z,1.3nm,0.9s,baz=343,slow=6.2,SNR=7.9							
CMAR	Chiang Mai Arr	161.85	2	PKPab	PKPab	16 51 38.6	-1.8	

IDC 20 16:35:58.6±8.9, 2°36S×138°46E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=380.3km s-min=32.1km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	17.94	193	P	Pn	16 40 09.6	0.0
	0.1nm,0.3s,baz=12,slow=13,SNR=5.4						
WRA				S	Sn	16 43 21.8	-8.7
	0.1nm,0.3s,baz=12,slow=23,SNR=5.3						
ASAR	Alice Springs	21.64	191	P	P	16 40 50.8	+0.1
	0.4nm,0.5s,baz=18,slow=11,SNR=11						
MKAR	Makanchi Array	69.36	322	P	P	16 47 08.2	0.0
	0.2nm,0.6s,baz=108,slow=7.7,SNR=2.6						

*IDC **20** 16:39:52.0±0.8, 30°.60N×132°.77E, h0km, mb3.8/12, mb1 3.9/15, mb1mx3.8/35, mbtmp3.8/15, ML3.4/3, Error ellipse: s-maj=25.9km s-min=16.7km az=84.0*
*JMA **20** 16:39:55.7±0.1, 30°.58N×132°.70E, h79km, M3.1*
*NEIC **20** 16:39:57.5±2.8, 30°.70N±0°.05×132°.56E±0°.09, h33km±6km, mb4.5/11, Error ellipse: s-maj=13.1km s-min=4.1km az=121.0*

ISC 20 16:39:53.4±3.3, 30°.63N±0°.05×132°.74E±0°.06, h9km±20km, n47, σ1s41/58, mb4.2/18, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	Tanegashima 3	1.51	271	P	Pb	16 40 21.0	-0.7
JTN				*e*S	Sb	16 40 40.2	-0.8
JNAR	Kushima--Naru	1.54	306	P	Pb	16 40 22.1	0.0
JNAR				*e*S	Sb	16 40 41.7	-0.1
JNKG	Nichinankitago	1.56	312	P	Pb	16 40 22.2	-0.2
JNKG				*e*S	Sb	16 40 41.9	-0.3
JMTN	Minamitane	1.60	262	P	Pb	16 40 22.2	-0.9
JMTN				*e*S	Sb	16 40 42.4	-1.1
JTSR	Tashiro 2	1.65	289	P	Pb	16 40 23.1	-0.9
JTSR				*e*S	Sn	16 40 43.7	-0.2
JTZ	Takazaki	1.90	312	P	Pn	16 40 26.7	+0.7
JTZ				*e*S	Sn	16 40 50.1	+0.1
JSU	Suzuyama	2.14	295		Pn	16 40 30.0	+0.6
JTO	Tosashimizu	2.22	1	P	Pn	16 40 29.4	-1.1
JTO				*e*S	Sn	16 40 53.3	-4.8
JNA	Nagahama	2.93	356	P	Pn	16 40 40.3	+0.2
JNA				*e*S	Sn	16 41 11.5	-4.0
JNU	Nakatsue	2.94	328	P	Pn	16 40 41.9	+1.5
	7.6nm,0.3s,baz=149,slow=3.7,SNR=16						
JNU				S	Sn	16 41 16.6	+0.7
	5.7nm,0.3s,baz=195,slow=19,SNR=8.7						
JNU	Nakatsue	2.94	328	Pn	Pn	16 40 37.1	-3.3
JAMN	Amaminishikomi	3.91	233	P	Pn	16 40 53.4	-0.3
JAMN				*e*S	Sn	16 41 36.8	-2.9
JHT	Toyohira	4.03	356	P	Pn	16 40 56.0	+0.7
JHT				*e*S	Sn	16 41 38.8	-3.9
JHS	Saijyo	4.37	4		Pn	16 40 60.0	0.0
JTU	Tsushima	4.80	325	Pn	Pn	16 41 05.0	-0.8
JOW	Kunigami	5.45	227	Pn	Pn	16 41 14.7	-0.1
	7.2nm,0.3s,baz=142,slow=29,SNR=29						
JOW				Sn	Sn	16 42 03.5	-14
	5.9nm,0.3s,baz=125,slow=24,SNR=2.0						
JOW	Kunigami	5.45	227		Pn	16 41 14.6	-0.2
INU	Inuyama	5.92	36	Pn	Pn	16 41 23.3	+2.0
MJAR	Matsushiro Arr	7.46	36	Pn	Pn	16 41 43.7	+1.3
	0.1nm,0.3s,baz=210,slow=13,SNR=2.2						
TIXI	Tiksi	41.13	358	P	P	16 47 37.8	+0.4
	0.9nm,0.2s,baz=91,slow=23,SNR=3.6						
MKAR	Makanchi Array	41.80	307	P	P	16 47 43.8	+0.4
	0.4nm,0.6s,baz=92,slow=9.1,SNR=6.0						
MKAR	Makanchi Array	41.80	307	P	P	16 47 43.2	-0.1
KURK	Kurchatov	44.56	313	P	P	16 48 07.3	+1.8
KURK				IAmb	IAmb	16 49 45.6	
	comp=Z,9.3nm,2.0s						
KNRA	Kununurra	46.20	185	P	P	16 48 18.8	+0.1
KNRA				IAmb	IAmb	16 49 40.6	
	comp=Z,8.1nm,1.1s						
AAK	Ala-Archa	47.40	302	P	P	16 48 28.2	-0.1
AAK				IAmb	IAmb	16 48 43.7	
	comp=Z,2.7nm,0.4s						
WB0	Warramunga Arr	50.13	178	P	P	16 48 48.6	-0.5
WB0				IAmb	IAmb	16 50 22.6	
	comp=Z,6.1nm,1.1s						
WRAB	Tennant Creek	50.30	178	P	P	16 48 49.1	-1.4
WRAB				IAmb	IAmb	16 49 39.8	
	comp=Z,10nm,1.5s						
WRA	Warramunga Arr	50.30	178	P	P	16 48 49.9	-0.6
	comp=Z,0.6nm,0.7s,baz=353,slow=8.4,SNR=5.5						
WRA	Warramunga Arr	50.30	178	P	P	16 48 49.1	-1.4
WR0	Warramunga Arr	50.33	178	P	P	16 48 50.5	-0.1
AS31	Alice Springs	54.00	179	P	P	16 49 17.7	-0.3
ASAR	Alice Springs	54.00	179	P	P	16 49 17.9	0.0
	comp=Z,0.4nm,0.5s,baz=357,slow=7.5,SNR=17						
ASAR	Alice Springs	54.00	179	P	P	16 49 16.3	-1.6
ABKAR	Akbulak array	56.63	311	P	P	16 49 37.4	+0.7
BMAR	Burnt Mountain	59.33	26	P	P	16 49 57.4	+1.9
C36M	Paulatuk	66.16	22	P	P	16 50 41.6	+0.8
C36M				IAmb	IAmb	16 50 42.2	
	comp=Z,2.2nm,0.7s						
KBZ	Khabaz	69.45	309	P	P	16 51 03.4	+1.3
	comp=Z,2.2nm,0.9s,baz=66,slow=3.2,SNR=5.7						
RES	Resolute Bay	70.47	12	P	P	16 51 08.1	+0.3
	comp=Z,1.1nm,0.8s,baz=236,slow=7.1,SNR=4.8						
RES	Resolute Bay	70.47	12	P	P	16 51 08.7	+0.9
RES				IAmb	IAmb	16 51 26.8	
	comp=Z,9.7nm,1.9s						
FIA1	FINESS Array S	70.98	331	P	P	16 51 11.3	+0.2
FINES	FINESS Array B	70.98	331	P	P	16 51 10.8	-0.3
	comp=Z,1.1nm,0.6s,baz=84,slow=5.9,SNR=8.6						
FINES	FINESS Array B	70.98	331	P	P	16 51 11.0	0.0
YKA	Yellowknife Ar	72.85	27	P	P	16 51 22.2	-0.1
	comp=Z,0.3nm,0.9s,baz=302,slow=6.1,SNR=4.1						
AKASG	Malin Array Be	74.74	320	P	P	16 51 33.4	-0.2
	comp=Z,1.8nm,0.6s,baz=56,slow=6.7,SNR=7.5						
NOA	NORSAR Array B	77.08	335	P	P	16 51 46.4	-0.4
	comp=Z,0.2nm,0.6s,baz=67,slow=2.0,SNR=1.3						
BRTR	Keskin Array B	77.43	309	P	P	16 51 49.7	+0.4
	comp=Z,1.0nm,0.7s,baz=90,slow=5.8,SNR=2.7						
NVAR	Mina Array Bea	84.62	48	P	P	16 52 27.7	-0.1
	comp=Z,0.2nm,0.5s,baz=313,slow=7.3,SNR=2.1						

*IDC **20** 17:03:35.1±3.9, 3°.70S×131°.01E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.5/32, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=283.3km s-min=28.0km az=72.0*
*DJA **20** 17:03:41.0±0.8, 4°.5±6°×12°.9E±°, h10km, M3.6/6, MLv3.6/6*
ISC 20 17:03:40.3±1.1, 4°.34S±0°.08×129°.46E±0°.09, h35km, n8, σ2s75/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	Masohi	1.12	332	P	Pn	17 03 57.6	-1.9
MSAI				S	Sn	17 04 10.2	-3.5
AAI	Ambon	1.42	297	P	Pn	17 04 03.4	-0.2
AAI				S	Sn	17 04 19.9	-1.2
SWI	Sorong	3.89	28	P	Pn	17 04 38.2	+0.5
SANI	Sanana	4.15	303	P	Pn	17 04 42.7	+1.5
LBMI	Labuha	4.17	332	P	Pn	17 04 42.4	+1.0
WRA	Warramunga Arr	16.22	163	Pn	Pn	17 07 25.8	+0.2
	0.2nm,0.3s,baz=349,slow=12,SNR=10						
WRA				Sn	Sn	17 10 19.4	-5.2
	0.1nm,0.3s,baz=332,slow=23,SNR=1.7						
ASAR	Alice Springs	19.69	168	P	Pn	17 08 10.8	+2.6
	3.6nm,0.7s,baz=352,slow=11,SNR=38						
MKAR	Makanchi Array	65.72	326	P	P	17 14 23.9	+2.3
	0.4nm,0.4s,baz=115,slow=7.4,SNR=11						

*VAO **20** 17:08:36.0±1.5, 22°.47S×69°.35W, h150km±7km, mb4.1*
*GUC **20** 17:08:40.9±0.7, 22°.30S×68°.57W, h108km±4km, ML3.9*
*IDC **20** 17:08:46.5±9.6, 21°.80S×68°.23W, h155km±67km, mb3.5/2, mb1 3.5/3, mb1mx3.2/17, mbtmp3.8/3, Error ellipse: s-maj=91.6km s-min=52.7km az=32.0*
ISC 20 17:08:39.8±0.7, 22°.27S±0°.04×68°.65W±0°.07, h121km±7km, n30, σ1s01/43, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	0.41	215	*eP*	Pn	17 08 57.0	-0.9
LVC				*i* S	Sn	17 09 10.2	-1.2
LVC	Limon Verde	0.41	215	*eP*	Pn	17 08 57.9	0.0
PB09	IPOC Station P	0.72	311	↑*iP*	Pn	17 09 00.4	+0.7
PB09				*e*S	Sn	17 09 14.9	+0.2
PB09				IAML		17 09 16.0	
	comp=N,2µm,0.4s						
PB06	IPOC Station P	0.95	243	↑*iP*	Pn	17 09 02.0	+0.4
PB06				*e*S	Sn	17 09 18.1	-0.1
PB06				IAML		17 09 20.4	
	comp=E,3µm,0.1s						
PB15	IPOC Station P	1.20	219	*i* P	Pn	17 09 04.7	+0.5
PB15				*e*S	Sn	17 09 23.2	+0.5
PB07	IPOC Station P	1.27	295	↑*iP*	Pn	17 09 05.5	+0.6
PB07				*e*S	Sn	17 09 24.0	+0.1
PB07				IAML		17 09 25.5	
	comp=E,5µm,0.3s				

ASAK	**Asacha**	**1.17**	**348**	PN		**Pn**	**17 10 51.6**	**0.0**
ASAK				S		**Sn**	**17 11 05.5**	**-0.9**
ASAK	**Asacha**	**1.17**	**348**	*eP*		**Pn**	**17 10 51.6**	**0.0**
ASAK				*eS*		**Sn**	**17 11 05.5**	**-0.9**
RUS	**Russkaya**	**1.20**	**6**	PN		**Pn**	**17 10 51.2**	**-0.7**
RUS				S		**Sn**	**17 11 05.3**	**-1.6**
RUS	**Russkaya**	**1.20**	**6**	*eP*		**Pn**	**17 10 51.2**	**-0.7**
RUS				*eS*		**Sn**	**17 11 05.3**	**-1.6**
MTVR	**Mutnovka**	**1.24**	**357**	PN		**Pn**	**17 10 52.6**	**-0.1**
MTVR				S		**Sn**	**17 11 07.7**	**-0.6**
MTVR	**Mutnovka**	**1.24**	**357**	*eP*		**Pn**	**17 10 52.6**	**-0.1**
MTVR				*eS*		**Sn**	**17 11 07.7**	**-0.6**
GRL	**Gorelyy**	**1.32**	**354**	PN		**Pn**	**17 10 54.1**	**+0.4**
GRL				S		**Sn**	**17 11 10.2**	**+0.1**
GRL	**Gorelyy**	**1.32**	**354**	*eP*		**Pn**	**17 10 54.1**	**+0.4**
GRL				*eS*		**Sn**	**17 11 10.2**	**+0.1**
MIPR	**Malaya Ipel'ka**	**1.41**	**318**	PN		**Pn**	**17 10 55.6**	**+0.7**
MIPR				S		**Sn**	**17 11 13.3**	**+1.1**
MIPR	**Malaya Ipel'ka**	**1.41**	**318**	*eP*		**Pn**	**17 10 55.6**	**+0.7**
MIPR				*eS*		**Sn**	**17 11 13.3**	**+1.1**
SKR	**Severo-Kuril's**	**1.49**	**249**	*e*PN		**Pn**	**17 10 56.4**	**+0.5**
SKR				*eS*		**Sn**	**17 11 14.8**	**+0.6**
SKR				pmax	pmax			
	comp=Z,134nm,0.4s							
SKR				smax	smax			
	comp=E,2μm,0.7s							
SKR				smax	smax			
	comp=N,1μm,0.4s							
SKR	**Severo-Kuril's**	**1.49**	**249**	*eP*		**Pn**	**17 10 56.5**	**+0.5**
SKR				*eS*		**Sn**	**17 11 14.6**	**+0.4**
KRMR	**Karymshinskiy**	**1.59**	**356**	PN		**Pn**	**17 10 57.8**	**+0.5**
KRMR				S		**Sn**	**17 11 18.6**	**+2.0**
KRMR	**Karymshinskiy**	**1.59**	**356**	*eP*		**Pn**	**17 10 57.8**	**+0.5**
KRMR				*eS*		**Sn**	**17 11 18.6**	**+2.0**
PET	**Petropavlovsk**	**1.79**	**7**	*e*PN		**Pn**	**17 11 00.1**	**0.0**
PET				*eS*		**Sn**	**17 11 20.9**	**-0.7**
PET				pmax	pmax			
	comp=Z,114nm,0.6s							
PET				smax	smax			
	comp=E,1μm,0.7s							
PET				smax	smax			
	comp=N,2μm,0.6s							
PET	**Petropavlovsk**	**1.79**	**7**	*eP*		**Pn**	**17 11 00.3**	**+0.2**
PET				*eS*		**Sn**	**17 11 21.0**	**-0.7**
DALK	**Dalny**	**1.81**	**9**	PN		**Pn**	**17 11 00.5**	**+0.2**
DALK				S		**Sn**	**17 11 21.2**	**-0.8**
DALK	**Dalny**	**1.81**	**9**	*eP*		**Pn**	**17 11 00.5**	**+0.2**
DALK				*eS*		**Sn**	**17 11 21.2**	**-0.8**
APC	**Apacha**	**1.83**	**338**	PN		**Pn**	**17 11 01.5**	**+1.0**
APC	**Apacha**	**1.83**	**338**	*eP*		**Pn**	**17 11 01.5**	**+1.0**
PEA0B	**Petropavlovsk-**	**1.90**	**349**	*c i*PN		**Pn**	**17 11 02.3**	**+0.7**
PETK	**Petropavlovsk-**	**1.90**	**349**	Pn		**Pn**	**17 11 01.5**	**-0.1**
	comp=N,20nm,0.3s,baz=150,slow=15,SNR=242							
PETK				Sn		**Sn**	**17 11 25.8**	**+1.4**
	comp=N,13nm,0.3s,baz=165,slow=18,SNR=3.0							
UGLR	**Uglovaya**	**1.99**	**9**	PN		**Pn**	**17 11 03.6**	**+0.7**
UGLR	**Uglovaya**	**1.99**	**9**	*eP*		**Pn**	**17 11 03.6**	**+0.7**
AVH	**Avacha**	**2.04**	**7**	PN		**Pn**	**17 11 04.6**	**+1.0**
AVH				S		**Sn**	**17 11 27.8**	**0.0**
AVH	**Avacha**	**2.04**	**7**	*eP*		**Pn**	**17 11 04.6**	**+1.0**
AVH				*eS*		**Sn**	**17 11 27.8**	**0.0**
SMAR	**Somma**	**2.04**	**8**	PN		**Pn**	**17 11 04.0**	**+0.3**
SMAR	**Somma**	**2.04**	**8**	*eP*		**Pn**	**17 11 04.0**	**+0.3**
KOK	**Koryaka**	**2.06**	**6**	PN		**Pn**	**17 11 05.1**	**+1.3**
KOK				S		**Sn**	**17 11 29.6**	**+1.3**
KOK	**Koryaka**	**2.06**	**6**	*eP*		**Pn**	**17 11 05.1**	**+1.3**
KOK				*eS*		**Sn**	**17 11 29.6**	**+1.3**
SDLR	**Sedlovina**	**2.07**	**10**	PN		**Pn**	**17 11 04.0**	**0.0**
SDLR	**Sedlovina**	**2.07**	**10**	*eP*		**Pn**	**17 11 04.0**	**0.0**
KRER	**Koryakskii**	**2.08**	**7**	PN		**Pn**	**17 11 05.4**	**+1.2**
KRER	**Koryakskii**	**2.08**	**7**	*eP*		**Pn**	**17 11 05.4**	**+1.2**
KRX	**Arik**	**2.13**	**6**	PN		**Pn**	**17 11 05.8**	**+1.0**
KRX				S		**Sn**	**17 11 31.0**	**+0.9**
KRX	**Arik**	**2.13**	**6**	*eP*		**Pn**	**17 11 05.8**	**+1.0**
KRX				*eS*		**Sn**	**17 11 31.0**	**+0.9**
SPN	**Mys Shipunski**	**2.14**	**29**	PN		**Pn**	**17 11 05.4**	**+0.6**
SPN				S		**Sn**	**17 11 29.9**	**-0.1**
SPN	**Mys Shipunski**	**2.14**	**29**	*eP*		**Pn**	**17 11 05.4**	**+0.6**
SPN				*eS*		**Sn**	**17 11 29.9**	**-0.1**
GNL	**Ganaly**	**2.46**	**355**	PN		**Pn**	**17 11 10.5**	**+1.1**
GNL				S		**Sn**	**17 11 41.2**	**+2.9**
GNL	**Ganaly**	**2.46**	**355**	*eP*		**Pn**	**17 11 10.5**	**+1.1**
GNL				*eS*		**Sn**	**17 11 41.2**	**+2.9**
MKZ	**Mys Kozlova**	**3.91**	**31**	PN		**Pn**	**17 11 29.7**	**+0.6**
MKZ	**Mys Kozlova**	**3.91**	**31**	*eP*		**Pn**	**17 11 29.7**	**+0.6**
TUMD	**Tumrok D**	**4.16**	**17**	*eP*		**Pn**	**17 11 35.2**	**+2.6**
TUMR	**Tumrok**	**4.19**	**15**	PN		**Pn**	**17 11 35.2**	**+2.1**
ESO	**Esso**	**4.70**	**3**	PN		**Pn**	**17 11 41.9**	**+2.0**
ESO	**Esso**	**4.70**	**3**	*eP*		**Pn**	**17 11 41.9**	**+2.0**
KBTR	**Krutoberegovo**	**5.65**	**27**	PN		**Pn**	**17 11 54.4**	**+1.5**
KBTR	**Krutoberegovo**	**5.65**	**27**	*eP*		**Pn**	**17 11 54.4**	**+1.5**
BKI	**Bering**	**6.08**	**46**	PN		**Pn**	**17 12 00.0**	**+1.2**
BKI	**Bering**	**6.08**	**46**	*eP*		**Pn**	**17 12 00.0**	**+1.2**
MA2	**Magadan**	**9.38**	**336**	*i* PN		**Pn**	**17 12 42.4**	**-1.6**
MA2				pmax	pmax			
	comp=Z,3.0nm,0.8s							
SHEM	**Shemya Is, Ala**	**9.86**	**75**	LR	LR		17 16 30.4	
	comp=Z,40nm,20.5s,baz=271,slow=34							
SHO	**Shikotan**	**10.70**	**231**	PN		**Pn**	**17 13 01.2**	**-0.9**
ERM	**Erimo**	**13.89**	**234**	*i* P		**Pn**	**17 13 45.3**	**-0.4**
KLR	**Kul'dur**	**17.08**	**274**	*i* P		**P**	**17 14 27.6**	**-0.7**
KLR				pmax	pmax			
	comp=Z,5.0nm,1.5s							
BILL	**Bilibino**	**17.29**	**10**	*i* P		**Pn**	**17 14 24.3**	**-5.3**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.4s							
ILAR	**Eielson Array**	**30.91**	**43**	P		P	17 16 50.3	+6.5
	comp=Z,0.2nm,0.5s,baz=267,slow=7.0,SNR=1.3							
H11N2	**WAKE ISLAND Hy**	**32.17**	**165**	T		T	17 50 59.8	
	baz=350,slow=76,SNR=376							
H11N3	**WAKE ISLAND Hy**	**32.19**	**165**	T		T	17 50 57.6	
	baz=350,slow=76,SNR=393							
H11N1	**WAKE ISLAND Hy**	**32.19**	**165**	T		T	17 50 58.0	
	baz=350,slow=76,SNR=213							
H11S1	**WAKE ISLAND Hy**	**33.34**	**165**	T		T	17 52 27.1	
	baz=351,slow=76,SNR=66							
H11S3	**WAKE ISLAND Hy**	**33.35**	**165**	T		T	17 52 24.1	
	baz=351,slow=76,SNR=92							
H11S2	**WAKE ISLAND Hy**	**33.35**	**165**	T		T	17 52 20.2	
	baz=351,slow=76,SNR=48							
NRIK	**Noril'sk**	**36.80**	**326**	*i* P		**P**	**17 17 35.4**	**+0.5**
NRIK				pmax	pmax			
	comp=Z,1.0nm,1.6s							
YKA	**Yellowknife Ar**	**45.28**	**41**	P		P	17 18 50.3	+5.8
	comp=Z,0.1nm,0.4s,baz=296,slow=7.5,SNR=1.4							
KURK	**Kurchatov**	**47.78**	**302**	*i* P		**P**	**17 19 03.3**	**-1.0**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**47.97**	**296**	P		P	17 19 00.5	-5.4
	comp=Z,0.1nm,0.4s,baz=72,slow=7.3,SNR=1.8							
CMAR	**Chiang Mai Arr**	**56.72**	**259**	P		P	17 20 05.2	-5.8
	comp=Z,0.4nm,0.7s,baz=30,slow=7.3,SNR=2.3							
CMAR	**Chiang Mai Arr**	**56.72**	**258**	*eP*		**P**	**17 20 11.0**	**0.0**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**59.41**	**59**	P		P	17 20 37.8	+8.0
	comp=Z,0.1nm,0.3s,baz=347,slow=3.7,SNR=1.3							
TXAR	**Lajitas Array**	**72.39**	**65**	P		P	17 22 01.1	+7.7
	comp=Z,0.1nm,0.6s,baz=304,slow=6.4,SNR=2.3							
WRA	**Warramunga Arr**	**73.94**	**203**	P		**P**	**17 22 02.5**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=17,slow=6.3,SNR=4.6							
WRA	**Warramunga Arr**	**73.94**	**203**	*eP*		**P**	**17 22 02.0**	**-0.3**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**77.62**	**203**	P		**P**	**17 22 24.6**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=13,slow=5.4,SNR=11							

*IDC **20** 17:31:10.1±0.6,2˚.07S×100˚.60E,h0km,mb4.3/19, mb1 4.4/20,mb1mx4.1/36,mbtmp4.3/20,ML3.9/1,MS3.2/11, Ms1 3.2/11,ms1mx2.8/86,Error ellipse: s-maj=26.0km s-min=13.1km az=48.0*

*BJI **20** 17:31:15.1±0.0,2˚.45S×100˚.53E,h71km,mb4.7/30, mB4.8/16,Ms4.2/2,Ms7 4.1/2*

*NEIC **20** 17:31:18.8±1.5,2˚.19S±0˚.08×100˚.57E±0˚.09,h63km±7km, mb4.5/27,Error ellipse: s-maj=14.1km s-min=9.7km az=51.0*

*DJA **20** 17:31:18.6±0.7,2˚.S±3˚×10˚1E±˚,h28km±8km,M4.5/18, mb4.5/4,mB4.9/2,MLv4.4/18,Mw(mB)4.2/2*

ISC 20 17:31:18.1±0.4,2˚.13S±0˚.05×100˚.59E±0˚.04,h56km,n113, σ1ᵍ25/101,mb4.6/46,MS3.2/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.86**	**222**	P	**Pn**	**17 31 36.6**	**+2.4**
KRJI	**Kerinci**	**0.87**	**88**	P	**Pn**	**17 31 35.1**	**+0.6**
KRJI				S	**Sn**	**17 31 47.7**	**+1.2**
PPI	**Padang Panjang**	**1.67**	**353**	P	**Pn**	**17 31 46.0**	**+1.0**
SISI	**Saibi**	**1.69**	**298**	P	**Pn**	**17 31 46.3**	**+0.9**
MASI	**Maura Aman, Be**	**1.93**	**122**	P	**Pn**	**17 31 49.6**	**+0.9**
BKNI	**Bangkinang**	**2.48**	**11**		**Pn**	**17 31 56.9**	**+0.8**
BKNI	**Bangkinang**	**2.48**	**11**	P	**Pn**	**17 31 56.8**	**+0.8**
BKNI	**Bangkinang**	**2.48**	**11**	P	**Pn**	**17 31 57.3**	**+1.2**
RGRI	**Rengat**	**2.48**	**45**	P	**Pn**	**17 31 56.8**	**+0.7**
MNSI	**Mandailing Nat**	**3.07**	**341**	P	**Pn**	**17 32 04.7**	**+0.5**
JMBI	**JAMBI**	**3.09**	**81**	P	**Pn**	**17 32 04.7**	**+0.2**
MNAI	**Manna**	**3.24**	**133**	Pn	**Pn**	**17 32 05.3**	**-1.3**
MNAI	**Manna**	**3.24**	**133**	P	**Pn**	**17 32 07.8**	**+1.2**
DSRI	**Dabo**	**4.31**	**68**	P	**Pn**	**17 32 21.5**	**+0.3**
LWLI	**Liwa**	**4.50**	**130**	P	**Pn**	**17 32 25.8**	**+1.9**
GSI	**Gunungsitoli**	**4.55**	**318**	Pn	**Pn**	**17 32 25.1**	**+0.7**
GSI	**Gunungsitoli**	**4.55**	**318**	P	**Pn**	**17 32 23.8**	**-0.7**
GSI	**Gunungsitoli**	**4.55**	**318**	P	**Pn**	**17 32 25.3**	**+0.8**
TPRI	**Tanjung Pinang**	**4.96**	**53**	P	**Pn**	**17 32 30.5**	**+0.3**
MYKOM	**Kota Tinggi**	**5.08**	**40**		**Pn**	**17 32 32.5**	**+0.8**
KASI	**Kota Agung**	**5.16**	**131**	P	**Pn**	**17 32 34.0**	**+1.2**
	0.6nm882nm66nm,1.2s						
PSI	**Prapat**	**5.17**	**341**	Pn	**Pn**	**17 32 29.8**	**-3.3**
	1.7nm,0.3s,baz=191,slow=10,SNR=3.1						
PSI				LR	LR	17 34 48.6	
	comp=Z,244nm,21.5s,baz=185,slow=44						
IPM	**Ipoh**	**6.58**	**4**	Pn	**Pn**	**17 32 54.0**	**+1.7**
IPM	**Ipoh**	**6.58**	**4**	P	**Pn**	**17 32 54.4**	**+2.1**
KULM	**Kulim**	**7.37**	**0**	Pn	**Pn**	**17 33 05.1**	**+2.0**
LHMI	**Lhok Sumawe**	**8.16**	**334**	P	**Pn**	**17 33 15.1**	**+1.1**
LEM	**Lembang**	**8.42**	**124**	LR	LR	17 36 49.8	
	comp=Z,98nm,21.1s,baz=266,slow=40						
SRIT	**Nakonsritamara**	**10.70**	**355**	Pn	**Pn**	**17 33 50.9**	**+2.2**
JAGI	**Jajag, Banyuwa**	**14.90**	**116**	P	**Pn**	**17 34 44.9**	**-0.7**
	29nm,1.0s						
UBPT	**Khong Chiam**	**17.95**	**15**	P	**Pn**	**17 35 25.2**	**+1.2**
PLAI	**Plampang**	**18.35**	**112**	P	**P**	**17 35 28.3**	**0.0**
	23nm,1.1s						
KAPI	**Kappang**	**19.34**	**99**	P	**P**	**17 35 38.7**	**-0.4**
	0.3nm,0.3s,baz=274,slow=15,SNR=3.1						
KAPI	**Kappang**	**19.34**	**99**	P	**Pn**	**17 35 39.9**	**-0.7**
TOLI2	**Tolitoli**	**20.44**	**81**	P	**P**	**17 35 51.1**	**-0.1**
TOLI2				IAmb	IAmb	17 35 52.7	
	comp=Z,15nm,0.7s						
TOLI2	**Tolitoli**	**20.44**	**81**	P	**P**	**17 35 52.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**20.52**	**356**	P	**P**	**17 35 51.4**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=190,slow=10,SNR=12						
CMAR				LR	LR	17 43 04.8	
	comp=Z,46nm,19.6s,baz=185,slow=35						
CMAR	**Chiang Mai Arr**	**20.52**	**356**	P	**P**	**17 35 50.9**	**-1.0**
PALK	**Pallekele**	**21.93**	**295**	LR	LR	17 43 35.9	
	comp=Z,35nm,19.0s,baz=249,slow=34						
DAV	**Davao City (W)**	**26.56**	**70**	LR	LR	17 48 03.8	
	comp=Z,40nm,19.3s,baz=32,slow=38						
PZH	**PanZhiHua**	**28.48**	**2**	P	**P**	**17 37 11.1**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,5.6s						
H08S2	**Diego Garcia H**	**28.51**	**258**	T	T	18 06 12.7	
	baz=81,slow=75,SNR=108						
H08S3	**Diego Garcia H**	**28.52**	**258**	T	T	18 06 13.8	
	baz=81,slow=75,SNR=101						
H08S1	**Diego Garcia H**	**28.53**	**258**	T	T	18 06 16.6	
	baz=81,slow=75,SNR=79						
FITZ	**Fitzroy Crossi**	**29.26**	**125**	P	**P**	**17 37 14.3**	**-0.8**
	comp=Z,2.9nm,1.0s,baz=291,slow=3.8,SNR=3.5						
FITZ	**Fitzroy Crossi**	**29.26**	**125**	IAmb	IAmb	17 37 16.2	
	comp=Z,2.6nm,0.9s						
TAPN	**Taplejung**	**31.82**	**338**	*eP*	**P**	**17 37 39.3**	**+1.2**
	comp=Z,47nm,0.8s						
JIRN	**Jiri**	**32.70**	**336**	*eP*	**P**	**17 37 46.6**	**+0.8**
	comp=Z,41nm,1.1s						
PKI	**Pulchoki**	**32.94**	**335**	*eP*	**P**	**17 37 48.4**	**+0.5**
	comp=Z,5.8nm,0.5s						
PKIN	**Phulchoki**	**32.95**	**335**	*eP*	**P**	**17 37 48.5**	**+0.6**
	comp=Z,4.2nm,0.4s						
GUN	**Gumba**	**33.05**	**336**	*eP*	**P**	**17 37 50.0**	**+1.2**
	comp=Z,53nm,0.5s						
KKN	**Kakani**	**33.19**	**335**	*eP*	**P**	**17 37 50.8**	**+0.9**
GKN	**Gorkha**	**33.65**	**334**	*eP*	**P**	**17 37 54.8**	**+0.9**
	comp=Z,8.8nm,0.4s						
KOLN	**Koldanda**	**33.92**	**332**	*eP*	**P**	**17 37 57.3**	**+1.0**
	comp=Z,29nm,0.7s						
DANN	**Dangsing**	**34.34**	**333**	*eP*	**P**	**17 38 00.9**	**+0.9**
	comp=Z,31nm,0.6s						
PYUN	**Piuhan**	**34.49**	**332**	*eP*	**P**	**17 38 01.8**	**+0.6**
	comp=Z,8.0nm,0.3s						
H01W3	**Cape Leeuwin H**	**34.95**	**160**	T	T	18 14 43.6	
	baz=341						
H01W2	**Cape Leeuwin H**	**34.96**	**160**	T	T	18 14 42.6	
	baz=341						
H01W1	**Cape Leeuwin H**	**34.96**	**160**	T	T	18 14 43.9	
	baz=341						
XAN	**Xi'an**	**36.82**	**12**	P	**P**	**17 38 19.4**	**-1.5**
XAN				pmax	pmax		
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**37.42**	**121**	P	**P**	**17 38 25.1**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=307,slow=8.8,SNR=28						
WRA	**Warramunga Arr**	**37.42**	**121**	P	**P**	**17 38 25.2**	**-1.1**
WRAB	**Tennant Creek**	**37.43**	**121**	P	**P**	**17 38 25.4**	**-0.8**
WRAB				IAmb	IAmb	17 38 26.3	
	comp=Z,3.9nm,0.9s						
WB2	**Warramunga Arr**	**37.43**	**121**	P	**P**	**17 38 25.1**	**-1.2**
WB2				IAmb	IAmb	17 38 41.0	
	comp=Z,6.2nm,1.1s						
WR0	**Warramunga Arr**	**37.60**	**121**		**P**	**17 38 26.6**	**-1.2**
WR0				IAmb	IAmb	17 38 27.3	
	comp=Z,3.4nm,0.7s						
LZH	**Lanzhou**	**38.14**	**4**	*eP*	**P**	**17 38 35.3**	**+3.2**
LZH				pmax	pmax		
	comp=Z,29nm,1.2s						
NJ2	**Nanjing**	**38.15**	**26**	*eP*	**P**	**17 38 34.3**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ASAR	**Alice Springs**	**38.70**	**126**	P	**P**	**17 38 36.8**	**-0.3**
	comp=Z,6.1nm,0.6s,baz=303,slow=7.7,SNR=144						
ASAR				PcP	**PcP**	**17 40 48.3**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=302,slow=2.4,SNR=6.4						
ASAR	**Alice Springs**	**38.70**	**126**	P	**P**	**17 38 36.5**	**-0.5**
AS31	**Alice Springs**	**38.70**	**126**	P	**P**	**17 38 36.5**	**-0.5**
AS31				IAmb	IAmb	17 38 37.4	
	comp=Z,2.6nm,0.5s						
HHC	**Hu-ho-hao-te**	**43.93**	**12**	*eP*	**P**	**17 39 22.4**	**+2.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,79nm,4.8s						
KSRS	**Korea Array**	**46.83**	**30**	P	**P**	**17 39 40.2**	**-2.3**
	comp=Z,1.6nm,0.9s,baz=227,slow=9.7,SNR=5.7						
KSRS				LR	LR	17 59 18.0	
	comp=Z,18nm,20.9s,baz=145,slow=36						
WMQ	**Urumqi**	**47.18**	**347**	*eP*	**P**	**17 39 45.9**	**+0.6**
WMQ				sP	sP	17 40 13.8	+7.5
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
KSH	**Kashi**	**47.20**	**334**	P	**P**	**17 39 45.4**	**-0.2**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XLT	**XiLinHaoTe**	**47.88**	**15**	*eP*	**P**	**17 39 54.3**	**+3.6**
XLT				pP	sP	17 40 09.8	-2.0
XLT				sP	pP	17 40 17.8	+12
XLT				PcP	**PcP**	**17 41 19.5**	**+0.9**
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,150nm,6.2s						
STKA	**Stephens Creek**	**48.63**	**132**	P	**P**	**17 39 56.2**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=315,slow=9.2,SNR=7.9						
STKA				LR	LR	18 04 48.7	
	comp=Z,25nm,18.5s,baz=9.7,slow=42						
KDJ	**Kajisay**	**48.89**	**337**	P	**P**	**17 39 58.6**	**0.0**
GAR	**Garm**	**49.50**	**329**	P	**P**	**17 40 01.8**	**-1.5**
GAR				IAmb	IAmb	17 40 26.1	
	comp=Z,5.5nm,0.8s						
BOOM	**Boomskoye usch**	**49.68**	**336**	P	**P**	**17 40 04.2**	**-0.5**
BOOM				IAmb	IAmb	17 40 06.4	
	comp=Z,4.4nm,0.8s						
ULN	**Ulaanbaatar**	**50.10**	**6**	P	**P**	**17 40 07.2**	**-0.6**
AAK	**Ala-Archa**	**50.40**	**335**	P	**P**	**17 40 10.1**	**0.0**
MK31	**Makanchi Array**	**51.31**	**344**	P	**P**	**17 40 16.2**	**-0.5**
MK31				IAmb	IAmb	17 40 17.4	
	comp=Z,7.9nm,0.8s						
MKAR	**Makanchi Array**	**51.31**	**344**	P	**P**	**17 40 16.6**	**0.0**
	comp=Z,11nm,0.6s,baz=148,slow=8.1,SNR=157						
MKAR	**Makanchi Array**	**51.31**	**344**	P	**P**	**17 40 16.2**	**-0.5**
MAKZ	**Makanchi**	**51.41**	**344**	P	**P**	**17 40 17.0**	**-0.4**
MAKZ				IAmb	IAmb	17 40 18.1	
	comp=Z,5.2nm,0.8s						
MJAR	**Matsushiro Arr**	**52.00**	**39**	LR	LR	18 03 29.2	
	comp=Z,22nm,18.5s,baz=224,slow=37						
KKAR	**Karatay Array**	**52.53**	**332**	P	**P**	**17 40 26.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**53.99**	**28**	P	**P**	**17 40 35.5**	**-1.0**
	comp=Z,5.4nm,0.8s,baz=145,slow=3.5,SNR=6.3						
KURK	**Kurchatov**	**55.89**	**343**	P	**P**	**17 40 50.0**	**-0.1**
KURK				IAmb	IAmb	17 40 50.9	
	comp=Z,8.6nm,0.8s						
GEYT	**Alibeck**	**55.92**	**320**	P	**P**	**17 40 48.1**	**-2.6**
	comp=Z,2.1nm,0.5s,baz=110,slow=3.4,SNR=3.0						
GEYT	**Alibeck**	**55.92**	**320**	P	**P**	**17 40 49.2**	**-1.4**
GEYT				IAmb	IAmb	17 40 52.0	
	comp=Z,3.4nm,1.0s						
ZAA0	**Zalesovo Array**	**57.40**	**349**	P	**P**	**17 41 00.2**	**-0.5**
ZALV	**Zalesovo Beam**	**57.40**	**349**	P	**P**	**17 41 00.2**	**-0.5**
	comp=Z,14nm,0.7s,baz=172,slow=5.6,SNR=73						
BRVK	**Borovoye**	**60.57**	**340**	P	**P**	**17 41 21.9**	**-0.8**
BRVK				IAmb	IAmb	17 41 22.6	
	comp=Z,2.8nm,0.8s						
ABKAR	**Akbulak array**	**62.03**	**331**	P	**P**	**17 41 32.1**	**-0.5**
ABKAR	**Akbulak array**	**62.03**	**331**	P	**P**	**17 41 32.2**	**-0.5**
AKTO	**Aktyubinsk**	**63.75**	**331**	LR	LR	18 14 06.9	
	comp=Z,17nm,18.7s,baz=48,slow=40						
YAK	**Yakutsk**	**67.72**	**14**	LR	LR	18 14 03.9	
	comp=Z,24nm,20.4s,baz=87,slow=38						
KBZ	**Khabaz**	**68.79**	**319**	P	**P**	**17 42 16.3**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=133,slow=5.0,SNR=9.2						
NRIK	**Noril'sk**	**71.88**	**355**	P	**P**	**17 42 33.0**	**-1.8**
	comp=Z,2.0nm,0.4s,baz=167,slow=7.5,SNR=5.3						
NRIK	**Noril'sk**	**71.88**	**355**	P	**P**	**17 42 33.8**	**-1.0**
NRIK				IAmb	IAmb	17 42 34.8	
	comp=Z,8.5nm,1.4s						
MATP	**Matopo**	**72.48**	**249**	P	**P**	**17 42 40.5**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=348,slow=2.8,SNR=4.5						
BRTR	**Keskin Array B**	**73.84**	**312**	P	**P**	**17 42 46.8**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=111,slow=6.8,SNR=5.0						
TIXI	**Tiksi**	**75.89**	**9**	LR	LR	18 19 26.8	
	comp=Z,28nm,19.1s,baz=188,slow=38						
TIXI	**Tiksi**	**75.89**	**9**	P	**P**	**17 42 56.6**	**-1.6**
TIXI				IAmb	IAmb	17 42 57.7	
	comp=Z,11nm,1.4s						
AKASG	**Malin Array Be**	**79.94**	**322**	P	**P**	**17 43 21.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=105,slow=5.1,SNR=1.8						
FINES	**FINESS Array B**	**84.50**	**332**	P	**P**	**17 43 45.0**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=106,slow=6.2,SNR=7.6						
ARCES	**ARCESS Array B**	**86.79**	**340**	P	**P**	**17 43 56.2**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=98,slow=6.2,SNR=18						
GERES	**GERESS Array B**	**89.53**	**319**	P	**P**	**17 44 09.3**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=221,slow=5.3,SNR=5.1						
NOA	**NORSAR Array B**	**91.54**	**331**	P	**P**	**17 44 17.5**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=96,slow=4.9,SNR=2.8						
TXAR	**

STDR	**Stavd-Durt**	**1.14**	**122**	*e*Pg	Pn	18 30 49.4	+0.6
STDR				*e*Sg	Sn	18 31 05.2	+0.8
AHMR	**Akhmetovskaya**	**1.24**	**279**	*e*Pg	Pn	18 30 48.7	-1.5
AHMR				*i* Sg	Sb	18 31 05.2	-1.1
KORR	**Kora**	**1.31**	**132**	*e*Pg	Pb	18 30 51.8	+0.2
KORR				*e*Sg	Sg	18 31 10.3	+1.1
ZEI	**Tsey**	**1.46**	**144**	*e*Pg	Pn	18 30 53.7	+0.3
ZEI				*e*Sg	Sg	18 31 13.4	-0.5
LACR	**Lac**	**1.61**	**135**	*e*Pg	Pb	18 30 57.0	+0.2
LACR				*e*Sg	Sg	18 31 18.2	-0.7
RPOR	**Krasnaya Polya**	**1.81**	**262**	*e*Pg	Pn	18 30 59.1	+1.0
RPOR				*e*Sg	Sb	18 31 22.3	-0.5
GUZR	**Guzeripl'**	**1.89**	**272**	*e*Pg	Pn	18 30 59.7	+0.4
GUZR				*e*Sg	Sb	18 31 24.4	-0.7

*IDC **20** 18:50:13.7±1.4,6°20S×151°81E,h0km,mb3.2/5, mb1 3.5/6,mb1mx3.4/34,mbtmp3.3/6,ML1.4/1,Error ellipse: s-maj=48.5km s-min=17.6km az=119.0*

ISC 20 18:50:18.1±1.3,6°3S±0°1×151°9E±0°2,h35km,n9, σ1s09/11,mb3.1/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.95**	**3**	Pn		**Pn**		**18 50 47.6**	**-1.2**
	18nm,0.3s,baz=142,slow=1.2,SNR=23								
KRVT				Sn		**Sn**		**18 51 13.4**	**+1.2**
	19nm,0.3s,baz=139,slow=23,SNR=7.6								
PMG	**Port Moresby**	**5.66**	**236**	Pn		**Pn**		**18 51 39.2**	**-0.7**
	0.7nm,0.3s,baz=214,slow=15,SNR=1.8								
PMG				Sn		**Sn**		**18 52 44.6**	**+0.9**
	2.8nm,0.3s,baz=104,slow=16,SNR=8.2								
WRA	**Warramunga Arr**	**21.84**	**230**	P		**P**		**18 55 07.4**	**-0.3**
	0.3nm,0.8s,baz=55,slow=10,SNR=2.0								
ASAR	**Alice Springs**	**24.49**	**223**	P		**P**		**18 55 34.5**	**+0.1**
	0.5nm,0.8s,baz=53,slow=7.8,SNR=5.8								
FITZ	**Fitzroy Crossi**	**28.21**	**243**	P		**P**		**18 56 07.0**	**-0.9**
	0.6nm,0.6s,baz=63,slow=6.8,SNR=1.3								
MKAR	**Makanchi Array**	**80.87**	**319**	P		**P**		**19 02 29.8**	**+1.1**
	0.1nm,0.6s,baz=56,slow=5.4,SNR=1.8								
ILAR	**Eielson Array**	**83.84**	**22**	P		**P**		**19 02 43.1**	**-0.7**
	0.2nm,0.6s,baz=260,slow=5.4,SNR=2.3								
TORD	**Torodi Ar. Bea**	**149.90**	**285**	PKPbc		**PKiKP**		**19 10 06.6**	**-0.1**
	0.2nm,0.6s,baz=90,slow=4.6,SNR=1.6								
BDFB	**Brasilia**	**150.60**	**139**	PKPbc		**PKiKP**		**19 10 09.9**	**+1.6**
	3.0nm,0.6s,baz=196,slow=21,SNR=3.6								

IDC 20 19:08:59.0±30.0,14°28S×166°44E,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.7/27,mbtmp3.9/4,ML4.1/1,MS3.2/1, Ms1 3.2/1,ms1mx2.4/60,Error ellipse: s-maj=525.0km s-min=49.1km az=54.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.75**	**180**	Pn		**Pn**		**19 10 53.6**	**+0.4**
	2.5nm,0.3s,baz=145,slow=22,SNR=57								
DZM				Sn		Sn		19 12 14.6	-7.2
	2.0nm,0.3s,baz=155,slow=23,SNR=6.7								
STKA	**Stephens Creek**	**28.68**	**228**	P		P		19 14 57.1	-0.7
	1.0nm,0.4s,baz=57,slow=8.9,SNR=8.8								
WRA	**Warramunga Arr**	**31.16**	**255**	P		P		19 15 20.2	+0.3
	0.3nm,0.6s,baz=84,slow=8.7,SNR=2.9								
ASAR	**Alice Springs**	**32.09**	**248**	P		P		19 15 28.4	+0.3
	0.7nm,0.5s,baz=78,slow=9.3,SNR=22								
FITZ	**Fitzroy Crossi**	**39.31**	**259**	LR		LR		19 33 02.3	
	comp=Z,28nm,18.8s,baz=145,slow=37								

*NEIC **20** 19:35:42.0±1.3,57°08N±0°03×157°80W±0°07,h13km±7km, Error ellipse: s-maj=5.8km s-min=3.5km az=110.0*
*AEIC **20** 19:35:42.2±2.2,57°00N±0°03×157°65W±0°08,h8km±6km, ML3.4,ML3.6/30(NEIC),Error ellipse: s-maj=6.3km s-min=3.8km az=93.0*

ISC 20 19:35:44.0±1.5,57°09N±0°06×157°96W±0°07,h35km,n76, σ0s90/79,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANNW	**Aniakchak Nort**	**0.19**	**229**			**Pn**		**19 35 48.8**	**-2.0**
ANPB	**Aniakchak Plen**	**0.34**	**212**			**Pn**		**19 35 50.1**	**-2.3**
CHGN	**Chignik**	**0.83**	**198**	Pg		**Pn**		**19 35 57.1**	**-1.9**
PLBL	**Peulik Blue Cr**	**0.87**	**45**			**Pn**		**19 35 57.9**	**-1.8**
PLK1	**Peulik 1**	**1.02**	**45**			**Pn**		**19 36 00.7**	**-1.0**
PLK5	**Peulik 5**	**1.08**	**32**			**Pn**		**19 36 02.4**	**-0.2**
VNHG	**Veniaminof 1**	**1.10**	**218**			**Pn**		**19 36 03.2**	**+0.3**
VNFG	**Fog Glacier, M**	**1.19**	**228**			**Pn**		**19 36 05.7**	**+1.5**
VNFG	**Fog Glacier, M**	**1.19**	**228**	P		**Pn**		**19 36 05.7**	**+1.5**
	baz=50								
KJL	**Kejulik**	**1.61**	**52**			**Pn**		**19 36 10.3**	**+0.4**
CAHL	**Cahill**	**1.73**	**55**			**Pn**		**19 36 11.4**	**-0.1**
ANCK	**Angle Creek**	**1.73**	**49**			**Pn**		**19 36 11.7**	**+0.1**
ANCK						**Sn**		**19 36 32.2**	**-0.2**
KELA	**Mount Kelaz**	**1.80**	**40**			**Pn**		**19 36 12.7**	**+0.2**
CHIR	**Chirikof Islan**	**1.81**	**133**	Pn		**Pn**		**19 36 11.8**	**-0.8**
CHIR				IAML				19 36 38.5	
	comp=N,615nm,0.7s								
CHIR				IAML				19 36 38.6	
	comp=E,749nm,0.6s								
CHIR	**Chirikof Islan**	**1.81**	**133**			**Sn**		**19 36 35.6**	**+1.3**
CHIR	**Chirikof Islan**	**1.81**	**133**	P		**Pn**		**19 36 12.1**	**-0.6**
	baz=317								
CHIR				S		**Sn**		**19 36 35.7**	**+1.3**
	baz=317								
SII	**Sitkinak Islan**	**2.14**	**103**	Pn		**Pn**		**19 36 16.2**	**-1.0**
SII				IAML				19 36 52.5	
	comp=E,565nm,0.7s								
SDPT	**Sand Point**	**2.24**	**220**	Pn		**Pn**		**19 36 20.3**	**+1.8**
SDPT				IAML				19 36 57.3	
	comp=N,272nm,0.7s								
SDPT				IAML				19 37 01.4	
	comp=E,249nm,1.3s								
OHAK	**Old Harbor**	**2.55**	**85**	Pn		**Pn**		**19 36 21.4**	**-1.2**
OHAK	**Old Harbor**	**2.55**	**85**			**Sn**		**19 36 52.4**	**0.0**
OHAK	**Old Harbor**	**2.55**	**85**	P		**Pn**		**19 36 21.5**	**-1.2**
	baz=268								
OHAK				S		**Sn**		**19 36 52.4**	**0.0**
	baz=268								
Q19K	**Cape Douglas,**	**2.94**	**49**	Pn		**Pn**		**19 36 28.7**	**+0.5**
KDAK	**Kodiak Island**	**2.99**	**74**	Pn		**Pn**		**19 36 27.6**	**-1.2**
O18K	**Koktuh Hills**	**3.13**	**26**			**Pn**		**19 36 30.1**	**-0.6**
O18K				IAML				19 37 24.9	
	comp=N,178nm,0.6s								
O18K				IAML				19 37 26.3	
	comp=E,139nm,1.0s								
N18K	**Kilae Creek**	**3.76**	**16**	Pn		**Pn**		**19 36 39.1**	**-0.3**
N18K				IAML				19 37 36.7	
	comp=E,72nm,0.7s								
N18K				IAML				19 37 43.0	
	comp=N,69nm,0.7s								
N18K	**Kilae Creek**	**3.76**	**16**	P		**Pn**		**19 36 38.5**	**-0.9**
	baz=196								
IVE	**Iliamna Volcan**	**3.91**	**39**			**Pn**		**19 36 41.0**	**-0.6**
N19K	**Bonanza Creek**	**4.15**	**24**	Pn		**Pn**		**19 36 44.3**	**-0.4**
N19K				IAML				19 37 57.3	
	comp=E,91nm,0.7s								
N19K				IAML				19 38 03.4	
	comp=N,77nm,0.6s								
N19K	**Bonanza Creek**	**4.15**	**24**	P		**Pn**		**19 36 44.3**	**-0.4**
	baz=206								
SVW2	**Sparrevohn**	**4.20**	**16**			**Pn**		**19 36 45.3**	**-0.2**
SVW2				IAML				19 38 08.1	
	comp=N,61nm,0.8s								
RED	**Redoubt Volcan**	**4.29**	**37**			**Pn**		**19 36 46.4**	**-0.4**
CNPM	**China Poot**	**4.30**	**53**	Pn		**Pn**		**19 36 47.3**	**+0.4**
CNPM				IAML				19 37 58.5	
	comp=E,49nm,2.4s								
CNPM				IAML				19 38 42.9	
	comp=N,62nm,3.3s								
RDWB	**Redoubt West**	**4.33**	**36**			**Pn**		**19 36 46.6**	**-0.6**
RSO	**Redoubt South**	**4.33**	**36**			**Pn**		**19 36 46.9**	**-0.5**
NCT	**North Crescent**	**4.35**	**35**			**Pn**		**19 36 47.1**	**-0.5**
DFR	**Drift River**	**4.45**	**36**			**Pn**		**19 36 48.6**	**-0.4**
BRLK	**Bradley Lake**	**4.58**	**51**	Pn		**Pn**		**19 36 50.8**	**+0.1**
BRLK				IAML				19 38 10.1	
	comp=E,39nm,3.6s								
M19K	**Big River Lodg**	**5.16**	**19**	Pn		**Pn**		**19 36 58.5**	**-0.1**
M19K				IAML				19 38 30.3	
	comp=N,32nm,0.7s								
M19K	**Big River Lodg**	**5.16**	**19**	P		**Pn**		**19 36 58.2**	**-0.4**
	baz=201								
L19K	**White Mountain**	**5.35**	**16**	Pn		**Pn**		**19 37 00.5**	**-0.7**
STLK	**Strandline Lak**	**5.42**	**33**			**Pn**		**19 37 03.0**	**+0.8**
TTA	**Tatalina**	**5.94**	**9**	Pn		**Pn**		**19 37 08.6**	**-0.7**
PWL	**Port Wells**	**6.25**	**49**	Pn		**Pn**		**19 37 13.2**	**-0.3**
PPLA	**Purkeypile**	**6.50**	**24**	Pn		**Pn**		**19 37 17.7**	**+0.5**
PPLA	**Purkeypile**	**6.50**	**24**	P		**Pn**		**19 37 17.7**	**+0.5**
	baz=208								
GHO	**Glory Hole Cre**	**6.58**	**41**	Pn		**Pn**		**19 37 17.3**	**-0.8**
K20K	**Telida**	**6.58**	**15**	Pn		**Pn**		**19 37 17.2**	**-0.9**
SML	**Sawmill**	**6.81**	**42**	Pn		**Pn**		**19 37 21.0**	**-0.3**
FID	**Port Fidalgo**	**6.98**	**54**	Pn		**Pn**		**19 37 22.9**	**-0.7**
CAST	**Castle Rocks**	**6.99**	**22**	Pn		**Pn**		**19 37 23.2**	**-0.5**
SCM	**Sheep Creek Mo**	**7.20**	**44**	Pn		**Pn**		**19 37 25.7**	**-1.0**
J20K	**Nowinta River**	**7.35**	**13**			**Pn**		**19 37 28.3**	**-0.3**
CHUM	**Lake Minchumin**	**7.36**	**20**			**Pn**		**19 37 28.3**	**-0.5**
CHUM	**Lake Minchumin**	**7.36**	**20**	P		**Pn**		**19 37 28.3**	**-0.5**
	baz=204								
KTH	**Kantishna Hill**	**7.36**	**25**	Pn		**Pn**		**19 37 28.7**	**-0.1**
TRF	**Thorofare Moun**	**7.43**	**28**	Pn		**Pn**		**19 37 31.1**	**+1.3**
KLU	**Klutina**	**7.58**	**49**	Pn		**Pn**		**19 37 31.6**	**-0.1**
RAGM	**Ragged Mountai**	**7.66**	**59**	Pn		**Pn**		**19 37 32.2**	**-0.7**
RND	**Reindeer**	**7.78**	**32**	Pn		**Pn**		**19 37 35.1**	**+0.5**
BPAW	**Bear Paw Mtn.**	**7.82**	**23**	Pn		**Pn**		**19 37 34.7**	**-0.4**
HMT	**Hamilton**	**7.83**	**60**	Pn		**Pn**		**19 37 33.8**	**-1.5**
BMRM	**Bremner River**	**7.91**	**55**	Pn		**Pn**		**19 37 37.5**	**+1.2**
BERG	**Berg Lake**	**8.12**	**60**	Pn		**Pn**		**19 37 37.9**	**-1.2**
ANM	**Nome**	**8.32**	**337**	Pn		**Pn**		**19 37 43.0**	**+1.1**
GLB	**Gilahina Butte**	**8.45**	**53**	Pn		**Pn**		**19 37 42.9**	**-0.9**
VRDI	**Verde Repeater**	**8.52**	**55**	Pn		**Pn**		**19 37 43.5**	**-1.3**
WAX	**Waxell Ridge**	**8.54**	**60**	Pn		**Pn**		**19 37 43.5**	**-1.5**
I21K	**Tanana**	**8.61**	**17**			**Pn**		**19 37 46.0**	**+0.1**
ISLE	**Juniper Island**	**8.82**	**60**	Pn		**Pn**		**19 37 48.8**	**-0.2**
H21K	**Melozitna Rive**	**8.94**	**14**	Pn		**Pn**		**19 37 49.7**	**-0.8**
GRNC	**Granite Creek**	**9.14**	**60**	Pn		**Pn**		**19 37 53.0**	**-0.3**
IMAR	**Indian Mountai**	**9.15**	**11**	Pn		**Pn**		**19 37 53.2**	**0.0**
BARN	**Barnard Glacie**	**9.28**	**58**	Pn		**Pn**		**19 37 56.0**	**+0.8**
RIDG	**Independent Ri**	**9.29**	**39**	Pn		**Pn**		**19 37 56.1**	**+0.9**
TABL	**Table Mountain**	**9.35**	**62**	Pn		**Pn**		**19 37 56.1**	**-0.2**
H23K	**Yukon River**	**9.63**	**21**	Pn		**Pn**		**19 37 59.6**	**-0.3**

*IDC **20** 19:36:06.3±0.7,12°46S×166°66E,h0km,mb4.5/17, mb1 4.6/18,mb1mx4.2/44,mbtmp4.5/18,ML4.9/1,MS3.7/23, Ms1 3.7/23,ms1mx3.5/66,Error ellipse: s-maj=23.7km s-min=15.9km az=92.0*
*BJI **20** 19:36:13.7±0.0,12°20S×166°96E,h64km,mb4.9/46, mB4.8/22,Ms5.0/5,Ms7 4.6/5*
*NEIC **20** 19:36:14.7±1.9,12°48S±0°04×166°5E±0°1,h54km±6km, mb4.6/37,Error ellipse: s-maj=17.8km s-min=4.2km az=75.0*

ISC 20 19:36:15.2±0.5,12°50S±0°06×166°38E±0°09,h59km,n123, σ1s23/108,mb4.7/59,MS3.8/25,4C-1D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.04**	**165**	Pn		**Pn**		**19 37 00.3**	**-0.6**
HNR	**Honiara**	**7.01**	**295**	Pn		**Pn**		**19 37 55.3**	**-0.1**
	21nm,0.3s,baz=177,slow=2.3,SNR=22								
HNR				Sn		**Sn**		**19 39 09.5**	**-4.2**
	5.6nm,0.3s,baz=52,slow=21,SNR=1.1								
HNR	**Honiara**	**7.01**	**295**	Pn		**Pn**		**19 37 55.4**	**+0.1**
KOUNC	**Koumac, New Ca**	**8.26**	**194**	Pn		**Pn**		**19 38 10.7**	**-1.6**
DZM	**Mont Dzumac**	**9.52**	**180**	Pn		**Pn**		**19 38 29.1**	**-0.6**
	2.9nm,0.3s,baz=202,slow=17,SNR=23								
DZM				Sn		**Sn**		**19 40 11.4**	**-4.0**
	1.1nm,0.3s,baz=317,slow=22,SNR=1.6								
DZM	**Mont Dzumac**	**9.52**	**180**	*e*Pn		**Pn**		**19 38 30.2**	**+0.5**
	42nm,0.3s								
DZM				*e*Sn		**Sn**		**19 40 18.6**	**+3.2**
	76nm,0.5s								
DZM				*e*LR		LR		19 40 50.0	
	comp=Z,723nm,24.9s								
DZM	**Mont Dzumac**	**9.52**	**180**	Pn		**Pn**		**19 38 30.2**	**+0.5**
ONTNC	**Ouen Toro**	**9.76**	**180**			**Pn**		**19 38 32.5**	**-0.3**
OUENC	**Ouen Island, N**	**9.88**	**178**	Pn		**Pn**		**19 38 34.9**	**+0.4**
PINNC	**Pines Island,**	**10.11**	**174**			**Pn**		**19 38 39.0**	**+1.2**
KRVT	**Keravat (AS076**	**16.36**	**299**	LR		LR		19 46 32.3	
	comp=Z,276nm,21.8s,baz=265,slow=38								
PMG	**Port Moresby**	**19.12**	**277**	LR		LR		19 47 33.1	
	comp=Z,224nm,18.9s,baz=122,slow=35								
EIDS	**Eidsvold**	**19.30**	**226**	P		**Pn**		**19 40 37.8**	**+0.9**
CTA	**Charters Tower**	**20.73**	**246**	LR		LR		19 48 07.2	
	comp=Z,313nm,19.5s,baz=86,slow=34								
AFI	**Afiamalu**	**21.31**	**96**	LR		LR		19 47 57.6	
	comp=Z,139nm,18.1s,baz=268,slow=34								
ARMA	**Armidale**	**22.46**	**215**	P		**P**		**19 41 11.7**	**+2.0**
ARMA					IAmb	IAmb		19 41 29.7	
	comp=Z,20nm,1.1s								
URZ	**Urewera**	**27.38**	**161**	LR		LR		19 50 35.2	
	comp=Z,225nm,20.4s,baz=31,slow=32								
BKZ	**Black Stump Fm**	**28.04**	**163**	P		**P**		**19 41 59.3**	**-1.6**
BKZ					IAmb	IAmb		19 42 02.0	
	comp=Z,17nm,1.3s								
SMPI	**Sarmi**	**29.33**	**289**	P		**P**		**19 42 13.7**	**+1.1**
	comp=Z,21nm,1.2s								
STKA	**Stephens Creek**	**29.85**	**226**	P		**P**		**19 42 18.2**	**+1.1**
	comp=Z,6.0nm,0.7s,baz=47,slow=8.9,SNR=16								
STKA						LR		19 53 36.3	
	comp=Z,254nm,19.7s,baz=37,slow=35								
STKA	**Stephens Creek**	**29.85**	**226**	P		**P**		**19 42 18.1**	**+1.0**
LTZ	**Lake Taylor**	**30.61**	**171**	P		**P**		**19 42 23.2**	**-0.4**
LTZ					IAmb	IAmb		19 42 30.2	
	comp=Z,11nm,1.0s								
RPZ	**Rata Peaks**	**31.37**	**173**	P		**P**		**19 42 30.2**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=253,slow=3.7,SNR=6.2								
RPZ						LR		19 54 46.1	
	comp=Z,107nm,18.0s,baz=354,slow=36								
RPZ	**Rata Peaks**	**31.37**	**173**		IAmb	IAmb		19 42 32.6	
	comp=Z,24nm,1.4s								
WR0	**Warramunga Arr**	**31.42**	**252**	P		**P**		**19 42 29.9**	**-1.1**
WB0	**Warramunga Arr**	**31.53**	**253**	P		**P**		**19 42 31.1**	**-0.9**
WB2	**Warramunga Arr**	**31.59**	**252**	P		**P**		**19 42 31.5**	**-1.1**
WRAB	**Tennant Creek**	**31.59**	**252**	P		**P**		**19 42 31.6**	**-1.0**
WRA	**Warramunga Arr**	**31.60**	**252**	P		**P**		**19 42 30.7**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=83,slow=9.6,SNR=13								
WRA						LR		19 54 10.6	
	comp=Z,187nm,18.8s,baz=12,slow=34								
WRA	**Warramunga Arr**	**31.60**	**252**	P		**P**		**19 42 32.2**	**-0.5**
AS31	**Alice Springs**	**32.73**	**246**	P		**P**		**19 42 42.3**	**-0.3**
ASAR	**Alice Springs**	**32.73**	**246**	P		**P**		**19 42 41.8**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=67,slow=9.9,SNR=57								
ASAR						LR		19 54 54.6	
	comp=Z,217nm,21.4s,baz=90,slow=34								
ASAR	**Alice Springs**	**32.73**	**246**	P		**P**		**19 42 42.5**	**-0.1**
DCZ	**Deep Cove**	**32.86**	**179**	P		**P**		**19 42 42.8**	**-0.6**
GUMO	**Guam**	**33.56**	**320**	LR		LR		19 56 17.9	
	comp=Z,71nm,20.4s,baz=129,slow=36								
BBOO	**Buckleboo**	**34.32**	**229**	P		**P**		**19 42 56.7**	**+0.4**
BBOO					IAmb	IAmb		19 42 57.2	
	comp=Z,9.7nm,0.7s								
KNRA	**Kununurra**	**36.59**	**261**	P		**P**		**19 43 15.9**	**0.0**
KNRA					IAmb	IAmb		19 43 29.7	
	comp=Z,9.0nm,0.9s								
SIJI	**Sorong**	**36.68**	**286**	P		**P**		**19 43 17.0**	**+0.3**
	comp=Z,9.6nm,0.8s,baz=52,slow=9.5,SNR=7.0								
SIJI						LR		19 59 52.7	
	comp=Z,106nm,19.1s,baz=74,slow=39								
SWI	**Sorong**	**36.69**	**286**	P		**P**		**19 43 18.4**	**+1.7**
	comp=Z,19nm,1.1s								
FITZ	**Fitzroy Crossi**	**39.63**	**257**	P		**P**		**19 43 41.6**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=98,slow=6.2,SNR=10								
FITZ						LR		19 59 25.9	
	comp=Z,125nm,20.1s,baz=92,slow=35								
FITZ	**Fitzroy Crossi**	**39.63**	**257**	P		**P**		**19 43 41.6**	**+0.1**
FITZ					IAmb	IAmb		19 43 43.2	
	comp=Z,5.4nm,0.9s								
LBMI	**Labuha**	**40.31**	**284**	P		**P**		**19 43 49.5**	**+2.3**
	comp=Z,17nm,0.9s								
SANI	**Sanana**	**41.33**	**281**	P		**P**		**19 43 56.6**	**+1.0**
	comp=Z,9.2nm,0.9s								
PPT2	**Papeete2**	**42.76**	**102**	*e*LR		LR		19 56 27.7	
	comp=Z,211nm,26.2s								
TBI	**Tubuai**	**43.23**	**111**	*e*LR		LR		19 56 45.7	
	comp=Z,159nm,29.8s								
DAV	**Davao City (W)**	**44.97**	**293**	LR		LR		20 00 12.1	
	comp=Z,55nm,21.2s,baz=122,slow=32								
TAOE	**Nuku Hiva Isla**	**52.60**	**92**	*e*LR		LR		20 01 00.5	
	comp=Z,160nm,24.7s								
MJAR	**Matsushiro Arr**	**55.54**	**333**	LR		LR		20 07 53.3	
	comp=Z,33nm,21.2s,baz=238,slow=34								
MJAR	**Matsushiro Arr**	**55.54**	**333**	P		**P**		**19 45 44.3**	**-0.2**
MJAR					IAmb	IAmb		19 45 56.2	
	comp=Z,6.8nm,1.4s								
MAJO	**Matsushiro**	**55.54**	**333**	P		**P**		**19 45 43.6**	**-0.9**
MAJO					IAmb	IAmb		19 45 45.1	
	comp=Z,5.8nm,0.8s								
MJB9	**Matsu-Tunnel**	**55.54**	**333**	P		**P**		**19 45 43.8**	**-0.8**
MJB9					IAmb	IAmb		19 45 45.0	
	comp=Z,5.9nm,0.9s								
JNU	**Nakatsue**	**56.61**	**324**	P		**P**		**19 45 52.3**	**0.0**
	comp=Z,27nm,0.8s,baz=67,slow=3.6,SNR=12								
JNU	**Nakatsue**	**56.61**	**324**	P		**P**		**19 45 52.4**	**+0.1**
JHS	**Saijyo**	**56.80**	**327**	P		**P**		**19 45 53.9**	**+0.4**
ASAJ	**Asahikawa**	**60.36**	**340**	LR		LR		20 08 01.3	
	comp=Z,61nm,22.0s,baz=230,slow=32								
KSRS	**Korea Array**	**61.42**	**326**	P		**P**		**19 46 25.6**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=139,slow=7.4,SNR=14								
KSAR	**Wonju Array Be**	**61.43**	**326**	P		**P**		**19 46 25.9**	**+0.3**
NJ2	**Nanjing**	**63.48**	**316**	*e*P		**P**		**19 46 41.1**	**+1.8**
NJ2					pmax	pmax			
	comp=Z,11nm,0.5s								
USRK	**Ussuriysk Ar.**	**64.52**	**333**	P		**P**		**19 46 46.5**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=151,slow=40,SNR=1.4								
VNDA	**Vanda**	**65.06**	**181**	P		**P**		**19 46 49.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=15,slow=6.4,SNR=7.8								
VNDA	**Vanda**	**65.06**	**181**	IAmb		IAmb		19 47 16.3	
	comp=Z,7.3nm,1.4s								
CASY	**Casey**	**65.27**	**202**	P		**P**		**19 46 50.8**	**+0.3**
SHEM	**Shemya Is, Ala**	**65.30**	**5**	LR		LR		20 07 58.6	
	comp=Z,53nm,21.4s,baz=250,slow=29								
PETK	**Petropavlovsk-**	**65.76**	**354**	LR		LR		20 12 10.2	
	comp=Z,38nm,18.9s,baz=142,slow=33								
IPM	**Ipoh**	**67.09**	**280**	P		**P**		**19 47 03.6**	**+0.5**
CN2	**Changchun**	**67.30**	**329**	*e*P		**P**		**19 47 04.1**	**+0.3**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
KLR	**Kul'dur**	**68.63**	**336**	P		**P**		**19 47 12.8**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=164,slow=3.2,SNR=5.5								
ENH	**Enshi**	**69.29**	**309**	P		**P**		**19 47 16.4**	**-0.2**
HNS	**HongShan**	**69.37**	**318**	⇑P		**P**		**19 47 18.0**	**+1.1**
HNS					pmax	pmax			
	comp=Z,16nm,1.1s								
GYA	**Guiyang**	**69.75**	**304**	⇑P		**P**		**19 47 22.9**	**+3.3**
GYA					pmax	pmax			
	comp=Z,8.0nm,0.8s								
BJT	**Baijiatuan**	**69.99**	**321**	P		**P**		**19 47 20.7**	**+0.1**
BJT					IAmb	IAmb		19 47 22.4	
	comp=Z,9.9nm,0.8s								
BJI	**Beijing**	**70.00**	**321**	P		**P**		**19 47 21.5**	**+0.9**
BJI					pP	**pwP**		**19 47 38.1**	**-3.3**
BJI					pmax	pmax			
	comp=Z,12nm,0.8s								
XAN	**Xi'an**	**71.55**	**312**	P		**P**		**19 47 31.3**	**+1.0**
XAN					pmax	pmax			
	comp=Z,20nm,0.8s								
XLT	**XiLinHaoTe**	**72.40**	**324**	⇑*i*P		**P**		**19 47 36.3**	**+1.1**
XLT					pP	PcP		19 47 52.3	-0.5
XLT					PcP	**pwP**		**19 47 54.5**	**-0.1**
XLT					sP	sP		19 47 58.0	+1.3
XLT					pmax	pmax			
	comp=Z,17nm,0.9s								
XLT					pmax	pmax			
	comp=Z,110nm,5.4s								
XLT					LR	LR			
	comp=Z,330nm,12.2s								
XLT					LR	LR			
	comp=Z,330nm,11.8s								
KMI	**Kunming**	**72.41**	**302**	⇓P		**P**	

comp=Z,1.6nm,0.9s,baz=339,slow=10,SNR=4.5
KEST Kesra 148.94 322 PKPbc **PKiKP 19 55 57.2 -1.1**
comp=Z,8.8nm,0.8s,baz=260,slow=2.6,SNR=8.3
ESDC Sonseca Array 151.62 344 PKPbc **PKPbc 19 56 01.6 -1.7**
ESDC PKPab **PKPab 19 56 11.4 -0.5**
comp=Z,1.3nm,0.8s,baz=355,slow=3.0,SNR=6.7
comp=Z,1.4nm,0.9s,baz=7.0,slow=2.8,SNR=5.4
TORD Torodi Ar. Bea 165.05 274 PKPab **PKPab 19 57 10.7 -0.1**
comp=Z,4.2nm,0.9s,baz=86,slow=4.3,SNR=22

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*IDC **20** 20:12:57.1±3.1, 13˚.07N×88˚.46W, h33km±23km, mb4.1/15, mb1 4.3/16, mb1mx4.0/43, mbtmp4.3/16, ML3.6/1, MS3.5/20, Ms1 3.5/20, ms1mx3.2/66, Error ellipse: s-maj=29.0km s-min=11.9km az=51.0*
*INET **20** 20:12:58.3±0.7, 12˚.80N×88˚.91W, h15km±15km, MW4.4*
*SNET **20** 20:12:59.6±0.9, 12˚.90N×88˚.91W, h29km±4km, ML4.8*
*UCR **20** 20:13:00.0±1.3, 12˚.93N×88˚.89W, h32km±4km, ML4.7, mb4.5(NEIC)*
*NEIC **20** 20:13:00.9±2.3, 12˚.93N±0˚.07×88˚.74W±0˚.08, h59km±6km, mb4.5/152, Md4.8(SNET), Error ellipse: s-maj=14.3km s-min=6.4km az=48.0*
*GCG **20** 20:13:21.8±0.8, 14˚.76N×90˚.14W, h87km±7km, MD4.2*
ISC 20 20:12:59.5±0.9, 12˚.92N±0˚.05×88˚.83W±0˚.04, h60km±7km, n389, σ1°20/379, mb4.5/71, MS3.5/18, 8C-64D, Fault plane solution: NP1:φ≈257.88593°, δ12.44270°, λ60.43012°. **NP2:**φ≈108.04385°, δ79.19891°, λ96.21419°. **Principal axes:** T Plg55.3873°, Azm25.7880°; N Plg6.1037°, Azm286.8749°; P Plg33.9167°, Azm192.7516°; **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
COEB	**Comit de Eme**	**0.64**	**27**	**⇓*iP***		**Pn**	**20 13 13.4**		**+0.2**
COEB				IAML			20 13 27.5		
	comp=Z,26μm,0.4s								
COEB	**Comit de Eme**	**0.64**	**27**	**⇓*iP***		**Pn**	**20 13 13.4**		**+0.2**
COEB				IAML			20 13 27.5		
	comp=Z,26μm,0.4s								
COEB	**Comit de Eme**	**0.64**	**27**	***eP***		**Pn**	**20 13 13.4**		**+0.2**
JUCU	**Jucuaŋn**	**0.66**	**60**	**⇓*iP***		**Pn**	**20 13 13.3**		**0.0**
JUCU				eS		**Sn**	**20 13 23.8**		**+0.5**
JUCU				IAML			20 13 25.5		
	comp=Z,25μm,0.3s								
JUCU	**Jucuaŋn**	**0.66**	**60**	**⇓*iP***		**Pn**	**20 13 13.3**		**0.0**
JUCU				eS		**Sn**	**20 13 23.8**		**+0.5**
JUCU				IAML			20 13 25.5		
	comp=Z,25μm,0.3s								
JUCU	**Jucuaŋn**	**0.66**	**60**	***eP***		**Pn**	**20 13 13.3**		**0.0**
COEG	**Centro de Oper**	**0.70**	**356**	**⇓*iP***		**Pn**	**20 13 13.5**		**-0.3**
COEG				eS		**Sn**	**20 13 24.1**		**-0.2**
COEG	**Centro de Oper**	**0.70**	**356**	**⇓*iP***		**Pn**	**20 13 13.5**		**-0.3**
COEG				eS		**Sn**	**20 13 24.1**		**-0.2**
SJTE	**Alcalda de S**	**0.71**	**346**	***eP***		**Pn**	**20 13 13.4**		**-0.6**
SJTE	**Alcalda de S**	**0.71**	**346**	***eP***		**Pn**	**20 13 13.4**		**-0.1**
UESV	**Universidad de**	**0.71**	**3**	**⇓*iP***		**Pn**	**20 13 14.1**		**+0.1**
UESV	**Universidad de**	**0.71**	**3**	**⇓*iP***		**Pn**	**20 13 14.1**		**+0.1**
LCY	**Lacayo**	**0.72**	**46**	**⇓*iP***		**Pn**	**20 13 14.5**		**+0.4**
LCY	**Lacayo**	**0.72**	**46**	**⇓*iP***		**Pn**	**20 13 14.5**		**+0.4**
LFRS	**El Faro**	**0.73**	**342**	**⇓*iP***		**Pn**	**20 13 13.7**		**-0.6**
LFRS	**El Faro**	**0.73**	**342**	**⇓*iP***		**Pn**	**20 13 13.7**		**-0.6**
RANC	**El Ranchito**	**0.73**	**46**	**⇓*iP***		**Pn**	**20 13 14.8**		**+0.4**
RANC	**El Ranchito**	**0.73**	**46**	**⇓*iP***		**Pn**	**20 13 14.8**		**+0.4**
LALI	**Alcalda de L**	**0.74**	**320**	**⇓*iP***		**Pn**	**20 13 13.4**		**-0.8**
LALI	**Alcalda de L**	**0.74**	**320**	**⇓*iP***		**Pn**	**20 13 13.4**		**-0.8**
LALI	**Alcalda de L**	**0.74**	**320**	***eP***		**Pn**	**20 13 13.4**		**-0.8**
PQSS	**Presa 15 de Se**	**0.75**	**21**	***eP***		**Pn**	**20 13 15.1**		**+0.7**
PQSS	**Presa 15 de Se**	**0.75**	**21**	***eP***		**Pn**	**20 13 15.1**		**+0.7**
SCLA	**Alcaldia de Sa**	**0.78**	**7**	**⇓*iP***		**Pn**	**20 13 15.5**		**+0.6**
SCLA	**Alcaldia de Sa**	**0.78**	**7**	**⇓*iP***		**Pn**	**20 13 15.5**		**+0.6**
PAVA	**Las Pavas**	**0.79**	**353**	**⇓*iP***		**Pn**	**20 13 15.1**		**+0.1**
PAVA	**Las Pavas**	**0.79**	**353**	**⇓*iP***		**Pn**	**20 13 15.1**		**+0.1**
PAVA	**Las Pavas**	**0.79**	**353**	***eP***		**Pn**	**20 13 15.1**		**+0.1**
LBRS	**Las Brisas**	**0.84**	**346**	***eP***		**Pn**	**20 13 15.6**		**0.0**
LBRS	**Las Brisas**	**0.84**	**346**	***eP***		**Pn**	**20 13 15.6**		**0.0**
CNRM	**Centro Naciona**	**0.85**	**49**	***eP***		**Pn**	**20 13 16.3**		**+0.7**
CNRM	**Centro Naciona**	**0.85**	**49**	***eP***		**Pn**	**20 13 16.3**		**+0.7**
UDBS	**Universidad Do**	**0.85**	**338**	***eP***		**Pn**	**20 13 15.7**		**0.0**
UDBS	**Universidad Do**	**0.85**	**338**	***eP***		**Pn**	**20 13 15.7**		**0.0**
IGN	**Direccin Gen**	**0.85**	**337**	***eP***		**Pn**	**20 13 15.5**		**-0.2**
IGN	**Direccin Gen**	**0.85**	**337**	***eP***		**Pn**	**20 13 15.5**		**-0.2**
SNET	**Serv Nac Est T**	**0.85**	**333**		Pn	**Sn**	**20 13 15.2**		**-0.6**
SNET					Sn	**Sn**	**20 13 27.6**		**-0.1**
SNET	**Serv Nac Est T**	**0.85**	**333**	**⇓*eP***		**Pn**	**20 13 15.3**		**-0.5**
SNET				IAML			20 13 15.9		
	comp=Z,24μm,0.2s								
SNET				eS		**Sn**	**20 13 27.2**		**-0.5**
SNET	**Serv Nac Est T**	**0.85**	**333**	**⇓*eP***		**Pn**	**20 13 15.3**		**-0.5**
SNET				IAML			20 13 15.9		
	comp=Z,24μm,0.2s								
SNET				eS		**Sn**	**20 13 27.2**		**-0.5**
SNET	**Serv Nac Est T**	**0.85**	**333**	***eP***		**Pn**	**20 13 15.3**		**-0.5**
ITCA	**Escuela Especi**	**0.86**	**330**	**⇓*iP***		**Pn**	**20 13 15.5**		**-0.4**
ITCA	**Escuela Especi**	**0.86**	**330**	**⇓*iP***		**Pn**	**20 13 15.5**		**-0.4**
SEMO	**Seminario San**	**0.87**	**334**	***eP***		**Pn**	**20 13 15.5**		**-0.4**
UEES	**Universidad Ev**	**0.88**	**333**	**⇓*iP***		**Pn**	**20 13 15.8**		**-0.4**
UEES	**Universidad Ev**	**0.88**	**333**	**⇓*iP***		**Pn**	**20 13 15.8**		**-0.4**
PMON	**Piamonte**	**0.92**	**329**	**⇓*iP***		**Pn**	**20 13 16.2**		**-0.3**
PMON	**Piamonte**	**0.92**	**329**	**⇓*iP***		**Pn**	**20 13 16.2**		**-0.3**
BOQS	**Boqueron**	**0.92**	**332**	**⇓*iP***		**Pn**	**20 13 16.5**		**-0.2**
BOQS	**Boqueron**	**0.92**	**332**	**⇓*iP***		**Pn**	**20 13 16.5**		**-0.2**
JAYA	**Jayaque - finc**	**0.94**	**321**	**⇓*iP***		**Pn**	**20 13 16.3**		**-0.7**
JAYA				IAML			20 13 29.8		
	comp=Z,53μm,0.2s								
JAYA	**Jayaque - finc**	**0.94**	**321**	**⇓*iP***		**Pn**	**20 13 16.3**		**-0.7**
JAYA				IAML			20 13 29.8		
	comp=Z,53μm,0.2s								
LCND	**La Caada**	**0.99**	**67**	**⇓*eP***		**Pn**	**20 13 18.1**		**+0.7**
LCND				IAML			20 13 35.1		
	comp=Z,33μm,0.3s								
LCND	**La Caada**	**0.99**	**67**	**⇓*eP***		**Pn**	**20 13 18.1**		**+0.7**
LCND				IAML			20 13 35.1		
	comp=Z,33μm,0.3s								
CEDA	**San Andres**	**1.03**	**328**	**⇓*eP***		**Pn**	**20 13 17.8**		**-0.3**
CEDA	**San Andres**	**1.03**	**328**	**⇓*eP***		**Pn**	**20 13 17.8**		**-0.3**
CEDA	**San Andres**	**1.03**	**328**	***eP***		**Pn**	**20 13 17.8**		**-0.3**
CEDA				eS		**Sn**	**20 13 32.1**		**+0.3**
CEVE	**Cerro Verde**	**1.19**	**320**	**⇓*eP***		**Pn**	**20 13 20.0**		**-0.2**
CEVE	**Cerro Verde**	**1.19**	**320**	**⇓*eP***		**Pn**	**20 13 20.0**		**-0.2**
SBLS	**San Blas**	**1.19**	**320**	**⇓*iP***		**Pn**	**20 13 20.1**		**-0.2**
SBLS	**San Blas**	**1.19**	**320**	**⇓*iP***		**Pn**	**20 13 20.1**		**-0.2**
LLGN	**La Laguna**	**1.24**	**355**	**⇓*iP***		**Pn**	**20 13 21.7**		**+0.9**
LLGN	**La Laguna**	**1.24**	**355**	**⇓*iP***		**Pn**	**20 13 21.7**		**+0.9**
RTR	**El Retiro**	**1.25**	**321**	***eP***		**Pn**	**20 13 21.1**		**0.0**
RTR	**El Retiro**	**1.25**	**321**	***eP***		**Pn**	**20 13 21.1**		**0.0**
NUBE	**Las Nubes**	**1.34**	**317**	**⇓*iP***		**Pn**	**20 13 21.9**		**-0.4**
NUBE	**Las Nubes**	**1.34**	**317**	**⇓*iP***		**Pn**	**20 13 21.9**		**-0.4**
LOAL	**Lomas de Alarc**	**1.41**	**319**	***eP***		**Pn**	**20 13 23.5**		**+0.4**
LOAL	**Lomas de Alarc**	**1.41**	**319**	***eP***		**Pn**	**20 13 23.5**		**+0.4**
SLOZ	**Alcaldia de Sa**	**1.44**	**320**	***eP***		**Pn**	**20 13 23.7**		**+0.2**
MTO3	**Montecristo**	**1.56**	**341**		Pn	**Pn**	**20 13 25.8**		**+0.6**
MTO3	**Montecristo**	**1.56**	**341**	**⇓*iP***		**Pn**	**20 13 25.8**		**+0.6**
MTO3	**Montecristo**	**1.56**	**341**	**⇓*iP***		**Pn**	**20 13 25.8**		**+0.6**
MTO3	**Montecristo**	**1.56**	**341**	***eP***		**Pn**	**20 13 25.8**		**+0.6**
ESQI	**Esquipulas**	**1.70**	**343**		Pn	**Pn**	**20 13 28.2**		**+1.1**
ESQI	**Esquipulas**	**1.70**	**343**	**⇓*iP***		**Pn**	**20 13 28.2**		**+1.1**
CRIN	**San Cristobal**	**1.75**	**97**			**Pn**	**20 13 28.4**		**+0.7**
CRIN					Sn	**Sn**	**20 13 44.8**		**-4.2**
CRIN	**San Cristobal**	**1.75**	**97**	***eP***		**Pn**	**20 13 28.4**		**+0.7**
TGUH	**Tegucigalpa,Un**	**1.89**	**53**			**Pn**	**20 13 31.2**		**+1.5**
TGUH	**Tegucigalpa,Un**	**1.89**	**53**	***eP***		**Pn**	**20 13 31.0**		**+1.4**
TELN	**Telica**	**1.98**	**99**	***eP***		**Pn**	**20 13 30.7**		**-0.1**
CNGN	**Cerro Negro**	**2.12**	**101**			**Pn**	**20 13 31.5**		**-1.1**
CNGN	**Cerro Negro**	**2.12**	**101**	***eP***		**Pn**	**20 13 31.6**		**-1.1**
NBG	**Las Nubes**	**2.22**	**319**	***eP***		**Pn**	**20 13 36.0**		**+1.8**
NBG				eS		Sn	20 13 46.5		-14
PCG	**Pacaya**	**2.26**	**310**	***eP***		**Pn**	**20 13 35.9**		**+1.1**
PCG				eS		Sn	20 13 50.4		-11
MOMN	**Momotombo**	**2.29**	**103**	***eP***		**Pn**	**20 13 34.7**		**-0.3**
MRL	**Marmol**	**2.30**	**339**	***eP***		**Pn**	**20 13 37.4**		**+2.1**
COPN	**Copaltepe**	**2.31**	**108**	***eP***		**Pn**	**20 13 34.8**		**-0.4**
FUG	**Fuego 3**	**2.47**	**308**	***eP***		**Pn**	**20 13 38.5**		**+0.9**
FUG				eS		Sn	20 13 55.1		-12
APYN	**Apoyeque**	**2.52**	**105**	***eP***		**Pn**	**20 13 37.8**		**-0.3**
HUEN		**2.66**	**102**	***eP***		**Pn**	**20 13 40.0**		**0.0**
MATN	**Matagalpa**	**2.83**	**90**			**Pn**	**20 13 42.7**		**+0.3**
MATN	**Matagalpa**	**2.83**	**90**	***eP***		**Pn**	**20 13 42.8**		**+0.3**
BOAB	**BOACO BROADBAN**	**3.12**	**98**			**Pn**	**20 13 46.2**		**-0.2**
BOAB	**BOACO BROADBAN**	**3.12**	**98**	***eP***		**Pn**	**20 13 46.2**		**-0.2**

STG3	**Santiaguito 3,**	**3.20**	**304**	***eP***		**Pn**	**20 13 49.0**		**+1.4**
STG3				eS		Sn	20 14 06.2		-18
RTAL	**Retalhuleu**	**3.21**	**300**		Pn	**Pn**	**20 13 49.9**		**+2.4**
HUEH	**Huehuetenango**	**3.52**	**313**			Pn	20 13 55.9		+3.9
ACON	**Acoyapa**	**3.70**	**104**			**Pn**	**20 13 55.3**		**+1.1**
HZTE	**Horizontes, Gu**	**3.85**	**124**			**Pn**	**20 13 57.4**		**+1.0**
GBS3	**Finca Las Img**	**3.93**	**122**	***eP***		**Pn**	**20 13 59.8**		**+2.4**
LAPC	**Finca la Perla**	**3.96**	**122**	***eP***		**Pn**	**20 13 59.4**		**+1.6**
GB1A	**Boringuen Arri**	**3.96**	**122**	***eP***		**Pn**	**20 14 00.1**		**+2.3**
BUEV	**Buena Vista**	**3.96**	**122**	***eP***		**Pn**	**20 14 00.9**		**+3.0**
BUAI	**Buenos Aires**	**3.98**	**120**	***eP***		**Pn**	**20 13 59.9**		**+1.8**
GPS2	**Hotel Rincn d**	**4.03**	**122**	***eP***		**Pn**	**20 14 00.6**		**+1.7**
PETF	**Flores**	**4.10**	**346**		Pn	**Pn**	**20 14 02.0**		**+2.3**
LIM1	**Limonal**	**4.14**	**122**	***eP***		**Pn**	**20 14 01.9**		**+1.5**
GUAB	**Guayabo de Bag**	**4.16**	**122**	***eP***		**Pn**	**20 14 03.3**		**+2.7**
ORTG	**Ortega, Santa**	**4.17**	**127**			**Pn**	**20 14 02.4**		**+1.7**
SAJU	**San Juanillo,**	**4.17**	**133**	***eP***		**Pn**	**20 14 01.4**		**+0.7**
GUAI	**GUAI**	**4.19**	**129**	***eP***		**Pn**	**20 14 02.4**		**+1.4**
HORNC	**Hornillas**	**4.20**	**121**	***eP***		**Pn**	**20 14 02.0**		**+0.9**
COLC	**Colonia**	**4.20**	**122**	***eP***		**Pn**	**20 14 03.7**		**+2.6**
CUI	**Cuipilapa**	**4.24**	**122**	***eP***		**Pn**	**20 14 03.4**		**+1.7**
DUNO	**Dulce Nombre,**	**4.32**	**130**			**Pn**	**20 14 03.9**		**+1.1**
ACAL	**Aguas Claras**	**4.36**	**121**	***eP***		**Pn**	**20 14 04.5**		**+1.1**
ESPN	**Las Esperanzas**	**4.48**	**99**			**Pn**	**20 14 04.8**		**-0.1**
JTS	**Las Juntas de**	**4.61**	**124**		Pn	**Pn**	**20 14 08.6**		**+1.8**
	comp=Z,8.3nm,0.3s,baz=182,slow=22,SNR=31								
JTS					Pg		20 14 17.7		
	comp=Z,130nm,0.3s,baz=16,slow=20,SNR=55								
JTS					Sn	**Sn**	**20 14 57.1**		**-2.0**
	comp=Z,25nm,0.3s,baz=231,slow=7.5,SNR=5.3								
JTS					Lg	Lg	20 15 17.1		
	comp=Z,22nm,0.3s,baz=170,slow=22,SNR=11								
JTS	**Las Juntas de**	**4.61**	**124**			**Pn**	**20 14 08.4**		**+1.6**
CCIG	**Comitan**	**4.63**	**317**		Pn	**Pn**	**20 14 08.6**		**+1.5**
CAO2	**Cobano, Puntar**	**4.87**	**131**			**Pn**	**20 14 11.2**		**+0.9**
LAFE	**Finca La Fe, P**	**4.94**	**128**	***eP***		**Pn**	**20 14 12.4**		**+1.2**
JACO	**JACO, Garabito**	**5.22**	**128**			**Pn**	**20 14 17.3**		**+2.3**
HDC	**Heredia**	**5.46**	**122**		Pn	**Pn**	**20 14 20.0**		**+1.5**
RIMA	**Rio Macho**	**5.79**	**122**			**Pn**	**20 14 25.1**		**+2.0**
RIMA	**Rio Macho**	**5.79**	**122**	***eP***		**Pn**	**20 14 25.6**		**+2.5**
CDM	**Cerro de Muert**	**5.99**	**123**	***eP***		**Pn**	**20 14 29.0**		**+2.9**
EDIO	**Dominical**	**6.09**	**126**	***eP***		**Pn**	**20 14 28.8**		**+2.9**
PEZE	**Perez Zeledon,**	**6.16**	**124**		Pn	**Pn**	**20 14 29.1**		**+1.1**
SRBA	**San Rafael, Bu**	**6.50**	**124**			**Pn**	**20 14 34.6**		**+1.8**
DRK0	**Durika**	**6.58**	**123**			**Pn**	**20 14 36.2**		**+2.4**
RIOS	**Rincon, Osa**	**6.70**	**128**			**Pn**	**20 14 38.0**		**+2.6**
PIRO	**Carate, Puerto**	**7.02**	**129**	***eP***		**Pn**	**20 14 43.0**		**+3.2**
CMIG	**Matias Romero**	**7.17**	**306**		Pn	**Pn**	**20 14 42.6**		**+0.9**
	comp=Z,1.0nm,0.3s,baz=120,slow=9.6,SNR=14								
CMIG					Sn	**Sn**	**20 16 01.7**		**-0.1**
	comp=Z,2.9nm,0.3s,baz=108,slow=15,SNR=1.8								
CDITO	**Canoas**	**7.28**	**126**		Pn	**Pn**	**20 14 44.6**		**+1.3**
PRVC	**Isla de Provid**	**7.29**	**86**		Pn	**Pn**	**20 14 43.6**		**+0.2**
BRU2	**Volcan**	**7.29**	**124**		Pn	**Pn**	**20 14 45.9**		**+2.2**
SOR	**Soroa**	**11.27**	**29**		Pn	**Pn**	**20 15 37.7**		**-0.2**
SJCC	**San Jacinto, C**	**13.72**	**101**			**P**	**20 16 18.8**		**+0.7**
ZARC	**Zaragoza, Cauc**	**14.77**	**110**			**P**	**20 16 30.0**		**+0.2**
ROSC	**El Rosal**	**16.42**	**118**		LR	LR	20 24 27.6		
	comp=Z,51nm,20.1s,baz=327,slow=43								
DWPF	**Disney Wildern**	**16.62**	**23**		P	**Pn**	**20 16 49.2**		**+0.7**
	baz=206								
833A	**Chaparral WMA,**	**18.22**	**329**			**Pn**	**20 17 10.5**		**+2.2**
833A	**Chaparral WMA,**	**18.22**	**329**		P	**Pn**	**20 17 10.3**		**+2.0**
	baz=145								
SDV	**Santo Domingo**	**18.31**	**101**		P	**P**	**20 17 09.0**		**-0.1**
	comp=Z,1.2nm,0.3s,baz=290,slow=4.9,SNR=18								
SDV					LR	LR	20 24 48.7		
	comp=Z,83nm,20.6s,baz=288,slow=40								
SDV	**Santo Domingo**	**18.31**	**101**			**P**	**20 17 08.9**		**-0.3**
435B	**Jarrell**	**19.53**	**337**		P	**Pn**	**20 17 24.1**		**+0.2**
435B	**Jarrell**	**19.53**	**337**		P	**Pn**	**20 17 24.2**		**+0.2**
	baz=153								
152A	**Waverly Hall**	**20.01**	**10**		P	Pn	20 17 29.9		+0.3
152A					IAmb	IAmb	20 17 32.5		
	comp=Z,28nm,1.2s								
LRAL	**Lakeview Retre**	**20.09**	**4**			Pn	20 17 31.3		+0.8
Z47A	**Carrollton**	**20.20**	**2**		P	Pn	20 17 31.6		-0.1
Z47A					IAmb	IAmb	20 17 35.3		
	comp=Z,18nm,0.6s								
JCT	**Junction City**	**20.20**	**332**		P	Pn	20 17 31.0		-1.0
JCT					IAmb	IAmb	20 17 32.8		
	comp=Z,12nm,0.7s								
JCT	**Junction City**	**20.20**	**332**		P	Pn	20 17 31.0		-0.9
	baz=147								
WHTX	**Lake Whitney,**	**20.57**	**339**		P	Pn	20 17 35.5		-0.7
WHTX	**Lake Whitney,**	**20.57**	**339**		P	Pn	20 17 35.6		-0.6
	baz=155								
Z51A	**Franklin**	**20.57**	**9**		P	Pn	20 17 37.7		+1.5
BAUV	**El Baul**	**20.79**	**99**		P	**P**	**20 17 34.3**		**-1.7**
Y49A	**Blount Mountai**	**20.96**	**6**		P	Pn	20 17 40.5		-0.3
GOGA	**Godfrey**	**20.98**	**13**		P	**P**	**20 17 39.6**		**+1.7**
GOGA					IAmb	IAmb	20 17 43.0		
	comp=Z,18nm,0.7s								
GOGA	**Godfrey**	**20.98**	**13**		P	**P**	**20 17 39.5**		**+1.7**
	baz=194,SNR=7.7								
Z38A	**Mt. Pleasant**	**21.01**	**345**		P	**P**	**20 17 40.7**		**+2.5**
Z38A					IAmb	IAmb	20 17 44.9		
	comp=Z,26nm,1.2s								
WLAR	**White Oak Lake**	**21.04**	**350**		P	**P**	**20 17 38.1**		**-0.3**
WLAR					IAmb	IAmb	20 18 05.5		
	comp=Z,24nm,1.0s								
Y52A	**Lilburn**	**21.30**	**11**		P	**P**	**20 17 42.1**		**+0.9**
Y52A					IAmb	IAmb	20 18 00.1		
	comp=Z,15nm,0.8s								
TXAR	**Lajitas Array**	**21.37**	**322**		P	**P**	**20 17 44.3**		**+2.2**
	comp=Z,3.8nm,0.5s,baz=143,slow=11,SNR=80								
TXAR					PcP	**PcP**	**20 21 46.8**		**+2.4**
	comp=Z,0.6nm,0.8s,baz=158,slow=3.6,SNR=4.7								
TX31	**Lajitas Ar. Si**	**21.37**	**322**		P	**P**	**20 17 44.4**		**+2.2**
TX31					IAmb	IAmb	20 17 57.5		
	comp=Z,24nm,1.1s								
TX32	**Lajitas Array**	**21.37**	**322**		P	**P**	**20 17 44.4**		**+2.2**
FPAL	**Fort Paine**	**21.72**	**7**		P	**P**	**20 17 47.5**		**+1.7**
MIAR	**Mount Ida**	**21.95**	**349**		P	**P**	**20 17 49.7**		**+1.4**
MIAR					IAmb	IAmb	20 17 54.0		
	comp=Z,12nm,0.7s								
MIAR	**Mount Ida**	**21.95**	**349**		P	**P**	**20 17 49.6**		**+1.4**
	baz=167,SNR=5.8								
ABTX	**Abilene, Hawle**	**21.97**	**335**		P	**P**	**20 17 49.9**		**+1.4**
ABTX	**Abilene, Hawle**	**21.97**	**335**		P	**P**	**20 17 49.5**		**+1.0**
	baz=150								
UALR	**University of**	**21.99**	**352**		P	**P**	**20 17 49.1**		**+0.4**
UALR					IAmb	IAmb	20 18 07.4		
	comp=Z,23nm,1.1s								
HODGE	**Hodges**	**22.04**	**15**		P	**P**	**20 17 50.5**		**+1.3**
Y57A	**Sumter**	**22.36**	**19**		P	**P**	**20 17 55.0**		**+2.4**
W41B	**Gary Mavity, V**	**22.37**	**353**		P	**P**	**20 17 55.0**		**+2.2**
W41B	**Gary Mavity, V**	**22.37**	**353**		P	**P**	**20 17 53.9**		**+1.2**
	baz=171								
X37A	**Clayton**	**22.37**	**346**		P	**P**	**20 17 55.9**		**+3.0**
X37A					IAmb	IAmb	20 18 24.6		
	comp=Z,9.7nm,0.8s								
SJG	**San Juan**	**22.45**	**74**		LR	LR	20 27 22.3		
	comp=Z,121nm,18.4s,baz=288,slow=39								
WHAR	**Wooly Hollow**	**22.49**	**353**		P	**P**	**20 17 55.7**		**+1.7**
WHAR					IAmb	IAmb	20 18 11.2		
	comp=Z,43nm,1.5s								
W39A	**Magazine**	**22.62**	**349**		P	**P**	**20 17 57.8**		**+2.3**
W39A					IAmb	IAmb	20 17 59.9		
	comp=Z,9.2nm,0.7s								
W39A	**Magazine**	**22.62**	**349**		P	**P**	**20 17 56.7**		**+1.2**
	baz=167,SNR=5.5								
PAULI	**Pauline**	**22.71**	**15**		P	**P**	**20 17 58.0**		**+1.6**
PAULI					IAmb	IAmb	20 18 13.0		
	comp=Z,24nm,1.3s								
BIRD	**Birdtown, Kers**	**22.92**	**18**		P	**P**	**20 18 00.1**		**+1.6**
BIRD					IAmb	IAmb	20 18 01.5		
	comp=Z,14nm,0.7s								
MTP	**Monte Pirata**	**23.00**	**74**		P	**P**	**20 17 58.3**		**-1.3**
MTP					IAmb	IAmb	20 18 12.7		
	comp=Z,20nm,0.8s								
FCAR	**Ozark Folk Cen**	**23.06**	**353**		P	**P**	**20 18 00.8**		**+0.8**
FCAR					IAmb	IAmb	20 18 16.9		
	comp=Z,10nm,0.7s								
X34A	**Smith Ranch, M**	**23.08**	**341**		P	**P**	**20 18 02.3**		**+2.1**
TKL	**Tuckaleechee C**	**23.09**	**11**		P	**P**	**20 18 01.0**		**+0.7**
	comp=Z,6.5nm,0.7s,baz=182,slow=11,SNR=9.2								
TKL					LR	LR	20 27 35.6		
	comp=Z,45nm,20.5s,baz=192,slow=38								
TKL	**Tuckaleechee C**	**23.09**	**11**		P	**P**	**20 18 01.0**		**+0.7**
WVT	**Waverly**	**23.13**	**2**		P	**P**	**20 18 01.0**		**+0.5**
	baz=182								
KMSC	**Kings Mountain**	**23.14**	**16**		P	**P**	**20 18 02.2**		**+1.4**
KMSC					IAmb	IAmb	20 18 23.3		

	comp=Z,13nm,1.1s								
KMSC	**Kings Mountain**	**23.14**	**16**		P	**P**	**20 18 02.0**		**+1.2**
	baz=199								
LCAR	**Lake Charles**	**23.14**	**355**		P	**P**	**20 18 01.5**		**+0.8**
W35A	**Tecumseh**	**23.30**	**343**		P	**P**	**20 18 03.3**		**+1.0**
WMOK	**Wichita Mounta**	**23.52**	**339**		P	**P**	**20 18 05.2**		**+0.8**
WMOK	**Wichita Mounta**	**23.52**	**339**		P	**P**	**20 18 05.2**		**+0.8**
	baz=155,SNR=6.3								
FNO	**Franklin**	**23.55**	**342**		P	**P**	**20 18 06.0**		**+1.4**
STVI	**Saint Thomas**	**23.61**	**74**		P	**P**	**20 18 03.6**		**-1.7**
U40A	**Yellville**	**23.61**	**352**		P	**P**	**20 18 06.5**		**+1.2**
U40A					IAmb	IAmb	20 18 24.8		
	comp=Z,11nm,0.9s								
U40A	**Yellville**	**23.61**	**352**		P	**P**	**20 18 06.2**		**+1.0**
	baz=170,SNR=5.7								
HHAR	**Hobbs**	**23.71**	**350**		P	**P**	**20 18

comp=Z,5.1nm,0.8s
EYMN Ely 34.99 357 P **P** 20 19 45.4 -0.7
baz=175
CWC Cottonwood Cre 35.18 317 P **P** 20 19 47.2 -0.9
baz=124
AHID Auburn Hatcher 35.44 331 P **P** 20 19 52.1 +1.9
AHID IAmb IAmb 20 20 05.5
comp=Z,5.8nm,0.7s
LPAZ La Paz 35.51 144 LR LR 20 34 46.7
comp=Z,70nm,19.1s,baz=332,slow=37
HVU Hansel Valley 35.52 328 P **P** 20 19 52.4 +1.5
B35A Bob, Littlefor 35.56 354 P **P** 20 19 51.3 +0.3
B35A IAmb IAmb 20 20 14.3
comp=Z,6.9nm,1.3s
AGMN Agassiz Nation 35.75 352 P **P** 20 19 52.2 -0.4
AGMN IAmb IAmb 20 20 07.8
comp=Z,6.3nm,0.8s
AGMN Agassiz Nation 35.75 352 P **P** 20 19 52.6 -0.1
baz=168
REDW Red Top Meadow 35.78 332 P **P** 20 19 54.2 +1.0
ECR Eagle Creek 35.78 331 P **P** 20 19 54.1 +0.9
SNOW Snow King Moun 35.82 332 P **P** 20 19 54.3 +0.8
TPAW Teton Pass 35.93 332 P **P** 20 19 55.7 +1.2
TPAW IAmb IAmb 20 20 22.1
comp=Z,8.3nm,1.1s
MDND Maddock 35.96 348 P **P** 20 19 54.5 +0.1
MDND Maddock 35.96 348 P **P** 20 19 54.3 -0.1
baz=162
MOOW Moose Ponds 36.04 333 P **P** 20 19 56.2 +0.8
FLWY Flagg Ranch 36.28 333 P **P** 20 19 58.6 +1.2
NVAR Mina Array Bea 36.47 319 P **P** 20 20 01.6 +2.4
comp=Z,0.9nm,0.6s,baz=130,slow=7.1,SNR=7.0
NVAR PcP **PcP** 20 22 23.7 +1.6
comp=Z,2.6nm,0.7s,baz=128,slow=3.8,SNR=12
NVAR LR LR 20 35 01.7
comp=Z,90nm,18.9s,baz=132,slow=36
NVAR Mina Array Bea 36.47 319 P **P** 20 20 01.4 +2.3
H17A Grant Village 36.47 333 P **P** 20 20 00.1 +1.0
RLMT Red Lodge 36.51 335 P **P** 20 19 59.6 +0.2
baz=145
LAO LASA Array 36.71 340 P **P** 20 20 01.5 +0.6
LAO LASA Array 36.71 340 P **P** 20 20 01.4 +0.6
baz=151
YHH Holmes Hill 36.90 334 P **P** 20 20 04.2 +1.3
YHH IAmb IAmb 20 20 30.2
comp=Z,8.8nm,1.4s
ULM Lac du Bonnet 37.67 353 P **P** 20 20 07.6 -1.2
comp=Z,4.2nm,0.6s,baz=200,slow=5.6,SNR=4.4
ULM LR LR 20 36 48.5
comp=Z,103nm,20.9s,baz=128,slow=38
ULM Lac du Bonnet 37.67 353 P **P** 20 20 07.9 -1.0
ULM IAmb IAmb 20 20 08.5
comp=Z,4.6nm,0.7s
DGMT Dagmar 37.67 343 P **P** 20 20 09.4 +0.4
baz=155
MCMT McKenzie Canyo 37.83 332 P **P** 20 20 12.5 +1.9
BOZ Bozeman (W) 37.88 334 P **P** 20 20 12.2 +1.2
BOZ IAmb IAmb 20 20 14.1
comp=Z,2.8nm,0.6s
BOZ Bozeman (W) 37.88 334 P **P** 20 20 11.2 +0.3
baz=142,SNR=7.2
LRM Limekiln Ridge 38.41 333 P **P** 20 20 16.8 +1.3
EGMT Eagleton 39.10 338 P **P** 20 20 22.4 +1.3
EGMT Eagleton 39.10 338 P **P** 20 20 22.2 +1.1
baz=146,SNR=13
WVOR Wild Horse Val 39.13 324 P **P** 20 20 22.6 +1.1
PLID Pearl Lake 39.53 329 P **P** 20 20 25.5 +0.6
PLID IAmb IAmb 20 20 40.3
comp=Z,6.7nm,1.4s
SIV San Ignacio 39.74 136 P **P** 20 20 27.1 +0.4
comp=Z,4.1nm,0.7s,baz=305,slow=10.0,SNR=18
SIV LR LR 20 36 24.6
comp=Z,80nm,20.8s,baz=296,slow=36
F10A Beach Ranch, E 40.77 329 P **P** 20 20 35.0 +0.1
YBH Yreka Blue Hor 41.13 321 LR LR 20 38 48.8
comp=Z,61nm,19.5s,baz=168,slow=38
J05D Fort Rock, OR 41.16 324 P **P** 20 20 38.2 0.0
baz=127
NEW Newport 42.36 332 P **P** 20 20 45.5 -2.3
comp=Z,1.3nm,0.5s,baz=287,slow=20,SNR=1.7
NEW PcP **PcP** 20 22 40.5 +0.1
comp=Z,2.5nm,0.7s,baz=63,slow=12,SNR=3.6
NEW LR LR 20 42 53.5
comp=Z,36nm,19.8s,baz=128,slow=42
FFC Flin Flon 42.97 349 P **P** 20 20 52.9 +0.3
FFC IAmb IAmb 20 20 54.6
comp=Z,5.7nm,0.7s
EDM Edmonton 44.69 339 P **P** 20 21 06.7 +0.1
LCO Las Campanas 45.22 157 P **P** 20 21 11.3 0.0
SCHQ Schefferville 45.23 18 P **P** 20 21 09.4 -1.4
comp=Z,6.9nm,0.6s,baz=216,slow=7.0,SNR=20
SCHQ PcP **PcP** 20 22 49.7 -0.2
comp=Z,2.6nm,0.5s,baz=234,slow=4.7,SNR=7.6
H03N2 Juan Fernandez 47.06 169 T T 21 11 37.6
baz=347,slow=76,SNR=35
H03N1 Juan Fernandez 47.06 169 T T 21 11 37.3
baz=347,slow=76,SNR=33
H03N3 Juan Fernandez 47.08 169 T T 21 11 36.2
baz=347,slow=76,SNR=37
BDFB Brasilia 49.35 124 P **P** 20 21 42.5 -0.9
comp=Z,2.4nm,0.4s,baz=300,slow=11,SNR=7.1
BDFB Brasilia 49.35 124 IAmb IAmb 20 21 43.8
comp=Z,5.2nm,0.7s
CPUP Villa Florida 49.61 142 P **P** 20 21 44.3 -0.8
comp=Z,1.4nm,0.5s,baz=357,slow=12,SNR=3.2
CPUP LR LR 20 44 05.3
comp=Z,45nm,19.0s,baz=215,slow=38
BO04 La Punta 49.77 160 P **P** 20 21 45.1 -1.1
LMEL Las Melosas 49.78 160 P **P** 20 21 47.9 +1.5
BBB Bella Bella 50.23 330 LR LR 20 46 43.1
comp=Z,102nm,18.6s,baz=190,slow=40
FRB Frobisher Bay 52.72 11 LR LR 20 43 57.2
comp=Z,88nm,21.0s,baz=167,slow=35
YKA Yellowknife Ar 52.81 345 P **P** 20 22 08.4 -0.1
comp=Z,3.9nm,0.3s,baz=138,slow=8.0,SNR=177
YKA PcP **PcP** 20 23 16.8 -0.4
comp=Z,0.8nm,0.6s,baz=148,slow=3.9,SNR=6.5
YKA LR LR 20 46 38.5
comp=Z,57nm,18.7s,baz=290,slow=38
RCBR Riachuelo 55.78 106 LR LR 20 49 12.3
comp=Z,52nm,18.4s,baz=5.5,slow=39
WRGLY Wrigley 55.84 342 P **P** 20 22 30.4 -0.2
baz=136
MMPY Sheldon Lake, 58.01 338 P **P** 20 22 46.6 +0.5
baz=129
N31M Braeburn, Yuko 59.05 336 P **P** 20 22 53.0 -0.3
baz=124
SFJD Kangerlussuaq 59.64 16 LR LR 20 48 14.2
comp=Z,73nm,18.1s,baz=266,slow=36
C36M Paulatuk 60.64 346 P **P** 20 23 02.8 -1.2
baz=140
YUK3 Moose Creek 61.10 335 P **P** 20 23 07.3 -0.2
baz=119
RES Resolute Bay 61.84 358 P **P** 20 23 10.9 -1.1
RES IAmb IAmb 20 23 11.9
comp=Z,3.5nm,0.7s
M27K Edge Creek, AK 61.97 335 P **P** 20 23 14.1 +0.8
baz=118
EPYK Eagle Plains 62.17 340 P **P** 20 23 14.2 -0.2
baz=125
L27K Beaver Creek, 62.28 336 P **P** 20 23 15.1 -0.1
baz=118
INK Inuvik 62.36 343 P **P** 20 23 15.6 0.0
comp=Z,5.2nm,0.6s,baz=120,slow=7.0,SNR=33
INK Inuvik 62.36 343 P **P** 20 23 15.5 0.0
INK Inuvik 62.36 343 P **P** 20 23 15.4 -0.1
baz=129,SNR=10.0
M26K Nabesna, AK 62.45 335 P **P** 20 23 17.0 +0.6
baz=117
N25K Chitina, Valde 62.78 334 P **P** 20 23 19.1 +0.4
baz=115
EGAK Eagle 62.87 338 P **P** 20 23 18.7 -0.3
baz=120
HARP HAARP 63.36 334 P **P** 20 23 22.7 +0.3
baz=115
J26L Joseph Creek 63.64 337 P **P** 20 23 24.1 -0.2
baz=117
M24K Tolsona, Glenn 63.67 334 P **P** 20 23 24.5 0.0
baz=114
K24K Donnelly Dome 64.21 336 P **P** 20 23 28.0 +0.1
baz=115
M23K Glacier View 64.22 333 P **P** 20 23 28.3 +0.2
baz=112
IL31 65.05 336 P **P** 20 23 33.0 -0.3
IL31 IAmb IAmb 20 24 00.5
comp=Z,10nm,1.4s
ILAR Eielson Array 65.05 336 P **P** 20 23 33.2 -0.2
comp=Z,0.6nm,0.5s,baz=135,slow=5.3,SNR=13
ILAR Eielson Array 65.05 336 P **P** 20 23 33.2 -0.2
RND Reindeer 65.31 335 P **P** 20 23 34.8 -0.4
RND IAmb IAmb 20 23 49.8
comp=Z,3.6nm,0.8s
BMAR Burnt Mountain 65.37 339 P **P** 20 23 35.2 -0.3
NEA2 Nenana 65.84 336 P **P** 20 23 38.1 -0.4
baz=112
H24K Noodor Dome 65.86 337 P **P** 20 23 38.8 +0.1
baz=114
TRF Thorofare Moun 65.93 334 P **P** 20 23 39.1 -0.2
baz=110
I23K Minto, Yukon-K 66.17 336 P **P** 20 23 39.8 -0.7
baz=112
BPAW Bear Paw Mtn. 66.45 335 P **P** 20 23 41.5 -0.9
BPAW IAmb IAmb 20 23 56.6
comp=Z,8.5nm,1.4s
BPAW Bear Paw Mtn. 66.45 335 P **P** 20 23 41.5 -0.9
H23K Yukon River 66.49 337 P **P** 20 23 41.8 -0.9
baz=112
PPLA Purkeypile 66.56 333 P **P** 20 23 43.1 -0.3
PPLA Purkeypile 66.56 333 P **P** 20 23 42.6 -0.7
baz=108
CAST Castle Rocks 66.68 334 P **P** 20 23 43.3 -0.6
CAST Castle Rocks 66.68 334 P **P** 20 23 43.2 -0.8
baz=108
EUNU Eureka 67.16 0 P **P** 20 23 45.9 -0.9
I21K Tanana 67.21 336 P **P** 20 23 46.8 -0.4
baz=109
K20K Telida 67.52 334 P **P** 20 23 48.6 -0.6
K20K IAmb IAmb 20 23 50.4
comp=Z,5.4nm,1.2s
K20K Telida 67.52 334 P **P** 20 23 48.7 -0.6
baz=106
TOLK Toolik Lake Re 67.58 340 P **P** 20 23 49.8 +0.2
TOLK IAmb IAmb 20 23 50.8
comp=Z,4.0nm,0.7s
TOLK Toolik Lake Re 67.58 340 P **P** 20 23 49.2 -0.4
baz=113
H21K Melozitna Rive 67.69 336 P **P** 20 23 49.4 -0.9
baz=109
J20K Nowinta River 67.78 335 P **P** 20 23 50.4 -0.5
J20K IAmb IAmb 20 23 54.4
comp=Z,3.9nm,1.1s
J20K Nowinta River 67.78 335 P **P** 20 23 50.3 -0.5
baz=107
BORG Borgarnes 68.86 25 LR LR 20 54 46.4
comp=Z,20nm,18.3s,baz=285,slow=37
UNV Unalaska Valle 72.40 323 P **P** 20 24 18.1 -1.2
baz=92
ESDC Sonseca Array 77.96 52 P **P** 20 24 49.6 -2.0
comp=Z,0.4nm,0.6s,baz=283,slow=5.4,SNR=5.6
NOA NORSAR Array B 83.61 29 LR LR 20 59 47.3
comp=Z,9.7nm,21.7s,baz=35,slow=34
ARCES ARCESS Array B 86.18 19 P **P** 20 25 34.1 +0.1
comp=Z,1.8nm,0.8s,baz=298,slow=3.4,SNR=4.5
ARCES ARCESS Array B 86.18 19 IAmb IAmb 20 25 37.0
comp=Z,11nm,1.4s
TORD Torodi Ar. Bea 87.62 77 P **P** 20 25 39.2 -2.9
comp=Z,0.2nm,0.5s,baz=292,slow=5.6,SNR=1.9
TORD Torodi Ar. Bea 87.62 77 IAmb IAmb 20 25 40.7
comp=Z,1.1nm,1.4s
ZALV Zalesovo Beam 113.18 4 PKiKP **PKiKP** 20 31 30.3 0.0
comp=Z,0.7nm,0.6s,baz=253,slow=1.5,SNR=4.4
MKAR Makanchi Array 120.03 7 PKP **PKPdf** 20 31 42.4 -1.3
comp=Z,0.3nm,0.5s,baz=343,slow=2.3,SNR=4.9
STKA Stephens Creek 130.18 239 PKP **PKPdf** 20 32 03.1 -0.4
comp=Z,1.8nm,0.9s,baz=244,slow=3.2,SNR=2.9
WRA Warramunga Arr 138.10 255 PKP **PKPdf** 20 32 19.7 +1.0
comp=Z,0.7nm,0.6s,baz=88,slow=2.6,SNR=14
CMAR Chiang Mai Arr 147.89 346 PKPbc **PKPdf** 20 32 37.2 +1.3
comp=Z,2.4nm,0.6s,baz=340,slow=3.1,SNR=23
CMAR Chiang Mai Arr 147.89 346 **PKPdf** 20 32 36.8 +0.9

*JMA **20** 20:16:51.3, 33˚.32N×131˚.49E, h5km±1km, M3.8*
JMA Felt IV J1.
*IDC **20** 20:16:51.1±0.8, 33˚.33N×131˚.49E, h0km, mb3.7/11, mb1 3.8/12, mb1mx3.7/46, mbtmp3.6/12, ML2.6/1, MS3.2/14, Ms1 3.2/14, ms1mx3.0/94, Error ellipse: s-maj=16.7km s-min=8.3km az=149.0*
*NIED **20** 20:16:51.3, 33˚.32N×131˚.49E, h5km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=1.31; Mθθ=1.39; Mφφ=-0.08; Mrθ=0.26; Mθφ=0.18; Mrφ=0.40; Fault plane solution: M0=1.45000×10^15^ NP1:φ=98.00000°, δ=41.00000°, λ=-67.00000°. NP2:φ=248.00000°, δ=53.00000°, λ=-109.00000°.*
*NEIC **20** 20:16:52.8±1.1, 33˚.25N±0˚.06×131˚.43E±0˚.04, h8km±6km, mb4.5/12 Error ellipse: s-maj=8.7km s-min=4.6km az=160.0*

ISC 20 20:16:51.8±1.3, 33˚.28N±0˚.04×131˚.49E±0˚.03, h0km±8km, n66, σ1°36/59, mb4.0/17, MS3.3/11, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
JBEP	**Beppuamama**	**0.09**	**311**	⇑P		**Pg**	**20 16 52.9**	**-0.6**
JBEP				S		**Sg**	**20 16 54.1**	**-0.6**
JUS	**Usuki**	**0.31**	**134**	⇑P		**Pg**	**20 16 57.8**	**+0.2**
JKI	**Kunimi**	**0.36**	**11**	⇑P		**Pg**	**20 16 58.0**	**-0.7**
JKI				eS		**Sg**	**20 17 02.6**	**-0.8**
JNU	**Nakatsue**	**0.53**	**253**	Pg		**Pg**	**20 17 01.8**	**-0.2**
	203nm,0.3s,baz=51,slow=6.1,SNR=444							
JNU				Lg		Lg	20 17 09.4	
	142nm,0.3s,baz=113,slow=23,SNR=13							
JNU	**Nakatsue**	**0.53**	**253**			**Pg**	**20 17 02.0**	**0.0**
JNA	**Nagahama**	**0.88**	**71**	P		**Pg**	**20 17 08.3**	**-0.3**
JIU3	**Izumi3**	**0.92**	**218**	P		**Pg**	**20 17 10.1**	**+0.7**
UWA2	**Uwa jima 2**	**0.95**	**94**	P		**Pg**	**20 17 10.2**	**+0.1**
JSU	**Suzuyama**	**1.97**	**207**			**Pn**	**20 17 26.1**	**-0.3**
JMN	**Monobe**	**2.05**	**77**	Pn		**Pn**	**20 17 27.3**	**-0.2**
JTU	**Tsushima**	**2.14**	**306**	Pn		**Pn**	**20 17 28.2**	**-0.4**
JHS	**Saijyo**	**2.18**	**38**	Pn		**Pn**	**20 17 29.3**	**0.0**
TJN	**Taejon**	**4.59**	**314**			**Pb**	**20 18 12.9**	**-0.2**
INU	**Inuyama**	**5.02**	**64**			**Pn**	**20 18 08.6**	**+0.3**
KSRS	**Korea Array**	**5.08**	**326**	Pn		**Pn**	**20 18 07.5**	**-1.7**
	0.2nm,0.3s,baz=150,slow=15,SNR=3.1							
KSRS				Pg		**Pb**	**20 18 24.1**	**+2.5**
	0.6nm,0.3s,baz=143,slow=17,SNR=8.9							
KSRS				Lg		Lg	20 19 30.3	
	2.2nm,0.3s,baz=156,slow=30,SNR=0.9							
KSRS				LR		LR	20 19 35.1	
	comp=Z,39nm,20.2s,baz=150,slow=32							
KSAR	**Wonju Array Be**	**5.09**	**326**			**Pn**	**20 18 09.2**	**-0.1**
KS19	**Wonju Array Si**	**5.15**	**326**			**Pn**	**20 18 10.4**	**+0.3**
JGF	**Kuroka**	**5.38**	**63**			**Pn**	**20 18 13.8**	**+0.6**
INCN	**Inchon**	**5.77**	**318**	Pn		**Pn**	**20 18 18.5**	**-0.2**
MJB9	**Matsu-Tunnel**	**6.41**	**58**	Pn		**Pn**	**20 18 28.9**	**+1.5**
MAJO	**Matsushiro**	**6.41**	**58**			**Pn**	**20 18 29.5**	**+2.1**
MJAR	**Matsushiro Arr**	**6.41**	**58**	Pn		**Pn**	**20 18 29.2**	**+1.7**
	0.3nm,0.3s,baz=233,slow=13,SNR=32							
MJAR	**Matsushiro Arr**	**6.41**	**58**			**Pn**	**20 18 29.3**	**+1.9**
NJ2	**Nanjing**	**10.72**	**267**	eP		**Pn**	**20 19 27.6**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**10.91**	**2**	LR		LR	20 23 22.8	
	comp=Z,197nm,18.6s,baz=187,slow=36							
CN2	**Changchun**	**11.52**	**338**	eP		Pn	20 19 42.3	+4.9
CN2				eS		**Sn**	**20 21 52.3**	**+5.6**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CN2				LR		LR		
	comp=N,400nm,10.0s							
CN2				LR		LR		
	comp=E,200nm,10.0s							
CN2				LR		LR		
	comp=Z,400nm,10.0s							
ASAJ	**Asahikawa**	**13.86**	**35**	LR		LR	20 25 18.3	
	comp=Z,99nm,18.6s,baz=326,slow=37							
KLR	**Kul'dur**	**15.94**	**1**	Pn		**P**	**20 20 41.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=167,slow=11,SNR=18							
KLR				LR		LR	20 26 21.5	
	comp=Z,86nm,20.1s,baz=133,slow=36							
HHC	**Hu-ho-hao-te**	**17.58**	**301**	eP		**Pn**	**20 20 58.5**	**+0.2**
HHC				S		**Sn**	**20 24 16.8**	**+2.1**
HHC				pmax		pmax		
	comp=Z,8.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,61nm,5.6s							
HHC				LR		LR		
	comp=N,99nm,10.8s							
HHC				LR		LR		
	comp=E,200nm,10.0s							
HHC				LR		LR		
	comp=Z,260nm,14.0s							
ULN	**Ulaanbaatar**	**23.46**	**316**	P		**P**	**20 22 03.2**	**+0.3**
GTA	**Gaotai**	**26.15**	**293**	eP		**P**	**20 22 29.9**	**+2.1**
GTA				sP			20 22 37.0	
GTA				pmax		pmax		
	comp=Z,2.0nm,1.3s							
GTA				LR		LR		
	comp=N,140nm,15.5s							
GTA				LR		LR		
	comp=E,86nm,13.9s							
GTA				LR		LR		
	comp=Z,110nm,13.5s							
PZH	**PanZhiHua**	**26.60**	**263**	P		**P**	**20 22 32.0**	**0.0**
PZH				PKP			20 32 22.3	
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=E,60nm,6.1s							
DAV	**Davao City (W)**	**26.65**	**193**	LR		LR	20 35 08.0	
	comp=Z,33nm,16.0s,baz=355,slow=41							
PETK	**Petropavlovsk-**	**27.27**	**36**	LR		LR	20 34 55.9	
	comp=Z,28nm,18.2s,baz=150,slow=40							
MA2	**Magadan**	**29.25**	**20**	LR		LR	20 35 18.2	
	comp=Z,29nm,18.1s,baz=201,slow=38							
SEY	**Seymchan**	**32.47**	**18**	LR		LR	20 35 36.2	
	comp=Z,65nm,19.5s,baz=313,slow=35							
CMAR	**Chiang Mai Arr**	**32.63**	**251**	P		**P**	**20 23 24.9**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=49,slow=7.1,SNR=4.1							
WMQ	**Urumqi**	**35.46**	**300**	eP		**P**	**20 23 51.3**	**+1.4**
SHEM	**Shemya Is, Ala**	**36.05**	**44**	LR		LR	20 37 37.9	
	comp=Z,21nm,21.4s,baz=144,slow=35							
TIXI	**Tiksi**	**38.46**	**359**	LR		LR	20 40 39.7	
	comp=Z,75nm,18.7s,baz=180,slow=37							
ZALV	**Zalesovo Beam**	**38.71**	**317**	P		**P**	**20 24 16.8**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=105,slow=9.3,SNR=5.4							
ZALV				LR		LR	20 40 44.9	
	comp=Z,41nm,21.2s,baz=62,slow=37							
MK31	**Makanchi Array**	**39.38**	**305**	P		**P**	**20 24 21.8**	**-1.3**
MKAR	**Makanchi Array**	**39.38**	**305**	P		**P**	**20 24 21.9**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=88,slow=11,SNR=7.7							
MKAR	**Makanchi Array**	**39.38**	**305**	P		**P**	**20 24 21.6**	**-1.4**
KURK	**Kurchatov**	**42.01**	**311**	P		**P**	**20 24 44.0**	**-0.6**
KURK				IAmb		IAmb	20 24 46.8	
	comp=Z,3.4nm,0.9s							
BRVK	**Borovoye**	**47.24**	**314**	P		**P**	**20 25 25.0**	**-1.3**
BRVK				IAmb		IAmb	20 25 28.0	
	comp=Z,3.7nm,0.9s							
KKAR	**Karatay Array**	**47.97**	**300**	P		**P**	**20 25 31.4**	**-0.8**
GAR	**Garm**	**48.92**	**295**	P		**P**	**20 25 39.0**	**-0.8**
GAR				IAmb		IAmb	20 25 42.4	
	comp=Z,3.5nm,0.9s							
CHGR	**Chuyangaron**	**49.88**	**295**	P		**P**	**20 25 46.5**	**-0.6**
WRA	**Warramunga Arr**	**52.99**	**177**	P		**P**	**20 26 08.9**	**-1.4**
	comp=Z,0.3nm,0.9s,baz=355,slow=8.3,SNR=1.9							
IMAR	**Indian Mountai**	**53.96**	**29**	P		**P**	**20 26 17.7**	**+0.8**
ABKAR	**Akbulak array**	**54.10**	**310**			**P**	**20 26 17.3**	**-0.9**
ABKAR	**Akbulak array**	**54.10**	**310**	P		**P**	**20 26 17.5**	**-0.7**
ABKAR				IAmb		IAmb	20 26 34.3	
	comp=Z,1.5nm,1.0s							
MDM	**Murphy Dome**	**56.33**	**30**	P		**P**	**20 26 31.5**	**-2.6**
MDM				IAmb		IAmb	20 26 36.8	
	comp=Z,5.2nm,1.1s							
ASAR	**Alice Springs**	**56.67**	**177**	P		**P**	**20 26 37.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=4.8,slow=12,SNR=8.8							
ILAR	**Eielson Array**	**56.93**	**30**	P		**P**	**20 26 38.2**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=289,slow=7.7,SNR=5.5							
KIRV	**Kirov**	**58.28**	**322**	LR		LR	20 54 56.1	
	comp=Z,72nm,18.0s,baz=354,slow=39							
INK	**Inuvik**	**61.32**	**25**	P		**P**	**20 27 07.3**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=260,slow=4.5,SNR=3.4							
A36M	**Sachs Harbour**	**62.66**	**20**	P		**P**	**20 27 15.8**	**-1.8**
ARCES	**ARCESS Array B**	**64.53**	**338**	LR		LR	21 00 40.5	
	comp=Z,48nm,18.8s,baz=222,slow=41							
OBN	**Obninsk**	**66.06**	**321**	LR		LR	20 59 29.5	
	comp=Z,18nm,18.8s,baz=164,slow=39							
KBZ	**Khabaz**	**66.98**	**308**	P		**P**	**20 27 46.0**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=358,slow=4.1,SNR=4.3							
FINES	**FINESS Array B**	**68.16**	**330**	P		**P**	**20 27 52.4**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=73,slow=6.6,SNR=4.8							
YKA	**Yellowknife Ar**	**70.97**	**27**	P		**P**	**20 28 09.6**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=298,slow=5.7,SNR=6.2							
BRTR	**Keskin Array B**	**74.96**	**308**	P		**P**	**20 28 33.1**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=15,slow=5.1,SNR=3.8							
CLL	**Collm**	**79.96**	**326**	eP		**P**	**20 29 04.0**	**+1.4**

*CNRM **20** 20:17:23.4, 35˚.73N×3˚.56W, h16km, ml2.3*
*SFS **20** 20:17:23.0, 35˚.67N×3˚.65W, ML2.8, ALBORAN SUR*
*INMG **20** 20:17:23.9±1.1, 35˚.69N×3˚.64W, h5km±5km, ML2.3, Error ellipse: s-maj=3.5km s-min=2.5km az=99.0*
*MDD **20** 20:17:23.8±0.5, 35˚.68N×3˚.66W, h0km, mb_Lg2.8/10, Error ellipse: s-maj=4.7km s-min=3.4km az=26.0*

ISC 20 20:17:23.7±1.1, 35˚.67N±0˚.02×3˚.65W±0˚.03, h16km±9km, n49, σ1°15/85, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PALE	**Palemas**	**0.51**	**208**	P		**Pb**	**20 17 35.0**	**+0.7**
PALE				S		**Sb**	**20 17 43.0**	**+1.5**
PALE	**Palemas**	**0.51**	**208**	P		**Pb**	**20 17 35.3**	**+1.0**
PALE				S		**Sb**	**20 17 43.1**	**+1.6**
EMEL	**Melilla**	**0.68**	**123**	Pg		**Pg**	**20 17 36.6**	**-0.3**
EMEL				Sg		**Sg**	**20 17 45.5**	**-0.3**
GOG	**Mont Gurugu**	**0.70**	**130**	P		**Pg**	**20 17 37.0**	**-0.3**
GOG	**Mont Gurugu**	**0.70**	**130**	P		**Pg**	**20 17 37.2**	**-0.1**
GOG				S		**Sb**	**20 17 46.7**	**-0.2**
PVLZ	**Peæn de**	**0.73**	**227**	P		**Pg**	**20 17 37.8**	**0.0**
PVLZ				S		**Sb**	**20 17 48.5**	**+0.8**
ELGU	**Los Guajares,**	**1.20**	**1**	Pg		**Pn**	**20 17 44.1**	**-1.8**
ELGU				Sg		**Sb**	**20 18 00.1**	**-1.3**
ELGU				*i* Vmb_Lg			20 18 09.6	
EMIJ	**Mijas**	**1.27**	**315**	Pg		**Pn**	**20 17 45.3**	**-1.6**
EMIJ				Sg		**Sb**	**20 18 02.0**	**-1.5**
EMIJ				*i* Vmb_Lg			20 18 02.5	
TAF	**Taforalt**	**1.32**	**130**	P		**Pn**	**20 17 47.0**	**-0.6**
TAF	**Taforalt**	**1.32**	**130**	P		**Pn**	**20 17 46.7**	**-0.9**
TAF				S		**Sn**	**20 18 04.4**	**-0.5**
EBER	**Berja**	**1.37**	**26**	Pg		**Pn**	**20 17 47.5**	**-0.9**
EBER				Sg		**Sb**	**20 18 06.8**	**+0.3**
EBER				*i* Vmb_Lg			20 18 13.5	
CEU	**Ceuta**	**1.42**	**280**	P		**Pn**	**20 17 48.7**	**-0.2**
CEU				S		**Sn**	**20 18 03.5**	**-3.7**
EGOR	**Sierra Gorda,**	**1.49**	**346**	Pg		**Pb**	**20 17 50.6**	**-0.4**
EGOR				Sg		**Sb**	**20 18 10.2**	**+0.5**
CHEFC	**Chefchaouen**	**1.49**	**248**	P		**Pb**	**20 17 51.0**	**0.0**
CHEFC	**Chefchaouen**	**1.49**	**248**	P		**Pb**	**20 17 50.6**	**-0.4**
CHEFC				S		**Sg**	**20 18 11.5**	**-0.3**
JBK	**JBK**	**1.60**	**146**	P		**Pn**	**20 17 51.0**	**-0.5**
JBK	**JBK**	**1.60**	**146**	P		**Pn**	**20 17 50.4**	**-1.1**
JBK				S		**Sn**	**20 18 10.1**	**-1.9**
EJIF	**Jimena Fronter**	**1.67**	**298**	Pn		**Pn**	**20 17 52.3**	**+0.1**
EJIF				Sn		**Sn**	**20 18 14.1**	**+0.7**
EADA	**Adamuz**	**2.60**	**344**	Pn		**Pn**	**20 18 06.6**	**+1.4**
EADA				Sn		**Sn**	**20 18 38.3**	**+1.8**
EADA				*i* Vmb_Lg			20 18 44.2	
ECAB	**El Cabril**	**2.79**	**330**	Pn		**Pn**	**20 18 08.1**	**+0.3**
ECAB				Sn		**Sn**	**20 18 41.9**	**+0.9**
ECAB				*i* Vmb_Lg			20 18 53.4	
MD31	**MD31**	**2.94**	**199**	P		**Pn**	**20 18 11.5**	**+1.6**
MDT	**Midelt**	**2.96**	**196**	P		**Pn**	**20 18 11.0**	**+1.0**
EMIN	**Mina Concepcio**	**3.21**	**312**	Pn		**Pn**	**20 18 12.7**	**-0.8**
EMIN				Sn		**Sn**	**20 18 52.1**	**+0.8**
EMIN				*i* Vmb_Lg			20 20 40.2	
ETOB	**Tobarra**	**3.41**	**29**	Pn		**Pn**	**20 18 17.7**	**+1.4**
ETOB				Sn		**Sn**	**20 18 58.4**	**+1.9**
ETOB				*i* Vmb_Lg			20 20 32.3	
EGRO	**El Granado**	**3.60**	**302**	Pn		**Pn**	**20 18 19.2**	**+0.3**
EGRO				Sn		**Sn**	**20 19 00.6**	**-0.5**
EGRO				*i* Vmb_Lg			20 19 10.6	
PBAR	**Barrancos**	**3.69**

PAB	**San Pablo**	**3.91**	**352**	Pn	**Pn**	**20 18 24.3 +1.1**		
PAB				Sn	**Sn**	**20 19 10.0 +1.2**		
PAB				*i* Vmb_Lg		20 20 52.3		
PCVE	**Castro Verde**	**4.04**	**300**	*e*Pn	**Pn**	**20 18 24.8 0.0**		
PCVE				*e*Sn	**Sn**	**20 19 11.2 -0.6**		
PCVE				A	A	20 19 15.5		
	3.4nm,0.5s							
EBAD	**Badajoz**	**4.09**	**320**	Pn	**Pn**	**20 18 25.7 +0.2**		
EBAD				Sn	**Sn**	**20 19 12.7 -0.3**		
EBAD				*i* Vmb_Lg		20 19 16.0		
MORF	**Marmelete**	**4.35**	**294**	*e*Pn	**Pn**	**20 18 30.3 +1.1**		
MORF				*e*Sn	**Sn**	**20 19 19.5 -0.1**		
MORF				A	A	20 19 25.4		
	3.6nm,0.6s							
PFVI	**Vila Bisbo**	**4.42**	**291**	*e*Pn	**Pn**	**20 18 31.3 +1.1**		
PFVI				*e*Sn	**Sn**	**20 19 20.8 -0.6**		
PESTR	**Estremoz**	**4.48**	**317**	*e*Pn	**Pn**	**20 18 31.8 +0.9**		
PESTR				*e*Sn	**Sn**	**20 19 21.3 -1.5**		
PESTR				A	A	20 19 26.1		
	2.7nm,0.4s							
PESTR	**Estremoz**	**4.48**	**317**	P	**Pn**	**20 18 32.2 +1.3**		
PTEO	**Sao Teotonio**	**4.49**	**296**	*e*Pn	**Pn**	**20 18 31.8 +0.7**		
PTEO				*e*Sn	**Sn**	**20 19 22.4 -0.6**		
PNCL	**Nicolau / Gran**	**4.61**	**303**	*e*Pn	**Pn**	**20 18 33.2 +0.5**		
PNCL				*e*Sn	**Sn**	**20 19 25.1 -0.8**		
PNCL				A	A	20 19 27.2		
	3.6nm,0.6s							
PMRV	**Marv??o**	**4.79**	**323**	*e*Pn	**Pn**	**20 18 36.1 +0.9**		
PMRV				*e*Sn	**Sn**	**20 19 28.8 -1.5**		
PMRV				A	A	20 19 44.2		
	2.4nm,0.9s							
PMTG	**Montargil**	**4.98**	**314**	*e*Pn	**Pn**	**20 18 38.4 +0.6**		
PMTG				*e*Sn	**Sn**	**20 19 34.0 -1.0**		
PMTG				A	A	20 19 44.1		
	3.2nm,0.7s							
PCBR	**Castelo Branco**	**5.15**	**325**	*e*Pn	**Pn**	**20 18 40.7 +0.6**		
PCBR				*e*Sn	**Sn**	**20 19 38.3 -1.0**		
PCBR				A	A	20 19 39.8		
	2.8nm,0.6s							
PSBE	**So Bento**	**5.61**	**315**	*e*Pn	**Pn**	**20 18 47.3 +0.9**		
PSBE				*e*Sn	**Sn**	**20 19 49.2 -1.3**		
PVIS	**Viseu**	**6.05**	**328**	*e*Pn	**Pn**	**20 18 52.9 +0.4**		
PVIS				*e*Sn	**Sn**	**20 19 58.8 -2.6**		
MVO	**Moncorvo**	**6.09**	**335**	*e*Pn	**Pn**	**20 18 55.2 +2.0**		
PVRL	**Vila Real**	**6.44**	**332**	*e*Pn	**Pn**	**20 18 58.0 +0.1**		
PVRL				*e*Sn	**Sn**	**20 20 09.9 -1.2**		
POLO	**Lamas de Olo**	**6.56**	**332**	*e*Pn	**Pn**	**20 19 01.5 +2.0**		
PBRG	**Braganca**	**6.59**	**339**	*e*Pn	**Pn**	**20 19 02.8 +2.9**		
PGAV	**Gavieira, Arco**	**7.25**	**332**	*e*Pn	**Pn**	**20 19 10.7 +1.7**		

IDC ***20*** *20:24:18.3±0.8, 16°.50S×177°.77E, h0km, mb3.7/8, mb1 4.1/8, mb1mx3.9/26, mbtmp3.7/8, MS3.9/30, Ms1 3.9/30, ms1mx3.8/61, Error ellipse: s-maj=24.0km s-min=19.1km az=106.0*

NEIC ***20*** *20:24:21.4±2.3, 16°.56S±0°.08×177°.7E±0°.2, h12km±5km, mb4.6/10, Error ellipse: s-maj=25.5km s-min=11.1km az=81.0*

GCMT ***20*** *20:24:23.4±0.3, 16°.16S±0°.01×177°.86E±0°.02, h22km±1km, MW4.9/105, Moment Tensor Solution. s28,c36; s105,c132; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.55±.13; Mθθ=0.28±.11; Mϕϕ 0.82±.10; Mrθ 0.25±.17; Mrϕ 2.87±.08; Mθϕ 0.28±.17; Best double couple: M=2.94200×10^16 NP1:ϕs=354.00000°, δ86.00000°, λ176.00000°. NP2:ϕs=85.00000°, δ86.00000°, λ4.00000°. Principal axes: T 3.2360, Plg6.0000°, Azm310.0000°; N -0.5870, Plg84.0000°, Azm126.0000°; P -2.6480, Plg0.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 20:24:21.1±0.6, 16°.58S±0°.08×177°.7E±0°.1, h10km, n62, σ2.931/33, mb4.0/13, MS4.0/31, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MSVF	**Nonsavu**	**1.21**	**162**	Pn	**Pb**	**20 24 43.5**		**-0.7**
	123nm,0.3s,baz=166,slow=20,SNR=9.2							
MSVF				Sn	**Sn**	**20 25 01.6**		**+0.8**
	509nm,0.3s,baz=219,slow=20,SNR=7.2							
MSVF				LR	LR	20 25 08.2		
	comp=Z,695nm,20.9s,baz=314,slow=39							
MSVF	**Nonsavu**	**1.21**	**162**		**Pb**	**20 24 43.3**		**-0.9**
AFI	**Afiamalu**	**10.54**	**77**	LR	LR	20 29 52.6		
	comp=Z,333nm,18.0s,baz=262,slow=32							
DZM	**Mont Dzumac**	**11.90**	**241**	LR	LR	20 31 10.1		
	comp=Z,676nm,21.1s,baz=60,slow=34							
DZM	**Mont Dzumac**	**11.90**	**241**	*e*LQ	LQ	20 29 43.0		
	2μm,26.7s							
DZM				*e*LR	LR	20 30 13.8		
	comp=Z,1μm,26.8s							
URZ	**Urewera**	**21.61**	**181**	LR	LR	20 36 18.6		
	comp=Z,351nm,20.6s,baz=31,slow=33							
RAR	**Rarotonga**	**21.84**	**106**	LR	LR	20 35 43.4		
	comp=Z,380nm,21.8s,baz=292,slow=32							
RPZ	**Rata Peaks**	**27.63**	**190**	LR	LR	20 39 33.0		
	comp=Z,184nm,18.7s,baz=354,slow=33							
KRVT	**Keravat (AS076**	**27.95**	**293**	LR	LR	20 41 39.4		
	comp=Z,315nm,18.0s,baz=253,slow=37							
CTA	**Charters Tower**	**29.98**	**258**	LR	LR	20 41 55.5		
	comp=Z,167nm,18.6s,baz=80,slow=35							
PPT2	**Papeete2**	**31.32**	**97**	*e*S	**S**	**20 35 51.7**		**+2.4**
	62nm,24.8s							
PPT2				*e*LQ	LQ	20 37 26.1		
	883nm,27.0s							
PPT2				*e*LR	LR	20 38 43.4		
	comp=Z,724nm,29.2s							
PPT	**Papeete**	**31.32**	**97**	LR	LR	20 41 27.1		
	comp=Z,56nm,20.4s,baz=280,slow=33							
TBI	**Tubuai**	**31.59**	**108**	*e*S	**S**	**20 35 52.9**		**-0.3**
	113nm,25.5s							
TBI				*e*LQ	LQ	20 37 29.0		
	788nm,25.8s							
TBI				*e*LR	LR	20 38 46.0		
	comp=Z,852nm,31.2s							
STKA	**Stephens Creek**	**36.04**	**238**	P	**P**	**20 31 23.2**		**+0.4**
	2.7nm,0.9s,baz=106,slow=6.4,SNR=5.7							
STKA				LR	LR	20 44 22.5		
	comp=Z,205nm,20.8s,baz=47,slow=33							
STKA	**Stephens Creek**	**36.04**	**238**	IAmb	IAmb	20 31 25.4		
	comp=Z,1.4nm,1.1s							
H11S2	**WAKE ISLAND Hy**	**36.47**	**342**	T	T	21 09 45.5		
	baz=163,slow=76,SNR=9.3							
H11S3	**WAKE ISLAND Hy**	**36.48**	**342**	T	T	21 09 45.5		
	baz=163,slow=76,SNR=33							
H11S1	**WAKE ISLAND Hy**	**36.49**	**342**	T	T	21 09 46.1		
	baz=163,slow=76,SNR=16							
WRA	**Warramunga Arr**	**41.19**	**259**	P	**P**	**20 32 05.0**		**-1.2**
	comp=Z,0.8nm,1.1s,baz=96,slow=8.7,SNR=2.8							
ASAR	**Alice Springs**	**41.55**	**253**	P	**P**	**20 32 08.8**		**-0.4**
	comp=Z,0.8nm,0.8s,baz=86,slow=8.0,SNR=8.3							
ASAR				LR	LR	20 47 49.0		
	comp=Z,132nm,19.6s,baz=94,slow=34							
TAOE	**Nuku Hiva Isla**	**41.81**	**85**	*e*LR	LR	20 43 40.0		
	comp=Z,250nm,26.3s							
GUMO	**Guam**	**44.13**	**311**	LR	LR	20 48 21.6		
	comp=Z,114nm,20.1s,baz=178,slow=33							
JCJ	**Chichijima**	**55.40**	**321**	LR	LR	20 52 48.7		
	comp=Z,139nm,21.3s,baz=116,slow=31							
VNDA	**Vanda**	**61.48**	**184**	LR	LR	20 57 11.2		
	comp=Z,70nm,20.4s,baz=358,slow=32							
RPN	**Rapa Nui**	**67.78**	**113**	LR	LR	20 57 29.0		
	comp=Z,130nm,21.9s,baz=40,slow=29							
ASAJ	**Asahikawa**	**68.36**	**334**	LR	LR	20 59 18.2		
	comp=Z,151nm,22.0s,baz=162,slow=31							
QSPA	**South Pole Qui**	**73.47**	**180**	P	**P**	**20 35 53.5**		**-0.2**
KDAK	**Kodiak Island**	**78.08**	**16**	LR	LR	21 02 40.7		
	comp=Z,86nm,20.1s,baz=205,slow=30							
YBH	**Yreka Blue Hor**	**79.93**	**41**	LR	LR	21 07 10.9		
	comp=Z,68nm,18.2s,baz=252,slow=32							
QSM	**Queen of Sheba**	**80.96**	**48**	P	**P**	**20 36 35.9**		**-0.2**
QSM				IAmb	IAmb	20 36 42.5		
	comp=Z,5.5nm,1.1s							
LPIG	**La Paz**	**81.08**	**62**	LR	LR	21 06 58.6		
	comp=Z,58nm,18.1s,baz=202,slow=32							
NVAR	**Mina Array Bea**	**81.13**	**46**	P	**P**	**20 36 34.2**		**-3.0**
	comp=Z,0.6nm,0.7s,baz=205,slow=3.1,SNR=4.5							
NVAR				LR	LR	21 05 00.8		
	comp=Z,126nm,20.5s,baz=250,slow=30							
NV11	**Mina Array Sit**	**81.24**	**46**	P	**P**	**20 36 37.4**		**-0.3**
NV11				IAmb	IAmb	20 36 43.8		
	comp=Z,8.5nm,1.3s							
KVN	**Kaiserville**	**81.58**	**45**	P	**P**	**20 36 39.4**		**-0.1**
K20K	**Telida**	**82.66**	**12**	P	**P**	**20 36 42.3**		**-2.1**
K20K				IAmb	IAmb	20 37 02.3		
	comp=Z,7.9nm,1.4s							
WVOR	**Wild Horse Val**	**82.89**	**42**	P	**P**	**20 36 45.5**		**-0.8**
WVOR				IAmb	IAmb	20 36 52.4		
	comp=Z,7.5nm,1.4s							
BBB	**Bella Bella**	**83.01**	**30**	LR	LR	21 06 15.4		
	comp=Z,77nm,19.0s,baz=218,slow=30							
ELK	**Elko**	**84.31**	**45**	LR	LR	21 07 28.2		
	comp=Z,118nm,19.5s,baz=256,slow=31							
ELK	**Elko**	**84.31**	**45**	P	**P**	**20 36 52.1**		**-1.7**
ELK				IAmb	IAmb	20 36 59.7		
	comp=Z,3.2nm,1.1s							
JIS	**Juneau Island**	**84.34**	**23**	P	**P**	**20 36 53.4**		**+0.3**
CMAR	**Chiang Mai Arr**	**84.89**	**291**	P	**P**	**20 36 56.4**		**-0.4**
	comp=Z,0.1nm,0.3s,baz=51,slow=30,SNR=1.9							
ILAR	**Eielson Array**	**85.49**	**14**	P	**P**	**20 36 56.1**		**-2.7**
	comp=Z,1.2nm,1.1s,baz=239,slow=6.1,SNR=5.2							
ILAR				LR	LR	21 07 45.2		
	comp=Z,55nm,20.1s,baz=175,slow=30							
DLBC	**Dease Lake**	**86.15**	**25**	LR	LR	21 12 41.1		
	comp=Z,44nm,18.2s,baz=268,slow=34							
PMSA	**Palmer Station**	**86.48**	**158**	LR	LR	21 07 33.5		
	comp=Z,146nm,20.4s,baz=266,slow=30							
NEW	**Newport**	**86.70**	**37**	LR	LR	21 10 35.8		
	comp=Z,84nm,18.5s,baz=233,slow=32							
TXAR	**Lajitas Array**	**88.50**	**59**	P	**P**	**20 37 13.2**		**-1.2**
	comp=Z,0.4nm,0.8s,baz=212,slow=6.8,SNR=4.9							
TXAR				LR	LR	21 09 08.6		
	comp=Z,46nm,20.1s,baz=252,slow=30							
TXAR	**Lajitas Array**	**88.50**	**59**	P	**P**	**20 37 12.8**		**-1.6**
PDAR	**Pinedale Array**	**89.02**	**45**	P	**P**	**20 37 16.0**		**-0.7**
	comp=Z,0.2nm,0.5s,baz=105,slow=28,SNR=1.6							
PDAR				LR	LR	21 10 00.8		
	comp=Z,60nm,19.3s,baz=258,slow=31							
SONM	**Songino Array**	**90.11**	**320**	LR	LR	21 14 28.9		
	comp=Z,403nm,21.0s,baz=200,slow=33							
YKA	**Yellowknife Ar**	**94.73**	**26**	LR	LR	21 17 01.2		
	comp=Z,53nm,18.5s,baz=326,slow=33							
PLCA	**Paso Flores**	**94.95**	**135**	LR	LR	21 10 35.3		
	comp=Z,51nm,19.9s,baz=276,slow=29							
GERES	**GERESS Array B**	**145.25**	**341**	PKPbc	**PKPbc**	**20 43 58.3**		**-0.6**
	comp=Z,0.1nm,0.3s,baz=45,slow=42,SNR=3.2							
GERES	**GERESS Array B**	**145.25**	**341**		**PKPbc**	**20 43 57.8**		**-1.1**
CONA	**Conrad Observa**	**145.33**	**338**	*e*P	**PKiKP**	**20 44 05.9**		**+2.5**
	comp=Z,1.8nm,0.6s							
MOA	**Molln**	**145.94**	**340**	*e*P	**PKiKP**	**20 44 07.5**		**+3.0**
	comp=Z,2.2nm,0.7s							
SOKA	**Sokoth**	**146.69**	**338**	*e*P	**PKiKP**	**20 44 09.1**		**+3.0**
	comp=Z,1.8nm,0.7s							
KBA	**Koelnbreinsper**	**146.92**	**340**	*e*P	**PKiKP**	**20 44 10.3**		**+3.6**
	comp=Z,2.2nm,0.6s							
WTTA	**Wattenberg**	**147.28**	**342**	*e*P	**PKiKP**	**20 44 11.5**		**+4.0**
	comp=Z,2.2nm,0.5s							
MOTA	**Moosalm**	**147.36**	**343**	*e*P	**PKiKP**	**20 44 11.9**		**+4.2**
	comp=Z,2.5nm,0.7s							
SQTA	**Sankt Quirin**	**147.45**	**343**	*e*P	**PKiKP**	**20 44 11.9**		**+4.2**
	comp=Z,3.2nm,0.6s							
ABTA	**Abfaltersbach**	**147.48**	**341**	*e*P	**PKiKP**	**20 44 11.6**		**+3.8**
	comp=Z,2.5nm,0.7s							
FETA	**Feichten**	**147.76**	**343**	*e*P	**PKPab**	**20 44 12.8**		**+4.1**
	comp=Z,2.4nm,0.6s							

KRSC 20 20:40:57.0±1.9, 50°.39N×157°.49E, h47km±26km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SKR	**Severo-Kuril's**	**0.92**	**289**	*e*P	Pn	20 41 13.5		-0.1
SKR				*e*S	Sn	20 41 24.5		-1.2
PAU	**Pauzhetka**	**1.16**	**339**	*i* P	Pn	20 41 18.4		+1.6
PAU				*e*S	Sn	20 41 32.7		+1.2
KDTR	**Khodutka, Kamc**	**1.47**	**14**	*e*P	Pn	20 41 23.2		+2.2
KDTR				*e*S	Sn	20 41 41.3		+2.3
MIPR	**Malaya Ipel'ka**	**1.94**	**347**	*e*P	Pn	20 41 29.7		+2.2
ASAK	**Asacha**	**2.01**	**7**	*e*P	Pn	20 41 31.1		+2.6
MTVK	**Mutnovka**	**2.14**	**11**	*e*P	Pn	20 41 33.2		+2.9
MTVR				*e*S	Sn	20 41 58.7		+3.0
RUS	**Russkaya**	**2.14**	**17**	*e*P	Pn	20 41 32.5		+2.3
RUS				*e*S	Sn	20 41 58.1		+2.5
GRL	**Gorelyy**	**2.20**	**9**	*e*P	Pn	20 41 34.4		+3.3
GRL				*e*S	Sn	20 42 00.5		+3.4
KRMR	**Karymshinskiy**	**2.48**	**9**	*e*P	Pn	20 41 37.9		+3.1
KRMR				*e*S	Sn	20 42 08.0		+4.3
APC	**Apacha**	**2.55**	**355**	*e*P	Pn	20 41 38.4		+2.7
PET	**Petropavlovsk**	**2.73**	**15**	*e*S	Sn	20 42 13.9		+3.8
DALK	**Dalny**	**2.76**	**16**	*e*P	Pn	20 41 41.6		+3.0
DALK				*e*S	Sn	20 42 14.5		+3.8
UGLR	**Uglovaya**	**2.94**	**16**	*e*P	Pn	20 41 45.1		+3.8
AVH	**Avacha**	**2.98**	**15**	*e*P	Pn	20 41 46.6		+4.8
SMAR	**Somma**	**2.99**	**15**	*e*P	Pn	20 41 46.4		+4.4
KOK	**Koryaka**	**2.99**	**13**	*e*P	Pn	20 41 46.5		+4.5
NLC	**Nalytchevo**	**3.01**	**22**	*e*S	Sn	20 42 18.1		+1.2
SDLR	**Sedlovina**	**3.02**	**16**	*e*P	Pn	20 41 45.5		+3.2
KRER	**Koryakskii**	**3.02**	**14**	*e*P	Pn	20 41 46.4		+4.0
KRX	**Arik**	**3.06**	**13**	*e*P	Pn	20 41 46.8		+3.9
SPN	**Mys Shipunski**	**3.14**	**29**	*e*P	Pn	20 41 47.2		+3.4
SPN				*e*S	Sn	20 42 23.5		+3.5
GNL	**Ganaly**	**3.32**	**5**	*e*P	Pn	20 41 50.3		+3.8
KII	**Karymskiy**	**3.84**	**18**	*e*S	Sn	20 42 43.2		+5.6
MKZ	**Mys Kozlova**	**4.91**	**30**	*e*P	Pn	20 42 10.8		+2.7
TUMR	**Tumrok**	**5.16**	**17**	P	Pn	20 42 16.9		+5.2
KBTR	**Krutoberegovo**	**6.64**	**27**	*e*P	Pn	20 42 35.0		+3.1

IDC ***20*** *20:44:36.5±0.6, 2°.43N×96°.25E, h0km, mb4.5/26, mb1 4.6/29, mb1mx4.4/42, mbtmp4.5/29, ML4.2/3, MS4.2/49, Ms1 4.2/49, ms1mx4.1/89, Error ellipse: s-maj=17.5km s-min=11.6km az=34.0*

MOS ***20*** *20:44:37.9±0.9, 2°.47N×96°.24E, h21km, mb5.0/43, MS4.5/4, Error ellipse: s-maj=8.6km s-min=4.4km az=107.0*

GCMT ***20*** *20:44:39.7±0.4, 1°.96N±0°.03×96°.19E±0°.03, h36km±1km, MW4.9/58, Moment Tensor Solution. s44,c49; s58,c77; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.75±.18; Mθθ=2.02±.11; Mϕϕ 0.27±.13; Mrθ 1.25±.11; Mϕθ 1.10±.08; Mrϕ=1.26±.17; Best double couple: M=2.79100×10^16 NP1:ϕs=269.00000°, δ30.00000°, λ53.00000°. NP2: ϕs=130.00000°, δ67.00000°, λ109.00000°. Principal axes: T 2.5500, Plg63.0000°, Azm72.0000°; N 0.4880, Plg18.0000°, Azm302.0000°; P -3.0330, Plg19.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***20*** *20:44:39.5±0.0, 2°.26N×96°.24E, h42km, mb5.0/67, mB5.0/48, Ms4.7/64, Ms7 4.5/60*

DJA ***20*** *20:44:39.2±0.5, 2°.1N±2°×9°.6E±°, h15km±3km, M4.8/40, mB5.3/23, mb4.9/40, MLv5.0/16, Mw(mB)4.7/23, MwMwp4.7/3, Mwp5.1/3*

NEIC ***20*** *20:44:41.7±1.3, 2°.35N±0°.07×96°.21E±0°.08, h36km±7km, mb4.9/72, Error ellipse: s-maj=12.1km s-min=8.6km az=55.0*

ISC 20 20:44:40.7±0.4, 2°.39N±0°.04×96°.23E±0°.04, h29km±1km, h29km; pP-P, n367, σ1s44/388, mb4.9/136, MS4.4/70, 25C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SNSI	**Sinabang, Aceh**	**0.10**	**78**	P	**Pb**	**20 44 43.9**		**-2.0**
GSI	**Gunungsitoli**	**1.72**	**129**	Pn	**Pn**	**20 45 07.9**		**-0.9**
GSI	**Gunungsitoli**	**1.72**	**129**	P	**Pn**	**20 45 08.2**		**-0.6**
GSI	**Gunungsitoli**	**1.72**	**129**	P	**Pn**	**20 45 09.0**		**+0.2**
KCSI	**Kotacane, Aceh**	**1.91**	**54**	P	**Pn**	**20 45 12.0**		**+0.6**
KCSI				S	**Sb**	**20 45 37.9**		**-0.4**
TSI	**Tuntungan**	**2.58**	**65**	P	**Pn**	**20 45 22.4**		**+1.8**
RPSI	**Rantau Prapat**	**2.71**	**83**		**Pn**	**20 45 22.6**		**+0.2**
PSI	**Prapat**	**2.72**	**81**	Pn	**Pn**	**20 45 22.6**		**-0.1**
	25nm,0.3s,baz=274,slow=5.8,SNR=58							
PSI				LR	LR	20 46 24.6		
	comp=Z,2μm,21.0s,baz=313,slow=40							
LHMI	**Lhok Sumawe**	**2.91**	**14**	Pn	**Pn**	**20 45 25.7**		**+0.5**
LHMI	**Lhok Sumawe**	**2.91**	**14**	P	**Pn**	**20 45 25.9**		**+0.7**
LHMI	**Lhok Sumawe**	**2.91**	**14**	P	**Pn**	**20 45 26.3**		**+1.1**
MNSI	**Mandailing Nat**	**3.70**	**115**	P	**Pn**	**20 45 37.0**		**+1.0**
SISI	**Saibi**	**4.67**	**142**	P	**Pn**	**20 45 49.8**		**+0.5**
IPM	**Ipoh**	**5.22**	**66**	Pn	**Pn**	**20 45 57.6**		**+0.7**
IPM	**Ipoh**	**5.22**	**66**	P	**Pn**	**20 45 58.5**		**+1.6**
BKNI	**Bangkinang**	**5.22**	**113**		**Pn**	**20 45 57.1**		**+0.1**
BKNI	**Bangkinang**	**5.22**	**113**	P	**Pn**	**20 45 56.7**		**-0.3**
	1.5nm2μm147nm,1.1s							
KULM	**Kulim**	**5.27**	**57**	Pn	**Pn**	**20 45 58.3**		**+0.7**
PPSI	**Pulau Pagai**	**6.36**	**144**	P	**Pn**	**20 46 12.9**		**+0.3**
	0.6nm120nm,1.3s							
KRJI	**Kerinci**	**6.87**	**130**	P	**Pn**	**20 46 20.8**		**+1.1**
	1.8nm3μm347nm,0.8s							
SRIT	**Nakonsritamara**	**7.02**	**28**	Pn	**Pn**	**20 46 21.3**		**-0.3**
MYKOM	**Kota Tinggi**	**7.64**	**94**	Pn	**Pn**	**20 46 30.9**		**+0.8**
DSRI	**Dabo**	**8.82**	**109**	P	**Pn**	**20 46 46.5**		**+0.1**
	11nm,1.0s							
MNAI	**Manna**	**9.49**	**135**	P	**Pn**	**20 46 54.9**		**-0.7**
	137nm,0.8s							
MNAI	**Manna**	**9.49**	**135**	P	**Pn**	**20 46 55.6**		**0.0**
LWLI	**Liwa**	**10.74**	**133**	P	**Pn**	**20 47 11.1**		**-1.7**
	1μm104nm,0.7s							
PPBI	**Pangkal Pinang**	**10.88**	**114**	P	**Pn**	**20 47 15.3**		**+0.6**
DGPR	**DIGILIPUR**	**11.21**	**343**	*e*P	Pn	20 47 14.3		-4.8
DGPR				*e*S	**Sn**	**20 49 18.7**		**-4.8**
DGPR				IAML		20 49 20.6		
	comp=E,24nm,0.3s							
DGPR				IAML		20 49 22.5		
	comp=N,19nm,0.4s							
KASI	**Kota Agung**	**11.40**	**134**	P	**Pn**	**20 47 21.1**		**-0.7**
	comp=N,41nm,0.9s							
TPI	**Tanjungpandan**	**12.51**	**114**	P	**Pn**	**20 47 37.6**		**+0.6**
SKJI	**Sukabumi**	**13.90**	**132**	P	**Pn**	**20 47 54.5**		**-1.5**
	comp=N,2μmcomp=N,75nm,0.4s							
LEM	**Lembang**	**14.59**	**129**	LR	LR	20 54 38.8		
	comp=N,2μm,20.7s,baz=298,slow=41							
UBPT	**Khong Chiam**	**15.72**	**35**	Pn	**Pn**	**20 48 20.9**		**+0.6**
UBPT				IAmb	IAmb	20 48 25.9		
	comp=Z,104nm,1.4s							
SBUM	**Sibu**	**15.97**	**89**		**Pn**	**20 48 22.7**		**-0.9**
CM31	**Chiang Mai Arr**	**16.19**	**9**	Pn	**Pn**	**20 48 26.2**		**-0.1**
CMAR	**Chiang Mai Arr**	**16.19**	**9**	Pn	**Pn**	**20 48 26.0**		**-0.4**
	comp=Z,1.1nm,0.3s,baz=199,slow=11,SNR=98							
CMAR				LR	LR	20 55 27.2		
	comp=Z,2μm,18.7s,baz=195,slow=40							
CMAR	**Chiang Mai Arr**	**16.19**	**9**	Pn	**Pn**	**20 48 25.6**		**-0.8**
PALK	**Pallekele**	**16.21**	**288**	Pn	**Pn**	**20 48 26.4**		**-0.3**
	comp=Z,0.3nm,0.3s,baz=199,slow=11,SNR=3.9							
PALK				LR	LR	20 54 13.6		
	comp=Z,1μm,18.3s,baz=211,slow=36							
PALK	**Pallekele**	**16.21**	**288**	*i* P	**Pn**	**20 48 26.9**		**+0.2**
PALK	**Pallekele**	**16.21**	**288**	Pn	**Pn**	**20 48 25.8**		**-0.9**
CHTO	**Chiang Mai**	**16.54**	**9**	P	**Pn**	**20 48 29.0**		**-1.8**
CHTO				pmax	pmax			
	comp=Z,11nm,0.8s							
CHTO	**Chiang Mai**	**16.54**	**9**	Pn	**Pn**	**20 48 29.0**		**-1.8**
MTKI	**Muara Teweh, K**	**18.95**	**100**	P	**P**	**20 48 59.9**		**+0.1**
	comp=Z,42nm,1.0s							
BBKI	**Banjar Baru**	**19.49**	**107**	P	**Pn**	**20 49 08.0**		**+0.9**
KKM	**Kota Kinabalu**	**20.25**	**79**	P	**P**	**20 49 14.0**		**-0.2**
KKM				IAmb	IAmb	20 49 20.7		
	comp=Z,62nm,0.9s							
QIZ	**Qiongzhong**	**21.24**	**38**	P	**P**	**20 49 25.3**		**+0.6**
QIZ				S	**S**	**20 53 21.8**		**+2.4**
QIZ				pmax	pmax			
	comp=Z,310nm,13.1s							
QIZ				LR	LR			
	comp=Z,2μm,14.3s							
QIZ				LR	LR			
	comp=Z,1μm,11.1s							
QIZ				LR	LR			
	comp=Z,2μm,13.5s							
PCHI	**Peechi**	**21.34**	**293**	*e*P	**P**	**20 49 27.1**		**+1.3**
PCHI				*e*S	**S**	**20 53 21.6**		**+0.1**
MYLDM	**Lahad Datu**	**22.39**	**82**	P	**P**	**20 49 36.6**		**-0.4**
MYLDM				IAmb	IAmb	20 49 41.2		
	comp=Z,54nm,0.8s							
HYB	**Hyderabad**	**22.90**	**312**	*e*P	**P**	**20 49 43.8**		**+1.3**
HYB				IAmb	IAmb	20 50 01.3		
	comp=Z,20nm,1.0s							
HYB				*e*S	**S**	**20 53 53.7**		**+2.9**
HYBB	**Hyderabad (bro**	**22.90**	**312**	*e*P	**P**	**20 49 42.2**		**-0.4**
HYBB				IVmB_BB		20 49 46.9		
	comp=Z,195nm,5.9s							
HYBB				*e*sP	**sP**	**20 49 56.5**		**+2.6**

GTOI	**Gorontalo**	**26.82**	**93**	P	**P**	**20 50 18.5 -0.4**	BTO				LR	LR							
	comp=Z,175nmcomp=Z,8.8nm,1.2s							comp=Z,5μm,17.5s											
JIRN	**Jiri**	**26.90**	**340**	*e*P	**P**	**20 50 20.6 +0.7**	**H01W3**	**Cape Leeuwin H**	**40.71**	**157**	T	T	21 35 29.0						
	comp=Z,62nm,0.9s							baz=333,slow=76,SNR=1948											
PKI	**Pulchoki**	**27.10**	**339**	*e*P	**P**	**20 50 21.9 +0.3**	**HHC**	**Hu-ho-hao-te**	**40.72**	**18**	*e*P	**P**	**20 52 20.1 +1.0**						
	comp=Z,69nm,0.7s						HHC				pP	sP	20 52 29.8 -1.4						
PKIN	**Phulchoki**	**27.11**	**339**	*e*P	**P**	**20 50 21.7 +0.1**	HHC				S	**S**	**20 58 32.6 +4.8**						
	comp=Z,43nm,0.8s						HHC				sS	sS	20 58 44.5 +2.6						
GUN	**Gumba**	**27.24**	**340**	*e*P	**P**	**20 50 23.5 +0.6**	HHC				pmax	pmax							
	comp=Z,148nm,0.7s							comp=Z,55nm,0.9s											
DMN	**Daman**	**27.25**	**338**	*e*P	**P**	**20 50 24.0 +1.1**	HHC				pmax	pmax							
	comp=Z,54nm,0.7s							comp=Z,130nm,4.9s											
KKN	**Kakani**	**27.34**	**339**	*e*P	**P**	**20 50 24.0 +0.3**	HHC				LR	LR							
	comp=Z,102nm,0.8s							comp=Z,1μm,12.9s											
LSA	**Lhasa**	**27.59**	**350**	P	**P**	**20 50 26.0 -0.2**	HHC				LR	LR							
LSA				pmax	pmax			comp=Z,720nm,13.3s											
	comp=Z,40nm,1.1s						HHC				LR	LR							
LSA	**Lhasa**	**27.59**	**350**	P	**P**	**20 50 26.0 -0.2**		comp=Z,940nm,12.9s											
LSA				IAmb	IAmb	20 50 28.6	**H01W2**	**Cape Leeuwin H**	**40.72**	**157**	T	T	21 35 30.0						
	comp=Z,40nm,1.1s							baz=333,slow=76,SNR=1552											
LSA	**Lhasa**	**27.59**	**350**	P	**P**	**20 50 26.3 +0.2**	**H01W1**	**Cape Leeuwin H**	**40.72**	**157**	T	T	21 35 34.0						
LSA				pmax	pmax			baz=333,slow=76,SNR=1975											
	comp=Z,38nm,0.9s						**KBL**	**Kabul**	**40.80**	**325**	P	**P**	**20 52 19.1 -0.9**						
GKN	**Gorkha**	**27.78**	**338**	*e*P	**P**	**20 50 28.0 +0.5**	KBL				pmax	pmax							
	comp=Z,107nm,0.8s							comp=Z,5.0nm,1.0s											
KOLN	**Koldanda**	**27.98**	**336**	*e*P	**P**	**20 50 30.1 +0.7**	**KBL**	**Kabul**	**40.80**	**325**		**P**	**20 52 19.1 -0.9**						
	comp=Z,93nm,0.7s						**WRKA**	**Warakurna**	**41.35**	**133**	P	**P**	**20 52 25.3 +0.8**						
DANN	**Dangsing**	**28.43**	**336**	*e*P	**P**	**20 50 34.7 +1.2**	**BJT**	**Baijiatuau**	**41.60**	**23**	P	**P**	**20 52 27.1 +0.9**						
	comp=Z,78nm,0.7s						BJT				pmax	pmax							
PYUN	**Piuthan**	**28.53**	**335**	*e*P	**P**	**20 50 34.8 +0.6**		comp=Z,59nm,0.7s											
	comp=Z,45nm,0.8s						**BJT**	**Baijiatuau**	**41.60**	**23**	P	**P**	**20 52 27.1 +0.9**						
CD2	**Chengdu**	**29.25**	**13**	P	**P**	**20 50 40.0 -0.4**	**BJT**	**Baijiatuau**	**41.60**	**23**	P	**P**	**20 52 27.1 +0.9**						
CD2				S	**S**	**20 55 34.6 +3.0**	**BJI**	**Beijing**	**41.62**	**23**	P	**P**	**20 52 26.9 +0.5**						
CD2				sS	sS	20 55 50.3 +5.0	BJI				pP	**sP**	**20 52 37.4 -1.0**						
CD2				pmax	pmax		BJI				sP	**pP**	**20 52 39.4 +4.4**						
	comp=Z,30nm,0.8s						BJI				S	**S**	**20 58 42.0 +1.0**						
CD2				pmax	pmax		BJI				pmax	pmax							
	comp=Z,120nm,9.4s							comp=Z,81nm,0.7s											
CD2				LR	LR		BJI				pmax	pmax							
	comp=Z,2μm,16.1s							comp=Z,180nm,3.5s											
CD2				LR	LR		BJI				LR	LR							
	comp=Z,1μm,11.6s							comp=Z,280nm,13.7s											
DAV	**Davao City (W)**	**29.61**	**80**	LR	LR	21 05 20.5	BJI				LR	LR							
	comp=Z,216nm,18.2s,baz=166,slow=42							comp=Z,420nm,13.1s											
BATI	**Baumata**	**30.04**	**115**	P	**P**	**20 50 46.9 -0.8**	BJI				LR	LR							
	comp=Z,17nm,0.4s,baz=309,slow=4.3,SNR=9.0							comp=Z,330nm,14.8s											
BATI	**Baumata**	**30.04**	**115**	P	**P**	**20 50 46.7 -1.0**	**WSAR**	**Wadi Sarin**	**41.90**	**303**	LR	LR	21 08 41.5						
	comp=Z,18nm,0.8s							comp=Z,59nm,21.1s,baz=116,slow=34											
ENH	**Enshi**	**30.45**	**23**	P	**P**	**20 50 48.9 -2.1**	**WMQ**	**Urumqi**	**41.95**	**351**	*e*P	**P**	**20 52 30.4 +1.3**						
ENH				IAmb	IAmb	20 50 51.1	WMQ				pP	pP	20 52 38.8 +1.1						
	comp=Z,18nm,0.8s						WMQ				pmax	pmax							
ENH	**Enshi**	**30.45**	**23**	P	**P**	**20 50 50.0 -1.0**		comp=Z,19nm,1.1s											
ENH				pP	**pP**	**20 50 59.9 +0.4**	WMQ				pmax	pmax							
SSLB	**Suanglung**	**32.01**	**46**	P	**P**	**20 51 04.8 -0.1**		comp=Z,180nm,4.9s											
SSLB				IAmb	IAmb	20 51 07.8	WMQ				LR	LR							
	comp=Z,15nm,0.9s							comp=Z,480nm,17.7s											
YULB	**Yu-li**	**32.02**	**47**	P	**P**	**20 51 05.1 +0.1**	WMQ				LR	LR							
WHN	**Wuhan**	**32.84**	**30**	⇓P	**P**	**20 51 12.6 +0.6**		comp=Z,550nm,22.1s											
WHN				pmax	pmax		WMQ				LR	LR							
	comp=Z,44nm,0.9s							comp=Z,460nm,20.9s											
XAN	**Xi'an**	**33.65**	**19**	P	**P**	**20 51 17.8 -1.3**	**DRK**	**Karamyk**	**43.09**	**332**	P	**P**	**20 52 39.2 +0.4**						
XAN				S	**S**	**20 56 37.8 -2.5**	**KDJ**	**Kajisay**	**43.10**	**339**	P	**P**	**20 52 39.2 +0.6**						
XAN				pmax	pmax		KDJ				pmax	pmax							
	comp=Z,76nm,0.8s							comp=Z,29nm,0.9s											
XAN				pmax	pmax		**KDJ**	**Kajisay**	**43.10**	**339**	P	**P**	**20 52 39.2 +0.6**						
	comp=Z,93nm,3.6s						KDJ				IAmb	IAmb	20 52 42.6						
XAN				LR	LR			comp=Z,29nm,0.8s											
	comp=Z,690nm,14.6s						**SHLS**	**Shalkode**	**43.26**	**342**	*e*P	**P**	**20 52 38.3 -1.5**						
XAN				LR	LR		SHLS				*e*S	**S**	**20 59 04.6 -0.8**						
	comp=Z,640nm,11.9s						SHLS				pmax	pmax							
XAN				LR	LR			comp=Z,6.0nm,0.6s											
	comp=Z,1μm,13.4s						**SHLS**	**Shalkode**	**43.26**	**342**	*e*P	**P**	**20 52 38.4 -1.5**						
XAN	**Xi'an**	**33.65**	**19**	P	**P**	**20 51 17.9 -1.2**		comp=Z,5.6nm,0.6s,baz=342											
XAN				pP	**pP**	**20 51 23.8 -3.8**	SHLS				*e*S	**S**	**20 59 04.7 -0.8**						
GOMU	**GeErMu**	**33.67**	**358**	P	**P**	**20 51 20.0 +0.3**		baz=342											
GOMU				S	**S**	**20 56 46.3 +5.1**	**UZB**	**Uzynbulak**	**43.39**	**342**	*e*P	**P**	**20 52 39.8 -1.1**						
GOMU				sS	sS	20 57 04.6 +10	UZB				*e*S	**S**	**20 59 07.8 +0.5**						
GOMU				pmax	pmax		UZB				pmax	pmax							
	comp=Z,10.0nm,1.0s							comp=Z,13nm,0.9s											
GOMU				pmax	pmax		**UZB**	**Uzynbulak**	**43.39**	**342**	*e*P	**P**	**20 52 39.9 -1.1**						
	comp=Z,82nm,6.3s							comp=Z,13nm,0.9s,baz=342											
GOMU				LR	LR		UZB				*e*S	**S**	**20 59 07.8 +0.5**						
	comp=Z,220nm,17.3s							baz=342											
GOMU				LR	LR		**GAR**	**Garm**	**43.43**	**330**	P	**P**	**20 52 40.8 -0.5**						
	comp=Z,170nm,13.3s						GAR				IAmb	IAmb	20 52 43.1						
GOMU				LR	LR			comp=Z,30nm,0.8s											
	comp=Z,230nm,15.6s						**WB0**	**Warramunga Arr**	**43.45**	**122**	P	**P**	**20 52 40.4 -1.2**						
SMLA	**Simla**	**33.79**	**330**	*e*P	**P**	**20 51 20.5 +0.2**	**WRA**	**Warramunga Arr**	**43.48**	**122**	P	**P**	**20 52 41.5 -0.4**						
LZH	**Lanzhou**	**34.26**	**11**	*e*P	**P**	**20 51 24.5 -0.1**		comp=Z,4.2nm,0.8s,baz=302,slow=9.0,SNR=36											
LZH				pP	pP	20 51 34.8 +1.7	WRA				LR	LR	21 11 45.4						
LZH				sP	sP	20 51 39.3 +2.7		comp=Z,523nm,21.4s,baz=3.0,slow=37											
LZH				pmax	pmax		**WRA**	**Warramunga Arr**	**43.48**	**122**	*i* P	**P**	**20 52 42.2 +0.3**						
	comp=Z,37nm,1.1s						WRA				pmax	pmax							
LZH				pmax	pmax			comp=Z,3.0nm,0.5s											
	comp=Z,180nm,4.5s						**WRA**	**Warramunga Arr**	**43.48**	**122**	P	**P**	**20 52 42.5 +0.6**						
LZH				LR	LR		**WRAB**	**Tennant Creek**	**43.49**	**122**	*ce*P	**P**	**20 52 42.3 +0.4**						
	comp=Z,610nm,15.2s						WRAB				pmax	pmax							
LZH				LR	LR			comp=Z,7.0nm,1.3s											
	comp=Z,570nm,13.3s						**WRAB**	**Tennant Creek**	**43.49**	**122**	P	**P**	**20 52 40.8 -1.1**						
LZH				LR	LR		WRAB				IAmb	IAmb	20 52 54.4						
	comp=Z,860nm,16.8s							comp=Z,17nm,1.2s											
SWI	**Sorong**	**35.17**	**95**	P	**P**	**20 51 33.5 +1.0**	**WRAB**	**Tennant Creek**	**43.49**	**122**	P	**P**	**20 52 42.8 +0.9**						
	comp=Z,17nm,1.3s						**WRAB**	**Tennant Creek**	**43.49**	**122**	P	**P**	**20 52 41.7 -0.2**						
LYN	**LuoYang**	**35.40**	**23**	⇑P	**P**	**20 51 34.1 -0.1**	WRAB				pP	**pP**	**20 52 50.6 +0.4**						
LYN				S	**S**	**20 57 07.5 +0.3**	**WB2**	**Warramunga Arr**	**43.49**	**122**	P	**P**	**20 52 41.3 -0.7**						
LYN				pmax	pmax		WB2				IAmb	IAmb	20 52 54.3						
	comp=Z,40nm,0.9s							comp=Z,16nm,1.2s											
LYN				pmax	pmax		**SATY**	**Saty**	**43.51**	**341**	*e*P	**P**	**20 52 41.5 -0.3**						
	comp=Z,100nm,3.8s						SATY				*e*S	**S**	**20 59 10.1 +1.1**						
LYN				LR	LR		SATY				pmax	pmax							
	comp=Z,1μm,15.1s							comp=Z,15nm,0.8s											
LYN				LR	LR		**SATY**	**Saty**	**43.51**	**341**	*e*P	**P**	**20 52 41.6 -0.3**						
	comp=Z,1μm,15.1s							comp=Z,15nm,0.8s,baz=341											
LYN				LR	LR		SATY				*e*S	**S**	**20 59 10.2 +1.1**						
	comp=Z,1μm,15.3s							baz=341											
FITZ	**Fitzroy Crossi**	**35.40**	**126**	LR	LR	21 07 11.8	**ULHL**	**Ulahol**	**43.54**	**338**	P	**P**	**20 52 42.8 +0.6**						
	comp=Z,502nm,20.3s,baz=314,slow=38							SNR=16											
FITZ	**Fitzroy Crossi**	**35.40**	**126**	P	**P**	**20 51 33.3 -1.1**	**ZHN**	**Zhinishke**	**43.59**	**341**	*e*P	**P**	**20 52 41.8 -0.8**						
NJ2	**Nanjing**	**36.39**	**33**	*e*P	**P**	**20 51 43.3 +0.6**	**ZHN**	**Zhinishke**	**43.59**	**341**	*e*P	**P**	**20 52 41.8 -0.8**						
NJ2				pmax	pmax			baz=341											
	comp=Z,11nm,0.7s						**WR0**	**Warramunga Arr**	**43.66**	**122**	P	**P**	**20 52 42.5 -0.8**						
NJ2				LR	LR		WR0				IAmb	IAmb	20 52 55.3						
	comp=Z,930nm,18.3s							comp=Z,12nm,0.9s											
NJ2				LR	LR		**CHGR**	**Chuyangaron**	**43.76**	**329**	P	**P**	**20 52 43.0 -0.9**						
	comp=Z,820nm,15.4s						CHGR				pmax	pmax							
NJ2				LR	LR			comp=Z,52nm,0.8s											
	comp=Z,700nm,15.9s						**CHGR**	**Chuyangaron**	**43.76**	**329**	P	**P**	**20 52 43.0 -0.9**						
KNRA	**Kununurra**	**36.84**	**120**	P	**P**	**20 51 46.6 -0.2**	**KPKS**	**Kokpek**	**43.78**	**342**	*e*P	**P**	**20 52 43.9 -0.1**						
GTA	**Gaotai**	**36.99**	**5**	⇑P	**P**	**20 51 47.3 -0.6**	KPKS				pmax	pmax							
GTA				pP	pP	20 51 56.4 -0.1		comp=Z,10.0nm,1.1s											
GTA				sP	sP	20 52 01.5 +1.6	**KPKS**	**Kokpek**	**43.78**	**342**	*e*P	**P**	**20 52 44.0 -0.1**						
GTA				S	**S**	**20 57 34.6 +2.8**		comp=Z,9.6nm,1.1s,baz=341											
GTA				pmax	pmax		**BOOM**	**Boomskoye usch**	**43.86**	**338**	P	**P**	**20 52 44.8 0.0**						
	comp=Z,11nm,0.8s						BOOM				pmax	pmax							
GTA				pmax	pmax			comp=Z,14nm,0.7s											
	comp=Z,160nm,6.0s						**BOOM**	**Boomskoye usch**	**43.86**	**338**	P	**P**	**20 52 44.8 0.0**						
GTA				LR	LR		BOOM				IAmb	IAmb	20 52 48.4						
	comp=Z,470nm,15.9s							comp=Z,14nm,0.8s											
GTA				LR	LR		**TNSS**	**Tian-Shan**	**43.98**	**340**	*e*P	**P**	**20 52 46.1 +0.1**						
	comp=Z,380nm,12.7s						**TNSS**	**Tian-Shan**	**43.98**	**340**	*e*P	**P**	**20 52 46.2 +0.1**						
GTA				LR	LR			baz=339											
	comp=Z,690nm,16.7s						**BTK**	**Batken**	**44.01**	**332**	P	**P**	**20 52 46.7 +0.8**						
HNS	**HongShan**	**38.76**	**24**	⇑P	**P**	**20 52 02.9 +0.2**	BTK				pmax	pmax							
HNS				pmax	pmax			comp=Z,24nm,0.9s											
	comp=Z,54nm,1.0s						**BTK**	**Batken**	**44.01**	**332**	P	**P**	**20 52 46.7 +0.8**						
HNS				LR	LR		BTK				IAmb	IAmb	20 52 50.7						
	comp=Z,380nm,17.2s							comp=Z,24nm,0.8s											
HNS				LR	LR		**MDOK**	**Medeo**	**44.05**	**340**	*e*P	**P**	**20 52 45.7 -0.6**						
	comp=Z,560nm,16.7s						MDOK				*e*S	**S**	**20 59 17.8 +0.8**						
HNS				LR	LR		**MDOK**	**Medeo**	**44.05**	**340**	*e*P	**P**	**20 52 45.8 -0.6**						
	comp=Z,550nm,16.3s							baz=340											
TIA	**Tai'an**	**38.81**	**27**	⇑P	**P**	**20 52 03.3 +0.1**	MDOK				*e*S	**S**	**20 59 17.9 +0.8**						
TIA				pmax	pmax			baz=340											
	comp=Z,17nm,0.9s						**AAA**	**Alma-Ata**	**44.14**	**340**	*e*P	**P**	**20 52 46.5 -0.3**						
TIA				pmax	pmax		AAA				*e*S	**S**	**20 59 19.6 +1.5**						
	comp=Z,140nm,5.4s						AAA				pmax	pmax							
TIA				LR	LR			comp=Z,14nm,0.6s											
	comp=Z,230nm,15.5s						**AAA**	**Alma-Ata**	**44.14**	**340**	*e*P	**P**	**20 52 46.6 -0.3**						
TIA				LR	LR			comp=Z,14nm,0.6s,baz=340											
	comp=Z,610nm,19.0s						AAA				*e*S	**S**	**20 59 19.7 +1.5**						
TIA				LR	LR			baz=340											
	comp=Z,1μm,14.5s						**UCH**	**Uchtor**	**44.18**	**337**	P	**P**	**20 52 48.5 +0.8**						
BTO	**Baotou**	**40.04**	**16**	*e*P	**P**	**20 52 13.9 +0.4**		SNR=17											
BTO				S	**S**	**20 58 19.0 +1.3**	**TKM2**	**Tokmak 2**	**44.36**	**338**	P	**P**	**20 52 49.5 +0.7**						
BTO				LR	LR			SNR=15											
	comp=Z,2μm,15.1s						**KBK**	**Karagaybulak**	**44.38**	**337**	P	**P**	**20 52 50.3 +1.4**						
								SNR=17											
							AML	**Almayashu**	**44.43**	**336**	P	**P**	**20 52 50.4 +0.8**						
								SNR=18											
							AAK	**Ala-Archa**	**44.54**	**337**	P	**P**	**20 52 52.1 +1.9**						
								SNR=7.6											
							AAK	**Ala-Archa**	**44.54**	**337**	P	**P**	**20 52 49.6 -0.6**						
								comp=Z,3.4nm,0.6s,baz=54,slow=4.5,SNR=11											
							AAK				LR	LR	21 12 50.5						
								comp=Z,535nm,22.0s,baz=154,slow=38											
							AAK	**Ala-Archa**	**44.54**	**337**	*ce*P	**P**	**20 52 51.9 +1.7**						
							AAK				pmax	pmax							
								comp=Z,12nm,1.3s											
							AAK	**Ala-Archa**	**44.54**	**337**	P	**P**	**20 52 50.1 -0.1**						
							AAK				IAmb	IAmb	20 53 16.0						
								comp=Z,16nm,1.3s											
							AAK	**Ala-Archa**	**44.54**	**337**	P	**P**	**20 52 52.2 +2.1**						
							AAK				pP	**sP**	**20 53 01.9 -0.4**						
							FRU1	**Bishkek**	**44.63**	**337**	P	**P**	**20 52 51.6 +0.8**						
							FRU1				pmax	pmax							
								comp=Z,8.0nm,0.9s											
							FRU1	**Bishkek**	**44.63**	**337**	P	**P**	**20 52 51.6 +0.8**						
							CHKK	**Chushkaly**	**44.68**	**340**	*e*P	**P**	**20 52 50.1 -1.0**						
							CHKK	**Chushkaly**	**44.68**	**340**	*e*P	**P**	**20 52 50.1 -1.0**						
								baz=340											
							FORT	**Forrest**	**44.80**	**140**	P	**P**	**20 52 53.0 +0.7**						
							EKS2	**Erkin-Say**	**44.84**	**336**	P	**P**	**20 52 53.7 +1.1**						
								SNR=19											
							AS31	**Alice Springs**	**44.88**	**127**	P	**P**	**20 52 50.9 -2.2**						
							ASAR	**Alice Springs**	**44.88**	**127**	P	**P**	**20 52 52.9 -0.2**						
								comp=Z,1.2nm,0.5s,baz=294,slow=7.3,SNR=25											
							ASAR				LR	LR	21 12 46.5						
								comp=Z,333nm,21.3s,baz=318,slow=38											
							HRA	**Herat**	**44.90**	**319**	P	**P**	**20 52 52.1 -1.1**						
							XLT	**XiLinHaoTe**	**44.93**	**20**	*e*P	**P**	**20 52 53.8 +0.6**						
							XLT				pP	pP	20 53 03.1 +1.2						
							XLT				sP	sP	20 53 09.8 +4.5						
							XLT				PcP	**PcP**	**20 54 33.4 -0.9**						
							XLT				PcS	**PcS**	**20 58 25.8 -2.2**						
							XLT				S	**S**	**20 59 26.4 -3.2**						
							XLT				sS	sS	20 59 44.1 +0.2						
							XLT				pmax	pmax							
								comp=Z,170nm,4.5s											
							XLT				LR	LR							
								comp=Z,89nm,16.4s											
							XLT				LR	LR							
								comp=Z,760nm,18.1s											
							XLT				LR	LR							
								comp=Z,980nm,15.6s											
							KUU	**Kurty**	**44.94**	**340**	*e*P	**P**	**20 52 52.4 -0.8**						
							KUU				*e*S	**S**	**20 59 30.2 +0.5**						
							KUU				pmax	pmax							
								comp=Z,10.0nm,0.8s											
							KUU	**Kurty**	**44.94**	**340**	*e*P	**P**	**20 52 52.5 -0.8**						
								comp=Z,9.7nm,0.8s,baz=340											
							KUU				*e*S	**S**	**20 59 30.2 +0.5**						
								baz=340											
							USP	**Ospenovka**	**45.07**	**338**	P	**P**	**20 52 54.8 +0.5**						
								SNR=33											
							SGDS	**Sogindy**	**45.18**	**338**	*e*P	**P**	**20 52 54.5 -0.7**						
							SGDS	**Sogindy**	**45.18**	**338**	*e*P	**P**	**20 52 54.5 -0.7**						
								baz=338											
							TDK	**Taldyqorghan**	**45.25**	**342**	*e*P	**P**	**20 52 53.2 -2.5**						
							TDK				pmax	pmax							
								comp=Z,14nm,0.5s											
							TDK	**Taldyqorghan**	**45.25**	**342**	*e*P	**P**	**20 52 53.2 -2.5**						
								comp=Z,14nm,0.5s,baz=342											
							KSAR	**Wonju Array Be**	**45.41**	**36**	P	**P**	**20 52 55.8 -1.2**						
							KSAR	**Wonju Array Be**	**45.41**	**36**	P	**P**	**20 52 55.8 -1.2**						
							KSRS	**Korea Array**	**45.44**	**36**	P	**P**	**20 52 56.4 -0.8**						
								comp=Z,2.8nm,0.7s,baz=225,slow=8.2,SNR=11											
							KSRS				LR	LR	21 12 47.2						
								comp=Z,547nm,20.5s,baz=205,slow=37											
							MK31	**Makanchi Array**	**45.87**	**347**	*c* P	**P**	**20 53 00.3 -0.2**						
							MK31	**Makanchi Array**	**45.87**	**347**	P	**P**	**20 53 00.0 -0.5**						
							MKAR	**Makanchi Array**	**45.87**	**347**	P	**P**	**20 53 00.4 -0.1**						
								comp=Z,44nm,0.8s,baz=163,slow=7.3,SNR=343											
							MKAR				LR	LR	21 15 07.7						
								comp=Z,260nm,22.0s,baz=160,slow=40											
							MAKZ	**Makanchi**	**45.95**	**346**	P	**P**	**20 53 00.7 -0.5**						
							MAKZ				pmax	pmax							
								comp=Z,35nm,0.7s											
							MAKZ	**Makanchi**	**45.95**	**346**	P	**P**	**20 53 00.7 -0.5**						
							MAKZ	**Makanchi**	**45.95**	**346**	P	**P**	**20 53 00.9 -0.2**						
							ZSN	**Zaisan**	**45.96**	**349**	*e*P	**P**	**20 53 00.9 -0.3**						
							ZSN				pmax	pmax							
								comp=Z,15nm,0.8s											
							ZSN	**Zaisan**	**45.96**	**349**	*e*P	**P**	**20 53 00.9 -0.3**						
								comp=Z,15nm,0.8s,baz=349											
							IUG	**luzhnay**	**46.02**	**333**	*e*P	**P**	**20 53 01.1 -0.8**						
							IUG	**luzhnay**	**46.02**	**333**	*e*P	**P**	**20 53 01.1 -0.8**						
								baz=333											
							DZA	**Taraz**	**46.05**	**335**	*e*P	**P**	**20 53 01.8 -0.2**						
							DZA				pmax	pmax							
								comp=Z,6.0nm,0.8s											
							DZA	**Taraz**	**46.05**	**335**	*e*P	**P**	**20 53 01.9 -0.2**						
								comp=Z,6.1nm,0.8s,baz=334											
							SONM	**Songino Array**	**46.12**	**9**	P	**P**	**20 53 02.6 +0.1**						
								comp=Z,14nm,0.6s,baz=188,slow=9.6,SNR=21											
							SONM	**Songino Array**	**46.12**	**9**	P	**P**	**20 53 02.4 -0.2**						
							SONM				IAmb	IAmb	20 53 04.4						
								comp=Z,12nm,0.7s											
							ULN	**Ulaanbaatar**	**46.26**	**10**	*ce*P	**P**	**20 53 03.7 0.0**						
							ULN				pmax	pmax							
								comp=Z,7.0nm,0.6s											
							ULN	**Ulaanbaatar**	**46.26**	**10**	P	**P**	**20 53 03.1 -0.7**						
							ULN				IAmb	IAmb	20 53 06.0						
								comp=Z,27nm,1.5s											
							ULN	**Ulaanbaatar**	**46.26**	**10**	P	**P**	**20 53 03.0 -0.7**						
							ULN				pP	**pP**	**20 53 09.6 -2.8**

IRK					pmax	pmax		
	comp=Z,40nm,2.2s							
JCJ	**Chichijima**	**50.35**	**56**	LR	LR	21 13 28.6		
	comp=Z,113nm,21.1s,baz=93,slow=34							
KURK	**Kurchatov**	**50.41**	**346**	*ce*P	**P**	**20 53 35.7**	**+0.3**	
KURK				pmax	pmax			
	comp=Z,26nm,1.3s							
KURK	**Kurchatov**	**50.41**	**346**	P	**P**	**20 53 35.0**	**-0.5**	
KURK				IAmb	IAmb	20 53 38.9		
	comp=Z,20nm,1.1s							
KURK	**Kurchatov**	**50.41**	**346**	P	**P**	**20 53 35.5**	**0.0**	
JGF	**Kuroka**	**50.41**	**44**	P	**P**	**20 53 35.1**	**-0.7**	
JGF				IAmb	IAmb	20 53 37.0		
	comp=Z,10nm,0.9s							
HIA	**Hailar**	**50.84**	**20**	P	**P**	**20 53 38.7**	**-0.2**	
HIA				pmax	pmax			
	comp=Z,15nm,1.0s							
HIA	**Hailar**	**50.84**	**20**	P	**P**	**20 53 38.7**	**-0.2**	
HIA				IAmb	IAmb	20 53 40.8		
	comp=Z,15nm,1.0s							
BNX	**BinXian**	**51.08**	**28**	⇑P	**P**	**20 53 40.3**	**-0.3**	
BNX				pmax	pmax			
	comp=Z,48nm,0.9s							
BNX				pmax	pmax			
	comp=Z,260nm,3.5s							
BRZS	**Berezniki**	**51.47**	**341**	*e*P	**P**	**20 53 43.1**	**-0.4**	
BRZS	**Berezniki**	**51.47**	**341**	*e*P	**P**	**20 53 43.2**	**-0.4**	
	baz=341							
MJAR	**Matsushiro Arr**	**51.48**	**44**	P	**P**	**20 53 44.2**	**+0.3**	
	comp=Z,1.7nm,0.6s,baz=186,slow=8.1,SNR=6.5							
MJAR				LR	LR	21 16 08.2		
	comp=Z,244nm,21.0s,baz=224,slow=37							
LCRK	**Leigh Creek**	**51.65**	**133**	P	**P**	**20 53 46.4**	**+1.2**	
	comp=Z,9.5nm,0.8s							
PMG	**Port Moresby**	**52.07**	**104**	LR	LR	21 19 51.5		
	comp=Z,142nm,19.4s,baz=286,slow=41							
INKA	**Innaminka**	**52.24**	**128**	P	**P**	**20 53 50.0**	**+0.4**	
	comp=Z,15nm,0.9s							
ZAA0	**Zalesovo Array**	**52.24**	**351**	P	**P**	**20 53 48.5**	**-0.7**	
ZALV	**Zalesovo Beam**	**52.24**	**351**	P	**P**	**20 53 49.0**	**-0.2**	
	comp=Z,23nm,0.5s,baz=175,slow=6.7,SNR=138							
ZALV				LR	LR	21 20 31.2		
	comp=Z,294nm,19.4s,baz=176,slow=41							
ZALV	**Zalesovo Beam**	**52.24**	**351**	P	**P**	**20 53 48.8**	**-0.4**	
USRK	**Ussuriysk Ar.**	**52.27**	**32**	P	**P**	**20 53 50.5**	**+0.9**	
	comp=Z,8.9nm,0.9s,baz=242,slow=4.1,SNR=8.3							
USRK	**Ussuriysk Ar.**	**52.27**	**32**	P	**P**	**20 53 50.0**	**+0.4**	
OPO	**Ambohidratompo**	**52.55**	**244**	P	**P**	**20 53 53.8**	**+1.5**	
	comp=Z,1.7nm,0.6s,baz=76,slow=4.7,SNR=4.0							
NAPP	**Napperby**	**53.06**	**136**	P	**P**	**20 53 57.1**	**+1.5**	
RAYN	**Ar Rayn**	**53.35**	**298**	P	**P**	**20 54 00.8**	**+2.8**	
RAYN				X	**pP**	**20 54 05.4**	**-1.3**	
RAYN				pP	**sP**	**20 54 10.3**	**+0.1**	
RAYN				pwP	**pwP**	**20 54 12.4**	**+5.7**	
ATD	**Arta Tunnel**	**53.68**	**282**	LR	LR	21 14 49.6		
	comp=Z,192nm,18.5s,baz=116,slow=34							
CTA	**Charters Tower**	**53.90**	**117**	LR	LR	21 18 43.4		
	comp=Z,339nm,21.7s,baz=280,slow=38							
STKA	**Stephens Creek**	**54.87**	**132**	P	**P**	**20 54 09.1**	**+0.3**	
	comp=Z,2.2nm,0.8s,baz=323,slow=10,SNR=5.7							
STKA				LR	LR	21 19 57.4		
	comp=Z,375nm,20.2s,baz=306,slow=39							
STKA	**Stephens Creek**	**54.87**	**132**	P	**P**	**20 54 07.9**	**-0.9**	
BRVK	**Borovoye**	**54.88**	**341**	*c i*P	**P**	**20 54 08.1**	**-0.5**	
BRVK				pmax	pmax			
	comp=Z,9.0nm,0.7s							
BRVK	**Borovoye**	**54.88**	**341**	P	**P**	**20 54 07.7**	**-0.9**	
BRVK				IAmb	IAmb	20 54 10.8		
	comp=Z,9.2nm,0.7s							
BRVK	**Borovoye**	**54.88**	**341**	P	**P**	**20 54 08.3**	**-0.3**	
BRVK				X	**pP**	**20 54 12.6**	**-4.7**	
KLR	**Kul'dur**	**55.64**	**27**	*ce*P	**P**	**20 54 13.9**	**-0.2**	
KLR				pmax	pmax			
	comp=Z,19nm,0.8s							
ABKAR	**Akbulak array**	**56.02**	**332**	P	**P**	**20 54 16.2**	**-0.6**	
ABKAR	**Akbulak array**	**56.02**	**332**	P	**P**	**20 54 16.3**	**-0.5**	
ABKAR				IAmb	IAmb	20 54 25.2		
	comp=Z,20nm,1.0s							
BOD	**Bodaibo**	**57.03**	**11**	*e*P	**P**	**20 54 23.8**	**-0.1**	
BOD				pmax	pmax			
	comp=Z,18nm,1.0s							
ZEA	**Zeya**	**57.18**	**21**	*e*P	**P**	**20 54 25.2**	**+0.2**	
ZEA				pmax	pmax			
	comp=E,10.0nm,0.9s							
ZEA				pmax	pmax			
	comp=N,10.0nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
ZEA				MLR	MLR			
	comp=E,200nm,15.0s							
ZEA				MLR	MLR			
	comp=Z,300nm,16.0s							
AKTO	**Aktyubinsk**	**57.73**	**332**	LR	LR	21 22 47.2		
	comp=Z,137nm,20.1s,baz=139,slow=40							
CMSA	**Cobar Meteorol**	**57.79**	**130**	P	**P**	**20 54 31.5**	**+1.8**	
ASAJ	**Asahikawa**	**58.31**	**38**	LR	LR	21 19 20.4		
	comp=Z,177nm,20.9s,baz=148,slow=36							
KIBK	**Kibwezi**	**58.36**	**266**	P	**P**	**20 54 32.5**	**-1.6**	
KMBO	**Kilima Mbogo**	**59.07**	**267**	P	**P**	**20 54 40.7**	**+1.4**	
	comp=Z,4.3nm,0.8s,baz=65,slow=11,SNR=15							
KMBO	**Kilima Mbogo**	**59.07**	**267**	*i* P	**P**	**20 54 41.5**	**+2.2**	
KMBO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KMBO	**Kilima Mbogo**	**59.07**	**267**	P	**P**	**20 54 40.9**	**+1.7**	
KMBO				IAmb	IAmb	20 54 42.2		
	comp=Z,5.4nm,0.9s							
KMBO	**Kilima Mbogo**	**59.07**	**267**	P	**P**	**20 54 41.1**	**+1.9**	
KMBO				X	**pP**	**20 54 47.4**	**-0.7**	
KMBO				pP	**sP**	**20 54 52.2**	**+0.9**	
GNI	**Garni**	**59.77**	**316**	LR	LR	21 22 05.9		
	comp=Z,99nm,21.2s,baz=121,slow=38							
GNI	**Garni**	**59.77**	**316**	*i* P	**P**	**20 54 44.3**	**+0.7**	
GNI				pmax	pmax			
	comp=Z,5.0nm,1.2s							
GNI	**Garni**	**59.77**	**316**	P	**P**	**20 54 44.9**	**+1.3**	
GNI	**Garni**	**59.77**	**316**	P	**P**	**20 54 44.5**	**+0.9**	
YSS	**Yuzh-Sakhalins**	**59.93**	**35**	*i* P	**P**	**20 54 45.6**	**+1.4**	
YSS				pmax	pmax			
	comp=Z,26nm,1.1s							
LODK	**Lodwar**	**60.79**	**273**	P	**P**	**20 54 52.9**	**+2.0**	
LODK				IAmb	IAmb	20 54 54.5		
	comp=Z,6.3nm,0.9s							
GURO	**Guroymak-BITLI**	**61.06**	**313**	P	**P**	**20 54 51.0**	**-1.4**	
GURO				IAmb	IAmb	20 55 02.4		
	comp=Z,9.3nm,1.3s							
SVE	**Sverdlovsk**	**61.23**	**339**	*e*P	**P**	**20 54 52.7**	**-0.3**	
SVE				pmax	pmax			
	comp=Z,20nm,0.9s							
MARD	**Mardin**	**61.53**	**312**	P	**P**	**20 54 53.5**	**-2.1**	
ARU	**Arti**	**61.72**	**337**	LR	LR	21 23 44.6		
	comp=Z,227nm,19.7s,baz=130,slow=38							
ARU	**Arti**	**61.72**	**337**	*c i*P	**P**	**20 54 56.2**	**-0.1**	
ARU						20 55 37.4		
ARU						20 57 15.0		
ARU				S	**S**	**21 03 20.5**	**+3.3**	
ARU				SS	**SS**	**21 07 13.1**	**-6.1**	
ARU				pmax	pmax			
	comp=Z,9.0nm,0.8s							
ARU				MLR	MLR			
	comp=Z,349nm,16.0s							
ARU	**Arti**	**61.72**	**337**	P	**P**	**20 54 55.4**	**-0.9**	
ARU				IAmb	IAmb	20 54 57.0		
	comp=Z,8.2nm,0.9s							
ARU	**Arti**	**61.72**	**337**	P	**P**	**20 54 56.4**	**+0.2**	
ARU				X	**pP**	**20 55 02.8**	**-2.4**	
ARU				pP	**sP**	**20 55 08.0**	**-0.6**	
NEY	**Neytrino**	**62.46**	**319**	*i* P	**P**	**20 55 02.7**	**+1.0**	
KBZ	**Khabaz**	**62.55**	**319**	P	**P**	**20 55 02.1**	**+0.1**	
	comp=Z,2.3nm,0.8s,baz=134,slow=3.4,SNR=5.0							
KBZ	**Khabaz**	**62.55**	**319**	*i* P	**P**	**20 55 03.2**	**+1.2**	
KBZ				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KIV	**Kislovodsk**	**62.78**	**319**	*e*P	**P**	**20 55 04.3**	**+0.5**	
KIV				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,67nm,17.0s							
BELG	**Belogornoye**	**64.05**	**329**	*i* P	**P**	**20 55 11.1**	**-0.7**	
BELG				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MMAI	**Mount Meron Ar**	**64.43**	**306**	LR	LR	21 25 20.9		
	comp=Z,200nm,18.2s,baz=256,slow=38							
YAK	**Yakutsk**	**64.56**	**17**	*c i*P	**P**	**20 55 14.0**	**-1.0**	
YAK				*e**PP	**pP**	**20 55 24.6**	**+0.6**	
YAK				*e*		20 55 48.3		
YAK				*e*		20 57 36.0		
YAK				*e*PPP	PPP	20 59 06.8		
YAK				*e*S	**S**	**21 03 50.6**	**-1.8**	
YAK				*e**SS	**sS**	**21 04 10.7**	**+3.5**	
YAK				*e*		21 05 05.2		
YAK				*e*SS	**SS**	**21 08 01.5**	**-1.8**	
YAK				pmax	pmax			
	comp=Z,67nm,0.9s							
YAK				pmax	pmax			
	comp=N,24nm,1.1s							
YAK				pmax	pmax			
	comp=E,17nm,1.3s							
YAK				pmax	pmax			
	comp=Z,55nm,4.7s							
YAK				pmax	pmax			
	comp=N,29nm,3.5s							
YAK				pmax	pmax			
	comp=E,37nm,3.5s							
YAK				smax	smax			
	comp=E,66nm,2.2s							
YAK				smax	smax			
	comp=N,46nm,2.2s							
YAK	**Yakutsk**	**64.56**	**17**	P	**P**	**20 55 13.9**	**-1.0**	
YAK	**Yakutsk**	**64.56**	**17**	P	**P**	**20 55 14.0**	**-1.0**	
MBAR	**Mbarara**	**65.55**	**268**	LR	LR	21 21 43.2		
	comp=N,200nm,19.1s,baz=64,slow=34							
MBAR	**Mbarara**	**65.55**	**268**	*ce*P	**P**	**20 55 25.1**	**+2.5**	
MBAR				pmax	pmax			
	comp=Z,12nm,2.5s							
MBAR	**Mbarara**	**65.55**	**268**	P	**P**	**20 55 22.5**	**-0.1**	
MBAR	**Mbarara**	**65.55**	**268**	P	**P**	**20 55 24.4**	**+1.8**	
MBAR				X	**pP**	**20 55 31.2**	**-0.2**	
MBAR				pP	**sP**	**20 55 35.3**	**+0.6**	
VRH	**Novokhopyorsk**	**66.60**	**326**	*e*P	**P**	**20 55 26.9**	**-1.5**	
VRH				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KIRV	**Kirov**	**66.83**	**335**	LR	LR	21 29 32.6		
	comp=Z,198nm,18.2s,baz=130,slow=40							
KIRV	**Kirov**	**66.83**	**335**	*ce*P	**P**	**20 55 31.0**	**+1.3**	
NRIK	**Noril'sk**	**67.09**	**357**	P	**P**	**20 55 30.3**	**-0.9**	
	comp=Z,8.4nm,0.8s,baz=173,slow=4.9,SNR=16							
NRIK				LR	LR	21 29 02.2		
	comp=Z,259nm,21.0s,baz=182,slow=40							
NRIK	**Noril'sk**	**67.09**	**357**	*ce*P	**P**	**20 55 30.9**	**-0.3**	
NRIK				pmax	pmax			
	comp=Z,11nm,1.0s							
NRIK	**Noril'sk**	**67.09**	**357**	P	**P**	**20 55 30.6**	**-0.6**	
NRIK				IAmb	IAmb	20 55 32.4		
	comp=Z,18nm,1.1s							
BRTR	**Keskin Array B**	**67.60**	**312**	P	**P**	**20 55 34.4**	**-0.8**	
	comp=Z,0.6nm,0.4s,baz=140,slow=24,SNR=6.6							
BRTR				LR	LR	21 27 56.0		
	comp=Z,116nm,19.0s,baz=101,slow=38							
BRTR	**Keskin Array B**	**67.60**	**312**	*i* P	P	20 55 40.5	+5.3	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
VSR	**Storozhevoye**	**68.05**	**325**	*e*P	**P**	**20 55 36.2**	**-1.4**	
VSR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
VORR	**Voronezh**	**68.22**	**326**	*e*P	**P**	**20 55 37.2**	**-1.4**	
VORR				pmax	pmax			
	comp=Z,30nm,0.4s							
LPSR	**Galich'ya Gora**	**68.78**	**327**	*e*P	**P**	**20 55 40.8**	**-1.3**	
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
LSZ	**Lusaka**	**69.53**	**253**	LR	LR	21 21 31.3		
	comp=Z,279nm,21.0s,baz=97,slow=32							
ELL	**Elmali**	**69.70**	**308**	P	**P**	**20 55 47.8**	**-0.5**	
ELL				pmax	pmax			
	comp=Z,46nm,1.2s							
ELL	**Elmali**	**69.70**	**308**	P	**P**	**20 55 47.8**	**-0.5**	
PRGR	**Permogore**	**70.17**	**337**	*e*P	**P**	**20 55 49.0**	**-1.5**	
PRGR				pmax	pmax			
	comp=Z,17nm,0.8s							
MA2	**Magadan**	**70.69**	**26**	*ce*P	**P**	**20 55 53.8**	**0.0**	
MA2				pmax	pmax			
	comp=Z,20nm,1.3s							
MA2	**Magadan**	**70.69**	**26**	P	**P**	**20 55 53.2**	**-0.6**	
MA2				IAmb	IAmb	20 55 55.1		
	comp=Z,15nm,0.8s							
MA2	**Magadan**	**70.69**	**26**	P	**P**	**20 55 53.6**	**-0.1**	
MA2				X	**pP**	**20 56 00.4**	**-2.5**	
MOS	**Moscow**	**70.82**	**329**	*e*P	P	20 56 00.3	+5.7	
MOS				pmax	pmax			
	comp=Z,29nm,0.8s							
OBN	**Obninsk**	**71.11**	**328**	*i* P	**P**	**20 55 56.1**	**-0.2**	
OBN				*i*		20 56 01.5		
OBN				*i*		20 56 20.2		
OBN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,159nm,20.0s							
OBN	**Obninsk**	**71.11**	**328**	P	**P**	**20 55 55.3**	**-1.0**	
OBN				IAmb	IAmb	20 56 04.7		
	comp=Z,13nm,0.7s							
PETK	**Petropavlovsk-**	**71.29**	**34**	P	**P**	**20 55 58.4**	**+0.9**	
	comp=Z,2.7nm,0.8s,baz=178,slow=4.5,SNR=3.9							
PET	**Petropavlovsk**	**71.80**	**34**	*ce*P	**P**	**20 56 00.9**	**+0.3**	
PET				pmax	pmax			
	comp=Z,52nm,1.3s							
TIXI	**Tiksi**	**72.19**	**10**	*ce*P	**P**	**20 56 01.6**	**-1.0**	
TIXI				pmax	pmax			
	comp=Z,41nm,1.7s							
TIXI	**Tiksi**	**72.19**	**10**	P	**P**	**20 56 00.9**	**-1.7**	
TIXI				IAmb	IAmb	20 56 03.1		
	comp=Z,22nm,1.0s							
KLMR	**Klimovskoe**	**72.27**	**335**	*e*P	**P**	**20 56 01.7**	**-1.5**	
KLMR				pmax	pmax			
	comp=Z,26nm,1.5s							
KLMR	**Klimovskoe**	**72.27**	**335**	*e*P	**P**	**20 56 01.7**	**-1.5**	
KLMR				AMP		20 56 11.5		
	comp=Z,26nm,1.5s							
DZM	**Mont Dzumac**	**72.64**	**114**	LR	LR	21 29 12.1		
	comp=Z,154nm,21.9s,baz=266,slow=37							
DZM	**Mont Dzumac**	**72.64**	**114**	*e*LR	LR	21 18 23.8		
	comp=Z,304nm,22.7s							
SEY	**Seymchan**	**73.06**	**23**	*ce*P	**P**	**20 56 08.7**	**+0.8**	
SEY				pmax	pmax			
	comp=Z,15nm,1.7s							
LBTB	**Lobatse**	**73.55**	**243**	LR	LR	21 24 36.7		
	comp=Z,306nm,19.3s,baz=67,slow=33							
MAW	**Mawson**	**73.65**	**193**	LR	LR	21 25 46.6		
	comp=Z,89nm,18.2s,baz=24,slow=34							
AKASG	**Malin Array Be**	**73.73**	**322**	P	**P**	**20 56 10.8**	**-1.4**	
	comp=Z,1.7nm,0.6s,baz=86,slow=6.0,SNR=7.0							
BOSA	**Boshof**	**74.54**	**240**	LR	LR	21 26 00.7		
	comp=Z,268nm,18.2s,baz=44,slow=33							
BURAR	**Bucovina Array**	**75.50**	**319**	P	**P**	**20 56 22.7**	**+0.1**	
BURAR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BURAR	**Bucovina Array**	**75.50**	**319**	P	**P**	**20 56 22.7**	**+0.1**	
KOLS	**Kolonicke sedl**	**77.69**	**320**	*e*P	**P**	**20 56 35.7**	**+0.8**	
KOLS	**Kolonicke sedl**	**77.69**	**320**	*e*P	**P**	**20 56 35.7**	**+0.8**	
FINES	**FINESS Array B**	**78.50**	**333**	P	**P**	**20 56 39.1**	**0.0**	
	comp=Z,5.2nm,0.7s,baz=106,slow=6.3,SNR=17							
FINES				LR	LR	21 36 06.2		
	comp=Z,211nm,20.4s,baz=102,slow=39							
SUR	**Sutherland**	**79.00**	**237**	LR	LR	21 27 09.5		
	comp=Z,228nm,18.4s,baz=84,slow=32							
TSUM	**Tsumeb**	**80.08**	**250**	LR	LR	21 30 43.3		
	comp=Z,186nm,18.1s,baz=140,slow=34							
BILL	**Bilibino**	**80.41**	**21**	*i* P	**P**	**20 56 47.9**	**-1.4**	
BILL				*i*		20 56 58.4		
BILL				*i* S	**S**	**21 06 57.8**	**+4.5**	
BILL				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BILL				MLR	MLR			
	comp=Z,474nm,17.0s							
BILL	**Bilibino**	**80.41**	**21**	P	**P**	**20 56 48.4**	**-0.9**	
RPZ	**Rata Peaks**	**80.72**	**135**	LR	LR	21 33 28.3		
	comp=Z,232nm,19.2s,baz=284,slow=36							
SHEM	**Shemya Is, Ala**	**80.76**	**37**	LR	LR	21 31 23.0		
	comp=Z,53nm,21.8s,baz=289,slow=35							
ARCES	**ARCESS Array B**	**81.10**	**340**	P	**P**	**20 56 53.4**	**+0.4**	
	comp=Z,2.9nm,0.6s,baz=96,slow=5.8,SNR=26							
ARCES				LR	LR	21 36 18.6		
	comp=Z,159nm,20.6s,baz=110,slow=38							
GEC2	**GERESS Array S**	**83.29**	**319**	P	**P**	**20 57 04.8**	**-0.2**	
GERES	**GERESS Array B**	**83.29**	**319**	P	**P**	**20 57 05.0**	**0.0**	
	comp=Z,1.3nm,0.8s,baz=103,slow=5.9,SNR=12							
GERES				LR	LR	21 37 57.5		
	comp=Z,58nm,21.3s,baz=86,slow=38							
GERES	**GERESS Array B**	**83.29**	**319**	P	**P**	**20 57 05.0**	**0.0**	
KHC	**Kasperske Hory**	**83.39**	**319**	*e*P	**P**	**20 57 05.0**	**-0.5**	
KHC				*e*		20 57 14.0		
KHC	**Kasperske Hory**	**83.39**	**319**	*e*P	**P**	**20 57 05.0**	**-0.5**	
KHC				*ep*P	**pP**	**20 57 14.0**	**-0.7**	
CLL	**Collm**	**83.91**	**321**	*e*P	**P**	**20 57 09.0**	**+1.0**	
CLL				*e*S	**S**	**21 07 31.0**	**+1.1**	
CLL				LmV		22 27 00.0		
	comp=Z,100nm,21.3s							
HFS	**Hagfors**	**84.22**	**330**	LR	LR	21 39 38.0		
	comp=Z,132nm,18.6s,baz=92,slow=39							
URZ	**Urewera**	**84.31**	**129**	LR	LR	21 38 02.6		
	comp=Z,131nm,18.0s,baz=211,slow=38							
NB2	**NORSAR Subarra**	**85.50**	**331**	P	**P**	**20 57 15.0**	**-0.9**	
	comp=Z,7.4nm,1.1s,baz=90,slow=5.6							
NOA	**NORSAR Array B**	**85.50**	**331**	P	**P**	**20 57 14.7**	**-1.2**	
	comp=Z,1.2nm,0.9s,baz=286,slow=6.4,SNR=3.5							
NOA				LR	LR	21 39 45.0		
	comp=Z,146nm,20.4s,baz=95,slow=39							
SPITS	**Spitsbergen Ar**	**85.60**	**348**	LR	LR	21 40 49.7		
	comp=Z,342nm,21.0s,baz=186,slow=39							
KEST	**Kesra**	**86.09**	**305**	LR	LR	21 35 58.3		
	comp=Z,41nm,22.0s,baz=244,slow=36							
VNDA	**Vanda**	**87.17**	**169**	LR	LR	21 34 47.2		
	comp=Z,200nm,18.9s,baz=310,slow=34							
NOR	**Nord**	**90.93**	**352**	*i* P	**P**	**20 57 37.5**	**-4.0**	
QSPA	**South Pole Qui**	**92.33**	**180**	LR	LR	21 35 02.3		
	comp=Z,325nm,18.1s,baz=286,slow=33							
DAG	**Danmarks Havn**	**93.24**	**348**	*i* P	**P**	**20 57 51.0**	**-1.2**	
TORD	**Torodi Ar. Bea**	**93.88**	**283**	P	**P**	**20 57 56.9**	**+0.5**	
	comp=Z,1.1nm,1.1s,baz=96,slow=5.7,SNR=4.3							
IMAR	**Indian Mountai**	**95.87**	**23**	P	**P**	**20 58 04.9**	**+0.5**	
K20K	**Telida**	**96.60**	**25**	P	**P**	**20 58 08.8**	**+1.0**	
EUNU	**Eureka**	**97.63**	**0**	P	**P**	**20 58 12.1**	**-0.2**	
EUNU				IAmb	IAmb	20 58 13.8		
	comp=Z,4.0nm,0.8s							
ILAR	**Eielson Array**	**98.99**	**23**	P	Pdif	20 58 17.8	-0.7	
	comp=Z,0.3nm,0.7s,baz=316,slow=3.8,SNR=2.4							
TBI	**Tubuai**	**113.22**	**114**	*e*LR	LR	21 37 20.0		
	comp=Z,187nm,25.2s							
PPT2	**Papeete2**	**113.76**	**108**	*e*LR	LR	21 37 34.8		
	comp=Z,130nm,24.8s							
TXAR	**Lajitas Array**	**143.15**	**30**	PKP	PKPbc	21 04 10.8	+1.0	
	comp=Z,0.8nm,0.7s,baz=221,slow=0.5,SNR=8.2							

NEIC ***20*** *21:19:53.9±1.4, 3.8°S±0.1°×154.08°E±0.09, h421km±8km, mb4.1/23, Error ellipse: s-maj=19.8km s-min=6.2km az=141.0*

IDC ***20*** *21:19:54.1±1.6, 3.76°S×153.98°E, h425km±16km, mb3.3/9, mb1 3.5/11, mb1mx3.3/35, mbtmp4.0/11, Error ellipse: s-maj=23.4km s-min=16.1km az=97.0*

ISC 20 21:19:52.3±0.7, 3.8°S±0.1°×154.2°E±0.1, h400km, n42, σ1°72/44, mb4.0/20, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.02**	**259**	P	**Pn**	**21 20 51.5**	**+3.0**
RABL				S	**S**	**21 21 37.5**	**+3.8**
KRVT	**Keravat (AS076**	**2.18**	**257**	P	**Pn**	**21 20 52.5**	**+3.1**
	29nm,0.3s,baz=221,slow=1.3,SNR=10						
KRVT				S	**S**	**21 21 38.8**	**+3.3**
	14nm,0.3s,baz=108,slow=20,SNR=12						
COEN	**Coen**	**14.81**	**226**	P	**P**	**21 23 04.6**	**+1.8**
CTA	**Charters Tower**	**17.93**	**205**	P	**P**	**21 23 36.8**	**+0.6**
	1.8nm,0.3s,baz=20,slow=10,SNR=10						
CTAO	**Charters Tower**	**17.93**	**205**	P	**P**	**21 23 37.0**	**+0.8**
EIDS	**Eidsvold**	**21.65**	**188**	P	**P**	**21 24 11.6**	**-0.2**
EIDS				IAmb	IAmb	21 24 23.3	
	comp=Z,12nm,1.4s						
DZM	**Mont Dzumac**	**21.73**	**148**	P	**P**	**21 24 14.1**	**+1.4**
	comp=Z,6.5nm,0.7s,baz=356,slow=14,SNR=6.4						
DZM	**Mont Dzumac**	**21.73**	**148**	P	**P**	**21 24 13.3**	**+0.6**
DZM				IAmb	IAmb	21 24 23.0	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**24.97**	**228**	P	**P**	**21 24 40.8**	**-1.1**
WR0				IAmb	IAmb	21 24 41.6	
	comp=Z,9.5nm,1.3s						
WRA	**Warramunga Arr**	**25.11**	**229**	P	**P**	**21 24 42.2**	**-0.9**
	comp=Z,2.5nm,0.4s,baz=53,slow=9.6,SNR=22						
ARMA	**Armidale**	**26.58**	**185**	P	**P**	**21 24 56.9**	**+0.7**
ARMA				IAmb	IAmb	21 25 18.3	
	comp=Z,14nm,1.2s						
KNRA	**Kununurra**	**27.62**	**243**	P	**P**	**21 25 03.8**	**-1.6**
KNRA				IAmb	IAmb	21 25 10.4	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**27.79**	**223**	P	**P**	**21 25 05.6**	**-1.3**
AS31				IAmb	IAmb	21 25 06.1	
	comp=Z,3.0nm,0.4s						
ASAR	**Alice Springs**	**27.80**	**223**	P	**P**	**21 25 05.7**	**-1.2**
	comp=Z,3.7nm,0.3s,baz=54,slow=9.2,SNR=120						
ASAR	**Alice Springs**	**27.80**	**223**	P	**P**	**21 25 05.0**	**-1.9**
STKA	**Stephens Creek**	**30.32**	**201**	P	**P**	**21 25 28.7**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=50,slow=15,SNR=3.1						
STKA	**Stephens Creek**	**30.32**	**201**	P	**P**	**21 25 28.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**31.32**	**241**	P	**P**	**21 25 36.1**	**-1.6**
BBOO	**Buckleboo**	**33.46**	**208**	P	**P**	**21 25 54.7**	**-1.3**
BBOO				IAmb	IAmb	21 25 59.1	
	comp=Z,8.9nm,1.1s						
FORT	**Forr

mb4.9/112,Mwr4.9/13,Error ellipse: s-maj=8.6km s-min=7.4km az=216.0

*NEIC **20** 21:30:04.4,0.57N×79.93W,h9km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.87; Mθθ0.61; Mφφ-1.48; Mrθ-0.88; Mθφ0.38; Mφr-1.97; Fault plane solution: Mo2.54000×10¹⁶ NP1:φs315.88000°, δ25.34000°,λ27.47000°. NP2:φs200.71000°,δ78.61000°, λ112.79000°. Principal axes: T 2.4726, Plg51.00000°, Azm137.0000°; N 0.1291, Plg22.0000°, Azm16.0000°; P -2.6017, Plg30.0000°, Azm272.0000°;*

*IGQ **20** 21:30:07±0.5, 1°N±3°×8°OW±°, h4km*

*IDC **20** 21:30:08.8±2.1, 0.62N×79.97W, h50km±19km, mb4.3/23, mb1 4.4/27, mb1mx4.4/35, mbtmp4.5/27, ML3.9/4, MS4.1/43, Ms1 4.1/43, ms1mx4.0/64, Error ellipse: s-maj=15.2km s-min=9.9km az=63.0*

*GCMT **20** 21:30:09.1±0.3, 0.60N±0.02×80.28W±0.02, h28km, MW5.0/88, Moment Tensor Solution. s36,c37; s88,c104; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.32±.17; Mθθ-0.24±.10; Mφφ-3.09±.12; Mrθ-0.18±.14; Mθφ-0.29±.08; Mφr-3.16±.17; Best double couple: Mo4.51400×10¹⁶ NP1:φs7.00000°, δ23.00000°, λ93.00000°. NP2: φs184.00000°, δ67.00000°, λ89.00000°. Principal axes: T 4.6160, Plg68.0000°, Azm92.0000°; N -0.2120, Plg1.0000°, Azm184.0000°; P -4.4120, Plg22.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 21:30:04.3±0.3, 0.56N±0.03×80.01W±0.04, h17km, n424, σ1§22/400, mb4.9/78, MS4.1/44, 3C-11D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMA1	**Acelerografo,**	**0.47**	**38**	P	**Pg**	**21 30 13.0**	**-0.9**
AMA1				S	**Sn**	**21 30 23.0**	**-1.4**
AV21	**Acelerografo,**	**0.48**	**77**	P	**Pb**	**21 30 14.0**	**-0.3**
AV18	**Acelerografo,**	**0.59**	**114**	P	**Pn**	**21 30 17.0**	**-0.9**
MAG1	**Magdalena**	**0.67**	**159**	P	**Pb**	**21 30 17.0**	**-0.5**
JAMA	**Jama**	**0.83**	**193**	P	**Pb**	**21 30 19.0**	**-1.4**
JAMA				S	**Sn**	**21 30 32.0**	**-1.3**
BV15	**Puerto Quito-O**	**0.88**	**116**	P	**Pg**	**21 30 21.0**	**-0.5**
BV15				S	**Sn**	**21 30 36.0**	**+1.6**
FLF1	**Flavio Alfaro-**	**0.92**	**169**	P	**Pn**	**21 30 22.0**	**-0.5**
APR2	**Miler**	**1.15**	**114**	P	**Pb**	**21 30 25.0**	**-0.8**
PAC1	**Pacto, Paraso**	**1.26**	**103**	eP	**Pg**	**21 30 28.5**	**-0.1**
PAC1	**Pacto, Paraso**	**1.26**	**103**	P	**Pb**	**21 30 27.0**	**-0.6**
APR1	**Acelerografo,**	**1.52**	**113**	P	**Pn**	**21 30 31.0**	**-0.1**
HPAL	**Hacienda Las P**	**1.56**	**119**	P	**Pn**	**21 30 31.0**	**-0.6**
PINO	**Pino**	**1.57**	**117**	P	**Pn**	**21 30 32.0**	**0.0**
TERV	**Terraza Guagua**	**1.58**	**117**	P	**Pn**	**21 30 32.0**	**-0.1**
YANA	**Yana**	**1.59**	**115**	P	**Pn**	**21 30 32.0**	**-0.1**
GGPT	**Toaza - Volcan**	**1.59**	**119**	P	**Pn**	**21 30 32.0**	**-0.1**
OTAV	**Otavalo**	**1.59**	**101**		**Pn**	**21 30 32.0**	**-0.1**
OTAV				Sn	**Sb**	**21 30 52.5**	**-1.1**
JUA2	**San Juan 2**	**1.60**	**118**	P	**Pn**	**21 30 32.0**	**-0.3**
PULU	**Pululahua**	**1.60**	**109**	Pn	**Pn**	**21 30 32.3**	**+0.1**
PULU	**Pululahua**	**1.60**	**109**	P	**Pb**	**21 30 33.0**	**-0.7**
CUSE	**Cuicocha Este**	**1.63**	**99**	eP	**Pb**	**21 30 33.8**	**-0.4**
CUSE	**Cuicocha Este**	**1.63**	**99**	P	**Pb**	**21 30 33.0**	**-1.3**
ALIT	**Ecuador-Imbabu**	**1.67**	**82**	P	**Pn**	**21 30 32.0**	**-0.9**
LITE1	**Lita**	**1.67**	**82**	P	**Pn**	**21 30 33.0**	**+0.1**
CUIC	**Cuicocha-Domo**	**1.67**	**99**	P	**Pn**	**21 30 33.0**	**-0.2**
CUSW	**Cuicocha Oeste**	**1.68**	**99**	P	**Pb**	**21 30 34.0**	**-1.1**
COTA	**Cotacachi**	**1.69**	**97**	P	**Pb**	**21 30 34.0**	**-1.3**
AV11	**Acelerografo,**	**1.76**	**111**	P	**Pg**	**21 30 37.0**	**-1.1**
URCU	**Urcuqui**	**1.76**	**94**	P	**Pb**	**21 30 35.0**	**-1.4**
ILLI	**Illinizas Sur**	**1.80**	**134**	P	**Pn**	**21 30 35.0**	**-0.1**
AAT1	**Ecuador-Atunta**	**1.81**	**97**	P	**Pb**	**21 30 37.0**	**-0.2**
PAST	**Pastocalle**	**1.85**	**132**	P	**Pn**	**21 30 36.0**	**+0.3**
AIB2	**Ibarra (Univer**	**1.92**	**96**	P	**Pb**	**21 30 39.0**	**-0.1**
PITA	**Cotopaxi Volc**	**1.93**	**125**	P	**Pb**	**21 30 38.0**	**-1.3**
CAMI	**Rancho Maria**	**1.94**	**129**	P	**Pb**	**21 30 38.0**	**-1.6**
YAHU	**Yahuarcocha**	**1.95**	**95**	P	**Pb**	**21 30 39.0**	**-0.6**
NAS2	**Nasa**	**1.95**	**128**	P	**Pb**	**21 30 39.0**	**-0.7**
BNAS	**Cotopaxi Volca**	**1.96**	**128**	P	**Pb**	**21 30 38.0**	**-1.8**
BREF	**Cotopaxi Volca**	**1.99**	**128**	P	**Pb**	**21 30 39.0**	**-1.4**
VC1	**Cotopaxi 1**	**2.00**	**126**	P	**Pb**	**21 30 39.0**	**-1.6**
BVC2	**Cotopaxi Volca**	**2.00**	**127**	P	**Pb**	**21 30 39.0**	**-1.7**
BMOR	**Cotopaxi Volca**	**2.01**	**129**	P	**Pb**	**21 30 39.0**	**-1.8**
LNGL	**El Angel-Carch**	**2.02**	**85**	P	**Pn**	**21 30 38.0**	**-0.1**
BTAM	**Cotopaxi Volca**	**2.03**	**127**	P	**Pn**	**21 30 39.0**	**+0.8**
ANTG	**Antisana-Guama**	**2.05**	**121**	P	**Pb**	**21 30 40.0**	**-1.4**
ECEN	**Cerro Negro**	**2.06**	**83**	P	**Pn**	**21 30 39.0**	**+0.3**
TAMB	**Tambo**	**2.06**	**127**	P	**Pb**	**21 30 40.0**	**-1.6**
ANGU	**Angureal**	**2.07**	**104**	P	**Pb**	**21 30 41.0**	**-0.8**
CAYR	**Refugio Cayamb**	**2.08**	**105**	P	**Pb**	**21 30 41.0**	**-0.9**
CAYA	**Cayambe**	**2.08**	**103**	P	**Pb**	**21 30 41.0**	**-0.9**
CHL1	**Volc¡n Chiles**	**2.08**	**93**	P	**Pb**	**21 30 40.2**	**-2.0**
ANTM	**Antisana-La Mi**	**2.09**	**121**	P	**Pb**	**21 30 41.0**	**-1.2**
ANTI	**Antisana**	**2.10**	**118**	P	**Pn**	**21 30 40.0**	**+0.7**
VCES	**Cotopaxi**	**2.11**	**130**	P	**Pn**	**21 30 40.0**	**+0.7**
CHL2	**Volc¡n Chiles**	**2.11**	**83**	P	**Pn**	**21 30 40.0**	**+0.7**
APS4	**Papallacta**	**2.12**	**116**	P	**Pn**	**21 30 40.0**	**+0.7**
ANTS	**Antisana-Sarah**	**2.12**	**120**	P	**Pn**	**21 30 40.0**	**+0.5**
TULM	**Tulcn-Chalpat**	**2.23**	**86**	Pn	**Pn**	**21 30 42.1**	**+1.2**
TULM	**Tulcn-Chalpat**	**2.23**	**86**	eP	**Pb**	**21 30 42.6**	**-1.9**
TULM	**Tulcn-Chalpat**	**2.23**	**86**	P	**Pn**	**21 30 40.0**	**-1.0**
ATUL	**Tulcn**	**2.30**	**85**	P	**Pb**	**21 30 44.0**	**-1.6**
PIAT	**Ana Tenorio**	**2.33**	**131**	P	**Pb**	**21 30 44.0**	**-2.2**
PORT	**Chimborazo Vol**	**2.36**	**148**		**Pn**	**21 30 43.5**	**+0.7**
PORT	**Chimborazo Vol**	**2.36**	**148**	P	**Pn**	**21 30 44.0**	**+1.2**
TAMH	**Tambohuasha Ch**	**2.42**	**149**	P	**Pn**	**21 30 45.0**	**+1.4**
CONE	**Cono NE Rev Vo**	**2.45**	**105**	P	**Pb**	**21 30 47.0**	**-1.2**
IGUA	**Igualata**	**2.45**	**146**	P	**Pb**	**21 30 47.0**	**-1.3**
BONI	**La Bonita**	**2.49**	**92**	P	**Pb**	**21 30 47.0**	**-1.7**
JUI6	**Juive**	**2.50**	**142**	P	**Pb**	**21 30 47.0**	**-2.0**
BIL2	**Estacion Bilba**	**2.50**	**143**	P	**Pb**	**21 30 47.0**	**-2.0**
POND	**Pondoa**	**2.51**	**142**	P	**Pb**	**21 30 47.0**	**-2.1**
BBIL	**Ulba Tungurahu**	**2.51**	**143**	P	**Pb**	**21 30 47.0**	**-2.1**
BRUN	**Tungurahua Vol**	**2.53**	**141**	P	**Pb**	**21 30 47.0**	**-2.6**
RETU	**Refugio**	**2.54**	**142**	P	**Pb**	**21 30 47.0**	**-2.7**
BMAS	**Trigal station**	**2.56**	**143**	P	**Pn**	**21 30 47.0**	**+1.7**
ARRY	**Arrayan**	**2.57**	**143**	P	**Pn**	**21 30 47.0**	**+1.4**
BPAT	**Tungurahua Vol**	**2.58**	**142**	P	**Pn**	**21 30 47.0**	**+1.2**
CASC	**Dorado de Casc**	**2.71**	**99**	P	**Pb**	**21 30 50.0**	**-2.4**
CCUFI	**Cufio, Nario**	**2.75**	**76**	eP	**Pb**	**21 30 51.5**	**-1.9**
GCUF	**Volcan Galeras**	**2.75**	**76**	eP	**Pb**	**21 30 50.8**	**-2.6**
CPAS2	**Pasto**	**2.84**	**77**	eP	**Pb**	**21 30 52.3**	**-2.5**
PUYO	**Puyo, Santa Ro**	**2.85**	**136**	P	**Pb**	**21 30 53.0**	**-1.8**
GR1C	**Gorgona, Isla**	**3.05**	**37**	eP	**Pn**	**21 30 49.5**	**-2.4**
SANGA	**Volcan Sangay**	**3.07**	**148**	P	**Pb**	**21 30 56.0**	**-2.7**
COHC	**Cochancay**	**3.10**	**166**		**Pn**	**21 30 52.8**	**+0.4**
CRUC	**La Cruz**	**3.23**	**72**	eP	**Pb**	**21 30 58.2**	**-3.2**
SOTA	**Rioblanco**	**3.75**	**65**	eP	**Pn**	**21 31 03.1**	**+1.2**
POPC	**Popayan, Colom**	**3.88**	**59**	eP	**Pn**	**21 31 04.5**	**+1.1**
BOSC	**San Juan Bosco**	**3.98**	**158**	Pn	**Pn**	**21 31 07.7**	**+2.9**
BOSC	**San Juan Bosco**	**3.98**	**158**	P	Pb	21 31 09.0	-5.2
PCON	**Cinco Dias**	**4.02**	**64**	eP	**Pn**	**21 31 07.6**	**+1.9**
ARNL	**Arenillas**	**4.08**	**181**		**Pn**	**21 31 07.3**	**+1.4**
ARNL	**Arenillas**	**4.08**	**181**	P	**Pn**	**21 31 08.0**	**+2.1**
MARP	**Paez Belalcaza**	**4.65**	**61**	eP	**Pn**	**21 31 15.2**	**+1.1**
GARC	**Garzon, Huila**	**4.80**	**70**	eP	Pn	21 31 21.2	+5.0
MCRA	**Macar, Loja**	**4.89**	**179**	Pn	**Pn**	**21 31 19.0**	**+1.8**
MCRA	**Macar, Loja**	**4.89**	**179**	P	**Pn**	**21 31 20.0**	**+2.8**
YOTC	**Yotoco, Valle**	**5.00**	**47**	eP	**Pn**	**21 31 19.9**	**+1.2**
PTLC	**Puerto Leguiza**	**5.23**	**94**	eP	**Pn**	**21 31 24.8**	**+3.0**
ZUMB	**Zumba**	**5.45**	**171**	P	**Pn**	**21 31 29.0**	**+4.0**
PLMC	**San Jos del P**	**5.71**	**41**	eP	**Pn**	**21 31 32.0**	**+3.6**
ORTC	**Ortega, Tolima**	**5.81**	**55**	eP	**Pn**	**21 31 31.4**	**+1.6**
MACC	**Macarena, Meta**	**6.36**	**76**	eP	**Pn**	**21 31 40.4**	**+3.0**
GUY2C	**Guyana, Caldas**	**6.56**	**45**	eP	**Pn**	**21 31 44.8**	**+4.2**
GUY2C				eP		21 31 47.2	-11
GUY2C				⇓eS	**Sn**	**21 33 00.1**	**+4.8**
ROSC	**El Rosal**	**7.10**	**53**	P	**Pn**	**21 31 50.8**	**+2.9**
	45nm,0.3s,baz=180,slow=4.0,SNR=26						
ROSC				S	**Sn**	**21 33 09.0**	**+0.5**
	2.2nm,0.3s,baz=288,slow=20,SNR=1.9						
ROSC	**El Rosal**	**7.10**	**53**	Pn	**Pn**	**21 31 49.1**	**+1.2**
ROSC	**El Rosal**	**7.10**	**53**	eP	Pn	21 31 53.6	+5.7
HELC	**Santa Helena**	**7.17**	**39**	eS	Sb	21 33 23.6	-10
VILC	**Villavicencio,**	**7.24**	**61**	eP	Pn	21 31 54.7	+5.2
PTBC	**PUERTO BERRIO,**	**8.13**	**43**	eP	**Pn**	**21 32 04.4**	**+2.8**
UREC	**San Jose de Ur**	**8.43**	**32**	P	**Pn**	**21 32 07.8**	**+2.0**
ZARC	**Zaragoza, Cauc**	**8.60**	**37**	Pn	**Pn**	**21 32 09.2**	**+1.2**
ZARC	**Zaragoza, Cauc**	**8.60**	**37**	eP	Pn	21 32 12.8	+4.7
BRU2	**Volcan**	**8.61**	**342**	Pn	**Pn**	**21 32 10.1**	**+1.7**
PTGC	**Puerto Gaitan,**	**8.66**	**65**	eP	Pn	21 32 15.7	+6.7
RUSC	**La Rusia**	**8.72**	**52**	eP	**Pn**	**21 32 14.7**	**+4.6**
DRK0	**Durika**	**9.23**	**340**		**Pn**	**21 32 18.9**	**+2.0**
SRBA	**San Rafael, Bu**	**9.24**	**339**		**Pn**	**21 32 18.9**	**+1.9**
PEZE	**Perez Zeledon,**	**9.50**	**338**	Pn	**Pn**	**21 32 22.8**	**+2.3**
RIMA	**Rio Macho**	**9.92**	**337**		**Pn**	**21 32 28.0**	**+1.6**
PAMC	**Pamplona, Colo**	**9.93**	**47**	eP	Pn	21 32 32.7	+5.9
OCAC	**Ocana**	**10.14**	**41**	Pn	**Pn**	**21 32 30.5**	**+1.2**
HDC	**Heredia**	**10.23**	**337**	Pn	**Pn**	**21 32 33.1**	**+2.5**
SJCC	**San Jacinto, C**	**10.45**	**27**	Pn	**Pn**	**21 32 34.4**	**+0.8**
SJCC	**San Jacinto, C**	**10.45**	**27**	eP	**Pn**	**21 32 36.2**	**+2.6**
JTS	**Las Juntas de**	**10.85**	**333**		**Pn**	**21 32 42.3**	**+3.3**
	0.5nm,0.3s,baz=195,slow=2.0,SNR=6.8						
JTS				LR	LR	21 35 59.7	
	comp=Z,1µm,19.9s,baz=215,slow=32						
JTS	**Las Juntas de**	**10.85**	**333**		**Pn**	**21 32 40.8**	**+1.8**
CZSB	**Cruzeiro do Su**	**10.99**	**139**	eP	**Pn**	**21 32 41.2**	**+0.3**
CZSB				eS	**Sn**	**21 34 46.7**	**+3.0**
TBTG	**Tabatinga, AM**	**11.14**	**115**	eP	**Pn**	**21 32 44.6**	**+1.6**
SDV	**Santo Domingo**	**12.48**	**48**	P	**Pn**	**21 33 01.2**	**-0.3**
	1.3nm,0.3s,baz=236,slow=12,SNR=13						
SDV				S	**Sn**	**21 35 17.3**	**-3.0**
	0.8nm,0.3s,baz=17,slow=19,SNR=1.3						
SDV				LR	LR	21 38 23.3	
	comp=Z,1µm,20.2s,baz=220,slow=40						
SDV	**Santo Domingo**	**12.48**	**48**	Pn	**Pn**	**21 33 02.5**	**+1.1**
SDV	**Santo Domingo**	**12.48**	**48**	eP	**Pn**	**21 33 03.8**	**+2.4**
SDV	**Santo Domingo**	**12.48**	**48**	eP	**Pn**	**21 33 01.2**	**-0.3**
NNA	**Nana**	**12.85**	**166**	P	**Pn**	**21 33 08.6**	**+2.1**
	4.7nm,0.3s,baz=312,slow=13,SNR=5.4						
NNA				S	**Sn**	**21 35 30.1**	**+0.9**
	3.3nm,0.3s,baz=234,slow=19,SNR=2.2						
NNA	**Nana**	**12.85**	**166**	Pn	**Pn**	**21 33 06.9**	**+0.5**
BOAB	**BOACO BROADBAN**	**13.08**	**335**		**Pn**	**21 33 10.4**	**+0.9**
MATN	**Matagalpa**	**13.62**	**335**	Pn	**Pn**	**21 33 17.8**	**+0.9**
BAUV	**El Baul**	**14.54**	**55**		**Pn**	**21 33 29.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**15.22**	**332**	Pn	**Pn**	**21 33 40.5**	**+1.8**
SNET	**Serv Nac Est T**	**15.92**	**325**		**P**	**21 33 51.7**	**+0.3**
HATO	**Hato, Curacao**	**15.93**	**43**	P	**P**	**21 33 50.9**	**-0.5**
MTO3	**Montecristo**	**16.57**	**327**		**Pn**	**21 33 57.6**	**+1.4**
ESQI	**Esquipulas**	**16.69**	**327**	Pn	**P**	**21 33 59.4**	**-0.6**
ESQI				IAmb	IAmb	21 34 58.4	
	comp=Z,154nm,1.6s						
BIRV	**Birongo**	**16.85**	**54**	P	**P**	**21 34 00.4**	**-1.2**
ETMB	**Extrema**	**17.17**	**127**	eP	**Pn**	**21 34 02.2**	**-1.4**
PETF	**Flores**	**18.93**	**330**	P	**P**	**21 34 23.4**	**-1.2**
BOAV	**Boa Vista**	**19.57**	**84**	eP	**P**	**21 34 31.8**	**+0.1**
MACA	**Manacapuru-AM**	**19.67**	**101**	eP	**P**	**21 34 32.3**	**-0.4**
CCIG	**Comitan**	**19.68**	**323**	P	**P**	**21 34 32.9**	**0.0**
BANI	**BANI**	**20.10**	**28**	P	**P**	**21 34 36.8**	**-0.7**
SDDR	**Presa de Saban**	**20.21**	**25**	P	**P**	**21 34 38.8**	**+0.2**
SDDR				IAmb	IAmb	21 34 51.3	
	comp=Z,48nm,1.0s						
LPAZ	**La Paz**		**20.44 146**	P	Pn	21 34 42.8	-1.0
	comp=Z,26nm,0.7s,baz=326,slow=10,SNR=35						
LPAZ				LR	LR	21 44 20.6	
	comp=Z,2µm,19.0s,baz=314,slow=42						
LPAZ	**La Paz**		**20.44 146**	P	**P**	**21 34 40.7**	**-1.0**
LPAZ				IAmb	IAmb	21 34 55.6	
	comp=Z,34nm,0.8s						
LPAZ	**La Paz**		**20.44 146**	eP	**P**	**21 34 41.6**	**-0.1**
SC01	**Santiago de lo**	**20.85**	**25**	P	**P**	**21 34 46.2**	**+0.7**
DR12	**Loma Pena Alta**	**20.91**	**29**	P	**P**	**21 34 45.9**	**-0.3**
PB12	**IPOC Station P**	**21.30**	**154**	P	**P**	**21 34 50.4**	**0.0**
PB12				IAmb	IAmb	21 35 07.5	
	comp=Z,50nm,1.0s						
PB16	**IPOC Station P**	**21.43**	**152**	P	**P**	**21 34 53.2**	**+0.9**
PB16				IAmb	IAmb	21 34 59.4	
	comp=Z,56nm,0.7s						
CRPR	**Cabo Rojo, PR**	**21.49**	**35**	P	**P**	**21 34 52.0**	**-0.3**
CRPR				IAmb	IAmb	21 35 07.1	
	comp=Z,85nm,1.2s						
MLPR	**Magueyes Islan**	**21.50**	**36**	P	**P**	**21 34 52.6**	**+0.2**
MLPR				IAmb	IAmb	21 34 58.5	
	comp=Z,100nm,1.1s						
PRSN	**Puerto Rico Se**	**21.63**	**35**	P	**P**	**21 34 53.9**	**0.0**
OBIP	**Obispado Ponce**	**21.81**	**36**	P	**P**	**21 34 55.5**	**-0.3**
OBIP				IAmb	IAmb	21 35 12.8	
	comp=Z,64nm,1.1s						
CELP	**Cerrillos**	**21.85**	**36**	P	**P**	**21 34 56.1**	**-0.2**
CELP				IAmb	IAmb	21 35 16.3	
	comp=Z,66nm,1.1s						
AOPR	**Arecibo Observ**	**21.96**	**36**	P	**P**	**21 34 57.8**	**+0.3**
AOPR				IAmb	IAmb	21 35 13.2	
	comp=Z,54nm,0.8s						
CMIG	**Matias Romero**	**22.01**	**319**	P	**P**	**21 34 59.0**	**+1.1**
	comp=Z,3.9nm,0.8s,baz=155,slow=16,SNR=4.4						
CMIG				LR	LR	21 41 59.6	
	comp=Z,394nm,19.2s,baz=156,slow=32						
TOSP	**Speyside**	**22.09**	**60**	P	**P**	**21 34 57.8**	**-1.1**
SJG	**San Juan**	**22.14**	**37**	P	**P**	**21 35 00.0**	**+0.7**
	comp=Z,34nm,0.8s,baz=240,slow=11,SNR=7.4						
SJG				LR	LR	21 45 10.8	
	comp=Z,458nm,21.3s,baz=190,slow=41						
SJG	**San Juan**	**22.14**	**37**	P	**P**	**21 34 59.4**	**+0.1**
SJG				IAmb	IAmb	21 35 06.1	
	comp=Z,94nm,1.2s						
PDPR	**Patillas Dam,**	**22.14**	**38**	P	**P**	**21 34 58.7**	**-0.7**
PDPR				IAmb	IAmb	21 35 10.5	
	comp=Z,76nm,1.1s						
GCPR	**Guaynabo City**	**22.33**	**37**	P	**P**	**21 35 00.6**	**-0.8**
CBYP	**Canovanas**	**22.44**	**38**	P	**P**	**21 35 01.9**	**-0.7**
PB11	**IPOC Station P**	**22.60**	**154**	P	**P**	**21 35 04.5**	**0.0**
GO01	**Chusmiza**	**22.73**	**153**	P	**P**	**21 35 07.4**	**+1.2**
GO01				IAmb	IAmb	21 35 13.4	
	comp=Z,48nm,0.8s						
CDVI	**St. Croix**	**22.73**	**40**	P	**P**	**21 35 05.4**	**-0.3**
CUPR	**Culebra, Puert**	**22.82**	**39**	P	**P**	**21 35 05.7**	**-0.8**
CUPR				IAmb	IAmb	21 35 14.7	
	comp=Z,63nm,1.1s						
TA02	**Huaiquique**	**22.85**	**155**	P	**P**	**21 35 06.2**	**-0.7**
TA02				IAmb	IAmb	21 35 12.8	
	comp=Z,42nm,0.8s						
PB08	**IPOC Station P**	**23.16**	**153**	P	**P**	**21 35 10.6**	**+0.1**
PB08				IAmb	IAmb	21 35 22.9	
	comp=Z,28nm,1.0s						
PATCX	**Punta Patache**	**23.33**	**156**	P	**P**	**21 35 11.5**	**-0.4**
PATCX				IAmb	IAmb	21 35 15.1	
	comp=Z,52nm,1.0s						
FDF	**Fort de France**	**23.37**	**52**	P	**P**	**21 35 11.4**	**-1.0**
MPOM	**Morne Pois Mar**	**23.44**	**53**	P	**P**	**21 35 11.7**	**-1.3**
VILB	**Vilhena**	**23.80**	**125**	eP	**P**	**21 35 16.5**	**0.0**
PB02	**IPOC Station P**	**23.88**	**156**	P	**P**	**21 35 18.2**	**+0.9**
PB02				IAmb	IAmb	21 35 20.8	
	comp=Z,43nm,0.8s						
PB07	**IPOC Station P**	**24.25**	**157**	P	**P**	**21 35 21.6**	**+0.7**
PB07				IAmb	IAmb	21 35 36.4	
	comp=Z,31nm,0.9s						
PB09	**IPOC Station P**	**24.58**	**155**	P	**P**	**21 35 24.1**	**+0.3**
PB09				IAmb	IAmb	21 35 53.6	
	comp=Z,40nm,1.1s						
ITTB	**Itaituba**	**24.75**	**102**	eP	**P**	**21 35 24.6**	**-0.6**
SIV	**San Ignacio**	**24.90**	**132**	P	**P**	**21 35 27.5**	**+0.8**
	comp=Z,14nm,0.6s,baz=307,slow=8.8,SNR=27						
SIV				LR	LR	21 46 42.7	
	comp=Z,2µm,18.7s,baz=328,slow=40						
LVC	**Limon Verde**	**25.44**	**156**	P	**P**	**21 35 33.1**	**+1.3**
	comp=Z,22nm,1.0s,baz=320,slow=5.7,SNR=12						
LVC				LR	LR	21 47 29.2	
	comp=Z,478nm,19.7s,baz=312,slow=41						
LVC	**Limon Verde**	**25.44**	**156**	P	**P**	**21 35 32.3**	**+0.5**
LVC				IAmb	IAmb	21 35 37.2	
	comp=Z,48nm,1.2s						
LVC	**Limon Verde**	**25.44**	**156**	eP	**P**	**21 35 33.1**	**+1.3**
NPGB	**Novo Progresso**	**25.73**	**107**	eP	**P**	**21 35 32.2**	**-2.0**
PB15	**IPOC Station P**	**25.75**	**157**	P	**P**	**21 35 34.7**	**+0.2**
PB15				IAmb	IAmb	21 36 04.7	
	comp=Z,22nm,0.7s						
MALB	**Monte Alegre**	**25.86**	**95**	eP	**P**	**21 35 34.8**	**-0.6**
PTLB	**Pontes e Lacer**	**26.05**	**129**	eP	**P**	**21 35 37.5**	**+0.5**
PDRB	**Porto dos Gac**	**26.10**	**118**	eP	**P**	**21 35 37.8**	**+0.2**
CLDB	**Colider**	**26.62**	**116**	eP	**P**	**21 35 42.1**	**-0.1**
GO02	**Mina Guanaco**	**27.48**	**159**	P	**P**	**21 35 50.1**	**-0.1**
GO02				IAmb	IAmb	21 36 35.3	
	comp=Z,26nm,0.9s						
MDP	**Montagnes des**	**27.70**	**80**	P	**P**	**21 35 52.8**	**+0.8**
	comp=Z,30nm,1.0s,baz=268,slow=9.6,SNR=7.8						
MDP				LR	LR	21 47 15.1	
	comp=Z,1µm,20.3s,baz=258,slow=37						
NBRS	**Nobres**	**28.18**	**123**	eP	**P**	**21 35 57.0**	**+0.8**
SALV	**Santo Antonio**	**29.05**	**125**	eP	**P**	**21 36 04.5**	**+0.5**
PP1B	**Ponte de Pedra**	**30.62**	**127**	eP	**P**	**21 36 18.3**	**+0.4**
PRPB	**Parauapebas**	**30.88**	**103**	eP	**P**	**21 36 18.1**	**-2.1**
SNDB	**Serra Nova Dou**	**31.12**	**115**	eP	**P**	**21 36 22.3**	**+0.1**
AQDB	**Aquidauana**	**31.68**	**133**	P	**P**	**21 36 27.1**	**-0.1**
AQDB	**Aquidauana**	**31.68**	**133**	eP	**P**	**21 36 27.0**	**-0.1**
DVLD	**Doverlandia**	**32.34**	**123**	eP	**P**	**21 36 33.5**	**+0.4**
C2SB	**Chapadao do Su**	**32.88**	**127**	eP	**P**	**21 36 38.8**	**+1.1**
LRAL	**Lakeview Retre**	**32.97**	**349**	P	**P**	**21 36 39.0**	**+0.7**
LRAL				IAmb	IAmb	21 37 42.9	
	comp=Z,15nm,1.4s						
SMTB	**Santa Maria do**	**33.63**	**107**	eP	**P**	**21 36 44.0**	**-0.4**
ZON	**Zonda**	**33.69**	**162**	P	**P**	**21 36 45.6**	**+0.9**
PEXB	**Peixe**	**33.90**	**113**	eP	**P**	**21 36 47.0**	**+0.2**
VA03	**San Esteban**	**34.32**	**166**	P	**P**	**21 36 50.7**	**+0.5**
CPUP	**Villa Florida**	**34.54**	**142**	P	**P**	**21 36 52.0**	**-0.1**
	comp=Z,6.9nm,0.8s,baz=326,slow=9.5,SNR=16						
CPUP				LR	LR	21 54 00.6	
	comp=Z,891nm,19.3s,baz=325,slow=41						
CPUP	**Villa Florida**	**34.54**	**142**	P	**P**	**21 36 51.6**	**-0.4**
CPUP	**Villa Florida**	**34.54**	**142**	eP	**P**	**21 36 52.3**	**+0.2**
CPCT	**Cooper Cave**	**34.97**	**354**	P	**P**	**21 36 55.4**	**-0.3**
CPCT				IAmb	IAmb	21 37 07.9	
	comp=Z,14nm,0.9s						
MT03	**Universidad Ad**	**35.03**	**166**	P	**P**	**21 36 56.2**	**-0.1**
MT03				IAmb	IAmb	21 37 09.8	
	comp=Z,20nm,0.9s						
TKL	**Tuckaleechee C**	**35.10**	**355**	LR	LR	21 50 44.6	
	comp=Z,329nm,20.9s,baz=174,slow=35						
JCT	**Junction City**	**35.20**	**330**	P	**P**	**21 36 58.8**	**+1.0**
JCT				IAmb	IAmb	21 37 05.0	
	comp=Z,16nm,1.1s						
TRCB	**Terra Rica**	**35.34**	**133**	eP	**P**	**21 36 59.3**	**+0.2**
ITRB	**Iturama**	**35.36**	**126**	eP	**P**	**21 36 58.9**	**-0.4**
LMEL	**Las Melosas**	**35.44**	**166**	P	**P**	**21 37 01.0**	**+1.1**
LMEL				IAmb	IAmb	21 37 08.7	
	comp=Z,33nm,1.4s						
BDFB	**Brasilia**	**35.47**	**118**	P	**P**	**21 37 00.3**	**0.0**
	comp=Z,21nm,0.8s,baz=281,slow=9.1,SNR=25						
BDFB				LR	LR	21 53 00.7	

comp=Z,284nm,20.0s,baz=110,slow=37
PDAR Pinedale Array 49.67 332 P **P** **21 38 55.9 +0.3**
HWUT Hardware Ranch 49.80 329 P **P** **21 38 58.1 +1.6**
ELK Elko 51.18 326 LR LR 21 59 42.4
comp=Z,81nm,21.9s,baz=102,slow=35
ULM Lac du Bonnet 51.33 347 P **P** **21 39 06.5 -1.1**
comp=Z,2.4nm,0.4s,baz=159,slow=8.7,SNR=3.7
NV11 Mina Array Sit 51.42 322 P **P** **21 39 10.4 +1.6**
NVAR Mina Array Bea 51.51 322 P **P** **21 39 09.8 +0.3**
comp=Z,3.5nm,0.8s,baz=131,slow=6.2,SNR=23
NVAR LR LR 22 00 26.9
comp=Z,124nm,19.0s,baz=86,slow=35
NVAR Mina Array Bea 51.51 322 P **P** **21 39 10.1 +0.6**
KVN Kaiserville 51.77 322 P **P** **21 39 12.5 +1.1**
YHL Hebgen Lake 52.02 332 P **P** **21 39 14.7 +1.4**
YHL IAmb IAmb 21 39 20.9
comp=Z,14nm,1.2s
BMN Battle Mountai 52.11 324 P **P** **21 39 15.5 +1.6**
HLID Hailey 52.67 329 P **P** **21 39 18.8 +0.8**
BOZ Bozeman (W) 52.79 332 P **P** **21 39 19.3 +0.5**
BOZ IAmb IAmb 21 39 24.6
comp=Z,21nm,1.8s
MFID Camas Ranch 53.31 328 P **P** **21 39 24.1 +1.4**
MFID IAmb IAmb 21 39 29.9
comp=Z,14nm,1.2s
SCHQ Schefferville 55.17 9 P **P** **21 39 34.7 -1.2**
comp=Z,3.6nm,1.0s,baz=210,slow=8.1,SNR=2.6
YBH Yreka Blue Hor 56.19 322 LR LR 22 03 02.6
comp=Z,150nm,20.2s,baz=158,slow=35
TAOE Nuku Hiva Isla 60.62 260 *e*LR LR 21 58 25.9
comp=Z,308nm,22.8s
FRB Frobisher Bay 63.61 6 LR LR 22 12 28.1
comp=Z,124nm,18.1s,baz=201,slow=40
BBB Bella Bella 65.24 330 LR LR 22 10 47.4
comp=Z,123nm,19.0s,baz=202,slow=37
YKA Yellowknife Ar 67.00 343 P **P** **21 40 55.2 -0.8**
comp=Z,2.1nm,0.9s,baz=136,slow=6.1,SNR=36
SFJD Kangerlussuaq 69.44 12 LR LR 22 11 07.4
comp=Z,69nm,21.4s,baz=198,slow=35
DLBC Dease Lake 69.75 335 LR LR 22 13 43.7
comp=Z,92nm,20.3s,baz=112,slow=38
PPT Papeete 70.72 251 P **P** **21 41 20.4 +0.3**
comp=Z,33nm,0.9s,baz=168,slow=18,SNR=2.0
PPT LR LR 22 04 32.0
comp=Z,449nm,18.7s,baz=130,slow=29
PPT2 Papeete2 70.72 251 *e*LR LR 22 03 07.5
comp=Z,286nm,23.8s
TBI Tubuai 71.41 245 *e*LR LR 22 03 21.5
comp=Z,206nm,28.0s
RES Resolute Bay 74.57 356 LR LR 22 14 57.8
comp=Z,93nm,18.5s,baz=192,slow=36
PFVI Vila Bisbo 74.72 52 *e*P **P** **21 41 44.1 +0.6**
PMAFR Mafra 74.73 50 *e*P **P** **21 41 46.0 +2.5**
MORF Marmelete 74.89 51 *e*P **P** **21 41 46.0 +1.4**
LIC Lamto 75.02 84 *e*PKIKP **P** **21 41 45.8 +0.2**
comp=Z,32nm,1.3s
TIC Toumodi 75.03 83 *e*PKIKP **P** **21 41 45.4 -0.4**
DBIC Dimbokro 75.19 83 P **P** **21 41 45.9 -0.8**
comp=Z,8.0nm,0.9s,baz=221,slow=5.7,SNR=4.9
DBIC LR LR 22 13 07.8
comp=Z,166nm,18.4s,baz=265,slow=34
DBIC Dimbokro 75.19 83 P **P** **21 41 46.3 -0.4**
KIC Kosan Boka 75.30 84 *e*PKIKP **P** **21 41 45.9 -1.4**
comp=Z,19nm,0.8s
PCVE Castro Verde 75.43 51 *e*P **P** **21 41 48.7 +1.1**
comp=Z,51nm,1.8s
PBDV Barranco-do-Ve 75.45 52 *e*P **P** **21 41 49.0 +1.3**
comp=Z,74nm,1.6s
PCAS Casmilo, Conde 75.55 49 *e*P **P** **21 41 48.9 +0.7**
PMTG Montargil 75.56 50 *e*P **P** **21 41 49.0 +0.7**
comp=Z,39nm,1.7s
PESTR Estremoz 76.01 50 *e*P **P** **21 41 52.0 +1.1**
comp=Z,34nm,1.7s
PGAV Gavieira, Arco 76.11 47 *e*P **P** **21 41 53.3 +1.8**
PMRV Marv??o 76.27 50 *e*P **P** **21 41 52.5 +0.1**
PCBR Castelo Branco 76.28 49 *e*P **P** **21 41 53.2 +0.8**
comp=Z,32nm,2.2s
KOWA Kowa 76.31 75 P **P** **21 41 53.2 +0.2**
KOWA IAmb IAmb 21 41 54.0
comp=Z,10.0nm,0.8s
PBAR Barrancos 76.31 51 *e*P **P** **21 41 53.7 +1.1**
comp=Z,30nm,1.6s
MTE Manteigas 76.34 49 *e*P **P** **21 41 53.1 +0.3**
PVRL Vila Real 76.38 48 *e*P **P** **21 41 54.3 +1.3**
BORG Borgarnes 76.61 22 LR LR 22 10 29.2
comp=Z,90nm,21.9s,baz=235,slow=32
INK Inuvik 76.70 342 P **P** **21 41 54.2 +0.1**
INK LR LR 22 18 38.2
comp=Z,122nm,18.2s,baz=114,slow=38
INK Inuvik 76.70 342 P **P** **21 41 54.4 +0.3**
A36M Sachs Harbour 76.81 347 P **P** **21 41 53.8 -0.9**
A36M IAmb IAmb 21 42 24.4
comp=Z,5.9nm,0.8s
BCAR Beaver Creek A 77.06 336 P **P** **21 41 57.2 +0.9**
MDT Midelt 77.45 57 LR LR 22 12 34.5
comp=Z,56nm,21.9s,baz=296,slow=33
EGAK Eagle 77.56 337 P **P** **21 41 59.2 +0.1**
PAB San Pablo 78.61 50 P **P** **21 42 06.2 +0.6**
PAB IAmb IAmb 21 42 07.3
comp=Z,14nm,1.0s
ESDC Sonseca Array 78.92 50 P **P** **21 42 07.5 +0.3**
comp=Z,6.8nm,1.0s,baz=264,slow=5.2,SNR=22
ESDC LR LR 22 13 37.2
comp=Z,80nm,21.6s,baz=258,slow=33
ESDC Sonseca Array 78.92 50 P **P** **21 42 07.7 +0.5**
ESDC IAmb IAmb 21 42 09.3
comp=Z,13nm,1.2s
ESBB Sonseca Array 78.92 50 P **P** **21 42 07.8 +0.6**
ESBB IAmb IAmb 21 43 19.2
comp=Z,33nm,1.8s
ILAR Eielson Array 79.80 336 P **P** **21 42 11.3 -0.1**
comp=Z,0.6nm,0.8s,baz=114,slow=4.6,SNR=5.2
ILAR LR LR 22 19 41.1
comp=Z,99nm,19.8s,baz=16,slow=37
ILAR Eielson Array 79.80 336 P **P** **21 42 12.2 +0.8**
BMAR Burnt Mountain 79.94 339 P **P** **21 42 12.3 +0.1**
TOA0 Torodi Ar. Sit 81.80 77 P **P** **21 42 22.1 -1.0**
TORD Torodi Ar. Bea 81.80 77 P **P** **21 42 22.4 -0.7**
comp=Z,7.2nm,0.7s,baz=281,slow=6.4,SNR=126
TORD Torodi Ar. Bea 81.80 77 P **P** **21 42 22.2 -1.0**
BELA Belgrano 2 82.01 171 P **P** **21 42 23.8 +0.8**
ESK Eskdalemuir 82.05 34 P **P** **21 42 23.7 +0.1**
DOU Dourbes 86.11 40 *d*P **P** **21 42 44.8 +0.4**
BGES Gesves 86.44 40 *d*P **P** **21 42 46.6 +0.5**
BGES *d*pP **sP** **21 42 54.3 +0.5**
RCHB Rochefort 86.52 40 *d*P **P** **21 42 47.0 +0.5**
RCHB *d*pP **sP** **21 42 54.4 +0.3**
BCLA Clavier 86.58 40 *d*P **P** **21 42 46.1 -0.7**
BHOU Houvegnez 87.03 40 *d*P **P** **21 42 49.8 +0.8**
BHOU *d*pP **sP** **21 42 57.2 +0.5**
MEM Membach 87.04 40 *d*PcP **PcP** **21 42 50.7 -0.4**
WLF Walferdange 87.09 40 *d*P **P** **21 42 49.8 +0.6**
comp=Z,8.4nm,0.8s
ECH Echery 87.70 42 P **P** **21 42 52.4 +0.2**
ECH IAmb IAmb 21 42 53.5
comp=Z,10.0nm,1.1s
TROLL Troll, Antarti 88.21 162 P **P** **21 42 54.4 0.0**
KEST Kesra 89.16 54 P **P** **21 42 59.7 +0.2**
comp=Z,4.3nm,0.8s,baz=351,slow=4.6,SNR=3.6
TUE Stuetta 89.16 44 P **P** **21 42 59.5 +0.1**
TUE IAmb IAmb 21 43 00.7
comp=Z,7.1nm,0.9s
NOA NORSAR Array B 90.12 29 LR LR 22 20 58.2
comp=Z,20nm,21.2s,baz=270,slow=34
QSPA South Pole Qui 90.60 180 P **P** **21 43 06.8 +1.1**
comp=Z,4.8nm,0.9s,baz=164,slow=1.1,SNR=14
QSPA South Pole Qui 90.60 180 P **P** **21 43 06.5 +0.8**
HFS Hagfors 91.38 30 LR LR 22 19 01.3
comp=Z,72nm,21.5s,baz=186,slow=32
AFI Afiamalu 91.84 256 LR LR 22 15 12.2
comp=Z,131nm,19.3s,baz=129,slow=29
KHC Kasperske Hory 91.94 41 *e*P **P** **21 43 13.0 +0.9**
GERES GERESS Array B 92.04 41 P **P** **21 43 13.5 +0.8**
comp=Z,0.5nm,0.7s,baz=270,slow=3.3,SNR=4.9
VAE Valguarnera 93.19 53 LR LR 22 25 23.8
comp=Z,68nm,19.0s,baz=52,slow=36
OSTC Ostas 93.54 39 *e*P **P** **21 43 21.1 +1.6**
DPC Dobruska-Polom 93.63 40 *e*P **P** **21 43 20.9 +1.0**
VRAC Vranov 93.90 41 LR LR 22 27 40.1
comp=Z,33nm,18.1s,baz=24,slow=37
ARCES ARCESS Array B 94.88 20 LR LR 22 22 30.1
comp=Z,46nm,20.1s,baz=120,slow=33
FINES FINESS Array B 97.17 28 LR LR 22 23 28.4
comp=Z,69nm,20.9s,baz=39,slow=33
TSUM Tsumeb 97.36 109 LR LR 22 27 14.9
comp=Z,217nm,18.3s,baz=321,slow=35

SHEM Shemya Is, Ala 99.14 324 LR LR 22 27 23.3
comp=Z,34nm,20.5s,baz=22,slow=35
SUR Sutherland 99.44 123 LR LR 22 25 03.6
comp=Z,256nm,21.0s,baz=272,slow=33
ABKAR Akbulak array 119.62 29 PKPdf **PKiKP** **21 48 53.8 +0.3**
ZALV Zalesovo Beam 124.24 11 PKP **PKPdf** **21 49 01.3 -0.9**
comp=Z,1.7nm,0.8s,baz=276,slow=1.3,SNR=9.3
KURK Kurchatov 125.77 17 **PKPdf** **21 49 04.3 -0.9**
KURBB Kurchatov Arra 125.83 17 PKP **PKPdf** **21 49 04.6 -0.7**
comp=Z,2.6nm,0.9s,baz=326,slow=2.4,SNR=5.2
MAKZ Makanchi 130.26 16 PKPdf **PKPdf** **21 49 13.5 -0.5**
MKAR Makanchi Array 130.36 16 PKP **PKPdf** **21 49 13.5 -0.7**
comp=Z,1.6nm,0.9s,baz=354,slow=2.4,SNR=12
MKAR Makanchi Array 130.36 16 PKPdf **PKPdf** **21 49 13.7 -0.4**
ASAR Alice Springs 139.88 233 PKP **PKPdf** **21 49 29.8 -2.8**
comp=Z,0.5nm,0.7s,baz=117,slow=2.9,SNR=4.0
WRAB Tennant Creek 141.25 238 PKPdf **PKPdf** **21 49 34.4 -0.7**
WRA Warramunga Arr 141.25 238 PKhKP PKPpre 21 49 27.9
comp=Z,0.3nm,0.7s,baz=118,slow=2.3,SNR=2.1
WRA PKP **PKPdf** **21 49 33.2 -1.9**
comp=Z,0.9nm,0.8s,baz=109,slow=2.2,SNR=10.0
WRA Warramunga Arr 141.25 238 **PKPdf** **21 49 34.7 -0.4**
MTN Manton Dam 146.80 247 PKPbc **PKPbc** **21 49 46.4 -0.2**
PYUN Piuthan 147.17 28 *e*P **PKPdf** **21 49 46.3 +0.8**
comp=Z,40nm,1.2s
DANN Dangsing 147.32 27 *e*P **PKPbc** **21 49 47.9 -0.3**
comp=Z,60nm,0.9s
KOLN Koldanda 147.74 28 *e*P **PKPbc** **21 49 48.4 -0.8**
comp=Z,40nm,1.3s
GKN Gorkha 148.01 26 *e*P **PKPbc** **21 49 49.4 -0.5**
comp=Z,63nm,1.3s
ENH Enshi 148.04 344 PKPdf **PKPdf** **21 49 46.3 -0.3**
KKN Kakani 148.48 25 *e*P **PKPbc** **21 49 50.8 -0.4**
DMN Daman 148.56 26 *e*P **PKPbc** **21 49 49.6 -1.9**
GUN Gumba 148.62 24 *e*P **PKPbc** **21 49 51.4 -0.3**
comp=Z,46nm,1.1s
PKIN Phulchoki 148.71 26 *e*P **PKPbc** **21 49 50.9 -1.0**
comp=Z,19nm,0.9s
PKI Pulchoki 148.72 25 *e*P **PKPbc** **21 49 51.2 -0.8**
LSA Lhasa 148.75 15 PKPdf **PKPdf** **21 49 47.9 -0.5**
FITZ Fitzroy Crossi 149.35 234 PKPbc **PKPbc** **21 49 53.4 +0.1**
comp=Z,4.3nm,0.9s,baz=134,slow=6.6,SNR=6.4
FITZ Fitzroy Crossi 149.35 234 **PKPbc** **21 49 53.7 +0.4**
TAPN Taplejung 149.85 22 *e*P **PKPbc** **21 49 54.2 -0.6**
SHL Shillong 152.88 16 PKPbc **PKPbc** **21 50 00.0 -1.6**
PZH PanZhiHua 153.04 357 PKPbc **PKPdf** **21 49 52.3 -2.3**
CMAR Chiang Mai Arr 161.08 3 PKP **PKPdf** **21 50 04.4 -0.5**
comp=Z,1.0nm,0.8s,baz=290,slow=1.8,SNR=6.4
CMAR PKPab **PKPab** **21 50 46.2 -1.4**
comp=Z,0.6nm,0.3s,baz=334,slow=6.0,SNR=4.8

IDC 20 21:55:36.3±2.9, 2°98S×139°63E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.5/35, mbtmp3.7/4, ML3.8/2, MS4.0/1, Ms1 4.0/1, ms1mx2.6/50, Error ellipse: s-maj=75.7km s-min=30.6km az=80.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**8.62**	**284**	Pn	Pn	21 57 42.6	+0.2
	1.3nm,0.3s,baz=61,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**17.63**	**197**	Pn	Pn	21 59 42.0	-1.6
	0.3nm,0.3s,baz=18,slow=12,SNR=54						
WRA				Sn	Sn	22 02 49.2	-11
	0.1nm,0.3s,baz=22,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**21.30**	**195**	P	P	22 00 25.4	+0.6
	1.8nm,0.6s,baz=22,slow=9.8,SNR=26						
RPZ	**Rata Peaks**	**49.19**	**150**	LR	LR	22 24 29.7	
	comp=Z,130nm,18.0s,baz=58,slow=35						
MKAR	**Makanchi Array**	**70.57**	**322**	P	P	22 06 53.4	0.0
	0.3nm,0.6s,baz=119,slow=7.6,SNR=4.7						

*FUNV **20** 22:16:30.8, 8°.45N×71°.28W, h5km, MW3.6*
ISC 20 22:16:31.0±1.4, 8°.44N±0°.04×71°.20W±0°.03, h19km±3km, n19, σ1°34/37, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.37**	**115**	*e*P	**Pg**	**22 16 39.4**	**+0.5**
SOCV				*e*S	**Sb**	**22 16 45.9**	**+1.3**
SDV	**Santo Domingo**	**0.71**	**52**	*e*P	**Pb**	**22 16 43.7**	**-1.3**
SDV				*e*S	**Sb**	**22 16 53.4**	**-1.0**
SDV				*i*		22 16 54.3	
	comp=Z,131nm,0.4s						
CAPV	**Capacho**	**1.24**	**243**	*e*P	**Pn**	**22 16 52.1**	**-1.5**
CAPV				*e*S	**Sb**	**22 17 09.1**	**-0.7**
PAMC	**Pamplona, Colo**	**1.85**	**234**	*e*P	**Pb**	**22 17 04.0**	**-0.5**
PAMC				*e*S	**Sb**	**22 17 27.7**	**+0.3**
PAMC				*i*		22 17 31.6	
	comp=Z,112nm,0.2s						
CURV	**Curarigua**	**1.98**	**38**	*e*S	**Sb**	**22 17 31.0**	**+0.1**
MCQV	**Machiques**	**2.07**	**321**	*e*P	**Pn**	**22 17 05.3**	**+0.5**
MCQV				*e*S	**Sn**	**22 17 29.7**	**-0.4**
TAMC	**Tame, Arauca**	**2.08**	**196**	*e*P	**Pb**	**22 17 09.5**	**+1.3**
TAMC				*e*S	**Sg**	**22 17 37.2**	**-0.8**
TAMC				*i*		22 17 42.9	
	comp=Z,103nm,0.2s						
OCAC	**Ocana**	**2.11**	**265**	*e*P	**Pn**	**22 17 06.2**	**+0.8**
OCAC				*e*S	**Sn**	**22 17 31.3**	**+0.1**
OCAC				*i*		22 17 35.9	
	comp=Z,404nm,0.3s						
ELOV	**Elorza**	**2.22**	**130**	*e*P	**Pn**	**22 17 08.6**	**+1.7**
ELOV				*e*S	**Sb**	**22 17 36.5**	**-1.3**
SIQV	**Siquisique**	**2.59**	**32**	*e*P	**Pn**	**22 17 13.6**	**+1.6**
SIQV				*e*S	**Sn**	**22 17 44.5**	**+1.6**
MAPV	**Macapo**	**3.04**	**63**	*e*P	**Pn**	**22 17 19.7**	**+1.5**
MAPV				*e*S	**Sn**	**22 17 55.9**	**+1.9**
BAUV	**El Baul**	**3.16**	**81**	*e*P	**Pn**	**22 17 21.0**	**+1.2**
BAUV				*e*S	**Sn**	**22 17 58.4**	**+1.4**
PTBC	**PUERTO BERRIO,**	**3.74**	**240**	*e*P	**Pn**	**22 17 26.9**	**-0.9**
PTBC				*e*S	**Sb**	**22 18 23.7**	**+2.1**
PTBC				*i*		22 18 27.5	
	comp=Z,21nm,0.4s						
BENV	**Beln**	**3.86**	**67**	*e*P	**Pn**	**22 17 30.5**	**+1.0**
BENV				*e*S	**Sn**	**22 18 15.8**	**+1.4**
TURV	**Turiamo**	**3.87**	**59**	*e*P	**Pn**	**22 17 30.5**	**+0.9**
TURV				*e*S	**Sn**	**22 18 14.3**	**-0.2**
PAYV	**Puerto Ayacuch**	**4.62**	**130**	*e*P	**Pn**	**22 17 40.7**	**+0.8**
PAYV				*e*S	**Sn**	**22 18 32.7**	**-0.4**
CACV	**CAICARA DEL OR**	**4.70**	**100**	*e*P	**Pb**	**22 17 49.9**	**-2.9**
CACV				*e*S	**Sb**	**22 18 47.2**	**-1.7**
MERV	**Las Mercedes**	**4.91**	**80**	*e*P	**Pn**	**22 17 44.8**	**+0.9**
MERV				*e*S	**Sn**	**22 18 39.4**	**-0.8**
BIRV	**Birongo**	**5.27**	**67**	*e*P	**Pn**	**22 17 49.9**	**+1.2**
BIRV				*e*S	**Sn**	**22 18 46.7**	**-2.2**

*NEIC **20** 22:17:36.7±1.0, 59°.78N±0°.03×153°.15W±0°.07, h108km±4km, Error ellipse: s-maj=5.4km s-min=4.6km az=87.0*
*ANF **20** 22:17:36.7±0.5, 59°.75N×153°.11W, h105km±6km, ML3.3/38, Error ellipse: s-maj=4.9km s-min=4.1km az=99.0*
*IDC **20** 22:17:37.0±1.6, 59°.68N×153°.09W, h117km±20km, mb3.3/3, mb1 3.4/6, mb1mx3.0/52, mbtmp3.6/6, MS3.4/1, Ms1 3.4/1, ms1mx2.5/45, Error ellipse: s-maj=23.4km s-min=18.4km az=115.0*
*AEIC **20** 22:17:38±1.2, 59°.79N±0°.02×153°.08W±0°.06, h98km±5km, ML3.0, ML3.2/112(NEIC), Error ellipse: s-maj=5.1km s-min=1.6km az=69.0*
ISC 20 22:17:36.3±0.8, 59°.77N±0°.03×153°.08W±0°.04, h112km±5km, n216, σ0°88/225, mb3.9/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.14**	**214**		**Pn**	**22 17 51.8**	**0.0**
P19K	**Oil Pt**	**0.14**	**214**	Pn	**Pn**	**22 17 51.8**	**-0.1**
P19K				Sn	**Sn**	**22 18 02.7**	**-0.7**
P19K	**Oil Pt**	**0.14**	**214**	P	**Pn**	**22 17 51.8**	**-0.1**
	baz=31						
P19K				S	**Sn**	**22 18 02.8**	**-0.6**
	baz=31						
IVE	**Illamna Volcan**	**0.25**	**7**		**Pn**	**22 17 51.9**	**-0.3**
IVE					**Sn**	**22 18 03.4**	**-0.8**
O20K	**Slope Mountain**	**0.39**	**36**		**Pn**	**22 17 52.8**	**+0.1**
O20K					**Sn**	**22 18 04.9**	**-0.3**
O20K	**Slope Mountain**	**0.39**	**36**	P	**Pn**	**22 17 52.8**	**+0.1**
	baz=218,SNR=7.2						
O20K				S	**Sn**	**22 18 04.8**	**-0.3**
	baz=218						
AUL	**Augustine Lava**	**0.43**	**205**		**Pn**	**22 17 53.2**	**+0.3**
AUL					**Sn**	**22 18 05.0**	**-0.3**
AUQ	**Augustine Qik'**	**0.45**	**203**		**Pn**	**22 17 53.3**	**+0.3**

RED Redoubt Volcan 0.67 13 **Pn** **22 17 54.6 0.0**
RSO Redoubt South 0.71 13 **Pn** **22 17 55.2 0.0**
RDWB Redoubt West 0.73 9 **Pn** **22 17 55.2 -0.1**
RDWB **Sn** **22 18 08.5 -1.0**
HOM Homer 0.74 98 **Pn** **22 17 55.7 +0.6**
HOM Sn **Sn** **22 18 10.0 +0.8**
HOM IAML 22 18 11.4
comp=E,814nm,0.6s
HOM IAML 22 18 12.0
comp=N,626nm,0.3s
HOM Homer 0.74 98 P **Pn** **22 17 55.7 +0.6**
baz=281,SNR=6.2
HOM S **Sn** **22 18 10.2 +1.0**
baz=281
O19K Port Alsworth 0.76 305 **Pn** **22 17 55.1 -0.1**
O19K **Sn** **22 18 08.6 -1.0**
O19K Port Alsworth 0.76 305 IAML 22 18 09.4
comp=N,1μm,0.4s
O19K IAML 22 18 10.2
comp=E,850nm,0.4s
O19K Port Alsworth 0.76 305 P **Pn** **22 17 55.1 -0.1**
baz=123,SNR=12
O19K S **Sn** **22 18 08.6 -1.0**
baz=123
RDJH Redoubt Jeurge 0.84 9 **Pn** **22 17 56.2 +0.1**
RDJH **Sn** **22 18 10.6 -0.5**
Q19K Cape Douglas, 0.89 199 **Pn** **22 17 56.7 +0.1**
Q19K **Sn** **22 18 11.3 -0.5**
Q19K Cape Douglas, 0.89 199 IAML 22 18 23.4
comp=E,353nm,1.4s
Q19K Cape Douglas, 0.89 199 P **Pn** **22 17 56.6 +0.1**
baz=18
Q19K S **Sn** **22 18 11.3 -0.5**
baz=18
CNPM China Poot 0.97 104 **Pn** **22 17 57.5 +0.2**
CNPM **Sn** **22 18 12.7 -0.4**
CNPM China Poot 0.97 104 IAML 22 18 16.9
comp=N,298nm,0.3s
BRLK Bradley Lake 1.11 89 **Pn** **22 17 58.9 +0.1**
BRLK Bradley Lake 1.11 89 IAML 22 18 16.2
comp=N,380nm,0.1s
BRLK IAML 22 18 16.4
comp=E,233nm,0.1s
BRSE Bradley Lake S 1.18 90 **Pn** **22 17 59.7 +0.2**
BRSE Bradley Lake S 1.18 90 P **Pn** **22 17 59.7 +0.2**
baz=273
BRSE S **Sn** **22 18 16.8 -0.4**
baz=273
N19K Bonanza Creek 1.26 327 **Pn** **22 18 00.6 +0.1**
N19K Bonanza Creek 1.26 327 P **Pn** **22 18 00.6 +0.1**
baz=145,SNR=30
N19K S **Sn** **22 18 17.6 -1.2**
baz=145
CAPN Captain Cook N 1.39 43 Pn **Pn** **22 18 04.1 +2.3**
CAPN IAML 22 18 30.4
comp=E,696nm,0.9s
CAPN IAML 22 18 36.0
comp=N,657nm,1.0s
SPCR Spurr Chakacha 1.50 16 **Pn** **22 18 03.6 +0.4**
SPCR Spurr Chakacha 1.50 16 P **Pn** **22 18 03.6 +0.4**
baz=197,SNR=11
SPCR S **Sn** **22 18 23.2 -0.5**
baz=197
CKN Chakachatna No 1.53 17 **Pn** **22 18 04.2 +0.7**
SPWE Spurr West 1.53 9 **Pn** **22 18 04.6 +1.0**
SPBG Spurr Blockage 1.54 13 **Pn** **22 18 04.3 +0.6**
SLKM Skilak Lake 1.61 61 **Pn** **22 18 04.9 +0.3**
SPCG Spurr Capps Gl 1.62 18 **Pn** **22 18 05.2 +0.5**
N18K Kilae Creek 1.68 304 **Pn** **22 18 05.2 0.0**
N18K Kilae Creek 1.68 304 P **Pn** **22 18 05.3 0.0**
baz=121
N18K S **Sn** **22 18 26.0 -1.4**
baz=121
SVW2 Sparrevohn 1.82 318 **Pn** **22 18 07.0 0.0**
O22K Cooper Landing 1.82 65 **Pn** **22 18 07.5 +0.5**
O22K Cooper Landing 1.82 65 S **Sn** **22 18 29.5 -1.0**
baz=249
STLK Strandline Lak 1.84 19 **Pn** **22 18 08.1 +0.7**
SEW Seward 1.86 78 **Pn** **22 18 07.7 +0.2**
SEW Seward 1.86 78 P **Pn** **22 18 07.8 +0.3**
baz=262
SEW P **Sn** **22 18 30.7 -0.5**
baz=262
FIS Fire Island 1.98 45 Pn **Pn** **22 18 10.8 +1.8**
FIS IAML 22 18 40.6
comp=N,222nm,0.6s
FIS IAML 22 18 47.6
comp=E,233nm,0.8s
KDAK Kodiak Island 2.01 172 P **Pn** **22 18 09.3 -0.1**
comp=E,22nm,0.3s,baz=38,slow=6.5,SNR=84
KDAK S **Sn** **22 18 34.3 -0.4**
comp=E,21nm,0.3s,baz=310,slow=17,SNR=39
KDAK Kodiak Island 2.01 172 IAML 22 18 35.5
comp=E,210nm,0.4s
KDAK IAML 22 18 36.1
comp=E,222nm,0.4s
KDAK Kodiak Island 2.01 172 P **Pn** **22 18 09.3 -0.1**
baz=353
KDAK S **Sn** **22 18 34.3 -0.4**
baz=353
CAHL Cahill 2.07 215 **Pn** **22 18 13.3 +3.0**
RC01 Rabbit Creek A 2.12 50 **Pn** **22 18 11.6 +0.8**
RC01 Rabbit Creek A 2.12 50 P **Pn** **22 18 11.8 +1.0**
baz=233
RC01 S **Sn** **22 18 36.8 -0.5**
baz=233
M19K Big River Lodg 2.24 344 **Pn** **22 18 12.7 +0.4**
M19K Big River Lodg 2.24 344 P **Pn** **22 18 12.7 +0.4**
baz=163
M22K Willow 2.46 35 **Pn** **22 18 16.4 +1.1**
M22K Willow 2.46 35 P **Pn** **22 18 16.3 +1.1**
baz=218,SNR=6.3
M22K S **Sn** **22 18 45.7 +0.6**
baz=218
OHAK Old Harbor 2.56 183 **Pn** **22 18 15.9 -0.6**
OHAK Old Harbor 2.56 183 IAML 22 18 53.3
comp=N,63nm,1.3s
OHAK IAML 22 18 55.6
comp=E,48nm,1.3s
OHAK Old Harbor 2.56 183 P **Pn** **22 18 15.9 -0.6**
baz=2.4
OHAK S **Sn** **22 18 45.8 -1.5**
baz=2.4
L19K White Mountain 2.57 341 **Pn** **22 18 16.9 +0.2**
L19K White Mountain 2.57 341 P **Pn** **22 18 16.9 +0.2**
baz=159,SNR=18
PWL Port Wells 2.60 63 **Pn** **22 18 16.8 -0.3**
PWL Port Wells 2.60 63 P **Pn** **22 18 16.8 -0.3**
baz=248
PWL S **Sn** **22 18 46.6 -1.8**
baz=248
PMR Palmer 2.67 45 **Pn** **22 18 18.0 +0.1**
PMR IAML 22 18 49.8
comp=E,99nm,0.3s
PMR IAML 22 18 50.9
comp=N,120nm,0.2s
PMR Palmer 2.67 45 P **Pn** **22 18 18.0 +0.1**
baz=229
PMR S **Sn** **22 18 47.9 -2.0**
baz=229
L20K Farewell, AK 2.75 352 **Pn** **22 18 19.6 +0.7**
L20K Farewell, AK 2.75 352 P **Pn** **22 18 19.6 +0.7**
baz=171,SNR=14
KNK Knik Glacier 2.81 52 **Pn** **22 18 19.6 -0.2**
KNK Knik Glacier 2.81 52 P **Pn** **22 18 19.6 -0.2**
baz=236
KNK S **Sn** **22 18 51.8 -1.6**
baz=236
GHO Glory Hole Cre 2.86 44 **Pn** **22 18 20.4 -0.1**
GHO IAML 22 18 55.4
comp=E,142nm,0.6s
CUT Chulitna 2.98 26 **Pn** **22 18 22.6 +0.7**
CUT IAML 22 18 58.9
comp=N,88nm,0.4s
CUT IAML 22 19 02.2
comp=E,106nm,0.4s
SML Sawmill 3.10 47 **Pn** **22 18 23.4 -0.3**
SML Sawmill 3.10 47 IAML 22 19 00.5
comp=E,57nm,0.5s
SML IAML 22 19 01.5
comp=N,82nm,0.6s
SML Sawmill 3.10 47 P **Pn** **22 18 23.3 -0.3**
baz=231
PPLA Purkeypile 3.17 7 **Pn** **22 18 26.5 +1.9**
PPLA Purkeypile 3.17 7 P **Pn** **22 18 26.0 +1.4**
baz=188,SNR=11

GLI	Glacier Island	3.18	67			Pn	22 18 24.2	-0.4	
GLI	Glacier Island	3.18	67	P		Pn	22 18 23.6	-1.0	
	baz=252								
SII	Sitkinak Islan	3.27	191	Pn		Pn	22 18 25.1	-0.8	
M23K	Glacier View	3.32	50	S		Sn	22 19 03.3	-2.0	
	baz=235								
FID	Port Fidalgo	3.43	70			Pn	22 18 26.7	-1.3	
Q23K	Middleton Isla	3.44	93			Pn	22 18 28.8	+0.8	
Q23K	Middleton Isla	3.44	93	P		Pn	22 18 28.7	+0.7	
	baz=279								
JPK	Jack Peak	3.46	65			Pn	22 18 28.6	+0.2	
TTA	Tatalina	3.47	337			Pn	22 18 28.6	0.0	
TTA	Tatalina	3.47	337	P		Pn	22 18 28.6	0.0	
	baz=155,SNR=8.7								
SCM	Sheep Creek Mo	3.50	51			Pn	22 18 29.1	+0.2	
SCM	Sheep Creek Mo	3.50	51	IAML			22 19 11.5		
	comp=E,66nm,0.7s								
SCM				IAML			22 19 15.8		
	comp=N,59nm,0.7s								
SCM	Sheep Creek Mo	3.50	51	P		Pn	22 18 29.2	+0.3	
	baz=236								
K20K	Telida	3.63	353			Pn	22 18 31.5	+0.8	
K20K	Telida	3.63	353	P		Pn	22 18 31.2	+0.5	
	baz=172,SNR=6.9								
CAST	Castle Rocks	3.69	7	Pn		Pn	22 18 32.3	+0.7	
CAST	Castle Rocks	3.69	7	P		Pn	22 18 32.2	+0.7	
	baz=188,SNR=17								
EYAK	Cordova Ski Ar	3.75	75	Pn		Pn	22 18 31.6	-0.5	
EYAK	Cordova Ski Ar	3.75	75	P		Pn	22 18 31.7	-0.5	
	baz=261								
WAT6	Susitna Watana	3.83	40			Pn	22 18 33.5	+0.1	
WAT6	Susitna Watana	3.83	40	P		Pn	22 18 33.5	+0.1	
	baz=225								
DIV	Divide	3.87	66			Pn	22 18 34.2	+0.3	
KLU	Klutina	3.93	61			Pn	22 18 35.4	+0.7	
KLU				IAML			22 19 21.5		
	comp=E,64nm,0.4s								
KLU	Klutina	3.93	61	P		Pn	22 18 34.6	-0.1	
	baz=247								
TRF	Thorofare Moun	3.93	19			Pn	22 18 35.4	+0.6	
TRF	Thorofare Moun	3.93	19	IAML			22 19 25.7		
	comp=N,22nm,2.0s								
TRF				IAML			22 19 43.9		
	comp=E,20nm,1.7s								
TRF	Thorofare Moun	3.93	19	P		Pn	22 18 35.1	+0.3	
	baz=201,SNR=7.2								
KTH	Kantishna Hill	3.94	14			Pn	22 18 35.4	+0.6	
M24K	Tolsona, Glenn	4.10	52	Pn		Pn	22 18 37.6	+0.5	
M24K				IAML			22 19 26.0		
	comp=N,56nm,1.1s								
M24K				IAML			22 19 33.2		
	comp=E,50nm,1.3s								
M24K	Tolsona, Glenn	4.10	52	P		Pn	22 18 37.5	+0.5	
	baz=238								
CHUM	Lake Minchumin	4.15	5			Pn	22 18 38.5	+1.0	
CHUM	Lake Minchumin	4.15	5	P		Pn	22 18 38.3	+0.8	
	baz=185,SNR=9.7								
RND	Reindeer	4.17	27			Pn	22 18 38.6	+0.7	
RND	Reindeer	4.17	27	IAML			22 20 15.0		
	comp=N,14nm,4.7s								
RAGM	Ragged Mountai	4.26	78			Pn	22 18 38.5	-0.6	
RAGM				IAML			22 19 31.6		
	comp=E,53nm,0.4s								
DHY	Denali Highway	4.30	37			Pn	22 18 40.1	+0.3	
DHY	Denali Highway	4.30	37	IAML			22 19 30.7		
	comp=N,21nm,0.4s								
DHY				IAML			22 19 31.9		
	comp=E,24nm,0.4s								
DHY	Denali Highway	4.30	37	P		Pn	22 18 40.1	+0.3	
	baz=222								
KAIM	Kayak Island	4.37	84	P		Pn	22 18 41.2	+0.7	
	baz=272								
BMRM	Bremner River	4.38	70			Pn	22 18 41.0	+0.3	
BMRM				IAML			22 19 30.2		
	comp=E,32nm,0.4s								
BMRM				IAML			22 19 30.5		
	comp=N,31nm,0.4s								
BMRM	Bremner River	4.38	70	P		Pn	22 18 41.0	+0.3	
	baz=258								
MCK	McKinley	4.44	25			Pn	22 18 42.3	+0.8	
MCK	McKinley	4.44	25	IAML			22 20 13.4		
	comp=E,11nm,2.2s								
MCK				IAML			22 20 26.3		
	comp=N,13nm,3.1s								
MCK	McKinley	4.44	25	P		Pn	22 18 41.9	+0.4	
	baz=208,SNR=10								
J20K	Nowinta River	4.45	354			Pn	22 18 42.2	+0.6	
J20K	Nowinta River	4.45	354	P		Pn	22 18 42.2	+0.6	
	baz=173,SNR=10								
HMT	Hamilton	4.46	79	Pn		Pn	22 18 42.3	+0.6	
BPAW	Bear Paw Mtn.	4.46	12			Pn	22 18 41.9	+0.2	
BPAW	Bear Paw Mtn.	4.46	12	IAML			22 19 40.8		
	comp=N,12nm,4.1s								
BPAW	Bear Paw Mtn.	4.46	12	P		Pn	22 18 41.9	+0.2	
	baz=194,SNR=5.4								
N25K	Chitina, Valde	4.56	62			Pn	22 18 43.5	+0.4	
N25K				IAML			22 19 35.9		
	comp=E,40nm,0.5s								
N25K				IAML			22 19 37.0		
	comp=N,27nm,0.4s								
N25K	Chitina, Valde	4.56	62	P		Pn	22 18 43.7	+0.6	
	baz=250,SNR=5.2								
NICHA	Nichawak Mount	4.60	80			Pn	22 18 44.5	+0.9	
HARP	HAARP	4.66	52	P		Pn	22 18 45.3	+0.8	
	baz=239								
SUCK	Suckling Hills	4.69	82	Pn		Pn	22 18 45.6	+0.8	
SUCK				IAML			22 19 59.9		
	comp=E,36nm,2.4s								
BWN	Browne	4.74	20	Pn		Pn	22 18 46.3	+0.8	
BWN				IAML			22 20 46.2		
	comp=N,24nm,3.0s								
BWN				IAML			22 20 50.7		
	comp=E,23nm,2.7s								
BERG	Berg Lake	4.74	78			Pn	22 18 46.2	+0.7	
GLB	Gilahina Butte	4.87	66			Pn	22 18 47.7	+0.4	
GLB	Gilahina Butte	4.87	66	IAML			22 19 43.2		
	comp=N,28nm,0.7s								
GLB				IAML			22 19 43.7		
	comp=E,21nm,0.7s								
PAX	Paxson	4.87	45			Pn	22 18 48.4	+1.1	
PAX	Paxson	4.87	45	P		Pn	22 18 48.0	+0.6	
	baz=232								
KHIT	Khitrov Hills	4.97	78			Pn	22 18 49.1	+0.5	
VRDI	Verde Repeater	4.98	69			Pn	22 18 49.6	+0.7	
VRDI	Verde Repeater	4.98	69	IAML			22 20 40.3		
	comp=E,9.0nm,4.7s								
VRDI				IAML			22 21 37.6		
	comp=N,14nm,3.8s								
WAX	Waxell Ridge	5.16	78	Pn		Pn	22 18 51.8	+0.5	
NEA2	Nenana	5.19	19			Pn	22 18 51.8	+0.2	
NEA2	Nenana	5.19	19	IAML			22 20 36.7		
	comp=E,7.9nm,3.5s								
NEA2				IAML			22 21 34.9		
	comp=N,8.9nm,4.0s								
NEA2	Nenana	5.19	19	P		Pn	22 18 51.7	+0.1	
	baz=203,SNR=13								
TGL	Tana Glacier	5.20	75			Pn	22 18 52.6	+0.8	
TGL	Tana Glacier	5.20	75	IAML			22 19 57.5		
	comp=N,16nm,2.5s								
TGL				IAML			22 22 07.6		
	comp=E,13nm,4.8s								
MCARA	McCarthy VSAT	5.22	68			Pn	22 18 53.1	+1.1	
MCARA	McCarthy VSAT	5.22	68	IAML			22 19 59.4		
	comp=N,24nm,0.8s								
MCARA				IAML			22 20 00.0		
	comp=E,26nm,1.2s								
MCARA	McCarthy VSAT	5.22	68	P		Pn	22 18 52.3	+0.4	
	baz=256								
WRH	Wood River Hil	5.27	24			Pn	22 18 52.7	+0.1	
WRH	Wood River Hil	5.27	24	IAML			22 19 56.2		
	comp=N,8.2nm,2.4s								
WRH				IAML			22 20 55.8		
	comp=E,11nm,4.0s								
K24K	Donnelly Dome	5.33	37	P		Pn	22 18 55.2	+1.7	
	baz=224								
ISLE	Juniper Island	5.42	77			Pn	22 18 55.7	+0.8	
PTPK	Patty Peak	5.44	70			Pn	22 18 56.4	+1.2	
KIAG	Kiagna River	5.45	73			Pn	22 18 56.4	+1.1	
I21K	Tanana	5.46	5			Pn	22 18 55.8	+0.7	
I21K	Tanana	5.46	5	P		Pn	22 18 55.5	+0.4	
	baz=186								
BALM	Baldy	5.47	72			Pn	22 18 56.5	+1.0	
CCB	Clear Creek Bu	5.48	24			Pn	22 18 55.5	0.0	
BAGL	Bagley Icefiel	5.54	78			Pn	22 18 58.0	+1.7	
M26K	Nabesna, AK	5.56	57			Pn	22 18 58.2	+1.6	
M26K	Nabesna, AK	5.56	57	P		Pn	22 18 57.4	+0.8	
	baz=246								
RIDG	Independent Ri	5.58	41			Pn	22 18 57.4	+0.5	
RIDG	Independent Ri	5.58	41	P		Pn	22 18 57.4	+0.5	
	baz=228,SNR=5.2								
I23K	Minto, Yukon-K	5.67	16			Pn	22 18 58.5	+0.6	
I23K	Minto, Yukon-K	5.67	16	P		Pn	22 18 58.6	+0.6	
	baz=199,SNR=9.5								
TCOL	CIGO, UAF Yank	5.67	23			Pn	22 18 58.3	+0.3	
TCOL	CIGO, UAF Yank	5.67	23	P		Pn	22 18 58.4	+0.4	
	baz=208								
COLA	College	5.67	23			Pn	22 18 58.4	+0.4	
COLA	College	5.67	23	P		Pn	22 18 58.4	+0.4	
	baz=208								
MDM	Murphy Dome	5.68	21			Pn	22 18 58.4	+0.2	
GRNC	Granite Creek	5.72	75			Pn	22 19 00.2	+1.2	
IL31		5.79	27			Pn	22 18 59.6	0.0	
ILAR	Eielson Array	5.79	27	P		Pn	22 18 59.6	0.0	
	comp=E,1.6nm,0.3s,baz=218,slow=14,SNR=38								
ILAR				S		Sn	22 20 02.7	-2.0	
	comp=E,1.1nm,0.3s,baz=218,slow=20,SNR=8.9								
ILAR	Eielson Array	5.79	27			Pn	22 18 59.3	-0.4	
BARN	Barnard Glacie	5.80	72			Pn	22 19 01.5	+1.4	
H21K	Melozitna Rive	5.91	1			Pn	22 19 02.1	+0.7	
H21K	Melozitna Rive	5.91	1	P		Pn	22 19 01.5	+0.1	
	baz=181								
CTG	Chitna Glacier	5.95	73	P		Pn	22 19 03.2	+1.3	
	baz=264								
CTGM	Chitina Glacie	5.95	73			Pn	22 19 03.0	+1.0	
POKR	Poker Plat Res	5.97	24	Pn		Pn	22 19 02.4	+0.2	
POKR	Poker Plat Res	5.97	24	P		Pn	22 19 02.5	+0.4	
	baz=209								
TABL	Table Mountain	6.01	78			Pn	22 19 03.7	+0.8	
SCRK	Sand Creek	6.02	42			Pn	22 19 03.2	+0.3	
SCRK	Sand Creek	6.02	42	P		Pn	22 19 03.2	+0.3	
	baz=230								
M27K	Edge Creek, AK	6.03	60	P		Pn	22 19 04.0	+1.0	
	baz=250								
LOGN	Logan Glacier	6.10	75			Pn	22 19 05.1	+1.1	
IMAR	Indian Mountai	6.25	357	Pn		Pn	22 19 07.1	+1.3	
H23K	Yukon River	6.29	13	Pn		Pn	22 19 06.7	+0.3	
H23K	Yukon River	6.29	13	P		Pn	22 19 06.5	+0.1	
	baz=197,SNR=8.6								
BCAR	Beaver Creek A	6.35	54	Pn		Pn	22 19 07.7	+0.5	
PCA	Pinnacle	6.46	82			Pn	22 19 10.2	+1.4	
YUK3	Moose Creek	6.50	67			Pn	22 19 11.2	+1.7	
YUK3	Moose Creek	6.50	67	P		Pn	22 19 10.5	+1.0	
	baz=258								
J26L	Joseph Creek	6.51	39	P		Pn	22 19 09.7	+0.2	
	baz=228								
H24K	Noodor Dome	6.54	19			Pn	22 19 09.9	0.0	
H24K	Noodor Dome	6.54	19	P		Pn	22 19 09.5	-0.4	
	baz=204								
PNL	Peninsula	6.92	85			Pn	22 19 14.2	-0.9	
PNL	Peninsula	6.92	85	P		Pn	22 19 15.7	+0.7	
	baz=277,SNR=10								
YUK4	Talbot Arm	7.29	71	P		Pn	22 19 21.7	+1.6	
	baz=263								
YUK6	Outpost Mounta	7.39	74			Pn	22 19 23.5	+1.9	
YUK6	Outpost Mounta	7.39	74	P		Pn	22 19 22.6	+1.0	
	baz=267								
EGAK	Eagle	7.49	43	Pn		Pn	22 19 22.7	+0.1	
COLD	Coldfoot	7.60	8	Pn		Pn	22 19 24.1	0.0	
HYT	Haines Junctio	7.81	75	Pn		Pn	22 19 28.2	+1.1	
BMAR	Burnt Mountain	8.56	23	Pn		Pn	22 19 37.4	+0.2	
N31M	Braeburn, Yuko	8.67	71	Pn		Pn	22 19 40.1	+1.3	
SKAG	Skagway	9.00	84	Pn		Pn	22 19 45.3	+2.2	
WHY	Whitehorse	9.10	77	Pn		Pn	22 19 46.1	+1.5	
BESE	Bessie Mountai	9.43	89	Pn		Pn	22 19 51.2	+2.2	
DLBC	Dease Lake	11.91	86	P		Pn	22 20 25.0	+2.7	
	comp=E,1.0nm,0.3s,baz=261,slow=9.6,SNR=11								
DLBC	Dease Lake	11.91	86			Pn	22 20 25.2	+2.8	
YKA	Yellowknife Ar	18.59	65	P		Pn	22 21 46.2	+0.3	
	comp=E,0.0nm,0.3s,baz=276,slow=9.8,SNR=4.0								
NVAR	Mina Array Bea	30.64	118	LR		LR	22 34 35.8		
	comp=E,60nm,18.3s,baz=255,slow=33								
TXAR	Lajitas Array	44.94	110	P		P	22 25 37.8	-2.1	
	comp=E,0.3nm,0.9s,baz=310,slow=3.4,SNR=1.9								
KSRS	Korea Array	53.19	283	P		P	22 26 42.8	+0.3	
	comp=E,0.7nm,0.5s,baz=39,slow=9.2,SNR=2.1								
ZALV	Zalesovo Beam	57.54	324	P		P	22 27 14.9	+1.4	
	comp=E,0.9nm,0.4s,baz=34,slow=8.6,SNR=4.7								

HEL **20** *22:29:01.6, 67.˚18N ×20.˚55E, h1 km, ML2.6, Confirmed Induced event*
DNK **20** *22:29:01.7 ± 0.4, 67.˚19N ×20.˚67E, h0 km, ML3.0(UPP), Explosion*
IDC **20** *22:29:01.7 ± 0.9, 67.˚12N ×20.˚88E, h0 km, mb1 3.2/5, mb1mx2.9/52, mbtmp3.2/5, ML2.7/5, Error ellipse: s-maj=14.5km s-min=8.4km az=105.0*
UPP **20** *22:29:01.4 ± 0.1, 67.˚19N ×20.˚66E, h0 km, ML3.0, Explosion*
KOLA **20** *22:29:02.7, 67.˚19N ×20.˚71E, h0 km, ML2.4*
NAO **20** *22:29:02.2 ± 1.1, 67.˚17N ±21.˚05E, ML2.9*
BER **20** *22:29:03.7 ± 2.4, 67.˚16N ×20.˚87E, h1 km, ML2.3, Confirmed Induced event*

ISC 20 22:29:00.8 ±0.7, **67.˚17N** ±0.˚02 × **20.˚68E** ±0.˚02, **h0** km, **n69,** σ1§**44**/106, **1D, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
DUNU	Dundret	0.06	221	P		Pg	22	29	03.2	+1.3
DUNU				S		Sg	22	29	04.3	+1.6
DUNU	Dundret	0.06	221	P		Pg	22	29	03.2	+1.3
DUNU				S		Sg	22	29	04.3	+1.6
DUNU	Dundret	0.06	221	*i* P		Pg	22	29	03.2	+1.3
DUNU				*i* S		Sg	22	29	04.3	+1.6
MASU	Masugnsbyn	0.59	60	P		Pg	22	29	12.7	+0.7
MASU				S		Sg	22	29	20.5	+0.8
MASU	Masugnsbyn	0.59	60	P		Pg	22	29	12.7	+0.7
MASU				S		Sg	22	29	20.5	+0.8
MASU	Masugnsbyn	0.59	60	*i* P		Pg	22	29	12.7	+0.7
MASU				*i* S		Sg	22	29	20.5	+0.8
RATU	Laukkuluspa	0.78	328	P		Pg	22	29	15.6	-0.1
RATU				S		Sg	22	29	25.8	+0.1
RATU	Laukkuluspa	0.78	328	P		Pg	22	29	15.6	-0.1
RATU				S		Sg	22	29	25.8	+0.1
RATU	Laukkuluspa	0.78	328	*i* P		Pg	22	29	15.6	-0.1
RATU				*i* S		Sg	22	29	25.8	+0.1
ERTU	Ertsjaerv	0.86	135	P		Pg	22	29	17.5	+0.3
ERTU	Ertsjaerv	0.86	135	P		Pg	22	29	17.5	+0.3
ERTU	Ertsjaerv	0.86	135	*e*P		Pg	22	29	17.5	+0.3
ERTU				*e*S		Sg	22	29	28.9	+0.5
SALU	Saltoluokta	0.87	285	P		Pg	22	29	17.5	+0.1
SALU				S		Sg	22	29	29.1	+0.5
SALU	Saltoluokta	0.87	285	P		Pg	22	29	17.5	+0.1
SALU				S		Sg	22	29	29.1	+0.5
SALU	Saltoluokta	0.87	285	*i* P		Pg	22	29	17.5	+0.1
SALU				*i* S		Sg	22	29	29.1	+0.5
NIKU	Nikkaluokta	0.94	319	P		Pg	22	29	18.6	-0.2
NIKU	Nikkaluokta	0.94	319	P		Pg	22	29	18.6	-0.2
NIKU	Nikkaluokta	0.94	319	*e*P		Pg	22	29	18.6	-0.2
PAJU	Pajala	0.96	98	P		Pg	22	29	19.4	+0.1
PAJU	Pajala	0.96	98	P		Pg	22	29	19.4	+0.1
PAJU	Pajala	0.96	98	*e*P		Pg	22	29	19.4	+0.1
PAJU				*e*S		Sg	22	29	32.7	+1.0
LANU	Lannavaara	1.02	29	P		Pg	22	29	19.8	-0.4
LANU	Lannavaara	1.02	29	P		Pg	22	29	19.8	-0.4
LANU	Lannavaara	1.02	29	*e*P		Pg	22	29	19.9	-0.4
LANU				*e*S		Sg	22	29	33.8	+0.4
HARU	Harads	1.02	173	P		Pg	22	29	20.3	+0.1
HARU	Harads	1.02	173	P		Pg	22	29	20.3	+0.1
HARU	Harads	1.02	173	*e*P		Pg	22	29	20.3	+0.1
KOVU	Salmi	1.08	350	P		Pg	22	29	21.0	-0.4
KOVU	Salmi	1.08	350	P		Pg	22	29	21.0	-0.4
KOVU	Salmi	1.08	350	*e*P		Pg	22	29	21.0	-0.4
HEF	Hetta	1.68	41	Pn		Pn	22	29	31.6	+0.1
HEF				Sn		Sn	22	29	53.8	+0.1
HEF	Hetta	1.68	41	*e*P		Pn	22	29	31.4	-0.1
HEF	Hetta	1.68	41	*e*P		Pn	22	29	31.5	+0.1
HEF				*e*S		Sb	22	29	54.5	+0.2
KALU	Kalix	1.70	140	P		Pn	22	29	32.5	+0.9
KALU	Kalix	1.70	140	P		Pn	22	29	32.5	+0.9
KALU	Kalix	1.70	140	*e*P		Pn	22	29	32.5	+0.9
KALU				*e*S		Sn	22	29	55.2	+1.3
SJUU	Sjulsmark	1.71	167	P		Pn	22	29	32.6	+0.9
SJUU	Sjulsmark	1.71	167	P		Pn	22	29	32.6	+0.9
SJUU	Sjulsmark	1.71	167	*e*P		Pn	22	29	32.6	+0.9
TOF	Tornio	1.82	125	*e*P		Pn	22	29	34.6	+1.3
TOF				*e*S		Sn	22	29	58.6	+1.7
KIF	Kilpisjarvi	1.84	1	Pn		Pb	22	29	34.8	-0.5
KIF				Sn		Sg	22	30	00.8	+0.9
KIF	Kilpisjarvi	1.84	1	*e*P		Pn	22	29	34.2	+0.6
KIF	Kilpisjarvi	1.84	1	*e*P		Pb	22	29	34.7	-0.5
KIF				*e*SG		Sg	22	30	00.8	+0.9
KIF				MSG			22	30	01.8	
	comp=Z,47nm,0.2s									
KTK1	Kautokeino	2.09	26	*i*P		Pb	22	29	38.6	-0.8
KTK1				IAML			22	30	07.9	
	comp=Z,83nm,0.5s									
FAUS	Fauske	2.10	278	*e*P		Pn	22	29	38.2	+1.1
RNF	Rovaniemi	2.18	102	MSG			22	30	11.1	
	comp=Z,37nm,0.2s									
STEI	Steigen	2.22	293	*e*P		Pn	22	29	40.0	+1.2
STEI				IAML			22	30	13.1	
	comp=Z,32nm,0.6s									
JETT	Jettan, Norway	2.40	358	Pn		Pb	22	29	43.6	-1.2
TRO	Tromso	2.56	346	*e*P		Pn	22	29	44.0	+0.6
TRO				IAML			22	30	22.4	
	comp=Z,40nm,0.4s									
MOR8	Moi Rana	2.68	251	*e*P		Pn	22	29	46.0	+0.9
MOR8				IAML			22	30	22.2	
	comp=Z,30nm,0.3s									
ARA0	ARCESS Array S	2.98	35	Pn		Pn	22	29	49.9	+0.8
	baz=209,slow=14									
ARA0				Sn		Sn	22	30	26.5	+1.0
	baz=213,slow=28									
ARA0	ARCESS Array S	2.98	35	Pn		Pn	22	29	49.9	+0.8
	baz=209,slow=14									
ARA0				*e*P		Pb	22	29	50.0	-4.5
ARA0				IAML			22	30	43.8	
	comp=Z,9.4nm,0.5s									
ARCES	ARCESS Array B	2.98	35	Pn		Pn	22	29	49.9	+0.7
	baz=215,slow=13,SNR=88									
ARCES				Lg		Lg	22	30	27.4	
	baz=208,slow=26,SNR=8.6									
ARCES	ARCESS Array B	2.98	35	P		Pn	22	29	49.8	+0.6
ARCES				S		Sn	22	30	26.6	+1.1
APA0	Apatity Array	4.78	79	Pn		Pn	22	30	13.7	-0.1
	baz=274,slow=11									
APA0				Sn		Sn	22	31	07.5	-2.3
	baz=264,slow=22									
APA0				Lg		Lg	22	31	28.3	
	baz=278,slow=28									
APA0	Apatity Array	4.78	79	Pn		Pn	22	30	13.7	-0.1
	baz=274,slow=11									
APA0				Sn		Sn	22	31	07.5	-2.3
	baz=264,slow=22									
APA0				Sg		Sb	22	31	28.3	+5.2
	baz=278,slow=28									
APA0	Apatity Array	4.78	79	P		Pn	22	30	14.3	+0.5
APA0				S		Sn	22	31	09.0	-0.8
PRVG	Vayda Guba	4.96	53	P		Pn	22	30	16.8	+0.4
PRVG				S		Sn	22	31	11.7	-2.8
TERR	Teriberka	5.75	63	P		Pn	22	30	27.8	+0.6
TERR				S		Sn	22	31	30.6	-3.1
FIA0	FINESS Array S	6.21	155	Pn		Pn	22	30	34.9	+1.4
	baz=350,slow=14									
FIA0				Sn		Sn	22	31	44.8	-0.3
	baz=343,slow=28									
FIA0				Lg		Lg	22	32	15.7	
	baz=344,slow=37									
FIA0	FINESS Array S	6.21	155	Pn		Pn	22	30	34.9	+1.4
	baz=350,slow=14									
FIA0				Sg		Sg	22	32	15.7	-4.2
	baz=344,slow=37									
FINES	FINESS Array S	6.21	155	Pn		Pn	22	30	34.9	+1.4
	comp=Z,0.7nm,0.3s,baz=348,slow=13,SNR=37									
FINES				Sn		Sn	22	31	43.7	-1.4
	comp=Z,0.9nm,0.3s,baz=348,slow=24,SNR=7.6									
FINES				Lg		Lg	22	32	11.0	
	comp=Z,0.7nm,0.3s,baz=343,slow=28,SNR=2.8									
NB2	NORSAR Subarra	7.41	218	Pn		Pn	22	30	51.2	+1.2
	baz=27,slow=12									
NB2				Sn		Sn	22	32	11.4	-3.3
	baz=31,slow=28									
NB2	NORSAR Subarra	7.41	218	Pn		Pn	22	30	51.2	+1.2
	baz=27,slow=12									
NB2				Sn		Sn	22	32	11.4	-3.3
	baz=31,slow=28									
NOA	NORSAR Array B	7.41	218	Pn		Pn	22	30	50.7	+0.7
	comp=Z,0.0nm,0.3s,baz=28,slow=10,SNR=6.1									
NOA				Sn		Sn	22	32	09.7	-5.0
	comp=Z,0.0nm,0.3s,baz=61,slow=

MORR Playas El Morr 2.32 167 P Pn 22 32 07.0 -0.1
PORT Chimborazo Vol 2.36 117 Pn 22 32 07.4 -0.7
PORT Chimborazo Vol 2.36 117 P Pn 22 32 08.0 -0.1
CAMI Rancho Maria 2.38 97 P Pn 22 32 09.0 +0.7
TAMH Tambohuasha Ch 2.39 119 P Pn 22 32 09.0 +0.5
PULU Pululahua 2.40 81 Pn 22 32 08.5 0.0
PULU Pululahua 2.40 81 P Pn 22 32 08.0 -0.5
SLOR San Lorenzo - 2.40 99 P Pn 22 32 09.0 +0.4
BNAS Cotopaxi Volca 2.40 97 P Pn 22 32 09.0 +0.3
NAS2 Nasa 2.41 97 P Pn 22 32 09.0 +0.2
BMOR Cotopaxi Volca 2.43 99 P Pn 22 32 09.0 -0.2
PITA Cotopaxi Volc 2.44 94 P Pn 22 32 09.0 -0.2
BREF Cotopaxi Volca 2.44 97 P Pn 22 32 10.0 +0.6
BVC2 Cotopaxi Volca 2.47 97 P Pn 22 32 10.0 +0.3
VC1 Cotopaxi 1 2.48 96 P Pn 22 32 11.0 +1.3
BTAM Cotopaxi Volca 2.49 97 P Pn 22 32 11.0 +1.1
OTAV Otavalo 2.49 76 Pn 22 32 09.0 -0.8
IGUA Igualata 2.49 117 P Pn 22 32 11.0 +1.1
VCES Cotopaxi 2.51 100 P Pn 22 32 11.0 +0.8
AV11 Acelerografo, 2.51 83 P Pn 22 32 11.0 +1.0
TAMB Tambo 2.52 97 P Pn 22 32 11.0 +0.7
CUSE Cuicocha Este 2.56 75 eP Pn 22 32 11.9 +1.2
CUSE eS Sn 22 32 43.2 +0.6
CUSE Cuicocha Este 2.56 75 P Pn 22 32 10.0 -0.7
CUIC Cuicocha-Domo 2.59 75 P Pn 22 32 10.0 -1.2
CUSW Cuicocha Oeste 2.60 76 P Pn 22 32 11.0 -0.3
BBIL Ulba Tungurahu 2.61 114 P Pn 22 32 12.0 +0.6
ANTG Antisana-Guama 2.61 93 P Pn 22 32 12.0 +0.4
JUI6 Juive 2.62 114 P Pn 22 32 12.0 +0.6
COTA Cotacachi 2.62 75 P Pn 22 32 12.0 +0.3
POND Pondoa 2.63 113 P Pn 22 32 13.0 +1.3
COHC Cochancay 2.63 142 Pn 22 32 10.0 -1.2
COHC Cochancay 2.63 142 P Pn 22 32 10.0 -1.4
BMAS Trigal station 2.64 115 P Pn 22 32 13.0 +1.2
RETU Refugio 2.65 114 P Pn 22 32 13.0 +0.9
ANTM Antisana-La Mi 2.65 94 P Pn 22 32 13.0 +0.9
ARRY Arrayan 2.66 115 P Pn 22 32 13.0 +0.9
BRUN Tungurahua Vol 2.67 113 P Pn 22 32 13.0 +0.8
BULB Ulba Tungurahu 2.67 113 P Pn 22 32 13.0 +0.7
ISPG Isla Puna-Puer 2.67 165 P Pn 22 32 14.0 +2.0
PIAT Ana Tenorio 2.68 103 P Pn 22 32 13.0 +0.6
BPAT Tungurahua Vol 2.68 115 P Pn 22 32 13.0 +0.5
ANTS Antisana-Sarah 2.70 93 P Pn 22 32 14.0 +1.2
ANTI Antisana 2.71 92 P Pn 22 32 14.0 +1.1
URCU Urcuqui 2.73 73 P Pn 22 32 13.0 -0.1
ALIT Ecuador-Imbabu 2.76 65 P Pn 22 32 12.0 -1.3
CAYR Refugio Cayamb 2.88 82 P Pn 22 32 17.0 +1.6
ANGU Angureal 2.89 82 P Pn 22 32 17.0 +1.6
YAHU Yahuarcocha 2.89 75 P Pn 22 32 17.0 +1.7
CAYA Cayambe 2.91 81 P Pn 22 32 16.0 +0.3
SANGA Volcan Sangay 3.00 124 P Pn 22 32 18.0 +1.1
PUYO Puyo, Santa Ro 3.05 111 P Pn 22 32 20.0 +2.7
CHMA Chilma 3.06 66 P Pn 22 32 17.0 -0.5
LNGL El Angel-Carch 3.07 69 P Pn 22 32 18.0 +0.2
ARDO Archidona, Ten 3.13 101 P Pn 22 32 20.0 +1.7
ECEN Cerro Negro 3.13 68 P Pn 22 32 18.0 -0.7
CHL1 Volc¡n Chiles 3.14 68 P Pn 22 32 19.0 +0.1
CHL2 Volc¡n Chiles 3.17 68 P Pn 22 32 19.0 -0.2
CONE Cono NE Rev Vo 3.24 85 P Pn 22 32 22.0 +2.0
ARNL Arenillas 3.26 166 Pn 22 32 18.9 -1.1
ARNL Arenillas 3.26 166 P Pn 22 32 18.0 -2.0
TULM Tulcn-Chalpat 3.26 71 Pn 22 32 21.9 +1.4
TULM Tulcn-Chalpat 3.26 71 eP Pn 22 32 22.9 +2.5
TULM Tulcn-Chalpat 3.26 71 P Pn 22 32 22.0 +1.5
BONI La Bonita 3.44 76 P Pn 22 32 24.0 +1.3
CASC Dorado de Casc 3.56 82 P Pn 22 32 26.0 +1.7
BOSC San Juan Bosco 3.64 139 Pn 22 32 29.9 +1.5
BOSC San Juan Bosco 3.64 139 P Pn 22 32 28.0 +2.6
CCUFI Cufio, Nario 3.86 66 eP Pn 22 32 30.7 +1.9
GCUF Volcan Galeras 3.86 66 eP Pn 22 32 30.5 +1.8
MCRA Macar, Loja 4.08 167 Pn 22 32 29.9 -1.5
MCRA Macar, Loja 4.08 167 P Pn 22 32 30.0 -1.3
GONZ Gonzanam 4.11 159 P Pn 22 32 33.0 +0.8
GR1C Gorgona, Isla 4.30 39 eP Pb 22 32 40.6 -3.7
CRUC La Cruz 4.36 64 eP Pn 22 32 37.3 +1.8
CRUC eS Sn 22 33 27.6 +0.6
ZUMB Zumba 4.79 159 P Pn 22 32 42.0 +0.8
SOTA Rioblanco 4.93 60 eP Pn 22 32 44.3 +0.8
PCON Cinco Dias 5.21 59 eP Pn 22 32 49.8 +2.4
MARP Paez Belalcaza 5.85 57 eP Pn 22 32 57.0 +1.0
GARC Garzon, Huila 5.94 65 eP Pn 22 32 59.0 +1.8
YOTC Yotoco, Valle 6.25 46 eP Pn 22 33 01.4 +0.1
MACC Macarena, Meta 7.45 70 eP Pn 22 33 17.8 +0.2
GUY2C Guyana, Caldas 7.81 45 eP Pn 22 33 28.0 +5.0
CBOC Ciudad Bolivar 7.86 38 eP Pb 22 33 33.6 -12
CBOC eS Sb 22 33 28.6 -11
ROSC El Rosal 8.34 52 Pn Pn 22 33 30.5 +0.3
comp=Z,3.9nm,0.3s,baz=144,slow=24,SNR=2.5
ROSC LR LR 22 36 56.5
comp=Z,2µm,18.4s,baz=230,slow=40
ROSC El Rosal 8.34 52 Pn Pn 22 33 31.0 +0.8
HELC Santa Helena 8.42 39 eP Pb 22 33 44.6 -10
VILC Villavicencio, 8.44 58 eP Pn 22 33 34.2 +2.9
CDITO Canoas 9.11 347 Pn Pn 22 33 42.6 +2.2
BRU2 Volcan 9.28 349 Pn Pn 22 33 45.0 +2.1
PTBC PUERTO BERRIO, 9.38 43 eP Pn 22 33 52.8 +8.6
PAYG Puerto Ayora 9.43 268 Pn Pn 22 33 46.6 +1.8
ZARC Zaragoza, Cauc 9.84 37 Pn Pn 22 33 52.1 +1.5
SRBA San Rafael, Bu 9.86 345 Pn 22 33 50.9 +1.3
DRIA Durika 9.86 346 Pn 22 33 52.3 +1.4
PEZE Perez Zeledon, 10.08 344 Pn Pn 22 33 56.1 +2.3
RIMA Rio Macho 10.50 344 Pn 22 34 02.0 +2.3
CVTR Volcan Turrial 10.71 344 Pn Pn 22 34 04.5 +1.6
HDC Heredia 10.80 343 Pn Pn 22 34 05.5 +1.8
CZSB Cruzeiro do Su 10.94 132 eP Pn 22 34 06.8 +1.3
JTS Las Juntas de 11.34 339 Pn Pn 22 34 14.9 +3.8
comp=Z,0.4nm,0.3s,baz=63,slow=22,SNR=5.6
JTS LR LR 22 37 26.1
comp=Z,636nm,19.5s,baz=178,slow=32
JTS Las Juntas de 11.34 339 Pn Pn 22 34 13.0 +1.9
TBTG Tabatinga, AM 11.58 109 eP Pn 22 34 16.9 +2.5
SJCC San Jacinto, C 11.66 29 Pn Pn 22 34 17.1 +1.6
NNA Nana 12.21 161 Pn Pn 22 34 28.2 +5.1
comp=Z,3.0nm,0.3s,baz=320,slow=12,SNR=6.4
NNA Sn Sn 22 36 35.2 -4.6
comp=Z,5.7nm,0.3s,baz=210,slow=18,SNR=6.1
NNA LR LR 22 39 10.0
comp=Z,76nm,20.1s,baz=326,slow=38
NNA Nana 12.21 161 Pn 22 34 24.5 +1.4
BOAB BOACO BROADBAN 13.60 340 Pn Pn 22 34 43.7 +1.8
SDV Santo Domingo 13.73 48 Pn Pn 22 34 44.2 +0.3
comp=Z,0.6nm,0.3s,baz=242,slow=6.9,SNR=8.3
SDV LR LR 22 40 49.6
comp=Z,1µm,19.3s,baz=232,slow=41
SDV Santo Domingo 13.73 48 Pn Pn 22 34 44.9 +1.0
SDV Santo Domingo 13.73 48 eP Pn 22 34 44.3 +0.4
MATN Matagalpa 14.13 339 Pn Pn 22 34 50.1 +0.8
TGUH Tegucigalpa,Un 15.67 336 Pn P 22 35 12.3 -2.0
BAUV El Baul 15.77 54 P P 22 35 13.8 -1.5
MTO3 Montecristo 16.91 331 Pn Pn 22 35 27.3 +1.3
ESQI Esquipulas 17.04 331 P 22 35 29.7 +0.3
BIRV Birongo 18.08 53 P 22 35 40.5 -0.3
PETF Flores 19.33 333 P Pn 22 35 55.9 +0.3
CCIG Comitan 19.94 327 P P 22 36 01.9 +0.5
CCIG IAmb IAmb 22 36 28.6
comp=Z,24nm,0.6s
LPAZ La Paz 20.20 142 P P 22 36 05.7 +0.9
comp=Z,5.9nm,0.6s,baz=308,slow=9.4,SNR=25
LPAZ LR LR 22 45 36.9
comp=Z,2µm,18.4s,baz=313,slow=42
LPAZ La Paz 20.20 142 P P 22 36 02.1 -2.6
LPAZ La Paz 20.20 142 eP P 22 36 04.0 -0.7
MACA Manacapuru-AM 20.36 98 eP P 22 36 06.0 +0.1
LGNH Logne 20.44 23 P P 22 36 05.1 -1.6
BOAV Boa Vista 20.52 82 eP P 22 36 07.8 +0.1
PB12 IPOC Station P 20.88 151 P P 22 36 10.8 -0.7
PB12 IAmb IAmb 22 36 22.7
comp=Z,53nm,1.2s
PB16 IPOC Station P 21.05 149 P P 22 36 14.0 +0.1
PB16 IAmb IAmb 22 36 27.4
comp=Z,47nm,1.1s
BANI BANI 21.31 28 P P 22 36 16.2 0.0
DR12 Loma Pena Alta 22.13 30 P P 22 36 25.7 +0.8
CMIG Matias Romero 22.18 322 P P 22 36 27.0 +1.6
comp=Z,14nm,1.0s,baz=148,slow=9.3,SNR=12
CMIG LR LR 22 43 06.4
comp=Z,330nm,19.4s,baz=156,slow=31
PB11 IPOC Station P 22.18 151 P P 22 36 24.2 -1.5
PB11 IAmb IAmb 22 36 43.3
comp=Z,24nm,0.8s
GO01 Chusmiza 22.33 150 P P 22 36 26.9 -0.7

TA02 Huaiquique 22.40 153 P P 22 36 24.3 -3.4
PB08 IPOC Station P 22.75 150 P P 22 36 30.8 -1.1
PB08 IAmb IAmb 22 37 01.3
comp=Z,57nm,1.3s
PATCX Punta Patache 22.86 153 P P 22 36 32.9 +0.1
SJG San Juan 23.38 37 P P 22 36 38.0 0.0
comp=Z,5.7nm,0.3s,baz=164,slow=6.6,SNR=4.1
SJG LR LR 22 47 30.1
comp=Z,517nm,18.4s,baz=196,slow=41
SJG San Juan 23.38 37 P P 22 36 37.9 -0.2
SJG IAmb IAmb 22 36 57.3
comp=Z,36nm,1.1s
PDPR Patillas Dam, 23.39 38 P P 22 36 38.7 +0.6
PDPR IAmb IAmb 22 36 56.5
comp=Z,29nm,1.1s
CBYP Canovanas 23.68 38 P 22 36 44.0 +2.9
CBYP IAmb IAmb 22 36 51.2
comp=Z,30nm,0.9s
VILB Vilhena 24.00 122 eP P 22 36 42.2 -2.0
PB09 IPOC Station P 24.13 153 P P 22 36 45.9 +0.4
ILAM Ilet Lapin Mar 24.85 52 P P 22 36 51.4 -0.5
TLIG Tlapa 24.92 317 P P 22 36 52.0 -0.7
SIV San Ignacio 24.95 129 P P 22 36 53.0 +0.1
comp=Z,7.7nm,0.7s,baz=300,slow=8.8,SNR=32
SIV LR LR 22 47 38.0
comp=Z,3µm,18.1s,baz=316,slow=39
LVC Limon Verde 24.98 153 P P 22 36 54.4 +0.9
comp=Z,4.7nm,0.8s,baz=310,slow=7.4,SNR=4.2
LVC LR LR 22 46 30.0
comp=Z,496nm,19.1s,baz=320,slow=36
LVC Limon Verde 24.98 153 P P 22 36 52.8 -0.6
LVC IAmb IAmb 22 37 31.5
comp=Z,34nm,1.3s
PTLB Pontes e Lacer 26.17 126 eP P 22 37 03.7 -0.2
NPGB Novo Progresso 26.29 105 eP P 22 37 03.4 -1.7
PDRB Porto dos Gac 26.44 116 eP P 22 37 05.1 -1.3
MALB Monte Alegre 26.64 93 eP P 22 37 08.6 +0.5
CLDB Colider 27.01 114 eP P 22 37 10.6 -1.0
NBRS Nobres 28.43 120 eP P 22 37 24.4 +0.1
AC02 Maricunga 28.64 158 P P 22 37 25.7 -0.8
MDP Montagnes des 28.71 79 P P 22 37 26.4 -0.4
comp=Z,24nm,0.8s,baz=261,slow=6.5,SNR=7.1
MDP LR LR 22 51 22.4
comp=Z,549nm,18.3s,baz=259,slow=42
SALV Santo Antonio 29.24 123 eP P 22 37 31.2 -0.3
PP1B Ponte de Pedra 30.77 125 eP P 22 37 44.9 -0.1
PRPB Parauapebas 31.52 101 eP P 22 37 50.2 -1.5
SNDB Serra Nova Dou 31.53 113 eP P 22 37 51.0 -0.8
AQDB Aquidauana 31.70 131 P P 22 37 52.0 -1.2
AQDB Aquidauana 31.70 131 eP P 22 37 52.6 -0.5
DVLD Doverlandia 32.58 121 eP P 22 38 00.7 -0.2
833A Chaparral WMA, 33.60 330 P P 22 38 10.9 +1.1
833A IAmb IAmb 22 38 13.7
comp=Z,6.9nm,0.8s
833A Chaparral WMA, 33.60 330 P P 22 38 11.4 +1.7
baz=145
GOGA Godfrey 33.69 356 P P 22 38 10.7 +0.3
baz=175
LRAL Lakeview Retre 33.73 351 P P 22 38 11.3 +0.6
baz=169
MT02 Curacav 33.97 165 P P 22 38 13.1 +0.2
MT02 IAmb IAmb 22 38 30.2
comp=Z,22nm,1.3s
Z47A Carrollton 34.07 349 P P 22 38 14.5 +0.8
SMTB Santa Maria do 34.19 105 eP P 22 38 14.7 -0.4
PEXB Peixe 34.35 111 eP P 22 38 16.2 -0.3
CPUP Villa Florida 34.35 141 LR LR 22 54 28.8
comp=Z,390nm,19.1s,baz=332,slow=40
LMEL Las Melosas 34.77 164 P P 22 38 20.5 +0.5
LMEL IAmb IAmb 22 38 27.9
comp=Z,16nm,1.1s
BO04 La Punta 34.80 165 P P 22 38 20.0 -0.1
BO04 IAmb IAmb 22 38 27.9
comp=Z,22nm,1.1s
435B Jarrell 34.82 334 P P 22 38 21.7 +1.4
KMSC Kings Mountain 35.33 359 P P 22 38 26.0 +1.4
baz=179
JCT Junction City 35.58 331 P P 22 38 28.2 +1.3
JCT Junction City 35.58 331 P P 22 38 28.4 +1.6
baz=146,SNR=7.3
OXF Oxford 35.61 348 P P 22 38 28.8 +1.8
baz=165
CCAR Cane Creek 35.61 344 P P 22 38 28.5 +1.5
PCMB Pacaembu 35.77 128 eP P 22 38 27.5 -1.1
WLAR White Oak Lake 35.78 342 P P 22 38 29.5 +1.1
CPCT Cooper Cave 35.80 355 P P 22 38 28.9 +0.3
CPCT IAmb IAmb 22 38 44.3
comp=Z,10nm,1.0s
BDFB Brasilia 35.80 117 P P 22 38 28.7 -0.4
comp=Z,4.7nm,0.8s,baz=266,slow=14,SNR=5.8
BDFB Brasilia 35.80 117 P P 22 38 28.3 -0.8
BDFB IAmb IAmb 22 38 35.3
comp=Z,16nm,1.2s
WHTX Lake Whitney, 35.81 336 P P 22 38 29.8 +1.0
baz=151
TKL Tuckaleechee C 35.94 356 LR LR 22 52 51.3
comp=Z,283nm,19.7s,baz=177,slow=36
IPMB Ipameri, GO 36.56 120 eP P 22 38 34.1 -1.3
UALR University of 36.58 344 P P 22 38 36.2 +1.0
UALR IAmb IAmb 22 38 47.6
comp=Z,16nm,1.2s
TXAR Lajitas Array 36.70 326 P P 22 38 38.1 +1.6
comp=Z,1.3nm,1.0s,baz=126,slow=7.9,SNR=8.0
TXAR LR LR 22 52 49.5
comp=Z,117nm,18.9s,baz=150,slow=35
TXAR Lajitas Array 36.70 326 P P 22 38 38.0 +1.5
MIAR Mount Ida 36.72 342 P P 22 38 37.4 +0.9
baz=158
TZTN Tazewell 36.81 356 P P 22 38 37.9 +0.6
baz=176
WVT Waverly 36.89 351 P P 22 38 37.2 -0.7
baz=168
W41B Gary Mavity, V 36.92 344 P P 22 38 38.7 +0.5
baz=161
FRBT Francisco Belt 36.97 136 eP P 22 38 38.1 -0.7
ITQB Itaqui 37.19 144 eP P 22 38 40.5 0.0
ABTX Abilene, Hawle 37.30 333 P P 22 38 42.3 +0.8
ABTX IAmb IAmb 22 38 44.8
comp=Z,20nm,1.1s
ABTX Abilene, Hawle 37.30 333 P P 22 38 42.7 +1.2
baz=148,SNR=7.6
W39A Magazine 37.38 342 P P 22 38 43.0 +0.9
baz=158
BLA Blacksburg 37.39 1 P P 22 38 43.1 +0.9
baz=181
LCAR Lake Charles 37.50 346 P P 22 38 43.1 0.0
LCAR IAmb IAmb 22 38 51.6
comp=Z,16nm,1.2s
LPIG La Paz 37.51 312 LR LR 22 51 56.5
comp=Z,143nm,18.7s,baz=91,slow=33
SDBA SAO DESIDERIO 37.62 150 eP P 22 38 43.6 -0.9
BB19B Bebedouro 37.69 125 eP P 22 38 43.9 -1.1
FRTB Fartura 38.02 129 eP P 22 38 46.6 -1.1
RPN Rapa Nui 38.15 223 LR LR 22 50 24.4
comp=Z,383nm,19.9s,baz=33,slow=30
U40A Yellville 38.20 344 P P 22 38 49.4 +0.3
U40A Yellville 38.20 344 P P 22 38 49.4 +0.3
baz=160,SNR=6.0
X34A Smith Ranch, M 38.24 337 P P 22 38 50.7 +1.2
X34A IAmb IAmb 22 38 60.0
comp=Z,39nm,1.4s
ITAB Concordia 38.41 136 P P 22 38 49.7 -1.2
ITAB Concordia 38.41 136 eP P 22 38 50.0 -0.9
TUL1 Leonard 38.68 340 P P 22 38 53.8 +0.7
baz=156
WMOK Wichita Mounta 38.74 336 P P 22 38 54.4 +0.7
WMOK Wichita Mounta 38.74 336 P P 22 38 54.2 +0.5
baz=151,SNR=5.4
JANB Januaria 38.95 114 eP P 22 38 54.5 -1.2
CCM Cathedral Cave 39.42 347 P P 22 38 59.0 -0.1
CCM Cathedral Cave 39.42 347 P P 22 39 00.0 +0.8
baz=164
MNTX Cornudas Mount 39.45 326 P P 22 39 00.3 +0.6
MNTX Cornudas Mount 39.45 326 P P 22 39 00.6 +1.0
baz=139,SNR=7.1
NBPS Pedro II - PI 39.58 96 eP P 22 39 01.1 0.0
P52A Corning 39.83 358 P P 22 39 03.1 +0.5
baz=178
MC01 Montes Claros 39.83 116 eP P 22 39 02.1 -1.0
T35A Sooner Cattle 39.83 340 P P 22 39 03.5 +0.8
T35A IAmb IAmb 22 39 04.9
comp=Z,20nm,1.3s
MSTX Muleshoe 39.87 331 P P 22 39 04.2 +1.2
MSTX IAmb IAmb 22 39 06.2
comp=Z,42nm,1.4s

MSTX Muleshoe 39.87 331 P P 22 39 04.0 +0.8
baz=144,SNR=6.7
AMTX Amarillo 40.11 333 P P 22 39 06.0 +0.8
AMTX IAmb IAmb 22 39 07.6
comp=Z,22nm,1.1s
AMTX Amarillo 40.11 333 P P 22 39 05.7 +0.6
baz=147
U32A Winter Ranch, 40.26 337 P P 22 39 07.0 +0.7
U32A IAmb IAmb 22 39 08.7
comp=Z,34nm,1.1s
O53A New Philadelph 40.43 360 P P 22 39 08.0 +0.5
baz=179
ACSO Alum Creek Sta 40.45 358 P P 22 39 07.3 -0.6
baz=177
DIAM Diamantina, MG 40.64 118 eP P 22 39 09.1 -0.8
BSCB Bom Sucesso 40.77 123 eP P 22 39 10.0 -0.9
SFIN Lafayette 40.95 353 P P 22 39 12.6 +0.7
baz=170
HSIG 41.00 318 P P 22 39 13.1 +0.6
PLCA Paso Flores 41.26 168 P P 22 39 14.8 +0.3
comp=Z,1.2nm,0.7s,baz=321,slow=6.5,SNR=1.2
PLCA Paso Flores 41.26 168 P P 22 39 14.3 -0.2
121A Cookes Peak, D 41.43 325 P P 22 39 18.1 +1.9
121A IAmb IAmb 22 39 19.9
comp=Z,16nm,1.2s
121A Cookes Peak, D 41.43 325 P P 22 39 17.5 +1.3
baz=137,SNR=5.9
319A Douglas 41.50 322 P P 22 39 18.5 +1.7
319A IAmb IAmb 22 39 19.9
comp=Z,15nm,1.1s
KSU1 Kansas State U 41.85 342 P P 22 39 20.6 +1.3
baz=156
R32A Long Quarter, 41.95 339 P P 22 39 21.4 +1.2
R32A IAmb IAmb 22 39 23.0
comp=Z,33nm,1.2s
BNM Barren Site 41.99 327 P P 22 39 22.6 +1.8
ANMO Albuquerque 42.50 328 P P 22 39 25.9 +0.9
comp=Z,9.9nm,1.0s,baz=145,slow=9.7,SNR=19
ANMO Albuquerque 42.50 328 P P 22 39 26.2 +1.2
ANMO IAmb IAmb 22 39 28.0
comp=Z,16nm,1.1s
ANMO Albuquerque 42.50 328 P P 22 39 26.1 +1.2
baz=140
NBMA Muriti-CE 42.55 100 eP P 22 39 24.5 -1.0
BINY Binghamton 42.60 5 P P 22 39 26.4 +1.0
baz=187
TUC Tucson 43.07 322 P P 22 39 30.3 +0.8
TUC Tucson 43.07 322 P P 22 39 30.9 +1.4
baz=133
T25A Trinidad 43.22 332 P P 22 39 32.2 +1.4
T25A Trinidad 43.22 332 P P 22 39 32.4 +1.6
baz=144,SNR=7.1
CMC01 Camacan, BA 43.45 112 eP P 22 39 32.0 -0.8
HRV Adam Dziewonsk 43.50 10 P P 22 39 34.2 +1.5
baz=193
RIB01 Linhares ES 43.90 118 eP P 22 39 35.0 -1.3
KSCO Kaye Shedlock' 43.98 335 P P 22 39 38.7 +1.9
baz=148
NBLA Lagarto - SE 44.08 105 eP P 22 39 36.8 -1.0
214A Organ Pipe Nat 44.12 320 P P 22 39 38.6 +0.7
214A IAmb IAmb 22 39 41.0
comp=Z,21nm,1.4s
214A Organ Pipe Nat 44.12 320 P P 22 39 39.4 +1.5
baz=131,SNR=7.6
X18A Snowflake 44.12 325 P P 22 39 38.7 +0.7
SDCO Great Sand Dun 44.22 332 P P 22 39 39.9 +1.0
SDCO Great Sand Dun 44.22 332 P P 22 39 40.6 +1.7
baz=143,SNR=18
W18A Petrified Fore 44.42 326 P P 22 39 42.3 +1.8
baz=136
S22A 4UR Ranch, Cre 44.86 331 P P 22 39 45.7 +1.6
baz=142
X16A Lo Mia Camp, P 44.92 323 P P 22 39 45.4 +0.9
SADO Sadowa 44.97 2 LR LR 22 59 35.4
comp=Z,110nm,18.3s,baz=183,slow=38
Q24A Divide 45.04 333 P P 22 39 47.3 +1.8
baz=145
LBNH Lisbon 45.12 9 P P 22 39 47.6 +1.9
baz=192
RCBR Riachuelo 45.20 98 LR LR 22 59 57.7
comp=Z,1µm,19.4s,baz=69,slow=38
MVCO Mesa Verde 45.30 329 P P 22 39 48.9 +1.4
baz=139
NBAN Anadia - AL 45.31 103 eP P 22 39 46.9 -0.8
WUAZ Wupatki 45.64 325 P P 22 39 51.7 +1.5
WUAZ Wupatki 45.64 325 P P 22 39 51.6 +1.5
baz=135,SNR=9.1
ISCO Idaho Springs 45.93 333 P P 22 39 53.9 +1.4
ISCO IAmb IAmb 22 40 02.1
comp=Z,13nm,1.5s
ISCO Idaho Springs 45.93 333 P P 22 39 54.3 +1.8
baz=144
PV01 Paradox Valley 46.03 329 P P 22 39 54.5 +1.2
GLA Glamis 46.12 319 P P 22 39 55.2 +1.3
GLA IAmb IAmb 22 39 56.7
comp=Z,20nm,1.5s
GLA Glamis 46.12 319 P P 22 39 55.6 +1.8
baz=129
RMX La Rumorosa 46.67 318 P P 22 39 59.0 +0.8
RMX IAmb IAmb 22 40 01.5
comp=Z,10nm,1.1s
SWSC Sam W. Stewart 46.70 319 P P 22 39 60.0 +1.7
baz=128
IKP In-Ko-Pah, Jac 46.72 318 P P 22 40 00.4 +1.8
baz=128
U15A North Rim 46.81 325 P P 22 40 00.9 +1.4
U15A IAmb IAmb 22 40 02.8
comp=Z,18nm,1.6s
BC3 Big Chuckawall 46.91 320 P P 22 40 01.7 +1.6
baz=129,SNR=6.0
N23A Red Feather La 46.97 334 P P 22 40 02.1 +1.5
baz=145
IRM Iron Mountain 47.03 320 P P 22 40 02.4 +1.4
baz=130,SNR=6.0
O20A White River Ci 47.41 331 P P 22 40 05.6 +1.6
baz=142
BELC Belle Mtn. Jos 47.48 320 P P 22 40 06.1 +1.5
baz=129
TPFO Pinon Flats 47.53 319 P P 22 40 06.3 +1.3
baz=128
PFO Pinyon Flats O 47.54 319 P P 22 40 06.2 +1.2
comp=Z,5.6nm,1.1s,baz=121,slow=6.8,SNR=5.7
PFO LR LR 22 58 32.0
comp=Z,156nm,19.1s,baz=144,slow=34
PFO Pinyon Flats O 47.54 319 P P 22 40 05.6 +0.6
PFO IAmb IAmb 22 40 07.2
comp=Z,17nm,1.4s
PFO Pinyon Flats O 47.54 319 P P 22 40 06.3 +1.2
baz=128
GMRC Granite Mounta 47.76 321 P P 22 40 08.0 +1.3
baz=130
SRU San Rafael Swe 47.77 329 P P 22 40 07.9 +1.0
SRU IAmb IAmb 22 40 09.8
comp=Z,10nm,1.1s
P18A Preston Nutter 48.02 329 P P 22 40 09.8 +0.9
P18A IAmb IAmb 22 40 27.4
comp=Z,10nm,1.4s
SHPR Sheep Range 48.56 323 P P 22 40 13.7 +0.8
SHPR IAmb IAmb 22 40 15.8
comp=Z,8.2nm,1.2s
BFSC Mount Baldy Ra 48.71 319 P P 22 40 15.3 +1.2
baz=127
RSSD Black Hills 48.88 338 P P 22 40 16.0 +0.7
RSSD IAmb IAmb 22 40 17.9
comp=Z,9.0nm,1.1s
RSSD Black Hills 48.88 338 P P 22 40 17.3 +1.9
baz=149
EDW2 Edwards Air Fo 49.32 319 P P 22 40 20.2 +1.6
baz=127
TPNV Topopah Spring 49.51 322 P P 22 40 21.6 +1.4
TPNV Topopah Spring 49.51 322 P P 22 40 22.2 +2.0
baz=131
DUG Dugway, Tooele 49.77 328 P P 22 40 23.6 +1.5
baz=136
R11A Troy Canyon, C 50.04 324 P P 22 40 25.5 +1.2
baz=132
BW06 Boulder Array 50.09 333 P P 22 40 25.8 +1.2
baz=141
PDAR Pinedale Array 50.09 333 P P 22 40 25.2 +0.6
comp=Z,0.8nm,0.9s,baz=156,slow=8.1,SNR=7.1
PDAR LR LR 23 02 54.7
comp=Z,108nm,18.2s,baz=147,slow=38
PDAR Pinedale Array 50.09 333 P P 22 40 24.9 +0.3
ISA Isabella, Lake 50.11 320 P P 22 40 25.9 +1.2
baz=128
HWUT Hardware Ranch 50.16 330 P P 22 40 25.5 +0.4

HWUT IAmb IAmb 22 40 32.2
comp=Z,17nm,1.3s
CWC Cottonwood Cre 50.33 321 P **P** **22 40 28.5 +2.0**
baz=128
PKM Mcpherson Peak 50.53 318 P **P** **22 40 29.7 +1.7**
baz=126
REDW Red Top Meadow 51.15 332 P **P** **22 40 32.7 +0.1**
REDW IAmb IAmb 22 40 35.3
comp=Z,15nm,1.3s
ECR Eagle Creek 51.16 331 P **P** **22 40 32.7 0.0**
ELK Elko 51.47 327 LR LR 23 02 10.7
comp=Z,146nm,18.8s,baz=144,slow=36
ELK Elko 51.47 327 P **P** **22 40 35.9 +0.9**
NV11 Mina Array Sit 51.62 323 P **P** **22 40 37.4 +1.3**
NV11 IAmb IAmb 22 40 39.0
comp=Z,10nm,1.2s
OMMB Old Mammoth Mi 51.63 321 P **P** **22 40 37.4 +1.0**
OMMB IAmb IAmb 22 40 43.5
comp=Z,23nm,1.7s
NVAR Mina Array Bea 51.71 323 P **P** **22 40 38.9 +2.0**
comp=Z,7.3nm,1.1s,baz=138,slow=7.2,SNR=20
NVAR LR LR 23 01 31.1
comp=Z,105nm,19.2s,baz=124,slow=35
NVAR Mina Array Bea 51.71 323 P **P** **22 40 38.0 +1.1**
BMN Battle Mountai 52.37 325 P **P** **22 40 42.3 +0.7**
BMN IAmb IAmb 22 40 52.6
comp=Z,16nm,1.2s
QLMT Earthquake Lak 52.54 333 P **P** **22 40 43.4 +0.5**
HLID Hailey 53.03 330 P **P** **22 40 46.9 +0.4**
HLID Hailey 53.03 330 P **P** **22 40 47.5 +1.0**
baz=136,SNR=6.8
BOZ Bozeman (W) 53.22 333 P **P** **22 40 48.4 +0.5**
BOZ IAmb IAmb 22 40 58.5
comp=Z,19nm,1.6s
BOZ Bozeman (W) 53.22 333 P **P** **22 40 48.8 +1.0**
baz=140,SNR=9.8
MFID Camas Ranch 53.64 329 P **P** **22 40 51.4 +0.4**
MFID IAmb IAmb 22 40 53.5
comp=Z,9.2nm,1.1s
EGMT Eagleton 54.34 336 P **P** **22 40 56.5 +0.5**
EGMT IAmb IAmb 22 40 59.1
comp=Z,11nm,1.1s
EGMT Eagleton 54.34 336 P **P** **22 40 57.3 +1.4**
baz=144
ORV Oroville 54.36 322 P **P** **22 40 56.9 +0.7**
WVOR Wild Horse Val 54.49 326 P **P** **22 40 57.7 +0.5**
MSO Missoula 55.20 333 P **P** **22 41 02.6 +0.4**
MSO IAmb IAmb 22 41 12.0
comp=Z,22nm,1.7s
MSO Missoula 55.20 333 P **P** **22 41 03.3 +1.0**
baz=138
BMO Blue Mountains 55.41 329 P **P** **22 41 03.8 0.0**
O02D Mt. Diablo Mer 55.53 322 P **P** **22 41 05.3 +0.6**
baz=126
I07A Izee 56.05 327 P **P** **22 41 09.2 +0.8**
SCHQ Schefferville 56.22 10 LR LR 23 05 14.1
comp=Z,107nm,21.0s,baz=208,slow=36
YBH Yreka Blue Hor 56.40 323 P **P** **22 41 10.6 -0.3**
comp=Z,1.2nm,0.3s,baz=126,slow=3.4,SNR=4.1
YBH LR LR 23 05 13.5
comp=Z,109nm,21.4s,baz=143,slow=36
L04D Klamath Falls 56.46 324 P **P** **22 41 11.7 +0.4**
L04D Klamath Falls 56.46 324 P **P** **22 41 11.6 +0.2**
baz=128
J05D Fort Rock, OR 56.50 325 P **P** **22 41 12.7 +1.1**
baz=129,SNR=8.7
PINE Pine Mountain 56.65 326 P **P** **22 41 14.1 +1.3**
PINE IAmb IAmb 22 41 15.5
comp=Z,15nm,1.2s
J04D Umpqua Nationa 56.97 325 P **P** **22 41 16.5 +1.4**
baz=128
RKT Rikitea 57.16 243 *e*T T 23 42 36.5
comp=Z,3.3nm,0.3s
I05D Terrebonne, OR 57.22 326 P **P** **22 41 18.3 +1.6**
baz=130
I04A Tendick Farm, 57.48 325 P **P** **22 41 19.8 +1.3**
baz=128
K02D Willamette Mer 57.55 324 P **P** **22 41 20.1 +1.1**
baz=126,SNR=6.2
FFC Flin Flon 57.59 346 P **P** **22 41 19.4 +0.3**
FFC IAmb IAmb 22 41 28.9
comp=Z,12nm,1.4s
NEW Newport 57.72 332 LR LR 23 10 28.4
comp=Z,102nm,18.6s,baz=152,slow=40
NEW Newport 57.72 332 P **P** **22 41 22.1 +1.9**
baz=136
G05D Wamic, OR 57.79 327 P **P** **22 41 22.5 +1.9**
baz=130
I03D Drain, OR 57.96 325 P **P** **22 41 22.9 +1.1**
baz=127
J01E Myrtle Point 57.98 324 P **P** **22 41 23.1 +1.2**
baz=126
I02E Swisshome, OR 58.50 325 P **P** **22 41 26.8 +1.2**
baz=127
E04D Cinebar 59.30 328 P **P** **22 41 32.6 +1.5**
baz=129
EDM Edmonton 59.86 338 P **P** **22 41 34.9 0.0**
D03D Eldon 60.19 328 P **P** **22 41 37.9 +0.7**
baz=129
NLWA Neilton Lookou 60.52 328 P **P** **22 41 40.8 +1.3**
BBB Bella Bella 65.61 330 LR LR 23 11 44.9
comp=Z,82nm,18.4s,baz=91,slow=37
YKA Yellowknife Ar 67.64 344 P **P** **22 42 25.9 -0.1**
comp=Z,3.0nm,0.9s,baz=137,slow=6.0,SNR=44
PPT Papeete 69.62 251 LR LR 23 06 39.1
comp=Z,253nm,20.3s,baz=82,slow=30
PPT2 Papeete2 69.62 251 *e*LR LR 23 03 44.5
comp=Z,154nm,24.2s
TBI Tubuai 70.25 245 *e*LR LR 23 04 05.7
comp=Z,168nm,26.8s
WRGLY Wrigley 70.87 341 P **P** **22 42 47.3 +1.3**
baz=134
MMPY Sheldon Lake, 73.20 338 P **P** **22 43 02.2 +2.1**
baz=126,SNR=6.9
FARO Faro, Yukon 73.76 337 P **P** **22 43 05.2 +1.8**
baz=124
N31M Braeburn, Yuko 74.32 336 P **P** **22 43 07.8 +1.1**
baz=122
LIC Lamto 75.96 84 *e*P **P** **22 43 14.8 -2.2**
comp=Z,32nm,1.8s
TIC Toumodi 75.98 83 *e*P **P** **22 43 16.4 -0.8**
DBIC Dimbokro 76.15 83 P **P** **22 43 17.6 -0.5**
comp=Z,4.1nm,0.8s,baz=286,slow=5.0,SNR=4.9
DBIC LR LR 23 15 58.0
comp=Z,127nm,19.1s,baz=244,slow=35
DBIC Dimbokro 76.15 83 P **P** **22 43 17.6 -0.5**
KIC Kosan Boka 76.25 83 *e*P **P** **22 43 18.5 -0.2**
comp=Z,24nm,0.8s
YUK3 Moose Creek 76.41 335 P **P** **22 43 19.9 +1.0**
baz=118
DAWY Dawson 77.06 337 P **P** **22 43 22.4 +0.1**
DAWY Dawson 77.06 337 P **P** **22 43 23.3 +1.0**
baz=119
EPYK Eagle Plains 77.27 340 P **P** **22 43 24.5 +1.1**
baz=122
INK Inuvik 77.32 342 P **P** **22 43 24.3 +0.8**
comp=Z,3.6nm,0.6s,baz=102,slow=5.3,SNR=16
INK LR LR 23 19 58.1
comp=Z,140nm,18.0s,baz=111,slow=38
INK Inuvik 77.32 342 P **P** **22 43 24.0 +0.5**
INK IAmb IAmb 22 43 25.3
comp=Z,14nm,1.2s
INK Inuvik 77.32 342 P **P** **22 43 24.1 +0.5**
baz=125,SNR=7.6
KOWA Kowa 77.36 75 P **P** **22 43 24.7 -0.3**
A36M Sachs Harbour 77.51 347 P **P** **22 43 24.4 -0.2**
A36M Sachs Harbour 77.51 347 P **P** **22 43 24.0 -0.6**
baz=134,SNR=13
BCAR Beaver Creek A 77.55 336 P **P** **22 43 25.9 +0.8**
L27K Beaver Creek, 77.56 336 P **P** **22 43 26.1 +1.0**
baz=116
EGAK Eagle 78.08 338 P **P** **22 43 28.6 +0.6**
EGAK IAmb IAmb 22 43 37.8
comp=Z,7.1nm,1.0s
EGAK Eagle 78.08 338 P **P** **22 43 28.4 +0.5**
baz=117
SCRK Sand Creek 78.83 336 P **P** **22 43 32.9 +0.6**
baz=115
J26L Joseph Creek 78.89 337 P **P** **22 43 32.7 +0.2**
baz=115
KNK Knik Glacier 79.76 333 P **P** **22 43 38.3 +1.1**
baz=110
SEW Seward 79.78 332 P **P** **22 43 38.0 +0.7**
baz=109
SML Sawmill 79.84 334 P **P** **22 43 38.1 +0.3**
baz=110
WAT6 Susitna Watana 79.85 334 P **P** **22 43 37.9 0.0**
baz=111
ESDC Sonseca Array 80.16 50 P **P** **22 43 39.4 -0.6**
comp=Z,1.1nm,0.9s,baz=271,slow=7.3,SNR=4.8
ESDC Sonseca Array 80.16 50 P **P** **22 43 40.3 +0.3**
ESDC IAmb IAmb 22 43 50.9
comp=Z,15nm,1.7s
ILAR Eielson Array 80.31 337 P **P** **22 43 40.0 -0.1**
comp=Z,1.7nm,1.1s,baz=132,slow=4.2,SNR=7.1
ILAR LR LR 23 21 15.8
comp=Z,63nm,19.5s,baz=170,slow=37
ILAR Eielson Array 80.31 337 P **P** **22 43 40.5 +0.4**
BMAR Burnt Mountain 80.50 339 P **P** **22 43 41.5 +0.3**
POKR Poker Plat Res 80.65 337 P **P** **22 43 42.1 +0.1**
baz=112
H24K Noodor Dome 81.09 337 P **P** **22 43 44.4 0.0**
baz=111
NEA2 Nenana 81.12 336 P **P** **22 43 44.2 -0.3**
baz=110
SII Sitkinak Islan 81.16 328 P **P** **22 43 44.7 -0.1**
baz=104
BELA Belgrano 2 81.23 171 P **P** **22 43 44.5 -0.4**
BELA IAmb IAmb 22 43 58.8
comp=Z,12nm,1.4s
BPAW Bear Paw Mtn. 81.74 335 P **P** **22 43 47.4 -0.5**
BPAW IAmb IAmb 22 43 56.4
comp=Z,11nm,1.4s
BPAW Bear Paw Mtn. 81.74 335 P **P** **22 43 47.8 0.0**
baz=108
CHIR Chirikof Islan 81.77 327 P **P** **22 43 47.6 -0.5**
baz=103
PPLA Purkeypile 81.89 334 P **P** **22 43 48.4 -0.5**
CAST Castle Rocks 82.00 335 P **P** **22 43 48.7 -0.5**
CAST IAmb IAmb 22 43 57.4
comp=Z,6.3nm,1.1s
CAST Castle Rocks 82.00 335 P **P** **22 43 49.3 +0.1**
baz=107
CHUM Lake Minchumin 82.24 335 P **P** **22 43 50.5 +0.1**
baz=107
COLD Coldfoot 82.44 338 P **P** **22 43 51.7 +0.3**
baz=109
I21K Tanana 82.48 336 P **P** **22 43 51.2 -0.4**
baz=107
TOLK Toolik Lake Re 82.70 340 P **P** **22 43 53.0 +0.2**
baz=110
TOA0 Torodi Ar. Sit 82.84 77 P **P** **22 43 53.7 -0.8**
TOA0 IAmb IAmb 22 44 02.5
comp=Z,7.4nm,1.2s
TORD Torodi Ar. Bea 82.84 77 P **P** **22 43 53.7 -0.8**
comp=Z,1.1nm,0.5s,baz=280,slow=6.7,SNR=20
TORD Torodi Ar. Bea 82.84 77 P **P** **22 43 53.5 -1.0**
TORD IAmb IAmb 22 44 02.5
comp=Z,8.3nm,1.4s
L19K White Mountain 82.89 333 P **P** **22 43 54.2 +0.3**
baz=104
J20K Nowinta River 83.09 335 P **P** **22 43 54.8 0.0**
baz=105
CHGN Chignik 83.40 327 P **P** **22 43 56.2 -0.3**
baz=101
IMAR Indian Mountai 83.42 337 P **P** **22 43 56.4 -0.1**
SNAA Sanae 85.89 162 P **P** **22 44 08.6 -0.3**
QSPA South Pole Qui 89.68 180 P **P** **22 44 27.6 +0.2**
CLL Collm 92.71 39 *e*SKSac **SKSac** **22 55 18.0 +1.8**
CLL *e*S **ScS** **22 55 49.0 -0.4**
CLL *e*PS PS 22 56 58.0 -1.0
CLL *e*SSS SSS 23 05 12.0
CLL Lm MLR 23 32 00.0
comp=Z,100nm,19.3s
VNDA Vanda 95.36 191 LR LR 23 25 09.9
comp=Z,106nm,18.3s,baz=152,slow=34
TSUM Tsumeb 97.86 109 LR LR 23 25 52.5
comp=Z,227nm,20.4s,baz=308,slow=33
SUR Sutherland 99.66 123 LR LR 23 25 11.0
comp=Z,124nm,20.1s,baz=302,slow=32
ZALV Zalesovo Beam 125.30 10 PKP **PKPdf** **22 50 29.3 -0.9**
comp=Z,0.6nm,0.5s,baz=276,slow=3.3,SNR=3.9
MKAR Makanchi Array 131.47 15 PKP **PKPdf** **22 50 41.2 -1.1**
comp=Z,0.3nm,0.7s,baz=307,slow=3.0,SNR=3.0
KSRS Korea Array 134.53 327 PKP **PKPdf** **22 50 47.7 -0.6**
comp=Z,1.1nm,0.7s,baz=50,slow=3.2,SNR=1.8
ASAR Alice Springs 138.64 232 PKhKP PKPpre 22 50 53.0
comp=Z,0.7nm,0.8s,baz=120,slow=3.3,SNR=2.3
ASAR PKP **PKPdf** **22 50 56.5 +0.2**
comp=Z,1.0nm,1.0s,baz=149,slow=3.7,SNR=4.3
WRA Warramunga Arr 140.04 238 PKhKP PKPpre 22 50 50.9
comp=Z,0.3nm,0.5s,baz=124,slow=2.4,SNR=13
WRA PKP **PKPdf** **22 50 57.6 -1.4**
comp=Z,0.8nm,0.7s,baz=109,slow=2.5,SNR=13
LZH Lanzhou 144.19 353 *e*PKP **PKPab** **22 51 03.5 -0.3**
LZH pPKP PKiKP 22 51 11.0 +1.3
PZH PanZhiHua 153.90 355 PKPbc **PKPab** **22 51 40.8 -1.9**
CMAR Chiang Mai Arr 162.02 1 PKPab **PKPab** **22 52 17.5 -0.3**
comp=Z,0.4nm,0.3s,baz=348,slow=3.1,SNR=4.0

IDC 20 22:36:08.7±1.9, 13°.84N×87°.42W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/42, mbtmp3.8/3, Error ellipse: s-maj=74.0km s-min=29.4km az=63.0, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**21.54**	**318**	P	P	22 40 59.8	-0.1
	0.7nm,0.8s,baz=126,slow=13,SNR=3.6						
LPAZ	**La Paz**	**35.49**	**147**	P	P	22 43 08.0	-0.1
	2.3nm,0.9s,baz=328,slow=9.5,SNR=4.6						
SCHQ	**Schefferville**	**43.95**	**17**	P	P	22 44 17.3	0.0
	3.4nm,0.9s,baz=231,slow=8.7,SNR=3.1						

IDC 20 22:38:31.7±3.4, 0°.53S×80°.69W, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.5/37, mbtmp3.5/5, ML2.6/1, Error ellipse: s-maj=95.0km s-min=38.9km az=19.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**13.71**	**47**	Pn	Pn	22 41 48.8	+1.1
	0.3nm,0.3s,baz=262,slow=15,SNR=1.9						
TXAR	**Lajitas Array**	**36.93**	**325**	P	P	22 45 41.6	-1.1
	0.1nm,0.6s,baz=152,slow=10,SNR=1.9						
NVAR	**Mina Array Bea**	**51.94**	**322**	P	P	22 47 44.5	+1.6
	0.2nm,0.3s,baz=133,slow=7.6,SNR=1.4						
YKA	**Yellowknife Ar**	**67.84**	**344**	P	P	22 49 30.9	-0.6
	0.4nm,0.9s,baz=135,slow=6.1,SNR=5.8						
TORD	**Torodi Ar. Bea**	**82.70**	**77**	P	P	22 50 58.1	0.0
	0.8nm,1.1s,baz=264,slow=6.8,SNR=2.6						

*NEIC **20** 22:43:52.8±1.4, 18°.05±0°.1×179°.39W±0°.10, h617km±6km, mb4.5/95, Error ellipse: s-maj=16.6km s-min=12.8km az=150.0*

*NOU **20** 22:43:52.9, 17°.89S×179°.33W, h639km, mb4.9/48, Fiji Islands Region*

*IDC **20** 22:43:54.1±0.6, 18°.06S×179°.50W, h640km±6km, mb3.6/21, mb1 3.8/23, mb1mx3.7/37, mbtmp4.5/23, Error ellipse: s-maj=15.2km s-min=8.5km az=153.0*

ISC 20 22:43:52.4±0.3, 18°.02S±0°.07×179°.39W±0°.06, h622km, n308, σ0°.96/309, mb4.5/81, 20C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.45**	**276**	P	P	**22 45 13.4**	**+2.7**
	58nm,0.3s,baz=128,slow=8.8,SNR=112						
MSVF				S	S	**22 46 19.4**	**+4.8**
	28nm,0.3s,baz=291,slow=22,SNR=6.6						
MSVF	**Nonsavu**	**2.45**	**276**	P	P	**22 45 12.6**	**+1.8**
MSVF	**Nonsavu**	**2.45**	**276**	P	P	**22 45 13.5**	**+2.7**
AFI	**Afiamalu**	**8.39**	**62**	P	P	**22 45 54.3**	**-2.1**
	14nm,0.3s,baz=236,slow=2.5,SNR=14						
AFI	**Afiamalu**	**8.39**	**62**	P	P	**22 45 56.4**	**0.0**
MARNC	**Mare, Loyalty**	**12.33**	**252**	P	P	**22 46 34.1**	**-0.3**
LIFNC	**LIFOU**	**12.91**	**256**	P	P	**22 46 39.8**	**-0.2**
PINNC	**Pines Island,**	**13.16**	**248**	P	P	**22 46 42.3**	**-0.2**
OUENC	**Ouen Island, N**	**13.64**	**249**	P	P	**22 46 46.8**	**-0.3**
DZM	**Mont Dzumac**	**13.90**	**251**	P	P	**22 46 50.1**	**+0.3**
	2.2nm,0.3s,baz=132,slow=23,SNR=18						
DZM	**Mont Dzumac**	**13.90**	**251**	*e*P	P	**22 46 50.2**	**+0.4**
	23nm,0.7s						
DZM	**Mont Dzumac**	**13.90**	**251**	P	P	**22 46 50.2**	**+0.4**
KOUNC	**Koumac, New Ca**	**15.61**	**258**	P	P	**22 47 07.2**	**+1.9**
KOUNC				IAmb	IAmb	22 47 08.5	
	comp=Z,53nm,1.0s						
KNTN	**Kanton**	**16.92**	**27**	P	P	**22 47 16.2**	**-1.2**
KNTN				IAmb	IAmb	22 47 42.4	
	comp=Z,19nm,1.1s						
BFZ	**Birch Farm**	**22.89**	**189**	P	P	**22 48 11.2**	**+0.5**
BFZ				IAmb	IAmb	22 48 37.3	
	comp=Z,32nm,1.2s						
QRZ	**Quartz Range**	**23.77**	**195**	P	P	**22 48 19.2**	**+0.7**
QRZ	**Quartz Range**	**23.77**	**195**	P	P	**22 48 19.6**	**+1.1**
LTZ	**Lake Taylor**	**25.68**	**194**	P	P	**22 48 33.9**	**-1.5**
LTZ				IAmb	IAmb	22 48 35.5	
	comp=Z,13nm,1.0s						
RPZ	**Rata Peaks**	**26.85**	**195**	P	P	**22 48 44.9**	**-0.7**
	comp=Z,5.3nm,0.7s,baz=13,slow=7.3,SNR=3.5						
EIDS	**Eidsvold**	**28.35**	**250**	P	P	**22 48 58.9**	**0.0**
	baz=28,SNR=5.8						
EIDS	**Eidsvold**	**28.35**	**250**	P	P	**22 48 58.9**	**0.0**
PPT	**Papeete**	**28.38**	**94**	P	P	**22 49 00.2**	**+0.9**
	comp=Z,25nm,0.6s,baz=88,slow=4.9,SNR=4.3						
PPTF	**Pamatai, Papee**	**28.39**	**94**	P	P	**22 48 59.9**	**+0.5**
ARMA	**Armidale**	**29.07**	**239**	P	P	**22 49 05.9**	**+0.7**
	baz=29,SNR=13						
ARMA	**Armidale**	**29.07**	**239**	P	P	**22 49 06.1**	**+0.9**
ARMA				IAmb	IAmb	22 49 07.2	
	comp=Z,19nm,0.8s						
ARMA	**Armidale**	**29.07**	**239**	P	P	**22 49 05.9**	**+0.7**
MGCD	**Mangrove Creek**	**30.46**	**235**	P	P	**22 49 18.4**	**+1.4**
	baz=31,SNR=9.9						
MGCD	**Mangrove Creek**	**30.46**	**235**	P	P	**22 49 18.1**	**+1.2**
RMQ	**Roma**	**30.59**	**248**	P	P	**22 49 19.2**	**+1.0**
	baz=31,SNR=20						
SYDH	**Sydney Hard Ro**	**30.96**	**234**	P	P	**22 49 22.5**	**+1.4**
CTA	**Charters Tower**	**32.50**	**261**	P	P	**22 49 34.4**	**0.0**
	comp=Z,21nm,0.6s,baz=97,slow=9.1,SNR=8.6						
CTA	**Charters Tower**	**32.50**	**261**	P	P	**22 49 34.6**	**+0.2**
CTAO	**Charters Tower**	**32.50**	**261**	P	P	**22 49 34.4**	**0.0**
CNB	**Canberra Magne**	**32.62**	**232**	P	P	**22 49 36.4**	**+1.2**
	baz=33,SNR=23						
CNB	**Canberra Magne**	**32.62**	**232**	P	P	**22 49 36.4**	**+1.2**
CAN	**Canberra**	**32.89**	**232**	P	P	**22 49 37.7**	**+0.2**
CAN				IAmb	IAmb	22 49 39.3	
	comp=Z,19nm,1.0s						
CAN	**Canberra**	**32.89**	**232**	P	P	**22 49 38.0**	**+0.5**
PMG	**Port Moresby**	**33.55**	**280**	P	P	**22 49 44.3**	**+1.0**
PMG	**Port Moresby**	**33.55**	**280**	P	P	**22 49 43.3**	**0.0**
PMG	**Port Moresby**	**33.55**	**280**	P	P	**22 49 43.2**	**0.0**
CMSA	**Cobar Meteorol**	**34.28**	**240**	P	P	**22 49 49.6**	**+0.7**
	baz=34,SNR=33						
CMSA	**Cobar Meteorol**	**34.28**	**240**	P	P	**22 49 49.9**	**+0.8**
MTSU	**Mount Surprise**	**34.46**	**264**	P	P	**22 49 51.0**	**+0.2**
	baz=35,SNR=20						
MTSU	**Mount Surprise**	**34.46**	**264**	P	P	**22 49 51.2**	**+0.4**
QLP	**Quilpie**	**34.62**	**249**	P	P	**22 49 52.3**	**+0.3**
	baz=35,SNR=11						
QLP	**Quilpie**	**34.62**	**249**	P	P	**22 49 52.4**	**+0.4**
GLAD	**Gladstone**	**36.12**	**224**	P	P	**22 50 04.9**	**+0.8**
COEN	**Coen**	**36.17**	**271**	P	P	**22 50 05.6**	**+0.7**
COEN	**Coen**	**36.17**	**271**	P	P	**22 50 05.8**	**+0.9**
	comp=Z,66nm,0.8s						
MANU	**Manus Island**	**36.27**	**292**	P	P	**22 50 06.2**	**+0.5**
MANU				IAmb	IAmb	22 50 07.7	
	comp=Z,26nm,0.9s						
TOO	**Toolangi**	**36.37**	**230**	P	P	**22 50 07.3**	**+1.0**
	baz=36,SNR=10						
TOO	**Toolangi**	**36.37**	**230**	P	P	**22 50 07.0**	**+0.7**
TOO	**Toolangi**	**36.37**	**230**	P	P	**22 50 07.6**	**+1.3**
CORO	**Coronation Par**	**36.91**	**224**	P	P	**22 50 12.0**	**+1.4**
BRAT	**Ballarat**	**37.52**	**231**	P	P	**22 50 16.9**	**+1.4**
TAU	**Tasmania Unive**	**37.53**	**221**	P	P	**22 50 15.7**	**+0.2**
TAU				IAmb	IAmb	22 50 17.0	
	comp=Z,15nm,0.8s						
STKA	**Stephens Creek**	**37.76**	**241**	P	P	**22 50 18.6**	**+1.1**
	comp=Z,28nm,0.6s,baz=93,slow=10,SNR=68						
STKA	**Stephens Creek**	**37.76**	**241**	P	P	**22 50 18.7**	**+1.1**
	baz=38,SNR=34						
STKA	**Stephens Creek**	**37.76**	**241**	P	P	**22 50 18.7**	**+1.1**
STKA				IAmb	IAmb	22 50 19.6	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**37.76**	**241**	P	P	**22 50 18.8**	**+1.2**
INKA	**Innaminka**	**37.84**	**248**	P	P	**22 50 19.7**	**+1.4**
QIS	**Mount Isa**	**38.71**	**259**	P	P	**22 50 24.9**	**-0.6**
	baz=39,SNR=6.2						
QIS	**Mount Isa**	**38.71**	**259**	P	P	**22 50 25.3**	**-0.2**
ARPS	**Mount Arapiles**	**38.83**	**233**	P	P	**22 50 26.6**	**+0.4**
	baz=39,SNR=9.1						
ARPS	**Mount Arapiles**	**38.83**	**233**	P	P	**22 50 26.7**	**+0.5**
TAOE	**Nuku Hiva Isla**	**39.17**	**82**	P	P	**22 50 29.6**	**+0.3**
HTT	**Hallett**	**40.28**	**239**	P	P	**22 50 38.5**	**+0.6**
	baz=40,SNR=36						
HTT	**Hallett**	**40.28**	**239**	P	P	**22 50 38.7**	**+0.8**
LCRK	**Leigh Creek**	**40.36**	**244**	P	P	**22 50 39.1**	**+0.6**
NAPP	**Napperby**	**40.87**	**240**	P	P	**22 50 43.7**	**+1.3**
TWOA	**Tennyson Woods**	**40.91**	**237**	P	P	**22 50 43.4**	**+0.7**
WHYH	**Whyalla**	**41.31**	**240**	P	P	**22 50 46.7**	**+0.8**
OOD	**Oodnadatta**	**42.31**	**248**	P	P	**22 50 54.8**	**+1.0**
BBOO	**Buckleboo**	**42.53**	**241**	P	P	**22 50 55.9**	**+0.5**
	baz=43,SNR=122						
BBOO	**Buckleboo**	**42.53**	**241**	P	P	**22 50 55.8**	**+0.3**
BBOO	**Buckleboo**	**42.53**	**241**	P	P	**22 50 56.0**	**+0.5**
WR0	**Warramunga Arr**	**43.50**	**260**	P	P	**22 51 02.3**	**-0.8**
WR0				IAmb	IAmb	22 51 03.6	
	comp=Z,22nm,1.2s						
WRAB	**Tennant Creek**	**43.68**	**260**	P	P	**22 51 03.6**	**-1.0**
WRAB	**Tennant Creek**	**43.68**	**260**	P	P	**22 51 04.1**	**-0.5**
WRA	**Warramunga Arr**	**43.69**	**260**	P	P	**22 51 03.9**	**-0.8**
	comp=Z,21nm,0.5s,baz=94,slow=6.9,SNR=406						
WRA				PcP	**PcP**	**22 52 37.2**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=312,slow=0.8,SNR=3.0						
WRA				ScP	**ScP**	**22 55 31.1**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=82,slow=5.0,SNR=5.0						
WRA				S	**S**	**22 56 47.7**	**-3.6**
	comp=Z,1.1nm,0.9s,baz=90,slow=14,SNR=5.3						
WRA	**Warramunga Arr**	**43.69**	**260**	P	P	**22 51 03.5**	**-1.1**
AS31	**Alice Springs**	**43.86**	**254**	P	P	**22 51 06.0**	**+0.1**
ASAR	**Alice Springs**	**43.86**	**254**	P	P	**22 51 06.0**	**+0.1**
	comp=Z,206nm,0.6s,baz=88,slow=8.3,SNR=2090						
ASAR				PcP	**PcP**	**22 52 36.8**	**-1.2**
	comp=Z,3.0nm,0.5s,baz=102,slow=3.4,SNR=1.5						
ASAR				ScP	**ScP**	**22 55 31.5**	**0.0**
	comp=Z,3.9nm,0.8s,baz=100,slow=4.0,SNR=11						
ASAR				S	**S**	**22 56 51.4**	**-2.3**
	comp=Z,2.3nm,0.9s,baz=89,slow=16,SNR=11						
ASAR	**Alice Springs**	**43.86**	**254**	P	P	**22 51 06.1**	**+0.1**
ASAR					**ScP**	**22 55 32.3**	**+0.9**
MULG	**Mulgathing**	**43.91**	**245**	P	P	**22 51 06.4**	**+0.2**
HMH	**Humu'ula Sheep**	**44.15**	**33**	P	P	**22 51 09.0**	**+0.6**
KDU	**Kakadu**	**46.62**	**269**	P	P	**22 51 26.5**	**-0.4**
	baz=47,SNR=21						
KDU	**Kakadu**	**46.62**	**269**	P	P	**22 51 26.7**	**-0.2**
MTN	**Manton Dam**	**47.86**	**269**	P	P	**22 51 35.7**	**-0.5**
	baz=48,SNR=5.5						
MTN	**Manton Dam**	**47.86**	**269**	P	P	**22 51 35.7**	**-0.5**
MTN				IAmb	IAmb	22 51 36.3	
	comp=Z,25nm,0.7s						
WRKA	**Warakurna**	**48.92**	**252**	P	P	**22 51 44.0**	**+0.1**
	baz=49,SNR=116						
WRKA	**Warakurna**	**48.92**	**252**	P	P	**22 51 44.1**	**+0.2**
FORT	**Forrest**	**49.11**	**245**	P	P	**22 51 44.8**	**-0.4**
	baz=49,SNR=53						
FORT	**Forrest**	**49.11**	**245**	P	P	**22 51 44.8**	**-0.4**
FORT	**Forrest**	**49.11**	**245**	P	P	**22 51 44.9**	**-0.3**
KNRA	**Kununurra**	**49.55**	**265**	P	P	**22 51 48.3**	**-0.2**
	baz=50,SNR=17						
KNRA	**Kununurra**	**49.55**	**265**	P	P	**22 51 48.4**	**-0.2**
KNRA	**Kununurra**	**49.55**	**265**	P	P	**22 51 48.5**	**0.0**
FITZ	**Fitzroy Crossi**	**52.09**	**261**	P	P	**22 52 07.0**	**+0.2**
	baz=52,SNR=4.7						
FITZ	**Fitzroy Crossi**	**52.09**	**261**	P	P	**22 52 07.2**	**+0.3**
FITZ				IAmb	IAmb	22 52 07.5	
	comp=Z,9.1nm,0.7s						
AAI	**Ambon**	**53.21**	**279**	P	P	**22 52 14.4**	**-0.5**
	comp=Z,68nm,0.5s						
LBMI	**Labuha**	**54.93**	**282**	P	P	**22 52 27.5**	**+0.6**
	comp=Z,34nm,0.8s						
TNTI	**Ternate**	**55.58**	**284**	P	P	**22 52 31.4**	**0.0**
TNTI				IAmb	IAmb	22 52 32.5	
	comp=Z,33nm,0.7s						
TNTI	**Ternate**	**55.58**	**284**	P	P	**22 52 31.9**	**+0.5**
	comp=Z,50nm,0.9s						
TNTI	**Ternate**	**55.58**	**284**	P	P	**22 52 31.8**	**+0.4**
SANI	**Sanana**	**55.84**	**280**	P	P	**22 52 32.6**	**-0.6**
	comp=Z,57nm,0.9s						
SANI	**Sanana**	**55.84**	**280**	P	P	**22 52 32.6**	**-0.6**
	comp=Z,57nm,0.8s						
PSA00	**Pilbara Seismi**	**56.97**	**256**	P	P	**22 52 40.4**	**-0.5**
PSA00				IAmb	IAmb	22 52 41.3	
	comp=Z,38nm,0.7s						
PSA00	**Pilbara Seismi**	**56.97**	**256**	P	P	**22 52 40.1**	**-0.8**
PSA00				IAmb	IA

MBWA Marble Bar 57.14 256 P P 22 52 41.5 -0.5
MBWA IAmb IAmb 22 52 42.0
comp=Z,23nm,0.8s
MEEK Meekatharra 57.52 250 P P 22 52 43.8 -0.8
baz=58,SNR=19
KLBR Kellerberrin 57.94 244 P P 22 52 46.7 -0.6
baz=58,SNR=12
NWAO Narrogin (SRO) 58.33 242 P P 22 52 49.4 -0.5
NWAO IAmb IAmb 22 52 50.0
comp=Z,13nm,0.8s
BLDU Ballidu 58.89 245 P P 22 52 53.0 -0.6
baz=59,SNR=16
MORW Morawa 59.58 246 P P 22 52 57.7 -0.6
baz=60,SNR=5.1
MORW Morawa 59.58 246 P P 22 52 57.5 -0.7
MORW IAmb IAmb 22 52 58.5
comp=Z,13nm,0.6s
VNDA Vanda 60.26 185 P P 22 53 01.9 +0.1
comp=Z,0.4nm,0.5s,baz=23,slow=7.5,SNR=2.5
VNDA Vanda 60.26 185 P P 22 53 02.5 +0.6
APSI Ampana 60.30 280 P P 22 53 04.0 +0.8
comp=Z,547nmcomp=Z,65nm,1.1s
KAPI Kappang 60.77 274 P P 22 53 05.4 -0.9
KAPI IAmb IAmb 22 53 23.2
comp=Z,30nm,1.2s
PLAI Plampang 61.55 270 P P 22 53 10.8 -0.6
comp=Z,70nm,0.9s
PLAI Plampang 61.55 270 P P 22 53 11.4 0.0
comp=Z,70nm,0.9s
TOLI2 Tolitoli 61.82 281 P P 22 53 11.6 -1.5
TOLI2 IAmb IAmb 22 53 16.7
comp=Z,12nm,0.7s
TOLI2 Tolitoli 61.82 281 P P 22 53 12.9 -0.2
GIRL Giralia 61.96 254 P P 22 53 14.9 +0.9
baz=62,SNR=8.6
GIRL Giralia 61.96 254 P P 22 53 14.4 +0.5
MPSI Mapaga 62.37 280 P P 22 53 16.7 0.0
comp=Z,1µmcomp=Z,38nm,0.7s
JHJ2 Mitsune 64.06 322 P P 22 53 26.9 -0.1
JAGI Jajag, Banyuwa 65.10 269 P P 22 53 32.6 -1.4
JAGI Jajag, Banyuwa 65.10 269 P P 22 53 32.4 -1.6
comp=Z,74nm,0.8s
JAGI Jajag, Banyuwa 65.10 269 P P 22 53 33.0 -1.0
comp=Z,74nm,0.8s
MYLDM Lahad Datu 65.43 285 P P 22 53 36.4 +0.4
MYLDM IAmb IAmb 22 53 39.7
comp=Z,22nm,1.2s
CASY Casey 65.64 205 P P 22 53 36.5 +0.1
CASY IAmb IAmb 22 53 38.1
comp=Z,9.9nm,0.9s
MJAR Matsushiro Arr 67.44 324 P P 22 53 46.8 -1.2
comp=Z,4.5nm,0.6s,baz=151,slow=8.5,SNR=8.3
MJAR Matsushiro Arr 67.44 324 P P 22 53 47.2 -0.7
MJB9 Matsu-Tunnel 67.45 324 P P 22 53 47.6 -0.4
MJB9 IAmb IAmb 22 53 48.0
comp=Z,8.9nm,0.6s
PWJI Pagerwojo 67.46 269 P P 22 53 48.6 +0.1
comp=Z,36nm,1.5s
KKM Kota Kinabalu 67.86 284 P P 22 53 50.9 -0.2
KKM IAmb IAmb 22 53 51.5
comp=Z,16nm,0.6s
PCJI Pacitan 68.01 268 P P 22 53 52.0 +0.2
comp=Z,127nm,0.8s
UGM Wanagama 68.71 268 P P 22 53 55.5 -0.6
PBKI Pangkalan Bun 69.14 274 P P 22 53 59.2 +0.5
comp=Z,60µmcomp=Z,33nm,0.4s
JHS Saijyo 69.37 320 P P 22 54 00.3 +0.7
JHS IAmb IAmb 22 54 01.0
comp=Z,20nm,0.9s
STKI Sintang 70.20 277 P P 22 54 06.1 +1.1
YOJ Yonaguni jima 70.24 305 P P 22 54 04.8 -0.1
YULB Yu-li 71.04 303 P P 22 54 08.8 -0.8
YULB IAmb IAmb 22 54 09.5
comp=Z,7.9nm,0.6s
SSLB Suanglung 71.51 304 P P 22 54 11.0 -1.4
KSM Kuching 71.77 278 P P 22 54 14.5 +0.4
KSM Kuching 71.77 278 P P 22 54 14.6 +0.5
QSPA South Pole Qui 72.03 180 P P 22 54 15.0 +0.2
PETK Petropavlovsk- 73.56 346 P P 22 54 23.0 -0.4
comp=Z,3.0nm,0.6s,baz=116,slow=6.6,SNR=4.3
KSRS Korea Array 74.17 319 P P 22 54 27.1 0.0
comp=Z,1.5nm,0.6s,baz=135,slow=6.2,SNR=5.6
USA0B Ussuriysk Arra 76.18 326 P P 22 54 39.3 +1.1
USA0B IAmb IAmb 22 54 40.2
comp=Z,9.0nm,0.8s
USRK Ussuriysk Ar. 76.18 326 P P 22 54 39.1 +0.9
comp=Z,3.9nm,0.6s,baz=104,slow=6.1,SNR=8.7
USRK Ussuriysk Ar. 76.18 326 P P 22 54 39.4 +1.2
MNAI Manna 76.93 270 P P 22 54 43.2 +0.2
KMRM Mail Ridge 77.70 40 P P 22 54 47.1 +0.4
KMRM IAmb IAmb 22 54 48.9
comp=Z,17nm,0.9s
CMB Columbia Colle 78.57 44 P P 22 54 51.8 +0.6
CMB IAmb IAmb 22 54 52.8
comp=Z,6.7nm,0.8s
ISA Isabella, Lake 78.57 47 P P 22 54 51.7 +0.3
ORV Oroville 78.70 42 P P 22 54 52.2 +0.4
YUH Yuha Desert 78.84 50 P P 22 54 53.1 +0.3
M02C Callahan 78.92 40 P P 22 54 54.0 +0.9
YBH Yreka Blue Hor 79.21 40 P P 22 54 55.5 +0.8
comp=Z,4.9nm,0.6s,baz=126,slow=0.8,SNR=15
YBH Yreka Blue Hor 79.21 40 P P 22 54 55.7 +1.1
YBH IAmb IAmb 22 54 56.5
comp=Z,4.6nm,0.6s
SLBS Sierra La Lagu 79.43 61 P P 22 54 57.4 +1.2
SLBS IAmb IAmb 22 54 58.2
comp=Z,8.1nm,0.8s
CN2 Changchun 79.54 323 eP P 22 54 56.9 +0.7
CN2 pmax pmax
comp=Z,10.0nm,0.6s
LCH Last Change Ra 79.97 46 P P 22 54 59.2 +0.4
GWY Greenwater Val 80.09 47 P P 22 54 59.8 +0.3
NVAR Mina Array Bea 80.16 44 P P 22 55 00.6 +0.7
comp=Z,3.8nm,0.8s,baz=225,slow=9.1,SNR=22
NVAR Mina Array Bea 80.16 44 P P 22 55 00.8 +0.9
NV11 Mina Array Sit 80.26 44 P P 22 55 01.0 +0.7
KVN Kaiserville 80.62 44 P P 22 55 02.7 +0.5
MOD Modoc Plateau 80.78 40 P P 22 55 03.5 +0.6
MOD IAmb IAmb 22 55 04.5
comp=Z,6.3nm,0.7s
UBPT Khong Chiam 81.08 289 P P 22 55 04.8 0.0
UBPT IAmb IAmb 22 55 05.7
comp=Z,5.0nm,0.7s
H04A Detroit Lake 81.25 37 P P 22 55 05.5 +0.5
H04A IAmb IAmb 22 55 05.7
comp=Z,7.4nm,0.5s
PINE Pine Mountain 81.46 39 P P 22 55 07.0 +0.6
PINE IAmb IAmb 22 55 08.3
comp=Z,9.2nm,0.8s
IPM Ipoh 81.51 278 P P 22 55 07.6 +0.5
IPM IAmb IAmb 22 55 07.9
comp=Z,18nm,0.6s
IPM Ipoh 81.51 278 P P 22 55 07.1 0.0
PRN Pahroc Range 81.83 46 P P 22 55 09.5 +1.1
PRN IAmb IAmb 22 55 10.4
comp=Z,8.1nm,0.9s
NLWA Neilton Lookou 81.93 34 P P 22 55 09.2 +0.8
WVOR Wild Horse Val 82.10 41 P P 22 55 10.1 +0.5
WVOR IAmb IAmb 22 55 11.3
comp=Z,6.6nm,0.9s
KULM Kulim 82.12 278 P P 22 55 10.1 -0.1
KULM IAmb IAmb 22 55 15.0
comp=Z,23nm,1.4s
BELA Belgrano 2 82.17 173 P P 22 55 08.9 -0.3
I07A Izee 82.48 39 P P 22 55 12.2 +0.7
I07A IAmb IAmb 22 55 13.1
comp=Z,5.2nm,0.8s
TUC Tucson 82.51 53 P P 22 55 12.6 +0.8
LCMT Little Creek M 82.90 48 P P 22 55 14.4 +0.7
LYN LuoYang 83.17 310 ⇑ iP P 22 55 16.0 +1.1
LYN pmax pmax
comp=Z,20nm,0.6s
U15A North Rim 83.29 48 P P 22 55 16.9 +1.0
U15A IAmb IAmb 22 55 18.0
comp=Z,5.2nm,0.9s
ELK Elko 83.38 44 P P 22 55 16.4 +0.3
comp=Z,1.5nm,0.7s,baz=263,slow=5.5,SNR=7.1
ELK Elko 83.38 44 P P 22 55 16.2 +0.1
MAW Mawson 83.44 200 P P 22 55 16.1 +0.4
comp=Z,3.7nm,0.6s,baz=136,slow=9.2,SNR=8.2
MAW Mawson 83.44 200 P P 22 55 16.2 +0.6
G08A Pilot Rock 83.48 38 P P 22 55 17.0 +0.7
ENH Enshi 83.56 305 P P 22 55 17.2 +0.2
ENH IAmb IAmb 22 55 18.6
comp=Z,19nm,0.8s

SCM Sheep Creek Mo 83.57 15 P P 22 55 15.9 -0.5
SCM IAmb IAmb 22 55 18.9
comp=Z,16nm,1.3s
WAX Waxell Ridge 83.58 17 P P 22 55 16.4 0.0
WAX IAmb IAmb 22 55 20.8
comp=Z,14nm,1.4s
GSI Gunungsitoli 83.77 273 P P 22 55 18.7 +0.3
GSI IAmb IAmb 22 55 19.7
comp=Z,18nm,0.7s
MTPU Mount Pierson 84.13 47 P P 22 55 21.4 +1.3
GLB Gilahina Butte 84.13 16 P P 22 55 18.9 -0.3
F10A Beach Ranch, E 84.87 38 P P 22 55 23.4 +0.3
F10A IAmb IAmb 22 55 24.6
comp=Z,8.9nm,0.8s
XAN Xi'an 85.59 308 P P 22 55 27.4 +0.6
XAN pP PcP 22 55 33.4 +4.8
XAN pmax pmax
comp=Z,16nm,1.3s
XAN pmax pmax
comp=Z,26nm,6.8s
ILAR Eielson Array 86.21 13 P P 22 55 27.9 -1.0
comp=Z,0.4nm,0.8s,baz=212,slow=4.3,SNR=2.7
MNTX Cornudas Mount 86.41 55 P P 22 55 31.2 +0.6
HHC Hu-ho-hao-te 86.68 315 eP P 22 55 34.5 +2.6
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,100nm,4.6s
TX31 Lajitas Ar. Si 86.85 58 P P 22 55 34.2 +1.4
TXAR Lajitas Array 86.85 58 P P 22 55 34.4 +1.5
comp=Z,5.6nm,0.8s,baz=218,slow=5.3,SNR=46
TXAR Lajitas Array 86.85 58 P P 22 55 34.3 +1.4
ANMO Albuquerque 86.90 52 P P 22 55 33.7 +0.5
comp=Z,1.6nm,0.8s,baz=220,slow=10,SNR=5.1
M30M Minto, Yukon 87.03 18 P P 22 55 33.0 +0.1
QLMT Earthquake Lak 87.82 41 P P 22 55 38.5 +1.2
CM31 Chiang Mai Arr 88.04 290 P P 22 55 39.6 +1.0
CM31 IAmb IAmb 22 55 40.6
comp=Z,5.9nm,0.9s
CMAR Chiang Mai Arr 88.04 290 P P 22 55 39.7 +1.1
comp=Z,4.7nm,0.9s,baz=110,slow=2.9,SNR=26
CMAR Chiang Mai Arr 88.04 290 P P 22 55 39.3 +0.7
PDAR Pinedale Array 88.08 44 P P 22 55 38.8 +0.3
comp=Z,1.3nm,0.7s,baz=205,slow=3.4,SNR=12
PDAR Pinedale Array 88.08 44 P P 22 55 38.2 -0.3
CHTO Chiang Mai 88.16 290 P P 22 55 39.5 +0.4
CHTO IAmb IAmb 22 55 40.8
comp=Z,4.6nm,0.8s
CHTO Chiang Mai 88.16 290 P P 22 55 38.5 -0.6
PZH PanZhiHua 88.38 298 P P 22 55 40.8 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,50nm,3.7s
CMIG Matias Romero 90.16 72 P P 22 55 49.0 +0.6
comp=Z,1.6nm,0.7s,baz=263,slow=8.1,SNR=1.8
YKA Yellowknife Ar 94.83 25 P P 22 56 08.1 -0.6
comp=Z,0.2nm,0.5s,baz=244,slow=4.6,SNR=6.1
ZALV Zalesovo Beam 107.74 322 PKiKP PKiKP 23 01 08.2 -1.7
comp=Z,0.3nm,0.3s,baz=238,slow=1.9,SNR=3.9
MKAR Makanchi Array 108.54 314 Pdiff Pdif 22 57 10.9 +0.7
comp=Z,0.1nm,0.6s,baz=95,slow=7.7,SNR=1.5
MKAR PKiKP PKiKP 23 01 10.7 -1.1
comp=Z,0.6nm,0.5s,baz=213,slow=0.8,SNR=12
ABKAR Akbulak array 123.39 318 PKPdf 23 01 39.4 -0.6
ARCES ARCESS Array B 126.26 349 PKP PKPdf 23 01 44.5 -0.5
comp=Z,2.1nm,0.9s,baz=27,slow=2.0,SNR=9.5
BOSA Boshof 127.87 208 PKP PKPdf 23 01 49.1 -0.4
comp=Z,1.2nm,0.7s,baz=180,slow=6.1,SNR=1.6
FINES FINESS Array B 133.04 344 PKP PKPdf 23 01 55.3 -2.7
comp=Z,2.5nm,0.9s,baz=48,slow=2.1,SNR=8.9
FINES SKPbc SKPbc 23 04 28.8 0.0
comp=Z,2.1nm,0.7s,baz=31,slow=3.2,SNR=9.6
LODK Lodwar 143.00 251 PKPdf 23 02 16.2 -1.6
BNN Bunyan 143.03 311 PKPdf PKPbc 23 02 15.8 +0.2
KWP Kalwaria Pacla 143.79 336 ePKP PKPab 23 02 17.7 +0.2
KWP Kalwaria Pacla 143.79 336 PKPbc 23 02 17.2 -0.2
VLDR Vladesti 144.10 327 ⇓P PKPab 23 02 18.9 +0.1
TLCR 144.14 325 ⇑P PKPbc 23 02 18.2 -0.3
BR131 Keskin Array S 144.19 314 PKPbc 23 02 18.4 -0.7
BRTR Keskin Array B 144.19 314 PKP PKPbc 23 02 18.5 -0.6
comp=Z,8.2nm,0.9s,baz=58,slow=3.7,SNR=24
BRTR SKPbc SKPbc 23 04 58.2 -2.3
comp=Z,1.1nm,0.9s,baz=111,slow=3.2,SNR=4.1
BUR08 Bucovina Ar. S 144.25 331 PKPab 23 02 19.6 +0.1
BURAR Bucovina Array 144.27 331 ⇑P PKPab 23 02 19.9 +0.4
BURAR Bucovina Array 144.27 331 PKPdf PKPab 23 02 19.4 -0.2
GHRR 144.30 327 ⇑P PKPab 23 02 20.1 +0.5
OJC Ojcow 144.38 339 ePKP PKPdf 23 02 18.9 -0.1
OJC Ojcow 144.38 339 PKPdf 23 02 18.5 -0.5
KOLS Kolonicke sedl 144.52 335 ePKP PKPbc 23 02 19.9 +0.3
TPGR Topolog 144.56 325 ⇓P PKPdf 23 02 18.1 -1.4
ANTO Ankara 144.70 315 PKPbc 23 02 20.4 -0.2
VRI Vrincioaia 144.78 328 ⇑P PKPdf 23 02 18.6 -1.3
PLOR Plostina 144.83 328 ⇑P PKPab 23 02 21.8 +0.1
NIE Niedzica 144.88 338 ePKP PKPab 23 02 21.7 -0.1
HARR Harsova 144.94 325 ⇑P PKPbc 23 02 21.4 +0.5
KSP Ksiaz 144.95 343 ePKP PKPbc 23 02 21.1 +0.3
TLBR Topalu 144.97 325 ⇑P PKPbc 23 02 21.4 +0.3
ARCR ARCALIA 145.05 331 ⇑P PKPab 23 02 22.0 -0.4
COVR Voineasa-Covas 145.06 328 ⇑P PKPdf 23 02 20.7 +0.4
OZUR 145.09 329 ⇑P PKPdf 23 02 13.2 -7.2
OSTC Ostas 145.22 342 ePKP PKPbc 23 02 22.0 +0.3
CHVC Chvalec 145.24 345 ePKP PKPbc 23 02 22.0 +0.3
UPIC Upice 145.33 343 ePKP PKPbc 23 02 22.2 +0.3
CLL Collm 145.36 346 PKPdf PKPbc 23 02 21.3 -0.6
CLL Collm 145.36 346 ePKPbc PKPbc 23 02 22.0 0.0
CLL comp=Z,12nm,0.6s
comp=Z,9.0nm,0.7s ePKPab PKPab 23 02 23.0 -0.5
DOPR Dopca 145.38 329 ⇑P PKPbc 23 02 22.6 +0.3
DPC Dobruska-Polom 145.38 342 ePKP PKPbc 23 02 22.4 +0.2
LANS Liptovska Anna 145.40 338 ePKP PKPab 23 02 23.1 -0.7
MLR Muntele Rosu 145.44 328 ⇑P PKPbc 23 02 22.3 -0.3
KRLC Kraliky 145.49 342 ePKP PKPbc 23 02 22.5 0.0
MORC Moravsky Berou 145.51 341 ⇑P PKPbc 23 02 23.0 +0.4
MORC Moravsky Berou 145.51 341 ePKP PKPab 23 02 24.3 +0.1
BRG Berggiesshubel 145.54 345 ePKP PKPbc 23 02 22.6 +0.1
BRG Amp 23 02 24.8
comp=Z,5.6nm,0.8s
SECR 145.69 327 ⇓P PKPbc 23 02 23.0 -0.1
DRGR 146.01 332 ⇑P PKPbc 23 02 23.7 -0.4
ARR Arges 146.18 329 ⇑P PKPbc 23 02 25.6 +1.0
VYHS Vyhne 146.18 338 ePKP PKPbc 23 02 24.5 +0.1
PRU Pruhonice 146.20 344 ePKP PKPbc 23 02 24.6 +0.2
VRAC Vranov 146.22 341 ePKP PKPbc 23 02 24.8 +0.3
KOLL Kolacno 146.26 339 ePKP PKPbc 23 02 24.9 +0.3
JAVC Velka Javorina 146.27 340 ePKP PKPbc 23 02 25.8 +1.1
PSZ Piszkesteto 146.27 336 ⇓P PKPbc 23 02 24.7 0.0
CSS Mathiatis 146.40 307 PKPbc 23 02 24.7 -0.7
NKC Novy Kostel 146.49 346 ePKP PKiKP 23 02 27.5 +0.2
KRUC Moravsky 146.50 341 ePKP PKPbc 23 02 25.2 0.0
TREC Trest 146.56 342 ePKP PKPbc 23 02 25.3 -0.1
SMOL Smolenice 146.65 340 ePKP PKPbc 23 02 26.2 +0.5
MODS Modra-Piesok 146.82 340 ePKP PKPbc 23 02 26.9 +0.7
ZST Bratislava 147.03 340 ePKP PKPbc 23 02 26.3 -0.4
GZR Gura Zlata 147.05 331 ⇓P PKPbc 23 02 26.3 -0.6
KHC Kasperske Hory 147.24 344 PKPbc 23 02 26.9 -0.4
KHC Kasperske Hory 147.24 344 ePKP PKPbc 23 02 27.1 -0.2
KHC ex x 23 02 31.7
CKRC Cesky Krumlov 147.33 343 ePKP PKPbc 23 02 27.5 0.0
BZS Buzias 147.40 332 ⇑P PKPbc 23 02 27.5 -0.2
GERES GERESS Array B 147.47 344 PKPbc PKPbc 23 02 27.7 -0.2
comp=Z,2.0nm,0.5s,baz=46,slow=3.9,SNR=22
HERR Herculane 147.60 330 ⇑P PKPbc 23 02 28.2 -0.1
CONA Conrad Observa 147.67 341 iP PKPbc 23 02 28.6 +0.2
comp=Z,2.9nm,0.6s,SNR=5.1
RONA Rosalia, Austr 147.73 340 iP PKPbc 23 02 28.6 +0.1
comp=Z,3.5nm,0.6s,SNR=4.6
ELL Elmali 148.18 312 PKPbc 23 02 29.6 -0.6
BLKB Belogradchik 148.41 329 ⇑P PKPbc 23 02 29.5 -0.8
AKAS Kas 148.63 311 PKPbc 23 02 30.3 -1.0
VTS Vitosha 148.84 327 ⇑P PKPbc 23 02 31.2 -0.5
SOKA Soboth 149.04 341 eP PKPbc 23 02 31.1 -0.8
comp=Z,1.0nm,0.5s
KBA Koelnbreinsper 149.18 343 iP PKPbc 23 02 31.4 -0.9
comp=Z,1.9nm,0.4s,SNR=4.6
WATA Walderalm 149.41 345 eP PKPbc 23 02 32.1 -0.7
comp=Z,2.0nm,0.5s
RETA Reutte 149.45 346 eP PKPbc 23 02 32.6 -0.2
comp=Z,1.0nm,0.4s
WTTA Wattenberg 149.46 345 eP PKPbc 23 02 32.6 -0.4
comp=Z,2.7nm,0.3s

MYKA Terra Mystica 149.50 342 eP PKPbc 23 02 31.7 -1.2
comp=Z,3.1nm,0.5s
MOTA Moosalm 149.51 346 eP PKPbc 23 02 32.4 -0.6
comp=Z,1.0nm,0.3s
SQTA Sankt Quirin 149.60 346 eP PKPbc 23 02 33.0 -0.2
comp=Z,4.1nm,0.7s
ABTA Abfaltersbach 149.71 344 eP PKPbc 23 02 32.6 -0.8
comp=Z,4.8nm,0.7s
LJU Ljubljana 149.76 341 i PKPbc PKPbc 23 02 32.9 -0.7
DAVA Damuels 149.83 347 eP PKPbc 23 02 34.0 +0.2
comp=Z,5.7nm,1.0s
FETA Feichten 149.90 346 iP PKPbc 23 02 33.8 -0.2
comp=Z,1.3nm,0.4s
BOJS Bojanci 150.00 339 i PKPbc PKPbc 23 02 33.9 -0.2
STAL STALIGIAL 150.11 343 PKPbc 23 02 33.2 -1.1
TORD Torodi Ar. Bea 175.04 192 PKPab PKPab 23 04 30.3 -2.5
comp=Z,0.2nm,0.8s,baz=112,slow=3.4,SNR=0.8

CNRM **20** *22:57:06.9, 35°.66N×2°.16W, h25km*
IDC **20** *22:57:06.6±1.7, 35°.76N×2°.46W, h0km, mb3.2/1, mb1 3.5/5, mb1mx3.3/44, mbtmp3.4/5, ML3.1/4, MS2.4/1, Ms1 2.4/1, ms1mx2.1/37, Error ellipse: s-maj=26.8km s-min=15.2km az=99.0*
INMG **20** *22:57:07.7±1.4, 35°.73N×2°.30W, h8km±3km, ML2.7, Error ellipse: s-maj=3.5km s-min=2.5km az=124.0*
MDD **20** *22:57:08.3±0.4, 35°.68N×2°.29W, h24km, mb_Lg3.3/19, Error ellipse: s-maj=4.4km s-min=2.5km az=150.0*
CRAAG **20** *22:57:08.1, 35°.77N×2°.29W, Ml3.3*
SFS **20** *22:57:08.0, 35°.67N×2°.28W, h24km, ML3.3, ALBORAN SUR*
LDG **20** *22:57:08.6±0.5, 35°.82N×2°.26W, h2km, Ml2.7/3, Error ellipse: s-maj=9.7km s-min=4.6km az=154.0*

ISC 20 22:57:07.0±1.1, **35°.72N**±0°.02×**2°.28W**±0°.03, **h15**km±8km,
n75, σ2s 17/122, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.65**	**290**	Pg	**Pg**	**22 57 18.6**	**-1.2**
EALB				Sg	**Sg**	**22 57 28.1**	**-0.3**
EMEL	**Melilla**	**0.69**	**233**	Pg	**Pg**	**22 57 19.6**	**-1.0**
EMEL				Sg	**Sg**	**22 57 30.1**	**+0.4**
GOG	**Mont Gurugu**	**0.77**	**230**	P	**Pg**	**22 57 21.5**	**-0.5**
GOG				S	**Sb**	**22 57 33.3**	**+0.9**
TAF	**Taforalt**	**0.91**	**187**	P	**Pg**	**22 57 23.7**	**-0.9**
TAF	**Taforalt**	**0.91**	**187**	P	**Pg**	**22 57 23.8**	**-0.9**
TAF				S	**Sg**	**22 57 34.6**	**-2.1**
ENIJ	**Nijar**	**1.25**	**3**	Pg	**Pn**	**22 57 29.1**	**-0.9**
ENIJ				Sg	**Sb**	**22 57 44.8**	**-1.6**
ENIJ				*i* Vmb_Lg		22 57 48.3	
EBER	**Berja**	**1.28**	**338**	Pg	**Pn**	**22 57 30.1**	**-0.3**
EBER				Sg	**Sg**	**22 57 48.2**	**-0.1**
EBER				*i* Vmb_Lg		22 57 56.5	
OTSS	**Djebel Tessala**	**1.29**	**109**	P	**Pn**	**22 57 30.0**	**-0.6**
JBK	**JBK**	**1.40**	**190**	P	**Pn**	**22 57 31.0**	**-1.2**
JBK	**JBK**	**1.40**	**190**	P	**Pn**	**22 57 31.0**	**-1.2**
JBK				S	**Sb**	**22 57 46.9**	**-3.8**
USTO	**Oran**	**1.41**	**89**	P	Pg	22 57 42.0	+7.8
PALE	**Palemas**	**1.44**	**250**	P	**Pg**	**22 57 35.0**	**+0.2**
PALE	**Palemas**	**1.44**	**250**	P	**Pn**	**22 57 32.2**	**-0.4**
PALE				S	**Sn**	**22 57 50.8**	**-0.4**
ELGU	**Los Guajares,**	**1.58**	**317**	Pn	**Pn**	**22 57 32.2**	**-2.4**
ELGU				Sg	**Sn**	**22 57 52.3**	**-2.4**
ELGU				*i* Vmb_Lg		22 57 55.8	
PVLZ	**Peæn de**	**1.74**	**252**	P	**Pn**	**22 57 36.0**	**-0.6**
PVLZ				S	**Sn**	**22 57 57.3**	**-1.1**
EQUE	**Quentar**	**1.75**	**328**	Pg	**Pn**	**22 57 36.2**	**-0.8**
EQUE				Sg	**Sn**	**22 57 56.3**	**-2.7**
EQUE				*i* Vmb_Lg		22 58 12.6	
ODJA	**Bouhanifia**	**1.78**	**102**	P	**Pb**	**22 57 41.0**	**+1.6**
EGOR	**Sierra Gorda,**	**2.03**	**314**	Pn	**Pn**	**22 57 40.2**	**0.0**
EGOR				Sn	**Sn**	**22 58 06.2**	**+0.4**
EGOR				*i* Vmb_Lg		22 58 16.1	
CART	**Cartagena**	**2.13**	**29**	P	**Pn**	**22 57 41.1**	**-1.0**
CART				S	**Sn**	**22 58 04.9**	**-3.3**
CART	**Cartagena**	**2.13**	**29**	S	**Sn**	**22 58 05.2**	**-3.0**
EMIJ	**Mijas**	**2.19**	**293**	Pn	Pn	22 57 39.2	-3.6
EMIJ				Sn	**Sn**	**22 58 06.4**	**-3.2**
EMIJ				*i* Vmb_Lg		22 58 15.2	
EMUR	**La Murta**	**2.28**	**21**	Pn	**Pn**	**22 57 43.8**	**-0.4**
EMUR				Sn	**Sn**	**22 58 09.4**	**-2.5**
EMUR				*i* Vmb_Lg		22 58 21.4	
OKGL	**Djebel Kef Gue**	**2.40**	**82**	P	Pg	22 57 58.0	+5.0
CEU	**Ceuta**	**2.52**	**275**	P	**Pn**	**22 57 46.2**	**-1.2**
CEU				S	**Sn**	**22 58 12.4**	**-5.4**
SMIR	**Smir Dam**	**2.52**	**270**	S	**Sb**	**22 58 22.0**	**-0.8**
CHEFC	**Chefchaouen**	**2.57**	**257**	P	**Pn**	**22 57 50.0**	**+1.8**
CHEFC	**Chefchaouen**	**2.57**	**257**	P	**Pn**	**22 57 49.6**	**+1.4**
CHEFC				S	**Sn**	**22 58 19.3**	**+0.1**
TDRA	**Tendrara**	**2.68**	**175**	P	**Pn**	**22 57 49.5**	**-0.2**
TDRA				S	**Sn**	**22 58 23.6**	**+1.5**
EJIF	**Jimena Fronter**	**2.68**	**287**	Pn	**Pn**	**22 57 51.3**	**+1.6**
LCRM	**LCR**	**2.94**	**227**	P	**Pn**	**22 57 54.7**	**+1.4**
ETOB	**Tobarra**	**2.98**	**11**	Pn	**Pn**	**22 57 54.8**	**+1.0**
ETOB				Sn	**Sn**	**22 58 29.1**	**-0.2**
ETOB				*i* Vmb_Lg		22 58 30.5	
EADA	**Adamuz**	**3.06**	**324**	Pn	**Pn**	**22 57 57.9**	**+3.0**
EADA				Sn	**Sn**	**22 58 31.1**	**-0.1**
EADA				*i* Vmb_Lg		22 58 40.3	
AFON	**Font Roja**	**3.25**	**25**	Pn	**Pn**	**22 57 56.9**	**-0.7**
AFON				Sn	**Sn**	**22 58 31.6**	**-4.5**
AFON				*i* Vmb_Lg		22 59 09.5	
ECAB	**El Cabril**	**3.44**	**314**	Pn	**Pn**	**22 57 58.4**	**-1.8**
ECAB				Sn	**Sn**	**22 58 38.2**	**-2.5**
MDT	**Midelt**	**3.48**	**214**	Pn	**Pn**	**22 58 00.7**	**0.0**
MDT	1.3nm,0.3s,baz=105,slow=19,SNR=54			Sn	**Sn**	**22 58 39.8**	**-1.9**
MDT	2.0nm,0.3s,baz=126,slow=18,SNR=4.6			Lg	Lg	22 58 54.1	
MDT	3.1nm,0.3s,baz=166,slow=9.5,SNR=4.9			LR	LR	22 59 17.8	
MDT	**Midelt**	**3.48**	**214**	P	**Pn**	**22 58 00.7**	**0.0**
MD31	**MD31**	**3.51**	**217**	P	**Pn**	**22 58 01.5**	**+0.4**
CZD	**Col de Zad**	**3.52**	**221**	P	**Pn**	**22 58 02.7**	**+1.2**
ECHE	**Chera**	**4.00**	**15**	Pn	**Pn**	**22 58 11.0**	**+3.1**
ECHE				Sn	**Sn**	**22 58 53.3**	**-1.2**
ECHE				*i* Vmb_Lg		22 59 15.0	
EMIN	**Mina Concepcio**	**4.08**	**301**	Pn	**Pn**	**22 58 08.4**	**-0.4**
EMIN				Sn	**Sn**	**22 58 51.8**	**-4.5**
PAB	**San Pablo**	**4.16**	**337**	Pg	**Pn**	**22 58 14.0**	**+4.0**
PAB				Sn	**Sn**	**22 58 54.8**	**-3.6**
PAB				Sg	**Sb**	**22 59 11.9**	**+1.9**
PAB	**San Pablo**	**4.16**	**337**	P	**Pn**	**22 58 12.4**	**+2.4**
ESDC	**Sonseca Array**	**4.17**	**342**	Pn	**Pn**	**22 58 11.8**	**+1.6**
ESDC	0.4nm,0.3s,baz=172,slow=13,SNR=17			Sn	**Sn**	**22 58 58.5**	**-0.1**
ESDC	0.5nm,0.3s,baz=169,slow=14,SNR=5.0			Lg	Lg	22 59 14.8	
EIBI	**Ibiza**	**4.39**	**40**	Pn	**Pn**	**22 58 13.5**	**+0.4**
EIBI				Sn	**Sn**	**22 59 01.3**	**-2.5**
EIBI				*i* Vmb_Lg		23 01 12.7	
PBAR	**Barrancos**	**4.53**	**304**	*e*Pn	**Pn**	**22 58 16.0**	**+1.0**
PBAR				*e*Sn	**Sn**	**22 59 06.1**	**-1.3**
PBAR				A	A	22 59 31.6	
EGRO	**El Granado**	**4.56**	**295**	Pn	**Pn**	**22 58 14.5**	**-0.9**
EGRO				Sn	**Sn**	**22 59 06.4**	**-1.7**
EGRO				*i* Vmb_Lg		22 59 33.6	
UCM	**Universidad Co**	**4.64**	**351**	P	**Pn**	**22 58 17.9**	**+1.3**
UCM				S	**Sn**	**22 59 08.2**	**-2.1**
PVAQ	**Vaqueiros**	**4.69**	**293**	*e*Pn	**Pn**	**22 58 17.6**	**+0.4**
PVAQ				*e*Sn	**Sn**	**22 59 10.2**	**-1.1**
PVAQ				A	A	22 59 17.3	
PVAQ	6.8nm,0.5s **Vaqueiros**	**4.69**	**293**	P	**Pn**	**22 58 17.8**	**+0.6**
PVAQ	**Vaqueiros**	**4.69**	**293**	P	**Pn**	**22 58 17.8**	**+0.6**
PBDV	**Barranco-do-Ve**	**4.80**	**290**	*e*Pn	**Pn**	**22 58 19.7**	**+0.9**
PBDV				*e*Sn	**Sn**	**22 59 12.8**	**-1.3**
PBDV				A	A	22 59 18.1	
EBAD	7.6nm,0.6s **Badajoz**	**4

PCVE				A	A	22 59 26.8
	5.0nm,0.6s					
ETOR	**Torete**	**5.10**	**2**	Pn	**Pn**	**22 58 23.1 +0.1**
ETOR				Sn	**Sn**	**22 59 17.5 -4.0**
ETOR				Sg	**Sb**	**22 59 38.1 +1.1**
ETOR				*i* Vmb_Lg		23 00 37.3
PESTR	**Estremoz**	**5.27**	**308**	*e*Pn	**Pn**	**22 58 26.1 +0.9**
PESTR				*e*Sn	**Sn**	**22 59 24.1 -1.6**
PESTR				A	A	22 59 31.1
	4.1nm,0.6s					
PESTR	**Estremoz**	**5.27**	**308**	P	**Pn**	**22 58 25.4 +0.1**
MORF	**Marmelete**	**5.37**	**289**	*e*Pn	**Pn**	**22 58 27.6 +1.0**
MORF				*e*Sn	**Sn**	**22 59 26.1 -2.1**
MORF				A	A	22 59 28.6
	5.5nm,0.6s					
EVO	**Evora**	**5.37**	**303**	P	**Pn**	**22 58 27.0 +0.4**
EVO				S	**Sn**	**22 59 23.9 -4.3**
PFVI	**Vila Bisbo**	**5.46**	**287**	*e*Pn	**Pn**	**22 58 28.1 +0.2**
PFVI				*e*Sn	**Sn**	**22 59 28.3 -2.1**
PFVI				A	A	22 59 40.8
	7.7nm,0.7s					
PTEO	**Sao Teotonio**	**5.49**	**291**	*e*Pn	**Pn**	**22 58 28.8 +0.5**
PTEO				*e*Sn	**Sn**	**22 59 30.0 -1.1**
PMRV	**Marv??o**	**5.49**	**314**	*e*Pn	**Pn**	**22 58 28.9 +0.5**
PMRV				*e*Sn	**Sn**	**22 59 29.7 -1.5**
PNCL	**Nicolau / Gran**	**5.55**	**297**	*e*Pn	**Pn**	**22 58 29.8 +0.8**
PNCL				*e*Sn	**Sn**	**22 59 30.6 -1.8**
ETOS	**Mallorca**	**5.71**	**43**	Pn	**Pn**	**22 58 31.1 -0.2**
ETOS				Sn	**Sn**	**22 59 33.1 -3.5**
ETOS				*i* Vmb_Lg		23 00 20.9
PCBR	**Castelo Branco**	**5.82**	**317**	*e*Pn	**Pn**	**22 58 33.7 +1.0**
PCBR				*e*Sn	**Sn**	**22 59 37.8 -1.4**
OUZM	**OUZ**	**6.09**	**219**	P	**Pn**	**22 58 37.9 +1.3**
EPOB	**Poblet**	**6.21**	**24**	Pn	**Pn**	**22 58 39.2 +1.0**
EPOB				*i* Vmb_Lg		22 59 26.6
PSBE	**So Bento**	**6.41**	**308**	*e*Pn	**Pn**	**22 58 42.0 +1.1**
PCAS	**Casmilo, Conde**	**6.55**	**313**	*e*Pn	**Pn**	**22 58 43.7 +0.9**
ETSF	**Etsaut**	**7.29**	**10**	*e*Sn	**Sn**	**23 00 09.1 -6.5**
	0.6nm,0.2s					
SJPF	**Ste Jean**	**7.43**	**6**	*e*P	**Pn**	**22 58 58.0 +3.1**
SJPF				*e*Sn	**Sn**	**23 00 12.3 -6.6**
	0.3nm,0.3s					
EPF	**Esparros**	**7.58**	**15**	*e*P	**Pn**	**22 59 01.2 +4.3**
EPF				*e*Sn	**Sn**	**23 00 16.1 -6.5**
	1.8nm,0.4s					
KEST	**Kesra**	**9.46**	**87**	Pn	**Pn**	**22 59 26.2 +3.5**
	0.1nm,0.3s,baz=285,slow=12,SNR=1.8					
GERES	**GERESS Array B**	**17.61**	**37**	Pn	**P**	**23 01 14.2 +1.4**
	0.1nm,0.3s,baz=224,slow=6.9,SNR=4.7					
TORD	**Torodi Ar. Bea**	**22.76**	**170**	P	**P**	**23 02 11.9 +3.1**
	0.8nm,0.9s,baz=348,slow=11,SNR=4.2					

IDC ***20*** *23:16:50.1±13.0, 14.˚95S×165.˚79E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/28, mbtmp4.0/4, ML4.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/62, Error ellipse: s-maj=232.8km s-min=36.6km az=56.0*

NOU ***20*** *23:16:50.0, 14.˚65S×167.˚51E, h111km, MLv4.7/12, Vanuatu Islands*

ISC 20 23:16:51.5±2.4, 14.˚8S±0.˚2×167.˚1E±0.˚2, h100km, n13, σ1.˚25/13, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.66**	**171**	P	**Pn**	**23 17 10.6**	**+2.0**
DVP	**Devils Point**	**3.10**	**160**	P	**Pn**	**23 17 38.0**	**-0.5**
LIFNC	**LIFOU**	**5.96**	**179**	P	**Pn**	**23 18 16.8**	**-0.3**
YATNC	**Mamie plateau,**	**7.23**	**182**	P	**Pn**	**23 18 34.6**	**+0.1**
DZM	**Mont Dzumac**	**7.27**	**185**	Pn	**Pn**	**23 18 35.9**	**+0.8**
	6.5nm,0.3s,baz=128,slow=18,SNR=47						
DZM				Sn	**Sn**	**23 19 55.7**	**-0.4**
	1.4nm,0.3s,baz=329,slow=22,SNR=1.8						
DZM	**Mont Dzumac**	**7.27**	**185**	P	**Pn**	**23 18 35.9**	**+0.8**
NOUC	**Port Laguerre**	**7.31**	**186**	P	**Pn**	**23 18 37.0**	**+1.4**
ONTNC	**Ouen Toro**	**7.50**	**185**	P	**Pn**	**23 18 39.6**	**+1.4**
OUENC	**Ouen Island, N**	**7.59**	**182**	P	**Pn**	**23 18 40.5**	**+1.1**
STKA	**Stephens Creek**	**28.83**	**229**	P	**P**	**23 22 41.0**	**+0.6**
	2.0nm,0.5s,baz=39,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**31.65**	**256**	P	**P**	**23 23 03.6**	**-1.8**
	0.5nm,1.0s,baz=84,slow=9.0,SNR=6.2						
ASAR	**Alice Springs**	**32.50**	**249**	P	**P**	**23 23 12.2**	**-0.7**
	0.9nm,0.5s,baz=78,slow=8.8,SNR=12						
JOW	**Kunigami**	**55.98**	**317**	LR	LR	23 48 43.9	
	comp=Z,63nm,20.1s,baz=164,slow=35						

INMG ***20*** *23:24:41.8±1.2, 35.˚51N×3.˚76W, h11km±11km, Error ellipse: s-maj=6.7km s-min=3.5km az=82.0*

SFS ***20*** *23:24:41.0, 35.˚38N×3.˚78W, h35km, ML2.7, ALBORAN SUR*

CNRM ***20*** *23:24:41.7, 35.˚41N×3.˚70W, h14km, ml2.6*

MDD ***20*** *23:24:41.6±0.6, 35.˚39N×3.˚79W, h35km±1km, mb_Lg2.7/2, Error ellipse: s-maj=8.1km s-min=4.6km az=9.0*

ISC 20 23:24:40.3±1.2, 35.˚48N±0.˚03×3.˚77W±0.˚02, h16km±10km, n28, σ0.˚77/44, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.29**	**207**	P	**Pb**	**23 24 47.3**	**0.0**
PALE				S	**Sb**	**23 24 53.0**	**+1.1**
PALE	**Palemas**	**0.29**	**207**	P	**Pb**	**23 24 47.4**	**+0.1**
PALE				S	**Sb**	**23 24 52.0**	**0.0**
PVLZ	**Peæn de**	**0.53**	**235**	P	**Pb**	**23 24 51.6**	**+0.4**
PVLZ				S	**Sb**	**23 24 58.5**	**-0.1**
GOG	**Mont Gurugu**	**0.69**	**112**	P	**Pb**	**23 24 54.0**	**0.0**
GOG				S	**Sg**	**23 25 03.0**	**+0.1**
GOG	**Mont Gurugu**	**0.69**	**112**	P	**Pg**	**23 24 53.6**	**-0.1**
GOG				S	**Sg**	**23 25 02.1**	**-0.8**
EMEL	**Melilla**	**0.69**	**105**	Pg	**Pb**	**23 24 54.0**	**0.0**
EMEL				Sg	**Sb**	**23 25 03.5**	**+0.1**
EALB	**Alboran**	**0.76**	**52**	Pg	**Pb**	**23 24 55.7**	**+0.5**
EALB				Sg	**Sn**	**23 25 06.4**	**-1.2**
EALB				*i* Vmb_Lg		23 25 06.8	
TAF	**Taforalt**	**1.30**	**120**	P	**Pg**	**23 25 06.0**	**+0.6**
TAF	**Taforalt**	**1.30**	**120**	P	**Pb**	**23 25 04.6**	**+0.2**
TAF				S	**Sn**	**23 25 21.2**	**+0.2**
CHEFC	**Chefchaouen**	**1.33**	**254**	P	**Pb**	**23 25 05.4**	**+0.3**
EMIJ	**Mijas**	**1.35**	**324**	Pn	**Pn**	**23 25 04.4**	**-0.3**
EMIJ				Sn	**Sb**	**23 25 22.5**	**0.0**
ECEU	**Ceuta**	**1.37**	**288**	Pn	**Pn**	**23 25 04.0**	**-0.9**
ECEU				Sn	**Sn**	**23 25 20.4**	**-2.3**
ECEU				*i* Vmb_Lg		23 25 21.8	
ELGU	**Los Guajares,**	**1.39**	**5**	Pg	**Pn**	**23 25 04.9**	**-0.4**
ELGU				Sg	**Sn**	**23 25 22.7**	**-0.6**
JBK	**JBK**	**1.51**	**139**	P	**Pg**	**23 25 09.0**	**-0.5**
JBK	**JBK**	**1.51**	**139**	P	**Pn**	**23 25 06.2**	**-0.8**
EBER	**Berja**	**1.59**	**27**	Pg	**Pn**	**23 25 08.1**	**+0.1**
EBER				Sg	**Sn**	**23 25 28.1**	**-0.3**
EGOR	**Sierra Gorda,**	**1.65**	**351**	Pn	**Pn**	**23 25 09.3**	**+0.4**
ENIJ	**Nijar**	**1.96**	**40**	Pg	**Pn**	**23 25 13.8**	**+0.9**
ENIJ				Sg	**Sn**	**23 25 36.0**	**-1.2**
LCRM	**LCR**	**2.00**	**207**	P	**Pg**	**23 25 18.0**	**-0.7**
MD31	**MD31**	**2.73**	**198**	P	**Pn**	**23 25 24.4**	**+0.8**
MDT	**Midelt**	**2.75**	**195**	P	**Pn**	**23 25 25.2**	**+1.3**
PVAQ	**Vaqueiros**	**3.71**	**302**	*e*Pn	**Pn**	**23 25 37.9**	**+0.8**
PVAQ				*e*Sn	**Sn**	**23 26 20.7**	**+0.2**
PBAR	**Barrancos**	**3.75**	**317**	*e*Pn	**Pn**	**23 25 38.7**	**+1.1**
PBAR				*e*Sn	**Sn**	**23 26 21.4**	**-0.1**
PBDV	**Barranco-do-Ve**	**3.79**	**299**	*e*Pn	**Pn**	**23 25 38.8**	**+0.7**
PBDV				*e*Sn	**Sn**	**23 26 21.8**	**-0.6**
PCVE	**Castro Verde**	**4.05**	**303**	*e*Pn	**Pn**	**23 25 42.9**	**+1.2**
PESTR	**Estremoz**	**4.55**	**319**	*e*Pn	**Pn**	**23 25 49.6**	**+1.0**
PNCL	**Nicolau / Gran**	**4.63**	**306**	*e*Pn	**Pn**	**23 25 50.5**	**+0.8**
PMTG	**Montargil**	**5.04**	**317**	*e*Pn	**Pn**	**23 25 56.3**	**+0.9**

IDC ***20*** *23:25:31.4±0.9, 35.˚72N×3.˚75W, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.5/58, mbtmp3.6/10, ML3.4/5, MS3.0/1, Ms1 3.1/1, ms1mx2.4/100, Error ellipse: s-maj=27.3km s-min=12.2km az=96.0*

CRAAG ***20*** *23:25:31.9, 35.˚79N×3.˚59W, Ml3.6*

IGIL ***20*** *23:25:31.2, 35.˚70N×3.˚56W, h0km, ML3.7*

INMG ***20*** *23:25:32.9±1.4, 35.˚72N×3.˚64W, h10km±6km, ML3.5, Error ellipse: s-maj=4.7km s-min=3.2km az=124.0*

LDG ***20*** *23:25:32.2±0.2, 35.˚76N×3.˚45W, h2km, Ml3.0/5*

MDD ***20*** *23:25:33.1±0.3, 35.˚70N×3.˚56W, h21km, mb_Lg3.6/19, Error ellipse: s-maj=3.1km s-min=2.3km az=165.0*

CNRM ***20*** *23:25:34.3, 35.˚65N×3.˚42W, h18km, ml3.6*

ISC 20 23:25:31.4±1.2, 35.˚76N±0.˚02×3.˚57W±0.˚02, h8km±9km, n118, σ2.˚38/179, mb4.1/5, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.47**	**67**	Pg	**Pb**	**23 25 42.3**	**+0.2**
EALB				Sg	**Sb**	**23 25 50.2**	**+1.0**
PALE	**Palemas**	**0.62**	**209**	P	**Pg**	**23 25 44.0**	**+0.7**
PALE				S	**Sb**	**23 25 53.2**	**-0.2**
EMEL	**Melilla**	**0.68**	**132**	Pg	**Pg**	**23 25 43.8**	**-0.7**
EMEL				Sg	**Sg**	**23 25 52.7**	**-0.7**
GOG	**Mont Gurugu**	**0.71**	**138**	P	**Pg**	**23 25 45.6**	**+0.4**
GOG	**Mont Gurugu**	**0.71**	**138**	P	**Pb**	**23 25 45.9**	**-0.3**
GOG				S	**Sb**	**23 25 56.2**	**0.0**
PVLZ	**Peæn de**	**0.83**	**226**	P	**Pg**	**23 25 46.6**	**-0.8**
PVLZ	**Peæn de**	**0.83**	**226**	S	**Sb**	**23 25 60.0**	**+0.5**
ELGU	**Los Guajares,**	**1.11**	**358**	Pg	**Pb**	**23 25 51.7**	**-1.2**
ELGU				Sg	**Sb**	**23 26 07.1**	**-0.5**
ELGU				*i* Vmb_Lg		23 26 10.3	
EMIJ	**Mijas**	**1.26**	**310**	Pg	**Pn**	**23 25 52.2**	**-3.2**
EMIJ				Sg	**Sb**	**23 26 09.6**	**-2.3**
EBER	**Berja**	**1.26**	**26**	Pg	**Pn**	**23 25 55.2**	**-0.4**
EBER				Sg	**Sb**	**23 26 12.5**	**+0.4**
EBER				*i* Vmb_Lg		23 26 30.4	
TAF	**Taforalt**	**1.34**	**134**	P	**Pn**	**23 25 56.0**	**-0.5**
TAF	**Taforalt**	**1.34**	**134**	P	**Pn**	**23 25 55.4**	**-1.1**
TAF				S	**Sb**	**23 26 10.6**	**-3.5**
EGOR	**Sierra Gorda,**	**1.42**	**342**	Pg	**Pn**	**23 25 57.2**	**-0.5**
EGOR				Sn	**Sn**	**23 26 14.0**	**-2.6**
EGOR				*i* Vmb_Lg		23 26 27.7	
EQUE	**Quentar**	**1.45**	**4**	Pn	**Pn**	**23 25 57.7**	**-0.4**
EQUE				Sn	**Sb**	**23 26 18.0**	**+0.6**
CEU	**Ceuta**	**1.47**	**276**	S	**Sn**	**23 26 12.1**	**-5.5**
CEU	**Ceuta**	**1.47**	**276**	P	**Pn**	**23 25 54.4**	**-3.8**
ECEU	**Ceuta**	**1.47**	**276**	Pg	**Pn**	**23 25 55.2**	**-3.1**
ECEU				Sg	**Sn**	**23 26 11.0**	**-6.7**
SMIR	**Smir Dam**	**1.47**	**268**	P	**Pg**	**23 26 02.6**	**+2.9**
CHEFC	**Chefchaouen**	**1.58**	**246**	P	**Pg**	**23 26 02.1**	**+0.3**
ENIJ	**Nijar**	**1.64**	**42**	Pn	**Pn**	**23 25 58.6**	**-2.0**
ENIJ				Sn	**Sn**	**23 26 20.5**	**-1.5**
ENIJ				*i* Vmb_Lg		23 26 31.0	
JBK	**JBK**	**1.64**	**150**	P	**Pn**	**23 25 60.0**	**-0.9**
JBK	**JBK**	**1.64**	**150**	P	**Pn**	**23 25 59.7**	**-1.2**
JBK				S	**Sn**	**23 26 19.6**	**-2.6**
EJIF	**Jimena Fronter**	**1.68**	**295**	Pn	**Pn**	**23 26 01.6**	**+0.4**
EJIF				Sn	**Sb**	**23 26 24.4**	**+0.4**
ESPR	**Espera**	**2.15**	**302**	Pn	**Pn**	**23 26 07.6**	**0.0**
ESPR				Sn	**Sn**	**23 26 32.9**	**-1.6**
ESPR				*i* Vmb_Lg		23 26 41.3	
SFS	**San Fernando**	**2.24**	**289**	S	**Sn**	**23 26 36.9**	**+0.1**
SFS	**San Fernando**	**2.24**	**289**	P	**Pb**	**23 26 12.1**	**-0.1**
OTSS	**Djebel Tessala**	**2.32**	**101**	P	**Pg**	**23 26 17.0**	**+1.2**
LCRM	**LCR**	**2.32**	**207**	P	**Pn**	**23 26 10.2**	**+0.1**
USTO	**Oran**	**2.46**	**90**	P	**Pg**	**23 26 33.0**	**+.14**
EADA	**Adamuz**	**2.54**	**342**	Pn	**Pn**	**23 26 14.5**	**+1.6**
EADA				Sn	**Sn**	**23 26 46.3**	**+2.2**
EADA				*i* Vmb_Lg		23 26 57.5	
ECAB	**El Cabril**	**2.74**	**328**	Pn	**Pn**	**23 26 16.5**	**+0.7**
ECAB				Sn	**Sb**	**23 26 52.7**	**-1.9**
ECAB				*i* Vmb_Lg		23 26 59.2	
CART	**Cartagena**	**2.76**	**48**	S	**Sn**	**23 26 46.7**	**-2.8**
CART	**Cartagena**	**2.76**	**48**	P	**Pn**	**23 26 16.4**	**+0.4**
CART				S	**Sn**	**23 26 47.0**	**-2.5**
CART	**Cartagena**	**2.76**	**48**	P	**Pn**	**23 26 18.1**	**+2.1**
EMUR	**La Murta**	**2.80**	**41**	Pn	**Pn**	**23 26 18.5**	**+1.9**
EMUR				Sn	**Sn**	**23 26 46.8**	**-3.8**
EMUR				*i* Vmb_Lg		23 26 51.2	
ODJA	**Bouhanifia**	**2.83**	**98**	P	**Pg**	**23 26 25.0**	**-0.6**
CZD	**Col de Zad**	**2.98**	**204**	P	**Pn**	**23 26 20.0**	**+0.7**
TDRA	**Tendrara**	**3.00**	**154**	P	**Pn**	**23 26 20.1**	**+0.6**
MD31	**MD31**	**3.05**	**199**	P	**Pn**	**23 26 20.2**	**+0.2**
MDT	**Midelt**	**3.06**	**197**	Pn	**Pn**	**23 26 20.1**	**-0.1**
	2.5nm,0.3s,baz=212,slow=6.9,SNR=14						
MDT				Sn	**Sn**	**23 26 56.2**	**-0.9**
	5.2nm,0.3s,baz=106,slow=16,SNR=2.0						
MDT				Lg	Lg	23 27 05.6	
	5.5nm,0.3s,baz=276,slow=20,SNR=4.8						
MDT	**Midelt**	**3.06**	**197**	P	**Pn**	**23 26 20.1**	**-0.1**
EMIN	**Mina Concepcio**	**3.19**	**310**	Pn	**Pn**	**23 26 21.0**	**-1.0**
EMIN				Sn	**Sn**	**23 26 55.2**	**-5.1**
ETOB	**Tobarra**	**3.30**	**29**	Pn	**Pn**	**23 26 25.4**	**+1.9**
ETOB				Sn	**Sn**	**23 27 03.1**	**0.0**
ETOB				*i* Vmb_Lg		23 27 33.8	
EGRO	**El Granado**	**3.61**	**301**	Pn	**Pn**	**23 26 26.9**	**-0.7**
EGRO				Sn	**Sn**	**23 27 05.6**	**-4.9**
EGRO				*i* Vmb_Lg		23 27 11.2	
PBAR	**Barrancos**	**3.68**	**312**	*e*Pn	**Pn**	**23 26 28.3**	**-0.3**
PBAR				*e*Sn	**Sn**	**23 27 10.3**	**-1.9**
PBAR				A	A	23 27 13.9	
	38nm,0.5s						
PVAQ	**Vaqueiros**	**3.72**	**297**	*e*Pn	**Pn**	**23 26 28.7**	**-0.5**
PVAQ				*e*Sn	**Sn**	**23 27 10.2**	**-3.0**
PVAQ				A	A	23 27 16.1	
	122nm,0.5s						
PVAQ	**Vaqueiros**	**3.72**	**297**	P	**Pn**	**23 26 28.9**	**-0.2**
PVAQ				S	**Sn**	**23 27 10.5**	**-2.7**
PBDV	**Barranco-do-Ve**	**3.81**	**294**	*e*Pn	**Pn**	**23 26 29.1**	**-0.4**
PBDV				*e*Sn	**Sn**	**23 27 12.8**	**-2.7**
PBDV				A	A	23 27 15.3	
	135nm,0.5s						
PAB	**San Pablo**	**3.83**	**351**	Pn	**Pn**	**23 26 31.4**	**+0.6**
PAB				Sn	**Sn**	**23 27 14.5**	**-1.6**
PAB				*i* Vmb_Lg		23 27 59.2	
PAB	**San Pablo**	**3.83**	**351**	P	**Pn**	**23 26 31.9**	**+1.1**
ESDC	**Sonseca Array**	**3.92**	**356**	Pn	**Pn**	**23 26 33.1**	**+1.0**
	3.2nm,0.3s,baz=177,slow=12,SNR=70						
ESDC				Sn	**Sn**	**23 27 19.9**	**+1.6**
	1.6nm,0.3s,baz=182,slow=23,SNR=4.5						
ESDC				Lg	Lg	23 27 34.0	
	3.0nm,0.3s,baz=185,slow=29,SNR=5.2						
ESDC	**Sonseca Array**	**3.92**	**356**	Pn	**Pn**	**23 26 30.9**	**-1.1**
ESDC				Sn	**Sn**	**23 27 18.0**	**-0.3**
ESDC				Sg	**Sg**	**23 27 33.9**	**-3.5**
ESDC				*i* Vmb_Lg		23 27 53.2	
AVE	**Averroes**	**4.01**	**233**	P	**Pn**	**23 26 34.0**	**+0.8**
PCVE	**Castro Verde**	**4.05**	**299**	*e*Pn	**Pn**	**23 26 33.3**	**-0.4**
PCVE				*e*Sn	**Sn**	**23 27 18.7**	**-2.6**
PCVE				A	A	23 27 22.2	
	201nm,0.6s						
EBAD	**Badajoz**	**4.06**	**318**	Pn	Pn	23 26 27.9	-5.9
EBAD				Sn	**Sn**	**23 27 18.0**	**-3.6**
FIGM	**Figuig**	**4.09**	**151**	P	**Pn**	**23 26 33.9**	**-0.6**
PBEJ	**Beja**	**4.12**	**305**	*e*Pn	**Pn**	**23 26 34.5**	**-0.2**
PBEJ				*e*Sn	**Sn**	**23 27 20.9**	**-2.2**
PBEJ				A	A	23 27 24.1	
	26nm,0.4s						
ECHE	**Chera**	**4.35**	**28**	Pn	**Pn**	**23 26 38.8**	**+0.9**
ECHE				*i* Vmb_Lg		23 28 32.3	
MORF	**Marmelete**	**4.37**	**292**	*e*P	**Pn**	**23 26 37.2**	**-0.9**
MORF				*e*S	**Sn**	**23 27 25.6**	**-3.7**
MORF				IAML		23 27 30.1	
	comp=N,116nm,0.3s						
MORF	**Marmelete**	**4.37**	**292**	*e*Pn	**Pn**	**23 26 37.5**	**-0.7**
MORF				*e*Sn	**Sn**	**23 27 26.4**	**-3.0**
MORF				A	A	23 27 38.5	
	comp=N,42nm,0.4s						
PFVI	**Vila Bisbo**	**4.45**	**289**	*e*Pn	**Pn**	**23 26 38.4**	**-0.8**
PFVI				*e*Sn	**Sn**	**23 27 27.4**	**-3.9**
PFVI				A	A	23 27 44.5	
	comp=N,66nm,0.5s						
PFVI	**Vila Bisbo**	**4.45**	**289**	P	**Pn**	**23 26 38.8**	**-0.5**
PESTR	**Estremoz**	**4.46**	**315**	*e*Pn	**Pn**	**23 26 39.5**	**+0.1**
PESTR				*e*Sn	**Sn**	**23 27 29.4**	**-2.1**
PESTR				A	A	23 27 42.6	
	comp=N,51nm,0.7s						
PESTR	**Estremoz**	**4.46**	**315**	P	**Pn**	**23 26 40.4**	**+1.0**
EVO	**Evora**	**4.50**	**309**	S	**Sn**	**23 27 28.8**	**-3.6**
EVO	**Evora**	**4.50**	**309**	P	**Pn**	**23 26 39.8**	**-0.1**
PTEO	**Sao Teotonio**	**4.51**	**295**	*e*Pn	**Pn**	**23 26 39.9**	**-0.1**
PTEO				*e*Sn	**Sn**	**23 27 30.4**	**-2.3**
PTEO				A	A	23 27 35.0	
	comp=N,123nm,0.6s						
UCM	**Universidad Co**	**4.55**	**3**	S	**Sn**	**23 27 34.6**	**+0.9**
UCM	**Universidad Co**	**4.55**	**3**	P	**Pn**	**23 26 42.0**	**+1.3**
PNCL	**Nicolau / Gran**	**4.61**	**302**	*e*Pn	**Pn**	**23 26 41.3**	**-0.1**
PNCL				*e*Sn	**Sn**	**23 27 32.2**	**-3.0**
PNCL				A	A	23 27 35.4	
	comp=N,54nm,0.6s						
EPLA	**Plasencia**	**4.73**	**336**	Pn	**Pn**	**23 26 41.8**	**-1.4**
EPLA				Sn	**Sn**	**23 27 36.4**	**-1.9**
EPLA				*i* Vmb_Lg		23 28 00.7	
PMRV	**Marv??o**	**4.75**	**322**	*e*Pn	**Pn**	**23 26 44.0**	**+0.6**
PMRV				*e*Sn	**Sn**	**23 27 37.0**	**-1.8**
PMRV				A	A	23 27 52.7	
	comp=N,46nm,0.5s						
GUD	**Guadarrama**	**4.90**	**355**	Pn	**Pn**	**23 26 44.3**	**-1.2**
GUD				Sn	**Sn**	**23 27 40.3**	**-2.2**
GUD				*i* Vmb_Lg		23 28 15.7	
PMTG	**Montargil**	**4.96**	**313**	*e*Pn	**Pn**	**23 26 46.6**	**+0.3**
PMTG				*e*Sn	**Sn**	**23 27 41.3**	**-2.6**
PMTG				A	A	23 27 48.4	
	comp=N,26nm,0.4s						
EIBI	**Ibiza**	**5.10**	**49**	Pn	**Pn**	**23 26 46.8**	**-1.4**
EIBI				*i* Vmb_Lg		23 27 01.9	
EIBI				Sn	**Sn**	**23 27 42.3**	**-4.9**
PCBR	**Castelo Branco**	**5.11**	**324**	*e*Pn	**Pn**	**23 26 49.2**	**+0.8**
PCBR				*e*Sn	**Sn**	**23 27 45.6**	**-2.0**
PCBR				A	A	23 27 48.4	
	comp=N,37nm,0.6s						
ETOR	**Torete**	**5.19**	**13**	Pn	**Pn**	**23 26 51.2**	**+1.7**
ETOR				*i* Vmb_Lg		23 29 01.9	
LIS	**Lisbon**	**5.34**	**305**	*e*S	**Sn**	**23 27 48.2**	**-4.9**
LIS				IAML		23 28 03.1	
	comp=N,144nm,0.4s						
LIS	**Lisbon**	**5.34**	**305**	*e*Pn	**Pn**	**23 26 52.6**	**+1.2**
LIS				*e*Sn	**Sn**	**23 27 51.4**	**-1.7**
LIS				A	A	23 28 15.6	
	comp=N,75nm,0.5s						
OUZM	**OUZ**	**5.52**	**210**	P	**Pn**	**23 26 54.8**	**+0.7**
PMAFR	**Mafra**	**5.55**	**307**	*e*Pn	**Pn**	**23 26 54.6**	**+0.2**
PMAFR				*e*Sn	**Sn**	**23 27 55.6**	**-2.9**
PMAFR				A	A	23 28 11.0	
	comp=N,71nm,0.5s						
PSBE	**So Bento**	**5.59**	**314**	*e*Pn	**Pn**	**23 26 55.5**	**+0.6**
PSBE				*e*Sn	**Sn**	**23 27 56.8**	**-2.5**
PSBE				A	A	23 28 24.1	
	comp=N,48nm,0.6s						
MTE	**Manteigas**	**5.59**	**327**	*e*Pn	**Pn**	**23 26 55.9**	**+0.9**
MTE				*e*Sn	**Sn**	**23 27 57.6**	**-1.9**
MTE				A	A	23 28 00.8	
	comp=N,46nm,0.6s						
PCAS	**Casmilo, Conde**	**5.79**	**319**	*e*Pn	**Pn**	**23 26 58.4**	**+0.7**
PCAS				*e*Sn	**Sn**	**23 28 01.8**	**-2.5**
PCAS				A	A	23 28 38.6	
	comp=N,40nm,0.6s						
COI	**Coimbra**	**5.86**	**321**	*e*Pn	**Pn**	**23 26 59.3**	**+0.7**
COI				*e*Sn	**Sn**	**23 28 02.5**	**-3.4**
COI				A	A	23 28 47.8	
	comp=N,56nm,0.5s						
PVIS	**Viseu**	**6.00**	**327**	*e*Pn	**Pn**	**23 27 01.6**	**+1.0**
PVIS				*e*Sn	**Sn**	**23 28 07.3**	**-2.3**
PVIS				A	A	23 28 10.4	
	comp=N,38nm,0.7s						
MVO	**Moncorvo**	**6.04**	**334**	*e*Pn	**Pn**	**23 27 02.1**	**+1.0**
MVO				*e*Sn	**Sn**	**23 28 08.9**	**-1.6**
MVO				A	A	23 28 13.4	
	comp=N,33nm,0.6s						
PVRL	**Vila Real**	**6.39**	**331**	*e*Pn	**Pn**	**23 27 06.7**	**+0.7**
PVRL				*e*Sn	**Sn**	**23 28 17.3**	**-1.9**
PVRL				A	A	23 28 19.7	
	comp=N,29nm,0.7s						
POLO	**Lamas de Olo**	**6.51**	**331**	*e*Pn	**Pn**	**23 27 08.5**	**+0.9**
POLO				*e*Sn	**Sn**	**23 28 19.7**	**-2.4**
POLO				A	A	23 28 22.8	
	comp=N,14nm,0.6s						
PBRG	**Braganca**	**6.52**	**339**	*e*Pn	**Pn**	**23 27 08.5**	**+0.7**
PBRG				*e*Sn	**Sn**	**23 28 21.3**	**-1.1**
PBRG				A	A	23 29 13.1	
	comp=N,16nm,0.6s						
PTO	**Porto**	**6.66**	**325**	*e*Pn	**Pn**	**23 27 10.1**	**+0.5**
PTO				*e*Sn	**Sn**	**23 28 24.0**	**-1.7**
PCAB	**Cabril**	**6.89**	**331**	*e*Pn	**Pn**	**23 27 14.1**	**+1.4**
PCAB				*e*Sn	**Sn**	**23 28 28.1**	**-3.2**
PCAB				A	A	23 29 20.9	
	comp=N,20nm,0.6s						
PGAV	**Gavieira, Arco**

KOCA				*i* AML	AML	23 31 56.0		
	comp=E,139nm,0.2s							
BUHA	**Balikesir, Bur**	**0.95**	**32**	P	**Pg**	**23 31 40.6**	**-0.1**	
BUHA				S	**Sb**	**23 31 54.2**	**-0.1**	
BUHA				*i* AML	AML	23 31 58.0		
	comp=N,92nm,0.4s							
BUHA				*i* AML	AML	23 31 59.0		
	comp=E,163nm,0.5s							
SMG	**Samos**	**1.03**	**162**	P	**Pb**	**23 31 42.6**	**0.0**	
SMG				S	**Sb**	**23 31 56.6**	**+0.2**	
	155nm,0.2s							
BAYC	**CANAKKALE_Bayr**	**1.05**	**5**	P	**Pg**	**23 31 42.3**	**-0.4**	
BAYC				S	**Sg**	**23 31 56.1**	**-0.2**	
BAYC				*i* AML	AML	23 32 02.0		
	comp=E,171nm,0.3s							
BAYC				*i* AML	AML	23 32 02.0		
	comp=N,117nm,0.4s							
AKHS	**Akhisar**	**1.10**	**80**	P	**Pg**	**23 31 42.5**	**-0.9**	
AKHS				S	**Sb**	**23 31 58.7**	**+0.3**	
AKHS				*i* AML	AML	23 32 04.0		
	comp=E,55nm,0.7s							
EZN	**Ezine**	**1.14**	**356**	P	**Pg**	**23 31 44.0**	**-0.2**	
EZN				S	**Sb**	**23 31 59.7**	**+0.2**	
	122nm,0.3s							
EZN	**Ezine**	**1.14**	**356**	PN	**Pg**	**23 31 43.6**	**-0.6**	
EZN				SN	**Sb**	**23 31 59.6**	**+0.1**	
GCAM	**G?zelcaml?**	**1.17**	**147**	PN	**Pg**	**23 31 44.7**	**-0.2**	
GCAM	**G?zelcaml?**	**1.17**	**147**	P	**Pg**	**23 31 44.7**	**-0.2**	
BOZC	**Bozcaada**	**1.19**	**346**	PN	**Pg**	**23 31 44.4**	**-0.8**	
BOZC				SN	**Sb**	**23 32 00.9**	**-0.1**	
BOZC	**Bozcaada**	**1.19**	**346**	P	**Pg**	**23 31 45.0**	**-0.1**	
BOZC				S	**Sb**	**23 32 01.0**	**+0.1**	
BOZC				*i* AML	AML	23 32 05.0		
	comp=N,72nm,0.3s							
STEP	**BALIKESIR_Sava**	**1.22**	**55**	P	**Pg**	**23 31 45.7**	**0.0**	
STEP				S	**Sn**	**23 32 03.0**	**+0.2**	
STEP				*i* AML	AML	23 32 07.0		
	comp=N,93nm,0.8s							
STEP				*i* AML	AML	23 32 08.0		
	comp=E,71nm,0.3s							
BALY	**Balya**	**1.40**	**41**	P	**Pn**	**23 31 46.5**	**-2.0**	
BALY				S	**Sn**	**23 32 09.0**	**+1.7**	
BALY				*i* AML	AML	23 32 14.0		
	comp=N,44nm,0.3s							
BALB	**Balikesir**	**1.47**	**49**	PN	**Pn**	**23 31 49.7**	**+0.2**	
BALB				SN	**Sg**	**23 32 10.2**	**+0.5**	
AYDN	**Tasoluk**	**1.54**	**132**	P	**Pn**	**23 31 48.8**	**-1.6**	
LIA	**Limnos Island**	**1.55**	**322**	P	**Pn**	**23 31 50.8**	**+0.3**	
LIA				S	**Sb**	**23 32 11.7**	**+0.4**	
GADA	**Gvkgeada**	**1.56**	**345**	PN	**Pn**	**23 31 50.2**	**-0.4**	
GONE	**Gonen-Balikesi**	**1.67**	**35**	PN	**Pn**	**23 31 52.3**	**+0.1**	
LPK	**Lapseki**	**1.70**	**9**	PN	**Pn**	**23 31 52.5**	**-0.1**	
GELI	**Tayfur-Gelibol**	**1.71**	**1**	PN	**Pn**	**23 31 52.5**	**-0.2**	
MLSB	**Milas**	**1.75**	**142**	PN	**Pn**	**23 31 53.9**	**+0.6**	
KULA	**Kula-Manisa**	**1.76**	**95**	PN	**Pb**	**23 31 54.4**	**-0.7**	
BODT	**Bodrum**	**1.77**	**157**	PN	**Pb**	**23 31 54.8**	**-0.4**	
BDRM	**Kayabasi**	**1.81**	**153**	P	**Pg**	**23 31 56.9**	**-0.1**	
KRBG	**Karabiga-Canak**	**1.83**	**21**	PN	**Pn**	**23 31 54.6**	**+0.2**	
EDC	**Edincik**	**1.99**	**33**	PN	**Pn**	**23 31 56.9**	**+0.3**	
SIMA	**Simav-Kutahya**	**2.03**	**78**	PN	**Pn**	**23 31 57.8**	**+0.6**	
TURN	**Turunc**	**2.39**	**142**	PN	**Pn**	**23 32 03.5**	**+1.4**	

*IDC **21** 00:25:58.1±1.8,51.°97N×176.°14W,h0km,mb3.4/4, mb1 3.8/5,mb1mx3.4/49,mbtmp3.3/5,ML2.9/1,Error ellipse: s-maj=79.3km s-min=32.5km az=140.0*
*NEIC **21** 00:26:17.7±2.6,53.°54N±0.°07×176.°55W±0.°10,h20km±6km, Error ellipse: s-maj=10.7km s-min=7.2km az=144.0*
*AEIC **21** 00:26:20±0.7,52.°2N±0.°2×176.°1W±0.°1,h179km±6km, ML2.8,mb3.7/6(NEIC),Error ellipse: s-maj=36.0km s-min=8.0km az=167.0*

ISC 21 00:26:19.3±0.8,52.°3N±0.°2×176.°09W±0.°08,h184km±7km, n37,σ0°69/37,mb3.2/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSTR	**Great Sitkin T**	**0.19**	**174**			**Pn**	**00 26 43.9**	**+0.2**
GSTR				Sn		**Sn**	**00 27 02.8**	**+0.4**
GSTD	**Great Sitkin T**	**0.23**	**188**			**Pn**	**00 26 43.9**	**+0.1**
GSCK	**Great Sitkin C**	**0.28**	**189**			**Pn**	**00 26 44.1**	**+0.2**
ADAG	**Mount Adagdak**	**0.44**	**226**			**Pn**	**00 26 44.6**	**+0.3**
ADK	**Adak**	**0.54**	**223**			**Pn**	**00 26 44.7**	**0.0**
ADK	**Adak**	**0.54**	**223**	Sn		**Sn**	**00 27 03.9**	**-0.2**
KICM	**Kanaga Island**	**0.77**	**242**			**Pn**	**00 26 46.3**	**+0.4**
KIKV	**Kanaga Island**	**0.78**	**239**			**Pn**	**00 26 46.2**	**+0.2**
KIWB	**Kanaga Island**	**0.78**	**237**			**Pn**	**00 26 45.9**	**0.0**
KIWB				Sn		**Sn**	**00 27 05.3**	**-1.1**
KIMD	**Kanaga Island**	**0.88**	**234**			**Pn**	**00 26 46.7**	**+0.2**
KOKL	**Mount Kliuchef**	**1.16**	**87**			**Pn**	**00 26 49.2**	**+0.6**
TAPA	**Tanaga Point A**	**1.16**	**247**			**Pn**	**00 26 49.0**	**+0.3**
ATKA	**Atka Island**	**1.17**	**93**			**Pn**	**00 26 48.7**	**+0.1**
KOFP	**Korovin Flat P**	**1.22**	**90**			**Pn**	**00 26 49.3**	**+0.2**
TAFP	**Tanaga Falls P**	**1.23**	**253**			**Pn**	**00 26 49.2**	**+0.1**
TASE	**Tanaga Southea**	**1.28**	**250**			**Pn**	**00 26 49.6**	**-0.1**
GAEA	**Gareloi East**	**1.72**	**254**			**Pn**	**00 26 54.0**	**+0.4**
GALAA	**Gareloi Lava P**	**1.74**	**254**			**Pn**	**00 26 54.2**	**+0.3**
NIKH	**Nikolski High**	**4.46**	**78**	Pn		**Pn**	**00 27 26.8**	**+0.4**
NIKH				Sn		**Sn**	**00 28 18.3**	**-0.6**
SDPT	**Sand Point**	**9.73**	**65**	Pn		**Pn**	**00 28 34.5**	**-0.5**
N18K	**Kilae Creek**	**13.92**	**45**			**P**	**00 29 32.5**	**+1.5**
KTH	**Kantishna Hill**	**17.35**	**40**	P		**P**	**00 30 09.9**	**+1.1**
KTH				IAmb		IAmb	00 30 10.9	
	comp=Z,4.8nm,0.8s							
I21K	**Tanana**	**17.82**	**34**	P		**Pn**	**00 30 15.6**	**-0.1**
I21K				IAmb		IAmb	00 30 17.3	
	comp=Z,5.1nm,1.3s							
H21K	**Melozitna Rive**	**17.83**	**32**	P		**Pn**	**00 30 15.8**	**-0.1**
MDM	**Murphy Dome**	**19.06**	**38**	P		**P**	**00 30 28.2**	**+0.8**
MDM				IAmb		IAmb	00 30 28.9	
	comp=Z,1.7nm,0.6s							
ILAR	**Eielson Array**	**19.48**	**39**	P		**P**	**00 30 30.4**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=241,slow=9.7,SNR=2.6							
H24K	**Noodor Dome**	**19.62**	**35**	P		**P**	**00 30 34.2**	**+0.7**
H24K				IAmb		IAmb	00 30 55.8	
	comp=Z,2.9nm,1.2s							
BCAR	**Beaver Creek A**	**21.00**	**46**	P		**P**	**00 30 49.6**	**+1.4**
BMAR	**Burnt Mountain**	**21.55**	**33**	P		**P**	**00 30 54.0**	**0.0**
TIXI	**Tiksi**	**30.69**	**329**	P		**P**	**00 32 16.0**	**-0.3**
YKA	**Yellowknife Ar**	**33.38**	**48**	P		**P**	**00 32 39.1**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=281,slow=8.2,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**35.10**	**209**	T		T	01 10 07.3	
	baz=16							
H11N3	**WAKE ISLAND Hy**	**35.10**	**209**	T		T	01 10 11.4	
	baz=16							
H11N1	**WAKE ISLAND Hy**	**35.12**	**209**	T		T	01 10 06.4	
	baz=16							
PDAR	**Pinedale Array**	**44.44**	**75**	P		**P**	**00 34 10.8**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=286,slow=6.5,SNR=6.1							
TXAR	**Lajitas Array**	**56.87**	**84**	P		**P**	**00 35 46.0**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=302,slow=5.2,SNR=2.5							
WRA	**Warramunga Arr**	**83.84**	**226**	P		**P**	**00 38 28.2**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=33,slow=5.8,SNR=1.7							

TRN 21 00:40:42.1,10.°94N×59.°13W,h66km,MD3.7,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TOSP	**Speyside**	**1.42**	**285**	*eP*		Pn	00 41 06.5	+0.6
TOSP				*eS*		Sn	00 41 23.5	-0.3
TRN	**Trinidad (W)**	**2.25**	**263**	*eP*		Pn	00 41 17.5	+0.4
TRN				*eS*		Sn	00 41 42.5	-1.2
GCMP	**Grenada, Carri**	**2.72**	**305**	*eP*		Pn	00 41 23.1	-0.5
GCMP				*eS*		Sn	00 41 55.3	0.0
GRGR	**Grenville**	**2.74**	**296**	*eP*		Pn	00 41 24.3	+0.5
GRGR				*eS*		Sn	00 41 55.1	-0.7
GRFF	**Grenada Fort F**	**2.78**	**294**	*eP*		Pn	00 41 24.2	-0.1
GRFF				*eS*		Sn	00 41 56.2	-0.6
SVOC	**Richmond Hill,**	**3.00**	**317**	*eS*		Sn	00 42 02.4	+0.2
SVB	**Belmont**	**3.11**	**318**	*eP*		Pn	00 41 28.9	+0.1
SVB				*eS*		Sn	00 42 05.1	+0.3
SSV	**Crater Summit**	**3.11**	**320**	*eP*		Pn	00 41 30.3	+1.4
SSV				*eS*		Sn	00 42 04.1	-0.9
SVV	**Soufriere Volc**	**3.12**	**319**	*eP*		Pn	00 41 29.6	+0.6
SVV				*eS*		Sn	00 42 02.4	-2.7
MCLT	**Moule a Chique**	**3.27**	**328**	*eP*		Pn	00 41 30.6	-0.5
MCLT				*eS*		Sn	00 42 06.9	-1.8
SLBI	**Saint Lucia, B**	**3.55**	**330**	*eP*		Pn	00 41 35.4	+0.5
SLBI				*eS*		Sn	00 42 15.2	-0.5
MPOM	**Morne Pois Mar**	**3.87**	**334**	*i* P		Pn	00 41 39.7	+0.5
MPOM				*eS*		Sn	00 42 21.1	-2.3

BIM	**Bigot**	**4.03**	**332**	*eP*		Pn	00 41 41.5	+0.1
BIM				*eS*		Sn	00 42 25.1	-2.3
ILAM	**Ilet Lapin Mar**	**4.17**	**336**	*eP*		Pn	00 41 44.1	+0.8
ILAM				*eS*		Sn	00 42 28.6	-2.2
FDF	**Fort de France**	**4.25**	**333**	*eP*		Pn	00 41 45.6	+1.1
FDF	**Fort de France**	**4.25**	**333**	*eS*		Sn	00 42 30.9	-2.0
DSLB	**Salisbury**	**5.00**	**334**	*eP*		Pn	00 41 55.8	+1.1
DSLB	**Salisbury**	**5.00**	**334**	*eS*		Sn	00 42 48.1	-2.9
TBG	**Guadaloupe-3**	**5.46**	**334**	*eP*		Pn	00 42 02.9	+1.9
ANBD	**Bethesda, Anti**	**6.59**	**337**	*eP*		Pn	00 42 16.9	+0.5
ANBD	**Bethesda, Anti**	**6.59**	**337**	*eS*		Sn	00 43 26.0	-4.1
BPA	**Boggy Peak**	**6.62**	**337**	*eP*		Pn	00 42 17.2	+0.3
BPA	**Boggy Peak**	**6.62**	**337**	*eS*		Sn	00 43 27.7	-3.3
ANWB	**Willy Bob**	**7.17**	**339**	*eP*		Pn	00 42 24.4	+0.1
ANWB	**Willy Bob**	**7.17**	**339**	*eS*		Sn	00 43 40.1	-4.1

NNC 21 01:56:42.5±8.6,37.°23N×71.°24E,h0km,mb3.6,mpv3.3, 4C-2D,Error ellipse: s-maj=67.4km s-min=50.2km az=179.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**5.89**	**355**	⇑P		Pn	01 58 12.2	+1.2
	1.1nm,0.2s,baz=180,slow=12,SNR=60							
KK31				⇓S		Sn	01 59 21.8	+2.6
	6.3nm,0.6s,baz=189,slow=23,SNR=9.5							
TKM2	**Tokmak 2**	**6.59**	**29**	⇑P		Pn	01 58 21.5	+0.7
	1.0nm,0.6s							
TKM2				⇑S		Sn	01 59 35.9	-0.8
	2.2nm,0.8s							
AB31	**Akbulak array**	**14.54**	**329**	⇑P		Pn	02 00 06.8	-2.7
	0.2nm,0.3s,baz=165,slow=11,SNR=8.8							
AB31				⇓S		Sn	02 02 49.8	-1.5
	1.4nm,0.7s,baz=154,slow=25,SNR=11							

*IGQ **21** 01:56:50±1.9,0.°S±6.°×8.°1W±1.°1,h4km*
*IDC **21** 01:56:51.1±1.4,0.°86S×81.°37W,h0km,mb3.5/5,mb1 3.9/7, mb1mx3.6/38,mbtmp3.7/7,ML2.7/2,MS3.4/3,Ms1 3.4/3, ms1mx2.8/42,Error ellipse: s-maj=44.8km s-min=21.8km az=48.0*

ISC 21 01:56:52.8±0.8,0.°60S±0.°05×80.°83W±0.°06,h10km,n65, σ1°93/60,mb3.7/4,6C,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAMA	**Jama**	**0.71**	**62**	P		**Pg**	**01 57 06.0**	**-0.5**
PPLP	**Puerto Lpez**	**0.95**	**177**	P		**Pn**	**01 57 12.0**	**-0.2**
FLF1	**Flavio Alfaro-**	**1.02**	**77**	P		**Pn**	**01 57 14.0**	**+0.8**
MAG1	**Magdalena**	**1.18**	**64**	P		**Pg**	**01 57 15.0**	**-0.5**
SALI	**Salinas**	**1.59**	**186**	P		**Pg**	**01 57 23.0**	**-0.4**
AV18	**Acelerografo,**	**1.63**	**56**	P		**Pn**	**01 57 21.0**	**-0.6**
AMIL	**Milagro (Trans**	**1.97**	**141**	P		**Pg**	**01 57 30.0**	**-0.6**
ILLI	**Illinizas Sur**	**2.11**	**93**	P		**Pn**	**01 57 29.0**	**+0.4**
PAST	**Pastocalle**	**2.19**	**93**	P		**Pb**	**01 57 31.0**	**-1.9**
HPAL	**Hacienda Las P**	**2.21**	**80**	P		**Pn**	**01 57 29.0**	**-0.9**
PAC1	**Pacto, Paraso**	**2.21**	**67**	*eP*		**Pn**	**01 57 29.5**	**-0.3**
PORT	**Chimborazo Vol**	**2.23**	**113**	P		**Pb**	**01 57 32.0**	**-1.6**
GGPT	**Toaza - Volcan**	**2.24**	**81**	P		**Pn**	**01 57 30.0**	**-0.4**
TAMH	**Tambohuasha Ch**	**2.26**	**115**	P		**Pb**	**01 57 33.0**	**-1.0**
JUA2	**San Juan 2**	**2.26**	**80**	P		**Pn**	**01 57 30.0**	**-0.7**
PINO	**Pino**	**2.27**	**79**	P		**Pn**	**01 57 31.0**	**+0.1**
YANA	**Yana**	**2.31**	**78**	P		**Pn**	**01 57 31.0**	**-0.4**
CAMI	**Rancho Maria**	**2.33**	**92**	P		**Pb**	**01 57 34.0**	**-1.2**
BNAS	**Cotopaxi Volca**	**2.35**	**92**	P		**Pb**	**01 57 34.0**	**-1.6**
BREF	**Cotopaxi Volca**	**2.39**	**92**	P		**Pb**	**01 57 35.0**	**-1.4**
PITA	**Cotopaxi Volc**	**2.40**	**89**	P		**Pb**	**01 57 34.0**	**-2.4**
PULU	**Pululahua**	**2.41**	**75**	P		**Pn**	**01 57 33.0**	**+0.3**
BVC2	**Cotopaxi Volca**	**2.42**	**91**	P		**Pb**	**01 57 35.0**	**-1.8**
BTAM	**Cotopaxi Volca**	**2.44**	**92**	P		**Pb**	**01 57 35.0**	**-2.1**
TAMB	**Tambo**	**2.46**	**92**	P		**Pb**	**01 57 35.0**	**-2.6**
JUI6	**Juive**	**2.50**	**109**	P		**Pb**	**01 57 37.0**	**-1.1**
POND	**Pondoa**	**2.52**	**109**	P		**Pb**	**01 57 38.0**	**-0.3**
BMAS	**Trigal station**	**2.52**	**111**	P		**Pb**	**01 57 38.0**	**-0.4**
RETU	**Refugio**	**2.53**	**110**	P		**Pg**	**01 57 39.0**	**-2.4**
ARRY	**Arrayan**	**2.54**	**111**	P		**Pb**	**01 57 38.0**	**-0.8**
BRUN	**Tungurahua Vol**	**2.55**	**109**	P		**Pb**	**01 57 38.0**	**-1.0**
ANTG	**Antisana-Guama**	**2.58**	**88**	P		**Pb**	**01 57 37.0**	**-2.5**
CUSE	**Cuicocha Este**	**2.59**	**70**	*eP*		**Pn**	**01 57 35.4**	**+0.2**
PIAT	**Ana Tenorio**	**2.60**	**99**	P		**Pb**	**01 57 38.0**	**-1.8**
CUIC	**Cuicocha-Domo**	**2.63**	**70**	P		**Pn**	**01 57 35.0**	**-0.7**
ANTS	**Antisana-Sarah**	**2.66**	**88**	P		**Pb**	**01 57 38.0**	**-3.0**
ANTI	**Antisana**	**2.67**	**87**	P		**Pb**	**01 57 38.0**	**-3.2**
CAYR	**Refugio Cayamb**	**2.89**	**78**	P		**Pb**	**01 57 42.0**	**-2.9**
YAHU	**Yahuarcocha**	**2.92**	**71**	P		**Pb**	**01 57 42.0**	**-3.3**
ECEN	**Cerro Negro**	**3.19**	**64**	P		**Pn**	**01 57 43.0**	**-0.6**
CHL1	**Volcn Chiles**	**3.20**	**64**	P		**Pn**	**01 57 44.0**	**+0.3**
TULM	**Tulcn-Chalpat**	**3.31**	**67⇑**	*eP*		**Pb**	**01 57 48.4**	**-3.5**
CMBC	**Cumbal**	**3.37**	**63**	*eP*		**Pb**	**01 57 49.8**	**-3.2**
GCUF	**Volcan Galeras**	**3.93**	**63⇑**	*eP*		**Pn**	**01 57 53.9**	**+0.2**
CRUC	**La Cruz**	**4.43**	**61**	*eP*		**Pn**	**01 58 00.6**	**+0.1**
POPC	**Popayan, Colom**	**5.19**	**53⇑**	*eP*		**Pn**	**01 58 08.8**	**-2.1**
MARP	**Paez Belalcaza**	**5.95**	**55⇑**	*eP*		**Pn**	**01 58 23.7**	**+2.3**
GARC	**Garzon, Huila**	**6.01**	**63⇑**	*eP*		Pn	01 58 26.4	+4.3
PTLC	**Puerto Leguiza**	**6.08**	**83**	*eP*		**Pn**	**01 58 25.0**	**+2.1**
YOTC	**Yotoco, Valle**	**6.38**	**45**	*eP*		**Pn**	**01 58 29.1**	**+1.9**
ORTC	**Ortega, Tolima**	**7.15**	**51⇑**	*eP*		**Pn**	**01 58 38.6**	**+0.9**
MACC	**Macarena, Meta**	**7.49**	**69**	*eP*		**Pn**	**01 58 39.9**	**-2.4**
GUY2C	**Guyana, Caldas**	**7.95**	**43**	*eP*		**Pn**	**01 58 49.4**	**+0.4**
CBOC	**Ciudad Bolivar**	**8.02**	**37**	*eP*		Pn	01 58 56.2	+6.5
ROSC	**El Rosal**	**8.45**	**50**	Pn		Pn	01 59 04.4	+8.6
ROSC	2.8nm,0.3s,baz=232,slow=19,SNR=2.6				Sn	**Sn**	**02 00 38.7**	**+7.2**
	2.4nm,0.3s,baz=166,slow=23,SNR=1.7							
NORC	**Norcasia**	**8.54**	**44**	*eP*		Pn	01 59 05.7	+9.1
CHIC	**Chingaza**	**8.79**	**54**	*eP*		**Pn**	**01 59 04.3**	**+3.9**
RUSC	**La Rusia**	**10.07**	**50**	*eP*		Pn	01 59 24.9	+6.8
SDV	**Santo Domingo**	**13.85**	**47**	Pn		**P**	**02 00 18.0**	**0.0**
SDV	2.0nm,0.3s,baz=245,slow=10,SNR=6.8				LR	LR	02 06 23.0	
	comp=Z,71nm,21.4s,baz=232,slow=40							
LPAZ	**La Paz**	**20.00**	**142**	P		**Pn**	**02 01 28.7**	**+0.6**
	0.4nm,0.6s,baz=319,slow=9.3,SNR=2.4							
SIV	**San Ignacio**	**24.78**	**129**	P		**P**	**02 02 16.7**	**+1.6**
	0.6nm,0.5s,baz=311,slow=8.7,SNR=5.2							
SIV					LR	LR	02 13 21.0	
	comp=Z,172nm,21.7s,baz=300,slow=40							
ANMO	**Albuquerque**	**42.71**	**328**	P		**P**	**02 04 50.4**	**0.0**
	1.6nm,0.7s,baz=135,slow=8.6,SNR=8.4							
NVAR	**Mina Array Bea**	**51.91**	**323**	P		**P**	**02 06 02.4**	**+0.3**
	0.5nm,0.6s,baz=134,slow=8.5,SNR=4.2							
YKA	**Yellowknife Ar**	**67.86**	**344**	P		**P**	**02 07 50.0**	**-1.2**
	0.5nm,0.8s,baz=139,slow=5.8,SNR=8.1							
INK	**Inuvik**	**77.54**	**342**	LR		LR	02 44 16.2	
	comp=Z,30nm,18.3s,baz=105,slow=37							

*IDC **21** 02:30:31.6±3.1,29.°82S×176.°43W,h71km±24km,mb3.3/3, mb1 3.7/4,mb1mx3.4/29,mbtmp3.7/4,MS3.4/8,Ms1 3.4/8, ms1mx3.2/17,Error ellipse: s-maj=31.1km s-min=22.1km az=82.0*

ISC 21 02:30:27.2±1.1,29.°8S±0.°1×176.°1W±0.°1,h35km,n14, σ1°72/10,mb3.7/3,MS3.4/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.63**	**288**	P		**Pn**	**02 30 54.7**	**+1.3**
	775nm,0.3s,baz=84,slow=7.9,SNR=25							
RAO				S		**Sn**	**02 31 13.6**	**+0.3**
	1µm,0.3s,baz=89,slow=22,SNR=9.6							
RAO					LR	LR	02 31 39.7	
	comp=Z,599nm,18.4s,baz=138,slow=48							
URZ	**Urewera**	**10.14**	**212**	P		**Pn**	**02 32 51.7**	**+1.5**
	0.6nm,0.3s,baz=122,slow=23,SNR=2.1							
URZ				S		**Sn**	**02 34 41.6**	**-1.1**
	1.8nm,0.3s,baz=118,slow=24,SNR=2.9							
MSVF	**Nonsavu**	**13.11**	**335**	LR		LR	02 37 48.6	
	comp=Z,503nm,21.1s,baz=139,slow=34							
DZM	**Mont Dzumac**	**17.43**	**292**	LR		LR	02 39 36.1	
	comp=Z,152nm,19.6s,baz=204,slow=32							
PPT	**Papeete**	**27.12**	**69**	LR		LR	02 45 54.2	
	comp=Z,43nm,18.6s,baz=281,slow=34							
STKA	**Stephens Creek**	**36.19**	**256**	LR		LR	02 50 43.7	
	comp=Z,43nm,19.3s,baz=30,slow=34							
ASAR	**Alice Springs**	**44.76**	**265**	P		**P**	**02 38 34.5**	**-3.1**
	0.2nm,0.4s,baz=102,slow=7.7,SNR=1.5							
ASAR					LR	LR	02 56 04.9	
	comp=Z,55nm,18.9s,baz=120,slow=34							
WRA	**Warramunga Arr**	**45.69**	**271**	P		**P**	**02 38 44.0**	**-0.9**
	0.5nm,0.5s,baz=112,slow=7.1,SNR=11							
WRA					LR	LR	02 56 58.4	
	comp=Z,46nm,19.4s,baz=64,slow=35							

FITZ	**Fitzroy Crossi**	**53.98**	**269**	LR		LR	03 01 30.1	
	comp=Z,27nm,20.1s,baz=142,slow=35							
RPN	**Rapa Nui**	**58.05**	**105**	LR		LR	03 00 59.7	
	comp=Z,46nm,20.8s,baz=20,slow=31							
NVAR	**Mina Array Bea**	**86.70**	**42**	P		**P**	**02 43 08.1**	**+0.5**
	0.3nm,0.3s,baz=230,slow=5.6,SNR=6.9							
FINES	**FINESS Array B**	**145.09**	**341**	PKPbc		**PKPdf**	**02 49 58.6**	**-1.5**
	1.7nm,0.8s,baz=27,slow=4.7,SNR=5.8							
AKASG	**Malin Array Be**	**151.75**	**325**	PKPbc		**PKiKP**	**02 50 17.6**	**-0.4**
	0.7nm,0.4s,baz=62,slow=3.9,SNR=4.0							
TORD	**Torodi Ar. Bea**	**163.33**	**173**	PKPab		**PKPab**	**02 51 18.9**	**+1.6**
	1.3nm,1.0s,baz=180,slow=6.2,SNR=4.6							

*NEIC **21** 02:43:54.6±1.2,6.°68S±0.°06×106.°48E±0.°06,h145km±10km, mb4.2/15,Error ellipse: s-maj=9.3km s-min=7.7km az=138.0*
*IDC **21** 02:43:55.9±1.2,5.°84S×107.°17E,h162km±16km,mb3.4/5, mb1 3.5/5,mb1mx3.0/57,mbtmp3.8/5,Error ellipse: s-maj=105.2km s-min=19.3km az=50.0*
*DJA **21** 02:43:55.9±0.4,7.°S±6.°×10.°6E±.°,h151km±5km,M3.6/11, MLv3.6/11*

ISC 21 02:43:54.0±0.7,6.°72S±0.°06×106.°49E±0.°05,h150km,n45, σ2°02/52,mb4.2/14,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKJI	**Sukabumi**	**0.29**	**167**	P		**Pn**	**02 44 17.4**	**+2.9**
DBJI	**Dramaga**	**0.30**	**58**	P		**Pn**	**02 44 17.9**	**+3.3**
CBJI	**Citeko**	**0.46**	**51**	P		**Pn**	**02 44 17.9**	**+2.7**
TNG	**Tangerang**	**0.56**	**16**	P		**Pn**	**02 44 18.6**	**+2.9**
CGJI	**Cibinong**	**0.80**	**277**	P		**Pn**	**02 44 20.7**	**+3.5**
CGJI				S		**Sn**	**02 44 38.7**	**+3.9**
CNJI	**Cibinong**	**0.87**	**133**	P		**Pn**	**02 44 20.2**	**+2.5**
CNJI				S		**Sn**	**02 44 38.5**	**+2.8**
LEM	**Lembang**	**1.12**	**96**	P		**Pn**	**02 44 22.7**	**+2.7**
	17nm,0.3s,baz=290,slow=2.6,SNR=15							
LEM				S		**Sn**	**02 44 43.5**	**+3.7**
	18nm,0.3s,baz=351,slow=21,SNR=8.4							
LEM	**Lembang**	**1.12**	**96**	P		**Pn**	**02 44 22.8**	**+2.7**
BLSI	**Bandar Lampung**	**1.82**	**317**	P		Pn	02 44 34.9	+7.8
CMJI	**Cimerak**	**2.21**	**119**	P		**Pn**	**02 44 33.1**	**+1.5**
KASI	**Kota Agung**	**2.31**	**301**	P		**Pn**	**02 44 35.6**	**+2.8**
KASI				S		**Sn**	**02 45 04.3**	**+1.6**
LWLI	**Liwa**	**2.95**	**305**	P		Pn	02 44 50.8	+10
MDSI	**Maura Dua**	**3.19**	**314**	P		**Pn**	**02 44 46.2**	**+2.3**
XMIS	**Christmas Isla**	**3.83**	**192**

BRBA				Sn	Sn	02 59 27.9	-2.4
BRBA				Lg	Lg	02 59 39.9	
BRBA	**Barentsburg A**	**3.11**	**314**	*eP*	**Pn**	**02 58 54.9**	**+0.8**
BRBA				*eS*	**Sn**	**02 59 28.4**	**-1.9**
BRBA				*eSg*	**Sb**	**02 59 39.4**	**+0.6**
BRBB	**Barentsburg B**	**3.13**	**315**	Pn	**Pn**	**02 58 55.1**	**+0.7**
BRBB				Sn	**Sn**	**02 59 28.7**	**-2.1**
BRBB				Lg	Lg	02 59 39.7	
BRBB	**Barentsburg B**	**3.13**	**315**	*eP*	**Pn**	**02 58 55.0**	**+0.7**
BRBB				*eS*	**Sn**	**02 59 29.0**	**-1.8**
BRBB				*eSg*	**Sb**	**02 59 40.8**	**+1.5**
KBS	**Kingsbay**	**4.00**	**321**	Pn	**Pn**	**02 59 05.7**	**-0.5**
KBS				Lg		03 00 06.6	
KBS	**Kingsbay**	**4.00**	**321**	*eP*	**Pn**	**02 59 06.0**	**-0.2**
KBS				*eS*	**Sn**	**02 59 49.2**	**-2.9**
KBS				*eSg*	**Sb**	**03 00 06.6**	**+2.4**
KBS	**Kingsbay**	**4.00**	**321**	*eP*	**Pn**	**02 59 05.1**	**-1.1**
KBS				*eS*	**Sn**	**02 59 49.0**	**-3.1**
ZFI	**Zemlya Franca-**	**6.50**	**33**	P	**Pn**	**02 59 41.0**	**+0.5**
ZFI				*eS*	**Sn**	**03 00 53.1**	**-0.5**
	comp=Z,14nm,1.6s						
ZFI2	**Zemlya Franca-**	**6.50**	**33**	P	**Pn**	**02 59 41.0**	**+0.5**
ZFI2				*eS*	**Sn**	**03 00 52.4**	**-1.3**
	comp=Z,14nm,1.3s						
ARA0	**ARCESS Array S**	**6.60**	**178**	Pn	**Pn**	**02 59 43.1**	**+1.1**
	baz=356,slow=12						
ARA0				Sn	**Sn**	**03 00 54.3**	**-1.9**
	baz=360,slow=22						
ARA0	**ARCESS Array S**	**6.60**	**178**	Pn	**Pn**	**02 59 43.1**	**+1.1**
	baz=356,slow=12						
ARA0				Sn	**Sn**	**03 00 54.3**	**-1.9**
	baz=360,slow=22						
ARCES	**ARCESS Array B**	**6.60**	**178**	P	Pn	02 59 47.2	+5.2
ARCES				S	**Sn**	**03 00 55.5**	**-0.8**
PRVG	**Vayda Guba**	**6.72**	**158**	P	Pn	02 59 49.5	+5.9
PRVG				S	**Sn**	**03 00 58.9**	**-0.3**

*IDC **21** 03:03:59.5±1.3,29.°52N×138.°72E,h481km±26km,mb2.8/5, mb1 3.0/8,mb1mx2.7/49,mbtmp3.8/8,Error ellipse: s-maj=64.6km s-min=17.1km az=75.0*

*JMA **21** 03:03:59.6±0.2,29.°60N×139.°04E,h506km,M3.5*

ISC 21 03:04:00.3±0.8,29.°68N±0.°09×139.°2E±0.°2,h500km,n16, σ1°33/21,mb3.1/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.69**	**133**	P	**P**	**03 05 16.9**	**+0.6**
CBIJ				*eS*	**S**	**03 06 18.2**	**0.0**
JCJ	**Chichijima**	**3.69**	**133**	P	**P**	**03 05 16.6**	**+0.3**
	3.7nm,0.3s,baz=360,slow=20,SNR=15						
JCJ				S	**S**	**03 06 17.6**	**-0.6**
	11nm,0.3s,baz=271,slow=22,SNR=6.6						
JTNC	**Tanabenakahech**	**5.13**	**325**	P	**P**	**03 05 28.1**	**-0.2**
JIE	**Ise**	**5.15**	**337**	P	**P**	**03 05 30.3**	**+1.9**
JNY	**Yasuok**	**5.78**	**349**	P	**P**	**03 05 36.1**	**+1.7**
JAO	**Obara**	**5.81**	**344**	P	**P**	**03 05 36.2**	**+1.6**
JHU	**Hanno**	**6.16**	**1**	P	**P**	**03 05 38.8**	**+0.8**
JHU				*eS*	**S**	**03 06 56.1**	**-2.0**
JRY	**Ryogami san**	**6.33**	**358**	P	**P**	**03 05 41.0**	**+1.3**
JRY				S	**S**	**03 07 01.4**	**+0.3**
JAG	**Ashikaga**	**6.74**	**2**	P	**P**	**03 05 44.0**	**+0.3**
JAG				*eS*	**S**	**03 07 05.7**	**-2.7**
MJAR	**Matsushiro Arr**	**6.90**	**354**	P	**P**	**03 05 45.6**	**+0.3**
	0.4nm,0.3s,baz=198,slow=7.4,SNR=9.5						
USRK	**Uesuriysk Ar.**	**15.58**	**340**	P	**P**	**03 07 17.3**	**+1.0**
	baz=155,slow=9.9,SNR=5.5						
MKAR	**Makanchi Array**	**46.80**	**308**	P	**P**	**03 11 42.1**	**-2.0**
	0.2nm,0.3s,baz=88,slow=8.4,SNR=3.6						
WRA	**Warramunga Arr**	**49.55**	**186**	P	**P**	**03 12 04.5**	**-0.4**
	0.1nm,0.4s,baz=1.8,slow=7.8,SNR=5.5						
ARCES	**ARCESS Array B**	**70.23**	**340**	P	**P**	**03 14 23.8**	**+1.8**
	1.4nm,0.7s,baz=78,slow=8.5,SNR=4.3						
FINES	**FINESS Array B**	**74.46**	**333**	P	**P**	**03 14 46.5**	**-0.1**
	0.5nm,0.5s,baz=62,slow=4.5,SNR=5.3						
NOA	**NORSAR Array B**	**80.23**	**337**	P	**P**	**03 15 18.6**	**+0.5**
	0.2nm,0.5s,baz=48,slow=4.7,SNR=1.3						

NOU 21 03:22:54.0,16.°79S×167.°88E,h24km,MLv4.4/16, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.97**	**163**	P	Pn	03 23 11.9	-0.3
SANVU	**Saraoutou**	**1.48**	**334**	P	Pn	03 23 19.4	+0.2
LIFNC	**LIFOU**	**4.01**	**189**	P	Pn	03 23 53.4	-0.6
KOUNC	**Koumac, New Ca**	**5.06**	**222**	P	Pn	03 24 08.6	+0.2
YATNC	**Mamie plateau,**	**5.32**	**190**	P	Pn	03 24 11.4	-0.6
DZM	**Mont Dzumac**	**5.42**	**194**	P	Pn	03 24 13.4	-0.1
NOUC	**Port Laguerre**	**5.49**	**195**	P	Pn	03 24 14.3	0.0
ONTNC	**Ouen Toro**	**5.65**	**194**	P	Pn	03 24 16.6	+0.1
OUENC	**Ouen Island, N**	**5.68**	**190**	P	Pn	03 24 17.1	+0.1
PINNC	**Pines Island,**	**5.81**	**184**	P	Pn	03 24 19.0	+0.3

*NOU **21** 03:30:31.0,38.°85S×174.°85E,h239km,MLv3.8/9,North Island, New Zealand*

*WEL **21** 03:30:35.7±0.6,39.°5±5.°×17.°5E±.°,h200km±4km, M3.0/36, ML2.6/6,MLv3.0/36,Error ellipse: s-maj=0.0km s-min=0.0km az=142.5*

ISC 21 03:30:30.3±1.8,38.°93S±0.°07×174.°90E±0.°06, h238km±10km,n110,σ1°61/126,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.42**	**355**	P	**Pn**	**03 31 02.9**	**+1.3**
HIZ	**Hauiti**	**0.42**	**355**	P	**Pn**	**03 31 03.0**	**+1.3**
PKVZ	**Pokaka**	**0.50**	**136**	P	**Pn**	**03 31 03.4**	**+1.6**
PKVZ				S	**S**	**03 31 24.6**	**-2.1**
WTVZ	**West Tongariro**	**0.57**	**109**	P	**Pn**	**03 31 03.7**	**+1.5**
WTVZ				S	**S**	**03 31 25.6**	**-1.6**
NGZ	**Ngauruhoe**	**0.60**	**114**	P	**Pn**	**03 31 03.9**	**+1.5**
NGZ				S	**S**	**03 31 26.1**	**-1.4**
KRVZ	**Karewarewa**	**0.60**	**106**	P	**Pn**	**03 31 03.9**	**+1.6**
KRVZ				S	**S**	**03 31 25.9**	**-1.5**
TRVZ	**Turoa**	**0.62**	**126**	P	**Pn**	**03 31 04.2**	**+1.7**
NTVZ	**North Tongariro**	**0.63**	**105**	P	**Pn**	**03 31 04.1**	**+1.7**
SNVZ	**South Ngauruho**	**0.63**	**114**	P	**Pn**	**03 31 04.2**	**+1.7**
MTVZ	**Mangateitei**	**0.63**	**135**	P	**Pn**	**03 31 04.0**	**+1.6**
MTVZ				S	**S**	**03 31 25.7**	**-1.8**
OTVZ	**Oturere**	**0.64**	**111**	P	**Pn**	**03 31 04.1**	**+1.6**
OTVZ				S	**S**	**03 31 26.5**	**-1.2**
TMVZ	**Te Maari**	**0.65**	**106**	P	**Pn**	**03 31 04.2**	**+1.7**
ETVZ	**East Tongariro**	**0.66**	**108**	P	**Pn**	**03 31 04.3**	**+1.8**
RATZ	**Rangitukua**	**0.69**	**85**	P	**Pn**	**03 31 03.9**	**+1.4**
NEZ	**North Egmont**	**0.71**	**242**	P	**Pn**	**03 31 04.7**	**+2.1**
NEZ				S	**S**	**03 31 27.8**	**-0.2**
KHEZ	**Kahui Hut**	**0.78**	**242**	P	**Pn**	**03 31 05.0**	**+2.1**
MOVZ	**Moawhango**	**0.81**	**126**	P	**Pn**	**03 31 04.4**	**+1.3**
MOVZ				S	**S**	**03 31 25.9**	**-3.1**
WAZ	**Wanganui**	**0.82**	**175**	P	**Pn**	**03 31 05.2**	**+2.1**
WAZ				S	**S**	**03 31 27.6**	**-1.3**
BHHZ	**Black Hill Sta**	**1.06**	**122**	P	**Pn**	**03 31 05.8**	**+1.4**
BHHZ				S	**S**	**03 31 28.0**	**-3.3**
MRHZ	**Matea Rd**	**1.19**	**86**	P	**Pn**	**03 31 06.2**	**+0.9**
BKZ	**Black Stump Fm**	**1.26**	**101**	P	**Pn**	**03 31 07.1**	**+1.3**
BKZ	**Black Stump Fm**	**1.26**	**101**	P	**Pn**	**03 31 07.2**	**+1.4**
KWHZ	**Kaweka Forest**	**1.28**	**113**	P	**Pn**	**03 31 07.8**	**+1.9**
KWHZ				S	**S**	**03 31 32.0**	**-1.8**
KRHZ	**Kereru**	**1.34**	**122**	P	**Pn**	**03 31 08.1**	**+1.8**
KRHZ				S	**S**	**03 31 32.4**	**-2.2**
TSZ	**Takapari Road**	**1.39**	**144**	P	**Pn**	**03 31 08.7**	**+2.1**
TSZ				S	**S**	**03 31 33.7**	**-1.5**
RRRZ	**Republican Roa**	**1.40**	**65**	P	**Pn**	**03 31 07.5**	**+0.7**
PNHZ	**Pukenui**	**1.40**	**135**	P	**Pn**	**03 31 08.6**	**+1.9**
PNHZ				S	**S**	**03 31 33.7**	**-1.7**
TARZ	**Mount Tarawera**	**1.44**	**62**	P	**Pn**	**03 31 08.6**	**+1.5**
MCHZ	**McNeill Hill**	**1.49**	**111**	P	**Pn**	**03 31 09.8**	**+2.4**
NMHZ	**Naumai**	**1.50**	**97**	P	**Pn**	**03 31 09.9**	**+2.4**
NMHZ				S	**S**	**03 31 35.7**	**-1.0**
MTHZ	**Maungataniwha**	**1.52**	**88**	P	**Pn**	**03 31 09.0**	**+1.3**
MTHZ				S	**S**	**03 31 36.4**	**-0.5**
MUGZ	**Murupara**	**1.53**	**73**	P	**Pn**	**03 31 08.6**	**+0.8**
WPHZ	**Waipukurau**	**1.64**	**134**	P	**Pn**	**03 31 10.7**	**+2.1**
RTZ	**Ruatahuna**	**1.66**	**80**	P	**Pn**	**03 31 09.9**	**+1.1**
ARHZ	**Aropaoanui**	**1.67**	**102**	P	**Pn**	**03 31 10.9**	**+2.1**
DVHZ	**Dannevirke**	**1.68**	**145**	P	**Pn**	**03 31 10.7**	**+1.8**
RAHZ	**Arahi**	**1.71**	**90**	P	**Pn**	**03 31 11.0**	**+1.9**
KAHZ	**Kahuranaki**	**1.76**	**120**	P	**Pn**	**03 31 11.9**	**+2.3**
MRZ	**Mangatainoka R**	**1.80**	**163**	P	**Pn**	**03 31 11.7**	**+1.8**
PRWZ	**Pori Road**	**1.82**	**153**	P	**Pn**	**03 31 12.2**	**+2.2**
CKHZ	**Cape Kidnapper**	**1.84**	**114**	P	**Pn**	**03 31 12.5**	**+2.3**
MKAZ	**Moumakai**	**1.84**	**7**	P	**Pn**	**03 31 12.2**	**+1.8**
URZ	**Urewera**	**1.86**	**69**	P	**Pn**	**03 31 11.1**	**+0.7**
URZ	**Urewera**	**1.86**	**69**	P	**Pn**	**03 31 11.3**	**+0.8**
PXZ	**Pawanui**	**1.87**	**126**	P	**Pn**	**03 31 12.6**	**+2.0**
PRHZ	**Porangahau**	**1.89**	**135**	P	**Pn**	**03 31 12.8**	**+2.1**
OGWZ	**Otaki Gorge**	**1.89**	**174**	P	**Pn**	**03 31 12.8**	**+2.1**
SNGZ	**Shannon Statio**	**1.91**	**86**	P	**Pn**	**03 31 12.6**	**+1.6**
KIW	**Kapiti Island**	**1.92**	**180**	P	**Pn**	**03 31 12.7**	**+1.7**
ANWZ	**Angora Road**	**1.95**	**142**	P	**Pn**	**03 31 13.3**	**+2.1**
DUWZ	**D'Urville Isla**	**2.01**	**202**	P	**Pn**	**03 31 13.6**	**+1.8**
HOWZ	**Holdsworth Sta**	**2.02**	**167**	P	**Pn**	**03 31 13.5**	**+1.6**
RAGZ	**Rawiri**	**2.02**	**78**	P	**Pn**	**03 31 13.3**	**+1.2**
BFZ	**Birch Farm**	**2.03**	**150**	P	**Pn**	**03 31 13.6**	**+1.6**
BFZ	**Birch Farm**	**2.03**	**150**	P	**Pn**	**03 31 13.8**	**+1.8**
MWZ	**Matawai**	**2.15**	**75**	P	**Pn**	**03 31 14.3**	**+1.1**
KNZ	**Kokohu**	**2.17**	**93**	P	**Pn**	**03 31 15.0**	**+1.7**
CAW	**Cannon Point**	**2.17**	**177**	P	**Pn**	**03 31 15.1**	**+1.8**
CPWZ	**Castlepoint**	**2.21**	**153**	P	**Pn**	**03 31 16.0**	**+2.2**
RIGZ	**Rimuhau**	**2.25**	**85**	P	**Pn**	**03 31 15.8**	**+1.6**
MTW	**Mount Morrison**	**2.27**	**168**	P	**Pn**	**03 31 15.7**	**+1.5**
KUZ	**Kuaotunu**	**2.28**	**17**	P	**Pn**	**03 31 16.2**	**+1.7**
TMWZ	**Te Maipa**	**2.30**	**161**	P	**Pn**	**03 31 16.2**	**+1.6**
TCW	**Tory Channel**	**2.32**	**192**	P	**Pn**	**03 31 16.8**	**+2.0**
PRGZ	**Paritu Road**	**2.33**	**91**	P	**Pn**	**03 31 16.6**	**+1.7**
MHGZ	**Mahia Peninsul**	**2.35**	**96**	P	**Pn**	**03 31 17.2**	**+2.0**
TKGZ	**Te Karaka**	**2.36**	**79**	P	**Pn**	**03 31 15.4**	**+0.1**
SNZO	**South Karori**	**2.38**	**184**	P	**Pn**	**03 31 16.7**	**+1.4**
RUGZ	**Raukumara Rang**	**2.39**	**67**	P	**Pn**	**03 31 15.8**	**+0.1**
BHW	**Baring Head**	**2.47**	**180**	P	**Pn**	**03 31 17.8**	**+1.5**
PAWZ	**Paruwai Farm**	**2.48**	**171**	P	**Pn**	**03 31 17.9**	**+1.4**
MSWZ	**Mokau Station**	**2.49**	**174**	P	**Pn**	**03 31 18.0**	**+1.5**
TWGZ	**Tauwhareparae**	**2.53**	**74**	P	**Pn**	**03 31 18.8**	**+1.7**
TRWZ	**Traveller**	**2.53**	**166**	P	**Pn**	**03 31 17.7**	**+0.7**
HAZ	**Te Kaha**	**2.56**	**63**	P	**Pn**	**03 31 17.6**	**+0.3**
NNZ	**Nelson**	**2.56**	**207**	P	**Pn**	**03 31 18.8**	**+1.5**
TKNZ	**Takaka Hill**	**2.57**	**215**	P	**Pn**	**03 31 18.5**	**+1.1**
TUWZ	**Tuamarina**	**2.60**	**196**	P	**Pn**	**03 31 19.5**	**+1.9**
QRZ	**Quartz Range**	**2.62**	**223**	P	**Pn**	**03 31 19.0**	**+1.1**
QRZ	**Quartz Range**	**2.62**	**223**	P	**Pn**	**03 31 19.1**	**+1.1**
PLWZ	**Palliser**	**2.65**	**174**	P	**Pn**	**03 31 19.6**	**+1.4**
CMWZ	**Cape Campbell**	**2.86**	**190**	P	**Pn**	**03 31 22.8**	**+2.3**
BSWZ	**Blackbirch Sta**	**2.88**	**195**	P	**Pn**	**03 31 22.9**	**+2.2**
MRNZ	**Matariki Terra**	**2.96**	**213**	P	**Pn**	**03 31 22.6**	**+1.1**
WMGZ	**Waiomatatini S**	**2.98**	**69**	P	**Pn**	**03 31 22.7**	**+0.9**
MXZ	**Matakaoa Point**	**3.01**	**64**	P	**Pn**	**03 31 23.4**	**+1.2**
THZ	**Tophouse**	**3.21**	**208**	P	**Pn**	**03 31 25.6**	**+1.3**
KHZ	**Kahutara**	**3.63**	**196**	P	**Pn**	**03 31 31.0**	**+2.0**
KHZ	**Kahutara**	**3.63**	**196**	P	**Pn**	**03 31 31.3**	**+2.3**
DSZ	**Denniston Nort**	**3.67**	**219**	P	**Pn**	**03 31 30.7**	**+1.0**
GVZ	**Greta Valley S**	**4.27**	**199**	P	**Pn**	**03 31 38.1**	**+1.4**
LTZ	**Lake Taylor**	**4.33**	**207**	P	**Pn**	**03 31 38.8**	**+1.4**
AMCZ	**Amberley**	**4.56**	**201**	P	**Pn**	**03 31 41.2**	**+0.9**
INZ	**Inchbonnie**	**4.60**	**214**	P	**Pn**	**03 31 42.0**	**+1.3**
OXZ	**Oxford**	**4.89**	**205**	P	**Pn**	**03 31 44.9**	**+0.7**
OKCZ	**Okains Bay**	**4.98**	**196**	P	**Pn**	**03 31 46.5**	**+1.1**
MQZ	**McQueen's Vall**	**5.06**	**199**	P	**Pn**	**03 31 46.5**	**+0.2**
AKCZ	**Akaroa Harbour**	**5.16**	**196**	P	**Pn**	**03 31 48.3**	**+0.8**
WVZ	**Waitaha Valley**	**5.20**	**216**	P	**Pn**	**03 31 49.3**	**+1.3**
RACZ	**Rakaia**	**5.22**	**203**	P	**Pn**	**03 31 48.9**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**5.57**	**217**	P	**Pn**	**03 31 52.7**	**0.0**
RPZ	**Rata Peaks**	**5.58**	**210**	P	**Pn**	**03 31 53.3**	**+0.4**
RPZ	**Rata Peaks**	**5.58**	**210**	P	**Pn**	**03 31 54.0**	**+1.1**
ARCZ	**Arundel**	**5.74**	**208**	P	**Pn**	**03 31 55.3**	**+0.6**
FOZ	**Fox Glacier**	**5.98**	**218**	P	**Pn**	**03 31 58.4**	**+0.6**
TMZ	**Timaru**	**6.17**	**207**	P	**Pn**	**03 32 01.3**	**+1.1**
ODZ	**Otahua Downs**	**6.88**	**206**	P	**Pn**	**03 32 10.7**	**+1.7**
ODZ	**Otahua Downs**	**6.88**	**206**	P	**Pn**	**03 32 10.8**	**+1.7**
JCZ	**Jackson Bay**	**6.88**	**220**	P	**Pn**	**03 32 10.0**	**+0.7**
WKZ	**Wanaka**	**7.34**	**215**	P	**Pn**	**03 32 15.0**	**0.0**

IDC 21 03:34:24.6±2.0,32.°37S×178.°49W,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/36,mbtmp3.8/3,ML3.7/1,Error ellipse: s-maj=47.3km s-min=36.9km az=105.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.89**	**210**	Pn	Pn	03 36 07.6	+0.8
	1.4nm,0.3s,baz=124,slow=20,SNR=2.3						
URZ				Sn	Sn	03 37 26.7	+0.9
	1.2nm,0.3s,baz=164,slow=9.7,SNR=4.0						
ASAR	**Alice Springs**	**42.63**	**269**	P	P	03 42 22.8	-0.1
	0.4nm,0.4s,baz=106,slow=7.6,SNR=6.5						
WRA	**Warramunga Arr**	**43.80**	**274**	P	P	03 42 32.0	-0.3
	1.1nm,0.4s,baz=114,slow=7.8,SNR=19						
FINES	**FINESS Array B**	**146.84**	**339**	PKPbc	PKPbc	03 54 08.0	+0.1
	3.8nm,1.0s,baz=41,slow=4.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**160.87**	**181**	PKPab	PKPab	03 55 08.0	-1.4
	0.4nm,1.0s,baz=188,slow=2.9,SNR=2.3						

*IDC **21** 03:40:23.2±1.0,55.°66S×26.°07W,h0km,mb4.1/4, mb1 4.3/4,mb1mx3.9/22,mbtmp4.1/4,MS3.5/2,Ms1 3.5/2, ms1mx2.9/44,Error ellipse: s-maj=47.8km s-min=23.0km az=83.0*

*NEIC **21** 03:40:25.8±0.5,55.°9S±0.°2×26.°7W±0.°3,h10km±2km, mb4.4/11,Error ellipse: s-maj=40.7km s-min=6.3km az=51.0*

ISC 21 03:40:24.8±0.9,55.°7S±0.°1×26.°4W±0.°2,h10km,n22, σ0°73/20,mb4.3/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.87**	**157**	P	**Pn**	**03 44 46.4**	**+0.9**
PMSA	**Palmer Station**	**20.44**	**229**	LR	LR	03 52 02.9	
	comp=Z,98nm,18.2s,baz=72,slow=34						
BELA	**Belgrano 2**	**22.44**	**185**	P	**P**	**03 45 22.1**	**-1.3**
BELA				IAmb	IAmb	03 45 35.2	
	comp=Z,14nm,1.5s						
GO09	**Cerro Castillo**	**27.27**	**260**	P	**P**	**03 46 07.9**	**-1.1**
GO08	**Villa O'Higgin**	**28.80**	**265**	P	**P**	**03 46 23.0**	**+0.4**
QSPA	**South Pole Qui**	**34.53**	**180**	P	**P**	**03 47 13.4**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=189,slow=4.4,SNR=62						
QSPA	**South Pole Qui**	**34.53**	**180**	P	**P**	**03 47 13.2**	**+0.1**
QSPA				IAmb	IAmb	03 47 14.4	
	comp=Z,5.1nm,0.7s						
MT09	**Talagante**	**37.62**	**287**	P	**P**	**03 47 39.2**	**-0.6**
MT09				IAmb	IAmb	03 48 00.4	
	comp=Z,12nm,1.3s						
MT01	**Popeta**	**37.70**	**286**	P	**P**	**03 47 39.8**	**-0.4**
MT01				IAmb	IAmb	03 47 40.3	
	comp=Z,5.6nm,0.9s						
MT02	**Curacav**	**38.10**	**287**	P	**P**	**03 47 43.1**	**-0.6**
MT02				IAmb	IAmb	03 48 09.3	
	comp=Z,9.1nm,1.2s						
CO01	**Juntas del Tor**	**40.09**	**292**	P	**P**	**03 48 01.9**	**+1.3**
BDFB	**Brasilia**	**43.30**	**329**	LR	LR	04 04 10.5	
	comp=Z,78nm,21.8s,baz=337,slow=33						
VNDA	**Vanda**	**46.92**	**182**	P	**P**	**03 48 55.0**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=193,slow=6.6,SNR=16						
VNDA	**Vanda**	**46.92**	**182**	P	**P**	**03 48 54.6**	**-0.1**
VNDA				IAmb	IAmb	03 49 05.2	
	comp=Z,4.6nm,1.2s						
LPAZ	**La Paz**	**50.54**	**304**	P	**P**	**03 49 25.0**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=152,slow=6.6,SNR=12						
LPAZ	**La Paz**	**50.54**	**304**	P	**P**	**03 49 24.0**	**-0.1**
LPAZ				IAmb	IAmb	03 49 29.3	
	comp=Z,2.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.56**	**29**	P	**P**	**03 51 51.1**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=193,slow=6.6,SNR=6.2						
YKA	**Yellowknife Ar**	**136.22**	**318**	PKP	**PKPdf**	**03 59 44.7**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=135,slow=2.3,SNR=4.3						
INK	**Inuvik**	**145.82**	**321**	PKPbc	**PKPdf**	**04 00 01.3**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=104,slow=6.9,SNR=7.8						
INK	**Inuvik**	**145.82**	**321**	PKPdf	**PKPdf**	**04 00 02.4**	**+0.4**
ILAR	**Eielson Array**	**150.22**	**312**	PKPbc	**PKPbc**	**04 00 14.7**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=119,slow=1.5,SNR=15						
TOLK	**Toolik Lake Re**	**151.71**	**320**		**PKPbc**	**04 00 18.4**	**+0.5**

*IDC **21** 04:25:14.0±1.0,57.°84S×25.°50W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.6/22,mbtmp4.0/3,Error ellipse: s-maj=44.0km s-min=31.9km az=90.0*

*NEIC **21** 04:25:15.6±1.4,57.°92S±0.°10×25.°3W±0.°3,h10km±1km, mb4.1/9,Error ellipse: s-maj=30.8km s-min=6.7km az=59.0*

ISC 21 04:25:20.4±0.7,58.°0S±0.°1×25.°6W±0.°2,h49km,n28, σ1°03/25,mb4.1/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.17**	**297**	Pn	**Pn**	**04 27 01.4**	**-1.1**
VNA1	**Neumayer--Stat**	**14.62**	**157**	P	**Pn**	**04 28 42.2**	**-1.7**
VNA3	**Neumayer Olymp**	**14.82**	**160**	P	**Pn**	**04 28 44.4**	**-2.2**
VNA2	**Neumayer--Watz**	**15.02**	**157**	P	**Pn**	**04 28 46.9**	**-2.2**
	baz=322,slow=11						
SNAA	**Sanae**	**16.57**	**155**	P	**Pn**	**04 29 08.5**	**-0.5**
SNAA	**Sanae**	**16.57**	**155**	Pn	**Pn**	**04 29 08.1**	**-0.9**
TROLL	**Troll, Antarti**	**18.07**	**152**	P	**Pn**	**04 29 28.2**	**+0.6**
BELA	**Belgrano 2**	**20.18**	**186**	P	**P**	**04 29 50.4**	**+0.1**
QSPA	**South Pole Qui**	**32.22**	**180**	P	**P**	**04 31 44.1**	**+0.5**
QSPA				IAmb	IAmb	04 31 58.0	
	comp=Z,1.0nm,0.9s						
PLTB	**Pedras Altas**	**32.49**	**312**	P	**P**	**04 31 46.6**	**+0.5**
PLTB				IAmb	IAmb	04 31 47.4	
	comp=Z,15nm,1.2s						
VNDA	**Vanda**	**44.63**	**182**	P	**P**	**04 33 29.1**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=167,slow=6.2,SNR=5.8						
VNDA	**Vanda**	**44.63**	**182**	P	**P**	**04 33 28.9**	**+1.6**
VNDA				IAmb	IAmb	04 33 40.6	
	comp=Z,3.4nm,1.3s						
H10N1	**ASCENSION HYDR**	**50.79**	**14**	T	T	05 29 12.4	
	baz=192						
H10N3	**ASCENSION HYDR**	**50.79**	**14**	T	T	05 29 16.1	
	baz=192						
H10N2	**ASCENSION HYDR**	**50.81**	**14**	T	T	05 29 15.0	
	baz=192						
LPAZ	**La Paz**	**52.25**	**305**	P	**P**	**04 34 27.0**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=201,slow=8.6,SNR=14						
LPAZ	**La Paz**	**52.25**	**305**	P	**P**	**04 34 27.5**	**+0.2**
LPAZ				IAmb	IAmb	04 34 30.5	
	comp=Z,1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**74.37**	**28**	P	**P**	**04 36 52.7**	**0.0**
	comp=Z,1.9nm,0.6s,baz=202,slow=6.3,SNR=29						
TORD	**Torodi Ar. Bea**	**74.37**	**28**	P	**P**	**04 36 52.1**	**-0.6**
TORD				IAmb	IAmb	04 36 53.5	
	comp=Z,1.4nm,0.8s						
LGNH	**Logne**	**85.60**	**316**	P	**P**	**04 37 53.0**	**-0.2**
FINES	**FINESS Array B**	**125.72**	**28**	PKP	**PKPdf**	**04 44 14.4**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=205,slow=2.9,SNR=6.0						
FINES	**FINESS Array B**	**125.72**	**28**		**PKPdf**	**04 44 14.8**	**0.0**
YKA	**Yellowknife Ar**	**138.23**	**316**	PKP	**PKPdf**	**04 44 38.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=131,slow=2.5,SNR=7.4						
A36M	**Sachs Harbour**	**146.36**	**326**	PKPdf	**PKPbc**	**04 44 54.4**	**+0.4**
RIDG	**Independent Ri**	**150.94**	**307**		**PKiKP**	**04 45 07.3**	**+0.6**
ILAR	**Eielson Array**	**152.08**	**309**	PKPbc	**PKiKP**	**04 45 08.9**	**0.0**
	comp=Z,0.7nm,0.4s,baz=144,slow=2.1,SNR=17						
ILAR	**Eielson Array**	**152.08**	**309**		**PKiKP**	**04 45 09.1**	**+0.2**
TOLK	**Toolik Lake Re**	**153.75**	**317**		**PKiKP**	**04 45 13.1**	**+0.7**

*IDC **21** 04:26:00.5±1.9,0.°73N×97.°25E,h0km,mb3.8/3,m

EFP	Efpalio	1.83 293	P	Pn	04 26 52.4	+0.2
EFP	Efpalio	1.83 293	P	Pn	04 26 53.8	+1.6
AGG	Agios Georgios	1.87 314	P	Pn	04 26 53.2	+0.7
AGG	Agios Georgios	1.87 314	PN	Pn	04 26 53.3	+0.7
AGG			SN	Sn	04 27 20.3	+0.1
DRO	Drossia	1.87 277	P	Pn	04 26 54.4	+1.9
DRO	Drossia	1.87 277	P	Pn	04 26 54.5	+1.9
ANX	Ano Chora	1.89 298	P	Pn	04 26 53.5	+0.6
ANX			AML	AML	04 27 21.6	
	comp=E,298μm,0.3s					
ANX			AML	AML	04 27 22.2	
	comp=N,401μm,0.4s					
ANX	Ano Chora	1.89 298	P	Pn	04 26 54.2	+1.3
ANKY	Antikythira Is	1.96 198	P	Pn	04 26 54.5	+0.9
ANKY	Antikythira Is	1.96 198	P	Pn	04 26 54.6	+1.0
ANKY			S	Sn	04 27 21.8	-0.1
	comp=N,290nm,1.2s					
MAKR	Makrakomi, Fth	1.98 311	P	Pn	04 26 54.7	+0.9
RLS	Riolos of Patr	2.07 280	P	Pn	04 26 56.9	+2.1
RLS	Riolos of Patr	2.07 280	P	Pn	04 26 57.1	+2.3
EVR	Evrytania	2.12 304	P	Pn	04 26 56.6	+1.2
PVO	Paravola	2.18 295	P	Pn	04 26 58.1	+2.1
RODP	Rodopos	2.18 186	PN	Pn	04 26 56.4	+0.3
RODP			SN	Sn	04 27 23.6	-2.7
CHAN	Chania	2.21 180	P	Pn	04 26 57.0	+0.7
IMMV	Iera Moni Meta	2.27 182	P	Pn	04 26 58.0	+0.9
IMMV	Iera Moni Meta	2.27 182	P	Pn	04 26 58.1	+1.0
IMMV			S	Sn	04 27 26.4	-1.6
	comp=N,190nm,0.4s					
THL	Klokotos Trika	2.43 319	P	Pn	04 26 58.7	0.0
KNDR	Palaiochora Ch	2.51 187	P	Pn	04 27 01.3	+1.5
KNDR	Palaiochora Ch	2.51 187	PN	Pn	04 27 01.1	+1.3
IDI	Anoyia	2.53 164	P	Pn	04 27 00.5	+0.4
IDI			AML	AML	04 27 33.1	
	comp=E,343μm,0.4s					
IDI			AML	AML	04 27 34.7	
	comp=N,410μm,0.4s					
IDI	Anoyia	2.53 164	P	Pn	04 27 00.5	+0.4
IDI	Anoyia	2.53 164	PN	Pn	04 27 00.3	+0.2
IDI			SN	Sn	04 27 30.5	-3.1
PSDA	Pessada-Kefalo	2.77 279	P	Pn	04 27 03.2	+0.4
VLS	Valsamata	2.77 280	P	Pn	04 27 03.5	+0.6
NYDR	Nydri-Lefkada	2.82 291	P	Pn	04 27 04.1	+0.7
NYDR	Nydri-Lefkada	2.82 291	P	Pn	04 27 04.3	+0.9
EVGl	Lefkada island	2.82 289	P	Pn	04 27 04.2	+0.8
EVGl	Lefkada island	2.82 289	P	Pn	04 27 04.4	+1.0
FSK	Fiskardo	2.85 286	P	Pn	04 27 04.6	+0.8
LKD2	Lefkada island	2.87 293	P	Pn	04 27 05.0	+1.0
LKD2	Lefkada island	2.87 293	P	Pn	04 27 05.3	+1.2
GVD	Gavdhos	2.89 179	P	Pn	04 27 05.3	+0.9
GVD	Gavdhos	2.89 179	PN	Pn	04 27 05.6	+1.3
TSLK	Tsoukalades, L	2.89 293	P	Pn	04 27 05.5	+1.3
KEF4	Livadi, Kephal	2.92 281	P	Pn	04 27 04.9	+0.4
KEF3	Kipouria, Keph	2.97 280	P	Pn	04 27 05.2	0.0
KPRO	Kipourio	3.06 317	P	Pn	04 27 07.0	+0.7
ZKR	Zakros	3.14 146	P	Pn	04 27 09.3	+1.9
ZKR	Zakros	3.14 146	PN	Pn	04 27 07.9	+0.5
KARP	Karpathos	3.32 130	P	Pn	04 27 10.5	+0.9
KARP	Karpathos	3.32 130	PN	Pn	04 27 10.2	+0.6
IGT	Igoumenitsa	3.42 303	P	Pn	04 27 11.0	+0.2
IGT	Igoumenitsa	3.42 303	P	Pn	04 27 11.0	+0.2
TURN	Turunc	3.48 105	PN	Pn	04 27 12.1	+0.6
ARG	Arkhangelos	3.59 114	PN	Pn	04 27 13.9	+0.9
DALY	Dalyan (Mula)	3.78 103	PN	Pn	04 27 16.1	+0.8
KASA	Kassiopi	3.80 303	P	Pn	04 27 15.5	+0.1
KEK	Kerkira	3.87 302	P	Pn	04 27 16.5	0.0
KEK	Kerkira	3.87 302	P	Pn	04 27 16.4	0.0
FETY	Fethiye	4.16 104	PN	Pn	04 27 21.7	+1.5
CAME	Cameli-Denizli	4.25 99	PN	Pn	04 27 23.0	+1.5
AKAS	Kas	4.69 107	PN	Pn	04 27 29.2	+2.1

IDC ***21*** *04:55:44.2±2.1, 32°.31S×178°.11W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.5/30, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=47.2km s-min=38.0km az=105.0*

NEIC ***21*** *04:55:46.5±0.9, 32°.3S±0°.1×178°.0W±0°.3, h15km±11km, mb4.5/5, Error ellipse: s-maj=33.8km s-min=9.9km az=109.0*

ISC 21 04:55:46.6±1.4, 32°.3S±0°.1×178°.1W±0°.3, h20km, n18, σ0s74/20, mb4.2/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RAO	Raoul Island	3.04	3	Sn	Sn	04 57 08.2		-1.1
	95nm,0.3s,baz=112,slow=22,SNR=2.5							
RAO	Raoul Island	3.04	3	Pn	Pn	04 56 34.1	+0.5	
RAO				Sn	Sn	04 57 08.2	-1.1	
URZ	Urewera	7.12	212	Pn	Pn	04 57 29.6	0.0	
	0.9nm,0.3s,baz=126,slow=22,SNR=2.2							
URZ				Sn	Sn	04 58 49.2	-0.8	
	1.1nm,0.3s,baz=107,slow=16,SNR=5.9							
URZ	Urewera	7.12	212	Pn	Pn	04 57 28.5	-1.1	
BKZ	Black Stump Fm	8.14	211	Pn	Pn	04 57 42.8	-0.9	
THZ	Tophouse	11.87	215	Pn	Pn	04 58 35.6	+1.0	
ASAR	Alice Springs	42.96	269	P	P	05 03 45.1	+0.7	
	0.7nm,0.4s,baz=108,slow=7.8,SNR=12							
ASAR	Alice Springs	42.96	269	P	P	05 03 44.8	+0.3	
WB1	Warramunga Ar.	44.10	274	P	P	05 03 54.1	+0.3	
WB1				IAmb	IAmb	05 03 58.0		
	comp=Z,3.0nm,0.6s							
WB3	Warramunga Arr	44.11	274	P	P	05 03 53.9	+0.1	
WB3				IAmb	IAmb	05 04 29.7		
	comp=Z,3.9nm,1.1s							
WRA	Warramunga Arr	44.12	274	P	P	05 03 54.5	+0.7	
	comp=Z,1.3nm,0.5s,baz=113,slow=7.9,SNR=22							
WRA	Warramunga Arr	44.12	274	P	P	05 03 54.1	+0.3	
FORT	Forrest	45.51	257	P	P	05 04 04.8	0.0	
FORT				IAmb	IAmb	05 04 05.5		
	comp=Z,38nm,1.4s							
MDJ	Mudanjiang	90.14	326	P	P	05 08 44.7	-0.3	
FINES	FINESS Array B	146.88	339	PKPbc	PKPbc	05 15 26.6	-0.1	
	comp=Z,1.0nm,0.5s,baz=29,slow=3.2,SNR=1.9							
CLL	Collm	159.32	340	*i* PKPab	PKPab	05 16 21.5	+1.0	
TORD	Torodi Ar. Bea	160.94	179	PKPab	PKPab	05 16 29.1	+0.6	
	comp=Z,0.4nm,0.8s,baz=204,slow=3.7,SNR=1.7							
TORD	Torodi Ar. Bea	160.94	179		PKPab	05 16 28.0	-0.4	

NEIC ***21*** *05:10:54.5±1.2, 14°.9S±0°.1×111°.8W±0°.2, h10km±1km, mb4.7/36, Error ellipse: s-maj=29.0km s-min=23.8km az=273.0*

IDC ***21*** *05:10:56.4±1.7, 13°.91S×111°.12W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.8/24, mbtmp3.6/5, MS3.9/36, Ms1 3.9/36, ms1mx3.9/51, Error ellipse: s-maj=55.2km s-min=38.2km az=51.0*

GCMT ***21*** *05:11:01.0±0.4, 13°.54S±0°.02×111°.48W±0°.02, h12km, MW4.8/85, Moment Tensor Solution. s8,c8; s85,c103; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.37±.07; Mθθ0.77±.07; Mθθ~0.40±.07; Mrθ~0.29±.18; Mθθ1.23±.05; Mθr~1.71±.20; Best double couple: Mo2.22800×10^16 NP1:θs278.00000°, δ38.00000°, λ-10.00000°. NP2: φs16.00000°, δ84.00000°, λ-128.00000°. Principal axes: T 2.1980, Plg29.0000°, Azm136.0000°; N 0.0600, Plg38.0000°, Azm21.0000°; P -2.2580, Plg39.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 21 05:10:54.0±1.0, 14°.8S±0°.2×111°.7W±0°.2, h10km, n87, σ1s04/43, mb4.7/22, MS4.0/38, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RPN	Rapa Nui	12.44	170	LR	LR	05 17 50.9		
	comp=Z,456nm,21.5s,baz=346,slow=31							
TAOE	Nuku Hiva Isla	28.42	279	eLQ	LQ	05 22 41.0		
	174nm,23.9s							
TAOE				eLR	LR	05 23 49.2		
	comp=Z,158nm,24.8s							
SALI	Salinas	32.83	70	P	P	05 17 27.4	-0.7	
NNA	Nana	34.04	90	LR	LR	05 27 53.3		
	comp=Z,80nm,19.3s,baz=259,slow=30							
H03N2	Juan Fernandez	34.99	128	T	T	05 55 28.8		
	baz=300,slow=76,SNR=87							
H03N3	Juan Fernandez	35.01	128	T	T	05 55 36.8		
	baz=300,slow=76,SNR=133							
H03N1	Juan Fernandez	35.01	128	T	T	05 55 34.2		
	baz=300,slow=76,SNR=138							
CMIG	Matias Romero	35.81	28	LR	LR	05 28 46.6		
	comp=Z,206nm,21.2s,baz=217,slow=31							
PPT	Papeete	36.40	260	LR	LR	05 27 38.0		
	comp=Z,51nm,21.0s,baz=123,slow=27							
PPT2	Papeete2	36.40	260	eLR	LR	05 27 49.0		
	comp=Z,210nm,28.0s							
JTS	Las Juntas de	36.43	48	LR	LR	05 28 34.4		
	comp=Z,199nm,21.5s,baz=262,slow=30							
TBI	Tubuai	36.56	251	eLR	LR	05 28 01.4		
	comp=Z,328nm,26.8s							
ESPN	Las Esperanzas	38.20	47	P	P	05 18 14.1	0.0	
ESPN				IAmb	IAmb	05 18 16.7		
	comp=Z,23nm,1.4s							
ZAIG	Zacatecas	38.43	14	P	P	05 18 15.8	-0.5	
LPIG	La Paz	38.72	2	LR	LR	05 29 38.3		
	comp=Z,314nm,20.7s,baz=197,slow=30							
LVC	Limon Verde	41.18	107	LR	LR	05 31 07.5		
	comp=Z,230nm,21.2s,baz=276,slow=30							
ROSC	El Rosal	41.91	65	LR	LR	05 32 29.0		
	comp=Z,113nm,22.0s,baz=164,slow=32							
ROSC	El Rosal	41.91	65	P	P	05 18 46.6	+1.0	
LPAZ	La Paz	41.97	98	P	P	05 18 46.5	+0.3	
	comp=Z,1.1nm,0.9s,baz=156,slow=8.4,SNR=2.9							
LPAZ				LR	LR	05 32 05.3		
	comp=Z,154nm,20.9s,baz=255,slow=31							
LPAZ	La Paz	41.97	98	P	P	05 18 45.0	-1.3	
PLCA	Paso Flores	44.08	134	LR	LR	05 33 29.6		
	comp=Z,342nm,18.0s,baz=298,slow=31							
833A	Chaparral WMA,	44.53	16	P	P	05 19 05.5	-0.5	
833A				IAmb	IAmb	05 19 08.0		
	comp=Z,19nm,1.1s							
TX31	Lajitas Ar. Si	44.59	10	P	P	05 19 07.1	+0.6	
TX31				IAmb	IAmb	05 19 11.5		
	comp=Z,18nm,1.4s							
TX32	Lajitas Array	44.59	10	P	P	05 19 07.1	+0.6	
TXAR	Lajitas Array	44.59	10	P	P	05 19 02.9	-3.7	
	comp=Z,0.8nm,0.9s,baz=193,slow=12,SNR=2.2							
TXAR				LR	LR	05 33 46.1		
	comp=Z,117nm,18.2s,baz=195,slow=31							
TXAR	Lajitas Array	44.59	10	P	P	05 19 07.0	+0.4	
JCT	Junction City	46.49	14	P	P	05 19 22.1	+0.6	
MNTX	Cornudas Mount	46.66	7	P	P	05 19 23.1	+0.3	
MNTX				IAmb	IAmb	05 19 24.6		
	comp=Z,9.2nm,1.3s							
SDV	Santo Domingo	47.07	63	LR	LR	05 36 51.3		
	comp=Z,36nm,19.9s,baz=240,slow=34							
SDV	Santo Domingo	47.07	63	P	P	05 19 26.5	-0.1	
SDV				IAmb	IAmb	05 19 36.5		
	comp=Z,7.1nm,1.0s							
435B	Jarrell	47.35	17	P	P	05 19 28.7	+0.5	
SAML	Samuel	47.79	89	P	P	05 19 32.9	+0.9	
PFO	Pinyon Flats O	48.38	355	LR	LR	05 34 39.9		
	comp=Z,149nm,18.0s,baz=176,slow=30							
WHTX	Lake Whitney,	48.52	16	P	P	05 19 36.6	-0.7	
WHTX				IAmb	IAmb	05 19 39.1		
	comp=Z,7.1nm,0.9s							
MSTX	Muleshoe	49.27	10	P	P	05 19 43.3	+0.2	
MSTX				IAmb	IAmb	05 19 46.5		
	comp=Z,16nm,1.4s							
BAUV	El Baul	49.34	64	P	P	05 19 43.8	0.0	
ANMO	Albuquerque	49.75	6	LR	LR	05 36 43.0		
	comp=Z,171nm,18.0s,baz=189,slow=32							
SHPR	Sheep Range	51.16	356	P	P	05 19 56.7	-0.7	
CPUP	Villa Florida	51.88	112	LR	LR	05 37 53.8		
	comp=Z,150nm,22.0s,baz=253,slow=31							
SDCO	Great Sand Dun	52.62	6	P	P	05 20 07.3	-1.1	
W41B	Gary Mavity, V	53.05	20	P	P	05 20 12.1	+0.7	
W41B				IAmb	IAmb	05 20 13.5		
	comp=Z,13nm,1.2s							
NVAR	Mina Array Bea	53.33	354	P	P	05 20 11.9	-1.8	
	comp=Z,1.1nm,0.9s,baz=181,slow=11,SNR=2.9							
NVAR				LR	LR	05 37 05.8		
	comp=Z,159nm,21.3s,baz=178,slow=30							
HHAR	Hobbs	53.54	18	P	P	05 20 14.4	-0.6	
U40A	Yellville	53.94	19	P	P	05 20 18.0	+0.1	
U40A				IAmb	IAmb	05 20 19.3		
	comp=Z,7.6nm,1.1s							
PLAL	Pickwick Lake	54.39	24	P	P	05 20 21.8	+0.6	
PLAL				IAmb	IAmb	05 20 22.2		
	comp=Z,5.3nm,0.8s							
ISCO	Idaho Springs	54.64	6	P	P	05 20 23.8	+0.5	
MGMO	Mountain Grove	54.86	19	P	P	05 20 25.3	+0.7	
MGMO				IAmb	IAmb	05 20 26.4		
	comp=Z,9.9nm,1.1s							
S39A	Bolivar	55.03	18	P	P	05 20 25.3	-0.5	
S39A				IAmb	IAmb	05 20 27.1		
	comp=Z,11nm,1.1s							
ELK	Elko	55.38	357	LR	LR	05 38 37.5		
	comp=Z,160nm,20.6s,baz=186,slow=30							
SJG	San Juan	55.59	55	LR	LR	05 39 23.6		
	comp=Z,48nm,21.0s,baz=214,slow=31							
CCM	Cathedral Cave	56.01	19	P	P	05 20 33.1	+0.3	
CCM				IAmb	IAmb	05 20 34.2		
	comp=Z,8.1nm,1.2s							
TKL	Tuckaleechee C	56.77	27	LR	LR	05 43 45.1		
	comp=Z,38nm,18.1s,baz=207,slow=35							
P40A	Paris	57.11	18	P	P	05 20 40.9	+0.3	
YBH	Yreka Blue Hor	57.18	350	LR	LR	05 38 49.2		
	comp=Z,234nm,20.4s,baz=172,slow=30							
PDAR	Pinedale Array	57.34	2	P	P	05 20 39.9	-2.6	
	comp=Z,0.4nm,0.8s,baz=166,slow=8.0,SNR=2.8							
PDAR				LR	LR	05 40 42.9		
	comp=Z,125nm,19.2s,baz=194,slow=32							
PMSA	Palmer Station	59.42	158	LR	LR	05 40 17.7		
	comp=Z,152nm,18.9s,baz=276,slow=29							
WISH	Wishkah	62.60	351	P	P	05 21 19.1	+0.9	
F36A	Milaca	62.61	14	P	P	05 21 18.6	+0.2	
F36A				IAmb	IAmb	05 21 20.7		
	comp=Z,6.8nm,1.1s							
G40A	Rib Lake	62.92	17	P	P	05 21 20.2	-0.3	
NEW	Newport	62.99	356	LR	LR	05 43 07.1		
	comp=Z,101nm,20.9s,baz=182,slow=31							
COWI	Conover	63.98	17	P	P	05 21 27.9	+0.4	
URZ	Urewera	66.25	234	LR	LR	05 46 00.9		
	comp=Z,95nm,19.2s,baz=211,slow=31							
SADO	Sadowa	66.30	25	LR	LR	05 48 38.9		
	comp=Z,81nm,19.3s,baz=204,slow=35							
BBB	Bella Bella	68.23	349	LR	LR	05 45 23.7		
	comp=Z,44nm,21.0s,baz=236,slow=31							
RPZ	Rata Peaks	70.71	229	LR	LR	05 46 00.0		
	comp=Z,115nm,18.2s,baz=84,slow=29							
DLBC	Dease Lake	74.53	350	LR	LR	05 49 20.8		
	comp=Z,99nm,20.2s,baz=160,slow=31							
QSPA	South Pole Qui	75.28	180	P	P	05 22 37.3	+0.2	
QSPA				IAmb	IAmb	05 22 58.3		
	comp=Z,11nm,1.2s							
YKA	Yellowknife Ar	77.10	359	P	P	05 22 46.0	-1.1	
	comp=Z,0.7nm,1.0s,baz=174,slow=5.3,SNR=1.5							
YKA				LR	LR	05 53 10.6		
	comp=Z,136nm,18.1s,baz=322,slow=33							
DZM	Mont Dzumac	77.14	250	LR	LR	05 53 10.3		
	comp=Z,55nm,18.3s,baz=14,slow=32							
DZM	Mont Dzumac	77.14	250	eLR	LR	05 46 51.5		
	comp=Z,88nm,22.3s							
KDAK	Kodiak Island	79.80	339	LR	LR	05 49 27.7		
	comp=Z,192nm,18.7s,baz=198,slow=29							
ILAR	Eielson Array	83.74	346	LR	LR	05 51 21.8		
	comp=Z,61nm,20.8s,baz=175,slow=29							
WRH	Wood River Hil	83.78	345	P	P	05 23 24.9	+1.8	
WRH				IAmb	IAmb	05 23 33.3		
	comp=Z,9.3nm,1.2s							
KTH	Kantishna Hill	83.79	343	P	P	05 23 23.8	+0.6	
INK	Inuvik	84.39	352	LR	LR	05 55 47.3		
	comp=Z,93nm,19.2s,baz=180,slow=32							
FRB	Frobisher Bay	85.08	18	LR	LR	05 58 34.8		
	comp=Z,86nm,18.8s,baz=126,slow=34							
H11S2	WAKE ISLAND Hy	86.88	290	T	T	06 59 34.5		
	baz=107,slow=75,SNR=55							
H11S1	WAKE ISLAND Hy	86.88	290	T	T	06 59 29.3		
	baz=107,slow=75,SNR=25							
H11S3	WAKE ISLAND Hy	86.89	290	T	T	06 59 27.2		
	baz=107,slow=75,SNR=24							
H11N3	WAKE ISLAND Hy	87.04	291	T	T	06 59 39.2		
	baz=108,slow=74,SNR=4.2							
H11N1	WAKE ISLAND Hy	87.06	291	T	T	06 59 41.0		
	baz=108							
H11N2	WAKE ISLAND Hy	87.06	291	T	T	06 59 45.0		
	baz=108,slow=74							
A36M	Sachs Harbour	87.08	356	P	P	05 23 40.5	+1.1	
A36M				IAmb	IAmb	05 23 44.5		
	comp=Z,4.7nm,0.8s							
RES	Resolute Bay	89.95	4	LR	LR	06 01 04.8		
	comp=Z,116nm,18.2s,baz=87,slow=34							
SHEM	Shemya Is, Ala	92.37	324	LR	LR	05 56 01.4		
	comp=Z,87nm,21.6s,baz=194,slow=29							
MKAR	Makanchi Array	146.04	343	PKPbc	PKPbc	05 30 33.9	-0.4	
	comp=Z,0.6nm,0.7s,baz=22,slow=1.6,SNR=3.5							
CMAR	Chiang Mai Arr	150.41	281	PKPbc	PKPab	05 30 52.1	-1.0	
	comp=Z,1.6nm,0.6s,baz=48,slow=1.8,SNR=6.9							

IDC ***21*** *05:14:51.4±2.3, 4°.13S×153°.22E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/32, mbtmp3.9/3, Error ellipse: s-maj=56.3km s-min=16.4km az=2.0*

NEIC ***21*** *05:14:55.6±0.9, 4°.2S±0°.2×153°.11E±0°.09, h20km±12km, mb4.1/13, Error ellipse: s-maj=28.1km s-min=11.2km az=194.0*

ISC 21 05:14:56.9±1.4, 4°.2S±0°.2×153°.09E±0°.09, h35km, n23, σ0s69/21, mb4.1/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RABL	Rabaul	0.93	269		Pn	05 15 13.9	+0.4	
RABL				Sn	Sn	05 15 26.0	+0.4	
KRVT	Keravat (AS076	1.07	263	Pg	Pn	05 15 15.8	+0.5	
	97nm,0.3s,baz=207,slow=0.8,SNR=26							
KRVT				Lg	Lg	05 15 30.2		
	309nm,0.3s,baz=271,slow=24,SNR=14							
COEN	Coen	13.79	225	Pn	Pn	05 18 09.1	-0.9	
CTAO	Charters Tower	17.16	202		Pn	05 18 54.0	-0.1	
CTAO				IAmb	IAmb	05 19 20.0		
	comp=Z,9.7nm,1.3s							
MTN	Manton Dam	23.34	247	P	P	05 20 00.8	-1.5	
MTN				IAmb	IAmb	05 20 19.8		
	comp=Z,11nm,1.2s							
WB0	Warramunga Arr	23.93	228	P	P	05 20 07.7	-0.1	
WB0				IAmb	IAmb	05 20 09.9		
	comp=Z,6.7nm,1.1s							
WR0	Warramunga Arr	23.94	228	P	P	05 20 06.9	-1.0	
WR0				IAmb	IAmb	05 20 09.3		
	comp=Z,5.3nm,1.1s							
WRAB	Tennant Creek	24.06	228	P	P	05 20 09.2	+0.1	
WB2	Warramunga Arr	24.07	228	P	P	05 20 09.9	+0.8	
WB2				IAmb	IAmb	05 20 10.4		
	comp=Z,7.7nm,1.2s							
WRA	Warramunga Arr	24.08	228	P	P	05 20 09.7	+0.4	
	comp=Z,2.7nm,0.7s,baz=53,slow=9.9,SNR=30							
WRA	Warramunga Arr	24.08	228	P	P	05 20 09.2	-0.1	
ARMA	Armidale	26.14	183	P	P	05 20 27.5	-0.4	
H11S3	WAKE ISLAND Hy	26.21	30	T	T	05 48 01.7		
	baz=206,slow=74,SNR=12							
H11S2	WAKE ISLAND Hy	26.22	30	T	T	05 48 00.0		
	baz=206,slow=74,SNR=12							
H11S1	WAKE ISLAND Hy	26.23	30	T	T	05 48 01.4		
	baz=206,slow=74,SNR=7.7							
FUNA	Funafuti	26.29	101	P	P	05 20 28.7	-0.8	
ASAR	Alice Springs	26.80	222	P	P	05 20 33.9	-0.1	
	comp=Z,0.4nm,0.3s,baz=53,slow=9.0,SNR=6.9							
FITZ	Fitzroy Crossi	30.21	241	P	P	05 21 04.5	+0.1	
FITZ				IAmb	IAmb	05 21 17.2		
	comp=Z,4.4nm,1.3s							
BKZ	Black Stump Fm	40.79	152	P	P	05 22 35.3	+0.4	
VNDA	Vanda	73.44	178	P	P	05 26 26.1	+1.0	
	comp=Z,1.3nm,0.7s,baz=333,slow=7.3,SNR=7.9							
VNDA	Vanda	73.44	178	P	P	05 26 25.6	+0.5	
VNDA				IAmb	IAmb	05 26 33.7		
	comp=Z,3.1nm,1.3s							
QSPA	South Pole Qui	85.78	180	P	P	05 27 33.0	+0.6	
TORD	Torodi Ar. Bea	150.38	289	PKPbc	PKPbc	05 34 44.9	-0.8	
	comp=Z,0.5nm,0.9s,baz=70,slow=1.5,SNR=3.0							

IDC 21 05:25:07.5±1.3, 55°.31S×26°.92W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.7/3, MS4.0/2, Ms1 4.0/2, ms1mx3.0/42, Error ellipse: s-maj=54.9km s-min=35.2km az=90.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
VNDA	Vanda	47.33	183	P	P	05 33 42.1	0.0	
	0.6nm,0.6s,baz=186,slow=5.4,SNR=4.6							
TSUM	Tsumeb	49.19	61	LR	LR	05 51 28.3		
	comp=Z,136nm,18.5s,baz=174,slow=32							
LPAZ	La Paz	50.07	304	P	P	05 34 04.8	+0.1	
	1.0nm,1.0s,baz=142,slow=2.4,SNR=2.5							
LSZ	Lusaka	57.96	69	LR	LR	05 57 37.3		
	comp=Z,165nm,20.4s,baz=240,slow=34							
TORD	Torodi Ar. Bea	72.33	29	P	P	05 36 35.0	+0.2	
	0.3nm,0.5s,baz=207,slow=5.3,SNR=5.1							
YKA	Yellowknife Ar	135.72	318	PKP	PKPdf	05 44 27.0	-1.3	
	0.3nm,0.8s,baz=96,slow=2.8,SNR=3.7							
ILAR	Eielson Array	149.73	313	PKPbc	PKPbc	05 44 57.1	-0.5	
	0.7nm,0.9s,baz=123,slow=3.4,SNR=4.3							

ISK ***21*** *05:46:58.2, 36°.31N×26°.80E, h105km±1km, ML3.0/13*

DDA ***21*** *05:46:58.6±0.0, 36°.21N×27°.01E, h31km±2km, ML2.9*

THE ***21*** *05:46:58.4, 36°.32N×26°.72E, h135km±4km, ML3.6/3, Error ellipse: s-maj=5.1km s-min=0.8km az=147.0*

GII ***21*** *05:46:59.3±0.3, 35°.37N×26°.49E, h100km*

NIC ***21*** *05:47:01.7±0.0, 35°.70N×27°.33E, h107km±2km, Ml3.6/4*

ISC 21 05:46:58.0±1.9, 36°.16N±0°.05×26°.96E±0°.07, h122km±10km, n47, σ1s28/79, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KARP	Karpathos	0.63	165	P	Pn	05 47 17.5	+0.4	
KARP				S	Sn	05 47 32.6	+1.1	
	3μm,0.1s							

AKAS				S	Sn	05 48 02.1	+1.6
AKAS				*i* AML	AML	05 48 04.0	
	comp=E,103nm,0.6s						
AKAS				*i* AML	AML	05 48 07.0	
	comp=N,214nm,0.3s						
GOLH	**Golhisar**	**2.35**	**62**	P	**Pn**	**05 47 37.0**	**+1.0**
GOLH				S	**Sn**	**05 48 06.6**	**+1.4**
ELL	**Elmali**	**2.45**	**75**	PN	**Pn**	**05 47 39.0**	**+1.7**
ELL				SN	**Sn**	**05 48 08.8**	**+1.4**
IMMV	**Iera Moni Meta**	**2.52**	**255**	PN	**Pn**	**05 47 37.0**	**-0.3**
GVD	**Gavdhos**	**2.69**	**242**	PN	**Pn**	**05 47 40.6**	**+0.3**
AKUM	**Antalya-Kumluc**	**2.74**	**86**	P	**Pn**	**05 47 41.9**	**+1.0**
AKUM				S	**Sn**	**05 48 16.3**	**+2.4**
AKUM				*i* AML	AML	05 48 19.0	
	comp=N,70nm,0.3s						
AKUM				*i* AML	AML	05 48 19.0	
	comp=E,72nm,0.3s						
KORT	**Korkueli**	**2.85**	**72**	P	**Pn**	**05 47 43.3**	**+0.8**
KORT				S	**Sn**	**05 48 17.2**	**+0.3**
KEPZ	**Antalya-Kepez**	**3.81**	**77**	P	**Pn**	**05 47 56.2**	**+1.1**
KEPZ				S	**Sn**	**05 48 41.0**	**+1.7**
OSC1	**CSNet OBS 1**	**4.43**	**126**	P	**Pn**	**05 48 02.3**	**-1.0**
AKMS	**Akamas**	**4.52**	**103**	P	**Pn**	**05 48 04.0**	**-0.5**
AKMS				AML	AML	05 48 56.1	
	0.3nm,0.4s						
AKMS				AML	AML	05 48 56.2	
	0.2nm,0.3s						
ALFC	**Alefka**	**4.70**	**101**	P	**Pn**	**05 48 06.7**	**-0.2**
ALFC				AML	AML	05 49 00.1	
	0.1nm,0.3s						
ALFC				AML	AML	05 49 00.8	
	0.2nm,0.3s						
NATA	**Nata**	**4.78**	**105**	P	**Pn**	**05 48 07.6**	**-0.4**
SZAC	**Souni**	**5.03**	**104**	P	**Pn**	**05 48 11.1**	**-0.3**
SZAC				AML	AML	05 49 10.8	
	0.2nm,0.3s						
SZAC				AML	AML	05 49 11.3	
	0.3nm,0.3s						
OSC2	**CSNet OBS 4**	**5.34**	**124**	P	**Pn**	**05 48 14.0**	**-1.5**
KZIT	**Kziot**	**8.12**	**128**	Pn	**Pn**	**05 48 52.0**	**-1.0**
KZIT				Sn	**Sn**	**05 50 22.0**	**-1.2**
DSI	**Dead Sea**	**8.36**	**121**	Pn	**Pn**	**05 48 57.7**	**+1.4**
DSI				Sn	**Sn**	**05 50 29.7**	**+0.7**
MDBI	**Mazsada**	**8.49**	**122**	Pn	**Pn**	**05 48 59.0**	**+0.9**
MDBI				Sn	**Sn**	**05 50 32.5**	**+0.3**
KRMI	**Paran Flat**	**8.86**	**131**	Pn	**Pn**	**05 49 02.6**	**-0.6**
KRMI				Sn	**Sn**	**05 50 39.0**	**-2.3**
PRNI	**Paran**	**8.88**	**128**	Pn	**Pn**	**05 49 03.2**	**-0.1**
PRNI				Sn	**Sn**	**05 50 39.5**	**-2.1**
MBRI	**Mt Berech**	**9.21**	**131**	Pn	**Pn**	**05 49 06.4**	**-1.4**
MBRI				Sn	**Sn**	**05 50 47.3**	**-2.4**

TAP ***21*** *06:05:00.8,24˚.45N×121˚.70E,h57km,ML4.0,B*
JMA ***21*** *06:05:00.7±0.1,24˚.45N×121˚.73E,h52km±2km,M3.5*
ISC 21 06:05:01.7±1.2,24˚.45N±0˚.02×121˚.74E±0˚.02,h53km±4km, n109,σ0s81/207,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.02**	**176**	*i* P		**Pn**		**06 05 09.9**	**+0.1**
	baz=123								
ENA				*i* S		**Sn**		**06 05 16.2**	**+0.7**
	baz=123								
EWUT	**Wuta**	**0.04**	**94**	*i* P		**Pn**		**06 05 09.9**	**+0.1**
	baz=95								
EWUT				*i* S		**Sn**		**06 05 16.2**	**+0.7**
	baz=95								
EHP	**Heping Village**	**0.14**	**179**	S		**Sn**		**06 05 17.1**	**+1.1**
	baz=165								
NDS	**Dongshan**	**0.19**	**353**	*i* P		**Pn**		**06 05 10.2**	**-0.2**
	baz=1.0								
NDS				*i* S		**Sn**		**06 05 16.9**	**+0.4**
	baz=1.0								
TWC	**Suao**	**0.19**	**32**	*i* P		**Pn**		**06 05 10.4**	**0.0**
	baz=41								
TWC				*i* S		**Sn**		**06 05 17.3**	**+0.8**
	baz=41								
LATG	**Datong**	**0.21**	**294**	P		**Pn**		**06 05 10.1**	**-0.5**
	baz=297								
LATG				S		**Sn**		**06 05 16.8**	**-0.2**
	baz=297								
ENTT	**Nioudou**	**0.25**	**321**	*i* P		**Pn**		**06 05 10.6**	**-0.1**
	baz=327								
ENTT				S		**Sn**		**06 05 18.2**	**+0.9**
	baz=327								
NDT	**Datong Townshi**	**0.26**	**307**	*i* P		**Pn**		**06 05 10.6**	**-0.2**
	baz=311								
NDT				*i* S		**Sn**		**06 05 17.2**	**-0.2**
	baz=311								
TWE	**Neicheng**	**0.28**	**346**	*i* P		**Pn**		**06 05 10.8**	**-0.1**
	baz=357								
NACB	**Ninganchiao**	**0.30**	**206**	*i* P		**Pn**		**06 05 10.2**	**-1.0**
	baz=199								
NACB				S		**Sn**		**06 05 18.3**	**+0.4**
	baz=199								
ETL	**Fush Village**	**0.31**	**200**	P		**Pn**		**06 05 10.3**	**-1.0**
	baz=193								
ETL				S		**Sn**		**06 05 19.5**	**+1.4**
	baz=193								
ILA	**Ilan**	**0.32**	**1**	*i* P		**Pn**		**06 05 11.5**	**+0.2**
	baz=5.0								
ILA				*i* S		**Sn**		**06 05 18.8**	**+0.6**
	baz=5.0								
NNSB	**Datong**	**0.33**	**267**	P		**Pn**		**06 05 11.0**	**-0.5**
	baz=265								
NNSB				S		**Sn**		**06 05 18.1**	**-0.4**
	baz=265								
NNS	**Nan Shan**	**0.33**	**269**	*i* P		**Pn**		**06 05 11.2**	**-0.4**
	baz=267								
NNS				*i* S		**Sn**		**06 05 18.3**	**-0.4**
	baz=267								
ETLH	**Xiulin Townshi**	**0.34**	**224**	*i* P		**Pn**		**06 05 10.9**	**-0.7**
	baz=223								
ETLH				S		**Sn**		**06 05 18.1**	**-0.5**
	baz=223								
FUSB	**Fushanzhiwuyua**	**0.34**	**336**	P		**Pn**		**06 05 11.2**	**-0.4**
	baz=334								
FUSB				S		**Sn**		**06 05 18.9**	**+0.2**
	baz=334								
TWD	**Chiawan**	**0.39**	**200**	*i* P		**Pn**		**06 05 11.0**	**-1.0**
	baz=193								
TWD				*i* S		**Sn**		**06 05 18.5**	**-0.8**
	baz=193								
NWLT	**Wulai**	**0.39**	**327**	*i* P		**Pn**		**06 05 11.6**	**-0.4**
	baz=331								
NWLT				*i* S		**Sn**		**06 05 19.1**	**-0.4**
	baz=331								
YHNB	**Yeheng**	**0.40**	**304**	P		**Pn**		**06 05 11.5**	**-0.6**
	baz=302								
YHNB				S		**Sn**		**06 05 18.8**	**-0.9**
	baz=302								
NTC	**Toucheng**	**0.41**	**11**	*i* P		**Pn**		**06 05 12.3**	**+0.1**
	baz=7.0								
NTC				*i* S		**Sn**		**06 05 21.3**	**+1.5**
	baz=7.0								
NSK	**Sanguang**	**0.41**	**303**	*i* P		**Pn**		**06 05 11.6**	**-0.7**
	baz=302								
NSK				*i* S		**Sn**		**06 05 19.2**	**-0.8**
	baz=302								
EGS		**0.43**	**24**	*i* P		**Pn**		**06 05 13.1**	**+0.7**
	baz=30								
HWA	**Hwalien**	**0.48**	**195**	*i* P		**Pn**		**06 05 12.3**	**-0.6**
	baz=200								
HWA				*e*S		**Sn**		**06 05 22.0**	**+0.9**
	baz=200								
FUSS	**Fushou**	**0.49**	**246**	*i* P		**Pn**		**06 05 13.1**	**-0.2**
	baz=238								
FUSS				S		**Sn**		**06 05 22.0**	**+0.3**
	baz=238								
TIPB	**Shuangxi**	**0.53**	**9**	*i* P		**Pn**		**06 05 13.6**	**0.0**
	baz=2.0								
TIPB				*i* S		**Sn**		**06 05 22.8**	**+0.7**
	baz=2.0								
WHF	**Hehuan Shan**	**0.53**	**235**	*i* P		**Pn**		**06 05 13.3**	**-0.6**
	baz=229								
WHF				*i* S		**Sn**		**06 05 22.2**	**-0.5**
	baz=229								
ETM	**Tongmen**	**0.53**	**205**	*i* P		**Pn**		**06 05 12.2**	**-1.4**
	baz=192								
NHDH	**Xindian Distri**	**0.55**	**339**	*i* P		**Pn**		**06 05 12.9**	**-0.8**
	baz=343								
NHDH				*i* S		**Sn**		**06 05 21.5**	**-0.9**
	baz=343								
TWA	**Mucha**	**0.55**	**345**	*i* P		**Pn**		**06 05 13.0**	**-0.7**
	baz=340								
TWA				S		**Sn**		**06 05 22.2**	**-0.3**
	baz=340								
TWT	**Tachien**	**0.55**	**249**	*i* P		**Pn**		**06 05 14.0**	**+0.1**
	baz=242								
TWT				*i* S		**Sn**		**06 05 22.7**	**-0.1**
	baz=242								
TDCB	**Techi**	**0.56**	**250**	P		**Pn**		**06 05 13.9**	**-0.2**
	baz=243								
TDCB				S		**Sn**		**06 05 22.5**	**-0.5**
	baz=243								
TEYL	**Yanliau Villag**	**0.59**	**193**	P		**Pn**		**06 05 13.4**	**-0.8**
	baz=199								
TEYL				*e*S		**Sn**		**06 05 23.1**	**-0.1**
	baz=199								
NFF	**Wufeng Townshi**	**0.59**	**288**	P		**Pn**		**06 05 13.8**	**-0.5**
	baz=289								
NFF				S		**Sn**		**06 05 23.1**	**-0.4**
	baz=289								
TWB1	**Santiao Chiao**	**0.60**	**22**	*i* P		**Pn**		**06 05 14.4**	**+0.1**
	baz=16								
TWB1				*i* S		**Sn**		**06 05 24.2**	**+0.7**
	baz=16								
NWF	**Wu-fen Shan**	**0.62**	**3**	*i* P		**Pn**		**06 05 14.2**	**-0.5**
	baz=354								
NWF				*i* S		**Sn**		**06 05 24.9**	**+0.8**
	baz=354								
WFSB	**Wu-fen Shan**	**0.62**	**3**	P		**Pn**		**06 05 14.8**	**+0.2**
	baz=354								
WFSB				S		**Sn**		**06 05 24.6**	**+0.6**
	baz=354								
CHGB	**Renai**	**0.64**	**233**	P		**Pn**		**06 05 14.8**	**-0.3**
	baz=232								
CHGB				S		**Sn**		**06 05 24.4**	**-0.4**
	baz=232								
SXI1	**Grass Mountain**	**0.66**	**11**	P		**Pn**		**06 05 15.0**	**-0.1**
	baz=2.0								
SXI1				S		**Sn**		**06 05 25.5**	**+0.7**
	baz=2.0								
LIOB	**Emei**	**0.69**	**287**	*i* P		**Pn**		**06 05 14.9**	**-0.5**
	baz=287								
LIOB				*i* S		**Sn**		**06 05 25.4**	**-0.1**
	baz=287								
ESL	**Shilin**	**0.69**	**204**	*i* P		**Pn**		**06 05 13.7**	**-1.7**
	baz=193								
ESL				*e*S		**Sn**		**06 05 23.8**	**-1.6**
	baz=193								
NSTT	**Nanjuang**	**0.70**	**285**	*i* P		**Pn**		**06 05 15.1**	**-0.5**
	baz=286								
NSTT				*i* S		**Sn**		**06 05 25.3**	**-0.4**
	baz=286								
TNOU	**National Taiwa**	**0.70**	**2**	*i* S		**Sn**		**06 05 25.9**	**+0.2**
	baz=354								
OWD	**Renai**	**0.71**	**226**	*i* P		**Pn**		**06 05 15.4**	**-0.4**
	baz=221								
OWD				*i* S		**Sn**		**06 05 25.5**	**-0.7**
	baz=221								
YM01	**YM01**	**0.71**	**348**	P		**Pn**		**06 05 14.7**	**-1.1**
	baz=341								
YM01				S		**Sn**		**06 05 26.4**	**+0.3**
	baz=341								
TWS1	**Kuangyinshan**	**0.71**	**336**	*i* P		**Pn**		**06 05 14.9**	**-0.8**
	baz=337								
TWS1				*i* S		**Sn**		**06 05 25.3**	**-0.6**
	baz=337								
NCU	**National Centr**	**0.72**	**316**	*i* P		**Pn**		**06 05 15.2**	**-0.7**
	baz=317								
NCU				*i* S		**Sn**		**06 05 25.9**	**-0.3**
	baz=317								
NCUH	**Zhongli**	**0.72**	**316**	*i* P		**Pn**		**06 05 15.0**	**-0.9**
	baz=317								
NCUH				*i* S		**Sn**		**06 05 25.5**	**-0.7**
	baz=317								
WUSB	**Renai**	**0.73**	**231**	P		**Pn**		**06 05 15.8**	**-0.2**
	baz=230								
WUSB				S		**Sn**		**06 05 26.4**	**-0.1**
	baz=230								
WHP	**Taichung City**	**0.74**	**257**	*i* P		**Pn**		**06 05 16.5**	**+0.3**
	baz=257								
WHP				*i* S		**Sn**		**06 05 27.0**	**+0.2**
	baz=257								
NTST	**Danshui**	**0.76**	**340**	*i* P		**Pn**		**06 05 15.6**	**-0.7**
	baz=340								
NTST				S		**Sn**		**06 05 26.7**	**-0.3**
	baz=340								
ANP	**Anpu**	**0.76**	**345**	*i* P		**Pn**		**06 05 15.2**	**-1.3**
	baz=346								
ANP				S		**Sn**		**06 05 27.0**	**-0.2**
	baz=346								
SBCB	**Hsinchu**	**0.77**	**297**	P		**Pn**		**06 05 15.4**	**-1.0**
	baz=308								
SBCB				S		**Sn**		**06 05 27.4**	**+0.3**
	baz=308								
HSN	**Hsinchu**	**0.79**	**297**	*i* S		**Sn**		**06 05 27.1**	**-0.5**
	baz=311								
EGFH	**Guangfu**	**0.83**	**200**	*i* P		**Pn**		**06 05 16.9**	**-0.3**
	baz=199								
EGFH				*i* S		**Sn**		**06 05 28.6**	**0.0**
	baz=199								
TWY	**Chenhua**	**0.83**	**351**	*i* P		**Pn**		**06 05 17.2**	**0.0**
	baz=343								
TWY				*e*S		**Sn**		**06 05 28.3**	**-0.4**
	baz=343								
DPDB	**Guoxing**	**0.85**	**241**	*i* P		**Pn**		**06 05 18.0**	**+0.5**
	baz=233								
DPDB				*e*S		**Sn**		**06 05 30.4**	**+1.2**
	baz=233								
NMLH	**Miaoli**	**0.87**	**276**	*i* P		**Pn**		**06 05 17.3**	**-0.4**
	baz=276								
NMLH				*i* S		**Sn**		**06 05 29.9**	**+0.3**
	baz=276								
VWDT	**VWDT**	**0.88**	**218**	P		**Pn**		**06 05 17.7**	**-0.2**
	baz=211								
VWDT				S		**Sn**		**06 05 29.9**	**+0.1**
	baz=211								
TWQ1	**Liyutan**	**0.89**	**264**	*i* P		**Pn**		**06 05 17.7**	**-0.2**
	baz=264								
TWQ1				*i* S		**Sn**		**06 05 30.8**	**+0.8**
	baz=264								
SMLT	**Sun Moon Lake**	**0.95**	**234**	*i* P		**Pn**		**06 05 19.3**	**+0.3**
	baz=229								
SMLT				*i* S		**Sn**		**06 05 32.7**	**+1.1**
	baz=229								
TYC	**Yuchr**	**0.97**	**236**	*i* P		**Pn**		**06 05 19.4**	**+0.4**
	baz=231								
TYC				*i* S		**Sn**		**06 05 32.8**	**+0.8**
	baz=231								
SSLB	**Suanglung**	**0.97**	**228**	P		**Pn**		**06 05 19.5**	**+0.3**
	baz=232								
SSLB				S		**Sn**		**06 05 33.3**	**+1.3**
	baz=232								
HGSD	**Ruisui**	**0.99**	**197**	P		**Pn**		**06 05 18.7**	**-0.7**
	baz=205								
HGSD				S		**Sn**		**06 05 34.1**	**+1.6**
	baz=205								
WDJ	**Dajia District**	**1.01**	**265**	*i* P		**Pn**		**06 05 19.2**	**-0.4**
	baz=264								
WDJ				*i* S		**Sn**		**06 05 32.9**	**+0.1**
	baz=264								
EHY	**Hungye**	**1.01**	**202**	P		**Pn**		**06 05 18.8**	**-0.9**
	baz=195								
EHY				S		**Sn**		**06 05 31.2**	**-1.7**
	baz=195								
TCU	**Taichung**	**1.01**	**253**	*i* P		**Pn**		**06 05 19.7**	**0.0**
	baz=253								
TCU				*e*S		**Sn**		**06 05 33.2**	**+0.2**
	baz=253								
JYNG	**Yonagunijimaku**	**1.10**	**90**	P		**Pn**		**06 05 20.4**	**-0.4**
JYNG				S		**Sn**		**06 05 34.9**	**-0.1**
WJS	**Zhushan**	**1.11**	**236**	*i* P		**Pn**		**06 05 21.3**	**+0.3**
	baz=249								
WJS				*i* S		**Sn**		**06 05 36.9**	**+1.5**
	baz=249								
YULB	**Yu-li**	**1.13**	**201**	P		**Pn**		**06 05 18.8**	**-2.4**
	baz=195								
YULB				S		**Sn**		**06 05 35.0**	**-0.7**
	baz=195								
WCHH	**Zhanghua**	**1.14**	**251**	*i* P		**Pn**		**06 05 21.0**	**-0.4**
	baz=263								
WCHH				*i* S		**Sn**		**06 05 36.8**	**+0.9**
	baz=263								
YOJ	**Yonaguni jima**	**1.16**	**89**	P		**Pn**		**06 05 21.1**	**-0.5**
YOJ				*e*S		**Sn**		**06 05 36.0**	**-0.4**
YOJ	**Yonaguni jima**	**1.16**	**89**	P		**Pn**		**06 05 21.1**	**-0.5**
	baz=80								
YOJ				S		**Sn**		**06 05 36.0**	**-0.4**
	baz=80								
EYUL	**Yuli**	**1.16**	**199**	*i* P		**Pn**		**06 05 21.3**	**-0.4**
	baz=199								
EYUL				*e*S		**Sn**		**06 05 35.1**	**-1.4**
	baz=199								
PCYT	**Pengchaiyu**	**1.21**	**14**	*i* P		**Pn**		**06 05 22.0**	**-0.4**
	baz=13								
PCYT				*i* S		**Sn**		**06 05 38.8**	**+1.0**
	baz=13								
ALS	**Alishan**	**1.27**	**223**	*i* P		**Pn**		**06 05 23.9**	**+0.6**
	baz=231								
ALS				*i* S		**Sn**		**06 05 40.7**	**+1.3**
	baz=231								
CHN5	**Tsauling**	**1.29**	**229**	*i* P		**Pn**		**06 05 23.8**	**+0.4**
	baz=230								
CHN5				*i* S		**Sn**		**06 05 41.6**	**+1.9**
	baz=230								
FULB	**Fuli**	**1.31**	**198**	*i* P		**Pn**		**06 05 23.1**	**-0.5**
	baz=199								
FULB				*i* S		**Sn**		**06 05 41.3**	**+1.2**
	baz=199								
WDLH	**Douliu**	**1.33**	**236**	*i* P		**Pn**		**06 05 24.1**	**+0.2**
	baz=247								
WDLH				*i* S		**Sn**		**06 05 41.7**	**+1.0**
	baz=247								
WRL	**Guolierlin Hig**	**1.36**	**247**	*i* P		**Pn**		**06 05 23.6**	**-0.6**
	baz=257								
WRL				*i* S		**Sn**		**06 05 40.2**	**-1.0**
	baz=257								
CHKT	**Chengkung**	**1.39**	**194**	*i* P		**Pn**		**06 05 23.6**	**-1.1**
	baz=195								
CHKT				*i* S		**Sn**		**06 05 41.7**	**-0.2**
	baz=195								
ELDTW	**Lidau**	**1.42**	**208**	*i* P		**Pn**		**06 05 23.7**	**-1.5**
	baz=200								
ELDTW				*i* S		**Sn**		**06 05 42.8**	**-0.1**
	baz=200								
WTK	**Tuku**	**1.45**	**239**	*i* P		**Pn**		**06 05 25.1**	**-0.4**
	baz=239								
WTK				*i* S		**Sn**		**06 05 43.5**	**0.0**
	baz=239								
CHN2	**Minshiung**	**1.47**	**232**	P		**Pn**		**06 05 26.2**	**+0.3**
	baz=244								
CHN2				*i* S		**Sn**		**06 05 45.0**	**+1.0**
	baz=244								
CHN4	**Tsaushan**	**1.51**	**224**	*i* P		**Pn**		**06 05 27.3**	**+0.9**
	baz=225								
CHN4				*i* S		**Sn**		**06 05 46.8**	**+1.7**
	baz=225								
EDH	**Donghe**	**1.52**	**195**	*i* P		**Pn**		**06 05 26.7**	**+0.2**
	baz=196								
EDH				*i* S		**Sn**		**06 05 45.7**	**+0.5**
	baz=196								
TPUB	**Ta-pu**	**1.53**	**222**	P		**Pn**		**06 05 27.3**	**+0.7**
	baz=233								
TPUB				S		**Sn**		**06 05 47.4**	**+2.0**
	baz=233								
CHY	**Chiayi**	**1.53**	**232**	*i* P		**Pn**		**06 05 26.5**	**-0.1**
	baz=243								
CHY				*i* S		**Sn**		**06 05 46.5**	**+1.1**
	baz=243								
STYH	**Taoyuan**	**1.55**	**215**	*i* P		**Pn**		**06 05 27.7**	**+0.9**
	baz=207								
STYH				*i* S		**Sn**		**06 05 47.1**	**+1.2**
	baz=207								
STYT	**Tauyuan**	**1.56**	**215**	*e*P		**Pn**		**06 05 28.4**	**+1.2**
	baz=207								
WTP	**Ta-pu**	**1.58**	**221**	*i* P		**Pn**		**06 05 27.6**	**+0.2**
	baz=233								
WTP				*i* S		**Sn**		**06 05 48.8**	**+2.1**
	baz=233								
WSF	**Szhu**	**1.60**	**240**	P		**Pn**		**06 05 26.3**	**-1.3**
	baz=241								
WSF				*i* S		**Sn**		**06 05 47.0**	**-0.2**
	baz=241								
LONT	**Longtian**	**1.63**	**200**	*i* P		**Pn**		**06 05 26.4**	**-1.7**
	baz=191								
TWK	**Hsinying**	**1.64**	**225**	*i* P		**Pn**		**06 05 28.9**	**+0.7**
	baz=225								
TWK				S		**Sn**		**06 05 49.4**	**+1.1**
	baz=225								
WSL	**Shuilin Townsh**	**1.66**	**237**	P		**Pn**		**06 05 27.9**	**-0.5**
	baz=247								
WSL				S		**Sn**		**06 05 48.2**	**-0.5**
	baz=247								
SNST	**Tainan City**	**1.67**	**223**	*i* P		**Pn**		**06 05 29.0**	**+0.5**
	baz=224								
SNST				S		**Sn**		**06 05 49.2**	**+0.4**
	baz=224								
CHN1	**Nanshi**	**1.68**	**222**	*i* P		**Pn**		**06 05 29.1**	**+0.4**
	baz=223								
CHN1				*i* S		**Sn**		**06 05 51.8**	**+2.7**
	baz=223								
ICHU	**Yijhu**	**1.72**	**231**	*i* P		**Pn**		**06 05 29.4**	**+0.2**
	baz=233								
ICHU				*i* S		**Sn**		**06 05 50.8**	**+0.8**
	baz=233								
SGST	**Jiashian**	**1.72**	**218**	*i* P		**Pn**		**06 05 29.6**	**+0.3**
	baz=230								
SGST				*i* S		**Sn**		**06 05 51.5**	**+1.4**
	baz=230								
TWG	**Pinlang**	**1.73**	**201**	*i* P		**Pn**		**06 05 28.5**	**-0.9**
	baz=195								
TWG				*e*S		**Sn**		**06 05 49.4**	**-1.0**
	baz=195								
TWGBT	**Beinan**	**1.73**	**201**	P		**Pn**		**06 05 27.3**	**-2.1**
	baz=195								
TWGBT				*e*S		**Sn**		**06 05 50.6**	**+0.2**
	baz=195								
CHN8	**Yiju**	**1.78**	**232**	S		**Sn**		**06 05 52.5**	**+1.1**
	baz=233								
IRIF	**Iriomote-Funau**	**1.82**	**93**	P		**Pn**		**06 05 29.7**	**-0.8**
IRIF				*e*S		**Sn**		**06 05 51.8**	**-0.7**
HATJ	**Hateruma jima**	**1.93**	**101**	P		**Pn**		**06 05 32.3**	**+0.3**
HATJ				S		**Sn**		**06 05 55.2**	**+0.1**
JKRS	**Kuro-shima**	**2.08**	**95**	P		**Pn**		**06 05 33.9**	**-0.2**
JKRS				*e*S		**Sn**		**06 05 58.8**	**-0.1**
JIJ	**Ishigaki jima**	**2.19**	**92**	P		**Pn**		**06 05 34.9**	**-0.8**
JIJ				S		**Sn**		**06 06 00.3**	**-1.3**
JISG	**Ishigakijimahi**	**2.35**	**86**	P		**Pn**		**06 05 37.1**	**-0.7**
JISG				*e*S		**Sn**		**06 06 05.5**	**+0.1**
JTJ	**Tarama**	**2.71**	**85**	P		**Pn**		**06 05 42.7**	**0.0**
JTJ				*e*S		**Sn**		**06 06 14.1**	**-0.1**
JMJ2	**Miyako jima3**	**3.28**	**84**	P		**Pn**		**06 05 51.7**	**+1.2**
JOGS	**Gusukube**	**3.35**	**84**	P		**Pn**		**06 05 52.7**	**+1.2**

DJA ***21*** *06:17:14.6±0.4,4˚S±6˚×12˚9E±˚,h10km,M3.1/6,MLv3.1/6*
IDC ***21*** *06:17:17.6±2.3,3˚.70S×129˚.59E,h54km±29km,mb3.4/2, mb1 3.6/6,mb1mx3.4/36,mbtmp3.7/6,ML3.4/4,Error ellipse: s-maj=30.4km s-min=15.6km az=107.0*
ISC 21 06:17:15.3±0.9,3.72S±0˚.07×129˚.37E±0˚.05,h35km,n11, σ2s40/13,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.57**	**310**	P			**Pn**	**06 17 24.9**	**-2.1**
MSAI				S			**Sn**	**06 17 33.0**	**-2.2**
AAI	**Ambon**	**1.17**	**272**	P			**Pn**	**06 17 36.1**	**+0.9**
NLAI	**Namlea**	**2.31**	**282**	P			**Pn**	**06 17 52.7**	**+1.8**
FAKI	**Fak Fak**	**2.99**	**75**	P			**Pn**	**06 18 01.3**	**+1.1**
SIJI	**Sorong**	**3.41**	**34**	P			**Pn**	**06 18 06.8**	**+0.8**
	2.8nm,0.3s,baz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**249**	*i*		06 42 50.0	
	baz=74,slow=320,SNR=5.2						
ZAA0	**Zalesovo Array**	**1.28**	**249**	⇓P	**Pn**	**06 34 50.1**	**-1.6**
	0.4nm,0.3s						
ZAA0				⇑S	**Sn**	**06 35 10.1**	**+0.6**
	7.4nm,1.0s						
ZALV	**Zalesovo Beam**	**1.28**	**249**	Pg	**Pg**	**06 34 50.5**	**-0.5**
	3.6nm,0.3s,baz=73,slow=17,SNR=30						
ZALV				Lg	Lg	06 35 09.2	
	2.5nm,0.3s,baz=80,slow=31,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.34**	**236**	Pn	**Pn**	**06 36 02.8**	**+1.6**
	0.1nm,0.3s,baz=54,slow=14,SNR=10						
KURBB				Lg	Lg	06 37 48.3	
	0.0nm,0.3s,baz=58,slow=33,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.34**	**236**	⇑Pn	**Pn**	**06 36 02.6**	**+1.4**
	1.1nm,0.5s						
KURBB				⇑Sn	**Sn**	**06 37 15.2**	**+0.9**
	3.0nm,0.7s						
KURBB				⇑Lg	Lg	06 37 49.0	
	6.6nm,0.8s						
MK31	**Makanchi Array**	**8.17**	**203**	⇑Pn	**Pn**	**06 36 27.3**	**+0.9**
	0.6nm,0.8s,baz=28,slow=14,SNR=6.6						
MK31				⇓Lg	Lg	06 38 45.5	
	2.1nm,0.9s,baz=25,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**8.17**	**203**	Pn	**Pn**	**06 36 27.1**	**+0.6**
	0.1nm,0.3s,baz=26,slow=14,SNR=5.6						
MKAR				Sn	**Sn**	**06 37 56.3**	**-3.1**
	0.1nm,0.3s,baz=20,slow=29,SNR=2.6						
MKAR				Lg	Lg	06 38 42.2	
	0.0nm,0.3s,baz=17,slow=30,SNR=3.4						
MAKZ	**Makanchi**	**8.23**	**204**	⇓Sn	**Sn**	**06 38 01.9**	**+1.1**
	1.9nm,1.0s						
MAKZ				⇓Lg	Lg	06 38 47.7	
	2.5nm,1.2s						

NNC ***21*** *06:45:22.4±1.7,41°.78N×82°.45E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=13.2km s-min=7.1km az=159.0*
SOME ***21*** *06:45:25.3,42°.08N×82°.45E,h10km*
ISC 21 06:45:26.5±2.2,42°.12N±0°.09×82°.44E±0°.08,h13km,n26,
σ2ᵖ36/41,2C-3D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.43**	**296**	*e*P	**Pn**	**06 46 07.4**	**+1.4**
	6.2nm,0.1s						
SHLS				*e*S	**Sn**	**06 46 37.6**	**+1.9**
	33nm,0.4s						
SHLS	**Shalkode**	**2.43**	**296**	Pg	**Pn**	**06 46 04.5**	**-1.6**
	7.5nm,0.3s						
SHLS				Lg	Lg	06 46 37.4	
	33nm,0.4s						
PDGK	**Podgornoye**	**2.49**	**300**	Pg	**Pb**	**06 46 10.3**	**-0.8**
	1.8nm,0.3s						
PDGK				Lg	Lg	06 46 47.2	
	7.1nm,0.3s						
DJR	**Jarkent**	**2.94**	**320**	*e*P	**Pg**	**06 46 21.2**	**-1.5**
	1.9nm,0.3s						
DJR				*e*S	**Sg**	**06 47 01.9**	**+1.0**
	6.0nm,0.4s						
KPKS	**Kokpek**	**3.08**	**297**	*e*P	**Pb**	**06 46 22.6**	**+1.5**
	3.4nm,0.2s						
KPKS				*e*S	**Sg**	**06 47 03.9**	**-1.4**
	28nm,0.4s						
SATY	**Saty**	**3.12**	**289**	*e*P	**Pb**	**06 46 23.5**	**+1.5**
	1.9nm,0.1s						
SATY				*e*S	**Sg**	**06 47 05.2**	**-1.6**
	12nm,0.2s						
SATY	**Saty**	**3.12**	**289**	Pg	**Pb**	**06 46 21.0**	**-1.0**
	4.4nm,0.1s						
SATY				Lg	Lg	06 47 05.2	
	10nm,0.2s						
KURS	**Kuram**	**3.43**	**295**	*e*P	**Pb**	**06 46 27.5**	**+0.4**
	2.8nm,0.5s						
KURS				*e*S	**Sb**	**06 47 12.0**	**+3.4**
	4.6nm,0.5s						
KURS	**Kuram**	**3.43**	**295**	Pg	**Pb**	**06 46 29.2**	**+2.1**
	2.9nm,0.3s						
KURS				Lg	Lg	06 47 19.4	
	5.6nm,1.0s						
KAPS	**Kapalarasan**	**3.87**	**326**	*e*P	**Pb**	**06 46 37.2**	**+2.5**
	3.1nm,0.3s						
KAPS				*e*S	**Sg**	**06 47 28.4**	**-2.4**
	5.7nm,0.2s						
ARXS	**Arharly**	**3.97**	**303**	*e*P	**Pg**	**06 46 39.9**	**-2.6**
	1.8nm,0.2s						
ARXS				*e*S	**Sg**	**06 47 33.4**	**-0.6**
	6.0nm,0.5s						
ARXS	**Arharly**	**3.97**	**303**	Pg	**Pb**	**06 46 37.5**	**+1.2**
	1.8nm,0.6s						
ARXS				Lg	Lg	06 47 33.2	
	6.0nm,0.5s						
KOTS	**Kotyrbulak**	**4.08**	**288**	*e*P	**Pb**	**06 46 40.6**	**+2.3**
	2.5nm,0.3s						
KOTS				*e*S	**Sg**	**06 47 34.4**	**-3.3**
	9.4nm,0.5s						
KOTS	**Kotyrbulak**	**4.08**	**288**	Pg	**Pb**	**06 46 40.9**	**+2.5**
	4.2nm,0.3s						
KOTS				Lg	Lg	06 47 39.5	
	16nm,0.5s						
TDK	**Taldyqorghan**	**4.11**	**316**	*e*P	**Pb**	**06 46 39.7**	**+1.0**
	27nm,0.2s						
TDK				*e*S	**Sb**	**06 47 32.6**	**+4.3**
	34nm,0.1s						
MDOK	**Medeo**	**4.11**	**286**	*e*P	**Pg**	**06 46 42.6**	**-2.7**
	1.4nm,0.3s						
MDOK				*e*S	**Sg**	**06 47 38.0**	**-0.6**
	6.1nm,0.6s						
MDOK	**Medeo**	**4.11**	**286**	Pg	**Pb**	**06 46 40.1**	**+1.3**
	2.1nm,0.3s						
MDOK				Lg	Lg	06 47 38.0	
	6.1nm,0.6s						
TNSS	**Tian-Shan**	**4.16**	**285**	*e*P	**Pb**	**06 46 41.7**	**+1.9**
	2.0nm,0.1s						
TNSS				*e*S	**Sg**	**06 47 36.0**	**-4.0**
	2.0nm,0.4s						
IZV	**Izvestkoviy**	**4.40**	**284**	*e*P	**Pg**	**06 46 47.9**	**-2.9**
	1.4nm,0.3s						
IZV				*e*S	**Sg**	**06 47 47.3**	**-0.5**
	8.9nm,0.7s						
IZV	**Izvestkoviy**	**4.40**	**284**	Pg	**Pb**	**06 46 45.8**	**+2.0**
	2.1nm,0.3s						
IZV				Lg	Lg	06 47 47.3	
	8.9nm,0.7s						
MK31	**Makanchi Array**	**4.67**	**359**	Pn	**Pn**	**06 46 39.2**	**+2.5**
	0.1nm,0.3s,baz=195,slow=15,SNR=12						
MK31				⇑Pg	**Pg**	**06 46 52.9**	**-3.0**
	0.4nm,0.3s,baz=171,slow=15,SNR=3.4						
MK31				⇓Lg	Lg	06 47 59.8	
	1.3nm,0.5s,baz=171,slow=26,SNR=5.1						
MAKZ	**Makanchi**	**4.70**	**356**	⇓Pn	**Pn**	**06 46 39.4**	**+2.4**
	2.4nm,1.0s						
MAKZ				⇓Sn	**Sb**	**06 47 40.3**	**-4.8**
	1.1nm,0.7s						
MAKZ				⇑Lg	Lg	06 48 04.5	
	2.7nm,0.9s						
KST	**Kastek**	**4.87**	**283**	*e*P	**Pg**	**06 46 56.6**	**-3.2**
	1.2nm,0.5s						
KST				*e*S	**Sg**	**06 48 02.2**	**-0.7**
	6.0nm,0.3s						
KST	**Kastek**	**4.87**	**283**	Pg	**Pb**	**06 46 54.3**	**+2.6**
	1.8nm,0.4s						
KST				Lg	Lg	06 48 02.2	
	4.8nm,0.5s						
DGS	**Degeres**	**5.04**	**285**	Pg	**Pb**	**06 46 56.2**	**+1.6**
	3.2nm,0.5s						
DGS				Lg	Lg	06 48 05.2	
	3.4nm,0.5s						
KRBS	**Karabastau**	**5.21**	**290**	Pg	**Pb**	**06 46 59.8**	**+2.2**
	1.1nm,0.5s						
KRBS				Lg	Lg	06 48 11.5	
	1.7nm,0.6s						

IDC ***21*** *06:48:52.0±0.9,22°.98S×66°.24W,h240km±14km,mb3.9/2, mb1 3.6/8,mb1mx3.3/26,mbtmp4.2/8, Error ellipse: s-maj=20.5km s-min=15.6km az=115.0*
GUC ***21*** *06:48:51.5±0.6,23°.06S×66°.34W,h259km±6km*
NEIC ***21*** *06:48:52.2±1.6,23°.05S±0°.04×66°.25W±0°.09,h236km±8km, mb4.4/15,Md4.1(SJA),Error ellipse: s-maj=12.5km s-min=6.2km az=96.0*
ISC 21 06:48:52.2±0.7,23°.03S±0°.04×66°.37W±0°.06,h245km±8km,
n85,σ1ᵖ14/103,mb4.4/5,11C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.86**	**155**	*e*P	**Pn**	**06 49 32.8**	**-0.4**
SLA				*i* S	**S**	**06 50 05.2**	**-0.3**
LVC	**Limon Verde**	**2.38**	**280**	P	**Pn**	**06 49 39.7**	**+1.3**
	49nm,0.3s,baz=96,slow=6.1,SNR=458						
LVC				S	**S**	**06 50 15.5**	**+0.9**
	12nm,0.3s,baz=241,slow=22,SNR=17						
LVC	**Limon Verde**	**2.38**	**280**	Pn	**Pn**	**06 49 39.6**	**+1.2**
LVC				Sn	**S**	**06 50 15.2**	**+0.5**
LVC	**Limon Verde**	**2.38**	**280**	*e*P	**Pn**	**06 49 39.3**	**+1.0**
LVC				*i* S	**S**	**06 50 15.3**	**+0.6**
PB15	**IPOC Station P**	**2.86**	**266**		**Pn**	**06 49 44.4**	**+1.2**
PB15				Sn	**S**	**06 50 23.4**	**+0.1**
PB15	**IPOC Station P**	**2.86**	**266**	*e*P	**Pn**	**06 49 44.0**	**+0.9**
PB15				*i* S	**S**	**06 50 24.0**	**+0.6**
PB09	**IPOC Station P**	**2.93**	**294**		**Pn**	**06 49 45.4**	**+1.5**
PB09	**IPOC Station P**	**2.93**	**294**	⇑*i*P	**Pn**	**06 49 45.6**	**+1.7**
PB09				*i* S	**S**	**06 50 25.2**	**+0.6**
PB06	**IPOC Station P**	**2.97**	**276**		**Pn**	**06 49 45.4**	**+1.0**
PB06	**IPOC Station P**	**2.97**	**276**	⇑*i*P	**Pn**	**06 49 45.4**	**+1.0**
PB06				*i* S	**S**	**06 50 25.5**	**+0.1**
PB07	**IPOC Station P**	**3.51**	**291**		**Pn**	**06 49 51.0**	**+0.7**
PB07	**IPOC Station P**	**3.51**	**291**	⇑*i*P	**Pn**	**06 49 51.3**	**+1.0**
PB07				*i* S	**S**	**06 50 34.5**	**-1.6**
GO02	**Mina Guanaco**	**3.63**	**234**	Pn	**Pn**	**06 49 52.9**	**+1.0**
GO02	**Mina Guanaco**	**3.63**	**234**	⇑*i*P	**Pn**	**06 49 52.8**	**+1.0**
GO02				*i* S	**S**	**06 50 39.4**	**+0.4**
PB02	**IPOC Station P**	**3.69**	**297**		**Pn**	**06 49 52.9**	**+0.6**
PB02	**IPOC Station P**	**3.69**	**297**	⇑*i*P	**Pn**	**06 49 52.9**	**+0.6**
PB02				*i* S	**S**	**06 50 37.9**	**-2.0**
PB08	**IPOC Station P**	**3.87**	**317**		**Pn**	**06 49 56.4**	**+1.6**
PB08	**IPOC Station P**	**3.87**	**317**	⇑*i*P	**Pn**	**06 49 56.4**	**+1.6**
PB08				*i* S	**S**	**06 50 44.7**	**+0.5**
PB10	**IPOC Station P**	**3.88**	**262**	Pn	**Pn**	**06 49 55.3**	**+0.9**
PB10	**IPOC Station P**	**3.88**	**262**	⇑*i*P	**Pn**	**06 49 55.3**	**+0.9**
PB10				*i* S	**S**	**06 50 41.9**	**-1.8**
PB14	**IPOC Station P**	**4.03**	**246**	Pn	**Pn**	**06 49 56.9**	**+0.4**
PB14	**IPOC Station P**	**4.03**	**246**	*e*P	**Pn**	**06 49 57.5**	**+1.1**
PB14				*i* S	**S**	**06 50 46.0**	**-1.3**
PATCX	**Punta Patache**	**4.15**	**301**	Pn	**Pn**	**06 49 57.9**	**+0.2**
PATCX	**Punta Patache**	**4.15**	**301**	*e*P	**Pn**	**06 49 57.6**	**-0.1**
PATCX				*i* S	**S**	**06 50 47.3**	**-2.3**
GO01	**Chusmiza**	**4.26**	**321**		**Pn**	**06 50 00.4**	**+1.0**
GO01	**Chusmiza**	**4.26**	**321**	⇑*i*P	**Pn**	**06 50 00.4**	**+1.0**
GO01				*i* S	**S**	**06 50 53.6**	**+0.9**
HMBC	**Humberstone**	**4.27**	**309**	⇑*i*P	**Pn**	**06 49 59.0**	**-0.2**
HMBC				*i* S	**S**	**06 50 50.1**	**-2.2**
TA01	**Diego Aracena**	**4.31**	**304**	Pn	**Pn**	**06 49 59.4**	**-0.2**
TA01	**Diego Aracena**	**4.31**	**304**	⇑*i*P	**Pn**	**06 49 59.4**	**-0.2**
TA01				*i* S	**S**	**06 50 50.0**	**-2.9**
TA02	**Huaiquique**	**4.45**	**307**		**Pn**	**06 50 00.7**	**-0.5**
TA02	**Huaiquique**	**4.45**	**307**	*e*P	**Pn**	**06 50 00.7**	**-0.5**
PB11	**IPOC Station P**	**4.47**	**316**	Pn	**Pn**	**06 50 01.7**	**0.0**
PB11	**IPOC Station P**	**4.47**	**316**	⇑*i*P	**Pn**	**06 50 01.6**	**0.0**
PB11				*i* S	**S**	**06 50 54.4**	**-2.3**
AC02	**Maricunga**	**4.54**	**213**	Pn	**Pn**	**06 50 03.5**	**+0.6**
AC02	**Maricunga**	**4.54**	**213**	⇓*i*P	**Pn**	**06 50 03.8**	**+0.9**
AC01	**Pan de Azucar**	**4.95**	**230**		**Pn**	**06 50 06.9**	**-0.3**
AC01	**Pan de Azucar**	**4.95**	**230**	⇓*i*P	**Pn**	**06 50 07.1**	**-0.2**
AC01				*i* S	**S**	**06 51 04.4**	**-2.5**
PB16	**IPOC Station P**	**5.52**	**327**		**Pn**	**06 50 15.6**	**+0.7**
AC06	**Mina Casimiro**	**5.62**	**219**	Pn	**Pn**	**06 50 14.7**	**-0.8**
GO03	**Copiap**	**5.74**	**217**		**Pn**	**06 50 16.7**	**-0.4**
PB12	**IPOC Station P**	**5.75**	**319**	Pn	**Pn**	**06 50 15.7**	**-1.6**
AC04	**Llanos de Chal**	**6.68**	**219**		**Pn**	**06 50 27.6**	**-1.2**
LPAZ	**La Paz**	**6.91**	**346**	P	**Pn**	**06 50 33.0**	**+0.6**
	1.3nm,0.3s,baz=148,slow=7.4,SNR=42						
LPAZ				S	**S**	**06 51 51.4**	**-1.1**
	0.8nm,0.3s,baz=280,slow=18,SNR=12						
LPAZ	**La Paz**	**6.91**	**346**		**Pn**	**06 50 32.6**	**+0.2**
LCO	**Las Campanas**	**7.12**	**212**		**Pn**	**06 50 33.8**	**-0.8**
CO01	**Juntas del Tor**	**7.68**	**205**		**Pn**	**06 50 41.6**	**-0.1**
GO04	**Tololo Observa**	**8.15**	**208**		**Pn**	**06 50 46.2**	**-1.4**
SIV	**San Ignacio**	**8.60**	**36**	P	**Pn**	**06 50 51.6**	**-1.7**
	2.3nm,0.3s,baz=225,slow=6.9,SNR=94						
CO03	**El Pedregal**	**8.68**	**205**		**Pn**	**06 50 53.3**	**-1.0**
CPUP	**Villa Florida**	**8.85**	**114**	P	**Pn**	**06 50 54.7**	**-1.6**
	0.1nm,0.3s,baz=307,slow=8.5,SNR=4.5						
VA03	**San Esteban**	**10.38**	**200**		**Pn**	**06 51 16.1**	**+0.3**
PEL	**Peldehue**	**10.77**	**200**		**Pn**	**06 51 20.7**	**+0.1**
MT02	**Curacav**	**11.03**	**201**	Pn	**Pn**	**06 51 22.8**	**-0.9**
MT03	**Universidad Ad**	**11.05**	**198**		**Pn**	**06 51 24.5**	**+0.4**
LMEL	**Las Melosas**	**11.29**	**197**		**Pn**	**06 51 27.4**	**+0.1**
MT09	**Talagante**	**11.45**	**200**		**Pn**	**06 51 28.8**	**-0.4**
BO04	**La Punta**	**11.54**	**198**		**Pn**	**06 51 30.2**	**0.0**
MT01	**Popeta**	**11.62**	**201**		**Pn**	**06 51 31.0**	**-0.1**
BO01	**Tunca**	**12.05**	**199**		**Pn**	**06 51 37.2**	**+0.7**
GO05	**Huala**	**12.89**	**201**		**Pn**	**06 51 47.0**	**0.0**
ML02	**Panimavida**	**13.43**	**198**		**Pn**	**06 51 53.6**	**+0.1**
ITAB	**Concordia**	**13.55**	**111**		**Pn**	**06 51 55.3**	**+0.4**
PLTB	**Pedras Altas**	**14.28**	**130**		**Pn**	**06 52 02.0**	**-2.0**
NNA	**Nana**	**14.84**	**316**	P	**P**	**06 52 09.9**	**-0.8**
H03N1	**Juan Fernandez**	**15.15**	**224**	T	T	07 05 04.1	
	baz=43,slow=72,SNR=3.2						
H03N2	**Juan Fernandez**	**15.16**	**224**	T	T	07 05 06.1	
	baz=43,slow=72,SNR=2.6						
H03N3	**Juan Fernandez**	**15.16**	**224**	T	T	07 05 04.3	
	baz=43,slow=72,SNR=4.3						
LC01	**Cunco**	**16.50**	**195**	P	**P**	**06 52 29.3**	**+0.5**
LC01				IAmb	IAmb	06 52 54.5	
	comp=Z,23nm,1.5s						
LR03	**Panguipulli**	**17.32**	**196**	P	**P**	**06 52 38.0**	**+0.4**
PLCA	**Paso Flores**	**18.00**	**190**	P	**P**	**06 52 46.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=26,slow=8.1,SNR=17						
PLCA	**Paso Flores**	**18.00**	**190**	P	**P**	**06 52 46.2**	**+1.0**
PLCA				IAmb	IAmb	06 53 11.5	
	comp=Z,11nm,1.4s						
LL04	**Puerto Octay**	**18.54**	**195**	P	**P**	**06 52 50.2**	**-0.7**
LL04				IAmb	IAmb	06 52 52.5	
	comp=Z,16nm,0.8s						
BDFB	**Brasilia**	**18.80**	**70**	P	**P**	**06 52 53.4**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=238,slow=8.8,SNR=11						
BDFB	**Brasilia**	**18.80**	**70**	P	**P**	**06 52 53.5**	**-0.6**
BDFB				IAmb	IAmb	06 52 54.5	
	comp=Z,5.3nm,0.5s						
COYC	**Coyhaique**	**22.97**	**190**	P	**P**	**06 53 36.0**	**+0.7**
OTAV	**Otavalo**	**25.94**	**331**	P	**P**	**06 54 01.4**	**-1.7**
OTAV				IAmb	IAmb	06 54 02.6	
	comp=Z,10nm,1.4s						
SDV	**Santo Domingo**	**31.99**	**352**	P	**P**	**06 54 60.0**	**+3.9**
SNAA	**Sanae**	**60.07**	**161**	P	**P**	**06 58 33.2**	**-0.1**
SNAA				IAmb	IAmb	06 58 51.7	
	comp=Z,19nm,1.5s						
X43A	**Marvell**	**61.79**	**337**	P	**P**	**06 58 45.6**	**+0.4**
X43A				IAmb	IAmb	06 58 46.3	
	comp=Z,8.2nm,0.8s						
DBIC	**Dimbokro**	**66.94**	**72**	P	**P**	**06 59 18.0**	**-1.1**
	comp=Z,8.5nm,1.2s,baz=252,slow=8.4,SNR=2.1						
DBIC	**Dimbokro**	**66.94**	**72**	P	**P**	**06 59 17.9**	**-1.1**
DBIC				IAmb	IAmb	06 59 29.3	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**67.17**	**180**	P	**P**	**06 59 22.2**	**+2.4**
TORD	**Torodi Ar. Bea**	**75.68**	**69**	P	**P**	**07 00 10.3**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=260,slow=5.9,SNR=21						
TORD	**Torodi Ar. Bea**	**75.68**	**69**	P	**P**	**07 00 10.6**	**-0.6**
MKAR	**Makanchi Array**	**145.41**	**39**	PKPbc	**PKPbc**	**07 08 01.3**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=319,slow=3.5,SNR=5.6						

ISU ***21*** *06:55:19.3,41°.95N×72°.28E,h5km,Hypocentre not reviewed by the ISC*
KRNET ***21*** *06:55:19.8±0.1,41°.94N×72°.29E,h21km,mb3.5*
SOME ***21*** *06:55:21.0,41°.98N×72°.15E,h5km*
NNC ***21*** *06:55:22.5±0.7,42°.08N×72°.32E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=7.8km s-min=2.7km az=4.0*
KNET ***21*** *06:55:23.1±0.4,42°.01N×72°.56E,h0km±2km,ml2.9, Error ellipse: s-maj=3.3km s-min=2.6km az=152.0*
ISC 21 06:55:19.0±1.1,41°.89N±0°.02×72°.37E±0°.02,h3km±10km,
n74,σ1ᵖ30/113,46C-19D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.32**	**253**	⇑*i*P	**Pg**	**06 55 25.8**	**+0.7**
	baz=40						
ARK				⇑*i*S	**Sg**	**06 55 30.1**	**+0.8**
	baz=40						
ARK	**Arkit**	**0.32**	**253**	P		06 55 25.8	
ARK				S		06 55 29.9	
TRKS	**Terek-Say**	**0.99**	**249**	⇑*i*P	**Pb**	**06 55 37.9**	**-0.9**
	baz=41						
TRKS				⇑*i*S	**Sb**	**06 55 50.8**	**-1.5**
	baz=41						
AML	**Almayashu**	**1.02**	**76**	⇑P	**Pn**	**06 55 39.7**	**-0.8**
	41nm,0.1s,SNR=198						
AML				⇓S	**Sg**	**06 55 52.6**	**+0.9**
	48nm,0.2s						
MRKS	**Merke**	**1.06**	**37**	*e*P	**Pg**	**06 55 42.5**	**+3.0**
	26nm,0.2s						
MRKS				*e*S	**Sn**	**06 55 56.4**	**+0.1**
	184nm,0.3s						
ANR	**Andizhan**	**1.14**	**180**	P		06 55 43.5	
ANR				S		06 56 01.4	
DZA	**Taraz**	**1.26**	**323**	*e*P	**Pg**	**06 55 43.9**	**+0.7**
	161nm,0.1s						
DZA				*e*S	**Sb**	**06 55 58.3**	**-1.7**
	540nm,0.3s						
EKS2	**Erkin-Say**	**1.30**	**53**	⇑P	**Pg**	**06 55 44.5**	**+0.6**
	9.8nm,0.2s,SNR=13						
EKS2				⇓S	**Sg**	**06 56 00.8**	**+0.1**
	27nm,0.2s						
EKS2	**Erkin-Say**	**1.30**	**53**	⇑*i*P	**Pg**	**06 55 44.1**	**+0.2**
	baz=56						
EKS2				⇑*i*S	**Sg**	**06 56 01.6**	**+0.8**
	baz=56						
OHH	**Osh**	**1.40**	**167**	⇑*i*P	**Pg**	**06 55 46.7**	**+0.8**
	baz=65						
OHH				⇑*i*S	**Sg**	**06 56 06.0**	**+1.9**
	baz=65						
OHH	**Osh**	**1.40**	**167**	P		06 55 48.4	
OHH				S		06 56 08.7	
FRG	**Fergana**	**1.58**	**196**	P		06 55 51.4	
FRG				S		06 56 14.5	
UCH	**Uchtor**	**1.63**	**77**	⇑P	**Pg**	**06 55 50.9**	**+0.6**
	17nm,0.2s,SNR=52						
UCH				⇓S	**Sg**	**06 56 13.6**	**+2.1**
	40nm,0.2s						
UCH	**Uchtor**	**1.63**	**77**	⇓*i*P	**Pg**	**06 55 50.5**	**+0.2**
	baz=79						
UCH				⇓*i*S	**Sg**	**06 56 12.7**	**+1.2**
	baz=79						
AAK	**Ala-Archa**	**1.75**	**64**	⇑P	**Pg**	**06 55 52.9**	**+0.4**
	35nm,0.4s,SNR=18						
AAK	**Ala-Archa**	**1.75**	**64**	⇓*e*P	**Pg**	**06 55 52.2**	**-0.3**
	baz=66						
AAK				⇓*i*S	**Sg**	**06 56 15.5**	**+0.4**
	baz=66						
IUG	**Iuzhnay**	**1.76**	**279**	*e*P	**Pg**	**06 55 53.0**	**+0.2**
	1μm,0.5s						
IUG				*e*S	**Sb**	**06 56 14.3**	**-0.2**
	598nm,0.2s						
MINT	**Mingtut**	**1.77**	**217**	P		06 55 54.3	
MINT				S		06 56 19.0	
CHMG	**Chimgan**	**1.80**	**260**	P		06 55 53.4	
CHMG				S		06 56 16.7	
KK31	**Karatay Array**	**1.83**	**312**	⇓Pn	**Pb**	**06 55 51.5**	**-1.6**
	16nm,0.3s,baz=127,slow=16,SNR=251						
KK31				⇑Sn	**Sg**	**06 56 17.0**	**-0.8**
	42nm,0.2s,baz=128,slow=27,SNR=10						
KKAR	**Karatay Array**	**1.83**	**312**	⇑*i*P	**Pb**	**06 55 51.8**	**-1.3**
	baz=12						
KKAR				⇑*i*S	**Sb**	**06 56 15.0**	**-1.4**
	baz=12						
FRU1	**Bishkek**	**1.91**	**61**	⇓*i*P	**Pb**	**06 55 54.7**	**+0.1**
	baz=62						
FRU1				⇓*i*S	**Sg**	**06 56 19.3**	**-1.1**
	baz=62						
SHAK	**Shakhimardan**	**1.99**	**194**	P		06 55 58.6	
SHAK				S		06 56 25.9	
KBK	**Karagaybulak**	**2.06**	**67**	⇓P	**Pg**	**06 55 59.0**	**+0.4**
	49nm,0.3s,SNR=26						
KBK	**Karagaybulak**	**2.06**	**67**	⇑*i*P	**Pb**	**06 55 56.6**	**-0.6**
	baz=69						
KBK				⇑*i*S	**Sb**	**06 56 23.3**	**0.0**
	baz=69						
CHMS	**Chumysh**	**2.08**	**57**	⇑P	**Pg**	**06 55 58.7**	**-0.3**
	14nm,0.2s,SNR=16						
CHMS				⇑S	**Sg**	**06 56 26.5**	**+0.6**
	54nm,0.2s						
CHMS	**Chumysh**	**2.08**	**57**	⇑*i*P	**Pb**	**06 55 56.6**	**-0.8**
	baz=59						
CHMS				⇑*i*S	**Sb**	**06 56 23.3**	**-0.4**
	baz=59						
CHMS	**Chumysh**	**2.08**	**57**	⇑Pg	**Pg**	**06 55 58.5**	**-0.4**
	18nm,0.6s						
CHMS				⇑Lg	Lg	06 56 27.1	
	46nm,0.5s						
USP	**Ospenovka**	**2.09**	**48**	⇑P	**Pg**	**06 55 58.3**	**-0.8**
	32nm,0.2s,SNR=49						
USP				⇓S	**Sg**	**06 56 25.9**	**-0.3**
	64nm,0.2s						
USP	**Ospenovka**	**2.09**	**48**	⇑*i*P	**Pb**	**06 55 56.6**	**-1.0**
	baz=50						
USP				⇑*i*S	**Sb**	**06 56 23.3**	**-0.6**
	baz=50						
CHM	**Chimkent**	**2.10**	**283**	*e*P	**Pg**	**06 56 00.1**	**+0.8**
	170nm,0.1s						
CHM				*e*S	**Sg**	**06 56 25.8**	**-0.7**
	576nm,0.2s						
BTK	**Batken**	**2.18**	**213**	⇑*i*P	**Pb**	**06 55 57.7**	**-1.4**
	baz=11						
BTK				⇑*i*S	**Sb**	**06 56 25.3**	**-1.1**
	baz=11						
TGS	**TashGRES**	**

	14nm,0.4s							
BTLS	**Baital**	**3.38**	**21**	Pg	**Pb**	**06 56 21.2**	**+1.7**	
	6.9nm,0.4s							
BTLS				Lg	Lg	06 57 01.9		
	14nm,0.4s							
KUU	**Kurty**	**3.54**	**54**	*e*P	**Pg**	**06 56 25.9**	**-0.9**	
	5.2nm,0.3s							
KUU				*e*S	**Sg**	**06 57 10.2**	**-2.5**	
	10nm,0.4s							
KUU	**Kurty**	**3.54**	**54**	Pg	**Pg**	**06 56 25.9**	**-0.9**	
	5.2nm,0.3s							
KUU				Lg	Lg	06 57 10.2		
	10nm,0.4s							
TNSS	**Tian-Shan**	**3.58**	**70**	*e*P	**Pg**	**06 56 28.0**	**+0.4**	
	8.8nm,0.5s							
TNSS				*e*S	**Sg**	**06 57 13.9**	**0.0**	
	11nm,0.4s							
KDJ	**Kajisay**	**3.59**	**85**	⇓*i*P	**Pn**	**06 56 18.5**	**+2.7**	
	baz=85							
KDJ				⇓*i*S	**Sn**	**06 57 00.9**	**+2.1**	
	baz=85							
KTBS	**Karatobe**	**3.66**	**59**	*e*P	**Pg**	**06 56 28.2**	**-0.9**	
	5.0nm,0.5s							
KTBS				*e*S	**Sg**	**06 57 14.0**	**-2.5**	
	56nm,0.5s							
KTBS	**Karatobe**	**3.66**	**59**	Pg	**Pg**	**06 56 28.2**	**-0.9**	
	5.0nm,0.5s							
KTBS				Lg	Lg	06 57 14.0		
	56nm,0.5s							
MDOK	**Medeo**	**3.69**	**68**	*e*P	**Pg**	**06 56 30.4**	**+0.7**	
	10nm,0.5s							
MDOK				*e*S	**Sg**	**06 57 17.6**	**+0.2**	
	22nm,0.7s							
MDOK	**Medeo**	**3.69**	**68**	⇑Pg	**Pg**	**06 56 28.0**	**-1.7**	
	7.3nm,0.5s							
MDOK				⇑Lg	Lg	06 57 17.6		
	25nm,0.7s							
MDOK	**Medeo**	**3.69**	**68**	Pg	**Pg**	**06 56 30.4**	**+0.7**	
	10nm,0.5s							
MDOK				Lg	Lg	06 57 17.6		
	22nm,0.7s							
KOTS	**Kotyrbulak**	**3.75**	**67**	*e*P	**Pg**	**06 56 30.9**	**0.0**	
	10nm,0.3s							
KOTS				*e*S	**Sg**	**06 57 19.5**	**-0.1**	
	25nm,0.6s							
KOTS	**Kotyrbulak**	**3.75**	**67**	Pg	**Pg**	**06 56 30.9**	**0.0**	
	10nm,0.3s							
KOTS				Lg	Lg	06 57 19.5		
	25nm,0.6s							
KURS	**Kuram**	**4.56**	**68**	*e*P	**Pg**	**06 56 47.9**	**+1.5**	
	5.8nm,0.6s							
KURS				*e*S	**Sg**	**06 57 47.4**	**+1.8**	
	7.7nm,0.6s							
KURS	**Kuram**	**4.56**	**68**	Pg	**Pg**	**06 56 47.7**	**+1.2**	
	5.8nm,0.6s							
KURS				Lg	Lg	06 57 47.4		
	7.7nm,0.6s							
SATY	**Saty**	**4.62**	**73**	*e*P	**Pg**	**06 56 48.3**	**+0.8**	
	11nm,0.7s							
SATY				*e*S	**Sg**	**06 57 49.1**	**+1.9**	
	19nm,0.7s							
SATY	**Saty**	**4.62**	**73**	Pg	**Pg**	**06 56 48.3**	**+0.8**	
	11nm,0.7s							
SATY				Lg	Lg	06 57 49.1		
	19nm,0.7s							
ARXS	**Arharly**	**4.62**	**58**	*e*P	**Pg**	**06 56 45.5**	**-2.1**	
	8.6nm,0.6s							
ARXS				*e*S	**Sg**	**06 57 44.0**	**-3.5**	
	42nm,0.5s							
ARXS	**Arharly**	**4.62**	**58**	Pg	**Pg**	**06 56 45.6**	**-2.1**	
	8.6nm,0.6s							
ARXS				Lg	Lg	06 57 44.0		
	42nm,0.5s							
KPKS	**Kokpek**	**4.92**	**69**	*e*P	**Pg**	**06 56 52.6**	**-0.5**	
	11nm,0.6s							
KPKS				*e*S	**Sg**	**06 57 55.6**	**-1.3**	
	16nm,0.5s							
BLB	**Baldybastay**	**4.99**	**62**	*e*P	**Pg**	**06 56 53.2**	**-1.4**	
	10nm,0.5s							
BLB				*e*S	**Sg**	**06 57 58.1**	**-1.3**	
	27nm,0.5s							
UZB	**Uzynbulak**	**5.08**	**73**	*e*P	**Pg**	**06 56 55.6**	**-0.6**	
	5.3nm,0.4s							
UZB				*e*S	**Sg**	**06 58 01.6**	**-0.5**	
	7.0nm,0.4s							
UZB	**Uzynbulak**	**5.08**	**73**	Pg	**Pg**	**06 56 55.6**	**-0.6**	
	5.3nm,0.4s							
UZB				Lg	Lg	06 58 01.6		
	7.0nm,0.4s							
SHLS	**Shalkode**	**5.39**	**74**	*e*P	Pg	06 57 09.4	+7.0	
	4.5nm,0.6s							
SHLS				*e*S	Sg	06 58 24.5	+12	
	12nm,0.7s							
SHLS	**Shalkode**	**5.39**	**74**	Pg	Pg	06 57 09.4	+7.0	
	4.5nm,0.6s							
SHLS				Lg	Lg	06 58 24.5		
	12nm,0.7s							
PDGK	**Podgornoye**	**5.45**	**72**	Pg	**Pg**	**06 57 04.0**	**+0.6**	
	1.6nm,0.5s							
PDGK				Lg	Lg	06 58 15.2		
	4.8nm,0.8s							
PDGK	**Podgornoye**	**5.45**	**72**	⇓Pg	Pg	06 56 59.3	-4.1	
	3.7nm,0.8s							
PDGK				⇓Lg	Lg	06 58 12.9		
	15nm,0.9s							
DJR	**Jarkent**	**5.96**	**63**	Pg	**Pg**	**06 57 11.2**	**-1.9**	
	2.0nm,0.5s							
DJR				Lg	Lg	06 58 27.9		
	5.2nm,0.6s							
OTUK	**Ortayu**	**6.35**	**360**	⇑Pn	**Pn**	**06 56 55.6**	**+2.1**	
	3.7nm,1.0s							
OTUK				⇓Sn	**Sn**	**06 58 07.2**	**+0.7**	
	4.2nm,0.5s							
OTUK				⇑Lg	Lg	06 58 39.0		
	8.8nm,0.5s							
MAKZ	**Makanchi**	**8.46**	**51**	⇓Lg	Lg	06 59 51.0		
	4.2nm,0.8s							
MK31	**Makanchi Array**	**8.63**	**52**	⇑Pn	Pn	06 57 28.4	+3.7	
	1.7nm,0.8s,baz=232,slow=13,SNR=11							
MK31				⇓Lg	Lg	06 59 54.3		
	2.7nm,0.6s							
KURBB	**Kurchatov Arra**	**9.71**	**24**	⇑Lg	Lg	07 00 27.2		
	8.0nm,0.7s							
KURK	**Kurchatov**	**9.82**	**24**	⇑Lg	Lg	07 00 29.0		
	5.5nm,0.8s							

*TUL **21** 07:00:56.5±1.1,36.°09N±0.°02×96.°74W±0.°03,h5km±7km, ML3.3,mb_Lg3.0/75(NEIC),Error ellipse: s-maj=3.5km s-min=2.8km az=118.0*
*ANF **21** 07:00:57.0±0.2,36.°11N×96.°72W,h5km,ML3.5/12,Error ellipse: s-maj=2.5km s-min=2.0km az=57.0*
*NEIC **21** 07:00:56.8±0.9,36.°098N±0.°009×96.°76W±0.°03,h7km±7km, Error ellipse: s-maj=3.3km s-min=1.3km az=95.0*
ISC 21 07:00:57.2±1.0,**36.°09N**±0.°03×**96.°74W**±0.°03,**h10**km,**n57**, σ0**s77**/28,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TUL1	**Leonard**	**0.79**	**103**	Pg		**Pg**	**07 01 11.7**	**-0.8**
TUL1	**Leonard**	**0.79**	**103**	P		**Pg**	**07 01 11.6**	**-0.8**
	baz=284,SNR=537							
TUL1				S		**Sg**	**07 01 22.1**	**-0.7**
	baz=284							
T35A	**Sooner Cattle**	**0.84**	**12**	Pg		**Pg**	**07 01 12.6**	**-0.9**
T35B	**Sooner Cattle**	**0.84**	**12**	P		**Pg**	**07 01 12.6**	**-1.0**
	baz=192,SNR=161							
T35B				S		**Sg**	**07 01 23.7**	**-0.8**
	baz=192							
FNO	**Franklin**	**0.99**	**213**			**Pg**	**07 01 14.9**	**-1.3**
X34A	**Smith Ranch, M**	**1.73**	**211**			**Pn**	**07 01 27.7**	**+0.3**
U32A	**Winter Ranch,**	**1.85**	**280**			**Pn**	**07 01 29.6**	**+0.6**
U32A	**Winter Ranch,**	**1.85**	**280**	P		**Pn**	**07 01 29.7**	**+0.6**
	baz=98,SNR=29							
U32A				Sb		**Sb**	**07 01 55.4**	**+1.0**
	baz=98							
X37A	**Clayton**	**1.87**	**143**	Pn		**Pn**	**07 01 29.6**	**+0.4**
X37A	**Clayton**	**1.87**	**143**	P		**Pn**	**07 01 29.9**	**+0.7**
	baz=324,SNR=82							
X37A				Sb		**Sg**	**07 01 57.0**	**-0.3**
	baz=324							
WMOK	**Wichita Mounta**	**2.15**	**232**			**Pn**	**07 01 33.5**	**+0.4**
WMOK	**Wichita Mounta**	**2.15**	**232**	P		**Pn**	**07 01 33.8**	**+0.8**
	baz=50,SNR=75							
W39A	**Magazine**	**2.57**	**109**	IAmb_Lg			07 02 20.7	
	comp=Z,36nm,0.8s							
W39A	**Magazine**	**2.57**	**109**	P		**Pn**	**07 01 39.1**	**+0.3**
	baz=291,SNR=31							
KSU1	**Kansas State U**	**3.01**	**2**	IAmb_Lg			07 02 34.7	
	comp=Z,27nm,0.7s							
U40A	**Yellville**	**3.15**	**84**	P		**Pn**	**07 01 47.5**	**+0.5**
	baz=266,SNR=24							
U40A				P		**Pn**	**07 01 47.5**	**+0.5**
	baz=266,SNR=24							
S39A	**Bolivar**	**3.17**	**59**	P		**Pn**	**07 01 48.1**	**+1.0**
	baz=241,SNR=31							
Z38A	**Mt. Pleasant**	**3.17**	**152**	IAmb_Lg			07 02 42.0	
	comp=Z,32nm,0.8s							
X40A	**Basin Creek Fa**	**3.57**	**115**	P		**Pn**	**07 01 53.5**	**+0.9**
	baz=298,SNR=12							
X40A				P		**Pn**	**07 01 53.5**	**+0.9**
	baz=298,SNR=12							
CBKS	**Cedar Bluff**	**3.62**	**320**	IAmb_Lg			07 02 53.6	
	comp=Z,27nm,0.7s							
WHAR	**Wooly Hollow**	**3.71**	**101**	IAmb_Lg			07 02 57.2	
	comp=Z,43nm,0.8s							
FCAR	**Ozark Folk Cen**	**3.75**	**92**	IAmb_Lg			07 03 00.6	
	comp=Z,30nm,0.9s							
MGMO	**Mountain Grove**	**3.75**	**72**	IAmb_Lg			07 02 57.1	
	comp=Z,56nm,0.8s							
W41B	**Gary Mavity, V**	**3.77**	**103**			**Pn**	**07 01 55.4**	**0.0**
W41B				IAmb_Lg			07 03 02.4	
	comp=Z,21nm,0.7s							
W41B	**Gary Mavity, V**	**3.77**	**103**	P		**Pn**	**07 01 56.0**	**+0.6**
	baz=285,SNR=41							
W41B				S		**Sn**	**07 02 40.9**	**+1.1**
	baz=285							
UALR	**University of**	**3.82**	**109**	IAmb_Lg			07 03 05.9	
	comp=Z,30nm,1.1s							
WHTX	**Lake Whitney,**	**4.13**	**188**	P		**Pn**	**07 02 01.1**	**+0.7**
	baz=8.1							
R40A	**Maddies Statio**	**4.19**	**57**			**Pn**	**07 02 01.5**	**+0.3**
R40A				IAmb_Lg			07 03 11.8	
	comp=Z,27nm,0.8s							
R40A	**Maddies Statio**	**4.19**	**57**	P		**Pn**	**07 02 01.8**	**+0.6**
	baz=240,SNR=15							
P38A	**Dawn**	**4.35**	**35**	IAmb_Lg			07 03 15.7	
	comp=Z,28nm,0.8s							
LCAR	**Lake Charles**	**4.52**	**89**	IAmb_Lg			07 03 20.6	
	comp=Z,26nm,0.8s							
N33A	**J Bar K, Exete**	**4.67**	**353**	IAmb_Lg			07 03 29.0	
	comp=Z,31nm,0.8s							
CCM	**Cathedral Cave**	**4.81**	**64**	IAmb_Lg			07 03 27.1	
	comp=Z,36nm,0.8s							
N35A	**Tabor**	**4.84**	**10**	IAmb_Lg			07 03 35.7	
	comp=Z,37nm,0.8s							
P40A	**Paris**	**5.06**	**46**	IAmb_Lg			07 03 35.9	
	comp=Z,27nm,0.7s							
PBMO	**Poplar Bluff**	**5.13**	**80**	IAmb_Lg			07 03 43.1	
	comp=Z,39nm,0.8s							
BGNE	**Belgrade**	**5.42**	**349**	IAmb_Lg			07 03 57.3	
	comp=Z,34nm,0.8s							
N38A	**Joes South For**	**5.44**	**29**	IAmb_Lg			07 03 56.9	
	comp=Z,32nm,1.0s							
OXF	**Oxford**	**6.20**	**103**	IAmb_Lg			07 04 14.2	
	comp=Z,14nm,0.8s							
S44A	**Carbondale**	**6.21**	**73**	IAmb_Lg			07 04 11.3	
	comp=Z,26nm,0.8s							
W45A	**Hickory Valley**	**6.22**	**96**	IAmb_Lg			07 04 18.7	
	comp=Z,27nm,0.8s							
SIUC	**Southern Illin**	**6.24**	**73**	IAmb_Lg			07 04 24.7	
	comp=Z,32nm,0.8s							
T25A	**Trinidad**	**6.26**	**282**	IAmb_Lg			07 04 15.1	
	comp=Z,17nm,0.9s							
SCIA	**State Center**	**6.42**	**24**	IAmb_Lg			07 04 34.8	
	comp=Z,18nm,0.9s							
N41A	**Harden Midland**	**6.53**	**43**	IAmb_Lg			07 04 22.1	
	comp=Z,28nm,0.9s							
K31A	**O'Neill**	**6.71**	**347**	IAmb_Lg			07 04 36.7	
	comp=Z,28nm,0.8s							
PLAL	**Pickwick Lake**	**7.15**	**96**	IAmb_Lg			07 04 47.5	
	comp=Z,9.5nm,1.0s							
WVT	**Waverly**	**7.21**	**87**	IAmb_Lg			07 04 52.1	
	comp=Z,10nm,0.9s							
K38A	**Parkersburg**	**7.23**	**24**	IAmb_Lg			07 05 03.8	
	comp=Z,24nm,1.2s							
O44A	**Mansfield**	**7.68**	**56**	IAmb_Lg			07 05 05.6	
	comp=Z,19nm,0.7s							
V48A	**Smith Brothers**	**8.05**	**90**	IAmb_Lg			07 05 17.7	
	comp=Z,10nm,1.0s							
L42A	**Oliver, Polo**	**8.07**	**41**	IAmb_Lg			07 05 19.9	
	comp=Z,16nm,0.8s							
P46A	**Rosedale**	**8.32**	**62**	IAmb_Lg			07 05 20.5	
	comp=Z,24nm,0.9s							
JFWS	**Jewell Farm**	**8.46**	**34**	IAmb_Lg			07 05 34.0	
	comp=Z,9.8nm,0.7s							
SUSD	**Miller**	**8.51**	**349**	IAmb_Lg			07 05 42.3	
	comp=Z,13nm,0.9s							
N23A	**Red Feather La**	**8.66**	**306**	IAmb_Lg			07 05 40.3	
	comp=Z,9.5nm,0.9s							
SFIN	**Lafayette**	**8.71**	**58**	IAmb_Lg			07 05 30.1	
	comp=Z,20nm,0.9s							

*IDC **21** 07:37:53.5±1.6,5.°98N×126.°25E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.4/52,mbtmp3.6/5,MS2.8/1,Ms1 2.8/1, ms1mx2.2/76,Error ellipse: s-maj=116.0km s-min=22.0km az=69.0*
*MAN **21** 07:38:06.3,6.°27N×126.°07E,h4km,mb4.3,ML3.1,MS2.8, Hypocentre not reviewed by the ISC*
ISC 21 07:38:03.9±1.3,**6.°2N**±0.°2×**126.°6E**±0.°4,**h100**km,**n14**, σ2**s26**/8,**mb3.6**/5,**1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MATI	**Mati**	**0.82**	**334**	*e*P		**Pn**	**07 38 19.6**	**-2.8**
DDMP	**Don Marcelino,**	**0.91**	**264**	*e*P		Pn	07 38 14.2	-9.1
GSPH	**General Santos**	**1.66**	**266**	*e*P		Pn	07 38 24.5	-7.8
BIPH	**Bislig**	**1.98**	**353**	⇑*e*P		Pn	07 38 40.5	+4.2
BIPH				*e*S		Sn	07 39 30.4	+29
BUKP	**Musuan**	**2.27**	**317**	*e*P		**Pn**	**07 38 39.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.17**	**182**	P		**P**	**07 43 09.8**	**-1.1**
	2.2nm,0.4s,baz=355,slow=8.3,SNR=7.6							
WRA	**Warramunga Arr**	**27.07**	**164**	P		**P**	**07 43 37.0**	**-0.2**
	0.7nm,0.7s,baz=342,slow=10,SNR=7.6							
ASAR	**Alice Springs**	**30.53**	**167**	P		**P**	**07 44 07.2**	**-0.8**
	0.4nm,0.6s,baz=345,slow=6.7,SNR=4.9							
ASAR				PcP		**PcP**	**07 47 07.3**	**+2.6**
	0.3nm,0.5s,baz=333,slow=2.3,SNR=2.1							
MJAR	**Matsushiro Arr**	**32.01**	**18**	LR		LR	07 57 10.9	
	comp=Z,15nm,20.1s,baz=200,slow=36							
H11S3	**WAKE ISLAND Hy**	**40.90**	**69**	T		T	08 29 34.7	
	baz=258							
H11S1	**WAKE ISLAND Hy**	**40.91**	**69**	T		T	08 29 33.5	
	baz=259							
H11S2	**WAKE ISLAND Hy**	**40.91**	**69**	T		T	08 29 33.6	
	baz=258							
MKAR	**Makanchi Array**	**55.48**	**324**	P		**P**	**07 47 29.2**	**+0.8**
	0.5nm,0.7s,baz=108,slow=8.2,SNR=2.5							
KURBB	**Kurchatov Arra**	**59.62**	**327**	P		**P**	**07 47 60.0**	**+2.7**
	0.3nm,0.5s,baz=122,slow=6.8,SNR=3.0							

*KRSC **21** 09:00:02.7±1.3,55.°73N×164.°03E,h52km±25km,ML4.1*
*IDC **21** 09:00:08.7±1.6,55.°84N×163.°11E,h0km,mb3.3/5, mb1 3.7/6,mb1mx3.3/60,mbtmp3.3/6,ML2.6/1,MS2.2/1, Ms1 2.2/1,ms1mx2.0/51,Error ellipse: s-maj=93.6km s-min=25.0km az=140.0*
ISC 21 09:00:09.4±0.8,**55.°76N**±0.°04×**163.°19E**±0.°05,**h10**km,**n44**, σ1**s66**/54,**mb3.3**/5,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KBTR	**Krutoberegovo**	**0.49**	**335**	*e*P		**Pb**	**09 00 17.6**	**-2.6**
KBTR				*e*S		**Sb**	**09 00 29.1**	**+1.7**
SMKR	**Semkarok**	**1.27**	**311**	*e*P		**Pb**	**09 00 31.3**	**-2.0**
ZLN	**Zelenaya**	**1.37**	**282**	*e*P		**Pg**	**09 00 35.2**	**-0.4**
BDR	**Baidarnaya**	**1.37**	**307**	*e*P		**Pg**	**09 00 34.1**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**1.42**	**278**	*e*P		**Pg**	**09 00 35.2**	**-1.3**
SRKR	**Sorokina**	**1.44**	**309**	*e*P		**Pb**	**09 00 34.2**	**-2.1**
MKZ	**Mys Kozlova**	**1.47**	**215**	*e*P		**Pn**	**09 00 32.9**	**-2.9**
MKZ				*e*S		**Sn**	**09 00 54.3**	**-0.8**
KLY	**Klyuchi**	**1.53**	**292**	*e*P		**Pn**	**09 00 34.7**	**-2.0**
KLY				*e*S		**Sg**	**09 00 58.7**	**+0.3**
BZWR	**Bezymyannyi-We**	**1.53**	**279**	*e*P		**Pg**	**09 00 37.3**	**-1.4**
KIRR	**Kirishev**	**1.61**	**278**	*e*P		**Pg**	**09 00 38.4**	**-1.9**
KMNR	**Kamenistaya**	**1.67**	**271**	*e*P		**Pb**	**09 00 39.3**	**-0.9**
BKI	**Bering**	**1.68**	**108**	*e*P		Pn	09 00 24.8	-14
BKI				*e*S		Sn	09 00 41.1	-19
TUMD	**Tumrok D**	**1.68**	**252**	*e*P		**Pb**	**09 00 39.4**	**-1.0**
TUMD				*e*S		**Sg**	**09 01 05.9**	**+2.5**
TUMR	**Tumrok**	**1.79**	**256**	*e*P		**Pb**	**09 00 41.4**	**-1.0**
ESO	**Esso**	**2.54**	**276**	*e*P		**Pn**	**09 00 50.6**	**0.0**
KII	**Karymskiy**	**2.76**	**233**	*e*P		**Pn**	**09 00 54.0**	**+0.2**
KII				*e*S		**Sb**	**09 01 31.3**	**-1.5**
SPN	**Mys Shipunski**	**3.25**	**216**	*e*P		**Pn**	**09 00 58.3**	**-2.0**
SPN				*e*S		**Sn**	**09 01 35.0**	**-3.9**
NLC	**Nalytchevo**	**3.43**	**222**	*e*P		**Pn**	**09 01 02.2**	**-0.6**
NLC				*e*S		**Sn**	**09 01 42.8**	**-0.6**
OSSR	**Ossora**	**3.50**	**359**	*e*P		Pn	09 00 57.0	-6.8
SDLR	**Sedlovina**	**3.53**	**227**	*e*P		**Pn**	**09 01 03.6**	**-0.7**
KRER	**Koryakskii**	**3.57**	**228**	*e*P		**Pn**	**09 01 04.5**	**-0.4**
KRX	**Arik**	**3.57**	**230**	*e*P		**Pn**	**09 01 04.3**	**-0.6**
KRX				*e*S		**Sn**	**09 01 50.1**	**+2.9**
SMAR	**Somma**	**3.58**	**227**	*e*P		**Pn**	**09 01 04.5**	**-0.5**
AVH	**Avacha**	**3.60**	**228**	*e*P		**Pn**	**09 01 05.1**	**-0.2**
UGLR	**Uglovaya**	**3.61**	**227**	*e*P		**Pn**	**09 01 04.9**	**-0.5**
UGLR				*e*S		**Sn**	**09 01 49.8**	**+1.8**
KOK	**Koryaka**	**3.62**	**229**	*e*P		**Pn**	**09 01 05.0**	**-0.6**
GNL	**Ganaly**	**3.68**	**238**	*e*P		**Pn**	**09 01 06.7**	**+0.4**
DALK	**Dalny**	**3.77**	**225**	*e*P		**Pn**	**09 01 06.4**	**-1.0**
DALK				*e*S		**Sn**	**09 01 52.4**	**+0.6**
PET	**Petropavlovsk**	**3.81**	**226**	*e*P		**Pn**	**09 01 07.4**	**-0.7**
PET				*e*S		**Sn**	**09 01 55.2**	**+2.3**
PETK	**Petropavlovsk-**	**4.16**	**233**	Pn		**Pn**	**09 01 13.0**	**+0.1**
	1.9nm,0.3s,baz=284,slow=18,SNR=2.8							
PETK				Sn		**Sn**	**09 02 04.6**	**+3.0**
	0.8nm,0.3s,baz=260,slow=17,SNR=1.3							
PETK				LR		LR	09 03 06.1	
	comp=Z,20nm,22.0s,baz=9.6,slow=42							
KRMR	**Karymshinskiy**	**4.17**	**227**	*e*P		**Pn**	**09 01 13.3**	**+0.3**
KRMR				*e*S		**Sn**	**09 02 05.7**	**+4.0**
GRL	**Gorelyy**	**4.40**	**225**	*e*P		**Pn**	**09 01 16.5**	**+0.2**
MTVR	**Mutnovka**	**4.41**	**224**	*e*P		**Pn**	**09 01 15.9**	**-0.5**
MTVR				*e*S		**Sn**	**09 02 08.1**	**+0.3**
APC	**Apacha**	**4.53**	**234**	P		**Pn**	**09 01 17.6**	**-0.3**
ASAK	**Asacha**	**4.60**	**225**	*e*P		**Pn**	**09 01 19.2**	**+0.3**
KDTR	**Khodutka, Kamc**	**4.98**	**220**	*e*P		**Pn**	**09 01 22.1**	**-2.0**
KDTR				*e*S		**Sn**	**09 02 18.6**	**-3.1**
ILAR	**Eielson Array**	**25.67**	**49**	P		**P**	**09 05 38.0**	**-1.0**
	0.3nm,0.6s,baz=264,slow=8.1,SNR=4.5							
INK	**Inuvik**	**30.66**	**41**	P		**P**	**09 06 24.4**	**+1.0**
	0.6nm,0.7s,baz=290,slow=8.0,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**36.08**	**174**	T		T	09 45 57.8	
	baz=357							
H11N3	**WAKE ISLAND Hy**	**36.09**	**174**	T		T	09 46 07.2	
	baz=357,slow=74							
H11N1	**WAKE ISLAND Hy**	**36.10**	**174**	T		T	09 46 03.2	
	baz=357,slow=74							
YKA	**Yellowknife Ar**	**39.99**	**46**	P		**P**	**09 07 44.6**	**+1.0**
	0.2nm,0.5s,baz=299,slow=8.4,SNR=4.4							
NVAR	**Mina Array Bea**	**53.20**	**74**	P		**P**	**09 09 29.3**	**+1.5**
	0.3nm,0.7s,baz=300,slow=7.2,SNR=2.6							
TXAR	**Lajitas Array**	**67.98**	**70**	P		**P**	**09 11 09.9**	**+1.3**
	0.2nm,0.6s,baz=301,slow=5.0,SNR=5.2							

*IDC **21** 09:09:05.8±3.0,53.°59N×87.°98E,h0km,mb1 3.1/2, mb1mx2.8/56,mbtmp3.1/2,ML2.8/2,Error ellipse: s-maj=24.0km s-min=15.3km az=63.0*
*NNC **21** 09:09:10.2±4.8,53.°39N×87.°66E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=37.8km s-min=30.2km az=31.0, Suspected Mining explosion.*
ISC 21 09:09:08.7±3.9,**53.6N**±0.°1×**87.°7E**±0.°2,**h0**km,**n7**,σ0**s70**/10, **4C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**284**	*i*			09 21 20.0	
	baz=98,slow=322,SNR=3.5							
ZALV	**Zalesovo Beam**	**1.73**	**284**	Pg		**Pn**	**09 09 39.9**	**-0.2**
	3.3nm,0.3s,baz=96,slow=16,SNR=28							
ZALV				Lg		Lg	09 10 06.6	
	8.7nm,0.3s,baz=102,slow=25,SNR=30							
KURK	**Kurchatov**	**6.26**	**246**	⇑Pn		**Pn**	**09 10 42.8**	**+0.7**
	1.9nm,0.7s							
KURK				⇑Lg		Lg	09 12 27.9	
	6.5nm,1.1s							
KURBB	**Kurchatov Arra**	**6.36**	**246**	Pn		**Pn**	**09 10 44.0**	**+0.5**
	0.1nm,0.3s,baz=62,slow=14,SNR=4.9							
KURBB				Sn		**Sn**	**09 11 57.5**	**+0.8**
	0.1nm,0.3s,baz=64,slow=24,SNR=3.2							
KURBB				Lg		Lg	09 12 32.5	
	0.1nm,0.3s,baz=62,slow=31,SNR=4.4							
KURBB	**Kurchatov Arra**	**6.36**	**246**	⇑Pn		**Pn**	**09 10 43.6**	**+0.1**
	2.1nm,0.6s							
KURBB				⇓Sn		**Sn**	**09 11 55.8**	**-0.9**
	4.4nm,0.6s							
KURBB				⇓Lg		Lg	09 12 32.3	
	8.9nm,0.8s							
MK31	**Makanchi Array**	**7.61**	**209**	Pn		**Pn**	**09 11 01.5**	**+0.8**
	0.6nm,0.6s,baz=29,slow=14,SNR=8.1							
MK31				⇑Sn		**Sn**	**09 12 27.0**	**-0.6**
	0.2nm,0.4s							
MK31				⇓Lg		Lg	09 13 07.5	
	1.2nm,0.6s,baz=28,slow=30,SNR=3.9							
MKAR	**Makanchi Array**	**7.61**	**209**	Pn		**Pn**	**09 11

baz=248
HGSD S Sb 09 23 56.7 -0.5
baz=248
ECBN Changbin 1.06 244 *e*S Sb 09 23 58.5 0.0
baz=228
NDS Dongshan 1.10 320 *i* P Pb 09 23 45.5 -0.1
baz=314
NDS S Sb 09 23 59.2 -0.5
baz=314
EHY Hungye 1.10 256 *i* P Pb 09 23 45.4 -0.3
baz=250
EHY S Sb 09 23 59.6 -0.2
baz=250
LATG Datong 1.16 311 P Pn 09 23 45.9 -0.6
baz=303
LATG S Sg 09 24 03.0 +0.4
baz=303
EYUL Yuli 1.16 248 P Pn 09 23 45.2 -1.2
baz=243
EYUL *e*S Sb 09 24 00.9 -0.4
baz=243
YULB Yu-li 1.16 251 P Pn 09 23 46.3 -0.1
baz=246
YULB S Sb 09 24 00.4 -1.0
baz=246
EGS 1.17 334 *i* P Pb 09 23 47.0 +0.1
baz=317
EGS S Sg 09 24 03.0 -0.1
baz=317
WHF Hehuan Shan 1.18 288 *i* P Pn 09 23 46.3 -0.8
baz=270
WHF S Sb 09 24 01.2 -1.0
baz=270
NNSB Datong 1.20 303 P Pn 09 23 46.6 -0.5
baz=288
TWE Neicheng 1.20 321 *i* P Pn 09 23 47.1 +0.2
baz=316
TWE S Sb 09 24 02.6 +0.1
baz=316
ENTT Nioudou 1.20 316 *i* P Pn 09 23 46.9 -0.2
baz=298
NDT Datong Townshi 1.21 313 *i* P Pn 09 23 47.1 0.0
baz=306
NDT *i* S Sg 09 24 03.9 -0.3
baz=306
NNS Nan Shan 1.21 303 *i* P Pn 09 23 46.6 -0.6
baz=299
OWD Renai 1.22 278 *i* P Pn 09 23 46.8 -0.6
baz=272
OWD *i* S Sb 09 24 02.1 -0.9
baz=272
NTC Toucheng 1.23 331 *i* P Pb 09 23 48.0 +0.3
baz=326
NTC S Sn 09 24 04.0 +0.5
baz=326
FUSS Fushou 1.23 292 P Pn 09 23 46.0 -1.6
baz=276
CHGB Renai 1.23 283 P Pn 09 23 47.2 -0.4
baz=268
HATJ Hateruma jima 1.23 77 *e*S Sn 09 24 04.0 +0.3
VWDT VWDT 1.23 269 P Pn 09 23 47.3 -0.1
baz=263
VWDT S Sb 09 24 02.9 -0.6
baz=263
CHKT Chengkung 1.24 237 *i* S Sb 09 24 01.8 -1.7
baz=222
FULB Fuli 1.24 242 P Pn 09 23 46.6 -0.9
baz=227
FULB S Sb 09 24 03.0 -0.8
baz=227
IRIF Iriomote-Funau 1.26 64 S Sn 09 24 04.4 0.0
WUSB Renai 1.27 280 P Pn 09 23 47.7 -0.4
baz=273
WUSB S Sb 09 24 03.0 -1.7
baz=273
FUSB Fushanzhiwuyua 1.27 320 P Pn 09 23 48.3 +0.2
baz=301
FUSB *e*S Sg 09 24 06.3 0.0
baz=301
TWT Tachien 1.29 292 *e*P Pn 09 23 48.4 0.0
baz=277
TDCB Techi 1.30 291 P Pn 09 23 48.3 -0.3
baz=277
TWB1 Santiao Chiao 1.30 340 *i* P Pn 09 23 48.1 -0.4
baz=337
TIPB Shuangxi 1.33 333 *i* P Pb 09 23 49.4 -0.1
baz=328
TIPB *i* S Sn 09 24 05.2 -0.9
baz=328
NWLT Wulai 1.34 318 *i* P Pn 09 23 49.1 +0.2
baz=312
NWLT *e*S Sb 09 24 06.7 +0.1
baz=312
YHNB Yeheng 1.35 311 P Pn 09 23 49.0 -0.1
baz=304
YHNB *e*S Sn 09 24 06.2 -0.4
baz=304
EDH Donghe 1.35 234 *i* P Pn 09 23 48.5 -0.6
baz=221
EDH *i* S Sn 09 24 04.8 -1.9
baz=221
SSLB Suanglung 1.41 271 P Pn 09 23 50.0 +0.1
baz=266
SXI1 Grass Mountain 1.42 337 P Pn 09 23 49.6 -0.5
baz=333
SXI1 *e*S Sb 09 24 09.0 +0.1
baz=333
NWF Wu-fen Shan 1.44 333 *i* P Pn 09 23 50.3 -0.1
baz=329
NWF S Sn 09 24 08.7 -0.2
baz=329
LDUT Ludao 1.45 221 P Pn 09 23 49.4 -1.0
baz=218
LDUT *i* S Sn 09 24 07.1 -1.9
baz=218
TWA Mucha 1.45 325 P Pn 09 23 50.9 +0.4
baz=320
TWA S Sb 09 24 10.6 +0.8
baz=320
SMLT Sun Moon Lake 1.46 274 *i* P Pn 09 23 50.9 +0.3
baz=268
SMLT S Sn 09 24 09.7 +0.2
baz=268
JKRS Kuro-shima 1.46 72 P Pb 09 23 52.0 +0.3
JKRS *e*S Sb 09 24 10.9 +0.9
NHDH Xindian Distri 1.47 323 P Pb 09 23 51.4 -0.4
baz=336
WCS Beigang Elemen 1.47 281 P Pn 09 23 51.1 +0.4
baz=267
WCS *e*S Sn 09 24 10.0 +0.4
baz=267
ELDTW Lidau 1.48 247 P Pn 09 23 49.2 -1.7
baz=242
ELDTW *i* S Sn 09 24 08.7 -1.2
baz=242
WHP Taichung City 1.50 290 *i* P Pb 09 23 52.2 -0.2
baz=283
WHP S Sn 09 24 10.4 +0.1
baz=283
TYC Yuchr 1.50 275 *i* P Pn 09 23 51.6 +0.5
baz=269
TYC S Sn 09 24 09.7 -0.5
baz=269
NFF Wufeng Townshi 1.51 304 P Pb 09 23 52.2 -0.4
baz=300
LONT Longtian 1.52 235 P Pn 09 23 50.5 -0.9
baz=223
LONT *i* S Sn 09 24 10.6 -0.3
baz=223
ALS Alishan 1.57 260 *i* P Pn 09 23 52.9 +0.6
baz=255
ALS *i* S Sn 09 24 12.1 -0.3
baz=255
YM01 YM01 1.60 329 *e*P Pb 09 23 53.8 -0.3
baz=340
YM01 *e*S Sn 09 24 12.9 +0.2
baz=340
LIOB Emei 1.60 303 P Pb 09 23 53.9 -0.1
baz=285
LIOB S Sb 09 24 14.1 +0.2
baz=285
NSTT Nanjuang 1.60 302 *i* P Pb 09 23 53.7 -0.4
baz=284
NSTT *i* S Sb 09 24 14.3 +0.2
baz=284
TWGBT Beinan 1.61 234 P Pn 09 23 52.0 -0.7
baz=221
TWGBT S Sn 09 24 12.7 -0.4
baz=221
WJS Zhushan 1.61 272 P Pn 09 23 53.7 +1.0
baz=256
WJS *e*S Sb 09 24 15.7 +1.2
baz=256
TWG Pinlang 1.62 234 *i* P Pn 09 23 52.1 -0.6
baz=221
TWG S Sn 09 24 12.8 -0.4
baz=221
JIJ Ishigaki jima 1.62 69 P Pb 09 23 54.1 -0.3
JIJ *e*S Sb 09 24 14.3 -0.2
TWS1 Kuangyinshan 1.64 324 *e*P Pn 09 23 53.2 +0.2
baz=338
ANP Anpu 1.65 328 *e*P Pn 09 23 53.5 +0.2
baz=325
TWQ1 Liyutan 1.67 290 *i* P Pb 09 23 54.8 -0.4
baz=283
TWQ1 S Sb 09 24 17.4 +1.5
baz=283
CHN5 Tsauling 1.67 264 *i* P Pn 09 23 54.6 +1.1
baz=258
CHN5 *i* S Sb 09 24 16.1 -0.1
baz=258
STYH Taoyuan 1.69 249 P Pn 09 23 54.5 +0.9
baz=236
STYH S Sn 09 24 15.0 +0.1
baz=236
TCU Taichung 1.70 283 P Pb 09 23 55.9 +0.1
baz=276
TCU S Sb 09 24 17.6 +0.8
baz=276
NMLH Miaoli 1.72 296 P Pb 09 23 56.1 -0.1
baz=291
TPUB Ta-pu 1.77 255 P Pn 09 23 56.2 +1.3
baz=241
TPUB S Sb 09 24 18.9 -0.2
baz=241
WDJ Dajia District 1.78 289 *e*P Pn 09 23 55.1 +0.2
baz=281
WDJ *e*S Sb 09 24 19.6 +0.3
baz=281
WDLH Douliu 1.79 267 P Pb 09 23 58.2 +0.9
baz=261
WDLH *i* S Sb 09 24 20.7 +1.2
baz=261
CHN4 Tsaushan 1.79 257 *i* P Pb 09 23 57.3 0.0
baz=241
CHN4 *i* S Sb 09 24 20.7 +1.2
baz=241
WCHH Zhanghua 1.79 280 S Sb 09 24 20.8 +1.3
baz=273
WTP Ta-pu 1.80 253 *i* P Pb 09 23 57.3 -0.2
baz=248
WTP *i* S Sb 09 24 20.5 +0.6
baz=248
JISG Ishigakijimahi 1.85 64 P Pn 09 23 56.9 +1.0
JISG *e*S Sn 09 24 19.8 +1.0
SGST Jiashian 1.88 249 *e*S Sb 09 24 21.5 -0.7
baz=234
CHN1 Nanshi 1.90 252 *i* P Pb 09 23 58.7 -0.4
baz=247
CHN1 *i* S Sb 09 24 23.2 +0.6
baz=247
TWK Hsinying 1.91 255 *i* P Pb 09 23 58.7 -0.7
baz=249
TWK *i* S Sb 09 24 23.5 +0.5
baz=249
SNST Tainan City 1.91 253 P Pb 09 24 00.1 +0.7
baz=248
SNST *i* S Sb 09 24 23.5 +0.5
baz=248
CHY Chiayi 1.92 262 *e*S Sb 09 24 24.1 +1.0
baz=256
WTK Tuku 1.93 268 P Pn 09 23 57.4 +0.4
baz=261
WTK *e*S Sb 09 24 23.3 -0.1
baz=261
WRL Guolierlin Hig 1.94 274 P Pb 09 23 59.3 -0.6
baz=257
WRL S Sb 09 24 24.0 +0.3
baz=257
LYUB Lan-yu 1.96 205 *e*S Sn 09 24 20.0 -1.6
baz=204
SSD Sandimen 2.00 239 P Pn 09 23 58.8 +0.9
baz=230
SSD *e*S Sn 09 24 22.4 -0.1
baz=230
TSMG Majia 2.01 238 P Pn 09 23 59.8 +1.7
baz=229
TSMG S Sn 09 24 22.8 0.0
baz=229
SCST Cishan 2.04 244 *e*S Sb 09 24 27.9 +1.2
baz=231
EAST Anshuo 2.06 228 *e*S Sn 09 24 22.5 -1.5
baz=233
TAWH Dawu Township 2.06 226 *e*S Sn 09 24 22.9 -1.2
baz=232
ICHU Yijhu 2.07 259 *e*S Sb 09 24 27.0 -0.6
baz=252
SSPT Xinbi 2.19 234 P Pb 09 24 03.0 -1.1
baz=224
SSPT *e*S Sn 09 24 28.1 +0.8
baz=224
SLIU Shizi 2.20 225 *i* P Pn 09 24 01.6 +0.7
baz=230
SLIU *e*S Sn 09 24 28.0 +0.3
baz=230
SCZT Fangliau 2.22 231 *i* P Pn 09 24 03.0 +1.9
baz=221
SCZT *e*S Sn 09 24 29.5 +1.4
baz=221
TSEB Hengchuen, Pin 2.38 218 *e*S Sn 09 24 34.3 +2.4
baz=224
WDGT Dungji 2.65 259 *e*P Pn 09 24 08.7 +1.8
baz=254
PHUB P'eng-hu 2.69 265 *e*P Pn 09 24 08.6 +1.1
baz=247
PHUB S Sn 09 24 40.4 +0.8
baz=247
PNG Penghu 2.70 266 *e*P Pn 09 24 09.3 +1.7
baz=248
PNG *e*S Sn 09 24 40.8 +0.9
baz=248

IDC 21 09:34:58.5±62.0, 16°.12S×178°.64W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/33, mbtmp3.7/3, Error ellipse: s-maj=1142.0km s-min=170.0km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.32**	**239**	P	P	09 42 29.4	-0.1
	0.7nm,0.5s,baz=81,slow=13,SNR=1.6						
WRA	**Warramunga Arr**	**44.77**	**258**	P	P	09 43 14.1	-0.1
	0.4nm,0.6s,baz=91,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**45.09**	**253**	P	P	09 43 16.6	-0.2
	1.2nm,0.5s,baz=88,slow=7.9,SNR=40						

*IDC **21** 09:43:56.8±0.8, 32°.89N×131°.18E, h0km, mb3.7/11, mb1 4.0/13, mb1mx3.9/46, mbtmp3.7/13, ML3.3/2, MS3.3/17, Ms1 3.3/17, ms1mx3.0/97, Error ellipse: s-maj=20.4km s-min=6.7km az=43.0*

*NIED **21** 09:43:57.3, 33°.01N×131°.23E, h11km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=0.04; Mθθ=1.18; Mφφ=-1.13; Mrθ=0.57; Mθφ=1.48; Mφr=0.83; Fault plane solution: M0=2.12000×10^15^ NP1: φs=291.00000°, δ=63.00000°, λ=4.00000°. NP2: φs=199.00000°, δ=86.00000°, λ=153.00000°.*

*JMA **21** 09:43:57.3, 33°.01N×131°.23E, h11km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs=198.00000°, δ=81.00000°, λ=152.00000°. NP2: φs=293.00000°, δ=62.00000°, λ=10.00000°. Principal axes: T Plg=26.0000°, Azm=152.0000°; N Plg=61.0000°, Azm=2.0000°; P Plg=13.0000°, Azm=248.0000°;*

JMA Felt IV J1.

ISC 21 09:43:58.9±0.6, 32°.94N±0°.05×131°.24E±0°.03, h12km, n36, σ=1.9§45/24, mb3.6/11, MS3.4/13, 1C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.35**	**300**	Pg	**Pg**	**09 44 03.5**	**-2.5**
	1μm,0.3s,baz=95,slow=4.7,SNR=1588						
JNU				Lg	Lg	09 44 07.8	
	6μm,0.3s,baz=66,slow=8.0,SNR=86						
JNU	**Nakatsue**	**0.35**	**300**	⇑P	**Pg**	**09 44 03.8**	**-2.2**
JNU				S	**Sg**	**09 44 08.3**	**-2.5**
JUS	**Usuki**	**0.45**	**74**	⇓P	**Pg**	**09 44 05.7**	**-2.1**
JUS				S	**Sg**	**09 44 12.2**	**-1.5**
JIU3	**Izumi3**	**0.53**	**222**	⇓P	**Pg**	**09 44 08.4**	**-1.0**
JIU3				S	**Sg**	**09 44 16.2**	**-0.3**
JTA	**Tamana**	**0.59**	**272**	⇓P	**Pg**	**09 44 08.7**	**-1.8**
KSRS	**Korea Array**	**5.25**	**330**	Pn	**Pn**	**09 45 18.4**	**+1.1**
	0.8nm,0.3s,baz=145,slow=14,SNR=10						
KSRS				Pg	**Pb**	**09 45 33.4**	**+2.7**
	3.3nm,0.3s,baz=151,slow=17,SNR=19						
KSRS				Sn	**Sn**	**09 46 18.3**	**+0.6**
	1.5nm,0.3s,baz=148,slow=30,SNR=5.7						
KSRS				Lg	Lg	09 46 38.9	
	3.2nm,0.3s,baz=152,slow=29,SNR=5.3						
MJAR	**Matsushiro Arr**	**6.77**	**56**	Pn	**Pn**	**09 45 38.9**	**+0.8**
	0.7nm,0.3s,baz=238,slow=14,SNR=26						
MJAR				LR	LR	09 48 14.4	
	comp=Z,225nm,21.2s,baz=219,slow=38						
JCJ	**Chichijima**	**11.13**	**119**	LR	LR	09 50 30.7	
	comp=Z,53nm,19.5s,baz=120,slow=35						
USRK	**Ussuriysk Ar.**	**11.25**	**3**	LR	LR	09 50 35.9	
	comp=Z,117nm,18.9s,baz=192,slow=35						
KLR	**Kul'dur**	**16.27**	**1**	Pn	**P**	**09 47 51.6**	**+1.4**
	0.3nm,0.3s,baz=177,slow=8.2,SNR=8.4						
KLR				LR	LR	09 53 24.0	
	comp=Z,58nm,19.0s,baz=182,slow=35						
SONM	**Songino Array**	**23.93**	**316**	P	**P**	**09 49 13.2**	**+0.3**
	1.3nm,0.6s,baz=126,slow=11,SNR=7.3						
PETK	**Petropavlovsk-**	**27.67**	**35**	LR	LR	10 02 46.9	
	comp=Z,32nm,18.1s,baz=88,slow=41						
YAK	**Yakutsk**	**29.12**	**358**	LR	LR	10 02 54.4	
	comp=Z,14nm,19.8s,baz=93,slow=39						
CMAR	**Chiang Mai Arr**	**32.33**	**252**	P	**P**	**09 50 28.0**	**-0.2**
	0.9nm,0.4s,baz=57,slow=5.6,SNR=6.6						
CMAR				LR	LR	10 03 56.1	
	comp=Z,34nm,19.1s,baz=170,slow=37						
H11N2	**WAKE ISLAND Hy**	**34.39**	**104**	T	T	10 26 49.6	
	baz=290						
H11N1	**WAKE ISLAND Hy**	**34.39**	**104**	T	T	10 26 52.1	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**34.41**	**104**	T	T	10 26 50.4	
	baz=290						
SHEM	**Shemya Is, Ala**	**36.44**	**44**	LR	LR	10 04 12.0	
	comp=Z,24nm,21.5s,baz=321,slow=33						
ZALV	**Zalesovo Beam**	**38.81**	**317**	LR	LR	10 07 02.2	
	comp=Z,20nm,19.9s,baz=64,slow=36						
MKAR	**Makanchi Array**	**39.40**	**305**	P	**P**	**09 51 28.3**	**-0.3**
	0.2nm,0.5s,baz=82,slow=12,SNR=2.0						
AAK	**Ala-Archa**	**45.13**	**299**	LR	LR	10 11 60.0	
	comp=Z,62nm,18.5s,baz=72,slow=37						
WRA	**Warramunga Arr**	**52.67**	**176**	P	**P**	**09 53 12.6**	**-0.6**
	0.6nm,0.7s,baz=356,slow=7.8,SNR=5.7						
ARU	**Arti**	**53.90**	**319**	LR	LR	10 20 23.8	
	comp=Z,47nm,18.2s,baz=126,slow=41						
AKTO	**Aktyubinsk**	**55.16**	**312**	LR	LR	10 16 09.8	
	comp=Z,28nm,19.2s,baz=89,slow=35						
ASAR	**Alice Springs**	**56.35**	**177**	P	**P**	**09 53 38.5**	**-1.4**
	0.4nm,0.6s,baz=5.6,slow=12,SNR=12						
ILAR	**Eielson Array**	**57.32**	**30**	P	**P**	**09 53 47.4**	**+1.0**
	0.3nm,0.8s,baz=287,slow=7.4,SNR=2.8						
KBZ	**Khabaz**	**67.02**	**308**	P	**P**	**09 54 51.2**	**-0.5**
	3.5nm,0.8s,baz=48,slow=2.4,SNR=4.3						
GNI	**Garni**	**67.23**	**304**	LR	LR	10 28 17.5	
	comp=Z,22nm,18.5s,baz=241,slow=40						
FINES	**FINESS Array B**	**68.35**	**330**	P	**P**	**09 55 00.2**	**+0.4**
	2.0nm,0.9s,baz=50,slow=7.4,SNR=2.1						
YKA	**Yellowknife Ar**	**71.36**	**27**	P	**P**	**09 55 17.8**	**-0.6**
	0.4nm,0.7s,baz=300,slow=6.5,SNR=7.6						
AKASG	**Malin Array Be**	**72.16**	**319**	LR	LR	10 29 08.2	
	comp=Z,34nm,18.4s,baz=8.5,slow=38						
NOA	**NORSAR Array B**	**74.45**	**334**	LR	LR	10 31 07.3	
	comp=Z,23nm,18.8s,baz=15,slow=38						
BRTR	**Keskin Array B**	**75.00**	**308**	P	**P**	**09 55 40.6**	**+0.1**
	1.1nm,0.9s,baz=57,slow=4.6,SNR=4.0						
VRAC	**Vranov**	**79.65**	**323**	LR	LR	10 34 06.6	
	comp=Z,33nm,20.5s,baz=38,slow=38						
NVAR	**Mina Array Bea**	**84.02**	**48**	P	**P**	**09 56 29.8**	**+0.1**
	0.2nm,0.5s,baz=268,slow=6.0,SNR=2.8						
DAVOX	**Davos/Dischmat**	**84.69**	**324**	LR	LR	10 38 57.0	
	comp=Z,88nm,18.7s,baz=78,slow=39						

*SKHL **21** 09:48:41.4±0.6, 45°.40N×142°.80E, h316km±2km, mb4.0/4, msha4.3/4*

*JMA **21** 09:48:41.2±0.3, 45°.49N×142°.40E, h311km±2km, M2.7*

ISC 21 09:48:39.5±3.3, 45°.47N±0°.09×142°.6E±0°.1, h317km±22km, n18, σ=1.1§69/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**0.52**	**178**	P	**Pn**	**09 49 21.1**	**+1.0**
JSE				*e*S	**S**	**09 49 52.8**	**+0.3**
JRR	**Rishiri**	**0.94**	**250**	P	**Pn**	**09 49 22.3**	**+0.9**
JRBN	**Rebuntou**	**1.05**	**268**	P	**Pn**	**09 49 22.1**	**+0.2**
JRBN				*e*S	**S**	**09 49 53.2**	**-2.5**
JSS	**Shosan**	**1.19**	**205**	P	**Pn**	**09 49 24.0**	**+1.4**
JYG	**Yagishiri**	**1.32**	**218**	P	**Pn**	**09 49 24.5**	**+1.2**
ASAJ	**Asahikawa**	**1.36**	**179**	P	**Pn**	**09 49 25.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**1.49**	**5**	*e*P	**Pn**	**09 49 25.0**	**+0.9**
YSS				AMB	AMB	09 49 25.4	
	40nm,0.4s						
YSS				*e*S	**S**	**09 49 58.7**	**-1.1**
YSS				A	A	09 49 59.9	
	30nm,0.5s						
YSS				A	A	09 49 59.9	
	30nm,0.5s						
JMP	**Maruseppu**	**1.57**	**158**	P	**Pn**	**09 49 26.5**	**+1.6**
JKK2	**Kamakawa 2**	**1.61**	**175**	P	**Pn**	**09 49 26.8**	**+1.7**
JTKR	**Abashiri--Toko**	**1.78**	**147**	P	**Pn**	**09 49 28.3**	**+2.1**
JTKR				*e*S	**S**	**09 50 05.0**	**+1.5**
JHR	**Hokuryu**	**1.83**	**199**	P	**Pn**	**09 49 27.9**	**+1.3**
JAR	**Ashorobuto**	**2.34**	**158**	P	**Pn**	**09 49 32.6**	**+2.0**
JEW	**Eniwo**	**2.75**	**197**	P	**Pn**	**09 49 35.7**	**+1.5**
JAK	**Akkeshi**	**2.91**	**147**	P	**Pn**	**09 49 37.5**	**+1.8**
JAK				*e*S	**S**	**09 50 19.0**	**-1.6**
JCH	**Churui**	**2.92**	**168**	P	**Pn**	**09 49 35.7**	**0.0**
JCH				*e*S	**S**	**09 50 17.3**	**-3.4**
NMR	**Nemuro--Hokkai**	**3.09**	**132**	*e*P	**Pn**	**09 49 37.7**	**+0.3**
NMR				*e*S	**S**	**09 50 21.3**	**-2.4**
NMR				A	A	09 50 23.7	
	20nm,0.4s						
NMR				A	A	09 50 23.7	
	30nm,0.4s						
NEM2	**Nemuro 2**	**3.10**	**132**	P	**Pn**	**09 49 38.0**	**+0.5**
NEM2				*e*S	**S**	**09 50 22.2**	**-1.7**
JNBK	**Urakawa-nobuka**	**3.19**	**177**	P	**Pn**	**09 49 39.7**	**+1.3**

*IDC **21** 09:51:40.9±1.2, 14°.24S×166°.10E, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.9/53, mbtmp4.0/9, ML4.1/2, MS3.2/6, Ms1 3.2/6, ms1mx2.8/63, Error ellipse: s-maj=31.4km s-min=24.0km az=114.0*

*NOU **21** 09:51:41.4, 14°.09S×166°.10E, h0km, MLv4.5/8, Vanuatu Islands*

ISC 21 09:51:45.5±0.8, 14°.21S±0°.09×166°.1E±0°.1, h31km, n15, σ=0.9§92/14, mb3.9/7, MS3.2/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.63**	**139**	P	**Pn**	**09 52 11.8**	**-0.3**
KOUNC	**Koumac, New Ca**	**6.54**	**195**	P	**Pn**	**09 53 20.0**	**+0.4**
HNR	**Honiara**	**7.67**	**308**	Pn	**Pn**	**09 53 34.3**	**-0.8**
	9.0nm,0.3s,baz=174,slow=15,SNR=1.5						
DZM	**Mont Dzumac**	**7.83**	**178**	Pn	**Pn**	**09 53 37.3**	**-0.1**
	0.7nm,0.3s,baz=113,slow=7.7,SNR=17						
DZM				Sn	**Sn**	**09 55 04.5**	**-0.6**
	0.1nm,0.3s,baz=48,slow=17,SNR=1.7						
DZM				LR	LR	09 55 40.6	
	comp=Z,32nm,18.6s,baz=242,slow=31						
DZM	**Mont Dzumac**	**7.83**	**178**	P	**Pn**	**09 53 37.7**	**+0.3**
NOUC	**Port Laguerre**	**7.85**	**179**	P	**Pn**	**09 53 39.0**	**+1.3**
CTA	**Charters Tower**	**19.84**	**250**	LR	LR	10 03 17.3	
	comp=Z,70nm,18.6s,baz=80,slow=35						
AFI	**Afiamalu**	**21.46**	**92**	LR	LR	10 03 01.5	
	comp=Z,62nm,18.7s,baz=234,slow=32						
STKA	**Stephens Creek**	**28.49**	**228**	P	**P**	**09 57 38.1**	**0.0**
	3.8nm,0.8s,baz=36,slow=6.3,SNR=9.4						
STKA				LR	LR	10 08 33.1	
	comp=Z,73nm,18.5s,baz=25,slow=36						
WRA	**Warramunga Arr**	**30.86**	**255**	P	**P**	**09 57 58.1**	**-1.2**
	0.3nm,0.6s,baz=85,slow=8.8,SNR=4.9						
WRA				LR	LR	10 09 33.5	
	comp=Z,78nm,19.2s,baz=96,slow=35						

ASAR	**Alice Springs**	**31.81**	**248**	P	**P**	**09 58 06.8**	**-0.9**
	0.3nm,0.6s,baz=74,slow=9.8,SNR=7.3							
ASAR				LR	LR	10 11 18.6		
	comp=Z,46nm,18.3s,baz=124,slow=37							
CMAR	**Chiang Mai Arr**	**73.71**	**294**	P	**P**	**10 03 18.8**	**+1.9**
	2.0nm,0.3s,baz=122,slow=4.6,SNR=2.0							
NVAR	**Mina Array Bea**	**87.79**	**50**	P	**P**	**10 04 32.1**	**0.0**
	0.1nm,0.3s,baz=243,slow=5.0,SNR=3.1							
MKAR	**Makanchi Array**	**96.05**	**317**	P	**P**	**10 05 10.4**	**+0.5**
	0.3nm,0.7s,baz=86,slow=5.9,SNR=2.0							
YKA	**Yellowknife Ar**	**97.61**	**27**	P	**P**	**10 05 16.4**	**-0.2**
	0.7nm,0.9s,baz=257,slow=4.6,SNR=8.4							

*IDC **21** 09:56:01.7±0.4, 14°.02N×144°.84E, h125km±3km, mb3.8/14, mb1 4.0/14, mb1mx3.6/70, mbtmp4.2/14, MS2.8/2, Ms1 2.8/2, ms1mx2.4/81, Error ellipse: s-maj=22.1km s-min=11.9km az=84.0*

*NEIC **21** 09:56:02.8±0.7, 13°.98N±0°.08×144°.9E±0°.2, h131km±4km, mb4.5/28, Error ellipse: s-maj=23.4km s-min=9.3km az=105.0*

ISC 21 09:56:01.6±0.5, 14°.03N±0°.08×144°.8E±0°.1, h125km, n50, σ0s77/47, mb4.3/27, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.44**	**175**	P	**Pn**	**09 56 21.4**	**+1.6**
	294nm,0.3s,baz=340,slow=0.9,SNR=102						
GUMO				S	**Sn**	**09 56 35.1**	**+1.6**
	201nm,0.3s,baz=345,slow=19,SNR=26						
PATS	**Pohnpei**	**15.05**	**117**		**P**	**09 59 30.8**	**+0.5**
MANU	**Manus Island**	**16.16**	**171**	P	**Pn**	**09 59 41.8**	**0.0**
H11S3	**WAKE ISLAND Hy**	**21.44**	**75**	T	T	10 22 37.8	
	baz=257						
H11S1	**WAKE ISLAND Hy**	**21.45**	**75**	T	T	10 22 19.7	
	baz=257						
H11S2	**WAKE ISLAND Hy**	**21.46**	**75**	T	T	10 22 19.1	
	baz=257						
MJAR	**Matsushiro Arr**	**23.19**	**346**	P	**P**	**10 00 57.3**	**-0.1**
	2.8nm,0.6s,baz=285,slow=16,SNR=6.5						
MAJO	**Matsushiro**	**23.19**	**346**	P	**P**	**10 00 58.0**	**+0.5**
YULB	**Yu-li**	**24.13**	**296**	P	**P**	**10 01 06.5**	**+0.5**
SSLB	**Suanglung**	**24.55**	**297**	P	**P**	**10 01 10.9**	**+1.0**
SSLB				IAmb	IAmb	10 01 15.0	
	comp=Z,20nm,0.9s						
KSRS	**Korea Array**	**27.77**	**330**	P	**P**	**10 01 39.4**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=140,slow=8.6,SNR=5.1						
ASAJ	**Asahikawa**	**30.05**	**357**	LR	LR	10 13 30.5	
	comp=Z,10.0nm,20.0s,baz=162,slow=35						
USRK	**Ussuriysk Ar.**	**32.01**	**342**	LR	LR	10 14 30.7	
	comp=Z,34nm,19.7s,baz=142,slow=35						
KNRA	**Kununurra**	**33.52**	**209**	P	**P**	**10 02 28.8**	**-0.7**
KNRA				IAmb	IAmb	10 02 50.0	
	comp=Z,12nm,1.3s						
CTAO	**Charters Tower**	**33.93**	**178**	P	**P**	**10 02 32.5**	**-0.5**
CTAO				IAmb	IAmb	10 02 34.5	
	comp=Z,16nm,1.3s						
WB0	**Warramunga Arr**	**35.12**	**197**	P	**P**	**10 02 42.9**	**-0.3**
WB0				IAmb	IAmb	10 02 43.5	
	comp=Z,5.7nm,0.6s						
WR0	**Warramunga Arr**	**35.26**	**197**	P	**P**	**10 02 44.2**	**-0.3**
WR0				IAmb	IAmb	10 02 44.4	
	comp=Z,3.8nm,0.7s						
WRAB	**Tennant Creek**	**35.29**	**197**	P	**P**	**10 02 44.6**	**-0.1**
WRAB				IAmb	IAmb	10 02 45.1	
	comp=Z,7.2nm,0.8s						
WB2	**Warramunga Arr**	**35.30**	**197**	P	**P**	**10 02 44.6**	**-0.1**
WB2				IAmb	IAmb	10 02 45.2	
	comp=Z,8.5nm,0.9s						
WRA	**Warramunga Arr**	**35.30**	**197**	P	**P**	**10 02 44.4**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=18,slow=8.9,SNR=34						
WRA				PcP	**PcP**	**10 05 13.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=8.0,slow=2.9,SNR=7.1						
WRA	**Warramunga Arr**	**35.30**	**197**	P	**P**	**10 02 43.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**37.11**	**211**	P	**P**	**10 02 59.9**	**-0.3**
FITZ				IAmb	IAmb	10 03 18.2	
	comp=Z,7.7nm,1.5s						
AS31	**Alice Springs**	**38.95**	**196**	P	**P**	**10 03 15.2**	**-0.5**
ASAR	**Alice Springs**	**38.96**	**196**	P	**P**	**10 03 15.2**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=16,slow=12,SNR=44						
ASAR				PcP	**PcP**	**10 05 22.1**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=21,slow=3.6,SNR=6.1						
EIDS	**Eidsvold**	**39.63**	**171**	P	**P**	**10 03 20.0**	**-1.2**
EIDS				IAmb	IAmb	10 03 29.6	
	comp=Z,17nm,1.4s						
DZM	**Mont Dzumac**	**41.67**	**149**	P	**P**	**10 03 39.1**	**+0.9**
	comp=Z,6.1nm,0.5s,baz=309,slow=5.7,SNR=9.2						
MBWA	**Marble Bar**	**42.78**	**216**	P	**P**	**10 03 46.4**	**-0.6**
PSAA3	**Pilbara Seismi**	**43.05**	**215**	P	**P**	**10 03 48.4**	**-0.8**
ARMA	**Armidale**	**44.67**	**172**	P	**P**	**10 04 02.1**	**-0.1**
ARMA				IAmb	IAmb	10 04 13.8	
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**45.75**	**184**	P	**P**	**10 04 09.8**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=359,slow=8.2,SNR=5.1						
BBOO	**Buckleboo**	**47.32**	**190**	P	**P**	**10 04 22.5**	**-0.3**
FORT	**Forrest**	**47.38**	**200**	P	**P**	**10 04 23.4**	**+0.2**
MORW	**Morawa**	**51.08**	**213**	P	**P**	**10 04 50.4**	**-1.1**
MORW				IAmb	IAmb	10 05 08.0	
	comp=Z,10nm,1.2s						
TOO	**Toolangi**	**51.33**	**179**	P	**P**	**10 04 54.0**	**+0.9**
TOO				IAmb	IAmb	10 04 55.4	
	comp=Z,7.6nm,1.0s						
MK31	**Makanchi Array**	**61.15**	**316**	P	**P**	**10 06 02.9**	**-0.1**
MKAR	**Makanchi Array**	**61.15**	**316**	P	**P**	**10 06 03.6**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=92,slow=8.5,SNR=11						
TUWZ	**Tuamarina**	**61.39**	**155**	P	**P**	**10 06 03.3**	**-1.1**
SNZO	**South Karori**	**61.60**	**155**	P	**P**	**10 06 05.6**	**-0.2**
KURK	**Kurchatov**	**64.23**	**320**	IAmb	IAmb	10 06 23.9	
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**64.27**	**320**	P	**P**	**10 06 23.5**	**0.0**
	comp=Z,2.0nm,0.7s,baz=101,slow=6.6,SNR=17						
ILAR	**Eielson Array**	**68.19**	**25**	P	**P**	**10 06 47.9**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=270,slow=6.2,SNR=1.1						
YKA	**Yellowknife Ar**	**82.49**	**27**	P	**P**	**10 08 08.4**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=286,slow=4.9,SNR=6.8						
YBH	**Yreka Blue Hor**	**82.61**	**49**	P	**P**	**10 08 11.4**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=304,slow=4.4,SNR=8.2						
ARCES	**ARCESS Array B**	**86.66**	**342**	P	**P**	**10 08 31.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=77,slow=5.6,SNR=1.0						
NVAR	**Mina Array Bea**	**86.68**	**51**	P	**P**	**10 08 31.7**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=274,slow=5.7,SNR=12						
VNDA	**Vanda**	**91.90**	**176**	P	**P**	**10 08 55.9**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=320,slow=5.0,SNR=12						
VNDA	**Vanda**	**91.90**	**176**	P	**P**	**10 08 55.6**	**+0.4**
VNDA				IAmb	IAmb	10 08 57.3	
	comp=Z,3.5nm,1.1s						
PLCA	**Paso Flores**	**139.28**	**138**	PKP	**PKPdf**	**10 15 14.8**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=263,slow=1.4,SNR=3.3						
LPAZ	**La Paz**	**148.12**	**98**	PKPbc	**PKPbc**	**10 15 34.8**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=294,slow=2.1,SNR=9.3						
LPAZ	**La Paz**	**148.12**	**98**		**PKPbc**	**10 15 35.0**	**+0.6**

*IDC **21** 09:59:11.2±2.8, 53°.50N×87°.59E, h0km, mb1 3.4/2, mb1mx3.1/66, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=24.9km s-min=13.6km az=63.0*

*NNC **21** 09:59:12.4±1.4, 53°.48N×87°.50E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=11.3km s-min=4.8km az=56.0, Suspected Mining explosion.*

ISC 21 09:59:11.3±3.3, 53°.6N±0°.1×87°.6E±0°.2, h0km, n9, σ0s82/13, 10C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**285**	*i*		10 10 45.0	
	baz=101,slow=321,SNR=11						
ZAA0	**Zalesovo Array**	**1.68**	**285**	⇑P	**Pn**	**09 59 42.1**	**+0.3**
	0.8nm,0.3s						
ZAA0				⇓S	**Sg**	**10 00 05.1**	**-0.1**
	5.4nm,0.9s						
ZALV	**Zalesovo Beam**	**1.68**	**285**	Pg	**Pb**	**09 59 42.5**	**-0.5**
	3.8nm,0.3s,baz=101,slow=16,SNR=41						
ZALV				Lg	Lg	10 00 04.7	
	4.5nm,0.3s,baz=109,slow=27,SNR=14						
KURK	**Kurchatov**	**6.20**	**246**	⇑Pn	**Pn**	**10 00 44.1**	**+0.1**
	2.8nm,0.6s						
KURK				⇑Lg	Lg	10 02 25.9	
	11nm,1.2s						
KURBB	**Kurchatov Arra**	**6.29**	**246**	Pn	**Pn**	**10 00 45.8**	**+0.5**
	0.2nm,0.3s,baz=61,slow=14,SNR=6.6						
KURBB				Lg	Lg	10 02 30.5	
	0.1nm,0.3s,baz=63,slow=32,SNR=11						
KURBB	**Kurchatov Arra**	**6.29**	**246**	⇑Pn	**Pn**	**10 00 46.1**	**+0.8**
	1.2nm,0.3s						
KURBB				⇓Sn	**Sn**	**10 01 58.9**	**+1.1**
	1.9nm,0.5s						
KURBB				⇑Lg	Lg	10 02 29.4	
	16nm,0.9s						
MK31	**Makanchi Array**	**7.56**	**209**	⇑Pn	**Pn**	**10 01 03.8**	**+1.0**
	1.2nm,0.6s,baz=31,slow=12,SNR=17						
MK31				⇑Sn	**Sn**	**10 02 28.5**	**-0.7**
	0.9nm,0.6s						
MK31				⇑Lg	Lg	10 03 09.5	
	1.0nm,0.6s,baz=37,slow=33,SNR=4.4						
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	**Pn**	**10 01 03.4**	**+0.6**
	0.5nm,0.3s,baz=30,slow=13,SNR=19						
MKAR				Sn	**Sn**	**10 02 27.9**	**-1.3**
	0.1nm,0.3s,baz=30,slow=24,SNR=6.6						
MKAR				Lg	Lg	10 03 10.4	
	0.1nm,0.3s,baz=36,slow=30,SNR=9.4						
MAKZ	**Makanchi**	**7.64**	**210**	⇓Pn	**Pn**	**10 01 04.5**	**+0.7**
	1.0nm,0.5s						
MAKZ				⇑Sn	**Sn**	**10 02 30.6**	**-0.5**
	2.1nm,0.8s						
MAKZ				⇑Lg	Lg	10 03 14.6	
	3.0nm,0.9s						

*IDC **21** 10:01:57.7±0.8, 63°.04N×151°.83W, h0km, mb3.6/9, mb1 3.8/13, mb1mx3.6/63, mbtmp3.6/13, ML3.4/4, MS2.8/2, Ms1 2.8/2, ms1mx2.4/92, Error ellipse: s-maj=16.8km s-min=10.7km az=162.0*

*ANF **21** 10:01:58.7±0.3, 63°.03N×151°.59W, h6km±2km, ML4.2/61, Error ellipse: s-maj=1.8km s-min=1.6km az=173.0*

*AEIC **21** 10:01:59.1.7, 63°.04N±0°.02×151°.60W±0°.07, h11km±4km, ML3.8, mb4.0/3(NEIC), ML4.0/152(NEIC), Mwr3.8/82(NEIC), Error ellipse: s-maj=5.0km s-min=2.7km az=58.0*

*NEIC **21** 10:01:59, 63°.04N×151°.58W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}3.34; $M_{\theta\theta}$0.65; $M_{\phi\phi}$-3.98; $M_{r\theta}$3.21; $M_{r\phi}$-3.03; $M_{\theta\phi}$0.24; Fault plane solution: $M_0$5.77000×10^{14} NP1:φs58.08000°, δ65.37000°, λ130.25000°. NP2:φs174.29000°, δ46.07000°, λ35.36000°. Principal axes: T 5.7181, Plg52.0000°, Azm16.0000°; N 0.0945, Plg36.0000°, Azm219.0000°; P -5.8126, Plg11.0000°, Azm120.0000°;*

*NEIC **21** 10:01:59.2±1.6, 63°.03N±0°.02×151°.56W±0°.05, h11km±4km Error ellipse: s-maj=3.7km s-min=2.5km az=56.0*

ISC 21 10:01:59.0±1.0, 63°.04N±0°.02×151°.61W±0°.02, h9km±7km, n253, σ0s88/252, mb3.8/11, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPLA	**Purkeypile**	**0.30**	**242**		**Pg**	**10 02 04.8**	**-0.3**
PPLA	**Purkeypile**	**0.30**	**242**	P	**Pg**	**10 02 04.8**	**-0.3**
	baz=62,SNR=1000						
PPLA				S	**Sg**	**10 02 08.9**	**-0.3**
	baz=62						
CAST	**Castle Rocks**	**0.44**	**331**	Pg	**Pg**	**10 02 08.0**	**+0.4**
CAST				Sg	**Sg**	**10 02 13.7**	**+0.3**
CAST	**Castle Rocks**	**0.44**	**331**	P	**Pg**	**10 02 08.1**	**+0.4**
	baz=150,SNR=1000						
CAST				S	**Sg**	**10 02 13.4**	**0.0**
	baz=150						
KTH	**Kantishna Hill**	**0.60**	**31**		**Pg**	**10 02 10.9**	**+0.3**
KTH				Sg	**Sg**	**10 02 18.4**	**-0.2**
TRF	**Thorofare Moun**	**0.72**	**55**		**Pg**	**10 02 13.1**	**+0.1**
TRF	**Thorofare Moun**	**0.72**	**55**		**Sb**	**10 02 23.3**	**-0.7**
TRF	**Thorofare Moun**	**0.72**	**55**	P	**Pg**	**10 02 12.9**	**-0.1**
	baz=235,SNR=285						
TRF				S	**Sg**	**10 02 23.1**	**+0.6**
	baz=235						
CUT	**Chulitna**	**0.89**	**135**		**Pb**	**10 02 15.5**	**-1.0**
CUT				Sg	**Sb**	**10 02 26.8**	**-1.6**
CUT				IAML		10 02 27.6	
	comp=N,6μm,0.8s						
CUT				IAML		10 02 28.8	
	comp=E,3μm,0.7s						
CUT	**Chulitna**	**0.89**	**135**	P	**Pb**	**10 02 15.6**	**-1.0**
	baz=316,SNR=687						
CUT				S	**Sb**	**10 02 26.9**	**-1.6**
	baz=316						
CHUM	**Lake Minchumin**	**0.91**	**340**		**Pg**	**10 02 16.9**	**+0.4**
CHUM					**Sn**	**10 02 29.1**	**-2.0**
CHUM	**Lake Minchumin**	**0.91**	**340**	P	**Pg**	**10 02 16.8**	**+0.4**
	baz=159,SNR=1000						
CHUM				S	**Sb**	**10 02 28.6**	**-0.4**
	baz=159						
BPAW	**Bear Paw Mtn.**	**1.10**	**14**		**Pb**	**10 02 19.9**	**-0.4**
BPAW	**Bear Paw Mtn.**	**1.10**	**14**	IAML		10 02 36.7	
	comp=E,3μm,0.4s						
BPAW				IAML		10 02 37.8	
	comp=N,4μm,0.7s						
BPAW	**Bear Paw Mtn.**	**1.10**	**14**	P	**Pb**	**10 02 19.9**	**-0.4**
	baz=195,SNR=1000						
BPAW				S	**Sn**	**10 02 34.9**	**-1.1**
	baz=195						
K20K	**Telida**	**1.16**	**287**		**Pb**	**10 02 21.0**	**-0.3**
K20K				IAML		10 02 38.3	
	comp=N,3μm,0.8s						
K20K	**Telida**	**1.16**	**287**		**Sb**	**10 02 36.6**	**+0.1**
K20K	**Telida**	**1.16**	**287**	P	**Pb**	**10 02 21.0**	**-0.3**
	baz=105,SNR=1000						
K20K				S	**Sb**	**10 02 36.6**	**+0.1**
	baz=105						
L20K	**Farewell, AK**	**1.19**	**243**	P	**Pn**	**10 02 20.2**	**-1.6**
	baz=61,SNR=145						
L20K				S	**Sb**	**10 02 37.1**	**-0.1**
	baz=61						
RND	**Reindeer**	**1.30**	**72**		**Pn**	**10 02 22.8**	**-0.7**
RND				IAML		10 02 45.4	
	comp=N,2μm,0.8s						
MCK	**McKinley**	**1.39**	**59**		**Pn**	**10 02 24.6**	**0.0**
MCK	**McKinley**	**1.39**	**59**	IAML		10 02 49.2	
	comp=N,3μm,0.9s						
MCK				IAML		10 02 51.3	
	comp=E,3μm,0.8s						
MCK	**McKinley**	**1.39**	**59**	P	**Pn**	**10 02 24.6**	**0.0**
	baz=241,SNR=633						
MCK				S	**Sb**	**10 02 43.0**	**0.0**
	baz=241						
WAT1	**Susitna Watana**	**1.41**	**97**		**Pn**	**10 02 24.5**	**-0.4**
WAT1					**Sn**	**10 02 42.9**	**-0.9**
WAT1	**Susitna Watana**	**1.41**	**97**	P	**Pn**	**10 02 24.6**	**-0.4**
	baz=280						
WAT1				S	**Sn**	**10 02 42.8**	**-0.9**
	baz=280						
M22K	**Willow**	**1.46**	**151**		**Pn**	**10 02 24.6**	**-1.0**
M22K	**Willow**	**1.46**	**151**		**Sn**	**10 02 43.6**	**-1.3**
M22K	**Willow**	**1.46**	**151**	P	**Pn**	**10 02 24.9**	**-0.7**
	baz=333,SNR=426						
M22K				S	**Sn**	**10 02 44.1**	**-0.7**
	baz=333						
BWN	**Browne**	**1.49**	**39**		**Pn**	**10 02 26.0**	**+0.1**
BWN				IAML		10 02 55.7	
	comp=N,2μm,0.6s						
STLK	**Strandline Lak**	**1.55**	**184**		**Pn**	**10 02 26.1**	**-0.7**
J20K	**Nowinta River**	**1.61**	**316**	Pn	**Pn**	**10 02 27.6**	**0.0**
J20K				IAML		10 02 51.5	
	comp=E,3μm,0.7s						
J20K				IAML		10 02 52.3	
	comp=N,2μm,0.8s						
J20K	**Nowinta River**	**1.61**	**316**	P	**Pn**	**10 02 27.2**	**-0.4**
	baz=134,SNR=432						
J20K				Sb	**Sg**	**10 02 50.5**	**-0.3**
	baz=134						
M19K	**Big River Lodg**	**1.73**	**230**		**Pn**	**10 02 29.1**	**-0.1**
M19K					**Sn**	**10 02 52.0**	**+0.7**
M19K	**Big River Lodg**	**1.73**	**230**	IAML		10 02 54.3	
	comp=E,971nm,0.7s						
M19K	**Big River Lodg**	**1.73**	**230**	P	**Pn**	**10 02 28.7**	**-0.5**
	baz=48						
M19K				S	**Sn**	**10 02 52.0**	**+0.7**
	baz=48						
L19K	**White Mountain**	**1.73**	**242**	Pn	**Pn**	**10 02 29.4**	**+0.1**
L19K	**White Mountain**	**1.73**	**242**	P	**Pn**	**10 02 28.5**	**-0.8**
	baz=59,SNR=166						
L19K				S	**Sn**	**10 02 52.2**	**+0.7**
	baz=59						
SPCG	**Spurr Capps Gl**	**1.77**	**187**		**Pn**	**10 02 29.4**	**-0.4**
SPCG					**Sn**	**10 02 52.4**	**-0.1**
GHO	**Glory Hole Cre**	**1.78**	**134**		**Pn**	**10 02 29.3**	**-0.8**
GHO				IAML		10 02 55.4	
	comp=E,2μm,0.5s						
GHO				IAML		10 02 58.7	
	comp=N,1μm,0.8s						
SPBG	**Spurr Blockage**	**1.82**	**192**		**Pn**	**10 02 30.9**	**+0.3**
SPWE	**Spurr West**	**1.83**	**195**		**Pn**	**10 02 30.7**	**0.0**
WAT6	**Susitna Watana**	**1.83**	**103**		**Pn**	**10 02 29.3**	**-1.5**
WAT6	**Susitna Watana**	**1.83**	**103**	P	**Pn**	**10 02 29.4**	**-1.5**
	baz=286,SNR=494						
WAT6				S	**Sn**	**10 02 54.0**	**-0.2**
	baz=286						
CKN	**Chakachatna No**	**1.84**	**189**		**Pn**	**10 02 31.1**	**+0.3**
PMR	**Palmer**	**1.86**	**140**		**Pn**	**10 02 30.4**	**-0.6**
PMR	**Palmer**	**1.86**	**140**	IAML		10 02 58.2	
	comp=N,950nm,1.0s						
PMR				IAML		10 02 59.9	
	comp=E,986nm,0.8s						
PMR	**Palmer**	**1.86**	**140**	P	**Pn**	**10 02 30.5**	**-0.5**
	baz=323,SNR=270						
PMR				S	**Sn**	**10 02 54.7**	**+0.2**
	baz=323						
SPCR	**Spurr Chakacha**	**1.87**	**189**		**Pn**	**10 02 31.3**	**0.0**
SPCR	**Spurr Chakacha**	**1.87**	**189**	P	**Pn**	**10 02 31.0**	**-0.2**
	baz=8.6,SNR=40						
SPCR				S	**Sn**	**10 02 55.5**	**+0.6**
	baz=8.6						
NEA2	**Nenana**	**1.92**	**35**		**Pn**	**10 02 30.7**	**-1.3**
NEA2	**Nenana**	**1.92**	**35**	P	**Pn**	**10 02 30.7**	**-1.3**
	baz=217,SNR=89						
DHY	**Denali Highway**	**1.93**	**87**		**Pn**	**10 02 31.8**	**-0.3**
DHY	**Denali Highway**	**1.93**	**87**	IAML		10 03 00.4	
	comp=N,2μm,0.7s						
DHY				IAML		10 03 02.5	
	comp=E,1μm,0.5s						
DHY	**Denali Highway**	**1.93**	**87**	P	**Pn**	**10 02 31.8**	**-0.3**
	baz=271,SNR=287						
DHY				S	**Sn**	**10 02 56.9**	**+0.4**
	baz=271						
SML	**Sawmill**	**1.96**	**128**	Pn	**Pn**	**10 02 32.0**	**-0.5**
SML				IAML		10 03 03.2	
	comp=N,1μm,0.8s						
SML	**Sawmill**	**1.96**	**128**	P	**Pn**	**10 02 32.1**	**-0.5**
	baz=311,SNR=278						
SML				S	**Sn**	**10 02 58.0**	**+0.8**
	baz=311						
FIS	**Fire Island**	**2.01**	**160**		**Pn**	**10 02 34.4**	**+1.3**
TTA	**Tatalina**	**2.02**	**269**	Pn	**Pn**	**10 02 32.3**	**-1.0**
TTA				IAML		10 03 06.7	
	comp=E,730nm,0.9s						
TTA	**Tatalina**	**2.02**	**269**	P	**Pn**	**10 02 32.2**	**-1.0**
	baz=85,SNR=131						
TT01	**Tatalina**	**2.02**	**268**		**Pn**	**10 02 32.4**	**-0.9**
WRH	**Wood River Hil**	**2.12**	**46**		**Pn**	**10 02 33.8**	**-0.9**
RC01	**Rabbit Creek A**	**2.15**	**155**	Pn	**Pn**	**10 02 34.7**	**-0.2**
RC01				IAML		10 03 03.9	
	comp=E,998nm,0.6s						
RC01				IAML		10 03 03.9	
	comp=N,730nm,0.6s						
RC01	**Rabbit Creek A**	**2.15**	**155**	P	**Pn**	**10 02 34.8**	**-0.2**
	baz=337,SNR=108						
RC01				S	**Sn**	**10 03 03.4**	**+1.7**
	baz=337						
I21K	**Tanana**	**2.16**	**356**		**Pn**	**10 02 35.1**	**-0.1**
I21K				IAML		10 03 08.9	
	comp=E,1μm,0.8s						
I21K				IAML		10 03 15.4	
	comp=N,768nm,0.8s						
I21K	**Tanana**	**2.16**	**356**	P	**Pn**	**10 02 35.0**	**-0.1**
	baz=175,SNR=116						
M23K	**Glacier View**	**2.20**	**123**	P	**Pn**	**10 02 35.3**	**-0.4**
	baz=306,SNR=526						
M23K				S	**Sn**	**10 03 04.4**	**+1.4**
	baz=306						
KNK	**Knik Glacier**	**2.20**	**137**		**Pn**	**10 02 35.6**	**-0.2**
KNK	**Knik Glacier**	**2.20**	**137**	IAML		10 03 09.1	
	comp=N,767nm,0.5s						
KNK				IAML		10 03 09.2	
	comp=E,1μm,0.4s						
KNK	**Knik Glacier**	**2.20**	**137**	P	**Pn**	**10 02 35.6**	**-0.2**
	baz=319,SNR=154						
CAPN	**Captain Cook N**	**2.29**	**174**		**Pn**	**10 02 39.2**	**+2.3**
SCM	**Sheep Creek Mo**	**2.33**	**119**		**Pn**	**10 02 37.0**	**-0.6**
SCM				IAML		10 03 17.1	
	comp=N,711nm,0.6s						
SCM				IAML		10 03 17.8	
	comp=E,1μm,0.8s						
SCM	**Sheep Creek Mo**	**2.33**	**119**	P	**Pn**	**10 02 36.9**	**-0.6**
	baz=303,SNR=232						
CCB	**Clear Creek Bu**	**2.33**	**45**		**Pn**	**10 02 36.5**	**-1.0**
CCB	**Clear Creek Bu**	**2.33**	**45**	IAML		10 03 13.7	
	comp=N,572nm,0.5s						
CCB				IAML		10 03 15.9	
	comp=E,596nm,0.5s						
I23K	**Minto, Yukon-K**	**2.34**	**24**		**Pn**	**10 02 37.1**	**-0.5**
I23K	**Minto, Yukon-K**	**2.34**	**24**	IAML		10 03 14.8	
	comp=E,770nm,0.5s						
I23K				IAML		10 03 15.7	
	comp=N,850nm,0.6s						
I23K	**Minto, Yukon-K**	**2.34**	**24**	P	**Pn**	**10 02 37.1**	**-0.5**
	baz=206,SNR=56						
MDM	**Murphy Dome**	**2.43**	**36**		**Pn**	**10 02 38.0**	**-1.0**
TCOL	**CIGO, UAF Yank**	**2.47**	**40**		**Pn**	**10 02 38.6**	**-0.8**
TCOL	**CIGO, UAF Yank**	**2.47**	**40**	P	**Pn**	**10 02 38.5**	**-0.9**
	baz=223,SNR=87						
I53US	**FAIRBANKS INFR**	**2.48**	**40**	*i*		10 17 10.0	
	baz=222,slow=331,SNR=2.6						
COLA	**College**	**2.48**	**40**		**Pn**	**10 02 38.6**	**-0.8**
COLA	**College**	**2.48**	**40**	P	**Pn**	**10 02 38.7**	**-0.8**
	baz=223						
RDJH	**Redoubt Jeurge**	**2.52**	**194**		**Pn**	**10 02 41.4**	**+1.2**
N19K	**Bonanza Creek**	**2.62**	**213**	P	**Pn**	**10 02 41.6**	**+0.1**
	baz=30,SNR=25						
SLKM	**Skilak Lake**	**2.62**	**165**		**Pn**	**10 02 41.1**	**-0.4**
RSO	**Redoubt South**	**2.64**	**192**		**Pn**	**10 02 42.8**	**+0.8**
PS10	**TAPS Pump St10**	**2.67**	**79**		**

	comp=N,564nm,0.6s						
GLI	**Glacier Island**	3.04	133	P	Pn	10 02 47.9	+0.7
	baz=318,SNR=31						
HARP	**HAARP**	3.04	99		Pn	10 02 48.4	+1.2
HARP	**HAARP**	3.04	99	P	Pn	10 02 48.0	+0.7
	baz=285,SNR=191						
KLU	**Klutina**	3.08	118		Pn	10 02 48.7	+0.8
KLU	**Klutina**	3.08	118	IAML		10 03 41.0	
	comp=N,383nm,0.8s						
KLU	**Klutina**	3.08	118	P	Pn	10 02 48.4	+0.5
	baz=303,SNR=58						
IM03		3.10	344		Pn	10 02 48.1	+0.1
IMAR	**Indian Mountai**	3.10	344	Pn	Pn	10 02 48.1	0.0
N18K	**Kilae Creek**	3.12	223	Pn	Pn	10 02 48.2	-0.2
N18K				IAML		10 03 37.9	
	comp=E,291nm,1.1s						
N18K				IAML		10 03 38.6	
	comp=N,263nm,0.8s						
N18K	**Kilae Creek**	3.12	223	P	Pn	10 02 48.3	-0.1
	baz=39						
SEW	**Seward**	3.12	160	Pn	Pn	10 02 52.5	+4.2
SEW	**Seward**	3.12	160	P	Pn	10 02 49.9	+1.6
	baz=342,SNR=18						
RIDG	**Independent Ri**	3.12	74		Pn	10 02 49.2	+0.7
RIDG	**Independent Ri**	3.12	74	IAML		10 03 45.7	
	comp=E,555nm,1.0s						
RIDG	**Independent Ri**	3.12	74	P	Pn	10 02 49.0	+0.5
	baz=260,SNR=129						
O19K	**Port Alsworth**	3.13	206		Pn	10 02 48.8	+0.3
O19K				IAML		10 03 41.5	
	comp=N,301nm,0.5s						
O19K				IAML		10 03 44.2	
	comp=E,404nm,0.4s						
O19K	**Port Alsworth**	3.13	206	P	Pn	10 02 48.7	+0.2
	baz=23,SNR=11						
J25K	**Salcha River,**	3.18	57		Pn	10 02 48.9	-0.4
J25K	**Salcha River,**	3.18	57	IAML		10 03 39.0	
	comp=E,354nm,0.6s						
J25K				IAML		10 03 43.4	
	comp=N,450nm,0.6s						
H24K	**Noodor Dome**	3.24	28	Pn	Pn	10 02 49.2	-0.8
H24K	**Noodor Dome**	3.24	28	P	Pn	10 02 49.0	-1.1
	baz=212,SNR=16						
BRLK	**Bradley Lake**	3.31	174		Pn	10 02 52.3	+1.3
BRSE	**Bradley Lake S**	3.33	172	P	Pn	10 02 52.5	+1.2
	baz=353,SNR=7.0						
FID	**Port Fidalgo**	3.34	131		Pn	10 02 52.2	+0.8
FID	**Port Fidalgo**	3.34	131	IAML		10 03 48.4	
	comp=N,427nm,0.7s						
DIV	**Divide**	3.35	122		Pn	10 02 52.4	+0.9
HOM	**Homer**	3.39	180	Pn	Pn	10 02 51.8	-0.3
DOT	**Dot Lake**	3.46	76		Pn	10 02 53.7	+0.7
P19K	**Oil Pt**	3.49	194	Pn	Pn	10 02 54.6	+1.1
CNPM	**China Poot**	3.53	177		Pn	10 02 54.9	+0.9
CNPM	**China Poot**	3.53	177	IAML		10 03 55.6	
	comp=E,202nm,0.7s						
SCRK	**Sand Creek**	3.54	71		Pn	10 02 54.1	-0.2
SCRK	**Sand Creek**	3.54	71	IAML		10 03 53.4	
	comp=E,221nm,0.4s						
SCRK				IAML		10 03 57.0	
	comp=N,271nm,0.6s						
SCRK	**Sand Creek**	3.54	71	P	Pn	10 02 54.3	+0.1
	baz=259,SNR=30						
N25K	**Chitina, Valde**	3.57	111		Pn	10 02 55.7	+1.0
N25K	**Chitina, Valde**	3.57	111	P	Pn	10 02 55.6	+1.0
	baz=297,SNR=23						
MENT	**Mentasta**	3.60	88		Pn	10 02 56.5	+1.5
O18K	**Koktuh Hills**	3.63	210		Pn	10 02 55.8	+0.4
O18K	**Koktuh Hills**	3.63	210	IAML		10 04 00.6	
	comp=E,193nm,1.2s						
O18K	**Koktuh Hills**	3.63	210	P	Pn	10 02 56.0	+0.5
	baz=27						
EYAK	**Cordova Ski Ar**	3.74	129		Pn	10 02 58.1	+1.3
EYAK	**Cordova Ski Ar**	3.74	129	P	Pn	10 02 57.5	+0.7
	baz=314,SNR=34						
L26K	**Log Cabin Wild**	3.76	87		Pn	10 02 59.0	+1.8
L26K	**Log Cabin Wild**	3.76	87	P	Pn	10 02 58.7	+1.5
	baz=274,SNR=113						
PS05	**TAPS Pump Stn5**	3.81	6		Pn	10 02 58.6	+0.8
J26L	**Joseph Creek**	3.86	64	P	Pn	10 02 58.7	+0.1
	baz=251,SNR=85						
BMRM	**Bremner River**	3.90	119		Pn	10 02 59.5	+0.4
BMRM	**Bremner River**	3.90	119	IAML		10 04 07.7	
	comp=E,264nm,1.2s						
BMRM				IAML		10 04 07.7	
	comp=N,244nm,0.9s						
BMRM	**Bremner River**	3.90	119	P	Pn	10 02 59.5	+0.4
	baz=305,SNR=79						
GLB	**Gilahina Butte**	3.98	110		Pn	10 03 01.1	+0.9
GLB	**Gilahina Butte**	3.98	110	IAML		10 04 05.5	
	comp=N,204nm,0.6s						
GLB				IAML		10 04 06.6	
	comp=E,136nm,0.9s						
M26K	**Nabesna, AK**	4.01	95		Pn	10 03 01.9	+1.2
M26K	**Nabesna, AK**	4.01	95	IAML		10 04 04.7	
	comp=E,232nm,0.5s						
M26K	**Nabesna, AK**	4.01	95	P	Pn	10 03 01.5	+0.8
	baz=283,SNR=73						
P18K	**Big Mountain,**	4.06	207	Pn	Pn	10 03 01.5	+0.2
GOAT	**Goat Mountain**	4.09	124		Pn	10 03 02.9	+1.2
VRDI	**Verde Repeater**	4.24	112		Pn	10 03 04.5	+0.6
VRDI	**Verde Repeater**	4.24	112	IAML		10 04 16.4	
	comp=N,129nm,1.1s						
RAGM	**Ragged Mountai**	4.24	126		Pn	10 03 05.1	+1.4
COLD	**Coldfoot**	4.25	7		Pn	10 03 03.9	+0.1
COLD	**Coldfoot**	4.25	7	P	Pn	10 03 04.3	+0.5
	baz=189,SNR=45						
MCARA	**McCarthy VSAT**	4.35	109	P	Pn	10 03 05.9	+0.7
	baz=296,SNR=32						
HMT	**Hamilton**	4.42	124		Pn	10 03 07.2	+0.9
L27K	**Beaver Creek,**	4.45	85		Pn	10 03 07.8	+1.1
L27K	**Beaver Creek,**	4.45	85	P	Pn	10 03 07.7	+1.0
	baz=274,SNR=54						
BC03		4.47	85		Pn	10 03 07.9	+1.1
M27K	**Edge Creek, AK**	4.53	94		Pn	10 03 10.1	+2.2
M27K	**Edge Creek, AK**	4.53	94	IAML		10 04 29.9	
	comp=N,165nm,1.3s						
M27K				IAML		10 04 30.1	
	comp=E,118nm,0.9s						
M27K	**Edge Creek, AK**	4.53	94	P	Pn	10 03 09.7	+1.8
	baz=283,SNR=24						
BERG	**Berg Lake**	4.60	122		Pn	10 03 09.7	+1.0
PTPK	**Patty Peak**	4.68	109		Pn	10 03 10.8	+0.9
TGL	**Tana Glacier**	4.74	115		Pn	10 03 11.7	+1.0
TGL	**Tana Glacier**	4.74	115	IAML		10 04 27.6	
	comp=N,143nm,1.7s						
TGL				IAML		10 04 30.6	
	comp=E,172nm,1.2s						
BALM	**Baldy**	4.80	111		Pn	10 03 11.7	+0.1
KIAG	**Kiagna River**	4.85	112		Pn	10 03 12.1	-0.2
WAX	**Waxell Ridge**	4.90	118		Pn	10 03 14.1	+1.2
EGAK	**Eagle**	4.93	65		Pn	10 03 13.5	+0.2
EGAK	**Eagle**	4.93	65	P	Pn	10 03 13.2	0.0
	baz=254,SNR=18						
ISLE	**Juniper Island**	5.03	115		Pn	10 03 14.6	-0.1
ISLE	**Juniper Island**	5.03	115	IAML		10 04 49.3	
	comp=E,99nm,1.6s						
SNH	**Sunshine Point**	5.07	120	Pn	Pn	10 03 17.0	+1.8
SNH				IAML		10 04 35.8	
	comp=E,79nm,0.9s						
SNH				IAML		10 04 49.0	
	comp=N,73nm,1.4s						
BARN	**Barnard Glacie**	5.08	109		Pn	10 03 16.5	+1.0
BARN	**Barnard Glacie**	5.08	109	IAML		10 04 40.0	
	comp=N,72nm,1.1s						
BARN				IAML		10 04 52.6	
	comp=E,61nm,0.8s						
YUK2	**White River**	5.16	99		Pn	10 03 17.9	+1.5
BAGL	**Bagley Icefiel**	5.19	115		Pn	10 03 17.5	+0.7
GRNC	**Granite Creek**	5.20	112		Pn	10 03 17.6	+0.4
GRNC	**Granite Creek**	5.20	112	IAML		10 04 42.1	
	comp=N,98nm,0.8s						
CTG	**Chitna Glacier**	5.26	109	P	Pn	10 03 18.0	+0.1
	baz=298,SNR=11						
CTGM	**Chitina Glacie**	5.27	109		Pn	10 03 18.5	+0.5
CTGM	**Chitina Glacie**	5.27	109	IAML		10 04 47.4	
	comp=N,66nm,1.4s						
BM03	**Burnt Mountain**	5.29	31		Pn	10 03 17.4	-0.8
KDAK	**Kodiak Island**	5.30	186	Pn	Pn	10 03 20.3	+2.1
	comp=N,0.3nm,0.3s,baz=74,slow=5.5,SNR=7.7						
KDAK				Lg	Lg	10 04 44.4	
	comp=N,0.2nm,0.3s,baz=12,slow=24,SNR=3.6						
KDAK				LR	LR	10 05 29.4	
	comp=N,97nm,18.7s,baz=1.4,slow=40						
BMAR	**Burnt Mountain**	5.30	31	Pn	Pn	10 03 17.6	-0.7
YUK3	**Moose Creek**	5.33	99		Pn	10 03 20.8	+1.9
YUK3	**Moose Creek**	5.33	99	P	Pn	10 03 20.1	+1.1
	baz=289,SNR=26						
DAWY	**Dawson**	5.56	74		Pn	10 03 22.1	+0.2
DAWY	**Dawson**	5.56	74	P	Pn	10 03 22.0	+0.2
	baz=265,SNR=20						
TOLK	**Toolik Lake Re**	5.69	8		Pn	10 03 25.1	+1.4
TOLK	**Toolik Lake Re**	5.69	8	P	Pn	10 03 25.1	+1.4
	baz=189,SNR=48						
I29M	**Ogilvie Camp,**	6.25	62		Pn	10 03 31.6	+0.2
I29M	**Ogilvie Camp,**	6.25	62	P	Pn	10 03 31.6	+0.2
	baz=254,SNR=27						
ANM	**Nome**	6.29	290	P	Pn	10 03 32.3	+0.5
	baz=98						
YUK4	**Talbot Arm**	6.30	100	P	Pn	10 03 33.0	+0.8
	baz=290						
BCPM	**Bancas Point**	6.51	113		Pn	10 03 35.8	+0.9
YUK6	**Outpost Mounta**	6.58	103	P	Pn	10 03 36.6	+0.5
	baz=294						
YUK5	**Granite Creek**	6.73	100		Pn	10 03 39.8	+1.7
M30M	**Minto, Yukon**	6.80	87		Pn	10 03 39.7	+0.7
M30M	**Minto, Yukon**	6.80	87	P	Pn	10 03 39.4	+0.4
	baz=280,SNR=9.4						
HYT	**Haines Junctio**	7.01	102		Pn	10 03 41.8	-0.1
HYT	**Haines Junctio**	7.01	102	P	Pn	10 03 42.5	+0.5
	baz=295						
EPYK	**Eagle Plains**	7.19	56	P	Pn	10 03 43.9	-0.4
	baz=249,SNR=11						
TNA	**Tin City**	7.53	297	P	Pn	10 03 49.9	+1.1
	baz=102						
N31M	**Braeburn, Yuko**	7.55	95	Pn	Pn	10 03 50.4	+1.2
N31M	**Braeburn, Yuko**	7.55	95	P	Pn	10 03 49.4	+0.3
	baz=289						
M31M	**Drury Creek, Y**	7.98	88	P	Pn	10 03 55.1	+0.1
	baz=284,SNR=8.9						
SKAG	**Skagway**	8.62	107	Pn	Pn	10 04 04.2	+0.5
GAMB	**Gambell**	9.04	284	Pn	Pn	10 04 09.3	-0.2
INK	**Inuvik**	9.12	47	Pn	Pn	10 04 10.7	+0.2
	comp=N,0.4nm,0.3s,baz=240,slow=12,SNR=23						
INK				LR	LR	10 08 17.7	
	comp=N,48nm,19.2s,baz=169,slow=41						
INK	**Inuvik**	9.12	47	P	Pn	10 04 10.4	-0.1
	baz=243						
MMPY	**Sheldon Lake,**	9.31	84	P	Pn	10 04 13.9	+0.6
	baz=282,SNR=6.2						
JIS	**Juneau Island**	9.69	112		Pn	10 04 18.6	+0.1
DLBC	**Dease Lake**	11.49	104	Pn	Pn	10 04 44.5	+1.3
	comp=N,0.1nm,0.3s,baz=146,slow=18,SNR=2.2						
DLBC				Lg	Lg	10 08 07.0	
	comp=N,0.1nm,0.3s,baz=242,slow=25,SNR=2.1						
C36M	**Paulatuk**	12.69	48	Pn	Pn	10 04 57.5	-1.8
A36M	**Sachs Harbour**	13.35	37	Pn	Pn	10 05 08.2	-0.2
A36M	**Sachs Harbour**	13.35	37	P	Pn	10 05 07.9	-0.4
	baz=241,SNR=9.3						
YKA	**Yellowknife Ar**	16.80	75	Pn	Pn	10 05 53.8	-0.3
	comp=N,0.2nm,0.3s,baz=288,slow=10,SNR=16						
YKA				PcP	PcP	10 10 40.8	-0.8
	comp=N,0.0nm,0.3s,baz=285,slow=1.2,SNR=5.0						
RES	**Resolute Bay**	22.40	36	P	P	10 06 57.0	-0.2
	comp=N,0.8nm,0.6s,baz=238,slow=11,SNR=5.1						
RES	**Resolute Bay**	22.40	36	IAmb	IAmb	10 07 13.4	
	comp=Z,4.3nm,1.4s						
SEY	**Seymchan**	24.76	295	P	P	10 07 19.6	-0.9
	comp=Z,1.5nm,0.8s,baz=100,slow=5.1,SNR=5.6						
PDAR	**Pinedale Array**	31.63	110	P	P	10 08 23.3	+1.0
	comp=Z,0.3nm,0.8s,baz=336,slow=3.3,SNR=3.9						
NVAR	**Mina Array Bea**	31.77	125	P	P	10 08 24.7	+1.1
	comp=Z,0.4nm,0.6s,baz=319,slow=11,SNR=4.7						
TXAR	**Lajitas Array**	45.54	115	P	P	10 10 19.6	+0.7
	comp=Z,0.4nm,0.7s,baz=327,slow=5.7,SNR=6.7						
KSRS	**Kora Array**	53.20	281	P	P	10 11 16.6	-0.6
	comp=Z,0.9nm,0.7s,baz=25,slow=7.0,SNR=2.7						
SONM	**Songino Array**	53.57	305	P	P	10 11 19.6	-0.3
	comp=Z,1.3nm,0.6s,baz=32,slow=5.8,SNR=4.2						
SONM	**Songino Array**	53.57	305	IAmb	IAmb	10 11 21.6	
	comp=Z,2.2nm,1.0s						
ZALV	**Zalesovo Beam**	55.32	323	P	P	10 11 31.8	-0.6
	comp=Z,0.6nm,0.3s,baz=15,slow=6.2,SNR=4.7						
HHC	**Hu-ho-hao-te**	57.40	297	eP	P	10 11 47.8	+0.2
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,5.5s						
KURK	**Kurchatov**	59.89	326	P	P	10 12 04.6	0.0
KURK	**Kurchatov**	59.89	326	IAmb	IAmb	10 12 33.6	
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	60.00	326	P	P	10 12 04.6	-0.8
	comp=Z,0.5nm,0.6s,baz=29,slow=6.4,SNR=4.8						

*IDC **21** 10:02:41.4±1.3, 10°.01N×91°.26E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/64, mbtmp3.6/6, ML3.8/2, MS3.2/4, Ms1 3.2/4, ms1mx2.7/78, Error ellipse: s-maj=38.2km s-min=23.6km az=57.0*

ISC 21 10:02:42.6±1.1, 10°.0N±0°.2×91°.2E±0°.1, h10km, n11, σ1§18/7, mb3.5/4, MS3.1/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	10.71	256	Pn	Pn	10 05 17.5	+1.3
	0.1nm,0.3s,baz=264,slow=6.5,SNR=2.3						
PALK				Sn	Sn	10 07 14.4	-1.8
	1.0nm,0.3s,baz=74,slow=19,SNR=7.0						
PALK				LR	LR	10 09 13.2	
	comp=Z,92nm,19.1s,baz=187,slow=36						
CMAR	**Chiang Mai Arr**	11.28	41	Pn	Pn	10 05 23.4	-0.5
	0.6nm,0.3s,baz=234,slow=15,SNR=4.5						
H08S3	**Diego Garcia H**	25.56	227	T	T	10 35 14.9	
	baz=47,slow=75,SNR=324						
H08S2	**Diego Garcia H**	25.57	227	T	T	10 35 15.2	
	baz=47,slow=75,SNR=318						
H08S1	**Diego Garcia H**	25.58	227	T	T	10 35 16.4	
	baz=47,slow=75,SNR=248						
MKAR	**Makanchi Array**	37.44	350	P	P	10 09 56.6	+0.5
	0.4nm,0.7s,baz=171,slow=8.6,SNR=4.2						
KURBB	**Kurchatov Arra**	41.83	348	P	P	10 10 32.4	-0.1
	0.2nm,0.5s,baz=163,slow=6.8,SNR=2.1						
KSRS	**Korea Array**	42.89	44	LR	LR	10 28 34.2	
	comp=Z,22nm,20.0s,baz=180,slow=36						
WRA	**Warramunga Arr**	51.87	125	P	P	10 11 51.5	-0.1
	1.3nm,0.9s,baz=309,slow=7.9,SNR=11						
ASAR	**Alice Springs**	53.52	129	P	P	10 12 03.6	-0.2
	0.8nm,0.9s,baz=293,slow=7.5,SNR=6.6						
ASAR				LR	LR	10 35 12.1	
	comp=Z,20nm,21.3s,baz=110,slow=36						
STKA	**Stephens Creek**	63.68	133	LR	LR	10 42 52.2	
	comp=Z,45nm,19.4s,baz=204,slow=38						

IDC 21 10:13:32.7±1.9, 1°.55N×124°.61E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/42, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=131.3km s-min=26.1km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	19.55	177	P	Pn	10 18 03.0	-0.3
	0.1nm,0.3s,baz=2.8,slow=9.9,SNR=2.3						
WRA	**Warramunga Arr**	23.39	156	P	P	10 18 43.4	0.0
	1.2nm,0.5s,baz=334,slow=11,SNR=28						
ASAR	**Alice Springs**	26.64	161	P	P	10 19 12.9	-0.4
	0.3nm,0.5s,baz=337,slow=11,SNR=9.8						
MKAR	**Makanchi Array**	58.17	327	P	P	10 23 28.4	-0.1
	0.2nm,0.5s,baz=126,slow=7.9,SNR=3.3						

*MOS **21** 10:13:58.8±1.1, 63°.14N×151°.70W, h10km, mb4.5/10, Error ellipse: s-maj=13.9km s-min=9.5km az=88.3*

*IDC **21** 10:13:59.1±0.6, 63°.04N×151°.70W, h0km, mb4.0/13, mb1 4.2/17, mb1mx4.0/48, mbtmp4.0/17, ML3.9/4, MS3.4/8, Ms1 3.4/8, ms1mx2.8/99, Error ellipse: s-maj=13.8km s-min=9.4km az=164.0*

*NEIC **21** 10:14:00.2±2.0, 63°.02N±0°.02×151°.57W±0°.05, h10km±1km, Error ellipse: s-maj=4.3km s-min=2.8km az=57.0*

*AEIC **21** 10:14:00±1.7, 63°.03N±0°.03×151°.58W±0°.07, h10km±3km, ML4.2, mb4.4/14(NEIC), ML4.4/160(NEIC), Mwr4.0/92(NEIC), Error ellipse: s-maj=5.5km s-min=3.8km az=128.0*

*NEIC **21** 10:14:00, 63°.04N×151°.56W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr0.69; Mθθ-0.02; Mϕϕ-0.66; Mrθ0.68; Mϕϕ-0.83; Mϕr-0.20; Fault plane solution: M0 1.29000×10^15^ NP1:ϕs180.90000°, δ51.78000°, λ33.78000°. NP2:ϕs68.41000°, δ64.10000°, λ136.54000°. Principal axes: T 1.3093, Plg48.0000°, Azm29.0000°; N -0.0462, Plg41.0000°, Azm224.0000°; P -1.2631, Plg7.0000°, Azm127.0000°;*

*ANF **21** 10:14:00.2±0.3, 63°.03N×151°.62W, h8km±2km, ML4.6/65 Error ellipse: s-maj=1.9km s-min=1.6km az=140.0*

ISC 21 10:13:59.9±1.0, 63°.04N±0°.02×151°.65W±0°.02, h8km±6km, n340, σ0§93/334, mb4.3/27, MS3.5/7, 6C, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkepyile**	0.29	240		Pg	10 14 06.3	+0.6
PPLA	**Purkepyile**	0.29	240	P	Pg	10 14 06.2	+0.6
	baz=63,SNR=1000						
PPLA				S	Sg	10 14 10.5	+1.0
	baz=63						
CAST	**Castle Rocks**	0.43	333		Pb	10 14 09.3	-0.5
CAST				Sg	Sb	10 14 14.8	-1.7
CAST	**Castle Rocks**	0.43	333	P	Pb	10 14 09.1	-0.7
	baz=149,SNR=1000						
CAST				S	Sb	10 14 15.2	-1.3
	baz=149						
KTH	**Kantishna Hill**	0.61	32		Pg	10 14 12.1	+0.4
KTH				Sg	Sg	10 14 19.6	-0.2
TRF	**Thorofare Moun**	0.74	55	Pg	Pg	10 14 14.4	+0.2
TRF	**Thorofare Moun**	0.74	55	P	Pg	10 14 14.2	0.0
	baz=235,SNR=561						
CUT	**Chulitna**	0.90	134		Pg	10 14 16.8	-0.3
CUT				Sg	Sg	10 14 27.8	-0.9
CUT				IAML		10 14 31.8	
	comp=E,10μm,0.3s						
CUT				IAML		10 14 33.3	
	comp=N,14μm,0.5s						
CUT	**Chulitna**	0.90	134	P	Pg	10 14 16.9	-0.3
	baz=317,SNR=1000						
CUT				S	Sg	10 14 28.0	-0.8
	baz=317						
CHUM	**Lake Minchumin**	0.90	341		Pn	10 14 18.1	-0.8
CHUM					Sn	10 14 30.2	-1.8
CHUM	**Lake Minchumin**	0.90	341	P	Pn	10 14 18.1	-0.8
	baz=158,SNR=1000						
CHUM				S	Sn	10 14 30.3	-1.8
	baz=158						
BPAW	**Bear Paw Mtn.**	1.11	15	Pn	Pb	10 14 21.2	-0.1
BPAW				IAML		10 14 38.0	
	comp=E,8μm,0.6s						
BPAW				IAML		10 14 39.1	
	comp=N,9μm,0.8s						
BPAW	**Bear Paw Mtn.**	1.11	15	P	Pb	10 14 21.2	-0.1
	baz=194,SNR=1000						
BPAW				S	Sb	10 14 35.9	0.0
	baz=194						
K20K	**Telida**	1.15	287	Pn	Pn	10 14 22.5	+0.2
K20K				IAML		10 14 39.6	
	comp=N,7μm,0.8s						
K20K				IAML		10 14 40.7	
	comp=E,9μm,0.8s						
K20K	**Telida**	1.15	287	P	Pn	10 14 22.4	+0.2
	baz=105,SNR=1000						
K20K				S	Sn	10 14 38.2	0.0
	baz=105						
L20K	**Farewell, AK**	1.17	242		Pb	10 14 21.2	-1.3
L20K					Sg	10 14 37.4	-0.1
L20K	**Farewell, AK**	1.17	242	P	Pb	10 14 21.1	-1.3
	baz=61,SNR=468						
L20K				S	Sn	10 14 38.1	-0.7
	baz=61						
RND	**Reindeer**	1.32	72	P	Pn	10 14 24.0	-0.7
RND	**Reindeer**	1.32	72		Pn	10 14 24.0	-0.7
RND				IAML		10 14 46.6	
	comp=N,5μm,0.6s						
MCK	**McKinley**	1.41	59	P	Pn	10 14 26.0	+0.1
MCK	**McKinley**	1.41	59		Pn	10 14 26.0	+0.1
MCK				IAML		10 14 49.3	
	comp=N,7μm,0.8s						
MCK				IAML		10 14 52.1	
	comp=E,7μm,0.8s						
MCK	**McKinley**	1.41	59	P	Pn	10 14 25.8	0.0
	baz=241,SNR=1000						
WAT1	**Susitna Watana**	1.43	97		Pn	10 14 25.8	-0.4
WAT1					Sn	10 14 43.9	-1.3
WAT1	**Susitna Watana**	1.43	97	P	Pn	10 14 25.8	-0.4
	baz=280						
WAT1				S	Sn	10 14 43.9	-1.3
	baz=280						
M22K	**Willow**	1.47	150		Pn	10 14 26.3	-0.4
M22K	**Willow**	1.47	150		Sn	10 14 44.9	-1.2
M22K	**Willow**	1.47	150	P	Pn	10 14 25.8	-0.9
	baz=333,SNR=1000						
M22K				S	Sn	10 14 45.1	-1.0
	baz=333						
BWN	**Browne**	1.50	40		Pn	10 14 27.3	+0.2
BWN				IAML		10 14 53.9	
	comp=E,6μm,0.7s						
BWN				IAML		10 14 55.6	
	comp=N,5μm,0.5s						
STLK	**Strandline Lak**	1.55	183		Pn	10 14 27.1	-0.7
J20K	**Nowinta River**	1.60	317		Pb	10 14 28.9	-0.8
J20K				IAML		10 14 53.7	
	comp=N,6μm,0.7s						
J20K				IAML		10 14 54.5	
	comp=E,4μm,0.7s						
J20K	**Nowinta River**	1.60	317	P	Pb	10 14 28.9	-0.8
	baz=134,SNR=1000						
J20K				Sb	Sg	10 14 52.0	+0.8
	baz=134						
M19K	**Big River Lodg**	1.71	229		Pn	10 14 30.1	0.0
M19K	**Big River Lodg**	1.71	229	IAML		10 14 55.7	
	comp=E,4μm,0.7s						
M19K				IAML		10 14 56.4	
	comp=N,3μm,0.7s						
M19K	**Big River Lodg**	1.71	229	P	Pn	10 14 29.7	-0.3
	baz=48						
M19K				Sb	Sg	10 14 54.7	-0.1
	baz=48						
L19K	**White Mountain**	1.71	241		Pn	10 14 29.4	-0.7
L19K	**White Mountain**	1.71	241	P	Pn	10 14 29.4	-0.7
	baz=59,SNR=458						
L19K				Sb	Sg	10 14 55.1	+0.2
	baz=59						
SPCG	**Spurr Capps Gl**	1.76	186		Pn	10 14 30.4	-0.4
GHO	**Glory Hole Cre**	1.79	134		Pn	10 14 30.6	-0.6
GHO	

baz=85
TT01 Tatalina 2.00 268 Pn 10 14 33.7 -0.3
FIS Fire Island 2.02 160 Pn 10 14 35.5 +1.4
WRH Wood River Hil 2.14 46 Pn 10 14 35.0 -0.9
RC01 Rabbit Creek A 2.15 154 Pn 10 14 35.8 -0.3
RC01 IAML 10 15 05.2
comp=E,3µm,0.4s
RC01 IAML 10 15 05.2
comp=N,2µm,0.5s
RC01 Rabbit Creek A 2.15 154 P Pn 10 14 35.6 -0.5
baz=337,SNR=531
RC01 Sb Sn 10 15 04.9 +1.9
baz=337
I21K Tanana 2.16 356 Pn 10 14 36.4 +0.3
I21K IAML 10 15 10.2
comp=E,2µm,0.8s
I21K IAML 10 15 16.7
comp=N,2µm,0.8s
I21K Tanana 2.16 356 P Pn 10 14 36.3 +0.1
baz=175,SNR=127
KNK Knik Glacier 2.21 136 Pn Pn 10 14 37.1 +0.2
KNK IAML 10 15 09.2
comp=E,4µm,0.5s
KNK IAML 10 15 10.2
comp=N,3µm,0.5s
KNK Knik Glacier 2.21 136 P Pn 10 14 36.8 -0.1
baz=320,SNR=490
M23K Glacier View 2.21 123 P Pn 10 14 36.3 -0.6
baz=306,SNR=1000
CAPN Captain Cook N 2.29 174 Pb 10 14 40.4 -1.0
CAPN Captain Cook N 2.29 174 Pb Pb 10 14 40.9 -0.5
baz=355,SNR=7.5
I23K Minto, Yukon-K 2.34 24 Pn 10 14 38.3 -0.4
I23K Minto, Yukon-K 2.34 24 IAML 10 15 14.2
comp=N,2µm,0.7s
I23K IAML 10 15 16.0
comp=E,2µm,0.5s
I23K Minto, Yukon-K 2.34 24 P Pn 10 14 38.2 -0.4
baz=206,SNR=185
SCM Sheep Creek Mo 2.34 119 P Pn 10 14 38.2 -0.6
SCM Sheep Creek Mo 2.34 119 Pn 10 14 38.2 -0.6
SCM IAML 10 15 19.0
comp=E,3µm,0.8s
SCM IAML 10 15 21.3
comp=N,2µm,1.1s
SCM Sheep Creek Mo 2.34 119 P Pn 10 14 38.0 -0.8
baz=303,SNR=601
CCB Clear Creek Bu 2.35 45 Pn 10 14 37.8 -0.9
MDM Murphy Dome 2.45 36 Pn 10 14 39.2 -0.9
TCOL CIGO, UAF Yank 2.49 40 Pn 10 14 39.9 -0.7
TCOL CIGO, UAF Yank 2.49 40 P Pn 10 14 39.8 -0.9
baz=223,SNR=171
I53US FAIRBANKS INFR 2.49 40 *i* 10 28 30.0
baz=222,slow=331,SNR=1.5
COLA College 2.49 41 P Pn 10 14 39.8 -0.9
COLA College 2.49 41 Pn 10 14 39.8 -0.9
COLA College 2.49 41 P Pn 10 14 39.8 -0.9
baz=223
RDJH Redoubt Jeurge 2.52 193 Pn 10 14 42.5 +1.2
N19K Bonanza Creek 2.60 212 Pn 10 14 43.0 +0.6
N19K Bonanza Creek 2.60 212 IAML 10 15 23.2
comp=E,2µm,0.8s
N19K IAML 10 15 24.5
comp=N,1µm,0.9s
N19K Bonanza Creek 2.60 212 P Pn 10 14 42.4 0.0
baz=30
PS08 TAPS Pump Stn8 2.62 53 Pn 10 14 41.8 -0.7
RDWB Redoubt West 2.62 193 Pn 10 14 43.5 +0.8
SLKM Skilak Lake 2.63 164 Pn 10 14 42.7 0.0
RSO Redoubt South 2.64 192 Pn 10 14 44.3 +1.4
H21K Melozitna Rive 2.68 350 Pn 10 14 43.4 +0.1
H21K Melozitna Rive 2.68 350 IAML 10 15 24.8
comp=E,972nm,0.8s
H21K Melozitna Rive 2.68 350 P Pn 10 14 43.4 +0.1
baz=168,SNR=202
RED Redoubt Volcan 2.68 192 Pn 10 14 44.3 +0.8
PS10 TAPS Pump St10 2.69 79 Pn 10 14 44.6 +1.1
PWL Port Wells 2.69 143 Pn 10 14 44.0 +0.5
PWL Port Wells 2.69 143 IAML 10 15 26.7
comp=E,2µm,0.7s
PWL IAML 10 15 29.2
comp=N,2µm,0.8s
PWL Port Wells 2.69 143 P Pn 10 14 43.9 +0.5
baz=326,SNR=256
SVW2 Sparrevohn 2.69 225 Pn 10 14 43.6 +0.1
SVW2 Sparrevohn 2.69 225 IAML 10 15 26.5
comp=N,1µm,0.7s
SVW2 IAML 10 15 28.1
comp=E,1µm,0.5s
M24K Tolsona, Glenn 2.70 108 Pn 10 14 44.1 +0.4
M24K Tolsona, Glenn 2.70 108 P Pn 10 14 43.3 -0.3
baz=293,SNR=298
PS07 TAPS Pump Stn7 2.72 31 Pn 10 14 43.1 -0.7
O22K Cooper Landing 2.72 160 Pn 10 14 45.4 +1.5
O22K Cooper Landing 2.72 160 P Pn 10 14 43.7 -0.2
baz=342,SNR=149
IL31 2.73 48 Pn 10 14 43.1 -0.8
ILAR Eielson Array 2.73 48 Pn Pn 10 14 42.8 -1.2
comp=E,8.2nm,0.3s,baz=237,slow=14,SNR=347
ILAR Pg Pb 10 14 49.0 +0.1
comp=E,25nm,0.3s,baz=234,slow=21,SNR=41
ILAR Lg Lg 10 15 24.3
comp=E,111nm,0.3s,baz=227,slow=29,SNR=19
ILAR Eielson Array 2.73 48 P Pn 10 14 43.1 -0.9
ILAR 10 15 24.3
ILAR Eielson Array 2.73 48 Pn 10 14 43.1 -0.9
K24K Donnelly Dome 2.75 71 P Pn 10 14 44.9 +0.6
baz=256,SNR=286
POKR Poker Plat Res 2.79 40 Pn 10 14 44.2 -0.7
POKR Poker Plat Res 2.79 40 P Pn 10 14 44.2 -0.7
baz=223,SNR=12
PAX Paxson 2.82 89 P Pn 10 14 45.3 0.0
PAX Paxson 2.82 89 Pn 10 14 45.3 0.0
PAX Paxson 2.82 89 P Pn 10 14 45.1 -0.2
baz=274,SNR=467
GCSA Galena City Sc 2.88 309 Pn 10 14 46.9 +0.9
GCSA Galena City Sc 2.88 309 P Pn 10 14 46.3 +0.3
baz=124,SNR=45
H23K Yukon River 2.94 17 Pn 10 14 46.9 0.0
H23K Yukon River 2.94 17 IAML 10 15 39.5
comp=N,838nm,0.7s
H23K Yukon River 2.94 17 P Pn 10 14 47.0 0.0
baz=198,SNR=325
PS06 TAPS Pump Stn6 2.95 15 Pn 10 14 47.3 +0.3
O20K Slope Mountain 3.00 189 Pn 10 14 49.8 +1.9
GLI Glacier Island 3.05 133 Pn 10 14 49.1 +0.8
GLI Glacier Island 3.05 133 IAML 10 15 33.2
comp=N,2µm,0.6s
GLI IAML 10 15 33.5
comp=E,2µm,0.5s
GLI Glacier Island 3.05 133 P Pn 10 14 49.2 +0.8
baz=318,SNR=89
HARP HAARP 3.06 99 Pn 10 14 49.1 +0.6
HARP HAARP 3.06 99 P Pn 10 14 48.8 +0.2
baz=285,SNR=400
KLU Klutina 3.09 118 Pn 10 14 50.0 +0.9
KLU Klutina 3.09 118 IAML 10 15 34.4
comp=E,701nm,0.5s
KLU IAML 10 15 42.2
comp=N,1µm,1.0s
KLU Klutina 3.09 118 P Pn 10 14 49.9 +0.8
baz=303,SNR=250
IM03 3.10 344 Pn 10 14 49.4 +0.4
IMAR Indian Mountai 3.10 344 Pn Pn 10 14 49.4 +0.4
JPK Jack Peak 3.10 128 Pn 10 14 49.7 +0.6
N18K Kilae Creek 3.10 222 Pn 10 14 49.5 +0.4
N18K Kilae Creek 3.10 222 IAML 10 15 38.9
comp=E,805nm,0.8s
N18K IAML 10 15 40.1
comp=N,1µm,0.7s
N18K Kilae Creek 3.10 222 P Pn 10 14 49.4 +0.2
baz=39,SNR=29
SEW Seward 3.12 159 Pn 10 14 51.0 +1.6
SEW Seward 3.12 159 Pb Pb 10 14 54.6 -1.0
baz=342,SNR=51
O19K Port Alsworth 3.13 205 Pn 10 14 50.0 +0.5
O19K Port Alsworth 3.13 205 IAML 10 15 39.9
comp=N,1µm,0.4s
O19K IAML 10 15 44.4
comp=E,2µm,0.5s
O19K Port Alsworth 3.13 205 P Pn 10 14 49.5 0.0
baz=23
RIDG Independent Ri 3.14 74 Pn 10 14 50.2 +0.4
RIDG Independent Ri 3.14 74 IAML 10 15 46.4
comp=E,1µm,0.8s
RIDG Independent Ri 3.14 74 P Pn 10 14 50.1 +0.4
baz=260,SNR=251
J25K Salcha River, 3.20 58 Pn 10 14 50.1 -0.4
J25K Salcha River, 3.20 58 IAML 10 15 44.1
comp=E,668nm,0.8s
J25K IAML 10 15 44.5
comp=N,929nm,0.6s
H24K Noodor Dome 3.25 28 Pn 10 14 50.4 -0.9
H24K Noodor Dome 3.25 28 P Pn 10 14 50.3 -0.9
baz=211,SNR=32
BRLK Bradley Lake 3.31 173 Pn 10 14 53.6 +1.6
BRSE Bradley Lake S 3.34 172 P Pn 10 14 53.1 +0.7
baz=353
FID Port Fidalgo 3.35 131 Pn 10 14 53.1 +0.5
FID Port Fidalgo 3.35 131 IAML 10 15 49.6
comp=N,1µm,0.6s
DIV Divide 3.36 122 Pn 10 14 53.3 +0.6
HOM Homer 3.39 180 Pn Pn 10 14 55.0 +1.9
DOT Dot Lake 3.47 76 Pn 10 14 54.6 +0.4
P19K Oil Pt 3.48 193 Pn 10 14 56.6 +2.2
P19K Oil Pt 3.48 193 IAML 10 15 49.4
comp=N,506nm,0.6s
P19K IAML 10 16 13.1
comp=E,612nm,0.6s
CNPM China Poot 3.53 177 Pn 10 14 56.1 +1.1
CNPM China Poot 3.53 177 IAML 10 15 57.3
comp=E,556nm,0.8s
SCRK Sand Creek 3.56 71 Pn 10 14 55.6 0.0
SCRK Sand Creek 3.56 71 IAML 10 15 54.6
comp=E,547nm,0.5s
SCRK IAML 10 15 58.2
comp=N,606nm,0.7s
SCRK Sand Creek 3.56 71 P Pn 10 14 55.4 -0.1
baz=258,SNR=78
N25K Chitina, Valde 3.59 110 Pn 10 14 56.9 +1.0
N25K Chitina, Valde 3.59 110 P Pn 10 14 57.0 +1.0
baz=297,SNR=62
MENT Mentasta 3.62 88 Pn 10 14 57.7 +1.5
O18K Koktuh Hills 3.62 210 Pn 10 14 56.6 +0.3
O18K Koktuh Hills 3.62 210 IAML 10 15 55.2
comp=N,524nm,1.0s
O18K IAML 10 16 01.5
comp=E,527nm,1.1s
O18K Koktuh Hills 3.62 210 P Pn 10 14 57.0 +0.7
baz=27,SNR=26
EYAK Cordova Ski Ar 3.75 129 Pn 10 14 58.7 +0.7
EYAK Cordova Ski Ar 3.75 129 P Pn 10 14 58.5 +0.4
baz=315,SNR=94
L26K Log Cabin Wild 3.78 86 Pn 10 15 00.2 +1.7
L26K Log Cabin Wild 3.78 86 P Pn 10 15 00.2 +1.7
baz=274,SNR=355
PS05 TAPS Pump Stn5 3.81 6 Pn 10 14 59.5 +0.6
J26L Joseph Creek 3.88 64 P Pn 10 14 60.0 +0.1
baz=251,SNR=245
BMRM Bremner River 3.92 119 Pn 10 15 00.7 +0.4
BMRM Bremner River 3.92 119 IAML 10 16 08.8
comp=E,591nm,1.2s
BMRM IAML 10 16 08.9
comp=N,700nm,0.8s
BMRM Bremner River 3.92 119 P Pn 10 15 00.6 +0.2
baz=305,SNR=173
GLB Gilahina Butte 4.00 110 Pn 10 15 02.5 +1.0
GLB Gilahina Butte 4.00 110 IAML 10 16 06.6
comp=N,522nm,0.6s
GLB IAML 10 16 07.8
comp=E,378nm,0.9s
M26K Nabesna, AK 4.03 95 Pn 10 15 02.9 +0.9
M26K Nabesna, AK 4.03 95 IAML 10 16 09.2
comp=E,563nm,0.8s
M26K Nabesna, AK 4.03 95 P Pn 10 15 03.1 +1.1
baz=283,SNR=50
P18K Big Mountain, 4.05 207 Pn 10 15 01.9 -0.3
P18K IAML 10 16 12.2
comp=E,326nm,1.1s
P18K Big Mountain, 4.05 207 P Pn 10 15 02.7 +0.5
baz=24
GOAT Goat Mountain 4.10 124 Pn 10 15 03.5 +0.6
Q19K Cape Douglas, 4.24 194 Pn 10 15 07.0 +2.2
Q19K Cape Douglas, 4.24 194 IAML 10 16 22.4
comp=N,660nm,0.8s
COLD Coldfoot 4.25 8 Pn 10 15 05.8 +0.9
COLD Coldfoot 4.25 8 P Pn 10 15 05.5 +0.6
baz=188,SNR=110
RAGM Ragged Mountai 4.25 126 Pn 10 15 06.1 +1.2
VRDI Verde Repeater 4.25 112 Pn 10 15 05.6 +0.5
VRDI Verde Repeater 4.25 112 IAML 10 16 17.6
comp=N,352nm,1.1s
MCARA McCarthy VSAT 4.36 108 Pn 10 15 07.7 +1.2
MCARA McCarthy VSAT 4.36 108 P Pn 10 15 06.9 +0.4
baz=296,SNR=37
Q23K Middleton Isla 4.43 142 P Pn 10 15 08.3 +1.0
baz=327
HMT Hamilton 4.44 124 Pn 10 15 08.1 +0.6
L27K Beaver Creek, 4.47 85 Pn 10 15 09.0 +1.1
L27K Beaver Creek, 4.47 85 P Pn 10 15 08.7 +0.7
baz=274,SNR=218
BC03 4.49 85 Pn 10 15 09.1 +0.9
BCAR Beaver Creek A 4.49 85 Pn Pn 10 15 09.0 +0.8
M27K Edge Creek, AK 4.55 94 Pn 10 15 11.0 +1.8
M27K Edge Creek, AK 4.55 94 IAML 10 16 31.1
comp=N,488nm,0.8s
M27K IAML 10 16 34.5
comp=E,244nm,1.0s
M27K Edge Creek, AK 4.55 94 P Pn 10 15 10.9 +1.8
baz=283,SNR=79
BERG Berg Lake 4.62 122 Pn 10 15 10.6 +0.6
KAIM Kayak Island 4.66 129 Pn Pn 10 15 11.8 +1.2
KAIM IAML 10 16 43.4
comp=E,220nm,0.8s
KAIM IAML 10 16 48.3
comp=N,260nm,1.1s
PTPK Patty Peak 4.69 109 Pn 10 15 12.2 +1.0
TGL Tana Glacier 4.76 115 Pn 10 15 12.7 +0.8
TGL Tana Glacier 4.76 115 IAML 10 16 28.8
comp=N,395nm,1.2s
TGL IAML 10 16 31.8
comp=E,387nm,1.2s
KHIT Khitrov Hills 4.76 119 Pn 10 15 12.2 +0.2
BALM Baldy 4.82 110 Pn 10 15 13.0 +0.3
KIAG Kiagna River 4.87 112 Pn 10 15 13.6 +0.1
WAX Waxell Ridge 4.92 118 Pn 10 15 15.2 +1.0
EGAK Eagle 4.95 65 Pn 10 15 14.6 +0.2
EGAK Eagle 4.95 65 P Pn 10 15 14.6 +0.2
baz=254,SNR=84
BVCY Beaver Creek 5.00 92 Pn 10 15 16.7 +1.4
BVCY Beaver Creek 5.00 92 P Pn 10 15 16.5 +1.3
baz=282,SNR=54
ISLE Juniper Island 5.04 115 Pn 10 15 15.8 -0.1
ISLE Juniper Island 5.04 115 IAML 10 16 39.3
comp=E,276nm,0.8s
SNH Sunshine Point 5.09 120 Pn Pn 10 15 18.3 +1.9
SNH IAML 10 16 37.1
comp=E,179nm,1.0s
SNH IAML 10 16 55.5
comp=N,187nm,1.4s
BARN Barnard Glacie 5.10 108 Pn 10 15 17.3 +0.6
BARN Barnard Glacie 5.10 108 IAML 10 16 41.2
comp=N,221nm,1.1s
BARN IAML 10 16 53.3
comp=E,168nm,0.9s
YUK2 White River 5.18 99 Pn 10 15 19.2 +1.5
BAGL Bagley Icefiel 5.21 115 Pn 10 15 18.6 +0.6
GRNC Granite Creek 5.22 112 Pn 10 15 18.9 +0.5
GRNC Granite Creek 5.22 112 IAML 10 16 43.2
comp=N,267nm,0.9s
CTG Chitna Glacier 5.28 109 P Pn 10 15 19.7 +0.5
baz=298,SNR=43
CTGM Chitina Glacie 5.29 109 Pn 10 15 19.6 +0.3
CTGM Chitina Glacie 5.29 109 IAML 10 16 43.3
comp=N,139nm,1.3s
KDAK Kodiak Island 5.29 185 Pn Pn 10 15 21.1 +1.9
comp=N,1.1nm,0.3s,baz=45,slow=5.5,SNR=13
KDAK Lg Lg 10 16 44.3
comp=N,2.3nm,0.3s,baz=319,slow=19,SNR=1.5
KDAK Kodiak Island 5.29 185 *i* P Pn 10 15 21.7 +2.5
KDAK Kodiak Island 5.29 185 Pn Pn 10 15 20.9 +1.8
KDAK Kodiak Island 5.29 185 P Pn 10 15 19.9 +0.7
baz=5.0
BM03 Burnt Mountain 5.30 31 Pn 10 15 18.5 -0.8
BMAR Burnt Mountain 5.31 31 Pn Pn 10 15 18.6 -0.9
YUK3 Moose Creek 5.35 99 Pn 10 15 21.7 +1.4
YUK3 Moose Creek 5.35 99 P Pn 10 15 21.6 +1.4
baz=289,SNR=86
LOGN Logan Glacier 5.49 109 Pn 10 15 23.4 +1.3
DAWY Dawson 5.57 74 Pn 10 15 23.3 +0.2
DAWY Dawson 5.57 74 P Pn 10 15 23.2 +0.1
baz=265,SNR=74
TABL Table Mountain 5.63 113 Pn 10 15 24.9 +0.9
TOLK Toolik Lake Re 5.69 8 Pn 10 15 26.4 +1.7
TOLK Toolik Lake Re 5.69 8 P Pn 10 15 26.4 +1.7
baz=189,SNR=104
OHAK Old Harbor 5.89 189 Pn 10 15 28.8 +1.4
J29M Klondike Camp 6.13 71 P Pn 10 15 30.6 -0.1
baz=263,SNR=16
PCA Pinnacle 6.19 113 Pn 10 15 32.1 +0.6
ANM Nome 6.27 290 P Pn 10 15 33.6 +1.0
ANM Nome 6.27 290 Pn 10 15 33.6 +1.0
ANM Nome 6.27 290 P Pn 10 15 33.4 +0.8
baz=98
I29M Ogilvie Camp, 6.27 62 Pn 10 15 33.1 +0.4
I29M Ogilvie Camp, 6.27 62 P Pn 10 15 32.4 -0.2
baz=254,SNR=74
YUK4 Talbot Arm 6.32 100 P Pn 10 15 34.2 +0.7
baz=290,SNR=9.9
BCPM Bancas Point 6.53 113 Pn 10 15 37.1 +0.9
YUK6 Outpost Mounta 6.60 103 P Pn 10 15 38.3 +1.0
baz=294
PNL Peninsula 6.79 114 Pn 10 15 41.0 +1.2
PNL Peninsula 6.79 114 P Pn 10 15 40.1 +0.4
baz=305
M30M Minto, Yukon 6.82 87 Pn 10 15 40.9 +0.7
M30M Minto, Yukon 6.82 87 P Pn 10 15 40.3 +0.1
baz=280,SNR=32
HYT Haines Junctio 7.03 102 Pn Pn 10 15 40.9 -2.3
HYT Haines Junctio 7.03 102 P Pn 10 15 43.9 +0.8
baz=295
EPYK Eagle Plains 7.21 56 Pn 10 15 45.2 -0.3
EPYK Eagle Plains 7.21 56 P Pn 10 15 45.5 0.0
baz=249,SNR=36
TNA Tin City 7.51 297 Pn 10 15 51.2 +1.6
TNA Tin City 7.51 297 P Pn 10 15 50.4 +0.8
baz=102
N31M Braeburn, Yuko 7.56 95 Pn 10 15 51.8 +1.5
N31M Braeburn, Yuko 7.56 95 P Pn 10 15 51.9 +1.5
baz=289,SNR=11
M31M Drury Creek, Y 8.00 88 Pn 10 15 57.0 +0.6
M31M Drury Creek, Y 8.00 88 P Pn 10 15 56.9 +0.6
baz=284,SNR=20
WHY Whitehorse 8.27 99 Pn 10 16 01.4 +1.2
WHY Whitehorse 8.27 99 P Pn 10 16 00.8 +0.6
baz=294,SNR=6.5
FARO Faro, Yukon 8.46 87 P Pn 10 16 03.1 +0.3
baz=284,SNR=20
SKAG Skagway 8.64 107 Pn Pn 10 16 05.0 0.0
SKAG Skagway 8.64 107 P Pn 10 16 05.6 +0.6
baz=302,SNR=10
GAMB Gambell 9.02 284 P Pn 10 16 10.8 +0.6
baz=86
INK Inuvik 9.13 47 Pn Pn 10 16 11.5 -0.2
comp=N,1.3nm,0.3s,baz=237,slow=14,SNR=74
INK Sn Sn 10 17 53.1 -1.3
comp=N,0.3nm,0.3s,baz=196,slow=7.4,SNR=2.3
INK Lg Lg 10 18 47.0
comp=N,0.2nm,0.3s,baz=340,slow=3.1,SNR=3.6
INK LR LR 10 20 13.1
comp=N,214nm,19.6s,baz=174,slow=41
INK Inuvik 9.13 47 P Pn 10 16 11.6 -0.2
baz=243,SNR=25
MMPY Sheldon Lake, 9.33 83 P Pn 10 16 15.6 +1.0
baz=282,SNR=17
BESE Bessie Mountai 9.33 111 Pn 10 16 14.8 +0.2
JIS Juneau Island 9.71 112 Pn 10 16 19.7 0.0
TGTN Hyland Airport 10.97 87 P Pn 10 16 37.7 +0.7
baz=288,SNR=6.6
DLBC Dease Lake 11.51 104 Pn Pn 10 16 45.3 +0.9
comp=N,0.4nm,0.3s,baz=340,slow=14,SNR=9.5
DLBC Lg Lg 10 20 03.6
comp=N,0.2nm,0.3s,baz=51,slow=15,SNR=3.5
DLBC LR LR 10 20 36.5
comp=N,107nm,21.4s,baz=68,slow=34
DLBC Dease Lake 11.51 104 Pn 10 16 44.9 +0.4
C36M Paulatuk 12.70 48 Pn Pn 10 16 58.3 -2.3
C36M Paulatuk 12.70 48 P Pn 10 16 58.9 -1.7
baz=254,SNR=16
A36M Sachs Harbour 13.36 37 Pn Pn 10 17 08.1 -1.5
A36M Sachs Harbour 13.36 37 P Pn 10 17 08.5 -1.1
baz=241,SNR=27
YKA Yellowknife Ar 16.81 75 Pn Pn 10 17 54.8 -0.6
comp=N,0.6nm,0.3s,baz=285,slow=11,SNR=29
YKA PcP PcP 10 22 42.1 -0.5
comp=N,0.1nm,0.3s,baz=276,slow=1.2,SNR=5.3
YKA Yellowknife Ar 16.81 75 Pn Pn 10 17 53.5 -1.8
BILL Bilibino 17.83 305 *ieP* Pn 10 18 04.8 -3.2
BILL *i* S Sn 10 21 14.5 -12
BILL pmax pmax
comp=Z,7.0nm,2.5s
BILL MLR MLR
comp=Z,28nm,14.0s
EDM Edmonton 22.14 99 P P 10 18 55.4 -0.3
EDM pmax pmax
comp=Z,36nm,1.3s
EDM Edmonton 22.14 99 P P 10 18 55.4 -0.3
RES Resolute Bay 22.41 36 P P 10 18 58.7 +0.3
comp=Z,1.7nm,0.6s,baz=283,slow=12,SNR=13
RES Resolute Bay 22.41 36 P P 10 18 58.4 0.0
RES pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 22.41 36 P P 10 18 58.4 0.0
NEW Newport 24.06 112 LR LR 10 29 10.2
comp=Z,70nm,18.5s,baz=271,slow=38
SEY Seymchan 24.75 295 P P 10 19 22.1 +0.7
comp=Z,1.8nm,0.7s,baz=71,slow=5.1,SNR=11
WALA Waterton Lakes 24.83 107 P P 10 19 23.1 +0.5
WALA IAmb IAmb 10 19 30.7
comp=Z,13nm,1.2s
JTMT Jette 25.67 109 P P 10 19 31.7 +1.6
MSO Missoula 26.53 110 P P 10 19 35.3 -2.5
MSO IAmb IAmb 10 19 39.3
comp=Z,10nm,1.5s
PDAR Pinedale Array 31.65 110 P P 10 20 24.6 +1.1
comp=Z,0.6nm,0.6s,baz=304,slow=3.0,SNR=8.4
PDAR PcP PcP 10 23 14.6 -0.7
comp=Z,0.4nm,0.5s,baz=121,slow=0.7,SNR=4.4
PDAR LR LR 10 32 40.8
comp=Z,38nm,19.6s,baz=310,slow=35
NVAR Mina Array Bea 31.79 125 P P 10 20 26.1 +1.3
comp=Z,0.8nm,0.6s,baz=320,slow=9.1,SNR=11
NVAR PcP PcP 10 23 16.1 +0.4
comp=Z,0.8nm,0.6s,baz=291,slow=3.0,SNR=7.8
NVAR LR LR 10 34 38.5
comp=Z,102nm,18.3s,baz=212,slow=39
RSSD Black Hills 32.98 102 P P 10 20 35.9 +0.7
RSSD pmax pmax
comp=Z,7.0nm,1.1s
RSSD Black Hills 32.98 102 P P 10 20 35.9 +0.7
RSSD IAmb IAmb 10 20 37.4
comp=Z,7.3nm,1.1s
EYMN Ely 35.77 86 P P 10 20 58.7 -0.3
EYMN IAmb IAmb 10 21 01.6
comp=Z,5.9nm,0.8s
EYMN Ely 35.77 86 P P 10 20 57.9 -1.1
baz=318,SNR=5.5
DAG Danmarks Havn 37.39 16 *i* P P 10 21 12.0 -0.5
SFJD Kangerlussuaq 38.35 38 LR LR 10 36 57.8
comp=Z,63nm,18.1s,baz=282,slow=36
SPB2 Spitsbergen Ar 38.84 4 P P 10 21 25.8 +1.1
ANMO Albuquerque 39.52 114 *i* P P 10 21 32.8 +1.7
ANMO pmax pmax
comp=Z,6.0nm,2.9s
ICESG Greenland Ices 39.70 31 *i* P P 10 21 30.3 -2.0
E46A Sault Ste Mari 40.20 82 P P 10 21 36.7 +0.3
E46A IAmb IAmb 10 21 37.3
comp=Z,5.7nm,0.7s
KSU1 Kansas State U 40.33 100 P P 10 21 37.6 +0.1
L40A Anamosa 40.39 92 P P 10 21 38.5 +0.5
L40A IAmb IAmb 10 21 39.7
comp=Z,6.3nm,0.8s
SCHQ Schefferville 41.42 61 P P 10 21 46.5 0.0
comp=Z,5.2nm,1.0s,baz=318,slow=6.1,SNR=5.2
SCHQ Schefferville 41.42 61 P P 10 21 46.4 0.0
SCHQ IAmb IAmb 10 21 47.5
comp=Z,12nm,1.2s
NRIK Noril'sk 41.47 333 P P 10 21 47.5 +0.9
comp=Z,5.7nm,0.6s,baz=50,slow=6.6,SNR=7.8
NRIK Noril'sk 41.47 333 *ceP* P 10 21 47.1 +0.5
NRIK pmax pmax
comp=Z,5.0nm,0.6s
NRIK Noril'sk 41.47 333 P P 10 21 48.0 +1.5
NRIK IAmb IAmb 10 21 48.3
comp=Z,6.4nm,0.6s
KLR Kul'dur 42.15 288 *i* P P 10 21 51.5 -0.9
KLR pmax pmax

	comp=Z,1.0nm,0.9s							
SADO	**Sadowa**	**43.75**	**79**	LR	LR	10 41 07.6		
	comp=Z,62nm,20.2s,baz=12,slow=37							
TXAR	**Lajitas Array**	**45.55**	**115**	P	**P**	**10 22 21.1**	**+1.0**	
	comp=Z,1.1nm,0.7s,baz=329,slow=5.9,SNR=17							
TXAR				PcP	**PcP**	**10 23 58.5**	**0.0**	
	comp=Z,0.3nm,0.5s,baz=289,slow=2.8,SNR=7.5							
ARCES	**ARCESS Array B**	**47.69**	**1**	PcP	**PcP**	**10 24 04.9**	**-0.4**	
	comp=Z,2.4nm,0.8s,baz=20,slow=3.9,SNR=5.0							
TKL	**Tuckaleechee C**	**48.98**	**91**	LR	LR	10 45 21.4		
	comp=Z,54nm,20.0s,baz=173,slow=38							
KSRS	**Korea Array**	**53.18**	**281**	P	**P**	**10 23 18.9**	**+0.8**	
	comp=Z,1.9nm,0.8s,baz=31,slow=7.4,SNR=6.8							
ULN	**Ulaanbaatar**	**53.28**	**305**	*ce*P	**P**	**10 23 19.6**	**+0.7**	
ULN				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SONM	**Songino Array**	**53.55**	**305**	P	**P**	**10 23 21.7**	**+0.8**	
	comp=Z,1.9nm,0.8s,baz=19,slow=6.3,SNR=7.3							
ZALV	**Zalesovo Beam**	**55.31**	**323**	P	**P**	**10 23 33.2**	**-0.2**	
	comp=Z,2.2nm,0.7s,baz=25,slow=7.5,SNR=9.5							
ZALV	**Zalesovo Beam**	**55.31**	**323**	*i* P	**P**	**10 23 33.0**	**-0.4**	
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**57.38**	**297**	*e*P	**P**	**10 23 48.8**	**+0.3**	
HHC				pmax	pmax			
	comp=Z,13nm,1.0s							
HHC				pmax	pmax			
	comp=Z,62nm,5.5s							
BRVK	**Borovoye**	**59.67**	**332**	*ce*P	**P**	**10 24 03.5**	**-0.6**	
BRVK				pmax	pmax			
	comp=Z,5.0nm,2.5s							
OBN	**Obninsk**	**62.01**	**355**⇑	*e*P	**P**	**10 24 20.1**	**+0.1**	
OBN				*e*		10 25 00.1		
OBN				*e*		10 26 32.9		
OBN				pmax	pmax			
	comp=Z,3.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,31nm,19.0s							
MKAR	**Makanchi Array**	**62.46**	**321**	P	**P**	**10 24 22.5**	**-0.7**	
	comp=Z,0.4nm,0.4s,baz=38,slow=6.1,SNR=7.1							
WMQ	**Urumqi**	**63.52**	**316**	*e*P	**P**	**10 24 32.5**	**+2.1**	
WHN	**Wuhan**	**65.00**	**288**	⇑P	P	10 24 52.3	+12	
AKASG	**Malin Array Be**	**66.60**	**359**	P	**P**	**10 24 49.9**	**-0.3**	
	comp=Z,1.2nm,0.5s,baz=16,slow=5.3,SNR=3.0							
KSH	**Kashi**	**70.95**	**323**	P	**P**	**10 25 20.6**	**+3.0**	
KSH				sP	PcP	10 25 30.4	-7.6	
KSH				pmax	pmax			
	comp=Z,6.0nm,0.7s							
PZH	**PanZhiHua**	**73.84**	**297**	P	**P**	**10 25 35.5**	**+0.5**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,80nm,6.7s							
ESDC	**Sonseca Array**	**74.42**	**25**	P	**P**	**10 25 37.8**	**-0.3**	
	comp=Z,1.8nm,0.9s,baz=337,slow=5.9,SNR=7.8							
CMAR	**Chiang Mai Arr**	**82.17**	**295**	*i* P	**P**	**10 26 19.7**	**-1.5**	
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
BOSA	**Boshof**	**145.51**	**5**	PKPbc	**PKPab**	**10 33 38.5**	**0.0**	
	comp=Z,3.4nm,0.8s,baz=319,slow=0.8,SNR=4.0							

IDC 21 10:21:04.1±2.1, 17.38N×94.61E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.3/40, mbtmp3.5/3, ML3.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.4/95, Error ellipse: s-maj=41.5km s-min=29.2km az=57.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.27**	**75**	Pn	Pn	10 22 10.6	+0.3
	0.4nm,0.3s,baz=255,slow=14,SNR=5.1						
CMAR				Pg	Pb	10 22 21.3	+1.3
	0.5nm,0.3s,baz=255,slow=18,SNR=5.5						
CMAR				Lg	Lg	10 23 10.4	
	1.5nm,0.3s,baz=246,slow=33,SNR=5.6						
ZALV	**Zalesovo Beam**	**37.28**	**350**	P	P	10 28 17.1	-0.6
	1.1nm,0.6s,baz=173,slow=9.2,SNR=4.8						
GEYT	**Alibeck**	**37.93**	**310**	LR	LR	10 48 06.6	
	comp=Z,15nm,19.4s,baz=164,slow=43						
ASAR	**Alice Springs**	**56.01**	**136**	P	P	10 30 45.2	+0.3
	0.3nm,0.6s,baz=318,slow=7.3,SNR=6.4						
HNR	**Honiara**	**69.83**	**107**	LR	LR	11 04 38.4	
	comp=Z,50nm,18.4s,baz=44,slow=37						

*KRNET **21** 10:22:23.2±0.1, 39.45N×72.17E, h20km, mb3.4*
*ISU **21** 10:22:24.1, 39.51N×72.17E, h14km, Hypocentre not reviewed by the ISC*
*SOME **21** 10:22:28.3, 39.87N×71.90E, h10km*
*NNC **21** 10:22:30.4±3.9, 39.81N×72.28E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=29.0km s-min=14.8km az=179.0*
ISC 21 10:22:29.9±1.2, 39.67N±0.04×72.10E±0.03, h3km±10km, n44, σ2s00/77, 32C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.30**	**231**⇑	*i*P	**Pg**	**10 22 29.3**	**+0.6**
	baz=78						
DRK			⇑	*i*S	**Sg**	**10 22 33.9**	**+1.2**
	baz=78						
SHAK	**Shakhimardan**	**0.40**	**315**	P		10 22 34.5	
SHAK				S		10 22 43.2	
SHAK				S		10 23 00.8	
FRG	**Fergana**	**0.74**	**341**	P		10 22 42.0	
FRG				S		10 22 55.1	
CHMI	**Chimion**	**0.75**	**323**	P		10 22 41.6	
CHMI				S		10 22 55.0	
OHH	**Osh**	**1.00**	**31**⇑	*i*P	**Pn**	**10 22 44.9**	**+0.9**
	baz=23						
OHH			⇑	*i*S	**Sn**	**10 23 00.8**	**+2.2**
	baz=23						
OHH	**Osh**	**1.00**	**31**	P		10 22 44.7	
OHH				S		10 23 00.2	
BTK	**Batken**	**1.06**	**292**⇑	*i*P	**Pn**	**10 22 45.6**	**+0.8**
	baz=1.0						
BTK			⇑	*i*S	**Sn**	**10 23 01.8**	**+1.6**
	baz=1.0						
BTK	**Batken**	**1.06**	**292**	P		10 22 45.7	
BTK				S		10 23 01.7	
MINT	**Mingtut**	**1.18**	**313**	P		10 22 50.4	
TRKS	**Terek-Say**	**2.00**	**339**⇓	*i*P	**Pb**	**10 23 00.6**	**+0.6**
	baz=40						
TRKS			⇓	*i*S	**Sg**	**10 23 28.0**	**+0.9**
	baz=40						
ARK	**Arkit**	**2.13**	**357**⇑	*i*P	**Pg**	**10 23 03.6**	**-0.1**
	baz=56						
ARK			⇑	*i*S	**Sg**	**10 23 32.8**	**+1.5**
	baz=56						
ARK	**Arkit**	**2.13**	**357**	P		10 23 04.9	
ARK				S		10 23 35.6	
CHGR	**Chuyangaron**	**2.50**	**247**⇑	*i*P	**Pn**	**10 23 04.9**	**+0.3**
	baz=52						
CHGR			⇑	*i*S	**Sn**	**10 23 35.6**	**-0.1**
	baz=52						
TAS	**Tashkent**	**2.71**	**309**⇑	*i*P	**Pb**	**10 23 10.9**	**-1.0**
	baz=12						
TAS			⇑	*i*S	**Sb**	**10 23 45.6**	**0.0**
	baz=12						
IUG	**luzhnay**	**2.93**	**328**	*e*P	**Pg**	**10 23 19.4**	**+0.3**
	570nm,0.4s						
IUG				*e*S	**Sg**	**10 23 56.0**	**-1.0**
	40nm,0.4s						
UCH	**Uchtor**	**3.14**	**35**⇑	*e*P	**Pb**	**10 23 16.9**	**-2.7**
	baz=32						
UCH			⇑	*i*S	**Sb**	**10 23 55.5**	**-3.0**
	baz=32						
MRKS	**Merke**	**3.19**	**15**	*e*P	**Pg**	**10 23 24.4**	**+0.5**
	7.9nm,0.3s						
MRKS				*e*S	**Sg**	**10 24 04.5**	**-0.8**
	23nm,0.3s						
EKS2	**Erkin-Say**	**3.24**	**22**⇑	*i*P	**Pb**	**10 23 18.6**	**-2.6**
	baz=20						
EKS2			⇑	*i*S	**Sb**	**10 23 58.8**	**-2.4**
	baz=20						
CHM	**Chimkent**	**3.25**	**325**	*e*P	**Pg**	**10 23 25.4**	**+0.2**
	157nm,0.3s						
CHM				*e*S	**Sg**	**10 24 06.0**	**-1.4**
	202nm,0.1s						
DZA	**Taraz**	**3.27**	**350**	*e*P	**Pb**	**10 23 23.6**	**+2.0**
	49nm,0.2s						
DZA				*e*S	**Sb**	**10 24 02.7**	**+0.9**
	232nm,0.2s						
AAK	**Ala-Archa**	**3.47**	**31**⇑	*e*P	**Pb**	**10 23 21.5**	**-3.6**
	baz=28						
AAK			⇑	*i*S	**Sb**	**10 24 03.7**	**-4.0**
	baz=28						
KK31	**Karatay Array**	**3.63**	**341**⇑	Pn	**Pb**	**10 23 24.6**	**-3.2**
	3.0nm,0.4s,baz=150,slow=12,SNR=56						
KK31			⇓	Pg	**Pg**	**10 23 32.7**	**+0.3**
	0.8nm,0.2s,baz=155,slow=15,SNR=7.1						
KK31			⇑	Sn	**Sb**	**10 24 10.1**	**-2.1**
	1.6nm,0.3s,baz=144,slow=27						
KK31			⇑	Lg	Lg	10 24 24.8	
	16nm,0.7s,baz=139,slow=29,SNR=4.9						
FRU1	**Bishkek**	**3.67**	**30**⇑	*i*P	**Pn**	**10 23 24.2**	**+3.6**
	baz=28						
FRU1			⇑	*e*S	**Sb**	**10 24 08.9**	**-4.5**
	baz=28						
KBK	**Karagaybulak**	**3.67**	**35**⇑	*e*P	**Pn**	**10 23 24.1**	**+3.3**
	baz=32						
KBK			⇑	*i*S	**Sb**	**10 24 08.3**	**-5.3**
	baz=32						
BRLS	**Borolday**	**3.77**	**334**	*e*P	**Pb**	**10 23 28.6**	**-1.5**
	4.5nm,0.2s						
BRLS				*e*S	**Sb**	**10 24 11.5**	**-4.5**
	16nm,0.1s						
CHMS	**Chumysh**	**3.88**	**30**⇑	Pn	**Pb**	**10 23 29.1**	**-2.9**
	6.2nm,0.7s						
CHMS			⇑	Sn	**Sb**	**10 24 16.2**	**-3.1**
	7.7nm,0.7s						
CHMS			⇑	Lg	Lg	10 24 29.2	
	16nm,0.7s						
BOOM	**Boomskoye usch**	**4.04**	**45**⇑	*i*P	**Pn**	**10 23 28.6**	**+2.7**
	baz=42						
BOOM			⇑	*i*S	**Sn**	**10 24 16.3**	**+2.5**
	baz=42						
ULHL	**Ulahol**	**4.05**	**49**⇓	*e*P	**Pn**	**10 23 28.4**	**+2.4**
	baz=47						
ULHL			⇓	*e*S	**Sn**	**10 24 16.2**	**+2.0**
	baz=47						
TKM2	**Tokmak 2**	**4.18**	**38**	⇑Pg	**Pg**	**10 23 41.7**	**-1.3**
	2.6nm,0.5s						
TKM2			⇑	Lg	Lg	10 24 37.3	
	5.1nm,0.5s						
SGDS	**Sogindy**	**4.23**	**26**	*e*P	**Pg**	**10 23 44.8**	**+1.0**
	1.8nm,0.3s						
SGDS				*e*S	**Sg**	**10 24 40.4**	**+1.8**
	28nm,0.8s						
SGDS	**Sogindy**	**4.23**	**26**	Pg	**Pg**	**10 23 44.9**	**+1.1**
	1.8nm,0.3s						
SGDS				Lg	Lg	10 24 40.4	
	28nm,0.8s						
DGS	**Degeres**	**4.51**	**36**	*e*P	**Pg**	**10 23 50.5**	**+1.2**
	10nm,0.5s						
DGS				*e*S	**Sg**	**10 24 49.5**	**+1.8**
	10nm,0.8s						
DGS	**Degeres**	**4.51**	**36**	Pg	**Pg**	**10 23 48.6**	**-0.6**
	11nm,0.6s						
DGS				Lg	Lg	10 24 46.6	
	10nm,0.8s						
MTBS	**Maitube**	**4.75**	**42**	*e*P	**Pg**	**10 23 55.2**	**+1.4**
	3.5nm,0.3s						
MTBS				*e*S	**Sg**	**10 24 57.1**	**+1.9**
	6.1nm,0.4s						
MTBS	**Maitube**	**4.75**	**42**	Pg	**Pg**	**10 23 54.1**	**+0.3**
	3.5nm,0.3s						
MTBS				Lg	Lg	10 24 56.1	
	6.1nm,0.4s						
IZV	**Izvestkoviy**	**4.78**	**44**	*e*P	**Pg**	**10 23 56.6**	**+2.2**
	2.0nm,0.2s						
IZV				*e*S	**Sg**	**10 24 59.8**	**+3.5**
	7.4nm,0.0s						
IZV	**Izvestkoviy**	**4.78**	**44**	Pg	**Pg**	**10 23 56.3**	**+1.9**
	3.1nm,0.6s						
IZV				Lg	Lg	10 24 59.9	
	12nm,0.7s						
KRBS	**Karabastau**	**4.83**	**32**	*e*P	**Pg**	**10 23 55.9**	**+0.5**
	2.0nm,0.4s						
KRBS				*e*S	**Sg**	**10 24 58.4**	**+0.5**
	8.0nm,0.6s						
KRBS	**Karabastau**	**4.83**	**32**	Pg	**Pg**	**10 23 55.2**	**-0.2**
	2.0nm,0.4s						
KRBS				Lg	Lg	10 24 58.0	
	8.0nm,0.6s						
TNSS	**Tian-Shan**	**4.96**	**46**	*e*P	**Pg**	**10 23 58.5**	**+0.6**
	2.7nm,0.2s						
TNSS				*e*S	**Sg**	**10 25 03.4**	**+1.3**
	2.9nm,0.7s						
TNSS	**Tian-Shan**	**4.96**	**46**	Pg	**Pg**	**10 23 56.3**	**-1.6**
	3.6nm,0.3s						
TNSS				Lg	Lg	10 24 59.8	
	2.9nm,0.7s						
MDOK	**Medeo**	**5.10**	**45**	*e*P	**Pg**	**10 24 01.4**	**+0.8**
	2.7nm,0.7s						
MDOK				*e*S	**Sg**	**10 25 08.1**	**+1.5**
	5.2nm,0.8s						
MDOK	**Medeo**	**5.10**	**45**	Pg	**Pg**	**10 23 58.3**	**-2.2**
	2.6nm,0.7s						
MDOK				Lg	Lg	10 25 03.8	
	5.2nm,0.8s						
KOTS	**Kotyrbulak**	**5.18**	**45**	*e*P	**Pg**	**10 24 02.3**	**+0.1**
	2.6nm,0.3s						
KOTS				*e*S	**Sg**	**10 25 09.5**	**+0.2**
	14nm,0.7s						
KOTS	**Kotyrbulak**	**5.18**	**45**	Pg	**Pg**	**10 24 01.2**	**-0.9**
	4.1nm,0.7s						
KOTS				Lg	Lg	10 25 08.5	
	14nm,0.7s						
KUU	**Kurty**	**5.27**	**36**	*e*P	**Pg**	**10 24 04.1**	**+0.2**
	1.7nm,0.4s						
KUU				*e*S	**Sg**	**10 25 12.7**	**+0.4**
	10nm,0.6s						
KUU	**Kurty**	**5.27**	**36**	Pg	**Pg**	**10 24 03.2**	**-0.7**
	1.0nm,0.3s						
KUU				Lg	Lg	10 25 12.0	
	10nm,0.6s						
KTBS	**Karatobe**	**5.30**	**39**	*e*P	**Pg**	**10 24 04.8**	**+0.4**
	2.2nm,0.4s						
KTBS				*e*S	**Sg**	**10 25 13.4**	**+0.5**
	14nm,0.7s						
KTBS	**Karatobe**	**5.30**	**39**	Pg	**Pg**	**10 24 03.6**	**-0.7**
	2.2nm,0.4s						
KTBS				Lg	Lg	10 25 12.0	
	14nm,0.7s						
ARXS	**Arharly**	**6.23**	**41**	*e*P	**Pg**	**10 24 22.8**	**+0.6**
	1.3nm,0.2s						
ARXS				*e*S	**Sg**	**10 25 44.4**	**+1.5**
	4.3nm,0.5s						
ARXS	**Arharly**	**6.23**	**41**	Pg	**Pg**	**10 24 20.7**	**-1.5**
ARXS				Lg	Lg	10 25 42.1	
	3.8nm,0.6s						

IDC 21 10:26:39.5±3.1, 58.09S×25.33W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/22, mbtmp3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/41, Error ellipse: s-maj=118.7km s-min=54.1km az=166.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**19.41**	**234**	LR	LR	10 36 53.6	
	comp=Z,56nm,21.5s,baz=164,slow=32						
LPAZ	**La Paz**	**52.38**	**305**	P	P	10 35 53.8	-0.1
	0.4nm,0.5s,baz=74,slow=7.4,SNR=1.9						
NNA	**Nana**	**60.11**	**298**	LR	LR	11 06 06.2	
	comp=Z,27nm,18.2s,baz=122,slow=39						
TORD	**Torodi Ar. Bea**	**74.37**	**27**	P	P	10 38 18.8	0.0
	0.5nm,0.5s,baz=200,slow=6.8,SNR=6.6						
YKA	**Yellowknife Ar**	**138.36**	**316**	PKP	PKPdf	10 46 04.2	-0.9
	0.2nm,0.8s,baz=123,slow=1.9,SNR=2.1						
INK	**Inuvik**	**148.02**	**318**	PKPbc	PKPbc	10 46 24.8	-0.3
	0.6nm,0.6s,baz=84,slow=3.8,SNR=4.4						
ILAR	**Eielson Array**	**152.21**	**308**	PKPbc	PKPbc	10 46 35.0	-0.4
	0.1nm,0.4s,baz=120,slow=3.3,SNR=4.3						

*IDC **21** 11:12:39.3±1.6, 63.06N×151.56W, h102km±15km, mb3.4/6, mb1 3.5/10, mb1mx3.2/59, mbtmp3.7/10, Error ellipse: s-maj=22.8km s-min=10.4km az=110.0*
*NEIC **21** 11:12:42.0±0.8, 63.06N±0.04×151.00W±0.08, h130km±4km, Error ellipse: s-maj=5.6km s-min=5.3km az=200.0*
*AEIC **21** 11:12:42±0.9, 63.05N±0.04×150.94W±0.09, h124km±4km, ML3.3, ML3.5/162(NEIC), Error ellipse: s-maj=6.1km s-min=5.2km az=224.0*
*ANF **21** 11:12:42.3±0.1, 63.05N×150.96W, h123km±1km, ML3.6/64, Error ellipse: s-maj=1.2km s-min=1.0km az=159.0*
ISC 21 11:12:42.1±0.7, 63.05N±0.03×150.97W±0.03, h130km±5km, n261, σ0s72/251, mb3.7/6, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.51**	**3**		**Pn**	**11 13 01.2**	**0.0**
KTH	**Kantishna Hill**	**0.51**	**3**		**Sn**	**11 13 14.8**	**-0.9**
KTH	**Kantishna Hill**	**0.51**	**3**	IAML		11 13 03.7	
	comp=N,199nm,0.7s						
TRF	**Thorofare Moun**	**0.51**	**37**		**Pn**	**11 13 01.3**	**0.0**
TRF	**Thorofare Moun**	**0.51**	**37**		**Sn**	**11 13 15.4**	**-0.6**
TRF	**Thorofare Moun**	**0.51**	**37**	IAML		11 13 02.0	
	comp=E,341nm,0.5s						
TRF	**Thorofare Moun**	**0.51**	**37**	P	**Pn**	**11 13 01.4**	**0.0**
	baz=216,SNR=459						
TRF				S	**Sn**	**11 13 15.4**	**-0.6**
	baz=216						
PPLA	**Purkeypile**	**0.58**	**255**		**Pn**	**11 13 02.1**	**+0.3**
PPLA					**Sn**	**11 13 16.3**	**-0.4**
PPLA	**Purkeypile**	**0.58**	**255**	P	**Pn**	**11 13 02.1**	**+0.3**
	baz=74,SNR=111						
PPLA				S	**Sn**	**11 13 16.3**	**-0.4**
	baz=74						
CAST	**Castle Rocks**	**0.62**	**307**		**Pn**	**11 13 01.7**	**-0.2**
CAST					**Sn**	**11 13 15.9**	**-1.1**
CAST	**Castle Rocks**	**0.62**	**307**	P	**Pn**	**11 13 01.7**	**-0.2**
	baz=125,SNR=480						
CAST				S	**Sn**	**11 13 15.9**	**-1.1**
	baz=125						
CUT	**Chulitna**	**0.72**	**153**		**Pn**	**11 13 02.8**	**+0.2**
CUT					**Sn**	**11 13 18.3**	**+0.2**
CUT	**Chulitna**	**0.72**	**153**	IAML		11 13 21.8	
	comp=N,2μm,0.3s						
CUT	**Chulitna**	**0.72**	**153**	P	**Pn**	**11 13 02.8**	**+0.2**
	baz=334,SNR=234						
CUT				S	**Sn**	**11 13 18.2**	**+0.1**
	baz=334						
RND	**Reindeer**	**1.02**	**69**		**Pn**	**11 13 05.2**	**-0.1**
RND	**Reindeer**	**1.02**	**69**	IAML		11 13 24.3	
	comp=E,551nm,0.4s						
RND				IAML		11 13 24.3	
	comp=N,558nm,0.9s						
CHUM	**Lake Minchumin**	**1.03**	**325**		**Pn**	**11 13 05.3**	**+0.2**
CHUM					**Sn**	**11 13 22.2**	**-0.6**
CHUM	**Lake Minchumin**	**1.03**	**325**	P	**Pn**	**11 13 05.4**	**+0.2**
	baz=143,SNR=543						
CHUM				S	**Sn**	**11 13 22.2**	**-0.6**
	baz=143						
BPAW	**Bear Paw Mtn.**	**1.05**	**360**		**Pn**	**11 13 05.2**	**-0.2**
BPAW					**Sn**	**11 13 22.1**	**-1.2**
BPAW	**Bear Paw Mtn.**	**1.05**	**360**	P	**Pn**	**11 13 05.3**	**-0.2**
	baz=179,SNR=632						
BPAW				S	**Sn**	**11 13 22.3**	**-1.0**
	baz=179						
WAT1	**Susitna Watana**	**1.13**	**100**		**Pn**	**11 13 06.1**	**-0.1**
WAT1	**Susitna Watana**	**1.13**	**100**	P	**Pn**	**11 13 06.3**	**0.0**
	baz=282						
WAT1				S	**Sn**	**11 13 24.1**	**-0.5**
	baz=282						
MCK	**McKinley**	**1.15**	**52**		**Pn**	**11 13 06.4**	**+0.1**
MCK					**Sn**	**11 13 23.4**	**-1.5**
MCK	**McKinley**	**1.15**	**52**	P	**Pn**	**11 13 06.5**	**+0.1**
	baz=234,SNR=128						
MCK				S	**Sn**	**11 13 23.8**	**-1.1**
	baz=234						
BWN	**Browne**	**1.31**	**30**		**Pn**	**11 13 08.6**	**+0.6**
M22K	**Willow**	**1.36**	**163**		**Pn**	**11 13 08.6**	**+0.1**
M22K	**Willow**	**1.36**	**163**	IAML		11 13 30.2	
	comp=N,2μm,0.5s						
M22K	**Willow**	**1.36**	**163**	P	**Pn**	**11 13 08.7**	**+0.1**
	baz=344,SNR=120						
M22K				S	**Sn**	**11 13 28.5**	**-0.2**
	baz=344						
K20K	**Telida**	**1.44**	**284**		**Pn**	**11 13 09.4**	**0.0**
K20K	**Telida**	**1.44**	**284**	IAML		11 13 30.0	
	comp=E,314nm,0.8s						
K20K				IAML		11 13 30.3	
	comp=N,381nm,0.8s						
K20K	**Telida**	**1.44**	**284**	P	**Pn**	**11 13 09.5**	**0.0**
	baz=101,SNR=117						
K20K				S	**Sn**	**11 13 29.6**	**-0.7**
	baz=101						
L20K	**Farewell, AK**	**1.46**	**248**		**Pn**	**11 13 09.7**	**0.0**
L20K					**Sn**	**11 13 30.0**	**-0.7**
L20K	**Farewell, AK**	**1.46**	**248**	P	**Pn**	**11 13 09.8**	**+0.1**
	baz=66,SNR=68						
L20K				S	**Sn**	**11 13 30.0**	**-0.7**
	baz=66						
WAT6	**Susitna Watana**	**1.56**	**106**		**Pn**	**11 13 10.6**	**-0.4**
WAT6					**Sn**	**11 13 31.7**	**-1.2**
WAT6	**Susitna Watana**	**1.56**	**106**	P	**Pn**	**11 13 10.6**	**-0.4**
	baz=289,SNR=129						
WAT6				S	**Sn**	**11 13 31.8**	**-1.2**
	baz=289						
GHO	**Glory Hole Cre**	**1.60**	**142**		**Pn**	**11 13 11.5**	**+0.2**
GHO	**Glory Hole Cre**	**1.60**	**142**	IAML		11 13 34.4	
	comp=E,1μm,0.4s						
STLK	**Strandline Lak**	**1.61**	**195**		**Pn**	**11 13 11.4**	**-0.1**
DHY	**Denali Highway**	**1.64**	**88**		**Pn**	**11 13 12.0**	**+0.2**
DHY	**Denali Highway**	**1.64**	**88**	IAML		11 13 35.8	
	comp=E,580nm,0.7s						
DHY				IAML		11 13 38.3	
	comp=N,419nm,0.6s						
DHY	**Denali Highway**	**1.64**	**88**	P	**Pn**	**11 13 12.0**	**+0.2**
	baz=271,SNR=86						
DHY				S	**Sn**	**11 13 33.7**	**-0.8**
	baz=271						
PMR	**Palmer**	**1.70**	**149**		**Sn**	**11 13 33.7**	**-1.7**
PMR				IAML		11 13 37.1	
	comp=E,613nm,0.3s						
PMR				IAML		11 13 37.2	
	comp=N,396nm,0.5s						
PMR	**Palmer**	**1.70**	**149**		**Pn**	**11 13 12.1**	**-0.3**
PMR	**Palmer**	**1.70**	**149**	P	**Pn**	**11 13 12.0**	**-0.3**
	baz=331,SNR=143						
PMR				S	**Sn**	**11 13 34.8**	**-0.7**
	baz=331						
SML	**Sawmill**	**1.75**	**134**		**Pn**	**11 13 12.8**	**-0.3**
SML					**Sn**	**11 13 36.5**	**-0.3**
SML	**Sawmill**	**1.75**	**134**	IAML		11 13 37.8	
	comp=N,770nm,0.7s						
SML				IAML		11 13 37.8	
	comp=E,700nm,0.7s						
SML	**Sawmill**	**1.75**	**134**	P	**Pn**	**11 13 12.8**	**-0.3**
	baz=317,SNR=60						
SML				S	**Sn**	**11 13 36.4**	**-0.3**
	baz=317						
NEA2	**Nenana**	**1.76**	**28**		**Pn**	**11 13 12.7**	**-0.4**
NEA2					**Sn**	**11 13 35.0**	**-1.9**
NEA2	**Nenana**	**1.76**	**28**	P	**Pn**	**11 13 12.7**	**-0.4**
	baz=209,SNR=75						
NEA2				S	**Sn**	**11 13 35.1**	**-1.9**
	baz=209						
J20K	**Nowinta River**	**1.81**	**310**		**Pn**	**11 13 13.7**	**0.0**
J20K					**Sn**	**11 13 36.7**	**-1.2**
J20K	**Nowinta River**	**1.81**	**310**	IAML		11 13 38.3	
	comp=N,295nm,0.7s						
J20K				IAML		11 13 38.7	
	comp=E,177nm,0.7s						
J20K	**Nowinta River**	**1.81**	**310**	P	**Pn**	**11 13 13.9**	**+0.1**
	baz=127,SNR=407						
J20K				S	**Sn**	**11 13 37.5**	**-0.4**
	baz=127						
SPCG	**Spurr Cap

KNK	Knik Glacier	2.02	143	IAML			11 13 43.5	
	comp=N,487nm,0.5s							
KNK	Knik Glacier	2.02	143	P		Pn	11 13 16.0	-0.3
	baz=326,SNR=107							
KNK				S		Sn	11 13 41.9	-0.5
	baz=326							
RC01	Rabbit Creek A	2.05	163			Pn	11 13 16.4	-0.3
RC01	Rabbit Creek A	2.05	163	IAML			11 13 43.6	
	comp=E,533nm,0.2s							
RC01				IAML			11 13 43.7	
	comp=N,666nm,0.2s							
RC01	Rabbit Creek A	2.05	163	P		Pn	11 13 16.3	-0.3
	baz=344,SNR=34							
SCM	Sheep Creek Mo	2.09	124			Pn	11 13 16.6	-0.5
SCM	Sheep Creek Mo	2.09	124	IAML			11 13 53.9	
	comp=N,572nm,0.5s							
SCM	Sheep Creek Mo	2.09	124	P		Pn	11 13 16.6	-0.5
	baz=308,SNR=29							
CCB	Clear Creek Bu	2.13	40			Pn	11 13 17.3	-0.2
I21K	Tanana	2.18	349			Pn	11 13 18.1	0.0
I21K	Tanana	2.18	349	IAML			11 13 46.8	
	comp=N,110nm,1.1s							
I21K	Tanana	2.18	349	P		Pn	11 13 18.2	0.0
	baz=168,SNR=75							
I23K	Minto, Yukon-K	2.22	18			Pn	11 13 18.7	0.0
I23K	Minto, Yukon-K	2.22	18	IAML			11 13 47.2	
	comp=E,135nm,0.9s							
I23K				IAML			11 13 47.2	
	comp=N,120nm,1.0s							
I23K	Minto, Yukon-K	2.22	18	P		Pn	11 13 18.8	+0.1
	baz=199,SNR=258							
MDM	Murphy Dome	2.27	31			Pn	11 13 19.1	-0.2
TCOL	CIGO, UAF Yank	2.29	35			Pn	11 13 19.4	-0.1
TCOL	CIGO, UAF Yank	2.29	35	IAML			11 13 49.5	
	comp=N,290nm,0.8s							
TCOL				IAML			11 13 50.6	
	comp=E,175nm,0.6s							
TCOL	CIGO, UAF Yank	2.29	35	P		Pn	11 13 19.4	-0.1
	baz=218,SNR=34							
COLA	College	2.29	36			Pn	11 13 19.4	-0.1
COLA	College	2.29	36	IAML			11 13 49.5	
	comp=E,295nm,0.7s							
COLA				IAML			11 13 50.6	
	comp=E,205nm,0.6s							
COLA	College	2.29	36	P		Pn	11 13 19.4	-0.1
	baz=218							
CAPN	Captain Cook N	2.29	182			Pn	11 13 21.9	+2.3
TTA	Tatalina	2.30	269			Pn	11 13 19.7	-0.1
TTA	Tatalina	2.30	269	P		Pn	11 13 19.8	-0.1
	baz=85,SNR=10							
TT01	Tatalina	2.31	269			Pn	11 13 19.6	-0.1
PS08	TAPS Pump Stn8	2.38	49			Pn	11 13 20.7	+0.1
PS10	TAPS Pump St10	2.38	79			Pn	11 13 22.0	+1.3
M24K	Tolsona, Glenn	2.41	111			Pn	11 13 21.4	+0.2
M24K	Tolsona, Glenn	2.41	111	IAML			11 14 01.1	
	comp=E,463nm,0.7s							
M24K				IAML			11 14 03.4	
	comp=N,516nm,0.5s							
M24K	Tolsona, Glenn	2.41	111	P		Pn	11 13 21.1	-0.1
	baz=295,SNR=49							
K24K	Donnelly Dome	2.45	70	P		Pn	11 13 21.4	-0.2
	baz=254,SNR=20							
IL31		2.50	44			Pn	11 13 21.9	-0.3
ILAR	Eielson Array	2.50	44	P		Pn	11 13 21.9	-0.3
	comp=N,6.6nm,0.3s,baz=230,slow=12,SNR=314							
ILAR				S		Sn	11 13 53.0	0.0
	comp=N,4.7nm,0.3s,baz=231,slow=18,SNR=6.6							
PAX	Paxson	2.51	89			Pn	11 13 22.6	+0.2
PAX	Paxson	2.51	89	P		Pn	11 13 22.6	+0.2
	baz=274,SNR=108							
PWL	Port Wells	2.53	149			Pn	11 13 22.1	-0.5
PWL	Port Wells	2.53	149	P		Pn	11 13 22.1	-0.5
	baz=332,SNR=30							
PS07	TAPS Pump Stn7	2.56	26			Pn	11 13 22.8	-0.1
SLKM	Skilak Lake	2.58	172			Pn	11 13 23.1	-0.1
POKR	Poker Plat Res	2.59	35			Pn	11 13 23.4	+0.1
POKR	Poker Plat Res	2.59	35	P		Pn	11 13 23.4	+0.1
	baz=218,SNR=26							
RDJH	Redoubt Jeurge	2.62	200			Pn	11 13 24.1	+0.3
O22K	Cooper Landing	2.65	166			Pn	11 13 24.0	-0.1
O22K	Cooper Landing	2.65	166	P		Pn	11 13 24.0	-0.1
	baz=348,SNR=12							
RDWB	Redoubt West	2.72	200			Pn	11 13 25.4	+0.2
RSO	Redoubt South	2.73	199			Pn	11 13 21.9	-3.4
H21K	Melozitna Rive	2.74	344			Pn	11 13 25.1	-0.1
H21K	Melozitna Rive	2.74	344	IAML			11 13 57.6	
	comp=E,65nm,1.0s							
H21K				IAML			11 13 58.9	
	comp=N,83nm,0.9s							
H21K	Melozitna Rive	2.74	344	P		Pn	11 13 25.1	-0.1
	baz=162,SNR=71							
HARP	HAARP	2.76	101			Pn	11 13 25.9	+0.4
HARP	HAARP	2.76	101	P		Pn	11 13 25.9	+0.4
	baz=286,SNR=27							
RED	Redoubt Volcan	2.78	199			Pn	11 13 26.0	+0.2
N19K	Bonanza Creek	2.79	218			Pn	11 13 26.3	+0.2
N19K	Bonanza Creek	2.79	218	P		Pn	11 13 26.3	+0.2
	baz=35,SNR=8.5							
KLU	Klutina	2.83	121			Pn	11 13 25.5	-1.0
KLU	Klutina	2.83	121	IAML			11 14 11.9	
	comp=N,318nm,0.4s							
KLU				IAML			11 14 12.0	
	comp=E,351nm,0.4s							
KLU	Klutina	2.83	121	P		Pn	11 13 25.6	-1.0
	baz=306,SNR=54							
RIDG	Independent Ri	2.84	73			Pn	11 13 26.8	+0.2
RIDG	Independent Ri	2.84	73	IAML			11 14 11.3	
	comp=E,163nm,0.6s							
RIDG				IAML			11 14 13.4	
	comp=N,126nm,0.7s							
RIDG	Independent Ri	2.84	73	P		Pn	11 13 26.9	+0.3
	baz=258,SNR=56							
GLI	Glacier Island	2.85	138			Pn	11 13 25.9	-0.7
GLI	Glacier Island	2.85	138	P		Pn	11 13 25.9	-0.7
	baz=322,SNR=12							
H23K	Yukon River	2.85	12			Pn	11 13 26.9	+0.2
H23K	Yukon River	2.85	12	IAML			11 14 01.8	
	comp=N,128nm,0.7s							
H23K	Yukon River	2.85	12	P		Pn	11 13 27.0	+0.2
	baz=193,SNR=175							
PS06	TAPS Pump Stn6	2.87	10			Pn	11 13 27.1	+0.2
JPK	Jack Peak	2.87	132			Pn	11 13 26.3	-0.8
SVW2	Sparrevohn	2.92	230			Pn	11 13 27.6	0.0
J25K	Salcha River,	2.94	55			Pn	11 13 27.6	-0.2
J25K	Salcha River,	2.94	55	IAML			11 14 07.2	
	comp=E,198nm,0.3s							
J25K				IAML			11 14 07.2	
	comp=N,118nm,0.3s							
SEW	Seward	3.04	166			Pn	11 13 28.8	-0.3
SEW	Seward	3.04	166	P		Pn	11 13 28.9	-0.3
	baz=347							
O20K	Slope Mountain	3.08	196			Pn	11 13 30.1	+0.3
H24K	Noodor Dome	3.10	24			Pn	11 13 29.7	-0.2
H24K	Noodor Dome	3.10	24	P		Pn	11 13 29.8	-0.2
	baz=207,SNR=38							
DIV	Divide	3.11	126			Pn	11 13 28.9	-1.2
GCSA	Galena City Sc	3.12	306			Pn	11 13 30.4	+0.3
GCSA	Galena City Sc	3.12	306	P		Pn	11 13 30.2	+0.1
	baz=120,SNR=9.0							
FID	Port Fidalgo	3.14	135			Pn	11 13 29.5	-1.0
DOT	Dot Lake	3.17	76			Pn	11 13 30.6	-0.3
IM03		3.18	339			Pn	11 13 30.8	-0.1
IMAR	Indian Mountai	3.18	339	Pn		Pn	11 13 30.7	-0.2
IVE	Iliamna Volcan	3.20	199			Pn	11 13 31.4	+0.1
SCRK	Sand Creek	3.27	70			Pn	11 13 31.9	-0.3
SCRK	Sand Creek	3.27	70	IAML			11 14 15.4	
	comp=E,79nm,0.8s							
SCRK				IAML			11 14 15.6	
	comp=N,56nm,0.8s							
SCRK	Sand Creek	3.27	70	P		Pn	11 13 31.8	-0.3
	baz=256,SNR=54							
O19K	Port Alsworth	3.28	211			Pn	11 13 32.3	+0.1
O19K	Port Alsworth	3.28	211	IAML			11 14 09.8	
	comp=E,103nm,0.5s							
O19K				IAML			11 14 34.5	
	comp=N,66nm,0.5s							
O19K	Port Alsworth	3.28	211	P		Pn	11 13 32.3	+0.1
	baz=28,SNR=7.4							
BRLK	Bradley Lake	3.30	179			Pn	11 13 32.5	0.0
BRLK	Bradley Lake	3.30	179	IAML			11 14 12.6	
	comp=N,216nm,0.1s							
BRLK				IAML			11 14 12.9	
	comp=E,162nm,0.2s							
N25K	Chitina, Valde	3.31	113			Pn	11 13 32.3	-0.4
N25K	Chitina, Valde	3.31	113	IAML			11 14 13.3	
	comp=E,105nm,0.6s							
N25K				IAML			11 14 29.1	
	comp=N,125nm,0.7s							
MENT	Mentasta	3.31	89			Pn	11 13 32.7	0.0
MENT				IAML			11 14 23.4	
	comp=N,152nm,0.5s							
MENT				IAML			11 14 26.1	
	comp=E,203nm,0.5s							
BRSE	Bradley Lake S	3.32	178			Pn	11 13 32.7	-0.2
BRSE	Bradley Lake S	3.32	178	P		Pn	11 13 32.7	-0.2
	baz=356							
N18K	Kilae Creek	3.33	227			Pn	11 13 32.8	-0.1
N18K	Kilae Creek	3.33	227	P		Pn	11 13 32.9	-0.1
	baz=42							
HOM	Homer	3.42	186			Pn	11 13 35.0	+0.9
HOM	Homer	3.42	186	P		Pn	11 13 34.4	+0.3
	baz=5.4							
L26K	Log Cabin Wild	3.47	87			Pn	11 13 34.9	+0.1
L26K				IAML			11 14 25.9	
	comp=N,137nm,0.4s							
L26K				IAML			11 14 26.0	
	comp=E,174nm,0.4s							
L26K	Log Cabin Wild	3.47	87	P		Pn	11 13 34.9	+0.1
	baz=274,SNR=30							
EYAK	Cordova Ski Ar	3.53	133			Pn	11 13 35.2	-0.2
EYAK	Cordova Ski Ar	3.53	133	P		Pn	11 13 35.2	-0.2
	baz=318							
CNPM	China Poot	3.54	182			Pn	11 13 35.8	+0.1
CNPM	China Poot	3.54	182	IAML			11 14 20.3	
	comp=N,168nm,0.5s							
J26L	Joseph Creek	3.60	63	P		Pn	11 13 36.8	+0.3
	baz=249,SNR=112							
BMRM	Bremner River	3.66	122			Pn	11 13 36.1	-1.2
BMRM	Bremner River	3.66	122	P		Pn	11 13 36.3	-1.0
	baz=308,SNR=7.4							
GLB	Gilahina Butte	3.72	113			Pn	11 13 37.6	-0.4
GLB	Gilahina Butte	3.72	113	IAML			11 14 21.8	
	comp=E,89nm,0.7s							
GLB				IAML			11 14 22.0	
	comp=N,116nm,0.7s							
M26K	Nabesna, AK	3.73	96			Pn	11 13 38.1	-0.1
M26K	Nabesna, AK	3.73	96	IAML			11 14 40.7	
	comp=E,71nm,0.4s							
M26K				IAML			11 14 41.1	
	comp=N,66nm,0.5s							
M26K	Nabesna, AK	3.73	96	P		Pn	11 13 38.1	-0.1
	baz=284,SNR=6.4							
PS05	TAPS Pump Stn5	3.78	2			Pn	11 13 39.2	+0.4
O18K	Koktuh Hills	3.80	214			Pn	11 13 39.2	+0.1
O18K	Koktuh Hills	3.80	214	IAML			11 14 53.0	
	comp=E,28nm,1.4s							
O18K	Koktuh Hills	3.80	214	P		Pn	11 13 39.1	0.0
	baz=31							
GOAT	Goat Mountain	3.86	127			Pn	11 13 39.4	-0.6
VRDI	Verde Repeater	3.98	114			Pn	11 13 41.0	-0.6
VRDI	Verde Repeater	3.98	114	IAML			11 14 30.6	
	comp=E,66nm,0.7s							
VRDI				IAML			11 14 44.3	
	comp=N,115nm,1.0s							
RAGM	Ragged Mountai	4.01	129			Pn	11 13 41.4	-0.6
MCARA	McCarthy VSAT	4.08	111			Pn	11 13 42.8	0.0
MCARA	McCarthy VSAT	4.08	111	P		Pn	11 13 42.8	0.0
	baz=298							
L27K	Beaver Creek,	4.16	86	Pn		Pn	11 13 43.2	-0.7
L27K				IAML			11 14 53.8	
	comp=N,25nm,0.9s							
L27K	Beaver Creek,	4.16	86	P		Pn	11 13 43.4	-0.5
	baz=274,SNR=17							
BC03		4.18	86			Pn	11 13 43.5	-0.6
BCAR	Beaver Creek A	4.18	86	Pn		Pn	11 13 43.4	-0.8
HMT	Hamilton	4.20	127			Pn	11 13 43.5	-0.9
COLD	Coldfoot	4.21	4			Pn	11 13 44.6	+0.2
COLD	Coldfoot	4.21	4	P		Pn	11 13 44.6	+0.2
	baz=185,SNR=15							
P18K	Big Mountain,	4.21	211	P		Pn	11 13 44.6	+0.1
	baz=28							
M27K	Edge Creek, AK	4.25	95			Pn	11 13 46.0	+0.8
M27K	Edge Creek, AK	4.25	95	IAML			11 14 59.4	
	comp=N,35nm,1.1s							
M27K				IAML			11 15 02.2	
	comp=E,26nm,0.8s							
M27K	Edge Creek, AK	4.25	95	P		Pn	11 13 45.9	+0.8
	baz=283,SNR=10							
Q23K	Middleton Isla	4.26	146			Pn	11 13 45.6	+0.4
Q23K	Middleton Isla	4.26	146	IAML			11 15 24.6	
	comp=N,110nm,1.4s							
Q23K	Middleton Isla	4.26	146	P		Pn	11 13 45.8	+0.6
	baz=330							
MID	Middleton Isla	4.27	146			Pn	11 13 45.6	+0.4
MID	Middleton Isla	4.27	146	IAML			11 14 52.4	
	comp=N,113nm,3.1s							
Q19K	Cape Douglas,	4.34	199			Pn	11 13 46.5	+0.3
Q19K	Cape Douglas,	4.34	199	IAML			11 14 40.8	
	comp=N,97nm,1.0s							
Q19K	Cape Douglas,	4.34	199	P		Pn	11 13 46.3	+0.1
	baz=16							
BERG	Berg Lake	4.37	124			Pn	11 13 46.0	-0.6
NICHA	Nichawak Mount	4.37	127			Pn	11 13 46.0	-0.8
PTPK	Patty Peak	4.41	111			Pn	11 13 47.3	-0.1
KAIM	Kayak Island	4.44	132			Pn	11 13 46.4	-1.2
KAIM	Kayak Island	4.44	132	IAML			11 14 43.5	
	comp=E,70nm,1.4s							
KAIM				IAML			11 15 11.0	
	comp=N,76nm,2.0s							
KAIM	Kayak Island	4.44	132	P		Pn	11 13 46.6	-0.9
	baz=318							
TGL	Tana Glacier	4.49	117			Pn	11 13 47.5	-0.8
KHIT	Khitrov Hills	4.51	122			Pn	11 13 47.6	-1.0
BALM	Baldy	4.54	113			Pn	11 13 48.2	-0.8
KIAG	Kiagna River	4.59	114			Pn	11 13 48.7	-1.0
WAX	Waxell Ridge	4.66	120			Pn	11 13 49.8	-0.7
EGAK	Eagle	4.67	64			Pn	11 13 50.4	-0.2
EGAK	Eagle	4.67	64	IAML			11 14 46.6	
	comp=N,54nm,1.0s							
EGAK				IAML			11 14 58.6	
	comp=N,41nm,1.1s							
EGAK	Eagle	4.67	64	P		Pn	11 13 50.3	-0.2
	baz=253,SNR=24							
BVCY	Beaver Creek	4.70	93			Pn	11 13 51.0	0.0
BVCY	Beaver Creek	4.70	93	P		Pn	11 13 50.8	-0.2
	baz=282							
ISLE	Juniper Island	4.77	117			Pn	11 13 51.0	-1.2
ISLE	Juniper Island	4.77	117	IAML			11 15 10.4	
	comp=E,77nm,0.8s							
BARN	Barnard Glacie	4.81	110			Pn	11 13 52.9	+0.2
BARN	Barnard Glacie	4.81	110	IAML			11 15 13.9	
	comp=E,46nm,0.9s							
BARN				IAML			11 15 15.6	
	comp=N,33nm,0.8s							
BAGL	Bagley Icefiel	4.94	117			Pn	11 13 53.2	-0.9
GRNC	Granite Creek	4.94	114			Pn	11 13 53.6	-0.9
GRNC	Granite Creek	4.94	114	IAML			11 15 10.7	
	comp=E,26nm,0.5s							
GRNC				IAML			11 15 15.7	
	comp=N,48nm,0.5s							
CTG	Chitna Glacier	5.00	110	P		Pn	11 13 55.2	0.0
	baz=299							
CTGM	Chitina Glacie	5.00	110			Pn	11 13 55.1	0.0
CTGM	Chitina Glacie	5.00	110	IAML			11 15 14.6	
	comp=E,22nm,0.8s							
CTGM				IAML			11 15 19.0	
	comp=N,26nm,0.5s							
YUK3	Moose Creek	5.05	100			Pn	11 13 56.4	+0.4
YUK3	Moose Creek	5.05	100	P		Pn	11 13 56.4	+0.4
	baz=289,SNR=11							
BM03	Burnt Mountain	5.14	29			Pn	11 13 56.9	0.0
BMAR	Burnt Mountain	5.15	29	Pn		Pn	11 13 56.3	-0.8
LOGN	Logan Glacier	5.21	111			Pn	11 13 57.5	-0.5
LOGN				IAML			11 15 19.6	
	comp=E,38nm,0.9s							
LOGN				IAML			11 15 19.9	
	comp=N,35nm,0.6s							
DAWY	Dawson	5.28	74			Pn	11 13 58.5	-0.4
DAWY	Dawson	5.28	74	IAML			11 15 30.6	
	comp=N,20nm,0.9s							
DAWY				IAML			11 15 34.9	
	comp=E,12nm,1.1s							
DAWY	Dawson	5.28	74	P		Pn	11 13 58.4	-0.4
	baz=264,SNR=44							
KDAK	Kak Island	5.34	189	P		Pn	11 13 57.7	-1.9
	comp=E,1.6nm,0.3s,baz=66,slow=6.2,SNR=34							
KDAK					S	Sn	11 14 55.7	-4.4
	comp=E,6.9nm,0.3s,baz=311,slow=19,SNR=16							
TOLK	Toolik Lake Re	5.64	5	Pn		Pn	11 14 04.9	+1.3
TOLK	Toolik Lake Re	5.64	5	P		Pn	11 14 04.9	+1.3
	baz=186,SNR=7.7							
I29M	Ogilvie Camp,	5.99	62	P		Pn	11 14 07.8	-0.5
	baz=253							
PNL	Peninsula	6.51	116	P		Pn	11 14 15.4	0.0
	baz=306							
EPYK	Eagle Plains	6.95	55			Pn	11 14 20.3	-0.9
EPYK	Eagle Plains	6.95	55	P		Pn	11 14 20.0	-1.2
	baz=248							
INK	Inuvik	8.90	46	P		Pn	11 14 47.5	+0.2
	comp=E,0.2nm,0.3s,baz=246,slow=12,SNR=9.7							
A36M	Sachs Harbour	13.17	36	P		Pn	11 15 42.4	-1.4
	baz=240,SNR=6.1							
YKA	Yellowknife Ar	16.51	76	P		P	11 16 26.0	0.0
	comp=E,0.1nm,0.3s,baz=286,slow=10,SNR=6.4							
RES	Resolute Bay	22.22	36	P		P	11 17 28.9	+1.5
	comp=E,1.0nm,0.4s,baz=258,slow=11,SNR=13							
PDAR	Pinedale Array	31.36	111	P		P	11 18 52.4	+2.0
	comp=E,0.5nm,0.7s,baz=339,slow=3.7,SNR=5.5							
TXAR	Lajitas Array	45.28	115	P		P	11 20 48.6	+2.1
	comp=E,0.4nm,0.6s,baz=330,slow=5.1,SNR=9.2							
ARCES	ARCESS Array B	47.67	2	P		P	11 21 04.2	-0.3
	comp=E,2.2nm,0.9s,baz=9.5,slow=8.6,SNR=5.5							
ZALV	Zalesovo Beam	55.49	324	P		P	11 22 01.6	-1.2
	comp=E,0.4nm,0.3s,baz=11,slow=9.5,SNR=3.8							
AKASG	Malin Array Be	66.59	360	P		P	11 23 17.2	-0.5
	comp=E,1.5nm,0.5s,baz=353,slow=6.2,SNR=1.9							

*KRNET **21** 11:23:38.3±0.1, 39°.46N×73°.36E, mb3.0*
*SOME **21** 11:23:40.9, 39°.57N×73°.48E, h10km*
*NNC **21** 11:23:46.8±6.4, 39°.97N×73°.89E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=49.5km s-min=24.6km az=167.0
ISC 21 11:23:39.3±1.8, 39°.50N±0°.07×73°.36E±0°.04, h4km±11km,
n22, σ2ᵖ43/40, 20C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	Osh	1.11	337	⇑*i*P	Pb	11 24 00.4	-0.8
	baz=38						
OHH				⇑*i*S	Sn	11 24 16.5	-1.1
	baz=38						
DRK	Karamyk	1.21	269	⇑*i*P	Pb	11 24 01.3	-1.7
	baz=72						
DRK				⇑*i*S	Sn	11 24 18.4	-1.9
	baz=72						
BTK	Batken	2.04	287	⇑*e*P	Pb	11 24 16.2	-0.8
	baz=88						
BTK				⇑*i*S	Sg	11 24 43.7	-1.1
	baz=88						
TRKS	Terek-Say	2.64	321	⇑*e*P	Pn	11 24 24.0	+1.1
	baz=21						
TRKS				⇑*i*S	Sb	11 24 57.3	-2.8
	baz=21						
UCH	Uchtor	2.86	17	⇑*i*P	Pb	11 24 28.1	-3.0
	baz=17						
UCH				⇑*i*S	Sb	11 25 04.6	-2.0
	baz=17						
MRKS	Merke	3.24	358	*e*P	Pb	11 24 38.1	+0.7
	1.3nm,0.2s						
MRKS				*e*S	Sb	11 25 19.1	+1.8
	10.0nm,0.5s						
AAK	Ala-Archa	3.25	15	⇑*i*P	Pn	11 24 33.5	+2.3
	baz=15						
AAK				⇑*i*S	Sb	11 25 13.6	-3.9
	baz=15						
ULHL	Ulahol	3.50	38	⇑*e*P	Pn	11 24 36.9	+2.2
	baz=37						
ULHL				⇑*i*S	Sn	11 25 19.7	+3.0
	baz=37						
BOOM	Boomskoye usch	3.56	32	⇑*i*P	Pn	11 24 38.0	+2.4
	baz=32						
BOOM				⇑*i*S	Sn	11 25 21.2	+3.0
	baz=32						
IUG	Iuzhnay	3.66	317	*e*P	Pg	11 24 51.2	+1.9
	155nm,0.5s						
IUG				*e*S	Sg	11 25 41.6	+4.8
	49nm,0.8s						
IUG	Iuzhnay	3.66	317	Pg	Pg	11 24 53.6	+4.2
	240nm,0.7s						
IUG				Lg	Lg	11 25 46.1	
	49nm,0.8s						
DZA	Taraz	3.72	336	*e*P	Pg	11 24 50.8	+0.3
	163nm,0.1s						
DZA				*e*S	Sg	11 25 40.7	+2.1
	125nm,0.1s						
TKM2	Tokmak 2	3.81	26	⇑Pg	Pb	11 24 47.3	+0.1
	1.5nm,0.6s						
TKM2				⇓Lg	Lg	11 25 31.0	
	3.5nm,0.7s						
SGDS	Sogindy	4.06	13	*e*P	Pg	11 24 54.6	-2.4
	0.9nm,0.1s						
SGDS				*e*S	Sg	11 25 47.1	-2.6
	2.0nm,0.0s						
DGS	Degeres	4.15	25	*e*P	Pg	11 24 56.9	-2.0
	2.4nm,0.4s						
DGS				*e*S	Sg	11 25 51.4	-1.2
	4.7nm,0.7s						
DGS	Degeres	4.15	25	Pg	Pg	11 24 56.9	-2.0
	2.4nm,0.4s						
DGS				Lg	Lg	11 25 51.4	
	4.7nm,0.7s						
KK31	Karatay Array	4.19	330	⇓Pn	Pb	11 24 48.0	-5.6
	1.1nm,0.6s,baz=137,slow=12,SNR=7.7						
KK31				⇑Pg	Pg	11 24 58.4	-1.2
	0.9nm,0.5s,baz=139,slow=13,SNR=8.5						
KK31				⇑Sn	Sb	11 25 39.1	-5.4
	2.0nm,0.4s,baz=181,slow=29,SNR=3.8						
KK31				⇑Lg	Lg	11 25 52.9	
	2.7nm,0.5s,baz=136,slow=30						
TNSS	Tian-Shan	4.44	36	*e*P	Pg	11 25 04.9	+0.4
	0.7nm,0.2s						
TNSS				*e*S	Sg	11 26 05.2	+3.1
	1.6nm,0.6s						
KRBS	Karabastau	4.53	22	*e*P	Pg	11 25 04.6	-1.6
	1.4nm,0.5s						
KRBS				*e*S	Sg	11 26 04.8	0.0
	2.6nm,0.9s						
KRBS	Karabastau	4.53	22	Pg	Pg	11 25 03.3	-2.8
	1.4nm,0.5s						
KRBS				Lg	Lg	11 26 02.5	
	2.6nm,0.9s						
KOTS	Kotyrbulak	4.67	36	*e*P	Pg	11 25 08.4	-0.5
	2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.8nm,0.5s,baz=274,slow=11,SNR=2.9						
SIV	San Ignacio	39.57	70	LR	LR	11 58 14.4	
	comp=Z,72nm,20.3s,baz=190,slow=33						
ROSC	El Rosal	47.12	35	LR	LR	12 01 52.5	
	comp=Z,123nm,19.6s,baz=214,slow=32						
JTS	Las Juntas de	48.21	19	LR	LR	12 00 28.5	
	comp=Z,133nm,21.3s,baz=242,slow=30						
BDFB	Brasilia	49.96	80	P	P	11 45 27.2	-0.6
	4.1nm,1.0s,baz=243,slow=6.8,SNR=4.1						
SDV	Santo Domingo	52.40	37	LR	LR	12 06 51.5	
	comp=Z,82nm,18.7s,baz=125,slow=35						
CMIG	Matias Romero	53.17	5	LR	LR	12 02 40.6	
	comp=Z,72nm,21.4s,baz=170,slow=30						
VNDA	Vanda	56.82	195	LR	LR	12 04 22.7	
	comp=Z,74nm,21.8s,baz=106,slow=29						
MDP	Montagnes des	60.03	57	LR	LR	12 10 03.4	
	comp=Z,148nm,20.0s,baz=158,slow=34						
URZ	Urewera	64.19	240	LR	LR	12 10 15.4	
	comp=Z,68nm,18.4s,baz=31,slow=32						
RCBR	Riachuelo	65.31	79	LR	LR	12 12 39.6	
	comp=Z,135nm,19.3s,baz=327,slow=33						
RPZ	Rata Peaks	65.79	233	LR	LR	12 07 56.8	
	comp=Z,77nm,21.9s,baz=112,slow=29						
TKL	Tuckaleechee C	72.96	13	LR	LR	12 14 47.0	
	comp=Z,44nm,21.1s,baz=164,slow=31						
MAW	Mawson	75.66	173	LR	LR	12 20 19.4	
	comp=Z,64nm,18.5s,baz=216,slow=35						
NVAR	Mina Array Bea	76.27	345	P	P	11 48 22.6	+0.5
	0.3nm,0.5s,baz=167,slow=8.3,SNR=4.3						
PDAR	Pinedale Array	79.13	352	P	P	11 48 37.5	-0.5
	0.6nm,0.7s,baz=171,slow=6.2,SNR=7.0						
YBH	Yreka Blue Hor	80.43	343	LR	LR	12 15 54.7	
	comp=Z,88nm,18.7s,baz=326,slow=29						
DZM	Mont Dzumac	80.45	250	LR	LR	12 18 50.8	
	comp=Z,56nm,18.9s,baz=59,slow=32						
SADO	Sadowa	82.66	14	LR	LR	12 20 56.0	
	comp=Z,48nm,21.2s,baz=196,slow=32						
STKA	Stephens Creek	91.38	228	LR	LR	12 23 43.9	
	comp=Z,66nm,18.2s,baz=205,slow=31						
CTA	Charters Tower	96.43	240	LR	LR	12 28 30.0	
	comp=Z,33nm,18.3s,baz=84,slow=32						
H01W1	Cape Leeuwin H	102.65	208	T	T	13 45 30.5	
	baz=147						
H01W2	Cape Leeuwin H	102.65	208	T	T	13 45 34.5	
	baz=147						
H01W3	Cape Leeuwin H	102.67	208	T	T	13 45 41.2	
	baz=147						

IDC 21 12:04:55.4±8.4**, 49°.84S×120°.23E, h0^{km}, mb3.3**/2**, mb1 3.6**/2**, mb1mx3.4**/25**, mbtmp3.3**/2**, Error ellipse: s-maj=823.2km s-min=79.8km az=108.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.59	341	T	T	12 25 13.9	
	baz=161						
H01W1	Cape Leeuwin H	15.59	341	T	T	12 25 18.1	
	baz=161						
H01W3	Cape Leeuwin H	15.60	341	T	T	12 25 11.0	
	baz=161						
ASAR	Alice Springs	28.24	27	P	P	12 10 49.7	-0.3
	0.3nm,0.8s,baz=198,slow=8.8,SNR=1.9						
WRA	Warramunga Arr	31.88	26	P	P	12 11 22.6	+0.3
	0.5nm,1.0s,baz=199,slow=9.6,SNR=2.7						
YKA	Yellowknife Ar	148.01	46	PKPbc	PKPbc	12 24 40.6	-0.7
	0.1nm,0.5s,baz=266,slow=3.6,SNR=1.7						

*NNC **21** 12:08:45.6±1.6, 44°.28N×81°.63E, h0^{km}, mb2.6, mpv2.6, Error ellipse: s-maj=16.3km s-min=6.6km az=123.0*
*SOME **21** 12:08:46.2, 44°.28N×81°.60E, h20^{km}*
ISC 21 12:08:43.0±1.5**, 44°.22N**±0°.05×**81°.72E**±0°.05**, h3^{km}**±13^{km}**, n16,** σ**0.89**/29**, 4C, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DJR	Jarkent	1.39	275	eP	Pg	12 09 09.9	+0.2
	1.7nm,0.2s						
DJR				eS	Sg	12 09 26.9	-0.8
	2.7nm,0.2s						
PDGK	Podgornoye	1.84	242	P	Pg	12 09 18.8	+0.4
	1.1nm,0.2s						
PDGK				S	Sg	12 09 42.2	0.0
	4.1nm,0.6s						
PDGK	Podgornoye	1.84	242	⇑P	Pg	12 09 18.7	+0.4
	0.6nm,0.3s						
PDGK				⇑S	Sg	12 09 42.7	+0.5
	9.3nm,0.8s						
SHLS	Shalkode	1.95	238	eP	Pn	12 09 17.3	+0.2
	2.1nm,0.2s						
SHLS				eS	Sn	12 09 39.7	-2.4
	6.1nm,0.1s						
KAPS	Kapalarasan	1.99	303	eP	Pg	12 09 21.4	+0.2
	4.1nm,0.3s						
KAPS				eS	Sg	12 09 46.8	-0.3
	6.9nm,0.4s						
KAPS	Kapalarasan	1.99	303	Pg	Pg	12 09 21.8	+0.5
	4.1nm,0.3s						
KAPS				Lg	Lg	12 09 47.5	
	6.9nm,0.4s						
UZB	Uzynbulak	2.23	242	eP	Pg	12 09 25.7	0.0
	2.2nm,0.2s						
UZB				eS	Sg	12 09 54.1	-0.5
	2.1nm,0.3s						
KPKS	Kokpek	2.32	252	eP	Pg	12 09 26.9	-0.6
	2.1nm,0.1s						
KPKS				eS	Sg	12 09 56.4	-1.1
	14nm,0.5s						
BLB	Baldybastay	2.33	268	eP	Pg	12 09 27.0	-0.8
	2.2nm,0.2s						
BLB				eS	Sb	12 09 56.4	+1.4
	5.9nm,0.5s						
BLB	Baldybastay	2.33	268	Pg	Pg	12 09 27.0	-0.8
	2.2nm,0.2s						
BLB				Lg	Lg	12 09 56.4	
	5.9nm,0.5s						
TDK	Taldyqorghan	2.49	290	eP	Pb	12 09 29.1	+0.6
	36nm,0.3s						
TDK				eS	Sb	12 09 59.5	0.0
	40nm,0.1s						
ZHN	Zhinishke	2.60	247	eP	Pg	12 09 32.8	-0.1
	3.5nm,0.1s						
ZHN				eS	Sg	12 10 06.1	-0.5
	9.1nm,0.4s						
MK31	Makanchi Array	2.61	9	⇑Pg	Pg	12 09 31.7	-1.3
	0.1nm,0.3s,baz=194,slow=16,SNR=7.2						
MK31				⇑Lg	Lg	12 10 04.9	
	1.0nm,0.6s,baz=201,slow=27,SNR=5.6						
SATY	Saty	2.67	245	eP	Pg	12 09 33.8	-0.4
	1.2nm,0.1s						
SATY				eS	Sg	12 10 07.8	-0.9
	5.1nm,0.3s						
ARXS	Arharly	2.80	271	eP	Pb	12 09 34.5	+0.8
	1.3nm,0.4s						
ARXS				eS	Sb	12 10 09.3	+1.0
	2.9nm,0.5s						
ZSN	Zaisan	3.91	33	eP	Pb	12 09 53.3	+0.7
	1.5nm,0.2s						
ZSN				eS	Sb	12 10 41.6	+1.3
	4.2nm,0.3s						

*IDC **21** 12:12:18.1±3.9, 0°.54N×80°.07W, h0^{km}, mb3.4/3, mb1 3.7/3, mb1mx3.4/33, mbtmp3.4/3, Error ellipse: s-maj=151.0km s-min=46.2km az=30.0*
ISC 21 12:12:18.1±1.2**, 0°.1N**±0°.1×**80°.29W**±0°.07**, h10^{km}, n16,** σ**1.85**/17**, mb3.5**/3**, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUSE	Cuicocha Este	1.91	84	eP	Pg	12 12 54.8	+0.1
CUSE				eS	Sg	12 13 19.0	-0.5
GCUF	Volcan Galeras	3.16	69	eP	Pn	12 13 09.6	+1.2
GCUF				eS	Sn	12 13 47.8	+1.5
GR1C	Gorgona, Isla	3.59	36	eP	Pb	12 13 19.5	-2.2
GR1C				eS	Sb	12 14 06.5	+1.2
SOTA	Rioblanco	4.21	61	eP	Pb	12 13 29.4	-3.1
POPC	Popayan, Colom	4.36	56	eP	Pn	12 13 24.3	-0.3
PCON	Cinco Dias	4.49	60	eP	Pn	12 13 27.8	+1.2
MARP	Paez Belalcaza	5.13	58	eP	Pn	12 13 39.9	+4.7
GARC	Garzon, Huila	5.23	67	eP	Pn	12 13 37.3	+0.6
PTLC	Puerto Leguiza	5.50	89	eP	Pb	12 13 48.2	-6.1
YOTC	Yotoco, Valle	5.52	46	eP	Pn	12 13 35.9	-4.7
ORTC	Ortega, Tolima	6.31	53	eP	Pn	12 13 51.6	+0.3
MACC	Macarena, Meta	6.76	72	eP	Pn	12 13 58.4	+1.0
NVAR	Mina Array Bea	51.70	322	P	P	12 21 26.9	+1.1
	0.2nm,0.6s,baz=128,slow=6.7,SNR=3.8						
YKA	Yellowknife Ar	67.36	344	P	P	12 23 11.8	-1.4
	0.2nm,0.6s,baz=137,slow=6.2,SNR=5.3						
TORD	Torodi Ar. Bea	82.18	77	P	P	12 24 40.6	+0.6
	0.6nm,0.9s,baz=256,slow=5.8,SNR=2.7						
WRA	Warramunga Arr	140.77	238	PKP	PKPdf	12 31 49.2	-0.1
	0.3nm,0.9s,baz=111,slow=2.7,SNR=2.0						

*IDC **21** 12:21:39.0±0.8, 13°.35N×50°.96E, h0^{km}, mb4.1/19, mb1 4.2/22, mb1mx4.0/60, mbtmp4.1/22, ML3.9/3, MS3.7/51, Ms1 3.7/51, ms1mx3.6/89, Error ellipse: s-maj=19.7km s-min=15.6km az=5.0*
*MOS **21** 12:21:39.7±1.1, 13°.19N×50°.80E, h14^{km}, mb4.7/29, Error ellipse: s-maj=11.4km s-min=6.3km az=81.8*
*GCMT **21** 12:21:40.2±0.3, 13°.33N±0°.02×50°.43E±0°.04, h14^{km}±1^{km}, MW4.7/72, Moment Tensor Solution. s20,c22; s72,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.25±.11; $M_{\theta\theta}$1.12±.07; $M_{\phi\phi}$0.12±.07; $M_{r\theta}$0.10±.14; $M_{\theta\phi}$-0.44±.05; $M_{\phi r}$1.05±.22; Best double couple: $M_0$1.58700×10^{16} NP1:ϕ_s268.00000°, δ44.00000°, λ-133.00000°. NP2: ϕ_s140.00000°, δ59.00000°, λ-57.00000°. Principal axes: T 1.3260, Plg9.0000°, Azm207.0000°; N 0.5150, Plg28.0000°, Azm302.0000°; P -1.8470, Plg60.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*OMAN **21** 12:21:41.8±33.0, 13°.58N×50°.44E, h35^{km}±999^{km}, mb4.6/3, ml4.2/2, ms4.2/1 Error ellipse: s-maj=1966.0km s-min=62.6km az=42.0*
*NEIC **21** 12:21:41.2±1.6, 13°.12N±0°.09×50°.86E±0°.06, h10^{km}±1^{km}, mb4.5/37, Error ellipse: s-maj=16.0km s-min=10.4km az=177.0*
ISC 21 12:21:40.5±0.5**, 13°.16N**±0°.06×**50°.91E**±0°.06**, h10^{km}, n153,** σ**1.51**/123**, mb4.5**/58**, MS3.8**/53**, 13C, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOCY	Socotra	3.16	108		Pn	12 22 30.1	-0.4
SOCY				Sn	Sn	12 23 06.8	-1.5
ABTO	Aybut	4.76	29	P	Pn	12 22 49.8	-2.7
	SNR=13						
ABTO				S	Sn	12 23 43.5	-4.3
WHFO	Wadi Hawf	5.47	30	P	Pn	12 22 59.6	-2.6
	SNR=48						
DOK	Doka	6.25	29	P	Pn	12 23 10.3	-2.5
	SNR=28						
SHAO	Shalim	6.63	43	P	Pn	12 23 17.3	-0.8
	SNR=26						
ATD	Arta Tunnel	8.04	259	Pn	Pn	12 23 37.0	-0.6
	4.3nm,0.3s,baz=76,slow=10,SNR=7.5						
ATD				LR	LR	12 26 06.7	
	comp=Z,1μm,18.9s,baz=122,slow=33						
ATD	Arta Tunnel	8.04	259		Pn	12 23 36.7	-0.9
MHTO	MHTO	10.30	40	P	Pn	12 24 07.2	-1.2
	SNR=9.5						
MHTO				P	Pn	12 24 07.2	-1.2
	SNR=9.5						
WSAR	Wadi Sarin	12.42	35	Pn	Pn	12 24 35.0	-2.5
	0.4nm,0.3s,baz=281,slow=5.9,SNR=4.1						
WSAR				LR	LR	12 29 14.4	
	comp=Z,939nm,18.4s,baz=234,slow=37						
UOSS	Minazif	12.74	22	Pn	Pn	12 24 42.8	+0.9
LODK	Lodwar	18.16	239	P	Pn	12 25 52.5	-0.6
MSEY	Mahe Island	18.30	165	P	Pn	12 25 54.3	-0.4
MSEY				pmax	pmax		
	comp=Z,85nm,1.5s						
MSEY	Mahe Island	18.30	165	P	Pn	12 25 54.3	-0.4
KMBO	Kilima Mbogo	19.62	225	P	Pn	12 26 11.7	+0.7
	comp=Z,0.2nm,0.3s,baz=40,slow=12,SNR=8.9						
KMBO				LR	LR	12 33 36.7	
	comp=Z,310nm,19.1s,baz=90,slow=36						
KMBO	Kilima Mbogo	19.62	225	*i* P	Pn	12 26 10.9	-0.1
KMBO	Kilima Mbogo	19.62	225	P	P	12 26 08.8	-0.8
KIBK	Kibwezi	20.00	221	P	P	12 26 12.4	-1.3
EIL	Elat	22.10	321	P	P	12 26 35.2	-0.9
	comp=Z,2.2nm,0.6s,baz=46,slow=24,SNR=2.1						
EIL				LR	LR	12 34 30.9	
	comp=Z,172nm,19.1s,baz=100,slow=35						
ASF	Jabal al Asfar	22.87	328	P	P	12 26 43.4	-0.9
	comp=Z,2.4nm,0.7s,baz=127,slow=7.5,SNR=4.6						
GHAJ	Ghor Haditha	22.92	324	P	P	12 26 45.0	+0.2
GHAJ				IAmb	IAmb	12 26 56.2	
	comp=Z,24nm,1.4s						
HRA	Herat	23.50	24	P	P	12 26 51.7	+0.8
MBAR	Mbarara	24.23	237	LR	LR	12 35 51.5	
	comp=Z,94nm,19.5s,baz=102,slow=35						
MMAI	Mount Meron Ar	24.31	327	LR	LR	12 36 17.3	
	comp=Z,96nm,20.5s,baz=308,slow=36						
GEYT	Alibeck	25.49	13	P	P	12 27 05.7	-3.3
	comp=Z,2.3nm,0.6s,baz=214,slow=10,SNR=1.5						
GEYT				LR	LR	12 39 10.2	
	comp=Z,792nm,18.3s,baz=188,slow=42						
GEYT	Alibeck	25.49	13	P	P	12 27 09.6	+0.5
GEYT				IAmb	IAmb	12 27 18.0	
	comp=Z,15nm,1.1s						
GYA0	ALIBECK ARRAY	25.49	13	P	P	12 27 09.0	0.0
GYA0				pmax	pmax		
	comp=Z,17nm,1.1s						
GYA0B	ALIBECK ARRAY	25.49	13	P	P	12 27 09.0	0.0
GYA0B				IAmb	IAmb	12 27 17.9	
	comp=Z,17nm,1.1s						
MARD	Mardin	25.70	341	P	P	12 27 11.8	+0.7
GEVA	Gevas	26.00	346	P	P	12 27 14.6	+0.7
GEVA				IAmb	IAmb	12 27 18.5	
	comp=Z,12nm,0.9s						
KBL	Kabul	26.89	35	P	P	12 27 22.5	+0.5
KBL				pmax	pmax		
	comp=Z,16nm,1.2s						
KBL	Kabul	26.89	35	P	P	12 27 22.5	+0.5
KBL				IAmb	IAmb	12 27 34.6	
	comp=Z,16nm,1.1s						
GNI	Garni	27.42	350	LR	LR	12 40 00.9	
	comp=Z,332nm,21.4s,baz=173,slow=40						
GNI	Garni	27.42	350	*i* P	P	12 27 26.1	-0.6
GNI				pmax	pmax		
	comp=Z,13nm,0.6s						
GNI	Garni	27.42	350	P	P	12 27 26.6	0.0
PALK	Pallekele	29.89	98	LR	LR	12 37 14.0	
	comp=Z,67nm,19.5s,baz=11,slow=31						
CHGR	Chuyangaron	30.11	29	P	P	12 27 52.2	+1.6
CHGR				pmax	pmax		
	comp=Z,15nm,1.0s						
CHGR	Chuyangaron	30.11	29	P	P	12 27 52.2	+1.6
BRTR	Keskin Array B	30.52	333	LR	LR	12 40 35.1	
	comp=Z,112nm,21.0s,baz=134,slow=37						
GAR	Garm	30.94	30	P	P	12 27 58.9	+1.0
GAR				IAmb	IAmb	12 28 01.9	
	comp=Z,12nm,1.2s						
KBZ	Khabaz	31.23	349	P	P	12 28 00.0	-0.1
	comp=Z,3.7nm,0.9s,baz=150,slow=10,SNR=3.5						
KBZ				LR	LR	12 42 56.6	
	comp=Z,301nm,18.9s,baz=160,slow=41						
KIV	Kislovodsk	31.49	349	eP	P	12 28 03.5	+0.9
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV				MLR	MLR		
	comp=Z,143nm,15.0s						
OPO	Ambohidratompo	31.75	187	LR	LR	12 40 05.4	
	comp=Z,136nm,20.0s,baz=194,slow=35						
SOC	Sochi	31.81	344	eP	P	12 28 07.7	+2.4
SOC				e		12 29 07.0	
SOC				eS	S	12 33 13.3	-2.2
SOC				eS	S	12 33 21.3	+5.8
SOC				eSS	SnSn	12 35 01.6	-1.4
SOC				MLR	MLR		
	comp=Z,241nm,18.0s						
BTK	Batken	32.01	30	P	P	12 28 08.8	+1.6
BTK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BTK	Batken	32.01	30	P	P	12 28 08.8	+1.6
BTK				IAmb	IAmb	12 28 11.4	
	comp=Z,8.1nm,1.1s						
DRK	Karamyk	32.05	31	P	P	12 28 10.5	+2.6
IDI	Anoyia	32.19	318	LR	LR	12 40 33.2	
	comp=Z,46nm,20.6s,baz=83,slow=35						
KKAR	Karatay Array	34.30	26	P	P	12 28 27.5	+0.4
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KKAR	Karatay Array	34.30	26	P	P	12 28 27.5	+0.4
KKAR	Karatay Array	34.30	26	P	P	12 28 27.9	+0.8
KKAR				IAmb	IAmb	12 28 31.6	
	comp=Z,2.1nm,0.8s						
AAK	Ala-Archa	35.76	30	LR	LR	12 45 18.7	
	comp=Z,162nm,20.7s,baz=228,slow=40						
AAK	Ala-Archa	35.76	30	*ce*P	P	12 28 42.6	+2.7
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
AAK	Ala-Archa	35.76	30	P	P	12 28 41.3	+1.4
AAK				IAmb	IAmb	12 28 44.5	
	comp=Z,4.2nm,1.1s						
LSZ	Lusaka	36.11	219	LR	LR	12 44 14.9	
	comp=Z,280nm,18.3s,baz=66,slow=37						
ABKAR	Akbulak array	36.75	10	P	P	12 28 48.6	+0.6
TARG	Taragay, Kyrgy	36.84	34	P	P	12 28 51.1	+1.6
TARG				pmax	pmax		
	comp=Z,14nm,1.4s						
TARG	Taragay, Kyrgy	36.84	34	P	P	12 28 51.1	+1.6
TARG				IAmb	IAmb	12 28 58.7	
	comp=Z,14nm,1.4s						
AKTO	Aktyubinsk	37.62	7	P	P	12 28 53.7	-1.7
	comp=Z,4.4nm,1.0s,baz=210,slow=9.8,SNR=8.0						
AKTO				LR	LR	12 47 37.2	
	comp=Z,250nm,19.1s,baz=172,slow=42						
MLR	Muntele Rosu	38.55	332	LR	LR	12 47 06.8	
	comp=Z,144nm,18.1s,baz=104,slow=40						
VOIR		38.94	331	P	P	12 29 06.5	-0.2
VOIR				pmax	pmax		
	comp=Z,5.0nm,1.5s						
BELG	Belogornoye	39.22	357	LR	LR	12 49 13.0	
	comp=Z,156nm,19.4s,baz=346,slow=42						
SHL	Shillong	40.42	66	P	P	12 29 19.8	+0.3
SHL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SHL	Shillong	40.42	66	P	P	12 29 19.8	+0.3
SHL				IAmb	IAmb	12 29 22.2	
	comp=Z,5.8nm,0.7s						
BURAR	Bucovina Array	40.49	333	P	P	12 29 21.5	+1.9
BURAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BURAR	Bucovina Array	40.49	333	P	P	12 29 21.5	+1.9
AKASG	Malin Array Be	41.39	339	P	P	12 29 25.6	-1.2
	comp=Z,2.2nm,0.7s,baz=142,slow=7.5,SNR=5.9						
AKASG				LR	LR	12 49 38.1	
	comp=Z,62nm,18.1s,baz=186,slow=41						
MAKZ	Makanchi	42.48	32	P	P	12 29 36.8	+0.9
MAKZ				pmax	pmax		
	comp=Z,13nm,1.5s						
MAKZ	Makanchi	42.48	32	P	P	12 29 36.8	+0.9
MAKZ				IAmb	IAmb	12 29 43.0	
	comp=Z,13nm,1.5s						
MK31	Makanchi Array	42.63	32	P	P	12 29 37.0	-0.1
MK31				pmax	pmax		
	comp=Z,7.0nm,1.3s						
MK31	Makanchi Array	42.63	32	P	P	12 29 37.0	-0.1
MK31				IAmb	IAmb	12 29 40.5	
	comp=Z,6.7nm,1.2s						
MKAR	Makanchi Array	42.63	32	LR	LR	12 50 15.8	
	comp=Z,54nm,21.5s,baz=244,slow=40						
MKAR	Makanchi Array	42.63	32	P	P	12 29 37.2	0.0
MKAR	Makanchi Array	42.63	32	P	P	12 29 37.1	0.0
BRVK	Borovoye	42.69	17	*ce*P	P	12 29 38.8	+1.3
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK	Borovoye	42.69	17	P	P	12 29 38.5	+1.1
OBN	Obninsk	43.33	348	LR	LR	12 51 30.3	
	comp=Z,13nm,18.6s,baz=178,slow=42						
OBN	Obninsk	43.33	348	*ce*P	P	12 29 43.4	+0.8
OBN				e		12 31 23.6	
OBN				eS	S	12 36 18.4	+8.4
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,98nm,19.0s						
AQU	L'Aquila	43.56	319	P	P	12 29 45.4	+0.7
AQU				pmax	pmax		
	comp=Z,16nm,0.5s						
AQU	L'Aquila	43.56	319	P	P	12 29 45.4	+0.7
KEST	Kesra	43.57	308	P	P	12 29 45.6	+0.6
	comp=Z,2.8nm,0.7s,baz=236,slow=17,SNR=2.6						
ARU	Arti	43.58	6	LR	LR	12 51 03.4	
	comp=Z,132nm,19.3s,baz=159,slow=41						
KURK	Kurchatov	43.71	25	*ce*P	P	12 29 46.1	+0.4
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	Kurchatov	43.71	25	P	P	12 29 47.5	+1.8
KURK				IAmb	IAmb	12 29 49.0	
	comp=Z,6.0nm,1.2s						
WMQ	Urumqi	43.88	39	eP	P	12 29 49.5	+2.1
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
LBTB	Lobatse	45.27	213	LR	LR	12 48 03.7	
	comp=Z,194nm,21.5s,baz=47,slow=35						
MORC	Moravsky Berou	45.60	330	P	P	12 30 01.1	+0.2
MORC				pmax	pmax		
	comp=Z,12nm,1.5s						
MORC	Moravsky Berou	45.60	330	P	P	12 30 01.1	+0.2
MORC				IAmb	IAmb	12 30 07.0	
	comp=Z,12nm,1.5s						
NACGM	Naroch	45.72	341	eP	P	12 30 02.4	+0.7
VRAC	Vranov	45.76	329	LR	LR	12 52 14.7	
	comp=Z,39nm,18.0s,baz=132,slow=40						
TSUM	Tsumeb	45.96	226	LR	LR	12 49 48.1	
	comp=Z,244nm,18.6s,baz=354,slow=37						
CM31	Chiang Mai Arr	46.42	77	P	P	12 30 08.8	+1.0
CMAR	Chiang Mai Arr	46.42	77	P	P	12 30 07.2	-0.6
	comp=Z,4.5nm,1.1s,baz=274,slow=8.5,SNR=19						
CMAR				LR	LR	12 50 05.1	
	comp=Z,20nm,18.9s,baz=200,slow=37						
CMAR	Chiang Mai Arr	46.42	77	*ce*P	P	12 30 09.3	+1.5
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	Chiang Mai Arr	46.42	77	P	P	12 30 08.3	+0.6
DPC	Dobruska-Polom	46.57	330	P	P	12 30 07.5	-1.0
UPC	Upice	46.82	330	P	P	12 30 10.3	-0.2
UPC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GERES	GERESS Array B	46.97	327	P	P	12 30 10.1	-1.7
	comp=Z,0.3nm,0.2s,baz=122,slow=9.3,SNR=1.7						
TORD	Torodi Ar. Bea	47.85	276	P	P	12 30 18.5	-0.6
	comp=Z,1.7nm,0.7s,baz=85,slow=7.0,SNR=11						
TORD				LR	LR	12 50 19.6	
	comp=Z,69nm,18.6s,baz=220,slow=36						
TORD	Torodi Ar. Bea	47.85	276	P	P	12 30 18.6	-0.4
KLMR	Klimovskoe	48.34	353	eP	P	12 30 20.4	-1.6
KLMR				pmax	pmax		
	comp=Z,16nm,1.2s						
KLMR	Klimovskoe	48.34	353	eP	P	12 30 20.5	-1.6
KLMR				AMP		12 30 29.6	
	comp=Z,16nm,1.2s						
BOSA	Boshof	48.38	211	LR	LR	12 50 43.5	
	comp=Z,86nm,18.1s,baz=20,slow=36						
ZAA0	Zalesovo Array	48.67	26	P	P	12 30 24.1	-0.6
ZAA0				IAmb	IAmb	12 30 26.2	
	comp=Z,3.7nm,0.8s						
ZALV	Zalesovo Beam	48.67	26	P	P	12 30 22.6	-2.1
	comp=Z,2.8nm,0.6s,baz=230,slow=6.9,SNR=17						
ZALV				LR	LR	12 52 42.7	
	comp=Z,70nm,18.5s,baz=260,slow=38						
ZALV	Zalesovo Beam	48.67	26	*i* P	P	12 30 24.2	-0.6
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	Zalesovo Beam	48.67	26	P	P	12 30 22.8	-2.0
PZH	PanZhiHua	49.33	66	P	P	12 30 31.4	+0.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,5.2s						
FINES	FINESS Array B	51.45	345	P	P	12 30 44.8	-0.9
	comp=Z,1.8nm,0.8s,baz=134,slow=14,SNR=3.9						
FINES				LR	LR	12 55 50.0	
	comp=Z,69nm,18.1s,baz=186,slow=40						
LZH	Lanzhou	52.54	55	eP	P	12 30 56.1	+1.6
LZH				pP	pwP	12 31 03.5	+2.9
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
SUR	Sutherland	53.67	212	LR	LR	12 56 03.7	
	comp=Z,89nm,19.2s,baz=357,slow=38						
HFS	Hagfors	54.26	338	LR	LR	12 58 56.1	
	comp=Z,47nm,18.2s,baz=130,slow=41						
ESDC	Sonseca Array	54.80	309	P	P	12 31 09.9	-1.0
	comp=Z,2.1nm,1.0s,baz=92,slow=6.0,SNR=6.4						
ESDC				LR	LR	12 53 30.1	
	comp=Z,25nm,21.2s,baz=164,slow=35						
ESDC	Sonseca Array	54.80	309	P	P	12 31 10.3	-0.6
ESDC				IAmb	IAmb	12 31 12.1	

	comp=Z,7.4nm,1.4s							
DBIC	**Dimbokro**	**55.22**	**269**		LR	LR	12 56 56.3	
	comp=Z,56nm,18.4s,baz=157,slow=38							
NOA	**NORSAR Array B**	**55.77**	**338**		LR	LR	12 58 39.6	
	comp=Z,43nm,19.9s,baz=145,slow=40							
ZAK	**Zakamensk**	**56.32**	**38**	*eP*		**P**	**12 31 22.8**	**+1.1**
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.4s							
XAN	**Xi'an**	**56.32**	**58**		P	**P**	**12 31 22.3**	**+0.3**
XAN					pP	pwP	12 31 27.5	-0.5
XAN					pmax	pmax		
	comp=Z,6.0nm,1.0s							
SONM	**Songino Array**	**57.38**	**41**		P	**P**	**12 31 26.8**	**-2.6**
	comp=Z,2.9nm,1.0s,baz=258,slow=7.1,SNR=3.2							
ULN	**Ulaanbaatar**	**57.81**	**41**	*ceP*		**P**	**12 31 33.2**	**+0.8**
ULN					pmax	pmax		
	comp=Z,3.0nm,1.2s							
ARCES	**ARCESS Array B**	**58.58**	**350**		LR	LR	12 59 23.6	
	comp=Z,126nm,20.7s,baz=144,slow=39							
HHC	**Hu-ho-hao-te**	**59.37**	**50**	*eP*		**P**	**12 31 45.6**	**+2.3**
HHC					pmax	pmax		
	comp=Z,14nm,1.1s							
HHC					pmax	pmax		
	comp=Z,85nm,5.2s							
HHC					LR	LR		
	comp=N,140nm,17.1s							
HHC					LR	LR		
	comp=E,110nm,18.4s							
HHC					LR	LR		
	comp=Z,83nm,17.8s							
NRIK	**Noril'sk**	**60.73**	**14**		LR	LR	13 02 15.7	
	comp=Z,148nm,20.5s,baz=238,slow=40							
NRIK	**Noril'sk**	**60.73**	**14**	*ceP*		**P**	**12 31 51.6**	**-0.4**
NRIK					pmax	pmax		
	comp=Z,3.0nm,0.9s							
NJ2	**Nanjing**	**64.53**	**61**	*eP*		**P**	**12 32 18.8**	**+0.8**
NJ2					pmax	pmax		
	comp=Z,11nm,0.6s							
SPITS	**Spitsbergen Ar**	**67.24**	**353**		LR	LR	13 05 34.1	
	comp=Z,64nm,20.3s,baz=159,slow=39							
CN2	**Changchun**	**69.88**	**48**	*eP*		**P**	**12 32 52.8**	**+1.0**
CN2				*eS*		**S**	**12 42 02.8**	**+1.1**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.8s							
CN2					pmax	pmax		
	comp=Z,100nm,3.0s							
CN2					LR	LR		
	comp=N,200nm,13.0s							
CN2					LR	LR		
	comp=E,300nm,13.0s							
CN2					LR	LR		
	comp=Z,100nm,12.4s							
KAPI	**Kappang**	**70.70**	**100**		LR	LR	13 01 52.9	
	comp=Z,23nm,18.2s,baz=300,slow=34							
KSRS	**Korea Array**	**71.87**	**55**		P	**P**	**12 33 03.7**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=289,slow=7.6,SNR=5.4							
YAK	**Yakutsk**	**73.20**	**29**		LR	LR	13 08 44.6	
	comp=Z,49nm,19.1s,baz=271,slow=39							
TIXI	**Tiksi**	**73.80**	**19**		LR	LR	13 09 29.4	
	comp=Z,75nm,20.1s,baz=190,slow=39							
TIXI	**Tiksi**	**73.80**	**19**	*ceP*		**P**	**12 33 14.8**	**0.0**
TIXI					pmax	pmax		
	comp=Z,2.0nm,1.0s							
KLR	**Kul'dur**	**74.19**	**42**		LR	LR	13 10 10.0	
	comp=Z,72nm,18.2s,baz=227,slow=39							
KLR	**Kul'dur**	**74.19**	**42**	*ceP*		**P**	**12 33 17.2**	**-0.3**
KLR					pmax	pmax		
	comp=Z,6.0nm,1.3s							
FITZ	**Fitzroy Crossi**	**79.98**	**111**		LR	LR	13 03 54.1	
	comp=Z,36nm,18.1s,baz=193,slow=32							
MAW	**Mawson**	**81.02**	**175**		LR	LR	13 02 59.4	
	comp=Z,67nm,21.9s,baz=292,slow=30							
ASAJ	**Asahikawa**	**82.17**	**47**		LR	LR	13 12 25.9	
	comp=Z,42nm,20.4s,baz=322,slow=37							
SEY	**Seymchan**	**83.54**	**27**		P	**P**	**12 34 08.0**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=49,slow=22,SNR=2.1							
SEY					LR	LR	13 17 00.2	
	comp=Z,59nm,18.1s,baz=354,slow=40							
SEY	**Seymchan**	**83.54**	**27**	*ceP*		**P**	**12 34 09.1**	**+0.5**
SEY					pmax	pmax		
	comp=Z,5.0nm,1.3s							
MA2	**Magadan**	**83.69**	**30**		P	**P**	**12 34 08.1**	**-1.3**
	comp=Z,0.7nm,0.2s,baz=228,slow=2.2,SNR=4.1							
MA2					LR	LR	13 12 42.4	
	comp=Z,38nm,20.7s,baz=308,slow=37							
MA2	**Magadan**	**83.69**	**30**	*ceP*		**P**	**12 34 10.1**	**+0.6**
MA2					pmax	pmax		
	comp=Z,5.0nm,1.3s							
MA2	**Magadan**	**83.69**	**30**		IAmb	IAmb	12 34 10.5	
	comp=Z,9.9nm,1.5s							
BILL	**Bilibino**	**86.98**	**20**↑	*eP*		**P**	**12 34 25.6**	**-0.1**
BILL				*e*			12 37 54.9	
BILL					pmax	pmax		
	comp=Z,3.0nm,1.0s							
BILL					MLR	MLR		
	comp=Z,47nm,18.0s							
BILL	**Bilibino**	**86.98**	**20**		P	**P**	**12 34 25.0**	**-0.7**
WRA	**Warramunga Arr**	**88.39**	**111**		P	**P**	**12 34 33.9**	**+0.4**
	comp=Z,4.0nm,1.1s,baz=300,slow=3.7,SNR=13							
WRA	**Warramunga Arr**	**88.39**	**111**	*i* P		**P**	**12 34 35.0**	**+1.6**
WRA					pmax	pmax		
	comp=Z,4.0nm,1.0s							
WRA	**Warramunga Arr**	**88.39**	**111**		P	**P**	**12 34 33.7**	**+0.2**
WRAB	**Tennant Creek**	**88.40**	**111**	*ceP*		**P**	**12 34 35.6**	**+2.1**
WRAB					pmax	pmax		
	comp=Z,10.0nm,1.3s							
ASAR	**Alice Springs**	**88.94**	**114**		P	**P**	**12 34 36.2**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=288,slow=4.6,SNR=16							
ASAR	**Alice Springs**	**88.94**	**114**		P	**P**	**12 34 35.0**	**-1.0**
PETK	**Petropavlovsk-**	**89.38**	**35**		LR	LR	13 19 04.9	
	comp=Z,43nm,21.7s,baz=276,slow=39							
RES	**Resolute Bay**	**89.77**	**351**		LR	LR	13 17 38.3	
	comp=Z,40nm,20.7s,baz=76,slow=38							
STKA	**Stephens Creek**	**97.41**	**121**		LR	LR	13 16 40.3	
	comp=Z,48nm,20.9s,baz=206,slow=34							
INK	**Inuvik**	**98.68**	**2**		LR	LR	13 28 11.4	
	comp=Z,39nm,18.8s,baz=38,slow=40							

*IDC **21** 12:31:11.1±0.7, 0°.27S×80°.27W, h0km, mb4.0/13, mb1 4.1/17, mb1mx4.0/34, mbtmp4.0/17, ML3.4/4, MS3.6/19, Ms1 3.6/19, ms1mx3.3/65, Error ellipse: s-maj=23.4km s-min=14.0km az=52.0*

*IGQ **21** 12:31:14±0.6, 0°.5±2°×8°.0W±°, h7km*

*NEIC **21** 12:31:16.3±2.7, 0°.18S±0°.05×80°.22W±0°.06, h10km±1km, mb4.4/26, Error ellipse: s-maj=10.4km s-min=9.2km az=272.0*

*VAO **21** 12:31:21.0±1.9, 0°.32S×80°.06W, h44km±9km, mb4.6*

ISC 21 12:31:13.8±0.4, **0°.20S**±0°.04×**80°.29W**±0°.04, **h10**km, **n183,** σ1**58**/166, **mb4.1**/20, **MS3.6**/15, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.10**	**125**	P	**Pg**	**12 31 19.0**	**+2.5**
JAMA				S	**Sg**	**12 31 22.0**	**+3.5**
FLF1	**Flavio Alfaro-**	**0.47**	**109**	P	**Pn**	**12 31 26.0**	**-0.7**
BV15	**Puerto Quito-O**	**1.13**	**72**	P	**Pb**	**12 31 33.0**	**-2.4**
AV21	**Acelerografo,**	**1.13**	**41**	P	**Pb**	**12 31 35.0**	**-0.5**
AMA1	**Acelerografo,**	**1.26**	**27**	P	**Pn**	**12 31 36.0**	**-1.5**
PPLP	**Puerto Lpez**	**1.42**	**200**	P	**Pn**	**12 31 39.0**	**-0.7**
ILLI	**Illinizas Sur**	**1.65**	**108**	P	**Pn**	**12 31 42.0**	**-1.2**
APR1	**Acelerografo,**	**1.69**	**85**	P	**Pn**	**12 31 42.0**	**-1.7**
PAST	**Pastocalle**	**1.72**	**107**	P	**Pn**	**12 31 44.0**	**-0.2**
PULU	**Pululahua**	**1.80**	**83**		**Pn**	**12 31 45.0**	**-0.3**
CAMI	**Rancho Maria**	**1.85**	**105**	P	**Pn**	**12 31 46.0**	**0.0**
BNAS	**Cotopaxi Volca**	**1.87**	**105**	P	**Pn**	**12 31 47.0**	**+0.7**
NAS2	**Nasa**	**1.88**	**104**	P	**Pn**	**12 31 47.0**	**+0.6**
OTAV	**Otavalo**	**1.89**	**77**		**Pn**	**12 31 45.7**	**-0.8**
PITA	**Cotopaxi Volc**	**1.89**	**101**	P	**Pn**	**12 31 47.0**	**+0.4**
BMOR	**Cotopaxi Volca**	**1.91**	**106**	P	**Pn**	**12 31 47.0**	**+0.1**
BREF	**Cotopaxi Volca**	**1.91**	**104**	P	**Pn**	**12 31 48.0**	**+1.0**
AV11	**Acelerografo,**	**1.92**	**86**	P	**Pn**	**12 31 47.0**	**+0.1**
BVC2	**Cotopaxi Volca**	**1.93**	**104**	P	**Pn**	**12 31 48.0**	**+0.7**
VC1	**Cotopaxi 1**	**1.94**	**103**	P	**Pn**	**12 31 48.0**	**+0.7**
BTAM	**Cotopaxi Volca**	**1.95**	**104**	P	**Pn**	**12 31 48.0**	**+0.5**
CUSE	**Cuicocha Este**	**1.96**	**75**	*eP*	**Pn**	**12 31 46.9**	**-0.6**
CUSE				*eS*	**Sn**	**12 32 11.3**	**-1.0**
CUSE	**Cuicocha Este**	**1.96**	**75**	P	**Pn**	**12 31 47.0**	**-0.5**
PORT	**Chimborazo Vol**	**1.97**	**130**		**Pn**	**12 31 48.7**	**+0.9**
PORT	**Chimborazo Vol**	**1.97**	**130**	P	**Pn**	**12 31 48.0**	**+0.2**
TAMB	**Tambo**	**1.98**	**104**	P	**Pn**	**12 31 49.0**	**+1.1**
VCES	**Cotopaxi**	**1.99**	**107**	P	**Pn**	**12 31 48.0**	**0.0**
CUIC	**Cuicocha-Domo**	**1.99**	**75**	P	**Pn**	**12 31 47.0**	**-0.9**
CUSW	**Cuicocha Oeste**	**2.00**	**76**	P	**Pn**	**12 31 47.0**	**-1.0**
TAMH	**Tambohuasha Ch**	**2.02**	**131**	P	**Pn**	**12 31 49.0**	**+0.7**
COTA	**Cotacachi**	**2.02**	**75**	P	**Pn**	**12 31 48.0**	**-0.5**
ANTG	**Antisana-Guama**	**2.06**	**98**	P	**Pn**	**12 31 49.0**	**0.0**
SALI	**Salinas**	**2.09**	**200**	P	**Pb**	**12 31 51.0**	**-0.9**
URCU	**Urcuqui**	**2.13**	**73**	P	**Pn**	**12 31 49.0**	**-0.9**
ANTS	**Antisana-Sarah**	**2.14**	**98**	P	**Pn**	**12 31 51.0**	**+0.9**
ANTI	**Antisana**	**2.15**	**97**	P	**Pn**	**12 31 51.0**	**+0.8**
ALIT	**Ecuador-Imbabu**	**2.17**	**63**	P	**Pn**	**12 31 49.0**	**-1.1**
PIAT	**Ana Tenorio**	**2.18**	**111**	P	**Pn**	**12 31 51.0**	**+0.5**
BBIL	**Ulba Tungurahu**	**2.19**	**125**	P	**Pn**	**12 31 52.0**	**+1.4**
JUI6	**Juive**	**2.19**	**124**	P	**Pn**	**12 31 52.0**	**+1.4**
POND	**Pondoa**	**2.20**	**123**	P	**Pn**	**12 31 52.0**	**+1.2**
RETU	**Refugio**	**2.23**	**124**	P	**Pn**	**12 31 53.0**	**+1.8**
BMAS	**Trigal station**	**2.23**	**126**	P	**Pn**	**12 31 52.0**	**+0.9**
BRUN	**Tungurahua Vol**	**2.24**	**123**	P	**Pn**	**12 31 53.0**	**+1.8**
ARRY	**Arrayan**	**2.25**	**125**	P	**Pn**	**12 31 53.0**	**+1.6**
BPAT	**Tungurahua Vol**	**2.27**	**125**	P	**Pn**	**12 31 53.0**	**+1.3**
YAHU	**Yahuarcocha**	**2.29**	**76**	P	**Pn**	**12 31 53.0**	**+1.0**
CAYR	**Refugio Cayamb**	**2.29**	**85**	P	**Pn**	**12 31 53.0**	**+0.7**
ANGU	**Angureal**	**2.30**	**84**	P	**Pb**	**12 31 55.0**	**-0.7**
CHMA	**Chilma**	**2.47**	**65**	P	**Pn**	**12 31 54.0**	**-0.4**
LNGL	**El Angel-Carch**	**2.47**	**68**	P	**Pn**	**12 31 55.0**	**+0.4**
COHC	**Cochancay**	**2.48**	**155**		**Pn**	**12 31 54.4**	**+0.2**
ECEN	**Cerro Negro**	**2.53**	**66**	P	**Pn**	**12 31 56.0**	**+0.5**
CHL1	**Volc¡n Chiles**	**2.54**	**67**	P	**Pn**	**12 31 56.0**	**+0.4**
CHL2	**Volc¡n Chiles**	**2.57**	**67**	P	**Pn**	**12 31 56.0**	**0.0**
ARDO	**Archidona, Ten**	**2.61**	**108**	P	**Pn**	**12 31 58.0**	**+1.8**
CONE	**Cono NE Rev Vo**	**2.65**	**87**	P	**Pn**	**12 31 59.0**	**+2.1**
TULM	**Tulcn-Chalpat**	**2.67**	**70**		**Pn**	**12 31 59.7**	**+2.5**
TULM	**Tulcn-Chalpat**	**2.67**	**70**	*eP*	**Pn**	**12 31 59.8**	**+2.5**
CMBC	**Cumbal**	**2.71**	**65**	*eP*	Pn	12 31 42.0	-16
ISPG	**Isla Puna-Puer**	**2.75**	**177**	P	**Pb**	**12 32 02.0**	**-1.2**
BONI	**La Bonita**	**2.84**	**77**	P	**Pn**	**12 32 02.0**	**+2.6**
CASC	**Dorado de Casc**	**2.97**	**84**	P	**Pn**	**12 32 03.0**	**+1.9**
GCUF	**Volcan Galeras**	**3.27**	**64**	*eP*	**Pn**	**12 32 07.2**	**+1.6**
ARNL	**Arenillas**	**3.33**	**176**		**Pn**	**12 32 09.4**	**+3.4**
ARNL	**Arenillas**	**3.33**	**176**	P	**Pn**	**12 32 07.0**	**+1.0**
BOSC	**San Juan Bosco**	**3.44**	**149**		**Pb**	**12 32 11.8**	**-3.2**
BOSC	**San Juan Bosco**	**3.44**	**149**	P	**Pn**	**12 32 11.0**	**+3.4**
CRUC	**La Cruz**	**3.77**	**62**	*eP*	**Pn**	**12 32 14.0**	**+1.6**
GR1C	**Gorgona, Isla**	**3.83**	**34**	*eP*	**Pn**	**12 32 09.6**	**-3.2**
MCRA	**Macar, Loja**	**4.16**	**175**		**Pn**	**12 32 20.6**	**+3.2**
SOTA	**Rioblanco**	**4.35**	**58**	*eP*	**Pn**	**12 32 21.8**	**+1.3**
POPC	**Popayan, Colom**	**4.53**	**53**	*eP*	**Pn**	**12 32 22.2**	**-0.4**
PCON	**Cinco Dias**	**4.63**	**57**	*eP*	**Pn**	**12 32 25.1**	**+0.7**
MARP	**Paez Belalcaza**	**5.28**	**55**	*eP*	**Pn**	**12 32 34.2**	**+1.1**
GARC	**Garzon, Huila**	**5.35**	**64**	*eP*	**Pn**	**12 32 35.2**	**+1.2**
PTLC	**Puerto Leguiza**	**5.51**	**86**	*eP*	**Pn**	**12 32 38.0**	**+2.0**
BETC	**Betania**	**5.63**	**59**	*eP*	**Pn**	**12 32 39.5**	**+1.9**
YOTC	**Yotoco, Valle**	**5.73**	**43**	*eP*	**Pn**	**12 32 38.2**	**-0.9**
PLMC	**San Jos del P**	**6.46**	**38**	*eP*	**Pn**	**12 32 47.9**	**-1.2**
ORTC	**Ortega, Tolima**	**6.49**	**51**	*eP*	**Pn**	**12 32 49.3**	**-0.1**
MACC	**Macarena, Meta**	**6.85**	**70**	*eP*	**Pn**	**12 32 56.4**	**+2.0**
GUY2C	**Guyana, Caldas**	**7.30**	**42**	*eP*	**Pn**	**12 33 02.4**	**+1.5**
CBOC	**Ciudad Bolivar**	**7.38**	**35**	*eP*	**Pn**	**12 33 04.2**	**+2.3**
ROSC	**El Rosal**	**7.79**	**50**	Pn	**Pn**	**12 33 08.2**	**+0.5**
	3.0nm,0.3s,baz=261,slow=19,SNR=2.8						
ROSC				Sn	**Sn**	**12 34 36.6**	**+0.5**
	2.9nm,0.3s,baz=141,slow=15,SNR=1.4						
ROSC				LR	LR	12 36 43.0	
	comp=Z,346nm,20.8s,baz=226,slow=42						
ROSC	**El Rosal**	**7.79**	**50**	Pn	**Pn**	**12 33 09.2**	**+1.6**
ROSC	**El Rosal**	**7.79**	**50**	*eP*	Pn	12 33 13.5	+5.9
VILC	**Villavicencio,**	**7.86**	**57**	*eP*	**Pn**	**12 33 09.3**	**+0.8**
NORC	**Norcasia**	**7.88**	**43**	*eP*	Pn	12 33 14.3	+5.7
HELC	**Santa Helena**	**7.93**	**37**	*eP*	**Pn**	**12 33 13.8**	**+4.3**
CHIC	**Chingaza**	**8.12**	**54**	*eP*	**Pn**	**12 33 12.6**	**+0.3**
SPBC	**San Pablo de B**	**8.51**	**47**	*eP*	**Pn**	**12 33 21.3**	**+4.0**
PTBC	**PUERTO BERRIO,**	**8.87**	**41**	*eP*	**Pn**	**12 33 26.1**	**+3.9**
UREC	**San Jos de Ur**	**9.21**	**31**	*eP*	**Pn**	**12 33 29.5**	**+2.6**
BRU2	**Volcan**	**9.25**	**345**	Pn	**Pn**	**12 33 30.4**	**+2.9**
BCIP	**Isla Barro Col**	**9.31**	**3**	Pn	**Pn**	**12 33 31.3**	**+3.0**
ZARC	**Zaragoza, Cauc**	**9.37**	**35**	Pn	**Pn**	**12 33 31.4**	**+2.5**
ZARC	**Zaragoza, Cauc**	**9.37**	**35**	*eP*	**Pn**	**12 33 31.6**	**+2.6**
DRK0	**Durika**	**9.85**	**343**	Pn	**Pn**	**12 33 37.0**	**+1.3**
PAYG	**Puerto Ayora**	**10.01**	**267**	Pn	**Pn**	**12 33 40.6**	**+2.9**
CZSB	**Cruzeiro do Su**	**10.64**	**135**	*eP*	**Pn**	**12 33 46.6**	**+0.2**
TBTG	**Tabatinga, AM**	**11.10**	**111**	*eP*	**Pn**	**12 33 53.8**	**+1.0**
SJCC	**San Jacinto, C**	**11.25**	**27**	Pn	**Pn**	**12 33 56.5**	**+1.8**
JTS	**Las Lomas de**	**11.41**	**336**	LR	LR	12 37 27.9	
	comp=Z,105nm,18.9s,baz=214,slow=33						
NNA	**Nana**	**12.20**	**164**	Pn	**Pn**	**12 34 07.0**	**-0.8**
	2.9nm,0.3s,baz=300,slow=7.9,SNR=2.5						
NNA				Sn	**Sn**	**12 36 22.2**	**-1.9**
	2.0nm,0.3s,baz=299,slow=12,SNR=1.8						
NNA				LR	LR	12 39 33.2	
	comp=Z,61nm,18.1s,baz=330,slow=41						
SDV	**Santo Domingo**	**13.19**	**47**	Pn	**Pn**	**12 34 20.6**	**-0.9**
	0.7nm,0.3s,baz=281,slow=15,SNR=2						
SDV				LR	LR	12 40 27.0	
	comp=Z,121nm,21.3s,baz=160,slow=42						
SDV	**Santo Domingo**	**13.19**	**47**	Pn	**Pn**	**12 34 23.9**	**+2.4**
SDV	**Santo Domingo**	**13.19**	**47**	*eP*	**Pn**	**12 34 24.6**	**+3.1**
BAUV	**El Baul**	**15.21**	**53**		**Pn**	**12 34 49.8**	**+0.9**
BAUV				IAmb	IAmb	12 35 14.5	
	comp=Z,20nm,0.9s						
TGUH	**Tegucigalpa,Un**	**15.76**	**334**	Pn	**Pn**	**12 34 57.6**	**+1.5**
TGUH				IAmb	IAmb	12 35 18.3	
	comp=Z,53nm,1.4s						
ETMB	**Extrema**	**16.96**	**125**	*eP*	**P**	**12 35 12.7**	**-0.6**
MTO3	**Montecristo**	**17.06**	**329**	P	**P**	**12 35 15.4**	**+0.8**
BIRV	**Birongo**	**17.52**	**52**		**Pn**	**12 35 18.5**	**+0.1**
BIRV				IAmb	IAmb	12 35 22.9	
	comp=Z,38nm,1.3s						
MACA	**Manacapuru-AM**	**19.82**	**99**	*eP*	**P**	**12 35 44.6**	**-0.2**
BOAV	**Boa Vista**	**19.93**	**82**	*eP*	**Pn**	**12 35 47.6**	**-0.1**
LPAZ	**La Paz**	**19.99**	**144**	P	**P**	**12 35 45.9**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=145,slow=3.2,SNR=2.0						
LPAZ	**La Paz**	**19.99**	**144**	P	**Pn**	**12 35 49.6**	**+0.7**
LPAZ	**La Paz**	**19.99**	**144**	*eP*	**P**	**12 35 47.9**	**+0.6**
PB12	**IPOC Station P**	**20.75**	**152**	P	Pn	12 35 58.3	+0.9
PB12				IAmb	IAmb	12 36 21.3	
	comp=Z,15nm,0.9s						
PB16	**IPOC Station P**	**20.91**	**150**	P	Pn	12 35 59.6	-0.1
PB16				IAmb	IAmb	12 36 11.1	
	comp=Z,9.5nm,0.8s						
PB11	**IPOC Station P**	**22.06**	**152**	P	**P**	**12 36 11.2**	**+2.1**
PB11				IAmb	IAmb	12 36 12.8	
	comp=Z,17nm,0.8s						
GO01	**Chusmiza**	**22.20**	**151**	P	**P**	**12 36 13.4**	**+2.4**
GO01				IAmb	IAmb	12 36 22.3	
	comp=Z,8.3nm,0.7s						
CMIG	**Matias Romero**	**22.40**	**321**	P	**P**	**12 36 12.4**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=130,slow=9.3,SNR=2.5						
CMIG				LR	LR	12 43 23.3	
	comp=Z,69nm,19.1s,baz=155,slow=33						
TOSP	**Speyside**	**22.71**	**59**	P	**P**	**12 36 14.9**	**-1.1**
SJG	**San Juan**	**22.90**	**37**	LR	LR	12 46 28.4	
	comp=Z,102nm,21.2s,baz=201,slow=40						
PDPR	**Patillas Dam,**	**22.91**	**37**	P	**P**	**12 36 19.2**	**+1.2**
PDPR				IAmb	IAmb	12 36 24.4	
	comp=Z,16nm,0.9s						
VILB	**Vilhena**	**23.61**	**123**	*eP*	**P**	**12 36 26.9**	**+1.8**
PB09	**IPOC Station P**	**24.02**	**154**	P	**P**	**12 36 31.1**	**+1.9**
SIV	**San Ignacio**	**24.61**	**131**	P	**P**	**12 36 32.4**	**-2.2**
	comp=Z,2.3nm,0.6s,baz=296,slow=10,SNR=10						
SIV				LR	LR	12 46 33.1	
	comp=Z,184nm,20.1s,baz=294,slow=38						
ITTB	**Itaituba**	**24.88**	**100**	*eP*	**P**	**12 36 37.5**	**+0.5**
LVC	**Limon Verde**	**24.88**	**154**	LR	LR	12 47 49.8	
	comp=Z,116nm,19.5s,baz=276,slow=40						
LVC	**Limon Verde**	**24.88**	**154**	*eP*	**P**	**12 36 38.9**	**+1.6**
PTLB	**Pontes e Lacer**	**25.81**	**127**	*eP*	**P**	**12 36 45.7**	**+0.3**
PDRB	**Porto dos Gac**	**26.00**	**117**	*eP*	**P**	**12 36 47.0**	**-0.2**
MALB	**Monte Alegre**	**26.07**	**94**	*eP*	**P**	**12 36 47.5**	**-0.3**
CLDB	**Colider**	**26.55**	**114**	*eP*	**P**	**12 36 51.4**	**-0.8**
NBRS	**Nobres**	**28.02**	**121**	*eP*	**P**	**12 37 04.9**	**-0.5**
MDP	**Montagnes des**	**28.11**	**79**	P	**P**	**12 37 05.8**	**-0.4**
	comp=Z,7.3nm,0.8s,baz=171,slow=9.3,SNR=1.2						
MDP				LR	LR	12 48 36.1	
	comp=Z,472nm,18.0s,baz=240,slow=37						
MCPB	**Macapa, AP**	**28.23**	**90**	*eP*	**P**	**12 37 09.5**	**+2.2**
PRPB	**Parauapebas**	**30.99**	**102**	*eP*	**P**	**12 37 33.9**	**+2.2**
SNDB	**Serra Nova Dou**	**31.07**	**113**	*eP*	**P**	**12 37 32.5**	**+0.1**
CPUP	**Villa Florida**	**34.12**	**141**	LR	LR	12 54 12.1	
	comp=Z,161nm,20.2s,baz=24,slow=41						
CPUP	**Villa Florida**	**34.12**	**141**	*eP*	**P**	**12 37 59.0**	**0.0**
HODGE	**Hodges**	**34.30**	**357**	P	**P**	**12 37 59.4**	**-1.1**
BDFB	**Brasilia**	**35.37**	**117**	P	**P**	**12 38 08.4**	**-1.6**
	comp=Z,1.3nm,0.5s,baz=168,slow=6.4,SNR=2.0						
CPCT	**Cooper Cave**	**35.69**	**354**	P	**P**	**12 38 11.4**	**-1.0**
CPCT				IAmb	IAmb	12 38 12.4	
	comp=Z,6.8nm,0.9s						
IPMB	**Ipameri, GO**	**36.15**	**121**	*eP*	**P**	**12 38 15.8**	**-0.9**
TXAR	**Lajitas Array**	**36.89**	**325**	P	**P**	**12 38 23.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=155,slow=7.0,SNR=1.8						
TXAR				PcP	**PcP**	**12 40 43.9**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=148,slow=5.3,SNR=3.1						
TXAR				ScP	**ScP**	**12 44 32.1**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=131,slow=2.6,SNR=2.9						
RPN	**Rapa Nui**	**38.67**	**224**	LR	LR	12 50 02.1	
	comp=Z,112nm,21.5s,baz=58,slow=29						
MNTX	**Cornudas Mount**	**39.63**	**325**	P	**P**	**12 38 46.9**	**+1.0**
MSTX	**Muleshoe**	**40.01**	**330**	P	**P**	**12 38 49.5**	**+0.4**
MSTX				IAmb	IAmb	12 39 00.3	
	comp=Z,6.0nm,0.9s						
PLCA	**Paso Flores**	**41.30**	**169**	P	**P**	**12 38 57.4**	**-2.3**
	comp=Z,2.3nm,0.9s,baz=71,slow=2.7,SNR=3.5						
ANMO	**Albuquerque**	**42.66**	**328**	P	**P**	**12 39 13.3**	**+2.3**
214A	**Organ Pipe Nat**	**44.36**	**319**	P	**P**	**12 39 27.6**	**+3.1**
214A				IAmb	IAmb	12 39 33.3	
	comp=Z,7.8nm,1.4s						
RCBR	**Riachuelo**	**44.66**	**98**	LR	LR	12 59 34.1	
	comp=Z,330nm,18.2s,baz=348,slow=38						
RCBR	**Riachuelo**	**44.66**	**98**	P	**P**	**12 39 28.1**	**+0.8**
RCBR	**Riachuelo**	**44.66**	**98**	*eP*	**P**	**12 39 28.2**	**+1.0**
SADO	**Sadowa**	**44.79**	**1**	LR	LR	12 59 57.2	
	comp=Z,60nm,18.4s,baz=186,slow=38						
NVAR	**Mina Array Bea**	**51.93**	**322**	P	**P**	**12 40 23.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=134,slow=7.7,SNR=3.8						
ULM	**Lac du Bonnet**	**51.99**	**347**	P	**P**	**12 40 21.1**	**-2.1**
	comp=Z,2.8nm,0.5s,baz=175,slow=8.3,SNR=3.6						
YKA	**Yellowknife Ar**	**67.64**	**344**	P	**P**	**12 42 09.6**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=137,slow=6.0,SNR=22						
DBIC	**Dimbokro**	**75.56**	**83**	P	**P**	**12 42 58.4**	**-1.0**
	comp=Z,5.5nm,1.0s,baz=299,slow=7.0,SNR=3.3						
DBIC	**Dimbokro**	**75.56**	**83**	IAmb	IAmb	12 42 59.2	
	comp=Z,18nm,1.3s						
INK	**Inuvik**	**77.33**	**342**	P	**P**	**12 43 07.8**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=132,slow=6.1,SNR=3.6						
BORG	**Borgarnes**	**77.41**	**22**	LR	LR	13 12 52.6	
	comp=Z,33nm,21.4s,baz=232,slow=32						
ESDC	**Sonseca Array**	**79.62**	**50**	P

baz=353,slow=15,SNR=25
YKA Yellowknife Ar 39.64 46 P **P** **12 44 12.1 +1.2**
0.2nm,0.6s,baz=301,slow=8.2,SNR=3.7
SPITS Spitsbergen Ar 44.44 351 P **P** **12 44 49.8 -0.1**
5.6nm,0.9s,baz=76,slow=7.8,SNR=6.2
MKAR Makanchi Array 48.58 295 P **P** **12 45 19.9 -2.9**
0.5nm,0.4s,baz=60,slow=6.4,SNR=16
CMAR Chiang Mai Arr 60.66 259 LR LR 13 15 18.6
comp=Z,16nm,18.2s,baz=15,slow=38
TXAR Lajitas Array 67.75 70 P **P** **12 47 39.5 +2.2**
0.8nm,0.8s,baz=298,slow=3.9,SNR=8.3
WRA Warramunga Arr 79.66 208 P **P** **12 48 47.0 +0.1**
0.2nm,0.8s,baz=11,slow=5.9,SNR=1.2
ASAR Alice Springs 83.34 207 P **P** **12 49 06.3 0.0**
0.3nm,0.7s,baz=9.9,slow=4.8,SNR=4.9

IDC 21 12:40:59.9±2.2, 24°72N×94°61E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/52, mbtmp3.4/4, Error ellipse: s-maj=99.8km s-min=25.5km az=69.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**24.13**	**339**	P	P	12 46 17.5	0.0
	0.2nm,0.4s,baz=170,slow=8.9,SNR=4.7						
SONM	**Songino Array**	**24.89**	**19**	P	P	12 46 24.4	0.0
	0.7nm,0.5s,baz=223,slow=7.4,SNR=1.7						
WRA	**Warramunga Arr**	**58.87**	**135**	P	P	12 51 00.5	-0.3
	0.4nm,0.8s,baz=320,slow=7.6,SNR=2.5						
ASAR	**Alice Springs**	**61.36**	**139**	P	P	12 51 17.9	+0.1
	0.3nm,0.5s,baz=321,slow=7.0,SNR=12						

*IDC **21** 12:52:01.0±0.9, 32°.71N×130°.71E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/61, mbtmp3.7/9, ML3.0/3, MS3.0/4, Ms1 3.0/4, ms1mx2.5/98, Error ellipse: s-maj=22.8km s-min=7.6km az=109.0*
*JMA **21** 12:52:03.3, 32°.79N×130°.83E, h11km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕs262.00000°, δ69.00000°, λ-37.00000°. NP2: ϕs7.00000°, δ56.00000°, λ-154.00000°. Principal axes: T Plg8.0000°, Azm317.0000°; N Plg48.0000°, Azm56.0000°; P Plg41.0000°, Azm220.0000°;*
JMA Felt III J1.
*NIED **21** 12:52:03.4, 32°.79N×130°.83E, h11km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.47; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$1.74; $M_{r\theta}$2.86; $M_{\theta\phi}$6.30; $M_{\phi r}$-0.75; Fault plane solution: $M_0$7.14000×10^{14} NP1: ϕs358.00000°, δ65.00000°, λ-167.00000°. NP2: ϕs262.00000°, δ78.00000°, λ-26.00000°.*
ISC 21 12:52:03.8±0.6, 32°.79N±0°.03×130°.82E±0°.06, h12km, n18, σ1^{9}45/22, mb3.6/6, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.24**	**181**	⇑P	**Pg**	**12 52 08.4**	**-0.5**
JIU3				S	**Sg**	**12 52 11.9**	**-0.4**
JTA	**Tamana**	**0.30**	**306**	⇑P	**Pg**	**12 52 09.6**	**-0.3**
JTA				S	**Sg**	**12 52 14.0**	**+0.1**
JNU	**Nakatsue**	**0.33**	**9**	Pg	**Pg**	**12 52 09.6**	**-0.9**
	662nm,0.3s,baz=191,slow=9.3,SNR=386						
JNU				Lg	Lg	12 52 14.9	
	11μm,0.3s,baz=323,slow=14,SNR=228						
JNU	**Nakatsue**	**0.33**	**9**	P	**Pg**	**12 52 10.3**	**-0.3**
JNU				S	**Sg**	**12 52 15.0**	**-0.1**
JTZ	**Takazaki**	**0.92**	**166**	⇑P	**Pg**	**12 52 21.0**	**-0.5**
JTZ				S	**Sg**	**12 52 33.0**	**-0.4**
KSRS	**Korea Array**	**5.22**	**334**	Pn	**Pn**	**12 53 21.2**	**-0.5**
	1.0nm,0.3s,baz=150,slow=15,SNR=11						
KSRS				Pg	**Pb**	**12 53 36.4**	**+1.3**
	1.5nm,0.3s,baz=152,slow=15,SNR=11						
KSRS				Lg	Lg	12 54 44.7	
	2.1nm,0.3s,baz=150,slow=28,SNR=3.2						
KSRS				LR	LR	12 55 33.5	
	comp=Z,102nm,18.6s,baz=150,slow=40						
JOW	**Kunigami**	**6.34**	**201**	Pn	**Pn**	**12 53 39.3**	**+2.2**
	3.5nm,0.3s,baz=193,slow=28,SNR=7.2						
JOW				Sn	**Sn**	**12 54 51.5**	**+2.1**
	0.7nm,0.3s,baz=348,slow=29,SNR=1.5						
MJAR	**Matsushiro Arr**	**7.14**	**56**	Pn	**Pn**	**12 53 49.6**	**+1.4**
	0.2nm,0.3s,baz=164,slow=13,SNR=7.7						
MJAR				LR	LR	12 55 56.5	
	comp=Z,25nm,21.4s,baz=258,slow=32						
ASAJ	**Asahikawa**	**14.57**	**36**	Pn	**Pn**	**12 55 29.7**	**-0.1**
	0.1nm,0.3s,baz=214,slow=7.3,SNR=2.6						
KLR	**Kul'dur**	**16.44**	**2**	Pn	**P**	**12 56 00.6**	**+3.7**
	0.1nm,0.3s,baz=180,slow=7.9,SNR=6.5						
MKAR	**Makanchi Array**	**39.20**	**305**	P	**P**	**12 59 30.9**	**-0.8**
	0.4nm,0.9s,baz=92,slow=8.5,SNR=4.1						
KURBB	**Kurchatov Arra**	**41.95**	**311**	P	**P**	**12 59 53.2**	**-1.1**
	0.8nm,0.7s,baz=96,slow=9.0,SNR=6.7						
WRA	**Warramunga Arr**	**52.54**	**176**	P	**P**	**13 01 15.2**	**-2.0**
	0.6nm,0.8s,baz=7.0,slow=7.6,SNR=3.5						
CTA	**Charters Tower**	**54.61**	**162**	LR	LR	13 23 32.6	
	comp=Z,38nm,18.9s,baz=80,slow=35						
ASAR	**Alice Springs**	**56.22**	**177**	P	**P**	**13 01 42.1**	**-1.7**
	0.5nm,0.7s,baz=9.6,slow=13,SNR=8.9						
ARCES	**ARCESS Array B**	**64.77**	**338**	LR	LR	13 35 44.6	
	comp=Z,24nm,19.7s,baz=275,slow=40						
STKA	**Stephens Creek**	**65.12**	**170**	P	**P**	**13 02 43.6**	**-0.8**
	1.5nm,0.6s,baz=333,slow=10,SNR=2.9						
FINES	**FINESS Array B**	**68.30**	**330**	P	**P**	**13 03 03.0**	**-1.4**
	1.2nm,0.7s,baz=87,slow=7.8,SNR=5.7						

JMA 21 12:55:10.4, 32°.48N×130°.64E, h11km±1km, M3.6, 2C-2D Broadband fault plane solution: P waves. NP1: ϕs94.00000°, δ82.00000°, λ-11.00000°. **NP2:** ϕs186.00000°, δ79.00000°, λ-172.00000°. **Principal axes:** T Plg2.0000°, Azm140.0000°; N Plg77.0000°, Azm239.0000°; P Plg13.0000°, Azm50.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.16**	**65**	⇓P	Pg	12 55 13.9	-0.1
JIU3				S	Sg	12 55 16.8	+0.2
JZO	**Okuchi**	**0.34**	**186**	⇓P	Pg	12 55 17.2	0.0
JZO				S	Sg	12 55 21.9	+0.1
JTA	**Tamana**	**0.49**	**349**	⇑P	Pg	12 55 19.9	-0.1
JTA				S	Sg	12 55 26.5	0.0
JTZ	**Takazaki**	**0.69**	**147**	⇑P	Pg	12 55 24.1	+0.3
JTZ				S	Sg	12 55 33.1	+0.3

*IDC **21** 13:14:48.3±1.2, 0°.14S×80°.46W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/29, mbtmp3.8/7, ML2.5/1, MS3.5/3, Ms1 3.6/3, ms1mx2.8/66 Error ellipse: s-maj=48.2km s-min=20.1km az=49.0*
*IGQ **21** 13:14:49±1.2, 0°S±4°×8°1W±°, h8km*
ISC 21 13:14:49.8±0.8, 0°.09S±0°.04×80°.51W±0°.07, h9km, n64, σ1^{9}51/57, mb3.8/5, MS3.4/3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.35**	**119**	P	**Pn**	**13 15 02.0**	**+0.9**
FLF1	**Flavio Alfaro-**	**0.72**	**112**	P	**Pn**	**13 15 09.0**	**+2.8**
FLF1				S	Sn	13 15 28.0	+11
MAG1	**Magdalena**	**0.74**	**89**	P	**Pn**	**13 15 10.0**	**+3.6**
ILLI	**Illinizas Sur**	**1.89**	**109**	P	**Pb**	**13 15 25.0**	**+0.3**
GGPT	**Toaza - Volcan**	**1.89**	**94**	P	**Pb**	**13 15 25.0**	**+0.2**
PULU	**Pululahua**	**2.01**	**87**	P	**Pb**	**13 15 26.0**	**-0.8**
BNAS	**Cotopaxi Volca**	**2.11**	**106**	P	**Pg**	**13 15 30.0**	**-0.3**
SALI	**Salinas**	**2.14**	**193**	P	**Pn**	**13 15 25.0**	**-0.7**
BMOR	**Cotopaxi Volca**	**2.15**	**107**	P	**Pg**	**13 15 30.0**	**-1.0**
CUSE	**Cuicocha Este**	**2.15**	**79**	eP	**Pg**	**13 15 30.0**	**-0.5**
CUSE	**Cuicocha Este**	**2.15**	**79**	P	**Pg**	**13 15 30.0**	**-1.0**
BREF	**Cotopaxi Volca**	**2.15**	**106**	P	**Pg**	**13 15 30.0**	**-1.1**
BVC2	**Cotopaxi Volca**	**2.17**	**105**	P	**Pg**	**13 15 31.0**	**-0.5**
CUIC	**Cuicocha-Domo**	**2.18**	**80**	P	**Pg**	**13 15 31.0**	**-0.7**
BTAM	**Cotopaxi Volca**	**2.19**	**105**	P	**Pg**	**13 15 31.0**	**-0.9**
CUSW	**Cuicocha Oeste**	**2.19**	**80**	P	**Pg**	**13 15 31.0**	**-0.9**
PORT	**Chimborazo Vol**	**2.21**	**128**	P	**Pb**	**13 15 29.0**	**-1.3**
VCES	**Cotopaxi**	**2.23**	**108**	P	**Pb**	**13 15 31.0**	**+0.4**
TAMH	**Tambohuasha Ch**	**2.25**	**130**	P	**Pb**	**13 15 30.0**	**-1.0**
ANTG	**Antisana-Guama**	**2.29**	**100**	P	**Pb**	**13 15 32.0**	**+0.3**
URCU	**Urcuqui**	**2.31**	**77**	P	**Pg**	**13 15 33.0**	**-1.2**
ANTM	**Antisana-La Mi**	**2.33**	**101**	P	**Pb**	**13 15 33.0**	**+0.7**
ANTS	**Antisana-Sarah**	**2.37**	**100**	P	**Pg**	**13 15 34.0**	**-1.4**
PIAT	**Ana Tenorio**	**2.42**	**112**	P	**Pb**	**13 15 34.0**	**+0.2**
BBIL	**Ulba Tungurahu**	**2.43**	**124**	P	**Pb**	**13 15 34.0**	**+0.1**
POND	**Pondoa**	**2.45**	**123**	P	**Pb**	**13 15 34.0**	**-0.2**
BMAS	**Trigal station**	**2.47**	**125**	P	**Pb**	**13 15 34.0**	**-0.6**
BRUN	**Tungurahua Vol**	**2.48**	**122**	P	**Pb**	**13 15 34.0**	**-0.8**
YAHU	**Yahuarcocha**	**2.48**	**79**	P	**Pg**	**13 15 36.0**	**-1.4**
BPAT	**Tungurahua Vol**	**2.51**	**124**	P	**Pb**	**13 15 34.0**	**-1.3**
CHMA	**Chilma**	**2.62**	**69**	P	**Pb**	**13 15 37.0**	**-0.2**
LNGL	**El Angel-Carch**	**2.64**	**72**	P	**Pb**	**13 15 38.0**	**+0.4**
CHL1	**Volc¡n Chiles**	**2.71**	**71**	P	**Pb**	**13 15 38.0**	**-0.8**
CHL2	**Volc¡n Chiles**	**2.74**	**71**	P	**Pb**	**13 15 38.0**	**-1.3**
TULM	**Tulcn-Chalpat**	**2.84**	**74**	eP	**Pg**	**13 15 43.1**	**-1.1**
TULM	**Tulcn-Chalpat**	**2.84**	**74**	P	**Pb**	**13 15 41.0**	**0.0**
PUYO	**Puyo, Santa Ro**	**2.85**	**119**	P	**Pb**	**13 15 39.0**	**-1.9**
ARDO	**Archidona, Ten**	**2.85**	**108**	P	**Pb**	**13 15 40.0**	**-1.0**
ISPG	**Isla Puna-Puer**	**2.88**	**173**	P	**Pn**	**13 15 38.0**	**+2.0**
BONI	**La Bonita**	**3.03**	**80**	P	**Pb**	**13 15 43.0**	**-1.1**
CASC	**Dorado de Casc**	**3.18**	**86**	P	**Pb**	**13 15 46.0**	**-0.6**
GCUF	**Volcan Galeras**	**3.42**	**68**	eP	**Pb**	**13 15 50.7**	**-0.2**
GR1C	**Gorgona, Isla**	**3.86**	**37**	eP	**Pg**	**13 16 02.5**	**-1.4**
CRUC	**La Cruz**	**3.92**	**65**	eP	**Pb**	**13 15 55.9**	**-3.4**
SOTA	**Rioblanco**	**4.48**	**60**	eP	**Pn**	**13 15 59.2**	**+0.8**
POPC	**Popayan, Colom**	**4.64**	**56**	eP	**Pn**	**13 16 04.6**	**+4.2**
PCON	**Cinco Dias**	**4.76**	**60**	eP	Pn	13 16 07.5	+5.2
MARP	**Paez Belalcaza**	**5.41**	**57**	eP	Pb	13 16 19.1	-5.6
PTLC	**Puerto Leguiza**	**5.72**	**87**	eP	Pn	13 16 20.2	+5.2
YOTC	**Yotoco, Valle**	**5.80**	**46**	eP	**Pb**	**13 16 33.0**	**+1.7**
ORTC	**Ortega, Tolima**	**6.59**	**53**	eP	**Pb**	**13 16 40.7**	**-4.0**
MACC	**Macarena, Meta**	**7.02**	**72**	eP	**Pn**	**13 16 36.4**	**+3.5**
ROSC	**El Rosal**	**7.89**	**52**	Pn	**Pn**	**13 16 44.8**	**-0.3**
	1.4nm,0.3s,baz=115,slow=21,SNR=1.2						
NORC	**Norcasia**	**7.95**	**45**	eP	Pb	13 16 59.5	-8.5
CHIC	**Chingaza**	**8.23**	**55**	eP	Pn	13 16 56.1	+6.1
LPAZ	**La Paz**	**20.20**	**143**	P	**P**	**13 19 25.3**	**-0.5**
	2.7nm,0.6s,baz=322,slow=11,SNR=13						
LPAZ				LR	LR	13 28 26.2	
	comp=Z,99nm,19.7s,baz=339,slow=41						
SIV	**San Ignacio**	**24.85**	**130**	P	**P**	**13 20 11.7**	**-1.2**
	1.6nm,0.6s,baz=304,slow=6.7,SNR=8.6						
SIV				LR	LR	13 31 39.8	
	comp=Z,113nm,20.2s,baz=110,slow=41						
MDP	**Montagnes des**	**28.31**	**79**	LR	LR	13 33 25.3	
	comp=Z,154nm,18.6s,baz=170,slow=40						
TXAR	**Lajitas Array**	**36.67**	**325**	P	**P**	**13 21 57.3**	**+0.1**
	0.4nm,0.9s,baz=88,slow=9.1,SNR=1.7						
NVAR	**Mina Array Bea**	**51.71**	**322**	P	**P**	**13 23 58.8**	**+1.1**
	1.0nm,0.9s,baz=139,slow=6.9,SNR=6.9						
YKA	**Yellowknife Ar**	**67.47**	**344**	P	**P**	**13 25 45.8**	**0.0**
	0.5nm,0.8s,baz=135,slow=6.2,SNR=10.0						
TORD	**Torodi Ar. Bea**	**82.43**	**77**	P	**P**	**13 27 13.5**	**+0.3**
	0.5nm,0.7s,baz=284,slow=5.8,SNR=3.9						
ASAR	**Alice Springs**	**139.09**	**232**	PKhKP	PKPpre	13 34 11.7	
	0.2nm,0.6s,baz=106,slow=2.3,SNR=1.6						
WRA	**Warramunga Arr**	**140.49**	**238**	PKP	**PKPdf**	**13 34 19.1**	**-1.5**
	0.5nm,1.0s,baz=115,slow=2.0,SNR=2.4						

*MDD **21** 13:32:10.1±1.1, 36°.08N×3°.61E, h0km, Mb4.5/7, M_mb3.9/7, Error ellipse: s-maj=10.1km s-min=5.4km az=133.0*
*IDC **21** 13:32:10.9±1.2, 36°.39N×3°.47E, h0km, mb3.5/3, mb1 3.7/7, mb1mx3.4/53, mbtmp3.5/7, ML3.5/4, MS2.4/1, Ms1 2.4/1, ms1mx2.0/68, Error ellipse: s-maj=24.4km s-min=18.7km az=166.0*
*CRAAG **21** 13:32:11.2, 36°.33N×3°.46E, Ml3.7*
*LDG **21** 13:32:11.1±0.5, 36°.16N×3°.78E, h10km, Ml3.3/12, Error ellipse: s-maj=9.6km s-min=5.9km az=164.0*
ISC 21 13:32:13.9±0.7, 36°.42N±0°.06×3°.52E±0°.04, h18km, n48, σ2^{5}01/63, mb3.5/3, 5C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADJB	**Djebel Djouab**	**0.27**	**194**	P	Pg	13 32 16.5	-3.6
AKET	**Djebel Ketaf**	**0.47**	**142**	P	**Pg**	**13 32 21.7**	**-1.9**
EMHD	**Djebel Mahouad**	**0.51**	**244**	P	Pg	13 32 20.8	-3.4
SET	**Setif**	**1.54**	**98**	P	**Pg**	**13 32 45.0**	**+1.5**
EBNR	**Beni Rached**	**1.61**	**266**	P	**Pn**	**13 32 42.5**	**+1.0**
ECHA	**Ech Chlef**	**1.76**	**262**	P	**Pn**	**13 32 44.8**	**+1.3**
DFRA	**Djebel Bou Aff**	**1.90**	**86**	P	**Pn**	**13 32 48.1**	**+2.5**
EANR	**'Ain N'Sour**	**2.01**	**257**	P	**Pn**	**13 32 45.5**	**-1.6**
OKGL	**Djebel Kef Gue**	**2.36**	**262**	P	**Pb**	**13 32 56.0**	**+0.1**
CTEI	**Djebel Teioual**	**2.36**	**98**	P	**Pg**	**13 32 59.7**	**+0.5**
CASM	**Ain Smara**	**2.40**	**93**	P	**Pg**	**13 33 01.6**	**+1.5**
OJGS	**Djebel Guires**	**2.43**	**249**	P	**Pn**	**13 32 52.0**	**-0.8**
CKFL	**Kef-Lekhel**	**2.58**	**90**	P	**Pb**	**13 33 01.4**	**+1.6**
OJBR	**Djebel Berber**	**2.71**	**253**	P	**Pn**	**13 32 57.0**	**+0.4**
EIBI	**Ibiza**	**3.12**	**327**	Pn	**Pn**	**13 33 02.9**	**+0.7**
EIBI				Sn	**Sn**	**13 33 42.1**	**+3.0**
CMAH	**Djebel Manchou**	**3.15**	**85**	P	**Pn**	**13 33 04.2**	**+1.5**
ODJA	**Bouhanifia**	**3.17**	**251**	P	Pn	13 32 55.0	-8.0
ETOS	**Mallorca**	**3.39**	**351**	Pn	**Pn**	**13 33 05.8**	**-0.1**
ETOS				⇑iVmb_V		13 33 12.3	
	597nm,SNR=1.6						
ETOS				Sn	**Sn**	**13 33 47.9**	**+2.2**
MAHO	**Mahon**	**3.52**	**9**	P	**Pn**	**13 33 07.0**	**-0.6**
MAHO				S	**Sn**	**13 33 46.5**	**-2.3**
OTSS	**Djebel Tessala**	**3.68**	**253**	P	Pn	13 32 59.0	-11
EZAR	**Zarzadilla de**	**4.41**	**291**	Pn	**Pn**	**13 33 19.5**	**-0.6**
EZAR				Sn	**Sn**	**13 34 11.0**	**0.0**
ETOB	**Tobarra**	**4.60**	**300**	Pn	**Pn**	**13 33 24.0**	**+1.3**
ETOB				⇑iVmb_V		13 33 33.2	
	276nm,SNR=1.7						
ETOB				Sn	**Sn**	**13 34 16.2**	**+0.6**
EVIV	**Cofrentes, Val**	**4.64**	**309**	Pn	**Pn**	**13 33 23.2**	**0.0**
EVIV				⇑iVmb_V		13 33 27.6	
	357nm,SNR=1.6						
ECHE	**Chera**	**4.75**	**313**	Pn	**Pn**	**13 33 26.1**	**+1.4**
ECHE				⇑iVmb_V		13 33 35.2	
	378nm,SNR=1.7						
ECHE				Sn	**Sn**	**13 34 23.6**	**+4.3**
KEST	**Kesra**	**4.77**	**97**	Pn	**Pn**	**13 33 25.8**	**+0.8**
	0.7nm,0.3s,baz=236,slow=7.3,SNR=19						
KEST				Sn	**Sn**	**13 34 21.6**	**+1.8**
	baz=259,slow=21,SNR=1.8						
EMOS	**Mosqueruela**	**5.03**	**323**	Pn	**Pn**	**13 33 29.7**	**+1.1**
EMOS				⇑iVmb_V		13 33 32.0	
	378nm,SNR=1.4						
EMOS				Sn	**Sn**	**13 34 27.8**	**+1.4**
ETOR	**Torete**	**6.19**	**317**	Pn	**Pn**	**13 33 45.5**	**+1.0**
ESDC	**Sonseca Array**	**6.74**	**301**	Pn	**Pn**	**13 33 51.6**	**-0.4**
	0.4nm,0.3s,baz=112,slow=13,SNR=23						
ESDC				Sn	**Sn**	**13 35 08.4**	**+0.1**
	0.1nm,0.3s,baz=126,slow=29,SNR=2.5						
ESDC				LR	LR	13 35 36.5	
	comp=Z,26nm,18.9s,baz=135,slow=31						
MTLF	**Montolieu**	**6.98**	**352**	ePn	**Pn**	**13 33 56.1**	**+0.8**
MTLF				eSn	**Sn**	**13 35 12.7**	**-1.5**
	2.1nm,0.4s						
EPF	**Esparros**	**7.04**	**341**	ePn	**Pn**	**13 33 55.7**	**-0.4**
EPF				eSn	**Sn**	**13 35 14.5**	**-1.2**
	2.0nm,0.4s						
ETSF	**Etsaut**	**7.19**	**335**	ePn	**Pn**	**13 33 57.9**	**-0.3**
ETSF				eSn	**Sn**	**13 35 18.2**	**-1.3**
	31nm,1.3s						
LMR	**La Mourre**	**7.28**	**17**	ePn	**Pn**	**13 33 57.8**	**-1.5**
LMR				eSn	**Sn**	**13 35 18.1**	**-3.3**
	2.7nm,0.4s						
PGF	**Pioggiola**	**7.44**	**33**	eP	**Pn**	**13 34 02.7**	**+1.0**
PGF				eSn	**Sn**	**13 35 21.5**	**-4.1**
	4.0nm,0.6s						
MDT	**Midelt**	**7.60**	**244**	Pn	**Pn**	**13 34 02.8**	**-1.1**
	0.2nm,0.3s,baz=282,slow=21,SNR=7.3						
MDT				Lg	Lg	13 36 09.8	
	0.3nm,0.3s,baz=326,slow=5.4,SNR=2.4						
SJPF	**Ste Jean**	**7.62**	**333**	ePn	**Pn**	**13 34 03.1**	**-0.9**
SJPF				eSn	**Sn**	**13 35 27.7**	**-2.1**
	5.8nm,0.7s						
LASF	**Ste Croix**	**7.65**	**2**	ePn	**Pn**	**13 34 03.5**	**-1.0**
LASF				eSn	**Sn**	**13 35 28.4**	**-2.3**
	3.0nm,0.4s						
SMRF	**Simiane la Rot**	**7.71**	**11**	ePn	**Pn**	**13 34 05.2**	**-0.1**
SMRF				eSn	**Sn**	**13 35 28.6**	**-3.5**
	3.8nm,0.5s						
SBF	**Sospel**	**8.01**	**21**	ePn	**Pn**	**13 34 08.2**	**-1.3**
VIVF	**Saint-Julien-l**	**8.47**	**6**	eP	**Pn**	**13 34 17.6**	**+1.9**
VIVF				eSn	**Sn**	**13 35 46.3**	**-4.6**
	2.6nm,0.5s						
CAF	**Calviac**	**8.57**	**353**	eP	**Pn**	**13 34 21.5**	**+4.5**
CAF				eSn	**Sn**	**13 35 50.7**	**-2.5**
	1.8nm,0.4s						
MBDF	**Montbardon**	**8.66**	**16**	eP	**Pn**	**13 34 22.9**	**+4.5**
LFF	**La Frestale**	**8.77**	**347**	ePn	**Pn**	**13 34 18.9**	**-0.8**
RJF	**Les Rejaudoux**	**9.00**	**351**	eP	**Pn**	**13 34 27.7**	**+4.7**
AVF	**Avril sur Loir**	**10.36**	**359**	eP	**Pn**	**13 34 43.9**	**+2.3**
GERES	**GERESS Array B**	**14.48**	**28**	Pn	**Pn**	**13 35 38.7**	**+0.6**
	0.2nm,0.3s,baz=214,slow=24,SNR=5.7						
TORD	**Torodi Ar. Bea**	**23.23**	**185**	P	**P**	**13 37 19.8**	**-0.4**
	1.1nm,0.8s,baz=360,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**57.49**	**53**	P	**P**	**13 42 00.7**	**-1.1**
	0.2nm,0.7s,baz=310,slow=5.8,SNR=2.5						
YKA	**Yellowknife Ar**	**69.69**	**334**	P	**P**	**13 43 22.2**	**+0.1**
	0.6nm,0.7s,baz=53,slow=6.0,SNR=6.0						

*INET **21** 13:33:26.3±1.6, 12°.33N×90°.79W, h15km, MW3.9*
*IDC **21** 13:33:43.3±1.1, 12°.80N×89°.01W, h0km, mb4.0/9, mb1 4.2/12, mb1mx4.0/38, mbtmp4.0/12, ML3.3/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/66, Error ellipse: s-maj=37.3km s-min=17.0km az=43.0*
*SNET **21** 13:33:44.9±0.9, 12°.41N×89°.37W, h20km, ML4.1, ML4.0*
*NEIC **21** 13:33:49.2±2.3, 12°.66N±0°.09×89°.18W±0°.09, h44km±11km, mb4.4/13, Md4.0(SNET), Error ellipse: s-maj=15.9km s-min=8.0km az=46.0*
ISC 21 13:33:48.7±0.7, 12°.55N±0°.06×89°.25W±0°.05, h50km, n72, σ1^{9}22/73, mb4.3/15, MS3.2/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.08**	**10**	eP	**Pn**	**13 34 07.1**	**-0.6**
SJTE	**Alcalda de S**	**1.08**	**13**	eP	**Pn**	**13 34 07.0**	**-0.7**
JAYA	**Jayaque - finc**	**1.11**	**350**	eP	**Pn**	**13 34 06.9**	**-1.3**
COEG	**Centro de Oper**	**1.12**	**19**	eP	**Pn**	**13 34 07.7**	**-0.5**
COEG				IAML		13 34 38.0	
	comp=Z,2μm,0.4s						
COEG	**Centro de Oper**	**1.12**	**19**	eP	**Pn**	**13 34 07.9**	**-0.3**
SNET	**Serv Nac Est T**	**1.13**	**1**	Pn	**Pn**	**13 34 07.2**	**-1.0**
UEES	**Universidad Ev**	**1.16**	**1**	eP	**Pn**	**13 34 08.0**	**-0.7**
BOQS	**Boqueron**	**1.18**	**359**	eP	**Pn**	**13 34 08.6**	**-0.5**
BOQS				IAML		13 34 33.2	
	comp=Z,1μm,0.3s						
PAVA	**Las Pavas**	**1.20**	**15**	eP	**Pn**	**13 34 08.8**	**-0.4**
PAVA				IAML		13 34 35.1	
	comp=Z,3μm,0.5s						
LFU	**La Fuente**	**1.20**	**6**	eP	**Pn**	**13 34 09.2**	**0.0**
JUCU	**Jucuar¡n**	**1.20**	**54**	eP	**Pn**	**13 34 08.7**	**-0.5**
JUCU				eS	**Sn**	**13 34 27.3**	**+2.8**
JUCU				IAML		13 34 31.3	
	comp=Z,2μm,0.4s						
CEDA	**San Andres**	**1.25**	**354**	eP	**Pn**	**13 34 09.2**	**-0.7**
CEDA				IAML		13 34 36.7	
	comp=Z,2μm,0.4s						
SCLA	**Alcaldia de Sa**	**1.25**	**24**	eP	**Pn**	**13 34 09.6**	**-0.3**
VSM	**San Miguel**	**1.29**	**47**	eP	**Pn**	**13 34 10.4**	**-0.2**
CEVE	**Cerro Verde**	**1.32**	**344**	eP	**Pn**	**13 34 10.0**	**-1.0**
CEVE				IAML		13 34 36.7	
	comp=Z,4μm,0.3s						
SNJE	**San Jose**	**1.35**	**345**	eP	**Pn**	**13 34 10.6**	**-0.9**
RTR	**El Retiro**	**1.39**	**344**	eP	**Pn**	**13 34 11.7**	**-0.3**
NUBE	**Las Nubes**	**1.44**	**339**	eP	**Pn**	**13 34 11.1**	**-1.4**
LCND	**La Caada**	**1.53**	**60**	eP	**Pn**	**13 34 13.2**	**-0.4**
LCND				eS	**Sn**	**13 34 35.2**	**+3.0**
LCND				IAML		13 34 43.4	
	comp=Z,2μm,0.3s						
SLOZ	**Alcaldia de Sa**	**1.56**	**341**	eP	**Pn**	**13 34 13.8**	**-0.2**
CSGN	**Cosiguina Volc**	**1.70**	**75**	eP	**Pn**	**13 34 14.8**	**-1.2**
MTO3	**Montecristo**	**1.84**	**357**	Pn	**Pn**	**13 34 18.1**	**+0.1**
MTO3	**Montecristo**	**1.84**	**357**	eP	**Pn**	**13 34 18.2**	**+0.1**
ESQI	**Esquipulas**	**2.00**	**357**	Pn	**Pn**	**13 34 20.9**	**+0.7**
CRIN	**San Cristobal**	**2.15**	**86**		**Pn**	**13 34 22.1**	**-0.1**
CRIN	**San Cristobal**	**2.15**	**86**	eP	**Pn**	**13 34 22.2**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.44**	**52**		**Pn**	**13 34

*NEIC **21** 13:53:41.4±1.9,0.32S±0.06×80.58W±0.09,h10km±1km, mb4.2/10,Error ellipse: s-maj=17.1km s-min=3.9km az=302.0*

*VAO **21** 13:53:54.7±3.7,0.45S×79.88W,h82km±13km,mb4.4*

ISC 21 13:53:39.3±0.6,0.29S±0.04×80.80W±0.06,h10km,n107, σ1§97/103,mb4.0/8,MS3.4/4,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.59**	**88**	P	**Pg**	**13 53 51.0**	**+0.2**
AMNT	**Manta-Manabi**	**0.65**	**174**	P	**Pg**	**13 53 53.0**	**+1.1**
FLF1	**Flavio Alfaro-**	**0.96**	**94**	P	**Pn**	**13 53 59.0**	**+0.2**
FLF1				S	**Sn**	**13 54 17.0**	**+4.4**
MAG1	**Magdalena**	**1.05**	**78**	P	**Pb**	**13 54 00.0**	**+0.5**
SALI	**Salinas**	**1.90**	**186**	P	**Pb**	**13 54 15.0**	**+1.0**
PAC1	**Pacto, Paraso**	**2.08**	**75**	*eP*	**Pn**	**13 54 13.4**	**-1.0**
PAC1	**Pacto, Paraso**	**2.08**	**75**	P	**Pn**	**13 54 14.0**	**-0.4**
ILLI	**Illinizas Sur**	**2.12**	**102**	P	**Pn**	**13 54 15.0**	**-0.2**
HPAL	**Hacienda Las P**	**2.15**	**88**	P	**Pn**	**13 54 15.0**	**-0.5**
GGPT	**Toaza - Volcan**	**2.18**	**88**	P	**Pn**	**13 54 15.0**	**-1.0**
JUA2	**San Juan 2**	**2.19**	**88**	P	**Pn**	**13 54 16.0**	**-0.3**
PAST	**Pastocalle**	**2.19**	**101**	P	**Pn**	**13 54 16.0**	**-0.2**
PINO	**Pino**	**2.19**	**87**	P	**Pn**	**13 54 16.0**	**-0.4**
TERV	**Terraza Guagua**	**2.20**	**87**	P	**Pn**	**13 54 16.0**	**-0.4**
YANA	**Yana**	**2.23**	**86**	P	**Pn**	**13 54 16.0**	**-0.8**
PULU	**Pululahua**	**2.32**	**82**		**Pn**	**13 54 15.8**	**-2.1**
PULU	**Pululahua**	**2.32**	**82**	P	**Pn**	**13 54 17.0**	**-0.9**
CAMI	**Rancho Maria**	**2.33**	**100**	P	**Pn**	**13 54 19.0**	**+0.9**
PORT	**Chimborazo Vol**	**2.34**	**120**		**Pn**	**13 54 17.9**	**-0.4**
PORT	**Chimborazo Vol**	**2.34**	**120**	P	**Pn**	**13 54 19.0**	**+0.7**
BNAS	**Cotopaxi Volca**	**2.35**	**99**	P	**Pn**	**13 54 20.0**	**+1.6**
NAS2	**Nasa**	**2.36**	**99**	P	**Pn**	**13 54 20.0**	**+1.5**
TAMH	**Tambohuasha Ch**	**2.37**	**122**	P	**Pn**	**13 54 20.0**	**+1.3**
BMOR	**Cotopaxi Volca**	**2.38**	**101**	P	**Pn**	**13 54 19.0**	**+0.1**
PITA	**Cotopaxi Volc**	**2.38**	**97**	P	**Pn**	**13 54 20.0**	**+1.2**
BREF	**Cotopaxi Volca**	**2.39**	**99**	P	**Pn**	**13 54 20.0**	**+0.9**
OTAV	**Otavalo**	**2.41**	**77**		**Pn**	**13 54 18.4**	**-0.7**
BVC2	**Cotopaxi Volca**	**2.42**	**99**	P	**Pn**	**13 54 20.0**	**+0.6**
VC1	**Cotopaxi 1**	**2.42**	**98**	P	**Pn**	**13 54 21.0**	**+1.6**
BTAM	**Cotopaxi Volca**	**2.43**	**99**	P	**Pn**	**13 54 21.0**	**+1.4**
VCES	**Cotopaxi**	**2.46**	**102**	P	**Pn**	**13 54 21.0**	**+1.1**
TAMB	**Tambo**	**2.46**	**99**	P	**Pn**	**13 54 21.0**	**+1.0**
CUSE	**Cuicocha Este**	**2.47**	**76**	*eP*	**Pn**	**13 54 19.9**	**-0.1**
CUSE	**Cuicocha Este**	**2.47**	**76**	P	**Pn**	**13 54 20.0**	**0.0**
CUIC	**Cuicocha-Domo**	**2.51**	**76**	P	**Pn**	**13 54 21.0**	**+0.5**
CUSW	**Cuicocha Oeste**	**2.51**	**77**	P	**Pn**	**13 54 21.0**	**+0.4**
ANTG	**Antisana-Guama**	**2.55**	**95**	P	**Pn**	**13 54 22.0**	**+0.7**
BBIL	**Ulba Tungurahu**	**2.58**	**117**	P	**Pn**	**13 54 23.0**	**+1.5**
JUI6	**Juive**	**2.59**	**116**	P	**Pn**	**13 54 23.0**	**+1.5**
POND	**Pondoa**	**2.60**	**116**	P	**Pn**	**13 54 23.0**	**+1.2**
BMAS	**Trigal station**	**2.62**	**118**	P	**Pn**	**13 54 24.0**	**+2.0**
RETU	**Refugio**	**2.62**	**116**	P	**Pn**	**13 54 24.0**	**+1.8**
PIAT	**Ana Tenorio**	**2.63**	**106**	P	**Pn**	**13 54 24.0**	**+1.8**
ANTS	**Antisana-Sarah**	**2.64**	**95**	P	**Pn**	**13 54 24.0**	**+1.6**
ARRY	**Arrayan**	**2.64**	**117**	P	**Pn**	**13 54 24.0**	**+1.7**
BRUN	**Tungurahua Vol**	**2.64**	**115**	P	**Pn**	**13 54 24.0**	**+1.7**
ANTI	**Antisana**	**2.64**	**94**	P	**Pn**	**13 54 24.0**	**+1.5**
URCU	**Urcuqui**	**2.64**	**74**	P	**Pn**	**13 54 23.0**	**+0.6**
BPAT	**Tungurahua Vol**	**2.66**	**117**	P	**Pn**	**13 54 25.0**	**+2.4**
COHC	**Cochancay**	**2.66**	**145**		**Pn**	**13 54 22.8**	**+0.6**
YAHU	**Yahuarcocha**	**2.81**	**77**	P	**Pn**	**13 54 26.0**	**+1.4**
CAYR	**Refugio Cayamb**	**2.81**	**84**	P	**Pn**	**13 54 27.0**	**+2.2**
TULM	**Tulcn-Chalpat**	**3.17**	**72**		**Pn**	**13 54 29.4**	**-0.3**
TULM	**Tulcn-Chalpat**	**3.17**	**72**	*eP*	**Pn**	**13 54 32.6**	**+2.9**
ARNL	**Arenillas**	**3.32**	**167**		**Pn**	**13 54 33.3**	**+2.0**
BOSC	**San Juan Bosco**	**3.66**	**141**	Pn	**Pn**	**13 54 38.1**	**+1.9**
GCUF	**Volcan Galeras**	**3.77**	**66**	*eP*	**Pn**	**13 54 41.4**	**+3.5**
MCRA	**Macar, Loja**	**4.14**	**168**	Pn	**Pn**	**13 54 43.4**	**+0.7**
GR1C	**Gorgona, Isla**	**4.20**	**39**	*eP*	**Pb**	**13 54 53.6**	**+0.4**
SOTA	**Rioblanco**	**4.83**	**60**	*eP*	**Pn**	**13 54 53.0**	**+0.5**
POPC	**Popayan, Colom**	**4.99**	**56**	*eP*	**Pn**	**13 54 53.5**	**-1.0**
PCON	**Cinco Dias**	**5.11**	**59**	*eP*	**Pn**	**13 54 57.3**	**+0.8**
MARP	**Paez Belalcaza**	**5.75**	**57**	*eP*	**Pn**	**13 55 05.3**	**+0.2**
GARC	**Garzon, Huila**	**5.85**	**65**	*eP*	**Pn**	**13 55 07.9**	**+1.6**
PTLC	**Puerto Leguiza**	**6.02**	**86**	*eP*	**Pn**	**13 55 09.8**	**+1.3**
YOTC	**Yotoco, Valle**	**6.15**	**46**	*eP*	**Pn**	**13 55 11.3**	**+1.0**
ORTC	**Ortega, Tolima**	**6.94**	**53**	*eP*	**Pn**	**13 55 25.6**	**+4.5**
MACC	**Macarena, Meta**	**7.36**	**71**	*eP*	**Pn**	**13 55 27.8**	**+0.9**
CBCC	**Ciudad Bolivar**	**7.72**	**38**	*eP*	**Pn**	**13 55 36.4**	**+3.9**
ROSC	**El Rosal**	**8.23**	**92**	Pn	**Pn**	**13 55 37.6**	**-1.6**
	0.9nm,0.3s,baz=63,slow=22,SNR=1.2						
VILC	**Villavicencio,**	**8.34**	**58**	*eP*	Pn	13 55 50.1	+10
CHIC	**Chingaza**	**8.59**	**55**	*eP*	Pn	13 55 49.5	+5.5
CZSB	**Cruzeiro do Su**	**10.95**	**133**	*eP*	**Pn**	**13 56 17.8**	**+1.7**
JTS	**Las Juntas de**	**11.29**	**339**	Sn	**Sn**	**13 58 20.9**	**-6.3**
	1.8nm,0.3s,baz=317,slow=23,SNR=1.6						
JTS				LR	LR	13 58 52.3	
	comp=Z,51nm,19.6s,baz=220,slow=28						
NNA	**Nana**	**12.27**	**161**	Sn	**Sn**	**13 58 44.6**	**-6.7**
	1.1nm,0.3s,baz=84,slow=13,SNR=1.3						
NNA				LR	LR	14 00 53.8	
	comp=Z,80nm,21.6s,baz=346,slow=35						
SDV	**Santo Domingo**	**13.62**	**48**	Pn	**Pn**	**13 56 50.6**	**-2.3**
	0.4nm,0.3s,baz=67,slow=21,SNR=1.5						
SDV				LR	LR	14 02 54.2	
	comp=Z,114nm,20.9s,baz=126,slow=42						
SDV	**Santo Domingo**	**13.62**	**48**	Pn	**Pn**	**13 56 53.0**	**+0.2**
SDV	**Santo Domingo**	**13.62**	**48**	*eP*	**Pn**	**13 56 57.2**	**+4.3**
BAUV	**El Baul**	**15.67**	**54**	Pn	**Pn**	**13 57 20.1**	**-0.3**
BAUV				IAmb	IAmb	13 57 26.1	
	comp=Z,14nm,1.0s						
ETMB	**Extrema**	**17.33**	**124**	*eP*	**Pn**	**13 57 41.2**	**-0.3**
LPAZ	**La Paz**	**20.22**	**142**	P	**P**	**13 58 16.8**	**+1.5**
	comp=Z,4.4nm,0.7s,baz=313,slow=10,SNR=17						
LPAZ				LR	LR	14 08 01.7	
	comp=Z,161nm,21.5s,baz=310,slow=43						
LPAZ	**La Paz**	**20.22**	**142**	P	**P**	**13 58 14.4**	**-0.8**
LPAZ				IAmb	IAmb	13 58 18.5	
	comp=Z,6.1nm,0.8s						
LPAZ	**La Paz**	**20.22**	**142**	*eP*	**P**	**13 58 15.6**	**+0.3**
PB12	**IPOC Station P**	**20.92**	**151**	P	**P**	**13 58 19.2**	**-3.1**
PB12				IAmb	IAmb	13 58 42.2	
	comp=Z,16nm,1.1s						
PB11	**IPOC Station P**	**22.22**	**151**	P	**P**	**13 58 30.6**	**-5.7**
GO01	**Chusmiza**	**22.37**	**150**	P	**P**	**13 58 33.7**	**-4.6**
SJG	**San Juan**	**23.28**	**37**	LR	LR	14 09 25.9	
	comp=Z,68nm,19.9s,baz=103,slow=41						
VILB	**Vilhena**	**23.98**	**122**	*eP*	**P**	**13 58 54.3**	**0.0**
SIV	**San Ignacio**	**24.95**	**130**	P	**P**	**13 59 03.7**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=296,slow=8.5,SNR=10						
SIV				LR	LR	14 10 46.7	
	comp=Z,119nm,20.4s,baz=64,slow=41						
LVC	**Limon Verde**	**25.02**	**153**	P	**P**	**13 59 05.6**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=321,slow=13,SNR=1.7						
ITTB	**Itaituba**	**25.36**	**100**	*eP*	**P**	**13 59 05.0**	**-1.9**
PTLB	**Pontes e Lacer**	**26.16**	**126**	*eP*	**P**	**13 59 14.8**	**+0.8**
NPGB	**Novo Progresso**	**26.25**	**105**	*eP*	**P**	**13 59 14.5**	**-0.4**
CLDB	**Colider**	**26.98**	**114**	*eP*	**P**	**13 59 20.9**	**-0.6**
MDP	**Montagnes des**	**28.63**	**79**	LR	LR	14 10 28.0	
	comp=Z,117nm,20.7s,baz=112,slow=36						
IPMB	**Ipameri, GO**	**36.54**	**121**	*eP*	**P**	**14 00 44.9**	**-0.6**
TXAR	**Lajitas Array**	**36.67**	**325**	P	**P**	**14 00 47.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=141,slow=10,SNR=2.6						
PLCA	**Paso Flores**	**41.32**	**168**	P	**P**	**14 01 27.9**	**+2.6**
	comp=Z,1.4nm,0.9s,baz=12,slow=9.7,SNR=3.1						
PLCA	**Paso Flores**	**41.32**	**168**	P	**P**	**14 01 24.7**	**-0.6**
PLCA				IAmb	IAmb	14 01 43.2	
	comp=Z,6.1nm,1.4s						
SDCO	**Great Sand Dun**	**44.18**	**332**	P	**P**	**14 01 52.3**	**+3.5**
SDCO				IAmb	IAmb	14 01 54.7	
	comp=Z,3.7nm,1.0s						
NVAR	**Mina Array Bea**	**51.69**	**322**	P	**P**	**14 02 48.5**	**+1.6**
	comp=Z,3.2nm,1.1s,baz=140,slow=6.8,SNR=11						
YKA	**Yellowknife Ar**	**67.58**	**344**	P	**P**	**14 04 35.9**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=135,slow=6.2,SNR=10						
TORD	**Torodi Ar. Bea**	**82.75**	**77**	P	**P**	**14 06 03.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=251,slow=4.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**82.75**	**77**	P	**P**	**14 06 00.7**	**-3.6**
QSPA	**South Pole Qui**	**89.77**	**180**	P	**P**	**14 06 39.2**	**+1.4**
ASAR	**Alice Springs**	**138.75**	**232**	PKhKP	PKPpre	14 13 02.1	
	comp=Z,0.2nm,0.7s,baz=112,slow=2.0,SNR=1.9						
ASAR				PKP	**PKPdf**	**14 13 07.8**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=97,slow=1.9,SNR=4.9						
WRA	**Warramunga Arr**	**140.14**	**238**	PKhKP	PKPpre	14 13 03.0	
	comp=Z,0.3nm,0.8s,baz=110,slow=2.2,SNR=1.9						

IDC 21 14:17:02.8±6.8,49.42S×120.83E,h0km,mb3.5/2, mb1 3.7/2,mb1mx3.5/22,mbtmp3.5/2,Error ellipse: s-maj=343.9km s-min=33.0km az=95.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.33**	**339**	T	T	14 37 30.4	
	baz=156,slow=74,SNR=39						
H01W1	**Cape Leeuwin H**	**15.33**	**339**	T	T	14 37 29.0	
	baz=156,slow=74,SNR=58						
H01W3	**Cape Leeuwin H**	**15.34**	**339**	T	T	14 37 30.1	
	baz=156,slow=74,SNR=50						
ASAR	**Alice Springs**	**27.59**	**27**	P	P	14 22 52.5	0.0
	0.4nm,0.7s,baz=201,slow=8.9,SNR=9.7						
VNDA	**Vanda**	**32.18**	**164**	P	P	14 23 31.7	0.0
	0.5nm,0.7s,baz=310,slow=11,SNR=2.5						
YKA	**Yellowknife Ar**	**147.44**	**45**	PKPbc	PKPbc	14 36 46.6	-0.8
	0.1nm,0.6s,baz=269,slow=3.2,SNR=2.1						

*IDC **21** 14:20:34.4±0.8,33.46N×134.36E,h0km,mb4.0/11, mb1 4.2/18,mb1mx3.9/63,mbtmp4.1/18,ML3.9/6,MS3.2/6, Ms1 3.2/6,ms1mx2.9/95,Error ellipse: s-maj=19.6km s-min=14.3km az=74.0*

*NEIC **21** 14:20:36.0±1.4,33.47N±0.06×134.42E±0.05,h10km±1km, mb4.3/13,Error ellipse: s-maj=10.4km s-min=6.1km az=208.0*

*JMA **21** 14:20:39.1,33.50N×134.33E,h34km±1km,M4.4 Broadband fault plane solution: P waves. NP1: φs314.00000°,δ78.00000°,λ-157.00000°. NP2: φs219.00000°,δ67.00000°,λ-13.00000°. Principal axes: T Plg7.0000°, Azm85.0000°; N Plg64.0000°, Azm340.0000°; P Plg25.0000°, Azm178.0000°;*

JMA Felt III J1.

*NIED **21** 14:20:39.2,33.50N×134.33E,h34km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.51; Mθθ-3.95; Mφφ4.46; Mrθ0.54; Mθφ-0.59; Mrφ0.53; Fault plane solution: Mo4.32000×10¹⁵ NP1: φs311.00000°,δ80.00000°,λ-177.00000°. NP2: φs221.00000°,δ87.00000°,λ-10.00000°.*

ISC 21 14:20:38.8±1.0,33.50N±0.05×134.35E±0.03,h31km±7km, n75,σ0§98/81,mb4.2/19,7C-3D,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRT2	**Murotomisaki 2**	**0.21**	**236**	⇑P	**Pn**	**14 20 45.5**	**-0.3**
MRT2				S	**Sn**	**14 20 49.7**	**-0.5**
JAI	**Aioi**	**0.30**	**17**	⇓P	**Pn**	**14 20 47.0**	**-0.2**
JAI				S	**Sb**	**14 20 52.1**	**+0.6**
JMN	**Monobe**	**0.45**	**300**	⇑P	**Pb**	**14 20 48.7**	**+0.1**
JMN				S	**Sb**	**14 20 55.7**	**+0.5**
JMN	**Monobe**	**0.45**	**300**	Pg	**Pb**	**14 20 48.1**	**-0.5**
JWM	**Minabe**	**0.91**	**67**	⇑P	**Pn**	**14 20 55.1**	**-0.4**
JWM				S	**Sn**	**14 21 06.7**	**-0.8**
JJS	**Sakaide**	**0.93**	**338**	⇓P	**Pn**	**14 20 55.6**	**-0.3**
JJS				S	**Sn**	**14 21 07.7**	**-0.5**
JAWN	**Awajishima-nag**	**1.08**	**25**	⇓P	**Pn**	**14 20 58.0**	**+0.1**
JAWN				S	**Sn**	**14 21 11.5**	**-0.4**
JKU	**Kubokawa**	**1.09**	**260**	⇑P	**Pn**	**14 20 57.2**	**-0.8**
JTNC	**Tanabenakahech**	**1.10**	**73**	⇑P	**Pn**	**14 20 57.8**	**-0.3**
JTNC				S	**Sn**	**14 21 11.1**	**-1.2**
JET	**Tanbara**	**1.12**	**285**	⇑P	**Pn**	**14 20 57.8**	**-0.6**
JET				S	**Sn**	**14 21 11.5**	**-1.3**
JWY	**Kouya**	**1.26**	**55**	⇑P	**Pn**	**14 21 00.2**	**-0.2**
JWY				S	**Sn**	**14 21 15.8**	**-0.5**
JHS	**Saijyo**	**1.81**	**326**	Pn	**Pn**	**14 21 07.9**	**0.0**
JHS				Sn	**Sn**	**14 21 28.6**	**-1.2**
INU	**Inuyama**	**2.87**	**49**	Pn	**Pn**	**14 21 22.8**	**+0.3**
JNU	**Nakatsue**	**2.93**	**263**	Pn	**Pn**	**14 21 23.3**	**0.0**
	34nm,0.3s,baz=92,slow=4.7,SNR=45						
JNU				Sn	**Sn**	**14 21 55.7**	**-1.8**
	11nm,0.3s,baz=174,slow=4.6,SNR=3.9						
JNU	**Nakatsue**	**2.93**	**263**		**Pn**	**14 21 22.8**	**-0.5**
JGF	**Kuroka**	**3.25**	**49**	Pn	**Pn**	**14 21 27.4**	**-0.3**
JSU	**Suzuyama**	**3.84**	**240**	Pn	**Pn**	**14 21 36.5**	**+0.6**
JTU	**Tsushima**	**4.23**	**285**	Pn	**Pn**	**14 21 40.2**	**-1.0**
MAJO	**Matsushiro**	**4.38**	**45**	Pn	**Pn**	**14 21 44.2**	**+0.9**
MJAR	**Matsushiro Arr**	**4.38**	**45**	Pn	**Pn**	**14 21 43.7**	**+0.4**
	1.6nm,0.3s,baz=276,slow=23,SNR=58						
MJAR				Sn	**Sn**	**14 22 33.3**	**-0.1**
	2.1nm,0.3s,baz=286,slow=31,SNR=3.0						
MJAR				LR	LR	14 23 40.9	
	comp=Z,319nm,19.2s,baz=222,slow=42						
MJAR	**Matsushiro Arr**	**4.38**	**45**	Pn	**Pn**	**14 21 42.4**	**-0.9**
MJB9	**Matsu-Tunnel**	**4.38**	**45**	Pn	**Pn**	**14 21 44.1**	**+0.8**
JHJ	**Hachijo jima 2**	**4.57**	**93**	Pn	**Pn**	**14 21 46.1**	**+0.3**
	58nm,0.3s,baz=211,slow=24,SNR=8.2						
JHJ				Sn	**Sn**	**14 22 35.3**	**-2.6**
	12nm,0.3s,baz=66,slow=22,SNR=1.8						
JHJ2	**Mitsune**	**4.60**	**93**	Pn	**Pn**	**14 21 44.9**	**-1.3**
TJN	**Taejon**	**6.41**	**299**		**Pn**	**14 22 09.4**	**-1.7**
KSRS	**Korea Array**	**6.56**	**309**	Pn	**Pn**	**14 22 13.3**	**+0.2**
	1.9nm,0.3s,baz=122,slow=14,SNR=25						
KSRS				Sn	**Sn**	**14 23 25.0**	**-1.8**
	3.6nm,0.3s,baz=126,slow=24,SNR=19						
KSRS				LR	LR	14 24 41.7	
	comp=Z,71nm,21.7s,baz=100,slow=37						
KSAR	**Wonju Array Be**	**6.58**	**309**		**Pn**	**14 22 11.6**	**-1.8**
KS19	**Wonju Array Si**	**6.62**	**309**		**Pn**	**14 22 13.6**	**-0.4**
JMM	**Marumori**	**6.81**	**48**	Pn	**Pn**	**14 22 16.7**	**0.0**
INCN	**Inchon**	**7.44**	**304**		**Pn**	**14 22 24.5**	**-0.8**
JOW	**Kunigami**	**8.47**	**220**	Pn	**Pn**	**14 22 38.1**	**-1.4**
	3.4nm,0.3s,baz=105,slow=24,SNR=6.8						
JTM	**Tennabayashi**	**9.03**	**34**	Pn	**Pn**	**14 22 43.6**	**-3.4**
USRK	**Ussuriysk Ar.**	**10.84**	**351**	Pn	**Pn**	**14 23 11.9**	**+0.1**
	baz=178,slow=11,SNR=1.4						
USRK				LR	LR	14 27 02.9	
	comp=Z,97nm,20.6s,baz=228,slow=36						
KLR	**Kul'dur**	**15.83**	**354**	Pn	**Pn**	**14 24 20.3**	**+0.9**
	0.2nm,0.3s,baz=149,slow=10,SNR=8.2						
KLR				LR	LR	14 30 19.5	
	comp=Z,112nm,18.1s,baz=190,slow=37						
SONM	**Songino Array**	**25.41**	**313**	P	**P**	**14 26 03.7**	**+0.1**
	0.8nm,0.5s,baz=123,slow=10,SNR=2.2						
SONM	**Songino Array**	**25.41**	**313**	P	**P**	**14 26 02.3**	**-1.4**
YAK	**Yakutsk**	**28.70**	**355**	LR	LR	14 37 46.4	
	comp=Z,54nm,21.7s,baz=271,slow=36						
SEY	**Seymchan**	**31.57**	**16**	P	**P**	**14 26 58.6**	**+0.4**
	0.2nm,0.2s,baz=89,slow=24,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**32.02**	**107**	T	T	15 00 48.3	
	baz=303,slow=75,SNR=48						
H11N1	**WAKE ISLAND Hy**	**32.03**	**107**	T	T	15 00 52.4	
	baz=303,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**32.04**	**107**	T	T	15 00 49.5	
	baz=303,slow=75,SNR=41						
H11S3	**WAKE ISLAND Hy**	**32.52**	**109**	T	T	15 01 35.3	
	baz=304,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**32.53**	**109**	T	T	15 01 35.6	
	baz=304,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**32.54**	**109**	T	T	15 01 37.2	
	baz=304,slow=75,SNR=25						
CMAR	**Chiang Mai Arr**	**34.98**	**254**	P	**P**	**14 27 29.6**	**+1.1**
	0.7nm,0.3s,baz=51,slow=6.1,SNR=9.8						
TIXI	**Tiksi**	**38.32**	**357**	LR	LR	14 44 27.5	
	comp=Z,124nm,18.4s,baz=179,slow=37						
TIXI	**Tiksi**	**38.32**	**357**	P	**P**	**14 27 56.5**	**+0.3**
ZALV	**Zalesovo Beam**	**40.21**	**316**	P	**P**	**14 28 11.9**	**-0.3**
	0.3nm,0.4s,baz=108,slow=9.5,SNR=2.1						
MK31	**Makanchi Array**	**41.22**	**305**	P	**P**	**14 28 21.3**	**+0.5**
MK31				IAmb	IAmb	14 28 22.3	
	comp=Z,3.6nm,0.8s						
MKAR	**Makanchi Array**	**41.22**	**305**	P	**P**	**14 28 21.4**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=92,slow=10,SNR=34						
MKAR	**Makanchi Array**	**41.22**	**305**	P	**P**	**14 28 19.9**	**-0.9**
GUN	**Gumba**	**41.75**	**276**	*eP*	**P**	**14 28 27.5**	**+1.8**
	comp=Z,52nm,1.0s						
PKIN	**Phulchoki**	**42.26**	**276**	*eP*	**P**	**14 28 31.0**	**+1.2**
DANN	**Dangsing**	**43.36**	**277**	*eP*	**P**	**14 28 39.9**	**+1.2**
KURK	**Kurchatov**	**43.68**	**310**	P	**P**	**14 28 41.4**	**+0.7**
KURK				IAmb	IAmb	14 28 42.4	
	comp=Z,4.3nm,1.1s						
KOLN	**Koldanda**	**43.69**	**277**	*eP*	**P**	**14 28 42.7**	**+1.4**
PYUN	**Piuthan**	**44.08**	**277**	*eP*	**P**	**14 28 44.9**	**+0.4**
	comp=Z,25nm,1.0s						
MTN	**Manton Dam**	**46.19**	**184**	P	**P**	**14 28 59.8**	**-1.1**
KNRA	**Kununurra**	**49.19**	**187**	P	**P**	**14 29 23.9**	**-0.2**
KKAR	**Karatay Array**	**49.91**	**301**	P	**P**	**14 29 30.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**51.98**	**191**	P	**P**	**14 29 45.3**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=15,slow=6.6,SNR=5.9						
FITZ	**Fitzroy Crossi**	**51.98**	**191**	P	**P**	**14 29 44.6**	**-0.6**
FITZ				IAmb	IAmb	14 30 12.3	
	comp=Z,4.3nm,1.2s						
WB0	**Warramunga Arr**	**52.97**	**180**	P	**P**	**14 29 51.6**	**-1.0**
WB0				IAmb	IAmb	14 29 52.9	
	comp=Z,3.9nm,0.8s						
WRAB	**Tennant Creek**	**53.14**	**180**	P	**P**	**14 29 52.0**	**-1.8**
WRAB				IAmb	IAmb	14 29 54.5	
	comp=Z,6.0nm,1.0s						
WRA	**Warramunga Arr**	**53.15**	**180**	P	**P**	**14 29 53.4**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=355,slow=7.7,SNR=24						
WRA	**Warramunga Arr**	**53.15**	**180**	P	**P**	**14 29 53.5**	**-0.3**
WB2	**Warramunga Arr**	**53.15**	**180**	P	**P**	**14 29 53.1**	**-0.8**
WB2				IAmb	IAmb	14 29 54.6	
	comp=Z,5.6nm,0.9s						
WR0	**Warramunga Arr**	**53.16**	**180**	P	**P**	**14 29 53.3**	**-0.7**
ABKAR	**Akbulak array**	**55.79**	**310**	P	**P**	**14 30 13.2**	**+0.3**
ABKAR				IAmb	IAmb	14 30 14.0	
	comp=Z,3.5nm,0.8s						
ABKAR	**Akbulak array**	**55.79**	**310**	P	**P**	**14 30 13.1**	**+0.3**
ASAR	**Alice Springs**	**56.85**	**180**	P	**P**	**14 30 19.6**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=11,slow=13,SNR=21						
ASAR	**Alice Springs**	**56.85**	**180**	P	**P**	**14 30 20.6**	**-0.1**
STKA	**Stephens Creek**	**65.39**	**173**	P	**P**	**14 31 18.8**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=356,slow=7.4,SNR=5.1						
KBZ	**Khabaz**	**68.71**	**309**	P	**P**	**14 31 40.1**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=128,slow=10,SNR=4.3						
BRTR	**Keskin Array B**	**76.70**	**309**	P	**P**	**14 32 26.1**	**-1.1**
	comp=Z,2.4nm,1.0s,baz=123,slow=4.6,SNR=4.6						

WEL 21 14:23:18.5±1.1,35.5S±19.×17.9E±2.°1,h197km±27km, M3.4/11,ML3.7/12,MLv3.4/11,Error ellipse: s-maj=0.0km s-min=0.0km az=130.7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.37**	**186**	P	Pn	14 24 00.7	0.0
MXZ				S	Sn	14 24 33.1	-0.6
WMGZ	**Waiomatatini S**	**2.62**	**183**	P	Pn	14 24 03.5	0.0
WMGZ				S	Sn	14 24 39.4	+0.7
HAZ	**Te Kaha**	**2.63**	**194**	P	Pn	14 24 03.8	+0.2
HAZ				S	Sn	14 24 37.6	-1.4
PKGZ	**Pakihiroa**	**2.71**	**189**	P	Pn	14 24 05.5	+0.8
PKGZ				S	Sn	14 24 41.4	+0.6
RUGZ	**Raukumara Rang**	**2.86**	**195**	P	Pn	14 24 06.3	0.0
PUZ	**Puketiti**	**2.88**	**185**	P	Pn	14 24 06.0	-0.5
PUZ				S	Sn	14 24 44.2	0.0
TWGZ	**Tauwhareparae**	**3.01**	**189**	P	Pn	14 24 09.4	+1.3
TWGZ				S	Sn	14 24 48.9	+1.8
MWZ	**Matawai**	**3.24**	**195**	P	Pn	14 24 11.0	+0.2
MWZ				S	Sn	14 24 51.4	-0.6
URZ	**Urewera**	**3.

YBH Sn **Sn** **14 25 37.6 +2.5**
comp=N,1.7nm,0.3s,baz=91,slow=20,SNR=6.4
YBH Yreka Blue Hor 3.46 116 Pn **Pn** **14 24 54.2 -0.1**
J04D Umpqua Nationa 3.47 90 **Pn** **14 24 54.8 +0.4**
J04D Umpqua Nationa 3.47 90 P **Pn** **14 24 54.8 +0.4**
baz=272,SNR=29
L04D Klamath Falls 3.54 107 **Pn** **14 24 55.8 +0.5**
L04D IAML 14 25 46.2
comp=N,41nm,1.0s
L04D IAML 14 25 46.7
comp=E,45nm,1.2s
L04D Klamath Falls 3.54 107 P **Pn** **14 24 55.0 -0.3**
baz=289,SNR=18
M02C Callahan 3.55 122 Pn **Pn** **14 24 55.1 -0.4**
H04A Detroit Lake 3.62 67 Pn **Pn** **14 24 56.5 +0.2**
H04A IAML 14 25 49.2
comp=E,83nm,0.6s
K04D Chiloquin, OR 3.81 99 P **Pn** **14 24 58.5 -0.6**
baz=282,SNR=5.9
F04D Rainier, OR 3.87 44 P **Pn** **14 24 59.8 +0.1**
baz=225
E03A Lebam 3.96 35 Pn **Pn** **14 25 00.2 -0.7**
M04C Macdoel 4.02 111 **Pn** **14 25 03.0 +1.0**
M04C IAML 14 26 28.6
comp=N,25nm,2.5s
F04A Amboy 4.09 49 Pn **Pn** **14 25 03.1 +0.4**
F04A IAML 14 25 33.9
comp=N,45nm,0.7s
J05D Fort Rock, OR 4.10 89 P **Pn** **14 25 02.1 -0.9**
baz=272
I05D Terrebonne, OR 4.11 74 P **Pn** **14 25 03.0 -0.1**
baz=257,SNR=19
PINE Pine Mountain 4.32 82 **Pn** **14 25 06.2 +0.1**
PINE IAML 14 26 15.2
comp=E,22nm,2.8s
PINE IAML 14 27 11.1
comp=N,25nm,4.5s
WISH Wishkah 4.35 29 **Pn** **14 25 05.3 -1.0**
G05D Wamic, OR 4.40 63 P **Pn** **14 25 07.6 +0.5**
baz=245,SNR=25
K05A Summer Lake 4.42 96 **Pn** **14 25 07.6 +0.2**
K05A IAML 14 26 22.3
comp=E,18nm,3.6s
K05A IAML 14 27 05.5
comp=N,25nm,4.5s
E04D Cinebar 4.42 42 **Pn** **14 25 07.1 -0.2**
E04D IAML 14 26 07.8
comp=E,33nm,1.9s
E04D IAML 14 26 25.4
comp=N,26nm,1.4s
E04D Cinebar 4.42 42 P **Pn** **14 25 07.1 -0.2**
baz=224,SNR=11
NLWA Neilton Lookou 4.56 26 **Pn** **14 25 08.4 -0.7**
F05D White Salmon 4.61 55 **Pn** **14 25 10.6 +0.7**
F05D White Salmon 4.61 55 P **Pn** **14 25 10.8 +0.9**
baz=238,SNR=22
D04E Lakebay 4.79 36 P **Pn** **14 25 12.7 +0.3**
baz=218,SNR=6.2
D03D Eldon 4.95 31 P **Pn** **14 25 13.8 -0.7**
baz=213,SNR=9.4
MOD Modoc Plateau 5.05 104 **Pn** **14 25 16.6 +0.6**
D05A Enumclaw 5.15 40 **Pn** **14 25 16.9 -0.4**
B04A Port Angeles 5.26 25 **Pn** **14 25 18.7 -0.1**
I07A Izee 5.38 80 **Pn** **14 25 21.0 +0.4**
I07A IAML 14 26 57.5
comp=N,10nm,4.1s
I07A IAML 14 27 22.0
comp=E,9.5nm,5.0s
ORV Oroville 5.53 131 **Pn** **14 25 25.0 +2.5**
F07A Phinny Hill Vi 5.56 60 Pn **Pn** **14 25 22.9 0.0**
CLRS Cowichan Lake 5.79 18 **Pn** **14 25 25.2 -0.9**
PGC Sidney 5.81 23 Pn **Pn** **14 25 26.4 +0.1**
LTV Liberty 5.86 46 **Pn** **14 25 27.6 +0.6**
B05A Bryant 5.93 32 P **Pn** **14 25 27.9 -0.1**
baz=215,SNR=9.0
BEKR Beckworth 5.99 123 **Pn** **14 25 29.7 +0.8**
G08A Pilot Rock 5.99 68 **Pn** **14 25 29.4 +0.4**
WVOR Wild Horse Val 6.11 96 **Pn** **14 25 29.9 -0.7**
E08A Dider Farm, El 6.36 58 **Pn** **14 25 33.6 -0.4**
B06A Marblemount 6.38 34 **Pn** **14 25 34.0 -0.2**
E09A Wood Farm, Sta 6.94 60 Pn **Pn** **14 25 40.5 -1.4**
BMO Blue Mountains 7.04 74 Pn **Pn** **14 25 43.1 -0.2**
YERR Yerington 7.21 125 **Pn** **14 25 48.7 +2.9**
B08A Colville Reser 7.26 44 Pn **Pn** **14 25 45.2 -1.0**
F10A Beach Ranch, E 7.35 66 **Pn** **14 25 47.1 -0.5**
C09A Chrisman Ranch 7.49 51 Pn **Pn** **14 25 49.9 +0.5**
RYN Ryan 7.87 124 Pn **Pn** **14 25 50.5 -4.3**
KVN Kaiserville 7.88 120 Pn **Pn** **14 25 58.7 +3.8**
PLID Pearl Lake 7.99 74 Pn **Pn** **14 25 56.7 +0.2**
LLLB Lillooet 8.02 23 Pn **Pn** **14 25 56.5 -0.2**
LHV Little Huntoon 8.13 126 Pn **Pn** **14 25 55.4 -2.7**
NVAR Mina Array Bea 8.13 124 Pn **Pn** **14 25 54.7 -3.7**
comp=E,4.1nm,0.3s,baz=292,slow=17,SNR=105
NVAR LR LR 14 29 09.0
comp=E,130nm,20.8s,baz=231,slow=38
NV11 Mina Array Sit 8.22 124 Pn **Pn** **14 25 56.6 -3.0**
NEW Newport 8.39 51 Pn **Pn** **14 26 01.3 -0.5**
comp=E,1.2nm,0.3s,baz=243,slow=13,SNR=7.9
NEW LR LR 14 29 20.4
comp=E,457nm,18.6s,baz=236,slow=39
NEW Newport 8.39 51 Pn **Pn** **14 26 00.8 -1.0**
NEW Newport 8.39 51 P **Pn** **14 26 01.6 -0.1**
baz=237
BBB Bella Bella 8.88 355 Pn **Pn** **14 26 08.8 +0.4**
comp=E,0.6nm,0.3s,baz=160,slow=2.8,SNR=2.1
BBB LR LR 14 29 04.7
comp=E,136nm,18.7s,baz=132,slow=35
ELK Elko 9.03 103 Pn **Pn** **14 26 13.2 +2.5**
comp=E,0.1nm,0.3s,baz=294,slow=16,SNR=3.3
ELK LR LR 14 29 58.6
comp=E,122nm,19.6s,baz=282,slow=40
BCYI Bear Canyon 9.77 80 Pn **Pn** **14 26 22.0 +1.1**
MSO Missoula 9.78 65 Pn **Pn** **14 26 20.0 -0.8**
MSO Missoula 9.78 65 P **Pn** **14 26 20.9 0.0**
baz=253
JTMT Jette 9.85 59 Pn **Pn** **14 26 21.1 -0.9**
LRM Limekiln Ridge 10.57 72 Pn **Pn** **14 26 32.6 +0.7**
WALA Waterton Lakes 10.63 53 Pn **Pn** **14 26 33.5 +0.9**
GRNB Grenville Isla 10.70 350 Pn **Pn** **14 26 33.8 +0.4**
YHL Hebgen Lake 11.37 77 Pn **Pn** **14 26 45.2 +2.3**
YHH Holmes Hill 11.61 77 Pn **Pn** **14 26 47.8 +1.7**
PDAR Pinedale Array 12.67 87 Pn **Pn** **14 27 02.7 +2.1**
comp=E,0.0nm,0.3s,baz=277,slow=12,SNR=8.6
PDAR LR LR 14 32 19.2
comp=E,261nm,19.6s,baz=279,slow=40
PFO Pinyon Flats O 12.67 137 LR LR 14 31 51.1
comp=E,209nm,20.5s,baz=318,slow=37
DLBC Dease Lake 15.23 354 Pn **Pn** **14 27 36.2 +1.0**
comp=E,0.1nm,0.3s,baz=336,slow=20,SNR=1.7
DLBC LR LR 14 32 07.5
comp=E,118nm,19.3s,baz=145,slow=32
FFC Flin Flon 19.77 46 P **Pn** **14 28 31.0 -0.6**
FFC IAmb IAmb 14 28 33.7
comp=E,17nm,1.4s
BARN Barnard Glacie 19.83 339 P **P** **14 28 31.5 +0.6**
M30M Minto, Yukon 20.12 347 P **P** **14 28 34.4 +0.5**
YKA Yellowknife Ar 20.48 16 P **P** **14 28 38.0 +0.3**
comp=E,1.6nm,0.7s,baz=205,slow=10,SNR=16
BCAR Beaver Creek A 21.57 341 P **P** **14 28 50.5 +0.9**
L27K Beaver Creek, 21.58 341 P **P** **14 28 50.6 +1.0**
KDAK Kodiak Island 21.62 321 LR LR 14 34 58.8
comp=E,143nm,20.4s,baz=138,slow=30
DAWY Dawson 21.96 345 P **P** **14 28 54.0 +0.3**
DAWY IAmb IAmb 14 28 57.2
comp=E,5.5nm,0.9s
ULM Lac du Bonnet 22.19 61 P **P** **14 28 56.6 +0.4**
comp=E,6.7nm,0.9s,baz=262,slow=9.3,SNR=5.9
ULM LR LR 14 37 53.3
comp=E,141nm,19.6s,baz=298,slow=38
KNK Knik Glacier 22.19 332 P **P** **14 28 55.6 -0.6**
KNK IAmb IAmb 14 28 58.6
comp=E,9.0nm,1.0s
TXAR Lajitas Array 23.24 119 P **P** **14 29 09.2 +1.6**
comp=E,0.3nm,0.7s,baz=318,slow=10,SNR=4.4
WMOK Wichita Mounta 23.36 102 P **P** **14 29 05.3 -3.3**
WMOK IAmb IAmb 14 29 17.4
comp=E,7.0nm,1.0s
LPIG La Paz 23.54 139 LR LR 14 37 42.1
comp=E,69nm,20.7s,baz=302,slow=35
J25K Salcha River, 23.74 340 P **P** **14 29 12.9 +0.7**
J25K IAmb IAmb 14 29 15.9
comp=E,3.9nm,0.9s
IL31 24.25 339 P **P** **14 29 16.2 -0.6**
ILAR Eielson Array 24.25 339 P **P** **14 29 17.1 +0.2**
comp=Z,1.9nm,0.7s,baz=150,slow=8.9,SNR=26
ILAR LR LR 14 36 08.0
comp=Z,30nm,21.5s,baz=118,slow=30
WRH Wood River Hil 24.34 338 P **P** **14 29 14.7 -3.0**
PPLA Purkeypile 24.49 332 P **P** **14 29 19.5 +0.3**
M19K Big River Lodg 24.67 328 P **P** **14 29 20.6 -0.1**
M19K IAmb IAmb 14 29 30.8
comp=Z,6.0nm,1.1s
CAST Castle Rocks 24.80 333 P **P** **14 29 21.2 -0.7**
CAST IAmb IAmb 14 29 22.1
comp=Z,3.1nm,0.8s
BPAW Bear Paw Mtn. 24.92 335 P **P** **14 29 22.1 -0.8**
L19K White Mountain 25.01 329 P **P** **14 29 23.4 -0.4**
L19K IAmb IAmb 14 29 24.9
comp=Z,5.3nm,0.9s
INK Inuvik 25.26 354 P **P** **14 29 24.8 -1.1**
comp=Z,1.3nm,0.9s,baz=158,slow=10,SNR=5.4
INK LR LR 14 39 00.2
comp=Z,111nm,18.4s,baz=32,slow=36
H24K Noodor Dome 25.36 340 P **P** **14 29 27.2 +0.3**
H24K IAmb IAmb 14 29 29.5
comp=Z,6.0nm,1.1s
K20K Telida 25.44 331 P **P** **14 29 27.4 -0.3**
H23K Yukon River 25.78 339 P **P** **14 29 31.0 +0.3**
H23K IAmb IAmb 14 29 38.1
comp=Z,3.2nm,0.8s
TTA Tatalina 25.88 329 P **P** **14 29 31.2 -0.6**
BMAR Burnt Mountain 25.94 344 P **P** **14 29 32.3 +0.1**
I21K Tanana 25.99 336 P **P** **14 29 31.6 -1.0**
J20K Nowinta River 25.99 333 P **P** **14 29 32.4 -0.3**
J20K IAmb IAmb 14 29 53.0
comp=Z,6.0nm,1.1s
H21K Melozitna Rive 26.57 336 P **P** **14 29 38.1 +0.2**
H21K IAmb IAmb 14 29 41.3
comp=Z,4.2nm,0.8s
IMAR Indian Mountai 27.08 336 P **P** **14 29 42.2 -0.2**
TOLK Toolik Lake Re 28.00 342 P **P** **14 29 49.7 -1.0**
TOLK IAmb IAmb 14 30 13.2
comp=Z,6.7nm,1.4s
TKL Tuckaleechee C 33.81 88 LR LR 14 45 08.8
comp=Z,143nm,21.0s,baz=300,slow=38
SADO Sadowa 33.93 71 LR LR 14 46 06.4
comp=Z,84nm,18.7s,baz=341,slow=39
CMIG Matias Romero 37.66 124 LR LR 14 46 21.5
comp=Z,46nm,20.9s,baz=220,slow=36
SCHQ Schefferville 39.76 52 LR LR 14 47 58.1
comp=Z,102nm,18.5s,baz=112,slow=36
SPITS Spitsbergen Ar 56.71 8 LR LR 14 59 03.2
comp=Z,49nm,18.3s,baz=350,slow=37
H11N3 WAKE ISLAND Hy 59.58 269 T T 15 38 30.3
baz=50,slow=75,SNR=68
H11N2 WAKE ISLAND Hy 59.58 269 T T 15 38 31.5
baz=50,slow=75,SNR=40
H11N1 WAKE ISLAND Hy 59.59 269 T T 15 38 32.5
baz=50,slow=75,SNR=45
H11S1 WAKE ISLAND Hy 60.50 268 T T 15 39 39.9
baz=50,slow=75,SNR=274
H11S2 WAKE ISLAND Hy 60.50 268 T T 15 39 40.8
baz=50,slow=75,SNR=226
H11S3 WAKE ISLAND Hy 60.51 268 T T 15 39 32.5
baz=50,slow=75,SNR=156

*BGR **21** 14:28:12.3± 0.0, 3˚.66S× 142˚.68E, h10km*
*NEIC **21** 14:28:12.3± 1.8, 3˚.75S± 0˚.07× 142˚.73E± 0˚.08, h35km± 5km, mb5.3/124, Error ellipse: s-maj=11.7km s-min=10.3km az=104.0*
*BJI **21** 14:28:12.6± 0.0, 3˚.82S× 143˚.17E, h71km, mb5.1/78, mB5.3/59, Ms4.7/75, Ms7 4.6/73*
*MOS **21** 14:28:12.0± 0.9, 3˚.79S× 142˚.76E, h51km, mb5.4/51, Error ellipse: s-maj=9.7km s-min=5.1km az=106.4*
*DJA **21** 14:28:13.3± 0.6, 4˚S± 3˚× 14˚3E± ˚, h35km± 6km, M5.1/33, mB5.5/30, mb5.4/33, MLv5.6/6, Mw(mB)5.0/30, MwMwp4.9/11, Mwp5.2/11*
*IDC **21** 14:28:14.0± 2.0, 3˚.86S× 142˚.88E, h56km± 18km, mb4.6/28, mb1 4.7/34, mb1mx4.6/49, mbtmp4.9/34, ML4.7/3, MS4.5/55, Ms1 4.5/55, ms1mx4.4/64, Error ellipse: s-maj=11.4km s-min=9.6km az=88.0*
*GCMT **21** 14:28:15.3± 0.1, 3˚.72S± 0˚.01× 142˚.77E± 0˚.01, h36km, MW5.3/123, Moment Tensor Solution. s98,c129; s123,c221; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.36±.02; Mθθ=0.37±.01; Mφφ=0.72±.02; Mrθ=0.66±.02; Mrφ=0.46±.01; Mθφ=0.18±.02; Best double couple: Mo1.01600×10^17 NP1:φs 164.00000°, δ59.00000°, λ-151.00000°. NP2:φs 57.00000°, δ65.00000°, λ-34.00000°. Principal axes: T 0.8970, Plg4.0000°, Azm112.0000°; N 0.2380, Plg49.0000°, Azm206.0000°; P -1.1350, Plg41.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 14:28:12.7± 0.3, 3˚.81S± 0˚.03× 142˚.80E± 0˚.04, h43km± 2km, h43km:pP-P,n700,σ1§49/734,mb5.2/156,MS4.6/78, 48C-50D,Fault plane solution: NP1:φs 237.20998°, δ81.71141°, λ36.24055°. NP2:φs 141.17818°, δ54.19691°, λ169.76140°. Principal axes: T Plg31.0372°, Azm105.4813°; N Plg52.9507°, Azm248.3367°; P Plg18.1631°, Azm4.0955°; Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**4.47**	**294**	P	**Pn**	**14 29 19.9**	**+2.0**
MANU	**Manus Island**	**4.88**	**69**	Pn	**Pn**	**14 29 25.6**	**+2.0**
MMPI	**Merauke**	**5.21**	**207**	P	**Pn**	**14 29 31.1**	**+2.9**
	14nm22µm2µm,0.7s						
SRPI	**Serui, Papua**	**6.83**	**286**	P	**Pn**	**14 29 50.5**	**+0.1**
	2.0nm6µm3µm342nm,0.8s						
PMG	**Port Moresby**	**7.04**	**142**	P	**Pn**	**14 29 55.1**	**+1.8**
	15nm,0.3s,baz=6.6,slow=4.9,SNR=27						
PMG				S	**Sn**	**14 31 12.2**	**+0.1**
	baz=206,slow=18,SNR=0.9						
PMG				LR	LR	14 33 30.0	
	comp=Z,9µm,18.3s,baz=312,slow=45						
PMG	**Port Moresby**	**7.04**	**142**	Pn	**Pn**	**14 29 55.7**	**+2.4**
PMG	**Port Moresby**	**7.04**	**142**	P	**Pn**	**14 29 56.2**	**+2.9**
BAKI	**Biak**	**7.18**	**291**	P	Pn	14 30 13.3	+18
KRVT	**Keravat (AS076**	**9.21**	**93**	P	**Pn**	**14 30 26.0**	**+2.9**
	1.5nm,0.3s,baz=230,slow=3.8,SNR=40						
RABL	**Rabaul**	**9.35**	**93**		**Pn**	**14 30 28.9**	**+4.0**
COEN	**Coen**	**10.09**	**178**	Pn	**Pn**	**14 30 39.4**	**+4.2**
COEN	**Coen**	**10.09**	**178**	P	**Pn**	**14 30 37.2**	**+2.1**
SIJI	**Sorong**	**11.89**	**284**	P	**Pn**	**14 31 00.3**	**+0.6**
	2.9nm,0.3s,baz=69,slow=7.6,SNR=20						
SIJI				LR	LR	14 36 03.6	
	comp=Z,5µm,21.3s,baz=95,slow=39						
SWI	**Sorong**	**11.90**	**284**	P	**Pn**	**14 31 00.1**	**+0.2**
	3µm2µm153nm,0.8s						
KDU	**Kakadu**	**13.50**	**229**	P	**Pn**	**14 31 21.1**	**-0.6**
	baz=14,SNR=31						
KDU	**Kakadu**	**13.50**	**229**	P	**Pn**	**14 31 21.4**	**-0.3**
MSAI	**Masohi**	**13.86**	**271**	P	P	14 31 48.9	+15
MTSU	**Mount Surprise**	**14.31**	**174**	P	**Pn**	**14 31 32.8**	**0.0**
	baz=14,SNR=11						
MTSU	**Mount Surprise**	**14.31**	**174**	P	**Pn**	**14 31 34.8**	**+2.0**
AAI	**Ambon**	**14.58**	**270**	P	P	14 31 48.7	+6.7
MTN	**Manton Dam**	**14.62**	**231**	P	**Pn**	**14 31 35.7**	**-1.1**
	baz=15,SNR=38						
MTN	**Manton Dam**	**14.62**	**231**	Pn	**Pn**	**14 31 35.3**	**-1.6**
MTN	**Manton Dam**	**14.62**	**231**	P	**Pn**	**14 31 36.8**	**-0.1**
LBMI	**Labuha**	**15.61**	**281**	P	**Pn**	**14 31 51.4**	**+1.5**
	2µm2µm95nm,1.5s						
TNTI	**Ternate**	**16.08**	**286**	P	**P**	**14 32 03.5**	**+4.7**
CTA	**Charters Tower**	**16.53**	**169**	P	**P**	**14 32 03.1**	**-0.5**
	0.1nm,0.3s,baz=348,slow=14,SNR=2.5						
CTA				LR	LR	14 38 21.1	
	comp=Z,2µm,21.5s,baz=350,slow=37						
CTA	**Charters Tower**	**16.53**	**169**	P	**P**	**14 32 03.8**	**+0.2**
SANI	**Sanana**	**16.88**	**275**	P	**Pn**	**14 32 04.2**	**-1.8**
	3µm1µm61nm,1.1s						
SANI	**Sanana**	**16.88**	**275**	P	**Pn**	**14 32 05.4**	**-0.6**
QIS	**Mount Isa**	**16.94**	**190**	P	**Pn**	**14 32 07.3**	**+0.6**
	baz=17,SNR=17						
QIS	**Mount Isa**	**16.94**	**190**	P	**P**	**14 32 08.3**	**+0.1**
GUMO	**Guam**	**17.41**	**7**	P	**P**	**14 32 14.3**	**+1.0**
	5.1nm,0.3s,baz=198,slow=14,SNR=4.8						
GUMO				LR	LR	14 38 01.4	
	comp=Z,1µm,20.9s,baz=203,slow=34						
WB0	**Warramunga Arr**	**17.86**	**207**	P	**Pn**	**14 32 15.5**	**-2.6**
HNR	**Honiara**	**17.92**	**109**	P	**P**	**14 32 19.7**	**+0.6**
	11nm,0.3s,baz=218,slow=8.1,SNR=6.7						
HNR				LR	LR	14 39 50.7	
	comp=Z,575nm,18.1s,baz=274,slow=39						
HNR	**Honiara**	**17.92**	**109**		**Pn**	**14 32 17.3**	**-1.5**
HNR				IAmb	IAmb	14 32 36.1	
	comp=Z,254nm,1.0s						
WR0	**Warramunga Arr**	**17.96**	**206**	P	**Pn**	**14 32 15.1**	**-4.3**
WR0				IAmb	IAmb	14 32 36.4	
	comp=Z,199nm,0.8s						
WRAB	**Tennant Creek**	**18.02**	**207**	*ceP*	**Pn**	**14 32 19.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,74nm,1.3s						
WRAB	**Tennant Creek**	**18.02**	**207**	P	**Pn**	**14 32 19.4**	**-0.7**
WRAB				IAmb	IAmb	14 32 36.5	
	comp=Z,182nm,0.9s						
WRAB	**Tennant Creek**	**18.02**	**207**	P	**Pn**	**14 32 19.6**	**-0.6**
WB2	**Warramunga Arr**	**18.03**	**207**	P	**Pn**	**14 32 18.0**	**-2.2**
WB2				IAmb	IAmb	14 32 36.7	
	comp=Z,176nm,0.8s						
WRA	**Warramunga Arr**	**18.04**	**207**	P	**Pn**	**14 32 20.3**	**0.0**
	comp=Z,2.6nm,0.3s,baz=25,slow=12,SNR=61						
WRA				S	Sn	14 35 24.5	-16
	baz=29,slow=21,SNR=1.6						
WRA				LR	LR	14 39 43.7	
	comp=Z,4µm,20.5s,baz=24,slow=38						
KNRA	**Kununurra**	**18.16**	**229**	P	**P**	**14 32 21.6**	**-0.1**
	baz=18,SNR=133						
KNRA	**Kununurra**	**18.16**	**229**	P	**P**	**14 32 20.4**	**-1.3**
KNRA				IAmb	IAmb	14 32 38.0	
	comp=Z,199nm,0.7s						
KNRA	**Kununurra**	**18.16**	**229**	P	**Pn**	**14 32 21.9**	**+0.1**
PATS	**Pohnpei**	**18.75**	**56**	P	**P**	**14 32 25.4**	**-2.8**
KMSI	**Cibinong**	**19.31**	**283**	P	**Pn**	**14 32 34.9**	**-0.8**
	comp=Z,3µmcomp=Z,302nm,0.8s						
BATI	**Baumata**	**20.02**	**250**	P	Pn	14 32 43.6	-0.5
	comp=Z,81nm,0.7s,baz=75,slow=1.3,SNR=24						
BATI				S	Sn	14 36 27.9	-0.9
	comp=Z,44nm,0.9s,baz=110,slow=22,SNR=2.9						
BATI	**Baumata**	**20.02**	**250**	P	Pn	14 32 43.3	-0.9
	comp=Z,4µmcomp=Z,250nm,0.9s						
LUWI	**Luwuk**	**20.20**	**277**		**P**	**14 32 39.9**	**-4.2**
LUWI				IAmb	IAmb	14 33 02.8	
	comp=Z,144nm,0.7s						
LUWI	**Luwuk**	**20.20**	**277**	P	Pn	14 32 49.1	+2.9
LUWI	**Luwuk**	**20.20**	**277**	P	**P**	**14 32 44.2**	**+0.1**
BBSI	**Bau Bau**	**20.23**	**264**	P	Pn	14 32 54.8	+8.1
DAV	**Davao City (W)**	**20.31**	**302**	LR	LR	14 40 34.1	
	comp=Z,962nm,18.6s,baz=88,slow=36						
RK1H	**Rockhampton Ha**	**20.84**	**160**	P	Pn	14 32 53.7	+0.1
MMRI	**Maumere**	**20.99**	**256**	P	Pn	14 32 57.9	+2.3
MRSI	**Marisa**	**21.28**	**281**	P	**P**	**14 32 57.7**	**+2.0**
	comp=Z,2µmcomp=Z,1µmcomp=Z,145nm,1.0s						
APSI	**Ampana**	**21.33**	**277**	P	**P**	**14 32 59.6**	**+3.3**
	comp=Z,2µmcomp=Z,149nm,0.9s						
AS31	**Alice Springs**	**21.53**	**203**	P	**P**	**14 32 58.1**	**-0.3**
ASAR	**Alice Springs**	**21.53**	**203**	P	**P**	**14 32 57.9**	**-0.5**
	comp=Z,9.4nm,0.7s,baz=27,slow=12,SNR=34						
ASAR				S	**S**	**14 36 51.0**	**-4.0**
	comp=Z,3.5nm,0.8s,baz=16,slow=14,SNR=1.5						
ASAR				LR	LR	14 41 54.5	
	comp=Z,5µm,18.6s,baz=19,slow=38						
ASAR	**Alice Springs**	**21.53**	**203**	P	**P**	**14 32 57.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**22.00**	**229**	P	**P**	**14 33 02.6**	**-0.8**
	comp=Z,37nm,0.7s,baz=48,slow=9.4,SNR=63						
FITZ				S	**S**	**14 37 02.6**	**-1.4**
	comp=Z,17nm,0.8s,baz=333,slow=23,SNR=2.1						
FITZ				LR	LR	14 42 13.2	
	comp=Z,3µm,19.1s,baz=50,slow=38						
FITZ	**Fitzroy Crossi**	**22.00**	**229**	P	**P**	**14 33 02.4**	**-1.0**
	baz=22,SNR=113						
FITZ	**Fitzroy Crossi**	**22.00**	**229**	P	**P**	**14 33 01.9**	**-1.5**
BSSI	**Bau Bau, Buton**	**22.35**	**263**	P	P	14 33 16.4	+9.2
TOLI2	**Tolitoli**	**22.55**	**282**	P	**P**	**14 33 08.9**	**-0.4**
TOLI2				IAmb	IAmb	14 33 28.4	
	comp=Z,132nm,1.1s						
TOLI2	**Tolitoli**	**22.55**	**282**	P	**P**	**14 33 09.6**	**+0.3**
BNSI	**Bone**	**22.65**	**268**	P	**P**	**14 33 12.4**	**+2.0**
	comp=Z,2µmcomp=Z,208nm,1.0s						
BKSI	**Bulukumba**	**22.66**	**265**	P	**P**	**14 33 12.5**	**+2.0**
	comp=Z,1µmcomp=Z,130nm,0.8s						
QLP	**Quilpie**	**22.69**	**177**	P	**P**	**14 33 12.3**	**+1.6**
	baz=23,SNR=7.8						
QLP	**Quilpie**	**22.69**	**177**	P	**P**	**14 33 11.9**	**+1.2**
EIDS	**Eidsvold**	**22.87**	**160**	P	**P**	**14 33 13.4**	**+0.9**
	baz=23,SNR=12						
EIDS	**Eidsvold**	**22.87**	**160**	P	**P**	**14 33 12.8**	**+0.2**
EIDS	**Eidsvold**	**22.87**	**160**	P	**P**	**14 33 15.1**	**+2.5**
TTSI	**Tana Toraja**	**22.96**	**271**	P	**P**	**14 33 16.7**	**+3.1**
	comp=Z,2µmcomp=Z,2µmcomp=Z,113nm,1.2s						
SPSI	**Sidrap Palu**	**22.98**	**269**	P	**P**	**14 33 20.8**	**+6.9**
KAPI	**Kappang**	**23.01**	**266**	P	**P**	**14 33 15.3**	**+1.1**
	comp=Z,10.0nm,1.0s,baz=66,slow=9.2,SNR=4.4						
KAPI	**Kappang**	**23.01**	**266**	P	**P**	**14 33 14.4**	**+0.2**
MPSI	**Mapaga**	**23.26**	**280**	P	**P**	**14 33 15.7**	**-0.9**
	comp=Z,1µmcomp=Z,1µmcomp=Z,60nm,1.7s						
RMQ	**Roma**	**23.26**	**166**	P	**P**	**14 33 18.2**	**+1.7**
	baz=23,SNR=23						
RMQ	**Roma**	**23.26**	**166**	P	**P**	**14 33 19.8**	**+3.3**
INKA	**Innaminka**	**23.88**	**185**	P	**P**	**14 33 24.2**	**+1.8**
WBSI	**Waikabubak, Su**	**23.95**	**255**	P	**P**	**14 33 27.3**	**+4.0**
	comp=Z,2µmcomp=Z,307nm,0.9s						
OOD	**Oodnadatta**	**24.80**	**195**	P	**P**	**14 33 32.4**	**+1.6**
WRKA	**Warakurna**	**25.30**	**212**	P	**P**	**14 33 35.5**	**0.0**
	baz=26,SNR=48						
WRKA	**Warakurna**	**25.30**	**212**	P	**P**	**14 33 36.2**	**+0.7**
PLAI	**Plampang**	**25.36**	**257**	P	P	14 33 50.1	+14
PLAI	**Plampang**	**25.36**	**257**	P	**P**	**14 33 36.6**	**+0.5**
MYLDM	**Lahad Datu**	**25.87**	**290**	P	**P**	**14 33 41.2**	**+0.5**
LCRK	**Leigh Creek**	**26.85**	**189**	P	**P**	**14 33 51.2**	**+1.9**
MULG	**Mulgathing**	**27.60**	**196**	P	**P**	**14 33 56.8**	**+0.7**
CMSA	**Cobar Meteorol**	**27.72**	**175**	P	**P**	**14 33 58.9**	**+1.8**
	baz=28,SNR=7.0						
CMSA	**Cobar Meteorol**	**27.72**	**175**	P	**P**	**14 33 59.5**	**+2.4**
ARMA	**Armidale**	**27.75**	**163**	P	**P**	**14 33 59.8**	**+2.3**
	baz=28,SNR=5.0						
ARMA	**Armidale**	**27.75**	**163**	P	**P**	**14 33 58.4**	**+0.8**
ARMA				IAmb	IAmb	14 34 10.7	
	comp=Z,64nm,1.2s						
ARMA	**Armidale**	**27.75**	**163**	P	**P**	**14 34 00.0**	**+2.4**
BBKI	**Banjar Baru**	**27.91**	**270**	P	P	14 34 09.7	+11
STKA	**Stephens Creek**	**27.94**	**182**	P	**P**	**14 33 58.3**	**-0.9**
	comp=Z,4.8nm,0.9s,baz=351,slow=7.6,SNR=9.8						
STKA				LR	LR	14 46 32.8	
	comp=Z,3µm,18.3s,baz=358,slow=39						
STKA	**Stephens Creek**	**27.94**	**182**	P	**P**	**14 34 00.1**	**+1.0**
	baz=28,SNR=8.0						
STKA	**Stephens Creek**	**27.94**	**182**	P	**P**	**14 33 59.9**	**+0.7**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**27.94**	**182**	P	**P**	**14 33 59.9**	**+0.7**
STKA	**Stephens Creek**	**27.94**	**182**	P	**P**	**14 34 01.2**	**+2.1**
MBWA	**Marble Bar**	**28.29**	**231**	P	**P**	**14 34 02.1**	**-0.2**
MBWA				pP	**pP**	**14 34 12.1**	**-1.8**
MBWA				sP	**sP**	**14 34 18.5**	**-0.5**
PSA00	**Pilbara Seismi**	**28.44**	**230**	P	**P**	**14 34 02.4**	**-1.3**
PSA00	**Pilbara Seismi**	**28.44**	**230**	P	**P**	**14 34 02.4**	**-1.3**
PSA00				IAmb	IAmb	14 34 16.5	
	comp=Z,113nm,1.5s						
PSA00	**Pilbara Seismi**	**28.44**	**230**	P	**P**	**14 34 04.3**	**+0.6**
JAGI	**Jajag, Banyuwa**	**28.85**	**259**	P	**P**	**14 34 08.1**	**+0.6**
DZM	**Mont Dzumac**	**29.24**	**130**	P	**P**	**14 34 10.3**

baz=30,SNR=20
FORT Forest 30.22 206 P **P** **14 34 19.4 +0.1**
FORT IAmb IAmb 14 34 42.3
comp=Z,52nm,0.8s
FORT Forest 30.22 206 P **P** **14 34 20.6 +1.2**
JCJ Chichijima 30.73 359 LR LR 14 47 42.8
comp=Z,228nm,18.1s,baz=158,slow=38
JCJ Chichijima 30.73 359 P **P** **14 34 27.3 +3.4**
comp=Z,110nm,1.0s
CAN Canberra 31.88 170 P **P** **14 34 35.0 +1.0**
CAN pmax pmax
comp=Z,32nm,1.1s
CAN Canberra 31.88 170 P **P** **14 34 35.0 +1.0**
CAN Canberra 31.88 170 P **P** **14 34 36.0 +2.0**
CAN Canberra 31.88 170 P **P** **14 34 35.5 +1.5**
CAN pP **pP** **14 34 46.2 +0.6**
H11S3 WAKE ISLAND Hy 32.33 46 T T 15 08 27.1
baz=229,slow=75,SNR=252
H11S2 WAKE ISLAND Hy 32.34 46 T T 15 08 27.8
baz=229,slow=75,SNR=129
H11S1 WAKE ISLAND Hy 32.34 46 T T 15 08 28.4
baz=229,slow=75,SNR=108
MEEK Meekatharra 32.42 223 P **P** **14 34 38.7 -0.2**
baz=33,SNR=20
MEEK Meekatharra 32.42 223 P **P** **14 34 38.8 -0.1**
ARPS Mount Arapiles 32.81 181 P **P** **14 34 43.5 +1.4**
baz=33,SNR=7.7
ARPS Mount Arapiles 32.81 181 P **P** **14 34 43.5 +1.4**
H11N1 WAKE ISLAND Hy 33.27 44 T T 15 09 27.0
baz=228,slow=76,SNR=16
H11N2 WAKE ISLAND Hy 33.29 44 T T 15 09 34.3
baz=228,slow=76,SNR=17
H11N3 WAKE ISLAND Hy 33.29 45 T T 15 09 12.9
baz=228,slow=76,SNR=13
GIRL Giralia 33.40 233 P **P** **14 34 48.5 +1.1**
baz=34,SNR=4.1
GIRL Giralia 33.40 233 P **P** **14 34 47.5 +0.1**
GIRL Giralia 33.40 233 P **P** **14 34 48.3 +0.9**
JOW Kunigami 33.54 336 LR LR 14 45 29.3
comp=Z,1µm,21.3s,baz=142,slow=31
BRAT Ballarat 33.60 178 P **P** **14 34 50.9 +2.0**
TOO Toolangi 33.69 176 P **P** **14 34 51.3 +1.5**
baz=34,SNR=4.5
TOO Toolangi 33.69 176 P **P** **14 34 51.9 +2.1**
YULB Yu-li 34.22 323 P **P** **14 34 53.7 -0.8**
YULB IAmb IAmb 14 35 20.5
comp=Z,52nm,1.3s
YULB PcP **PcP** **14 37 28.3 -2.4**
TPUB Ta-pu 34.55 322 P **P** **14 34 54.5 -3.0**
TPUB IAmb IAmb 14 35 12.8
comp=Z,31nm,1.1s
YHNB Yeheng 35.15 325 P **P** **14 35 03.6 +1.0**
YHNB Yeheng 35.15 325 P **P** **14 35 04.1 +1.5**
LEM Lembang 35.16 264 LR LR 14 52 02.6
comp=Z,566nm,21.1s,baz=96,slow=41
TATO Taipei 35.32 325 P **P** **14 35 04.8 +0.8**
MORW Morawa 35.72 222 P **P** **14 35 07.4 -0.1**
baz=36,SNR=10
MORW Morawa 35.72 222 P **P** **14 35 06.7 -0.8**
MORW Morawa 35.72 222 P **P** **14 35 07.5 0.0**
BLDU Ballidu 36.30 220 P **P** **14 35 12.1 -0.2**
baz=36,SNR=9.3
BLDU Ballidu 36.30 220 P **P** **14 35 12.4 +0.1**
KLBR Kellerberrin 36.31 218 P **P** **14 35 12.2 -0.3**
baz=36,SNR=6.2
KLBR Kellerberrin 36.31 218 P **P** **14 35 12.1 -0.3**
QZH Quanzhou 37.02 322 ⇓*iP* **P** **14 35 19.1 +0.6**
QZH pP **sP** **14 35 35.0 -0.3**
QZH S **S** **14 41 02.1 +0.8**
QZH pmax pmax
comp=Z,39nm,0.8s
QZH pmax pmax
comp=Z,180nm,3.4s
QZH LR LR
comp=Z,560nm,23.7s
QZH LR LR
comp=Z,400nm,19.9s
QZH LR LR
comp=Z,690nm,20.4s
MUN Mundaring 37.53 219 P **P** **14 35 22.9 +0.1**
baz=38,SNR=4.6
MUN Mundaring 37.53 219 P **P** **14 35 23.6 +0.8**
NWAO Narrogin (SRO) 37.56 217 P **P** **14 35 24.7 +1.7**
NWAO pP **pP** **14 35 34.6 -0.1**
JNU Nakatsue 38.43 344 P **P** **14 35 29.8 -0.5**
JNU IAmb IAmb 14 35 32.4
comp=Z,49nm,1.0s
RKGY Rocky Gully 38.91 215 P **P** **14 35 35.9 +1.5**
baz=39,SNR=4.4
QIZ Qiongzhong 39.59 306 P **P** **14 35 39.5 -0.7**
QIZ S **S** **14 41 37.1 -3.3**
QIZ SS **SS** **14 44 37.8 +1.0**
QIZ pmax pmax
comp=Z,19nm,1.0s
QIZ LR LR
comp=Z,270nm,17.3s
QIZ LR LR
comp=Z,450nm,21.0s
QIZ LR LR
comp=Z,620nm,27.1s
QIZ Qiongzhong 39.59 306 P **P** **14 35 40.2 -0.1**
QIZ pP **pP** **14 35 52.1 0.0**
MJAR Matsushiro Arr 40.37 354 P **P** **14 35 45.8 -0.6**
comp=Z,11nm,0.9s,baz=195,slow=26,SNR=12
MJAR LR LR 14 50 42.0
comp=Z,699nm,20.6s,baz=156,slow=33
MAJO Matsushiro 40.37 354 P **P** **14 35 43.1 -3.4**
MAJO pmax pmax
comp=Z,68nm,1.5s
MAJO Matsushiro 40.37 354 P **P** **14 35 43.1 -3.4**
MAJO IAmb IAmb 14 35 47.8
comp=Z,68nm,1.4s
MAJO Matsushiro 40.37 354 P **P** **14 35 46.2 -0.3**
SSE Sheshan 40.37 331 P **P** **14 35 48.3 +1.8**
SSE S **S** **14 41 56.6 +4.8**
SSE pmax pmax
comp=Z,46nm,0.7s
SSE pmax pmax
comp=Z,140nm,5.3s
SSE LR LR
comp=Z,240nm,20.9s
SSE LR LR
comp=Z,170nm,23.3s
OUZ Omahuta 42.30 141 P **P** **14 36 06.2 +3.9**
NJ2 Nanjing 42.31 329 *eP* **P** **14 36 04.5 +2.1**
NJ2 pP **pP** **14 36 15.1 +0.7**
NJ2 S **S** **14 42 23.5 +3.0**
NJ2 ScS **ScS** **14 45 59.4 -1.7**
NJ2 pmax pmax
comp=Z,18nm,1.0s
NJ2 pmax pmax
comp=Z,240nm,5.0s
NJ2 LR LR
comp=Z,380nm,23.4s
NJ2 LR LR
comp=Z,360nm,20.6s
NJ2 LR LR
comp=Z,840nm,20.6s
TJN Taejon 42.50 341 *ceP* **P** **14 36 05.0 +1.1**
CNSH ChangSha 42.88 320 ⇓P **P** **14 36 08.8 +1.7**
CNSH S **S** **14 42 31.3 +2.3**
CNSH pmax pmax
comp=Z,32nm,1.0s
CNSH LR LR
comp=Z,410nm,18.0s
CNSH LR LR
comp=Z,530nm,18.4s
CNSH LR LR
comp=Z,760nm,22.6s
KSRS Korea Array 43.32 343 P **P** **14 36 11.3 +0.8**
comp=Z,32nm,1.2s,baz=163,slow=8.1,SNR=52
KSRS PcP **PcP** **14 37 59.2 +0.4**
comp=Z,4.8nm,0.9s,baz=162,slow=4.0,SNR=8.2
KSRS LR LR 14 51 43.5
comp=Z,556nm,21.7s,baz=150,slow=32
WHN Wuhan 43.66 323 ⇑P **P** **14 36 15.9 +2.6**
WHN S **S** **14 42 46.3 +6.0**
WHN pmax pmax
comp=Z,88nm,1.1s
WHN LR LR
comp=Z,1µm,17.2s
WHN LR LR
comp=Z,450nm,13.9s
WHN LR LR
comp=Z,1µm,15.0s
PSI Prapat 44.34 278 LR LR 14 57 06.7
comp=Z,290nm,19.6s,baz=120,slow=39
JTM Tenmabayashi 44.41 358 P **P** **14 36 18.9 -0.4**
RAO Raoul Island 45.01 129 LR LR 14 54 04.7
comp=Z,215nm,20.7s,baz=114,slow=34
GYA Guiyang 46.12 313 ⇓P **P** **14 36 35.3 +2.1**
GYA sP sP 14 36 57.3 +7.0
GYA PP **PP** **14 38 23.9 +1.9**
GYA S **S** **14 43 19.6 +3.1**
GYA sS sS 14 43 44.8 +8.4
GYA pmax pmax
comp=Z,29nm,1.5s
GYA pmax pmax
comp=Z,320nm,3.5s
GYA LR LR
comp=Z,67nm,3.8s
GYA LR LR
comp=Z,100nm,3.9s
GYA LR LR
comp=Z,170nm,7.5s
URZ Urewera 46.41 142 P **P** **14 36 35.0 -0.1**
comp=Z,5.8nm,0.7s,baz=278,slow=16,SNR=2.0
URZ LR LR 14 54 43.1
comp=Z,890nm,21.3s,baz=31,slow=34
URZ Urewera 46.41 142 P **P** **14 36 37.3 +2.2**
URZ Urewera 46.41 142 P **P** **14 36 37.6 +2.5**
TIA Tai'an 46.49 331 P **P** **14 36 35.8 0.0**
TIA PP **PP** **14 38 24.8 -0.9**
TIA S **S** **14 43 22.0 +0.8**
TIA pmax pmax
comp=Z,5.0nm,0.9s
TIA pmax pmax
comp=Z,170nm,3.7s
TIA LR LR
comp=Z,180nm,15.7s
TIA LR LR
comp=Z,330nm,17.1s
TIA LR LR
comp=Z,420nm,16.4s
ENH Enshi 46.51 319 P **P** **14 36 36.8 +0.7**
RTZ Ruatahuna 46.55 143 P **P** **14 36 38.7 +2.4**
RUGZ Raukumara Rang 46.57 142 P **P** **14 36 38.3 +1.8**
BKZ Black Stump Fm 46.61 144 P **P** **14 36 37.8 +1.0**
BKZ IAmb IAmb 14 36 54.3
comp=Z,24nm,0.9s
BKZ Black Stump Fm 46.61 144 P **P** **14 36 38.7 +1.9**
MWZ Matawai 46.71 142 P **P** **14 36 40.1 +2.5**
RAGZ Rawiri 46.74 142 P **P** **14 36 39.6 +1.7**
RPZ Rata Peaks 46.94 152 LR LR 14 55 43.5
comp=Z,985nm,20.0s,baz=316,slow=35
RPZ Rata Peaks 46.94 152 P **P** **14 36 41.9 +2.7**
WMGZ Waiomatatini S 46.94 141 P **P** **14 36 36.9 -2.4**
TKGZ Te Karaka 46.97 142 P **P** **14 36 40.0 +0.5**
PUZ Puketiti 47.00 141 P **P** **14 36 39.3 -0.5**
SNZO South Karori 47.03 147 P **P** **14 36 43.0 +3.0**
comp=Z,37nm,0.8s
KHZ Kahutara 47.20 149 P **P** **14 36 44.7 +3.5**
comp=Z,30nm,1.2s
MSHR Mys Shultsa 47.37 348 *ce*P **P** **14 36 43.1 +0.6**
MSHR pmax pmax
comp=Z,13nm,1.0s
BFZ Birch Farm 47.46 145 P **P** **14 36 46.4 +3.0**
comp=Z,37nm,1.5s
LYN LuoYang 47.66 326 *eP* **P** **14 36 45.6 +0.7**
LYN pP sP 14 37 00.8 -1.3
LYN PP **PP** **14 38 35.6 -1.4**
LYN S **S** **14 43 33.8 -4.1**
LYN SS **SS** **14 47 04.3 -2.4**
LYN pmax pmax
comp=Z,40nm,1.5s
LYN pmax pmax
comp=Z,130nm,3.8s
LYN LR LR
comp=Z,630nm,23.9s
LYN LR LR
comp=Z,330nm,22.8s
LYN LR LR
comp=Z,830nm,21.8s
ASAJ Asahikawa 47.71 360 LR LR 14 58 25.1
comp=Z,123nm,20.1s,baz=185,slow=38
KMI Kunming 48.36 309 ⇓P **P** **14 36 52.8 +2.0**
KMI PP **PP** **14 38 46.8 +3.0**
KMI S **S** **14 43 47.0 -1.7**
KMI pmax pmax
comp=Z,37nm,1.7s
KMI pmax pmax
comp=Z,190nm,4.9s
KMI LR LR
comp=Z,260nm,21.5s
KMI LR LR
comp=Z,160nm,22.0s
KMI LR LR
comp=Z,660nm,27.2s
CMAR Chiang Mai Arr 48.54 299 P **P** **14 36 52.6 +0.6**
comp=Z,12nm,0.9s,baz=123,slow=6.2,SNR=56
CMAR PcP **PcP** **14 38 18.1 +0.6**
comp=Z,3.6nm,0.7s,baz=114,slow=2.1,SNR=4.7
CMAR LR LR 14 57 22.6
comp=Z,182nm,21.6s,baz=110,slow=36
HNS HongShan 48.62 330 ⇓P **P** **14 36 52.8 +0.5**
HNS S **S** **14 43 49.5 -1.8**
HNS pmax pmax
comp=Z,46nm,1.1s
HNS pmax pmax
comp=Z,330nm,4.0s
HNS LR LR
comp=Z,260nm,17.8s
HNS LR LR
comp=Z,490nm,17.4s
HNS LR LR
comp=Z,560nm,21.3s
CHTO Chiang Mai 48.67 299 P **P** **14 36 53.5 +0.4**
CHTO pP **pP** **14 37 04.6 -0.6**
SNY Shenyang 48.68 341 ⇑P **P** **14 36 54.3 +1.7**
SNY S **S** **14 43 50.0 -2.0**
SNY pmax pmax
comp=Z,34nm,0.8s
SNY LR LR
comp=Z,330nm,16.1s
SNY LR LR
comp=Z,320nm,18.7s
SNY LR LR
comp=Z,560nm,20.8s
USRK Ussuriysk Ar. 48.77 350 P **P** **14 36 54.0 +0.7**
comp=Z,20nm,0.8s,baz=171,slow=9.2,SNR=32
USRK LR LR 14 55 10.7
comp=Z,771nm,20.9s,baz=163,slow=33
USRK Ussuriysk Ar. 48.77 350 P **P** **14 36 51.8 -1.5**
USRK 14 38 17.6
USRK Ussuriysk Ar. 48.77 350 P **P** **14 36 51.8 -1.5**
USRK PcP **PcP** **14 38 17.6 -0.1**
USA0B Ussuriysk Arra 48.77 350 P **P** **14 36 51.0 -2.3**
USA0B IAmb IAmb 14 36 56.4
comp=Z,48nm,1.1s
USA0B PcP **PcP** **14 38 17.4 -0.4**
XAN Xi'an 49.38 322 P **P** **14 36 58.5 +0.3**
XAN PcP **PcP** **14 38 20.8 +0.5**
XAN S **S** **14 44 00.0 -2.3**
XAN sS sS 14 44 32.3 +10
XAN pmax pmax
comp=Z,45nm,1.4s
XAN pmax pmax
comp=Z,340nm,4.0s
XAN LR LR
comp=Z,460nm,20.6s
XAN LR LR
comp=Z,450nm,20.6s
XAN LR LR
comp=Z,860nm,26.1s
XAN Xi'an 49.38 322 P **P** **14 36 58.6 +0.3**
XAN pP **pP** **14 37 10.4 0.0**
MDJ Mudanjiang 49.64 348 P **P** **14 37 00.6 +0.6**
MDJ S **S** **14 44 07.8 +2.3**
MDJ pmax pmax
comp=Z,28nm,0.9s
MDJ pmax pmax
comp=Z,230nm,3.8s
MDJ LR LR
comp=Z,500nm,22.6s
MDJ LR LR
comp=Z,470nm,17.6s
MDJ LR LR
comp=Z,1µm,21.6s
MDJ Mudanjiang 49.64 348 P **P** **14 37 00.5 +0.6**
MDJ sP **sP** **14 37 17.8 +0.7**
PZH PanZhiHua 49.84 310 P **P** **14 37 02.9 +0.9**
PZH pP **sP** **14 37 17.0 -2.1**
PZH sP pP 14 37 26.3 +12
PZH PP **PP** **14 38 58.6 +1.5**
PZH S **S** **14 44 09.6 +0.4**
PZH pmax pmax
comp=Z,20nm,1.6s
PZH pmax pmax
comp=Z,210nm,5.2s
PZH LR LR
comp=Z,730nm,25.0s
PZH LR LR
comp=Z,980nm,24.8s
PZH LR LR
comp=Z,2µm,25.8s
CN2 Changchun 49.90 344 *eP* **P** **14 37 02.8 +0.8**
CN2 *eS* **S** **14 44 08.8 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
BJT Baijiatuau 50.01 333 P **P** **14 37 03.5 +0.7**
BJI Beijing 50.02 333 P **P** **14 37 03.6 +0.7**
BJI S **S** **14 44 14.6 +3.7**
BJI pmax pmax
comp=Z,24nm,1.2s
BJI LR LR
comp=Z,460nm,21.8s
BJI LR LR
comp=Z,260nm,22.6s
BJI LR LR
comp=Z,660nm,21.0s
YSS Yuzh-Sakhalins 50.55 360 *de*P **P** **14 37 07.1 +0.3**
YSS *e**PP **sP** **14 37 23.3 -0.7**
YSS *eS* **S** **14 44 19.5 +1.5**
YSS *ePS* PKiKP 14 44 42.2 -27
YSS *eSS* SS 14 47 41.2 -12
YSS pmax pmax
comp=Z,50nm,1.5s
YSS pmax pmax
comp=Z,100nm,4.8s
YSS Yuzh-Sakhalins 50.55 360 P **P** **14 37 06.5 -0.2**
YSS IAmb IAmb 14 37 12.1
comp=Z,48nm,1.2s
YSS Yuzh-Sakhalins 50.55 360 P **P** **14 37 06.9 +0.1**
YSS sP **sP** **14 37 23.2 -0.7**
CD2 Chengdu 50.78 316 P **P** **14 37 10.3 +1.4**
CD2 pP sP 14 37 23.3 -2.8
CD2 S **S** **14 44 23.5 +1.6**
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,180nm,3.5s
CD2 LR LR
comp=Z,510nm,18.2s
CD2 LR LR
comp=Z,620nm,17.6s
BNX BinXian 51.20 346 ⇑P **P** **14 37 12.4 +0.7**
BNX pP **pP** **14 37 25.0 +1.1**
BNX S **S** **14 44 25.9 -1.2**
BNX sS sS 14 44 56.6 +9.3
BNX SS **SS** **14 48 00.9 -2.3**
BNX pmax pmax
comp=Z,170nm,0.9s
BNX pmax pmax
comp=Z,560nm,4.6s
BNX LR LR
comp=Z,210nm,12.9s
BNX LR LR
comp=Z,180nm,11.9s
BNX LR LR
comp=Z,1µm,23.3s
HHC Hu-ho-hao-te 52.83 330 *eP* **P** **14 37 26.0 +1.9**
HHC S **S** **14 44 52.1 +2.2**
HHC ScS **ScS** **14 47 07.3 -3.2**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,110nm,4.5s
HHC LR LR
comp=Z,320nm,17.8s
HHC LR LR
comp=Z,270nm,17.6s
HHC LR LR
comp=Z,590nm,17.5s
XLT XiLinHaoTe 53.23 336 ⇑*iP* **P** **14 37 28.3 +1.3**
XLT pP sP 14 37 43.9 -0.3
XLT S **S** **14 44 54.3 -0.9**
XLT sS sS 14 45 29.5 +15
XLT pmax pmax
comp=Z,21nm,0.7s
XLT pmax pmax
comp=Z,240nm,4.2s
XLT LR LR
comp=Z,430nm,18.3s
XLT LR LR
comp=Z,390nm,20.2s
KLR Kul'dur 53.69 351 LR LR 14 56 44.6
comp=Z,593nm,21.9s,baz=190,slow=32
KLR Kul'dur 53.69 351 *ceP* **P** **14 37 30.6 +0.5**
KLR pmax pmax
comp=Z,46nm,1.4s
LZH Lanzhou 53.86 321 ⇑P **P** **14 37 33.8 +1.9**
LZH *eS* **S** **14 45 02.0 -2.2**
LZH pmax pmax
comp=Z,38nm,1.2s
LZH pmax pmax
comp=Z,340nm,5.8s
LZH LR LR
comp=Z,410nm,16.0s
LZH LR LR
comp=Z,390nm,17.4s
LZH LR LR
comp=Z,730nm,17.9s
TYV Tymovskoe 54.46 360 *eP* **P** **14 37 37.3 +1.6**
TYV *eS* **S** **14 45 12.8 +1.4**
TYV pmax pmax
comp=Z,31nm,1.7s
TYV pmax pmax
comp=Z,300nm,4.1s
TYV smax smax
comp=N,100nm,5.1s
TYV smax smax
comp=E,200nm,5.1s
TYV smax smax
comp=N,18nm,1.7s
TYV smax smax
comp=E,14nm,1.7s
GRNR Gornyy 54.64 355 ⇓*iP* **P** **14 37 37.8 +0.7**
GRNR pmax pmax
comp=Z,7.0nm,1.1s
GRNR MLR MLR
comp=E,70nm,16.0s
GRNR MLR MLR
comp=N,120nm,19.0s
GRNR MLR MLR
comp=Z,190nm,19.0s
SKR Severo-Kuril's 55.47 10 *ce*P **P** **14 37 44.2 +1.2**
NKL Nikolayevsk 56.78 358 *eP* **P** **14 37 50.4 -1.9**
NKL *eS* **S** **14 45 39.1 -3.1**
NKL pmax pmax
comp=E,5.0nm,1.3s
NKL pmax pmax
comp=Z,42nm,1.8s
NKL smax smax
comp=E,4.0nm,3.3s
NKL smax smax
comp=N,1.0nm,0.9s
SHL Shillong 57.33 304 P **P** **14 37 57.7 +0.7**
SHL pmax pmax
comp=Z,47nm,1.2s
PEA0B Petropavlovsk- 58.08 11 P **P** **14 38 01.9 +0.4**
PEA0B pmax pmax
comp=Z,126nm,1.3s
PEA0B Petropavlovsk- 58.08 11 P **P** **14 38 01.9 +0.4**
PETK Petropavlovsk- 58.08 11 P **P** **14 38 01.6 0.0**
comp=Z,37nm,0.9s,baz=188,slow=9.0,SNR=30
PETK LR LR 15 03 02.9
comp=Z,245nm,19.7s,baz=209,slow=36
PETK Petropavlovsk- 58.08 11 P **P** **14 38 01.1 -0.4**
PET Petropavlovsk 58.18 11 *eP* **P** **14 38 02.1 -0.1**

PET eS **S** **14 46 00.4 -0.2**
PET pmax pmax
comp=Z,26nm,0.8s
PET MLR MLR
comp=Z,300nm,16.0s
PET MLR MLR
comp=Z,400nm,18.0s
PET Petropavlovsk 58.18 11 P **P** **14 38 02.0 -0.1**
PET IAmb IAmb 14 38 04.9
comp=Z,32nm,1.0s
PET Petropavlovsk 58.18 11 P **P** **14 38 03.2 +1.1**
PET sP **sP** **14 38 22.4 +2.9**
GTA Gaotai 58.42 322 ||P **P** **14 38 05.8 +1.5**
GTA pP sP 14 38 20.8 -0.8
GTA sP pP 14 38 29.1 +12
GTA S **S** **14 46 05.4 +0.8**
GTA pmax pmax
comp=Z,15nm,0.8s
GTA pmax pmax
comp=Z,210nm,6.4s
GTA LR LR
comp=Z,160nm,19.5s
GTA LR LR
comp=Z,220nm,21.1s
GTA LR LR
comp=Z,290nm,20.3s
ZEA Zeya 58.80 349 *e*P P 14 37 59.5 -7.0
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,50nm,0.8s
LSA Lhasa 59.60 308 P **P** **14 38 14.5 +1.4**
LSA pmax pmax
comp=Z,17nm,0.9s
GOMU GeErMu 59.91 316 P **P** **14 38 17.0 +2.0**
GOMU S **S** **14 46 26.3 +1.8**
GOMU pmax pmax
comp=Z,7.0nm,0.9s
GOMU pmax pmax
comp=Z,100nm,4.6s
GOMU LR LR
comp=Z,76nm,16.3s
GOMU LR LR
comp=Z,200nm,16.5s
GOMU LR LR
comp=Z,290nm,16.5s
ULN Ulaanbaatar 60.23 333 *ce*P **P** **14 38 16.4 -0.3**
ULN pmax pmax
comp=Z,37nm,1.3s
ULN Ulaanbaatar 60.23 333 P **P** **14 38 16.3 -0.3**
ULN IAmb IAmb 14 38 19.7
comp=Z,43nm,1.4s
ULN Ulaanbaatar 60.23 333 P **P** **14 38 18.1 +1.4**
ULN sP **sP** **14 38 37.2 +3.1**
SONM Songino Array 60.51 333 P **P** **14 38 19.7 +1.1**
comp=Z,6.3nm,0.9s,baz=144,slow=5.8,SNR=17
SONM LR LR 15 04 29.3
comp=Z,523nm,19.6s,baz=123,slow=36
SONM PKP2ab 15 08 00.8
comp=Z,1.2nm,0.8s,baz=306,slow=0.6,SNR=6.2
SONM Songino Array 60.51 333 P **P** **14 38 16.7 -1.9**
SONM pmax pmax
comp=Z,27nm,1.3s
SONM Songino Array 60.51 333 P **P** **14 38 16.7 -1.9**
SONM IAmb IAmb 14 38 21.5
comp=Z,27nm,1.3s
TAPN Taplejung 61.46 304 *e*P **P** **14 38 26.7 +1.0**
comp=Z,47nm,0.8s
SHEM Shemya Is, Ala 62.22 21 LR LR 15 02 01.4
comp=Z,464nm,19.5s,baz=230,slow=33
RAMN Ramite 62.24 303 *e*P **P** **14 38 32.0 +1.1**
comp=Z,29nm,0.5s
PALK Pallekele 62.94 280 LR LR 15 07 44.8
comp=Z,138nm,21.7s,baz=210,slow=38
GUN Gumba 63.18 304 *e*P **P** **14 38 38.3 +1.1**
PKI Pulchoki 63.45 303 *e*P **P** **14 38 39.7 +0.7**
PKIN Phulchoki 63.47 303 *e*P **P** **14 38 39.5 +0.5**
MA2 Magadan 63.51 5 P **P** **14 38 38.2 0.0**
comp=Z,33nm,0.7s,baz=172,slow=5.7,SNR=32
MA2 Magadan 63.51 5 *ce*P **P** **14 38 38.7 +0.4**
MA2 pmax pmax
comp=Z,54nm,0.8s
MA2 Magadan 63.51 5 P **P** **14 38 39.0 +0.7**
MA2 Magadan 63.51 5 P **P** **14 38 38.9 +0.6**
MA2 X 14 38 44.6
MA2 pP **pP** **14 38 50.7 -0.1**
MA2 pwP **sP** **14 38 54.4 -1.3**
MA2 sP PcP 14 38 56.8 -18
KKN Kakani 63.64 303 *e*P **P** **14 38 40.9 +0.8**
comp=Z,83nm,0.9s
DMN Daman 63.72 303 *e*P **P** **14 38 41.8 +1.1**
comp=Z,57nm,0.6s
ZAK Zakamensk 63.76 333 *e*P **P** **14 38 41.3 +1.0**
ZAK pmax pmax
comp=Z,65nm,1.4s
GKN Gorkha 64.24 303 *e*P **P** **14 38 44.9 +0.9**
KOLN Koldanda 65.03 303 *e*P **P** **14 38 50.1 +0.9**
KIWB Kanaga Island 65.04 26 P **P** **14 38 49.6 +1.1**
DANN Dangsing 65.09 304 *e*P **P** **14 38 50.4 +0.7**
comp=Z,75nm,0.8s
ADK Adak 65.27 26 P **P** **14 38 50.4 +0.5**
ADK pmax pmax
comp=Z,129nm,1.5s
ADK Adak 65.27 26 P **P** **14 38 50.4 +0.5**
ADK Adak 65.27 26 P **P** **14 38 50.5 +0.5**
ADK pP **pP** **14 39 02.6 +0.1**
PYUN Piuthan 65.65 303 *e*P **P** **14 38 53.9 +0.7**
BOD Bodaibo 65.66 344 *e*P **P** **14 38 52.3 0.0**
BOD pmax pmax
comp=Z,56nm,1.6s
MOY Mondy 65.70 333 *e*P **P** **14 38 54.1 +1.2**
MOY pmax pmax
comp=Z,87nm,1.8s
CASY Casey 66.32 194 P **P** **14 38 56.2 -0.3**
CASY pP **pP** **14 39 07.7 -1.3**
CASY sP **sP** **14 39 15.1 +1.3**
YAK Yakutsk 66.42 353 P **P** **14 38 57.8 +0.6**
comp=Z,27nm,0.9s,baz=124,slow=2.3,SNR=22
YAK LR LR 15 06 26.6
comp=Z,358nm,20.3s,baz=133,slow=34
YAK Yakutsk 66.42 353 *d iP* **P** **14 38 57.7 +0.6**
YAK *e* 14 39 25.7
YAK *e* 14 41 22.3
YAK *e*S **S** **14 47 46.1 +2.0**
YAK *e**SS **sS** **14 48 04.1 -0.9**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=Z,12nm,0.9s
YAK smax smax
comp=E,44nm,2.9s
YAK Yakutsk 66.42 353 P **P** **14 38 57.8 +0.6**
HYBB Hyderabad (bro 66.78 291 *e*P **P** **14 39 00.0 -0.4**
HYBB *es*P **sP** **14 39 14.8 -3.0**
HYBB *e*S **S** **14 47 49.1 -1.1**
SEY Seymchan 66.96 5 P **P** **14 39 01.4 +0.8**
comp=E,21nm,0.8s,baz=180,slow=5.2,SNR=82
SEY LR LR 15 05 50.1
comp=E,257nm,21.6s,baz=208,slow=34
SEY Seymchan 66.96 5 *ce*P **P** **14 39 01.0 +0.4**
SEY pmax pmax
comp=Z,65nm,1.7s
PCHI Peechi 67.67 283 *e*P **P** **14 39 06.8 +0.7**
PCHI *e*S **S** **14 48 02.6 +1.7**
TBI Tubuai 68.07 114 *e*S S 14 48 18.9 +14
comp=Z,334nm,28.5s
WMQ Urumqi 68.43 320 *e*P **P** **14 39 11.3 +0.9**
WMQ PcP **PcP** **14 39 36.9 +1.4**
WMQ S **S** **14 48 11.9 +2.8**
WMQ pmax pmax
comp=Z,34nm,1.3s
WMQ pmax pmax
comp=Z,140nm,3.7s
WMQ LR LR
comp=Z,140nm,14.9s
WMQ LR LR
comp=Z,240nm,20.7s
WMQ LR LR
comp=Z,180nm,20.7s
UNV Unalaska Valle 71.25 29 P **P** **14 39 27.6 +0.3**
UNV Unalaska Valle 71.25 29 P **P** **14 39 26.5 -0.8**
baz=235
POO Poona 71.39 291 *ex* x 14 39 35.0

SPIA Saint Paul Isl 71.60 25 P **P** **14 39 27.8 -1.6**
baz=230
ZSN Zaisan 71.88 323 *e*P **P** **14 39 30.6 -0.7**
ZSN *i* S **S** **14 48 47.5 -1.7**
ZSN Zaisan 71.88 323 *e*P **P** **14 39 30.7 -0.7**
baz=323
ZSN *i* S **S** **14 48 47.5 -1.7**
baz=323
MK31 Makanchi Array 73.17 321 P **P** **14 39 39.1 0.0**
MK31 pmax pmax
comp=Z,18nm,1.0s
MK31 Makanchi Array 73.17 321 P **P** **14 39 39.1 0.0**
MKAR Makanchi Array 73.17 321 P **P** **14 39 39.9 +0.8**
comp=Z,15nm,0.6s,baz=108,slow=7.8,SNR=102
MKAR LR LR 15 10 25.4
comp=Z,222nm,21.7s,baz=102,slow=35
MAKZ Makanchi 73.37 321 P **P** **14 39 41.1 +0.8**
MAKZ pmax pmax
comp=Z,30nm,0.7s
MAKZ Makanchi 73.37 321 P **P** **14 39 41.0 +0.8**
MAKZ IAmb IAmb 14 39 42.6
comp=Z,30nm,0.7s
BILL Bilibino 73.55 9 *c iP* **P** **14 39 41.2 +0.4**
BILL *e* 14 42 23.4
BILL *e*PPP PPP 14 44 12.3
BILL *e*S SKSac 14 49 32.9 -11
BILL *e*SS **SS** **14 53 52.9 +1.8**
BILL pmax pmax
comp=Z,20nm,1.2s
BILL MLR MLR
comp=Z,110nm,20.0s
BILL Bilibino 73.55 9 P **P** **14 39 40.7 -0.1**
SHLS Shalkode 73.58 317 *e*P **P** **14 39 38.9 -2.8**
SHLS Shalkode 73.58 317 *e*P **P** **14 39 39.0 -2.8**
baz=317
PDGK Podgornoye 73.63 317 P **P** **14 39 41.6 -0.4**
UZB Uzynbulak 73.88 317 *e*P **P** **14 39 42.6 -0.9**
UZB pmax pmax
comp=Z,28nm,1.4s
UZB Uzynbulak 73.88 317 *e*P **P** **14 39 42.6 -0.9**
comp=Z,28nm,1.4s,baz=317
KPKS Kokpek 74.22 317 *e*P **P** **14 39 44.7 -0.7**
KPKS pmax pmax
comp=Z,30nm,1.5s
KPKS Kokpek 74.22 317 *e*P **P** **14 39 44.8 -0.7**
comp=Z,30nm,1.5s,baz=317
SATY Saty 74.27 317 *e*P **P** **14 39 45.0 -0.7**
SATY pmax pmax
comp=Z,26nm,1.6s
SATY Saty 74.27 317 *e*P **P** **14 39 45.1 -0.7**
comp=Z,26nm,1.6s,baz=317
ZHN Zhinishke 74.29 317 *e*P **P** **14 39 45.3 -0.5**
ZHN Zhinishke 74.29 317 *e*P **P** **14 39 45.4 -0.5**
baz=317
VNDA Vanda 74.36 176 P **P** **14 39 45.0 -0.5**
comp=Z,1.6nm,0.9s,baz=321,slow=6.6,SNR=9.0
VNDA LR LR 15 12 04.5
comp=Z,457nm,18.6s,baz=346,slow=35
VNDA Vanda 74.36 176 P **P** **14 39 45.5 0.0**
VNDA pmax pmax
comp=Z,40nm,1.5s
VNDA Vanda 74.36 176 P **P** **14 39 45.5 0.0**
VNDA IAmb IAmb 14 39 58.2
comp=Z,40nm,1.4s
KSH Kashi 74.82 313 P **P** **14 39 51.1 +2.1**
KSH PcP **PcP** **14 40 03.6 +0.7**
KSH pP sP 14 40 07.3 +0.7
KSH PP **PP** **14 42 37.3 +0.4**
KSH S **SKiKP** **14 49 14.4 +3.7**
KSH SKS **SKSac** **14 49 46.8 -7.8**
KSH pmax pmax
comp=Z,16nm,1.8s
KSH LR LR
comp=Z,2μm,21.3s
KSH LR LR
comp=Z,650nm,21.3s
KSH LR LR
comp=Z,450nm,22.7s
ZAA0 Zalesovo Array 74.96 329 P **P** **14 39 48.0 -1.4**
ZALV Zalesovo Beam 74.96 329 P **P** **14 39 49.0 -0.3**
comp=Z,7.8nm,0.6s,baz=110,slow=5.6,SNR=32
ZALV LR LR 15 11 43.9
comp=Z,371nm,21.6s,baz=124,slow=35
ZALV Zalesovo Beam 74.96 329 *i* P **P** **14 39 49.0 -0.3**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
SDPT Sand Point 75.02 30 P **P** **14 39 45.8 -3.8**
baz=240
MDOK Medeo 75.24 316 P **P** **14 39 51.7 +0.3**
MDOK Medeo 75.24 316 *e*P **P** **14 39 50.4 -1.0**
baz=316
NIL Nilore 75.26 306 P **P** **14 39 51.1 -0.5**
NIL pmax pmax
comp=Z,46nm,0.8s
NIL Nilore 75.26 306 P **P** **14 39 51.1 -0.5**
TNSS Tian-Shan 75.26 316 *e*P **P** **14 39 51.9 +0.1**
TNSS Tian-Shan 75.26 316 *e*P **P** **14 39 51.9 +0.1**
baz=316
AAA Alma-Ata 75.34 316 *e*P **P** **14 39 51.4 -0.5**
AAA pmax pmax
comp=Z,19nm,0.6s
AAA Alma-Ata 75.34 316 *e*P **P** **14 39 51.5 -0.5**
comp=Z,19nm,0.6s,baz=316
GAMB Gambell 75.43 19 P **P** **14 39 48.7 -3.0**
baz=227
BOOM Boomskoye usch 75.78 315 P **P** **14 39 55.1 +0.6**
BOOM pmax pmax
comp=Z,16nm,0.7s
BOOM Boomskoye usch 75.78 315 P **P** **14 39 55.1 +0.6**
TIXI Tiksi 75.87 355 LR LR 15 14 47.1
comp=Z,176nm,18.9s,baz=181,slow=37
TIXI Tiksi 75.87 355 *ce*P **P** **14 39 54.0 -0.1**
TIXI pmax pmax
comp=Z,28nm,2.3s
TIXI Tiksi 75.87 355 P **P** **14 39 53.7 -0.4**
SEM Semipalatinsk 75.90 324 *e*P **P** **14 39 53.5 -1.6**
SEM Semipalatinsk 75.90 324 *e*P **P** **14 39 53.6 -1.6**
baz=324
KUU Kurty 75.97 317 *e*P **P** **14 39 53.8 -1.5**
KUU pmax pmax
comp=Z,40nm,1.5s
KUU Kurty 75.97 317 *e*P **P** **14 39 53.9 -1.5**
comp=Z,40nm,1.5s,baz=317
TKM2 Tokmak 2 76.16 316 P **P** **14 39 57.3 +0.6**
SNR=14
TKM2 Tokmak 2 76.16 316 P **P** **14 39 57.0 +0.3**
UCH Uchtor 76.70 315 P **P** **14 40 01.5 +1.4**
SNR=22
CHMS Chumysh 76.78 316 P **P** **14 40 00.7 +0.7**
SNR=9.5
AAK Ala-Archa 76.84 315 P **P** **14 40 01.5 +1.0**
SNR=8.7
AAK Ala-Archa 76.84 315 LR LR 15 13 11.4
comp=Z,215nm,22.0s,baz=99,slow=35
AAK Ala-Archa 76.84 315 *ce*P **P** **14 40 01.3 +0.8**
AAK pmax pmax
comp=Z,17nm,1.3s
KURK Kurchatov 76.98 324 *ce*P **P** **14 40 01.0 +0.1**
KURK pmax pmax
comp=Z,33nm,1.1s
KURK Kurchatov 76.98 324 P **P** **14 40 00.6 -0.2**
KURK IAmb IAmb 14 40 03.5
comp=Z,28nm,1.1s
KURBB Kurchatov Arra 77.00 324 P **P** **14 40 00.3 -0.7**
SGDS Sogindy 77.00 316 *e*P **P** **14 39 59.6 -1.7**
SGDS Sogindy 77.00 316 *e*P **P** **14 39 59.6 -1.7**
baz=316
USP Ospenovka 77.03 316 P **P** **14 40 02.2 +0.8**
SNR=24
AML Almayashu 77.26 315 P **P** **14 40 04.4 +1.2**
SNR=21
EKS2 Erkin-Say 77.36 315 P **P** **14 40 04.5 +1.2**
SNR=21
CHIR Chirikof Islan 77.67 31 P **P** **14 40 02.1 -2.5**
baz=244
TNA Tin City 77.83 19 P **P** **14 40 06.0 +0.7**
TNA Tin City 77.83 19 P **P** **14 40 02.1 -3.2**
baz=231
BTLS Baital 77.89 317 *e*P **P** **14 40 05.2 -0.9**
BTLS pmax pmax
comp=Z,21nm,1.4s
BTLS Baital 77.89 317 *e*P **P** **14 40 05.2 -0.9**
comp=Z,21nm,1.4s,baz=318
ANM Nome 78.06 20 P **P** **14 40 05.1 -1.6**
ANM pmax pmax
comp=Z,16nm,1.0s

ANM Nome 78.06 20 P **P** **14 40 05.1 -1.6**
ANM Nome 78.06 20 P **P** **14 40 03.2 -3.5**
baz=233
SII Sitkinak Islan 78.71 30 P **P** **14 40 05.9 -4.6**
baz=245
GAR Garm 78.89 311 P **P** **14 40 10.7 -1.3**
DZA Taraz 79.15 315 *e*P **P** **14 40 12.1 -1.0**
DZA pmax pmax
comp=Z,23nm,1.6s
DZA Taraz 79.15 315 *e*P **P** **14 40 12.2 -1.0**
comp=Z,23nm,1.6s,baz=315
OHAK Old Harbor 79.44 30 P **P** **14 40 13.9 -0.4**
OHAK IAmb IAmb 14 40 17.0
comp=Z,35nm,0.8s
OHAK Old Harbor 79.44 30 P **P** **14 40 09.8 -4.5**
baz=246
P18K Big Mountain, 79.44 27 P **P** **14 40 12.4 -2.0**
baz=244
O18K Koktuh Hills 79.66 27 P **P** **14 40 15.4 -0.1**
O18K Koktuh Hills 79.66 27 P **P** **14 40 13.2 -2.3**
baz=244
CHGR Chuyangaron 79.69 310 P **P** **14 40 16.2 -0.1**
CHGR IAmb IAmb 14 40 19.0
comp=Z,27nm,0.7s
N18K Kilae Creek 79.73 26 P **P** **14 40 16.8 +0.9**
N18K Kilae Creek 79.73 26 P **P** **14 40 14.5 -1.4**
baz=243
KK31 Karatay Array 79.78 315 *i* P **P** **14 40 16.8 +0.2**
KKAR Karatay Array 79.78 315 P **P** **14 40 17.1 +0.5**
KKAR Karatay Array 79.78 315 P **P** **14 40 17.1 +0.5**
IUG Iuzhnay 79.88 314 *e*P **P** **14 40 16.6 -0.7**
IUG Iuzhnay 79.88 314 *e*P **P** **14 40 16.6 -0.7**
baz=314
Q19K Cape Douglas, 79.97 28 P **P** **14 40 16.9 -0.4**
Q19K IAmb IAmb 14 40 18.6
comp=Z,34nm,0.8s
Q19K Cape Douglas, 79.97 28 P **P** **14 40 15.7 -1.6**
baz=245
OTUK Ortayu 79.98 320 P **P** **14 40 17.6 0.0**
KDAK Kodiak Island 80.01 29 P **P** **14 40 17.4 0.0**
comp=Z,17nm,0.8s,baz=209,slow=14,SNR=7.7
KDAK LR LR 15 13 59.1
comp=Z,307nm,18.8s,baz=265,slow=34
KDAK Kodiak Island 80.01 29 P **P** **14 40 18.5 +1.0**
KDAK pmax pmax
comp=Z,62nm,1.2s
KDAK Kodiak Island 80.01 29 P **P** **14 40 18.5 +1.0**
KDAK IAmb IAmb 14 40 41.0
comp=Z,62nm,1.2s
KDAK Kodiak Island 80.01 29 P **P** **14 40 16.0 -1.4**
baz=246
SVW2 Sparrevohn 80.05 26 P **P** **14 40 18.9 +1.2**
SVW2 IAmb IAmb 14 40 21.0
comp=Z,22nm,0.8s
O19K Port Alsworth 80.21 27 P **P** **14 40 16.2 -2.3**
baz=244
BRZS Berezniki 80.29 322 *e*P **P** **14 40 17.4 -1.8**
BRZS Berezniki 80.29 322 *e*P **P** **14 40 17.4 -1.8**
baz=322
N19K Bonanza Creek 80.40 26 P **P** **14 40 20.3 +0.7**
N19K IAmb IAmb 14 40 22.1
comp=Z,39nm,0.8s
N19K Bonanza Creek 80.40 26 P **P** **14 40 16.7 -3.0**
baz=244
P19K Oil Pt 80.47 28 P **P** **14 40 20.0 +0.1**
P19K Oil Pt 80.47 28 P **P** **14 40 19.0 -1.0**
baz=245
TTA Tatalina 80.72 24 P **P** **14 40 21.3 +0.1**
TTA pmax pmax
comp=Z,18nm,1.1s
TTA Tatalina 80.72 24 P **P** **14 40 21.3 +0.1**
TTA Tatalina 80.72 24 P **P** **14 40 19.2 -2.1**
baz=242,SNR=11
L19K White Mountain 80.85 25 P **P** **14 40 22.8 +0.9**
L19K IAmb IAmb 14 40 25.0
comp=Z,25nm,0.8s
L19K White Mountain 80.85 25 P **P** **14 40 20.3 -1.7**
baz=244,SNR=17
M19K Big River Lodg 80.92 25 P **P** **14 40 23.3 +1.0**
O20K Slope Mountain 80.93 27 P **P** **14 40 21.5 -1.0**
baz=246
HOM Homer 81.21 28 P **P** **14 40 23.9 +0.1**
HOM Homer 81.21 28 P **P** **14 40 24.0 +0.1**
baz=247
GCSA Galena City Sc 81.24 22 P **P** **14 40 24.3 +0.5**
baz=241,SNR=26
CNPM China Poot 81.35 28 P **P** **14 40 24.9 +0.2**
L20K Farewell, AK 81.39 25 P **P** **14 40 24.4 -0.4**
baz=244,SNR=9.8
SPCR Spurr Chakacha 81.57 26 P **P** **14 40 25.4 -0.5**
baz=246
BRLK Bradley Lake 81.61 28 P **P** **14 40 26.1 +0.1**
BRLK IAmb IAmb 14 40 27.3
comp=Z,17nm,0.8s
BRSE Bradley Lake S 81.67 28 P **P** **14 40 25.3 -1.0**
baz=248
K20K Telida 81.69 24 P **P** **14 40 27.4 +1.1**
K20K IAmb IAmb 14 40 29.1
comp=Z,29nm,0.8s
K20K Telida 81.69 24 P **P** **14 40 25.2 -1.2**
baz=244,SNR=26
CAPN Captain Cook N 81.87 27 P **P** **14 40 26.8 -0.5**
baz=247
NRIK Noril'sk 81.94 343 P **P** **14 40 27.9 +0.3**
comp=Z,27nm,0.9s,baz=124,slow=5.5,SNR=34
NRIK LR LR 15 14 58.9
comp=Z,490nm,21.9s,baz=128,slow=34
NRIK Noril'sk 81.94 343 *ce*P **P** **14 40 27.8 +0.3**
NRIK pmax pmax
comp=Z,42nm,1.0s
J20K Nowinta River 82.03 23 P **P** **14 40 29.1 +1.0**
J20K IAmb IAmb 14 40 30.8
comp=Z,25nm,0.8s
J20K Nowinta River 82.03 23 P **P** **14 40 28.6 +0.5**
baz=244,SNR=21
PPLA Purkeypile 82.27 25 P **P** **14 40 29.4 -0.2**
PPLA Purkeypile 82.27 25 P **P** **14 40 29.4 -0.2**
baz=246
SEW Seward 82.40 28 P **P** **14 40 29.5 -0.6**
SEW IAmb IAmb 14 40 31.7
comp=Z,24nm,0.9s
SEW Seward 82.40 28 P **P** **14 40 30.0 -0.1**
baz=249
O22K Cooper Landing 82.42 27 P **P** **14 40 30.0 -0.1**
baz=248
CAST Castle Rocks 82.53 24 P **P** **14 40 30.6 -0.2**
CAST IAmb IAmb 14 40 32.3
comp=Z,18nm,0.8s
CAST Castle Rocks 82.53 24 P **P** **14 40 29.8 -1.0**
baz=246,SNR=16
BRVK Borovoye 82.63 325 *ce*P **P** **14 40 32.1 +0.6**
BRVK pmax pmax
comp=Z,60nm,1.8s
BRVK Borovoye 82.63 325 P **P** **14 40 32.0 +0.6**
CHUM Lake Minchumin 82.63 24 P **P** **14 40 31.1 -0.1**
baz=246,SNR=58
RC01 Rabbit Creek A 82.64 27 P **P** **14 40 30.7 -0.6**
RC01 Rabbit Creek A 82.64 27 P **P** **14 40 30.3 -1.0**
baz=248,SNR=13
MAW Mawson 82.66 202 P **P** **14 40 30.7 -0.6**
comp=Z,3.9nm,0.8s,baz=51,slow=5.6,SNR=6.6
MAW LR LR 15 15 53.2
comp=Z,218nm,18.2s,baz=74,slow=35
MAW Mawson 82.66 202 P **P** **14 40 30.8 -0.5**
baz=83,SNR=7.3
MAW Mawson 82.66 202 P **P** **14 40 31.4 +0.1**
MAW pmax pmax
comp=Z,16nm,1.3s
MAW Mawson 82.66 202 P **P** **14 40 31.4 +0.1**
M22K Willow 82.71 26 P **P** **14 40 30.8 -0.9**
baz=248,SNR=9.9
CUT Chulitna 82.89 26 P **P** **14 40 31.4 -1.2**
baz=248,SNR=6.4
IMAR Indian Mountai 82.97 22 P **P** **14 40 32.9 -0.1**
KTH Kantishna Hill 83.06 24 P **P** **14 40 33.2 -0.4**
KTH IAmb IAmb 14 40 35.1
comp=Z,17nm,0.9s
PMR Palmer 83.09 27 P **P** **14 40 33.6 0.0**
PMR pmax pmax
comp=Z,17nm,0.9s
PMR Palmer 83.09 27 P **P** **14 40 33.6 0.0**
PMR Palmer 83.09 27 P **P** **14 40 32.4 -1.2**
baz=249,SNR=9.2
H21K Melozitna Rive 83.18 22 P **P** **14 40 34.3 +0.2**
H21K Melozitna Rive 83.18 22 P **P** **14 40 34.7 +0.6**
baz=245,SNR=8.7

PWL Port Wells 83.19 27 P P 14 40 34.1 -0.1
PWL Port Wells 83.19 27 P P 14 40 33.1 -1.1
baz=250
GHO Glory Hole Cre 83.25 26 P P 14 40 34.5 -0.1
GHO IAmb IAmb 14 40 36.5
comp=Z,27nm,1.1s
BPAW Bear Paw Mtn. 83.25 24 P P 14 40 34.7 +0.2
BPAW Bear Paw Mtn. 83.25 24 P P 14 40 34.3 -0.2
baz=247,SNR=8.9
TRF Thorofare Moun 83.29 25 P P 14 40 34.5 -0.4
TRF Thorofare Moun 83.29 25 P P 14 40 34.0 -0.9
baz=248,SNR=10
I21K Tanana 83.30 23 P P 14 40 35.4 +0.8
baz=246,SNR=6.4
KNK Knik Glacier 83.33 27 P P 14 40 34.4 -0.5
KNK IAmb IAmb 14 41 03.7
comp=Z,32nm,1.0s
KNK Knik Glacier 83.33 27 P P 14 40 34.2 -0.7
baz=250,SNR=12
SML Sawmill 83.52 26 P P 14 40 35.8 -0.1
SML Sawmill 83.52 26 P P 14 40 35.6 -0.4
baz=250,SNR=20
Q23K Middleton Isla 83.65 29 P P 14 40 36.4 -0.1
baz=252
GLI Glacier Island 83.77 28 P P 14 40 37.0 -0.2
GLI Glacier Island 83.77 28 P P 14 40 36.4 -0.8
baz=251,SNR=9.2
WAT1 Susitna Watana 83.79 25 P P 14 40 36.6 -0.7
baz=249
RND Reindeer 83.87 25 P P 14 40 37.1 -0.6
RND pmax pmax
comp=Z,34nm,0.8s
RND Reindeer 83.87 25 P P 14 40 37.1 -0.6
MCK McKinley 83.95 25 P P 14 40 37.6 -0.5
MCK pmax pmax
comp=Z,27nm,0.8s
MCK McKinley 83.95 25 P P 14 40 37.6 -0.5
MCK IAmb IAmb 14 40 39.1
comp=Z,27nm,0.8s
MCK McKinley 83.95 25 P P 14 40 37.2 -0.9
baz=249,SNR=18
SCM Sheep Creek Mo 83.98 27 P P 14 40 37.3 -1.0
SCM pmax pmax
comp=Z,23nm,0.8s
SCM Sheep Creek Mo 83.98 27 P P 14 40 37.3 -1.0
SCM IAmb IAmb 14 40 40.1
comp=Z,23nm,0.8s
SCM Sheep Creek Mo 83.98 27 P P 14 40 37.9 -0.5
baz=250,SNR=11
FID Port Fidalgo 84.01 28 P P 14 40 38.1 -0.3
FID IAmb IAmb 14 40 50.9
comp=Z,25nm,1.0s
WAT6 Susitna Watana 84.05 26 P P 14 40 36.8 -2.0
baz=250,SNR=9.0
NEA2 Nenana 84.21 24 P P 14 40 37.0 -2.3
baz=249
EYAK Cordova Ski Ar 84.29 28 P P 14 40 39.1 -0.7
baz=252
I23K Minto, Yukon-K 84.30 23 P P 14 40 40.2 +0.4
I23K Minto, Yukon-K 84.30 23 P P 14 40 39.3 -0.5
baz=248,SNR=11
DHY Denali Highway 84.38 25 P P 14 40 40.5 +0.1
DHY IAmb IAmb 14 40 42.5
comp=Z,28nm,0.8s
DHY Denali Highway 84.38 25 P P 14 40 39.3 -1.1
baz=250,SNR=34
H23K Yukon River 84.48 22 P P 14 40 41.5 +0.7
H23K Yukon River 84.48 22 P P 14 40 41.1 +0.4
baz=248,SNR=15
KLU Klutina 84.50 27 P P 14 40 41.3 +0.3
KLU IAmb IAmb 14 40 56.4
comp=Z,23nm,1.1s
KLU Klutina 84.50 27 P P 14 40 38.8 -2.2
baz=252,SNR=13
WRH Wood River Hil 84.56 24 P P 14 40 40.5 -0.7
WRH IAmb IAmb 14 40 42.0
comp=Z,20nm,0.8s
M24K Tolsona, Glenn 84.58 27 P P 14 40 41.4 +0.1
M24K Tolsona, Glenn 84.58 27 P P 14 40 40.6 -0.7
baz=252,SNR=9.5
KAIM Kayak Island 84.73 29 P P 14 40 42.0 -0.1
baz=253
CCB Clear Creek Bu 84.74 24 P P 14 40 41.2 -0.8
COLD Coldfoot 84.78 21 P P 14 40 42.7 +0.6
baz=247,SNR=8.6
TCOL CIGO, UAF Yank 84.80 24 P P 14 40 40.2 -2.0
baz=250,SNR=5.2
COLA College 84.80 24 P P 14 40 40.8 -1.4
baz=250
HMT Hamilton 84.93 29 P P 14 40 42.0 -1.1
BMRM Bremner River 84.95 28 P P 14 40 42.9 -0.3
BMRM IAmb IAmb 14 40 45.6
comp=Z,23nm,1.0s
BMRM Bremner River 84.95 28 P P 14 40 43.0 -0.3
baz=253,SNR=8.5
POKR Poker Plat Res 85.05 23 P P 14 40 42.1 -1.5
baz=250
H24K Noodor Dome 85.13 23 P P 14 40 44.1 +0.1
H24K IAmb IAmb 14 40 46.0
comp=Z,12nm,0.7s
H24K Noodor Dome 85.13 23 P P 14 40 43.9 -0.1
baz=250,SNR=21
HARP HAARP 85.13 26 P P 14 40 43.4 -0.7
baz=252
N25K Chitina, Valde 85.14 27 P P 14 40 44.5 +0.2
IL31 85.16 24 P P 14 40 42.8 -1.2
ILAR Eielson Array 85.16 24 P P 14 40 42.6 -1.5
comp=Z,20nm,0.7s,baz=257,slow=4.8,SNR=125
ILAR LR LR 15 14 47.9
comp=Z,240nm,20.9s,baz=179,slow=33
ILAR Eielson Array 85.16 24 P P 14 40 43.0 -1.1
ILAR Eielson Array 85.16 24 P P 14 40 43.0 -1.1
PAX Paxson 85.17 26 P P 14 40 44.2 -0.1
PAX pmax pmax
comp=Z,23nm,1.4s
PAX Paxson 85.17 26 P P 14 40 44.2 -0.1
PAX IAmb IAmb 14 40 46.0
comp=Z,23nm,1.4s
PAX Paxson 85.17 26 P P 14 40 44.0 -0.3
baz=252,SNR=8.9
BERG Berg Lake 85.21 29 P P 14 40 44.9 +0.4
K24K Donnelly Dome 85.30 25 P P 14 40 44.0 -0.9
baz=252
GLB Gilahina Butte 85.46 28 P P 14 40 46.0 +0.2
GLB IAmb IAmb 14 40 48.0
comp=Z,19nm,0.8s
TOLK Toolik Lake Re 85.54 20 P P 14 40 46.8 +0.8
TOLK IAmb IAmb 14 41 04.3
comp=Z,20nm,0.9s
TOLK Toolik Lake Re 85.54 20 P P 14 40 46.2 +0.2
baz=248
VRDI Verde Repeater 85.56 28 P P 14 40 46.4 -0.1
VRDI IAmb IAmb 14 40 48.1
comp=Z,12nm,0.8s
SNH Sunshine Point 85.57 29 P P 14 40 46.8 +0.5
WAX Waxell Ridge 85.63 29 P P 14 40 47.2 +0.6
RIDG Independent Ri 85.67 25 P P 14 40 46.8 0.0
RIDG IAmb IAmb 14 40 59.3
comp=Z,19nm,1.0s
RIDG Independent Ri 85.67 25 P P 14 40 46.5 -0.3
baz=252,SNR=12
J25K Salcha River, 85.72 24 P P 14 40 46.5 -0.5
J25K IAmb IAmb 14 40 48.2
comp=Z,18nm,0.8s
TGL Tana Glacier 85.72 28 P P 14 40 47.0 -0.2
TGL IAmb IAmb 14 40 49.1
comp=Z,20nm,0.9s
MCARA McCarthy VSAT 85.80 28 P P 14 40 47.2 -0.2
baz=254
MENT Mentasta 85.92 26 P P 14 40 47.9 -0.1
DOT Dot Lake 85.98 25 P P 14 40 48.4 +0.2
DOT IAmb IAmb 14 41 00.9
comp=Z,20nm,1.1s
M26K Nabesna, AK 86.09 27 P P 14 40 49.1 +0.2
baz=254,SNR=5.2
SCRK Sand Creek 86.11 25 P P 14 40 48.9 -0.1
SCRK Sand Creek 86.11 25 P P 14 40 48.6 -0.4
baz=253,SNR=7.8
L26K Log Cabin Wild 86.11 26 P P 14 40 49.0 0.0
baz=254,SNR=9.9
WSAR Wadi Sarin 86.14 293 LR LR 15 20 54.2
comp=Z,91nm,21.8s,baz=118,slow=37
QSPA South Pole Qui 86.14 180 LR LR 15 19 55.7
comp=Z,1µm,19.3s,baz=3.0,slow=36
QSPA South Pole Qui 86.14 180 P P 14 40 48.5 -0.7
GRNC Granite Creek 86.23 28 P P 14 40 49.2 -0.6
GRNC IAmb IAmb 14 41 06.8
comp=Z,18nm,1.0s
J26L Joseph Creek 86.43 25 P P 14 40 50.6 +0.1
baz=254,SNR=12
CTG Chitna Glacier 86.48 28 P P 14 40 51.3 +0.3
baz=256,SNR=14
M27K Edge Creek, AK 86.58 27 P P 14 40 52.2 +0.7
M27K IAmb IAmb 14 40 53.7
comp=Z,21nm,0.8s
M27K Edge Creek, AK 86.58 27 P P 14 40 51.8 +0.4
baz=255,SNR=20
L27K Beaver Creek, 86.79 26 P P 14 40 52.7 +0.4
L27K IAmb IAmb 14 40 56.3
comp=Z,29nm,1.5s
L27K Beaver Creek, 86.79 26 P P 14 40 52.2 -0.1
baz=255,SNR=19
PCA Pinnacle 86.80 29 P P 14 40 52.2 -0.2
PCA IAmb IAmb 14 40 54.3
comp=Z,19nm,0.8s
BCAR Beaver Creek A 86.81 26 P P 14 40 52.9 +0.5
BMAR Burnt Mountain 86.89 22 P P 14 40 53.7 +1.0
BVCY Beaver Creek 87.06 27 P P 14 40 53.8 +0.2
baz=256,SNR=9.1
YUK3 Moose Creek 87.09 28 P P 14 40 52.4 -1.6
baz=257,SNR=12
PNL Peninsula 87.12 30 P P 14 40 53.6 -0.4
baz=258
EGAK Eagle 87.50 25 P P 14 40 56.3 +0.6
EGAK IAmb IAmb 14 40 57.6
comp=Z,15nm,0.8s
EGAK Eagle 87.50 25 P P 14 40 55.7 0.0
baz=256,SNR=13
YUK4 Talbot Arm 87.84 28 P P 14 40 57.7 +0.1
baz=258,SNR=8.4
YUK6 Outpost Mounta 87.89 29 P P 14 40 57.9 0.0
baz=258
DAWY Dawson 88.08 25 P P 14 40 58.7 +0.2
DAWY IAmb IAmb 14 41 00.8
comp=Z,17nm,0.9s
DAWY Dawson 88.08 25 P P 14 40 58.2 -0.3
baz=257,SNR=23
GEYT Alibeck 88.13 308 P P 14 40 59.3 0.0
comp=Z,7.3nm,0.9s,baz=101,slow=4.8,SNR=7.3
GEYT LR LR 15 21 49.6
comp=Z,208nm,21.4s,baz=102,slow=36
AB31 Akbulak array 88.20 319 *i* P P 14 40 58.3 -1.0
ABKAR Akbulak array 88.20 319 P P 14 40 58.3 -1.0
HYT Haines Junctio 88.28 29 P P 14 40 59.8 +0.2
baz=259,SNR=14
SIT Sitka 88.75 33 P P 14 41 00.8 -0.9
baz=261
I29M Ogilvie Camp, 88.81 24 P P 14 41 01.8 -0.1
baz=258
SVE Sverdlovsk 88.87 327 *e*P P 14 41 03.4 +1.1
SVE pmax pmax
comp=Z,21nm,1.5s
M30M Minto, Yukon 88.94 27 P P 14 41 02.6 0.0
M30M Minto, Yukon 88.94 27 P P 14 41 01.1 -1.5
baz=260,SNR=7.2
SKAG Skagway 89.12 30 P P 14 41 03.7 +0.3
baz=261
N31M Braeburn, Yuko 89.22 28 P P 14 41 02.8 -1.2
N31M Braeburn, Yuko 89.22 28 P P 14 41 02.7 -1.2
baz=261,SNR=5.1
WHY Whitehorse 89.53 29 P P 14 41 05.2 -0.3
baz=262
AKTO Aktyubinsk 89.58 320 LR LR 15 21 56.0
comp=Z,130nm,22.0s,baz=90,slow=36
AKTO Aktyubinsk 89.58 320 P P 14 41 03.8 -2.0
ARU Arti 89.96 326 LR LR 15 24 07.4
comp=Z,193nm,18.6s,baz=90,slow=37
ARU Arti 89.96 326 *c i*P P 14 41 06.7 -0.7
ARU *PP **sP** 14 41 22.8 -2.4
ARU 14 44 42.6
ARU S **SKSac** 14 51 32.5 -2.2
ARU SS **SS** 14 57 58.6 +3.2
ARU pmax pmax
comp=Z,21nm,1.7s
ARU MLR MLR
comp=Z,249nm,18.0s
M31M Drury Creek, Y 89.98 28 P P 14 41 05.9 -1.5
baz=262
WRAK Wrangell Islan 90.29 34 P P 14 41 07.3 -1.6
baz=264
FARO Faro, Yukon 90.47 28 P P 14 41 08.6 -1.1
baz=263
INK Inuvik 91.17 22 P P 14 41 12.2 -0.6
comp=Z,2.9nm,0.8s,baz=249,slow=8.0,SNR=6.0
INK LR LR 15 18 41.8
comp=Z,186nm,21.0s,baz=254,slow=33
INK Inuvik 91.17 22 P P 14 41 11.9 -0.8
baz=263
SYO Syowa Base 91.18 201 *e*pP pP 14 41 26.4 +0.6
SYO Syowa Base 91.18 201 *e*sP sP 14 41 31.0 +0.4
MMPY Sheldon Lake, 91.48 27 P P 14 41 13.0 -1.5
baz=265
DLBC Dease Lake 91.73 32 P P 14 41 13.7 -2.0
comp=Z,1.3nm,0.4s,baz=165,slow=7.8,SNR=3.4
DLBC LR LR 15 16 40.0
comp=Z,228nm,20.1s,baz=286,slow=32
BBB Bella Bella 92.42 38 LR LR 15 15 15.7
comp=Z,316nm,20.5s,baz=262,slow=30
TGTN Hyland Airport 92.81 29 P P 14 41 19.5 -1.1
baz=267
A36M Sachs Harbour 94.20 18 P P 14 41 25.6 -1.1
baz=271
C36M Paulatuk 94.65 21 P P 14 41 28.1 -0.7
baz=272
KIRV Kirov 95.00 328 LR LR 15 27 06.0
comp=Z,220nm,19.2s,baz=83,slow=37
L02E Cave Junction 95.20 48 P P 14 41 31.0 -1.0
baz=270
H04D Lebanon 95.83 46 P P 14 41 34.0 -0.8
baz=270
YBH Yreka Blue Hor 95.86 49 LR LR 15 15 52.5
comp=Z,174nm,21.9s,baz=289,slow=30
BELG Belogornoye 96.16 322 LR LR 15 28 51.8
comp=Z,112nm,18.2s,baz=67,slow=38
BELG Belogornoye 96.16 322 *i* P P 14 41 35.3 -0.7
BELG pmax pmax
comp=Z,4.0nm,0.9s
PRGR Permogore 96.75 332 *e*P P 14 41 36.1 -2.4
PRGR pmax pmax
comp=Z,8.0nm,1.1s
I05D Terrebonne, OR 96.84 46 P P 14 41 38.6 -0.8
baz=272
J05D Fort Rock, OR 96.94 47 P P 14 41 39.0 -1.1
baz=271
GNI Garni 98.61 310 LR LR 15 29 58.6
comp=Z,69nm,21.3s,baz=15,slow=38
YKA Yellowknife Ar 99.17 27 P **Pdif** 14 41 48.4 -1.0
comp=Z,1.1nm,0.8s,baz=277,slow=4.9,SNR=18
YKA PP **PP** 14 45 51.7 -0.5
comp=Z,0.9nm,0.8s,baz=275,slow=7.7,SNR=9.3
YKA LR LR 15 22 21.6
comp=Z,421nm,21.9s,baz=287,slow=33
YKA Yellowknife Ar 99.17 27 *ce*P **Pdif** 14 41 49.4 0.0
YKA pmax pmax
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 99.32 52 P **Pdif** 14 41 51.0 0.0
comp=Z,0.6nm,0.7s,baz=265,slow=5.9,SNR=4.6
NVAR LR LR 15 19 11.8
comp=Z,300nm,20.4s,baz=266,slow=31
NEW Newport 99.54 42 LR LR 15 23 26.3
comp=Z,93nm,18.5s,baz=289,slow=33
KLMR Klimovskoe 99.78 331 *e*P **Pdif** 14 41 49.1 -3.0
KLMR pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 99.78 331 *e*P **Pdif** 14 41 49.2 -2.9
KLMR AMP 14 42 00.4
comp=Z,12nm,1.2s
KBZ Khabaz 99.78 314 LR LR 15 31 04.8
comp=Z,107nm,20.1s,baz=59,slow=38
RES Resolute Bay 101.85 13 P **Pdif** 14 42 00.5 -0.5
comp=Z,2.4nm,0.9s,baz=343,slow=2.2,SNR=9.1
ARCES ARCESS Array B 102.87 341 Pdiff **Pdif** 14 42 05.5 -0.3
comp=Z,2.0nm,0.8s,baz=81,slow=9.1,SNR=5.0
ARCES PKiKP **PKiKP** 14 46 25.2 -0.7
comp=Z,1.6nm,0.8s,baz=0.0,slow=1.2,SNR=5.1
PDAR Pinedale Array 105.50 47 PKiKP **PKiKP** 14 46 31.3 -0.4
comp=Z,0.5nm,0.7s,baz=225,slow=2.4,SNR=5.3
FINES FINESS Array B 105.87 334 Pdiff **Pdif** 14 42 17.2 -2.0
comp=Z,1.7nm,0.8s,baz=114,slow=4.6,SNR=4.5
TXAR Lajitas Array 112.33 60 PKiKP **PKiKP** 14 46 44.4 -0.4
comp=Z,0.9nm,0.8s,baz=258,slow=0.7,SNR=12
TXAR PKKP **PKKPdf** 14 57 55.0 -0.5
comp=Z,0.5nm,0.9s,baz=96,slow=2.7,SNR=4.1

ECSD EROS Data Cent 114.42 43 P PKPdf 14 46 46.1 -2.1
baz=290
WMOK Wichita Mounta 115.37 53 P **PKiKP** 14 46 49.0 -1.4
baz=284
JCT Junction City 115.45 58 P **PKPdf** 14 46 48.8 -1.8
baz=281
EYMN Ely 116.12 37 P **PKPdf** 14 46 48.8 -2.6
baz=296
BSEG Bad Segeberg 116.85 331 *e*PKPdf **PKiKP** 14 46 53.2 +0.7
baz=61,slow=1.8
CONA Conrad Observa 116.88 323 *e*P **PKPdf** 14 46 52.9 0.0
comp=Z,1.9nm,0.5s
CLL Collm 116.89 327 *e*PS PS 14 57 49.0 +3.4
CLL *e*PPS PPS 14 58 57.0
CLL *e*SS SS 15 04 06.0 +0.3
CLL Lm MLR 15 40 00.0
comp=N,200nm,18.9s
CLL Lm MLR 15 40 00.0
comp=E,300nm,20.4s
CLL Lm MLR 15 40 00.0
comp=Z,400nm,19.5s
CLL Collm 116.89 327 *e*PKPdf **PKiKP** 14 46 53.3 +0.6
baz=61,slow=1.8
FBE Freiberg 116.90 327 *e*PKPdf **PKiKP** 14 46 53.3 +0.5
baz=61,slow=1.8
FLTG Flechtingen 117.28 329 *e*PKPdf **PKiKP** 14 46 53.8 +0.3
baz=61,slow=1.8
CKRC Cesky Krumlov 117.39 324 *e*PKPDF **PKiKP** 14 46 54.0 +0.2
NEUB Neuenburg 117.60 328 *e*PKPdf **PKiKP** 14 46 54.3 +0.2
baz=61,slow=1.8
TANN Tannenbergstha 117.64 327 *e*PKPdf **PKPdf** 14 46 54.2 -0.1
baz=61,slow=1.8
KHC Kasperske Hory 117.66 325 *e*PKIKP **PKPdf** 14 46 54.2 -0.2
KHC Kasperske Hory 117.66 325 *e*PKPDF **PKPdf** 14 46 54.2 -0.2
ASSE Asse, Remlinge 117.68 329 *e*PKPdf **PKiKP** 14 46 54.3 +0.2
baz=61,slow=1.8
WERD Werda 117.71 327 *e*PKPdf **PKPdf** 14 46 54.3 -0.1
baz=61,slow=1.8
GEC2 GERESS Array S 117.73 325 *e*PKPdf **PKPdf** 14 46 54.5 -0.2
baz=61,slow=1.8
GERES GERESS Array B 117.73 325 PKP **PKPdf** 14 46 54.4 -0.2
comp=Z,2.3nm,0.5s,baz=90,slow=2.9,SNR=15
GUNZ Gunzen 117.74 327 *e*PKPdf **PKiKP** 14 46 54.7 +0.2
baz=61,slow=1.8
WERN Wernitzgruen 117.75 327 *e*PKPdf **PKPdf** 14 46 54.5 0.0
baz=61,slow=1.8
NRDL Niedersach Rie 117.77 329 *e*PKPdf **PKiKP** 14 46 55.0 +0.7
baz=61,slow=1.8
MOA Molln 117.87 323 *e*P **PKPdf** 14 46 54.7 -0.1
comp=Z,2.6nm,0.7s
SOKA Soboth 117.95 322 *e*P **PKiKP** 14 46 55.3 +0.3
comp=Z,3.1nm,0.6s
MOX Moxa 117.98 327 *e*PKPdf **PKiKP** 14 46 55.1 +0.2
baz=61,slow=1.8
CLZ Clausthal 118.00 329 *e*PKPdf **PKiKP** 14 46 55.3 +0.4
baz=61,slow=1.8
WET Wettzell 118.05 325 *e*PKPdf **PKiKP** 14 46 55.3 +0.2
baz=61,slow=1.8
MANZ Manzenberg 118.06 326 *e*PKPdf **PKiKP** 14 46 55.3 +0.1
baz=61,slow=1.8
VNDS Vrh nad Dolski 118.41 322 *i* PKPdf **PKPdf** 14 46 55.8 -0.1
CRNS Crni Vrh 118.69 322 *i* PKPdf **PKPdf** 14 46 56.1 -0.3
GRF Grafenberg Arr 118.70 326 *e*PKPdf **PKiKP** 14 46 56.4 +0.1
baz=61,slow=1.8
KBA Koelnbreinsper 118.79 323 *e*P **PKPdf** 14 46 55.8 -0.9
comp=Z,3.3nm,0.5s
RJOB Jochberg 118.80 324 *e*PKPdf **PKPdf** 14 46 56.5 -0.1
baz=61,slow=1.8
MYKA Terra Mystica 118.82 322 *e*P **PKPdf** 14 46 56.6 -0.1
comp=Z,3.3nm,0.6s
JFWS Jewell Farm 119.04 42 P **PKPdf** 14 46 55.4 -1.8
baz=294
IBBN Ibbenburen 119.06 330 *e*PKPdf **PKiKP** 14 46 57.4 +0.5
baz=61,slow=1.8
W39A Magazine 119.20 52 P **PKPdf** 14 46 56.8 -0.9
baz=288
KASTN Kahler Asten 119.37 329 *e*PKPdf **PKiKP** 14 46 57.7 +0.1
baz=61,slow=1.8
ABTA Abfaltersbach 119.45 323 *e*P **PKPdf** 14 46 57.4 -0.6
comp=Z,5.3nm,0.6s
U40A Yellville 119.56 50 P **PKPdf** 14 46 57.1 -1.3
baz=289
WATA Walderalm 119.71 324 *e*P **PKPdf** 14 46 58.1 -0.4
comp=Z,5.2nm,0.4s
WTTA Wattenberg 119.71 324 *e*P **PKPdf** 14 46 57.7 -0.8
comp=Z,7.5nm,0.5s
BUG Bochum--Univer 119.81 330 *e*PKPdf **PKiKP** 14 46 58.8 +0.4
baz=61,slow=1.8
MOTA Moosalm 119.98 324 *i* P **PKPdf** 14 46 58.8 -0.3
comp=Z,8.9nm,0.6s
SQTA Sankt Quirin 119.99 324 *e*P **PKPdf** 14 46 59.0 0.0
comp=Z,6.4nm,0.7s
RETA Reutte 120.11 324 *e*P **PKPdf** 14 46 58.9 -0.3
comp=Z,2.3nm,0.4s
CCM Cathedral Cave 120.20 48 PKIKP **PKPdf** 14 46 58.7 -0.8
CCM Cathedral Cave 120.20 48 PKPdf **PKPdf** 14 46 58.7 -0.8
CCM Cathedral Cave 120.20 48 P **PKPdf** 14 46 58.1 -1.4
baz=291
FETA Feichten 120.37 324 *i* P **PKPdf** 14 46 59.8 0.0
comp=Z,4.1nm,0.6s
UBR Ueberruh 120.39 325 *e*PKPdf **PKPdf** 14 46 59.3 -0.4
baz=61,slow=1.8
W41B Gary Mavity, V 120.41 51 P **PKPdf** 14 46 57.4 -2.6
baz=289
AHRW Bad Neuenahr-A 120.44 329 *e*PKPdf **PKPdf** 14 46 59.7 +0.1
baz=61,slow=1.8
DAVA Damuels 120.73 325 *e*P **PKPdf** 14 47 00.5 0.0
comp=Z,13nm,0.6s
DAVOX Davos/Dischmat 120.99 324 PKP **PKPdf** 14 47 00.6 -0.4
comp=Z,6.1nm,0.5s,baz=65,slow=1.7,SNR=14
BFO Black Forest 121.04 326 *e*PKPdf **PKPdf** 14 47 00.5 -0.4
baz=61,slow=1.8
E46A Sault Ste Mari 121.19 36 PKPdf **PKPdf** 14 47 00.5 -0.7
TUE Stuetta 121.47 324 PKPdf **PKiKP** 14 47 02.2 +0.1
BMRD Maredsous 121.76 330 *d*PKPdf **PKPdf** 14 47 02.1 0.0
EKA Eskdalemuir Ar 121.78 338 PKP **PKPdf** 14 47 01.2 -0.8
comp=Z,2.5nm,0.4s,baz=28,slow=2.5,SNR=15
SFIN Lafayette 122.25 44 P **PKPdf** 14 47 02.1 -1.2
baz=296
WVT Waverly 123.44 49 P **PKPdf** 14 47 04.3 -1.5
baz=293
O48B Farmland 123.63 43 P **PKPdf** 14 47 03.7 -2.3
baz=297
SCHQ Schefferville 123.75 20 PKP **PKPdf** 14 47 05.1 -0.8
comp=Z,6.3nm,0.7s,baz=27,slow=2.3,SNR=10
SCHQ Schefferville 123.75 20 **PKPdf** 14 47 05.8 -0.1
ACSO Alum Creek Sta 125.11 42 P **PKPdf** 14 47 07.4 -1.4
baz=299
LRAL Lakeview Retre 125.23 52 P **PKPdf** 14 47 07.9 -1.4
baz=291
P52A Corning 125.97 42 P **PKPdf** 14 47 08.9 -1.6
baz=300
M53A WI Miller and 126.01 40 P **PKPdf** 14 47 08.6 -2.0
baz=302
PLCA Paso Flores 126.19 149 PKP **PKPdf** 14 47 11.3 +0.2
comp=Z,3.5nm,0.7s,baz=252,slow=1.9,SNR=10
PLCA Paso Flores 126.19 149 *e*P **PKiKP** 14 47 16.9 +5.3
O53A New Philadelph 126.28 41 P **PKPdf** 14 47 07.9 -3.2
baz=301
LONY Lake Ozonia 127.76 33 P **PKPdf** 14 47 12.3 -1.6
baz=310
GOGA Godfrey 127.81 50 P **PKPdf** 14 47 12.6 -1.6
baz=294
SSPA Standing Stone 128.21 39 PKPdf **PKPdf** 14 47 14.6 -0.2
SSPA Standing Stone 128.21 39 P **PKPdf** 14 47 13.8 -1.0
baz=304
BLA Blacksburg 128.33 44 P **PKPdf** 14 47 14.6 -0.6
baz=300
BINY Binghamton 128.47 36 P **PKPdf** 14 47 13.1 -2.1
baz=307
KMSC Kings Mountain 128.66 47 P **PKPdf** 14 47 14.7 -1.1
baz=297
LBNH Lisbon 129.44 32 P **PKPdf** 14 47 16.6 -0.4
baz=313
ESDC Sonseca Array 133.32 324 PKP **PKPdf** 14 47 23.8 -0.8
comp=Z,1.1nm,0.7s,baz=12,slow=2.8,SNR=7.7
TORD Torodi Ar. Bea 140.49 286 PKhKP PKPpre 14 47 31.5
comp=Z,1.0nm,0.7s,baz=62,slow=3.1,SNR=5.8
YOTC Yotoco, Valle 140.94 88 *e*P PKPdf 14 47 30.4 -9.1
CBOC Ciudad Bolivar 141.28 85 *e*P **PKiKP** 14 47 42.4 -0.5
UREC San Jos de Ur 141.67 82 *e*P PKiKP 14 47 51.4 +7.9
ZARC Zaragoza, Cauc 142.35 83 *e*P **PKPdf** 14 47 36.1 -5.7
CPSB Cacapava Do Su 142.60 157 *e*P **PKiKP** 14 47 48.5 +3.5
ROSC El Rosal 142.97 87 PKP **PKPdf** 14 47 40.8 -2.7
comp=Z,11nm,0.5s,baz=158,slow=21,SNR=4.1
SPBC San Pablo de B 143.21 86 *e*P PKPab 14 47 37.1 -2.1
LPAZ La Paz 143.47 124 PKP PKPbc 14 47 42.3 +0.5

comp=Z,3.1nm,0.6s,baz=108,slow=1.1,SNR=11

VILC	Villavicencio,	143.59	88	*e*P	PKPdf	14 47 44.1	-0.1
OCAC	Ocana	143.82	81	*e*P	PKPab	14 47 42.1	+0.4
BARC	Barichara	144.06	84	*e*P	PKPab	14 47 42.4	-0.3
RUSC	La Rusia	144.19	85	*e*P	PKPab	14 47 42.7	-0.8
CPUP	Villa Florida	144.26	148	PKP	PKPbc	14 47 43.4	+0.3

comp=Z,2.6nm,0.7s,baz=75,slow=4.2,SNR=2.6

PAMC	Pamplona, Colo	144.50	83	*e*P	PKPab	14 47 44.6	0.0
TAMC	Tame, Arauca	145.45	84	*e*P	PKPab	14 47 47.6	+0.1
KOWA	Kowa	145.62	290	PKPab	PKPab	14 47 48.0	-0.1
TERO1	Tubaro-SC	145.86	161	*e*P	PKiKP	14 47 54.2	+2.5
SOCV	Socops	146.25	81	*e*P	PKPbc	14 47 49.7	-0.1
SDV	Santo Domingo	146.40	80	PKPdf	PKPbc	14 47 50.0	-0.4
SDV	Santo Domingo	146.40	80	*e*P	PKPdf	14 47 49.2	+0.1
SDV	Santo Domingo	146.40	80	*e*P	PKiKP	14 47 53.5	+0.1
KIC	Kosan Boka	147.58	276	*e*PKIKP	PKPbc	14 47 53.0	-0.5

comp=Z,32nm,1.0s

DBIC	Dimbokro	147.68	276	PKPbc	PKPbc	14 47 53.3	-0.5

comp=Z,8.4nm,0.5s,baz=83,slow=2.4,SNR=21

DBIC	Dimbokro	147.68	276	PKP2	PKPbc	14 47 53.8	0.0
DBIC	Dimbokro	147.68	276	PKPab	PKPbc	14 47 53.8	0.0
TIC	Toumodi	147.84	276	*e*PKIKP	PKPbc	14 47 52.9	-1.4
LIC	Lamto	147.87	276	*e*PKIKP	PKPbc	14 47 53.2	-1.1

comp=Z,72nm,1.5s

SJG	San Juan	148.30	61	*e*P	PKPdf	14 47 52.4	+0.5
STVI	Saint Thomas	149.24	60		PKPbc	14 47 57.4	-0.3
CDVI	St. Croix	149.65	61		PKPbc	14 47 58.1	-0.6
PRPB	Parauapebas	163.97	128	*e*P	PKPdf	14 48 18.0	+5.5

*NOU **21** 14:47:28.9,37.70S×176.20E,h286km,MLv3.7/7,North Island, New Zealand*
*WEL **21** 14:47:42.4,38.2S±7.7°×17.6E±°,h175km±13km,M2.8/75, ML2.0/8,MLv2.8/75,Error ellipse: s-maj=0.0km s-min=0.0km az=90.3*
ISC 21 14:47:33.8±2.0,37.99S±0.07°×176.11E±0.07, h253km±14km,n131,σ0.969/130,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRZ	Kaimai	0.20	318	P	Pn	14 48 06.2	-0.3
TGRZ	Tauranga	0.29	25	P	Pn	14 48 06.1	-0.5
HSRZ	Hossack Road	0.34	161	P	Pn	14 48 06.6	0.0
GRRZ	Galatos Road	0.35	180	P	Pn	14 48 06.5	-0.2
OPRZ	Ohinepanea	0.39	67	P	Pn	14 48 06.1	-0.6
MARZ	Manawahe	0.45	89	P	Pn	14 48 06.8	-0.1
RRRZ	Republican Roa	0.47	137	P	Pn	14 48 06.5	-0.4
WPRZ	Whakapapatarin	0.53	175	P	Pn	14 48 00.2	-6.9
KUTZ	Kaahu Road	0.54	204	P	Pn	14 48 07.1	0.0
TOZ	Tahuroa Road	0.55	299	P	Pn	14 48 07.1	-0.1
PRRZ	Plateau Road	0.55	156	P	Pn	14 48 06.7	-0.4
TLZ	Tolley Road	0.56	233	P	Pn	14 48 07.3	+0.1
MUGZ	Murupara	0.71	133	P	Pn	14 48 07.5	-0.3
WATZ	Wairara	0.77	202	P	Pn	14 48 08.2	+0.1
URZ	Urewera	0.83	109	P	Pn	14 48 07.5	-0.8
URZ	Urewera	0.83	109	P	Pn	14 48 07.5	-0.8
MRHZ	Matea Rd	0.87	164	P	Pn	14 48 08.2	-0.3
HATZ	Hinemaiaia	0.90	181	P	Pn	14 48 08.4	-0.2
RAZ	Rangitukua	0.91	197	P	Pn	14 48 08.6	-0.1
RTZ	Ruatahuna	0.93	132	P	Pn	14 48 07.8	-1.0
RITZ	Rihia Road	1.00	191	P	Pn	14 48 09.5	+0.4
KATZ	Kakaramea	1.03	198	P	Pn	14 48 09.5	+0.1
MTHZ	Maungataniwha	1.03	146	P	Pn	14 48 09.8	+0.5
HIZ	Hauiti	1.11	242	P	Pn	14 48 10.0	+0.3
HIZ	Hauiti	1.11	242	P	Pn	14 48 10.0	+0.3
RAGZ	Rawiri	1.15	116	P	Pn	14 48 06.8	-3.3
NTVZ	North Tongarir	1.15	197	P	Pn	14 48 10.2	+0.1
KRVZ	Karewarewa	1.16	198	P	Pn	14 48 10.3	+0.1
MKAZ	Moumakai	1.16	319	P	Pn	14 48 10.4	+0.3
TMVZ	Te Maari	1.16	196	P	Pn	14 48 10.4	+0.2
MWZ	Matawai	1.17	107	P	Pn	14 48 09.9	-0.2
ETVZ	East Tongariro	1.18	195	P	Pn	14 48 10.5	+0.2
WTVZ	West Tongariro	1.19	200	P	Pn	14 48 10.5	+0.1
TWVZ	Taurewa	1.20	206	P	Pn	14 48 10.4	+0.1
NNVZ	North Ngauruho	1.20	199	P	Pn	14 48 10.8	+0.3
RAHZ	Arahi	1.20	140	P	Pn	14 48 11.1	+0.8
BKZ	Black Stump Fm	1.21	166	P	Pn	14 48 10.4	0.0
BKZ	Black Stump Fm	1.21	166	P	Pn	14 48 10.4	0.0
OTVZ	Oturere	1.22	196	P	Pn	14 48 10.8	+0.2
NMHZ	Naumai	1.23	154	P	Pn	14 48 11.6	+1.0
RUGZ	Raukumara Rang	1.24	89	P	Pn	14 48 09.4	-1.3
NGZ	Ngauruhoe	1.25	198	P	Pn	14 48 10.9	+0.1
SNVZ	South Ngauruho	1.25	197	P	Pn	14 48 11.1	+0.4
SNGZ	Shannon Statio	1.25	129	P	Pn	14 48 11.1	+0.5
KUZ	Kuaotunu	1.28	346	P	Pn	14 48 10.8	-0.2
TUVZ	Tukino	1.32	195	P	Pn	14 48 11.4	+0.1
FWVZ	Far West T-bar	1.33	199	P	Pn	14 48 11.5	+0.1
HAZ	Te Kaha	1.35	80	P	Pn	14 48 10.3	-0.9
WHVZ	Whangaehu Hut	1.35	197	P	Pn	14 48 11.7	+0.2
TRVZ	Turoa	1.38	198	P	Pn	14 48 11.9	+0.2
WNVZ	Wahianoa	1.39	197	P	Pn	14 48 11.8	+0.1
WHHZ	Waihua	1.40	141	P	Pn	14 48 09.0	-2.5
ETAZ	East Tamaki Re	1.40	129	P	Pn	14 48 12.0	+0.3
PKVZ	Pokaka	1.42	204	P	Pn	14 48 12.0	+0.1
WIAZ	Waiheke Island	1.43	327	P	Pn	14 48 12.2	+0.3
MOVZ	Moawhango	1.44	191	P	Pn	14 48 11.8	-0.2
TKGZ	Te Karaka	1.44	108	P	Pn	14 48 12.3	+0.4
ARHZ	Aropaoanui	1.45	151	P	Pn	14 48 12.9	+1.0
KWHZ	Kaweka Forest	1.45	170	P	Pn	14 48 09.6	-2.5
MTVZ	Mangateitei	1.48	200	P	Pn	14 48 12.4	+0.1
RIGZ	Rimuhau	1.48	119	P	Pn	14 48 13.0	+0.7
AWAZ	Awhitu Peninsu	1.49	308	P	Pn	14 48 12.8	+0.5
TWGZ	Tauwhareparae	1.49	98	P	Pn	14 48 12.7	+0.4
BHHZ	Black Hill Sta	1.49	181	P	Pn	14 48 12.3	0.0
MCHZ	McNeill Hill	1.52	163	P	Pn	14 48 13.6	+1.1
VRZ	Vera Road	1.55	223	P	Pn	14 48 13.3	+0.6
MBAZ	Motutapu North	1.56	321	P	Pn	14 48 13.3	+0.5
PKGZ	Pakihiroa	1.56	87	P	Pn	14 48 13.0	+0.1
KNZ	Kokohu	1.60	130	P	Pn	14 48 12.1	-1.0
WTAZ	Waiatarua	1.62	311	P	Pn	14 48 14.1	+0.8
KRHZ	Kereru	1.66	123	P	Pn	14 48 14.1	+0.5
PRGZ	Paritu Road	1.68	124	P	Pn	14 48 14.4	+0.7
PUZ	Puketiti	1.70	93	P	Pn	14 48 13.9	0.0
CNGZ	Carnagh Statio	1.73	107	P	Pn	14 48 15.3	+1.2
MXZ	Matakaoa Point	1.79	77	P	Pn	14 48 15.1	+0.4
MHGZ	Mahia Peninsul	1.82	130	P	Pn	14 48 15.9	+0.9
CKHZ	Cape Kidnapper	1.83	156	P	Pn	14 48 15.9	+1.0
WMGZ	Waiomatatini S	1.83	85	P	Pn	14 48 15.4	+0.3
KAHZ	Kahuranaki	1.90	162	P	Pn	14 48 16.5	+1.0
PNHZ	Pukenui	1.92	178	P	Pn	14 48 16.2	+0.4
WAZ	Wanganui	1.96	206	P	Pn	14 48 16.4	+0.3
NEZ	North Egmont	2.03	230	P	Pn	14 48 18.2	+1.4
PKE	Pukeiti	2.05	234	P	Pn	14 48 17.2	+0.3
TSZ	Takapari Road	2.06	183	P	Pn	14 48 17.5	+0.4
WPHZ	Waipukurau	2.08	173	P	Pn	14 48 17.8	+0.6
PXZ	Pawanui	2.12	164	P	Pn	14 48 17.9	+0.4
NBEZ	Newall Road No	2.17	233	P	Pn	14 48 19.0	+1.1
OHWZ	Ohakea	2.29	195	P	Pn	14 48 19.5	+0.8
DVHZ	Dannevirke	2.30	179	P	Pn	14 48 19.5	+0.3
PRHZ	Porangahau	2.31	170	P	Pn	14 48 19.9	+0.6
POWZ	Post Office Ro	2.41	186	P	Pn	14 48 20.5	+0.2
ANWZ	Angora Road	2.48	173	P	Pn	14 48 21.7	+0.8
PRWZ	Pori Road	2.56	182	P	Pn	14 48 22.4	+0.7
BFZ	Birch Farm	2.69	178	P	Pn	14 48 23.3	+0.3
BFZ	Birch Farm	2.69	178	P	Pn	14 48 23.5	+0.4
MRZ	Mangatainoka R	2.69	189	P	Pn	14 48 23.2	+0.1
TIWZ	Tintock	2.78	183	P	Pn	14 48 24.4	+0.3
OGWZ	Otaki Gorge	2.91	194	P	Pn	14 48 25.6	+0.2
HOWZ	Holdsworth Sta	2.94	189	P	Pn	14 48 25.6	-0.1
KIW	Kapiti Island	3.01	198	P	Pn	14 48 26.2	-0.2
TMWZ	Te Maipa	3.11	183	P	Pn	14 48 28.0	+0.3
MTW	Mount Morrison	3.19	188	P	Pn	14 48 28.2	-0.3
CAW	Cannon Point	3.21	194	P	Pn	14 48 28.6	-0.1
DUWZ	D'Urville Isla	3.27	210	P	Pn	14 48 29.1	-0.3
TRWZ	Traveller	3.42	185	P	Pn	14 48 30.9	0.0
PAWZ	Paruwai Farm	3.42	199	P	Pn	14 48 30.7	-0.3
WEL	Wellington	3.44	197	P	Pn	14 48 31.3	+0.1
MSWZ	Moikau Station	3.48	191	P	Pn	14 48 31.3	-0.4
SNZO	South Karori	3.48	198	P	Pn	14 48 31.6	0.0
TCW	Tory Channel	3.51	203	P	Pn	14 48 31.8	-0.1
BHW	Baring Head	3.54	195	P	Pn	14 48 31.9	-0.4
PLWZ	Palliser	3.63	190	P	Pn	14 48 33.0	-0.4
TUWZ	Tuamarina	3.81	205	P	Pn	14 48 35.1	-0.3
NNZ	Nelson	3.85	212	P	Pn	14 48 35.3	-0.5
QRZ	Quartz Range	3.96	223	P	Pn	14 48 36.2	-0.9
QRZ	Quartz Range	3.96	223	P	Pn	14 48 36.3	-0.9
CMWZ	Cape Campbell	4.02	201	P	Pn	14 48 38.7	+0.8
BSWZ	Blackbirch Sta	4.09	204	P	Pn	14 48 38.8	+0.1
MRNZ	Matariki Terra	4.27	216	P	Pn	14 48 39.7	-1.1
THZ	Tophouse	4.50	212	P	Pn	14 48 42.6	-1.0
KHZ	Kahutara	4.83	203	P	Pn	14 48 47.7	+0.2
KHZ	Kahutara	4.83	203	P	Pn	14 48 47.9	+0.4
DSZ	Denniston Nort	5.00	220	P	Pn	14 48 48.4	-1.2
GVZ	Greta Valley S	5.49	204	P	Pn	14 48 55.6	0.0
LTZ	Lake Taylor	5.61	210	P	Pn	14 48 56.5	-0.5
INZ	Inchbonnie	5.92	216	P	Pn	14 49 00.6	-0.1
OKCZ	Okains Bay	6.17	201	P	Pn	14 49 04.0	0.0
MQZ	McQueen's Vall	6.28	204	P	Pn	14 49 04.5	-0.8
RACZ	Rakaia	6.47	206	P	Pn	14 49 06.9	-0.7
TMZ	Timaru	7.45	209	P	Pn	14 49 20.1	0.0
ODZ	Otahua Downs	8.15	208	P	Pn	14 49 29.8	+1.1

IDC 21 14:59:38.4±3.5,45.83N×154.53E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.4/51,mbtmp3.4/4,Error ellipse: s-maj=100.7km s-min=36.5km az=171.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	36.66	38	P	P	15 06 45.7	-0.7

0.2nm,0.6s,baz=254,slow=6.2,SNR=6.9

INK	Inuvik	41.91	32	P	P	15 07 30.5	+0.4

1.0nm,0.8s,baz=259,slow=4.0,SNR=5.4

MKAR	Makanchi Array	48.24	299	P	P	15 08 20.6	-0.2

0.3nm,0.7s,baz=66,slow=8.9,SNR=3.9

TXAR	Lajitas Array	77.08	61	P	P	15 11 33.8	+0.1

0.2nm,0.5s,baz=328,slow=3.3,SNR=4.4

IDC 21 15:01:02.2±4.8,8.17S×107.75E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.3/44,mbtmp3.8/3,Error ellipse: s-maj=138.6km s-min=14.1km az=71.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang	1.34	354	Pg	Pg	15 01 27.2	-0.7

90nm,0.3s,baz=34,slow=18,SNR=40

LEM				Lg	Lg	15 01 45.8	

30nm,0.3s,baz=317,slow=23,SNR=4.0

WRA	Warramunga Arr	28.27	117	P	P	15 06 56.9	-0.6

0.3nm,0.4s,baz=291,slow=7.3,SNR=2.5

ASAR	Alice Springs	29.41	125	P	P	15 07 07.8	+0.2

0.3nm,0.4s,baz=297,slow=7.9,SNR=8.2

STKA	Stephens Creek	39.31	132	P	P	15 08 33.4	+0.2

2.2nm,0.4s,baz=301,slow=8.5,SNR=9.2

DJA 21 15:27:26.4±0.3,0.3S±2.2°×12.3E±°,h49km±10km,M3.7/11, mb3.7/1,mB4.1/1,MLv3.7/11,Mw(mB)3.1/1,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.73	175	P	Pn	15 27 40.2	-0.3
LUWI				S	Sn	15 27 54.0	+3.3
GTOI	Gorontalo	0.99	18	P	Pn	15 27 43.9	0.0
GTOI				S	Sn	15 27 58.9	+2.1
MRSI	Marisa	1.10	315	P	Pn	15 27 44.8	-0.6
MRSI				S	Sn	15 27 59.7	+0.2
APSI	Ampana	1.22	241	P	Pn	15 27 47.4	+0.3
KMSI	Cibinong	1.54	55	P	Pn	15 27 52.5	+1.0
KMSI				S	Sn	15 28 09.9	-0.5
MPSI	Mapaga	2.88	283	P	Pn	15 28 12.2	+2.3
PCI	Palu	2.93	258	P	Pn	15 28 02.0	-8.6
SANI	Sanana	3.71	118	P	Pn	15 28 16.9	-4.3
SANI				S	Sn	15 28 55.5	-8.1
TTSI	Tana Toraja	3.97	227	P	Pn	15 28 25.2	+0.5
TTSI				S	Sn	15 29 09.1	-0.9
SPSI	Sidrap Palu	4.67	219	P	Pn	15 28 34.6	+0.2
SPSI				S	Sn	15 29 26.9	-0.5
LBMI	Labuha	4.80	94	S	Sn	15 29 31.2	+0.6
BNSI	Bone	4.82	213	P	Pn	15 28 37.3	+0.8
BBSI	Bau Bau	5.14	182	P	Pn	15 28 41.5	+0.5

*WEL **21** 15:36:23.4±0.5,43.2S±3.7°×17.0E±°,h5km,M3.6/23, ML3.7/24,MLv3.6/23,Error ellipse: s-maj=0.0km s-min=0.0km az=135.5*
*NOU **21** 15:36:23.6,43.46S×169.73E,h4km,MLv4.0/8,South Island, New Zealand*
ISC 21 15:36:22.7±1.4,43.46S±0.04×169.66E±0.04,h2km±11km, n82,σ1.817/87,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOZ	Fox Glacier	0.13	121	P	Pg	15 36 25.2	-0.1
FOZ				S	Sg	15 36 27.0	-0.1
GCSZ	Gaunt Creek Bo	0.51	74	P	Pg	15 36 32.8	+0.3
WVZ	Waitaha Valley	0.88	64	P	Pg	15 36 39.9	+0.3
WVZ				S	Sb	15 36 52.4	-0.5
JCZ	Jackson Bay	0.88	226	P	Pg	15 36 39.8	+0.2
JCZ				S	Sb	15 36 54.0	+0.9
LBZ	Lake Benmore	1.00	158	P	Pg	15 36 41.3	-0.6
LBZ				S	Sn	15 36 59.0	+0.4
RPZ	Rata Peaks	1.04	104	P	Pg	15 36 42.7	0.0
RPZ	Rata Peaks	1.04	104	P	Pg	15 36 42.8	0.0
ARCZ	Arundel	1.20	114	P	Pg	15 36 45.4	-0.4
TMZ	Timaru	1.34	134	P	Pn	15 36 47.7	-0.9
WKZ	Wanaka	1.44	198	P	Pn	15 36 48.9	-1.0
WKZ				S	Sg	15 37 15.2	+1.5
INZ	Inchbonnie	1.50	61	P	Pn	15 36 49.4	-1.3
WACZ	Wakanui South	1.65	108	P	Pn	15 36 52.7	0.0
ODZ	Otahua Downs	1.73	156	P	Pn	15 36 53.7	-0.2
ODZ				S	Sn	15 37 16.3	-0.4
ODZ	Otahua Downs	1.73	156	P	Pn	15 36 54.0	+0.1
MSZ	Milford Sound	1.74	225	P	Pn	15 36 53.8	-0.1
OXZ	Oxford	1.74	86	P	Pn	15 36 53.7	-0.3
EAZ	Earnscleugh	1.79	188	P	Pn	15 36 53.9	-0.7
EAZ				S	Sb	15 37 19.6	+0.5
RACZ	Rakaia	1.82	99	P	Pn	15 36 55.0	-0.1
LTZ	Lake Taylor	2.03	71	P	Pn	15 36 58.0	0.0
MQZ	McQueen's Vall	2.19	97	P	Pn	15 36 59.6	-0.6
MLZ	Mavora Lakes	2.20	210	P	Pn	15 37 00.4	0.0
AMCZ	Amberley	2.20	84	P	Pn	15 37 00.6	+0.2
DSZ	Denniston Nort	2.34	43	P	Pn	15 37 01.0	-1.3
AKCZ	Akaroa Harbour	2.40	101	P	Pg	15 37 08.0	-0.6
OKCZ	Okains Bay	2.48	97	P	Pn	15 37 04.1	-0.2
TUZ	Tuapeka	2.49	180	P	Pn	15 37 04.5	+0.2
HHSZ	Highcliff Hill	2.51	165	P	Pn	15 37 06.6	+2.0
GVZ	Greta Valley S	2.52	80	P	Pn	15 37 04.4	-0.3
DCZ	Deep Cove	2.69	221	P	Pb	15 37 10.5	-1.0
WHZ	Wether Hill Ro	2.72	206	P	Pn	15 37 06.5	-1.0
THZ	Tophouse	2.94	56	P	Pn	15 37 10.0	-0.5
KHZ	Kahutara	3.04	71	P	Pn	15 37 11.7	-0.2
KHZ	Kahutara	3.04	71	P	Pn	15 37 11.6	-0.2
MRNZ	Matariki Terra	3.08	49	P	Pn	15 37 11.8	-0.7
SYZ	Scrubby Hill	3.10	187	P	Pn	15 37 12.0	-0.6
QRZ	Quartz Range	3.39	40	P	Pn	15 37 15.8	-0.9
QRZ	Quartz Range	3.39	40	P	Pn	15 37 16.2	-0.5
TKNZ	Takaka Hill	3.45	46	P	Pn	15 37 16.7	-0.8
NNZ	Nelson	3.56	52	P	Pn	15 37 18.9	-0.1
BSWZ	Blackbirch Sta	3.57	62	P	Pn	15 37 21.3	+2.1
APZ	The Paps	3.57	199	P	Pn	15 37 18.8	-0.4
TUWZ	Tuamarina	3.77	59	P	Pn	15 37 22.4	+0.6
TCW	Tory Channel	4.10	58	P	Pn	15 37 27.1	+0.7
DUWZ	D'Urville Isla	4.14	51	P	Pn	15 37 26.9	-0.1
SNZO	South Karori	4.31	62	P	Pn	15 37 30.2	+0.9
CAW	Cannon Point	4.65	61	P	Pn	15 37 32.4	-1.6
KIW	Kapiti Island	4.69	58	P	Pn	15 37 34.0	-0.5
OGWZ	Otaki Gorge	4.88	59	P	Pn	15 37 37.0	-0.1
HOWZ	Holdsworth Sta	5.05	61	P	Pn	15 37 44.0	+4.5
NMEZ	Namu Road	5.14	40	P	Pn	15 37 41.6	+0.9
MRZ	Mangatainoka R	5.22	60	P	Pn	15 37 40.0	-1.8
NBEZ	Newall Road No	5.25	39	P	Pn	15 37 42.3	0.0
KHEZ	Kahui Hut	5.30	40	P	Pn	15 37 42.9	0.0
PREZ	Palmer Road	5.33	41	P	Pn	15 37 44.1	+0.8
NEZ	North Egmont	5.36	40	P	Pn	15 37 43.7	-0.1
LREZ	Lake Rotokare	5.36	43	P	Pn	15 37 44.8	+1.1
PKE	Pukeiti	5.37	39	P	Pn	15 37 45.6	+1.7
WAZ	Wanganui	5.45	49	P	Pn	15 37 45.8	+0.9
DREZ	Durham Road	5.47	40	P	Pn	15 37 45.3	+0.1
BFZ	Birch Farm	5.63	63	P	Pn	15 37 47.3	-0.2
VRZ	Vera Road	5.79	43	P	Pn	15 37 50.6	+0.4
DVHZ	Dannevirke	5.79	59	P	Pn	15 37 56.2	+6.5
PKVZ	Pokaka	5.97	48	P	Pn	15 37 53.1	+0.8
PNHZ	Pukenui	6.04	56	P	Pn	15 37 59.0	+5.8
WNVZ	Wahianoa	6.08	49	P	Pn	15 37 56.6	+2.8
NGZ	Ngauruhoe	6.19	48	P	Pn	15 37 56.7	+1.4
SNVZ	South Ngauruho	6.21	49	P	Pn	15 37 57.3	+1.8
WTVZ	West Tongariro	6.23	48	P	Pn	15 37 57.3	+1.5
NNVZ	North Ngauruho	6.23	48	P	Pn	15 37 57.6	+1.7
BHHZ	Black Hill Sta	6.24	53	P	Pn	15 37 59.4	+3.5
OTVZ	Oturere	6.24	49	P	Pn	15 37 57.3	+1.4
ETVZ	East Tongariro	6.28	49	P	Pn	15 37 58.4	+1.9
NTVZ	North Tongarir	6.29	48	P	Pn	15 37 58.5	+1.9
TMVZ	Te Maari	6.29	48	P	Pn	15 37 58.4	+1.7
HIZ	Hauiti	6.32	40	P	Pn	15 37 56.0	-0.9
HIZ	Hauiti	6.32	40	P	Pn	15 37 56.3	-0.6
BKZ	Black Stump Fm	6.70	52	P	Pn	15 38 04.6	+2.4
TLZ	Tolley Road	6.79	43	P	Pn	15 38 02.9	-0.5
TOZ	Tahuroa Road	7.25	40	P	Pn	15 38 09.8	+0.1
MKAZ	Moumakai	7.62	35	P	Pn	15 38 15.8	+1.1
MYRZ	Mayor Island	7.96	41	P	Pn	15 38 17.9	-1.6
OUZ	Omahuta	8.78	22	P	Pn	15 38 31.5	+0.9

*JMA **21** 15:50:04.5±0.2,23.99N×122.13E,h42km±5km,M2.4*
*TAP **21** 15:50:05.2,24.10N×122.18E,h35km,ML3.0,C*
ISC 21 15:50:05.0±1.0,24.03N±0.03×122.16E±0.02,h26km±11km, n65,σ0.962/113,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.47	306	*e*P	Pb	15 50 15.0	+0.1

baz=297

ETL	Fush Village	0.51	284	*i* P	Pb	15 50 15.8	+0.3

baz=264

ETL				*e*S	Sn	15 50 24.2	-0.5

baz=264

TWD	Chiawan	0.52	275	P	Pb	15 50 15.5	-0.1

baz=267

TWD				S	Sb	15 50 23.6	+0.7

baz=267

NACB	Ninganchiao	0.54	285	P	Pb	15 50 15.8	-0.1

baz=268

NACB				*i* S	Sb	15 50 24.0	+0.7

baz=268

EWUT	Wuta	0.54	319	P	Pb	15 50 15.3	-0.7

baz=321

EWUT				S	Sb	15 50 24.1	+0.8

baz=321

TEYL	Yanliau Villag	0.54	252	*i* P	Pn	15 50 16.7	-0.4

baz=240

TEYL				S	Sn	15 50 25.2	-0.2

baz=240

ENA	Nanau	0.55	316	*i* P	Pb	15 50 16.1	0.0

baz=315

ENA				S	Sn	15 50 24.8	-0.8

baz=315

ETM	Tongmen	0.62	264	*i* P	Pb	15 50 17.1	-0.2

baz=257

ETM				*e*S	Sb	15 50 25.7	+0.1

baz=257

TWC	Suao	0.64	333	*i* P	Pb	15 50 16.7	-1.0

baz=337

TWC				*e*S	Sb	15 50 26.2	0.0

baz=337

ETLH	Xiulin Townshi	0.65	286	*i* P	Pb	15 50 17.6	-0.2

baz=279

ETLH				*e*S	Sb	15 50 26.7	+0.2

baz=279

ESL	Shilin	0.70	252	*i* P	Pb	15 50 18.5	-0.2

baz=237

| | |

NFF	**Wufeng Townshi** baz=298	**1.12 302**	*eP*	**Pb**	**15 50 25.7**	**-0.2**
NFF	baz=298		*eS*	**Sn**	**15 50 40.1**	**+0.2**
DPDB	**Guoxing** baz=259	**1.13 270**	P	**Pn**	**15 50 25.4**	**+0.1**
DPDB	baz=259		*eS*	**Sb**	**15 50 40.3**	**0.0**
SSLB	**Suanglung** baz=254	**1.13 258**	P	**Pn**	**15 50 25.3**	**0.0**
SSLB	baz=254		S	**Sb**	**15 50 39.6**	**-0.8**
WHP	**Taichung City** baz=271	**1.14 283**	*eP*	**Pb**	**15 50 27.2**	**+1.1**
WCS	**Beigang Elemen** baz=261	**1.15 271**	P	**Pn**	**15 50 25.6**	**+0.2**
WCS	baz=261		S	**Sb**	**15 50 40.0**	**-0.7**
SMLT	**Sun Moon Lake** baz=260	**1.17 263**	*i* P	**Pn**	**15 50 25.9**	**+0.1**
TYC	**Yuchr** baz=261	**1.20 264**	*i* P	**Pn**	**15 50 26.5**	**+0.3**
LIOB	**Emei** baz=296	**1.21 300**	*eP*	**Pb**	**15 50 27.6**	**+0.3**
LIOB	baz=296		*eS*	**Sn**	**15 50 42.7**	**+0.7**
NSTT	**Nanjuang** baz=295	**1.22 300**	*eP*	**Pb**	**15 50 27.3**	**-0.1**
NSTT	baz=295		*eS*	**Sn**	**15 50 42.5**	**+0.5**
EDH	**Donghe** baz=206	**1.32 217**	P	**Pn**	**15 50 27.5**	**-0.3**
EDH	baz=206		*eS*	**Sn**	**15 50 42.6**	**-1.9**
WWF	**Wufeng** baz=268	**1.34 271**	*eP*	**Pb**	**15 50 30.3**	**+0.8**
ELDTW	**Lidau** baz=218	**1.35 232**	*i* P	**Pn**	**15 50 28.4**	**0.0**
ALS	**Alishan** baz=244	**1.35 248**	P	**Pn**	**15 50 29.3**	**+0.8**
ALS	baz=244		*eS*	**Sn**	**15 50 46.1**	**+0.4**
IRIF	**Iriomote-Funau**	**1.46 78**	P	**Pn**	**15 50 30.7**	**+0.9**
IRIF			S	**Sn**	**15 50 49.0**	**+0.9**
TWGBT	**Beinan** baz=217	**1.57 220**	P	**Pn**	**15 50 31.4**	**+0.2**
TWGBT	baz=217		S	**Sn**	**15 50 50.6**	**-0.1**
JKRS	**Kuro-shima**	**1.70 83**	P	**Pn**	**15 50 34.0**	**+1.0**
JKRS			*eS*	**Sb**	**15 50 55.4**	**-1.1**
JIJ	**Ishigaki jima**	**1.84 79**	P	**Pn**	**15 50 35.1**	**+0.2**
JIJ			*eS*	**Sn**	**15 50 57.0**	**-0.4**
JISG	**Ishigakijimahi**	**2.04 74**	P	**Pn**	**15 50 37.5**	**-0.2**
WDGT	**Dungji** baz=250	**2.42 252**	*eP*	**Pn**	**15 50 44.2**	**+1.3**
PHUB	**P'eng-hu** baz=270	**2.43 258**	P	**Pn**	**15 50 44.0**	**+0.9**
PHUB	baz=270		*eS*	**Sn**	**15 51 12.9**	**+0.9**
VCHM	**Qimei** baz=251	**2.64 252**	P	**Pn**	**15 50 46.8**	**+0.8**
VWUC	**VWUC** baz=289	**2.65 292**	*eP*	**Pn**	**15 50 45.5**	**-0.6**
PTMZ	**Houxiangcun** baz=288	**2.95 290**	*eP*	**Pn**	**15 50 48.2**	**-2.0**
KNM	**Kinmen** baz=274	**3.43 277**	*eS*	**Sn**	**15 51 39.4**	**+2.8**
KNMB	**Chin-men Tao** baz=277	**3.47 278**	*eP*	**Pn**	**15 50 57.4**	**-0.1**
ZPLA	**Ao Xicun** baz=268	**4.04 269**	*eP*	**Pn**	**15 51 05.3**	**+0.1**

*NEIC **21** 16:28:37.4±2.6, 32.°38S±0.°08×179.°1W±0.°2, h10km±1km, mb4.7/17, Error ellipse: s-maj=23.4km s-min=11.2km az=109.0*
*NOU **21** 16:28:43.1, 32.°78S×178.°43W, h192km, mb4.2/8, South of Kermadec Islands*
*WEL **21** 16:28:44.2±0.6, 33.°S±6.°×17.°8W±1.°4, h33km, M4.4/25, mB5.0/18, ML4.8/30, MLv4.8/25, Mw(mB)4.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=111.5*
*IDC **21** 16:28:45.5±6.4, 32.°52S×179.°34W, h75km±52km, mb4.2/4, mb1 4.3/5, mb1mx3.6/27, mbtmp4.6/5, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/60, Error ellipse: s-maj=46.0km s-min=27.4km az=57.0*

ISC 21 16:28:36.9±0.5, 32.°40S±0.°04×179.°14W±0.°08, h10km, n128, σ2°71/152, mb4.6/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.30**	**19**	P	**Pb**	**16 29 34.0**	**-1.4**
GLKZ				S	**Sb**	**16 30 13.9**	**-1.8**
RAO	**Raoul Island**	**3.31**	**19**	Pn	**Pn**	**16 29 29.1**	**+0.4**
MXZ	**Matakaoa Point**	**5.56**	**201**	Pn	**Pn**	**16 30 02.4**	**+2.7**
MXZ	**Matakaoa Point**	**5.56**	**201**	P	**Pn**	**16 30 03.8**	**+4.2**
MXZ				S	**Sn**	**16 31 04.7**	**+1.1**
WMGZ	**Waiomatatini S**	**5.77**	**200**	P	Pn	16 30 07.4	+4.9
WMGZ				S	**Sn**	**16 31 11.0**	**+2.3**
HAZ	**Te Kaha**	**5.91**	**204**	P	**Pn**	**16 30 08.5**	**+4.1**
HAZ				S	**Sn**	**16 31 13.8**	**+1.6**
PKGZ	**Pakihiroa**	**5.93**	**202**	P	**Pn**	**16 30 08.0**	**+3.2**
PKGZ				S	**Sn**	**16 31 11.1**	**-1.7**
PUZ	**Puketiti**	**6.05**	**200**	P	**Pn**	**16 30 09.0**	**+2.6**
PUZ				S	**Sn**	**16 31 13.2**	**-2.4**
KUZ	**Kuaotunu**	**6.06**	**223**	P	Pb	16 30 16.7	-5.9
RUGZ	**Raukumara Rang**	**6.13**	**204**	P	**Pn**	**16 30 10.9**	**+3.2**
RUGZ				S	**Sn**	**16 31 19.5**	**+1.6**
TWGZ	**Tauwhareparae**	**6.23**	**201**	P	**Pn**	**16 30 12.8**	**+3.9**
TWGZ				S	**Sn**	**16 31 20.8**	**+0.7**
CNGZ	**Carnagh Statio**	**6.45**	**199**	P	**Pn**	**16 30 15.0**	**+3.1**
CNGZ				S	**Sn**	**16 31 23.1**	**-2.4**
OPRZ	**Ohinepanea**	**6.48**	**212**	P	Pn	16 30 18.6	+6.4
OPRZ				S	**Sn**	**16 31 30.0**	**+3.8**
TKGZ	**Te Karaka**	**6.51**	**201**	P	**Pn**	**16 30 16.3**	**+3.6**
TKGZ				S	**Sn**	**16 31 24.4**	**-2.6**
MWZ	**Matawai**	**6.52**	**204**	P	**Pn**	**16 30 14.9**	**+2.1**
MWZ				S	**Sn**	**16 31 25.2**	**-2.0**
TGRZ	**Tauranga**	**6.52**	**214**	P	Pn	16 30 20.3	+7.4
MARZ	**Manawahe**	**6.54**	**210**	P	Pn	16 30 20.2	+7.1
URZ	**Urewera** 5.8nm,0.3s,baz=266,slow=4.1,SNR=51	**6.60**	**207**	P	**Pn**	**16 30 17.5**	**+3.5**
URZ	17nm,0.3s,baz=192,slow=23,SNR=21			S	**Sn**	**16 31 29.3**	**+0.1**
URZ	**Urewera**	**6.60**	**207**		**Pn**	**16 30 16.4**	**+2.4**
URZ	**Urewera**	**6.60**	**207**	P	**Pn**	**16 30 17.2**	**+3.3**
URZ				S	**Sn**	**16 31 29.7**	**+0.5**
URZ	**Urewera**	**6.60**	**207**	P	**Pn**	**16 30 17.3**	**+3.3**
OUZ	**Omahuta**	**6.67**	**243**	P	Pn	16 30 24.0	+9.1
RAGZ	**Rawiri**	**6.70**	**204**	P	Pn	16 30 19.9	+4.5
RAGZ				S	**Sn**	**16 31 30.2**	**-1.7**
KARZ	**Kaharoa**	**6.76**	**213**	P	Pn	16 30 22.4	+6.2
RIGZ	**Rimuhau**	**6.78**	**201**	P	**Pn**	**16 30 19.5**	**+3.0**
RIGZ				S	**Sn**	**16 31 32.0**	**-1.7**
TOZ	**Tahuroa Road**	**6.90**	**218**	P	Pn	16 30 26.1	+8.1
MUGZ	**Murupara**	**6.92**	**208**	P	**Pn**	**16 30 20.8**	**+2.5**
MUGZ				S	**Sn**	**16 31 36.7**	**-0.5**
PRGZ	**Paritu Road**	**6.95**	**200**	P	**Pn**	**16 30 20.9**	**+2.2**
PRGZ				S	**Sn**	**16 31 35.7**	**-2.1**
RTZ	**Ruatahuna**	**6.96**	**206**	P	**Pn**	**16 30 21.3**	**+2.3**
RTZ				S	**Sn**	**16 31 39.3**	**+1.0**
SNGZ	**Shannon Statio**	**6.98**	**203**	P	**Pn**	**16 30 22.4**	**+3.2**
SNGZ				S	**Sn**	**16 31 39.9**	**+1.2**
PRRZ	**Plateau Road**	**7.09**	**210**	P	**Pn**	**16 30 25.0**	**+4.3**
PRRZ				S	**Sn**	**16 31 43.0**	**+1.6**
KNZ	**Kokohu**	**7.10**	**200**	P	**Pn**	**16 30 23.3**	**+2.6**
KNZ				S	**Sn**	**16 31 34.7**	**-6.7**
MHGZ	**Mahia Peninsul**	**7.15**	**199**	P	**Pn**	**16 30 24.2**	**+2.6**
MHGZ				S	**Sn**	**16 31 37.2**	**-5.6**
RAHZ	**Arahi**	**7.19**	**204**	P	**Pn**	**16 30 25.0**	**+2.9**
RAHZ				S	**Sn**	**16 31 41.4**	**-2.4**
MTHZ	**Maungataniwha**	**7.22**	**206**	P	**Pn**	**16 30 26.1**	**+3.6**
MTHZ				S	**Sn**	**16 31 39.7**	**-4.9**
WHHZ	**Waihua**	**7.29**	**203**	P	**Pn**	**16 30 24.2**	**+0.8**
WHHZ				S	**Sn**	**16 31 42.2**	**-3.9**
KUTZ	**Kaahu Road**	**7.33**	**213**	P	Pn	16 30 30.6	+6.6
TLZ	**Tolley Road**	**7.34**	**215**	P	Pn	16 30 31.4	+7.3
MRHZ	**Matea Rd**	**7.37**	**208**	P	**Pn**	**16 30 26.3**	**+1.7**
MRHZ				S	**Sn**	**16 31 48.2**	**-0.1**
NMHZ	**Naumai**	**7.45**	**205**	P	**Pn**	**16 30 28.9**	**+3.2**
NMHZ				S	**Sn**	**16 31 51.3**	**+1.0**
ARHZ	**Aropaoanui**	**7.53**	**203**	P	**Pn**	**16 30 29.0**	**+2.2**
ARHZ				S	**Sn**	**16 31 52.0**	**-0.2**

WATZ	**Wairara**	**7.55**	**212**	P	Pn	16 30 33.1 +6.0
BKZ	**Black Stump Fm**	**7.63**	**206**		**Pn**	**16 30 29.0 +0.9**
BKZ	**Black Stump Fm**	**7.63**	**206**	P	**Pn**	**16 30 29.7 +1.6**
BKZ				S	**Sn**	**16 31 53.8 -0.8**
RATZ	**Rangitukua**	**7.67**	**211**	P	Pn	16 30 33.8 +5.2
RITZ	**Rihia Road**	**7.72**	**210**	P	Pn	16 30 34.4 +5.0
KATZ	**Kakaramea**	**7.79**	**211**	P	Pn	16 30 35.6 +5.2
MCHZ	**McNeill Hill**	**7.80**	**204**	P	**Pn**	**16 30 32.9 +2.5**
MCHZ				S	**Sn**	**16 31 57.6 -1.2**
HIZ	**Hauiti**	**7.82**	**217**	P	Pn	16 30 38.1 +7.4
HIZ	**Hauiti**	**7.82**	**217**	P	**Pn**	**16 30 35.3 +4.6**
KWHZ	**Kaweka Forest**	**7.88**	**206**	P	**Pn**	**16 30 32.9 +1.3**
KWHZ				S	**Sn**	**16 32 00.9 +0.1**
NTVZ	**North Tongarir**	**7.90**	**211**	P	**Pn**	**16 30 36.1 +4.2**
TMVZ	**Te Maari**	**7.90**	**211**	P	Pn	16 30 36.6 +4.7
ETVZ	**East Tongariro**	**7.92**	**210**	P	**Pn**	**16 30 36.7 +4.6**
WTVZ	**West Tongariro**	**7.95**	**211**	P	**Pn**	**16 30 36.9 +4.3**
NNVZ	**North Ngauruho**	**7.95**	**211**	P	Pn	16 30 37.8 +5.1
OTVZ	**Oturere**	**7.96**	**211**	P	**Pn**	**16 30 36.7 +3.9**
OTVZ				S	**Sn**	**16 32 03.6 +0.7**
TWVZ	**Taurewa**	**7.98**	**212**	P	Pn	16 30 38.0 +5.0
SNVZ	**South Ngauruho**	**7.99**	**211**	P	**Pn**	**16 30 37.0 +3.9**
NGZ	**Ngauruhoe**	**8.00**	**211**	P	Pn	16 30 38.3 +5.0
NGZ				S	**Sn**	**16 32 04.6 +0.8**
KAHZ	**Kahuranaki**	**8.05**	**202**	P	**Pn**	**16 30 34.9 +0.9**
KAHZ				S	Sn	16 31 56.2 -8.8
BHHZ	**Black Hill Sta**	**8.07**	**207**	P	**Pn**	**16 30 37.3 +3.1**
BHHZ				S	**Sn**	**16 32 03.1 -2.5**
FWVZ	**Far West T-bar**	**8.08**	**211**	P	**Pn**	**16 30 39.1 +4.6**
KRHZ	**Kereru**	**8.09**	**205**	P	**Pn**	**16 30 35.3 +0.9**
KRHZ				S	**Sn**	**16 32 02.2 -3.7**
WNVZ	**Wahianoa**	**8.12**	**210**	P	**Pn**	**16 30 39.6 +4.6**
WNVZ				S	**Sn**	**16 32 09.8 +2.8**
MOVZ	**Moawhango**	**8.13**	**209**	P	**Pn**	**16 30 37.8 +2.8**
MOVZ				S	**Sn**	**16 32 03.6 -3.4**
PKVZ	**Pokaka**	**8.20**	**211**	P	**Pn**	**16 30 40.5 +4.5**
MTVZ	**Mangateitei**	**8.23**	**211**	P	**Pn**	**16 30 40.3 +4.0**
PXZ	**Pawanui**	**8.27**	**202**	P	**Pn**	**16 30 37.2 +0.3**
PXZ				S	**Sn**	**16 32 05.2 -5.2**
VRZ	**Vera Road**	**8.34**	**215**	P	Pn	16 30 45.1 +7.3
PNHZ	**Pukenui**	**8.39**	**205**	P	**Pn**	**16 30 39.7 +1.2**
PNHZ				S	**Sn**	**16 32 07.7 -5.6**
WPHZ	**Waipukurau**	**8.44**	**204**	P	**Pn**	**16 30 41.0 +1.8**
WPHZ				S	**Sn**	**16 32 12.4 -2.2**
PRHZ	**Porangahau**	**8.56**	**202**	P	**Pn**	**16 30 41.1 +0.3**
PRHZ				S	**Sn**	**16 32 15.2 -2.2**
TSZ	**Takapari Road**	**8.61**	**206**	P	**Pn**	**16 30 43.1 +1.5**
TSZ				S	**Sn**	**16 32 16.0 -2.6**
WAZ	**Wanganui**	**8.74**	**211**	P	**Pn**	**16 30 46.4 +3.1**
DVHZ	**Dannevirke**	**8.74**	**204**	P	**Pn**	**16 30 44.5 +1.1**
DVHZ				S	**Sn**	**16 32 18.1 -4.0**
NEZ	**North Egmont**	**8.78**	**217**	P	Pn	16 30 50.9 +6.9
ANWZ	**Angora Road**	**8.78**	**202**	P	**Pn**	**16 30 43.4 -0.5**
ANWZ				S	**Sn**	**16 32 15.8 -7.1**
KHEZ	**Kahui Hut**	**8.84**	**217**	P	Pn	16 30 51.7 +6.9
PRWZ	**Pori Road**	**9.04**	**204**	P	**Pn**	**16 30 49.4 +1.9**
PRWZ				S	Sn	16 32 20.1 -9.1
BFZ	**Birch Farm**	**9.06**	**203**	Pn	**Pn**	**16 30 47.8 +0.1**
BFZ	**Birch Farm**	**9.06**	**203**	P	**Pn**	**16 30 47.7 +0.1**
BFZ				S	**Sn**	**16 32 22.4 -7.3**
BFZ	**Birch Farm**	**9.06**	**203**	P	**Pn**	**16 30 49.4 +1.7**
TIWZ	**Tintock**	**9.27**	**204**	P	**Pn**	**16 30 50.6 0.0**
TIWZ				S	**Sn**	**16 32 29.1 -5.7**
KIW	**Kapiti Island**	**9.70**	**208**	P	**Pn**	**16 30 56.0 -0.5**
KIW				S	**Sn**	**16 32 39.5 -6.0**
MSWZ	**Moikau Station**	**10.05**	**205**	Pn	**Pn**	**16 31 02.0 +0.6**
MSWZ	**Moikau Station**	**10.05**	**205**	P	**Pn**	**16 31 00.8 -0.6**
MSWZ				S	**Sn**	**16 32 48.1 -6.1**
WEL	**Wellington**	**10.12**	**207**	P	**Pn**	**16 31 02.8 +0.6**
SNZO	**South Karori**	**10.16**	**207**	Pn	**Pn**	**16 31 02.6 -0.2**
SNZO	**South Karori**	**10.16**	**207**	P	**Pn**	**16 31 03.7 +0.9**
BHW	**Baring Head**	**10.19**	**206**	P	**Pn**	**16 31 03.4 +0.3**
TUWZ	**Tuamarina**	**10.57**	**210**		**Pn**	**16 31 07.6 -0.8**
QRZ	**Quartz Range**	**10.74**	**216**	P	**Pn**	**16 31 13.0 +2.2**
THZ	**Tophouse**	**11.29**	**212**	Pn	**Pn**	**16 31 16.7 -1.6**
KHZ	**Kahutara**	**11.56**	**208**	P	**Pn**	**16 31 21.9 0.0**
LTZ	**Lake Taylor**	**12.39**	**211**	Pn	**Pn**	**16 31 30.7 -2.7**
ODZ	**Otahua Downs**	**14.91**	**209**	P	**Pn**	**16 32 04.2 -3.5**
DZM	**Mont Dzumac** comp=Z,120nm,19.4s,baz=47,slow=31	**16.42**	**305**	LR	LR	16 37 09.4
CTA	**Charters Tower** 2.8nm,0.9s,baz=2.8,slow=21,SNR=1.4	**33.22**	**283**	P	**P**	**16 35 13.7 -0.5**
CTAO	**Charters Tower**	**33.22**	**283**		**P**	**16 35 15.0 +0.8**
BBOO	**Buckleboo**	**37.52**	**257**		**P**	**16 35 49.6 -1.6**
BBOO				IAmb	IAmb	16 36 03.8
KRVT	**Keravat (AS076** comp=Z,32nm,0.7s,baz=180,slow=1.4,SNR=9.9	**38.85**	**310**	P	**P**	**16 36 03.4 +1.0**
AS31	**Alice Springs**	**42.07**	**270**	P	**P**	**16 36 28.4 -0.7**
ASAR	**Alice Springs** comp=Z,2.6nm,0.6s,baz=108,slow=7.5,SNR=46	**42.07**	**270**	P	**P**	**16 36 29.0 -0.2**
ASAR	**Alice Springs**	**42.07**	**270**	P	**P**	**16 36 28.0 -1.1**
WR0	**Warramunga Arr**	**43.07**	**275**	P	**P**	**16 36 36.3 -0.9**
WB2	**Warramunga Arr**	**43.23**	**275**	P	**P**	**16 36 38.2 -0.3**
WRA	**Warramunga Arr** comp=Z,2.0nm,0.3s,baz=112,slow=8.0,SNR=96	**43.24**	**275**	P	**P**	**16 36 38.1 -0.5**
WRA	**Warramunga Arr**	**43.24**	**275**	P	**P**	**16 36 37.2 -1.4**
FORT	**Forrest**	**44.62**	**257**	P	**P**	**16 36 50.5 +0.9**
MTN	**Manton Dam**	**49.37**	**281**	P	**P**	**16 37 27.5 +0.6**
MTN	comp=Z,15nm,1.2s			IAmb	IAmb	16 38 03.3
KNRA	**Kununurra**	**49.92**	**277**	P	**P**	**16 37 31.6 +0.6**
KNRA	comp=Z,21nm,1.6s			IAmb	IAmb	16 37 43.6
FITZ	**Fitzroy Crossi**	**51.41**	**272**	P	**P**	**16 37 42.4 +0.1**
FITZ	comp=Z,12nm,1.5s			IAmb	IAmb	16 38 20.5
CASY	**Casey**	**52.92**	**209**	P	**P**	**16 37 51.9 -1.0**
CASY	comp=Z,8.8nm,1.6s			IAmb	IAmb	16 38 20.0
MORW	**Morawa**	**55.05**	**255**	P	**P**	**16 38 07.5 -1.5**
MORW	comp=Z,15nm,1.3s			IAmb	IAmb	16 38 50.0
QSPA	**South Pole Qui**	**57.72**	**180**		**P**	**16 38 29.4 +1.8**
QSPA	comp=Z,5.0nm,0.7s			IAmb	IAmb	16 38 33.9
GIRL	**Giralia**	**59.05**	**261**	P	**P**	**16 38 37.7 +0.3**
BELA	**Belgrano 2**	**67.94**	**172**	P	**P**	**16 39 35.1 -0.2**
BELA	comp=Z,4.8nm,1.2s			IAmb	IAmb	16 39 37.1
SNAA	**Sanae**	**76.19**	**179**	P	**P**	**16 40 24.7 -0.2**
PLCA	**Paso Flores**	**81.86**	**133**	P	**P**	**16 40 55.5 -1.0**
ARCES	**ARCESS Array B** comp=Z,3.4nm,0.8s,baz=22,slow=1.4,SNR=11	**140.32**	**347**	PKhKP	PKPpre	16 47 59.8
FINES	**FINESS Array B** comp=Z,4.3nm,0.5s,baz=52,slow=4.2,SNR=42	**146.66**	**338**	PKPbc	**PKPdf**	**16 48 17.1 +0.6**
FINES	**FINESS Array B**	**146.66**	**339**		**PKPdf**	**16 48 16.8 +0.4**
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.6s,baz=17,slow=2.6	**150.56**	**350**	PKP	**PKPbc**	**16 48 28.9 +0.6**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.8s,baz=23,slow=4.6,SNR=5.2	**150.56**	**350**	PKPbc	**PKPbc**	**16 48 27.6 -0.7**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.5s,baz=143,slow=4.1,SNR=5.6	**152.62**	**295**	PKPbc	**PKPbc**	**16 48 32.9 -1.0**
BRTR	**Keskin Array B**	**152.62**	**295**		**PKPbc**	**16 48 33.1 -0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.6s,baz=186,slow=4.0,SNR=3.9	**160.82**	**182**	PKPab	**PKPab**	**16 49 19.7 -0.2**

*IDC **21** 16:34:55.1±7.3, 53.°09S×140.°56E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/30, mbtmp3.5/3, MS3.5/7, Ms1 3.5/7, ms1mx3.2/27, Error ellipse: s-maj=311.5km s-min=53.3km az=103.0, West of Macquarie Island*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 1.5nm,0.9s,baz=187,slow=17,SNR=2.2	**21.22**	**2**	P	P	16 39 42.7	+0.4
RPZ	**Rata Peaks** comp=Z,111nm,18.2s,baz=270,slow=32	**22.16**	**77**	LR		16 46 48.7	
VNDA	**Vanda** comp=Z,90nm,21.6s,baz=330,slow=33	**25.74**	**170**	LR	LR	16 49 05.5	
H01W1	**Cape Leeuwin H** baz=141,slow=74,SNR=17	**26.07**	**304**	T	T	17 07 29.6	
H01W2	**Cape Leeuwin H** baz=141,slow=74,SNR=10	**26.07**	**304**	T	T	17 07 29.1	
H01W3	**Cape Leeuwin H** baz=141,slow=74,SNR=16	**26.08**	**304**	T	T	17 07 30.7	
ASAR	**Alice Springs** 0.2nm,0.8s,baz=166,slow=10,SNR=4.1	**29.82**	**348**	P	P	16 41 03.4	-0.3
CTA	**Charters Tower** comp=Z,73nm,18.2s,baz=212,slow=35	**33.24**	**10**	LR	LR	16 54 29.8	
WRA	**Warramunga Arr** 1.1nm,1.0s,baz=166,slow=8.5,SNR=5.2	**33.44**	**349**	P	P	16 41 35.5	-0.1

DZM	**Mont Dzumac** comp=Z,106nm,18.9s,baz=204,slow=31	**36.74**	**43**	LR	LR	16 53 41.5
QSPA	**South Pole Qui** comp=Z,142nm,21.3s,baz=340,slow=35	**37.02**	**180**	LR	LR	16 56 24.6
MAW	**Mawson** comp=Z,74nm,19.3s,baz=174,slow=34	**38.18**	**217**	LR	LR	16 56 41.4
PMG	**Port Moresby** comp=Z,51nm,21.2s,baz=232,slow=33	**43.89**	**9**	LR	LR	16 59 04.9
GERES	**GERESS Array B** 0.1nm,0.3s,baz=111,slow=2.2,SNR=3.4	**146.91**	**284**	PKPbc	PKPbc	16 54 37.8 -0.8

*IDC **21** 16:37:34.1±2.1, 32.°32S×178.°22W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.5/30, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=55.8km s-min=37.1km az=143.0*
*NEIC **21** 16:37:36.7±1.1, 32.°6S±0.°1×178.°3W±0.°2, h10km±2km, mb4.4/9, Error ellipse: s-maj=34.6km s-min=17.3km az=125.0*
*WEL **21** 16:37:37.0±0.6, 32.°S±9.°×18.°0W±2.°2, h33km, M4.2/8, mB4.5/6, ML4.5/14, MLv4.5/8, Mw(mB)3.7/6, Error ellipse: s-maj=0.0km s-min=0.0km az=112.6*

ISC 21 16:37:37.2±1.5, 32.°33S±0.°09×178.°1W±0.°2, h35km, n38, σ1°63/55, mb4.3/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.06**	**3**	P	**Pn**	**16 38 22.6**	**-0.5**
GLKZ				S	**Sn**	**16 38 55.7**	**-2.8**
MXZ	**Matakaoa Point**	**5.99**	**208**	Pn	**Pn**	**16 39 01.1**	**-2.3**
MXZ	**Matakaoa Point**	**5.99**	**208**	P	**Pn**	**16 39 00.0**	**-3.4**
MXZ				S	**Sn**	**16 40 09.3**	**-1.5**
WMGZ	**Waiomatatini S**	**6.17**	**207**	P	**Pn**	**16 39 06.8**	**+0.9**
WMGZ				S	**Sn**	**16 40 17.7**	**+2.5**
PKGZ	**Pakihiroa**	**6.37**	**208**	P	**Pn**	**16 39 06.6**	**-2.0**
PKGZ				S	**Sn**	**16 40 18.1**	**-2.0**
HAZ	**Te Kaha**	**6.38**	**211**	P	**Pn**	**16 39 07.8**	**-0.9**
HAZ				S	**Sn**	**16 40 22.5**	**+2.3**
PUZ	**Puketiti**	**6.46**	**206**	P	**Pn**	**16 39 08.1**	**-1.6**
PUZ				S	**Sn**	**16 40 21.8**	**-0.4**
RUGZ	**Raukumara Rang**	**6.60**	**210**	P	**Pn**	**16 39 11.2**	**-0.6**
RUGZ				S	**Sn**	**16 40 25.4**	**-0.5**
GRZ	**Great Barrier**	**6.61**	**232**	P	Pn	16 39 00.5	-11
TWGZ	**Tauwhareparae**	**6.65**	**208**	P	**Pn**	**16 39 11.0**	**-1.5**
TWGZ				S	**Sn**	**16 40 26.3**	**-0.8**
MWZ	**Matawai**	**6.97**	**210**	P	**Pn**	**16 39 14.9**	**-2.0**
MWZ				S	**Sn**	**16 40 34.0**	**-1.0**
URZ	**Urewera** 1.3nm,0.3s,baz=30,slow=20,SNR=9.4	**7.09**	**212**	Pn	**Pn**	**16 39 17.8**	**-0.7**
URZ	1.8nm,0.3s,baz=34,slow=21,SNR=2.3			Sn	**Sn**	**16 40 36.2**	**-1.6**
URZ	**Urewera**	**7.09**	**212**		**Pn**	**16 39 15.9**	**-2.6**
URZ	**Urewera**	**7.09**	**212**	P	**Pn**	**16 39 18.0**	**-0.4**
URZ				S	**Sn**	**16 40 36.6**	**-1.2**
RIGZ	**Rimuhau**	**7.20**	**207**	P	**Pn**	**16 39 19.0**	**-1.0**
RIGZ				S	**Sn**	**16 40 40.2**	**-0.3**
MUGZ	**Murupara**	**7.42**	**213**	P	**Pn**	**16 39 22.7**	**-0.3**
MUGZ				S	**Sn**	**16 40 45.0**	**-1.0**
SNGZ	**Shannon Statio**	**7.43**	**209**	P	**Pn**	**16 39 23.3**	**+0.1**
SNGZ				S	**Sn**	**16 40 43.5**	**-2.7**
RAHZ	**Arahi**	**7.65**	**209**	P	**Pn**	**16 39 27.1**	**+0.9**
RAHZ				S	**Sn**	**16 40 50.5**	**-1.1**
MTHZ	**Maungataniwha**	**7.70**	**211**	P	**Pn**	**16 39 27.8**	**+0.9**
MTHZ				S	**Sn**	**16 40 50.6**	**-2.2**
BKZ	**Black Stump Fm**	**8.11**	**211**	Pn	**Pn**	**16 39 30.3**	**-2.2**
BKZ	**Black Stump Fm**	**8.11**	**211**	P	**Pn**	**16 39 30.9**	**-1.6**
BKZ				S	**Sn**	**16 41 00.3**	**-2.7**
MCHZ	**McNeill Hill**	**8.26**	**209**	P	**Pn**	**16 39 33.8**	**-0.7**
MCHZ				S	**Sn**	**16 41 04.8**	**-1.7**
THZ	**Tophouse**	**11.83**	**215**	Pn	**Pn**	**16 40 21.0**	**-2.5**
STKA	**Stephens Creek**	**34.00**	**260**	P	**P**	**16 44 16.9**	**-0.8**
CTA	**Charters Tower** 2.6nm,0.8s,baz=103,slow=11,SNR=6.9	**34.06**	**282**	P	**P**	**16 44 21.1**	**+2.7**
CTAO	**Charters Tower**	**34.06**	**282**	P	**P**	**16 44 21.2**	**+2.8**
BBOO	**Buckleboo**	**38.39**	**257**	P	**P**	**16 44 56.0**	**+0.7**
BBOO	comp=Z,22nm,1.4s			IAmb	IAmb	16 45 22.0	
AS31	**Alice Springs**	**42.95**	**269**	P	**P**	**16 45 34.0**	**+1.0**
ASAR	**Alice Springs** comp=Z,0.8nm,0.5s,baz=112,slow=7.9,SNR=24	**42.95**	**269**	P	**P**	**16 45 33.8**	**+0.7**
WR0	**Warramunga Arr**	**43.93**	**274**	P	**P**	**16 45 41.6**	**+0.7**
WR0	comp=Z,6.5nm,1.2s			IAmb	IAmb	16 46 02.1	
WRAB	**Tennant Creek**	**44.10**	**274**	P	**P**	**16 45 43.2**	**+0.9**
WRAB	comp=Z,6.7nm,1.0s			IAmb	IA

MXZ	Matakaoa Point	6.11	212	S	Sn	16 43 08.6	-0.7
WMGZ	Waiomatatini S	6.27	210	P	Pn	16 42 07.1	+4.1
WMGZ				S	Sn	16 43 16.5	+3.1
PKGZ	Pakihiroa	6.48	212	P	Pn	16 42 05.8	0.0
PKGZ				S	Sn	16 43 17.3	-1.2
HAZ	Te Kaha	6.51	214	P	Pn	16 42 08.1	+1.9
HAZ				S	Sn	16 43 20.1	+1.0
PUZ	Puketiti	6.55	210	P	Pn	16 42 05.8	-1.0
PUZ				S	Sn	16 43 19.4	-0.9
RUGZ	Raukumara Rang	6.72	214	P	Pn	16 42 08.9	-0.4
RUGZ				S	Sn	16 43 22.0	-2.7
TWGZ	Tauwhareparae	6.76	211	P	Pn	16 42 12.4	+2.7
TWGZ				S	Sn	16 43 25.0	-0.5
MWZ	Matawai	7.09	213	P	Pn	16 42 15.2	+0.9
MWZ				S	Sn	16 43 32.0	-1.7
URZ	Urewera	7.23	215	Pn	Pn	16 42 17.3	+1.3
	0.5nm,0.3s,baz=225,slow=19,SNR=1.5						
URZ				Sn	Sn	16 43 34.9	-2.0
	1.0nm,0.3s,baz=254,slow=18,SNR=2.0						
URZ	Urewera	7.23	215	P	Pn	16 42 14.1	-1.9
URZ				S	Sn	16 43 34.0	-2.9
RIGZ	Rimuhau	7.30	210	P	Pn	16 42 18.8	+1.7
RIGZ				S	Sn	16 43 36.6	-2.1
SNGZ	Shannon Statio	7.54	212	P	Pn	16 42 22.0	+1.6
SNGZ				S	Sn	16 43 44.0	-0.6
MUGZ	Murupara	7.56	216	P	Pn	16 42 18.3	-2.4
MUGZ				S	Sn	16 43 42.4	-2.8
RAHZ	Arahi	7.76	212	S	Sn	16 43 49.9	-0.3
BKZ	Black Stump Fm	8.24	214	Pn	Pn	16 42 30.2	+0.2
CTA	Charters Tower	34.51	282	P	P	16 47 19.4	+1.4
	4.0nm,0.8s,baz=92,slow=7.8,SNR=7.6						
CTAO	Charters Tower	34.51	282	P	P	16 47 19.6	+1.7
CTAO				IAmb	IAmb	16 47 44.6	
	comp=Z,16nm,1.3s						
BBOO	Buckleboo	38.78	257	P	P	16 47 54.6	+0.3
AS31	Alice Springs	43.37	269	P	P	16 48 32.9	+0.7
ASAR	Alice Springs	43.38	269	P	P	16 48 32.4	+0.1
	comp=Z,0.9nm,0.6s,baz=107,slow=7.6,SNR=8.1						
WR0	Warramunga Arr	44.37	274	P	P	16 48 40.0	-0.2
WR0				IAmb	IAmb	16 48 46.8	
	comp=Z,9.9nm,1.5s						
WB2	Warramunga Arr	44.54	274	P	P	16 48 41.6	+0.1
WB2				IAmb	IAmb	16 48 50.8	
	comp=Z,6.9nm,1.2s						
WRA	Warramunga Arr	44.55	274	P	P	16 48 41.8	+0.2
	comp=Z,0.9nm,0.3s,baz=112,slow=8.0,SNR=13						
WB0	Warramunga Arr	44.58	274	P	P	16 48 42.1	+0.2
WB0				IAmb	IAmb	16 48 59.1	
	comp=Z,7.2nm,1.3s						
FORT	Forrest	45.88	257	P	P	16 48 52.2	+0.1
KNRA	Kununurra	51.22	276	P	P	16 49 33.5	+0.2
FITZ	Fitzroy Crossi	52.72	271	P	P	16 49 44.9	+0.4
CAIG	El Cayaco	88.75	69	P	P	16 53 21.4	-1.9
ARIG	Puente Sto Nin	89.38	68	P	P	16 53 26.0	-0.3
FINES	FINESS Array B	147.18	339	PKPbc	PKiKP	17 00 15.0	+1.0
	comp=Z,1.6nm,0.5s,baz=46,slow=3.8,SNR=13						

*IDC **21** 16:46:39.2±5.1,25°.21S×68°.29W,h90km±39km,mb3.6/2, mb1 4.0/5,mb1mx3.5/31,mbtmp4.1/5,MS2.5/1,Ms1 2.5/1, ms1mx2.4/41,Error ellipse: s-maj=48.8km s-min=37.0km az=29.0*

*GUC **21** 16:46:41.3±0.9,25°.11S×68°.72W,h124km±8km,ML3.8*

ISC 21 16:46:40.2±1.0,**25°.13S**±0°.05×**68°.58W**±0°.09, **h113**km±10km,**n27**,σ1§**34**/36,**2C**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO02	Mina Guanaco	0.91	268	eP	Pn	16 47 02.1	+0.9
GO02				eS	Sn	16 47 17.8	+0.9
GO02				IAML		16 47 20.3	
	comp=E,3μm,0.2s						
PB14	IPOC Station P	1.73	286	eP	Pn	16 47 11.1	+0.8
PB14				eS	Sn	16 47 33.0	-0.2
AC02	Maricunga	1.77	196	↑ iP	Pn	16 47 12.8	+1.8
PB15	IPOC Station P	2.08	337	eP	Pn	16 47 15.7	+1.1
PB15				eS	Sn	16 47 41.8	+1.1
AC01	Pan de Azucar	2.08	240	i P	Pn	16 47 14.7	+0.3
AC01				eS	Sn	16 47 40.0	-0.6
AC01				IAML		16 47 41.2	
	comp=E,505nm,0.2s						
PB10	IPOC Station P	2.41	311	eP	Pn	16 47 19.8	+1.1
PB10				eS	Sn	16 47 46.1	-2.0
PB10				IAML		16 47 57.7	
	comp=E,234nm,0.3s						
LVC	Limon Verde	2.52	353	P	Pn	16 47 21.4	+0.9
	comp=E,28nm,0.3s,baz=175,slow=7.5,SNR=187						
LVC				S	Sn	16 47 52.1	+0.9
	comp=E,29nm,0.3s,baz=189,slow=7.2,SNR=5.4						
LVC				LR	LR	16 48 43.5	
	comp=E,79nm,18.4s,baz=136,slow=47						
LVC	Limon Verde	2.52	353	eP	Pn	16 47 21.3	+0.9
LVC				eS	Sn	16 47 52.1	+0.9
PB06	IPOC Station P	2.58	339	eP	Pn	16 47 21.7	+0.8
PB06				eS	Sn	16 47 52.7	+0.5
PB06				IAML		16 47 54.8	
	comp=E,806nm,0.1s						
AC06	Mina Casimiro	2.73	215	eP	Pn	16 47 22.8	0.0
GO03	Copiap	2.87	211	eP	Pn	16 47 24.9	+0.3
GO03				IAML		16 48 02.3	
	comp=N,101nm,0.3s						
PB09	IPOC Station P	3.37	350	eP	Pn	16 47 32.8	+1.3
PB09				IAML		16 48 19.6	
	comp=N,327nm,0.3s						
PB07	IPOC Station P	3.59	340	eP	Pn	16 47 34.3	-0.1
AC04	Llanos de Chal	3.79	215	eP	Pn	16 47 35.7	-1.1
PB02	IPOC Station P	3.98	342	eP	Pn	16 47 39.2	-0.3
PATCX	Punta Patache	4.52	341	eP	Pn	16 47 45.5	-1.3
HMBC	Humberstone	4.97	346	↑ iP	Pn	16 47 51.5	-1.4
HMBC				i S	Sn	16 48 46.2	-3.2
CO01	Juntas del Tor	5.01	195	eP	Pn	16 47 54.2	+0.7
GO04	Tololo Observa	5.40	201	eP	Pn	16 47 56.9	-1.8
LPAZ	La Paz	8.80	3	P	Pn	16 48 45.6	+0.4
	comp=N,1.2nm,0.3s,baz=117,slow=2.6,SNR=17						
SIV	San Ignacio	11.49	39	P	Pn	16 49 17.2	-3.8
	comp=N,4.4nm,0.3s,baz=234,slow=11,SNR=40						
TORD	Torodi Ar. Bea	78.31	69	P	P	16 58 28.7	+0.4
	comp=N,0.3nm,0.5s,baz=237,slow=4.4,SNR=2.2						
YKA	Yellowknife Ar	94.69	340	P	P	16 59 49.0	+0.9
	comp=N,0.4nm,0.6s,baz=133,slow=4.2,SNR=7.1						
ASAR	Alice Springs	126.82	206	PKP	PKiKP	17 05 32.5	+0.7
	comp=N,0.3nm,0.6s,baz=138,slow=1.7,SNR=9.2						
WRA	Warramunga Arr	129.96	209	PKP	PKiKP	17 05 38.8	+0.6
	comp=N,0.1nm,0.4s,baz=150,slow=1.5,SNR=5.6						
ZALV	Zalesovo Beam	145.06	28	PKPbc	PKPdf	17 06 05.2	+1.4
	comp=N,2.1nm,0.5s,baz=309,slow=4.9,SNR=11						
MKAR	Makanchi Array	148.31	40	PKPbc	PKPbc	17 06 14.4	+1.3
	comp=N,0.6nm,0.6s,baz=310,slow=3.3,SNR=8.9						

IDC 21 17:01:47.0±2.7,**4°.30S**×**153°.09E**,**h0**km,**mb3.3**/2, **mb1 3.6**/2,**mb1mx3.3**/35,**mbtmp3.4**/2,**MS2.9**/1,**Ms1 2.9**/1, **ms1mx2.3**/33,**Error ellipse: s-maj=52.5km s-min=31.8km az=11.0**,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	1.06	270	Pn	Pn	17 02 09.9	+0.7
	baz=152,slow=3.1						
KRVT				Sn	Sn	17 02 24.6	-0.1
	38nm,0.3s,baz=213,slow=21,SNR=2.1						
WRA	Warramunga Arr	23.99	228	P	P	17 07 03.1	-0.5
	0.3nm,0.3s,baz=53,slow=9.9,SNR=8.0						
ASAR	Alice Springs	26.71	222	P	P	17 07 28.9	+0.5
	0.2nm,0.4s,baz=55,slow=9.0,SNR=7.4						
KSRS	Korea Array	47.69	333	LR	LR	17 31 03.7	
	comp=Z,11nm,18.0s,baz=105,slow=37						
TORD	Torodi Ar. Bea	150.43	289	PKPbc	PKPbc	17 21 40.8	-0.9
	0.2nm,0.5s,baz=80,slow=1.6,SNR=1.8						

IDC 21 17:04:26.1±2.1,**1°.09N**×**126°.59E**,**h0**km,**mb3.4**/3, **mb1 3.6**/3,**mb1mx3.4**/35,**mbtmp3.5**/3,**Error ellipse: s-maj=186.1km s-min=24.1km az=66.0**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.25	160	P	P	17 09 24.4	-0.4
	0.4nm,0.4s,baz=339,slow=11,SNR=14						
ASAR	Alice Springs	25.62	164	P	P	17 09 57.8	+0.3
	0.5nm,0.7s,baz=343,slow=11,SNR=12						
MKAR	Makanchi Array	59.64	326	P	P	17 14 32.1	0.0
	0.6nm,0.5s,baz=124,slow=8.3,SNR=9.5						

*WEL **21** 17:10:00,43°.48S×169°.71E,h3km,ML4.0,Mw3.4, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁴ Nm; Mrr1.28; Mθθ-0.45; Mφφ-0.83; Mrθ-0.41; Mrφ-1.38; Mθφ-0.07; Fault plane solution: Mo1.74000×10¹⁴ NP1: φ=20.00000°,δ44.00000°,λ58.00000°. NP2φ=240.00000°, δ54.00000°,λ117.00000°. Principal axes: T -20.6600, Plg68.0000°, Azm209.0000°; N 6.5200, Plg21.0000°, Azm43.0000°; P 14.1400, Plg5.0000°, Azm312.0000°;*

WEL 21 17:10:06.2±0.4,**43°S**±4°×**17°0E**±°,**h5**km±3km,**M4.0**/37, **mB4.9**/6,**ML4.0**/42,**MLv3.8**/37,**Mw(mB)4.2**/6 **Error ellipse: s-maj=0.0km s-min=0.0km az=134.0,South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FOZ	Fox Glacier	0.09	125	P	Pg	17 10 08.3	+0.1
FOZ				S	Sg	17 10 10.0	+0.5
GCSZ	Gaunt Creek Bo	0.48	70	P	Pg	17 10 15.8	+0.4
WVZ	Waitaha Valley	0.85	62	P	Pg	17 10 22.9	+0.4
JCZ	Jackson Bay	0.90	228	P	Pg	17 10 22.8	-0.6
JCZ				S	Sb	17 10 37.2	+0.6
LBZ	Lake Benmore	0.97	159	P	Pg	17 10 24.3	-0.5
RPZ	Rata Peaks	1.00	104	P	Pg	17 10 25.8	+0.3
ARCZ	Arundel	1.16	114	P	Pg	17 10 28.5	0.0
TMZ	Timaru	1.30	134	P	Pn	17 10 30.7	-0.4
WKZ	Wanaka	1.44	200	P	Pn	17 10 31.9	-1.1
INZ	Inchbonnie	1.48	60	P	Pn	17 10 32.4	-1.1
WACZ	Wakanui South	1.61	107	P	Pn	17 10 35.7	+0.3
ODZ	Otahua Downs	1.70	157	P	Pn	17 10 36.8	+0.2
OXZ	Oxford	1.70	86	P	Pn	17 10 36.7	0.0
MSZ	Milford Sound	1.75	227	P	Pn	17 10 36.5	-0.9
EAZ	Earnscleugh	1.77	189	P	Pn	17 10 36.9	-0.7
RACZ	Rakaia	1.78	99	P	Pn	17 10 38.1	+0.4
LTZ	Lake Taylor	2.00	70	P	Pn	17 10 41.1	+0.3
MQZ	McQueen's Vall	2.15	97	P	Pn	17 10 42.5	-0.3
AMZ	Amberley	2.17	83	P	Pn	17 10 43.6	+0.6
WHZ	Wether Hill Ro	2.72	207	P	Pn	17 10 49.5	-1.2
THZ	Tophouse	2.92	55	P	Pn	17 10 53.2	-0.2
KHZ	Kahutara	3.00	71	P	Pn	17 10 54.5	0.0
MRNZ	Matariki Terra	3.07	48	P	Pn	17 10 54.8	-0.6
SYZ	Scrubby Hill	3.08	187	P	Pn	17 10 55.0	-0.6
QRZ	Quartz Range	3.38	39	P	Pn	17 10 58.7	-1.0
TKNZ	Takaka Hill	3.43	46	P	Pn	17 10 59.7	-0.7
PYZ	Puysegur Point	3.44	218	P	Pn	17 11 01.4	+0.9
NNZ	Nelson	3.54	52	P	Pn	17 11 01.9	0.0
BSWZ	Black Birch Sta	3.54	62	P	Pn	17 11 03.1	+1.1
APZ	The Paps	3.57	199	P	Pn	17 11 01.5	-0.8
TUWZ	Tuamarina	3.74	58	P	Pn	17 11 05.3	+0.7
TCW	Tory Channel	4.07	58	P	Pn	17 11 10.0	+0.8
DUWZ	D'Urville Isla	4.12	51	P	Pn	17 11 10.1	+0.2
MSWZ	Moikau Station	4.59	65	P	Pn	17 11 14.8	-1.5
CAW	Cannon Point	4.62	61	P	Pn	17 11 16.1	-0.7
KIW	Kapiti Island	4.67	58	P	Pn	17 11 17.0	-0.4
OGWZ	Otaki Gorge	4.85	59	P	Pn	17 11 18.8	-1.1
HOWZ	Holdsworth Sta	5.02	61	P	Pn	17 11 27.4	+5.1
NMEZ	Namu Road	5.13	39	P	Pn	17 11 24.7	+1.0
MRZ	Mangatainoka R	5.20	59	P	Pn	17 11 22.9	-1.7
NBEZ	Newall Road No	5.24	38	P	Pn	17 11 25.2	0.0
KHEZ	Kahui Hut	5.29	39	P	Pn	17 11 26.0	0.0
PREZ	Palmer Road	5.32	40	P	Pn	17 11 27.2	+0.9
LREZ	Lake Rotokare	5.34	43	P	Pn	17 11 27.8	+1.2
NEZ	North Egmont	5.34	40	P	Pn	17 11 26.9	+0.1
PKE	Pukeiti	5.36	38	P	Pn	17 11 28.3	+1.4
WAZ	Wanganui	5.43	49	P	Pn	17 11 29.0	+1.1
POWZ	Post Office Ro	5.47	58	P	Pn	17 11 34.3	+5.9
PRWZ	Pori Road	5.50	60	P	Pn	17 11 27.1	-1.7
BFZ	Birch Farm	5.61	62	P	Pn	17 11 29.0	-1.3
VRZ	Vera Road	5.78	43	P	Pn	17 11 32.8	+0.2
TSZ	Takapari Road	5.79	56	P	Pn	17 11 37.5	+4.6
PNHZ	Pukenui	6.02	56	P	Pn	17 11 41.8	+5.7
BHHZ	Black Hill Sta	6.21	52	P	Pn	17 11 42.4	+3.7
ETVZ	East Tongariro	6.26	48	P	Pn	17 11 41.6	+2.1
KRHZ	Kereru	6.29	55	P	Pn	17 11 44.4	+4.6
HIZ	Hauiti	6.30	40	P	Pn	17 11 39.1	-0.8
KAHZ	Kahuranaki	6.51	58	P	Pn	17 11 42.0	-0.7
BKZ	Black Stump Fm	6.68	52	P	Pn	17 11 49.5	+4.4
TLZ	Tolley Road	6.78	43	P	Pn	17 11 46.0	-0.4
NMHZ	Naumai	6.91	53	P	Pn	17 11 53.8	+5.6
MTHZ	Maungataniwha	7.09	52	P	Pn	17 11 54.5	+3.8
AWAZ	Awhitu Peninsu	7.43	32	P	Pn	17 11 55.3	0.0
MKAZ	Moumakai	7.61	35	P	Pn	17 11 58.7	+1.0
RAGZ	Rawiri	7.66	52	P	Pn	17 11 58.8	+0.2

*IDC **21** 17:15:51.6±1.1,55°.50S×27°.05W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/19,mbtmp4.0/3,MS3.5/3,Ms1 3.4/3, ms1mx2.9/42,Error ellipse: s-maj=50.6km s-min=29.8km az=95.0*

*NEIC **21** 17:15:52.3±0.8,55°.5S±0°.1×26°.6W±0°.1,h10km±1km, mb4.3/8,Error ellipse: s-maj=21.7km s-min=13.0km az=159.0*

ISC 21 17:15:52.3±0.9,**55°.5S**±0°.1×**26°.7W**±0°.2,**h10**km,**n17**, σ0§**89**/13,**mb4.3**/4,**MS3.5**/3,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	5.81	278	Pn	Pn	17 17 18.7	+0.3
SNAA	Sanae	19.12	157	P	P	17 20 14.7	-0.4
PMSA	Palmer Station	20.49	228	LR	LR	17 26 57.2	
	comp=Z,102nm,19.3s,baz=32,slow=33						
BELA	Belgrano 2	22.64	184	P	P	17 20 51.9	-1.2
QSPA	South Pole Qui	34.75	180	P	P	17 22 42.8	+0.4
SUR	Sutherland	40.20	75	LR	LR	17 37 49.5	
	comp=Z,69nm,18.2s,baz=244,slow=33						
BOSA	Boshof	45.54	76	LR	LR	17 40 58.4	
	comp=Z,49nm,19.3s,baz=196,slow=33						
VNDA	Vanda	47.13	183	P	P	17 24 24.7	+0.8
	0.9nm,0.6s,baz=188,slow=5.9,SNR=16						
VNDA	Vanda	47.13	183	P	P	17 24 24.8	+0.8
VNDA				IAmb	IAmb	17 24 28.7	
	comp=Z,5.0nm,1.3s						
LPAZ	La Paz	50.32	304	P	P	17 24 49.3	-0.5
	comp=Z,0.8nm,0.4s,baz=153,slow=4.5,SNR=2.4						
LPAZ	La Paz	50.32	304	IAmb	IAmb	17 25 04.8	
	comp=Z,2.1nm,0.7s						
CASY	Casey	54.32	160	P	P	17 25 18.2	0.0
CASY				IAmb	IAmb	17 25 36.5	
	comp=Z,6.6nm,1.4s						
TOA0	Torodi Ar. Sit	72.43	29	P	P	17 27 18.2	-0.4
TORD	Torodi Ar. Bea	72.43	29	P	P	17 27 20.4	+1.7
	comp=Z,1.7nm,0.5s,baz=200,slow=6.6,SNR=19						
TORD	Torodi Ar. Bea	72.43	29	P	P	17 27 18.2	-0.4
TORD				IAmb	IAmb	17 27 21.3	
	comp=Z,1.6nm,0.8s						
YKA	Yellowknife Ar	135.97	318	PKP	PKPdf	17 35 10.8	-1.1
	comp=Z,0.2nm,0.6s,baz=131,slow=2.1,SNR=3.6						
ILAR	Eielson Array	149.98	312	PKPbc	PKPbc	17 35 41.5	+0.2
	comp=Z,0.9nm,0.8s,baz=116,slow=2.1,SNR=7.7						

*NEIC **21** 17:41:43.3±2.0,40°.86N±0°.03×124°.82W±0°.05,h19km±8km, Error ellipse: s-maj=6.7km s-min=3.8km az=122.0*

*NCEDC **21** 17:41:44.5±2.2,40°.86N±0°.04×124°.82W±0°.07,h23km±8km, ML3.1/13,ML2.8/63(NEIC),Error ellipse: s-maj=8.0km s-min=6.1km az=95.0*

*ANF **21** 17:41:44.9±0.7,40°.95N×124°.56W,h21km±4km,ML2.8/10, Error ellipse: s-maj=4.7km s-min=2.7km az=55.0*

ISC 21 17:41:42.2±1.4,**40°.86N**±0°.03×**124°.83W**±0°.07,**h15**km,**n59**, σ1§**12**/64,**Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCC	Jacoby Creek,	0.61	94		Sb	17 42 03.4	+0.4
JCC	Jacoby Creek,	0.61	94		Pb	17 41 55.2	+0.6
JCC	Jacoby Creek,	0.61	94	IAML		17 42 03.6	
	comp=E,2μm,0.3s						
JCC				IAML		17 42 03.7	
	comp=N,2μm,0.2s						

KRPM	Rodgers	0.68	64		Pb	17 41 56.5	+0.6
KMPM	Mount Pierce	0.70	129		Pb	17 41 56.9	+0.7
KHMM	Horse Mountain	0.83	89		Pg	17 41 58.9	+0.4
KSMM	Slide Mountain	0.84	143		Pg	17 41 58.8	+0.2
KCRM	Chalk Rock	0.89	119		Pb	17 41 59.8	+0.4
KMRM	Mail Ridge	1.07	126		Pb	17 42 02.6	+0.2
KMRM				IAML		17 42 17.6	
	comp=N,264nm,0.7s						
KMRM				IAML		17 42 19.7	
	comp=E,305nm,0.5s						
KOMM	Orleans Mounta	1.12	68		Pb	17 42 03.1	-0.3
KBSM	Bell Springs	1.34	135		Pn	17 42 06.4	-0.1
KCPM	Cahto Peak	1.52	140		Pn	17 42 08.4	-0.5
M02C	Callahan	1.58	70		Pn	17 42 09.4	-0.4
M02C				IAML		17 42 29.7	
	comp=E,171nm,0.4s						
M02C				IAML		17 42 29.9	
	comp=N,141nm,0.5s						
M02C	Callahan	1.58	70	P	Pn	17 42 09.2	-0.7
	baz=251,SNR=52						
M02C				Sb	Sn	17 42 28.2	-1.9
	baz=251						
L02E	Cave Junction	1.59	35		Pn	17 42 09.3	-0.5
L02E	Cave Junction	1.59	35	P	Pn	17 42 09.3	-0.5
	baz=215						
L02E				S	Sn	17 42 28.3	-1.9
	baz=215						
N02D	Trinity Center	1.62	85		Pn	17 42 09.6	-0.7
N02D	Trinity Center	1.62	85	P	Pn	17 42 09.6	-0.7
	baz=266						
O02D	Mt. Diablo Mer	1.70	113		Pn	17 42 11.1	-0.3
O02D	Mt. Diablo Mer	1.70	113	P	Pn	17 42 11.1	-0.3
	baz=294,SNR=126						
O02D				S	Sn	17 42 31.4	-1.6
	baz=294						
YBH	Yreka Blue Hor	1.82	61		Pn	17 42 13.1	0.0
YBH	Yreka Blue Hor	1.82	61		Sn	17 42 34.9	-1.0
YBH	Yreka Blue Hor	1.82	61	IAML		17 42 37.0	
	comp=E,82nm,0.3s						
YBH				IAML		17 42 37.2	
	comp=N,74nm,0.5s						
GNAM	Navarro Ridge	1.90	151		Pn	17 42 13.7	-0.5
GASB	Alder Springs	2.02	126		Pn	17 42 16.1	+0.2
K02D	Willamette Mer	2.03	25	P	Pn	17 42 15.6	-0.4
	baz=206,SNR=42						
K02D				S	Sn	17 42 39.3	-1.8
	baz=206						
LTCM	Tuscan Springs	2.17	107		Pn	17 42 18.4	+0.6
HUMO	Hull Mountain	2.24	38		Pn	17 42 18.6	-0.1
HOPS	Hopland Field	2.31	144	Pn	Pn	17 42 19.2	-0.4
L04D	Klamath Falls	2.33	54		Pn	17 42 21.1	+0.9
L04D	Klamath Falls	2.33	54	Pb	Pb	17 42 22.8	-1.2
	baz=235,SNR=7.8						
L04D				Sb	Sn	17 42 50.2	+1.6
	baz=235						
O03E	Paynes Creek	2.38	103	P	Pn	17 42 20.5	-0.2
	baz=285,SNR=10.0						
O03E				S	Sn	17 42 47.8	-1.9
	baz=285						
J01E	Myrtle Point	2.39	16	Pn	Pn	17 42 21.2	+0.4
J01E				IAML		17 42 57.7	
	comp=N,39nm,2.6s						
J01E				IAML		17 43 37.9	
	comp=E,29nm,2.8s						
J01E	Myrtle Point	2.39	16	P	Pn	17 42 21.2	+0.4
	baz=196,SNR=6.4						
J01E				S	Sn	17 42 49.1	-0.8
	baz=196						
M04C	Macdoel	2.43	67	Pn	Pn	17 42 22.4	+0.8
M04C				IAML		17 43 00.8	
	comp=E,65nm,0.8s						
M04C	Macdoel	2.43	67	Sb	Sn	17 42 52.4	+1.2
	baz=248						
LMEM	Manzanita Entr	2.50	96		Pn	17 42 23.8	+1.2
DBO	Dodson Butte	2.55	27	Pn	Pn	17 42 24.4	+1.4
HATC	Hat Creek Radi	2.56	90		Pn	17 42 24.5	+1.3
SUTB	Sutter Butte	2.85	124		Pn	17 42 26.4	-0.7
ORV	Oroville	2.87	116		Pn	17 42 26.8	-0.6
K04D	Chiloquin, OR	2.90	52	S	Sn	17 43 00.2	-2.4
	baz=233						
MCCM	Marconi Confer	3.11	150	Pn	Pn	17 42 33.3	+2.7
MCCM				IAML		17 43 21.1	
	comp=N,37nm,2.4s						
MCCM				IAML		17 43 51.6	
	comp=E,42nm,2.5s						
I02E	Swisshome, OR	3.32	12	Pn	Pn	17 42 34.2	+0.5
I02E				IAML		17 44 00.1	
	comp=N,22nm,3.2s						
I02E				IAML		17 44 45.0	
	comp=E,34nm,3.6s						
I04A	Tendick Farm,	3.43	31	P	Pn	17 42 37.6	+2.4
	baz=212						
K05A	Summer Lake	3.48	56	Pn	Pn	17 42 37.1	+1.1
K05A				IAML		17 43 40.4	
	comp=N,17nm,5.0s						
K05A				IAML		17 43 54.8	
	comp=E,14nm,4.2s						
BEKR	Beckworth	3.56	105		Pn	17 42 37.9	+0.9
VAK	Adit at Lawren	3.59	145		Pb	17 42 44.4	-1.0
J05D	Fort Rock, OR	3.61	47	P	Pn	17 42 39.8	+2.1
	baz=229						
MPK	Martis Peak	4.00	111		Pn	17 42 44.3	+1.0
MPK				IAML		17 43 37.9	
	comp=E,17nm,3.4s						
MPK				IAML		17 43 39.1	
	comp=N,18nm,0.8s						
EMB	Emerald Bay	4.10	116	Pn	Pn	17 42 46.0	+1.5
EMB				IAML		17 43 38.0	
	comp=N,8.7nm,0.9s						
EMB				IAML		17 45 03.4	
	comp=E,10nm,3.8s						
PINE	Pine Mountain	4.11	43	Pn	Pn	17 42 46.7	+2.1
PINE				IAML		17 44 17.0	
	comp=N,11nm,4.0s						
PINE				IAML		17 44 18.2	
	comp=E,11nm,4.9s						

0.3nm,0.8s,baz=86,slow=9.5,SNR=4.6
ASAR Alice Springs 31.81 249 P **P 17 50 05.8 0.0**
0.5nm,0.5s,baz=76,slow=9.3,SNR=9.1
CMAR Chiang Mai Arr 74.04 294 P **P 17 55 18.1 +1.0**
0.7nm,0.8s,baz=115,slow=4.1,SNR=4.6
ILAR Eielson Array 86.74 18 P **P 17 56 24.1 -0.3**
1.9nm,1.1s,baz=230,slow=4.9,SNR=5.9
YKA Yellowknife Ar 97.91 27 P **P 17 57 15.2 -0.9**
0.1nm,0.4s,baz=254,slow=4.6,SNR=5.1

IDC 21 18:07:18.2±2.0, 52.62S×141.92E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/34, mbtmp3.5/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/31, Error ellipse: s-maj=499.5km s-min=27.0km az=78.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**20.73**	**359**	LR	LR	18 19 23.6	
	comp=Z,59nm,18.4s,baz=207,slow=35						
VNDA	**Vanda**	**26.06**	**170**	P	P	18 12 52.8	0.0
	1.2nm,1.0s,baz=310,slow=6.4,SNR=4.8						
H01W1	**Cape Leeuwin H**	**26.51**	**301**	T	T	18 39 57.1	
	baz=141						
H01W2	**Cape Leeuwin H**	**26.52**	**301**	T	T	18 39 49.3	
	baz=141						
H01W3	**Cape Leeuwin H**	**26.53**	**301**	T	T	18 39 56.6	
	baz=141						
ASAR	**Alice Springs**	**29.55**	**345**	P	P	18 13 24.1	-0.4
	0.2nm,0.6s,baz=165,slow=9.4,SNR=4.1						
WRA	**Warramunga Arr**	**33.14**	**347**	P	P	18 13 56.5	+0.4
	0.7nm,1.0s,baz=171,slow=9.2,SNR=2.8						
FITZ	**Fitzroy Crossi**	**36.74**	**334**	LR	LR	18 27 33.9	
	comp=Z,46nm,20.1s,baz=172,slow=33						

*SJA **21** 18:07:42.1±0.6, 22.32S×67.64W, h199km±3km, ML5.1, MW4.9*
*MOS **21** 18:07:42.3±1.5, 22.35S×67.49W, h161km, mb4.9/6, Error ellipse: s-maj=10.7km s-min=6.1km az=102.8*
*NEIC **21** 18:07:42.8±2.0, 22.30S±0.05×67.40W±0.08, h153km±4km, mb4.9/316, ML5.2(GUC), Error ellipse: s-maj=10.4km s-min=7.6km az=83.0*
*IDC **21** 18:07:43.9±0.6, 22.29S×67.44W, h160km±5km, mb4.5/11, mb1 4.7/16, mb1mx4.5/26, mbtmp5.0/16, MS3.7/16, Ms1 3.7/16, ms1mx3.4/58, Error ellipse: s-maj=10.6km s-min=9.8km az=113.0*
*VAO **21** 18:07:43.5±0.3, 22.27S×67.54W, h175km±3km, mb5.1*
*GUC **21** 18:07:45.4±0.7, 22.37S×67.73W, h181km±5km, ML5.2*
*SCB **21** 18:07:46.5±2.1, 22.29S×67.65W, h127km±29km, ML4.7/13, MW4.7, Error ellipse: s-maj=10.4km s-min=4.4km az=0.0*
*GCMT **21** 18:07:48.8±0.2, 22.36S±0.02×67.68W±0.01, h184km±1km, MW5.2/127, Moment Tensor Solution. s50,c60; s127,c183; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}1.74±.14; $M_{\theta\theta}$-0.52±.17; $M_{\phi\phi}$-1.22±.20; $M_{r\theta}$0.03±.10; $M_{\theta\phi}$3.63±.18; $M_{\phi r}$-5.81±.12; Best double couple: $M_0$7.02300×10¹⁶ NP1:φs279.00000°, δ31.00000°, λ16.00000°. NP2:φs175.00000°, δ82.00000°, λ120.00000°. Principal axes: T 6.9660, Plg45.0000°, Azm116.0000°; N 0.1100, Plg30.0000°, Azm350.0000°; P -7.0800, Plg30.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 18:07:43.5±0.5, 22.31S±0.03×67.57W±0.03, h165km±4km, n780, σ1§39/818, mb4.9/186, 104C-36D, Fault plane solution: NP1:φs294.05539°, δ41.65686°, λ51.81699°. NP2:φs160.52348°, δ58.50288°, λ118.80814°. Principal axes: T Plg63.8624°, Azm121.1909°; N Plg24.2602°, Azm324.4931°; P Plg9.1416°, Azm230.3342°;
Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.27**	**256**	P	**Pn**	**18 08 13.9**	**+1.5**
	532nm,0.3s,baz=69,slow=6.5,SNR=1767						
LVC				S	**Sn**	**18 08 36.0**	**+1.4**
	1µm,0.3s,baz=356,slow=6.1,SNR=16						
LVC	**Limon Verde**	**1.27**	**256**	*eP*	**Pn**	**18 08 13.9**	**+1.5**
LVC				*eS*	**Sn**	**18 08 36.1**	**+1.4**
LVC	**Limon Verde**	**1.27**	**256**	P	**Pn**	**18 08 13.9**	**+1.5**
LVC	**Limon Verde**	**1.27**	**256**	*eP*	**Pn**	**18 08 14.0**	**+1.6**
LVC				*eS*	**Sn**	**18 08 37.6**	**+2.9**
LVC	**Limon Verde**	**1.27**	**256**	*eP*	**Pn**	**18 08 14.1**	**+1.6**
LVC				*eS*	**Sn**	**18 08 36.0**	**+1.4**
PB09	**IPOC Station P**	**1.63**	**288**	P	**Pn**	**18 08 17.6**	**+1.8**
PB09	**IPOC Station P**	**1.63**	**288**	*eP*	**Pn**	**18 08 17.7**	**+2.0**
PB09				*eS*	**Sn**	**18 08 41.8**	**+1.3**
PB09	**IPOC Station P**	**1.63**	**288**	P	**Pn**	**18 08 17.7**	**+2.0**
PB09				IAML		18 08 44.4	
	6µm,0.7s						
PB09	**IPOC Station P**	**1.63**	**288**	*eP*	**Pn**	**18 08 17.0**	**+1.3**
PB09				*eS*	**Sn**	**18 08 43.2**	**+2.7**
PB09				IAML		18 08 44.1	
	comp=Z,5µm,0.3s						
PB06	**IPOC Station P**	**1.89**	**258**		**Pn**	**18 08 19.4**	**+1.0**
PB06	**IPOC Station P**	**1.89**	**258**	*eP*	**Pn**	**18 08 19.4**	**+1.0**
PB06				*eS*	**Sn**	**18 08 45.5**	**+0.1**
PB06				IAML		18 08 48.4	
	comp=N,10µm,0.5s						
PB06	**IPOC Station P**	**1.89**	**258**	P	**Pn**	**18 08 19.8**	**+1.3**
PB06				IAML		18 08 49.9	
	comp=N,5µm,0.2s						
PB06	**IPOC Station P**	**1.89**	**258**	*eP*	**Pn**	**18 08 19.5**	**+1.0**
PB06				*eS*	**Sn**	**18 08 47.0**	**+1.5**
PB06				IAML		18 08 49.8	
	comp=Z,7µm,0.1s						
YJA	**Yavi**	**1.91**	**86**	P	**Pn**	**18 08 21.4**	**+2.4**
YJA				IAML		18 08 50.8	
	comp=Z,500nm,0.9s						
YJA	**Yavi**	**1.91**	**86**	*eP*	**Pn**	**18 08 21.8**	**+2.8**
YJA				*eS*	**Sn**	**18 08 49.8**	**+3.5**
PB15	**IPOC Station P**	**1.97**	**243**		**Pn**	**18 08 20.6**	**+1.1**
PB15	**IPOC Station P**	**1.97**	**243**	*eP*	**Pn**	**18 08 20.5**	**+1.1**
PB15				*eS*	**Sn**	**18 08 47.6**	**+0.5**
PB15	**IPOC Station P**	**1.97**	**243**	P	**Pn**	**18 08 20.5**	**+1.1**
PB15	**IPOC Station P**	**1.97**	**243**	*eP*	**Pn**	**18 08 20.4**	**+1.0**
PB15				*eS*	**Sn**	**18 08 48.7**	**+1.6**
PB15				IAML		18 08 50.6	
	comp=Z,32µm,0.2s						
MOCB	**Mochara**	**2.08**	**60**	P	**Pn**	**18 08 23.4**	**+2.5**
MOCB				S	**Sn**	**18 08 50.1**	**+0.3**
MOCB				IAML		18 08 58.0	
	comp=Z,4µm,0.4s						
MOCB				IAML		18 09 00.8	
	comp=Z,5µm,0.7s						
HJA	**Humahuaca**	**2.19**	**115**	*eP*	**Pn**	**18 08 24.5**	**+2.4**
PB07	**IPOC Station P**	**2.22**	**285**		**Pn**	**18 08 23.3**	**+1.0**
PB07	**IPOC Station P**	**2.22**	**285**	*eP*	**Pn**	**18 08 23.2**	**+1.0**
PB07				*eS*	**Sn**	**18 08 51.9**	**-0.4**
PB07				IAML		18 08 53.7	
	comp=N,13µm,0.4s						
PB07	**IPOC Station P**	**2.22**	**285**	P	**Pn**	**18 08 23.5**	**+1.2**
PB07				S	**Sn**	**18 08 50.1**	**-2.1**
PB07				IAML		18 08 53.5	
	comp=N,10µm,0.2s						
PB07	**IPOC Station P**	**2.22**	**285**	*eP*	**Pn**	**18 08 23.1**	**+0.8**
PB07				*eS*	**Sn**	**18 08 53.0**	**+0.8**
PB07				IAML		18 08 55.8	
	comp=Z,7µm,0.4s						
PB02	**IPOC Station P**	**2.37**	**294**		**Pn**	**18 08 24.8**	**+0.8**
PB02	**IPOC Station P**	**2.37**	**294**	*eP*	**Pn**	**18 08 25.1**	**+1.1**
PB02				*eS*	**Sn**	**18 08 55.0**	**-0.3**
PB02				IAML		18 08 56.7	
	comp=N,12µm,0.3s						
PB02	**IPOC Station P**	**2.37**	**294**	P	**Pn**	**18 08 25.0**	**+1.1**
PB02				S	**Sn**	**18 08 53.3**	**-1.9**
PB02				IAML		18 08 56.6	
	comp=N,9µm,0.9s						
PB02	**IPOC Station P**	**2.37**	**294**	*eP*	**Pn**	**18 08 24.5**	**+0.5**
PB02				*eP*	**Pn**	**18 08 24.7**	**+0.8**
PB02				*eS*	**Sn**	**18 08 49.4**	**-5.8**
PB02				*eS*	**Sn**	**18 08 56.0**	**+0.8**
PB02				IAML		18 08 57.5	
	comp=Z,10µm,0.1s						
PB08	**IPOC Station P**	**2.61**	**325**		**Pn**	**18 08 29.1**	**+1.9**
PB08	**IPOC Station P**	**2.61**	**325**	*eP*	**Pn**	**18 08 29.2**	**+2.1**
PB08				*eS*	**Sn**	**18 09 02.7**	**+1.8**
PB08				IAML		18 09 04.5	
	comp=E,7µm,0.7s						
PB08	**IPOC Station P**	**2.61**	**325**	P	**Pn**	**18 08 29.4**	**+2.3**
PB08				IAML		18 09 04.8	
	comp=E,3µm,0.6s						
PB08	**IPOC Station P**	**2.61**	**325**	*eP*	**Pn**	**18 08 27.9**	**+0.8**
PB08				*eS*	**Sn**	**18 09 03.3**	**+2.4**
PB08				IAML		18 09 04.8	
	comp=Z,3µm,0.5s						
PATCX	**Punta Patache**	**2.82**	**301**		**Pn**	**18 08 29.6**	**+0.3**
PATCX	**Punta Patache**	**2.82**	**301**	*eP*	**Pn**	**18 08 29.6**	**+0.3**
PATCX				*eS*	**Sn**	**18 09 04.1**	**-0.8**
PATCX				IAML		18 09 07.3	
	comp=N,7µm,0.2s						
PATCX	**Punta Patache**	**2.82**	**301**	*eP*	**Pn**	**18 08 29.8**	**+0.3**
PATCX				*eP*	**Pn**	**18 08 29.8**	**+0.3**
PATCX				*eP*	**Pn**	**18 08 29.8**	**+0.5**
PATCX				*eP*	**Pn**	**18 08 29.9**	**+0.5**
PATCX				IAML		18 09 07.4	
	comp=Z,4µm,0.8s						
HMBC	**Humberstone**	**2.96**	**313**	*eP*	**Pn**	**18 08 31.1**	**+0.1**
HMBC				*eS*	**Sn**	**18 09 07.2**	**-0.8**
TA01	**Diego Aracena**	**2.98**	**305**	Pn	**Pn**	**18 08 31.2**	**-0.1**
TA01	**Diego Aracena**	**2.98**	**305**	*eP*	**Pn**	**18 08 31.2**	**-0.1**
TA01				*eS*	**Sn**	**18 09 07.0**	**-1.4**
TA01				IAML		18 09 10.5	
	comp=N,4µm,0.3s						
TA01	**Diego Aracena**	**2.98**	**305**	*eP*	**Pn**	**18 08 31.4**	**+0.1**
TA01				*eP*	**Pn**	**18 08 31.9**	**+0.7**
TA01				*eS*	**Sn**	**18 09 08.5**	**+0.2**
TA01				IAML		18 09 09.8	
	comp=Z,2µm,0.7s						
PB10	**IPOC Station P**	**3.00**	**246**	Pn	**Pn**	**18 08 31.6**	**+0.2**
PB10	**IPOC Station P**	**3.00**	**246**	*eP*	**Pn**	**18 08 31.5**	**+0.2**
PB10				*eS*	**Sn**	**18 09 06.4**	**-2.3**
PB10				IAML		18 09 09.3	
	comp=N,4µm,0.6s						
PB10	**IPOC Station P**	**3.00**	**246**	P	**Pn**	**18 08 31.8**	**+0.4**
PB10				IAML		18 09 10.7	
	comp=N,3µm,0.4s						
PB10	**IPOC Station P**	**3.00**	**246**	*eP*	**Pn**	**18 08 31.4**	**-0.1**
PB10				*eP*	**Pn**	**18 08 31.7**	**+0.2**
PB10				*eS*	**Sn**	**18 09 04.9**	**-3.8**
PB10				*eS*	**Sn**	**18 09 07.9**	**-0.8**
PB10				IAML		18 09 10.6	
	comp=Z,3µm,0.4s						
GO01	**Chusmiza**	**3.03**	**330**		**Pn**	**18 08 33.8**	**+1.5**
GO01	**Chusmiza**	**3.03**	**330**	*eP*	**Pn**	**18 08 33.9**	**+1.6**
GO01				*eS*	**Sn**	**18 09 11.7**	**+1.5**
GO01	**Chusmiza**	**3.03**	**330**	*eP*	**Pn**	**18 08 33.8**	**+1.5**
GO01				*eP*	**Pn**	**18 08 34.0**	**+1.6**
GO01				*eS*	**Sn**	**18 09 12.8**	**+2.5**
SLA	**San Lorenzo**	**3.06**	**142**	*eP*	**Pn**	**18 08 34.0**	**+1.6**
SLA				*eS*	**Sn**	**18 09 12.8**	**+2.4**
TA02	**Huaiquique**	**3.13**	**310**		**Pn**	**18 08 32.7**	**-0.4**
TA02	**Huaiquique**	**3.13**	**310**	*eP*	**Pn**	**18 08 34.1**	**+1.0**
TA02				*eS*	**Sn**	**18 09 10.9**	**-0.7**
TA02				IAML		18 09 19.7	
	comp=N,6µm,0.1s						
TA02	**Huaiquique**	**3.13**	**310**	*eP*	**Pn**	**18 08 33.1**	**0.0**
TA02				*eS*	**Sn**	**18 09 12.0**	**+0.4**
TA02				IAML		18 09 14.2	
	comp=Z,2µm,0.1s						
PB11	**IPOC Station P**	**3.19**	**322**	Pn	**Pn**	**18 08 34.2**	**+0.1**
PB11	**IPOC Station P**	**3.19**	**322**	*eP*	**Pn**	**18 08 34.4**	**+0.3**
PB11				*eS*	**Sn**	**18 09 13.4**	**0.0**
PB11	**IPOC Station P**	**3.19**	**322**	*eP*	**Pn**	**18 08 34.0**	**-0.1**
PB11				*eP*	**Pn**	**18 08 34.5**	**+0.4**
PB11				*eS*	**Sn**	**18 09 13.3**	**0.0**
PB11				IAML		18 09 14.5	
	comp=Z,3µm,1.3s						
GO02	**Mina Guanaco**	**3.39**	**213**	Pn	**Pn**	**18 08 36.9**	**+0.3**
GO02	**Mina Guanaco**	**3.39**	**213**	*eP*	**Pn**	**18 08 36.9**	**+0.3**
GO02				*i* S	**Sn**	**18 09 16.5**	**-1.6**
GO02	**Mina Guanaco**	**3.39**	**213**	*eP*	**Pn**	**18 08 37.0**	**+0.3**
GO02				*eS*	**Sn**	**18 09 17.2**	**-0.8**
PB14	**IPOC Station P**	**3.48**	**228**	Pn	**Pn**	**18 08 37.7**	**-0.1**
PB14	**IPOC Station P**	**3.48**	**228**	*i* P	**Pn**	**18 08 37.8**	**0.0**
PB14				*eS*	**Sn**	**18 09 17.8**	**-2.1**
PB14	**IPOC Station P**	**3.48**	**228**	*eP*	**Pn**	**18 08 38.0**	**+0.3**
PB14				*eS*	**Sn**	**18 09 18.6**	**-1.4**
PB14				IAML		18 09 19.8	
	comp=Z,2µm,0.7s						
FSA	**Cafayete**	**4.06**	**159**	*eP*	**Pn**	**18 08 45.7**	**+0.6**
PB16	**IPOC Station P**	**4.35**	**335**		**Pn**	**18 08 50.3**	**+1.0**
PB16	**IPOC Station P**	**4.35**	**335**	P	**Pn**	**18 08 50.6**	**+1.3**
PB16				IAML		18 09 41.4	
	comp=Z,1µm,0.6s						
PB16	**IPOC Station P**	**4.35**	**335**	*eP*	**Pn**	**18 08 49.2**	**0.0**
PB16				*eP*	**Pn**	**18 08 50.6**	**+1.3**
PB16				*eS*	**Sn**	**18 09 40.6**	**+0.1**
PB16				*eS*	**Sn**	**18 09 41.3**	**+0.8**
PB12	**IPOC Station P**	**4.49**	**324**	Pn	**Pn**	**18 08 49.3**	**-1.4**
PB12	**IPOC Station P**	**4.49**	**324**	*eP*	**Pn**	**18 08 50.6**	**-0.1**
PB12				*eS*	**Sn**	**18 09 41.3**	**-1.8**
AC01	**Pan de Azucar**	**4.72**	**215**		**Pn**	**18 08 51.8**	**-1.7**
AC01	**Pan de Azucar**	**4.72**	**215**	*eP*	**Pn**	**18 08 51.1**	**-0.4**
AC02	**Maricunga**	**4.73**	**197**	Pn	**Pn**	**18 08 53.8**	**-0.2**
AC02	**Maricunga**	**4.73**	**197**	*eP*	**Pn**	**18 08 54.2**	**+0.2**
BBOE	**La Paz, Chanca**	**5.48**	**356**	P	**Pn**	**18 09 06.9**	**+2.9**
BBOE				IAML		18 10 13.9	
	comp=Z,421nm,0.7s						
AC06	**Mina Casimiro**	**5.63**	**206**	Pn	**Pn**	**18 09 02.8**	**-2.6**
BBOD	**La Paz, Gloria**	**5.72**	**350**	P	**Pn**	**18 09 09.7**	**+2.5**
BBOD				IAML		18 10 27.6	
	comp=Z,301nm,0.8s						
GO03	**Copiap**	**5.79**	**204**		**Pn**	**18 09 05.2**	**-2.4**
LPAZ	**La Paz**	**6.01**	**355**	P	**Pn**	**18 09 13.1**	**+1.9**
	comp=Z,40nm,0.3s,baz=167,slow=8.0,SNR=283						
LPAZ				S	**Sn**	**18 10 20.5**	**+0.8**
	comp=Z,13nm,0.3s,baz=296,slow=15,SNR=5.0						
LPAZ	**La Paz**	**6.01**	**355**	Pn	**Pn**	**18 09 12.7**	**+1.6**
LPAZ	**La Paz**	**6.01**	**355**	*eP*	**Pn**	**18 09 13.2**	**+2.2**
LPAZ	**La Paz**	**6.01**	**355**	P	**Pn**	**18 09 13.3**	**+2.2**
LPAZ				IAML		18 10 29.7	
	comp=Z,158nm,0.9s						
LPAZ	**La Paz**	**6.01**	**355**	*eP*	**Pn**	**18 09 13.0**	**+1.9**
AC04	**Llanos de Chal**	**6.67**	**208**	Pn	**Pn**	**18 09 15.4**	**-3.8**
LCO	**Las Campanas**	**7.25**	**202**	P	**Pn**	**18 09 24.1**	**-3.0**
LCO	**Las Campanas**	**7.25**	**202**		**Pn**	**18 09 24.1**	**-3.0**
CO01	**Juntas del Tor**	**7.97**	**196**		**Pn**	**18 09 35.1**	**-1.5**
GO04	**Tololo Observa**	**8.35**	**200**		**Pn**	**18 09 37.6**	**-4.1**
SIV	**San Ignacio**	**8.78**	**45**	P	**Pn**	**18 09 45.3**	**-2.0**
	comp=Z,231nm,0.3s,baz=220,slow=13,SNR=1308						
SIV				S	**Sn**	**18 11 18.8**	**-6.4**
	comp=Z,94nm,0.3s,baz=138,slow=21,SNR=18						
ZON	**Zonda**	**9.26**	**186**	P	**Pn**	**18 09 50.9**	**-2.6**
ZON	**Zonda**	**9.26**	**186**		**Pn**	**18 09 50.9**	**-2.6**
CO02	**Combarbal**	**9.38**	**198**		**Pn**	**18 09 50.7**	**-4.4**
CPUP	**Villa Florida**	**10.16**	**115**	P	**Pn**	**18 10 04.6**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=299,slow=12,SNR=29						
CPUP	**Villa Florida**	**10.16**	**115**	Pn	**Pn**	**18 10 03.0**	**-2.4**
CPUP	**Villa Florida**	**10.16**	**115**	*eP*	**Pn**	**18 10 04.5**	**-0.8**
PTLB	**Pontes e Lacer**	**10.50**	**51**	*eP*	**Pn**	**18 10 07.4**	**-2.4**
VA03	**San Esteban**	**10.75**	**194**		**Pn**	**18 10 11.7**	**-1.4**
ROC1	**El Roble**	**11.06**	**195**		**Pn**	**18 10 12.3**	**-5.0**
PEL	**Peldehue**	**11.14**	**194**	P	**Pn**	**18 10 15.7**	**-2.5**
PEL	**Peldehue**	**11.14**	**194**		**Pn**	**18 10 15.7**	**-2.5**
AQDB	**Aquidauana**	**11.21**	**83**	Pn	**Pn**	**18 10 17.6**	**-1.5**
AQDB	**Aquidauana**	**11.21**	**83**	*eP*	**Pn**	**18 10 17.6**	**-1.5**
VA01	**Torpederas**	**11.27**	**198**	Pn	**Pn**	**18 10 18.1**	**-1.6**
MT02	**Curacav**	**11.36**	**195**	Pn	**Pn**	**18 10 18.6**	**-2.3**
MT05	**Renca**	**11.39**	**194**	Pn	**Pn**	**18 10 19.7**	**-1.8**
MT03	**Universidad Ad**	**11.44**	**192**		**Pn**	**18 10 20.6**	**-1.5**
VILB	**Vilhena**	**11.65**	**38**	*eP*	**Pn**	**18 10 24.9**	**-0.1**
LMEL	**Las Melosas**	**11.73**	**191**		**Pn**	**18 10 24.9**	**-1.1**
MT09	**Talagante**	**11.82**	**194**		**Pn**	**18 10 25.6**	**-1.5**
VA05	**Santo Domingo**	**11.86**	**197**		**Pn**	**18 10 25.9**	**-1.5**
BO04	**La Punta**	**11.94**	**192**		**Pn**	**18 10 27.3**	**-1.3**
MT01	**Popeta**	**11.96**	**195**		**Pn**	**18 10 27.2**	**-1.5**
ITQB	**Itaqui**	**12.27**	**129**		**Pn**	**18 10 31.6**	**-1.2**
ITQB	**Itaqui**	**12.27**	**129**	*eP*	**Pn**	**18 10 33.4**	**+0.6**
BO01	**Tunca**	**12.43**	**194**	Pn	**Pn**	**18 10 33.3**	**-1.5**
ETMB	**Extrema**	**12.49**	**6**	*eP*	**Pn**	**18 10 34.1**	**-1.6**
MCR1	**Marechal Candi**	**12.61**	**102**	*eP*	**Pn**	**18 10 36.7**	**-0.6**
PP1B	**Ponte de Pedra**	**12.82**	**71**	*eP*	**Pn**	**18 10 39.2**	**-0.7**
SALV	**Santo Antonio**	**12.90**	**62**	*eP*	**Pn**	**18 10 38.7**	**-2.3**
GO05	**Huala**	**13.22**	**196**	Pn	**Pn**	**18 10 44.0**	**-1.0**
NNA	**Nana**	**13.55**	**318**	P	**P**	**18 10 52.4**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=155,slow=11,SNR=26						
NNA				S	**Sn**	**18 13 18.5**	**-1.3**
	comp=Z,1.7nm,0.3s,baz=286,slow=16,SNR=3.9						
NNA	**Nana**	**13.55**	**318**	Pn	**Pn**	**18 10 49.6**	**+0.3**
NBRS	**Nobres**	**13.72**	**57**	*eP*	**Pn**	**18 10 50.4**	**-1.1**
FRBT	**Francisco Belt**	**13.74**	**108**	*eP*	**Pn**	**18 10 51.5**	**-0.1**
TRCB	**Terra Rica**	**13.81**	**95**	*eP*	**Pn**	**18 10 52.0**	**-0.6**
ML02	**Panimavida**	**13.82**	**193**	Pn	**Pn**	**18 10 51.7**	**-0.8**
C2SB	**Chapadao do Su**	**14.24**	**78**	*eP*	**Pn**	**18 10 57.5**	**-0.4**
PTGB	**Pitanga**	**14.43**	**103**	*eP*	**P**	**18 11 00.6**	**-1.9**
PDRB	**Porto dos Gac**	**14.84**	**46**	*eP*	**Pn**	**18 11 04.0**	**-1.4**
ITAB	**Concordia**	**14.86**	**112**	P	**P**	**18 11 05.5**	**-1.7**
ITAB	**Concordia**	**14.86**	**112**	*eP*	**P**	**18 11 05.4**	**-1.7**
CPSB	**Cacapava Do Su**	**15.01**	**125**	*eP*	**Pn**	**18 11 06.0**	**-1.3**
PCMB	**Pacaembu**	**15.15**	**90**	*eP*	**P**	**18 11 08.9**	**-1.5**
PLTB	**Pedras Altas**	**15.59**	**130**	Pn	**Pn**	**18 11 12.1**	**-2.4**
PLTB	**Pedras Altas**	**15.59**	**130**	*eP*	**Pn**	**18 11 12.2**	**-2.4**
CLDB	**Colider**	**16.01**	**47**	*eP*	**Pn**	**18 11 18.9**	**-0.8**
ITRB	**Iturama**	**16.28**	**84**	*eP*	**P**	**18 11 22.3**	**-0.7**
CNLB	**Canela**	**16.58**	**118**	*eP*	**Pn**	**18 11 25.7**	**-1.0**
FRTB	**Fartura**	**16.64**	**97**	*eP*	**Pn**	**18 11 26.6**	**-0.7**
LC01	**Cunco**	**16.94**	**192**		**P**	**18 11 29.8**	**-0.3**
TIJ01	**Guaruva-PR**	**17.25**	**104**	*eP*	**Pn**	**18 11 33.4**	**-1.4**
BB19B	**Bebedouro**	**17.74**	**90**	*eP*	**Pn**	**18 11 39.1**	**-1.4**
TER01	**Tubaro-SC**	**17.77**	**114**	*eP*	**P**	**18 11 38.7**	**-0.5**
TBTG	**Tabatinga, AM**	**18.16**	**352**	*eP*	**Pn**	**18 11 46.1**	**+0.7**
TBTG	**Tabatinga, AM**	**18.16**	**352**	*eP*	**Pn**	**18 11 44.6**	**-0.7**
RCLB	**Rio Claro- Sao**	**18.54**	**94**	*eP*	**P**	**18 11 47.2**	**-0.5**
PLCA	**Paso Flores**	**18.54**	**187**	P	**P**	**18 11 48.2**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=8.4,slow=13,SNR=47						
PLCA	**Paso Flores**	**18.54**	**187**	P	**P**	**18 11 46.6**	**-1.0**
PLCA				IAmb	IAmb	18 11 51.1	
	comp=Z,69nm,1.2s						
PLCA	**Paso Flores**	**18.54**	**187**	*eP*	**P**	**18 11 46.6**	**-1.0**
SNDB	**Serra Nova Dou**	**18.62**	**59**	*eP*	**P**	**18 11 47.8**	**-0.8**
IPMB	**Ipameri, GO**	**18.68**	**80**	*eP*	**P**	**18 11 49.2**	**0.0**
PET01	**Itanhaem-SP**	**18.75**	**100**	*eP*	**P**	**18 11 49.4**	**-0.5**
LL04	**Puerto Octay**	**18.99**	**191**	P	**P**	**18 11 52.2**	**-0.2**
LL04				IAmb	IAmb	18 11 53.3	
	comp=Z,59nm,0.9s						
VAO	**Valinhos**	**19.03**	**96**	*eP*	**P**	**18 11 52.0**	**-1.1**
NPGB	**Novo Progresso**	**19.21**	**40**	*eP*	**P**	**18 11 53.5**	**-1.5**
LL03	**Petrohue**	**19.21**	**191**	P	**P**	**18 11 53.9**	**-0.9**
BDFB	**Brasilia**	**19.64**	**74**	P	**P**	**18 11 59.4**	**-0.3**
	comp=Z,4.1nm,0.3s,baz=244,slow=10,SNR=87						
BDFB	**Brasilia**	**19.64**	**74**	P	**P**	**18 11 58.4**	**-1.3**
MACA	**Manacapuru-AM**	**20.17**	**20**	*eP*	**P**	**18 12 03.9**	**-1.4**
PARB	**Parabuna**	**20.26**	**97**	*eP*	**P**	**18 12 05.2**	**-1.1**
LL01	**San Ignacio de**	**20.42**	**190**	P	**P**	**18 12 07.5**	**-0.2**
SLP01	**Ubatuba-SP**	**20.69**	**97**	*eP*	**P**	**18 12 10.0**	**-0.9**
PEXB	**Peixe**	**20.99**	**64**	*eP*	**P**	**18 12 13.2**	**-1.0**
LL02	**Futaleuf**	**21.13**	**189**	P	**P**	**18 12 14.9**	**-0.3**
LL02				IAmb	IAmb	18 12 17.5	
	comp=Z,54nm,1.0s						
ITTB	**Itaituba**	**21.20**	**34**	*eP*	**P**	**18 12 14.6**	**-1.7**
BSCB	**Bom Sucesso**	**21.23**	**91**	*eP*	**P**	**18 12 15.3**	**-1.4**
ESAR	**Angra dos Reis**	**21.36**	**96**	*eP*	**P**	**18 12 16.6**	**-1.3**
MCRA	**Macar, Loja**	**21.49**	**324**	P	**P**	**18 12 20.0**	**+0.6**
MCRA				IAmb	IAmb	18 12 23.3	
	comp=Z,33nm,0.9s						
BOSC	**San Juan Bosco**	**21.79**	**329**	P	**P**	**18 12 22.9**	**+0.2**
MAN01	**Angra dos Reis**	**21.80**	**96**	*eP*	**P**	**18 12 21.5**	**-1.2**
VAS01	**Vassouras-RJ**	**22.32**	**95**	*eP*	**P**	**18 12 26.8**	**-0.9**
AY01	**Puyuhuapi**	**22.45**	**190**	P	**P**	**18 12 27.4**	**-1.3**
AY01				IAmb	IAmb	18 12 28.8	
	comp=Z,54nm,1.3s						
DIAM	**Diamantina, MG**	**22.76**	**84**	*eP*	**P**	**18 12 30.4**	**-1.6**
MC01	**Montes Claros**	**22.95**	**80**	*eP*	**P**	**18 12 31.0**	**-2.6**
JANB	**Januaria**	**

Y52A Lilburn 58.02 344 P P 18 17 18.7 -0.4
Y52A IAmb IAmb 18 17 20.2
comp=Z,8.9nm,0.8s
LRAL Lakeview Retre 58.07 341 P P 18 17 19.4 0.0
W57A Gilead 58.35 348 P P 18 17 21.4 +0.2
PAULI Pauline 58.40 346 P P 18 17 22.5 +0.9
KMSC Kings Mountain 58.61 347 P P 18 17 23.8 +0.7
KMSC Kings Mountain 58.61 347 P P 18 17 24.0 +0.9
baz=165,SNR=11
HKT Hockley 58.64 331 *i* P P 18 17 23.7 +0.4
HKT pmax pmax
comp=Z,8.0nm,1.1s
V58A Windy Hill, Pi 58.81 349 P P 18 17 24.9 +0.5
V58A IAmb IAmb 18 17 25.9
comp=Z,16nm,0.8s
BG3 Lake Jocassee 58.82 345 P P 18 17 25.3 +0.7
BG3 IAmb IAmb 18 17 26.4
comp=Z,17nm,0.8s
X51A Calhoun 58.90 343 P P 18 17 25.3 +0.2
X51A IAmb IAmb 18 17 26.5
comp=Z,25nm,0.9s
VNA3 Neumayer Olymp 58.92 161 P P 18 17 24.4 -0.4
833A Chaparral WMA, 58.96 327 P P 18 17 26.1 +0.4
833A IAmb IAmb 18 17 27.5
comp=Z,21nm,0.8s
833A Chaparral WMA, 58.96 327 P P 18 17 25.9 +0.2
baz=145
VNA1 Neumayer--Stat 59.11 160 P P 18 17 27.0 +0.9
U59A Littleton 59.14 350 P P 18 17 26.6 -0.1
U59A IAmb IAmb 18 17 27.2
comp=Z,26nm,1.4s
W52A Murphy 59.16 344 P P 18 17 27.8 +0.8
W52A IAmb IAmb 18 17 28.5
comp=Z,12nm,0.8s
V55A Taylorsville 59.27 347 P P 18 17 28.6 +1.0
X48A Hartselle 59.41 341 P P 18 17 28.5 -0.1
X48A IAmb IAmb 18 17 40.0
comp=Z,12nm,0.6s
V53A Saluda 59.44 346 P P 18 17 29.4 +0.5
V53A IAmb IAmb 18 17 30.4
comp=Z,18nm,0.8s
VNA2 Neumayer--Watz 59.48 161 P P 18 17 29.5 +0.8
baz=295,slow=7.0
U56A King 59.58 348 P P 18 17 30.8 +1.0
W50A Signal Mountai 59.62 343 P P 18 17 30.4 +0.3
W50A IAmb IAmb 18 17 31.5
comp=Z,15nm,0.8s
CPCT Cooper Cave 59.65 344 P P 18 17 29.6 -0.6
CPCT IAmb IAmb 18 17 31.6
comp=Z,12nm,0.7s
TKL Tuckaleechee C 59.66 345 LR LR 18 46 45.5
comp=Z,38nm,20.2s,baz=152,slow=39
TKL Tuckaleechee C 59.66 345 P P 18 17 29.5 -0.8
TKL pmax pmax
comp=Z,18nm,0.8s
TKL Tuckaleechee C 59.66 345 P P 18 17 29.5 -0.8
TKL IAmb IAmb 18 17 31.9
comp=Z,18nm,0.8s
NATX Nacogdoches 59.69 333 P P 18 17 31.1 +0.5
NATX IAmb IAmb 18 17 32.9
comp=Z,17nm,0.8s
T59A Double "B" Far 59.71 351 P P 18 17 31.2 +0.6
T59A IAmb IAmb 18 17 32.0
comp=Z,14nm,0.9s
V52A Sevierville 59.79 345 P P 18 17 31.4 +0.2
V52A IAmb IAmb 18 17 32.5
comp=Z,21nm,0.8s
SWET Sewanee 59.80 343 P P 18 17 31.3 0.0
SWET IAmb IAmb 18 17 32.1
comp=Z,16nm,0.7s
V51A Loudon 59.94 344 P P 18 17 32.1 -0.1
T57A Hurt 60.01 349 P P 18 17 33.1 +0.5
T57A IAmb IAmb 18 17 34.0
comp=Z,18nm,0.7s
U54A Nelsons Funny 60.04 347 P P 18 17 33.6 +0.6
PLAL Pickwick Lake 60.21 341 P P 18 17 33.6 -0.5
BLA Blacksburg 60.42 348 P P 18 17 36.6 +1.1
BLA pmax pmax
comp=Z,26nm,0.7s
BLA Blacksburg 60.42 348 P P 18 17 36.6 +1.1
BLA Blacksburg 60.42 348 P P 18 17 36.3 +0.8
baz=166,SNR=5.7
TZTN Tazewell 60.45 345 P P 18 17 35.1 -0.6
baz=163
V48A Smith Brothers 60.54 342 P P 18 17 36.4 +0.1
V48A IAmb IAmb 18 17 37.1
comp=Z,16nm,0.6s
S57A Dark Hollow, R 60.70 350 P P 18 17 37.9 +0.6
S57A IAmb IAmb 18 17 39.3
comp=Z,23nm,1.3s
W45A Hickory Valley 60.72 340 P P 18 17 37.2 -0.3
R58B Mineral 60.73 351 P P 18 17 38.7 +1.2
R58B IAmb IAmb 18 17 39.2
comp=Z,25nm,1.2s
CLTN Cedars of Leba 60.73 343 P P 18 17 37.7 +0.1
CLTN IAmb IAmb 18 17 38.4
comp=Z,9.2nm,0.6s
WLAR White Oak Lake 60.77 336 P P 18 17 39.2 +1.3
JCT Junction City 60.94 328 P P 18 17 39.5 +0.4
JCT pmax pmax
comp=Z,18nm,0.7s
JCT Junction City 60.94 328 P P 18 17 39.5 +0.4
JCT IAmb IAmb 18 17 41.1
comp=Z,18nm,0.7s
JCT Junction City 60.94 328 P P 18 17 38.5 -0.6
baz=146,SNR=5.1
WHTX Lake Whitney, 61.10 331 P P 18 17 40.5 +0.3
baz=148
SNAA Sanae 61.12 161 P P 18 17 40.3 +0.5
SNAA Sanae 61.12 161 P P 18 17 39.6 -0.2
SNAA pmax pmax
comp=Z,72nm,1.4s
SNAA Sanae 61.12 161 P P 18 17 39.6 -0.2
S54A Dingess, Beckl 61.17 348 P P 18 17 41.1 +0.6
WVT Waverly 61.20 341 P P 18 17 39.8 -0.9
WVT pmax pmax
comp=Z,37nm,0.7s
WVT Waverly 61.20 341 P P 18 17 39.8 -0.9
WVT Waverly 61.20 341 P P 18 17 40.4 -0.3
baz=158
T50A Nancy 61.22 344 P P 18 17 40.4 -0.5
HPIG 61.28 321 P P 18 17 42.8 +1.1
HPIG IAmb IAmb 18 17 44.1
comp=Z,11nm,1.1s
R55A Marlinton 61.41 349 P P 18 17 43.5 +1.3
R55A IAmb IAmb 18 17 45.4
comp=Z,19nm,0.7s
UALR University of 61.45 337 P P 18 17 41.6 -0.9
UALR IAmb IAmb 18 17 50.8
comp=Z,7.1nm,0.7s
MBO M'Bour 61.56 58 P P 18 17 43.1 -0.5
MIAR Mount Ida 61.71 336 P P 18 17 44.6 +0.4
baz=153
W41B Gary Mavity, V 61.77 337 P P 18 17 44.2 -0.4
baz=154
R53A Hurricane 61.81 347 P P 18 17 45.1 +0.3
R53A IAmb IAmb 18 17 46.4
comp=Z,16nm,0.7s
WHAR Wooly Hollow 61.89 337 P P 18 17 44.7 -0.7
Q56A Snyder Ridge, 61.99 350 P P 18 17 47.4 +1.4
TX31 Lajitas Ar. Si 62.00 324 P P 18 17 46.4 0.0
TX32 Lajitas Array 62.00 324 P P 18 17 46.5 +0.2
TXAR Lajitas Array 62.00 324 P P 18 17 47.1 +0.8
comp=Z,1.8nm,0.7s,baz=150,slow=8.7,SNR=22
TXAR Lajitas Array 62.00 324 P P 18 17 46.7 +0.3
TXAR Lajitas Array 62.00 324 P P 18 17 46.7 +0.3
Z35A Perchaven, San 62.15 332 P P 18 17 47.9 +0.8
Z35A IAmb IAmb 18 17 48.9
comp=Z,25nm,1.0s
LCAR Lake Charles 62.20 339 P P 18 17 47.4 0.0
Q54A Coxs Mills 62.22 348 P P 18 17 47.7 +0.2
Q54A IAmb IAmb 18 17 49.1
comp=Z,25nm,1.1s
P57A Homestead Farm 62.24 351 P P 18 17 48.9 +1.3
P57A IAmb IAmb 18 17 49.5
comp=Z,14nm,0.7s
W39A Magazine 62.36 336 P P 18 17 49.1 +0.6
W39A IAmb IAmb 18 17 50.7
comp=Z,11nm,0.7s
W39A Magazine 62.36 336 P P 18 17 48.8 +0.3
baz=152,SNR=8.1
FCAR Ozark Folk Cen 62.37 338 P P 18 17 48.3 -0.3
X37A Clayton 62.45 334 P P 18 17 49.3 +0.2
X37A IAmb IAmb 18 17 51.0
comp=Z,14nm,0.7s

Q52A Bidwell 62.48 347 P P 18 17 49.5 +0.2
Q52A IAmb IAmb 18 17 50.7
comp=Z,14nm,1.1s
MVL Millersville 62.52 352 P P 18 17 48.9 -0.6
MVL IAmb IAmb 18 17 59.7
comp=Z,19nm,1.4s
PBMO Poplar Bluff 62.60 339 P P 18 17 49.6 -0.4
PBMO IAmb IAmb 18 18 08.9
comp=Z,14nm,0.6s
ABTX Abilene, Hawle 62.63 330 P P 18 17 50.8 +0.4
ABTX Abilene, Hawle 62.63 330 P P 18 17 50.9 +0.4
baz=146
MCWV Mont Chateau 62.70 349 P P 18 17 51.7 +1.0
MCWV Mont Chateau 62.70 349 P P 18 17 51.5 +0.8
baz=167
Q51A Peebles 62.77 346 P P 18 17 50.6 -0.6
Q51A IAmb IAmb 18 17 52.4
comp=Z,6.3nm,0.7s
P53A Whipple 62.81 348 P P 18 17 51.8 +0.4
TROLL Troll, Antarti 62.83 161 P P 18 17 52.3 +0.9
U40A Yellville 63.05 337 P P 18 17 52.9 -0.2
U40A Yellville 63.05 337 P P 18 17 53.3 +0.2
baz=154,SNR=5.6
P52A Corning 63.10 347 P P 18 17 52.7 -0.6
P52A IAmb IAmb 18 17 54.6
comp=Z,32nm,1.2s
P52A Corning 63.10 347 P P 18 17 53.5 +0.2
baz=165
PAL Palisades 63.26 355 P P 18 17 54.7 +0.4
baz=173
O54A Avella 63.30 349 P P 18 17 55.0 +0.4
O54A IAmb IAmb 18 17 55.8
comp=Z,12nm,0.7s
SSPA Standing Stone 63.35 351 P P 18 17 52.8 -2.1
SSPA Standing Stone 63.35 351 P P 18 17 54.9 0.0
baz=169
HHAR Hobbs 63.38 336 P P 18 17 55.3 +0.1
X34A Smith Ranch, M 63.48 332 P P 18 17 56.6 +0.6
X34A IAmb IAmb 18 17 57.5
comp=Z,14nm,0.7s
O52A Adamsville 63.51 348 P P 18 17 56.0 -0.1
O52A IAmb IAmb 18 17 56.9
comp=Z,14nm,0.6s
O53A New Philadelph 63.52 348 P P 18 17 56.0 -0.1
O53A IAmb IAmb 18 17 57.2
comp=Z,16nm,0.6s
O53A New Philadelph 63.52 348 P P 18 17 55.8 -0.3
baz=166
W35A Tecumseh 63.55 333 P P 18 17 56.2 -0.2
W35A IAmb IAmb 18 17 57.0
comp=Z,8.4nm,0.7s
MGMO Mountain Grove 63.56 338 P P 18 17 56.5 +0.1
P49A Miami Univ. Ec 63.57 345 P P 18 17 55.7 -0.7
P48A Milroy 63.67 345 P P 18 17 56.2 -0.9
FVM French Village 63.70 340 P P 18 17 57.3 0.0
FVM pmax pmax
comp=Z,25nm,0.6s
FVM French Village 63.70 340 P P 18 17 57.3 0.0
TUL1 Leonard 63.77 335 P P 18 17 57.0 -0.7
TUL1 IAmb IAmb 18 18 04.4
comp=Z,8.1nm,0.8s
ACSO Alum Creek Sta 63.85 347 P P 18 17 57.8 -0.4
ACSO IAmb IAmb 18 17 58.9
comp=Z,16nm,0.7s
ACSO Alum Creek Sta 63.85 347 P P 18 17 58.5 +0.3
baz=164
N53A Lisbon 63.99 349 P P 18 17 59.8 +0.6
N53A IAmb IAmb 18 18 00.9
comp=Z,23nm,1.1s
WMOK Wichita Mounta 64.01 332 P P 18 17 59.3 -0.1
baz=148
CCM Cathedral Cave 64.03 339 P P 18 17 58.9 -0.6
CCM pmax pmax
comp=Z,24nm,0.7s
CCM Cathedral Cave 64.03 339 P P 18 17 58.9 -0.6
CCM Cathedral Cave 64.03 339 P P 18 17 59.1 -0.3
baz=156
M55A Ridgway 64.30 351 P P 18 18 01.3 +0.2
M55A IAmb IAmb 18 18 02.4
comp=Z,14nm,0.8s
O48B Farmland 64.36 345 P P 18 18 01.1 -0.4
baz=162,SNR=5.1
S39A Bolivar 64.41 338 P P 18 18 02.0 +0.1
S39A IAmb IAmb 18 18 03.0
comp=Z,17nm,0.7s
L59A Walton 64.54 354 P P 18 18 03.9 +1.1
L59A IAmb IAmb 18 18 04.9
comp=Z,17nm,0.9s
M53A WI Miller and 64.58 349 P P 18 18 02.9 0.0
M53A IAmb IAmb 18 18 04.5
comp=Z,14nm,0.8s
M53A WI Miller and 64.58 349 P P 18 18 03.3 +0.3
baz=166
R40A Maddies Statio 64.58 339 P P 18 18 03.0 0.0
BINY Binghamton 64.65 353 P P 18 18 04.4 +1.0
BINY IAmb IAmb 18 18 05.4
comp=Z,15nm,0.9s
BINY Binghamton 64.65 353 P P 18 18 04.1 +0.7
baz=171
ALLY Alegheny Colle 64.69 350 P P 18 18 03.6 0.0
MNTX Cornudas Mount 64.77 325 P P 18 18 04.4 0.0
MNTX Cornudas Mount 64.77 325 P P 18 18 04.6 +0.2
baz=141,SNR=10
N49A Columbus Grove 64.77 346 P P 18 18 03.9 -0.3
N49A IAmb IAmb 18 18 05.2
comp=Z,23nm,0.8s
L56A Greenwood 64.78 352 P P 18 18 04.9 +0.6
L56A IAmb IAmb 18 18 05.6
comp=Z,11nm,0.7s
T35A Sooner Cattle 64.92 335 P P 18 18 04.8 -0.5
T35A IAmb IAmb 18 18 07.3
comp=Z,17nm,0.9s
P43A Skaggs, Pawnee 64.95 341 P P 18 18 04.7 -0.7
ERPA Erie 65.12 350 P P 18 18 06.5 +0.1
ERPA Erie 65.12 350 P P 18 18 07.1 +0.7
baz=167
WVNY West Valley, N 65.19 351 P P 18 18 07.5 +0.6
WVNY IAmb IAmb 18 18 08.8
comp=Z,17nm,0.8s
MSTX Muleshoe 65.23 328 P P 18 18 08.1 +0.6
MSTX Muleshoe 65.23 328 P P 18 18 07.0 -0.5
baz=144,SNR=7.5
MMNY Mt. Morris Dam 65.41 352 P P 18 18 08.8 +0.5
MMNY IAmb IAmb 18 18 09.4
comp=Z,14nm,0.5s
AMTX Amarillo 65.45 330 P P 18 18 08.8 -0.1
AMTX IAmb IAmb 18 18 10.1
comp=Z,14nm,1.2s
AMTX Amarillo 65.45 330 P P 18 18 08.8 -0.1
baz=145
U32A Winter Ranch, 65.49 332 P P 18 18 09.2 +0.2
U32A IAmb IAmb 18 18 10.4
comp=Z,12nm,0.8s
P40A Paris 65.63 339 P P 18 18 09.2 -0.6
P40A IAmb IAmb 18 18 12.0
comp=Z,9.3nm,0.8s
J59A Piesco 65.75 354 P P 18 18 11.4 +0.9
J59A IAmb IAmb 18 18 12.7
comp=Z,24nm,0.8s
L48A N Adams 65.80 346 P P 18 18 10.6 -0.3
J56A Wolcott 65.81 353 P P 18 18 11.1 +0.3
J56A IAmb IAmb 18 18 12.2
comp=Z,23nm,0.8s
HSIG 65.96 319 P P 18 18 13.2 +1.1
HSIG IAmb IAmb 18 18 14.9
comp=Z,31nm,1.3s
P38A Dawn 66.21 338 P P 18 18 13.5 0.0
K50A Casco 66.23 348 P P 18 18 13.1 -0.4
NCB Newcomb 66.23 355 P P 18 18 14.2 +0.6
NCB IAmb IAmb 18 18 15.5
comp=Z,28nm,1.4s
LBNH Lisbon 66.34 357 P P 18 18 14.4 +0.2
baz=176
PECO Prince Edward 66.48 353 P P 18 18 15.9 +0.8
PECO IAmb IAmb 18 18 16.7
comp=Z,18nm,1.0s
121A Cookes Peak, D 66.71 324 P P 18 18 17.0 -0.1
baz=139
KSU1 Kansas State U 66.86 336 P P 18 18 17.7 +0.1
baz=151
LONY Lake Ozonia 66.91 355 P P 18 18 18.7 +0.9
LONY IAmb IAmb 18 18 19.7
comp=Z,18nm,0.8s
LONY Lake Ozonia 66.91 355 P P 18 18 18.1 +0.3
baz=173,SNR=7.9

FRNY Flat Rock 67.04 355 P P 18 18 19.1 +0.5
R32A Long Quarter, 67.11 334 P P 18 18 19.4 +0.2
R32A IAmb IAmb 18 18 20.9
comp=Z,25nm,0.7s
J47A Sunmer 67.12 346 P P 18 18 18.6 -0.5
J47A IAmb IAmb 18 18 19.6
comp=Z,15nm,0.6s
DELO Deloro Mine 67.13 352 P P 18 18 19.7 +0.6
DELO IAmb IAmb 18 18 20.2
comp=Z,10nm,0.8s
N38A Joes South For 67.16 339 P P 18 18 19.1 -0.4
N38A IAmb IAmb 18 18 20.0
comp=Z,13nm,0.6s
G65A Princeton 67.18 0 P P 18 18 20.0 +0.5
G65A IAmb IAmb 18 18 21.3
comp=Z,15nm,0.8s
G62A West of Eustis 67.25 358 P P 18 18 21.0 +1.0
G62A IAmb IAmb 18 18 22.2
comp=Z,24nm,0.8s
PKME Peaks-Kenny Pk 67.26 359 P P 18 18 20.2 +0.3
baz=178
BNM Barren Site 67.33 326 P P 18 18 22.2 +1.3
LIC Lamto 67.43 73 *e*PKP2 P 18 18 21.8 0.0
comp=Z,59nm,0.8s
K43A Burlington 67.46 344 P P 18 18 20.9 -0.4
SADO Sadowa 67.58 351 LR LR 18 49 55.9
comp=Z,25nm,21.6s,baz=158,slow=38
SADO Sadowa 67.58 351 P P 18 18 20.8 -1.2
SADO IAmb IAmb 18 18 23.3
comp=Z,13nm,0.8s
TIC Toumodi 67.63 72 *e*PKP2 P 18 18 22.5 -0.5
L40A Anamosa 67.68 341 P P 18 18 22.6 -0.1
L40A IAmb IAmb 18 18 23.8
comp=Z,20nm,0.8s
MNTQ Montreal, Queb 67.70 355 P P 18 18 23.2 +0.4
KIC Kosan Boka 67.74 73 *e*PKP2 P 18 18 23.0 -0.7
comp=Z,155nm,0.8s
DBIC Dimbokro 67.78 72 P P 18 18 23.7 -0.3
comp=Z,152nm,0.8s,baz=244,slow=6.2,SNR=97
DBIC Dimbokro 67.78 72 P P 18 18 23.6 -0.3
F64A Sherman 67.85 359 P P 18 18 24.6 +0.9
F64A IAmb IAmb 18 18 25.5
comp=Z,29nm,1.1s
ANMO Albuquerque 67.85 326 *ce*P P 18 18 25.8 +1.6
ANMO pmax pmax
comp=Z,18nm,1.3s
ANMO Albuquerque 67.85 326 P P 18 18 24.9 +0.6
ANMO IAmb IAmb 18 18 26.8
comp=Z,11nm,0.8s
ANMO Albuquerque 67.85 326 P P 18 18 25.3 +1.0
baz=141
CBKS Cedar Bluff 67.86 333 P P 18 18 24.7 +0.7
CBKS pmax pmax
comp=Z,39nm,0.7s
CBKS Cedar Bluff 67.86 333 P P 18 18 24.7 +0.7
CBKS Cedar Bluff 67.86 333 P P 18 18 24.9 +0.9
baz=148,SNR=5.9
N35A Tabor 68.05 337 P P 18 18 24.6 -0.4
SCIA State Center 68.16 340 P P 18 18 25.6 -0.1
SCIA IAmb IAmb 18 18 26.9
comp=Z,18nm,0.9s
SCIA State Center 68.16 340 P P 18 18 25.6 -0.1
baz=154
JFWS Jewell Farm 68.18 342 P P 18 18 25.6 -0.2
JFWS pmax pmax
comp=Z,21nm,0.6s
JFWS Jewell Farm 68.18 342 P P 18 18 25.6 -0.2
JFWS IAmb IAmb 18 18 26.6
comp=Z,21nm,0.6s
JFWS Jewell Farm 68.18 342 P P 18 18 26.0 +0.2
baz=157,SNR=6.7
TUC Tucson 68.24 321 P P 18 18 27.9 +1.3
baz=137
TRQ Mont Tremblant 68.50 355 P P 18 18 28.2 +0.4
T25A Trinidad 68.57 329 P P 18 18 30.4 +1.7
T25A Trinidad 68.57 329 P P 18 18 29.9 +1.2
baz=143,SNR=6.0
N33A J Bar K, Exete 68.61 336 P P 18 18 29.3 +0.8
N33A IAmb IAmb 18 18 29.8
comp=Z,32nm,0.9s
K38A Parkersburg 68.69 340 P P 18 18 28.8 -0.1
K38A IAmb IAmb 18 18 29.5
comp=Z,13nm,0.7s
I42A Draeger Farm, 68.72 344 P P 18 18 29.1 -0.1
I42A IAmb IAmb 18 18 30.0
comp=Z,16nm,0.7s
H43A Windswept, Lux 68.97 345 P P 18 18 30.5 -0.2
H43A IAmb IAmb 18 18 31.2
comp=Z,12nm,0.6s
D62A Allapoint, All 69.08 359 P P 18 18 32.3 +1.1
D62A IAmb IAmb 18 18 33.2
comp=Z,39nm,1.2s
214A Organ Pipe Nat 69.17 320 P P 18 18 33.5 +1.2
baz=135
I40A Norwalk 69.19 342 P P 18 18 31.5 -0.5
I40A IAmb IAmb 18 18 32.6
comp=Z,17nm,0.5s
KSCO Kaye Shedlock' 69.27 331 P P 18 18 33.2 +0.3
KSCO IAmb IAmb 18 18 35.1
comp=Z,22nm,0.7s
KSCO Kaye Shedlock' 69.27 331 P P 18 18 33.7 +0.8
baz=145
L34A Svendsen Farm, 69.28 337 P P 18 18 32.5 -0.1
BGNE Belgrade 69.45 336 P P 18 18 34.7 +0.9
LATQ La Tuque 69.52 356 P P 18 18 34.4 +0.4
LATQ IAmb IAmb 18 18 35.2
comp=Z,18nm,0.6s
SDCO Great Sand Dun 69.58 329 P P 18 18 36.4 +1.5
SDCO IAmb IAmb 18 18 37.6
comp=Z,16nm,0.9s
SDCO Great Sand Dun 69.58 329 P P 18 18 36.5 +1.5
baz=143,SNR=37
W18A Petrified Fore 69.72 324 P P 18 18 37.5 +1.8
baz=139
E46A Sault Ste Mari 70.01 348 P P 18 18 36.8 -0.2
E46A IAmb IAmb 18 18 38.0
comp=Z,16nm,0.7s
I37A Lemond, Waseca 70.12 340 P P 18 18 37.8 0.0
S22A 4UR Ranch, Cre 70.22 328 P P 18 18 40.4 +1.5
S22A 4UR Ranch, Cre 70.22 328 P P 18 18 40.3 +1.5
baz=142,SNR=5.6
Q24A Divide 70.38 330 P P 18 18 41.3 +1.5
Q24A IAmb IAmb 18 18 42.4
comp=Z,18nm,0.7s
Q24A Divide 70.38 330 P P 18 18 41.2 +1.3
baz=143,SNR=7.5
E43A Lone Tree Farm 70.59 346 P P 18 18 40.7 +0.2
OGNE Ogallala 70.61 333 P P 18 18 42.3 +1.4
OGNE IAmb IAmb 18 18 43.0
comp=Z,18nm,0.8s
OGNE Ogallala 70.61 333 P P 18 18 41.8 +0.9
baz=146
MVCO Mesa Verde 70.65 326 P P 18 18 42.8 +1.4
baz=140
VLDQ Val d'Or 70.65 353 P P 18 18 41.3 +0.5
VLDQ IAmb IAmb 18 18 42.5
comp=Z,24nm,1.2s
COWI Conover 70.84 344 P P 18 18 42.2 +0.2
WUAZ Wupatki 70.92 323 P P 18 18 44.8 +1.9
baz=137
ECSD EROS Data Cent 70.92 338 P P 18 18 42.8 +0.1
ECSD IAmb IAmb 18 18 43.6
comp=Z,7.1nm,0.6s
ECSD EROS Data Cent 70.92 338 P P 18 18 42.8 +0.1
baz=152,SNR=9.1
SPMN Marine on St. 71.03 341 P P 18 18 43.3 +0.1
SPMN IAmb IAmb 18 18 43.8
comp=Z,13nm,0.7s
SPMN Marine on St. 71.03 341 P P 18 18 43.4 +0.1
baz=155
GLA Glamis 71.15 319 P P 18 18 46.2 +1.9
baz=134
ISCO Idaho Springs 71.26 330 P P 18 18 46.4 +1.2
ISCO pmax pmax
comp=Z,8.0nm,0.8s
ISCO Idaho Springs 71.26 330 P P 18 18 46.4 +1.2
ISCO Idaho Springs 71.26 330 P P 18 18 46.7 +1.6
baz=143,SNR=10
SMCO Snowmass 71.41 329 P P 18 18 48.0 +1.8
SMCO IAmb IAmb 18 18 49.1
comp=Z,12nm,0.7s
BLYC Blythe 71.46 320 P P 18 18 46.8 +0.7
BLYC IAmb IAmb 18 18 49.3
comp=Z,17nm,1.1s
D41A Chassel 71.60 345 P P 18 18 47.1 +0.5

D41A				IAmb	IAmb	18 18 48.4	
	comp=Z,25nm,0.7s						
PDMCI	Parker Dam,Lak	71.62	321	P	P	18 18 48.9	+1.9
	baz=135						
IKP	In-Ko-Pah, Jac	71.66	318	P	P	18 18 49.4	+2.0
	baz=133						
PV07	Paradox Valley	71.67	327	P	P	18 18 48.4	+0.9
PV07				IAmb	IAmb	18 18 50.3	
	comp=Z,18nm,1.2s						
F36A	Milaca	71.83	341	P	P	18 18 48.0	+0.1
F36A				IAmb	IAmb	18 18 49.1	
	comp=Z,19nm,0.7s						
E38A	The Farm, Brul	71.94	343	P	P	18 18 48.6	-0.1
BC3	Big Chuckawall	71.95	319	P	P	18 18 50.8	+1.6
	baz=134,SNR=5.4						
MONP2	Monument Peak	72.02	318	P	P	18 18 51.4	+1.7
	baz=133						
U15A	North Rim	72.09	323	P	P	18 18 52.0	+1.9
IRM	Iron Mountain	72.11	320	P	P	18 18 51.8	+1.8
	baz=134						
KOWA	Kowa	72.21	66	P	P	18 18 50.6	-0.3
KOWA	Kowa	72.21	66	P	P	18 18 51.3	+0.4
N23A	Red Feather La	72.29	330	P	P	18 18 53.0	+1.8
N23A				IAmb	IAmb	18 18 53.8	
	comp=Z,12nm,0.7s						
N23A	Red Feather La	72.29	330	P	P	18 18 52.5	+1.3
	baz=143,SNR=10						
SUSD	Miller	72.37	337	P	P	18 18 51.9	+0.6
	baz=150						
PHWY	Pilot Hill	72.39	331	P	P	18 18 52.8	+1.0
BELC	Belle Mtn. Jos	72.52	319	P	P	18 18 54.6	+2.0
	baz=134						
TPFO	Pinon Flats	72.52	319	P	P	18 18 54.4	+1.8
	baz=133						
PFO	Pinyon Flats O	72.53	319	*i* P	P	18 18 54.6	+2.0
PFO	Pinyon Flats O	72.53	319	P	P	18 18 54.2	+1.6
	baz=133						
F33A	5 Mile Ranch,	72.67	339	P	P	18 18 52.9	-0.1
F33A				IAmb	IAmb	18 18 54.0	
	comp=Z,13nm,0.7s						
O20A	White River Ci	72.77	328	P	P	18 18 55.9	+1.9
O20A				IAmb	IAmb	18 18 56.8	
	comp=Z,21nm,0.8s						
O20A	White River Ci	72.77	328	P	P	18 18 55.9	+1.9
	baz=141,SNR=7.7						
KNB	Kanab	72.81	323	P	P	18 18 56.5	+2.3
KNB				pmax	pmax		
	comp=Z,33nm,1.0s						
KNB	Kanab	72.81	323	P	P	18 18 56.5	+2.3
KNB				IAmb	IAmb	18 18 57.9	
	comp=Z,33nm,1.0s						
GMRC	Granite Mounta	72.85	320	P	P	18 18 56.6	+2.1
	baz=134,SNR=8.5						
MURC	Murrieta	72.97	318	P	P	18 18 56.6	+1.5
	baz=132						
LCMT	Little Creek M	73.04	323	P	P	18 18 57.3	+1.8
ELS	Elsinore Mount	73.15	318	P	P	18 18 57.9	+1.7
EYMN	Ely	73.16	343	P	P	18 18 55.5	-0.3
EYMN	Ely	73.16	343	P	P	18 18 56.3	+0.5
	baz=157,SNR=8.0						
MTPU	Mount Pierson	73.21	325	P	P	18 18 58.7	+1.9
HEC	Hector,Ludlow	73.29	320	P	P	18 18 59.3	+2.3
	baz=133,SNR=5.1						
P18A	Preston Nutter	73.38	327	P	P	18 18 59.7	+2.0
P18A				IAmb	IAmb	18 19 00.6	
	comp=Z,22nm,0.7s						
CCUT	Cedar City	73.49	324	P	P	18 19 00.8	+2.5
CCUT				IAmb	IAmb	18 19 02.0	
	comp=Z,17nm,0.8s						
RWWY	Rawlins	73.50	330	P	P	18 18 59.9	+1.6
RWWY				IAmb	IAmb	18 19 00.9	
	comp=Z,15nm,0.8s						
P17A	Butcher Ranch,	73.51	326	P	P	18 19 00.4	+2.1
P17A				IAmb	IAmb	18 19 01.1	
	comp=Z,16nm,0.8s						
MSU	Marysvale	73.55	325	P	P	18 19 00.9	+2.3
MSU	Marysvale	73.55	325	P	P	18 19 00.9	+2.3
CIS	Catalina Islan	73.60	317	P	P	18 19 00.5	+1.8
	baz=132						
BFSC	Mount Baldy Ra	73.69	319	P	P	18 19 01.0	+1.6
	baz=132						
RDMU	Red Mountain	73.75	328	P	P	18 19 01.2	+1.5
RDMU				IAmb	IAmb	18 19 02.2	
	comp=Z,15nm,0.6s						
GSC	Goldstone, Bar	73.89	320	P	P	18 19 01.9	+1.4
GSC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GSC	Goldstone, Bar	73.89	320	P	P	18 19 01.9	+1.4
GSC	Goldstone, Bar	73.89	320	P	P	18 19 02.2	+1.7
	baz=133						
K22A	Casper	73.95	331	P	P	18 19 01.4	+0.6
K22A	Casper	73.95	331	P	P	18 19 02.2	+1.5
	baz=143						
RSSD	Black Hills	74.06	334	P	P	18 19 02.6	+1.1
RSSD				pmax	pmax		
	comp=Z,9.0nm,0.7s						
RSSD	Black Hills	74.06	334	P	P	18 19 02.6	+1.1
RSSD	Black Hills	74.06	334	P	P	18 19 02.3	+0.9
	baz=145						
B35A	Bob, Littlefor	74.15	342	P	P	18 19 01.1	-0.5
B35A				IAmb	IAmb	18 19 02.8	
	comp=Z,14nm,0.9s						
EDW2	Edwards Air Fo	74.32	319	P	P	18 19 04.5	+1.5
	baz=132,SNR=6.6						
MPU	Maple Canyon	74.37	326	P	P	18 19 05.2	+1.9
QSM	Queen of Sheba	74.38	320	P	P	18 19 05.2	+1.9
GWY	Greenwater Val	74.41	321	P	P	18 19 04.9	+1.3
GWY				IAmb	IAmb	18 19 06.3	
	comp=Z,12nm,0.8s						
PSUT	Pine Spring	74.47	324	P	P	18 19 06.2	+2.3
CCAC	Calif City Air	74.52	319	P	P	18 19 05.5	+1.5
CCAC				IAmb	IAmb	18 19 07.0	
	comp=Z,19nm,0.7s						
LRMC	Laurel Mtn Rad	74.54	319	P	P	18 19 06.0	+1.7
	baz=133						
NLU	North Lily Min	74.56	326	P	P	18 19 06.6	+2.2
TPNV	Topopah Spring	74.69	321	P	P	18 19 07.8	+2.6
TPNV				pmax	pmax		
	comp=Z,11nm,0.8s						
TPNV	Topopah Spring	74.69	321	P	P	18 19 07.8	+2.6
TPNV	Topopah Spring	74.69	321	P	P	18 19 07.2	+2.0
	baz=134,SNR=8.2						
AGMN	Agassiz Nation	74.72	341	P	P	18 19 05.1	+0.2
AGMN	Agassiz Nation	74.72	341	P	P	18 19 05.3	+0.4
	baz=153						
JLU	Jordanelle	74.72	327	P	P	18 19 06.7	+1.3
JLU				IAmb	IAmb	18 19 08.2	
	comp=Z,20nm,1.3s						
MPMC	Manual Prospec	74.81	320	P	P	18 19 07.6	+1.6
	baz=133,SNR=6.0						
E28A	Huff	74.82	337	P	P	18 19 05.8	+0.3
DUG	Dugway, Tooele	75.12	326	P	P	18 19 09.4	+1.9
DUG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DUG	Dugway, Tooele	75.12	326	P	P	18 19 09.4	+1.9
DUG	Dugway, Tooele	75.12	326	P	P	18 19 09.4	+1.9
	baz=137						
ISA	Isabella, Lake	75.14	319	P	P	18 19 09.4	+1.7
ISA				pmax	pmax		
	comp=Z,12nm,0.8s						
ISA	Isabella, Lake	75.14	319	P	P	18 19 09.4	+1.7
ISA				IAmb	IAmb	18 19 10.7	
	comp=Z,12nm,0.8s						
ISA	Isabella, Lake	75.14	319	P	P	18 19 09.7	+2.0
	baz=132,SNR=11						
R11A	Troy Canyon, C	75.29	323	P	P	18 19 10.2	+1.6
R11A	Troy Canyon, C	75.29	323	P	P	18 19 10.7	+2.1
	baz=135,SNR=9.4						
SYO	Syowa Base	75.31	159⇑	*e*X	P	18 19 09.1	+1.0
CWC	Cottonwood Cre	75.42	320	P	P	18 19 11.1	+1.7
	baz=132						
BW06	Boulder Array	75.43	329	P	P	18 19 09.5	+0.1
BW06	Boulder Array	75.43	329	P	P	18 19 10.2	+0.8
	baz=140,SNR=8.2						
PD31	Pinedale Array	75.43	329	P	P	18 19 10.2	+0.8
PDAR	Pinedale Array	75.43	329	P	P	18 19 10.3	+1.0
	comp=Z,2.5nm,0.6s,baz=128,slow=7.5,SNR=33						
PDAR				LR	LR	18 55 34.9	
	comp=Z,30nm,19.0s,baz=154,slow=38						
PDAR	Pinedale Array	75.43	329	P	P	18 19 10.1	+0.7
PKM	Mcpherson Peak	75.45	318	P	P	18 19 10.8	+1.2
	baz=131,SNR=10						
HWUT	Hardware Ranch	75.53	327	P	P	18 19 10.9	+1.0
MDND	Maddock	75.53	338	P	P	18 19 10.3	+0.8
	baz=150						
VES	Vestal, Richgr	75.62	319	P	P	18 19 11.7	+1.4
	baz=132						
LCH	Last Change Ra	75.70	321	P	P	18 19 12.2	+1.2
BGU	Big Grassy Mou	75.76	326	P	P	18 19 12.9	+1.7
SMMC	Simmler	75.84	318	P	P	18 19 13.4	+1.8
	baz=131,SNR=9.0						
TPH	Tonopah	76.03	322	P	P	18 19 14.2	+1.3
TPH				pmax	pmax		
	comp=Z,26nm,0.8s						
TPH	Tonopah	76.03	322	P	P	18 19 14.2	+1.3
TPH				IAmb	IAmb	18 19 15.8	
	comp=Z,26nm,0.8s						
AHID	Auburn Hatcher	76.17	329	P	P	18 19 14.9	+1.4
AHID				IAmb	IAmb	18 19 15.9	
	comp=Z,18nm,0.7s						
HVU	Hansel Valley	76.26	327	P	P	18 19 15.6	+1.6
HVU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HVU	Hansel Valley	76.26	327	P	P	18 19 15.6	+1.6
PAGB	Antelope Grade	76.27	318	P	P	18 19 16.2	+2.2
PAGB				IAmb	IAmb	18 19 17.0	
	comp=Z,17nm,1.1s						
VNDA	Vanda	76.27	190	P	P	18 19 14.8	+1.4
	comp=Z,1.2nm,0.8s,baz=126,slow=6.5,SNR=7.0						
VNDA	Vanda	76.27	190	P	P	18 19 14.8	+1.4
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
VNDA	Vanda	76.27	190	IAmb	IAmb	18 19 16.7	
	comp=Z,4.3nm,1.3s						
TOA0	Torodi Ar. Sit	76.46	70	P	P	18 19 15.3	-0.2
TORD	Torodi Ar. Bea	76.46	70	P	P	18 19 15.3	-0.2
	comp=Z,76nm,0.6s,baz=255,slow=5.5,SNR=542						
TORD	Torodi Ar. Bea	76.46	70	P	P	18 19 15.2	-0.4
ULM	Lac du Bonnet	76.46	342	P	P	18 19 15.2	+0.5
	comp=Z,25nm,0.5s,baz=155,slow=6.5,SNR=28						
ULM	Lac du Bonnet	76.46	342	P	P	18 19 14.9	+0.2
ULM				pmax	pmax		
	comp=Z,26nm,0.6s						
ULM	Lac du Bonnet	76.46	342	P	P	18 19 14.9	+0.2
ULM				IAmb	IAmb	18 19 16.0	
	comp=Z,26nm,0.6s						
REDW	Red Top Meadow	76.50	329	P	P	18 19 16.8	+1.4
LOHW	Long Hollow	76.57	329	P	P	18 19 17.4	+1.6
TPAW	Teton Pass	76.64	329	P	P	18 19 18.1	+1.9
MOOW	Moose Ponds	76.74	329	P	P	18 19 18.0	+1.2
OMMB	Old Mammoth Mi	76.75	320	P	P	18 19 19.1	+2.0
ELK	Elko	76.79	325	LR	LR	18 57 02.7	
	comp=Z,57nm,18.0s,baz=170,slow=38						
ELK	Elko	76.79	325	P	P	18 19 18.4	+1.3
ELK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ELK	Elko	76.79	325	P	P	18 19 18.4	+1.3
NV11	Mina Array Sit	76.81	321	P	P	18 19 18.6	+1.4
SCHQ	Schefferville	76.83	0	P	P	18 19 17.0	+0.3
	comp=Z,17nm,0.8s,baz=176,slow=3.3,SNR=14						
SCHQ	Schefferville	76.83	0	P	P	18 19 17.3	+0.6
SCHQ				IAmb	IAmb	18 19 17.7	
	comp=Z,15nm,0.8s						
LHV	Little Huntoon	76.89	321	P	P	18 19 19.5	+2.2
LHV				IAmb	IAmb	18 19 20.7	
	comp=Z,24nm,1.5s						
NVAR	Mina Array Bea	76.89	321	P	P	18 19 19.6	+1.8
	comp=Z,3.4nm,0.7s,baz=153,slow=7.0,SNR=16						
NVAR	Mina Array Bea	76.89	321	P	P	18 19 18.9	+1.1
FLWY	Flagg Ranch	76.97	330	P	P	18 19 20.1	+2.1
FLWY				IAmb	IAmb	18 19 21.1	
	comp=Z,13nm,0.7s						
SUR	Sutherland	77.10	120	LR	LR	18 48 59.9	
	comp=Z,50nm,19.0s,baz=236,slow=32						
SUR	Sutherland	77.10	120	P	P	18 19 19.0	-0.2
RYN	Ryan	77.16	321	P	P	18 19 21.0	+1.9
KVN	Kaiserville	77.20	322	P	P	18 19 20.7	+1.3
KVN				pmax	pmax		
	comp=Z,14nm,1.0s						
KVN	Kaiserville	77.20	322	P	P	18 19 20.7	+1.3
LKWY	Lake	77.20	330	P	P	18 19 20.8	+1.5
LKWY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LKWY	Lake	77.20	330	P	P	18 19 20.8	+1.5
TTIG	Tnine Tigouga,	77.35	49	P	P	18 19 22.0	+1.7
YMR	Madison River	77.54	330	P	P	18 19 23.4	+2.2
YHH	Holmes Hill	77.58	330	P	P	18 19 23.9	+2.4
DGMT	Dagmar	77.71	336	P	P	18 19 22.6	+0.9
DGMT				IAmb	IAmb	18 19 24.3	
	comp=Z,24nm,0.7s						
DGMT	Dagmar	77.71	336	P	P	18 19 22.9	+1.1
	baz=146						
YERR	Yerington	77.81	321	P	P	18 19 24.4	+1.6
GCMT	Greycliff	77.81	331	P	P	18 19 23.6	+1.1
PNTR	Pine Nut	78.09	321	P	P	18 19 26.4	+2.1
PNTR				IAmb	IAmb	18 19 27.5	
	comp=Z,19nm,0.8s						
VCNR	Virginia City	78.25	321	P	P	18 19 27.2	+2.0
PAHR	Pah Rah Range	78.37	322	P	P	18 19 27.8	+2.0
PAHR				IAmb	IAmb	18 19 29.0	
	comp=Z,25nm,0.8s						
HLID	Hailey	78.39	327	P	P	18 19 27.7	+1.8
HLID	Hailey	78.39	327	P	P	18 19 27.5	+1.6
	baz=136,SNR=20						
MPK	Martis Peak	78.47	321	P	P	18 19 29.0	+2.5
MPK				IAmb	IAmb	18 19 29.8	
	comp=Z,32nm,1.4s						
MCMT	McKenzie Canyo	78.55	329	P	P	18 19 28.9	+2.2
BOZ	Bozeman (W)	78.55	330	P	P	18 19 28.3	+1.7
	baz=139						
TSUM	Tsumeb	78.62	106	LR	LR	18 52 08.3	
	comp=Z,73nm,18.6s,baz=247,slow=34						
TSUM	Tsumeb	78.62	106	P	P	18 19 28.0	+0.3
DLMT	Dillon	78.83	329	P	P	18 19 29.8	+1.6
MFID	Camas Ranch	79.00	326	P	P	18 19 30.3	+1.2
BEKR	Beckworth	79.04	321	P	P	18 19 30.3	+0.8
ZGR	Zagora	79.11	51	P	P	18 19 32.0	+1.9
ORV	Oroville	79.50	321	P	P	18 19 33.6	+1.8
ORV				pmax	pmax		
	comp=Z,19nm,1.2s						
ORV	Oroville	79.50	321	P	P	18 19 33.6	+1.8
ORV				IAmb	IAmb	18 19 34.7	
	comp=Z,19nm,1.2s						
TZRR	Tazzarine	79.52	51	P	P	18 19 34.0	+1.8
O03E	Paynes Creek	80.16	321	P	P	18 19 35.5	+0.1
	baz=130						
PLID	Pearl Lake	80.27	327	P	P	18 19 37.0	+1.0
PLID				IAmb	IAmb	18 19 38.6	
	comp=Z,11nm,0.7s						
J08A	Circle Bar Ran	80.34	325	P	P	18 19 38.1	+1.8
MOD	Modoc Plateau	80.36	323	P	P	18 19 37.1	+0.6
O02D	Mt. Diablo Mer	80.66	320	P	P	18 19 39.7	+1.6
	baz=130						
PFVI	Vila Bisbo	80.96	44	*e*P	P	18 19 41.8	+2.2
N02D	Trinity Center	81.12	321	P	P	18 19 40.8	+0.3
	baz=130						
CZD	Col de Zad	81.14	49	P	P	18 19 43.0	+2.0
MORF	Marmelete	81.17	44	*e*P	P	18 19 41.0	+0.2
MORF				IAmb	IAmb	18 19 42.7	
	comp=Z,45nm,1.2s						
MORF	Marmelete	81.17	44	*e*P	P	18 19 42.3	+1.5
	comp=Z,54nm,1.3s						
MORF	Marmelete	81.17	44	*e*P	P	18 19 41.0	+0.2
K05A	Summer Lake	81.23	323	P	P	18 19 43.1	+1.9
K05A				IAmb	IAmb	18 19 44.2	
	comp=Z,15nm,0.8s						
PTEO	Sao Teotonio	81.27	43	*e*P	P	18 19 43.5	+2.3
	comp=Z,71nm,1.2s						
MDT	Midelt	81.32	49	P	P	18 19 43.0	+1.2
JTMT	Jette	81.37	330	P	P	18 19 43.4	+1.7
I07A	Izee	81.38	325	P	P	18 19 43.1	+1.2
M02C	Callahan	81.47	321	P	P	18 19 43.5	+1.2
	baz=130						
F10A	Beach Ranch, E	81.51	327	P	P	18 19 43.5	+1.0
PBDV	Barranco-do-Ve	81.60	44	*e*P	P	18 19 44.5	+1.5
YBH	Yreka Blue Hor	81.61	322	LR	LR	18 58 03.0	
	comp=Z,50nm,18.3s,baz=84,slow=37						
L04D	Klamath Falls	81.69	322	P	P	18 19 44.9	+1.4
	baz=130						
PNCL	Nicolau / Gran	81.73	43	*e*P	P	18 19 44.9	+1.3
	comp=Z,36nm,1.8s						
PCVE	Castro Verde	81.76	44	*e*P	P	18 19 45.1	+1.3
	comp=Z,32nm,1.6s						
J05D	Fort Rock, OR	81.79	324	P	P	18 19 45.5	+1.5
	baz=131						
PVAQ	Vaqueiros	81.83	44	*e*P	P	18 19 45.4	+1.2
	comp=Z,27nm,1.7s						
BOSA	Boshof	81.97	118	P	P	18 19 45.5	+0.1
	comp=Z,8.8nm,0.5s,baz=265,slow=3.8,SNR=39						
BOSA	Boshof	81.97	118	P	P	18 19 45.2	-0.3
BOSA				pmax	pmax		
	comp=Z,37nm,1.1s						
BOSA	Boshof	81.97	118	P	P	18 19 45.2	-0.3
BOSA				IAmb	IAmb	18 19 46.2	
	comp=Z,37nm,1.1s						
WALA	Waterton Lakes	82.17	331	P	P	18 19 46.9	+1.0
J04D	Umpqua Nationa	82.24	323	P	P	18 19 47.5	+1.1
J04D				IAmb	IAmb	18 19 51.5	
	comp=Z,16nm,0.5s						
L02E	Cave Junction	82.39	322	P	P	18 19 48.2	+1.2
	baz=129						
PMTG	Montargil	82.49	42	*e*P	P	18 19 48.7	+1.1
	comp=Z,33nm,1.4s						
I05D	Terrebonne, OR	82.54	324	P	P	18 19 48.7	+0.9
	baz=131,SNR=5.2						
PBAR	Barrancos	82.72	44	*e*P	P	18 19 49.7	+0.9
I04A	Tendick Farm,	82.77	323	P	P	18 19 49.6	+0.6
	baz=130						
K02D	Willamette Mer	82.77	322	P	P	18 19 50.3	+1.2
	baz=129						
PESTR	Estremoz	82.77	43	*e*P	P	18 19 50.8	+1.7
	comp=Z,32nm,1.5s						
PESTR	Estremoz	82.77	43	P	P	18 19 49.6	+0.5
PESTR				IAmb	IAmb	18 19 51.3	
	comp=Z,21nm,1.4s						
PCAS	Casmilo, Conde	82.91	42	*e*P	P	18 19 50.7	+1.0
	comp=Z,67nm,1.7s						
HAWA	Hanford	82.96	327	P	P	18 19 51.2	+1.4
HAWA				IAmb	IAmb	18 19 52.3	
	comp=Z,9.5nm,0.6s						
G05D	Wamic, OR	83.12	325	P	P	18 19 52.2	+1.5
	baz=131						
MAW	Mawson	83.20	163	P	P	18 19 51.9	+1.1
	comp=Z,11nm,0.8s,baz=200,slow=6.4,SNR=18						
MAW	Mawson	83.20	163	P	P	18 19 51.6	+0.8
MAW	Mawson	83.20	163	P	P	18 19 51.5	+0.8
J01E	Myrtle Point	83.22	322	P	P	18 19 52.4	+1.2
	baz=129						
PMRV	Marv??o	83.23	43	*e*P	P	18 19 51.9	+0.5
C09A	Chrisman Ranch	83.30	328	P	P	18 19 52.8	+1.3
C09A				IAmb	IAmb	18 19 54.1	
	comp=Z,21nm,0.7s						
FIGM	Figuig	83.34	51	P	P	18 19 54.0	+1.7
PCBR	Castelo Branco	83.42	42	*e*P	P	18 19 53.2	+0.9
	comp=Z,23nm,1.7s						
LBTB	Lobatse	83.55	114	LR	LR	18 55 28.5	
	comp=Z,33nm,18.7s,baz=236,slow=34						
LBTB	Lobatse	83.55	114	P	P	18 19 53.7	0.0
LBTB				pmax	pmax		
	comp=Z,39nm,0.9s						
LBTB	Lobatse	83.55	114	P	P	18 19 53.7	0.0
FCC	Fort Churchill	83.70	346	P	P	18 19 54.0	+0.7
FCC				pmax	pmax		
	comp=Z,16nm,0.7s						
FCC	Fort Churchill	83.70	346	P	P	18 19 54.0	+0.7
FCC				IAmb	IAmb	18 19 55.2	
	comp=Z,16nm,0.7s						
I02E	Swisshome, OR	83.77	323	P	P	18 19 55.6	+1.6
	baz=129						
POLO	Lamas de Olo	84.13	41	*e*P	P	18 19 56.6	+0.6
	comp=Z,26nm,1.6s						
EDM	Edmonton	85.02	334	P	P	18 20 00.4	+0.2
EDM				pmax	pmax		
	comp=Z,9.0nm,1.1s						
EDM	Edmonton	85.02	334	P	P	18 20 00.4	+0.2
PAB	San Pablo	85.22	44	P	P	18 20 02.2	+0.7
PAB				pmax	pmax		
	comp=Z,34nm,1.0s						
PAB	San Pablo	85.22	44	P	P	18 20 02.2	+0.7
PAB				IAmb	IAmb	18 20 03.4	
	comp=Z,34nm,0.9s						
PAB	San Pablo	85.22	44	P	P	18 20 02.5	+1.0
ESDC	Sonseca Array	85.54	44	P	P	18 20 03.8	+0.7
	comp=Z,11nm,0.9s,baz=245,slow=4.5,SNR=51						
ESDC				LR	LR	18 56 58.5	
	comp=Z,38nm,19.3s,baz=248,slow=35						
ESDC	Sonseca Array	85.54	44	P	P	18 20 02.7	-0.4
ESDC				IAmb	IAmb	18 20 05.1	
	comp=Z,20nm,1.1s						
ESBB	Sonseca Array	85.54	44	P	P	18 20 03.0	-0.1
ESBB				IAmb	IAmb	18 20 05.1	
	comp=Z,23nm,1.1s						
LSZ	Lusaka	89.48	106	LR	LR	18 59 43.8	
	comp=Z,36nm,18.3s,baz=180,slow=35						
SFJD	Kangerlussuaq	89.94	7	LR	LR	19 03 12.1	
	comp=Z,12nm,19.4s,baz=211,slow=37						
MFF	Saint Martin d	91.62	40	*e*P	P	18 20 31.4	-0.2
MFF				pmax	pmax		
	comp=Z,21nm,1.3s						
CASY	Casey	91.68	179	P	P	18 20 32.6	+1.0
CASY				IAmb	IAmb	18 20 34.4	
	comp=Z,19nm,1.1s						
YKA	Yellowknife Ar	92.36	340	P	P	18 20 35.5	+0.9
	comp=Z,11nm,0.7s,baz=133,slow=4.5,SNR=248						
YKA	Yellowknife Ar	92.36	340	P	P	18 20 34.8	+0.2
YKA	Yellowknife Ar	92.36	340	P	P	18 20 34.8	+0.2
BORG	Borgarnes	93.80	18	LR	LR	18 59 31.6	
	comp=Z,23nm,18.8s,baz=195,slow=33						
SSF	Saint Saulge	94.02	40	*e*P	P	18 20 42.0	-0.7
SSF				pmax	pmax		
	comp=Z,13nm,1.3s						
LPL	La Plagne	95.29	43	*e*P	P	18 20 50.4	+1.6
LPL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DLBC	Dease Lake	95.49	332	LR	LR	19 08 44.8	
	comp=Z,36nm,20.1s,baz=318,slow=38						
MBAR	Mbarara	97.46	94	LR	LR	19 01 14.9	
	comp=Z,38nm,21.1s,baz=228,slow=33						
DAVOX	Davos/Dischmat	97.81	43	LR	LR	19 03 53.6	
	comp=Z,40nm,19.8s,baz=257,slow=34						
SKAG	Skagway	98.36	331	P	Pdif	18 21 02.9	+0.9
	baz=120						
TEOL	Teolo	98.38	44	P	P	18 21 01.9	-0.6
FETA	Feichten	98.44	43	*e*P	Pdif	18 21 02.9	0.0
	comp=Z,6.4nm,1.0s						
MOTA	Moosalm	98.80	42	*e*P	Pdif	18 21 04.7	+0.1
	comp=Z,11nm,1.5s						
SQTA	Sankt Quirin	98.82	43	*e*P	Pdif	18 21 04.9	+0.3
	comp=Z,11nm,0.7s						
WATA	Walderalm	99.09	43	*e*P	Pdif	18 21 05.8	0.0
	comp=Z,8.9nm,1.1s						
WTTA	Wattenberg	99.10	43	*e*P	Pdif	18 21 06.2	+0.3
	comp=Z,12nm,1.0s						
ABTA	Abfaltersbach	99.46	43	*e*P	Pdif	18 21 07.6	+0.2
	comp=Z,4.9nm,0.9s						
KBA	Koelnbreinsper	100.11	43	*e*P	Pdif	18 21 10.1	-0.3
	comp=Z,3.3nm,0.7s						
MYKA	Terra Mystica	100.14	44	*e*P	Pdif	18 21 10.6	+0.2
	comp=Z,2.8nm,0.5s						
YUK6	Outpost Mounta	100.41	332	P	Pdif	18 21 11.3	-0.2
	baz=117						
OBKA	Obir	100.67	44	*e*P	Pdif	18 21 13.5	+0.7
	comp=Z,3.8nm,0.8s						
GERES	GERESS Array B	100.98	42	P	Pdif	18 21 14.1	0.0
	comp=Z,0.2nm,0.3s,baz=224,slow=3.7,SNR=4.7						
CLL	Collm	101.45	39	*e*SKKSac	SKKSac	18 32 24.0	+7.2
CLL				*e*Sdif	Sdif	18 32 48.0	+6.3
CLL				*e*PPS	PPS	18 35 26.0	
CLL				*e*SS	SS	18 39 48.0	+0.7
YUK3	Moose Creek	101.68	332	P	Pdif	18 21 17.1	0.0
	baz=115						
A36M	Sachs Harbour	101.81	344	P	Pdif	18 21 17.2	+0.2
	baz=127						
MODS	Modra-Piesok	103.05	43	*e*P	Pdif	18 21 26.0	+2.8
MODS	Modra-Piesok	103.05	43	*e*PDIFF	Pdif	18 21 26.0	+2.8
CRVS	Cervenica-Dubn	105.86	43	*e*P	Pdif	18 21 36.6	+0.9
CRVS	Cervenica-Dubn	105.86	43	*e*PDIFF	Pdif	18 21 36.6	+0.9
BRTR	Keskin Array B	112.28	55	PKiKP	PKiKP	18 26 00.1	+0.2
	comp=Z,0.8nm,0.7s,baz=153,slow=1.1,SNR=4.2						
BRTR				PP	PP	18 26 43.7	-4.2
	comp=Z,2.3nm,0.9s,baz=247,slow=6.4,SNR=7.1						
KLMR	Klimovskoe	117.54	32	*e*PKIKP	PKPdf	18 26 01.6	-7.5
KLMR				pmax	pmax		
	comp=Z,14nm,1.3s						
KLMR	Klimovskoe	117.54	32	*e*PKPdf	PKPdf	18 26 01.7	-7.4
KLMR				AMP		18 26 09.0	
	comp=Z,14nm,1.3s						
KBZ	Khabaz	119.65	51	PKP	PKiKP	18 26 14.7	+0.9
	comp=Z,4.7nm,0.9s,baz=252,slow=5.1,SNR=5.2						
PRGR	Permogore	120.38	31	*e*PKIKP	PKPdf	18 26 14.4	-0.2
PRGR				pmax	pmax		
	comp=Z,31nm,1.0s						
ARU	Arti	128.11	35	*i* PKIKP	PKiKP	18 26 30.7	+0.5
ARU						18 28 41.2	
ARU						18 33 24.0	
TIXI	Tiksi	129.74	353	SKPbc	SKPab	18 29 39.0	+0.2

comp=Z,4.0nm,0.6s,baz=270,slow=24,SNR=26
TIXI Tiksi 129.74 353 *c* PKIKP **PKPdf 18 26 28.2 -4.0**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
ASAR Alice Springs 129.75 206 PKP **PKPdf 18 26 34.4 +0.5**
comp=Z,4.3nm,0.8s,baz=144,slow=2.1,SNR=41
ASAR SKPbc SKPab 18 29 40.4 -0.1
comp=Z,2.6nm,0.9s,baz=152,slow=3.6,SNR=12
AB31 Akbulak array 130.89 43 *i* PKIKP **PKiKP 18 26 36.0 0.0**
SEY Seymchan 131.32 337 PKP **PKiKP 18 26 37.0 +0.6**
comp=Z,8.1nm,0.9s,baz=92,slow=2.5,SNR=32
SEY Seymchan 131.32 337 *i* PKIKP **PKPdf 18 26 35.5 0.0**
WRA Warramunga Arr 132.87 209 PKP **PKiKP 18 26 40.8 -0.2**
comp=Z,3.8nm,0.7s,baz=153,slow=2.0,SNR=38
WRA SKPbc **SKPbc 18 29 51.8 -0.3**
comp=Z,9.9nm,1.0s,baz=148,slow=3.4,SNR=21
WRAB Tennant Creek 132.87 209 *c* PKIKP **PKPdf 18 26 39.2 -0.6**
WRAB pmax pmax
comp=Z,4.0nm,1.7s
PETK Petropavlovsk- 133.95 323 PKP **PKiKP 18 26 42.5 +0.4**
comp=Z,1.1nm,0.5s,baz=164,slow=2.6,SNR=2.2
PETK SKPbc **SKPbc 18 29 54.6 +0.1**
comp=Z,7.8nm,0.8s,baz=174,slow=4.5,SNR=10
FITZ Fitzroy Crossi 137.81 199 SKPbc **SKPbc 18 30 08.9 +1.4**
comp=Z,3.2nm,0.8s,baz=211,slow=5.6,SNR=5.3
OTUK Ortayu 138.96 41 PKIKP **PKPdf 18 26 47.7 -2.5**
KK31 Karatay Array 139.61 49 *i* PKIKP **PKPdf 18 26 51.7 +0.1**
KURK Kurchatov 141.30 34 *c* iPKHKP PKPpre 18 26 33.5
KURK pmax pmax
comp=Z,6.0nm,1.7s
KURBB Kurchatov Arra 141.31 35 PKHKP PKPpre 18 26 49.3
ZALV Zalesovo Beam 142.13 27 PKhKP PKPpre 18 26 51.6
comp=Z,7.2nm,0.7s,baz=324,slow=4.1,SNR=33
ZALV SKPbc **SKPbc 18 30 19.0 +1.1**
comp=Z,3.8nm,0.7s,baz=296,slow=3.3,SNR=8.5
AAK Ala-Archa 142.53 48 *i* PKIKP **PKPdf 18 26 54.3 -2.7**
TKM2 Tokmak 2 143.18 47 PKIKP PKPbc 18 26 55.8 +0.1
MDOK Medeo 144.07 46 PKIKP PKPbc 18 26 58.8 +0.6
BOD Bodaibo 144.51 359 ⇓ *i* PKIKP **PKPab 18 26 58.4 -0.2**
BOD pmax pmax
comp=Z,54nm,0.8s
YSS Yuzh-Sakhalins 145.34 323 *e* PKP2 **PKPab 18 27 02.4 +0.4**
YSS pmax pmax
comp=Z,30nm,0.7s
MK31 Makanchi Array 145.53 38 *i* PKP2 **PKPab 18 27 02.8 -0.1**
MKAR Makanchi Array 145.53 38 PKPbc **PKPab 18 27 03.2 +0.3**
comp=Z,33nm,0.7s,baz=316,slow=3.6,SNR=317
MKAR SKPbc **SKiKP 18 30 27.2 +0.4**
comp=Z,1.0nm,0.8s,baz=353,slow=2.9,SNR=4.0
PDGK Podgornoye 145.61 45 PKP2 **PKPab 18 27 04.0 +0.6**
BATI Baumata 145.86 200 PKPbc **PKPab 18 27 06.4 +1.5**
comp=Z,17nm,0.7s,baz=267,slow=6.2,SNR=4.5
ZEA Zeya 146.66 344 *e* PKHKP PKPpre 18 26 48.3
ZEA pmax pmax
comp=Z,20nm,0.9s
JKA Kamikawa-asahi 146.97 318 **PKPdf 18 27 04.9 +0.5**
ASAJ Asahikawa 146.98 318 PKPbc **PKPbc 18 27 06.7 0.0**
comp=Z,9.2nm,0.8s,baz=231,slow=7.5,SNR=10
ASAJ Asahikawa 146.98 318 PKIKP **PKPdf 18 27 04.9 +0.5**
ERM Erimo 147.66 315 *c* iPKP2 **PKPab 18 27 11.9 +0.7**
ERM pmax pmax
comp=Z,87nm,1.7s
KLR Kul'dur 149.08 335 PKPbc **PKPbc 18 27 12.8 +0.7**
comp=Z,5.0nm,0.6s,baz=69,slow=3.3,SNR=23
MOY Mondy 149.38 14 *e* PKHKP PKPpre 18 27 10.4
MOY pmax pmax
comp=Z,41nm,1.6s
IRK Irkutsk 149.46 10 *e* PKHKP PKPpre 18 27 10.0
IRK pmax pmax
comp=Z,41nm,2.3s
WMQ Urumqi 150.37 38 *e* P **PKPdf 18 27 09.6 -0.4**
WMQ pmax pmax
comp=Z,75nm,3.9s
SIJI Sorong 150.54 221 PKPbc **PKiKP 18 27 18.1 +0.8**
comp=Z,16nm,0.8s,baz=5.3,slow=6.9,SNR=8.1
LEM Lembang 150.66 170 PKPbc **PKiKP 18 27 18.1 +0.3**
comp=Z,94nm,0.8s,baz=98,slow=0.3,SNR=21
ZAK Zakamensk 151.07 12 *e* PKIKP **PKPdf 18 27 12.1 +1.1**
ZAK *e* 18 28 07.2
ZAK pmax pmax
comp=Z,12nm,1.5s
KAPI Kappang 151.92 196 PKPbc **PKiKP 18 27 20.4 +0.3**
comp=Z,4.4nm,0.3s,baz=111,slow=4.6,SNR=5.0
PYUN Piuthan 152.79 72 *e* P **PKPbc 18 27 21.3 -0.3**
KOLN Koldanda 153.35 72 *e* P **PKPbc 18 27 22.9 0.0**
DANN Dangsing 153.44 71 *e* P **PKPbc 18 27 22.1 -1.0**
comp=Z,64nm,0.8s
SONM Songino Array 154.07 9 PKP **PKPdf 18 27 17.0 +1.5**
comp=Z,4.2nm,0.8s,baz=296,slow=1.0,SNR=18
SONM PKPab **PKPab 18 27 39.1 +1.3**
comp=Z,6.4nm,0.7s,baz=326,slow=4.5,SNR=12
SONM Songino Array 154.07 9 PKIKP **PKPdf 18 27 16.0 +0.5**
SONM 18 27 39.1
SONM Songino Array 154.07 9 **PKPdf 18 27 16.0 +0.5**
GKN Gorkha 154.24 72 *e* P **PKPbc 18 27 24.5 -0.2**
DMN Daman 154.70 72 *e* P **PKiKP 18 27 27.3 +1.5**
comp=Z,57nm,1.1s
KKN Kakani 154.83 72 *e* P **PKiKP 18 27 27.2 +1.2**
PKIN Phulchoki 154.96 72 *e* P **PKiKP 18 27 28.0 +1.6**
PKI Pulchoki 154.97 72 *e* P **PKiKP 18 27 28.1 +1.6**
GUN Gumba 155.35 71 *e* P PKPdf 18 27 27.6 +9.5
GOMU GeErMu 159.36 44 PKP **PKPdf 18 27 24.3 +1.4**
GOMU pPKP PKPab 18 27 53.8 -7.5
GOMU sPKP 18 28 20.9
GOMU AMB AMB
comp=Z,65nm,4.9s
KSRS Korea Array 159.84 322 PKP **PKPdf 18 27 23.7 +0.8**
comp=Z,3.3nm,0.9s,baz=70,slow=0.4,SNR=15
KSRS PKPab **PKPab 18 28 04.0 +1.2**
comp=Z,1.4nm,0.7s,baz=42,slow=5.6,SNR=4.6
GTA Gaotai 159.84 29 PKPbc **PKPdf 18 27 24.1 +1.0**
GTA PKPab **PKPab 18 28 03.6 +0.6**
GTA pPKP pPKPdf 18 28 08.3 -0.1
GTA sP sPKPdf 18 28 22.6 -3.1
LZH Lanzhou 164.37 27 *e* P **PKPab 18 28 24.0 +1.1**
LZH pP sPKPdf 18 28 27.0 -3.5
LZH pmax pmax
comp=Z,25nm,1.3s
CMAR Chiang Mai Arr 166.79 104 PKP **PKPdf 18 27 30.9 +0.9**
comp=Z,2.1nm,0.9s,baz=289,slow=2.4,SNR=13
CMAR PKPab **PKPab 18 28 34.2 +0.2**
comp=Z,3.5nm,0.8s,baz=253,slow=5.5,SNR=19
CMAR PP **PP 18 32 23.8 +1.2**
comp=Z,2.5nm,1.0s,baz=259,slow=5.8,SNR=9.2
CMAR Chiang Mai Arr 166.79 104 PKIKP **PKPdf 18 27 29.2 -0.9**
CMAR 18 32 21.0
CMAR Chiang Mai Arr 166.79 104 **PKPdf 18 27 29.2 -0.9**
CMAR **PP 18 32 21.0 -1.5**
XAN Xi'an 167.91 14 PKP **PKPdf 18 27 31.9 +1.4**
XAN pPKP pPKPdf 18 28 02.3 -14
PZH PanZhiHua 169.41 65 PKP **PKPdf 18 27 32.9 +1.1**
PZH PKPab **PKPab 18 28 45.3 -0.3**
PZH PP **PP 18 32 38.6 +2.9**
GYA Guiyang 173.31 51 ⇓ P **PKPdf 18 27 34.4 +0.7**
GYA pmax pmax
comp=Z,10.0nm,0.9s

*ANF **21** 18:14:21.8±0.3,32.87N×115.60W,h22km±2km, ML3.2/12 Error ellipse: s-maj=2.5km s-min=2.1km az=19.0*
*NEIC **21** 18:14:22.2±2.0,32.79N±0.04×115.58W±0.03,h20km±1km, Error ellipse: s-maj=5.5km s-min=3.9km az=181.0*
*PAS **21** 18:14:22.9±1.6,32.83N±0.04×115.60W±0.01,h16km±5km, ML3.4/271,ML3.3/40(NEIC), Error ellipse: s-maj=5.3km s-min=1.4km az=165.0*
*ECX **21** 18:14:23.4±0.6,32.83N×115.61W,h16km±1km,MD3.2, ML3.4*

ISC 21 18:14:22.4±0.9, 32°84'N±0°02×115°61'W±0°02, h19km±2km, n69, σ0°54'/92, 20C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COK2	**Cook Ranch 2**	**0.10**	**277**	⇑ *i* P	**Pg**	**18 14 26.3**	**+0.2**
COK2				*i* S	**Sg**	**18 14 29.2**	**+0.6**
WESC	**Westside Schoo**	**0.13**	**232**	⇑ *i* P	**Pg**	**18 14 26.6**	**+0.2**
WESC				*i* S	**Sg**	**18 14 29.9**	**+0.7**
DREC	**Desert Rsrch C**	**0.14**	**103**	⇑ *i* P	**Pg**	**18 14 26.7**	**0.0**
DREC				*i* S	**Sg**	**18 14 30.2**	**+0.8**
SWSC	**Sam W. Stewart**	**0.19**	**304**	⇑ *i* P	**Pg**	**18 14 27.5**	**+0.3**
SWSC				*i* S	**Sg**	**18 14 30.7**	**+0.1**
SWSC	**Sam W. Stewart**	**0.19**	**304**	P	**Pg**	**18 14 27.5**	**+0.3**
	baz=125,SNR=1000						
SWSC				S	**Sg**	**18 14 30.5**	**-0.1**
	baz=125						
CEA0	**Mexicali**	**0.19**	**194**	⇓ *e* P	**Pg**	**18 14 27.3**	**+0.1**
CEA0				*e* S	**Sg**	**18 14 30.5**	**-0.1**
WEMD	**Westmorland, C**	**0.20**	**7**	*e* P	**Pg**	**18 14 28.0**	**+0.6**
ICBC	**Inst. de Cultu**	**0.21**	**146**	⇑ *i* P	**Pg**	**18 14 28.0**	**+0.4**
ICBC				*e* S	**Sg**	**18 14 32.0**	**+1.0**
SGL	**Mount Signal**	**0.21**	**207**	⇑ *i* P	**Pb**	**18 14 27.5**	**+0.3**
SGL				*i* S	**Sg**	**18 14 30.9**	**-0.1**
SUP	**Superstition M**	**0.21**	**303**		**Pg**	**18 14 27.9**	**+0.3**
SUP					**Sg**	**18 14 31.5**	**+0.3**
UABX	**UABC, Campus M**	**0.25**	**145**	Pg	**Pg**	**18 14 28.3**	**+0.1**
UABX				IAML		18 14 33.6	
	comp=E,7μm,0.4s						
UABX	**UABC, Campus M**	**0.25**	**145**	*e* P	**Pg**	**18 14 28.3**	**+0.1**
CRR	**Carrizo Plain**	**0.30**	**279**	⇑ *i* P	**Pb**	**18 14 29.5**	**+0.3**
YUH	**Yuha Desert**	**0.32**	**234**	Pg	**Pg**	**18 14 29.3**	**0.0**
YUH				IAML		18 14 34.4	
	comp=E,3μm,0.3s						
YUH				IAML		18 14 35.2	
	comp=N,3μm,0.2s						
YUH2	**Yuha Desert**	**0.32**	**234**	⇑ *i* P	**Pg**	**18 14 29.4**	**+0.1**
YUH2				*i* S	**Sg**	**18 14 34.1**	**0.0**
COA	**Coachella**	**0.41**	**86**	⇑ *i* P	**Pb**	**18 14 31.2**	**0.0**
RMX	**La Rumorosa**	**0.46**	**239**	Pg	**Pg**	**18 14 31.9**	**+0.1**
RMX				IAML		18 14 40.1	
	comp=E,5μm,0.3s						
RMX				IAML		18 14 40.2	
	comp=N,3μm,0.3s						
RMX	**La Rumorosa**	**0.46**	**239**	⇑ *i* P	**Pg**	**18 14 31.9**	**+0.1**
RMX				*e* S	**Sg**	**18 14 38.0**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**0.46**	**246**	⇑ *i* P	**Pb**	**18 14 32.1**	**+0.1**
IKP				*e* S	**Sg**	**18 14 38.4**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.46**	**246**	P	**Pb**	**18 14 32.1**	**+0.1**
	baz=68,SNR=324						
IKP				S	**Sb**	**18 14 38.6**	**+0.1**
	baz=68						
CPBX	**Cerro Prieto**	**0.49**	**148**	Pg	**Pb**	**18 14 32.0**	**-0.5**
CPBX	**Cerro Prieto**	**0.49**	**148**	⇓ *i* P	**Pb**	**18 14 32.1**	**-0.3**
CPBX				IAML		18 14 43.1	
	comp=N,6μm,0.3s						
CPBX				⇓ *e*		18 14 43.1	
CPBX				⇓ *e*		18 14 48.1	
CPBX				IAML		18 14 48.1	
	comp=E,7μm,0.3s						
CTLX	**Tlaxcala, TLX**	**0.54**	**133**	*e* P	**Pn**	**18 14 34.2**	**-0.8**
EMSC	**East Mesa**	**0.54**	**100**	⇓ *i* P	**Pg**	**18 14 33.3**	**+0.1**
SALX	**Saltillo**	**0.58**	**135**	⇑ *e* P	**Pb**	**18 14 33.8**	**-0.1**
MONP2	**Monument Peak**	**0.68**	**275**	⇑ *i* P	**Pg**	**18 14 36.1**	**+0.2**
MONP2				*e* S	**Sg**	**18 14 45.6**	**+0.4**
MONP2	**Monument Peak**	**0.68**	**275**	P	**Pg**	**18 14 36.2**	**+0.2**
	baz=95,SNR=401						
MONP2				S	**Sb**	**18 14 45.1**	**+0.1**
	baz=95						
GLA	**Glamis**	**0.69**	**72**	Pg	**Pb**	**18 14 35.4**	**-0.4**
GLA				IAML		18 14 46.1	
	comp=E,3μm,0.5s						
GLA				IAML		18 14 47.4	
	comp=N,2μm,0.6s						
GLA	**Glamis**	**0.69**	**72**	⇑ *e* P	**Pb**	**18 14 35.5**	**-0.4**
GLA				*e* S	**Sb**	**18 14 45.2**	**0.0**
GLA	**Glamis**	**0.69**	**72**	P	**Pb**	**18 14 35.5**	**-0.4**
	baz=251,SNR=124						
GLA				S	**Sb**	**18 14 44.8**	**-0.3**
	baz=251						
BC3	**Big Chuckawall**	**0.83**	**9**	P	**Pb**	**18 14 37.7**	**-0.5**
	baz=188,SNR=533						
BC3				S	**Sb**	**18 14 48.4**	**-0.6**
	baz=188						
ALAMX	**Rancho Alamar**	**0.83**	**186**	⇓ *i* P	**Pb**	**18 14 38.1**	**-0.2**
ALAMX				*e* S	**Sb**	**18 14 48.9**	**-0.2**
TKX	**Tecate**	**0.88**	**253**		**Pb**	**18 14 39.4**	**+0.3**
TKX				IAML		18 14 52.0	
	comp=E,2μm,0.2s						
BAR	**Barrett**	**0.91**	**260**		**Pb**	**18 14 39.5**	**-0.1**
BAR				IAML		18 14 52.9	
	comp=E,2μm,0.2s						
BAR	**Barrett**	**0.91**	**260**	⇑ *e* P	**Pb**	**18 14 39.5**	**-0.1**
BAR				IAML		18 14 52.9	
	comp=E,2μm,0.3s						
BAR				IAML		18 14 53.5	
	comp=N,2μm,0.2s						
BAR				⇑ *e*		18 14 53.5	
MATG	**Mataguay Scout**	**0.94**	**293**	⇑ *i* P	**Pb**	**18 14 39.8**	**-0.4**
MATG				*e* S	**Sg**	**18 14 53.0**	**-0.2**
TJIG	**Tijuana**	**0.98**	**246**	*e* P	**Pb**	**18 14 40.6**	**-0.2**
CBX	**Cerro Bola**	**1.03**	**240**		**Pn**	**18 14 41.9**	**-0.1**
CBX				IAML		18 14 58.6	
	comp=E,874nm,0.4s						
CBX				IAML		18 14 59.7	
	comp=N,1μm,0.7s						
CBX	**Cerro Bola**	**1.03**	**240**	⇑ *e* P	**Pb**	**18 14 41.8**	**+0.1**
EML	**El Monte Cty P**	**1.04**	**273**	⇑ *i* P	**Pb**	**18 14 41.3**	**-0.5**
EML				*e* S	**Sb**	**18 14 55.0**	**0.0**
PFO	**Pinyon Flats O**	**1.05**	**318**		**Pb**	**18 14 41.2**	**-0.9**
PFO	**Pinyon Flats O**	**1.05**	**318**	P	**Pb**	**18 14 41.2**	**-0.9**
	baz=137,SNR=151						
PFO				S	**Sb**	**18 14 55.1**	**-0.4**
	baz=137						
SDRC	**San Diego Road**	**1.12**	**265**	⇑ *i* P	**Pn**	**18 14 42.7**	**-0.4**
SDRC				IAML		18 14 59.5	
	comp=N,467nm,0.1s						
SDRC				⇓ *e*		18 14 59.6	
SDRC				IAML		18 14 59.6	
	comp=E,456nm,0.1s						
OLP	**Otay Lakes Par**	**1.13**	**259**	*e* P	**Pn**	**18 14 43.1**	**-0.2**
BELC	**Belle Mtn. Jos**	**1.20**	**345**	P	**Pn**	**18 14 43.2**	**-1.2**
	baz=164,SNR=114						
GVDA	**Garner Valley**	**1.22**	**313**		**Sb**	**18 14 59.7**	**-0.6**
109C	**Camp Elliot, M**	**1.26**	**273**		**Pn**	**18 14 44.4**	**-0.6**
109C				IAML		18 15 03.2	
	comp=N,828nm,0.3s						
109C	**Camp Elliot, M**	**1.26**	**273**	P	**Pn**	**18 14 44.4**	**-0.6**
	baz=92,SNR=26						
109C				Sb	**Sn**	**18 15 01.9**	**+0.5**
	baz=92						
TJX	**Tijuana**	**1.26**	**255**	Pn	**Pn**	**18 14 45.1**	**+0.1**
BLYC	**Blythe**	**1.29**	**45**		**Pb**	**18 14 45.8**	**-0.2**
BLYC				IAML		18 15 13.0	
	comp=E,436nm,0.8s						
BLYC				IAML		18 15 13.1	
	comp=N,402nm,0.8s						
CCX	**Cicese**	**1.31**	**223**		**Pb**	**18 14 46.4**	**-0.1**
IRM	**Iron Mountain**	**1.37**	**16**	Sb	**Sb**	**18 15 04.6**	**-0.1**
	baz=196						
MURC	**Murrieta**	**1.53**	**300**	P	**Pn**	**18 14 48.2**	**-0.6**
	baz=120,SNR=16						
113A	**Mohawk Valley,**	**1.56**	**92**	Pn	**Pn**	**18 14 48.0**	**-1.1**
ELS	**Elsinore Mount**	**1.72**	**298**		**Pn**	**18 14 50.9**	**-0.6**
PDMCI	**Parker Dam,Lak**	**1.91**	**40**	Sb	**Sb**	**18 15 20.9**	**+0.8**
	baz=220						
Y14A	**Wickenburg**	**2.44**	**63**	Pg	**Pb**	**18 15 07.1**	**+1.4**
214A	**Organ Pipe Nat**	**2.53**	**110**	Pn	**Pn**	**18 15 01.1**	**-1.4**
214A				IAML		18 15 50.7	
	comp=E,99nm,0.7s						
214A				IAML		18 15 51.6	
	comp=N,111nm,1.3s						
214A	**Organ Pipe Nat**	**2.53**	**110**	P	**Pn**	**18 15 01.0**	**-1.5**
	baz=291,SNR=24						
GSC	**Goldstone, Bar**	**2.65**	**338**		**Pn**	**18 15 04.3**	**+0.1**
GSC				IAML		18 16 05.0	
	comp=E,75nm,0.8s						
CCAC	**Calif City Air**	**3.05**	**320**		**Pn**	**18 15 10.4**	**+0.6**
QSM	**Queen of Sheba**	**3.29**	**342**		**Pn**	**18 15 13.7**	**+0.8**
GWY	**Greenwater Val**	**3.45**	**346**		**Pn**	**18 15 15.4**	**0.0**
SHPR	**Sheep Range**	**3.68**	**6**	Pn	**Pn**	**18 15 17.0**	**-1.4**
ISA	**Isabella, Lake**	**3.68**	**321**	Pn	**Pn**	**18 15 18.0**	**-0.4**
BCW	**Bitter Crk WRg**	**3.79**	**305**		**Pn**	**18 15 19.1**	**-0.9**
WUAZ	**Wupatki**	**4.41**	**52**		**Pn**	**18 15 29.6**	**+1.0**
U15A	**North Rim**	**4.51**	**36**		**Pn**	**18 15 30.7**	**+0.8**
U15A				IAML		18 16 49.0	
	comp=N,17nm,0.7s						
U15A				IAML		18 16 54.8	
	comp=E,18nm,1.1s						
121A	**Cookes Peak, D**	**6.61**	**91**		**Pn**	**18 15 58.9**	**+0.2**

KRSC 21 18:21:05.0±0.5, 48°13N×157°20E, h30km±12km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**3.73**	**8**	P	Pn	18 22 04.8	+4.3
KDTR				S	Sn	18 22 48.1	+4.8
RUS	**Russkaya**	**4.39**	**11**	P	Pn	18 22 13.7	+4.1
RUS				S	Sn	18 23 05.0	+5.3
MTVR	**Mutnovka**	**4.41**	**8**	S	Sn	18 23 05.4	+5.2
GRL	**Gorelyy**	**4.46**	**7**	P	Pn	18 22 15.2	+4.5
MKZ	**Mys Kozlova**	**7.03**	**22**	P	Pn	18 22 51.2	+5.4

*NNC **21** 18:25:55.3±0.3,43.06N×78.15E,h0km,mb1.3,mpv2.5, Error ellipse: s-maj=4.3km s-min=1.0km az=175.0*
*SOME **21** 18:25:55.7,43.05N×78.17E,h10km*

ISC 21 18:25:54.7±1.2, 43°05N±0°06×78°16E±0°04, h19km±3km, n14, σ0°37/28, 4C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.18**	**87**	*e* P	**Pg**	**18 25 59.7**	**+0.1**
	3.5nm,0.1s						
SATY				*e* S	**Sg**	**18 26 02.8**	**-0.1**
	42nm,0.2s						
SATY	**Saty**	**0.18**	**87**	P	**Pg**	**18 25 59.7**	**+0.1**
	3.5nm,0.1s						
SATY				S	**Sg**	**18 26 02.8**	**-0.1**
	42nm,0.2s						
ZHN	**Zhinishke**	**0.24**	**60**	*e* P	**Pg**	**18 26 00.2**	**-0.2**
	4.8nm,0.1s						
ZHN				*e* S	**Sg**	**18 26 03.6**	**-0.6**
	34nm,0.2s						
ZHN	**Zhinishke**	**0.24**	**60**	P	**Pg**	**18 26 00.2**	**-0.2**
	4.8nm,0.1s						
ZHN				S	**Sg**	**18 26 03.7**	**-0.6**
	34nm,0.2s						
KURS	**Kuram**	**0.44**	**1**	*e* P	**Pb**	**18 26 04.1**	**+0.1**
	1.8nm,0.1s						
KURS				*e* S	**Sg**	**18 26 10.0**	**+0.2**
	4.9nm,0.1s						
KURS	**Kuram**	**0.44**	**1**	P	**Pb**	**18 26 04.1**	**+0.1**
	1.8nm,0.1s						
KURS				S	**Sg**	**18 26 10.0**	**+0.2**
	4.9nm,0.1s						
KPKS	**Kokpek**	**0.57**	**43**	*e* P	**Pb**	**18 26 06.2**	**+0.1**
	7.5nm,0.1s						
KPKS				*e* S	**Sb**	**18 26 13.7**	**-0.1**
	3.4nm,0.1s						
UZB	**Uzynbulak**	**0.64**	**81**	*e* P	**Pb**	**18 26 07.4**	**+0.1**
	1.6nm,0.1s						
UZB				*e* S	**Sb**	**18 26 15.6**	**-0.4**
	5.9nm,0.1s						
UZB	**Uzynbulak**	**0.64**	**81**	P	**Pb**	**18 26 07.4**	**+0.1**
	1.6nm,0.1s						
UZB				S	**Sb**	**18 26 15.6**	**-0.4**
	5.9nm,0.1s						
MDOK	**Medeo**	**0.82**	**278**	⇓ P	**Pn**	**18 26 11.1**	**-0.3**
	1.3nm,0.7s						
MDOK				⇑ S	**Sn**	**18 26 22.4**	**-0.7**
	0.5nm,0.3s						
TNSS	**Tian-Shan**	**0.89**	**270**	*e* P	**Pn**	**18 26 12.9**	**+0.3**
	0.3nm,0.1s						
TNSS				*e* S	**Sn**	**18 26 25.1**	**0.0**
	1.0nm,0.1s						
TNSS	**Tian-Shan**	**0.89**	**270**	P	**Pn**	**18 26 12.9**	**+0.3**
	0.3nm,0.1s						
TNSS				S	**Sn**	**18 26 25.1**	**0.0**
	1.0nm,0.1s						
KNDC	**Almaty**	**0.89**	**281**	⇑ P	**Pn**	**18 26 12.4**	**+0.1**
	5.5nm,0.5s						
KNDC				⇑ S	**Sn**	**18 26 24.7**	**0.0**
	2.7nm,0.2s						
PDGK	**Podgornoye**	**1.01**	**74**	⇓ P	**Pg**	**18 26 14.8**	**+0.4**
	1.5nm,1.2s						
PDGK				⇑ S	**Sg**	**18 26 28.8**	**+1.0**
	1.7nm,1.1s						

*NEIC **21** 18:32:42.8,36.55N×98.67W,h3km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-0.13; Mθθ1.14; Mφφ-1.01; Mrθ-0.17; Mφθ-0.07; Mφr-0.39; Fault plane solution: M₀1.16000×10¹⁴ NP1:φ=315.00000°, δ70.00000°,λ-10.00000°. NP2:φ48.00000°,δ81.00000°, λ-160.00000°. Principal axes: T 1.1617, Plg7.0000°, Azm180.0000°; N -0.0001, Plg68.0000°, Azm72.0000°; P -1.1616, Plg21.0000°, Azm273.0000°;*
*TUL **21** 18:32:42.8±1.0,36.532N±0.007×98.69W±0.04,h5km±4km, ML3.8,mb_Lg3.6/98(NEIC),Mwr3.3/12(SLM) Error ellipse: s-maj=4.2km s-min=0.7km az=78.0*
*IDC **21** 18:32:42.6±1.7,36.51N×98.42W,h0km,mb1 3.5/3, mb1mx3.3/52,mbtmp3.2/3,ML3.9/2,Error ellipse: s-maj=23.7km s-min=10.1km az=97.0*
*NEIC **21** 18:32:43.0±0.8,36.540N±0.007×98.67W±0.04,h6km±4km, Error ellipse: s-maj=4.3km s-min=0.7km az=79.0*
*ANF **21** 18:32:43.6±0.4,36.53N×98.70W,h8km,ML4.3/13,Error ellipse: s-maj=4.8km s-min=3.5km az=153.0*

ISC 21 18:32:43.1±0.7, 36°50N±0°04×98°65W±0°04, h10km, n95, σ1°23/76, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.31**	**246**	Pg	**Pg**	**18 32 48.8**	**-0.5**
U32A	**Winter Ranch,**	**0.31**	**246**	P	**Pg**	**18 32 48.9**	**-0.4**
	baz=58,SNR=324						
U32A				S	**Sg**	**18 32 53.5**	**+0.1**
	baz=58						
FNO	**Franklin**	**1.60**	**140**		**Pn**	**18 33 12.6**	**+1.1**
T35A	**Sooner Cattle**	**1.77**	**76**		**Pn**	**18 33 14.8**	**+1.1**
T35B	**Sooner Cattle**	**1.77**	**76**	P	**Pn**	**18 33 14.9**	**+1.1**
	baz=259,SNR=283						
T35B				S	**Sb**	**18 33 39.3**	**+1.5**
	baz=259						
WMOK	**Wichita Mounta**	**1.77**	**184**		**Pn**	**18 33 14.4**	**+0.7**
WMOK	**Wichita Mounta**	**1.77**	**184**	P	**Pn**	**18 33 14.2**	**+0.4**
	baz=2.8,SNR=168						
R32A	**Long Quarter,**	**1.92**	**359**		**Pn**	**18 33 16.8**	**+1.0**
R32A				IAmb_Lg		18 33 43.0	
	comp=Z,299nm,0.9s						
R32A	**Long Quarter,**	**1.92**	**359**	P	**Pb**	**18 33 17.1**	**-1.0**
	baz=179,SNR=118						
R32A				S	**Sb**	**18 33 42.3**	**+0.2**
	baz=179						
W35A	**Tecumseh**	**1.97**	**133**		**Pn**	**18 33 18.1**	**+1.5**
X34A	**Smith Ranch, M**	**2.01**	**160**		**Pb**	**18 33 19.3**	**-0.5**
X34A				IAmb_Lg		18 33 49.7	
	comp=Z,268nm,0.9s						
TUL1	**Leonard**	**2.38**	**104**		**Pn**	**18 33 23.0**	**+0.7**
TUL1				IAmb_Lg		18 34 00.1	
	comp=Z,252nm,0.8s						
TUL1	**Leonard**	**2.38**	**104**	Sb	**Sb**	**18 33 57.5**	**+1.9**
	baz=286						
CBKS	**Cedar Bluff**	**2.46**	**340**		**Pn**	**18 33 23.2**	**-0.1**
AMTX	**Amarillo**	**2.95**	**238**	Pn	**Pn**	**18 33 31.6**	**+1.5**
AMTX				IAmb_Lg		18 34 16.7	
	comp=Z,241nm,1.0s						
KSU1	**Kansas State U**	**3.05**	**31**		**Pn**	**18 33 31.6**	**+0.2**
KSU1				IAmb_Lg		18 34 27.3	
	comp=Z,142nm,0.7s						
X37A	**Clayton**	**3.29**	**125**		**Pn**	**18 33 35.6**	**+0.9**
X37A				I

Z38A				IAmb_Lg			18 35 10.2		
	comp=Z,160nm,1.1s								
Z38A	**Mt. Pleasant**	**4.42**	**136**	Sb	**Sg**		**18 35 03.1**	**-1.9**	
	baz=318								
MIAR	**Mount Ida**	**4.58**	**114**	IAmb_Lg			18 35 17.5		
	comp=Z,123nm,0.7s								
WHTX	**Lake Whitney,**	**4.61**	**167**	P	**Pn**		**18 33 54.0**	**+1.2**	
	baz=348,SNR=8.9								
T25A	**Trinidad**	**4.67**	**280**		**Pn**		**18 33 54.2**	**+0.4**	
T25A				IAmb_Lg			18 35 13.8		
	comp=Z,112nm,0.8s								
U40A	**Yellville**	**4.68**	**90**		**Pn**		**18 33 54.5**	**+0.7**	
U40A				IAmb_Lg			18 35 22.1		
	comp=Z,117nm,0.8s								
BGNE	**Belgrade**	**4.91**	**4**		**Pn**		**18 33 57.2**	**+0.1**	
BGNE				IAmb_Lg			18 35 31.2		
	comp=Z,169nm,0.8s								
N35A	**Tabor**	**4.95**	**27**		**Pn**		**18 33 56.9**	**-0.5**	
237A	**Washetta, Mont**	**5.07**	**152**	IAmb_Lg			18 35 35.1		
	comp=Z,75nm,0.9s								
P38A	**Dawn**	**5.10**	**51**		**Pn**		**18 33 59.6**	**0.0**	
P38A				IAmb_Lg			18 35 33.5		
	comp=Z,100nm,0.8s								
X40A	**Basin Creek Fa**	**5.15**	**111**		**Pn**		**18 34 01.3**	**+1.0**	
MGMO	**Mountain Grove**	**5.16**	**81**		**Pn**		**18 34 01.6**	**+1.2**	
MGMO				IAmb_Lg			18 35 29.2		
	comp=Z,85nm,0.8s								
OGNE	**Ogallala**	**5.16**	**330**	Pn	**Pn**		**18 34 00.7**	**+0.2**	
OGNE				IAmb_Lg			18 35 26.8		
	comp=Z,138nm,0.7s								
WHAR	**Wooly Hollow**	**5.30**	**101**	IAmb_Lg			18 35 39.4		
	comp=Z,82nm,0.7s								
WLAR	**White Oak Lake**	**5.34**	**120**	Pn	**Pn**		**18 34 01.2**	**-1.6**	
WLAR				IAmb_Lg			18 35 42.8		
	comp=Z,72nm,0.7s								
W41B	**Gary Mavity, V**	**5.37**	**102**	Pn	**Pn**		**18 34 03.9**	**+0.7**	
W41B				IAmb_Lg			18 35 36.6		
	comp=Z,102nm,0.9s								
R40A	**Maddies Statio**	**5.38**	**69**		**Pn**		**18 34 04.0**	**+0.5**	
R40A				IAmb_Lg			18 35 34.1		
	comp=Z,98nm,0.8s								
SDCO	**Great Sand Dun**	**5.61**	**285**		**Pn**		**18 34 06.3**	**-0.6**	
Q24A	**Divide**	**5.71**	**297**	Pn	**Pn**		**18 34 07.2**	**-1.0**	
Q24A				IAmb_Lg			18 35 50.8		
	comp=Z,84nm,0.8s								
L34A	**Svendsen Farm,**	**5.73**	**17**	Pn	**Pn**		**18 34 07.3**	**-1.0**	
NATX	**Nacogdoches**	**5.77**	**144**	IAmb_Lg			18 35 58.5		
	comp=Z,66nm,0.9s								
435B	**Jarrell**	**5.78**	**171**	IAmb_Lg			18 35 54.4		
	comp=Z,65nm,0.9s								
N38A	**Joes South For**	**6.02**	**43**		**Pn**		**18 34 11.5**	**-0.8**	
P40A	**Paris**	**6.02**	**58**		**Pn**		**18 34 12.8**	**+0.6**	
LCAR	**Lake Charles**	**6.07**	**92**	Pn	**Pn**		**18 34 14.1**	**+1.3**	
LCAR				IAmb_Lg			18 35 57.4		
	comp=Z,70nm,0.9s								
JCT	**Junction City**	**6.09**	**189**		**Pn**		**18 34 12.1**	**-1.1**	
JCT				IAmb_Lg			18 36 13.5		
	comp=Z,76nm,0.8s								
CCM	**Cathedral Cave**	**6.10**	**73**		**Pn**		**18 34 14.1**	**+0.8**	
CCM				IAmb_Lg			18 35 56.0		
	comp=Z,113nm,0.7s								
K31A	**O'Neill**	**6.11**	**359**	IAmb_Lg			18 36 13.1		
	comp=Z,92nm,0.8s								
CCAR	**Cane Creek**	**6.19**	**113**	IAmb_Lg			18 36 11.1		
	comp=Z,69nm,0.8s								
ISCO	**Idaho Springs**	**6.40**	**303**		**Pn**		**18 34 16.5**	**-1.1**	
ISCO				IAmb_Lg			18 36 07.2		
	comp=Z,81nm,1.1s								
ANMO	**Albuquerque**	**6.54**	**259**		**Pn**		**18 34 17.7**	**-1.8**	
PBMO	**Poplar Bluff**	**6.61**	**85**		**Pn**		**18 34 21.2**	**+0.8**	
PBMO				IAmb_Lg			18 36 14.4		
	comp=Z,104nm,0.7s								
S22A	**4UR Ranch, Cre**	**6.65**	**283**		**Pn**		**18 34 19.9**	**-1.2**	
BNM	**Barren Site**	**6.93**	**253**		**Pn**		**18 34 24.3**	**-0.7**	
SLM	**Saint Louis**	**7.01**	**70**	IAmb_Lg			18 36 28.6		
	comp=Z,123nm,0.9s								
143A	**Socs Landing,**	**7.08**	**120**	IAmb_Lg			18 36 43.8		
	comp=Z,58nm,0.9s								
PHWY	**Pilot Hill**	**7.15**	**314**	IAmb_Lg			18 36 34.7		
	comp=Z,84nm,1.0s								
MNTX	**Cornudas Mount**	**7.36**	**231**		**Pn**		**18 34 30.0**	**-0.6**	
ECSD	**EROS Data Cent**	**7.39**	**12**		**Pn**		**18 34 29.3**	**-1.7**	
N41A	**Harden Midland**	**7.41**	**53**	Pn	**Pn**		**18 34 31.6**	**+0.4**	
HALT	**Halls**	**7.55**	**92**	IAmb_Lg			18 36 55.4		
	comp=Z,84nm,0.8s								
SIUC	**Southern Illin.**	**7.63**	**78**	IAmb_Lg			18 36 53.0		
	comp=Z,104nm,1.0s								
OXF	**Oxford**	**7.79**	**102**	IAmb_Lg			18 37 09.1		
	comp=Z,62nm,0.9s								
W45A	**Hickory Valley**	**7.80**	**97**	IAmb_Lg			18 37 02.8		
	comp=Z,56nm,0.8s								
P43A	**Skaggs, Pawnee**	**7.85**	**64**	Pn	**Pn**		**18 34 37.8**	**+0.5**	
Y45A	**Yeager Farm, C**	**7.91**	**107**	IAmb_Lg			18 37 10.7		
	comp=Z,46nm,0.8s								
MVCO	**Mesa Verde**	**7.93**	**278**		**Pn**		**18 34 37.2**	**-1.4**	
SUSD	**Miller**	**7.93**	**358**	IAmb_Lg			18 37 02.5		
	comp=Z,65nm,0.8s								
L40A	**Anamosa**	**8.00**	**44**	Pn	**Pn**		**18 34 38.2**	**-1.1**	
Q44A	**Meyer Farm, Va**	**8.00**	**70**	Pn	**Pn**		**18 34 39.5**	**+0.1**	
TX31	**Lajitas Ar. Si**	**8.30**	**212**		**Pn**		**18 34 44.0**	**+0.4**	
TX32	**Lajitas Array**	**8.30**	**212**		**Pn**		**18 34 44.0**	**+0.3**	
TXAR	**Lajitas Array**	**8.30**	**212**	Pn	**Pn**		**18 34 44.0**	**+0.4**	
	comp=Z,0.4nm,0.3s,baz=35,slow=10,SNR=32								
TXAR				Sn	**Sn**		**18 36 15.7**	**-1.8**	
	comp=Z,0.4nm,0.3s,baz=8.5,slow=18,SNR=1.5								
TXAR				Lg	Lg		18 37 06.2		
	comp=Z,1.7nm,0.3s,baz=229,slow=44,SNR=5.5								
TXAR	**Lajitas Array**	**8.30**	**212**	Pn	**Pn**		**18 34 44.0**	**+0.4**	
HDIL	**Hopedale**	**8.37**	**58**	Pn	**Pn**		**18 34 44.3**	**-0.1**	
RWWY	**Rawlins**	**8.43**	**310**	IAmb_Lg			18 37 25.8		
	comp=Z,49nm,1.1s								
I37A	**Lemond, Waseca**	**8.51**	**27**	IAmb_Lg			18 37 28.4		
	comp=Z,53nm,1.0s								
K22A	**Casper**	**8.64**	**318**	IAmb_Lg			18 37 38.1		
	comp=Z,59nm,0.9s								
RSSD	**Black Hills**	**8.65**	**333**	Pn	**Pn**		**18 34 48.2**	**-0.2**	
RSSD				IAmb_Lg			18 37 29.5		
	comp=Z,44nm,0.7s								
L42A	**Oliver, Polo**	**8.87**	**49**	IAmb_Lg			18 37 30.6		
	comp=Z,59nm,0.7s								
JFWS	**Jewell Farm**	**9.10**	**43**	IAmb_Lg			18 37 37.6		
	comp=Z,64nm,0.8s								
I40A	**Norwalk**	**9.60**	**37**	IAmb_Lg			18 37 51.4		
	comp=Z,62nm,1.1s								
PDAR	**Pinedale Array**	**10.48**	**310**	Pn	**Pn**		**18 35 18.1**	**+4.6**	
	comp=Z,0.1nm,0.3s,baz=121,slow=14,SNR=3.1								
PDAR				Sn	**Sn**		**18 37 14.9**	**+3.9**	
	comp=Z,0.2nm,0.3s,baz=85,slow=16,SNR=1.3								
PDAR				Lg	Lg		18 38 12.3		
	comp=Z,0.9nm,0.3s,baz=113,slow=31,SNR=4.2								
ULM	**Lac du Bonnet**	**13.88**	**7**	Pn	Pn		18 35 54.8	-5.1	
	comp=Z,0.2nm,0.3s,baz=190,slow=2.7,SNR=1.3								
ULM				Sn	Sn		18 38 21.5	-12	
	comp=Z,0.7nm,0.3s,baz=107,slow=19,SNR=3.3								
ULM				Lg	Lg		18 39 54.4		
	baz=124,slow=17,SNR=1.7								

*IDC **21** 18:39:05.7±1.0, 38°.30N×21°.80E, h0km, mb3.6/9, mb1 3.7/11, mb1mx3.6/38, mbtmp3.6/11, ML3.4/2, MS3.1/3, Ms1 3.1/3, ms1mx2.4/78, Error ellipse: s-maj=21.1km s-min=19.8km az=21.0*

*ATH **21** 18:39:06.7, 38°.16N×21°.80E, h26km, ML3.7/19, Error ellipse: s-maj=0.9km s-min=0.7km az=326.0*

ISC 21 18:39:07.8±0.8, 38°.19N±0°.02×21°.80E±0°.02, h16km±5km, n57, σ1ˢ26/73, mb3.7/8, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LAKA	**Lakka**	**0.15**	**70**	P		**Pg**	**18 39 12.0**	**+0.1**
LAKA				S		**Sg**	**18 39 15.1**	**+0.5**
LAKA				AML		AML	18 39 15.1	
LAKA				AML		AML	18 39 16.3	
DRO	**Drossia**	**0.25**	**196**	P		**Pb**	**18 39 13.1**	**-0.8**
DRO				S		**Sb**	**18 39 17.5**	**-0.5**
DRO				AML		AML	18 39 17.6	
DRO				AML		AML	18 39 17.8	
EFP	**Efpalio**	**0.25**	**20**	P		**Pg**	**18 39 13.7**	**+0.3**
EFP				S		**Sg**	**18 39 18.5**	**+1.4**
EFP				AML		AML	18 39 19.3	
	comp=E,29509μm,0.2s							
EFP				AML		AML	18 39 20.2	
	comp=N,18601μm,0.2s							
RLS	**Riolos of Patr**	**0.29**	**243**	P		**Pg**	**18 39 13.9**	**-0.1**
RLS				S		**Sg**	**18 39 19.0**	**+0.7**
RLS				AML		AML	18 39 21.6	
	comp=E,32471μm,0.4s							
RLS				AML		AML	18 39 22.5	
	comp=N,40715μm,0.5s							
KLV	**Kalavryta, Ach**	**0.31**	**117**	P		**Pg**	**18 39 14.1**	**-0.4**
KLV				S		**Sg**	**18 39 18.8**	**-0.2**
KLV				AML		AML	18 39 19.5	
	comp=E,24618μm,0.4s							
KLV				AML		AML	18 39 23.1	
	comp=N,24567μm,0.5s							
ANX	**Ano Chora**	**0.42**	**14**	P		**Pg**	**18 39 16.4**	**+0.1**
ANX				S		**Sb**	**18 39 23.6**	**+0.6**
ANX				AML		AML	18 39 26.3	
	comp=N,24062μm,0.6s							
ANX				AML		AML	18 39 28.3	
	comp=E,18660μm,0.5s							
PVO	**Paravola**	**0.48**	**334**	P		**Pg**	**18 39 17.6**	**+0.2**
DLFA	**Delphi**	**0.62**	**62**	P		**Pb**	**18 39 19.1**	**-1.2**
DLFA				S		**Sb**	**18 39 28.5**	**-0.3**
DLFA				AML		AML	18 39 30.5	
	comp=N,14383μm,0.6s							
DLFA				AML		AML	18 39 35.7	
	comp=E,11702μm,0.5s							
THAL	**Thalero**	**0.70**	**102**	P		**Pb**	**18 39 20.6**	**-1.0**
THAL				S		**Sb**	**18 39 30.6**	**-0.5**
THAL				AML		AML	18 39 34.6	
	comp=N,40037μm,0.3s							
THAL				AML		AML	18 39 34.9	
	comp=E,60338μm,0.5s							
EVR	**Evrytania**	**0.73**	**1**	P		**Pb**	**18 39 21.6**	**-0.5**
EVR				AML		AML	18 39 37.2	
	comp=E,5729μm,0.3s							
EVR				AML		AML	18 39 37.4	
	comp=N,6497μm,0.4s							
MAKR	**Makrakomi, Fth**	**0.86**	**18**	P		**Pb**	**18 39 24.4**	**-0.1**
MAKR				S		**Sg**	**18 39 35.7**	**-0.3**
MAKR				AML		AML	18 39 42.7	
	comp=N,3964μm,0.8s							
MAKR				AML		AML	18 39 43.5	
	comp=E,3179μm,0.8s							
AGG	**Agios Georgios**	**0.93**	**27**	P		**Pb**	**18 39 24.6**	**-1.0**
AGG				S		**Sn**	**18 39 38.6**	**-0.8**
AGG				AML		AML	18 39 42.6	
	comp=E,5294μm,0.8s							
AGG				AML		AML	18 39 46.4	
	comp=N,3957μm,0.7s							
LTK	**Loutraki**	**0.94**	**100**	P		**Pb**	**18 39 25.1**	**-0.6**
LTK				S		**Sg**	**18 39 38.8**	**+0.5**
VLS	**Valsamata**	**0.95**	**270**	P		**Pb**	**18 39 24.7**	**-1.2**
VLS				S		**Sg**	**18 39 39.0**	**+0.3**
VLS				AML		AML	18 39 41.1	
	comp=N,12960μm,0.1s							
VLS				AML		AML	18 39 41.2	
	comp=E,7647μm,0.1s							
EVGl	**Lefkada island**	**0.99**	**296**	P		**Pb**	**18 39 25.4**	**-1.3**
FSK	**Fiskardo**	**1.01**	**286**	P		**Pb**	**18 39 26.2**	**-0.7**
FSK				S		**Sg**	**18 39 41.1**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.01**	**302**	P		**Pb**	**18 39 25.5**	**-1.4**
ITM	**Ithomi**	**1.01**	**174**	P		**Pb**	**18 39 26.1**	**-0.9**
ITM				S		**Sb**	**18 39 39.1**	**-0.9**
ITM				AML		AML	18 39 42.4	
	comp=E,10648μm,0.6s							
ITM				AML		AML	18 39 43.2	
	comp=N,12239μm,0.8s							
ARGA	**Argostoli. Kep**	**1.04**	**270**	P		**Pb**	**18 39 27.1**	**-0.3**
LKR	**Lokris**	**1.05**	**64**	P		**Pb**	**18 39 26.8**	**-0.8**
LKR				S		**Sn**	**18 39 42.0**	**-0.2**
LKR				AML		AML	18 39 43.9	
	comp=N,9266μm,0.5s							
LKR				AML		AML	18 39 45.3	
	comp=E,8303μm,0.7s							
LXRA	**Lixouri, Kepha**	**1.07**	**271**	P		**Pb**	**18 39 27.0**	**-0.9**
LXRA				S		**Sg**	**18 39 43.5**	**+1.0**
LKD2	**Lefkada island**	**1.08**	**304**	P		**Pb**	**18 39 27.1**	**-1.0**
KEF4	**Livadi, Kephal**	**1.08**	**274**	P		**Pb**	**18 39 27.0**	**-1.2**
TSLK	**Tsoukalades, L**	**1.10**	**306**	P		**Pb**	**18 39 27.6**	**-0.8**
KEF3	**Kipouria, Keph**	**1.14**	**271**	P		**Pn**	**18 39 27.6**	**-1.6**
VIL2	**Platees**	**1.16**	**88**	P		**Pn**	**18 39 29.1**	**-0.4**
VIL2				AML		AML	18 39 50.6	
	comp=N,12955μm,0.9s							
VIL2				AML		AML	18 39 51.5	
	comp=E,25357μm,0.8s							
EPID	**Epidavros**	**1.19**	**118**	P		**Pn**	**18 39 29.1**	**-0.8**
PYL	**PYLOS**	**1.29**	**182**	P		**Pn**	**18 39 30.8**	**-0.4**
PYL				AML		AML	18 39 55.7	
	comp=N,6042μm,0.3s							
PYL				AML		AML	18 39 59.3	
	comp=E,10340μm,0.5s							
KRND	**KRANIDI**	**1.34**	**126**	P		**Pn**	**18 39 31.0**	**-0.9**
THL	**Klokotos Trika**	**1.38**	**7**	P		**Pb**	**18 39 33.2**	**-0.1**
THL				AML		AML	18 40 01.9	
	comp=E,1499μm,0.6s							
THL				AML		AML	18 40 05.6	
	comp=N,1072μm,0.8s							
ATH	**Athens Observa**	**1.53**	**98**	P		**Pn**	**18 39 35.0**	**+0.5**
ATH				S		**Sb**	**18 39 55.2**	**+0.3**
ATH				AML		AML	18 40 00.9	
	comp=E,5395μm,0.9s							
ATH				AML		AML	18 40 07.5	
	comp=N,5087μm,0.7s							
NEO	**Neokhori**	**1.58**	**45**	P		**Pn**	**18 39 35.3**	**+0.1**
ATHU	**Athens Univers**	**1.58**	**97**	P		**Pn**	**18 39 34.2**	**-1.1**
VLY	**Voula,Athens**	**1.61**	**101**	P		**Pn**	**18 39 34.7**	**-0.9**
PTL	**Penteli**	**1.64**	**94**	P		**Pn**	**18 39 34.7**	**-1.3**
DION	**Dionisos Attik**	**1.69**	**93**	P		**Pn**	**18 39 36.1**	**-0.6**
DION				AML		AML	18 40 04.4	
	comp=N,5615μm,0.5s							
DION				AML		AML	18 40 07.9	
	comp=E,5402μm,0.6s							
VLI	**Velíai**	**1.73**	**148**	P		**Pn**	**18 39 37.0**	**-0.1**
KPRO	**Kipourio**	**1.80**	**349**	P		**Pb**	**18 39 39.2**	**-1.2**
KYMI	**Kymi, Euboea I**	**1.86**	**76**	P		**Pn**	**18 39 38.6**	**-0.5**
KARY	**Karystos**	**2.09**	**93**	P		**Pn**	**18 39 41.8**	**-0.4**
KZN	**Kozani**	**2.12**	**359**	P		**Pn**	**18 39 42.5**	**-0.1**
KEK	**Kerkira**	**2.18**	**315**	P		**Pb**	**18 39 44.9**	**-1.9**
VAY	**Valandovo**	**3.19**	**11**	*i* Pn		**Pn**	**18 40 00.1**	**+2.9**
STIP	**Stip**	**3.51**	**5**	*i* Pn		**Pb**	**18 40 05.4**	**-4.2**
IDI	**Anoyia**	**3.81**	**138**	Pn		**Pn**	**18 40 06.7**	**+0.7**
	comp=E,1.8nm,0.3s,baz=20,slow=22,SNR=2.6							
IDI				Sn		**Sn**	**18 40 55.5**	**+5.0**
	comp=E,10nm,0.3s,baz=305,slow=17,SNR=3.7							
MLR	**Muntele Rosu**	**7.92**	**22**	Pn		Pn	18 41 07.9	+5.4
	comp=E,0.4nm,0.3s,baz=307,slow=16,SNR=5.2							
MLR				LR		LR	18 43 41.2	
	comp=E,59nm,21.9s,baz=240,slow=35							
BRTR	**Keskin Array B**	**9.35**	**77**	Pn		**Pn**	**18 41 24.9**	**+2.9**
	comp=E,0.4nm,0.3s,baz=255,slow=13,SNR=13							
ESDC	**Sonseca Array**	**20.08**	**282**	P		**P**	**18 43 41.1**	**+0.6**
	comp=E,1.1nm,0.9s,baz=71,slow=11,SNR=4.1							
FINES	**FINESS Array B**	**23.43**	**5**	P		**P**	**18 44 13.3**	**-2.7**
	comp=E,2.6nm,1.1s,baz=176,slow=10,SNR=7.1							
NOA	**NORSAR Array B**	**23.82**	**347**	P		**P**	**18 44 18.5**	**-1.3**
	comp=E,1.2nm,0.9s,baz=174,slow=10,SNR=3.6							
NOA				LR		LR	18 55 20.6	
	comp=E,20nm,21.7s,baz=230,slow=41							
EKA	**Eskdalemuir Ar**	**24.01**	**324**	P		**P**	**18 44 21.7**	**+0.1**
	comp=E,0.4nm,0.5s,baz=121,slow=8.3,SNR=2.5							
TORD	**Torodi Ar. Bea**	**30.68**	**221**	P		**P**	**18 45 22.1**	**+0.2**
	comp=E,0.8nm,0.7s,baz=27,slow=9.3,SNR=7.0							
ARCES	**ARCESS Array B**	**31.47**	**2**	P		**P**	**18 45 27.7**	**-0.7**
	comp=E,3.1nm,1.0s,baz=188,slow=9.9,SNR=2.1							
MKAR	**Makanchi Array**	**44.44**	**59**	P		**P**	**18 47 17.6**	**-0.4**
	comp=E,1.3nm,0.5s,baz=281,slow=6.7,SNR=24							
ZALV	**Zalesovo Beam**	**44.94**	**48**	P		**P**	**18 47 21.4**	**-0.3**
	comp=E,1.7nm,0.5s,baz=273,slow=8.2,SNR=11							
YKA	**Yellowknife Ar**	**73.72**	**341**	P		**P**	**18 50 42.1**	**+1.6**
	comp=E,0.1nm,0.5s,baz=31,slow=5.0,SNR=2.5							
ASAJ	**Asahikawa**	**82.16**	**39**	LR		LR	19 30 17.9	
	comp=E,50nm,18.8s,baz=150,slow=37							

*IDC **21** 18:53:00.7±0.8, 14°.56S×166°.36E, h0km, mb4.5/12, mb1 4.7/15, mb1mx4.3/44, mbtmp4.5/15, ML4.5/3, MS3.5/15, Ms1 3.5/15, ms1mx3.2/59, Error ellipse: s-maj=24.6km s-min=17.4km az=122.0*

*BJI **21** 18:53:02.9±0.0, 14°.08S×166°.40E, h12km, mb4.7/38, mB4.8/20*

*NOU **21** 18:53:05.9, 14°.81S×166°.35E, h4km, MLv5.2/11, Vanuatu Islands*

*NEIC **21** 18:53:06.1±1.6, 14°.52S±0°.04×166°.34E±0°.06, h35km±1km, mb5.1/100, Error ellipse: s-maj=10.0km s-min=6.9km az=259.0*

ISC 21 18:53:04.8±0.4, 14°.60S±0°.05×166°.31E±0°.06, h28km, n274, σ0ˢ82/266, mb5.0/75, MS3.4/11, 1C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANVU	**Saraoutou**	**1.21**	**134**			**Pn**	**18 53 25.0**	**-0.8**
SANVU				Sn		**Sb**	**18 53 43.1**	**+0.9**
SANVU	**Saraoutou**	**1.21**	**134**	P		**Pn**	**18 53 25.9**	**+0.1**
DVP	**Devils Point**	**3.59**	**150**	P		**Pn**	**18 53 59.7**	**+1.1**
LIFNC	**LIFOU**	**6.20**	**172**	Pn		**Pn**	**18 54 33.6**	**-0.9**
KOUNC	**Koumac, New Ca**	**6.22**	**198**			**Pn**	**18 54 35.2**	**+0.5**
KOUNC	**Koumac, New Ca**	**6.22**	**198**	P		**Pn**	**18 54 35.6**	**+0.9**
MARNC	**Mare, Loyalty**	**7.03**	**167**	Pn		**Pn**	**18 54 45.7**	**-0.3**
DZM	**Mont Dzumac**	**7.43**	**179**	Pn		**Pn**	**18 54 52.1**	**+0.6**
	15nm,0.3s,baz=341,slow=11,SNR=132							
DZM				Sn		**Sn**	**18 56 14.8**	**0.0**
	2.4nm,0.3s,baz=119,slow=22,SNR=1.1							
DZM				LR		LR	18 57 30.7	
	comp=Z,528nm,20.9s,baz=354,slow=36							
DZM	**Mont Dzumac**	**7.43**	**179**	*e*Pn		**Pn**	**18 54 52.0**	**+0.6**
	97nm,0.5s							
DZM				*e*Sn		**Sn**	**18 56 11.5**	**-3.4**
	62nm,0.8s							
DZM				*e*LR		LR	18 56 34.0	
	comp=Z,787nm,26.1s							
DZM	**Mont Dzumac**	**7.43**	**179**			**Pn**	**18 54 51.4**	**-0.1**
NOUC	**Port Laguerre**	**7.46**	**180**	P		**Pn**	**18 54 53.0**	**+1.3**
ONTNC	**Ouen Toro**	**7.66**	**179**			**Pn**	**18 54 55.1**	**+0.5**
ONTNC	**Ouen Toro**	**7.66**	**179**	P		**Pn**	**18 54 55.8**	**+1.2**
OUENC	**Ouen Island, N**	**7.79**	**176**			**Pn**	**18 54 56.9**	**+0.6**
PINNC	**Pines Island,**	**8.04**	**172**			**Pn**	**18 55 00.3**	**+0.6**
HNR	**Honiara**	**8.07**	**309**	Pn		**Pn**	**18 54 59.7**	**-0.4**
	23nm,0.3s,baz=174,slow=8.2,SNR=6.0							
HNR				Sn		**Sn**	**18 56 30.2**	**-0.4**
	16nm,0.3s,baz=204,slow=22,SNR=1.6							
HNR	**Honiara**	**8.07**	**309**	Pn		**Pn**	**18 54 58.9**	**-1.3**
HNR	**Honiara**	**8.07**	**309**	P		Pn	18 55 06.1	+5.9
	278nm,1.1s							
KRVT	**Keravat (AS076**	**17.40**	**305**	LR		LR	19 04 21.1	
	comp=Z,119nm,19.0s,baz=251,slow=39							
EIDS	**Eidsvold**	**17.85**	**231**			**P**	**18 57 11.9**	**+0.1**
PMG	**Port Moresby**	**19.42**	**283**	LR		LR	19 03 29.3	
	comp=Z,164nm,18.3s,baz=342,slow=32							
PMG	**Port Moresby**	**19.42**	**283**	P		**P**	**18 57 28.6**	**-0.4**
CTA	**Charters Tower**	**19.90**	**251**	P		**Pn**	**18 57 35.6**	**-0.4**
	0.2nm,0.3s,baz=88,slow=12,SNR=5.4							
CTA				LR		LR	19 03 36.1	
	comp=Z,37nm,19.4s,baz=77,slow=32							
URZ	**Urewera**	**25.43**	**160**	LR		LR	19 06 36.7	
	comp=Z,66nm,21.3s,baz=31,slow=32							
BKZ	**Black Stump Fm**	**26.06**	**162**	P		**P**	**18 58 37.8**	**+1.8**
STKA	**Stephens Creek**	**28.37**	**228**	P		**P**	**18 58 58.2**	**+1.5**
	3.5nm,0.6s,baz=33,slow=8.7,SNR=10							
STKA				LR		LR	19 08 44.3	
	comp=Z,83nm,19.6s,baz=61,slow=33							
STKA	**Stephens Creek**	**28.37**	**228**	P		**P**	**18 58 56.9**	**+0.1**
RPZ	**Rata Peaks**	**29.30**	**173**	LR		LR	19 09 28.0	
	comp=Z,185nm,18.4s,baz=8.5,slow=34							
WRA	**Warramunga Arr**	**30.95**	**256**	P		**P**	**18 59 19.1**	**-0.6**
	2.1nm,1.0s,baz=86,slow=9.4,SNR=6.6							
WRA				PcP		**PcP**	**19 02 16.4**	**+0.5**
	1.6nm,0.8s,baz=89,slow=2.9,SNR=6.6							
WRA	**Warramunga Arr**	**30.95**	**256**	IAmb		IAmb	18 59 21.7	
	comp=Z,0.3nm,1.2s							
AS31	**Alice Springs**	**31.85**	**249**	P		**P**	**18 59 26.4**	**-1.2**
ASAR	**Alice Springs**	**31.85**	**249**	P		**P**	**18 59 26.7**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=75,slow=9.0,SNR=24							
ASAR				PcP		**PcP**	**19 02 18.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=85,slow=2.5,SNR=5.6							
ASAR	**Alice Springs**	**31.85**	**249**	P		**P**	**18 59 27.2**	**-0.4**
BBOO	**Buckleboo**	**32.92**	**231**	P		**P**	**18 59 37.3**	**+0.4**
BBOO				IAmb		IAmb	18 59 40.5	
	comp=Z,13nm,0.9s							
GUMO	**Guam**	**35.14**	**322**	LR		LR	19 13 25.5	
	comp=Z,43nm,19.3s,baz=104,slow=35							
KNRA	**Kununurra**	**36.23**	**263**	P		**P**	**19 00 04.5**	**-1.2**
**

	baz=220							
KDAK	**Kodiak Island**	**79.68**	**21**	P	**P**	**19 05 08.9**	**-0.5**	
	baz=220							
GAMB	**Gambell**	**79.96**	**10**	P	**P**	**19 05 10.5**	**-0.3**	
	baz=202							
P18K	**Big Mountain,**	**80.06**	**19**	P	**P**	**19 05 10.6**	**-1.0**	
	baz=218							
Q19K	**Cape Douglas,**	**80.20**	**20**	P	**P**	**19 05 11.9**	**-0.5**	
Q19K	**Cape Douglas,**	**80.20**	**20**	P	**P**	**19 05 11.3**	**-1.0**	
	baz=219							
O18K	**Koktuh Hills**	**80.43**	**19**	P	**P**	**19 05 12.6**	**-1.0**	
	baz=218							
P19K	**Oil Pt**	**80.90**	**19**	P	**P**	**19 05 15.3**	**-0.8**	
	baz=219							
N19K	**Bonanza Creek**	**81.41**	**18**	P	**P**	**19 05 18.5**	**-0.4**	
	baz=218							
O20K	**Slope Mountain**	**81.43**	**19**	P	**P**	**19 05 18.0**	**-0.9**	
	baz=220							
CNPM	**China Poot**	**81.46**	**20**	P	**P**	**19 05 19.0**	**-0.1**	
CNPM				IAmb	IAmb	19 05 21.0		
	comp=Z,35nm,1.4s							
YAK	**Yakutsk**	**81.64**	**343**	LR	LR	19 36 11.2		
	comp=Z,15nm,19.9s,baz=167,slow=32							
RSO	**Redoubt South**	**81.68**	**19**	P	**P**	**19 05 18.6**	**-1.8**	
BRLK	**Bradley Lake**	**81.76**	**20**		**P**	**19 05 20.8**	**+0.1**	
BRLK				IAmb	IAmb	19 05 21.6		
	comp=Z,22nm,0.8s							
BRSE	**Bradley Lake S**	**81.79**	**20**	P	**P**	**19 05 19.8**	**-1.0**	
	baz=222							
ANM	**Nome**	**81.83**	**12**	P	**P**	**19 05 20.7**	**-0.1**	
	baz=208							
SONM	**Songino Array**	**81.85**	**324**	P	**P**	**19 05 21.5**	**0.0**	
	comp=Z,1.4nm,0.8s,baz=148,slow=5.7,SNR=7.7							
GTA	**Gaotai**	**81.91**	**314**	*e*P	**P**	**19 05 23.4**	**+1.3**	
GTA				pP	PcP	19 05 27.3	-0.3	
GTA				sP	pP	19 05 30.3	+0.5	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.3s							
TNA	**Tin City**	**82.25**	**11**	P	**P**	**19 05 23.3**	**+0.3**	
	baz=205							
M19K	**Big River Lodg**	**82.30**	**18**	P	**P**	**19 05 23.2**	**-0.2**	
	baz=218							
L19K	**White Mountain**	**82.39**	**17**	P	**P**	**19 05 24.9**	**+1.0**	
L19K				IAmb	IAmb	19 05 26.5		
	comp=Z,19nm,1.5s							
L19K	**White Mountain**	**82.39**	**17**	P	**P**	**19 05 23.8**	**-0.1**	
	baz=218							
BILL	**Bilibino**	**82.42**	**360**	P	**P**	**19 05 23.7**	**-0.2**	
SPCR	**Spurr Chakacha**	**82.42**	**19**	P	**P**	**19 05 23.9**	**-0.2**	
	baz=220							
CAPN	**Captain Cook N**	**82.42**	**20**	P	**P**	**19 05 24.1**	**0.0**	
	baz=221							
SEW	**Seward**	**82.50**	**21**	P	**P**	**19 05 24.5**	**0.0**	
SEW				IAmb	IAmb	19 05 25.4		
	comp=Z,21nm,0.9s							
SEW	**Seward**	**82.50**	**21**	P	**P**	**19 05 24.1**	**-0.3**	
	baz=223							
O22K	**Cooper Landing**	**82.68**	**20**	P	**P**	**19 05 25.8**	**+0.4**	
	baz=223							
L20K	**Farewell, AK**	**82.90**	**17**	P	**P**	**19 05 27.2**	**+0.7**	
	baz=219,SNR=12							
RC01	**Rabbit Creek A**	**83.13**	**20**	P	**P**	**19 05 27.9**	**+0.2**	
RC01	**Rabbit Creek A**	**83.13**	**20**	P	**P**	**19 05 27.2**	**-0.5**	
	baz=222,SNR=8.7							
PWL	**Port Wells**	**83.43**	**21**	P	**P**	**19 05 28.5**	**-0.8**	
	baz=224							
M22K	**Willow**	**83.50**	**19**	P	**P**	**19 05 29.1**	**-0.5**	
M22K	**Willow**	**83.50**	**19**	P	**P**	**19 05 28.4**	**-1.1**	
	baz=222							
K20K	**Telida**	**83.54**	**17**	P	**P**	**19 05 29.9**	**+0.1**	
	baz=218							
PMR	**Palmer**	**83.70**	**20**	P	**P**	**19 05 30.6**	**0.0**	
	baz=223,SNR=5.9							
PPLA	**Purkeypile**	**83.72**	**18**	P	**P**	**19 05 31.4**	**+0.4**	
PPLA				IAmb	IAmb	19 05 31.9		
	comp=Z,14nm,1.2s							
PPLA	**Purkeypile**	**83.72**	**18**	P	**P**	**19 05 30.7**	**-0.2**	
	baz=220							
KNK	**Knik Glacier**	**83.79**	**20**	P	**P**	**19 05 31.3**	**+0.1**	
KNK	**Knik Glacier**	**83.79**	**20**	P	**P**	**19 05 31.3**	**+0.1**	
	baz=224,SNR=17							
GLI	**Glacier Island**	**83.87**	**21**	P	**P**	**19 05 31.5**	**0.0**	
GLI	**Glacier Island**	**83.87**	**21**	P	**P**	**19 05 30.9**	**-0.7**	
	baz=225,SNR=7.3							
CUT	**Chulitna**	**83.93**	**19**	P	**P**	**19 05 31.6**	**-0.2**	
CUT	**Chulitna**	**83.93**	**19**	P	**P**	**19 05 31.2**	**-0.6**	
	baz=222,SNR=6.6							
FID	**Port Fidalgo**	**83.99**	**21**	P	**P**	**19 05 31.8**	**-0.4**	
EYAK	**Cordova Ski Ar**	**84.11**	**22**	P	**P**	**19 05 31.8**	**-0.9**	
	baz=226							
SML	**Sawmill**	**84.11**	**20**	P	**P**	**19 05 32.4**	**-0.5**	
	baz=224,SNR=8.3							
CAST	**Castle Rocks**	**84.15**	**17**	P	**P**	**19 05 32.6**	**-0.3**	
CAST	**Castle Rocks**	**84.15**	**17**	P	**P**	**19 05 32.2**	**-0.8**	
	baz=220,SNR=26							
J20K	**Nowinta River**	**84.16**	**16**	P	**P**	**19 05 33.5**	**+0.5**	
J20K				IAmb	IAmb	19 05 35.6		
	comp=Z,24nm,1.4s							
J20K	**Nowinta River**	**84.16**	**16**	P	**P**	**19 05 32.5**	**-0.4**	
	baz=218,SNR=7.0							
KAIM	**Kayak Island**	**84.17**	**23**	P	**P**	**19 05 32.0**	**-1.1**	
	baz=227							
GOMU	**GeErMu**	**84.19**	**310**	P	P	19 05 28.8	-5.4	
GOMU				pP	PcP	19 05 31.9	-6.1	
GOMU				sP	pP	19 05 36.3	-6.0	
GOMU				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GOMU				pmax	pmax			
	comp=Z,32nm,4.5s							
M23K	**Glacier View**	**84.30**	**20**	P	**P**	**19 05 32.9**	**-0.9**	
	baz=224,SNR=7.3							
CHUM	**Lake Minchumin**	**84.44**	**17**	P	**P**	**19 05 33.7**	**-0.7**	
	baz=220,SNR=8.8							
SCM	**Sheep Creek Mo**	**84.47**	**20**	P	**P**	**19 05 35.4**	**+0.7**	
SCM	**Sheep Creek Mo**	**84.47**	**20**	P	**P**	**19 05 34.6**	**-0.1**	
	baz=225,SNR=8.6							
HMT	**Hamilton**	**84.50**	**22**	P	**P**	**19 05 35.0**	**+0.2**	
HMT				IAmb	IAmb	19 05 36.4		
	comp=Z,25nm,1.2s							
DIV	**Divide**	**84.50**	**21**	P	**P**	**19 05 35.0**	**+0.2**	
DIV				IAmb	IAmb	19 05 35.9		
	comp=Z,14nm,0.8s							
KTH	**Kantishna Hill**	**84.60**	**18**	P	**P**	**19 05 34.7**	**-0.6**	
KLU	**Klutina**	**84.70**	**21**	P	**P**	**19 05 36.1**	**+0.2**	
KLU				IAmb	IAmb	19 05 37.0		
	comp=Z,9.7nm,0.8s							
KLU	**Klutina**	**84.70**	**21**	P	**P**	**19 05 35.2**	**-0.7**	
	baz=226,SNR=7.0							
TRF	**Thorofare Moun**	**84.71**	**18**	P	**P**	**19 05 35.3**	**-0.7**	
TRF	**Thorofare Moun**	**84.71**	**18**	P	**P**	**19 05 35.2**	**-0.7**	
	baz=222,SNR=12							
BGLC	**Bering Glacier**	**84.72**	**23**	P	**P**	**19 05 35.5**	**-0.3**	
	baz=228							
BERG	**Berg Lake**	**84.75**	**22**	P	**P**	**19 05 35.5**	**-0.6**	
WAT1	**Susitna Watana**	**84.79**	**19**	P	**P**	**19 05 36.2**	**0.0**	
	baz=224							
BMRM	**Bremner River**	**84.81**	**22**	P	**P**	**19 05 36.4**	**+0.1**	
BMRM				IAmb	IAmb	19 05 37.4		
	comp=Z,19nm,1.1s							
BMRM	**Bremner River**	**84.81**	**22**	P	**P**	**19 05 35.5**	**-0.9**	
	baz=227,SNR=6.1							
WAT6	**Susitna Watana**	**84.86**	**20**	P	**P**	**19 05 35.2**	**-1.6**	
	baz=224,SNR=10							
BPAW	**Bear Paw Mtn.**	**84.99**	**17**	P	**P**	**19 05 36.4**	**-0.7**	
BPAW				IAmb	IAmb	19 05 37.9		
	comp=Z,10nm,1.0s							
BPAW	**Bear Paw Mtn.**	**84.99**	**17**	P	**P**	**19 05 36.3**	**-0.9**	
	baz=221,SNR=9.3							
M24K	**Tolsona, Glenn**	**85.05**	**20**	P	**P**	**19 05 38.2**	**+0.7**	
M24K				IAmb	IAmb	19 05 39.3		
	comp=Z,16nm,0.8s							
M24K	**Tolsona, Glenn**	**85.05**	**20**	P	**P**	**19 05 37.6**	**0.0**	
	baz=226,SNR=5.2							
WAX	**Waxell Ridge**	**85.10**	**23**	P	**P**	**19 05 38.0**	**+0.2**	
RND	**Reindeer**	**85.11**	**19**		**P**	**19 05 38.0**	**+0.1**	
N25K	**Chitina, Valde**	**85.24**	**21**	P	**P**	**19 05 38.6**	**0.0**	
N25K				IAmb	IAmb	19 05 39.8		
	comp=Z,14nm,0.9s							
N25K	**Chitina, Valde**	**85.24**	**21**	P	**P**	**19 05 38.3**	**-0.3**	
	baz=227,SNR=11							
TGL	**Tana Glacier**	**85.31**	**22**	P	**P**	**19 05 38.4**	**-0.6**	
TGL				IAmb	IAmb	19 05 40.0		
	comp=Z,9.6nm,0.8s							
O02D	**Mt. Diablo Mer**	**85.32**	**47**	P	**P**	**19 05 40.4**	**+0.9**	
O02D	**Mt. Diablo Mer**	**85.32**	**47**	P	**P**	**19 05 37.8**	**-1.6**	
	baz=246							
MCK	**McKinley**	**85.33**	**18**		**P**	**19 05 38.6**	**-0.3**	
MCK	**McKinley**	**85.33**	**18**	P	**P**	**19 05 38.4**	**-0.5**	
	baz=223,SNR=18							
DHY	**Denali Highway**	**85.34**	**19**	P	**P**	**19 05 38.9**	**-0.2**	
DHY				IAmb	IAmb	19 05 41.7		
	comp=Z,16nm,1.2s							
DHY	**Denali Highway**	**85.34**	**19**	P	**P**	**19 05 38.0**	**-1.1**	
	baz=224,SNR=11							
ISLE	**Juniper Island**	**85.39**	**23**	P	**P**	**19 05 38.9**	**-0.5**	
VRDI	**Verde Repeater**	**85.39**	**22**	P	**P**	**19 05 38.9**	**-0.6**	
VRDI				IAmb	IAmb	19 05 40.3		
	comp=Z,7.5nm,0.7s							
GLB	**Gilahina Butte**	**85.41**	**22**	P	**P**	**19 05 39.0**	**-0.4**	
GLB				IAmb	IAmb	19 05 40.3		
	comp=Z,10.0nm,0.8s							
BWN	**Browne**	**85.49**	**18**	P	**P**	**19 05 39.8**	**+0.2**	
I21K	**Tanana**	**85.53**	**16**	P	**P**	**19 05 40.5**	**+0.7**	
I21K	**Tanana**	**85.53**	**16**	P	**P**	**19 05 39.8**	**0.0**	
	baz=220,SNR=23							
HARP	**HAARP**	**85.59**	**20**	P	**P**	**19 05 40.5**	**+0.3**	
	baz=227							
MCARA	**McCarthy VSAT**	**85.65**	**22**	P	**P**	**19 05 40.8**	**+0.2**	
MCARA				IAmb	IAmb	19 05 43.3		
	comp=Z,12nm,1.2s							
MCARA	**McCarthy VSAT**	**85.65**	**22**	P	**P**	**19 05 40.2**	**-0.3**	
	baz=229							
H21K	**Melozitna Rive**	**85.68**	**16**	P	**P**	**19 05 41.6**	**+1.0**	
H21K				IAmb	IAmb	19 05 42.6		
	comp=Z,15nm,1.0s							
H21K	**Melozitna Rive**	**85.68**	**16**	P	**P**	**19 05 40.3**	**-0.3**	
	baz=219,SNR=17							
IMAR	**Indian Mountai**	**85.69**	**15**	P	**P**	**19 05 40.8**	**+0.2**	
GRNC	**Granite Creek**	**85.69**	**23**	P	**P**	**19 05 41.2**	**+0.2**	
GRNC				IAmb	IAmb	19 05 42.0		
	comp=Z,11nm,0.8s							
K02D	**Willamette Mer**	**85.73**	**44**	P	**P**	**19 05 40.3**	**-1.2**	
	baz=246							
TABL	**Table Mountain**	**85.74**	**23**	P	**P**	**19 05 41.0**	**-0.2**	
J01E	**Myrtle Point**	**85.74**	**44**	P	**P**	**19 05 40.8**	**-0.6**	
	baz=246							
M02C	**Callahan**	**85.75**	**45**	P	**P**	**19 05 40.8**	**-0.8**	
	baz=246							
NEA2	**Nenana**	**85.92**	**18**	P	**P**	**19 05 41.1**	**-0.6**	
NEA2				IAmb	IAmb	19 05 42.2		
	comp=Z,13nm,1.0s							
NEA2	**Nenana**	**85.92**	**18**	P	**P**	**19 05 40.9**	**-0.8**	
	baz=223,SNR=7.6							
BARN	**Barnard Glacie**	**85.94**	**23**	P	**P**	**19 05 41.6**	**-0.6**	
BARN				IAmb	IAmb	19 05 43.4		
	comp=Z,15nm,0.8s							
CTG	**Chitna Glacier**	**86.00**	**23**	P	**P**	**19 05 40.3**	**-2.1**	
	baz=230,SNR=14							
CTGM	**Chitina Glacie**	**86.00**	**23**	P	**P**	**19 05 41.8**	**-0.7**	
LOGN	**Logan Glacier**	**86.04**	**23**	P	**P**	**19 05 42.4**	**-0.3**	
LOGN				IAmb	IAmb	19 05 43.7		
	comp=Z,11nm,0.8s							
WRH	**Wood River Hil**	**86.12**	**18**	P	**P**	**19 05 42.0**	**-0.8**	
I23K	**Minto, Yukon-K**	**86.24**	**17**	P	**P**	**19 05 43.0**	**-0.3**	
I23K	**Minto, Yukon-K**	**86.24**	**17**	P	**P**	**19 05 43.4**	**+0.1**	
	baz=223							
CCB	**Clear Creek Bu**	**86.33**	**18**	P	**P**	**19 05 42.8**	**-1.0**	
CCB				IAmb	IAmb	19 05 44.2		
	comp=Z,9.1nm,0.7s							
M26K	**Nabesna, AK**	**86.34**	**21**	P	**P**	**19 05 43.6**	**-0.4**	
M26K				IAmb	IAmb	19 05 45.2		
	comp=Z,9.6nm,0.8s							
M26K	**Nabesna, AK**	**86.34**	**21**	P	**P**	**19 05 43.4**	**-0.6**	
	baz=229,SNR=15							
K24K	**Donnelly Dome**	**86.36**	**19**	P	**P**	**19 05 44.1**	**+0.1**	
	baz=226,SNR=9.4							
MDM	**Murphy Dome**	**86.43**	**18**	P	**P**	**19 05 43.7**	**-0.7**	
TCOL	**CIGO, UAF Yank**	**86.48**	**18**	P	**P**	**19 05 44.5**	**0.0**	
TCOL	**CIGO, UAF Yank**	**86.48**	**18**	P	**P**	**19 05 43.6**	**-0.8**	
	baz=224							
COLA	**College**	**86.48**	**18**	P	**P**	**19 05 44.5**	**0.0**	
COLA	**College**	**86.48**	**18**	P	**P**	**19 05 44.1**	**-0.4**	
	baz=224							
RIDG	**Independent Ri**	**86.62**	**20**	P	**P**	**19 05 44.9**	**-0.5**	
RIDG				IAmb	IAmb	19 05 46.6		
	comp=Z,13nm,0.9s							
RIDG	**Independent Ri**	**86.62**	**20**	P	**P**	**19 05 44.2**	**-1.1**	
	baz=227,SNR=9.8							
L26K	**Log Cabin Wild**	**86.63**	**21**	P	**P**	**19 05 45.2**	**-0.2**	
L26K				IAmb	IAmb	19 05 46.8		
	comp=Z,10nm,1.1s							
L26K	**Log Cabin Wild**	**86.63**	**21**	P	**P**	**19 05 44.2**	**-1.1**	
	baz=228							
H23K	**Yukon River**	**86.69**	**17**	P	**P**	**19 05 46.2**	**+0.6**	
H23K				IAmb	IAmb	19 05 47.1		
	comp=Z,13nm,1.1s							
H23K	**Yukon River**	**86.69**	**17**	P	**P**	**19 05 44.9**	**-0.7**	
	baz=222,SNR=9.2							
IL31		**86.70**	**18**	P	**P**	**19 05 44.6**	**-1.0**	
IL31				IAmb	IAmb	19 05 46.7		
	comp=Z,15nm,0.8s							
ILAR	**Eielson Array**	**86.70**	**18**	P	**P**	**19 05 44.5**	**-1.1**	
	comp=Z,12nm,0.7s,baz=234,slow=5.4,SNR=87							
ILAR				LR	LR	19 39 31.8		
	comp=Z,44nm,18.9s,baz=219,slow=32							
ILAR	**Eielson Array**	**86.70**	**18**	P	**P**	**19 05 44.7**	**-0.9**	
M27K	**Edge Creek, AK**	**86.70**	**22**	P	**P**	**19 05 45.4**	**-0.4**	
M27K				IAmb	IAmb	19 05 47.9		
	comp=Z,11nm,1.0s							
M27K	**Edge Creek, AK**	**86.70**	**22**	P	**P**	**19 05 45.5**	**-0.4**	
	baz=230,SNR=10.0							
POKR	**Poker Plat Res**	**86.78**	**18**	P	**P**	**19 05 45.2**	**-0.8**	
	baz=224							
TAPN	**Taplejung**	**86.81**	**299**	*e*P	**P**	**19 05 48.4**	**+1.0**	
DOT	**Dot Lake**	**86.81**	**20**	P	**P**	**19 05 45.5**	**-0.7**	
DOT				IAmb	IAmb	19 05 47.5		
	comp=Z,11nm,0.8s							
YUK3	**Moose Creek**	**86.84**	**22**	P	**P**	**19 05 45.8**	**-0.8**	
	baz=231,SNR=10							
EDW2	**Edwards Air Fo**	**86.91**	**53**	P	**P**	**19 05 45.9**	**-1.5**	
	baz=250							
BELA	**Belgrano 2**	**86.92**	**176**	P	**P**	**19 05 47.3**	**+0.6**	
ODAN	**Odare**	**86.92**	**299**	*e*P	**P**	**19 05 49.0**	**+1.1**	
SCRK	**Sand Creek**	**87.06**	**20**	P	**P**	**19 05 47.1**	**-0.4**	
SCRK				IAmb	IAmb	19 05 49.0		
	comp=Z,11nm,0.8s							
SCRK	**Sand Creek**	**87.06**	**20**	P	**P**	**19 05 46.9**	**-0.6**	
	baz=228,SNR=18							
YUK6	**Outpost Mounta**	**87.12**	**24**	P	**P**	**19 05 47.5**	**-0.6**	
	baz=233							
L27K	**Beaver Creek,**	**87.18**	**21**	P	**P**	**19 05 47.3**	**-0.7**	
L27K	**Beaver Creek,**	**87.18**	**21**	P	**P**	**19 05 47.6**	**-0.5**	
	baz=230,SNR=7.1							
BCAR	**Beaver Creek A**	**87.20**	**21**	P	**P**	**19 05 47.1**	**-1.0**	
YUK4	**Talbot Arm**	**87.26**	**23**	P	**P**	**19 05 48.5**	**-0.2**	
	baz=233,SNR=7.8							
HYT	**Haines Junctio**	**87.39**	**24**	P	**P**	**19 05 48.6**	**-0.6**	
HYT	**Haines Junctio**	**87.39**	**24**	P	**P**	**19 05 48.8**	**-0.5**	
	baz=234							
J26L	**Joseph Creek**	**87.55**	**19**	P	**P**	**19 05 49.9**	**+0.1**	
	baz=228							
COLD	**Coldfoot**	**87.56**	**16**	P	**P**	**19 05 51.2**	**+1.5**	
COLD				IAmb	IAmb	19 05 52.7		
	comp=Z,8.2nm,1.0s							
COLD	**Coldfoot**	**87.56**	**16**	P	**P**	**19 05 50.5**	**+0.7**	
	baz=222							
J05D	**Fort Rock, OR**	**87.60**	**44**	P	**P**	**19 05 49.6**	**-1.1**	
	baz=247							
MPMC	**Manual Prospec**	**87.69**	**52**	P	**P**	**19 05 49.9**	**-1.5**	
	baz=250							
NVAR	**Mina Array Bea**	**87.90**	**50**	P	**P**	**19 05 53.4**	**+1.0**	
	comp=Z,1.8nm,0.9s,baz=235,slow=7.4,SNR=9.1							
D03D	**Eldon**	**88.08**	**40**	P	**P**	**19 05 52.1**	**-0.5**	
	baz=246							
JIRN	**Jiri**	**88.19**	**299**	*e*P	**P**	**19 05 55.1**	**+1.0**	
N31M	**Braeburn, Yuko**	**88.46**	**24**	P	**P**	**19 05 53.3**	**-0.9**	
N31M				IAmb	IAmb	19 05 55.5		
	comp=Z,6.8nm,0.9s							
N31M	**Braeburn, Yuko**	**88.46**	**24**	P	**P**	**19 05 53.8**	**-0.4**	
	baz=235							
EGAK	**Eagle**	**88.51**	**20**	P	**P**	**19 05 54.0**	**-0.3**	
EGAK				IAmb	IAmb	19 05 56.1		
	comp=Z,17nm,1.5s							
EGAK	**Eagle**	**88.51**	**20**	P	**P**	**19 05 54.0**	**-0.3**	
	baz=230							
GUN	**Gumba**	**88.52**	**299**	*e*P	**P**	**19 05 56.1**	**+0.4**	
DAWY	**Dawson**	**88.66**	**21**	P	**P**	**19 05 54.0**	**-1.1**	
DAWY				IAmb	IAmb	19 05 57.2		
	comp=Z,10nm,1.4s							
DAWY	**Dawson**	**88.66**	**21**	P	**P**	**19 05 54.1**	**-1.0**	
	baz=232							
M30M	**Minto, Yukon**	**88.70**	**23**	P	**P**	**19 05 54.6**	**-0.7**	
M30M	**Minto, Yukon**	**88.70**	**23**	P	**P**	**19 05 53.9**	**-1.4**	
	baz=234							
TOLK	**Toolik Lake Re**	**88.77**	**15**	P	**P**	**19 05 56.6**	**+1.1**	
TOLK				IAmb	IAmb	19 05 58.4		
	comp=Z,10nm,1.1s							
TOLK	**Toolik Lake Re**	**88.77**	**15**	P	**P**	**19 05 54.9**	**-0.6**	
	baz=222							
A04D	**Lummi Island**	**88.79**	**39**	P	**P**	**19 05 54.7**	**-1.2**	
	baz=246							
PKI	**Pulchoki**	**88.82**	**299**	*e*P	**P**	**19 05 57.3**	**+0.2**	
	comp=Z,9.7nm,0.8s							
PKIN	**Phulchoki**	**88.83**	**299**	*e*P	**P**	**19 05 57.3**	**+0.3**	
	comp=Z,9.3nm,0.8s							
TPNV	**Topopah Spring**	**88.93**	**51**	P	**P**	**19 05 55.3**	**-1.9**	
	baz=251							
KKN	**Kakani**	**88.99**	**299**	*e*P	**P**	**19 05 58.2**	**+0.5**	
	comp=Z,8.9nm,0.7s							
DMN	**Daman**	**89.09**	**299**	*e*P	**P**	**19 05 58.8**	**+0.6**	
	comp=Z,19nm,0.9s							
BMAR	**Burnt Mountain**	**89.23**	**17**	P	**P**	**19 05 58.0**	**+0.3**	
GKN	**Gorkha**	**89.60**	**299**	*e*P	**P**	**19 06 00.4**	**-0.1**	
G08A	**Pilot Rock**	**89.86**	**43**	P	**P**	**19 05 60.0**	**-1.3**	
R11A	**Troy Canyon, C**	**89.88**	**50**	P	**P**	**19 06 00.1**	**-1.5**	
	baz=251							
MMPY	**Sheldon Lake,**	**90.86**	**24**	P	**P**	**19 06 04.4**	**-1.0**	
	baz=239							
PLID	**Pearl Lake**	**91.76**	**44**	P	**P**	**19 06 10.0**	**-0.2**	
WMQ	**Urumqi**	**91.98**	**315**	*e*P	**P**	**19 06 12.3**	**+1.2**	
WMQ				pmax	pmax			
	comp=Z,12nm,0.7s							
HYBB	**Hyderabad (bro**	**92.20**	**287**	*e*P	**P**	**19 06 11.1**	**-1.5**	
HYBB				*e*pP	**sP**	**19 06 23.7**	**+0.4**	
HLID	**Hailey**	**92.36**	**46**	P	**P**	**19 06 12.1**	**-0.9**	
	baz=252							
TROLL	**Troll, Antarti**	**92.91**	**185**	P	**P**	**19 06 14.4**	**-0.6**	
INK	**Inuvik**	**93.07**	**19**	LR	LR	19 41 32.1		
	comp=Z,45nm,19.6s,baz=151,slow=31							
VNA3	**Neumayer Olymp**	**94.32**	**181**	P	**P**	**19 06 21.5**	**+0.1**	
MK31	**Makanchi Array**	**96.47**	**317**	P	**P**	**19 06 31.6**	**0.0**	
MKAR	**Makanchi Array**	**96.47**	**317**	P	**P**	**19 06 32.2**	**+0.6**	
	comp=Z,0.8nm,0.7s,baz=96,slow=5.9,SNR=9.1							
MKAR	**Makanchi Array**	**96.47**	**317**	P	**P**	**19 06 31.7**	**+0.1**	
C36M	**Paulatuk**	**96.58**	**20**	P	**P**	**19 06 30.6**	**-0.9**	
C36M				IAmb	IAmb	19 06 31.4		
	comp=Z,6.4nm,1.1s							
C36M	**Paulatuk**	**96.58**	**20**	P	**P**	**19 06 30.6**	**-0.9**	
	baz=246							
MAKZ	**Makanchi**	**96.68**	**317**	P	**P**	**19 06 30.9**	**-1.7**	
ZALV	**Zalesovo Beam**	**96.74**	**324**	P	**P**	**19 06 32.2**	**-0.4**	
	comp=Z,1.5nm,0.8s,baz=103,slow=4.7,SNR=7.3							
A36M	**Sachs Harbour**	**97.32**	**17**	P	**P**	**19 06 34.2**	**-0.6**	
A36M				IAmb	IAmb	19 06 35.4		
	comp=Z,6.5nm,1.1s							
A36M	**Sachs Harbour**	**97.32**	**17**	P	**P**	**19 06 34.1**	**-0.6**	
	baz=245							
YKA	**Yellowknife Ar**	**97.86**	**27**	P	**P**	**19 06 36.7**	**-0.7**	
	comp=Z,2.6nm,0.6s,baz=254,slow=4.6,SNR=49							
YKA	**Yellowknife Ar**	**97.86**	**27**	P	**P**	**19 06 36.2**	**-1.2**	
ARCES	**ARCESS Array B**	**119.89**	**345**	PKP	**PKiKP**	**19 11 52.1**	**+0.1**	
	comp=Z,3.8nm,1.1s,baz=80,slow=1.4,SNR=4.4							
LATE	**Laterza**	**144.50**	**327**		PKPbc	19 12 37.6	+0.2	
TORD	**Torodi Ar. Bea**	**164.99**	**266**	PKPab	**PKPab**	**19 14 04.8**	**+0.9**	
	comp=Z,1.7nm,1.0s,baz=107,slow=3.9,SNR=6.9							

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*IDC **21** 18:53:32.7±1.5,39.88N×20.74E,h0km,mb3.6/4, mb1 3.6/4,mb1mx3.3/42,mbtmp3.6/4,MS2.9/1,Ms1 2.9/1, ms1mx2.1/79,Error ellipse: s-maj=59.4km s-min=26.6km az=119.0*

*PDG **21** 18:53:35.2±0.5,39.78N×20.65E,h11km±3km,ML3.0/7, Error ellipse: s-maj=3.1km s-min=1.6km az=90.0*

*ATH **21** 18:53:36.5,39.83N×20.76E,h11km±2km,MD4.2/9/7, Error ellipse: s-maj=2.5km s-min=1.0km az=324.0*

ISC 21 18:53:36.3±1.0,39.80N±0.02×20.78E±0.03,h18km±7km, n40,σ1s18/69,mb3.5/4,7C-6D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.15**	**160**	P	**Pg**	**18 53 39.8**	**-0.9**
JAN				S	**Sb**	**18 53 43.6**	**+1.6**
JAN				AML	AML	18 53 44.1	
	comp=N,47662μm,0.2s						
JAN				AML	AML	18 53 44.2	
	comp=E,47310μm,0.3s						
IGT	**Igoumenitsa**	**0.44**	**232**	P	**Pg**	**18 53 44.8**	**-0.5**
IGT				S	**Sb**	**18 53 52.0**	**+0.2**
IGT				AML	AML	18 53 53.8	
	comp=E,4776μm,0.3s						
IGT			

KOME				*i* Sn		**Sn**		18 55 02.7	**-0.6**
BRY	**Bratogost**	**3.53**	**332**	*i* Pn		**Pn**		18 54 30.8	**+0.5**
BRY				*i* Sn		**Sn**		18 55 10.3	**-1.3**
BRY	**Bratogost**	**3.53**	**332**	*i* Pn		**Pn**		18 54 31.1	**+0.8**
BRY				*e*Sn		**Sn**		18 55 13.3	**+1.7**
UPM	**Unac-Piva**	**3.68**	**338**	*e*Pn		**Pn**		18 54 33.0	**+0.6**
UPM				*i* Sn		**Sn**		18 55 14.2	**-1.2**
UPM	**Unac-Piva**	**3.68**	**338**	*i* Pn		**Pn**		18 54 33.5	**+1.1**
UPM				*e*Sn		**Sn**		18 55 16.9	**+1.5**
FINES	**FINESS Array B**	**21.91**	**7**	P		**P**		18 58 26.6	**-1.6**
	comp=N,1.0nm,0.8s,baz=175,slow=18,SNR=1.5								
FINES				LR		LR		19 09 18.7	
	comp=N,32nm,18.1s,baz=255,slow=43								
ARCES	**ARCESS Array B**	**29.90**	**3**	P		**P**		18 59 41.1	**-1.5**
	comp=N,1.5nm,0.8s,baz=195,slow=10.0,SNR=1.5								
TORD	**Torodi Ar. Bea**	**31.43**	**218**	P		**P**		18 59 56.1	**-0.5**
	comp=N,0.6nm,0.5s,baz=35,slow=8.1,SNR=5.5								
MKAR	**Makanchi Array**	**44.30**	**60**	P		**P**		19 01 43.9	**-0.9**
	comp=N,0.2nm,0.5s,baz=282,slow=8.0,SNR=5.3								

*JMA **21** 19:01:31.9±0.1, 44.84N×144.77E, h23km±2km, M3.0*
*SKHL **21** 19:01:32.9±0.3, 44.90N×144.80E, h34km±4km, mb4.2/2*

ISC 21 19:01:29.3±2.1, 44.93N±0.10×144.85E±0.04, h20km±4km, n14, σ0s52/24, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**1.01**	**169**	P	**Pg**	19 01 49.0	**0.0**
JRA				*e*S	**Sb**	19 02 01.5	**+0.5**
YUK	**Yuzh-Kuril'sk**	**1.15**	**141**	*e*P	**Pg**	19 01 51.9	**+0.3**
YUK				AMB	AMB	19 01 53.5	
	80nm,0.2s						
YUK				*e*S	**Sg**	19 02 06.4	**-0.3**
YUK				A	A	19 02 07.5	
	320nm,0.2s						
YUK				A	A	19 02 07.5	
	430nm,0.2s						
JNSB	**Nemuroshibetsu**	**1.16**	**175**	P	**Pg**	19 01 51.6	**-0.2**
JNSB				*e*S	**Sb**	19 02 05.5	**+0.2**
JTKR	**Abashiri--Toko**	**1.18**	**216**	P	**Pn**	19 01 51.0	**+0.3**
JTKR				*e*S	**Sb**	19 02 05.1	**-0.7**
GLVR	**Golovnino**	**1.28**	**158**	*e*P	**Pg**	19 01 53.9	**-0.3**
GLVR				*e*S	**Sg**	19 02 11.0	**0.0**
GLVR				A	A	19 02 11.9	
	370nm,0.4s						
GLVR				A	A	19 02 11.9	
	360nm,0.4s						
JNK	**Nakash**	**1.35**	**184**	P	**Pb**	19 01 54.3	**+0.4**
JNK				*e*S	**Sn**	19 02 09.3	**-1.1**
JMP	**Maruseppu**	**1.41**	**230**	P	**Pb**	19 01 55.0	**-0.1**
JMP				*e*S	**Sn**	19 02 12.3	**+0.3**
NMR	**Nemuro--Hokkai**	**1.68**	**158**	*e*P	**Pb**	19 01 59.2	**-0.4**
NMR				*e*S	**Sb**	19 02 20.2	**-0.2**
NEM2	**Nemuro 2**	**1.69**	**157**	P	**Pb**	19 01 59.4	**-0.4**
NEM2				*e*S	**Sn**	19 02 19.5	**+0.7**
SHO	**Shikotan**	**1.77**	**126**	*e*P	**Pb**	19 02 01.4	**+0.3**
SHO				AMB	AMB	19 02 01.9	
	30nm,0.2s						
SHO				*e*S	**Sb**	19 02 21.8	**-1.1**
SHO				A	A	19 02 24.1	
	140nm,0.3s						
SHO				A	A	19 02 24.1	
	90nm,0.3s						
ASAJ	**Asahikawa**	**1.81**	**244**	P	**Pb**	19 02 01.3	**-0.5**
JAR	**Ashorobuto**	**1.81**	**206**	*e*S	**Sn**	19 02 22.2	**+0.4**
JKK2	**Kamakawa 2**	**1.84**	**236**	*e*S	**Sn**	19 02 23.3	**+0.7**
AKK	**Akkeshi**	**1.91**	**180**	*e*P	**Pb**	19 02 03.6	**0.0**

*IDC **21** 19:30:28.2±0.8, 15.25S×172.86W, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.0/34, mbtmp3.9/8, MS3.4/6, Ms1 3.5/6, ms1mx3.0/68, Error ellipse: s-maj=47.0km s-min=17.7km az=135.0*
*NEIC **21** 19:30:30.8±2.8, 14.9S±0.1×172.9W±0.2, h10km±1km, mb4.5/18, Error ellipse: s-maj=32.9km s-min=10.3km az=133.0*

ISC 21 19:30:32.6±0.7, 15.0S±0.1×172.9W±0.2, h29km, n45, σ1s44/35, mb4.3/18, MS3.5/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.54**	**45**	Pn	**Pn**	19 30 57.7	**-0.5**
	258nm,0.3s,baz=47,slow=1.0,SNR=159						
AFI				LR	LR	19 31 14.9	
	comp=Z,164nm,20.0s,baz=266,slow=28						
AFI				Sn	**Sn**	19 31 16.6	**-0.8**
	274nm,0.3s,baz=55,slow=21,SNR=14						
AFI	**Afiamalu**	**1.54**	**45**		**Pn**	19 30 57.9	**-0.3**
AFI				Sn	**Sn**	19 31 15.1	**-2.2**
NIUE	**Niue**	**4.95**	**145**		Pn	19 31 34.2	-11
KNTN	**Kanton**	**12.21**	**6**	Pn	**Pn**	19 33 21.9	**-2.8**
RAR	**Rarotonga**	**13.92**	**118**	LR	LR	19 38 15.1	
	comp=Z,107nm,18.5s,baz=217,slow=34						
DZM	**Mont Dzumac**	**20.79**	**247**	LR	LR	19 42 10.1	
	comp=Z,68nm,19.3s,baz=94,slow=34						
URZ	**Urewera**	**24.79**	**199**	P	**P**	19 35 50.1	**-1.9**
	16nm,0.6s,baz=47,slow=3.6,SNR=15						
URZ	**Urewera**	**24.79**	**199**	P	**P**	19 35 50.0	**-1.9**
BKZ	**Black Stump Fm**	**25.81**	**199**	P	**P**	19 35 59.2	**-2.1**
BKZ				IAmb	IAmb	19 36 07.2	
	comp=Z,6.0nm,0.7s						
QRZ	**Quartz Range**	**28.68**	**203**	P	**P**	19 36 25.4	**-1.6**
LTZ	**Lake Taylor**	**30.47**	**202**		**P**	19 36 41.8	**-1.2**
LTZ				IAmb	IAmb	19 36 59.9	
	comp=Z,8.2nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**38.88**	**328**	T	T	20 20 44.7	
	baz=145,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**38.89**	**328**	T	T	20 20 43.3	
	baz=145,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**38.90**	**328**	T	T	20 20 20.3	
	baz=145,slow=76,SNR=4.3						
PMG	**Port Moresby**	**39.39**	**273**	LR	LR	19 54 00.4	
	comp=Z,60nm,18.1s,baz=214,slow=36						
H11N3	**WAKE ISLAND Hy**	**39.82**	**329**	T	T	20 19 29.0	
	baz=147,slow=76,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**39.82**	**329**	T	T	20 19 44.9	
	baz=147,slow=76,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**39.83**	**329**	T	T	20 19 30.5	
	baz=147,slow=76,SNR=4.9						
WRA	**Warramunga Arr**	**50.40**	**256**	P	**P**	19 39 26.7	**-1.2**
	comp=Z,0.4nm,0.9s,baz=96,slow=7.2,SNR=2.2						
ASAR	**Alice Springs**	**50.69**	**252**	P	**P**	19 39 28.9	**-1.1**
	comp=Z,0.6nm,0.6s,baz=87,slow=7.8,SNR=13						
FITZ	**Fitzroy Crossi**	**58.76**	**258**	LR	LR	20 03 49.9	
	comp=Z,32nm,20.0s,baz=164,slow=34						
SHEM	**Shemya Is, Ala**	**68.39**	**352**	LR	LR	20 06 07.7	
	comp=Z,40nm,21.0s,baz=118,slow=31						
GLA	**Glamis**	**73.17**	**48**	P	**P**	19 42 00.9	**-0.1**
NVAR	**Mina Array Bea**	**73.72**	**42**	P	**P**	19 42 05.1	**+0.9**
	comp=Z,0.6nm,0.8s,baz=236,slow=4.9,SNR=3.6						
NVAR				LR	LR	20 07 39.8	
	comp=Z,49nm,21.4s,baz=279,slow=30						
NVAR	**Mina Array Bea**	**73.72**	**42**	P	**P**	19 42 04.3	**0.0**
NV11	**Mina Array Sit**	**73.81**	**42**	P	**P**	19 42 05.7	**+0.9**
NV11				IAmb	IAmb	19 42 10.1	
	comp=Z,4.5nm,1.3s						
KVN	**Kaiserville**	**74.20**	**41**	P	**P**	19 42 07.0	**-0.1**
X16A	**Lo Mia Camp, P**	**76.30**	**48**	P	**P**	19 42 19.1	**-0.1**
X16A				IAmb	IAmb	19 42 20.4	
	comp=Z,4.1nm,1.4s						
BMRM	**Bremner River**	**79.02**	**14**	P	**P**	19 42 35.4	**+1.7**
BMRM				IAmb	IAmb	19 42 36.4	
	comp=Z,9.2nm,1.1s						
SRU	**San Rafael Swe**	**79.23**	**45**	P	**P**	19 42 34.0	**-1.4**
P17A	**Butcher Ranch,**	**79.26**	**44**	P	**P**	19 42 36.9	**+1.3**
TX31	**Lajitas Ar. Si**	**79.99**	**56**	P	**P**	19 42 40.1	**+0.4**
TX32	**Lajitas Array**	**79.99**	**56**	P	**P**	19 42 39.9	**+0.2**
TX32				IAmb	IAmb	19 42 42.0	
	comp=Z,6.9nm,1.4s						
TXAR	**Lajitas Array**	**79.99**	**56**	P	**P**	19 42 40.4	**+0.7**
	comp=Z,1.7nm,1.0s,baz=226,slow=6.7,SNR=7.8						
M26K	**Nabesna, AK**	**80.65**	**14**	P	**P**	19 42 44.3	**+1.8**
M26K				IAmb	IAmb	19 42 45.9	
	comp=Z,7.8nm,1.4s						
PDAR	**Pinedale Array**	**81.65**	**42**	P	**P**	19 42 49.2	**+0.7**
	comp=Z,0.6nm,0.7s,baz=204,slow=3.4,SNR=5.1						
CCB	**Clear Creek Bu**	**81.69**	**11**	P	**P**	19 42 49.8	**+1.9**
CCB				IAmb	IAmb	19 42 50.3	
	comp=Z,4.9nm,1.0s						
ILAR	**Eielson Array**	**81.97**	**11**	P	**P**	19 42 50.9	**+1.6**
	comp=Z,0.8nm,0.7s,baz=219,slow=6.0,SNR=8.6						
DAWY	**Dawson**	**82.92**	**14**	P	**P**	19 42 56.8	**+2.4**
DAWY				IAmb	IAmb	19 42 57.5	
	comp=Z,7.8nm,1.4s						
YKA	**Yellowknife Ar**	**89.55**	**23**	P	**P**	19 43 28.4	**+1.5**
	comp=Z,1.0nm,0.9s,baz=238,slow=4.6,SNR=13						
YKA	**Yellowknife Ar**	**89.55**	**23**	P	**P**	19 43 27.9	**+1.0**
A36M	**Sachs Harbour**	**92.41**	**13**	P	**P**	19 43 41.8	**+1.8**
A36M				IAmb	IAmb	19 43 43.9	
	comp=Z,3.2nm,0.8s						
GERES	**GERESS Array B**	**145.82**	**352**	PKPbc	**PKPab**	19 50 11.0	**+1.4**
	comp=Z,0.2nm,0.5s,baz=28,slow=6.0,SNR=3.9						
GERES	**GERESS Array B**	**145.82**	**352**		**PKPdf**	19 50 08.6	**0.0**
BRTR	**Keskin Array B**	**146.15**	**322**	PKPbc	**PKPab**	19 50 12.1	**+0.8**
	comp=Z,1.9nm,0.8s,baz=77,slow=2.6,SNR=7.9						

*NEIC **21** 19:57:09.5±1.7, 55.57S±0.06×26.76W±0.2, h10km±1km, mb4.3/11, Error ellipse: s-maj=22.0km s-min=8.4km az=71.0*
*IDC **21** 19:57:09.0±1.0, 55.57S×26.85W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/28, mbtmp4.0/5, MS3.4/1, Ms1 3.4/1, ms1mx2.8/44, Error ellipse: s-maj=41.7km s-min=27.3km az=68.0*

ISC 21 19:57:11.8±0.7, 55.6S±0.1×26.9W±0.1, h25km, n29, σ1s02/21, mb4.2/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.70**	**279**	Pn	**Pn**	19 58 34.8	**0.0**
SNAA	**Sanae**	**19.08**	**157**		**Pn**	20 01 32.7	**-0.4**
SMAI	**San Martin Ant**	**22.23**	**220**	P	**P**	20 02 07.0	**+0.9**
SMAI				IAmb	IAmb	20 02 30.3	
	comp=Z,14nm,1.5s						
BELA	**Belgrano 2**	**22.54**	**184**	P	**P**	20 02 08.0	**-1.4**
BELA				IAmb	IAmb	20 02 11.8	
	comp=Z,12nm,1.5s						
MG03	**Isla Dawson**	**24.94**	**256**	P	**P**	20 02 32.0	**-0.7**
GO08	**Villa O'Higgin**	**28.56**	**265**	P	**P**	20 03 05.2	**-0.1**
GO08				IAmb	IAmb	20 03 10.6	
	comp=Z,18nm,1.3s						
PLCA	**Paso Flores**	**32.11**	**279**	LR	LR	20 18 04.4	
	comp=Z,60nm,18.4s,baz=50,slow=39						
QSPA	**South Pole Qui**	**34.65**	**180**	P	**P**	20 03 58.5	**-0.3**
QSPA				IAmb	IAmb	20 04 20.7	
	comp=Z,2.9nm,0.9s						
AC01	**Pan de Azucar**	**43.16**	**295**	P	**P**	20 05 09.9	**-0.3**
AC01				IAmb	IAmb	20 05 29.9	
	comp=Z,35nm,1.4s						
LVC	**Limon Verde**	**45.24**	**299**	P	**P**	20 05 28.1	**+0.8**
	comp=Z,2.0nm,0.5s,baz=90,slow=8.1						
VNDA	**Vanda**	**47.03**	**183**	P	**P**	20 05 41.2	**+0.9**
	comp=Z,1.4nm,0.6s,baz=186,slow=5.3,SNR=14						
VNDA	**Vanda**	**47.03**	**183**	P	**P**	20 05 40.8	**+0.4**
VNDA				IAmb	IAmb	20 05 45.2	
	comp=Z,1.6nm,0.8s						
H10S2	**ASCENSION HYDR**	**47.51**	**16**	T	T	20 57 17.3	
	baz=186						
H10S3	**ASCENSION HYDR**	**47.52**	**16**	T	T	20 57 13.5	
	baz=34,SNR=7.4						
H10N1	**ASCENSION HYDR**	**48.63**	**16**	T	T	20 58 36.5	
	baz=188,slow=75,SNR=4.6						
H10N3	**ASCENSION HYDR**	**48.63**	**16**	T	T	20 58 41.6	
	baz=188,slow=75,SNR=6.2						
H10N2	**ASCENSION HYDR**	**48.65**	**16**	T	T	20 58 38.8	
	baz=188,slow=75,SNR=4.6						
RCBR	**Riachuelo**	**50.16**	**348**	P	**P**	20 06 03.4	**-1.7**
LPAZ	**La Paz**	**50.27**	**305**	P	**P**	20 06 07.7	**+1.1**
	comp=Z,0.9nm,0.4s,baz=124,slow=4.5,SNR=5.2						
LPAZ	**La Paz**	**50.27**	**305**	IAmb	IAmb	20 06 08.0	
	comp=Z,2.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**72.57**	**29**	P	**P**	20 08 37.3	**+0.7**
	comp=Z,0.3nm,0.6s,baz=183,slow=7.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**72.57**	**29**	IAmb	IAmb	20 08 53.1	
	comp=Z,2.9nm,1.4s						
ASAR	**Alice Springs**	**99.36**	**162**	P	**Pdif**	20 10 54.0	**+2.1**
	comp=Z,0.3nm,0.7s,baz=188,slow=3.3,SNR=2.2						
YKA	**Yellowknife Ar**	**135.96**	**318**	PKP	**PKPdf**	20 16 28.8	**-0.1**
	comp=Z,0.5nm,0.6s,baz=124,slow=2.2,SNR=10.0						
KURBB	**Kurchatov Arra**	**136.94**	**64**	PKP	**PKiKP**	20 16 34.5	**+1.6**
	comp=Z,0.1nm,0.3s,baz=224,slow=2.6,SNR=1.7						
INK	**Inuvik**	**145.57**	**321**	PKPbc	**PKPab**	20 16 47.1	**+0.5**
	comp=Z,2.6nm,0.7s,baz=94,slow=3.7,SNR=17						
INK	**Inuvik**	**145.57**	**321**		**PKPab**	20 16 46.0	**-0.6**
ILAR	**Eielson Array**	**149.95**	**312**	PKPbc	**PKiKP**	20 16 58.5	**-0.7**
	comp=Z,2.4nm,0.7s,baz=135,slow=3.4,SNR=19						
ILAR	**Eielson Array**	**149.95**	**312**		**PKiKP**	20 16 58.3	**-0.9**

*ISK **21** 20:02:45.5, 36.89N×44.18E, h4km, ML3.3/6*
*DDA **21** 20:02:46.1±0.0, 36.88N×44.17E, h4km±1km, ML3.2*
*ISN **21** 20:02:47.2±1.5, 36.90N×44.11E, h16km±8km, ML3.4*
*TEH **21** 20:02:47.6, 36.92N×44.15E, h7km, ML3.3*
*AZER **21** 20:02:52.3±3.6, 37.16N×43.43E, h10km, Error ellipse: s-maj=41.1km s-min=11.5km az=1.0*

ISC 21 20:02:47.5±1.3, 36.84N±0.03×44.07E±0.02, h0km±11km, n61, σ1s40/83, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.55**	**318**	PG	**Pg**	20 02 57.3	**-0.7**
CUKT				SG	**Sg**	20 03 05.9	**+0.8**
CUKT	**Cukurca**	**0.55**	**318**	*e*Pg	**Pg**	20 02 57.5	**-0.4**
CUKT	**Cukurca**	**0.55**	**318**	P	**Pg**	20 02 57.6	**-0.4**
CUKT				S	**Sg**	20 03 06.0	**+0.9**
CUKT				*i* AML	AML	20 03 07.0	
	comp=E,1μm,0.6s						
CUKT				*i* AML	AML	20 03 09.0	
	comp=N,4μm,1.2s						
HAKT	**HAKKARI**	**0.77**	**338**	*e*Pg	**Pg**	20 03 00.9	**-1.3**
HAKT	**HAKKARI**	**0.77**	**338**	P	**Pg**	20 03 00.9	**-1.3**
HAKT				S	**Sg**	20 03 12.2	**0.0**
HAKT				*i* AML	AML	20 03 13.0	
	comp=E,2μm,0.5s						
HAKT				*i* AML	AML	20 03 14.0	
	comp=N,1μm,0.5s						
MAHB	**Mahabad**	**1.32**	**93**	*e*Pg	**Pg**	20 03 10.4	**-2.3**
MAHB				*e*Sg	**Sb**	20 03 30.1	**-0.5**
MAHB				*e*		20 03 35.3	
	comp=Z,15μm,0.4s						
IKRK	**Kirkuk**	**1.46**	**171**	*e*Pg	**Pn**	20 03 15.2	**+0.2**
IKRK				*e*Sg	**Sb**	20 03 34.0	**-0.4**
IKRK				AML	AML	20 03 40.0	
	comp=N,560nm,0.4s						
IKRK				AML	AML	20 03 53.2	
	comp=E,796nm,0.7s						
PERV	**Siirt/Pervari-**	**1.64**	**313**	P	**Pn**	20 03 18.0	**+0.3**
PERV				S	**Sg**	20 03 42.8	**+2.6**
PERV				*i* AML	AML	20 03 45.0	
	comp=E,736nm,0.5s						
PERV				*i* AML	AML	20 03 51.0	
	comp=E,527nm,1.0s						
GEVA	**Gevas**	**1.67**	**332**	*e*Pn	**Pn**	20 03 17.9	**-0.2**
GEVA	**Gevas**	**1.67**	**332**	P	**Pn**	20 03 18.0	**-0.2**
GEVA				S	**Sg**	20 03 44.1	**+2.8**
GEVA				*i* AML	AML	20 03 47.0	
	comp=E,279nm,0.6s						
GEVA				*i* AML	AML	20 03 48.0	
	comp=E,112nm,0.5s						
AKDM	**Akdamar-Van**	**1.72**	**330**	PN	**Pn**	20 03 16.9	**-1.9**
IAZR	**Azarshahr**	**1.74**	**61**	*e*Pg	**Pn**	20 03 19.2	**0.0**
IAZR				*e*		20 03 54.8	
	comp=Z,8μm,0.4s						
TVAN	**Van**	**1.76**	**343**	*e*Pn	**Pn**	20 03 19.6	**+0.1**
TVAN	**Van**	**1.76**	**343**	P	**Pn**	20 03 19.6	**+0.1**
TVAN				S	**Sg**	20 03 48.6	**+4.4**
TVAN				*i* AML	AML	20 03 52.0	
	comp=Z,238nm,1.1s						
TVAN				*i* AML	AML	20 03 54.0	
	comp=Z,250nm,0.9s						
VANB	**Van**	**1.83**	**343**	PN	**Pn**	20 03 17.1	**-3.2**
ISHB	**Shabestar**	**1.90**	**40**	*e*Pn	**Pn**	20 03 19.9	**-1.4**
ISHB				*e*		20 03 24.8	
	comp=Z,2μm,0.4s						
ITBZ	**Tabriz**	**2.16**	**49**	*e*Pn	**Pn**	20 03 23.5	**-1.4**
VMUR	**Van-Muradiye**	**2.18**	**350**	*e*Pn	**Pn**	20 03 25.7	**+0.6**
VMUR	**Van-Muradiye**	**2.18**	**350**	P	**Pn**	20 03 25.7	**+0.6**
VMUR				*i* AML	AML	20 04 01.0	
	comp=Z,122nm,0.7s						
VMUR				*i* AML	AML	20 04 06.0	
	comp=Z,98nm,0.9s						
MIDY	**Mardin/Midyat-**	**2.21**	**286**	P	**Pb**	20 03 27.6	**-0.7**
MIDY				S	**Sg**	20 03 57.9	**-0.4**
MIDY				*i* AML	AML	20 04 07.0	
	comp=Z,296nm,0.8s						
MIDY				*i* AML	AML	20 04 12.0	
	comp=Z,284nm,0.5s						
ADCV	**BITLIS_Adilcev**	**2.23**	**332**	*e*Pn	**Pb**	20 03 27.9	**-0.9**
ADCV	**BITLIS_Adilcev**	**2.23**	**332**	P	**Pb**	20 03 27.9	**-0.9**
ADCV				S	**Sg**	20 04 02.2	**+2.9**
ADCV				*i* AML	AML	20 04 03.0	
	comp=Z,107nm,1.1s						
ADCV				*i* AML	AML	20 04 04.0	
	comp=Z,73nm,0.7s						
IMRD	**Marand**	**2.27**	**34**	*e*Pn	**Pn**	20 03 26.3	**-0.1**
IMRD				*e*		20 04 10.9	
	comp=Z,2μm,0.7s						
CLDR	**Caldiran**	**2.30**	**357**	PN	**Pn**	20 03 23.9	**-3.0**
GURO	**Guroymak-BITLI**	**2.35**	**317**	PN	**Pn**	20 03 26.3	**-1.1**
IBST	**Bostanabad**	**2.41**	**68**	*e*Pn	**Pn**	20 03 29.0	**+0.6**
IBST				*e*		20 04 04.4	
	comp=Z,2μm,0.8s						
BTMN	**Batman**	**2.46**	**296**	*e*Pn	**Pb**	20 03 32.2	**-0.4**
BTMN	**Batman**	**2.46**	**296**	P	**Pb**	20 03 32.2	**-0.4**
BTMN				S	**Sg**	20 04 09.2	**+2.6**
BTMN				*i* AML	AML	20 04 13.0	
	comp=Z,287nm,0.5s						
ORD	**Ordubad**	**2.58**	**36**	P	**Pb**	20 03 34.9	**+0.2**
	SNR=12						
ORD				S	**Sb**	20 04 07.6	**+0.6**
NAX	**Nakhchivan**	**2.59**	**25**	P	**Pb**	20 03 34.4	**-0.3**
	SNR=2.8						
NAX				S	**Sb**	20 04 05.4	**-1.8**
MLAZ	**Malazgirt-MUS**	**2.59**	**333**	PN	**Pn**	20 03 29.3	**-1.5**
SVAN	**Silvan-Diyarba**	**2.63**	**301**	PN	**Pn**	20 03 30.7	**-0.5**
SVAN	**Silvan-Diyarba**	**2.63**	**301**	*e*Pn	**Pb**	20 03 34.7	**-0.7**
SVAN	**Silvan-Diyarba**	**2.63**	**301**	P	**Pb**	20 03 34.7	**-0.7**
SVAN				*i* AML	AML	20 04 24.0	
	comp=Z,50nm,0.5s						
SVAN				*i* AML	AML	20 04 30.0	
	comp=Z,76nm,0.6s						
MARD	**Mardin**	**2.67**	**281**	P	**Pb**	20 03 35.0	**-1.2**
MARD				S	**Sb**	20 04 10.5	**+0.9**
MARD				*i* AML	AML	20 04 20.0	
	comp=Z,307nm,0.6s						
MARD				*i* AML	AML	20 04 22.0	
	comp=Z,620nm,0.6s						
MUSM	**Mu-Merkez**	**2.76**	**314**	*e*Pn	**Pn**	20 03 35.0	**+1.9**
MUSM	**Mu-Merkez**	**2.76**	**314**	P	**Pn**	20 03 35.0	**+1.9**
MUSM				S	**Sb**	20 04 10.3	**-1.9**
MUSM				*i* AML	AML	20 04 17.0	
	comp=Z,22nm,0.6s						
MUSM				*i* AML	AML	20 04 27.0	
	comp=Z,30nm,1.0s						
IHRS	**Heris**	**2.79**	**57**	*e*Pn	**Pn**	20 03 34.2	**+0.7**
IHRS				*e*		20 04 22.4	
	comp=Z,725nm,0.7s						
SBZ	**Shahbuz**	**2.81**	**24**	P	**Pb**	20 03 37.4	**-1.2**
	SNR=9.4						
SBZ				S	**Sb**	20 04 13.9	**+0.4**
IDHR	**Dehrash**	**2.85**	**138**	*e*Pn	**Pn**	20 03 35.8	**+1.4**
IDHR				*e*		20 04 27.3	
	comp=Z,3μm,0.6s						
AGRB	**Hanur-Agry**	**2.86**	**343**	PN	**Pn**	20 03 33.1	**-1.4**
HYR	**Heyderabad**	**2.94**	**12**	P	**Pb**	20 03 39.5	**-1.3**
	SNR=4.7						
HYR				S	**Sn**	20 04 11.4	**-0.1**
MAZI	**Mazidag**	**2.96**	**283**	PN	**Pn**	20 03 35.7	**0.0**
ISRB	**Sarab**	**3.03**	**70**	*e*Pn	**Pn**	20 03 37.3	**+0.4**
ISRB				*e*		20 04 30.4	
	comp=Z,584nm,0.5s						
ILIN	**Lien**	**3.04**	**128**	*e*Pn	**Pn**	20 03 38.2	**+1.3**
ILIN				*e*		20 04 34.1	
	comp=Z,1μm,0.6s						
IGHG	**Ghaleghazi**	**3.23**	**140**	*e*Pn	**Pn**	20 03 41.3	**+1.7**
IGHG				*e*		20 04 49.6	
	comp=Z,3μm,1.1s						
KER	**Kermanshah**	**3.50**	**134**	*e*Pn	**Pn**	20 03 44.4	**+1.2**
KCHF	**Cheshme Sefid,**	**3.53**	**136**	*e*Pn	**Pn**	20 03 45.1	**+1.5**
KCHF				*e*		20 03 46.0	
	comp=Z,1μm,0.5s						
BHD	**Baghdad**	**3.57**	**176**	*e*Pn	**Pn**	20 03 44.0	**-0.1**
BHD				*e*Sn	**Sn**	20 04 27.5	**+0.6**
LRK	**Lerik**	**3.84**	**61**	P	**Pb**	20 03 55.0	**-1.1**
LRK				S	**Sb**	20 04 44.7	**+1.6**
IBZA	**Bozab**	**3.89**	**126**	*e*Pn	**Pn**	20 03 49.6	**+0.9**
YRD	**Yardimli**	**3.90**	**57**	P	**Pb**	20 03 56.1	**-1.1**
	SNR=2.9						
YRD				S	**Sb**	20 04 46.2	**+1.2**
IBDR	**Badra**	**4.02**	**157**	*e*Pn	**Pn**	20 03 51.0	**+0.7**
IBDR				*e*Sn	**Sn**	20 04 37.0	**-1.1**
GDB	**GEDABAY**	**4.09**	**18**	S	**Sn**	20 04 43.1	**+3.0**
IKFM	**Kafar-mosalman**	**4.53**	**136**	*e*Pn	**Pn**	20 03 58.3	**+1.0**
HSAM	**Samen**	**4.54**	**124**	*e*Pn	**Pn**	20 03 58.8	**+1.2**
HSAM				*e*		20 05

IKRK					AML	AML	20 05 30.6	
	comp=E,3μm,0.5s							
IDHR	**Dehrash**	**1.56**	**108**	*e*Pg	**Pb**	**Pb**	**20 05 36.8**	**-0.6**
IDHR				*e*Sg	**Sg**	**Sg**	**20 05 59.2**	**+0.7**
IDHR				*e*			20 06 03.8	
	comp=Z,8μm,0.2s							
MAHB	**Mahabad**	**1.82**	**30**	*e*Pn	**Pb**	**Pb**	**20 05 40.8**	**-1.1**
MAHB				*e*Sg	**Sg**	**Sg**	**20 06 06.5**	**-0.5**
MAHB				*e*			20 06 11.7	
	comp=Z,5μm,0.4s							
IGHG	**Ghaleghazi**	**1.84**	**117**	*e*Pn	**Pb**	**Pb**	**20 05 41.7**	**-0.5**
IGHG				*e*Sg	**Sg**	**Sg**	**20 06 08.9**	**+1.2**
IGHG				*e*			20 06 18.1	
	comp=Z,5μm,0.6s							
BHD	**Baghdad**	**1.92**	**185**	*e*Pn	**Pn**	**Pn**	**20 05 42.0**	**+1.0**
BHD				*e*Sn	**Sn**	**Sn**	**20 06 05.0**	**0.0**
ILIN	**Lien**	**1.97**	**97**	*e*Pn	**Pb**	**Pb**	**20 05 43.5**	**-0.9**
ILIN				*e*			20 06 15.5	
	comp=Z,3μm,0.4s							
KCHF	**Cheshme Sefid,**	**2.22**	**113**	*e*Pn	**Pn**	**Pn**	**20 05 46.1**	**+0.8**
KCHF				*e*			20 06 20.7	
	comp=Z,3μm,0.4s							
KER	**Kermanshah**	**2.24**	**110**	*e*Pn	**Pb**	**Pb**	**20 05 47.4**	**-1.6**
IBDR	**Badra**	**2.35**	**151**	*e*Pn	**Pn**	**Pn**	**20 05 47.0**	**+0.1**
IBDR				*e*Sn	**Sn**	**Sn**	**20 06 16.0**	**+0.2**
IKFM	**Kafar-mosalman**	**3.17**	**121**	*e*Pn	**Pn**	**Pn**	**20 05 59.1**	**+1.0**
ISHB	**Shabestar**	**3.20**	**15**	*e*Pn	**Pn**	**Pn**	**20 06 00.5**	**+1.6**
ISHB				*e*			20 06 56.4	
	comp=Z,590nm,0.5s							
HSAM	**Samen**	**3.45**	**105**	*e*Pn	**Pn**	**Pn**	**20 06 02.8**	**+0.5**
ISRB	**Sarab**	**3.62**	**42**	*e*			20 06 22.9	
	comp=Z,470nm,0.5s							
ISRB				*e*Pn	**Pn**	**Pn**	**20 06 05.9**	**+1.3**
RAFI	**Al-Rafai**	**3.68**	**159**	*e*Pn	**Pn**	**Pn**	**20 06 06.5**	**+1.3**
RAFI				*e*Sn	**Sn**	**Sn**	**20 06 46.7**	**-1.9**
IHRS	**Heris**	**3.70**	**32**	*e*		Pg	20 06 24.0	+4.8
	comp=Z,296nm,0.4s							
HAGD	**Aghdareh**	**3.76**	**94**	*e*			20 06 09.2	
	comp=Z,358nm,0.3s							
HAGD				*e*Pn	**Pn**	**Pn**	**20 06 07.8**	**+1.3**
QAMS	**Qamsar**	**5.81**	**102**	*e*Pn	**Pn**	**Pn**	**20 06 36.0**	**+1.3**
IKLH	**Kolahrood**	**6.08**	**106**	*e*Pn	**Pn**	**Pn**	**20 06 40.6**	**+2.1**
KRSH	**Karshahi**	**6.34**	**99**	*e*Pn	**Pn**	**Pn**	**20 06 42.9**	**+0.9**
ISFB	**Sefidab**	**6.36**	**95**	*e*Pn	**Pn**	**Pn**	**20 06 41.7**	**-0.4**

*IDC **21** 20:10:05.8±1.0,86°.24N×36°.10E, h0km, mb3.5/6, mb1 3.7/11, mb1mx3.5/58, mbtmp3.6/11, ML3.7/5, MS3.3/30, Ms1 3.3/30, ms1mx3.1/83, Error ellipse: s-maj=26.9km s-min=18.5km az=59.0*
*IEPN **21** 20:10:09.0, 85°.91N×39°.59E, h10km*
ISC 21 20:10:08.2±1.0, 85°.85N±0°.08×35°.53E±0°.07, h10km, n53, σ2s23/38, mb3.4/6, MS3.2/28, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**5.24**	**158**	*e*P	**Pn**	**20 11 28.1**	**+1.8**
ZFI2				*e*S	**Sn**	**20 12 26.4**	**-0.2**
	26nm,0.9s						
ZFI	**Zemlya Franca-**	**5.24**	**158**	*e*P	**Pn**	**20 11 28.2**	**+1.8**
ZFI				*e*S	**Sn**	**20 12 26.6**	**-0.1**
	28nm,0.8s						
NOR	**Nord**	**6.75**	**261**	Pn	**Pn**	**20 11 49.5**	**+2.4**
NOR	**Nord**	**6.75**	**261**	Pn	**Pn**	**20 11 49.5**	**+2.4**
KBS	**Kingsbay**	**7.50**	**216**	Pn	**Pn**	**20 11 59.4**	**+2.0**
KBS	**Kingsbay**	**7.50**	**216**	*e*P	**Pn**	**20 11 58.6**	**+1.2**
KBS				*e*S	**Sn**	**20 13 20.1**	**-2.2**
KBS				IAML		20 13 24.4	
	comp=Z,3.1nm,0.7s						
KBS	**Kingsbay**	**7.50**	**216**	*e*P	**Pn**	**20 11 59.0**	**+1.6**
KBS				*i* S	**Sn**	**20 13 22.4**	**0.0**
SPA0	**Spitsbergen Ar**	**8.06**	**209**	Pn	**Pn**	**20 12 07.2**	**+2.1**
	baz=17,slow=14						
SPA0	**Spitsbergen Ar**	**8.06**	**209**	Pn	**Pn**	**20 12 07.2**	**+2.1**
	baz=17,slow=14						
SPA0				*e*S	**Sn**	**20 13 34.5**	**-1.7**
SPA0				IAML		20 13 51.7	
	comp=Z,4.4nm,0.7s						
SPA0	**Spitsbergen Ar**	**8.06**	**209**	P	**Pn**	**20 12 07.2**	**+2.1**
SPA0				*e*S	**Sn**	**20 13 36.5**	**+0.3**
SPITS	**Spitsbergen Ar**	**8.06**	**209**	Pn	**Pn**	**20 12 07.3**	**+2.1**
	baz=15,slow=13,SNR=17						
BRBB	**Barentsburg B**	**8.23**	**212**	Pn	**Pn**	**20 12 09.5**	**+2.2**
BRBB				Sn	**Sn**	**20 13 40.2**	**0.0**
BRBB	**Barentsburg B**	**8.23**	**212**	Pn	**Pn**	**20 12 09.5**	**+2.2**
BRBB				Sn	**Sn**	**20 13 40.2**	**0.0**
HOPEN	**Hopen**	**9.49**	**195**	*e*P	**Pn**	**20 12 26.6**	**+1.9**
HOPEN				*e*S	**Sn**	**20 14 05.1**	**-6.2**
HOPEN				IAML		20 14 09.2	
	comp=Z,4.1nm,0.6s						
HOPEN	**Hopen**	**9.49**	**195**	*e*P	**Pn**	**20 12 26.7**	**+2.0**
HOPEN				*e*S	**Sn**	**20 14 08.3**	**-2.9**
BJO1	**Bjornoya**	**11.65**	**202**	P	**Pn**	**20 12 54.9**	**+0.8**
BJO1				S	**Sn**	**20 14 59.9**	**-4.0**
ARA0	**ARCESS Array S**	**16.49**	**192**	P	**P**	**20 14 03.1**	**+1.2**
	slow=10						
ARCES	**ARCESS Array B**	**16.49**	**192**	Pn	**P**	**20 14 02.5**	**+0.7**
	baz=360,slow=10,SNR=2.1						
ARCES				Sn	**Sn**	**20 16 57.4**	**-4.5**
	baz=353,slow=22,SNR=1.2						
ARCES				LR	LR	20 20 27.1	
	comp=Z,33nm,18.4s,baz=186,slow=37						
RES	**Resolute Bay**	**18.39**	**320**	P	P	20 14 16.6	-6.3
	comp=Z,0.2nm,0.3s,baz=31,slow=12,SNR=6.9						
RES				LR	LR	20 20 33.7	
	comp=Z,58nm,20.5s,baz=110,slow=35						
NRIK	**Noril'sk**	**18.50**	**118**	P	**P**	**20 14 22.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=0.2,slow=9.0,SNR=2.3						
TIXI	**Tiksi**	**19.15**	**75**	P	**P**	**20 14 28.8**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=292,slow=7.1,SNR=1.2						
FINES	**FINESS Array B**	**24.60**	**191**	LR	LR	20 25 19.5	
	comp=Z,42nm,18.2s,baz=352,slow=36						
KLMR	**Klimovskoe**	**25.14**	**175**	*e*P	**P**	**20 15 34.8**	**+2.0**
KLMR				AMP		20 15 37.8	
	comp=Z,15nm,1.5s						
INK	**Inuvik**	**25.95**	**351**	LR	LR	20 27 41.5	
	comp=Z,37nm,18.4s,baz=59,slow=41						
HFS	**Hagfors**	**26.19**	**205**	LR	LR	20 28 05.0	
	comp=Z,29nm,18.6s,baz=335,slow=41						
KIRV	**Kirov**	**27.54**	**164**	LR	LR	20 30 36.3	
	comp=Z,43nm,18.9s,baz=355,slow=44						
FRB	**Frobisher Bay**	**27.70**	**292**	LR	LR	20 26 15.4	
	comp=Z,71nm,18.4s,baz=347,slow=35						
YAK	**Yakutsk**	**28.71**	**78**	LR	LR	20 26 44.1	
	comp=Z,33nm,21.7s,baz=87,slow=35						
ILAR	**Eielson Array**	**29.56**	**2**	P	P	20 16 08.0	-4.5
	comp=Z,0.6nm,0.9s,baz=357,slow=7.6,SNR=4.6						
ARU	**Arti**	**29.94**	**154**	LR	LR	20 28 55.0	
	comp=Z,24nm,20.7s,baz=348,slow=37						
YKA	**Yellowknife Ar**	**31.36**	**334**	LR	LR	20 29 44.5	
	comp=Z,70nm,18.2s,baz=1.0,slow=38						
ZALV	**Zalesovo Beam**	**33.64**	**126**	P	**P**	**20 16 49.8**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=355,slow=8.1,SNR=3.6						
BELG	**Belogornoye**	**33.71**	**167**	LR	LR	20 33 27.7	
	comp=Z,40nm,19.4s,baz=0.9,slow=41						
AKASG	**Malin Array Be**	**35.33**	**187**	LR	LR	20 32 15.3	
	comp=Z,37nm,18.2s,baz=350,slow=37						
AKTO	**Aktyubinsk**	**35.92**	**155**	LR	LR	20 35 44.5	
	comp=Z,40nm,18.5s,baz=342,slow=42						
KDAK	**Kodiak Island**	**36.54**	**7**	LR	LR	20 33 05.3	
	comp=Z,40nm,18.4s,baz=199,slow=38						
KURBB	**Kurchatov Arra**	**36.60**	**133**	P	**P**	**20 17 15.9**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=352,slow=9.3,SNR=5.7						
VRAC	**Vranov**	**36.95**	**201**	LR	LR	20 31 53.3	
	comp=Z,22nm,19.2s,baz=339,slow=35						
MKAR	**Makanchi Array**	**40.62**	**130**	P	**P**	**20 17 48.0**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=332,slow=6.1,SNR=4.4						
MKAR				LR	LR	20 38 38.8	
	comp=Z,42nm,18.4s,baz=332,slow=42						
BBB	**Bella Bella**	**42.03**	**345**	LR	LR	20 36 54.7	
	comp=Z,48nm,19.6s,baz=305,slow=39						
ULM	**Lac du Bonnet**	**42.80**	**315**	LR	LR	20 35 23.3	
	comp=Z,72nm,18.1s,baz=116,slow=36						
AAK	**Ala-Archa**	**44.36**	**138**	LR	LR	20 40 21.3	
	comp=Z,46nm,18.7s,baz=343,slow=41						
NEW	**Newport**	**45.67**	**335**	LR	LR	20 37 52.6	
	comp=Z,82nm,18.7s,baz=354,slow=37						
GNI	**Garni**	**45.91**	**170**	LR	LR	20 43 14.7	
	comp=Z,21nm,18.8s,baz=258,slow=43						
ASAJ	**Asahikawa**	**47.43**	**69**	LR	LR	20 37 51.4	
	comp=Z,23nm,21.0s,baz=170,slow=35						
IDI	**Anoyia**	**50.79**	**191**	LR	LR	20 40 34.0	
	comp=Z,22nm,20.0s,baz=270,slow=36						
PDAR	**Pinedale Array**	**50.90**	**327**	LR	LR	20 42 03.3	
	comp=Z,14nm,18.5s,baz=316,slow=38						
ELK	**Elko**	**53.12**	**332**	LR	LR	20 41 59.2	
	comp=Z,56nm,18.8s,baz=70,slow=36						
NVAR	**Mina Array Bea**	**55.53**	**335**	LR	LR	20 43 43.5	
	comp=Z,73nm,18.8s,baz=348,slow=37						
ANMO	**Albuquerque**	**58.57**	**324**	LR	LR	20 45 35.0	
	comp=Z,36nm,18.3s,baz=351,slow=36						
TXAR	**Lajitas Array**	**64.03**	**321**	P	**P**	**20 20 39.6**	**-2.0**
	comp=Z,0.2nm,0.7s,baz=344,slow=4.0,SNR=3.8						
TXAR				LR	LR	20 49 00.4	
	comp=Z,42nm,18.3s,baz=323,slow=37						
CMAR	**Chiang Mai Arr**	**69.83**	**115**	P	**P**	**20 21 18.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=335,slow=7.3,SNR=5.4						
CMAR				LR	LR	20 52 50.9	
	comp=Z,15nm,21.7s,baz=0.0,slow=37						
PALK	**Pallekele**	**79.84**	**134**	LR	LR	21 00 41.9	
	comp=Z,37nm,19.0s,baz=54,slow=38						

*IDC **21** 20:19:58.3±0.8, 55°.56S×26°.72W, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/24, mbtmp4.0/8, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/43, Error ellipse: s-maj=35.8km s-min=18.2km az=68.0*
*NEIC **21** 20:19:59.1±2.1, 55°.46S±0°.06×26°.7W±0°.2, h10km±1km, mb4.4/10, Error ellipse: s-maj=21.7km s-min=10.6km az=80.0*
ISC 21 20:20:03.4±0.8, 55°.6S±0°.1×27°.0W±0°.1, h35km, n30, σ0s97/20, mb4.2/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.66**	**280**	Pn	**Pn**	**20 21 24.3**	**-0.5**
SNAA	**Sanae**	**19.08**	**157**	P	**P**	**20 24 23.1**	**+0.5**
SNAA	**Sanae**	**19.08**	**157**	P	**P**	**20 24 22.8**	**+0.2**
	0.3nm,0.3s,baz=313,slow=12,SNR=7.1						
BELA	**Belgrano 2**	**22.52**	**184**	P	**P**	**20 24 58.1**	**-1.4**
BELA				IAmb	IAmb	20 25 02.1	
	comp=Z,5.8nm,0.6s						
GO08	**Villa O'Higgin**	**28.51**	**265**	P	**P**	**20 25 55.0**	**-0.1**
GO08				IAmb	IAmb	20 25 55.7	
	comp=Z,6.2nm,0.7s						
QSPA	**South Pole Qui**	**34.63**	**180**	P	**P**	**20 26 48.9**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=213,slow=2.2,SNR=13						
QSPA	**South Pole Qui**	**34.63**	**180**	IAmb	IAmb	20 26 49.5	
	comp=Z,3.0nm,0.7s						
CPUP	**Villa Florida**	**36.63**	**310**	P	**P**	**20 27 06.3**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=146,slow=9.2,SNR=3.6						
MAW	**Mawson**	**40.42**	**144**	P	**P**	**20 27 37.2**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=249,slow=13,SNR=7.3						
MAW	**Mawson**	**40.42**	**144**	IAmb	IAmb	20 27 40.4	
	comp=Z,0.6nm,0.7s						
GO02	**Mina Guanaco**	**43.42**	**297**	P	**P**	**20 28 03.5**	**+0.6**
GO02				IAmb	IAmb	20 28 04.7	
	comp=Z,6.0nm,0.7s						
LVC	**Limon Verde**	**45.20**	**299**	LR	LR	20 47 07.0	
	comp=Z,40nm,19.9s,baz=176,slow=36						
VNDA	**Vanda**	**47.01**	**183**	P	**P**	**20 28 31.3**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=191,slow=6.6,SNR=16						
VNDA	**Vanda**	**47.01**	**183**	P	**P**	**20 28 31.8**	**+1.4**
VNDA				IAmb	IAmb	20 28 35.4	
	comp=Z,2.2nm,0.7s						
H10S2	**ASCENSION HYDR**	**47.55**	**17**	T	T	21 20 02.7	
	baz=189,slow=74,SNR=4.9						
H10S3	**ASCENSION HYDR**	**47.55**	**17**	T	T	21 20 03.0	
	baz=31,slow=74,SNR=14						
GO01	**Chusmiza**	**47.84**	**301**	P	**P**	**20 28 39.3**	**+1.3**
H10N1	**ASCENSION HYDR**	**48.67**	**17**	T	T	21 21 26.6	
	baz=188						
H10N3	**ASCENSION HYDR**	**48.67**	**17**	T	T	21 21 25.3	
	baz=188,slow=74						
H10N2	**ASCENSION HYDR**	**48.68**	**17**	T	T	21 21 28.2	
	baz=188,slow=74						
LPAZ	**La Paz**	**50.24**	**305**	P	**P**	**20 28 57.7**	**+1.1**
	comp=Z,1.5nm,0.4s,baz=84,slow=4.9,SNR=6.5						
LPAZ	**La Paz**	**50.24**	**305**	P	**P**	**20 28 55.6**	**-1.1**
LPAZ				IAmb	IAmb	20 29 11.0	
	comp=Z,2.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.61**	**29**	P	**P**	**20 31 27.2**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=201,slow=6.4,SNR=8.5						
TORD	**Torodi Ar. Bea**	**72.61**	**29**	P	P	20 31 22.1	-4.8
CMIG	**Matias Romero**	**92.11**	**298**	LR	LR	21 11 57.8	
	comp=Z,31nm,19.8s,baz=121,slow=34						
ASAR	**Alice Springs**	**99.36**	**162**	P	**Pdif**	**20 33 43.9**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=175,slow=4.6,SNR=4.5						
YKA	**Yellowknife Ar**	**135.94**	**318**	PKP	**PKPdf**	**20 39 18.5**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=124,slow=2.3,SNR=8.7						
ILAR	**Eielson Array**	**149.93**	**312**	PKPbc	**PKPbc**	**20 39 48.5**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=130,slow=2.3,SNR=26						
ILAR	**Eielson Array**	**149.93**	**312**		**PKPbc**	**20 39 47.9**	**-0.4**
SONM	**Songino Array**	**150.56**	**86**	PKPbc	**PKPbc**	**20 39 49.1**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=222,slow=1.9,SNR=4.2						

*IDC **21** 20:20:53.0±8.3, 14°.79S×167°.34E, h99km±74km, mb3.7/3, mb1 3.9/4, mb1mx3.4/37, mbtmp4.1/4, ML4.2/1, Error ellipse: s-maj=61.4km s-min=47.7km az=168.0*
*NOU **21** 20:20:56.4, 14°.90S×167°.60E, h95km, mb3.9/9, Vanuatu Islands*
ISC 21 20:20:55.1±1.9, 14°.9S±0°.1×167°.5E±0°.2, h129km, n10, σ1s34/11, mb4.0/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.63**	**204**	P	**Pn**	**20 21 13.4**	**-1.5**
DVP	**Devils Point**	**2.92**	**166**	P	**Pn**	**20 21 40.3**	**-0.3**
DZM	**Mont Dzumac**	**7.23**	**188**	P	**Pn**	**20 22 38.1**	**-0.1**
	3.5nm,0.3s,baz=332,slow=14,SNR=29						
DZM				S	**Sn**	**20 23 56.8**	**-2.1**
	3.2nm,0.3s,baz=152,slow=21,SNR=8.2						
DZM	**Mont Dzumac**	**7.23**	**188**	P	**Pn**	**20 22 39.1**	**+0.9**
NOUC	**Port Laguerre**	**7.28**	**189**	P	**Pn**	**20 22 40.1**	**+1.3**
ONTNC	**Ouen Toro**	**7.46**	**187**	P	**Pn**	**20 22 42.9**	**+1.6**
	37nm,1.6s						
STKA	**Stephens Creek**	**29.05**	**230**	P	**P**	**20 26 44.5**	**+1.2**
	2.3nm,0.5s,baz=33,slow=8.2,SNR=9.4						
WRA	**Warramunga Arr**	**31.98**	**256**	P	**P**	**20 27 08.7**	**-0.5**
	0.3nm,0.4s,baz=85,slow=8.8,SNR=10.0						
ASAR	**Alice Springs**	**32.80**	**249**	P	**P**	**20 27 16.1**	**-0.4**
	1.6nm,0.5s,baz=75,slow=9.2,SNR=34						
ARCES	**ARCESS Array B**	**120.44**	**345**	PKP	**PKiKP**	**20 39 31.4**	**+0.6**
	5.0nm,1.2s,baz=76,slow=3.8,SNR=3.7						

*IDC **21** 20:25:47.9±0.9, 55°.59S×26°.82W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/21, mbtmp4.0/5, ML3.9/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/44, Error ellipse: s-maj=41.2km s-min=22.8km az=71.0*
*NEIC **21** 20:25:48.8±1.2, 55°.6S±0°.1×27°.0W±0°.2, h10km±1km, mb4.2/11, Error ellipse: s-maj=26.4km s-min=18.3km az=38.0*
ISC 21 20:25:51.0±0.7, 55°.6S±0°.1×27°.0W±0°.1, h25km, n34, σ0s86/25, mb4.2/8, MS3.5/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.62**	**280**	Pn	**Pn**	**20 27 13.6**	**+0.7**
VNA1	**Neumayer--Stat**	**17.17**	**159**	P	**P**	**20 29 52.0**	**+1.8**
VNA2	**Neumayer--Watz**	**17.56**	**159**	P	**P**	**20 29 56.8**	**+2.2**
	baz=334,slow=10.0						
SNAA	**Sanae**	**19.11**	**157**	P	**Pn**	**20 30 12.4**	**-0.1**
SNAA	**Sanae**	**19.11**	**157**	P	**Pn**	**20 30 11.8**	**-0.7**
	0.4nm,0.3s,baz=328,slow=14,SNR=10						
SNAA	**Sanae**	**19.11**	**157**	P	**P**	**20 30 10.8**	**-0.9**
BELA	**Belgrano 2**	**22.52**	**184**	P	**P**	**20 30 47.6**	**-0.8**
BELA				IAmb	IAmb	20 30 52.0	
	comp=Z,7.8nm,0.8s						
DSPA	**Despedida**	**23.60**	**257**	P	**P**	**20 30 58.7**	**-0.9**
QSPA	**South Pole Qui**	**34.64**	**180**	P	**P**	**20 32 37.4**	**-0.6**
QSPA				IAmb	IAmb	20 32 41.7	
	comp=Z,5.6nm,1.1s						
CPUP	**Villa Florida**	**36.60**	**311**	LR	LR	20 48 46.7	
	comp=Z,68nm,18.0s,baz=78,slow=38						
GO04	**Tololo Observa**	**39.96**	**291**	P	**P**	**20 33 22.5**	**-1.0**
SUR	**Sutherland**	**40.43**	**75**	LR	LR	20 48 07.3	
	comp=Z,46nm,18.2s,baz=256,slow=33						
MAW	**Mawson**	**40.45**	**144**	P	**P**	**20 33 26.8**	**0.0**
	comp=Z,1.8nm,0.7s,baz=234,slow=9.8,SNR=3.6						
MAW	**Mawson**	**40.45**	**144**	IAmb	IAmb	20 33 30.3	
	comp=Z,0.9nm,0.9s						
BOSA	**Boshof**	**45.77**	**76**	LR	LR	20 51 08.0	
	comp=Z,83nm,18.3s,baz=198,slow=33						
VNDA	**Vanda**	**47.02**	**183**	P	**P**	**20 34 20.1**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=192,slow=6.7,SNR=9.2						
VNDA	**Vanda**	**47.02**	**183**	P	**P**	**20 34 20.0**	**+0.5**
VNDA				IAmb	IAmb	20 34 28.0	
	comp=Z,2.2nm,0.8s						
H10S2	**ASCENSION HYDR**	**47.55**	**17**	T	T	21 25 51.0	
	baz=189,slow=74,SNR=8.0						
H10S3	**ASCENSION HYDR**	**47.55**	**17**	T	T	21 25 51.2	
	baz=31,slow=74,SNR=17						
H10N1	**ASCENSION HYDR**	**48.67**	**17**	T	T	21 27 15.2	
	baz=189,slow=78						
H10N3	**ASCENSION HYDR**	**48.67**	**17**	T	T	21 27 15.1	
	baz=189,slow=78						
H10N2	**ASCENSION HYDR**	**48.69**	**17**	T	T	21 27 16.5	
	baz=189,slow=78						
LPAZ	**La Paz**	**50.20**	**305**	P	**P**	**20 34 46.9**	**+1.5**
	comp=Z,1.5nm,0.5s,baz=150,slow=6.0,SNR=5.4						
LPAZ	**La Paz**	**50.20**	**305**	P	**P**	**20 34 45.6**	**+0.2**
LPAZ				IAmb	IAmb	20 35 06.7	
	comp=Z,2.2nm,0.8s						
CASY	**Casey**	**54.29**	**160**	P	**P**	**20 35 14.6**	**+0.2**
CASY				IAmb	IAmb	20 35 31.5	
	comp=Z,2.6nm,0.7s						
TOA0	**Torodi Ar. Sit**	**72.62**	**29**	P	**P**	**20 37 15.8**	**-0.3**
TOA0				IAmb	IAmb	20 37 32.6	
	comp=Z,1.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.62**	**29**	P	**P**	**20 37 16.5**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=201,slow=5.8,SNR=9.9						
TORD	**Torodi Ar. Bea**	**72.62**	**29**	P	**P**	**20 37 16.1**	**0.0**
TORD				IAmb	IAmb	20 37 32.6	
	comp=Z,1.5nm,0.9s						
YKA	**Yellowknife Ar**	**135.91**	**318**	PKP	**PKPdf**	**20 45 08.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=131,slow=2.2,SNR=7.9						
KURBB	**Kurchatov Arra**	**137.03**	**64**	PKP	**PKiKP**	**20 45 12.1**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=226,slow=2.8,SNR=2.2						
KURK	**Kurchatov**	**137.13**	**64**		**PKiKP**	**20 45 12.1**	**-0.4**
ILAR	**Eielson Array**	**149.89**	**312**	PKPbc	**PKiKP**	**20 45 38.0**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=125,slow=2.0,SNR=28						
ILAR	**Eielson Array**	**149.89**	**312**		**PKiKP**	**20 45 37.7**	**-0.7**
SONM	**Songino Array**	**150.60**	**86**	PKPbc	**PKiKP**	**20 45 40.3**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=183,slow=2.5,SNR=2.6						

*MOS **21** 20:27:48.7±1.1, 46°.76N×150°.63E, h180km, mb4.2/6, Error ellipse: s-maj=11.2km s-min=5.7km az=65.4*
*SKHL **21** 20:27:48.3±0.7, 46°.70N×150°.80E, h157km±9km, mb5.5/8, mshа6.1/5*
*IDC **21** 20:27:51.6±1.8, 46°.80N×150°.57E, h190km±16km, mb3.7/16, mb1 3.8/23, mb1mx3.6/40, mbtmp4.2/23, Error ellipse: s-maj=14.0km s-min=9.8km az=117.0*
*NEIC **21** 20:27:51.5±1.5, 46°.8N±0°.1×150°.5E±0°.1, h188km±6km, mb4.3/58, Error ellipse: s-maj=16.4km s-min=13.6km az=143.0*
*JMA **21** 20:27:52.1±0.5, 45°.83N×150°.98E, h166km, M4.3*
ISC 21 20:27:50.8±0.5, 46°.55N±0°.06×150°.73E±0°.06, h200km, n254, σ2s18/268, mb4.2/58, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.39**	**238**	*c* iPN	**Pn**	**20 28 32.6**	**-0.9**
KUR				*i* S	**Sn**	**20 29 04.8**	**-1.8**
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
KUR				pmax	pmax		
	comp=N,202nm,0.3s						
KUR				pmax	pmax		
	comp=E,68nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax	smax		
	comp=E,4μm,1.4s						
KUR				smax	smax		
	comp=N,2μm,1.0s						
KUR				smax	smax		
	comp=N,768nm,0.5s						
KUR				smax	smax		
	comp=E,920nm,0.5s						
KUR	**Kuril'sk**	**2.39**	**238**	*i* P	**Pn**	**20 28 32.6**	**-0.9**
KUR				AMB	AMB	20 28 33.2	
	comp=E,1μm,0.5s						
KUR				*i* S	**Sn**	**20 29 04.9**	**-1.7**
KUR				A	A	20 29 08.5	
	comp=E,770nm,0.5s						
KUR				A	A	20 29 08.5	
	comp=E,920nm,0.5s						
SHO	**Shikotan**	**3.84**	**227**	*e*PN	**Pn**	**20 28 47.4**	**-3.2**
SHO				*e*S	**Sn**	**20 29 31.5**	**-6.0**

YSS Yuzh-Sakhalins 5.50 277⇓ePN Pn 20 29 12.1 +0.6
YSS pmax pmax
comp=Z,50nm,0.6s
YSS Yuzh-Sakhalins 5.50 277 Pn Pn 20 29 12.0 +0.6
YSS Yuzh-Sakhalins 5.50 277 eP Pn 20 29 08.5 -2.9
YSS AMB AMB 20 29 18.8
comp=Z,50nm,0.6s
JAK Akkeshi 5.57 233 P Pn 20 29 10.0 -2.5
JAK eS Sn 20 30 10.6 -6.4
JAR Ashorobuto 5.91 239 P Pn 20 29 16.8 -0.1
JAR eS Sn 20 30 22.1 -2.9
JOB Onbets 6.12 236 P Pn 20 29 18.1 -1.4
JOB eS Sn 20 30 23.9 -5.7
JKA Kamikawa-asahi 6.22 250 Pn Pn 20 29 21.8 +0.9
JKA Kamikawa-asahi 6.22 250 eP Pn 20 29 22.0 +1.1
ASAJ Asahikawa 6.23 250 P Pn 20 29 22.0 +1.1
comp=Z,17nm,0.3s,baz=72,slow=14,SNR=270
ASAJ S Sn 20 30 33.2 +1.0
comp=Z,1.0nm,0.3s,baz=193,slow=32,SNR=8.0
JKK2 Kamakawa 2 6.24 247 P Pn 20 29 21.6 +0.5
JKK2 eS Sn 20 30 32.1 -0.5
PAU Pauzhetka 6.34 37 eP Pn 20 29 18.3 -4.0
PAU AMB AMB 20 29 18.9
comp=Z,390nm,0.6s
PAU eS Sn 20 30 27.7 -7.1
JCH Churui 6.57 236 P Pn 20 29 23.4 -1.9
JCH eS Sn 20 30 33.2 -7.1
JAB Ashibetsu 6.75 246 P Pn 20 29 28.4 +0.7
ERM Erimo 7.07 233⇑ePN Pn 20 29 30.8 -1.1
ERM Erimo 7.07 233 Pn Pn 20 29 31.2 -0.7
ERM Sn Sn 20 30 47.6 -4.6
JNBK Urakawa-nobuka 7.13 236 P Pn 20 29 29.5 -3.1
JNBK eS Sn 20 30 44.3 -9.2
JEW Eniwo 7.58 244 Pn Pn 20 29 38.2 -0.3
PEA0B Petropavlovsk- 7.96 32 PN Pn 20 29 40.3 -3.1
PEA0B Petropavlovsk- 7.96 32 Pn Pn 20 29 40.3 -3.1
PETK Petropavlovsk- 7.96 32 P Pn 20 29 39.0 -4.4
comp=Z,8.4nm,0.3s,baz=198,slow=6.4,SNR=144
PETK Petropavlovsk- 7.96 32 PN Pn 20 29 39.5 -3.9
PETK Petropavlovsk- 7.96 32 Pn Pn 20 29 39.5 -3.9
PET Petropavlovsk 8.26 35 i PN Pn 20 29 43.3 -3.9
PET Petropavlovsk 8.26 35 Pn 20 29 41.8 -5.5
PET Petropavlovsk 8.26 35 eP Pn 20 29 43.3 -3.9
PET AMB AMB 20 29 46.3
comp=Z,40nm,0.5s
JTM Tenmabayashi 9.06 234 Pn Pn 20 29 54.3 -3.5
JANG Nango 9.11 231 P Pn 20 29 54.1 -4.3
JANG eS Sn 20 31 26.6 -14
JTH Tanohata 9.24 228 eS Sn 20 31 32.9 -11
JMM Marumori 11.37 224 Pn Pn 20 30 24.6 -3.0
KBG Krutoberegovo 12.24 33 eP Pn 20 30 34.0 -4.5
JSD Sado 12.54 232 Pn Pn 20 30 40.5 -1.9
KLR Kul'dur 13.02 289 P Pn 20 30 47.7 -0.6
baz=112,slow=12,SNR=4.4
KLR Kul'dur 13.02 289 i PN P 20 30 49.4 -2.1
KLR pmax pmax
comp=Z,2.0nm,1.1s
MA2 Magadan 13.05 0 P Pn 20 30 45.2 -3.4
comp=Z,0.4nm,0.3s,baz=168,slow=6.4,SNR=5.2
MA2 Magadan 13.05 0 PN Pn 20 30 45.6 -3.0
MA2 Magadan 13.05 0 Pn Pn 20 30 45.6 -3.0
MA2 Magadan 13.05 0 eP Pn 20 30 45.6 -3.0
USRK Ussuriysk Ar. 13.38 267 P P 20 30 54.1 -1.5
baz=85,slow=16,SNR=1.1
MJB9 Matsu-Tunnel 13.69 228 Pn Pn 20 30 56.4 -0.4
MAJO Matsushiro 13.69 228 P Pn 20 30 56.4 -0.4
MAJO Matsushiro 13.69 228 Pn Pn 20 30 56.4 -0.4
MJAR Matsushiro Arr 13.69 228 P Pn 20 30 56.2 -0.7
comp=Z,0.3nm,0.3s,baz=30,slow=15,SNR=8.5
MJAR Matsushiro Arr 13.69 228 P Pn 20 30 56.3 -0.5
JGF Kuroka 14.85 227 Pn Pn 20 31 09.4 -1.8
INU Inuyama 15.22 228 Pn 20 31 16.8 +1.1
SEY Seymchan 16.45 3 P P 20 31 27.9 -1.4
comp=Z,0.7nm,0.3s,baz=184,slow=14,SNR=10
ZEA Zeya 16.63 304 i P P 20 31 27.9 -3.5
ZEA Zeya 16.63 304 eP P 20 31 27.9 -3.5
KSRS Korea Array 19.18 250 P P 20 32 01.0 +1.8
comp=Z,0.2nm,0.3s,baz=54,slow=11,SNR=4.8
YAK Yakutsk 19.63 330 P P 20 32 03.4 -0.5
comp=Z,0.1nm,0.3s,baz=148,slow=2.3,SNR=11
YAK Yakutsk 19.63 330 eP P 20 32 03.3 -0.5
YAK eS S 20 35 34.9 +0.8
YAK pmax pmax
comp=Z,5.0nm,0.6s
YAK smax smax
comp=E,51nm,2.2s
YAK smax smax
comp=N,7.0nm,1.0s
YAK Yakutsk 19.63 330 P P 20 32 02.4 -1.5
BILL Bilibino 22.98 15⇓eP P 20 32 36.5 -1.0
BILL e*PP pwP 20 33 15.8 -0.4
BILL pmax pmax
comp=Z,8.0nm,1.8s
BILL Bilibino 22.98 15 eP P 20 32 36.5 -1.0
TIXI Tiksi 27.22 345 P P 20 33 13.8 -1.8
comp=Z,4.9nm,0.4s,baz=273,slow=20,SNR=36
TIXI pP pP 20 33 55.2 +0.3
comp=Z,2.7nm,0.7s,baz=268,slow=23,SNR=3.0
TIXI Tiksi 27.22 345 i P P 20 33 13.8 -1.8
TIXI pmax pmax
comp=Z,10.0nm,1.8s
TIXI Tiksi 27.22 345 P P 20 33 13.8 -1.8
HHC Hu-ho-hao-te 28.66 273 eP P 20 33 30.0 +1.1
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,78nm,5.0s
H11N2 WAKE ISLAND Hy 29.86 148 T T 21 04 52.7
baz=337,slow=75,SNR=426
H11N1 WAKE ISLAND Hy 29.87 148 T T 21 05 01.5
baz=337,slow=75,SNR=288
H11N3 WAKE ISLAND Hy 29.87 148 T T 21 04 58.9
baz=337,slow=75,SNR=353
H11S1 WAKE ISLAND Hy 30.91 149 T T 21 06 13.2
baz=338,slow=76,SNR=278
H11S3 WAKE ISLAND Hy 30.92 149 T T 21 06 18.1
baz=338,slow=76,SNR=220
H11S2 WAKE ISLAND Hy 30.93 149 T T 21 06 18.9
baz=338,slow=76,SNR=229
ZAK Zakamensk 31.27 295 eP P 20 34 03.8 +12
ZAK pmax pmax
comp=Z,4.0nm,1.5s
N18K Kilae Creek 33.64 45 P P 20 34 13.2 +1.1
N18K Kilae Creek 33.64 45 P P 20 34 13.8 +1.7
baz=270
TTA Tatalina 33.66 41 P P 20 34 12.9 +0.6
TTA pmax pmax
comp=Z,5.0nm,0.7s
TTA Tatalina 33.66 41 P P 20 34 12.9 +0.6
TTA IAmb IAmb 20 34 14.1
comp=Z,4.9nm,0.7s
TTA Tatalina 33.66 41 P P 20 34 13.3 +1.0
baz=267
L19K White Mountain 34.16 43 P P 20 34 17.8 +1.3
baz=269
N19K Bonanza Creek 34.33 45 P P 20 34 19.4 +1.2
baz=271
M19K Big River Lodg 34.37 43 P P 20 34 18.7 +0.3
baz=270
K20K Telida 34.56 41 P P 20 34 21.3 +1.3
baz=268
J20K Nowinta River 34.57 39 P P 20 34 21.1 +1.0
J20K IAmb IAmb 20 34 22.2
comp=Z,4.0nm,0.7s
J20K Nowinta River 34.57 39 P P 20 34 21.1 +1.0
baz=266,SNR=5.3
L20K Farewell, AK 34.62 42 P P 20 34 22.1 +1.6
baz=269
IMAR Indian Mountai 34.90 36 P P 20 34 23.3 +0.5
A21K Barrow 34.92 27 P P 20 34 24.6 +1.8
baz=254
H21K Melozitna Rive 35.26 37 P P 20 34 26.9 +1.0
H21K IAmb IAmb 20 34 27.9
comp=Z,6.9nm,1.2s
H21K Melozitna Rive 35.26 37 P P 20 34 27.0 +1.1
baz=266
CHUM Lake Minchumin 35.37 40 P P 20 34 28.4 +1.6
baz=269
PPLA Purkeypile 35.41 42 P P 20 34 29.0 +1.7
baz=270
CAST Castle Rocks 35.46 41 P P 20 34 29.0 +1.4
CAST IAmb IAmb 20 34 30.1
comp=Z,4.8nm,0.7s
CAST Castle Rocks 35.46 41 P P 20 34 29.2 +1.5
baz=270,SNR=7.7

I21K Tanana 35.56 38 P P 20 34 29.9 +1.4
I21K IAmb IAmb 20 34 30.8
comp=Z,3.8nm,0.7s
I21K Tanana 35.56 38 P P 20 34 30.0 +1.5
baz=267
BPAW Bear Paw Mtn. 35.96 40 P P 20 34 33.1 +1.2
BPAW Bear Paw Mtn. 35.96 40 P P 20 34 33.1 +1.2
baz=270
KTH Kantishna Hill 35.98 40 P P 20 34 33.6 +1.5
BRSE Bradley Lake S 36.25 47 P P 20 34 35.0 +0.6
baz=276
TRF Thorofare Moun 36.27 41 P P 20 34 36.1 +1.4
baz=271
COLD Coldfoot 36.42 34 P P 20 34 37.0 +1.3
COLD IAmb IAmb 20 34 44.1
comp=Z,5.5nm,0.8s
COLD Coldfoot 36.42 34 P P 20 34 36.8 +1.0
baz=266,SNR=6.9
H23K Yukon River 36.61 37 P P 20 34 39.4 +2.0
H23K IAmb IAmb 20 34 40.0
comp=Z,5.8nm,0.8s
H23K Yukon River 36.61 37 P P 20 34 39.0 +1.6
baz=268,SNR=6.1
RC01 Rabbit Creek A 36.63 45 P P 20 34 39.0 +1.5
baz=275
I23K Minto, Yukon-K 36.67 38 P P 20 34 39.4 +1.6
I23K IAmb IAmb 20 34 47.7
comp=Z,3.9nm,0.5s
I23K Minto, Yukon-K 36.67 38 P P 20 34 39.3 +1.5
baz=270
TOLK Toolik Lake Re 36.78 32 P P 20 34 40.1 +1.2
TOLK IAmb IAmb 20 34 45.4
comp=Z,6.4nm,0.8s
TOLK Toolik Lake Re 36.78 32 P P 20 34 39.9 +1.1
baz=265,SNR=12
NEA2 Nenana 36.79 39 P P 20 34 40.3 +1.4
NEA2 IAmb IAmb 20 34 40.9
comp=Z,5.9nm,0.7s
NEA2 Nenana 36.79 39 P P 20 34 40.0 +1.1
baz=271,SNR=9.4
MCK McKinley 36.87 40 P P 20 34 41.0 +1.4
MCK pmax pmax
comp=Z,10.0nm,1.3s
MCK McKinley 36.87 40 P P 20 34 41.0 +1.4
MCK IAmb IAmb 20 34 51.4
comp=Z,10nm,1.3s
MCK McKinley 36.87 40 P P 20 34 40.6 +1.1
baz=272
RND Reindeer 36.91 41 P P 20 34 40.9 +0.9
RND pmax pmax
comp=Z,3.0nm,0.6s
RND Reindeer 36.91 41 P P 20 34 40.9 +0.9
WAT1 Susitna Watana 37.08 42 P P 20 34 42.6 +1.3
baz=273
MDM Murphy Dome 37.15 38 P P 20 34 43.1 +1.2
MDM IAmb IAmb 20 34 44.1
comp=Z,6.5nm,0.8s
KNK Knik Glacier 37.22 44 P P 20 34 41.3 -1.2
KNK Knik Glacier 37.22 44 P P 20 34 44.1 +1.5
baz=275
SML Sawmill 37.25 43 P P 20 34 43.7 +0.9
SML Sawmill 37.25 43 P P 20 34 43.8 +0.9
baz=275,SNR=7.5
H24K Noodor Dome 37.30 37 P P 20 34 44.5 +1.3
H24K IAmb IAmb 20 34 45.4
comp=Z,4.1nm,0.6s
H24K Noodor Dome 37.30 37 P P 20 34 44.6 +1.4
baz=270,SNR=5.2
TCOL CIGO, UAF Yank 37.31 38 P P 20 34 44.5 +1.3
TCOL CIGO, UAF Yank 37.31 38 P P 20 34 44.3 +1.1
baz=271
COLA College 37.31 38 P P 20 34 44.6 +1.4
COLA pmax pmax
comp=Z,18nm,0.6s
COLA College 37.31 38 P P 20 34 44.6 +1.4
COLA College 37.31 38 P P 20 34 44.6 +1.4
baz=271
PWL Port Wells 37.33 45 P P 20 34 44.2 +0.7
CCB Clear Creek Bu 37.34 39 P P 20 34 44.3 +0.9
WAT6 Susitna Watana 37.46 42 P P 20 34 45.4 +0.6
baz=274
POKR Poker Plat Res 37.49 38 P P 20 34 45.7 +0.9
POKR Poker Plat Res 37.49 38 P P 20 34 45.8 +1.1
baz=271
DHY Denali Highway 37.60 41 P P 20 34 46.0 +0.2
DHY Denali Highway 37.60 41 P P 20 34 46.5 +0.6
baz=274
SCM Sheep Creek Mo 37.72 43 P P 20 34 48.2 +1.4
baz=276
IL31 37.73 38 P P 20 34 47.2 +0.5
ILAR Eielson Array 37.73 38 P P 20 34 47.5 +0.7
comp=Z,1.8nm,0.5s,baz=267,slow=7.1,SNR=34
M24K Tolsona, Glenn 38.23 43 P P 20 34 52.7 +1.6
baz=276
BMAR Burnt Mountain 38.61 34 P P 20 34 55.8 +1.6
RIDG Independent Ri 38.68 40 P P 20 34 55.7 +0.9
baz=275
N25K Chitina, Valde 39.04 43 P P 20 34 58.9 +1.1
baz=278
SCRK Sand Creek 39.04 40 P P 20 34 58.4 +0.6
SCRK IAmb IAmb 20 35 07.8
comp=Z,3.6nm,0.7s
SCRK Sand Creek 39.04 40 P P 20 34 58.3 +0.5
baz=276
BMRM Bremner River 39.12 44 P P 20 34 59.9 +1.4
baz=279
J26L Joseph Creek 39.17 39 P P 20 34 59.4 +0.5
baz=276
L26K Log Cabin Wild 39.43 41 P P 20 35 02.8 +1.9
baz=278
VRDI Verde Repeater 39.64 44 P P 20 35 04.0 +1.1
M26K Nabesna, AK 39.67 42 P P 20 35 05.0 +2.0
M26K Nabesna, AK 39.67 42 P P 20 35 05.0 +2.0
baz=278,SNR=6.2
WAX Waxell Ridge 40.06 45 P P 20 35 08.1 +1.8
WAX IAmb IAmb 20 35 09.1
comp=Z,7.5nm,1.0s
L27K Beaver Creek, 40.11 41 P P 20 35 08.4 +1.9
L27K IAmb IAmb 20 35 09.1
comp=Z,4.7nm,0.7s
L27K Beaver Creek, 40.11 41 P P 20 35 08.6 +2.1
baz=279,SNR=7.5
BCAR Beaver Creek A 40.13 41 P P 20 35 08.3 +1.6
EGAK Eagle 40.17 38 P P 20 35 07.6 +0.6
EGAK IAmb IAmb 20 35 08.6
comp=Z,5.9nm,0.6s
EGAK Eagle 40.17 38 P P 20 35 07.9 +0.9
baz=277
M27K Edge Creek, AK 40.19 42 P P 20 35 09.6 +2.2
M27K IAmb IAmb 20 35 10.4
comp=Z,6.8nm,1.1s
M27K Edge Creek, AK 40.19 42 P P 20 35 09.5 +2.1
baz=280
ISLE Juniper Island 40.28 45 P P 20 35 09.7 +1.6
BARN Barnard Glacie 40.52 44 P P 20 35 11.6 +1.4
GRNC Granite Creek 40.54 44 P P 20 35 12.0 +1.7
GRNC IAmb IAmb 20 35 13.9
comp=Z,7.2nm,1.0s
CTG Chitna Glacier 40.69 44 P P 20 35 13.4 +1.9
baz=282,SNR=5.3
CTGM Chitina Glacie 40.70 44 P P 20 35 13.2 +1.6
CTGM IAmb IAmb 20 35 14.8
comp=Z,7.4nm,0.8s
LOGN Logan Glacier 40.88 44 P P 20 35 14.2 +1.1
LOGN IAmb IAmb 20 35 16.1
comp=Z,9.1nm,1.4s
YUK3 Moose Creek 40.95 43 P P 20 35 15.0 +1.3
baz=281
DAWY Dawson 41.03 39 P P 20 35 15.1 +1.0
DAWY Dawson 41.03 39 P P 20 35 15.3 +1.1
baz=280
I29M Ogilvie Camp, 41.29 37 P P 20 35 17.3 +1.1
I29M IAmb IAmb 20 35 18.6
comp=Z,8.0nm,0.7s
I29M Ogilvie Camp, 41.29 37 P P 20 35 17.7 +1.5
baz=279
ZALV Zalesovo Beam 41.39 305 pP pP 20 35 59.0 +0.5
comp=Z,1.7nm,0.9s,baz=72,slow=6.8,SNR=4.0
YUK6 Outpost Mounta 42.12 43 P P 20 35 24.8 +1.6
baz=284
M30M Minto, Yukon 42.47 41 P P 20 35 28.1 +2.4
baz=283
HYT Haines Junctio 42.55 43 P P 20 35 29.6 +3.0
HYT IAmb IAmb 20 35 30.6
comp=Z,6.7nm,1.0s
HYT Haines Junctio 42.55 43 P P 20 35 28.8 +2.2

baz=285
INK Inuvik 42.70 32 P P 20 35 28.8 +1.4
INK pmax pmax
comp=Z,9.0nm,1.2s
INK Inuvik 42.70 32 P P 20 35 28.8 +1.4
INK IAmb IAmb 20 35 30.0
comp=Z,9.1nm,1.1s
INK Inuvik 42.70 32 P P 20 35 29.0 +1.6
baz=280,SNR=11
N31M Braeburn, Yuko 43.20 42 P P 20 35 34.1 +2.5
baz=285
PZH PanZhiHua 43.36 260 P P 20 35 35.0 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,5.3s
WMQ Urumqi 43.46 290 eP P 20 35 36.3 +2.3
M31M Drury Creek, Y 43.65 41 P P 20 35 37.4 +2.2
M31M Drury Creek, Y 43.65 41 P P 20 35 37.4 +2.2
baz=285
WHY Whitehorse 43.84 43 P P 20 35 38.4 +1.5
baz=287
FARO Faro, Yukon 44.11 41 P P 20 35 40.7 +1.8
baz=286
A36M Sachs Harbour 44.76 26 P P 20 35 45.2 +1.5
A36M Sachs Harbour 44.76 26 P P 20 35 45.5 +1.7
baz=283,SNR=12
MMPY Sheldon Lake, 44.93 40 P P 20 35 47.4 +2.0
baz=287
MK31 Makanchi Array 45.57 297 i P P 20 35 50.3 -0.2
MKAR Makanchi Array 45.57 297 P P 20 35 51.0 +0.4
comp=Z,0.7nm,0.7s,baz=67,slow=9.3,SNR=7.0
MKAR pP pP 20 36 30.3 -2.5
comp=Z,0.8nm,0.8s,baz=66,slow=11,SNR=3.7
MKAR ScP ScP 20 41 01.8 +2.8
comp=Z,0.4nm,0.8s,baz=64,slow=5.5,SNR=3.8
MKAR Makanchi Array 45.57 297 eP P 20 35 51.4 +0.9
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 45.57 297 P P 20 35 50.7 +0.1
MKAR Makanchi Array 45.57 297 eP P 20 35 51.4 +0.9
C36M Paulatuk 45.81 30 P P 20 35 52.9 +0.9
C36M Paulatuk 45.81 30 P P 20 35 53.3 +1.3
baz=287,SNR=14
KURK Kurchatov 46.10 303 P P 20 35 53.8 -0.8
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 46.10 303 P P 20 35 53.8 -0.8
KURK Kurchatov 46.10 303 eP P 20 35 53.8 -0.8
WRGLY Wrigley 48.09 37 P P 20 36 11.6 +1.9
baz=293
EUNU Eureka 49.64 11 P P 20 36 21.4 0.0
EUNU IAmb IAmb 20 36 22.8
comp=Z,13nm,1.4s
BRVK Borovoye 49.75 309 i P P 20 36 22.0 -0.5
BRVK pmax pmax
comp=Z,10.0nm,3.0s
BRVK Borovoye 49.75 309 eP P 20 36 22.0 -0.5
RES Resolute Bay 51.54 18 P P 20 36 36.1 +0.6
RES pmax pmax
comp=Z,8.0nm,0.9s
RES Resolute Bay 51.54 18 P P 20 36 36.1 +0.6
RES IAmb IAmb 20 36 37.8
comp=Z,7.5nm,0.8s
YKA Yellowknife Ar 52.06 36 P P 20 36 40.7 +1.2
comp=Z,2.5nm,0.7s,baz=298,slow=6.9,SNR=36
YKA Yellowknife Ar 52.06 36 eP P 20 36 40.9 +1.4
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 52.06 36 P P 20 36 40.1 +0.6
ARU Arti 54.04 317d iP P 20 36 53.5 -0.6
ARU 20 37 55.3
ARU S S 20 44 15.2 +1.1
ARU SS SS 20 47 55.3 -2.5
ARU pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 54.04 317 P P 20 36 53.5 -0.6
ARU IAmb IAmb 20 36 55.4
comp=Z,5.2nm,0.7s
ARU Arti 54.04 317 eP P 20 36 53.5 -0.6
TULEG Thule 54.63 11 P P 20 36 57.2 -0.8
TULEG IAmb IAmb 20 36 58.7
comp=Z,6.7nm,0.8s
GAR Garm 57.10 294 P P 20 37 17.2 +0.9
GAR IAmb IAmb 20 37 26.1
comp=Z,4.9nm,0.9s
ABKAR Akbulak array 57.28 309 P P 20 37 17.3 0.0
ARCES ARCESS Array B 57.49 340 P P 20 37 18.3 -0.1
comp=Z,3.3nm,0.8s,baz=48,slow=7.3,SNR=5.7
ARCES ARCESS Array B 57.49 340 eP P 20 37 22.1 +3.7
ARCES pmax pmax
comp=Z,3.0nm,0.9s
E09A Wood Farm, Sta 59.07 54 P P 20 37 29.9 +0.2
E09A IAmb IAmb 20 37 32.3
comp=Z,3.6nm,0.9s
FINES FINESS Array B 63.51 334 P P 20 37 58.7 -0.4
comp=Z,3.2nm,0.7s,baz=38,slow=7.9,SNR=26
NVAR Mina Array Bea 63.97 61 P P 20 38 04.2 +1.4
comp=Z,1.1nm,0.7s,baz=295,slow=8.0,SNR=5.0
PDAR Pinedale Array 66.18 53 P P 20 38 18.6 +1.6
comp=Z,0.3nm,0.6s,baz=205,slow=1.5,SNR=5.7
WRA Warramunga Arr 67.82 197 P P 20 38 29.2 +2.1
comp=Z,2.3nm,0.8s,baz=17,slow=6.9,SNR=13
WRA Warramunga Arr 67.82 197 eP P 20 38 29.6 +2.4
WRA pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 67.87 340 P P 20 38 27.1 0.0
comp=Z,2.4nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 67.87 340 P P 20 38 26.9 -0.2
comp=Z,2.4nm,0.6s,baz=29,slow=6.6,SNR=14
NOA NORSAR Array B 67.87 340 eP P 20 38 27.2 +0.1
NOA pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 70.78 325 P P 20 38 44.9 -0.1
comp=Z,2.4nm,0.6s,baz=25,slow=6.7,SNR=7.7
ASAR Alice Springs 71.53 196 P P 20 38 53.1 +3.4
comp=Z,3.2nm,0.8s,baz=15,slow=6.1,SNR=33
ASAR Alice Springs 71.53 196 P P 20 38 52.6 +2.8
SCHQ Schefferville 74.11 22 P P 20 39 05.7 +1.0
comp=Z,2.0nm,0.6s,baz=318,slow=6.9,SNR=5.8
CLL Collm 75.95 334 eP P 20 39 17.0 +1.8
KHC Kasperske Hory 77.68 333 eP P 20 39 25.6 +0.6
KHC Kasperske Hory 77.68 333 eP P 20 39 25.6 +0.6
GERES GERESS Array B 77.90 333 P P 20 39 26.8 +0.5
comp=Z,0.5nm,0.5s,baz=46,slow=7.6,SNR=6.4
GERES GERESS Array B 77.90 333 eP P 20 39 28.2 +2.0
STKA Stephens Creek 78.50 188 P P 20 39 32.8 +3.4
comp=Z,1.0nm,0.4s,baz=11,slow=9.8,SNR=3.8
STKA Stephens Creek 78.50 188 IAmb IAmb 20 39 33.2
comp=Z,1.9nm,1.4s
TXAR Lajitas Array 79.01 59 P P 20 39 34.3 +1.6
comp=Z,1.1nm,0.6s,baz=299,slow=4.2,SNR=22
WATA Walderalm 79.90 333 eP P 20 39 39.2 +2.0
comp=Z,4.0nm,0.5s
WTTA Wattenberg 79.94 333 eP P 20 39 39.0 +1.5
comp=Z,5.6nm,0.7s
MOTA Moosalm 80.04 333 eP P 20 39 40.0 +2.0
comp=Z,1.3nm,0.4s
VNDA Vanda 123.99 177 PKP PKiKP 20 46 25.9 +2.1
comp=Z,1.7nm,1.3s,baz=308,slow=4.2,SNR=5.3
H03N2 Juan Fernandez 140.40 89 T T 23 23 22.0
baz=307,slow=74
H03N1 Juan Fernandez 140.41 89 T T 23 23 23.0
baz=307,slow=74
H03N3 Juan Fernandez 140.41 89 T T 23 23 23.9
baz=307,slow=74
PLCA Paso Flores 149.83 94 PKPbc PKiKP 20 47 19.2 +1.7
comp=Z,3.3nm,0.6s,baz=278,slow=2.4,SNR=19

DJA ***21*** *20:40:19.2±0.5, 3°N±3°×9°8E±°, h10km, M3.8/9, MLv3.8/9*
IDC ***21*** *20:40:21.6±9.3, 2.°66N×97.°58E, h35km±65km, mb3.1/4, mb1 3.3/5, mb1mx3.0/58, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=90.6km s-min=22.8km az=54.0*
ISC 21 20:40:21.7±1.1, **3.°37N**±0.°07×**97.°65E**±0.°09, **h35km, n11, σ3.s38**/11, **mb3.3**/4, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCSI	Kotacane, Aceh	0.19	39	P	Pn	20 40 24.3	-4.2
KCSI				S	Sn	20 40 29.8	-3.3
TSI	Tuntungan	0.92	82	P	Pn	20 40 38.8	+0.7
PSI	Prapat	1.39	114	Pg	Pn	20 40 46.3	+1.6
	27nm,0.3s,baz=298,slow=11,SNR=40						
PSI				Lg	Lg	20 41 06.2	
	18nm,0.3s,baz=325,slow=4.9,SNR=6.1						

LHMI	**Lhok Sumawe**	**1.97**	**339**	P		**Pn**	**20 40 52.7**	**+0.1**
GSI	**Gunungsitoli**	**2.06**	**182**	P		**Pn**	**20 40 52.3**	**-1.5**
MNSI	**Mandailing Nat**	**3.21**	**143**	P		**Pn**	**20 41 10.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**15.04**	**5**	Pn		**P**	**20 44 00.1**	**+3.3**
	0.0nm,0.3s,baz=189,slow=11,SNR=2.5							
WRA	**Warramunga Arr**	**42.84**	**124**	P		**P**	**20 48 14.2**	**-2.6**
	0.3nm,0.5s,baz=306,slow=8.8,SNR=7.9							
ASAR	**Alice Springs**	**44.37**	**129**	P		**P**	**20 48 24.9**	**-4.2**
	0.2nm,0.7s,baz=307,slow=8.0,SNR=2.0							
MKAR	**Makanchi Array**	**45.26**	**345**	P		P	20 48 41.6	+5.8
	0.2nm,0.5s,baz=166,slow=7.0,SNR=2.7							
KURBB	**Kurchatov Array**	**49.77**	**344**	P		**P**	**20 49 15.3**	**+4.6**
	0.2nm,0.4s,baz=174,slow=6.6,SNR=2.2							

*IDC **21** 21:03:04.1±1.4,53.06N×162.92W,h0km,mb3.7/7,*
mb1 3.9/9,mb1mx3.6/60,mbtmp3.7/9,ML3.2/2,Error
ellipse: s-maj=36.5km s-min=19.9km az=4.0
*NEIC **21** 21:03:05.0±1.4,52.93N±0.07×162.93W±0.08,h10km±1km,*
ML3.5/25(AEIC),Error ellipse: s-maj=11.7km s-min=8.0km
az=159.0
*AEIC **21** 21:03:07.8±1.4,52.88N±0.08×162.90W±0.08,h0km±5km,*
Error ellipse: s-maj=11.7km s-min=7.3km az=176.0

ISC 21 21:03:04.8±0.9,**52.92N**±0.09×**162.92W**±0.06,**h10**km,**n83,**
σ0.95/83,mb3.8/7,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRPK	**Brown Peak**	**1.80**	**345**		**Pn**	**21 03 35.9**	**+0.1**
WESE	**West Dahl East**	**1.85**	**328**		**Pn**	**21 03 36.4**	**-0.2**
ISLZ	**Isanotski Laza**	**1.88**	**346**		**Pn**	**21 03 36.9**	**0.0**
ISLZ					**Sn**	**21 03 59.9**	**-0.7**
SSLS	**Shishaldin Sou**	**1.91**	**341**		**Pn**	**21 03 37.7**	**+0.2**
SSLS					**Sn**	**21 04 01.6**	**+0.1**
FALS	**False Pass**	**1.97**	**352**		**Pn**	**21 03 38.0**	**-0.1**
FALS					**Sn**	**21 04 02.0**	**-0.9**
SSLN	**Shishaldin Nor**	**2.01**	**342**		**Pn**	**21 03 39.1**	**+0.4**
AKSA	**Akutan Strait**	**2.06**	**307**		**Pn**	**21 03 39.2**	**-0.3**
AKSA					**Sn**	**21 04 02.8**	**-2.4**
AKBBA	**Akutan Broad B**	**2.16**	**305**		**Pn**	**21 03 41.0**	**+0.2**
AKBBA					**Sn**	**21 04 06.1**	**-1.4**
AKMO	**Akutan Morgan**	**2.19**	**304**		**Pn**	**21 03 41.3**	**+0.1**
AKGG	**Akutan Green G**	**2.24**	**306**		**Pn**	**21 03 41.9**	**0.0**
UNV	**Unalaska Valle**	**2.34**	**295**		**Pn**	**21 03 42.6**	**-0.7**
UNV	**Unalaska Valle**	**2.34**	**295**		**Sn**	**21 04 09.3**	**-2.8**
MTBL	**Makushin Table**	**2.49**	**297**		**Pn**	**21 03 45.7**	**+0.3**
SDPT	**Sand Point**	**2.83**	**29**		**Pn**	**21 03 50.1**	**+0.2**
SDPT					**Sn**	**21 04 22.3**	**-1.8**
OKFG	**Magazine Ridge**	**3.05**	**281**		**Pn**	**21 03 52.5**	**-0.5**
NIKH	**Nikolski High**	**3.59**	**273**		**Pn**	**21 03 59.7**	**-0.7**
VNHG	**Veniaminof 1**	**3.97**	**32**		**Pn**	**21 04 05.9**	**+0.2**
OHAK	**Old Harbor**	**7.01**	**48**	Pn	**Pn**	**21 04 45.9**	**-1.5**
KDAK	**Kodiak Island**	**7.64**	**46**	Pn	**Pn**	**21 04 54.4**	**-1.6**
	0.6nm,0.3s,baz=201,slow=5.5,SNR=20						
KDAK				Sn	Sn	21 06 13.0	-10
	0.5nm,0.3s,baz=7.6,slow=22,SNR=7.4						
Q19K	**Cape Douglas,**	**7.96**	**37**	Pn	**Pn**	**21 04 59.8**	**-0.7**
O18K	**Koktuh Hills**	**8.16**	**28**	Pn	**Pn**	**21 05 04.4**	**+1.2**
ADK	**Adak**	**8.49**	**269**	Pn	**Pn**	**21 05 07.7**	**+0.1**
KIWB	**Kanaga Island**	**8.78**	**269**	Pn	**Pn**	**21 05 11.8**	**+0.2**
N19K	**Bonanza Creek**	**9.16**	**27**	Pn	**Pn**	**21 05 17.1**	**+0.2**
CNPM	**China Poot**	**9.28**	**40**	Pn	**Pn**	**21 05 18.6**	**+0.2**
RSO	**Redoubt South**	**9.40**	**32**	Pn	**Pn**	**21 05 20.2**	**0.0**
BRLK	**Bradley Lake**	**9.56**	**39**	Pn	**Pn**	**21 05 20.6**	**-1.8**
M19K	**Big River Lodg**	**10.11**	**24**	Pn	**Pn**	**21 05 31.1**	**+1.3**
L19K	**White Mountain**	**10.24**	**22**	Pn	**Pn**	**21 05 32.2**	**+0.5**
SEW	**Seward**	**10.34**	**41**	Pn	**Pn**	**21 05 33.0**	**+0.1**
TTA	**Tatalina**	**10.68**	**17**	Pn	**Pn**	**21 05 38.2**	**+0.5**
RC01	**Rabbit Creek A**	**10.88**	**36**	Pn	**Pn**	**21 05 40.9**	**+0.6**
PWL	**Port Wells**	**11.24**	**39**	Pn	**Pn**	**21 05 44.6**	**-0.7**
K20K	**Telida**	**11.45**	**20**	Pn	**Pn**	**21 05 48.7**	**+0.5**
PPLA	**Purkeypile**	**11.50**	**25**	Pn	**Pn**	**21 05 50.5**	**+1.6**
KNK	**Knik Glacier**	**11.55**	**37**	Pn	**Pn**	**21 05 49.3**	**-0.3**
GHO	**Glory Hole Cre**	**11.63**	**35**	Pn	**Pn**	**21 05 49.7**	**-1.0**
GLI	**Glacier Island**	**11.74**	**41**	Pn	**Pn**	**21 05 51.9**	**-0.3**
SML	**Sawmill**	**11.86**	**36**	Pn	**Pn**	**21 05 54.0**	**+0.1**
FID	**Port Fidalgo**	**11.91**	**42**	Pn	**Pn**	**21 05 52.4**	**-2.1**
CAST	**Castle Rocks**	**11.96**	**24**	Pn	**Pn**	**21 05 56.8**	**+1.7**
EYAK	**Cordova Ski Ar**	**12.11**	**44**	Pn	**Pn**	**21 05 57.4**	**+0.3**
J20K	**Nowinta River**	**12.17**	**18**	Pn	**Pn**	**21 05 58.8**	**+0.8**
SCM	**Sheep Creek Mo**	**12.24**	**37**	Pn	**Pn**	**21 05 58.9**	**-0.1**
KTH	**Kantishna Hill**	**12.37**	**26**	Pn	**Pn**	**21 06 01.4**	**+0.7**
TRF	**Thorofare Moun**	**12.46**	**27**	Pn	**Pn**	**21 06 01.9**	**-0.1**
RAGM	**Ragged Mountai**	**12.48**	**46**	Pn	**Pn**	**21 06 01.1**	**-1.2**
KLU	**Klutina**	**12.56**	**40**	Pn	**Pn**	**21 06 01.9**	**-1.4**
SUCK	**Suckling Hills**	**12.74**	**48**	Pn	**Pn**	**21 06 07.0**	**+1.2**
BPAW	**Bear Paw Mtn.**	**12.80**	**24**	Pn	**Pn**	**21 06 06.6**	**0.0**
BMRM	**Bremner River**	**12.80**	**44**	Pn	**Pn**	**21 06 06.1**	**-0.6**
M24K	**Tolsona, Glenn**	**12.83**	**38**	Pn	**Pn**	**21 06 07.1**	**0.0**
RND	**Reindeer**	**12.83**	**29**	Pn	**Pn**	**21 06 05.7**	**-1.4**
BERG	**Berg Lake**	**12.92**	**47**	Pn	**Pn**	**21 06 06.9**	**-1.3**
DHY	**Denali Highway**	**13.06**	**33**	Pn	**Pn**	**21 06 10.4**	**+0.2**
N25K	**Chitina, Valde**	**13.15**	**41**	Pn	**Pn**	**21 06 11.1**	**-0.3**
SNH	**Sunshine Point**	**13.21**	**49**	Pn	**Pn**	**21 06 11.8**	**-0.5**
WAX	**Waxell Ridge**	**13.32**	**49**	Pn	**Pn**	**21 06 13.2**	**-0.5**
GLB	**Gilahina Butte**	**13.38**	**43**	Pn	**Pn**	**21 06 13.7**	**-0.8**
VRDI	**Verde Repeater**	**13.42**	**44**	Pn	**Pn**	**21 06 13.9**	**-1.4**
I21K	**Tanana**	**13.49**	**20**	Pn	**Pn**	**21 06 17.8**	**+1.8**
ISLE	**Juniper Island**	**13.61**	**47**	Pn	**Pn**	**21 06 17.6**	**-0.2**
PAX	**Paxson**	**13.63**	**36**	Pn	**Pn**	**21 06 17.7**	**-0.3**
MCARA	**McCarthy VSAT**	**13.68**	**44**	Pn	**Pn**	**21 06 18.8**	**+0.2**
H21K	**Melozitna Rive**	**13.76**	**18**	Pn	**Pn**	**21 06 19.9**	**+0.3**
M26K	**Nabesna, AK**	**14.22**	**40**	Pn	**Pn**	**21 06 26.3**	**+0.3**
RIDG	**Independent Ri**	**14.35**	**34**	Pn	**Pn**	**21 06 27.4**	**-0.3**
ILAR	**Eielson Array**	**14.43**	**28**	Pn	**Pn**	**21 06 26.9**	**-2.0**
	0.1nm,0.3s,baz=221,slow=13,SNR=1.5						
ILAR	**Eielson Array**	**14.43**	**28**	Pn	**Pn**	**21 06 27.9**	**-1.0**
J25K	**Salcha River,**	**14.77**	**31**	Pn	**Pn**	**21 06 31.9**	**-1.6**
PETK	**Petropavlovsk-**	**23.50**	**288**	P	**P**	**21 08 15.3**	**+0.8**
	1.5nm,0.5s,baz=87,slow=13,SNR=8.1						
YKA	**Yellowknife Ar**	**26.90**	**50**	P	**P**	**21 08 45.6**	**+0.1**
	0.7nm,0.6s,baz=268,slow=9.4,SNR=13						
PDAR	**Pinedale Array**	**36.43**	**84**	P	**P**	**21 10 10.2**	**+0.6**
	0.2nm,0.6s,baz=278,slow=6.1,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**40.52**	**227**	T	T	21 53 55.2	
	baz=33,slow=76						
H11N3	**WAKE ISLAND Hy**	**40.53**	**227**	T	T	21 53 53.9	
	baz=33,slow=76						
H11N1	**WAKE ISLAND Hy**	**40.54**	**227**	T	T	21 53 54.9	
	baz=33,slow=76						
H11S1	**WAKE ISLAND Hy**	**41.69**	**226**	T	T	21 55 23.2	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**41.70**	**226**	T	T	21 55 25.2	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**41.70**	**226**	T	T	21 55 24.9	
	baz=22						
TXAR	**Lajitas Array**	**48.83**	**95**	P	**P**	**21 11 51.3**	**+1.0**
	1.3nm,0.6s,baz=299,slow=5.6,SNR=18						
FINES	**FINESS Array B**	**65.76**	**355**	P	**P**	**21 13 49.2**	**0.0**
	1.8nm,0.9s,baz=27,slow=3.4,SNR=4.0						
MKAR	**Makanchi Array**	**66.19**	**317**	P	**P**	**21 13 52.3**	**0.0**
	0.3nm,0.5s,baz=47,slow=6.5,SNR=7.2						
AKASG	**Malin Array Be**	**76.25**	**352**	P	**P**	**21 14 53.1**	**+0.1**
	0.8nm,0.4s,baz=5.7,slow=5.8,SNR=4.9						

*MOS **21** 21:05:11.4±0.0,41.98N×46.24E,h16km,MPVA3.7*
*NORS **21** 21:05:11.6±0.0,41.96N×46.25E,h17km,MPVA3.6*
*TIF **21** 21:05:11.3,41.94N×46.08E,h17km*
*AZER **21** 21:05:12.1±0.1,41.77N×46.10E,h13km,Error ellipse:*
s-maj=2.4km s-min=1.0km az=330.0
*DRS **21** 21:05:14.4±0.0,41.97N×46.24E,h18km*

ISC 21 21:05:12.6±0.8,**41.92N**±0.01×**46.13E**±0.01,**h16**km±5km,
n136,σ1.9/34/249,1C-1D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.12**	**135**	P	**Pg**	**21 05 16.1**	**-0.2**
LGD				S	**Sg**	**21 05 19.2**	**+0.6**
LGD	**Lagodekhi**	**0.12**	**135**	⇑P	**Pg**	**21 05 16.1**	**-0.2**
LGD				S	**Sg**	**21 05 19.3**	**+0.6**
LGD	**Lagodekhi**	**0.12**	**135**	*e*Pg	**Pg**	**21 05 16.1**	**-0.2**
LGD				*e*Sg	**Sg**	**21 05 19.2**	**+0.6**
ZKTA	**Zakatala**	**0.47**	**127**	PG	**Pb**	**21 05 21.8**	**-0.6**
ZKTA	**Zakatala**	**0.47**	**127**	P	**Pb**	**21 05 21.9**	**-0.6**
	SNR=291						
ZKTA				S	**Sb**	**21 05 29.2**	**+0.2**
DDFL	**Dedoflistskaro**	**0.47**	**181**	P	**Pn**	**21 05 25.3**	**+0.5**
DDFL				S	**Sn**	**21 05 37.0**	**+4.2**
DDFL	**Dedoflistskaro**	**0.47**	**181**	PG	**Pn**	**21 05 25.3**	**+0.5**
DDFL	**Dedoflistskaro**	**0.47**	**181**	*e*Pg	**Pn**	**21 05 25.3**	**+0.5**
DDFL				*e*Sg	**Sn**	**21 05 37.0**	**+4.2**
DGRG	**David-gareji**	**0.73**	**231**	P	**Pg**	**21 05 27.2**	**+0.3**
DGRG	**David-gareji**	**0.73**	**231**	PG	**Pg**	**21 05 27.2**	**+0.3**
DGRG	**David-gareji**	**0.73**	**231**	*e*Pg	**Pg**	**21 05 27.2**	**+0.3**
BTLR	**Botlikh**	**0.75**	**5**	⇓*i*PG	**Pb**	**21 05 25.8**	**-1.5**
BTLR				*e*S	**Sb**	**21 05 36.0**	**-1.2**
BTLR	**Botlikh**	**0.75**	**5**	*i* Pg	**Pb**	**21 05 25.8**	**-1.5**
BTLR				*e*Sg	**Sb**	**21 05 35.7**	**-1.5**
KMKR	**Kumukh**	**0.75**	**73**	*e*PG	**Pb**	**21 05 26.4**	**-1.0**
KMKR				*e*S	**Sb**	**21 05 36.7**	**-0.9**
KMKR	**Kumukh**	**0.75**	**73**	*e*Pg	**Pb**	**21 05 26.4**	**-1.0**
KMKR				*e*Sg	**Sb**	**21 05 36.7**	**-0.9**
XNZR	**Khunzakh**	**0.76**	**34**	*e*PG	**Pb**	**21 05 26.2**	**-1.3**
XNZR				*e*S	**Sb**	**21 05 36.6**	**-1.0**
XNZR	**Khunzakh**	**0.76**	**34**	*e*Pg	**Pb**	**21 05 26.1**	**-1.3**
XNZR				*e*Sg	**Sb**	**21 05 36.3**	**-1.3**
UNCR	**Uncukul**	**0.94**	**32**	*e*PG	**Pb**	**21 05 29.4**	**-1.0**
UNCR				*e*S	**Sb**	**21 05 42.0**	**-0.6**
UNCR	**Uncukul**	**0.94**	**32**	*e*Pg	**Pb**	**21 05 29.4**	**-1.0**
UNCR				*e*Sg	**Sb**	**21 05 42.0**	**-0.6**
ARKR	**Arakani**	**0.94**	**43**	*e*PG	**Pb**	**21 05 29.6**	**-0.9**
ARKR				*e*S	**Sb**	**21 05 41.1**	**-1.6**
ARKR	**Arakani**	**0.94**	**43**	*e*Pg	**Pb**	**21 05 29.6**	**-0.9**
ARKR				*e*Sg	**Sb**	**21 05 41.1**	**-1.6**
SEAG	**Tbilisi Sea**	**1.00**	**262**	P	**Pb**	**21 05 30.8**	**-0.7**
SEAG				S	**Sg**	**21 05 44.9**	**-0.2**
SEAG	**Tbilisi Sea**	**1.00**	**262**	PG	**Pb**	**21 05 30.8**	**-0.7**
SEAG				S	**Sg**	**21 05 44.9**	**-0.2**
BTNK	**Botanikuri**	**1.02**	**257**	P	Pb	21 05 26.2	-5.7
BTNK				S	**Sb**	**21 05 41.3**	**-3.8**
BTNK	**Botanikuri**	**1.02**	**257**	PG	Pb	21 05 26.2	-5.7
BTNK	**Botanikuri**	**1.02**	**257**	*e*Pg	Pb	21 05 26.2	-5.7
BTNK				*e*Sg	**Sb**	**21 05 41.3**	**-3.8**
QZX	**Qazax, Azerbai**	**1.03**	**214**	S	**Sg**	**21 05 46.3**	**+0.3**
DVE	**Vedeno**	**1.04**	**360**	*e*PG	**Pb**	**21 05 31.2**	**-1.0**
DVE				*e*S	**Sb**	**21 05 45.4**	**-0.2**
DVE	**Vedeno**	**1.04**	**360**	*e*Pg	**Pb**	**21 05 31.2**	**-1.0**
DVE				*e*Sg	**Sb**	**21 05 45.4**	**-0.2**
SEKA	**Sheki**	**1.07**	**131**	PG	**Pb**	**21 05 32.1**	**-0.6**
SEKA	**Sheki**	**1.07**	**131**	P	**Pb**	**21 05 32.2**	**-0.6**
	SNR=20						
SEKA				S	**Sg**	**21 05 48.8**	**+1.4**
KRNR	**Karanay**	**1.07**	**32**	*e*PG	**Pb**	**21 05 31.7**	**-1.2**
KRNR				*e*S	**Sb**	**21 05 45.7**	**-1.0**
KRNR	**Karanay**	**1.07**	**32**	*e*Pg	**Pb**	**21 05 31.7**	**-1.2**
KRNR				*e*Sg	**Sb**	**21 05 45.7**	**-1.0**
URKR	**Urkarakh**	**1.15**	**77**	*e*PG	**Pn**	**21 05 33.4**	**-0.7**
URKR				*e*S	**Sb**	**21 05 48.5**	**-0.3**
URKR	**Urkarakh**	**1.15**	**77**	*e*Pg	**Pn**	**21 05 33.4**	**-0.7**
URKR				*e*Sg	**Sb**	**21 05 48.5**	**-0.3**
BUJR	**Buynaksk**	**1.16**	**38**	*e*PG	**Pn**	**21 05 33.8**	**-0.4**
BUJR				*e*S	**Sn**	**21 05 49.4**	**-0.3**
BUJR	**Buynaksk**	**1.16**	**38**	*e*Pg	**Pn**	**21 05 33.8**	**-0.4**
BUJR				*e*Sg	**Sn**	**21 05 49.4**	**-0.3**
DLMR	**Dylym**	**1.21**	**18**	*e*PG	**Pn**	**21 05 34.0**	**-0.8**
DLMR				*e*S	**Sb**	**21 05 50.5**	**0.0**
DLMR	**Dylym**	**1.21**	**18**	*e*Pg	**Pn**	**21 05 34.0**	**-0.8**
DLMR				*e*Sg	**Sb**	**21 05 50.5**	**0.0**
DBC	**Dubki**	**1.22**	**25**	*e*PG	**Pb**	**21 05 35.4**	**+0.1**
DBC				*e*S	**Sn**	**21 05 51.2**	**0.0**
DBC	**Dubki**	**1.22**	**25**	*e*Pg	**Pn**	**21 05 34.2**	**-0.8**
DBC				*e*Sg	**Sb**	**21 05 50.7**	**-0.1**
GDB	**GEDABAY**	**1.23**	**193**	P	**Pn**	**21 05 33.9**	**-1.3**
	SNR=12						
GDB				S	**Sn**	**21 05 51.0**	**-0.6**
SGKR	**Sergokala**	**1.26**	**64**	*e*PG	**Pn**	**21 05 35.2**	**-0.3**
SGKR				*e*S	**Sn**	**21 05 52.3**	**+0.2**
SGKR	**Sergokala**	**1.26**	**64**	*e*Pg	**Pn**	**21 05 35.2**	**-0.3**
SGKR				*e*Sg	**Sn**	**21 05 52.3**	**+0.2**
AKT	**Akhty**	**1.28**	**110**	*e*PG	**Pb**	**21 05 35.9**	**-0.4**
AKT				*e*S	**Sg**	**21 05 53.7**	**-0.2**
AKT	**Akhty**	**1.28**	**110**	*e*Pg	**Pb**	**21 05 35.9**	**-0.4**
AKT				*e*Sg	**Sg**	**21 05 53.6**	**-0.2**
GANJ	**Ganja**	**1.28**	**173**	PG	**Pn**	**21 05 34.9**	**-0.9**
GANJ	**Ganja**	**1.28**	**173**	P	**Pn**	**21 05 35.0**	**-0.9**
	SNR=49						
GANJ				S	**Sg**	**21 05 53.2**	**-0.8**
GROC	**Groznyy**	**1.30**	**349**	*e*PG	**Pb**	**21 05 37.0**	**+0.3**
GROC				*e*S	**Sg**	**21 05 55.4**	**+0.6**
GROC	**Groznyy**	**1.30**	**349**	*e*Pg	**Pb**	**21 05 37.0**	**+0.3**
GROC				*e*Sg	**Sg**	**21 05 55.4**	**+0.6**
GUDG	**Gudauri**	**1.34**	**295**	P	**Pn**	**21 05 35.7**	**-1.1**
GUDG				S	**Sn**	**21 05 54.3**	**-0.1**
GUDG	**Gudauri**	**1.34**	**295**	PG	**Pn**	**21 05 35.7**	**-1.1**
GUDG				S	**Sn**	**21 05 54.3**	**-0.1**
GUDG	**Gudauri**	**1.34**	**295**	*e*Pg	**Pn**	**21 05 35.7**	**-1.1**
GUDG				*e*Sg	**Sn**	**21 05 54.3**	**-0.1**
MNGR	**Mingechevir, A**	**1.35**	**147**	PG	**Pb**	**21 05 37.2**	**-0.3**
MNGR	**Mingechevir, A**	**1.35**	**147**	P	**Pb**	**21 05 37.3**	**-0.3**
	SNR=4.5						
MNGR				S	**Sg**	**21 05 58.0**	**+1.8**
KZRT	**Kazreti**	**1.40**	**248**	P	**Pn**	**21 05 36.2**	**-1.3**
KZRT				S	**Sn**	**21 05 55.0**	**-0.6**
KZRT	**Kazreti**	**1.40**	**248**	PG	**Pn**	**21 05 36.2**	**-1.3**
KZRT				S	**Sn**	**21 05 55.0**	**-0.6**
MTEO	**Meteo**	**1.41**	**303**	P	**Pg**	**21 05 39.5**	**-0.2**
MTEO				S	**Sb**	**21 05 57.6**	**+1.1**
MAK	**Makhachkala**	**1.46**	**44**	*e*PG	**Pb**	**21 05 39.6**	**+0.3**
MAK				*e*		21 05 59.3	
MAK				pmax	pmax		
	comp=Z,82nm,0.6s						
MAK				smax	smax		
	comp=E,416nm,0.5s						
MAK				smax	smax		
	comp=E,359nm,3.3s						
MAK	**Makhachkala**	**1.46**	**44**	*e*Pg	**Pn**	**21 05 36.6**	**-1.6**
MAK				*e*Sg	**Sb**	**21 05 57.8**	**+0.2**
KMGR	**Komgaron**	**1.47**	**321**	*e*PG	**Pg**	**21 05 40.8**	**-0.1**
KMGR				*e*S	**Sg**	**21 06 02.7**	**+2.6**
KMGR	**Komgaron**	**1.47**	**321**	*e*Pg	**Pg**	**21 05 40.8**	**-0.1**
KMGR				*e*Sg	**Sg**	**21 06 01.5**	**+1.5**
KSMR	**Kasumkent**	**1.53**	**101**	*e*PG	**Pn**	**21 05 39.0**	**-0.3**
KSMR				*e*S	**Sb**	**21 05 59.6**	**-0.1**
KSMR	**Kasumkent**	**1.53**	**101**	*e*Pg	**Pn**	**21 05 39.0**	**-0.3**
KSMR				*e*Sg	**Sb**	**21 05 59.6**	**-0.1**
VLKR	**Vladikavkaz**	**1.56**	**317**	*e*PG	**Pg**	**21 05 42.4**	**-0.1**
VLKR				*e*S	**Sg**	**21 06 04.7**	**+2.0**
VLKR	**Vladikavkaz**	**1.56**	**317**	*e*Pg	**Pg**	**21 05 42.4**	**-0.1**
VLKR				*e*Sg	**Sg**	**21 06 04.7**	**+2.0**
TRLG	**Trialeti**	**1.56**	**257**	P	**Pn**	**21 05 39.4**	**-0.4**
TRLG				S	**Sb**	**21 06 00.4**	**-0.4**
TRLG	**Trialeti**	**1.56**	**257**	PG	**Pn**	**21 05 39.4**	**-0.4**
TRLG				S	**Sb**	**21 06 00.4**	**-0.4**
DMNI	**Dmanisi**	**1.57**	**249**	P	**Pn**	**21 05 38.9**	**-0.9**
DMNI				S	**Sn**	**21 05 58.8**	**-0.1**
DMNI	**Dmanisi**	**1.57**	**249**	PG	**Pn**	**21 05 38.9**	**-0.9**
QBL	**Gabala**	**1.61**	**127**	P	**Pb**	**21 05 41.6**	**-0.3**
	SNR=5.8						
QBL				S	**Sg**	**21 06 04.3**	**-0.2**
KANR	**Karaman**	**1.62**	**38**	*e*PN	**Pn**	**21 05 40.0**	**-0.5**
KANR				*e*S	**Sb**	**21 06 01.9**	**-0.5**
KANR	**Karaman**	**1.62**	**38**	*e*Pg	**Pn**	**21 05 40.0**	**-0.5**
KANR				*e*Sg	**Sb**	**21 06 01.9**	**-0.5**
LACR	**Lac**	**1.63**	**304**	*e*PN	**Pb**	**21 05 41.9**	**-0.5**
LACR				*e*S	**Sg**	**21 06 06.5**	**+1.3**
LACR	**Lac**	**1.63**	**304**	*e*Pg	**Pb**	**21 05 41.9**	**-0.5**
LACR				*e*Sg	**Sg**	**21 06 06.5**	**+1.3**
QSAR	**Qusar**	**1.65**	**103**	P	**Pg**	**21 05 43.6**	**-0.6**
	SNR=5.7						
QSAR				S	**Sg**	**21 06 07.1**	**+1.4**
XNQ	**Khinaliq**	**1.69**	**116**	P	**Pg**	**21 05 44.0**	**-1.0**
XNQ				S	**Sg**	**21 06 06.9**	**-0.1**
BRNG	**Burnasheti**	**1.75**	**261**	P	**Pn**	**21 05 42.4**	**0.0**
BRNG				S	**Sb**	**21 06 05.8**	**-0.2**
BRDA	**Brd**	**1.84**	**154**	P	**Pb**	**21 05 45.6**	**-0.1**
	SNR=3.3						
BRDA				S	**Sg**	**21 06 10.7**	**-1.0**
ARNR	**Ardon**	**1.85**	**313**	*e*PN	**Pg**	**21 05 47.5**	**-0.7**
ARNR				*e*S	**Sg**	**21 06 11.9**	**-0.4**
ARNR	**Ardon**	**1.85**	**313**	*e*Pg	**Pb**	**21 05 46.6**	**+0.5**
ARNR				*e*Sg	**Sg**	**21 06 11.9**	**-0.4**
QUBA	**Quba, Azerbaij**	**1.86**	**107**	P	**Pb**	**21 05 46.3**	**+0.1**
QUBA				S	**Sg**	**21 06 12.7**	**+0.2**
ZEI	**Tsey**	**1.86**	**298**	*e*PN	**Pb**	**21 05 45.8**	**-0.6**
ZEI	**Tsey**	**1.86**	**298**	*e*Pg	**Pb**	**21 05 45.8**	**-0.6**
ZEI				*e*Sg	**Sb**	**21 06 10.5**	**+1.0**
IML	**Ismayilli**	**1.91**	**125**	P	**Pb**	**21 05 46.6**	**-0.5**
IML				S	**Sg**	**21 06 14.4**	**+0.3**
KORR	**Kora**	**1.92**	**308**	*e*PN	**Pb**	**21 05 47.4**	**+0.2**
KORR				*e*S	**Sg**	**21 06 14.1**	**-0.2**
KORR	**Kora**	**1.92**	**308**	*e*Pg	**Pb**	**21 05 47.4**	**+0.2**
KORR				*e*Sg	**Sg**	**21 06 14.1**	**-0.2**
BKRG	**Bakuriani**	**1.95**	**266**	P	**Pn**	**21 05 45.5**	**+0.3**
BKRG				S	**Sb**	**21 06 11.7**	**-0.3**
BKRG	**Bakuriani**	**1.95**	**266**	PN	**Pn**	**21 05 45.5**	**+0.3**
BKRG	**Bakuriani**	**1.95**	**266**	*e*Pg	**Pn**	**21 05 45.5**	**+0.3**
BKRG				*e*Sg	**Sb**	**21 06 11.7**	**-0.3**
AGDM	**Agdam**	**1.96**	**157**	P	**Pb**	**21 05 46.9**	**-0.9**
	SNR=9.1						
AGDM				S	**Sg**	**21 06 14.4**	**-1.1**
BGD	**Bogdanovka**	**2.01**	**252**	P	**Pn**	**21 05 46.5**	**+0.5**
BGD				S	**Sb**	**21 06 13.5**	**-0.1**
BGD	**Bogdanovka**	**2.01**	**252**	PN	**Pn**	**21 05 46.5**	**+0.5**
ZRD	**Zardab**	**2.02**	**144**	P	**Pb**	**21 05 48.2**	**-0.6**
ZRD				S	**Sg**	**21 06 15.4**	**-2.0**
AKH	**Akhalkalaki**	**2.04**	**256**	P	**Pn**	**21 05 47.2**	**+0.8**
AKH				S	**Sb**	**21 06 13.6**	**-0.9**
AKH	**Akhalkalaki**	**2.04**	**256**	PN	**Pn**	**21 05 47.2**	**+0.8**
GNI	**Garni**	**2.06**	**211**	*i* PN	**Pb**	**21 05 47.8**	**-1.8**
GNI	**Garni**	**2.06**	**211**	*e*Pg	**Pn**	**21 05 47.5**	**+0.9**
TRKR	**Terskaya**	**2.07**	**331**	*e*PN	**Pb**	**21 05 49.5**	**-0.3**
TRKR				*e*S	**Sb**	**21 06 16.3**	**+0.9**
TRKR	**Terskaya**	**2.07**	**331**	*e*Pg	**Pb**	**21 05 49.5**	**-0.3**
TRKR				*e*Sg	**Sb**	**21 06 16.3**	**+0.9**
ONI	**Oni**	**2.10**	**290**	P	**Pn**	**21 05 48.2**	**+1.2**
ONI				S	**Sb**	**21 06 15.3**	**-0.8**
ONI	**Oni**	**2.10**	**290**	*e*PN	**Pb**	**21 05 48.6**	**-1.6**
ONI				*e*S	**Sb**	**21 06 16.1**	**+0.1**
ONI	**Oni**	**2.10**	**290**	*e*Pg	**Pn**	**21 05 48.4**	**+1.3**
ONI				*e*Sg	**Sb**	**21 06 15.9**	**-0.2**
STDR	**Stavd-Durt**	**2.10**	**314**	*e*PN	**Pb**	**21 05 49.7**	**-0.6**
STDR				*e*S	**Sb**	**21 06 16.7**	**+0.5**
STDR	**Stavd-Durt**	**2.10**	**314**	*e*

OUENC	**Ouen Island, N**	7.61	183		Pn		**Pn**	21 14 42.1	+0.7	
OUENC	**Ouen Island, N**	7.61	183		P		**Pn**	21 14 42.2	+0.7	
	54nm,1.2s									
PINNC	**Pines Island,**	7.79	179		Pn		**Pn**	21 14 45.2	+1.3	
HNR	**Honiara**	8.96	306		Pn		**Pn**	21 14 59.9	+0.2	
EIDS	**Eidsvold**	18.52	233				**Pn**	21 17 01.8	+0.3	
CTA	**Charters Tower**	20.77	252		P		**P**	21 17 24.6	+0.4	
	4.6nm,0.9s,baz=84,slow=10,SNR=3.8									
BKZ	**Black Stump Fm**	25.59	163		P		**P**	21 18 11.1	+0.5	
BKZ					IAmb		IAmb	21 18 11.9		
	comp=Z,4.4nm,0.6s									
THZ	**Tophouse**	27.32	171		P		**P**	21 18 26.0	0.0	
THZ					IAmb		IAmb	21 18 27.2		
	comp=Z,1.1nm,1.1s									
MSWZ	**Moikau Station**	27.41	167		P		**P**	21 18 26.2	-0.6	
PLWZ	**Palliser**	27.56	167		P		**P**	21 18 25.5	-2.6	
KHZ	**Kahutara**	28.05	170		P		**P**	21 18 31.7	-0.7	
LTZ	**Lake Taylor**	28.23	172		P		**P**	21 18 34.3	+0.3	
STKA	**Stephens Creek**	29.00	230		P		**P**	21 18 42.4	+1.4	
	comp=Z,1.2nm,0.5s,baz=52,slow=9.2,SNR=6.6									
STKA	**Stephens Creek**	29.00	230		P		**P**	21 18 41.6	+0.7	
LBZ	**Lake Benmore**	29.61	176		P		**P**	21 18 46.5	+0.4	
LBZ					IAmb		IAmb	21 18 51.3		
	comp=Z,10nm,1.1s									
WKZ	**Wanaka**	29.98	178		P		**P**	21 18 50.7	+1.2	
WR0	**Warramunga Arr**	31.67	256		P		**P**	21 19 03.9	-0.8	
WB0	**Warramunga Arr**	31.80	256		P		**P**	21 19 04.1	-1.7	
WB0					IAmb		IAmb	21 19 08.5		
	comp=Z,4.4nm,1.1s									
WRA	**Warramunga Arr**	31.86	256		P		**P**	21 19 04.9	-1.5	
	comp=Z,0.8nm,0.9s,baz=82,slow=6.9,SNR=8.6									
ASAR	**Alice Springs**	32.70	249		P		**P**	21 19 12.7	-1.0	
	comp=Z,0.9nm,0.6s,baz=74,slow=9.4,SNR=14									
ASAR	**Alice Springs**	32.70	249		P		**P**	21 19 13.2	-0.5	
BBOO	**Buckleboo**	33.59	232		P		**P**	21 19 21.6	+0.4	
BBOO					IAmb		IAmb	21 19 26.9		
	comp=Z,7.0nm,1.1s									
KNRA	**Kununurra**	37.18	263		P		**P**	21 19 51.2	-1.0	
KNRA					IAmb		IAmb	21 19 55.9		
	comp=Z,9.0nm,1.1s									
FITZ	**Fitzroy Crossi**	40.05	259		P		**P**	21 20 16.0	-0.1	
FITZ					IAmb		IAmb	21 20 21.5		
	comp=Z,3.8nm,1.1s									
VNDA	**Vanda**	62.81	181		P		**P**	21 23 05.5	+0.8	
	comp=Z,0.8nm,0.5s,baz=354,slow=8.1,SNR=13									
SBA	**Scott Base**	63.08	180		P		**P**	21 23 07.8	+1.4	
SBA					IAmb		IAmb	21 23 08.9		
	comp=Z,4.2nm,0.8s									
QSPA	**South Pole Qui**	75.24	180		P		**P**	21 24 22.3	+0.5	
QSPA					IAmb		IAmb	21 24 23.4		
	comp=Z,4.5nm,1.1s									
PMPB	**Monarch Peak**	84.60	51		P		**P**	21 25 12.1	-0.4	

MOS ***21*** *21:16:52.6±1.0,51˚.40N×154˚.96E,h263km,mb4.0/6,Error ellipse: s-maj=11.0km s-min=4.8km az=61.1*

NEIC ***21*** *21:16:53.6±1.4,51˚.51N±0˚.05×155˚.0E±0˚.1,h254km±8km, mb4.3/75,Error ellipse: s-maj=12.5km s-min=6.8km az=83.0*

KRSC ***21*** *21:16:53.1±1.2,51˚.07N×155˚.92E,h268km±9km,ML4.6*

IDC ***21*** *21:16:54.3±0.8,51˚.42N×155˚.03E,h262km±8km,mb3.6/24, mb1 3.7/31,mb1mx3.6/58,mbtmp4.2/31,Error ellipse: s-maj=12.6km s-min=6.6km az=148.0*

ISC 21 21:16:53.6±0.5,51˚.40N±0˚.05×155˚.18E±0˚.05,h259km±5km, n338,σ1°20/354,mb4.2/77,6C-2D,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SKR	**Severo-Kuril's**	**0.93**	**140**	*e*P	N	**Pn**	**21**	**17 30.4**	**+1.3**
SKR				*e*S		**S**	**21**	**17 55.9**	**-1.1**
SKR				pmax		pmax			
	comp=Z,31nm,0.3s								
SKR				smax		smax			
	comp=N,589nm,0.5s								
SKR				smax		smax			
	comp=E,306nm,0.5s								
SKR	**Severo-Kuril's**	**0.93**	**140**	*e*P		**Pn**	**21**	**17 28.7**	**-0.4**
SKR				*e*S		**S**	**21**	**17 56.0**	**-1.1**
PAU	**Pauzhetka**	**1.02**	**85**	P	N	**Pn**	**21**	**17 29.7**	**+0.2**
PAU	**Pauzhetka**	**1.02**	**85**	*e*P		**Pn**	**21**	**17 29.7**	**+0.2**
MIPR	**Malaya Ipel'ka**	**1.32**	**47**	P	N	**Pn**	**21**	**17 32.4**	**+1.1**
MIPR	**Malaya Ipel'ka**	**1.32**	**47**	*i* P		**Pn**	**21**	**17 32.4**	**+1.1**
KDTR	**Khodutka, Kamc**	**1.85**	**76**	P	N	**Pn**	**21**	**17 35.1**	**-0.3**
KDTR				S		**S**	**21**	**18 05.8**	**-2.6**
KDTR	**Khodutka, Kamc**	**1.85**	**76**	*e*P		**Pn**	**21**	**17 35.1**	**-0.3**
KDTR				*e*S		**S**	**21**	**18 05.8**	**-2.6**
ASAK	**Asacha**	**1.95**	**58**	P	N	**Pn**	**21**	**17 37.2**	**+0.9**
ASAK	**Asacha**	**1.95**	**58**	*e*P		**Pn**	**21**	**17 37.2**	**+0.9**
APC	**Apacha**	**1.96**	**38**	P	N	**Pn**	**21**	**17 37.1**	**+0.9**
APC				S		**S**	**21**	**18 10.9**	**+0.9**
APC	**Apacha**	**1.96**	**38**	*i* P		**Pn**	**21**	**17 37.1**	**+0.9**
APC				*e*S		**S**	**21**	**18 10.9**	**+0.9**
GRL	**Gorelyy**	**2.13**	**56**	P	N	**Pn**	**21**	**17 39.0**	**+1.0**
GRL	**Gorelyy**	**2.13**	**56**	*e*P		**Pn**	**21**	**17 39.0**	**+1.0**
MTVR	**Mutnovka**	**2.15**	**58**	P	N	**Pn**	**21**	**17 38.8**	**+0.6**
MTVR				S		**S**	**21**	**18 13.1**	**-0.4**
MTVR	**Mutnovka**	**2.15**	**58**	*e*P		**Pn**	**21**	**17 38.8**	**+0.6**
MTVR				*e*S		**S**	**21**	**18 13.1**	**-0.4**
PEA0B	**Petropavlovsk-**	**2.31**	**41**	*c*eP	N	**Pn**	**21**	**17 40.3**	**+0.8**
PEA0B	**Petropavlovsk-**	**2.31**	**41**	P	N	**Pn**	**21**	**17 39.6**	**+0.1**
PETK	**Petropavlovsk-**	**2.31**	**41**	P		**Pn**	**21**	**17 39.4**	**-0.1**
	comp=E,6.0nm,0.3s,baz=228,slow=5.7,SNR=100								
PETK				S		**S**	**21**	**18 18.6**	**+2.7**
	comp=E,2.0nm,0.3s,baz=249,slow=17,SNR=3.1								
PETK	**Petropavlovsk-**	**2.31**	**41**	Pn		**Pn**	**21**	**17 39.0**	**-0.5**
RUS	**Russkaya**	**2.31**	**62**	P	N	**Pn**	**21**	**17 39.7**	**+0.2**
RUS				S		**S**	**21**	**18 14.5**	**-1.3**
RUS	**Russkaya**	**2.31**	**62**	*e*P		**Pn**	**21**	**17 39.7**	**+0.2**
RUS				*e*S		**S**	**21**	**18 14.5**	**-1.3**
KRMR	**Karymshinskiy**	**2.32**	**50**	P	N	**Pn**	**21**	**17 40.3**	**+0.8**
KRMR	**Karymshinskiy**	**2.32**	**50**	*i* P		**Pn**	**21**	**17 40.3**	**+0.8**
PET	**Petropavlovsk**	**2.69**	**51**	*e*Pn		**Pn**	**21**	**17 43.9**	**+0.7**
PET				*e*S		**S**	**21**	**18 22.0**	**-0.5**
PET				pmax		pmax			
	comp=Z,352nm,0.8s								
PET				smax		smax			
	comp=N,238nm,0.6s								
PET				smax		smax			
	comp=E,155nm,0.7s								
PET	**Petropavlovsk**	**2.69**	**51**			**Pn**	**21**	**17 43.5**	**+0.3**
PET	**Petropavlovsk**	**2.69**	**51**	*e*P		**Pn**	**21**	**17 43.8**	**+0.6**
PET				*e*S		**S**	**21**	**18 21.8**	**-0.7**
DALK	**Dalny**	**2.74**	**52**	P	N	**Pn**	**21**	**17 44.5**	**+0.8**
DALK				S		**S**	**21**	**18 23.3**	**-0.2**
DALK	**Dalny**	**2.74**	**52**	*e*P		**Pn**	**21**	**17 44.5**	**+0.8**
DALK				*e*S		**S**	**21**	**18 23.3**	**-0.2**
KOK	**Koryaka**	**2.84**	**47**	P	N	**Pn**	**21**	**17 46.5**	**+1.6**
KOK	**Koryaka**	**2.84**	**47**	*e*P		**Pn**	**21**	**17 46.5**	**+1.6**
GNL	**Ganaly**	**2.85**	**35**	P	N	**Pn**	**21**	**17 46.0**	**+1.0**
GNL	**Ganaly**	**2.85**	**35**	*e*P		**Pn**	**21**	**17 46.0**	**+1.0**
AVH	**Avacha**	**2.87**	**48**	P	N	**Pn**	**21**	**17 46.7**	**+1.5**
AVH	**Avacha**	**2.87**	**48**	*e*P		**Pn**	**21**	**17 46.7**	**+1.5**
UGLR	**Uglovaya**	**2.88**	**49**	P	N	**Pn**	**21**	**17 46.8**	**+1.5**
UGLR	**Uglovaya**	**2.88**	**49**	*e*P		**Pn**	**21**	**17 46.8**	**+1.5**
KRX	**Arik**	**2.89**	**46**	P	N	**Pn**	**21**	**17 46.7**	**+1.2**
KRX	**Arik**	**2.89**	**46**	*e*P		**Pn**	**21**	**17 46.7**	**+1.2**
SMAR	**Somma**	**2.90**	**48**	P	N	**Pn**	**21**	**17 47.0**	**+1.3**
SMAR	**Somma**	**2.90**	**48**	*i* P		**Pn**	**21**	**17 47.0**	**+1.3**
KRER	**Koryakskii**	**2.90**	**47**	P	N	**Pn**	**21**	**17 46.7**	**+1.0**
KRER	**Koryakskii**	**2.90**	**47**	*e*P		**Pn**	**21**	**17 46.7**	**+1.0**
SDLR	**Sedlovina**	**2.95**	**49**	P	N	**Pn**	**21**	**17 47.1**	**+1.0**
SDLR	**Sedlovina**	**2.95**	**49**	*e*P		**Pn**	**21**	**17 47.1**	**+1.0**
NLC	**Nalytchevo**	**3.11**	**54**	P	N	**Pn**	**21**	**17 47.5**	**-0.1**
NLC				S		**S**	**21**	**18 28.0**	**-2.6**
NLC	**Nalytchevo**	**3.11**	**54**	*e*P		**Pn**	**21**	**17 47.5**	**-0.1**
NLC				*e*S		**S**	**21**	**18 28.0**	**-2.6**
SPN	**Mys Shipunski**	**3.43**	**58**	P	N	**Pn**	**21**	**17 50.8**	**-0.3**
SPN	**Mys Shipunski**	**3.43**	**58**	*e*P		**Pn**	**21**	**17 50.8**	**-0.3**
SPN				*e*S		**S**	**21**	**18 32.8**	**-4.1**
KII	**Karymskiy**	**3.70**	**43**	P	N	**Pn**	**21**	**17 55.8**	**+1.5**
KII	**Karymskiy**	**3.70**	**43**	*e*P		**Pn**	**21**	**17 55.8**	**+1.5**
TUMR	**Tumrok**	**4.90**	**35**	P	N	**Pn**	**21**	**18 10.7**	**+2.3**
TUMR	**Tumrok**	**4.90**	**35**	*e*P		**Pn**	**21**	**18 10.7**	**+2.3**
TUMD	**Tumrok D**	**4.93**	**37**	*e*P		**Pn**	**21**	**18 10.1**	**+1.4**
ESO	**Esso**	**5.00**	**23**	P	N	**Pn**	**21**	**18 11.9**	**+2.5**
ESO	**Esso**	**5.00**	**23**	*e*P		**Pn**	**21**	**18 11.9**	**+2.5**
MKZ	**Mys Kozlova**	**5.07**	**49**	P	N	**Pn**	**21**	**18 09.8**	**-0.4**
MKZ	**Mys Kozlova**	**5.07**	**49**	*i* P		**Pn**	**21**	**18 09.8**	**-0.4**
MKZ				*e*S		**S**	**21**	**19 06.2**	**-5.3**
KMNR	**Kamenistaya**	**5.30**	**33**	P	N	**Pn**	**21**	**18 15.7**	**+2.4**
KMNR	**Kamenistaya**	**5.30**	**33**	*e*P		**Pn**	**21**	**18 15.7**	**+2.4**
BDR	**Baidarnaya**	**6.28**	**32**	P	N	**Pn**	**21**	**18 27.1**	**+1.8**
BDR	**Baidarnaya**	**6.28**	**32**	*e*P		**Pn**	**21**	**18 27.1**	**+1.8**
SRKR	**Sorokina**	**6.34**	**31**	P	N	**Pn**	**21**	**18 27.9**	**+2.0**
SRKR	**Sorokina**	**6.34**	**31**	*e*P		**Pn**	**21**	**18 27.9**	**+2.0**
SMKR	**Semkarok**	**6.38**	**33**	P	N	**Pn**	**21**	**18 30.3**	**+3.8**
SMKR	**Semkarok**	**6.38**	**33**	*e*P		**Pn**	**21**	**18 30.3**	**+3.8**
BKI	**Bering**	**7.50**	**55**	P	N	**Pn**	**21**	**18 40.4**	**0.0**
BKI	**Bering**	**7.50**	**55**	*e*P		**Pn**	**21**	**18 40.4**	**0.0**
BKI				*e*S		**S**	**21**	**20 00.2**	**-6.3**
KUR	**Kuril'sk**	**7.86**	**221**	*i* PN		**Pn**	**21**	**18 46.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**9.27**	**246**	*c*eP	N	**Pn**	**21**	**18 59.4**	**-3.4**
YSS				pmax		pmax			
	comp=Z,39nm,1.7s								
SHO	**Shikotan**	**9.40**	**220**	*e*PN		Pn	21	18 58.8	-5.6
SHO				pmax		pmax			
	comp=Z,34nm,0.4s								
SHO				pmax		pmax			
	comp=N,28nm,0.3s								
SHO				pmax		pmax			
	comp=E,24nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**9.67**	**224**	*e*PN		Pn	21	19 00.3	-7.6
YUK				pmax		pmax			
	comp=N,83nm,0.2s								
YUK				pmax		pmax			
	comp=Z,149nm,0.2s								
YUK				pmax		pmax			
	comp=E,91nm,0.4s								
RUSJ	**Misakicho**	**9.89**	**226**	*e*PN		Pn	21	19 01.2	-9.4
NMR	**Nemuro--Hokkai**	**10.27**	**222**	*e*PN		Pn	21	19 09.2	-6.1
JKA	**Kamikawa-asahi**	**11.16**	**234**	Pn		**Pn**	**21**	**19 26.4**	**0.0**
ASAJ	**Asahikawa**	**11.16**	**234**	P		**Pn**	**21**	**19 27.2**	**+0.7**
	comp=E,1.8nm,0.3s,baz=63,slow=13,SNR=20								
SEY	**Seymchan**	**11.67**	**354**	P		**P**	**21**	**19 33.6**	**-2.0**
	comp=E,0.2nm,0.3s,baz=148,slow=12,SNR=8.0								
SEY	**Seymchan**	**11.67**	**354**	*c*ePN		**Pn**	**21**	**19 33.3**	**+0.8**
SEY				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ERM	**Erimo**	**12.48**	**226**	*i* PN		**Pn**	**21**	**19 39.8**	**-3.0**
KLR	**Kul'dur**	**15.11**	**271**	P		**Pn**	**21**	**20 15.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=73,slow=12,SNR=18								
KLR	**Kul'dur**	**15.11**	**271**	*i* P		**P**	**21**	**20 11.0**	**-2.9**
USRK	**Ussuriysk Ar.**	**17.12**	**254**	P		**P**	**21**	**20 35.2**	**-0.8**
	baz=54,slow=16,SNR=7.2								
YAK	**Yakutsk**	**17.46**	**317**	P		**P**	**21**	**20 39.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=1.1,SNR=11								
YAK	**Yakutsk**	**17.46**	**317**	*e*P		**Pn**	**21**	**20 39.6**	**-2.4**
YAK				*e*S		**S**	**21**	**23 45.2**	**-1.8**
YAK				pmax		pmax			
	comp=Z,23nm,0.9s								
YAK				pmax		pmax			
	comp=E,7.0nm,1.3s								
YAK				smax		smax			
	comp=E,26nm,1.3s								
YAK				smax		smax			
	comp=N,29nm,1.0s								
YAK	**Yakutsk**	**17.46**	**317**			**P**	**21**	**20 38.7**	**-0.7**
BILL	**Bilibino**	**17.55**	**14**	*c*eP		**P**	**21**	**20 41.2**	**+0.8**
BILL				pmax		pmax			
	comp=Z,23nm,1.0s								
BILL	**Bilibino**	**17.55**	**14**	P		**P**	**21**	**20 41.1**	**+0.8**
JSD	**Sado**	**17.91**	**228**	P		**P**	**21**	**20 42.9**	**-1.7**
MJB9	**Matsu-Tunnel**	**19.16**	**226**	P		**P**	**21**	**20 56.4**	**-1.6**
MAJO	**Matsushiro**	**19.16**	**226**	P		**P**	**21**	**20 57.3**	**-0.7**
MAJO				pmax		pmax			
	comp=Z,29nm,0.7s								
MAJO	**Matsushiro**	**19.16**	**226**	P		**P**	**21**	**20 57.2**	**-0.7**
MJAR	**Matsushiro Arr**	**19.16**	**226**	P		**P**	**21**	**20 57.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=65,slow=7.5,SNR=24								
MJAR	**Matsushiro Arr**	**19.16**	**226**	P		**P**	**21**	**20 56.6**	**-1.4**
MJAR				IAmb		IAmb	21	20 58.2	
	comp=Z,11nm,1.1s								
BNX	**BinXian**	**19.17**	**264**	⇓P		**P**	**21**	**20 58.6**	**+0.6**
BNX				pmax		pmax			
	comp=Z,22nm,0.8s								
BNX				pmax		pmax			
	comp=Z,98nm,5.5s								
JGF	**Kuroka**	**20.32**	**226**	P		**P**	**21**	**21 08.7**	**-1.8**
INU	**Inuyama**	**20.68**	**226**	P		**P**	**21**	**21 13.9**	**-0.3**
SPIA	**Saint Paul Isl**	**20.83**	**60**	P		**P**	**21**	**21 14.9**	**-0.5**
GAMB	**Gambell**	**21.34**	**42**	P		**P**	**21**	**21 20.3**	**-0.1**
GAMB	**Gambell**	**21.34**	**42**	P		**P**	**21**	**21 20.1**	**-0.3**
	baz=250								
JHS	**Saijyo**	**22.83**	**233**	P		**P**	**21**	**21 38.0**	**+3.8**
TNA	**Tin City**	**23.48**	**39**	P		**P**	**21**	**21 40.7**	**+0.9**
TNA				IAmb		IAmb	21	21 43.3	
	comp=Z,13nm,1.1s								
TNA	**Tin City**	**23.48**	**39**	P		**P**	**21**	**21 40.5**	**+0.7**
	baz=251								
TIXI	**Tiksi**	**23.49**	**339**	P		**P**	**21**	**21 39.7**	**-0.1**
	comp=Z,5.3nm,0.6s,baz=90,slow=23,SNR=40								
TIXI	**Tiksi**	**23.49**	**339**	*c*eP		**P**	**21**	**21 39.5**	**-0.3**
TIXI				pmax		pmax			
	comp=Z,6.0nm,0.7s								
TIXI	**Tiksi**	**23.49**	**339**	P		**P**	**21**	**21 39.6**	**-0.3**
TIXI				IAmb		IAmb	21	21 41.8	
	comp=Z,6.1nm,0.6s								
KSRS	**Korea Array**	**23.77**	**245**	P		**P**	**21**	**21 44.6**	**+1.9**
	comp=Z,2.7nm,0.7s,baz=39,slow=11,SNR=7.4								
ANM	**Nome**	**24.23**	**42**	P		**P**	**21**	**21 47.2**	**+0.6**
	baz=256								
JTU	**Tsushima**	**25.11**	**238**	P		**P**	**21**	**21 55.1**	**+0.2**
JNU	**Nakatsue**	**25.44**	**234**	P		**P**	**21**	**21 57.8**	**-0.2**
	comp=Z,11nm,0.8s,baz=18,slow=16,SNR=3.9								
XLT	**XiLinHaoTe**	**27.13**	**269**	*e*P		**P**	**21**	**22 12.8**	**-0.1**
XLT				pmax		pmax			
	comp=Z,11nm,0.9s								
XLT				pmax		pmax			
	comp=Z,61nm,4.4s								
TTA	**Tatalina**	**28.13**	**47**	P		**P**	**21**	**22 21.9**	**+0.3**
	baz=269								
N18K	**Kilae Creek**	**28.23**	**52**	P		**P**	**21**	**22 22.5**	**+0.1**
	baz=273								
P18K	**Big Mountain,**	**28.66**	**54**	P		**P**	**21**	**22 26.3**	**+0.1**
	baz=276								
L19K	**White Mountain**	**28.67**	**48**	P		**P**	**21**	**22 26.3**	**0.0**
	baz=272								
J20K	**Nowinta River**	**29.00**	**44**	P		**P**	**21**	**22 29.1**	**0.0**
J20K	**Nowinta River**	**29.00**	**44**	P		**P**	**21**	**22 29.9**	**+0.8**
	baz=268								
K20K	**Telida**	**29.02**	**46**	P		**P**	**21**	**22 29.6**	**+0.3**
	baz=270								
L20K	**Farewell, AK**	**29.12**	**48**	P		**P**	**21**	**22 30.8**	**+0.5**
	baz=272								
IMAR	**Indian Mountai**	**29.27**	**41**	P		**P**	**21**	**22 31.1**	**-0.4**
Q19K	**Cape Douglas,**	**29.53**	**55**	P		**P**	**21**	**22 33.5**	**-0.3**
Q19K	**Cape Douglas,**	**29.53**	**55**	P		**P**	**21**	**22 33.9**	**+0.1**
	baz=278								
H21K	**Melozitna Rive**	**29.64**	**41**	P		**P**	**21**	**22 34.6**	**-0.2**
H21K				IAmb		IAmb	21	22 58.0	
	comp=Z,15nm,1.9s								
H21K	**Melozitna Rive**	**29.64**	**41**	P		**P**	**21**	**22 35.0**	**+0.2**
	baz=267								
PPLA	**Purkeypile**	**29.88**	**47**	P		**P**	**21**	**22 38.0**	**+0.9**
	baz=272								
CAST	**Castle Rocks**	**29.91**	**46**	P		**P**	**21**	**22 37.1**	**-0.1**
CAST	**Castle Rocks**	**29.91**	**46**	P		**P**	**21**	**22 37.7**	**+0.5**
	baz=272								
I21K	**Tanana**	**29.96**	**42**	P		**P**	**21**	**22 38.2**	**+0.6**
	baz=269								
BPAW	**Bear Paw Mtn.**	**30.39**	**44**	P		**P**	**21**	**22 41.9**	**+0.5**
	baz=271								
TRF	**Thorofare Moun**	**30.72**	**46**	P		**P**	**21**	**22 43.9**	**-0.5**
TRF				IAmb		IAmb	21	22 51.4	
	comp=Z,15nm,1.6s								
TRF	**Thorofare Moun**	**30.72**	**46**	P		**P**	**21**	**22 44.9**	**+0.5**
	baz=273								
COLD	**Coldfoot**	**30.78**	**38**	P		**P**	**21**	**22 44.5**	**-0.3**
COLD				IAmb		IAmb	21	22 46.1	
	comp=Z,9.1nm,1.2s								
COLD	**Coldfoot**	**30.78**	**38**	P		**P**	**21**	**22 45.1**	**+0.4**
	baz=267								
CUT	**Chulitna**	**30.80**	**48**	P		**P**	**21**	**22 45.2**	**+0.3**
	baz=275								
BRSE	**Bradley Lake S**	**30.88**	**53**	P		**P**	**21**	**22 46.0**	**+0.2**
	baz=279								
ULN	**Ulaanbaatar**	**30.93**	**283**	P		**P**	**21**	**22 45.9**	**-0.6**
ULN				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ULN	**Ulaanbaatar**	**30.93**	**283**	P		**P**	**21**	**22 45.9**	**-0.6**
H23K	**Yukon River**	**30.99**	**41**	P		**P**	**21**	**22 46.5**	**-0.2**
H23K	**Yukon River**	**30.99**	**41**	P		**P**	**21**	**22 47.5**	**+0.8**
	baz=270,SNR=5.5								
I23K	**Minto, Yukon-K**	**31.07**	**42**	P		**P**	**21**	**22 47.9**	**+0.6**
	baz=271								
TOLK	**Toolik Lake Re**	**31.12**	**36**	P		**P**	**21**	**22 47.9**	**+0.1**
TOLK				IAmb		IAmb	21	22 49.1	
	comp=Z,5.2nm,0.7s								
TOLK	**Toolik Lake Re**	**31.12**	**36**	P		**P**	**21**	**22 48.2**	**+0.5**
	baz=265								
RC01	**Rabbit Creek A**	**31.19**	**50**	P		**P**	**21**	**22 48.4**	**+0.1**
	baz=278								
NEA2	**Nenana**	**31.21**	**43**	P		**P**	**21**	**22 48.5**	**0.0**
NEA2				IAmb		IAmb	21	22 49.4	
	comp=Z,3.9nm,0.5s								
NEA2	**Nenana**	**31.21**	**43**	P		**P**	**21**	**22 48.9**	**+0.3**
	baz=272,SNR=5.2								
MCK	**McKinley**	**31.31**	**45**	P		**P**	**21**	**22 49.6**	**+0.2**
	baz=274								
SONM	**Songino Array**	**31.34**	**283**	P		**P**	**21**	**22 50.9**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=100,slow=7.7,SNR=3.9								
RND	**Reindeer**	**31.37**	**46**	P		**P**	**21**	**22 49.2**	**-0.8**
RND				pmax		pmax			
	comp=Z,8.0nm,1.2s								
RND	**Reindeer**	**31.37**	**46**	P		**P**	**21**	**22 49.1**	**-0.8**
RND				IAmb		IAmb	21	22 50.7	
	comp=Z,7.6nm,1.2s								
SEW	**Seward**	**31.47**	**52**	P		**P**	**21**	**22 50.5**	**-0.3**
	baz=279								
WAT1	**Susitna Watana**	**31.55**	**47**	P		**P**	**21**	**22 51.0**	**-0.6**
	baz=276								
MDM	**Murphy Dome**	**31.55**	**43**	P		**P**	**21**	**22 52.2**	**+0.6**
HHC	**Hu-ho-hao-te**	**31.58**	**268**	*e*P		**P**	**21**	**22 51.3**	**-0.9**
HHC				pmax		pmax			
	comp=Z,22nm,1.1s								
HHC				pmax		pmax			
	comp=Z,59nm,4.7s								
WRH	**Wood River Hil**	**31.64**	**44**	IAmb		IAmb	21	22 53.8	
	comp=Z,11nm,1.0s								
H24K	**Noodor Dome**	**31.68**	**41**	P		**P**	**21**	**22 53.2**	**+0.5**
H24K				IAmb		IAmb	21	22 55.2	
	comp=Z,10nm,1.6s								
H24K	**Noodor Dome**	**31.68**	**41**	P		**P**	**21**	**22 53.6**	**+0.9**
	baz=271								
CCB	**Clear Creek Bu**	**31.75**	**43**	P		**P**	**21**	**22 53.4**	**+0.2**
CCB				IAmb		IAmb	21	22 54.5	
	comp=Z,6.1nm,1.0s								
KNK	**Knik Glacier**	**31.76**	**50**	P		**P**	**21**	**22 53.1**	**-0.3**
KNK				IAmb		IAmb	21	22 54.4	
	comp=Z,9.0nm,0.7s								
KNK	**Knik Glacier**	**31.76**	**50**	P		**P**	**21**	**22 53.5**	**+0.1**
	baz=278,SNR=6.0								
SML	**Sawmill**	**31.77**	**49**	P		**P**	**21**	**22 53.7**	**+0.2**
SML	**Sawmill**	**31.77**	**49**	P		**P**	**21**	**22 53.6**	**+0.1**
	baz=278,SNR=7.2								
PWL	**Port Wells**	**31.90**	**51**	P		**P**	**21**	**22 54.5**	**-0.1**
	baz=279								
WAT6	**Susitna Watana**	**31.95**	**47**	P		**P**	**21**	**22 55.0**	**-0.2**
	baz=277								
DHY	**Denali Highway**	**32.06**	**46**	P		**P**	**21**	**22 56.0**	**-0.2**
	baz=276								
IL31		**32.14**	**43**

INK	**Inuvik**	**37.03**	**36**	P	**P**	**21 23 38.7**	**+0.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**37.03**	**36**	P	**P**	**21 23 38.7**	**+0.4**
INK	**Inuvik**	**37.03**	**36**	P	**P**	**21 23 39.2**	**+0.9**
	baz=280						
HYT	**Haines Junctio**	**37.08**	**49**	P	**P**	**21 23 39.5**	**+0.6**
HYT				IAmb	IAmb	21 23 41.4	
	comp=Z,5.6nm,0.6s						
HYT	**Haines Junctio**	**37.08**	**49**	P	**P**	**21 23 40.5**	**+1.6**
	baz=287						
N31M	**Braeburn, Yuko**	**37.69**	**47**	P	**P**	**21 23 45.4**	**+1.5**
N31M				IAmb	IAmb	21 23 46.8	
	comp=Z,10nm,0.8s						
N31M	**Braeburn, Yuko**	**37.69**	**47**	P	**P**	**21 23 45.7**	**+1.8**
	baz=287						
M31M	**Drury Creek, Y**	**38.11**	**46**	P	**P**	**21 23 48.5**	**+1.1**
M31M	**Drury Creek, Y**	**38.11**	**46**	P	**P**	**21 23 48.9**	**+1.5**
	baz=287						
WHY	**Whitehorse**	**38.35**	**48**	P	**P**	**21 23 50.6**	**+1.0**
WHY				IAmb	IAmb	21 23 52.2	
	comp=Z,5.2nm,0.7s						
WHY	**Whitehorse**	**38.35**	**48**	P	**P**	**21 23 51.2**	**+1.6**
	baz=289						
FARO	**Faro, Yukon**	**38.56**	**45**	P	**P**	**21 23 52.3**	**+1.1**
	baz=288						
A36M	**Sachs Harbour**	**39.10**	**29**	P	**P**	**21 23 55.8**	**+0.4**
A36M				IAmb	IAmb	21 23 57.7	
	comp=Z,13nm,0.8s						
A36M	**Sachs Harbour**	**39.10**	**29**	P	**P**	**21 23 56.3**	**+0.9**
	baz=283,SNR=17						
MMPY	**Sheldon Lake,**	**39.37**	**44**	P	**P**	**21 23 59.3**	**+1.5**
	baz=289						
SIT	**Sitka**	**39.40**	**54**	P	**P**	**21 23 59.2**	**+1.1**
	baz=293						
C36M	**Paulatuk**	**40.14**	**33**	P	**P**	**21 24 03.7**	**-0.3**
C36M	**Paulatuk**	**40.14**	**33**	P	**P**	**21 24 04.6**	**+0.6**
	baz=287,SNR=7.3						
ZALV	**Zalesovo Beam**	**41.14**	**302**	P	**P**	**21 24 11.0**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=57,slow=9.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**41.14**	**302**	*i* P	**P**	**21 24 10.6**	**-1.7**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GRNB	**Grenville Isla**	**43.55**	**56**	P	**P**	**21 24 32.4**	**+0.7**
GRNB				IAmb	IAmb	21 24 34.0	
	comp=Z,8.8nm,0.7s						
KWAJ	**Kwajalein Atol**	**43.68**	**162**	P	**P**	**21 24 34.6**	**+1.5**
KWAJ	**Kwajalein Atol**	**43.68**	**162**	P	**P**	**21 24 34.6**	**+1.5**
EUNU	**Eureka**	**44.30**	**13**	P	**P**	**21 24 37.8**	**+0.5**
WMQ	**Urumqi**	**44.65**	**288**	*eP*	**P**	**21 24 41.9**	**+1.3**
BBB	**Bella Bella**	**45.34**	**57**	P	**P**	**21 24 47.0**	**+1.3**
	comp=Z,13nm,1.0s,baz=291,slow=8.6,SNR=3.5						
RES	**Resolute Bay**	**46.00**	**20**	P	**P**	**21 24 51.1**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=310,slow=5.3,SNR=10						
KURK	**Kurchatov**	**46.04**	**301**	P	**P**	**21 24 50.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KURK	**Kurchatov**	**46.04**	**301**	P	**P**	**21 24 50.8**	**-0.4**
MK31	**Makanchi Array**	**46.14**	**294**	P	**P**	**21 24 51.5**	**-0.6**
MK31				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK31	**Makanchi Array**	**46.14**	**294**	P	**P**	**21 24 51.5**	**-0.6**
MKAR	**Makanchi Array**	**46.14**	**294**	P	**P**	**21 24 51.5**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=57,slow=6.6,SNR=30						
YKA	**Yellowknife Ar**	**46.43**	**40**	P	**P**	**21 24 54.8**	**+0.6**
	comp=Z,3.3nm,0.6s,baz=300,slow=7.5,SNR=55						
YKA				PcP	**PcP**	**21 26 24.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=302,slow=3.9,SNR=5.1						
YKA	**Yellowknife Ar**	**46.43**	**40**	P	**P**	**21 24 53.9**	**-0.2**
PZH	**PanZhiHua**	**47.13**	**259**	P	**P**	**21 25 00.8**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,90nm,5.7s						
KMI	**Kunming**	**47.53**	**257**	||P	**P**	**21 25 04.1**	**+0.8**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRVK	**Borovoye**	**49.08**	**307**	*ce*P	**P**	**21 25 13.8**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**49.08**	**307**	P	**P**	**21 25 13.8**	**-0.7**
E04D	**Cinebar**	**51.51**	**61**	P	**P**	**21 25 32.2**	**-0.6**
	baz=308						
L02E	**Cave Junction**	**53.68**	**66**	P	**P**	**21 25 49.8**	**+1.2**
	baz=310						
ARCES	**ARCESS Array B**	**53.92**	**340**	P	**P**	**21 25 48.2**	**-1.7**
	comp=Z,2.1nm,1.0s,baz=25,slow=9.0,SNR=1.3						
SHL	**Shillong**	**53.93**	**267**	P	**P**	**21 25 46.3**	**-4.6**
SHL				pmax	pmax		
	comp=Z,11nm,1.0s						
KSH	**Kashi**	**54.22**	**291**	P	P	21 25 57.3	+4.6
KSH				sP	sP	21 27 22.6	+5.5
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
J05D	**Fort Rock, OR**	**54.29**	**63**	P	**P**	**21 25 54.7**	**+1.5**
	baz=310,SNR=5.8						
L04D	**Klamath Falls**	**54.38**	**65**	P	**P**	**21 25 55.4**	**+1.5**
	baz=310						
YBH	**Yreka Blue Hor**	**54.46**	**66**	P	**P**	**21 25 56.0**	**+1.6**
	comp=Z,2.6nm,0.6s,baz=18,slow=5.8,SNR=7.9						
CHTO	**Chiang Mai**	**54.58**	**255**	P	**P**	**21 25 56.4**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CHTO	**Chiang Mai**	**54.58**	**255**	P	**P**	**21 25 56.4**	**+1.0**
CHTO				IAmb	IAmb	21 25 57.6	
	comp=Z,5.7nm,0.6s						
M02C	**Callahan**	**54.60**	**66**	P	**P**	**21 25 57.5**	**+2.2**
	baz=311						
CMAR	**Chiang Mai Arr**	**54.85**	**255**	P	**P**	**21 25 57.8**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=30,slow=7.2,SNR=20						
CMAR	**Chiang Mai Arr**	**54.85**	**255**	P	**P**	**21 25 58.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**54.85**	**255**	P	**P**	**21 25 58.4**	**+1.0**
TAPN	**Taplejung**	**55.27**	**271**	*eP*	**P**	**21 26 02.4**	**+1.8**
MSO	**Missoula**	**55.94**	**56**	P	**P**	**21 26 05.7**	**+0.9**
	baz=311						
PLID	**Pearl Lake**	**55.99**	**59**	P	**P**	**21 26 06.3**	**+0.9**
PLID				IAmb	IAmb	21 26 06.9	
	comp=Z,5.3nm,0.7s						
GUN	**Gumba**	**56.02**	**273**	*eP*	**P**	**21 26 07.2**	**+1.2**
RAMN	**Ramite**	**56.25**	**272**	*eP*	**P**	**21 26 08.4**	**+0.9**
FFC	**Flin Flon**	**56.35**	**43**	P	**P**	**21 26 08.5**	**+1.0**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FFC	**Flin Flon**	**56.35**	**43**	P	**P**	**21 26 08.5**	**+1.0**
KKN	**Kakani**	**56.48**	**274**	*eP*	**P**	**21 26 10.5**	**+1.4**
	comp=Z,14nm,0.5s						
PKI	**Pulchoki**	**56.56**	**273**	*eP*	**P**	**21 26 10.8**	**+1.1**
PKIN	**Phulchoki**	**56.56**	**273**	*eP*	**P**	**21 26 10.9**	**+1.2**
GKN	**Gorkha**	**56.73**	**274**	*eP*	**P**	**21 26 11.5**	**+0.7**
DANN	**Dangsing**	**57.04**	**275**	*eP*	**P**	**21 26 12.8**	**-0.2**
	comp=Z,16nm,0.6s						
EGMT	**Eagleton**	**57.28**	**53**	P	**P**	**21 26 14.9**	**+0.7**
	baz=312						
KOLN	**Koldanda**	**57.55**	**275**	*eP*	**P**	**21 26 15.9**	**-0.6**
PYUN	**Piuthan**	**57.69**	**276**	*eP*	**P**	**21 26 17.0**	**-0.5**
	comp=Z,19nm,0.9s						
GAR	**Garm**	**57.85**	**294**	IAmb	IAmb	21 26 20.9	
	comp=Z,3.7nm,0.6s						
BOZ	**Bozeman (W)**	**57.96**	**56**	P	**P**	**21 26 20.0**	**+1.0**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BOZ	**Bozeman (W)**	**57.96**	**56**	P	**P**	**21 26 20.0**	**+1.0**
BOZ	**Bozeman (W)**	**57.96**	**56**	P	**P**	**21 26 20.0**	**+1.0**
	baz=313,SNR=6.3						
NVAR	**Mina Array Bea**	**59.18**	**66**	P	**P**	**21 26 28.9**	**+1.3**
	comp=Z,2.1nm,0.5s,baz=301,slow=7.0,SNR=14						
ELK	**Elko**	**59.32**	**62**	P	**P**	**21 26 29.8**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=287,slow=8.5,SNR=5.9						
H17A	**Grant Village**	**59.32**	**56**	P	**P**	**21 26 30.3**	**+1.7**
	baz=314						
RLMT	**Red Lodge**	**59.50**	**55**	P	**P**	**21 26 30.1**	**+0.4**
	baz=314						
FINES	**FINESS Array B**	**60.42**	**335**	P	**P**	**21 26 33.7**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=54,slow=7.1,SNR=1.7						
FINES				PcP	**PcP**	**21 27 17.4**	**+0.1**
	comp=Z,2.4nm,1.0s,baz=48,slow=2.1,SNR=3.3						
R11A	**Troy Canyon, C**	**60.78**	**64**	P	**P**	**21 26 39.1**	**+0.7**
	baz=314						
BW06	**Boulder Array**	**60.98**	**57**	P	**P**	**21 26 40.4**	**+0.6**
	baz=315						
PDAR	**Pinedale Array**	**60.98**	**57**	P	**P**	**21 26 40.6**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=329,slow=1.8,SNR=30						
PDAR	**Pinedale Array**	**60.98**	**57**	P	**P**	**21 26 40.4**	**+0.6**
DUG	**Dugway, Tooele**	**61.03**	**61**	P	**P**	**21 26 41.1**	**+1.1**
	baz=315						
MPMC	**Manual Prospec**	**61.29**	**67**	P	**P**	**21 26 42.5**	**+0.6**
	baz=315						
TPNV	**Topopah Spring**	**61.38**	**66**	P	**P**	**21 26 43.2**	**+0.8**
	baz=315						
EDW2	**Edwards Air Fo**	**61.82**	**69**	P	**P**	**21 26 46.0**	**+0.8**
	baz=315						
ULM	**Lac du Bonnet**	**62.16**	**43**	P	**P**	**21 26 47.1**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=343,slow=11,SNR=3.3						
GSC	**Goldstone, Bar**	**62.21**	**68**	P	**P**	**21 26 48.6**	**+0.7**
	baz=315						
BFSC	**Mount Baldy Ra**	**62.47**	**69**	P	**P**	**21 26 50.4**	**+0.8**
	baz=315						
HEC	**Hector,Ludlow**	**62.82**	**68**	P	**P**	**21 26 52.8**	**+0.9**
	baz=316						
RSSD	**Black Hills**	**62.85**	**53**	P	**P**	**21 26 52.4**	**+0.3**
	baz=316						
GMRC	**Granite Mounta**	**63.24**	**67**	P	**P**	**21 26 55.7**	**+1.0**
	baz=316						
O20A	**White River Ci**	**63.55**	**58**	P	**P**	**21 26 57.0**	**+0.3**
	baz=316						
PFO	**Pinyon Flats O**	**63.61**	**69**	P	**P**	**21 26 57.6**	**+0.5**
	baz=316						
TPFO	**Pinon Flats**	**63.62**	**69**	P	**P**	**21 26 57.8**	**+0.6**
	baz=316						
IRM	**Iron Mountain**	**63.99**	**67**	P	**P**	**21 27 00.7**	**+1.2**
	baz=316						
N23A	**Red Feather La**	**64.21**	**56**	P	**P**	**21 27 01.5**	**+0.4**
	baz=317						
WUAZ	**Wupatki**	**65.16**	**64**	P	**P**	**21 27 07.8**	**+0.6**
	baz=317						
ISCO	**Idaho Springs**	**65.18**	**57**	P	**P**	**21 27 08.0**	**+0.6**
	baz=317						
EYMN	**Ely**	**65.78**	**43**	P	**P**	**21 27 10.3**	**-0.4**
	baz=321						
S22A	**4UR Ranch, Cre**	**66.04**	**59**	P	**P**	**21 27 13.6**	**+0.7**
	baz=318						
ECSD	**EROS Data Cent**	**66.73**	**49**	P	**P**	**21 27 16.3**	**-0.5**
	baz=320,SNR=5.7						
SDCO	**Great Sand Dun**	**66.75**	**58**	P	**P**	**21 27 18.2**	**+0.8**
	baz=318						
214A	**Organ Pipe Nat**	**66.93**	**67**	P	**P**	**21 27 18.7**	**+0.5**
	baz=317						
T25A	**Trinidad**	**67.78**	**58**	P	**P**	**21 27 24.4**	**+0.6**
	baz=319						
TUC	**Tucson**	**67.83**	**66**	P	**P**	**21 27 25.0**	**+1.0**
	baz=318						
ANMO	**Albuquerque**	**68.31**	**61**	P	**P**	**21 27 27.7**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=319,slow=11,SNR=3.3						
ANMO	**Albuquerque**	**68.31**	**61**	P	**P**	**21 27 27.4**	**+0.4**
	baz=318						
SCHQ	**Schefferville**	**68.50**	**25**	P	**P**	**21 27 27.5**	**-0.1**
	comp=Z,3.0nm,0.4s,baz=358,slow=5.3,SNR=15						
121A	**Cookes Peak, D**	**69.37**	**64**	P	**P**	**21 27 34.5**	**+1.0**
	baz=319						
MNTX	**Cornudas Mount**	**71.34**	**63**	P	**P**	**21 27 45.7**	**+0.5**
	baz=320						
WMOK	**Wichita Mounta**	**72.57**	**56**	P	**P**	**21 27 52.3**	**-0.2**
	baz=321						
WRA	**Warramunga Arr**	**73.35**	**200**	P	**P**	**21 27 56.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=17,slow=6.1,SNR=7.7						
CCM	**Cathedral Cave**	**73.70**	**49**	P	**P**	**21 27 59.2**	**+0.2**
	baz=324						
TXAR	**Lajitas Array**	**74.09**	**63**	P	**P**	**21 28 02.4**	**+0.9**
	comp=Z,3.0nm,0.5s,baz=296,slow=4.5,SNR=52						
TXAR				pP	**pP**	**21 29 02.5**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=282,slow=5.4,SNR=2.8						
U40A	**Yellville**	**74.28**	**51**	P	**P**	**21 28 01.6**	**-0.8**
	baz=323,SNR=6.1						
O48B	**Farmland**	**74.67**	**44**	P	**P**	**21 28 03.7**	**-0.8**
	baz=326						
MIAR	**Mount Ida**	**75.37**	**53**	P	**P**	**21 28 08.4**	**-0.2**
	baz=323						
W41B	**Gary Mavity, V**	**75.52**	**51**	P	**P**	**21 28 09.3**	**-0.2**
	baz=324						
M53A	**WI Miller and**	**75.55**	**40**	P	**P**	**21 28 09.3**	**-0.3**
	baz=328						
T47A	**Sharon Grove**	**76.49**	**47**	P	**P**	**21 28 14.4**	**-0.4**
T47A				IAmb	IAmb	21 28 15.8	
	comp=Z,4.8nm,0.7s						
ASAR	**Alice Springs**	**77.05**	**200**	P	**P**	**21 28 17.9**	**0.0**
	comp=Z,0.5nm,0.5s,baz=16,slow=5.2,SNR=6.6						
ASAR	**Alice Springs**	**77.05**	**200**	P	**P**	**21 28 18.0**	**0.0**
VTS	**Vitosha**	**77.48**	**326**	P	**P**	**21 28 20.6**	**+0.1**
VTS				pmax	pmax		
	comp=Z,8.0nm,1.6s						
VTS	**Vitosha**	**77.48**	**326**	P	**P**	**21 28 20.6**	**+0.1**
VTS				IAmb	IAmb	21 29 40.1	
	comp=Z,8.3nm,1.6s						
TZTN	**Tazewell**	**78.45**	**45**	P	**P**	**21 28 25.3**	**-0.5**
	baz=327						
PLCA	**Paso Flores**	**147.03**	**89**	PKPbc	**PKPbc**	**21 36 05.3**	**0.0**
	comp=Z,2.9nm,0.8s,baz=286,slow=5.0,SNR=5.1						

*IDC **21** 21:18:58.6±6.4, 23°.72S×66°.72W, h0km, mb3.8/1, mb1 3.8/2, mb1mx3.5/23, mbtmp3.7/2, ML3.7/1, Error ellipse: s-maj=185.3km s-min=51.2km az=56.0*
*SCB **21** 21:19:33.4±1.3, 21°.40S×66°.85W, h175km±11km, ML3.2/4, Error ellipse: s-maj=5.0km s-min=4.4km az=0.0*

ISC 21 21:19:30.8±1.2, 21°.41S±0°.07×66°.79W±0°.06, h200km, n17, σ1°61/20, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.08**	**82**	P	**Pn**	**21 20 03.2**	**+1.5**
MOCB				S	**Sn**	**21 20 24.4**	**-1.1**
MOCB				IAML		21 20 27.8	
	145nm,0.3s						
YJA	**Yavi**	**1.41**	**123**	P	**Pn**	**21 20 05.6**	**+1.4**
LVC	**Limon Verde**	**2.30**	**238**	P	**Pn**	**21 20 14.4**	**+1.5**
PB09	**IPOC Station P**	**2.32**	**260**	P	**Pn**	**21 20 14.8**	**+1.9**
PB08	**IPOC Station P**	**2.55**	**299**	P	**Pn**	**21 20 17.6**	**+1.9**
PB08				S	**Sn**	**21 20 49.6**	**-1.0**
PB08				IAML		21 20 56.2	
	33nm,0.2s						
PB06	**IPOC Station P**	**2.89**	**243**	P	**Pn**	**21 20 21.0**	**+1.7**
PB02	**IPOC Station P**	**2.90**	**271**	P	**Pn**	**21 20 20.9**	**+1.5**
PB02				S	**Sn**	**21 20 56.0**	**-1.3**
PB02				IAML		21 20 58.4	
	135nm,0.4s						
PB07	**IPOC Station P**	**2.90**	**263**	P	**Pn**	**21 20 21.0**	**+1.5**
PB15	**IPOC Station P**	**3.06**	**234**	P	**Pn**	**21 20 23.0**	**+1.6**
HMBC	**Humberstone**	**3.11**	**291**	P	**Pn**	**21 20 23.0**	**+1.1**
HMBC				S	**Sn**	**21 21 00.1**	**-1.7**
HMBC				IAML		21 21 03.3	
	58nm,0.2s						
PB11	**IPOC Station P**	**3.15**	**301**	P	**Pn**	**21 20 23.9**	**+1.5**
PB16	**IPOC Station P**	**3.99**	**320**	P	**Pn**	**21 20 34.9**	**+1.8**
PB10	**IPOC Station P**	**4.07**	**238**	P	**Pn**	**21 20 34.0**	**+0.6**
LPAZ	**La Paz**	**5.25**	**346**	Pn	**Pn**	**21 20 50.1**	**+1.0**
	0.6nm,0.3s,baz=180,slow=9.1,SNR=8.5						
LPAZ	**La Paz**	**5.25**	**346**	P	**Pn**	**21 20 50.7**	**+1.6**
TORD	**Torodi Ar. Bea**	**75.47**	**69**	P	P	21 30 49.5	-3.9
	0.5nm,0.6s,baz=251,slow=5.7,SNR=11						
MKAR	**Makanchi Array**	**144.38**	**37**	PKPbc	**PKPab**	**21 38 39.9**	**-1.9**
	0.2nm,0.5s,baz=303,slow=2.9,SNR=2.4						

IDC 21 21:33:52.2±4.4, 5°.76N×94°.15E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/33, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=203.7km s-min=29.2km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.59**	**122**	Pn	Pn	21 35 19.3	+2.4
	1.5nm,0.3s,baz=322,slow=17,SNR=4.7						
H08S3	**Diego Garcia H**	**25.38**	**239**	T	T	22 06 34.6	
	baz=58,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**25.38**	**239**	T	T	22 06 30.7	
	baz=58,slow=76,SNR=4.8						
H08S1	**Diego Garcia H**	**25.40**	**239**	T	T	22 06 31.5	
	baz=58,slow=76,SNR=3.8						
MKAR	**Makanchi Array**	**42.14**	**348**	P	P	21 41 46.5	+0.1
	0.2nm,0.7s,baz=167,slow=7.2,SNR=1.6						
WRA	**Warramunga Arr**	**47.05**	**124**	P	P	21 42 25.0	-1.1
	0.5nm,0.8s,baz=306,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**48.58**	**129**	P	P	21 42 37.9	+0.1
	0.6nm,0.6s,baz=301,slow=7.3,SNR=7.3						

*IDC **21** 21:44:04.2±3.4, 23°.08S×68°.83W, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.4/26, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=95.1km s-min=58.6km az=57.0*
*GUC **21** 21:44:26.0±0.6, 21°.62S×68°.42W, h120km±4km, ML3.6*

ISC 21 21:44:25.9±1.1, 21°.61S±0°.04×68°.6W±0°.1, h131km±9km,

n19, σ0°74/31, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.65**	**254**	⇑*i*P	**Pn**	**21 44 46.3**	**+0.1**
PB09				*e*S	**Sn**	**21 45 01.7**	**+0.1**
LVC	**Limon Verde**	**1.04**	**197**	*e*P	**Pn**	**21 44 49.1**	**-0.6**
LVC				*e*S	**Sn**	**21 45 06.7**	**-1.1**
PB07	**IPOC Station P**	**1.22**	**264**	*e*P	**Pn**	**21 44 51.5**	**+0.2**
PB07				*e*S	**Sn**	**21 45 11.0**	**+0.5**
PB07				IAML		21 45 12.2	
	comp=N,1μm,0.2s						
PB02	**IPOC Station P**	**1.26**	**283**	⇑*i*P	**Pn**	**21 44 51.8**	**+0.1**
PB02				*e*S	**Sn**	**21 45 11.7**	**+0.5**
PB02				IAML		21 45 13.4	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**1.43**	**220**	*e*P	**Pn**	**21 44 53.6**	**+0.1**
PB06				*e*S	**Sn**	**21 45 14.8**	**+0.3**
PB06				IAML		21 45 16.1	
	comp=E,518nm,0.3s						
PB08	**IPOC Station P**	**1.56**	**340**	⇑*i*P	**Pn**	**21 44 55.5**	**+0.3**
PB08				*e*S	**Sn**	**21 45 17.8**	**+0.3**
PB08				IAML		21 45 20.0	
	comp=N,308nm,0.3s						
PATCX	**Punta Patache**	**1.67**	**298**	⇑*i*P	**Pn**	**21 44 56.4**	**+0.3**
PATCX				*e*S	**Sn**	**21 45 20.0**	**+0.8**
PATCX				IAML		21 45 21.9	
	comp=N,2μm,0.3s						
PB15	**IPOC Station P**	**1.79**	**207**	*e*P	**Pn**	**21 44 58.3**	**+0.7**
PB15				*e*S	**Sn**	**21 45 22.6**	**+0.7**
HMBC	**Humberstone**	**1.81**	**317**	*e*P	**Pn**	**21 44 57.4**	**-0.3**
HMBC				*e*S	**Sn**	**21 45 22.0**	**-0.1**
HMBC				IAML		21 45 22.9	
	comp=E,508nm,0.3s						
TA01	**Diego Aracena**	**1.83**	**305**	*e*P	**Pn**	**21 44 57.7**	**-0.1**
TA01				*e*S	**Sn**	**21 45 22.4**	**+0.2**
TA02	**Huaiquique**	**1.98**	**312**	*e*P	**Pn**	**21 44 59.1**	**-0.5**
TA02				*e*S	**Sn**	**21 45 24.8**	**-0.6**
GO01	**Chusmiza**	**2.02**	**343**	*e*P	**Pn**	**21 45 00.5**	**-0.2**
PB11	**IPOC Station P**	**2.10**	**331**	*e*P	**Pn**	**21 45 01.0**	**-0.3**
PB11				*e*S	**Sn**	**21 45 27.7**	**-0.8**
PB11				IAML		21 45 30.3	
	comp=N,461nm,0.3s						
PB16	**IPOC Station P**	**3.38**	**345**	*e*P	**Pn**	**21 45 18.3**	**+0.3**
PB12	**IPOC Station P**	**3.41**	**331**	*e*P	**Pn**	**21 45 16.3**	**-1.7**
GO02	**Mina Guanaco**	**3.65**	**195**	*e*P	**Pn**	**21 45 21.2**	**-0.2**
LPAZ	**La Paz**	**5.32**	**5**	Pn	**Pn**	**21 45 45.6**	**+1.8**
	comp=N,0.2nm,0.3s,baz=185,slow=11,SNR=2.3						
TORD	**Torodi Ar. Bea**	**77.10**	**70**	P	**P**	**21 56 04.0**	**-1.2**
	comp=N,0.6nm,0.8s,baz=253,slow=5.5,SNR=4.4						
YKA	**Yellowknife Ar**	**91.40**	**340**	P	**P**	**21 57 17.4**	**+1.0**
	comp=N,0.1nm,0.4s,baz=130,slow=4.7,SNR=2.2						

*MDD **21** 21:44:30.0±1.3, 36°.78N×11°.01W, h0km, M_mb3.0/5, Error ellipse: s-maj=9.5km s-min=10.2km az=173.0*
*IGIL **21** 21:44:31.6, 36°.66N×11°.17W, h21km, ML1.7*
*INMG **21** 21:44:32.1±1.1, 36°.67N×11°.06W, h10km, ML1.7, Error ellipse: s-maj=7.2km s-min=4.3km az=89.0*
*CNRM **21** 21:44:39.1, 36°.04N×10°.68W, h172km, ml3.2*

ISC 21 21:44:26.7±2.1, 36°.60N±0°.05×11°.2W±0°.1, h10km, n28, σ2°03/42, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.95**	**74**	*e*Pn	**Pn**	**21 45 01.8**	**+2.0**
PFVI				*e*Sn	**Sn**	**21 45 24.7**	**+0.4**
PFVI				A	A	21 45 24.8	
	3.4nm,0.5s						
MORF	**Marmelete**	**2.13**	**70**	*e*P	**Pn**	**21 45 04.3**	**+1.9**
MORF				*e*S	**Sn**	**21 45 28.3**	**-0.7**
MORF				IAML		21 45 29.3	
	comp=E,5.2nm,0.1s						
MORF	**Marmelete**	**2.13**	**70**	*e*Pn	**Pn**	**21 45 04.5**	**+2.1**
MORF				*e*Sn	**Sn**	**21 45 28.8**	**-0.2**
MORF				A	A	21 45 29.6	
	comp=E,4.5nm,0.1s						
PTEO	**Sao Teotonio**	**2.17**	**64**	*e*Pn	**Pn**	**21 45 05.1**	**+2.3**
PTEO				*e*Sn	**Sn**	**21 45 29.4**	**-0.3**
PTEO				A	A	21 45 33.1	
	comp=E,4.0nm,0.6s						
PNCL	**Nicolau / Gran**	**2.58**	**54**	*e*Pn	**Pn**	**21 45 10.9**	**+2.4**
PNCL				*e*Sn	**Sn**	**21 45 39.1**	**-0.9**
PNCL				A	A	21 45 44.9	
	comp=E,2.1nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.67**	**75**	*e*Pn	**Pn**	**21 45 10.0**	**+0.2**
PBDV				*e*Sn	**Sn**	**21 45 42.4**	**+0.2**
PBDV				A	A	21 45 44.7	
	comp=E,1.9nm,0.7s						
PCVE	**Castro Verde**	**2.70**	**67**	*e*Pn	**Pn**	**21 45 12.2**	**+2.0**
PCVE				*e*Sn	**Sn**	**21 45 42.3**	**-0.6**
PCVE				A	A	21 45 46.3	
	comp=E,1.8nm,0.6s						
PMAFR	**Mafra**	**2.78**	**32**	*e*Sn	**Sn**	**

*MEX **21** 22:05:40.8±0.7, 14.2°42N×92.2°13W, h80^km±10^km, MD3.8*
ISC 21 22:05:43.6±1.3, 14°6N±0.1°×92°19W±0.07°, h66^km±7^km, n16, σ2°12/23, mb3.4/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**0.29**	**346**	*i*	P	**Pn**	**22 05 53.1**	**-1.2**
THIG				*i*	S	**Sn**	**22 06 03.0**	**+0.9**
CHUJ	**Union Juarez**	**0.47**	**10**	*i*	P	**Pn**	**22 05 55.1**	**-1.1**
CHUJ				*i*	S	**Sn**	**22 06 06.3**	**+1.0**
PATR	**El Naranjo**	**0.49**	**355**	*i*	P	**Pn**	**22 05 55.0**	**-1.3**
PATR				*i*	S	**Sn**	**22 06 06.4**	**+0.9**
PAVE	**Pavencul**	**0.57**	**1**	*i*	P	**Pn**	**22 05 56.5**	**-0.5**
PAVE				*i*	S	**Sn**	**22 06 08.6**	**+1.7**
STG3	**Santiaguito 3,**	**0.61**	**82**	*e*	P	**Pn**	**22 05 56.4**	**-1.0**
FUG	**Fuego 3**	**1.32**	**97**	*e*	P	**Pn**	**22 06 05.0**	**-1.2**
PCIG		**1.46**	**317**	*i*	P	**Pn**	**22 06 07.1**	**-0.9**
PCIG				*i*	S	**Sn**	**22 06 26.2**	**-0.1**
CCIG	**Comitan**	**1.65**	**2**	*e*	P	**Pn**	**22 06 09.3**	**-1.3**
CCIG				*e*	S	**Sn**	**22 06 32.4**	**+1.3**
NBG	**Las Nubes**	**1.79**	**91**	*e*	P	**Pn**	**22 06 12.1**	**-0.4**
NBG				*e*	S	**Sn**	**22 06 38.8**	**+4.4**
CMIG	**Matias Romero**	**3.57**	**314**	Pn		**Pn**	**22 06 36.1**	**-0.4**
	1.0nm,0.3s,baz=125,slow=13,SNR=7.3							
CMIG					Sn	**Sn**	**22 07 23.3**	**+5.8**
	3.9nm,0.3s,baz=94,slow=21,SNR=9.5							
TXAR	**Lajitas Array**	**18.08**	**326**	P		**Pn**	**22 09 52.2**	**+1.8**
	0.0nm,0.3s,baz=159,slow=11,SNR=2.8							
TKL	**Tuckaleechee C**	**22.27**	**18**	LR		LR	22 19 36.7	
	comp=Z,30nm,18.1s,baz=220,slow=38							
NVAR	**Mina Array Bea**	**33.07**	**321**	P		**P**	**22 12 14.9**	**+1.6**
	0.2nm,0.3s,baz=142,slow=7.6,SNR=2.4							
YKA	**Yellowknife Ar**	**50.38**	**347**	P		**P**	**22 14 31.9**	**-1.9**
	0.1nm,0.4s,baz=151,slow=7.7,SNR=4.0							
INK	**Inuvik**	**59.79**	**343**	P		**P**	**22 15 40.5**	**-1.0**
	0.5nm,0.7s,baz=126,slow=5.2,SNR=2.1							
CMAR	**Chiang Mai Arr**	**145.34**	**341**	PKPbc		**PKPbc**	**22 25 12.4**	**-2.4**
	0.6nm,0.7s,baz=339,slow=4.8,SNR=4.5							

*MAN **21** 22:10:49.5, 13.2°28N×120.2°25E, h7^km, mb4.7, ML3.6, MS3.5, Hypocentre not reviewed by the ISC*
*IDC **21** 22:10:53.2±3.4, 14.4°40N×121.7°42E, h104^km±15^km, mb3.2/3, mb1 3.5/3, mb1mx3.0/43, mbtmp3.5/3, Error ellipse: s-maj=76.6km s-min=26.5km az=41.0*
ISC 21 22:10:55.0±1.2, 13°35N±0.09°×120°48E±0.09°, h70^km, n14, σ2°26/15, mb3.3/3, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LUBP	**Lubang**	**0.44**	**329**	↓*e*	P	Pn	22 11 00.5	-6.8
PGP	**Puerto Galera**	**0.49**	**72**	↓*e*	P	Pn	22 11 02.7	-5.1
PGP				*i*	S	**Sn**	**22 11 12.2**	**-4.9**
TGY	**Tagaytay City**	**0.87**	**31**	P		**Pn**	**22 11 10.4**	**-1.6**
	362nm,0.3s,baz=18,slow=3.2,SNR=23							
TGY				S		**Sn**	**22 11 24.0**	**-0.6**
	278nm,0.3s,baz=15,slow=20,SNR=20							
TGY	**Tagaytay City**	**0.87**	**31**	↓*e*	P	**Pn**	**22 11 10.3**	**-1.6**
TGY				*i*	S	**Sn**	**22 11 26.0**	**+1.4**
MACP	**Maragondon, Ca**	**0.94**	**14**	*e*	P	**Pn**	**22 11 09.9**	**-2.9**
LQP	**Lukban**	**1.28**	**54**	↑*e*	P	**Pn**	**22 11 16.1**	**-1.2**
LQP				*e*	S	**Sn**	**22 11 37.5**	**+3.6**
BOAC	**Boac**	**1.33**	**85**	*e*	P	**Pn**	**22 11 16.9**	**-0.9**
QVP	**Quezon City--P**	**1.36**	**22**	*e*	P	**Pn**	**22 11 17.8**	**-0.4**
BUSP	**Coron**	**1.37**	**192**	*e*	P	Pn	22 11 13.7	-4.5
JCNP	**Jose Panganiba**	**2.35**	**66**	*e*	P	**Pn**	**22 11 31.4**	**0.0**
SMPP	**San Manuel, Pa**	**2.79**	**4**	*e*	P	**Pn**	**22 11 36.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**21.32**	**287**	P		**P**	**22 15 38.4**	**+2.1**
	0.8nm,0.6s,baz=101,slow=9.2,SNR=7.6							
WRA	**Warramunga Arr**	**35.78**	**157**	P		**P**	**22 17 47.5**	**-0.2**
	0.2nm,0.5s,baz=336,slow=9.5,SNR=5.2							
ASAR	**Alice Springs**	**39.06**	**160**	P		**P**	**22 18 16.4**	**+1.0**
	0.4nm,0.4s,baz=336,slow=6.9,SNR=6.7							

*IDC **21** 22:28:01.6±1.0, 51.9°39N×178.2°15W, h0^km, mb3.7/10, mb1 4.0/12, mb1mx3.7/37, mbtmp3.7/12, ML3.6/2, MS3.3/9, Ms1 3.3/9, ms1mx2.8/103, Error ellipse: s-maj=34.2km s-min=16.7km az=169.0*
*AEIC **21** 22:28:01±2.2, 51.6°N±0.1°×178.8°W±0.08, h8^km±2^km, Error ellipse: s-maj=15.9km s-min=5.7km az=161.0*
*NEIC **21** 22:28:03.2±2.0, 51.6°N±0.1°×178.37°W±0.09, h10^km±1^km, mb3.9/57, ML4.3/6, ML4.2/28(AEIC), Error ellipse: s-maj=19.7km s-min=6.9km az=338.0*
ISC 21 22:28:02.9±0.7, 51.60N±0.09°×178.42W±0.03, h10^km, n109, σ1°19/93, mb3.9/16, MS3.4/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GALAA	**Gareloi Lava P**	**0.28**	**307**			**Pg**	**22 28 06.8**	**-1.7**
GAEA	**Gareloi East**	**0.28**	**312**			**Pg**	**22 28 06.8**	**-1.8**
GASW	**Gareloi Southw**	**0.30**	**304**			**Pg**	**22 28 07.3**	**-2.2**
GANO	**Gareloi North**	**0.33**	**313**			**Pg**	**22 28 07.4**	**-2.1**
TASE	**Tanaga Southea**	**0.34**	**44**			**Pg**	**22 28 09.1**	**-0.6**
TAFL	**Tanaga Flats**	**0.36**	**63**			**Pg**	**22 28 09.7**	**-0.4**
TANO	**Tanaga North**	**0.37**	**30**			**Pg**	**22 28 09.4**	**-0.9**
TAFP	**Tanaga Falls P**	**0.41**	**41**			**Pg**	**22 28 09.9**	**-1.1**
TAPA	**Tanaga Point A**	**0.43**	**59**			**Pg**	**22 28 10.8**	**-0.6**
KIMD	**Kanaga Island**	**0.75**	**77**			**Pg**	**22 28 16.2**	**-1.2**
KICM	**Kanaga Island**	**0.82**	**66**			**Pg**	**22 28 17.7**	**-1.1**
KIWB	**Kanaga Island**	**0.83**	**71**	Pg		**Pg**	**22 28 17.4**	**-1.4**
KIWB				Sg		**Sg**	**22 28 28.2**	**-1.5**
KINC	**Kanaga Island**	**0.87**	**67**			**Pg**	**22 28 18.3**	**-1.4**
ADK	**Adak**	**1.11**	**74**	Pg		**Pg**	**22 28 21.8**	**-2.5**
ADK				Sg		**Sg**	**22 28 37.3**	**-1.5**
ADK				IAML			22 28 42.6	
	6µm,0.5s							
ADK				IAML			22 28 45.1	
	5µm,0.4s							
GSCK	**Great Sitkin C**	**1.46**	**73**			**Pn**	**22 28 27.9**	**-1.4**
GSTD	**Great Sitkin T**	**1.48**	**71**			**Pn**	**22 28 27.9**	**-1.8**
GSTD						**Sn**	**22 28 48.5**	**-0.7**
GSTR	**Great Sitkin T**	**1.54**	**70**	Pn		**Pn**	**22 28 29.1**	**-1.4**
ATKA	**Atka Island**	**2.68**	**75**			**Pn**	**22 28 45.3**	**-0.9**
ATKA						**Sn**	**22 29 19.3**	**+0.7**
KOKL	**Mount Kliuchef**	**2.71**	**73**			**Pn**	**22 28 45.9**	**-0.6**
KOFP	**Korovin Flat P**	**2.76**	**74**			**Pn**	**22 28 47.3**	**+0.1**
SHEM	**Shemya Is, Ala**	**4.75**	**287**	Pn		**Pn**	**22 29 13.8**	**-0.6**
	3.9nm,0.3s,baz=262,slow=16,SNR=8.9							
SHEM					Sn	**Sn**	**22 30 06.8**	**-2.7**
	6.1nm,0.3s,baz=282,slow=19,SNR=3.6							
SHEM					LR	LR	22 31 08.2	
	comp=Z,219nm,19.8s,baz=114,slow=38							
SMY	**Shemya**	**4.75**	**287**	Pn		**Pn**	**22 29 14.7**	**+0.2**
SMY					IAML		22 30 25.2	
	comp=E,176nm,2.1s							
NIKH	**Nikolski High**	**6.03**	**73**			**Pn**	**22 29 32.1**	**0.0**
SPIA	**Saint Paul Isl**	**7.34**	**37**	Pn		**Pn**	**22 29 48.6**	**-1.5**
UNV	**Unalaska Valle**	**7.58**	**68**	Pn		**Pn**	**22 29 53.0**	**-0.3**
AKGG	**Akutan Green G**	**7.95**	**66**			**Pn**	**22 29 58.0**	**-0.5**
PETK	**Petropavlovsk-**	**14.66**	**285**	LR		LR	22 38 25.8	
	comp=E,31nm,18.2s,baz=101,slow=42							
O18K	**Koktuh Hills**	**15.40**	**49**			**Pn**	**22 31 40.2**	**+0.2**
N18K	**Kilae Creek**	**15.43**	**45**			**P**	**22 31 46.9**	**+1.9**
N18K					IAmb	IAmb	22 31 50.5	
	comp=Z,5.3nm,0.8s							
OHAK	**Old Harbor**	**15.62**	**59**	Pn		**Pn**	**22 31 41.0**	**-2.0**
Q19K	**Cape Douglas,**	**15.84**	**53**	Pn		**Pn**	**22 31 46.3**	**+0.5**
KDAK	**Kodiak Island**	**16.10**	**57**	Pn		**Pn**	**22 31 46.0**	**-3.1**
	comp=Z,1.2nm,0.3s,baz=258,slow=6.0,SNR=11							
KDAK					LR	LR	22 38 50.3	
	comp=Z,129nm,19.2s,baz=254,slow=40							
KDAK	**Kodiak Island**	**16.10**	**57**	Pn		**Pn**	**22 31 46.1**	**-3.1**
KDAK					IAmb	IAmb	22 32 10.8	
	comp=Z,20nm,1.2s							
P19K	**Oil Pt**	**16.27**	**50**	Pn		**Pn**	**22 31 50.1**	**-1.2**
TTA	**Tatalina**	**16.49**	**38**			**Pn**	**22 31 54.1**	**-0.1**
L19K	**White Mountain**	**16.57**	**41**			**Pn**	**22 31 54.9**	**-0.1**
M19K	**Big River Lodg**	**16.63**	**42**	Pn		**Pn**	**22 31 56.0**	**+0.2**
RSO	**Redoubt South**	**16.76**	**48**	P		**P**	**22 32 00.3**	**+0.3**
CNPM	**China Poot**	**17.20**	**52**	Pn		**Pn**	**22 32 02.0**	**-1.0**
BRLK	**Bradley Lake**	**17.43**	**51**	Pn		**Pn**	**22 32 05.4**	**-0.6**
BRLK					IAmb	IAmb	22 32 19.4	
	comp=Z,8.5nm,0.9s							
K20K	**Telida**	**17.47**	**38**			**Pn**	**22 32 06.1**	**-0.3**
J20K	**Nowinta River**	**17.88**	**36**	P		**P**	**22 32 11.6**	**-0.5**
PPLA	**Purkeypile**	**17.99**	**41**			**P**	**22 32 15.3**	**+1.8**
PPLA					IAmb	IAmb	22 32 38.7	
	comp=Z,20nm,1.4s							
SEW	**Seward**	**18.22**	**51**			**Pn**	**22 32 15.4**	**-0.2**
SEW					IAmb	IAmb	22 32 32.0	
	comp=Z,7.0nm,0.7s							
CAST	**Castle Rocks**	**18.28**	**40**	P		**P**	**22 32 16.4**	**-0.1**
CAST					IAmb	IAmb	22 32 28.2	
	comp=Z,6.9nm,0.8s							
KTH	**Kantishna Hill**	**18.80**	**40**	P		**P**	**22 32 22.0**	**-0.3**
PWL	**Port Wells**	**18.95**	**49**	P		**P**	**22 32 23.2**	**-0.7**
PWL					IAmb	IAmb	22 32 49.4	
	comp=Z,12nm,1.3s							
GHO	**Glory Hole Cre**	**18.96**	**46**	P		**P**	**22 32 23.6**	**-0.4**
MA2	**Magadan**	**19.01**	**307**	LR		LR	22 39 49.3	
	comp=Z,36nm,18.5s,baz=90,slow=37							
BPAW	**Bear Paw Mtn.**	**19.03**	**38**	P		**Pn**	**22 32 25.3**	**-0.2**
BPAW					IAmb	IAmb	22 32 31.1	
	comp=Z,5.3nm,0.8s							
IMAR	**Indian Mountai**	**19.07**	**32**	P		**P**	**22 32 24.6**	**-0.5**
H21K	**Melozitna Rive**	**19.19**	**33**	P		**Pn**	**22 32 27.6**	**+0.2**
I21K	**Tanana**	**19.21**	**35**	P		**Pn**	**22 32 27.8**	**+0.2**
I21K					IAmb	IAmb	22 32 28.6	
	comp=Z,7.7nm,1.1s							
SML	**Sawmill**	**19.23**	**46**	P		**Pn**	**22 32 27.3**	**-0.7**
SEY	**Seymchan**	**19.25**	**317**	P		**Pn**	**22 32 30.1**	**+2.0**
	comp=Z,0.0nm,0.3s,baz=118,slow=9.9,SNR=8.0							
GLI	**Glacier Island**	**19.55**	**49**	P		**P**	**22 32 29.3**	**-1.1**
GLI					IAmb	IAmb	22 32 42.7	
	comp=Z,5.8nm,0.7s							
RND	**Reindeer**	**19.58**	**41**	P		**P**	**22 32 30.5**	**-0.4**
MCK	**McKinley**	**19.68**	**41**	P		**Pn**	**22 32 32.5**	**-0.8**
MCK					IAmb	IAmb	22 32 37.4	
	comp=Z,5.3nm,0.9s							
SCM	**Sheep Creek Mo**	**19.70**	**47**	P		**P**	**22 32 31.3**	**-0.8**
SCM					IAmb	IAmb	22 32 38.4	
	comp=Z,5.3nm,0.6s							
FID	**Port Fidalgo**	**19.81**	**50**	P		**P**	**22 32 32.9**	**-0.4**
FID					IAmb	IAmb	22 32 38.7	
	comp=Z,7.3nm,0.9s							
I23K	**Minto, Yukon-K**	**20.15**	**37**		IAmb	IAmb	22 32 42.9	
	comp=Z,6.2nm,0.8s							
KLU	**Klutina**	**20.25**	**48**		IAmb	IAmb	22 32 53.4	
	comp=Z,4.7nm,0.8s							
M24K	**Tolsona, Glenn**	**20.30**	**46**	P		Pn	22 32 39.5	-1.1
H23K	**Yukon River**	**20.41**	**35**	P		**P**	**22 32 40.5**	**+0.6**
H23K					IAmb	IAmb	22 33 07.1	
	comp=Z,7.5nm,1.1s							
CCB	**Clear Creek Bu**	**20.51**	**39**	P		**P**	**22 32 41.0**	**+0.1**
CCB					IAmb	IAmb	22 32 54.6	
	comp=Z,10nm,1.4s							
PAX	**Paxson**	**20.86**	**44**	P		**P**	**22 32 44.5**	**-0.3**
PAX					IAmb	IAmb	22 32 47.9	
	comp=Z,6.4nm,0.8s							
N25K	**Chitina, Valde**	**20.89**	**48**	P		**P**	**22 32 44.9**	**-0.3**
N25K					IAmb	IAmb	22 33 00.8	
	comp=Z,5.5nm,1.1s							
IL31		**20.92**	**39**	P		**P**	**22 32 45.3**	**+0.1**
IL31					IAmb	IAmb	22 33 03.1	
	comp=Z,5.2nm,0.8s							
ILAR	**Eielson Array**	**20.92**	**39**	P		**P**	**22 32 46.1**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=236,slow=9.1,SNR=4.8							
COLD	**Coldfoot**	**20.94**	**31**	P		**P**	**22 32 45.0**	**-0.5**
H24K	**Noodor Dome**	**21.02**	**36**	P		**P**	**22 32 46.7**	**+0.3**
GLB	**Gilahina Butte**	**21.23**	**49**	IAmb		IAmb	22 32 56.8	
	comp=Z,6.9nm,1.1s							
VRDI	**Verde Repeater**	**21.35**	**50**	P		**P**	**22 32 49.4**	**-0.8**
RIDG	**Independent Ri**	**21.38**	**42**	P		**P**	**22 32 49.4**	**-0.9**
MCARA	**McCarthy VSAT**	**21.58**	**49**	P		**P**	**22 32 52.3**	**-0.1**
MCARA					IAmb	IAmb	22 32 59.0	
	comp=Z,7.9nm,1.0s							
M26K	**Nabesna, AK**	**21.81**	**47**	P		**P**	**22 32 54.1**	**-0.9**
M26K					IAmb	IAmb	22 33 07.2	
	comp=Z,6.7nm,1.2s							
SCRK	**Sand Creek**	**21.81**	**42**	P		**P**	**22 32 53.5**	**-1.6**
SCRK					IAmb	IAmb	22 33 16.7	
	comp=Z,5.1nm,0.8s							
TOLK	**Toolik Lake Re**	**21.96**	**28**	P		**P**	**22 32 57.0**	**+0.5**
GRNC	**Granite Creek**	**22.09**	**51**	P		**P**	**22 32 58.1**	**0.0**
GRNC					IAmb	IAmb	22 33 03.3	
	comp=Z,5.0nm,0.9s							
M27K	**Edge Creek, AK**	**22.31**	**47**	P		**P**	**22 33 01.2**	**+0.8**
L27K	**Beaver Creek,**	**22.49**	**45**	IAmb		IAmb	22 33 11.8	
	comp=Z,5.4nm,1.1s							
BCAR	**Beaver Creek A**	**22.51**	**45**	P		**P**	**22 33 01.7**	**-0.8**
BMAR	**Burnt Mountain**	**22.92**	**33**	P		**P**	**22 33 06.2**	**-0.5**
EGAK	**Eagle**	**23.23**	**41**	P		**P**	**22 33 08.8**	**-1.0**
DAWY	**Dawson**	**23.78**	**43**	P		**P**	**22 33 15.6**	**+0.2**
DAWY					IAmb	IAmb	22 33 18.8	
	comp=Z,3.0nm,0.9s							
INK	**Inuvik**	**27.14**	**35**	P		**P**	**22 33 45.6**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=267,slow=7.6,SNR=4.6							
INK	**Inuvik**	**27.14**	**35**	P		**P**	**22 33 46.2**	**+0.4**
INK					IAmb	IAmb	22 34 05.7	
	comp=Z,4.5nm,1.3s							
DLBC	**Dease Lake**	**28.04**	**57**	LR		LR	22 44 55.0	
	comp=Z,57nm,19.7s,baz=232,slow=36							
KLR	**Kul'dur**	**31.35**	**286**	P		**P**	**22 34 26.4**	**+3.0**
	comp=Z,1.2nm,0.5s,baz=54,slow=8.3,SNR=5.6							
H11N2	**WAKE ISLAND Hy**	**33.83**	**205**	T		T	23 11 27.2	
	baz=18,slow=76,SNR=263							
H11N3	**WAKE ISLAND Hy**	**33.84**	**205**	T		T	23 11 19.0	
	baz=18,slow=76,SNR=266							
H11N1	**WAKE ISLAND Hy**	**33.85**	**205**	T		T	23 11 19.7	
	baz=18,slow=76,SNR=187							
YKA	**Yellowknife Ar**	**34.91**	**47**	P		**P**	**22 34 54.5**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=282,slow=8.2,SNR=5.9							
H11S1	**WAKE ISLAND Hy**	**35.05**	**205**	T		T	23 11 57.5	
	baz=16,slow=76,SNR=311							
H11S2	**WAKE ISLAND Hy**	**35.06**	**205**	T		T	23 11 58.7	
	baz=16,slow=76,SNR=145							
H11S3	**WAKE ISLAND Hy**	**35.06**	**205**	T		T	23 12 01.5	
	baz=16,slow=76,SNR=142							
NEW	**Newport**	**38.58**	**70**	LR		LR	22 49 27.8	
	comp=Z,64nm,19.9s,baz=11,slow=33							
NVAR	**Mina Array Bea**	**43.29**	**83**	P		**P**	**22 36 05.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=297,slow=7.0,SNR=2.0							
ELK	**Elko**	**43.78**	**79**	LR		LR	22 51 56.5	
	comp=Z,107nm,19.4s,baz=52,slow=33							
PDAR	**Pinedale Array**	**46.01**	**73**	P		**P**	**22 36 27.2**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=319,slow=3.6,SNR=3.8							
SONM	**Songino Array**	**46.76**	**297**	P		**P**	**22 36 34.5**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=45,slow=6.2,SNR=1.6							
FRB	**Frobisher Bay**	**52.72**	**32**	LR		LR	23 02 50.8	
	comp=Z,38nm,19.4s,baz=198,slow=40							
TXAR	**Lajitas Array**	**58.38**	**82**	P		**P**	**22 37 57.3**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=316,slow=5.0,SNR=4.8							
CMAR	**Chiang Mai Arr**	**71.23**	**276**	P		**P**	**22 39 24.0**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=39,slow=7.1,SNR=1.3							
FITZ	**Fitzroy Crossi**	**84.78**	**232**	LR		LR	23 18 09.3	
	comp=Z,17nm,19.8s,baz=142,slow=36							
ASAR	**Alice Springs**	**85.81**	**223**	P		**P**	**22 40 41.2**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=28,slow=4.9,SNR=5.2							
H03N2	**Juan Fernandez**	**120.97**	**106**	T		T	00 59 31.5	
	baz=317,slow=77,SNR=40							
H03N1	**Juan Fernandez**	**120.99**	**106**	T		T	00 59 29.2	
	baz=317,slow=77,SNR=69							
H03N3	**Juan Fernandez**	**120.99**	**106**	T		T	00 59 31.1	
	baz=317,slow=77,SNR=66							

IDC 21 22:33:49.7±4.6, 11.6°63S×166.9°56E, h0^km, mb3.5/2, mb1 3.7/2, mb1mx3.4/25, mbtmp3.5/2, Error ellipse: s-maj=290.2km s-min=54.9km az=145.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**32.04**	**251**	P		P	22 40 19.1	+0.7
	0.4nm,0.7s,baz=81,slow=8.6,SNR=1.7							
ASAR	**Alice Springs**	**33.25**	**244**	P		P	22 40 28.4	-0.7
	0.4nm,0.6s,baz=72,slow=8.5,SNR=5.6							
ARCES	**ARCESS Array B**	**117.09**	**346**	PKP		PKPdf	22 52 36.1	-0.1
	1.0nm,0.7s,baz=64,slow=2.1,SNR=1.1							

*IDC **21** 22:47:41.3±1.5, 32.2°68N×130.2°32E, h0^km, mb3.6/3, mb1 3.9/4, mb1mx3.5/45, mbtmp3.7/4, ML2.9/1, Error ellipse: s-maj=41.2km s-min=21.8km az=68.0*
*JMA **21** 22:47:42.0, 32.2°70N×130.2°73E, h11^km±1^km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs69.00000°, δ68.00000°, λ-119.00000°. NP2: ϕs305.00000°, δ36.00000°, λ-40.00000°. Principal axes: T Plg18.0000°, Azm180.0000°; N Plg27.0000°, Azm81.0000°; P Plg57.0000°, Azm300.0000°;*
JMA Felt III J1.
*NIED **21** 22:47:42.0, 32.2°70N×130.2°73E, h11^km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr-2.01; Mθθ3.27; Mϕϕ-1.26; Mrθ-1.64; Mθϕ-0.06;*
Mϕr-2.26; Fault plane solution: M0 3.99000×10^14 NP1: ϕs302.00000°, δ40.00000°, λ-31.00000°. NP2: ϕs57.00000°, δ71.00000°, λ-125.00000°.
ISC 21 22:47:42.9±1.2, 32.6°66N±0.09°×130.6°6E±0.1°, h11^km, n7, σ2°33/8, mb3.3/3, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIU3	**Izumi3**	**0.23**	**118**	S		**Sg**	**22 47 48.6**	**-2.5**
JTA	**Tamana**	**0.30**	**355**	⇑P		**Pg**	**22 47 48.4**	**-0.7**
JTA				S		**Sb**	**22 47 52.8**	**-2.6**
KSRS	**Korea Array**	**5.25**	**336**	Pg		**Pb**	**22 49 16.2**	**+1.5**
	0.6nm,0.3s,baz=152,slow=15,SNR=4.1							
KSRS				Lg		Lg	22 50 24.2	
	2.1nm,0.3s,baz=159,slow=30,SNR=5.8							
MJAR	**Matsushiro Arr**	**7.39**	**56**	Pn		**Pn**	**22 49 33.8**	**+2.9**
	0.2nm,0.3s,baz=236,slow=14,SNR=2.9							
SONM	**Songino Array**	**23.74**	**317**	P		**P**	**22 52 55.2**	**0.0**
	0.5nm,0.7s,baz=120,slow=10,SNR=3.0							
WRA	**Warramunga Arr**	**52.43**	**176**	P		**P**	**22 56 56.1**	**+0.5**
	0.2nm,0.5s,baz=356,slow=8.0,SNR=2.7							
FINES	**FINESS Array B**	**68.31**	**330**	P		**P**	**22 58 42.3**	**-1.4**
	3.8nm,1.1s,baz=70,slow=6.3,SNR=7.1							

*NEIC **21** 22:57:26.2±1.2, 5.6°61S±0.07°×148.7°50E±0.08°, h151^km±6^km, mb4.5/80, Error ellipse: s-maj=11.6km s-min=8.9km az=117.0*
*IDC **21** 22:57:26.2±0.7, 5.6°68S×148.7°51E, h159^km±6^km, mb4.0/16, mb1 4.2/19, mb1mx3.9/46, mbtmp4.5/19, MS2.7/1, Ms1 2.7/1, ms1mx2.3/59, Error ellipse: s-maj=12.2km s-min=7.1km az=119.0*
*DJA **21** 22:57:26.1±0.4, 6°S±6°×14°9E±°, h148^km±8^km, M4.9/5, mB5.0/1, mb4.6/5, MLv5.0/3, Mw(mB)4.3/1*
ISC 21 22:57:26.8±0.4, 5.65S±0.05°×148.51E±0.06°, h163^km, n127, σ0°92/126, mb4.4/52, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRVT	**Keravat (AS076**	**3.75**	**69**	P		**Pn**	**22 58 21.7**	**-2.5**
	53nm,0.3s,baz=234,slow=1.2,SNR=100							
KRVT				S		**Sn**	**22 59 09.2**	**+0.3**
	9.9nm,0.3s,baz=310,slow=22,SNR=1.1							
MANU	**Manus Island**	**3.76**	**342**			**Pn**	**22 58 22.5**	**-1.8**
RABL	**Rabaul**	**3.92**	**69**			**Pn**	**22 58 25.2**	**-1.2**
RABL	**Rabaul**	**3.92**	**69**	P		**Pn**	**22 58 25.4**	**-1.0**
PMG	**Port Moresby**	**3.97**	**200**	P		**Pn**	**22 58 26.1**	**-0.8**
	71nm,0.3s,baz=5.6,slow=6.5,SNR=36							
PMG				S		**Sn**	**22 59 12.7**	**-1.3**
	53nm,0.3s,baz=150,slow=20,SNR=8.4							
PMG	**Port Moresby**	**3.97**	**200**			**Pn**	**22 58 26.5**	**-0.5**
PMG	**Port Moresby**	**3.97**	**200**	P		**Pn**	**22 58 31.0**	**+4.0**
COEN	**Coen**	**9.79**	**212**	Pn		**Pn**	**22 59 43.5**	**-0.4**
COEN						**Sn**	**23 01 29.7**	**-2.9**
CTA	**Charters Tower**	**14.52**	**188**	LR		LR	23 06 15.1	
	comp=Z,32nm,19.6s,baz=117,slow=36							
QIS	**Mount Isa**	**17.16**	**209**	P		**Pn**	**23 01 18.0**	**+1.0**
SAUI	**Saumlaki**	**17.24**	**261**	P		**P**	**23 01 16.3**	**-0.7**
KDU	**Kakadu**	**17.30**	**245**	P		**P**	**23 01 18.0**	**+0.4**
MTN	**Manton Dam**	**18.57**	**246**	P		**P**	**23 01 32.0**	**+0.5**
MTN					IAmb	IAmb	23 01 32.8	
	comp=Z,30nm,0.9s							
MTN	**Manton Dam**	**18.57**	**246**	P		**P**	**23 01 32.2**	**+0.7**
WB0	**Warramunga Arr**	**19.64**	**223**	P		**P**	**23

UNV IAmb IAmb 23 08 29.0
comp=Z,13nm,1.2s
VNDA Vanda 72.18 177 P **P** **23 08 33.3 0.0**
comp=Z,2.1nm,0.8s,baz=342,slow=6.3,SNR=17
VNDA Vanda 72.18 177 P **P** **23 08 33.9 +0.6**
TNA Tin City 77.81 17 P **P** **23 09 06.5 +0.8**
TNA IAmb IAmb 23 09 19.4
comp=Z,8.5nm,1.1s
MKAR Makanchi Array 78.19 320 P **P** **23 09 07.0 -1.2**
comp=Z,0.4nm,0.6s,baz=100,slow=7.6,SNR=2.0
MKAR Makanchi Array 78.19 320 P **P** **23 09 07.0 -1.2**
Q19K Cape Douglas, 78.98 27 P **P** **23 09 11.9 -0.4**
Q19K IAmb IAmb 23 09 21.6
comp=Z,14nm,1.0s
SVW2 Sparrevohn 79.31 24 P **P** **23 09 15.3 +1.3**
P19K Oil Pt 79.54 26 P **P** **23 09 14.8 -0.5**
N19K Bonanza Creek 79.61 25 P **P** **23 09 15.8 +0.1**
TTA Tatalina 80.15 22 P **P** **23 09 19.6 +1.0**
L19K White Mountain 80.19 23 P **P** **23 09 19.7 +0.9**
L19K IAmb IAmb 23 09 20.5
comp=Z,5.0nm,0.9s
M19K Big River Lodg 80.22 24 P **P** **23 09 19.7 +0.8**
BRLK Bradley Lake 80.63 27 P **P** **23 09 21.1 0.0**
BRLK IAmb IAmb 23 09 21.9
comp=Z,7.7nm,0.9s
J20K Nowinta River 81.53 22 P **P** **23 09 28.9 +3.1**
PPLA Purkeypile 81.62 23 P **P** **23 09 26.7 +0.2**
PPLA IAmb IAmb 23 09 44.8
comp=Z,6.1nm,1.2s
CAST Castle Rocks 81.92 23 IAmb IAmb 23 09 29.3
comp=Z,4.7nm,0.8s
GHO Glory Hole Cre 82.42 25 P **P** **23 09 30.7 +0.2**
GHO IAmb IAmb 23 09 31.1
comp=Z,4.1nm,0.8s
KTH Kantishna Hill 82.44 23 P **P** **23 09 29.9 -0.8**
KTH IAmb IAmb 23 09 30.7
comp=Z,4.4nm,0.9s
IMAR Indian Mountai 82.64 20 P **P** **23 09 31.7 +0.2**
TRF Thorofare Moun 82.64 23 P **P** **23 09 31.4 -0.4**
BPAW Bear Paw Mtn. 82.68 23 P **P** **23 09 31.6 -0.2**
SML Sawmill 82.68 25 P **P** **23 09 32.0 +0.1**
H21K Melozitna Rive 82.80 21 P **P** **23 09 33.0 +0.6**
GLI Glacier Island 82.81 26 P **P** **23 09 32.7 +0.2**
GLI IAmb IAmb 23 09 32.9
comp=Z,6.6nm,0.7s
I21K Tanana 82.85 22 IAmb IAmb 23 09 34.4
comp=Z,4.4nm,1.0s
FID Port Fidalgo 83.03 27 P **P** **23 09 33.5 -0.1**
FID IAmb IAmb 23 09 34.3
comp=Z,7.2nm,0.9s
SCM Sheep Creek Mo 83.12 25 P **P** **23 09 33.9 -0.3**
SCM IAmb IAmb 23 09 35.1
comp=Z,6.5nm,0.9s
MAW Mawson 83.15 203 P **P** **23 09 33.8 -0.3**
comp=Z,1.0nm,0.6s,baz=108,slow=6.4,SNR=1.7
MAW Mawson 83.15 203 P **P** **23 09 34.0 -0.1**
RND Reindeer 83.19 24 IAmb IAmb 23 09 34.6
comp=Z,8.0nm,0.8s
MCK McKinley 83.31 23 P **P** **23 09 34.8 -0.3**
KLU Klutina 83.59 26 IAmb IAmb 23 09 37.9
comp=Z,8.5nm,1.0s
DHY Denali Highway 83.64 24 P **P** **23 09 37.2 +0.3**
DHY IAmb IAmb 23 09 37.7
comp=Z,4.6nm,0.8s
NEA2 Nenana 83.65 23 IAmb IAmb 23 09 36.8
comp=Z,3.3nm,0.8s
M24K Tolsona, Glenn 83.73 25 P **P** **23 09 37.6 +0.3**
M24K IAmb IAmb 23 09 38.3
comp=Z,7.8nm,0.7s
BMRM Bremner River 83.96 27 P **P** **23 09 38.9 +0.4**
BMRM IAmb IAmb 23 09 40.0
comp=Z,7.0nm,1.2s
H23K Yukon River 84.05 21 P **P** **23 09 38.5 -0.3**
CCB Clear Creek Bu 84.16 23 IAmb IAmb 23 09 39.6
comp=Z,6.3nm,1.0s
QSPA South Pole Qui 84.32 180 P **P** **23 09 40.0 -0.4**
QSPA IAmb IAmb 23 09 43.9
comp=Z,4.3nm,1.1s
PAX Paxson 84.39 25 P **P** **23 09 40.8 +0.2**
GLB Gilahina Butte 84.50 27 P **P** **23 09 41.0 -0.1**
IL31 84.57 23 IAmb IAmb 23 09 41.2
comp=Z,4.5nm,0.8s
ILAR Eielson Array 84.57 23 P **P** **23 09 40.0 -1.5**
ILAR pP **pP** **23 10 21.4 0.0**
comp=Z,4.3nm,0.7s,baz=252,slow=5.1,SNR=24
comp=Z,0.3nm,0.8s,baz=251,slow=4.3,SNR=1.3
ILAR Eielson Array 84.57 23 P **P** **23 09 40.2 -1.2**
VRDI Verde Repeater 84.58 27 P **P** **23 09 41.4 -0.3**
H24K Noodor Dome 84.67 22 P **P** **23 09 41.8 -0.1**
J25K Salcha River, 85.10 23 IAmb IAmb 23 09 44.6
comp=Z,8.9nm,0.8s
NRIK Noril'sk 85.41 342 P **P** **23 09 45.4 0.0**
comp=Z,0.7nm,0.3s,baz=94,slow=2.9,SNR=3.5
M27K Edge Creek, AK 85.69 26 P **P** **23 09 47.8 +0.6**
M27K IAmb IAmb 23 09 49.2
comp=Z,11nm,1.0s
L27K Beaver Creek, 85.96 25 P **P** **23 09 48.9 +0.5**
L27K IAmb IAmb 23 09 50.3
comp=Z,6.2nm,1.1s
BCAR Beaver Creek A 85.98 25 P **P** **23 09 49.0 +0.5**
HYT Haines Junctio 87.17 28 P **P** **23 09 55.5 +1.0**
DAWY Dawson 87.32 25 P **P** **23 09 55.9 +0.9**
DAWY IAmb IAmb 23 09 56.5
comp=Z,7.1nm,0.9s
YKA Yellowknife Ar 98.16 28 P **P** **23 10 45.2 +0.3**
comp=Z,1.1nm,1.0s,baz=274,slow=5.1,SNR=8.1
TORD Torodi Ar. Bea 146.45 285 PKPbc **PKPdf** **23 16 47.8 -0.4**
comp=Z,0.7nm,0.4s,baz=59,slow=3.0,SNR=19
BDFB Brasilia 153.26 142 PKPbc **PKPbc** **23 17 05.6 -1.1**
comp=Z,1.6nm,0.4s,baz=198,slow=1.4,SNR=3.9
BDFB PKPab **PKPab** **23 17 18.7 -0.3**
comp=Z,2.5nm,0.7s,baz=175,slow=4.3,SNR=8.9
BDFB Brasilia 153.26 142 PKPbc **PKPbc** **23 17 05.9 -0.7**
BDFB PKPab **PKPab** **23 17 18.6 -0.4**

*IDC **21** 22:59:38.8±0.9, 35°.68N×140°.88E, h0km, mb3.6/7, mb1 3.8/11, mb1mx3.6/56, mbtmp3.8/11, ML3.6/4, MS2.9/2, Ms1 2.9/2, ms1mx2.3/94, Error ellipse: s-maj=22.5km s-min=18.6km az=71.0*
*JMA **21** 22:59:41.0±0.2, 35°.71N×140°.91E, h13km±1km, M4.1*
JMA Felt III J1.
*NIED **21** 22:59:41.1, 35°.71N×140°.91E, h13km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.97; $M_{\theta\theta}$=1.01; $M_{\phi\phi}$=6.98; $M_{r\theta}$=1.34; $M_{\theta\phi}$=1.55; $M_{\phi r}$=1.61; Fault plane solution: $M_0$6.97000×10^{14} NP1: ϕ_s=179.00000°, δ=38.00000°, λ=-108.00000°. NP2: ϕ_s=21.00000°, δ=54.00000°, λ=-76.00000°.*

ISC 21 22:59:40.4±0.9, 35°.69N±0°.04×140°.92E±0°.06, h15km±5km, n33, σ1$ 41/28, mb3.6/7, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.05**	**287**	⇓P	**Pg**	**22 59 43.4**	**+0.1**
CHOJ				S	**Sg**	**22 59 45.2**	**0.0**
JSMT	**Sammumatsuo**	**0.39**	**264**	⇑P	**Pb**	**22 59 49.1**	**+0.1**
JIHU	**Itakohorinouch**	**0.43**	**311**	⇑P	**Pb**	**22 59 49.8**	**+0.1**
JCN	**Nagara**	**0.65**	**246**	⇑P	**Pn**	**22 59 54.3**	**-0.7**
JYT	**Yasato**	**0.80**	**313**	⇑P	**Pg**	**22 59 55.3**	**-0.7**
JYT				S	**Sg**	**23 00 05.6**	**-1.0**
BSO4	**Boso 4**	**0.84**	**215**	P	**Pn**	**22 59 57.8**	**+0.2**
BSO3	**Boso 3**	**0.94**	**201**	P	**Pn**	**22 59 59.0**	**+0.1**
JHO	**Hitachi**	**0.97**	**343**	P	**Pg**	**22 59 57.9**	**-1.3**
JHO				eS	**Sg**	**23 00 10.5**	**-1.3**
BSO1	**Boso 1**	**1.03**	**177**	P	**Pg**	**22 59 59.2**	**-1.1**
MJAR	**Matsushiro Arr**	**2.36**	**292**	Pn	**Pn**	**23 00 17.8**	**-0.8**
	3.3nm,0.3s,baz=90,slow=8.5,SNR=42						
MJAR				Sn	**Sn**	**23 00 47.6**	**+0.3**
	3.0nm,0.3s,baz=123,slow=20,SNR=2.4						
JHJ	**Hachijo jima 2**	**2.73**	**201**	Pn	**Pn**	**23 00 25.6**	**+2.0**
	22nm,0.3s,baz=80,slow=18,SNR=1.4						
JHJ				Sn	**Sn**	**23 00 52.3**	**-4.1**
	38nm,0.3s,baz=48,slow=22,SNR=2.3						
ASAJ	**Asahikawa**	**8.52**	**8**	Pn	**Pn**	**23 01 43.6**	**+0.5**
	0.7nm,0.3s,baz=234,slow=8.1,SNR=4.6						
ASAJ				Sn	**Sn**	**23 03 15.7**	**-3.3**
	0.2nm,0.3s,baz=278,slow=28,SNR=1.7						
JCJ	**Chichijima**	**8.63**	**172**	Pn	**Pn**	**23 01 43.8**	**-1.0**
	3.3nm,0.3s,baz=294,slow=20,SNR=2.3						
KSRS	**Korea Array**	**10.60**	**283**	LR		23 06 25.8	
	comp=Z,36nm,18.4s,baz=150,slow=38						
USRK	**Ussuriysk Ar.**	**10.92**	**324**	LR	LR	23 06 17.9	
	comp=Z,83nm,19.8s,baz=178,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.83**	**118**	T	T	23 34 29.0	
	baz=311,slow=75,SNR=117						
H11N1	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	23 34 21.6	
	baz=311,slow=75,SNR=111						
H11N3	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	23 34 22.3	
	baz=311,slow=75,SNR=133						
SONM	**Songino Array**	**28.23**	**306**	P	**P**	**23 05 34.0**	**+1.2**
	0.4nm,0.5s,baz=98,slow=10,SNR=2.3						
H11S1	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	23 35 19.9	
	baz=312,slow=75,SNR=502						
H11S3	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	23 35 11.9	
	baz=312,slow=75,SNR=393						
H11S2	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	23 35 21.5	
	baz=312,slow=75,SNR=444						
ZALV	**Zalesovo Beam**	**42.54**	**313**	P	**P**	**23 07 34.8**	**-0.4**
	0.7nm,0.5s,baz=86,slow=9.1,SNR=3.8						
MKAR	**Makanchi Array**	**44.51**	**303**	P	**P**	**23 07 52.0**	**+0.8**
	0.4nm,0.5s,baz=87,slow=10,SNR=6.3						
ILAR	**Eielson Array**	**50.84**	**32**	P	**P**	**23 08 41.9**	**+1.8**
	0.5nm,0.7s,baz=270,slow=6.1,SNR=3.1						
WRA	**Warramunga Arr**	**55.67**	**188**	P	**P**	**23 09 16.2**	**+0.1**
	0.7nm,0.7s,baz=2.6,slow=7.7,SNR=6.8						
YKA	**Yellowknife Ar**	**65.17**	**30**	P	**P**	**23 10 21.6**	**+1.1**
	0.2nm,0.7s,baz=290,slow=6.5,SNR=4.3						
FINES	**FINESS Array B**	**69.82**	**332**	P	**P**	**23 10 50.4**	**+0.5**
	1.7nm,0.9s,baz=51,slow=7.5,SNR=3.5						
H03N2	**Juan Fernandez**	**147.26**	**98**	T	T	02 03 45.7	
	baz=290,slow=76,SNR=46						
H03N3	**Juan Fernandez**	**147.27**	**98**	T	T	02 03 41.3	
	baz=290,slow=76,SNR=49						
H03N1	**Juan Fernandez**	**147.27**	**98**	T	T	02 03 45.3	
	baz=290,slow=76,SNR=50						
LPAZ	**La Paz**	**147.71**	**61**	PKPbc	**PKPbc**	**23 19 25.8**	**+0.1**
	2.1nm,0.9s,baz=303,slow=4.5,SNR=5.3						
SIV	**San Ignacio**	**152.25**	**51**	PKPbc	**PKPbc**	**23 19 37.1**	**+1.0**
	0.5nm,0.3s,baz=270,slow=7.1,SNR=4.2						

IDC 21 23:10:26.9±2.8, 5°.02S×129°.69E, h190km±39km, mb3.1/1, mb1 3.2/5, mb1mx2.9/32, mbtmp3.7/5, MS2.8/1, Ms1 2.8/1, ms1mx2.2/20, Error ellipse: s-maj=75.3km s-min=18.6km az=85.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.41**	**21**	P	Pn	23 11 33.8	+0.1
	8.2nm,0.3s,baz=217,slow=20,SNR=21						
SIJI				S	Sn	23 12 22.0	-4.1
	8.3nm,0.3s,baz=262,slow=23,SNR=14						
FITZ	**Fitzroy Crossi**	**13.59**	**197**	P	Pn	23 13 32.4	+0.2
	0.2nm,0.3s,baz=24,slow=12,SNR=2.7						
FITZ				S	Sn	23 15 54.9	-8.8
	0.1nm,0.3s,baz=174,slow=21,SNR=0.9						
WRA	**Warramunga Arr**	**15.51**	**163**	P	Pn	23 13 54.5	-1.3
	0.1nm,0.3s,baz=347,slow=13,SNR=3.6						
WRA				S	S	23 16 37.9	-11
	0.3nm,0.3s,baz=340,slow=22,SNR=3.3						
WRA				LR	LR	23 19 60.0	
	comp=Z,39nm,21.1s,baz=5.0,slow=37						
ASAR	**Alice Springs**	**18.98**	**168**	P	P	23 14 34.8	+0.6
	0.2nm,0.3s,baz=348,slow=11,SNR=5.8						
ASAR				S	S	23 17 55.3	-4.3
	0.1nm,0.3s,baz=352,slow=22,SNR=5.8						
MKAR	**Makanchi Array**	**66.41**	**327**	P	P	23 20 55.5	-0.1
	0.3nm,0.4s,baz=116,slow=7.8,SNR=8.1						

IDC 21 23:15:46.2±2.1, 56°.13N×161°.92E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.1/39, mbtmp3.2/3, ML1.7/1, Error ellipse: s-maj=72.2km s-min=28.1km az=129.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**3.90**	**221**	Pn	Pn	23 16 47.5	+0.2
	0.3nm,0.3s,baz=65,slow=16,SNR=1.9						
PETK				Sn	Sn	23 17 34.6	+0.9
	0.3nm,0.3s,baz=64,slow=25,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**36.54**	**172**	T	T	00 01 30.0	
	baz=356						
H11N3	**WAKE ISLAND Hy**	**36.55**	**172**	T	T	00 01 32.1	
	baz=356						
H11N1	**WAKE ISLAND Hy**	**36.55**	**172**	T	T	00 01 30.3	
	baz=356						
YKA	**Yellowknife Ar**	**40.24**	**46**	P	P	23 23 24.0	-0.1
	0.1nm,0.6s,baz=297,slow=7.5,SNR=2.4						
FINES	**FINESS Array B**	**57.75**	**337**	P	P	23 25 38.1	-0.1
	1.1nm,0.8s,baz=45,slow=8.1,SNR=3.7						

*IDC **21** 23:29:29.2±1.4, 51°.83N×178°.10E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/30, mbtmp3.5/4, Error ellipse: s-maj=59.0km s-min=32.5km az=134.0*
*AEIC **21** 23:29:42.1±1.9, 52°.0N±0°.2×178°.4E±0°.1, h105km±9km, Error ellipse: s-maj=25.1km s-min=11.0km az=182.0*
*NEIC **21** 23:29:42.9±1.4, 52°.1N±0°.2×178°.44E±0°.09, h89km±22km, mb3.7/44, ML3.1(AEIC), Error ellipse: s-maj=30.1km s-min=6.5km az=189.0*

ISC 21 23:29:42.4±1.0, 51°.9N±0°.2×178°.43E±0°.10, h113km, n62, σ1$ 25/57, mb3.5/15, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIWB	**Kanaga Island**	**2.74**	**89**		**Pn**	**23 30 24.7**	**-0.3**
SMY	**Shemya**	**2.78**	**289**		**Pn**	**23 30 24.3**	**-1.3**
ADK	**Adak**	**3.03**	**88**	Pn	**Pn**	**23 30 28.2**	**-0.7**
GSTR	**Great Sitkin T**	**3.41**	**85**	Pn	**Pn**	**23 30 32.8**	**-1.2**
NIKH	**Nikolski High**	**7.85**	**77**	Pn	**Pn**	**23 31 33.5**	**-0.2**
SPIA	**Saint Paul Isl**	**8.44**	**47**	Pn	**Pn**	**23 31 40.0**	**-1.6**
UNV	**Unalaska Valle**	**9.32**	**72**	Pn	**Pn**	**23 31 51.3**	**-2.2**
ANM	**Nome**	**15.22**	**27**		**P**	**23 33 14.0**	**+0.7**
ANM				IAmb	IAmb	23 33 21.8	
	comp=Z,3.0nm,0.8s						
N18K	**Kilae Creek**	**16.64**	**48**	Pn	**Pn**	**23 33 28.3**	**-0.3**
N18K				IAmb	IAmb	23 33 46.1	
	comp=Z,6.8nm,1.1s						
O18K	**Koktuh Hills**	**16.70**	**51**		**Pn**	**23 33 29.4**	**+0.1**
O18K				IAmb	IAmb	23 33 40.8	
	comp=Z,8.8nm,1.1s						
Q19K	**Cape Douglas,**	**17.25**	**55**		**Pn**	**23 33 36.5**	**+0.5**
Q19K				pP	**pP**	**23 33 54.8**	**-1.1**
N19K	**Bonanza Creek**	**17.34**	**49**	P	**Pn**	**23 33 38.8**	**+1.6**
N19K				IAmb	IAmb	23 33 42.9	
	comp=Z,3.4nm,0.8s						
TTA	**Tatalina**	**17.50**	**41**	P	**Pn**	**23 33 39.2**	**+0.1**
KDAK	**Kodiak Island**	**17.61**	**59**	P	**P**	**23 33 40.0**	**+0.3**
M19K	**Big River Lodg**	**17.76**	**45**	P	**Pn**	**23 33 42.7**	**+0.5**
M19K				IAmb	IAmb	23 33 57.8	
	comp=Z,4.2nm,1.1s						
K20K	**Telida**	**18.48**	**41**	P	**P**	**23 33 49.3**	**0.0**
CNPM	**China Poot**	**18.58**	**54**	P	**Pn**	**23 33 51.3**	**-0.7**
BRLK	**Bradley Lake**	**18.80**	**53**	P	**P**	**23 33 52.9**	**+0.2**
BRLK				IAmb	IAmb	23 33 53.0	
	comp=Z,8.7nm,1.1s						
J20K	**Nowinta River**	**18.82**	**39**	P	**Pn**	**23 33 54.1**	**-0.6**
PPLA	**Purkeypile**	**19.08**	**43**	P	**Pn**	**23 33 56.9**	**-1.1**
PPLA				IAmb	IAmb	23 34 07.3	
	comp=Z,7.4nm,1.2s						
SEW	**Seward**	**19.57**	**53**	P	**P**	**23 34 02.1**	**+1.0**
SEW				IAmb	IAmb	23 34 13.6	
	comp=Z,6.1nm,1.0s						
KTH	**Kantishna Hill**	**19.86**	**42**	P	**P**	**23 34 05.3**	**+1.0**
KTH				IAmb	IAmb	23 34 06.3	
	comp=Z,2.9nm,1.0s						
IMAR	**Indian Mountai**	**19.87**	**34**	P	**P**	**23 34 05.1**	**+0.8**
H21K	**Melozitna Rive**	**20.04**	**36**	P	**P**	**23 34 05.7**	**-0.5**
PWL	**Port Wells**	**20.26**	**51**	P	**P**	**23 34 08.8**	**+0.2**
PWL				IAmb	IAmb	23 34 19.5	
	comp=Z,4.8nm,1.2s						
KNK	**Knik Glacier**	**20.32**	**49**	P	**P**	**23 34 10.2**	**+1.1**
KNK				IAmb	IAmb	23 34 21.5	
	comp=Z,5.0nm,1.2s						
GLI	**Glacier Island**	**20.86**	**51**	P	**P**	**23 34 15.1**	**+0.2**
SCM	**Sheep Creek Mo**	**20.94**	**48**	P	**P**	**23 34 16.4**	**+0.5**
FID	**Port Fidalgo**	**21.14**	**52**	P	**P**	**23 34 16.9**	**-1.0**
DHY	**Denali Highway**	**21.22**	**45**	P	**P**	**23 34 19.9**	**+0.9**
DHY				IAmb	IAmb	23 34 21.7	
	comp=Z,1.7nm,0.7s						
MDM	**Murphy Dome**	**21.47**	**40**	P	**P**	**23 34 23.0**	**+1.5**
KLU	**Klutina**	**21.53**	**50**	P	**P**	**23 34 23.4**	**+1.2**
KLU				IAmb	IAmb	23 34 30.6	
	comp=Z,2.5nm,1.0s						
M24K	**Tolsona, Glenn**	**21.53**	**48**	P	**P**	**23 34 20.5**	**-1.7**
RAGM	**Ragged Mountai**	**21.97**	**53**	P	**P**	**23 34 28.2**	**+1.4**
PAX	**Paxson**	**22.04**	**46**	P	**P**	**23 34 28.3**	**+0.7**
PAX				IAmb	IAmb	23 34 33.6	
	comp=Z,2.7nm,1.1s						
KAIM	**Kayak Island**	**22.05**	**54**	P	**P**	**23 34 30.0**	**+2.3**
BMRM	**Bremner River**	**22.07**	**51**	P	**P**	**23 34 31.4**	**+3.5**
BMRM				IAmb	IAmb	23 34 36.5	
	comp=Z,6.7nm,1.2s						
BERG	**Berg Lake**	**22.45**	**53**	P	**P**	**23 34 32.8**	**+1.0**
BERG				IAmb	IAmb	23 34 35.0	
	comp=Z,4.4nm,0.8s						
GLB	**Gilahina Butte**	**22.52**	**50**	P	**P**	**23 34 33.9**	**+1.4**
TOLK	**Toolik Lake Re**	**22.65**	**30**	P	**P**	**23 34 34.8**	**+1.1**
VRDI	**Verde Repeater**	**22.66**	**51**	P	**P**	**23 34 33.9**	**-0.1**
WAX	**Waxell Ridge**	**22.88**	**53**	P	**P**	**23 34 37.2**	**+1.2**
WAX				IAmb	IAmb	23 34 51.7	
	comp=Z,4.5nm,0.9s						
TGL	**Tana Glacier**	**22.91**	**52**	P	**P**	**23 34 37.5**	**+1.1**
TGL				IAmb	IAmb	23 34 51.7	
	comp=Z,5.5nm,1.2s						
GRNC	**Granite Creek**	**23.44**	**52**	P	**P**	**23 34 42.6**	**+1.1**
M27K	**Edge Creek, AK**	**23.55**	**48**	P	**P**	**23 34 44.2**	**+1.8**
CTGM	**Chitina Glacie**	**23.66**	**52**	P	**P**	**23 34 44.3**	**+1.0**
L27K	**Beaver Creek,**	**23.68**	**46**	P	**P**	**23 34 45.2**	**+1.8**
L27K				IAmb	IAmb	23 34 45.9	
	comp=Z,2.6nm,1.1s						
BCAR	**Beaver Creek A**	**23.70**	**46**	P	**P**	**23 34 45.2**	**+1.6**
TABL	**Table Mountain**	**23.72**	**53**	P	**P**	**23 34 44.8**	**+0.8**
TABL				IAmb	IAmb	23 35 01.4	
	comp=Z,5.6nm,1.0s						
LOGN	**Logan Glacier**	**23.81**	**52**	P	**P**	**23 34 46.5**	**+1.8**
HYT	**Haines Junctio**	**25.53**	**52**	P	**P**	**23 35 03.5**	**+3.2**
HYT				IAmb	IAmb	23 35 04.3	
	comp=Z,2.6nm,0.7s						
M30M	**Minto, Yukon**	**25.93**	**48**	P	**P**	**23 35 03.8**	**+0.1**
M30M				IAmb	IAmb	23 35 09.2	
	comp=Z,2.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**33.36**	**200**	T	T	00 11 37.6	
	baz=11,slow=76,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**33.37**	**200**	T	T	00 11 37.3	
	baz=11,slow=76,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**33.38**	**200**	T	T	00 11 38.9	
	baz=11,slow=76,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**34.58**	**200**	T	T	00 13 14.6	
	baz=10.0						
H11S2	**WAKE ISLAND Hy**	**34.60**	**200**	T	T	00 13 19.7	
	baz=10.0						
H11S3	**WAKE ISLAND Hy**	**34.60**	**200**	T	T	00 13 07.0	
	baz=10.0						
YKA	**Yellowknife Ar**	**36.12**	**46**	P	**P**	**23 36 34.0**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=279,slow=8.4,SNR=4.6						
MKAR	**Makanchi Array**	**58.34**	**307**	P	**P**	**23 39 24.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=58,slow=7.0,SNR=2.1						
WRA	**Warramunga Arr**	**81.23**	**221**	P	**P**	**23 41 45.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=32,slow=6.2,SNR=6.2						
ASAR	**Alice Springs**	**84.74**	**220**	P	**P**	**23 42 04.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=27,slow=6.3,SNR=2.4						

*IDC **21** 23:58:34.1±0.6, 9°.40S×158°.99E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.0/42, mbtmp4.1/12, MS3.6/22, Ms1 3.5/22, ms1mx3.3/62, Error ellipse: s-maj=19.3km s-min=16.1km az=160.0*
*NEIC **21** 23:58:35.7±1.2, 9°.34S±0°.07×159°.10E±0°.05, h10km±1km, mb4.5/18, Error ellipse: s-maj=12.5km s-min=8.9km az=193.0*

ISC 21 23:58:37.8±0.5, 9°.38S±0°.09×159°.06E±0°.05, h27km, n57, σ0$ 88/43, mb4.3/19, MS3.5/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.88**	**93**	Pn	**Pb**	**23 58 54.4**	**0.0**
	253nm,0.3s,baz=259,slow=7.7,SNR=39						
HNR				Sn	**Sn**	**23 59 06.1**	**-0.1**
	3µm,0.3s,baz=142,slow=19,SNR=34						
HNR	**Honiara**	**0.88**	**93**		**Pn**	**23 58 53.2**	**-1.2**
HNR				Sn	**Sn**	**23 59 06.9**	**+0.7**
SANVU	**Saraoutou**	**9.98**	**128**	Pn	**Pn**	**00 00 58.7**	**-0.7**
PMG	**Port Moresby**	**11.74**	**269**	LR	LR	00 05 43.5	
	comp=Z,715nm,18.1s,baz=81,slow=37						
PMG	**Port Moresby**	**11.74**	**269**	Pn	**Pn**	**00 01 24.4**	**+0.7**
KOUNC	**Koumac, New Ca**	**12.19**	**156**	Pn	**Pn**	**00 01 29.7**	**-0.1**
DZM	**Mont Dzumac**	**14.47**	**152**	LR	LR	00 06 11.4	
	comp=Z,135nm,21.0s,baz=299,slow=32						
CTA	**Charters Tower**	**16.32**	**228**	LR	LR	00 08 14.8	
	comp=Z,172nm,18.4s,baz=70,slow=36						
CTAO	**Charters Tower**	**16.32**	**228**	P	**P**	**00 02 26.5**	**-1.4**
ARMA	**Armidale**	**22.05**	**197**	P	**P**	**00 03 33.1**	**+2.5**
ARMA				IAmb	IAmb	00 03 46.8	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**25.91**	**243**	P	**P**	**00 04 07.3**	**-0.5**
WR0				IAmb	IAmb	00 04 08.6	
	comp=Z,19nm,1.3s						
WB0	**Warramunga Arr**	**25.97**	**244**	P	**P**	**00 04 08.2**	**-0.3**
WB0				IAmb	IAmb	00 04 09.2	
	comp=Z,21nm,1.3s						
WB2	**Warramunga Arr**	**26.07**	**243**	P	**P**	**00 04 08.8**	**-0.5**
WB2				IAmb	IAmb	00 04 10.2	
	comp=Z,23nm,1.4s						
WRA	**Warramunga Arr**	**26.08**	**243**	P	**P**	**00 04 09.1**	**-0.3**
	comp=Z,3.7nm,0.5s,baz=70,slow=9.6,SNR=75						
WRA				LR	LR	00 13 54.9	
	comp=Z,133nm,19.9s,baz=87,slow=35						
WRA	**Warramunga Arr**	**26.08**	**243**	P	**P**	**00 04 09.3**	**-0.1**
GUMO	**Guam**	**26.82**	**328**	LR	LR	00 15 41.7	
	comp=Z,55nm,18.0s,baz=88,slow=38						
STKA	**Stephens Creek**	**27.63**	**213**	P	**P**	**00 04 23.0**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=52,slow=14,SNR=5.2						
STKA				LR	LR	00 15 19.6	
	comp=Z,112nm,18.6s,baz=26,slow=36						
STKA	**Stephens Creek**	**27.63**	**213**	P	**P**	**00 04 23.2**	**0.0**
ASAR	**Alice Springs**	**27.92**	**236**	P	**P**	**00 04 25.0**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=66,slow=9.4,

comp=Z,2.0nm,0.9s,baz=315,slow=2.9,SNR=7.2
QSPA South Pole Qui 80.61 180 P **P** **00 10 49.1 +1.3**
QSPA IAmb IAmb 00 11 00.1
comp=Z,9.3nm,1.4s
CAST Castle Rocks 81.52 20 P **P** **00 10 53.9 +1.4**
CAST IAmb IAmb 00 11 06.9
comp=Z,6.5nm,1.3s
MAW Mawson 83.75 203 LR LR 00 47 05.4
comp=Z,28nm,18.5s,baz=254,slow=35
ILAR Eielson Array 84.15 20 P **P** **00 11 06.9 +0.8**
comp=Z,0.4nm,0.6s,baz=256,slow=4.1,SNR=5.5
ILAR Eielson Array 84.15 20 P **P** **00 11 06.4 +0.2**
MKAR Makanchi Array 87.85 318 P **P** **00 11 24.6 -0.2**
comp=Z,1.0nm,0.5s,baz=104,slow=5.6,SNR=13
MKAR LR LR 00 51 48.8
comp=Z,25nm,19.9s,baz=20,slow=36
MKAR Makanchi Array 87.85 318 P **P** **00 11 25.0 +0.1**
DLBC Dease Lake 88.17 30 LR LR 00 44 41.3
comp=Z,33nm,20.5s,baz=280,slow=31
NVAR Mina Array Bea 90.05 51 P **P** **00 11 36.4 +0.7**
comp=Z,0.2nm,0.3s,baz=224,slow=8.7,SNR=4.2
PFO Pinyon Flats O 90.58 56 LR LR 00 45 02.1
comp=Z,69nm,20.0s,baz=248,slow=31
AAK Ala-Archa 92.31 313 LR LR 00 54 34.0
comp=Z,20nm,19.3s,baz=32,slow=36
LPIG La Paz 94.34 66 LR LR 00 48 54.7
comp=Z,24nm,18.3s,baz=198,slow=32
ESDC Sonseca Array 146.24 336 PKPbc **PKPab** **00 18 16.6 -0.3**
comp=Z,1.1nm,1.1s,baz=29,slow=2.9,SNR=5.3

*IDC **22** 00:16:40.1±0.6,2˚48N×99˚08E,h142km±3km, mb3.6/10, mb1 3.6/10,mb1mx3.2/61,mbtmp4.0/10,Error ellipse: s-maj=28.5km s-min=13.2km az=52.0*
*NEIC **22** 00:16:40.8±1.4,2˚47N±0˚06×99˚02E±0˚05,h143km±4km, mb4.0/18,Error ellipse: s-maj=8.0km s-min=7.9km az=101.0*
*DJA **22** 00:16:41.6±0.5,2˚N±3˚×9˚9E±˚,h139km±5km,M3.9/9, mb4.8/1,MLv3.5/9*
ISC 22 00:16:40.7±0.7,2˚45N±0˚04×99˚03E±0˚05,h149km±6km, n50,σ0°84/56,mb3.8/17,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RPSI	**Rantau Prapat**	**0.26**	**336**				**Pn**	**00 17 01.4**	**+0.4**
RPSI							**Sn**	**00 17 15.7**	**-0.8**
PSI	**Prapat**	**0.36**	**343**	**P**		**Pn**	**00 17 01.4**	**-0.1**
	37nm,0.3s,baz=163,slow=4.1,SNR=151								
PSI				S			**Sn**	**00 17 15.7**	**-1.7**
	34nm,0.3s,baz=232,slow=1.9,SNR=13								
TSI	**Tuntungan**	**1.14**	**336**	**P**		**Pn**	**00 17 07.6**	**+1.0**
TSI				S		**Sn**	**00 17 28.0**	**+1.5**
KCSI	**Kotacane, Aceh**	**1.65**	**310**	**P**		**Pn**	**00 17 11.8**	**0.0**
MNSI	**Mandailing Nat**	**1.73**	**162**	**P**		**Pn**	**00 17 12.6**	**-0.1**
GSI	**Gunungsitoli**	**1.85**	**232**			**Pn**	**00 17 13.8**	**-0.3**
GSI				Sn		**Sn**	**00 17 39.4**	**-0.2**
GSI	**Gunungsitoli**	**1.85**	**232**	**P**		**Pn**	**00 17 13.8**	**-0.3**
IPM	**Ipoh**	**2.83**	**45**			**Pn**	**00 17 26.7**	**+0.8**
IPM				Sn		**Sn**	**00 18 01.8**	**+1.0**
BKNI	**Bangkinang**	**2.91**	**136**	Pn		**Pn**	**00 17 26.4**	**-0.5**
BKNI				Sn		**Sn**	**00 18 03.2**	**+0.5**
KULM	**Kulim**	**3.25**	**30**			**Pn**	**00 17 30.6**	**-0.5**
KULM				Sn		**Sn**	**00 18 10.5**	**+0.2**
LHMI	**Lhok Sumawe**	**3.46**	**323**	Pn		**Pn**	**00 17 32.3**	**-1.5**
SISI	**Saibi**	**3.75**	**179**	**P**		**Pn**	**00 17 38.6**	**+0.9**
MYKOM	**Kota Tinggi**	**4.86**	**98**	Pn		**Pn**	**00 17 51.7**	**-0.5**
PPSI	**Pulau Pagai**	**5.27**	**169**	**P**		**Pn**	**00 17 57.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**15.91**	**360**	**P**		**P**	**00 20 18.7**	**+1.6**
	0.7nm,0.3s,baz=188,slow=11,SNR=7.2								
CMAR	**Chiang Mai Arr**	**15.91**	**360**	**P**		**Pn**	**00 20 16.8**	**+0.4**
MYLDM	**Lahad Datu**	**19.61**	**81**	**P**		**P**	**00 20 57.5**	**-0.1**
MYLDM				IAmb		IAmb	00 21 09.7		
	comp=Z,8.6nm,0.7s								
TOLI2	**Tolitoli**	**21.78**	**93**	**P**		**P**	**00 21 20.7**	**-0.2**
TOLI2				IAmb		IAmb	00 21 22.0		
	comp=Z,5.5nm,0.6s								
KAPI	**Kappang**	**21.99**	**110**	**P**		**P**	**00 21 24.5**	**+1.5**
	comp=Z,6.3nm,0.3s,baz=272,slow=11,SNR=5.4								
KAPI	**Kappang**	**21.99**	**110**	**P**		**P**	**00 21 23.5**	**+0.5**
KAPI				IAmb		IAmb	00 21 25.5		
	comp=Z,11nm,0.8s								
MMRI	**Maumere**	**25.62**	**116**	**P**		**P**	**00 21 56.5**	**-0.1**
MTN	**Manton Dam**	**35.31**	**116**	**P**		**P**	**00 23 21.4**	**-0.3**
MTN				IAmb		IAmb	00 23 26.6		
	comp=Z,5.9nm,1.1s								
WB0	**Warramunga Arr**	**41.14**	**124**	**P**		**P**	**00 24 09.9**	**-0.6**
WB0				IAmb		IAmb	00 24 22.8		
	comp=Z,2.2nm,0.8s								
WRA	**Warramunga Arr**	**41.18**	**124**	**P**		**P**	**00 24 10.1**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=301,slow=9.2,SNR=21								
WRA	**Warramunga Arr**	**41.18**	**124**	**P**		**P**	**00 24 10.7**	**-0.1**
WB2	**Warramunga Arr**	**41.19**	**124**			**P**	**00 24 10.5**	**-0.4**
WB2				IAmb		IAmb	00 24 27.7		
	comp=Z,2.3nm,0.8s								
WR0	**Warramunga Arr**	**41.36**	**124**	**P**		**P**	**00 24 12.1**	**-0.1**
WR0				IAmb		IAmb	00 24 14.3		
	comp=Z,3.8nm,0.6s								
JTU	**Tsushima**	**42.63**	**38**	**P**		**P**	**00 24 19.8**	**-2.5**
ASAR	**Alice Springs**	**42.73**	**129**	**P**		**P**	**00 24 22.5**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=300,slow=8.2,SNR=11								
FORT	**Forrest**	**43.09**	**142**	**P**		**P**	**00 24 25.4**	**-0.7**
SONM	**Songino Array**	**45.65**	**7**	**P**		**P**	**00 24 44.6**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=191,slow=7.2,SNR=6.3								
SONM	**Songino Array**	**45.65**	**7**	**P**		**P**	**00 24 45.8**	**-0.6**
MK31	**Makanchi Array**	**46.51**	**344**	**P**		**P**	**00 24 53.3**	**+0.3**
MK31				IAmb		IAmb	00 25 11.7		
	comp=Z,1.9nm,1.1s								
MKAR	**Makanchi Array**	**46.51**	**344**	**P**		**P**	**00 24 53.5**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=153,slow=8.8,SNR=20								
MKAR	**Makanchi Array**	**46.51**	**344**	**P**		**P**	**00 24 53.3**	**+0.3**
KURBB	**Kurchatov Arra**	**51.03**	**343**	**P**		**P**	**00 25 27.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=166,slow=7.8,SNR=6.7								
KURK	**Kurchatov**	**51.09**	**343**	**P**		**P**	**00 25 27.9**	**+0.1**
KURK	**Kurchatov**	**51.09**	**343**	IAmb		IAmb	00 25 32.7		
	comp=Z,0.8nm,0.7s								
ZALV	**Zalesovo Beam**	**52.64**	**349**	**P**		**P**	**00 25 39.4**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=171,slow=6.7,SNR=7.0								
ZALV	**Zalesovo Beam**	**52.64**	**349**	**P**		**P**	**00 25 39.2**	**0.0**
ABKAR	**Akbulak array**	**57.30**	**331**	**P**		**P**	**00 26 13.0**	**+0.2**
BRTR	**Keskin Array B**	**69.64**	**312**	**P**		**P**	**00 27 34.0**	**-0.3**
	comp=Z,0.8nm,1.1s,baz=87,slow=5.1,SNR=3.6								
BRTR	**Keskin Array B**	**69.64**	**312**	**P**		**P**	**00 27 34.1**	**-0.2**
DZM	**Mont Dzumac**	**70.12**	**114**	**P**		**P**	**00 27 38.0**	**+0.6**
BOSA	**Boshof**	**76.99**	**240**	**P**		**P**	**00 28 18.1**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=103,slow=3.7,SNR=5.6								
BOSA	**Boshof**	**76.99**	**240**	**P**		**P**	**00 28 18.2**	**+0.7**
BOSA				IAmb		IAmb	00 28 19.2		
	comp=Z,2.4nm,0.8s								
BURAR	**Bucovina Array**	**77.31**	**318**	**P**		**P**	**00 28 19.8**	**+0.9**
BUR08	**Bucovina Ar. S**	**77.32**	**318**	**P**		**P**	**00 28 19.9**	**+0.8**
FINES	**FINESS Array B**	**79.75**	**332**	**P**		**P**	**00 28 32.1**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=101,slow=4.4,SNR=3.5								
CLL	**Collm**	**85.61**	**321**	*eP*		**P**	**00 29 04.0**	**+1.7**
CLL				*ex*		x	00 29 19.0		

*IDC **22** 00:28:21.7±1.0,26˚32N×140˚55E,h403km±11km, mb3.4/18,mb1 3.5/22,mb1mx3.4/41,mbtmp4.1/22,Error ellipse: s-maj=15.2km s-min=9.7km az=87.0*
*NEIC **22** 00:28:22.2±1.1,26˚31N±0˚10×140˚6E±0˚1,h399km±7km, mb4.2/84,Error ellipse: s-maj=18.4km s-min=13.5km az=105.0*
ISC 22 00:28:21.8±0.5,26°37N±0˚06×140°59E±0˚08,h400km, n130,σ1°37/133,mb4.1/62,1C,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JCJ	**Chichijima**	**1.60**	**63**	**P**		**Pn**	**00 29 15.4**	**-0.1**
	57nm,0.3s,baz=272,slow=23,SNR=60								
JCJ				S		**S**	**00 29 55.0**	**-3.9**
	84nm,0.3s,baz=215,slow=21,SNR=22								
JHJ2	**Mitsune**	**6.75**	**354**	Pn		**P**	**00 30 05.0**	**+1.8**
JHJ	**Hachijo jima 2**	**6.77**	**354**	P		**Pn**	**00 30 02.9**	**+0.1**
	43nm,0.3s,baz=60,slow=23,SNR=7.5								
JHJ				S		**S**	**00 31 19.3**	**-6.0**
	11nm,0.3s,baz=62,slow=17,SNR=2.2								
INU	**Inuyama**	**9.46**	**342**	**P**		**Pn**	**00 30 34.1**	**+0.6**
JGF	**Kuroka**	**9.61**	**344**	P		**P**	**00 30 34.3**	**-0.8**
MJAR	**Matsushiro Arr**	**10.35**	**349**	P		**P**	**00 30 43.3**	**+0.1**
	0.3nm,0.3s,baz=177,slow=9.4,SNR=2.7								
MJAR				S		**S**	**00 32 33.8**	**-5.9**
	0.1nm,0.3s,baz=263,slow=8.2,SNR=2.9								
JHS	**Saijyo**	**10.74**	**325**	P		**Pn**	**00 30 50.5**	**+2.2**
JOW	**Kunigami**	**11.03**	**275**	P		**Pn**	**00 30 52.9**	**+1.0**
JMM	**Marumori**	**11.47**	**1**	P		**Pn**	**00 30 57.0**	**+0.3**
JSD	**Sado**	**11.80**	**351**	P		**P**	**00 30 59.8**	**+0.6**
JTU	**Tsushima**	**12.62**	**313**	P		**Pn**	**00 31 10.2**	**+0.2**
JTM	**Tenmabayashi**	**14.39**	**1**	P		**P**	**00 31 28.2**	**+0.8**
KSRS	**Korea Array**	**15.41**	**319**	P		**P**	**00 31 37.9**	**-0.7**
	0.3nm,0.3s,baz=144,slow=9.4,SNR=4.3								
ERM	**Erimo**	**15.75**	**7**	P		**P**	**00 31 44.3**	**+2.1**
USRK	**Ussuriysk Ar.**	**19.11**	**341**	P		**P**	**00 32 18.7**	**+1.0**
	baz=184,slow=11,SNR=9.1								
USRK	**Ussuriysk Ar.**	**19.11**	**341**	P		**P**	**00 32 18.9**	**+1.2**
KLR	**Kul'dur**	**23.84**	**346**	P		**P**	**00 33 01.1**	**+0.2**
	1.6nm,0.5s,baz=193,slow=5.0,SNR=7.4								
HHC	**Hu-ho-hao-te**	**28.01**	**308**	*eP*		**P**	**00 33 41.4**	**+3.3**
HHC				pmax		pmax			
	comp=Z,17nm,1.2s								
HHC				pmax		pmax			
	comp=Z,89nm,5.0s								
PETK	**Petropavlovsk-**	**29.61**	**21**	P		**P**	**00 33 53.0**	**+1.0**
KMI	**Kunming**	**34.04**	**276**	⇑P		**P**	**00 34 29.1**	**-1.7**
KMI				pmax		pmax			
	comp=Z,9.0nm,1.1s								
SONM	**Songino Array**	**34.27**	**318**	**P**		**P**	**00 34 31.3**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=125,slow=7.2,SNR=3.7								
PZH	**PanZhiHua**	**34.70**	**279**	P		**P**	**00 34 38.4**	**+2.2**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,80nm,4.9s								
SEY	**Seymchan**	**37.39**	**9**	P		**P**	**00 34 58.7**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=199,slow=5.7,SNR=10								
CMAR	**Chiang Mai Arr**	**39.17**	**267**	P		**P**	**00 35 12.4**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=50,slow=7.2,SNR=5.5								
COEN	**Coen**	**40.16**	**176**	P		**P**	**00 35 21.5**	**+0.2**
COEN				IAmb		IAmb	00 36 48.8		
	comp=Z,14nm,1.0s								
KIWB	**Kanaga Island**	**40.68**	**40**	P		**P**	**00 35 24.2**	**-0.9**
ADK	**Adak**	**40.96**	**40**	P		**P**	**00 35 27.1**	**-0.2**
GSTR	**Great Sitkin T**	**41.40**	**40**	P		**P**	**00 35 29.3**	**-1.6**
UGM	**Wanagama**	**44.87**	**225**	P		**P**	**00 35 55.7**	**-3.1**
WMQ	**Urumqi**	**45.85**	**306**	*eP*		**P**	**00 36 08.4**	**+2.3**
WB0	**Warramunga Arr**	**46.25**	**188**	P		**P**	**00 36 08.9**	**-0.4**
WB0				IAmb		IAmb	00 36 09.6		
	comp=Z,13nm,0.9s								
WR0	**Warramunga Arr**	**46.42**	**188**	P		**P**	**00 36 10.2**	**-0.4**
WR0				IAmb		IAmb	00 36 11.0		
	comp=Z,7.6nm,0.9s								
WB2	**Warramunga Arr**	**46.43**	**188**	P		**P**	**00 36 10.4**	**-0.3**
WB2				IAmb		IAmb	00 36 11.1		
	comp=Z,9.0nm,0.8s								
WRA	**Warramunga Arr**	**46.43**	**188**	P		**P**	**00 36 10.3**	**-0.4**
	comp=Z,4.2nm,0.4s,baz=4.5,slow=7.7,SNR=84								
WRA	**Warramunga Arr**	**46.43**	**188**	P		**P**	**00 36 09.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**46.53**	**200**	P		**P**	**00 36 11.7**	**+0.3**
FITZ				IAmb		IAmb	00 37 22.9		
	comp=Z,19nm,1.6s								
ZALV	**Zalesovo Beam**	**49.11**	**320**	P		**P**	**00 36 30.3**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=107,slow=7.9,SNR=5.3								
MK31	**Makanchi Array**	**49.85**	**310**	P		**P**	**00 36 36.6**	**+0.4**
MKAR	**Makanchi Array**	**49.85**	**310**	P		**P**	**00 36 36.3**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=92,slow=9.7,SNR=8.4								
MKAR	**Makanchi Array**	**49.85**	**310**	P		**P**	**00 36 36.6**	**+0.4**
ASAR	**Alice Springs**	**50.16**	**188**	P		**P**	**00 36 38.0**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=6.0,slow=5.6,SNR=12								
ASAR	**Alice Springs**	**50.16**	**188**	P		**P**	**00 36 38.4**	**-0.4**
PSA00	**Pilbara Seismi**	**51.73**	**205**	P		**P**	**00 36 49.5**	**-0.8**
PSA00				IAmb		IAmb	00 38 32.0		
	comp=Z,16nm,1.6s								
KURK	**Kurchatov**	**52.48**	**315**	P		**P**	**00 36 55.5**	**+0.1**
KURBB	**Kurchatov Arra**	**52.54**	**315**	P		**P**	**00 36 55.9**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=92,slow=7.8,SNR=25								
N18K	**Kilae Creek**	**54.45**	**33**	P		**P**	**00 37 10.4**	**+1.0**
N18K				IAmb		IAmb	00 39 02.4		
	comp=Z,18nm,1.6s								
O18K	**Koktuh Hills**	**54.66**	**34**	P		**P**	**00 37 12.8**	**+1.9**
O18K				IAmb		IAmb	00 39 00.4		
	comp=Z,15nm,1.4s								
SVW2	**Sparrevohn**	**54.67**	**32**	P		**P**	**00 37 11.9**	**+1.0**
SVW2				IAmb		IAmb	00 39 16.9		
	comp=Z,23nm,1.8s								
KSH	**Kashi**	**54.73**	**301**	P		**P**	**00 37 16.6**	**+4.7**
KSH				pmax		pmax			
	comp=Z,2.0nm,0.6s								
TTA	**Tatalina**	**54.79**	**30**	P		**P**	**00 37 12.5**	**+0.7**
TTA				IAmb		IAmb	00 38 42.3		
	comp=Z,24nm,2.0s								
N19K	**Bonanza Creek**	**55.15**	**33**	P		**P**	**00 37 15.7**	**+1.3**
N19K				IAmb		IAmb	00 38 16.9		
	comp=Z,34nm,1.9s								
L19K	**White Mountain**	**55.18**	**31**	P		**P**	**00 37 15.9**	**+1.3**
L19K				IAmb		IAmb	00 39 03.7		
	comp=Z,12nm,1.6s								
P19K	**Oil Pt**	**55.63**	**34**	P		**P**	**00 37 18.3**	**+0.5**
K20K	**Telida**	**55.73**	**30**	P		**P**	**00 37 20.0**	**+1.6**
K20K				IAmb		IAmb	00 37 47.7		
	comp=Z,18nm,1.8s								
KDAK	**Kodiak Island**	**55.80**	**37**	P		**P**	**00 37 19.4**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=300,slow=8.4,SNR=6.0								
KDAK	**Kodiak Island**	**55.80**	**37**	P		**P**	**00 37 19.6**	**+0.7**
J20K	**Nowinta River**	**55.84**	**29**	P		**P**	**00 37 20.8**	**+1.7**
IMAR	**Indian Mountai**	**56.33**	**27**	P		**P**	**00 37 23.7**	**+1.2**
PPLA	**Purkeypile**	**56.51**	**30**	P		**P**	**00 37 25.4**	**+1.5**
CAST	**Castle Rocks**	**56.63**	**30**	P		**P**	**00 37 26.1**	**+1.5**
CNPM	**China Poot**	**56.63**	**35**	P		**P**	**00 37 24.9**	**+0.2**
H21K	**Melozitna Rive**	**56.66**	**27**	P		**P**	**00 37 26.6**	**+1.9**
BRLK	**Bradley Lake**	**56.82**	**34**	P		**P**	**00 37 26.0**	**-0.1**
I21K	**Tanana**	**56.92**	**28**	P		**P**	**00 37 28.3**	**+1.7**
KTH	**Kantishna Hill**	**57.16**	**30**	P		**P**	**00 37 29.7**	**+1.3**
KTH				IAmb		IAmb	00 38 30.5		
	comp=Z,22nm,1.8s								
BPAW	**Bear Paw Mtn.**	**57.20**	**29**	P		**P**	**00 37 30.0**	**+1.4**
TRF	**Thorofare Moun**	**57.43**	**30**	P		**P**	**00 37 31.1**	**+0.7**
BRVK	**Borovoye**	**57.68**	**318**	P		**P**	**00 37 32.6**	**+0.5**
GHO	**Glory Hole Cre**	**57.92**	**32**	P		**P**	**00 37 34.6**	**+0.9**
GHO				IAmb		IAmb	00 38 19.6		
	comp=Z,17nm,1.6s								
STKA	**Stephens Creek**	**57.93**	**179**	P		**P**	**00 37 32.6**	**-1.3**
	comp=Z,2.2nm,0.5s,baz=347,slow=7.1,SNR=4.7								
STKA	**Stephens Creek**	**57.93**	**179**	P		**P**	**00 37 33.5**	**-0.5**
H23K	**Yukon River**	**58.01**	**27**	P		**P**	**00 37 35.3**	**+1.1**
MCK	**McKinley**	**58.06**	**30**	P		**P**	**00 37 35.1**	**+0.5**
MCK				IAmb		IAmb	00 37 36.2		
	comp=Z,5.9nm,0.9s								
RND	**Reindeer**	**58.07**	**30**	P		**P**	**00 37 35.2**	**+0.6**
FORT	**Forrest**	**58.08**	**193**	P		**P**	**00 37 34.6**	**-0.4**
NEA2	**Nenana**	**58.08**	**29**	P		**P**	**00 37 35.6**	**+1.0**
SML	**Sawmill**	**58.20**	**32**	P		**P**	**00 37 36.2**	**+0.7**
KK31	**Karatay Array**	**58.36**	**306**	P		**P**	**00 37 37.4**	**+0.5**
KKAR	**Karatay Array**	**58.36**	**306**	P		**P**	**00 37 37.3**	**+0.4**
KKAR	**Karatay Array**	**58.36**	**306**	P		**P**	**00 37 37.4**	**+0.5**
KKAR				IAmb		IAmb	00 37 38.2		
	comp=Z,2.7nm,0.6s								
MDM	**Murphy Dome**	**58.47**	**28**	P		**P**	**00 37 38.0**	**+0.7**
MDM				IAmb		IAmb	00 38 17.2		
	comp=Z,19nm,2.0s								
CCB	**Clear Creek Bu**	**58.63**	**29**	P		**P**	**00 37 39.4**	**+1.1**
CCB				IAmb		IAmb	00 38 46.2		
	comp=Z,20nm,1.9s								
SCM	**Sheep Creek Mo**	**58.68**	**32**	P		**P**	**00 37 39.7**	**+0.9**
H24K	**Noodor Dome**	**58.70**	**27**	P		**P**	**00 37 40.1**	**+1.3**
DHY	**Denali Highway**	**58.72**	**30**	P		**P**	**00 37 39.6**	**+0.4**
DHY				IAmb		IAmb	00 39 46.8		
	comp=Z,18nm,1.9s								
BBOO	**Buckleboo**	**59.01**	**184**	P		**P**	**00 37 40.7**	**-0.6**
IL31		**59.03**	**28**	P		**P**	**00 37 40.9**	**-0.1**
ILAR	**Eielson Array**	**59.03**	**28**	P		**P**	**00 37 40.6**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=253,slow=5.5,SNR=12								
GAR	**Garm**	**59.15**	**301**	P		**P**	**00 37 43.2**	**+0.7**
GAR				IAmb		IAmb	00 39 56.0		
	comp=Z,10nm,1.5s								
KLU	**Klutina**	**59.34**	**32**	P		**P**	**00 37 44.1**	**+0.8**
KLU				IAmb		IAmb	00 37 44.7		
	comp=Z,3.9nm,0.6s								
PAX	**Paxson**	**59.58**	**31**	P		**P**	**00 37 45.8**	**+0.9**
N25K	**Chitina, Valde**	**59.98**	**32**	P		**P**	**00 37 48.8**	**+1.2**
N25K				IAmb		IAmb	00 38 01.7		
	comp=Z,19nm,1.9s								
BMRM	**Bremner River**	**59.98**	**33**	P		**P**	**00 37 48.6**	**+1.0**
BMRM				IAmb		IAmb	00 37 49.3		
	comp=Z,16nm,1.3s								
SCRK	**Sand Creek**	**60.26**	**29**	P		**P**	**00 37 50.1**	**+0.6**
SCRK				IAmb		IAmb	00 37 50.6		
	comp=Z,5.7nm,0.5s								
GLB	**Gilahina Butte**	**60.36**	**32**	P		**P**	**00 37 50.7**	**+0.6**
GLB				IAmb		IAmb	00 38 17.6		
	comp=Z,8.7nm,1.4s								
BERG	**Berg Lake**	**60.44**	**34**	P		**P**	**00 37 50.7**	**+0.1**
BERG				IAmb		IAmb	00 37 52.6		
	comp=Z,7.4nm,0.8s								
VRDI	**Verde Repeater**	**60.53**	**33**	P		**P**	**00 37 51.8**	**+0.3**
VRDI				IAmb		IAmb	00 37 53.1		
	comp=Z,16nm,1.7s								
M26K	**Nabesna, AK**	**60.72**	**31**	P		**P**	**00 37 54.0**	**+1.4**
M26K				IAmb		IAmb	00 39 45.3		
	comp=Z,13nm,2.0s								
TGL	**Tana Glacier**	**60.85**	**33**	P		**P**	**00 37 54.4**	**+0.9**
TGL				IAmb		IAmb	00 39 34.4		
	comp=Z,13nm,1.4s								
WAX	**Waxell Ridge**	**60.85**	**34**	P		**P**	**00 37 54.6**	**+1.1**
WAX				IAmb		IAmb	00 40 08.8		
	comp=Z,9.3nm,0.8s								
L27K	**Beaver Creek,**	**61.24**	**30**	P		**P**	**00 37 56.5**	**+0.5**
L27K				IAmb		IAmb	00 38 49.0		
	comp=Z,12nm,1.9s								
M27K	**Edge Creek, AK**	**61.24**	**31**	P		**P**	**00 37 57.1**	**+1.0**
M27K				IAmb		IAmb	00 38 04.0		
	comp=Z,7.6nm,1.4s								
BCAR	**Beaver Creek A**	**61.26**	**30**	P		**P**	**00 37 57.3**	**+1.2**
GRNC	**Granite Creek**	**61.38**	**33**	P		**P**	**00 37 58.0**	**+0.8**
GRNC				IAmb		IAmb	00 39 59.7		
	comp=Z,15nm,1.5s								
TABL	**Table Mountain**	**61.70**	**33**	P		**P**	**00 37 59.8**	**+0.5**
M30M	**Minto, Yukon**	**63.58**	**31**	P		**P**	**00 38 12.4**	**+1.2**
M30M				IAmb		IAmb	00 38 26.4		
	comp=Z,17nm,1.8s								
N31M	**Braeburn, Yuko**	**64.19**	**32**	P		**P**	**00 38 16.6**	**+1.4**
INK	**Inuvik**	**64.28**	**24**	P		**P**	**00 38 14.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=283,slow=5.8,SNR=5.5								
INK	**Inuvik**	**64.28**	**24**	P		**P**	**00 38 15.7**	**+0.1**
INK				IAmb		IAmb	00 39 18.2		
	comp=Z,6.9nm,1.8s								
ABKAR	**Akbulak array**	**64.58**	**314**	P		**P**	**00 38 18.0**	**+0.1**
ABKAR				IAmb		IAmb	00 38 18.4		
	comp=Z,3.1nm,0.7s								
ABKAR	**Akbulak array**	**64.58**	**314**	P		**P**	**00 38 17.9**	**+0.1**
A36M	**Sachs Harbour**	**66.45**	**20**	P		**P**	**00 38 29.7**	**+0.4**
A36M				IAmb		IAmb	00 38 31.2		
	comp=Z,3.7nm,0.8s								
C36M	**Paulatuk**	**67.46**	**22**	P		**P**	**00 38 36.0**	**+0.4**
GRNB	**Grenville Isla**	**68.84**	**39**	P		**P**	**00 38 45.0**	**+0.7**
EUNU	**Eureka**	**70.81**	**8**	P		**P**	**00 38 56.4**	**+0.5**
EUNU				IAmb		IAmb	00 40 44.6		
	comp=Z,8.7nm,1.5s								
SPB2	**Spitsbergen Ar**	**70.84**	**350**	P		**P**	**00 38 56.7**	**+0.7**
RES	**Resolute Bay**	**73.09**	**13**	P		**P**	**00 39 09.6**	**+0.4**
RES				IAmb		IAmb	00 39 38.2		
	comp=Z,16nm,1.9s								
ARCES	**ARCESS Array B**	**73.76**	**341**	P		**P**	**00 39 12.2**	**-0.9**
	comp=Z,3.8nm,1.0s,baz=27,slow=2.2,SNR=5.8								
FIA1	**FINESS Array S**	**77.96**	**333**	P		**P**	**00 39 36.2**	**-0.5**
FINES	**FINESS Array B**	**77.96**	**333**	P		**P**	**00 39 36.3**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=66,slow=4.6,SNR=30								
FINES	**FINESS Array B**	**77.96**	**333**	P		**P**	**00 39 36.5**	**-0.3**
WALA	**Waterton Lakes**	**79.92**	**40**

PET				*e*S		**Sn**	00 47 01.2	**-0.2**
SPN	**Mys Shipunski**	**0.85**	**129**	*e*P		**Pn**	00 46 44.3	**+0.3**
SPN				*e*S		**Sn**	00 47 03.0	**-0.6**
PETK	**Petropavlovsk-**	**0.92**	**235**	Pn		**Pn**	00 46 42.8	**-1.7**
	1.2nm,0.3s,baz=44,slow=5.2,SNR=44							
PETK				Sn		Sn	00 47 14.8	+10
	0.8nm,0.3s,baz=170,slow=34,SNR=2.7							
KRMR	**Karymshinskiy**	**0.95**	**211**	*e*P		**Pn**	00 46 45.0	**+0.3**
KRMR				*e*S		**Sn**	00 47 04.7	**-0.2**
GRL	**Gorelyy**	**1.21**	**206**	*i* P		**Pn**	00 46 48.1	**+1.1**
RUS	**Russkaya**	**1.24**	**192**	*e*P		**Pn**	00 46 47.4	**+0.3**
RUS				*e*S		**Sn**	00 47 08.6	**-0.5**
MTVR	**Mutnovka**	**1.25**	**202**	*e*P		**Pn**	00 46 48.5	**+1.1**
MTVR				*e*S		**Sn**	00 47 10.8	**+1.2**
ASAK	**Asacha**	**1.41**	**207**	*i* P		**Pn**	00 46 49.9	**+1.1**
TUMD	**Tumrok D**	**1.78**	**28**	*e*P		**Pn**	00 46 53.2	**+0.8**
TUMR	**Tumrok**	**1.79**	**23**	*e*P		**Pn**	00 46 54.0	**+1.4**
TUMR				*e*S		**Sn**	00 47 20.0	**+0.9**
MKZ	**Mys Kozlova**	**1.88**	**60**	*e*P		**Pn**	00 46 54.2	**+0.8**
MKZ				*e*S		**Sn**	00 47 19.3	**-1.2**
KDTR	**Khodutka, Kamc**	**1.91**	**196**	*e*P		**Pn**	00 46 54.0	**+0.2**
KDTR				*e*S		**Sn**	00 47 20.2	**-0.8**
KMNR	**Kamenistaya**	**2.25**	**19**	*e*P		**Pn**	00 46 57.9	**+0.2**
ESO	**Esso**	**2.29**	**357**	*e*P		**Pn**	00 46 58.4	**+0.3**
KBTR	**Krutoberegovo**	**3.41**	**39**	*e*P		**Pn**	00 47 13.0	**+1.4**
BKI	**Bering**	**4.40**	**66**	*e*S		**Sn**	00 48 12.8	**-2.8**
ILAR	**Eielson Array**	**28.93**	**46**	P		P	00 52 29.9	+29
	0.4nm,0.8s,baz=265,slow=9.0,SNR=2.6							
MKAR	**Makanchi Array**	**47.30**	**295**	P		**P**	**00 54 34.4**	**-0.1**
	0.3nm,0.5s,baz=62,slow=6.8,SNR=5.1							

NNC 22 01:22:15.4±1.6, 53.58N×87.86E, h0km, mb3.6, mpv3.3, 6C-6D, Error ellipse: s-maj=11.5km s-min=7.6km az=75.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.84**	**283**	⇑Pn	Pn	01 22 47.7	-0.5
	2.5nm,0.7s,baz=101,slow=15						
ZAA0				⇓S	Sb	01 23 13.3	-0.2
	4.6nm,0.5s,baz=100,slow=23						
KURK	**Kurchatov**	**6.37**	**247**	⇑Pn	Pn	01 23 51.0	+0.7
	2.8nm,0.6s						
KURK				⇑Sn	Sn	01 25 03.6	-0.1
	2.7nm,0.7s						
KURK				⇓Lg	Lg	01 25 35.4	
	6.7nm,0.7s						
KURBB	**Kurchatov Arra**	**6.46**	**246**	⇑Pn	Pn	01 23 52.9	+1.3
	5.9nm,0.5s						
KURBB				⇓Sn	Sn	01 25 08.0	+1.9
	5.0nm,0.6s						
KURBB				⇓Lg	Lg	01 25 40.3	
	8.1nm,0.6s						
MK31	**Makanchi Array**	**7.67**	**210**	⇓Pn	Pn	01 24 10.3	+2.0
	0.4nm,0.4s,baz=28,slow=13,SNR=18						
MK31				⇑Lg	Lg	01 26 20.3	
	9.4nm,1.2s,baz=36,slow=31,SNR=7.4						
MAKZ	**Makanchi**	**7.76**	**211**	⇓Pn	Pn	01 24 07.8	-1.7
	3.9nm,1.4s						
MAKZ				⇑Lg	Lg	01 26 19.6	
	6.4nm,1.1s						

INET 22 01:22:54.2±0.9, 10.96N×86.83W, h15km±11km, ML4.1
NEIC 22 01:22:54.5±2.3, 11.17N±0.06×86.72W±0.07, h10km±2km, mb4.3/24, Error ellipse: s-maj=14.0km s-min=7.1km az=236.0
UCR 22 01:22:55.9±2.0, 10.75N×86.78W, h24km±121km, MW4.5, mb4.3(NEIC)
ISC 22 01:22:53.6±1.5, 11.08N±0.04×86.79W±0.05, h18km±5km, n68, σ1°33/70, mb4.3/11, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASN	**Masaya**	**1.10**	**35**	*e*P	**Pg**	**01 23 15.9**	**+1.0**
COPN	**Copaltepe**	**1.11**	**10**	*e*P	**Pg**	**01 23 15.6**	**+0.5**
TISN	**Laguna Tiscapa**	**1.17**	**26**	*e*P	**Pg**	**01 23 16.5**	**+0.2**
MGAN	**Managua**	**1.19**	**27**	*e*P	**Pg**	**01 23 16.6**	**0.0**
HZTE	**Horizontes, Gu**	**1.23**	**107**	Pn	**Pb**	**01 23 16.4**	**+0.1**
HZTE	**Horizontes, Gu**	**1.23**	**107**	*e*P	**Pb**	**01 23 16.3**	**+0.1**
CONN	**Concepcion**	**1.24**	**67**	*e*P	**Pb**	**01 23 16.8**	**+0.3**
MOMN	**Momotombo**	**1.34**	**11**	*e*P	**Pb**	**01 23 18.6**	**+0.4**
MOMN				*e*S	**Sg**	**01 23 36.3**	**-0.7**
HUEN		**1.39**	**26**	*e*P	**Pb**	**01 23 19.3**	**+0.3**
BUEV	**Buena Vista**	**1.39**	**102**	*i* P	**Pn**	**01 23 18.6**	**+0.6**
BUEV				⇑*e*P	**Pn**	**01 23 18.7**	**+0.6**
BUEV				*i* S	**Sb**	**01 23 36.8**	**+0.3**
GB1A	**Borinquen Arri**	**1.39**	**101**	*i* P	**Pn**	**01 23 18.8**	**+0.6**
GB1A				*i* S	**Sn**	**01 23 36.0**	**-0.2**
CNGN	**Cerro Negro**	**1.41**	**4**		**Pn**	**01 23 18.1**	**-0.3**
CNGN	**Cerro Negro**	**1.41**	**4**	*e*P	**Pn**	**01 23 18.6**	**+0.2**
CNGN				IAML		01 23 53.1	
	comp=E,2μm,0.3s						
SAJU	**San Juanillo,**	**1.47**	**133**	⇓*e*P	**Pn**	**01 23 17.9**	**-1.2**
SAJU				*e*S	**Sn**	**01 23 34.7**	**-3.0**
ORTG	**Ortega, Santa**	**1.49**	**119**		**Pn**	**01 23 19.7**	**+0.2**
GUAB	**Guayabo de Bag**	**1.58**	**103**	*i* P	**Pb**	**01 23 21.9**	**-0.4**
GUAB				*i* S	**Sn**	**01 23 40.7**	**0.0**
DUNO	**Dulce Nombre,**	**1.62**	**128**	Pn	**Pb**	**01 23 24.1**	**+1.2**
CRIN	**San Cristobal**	**1.63**	**351**		**Pn**	**01 23 22.2**	**+0.8**
CRIN	**San Cristobal**	**1.63**	**351**	*e*P	**Pb**	**01 23 22.8**	**-0.4**
CRIN				IAML		01 23 54.8	
	comp=E,3μm,0.3s						
CUI	**Cuipilapa**	**1.65**	**105**	*e*P	**Pn**	**01 23 22.5**	**+0.8**
CUI				*e*S	**Sn**	**01 23 42.8**	**+0.2**
VMAR	**Armenia, Volca**	**1.66**	**99**	⇑*e*P	**Pb**	**01 23 23.0**	**-0.7**
VMAR				*e*S	**Sb**	**01 23 45.2**	**+0.9**
BRAN	**Las Pilas**	**1.69**	**15**	*e*P	Pn	01 23 16.2	-5.9
BOAB	**BOACO BROADBAN**	**1.75**	**39**	Pn	**Pn**	**01 23 23.8**	**+0.8**
BOAB	**BOACO BROADBAN**	**1.75**	**39**	*e*P	**Pn**	**01 23 24.0**	**+1.0**
PTEN	**Parque Tenorio**	**1.81**	**101**	*i* P	**Pn**	**01 23 25.2**	**+1.3**
ACON	**Acoyapa**	**1.81**	**61**		**Pn**	**01 23 24.3**	**+0.4**
JTS	**Las Juntas de**	**1.97**	**113**	Pn	**Pb**	**01 23 28.2**	**-0.7**
JTS	**Las Juntas de**	**1.97**	**113**	*e*P	**Pn**	**01 23 27.0**	**+0.9**
MATN	**Matagalpa**	**2.02**	**25**		**Pn**	**01 23 27.6**	**+0.8**
MATN	**Matagalpa**	**2.02**	**25**	*e*P	**Pn**	**01 23 28.0**	**+1.1**
CSGN	**Cosiguina Volc**	**2.03**	**338**	*e*P	**Pn**	**01 23 28.0**	**+1.1**
CAO2	**Cobano, Puntar**	**2.16**	**130**	Pn	**Pb**	**01 23 31.6**	**-0.6**
LAFE	**Finca La Fe, P**	**2.24**	**124**	*e*P	**Pn**	**01 23 29.4**	**-0.4**
JACO	**JACO, Garabito**	**2.53**	**124**		**Pn**	**01 23 35.9**	**+2.2**
TGUH	**Tegucigalpa,Un**	**2.99**	**351**	Pn	**Pn**	**01 23 41.5**	**+1.3**
CVTR	**Volcan Turrial**	**3.16**	**109**	Pn	**Pn**	**01 23 44.8**	**+2.0**
RIMA	**Rio Macho**	**3.16**	**114**		**Pn**	**01 23 44.5**	**+1.9**
RIMA	**Rio Macho**	**3.16**	**114**	*e*P	**Pn**	**01 23 44.3**	**+1.7**
RIMA				*e*S	**Sn**	**01 24 22.4**	**+2.4**
PEZE	**Perez Zeledon,**	**3.50**	**119**	Pn	**Pn**	**01 23 49.3**	**+2.1**
SNET	**Serv Nac Est T**	**3.52**	**318**	Pn	**Pn**	**01 23 50.0**	**+2.5**
SRBA	**San Rafael, Bu**	**3.85**	**118**		**Pn**	**01 23 54.3**	**+2.3**
DRK0	**Durika**	**3.93**	**117**		**Pn**	**01 23 55.7**	**+2.5**
RIOS	**Rincon, Osa**	**4.00**	**126**	Pn	**Pn**	**01 23 56.2**	**+2.2**
MTO3	**Montecristo**	**4.14**	**323**	Pn	**Pn**	**01 23 57.5**	**+1.4**
ESQI	**Esquipulas**	**4.26**	**325**	Pn	**Pn**	**01 23 59.8**	**+2.2**
PIRO	**Carate, Puerto**	**4.32**	**128**	*e*P	**Pn**	**01 24 00.6**	**+2.2**
BRU2	**Volcan**	**4.63**	**119**	Pn	**Pn**	**01 24 04.9**	**+2.1**
LRAL	**Lakeview Retre**	**21.85**	**360**	P	**P**	**01 27 45.2**	**+0.1**
WHTX	**Lake Whitney,**	**23.02**	**336**	P	**P**	**01 27 58.7**	**+1.1**
WHTX				IAmb	IAmb	01 28 06.5	
	comp=Z,6.6nm,0.8s						
TX31	**Lajitas Ar. Si**	**24.04**	**322**	P	**P**	**01 28 08.4**	**+0.6**
TX31				IAmb	IAmb	01 28 17.8	
	comp=Z,7.1nm,0.9s						
TX32	**Lajitas Array**	**24.04**	**322**	P	**P**	**01 28 08.2**	**+0.4**
CPCT	**Cooper Cave**	**24.35**	**4**		**P**	**01 28 10.6**	**+0.1**
CPCT				IAmb	IAmb	01 28 13.5	
	comp=Z,6.4nm,0.8s						
WHAR	**Woody Hollow**	**24.61**	**349**	IAmb	IAmb	01 28 13.3	
	comp=Z,5.4nm,0.8s						
CLTN	**Cedars of Leba**	**24.90**	**1**	P	**P**	**01 28 13.6**	**-1.9**
LCAR	**Lake Charles**	**25.19**	**352**	P	**P**	**01 28 17.3**	**-0.7**
LCAR				IAmb	IAmb	01 28 17.8	
	comp=Z,4.5nm,0.8s						
U40A	**Yellville**	**25.75**	**349**	IAmb	IAmb	01 28 23.4	
	comp=Z,6.4nm,0.9s						
S39A	**Bolivar**	**27.14**	**349**	IAmb	IAmb	01 28 35.9	
	comp=Z,5.8nm,0.8s						
Q51A	**Peebles**	**28.00**	**6**	P	**P**	**01 28 43.5**	**+0.1**
Q51A				IAmb	IAmb	01 28 44.7	
	comp=Z,9.6nm,0.8s						
P38A	**Dawn**	**29.05**	**349**	IAmb	IAmb	01 28 52.1	
	comp=Z,6.0nm,0.7s						
HDIL	**Hopedale**	**29.44**	**356**	P	**P**	**01 28 54.7**	**-1.5**
N49A	**Columbus Grove**	**29.81**	**4**	P	**P**	**01 28 59.4**	**-0.1**
SCIA	**State Center**	**31.22**	**351**	P	**P**	**01 29 10.2**	**-1.7**
SPMN	**Marine on St.**	**34.41**	**352**	P	**P**	**01 29 38.1**	**-1.7**
F36A	**Milaca**	**35.13**	**352**	IAmb	IAmb	01 29 45.2	
	comp=Z,4.3nm,0.7s						
AGMN	**Agassiz Nation**	**37.87**	**350**	IAmb	IAmb	01 30 09.4	
	comp=Z,4.9nm,1.1s						
NEA2	**Nenana**	**68.33**	**336**	P	**P**	**01 33 54.0**	**+0.5**
FINES	**FINESS Array B**	**90.91**	**26**	P	**P**	**01 35 53.6**	**-2.4**
FIA1	**FINESS Array S**	**90.91**	**26**	P	**P**	**01 35 53.9**	**-2.1**

JMA 22 01:23:34.8±0.1, 30.19N×140.28E, h231km, M4.0
NEIC 22 01:23:35.6±1.3, 30.05N±0.09×139.7E±0.1, h181km±8km, mb4.1/9, Error ellipse: s-maj=19.1km s-min=11.9km az=67.0
IDC 22 01:23:35.8±1.0, 30.09N×139.79E, h179km±10km, mb3.5/16, mb1 3.6/21, mb1mx3.5/42, mbtmp4.0/21, Error ellipse: s-maj=18.0km s-min=9.8km az=63.0
ISC 22 01:23:37.3±0.5, 30.19N±0.05×139.93E±0.09, h200km, n56, σ1°96/62, mb3.8/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.91**	**358**	P	**Pn**	**01 24 26.3**	**+0.4**
JHJ2	**Mitsune**	**2.91**	**358**	Pn	**Pn**	**01 24 24.4**	**-1.5**
JHJ	**Hachijo jima 2**	**2.92**	**358**	P	**Pn**	**01 24 26.4**	**+0.4**
	48nm,0.3s,baz=86,slow=19,SNR=18						
JHJ				S	**Sn**	**01 25 01.0**	**-3.2**
	44nm,0.3s,baz=107,slow=23,SNR=9.5						
CBIJ	**Chichi jima**	**3.66**	**147**	P	**Pn**	**01 24 32.2**	**-2.8**
CBIJ				S	**Sn**	**01 25 16.5**	**-3.7**
JCJ	**Chichijima**	**3.66**	**147**	P	**Pn**	**01 24 32.3**	**-2.8**
	58nm,0.3s,baz=18,slow=13,SNR=63						
JCJ				S	**Sn**	**01 25 16.3**	**-3.9**
	60nm,0.3s,baz=255,slow=23,SNR=11						
JCJ	**Chichijima**	**3.66**	**147**		**Pn**	**01 24 32.5**	**-2.5**
TK02	**Tokai 2**	**4.17**	**334**	P	**Pn**	**01 24 42.6**	**+1.6**
TTO1	**TONANKAI O.B.S**	**4.34**	**323**	P	**Pn**	**01 24 44.5**	**+1.4**
BSO1	**Boso 1**	**4.54**	**11**	P	**Pn**	**01 24 44.0**	**-1.3**
BSO1				*e*S	**Sn**	**01 25 36.4**	**-2.6**
BSO3	**Boso 3**	**4.62**	**6**	P	**Pn**	**01 24 45.6**	**-1.0**
BSO3				*e*S	**Sn**	**01 25 36.5**	**-4.9**
BSO4	**Boso 4**	**4.80**	**4**	P	**Pn**	**01 24 48.3**	**-0.7**
JIE	**Ise**	**5.00**	**328**	P	**Pn**	**01 24 52.9**	**+1.2**
JOD2	**Odawara 2**	**5.11**	**352**	P	**Pn**	**01 24 53.2**	**+0.1**
JTNC	**Tanabenakahech**	**5.15**	**316**	P	**Pn**	**01 24 54.8**	**+1.1**
JNY	**Yasuok**	**5.44**	**342**	P	**Pn**	**01 24 58.3**	**+0.9**
INU	**Inuyama**	**5.70**	**335**	Pn	**Pn**	**01 24 58.9**	**-1.7**
JGF	**Kuroka**	**5.81**	**339**		**Pn**	**01 25 01.7**	**-0.4**
JRY	**Ryogami san**	**5.87**	**352**	P	**Pn**	**01 25 02.3**	**-0.6**
JYT	**Yasato**	**6.03**	**2**	S	**Sn**	**01 26 08.7**	**-5.4**
JYT	**Yasato**	**6.03**	**2**	Pn	**Pn**	**01 25 04.2**	**-0.6**
JAG	**Ashikaga**	**6.23**	**356**	P	**Pn**	**01 25 05.0**	**-2.5**
JHO	**Hitachi**	**6.42**	**5**	P	**Pn**	**01 25 07.4**	**-2.6**
MJAR	**Matsushiro Arr**	**6.50**	**348**	P	**Pn**	**01 25 10.2**	**-0.8**
	0.6nm,0.3s,baz=165,slow=14,SNR=8.3						
MJAR				S	**Sn**	**01 26 21.7**	**-3.5**
	0.4nm,0.3s,baz=167,slow=27,SNR=4.8						
MJB9	**Matsu-Tunnel**	**6.50**	**348**	Pn	**Pn**	**01 25 10.0**	**-1.1**
JSD	**Sado**	**7.95**	**350**		**Pn**	**01 25 27.4**	**-2.4**
KSRS	**Korea Array**	**12.33**	**309**	P	**Pn**	**01 26 26.0**	**-0.3**
	0.2nm,0.3s,baz=117,slow=13,SNR=2.0						
USRK	**Ussuriysk Ar.**	**15.34**	**338**	P	**Pn**	**01 27 01.9**	**-1.6**
	baz=142,slow=10,SNR=6.8						
KLR	**Kul'dur**	**20.01**	**344**	P	**P**	**01 27 54.2**	**-0.3**
	11nm,0.6s,baz=168,slow=11,SNR=31						
ULN	**Ulaanbaatar**	**30.73**	**314**	P	**P**	**01 29 32.6**	**-1.2**
ULN				IAmb	IAmb	01 29 34.6	
	comp=Z,2.4nm,0.5s						
SONM	**Songino Array**	**31.13**	**314**	P	**P**	**01 29 37.4**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=115,slow=8.0,SNR=7.2						
SONM	**Songino Array**	**31.13**	**314**	IAmb	IAmb	01 29 38.9	
	comp=Z,1.4nm,1.0s						
SEY	**Seymchan**	**33.73**	**10**	P	**P**	**01 30 02.5**	**+3.1**
	comp=Z,0.6nm,0.3s,baz=194,slow=8.3,SNR=7.0						
CMAR	**Chiang Mai Arr**	**38.94**	**262**	P	**P**	**01 30 40.8**	**-3.3**
ZAA0	**Zalesovo Array**	**45.87**	**318**	P	**P**	**01 31 39.4**	**-0.1**
ZALV	**Zalesovo Beam**	**45.87**	**318**	P	**P**	**01 31 39.4**	**0.0**
	comp=Z,1.0nm,0.3s,baz=92,slow=8.3,SNR=5.6						
MKAR	**Makanchi Array**	**47.01**	**307**	P	**P**	**01 31 47.7**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=91,slow=10,SNR=7.0						
MKAR				PcP	**PcP**	**01 33 19.4**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=101,slow=1.5,SNR=1.9						
NRIK	**Noril'sk**	**49.05**	**338**	P	**P**	**01 32 04.4**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=122,slow=8.3,SNR=7.7						
NRIK	**Noril'sk**	**49.05**	**338**	P	**P**	**01 32 04.6**	**+0.9**
NRIK				IAmb	IAmb	01 32 05.0	
	comp=Z,8.6nm,1.1s						
WRA	**Warramunga Arr**	**50.13**	**187**	P	**P**	**01 32 12.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=4.8,slow=7.6,SNR=6.0						
WRA				PcP	**PcP**	**01 33 29.0**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=1.1,slow=7.6,SNR=1.2						
KKAR	**Karatay Array**	**55.70**	**304**	P	**P**	**01 32 52.4**	**-0.6**
ILAR	**Eielson Array**	**55.98**	**30**	P	**P**	**01 32 55.4**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=251,slow=5.5,SNR=2.6						
INK	**Inuvik**	**61.06**	**25**	P	**P**	**01 33 30.7**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=270,slow=4.2,SNR=16						
INK	**Inuvik**	**61.06**	**25**	P	**P**	**01 33 30.4**	**+0.9**
INK				IAmb	IAmb	01 33 31.1	
	comp=Z,1.5nm,0.4s						
ABKAR	**Akbulak array**	**61.54**	**313**	P	**P**	**01 33 32.4**	**-0.7**
ABKAR				IAmb	IAmb	01 33 35.3	
	comp=Z,2.5nm,1.2s						
ARCES	**ARCESS Array B**	**69.97**	**340**	P	**P**	**01 34 27.5**	**+0.9**
	comp=Z,3.7nm,0.9s,baz=68,slow=7.4,SNR=6.0						
ARCES	**ARCESS Array B**	**69.97**	**340**	IAmb	IAmb	01 34 33.8	
	comp=Z,1.3nm,1.4s						
YKA	**Yellowknife Ar**	**70.37**	**28**	P	**P**	**01 34 29.9**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=302,slow=6.2,SNR=7.5						
FINES	**FINESS Array B**	**74.30**	**333**	P	**P**	**01 34 52.9**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=66,slow=5.1,SNR=22						
FINES	**FINESS Array B**	**74.30**	**333**	P	**P**	**01 34 50.8**	**-1.5**
LRM	**Limekiln Ridge**	**79.95**	**43**	P	**P**	**01 35 25.4**	**+0.9**
NOA	**NORSAR Array B**	**80.01**	**337**	P	**P**	**01 35 25.2**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=55,slow=7.6,SNR=1.6						
NVAR	**Mina Array Bea**	**80.15**	**51**	P	**P**	**01 35 27.7**	**+2.1**
	comp=Z,1.0nm,0.5s,baz=299,slow=5.4,SNR=7.0						
BRTR	**Keskin Array B**	**82.46**	**312**	P	**P**	**01 35 38.6**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=61,slow=10,SNR=5.0						
TX32	**Lajitas Array**	**95.29**	**52**	P	**P**	**01 36 40.4**	**+1.4**
TXAR	**Lajitas Array**	**95.30**	**52**	P	**P**	**01 36 41.6**	**+2.7**
	comp=Z,0.3nm,0.5s,baz=321,slow=28,SNR=2.2						
LPAZ	**La Paz**	**150.83**	**68**	PKPbc	**PKiKP**	**01 43 08.6**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=342,slow=3.2,SNR=6.6						

INET 22 01:36:41.1±0.3, 10.81N×87.09W, h14km±1km, ML3.1
UCR 22 01:36:46.0±2.1, 10.88N×86.70W, h15km±16km, MW3.7
ISC 22 01:36:42.7±3.0, 11.0N±0.1×86.9W±0.2, h30km, n10, σ1°08/11, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.27**	**14**	*e*P	**Pb**	**01 37 05.3**	**-0.7**
HZTE	**Horizontes, Gu**	**1.31**	**100**	*e*P	**Pb**	**01 37 06.1**	**-0.8**
SAJU	**San Juanillo,**	**1.47**	**126**	*e*P	**Pn**	**01 37 07.9**	**+0.7**
SAJU				*e*S	**Sn**	**01 37 24.6**	**-0.9**
GB1A	**Borinquen Arri**	**1.49**	**95**	*e*P	**Pn**	**01 37 08.7**	**+1.0**
ORTG	**Ortega, Santa**	**1.54**	**112**	*e*P	**Pn**	**01 37 09.4**	**+1.1**
COLC	**Colonia**	**1.70**	**99**	*e*P	**Pb**	**01 37 12.8**	**-0.7**
CUI	**Cuipilapa**	**1.74**	**99**	*e*P	**Pn**	**01 37 12.4**	**+1.4**
VMAR	**Armenia, Volca**	**1.77**	**94**	*e*P	**Pn**	**01 37 12.5**	**+1.2**
ACON	**Acoyapa**	**1.98**	**59**	*e*P	**Pn**	**01 37 15.0**	**+0.7**
LAFE	**Finca La Fe, P**	**2.27**	**120**	*e*P	**Pn**	**01 37 19.0**	**+0.7**

IDC 22 01:37:01.1±1.2, 32.83N×131.02E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/39, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=37.1km s-min=11.4km az=69.0
NIED 22 01:37:02.3, 32.91N×130.95E, h13km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.14; Mθθ2.36; Mφφ-1.22; Mrθ2.56; Mφθ-2.37; Mφr2.78; Fault plane solution: M0 4.71000×10¹⁴ NP1: φs150.00000°, δ46.00000°, λ-18.00000°. NP2: φs253.00000°, δ77.00000°, λ-135.00000°.
JMA 22 01:37:02.3, 32.91N×130.95E, h13km, M3.7 Broadband fault plane solution: P waves. NP1:φs254.00000°, δ89.00000°, λ-134.00000°. NP2:φs163.00000°, δ44.00000°, λ-1.00000°. Principal axes: T Plg30.0000°, Azm18.0000°; N Plg44.0000°, Azm254.0000°; P Plg31.0000°, Azm129.0000°;
JMA Felt II J1.
ISC 22 01:37:03.0±0.8, 32.92N±0.04×130.96E±0.04, h12km, n12, σ1°64/17, mb3.5/4, 1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.21**	**341**	Pg	**Pg**	**01 37 07.0**	**-0.6**
	3μm,0.3s,baz=38,slow=20,SNR=2429						
JNU				Lg	Lg	01 37 10.4	
	6μm,0.3s,baz=54,slow=15,SNR=186						
JNU	**Nakatsue**	**0.21**	**341**	⇓P	**Pg**	**01 37 07.1**	**-0.5**
JNU				*e*S	**Sg**	**01 37 10.6**	**-0.2**
JTA	**Tamana**	**0.36**	**277**	P	**Pg**	**01 37 09.5**	**-0.8**
JTA				S	**Sg**	**01 37 14.6**	**-0.6**
JIU3	**Izumi3**	**0.39**	**199**	⇑P	**Pg**	**01 37 09.8**	**-0.9**
JIU3				S	**Sg**	**01 37 15.4**	**-0.6**
JUS	**Usuki**	**0.68**	**77**	⇓P	**Pg**	**01 37 15.0**	**-1.1**
JUS				S	**Sg**	**01 37 23.7**	**-1.4**
KSRS	**Korea Array**	**5.16**	**332**	Pn	**Pn**	**01 38 21.1**	**+1.0**
	0.4nm,0.3s,baz=144,slow=15,SNR=2.5						
KSRS				Pg	**Pg**	**01 38 38.2**	**-3.6**
	1.1nm,0.3s,baz=149,slow=17,SNR=10						
KSRS				Lg	Lg	01 39 41.8	
	1.7nm,0.3s,baz=154,slow=30,SNR=4.6						
MJAR	**Matsushiro Arr**	**6.97**	**57**	Pn	**Pn**	**01 38 46.7**	**+1.7**
	0.2nm,0.3s,baz=235,slow=13,SNR=5.7						
KLR	**Kul'dur**	**16.31**	**2**	Pn	**P**	**01 40 56.0**	**+1.3**
	0.1nm,0.3s,baz=161,slow=8.8,SNR=7.7						
SONM	**Songino Array**	**23.78**	**316**	P	**P**	**01 42 18.4**	**+2.9**
	1.3nm,0.8s,baz=125,slow=9.8,SNR=4.7						
WRA	**Warramunga Arr**	**52.66**	**176**	P	**P**	**01 46 15.1**	**-2.1**
	0.6nm,0.8s,baz=352,slow=8.4,SNR=2.9						
ASAR	**Alice Springs**	**56.34**	**177**	P	**P**	**01 46 43.7**	**-0.2**
	0.2nm,0.5s,baz=11,slow=14,SNR=5.0						
YKA	**Yellowknife Ar**	**71.49**	**26**	P	**P**	**01 48 23.1**	**0.0**
	0.2nm,0.7s,baz=305,slow=6.6,SNR=2.4						

NNC 22 01:38:58.4±3.0, 36.67N×71.07E, h160km±46km, mb3.0, mpv3.9, Error ellipse: s-maj=25.9km s-min=18.8km az=15.0
ISC 22 01:38:57.4±3.4, 36.6N±0.2×71.0E±0.1, h150km, n10, σ0°65/13, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.90**	**20**	P	**Pn**	**01 40 22.9**	**-0.2**
	SNR=187						
UCH	**Uchtor**	**6.24**	**25**	P	**Pn**	**01 40 27.9**	**+0.2**
	SNR=9.3						
EKS2	**Erkin-Say**	**6.42**	**19**	P	**Pn**	**01 40 29.9**	**+0.3**
	SNR=6.5						
KK31	**Karatay Array**	**6.50**	**357**	⇓P	**Pn**	**01 40 30.5**	**-0.2**
	7.6nm,0.4s,baz=179,slow=12,SNR=135						
KK31				⇓S	**Sn**	**01 41 44.6**	**+0.7**
	3.6nm,0.6s,baz=184,slow=22,SNR=8.8						
AAK	**Ala-Archa**	**6.60**	**23**	P	**Pn**	**01 40 33.4**	**+1.2**
	SNR=11						
CHMS	**Chumysh**	**7.01**	**23**

comp=E,171nm,0.6s
SRIT Nakonsritamara 5.85 102 Pn Pn 02 44 29.9 +0.9
PSI Prapat 8.68 144 Pn **Pn 02 45 08.3 +0.5**
comp=E,1.5nm,0.3s,baz=345,slow=12,SNR=4.6
PSI LR LR 02 48 54.9
comp=E,198nm,18.5s,baz=284,slow=40
RPSI Rantau Prapat 8.76 144 Pn Pn 02 45 08.3 -0.5
CMAR Chiang Mai Arr 9.87 30 Pn **Pn 02 45 26.6 +2.6**
comp=E,0.7nm,0.3s,baz=217,slow=14,SNR=16
CMAR LR LR 02 49 11.5
comp=E,82nm,19.1s,baz=215,slow=38
CMAR Chiang Mai Arr 9.87 30 Pn **Pn 02 45 23.1 -0.9**
CHTO Chiang Mai 10.17 29 Pn **Pn 02 45 27.3 -0.9**
PALK Pallekele 13.22 260 LR LR 02 51 10.7
comp=E,63nm,18.6s,baz=177,slow=37
SHL Shillong 15.71 354 Pn **Pn 02 46 41.4 -2.2**
SHL IAmb IAmb 02 46 46.8
comp=Z,16nm,0.6s
KOHI KOHIMA 15.76 1 *eP* **P 02 46 48.0 +0.3**
TURI Tura 15.93 348 *eP* **P 02 46 51.1 +1.6**
HYBB Hyderabad (bro 16.61 298 *ePn* **Pn 02 46 54.9 0.0**
HYBB *eSn* **Sn 02 49 59.7 +1.3**
HYBB IVMs_BB IVMs_BB 02 51 32.5
comp=Z,58nm,3.5s
PCHI Peechi 17.21 274 *eP* **Pn 02 47 02.2 -0.2**
PCHI *eS* Sn 02 49 47.5 -25
QIZ Qiongzhong 17.98 58 P **Pn 02 47 10.3 -1.6**
QIZ S **Sn 02 50 26.4 -5.1**
QIZ LR LR
comp=N,220nm,18.3s
QIZ LR LR
comp=E,160nm,22.3s
QIZ LR LR
comp=Z,110nm,16.7s
PZH PanZhiHua 18.16 23 P **P 02 47 14.6 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,4.7s
ENH Enshi 25.00 34 P **P 02 48 24.9 -0.4**
ENH IAmb IAmb 02 48 33.7
comp=Z,11nm,0.6s
GOMU GeErMu 26.21 2 P **P 02 48 38.8 +2.2**
GOMU pP pP 02 48 41.9 -3.5
GOMU sP pwP 02 48 46.4 -4.4
GOMU pmax pmax
comp=Z,10.0nm,0.7s
GOMU pmax pmax
comp=Z,26nm,3.6s
H08S3 Diego Garcia H 27.46 231 T T 03 15 59.8
baz=50,slow=76,SNR=5.6
H08S2 Diego Garcia H 27.46 231 T T 03 16 09.3
baz=50,slow=76,SNR=13
H08S1 Diego Garcia H 27.48 231 T T 03 16 13.7
baz=50,slow=76,SNR=11
LZH Lanzhou 27.63 18 *eP* **P 02 48 51.8 +2.6**
LZH pP sP 02 49 01.5 -0.7
LZH pmax pmax
comp=Z,17nm,1.2s
KAPI Kappang 29.78 119 LR LR 03 01 26.3
comp=Z,58nm,19.0s,baz=323,slow=37
NIL Nilore 30.28 324 P **P 02 49 11.9 -0.6**
NIL IAmb IAmb 02 49 14.1
comp=Z,4.2nm,0.6s
NJ2 Nanjing 31.99 43 *eP* **P 02 49 27.8 +0.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
KSH Kashi 33.53 335 P **P 02 49 39.8 -1.4**
KSH pP sP 02 49 53.8 -0.4
KSH pmax pmax
comp=Z,4.0nm,0.6s
WMQ Urumqi 34.23 352 *eP* **P 02 49 50.4 +3.3**
WMQ pmax pmax
comp=Z,27nm,0.7s
HHC Hu-ho-hao-te 34.61 24 *eP* **P 02 49 52.8 +2.3**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,81nm,4.7s
DRK Karamyk 35.41 330 P **P 02 49 58.3 +0.6**
GAR Garm 35.81 328 P **P 02 50 00.2 -0.7**
WSAR Wadi Sarin 36.13 296 LR LR 03 06 41.9
comp=Z,39nm,18.1s,baz=132,slow=40
CHGR Chuyangaron 36.18 326 P **P 02 50 03.9 -0.1**
BTK Batken 36.34 330 P **P 02 50 06.6 +1.2**
BTK IAmb IAmb 02 50 17.8
comp=Z,11nm,1.1s
AAK Ala-Archa 36.75 336 LR LR 03 06 50.7
comp=Z,49nm,21.2s,baz=114,slow=39
MKAR Makanchi Array 38.07 347 P **P 02 50 19.3 -0.6**
comp=Z,1.4nm,0.7s,baz=172,slow=9.9,SNR=12
MKAR LR LR 03 08 09.6
comp=Z,34nm,18.9s,baz=114,slow=40
MKAR Makanchi Array 38.07 347 P **P 02 50 18.9 -1.0**
KK31 Karatay Array 38.84 332 P **P 02 50 26.6 +0.2**
KKAR Karatay Array 38.84 332 P **P 02 50 26.3 -0.1**
SONM Songino Array 39.29 13 P **P 02 50 29.4 -0.9**
comp=Z,1.2nm,1.0s,baz=195,slow=9.7,SNR=5.2
SONM Songino Array 39.29 13 IAmb IAmb 02 50 31.8
comp=Z,2.5nm,1.3s
GEYT Alibeck 42.51 317 P **P 02 50 57.5 +0.7**
comp=Z,6.9nm,0.6s,baz=88,slow=19,SNR=11
GEYT LR LR 03 10 26.1
comp=Z,37nm,19.6s,baz=128,slow=39
GEYT Alibeck 42.51 317 P **P 02 50 57.4 +0.5**
GEYT IAmb IAmb 02 50 59.0
comp=Z,8.6nm,0.8s
GYA0B ALIBECK ARRAY 42.51 317 P **P 02 50 57.4 +0.5**
GYA0B IAmb IAmb 02 50 59.0
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 44.54 352 P **P 02 51 13.1 +0.3**
comp=Z,1.3nm,0.4s,baz=168,slow=7.6,SNR=7.7
ZALV Zalesovo Beam 44.54 352 P **P 02 51 12.2 -0.6**
ABKAR Akbulak array 48.33 331 P **P 02 51 42.9 +0.2**
ABKAR IAmb IAmb 02 51 43.5
comp=Z,6.7nm,1.4s
WRA Warramunga Ar 49.70 127 P **P 02 51 53.8 +0.2**
comp=Z,0.9nm,0.7s,baz=305,slow=8.6,SNR=9.0
ASAR Alice Springs 51.45 131 P **P 02 52 07.2 +0.3**
comp=Z,0.6nm,0.6s,baz=311,slow=7.4,SNR=4.8
KIV Kislovodsk 55.63 317 ⇑P **P 02 52 37.4 +0.2**
KIV Kislovodsk 55.63 317 P **P 02 52 37.8 +0.6**
BRTR Keskin Array B 60.89 310 P **P 02 53 12.5 -1.7**
comp=Z,1.8nm,0.6s,baz=123,slow=8.1,SNR=13
CFR Carcaliu 65.95 315 ⇑P **P 02 53 45.1 -2.2**
SORM Soroca 66.38 318 ⇑P **P 02 53 48.3 -1.7**
VRI Vrincioaia 67.04 316 ⇑P **P 02 53 53.8 -0.6**
PLOR Plostina 67.09 316 ⇑P **P 02 53 54.4 -0.3**
MLR Muntele Rosu 67.52 315 ⇑P **P 02 53 57.1 -0.4**
MLR Muntele Rosu 67.52 315 P **P 02 53 59.2 +1.7**
MLR IAmb IAmb 02 54 10.8
comp=Z,6.4nm,1.2s
BURAR Bucovina Array 68.36 317 ⇑P **P 02 54 01.9 -0.9**
BURAR Bucovina Array 68.36 317 P **P 02 54 01.8 -0.9**
BURAR IAmb IAmb 02 54 02.7
comp=Z,1.6nm,0.6s
ARR Arges 68.42 315 ⇑P **P 02 54 01.8 -1.4**
DRGR 69.93 316 ⇑P **P 02 54 12.2 -0.3**
FINES FINESS Array B 70.80 332 P **P 02 54 16.7 -0.6**
comp=Z,0.4nm,0.5s,baz=64,slow=4.4,SNR=6.2
PDG Podgorica 72.01 311 ⇑P **P 02 54 23.4 -1.7**
ARCES ARCESS Array B 73.28 340 P **P 02 54 31.5 -0.6**
comp=Z,1.4nm,0.6s,baz=81,slow=5.4,SNR=8.2
GERES GERESS Array B 76.13 318 P **P 02 54 48.6 -0.5**
comp=Z,1.1nm,0.5s,baz=91,slow=8.0,SNR=14
GERES GERESS Array B 76.13 318 P **P 02 54 47.9 -1.2**
BOSA Boshof 76.38 237 P **P 02 54 51.2 +0.2**
comp=Z,1.4nm,0.9s,baz=333,slow=2.3,SNR=1.5
BOSA Boshof 76.38 237 IAmb IAmb 02 55 01.0
comp=Z,12nm,1.4s
WTTA Wattenberg 77.52 316 *eP* **P 02 54 55.7 -1.4**
comp=Z,7nm,0.3s
SQTA Sankt Quirin 77.81 316 *eP* **P 02 54 57.4 -1.3**
comp=Z,2.0nm,0.3s
FETA Feichten 78.14 316 *eP* **P 02 54 59.5 -1.1**
comp=Z,0.8nm,0.3s
DAVA Damuels 78.71 316 *eP* **P 02 55 03.1 -0.6**
comp=Z,1.1nm,0.3s
KEST Kesra 79.84 305 P **P 02 55 09.7 -0.3**
comp=Z,1.3nm,0.7s,baz=307,slow=1.7,SNR=5.4
ESDC Sonseca Array 89.69 310 P **P 02 55 58.9 -0.6**
comp=Z,0.2nm,0.4s,baz=70,slow=4.1,SNR=4.9
EUNU Eureka 90.19 0 P **P 02 56 01.8 +0.7**
NVAR Mina Array Bea 123.36 30 PKP **PKiKP 03 01 59.4 +0.4**
comp=Z,0.4nm,0.6s,baz=338,slow=3.5,SNR=3.9
NVAR Mina Array Bea 123.36 30 **PKPdf 03 01 58.2 -0.6**
PDAR Pinedale Array 123.42 20 PKP **PKiKP 03 01 59.4 +0.4**
comp=Z,0.3nm,0.6s,baz=179,slow=8.2,SNR=1.6
PLCA Paso Flores 146.30 202 PKPbc **PKPdf 03 02 42.0 +1.1**
comp=Z,1.6nm,0.9s,baz=210,slow=0.1,SNR=4.6

*IDC **22** 03:03:38.8±0.4, 0.°12S×80.°45W, h0km, mb5.1/40, mb1 5.2/41, mb1mx5.2/43, mbtmp5.2/41, ML5.2/1, MS5.6/51, Ms1 5.6/51, ms1mx5.5/65, Error ellipse: s-maj=17.2km s-min=8.7km az=55.0*
*IGQ **22** 03:03:39±0.6, 0.°S±3.°×8.°1W±.°, h10km*
*MOS **22** 03:03:39.8±1.1, 0.°17S×80.°50W, h11km, mb5.8/38, MS5.5/29, Error ellipse: s-maj=8.1km s-min=5.4km az=95.2*
*BJI **22** 03:03:40.3±0.0, 0.°62N×80.°60W, h10km, mB5.9/48, Ms6.0/66, Ms7 5.9/65*
*NEIC **22** 03:03:41.8, 0.°30S×80.°51W, h4km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.95; Mθθ0.07; Mφφ-1.01; Mrθ0.04; Mrφ0.18; Mθr-2.07; Fault plane solution: Mo2.30000×10¹⁸ NP1:φ178.24000°, δ77.27000°, λ93.66000°. NP2:φ342.04000°, δ13.23000°, λ74.21000°. Principal axes: T 2.2565, Plg58.0000°, Azm93.0000°; N 0.0754, Plg4.0000°, Azm357.0000°; P -2.3319, Plg32.0000°, Azm265.0000°;*
*NEIC **22** 03:03:41.7±1.9, 0.°29S×80.°05×80.°50W±0.°06, h10km±1km, mb5.6/747, Ms_20 5.6/382, Mwb6.2/74, Mww6.0 Error ellipse: s-maj=9.4km s-min=8.4km az=268.0*
*VAO **22** 03:03:41.1±0.3, 0.°32S×80.°32W, h10km, mb5.8*
*GCMT **22** 03:03:43.7±0.1, 0.°34S±0.°01×80.°76W, h13km, MW6.0/157, Moment Tensor Solution. s154,c313; s157,c529; Duration: 2s5 Moment tensor: Scale 10¹⁸Nm; Mrr0.63±.01; Mθθ0.02±.01; Mφφ-0.64±.01; Mrθ0.07±.01; Mθφ-0.13±.00; Mφr-1.10±.03; Best double couple: Mo1.28100×10¹⁸ NP1:φ23.00000°, δ16.00000°, λ114.00000°. NP2:φ178.00000°, δ75.00000°, λ83.00000°. Principal axes: T 1.2760, Plg59.0000°, Azm79.0000°; N 0.0090, Plg7.0000°, Azm180.0000°; P -1.2850, Plg30.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 03:03:47, 0.°33S×80.°64W, h12km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10¹⁸Nm; Mrr0.60; Mθθ-0.05; Mφφ-0.55; Mrθ-0.09; Mθφ-0.14; Mφr-0.95; Fault plane solution: Mo1.12000×10¹⁸ NP1: φ22.00000°, δ16.00000°, λ104.00000°. NP2: φ187.00000°, δ74.00000°, λ86.00000°. Principal axes: T 1.1334, Plg61.0000°, Azm91.0000°; N -0.0236, Plg4.0000°, Azm188.0000°; P -1.1098, Plg29.0000°, Azm280.0000°;*
*BGR **22** 03:03:48.9±0.0, 0.°44N×79.°85W, h33km, mb5.5, Ms5.6*
ISC 22 03:03:40.6±0.5, 0.°28S±0.°03×80.°61W±0.°03, h15km±2km, n1882, s2s16/2101, mb5.6/449, MS5.6/289, 46C-22D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAB1	**Cabo Pasado-Ma**	**0.21**	**120**	P		**Pb**	**03 03 46.0**	**-0.2**
JAMA	**Jama**	**0.41**	**87**	P		**Pg**	**03 03 49.0**	**+0.1**
CHIS	**Cerro-Chispas-**	**0.77**	**189**	P		**Pg**	**03 03 55.0**	**-0.7**
CHIS				S		**Sb**	**03 04 07.0**	**+0.9**
PPLP	**Puerto Lpez**	**1.27**	**187**	P		**Pn**	**03 04 01.0**	**-2.8**
PPLP				S		**Sb**	**03 04 19.0**	**-1.3**
PPLP	**Puerto Lpez**	**1.27**	**187**	P		**Pn**	**03 04 02.0**	**-1.8**
PPLP				S		**Sb**	**03 04 20.0**	**-0.3**
AV21	**Acelerografo,**	**1.42**	**49**	P		**Pn**	**03 04 04.0**	**-1.8**
AV21				S		**Sg**	**03 04 26.0**	**-0.4**
BV15	**Puerto Quito-O**	**1.46**	**73**	P		**Pn**	**03 04 05.0**	**-1.4**
BV15				S		**Sg**	**03 04 27.0**	**-0.6**
AMA1	**Acelerografo,**	**1.50**	**36**	P		**Pn**	**03 04 05.0**	**-2.0**
AMA1				S		**Sn**	**03 04 25.0**	**-1.2**
APR2	**Miler**	**1.68**	**78**	P		**Pn**	**03 04 08.0**	**-1.6**
ILLI	**Illinizas Sur**	**1.93**	**103**	P		**Pn**	**03 04 13.0**	**-0.4**
HPAL	**Hacienda Las P**	**1.96**	**88**	P		**Pn**	**03 04 12.0**	**-1.6**
GGPT	**Toaza - Volcan**	**1.99**	**88**	P		**Pn**	**03 04 13.0**	**-1.1**
GYE3	**Ecuador-Guayaq**	**1.99**	**159**	P		**Pn**	**03 04 13.0**	**-0.7**
JUA2	**San Juan 2**	**2.01**	**88**	P		**Pn**	**03 04 14.0**	**-0.4**
PINO	**Pino**	**2.01**	**87**	P		**Pn**	**03 04 13.0**	**-1.5**
TERV	**Terraza Guagua**	**2.01**	**87**	P		**Pn**	**03 04 13.0**	**-1.5**
APR1	**Acelerografo,**	**2.01**	**83**	P		**Pn**	**03 04 14.0**	**-0.3**
PAST	**Pastocalle**	**2.01**	**102**	P		**Pn**	**03 04 14.0**	**-0.4**
YANA	**Yana**	**2.05**	**85**	P		**Pn**	**03 04 14.0**	**-0.9**
ALAT	**Latacunga**	**2.09**	**108**	P		**Pn**	**03 04 17.0**	**+1.5**
AMIL	**Milagro (Trans**	**2.10**	**157**	P		**Pn**	**03 04 16.0**	**+0.7**
PULU	**Pululahua**	**2.13**	**82**			**Pn**	**03 04 15.7**	**-0.3**
PULU	**Pululahua**	**2.13**	**82**	P		**Pn**	**03 04 16.0**	**-0.0**
CAMI	**Rancho Maria**	**2.14**	**101**	P		**Pn**	**03 04 17.0**	**+0.8**
BNAS	**Cotopaxi Volca**	**2.17**	**100**	P		**Pn**	**03 04 18.0**	**+1.4**
NAS2	**Nasa**	**2.17**	**100**	P		**Pn**	**03 04 18.0**	**+1.3**
PORT	**Chimborazo Vol**	**2.18**	**123**			**Pn**	**03 04 17.3**	**+0.4**
PORT	**Chimborazo Vol**	**2.18**	**123**	P		**Pn**	**03 04 17.0**	**+0.1**
PITA	**Cotopaxi Volc**	**2.20**	**97**	P		**Pn**	**03 04 17.0**	**0.0**
BMOR	**Cotopaxi Volca**	**2.20**	**102**	P		**Pn**	**03 04 18.0**	**+0.9**
BREF	**Cotopaxi Volca**	**2.21**	**100**	P		**Pn**	**03 04 18.0**	**+0.8**
TAMH	**Tambohuasha Ch**	**2.22**	**124**	P		**Pn**	**03 04 18.0**	**+0.7**
OTAV	**Otavalo**	**2.22**	**77**	P		**Pn**	**03 04 16.6**	**-0.7**
OTAV	**Otavalo**	**2.22**	**77**			**Pn**	**03 04 16.6**	**-0.7**
BVC2	**Cotopaxi Volca**	**2.23**	**100**	P		**Pn**	**03 04 19.0**	**+1.5**
VC1	**Cotopaxi 1**	**2.24**	**99**	P		**Pn**	**03 04 19.0**	**+1.4**
BTAM	**Cotopaxi Volca**	**2.25**	**100**	P		**Pn**	**03 04 19.0**	**+1.2**
AV11	**Acelerografo,**	**2.25**	**85**	P		**Pn**	**03 04 18.0**	**+0.5**
VCES	**Cotopaxi**	**2.28**	**103**	P		**Pn**	**03 04 19.0**	**+0.9**
TAMB	**Tambo**	**2.28**	**100**	P		**Pn**	**03 04 19.0**	**+0.8**
CUSE	**Cuicocha Este**	**2.29**	**75**	*eP*		**Pn**	**03 04 17.7**	**-0.5**
CUSE	**Cuicocha Este**	**2.29**	**75**	P		**Pn**	**03 04 18.0**	**-0.2**
IGUA	**Igualata**	**2.31**	**121**	P		**Pn**	**03 04 20.0**	**+1.4**
CUIC	**Cuicocha-Domo**	**2.32**	**76**	P		**Pn**	**03 04 18.0**	**-0.7**
CUSW	**Cuicocha Oeste**	**2.33**	**76**	P		**Pn**	**03 04 18.0**	**-0.7**
COTA	**Cotacachi**	**2.35**	**75**	P		**Pn**	**03 04 19.0**	**-0.2**
ANTG	**Antisana-Guama**	**2.37**	**95**	P		**Pn**	**03 04 20.0**	**+0.6**
ANTM	**Antisana-La Mi**	**2.40**	**96**	P		**Pn**	**03 04 21.0**	**+1.1**
BIL2	**Estacion Bilba**	**2.41**	**119**	P		**Pb**	**03 04 22.0**	**-1.9**
BBIL	**Ulba Tungurahu**	**2.42**	**119**	P		**Pn**	**03 04 21.0**	**+1.1**
JUI6	**Juive**	**2.42**	**118**	P		**Pn**	**03 04 21.0**	**+1.0**
POND	**Pondoa**	**2.44**	**118**	P		**Pn**	**03 04 21.0**	**+0.8**
APSY	**Ecuador-Napo A**	**2.45**	**106**	P		**Pb**	**03 04 23.0**	**-1.6**
ANTS	**Antisana-Sarah**	**2.45**	**95**	P		**Pn**	**03 04 22.0**	**+1.4**
BMAS	**Trigal station**	**2.45**	**120**	P		**Pn**	**03 04 22.0**	**+1.6**
PIAT	**Ana Tenorio**	**2.46**	**107**	P		**Pn**	**03 04 22.0**	**+1.5**
ANTI	**Antisana**	**2.46**	**94**	P		**Pn**	**03 04 21.0**	**+0.3**
RETU	**Refugio**	**2.46**	**118**	P		**Pn**	**03 04 22.0**	**+1.4**
URCU	**Urcuqui**	**2.46**	**73**	P		**Pn**	**03 04 21.0**	**+0.4**
AAT1	**Ecuador-Atunta**	**2.47**	**76**	P		**Pn**	**03 04 22.0**	**+1.4**
BRUN	**Tungurahua Vol**	**2.47**	**117**	P		**Pn**	**03 04 22.0**	**+1.3**
ARRY	**Arrayan**	**2.48**	**119**	P		**Pn**	**03 04 22.0**	**+1.3**
ALIT	**Ecuador-Imbabu**	**2.49**	**65**	P		**Pn**	**03 04 20.0**	**-0.7**
LITE1	**Lita**	**2.49**	**65**	P		**Pn**	**03 04 20.0**	**-0.7**
BPAT	**Tungurahua Vol**	**2.49**	**119**	P		**Pn**	**03 04 22.0**	**+0.9**
APS4	**Papallacta**	**2.51**	**92**	P		**Pb**	**03 04 24.0**	**-1.6**
COHC	**Cochancay**	**2.56**	**148**			**Pn**	**03 04 21.7**	**+0.1**
AIB2	**Ibarra (Univer**	**2.58**	**76**	P		**Pn**	**03 04 24.0**	**+1.9**
YAHU	**Yahuarcocha**	**2.62**	**76**	P		**Pn**	**03 04 24.0**	**+1.2**
CAYR	**Refugio Cayamb**	**2.62**	**84**	P		**Pn**	**03 04 24.0**	**+1.0**
ANGU	**Angureal**	**2.62**	**83**	P		**Pn**	**03 04 25.0**	**+2.0**
CAYA	**Cayambe**	**2.65**	**82**	P		**Pn**	**03 04 25.0**	**+1.8**
ISPG	**Isla Puna-Puer**	**2.71**	**171**	P		**Pn**	**03 04 26.0**	**+2.4**
CHMA	**Chilma**	**2.79**	**66**	P		**Pn**	**03 04 24.0**	**-1.0**
LNGL	**El Angel-Carch**	**2.80**	**69**	P		**Pn**	**03 04 25.0**	**-0.3**
SANGA	**Volcan Sangay**	**2.85**	**128**	P		**Pn**	**03 04 28.0**	**+2.1**
PUYO	**Puyo, Santa Ro**	**2.85**	**115**	P		**Pb**	**03 04 29.0**	**-2.3**
ECEN	**Cerro Negro**	**2.86**	**67**	P		**Pn**	**03 04 26.0**	**-0.2**
CHL1	**Volcn Chiles**	**2.87**	**68**	P		**Pn**	**03 04 26.0**	**-0.3**
ARDO	**Archidona, Ten**	**2.90**	**104**	P		**Pn**	**03 04 29.0**	**+2.7**
CHL2	**Volcn Chiles**	**2.90**	**68**	P		**Pn**	**03 04 26.0**	**-0.7**
CONE	**Cono NE Rev Vo**	**2.98**	**86**	P		**Pn**	**03 04 30.0**	**+2.4**
TULM	**Tulcn-Chalpat**	**2.99**	**71**			**Pn**	**03 04 28.9**	**+0.9**
TULM	**Tulcn-Chalpat**	**2.99**	**71**	*eP*		**Pn**	**03 04 27.8**	**-0.2**
TULM	**Tulcn-Chalpat**	**2.99**	**71**	P		**Pn**	**03 04 30.0**	**+2.0**
ATUL	**Tulcn**	**3.07**	**70**	P		**Pn**	**03 04 31.0**	**+2.1**
ACUE	**Ecuador-Cuenca**	**3.09**	**148**	P		**Pn**	**03 04 31.0**	**+1.8**
BONI	**La Bonita**	**3.17**	**77**	P		**Pn**	**03 04 32.0**	**+1.8**
ARNL	**Arenillas**	**3.29**	**170**			**Pn**	**03 04 32.3**	**+0.7**
ARNL	**Arenillas**	**3.29**	**170**	P		**Pn**	**03 04 32.0**	**+0.4**
CASC	**Dorado de Casc**	**3.30**	**83**	P		**Pn**	**03 04 34.0**	**+2.2**
BOSC	**San Juan Bosco**	**3.55**	**143**	Pn		**Pn**	**03 04 38.0**	**+2.7**
BOSC	**San Juan Bosco**	**3.55**	**143**	P		**Pn**	**03 04 39.0**	**+3.7**
GCUF	**Volcan Galeras**	**3.59**	**65**	⇑*eP*		**Pn**	**03 04 34.9**	**-1.3**
CPAS2	**Pasto**	**3.68**	**66**	*eP*		**Pn**	**03 04 39.9**	**+2.7**
GR1C	**Gorgona, Isla**	**4.08**	**37**	*eP*		**Pn**	**03 04 38.5**	**-3.9**
CRUC	**La Cruz**	**4.09**	**63**	*eP*		**Pn**	**03 04 43.8**	**+0.8**
GONZ	**Gonzanam**	**4.11**	**163**	P		**Pn**	**03 04 46.0**	**+2.7**
MCRA	**Macar, Loja**	**4.11**	**171**	Pn		**Pn**	**03 04 42.2**	**-0.8**
MCRA	**Macar, Loja**	**4.11**	**171**	P		**Pn**	**03 04 43.0**	**0.0**
SOTA	**Rioblanco**	**4.67**	**59**	*eP*		**Pn**	**03 04 52.9**	**+1.9**
ZUMB	**Zumba**	**4.78**	**162**	P		**Pn**	**03 04 56.0**	**+3.7**
POPC	**Popayan, Colom**	**4.83**	**55**	*eP*		**Pn**	**03 04 51.1**	**-1.9**
PCON	**Cinco Dias**	**4.95**	**58**	*eP*		**Pn**	**03 04 56.5**	**+1.6**
MARP	**Paez Belalcaza**	**5.59**	**56**	*eP*		**Pn**	**03 05 05.5**	**+1.9**
GARC	**Garzon, Huila**	**5.67**	**64**	*eP*		**Pn**	**03 05 05.5**	**+0.8**
PTLC	**Puerto Leguiza**	**5.83**	**86**	⇑*eP*		**Pn**	**03 05 07.3**	**+0.7**
BETC	**Betania**	**5.95**	**60**	*eP*		**Pn**	**03 05 10.9**	**+2.6**
YOTC	**Yotoco, Valle**	**6.01**	**45**	*eP*		**Pn**	**03 05 10.9**	**+1.7**
PIZC	**Pizarro, Choco**	**6.14**	**32**	⇑*eP*		**Pb**	**03 05 27.0**	**-0.3**
PLMC	**San Jos del P**	**6.73**	**40**	*eP*		**Pn**	**03 05 21.6**	**+2.7**
ORTC	**Ortega, Tolima**	**6.79**	**52**	*eP*		**Pn**	**03 05 21.6**	**+1.9**
ANIL	**Santa Ana**	**7.04**	**48**	*eP*		**Pn**	**03 05 19.8**	**-3.6**
MACC	**Macarena, Meta**	**7.18**	**70**	*eP*		**Pn**	**03 05 25.2**	**+0.1**
SOLC	**Bahia Solano**	**7.21**	**26**	⇑*eP*		**Pn**	**03 05 28.8**	**+3.3**
GUY2C	**Guyana, Caldas**	**7.57**	**44**	*eP*		Pn	03 05 39.6	+8.7
CACAO	**El Cacao, Vera**	**7.58**	**358**	*eP*		**Pn**	**03 05 28.8**	**-1.8**
CBOC	**Ciudad Bolivar**	**7.64**	**37**	*eP*		**Pn**	**03 05 34.2**	**+2.6**
PTAC	**Punta Ardita,**	**7.89**	**21**	*eP*		**Pn**	**03 05 37.8**	**+2.9**
AZU	**Azuero**	**8.03**	**2**	*eP*		**Pn**	**03 05 39.6**	**+2.9**
ROSC	**El Rosal**	**8.09**	**51**	Pn		**Pn**	**03 05 38.0**	**+0.1**
ROSC	13nm,0.3s,baz=242,slow=9.9,SNR=20					Sn		
	12nm,0.3s,baz=178,slow=22,SNR=2.7					**Sn**	**03 07 15.9**	**+6.6**
ROSC	**El Rosal**	**8.09**	**51**	Pn		**Pn**	**03 05 39.1**	**+1.2**
ROSC	**El Rosal**	**8.09**	**51**	⇑*eP*		**Pn**	**03 05 37.8**	**-0.1**
NORC	**Norcasia**	**8.16**	**45**	*eP*		**Pn**	**03 05 43.2**	**+4.6**
VILC	**Villavicencio,**	**8.18**	**58**	*eP*		**Pn**	**03 05 39.6**	**+0.7**
HELC	**Santa Helena**	**8.19**	**38**	*eP*		Pn	03 05 45.0	+5.7
CHIC	**Chingaza**	**8.43**	**55**	*eP*		**Pn**	**03 05 43.2**	**+0.6**
GUVC	**San Jose del G**	**8.46**	**71**	*eP*		**Pn**	**03 05 43.2**	**+0.5**
SPBC	**San Pablo de B**	**8.80**	**48**	*eP*		**Pn**	**03 05 46.8**	**-0.6**
CDITO	**Canoas**	**9.08**	**346**			**Pn**	**03 05 53.9**	**+2.7**
PTBC	**PUERTO BERRIO,**	**9.14**	**42**	*eP*		Pn	03 05 57.6	+5.4
BRU2	**Volcan**	**9.25**	**347**	Pn		**Pn**	**03 05 56.0**	**+2.3**
UPA	**Univ. de Panam**	**9.26**	**7**	*eP*		**Pn**	**03 05 55.8**	**+2.1**
RIOS	**Rincon, Osa**	**9.38**	**342**			**Pn**	**03 05 58.5**	**+3.3**
BCIP	**Isla Barro Col**	**9.42**	**5**	P		**Pn**	**03 05 58.1**	**+2.3**
BCIP	**Isla Barro Col**	**9.42**	**5**	Pn		**Pn**	**03 05 58.1**	**+2.3**
BCIP	**Isla Barro Col**	**9.42**	**5**	*eP*		**Pn**	**03 05 57.6**	**+1.7**
UREC	**San Jos de Ur**	**9.45**	**32**	*eP*		**Pn**	**03 05 55.8**	**-0.5**
PTGC	**Puerto Gaitan,**	**9.57**	**62**	*eP*		**Pn**	**03 05 59.4**	**+1.4**
ZARC	**Zaragoza, Cauc**	**9.62**	**37**	Pn		**Pn**	**03 05 59.9**	**+1.2**
ZARC	**Zaragoza, Cauc**	**9.62**	**37**	*eP*		**Pn**	**03 05 57.6**	**-1.1**
PAYG	**Puerto Ayora**	**9.68**	**268**	Pn		**Pn**	**03 06 00.3**	**+0.8**
RUSC	**La Rusia**	**9.70**	**51**	*eP*		**Pn**	**03 06 04.7**	**+4.6**
DRK0	**Durika**	**9.84**	**345**			**Pn**	**03 06 03.8**	**+2.0**
SRBA	**San Rafael, Bu**	**9.84**	**344**			**Pn**	**03 06 04.0**	**+2.3**
LCBC	**Los crdobas,**	**10.01**	**25**	*eP*		**Pn**	**03 06 03.0**	**-1.1**
PEZE	**Perez Zeledon,**	**10.07**	**342**	Pn		**Pn**	**03 06 08.0**	**+3.1**
BARC	**Barichara**	**10.08**	**47**	*eP*		**Pn**	**03 06 08.3**	**+3.2**
RIMA	**Rio Macho**	**10.49**	**342**			**Pn**	**03 06 13.6**	**+2.8**
JACO	**JACO, Garabito**	**10.67**	**338**	Pn		**Pn**	**03 06 16.9**	**+4.0**
BATAN	**Batan**	**10.67**	**345**	Pn		**Pn**	**03 06 16.4**	**+3.4**
CZSB	**Cruzeiro do Su**	**10.81**	**133**	*eP*		**Pn**	**03 06 13.6**	**-1.3**
PAMC	**Pamplona, Colo**	**10.94**	**46**	*eP*		**Pn**	**03 06 19.1**	**+2.0**
TAMC	**Tame, Arauca**	**11.04**	**53**	⇑*eP*		**Pn**	**03 06 22.7**	**+4.5**
OCAC	**Ocana**	**11.16**	**40**			**Pn**	**03 06 21.7**	**+1.9**
OCAC	**Ocana**	**11.16**	**40**	*eP*		Pn	03 06 26.3	+6.5
JTS	**Las Juntas de**	**11.36**	**338**	Pn		**Pn**	**03 06 24.0**	**+1.6**
JTS	0.9nm,0.3s,baz=180,slow=8.6,SNR=20							
	comp=Z,44µm,18.7s,baz=220,slow=33					LR	LR	03 09 51.6
JTS	**Las Juntas de**	**11.36**	**338**	*i* P		**Pn**	**03 06 24.7**	**+2.3**
JTS	**Las Juntas de**	**11.36**	**338**			**Pn**	**03 06 24.5**	**+2.1**
TBTG	**Tabatinga, AM**	**11.38**	**110**	*eP*		**Pn**	**03 06 22.7**	**0.0**
TBTG	**Tabatinga, AM**	**11.38**	**110**	*eP*		**Pn**	**03 06 21.1**	**-1.6**
SJCC	**San Jacinto, C**	**11.46**	**28**	Pn		**Pn**	**03 06

comp=E,13µm,18.4s,baz=155,slow=29
GRFF Grenada Fort F 22.39 56 *e*P **P 03 08 37.0 -1.6**
GRGR Grenville 22.50 56 P **P 03 08 39.6 -0.2**
GRGR IAMs_20 IAMs_20 03 18 36.4
comp=Z,28µm,21.0s
GRGR Grenville 22.50 56 *e*P **P 03 08 36.5 -3.4**
CRPR Cabo Rojo, PR 22.51 35 IAmb IAmb 03 08 54.7
comp=Z,312nm,1.2s
MLPR Magueyes Islan 22.52 36 IAmb IAmb 03 09 01.4
comp=Z,302nm,1.1s
TA01 Diego Aracena 22.59 154 P **P 03 08 41.7 +1.0**
TA01 IAmb IAmb 03 08 46.7
comp=Z,372nm,1.0s
PB08 IPOC Station P 22.70 151 IAmb IAmb 03 09 08.0
comp=Z,399nm,1.2s
GCMP Grenada, Carri 22.88 56 *e*P **P 03 08 38.0 -5.8**
AOPR Arecibo Observ 22.98 36 *e*P **P 03 08 41.0 -3.9**
TOSP Speyside 23.03 59 P **P 03 08 44.5 -0.9**
TOSP Speyside 23.03 59 *e*P **P 03 08 39.6 -5.8**
SOR Soroa 23.05 354 *e*P **P 03 08 43.4 -2.1**
SJG San Juan 23.16 37 P **P 03 08 46.7 +0.1**
comp=Z,293nm,1.2s,baz=225,slow=4.7,SNR=14
SJG LR LR 03 19 15.4
comp=Z,19µm,21.4s,baz=203,slow=41
SJG San Juan 23.16 37 P **P 03 08 47.0 +0.3**
SJG pmax pmax
comp=Z,808nm,1.5s
SJG MLR MLR
comp=Z,17µm,21.0s
SJG San Juan 23.16 37 P **P 03 08 47.0 +0.3**
SJG San Juan 23.16 37 *e*P **P 03 08 45.4 -1.3**
PDPR Patillas Dam, 23.16 38 IAmb IAmb 03 09 07.5
comp=Z,326nm,1.1s
SVB Belmont 23.44 54 IAmb IAmb 03 09 37.2
comp=Z,299nm,1.1s
SVB Belmont 23.44 54 *e*P **P 03 08 45.6 -4.0**
PB07 IPOC Station P 23.75 155 IAmb IAmb 03 09 35.0
comp=Z,302nm,1.0s
CDVI St. Croix 23.75 40 P **P 03 08 52.8 +0.3**
CDVI St. Croix 23.75 40 *e*P **P 03 08 50.5 -2.0**
VILB Vilhena 23.83 123 *e*P **P 03 08 52.2 -1.2**
CUPR Culebra, Puert 23.84 38 IAmb IAmb 03 09 03.6
comp=Z,319nm,1.2s
MCLT Moule a Chique 23.94 54 *e*P **P 03 08 47.4 -7.0**
SLBI Saint Lucia, B 24.09 53 *e*P P 03 08 48.3 -7.4
BIM Bigot 24.29 52 *e*P **P 03 08 53.7 -3.9**
FDF Fort de France 24.35 51 *e*P P 03 08 47.4 -11
SVN Savane Anatole 24.40 51 P **P 03 08 58.9 +0.2**
MPOM Morne Pois Mar 24.42 52 *e*P **P 03 08 53.8 -5.0**
MDN Morne-Daniel 24.52 50 *e*P **P 03 08 55.0 -4.6**
DSLB Salisbury 24.57 50 *e*P **P 03 08 55.0 -5.2**
ILAM Ilet Lapin Mar 24.59 52 IAMs_20 IAMs_20 03 20 22.5
comp=Z,20µm,19.0s
ILAM Ilet Lapin Mar 24.59 52 *e*P **P 03 08 57.9 -2.4**
DLPL La Plaine 24.64 50 *e*P **P 03 08 57.0 -3.7**
TDBA Terre de Bas, 24.66 49 *e*P **P 03 08 57.2 -3.8**
MDVC Dominica, Viel 24.68 49 *e*P **P 03 08 58.4 -2.8**
PB06 IPOC Station P 24.74 155 IAmb IAmb 03 09 37.6
comp=Z,143nm,0.9s
SEUS St. Eustatius 24.76 44 *e*P **P 03 08 57.6 -4.2**
BBGH Gun Hill 24.77 57 *e*P **P 03 08 56.4 -5.6**
MLYT Lee's Yard 24.80 46 *e*P **P 03 08 59.6 -2.7**
MBFL Flemmings, Mon 24.81 46 *e*P **P 03 09 03.0 +0.7**
SIV San Ignacio 24.81 130 P **P 03 09 02.5 +0.1**
comp=Z,98nm,0.8s,baz=300,slow=9.3,SNR=186
SIV LR LR 03 19 38.8
comp=Z,105µm,18.4s,baz=317,slow=39
CBE Ff, Capester 24.82 48 *e*P **P 03 08 58.7 -3.8**
LVC Limon Verde 24.95 154 P **P 03 09 05.2 +1.3**
comp=Z,189nm,1.2s,baz=326,slow=3.7,SNR=24
LVC LR LR 03 20 36.5
comp=Z,11µm,18.1s,baz=329,slow=41
LVC Limon Verde 24.95 154 P **P 03 09 05.0 +1.1**
LVC pmax pmax
comp=Z,2µm,1.8s
LVC Limon Verde 24.95 154 P **P 03 09 05.0 +1.1**
LVC Limon Verde 24.95 154 *e*P **P 03 09 04.3 +0.4**
MAGL Barre de l'ile 24.98 49 *e*P **P 03 08 59.2 -4.7**
TLIG Tlapa 25.04 316 P **P 03 09 06.0 +1.5**
PB10 IPOC Station P 25.07 158 P **P 03 09 05.9 +1.2**
PB10 IAmb IAmb 03 09 10.7
comp=Z,236nm,1.3s
SMRT St. Maarten 25.09 43 *e*P P 03 08 57.6 -7.2
ABD La Joyeuse, An 25.16 48 *e*P **P 03 09 01.9 -3.5**
ITTB Itaituba 25.18 100 *e*P **P 03 09 04.1 -1.7**
PB15 IPOC Station P 25.23 155 IAmb IAmb 03 09 41.7
comp=Z,136nm,0.9s
BPA Boggy Peak 25.26 46 *e*P **P 03 09 00.2 -6.2**
ANBD Bethesda, Anti 25.33 46 *e*P **P 03 09 01.5 -5.5**
GDSD La Dsirade Is 25.37 49 IAmb IAmb 03 09 15.4
comp=Z,105nm,0.8s
ANWB Willy Bob 25.72 45 *e*P P 03 09 02.7 -7.9
061Z Ochoppi 26.00 359 S **S 03 13 44.9 +1.7**
baz=179
PTLB Pontes e Lacer 26.02 126 *e*P **P 03 09 12.8 -0.5**
NPGB Novo Progresso 26.07 106 *e*P **P 03 09 11.9 -1.9**
PB14 IPOC Station P 26.14 159 IAmb IAmb 03 09 57.9
comp=Z,91nm,0.8s
PDRB Porto dos Gac 26.25 116 *e*P **P 03 09 14.2 -1.3**
MALB Monte Alegre 26.39 94 *e*P **P 03 09 15.5 -1.2**
UNM Universidad Na 26.68 318 P **P 03 09 20.8 +1.3**
UNM pmax pmax
comp=Z,128nm,0.6s
UNM Universidad Na 26.68 318 P **P 03 09 20.8 +1.3**
UNM IAmb IAmb 03 10 06.2
comp=Z,128nm,0.6s
CLDB Colider 26.81 114 *e*P **P 03 09 19.4 -1.2**
GO02 Mina Guanaco 26.93 158 IAmb IAmb 03 10 07.2
comp=Z,101nm,0.8s
HJA Humahuaca 27.16 148 *e*P **P 03 09 24.9 +0.9**
AC01 Pan de Azucar 27.47 160 IAmb IAmb 03 10 10.4
comp=Z,107nm,1.1s
DWPF Disney Wildern 28.24 358 S **S 03 14 16.6 -2.0**
baz=178
DWPF Disney Wildern 28.24 358 P **P 03 09 32.5 -0.6**
baz=178
DWPF S **S 03 14 18.5 -0.1**
baz=178
MDP Montagnes des 28.44 79 P **P 03 09 34.0 -1.2**
comp=Z,42nm,0.6s,baz=333,slow=14,SNR=8.4
MCPB Macapa, AP 28.55 90 *e*P **P 03 09 34.6 -1.5**
AC02 Maricunga 28.62 158 IAmb IAmb 03 10 27.5
comp=Z,242nm,1.3s
AC06 Mina Casimiro 28.67 161 P **P 03 09 38.8 +1.8**
AC06 IAmb IAmb 03 10 22.0
comp=Z,63nm,0.8s
SALV Santo Antonio 29.08 123 *e*P **P 03 09 40.1 -0.6**
FSA Cafayete 29.30 152 *e*P **P 03 09 43.7 +0.9**
656A Willston 29.54 357 S **S 03 14 38.6 -0.4**
baz=176
LCO Las Campanas 30.10 163 *e*P **P 03 09 51.7 +1.8**
LCO Las Campanas 30.10 163 P **P 03 09 51.7 +1.8**
553A Crawfordville 30.52 353 S **S 03 14 54.1 -0.2**
baz=172
PP1B Ponte de Pedra 30.61 126 *e*P **P 03 09 53.7 -0.6**
VCA Vinchina 30.68 158 *e*P **P 03 09 56.6 +1.6**
456A Hilliard 30.86 358 S **S 03 14 58.7 -1.0**
baz=177
451A Vernon 31.11 351 S **S 03 15 02.2 -1.5**
baz=170
GO04 Tololo Observa 31.16 163 IAmb IAmb 03 10 04.2
comp=Z,139nm,1.2s
PRPB Parauapebas 31.29 101 *e*P **P 03 09 58.7 -1.7**
SNDB Serra Nova Dou 31.33 113 *e*P **P 03 09 60.0 -0.8**
ZAIG Zacatecas 31.33 318 P **P 03 10 02.8 +1.8**
AROD Rodeo 31.55 161 *e*P **P 03 10 05.4 +2.5**
AQDB Aquidauana 31.57 131 *e*P **P 03 10 02.0 -0.7**
ACDV Cuesta del Vie 31.67 161 *e*P **P 03 10 06.9 +3.1**
TIGA Tifton 31.67 355 IAmb IAmb 03 11 01.4
comp=Z,52nm,0.7s
TIGA Tifton 31.67 355 P **P 03 10 04.9 +1.5**
baz=174
TIGA S **S 03 15 11.4 -1.0**
baz=174
TIGA Tifton 31.67 355 P **P 03 10 01.5 -1.9**
baz=174
TIGA S **S 03 15 11.7 -0.7**
baz=174
ACLC CERRO LA CRUZ 31.78 157 *e*P **P 03 10 05.2 +0.6**
CO03 El Pedregal 31.82 164 IAmb IAmb 03 10 09.9
comp=Z,112nm,1.1s
352A Blakely 31.85 353 IAmb IAmb 03 11 05.3
comp=Z,236nm,1.9s
352A Blakely 31.85 353 P **P 03 10 06.6 +1.6**
baz=172
352A S **S 03 15 14.0 -1.2**
baz=172
BRAL Brewton 31.87 350 P **P 03 10 07.7 +2.5**
baz=168
BRAL S **S 03 15 15.1 -0.4**
baz=168
BRAL Brewton 31.87 350 P **P 03 10 05.3 +0.1**
baz=168
BRAL S **S 03 15 15.4 -0.1**
baz=168
ACCO Cerro Coronel 32.08 161 *e*P **P 03 10 09.2 +1.7**
255A Hazlehurst 32.08 357 IAmb IAmb 03 10 45.8
comp=Z,85nm,0.7s
255A Hazlehurst 32.08 357 P **P 03 10 09.5 +2.5**
baz=176
255A S **S 03 15 18.5 -0.3**
baz=176
257A Skidaway Islan 32.08 359 S **S 03 15 19.4 +0.6**
baz=179
KVTX Kingsville 32.27 330 S **S 03 15 25.5 +3.7**
baz=146
250A Grady 32.53 351 P **P 03 10 10.2 -0.8**
baz=169,SNR=14
250A S **S 03 15 24.1 -1.6**
baz=169
TMAB Tom-Au,PA,Br 32.57 94 *e*P **P 03 10 11.2 -0.4**
346A Big Creek Wild 32.60 346 P **P 03 10 13.4 +1.8**
346A Big Creek Wild 32.60 346 S **S 03 15 26.7 -0.1**
baz=163
AVFE Valle Fertil 32.70 159 *e*P **P 03 10 12.9 +0.3**
154A Montrose 32.80 356 IAmb IAmb 03 10 20.9
comp=Z,148nm,1.1s
154A Montrose 32.80 356 P **P 03 10 13.1 -0.3**
baz=175,SNR=13
154A S **S 03 15 28.4 -1.6**
baz=175
APLL PUNTA DE LOS L 32.81 157 *e*P **P 03 10 14.2 +0.6**
RTLL Cerro Villicun 32.95 161 *e*P **P 03 10 14.1 -0.8**
344A Westbrook Farm 32.99 344 P **P 03 10 16.2 +1.2**
baz=161,SNR=26
344A S **S 03 15 33.8 +0.9**
baz=161
152A Waverly Hall 33.00 354 IAmb IAmb 03 10 22.5
comp=Z,63nm,1.1s
152A Waverly Hall 33.00 354 P **P 03 10 15.3 +0.1**
baz=172,SNR=9.8
152A S **S 03 15 30.6 -2.5**
baz=172
ZON Zonda 33.09 161 IAmb IAmb 03 10 21.3
comp=Z,107nm,1.4s
441A DeRidder 33.09 340 IAmb IAmb 03 10 24.7
comp=Z,86nm,1.2s
441A DeRidder 33.09 340 P **P 03 10 18.7 +2.7**
baz=156
441A S **S 03 15 36.7 +2.1**
baz=156
RTLS Leoncito 33.12 162 *e*P **P 03 10 17.7 +1.0**
NHSC New Hope 33.21 1 IAMs_20 IAMs_20 03 26 13.0
comp=Z,14µm,21.0s
NHSC New Hope 33.21 1 P **P 03 10 18.0 +1.1**
baz=181,SNR=12
NHSC S **S 03 15 37.4 +1.0**
baz=181
NHSC New Hope 33.21 1 P **P 03 10 15.0 -2.0**
baz=181,SNR=12
NHSC S **S 03 15 37.0 +0.6**
baz=181
VA06 Catapilco 33.29 166 IAmb IAmb 03 10 22.5
comp=Z,125nm,1.4s
735A Kenedy 33.32 332 IAmb IAmb 03 10 30.6
comp=Z,113nm,1.3s
735A Kenedy 33.32 332 S **S 03 15 39.0 +0.9**
baz=147
HKT Hockley 33.38 336 P **P 03 10 20.2 +1.8**
HKT pmax pmax
comp=Z,175nm,1.8s
HKT MLR MLR
comp=Z,6µm,20.0s
HKT Hockley 33.38 336 P **P 03 10 20.2 +1.8**
HKT IAmb IAmb 03 10 27.9
comp=Z,175nm,1.8s
HKT Hockley 33.38 336 P **P 03 10 20.1 +1.6**
baz=151
HKT S **S 03 15 37.9 -1.0**
baz=151
342B Flagon Creek P 33.39 342 P **P 03 10 21.0 +2.5**
baz=158,SNR=14
342B S **S 03 15 40.0 +0.9**
baz=158
HAW Hawthorne Fire 33.48 358 P **P 03 10 20.1 +0.8**
baz=178,SNR=17
HAW S **S 03 15 38.4 -2.1**
baz=178
AUSP Uspallata 33.49 163 *e*P **P 03 10 21.9 +2.0**
GOGA Godfrey 33.62 356 P **P 03 10 19.7 -0.8**
baz=175,SNR=13
GOGA S **S 03 15 40.6 -2.1**
baz=175
GOGA Godfrey 33.62 356 P **P 03 10 19.3 -1.2**
baz=175,SNR=13
GOGA S **S 03 15 40.8 -1.9**
baz=175
VA01 Torpederas 33.65 166 IAmb IAmb 03 10 30.2
comp=Z,126nm,1.1s
VBMS Vicksburg 33.65 345 IAmb IAmb 03 10 39.9
comp=Z,84nm,1.2s
VBMS Vicksburg 33.65 345 P **P 03 10 22.3 +1.4**
baz=162
VBMS S **S 03 15 41.4 -1.8**
baz=162
VBMS Vicksburg 33.65 345 P **P 03 10 19.7 -1.1**
baz=162
VBMS S **S 03 15 42.2 -1.0**
baz=162
833A Chaparral WMA, 33.66 329 IAmb IAmb 03 10 29.7
comp=Z,140nm,1.4s
833A Chaparral WMA, 33.66 329 P **P 03 10 22.7 +1.7**
baz=144,SNR=18
833A S **S 03 15 41.2 -2.2**
baz=144
833A Chaparral WMA, 33.66 329 P **P 03 10 20.3 -0.7**
baz=144,SNR=18
833A S **S 03 15 42.1 -1.4**
baz=144
LRAL Lakeview Retre 33.68 350 P **P 03 10 21.8 +0.8**
LRAL IAmb IAmb 03 10 28.5
comp=Z,102nm,1.1s
LRAL Lakeview Retre 33.68 350 P **P 03 10 21.1 0.0**
baz=168,SNR=30
LRAL S **S 03 15 41.6 -2.0**
baz=168
LRAL Lakeview Retre 33.68 350 P **P 03 10 19.8 -1.3**
baz=168,SNR=30
LRAL S **S 03 15 42.0 -1.7**
baz=168
Z51A Franklin 33.69 353 IAmb IAmb 03 10 28.6
comp=Z,76nm,1.1s
Z51A Franklin 33.69 353 P **P 03 10 21.3 +0.1**
baz=172,SNR=12
Z51A S **S 03 15 41.5 -2.3**
baz=172
146A Union 33.70 347 P **P 03 10 22.7 +1.5**
baz=164,SNR=13
146A S **S 03 15 43.0 -1.0**
baz=164
ROC1 El Roble 33.75 165 *e*P **P 03 10 20.6 -1.4**
SMTB Santa Maria do 33.97 105 *e*P **P 03 10 23.3 -0.6**
MT02 Curacav 33.99 166 IAmb IAmb 03 10 33.7
comp=Z,61nm,0.9s
PEL Peldehue 34.00 165 IAmb IAmb 03 11 13.2
comp=Z,83nm,1.0s
ASAL Salagasta 34.00 162 *e*P **P 03 10 26.4 +2.4**
Y58A Scranton 34.02 1 IAmb IAmb 03 10 31.4
comp=Z,103nm,1.1s
Y58A Scranton 34.02 1 S **S 03 15 47.7 -1.2**
baz=182
Y58A S **S 03 15 47.7 -1.2**
baz=182
Z47A Carrollton 34.03 349 IAmb IAmb 03 10 31.3
comp=Z,127nm,1.1s
Z47A Carrollton 34.03 349 P **P 03 10 23.6 -0.6**
baz=166,SNR=20
Z47A S **S 03 15 45.9 -3.2**
baz=166
Y57A Sumter 34.12 0 IAmb IAmb 03 10 32.2
comp=Z,91nm,1.1s
Y57A Sumter 34.12 0 P **P 03 10 25.5 +0.6**
baz=180,SNR=6.3
Y57A P **P 03 10 25.5 +0.6**
baz=180,SNR=6.3
Y57A S **S 03 15 49.1 -1.2**
baz=180
Y57A S **S 03 15 49.1 -1.2**
baz=180
Y52A Lilburn 34.12 355 IAmb IAmb 03 10 32.1
comp=Z,74nm,1.2s
Y52A Lilburn 34.12 355 P **P 03 10 25.3 +0.4**
baz=174,SNR=12
Y52A P **P 03 10 25.3 +0.4**
baz=174,SNR=12
Y52A S **S 03 15 47.9 -2.6**
baz=174
Y52A S **S 03 15 47.9 -2.6**
baz=174
Y59A Loris 34.13 3 S **S 03 15 50.5 0.0**
baz=183
Y59A S **S 03 15 50.5 0.0**
baz=183
PEXB Peixe 34.15 111 *e*P **P 03 10 24.3 -1.1**
ARCO CERRO ARCO 34.21 162 *e*P **P 03 10 28.1 +2.2**
MT05 Renca 34.22 165 P **P 03 10 27.1 +1.3**
VA05 Santo Domingo 34.26 167 IAmb IAmb 03 10 33.7
comp=Z,209nm,1.8s
CPUP Villa Florida 34.26 141 P **P 03 10 26.6 +0.3**
comp=Z,24nm,0.9s,baz=317,slow=9.5,SNR=19
CPUP LR LR 03 27 11.7
comp=Z,32µm,19.0s,baz=334,slow=41
143A Socs Landing, 34.35 344 IAmb IAmb 03 10 35.1
comp=Z,102nm,1.2s
143A Socs Landing, 34.35 344 S **S 03 15 51.8 -2.3**
baz=160
HODGE Hodges 34.37 358 IAmb IAmb 03 10 34.4
comp=Z,85nm,1.2s
HODGE Hodges 34.37 358 P **P 03 10 27.1 +0.1**
baz=177,SNR=20
HODGE S **S 03 15 51.9 -2.3**
baz=177
MT03 Universidad Ad 34.38 165 IAmb IAmb 03 10 36.6
comp=Z,153nm,1.3s
JSC Jenkinsville 34.39 359 IAmb IAmb 03 10 34.6
comp=Z,85nm,1.1s
JSC Jenkinsville 34.39 359 P **P 03 10 27.4 +0.2**
baz=179,SNR=18
JSC S **S 03 15 53.3 -1.3**
baz=179
Y49A Blount Mountai 34.39 351 P **P 03 10 26.3 -0.9**
baz=170,SNR=15
Y49A S **S 03 15 52.1 -2.6**
baz=170
AAGR Agrelo 34.47 162 *e*P **P 03 10 29.3 +1.3**
MT09 Talagante 34.52 166 P **P 03 10 29.5 +0.9**
MT09 IAmb IAmb 03 10 38.1
comp=Z,122nm,0.9s
NATX Nacogdoches 34.53 339 IAmb IAmb 03 10 36.6
comp=Z,124nm,1.1s
NATX Nacogdoches 34.53 339 P **P 03 10 30.4 +1.9**
baz=155
NATX S **S 03 15 56.3 -0.6**
baz=155
NATX Nacogdoches 34.53 339 P **P 03 10 29.4 +0.9**
baz=155
NATX S **S 03 15 56.4 -0.5**
baz=155
X58A Rowland 34.67 2 S **S 03 15 57.5 -1.5**
baz=182
X58A S **S 03 15 57.5 -1.5**
baz=182
BIRD Birdtown, Kers 34.74 0 P **P 03 10 30.6 +0.3**
baz=180,SNR=10
BIRD S **S 03 15 58.9 -1.2**
baz=180
LMEL Las Melosas 34.79 165 IAmb IAmb 03 10 36.3
comp=Z,110nm,1.1s
BO04 La Punta 34.82 165 IAmb IAmb 03 10 35.8
comp=Z,110nm,1.1s
435B Jarrell 34.85 334 IAmb IAmb 03 10 40.8
comp=Z,212nm,1.6s
435B Jarrell 34.85 334 S **S 03 16 01.7 -0.2**
baz=149
435B Jarrell 34.85 334 P **P 03 10 32.0 +0.8**
baz=149
435B S **S 03 16 02.1 +0.2**
baz=149
X51A Calhoun 34.89 354 IAmb IAmb 03 10 38.7
comp=Z,87nm,1.1s
X51A Calhoun 34.89 354 P **P 03 10 31.5 -0.1**
baz=172,SNR=14
X51A P **P 03 10 31.5 -0.1**
baz=172,SNR=14
X51A S **S 03 15 59.9 -2.4**
baz=172
X51A S **S 03 15 59.9 -2.4**
baz=172
MRA San Martin 34.92 158 *e*P **P 03 10 32.3 +0.3**
PAULI Pauline 34.94 358 IAmb IAmb 03 10 39.4
comp=Z,73nm,1.1s
PAULI Pauline 34.94 358 P **P 03 10 32.5 +0.6**
baz=178,SNR=14
PAULI S **S 03 16 01.6 -1.5**
baz=178
FPAL Fort Paine 34.95 353 IAmb IAmb 03 10 39.0
comp=Z,104nm,1.1s
Y45A Yeager Farm, C 34.99 347 P **P 03 10 33.0 +0.6**
Y45A Yeager Farm, C 34.99 347 P **P 03 10 32.1 -0.3**
baz=164,SNR=51
Y45A S **S 03 16 02.1 -1.7**
baz=164
X48A Hartselle 35.07 351 P **P 03 10 31.9 -1.2**
baz=169,SNR=20
X48A S **S 03 16 02.1 -3.0**
baz=169
BO01 Tunca 35.09 166 IAmb IAmb 03 10 37.9
comp=Z,108nm,1.2s
BG3 Lake Jocassee 35.16 357 IAmb IAmb 03 10 41.4
comp=Z,107nm,1.1s
CASEE Lake Jocassee 35.16 357 P **P 03 10 33.6 -0.3**
baz=176,SNR=30
CASEE S **S 03 16 04.4 -2.1**
baz=176
237A Washetta, Mont 35.18 337 P **P 03 10 35.7 +1.6**
baz=153,SNR=15
237A S **S 03 16 06.9 0.0**
baz=153
KMSC Kings Mountain 35.25 359 P **P 03 10 33.8 -0.8**
baz=179,SNR=25
KMSC S **S 03 16 05.6 -2.2**
baz=179
KMSC Kings Mountain 35.25 359 P **P 03 10 33.8 -0.8**
baz=179,SNR=25
KMSC S **S 03 16 07.2 -0.6**
baz=179
W57A Gilead 35.26 1 IAmb IAmb 03 10 41.8
comp=Z,84nm,1.1s
W57A Gilead 35.26 1 P **P 03 10 34.4 -0.3**
baz=181,SNR=18
W57A P **P 03 10 34.4 -0.3**
baz=181,SNR=18
W57A S **S 03 16 06.2 -1.7**
baz=181
W57A S **S 03 16 06.2 -1.7**
baz=181
Z41A Richland Creek 35.28 342 P **P 03 10 34.9 0.0**
baz=158,SNR=14
Z41A P **P 03 10 34.9 0.0**
baz=158,SNR=14
Z41A S **S 03 16 06.7 -1.6**
baz=158
Z41A S **S 03 16 06.7 -1.6**
baz=158
Z41A Richland Creek 35.28 342 P **P 03 10 34.5 -0.4**
baz=158,SNR=14
Z41A S **S 03 16 07.3 -1.1**
baz=158
W52A Murphy 35.33 355 IAmb IAmb 03 10 42.7
comp=Z,78nm,1.0s
W52A Murphy 35.33 355 P **P 03 10 34.4 -1.0**
baz=174,SNR=27
W52A S **S 03 16 07.1 -2.1**
baz=174
ITRB Iturama 35.37 125 *e*P **P 03 10 34.3 -1.6**
CNNC Cliffs of the 35.43 4 IAMs_20 IAMs_20 03 24 16.6
comp=Z,9µm,20.0s
CNNC Cliffs of the 35.43 4 P **P 03 10 35.6 -0.6**
baz=184
GO05 Huala 35.49 168 IAmb IAmb 03 10 45.7
comp=Z,60nm,0.8s

W50A	**Signal Mountai**	**35.57**	**353**	IAmb	IAmb	03 10 44.5		
	comp=Z,58nm,0.9s							
W50A	**Signal Mountai**	**35.57**	**353**	P	**P**	**03 10 36.4**	**-1.0**	
	baz=172,SNR=18							
W50A				S	**S**	**03 16 11.4**	**-1.5**	
	baz=172							
OXF	**Oxford**	**35.58**	**347**	IAmb	IAmb	03 10 44.7		
	comp=Z,90nm,1.0s							
OXF	**Oxford**	**35.58**	**347**	P	**P**	**03 10 38.3**	**+0.8**	
	baz=165,SNR=14							
OXF				S	**S**	**03 16 09.4**	**-3.5**	
	baz=165							
OXF	**Oxford**	**35.58**	**347**	P	**P**	**03 10 33.8**	**-3.7**	
	baz=165,SNR=14							
OXF				S	**S**	**03 16 10.1**	**-2.8**	
	baz=165							
CCAR	**Cane Creek**	**35.60**	**344**	P	**P**	**03 10 39.4**	**+1.8**	
	baz=160,SNR=16							
CCAR				S	**S**	**03 16 12.3**	**-0.9**	
	baz=160							
BDFB	**Brasilia**	**35.61**	**117**	P	**P**	**03 10 37.3**	**-0.9**	
	comp=Z,60nm,0.9s,baz=287,slow=10,SNR=73							
BDFB				LR	LR	03 26 05.5		
	comp=Z,37µm,18.4s,baz=291,slow=38							
BDFB	**Brasilia**	**35.61**	**117**	P	**P**	**03 10 37.8**	**-0.4**	
BDFB				pmax	pmax			
	comp=Z,130nm,1.0s							
BDFB	**Brasilia**	**35.61**	**117**	P	**P**	**03 10 37.8**	**-0.4**	
BDFB				IAmb	IAmb	03 10 51.5		
	comp=Z,130nm,1.0s							
PCMB	**Pacaembu**	**35.62**	**128**	*e*P	**P**	**03 10 36.6**	**-1.5**	
JCT	**Junction City**	**35.62**	**331**	P	**P**	**03 10 39.0**	**+1.0**	
	baz=146,SNR=41							
JCT				S	**S**	**03 16 15.7**	**+1.9**	
	baz=146							
JCT	**Junction City**	**35.62**	**331**	P	**P**	**03 10 37.7**	**-0.3**	
	baz=146,SNR=41							
JCT				S	**S**	**03 16 15.5**	**+1.7**	
	baz=146							
SWET	**Sewanee**	**35.66**	**353**	IAmb	IAmb	03 10 45.0		
	comp=Z,92nm,1.1s							
CPCT	**Cooper Cave**	**35.73**	**355**	IAmb	IAmb	03 10 46.1		
	comp=Z,142nm,1.1s							
BBSR	**BB Station**	**35.79**	**23**	P	**P**	**03 10 41.2**	**+1.9**	
BBSR				IAmb	IAmb	03 10 42.4		
	comp=Z,76nm,1.0s							
BBSR	**BB Station**	**35.79**	**23**	S	**S**	**03 16 17.4**	**+1.3**	
	baz=208							
V53A	**Saluda**	**35.83**	**357**	P	**P**	**03 10 39.4**	**-0.3**	
	baz=176,SNR=12							
V53A				P	**P**	**03 10 39.4**	**-0.3**	
	baz=176,SNR=12							
V53A				S	**S**	**03 16 15.0**	**-1.8**	
	baz=176							
V53A				S	**S**	**03 16 15.0**	**-1.8**	
	baz=176							
WHTX	**Lake Whitney,**	**35.84**	**335**	IAmb	IAmb	03 10 48.0		
	comp=Z,226nm,1.4s							
WHTX	**Lake Whitney,**	**35.84**	**335**	P	**P**	**03 10 41.1**	**+1.4**	
	baz=150,SNR=29							
WHTX				S	**S**	**03 16 14.6**	**-2.4**	
	baz=150							
WHTX	**Lake Whitney,**	**35.84**	**335**	P	**P**	**03 10 37.9**	**-1.8**	
	baz=150,SNR=29							
WHTX				S	**S**	**03 16 16.9**	**-0.1**	
	baz=150							
TKL	**Tuckaleechee C**	**35.88**	**356**	P	**P**	**03 10 39.7**	**-0.4**	
	comp=Z,35nm,1.1s,baz=166,slow=11,SNR=15							
TKL				LR	LR	03 24 30.2		
	comp=Z,9µm,21.8s,baz=178,slow=35							
TKL	**Tuckaleechee C**	**35.88**	**356**	P	**P**	**03 10 40.2**	**+0.2**	
TKL				pmax	pmax			
	comp=Z,92nm,1.2s							
TKL	**Tuckaleechee C**	**35.88**	**356**	P	**P**	**03 10 40.2**	**+0.2**	
TKL				IAmb	IAmb	03 10 47.2		
	comp=Z,92nm,1.2s							
TKL	**Tuckaleechee C**	**35.88**	**356**	P	**P**	**03 10 40.1**	**+0.2**	
	baz=174,SNR=30							
TKL				S	**S**	**03 16 16.5**	**-1.0**	
	baz=174							
V58A	**Windy Hill, Pi**	**35.92**	**2**	P	**P**	**03 10 40.1**	**-0.3**	
	baz=182,SNR=15							
V58A				P	**P**	**03 10 40.1**	**-0.3**	
	baz=182,SNR=15							
V58A				S	**S**	**03 16 16.9**	**-1.2**	
	baz=182							
V58A				S	**S**	**03 16 16.9**	**-1.2**	
	baz=182							
V55A	**Taylorsville**	**35.95**	**359**	P	**P**	**03 10 41.0**	**+0.4**	
	baz=179,SNR=8.8							
V55A				P	**P**	**03 10 41.0**	**+0.4**	
	baz=179,SNR=8.8							
V55A				S	**S**	**03 16 17.6**	**-1.1**	
	baz=179							
V55A				S	**S**	**03 16 17.6**	**-1.1**	
	baz=179							
Z38A	**Mt. Pleasant**	**36.00**	**339**	IAmb	IAmb	03 10 49.2		
	comp=Z,192nm,1.2s							
Z38A	**Mt. Pleasant**	**36.00**	**339**	P	**P**	**03 10 41.7**	**+0.5**	
	baz=155,SNR=17							
Z38A				S	**S**	**03 16 19.4**	**0.0**	
	baz=155							
V52A	**Sevierville**	**36.05**	**356**	IAmb	IAmb	03 10 48.6		
	comp=Z,89nm,1.1s							
V52A	**Sevierville**	**36.05**	**356**	P	**P**	**03 10 40.4**	**-1.1**	
	baz=175,SNR=20							
V52A				S	**S**	**03 16 17.8**	**-2.3**	
	baz=175							
V51A	**Loudon**	**36.07**	**355**	IAmb	IAmb	03 10 48.9		
	comp=Z,90nm,1.0s							
V51A	**Loudon**	**36.07**	**355**	P	**P**	**03 10 40.8**	**-0.9**	
	baz=174,SNR=17							
V51A				S	**S**	**03 16 14.8**	**-5.6**	
	baz=174							
V61A	**Roper**	**36.08**	**6**	S	**S**	**03 16 21.7**	**+1.1**	
	baz=187							
V61A				S	**S**	**03 16 21.7**	**+1.1**	
	baz=187							
W45A	**Hickory Valley**	**36.15**	**348**	P	**P**	**03 10 41.6**	**-0.8**	
	baz=165,SNR=22							
W45A				S	**S**	**03 16 17.8**	**-4.0**	
	baz=165							
HPIG		**36.24**	**320**	P	**P**	**03 10 45.1**	**+1.6**	
V48A	**Smith Brothers**	**36.30**	**351**	IAmb	IAmb	03 10 50.6		
	comp=Z,173nm,1.1s							
V48A	**Smith Brothers**	**36.30**	**351**	P	**P**	**03 10 42.2**	**-1.5**	
	baz=169,SNR=57							
V48A				S	**S**	**03 16 20.5**	**-3.5**	
	baz=169							
IPMB	**Ipameri, GO**	**36.38**	**121**	*e*P	**P**	**03 10 43.4**	**-1.3**	
X40A	**Basin Creek Fa**	**36.43**	**343**	P	**P**	**03 10 46.1**	**+1.3**	
	baz=159,SNR=14							
X40A				P	**P**	**03 10 46.1**	**+1.3**	
	baz=159,SNR=14							
X40A				S	**S**	**03 16 23.6**	**-2.4**	
	baz=159							
X40A				S	**S**	**03 16 23.6**	**-2.4**	
	baz=159							
X40A	**Basin Creek Fa**	**36.43**	**343**	P	**P**	**03 10 41.1**	**-3.7**	
	baz=159,SNR=14							
X40A				S	**S**	**03 16 24.0**	**-2.0**	
	baz=159							
U56A	**King**	**36.44**	**0**	P	**P**	**03 10 44.2**	**-0.7**	
	baz=180,SNR=16							
U56A				P	**P**	**03 10 44.2**	**-0.7**	
	baz=180,SNR=16							
U56A				S	**S**	**03 16 25.4**	**-0.7**	
	baz=180							
U56A				S	**S**	**03 16 25.4**	**-0.7**	
	baz=180							
U59A	**Littleton**	**36.54**	**4**	IAmb	IAmb	03 10 54.0		
	comp=Z,189nm,1.9s							
U59A	**Littleton**	**36.54**	**4**	P	**P**	**03 10 47.5**	**+1.8**	
	baz=184,SNR=7.1							
U59A				P	**P**	**03 10 47.5**	**+1.8**	
	baz=184,SNR=7.1							
U59A				S	**S**	**03 16 27.4**	**-0.2**	
	baz=184							
U59A				S	**S**	**03 16 27.4**	**-0.2**	
	baz=184							
ROSB	**Rosrio**	**36.56**	**94**	*e*P	**P**	**03 10 44.8**	**-1.4**	
UALR	**University of**	**36.56**	**344**	IAmb	IAmb	03 10 53.1		
	comp=Z,145nm,1.2s							
U54A	**Nelsons Funny**	**36.63**	**358**	P	**P**	**03 10 46.6**	**0.0**	
	baz=178,SNR=18							
U54A				P	**P**	**03 10 46.6**	**0.0**	
	baz=178,SNR=18							
U54A				S	**S**	**03 16 26.8**	**-2.4**	
	baz=178							
U54A				S	**S**	**03 16 26.8**	**-2.4**	
	baz=178							
MIAR	**Mount Ida**	**36.71**	**342**	P	**P**	**03 10 47.8**	**+0.6**	
MIAR				pmax	pmax			
	comp=Z,94nm,1.3s							
MIAR	**Mount Ida**	**36.71**	**342**	P	**P**	**03 10 47.8**	**+0.6**	
MIAR	**Mount Ida**	**36.71**	**342**	P	**P**	**03 10 46.8**	**-0.4**	
	baz=158,SNR=24							
MIAR				S	**S**	**03 16 28.0**	**-2.3**	
	baz=158							
MIAR	**Mount Ida**	**36.71**	**342**	P	**P**	**03 10 44.0**	**-3.2**	
	baz=158,SNR=24							
MIAR				S	**S**	**03 16 28.6**	**-1.7**	
	baz=158							
TZTN	**Tazewell**	**36.74**	**356**	IAmb	IAmb	03 10 54.5		
	comp=Z,120nm,1.1s							
TZTN	**Tazewell**	**36.74**	**356**	P	**P**	**03 10 46.3**	**-1.1**	
	baz=175,SNR=24							
TZTN				S	**S**	**03 16 27.4**	**-3.3**	
	baz=175							
TZTN	**Tazewell**	**36.74**	**356**	P	**P**	**03 10 45.6**	**-1.8**	
	baz=175,SNR=24							
TZTN				S	**S**	**03 16 28.8**	**-1.9**	
	baz=175							
TXAR	**Lajitas Array**	**36.77**	**325**	P	**P**	**03 10 48.1**	**+0.2**	
	comp=Z,7.0nm,1.0s,baz=148,slow=8.4,SNR=22							
TXAR				PcP	**PcP**	**03 13 12.1**	**+1.9**	
	comp=Z,4.2nm,1.0s,baz=150,slow=6.0,SNR=2.6							
TX31	**Lajitas Ar. Si**	**36.77**	**325**	P	**P**	**03 10 48.5**	**+0.6**	
	baz=139,SNR=21							
TX31				S	**S**	**03 16 36.2**	**+4.7**	
	baz=139							
PTGB	**Pitanga**	**36.78**	**133**	*e*P	**P**	**03 10 45.9**	**-2.2**	
WVT	**Waverly**	**36.84**	**350**	P	**P**	**03 10 47.3**	**-1.0**	
WVT				pmax	pmax			
	comp=Z,46nm,1.0s							
WVT				MLR	MLR			
	comp=Z,6µm,20.0s							
WVT	**Waverly**	**36.84**	**350**	P	**P**	**03 10 47.3**	**-1.0**	
WVT	**Waverly**	**36.84**	**350**	P	**P**	**03 10 45.9**	**-2.4**	
	baz=168,SNR=23							
WVT				S	**S**	**03 16 27.5**	**-4.7**	
	baz=168							
WVT	**Waverly**	**36.84**	**350**	P	**P**	**03 10 46.0**	**-2.2**	
	baz=168							
WVT				S	**S**	**03 16 28.1**	**-4.2**	
	baz=168							
FRBT	**Francisco Belt**	**36.85**	**136**	*e*P	**P**	**03 10 47.7**	**-0.9**	
HBAR	**Harrisburg**	**36.86**	**346**	IAmb	IAmb	03 10 55.6		
	comp=Z,145nm,1.1s							
HBAR	**Harrisburg**	**36.86**	**346**	S	**S**	**03 16 30.6**	**-1.9**	
	baz=163							
W41B	**Gary Mavity, V**	**36.91**	**344**	IAmb	IAmb	03 10 56.1		
	comp=Z,89nm,1.1s							
W41B	**Gary Mavity, V**	**36.91**	**344**	P	**P**	**03 10 48.0**	**-0.8**	
	baz=160,SNR=30							
W41B				S	**S**	**03 16 30.9**	**-2.4**	
	baz=160							
W41B	**Gary Mavity, V**	**36.91**	**344**	P	**P**	**03 10 47.3**	**-1.6**	
	baz=160,SNR=30							
W41B				S	**S**	**03 16 31.1**	**-2.2**	
	baz=160							
U49A	**Red Boiling Sp**	**36.92**	**353**	P	**P**	**03 10 47.5**	**-1.4**	
	baz=171,SNR=23							
U49A				S	**S**	**03 16 30.1**	**-3.4**	
	baz=171							
Z35A	**Perchaven, San**	**36.92**	**336**	P	**P**	**03 10 50.0**	**+1.1**	
	baz=152,SNR=15							
Z35A				S	**S**	**03 16 33.0**	**-0.5**	
	baz=152							
WHAR	**Wooly Hollow**	**37.03**	**344**	IAmb	IAmb	03 10 57.0		
	comp=Z,113nm,1.1s							
ITQB	**Itaqui**	**37.11**	**144**	*e*P	**P**	**03 10 50.9**	**+0.3**	
GNAR	**Gosnell**	**37.11**	**347**	IAmb	IAmb	03 10 57.5		
	comp=Z,169nm,1.1s							
T57A	**Hurt**	**37.11**	**2**	IAmb	IAmb	03 10 57.7		
	comp=Z,89nm,1.1s							
T57A	**Hurt**	**37.11**	**2**	P	**P**	**03 10 50.6**	**+0.1**	
	baz=182,SNR=26							
T57A				P	**P**	**03 10 50.6**	**+0.1**	
	baz=182,SNR=26							
T57A				S	**S**	**03 16 34.7**	**-1.7**	
	baz=182							
T57A				S	**S**	**03 16 34.7**	**-1.7**	
	baz=182							
LNXT	**Lenox**	**37.13**	**348**	IAmb	IAmb	03 11 18.8		
	comp=Z,253nm,1.5s							
LNXT	**Lenox**	**37.13**	**348**	S	**S**	**03 16 32.6**	**-4.0**	
	baz=165							
SLBS	**Sierra La Lagu**	**37.13**	**312**	P	**P**	**03 10 52.4**	**+1.4**	
T59A	**Double "B" Far**	**37.17**	**4**	P	**P**	**03 10 52.4**	**+1.3**	
	baz=185,SNR=10							
T59A				P	**P**	**03 10 52.4**	**+1.3**	
	baz=185,SNR=10							
T59A				S	**S**	**03 16 36.8**	**-0.4**	
	baz=185							
T59A				S	**S**	**03 16 36.8**	**-0.4**	
	baz=185							
PEBM	**Pemiscott Bayo**	**37.22**	**348**	IAmb	IAmb	03 10 58.3		
	comp=Z,218nm,1.2s							
BLA	**Blacksburg**	**37.31**	**0**	IAmb	IAmb	03 10 59.7		
	comp=Z,109nm,1.1s							
BLA				IAMs_20	IAMs_20	03 27 28.4		
	comp=Z,9µm,19.0s							
BLA	**Blacksburg**	**37.31**	**0**	P	**P**	**03 10 53.7**	**+1.4**	
	baz=180,SNR=20							
BLA				S	**S**	**03 16 39.1**	**-0.2**	
	baz=180							
BLA	**Blacksburg**	**37.31**	**0**	P	**P**	**03 10 51.5**	**-0.7**	
	baz=180,SNR=20							
BLA				S	**S**	**03 16 38.2**	**-1.1**	
	baz=180							
T50A	**Nancy**	**37.32**	**354**	S	**S**	**03 16 35.7**	**-3.8**	
	baz=173							
T50A				S	**S**	**03 16 35.7**	**-3.8**	
	baz=173							
ABTX	**Abilene, Hawle**	**37.33**	**333**	IAmb	IAmb	03 11 01.1		
	comp=Z,268nm,1.4s							
ABTX	**Abilene, Hawle**	**37.33**	**333**	P	**P**	**03 10 53.6**	**+1.1**	
	baz=147,SNR=29							
ABTX				S	**S**	**03 16 39.0**	**-0.9**	
	baz=147							
ABTX	**Abilene, Hawle**	**37.33**	**333**	P	**P**	**03 10 54.1**	**+1.5**	
	baz=147,SNR=29							
ABTX				S	**S**	**03 16 39.5**	**-0.4**	
	baz=147							
X37A	**Clayton**	**37.34**	**340**	P	**P**	**03 10 54.0**	**+1.5**	
	baz=155,SNR=21							
X37A				S	**S**	**03 16 39.6**	**-0.3**	
	baz=155							
W39A	**Magazine**	**37.38**	**342**	IAmb	IAmb	03 11 00.8		
	comp=Z,206nm,1.2s							
W39A	**Magazine**	**37.38**	**342**	P	**P**	**03 10 52.7**	**-0.1**	
	baz=158,SNR=49							
W39A				S	**S**	**03 16 39.2**	**-1.2**	
	baz=158							
W39A	**Magazine**	**37.38**	**342**	P	**P**	**03 10 51.8**	**-1.0**	
	baz=158,SNR=49							
W39A				S	**S**	**03 16 40.0**	**-0.4**	
	baz=158							
T60A	**Surry**	**37.41**	**5**	S	**S**	**03 16 40.9**	**+0.2**	
	baz=186							
T60A				S	**S**	**03 16 40.9**	**+0.2**	
	baz=186							
SDBA	**SAO DESIDERIO**	**37.41**	**110**	*e*P	**P**	**03 10 51.8**	**-1.7**	
LCAR	**Lake Charles**	**37.47**	**346**	P	**P**	**03 10 53.0**	**-0.6**	
LCAR				IAmb	IAmb	03 11 00.4		
	comp=Z,175nm,1.2s							
LCAR	**Lake Charles**	**37.47**	**346**	P	**P**	**03 10 52.1**	**-1.5**	
	baz=162,SNR=84							
LCAR				S	**S**	**03 16 38.9**	**-2.9**	
	baz=162							
BB19B	**Bebedouro**	**37.53**	**125**	*e*P	**P**	**03 10 53.1**	**-1.3**	
T47A	**Sharon Grove**	**37.57**	**351**	P	**P**	**03 10 52.7**	**-1.7**	
	baz=169,SNR=16							
T47A				S	**S**	**03 16 38.5**	**-4.7**	
	baz=169							
LPIG	**La Paz**	**37.64**	**312**	P	**P**	**03 10 56.7**	**+1.5**	
	comp=Z,20nm,0.3s,baz=338,slow=8.2,SNR=3.6							
LPIG				LR	LR	03 24 08.4		
	comp=Z,5µm,18.3s,baz=100,slow=33							
S51A	**Beattyville**	**37.83**	**356**	IAmb	IAmb	03 11 03.5		
	comp=Z,96nm,1.1s							
S51A	**Beattyville**	**37.83**	**356**	P	**P**	**03 10 56.2**	**-0.5**	
	baz=175,SNR=23							
S51A				P	**P**	**03 10 56.2**	**-0.5**	
	baz=175,SNR=23							
S51A				S	**S**	**03 16 44.4**	**-2.8**	
	baz=175							
S51A				S	**S**	**03 16 44.4**	**-2.8**	
	baz=175							
T45B	**Paducah**	**37.85**	**349**	P	**P**	**03 10 56.9**	**+0.1**	
	baz=167,SNR=8.6							
T45B				S	**S**	**03 16 43.1**	**-4.4**	
	baz=167							
FRTB	**Fartura**	**37.88**	**129**	*e*P	**P**	**03 10 55.8**	**-1.5**	
S57A	**Dark Hollow, R**	**37.88**	**2**	P	**P**	**03 10 57.9**	**+0.8**	
	baz=182,SNR=9.4							
S57A				P	**P**	**03 10 57.9**	**+0.8**	
	baz=182,SNR=9.4							
S57A				S	**S**	**03 16 46.1**	**-1.9**	
	baz=182							
S57A				S	**S**	**03 16 46.1**	**-1.9**	
	baz=182							
S54A	**Dingess, Beckl**	**37.90**	**359**	P	**P**	**03 10 55.8**	**-1.5**	
	baz=179,SNR=13							
S54A				P	**P**	**03 10 55.8**	**-1.5**	
	baz=179,SNR=13							
S54A				S	**S**	**03 16 45.2**	**-3.1**	
	baz=179							
S54A				S	**S**	**03 16 45.2**	**-3.1**	
	baz=179							
PBMO	**Poplar Bluff**	**37.98**	**347**	P	**P**	**03 10 57.7**	**-0.2**	
PBMO				IAmb	IAmb	03 11 04.6		
	comp=Z,120nm,1.4s							
PBMO	**Poplar Bluff**	**37.98**	**347**	P	**P**	**03 10 56.6**	**-1.3**	
	baz=164,SNR=18							
PBMO				S	**S**	**03 16 46.0**	**-3.5**	
	baz=164							
R58B	**Mineral**	**38.14**	**3**	P	**P**	**03 10 58.4**	**-0.8**	
	baz=184,SNR=15							
R58B				P	**P**	**03 10 58.4**	**-0.8**	
	baz=184,SNR=15							
U40A	**Yellville**	**38.19**	**344**	IAmb	IAmb	03 11 07.0		
	comp=Z,134nm,1.1s							
U40A	**Yellville**	**38.19**	**344**	P	**P**	**03 10 58.7**	**-1.0**	
	baz=160,SNR=57							
U40A				P	**P**	**03 10 58.7**	**-1.0**	
	baz=160,SNR=57							
U40A				S	**S**	**03 16 50.4**	**-2.2**	
	baz=160							
U40A				S	**S**	**03 16 50.4**	**-2.2**	
	baz=160							
U40A	**Yellville**	**38.19**	**344**	P	**P**	**03 10 58.3**	**-1.4**	
	baz=160,SNR=57							
U40A				S	**S**	**03 16 50.7**	**-2.0**	
	baz=160							
X34A	**Smith Ranch, M**	**38.26**	**337**	IAmb	IAmb	03 11 09.1		
	comp=Z,267nm,1.7s							
ITAB	**Concordia**	**38.30**	**137**	*e*P	**P**	**03 10 59.9**	**-0.8**	
R55A	**Marlinton**	**38.38**	**1**	P	**P**	**03 11 01.4**	**+0.1**	
	baz=181,SNR=14							
R55A				P	**P**	**03 11 01.4**	**+0.1**	
	baz=181,SNR=14							
R55A				S	**S**	**03 16 54.6**	**-1.1**	
	baz=181							
R55A				S	**S**	**03 16 54.6**	**-1.1**	
	baz=181							
RPN	**Rapa Nui**	**38.39**	**224**	LR	LR	03 22 31.3		
	comp=Z,9µm,19.1s,baz=50,slow=29							
RPN	**Rapa Nui**	**38.39**	**224**	IAMs_20	IAMs_20	03 22 44.9		
	comp=Z,10µm,18.0s							
CBN	**Corbin Frederi**	**38.41**	**4**	S	**S**	**03 16 57.0**	**+1.0**	
	baz=185							
CBN	**Corbin Frederi**	**38.41**	**4**	P	**P**	**03 11 01.0**	**-0.5**	
	baz=185							
CBN				S	**S**	**03 16 56.3**	**+0.4**	
	baz=185							
HHAR	**Hobbs**	**38.43**	**343**	P	**P**	**03 11 00.9**	**-0.8**	
	baz=158							
HHAR				S	**S**	**03 16 54.4**	**-2.0**	
	baz=158							
R53A	**Hurricane**	**38.44**	**358**	P	**P**	**03 11 01.6**	**-0.1**	
	baz=178,SNR=15							
R53A				P	**P**	**03 11 01.6**	**-0.1**	
	baz=178,SNR=15							
R53A				S	**S**	**03 16 53.2**	**-3.3**	
	baz=178							
R53A				S	**S**	**03 16 53.2**	**-3.3**	
	baz=178							
R50A	**Paris**	**38.53**	**355**	P	**P**	**03 11 01.6**	**-0.9**	
	baz=174,SNR=19							
R50A				P	**P**	**03 11 01.6**	**-0.9**	
	baz=174,SNR=19							
R50A				S	**S**	**03 16 54.1**	**-3.6**	
	baz=174							
R50A				S	**S**	**03 16 54.1**	**-3.6**	
	baz=174							
USIN	**University of**	**38.61**	**351**	IAmb	IAmb	03 11 09.4		
	comp=Z,163nm,1.1s							
R49A	**Shelbyville**	**38.61**	**354**	IAmb	IAmb	03 11 09.6		
	comp=Z,115nm,1.2s							
R49A	**Shelbyville**	**38.61**	**354**	P	**P**	**03 11 02.2**	**-1.0**	
	baz=172,SNR=22							
R49A				P	**P**	**03 11 02.2**	**-1.0**	
	baz=172,SNR=22							
R49A				S	**S**	**03 16 55.3**	**-3.7**	
	baz=172							
R49A				S	**S**	**03 16 55.3**	**-3.7**	
	baz=172							
S44A	**Carbondale**	**38.62**	**349**	IAmb	IAmb	03 11 09.8		
	comp=Z,117nm,1.0s							
S44A	**Carbondale**	**38.62**	**349**	P	**P**	**03 11 02.2**	**-1.0**	
	baz=166,SNR=32							
S44A				S	**S**	**03 16 55.1**	**-4.0**	
	baz=166							
SIUC	**Southern Illin**	**38.63**	**349**	P	**P**	**03 11 03.1**	**-0.3**	
SIUC				IAmb	IAmb	03 11 09.9		
	comp=Z,176nm,1.1s							
FNO	**Franklin**	**38.67**	**338**	IAmb	IAmb	03 11 12.5		
	comp=Z,326nm,1.8s							
TUL1	**Leonard**	**38.68**	**340**	IAmb	IAmb	03 11 11.4		
	comp=Z,122nm,1.2s							
TUL1	**Leonard**	**38.68**	**340**	P	**P**	**03 11 03.3**	**-0.6**	
	baz=155,SNR=27							
TUL1				S	**S**	**03 16 55.2**	**-5.0**	
	baz=155							
TUL1	**Leonard**	**38.68**	**340**	P	**P**	**03 11 03.2**	**-0.6**	
	baz=155,SNR=27							
TUL1				S	**S**	**03 16 58.9**	**-1.3**	
	baz=155							
JANB	**Januaria**	**38.75**	**114**	*e*P	**P**	**03 11 03.2**	**-1.6**	
WMOK	**Wichita Mounta**	**38.77**	**336**	P	**P**	**03 11 04.6**	**0.0**	
	baz=150,SNR=49							
WMOK				S	**S**	**03 17 01.0**	**-0.5**	
	baz=150							
WMOK	**Wichita Mounta**	**38.77**	**336**	P	**P**	**03 11 05.1**	**+0.5**	
	baz=150,SNR=49							
WMOK				S	**S**	**03 17 01.2**	**-0.3**	
	baz=150							
MGMO	**Mountain Grove**	**38.78**	**345**	IAmb	IAmb	03 11 11.9		
	comp=Z,220nm,1.4s							
RCLB	**Rio Claro- Sao**	**39.00**	**127**	*e*P	**P**	**03 11 04.9**	**-1.9**	
Q54A	**Coxs Mills**	**39.08**	**360**	P	**P**	**03 11 06.0**	**-1.1**	
	baz=180							
Q54A				P	**P**	**03 11 06.0**	**-1.1**	
	baz=180							
Q54A				S	**S**	**03 17 01.6**	**-4.4**	
	baz=180							
Q54A				S	**S**	**03 17 01.6**	**-4.4**	
	baz=180							
Q52A	**Bidwell**	**39.08**	**358**	P	**P**	**03 11 06.1**	**-1.0**	
	baz=177,SNR=23							
Q52A				P	**P**	**03 11 06.1**	**-1.0**	
	baz=177,SNR=23							
Q52A				S	**S**	**03 17 02.2**	**-4.0**	
	baz=177							
Q52A				S	**S**	**03 17 02.2**	**-4.0**	
	baz=177							
FVM	**French Village**	**39.14**	**348**	IAmb	IAmb	03 11 14.9		
	comp=Z,171nm,1.2s							
FVM	**French Village**	**39.14**	**348**	P	**P**	**03 11 06.9**	**-0.7**	
	baz=164,SNR=38							
FVM				S	**S**	**03 17 02.5**	**-4.5**	
	baz=164							
Q56A	**Snyder Ridge,**	**39.15**	**2**	P	**P**	**03 11

Q51A P P 03 11 07.4 -0.7
baz=176,SNR=15
Q51A S S 03 17 04.9 -3.0
baz=176
Q51A S S 03 17 04.9 -3.0
baz=176
LC01 Cunco 39.26 169 IAmb IAmb 03 11 16.6
comp=Z,230nm,1.6s
MIDE Milford 39.27 7 S S 03 17 11.4 +2.5
baz=188
NBPS Pedro II - PI 39.34 97 eP P 03 11 08.3 -1.5
CCM Cathedral Cave 39.39 347 P P 03 11 09.4 -0.3
CCM pmax pmax
comp=Z,142nm,1.2s
CCM Cathedral Cave 39.39 347 P P 03 11 09.4 -0.3
CCM IAmb IAmb 03 11 16.3
comp=Z,142nm,1.1s
CCM Cathedral Cave 39.39 347 P P 03 11 08.1 -1.6
baz=163,SNR=51
CCM Cathedral Cave 39.39 347 P P 03 11 08.0 -1.6
baz=163
CCM S S 03 17 06.8 -4.0
baz=163
TIJ01 Guaruva-PR 39.39 132 eP P 03 11 11.6 +1.5
OLIL Olney 39.43 351 IAmb IAmb 03 11 16.2
comp=Z,141nm,1.1s
OLIL Olney 39.43 351 P P 03 11 08.0 -2.0
baz=168,SNR=19
OLIL S S 03 17 06.6 -4.7
baz=168
MNTX Cornudas Mount 39.52 326 P P 03 11 11.5 +0.5
baz=139,SNR=58
MNTX S S 03 17 15.1 +2.2
baz=139
MNTX Cornudas Mount 39.52 326 P P 03 11 10.0 -0.9
baz=139,SNR=58
MNTX S S 03 17 13.6 +0.7
baz=139
CPSB Cacapava Do Su 39.55 142 eP P 03 11 10.6 -0.7
S39A Bolivar 39.57 344 P P 03 11 10.1 -1.1
baz=160,SNR=32
S39A S S 03 17 10.6 -2.9
baz=160
P53A Whipple 39.58 359 P P 03 11 10.9 -0.4
baz=179,SNR=16
P53A P P 03 11 10.9 -0.4
baz=179,SNR=16
P53A S S 03 17 08.7 -4.9
baz=179
P53A S S 03 17 08.7 -4.9
baz=179
P51A Williamsport 39.64 357 P P 03 11 11.8 +0.1
baz=176,SNR=9.7
P51A P P 03 11 11.8 +0.1
baz=176,SNR=9.7
P51A S S 03 17 10.8 -3.6
baz=176
P51A S S 03 17 10.8 -3.6
baz=176
P57A Homestead Farm 39.65 3 P P 03 11 13.1 +1.3
baz=184
P57A P P 03 11 13.1 +1.3
baz=184
SDMD Soldier's Deli 39.65 5 P P 03 11 12.7 +0.8
SDMD Soldier's Deli 39.65 5 P P 03 11 13.1 +1.2
baz=186
SDMD S S 03 17 14.3 -0.3
baz=186
SLM Saint Louis 39.73 348 IAmb IAmb 03 11 19.0
comp=Z,142nm,1.1s
SLM Saint Louis 39.73 348 P P 03 11 12.9 +0.4
baz=165
SLM S S 03 17 10.6 -5.2
baz=165
VAO Valinhos 39.74 127 eP P 03 11 10.8 -2.2
P52A Corning 39.75 358 IAMs_20 IAMs_20 03 30 09.2
comp=Z,8µm,20.0s
P52A Corning 39.75 358 P P 03 11 10.1 -2.5
baz=177,SNR=15
P52A S S 03 17 12.2 -3.9
baz=177
Q44A Meyer Farm, Va 39.75 350 IAmb IAmb 03 11 18.9
comp=Z,159nm,1.0s
Q44A Meyer Farm, Va 39.75 350 P P 03 11 11.6 -1.1
baz=167,SNR=13
Q44A S S 03 17 10.9 -5.2
baz=167
MCWV Mont Chateau 39.75 1 IAMs_20 IAMs_20 03 30 34.2
comp=Z,10µm,18.0s
MCWV Mont Chateau 39.75 1 P P 03 11 13.9 +1.1
baz=181,SNR=5.7
MCWV S S 03 17 15.7 -0.5
baz=181
MCWV Mont Chateau 39.75 1 P P 03 11 11.3 -1.4
baz=181,SNR=5.7
P48A Milroy 39.80 354 P P 03 11 11.4 -1.7
baz=172,SNR=21
P48A P P 03 11 11.4 -1.7
baz=172,SNR=21
P48A S S 03 17 11.8 -5.0
baz=172
P48A S S 03 17 11.8 -5.0
baz=172
P49A Miami Univ. Ec 39.80 355 IAMs_20 IAMs_20 03 26 18.8
comp=Z,12µm,22.0s
P49A Miami Univ. Ec 39.80 355 P P 03 11 12.9 -0.2
baz=173,SNR=7.8
P49A Miami Univ. Ec 39.80 355 P P 03 11 10.9 -2.2
baz=173,SNR=7.8
P49A S S 03 17 11.9 -5.0
baz=173
T35A Sooner Cattle 39.84 340 IAmb IAmb 03 11 21.4
comp=Z,134nm,1.1s
T35B Sooner Cattle 39.84 340 P P 03 11 13.5 0.0
baz=155,SNR=46
T35B S S 03 17 16.4 -1.2
baz=155
R40A Maddies Statio 39.86 346 P P 03 11 12.3 -1.4
baz=162,SNR=33
MSTX Muleshoe 39.92 331 P P 03 11 15.1 +0.7
baz=144,SNR=29
MSTX S S 03 17 19.5 +0.4
baz=144
MSTX Muleshoe 39.92 331 P P 03 11 12.6 -1.8
baz=144,SNR=29
MSTX S S 03 17 19.5 +0.4
baz=144
AMTX Amarillo 40.15 333 P P 03 11 17.3 +1.1
AMTX IAmb IAmb 03 11 24.6
comp=Z,109nm,0.9s
AMTX Amarillo 40.15 333 P P 03 11 17.0 +0.8
baz=146,SNR=37
AMTX S S 03 17 20.0 -2.5
baz=146
AMTX Amarillo 40.15 333 P P 03 11 15.4 -0.8
baz=146
AMTX S S 03 17 23.4 +0.9
baz=146
PET01 Itanhaem-SP 40.15 129 eP P 03 11 14.6 -1.7
GEDE Greenville 40.16 6 P P 03 11 17.8 +1.7
baz=188,SNR=6.1
GEDE S S 03 17 21.8 -0.4
baz=188
P46A Rosedale 40.16 352 P P 03 11 15.0 -1.2
baz=170,SNR=14
O52A Adamsville 40.22 359 P P 03 11 15.8 -0.8
baz=178,SNR=15
O52A P P 03 11 15.8 -0.8
baz=178,SNR=15
O52A S S 03 17 18.3 -4.9
baz=178
O52A S S 03 17 18.3 -4.9
baz=178
O54A Avella 40.27 0 P P 03 11 15.8 -1.2
baz=180,SNR=19
O54A P P 03 11 15.8 -1.2
baz=180,SNR=19
O54A S S 03 17 20.9 -3.0
baz=180
O54A S S 03 17 20.9 -3.0
baz=180
U32A Winter Ranch, 40.28 337 P P 03 11 18.5 +1.3
baz=151,SNR=29
U32A S S 03 17 21.8 -2.4
baz=151
O53A New Philadelph 40.34 359 IAMs_20 IAMs_20 03 30 23.9
comp=Z,10µm,20.0s
O53A New Philadelph 40.34 359 P P 03 11 15.1 -2.6
baz=179,SNR=16
O53A S S 03 17 21.8 -3.2
baz=179
ACSO Alum Creek Sta 40.38 357 IAMs_20 IAMs_20 03 30 19.9
comp=Z,7µm,20.0s
ACSO Alum Creek Sta 40.38 357 P P 03 11 17.4 -0.6
baz=176,SNR=21
ACSO S S 03 17 21.7 -3.8
baz=176
ACSO Alum Creek Sta 40.38 357 P P 03 11 15.4 -2.5
baz=176,SNR=21
ACSO S S 03 17 21.8 -3.7
baz=176
PLTB Pedras Altas 40.41 143 P P 03 11 19.3 +1.0
PLTB IAmb IAmb 03 11 26.1
comp=Z,167nm,1.1s
PLTB Pedras Altas 40.41 143 eP P 03 11 18.2 -0.1
O49A Covington 40.42 356 P P 03 11 17.2 -1.1
baz=174,SNR=11
O49A P P 03 11 17.2 -1.1
baz=174,SNR=11
O49A S S 03 17 20.0 -6.2
baz=174
O49A S S 03 17 20.0 -6.2
baz=174
LPA La Plata 40.44 151 c iP P 03 11 12.3 -6.2
LPA PP PP 03 12 47.0 -4.8
LPA pPP 03 13 08.9
LPA S S 03 17 29.9 +3.3
LPA SS SnSn 03 20 31.6 +0.2
LPA SKIKS 03 27 37.0
DIAM Diamantina, MG 40.46 118 eP P 03 11 17.8 -1.3
O48B Farmland 40.56 355 P P 03 11 17.8 -1.7
baz=173,SNR=20
O48B S S 03 17 22.6 -5.6
baz=173
O48B Farmland 40.56 355 P P 03 11 16.6 -2.8
baz=173,SNR=20
O48B S S 03 17 23.1 -5.1
baz=173
P43A Skaggs, Pawnee 40.56 349 P P 03 11 18.7 -0.7
baz=166,SNR=17
P43A S S 03 17 22.8 -5.4
baz=166
TUPA Temple Univers 40.56 6 S S 03 17 28.6 +0.5
baz=188
NBMO Morrinhos-CE 40.66 95 eP P 03 11 19.5 -1.1
SSPA Standing Stone 40.80 3 P P 03 11 21.9 +0.5
SSPA Standing Stone 40.80 3 P P 03 11 22.7 +1.3
baz=184,SNR=19
SSPA S S 03 17 30.4 -1.4
baz=184
SSPA Standing Stone 40.80 3 P P 03 11 19.7 -1.7
baz=184
SSPA S S 03 17 30.5 -1.4
baz=184
PANJ Princeton 40.82 7 P P 03 11 21.4 -0.2
baz=189,SNR=8.7
PANJ S S 03 17 31.7 -0.4
baz=189
O44A Mansfield 40.88 351 IAmb IAmb 03 11 27.9
comp=Z,119nm,1.2s
O44A Mansfield 40.88 351 P P 03 11 21.8 -0.2
baz=168,SNR=12
O44A S S 03 17 26.7 -6.2
baz=168
N53A Lisbon 40.90 360 P P 03 11 21.4 -0.8
baz=180,SNR=11
N53A P P 03 11 21.4 -0.8
baz=180,SNR=11
N53A S S 03 17 29.0 -4.2
baz=180
N53A S S 03 17 29.0 -4.2
baz=180
SFIN Lafayette 40.90 352 P P 03 11 19.4 -2.8
baz=170
SFIN S S 03 17 26.4 -6.8
baz=170
P40A Paris 40.98 346 P P 03 11 22.7 -0.2
P40A Paris 40.98 346 P P 03 11 22.2 -0.7
baz=162,SNR=11
P40A S S 03 17 29.8 -4.7
baz=162
PARB Paraibuna 40.98 127 eP P 03 11 22.0 -1.3
N51A Ashland 41.04 358 P P 03 11 22.7 -0.7
baz=177,SNR=12
N51A P P 03 11 22.7 -0.7
baz=177,SNR=12
N51A S S 03 17 29.5 -5.9
baz=177
N51A S S 03 17 29.5 -5.9
baz=177
N58A Sunbury 41.08 4 P P 03 11 23.0 -0.7
baz=186,SNR=16
N58A P P 03 11 23.0 -0.7
baz=186,SNR=16
N58A S S 03 17 35.4 -0.6
baz=186
N58A S S 03 17 35.4 -0.6
baz=186
HSIG 41.10 318 P P 03 11 25.7 +1.6
LL04 Puerto Octay 41.12 171 P P 03 11 24.9 +0.9
LL04 IAmb IAmb 03 11 28.0
comp=Z,132nm,1.2s
N49A Columbus Grove 41.14 356 P P 03 11 23.2 -1.0
baz=174,SNR=10
N49A P P 03 11 23.2 -1.0
baz=174,SNR=10
N49A S S 03 17 30.8 -6.0
baz=174
N49A S S 03 17 30.8 -6.0
baz=174
TER01 Tubaro-SC 41.18 136 eP P 03 11 24.8 +0.1
N47A Urbana 41.23 354 P P 03 11 24.1 -0.8
baz=172,SNR=15
N47A P P 03 11 24.1 -0.8
baz=172,SNR=15
PLCA Paso Flores 41.29 168 P P 03 11 25.6 0.0
comp=Z,79nm,1.1s,baz=343,slow=10,SNR=45
PLCA Paso Flores 41.29 168 P P 03 11 26.3 +0.7
PLCA pmax pmax
comp=Z,118nm,0.9s
PLCA Paso Flores 41.29 168 P P 03 11 26.2 +0.7
PLCA IAmb IAmb 03 11 34.9
comp=Z,118nm,0.9s
PLCA Paso Flores 41.29 168 eP P 03 11 25.7 +0.2
NBPB Pedra Branca-C 41.29 98 eP P 03 11 24.4 -1.5
TRQA Tornquist 41.32 158 IAMs_20 IAMs_20 03 29 43.1
comp=Z,8µm,20.0s
HDIL Hopedale 41.41 350 IAmb IAmb 03 11 32.1
comp=Z,118nm,1.1s
HDIL Hopedale 41.41 350 P P 03 11 24.7 -1.7
baz=167,SNR=14
HDIL S S 03 17 34.1 -6.7
baz=167
HDIL Hopedale 41.41 350 P P 03 11 22.1 -4.3
baz=167,SNR=14
HDIL S S 03 17 34.2 -6.6
baz=167
P38A Dawn 41.44 345 P P 03 11 25.7 -1.0
baz=160,SNR=13
P38A S S 03 17 37.0 -4.3
baz=160
121A Cookes Peak, D 41.51 324 IAmb IAmb 03 11 38.2
comp=Z,364nm,1.8s
121A Cookes Peak, D 41.51 324 P P 03 11 29.5 +1.9
baz=136,SNR=24
121A S S 03 17 47.2 +4.3
baz=136
121A Cookes Peak, D 41.51 324 P P 03 11 25.0 -2.6
baz=136,SNR=24
121A S S 03 17 45.9 +3.0
baz=136
NBPN Ponto Novo - B 41.51 106 eP P 03 11 26.9 -0.7
M53A WI Miller and 41.53 360 IAMs_20 IAMs_20 03 31 42.2
comp=Z,9µm,21.0s
M53A WI Miller and 41.53 360 P P 03 11 26.0 -1.4
baz=180,SNR=8.8
M53A S S 03 17 39.2 -3.4
baz=180
ODNJ Ogdensburg 41.53 7 P P 03 11 28.1 +0.7
ODNJ Ogdensburg 41.53 7 S S 03 17 42.8 +0.2
baz=189
PAL Palisades 41.54 8 P P 03 11 28.3 +0.9
baz=190
PAL S S 03 17 42.5 -0.2
baz=190
M57A Sunshine Farm, 41.55 4 P P 03 11 28.2 +0.6
baz=185,SNR=19
M57A P P 03 11 28.2 +0.6
baz=185,SNR=19
M57A S S 03 17 41.1 -1.8
baz=185
M57A S S 03 17 41.1 -1.8
baz=185
M50A Fremont 41.55 357 P P 03 11 27.6 +0.1
baz=176,SNR=12
M50A P P 03 11 27.6 +0.1
baz=176,SNR=12
M50A S S 03 17 37.8 -5.1
baz=176
M50A S S 03 17 37.8 -5.1
baz=176
319A Douglas 41.59 322 IAmb IAmb 03 11 37.4
comp=Z,298nm,1.8s
M55A Ridgway 41.59 2 P P 03 11 28.9 +1.0
baz=183,SNR=12
M55A P P 03 11 28.9 +1.0
baz=183,SNR=12
M55A S S 03 17 41.2 -2.4
baz=183
M55A S S 03 17 41.2 -2.4
baz=183
M52A Chesterland 41.63 359 P P 03 11 28.6 +0.3
baz=179,SNR=7.0
M52A P P 03 11 28.6 +0.3
baz=179,SNR=7.0
M52A S S 03 17 39.1 -5.1
baz=179
M52A S S 03 17 39.1 -5.1
baz=179
ALLY Alegheny Colle 41.74 1 P P 03 11 29.8 +0.6
baz=180,SNR=5.4
WSPT Westport, CT 41.78 8 IAMs_20 IAMs_20 03 32 01.6
comp=Z,6µm,20.0s
ESAR Angra dos Reis 41.79 125 eP P 03 11 28.8 -1.0
N41A Harden Midland 41.85 348 S S 03 17 41.8 -5.5
baz=164
KSU1 Kansas State U 41.85 341 IAmb IAmb 03 11 37.7
comp=Z,195nm,1.1s
KSU1 Kansas State U 41.85 341 P P 03 11 30.5 +0.4
baz=156,SNR=31
KSU1 S S 03 17 46.2 -1.3
baz=156
KSU1 Kansas State U 41.85 341 P P 03 11 29.8 -0.3
baz=156,SNR=31
KSU1 S S 03 17 46.8 -0.6
baz=156
KSPA Keystone Colle 41.88 5 P P 03 11 30.2 0.0
baz=187,SNR=16
KSPA S S 03 17 46.7 -1.0
baz=187
BRNY Black Rk. Fore 41.93 7 P P 03 11 32.5 +1.9
baz=190
BRNY S S 03 17 47.3 -1.3
baz=190
R32A Long Quarter, 41.96 339 P P 03 11 32.3 +1.2
baz=152,SNR=40
R32A S S 03 17 47.2 -2.0
baz=152
M44A Midewin, Midew 42.02 352 P P 03 11 30.6 -0.8
baz=169,SNR=8.5
Y22A Socorro 42.08 327 P P 03 11 33.7 +1.5
baz=138,SNR=26
Y22A S S 03 17 54.5 +3.2
baz=138
MAN01 Angra dos Reis 42.11 125 eP P 03 11 31.2 -1.3
Y22D IRIS PASSCAL I 42.15 327 P P 03 11 35.5 +2.7
baz=139
Y22D S S 03 17 57.6 +5.2
baz=139
L48A N Adams 42.17 356 P P 03 11 32.5 -0.2
baz=174,SNR=12
L48A P P 03 11 32.5 -0.2
baz=174,SNR=12
L48A S S 03 17 45.2 -7.0
baz=174
L48A S S 03 17 45.2 -7.0
baz=174
ERPA Erie 42.21 1 IAMs_20 IAMs_20 03 30 01.2
comp=Z,7µm,19.0s
ERPA Erie 42.21 1 S S 03 17 48.2 -4.4
baz=181
ERPA Erie 42.21 1 P P 03 11 29.2 -3.7
baz=181
ERPA S S 03 17 49.5 -3.2
baz=181
M63A Gales Ferry 42.21 10 IAmb IAmb 03 12 13.5
comp=Z,141nm,1.3s
M63A Gales Ferry 42.21 10 P P 03 11 34.3 +1.4
baz=193
M63A P P 03 11 34.3 +1.4
baz=193
M63A S S 03 17 53.7 +1.0
baz=193
M63A S S 03 17 53.7 +1.0
baz=193
NPNY Mohonk Preserv 42.25 7 P P 03 11 34.2 +0.9
baz=189
NPNY S S 03 17 54.5 +1.2
baz=189
L56A Greenwood 42.31 3 P P 03 11 34.8 +0.9
baz=184,SNR=10
L56A P P 03 11 34.8 +0.9
baz=184,SNR=10
L56A S S 03 17 51.4 -2.9
baz=184
L56A S S 03 17 51.4 -2.9
baz=184
NBMA Muriti-CE 42.31 101 eP P 03 11 32.7 -1.6
L46A Eue Claire 42.41 354 S S 03 17 47.7 -7.9
baz=171
L46A S S 03 17 47.7 -7.9
baz=171
NBCL Cascavel-CE 42.46 96 eP P 03 11 34.0 -1.5
N38A Joes South For 42.46 346 IAmb IAmb 03 11 41.6
comp=Z,147nm,1.1s
N38A Joes South For 42.46 346 P P 03 11 35.5 +0.5
baz=161,SNR=13
N38A S S 03 17 51.8 -4.7
baz=161
AAM Ann Arbor 42.48 357 IAMs_20 IAMs_20 03 31 36.5
comp=Z,9µm,20.0s
AAM Ann Arbor 42.48 357 P P 03 11 35.4 +0.3
baz=175
AAM S S 03 17 52.2 -4.3
baz=175
AAM Ann Arbor 42.48 357 P P 03 11 32.9 -2.2
baz=175
AAM S S 03 17 52.5 -4.1
baz=175
BINY Binghamton 42.49 5 P P 03 11 34.8 -0.5
baz=187,SNR=19
BINY S S 03 17 54.9 -2.0
baz=187
BINY Binghamton 42.49 5 P P 03 11 32.9 -2.4
baz=187,SNR=19
BINY S S 03 17 55.8 -1.1
baz=187
WVNY West Valley, N 42.53 2 P P 03 11 35.3 -0.3
baz=183,SNR=11
WVNY S S 03 17 53.6 -3.8
baz=183
ANMO Albuquerque 42.56 328 P P 03 11 37.5 +1.3
comp=Z,31nm,0.7s,baz=143,slow=9.6,SNR=97
ANMO LR LR 03 29 32.0
comp=Z,3µm,18.8s,baz=140,slow=36
ANMO Albuquerque 42.56 328 ceP P 03 11 37.3 +1.1
ANMO pmax pmax
comp=Z,83nm,0.8s
ANMO MLR MLR
comp=Z,3µm,15.0s
ANMO Albuquerque 42.56 328 P P 03 11 37.5 +1.3
ANMO IAmb IAmb 03 11 45.2
comp=Z,66nm,0.8s
ANMO Albuquerque 42.56 328 P P 03 11 37.1 +1.0
baz=140,SNR=94
ANMO S S 03 18 00.8 +2.2
baz=140
ANMO Albuquerque 42.56 328 P P 03 11 35.1 -1.1
baz=140
ANMO S S 03 18 00.6 +2.1
baz=140
L59A Walton 42.58 6 P P 03 11 36.8 +0.8
baz=188,SNR=7.0

L59A P P 03 11 36.8 +0.8
baz=188,SNR=7.0
L59A S S 03 17 57.3 -0.8
baz=188
L59A S S 03 17 57.3 -0.8
baz=188
M65A Busby, Falmout 42.62 11 P P 03 11 35.0 -1.2
baz=195
M65A S S 03 17 59.5 +0.8
baz=195
CBKS Cedar Bluff 42.69 338 IAmb IAmb 03 11 45.8
comp=Z,239nm,1.3s
CBKS Cedar Bluff 42.69 338 P P 03 11 37.9 +0.9
baz=151,SNR=28
CBKS S S 03 18 02.0 +2.1
baz=151
CBKS Cedar Bluff 42.69 338 P P 03 11 36.0 -1.0
baz=151,SNR=28
CBKS S S 03 18 02.4 +2.4
baz=151
GDU01 Guandu, BA 42.76 110 *e*P P 03 11 36.8 -1.1
L44A Lake County Fo 42.78 352 IAMs_20 IAMs_20 03 31 45.6
comp=Z,12µm,20.0s
L44A Lake County Fo 42.78 352 P P 03 11 33.9 -3.7
baz=169
L44A S S 03 17 53.8 -7.2
baz=169
SJMB Sao Joao De Ma 42.80 118 *e*P P 03 11 36.8 -1.3
L42A Oliver, Polo 42.88 350 P P 03 11 38.0 -0.3
baz=166,SNR=14
L42A S S 03 17 56.0 -6.5
baz=166
K50A Casco 42.90 358 IAmb IAmb 03 11 44.6
comp=Z,163nm,1.2s
K50A Casco 42.90 358 P P 03 11 38.7 +0.2
baz=177,SNR=12
K50A P P 03 11 38.7 +0.2
baz=177,SNR=12
K50A S S 03 17 58.6 -4.2
baz=177
K50A S S 03 17 58.6 -4.2
baz=177
L64A Middleborough 42.94 11 S S 03 18 03.6 +0.2
baz=194
L64A S S 03 18 03.6 +0.2
baz=194
K57A Scipio Center 42.98 4 IAmb IAmb 03 11 41.3
comp=Z,118nm,1.1s
K57A Scipio Center 42.98 4 P P 03 11 39.0 -0.1
baz=186,SNR=18
K57A S S 03 18 01.8 -2.2
baz=186
QUA2 Belchertown 43.02 9 S S 03 18 03.0 -1.5
baz=192
DUB01 Friburgo-RJ 43.09 123 *e*P P 03 11 39.4 -1.0
GO07 Milladeo Hill, 43.10 173 IAmb IAmb 03 11 44.5
comp=Z,142nm,1.1s
L61B Northampton 43.13 9 S S 03 18 00.9 -5.4
baz=191
L61B Northampton 43.13 9 P P 03 11 38.9 -1.5
baz=191
L61B S S 03 18 05.9 -0.4
baz=191
HCNY Howe Caverns 43.15 7 P P 03 11 41.1 +0.6
baz=189,SNR=8.3
HCNY S S 03 18 05.8 -0.7
baz=189
TUC Tucson 43.16 322 P P 03 11 41.8 +0.9
TUC pmax pmax
comp=Z,141nm,1.7s
TUC Tucson 43.16 322 P P 03 11 41.8 +0.9
TUC IAmb IAmb 03 11 49.7
comp=Z,141nm,1.7s
TUC Tucson 43.16 322 IAMs_20 IAMs_20 03 28 27.3
comp=Z,10µm,18.0s
TUC Tucson 43.16 322 P P 03 11 40.1 -0.9
baz=133
TUC S S 03 18 06.7 -0.4
baz=133
N35A Tabor 43.17 343 IAmb IAmb 03 12 09.0
comp=Z,231nm,1.9s
N35A Tabor 43.17 343 P P 03 11 41.7 +0.9
baz=158,SNR=6.9
N35A S S 03 18 01.2 -5.7
baz=158
L40A Anamosa 43.23 348 IAmb IAmb 03 11 47.2
comp=Z,102nm,1.1s
L40A Anamosa 43.23 348 P P 03 11 40.7 -0.5
baz=164,SNR=20
L40A S S 03 18 01.9 -5.7
baz=164
CMC01 Camacan, BA 43.25 112 *e*P P 03 11 40.2 -1.6
T25A Trinidad 43.26 332 IAmb IAmb 03 11 51.3
comp=Z,235nm,1.4s
T25A Trinidad 43.26 332 P P 03 11 41.4 -0.5
baz=144,SNR=42
T25A S S 03 18 13.0 +4.2
baz=144
WES Weston 43.29 10 IAMs_20 IAMs_20 03 31 12.3
comp=Z,6µm,19.0s
GUA01 Guaratinga, BA 43.35 114 *e*P P 03 11 40.8 -1.8
K43A Burlington 43.35 352 P P 03 11 41.6 -0.6
baz=169,SNR=13
HRV Adam Dziewonsk 43.37 10 IAMs_20 IAMs_20 03 29 31.4
comp=Z,6µm,20.0s
HRV Adam Dziewonsk 43.37 10 P P 03 11 39.6 -2.7
baz=193
HRV S S 03 18 10.5 +0.8
baz=193
K62A Royalston 43.41 9 S S 03 18 10.1 -0.2
baz=192
K62A S S 03 18 10.1 -0.2
baz=192
J55A Hilton 43.42 3 S S 03 18 07.1 -3.4
baz=184
J55A S S 03 18 07.1 -3.4
baz=184
LL02 Futaleuf 43.44 171 P P 03 11 43.9 +1.0
NAN01 Guarapari, ES 43.46 116 *e*P P 03 11 42.4 -1.0
J47A Sunmer 43.49 356 IAmb IAmb 03 11 49.2
comp=Z,96nm,1.2s
J47A Sunmer 43.49 356 P P 03 11 43.2 -0.1
baz=174,SNR=12
J47A P P 03 11 43.2 -0.1
baz=174,SNR=12
J47A S S 03 18 05.3 -6.1
baz=174
J47A S S 03 18 05.3 -6.1
baz=174
J56A Wolcott 43.49 4 P P 03 11 42.8 -0.6
baz=185,SNR=15
J56A P P 03 11 42.8 -0.6
baz=185,SNR=15
J56A S S 03 18 07.4 -4.0
baz=185
J56A S S 03 18 07.4 -4.0
baz=185
SCIA State Center 43.51 346 IAmb IAmb 03 11 50.0
comp=Z,77nm,0.9s
SCIA State Center 43.51 346 P P 03 11 44.1 +0.6
baz=161,SNR=7.9
SCIA State Center 43.51 346 P P 03 11 41.0 -2.6
baz=161,SNR=7.9
SCIA S S 03 18 06.4 -5.5
baz=161
CAM01 Campos-RJ 43.58 122 *e*P P 03 11 43.5 -0.9
N33B J Bar K, Exete 43.60 341 P P 03 11 45.7 +1.4
baz=155,SNR=11
N33B S S 03 18 11.3 -1.9
baz=155
J58A Remsen 43.71 6 P P 03 11 45.0 -0.1
baz=188,SNR=9.8
J58A P P 03 11 45.0 -0.1
baz=188,SNR=9.8
J58A S S 03 18 11.8 -2.9
baz=188
J58A S S 03 18 11.8 -2.9
baz=188
RIB01 Linhares ES 43.72 118 *e*P P 03 11 44.1 -1.4
NBLA Lagarto - SE 43.85 106 *e*P P 03 11 44.6 -2.2
JFWS Jewell Farm 43.87 350 P P 03 11 45.5 -0.8
JFWS pmax pmax
comp=Z,80nm,1.3s
JFWS Jewell Farm 43.87 350 P P 03 11 45.5 -0.8
JFWS Jewell Farm 43.87 350 P P 03 11 44.4 -2.0
baz=166,SNR=13
JFWS S S 03 18 10.5 -6.5
baz=166
JFWS Jewell Farm 43.87 350 P P 03 11 43.8 -2.5
baz=166,SNR=13
JFWS S S 03 18 10.8 -6.1
baz=166
J59A Piesco 43.89 6 P P 03 11 45.6 -1.0
baz=189,SNR=10
J59A P P 03 11 45.6 -1.0
baz=189,SNR=10
J59A S S 03 18 15.8 -1.6
baz=189
J59A S S 03 18 15.8 -1.6
baz=189
ALF01 Guarapari-ES 43.91 120 *e*P P 03 11 45.9 -1.1
ACCN Adirondack Com 43.91 7 P P 03 11 47.8 +1.1
baz=190,SNR=6.5
KSCO Kaye Shedlock' 44.01 335 P P 03 11 49.7 +2.0
baz=147,SNR=35
KSCO S S 03 18 22.1 +2.6
baz=147
KSCO Kaye Shedlock' 44.01 335 P P 03 11 48.6 +0.9
baz=147,SNR=35
KSCO S S 03 18 21.5 +2.0
baz=147
J61A Chester 44.03 8 S S 03 18 20.7 +1.4
baz=191
J61A S S 03 18 20.7 +1.4
baz=191
UNH University of 44.06 10 S S 03 18 19.8 +0.2
baz=194
I49A Point Hope 44.07 358 P P 03 11 46.7 -1.3
baz=177,SNR=18
I49A P P 03 11 46.7 -1.3
baz=177,SNR=18
I49A S S 03 18 14.4 -5.5
baz=177
I49A S S 03 18 14.4 -5.5
baz=177
K38A Parkersburg 44.11 347 IAmb IAmb 03 11 54.3
comp=Z,84nm,1.1s
K38A Parkersburg 44.11 347 P P 03 11 48.1 -0.2
baz=162,SNR=10
X18A Snowflake 44.20 325 IAmb IAmb 03 11 59.4
comp=Z,99nm,1.4s
214A Organ Pipe Nat 44.22 319 P P 03 11 50.5 +1.1
214A Organ Pipe Nat 44.22 319 P P 03 11 49.4 0.0
baz=130,SNR=61
214A S S 03 18 23.9 +1.4
baz=130
SDCO Great Sand Dun 44.27 331 P P 03 11 51.4 +1.4
baz=143,SNR=141
SDCO S S 03 18 27.0 +3.4
baz=143
SDCO Great Sand Dun 44.27 331 P P 03 11 49.5 -0.6
baz=143,SNR=141
SDCO S S 03 18 27.0 +3.4
baz=143
FFD Franklin Falls 44.29 9 IAMs_20 IAMs_20 03 32 31.8
comp=Z,6µm,19.0s
WCNY West Carthage 44.29 5 P P 03 11 51.4 +1.7
baz=187,SNR=11
WCNY S S 03 18 20.0 -3.1
baz=187
L34A Svendsen Farm, 44.40 343 IAmb IAmb 03 12 10.3
comp=Z,58nm,0.9s
L34A Svendsen Farm, 44.40 343 P P 03 11 51.2 +0.5
baz=157
I45A Fountain 44.41 354 IAmb IAmb 03 12 06.5
comp=Z,71nm,0.9s
I45A Fountain 44.41 354 S S 03 18 18.2 -6.6
baz=172
I45A S S 03 18 18.2 -6.6
baz=172
NCB Newcomb 44.43 7 P P 03 11 51.6 +0.7
baz=189,SNR=5.5
NCB S S 03 18 24.7 -0.5
baz=189
BGNE Belgrade 44.44 341 IAmb IAmb 03 11 58.8
comp=Z,149nm,1.1s
BGNE Belgrade 44.44 341 P P 03 11 53.0 +2.0
baz=154
BGNE S S 03 18 23.1 -2.4
baz=154
BGNE Belgrade 44.44 341 P P 03 11 49.5 -1.5
baz=154
BGNE S S 03 18 24.1 -1.3
baz=154
W18A Petrified Fore 44.49 325 P P 03 11 51.7 0.0
baz=136,SNR=23
W18A S S 03 18 30.7 +3.9
baz=136
AY01 Puyuhuapi 44.52 172 P P 03 11 52.8 +1.3
MCVT Middlebury Col 44.56 8 P P 03 11 52.7 +0.8
baz=191,SNR=5.7
MCVT S S 03 18 27.3 +0.2
baz=191
I42A Draeger Farm, 44.60 351 P P 03 11 52.3 +0.1
baz=168,SNR=18
I42A S S 03 18 21.5 -6.1
baz=168
I62A Tamworth 44.74 10 IAmb IAmb 03 11 56.5
comp=Z,114nm,1.7s
I62A Tamworth 44.74 10 S S 03 18 30.3 +0.7
baz=193
I62A S S 03 18 30.3 +0.7
baz=193
SADO Sadowa 44.88 1 P P 03 11 54.0 -0.4
comp=Z,27nm,1.0s,baz=249,slow=4.7,SNR=16
LR LR 03 31 41.2
comp=Z,5µm,18.1s,baz=183,slow=38
SADO Sadowa 44.88 1 P P 03 11 54.5 +0.1
I40A Norwalk 44.88 350 IAmb IAmb 03 12 00.3
comp=Z,73nm,1.1s
I40A Norwalk 44.88 350 P P 03 11 54.3 -0.2
baz=166,SNR=16
S22A 4UR Ranch, Cre 44.91 330 IAmb IAmb 03 12 05.2
comp=Z,169nm,1.7s
S22A 4UR Ranch, Cre 44.91 330 P P 03 11 56.0 +0.9
baz=141,SNR=23
S22A S S 03 18 36.3 +3.3
baz=141
RCBR Riachuelo 44.97 98 LR LR 03 31 25.0
comp=Z,41µm,18.3s,baz=63,slow=37
RCBR Riachuelo 44.97 98 P P 03 11 55.1 -0.6
RCBR pmax pmax
comp=Z,374nm,1.8s
RCBR MLR MLR
comp=Z,37µm,18.0s
RCBR Riachuelo 44.97 98 P P 03 11 55.1 -0.6
RCBR Riachuelo 44.97 98 *e*P P 03 11 54.5 -1.2
VT1 Waterbury 44.97 8 IAMs_20 IAMs_20 03 33 55.5
comp=Z,5µm,19.0s
X16A Lo Mia Camp, P 45.00 323 IAmb IAmb 03 12 04.0
comp=Z,121nm,1.7s
LBNH Lisbon 45.00 9 IAMs_20 IAMs_20 03 32 54.6
comp=Z,6µm,20.0s
LBNH Lisbon 45.00 9 P P 03 11 55.0 -0.4
baz=192
LBNH S S 03 18 34.8 +1.4
baz=192
SFX San Felipe 45.00 317 P P 03 11 57.9 +2.3
SFX IAmb IAmb 03 12 04.4
comp=Z,182nm,1.6s
H43A Windswept, Lux 45.01 353 P P 03 11 54.4 -1.0
baz=170,SNR=12
LONY Lake Ozonia 45.03 6 P P 03 11 55.6 0.0
LONY IAMs_20 IAMs_20 03 30 48.5
comp=Z,6µm,21.0s
LONY Lake Ozonia 45.03 6 P P 03 11 53.5 -2.1
baz=188,SNR=8.7
LONY S S 03 18 32.1 -1.8
baz=188
I63A Otisfield 45.04 10 IAmb IAmb 03 11 58.9
comp=Z,65nm,1.1s
I63A Otisfield 45.04 10 P P 03 11 56.8 +1.2
baz=194,SNR=7.0
I63A P P 03 11 56.8 +1.2
baz=194,SNR=7.0
I63A S S 03 18 36.2 +2.3
baz=194
I63A S S 03 18 36.2 +2.3
baz=194
GLMI Grayling 45.05 356 IAMs_20 IAMs_20 03 29 52.6
comp=Z,10µm,22.0s
GLMI Grayling 45.05 356 P P 03 11 54.8 -1.0
baz=174,SNR=7.3
GLMI S S 03 18 28.8 -5.4
baz=174
GLMI Grayling 45.05 356 P P 03 11 53.6 -2.3
baz=174,SNR=7.3
GLMI S S 03 18 29.1 -5.1
baz=174
Q24A Divide 45.08 333 IAmb IAmb 03 12 05.4
comp=Z,199nm,1.7s
Q24A Divide 45.08 333 P P 03 11 55.1 -1.4
baz=144,SNR=24
Q24A S S 03 18 39.9 +4.5
baz=144
NBAN Anadia - AL 45.09 103 *e*P P 03 11 55.4 -1.2
BMNY Brushton-Moira 45.25 6 P P 03 11 57.0 -0.4
baz=188,SNR=11
G45A Suttons Bay 45.35 355 P P 03 11 56.0 -2.1
baz=173,SNR=25
G45A P P 03 11 56.0 -2.1
baz=173,SNR=25
G45A S S 03 18 31.1 -7.3
baz=173
G45A S S 03 18 31.1 -7.3
baz=173
FRNY Flat Rock 45.35 7 P P 03 11 58.6 +0.4
baz=190,SNR=8.2
FRNY S S 03 18 36.9 -1.6
baz=190
MVCO Mesa Verde 45.35 328 P P 03 11 59.4 +0.8
baz=139,SNR=14
MVCO S S 03 18 41.9 +2.6
baz=139
113A Mohawk Valley, 45.35 320 IAmb IAmb 03 12 07.2
comp=Z,180nm,1.6s
OGNE Ogallala 45.41 337 P P 03 12 00.2 +1.4
OGNE IAmb IAmb 03 12 21.0
comp=Z,131nm,1.1s
OGNE Ogallala 45.41 337 P P 03 12 01.3 +2.4
baz=149,SNR=18
OGNE S S 03 18 42.9 +3.2
baz=149
OGNE Ogallala 45.41 337 P P 03 11 59.8 +1.0
baz=149,SNR=18
OGNE S S 03 18 42.8 +3.1
baz=149
H62A Milan 45.45 9 IAmb IAmb 03 12 18.0
comp=Z,256nm,2.0s
H62A Milan 45.45 9 P P 03 12 01.0 +2.1
baz=193
H62A P P 03 12 01.0 +2.1
baz=193
I37A Lemond, Waseca 45.56 347 IAmb IAmb 03 12 18.2
comp=Z,73nm,1.2s
I37B Waseca 45.56 347 P P 03 11 59.6 -0.2
baz=162,SNR=7.4
NBPV Pedro Velho 45.63 99 *e*P P 03 12 00.7 -0.2
Y14A Wickenburg 45.63 321 IAmb IAmb 03 12 09.5
comp=Z,186nm,1.8s
WVL Waterville 45.70 11 IAMs_20 IAMs_20 03 32 55.1
comp=Z,6µm,19.0s
WUAZ Wupatki 45.72 324 P P 03 11 58.8 -2.6
baz=134,SNR=46
WUAZ S S 03 18 49.7 +5.2
baz=134
K31A O'Neill 45.73 341 P P 03 12 03.1 +1.8
baz=154,SNR=40
K31A S S 03 18 42.0 -2.0
baz=154
COYC Coyhaique 45.73 172 P P 03 12 02.7 +1.5
COYC IAmb IAmb 03 12 60.0
comp=Z,97nm,1.2s
ISCO Idaho Springs 45.97 333 IAmb IAmb 03 12 14.9
comp=Z,131nm,1.8s
ISCO Idaho Springs 45.97 333 P P 03 12 04.5 +1.0
baz=144,SNR=23
ISCO S S 03 18 50.8 +2.7
baz=144
ISCO Idaho Springs 45.97 333 P P 03 12 04.4 +0.9
baz=144,SNR=23
ISCO S S 03 18 51.3 +3.1
baz=144
MNTQ Montreal, Queb 46.01 7 IAmb IAmb 03 12 22.2
comp=Z,86nm,1.4s
NBRF Rio Formoso - 46.06 102 *e*P P 03 12 03.3 -1.0
ECSD EROS Data Cent 46.10 344 IAmb IAmb 03 12 10.1
comp=Z,66nm,1.4s
ECSD EROS Data Cent 46.10 344 P P 03 12 02.7 -1.4
baz=157,SNR=25
ECSD S S 03 18 44.5 -4.8
baz=157
ECSD EROS Data Cent 46.10 344 P P 03 12 01.8 -2.3
baz=157,SNR=25
ECSD S S 03 18 44.7 -4.6
baz=157
SMCO Snowmass 46.10 331 IAmb IAmb 03 12 21.6
comp=Z,118nm,1.4s
SMCO IAMs_20 IAMs_20 03 34 30.6
comp=Z,6µm,20.0s
G40A Rib Lake 46.14 351 IAmb IAmb 03 12 41.2
comp=Z,59nm,1.1s
G40A Rib Lake 46.14 351 P P 03 12 04.4 -0.1
baz=166,SNR=16
CPBX Cerro Prieto 46.15 318 P P 03 12 08.1 +3.4
G62A West of Eustis 46.18 10 P P 03 12 06.4 +1.7
G62A IAmb IAmb 03 12 08.2
comp=Z,160nm,1.4s
G62A West of Eustis 46.18 10 P P 03 12 06.3 +1.5
baz=194,SNR=16
G62A P P 03 12 06.3 +1.5
baz=194,SNR=16
G62A S S 03 18 50.8 +0.3
baz=194
G62A S S 03 18 50.8 +0.3
baz=194
GLA Glamis 46.22 319 P P 03 12 03.0 -2.4
baz=129,SNR=5.7
GLA S S 03 18 54.4 +2.8
baz=129
EMMW East Machias 46.30 13 S S 03 18 53.1 +1.1
baz=198
F42A Maple Grove Fa 46.33 353 P P 03 12 06.1 +0.2
baz=169,SNR=7.1
F42A S S 03 18 47.0 -5.5
baz=169
PKME Peaks-Kenny Pk 46.45 11 IAmb IAmb 03 12 10.0
comp=Z,80nm,1.2s
PKME IAMs_20 IAMs_20 03 33 26.9
comp=Z,6µm,18.0s
PKME Peaks-Kenny Pk 46.45 11 P P 03 12 08.4 +1.7
baz=196,SNR=7.2
PKME S S 03 18 54.6 +0.5
baz=196
PKME Peaks-Kenny Pk 46.45 11 P P 03 12 06.1 -0.7
baz=196,SNR=7.2
PKME S S 03 18 54.7 +0.5
baz=196
E46A Sault Ste Mari 46.57 356 P P 03 12 05.7 -2.0
baz=175,SNR=21
E46A S S 03 18 49.8 -6.2
baz=175
PDMCI Parker Dam,Lak 46.58 321 P P 03 12 08.4 +0.4
baz=130,SNR=5.9
PDMCI S S 03 19 00.2 +3.7
baz=130
SPMN Marine on St. 46.58 348 P P 03 12 07.6 -0.3
SPMN IAmb IAmb 03 12 26.2
comp=Z,56nm,1.1s
SPMN Marine on St. 46.58 348 P P 03 12 07.6 -0.3
baz=163,SNR=10
SPMN Marine on St. 46.58 348 P P 03 12 07.1 -0.8
baz=163,SNR=10
SPMN S S 03 18 50.5 -5.7
baz=163
TRQ Mont Tremblant 46.62 6 IAmb IAmb 03 12 34.8
comp=Z,56nm,1.2s
G65A Princeton 46.74 13 IAmb IAmb 03 12 12.5
comp=Z,101nm,1.4s
G65A Princeton 46.74 13 P P 03 12 10.7 +1.6
baz=198,SNR=7.8
G65A P P 03 12 10.7 +1.6
baz=198,SNR=7.8
G65A S S 03 18 59.7 +1.3
baz=198
G65A S S 03 18 59.7 +1.3
baz=198
COWI Conover 46.79 352 IAMs_20 IAMs_20 03 34 37.9
comp=Z,8µm,18.0s
COWI Conover 46.79 352 S S 03 18 53.2 -6.0
baz=168
SWSC Sam W. Stewart 46.80 318 P P 03 12 08.9 -0.9
baz=128,SNR=16
SWSC S S 03 19 03.5 +3.9

	baz=128					
E43A	**Lone Tree Farm**	**46.80**	**354**	IAmb	IAmb	03 12 15.8
	comp=Z,91nm,1.1s					
E43A	**Lone Tree Farm**	**46.80**	**354**	P	**P**	**03 12 07.7 -1.8**
	baz=171,SNR=10					
E43A				S	**S**	**03 18 54.0 -5.3**
	baz=171					
GGN	**Saint George**	**46.83**	**13**	IAmb	IAmb	03 12 13.1
	comp=Z,140nm,1.5s					
IKP	**In-Ko-Pah, Jac**	**46.83**	**318**	P	**P**	**03 12 08.5 -1.6**
	baz=127,SNR=13					
IKP				S	**S**	**03 19 05.7 +5.4**
	baz=127					
N23A	**Red Feather La**	**47.00**	**334**	IAmb	IAmb	03 13 14.9
	comp=Z,92nm,1.5s					
N23A	**Red Feather La**	**47.00**	**334**	P	**P**	**03 12 12.0 +0.4**
	baz=144,SNR=12					
N23A				S	**S**	**03 19 05.1 +2.3**
	baz=144					
BC3	**Big Chuckawall**	**47.01**	**319**	P	**P**	**03 12 11.5 -0.1**
	baz=129,SNR=30					
BC3				S	**S**	**03 19 06.8 +3.9**
	baz=129					
TKX	**Tecate**	**47.11**	**317**	P	**P**	**03 12 13.5 +1.2**
PHWY	**Pilot Hill**	**47.12**	**334**	IAmb	IAmb	03 12 21.3
	comp=Z,128nm,1.6s					
IRM	**Iron Mountain**	**47.12**	**320**	P	**P**	**03 12 11.2 -1.2**
	baz=129,SNR=19					
IRM				S	**S**	**03 19 05.8 +1.4**
	baz=129					
NEE2	**Needles Airpor**	**47.18**	**321**	P	**P**	**03 12 11.7 -1.1**
	baz=130					
NEE2				S	**S**	**03 19 06.0 +0.9**
	baz=130					
MONP2	**Monument Peak**	**47.18**	**318**	P	**P**	**03 12 13.9 +0.9**
	baz=127,SNR=6.2					
MONP2				S	**S**	**03 19 08.4 +2.8**
	baz=127					
F64A	**Sherman**	**47.21**	**12**	IAmb	IAmb	03 12 15.9
	comp=Z,63nm,1.1s					
F64A	**Sherman**	**47.21**	**12**	P	**P**	**03 12 14.4 +1.7**
	baz=197,SNR=12					
F64A				P	**P**	**03 12 14.4 +1.7**
	baz=197,SNR=12					
F64A				S	**S**	**03 19 04.1 -1.0**
	baz=197					
F64A				S	**S**	**03 19 04.1 -1.0**
	baz=197					
BAR	**Barrett**	**47.22**	**317**	IAmb	IAmb	03 12 22.1
	comp=Z,162nm,1.9s					
F36A	**Milaca**	**47.34**	**348**	P	**P**	**03 12 13.8 -0.1**
	baz=162,SNR=16					
F36A				S	**S**	**03 19 01.0 -6.0**
	baz=162					
SUSD	**Miller**	**47.43**	**342**	P	**P**	**03 12 15.3 +0.7**
	baz=155					
SUSD				S	**S**	**03 19 03.2 -5.2**
	baz=155					
SUSD	**Miller**	**47.43**	**342**	P	**P**	**03 12 13.4 -1.2**
	baz=155					
SUSD				S	**S**	**03 19 05.3 -3.1**
	baz=155					
O20A	**White River Ci**	**47.46**	**331**	P	**P**	**03 12 16.1 +1.0**
	baz=141,SNR=20					
O20A				S	**S**	**03 19 12.0 +2.6**
	baz=141					
BELC	**Belle Mtn. Jos**	**47.58**	**319**	P	**P**	**03 12 17.1 +1.0**
	baz=128,SNR=7.8					
BELC				S	**S**	**03 19 15.1 +4.0**
	baz=128					
TPFO	**Pinon Flats**	**47.64**	**319**	P	**P**	**03 12 17.8 +1.3**
	baz=128,SNR=7.1					
TPFO				S	**S**	**03 19 17.2 +5.3**
	baz=128					
109C	**Camp Elliot, M**	**47.64**	**317**	P	**P**	**03 12 17.2 +0.8**
	baz=126					
109C				S	**S**	**03 19 15.6 +3.9**
	baz=126					
PFO	**Pinon Flats O**	**47.64**	**319**	P	**P**	**03 12 17.7 +1.1**
	comp=Z,8.6nm,1.0s,baz=108,slow=5.8,SNR=8.3					
PFO				LR	LR	03 31 18.1
	comp=Z,4μm,18.0s,baz=124,slow=35					
PFO	**Pinon Flats O**	**47.64**	**319**	P	**P**	**03 12 17.9 +1.3**
PFO				pmax	pmax	
PFO	comp=Z,134nm,1.6s			MLR	MLR	
	comp=Z,4μm,18.0s					
PFO	**Pinon Flats O**	**47.64**	**319**	P	**P**	**03 12 17.9 +1.3**
PFO				IAmb	IAmb	03 12 25.5
	comp=Z,134nm,1.6s					
PFO	**Pinon Flats O**	**47.64**	**319**	P	**P**	**03 12 17.5 +1.0**
	baz=128,SNR=5.7					
PFO				S	**S**	**03 19 17.8 +5.8**
	baz=128					
D41A	**Chassel**	**47.66**	**353**	P	**P**	**03 12 17.4 +1.1**
	baz=169,SNR=7.2					
E63A	**Oxbow**	**47.73**	**11**	P	**P**	**03 12 17.3 +0.5**
	baz=196,SNR=8.5					
E63A				P	**P**	**03 12 17.3 +0.5**
	baz=196,SNR=8.5					
SRU	**San Rafael Swe**	**47.83**	**328**	IAmb	IAmb	03 12 26.5
	comp=Z,144nm,1.5s					
LCMT	**Little Creek M**	**47.84**	**324**	IAmb	IAmb	03 12 27.2
	comp=Z,131nm,1.6s					
GMRC	**Granite Mounta**	**47.85**	**320**	P	**P**	**03 12 19.2 +1.0**
	baz=129,SNR=5.3					
GMRC				S	**S**	**03 19 18.6 +3.7**
	baz=129					
MTPU	**Mount Pierson**	**47.96**	**326**	IAmb	IAmb	03 12 28.1
	comp=Z,79nm,1.6s					
LATQ	**La Tuque**	**47.96**	**7**	IAmb	IAmb	03 12 20.7
	comp=Z,73nm,1.1s					
F33A	**5 Mile Ranch,**	**47.97**	**345**	IAmb	IAmb	03 12 37.5
	comp=Z,45nm,1.1s					
F33A	**5 Mile Ranch,**	**47.97**	**345**	S	**S**	**03 19 10.2 -5.7**
	baz=159					
LMN	**Caledonia Moun**	**48.01**	**15**	P	**P**	**03 12 20.2 +1.2**
LMN				IAmb	IAmb	03 12 21.9
	comp=Z,106nm,1.2s					
Q16A	**Castle Valley**	**48.03**	**328**	IAmb	IAmb	03 12 28.4
	comp=Z,182nm,1.9s					
PQI	**Presque Isle**	**48.05**	**12**	IAMs_20	IAMs_20	03 33 01.1
	comp=Z,5μm,21.0s					
P18A	**Preston Nutter**	**48.07**	**329**	IAmb	IAmb	03 12 28.6
	comp=Z,140nm,1.8s					
MURC	**Murrieta**	**48.12**	**318**	P	**P**	**03 12 20.7 +0.5**
	baz=127,SNR=5.7					
MURC				S	**S**	**03 19 23.2 +4.5**
	baz=127					
SZCU	**Shurtz Canyon**	**48.15**	**325**	IAmb	IAmb	03 12 30.4
	comp=Z,135nm,1.6s					
RWWY	**Rawlins**	**48.20**	**333**	IAMs_20	IAMs_20	03 34 03.1
	comp=Z,6μm,20.0s					
D62A	**Allapoint, All**	**48.24**	**11**	IAmb	IAmb	03 13 04.0
	comp=Z,85nm,1.1s					
D62A	**Allapoint, All**	**48.24**	**11**	P	**P**	**03 12 22.2 +1.4**
	baz=195,SNR=17					
D62A				P	**P**	**03 12 22.2 +1.4**
	baz=195,SNR=17					
D62A				S	**S**	**03 19 19.4 -0.3**
	baz=195					
D62A				S	**S**	**03 19 19.4 -0.3**
	baz=195					
CCUT	**Cedar City**	**48.28**	**325**	P	**P**	**03 12 23.0 +1.5**
CCUT				IAmb	IAmb	03 12 30.9
	comp=Z,117nm,1.5s					
HEC	**Hector,Ludlow**	**48.31**	**320**	P	**P**	**03 12 22.4 +0.8**
	baz=129					
HEC				S	**S**	**03 19 24.9 +3.6**
	baz=129					
TMUT	**Trail Mountain**	**48.33**	**328**	IAmb	IAmb	03 12 29.7
	comp=Z,68nm,1.5s					
BBRC	**Big Bear Solar**	**48.34**	**319**	P	**P**	**03 12 23.5 +1.5**
	baz=128					
BBRC				S	**S**	**03 19 27.1 +5.0**
	baz=128					
TUQ	**Turquoise Moun**	**48.43**	**321**	P	**P**	**03 12 23.4 +0.8**
	baz=129,SNR=6.8					
TUQ				S	**S**	**03 19 26.9 +3.8**
	baz=129					
RDMU	**Red Mountain**	**48.44**	**330**	IAmb	IAmb	03 12 31.0
	comp=Z,36nm,0.8s					
LMQ	**La Malbaie**	**48.47**	**9**	IAmb	IAmb	03 13 14.7
	comp=Z,57nm,1.1s					
SHPR	**Sheep Range**	**48.65**	**323**	IAmb	IAmb	03 12 33.3
	comp=Z,152nm,1.6s					
K22A	**Casper**	**48.68**	**335**	IAmb	IAmb	03 12 32.9
	comp=Z,131nm,1.7s					
K22A	**Casper**	**48.68**	**335**	P	**P**	**03 12 25.5 +1.1**
	baz=144,SNR=5.4					
K22A				S	**S**	**03 19 26.8 +0.3**
	baz=144					
K22A	**Casper**	**48.68**	**335**	P	**P**	**03 12 24.4 -0.1**
	baz=144,SNR=5.4					
K22A				S	**S**	**03 19 27.5 +1.0**
	baz=144					
SCI2	**San Clemente I**	**48.68**	**317**	P	**P**	**03 12 24.3 -0.1**
	baz=125					
RRX	**Edison Barstow**	**48.77**	**320**	S	**S**	**03 19 32.0 +4.3**
	baz=128					
BFSC	**Mount Baldy Ra**	**48.81**	**318**	P	**P**	**03 12 23.7 -1.9**
	baz=127					
BFSC				S	**S**	**03 19 32.6 +4.0**
	baz=127					
CIS	**Catalina Islan**	**48.83**	**317**	P	**P**	**03 12 26.4 +0.8**
	baz=126					
CIS				S	**S**	**03 19 32.1 +3.5**
	baz=126					
RSSD	**Black Hills**	**48.89**	**338**	P	**P**	**03 12 27.9 +1.8**
RSSD				pmax	pmax	
RSSD	comp=Z,68nm,1.0s			MLR	MLR	
	comp=Z,6μm,18.0s					
RSSD	**Black Hills**	**48.89**	**338**	P	**P**	**03 12 27.9 +1.8**
RSSD				IAmb	IAmb	03 12 43.3
	comp=Z,68nm,1.0s					
RSSD	**Black Hills**	**48.89**	**338**	IAMs_20	IAMs_20	03 36 34.1
	comp=Z,6μm,18.0s					
RSSD	**Black Hills**	**48.89**	**338**	P	**P**	**03 12 27.8 +1.7**
	baz=148,SNR=17					
RSSD				S	**S**	**03 19 32.4 +2.9**
	baz=148					
RSSD	**Black Hills**	**48.89**	**338**	P	**P**	**03 12 26.6 +0.5**
	baz=148					
RSSD				S	**S**	**03 19 32.4 +2.9**
	baz=148					
GSC	**Goldstone, Bar**	**48.91**	**320**	IAmb	IAmb	03 12 34.5
	comp=Z,180nm,1.9s					
GSC	**Goldstone, Bar**	**48.91**	**320**	P	**P**	**03 12 25.9 -0.4**
	baz=128,SNR=15					
GSC				S	**S**	**03 19 33.6 +3.9**
	baz=128					
FMP	**Fort Macarthur**	**48.93**	**317**	P	**P**	**03 12 28.3 +2.0**
	baz=126					
FMP				S	**S**	**03 19 35.1 +5.2**
	baz=126					
SHOC	**Shoshone, Teco**	**48.94**	**321**	P	**P**	**03 12 27.9 +1.5**
	baz=129					
SHOC				S	**S**	**03 19 33.4 +3.3**
	baz=129					
EYMN	**Ely**	**48.96**	**350**	IAMs_20	IAMs_20	03 36 45.3
	comp=Z,8μm,18.0s					
EYMN	**Ely**	**48.96**	**350**	P	**P**	**03 12 24.0 -2.3**
	baz=165					
EYMN				S	**S**	**03 19 24.5 -5.4**
	baz=165					
BATG	**Bathurst New B**	**49.04**	**13**	P	**P**	**03 12 27.7 +0.8**
BATG				IAmb	IAmb	03 12 30.0
	comp=Z,80nm,1.1s					
PRN	**Pahroc Range**	**49.17**	**323**	IAmb	IAmb	03 12 45.2
	comp=Z,99nm,1.9s					
DECC	**Green Verdugo**	**49.27**	**318**	P	**P**	**03 12 29.2 +0.2**
	baz=126					
DECC				S	**S**	**03 19 38.6 +3.7**
	baz=126					
EDW2	**Edwards Air Fo**	**49.42**	**319**	P	**P**	**03 12 30.3 +0.2**
	baz=127,SNR=27					
EDW2				S	**S**	**03 19 40.3 +3.3**
	baz=127					
SNCC	**San Nicolas Is**	**49.51**	**316**	S	**S**	**03 19 39.7 +1.7**
	baz=124					
LRMC	**Laurel Mtn Rad**	**49.58**	**320**	P	**P**	**03 12 31.0 -0.5**
	baz=128,SNR=6.4					
LRMC				S	**S**	**03 19 42.0 +2.8**
	baz=128					
TPNV	**Topopah Spring**	**49.60**	**322**	P	**P**	**03 12 31.2 -0.4**
	baz=130,SNR=22					
TPNV				S	**S**	**03 19 44.4 +4.9**
	baz=130					
CTU	**Camp Tracy**	**49.63**	**329**	IAmb	IAmb	03 12 40.4
	comp=Z,96nm,1.5s					
FURC	**Furnace Creek,**	**49.67**	**321**	P	**P**	**03 12 32.3 +0.4**
	baz=129,SNR=15					
FURC				S	**S**	**03 19 45.2 +5.1**
	baz=129					
OSI	**Osito Audit: C**	**49.75**	**318**	P	**P**	**03 12 32.2 -0.4**
	baz=126					
OSI				S	**S**	**03 19 45.7 +4.3**
	baz=126					
B35A	**Bob, Littlefor**	**49.77**	**349**	P	**P**	**03 12 32.4 -0.1**
	baz=163					
MPMC	**Manual Prospec**	**49.81**	**320**	P	**P**	**03 12 33.3 +0.1**
	baz=128,SNR=10					
MPMC				S	**S**	**03 19 46.5 +3.9**
	baz=128					
DUG	**Dugway, Tooele**	**49.83**	**328**	IAmb	IAmb	03 12 42.2
	comp=Z,174nm,1.9s					
DUG				IAMs_20	IAMs_20	03 36 21.2
	comp=Z,5μm,21.0s					
DUG	**Dugway, Tooele**	**49.83**	**328**	P	**P**	**03 12 31.3 -2.0**
	baz=136,SNR=20					
DUG				S	**S**	**03 19 46.0 +3.3**
	baz=136					
E28A	**Huff**	**49.88**	**342**	P	**P**	**03 12 35.6 +2.3**
	baz=153,SNR=27					
E28A				S	**S**	**03 19 42.5 -0.4**
	baz=153					
R11A	**Troy Canyon, C**	**50.11**	**324**	IAmb	IAmb	03 12 44.7
	comp=Z,127nm,1.8s					
R11A	**Troy Canyon, C**	**50.11**	**324**	P	**P**	**03 12 34.0 -1.6**
	baz=132,SNR=15					
R11A				S	**S**	**03 19 50.8 +4.1**
	baz=132					
ARVC	**Arvin**	**50.12**	**319**	P	**P**	**03 12 34.2 -1.2**
	baz=126,SNR=6.3					
ARVC				S	**S**	**03 19 50.5 +3.9**
	baz=126					
BW06	**Boulder Array**	**50.13**	**332**	IAMs_20	IAMs_20	03 35 05.0
	comp=Z,6μm,18.0s					
BW06	**Boulder Array**	**50.13**	**332**	P	**P**	**03 12 35.7 +0.1**
	baz=141,SNR=5.8					
BW06				S	**S**	**03 19 47.2 +0.4**
	baz=141					
PDAR	**Pinedale Array**	**50.13**	**332**	P	**P**	**03 12 35.6 0.0**
	comp=Z,1.7nm,0.7s,baz=136,slow=9.2,SNR=12					
PDAR				LR	LR	03 34 18.4
	comp=Z,3μm,19.5s,baz=134,slow=37					
PDAR	**Pinedale Array**	**50.13**	**332**	P	**P**	**03 12 36.8 +1.2**
AGMN	**Agassiz Nation**	**50.16**	**347**	P	**P**	**03 12 36.2 +0.7**
	baz=160,SNR=12					
AGMN				S	**S**	**03 19 40.8 -5.9**
	baz=160					
AGMN	**Agassiz Nation**	**50.16**	**347**	P	**P**	**03 12 33.5 -2.0**
	baz=160,SNR=12					
AGMN				S	**S**	**03 19 41.4 -5.4**
	baz=160					
ISA	**Isabella, Lake**	**50.20**	**319**	IAmb	IAmb	03 12 45.2
	comp=Z,180nm,1.8s					
ISA	**Isabella, Lake**	**50.20**	**319**	P	**P**	**03 12 34.0 -2.1**
	baz=127,SNR=18					
ISA				S	**S**	**03 19 50.3 +2.5**
	baz=127					
GRAC	**Grapevine Rang**	**50.32**	**322**	P	**P**	**03 12 36.3 -0.6**
	baz=129					
GRAC				S	**S**	**03 19 55.1 +5.7**
	baz=129					
CWC	**Cottonwood Cre**	**50.42**	**320**	P	**P**	**03 12 37.7 -0.2**
	baz=128					
CWC				S	**S**	**03 19 56.1 +5.0**
	baz=128					
BGU	**Big Grassy Mou**	**50.47**	**328**	IAmb	IAmb	03 12 46.6
	comp=Z,139nm,1.6s					
PKM	**Mcpherson Peak**	**50.63**	**318**	P	**P**	**03 12 40.1 +0.6**
	baz=125,SNR=6.3					
PKM				S	**S**	**03 19 57.4 +3.3**
	baz=125					
LCH	**Last Change Ra**	**50.64**	**322**	IAmb	IAmb	03 12 48.5
	comp=Z,118nm,1.9s					
MDND	**Maddock**	**50.71**	**344**	P	**P**	**03 12 41.7 +2.1**
	baz=155,SNR=5.9					
MDND	**Maddock**	**50.71**	**344**	P	**P**	**03 12 39.3 -0.3**
	baz=155,SNR=5.9					
MDND				S	**S**	**03 19 51.7 -2.6**
	baz=155					
VES	**Vestal, Richgr**	**50.71**	**319**	P	**P**	**03 12 39.5 -0.3**
	baz=126,SNR=27					
VES				S	**S**	**03 20 00.2 +5.5**
	baz=126					
AHID	**Auburn Hatcher**	**50.85**	**331**	IAmb	IAmb	03 12 49.0
	comp=Z,169nm,1.9s					
AHID				IAMs_20	IAMs_20	03 34 36.3
	comp=Z,6μm,18.0s					
TIN	**Tinemaha, Big**	**50.89**	**321**	S	**S**	**03 20 00.2 +2.7**
	baz=128					
HVU	**Hansel Valley**	**50.96**	**329**	P	**P**	**03 12 43.2 +1.4**
HVU				pmax	pmax	
	comp=Z,116nm,1.7s					
HVU	**Hansel Valley**	**50.96**	**329**	P	**P**	**03 12 43.2 +1.4**
HVU				IAmb	IAmb	03 12 50.1
	comp=Z,116nm,1.7s					
SMMC	**Simmler**	**51.00**	**318**	P	**P**	**03 12 40.5 -1.6**
	baz=125					
SMMC				S	**S**	**03 20 02.6 +3.7**
	baz=125					
REDW	**Red Top Meadow**	**51.19**	**332**	IAmb	IAmb	03 12 52.7
	comp=Z,162nm,1.5s					
REDW				IAMs_20	IAMs_20	03 36 46.2
	comp=Z,5μm,20.0s					
SNOW	**Snow King Moun**	**51.22**	**332**	IAmb	IAmb	03 13 02.6
	comp=Z,110nm,1.6s					
SNOW				IAMs_20	IAMs_20	03 34 50.0
	comp=Z,5μm,19.0s					
LOHW	**Long Hollow**	**51.27**	**332**	IAMs_20	IAMs_20	03 35 12.1
	comp=Z,6μm,19.0s					
GO09	**Cerro Castillo**	**51.28**	**173**	IAmb	IAmb	03 12 55.7
	comp=Z,186nm,1.8s					
TPAW	**Teton Pass**	**51.33**	**332**	IAmb	IAmb	03 13 19.8
	comp=Z,150nm,1.8s					
TPAW				IAMs_20	IAMs_20	03 36 25.0
	comp=Z,5μm,21.0s					
Q09A	**Carvers**	**51.38**	**323**	IAmb	IAmb	03 12 56.7
	comp=Z,140nm,1.3s					
MOOW	**Moose Ponds**	**51.44**	**332**	IAMs_20	IAMs_20	03 35 26.6
	comp=Z,5μm,19.0s					
ELK	**Elko**	**51.53**	**327**	P	**P**	**03 12 46.5 +0.2**
	comp=Z,11nm,1.0s,baz=142,slow=5.5,SNR=22					
ELK				LR	LR	03 33 21.6
	comp=Z,3μm,21.6s,baz=136,slow=35					
ELK	**Elko**	**51.53**	**327**	IAmb	IAmb	03 12 54.9
	comp=Z,174nm,1.8s					
ELK				IAMs_20	IAMs_20	03 34 14.3
	comp=Z,5μm,18.0s					
MLAC	**Mammoth, Mammo**	**51.63**	**321**	P	**P**	**03 12 46.5 -0.6**
	baz=128					
MLAC				S	**S**	**03 20 10.9 +3.1**
	baz=128					
MG05	**Puerto Natales**	**51.67**	**174**	P	**P**	**03 12 48.4 +1.7**
FLWY	**Flagg Ranch**	**51.67**	**333**	IAmb	IAmb	03 12 56.7
	comp=Z,167nm,1.7s					
FLWY				IAMs_20	IAMs_20	03 35 52.9
	comp=Z,8μm,18.0s					
OMMB	**Old Mammoth Mi**	**51.72**	**321**	IAmb	IAmb	03 12 56.6
	comp=Z,127nm,1.5s					
MDPB	**Devils Postpil**	**51.78**	**321**	IAmb	IAmb	03 12 57.0
	comp=Z,101nm,1.6s					
NVAR	**Mina Array Bea**	**51.80**	**322**	P	**P**	**03 12 49.3 +1.1**
	comp=Z,20nm,1.0s,baz=135,slow=7.7,SNR=47					
NVAR				LR	LR	03 32 27.0
	comp=Z,3μm,21.9s,baz=132,slow=33					
RLMT	**Red Lodge**	**51.84**	**334**	P	**P**	**03 12 48.9 +0.4**
	baz=142					
RLMT				S	**S**	**03 20 09.8 -0.8**
	baz=142					
H17A	**Grant Village**	**51.85**	**333**	IAmb	IAmb	03 12 59.3
	comp=Z,113nm,1.8s					
H17A	**Grant Village**	**51.85**	**333**	P	**P**	**03 12 48.6 0.0**
	baz=141,SNR=6.7					
H17A				S	**S**	**03 20 13.4 +2.6**
	baz=141					
LAO	**LASA Array**	**51.89**	**338**	IAmb	IAmb	03 12 56.6
	comp=Z,89nm,1.6s					
LAO	**LASA Array**	**51.89**	**338**	P	**P**	**03 12 50.1 +1.6**
	baz=147,SNR=14					
LAO				S	**S**	**03 20 09.5 -1.2**
	baz=147					
LAO	**LASA Array**	**51.89**	**338**	P	**P**	**03 12 48.9 +0.4**
	baz=147,SNR=14					
LAO				S	**S**	**03 20 10.9 +0.2**
	baz=147					
LKWY	**Lake**	**51.91**	**333**	IAmb	IAmb	03 13 19.5
	comp=Z,160nm,2.0s					
ULM	**Lac du Bonnet**	**52.01**	**348**	P	**P**	**03 12 47.5 -1.8**
	comp=Z,20nm,0.4s,baz=160,slow=8.5,SNR=28					
ULM	**Lac du Bonnet**	**52.01**	**348** *i*	P	**P**	**03 12 49.6 +0.3**
ULM	**Lac du Bonnet**	**52.01**	**348**	IAmb	IAmb	03 13 08.3
	comp=Z,70nm,1.1s					
YFT	**Old Faithful**	**52.02**	**333**	IAmb	IAmb	03 12 59.4
	comp=Z,132nm,1.8s					
RYN	**Ryan**	**52.05**	**322**	P	**P**	**03 12 52.5 +2.4**
RYN				IAmb	IAmb	03 12 59.8
	comp=Z,121nm,1.5s					
YNR	**Norris Junctio**	**52.15**	**333**	IAmb	IAmb	03 13 25.4
	comp=Z,106nm,1.9s					
YMR	**Madison River**	**52.24**	**333**	IAmb	IAmb	03 13 01.4
	comp=Z,134nm,1.7s					
BBGB	**Big Mountain B**	**52.42**	**319**	IAmb	IAmb	03 13 01.2
	comp=Z,122nm,1.5s					
DGMT	**Dagmar**	**52.68**	**340**	P	**P**	**03 12 56.8 +2.5**
	baz=150,SNR=8.2					
DGMT				S	**S**	**03 20 22.8 +1.3**
	baz=150					
DGMT	**Dagmar**	**52.68**	**340**	P	**P**	**03 12 55.1 +0.8**
	baz=150,SNR=8.2					
DGMT				S	**S**	**03 20 22.1 +0.5**
	baz=150					
SAO	**San Andreas Ge**	**52.80**	**319**	IAMs_20	IAMs_20	03 32 11.0
	comp=Z,5μm,21.0s					
PNTR	**Pine Nut**	**53.00**	**322**	IAmb	IAmb	03 13 06.3
	comp=Z,155nm,1.9s					
HLID	**Hailey**	**53.08**	**330**	IAmb	IAmb	03 13 08.7
	comp=Z,81nm,1.5s					
HLID	**Hailey**	**53.08**	**330**	P	**P**	**03 12 57.7 0.0**
	baz=136,SNR=28					
HLID				S	**S**	**03 20 31.5 +4.0**
	baz=136					
BCYI	**Bear Canyon**	**53.12**	**331**	P	**P**	**03 12 59.8 +1.8**
VCNR	**Virginia City**	**53.16**	**322**	IAmb	IAmb	03 13 08.3
	comp=Z,161nm,2.0s					
DRLN	**Deer Lake**	**53.21**	**19**	IAmb	IAmb	03 13 00.7
	comp=Z,88nm,1.1s					
BOZ	**Bozeman (W)**	**53.26**	**333**	IAmb	IAmb	03 13 07.3
	comp=Z,95nm,1.4s					
BOZ	**Bozeman (W)**	**53.26**	**333**	P	**P**	**03 12 59.3 +0.5**
	baz=140,SNR=64					
BOZ				S	**S**	**03 20 30.1 +0.3**
	baz=140					
DLMT	**Dillon**	**53.52**	**332**	IAMs_20	IAMs_20	03 37 06.8
	comp=Z,6μm,19.0s					
MFID	**Camas Ranch**	**53.70**	**329**	IAmb	IAmb	03 13 10.8
	comp=Z,128nm,1.4s					
MFID				IAMs_20	IAMs_20	03 39 49.5
	comp=Z,4μm,18.0s					
BEKR	**Beckworth**	**53.94**	**322**	IAmb	IAmb	03 13 13.7
	comp=Z,98nm,1.4s					
EGMT	**Eagleton**	**54.36**	**336**	IAmb	IAmb	03 13 41.6
	comp=Z,50nm,1.1s					
EGMT	**Eagleton**	**54.36**	**336**	P	**P**	**03 13 05.6 -1.1**
	baz=143,SNR=14					
EGMT				S	**S**	**03 20 45.0 +0.5**
	baz=143					
ORV	**Oroville**	**54.45**	**322**	IAMs_20	IAMs_20	03 36 30.7
	comp=Z,4μm,18.0s					
DSPA	**Despedida**	**54.46**	**171**	P	**P**	**03 13 09.0 +1.8**
WVOR	**Wild Horse Val**	**54.56**	**326**	IAMs_20	IAMs_20	03 36 06.3
	comp=Z,6μm,19.0s					
EFI	**East Falkland**	**54.63**	**163**	IAMs_20	IAMs_20	03 37 46.8
	comp=Z,7μm,19.0s					
PLID	**Pearl Lake**	**54.97**	**330**	IAmb	IAmb	03 13 19.1
	comp=Z,116nm,1.9s					
PLID				IAMs_20	IAMs_20	03 39 57.2
	comp=Z,4μm,19.0s					
O03E	**Paynes Creek**	**55.08**	**322**	IAmb	IAmb	03 13 20.7
	comp=Z,57nm,1.1s					
O03E	**Paynes Creek**	**55.08**	**322**	P	**P**	**03 13 12.1 -0.1**
	baz=127					
O03E				S	**S**	**03 20 54.9 +0.5**
	baz=127					
HOPS	**Hopland Field**	**55.12**	**320**	IAMs_20	IAMs_20	03 33 26.4
	comp=Z,4μm,20.0s					
MOD	**Modoc Plateau**	**55.17**	**324**	IAmb	IAmb	03 13 21.0
	comp=Z,87nm,1.6s					
MSO	**Missoula**	**55.24**	**333**	IAmb	IAmb	03 13 35.0
	comp=Z,95nm,1.5s					
MSO	**Missoula**	**55.24**	**333**	P	**P**	**03 13 13.4 +0.2**

baz=138,SNR=27
MSO S S 03 20 56.8 +0.4
baz=138
O02D Mt. Diablo Mer 55.62 321 IAMs_20 IAMs_20 03 33 31.6
comp=Z,4µm,20.0s
O02D Mt. Diablo Mer 55.62 321 P P 03 13 15.4 -0.7
O02D baz=126 S S 03 21 02.4 +0.7
baz=126
M04C Macdoel 56.00 324 IAmb IAmb 03 13 29.6
comp=Z,48nm,1.1s
M04C Macdoel 56.00 324 P P 03 13 17.5 -1.3
M04C baz=127,SNR=12 S S 03 21 08.9 +2.2
baz=127
N02D Trinity Center 56.03 322 P P 03 13 20.4 +1.4
N02D baz=126 S S 03 21 07.3 +0.1
baz=126
JTMT Jette 56.08 333 IAmb IAmb 03 13 27.7
comp=Z,134nm,1.9s
SCHQ Schefferville 56.09 10 P P 03 13 17.6 -1.4
comp=Z,35nm,1.1s,baz=198,slow=6.8,SNR=16
SCHQ Schefferville 56.09 10 IAmb IAmb 03 13 20.6
comp=Z,84nm,1.3s
F10A Beach Ranch, E 56.20 330 P P 03 13 21.7 +1.5
M02C Callahan 56.37 323 P P 03 13 21.6 +0.2
M02C baz=126 S S 03 21 12.4 +0.8
baz=126
K04D Chiloquin, OR 56.46 324 P P 03 13 23.2 +1.1
K04D baz=128 S S 03 21 15.3 +2.5
baz=128
YBH Yreka Blue Hor 56.49 323 P P 03 13 21.4 -0.9
comp=Z,10nm,0.8s,baz=109,slow=7.1,SNR=14
YBH LR LR 03 35 58.8
comp=Z,2µm,18.6s,baz=136,slow=34
L04D Klamath Falls 56.53 324 IAMs_20 IAMs_20 03 40 02.7
comp=Z,4µm,18.0s
L04D Klamath Falls 56.53 324 P P 03 13 21.6 -1.0
L04D baz=127,SNR=12 S S 03 21 16.3 +2.5
baz=127
J05D Fort Rock, OR 56.57 325 P P 03 13 21.9 -1.0
J05D baz=129,SNR=33 S S 03 21 16.9 +2.6
baz=129
G08A Pilot Rock 56.62 328 IAmb IAmb 03 13 31.5
comp=Z,73nm,1.3s
JCC Jacoby Creek, 56.76 321 IAMs_20 IAMs_20 03 33 48.9
comp=Z,4µm,18.0s
WALA Waterton Lakes 56.90 334 IAmb IAmb 03 14 05.1
comp=Z,63nm,1.4s
E09A Wood Farm, Sta 57.03 330 IAmb IAmb 03 13 34.2
comp=Z,178nm,1.7s
J04D Umpqua Nationa 57.04 325 IAMs_20 IAMs_20 03 37 59.1
comp=Z,4µm,19.0s
J04D Umpqua Nationa 57.04 325 P P 03 13 26.7 +0.4
J04D baz=128 S S 03 21 21.3 +0.6
baz=128
L02E Cave Junction 57.27 323 IAmb IAmb 03 13 36.0
comp=Z,105nm,1.6s
L02E IAMs_20 IAMs_20 03 37 50.3
comp=Z,4µm,18.0s
L02E Cave Junction 57.27 323 P P 03 13 28.6 +0.9
L02E baz=126 S S 03 21 22.9 -0.5
baz=126
I05D Terrebonne, OR 57.29 326 P P 03 13 27.9 +0.1
I05D baz=129,SNR=20 S S 03 21 25.3 +1.7
baz=129
RKT Rikitea 57.43 243 *e*T T 04 14 50.6
comp=Z,6.0nm,0.2s
F07A Phinny Hill Vi 57.53 328 IAmb IAmb 03 13 39.2
comp=Z,167nm,1.7s
I04A Tendick Farm, 57.56 325 P P 03 13 28.9 -0.8
I04A baz=128,SNR=14 S S 03 21 28.2 +1.1
baz=128
FFC Flin Flon 57.57 346 P P 03 13 30.3 +0.8
FFC pmax pmax
comp=Z,77nm,1.4s
FFC MLR MLR
comp=Z,4µm,18.0s
FFC Flin Flon 57.57 346 P P 03 13 30.3 +0.8
FFC IAmb IAmb 03 13 47.9
comp=Z,77nm,1.4s
FFC Flin Flon 57.57 346 IAMs_20 IAMs_20 03 42 29.3
comp=Z,4µm,18.0s
K02D Willamette Mer 57.63 323 P P 03 13 29.1 -1.2
K02D baz=126,SNR=20 S S 03 21 28.2 0.0
baz=126
HAWA Hanford 57.66 329 IAMs_20 IAMs_20 03 38 58.2
comp=Z,6µm,18.0s
NEW Newport 57.76 332 P P 03 13 30.5 -0.6
comp=Z,17nm,1.2s,baz=148,slow=6.9,SNR=13
NEW LR LR 03 41 44.8
comp=Z,2µm,21.8s,baz=142,slow=40
NEW Newport 57.76 332 P P 03 13 31.8 +0.7
NEW pmax pmax
comp=Z,116nm,2.0s
NEW Newport 57.76 332 P P 03 13 31.8 +0.7
NEW IAmb IAmb 03 13 39.1
comp=Z,116nm,2.0s
NEW Newport 57.76 332 IAMs_20 IAMs_20 03 37 30.1
comp=Z,4µm,22.0s
NEW Newport 57.76 332 P P 03 13 31.0 -0.1
NEW baz=135,SNR=16 S S 03 21 30.6 +1.0
baz=135
G05D Wamic, OR 57.85 327 P P 03 13 31.9 +0.1
G05D baz=130 S S 03 21 35.6 +4.7
baz=130
H04A Detroit Lake 57.98 326 IAmb IAmb 03 13 40.6
comp=Z,68nm,1.2s
I03D Drain, OR 58.04 325 P P 03 13 32.8 -0.2
I03D baz=127 S S 03 21 33.8 +0.5
baz=127
J01E Myrtle Point 58.06 324 IAMs_20 IAMs_20 03 38 53.1
comp=Z,4µm,18.0s
J01E Myrtle Point 58.06 324 P P 03 13 33.6 +0.4
J01E baz=126,SNR=9.4 S S 03 21 35.0 +1.5
baz=126
BUCK Buck Mountain 58.13 325 IAmb IAmb 03 13 41.6
comp=Z,119nm,1.2s
H04D Lebanon 58.19 326 IAmb IAmb 03 13 55.5
comp=Z,178nm,1.8s
H04D Lebanon 58.19 326 P P 03 13 34.5 +0.4
H04D baz=128 S S 03 21 36.3 +1.0
baz=128
F05D White Salmon 58.34 328 P P 03 13 35.6 +0.4
F05D baz=130 S S 03 21 40.3 +3.1
baz=130
COR Corvallis 58.55 325 P P 03 13 39.0 +2.4
COR pmax pmax
comp=Z,446nm,1.8s
COR Corvallis 58.55 325 P P 03 13 39.0 +2.4
I02E Swisshome, OR 58.57 325 P P 03 13 38.3 +1.6
baz=127
I02E S S 03 21 42.5 +2.3
baz=127
LTY Liberty 58.82 329 IAmb IAmb 03 13 47.1
comp=Z,110nm,1.6s
B08A Colville Reser 58.89 331 IAmb IAmb 03 13 47.3
comp=Z,71nm,1.7s
G03D McMinnville, O 58.91 326 P P 03 13 38.9 -0.2
G03D baz=128 S S 03 21 45.4 +0.8
baz=128
F04D Rainier, OR 59.30 327 P P 03 13 41.7 -0.1
F04D baz=128 S S 03 21 50.0 +0.4
baz=128
E04D Cinebar 59.36 328 IAMs_20 IAMs_20 03 41 56.3
comp=Z,4µm,19.0s
E04D Cinebar 59.36 328 P P 03 13 42.9 +0.8
E04D baz=129 S S 03 21 52.1 +1.7
baz=129

C06D Leavenworth 59.37 330 S S 03 21 53.6 +3.0
baz=131
D05A Enumclaw 59.45 328 IAmb IAmb 03 13 51.1
comp=Z,86nm,1.0s
D04E Lakebay 59.86 328 P P 03 13 45.2 -0.4
D04E baz=129 S S 03 22 00.2 +3.4
baz=129
TAOE Nuku Hiva Isla 59.88 260 *e*S S 03 21 55.9 -2.5
comp=Z,10µm,26.6s
TAOE *e*LQ LQ 03 28 50.7
comp=Z,3µm,29.2s
TAOE *e*LR LR 03 31 31.2
comp=Z,8µm,23.2s,baz=82
B05A Bryant 60.20 329 P P 03 13 47.9 -0.1
B05A baz=130,SNR=9.3 S S 03 22 02.3 +1.1
baz=130
D03D Eldon 60.25 328 P P 03 13 49.4 +1.0
D03D baz=129,SNR=14 S S 03 22 03.4 +1.6
baz=129
NLWA Neilton Lookou 60.58 328 P P 03 13 52.1 +1.6
NLWA IAMs_20 IAMs_20 03 43 10.5
comp=Z,4µm,18.0s
A04D Lummi Island 60.81 329 P P 03 13 52.0 -0.1
A04D baz=130,SNR=7.0 S S 03 22 11.6 +2.8
baz=130
PGC Sidney 61.14 329 P P 03 13 56.8 +2.5
LLLB Lillooet 61.63 331 P P 03 13 59.6 +1.9
ROSA Rosais 61.67 45 P P 03 13 59.2 +1.1
OZB Mount Ozzard 62.40 328 IAmb IAmb 03 14 20.1
comp=Z,49nm,1.1s
CBB Campbell River 62.98 329 IAmb IAmb 03 14 16.1
comp=Z,78nm,1.4s
CMLA Cha da Macela 63.22 47 P P 03 14 10.1 +1.6
CMLA pmax pmax
comp=Z,587nm,1.9s
CMLA Cha da Macela 63.22 47 P P 03 14 10.1 +1.6
FRB Frobisher Bay 64.50 6 P P 03 14 15.3 -1.0
comp=Z,24nm,0.9s,baz=189,slow=6.7,SNR=21
FRB LR LR 03 45 22.2
comp=Z,3µm,18.6s,baz=190,slow=39
MBO M'Bour 64.61 74 P P 03 14 19.3 +1.3
PMSA Palmer Station 65.47 172 P P 03 14 25.2 +2.5
PMSA Palmer Station 65.47 172 IAMs_20 IAMs_20 03 41 47.5
comp=Z,3µm,19.0s
BBB Bella Bella 65.66 330 P P 03 14 24.8 +0.6
comp=Z,27nm,1.1s,baz=145,slow=6.4,SNR=5.7
BBB LR LR 03 44 17.1
comp=Z,3µm,18.4s,baz=136,slow=37
ASCN Ascension 66.45 98 P P 03 14 30.3 +0.3
NRS Narsarsuaq 66.92 18 *i* P P 03 14 31.9 -0.1
NRS IAmb IAmb 03 15 24.0
comp=Z,16nm,0.8s
HG4B Hotspring 67.29 329 IAmb IAmb 03 14 43.6
comp=Z,79nm,1.3s
MACI Morro de la Ar 67.48 59 P P 03 14 37.1 +0.5
GRNB Grenville Isla 67.54 331 IAmb IAmb 03 14 46.2
comp=Z,63nm,1.4s
YKA Yellowknife Ar 67.63 344 P P 03 14 35.2 -1.4
comp=Z,39nm,1.0s,baz=138,slow=6.2,SNR=83
NUUK Nuuk 67.72 13 *i* P P 03 14 36.0 -1.0
NUUK IAmb IAmb 03 14 38.4
comp=Z,40nm,0.8s
RUBB Prince Rupert 67.95 331 IAmb IAmb 03 14 47.6
comp=Z,87nm,1.8s
PMOZ Porto Moniz, M 68.03 54 *e*P P 03 14 40.8 +1.0
PMOZ comp=Z,270nm,1.7s *e*S S 03 23 43.6 +4.6
PMOZ Porto Moniz, M 68.03 54 eLR LR 03 36 09.5
comp=Z,3µm,18.0s
FUL Funchal 68.23 55 *e*P P 03 14 43.2 +2.3
SMAI San Martin Ant 68.36 175 P P 03 14 42.9 +1.9
SMAI IAmb IAmb 03 14 45.6
comp=Z,78nm,1.2s
DIB Dawson Inlet, 68.43 329 IAmb IAmb 03 14 51.0
comp=Z,62nm,1.3s
PMPS Porto Santo 68.79 54 *e*P P 03 14 46.3 +1.9
comp=Z,368nm,1.5s
PMPST Porto Santo, M 68.79 54 *e*P P 03 14 48.4 +3.9
comp=Z,326nm,1.6s
PPT Papeete 69.89 251 LR LR 03 37 53.1
comp=Z,5µm,18.8s,baz=38,slow=29
PPT2 Papeete2 69.89 251 *e*S S 03 23 57.9 -3.6
comp=Z,13µm,25.8s
PPT2 *e*LQ LQ 03 33 09.8
comp=Z,3µm,26.5s
PPT2 eLR LR 03 36 10.0
comp=Z,8µm,24.5s,baz=75
CRAG Craig 69.97 331 P P 03 14 53.1 +1.9
CRAG baz=122 S S 03 24 05.3 +4.4
baz=122
WRAK Wrangell Islan 70.12 332 IAmb IAmb 03 15 00.8
comp=Z,73nm,1.6s
WRAK Wrangell Islan 70.12 332 IAMs_20 IAMs_20 03 51 22.8
comp=Z,3µm,18.0s
WRAK Wrangell Islan 70.12 332 P P 03 14 53.5 +1.3
WRAK baz=123 S S 03 24 08.2 +5.6
baz=123
DLBC Dease Lake 70.24 335 P P 03 14 53.3 +0.3
comp=Z,28nm,1.0s,baz=123,slow=3.9,SNR=32
DLBC Dease Lake 70.24 335 IAmb IAmb 03 15 01.9
comp=Z,78nm,1.2s
SFJD Kangerlussuaq 70.37 12 P P 03 14 52.9 -0.6
comp=Z,44nm,0.9s,baz=215,slow=5.5,SNR=11
SFJD LR LR 03 45 36.4
comp=Z,3µm,20.9s,baz=212,slow=36
SFJD Kangerlussuaq 70.37 12 P P 03 14 54.0 +0.5
SFJD pmax pmax
comp=Z,80nm,1.1s
SFJD MLR MLR
comp=Z,4µm,20.0s
SFJD Kangerlussuaq 70.37 12 P P 03 14 54.0 +0.5
SFJD IAmb IAmb 03 14 54.8
comp=Z,80nm,1.1s
SFJD Kangerlussuaq 70.37 12 IAMs_20 IAMs_20 03 50 26.5
comp=Z,4µm,20.0s
SFJD Kangerlussuaq 70.37 12 *i* P P 03 14 52.9 -0.6
SFJD IAmb IAmb 03 14 54.0
comp=Z,14nm,0.8s
TBI Tubuai 70.52 245 *e*S S 03 24 06.8 -1.7
comp=Z,4µm,24.5s
TBI Tubuai 70.52 245 eLR LR 03 36 25.0
comp=Z,6µm,27.5s
TBI Tubuai 70.52 245 *e*T T 04 31 42.3
comp=Z,3.5nm,0.2s
WRGLY Wrigley 70.87 341 P P 03 14 56.0 -0.6
WRGLY baz=134,SNR=24 S S 03 24 11.1 0.0
baz=134
DY2G Dye2 70.92 14 *i* P P 03 14 56.6 -0.5
DY2G IAmb IAmb 03 15 01.6
comp=Z,28nm,0.7s
TGTN Hyland Airport 71.43 338 P P 03 15 01.7 +1.6
TGTN baz=129,SNR=18 S S 03 24 20.0 +2.1
baz=129
SIT Sitka 71.85 332 P P 03 15 03.3 +0.7
SIT baz=121 S S 03 24 27.9 +5.3
baz=121
JIS Juneau Island 72.05 333 IAmb IAmb 03 15 26.5
comp=Z,52nm,1.3s
JIS IAMs_20 IAMs_20 03 46 36.3
comp=Z,4µm,21.0s
ILULI Ilulissat 72.17 11 IAMs_20 IAMs_20 03 45 19.1
comp=Z,4µm,21.0s
ILULI Ilulissat 72.17 11 *i* P P 03 15 03.4 -1.0
ILULI IAmb IAmb 03 15 09.8
comp=Z,30nm,0.8s
BESE Bessie Mountai 72.42 334 IAmb IAmb 03 15 25.4
comp=Z,83nm,1.4s
ANGG Ammassalik, Gr 72.58 17 IAMs_20 IAMs_20 03 45 13.8
comp=Z,3µm,21.0s
ANGG Ammassalik, Gr 72.58 17 *i* P P 03 15 04.8 -2.0
ANGG IVmB_BB 03 15 20.7
comp=Z,1µm,3.9s
SKAG Skagway 73.09 334 P P 03 15 12.8 +2.7
SKAG IAmb IAmb 03 15 18.8
comp=Z,65nm,1.4s
SKAG Skagway 73.09 334 P P 03 15 10.7 +0.7
SKAG baz=121 S SKiKP 03 24 41.6 -0.5

baz=121
MMPY Sheldon Lake, 73.21 338 P P 03 15 11.1 +0.3
baz=126,SNR=44
MMPY S SKiKP 03 24 41.2 -1.1
baz=126
WHY Whitehorse 73.54 335 IAmb IAmb 03 15 21.1
comp=Z,80nm,1.9s
WHY Whitehorse 73.54 335 P P 03 15 13.0 +0.2
WHY baz=122 S SKiKP 03 24 43.7 +0.7
baz=122
FARO Faro, Yukon 73.78 337 P P 03 15 15.3 +1.2
FARO baz=124 S S 03 24 47.9 +3.2
baz=124
NUUG Nuugaatsiaq 73.85 9 *i* P P 03 15 13.5 -0.8
NUUG IVmB_BB 03 15 15.4
comp=Z,1µm,2.0s
M31M Drury Creek, Y 74.17 337 IAmb IAmb 03 15 45.6
comp=Z,95nm,1.6s
M31M Drury Creek, Y 74.17 337 P P 03 15 16.4 0.0
M31M baz=123,SNR=22 S S 03 24 51.0 +1.9
baz=123
N31M Braeburn, Yuko 74.35 336 P P 03 15 16.6 -0.9
N31M baz=122,SNR=14 S S 03 24 53.6 +2.5
baz=122
ICESG Greenland Ices 74.54 14 *i* P P 03 15 16.2 -2.6
ICESG IAmb IAmb 03 15 26.2
comp=Z,57nm,0.8s
HYT Haines Junctio 74.73 335 IAmb IAmb 03 15 28.9
comp=Z,110nm,1.8s
HYT Haines Junctio 74.73 335 P P 03 15 18.8 -1.0
HYT baz=120,SNR=12 S S 03 24 59.4 +3.8
baz=120
TTIG Tnine Tigouga, 74.83 58 P P 03 15 24.0 +3.0
PNL Peninsula 75.00 333 P P 03 15 20.0 -1.2
PNL baz=118 S S 03 25 02.3 +3.9
baz=118
YUK6 Outpost Mounta 75.15 335 P P 03 15 20.3 -2.0
YUK6 baz=119,SNR=20 S S 03 25 04.8 +4.3
baz=119
BCPM Bancas Point 75.24 334 IAMs_20 IAMs_20 03 50 14.5
comp=Z,4µm,19.0s
M30M Minto, Yukon 75.32 337 IAmb IAmb 03 15 32.4
comp=Z,147nm,1.8s
M30M IAMs_20 IAMs_20 03 52 28.4
comp=Z,3µm,19.0s
M30M Minto, Yukon 75.32 337 P P 03 15 23.1 0.0
M30M baz=121,SNR=24 S S 03 25 03.1 +1.1
baz=121
C36M Paulatuk 75.35 345 P P 03 15 25.2 +2.2
C36M Paulatuk 75.35 345 P P 03 15 20.9 -2.1
C36M baz=135 S S 03 24 58.3 -3.5
baz=135
RES Resolute Bay 75.36 356 P P 03 15 22.0 -0.9
comp=Z,16nm,1.1s,baz=179,slow=8.8,SNR=17
RES LR LR 03 48 03.8
comp=Z,4µm,21.7s,baz=162,slow=35
SHEL Horse Pasture 75.38 106 P P 03 15 25.9 +1.6
SHEL pmax pmax
comp=Z,98nm,1.0s
SHEL Horse Pasture 75.38 106 P P 03 15 25.9 +1.6
SHEL IAmb IAmb 03 15 35.4
comp=Z,98nm,0.9s
OUK Oukaimeden 75.43 58 P P 03 15 27.0 +2.3
YUK4 Talbot Arm 75.47 335 P P 03 15 24.2 0.0
YUK4 baz=119,SNR=20 S S 03 25 08.3 +4.4
baz=119
MAYO Mayo, Yukon 75.50 338 S S 03 25 06.6 +2.7
baz=122
SRHM Skhour des Reh 75.61 56 P P 03 15 27.0 +1.6
LIC Lamto 75.70 84 *e*P P 03 15 25.8 -0.4
comp=Z,176nm,1.1s
PFVI Vila Bisbo 75.71 52 *e*P P 03 15 25.7 -0.1
comp=Z,237nm,1.8s
PFVI Vila Bisbo 75.71 52 IAmb IAmb 03 15 29.7
comp=Z,97nm,1.0s
TIC Toumodi 75.72 83 *e*P P 03 15 25.2 -1.1
PMAFR Mafra 75.73 50 *e*P P 03 15 27.5 +1.7
comp=Z,162nm,1.6s
PMST Lisbon--Monsan 75.76 50 *e*P P 03 15 26.7 +0.7
comp=Z,242nm,1.2s
LIS Lisbon 75.78 50 *e*P P 03 15 26.8 +0.7
LIS *e*S S 03 25 09.4 +1.6
LIS IAMs_20 IAMs_20 03 52 37.2
comp=Z,5µm,17.0s
LIS Lisbon 75.78 50 *e*P P 03 15 26.8 +0.7
LIS *e*S S 03 25 09.4 +1.6
PTEO Sao Teotonio 75.87 51 *e*P P 03 15 28.1 +1.4
comp=Z,218nm,1.2s
MORF Marmelete 75.88 51 *e*P P 03 15 27.4 +0.6
MORF *e*S S 03 25 10.8 +1.7
MORF IAMs_20 IAMs_20 03 54 28.6
comp=Z,3µm,15.3s
MORF Marmelete 75.88 51 *e*P P 03 15 26.8 0.0
comp=Z,276nm,1.3s
MORF Marmelete 75.88 51 *e*P P 03 15 27.4 +0.6
MORF *e*S S 03 25 10.8 +1.7
DBIC Dimbokro 75.89 83 P P 03 15 26.4 -0.9
comp=Z,69nm,1.0s,baz=267,slow=5.8,SNR=36
DBIC LR LR 03 46 18.4
comp=Z,10µm,20.5s,baz=269,slow=34
DBIC Dimbokro 75.89 83 P P 03 15 26.8 -0.4
DBIC pmax pmax
comp=Z,191nm,1.2s
DBIC Dimbokro 75.89 83 P P 03 15 26.8 -0.4
KIC Kosan Boka 75.99 83 *e*P P 03 15 26.9 -0.9
comp=Z,189nm,0.8s
PACT Alcochete 76.03 50 *e*P P 03 15 29.1 +1.6
comp=Z,435nm,1.3s
TABL Table Mountain 76.13 334 IAMs_20 IAMs_20 03 50 42.1
comp=Z,4µm,19.0s
PNCL Nicolau / Gran 76.13 51 *e*P P 03 15 28.5 +0.3
comp=Z,208nm,1.2s
AVE Averroes 76.15 56 P P 03 15 27.5 -0.9
AVE S S 03 25 13.8 +1.7
AVE Averroes 76.15 56 P P 03 15 30.6 +2.3
PSBE So Bento 76.21 49 *e*P P 03 15 28.3 -0.3
comp=Z,226nm,1.4s
LOGN Logan Glacier 76.24 334 IAmb IAmb 03 15 38.3
comp=Z,108nm,1.6s
LOGN IAMs_20 IAMs_20 03 54 55.0
comp=Z,3µm,18.0s
OUZM OUZ 76.32 58 P P 03 15 32.0 +2.4
PCVE Castro Verde 76.42 51 *e*P P 03 15 29.5 -0.3
comp=Z,133nm,1.4s
PBDV Barranco-do-Ve 76.43 52 *e*P P 03 15 29.9 0.0
comp=Z,98nm,1.1s
YUK3 Moose Creek 76.44 335 P P 03 15 30.5 +0.9
baz=117,SNR=36
YUK3 S S 03 25 16.5 +1.9
baz=117
CTGM Chitina Glacie 76.45 334 IAmb IAmb 03 15 38.6
comp=Z,54nm,1.2s
CTGM IAMs_20 IAMs_20 03 48 20.5
comp=Z,3µm,22.0s
CTG Chitna Glacier 76.45 334 P P 03 15 29.7 +0.1
baz=116,SNR=16
CTG S S 03 25 17.4 +2.8
baz=116
GRNC Granite Creek 76.53 334 IAmb IAmb 03 15 39.0
comp=Z,70nm,1.2s
GRNC IAMs_20 IAMs_20 03 52 03.7
comp=Z,4µm,19.0s
PCAS Casmilo, Conde 76.55 49 *e*P P 03 15 30.7 +0.2
comp=Z,372nm,1.3s
PMTG Montargil 76.56 50 *e*P P 03 15 30.1 -0.4
comp=Z,119nm,1.3s
EVO Evora 76.61 50 P P 03 15 27.1 -3.8
EVO S S 03 25 17.7 +0.7
PVAQ Vaqueiros 76.63 51 *e*P P 03 15 30.1 -0.9
comp=Z,84nm,1.5s
PVAQ Vaqueiros 76.63 51 eLR LR 03 40 22.9
comp=Z,3µm,20.0s
PVAQ Vaqueiros 76.63 51 P P 03 15 32.5 +1.6
PBEJ Beja 76.63 51 *e*P P 03 15 30.8 -0.2
comp=Z,15nm,1.1s
BARN Barnard Glacie 76.63 334 IAmb IAmb 03 15 40.5
comp=Z,62nm,1.2s

BARN IAMs_20 IAMs_20 03 53 02.4
comp=Z,3µm,18.0s
COI Coimbra 76.64 49 *e*P **P 03 15 31.2 +0.2**
comp=Z,596nm,1.3s
COI Coimbra 76.64 49 IAMs_20 IAMs_20 03 49 34.1
comp=Z,3µm,18.0s
PTO Porto 76.70 48 *e*P **P 03 15 32.3 +1.0**
comp=Z,372nm,1.3s
ISLE Juniper Island 76.73 333 IAmb IAmb 03 15 40.7
comp=Z,86nm,1.4s
ISLE IAMs_20 IAMs_20 03 53 07.1
comp=Z,4µm,18.0s
J29M Klondike Camp 76.83 338 P **P 03 15 31.3 -0.4**
baz=120
J29M S **S 03 25 20.4 +1.9**
baz=120
BVCY Beaver Creek 76.90 335 S **S 03 25 22.1 +2.9**
baz=117
WAX Waxell Ridge 76.90 333 IAmb IAmb 03 15 42.0
comp=Z,88nm,1.2s
WAX IAMs_20 IAMs_20 03 53 02.2
comp=Z,4µm,18.0s
BGLC Bering Glacier 76.96 333 S **S 03 25 24.9 +5.1**
baz=114
PESTR Estremoz 77.00 50 *e*P **P 03 15 33.3 +0.2**
comp=Z,315nm,1.3s
TGL Tana Glacier 77.02 334 IAMs_20 IAMs_20 03 51 20.6
comp=Z,4µm,20.0s
TULEG Thule 77.02 3 IAmb IAmb 03 15 34.4
comp=Z,75nm,1.2s
TULEG Thule 77.02 3 *i* P **P 03 15 31.4 -1.0**
TULEG IVmB_BB 03 15 33.3
comp=Z,770nm,1.6s
DAWY Dawson 77.08 337 IAmb IAmb 03 15 40.9
comp=Z,42nm,0.8s
DAWY Dawson 77.08 337 P **P 03 15 32.7 -0.4**
baz=119,SNR=44
DAWY S **S 03 25 22.3 +1.1**
baz=119
KOWA Kowa 77.09 75 P **P 03 15 33.7 -0.4**
PGAV Gavieira, Arco 77.12 47 *e*P **P 03 15 33.1 -0.7**
comp=Z,160nm,1.4s
PGAV *e*S **S 03 25 24.7 +2.1**
PGAV Gavieira, Arco 77.12 47 *e*LR LR 03 39 57.9
comp=Z,3µm,18.0s
PVIS Viseu 77.14 48 *e*P **P 03 15 34.0 +0.1**
comp=Z,206nm,1.5s
SUCK Suckling Hills 77.17 333 P **P 03 15 35.8 +2.3**
SUCK IAmb IAmb 03 16 02.6
comp=Z,138nm,1.6s
ZGR Zagora 77.18 59 P **P 03 15 37.0 +2.6**
PCAB Cabril 77.24 47 *e*P **P 03 15 35.0 +0.6**
comp=Z,151nm,1.5s
BERG Berg Lake 77.26 333 IAmb IAmb 03 15 43.0
comp=Z,117nm,1.3s
PMRV Marv??o 77.26 49 *e*P **P 03 15 34.4 -0.2**
comp=Z,132nm,1.4s
PMRV *e*S **S 03 25 28.0 +3.9**
PMRV Marv??o 77.26 49 *e*LR LR 03 40 36.5
comp=Z,2µm,18.0s
PCBR Castelo Branco 77.28 49 *e*P **P 03 15 35.0 +0.4**
comp=Z,150nm,1.3s
M27K Edge Creek, AK 77.30 335 IAmb IAmb 03 15 43.0
comp=Z,41nm,0.9s
M27K IAMs_20 IAMs_20 03 47 20.7
comp=Z,3µm,22.0s
M27K Edge Creek, AK 77.30 335 P **P 03 15 35.1 +0.6**
baz=116
M27K S **S 03 25 26.0 +2.2**
baz=116
INK Inuvik 77.31 342 P **P 03 15 33.9 -0.3**
comp=Z,56nm,1.1s,baz=94,slow=3.1,SNR=30
INK Inuvik 77.31 342 P **P 03 15 36.1 +1.9**
INK pmax pmax
comp=Z,247nm,1.6s
INK Inuvik 77.31 342 P **P 03 15 36.0 +1.9**
INK Inuvik 77.31 342 P **P 03 15 32.8 -1.3**
baz=125,SNR=43
INK S **S 03 25 25.0 +1.6**
baz=125
TZRR Tazzarine 77.31 58 P **P 03 15 38.0 +2.8**
I29M Ogilvie Camp, 77.31 339 IAmb IAmb 03 15 42.5
comp=Z,50nm,0.8s
I29M IAMs_20 IAMs_20 03 56 20.9
comp=Z,3µm,19.0s
I29M Ogilvie Camp, 77.31 339 P **P 03 15 32.5 -1.8**
baz=120,SNR=29
I29M S **S 03 25 25.3 +1.6**
baz=120
MTE Manteigas 77.33 48 *e*P **P 03 15 35.5 +0.5**
comp=Z,121nm,1.5s
MTE *e*S **S 03 25 26.9 +2.0**
MTE Manteigas 77.33 48 *e*LR LR 03 41 05.8
comp=Z,4µm,18.0s
MTE Manteigas 77.33 48 IAmb IAmb 03 15 38.0
comp=Z,72nm,0.9s
POLO Lamas de Olo 77.34 47 *e*P **P 03 15 34.3 -0.8**
comp=Z,85nm,1.5s
MCARA McCarthy VSAT 77.37 334 IAmb IAmb 03 15 43.6
comp=Z,87nm,1.0s
MCARA IAMs_20 IAMs_20 03 55 47.8
comp=Z,2µm,20.0s
MCARA McCarthy VSAT 77.37 334 P **P 03 15 33.4 -1.2**
baz=115,SNR=41
MCARA S **S 03 25 26.9 +2.6**
baz=115
PVRL Vila Real 77.38 48 *e*P **P 03 15 35.6 +0.4**
comp=Z,148nm,1.5s
KAIM Kayak Island 77.40 332 IAmb IAmb 03 15 46.2
comp=Z,55nm,0.9s
KAIM Kayak Island 77.40 332 P **P 03 15 35.9 +1.1**
baz=113
KAIM S **S 03 25 28.2 +3.5**
baz=113
A36M Sachs Harbour 77.48 347 P **P 03 15 32.3 -2.7**
baz=134,SNR=38
A36M S **S 03 25 22.6 -2.5**
baz=134
VRDI Verde Repeater 77.49 334 IAmb IAmb 03 15 44.0
comp=Z,113nm,1.5s
VRDI IAMs_20 IAMs_20 03 54 42.1
comp=Z,3µm,20.0s
HMT Hamilton 77.49 333 IAmb IAmb 03 15 44.2
comp=Z,93nm,1.3s
L27K Beaver Creek, 77.59 336 IAMs_20 IAMs_20 03 50 53.3
comp=Z,3µm,21.0s
L27K Beaver Creek, 77.59 336 P **P 03 15 36.1 +0.2**
baz=116,SNR=28
L27K S **S 03 25 29.3 +2.5**
baz=116
BORG Borgarnes 77.60 22 P **P 03 15 35.5 -0.3**
comp=Z,32nm,0.9s,baz=236,slow=4.6,SNR=5.2
BORG LR LR 03 47 01.4
comp=Z,2µm,21.5s,baz=247,slow=34
BORG Borgarnes 77.60 22 P **P 03 15 37.4 +1.6**
BORG pmax pmax
comp=Z,94nm,1.2s
BORG MLR MLR
comp=Z,2µm,19.0s
BORG Borgarnes 77.60 22 P **P 03 15 37.4 +1.6**
BORG IAmb IAmb 03 15 39.7
comp=Z,94nm,1.2s
BORG Borgarnes 77.60 22 IAMs_20 IAMs_20 03 50 14.0
comp=Z,2µm,19.0s
SFS San Fernando 77.65 53 P **P 03 15 33.5 -3.2**
SFS S **S 03 25 31.3 +3.0**
SFS San Fernando 77.65 53 IAMs_20 IAMs_20 03 55 48.4
comp=Z,4µm,20.0s
GLB Gilahina Butte 77.74 334 IAmb IAmb 03 15 45.2
comp=Z,53nm,0.9s
GLB IAMs_20 IAMs_20 03 54 35.4
comp=Z,3µm,19.0s
M26K Nabesna, AK 77.79 335 IAmb IAmb 03 16 04.9
comp=Z,98nm,1.6s
M26K IAMs_20 IAMs_20 03 52 33.6
comp=Z,3µm,19.0s
M26K Nabesna, AK 77.79 335 P **P 03 15 36.9 -0.1**
baz=115,SNR=32
M26K S **S 03 25 30.6 +1.7**
baz=115
MVO Moncorvo 77.87 48 *e*P **P 03 15 38.4 +0.4**
comp=Z,205nm,1.3s
MVO *e*S **S 03 25 31.4 +0.7**
MVO Moncorvo 77.87 48 *e*LR LR 03 40 28.9
comp=Z,4µm,18.0s
BMRM Bremner River 77.90 333 P **P 03 15 39.2 +1.5**
BMRM IAmb IAmb 03 15 46.1
comp=Z,70nm,0.9s
BMRM IAMs_20 IAMs_20 03 49 19.9
comp=Z,4µm,21.0s
BMRM Bremner River 77.90 333 P **P 03 15 36.1 -1.6**
baz=113,SNR=28
BMRM S **S 03 25 31.0 +0.8**
baz=113
GOLM Goulmima 77.96 58 P **P 03 15 41.0 +2.2**
IFR Ifrane 78.07 56 P **P 03 15 38.7 -0.7**
IFR S **S 03 25 36.5 +3.1**
CZD Col de Zad 78.07 56 P **P 03 15 42.0 +2.4**
EGAK Eagle 78.09 338 IAmb IAmb 03 15 46.8
comp=Z,85nm,0.9s
EGAK IAMs_20 IAMs_20 03 49 20.6
comp=Z,3µm,20.0s
EGAK Eagle 78.09 338 P **P 03 15 38.6 0.0**
baz=117
Q23K Middleton Isla 78.12 332 P **P 03 15 38.7 -0.1**
baz=111
Q23K S **S 03 25 33.5 +1.1**
baz=111
CHEFC Chefchaouen 78.13 54 P **P 03 15 42.0 +2.4**
N25K Chitina, Valde 78.15 334 IAmb IAmb 03 15 47.6
comp=Z,132nm,1.7s
N25K IAMs_20 IAMs_20 03 55 22.3
comp=Z,2µm,18.0s
N25K Chitina, Valde 78.15 334 P **P 03 15 37.5 -1.7**
baz=113,SNR=26
N25K S **S 03 25 33.5 +0.5**
baz=113
SMIR Smir Dam 78.19 54 P **P 03 15 42.0 +2.2**
L26K Log Cabin Wild 78.20 336 IAMs_20 IAMs_20 03 52 44.4
comp=Z,3µm,18.0s
L26K Log Cabin Wild 78.20 336 P **P 03 15 38.9 -0.4**
baz=115,SNR=13
L26K S **S 03 25 34.8 +1.5**
baz=115
PBRG Braganca 78.20 47 *e*P **P 03 15 40.0 +0.2**
comp=Z,150nm,1.4s
VAL Valentia 78.22 37 P **P 03 15 40.5 +1.0**
EYAK Cordova Ski Ar 78.26 333 P **P 03 15 38.0 -1.5**
baz=112
EYAK S **S 03 25 34.3 +0.4**
baz=112
MENT Mentasta 78.31 335 IAmb IAmb 03 15 48.0
comp=Z,108nm,1.6s
LCRM LCR 78.32 56 P **P 03 15 43.0 +2.2**
KIP Kipapa 78.38 292 IAMs_20 IAMs_20 03 47 05.6
comp=Z,3µm,18.0s
MDT Midelt 78.40 57 LR LR 03 49 29.0
comp=Z,3µm,18.9s,baz=274,slow=35
MDT Midelt 78.40 57 P **P 03 15 43.5 +2.3**
KLU Klutina 78.69 334 IAmb IAmb 03 15 50.1
comp=Z,57nm,1.0s
KLU IAMs_20 IAMs_20 03 55 41.6
comp=Z,2µm,20.0s
KLU Klutina 78.69 334 P **P 03 15 41.3 -0.8**
baz=112,SNR=21
KLU S **S 03 25 38.3 -0.4**
baz=112
HARP HAARP 78.70 335 P **P 03 15 41.7 -0.4**
baz=113
HARP S **S 03 25 40.1 +1.3**
baz=113
DOT Dot Lake 78.75 336 P **P 03 15 43.7 +1.4**
DOT IAmb IAmb 03 15 50.4
comp=Z,137nm,1.6s
SCRK Sand Creek 78.85 336 IAmb IAmb 03 15 51.2
comp=Z,63nm,1.4s
SCRK IAMs_20 IAMs_20 03 52 26.8
comp=Z,2µm,20.0s
SCRK Sand Creek 78.85 336 P **P 03 15 43.1 +0.1**
baz=114,SNR=26
SCRK S **S 03 25 42.3 +1.8**
baz=114
J26L Joseph Creek 78.91 337 P **P 03 15 42.2 -1.1**
baz=115,SNR=38
J26L S **S 03 25 43.4 +2.4**
baz=115
PVLZ Peæn de 78.98 54 P **P 03 15 41.4 -2.7**
PVLZ S **S 03 25 41.2 -1.5**
GLI Glacier Island 78.99 333 IAMs_20 IAMs_20 03 52 48.7
comp=Z,4µm,20.0s
GLI Glacier Island 78.99 333 P **P 03 15 43.8 +0.1**
baz=111
GLI S **S 03 25 41.6 -0.2**
baz=111
M24K Tolsona, Glenn 79.03 334 IAMs_20 IAMs_20 03 54 37.6
comp=Z,2µm,20.0s
M24K Tolsona, Glenn 79.03 334 P **P 03 15 44.6 +0.7**
baz=112,SNR=21
M24K S **S 03 25 42.1 -0.2**
baz=112
PAX Paxson 79.06 335 IAmb IAmb 03 15 52.7
comp=Z,169nm,1.7s
PAX Paxson 79.06 335 P **P 03 15 43.0 -1.1**
baz=113,SNR=42
PAX S **S 03 25 42.3 -0.4**
baz=113
RIDG Independent Ri 79.11 336 IAmb IAmb 03 15 52.5
comp=Z,153nm,1.7s
RIDG Independent Ri 79.11 336 P **P 03 15 45.0 +0.7**
baz=113,SNR=24
RIDG S **S 03 25 43.9 +0.8**
baz=113
AKLM AKL 79.25 55 P **P 03 15 47.0 +1.3**
PALE Palemas 79.28 54 P **P 03 15 48.0 +2.1**
SCM Sheep Creek Mo 79.44 334 IAmb IAmb 03 15 54.1
comp=Z,71nm,0.8s
SCM IAMs_20 IAMs_20 03 56 14.4
comp=Z,3µm,19.0s
SCM Sheep Creek Mo 79.44 334 P **P 03 15 44.2 -2.0**
baz=111,SNR=16
SCM S **S 03 25 44.9 -1.8**
baz=111
K24K Donnelly Dome 79.51 336 P **P 03 15 46.3 -0.2**
baz=113,SNR=13
K24K S **S 03 25 47.8 +0.4**
baz=113
PWL Port Wells 79.56 333 IAMs_20 IAMs_20 03 53 28.5
comp=Z,4µm,18.0s
PWL Port Wells 79.56 333 P **P 03 15 46.6 -0.2**
baz=110,SNR=15
PWL S **S 03 25 48.0 +0.1**
baz=110
PAB San Pablo 79.60 50 P **P 03 15 48.0 +0.4**
PAB pmax pmax
comp=Z,66nm,1.0s
PAB MLR MLR
comp=Z,4µm,18.0s
PAB San Pablo 79.60 50 P **P 03 15 48.0 +0.4**
PAB IAmb IAmb 03 15 51.0
comp=Z,66nm,0.9s
PAB San Pablo 79.60 50 P **P 03 15 49.2 +1.6**
M23K Glacier View 79.60 334 P **P 03 15 46.0 -1.1**
baz=110,SNR=13
M23K S **S 03 25 47.4 -0.9**
baz=110
J25K Salcha River, 79.66 337 IAmb IAmb 03 15 55.5
comp=Z,80nm,1.4s
J25K IAMs_20 IAMs_20 03 53 13.1
comp=Z,2µm,19.0s
J25K Salcha River, 79.66 337 P **P 03 15 47.2 -0.2**
baz=113
J25K S **S 03 25 49.9 +1.0**
baz=113
RAR Rarotonga 79.79 249 LR LR 03 44 02.8
comp=Z,5µm,18.1s,baz=63,slow=30
KNK Knik Glacier 79.80 333 IAMs_20 IAMs_20 03 53 60.0
comp=Z,3µm,21.0s
KNK Knik Glacier 79.80 333 P **P 03 15 47.0 -1.1**
baz=110,SNR=14
KNK S **S 03 25 50.7 +0.2**
baz=110
SEW Seward 79.83 332 IAmb IAmb 03 15 55.7
comp=Z,60nm,1.0s
SEW Seward 79.83 332 P **P 03 15 47.2 -1.0**
baz=109
SEW S **S 03 25 50.8 +0.2**
baz=109
SML Sawmill 79.88 333 IAMs_20 IAMs_20 03 56 27.8
comp=Z,4µm,19.0s
SML Sawmill 79.88 333 P **P 03 15 47.4 -1.1**
baz=110,SNR=16
SML S **S 03 25 51.9 +0.6**
baz=110
WAT6 Susitna Watana 79.89 334 P **P 03 15 48.4 -0.4**
baz=111,SNR=43
WAT6 S **S 03 25 49.2 -2.4**
baz=111
DHY Denali Highway 79.91 335 IAMs_20 IAMs_20 03 52 34.7
comp=Z,2µm,21.0s
DHY Denali Highway 79.91 335 P **P 03 15 48.8 0.0**
baz=111,SNR=13
DHY S **S 03 25 50.7 -1.1**
baz=111
ESDC Sonseca Array 79.91 50 P **P 03 15 49.0 -0.2**
comp=Z,37nm,0.9s,baz=267,slow=5.5,SNR=99
ESDC LR LR 03 50 47.3
comp=Z,2µm,18.1s,baz=250,slow=36
ESDC Sonseca Array 79.91 50 IAmb IAmb 03 15 52.9
comp=Z,81nm,1.2s
GOG Mont Gurugu 80.05 54 P **P 03 15 53.0 +2.9**
O22K Cooper Landing 80.08 332 IAmb IAmb 03 17 01.9
comp=Z,58nm,0.9s
O22K IAMs_20 IAMs_20 03 56 55.4
comp=Z,3µm,21.0s
O22K Cooper Landing 80.08 332 P **P 03 15 49.4 -0.2**
baz=108
O22K S **S 03 25 52.7 -0.6**
baz=108
GHO Glory Hole Cre 80.13 333 IAmb IAmb 03 15 59.0
comp=Z,74nm,1.0s
GHO IAMs_20 IAMs_20 03 51 31.6
comp=Z,4µm,21.0s
PMR Palmer 80.16 333 P **P 03 15 49.8 -0.1**
baz=109,SNR=10
PMR S **S 03 25 54.0 -0.1**
baz=109
SCO Scoresbysund 80.20 17 IAMs_20 IAMs_20 03 51 44.7
comp=Z,3µm,19.0s
SCO Scoresbysund 80.20 17 *i* P **P 03 15 49.4 -0.6**
SCO IAmb IAmb 03 16 21.2
comp=Z,3.8nm,0.9s
RC01 Rabbit Creek A 80.28 333 IAmb IAmb 03 15 58.4
comp=Z,48nm,0.8s
RC01 IAMs_20 IAMs_20 03 53 39.6
comp=Z,4µm,20.0s
RC01 Rabbit Creek A 80.28 333 P **P 03 15 49.9 -0.8**
baz=108,SNR=32
RC01 S **S 03 25 53.8 -1.6**
baz=108
JBK JBK 80.29 55 P **P 03 15 53.0 +1.4**
WAT1 Susitna Watana 80.32 334 P **P 03 15 50.1 -0.8**
baz=110
WAT1 S **S 03 25 54.9 -1.1**
baz=110
ILAR Eielson Array 80.33 337 P **P 03 15 51.6 +0.8**
comp=Z,12nm,1.0s,baz=127,slow=3.6,SNR=58
ILAR LR LR 03 53 30.7
comp=Z,3µm,20.0s,baz=122,slow=37
ILAR Eielson Array 80.33 337 P **P 03 15 52.4 +1.5**
ILAR Eielson Array 80.33 337 P **P 03 15 52.4 +1.5**
BRSE Bradley Lake S 80.33 331 P **P 03 15 51.6 +0.6**
baz=107,SNR=15
BRSE S **S 03 25 55.4 -0.7**
baz=107
BRLK Bradley Lake 80.41 331 IAmb IAmb 03 15 59.1
comp=Z,50nm,0.8s
TAF Taforalt 80.47 55 P **P 03 15 54.0 +1.6**
CNPM China Poot 80.51 331 IAMs_20 IAMs_20 03 50 54.9
comp=Z,2µm,21.0s
FIS Fire Island 80.52 333 IAMs_20 IAMs_20 03 53 36.9
comp=Z,3µm,20.0s
UCM Universidad Co 80.56 49 P **P 03 15 51.0 -1.7**
UCM S **S 03 26 01.9 +2.6**
TDRA Tendrara 80.58 57 P **P 03 15 55.0 +1.8**
CCB Clear Creek Bu 80.65 336 IAMs_20 IAMs_20 03 52 57.2
comp=Z,3µm,21.0s
RND Reindeer 80.65 335 IAmb IAmb 03 16 01.7
comp=Z,51nm,0.9s
RND IAMs_20 IAMs_20 03 53 07.4
comp=Z,4µm,19.0s
M22K Willow 80.66 333 IAmb IAmb 03 16 01.7
comp=Z,61nm,0.8s
M22K IAMs_20 IAMs_20 03 51 47.8
comp=Z,4µm,21.0s
M22K Willow 80.66 333 P **P 03 15 53.1 +0.4**
baz=108
M22K S **S 03 25 59.4 +0.1**
baz=108
POKR Poker Plat Res 80.67 337 IAMs_20 IAMs_20 03 53 41.7
comp=Z,3µm,19.0s
POKR Poker Plat Res 80.67 337 P **P 03 15 51.7 -1.0**
baz=111
POKR S **S 03 25 58.9 -0.5**
baz=111
KDAK Kodiak Island 80.70 329 P **P 03 15 52.5 -0.5**
comp=Z,7.7nm,0.8s,baz=256,slow=2.5,SNR=7.6
KDAK Kodiak Island 80.70 329 IAmb IAmb 03 16 07.5
comp=Z,120nm,1.9s
KDAK Kodiak Island 80.70 329 P **P 03 15 52.7 -0.2**
baz=106
KDAK S **S 03 26 01.2 +1.3**
baz=106
HOM Homer 80.75 331 P **P 03 15 53.0 -0.2**
baz=107
HOM S **S 03 26 01.0 +0.6**
baz=107
COLA College 80.75 336 *i* P **P 03 15 54.4 +1.4**
COLA pmax pmax
comp=Z,45nm,1.3s
COLA College 80.75 336 P **P 03 15 55.2 +2.1**
COLA College 80.75 336 IAMs_20 IAMs_20 03 53 22.1
comp=Z,3µm,21.0s
COLA College 80.75 336 P **P 03 15 53.3 +0.2**
baz=111
COLA S **S 03 25 59.6 -0.5**
baz=111
TCOL CIGO, UAF Yank 80.75 336 IAMs_20 IAMs_20 03 55 21.9
comp=Z,3µm,18.0s
TCOL CIGO, UAF Yank 80.75 336 P **P 03 15 52.7 -0.4**
baz=111
TCOL S **S 03 25 58.2 -2.0**
baz=111
MCK McKinley 80.79 335 IAMs_20 IAMs_20 03 52 45.1
comp=Z,3µm,19.0s
MCK McKinley 80.79 335 P **P 03 15 52.6 -0.8**
baz=110,SNR=23
MCK S **S 03 26 00.4 -0.4**
baz=110
CAPN Captain Cook N 80.84 332 P **P 03 15 52.3 -1.3**
baz=107
CAPN S **S 03 26 04.2 +3.0**
baz=107
OHAK Old Harbor 80.92 328 P **P 03 15 53.6 -0.6**
baz=105
OHAK S **S 03 26 02.7 +0.5**
baz=105
MDM Murphy Dome 80.93 337 IAmb IAmb 03 16 01.9
comp=Z,84nm,1.5s
MDM IAMs_20 IAMs_20 03 53 26.6
comp=Z,3µm,20.0s
CUT Chulitna 80.93 334 IAMs_20 IAMs_20 03 52 00.9
comp=Z,3µm,22.0s
CUT Chulitna 80.93 334 P **P 03 15 54.2 +0.1**
baz=108
CUT S **S 03 25 59.7 -2.5**
baz=108
H24K Noodor Dome 81.11 337 IAmb IAmb 03 16 03.1
comp=Z,80nm,1.2s
H24K IAMs_20 IAMs_20 03 50 07.2
comp=Z,3µm,19.0s
H24K Noodor Dome 81.11 337 P **P 03 15 54.9 -0.2**
baz=111,SNR=30
H24K S **S 03 26 04.8 +0.7**
baz=111
FIGM Figuig 81.13 58 P **P 03 15 58.1 +2.1**
NEA2 Nenana 81.14 336 IAMs_20 IAMs_20 03 54 39.2
comp=Z,2µm,18.0s
NEA2 Nenana 81.14 336 P **P 03 15 53.6 -1.6**
baz=110,SNR=12
NEA2 S **S 03 26 03.3 -1.0**
baz=110
BWN Browne 81.16 336 IAMs_20 IAMs_20 03 53 11.0
comp=Z,2µm,20.0s
TRF Thorofare Moun 81.27 335 IAmb IAmb 03 16 04.7
comp=Z,52nm,1.1s
TRF IAMs_20 IAMs_20 03 53 03.8
comp=Z,3µm,20.0s
TRF Thorofare Moun 81.27 335 P **P 03 15 55.2 -1.0**
baz=108,SNR=19
TRF S **S 03 26 03.7 -2.4**
baz=108
BELA Belgrano 2 81.28 171 P **P 03 15 56.5 +0.8**
BELA IAmb IAmb 03 16 04.5

comp=Z,66nm,1.2s
O20K Slope Mountain 81.34 331 P **P** **03 15 57.2 +0.8**
baz=106
O20K S **S** **03 26 06.8 +0.1**
baz=106
I23K Minto, Yukon-K 81.44 337 IAmb IAmb 03 16 05.5
comp=Z,85nm,1.4s
I23K IAMs_20 IAMs_20 03 53 32.2
comp=Z,3µm,19.0s
I23K Minto, Yukon-K 81.44 337 P **P** **03 15 56.6 -0.1**
baz=110,SNR=24
I23K S **S** **03 26 06.3 -1.1**
baz=110
SPCR Spurr Chakacha 81.45 332 P **P** **03 15 56.7 -0.3**
baz=106,SNR=14
SPCR S **S** **03 26 06.9 -1.0**
baz=106
Q19K Cape Douglas, 81.54 330 IAmb IAmb 03 16 06.8
comp=Z,31nm,0.7s
Q19K IAMs_20 IAMs_20 03 59 19.1
comp=Z,2µm,20.0s
Q19K Cape Douglas, 81.54 330 P **P** **03 15 56.5 -0.9**
baz=105
Q19K S **S** **03 26 08.4 -0.3**
baz=105
KTH Kantishna Hill 81.58 335 IAmb IAmb 03 16 04.4
comp=Z,56nm,1.2s
KTH IAMs_20 IAMs_20 03 53 11.8
comp=Z,3µm,20.0s
H23K Yukon River 81.74 337 IAmb IAmb 03 16 06.2
comp=Z,88nm,1.9s
H23K IAMs_20 IAMs_20 03 53 22.1
comp=Z,2µm,20.0s
H23K Yukon River 81.74 337 P **P** **03 15 57.6 -0.8**
baz=109,SNR=14
H23K S **S** **03 26 10.3 -0.3**
baz=109
BPAW Bear Paw Mtn. 81.77 335 P **P** **03 15 56.3 -2.3**
baz=108,SNR=28
BPAW S **S** **03 26 09.1 -1.9**
baz=108
PPLA Purkeypile 81.93 334 P **P** **03 15 57.7 -1.9**
baz=106,SNR=45
PPLA S **S** **03 26 11.0 -1.8**
baz=106
CART Cartagena 81.94 52 P **P** **03 15 55.6 -4.4**
CART S **S** **03 26 15.3 +1.8**
CAST Castle Rocks 82.03 334 IAMs_20 IAMs_20 03 53 48.9
comp=Z,2µm,21.0s
CAST Castle Rocks 82.03 334 P **P** **03 15 58.8 -1.1**
baz=107,SNR=71
CAST S **S** **03 26 11.0 -2.7**
baz=107
O19K Port Alsworth 82.19 331 IAmb IAmb 03 16 07.7
comp=Z,100nm,1.8s
O19K IAMs_20 IAMs_20 03 56 06.3
comp=Z,2µm,20.0s
O19K Port Alsworth 82.19 331 P **P** **03 15 59.1 -1.7**
baz=104
O19K S **S** **03 26 13.7 -1.5**
baz=104
CHUM Lake Minchumin 82.27 335 P **P** **03 15 59.5 -1.7**
baz=107,SNR=13
CHUM S **S** **03 26 14.1 -1.8**
baz=107
N19K Bonanza Creek 82.42 332 IAmb IAmb 03 16 09.1
comp=Z,89nm,1.8s
N19K IAMs_20 IAMs_20 03 58 30.4
comp=Z,3µm,19.0s
N19K Bonanza Creek 82.42 332 P **P** **03 16 01.1 -1.0**
baz=104,SNR=8.9
N19K S **S** **03 26 14.9 -2.9**
baz=104
P18K Big Mountain, 82.44 330 IAmb IAmb 03 16 10.0
comp=Z,56nm,1.4s
P18K Big Mountain, 82.44 330 P **P** **03 16 00.1 -2.1**
baz=103
P18K S **S** **03 26 16.1 -1.9**
baz=103
COLD Coldfoot 82.46 338 IAmb IAmb 03 16 10.9
comp=Z,66nm,1.4s
COLD Coldfoot 82.46 338 P **P** **03 16 02.5 +0.4**
baz=109,SNR=15
COLD S **S** **03 26 19.2 +1.4**
baz=109
I21K Tanana 82.51 336 IAmb IAmb 03 16 10.6
comp=Z,40nm,1.1s
I21K IAMs_20 IAMs_20 03 52 24.3
comp=Z,3µm,19.0s
I21K Tanana 82.51 336 P **P** **03 16 02.2 -0.2**
baz=107,SNR=14
I21K S **S** **03 26 15.9 -2.4**
baz=107
O18K Koktuh Hills 82.54 331 IAmb IAmb 03 16 10.9
comp=Z,110nm,1.6s
O18K Koktuh Hills 82.54 331 P **P** **03 16 01.2 -1.5**
baz=104
O18K S **S** **03 26 16.6 -2.3**
baz=104
DBG Daneborg 82.54 14 *i* P **P** **03 16 03.6 +1.2**
DBG IVmB_BB 03 16 05.8
comp=Z,829nm,8.0s
L20K Farewell, AK 82.56 333 P **P** **03 16 02.2 -0.6**
baz=105,SNR=29
L20K S **S** **03 26 16.8 -2.4**
baz=105
TOA0 Torodi Ar. Sit 82.57 77 P **P** **03 16 03.9 +0.1**
TOA0 Torodi Ar. Sit 82.57 77 P **P** **03 16 02.9 -0.9**
SNR=18
TOA0 P **P** **03 16 02.9 -0.9**
SNR=18
TORD Torodi Ar. Bea 82.57 77 P **P** **03 16 02.3 -1.4**
comp=Z,24nm,0.9s,baz=298,slow=6.2,SNR=47
TORD LR LR 03 50 23.8
comp=Z,12µm,21.4s,baz=253,slow=34
TORD Torodi Ar. Bea 82.57 77 P **P** **03 16 03.9 +0.1**
M19K Big River Lodg 82.65 333 P **P** **03 16 04.4 +1.2**
M19K IAmb IAmb 03 16 11.6
comp=Z,36nm,0.9s
M19K IAMs_20 IAMs_20 03 52 10.5
comp=Z,4µm,22.0s
M19K Big River Lodg 82.65 333 P **P** **03 16 02.6 -0.6**
baz=104
M19K S **S** **03 26 19.1 -0.9**
baz=104
TOLK Toolik Lake Re 82.70 340 IAMs_20 IAMs_20 03 56 25.3
comp=Z,3µm,18.0s
TOLK Toolik Lake Re 82.70 340 P **P** **03 16 02.9 -0.5**
baz=110
TOLK S **S** **03 26 21.1 +0.6**
baz=110
K20K Telida 82.88 334 IAMs_20 IAMs_20 03 53 24.2
comp=Z,3µm,21.0s
K20K Telida 82.88 334 P **P** **03 16 04.4 0.0**
baz=105,SNR=28
K20K S **S** **03 26 19.8 -2.5**
baz=105
L19K White Mountain 82.93 333 IAmb IAmb 03 16 11.9
comp=Z,37nm,1.1s
L19K IAMs_20 IAMs_20 03 55 26.7
comp=Z,3µm,19.0s
L19K White Mountain 82.93 333 P **P** **03 16 03.8 -0.9**
baz=104,SNR=15
L19K S **S** **03 26 20.9 -2.0**
baz=104
H21K Melozitna Rive 82.97 337 IAMs_20 IAMs_20 03 57 00.6
comp=Z,3µm,20.0s
H21K Melozitna Rive 82.97 337 P **P** **03 16 03.7 -1.1**
baz=106
H21K S **S** **03 26 23.0 -0.2**
baz=106
N18K Kilae Creek 83.06 331 IAMs_20 IAMs_20 04 00 02.3
comp=Z,2µm,20.0s
N18K Kilae Creek 83.06 331 P **P** **03 16 03.3 -2.1**
baz=103,SNR=15
N18K S **S** **03 26 22.3 -1.9**
baz=103
ESK Eskdalemuir 83.07 34 P **P** **03 16 06.1 +0.6**
ESK pmax pmax
comp=Z,88nm,1.2s
ESK MLR MLR
comp=Z,3µm,21.0s
ESK Eskdalemuir 83.07 34 P **P** **03 16 06.1 +0.6**
ESK IAmb IAmb 03 16 08.0
comp=Z,88nm,1.2s
ESK Eskdalemuir 83.07 34 IAMs_20 IAMs_20 03 52 25.9
comp=Z,3µm,21.0s
EKA Eskdalemuir Ar 83.10 34 LR LR 03 52 00.8
comp=Z,6µm,19.1s,baz=264,slow=35
J20K Nowinta River 83.12 335 IAMs_20 IAMs_20 04 00 19.7
comp=Z,2µm,19.0s
J20K Nowinta River 83.12 335 P **P** **03 16 03.6 -2.0**
baz=105,SNR=24
J20K S **S** **03 26 22.4 -2.3**
baz=105
EANR 'Ain N'Sour 83.45 54 P **P** **03 16 09.2 +1.2**
TTA Tatalina 83.63 334 P **P** **03 16 06.2 -2.2**
baz=103,SNR=13
TTA S **S** **03 26 27.7 -2.3**
baz=103
MFF Saint Martin d 83.65 43 *eP* **P** **03 16 08.2 -0.5**
MFF pmax pmax
comp=Z,49nm,0.9s
VNA3 Neumayer Olymp 83.67 162 P **P** **03 16 08.8 +0.5**
DAG Danmarks Havn 84.06 12 *i* P **P** **03 16 09.0 -1.2**
DAG IVmB_BB 03 16 12.1
comp=Z,1µm,7.6s
LFF La Frestale 84.07 45 *eP* **P** **03 16 10.4 -0.5**
LFF pmax pmax
comp=Z,50nm,0.9s
VNA2 Neumayer--Watz 84.29 162 P **P** **03 16 12.0 +0.6**
baz=297,slow=5.0
GCSA Galena City Sc 84.41 335 P **P** **03 16 11.0 -1.1**
baz=102,SNR=12
GCSA S **S** **03 26 36.3 -1.2**
baz=102
SDPT Sand Point 84.46 326 S **S** **03 26 38.8 +0.3**
baz=98
JMIC Jan Mayen 84.48 18 LR LR 03 51 31.8
comp=Z,1µm,21.4s,baz=248,slow=34
EMHD Djebel Mahouad 84.96 54 P **P** **03 16 20.4 +4.6**
CAF Calviac 85.00 45 *eP* **P** **03 16 15.2 -0.5**
CAF pmax pmax
comp=Z,65nm,1.2s
ADJB Djebel Djouab 85.35 54 P **P** **03 16 19.6 +1.9**
CLF Chambon-Foret 85.43 42 IAMs_20 IAMs_20 03 52 44.4
comp=Z,3µm,20.0s
AKET Djebel Ketaf 85.70 54 P **P** **03 16 20.7 +1.2**
A21K Barrow 85.80 342 S **S** **03 26 51.4 +0.4**
baz=103
SNAA Sanae 85.89 162 P **P** **03 16 19.7 +0.1**
SNAA Sanae 85.89 162 LR LR 03 56 17.1
comp=Z,1µm,18.7s,baz=294,slow=37
SNAA Sanae 85.89 162 *ceP* **P** **03 16 21.1 +1.5**
SNAA pmax pmax
comp=Z,98nm,2.5s
SNAA Sanae 85.89 162 P **P** **03 16 20.5 +0.9**
SNAA IAmb IAmb 03 16 28.0
comp=Z,36nm,1.0s
ATAF Djebel Tarf 86.01 54 P **P** **03 16 22.6 +1.6**
MAHO Mahon 86.24 50 P **P** **03 16 20.5 -1.4**
MAHO S **S** **03 26 58.0 +1.3**
NOR Nord 86.57 8 *i* P **P** **03 16 21.9 -0.8**
NOR IVmB_BB 03 16 25.8
comp=Z,1µm,6.9s
SSB Saint Sauveur 86.78 45 IAmb IAmb 03 16 28.0
comp=Z,38nm,1.1s
SSB Saint Sauveur 86.78 45 IAMs_20 IAMs_20 03 53 40.2
comp=Z,3µm,20.0s
SNF Seneffe 86.96 40 *dx* x 03 16 27.5
DOU Dourbes 87.13 40 *dP* **P** **03 16 26.4 +0.5**
comp=Z,43nm,1.0s
BMRD Maredsous 87.25 40 *dP* **P** **03 16 27.1 +0.5**
comp=Z,21nm,1.1s
DFRA Djebel Bou Aff 87.34 54 P **P** **03 16 28.7 +1.2**
RDOG Red Dog Mine 87.37 338 IAMs_20 IAMs_20 03 59 58.7
comp=Z,2µm,18.0s
RDOG Red Dog Mine 87.37 338 P **P** **03 16 24.4 -2.4**
baz=97,SNR=12
RDOG S **S** **03 27 06.0 -0.6**
baz=97
BGES Gesves 87.46 40 *dP* **P** **03 16 27.5 -0.1**
comp=Z,24nm,1.0s
RCHB Rochefort 87.54 40 *dP* **P** **03 16 28.6 +0.6**
comp=Z,34nm,1.0s
BCLA Clavier 87.60 40 *dP* **P** **03 16 29.0 +0.7**
comp=Z,18nm,1.2s
TROLL Troll, Antarti 87.61 162 P **P** **03 16 28.4 +0.4**
CTEI Djebel Teioual 87.75 54 P **P** **03 16 29.8 +0.3**
BSTI Sant Tilman 87.78 40 *dP* **P** **03 16 30.1 +1.0**
comp=Z,8.2nm,1.1s
UNV Unalaska Valle 87.79 324 P **P** **03 16 28.1 -0.9**
baz=93
UNV S **S** **03 27 11.8 +0.7**
baz=93
BEBN Eben Emael 87.86 39 *dP* **P** **03 16 29.2 -0.3**
ANM Nome 87.99 335 P **P** **03 16 31.2 +1.4**
ANM pmax pmax
comp=Z,31nm,1.2s
ANM Nome 87.99 335 P **P** **03 16 31.2 +1.4**
ANM IAmb IAmb 03 16 38.1
comp=Z,31nm,1.2s
ANM IAMs_20 IAMs_20 04 00 48.4
comp=Z,3µm,18.0s
ANM Nome 87.99 335 P **P** **03 16 29.4 -0.5**
baz=95,SNR=10
ANM S **S** **03 27 14.4 +1.8**
baz=95
BHOU Houvegnez 88.05 40 *dP* **P** **03 16 31.3 +0.8**
comp=Z,17nm,1.1s
MEM Membach 88.06 40 *dP* **P** **03 16 31.8 +1.3**
WLF Walferdange 88.11 40 IAMs_20 IAMs_20 04 00 47.3
comp=Z,3µm,18.0s
WLF Walferdange 88.11 40 *eP* **P** **03 16 32.0 +1.3**
comp=Z,64nm,1.1s,baz=271,slow=4.7
WLF Walferdange 88.11 40 *d*PcP **PcP** **03 16 33.4 +0.9**
CAEH 'Ain El Ouahch 88.13 53 P **P** **03 16 31.6 +0.5**
BTNL Ternell 88.14 40 *dP* **P** **03 16 32.0 +1.1**
comp=Z,12nm,1.3s
BNI Bardonecchia 88.28 45 IAmb IAmb 03 16 35.6
comp=Z,56nm,1.6s
BNI IAMs_20 IAMs_20 03 56 16.8
comp=Z,3µm,20.0s
LPL La Plagne 88.33 45 *eP* **P** **03 16 33.7 +1.5**
LPL pmax pmax
comp=Z,33nm,1.3s
ECH Echery 88.72 42 IAmb IAmb 03 16 36.8
comp=Z,62nm,1.3s
ECH IAMs_20 IAMs_20 03 56 48.4
comp=Z,2µm,18.0s
AHRW Bad Neuenahr-A 88.74 40 *eP* **P** **03 16 34.6 +0.9**
comp=Z,30nm,1.2s,baz=271,slow=4.7
SENIN Lac Senin/Sane 88.75 44 IAmb IAmb 03 16 37.8
comp=Z,54nm,1.5s
SENIN IAMs_20 IAMs_20 04 01 04.4
comp=Z,3µm,18.0s
BUG Bochum--Univer 88.89 39 *eP* **P** **03 16 34.8 +0.5**
comp=Z,20nm,1.2s,baz=271,slow=4.7
TNA Tin City 89.14 335 IAmb IAmb 03 16 43.9
comp=Z,34nm,1.1s
TNA Tin City 89.14 335 P **P** **03 16 34.7 -0.5**
baz=92
TNA S **S** **03 27 24.7 +1.3**
baz=92
IBBN Ibbenburen 89.22 38 *eP* **P** **03 16 36.7 +0.9**
comp=Z,150nm,2.0s,baz=271,slow=4.7
BFO Black Forest 89.50 42 P **P** **03 16 38.4 +1.0**
BFO pmax pmax
comp=Z,36nm,1.7s
BFO Black Forest 89.50 42 P **P** **03 16 38.4 +1.0**
BFO IAMs_20 IAMs_20 03 54 37.1
comp=Z,2µm,20.0s
TNS Taunus Mts 89.61 40 *eP* **P** **03 16 38.5 +0.7**
comp=Z,56nm,1.6s,baz=271,slow=4.7
QSPA South Pole Qui 89.77 180 P **P** **03 16 39.9 +1.5**
QSPA IAmb IAmb 03 16 47.7
comp=Z,39nm,0.8s
QSPA South Pole Qui 89.77 180 IAMs_20 IAMs_20 04 02 37.9
comp=Z,3µm,21.0s
STU Stuttgart 90.08 41 P **P** **03 16 40.9 +0.9**
STU pmax pmax
comp=Z,74nm,1.7s
STU MLR MLR
comp=Z,2µm,20.0s
STU Stuttgart 90.08 41 P **P** **03 16 40.9 +0.9**
STU IAmb IAmb 03 17 06.1
comp=Z,74nm,1.7s
STU IAMs_20 IAMs_20 03 57 31.5
comp=Z,2µm,20.0s
STU Stuttgart 90.08 41 *eP* **P** **03 16 40.6 +0.6**
comp=Z,63nm,1.2s,baz=271,slow=4.7
KEST Kesra 90.13 54 P **P** **03 16 41.5 +0.8**
comp=Z,23nm,0.9s,baz=251,slow=2.6,SNR=20
KEST LR LR 03 58 50.5
comp=Z,3µm,18.1s,baz=216,slow=37
KEST Kesra 90.13 54 IAmb IAmb 03 16 43.5
comp=Z,38nm,1.0s
KEST Kesra 90.13 54 P **P** **03 16 42.3 +1.7**
SNR=5.3
KEST P **P** **03 16 42.3 +1.7**
SNR=5.3
VSL Villasalto 90.17 51 IAmb IAmb 03 16 44.3
comp=Z,66nm,1.0s
VSL IAMs_20 IAMs_20 03 50 38.1
comp=Z,2µm,22.0s
RETH Rethem/Aller, 90.20 37 *eP* **P** **03 16 41.6 +1.1**
comp=Z,22nm,1.1s,baz=271,slow=4.7
KONO Kongsberg 90.35 31 IAMs_20 IAMs_20 03 59 47.2
comp=Z,3µm,19.0s
DAVA Damuels 90.54 43 *i* P **P** **03 16 44.1 +1.7**
comp=Z,28nm,1.0s,SNR=12
UBR Ueberruh 90.69 43 *eP* **P** **03 16 43.9 +0.9**
comp=Z,122nm,1.8s,baz=271,slow=4.7
GAMB Gambell 90.73 334 IAMs_20 IAMs_20 04 05 02.0
comp=Z,2µm,19.0s
GAMB Gambell 90.73 334 S **S** **03 27 37.9 -0.4**
baz=89
KBS Kingsbay 90.77 11 *ceP* **P** **03 16 46.1 +3.5**
KBS pmax pmax
comp=Z,71nm,2.5s
CLZ Clausthal 90.83 38 *eP* **P** **03 16 44.9 +1.5**
baz=271,slow=4.7
ASSE Asse, Remlinge 91.01 38 *eP* **P** **03 16 45.5 +1.4**
baz=271,slow=4.7
AFI Afiamalu 91.06 256 LR LR 03 48 02.2
comp=Z,3µm,21.5s,baz=74,slow=29
FETA Feichten 91.12 43 *i* P **P** **03 16 45.9 +0.8**
comp=Z,37nm,1.2s,SNR=15
NOA NORSAR Array B 91.13 29 P **P** **03 16 44.6 -0.1**
comp=Z,3.2nm,1.0s,baz=269,slow=4.6,SNR=3.4
NOA LR LR 03 54 13.2
comp=Z,932nm,21.2s,baz=270,slow=33
RETA Reutte 91.14 43 *i* P **P** **03 16 46.4 +1.3**
comp=Z,19nm,1.2s,SNR=12
CASP Castiglione de 91.28 47 IAmb IAmb 03 16 48.4
comp=Z,63nm,1.3s
ZCCA Zocca 91.33 46 IAmb IAmb 03 16 49.2
comp=Z,61nm,1.2s
MOTA Moosalm 91.37 43 *i* P **P** **03 16 46.9 +0.7**
comp=Z,26nm,1.2s,SNR=12
GRFO Grafenberg 91.40 40 IAMs_20 IAMs_20 04 02 23.4
comp=Z,2µm,19.0s
GRA1 Grafenberg Arr 91.40 40 IAMs_20 IAMs_20 04 01 21.4
comp=Z,2µm,20.0s
GRF Grafenberg Arr 91.40 40 *eL* L 04 10 12.5
comp=Z,2µm,19.9s
SQTA Sankt Quirin 91.44 43 *i* P **P** **03 16 48.1 +1.5**
comp=Z,21nm,1.0s,SNR=8.7
OSSC Osservatorio P 91.54 47 P **P** **03 16 49.0 +2.1**
MOX Moxa 91.63 40 P **P** **03 16 49.2 +2.0**
MOX pmax pmax
comp=Z,6.0nm,2.8s
MOX Moxa 91.63 40 *eL* L 03 54 51.3
comp=Z,2µm,21.5s
WATA Walderalm 91.69 43 *i* P **P** **03 16 49.3 +1.6**
comp=Z,22nm,1.4s,SNR=9.0
WTTA Wattenberg 91.73 43 *i* P **P** **03 16 49.4 +1.4**
comp=Z,24nm,1.1s,SNR=12
TEOL Teolo 91.81 45 IAmb IAmb 03 17 10.0
comp=Z,22nm,0.9s
WERD Werda 92.08 40 *eP* **P** **03 16 49.9 +0.6**
comp=Z,5.7nm,1.0s,baz=271,slow=4.7
GUNZ Gunzen 92.10 40 *eP* **P** **03 16 50.2 +0.8**
baz=271,slow=4.7
WERN Wernitzgruen 92.13 40 *eP* **P** **03 16 50.2 +0.6**
baz=271,slow=4.7
NKC Novy Kostel 92.18 40 *eP* **P** **03 16 49.6 -0.2**
NKC MLR MLR
comp=Z,2µm,18.8s
NKC Novy Kostel 92.18 40 *eP* **P** **03 16 49.6 -0.2**
NKC AMS AMS 03 58 10.0
comp=Z,2µm,18.8s
TANN Tannenbergstha 92.18 40 *eP* **P** **03 16 49.9 +0.1**
comp=Z,11nm,1.2s,baz=271,slow=4.7
ABTA Abfaltersbach 92.35 43 *i* P **P** **03 16 52.3 +1.6**
comp=Z,23nm,1.3s,SNR=12
HFS Hagfors 92.39 30 LR LR 03 54 38.5
comp=Z,2µm,21.0s,baz=267,slow=33
CLL Collm 92.48 39 *i* P **P** **03 16 51.6 +0.5**
CLL *e* 03 27 23.0
CLL *eS* **ScS** **03 27 57.0 +0.2**
CLL pmax pmax
comp=Z,14nm,1.0s
CLL MLR MLR
comp=Z,3µm,20.3s
CLL Collm 92.48 39 IAMs_20 IAMs_20 04 04 25.9
comp=Z,3µm,20.0s
CLL Collm 92.48 39 *i* P **P** **03 16 51.6 +0.5**
comp=Z,14nm,1.0s
CLL *e*Plp 03 16 52.0
comp=Z,900nm,16.2s
CLL *ex* x 03 20 07.0
CLL *e*PP **PP** **03 20 33.0 +0.8**
comp=E,300nm,18.6s
CLL *e*PP **PP** **03 20 33.0 +0.8**
comp=Z,600nm,16.9s
CLL *ex* x 03 26 50.0
CLL *e*SKSac **SKSac** **03 27 23.0 -1.2**
CLL *e*S **ScS** **03 27 57.0 +0.2**
comp=N,2µm,16.7s
CLL *e*S **ScS** **03 27 57.0 +0.2**
comp=E,2µm,18.6s
CLL *ex* x 03 28 43.0
CLL *e*PS **PS** **03 29 08.0 +0.6**
CLL *e*PPS PPS 03 29 41.0
CLL *e*SS SS 03 34 36.0 +30
CLL *e*SSS SSS 03 38 12.0
CLL Lm MLR 04 04 00.0
comp=N,800nm,20.5s
CLL Lm MLR 04 04 00.0
comp=E,2µm,19.2s
CLL Lm MLR 04 04 00.0
comp=Z,3µm,20.3s
WET Wettzell 92.50 41 *eP* **P** **03 16 52.3 +1.0**
comp=Z,64nm,1.6s,baz=271,slow=4.7
RJOB Jochberg 92.50 42 *eP* **P** **03 16 52.3 +0.9**
comp=Z,15nm,1.1s,baz=271,slow=4.7
FBE Freiberg 92.72 39 *eP* **P** **03 16 53.4 +1.2**
comp=Z,14nm,1.1s,baz=271,slow=4.7
KBA Koelnbreinsper 92.91 43 *i* P **P** **03 16 54.6 +1.2**
comp=Z,5.5nm,0.8s,SNR=12
KHC Kasperske Hory 92.96 41 *eP* **P** **03 16 52.4 -1.0**
KHC *e* 03 20 31.9
KHC *e* 03 27 23.3
KHC MLR MLR
comp=Z,2µm,17.3s
KHC Kasperske Hory 92.96 41 *eP* **P** **03 16 52.4 -1.0**
KHC *e*PP **PP** **03 20 31.9 -4.2**
KHC *e*SKS **SKSac** **03 27 23.3 -3.7**
KHC AMS AMS 04 00 00.0
comp=Z,2µm,17.3s
GEC2 GERESS Array S 93.06 41 P **P** **03 16 54.6 +0.7**
GERES GERESS Array B 93.06 41 P **P** **03 16 54.0 +0.1**
comp=Z,3.9nm,0.9s,baz=253,slow=4.1,SNR=25
GERES PKKP **PKKPdf** **03 34 01.0 -2.2**
comp=Z,1.0nm,0.9s,baz=112,slow=2.2,SNR=3.6
GERES LR LR 03 55 33.2
comp=Z,2µm,22.0s,baz=264,slow=34
BRG Berggiesshubel 93.10 39 *eP* **P** **03 16 56.4 +2.4**
BRG Amp 03 16 57.5
comp=Z,14nm,1.2s
BRG *ex* x 03 17 06.7
BRG Amp 03 17 08.3
comp=Z,23nm,1.4s
BRG Berggiesshubel 93.10 39 *eP* **P** **03 16 56.3 +2.4**
BRG 03 27 31.0
BRG S **S** **03 28 07.0 +6.9**
BRG PS **PS** **03 29 17.0 +2.8**
BRG pmax pmax
comp=Z,14nm,1.2s
MYKA Terra Mystica 93.13 43 *i* P **P** **03 16 55.3 +1.0**
comp=Z,21nm,1.1s,SNR=16
AQU L'Aquila 93.16 48 IAmb IAmb 03 17 26.0
comp=Z,30nm,1.3s
AQU IAMs_20 IAMs_20 04 03 33.2
comp=Z,2µm,19.0s
CKRC Cesky Krumlov 93.46 41 *eP* **P** **03 16 55.6 -0.1**
CKRC *e*SKS **SKSac** **03 27 28.9 -0.9**
CKRC AMS AMS 04 00 40.0
comp=Z,2µm,19.8s
MOA Molln 93.49 42 *i* P **P** **03 16 57.2 +1.3**
comp=Z,4.1nm,0.7s,SNR=16

PVCC Panska Ves 93.52 40 *e*P **P 03 16 56.2 +0.3**
PVCC *e* 03 27 28.6
PVCC MLR MLR
comp=Z,2µm,19.2s
PVCC Panska Ves 93.52 40 *e*P **P 03 16 56.2 +0.3**
PVCC *e*SKS **SKSac 03 27 28.6 -1.3**
PVCC AMS AMS 03 58 50.0
comp=Z,2µm,19.2s
PRU Pruhonice 93.54 40 *e*P **P 03 16 56.4 +0.4**
PRU *e* 03 17 04.1
PRU *e* 03 27 32.9
PRU MLR MLR
comp=Z,3µm,19.0s
PRU Pruhonice 93.54 40 *e*P **P 03 16 56.4 +0.4**
PRU *ex* x 03 17 04.1
PRU *e*PP **PP 03 20 33.7 -6.8**
PRU *e*SKS **SKSac 03 27 32.9 +2.8**
PRU AMS AMS 03 58 30.0
comp=Z,3µm,19.0s
OBKA Obir 93.76 44 *i* P **P 03 16 58.7 +1.4**
comp=Z,6.4nm,1.0s,SNR=8.5
SOKA Soboth 94.09 43 *i* P **P 03 16 59.7 +1.0**
comp=Z,2.3nm,0.6s,SNR=9.6
PAOL Paolisi 94.10 49 IAmb IAmb 03 17 06.0
comp=Z,34nm,1.5s
VAE Valguarnera 94.16 53 LR LR 03 57 05.9
comp=Z,2µm,20.7s,baz=261,slow=34
TREC Trest 94.20 41 *e*P **P 03 16 59.5 +0.4**
TREC MLR MLR
comp=Z,2µm,18.1s
TREC Trest 94.20 41 *e*P **P 03 16 59.5 +0.4**
TREC AMS AMS 03 59 50.0
comp=Z,2µm,18.1s
ARSA Arzberg 94.38 43 *i* P **P 03 17 01.3 +1.3**
comp=Z,3.1nm,0.7s,SNR=8.4
SBA Scott Base 94.40 191 P **P 03 17 01.8 +2.4**
SBA pmax pmax
comp=Z,16nm,1.3s
SBA Scott Base 94.40 191 P **P 03 17 01.8 +2.4**
SBA Scott Base 94.40 191 IAMs_20 IAMs_20 03 54 33.1
comp=Z,2µm,18.0s
UPC Upice 94.44 40 *e*P **P 03 16 59.6 -0.5**
UPC *e* 03 27 37.1
UPC MLR MLR
comp=Z,3µm,18.4s
UPC Upice 94.44 40 *e*P **P 03 16 59.6 -0.5**
UPC *e*SKS **SKSac 03 27 37.1 +2.1**
UPC AMS AMS 03 59 40.0
comp=Z,3µm,18.4s
CHVC Chvalec 94.46 39 *e*P **P 03 17 00.6 +0.3**
CHVC *e*SKS **SKSac 03 27 37.5 +2.4**
CHVC AMS AMS 03 59 50.0
comp=Z,2µm,16.7s
CONA Conrad Observa 94.56 42 *i* P **P 03 17 01.4 +0.6**
comp=Z,11nm,0.9s,SNR=19
OSTC Ostas 94.56 39 *e*P **P 03 17 02.2 +1.5**
OSTC *e*SKS **SKSac 03 27 37.3 +1.6**
KSP Ksiaz 94.59 39 *e*P **P 03 17 02.4 +1.6**
KSP *e*S **SKSac 03 27 37.6 +1.9**
KSP *e*L L 03 58 54.2
comp=Z,2µm,20.5s
DPC Dobruska-Polom 94.65 40 *e*P **P 03 17 00.3 -0.9**
DPC *e* 03 17 08.4
DPC *e* 03 27 35.9
DPC MLR MLR
comp=Z,3µm,17.2s
DPC Dobruska-Polom 94.65 40 *e*P **P 03 17 00.3 -0.9**
DPC *e*pP **sP 03 17 08.4 +0.3**
DPC *e*SKS **SKSac 03 27 35.9 -0.3**
DPC AMS AMS 03 59 30.0
comp=Z,3µm,17.2s
KRUC Moravsky 94.81 41 *e*P **P 03 17 02.9 +1.0**
RONA Rosalia, Austr 94.87 42 *i* P **P 03 17 02.3 +0.1**
comp=Z,7.7nm,0.8s,SNR=12
VRAC Vranov 94.92 41 ⇑P **P 03 17 03.7 +1.3**
VRAC Vranov 94.92 41 LR LR 04 01 35.8
comp=Z,1µm,18.4s,baz=266,slow=37
VRAC Vranov 94.92 41 ⇑P **P 03 17 03.7 +1.3**
VRAC Vranov 94.92 41 *e*P **P 03 17 03.4 +1.0**
KRLC Kraliky 94.97 40 *e*P **P 03 17 04.2 +1.6**
KRLC *e* 03 17 09.7
KRLC MLR MLR
comp=Z,2µm,18.5s
KRLC Kraliky 94.97 40 *e*P **P 03 17 04.2 +1.6**
KRLC *e*pP **sP 03 17 09.7 +0.1**
KRLC AMS AMS 04 04 30.0
comp=Z,2µm,18.5s
SOP Sopron 95.04 42 P **P 03 17 03.1 +0.2**
CEL Celeste 95.29 52 IAMs_20 IAMs_20 04 06 41.7
comp=Z,2µm,20.0s
ZST Bratislava 95.36 42 *e*P **P 03 17 06.6 +2.2**
ZST *e*S **S 03 28 14.5 -5.5**
ZST Bratislava 95.36 42 *e*P **P 03 17 06.6 +2.2**
MODS Modra-Piesok 95.46 42 *e*P **P 03 17 06.4 +1.5**
MODS Modra-Piesok 95.46 42 *e*P **P 03 17 06.4 +1.5**
MORC Moravsky Berou 95.49 40 ⇑P **P 03 17 06.5 +1.4**
MORC Moravsky Berou 95.49 40 ⇑P **P 03 17 06.5 +1.4**
MORC Moravsky Berou 95.49 40 *e*P **P 03 17 06.4 +1.4**
VNDA Vanda 95.50 191 P **P 03 17 07.1 +2.7**
comp=Z,0.7nm,0.6s,baz=126,slow=2.6,SNR=7.0
VNDA LR LR 03 53 53.0
comp=Z,1µm,18.6s,baz=124,slow=32
VNDA Vanda 95.50 191 P **P 03 17 06.8 +2.4**
VNDA pmax pmax
comp=Z,35nm,2.0s
VNDA Vanda 95.50 191 P **P 03 17 06.8 +2.4**
VNDA IAmb IAmb 03 17 15.0
comp=Z,35nm,1.9s
SMOL Smolenice 95.55 41 *e*S **S 03 28 22.5 +0.9**
JAVC Velka Javorina 95.67 41 *e*P **P 03 17 08.2 +2.3**
MPLH Magyarpolny 95.76 43 P **P 03 17 05.5 -0.7**
MPLH Magyarpolny 95.76 43 P **P 03 17 06.4 +0.2**
ARCES ARCESS Array B 95.86 20 P **P 03 17 06.3 +0.1**
comp=Z,3.3nm,0.7s,baz=278,slow=8.2,SNR=4.4
ARCES LR LR 03 57 08.1
comp=Z,755nm,20.1s,baz=282,slow=34
OKC Ostrava-Krasne 95.87 40 *e*P **P 03 17 05.4 -1.3**
OKC MLR MLR
comp=Z,3µm,22.6s
OKC Ostrava-Krasne 95.87 40 *e*P **P 03 17 05.4 -1.3**
OKC AMS AMS 03 56 40.0
comp=Z,3µm,22.6s
TIP Timpagrande 95.90 51 IAMs_20 IAMs_20 04 00 50.7
comp=Z,3µm,20.0s
KOLL Kolacno 96.18 41 *e*P **P 03 17 10.9 +2.8**
RAO Raoul Island 96.24 241 LR LR 03 53 14.0
comp=Z,2µm,18.4s,baz=130,slow=31
KOVH Kovagotottos 96.25 44 P **P 03 17 09.0 +0.5**
KOVH Kovagotottos 96.25 44 P **P 03 17 09.6 +1.1**
VYHS Vyhne 96.48 41 *e*P **P 03 17 12.7 +3.2**
VYHS Vyhne 96.48 41 *e*P **P 03 17 12.7 +3.2**
BUD Budapest 96.72 42 P **P 03 17 11.6 +1.0**
BUD Budapest 96.72 42 P **P 03 17 11.1 +0.5**
LANS Liptovska Anna 96.81 41 *e*P **P 03 17 15.1 +4.1**
LANS Liptovska Anna 96.81 41 *e*P **P 03 17 15.1 +4.1**
OJC Ojcow 96.88 40 *e*P **P 03 17 10.6 -0.7**
OJC *e*S **S 03 28 34.2 +1.1**
OJC *e*L L 03 53 51.9
comp=Z,2µm,24.6s
OJC Ojcow 96.88 40 IAmb IAmb 03 17 14.9
comp=Z,15nm,1.1s
OJC IAMs_20 IAMs_20 04 01 07.3
comp=Z,3µm,19.0s
PSZ Piszkesteto 97.25 42 ⇑P Pdif 03 17 14.6 +1.4
PSZ Piszkesteto 97.25 42 ⇑P Pdif 03 17 14.6 +1.4
PSZ Piszkesteto 97.25 42 IAmb IAmb 03 17 45.0
comp=Z,37nm,1.7s
PSZ IAMs_20 IAMs_20 04 05 17.2
comp=Z,2µm,19.0s
PSZ Piszkesteto 97.25 42 P Pdif 03 17 14.7 +1.5
PSZ Piszkesteto 97.25 42 P Pdif 03 17 15.2 +2.0
NIE Niedzica 97.31 40 *e*P **P 03 17 13.3 0.0**
NIE *e*PP **PP 03 21 09.4 -0.5**
NIE *e*S **S 03 28 37.8 +0.9**
NIE *e*L L 03 57 44.7
comp=Z,2µm,23.0s
PDG Podgorica 97.48 47 IAMs_20 IAMs_20 04 07 01.5
comp=Z,2µm,20.0s
FRGS Fruska Gora 97.55 45 ⇑P Pdif 03 17 15.6 +1.1
TSUM Tsumeb 97.65 109 LR LR 03 58 59.8
comp=Z,8µm,20.3s,baz=258,slow=34
TSUM Tsumeb 97.65 109 P **P 03 17 15.4 -0.2**
TSUM IAmb IAmb 03 17 19.3
comp=Z,28nm,1.1s

DIVS Divibare 97.81 46 IAmb IAmb 03 17 19.4
comp=Z,16nm,1.3s
DIVS IAMs_20 IAMs_20 04 01 59.2
comp=Z,2µm,21.0s
AMBH Ambrzfalva 98.03 43 P Pdif 03 17 17.5 +1.0
AMBH Ambrzfalva 98.03 43 P Pdif 03 17 18.4 +1.9
TIR Tirane 98.05 48 IAMs_20 IAMs_20 04 05 01.6
comp=Z,2µm,20.0s
CRVS Cervenica-Dubn 98.14 41 *e*S **S 03 28 47.6 +3.6**
FINES FINESS Array B 98.18 28 P Pdif 03 17 17.2 +0.4
comp=Z,3.4nm,0.8s,baz=298,slow=4.1,SNR=7.1
FINES LR LR 03 58 25.3
comp=Z,1µm,22.0s,baz=280,slow=34
FINES FINESS Array B 98.18 28 P Pdif 03 17 17.4 +0.5
FINES FINESS Array B 98.18 28 P Pdif 03 17 17.4 +0.5
SUW Suwalki 98.32 35 IAMs_20 IAMs_20 04 09 36.1
comp=Z,2µm,20.0s
PABE Paberze 98.47 34 IAMs_20 IAMs_20 04 00 20.0
comp=Z,3µm,21.0s
LTVH Ltavrtes, Hu 98.67 42 P **P 03 17 18.4 -1.0**
UZH Uzhgorod 98.73 41 *e*P **P 03 17 19.1 -0.5**
UZH *e* 03 17 25.9
UZH *e* 03 21 24.1
UZH *e*S **S 03 28 42.1 -6.8**
UZH *e*SS **SS 03 35 27.9 -6.7**
BZS Buzias 98.75 44 ⇑P Pdif 03 17 20.9 +1.1
BZS Buzias 98.75 44 ⇑P Pdif 03 17 20.9 +1.1
BILL Bilibino 98.75 340 ⇑*e*P Pdif 03 17 21.1 +1.8
BILL *e* 03 17 25.5
BILL *e* 03 21 23.4
BILL S **SKSac 03 28 03.0 +6.3**
BILL *i* 03 28 41.0
BILL *i* SS **SS 03 35 42.7 +8.9**
BILL pmax pmax
comp=Z,25nm,1.7s
BILL MLR MLR
comp=Z,2µm,19.0s
BILL Bilibino 98.75 340 P Pdif 03 17 20.4 +1.1
BILL IAmb IAmb 03 17 27.1
comp=Z,34nm,1.6s
BILL IAMs_20 IAMs_20 04 03 41.5
comp=Z,2µm,21.0s
KWP Kalwaria Pacla 98.83 40 *e*P **P 03 17 18.7 -1.3**
KWP *e*S **S 03 28 54.3 +4.6**
KWP *e*L L 03 55 04.3
comp=Z,2µm,25.4s
KBN Korca 98.83 49 IAmb IAmb 03 17 24.5
comp=Z,29nm,1.3s
MDVR Moldovita 98.94 45 ⇑P Pdif 03 17 22.1 +1.3
BOVS Bovan 99.11 46 ⇑P **Pdif 03 17 22.6 +1.2**
APA Apatity 99.25 21 ⇓*i*P **Pdif 03 17 20.7 -0.8**
APA pmax pmax
comp=Z,7.0nm,1.2s
DRGR 99.31 43 ⇑P **Pdif 03 17 23.1 +0.7**
DRGR 99.31 43 ⇑P **Pdif 03 17 23.1 +0.7**
HERR Herculane 99.42 45 ⇓P **Pdif 03 17 23.7 +0.9**
URZ Urewera 99.46 231 LR LR 03 54 55.7
comp=Z,4µm,18.6s,baz=210,slow=31
SUR Sutherland 99.50 123 LR LR 03 58 49.2
comp=Z,3µm,21.5s,baz=260,slow=33
BMR Baia Mare 99.69 42 ⇑P **Pdif 03 17 26.3 +2.3**
BMR Baia Mare 99.69 42 ⇑P **Pdif 03 17 26.3 +2.3**
BLKB Belogradchik 99.80 46 ⇑P **Pdif 03 17 23.6 -0.9**
NACGM Naroch 100.17 34 PP **PP 03 21 26.3 -5.1**
baz=284
SYO Syowa Base 100.18 162 ⇑*e*Pdiff **Pdif 03 17 27.0 +1.4**
VTS Vitosha 100.37 47 ⇓P **Pdif 03 17 27.4 +0.1**
VTS Vitosha 100.37 47 ⇓P **Pdif 03 17 27.4 +0.1**
VTS Vitosha 100.37 47 *e*P **Pdif 03 17 27.0 -0.3**
ARCR ARCALIA 100.37 42 ⇑P **Pdif 03 17 28.3 +1.3**
KKB Krupnik 100.37 48 *e*P **Pdif 03 17 26.0 -1.1**
MSVF Nonsvu 100.71 252 IAMs_20 IAMs_20 04 11 44.2
comp=Z,2µm,19.0s
SNZO South Karori 100.82 228 IAMs_20 IAMs_20 03 53 28.7
comp=Z,3µm,20.0s
BURAR Bucovina Array 100.84 42 ⇑P **Pdif 03 17 28.0 -1.2**
BURAR Bucovina Array 100.84 42 ⇑P **Pdif 03 17 28.0 -1.2**
ARR Arges 100.88 44 ⇓P **Pdif 03 17 29.7 +0.3**
MNK Minsk 100.89 34 *i* P **Pdif 03 17 28.0 -1.0**
MNK *i* 03 21 35.2
MNK *i* PPP PPP 03 23 42.9
MNK *i* S **SKSac 03 28 07.4 -0.3**
MNK *i* SS **SS 03 36 08.0 +3.6**
MNK *i* SSS SSS 03 39 54.1
MNK MLR MLR
comp=Z,2µm,17.0s
MNK MLR MLR
comp=E,356nm,19.0s
MNK MLR MLR
comp=N,810nm,17.0s
MNK Minsk 100.89 34 *i* P **Pdif 03 17 28.1 -1.0**
MNK *i* P **Pdif 03 17 28.1 -1.0**
MNK *i* P **Pdif 03 17 28.1 -1.0**
baz=285
MNK *i* PP **PP 03 21 35.2 -1.7**
MNK *i* PPP PPP 03 23 42.9
MNK *i* S **SKSac 03 28 07.5 -0.3**
MNK *i* SS **SS 03 36 08.0 +3.6**
MNK *i* SSS SSS 03 39 54.1
MNK *i* LQ LQ 03 56 57.3
MNK *i* LR LR 03 59 37.9
MNK *i* LRM MLR 04 03 23.1
comp=E,356nm,19.4s
MNK *i* LRM MLR 04 03 23.1
comp=N,810nm,17.2s
MNK *i* LRM MLR 04 03 23.1
comp=Z,2µm,17.1s
MMB Musomiste 100.89 48 *e*P **Pdif 03 17 28.0 -1.5**
VOIR 101.16 44 ⇑P **Pdif 03 17 32.9 +2.3**
VOIR 101.16 44 ⇑P **Pdif 03 17 32.9 +2.3**
HIZ Hauiti 101.18 231 IAMs_20 IAMs_20 03 55 51.4
comp=Z,3µm,19.0s
MLR Muntele Rosu 101.77 44 ⇑P **Pdif 03 17 24.9 -8.5**
KDZ Kurdzhali 102.13 47 *e*P **Pdif 03 17 33.0 -2.0**
SZH Strazhica 102.20 46 *e*P **Pdif 03 17 35.0 -0.2**
OUZ Omahuta 102.71 234 IAMs_20 IAMs_20 03 56 11.4
comp=Z,2µm,20.0s
IDI Anoyia 102.79 54 IAMs_20 IAMs_20 04 10 31.4
comp=Z,2µm,20.0s
MILM Milestii Mici 103.39 42 *e*P **Pdif 03 17 42.0 +1.6**
MILM Milestii Mici 103.39 42 *e*PP **PKiKP 03 21 59.0 -0.4**
MILM *e*SKS 03 28 16.0
MILM Milestii Mici 103.39 42 *e*PS PS 03 30 59.0 -6.7
MILM *e*LR LR 03 57 08.0
comp=Z,2µm,18.0s
MILM Milestii Mici 103.39 42 *e*P **Pdif 03 17 42.0 +1.6**
MILM *e* 03 21 59.0
MILM *e* 03 28 16.0
MILM *e*PS **PS 03 30 59.0 -6.7**
KLMR Klimovskoe 104.48 26 *e*P **Pdif 03 17 45.9 +1.1**
KLMR *e* 03 22 08.9
KLMR *e* 03 29 11.4
KLMR pmax pmax
comp=Z,16nm,1.3s
KLMR Klimovskoe 104.48 26 *e*Pdif **Pdif 03 17 46.0 +1.1**
KLMR AMP 03 18 02.8
comp=Z,16nm,1.3s
KLMR *e*PP **PP 03 22 08.9 +5.5**
KLMR *e*SKKSac **SKKSac 03 29 11.5 +3.2**
KLMR *e*SKKSac **SKKSac 03 29 11.5 +3.2**
OBN Obninsk 105.45 32 IAMs_20 IAMs_20 04 02 58.1
comp=Z,2µm,22.0s
MOS Moscow 105.76 31 *e*P **Pdif 03 17 46.7 -4.0**
MOS *e* 03 28 25.6
MOS *e* 03 29 14.1
MOS *e*PS **PS 03 31 22.1 -7.9**
MOS MLR MLR
comp=Z,2µm,19.0s
MOS MLR MLR
comp=E,2µm,18.0s
PET Petropavlovsk 108.22 327 *e*P **Pdif 03 17 54.7 -7.0**
PET *e* 03 22 35.2
PET *e* 03 28 36.6
PET *e*PS **PS 03 31 54.3 -1.1**
PET *e*PPS PPS 03 32 58.4
PET *e*SS SS 03 37 44.3 -0.3
PET *e*SSS SSS 03 41 56.2
PET pmax pmax
comp=Z,600nm,12.5s
PET pmax pmax
comp=Z,500nm,16.7s
PET MLR MLR
comp=Z,1µm,22.0s

BRTR Keskin Array B 108.66 48 Pdiff **Pdif 03 18 00.7 -3.5**
comp=Z,0.7nm,0.7s,baz=270,slow=4.9,SNR=4.2
MA2 Magadan 108.77 335 IAMs_20 IAMs_20 04 17 45.9
comp=Z,2µm,19.0s
DZM Mont Dzumac 111.09 246 *e*PP **PP 03 22 47.6 -5.7**
comp=Z,403nm,24.9s
DZM *e*SKSac **SKSac 03 28 49.1 -5.7**
comp=Z,1µm,26.1s
DZM Mont Dzumac 111.09 246 *e*PS PS 03 32 23.1 -2.1
comp=Z,2µm,25.4s
DZM *e*SS SS 03 38 23.7 -1.9
comp=Z,5µm,27.1s
DZM Mont Dzumac 111.09 246 *e*LR LR 03 55 15.6
comp=Z,2µm,22.6s
SOC Sochi 111.73 42 *i* PKIKP **PKiKP 03 22 13.4 -1.7**
SOC *e* 03 22 55.2
SOC *e*PPP PPP 03 25 22.0
SOC *e*PS **PS 03 32 22.3 -7.7**
SOC *e*SS SS 03 38 31.8 -0.6
SOC MLR MLR
comp=Z,736nm,20.0s
CASY Casey 113.11 185 IAMs_20 IAMs_20 04 16 22.7
comp=Z,2µm,20.0s
KOUNC Koumac, New Ca 113.32 248 IAMs_20 IAMs_20 03 59 30.9
comp=Z,2µm,22.0s
KIV Kislovodsk 113.57 41 *e*P **Pdif 03 18 24.8 -1.1**
KIV *i* 03 22 17.5
KIV *e* 03 23 09.3
KIV *e* 03 29 02.0
KIV *e*PS **PS 03 32 45.0 -2.1**
KIV *e*SS SS 03 38 58.4 +1.5
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,687nm,21.0s
YAK Yakutsk 114.29 345 IAMs_20 IAMs_20 04 17 03.7
comp=Z,2µm,20.0s
ARU Arti 115.11 24 *i* PKIKP **PKPdf 03 22 24.2 +3.1**
ARU 03 23 30.8
ARU 03 29 36.3
ARU Arti 115.11 24 IAMs_20 IAMs_20 04 12 23.9
comp=Z,2µm,20.0s
LODK Lodwar 115.94 86 P **PKiKP 03 22 26.9 +2.8**
MAK Makhachkala 117.16 40 *e*P **Pdif 03 18 36.1 -5.6**
MAK *e* 03 29 15.0
MAK *e*PS **PKKPdf 03 33 12.5 -5.9**
MAK *e*SS SS 03 39 40.4 -3.3
MAK MLR MLR
comp=Z,1µm,16.0s
KMBO Kilima Mbogo 117.85 91 PKP **PKiKP 03 22 29.6 +1.6**
comp=Z,2.0nm,1.0s,baz=349,slow=5.2,SNR=5.3
KMBO Kilima Mbogo 117.85 91 PKIKP **PKiKP 03 22 31.2 +3.2**
KMBO MLR MLR
comp=Z,5µm,20.0s
KMBO Kilima Mbogo 117.85 91 PKPdf **PKiKP 03 22 31.2 +3.2**
KUR Kuril'sk 118.15 323 *i* PKIKP PKiKP 03 22 40.8 +13
KUR *e* 03 23 49.8
KUR *e* 03 33 22.6
KUR SS SS 03 40 05.3 +8.9
KUR MLR MLR
comp=Z,504nm,13.0s
YSS Yuzh-Sakhalins 120.10 327 *i* PKIKP **PKPdf 03 22 29.0 -2.0**
YSS *e* 03 23 58.2
YSS *e*PS **PS 03 33 38.0 -7.9**
YSS *e*SS SS 03 40 17.5 -3.8
YSS Yuzh-Sakhalins 120.10 327 IAMs_20 IAMs_20 04 16 08.0
comp=Z,2µm,21.0s
ABKAR Akbulak array 120.64 29 PKPdf **PKiKP 03 22 32.8 +0.7**
BRVK Borovoye 122.09 20*c* *i*PKIKP **PKiKP 03 22 36.1 +1.3**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
BRVK Borovoye 122.09 20 IAMs_20 IAMs_20 04 21 09.8
comp=Z,2µm,20.0s
ERM Erimo 122.78 322 IAMs_20 IAMs_20 04 26 12.9
comp=Z,1µm,20.0s
KLR Kul'dur 123.88 335*c* *i*PKIKP **PKPdf 03 22 38.1 -0.1**
KLR *i* 03 22 39.9
KLR pmax pmax
comp=Z,5.0nm,1.7s
ZALV Zalesovo Beam 125.17 10 PKP **PKiKP 03 22 41.1 +0.2**
comp=Z,3.4nm,0.6s,baz=270,slow=1.5,SNR=20
ZALV Zalesovo Beam 125.17 10 PKPdf **PKPdf 03 22 40.7 +0.2**
BRZS Berezniki 125.48 21 *e*PP PP 03 24 32.0 +0.6
baz=21
GEYT Alibeck 126.68 41 PKP **PKiKP 03 22 44.7 +0.2**
comp=Z,7.5nm,0.8s,baz=9.5,slow=1.8,SNR=10
GEYT Alibeck 126.68 41 PKPdf **PKPdf 03 22 44.0 0.0**
KURK Kurchatov 126.74 16 PKIKP **PKiKP 03 22 44.6 +0.5**
KURK Kurchatov 126.74 16 PKPdf **PKiKP 03 22 44.6 +0.5**
SEM Semipalatinsk 127.46 15 *e*PKIKP **PKPdf 03 22 44.7 -0.7**
SEM *i* 03 24 45.1
SEM Semipalatinsk 127.46 15 *e*PKP **PKPdf 03 22 44.7 -0.7**
baz=15
SEM *i* PP **PP 03 24 45.2 +0.5**
baz=15
USRK Ussuriysk Ar. 127.54 331 PKIKP **PKiKP 03 22 47.5 +1.6**
USRK Ussuriysk Ar. 127.54 331 PKPdf **PKiKP 03 22 47.5 +1.6**
BNX BinXian 128.44 335 ⇓PKP **PKPdf 03 22 46.9 -0.2**
BNX PP **PP 03 24 53.9 +2.9**
BNX AMB AMB
comp=Z,830nm,13.5s
BNX LR LR
comp=Z,2µm,17.8s
BNX LR LR
comp=Z,3µm,19.4s
BNX LR LR
comp=Z,5µm,19.9s
JRN Qarnain Island 128.79 58 P **PKiKP 03 22 48.9 -0.1**
STKA Stephens Creek 128.88 227 PKP **PKiKP 03 22 49.8 +0.7**
comp=Z,13nm,1.3s,baz=150,slow=1.8,SNR=8.4
STKA Stephens Creek 128.88 227 PKPdf **PKiKP 03 22 49.0 0.0**
MAJO Matsushiro 129.07 319 IAMs_20 IAMs_20 04 26 58.0
comp=Z,2µm,20.0s
ZAK Zakamensk 129.98 357 *e*PKIKP **PKPdf 03 22 50.4 +0.4**
ZAK pmax pmax
comp=Z,12nm,1.6s
MZR Muzera 130.02 60 P **PKiKP 03 22 53.2 +1.7**
SNR=5.1
BTLS Baital 130.10 23 *e*PKIKP **PKPdf 03 22 49.9 -0.3**
BTLS *e* 03 25 02.6
BTLS Baital 130.10 23 *e*PKP **PKPdf 03 22 50.0 -0.3**
baz=23
BTLS *e*PP **PP 03 25 02.6 +0.8**
baz=23
KK31 Karatay Array 130.14 28 PKIKP **PKiKP 03 22 51.2 0.0**
KK31 Karatay Array 130.14 28 PKPdf **PKiKP 03 22 51.2 0.0**
KKAR Karatay Array 130.14 28 PKIKP **PKiKP 03 22 51.1 -0.2**
KKAR Karatay Array 130.14 28 PKPdf **PKiKP 03 22 51.1 -0.2**
INU Inuyama 130.56 319 IAMs_20 IAMs_20 04 10 49.1
comp=Z,1µm,20.0s
IUG luzhnay 130.65 29 *e*PKIKP **PKPdf 03 22 51.2 -0.3**
IUG luzhnay 130.65 29 *e*PKP **PKPdf 03 22 51.3 -0.3**
baz=29
DZA Taraz 130.68 27 *e*PKIKP **PKPdf 03 22 50.9 -0.5**
DZA *i* 03 25 06.6
DZA Taraz 130.68 27 *e*PKP **PKPdf 03 22 51.0 -0.5**
baz=27
DZA *i* PP **PP 03 25 06.6 +0.9**
baz=27
CN2 Changchun 130.83 335 *e*PKP **PKPdf 03 22 45.3 -6.4**
CN2 *e*PP **PP 03 25 05.8 -0.8**
CN2 SKKS 03 31 52.9
CN2 Changchun 130.83 335 *e*SS SS 03 42 29.3 -6.2
CN2 AMB AMB
comp=Z,420nm,11.0s
CN2 LR LR
comp=N,1µm,21.0s
CN2 LR LR
comp=E,1µm,21.0s
CN2 LR LR
comp=Z,2µm,22.0s
TAS Tashkent 130.91 30 PKIKP **PKiKP 03 22 54.0 +1.2**
TAS Tashkent 130.91 30 PKPdf **PKiKP 03 22 54.0 +1.2**
ASUD Al Ashush, Dub 131.00 57 P **PKiKP 03 22 55.0 +1.6**
SHME Shamm 131.10 55 P **PKPdf 03 22 53.1 +0.4**
FAQ Al Faqa, Dubai 131.17 57 P **PKiKP 03 22 54.8 +1.0**
MK31 Makanchi Array 131.32 16 *i* PKIKP **PKPdf 03 22 52.7 +0.1**
MKAR Makanchi Array 131.32 16 PKP **PKPdf 03 22 52.1 -0.5**
comp=Z,3.8nm,1.0s,baz=349,slow=2.5,SNR=14
MKAR Makanchi Array 131.32 16*c* *i*PKIKP **PKPdf 03 22 53.0 +0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 131.32 16 PKPdf **PKPdf 03 22 53.1 +0.5**
ZSN Zaisan 131.34 13 *e*PKIKP **PKPdf 03 22 52.5 -0.1**

ZSN	**Zaisan**	**131.34**	**13**	*e*PKP	**PKPdf**	**03 22 52.6**	**-0.1**
	baz=13								
HRA	**Herat**	**131.45**	**42**	PKPdf	**PKPdf**	**03 22 53.6**	**+0.2**
ASHO	**Ashiyiah**	**131.59**	**57**	P	**PKiKP**	**03 22 54.6**	**0.0**
ABTO	**Aybut**	**131.59**	**67**	P	**PKPdf**	**03 22 54.0**	**+0.1**
	SNR=7.5								
UOSS	**Minazif**	**131.60**	**56**	P	**PKPdf**	**03 22 53.4**	**-0.3**
SGDS	**Sogindy**	**131.66**	**24**	*e*PKIKP	**PKPdf**	**03 22 52.8**	**-0.5**
SGDS				*e*		03 25 13.0	
SGDS	**Sogindy**	**131.66**	**24**	*e*PKP	**PKPdf**	**03 22 52.9**	**-0.5**
	baz=24								
SGDS				*e*PP	**PP**	**03 25 13.1**	**+1.1**
	baz=24								
USP	**Ospenovka**	**131.75**	**24**	P	**PKiKP**	**03 22 55.3**	**+0.8**
	SNR=7.0								
WHFO	**Wadi Hawf**	**131.87**	**66**	P	**PKiKP**	**03 22 55.2**	**-0.2**
	SNR=7.3								
EKS2	**Erkin-Say**	**131.95**	**25**	P	**PKiKP**	**03 22 56.4**	**+1.3**
	SNR=8.7								
KUU	**Kurty**	**131.96**	**22**	*e*PKIKP	**PKPdf**	**03 22 53.4**	**-0.4**
KUU	**Kurty**	**131.96**	**22**	*e*PKP	**PKPdf**	**03 22 53.4**	**-0.4**
	baz=22								
DOK	**Doka**	**131.99**	**65**	P	**PKiKP**	**03 22 56.0**	**+0.4**
	SNR=6.0								
ULN	**Ulaanbaatar**	**132.14**	**353**	PKIKP	**PKPdf**	**03 22 54.4**	**+0.1**
ULN	**Ulaanbaatar**	**132.14**	**353**	PKPdf	**PKPdf**	**03 22 54.4**	**+0.1**
CHKK	**Chushkaly**	**132.24**	**22**	*e*PKIKP	**PKPdf**	**03 22 54.3**	**-0.1**
CHKK	**Chushkaly**	**132.24**	**22**	*e*PKP	**PKPdf**	**03 22 54.3**	**-0.1**
	baz=22								
SONM	**Songino Array**	**132.25**	**354**	PKP	**PKPdf**	**03 22 54.1**	**-0.4**
	comp=Z,3.1nm,1.1s,baz=335,slow=1.2,SNR=10								
SONM				PP	**PP**	**03 25 13.4**	**-2.1**
	comp=Z,3.1nm,0.9s,baz=350,slow=5.5,SNR=4.6								
SONM	**Songino Array**	**132.25**	**354**	PKIKP	**PKPdf**	**03 22 54.7**	**+0.3**
SONM	**Songino Array**	**132.25**	**354**	PKPdf	**PKPdf**	**03 22 54.7**	**+0.3**
AAK	**Ala-Archa**	**132.27**	**25**	PKIKP	**PKiKP**	**03 22 55.5**	**-0.2**
AAK	**Ala-Archa**	**132.27**	**25**	PKPdf	**PKiKP**	**03 22 55.5**	**-0.2**
AAK	**Ala-Archa**	**132.27**	**25**	IAMs_20	IAMs_20	04 31 38.3	
	comp=Z,2μm,20.0s								
AML	**Almayashu**	**132.34**	**26**	P	**PKiKP**	**03 22 57.9**	**+1.7**
	SNR=7.9								
TKM2	**Tokmak 2**	**132.49**	**24**	P	**PKiKP**	**03 22 57.7**	**+1.4**
	SNR=6.6								
UCH	**Uchtor**	**132.62**	**25**	P	**PKiKP**	**03 22 58.9**	**+2.1**
	SNR=11								
BTK	**Batken**	**132.62**	**30**	PKIKP	**PKiKP**	**03 22 57.0**	**+0.5**
BTK	**Batken**	**132.62**	**30**	PKPdf	**PKiKP**	**03 22 57.0**	**+0.5**
AAA	**Alma-Ata**	**132.76**	**22**	*e*PKIKP	**PKPdf**	**03 22 55.9**	**+0.5**
AAA	**Alma-Ata**	**132.76**	**22**	*e*PKP	**PKPdf**	**03 22 56.0**	**+0.5**
	baz=22								
MDOK	**Medeo**	**132.85**	**22**	*e*PKIKP	**PKPdf**	**03 22 55.0**	**-0.7**
MDOK	**Medeo**	**132.85**	**22**	*e*PKP	**PKPdf**	**03 22 55.1**	**-0.7**
	baz=22								
BOOM	**Boomskoye usch**	**132.99**	**24**	PKIKP	**PKiKP**	**03 22 57.9**	**+0.7**
BOOM	**Boomskoye usch**	**132.99**	**24**	PKPdf	**PKiKP**	**03 22 57.9**	**+0.7**
DMTO	**DMTO**	**133.00**	**66**	P	**PKPdf**	**03 22 56.4**	**-0.1**
	SNR=5.9								
GAR	**Garm**	**133.16**	**31**	PKPdf	**PKiKP**	**03 22 57.4**	**-0.2**
KPKS	**Kokpek**	**133.19**	**21**	*e*PKIKP	**PKPdf**	**03 22 55.8**	**-0.5**
KPKS	**Kokpek**	**133.19**	**21**	*e*PKP	**PKPdf**	**03 22 55.9**	**-0.5**
	baz=21								
SNY	**Shenyang**	**133.23**	**335**	⇑PKP	PKPdf	03 22 46.4	-10
SNY				PP	**PP**	**03 25 25.1**	**+3.1**
SNY				SKS	SKSdf	03 29 46.1	-21
SNY	**Shenyang**	**133.23**	**335**	SS	SS	03 43 10.8	+6.1
SNY				AMB	AMB		
	comp=Z,620nm,6.3s								
SNY				LR	LR		
	comp=N,700nm,20.4s								
SNY				LR	LR		
	comp=E,1μm,17.8s								
SNY				LR	LR		
	comp=Z,2μm,18.2s								
UZB	**Uzynbulak**	**133.59**	**21**	*e*PKIKP	**PKPdf**	**03 22 56.4**	**-0.7**
UZB	**Uzynbulak**	**133.59**	**21**	*e*PKP	**PKPdf**	**03 22 56.4**	**-0.7**
	baz=21								
SHLS	**Shalkode**	**133.73**	**20**	*e*PKIKP	**PKPdf**	**03 22 57.2**	**-0.2**
SHLS	**Shalkode**	**133.73**	**20**	*e*PKP	**PKPdf**	**03 22 57.2**	**-0.2**
	baz=20								
KDJ	**Kajisay**	**133.78**	**23**	PKIKP	**PKiKP**	**03 22 59.5**	**+0.6**
KDJ	**Kajisay**	**133.78**	**23**	PKPdf	**PKiKP**	**03 22 59.5**	**+0.6**
SMDO	**Samad**	**133.90**	**58**	P	**PKiKP**	**03 22 59.9**	**+0.4**
	SNR=5.5								
XLT	**XiLinHaoTe**	**134.09**	**343**	⇓*i*PKP	**PKiKP**	**03 22 59.3**	**0.0**
XLT				PP	**PP**	**03 25 24.3**	**-3.1**
XLT				PKS	**PKSdf**	**03 26 32.3**	**-2.0**
XLT				SS	SS	03 43 14.1	-0.8
XLT				AMB	AMB		
	comp=Z,330nm,5.8s								
XLT				LR	LR		
	comp=Z,160nm,22.1s								
XLT				LR	LR		
	comp=Z,1μm,17.7s								
XLT				LR	LR		
	comp=Z,2μm,21.9s								
WSAR	**Wadi Sarin**	**134.32**	**57**	P	**PKPdf**	**03 22 58.3**	**-0.5**
KSRS	**Korea Array**	**134.59**	**328**	PKP	**PKiKP**	**03 23 00.0**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=65,slow=1.5,SNR=7.0								
MHTO	**MHTO**	**134.62**	**60**	P	**PKiKP**	**03 23 00.8**	**-0.1**
DQM	**DQM**	**134.63**	**62**	P	**PKPdf**	**03 22 59.3**	**-0.2**
WBK	**Wadi Bani Khal**	**134.86**	**58**	P	**PKiKP**	**03 23 00.9**	**-0.4**
WMQ	**Urumqi**	**135.41**	**12**	PKP	**PKiKP**	**03 23 02.5**	**+0.6**
WMQ				PP	**PP**	**03 25 38.3**	**+2.6**
WMQ				PKS	**PKSdf**	**03 26 33.5**	**-3.2**
WMQ				AMB	AMB		
	comp=Z,790nm,8.9s								
WMQ				LR	LR		
	comp=Z,950nm,20.5s								
WMQ				LR	LR		
	comp=Z,1μm,22.1s								
WMQ				LR	LR		
	comp=Z,1μm,20.5s								
JLN	**Jalan Bani Buh**	**135.42**	**58**	P	**PKiKP**	**03 23 02.5**	**+0.1**
KSH	**Kashi**	**135.47**	**26**	PKP	**PKiKP**	**03 23 02.8**	**+0.5**
KSH				PP	**PP**	**03 25 33.6**	**-2.9**
KSH				PKS	**PKSdf**	**03 26 35.6**	**-1.6**
KSH				AMB	AMB		
	comp=Z,770nm,7.3s								
KSH				LR	LR		
	comp=Z,2μm,22.5s								
KSH				LR	LR		
	comp=Z,2μm,24.8s								
KSH				LR	LR		
	comp=Z,2μm,26.0s								
KBL	**Kabul**	**135.66**	**37**	PKIKP	**PKiKP**	**03 23 02.9**	**0.0**
KBL	**Kabul**	**135.66**	**37**	PKPdf	**PKiKP**	**03 23 02.9**	**0.0**
DL2	**Dalian**	**136.49**	**335**	PKP	**PKiKP**	**03 23 06.3**	**+2.2**
DL2				PP	**PP**	**03 25 45.0**	**+2.3**
DL2				AMB	AMB		
	comp=Z,490nm,6.9s								
DL2				LR	LR		
	comp=Z,770nm,18.4s								
DL2				LR	LR		
	comp=Z,1μm,18.8s								
DL2				LR	LR		
	comp=Z,2μm,20.6s								
BJI	**Beijing**	**137.57**	**341**	PKP	**PKiKP**	**03 23 07.6**	**+1.3**
BJI				PP	**PP**	**03 25 46.3**	**-2.9**
BJI				SKS	**SKSdf**	**03 30 13.3**	**-1.5**
BJI				LR	LR		
	comp=Z,1μm,20.5s								
BJI				LR	LR		
	comp=Z,800nm,20.0s								
BJI				LR	LR		
	comp=Z,2μm,21.6s								
BJT	**Baijiatuan**	**137.59**	**341**	PKIKP	**PKPdf**	**03 23 05.0**	**+0.5**
BJT	**Baijiatuan**	**137.59**	**341**	PKPdf	**PKPdf**	**03 23 05.0**	**+0.5**
BJT	**Baijiatuan**	**137.59**	**341**	IAMs_20	IAMs_20	04 32 35.2	
	comp=Z,2μm,22.0s								
HHC	**Hu-ho-hao-te**	**138.13**	**346**	*e*PKP	**PKPdf**	**03 23 04.8**	**-0.8**
HHC				PP	**PP**	**03 25 55.0**	**+2.2**
HHC				SKS	**SKSdf**	**03 30 12.9**	**-3.2**
HHC				SKKS	**SKKSac**	**03 32 41.9**	**-6.3**
HHC				SS	**SS**	**03 43 57.6**	**-5.5**
HHC				AMB	AMB		
	comp=Z,430nm,10.6s								
HHC				LR	LR		
	comp=Z,2μm,20.6s								
HHC				LR	LR		
	comp=Z,310nm,20.0s								
HHC				LR	LR		
	comp=Z,3μm,20.6s								
BTO	**Baotou**	**138.72**	**348**	*e*PKP	**PKPdf**	**03 23 05.8**	**-0.9**
BTO				LR	LR		
	comp=Z,4μm,19.8s								
BTO				LR	LR		
	comp=Z,5μm,19.0s								
NIL	**Nilore**	**138.72**	**34**	PKIKP	**PKPdf**	**03 23 07.8**	**+1.0**
NIL	**Nilore**	**138.72**	**34**	PKPdf	**PKPdf**	**03 23 07.8**	**+1.0**
NIL	**Nilore**	**138.72**	**34**	IAMs_20	IAMs_20	04 36 30.9	
	comp=Z,1μm,20.0s								
FORT	**Forrest**	**138.82**	**219**	PKPdf	**PKPdf**	**03 23 08.0**	**+1.0**
ASAR	**Alice Springs**	**138.90**	**232**	PKhKP	PKPpre	03 23 02.5	
	comp=Z,1.8nm,0.7s,baz=117,slow=3.5,SNR=9.4								
ASAR				PKP	**PKiKP**	**03 23 08.6**	**-1.0**
	comp=Z,5.9nm,0.9s,baz=109,slow=2.0,SNR=19								
ASAR	**Alice Springs**	**138.90**	**232**	PKPdf	**PKPdf**	**03 23 06.3**	**-1.1**
WB2	**Warramunga Arr**	**140.29**	**238**	PKPdf	**PKPdf**	**03 23 09.7**	**-0.3**
WRA	**Warramunga Arr**	**140.30**	**238**	PKhKP	PKPpre	03 23 04.7	
	comp=Z,6.8nm,0.9s,baz=102,slow=2.7,SNR=8.8								
WRA				PKP	**PKPdf**	**03 23 11.2**	**+1.2**
	comp=Z,7.7nm,0.8s,baz=105,slow=2.2,SNR=17								
WB0	**Warramunga Arr**	**140.33**	**238**	PKPdf	**PKPdf**	**03 23 09.5**	**-0.6**
HNS	**HongShan**	**140.45**	**341**	⇓PKP	**PKiKP**	**03 23 11.9**	**-0.4**
HNS				PP	**PP**	**03 26 06.8**	**-0.2**
HNS				SS	SS	03 44 26.8	-3.5
HNS				AMB	AMB		
	comp=Z,350nm,5.9s								
HNS				LR	LR		
	comp=Z,1μm,20.6s								
HNS				LR	LR		
	comp=Z,680nm,20.0s								
HNS				LR	LR		
	comp=Z,2μm,21.2s								
TIA	**Tai'an**	**140.64**	**337**	*e*PKP	PKPdf	03 23 01.9	-8.3
TIA				PP	**PP**	**03 26 04.3**	**-4.0**
TIY	**Taiyuan**	**140.85**	**344**	PKP	**PKPdf**	**03 23 06.5**	**-4.1**
TIY				PP	**PP**	**03 26 06.9**	**-2.7**
TIY				SS	SS	03 44 28.6	-6.6
TIY				AMB	AMB		
	comp=Z,280nm,7.6s								
TIY				LR	LR		
	comp=Z,2μm,23.4s								
TIY				LR	LR		
	comp=Z,1μm,19.2s								
TIY				LR	LR		
	comp=Z,2μm,21.3s								
GTA	**Gaotai**	**141.06**	**359**	PKP	**PKPdf**	**03 23 10.3**	**-0.7**
GTA				PP	**PP**	**03 26 10.6**	**-0.1**
GTA				SS	SS	03 44 27.6	-10
GTA				LR	LR		
	comp=Z,1μm,19.9s								
GTA				LR	LR		
	comp=Z,1μm,18.7s								
GTA				LR	LR		
	comp=Z,2μm,19.9s								
SSE	**Sheshan**	**143.03**	**328**	PKP	**PKiKP**	**03 23 16.6**	**-1.2**
SSE				PP	**PP**	**03 26 20.8**	**-2.4**
SSE				AMB	AMB		
	comp=Z,160nm,11.4s								
SSE				LR	LR		
	comp=Z,500nm,22.5s								
SSE				LR	LR		
	comp=Z,620nm,22.6s								
NJ2	**Nanjing**	**143.44**	**332**	⇓*i*PKP	PKPab	03 23 10.6	-0.7
NJ2				LR	LR		
	comp=Z,1μm,18.0s								
NJ2				LR	LR		
	comp=Z,1μm,21.8s								
NJ2				LR	LR		
	comp=Z,3μm,22.3s								
LYN	**LuoYang**	**143.78**	**342**	*e*PKP	**PKPdf**	**03 23 14.8**	**-1.0**
LYN				PP	**PP**	**03 26 28.4**	**+1.2**
LYN				SS	SS	03 45 07.3	-1.7
LYN				AMB	AMB		
	comp=Z,600nm,7.1s								
LYN				LR	LR		
	comp=Z,1μm,17.2s								
LYN				LR	LR		
	comp=Z,1μm,17.4s								
LYN				LR	LR		
	comp=Z,2μm,20.6s								
GOMU	**GeErMu**	**144.01**	**6**	PKP	PKPbc	03 23 15.3	+0.9
GOMU				pPKP	PKiKP	03 23 18.6	-1.6
GOMU				AMB	AMB		
	comp=Z,460nm,6.1s								
GOMU				LR	LR		
	comp=Z,620nm,21.2s								
GOMU				LR	LR		
	comp=Z,810nm,21.7s								
GOMU				LR	LR		
	comp=Z,540nm,21.8s								
LZH	**Lanzhou**	**144.13**	**354**	⇑PKP	**PKPab**	**03 23 12.3**	**-1.8**
LZH				sPKP		03 23 18.3	
LZH				PP	**PP**	**03 26 29.3**	**-0.1**
LZH				SKKS		03 33 18.3	
LZH				AMB	AMB		
	comp=Z,800nm,9.0s								
LZH				LR	LR		
	comp=Z,2μm,18.3s								
LZH				LR	LR		
	comp=Z,2μm,17.9s								
LZH				LR	LR		
	comp=Z,4μm,20.6s								
XAN	**Xi'an**	**145.25**	**346**	PKP	**PKPbc**	**03 23 15.8**	**-2.2**
XAN				PKPab	**PKPab**	**03 23 18.0**	**-0.1**
XAN				pPKP	pPKPbc	03 23 23.3	-0.1
XAN				SKKS		03 33 24.1	
XAN				AMB	AMB		
	comp=Z,720nm,11.7s								
XAN				LR	LR		
	comp=Z,2μm,20.6s								
XAN				LR	LR		
	comp=Z,1μm,19.6s								
XAN				LR	LR		
	comp=Z,3μm,22.1s								
MTN	**Manton Dam**	**145.93**	**246**	PKPbc	**PKiKP**	**03 23 23.1**	**-1.1**
WHN	**Wuhan**	**146.71**	**336**	⇑PKPbc	**PKPab**	**03 23 23.3**	**-0.3**
WHN				PKPab	pPKPbc	03 23 27.6	-0.1
WHN				LR	LR		
	comp=Z,3μm,17.0s								
WHN				LR	LR		
	comp=Z,1μm,17.3s								
WHN				LR	LR		
	comp=Z,5μm,19.7s								
KNRA	**Kununurra**	**146.94**	**240**		**PKPbc**	**03 23 22.9**	**-0.6**
FAKI	**Fak Fak**	**147.00**	**264**	PKPbc	**PKPbc**	**03 23 23.9**	**0.0**
NACB	**Ninganchiao**	**147.95**	**319**	PKPbc	**PKiKP**	**03 23 27.3**	**-0.8**
PYUN	**Piuthan**	**148.19**	**28**	*e*P	**PKPbc**	**03 23 25.4**	**-1.6**
	comp=Z,189nm,1.0s								
DANN	**Dangsing**	**148.33**	**27**	*e*P	**PKPdf**	**03 23 25.2**	**+1.1**
	comp=Z,304nm,0.8s								
SSLB	**Suanglung**	**148.63**	**320**	PKPbc	**PKPbc**	**03 23 28.1**	**+0.1**
ENH	**Enshi**	**148.66**	**343**	PKPbc	**PKPbc**	**03 23 28.4**	**+0.4**
YULB	**Yu-li**	**148.69**	**319**	IAMs_20	IAMs_20	04 37 56.4	
	comp=Z,1μm,20.0s								
KOLN	**Koldanda**	**148.75**	**28**	*e*P	**PKPdf**	**03 23 26.1**	**+1.4**
	comp=Z,140nm,1.0s								
GKN	**Gorkha**	**149.02**	**26**	*e*P	**PKPdf**	**03 23 26.5**	**+1.4**
	comp=Z,249nm,1.1s								
QZH	**Quanzhou**	**149.24**	**324**	⇑*i*PKPbc	**PKPdf**	**03 23 25.5**	**+0.3**
QZH				*e*PP	**PP**	**03 27 04.9**	**+4.8**
QZH				SKKS		03 33 51.3	
QZH				LR	LR		
	comp=Z,1μm,19.9s								
QZH				LR	LR		
	comp=Z,530nm,18.9s								
QZH				LR	LR		
	comp=Z,1μm,22.7s								
CD2	**Chengdu**	**149.26**	**353**	PKPbc	**PKPdf**	**03 23 25.0**	**-0.2**
CD2				pPKP	PKPbc	03 23 28.4	-1.1
CD2				PP	**PP**	**03 27 01.3**	**+1.8**
CD2				SS	SS	03 46 02.5	-8.4
CD2				AMB	AMB		
	comp=Z,550nm,7.2s								
CD2				LR	LR		
	comp=Z,2μm,23.0s								
CD2				LR	LR		
	comp=Z,2μm,24.5s								
CNSH	**ChangSha**	**149.37**	**336**	⇑PKPbc	**PKPdf**	**03 23 22.8**	**-2.6**
CNSH				LR	LR		
	comp=Z,1μm,19.3s								
CNSH				LR	LR		
	comp=Z,960nm,19.0s								
CNSH				LR	LR		
	comp=Z,2μm,19.0s								
KKN	**Kakani**	**149.48**	**25**	*e*P	**PKPdf**	**03 23 26.5**	**+0.6**
DMN	**Daman**	**149.57**	**26**	*e*P	**PKPdf**	**03 23 26.9**	**+0.8**
GUN	**Gumba**	**149.63**	**24**	*e*P	**PKPdf**	**03 23 27.6**	**+1.3**
LSA	**Lhasa**	**149.71**	**14**	PKHKP	PKPpre	03 23 27.6	
LSA				MLR	MLR		
	comp=Z,2μm,22.0s								
LSA	**Lhasa**	**149.71**	**14**	PKPbc	**PKPdf**	**03 23 27.6**	**+1.1**
LSA				IAMs_20	IAMs_20	04 30 07.9	
	comp=Z,2μm,22.0s								
LSA	**Lhasa**	**149.71**	**14**	PKPbc	**PKPdf**	**03 23 27.8**	**+1.3**
KNMB	**Chin-men Tao**	**149.72**	**324**	IAMs_20	IAMs_20	04 40 31.0	
	comp=Z,1μm,21.0s								
JIRN	**Jiri**	**149.97**	**24**	*e*P	**PKPdf**	**03 23 27.5**	**+0.6**
TAPN	**Taplejung**	**150.84**	**22**	*e*P	**PKPdf**	**03 23 29.6**	**+1.5**
MBWA	**Marble Bar**	**150.86**	**222**		**PKPbc**	**03 23 31.6**	**-2.0**
GYA	**Guiyang**	**153.05**	**345**	⇓PKPbc	**PKPdf**	**03 23 29.3**	**-1.9**
GYA				PKPab	**PKPab**	**03 23 50.0**	**+0.3**
GYA				PP	**PP**	**03 27 21.3**	**-0.1**
GYA				SS	SS	03 46 43.9	-9.3
GYA				AMB	AMB		
	comp=Z,300nm,13.9s								
GYA				LR	LR		
	comp=Z,590nm,26.0s								
GYA				LR	LR		
	comp=Z,640nm,19.6s								
GYA				LR	LR		
	comp=Z,2μm,22.6s								
HYBB	**Hyderabad (bro**	**153.34**	**49**	*e*P	**PKPdf**	**03 23 29.4**	**-2.4**
HYBB				*e*PKiKP	**pPKPdf**	**03 23 37.9**	**+0.9**
HYBB				*e*SKSdf	**SKSdf**	**03 30 36.0**	**-2.8**
PZH	**PanZhiHua**	**153.83**	**355**	PKPbc	**PKPdf**	**03 23 31.3**	**-1.1**
PZH				sPKP		03 23 40.0	
PZH				PKPab	**PKPab**	**03 23 52.8**	**-0.2**
PZH				PP	**PP**	**03 27 28.9**	**+3.2**
PZH				SKS	**SKSdf**	**03 30 35.0**	**-4.3**
PZH				SKKS	**SKKSac**	**03 34 13.3**	**-4.0**
PZH				AMB	AMB		
	comp=Z,470nm,11.6s								
PZH				LR	LR		
	comp=Z,1μm,21.6s								
PZH				LR	LR		
	comp=Z,790nm,20.6s								
PZH				LR	LR		
	comp=Z,2μm,22.6s								
PCHI	**Peechi**	**154.93**	**65**	⇑*e*P	**PKPdf**	**03 23 33.1**	**-0.9**
KMI	**Kunming**	**155.09**	**353**	⇑PKPbc	**PKPdf**	**03 23 32.4**	**-1.9**
KMI				sPKP		03 23 36.8	
LUWI	**Luwuk**	**156.58**	**267**	IAMs_20	IAMs_20	04 50 26.2	
	comp=Z,1μm,20.0s								
QIZ	**Qiongzhong**	**158.73**	**332**	⇑*i*PKP	**PKPdf**	**03 23 38.5**	**-0.3**
QIZ				PP	**PP**	**03 27 56.0**	**+2.7**
QIZ				SKKS		03 34 40.3	
QIZ				AMB	AMB		
	comp=Z,390nm,11.2s								
QIZ				LR	LR		
	comp=Z,1μm,22.3s								
QIZ				LR	LR		
	comp=Z,1μm,19.1s								
QIZ				LR	LR		
	comp=Z,2μm,22.3s								
PALK	**Pallekele**	**160.11**	**69**	P	**PKPdf**	**03 23 37.6**	**-3.0**
CHTO	**Chiang Mai**	**161.58**	**1**	PKIKP	**PKPdf**	**03 23 41.4**	**-0.6**
CHTO						03 24 25.5	
CHTO	**Chiang Mai**	**161.58**	**1**	PKPdf	**PKPdf**	**03 23 41.4**	**-0.6**
CHTO				PKPab	**PKPab**	**03 24 25.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**161.93**	**1**	PKP	**PKPdf**	**03 23 43.2**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=311,slow=1.8,SNR=11								
CMAR				PKPab	**PKPab**	**03 24 28.4**	**+0.5**
	comp=Z,7.3nm,0.8s,baz=341,slow=4.6,SNR=15								
CMAR	**Chiang Mai Arr**	**161.93**	**1**	PKPdf	**PKPdf**	**03 23 41.5**	**-0.8**
CMAR				PKPab	**PKPab**	**03 24 27.9**	**-0.1**

TRN ***22*** *03:05:37.9, 18°.82N×62°.97W, h52km, MD4.3*
ISC 22 03:05:38.4±2.1, 18°.9N±0°.1×62°.99W±0°.07, h65km±19km,
n42,σ1°15/60, 2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRT	**St. Maarten**	**0.82**	**186**	*e*P	**Pn**	**03 05 54.5**	**+0.1**
SMRT	**St. Maarten**	**0.82**	**186**	*e*	Pn	03 05 59.4	+5.0
SMRT				*e*S	**Sn**	**03 06 06.4**	**+0.2**
SEUS	**St. Eustatius**	**1.37**	**180**	*e*P	**Pn**	**03 06 01.8**	**+0.3**
SEUS				*e*S	**Sn**	**03 06 18.4**	**-0.4**
SKOC	**St. Kitts, UWI**	**1.59**	**171**	*e*P	**Pn**	**03 06 04.6**	**+0.2**
SKOC				*e*S	**Sn**	**03 06 23.3**	**-0.7**
ANWB	**Willy Bob**	**1.66**	**136**	*e*P	**Pn**	**03 06 05.7**	**+0.4**
ANWB				*e*S	**Sn**	**03 06 25.4**	**-0.3**
NVRH	**Round Hill, Ne**	**1.72**	**167**	*e*P	**Pn**	**03 06 06.5**	**+0.3**
NVRH				*e*S	**Sn**	**03 06 26.3**	**-0.9**
NVBH	**Bath Hotel, Ne**	**1.78**	**168**	*e*P	**Pn**	**03 06 07.6**	**+0.6**
NVBH				*e*S	**Sn**	**03 06 28.0**	**-0.6**
BPA	**Boggy Peak**	**2.11**	**149**	⇓*i*P	**Pn**	**03 06 11.9**	**+0.4**
BPA				*e*S	**Sn**	**03 06 36.0**	**-0.7**
ANBD	**Bethesda, Anti**	**2.16**	**147**	⇓*i*P	**Pn**	**03 06 12.8**	**+0.8**
ANBD				*e*S	**Sn**	**03 06 37.7**	**0.0**
MBFL	**Flemmings, Mon**	**2.24**	**161**	*e*P	**Pn**	**03 06 13.6**	**+0.4**
MBFL				*e*S	**Sn**	**03 06 39.1**	**-0.6**
MLYT	**Lee's Yard**	**2.27**	**160**	*e*P	**Pn**	**03 06 13.9**	**+0.2**
MLYT				*e*S	**Sn**	**03 06 39.8**	**-0.7**
ABD	**La Joyeuse, An**	**2.78**	**149**	*e*P	**Pn**	**03 06 20.9**	**+0.4**
ABD				*e*S	**Sn**	**03 06 52.1**	**-0.9**
CBE	**Ff, Capester**	**3.08**	**154**	*e*P	**Pn**	**03 06 25.3**	**+0.6**
CBE				*e*S	**Sn**	**03 07 00.3**	**-0.2**
SJG	**San Juan**	**3.09**	**256**	*e*P	**Pn**	**03 06 24.5**	**-0.3**
TBG	**Guadaloupe-3**	**3.27**	**157**	*e*P	**Pn**	**03 06 28.3**	**+1.1**
TBG				*e*S	**Sn**	**03 07 05.2**	**+0.4**
TDBA	**Terre de Bas,**	**3.27**	**156**	*e*P	**Pn**	**03 06 28.4**	**+1.1**
TDBA				*e*S	**Sn**	**03 07 04.5**	**-0.5**
MAGL	**Barre de l'ile**	**3.33**	**150**	*e*P	**Pn**	**03 06 28.8**	**+0.7**
MAGL				*e*S	**Sn**	**03 07 05.5**	**-1.0**
MDVC	**Dominica, Viel**	**3.58**	**155**	*e*P	**Pn**	**03 06 32.5**	**+1.1**
MDVC				*e*S	**Sn**	**03 07 12.7**	**+0.2**
AOPR	**Arecibo Observ**	**3.61**	**262**	*e*P	**Pn**	**03 06 31.3**	**-0.5**
AOPR				*e*S	**Sn**	**03 07 14.0**	**+0.7**
DSLB	**Salisbury**	**3.73**	**156**	*e*P	**Pn**	**03 06 34.5**	**+1.0**
DSLB				*e

HSPB	**Hornsund (broa**	**8.99**	**208**	*eP*	**Pn**	**03**	**12**	**18.8 +0.5**
HSPB	**Hornsund (broa**	**8.99**	**208**	*eP*	**Pn**	**03**	**12**	**20.8 +2.6**
HSPB				*eS*	**Sn**	**03**	**14**	**01.2 +1.9**
HOPEN	**Hopen**	**9.22**	**194**	*eP*	**Pn**	**03**	**12**	**23.0 +1.6**
HOPEN				*eS*	**Sn**	**03**	**14**	**01.7 -3.3**
HOPEN				IAML		03	14	13.0
	comp=Z,5.9nm,1.1s							
HOPEN	**Hopen**	**9.22**	**194**	*eP*	**Pn**	**03**	**12**	**23.2 +1.7**
HOPEN				*eS*	**Sn**	**03**	**14**	**04.7 -0.4**
DAG	**Danmarks Havn**	**11.20**	**251**	*eP*	**Pn**	**03**	**12**	**48.0 -0.5**
BJO1	**Bjornoya**	**11.37**	**201**	*eP*	**Pn**	**03**	**12**	**52.2 +1.3**
BJO1	**Bjornoya**	**11.37**	**201**	*eP*	**Pn**	**03**	**12**	**52.1 +1.3**
BJO1				S	**Sn**	**03**	**14**	**54.3 -3.4**
DBG	**Daneborg**	**13.69**	**249**	*eP*	**Pn**	**03**	**13**	**20.3 -2.1**
TRO	**Tromso**	**16.25**	**199**	*eP*	**Pn**	**03**	**13**	**55.2 -1.3**
JETT	**Jettan, Norway**	**16.29**	**197**	*eP*	**Pn**	**03**	**13**	**55.7 -1.5**
KTK1	**Kautokeino**	**16.78**	**194**	*eP*	**Pn**	**03**	**14**	**01.9 -1.4**

IGQ ***22*** *03:20:08.0±0.8, 0°S±3°×8°1W±°, h4km*

IDC ***22*** *03:20:10.0±0.5, 0°.14S±0°.80'.44W, h0km, mb4.7/25, mb1 4.9/26, mb1mx4.8/39, mbtmp4.7/26, ML4.8/1, MS5.5/32, Ms1 5.5/32, ms1mx5.3/66, Error ellipse: s-maj=20.2km s-min=10.7km az=59.0*

MOS ***22*** *03:20:11.8±1.2, 0°.22S±0°.80'.54W, h15km, mb5.4/23, Error ellipse: s-maj=10.2km s-min=6.6km az=104.1*

NEIC ***22*** *03:20:13.4±1.8, 0°.28S±0°.05×80°.50W±0°.06, h10km±3km, mb5.3/610, Mwb6.0/10, Mww5.9, Error ellipse: s-maj=8.4km s-min=7.5km az=90.0*

NEIC ***22*** *03:20:14.3, 0°.29S×80°.50W, h7km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.91; Mθθ=0.14; Mϕϕ=-0.77; Mrθ=-0.03; Mϕθ=0.22; Mϕr=-1.06; Fault plane solution: M0=1.37000×10¹⁸ NP1:ϕs=176.48000°, δ=70.49000°, λ=98.64000°. NP2:ϕs=332.01000°, δ=21.27000°, λ=67.02000°. Principal axes: T 1.4302, Plg64.0000°, Azm100.0000°; N -0.1233, Plg8.0000°, Azm354.0000°; P -1.3069, Plg25.0000°, Azm260.0000°;*

VAO ***22*** *03:20:15.0±0.4, 0°.45S×80°.20W, h10km, mb5.3*

GCMT ***22*** *03:20:16.4±0.1, 0°.38S±0°.01×80°.85W, h15km, MW5.9/158, Moment Tensor Solution. s120,c189; s158,c476; Duration: 2s4 Moment tensor: Scale 10¹⁷Nm; Mrr=5.01±.08; Mθθ-0.32±.04; Mϕϕ-4.70±.06; Mrθ-0.16±.11; Mϕθ-0.51±.03; Mϕr-6.88±.21; Best double couple: M0=8.43800×10¹⁷ NP1:ϕs=10.00000°, δ=18.00000°, λ=97.00000°. NP2:ϕs=182.00000°, δ=72.00000°, λ=88.00000°. Principal axes: T 8.5760, Plg63.0000°, Azm89.0000°; N -0.2840, Plg2.0000°, Azm183.0000°; P -8.3000, Plg27.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***22*** *03:20:21, 0°.19S×80°.61W, h12km, Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10¹⁷Nm; Mrr=4.53; Mθθ=0.42; Mϕϕ-4.95; Mrθ-0.26; Mϕθ-1.24; Mϕr-8.68; Fault plane solution: M0=9.98000×10¹⁷ NP1:ϕs=24.00000°, δ=15.00000°, λ=111.00000°. NP2:ϕs=183.00000°, δ=75.00000°, λ=84.00000°. Principal axes: T 9.6973, Plg59.0000°, Azm85.0000°; N 0.5352, Plg5.0000°, Azm184.0000°; P -10.2325, Plg30.0000°, Azm277.0000°;*

ISC 22 03:20:12.5±0.7, 0°.31S±0°.03×80°.69W±0°.03, h17km±4km, n1128, σ1s57/889, mb5.2/340, MS5.6/50, 3C-17D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAB1	**Cabo Pasado-Ma**	**0.27**	**107**	P	**Pg**	**03 20 19.0**	**+0.5**
CAB1				S	**Sg**	**03 20 25.0**	**+2.4**
JAMA	**Jama**	**0.49**	**85**	P	**Pg**	**03 20 20.0**	**-2.3**
JAMA				S	**Sb**	**03 20 29.0**	**-0.6**
CHIS	**Cerro-Chispas-**	**0.74**	**183**	P	**Pg**	**03 20 25.0**	**-2.0**
FLF1	**Flavio Alfaro-**	**0.85**	**93**	P	**Pg**	**03 20 27.0**	**-2.0**
FLF1				S	**Sn**	**03 20 44.0**	**+2.1**
MAG1	**Magdalena**	**0.95**	**76**	P	**Pg**	**03 20 28.0**	**-2.9**
PPLP	**Puerto Lpez**	**1.23**	**184**	P	**Pn**	**03 20 32.0**	**-3.0**
PPLP				S	**Sb**	**03 20 50.0**	**-1.1**
PPLP	**Puerto Lpez**	**1.23**	**184**	P	**Pn**	**03 20 32.0**	**-3.0**
PPLP				S	**Sb**	**03 20 51.0**	**-0.1**
AV18	**Acelerografo,**	**1.36**	**63**	P	**Pn**	**03 20 34.0**	**-2.7**
AV18				S	**Sn**	**03 21 00.0**	**+5.6**
AV21	**Acelerografo,**	**1.49**	**50**	P	**Pn**	**03 20 37.0**	**-1.6**
BV15	**Puerto Quito-O**	**1.54**	**73**	P	**Pn**	**03 20 36.0**	**-3.2**
AMA1	**Acelerografo,**	**1.57**	**38**	P	**Pn**	**03 20 37.0**	**-2.6**
APR2	**Miler**	**1.77**	**78**	P	**Pn**	**03 20 39.0**	**-3.4**
ILLI	**Illinizas Sur**	**2.00**	**102**	P	**Pn**	**03 20 44.0**	**-2.0**
HPAL	**Hacienda Las P**	**2.04**	**88**	P	**Pn**	**03 20 44.0**	**-2.4**
GGPT	**Toaza - Volcan**	**2.07**	**88**	P	**Pn**	**03 20 44.0**	**-2.9**
PAST	**Pastocalle**	**2.08**	**101**	P	**Pn**	**03 20 45.0**	**-2.1**
JUA2	**San Juan 2**	**2.09**	**87**	P	**Pn**	**03 20 45.0**	**-2.2**
PINO	**Pino**	**2.09**	**86**	P	**Pn**	**03 20 45.0**	**-2.3**
TERV	**Terraza Guagua**	**2.09**	**86**	P	**Pn**	**03 20 45.0**	**-2.3**
APR1	**Acelerografo,**	**2.09**	**83**	P	**Pn**	**03 20 45.0**	**-2.2**
AMIL	**Milagro (Trans**	**2.12**	**149**	P	**Pn**	**03 20 47.0**	**-0.2**
YANA	**Yana**	**2.13**	**85**	P	**Pn**	**03 20 45.0**	**-2.7**
PULU	**Pululahua**	**2.21**	**82**		**Pn**	**03 20 47.0**	**-1.8**
PULU	**Pululahua**	**2.21**	**82**	P	**Pn**	**03 20 46.0**	**-2.8**
CAMI	**Rancho Maria**	**2.22**	**100**	P	**Pn**	**03 20 48.0**	**-1.0**
PORT	**Chimborazo Vol**	**2.24**	**121**		**Pn**	**03 20 49.1**	**-0.2**
PORT	**Chimborazo Vol**	**2.24**	**121**	P	**Pn**	**03 20 49.0**	**-0.3**
BNAS	**Cotopaxi Volca**	**2.24**	**99**	P	**Pn**	**03 20 48.0**	**-1.3**
NAS2	**Nasa**	**2.25**	**99**	P	**Pn**	**03 20 49.0**	**-0.4**
BMOR	**Cotopaxi Volca**	**2.27**	**101**	P	**Pn**	**03 20 49.0**	**-0.8**
PITA	**Cotopaxi Volc**	**2.27**	**96**	P	**Pn**	**03 20 49.0**	**-0.7**
TAMH	**Tambohuasha Ch**	**2.27**	**123**	P	**Pn**	**03 20 49.0**	**-0.7**
BREF	**Cotopaxi Volca**	**2.28**	**99**	P	**Pn**	**03 20 49.0**	**-1.0**
OTAV	**Otavalo**	**2.30**	**76**	P	**Pn**	**03 20 47.8**	**-2.3**
OTAV	**Otavalo**	**2.30**	**76**		**Pn**	**03 20 47.8**	**-2.3**
BVC2	**Cotopaxi Volca**	**2.31**	**99**	P	**Pn**	**03 20 49.0**	**-1.3**
VC1	**Cotopaxi 1**	**2.31**	**98**	P	**Pn**	**03 20 50.0**	**-0.3**
BTAM	**Cotopaxi Volca**	**2.32**	**99**	P	**Pn**	**03 20 50.0**	**-0.5**
AV11	**Acelerografo,**	**2.33**	**84**	P	**Pn**	**03 20 49.0**	**-1.3**
VCES	**Cotopaxi**	**2.35**	**102**	P	**Pn**	**03 20 50.0**	**-0.8**
TAMB	**Tambo**	**2.35**	**99**	P	**Pn**	**03 20 50.0**	**-0.9**
IGUA	**Igualata**	**2.37**	**120**	P	**Pn**	**03 20 51.0**	**-0.1**
CUSE	**Cuicocha Este**	**2.37**	**75**	*eP*	**Pn**	**03 20 49.0**	**-2.0**
CUSE	**Cuicocha Este**	**2.37**	**75**	P	**Pn**	**03 20 50.0**	**-1.0**
CUIC	**Cuicocha-Domo**	**2.41**	**75**	P	**Pn**	**03 20 49.0**	**-2.5**
CUSW	**Cuicocha Oeste**	**2.41**	**76**	P	**Pn**	**03 20 50.0**	**-1.6**
COTA	**Cotacachi**	**2.44**	**75**	P	**Pn**	**03 20 50.0**	**-2.0**
ANTG	**Antisana-Guama**	**2.44**	**95**	P	**Pn**	**03 20 51.0**	**-1.1**
BIL2	**Estacion Bilba**	**2.47**	**118**	P	**Pn**	**03 20 52.0**	**-0.3**
ANTM	**Antisana-La Mi**	**2.48**	**95**	P	**Pn**	**03 20 52.0**	**-0.6**
BBIL	**Ulba Tungurahu**	**2.48**	**117**	P	**Pn**	**03 20 52.0**	**-0.4**
JUI6	**Juive**	**2.48**	**117**	P	**Pn**	**03 20 52.0**	**-0.5**
POND	**Pondoa**	**2.50**	**116**	P	**Pn**	**03 20 52.0**	**-0.7**
BMAS	**Trigal station**	**2.51**	**118**	P	**Pn**	**03 20 53.0**	**+0.1**
RETU	**Refugio**	**2.52**	**117**	P	**Pn**	**03 20 53.0**	**-0.1**
APSY	**Ecuador-Napo A**	**2.52**	**105**	P	**Pn**	**03 20 54.0**	**+1.0**
PIAT	**Ana Tenorio**	**2.52**	**106**	P	**Pn**	**03 20 52.0**	**-1.1**
ANTS	**Antisana-Sarah**	**2.53**	**94**	P	**Pn**	**03 20 53.0**	**-0.3**
ANTI	**Antisana**	**2.53**	**93**	P	**Pn**	**03 20 53.0**	**-0.4**
ARRY	**Arrayan**	**2.53**	**118**	P	**Pn**	**03 20 53.0**	**-0.2**
BRUN	**Tungurahua Vol**	**2.53**	**116**	P	**Pn**	**03 20 53.0**	**-0.2**
URCU	**Urcuqui**	**2.54**	**73**	P	**Pn**	**03 20 52.0**	**-1.4**
BPAT	**Tungurahua Vol**	**2.55**	**118**	P	**Pn**	**03 20 53.0**	**-0.6**
ALIT	**Ecuador-Imbabu**	**2.57**	**65**	P	**Pn**	**03 20 52.0**	**-1.6**
COHC	**Cochancay**	**2.58**	**146**		**Pn**	**03 20 53.1**	**-0.5**
AIB2	**Ibarra (Univer**	**2.67**	**76**	P	**Pn**	**03 20 55.0**	**0.0**
ISPG	**Isla Puna-Puer**	**2.70**	**169**	P	**Pn**	**03 20 57.0**	**+1.8**
CAYR	**Refugio Cayamb**	**2.70**	**83**	P	**Pn**	**03 20 56.0**	**+0.2**
YAHU	**Yahuarcocha**	**2.70**	**76**	P	**Pn**	**03 20 55.0**	**-0.6**
ANGU	**Angureal**	**2.71**	**83**	P	**Pn**	**03 20 56.0**	**+0.2**
CAYA	**Cayambe**	**2.73**	**82**	P	Pn	03 20 51.0	-5.0
CHMA	**Chilma**	**2.87**	**66**	P	**Pn**	**03 20 55.0**	**-2.8**
LNGL	**El Angel-Carch**	**2.88**	**69**	P	**Pn**	**03 20 58.0**	**-0.1**
SANGA	**Volcan Sangay**	**2.90**	**127**	P	**Pn**	**03 20 57.0**	**-1.3**
PUYO	**Puyo, Santa Ro**	**2.92**	**114**	P	**Pn**	**03 21 01.0**	**+2.7**
ECEN	**Cerro Negro**	**2.94**	**68**	P	**Pn**	**03 20 57.0**	**-2.0**
CHL1	**Volc¡n Chiles**	**2.95**	**68**	P	**Pn**	**03 20 57.0**	**-2.2**
ARDO	**Archidona, Ten**	**2.97**	**103**	P	**Pn**	**03 21 00.0**	**+1.0**
CHL2	**Volc¡n Chiles**	**2.98**	**68**	P	**Pn**	**03 20 57.0**	**-2.5**
CONE	**Cono NE Rev Vo**	**3.06**	**86**	P	**Pn**	**03 21 01.0**	**+0.6**
TULM	**Tulcn-Chalpat**	**3.08**	**71**		**Pn**	**03 21 01.1**	**+0.3**
TULM	**Tulcn-Chalpat**	**3.08**	**71**	*eP*	**Pn**	**03 21 02.4**	**+1.6**
TULM	**Tulcn-Chalpat**	**3.08**	**71**	P	**Pn**	**03 21 00.0**	**-0.8**
ACUE	**Ecuador-Cuenca**	**3.11**	**146**	P	**Pn**	**03 21 03.0**	**+1.8**
ATUL	**Tulcn**	**3.15**	**70**	P	**Pn**	**03 21 03.0**	**+1.3**
BONI	**La Bonita**	**3.25**	**77**	P	**Pn**	**03 21 03.0**	**0.0**
ARNL	**Arenillas**	**3.28**	**169**		**Pn**	**03 21 04.4**	**+1.3**
ARNL	**Arenillas**	**3.28**	**169**	P	**Pn**	**03 21 04.0**	**+0.8**
CASC	**Dorado de Casc**	**3.38**	**83**	P	**Pn**	**03 21 04.0**	**-0.7**
BOSC	**San Juan Bosco**	**3.58**	**142**		**Pn**	**03 21 09.3**	**+1.9**
BOSC				Sn	**Sn**	**03 21 54.9**	**+5.5**
BOSC	**San Juan Bosco**	**3.58**	**142**	P	**Pn**	**03 21 11.0**	**+3.6**
GCUF	**Volcan Galeras**	**3.67**	**66**	*eP*	**Pn**	**03 21 09.1**	**0.0**
CPAS1	**Pasto**	**3.68**	**66**	*eP*	**Pn**	**03 21 11.0**	**+1.9**
CPAS2	**Pasto**	**3.76**	**66**	*eP*	**Pn**	**03 21 11.0**	**+0.9**
MCRA	**Macar, Loja**	**4.10**	**170**		**Pn**	**03 21 16.4**	**+1.9**
MCRA	**Macar, Loja**	**4.10**	**170**	P	**Pn**	**03 21 14.0**	**-0.6**
GR1C	**Gorgona, Isla**	**4.14**	**37**	*eP*	**Pn**	**03 21 12.9**	**-2.1**
CRUC	**La Cruz**	**4.18**	**64**	*eP*	**Pn**	**03 21 17.4**	**+0.9**
SOTA	**Rioblanco**	**4.75**	**59**	*eP*	**Pn**	**03 21 24.4**	**+0.6**
ZUMB	**Zumba**	**4.78**	**161**	P	**Pn**	**03 21 27.0**	**+3.0**
POPC	**Popayan, Colom**	**4.91**	**55**	*eP*	**Pn**	**03 21 24.4**	**-1.4**
PCON	**Cinco Dias**	**5.03**	**59**	*eP*	**Pn**	**03 21 30.1**	**+2.4**
MARP	**Paez Belalcaza**	**5.67**	**57**	*eP*	**Pn**	**03 21 35.8**	**-0.5**
GARC	**Garzon, Huila**	**5.76**	**64**	*eP*	**Pn**	**03 21 37.7**	**+0.3**
PTLC	**Puerto Leguiza**	**5.91**	**85**	*eP*	**Pn**	**03 21 39.6**	**+0.2**
BETC	**Betania**	**6.03**	**60**	*eP*	**Pn**	**03 21 38.7**	**-2.3**
YOTC	**Yotoco, Valle**	**6.08**	**46**	*eP*	**Pn**	**03 21 45.4**	**+3.5**
PIZC	**Pizarro, Choco**	**6.20**	**32**	*eP*	**Pb**	**03 21 58.8**	**-1.4**
PLMC	**San Jos del P**	**6.80**	**40**	*eP*	**Pn**	**03 21 51.1**	**-0.5**
ORTC	**Ortega, Tolima**	**6.87**	**52**	*eP*	**Pn**	**03 21 55.9**	**+3.4**
ANIL	**Santa Ana**	**7.11**	**48**	*eP*	**Pn**	**03 21 58.8**	**+2.6**
MACC	**Macarena, Meta**	**7.26**	**70**	*eP*	**Pn**	**03 21 57.8**	**-0.1**
GUY2C	**Guyana, Caldas**	**7.65**	**44**	*eP*	Pn	03 22 13.1	+9.5
CBOC	**Ciudad Bolivar**	**7.71**	**37**	*eP*	**Pn**	**03 22 04.5**	**+0.3**
ROSC	**El Rosal**	**8.16**	**51**	Pn	**Pn**	**03 22 10.5**	**-0.1**
	4.8nm,0.3s,baz=194,slow=7.4,SNR=15						
ROSC				Sn	**Sn**	**03 23 47.6**	**+4.8**
	baz=177,slow=20,SNR=1.9						
ROSC	**El Rosal**	**8.16**	**51**	P	**Pn**	**03 22 11.1**	**+0.4**
ROSC	**El Rosal**	**8.16**	**51**	Pn	**Pn**	**03 22 11.1**	**+0.4**
ROSC	**El Rosal**	**8.16**	**51**	*eP*	Pn	03 22 16.9	+6.3
NORC	**Norcasia**	**8.23**	**45**	*eP*	Pn	03 22 16.0	+4.6
VILC	**Villavicencio,**	**8.26**	**58**	*eP*	**Pn**	**03 22 13.1**	**+1.4**
HELC	**Santa Helena**	**8.26**	**39**	*eP*	Pn	03 22 17.9	+5.9
CHIC	**Chingaza**	**8.51**	**55**	*eP*	**Pn**	**03 22 16.0**	**+0.6**
GUVC	**San Jose del G**	**8.54**	**71**	*eP*	**Pn**	**03 22 16.0**	**+0.4**
SPBC	**San Pablo de B**	**8.87**	**48**	*eP*	**Pn**	**03 22 23.6**	**+3.5**
CDITO	**Canoas**	**9.09**	**346**		**Pn**	**03 22 24.9**	**+2.0**
PTBC	**PUERTO BERRIO,**	**9.22**	**42**	*eP*	Pn	03 22 34.1	+9.3
BRU2	**Volcan**	**9.26**	**348**	Pn	**Pn**	**03 22 27.3**	**+1.8**
RIOS	**Rincon, Osa**	**9.38**	**343**		**Pn**	**03 22 26.7**	**+1.7**
BCIP	**Isla Barro Col**	**9.45**	**5**	P	Pn	**03 22 29.6**	**+1.6**
BCIP	**Isla Barro Col**	**9.45**	**5**	Pn	**Pn**	**03 22 29.6**	**+1.6**
PAYG	**Puerto Ayora**	**9.60**	**268**	Pn	**Pn**	**03 22 32.6**	**+2.5**
ZARC	**Zaragoza, Cauc**	**9.69**	**37**	Pn	**Pn**	**03 22 31.0**	**-0.3**
ZARC	**Zaragoza, Cauc**	**9.69**	**37**	*eP*	**Pn**	**03 22 34.1**	**+2.9**
RUSC	**La Rusia**	**9.78**	**51**	*eP*	**Pn**	**03 22 36.0**	**+3.1**
DRK0	**Durika**	**9.84**	**345**		**Pn**	**03 22 35.6**	**+2.1**
SRBA	**San Rafael, Bu**	**9.84**	**344**		**Pn**	**03 22 35.2**	**+1.8**
PEZE	**Perez Zeledon,**	**10.07**	**343**		**Pn**	**03 22 39.0**	**+2.4**
BARC	**Barichara**	**10.15**	**47**	*eP*	**Pn**	**03 22 38.9**	**+1.1**
RIMA	**Rio Macho**	**10.49**	**343**		**Pn**	**03 22 44.5**	**+2.1**
JACO	**JACO, Garabito**	**10.66**	**338**	Pn	**Pn**	**03 22 48.1**	**+3.5**
CZSB	**Cruzeiro do Su**	**10.85**	**133**	*eP*	**Pn**	**03 22 47.3**	**+0.1**
OCAC	**Ocana**	**11.23**	**41**	*eP*	Pn	03 23 00.9	+8.4
JTS	**Las Juntas de**	**11.35**	**338**	Pn	**Pn**	**03 22 55.4**	**+1.3**
	0.4nm,0.3s,baz=210,slow=3.1,SNR=16						
TBTG	**Tabatinga, AM**	**11.44**	**110**	*eP*	**Pn**	**03 22 57.1**	**+1.8**
SJCC	**San Jacinto, C**	**11.52**	**28**	Pn	**Pn**	**03 22 57.3**	**+0.8**
SJCC	**San Jacinto, C**	**11.52**	**28**	*eP*	**Pn**	**03 22 57.1**	**+0.6**
NNA	**Nana**	**12.22**	**162**	Pn	**Pn**	**03 23 08.1**	**+2.1**
	7.1nm,0.3s,baz=320,slow=12,SNR=15						
NNA				Sn	**Sn**	**03 25 19.1**	**-2.9**
	7.7nm,0.3s,baz=222,slow=17,SNR=1.9						
NNA				LR	LR	03 27 28.5	
	comp=Z,19µm,19.0s,baz=344,slow=36						
NNA	**Nana**	**12.22**	**162**		**Pn**	**03 23 06.9**	**+1.0**
SOCV	**Socops**	**13.00**	**49**	*eP*	**Pn**	**03 23 20.0**	**+3.4**
SDV	**Santo Domingo**	**13.56**	**47**	Pn	**Pn**	**03 23 24.2**	**-0.2**
	0.6nm,0.3s,baz=228,slow=9.7,SNR=10						
SDV				LR	LR	03 29 26.3	
	comp=Z,27µm,20.5s,baz=208,slow=42						
SDV	**Santo Domingo**	**13.56**	**47**	*eP*	**Pn**	**03 23 23.8**	**-0.5**
SDV	**Santo Domingo**	**13.56**	**47**	*eP*	**Pn**	**03 23 24.1**	**-0.3**
BAUV	**El Baul**	**15.59**	**54**	Pn	**Pn**	**03 23 51.2**	**-0.5**
BAUV				IAmb	IAmb	03 24 13.1	
	comp=Z,296nm,1.3s						
TGUH	**Tegucigalpa,Un**	**15.69**	**336**	IAmb	IAmb	03 24 04.1	
	comp=Z,350nm,1.2s						
SNET	**Serv Nac Est T**	**16.27**	**329**	Pn	**Pn**	**03 24 01.5**	**+0.9**
SNET				IAmb	IAmb	03 24 18.2	
	comp=Z,305nm,1.1s						
MTO3	**Montecristo**	**16.94**	**330**	IAmb	IAmb	03 24 21.1	
	comp=Z,232nm,1.5s						
ETMB	**Extrema**	**17.23**	**124**	*eP*	**Pn**	**03 24 08.5**	**-4.0**
BIRV	**Birongo**	**17.90**	**53**	Pn	**Pn**	**03 24 17.6**	**-3.3**
MTDJ	**Mount Denham**	**18.68**	**9**	P	**P**	**03 24 28.4**	**-1.6**
MTDJ				IAmb	IAmb	03 24 38.3	
	comp=Z,245nm,1.4s						
CCIG	**Comitan**	**19.98**	**326**	P	**P**	**03 24 45.8**	**+1.3**
LPAZ	**La Paz**	**20.14**	**143**	P	**P**	**03 24 47.6**	**+0.9**
	comp=Z,26nm,0.7s,baz=309,slow=9.7,SNR=45						
LPAZ				PcP	**PcP**	**03 28 55.2**	**-6.5**
	comp=Z,15nm,1.0s,baz=175,slow=12,SNR=3.9						
LPAZ				LR	LR	03 34 23.7	
	comp=Z,36µm,20.6s,baz=310,slow=42						
LPAZ	**La Paz**	**20.14**	**143**	P	**P**	**03 24 46.8**	**+0.1**
LPAZ				IAmb	IAmb	03 25 13.7	
	comp=Z,103nm,1.1s						
MACA	**Manacapuru-AM**	**20.20**	**98**	*eP*	**P**	**03 24 44.7**	**-1.9**
BOAV	**Boa Vista**	**20.34**	**82**	*eP*	**P**	**03 24 47.3**	**-1.0**
AP01	**Chacalluta**	**20.63**	**151**	P	**P**	**03 24 51.0**	**-0.3**
GTBY	**Guantanamo Bay**	**20.84**	**15**	P	**P**	**03 24 52.9**	**-0.6**
GTBY				IAmb	IAmb	03 25 21.3	
	comp=Z,134nm,1.4s						
PB12	**IPOC Station P**	**20.85**	**151**	P	**P**	**03 24 53.8**	**+0.1**
PB12				IAmb	IAmb	03 25 01.3	
	comp=Z,223nm,1.3s						
PB16	**IPOC Station P**	**21.02**	**149**	IAmb	IAmb	03 25 22.2	
	comp=Z,152nm,1.0s						
SDDR	**Presa de Saban**	**21.27**	**25**	IAmb	IAmb	03 25 25.3	
	comp=Z,202nm,1.4s						
CMIG	**Matias Romero**	**22.24**	**322**	P	**P**	**03 25 08.3**	**-0.3**
	comp=Z,23nm,1.1s,baz=130,slow=8.3,SNR=20						
CMIG				LR	LR	03 30 41.3	
	comp=Z,7µm,19.0s,baz=152,slow=28						
GO01	**Chusmiza**	**22.30**	**150**	P	**P**	**03 25 10.0**	**+0.2**
PRSN	**Puerto Rico Se**	**22.72**	**35**	P	**P**	**03 25 13.4**	**-0.4**
CELP	**Cerrillos**	**22.94**	**37**	P	**P**	**03 25 15.7**	**-0.4**
CELP				IAmb	IAmb	03 25 21.1	
	comp=Z,137nm,1.3s						
TOSP	**Speyside**	**23.11**	**59**	P	**P**	**03 25 17.1**	**-0.8**
SJG	**San Juan**	**23.23**	**37**	P	**P**	**03 25 17.5**	**-1.5**
	comp=Z,55nm,1.0s,baz=225,slow=7.2,SNR=7.9						
SJG				LR	LR	03 35 48.9	
	comp=Z,12µm,20.0s,baz=196,slow=41						
SJG	**San Juan**	**23.23**	**37**	P	**P**	**03 25 19.7**	**+0.7**
SJG				pmax	pmax		
	comp=Z,290nm,1.3s						
SJG	**San Juan**	**23.23**	**37**	P	**P**	**03 25 19.7**	**+0.7**
MTP	**Monte Pirata**	**23.58**	**38**	P	**P**	**03 25 20.8**	**-1.8**
MTP				IAmb	IAmb	03 25 43.3	
	comp=Z,98nm,0.9s						
CDVI	**St. Croix**	**23.82**	**40**	P	**P**	**03 25 24.5**	**-0.4**
VILB	**Vilhena**	**23.88**	**123**	*eP*	**P**	**03 25 25.4**	**-0.1**
CUPR	**Culebra, Puert**	**23.91**	**39**	P	**P**	**03 25 25.8**	**+0.1**
CUPR				IAmb	IAmb	03 25 53.2	
	comp=Z,97nm,1.2s						
BIM	**Bigot**	**24.37**	**52**	P	**P**	**03 25 29.6**	**-0.5**
SVN	**Savane Anatole**	**24.48**	**51**	P	**P**	**03 25 30.7**	**-0.4**
MPOM	**Morne Pois Mar**	**24.49**	**52**	P	**P**	**03 25 29.9**	**-1.2**
SIV	**San Ignacio**	**24.85**	**130**	P	**P**	**03 25 33.7**	**-0.8**
	comp=Z,42nm,1.1s,baz=298,slow=9.1,SNR=28						
SIV				LR	LR	03 36 11.4	
	comp=Z,66µm,18.5s,baz=317,slow=39						
LVC	**Limon Verde**	**24.96**	**153**	P	**P**	**03 25 36.4**	**+0.8**
	comp=Z,38nm,0.8s,baz=324,slow=6.6,SNR=31						
LVC				LR	LR	03 37 09.0	
	comp=Z,8µm,18.0s,baz=329,slow=41						
LVC	**Limon Verde**	**24.96**	**153**	P	**P**	**03 25 36.5**	**+0.8**
LVC	**Limon Verde**	**24.96**	**153**	*eP*	**P**	**03 25 36.4**	**+0.8**
TLIG	**Tlapa**	**25.00**	**316**	P	**P**	**03 25 38.5**	**+2.6**
TLIG				IAmb	IAmb	03 26 03.8	
	comp=Z,64nm,1.3s						
PB10	**IPOC Station P**	**25.08**	**158**	P	**P**	**03 25 37.1**	**+0.7**
PB15	**IPOC Station P**	**25.24**	**155**	IAmb	IAmb	03 25 47.6	
	comp=Z,86nm,1.3s						
ITTB	**Itaituba**	**25.25**	**100**	*eP*	**P**	**03 25 35.9**	**-2.2**
PTLB	**Pontes e Lacer**	**26.07**	**126**	*eP*	**P**	**03 25 45.0**	**-0.4**
NPGB	**Novo Progresso**	**26.14**	**105**	*eP*	**P**	**03 25 43.9**	**-2.2**
PDRB	**Porto dos Gac**	**26.31**	**116**	*eP*	**P**	**03 25 47.4**	**-0.2**
MALB	**Monte Alegre**	**26.46**	**94**	*eP*	**P**	**03 25 49.1**	**+0.1**
CLDB	**Colider**	**26.88**	**114**	*eP*	**P**	**03 25 51.1**	**-1.7**
GO02	**Mina Guanaco**	**26.94**	**157**	IAmb	IAmb	03 25 56.7	
	comp=Z,119nm,1.3s						
DWPF	**Disney Wildern**	**28.26**	**359**	P	**P**	**03 26 02.6**	**-2.4**
	baz=178						
NBRS	**Nobres**	**28.31**	**121**	*eP*	**P**	**03 26 04.6**	**-1.0**
MDP	**Montagnes des**	**28.52**	**79**	P	**P**	**03 26 05.5**	**-2.1**
	comp=Z,12nm,0.8s,baz=247,slow=9.5,SNR=5.0						
MDP				LR	LR	03 37 07.7	
	comp=Z,15µm,21.0s,baz=259,slow=36						
AC02	**Maricunga**	**28.63**	**158**	IAmb	IAmb	03 26 12.6	
	comp=Z,67nm,1.2s						
MCPB	**Macapa, AP**	**28.63**	**90**	*eP*	**P**	**03 26 06.7**	**-1.8**
AC06	**Mina Casimiro**	**28.67**	**161**	P	**P**	**03 26 09.7**	**+1.0**
AC06				IAmb	IAmb	03 26 11.7	
	comp=Z,82nm,1.5s						
SALV	**Santo Antonio**	**29.13**	**123**	*eP*	**P**	**03 26 12.9**	**+0.1**
PP1B	**Ponte de Pedra**	**30.66**	**125**	*eP*	**P**	**03 26 26.9**	**+0.4**
VCA	**Vinchina**	**30.69**	**158**	*eP*	**P**	**03 26 29.4**	**+2.7**
ZAIG	**Zacatecas**	**31.30**	**319**	P	**P**	**03 26 33.6**	**+1.3**
ZAIG				IAmb	IAmb	03 26 41.6

baz=184
GO05 **Huala** 35.48 168 P P 03 27 08.6 +0.2
W50A **Signal Mountai** 35.59 353 IAmb IAmb 03 27 15.9
comp=Z,32nm,0.8s
W50A **Signal Mountai** 35.59 353 P P 03 27 08.9 -0.3
baz=172,SNR=5.8
OXF **Oxford** 35.59 348 IAmb IAmb 03 27 15.6
comp=Z,37nm,0.9s
OXF **Oxford** 35.59 348 P P 03 27 11.3 +2.2
baz=165,SNR=6.7
OXF **Oxford** 35.59 348 P P 03 27 09.3 +0.1
baz=165,SNR=6.7
JCT **Junction City** 35.61 331 P P 03 27 10.4 +0.9
baz=146,SNR=42
JCT **Junction City** 35.61 331 P P 03 27 09.6 +0.1
baz=146,SNR=42
BDFB **Brasilia** 35.67 117 P P 03 27 09.4 -0.9
comp=Z,23nm,1.1s,baz=286,slow=12,SNR=5.8
BDFB LR LR 03 42 37.5
comp=Z,20µm,18.2s,baz=302,slow=38
BDFB **Brasilia** 35.67 117 IAmb IAmb 03 27 20.7
comp=Z,44nm,1.2s
SWET **Sewanee** 35.68 353 IAmb IAmb 03 27 14.5
comp=Z,33nm,0.8s
CPCT **Cooper Cave** 35.75 355 IAmb IAmb 03 27 15.7
comp=Z,50nm,0.8s
WHTX **Lake Whitney,** 35.83 335 P P 03 27 12.2 +0.9
WHTX **Lake Whitney,** 35.83 335 P P 03 27 11.2 -0.1
baz=150
V53A **Saluda** 35.85 357 P P 03 27 09.8 -1.7
baz=176,SNR=6.6
V53A P P 03 27 09.8 -1.7
baz=176,SNR=6.6
TKL **Tuckaleechee C** 35.90 356 LR LR 03 40 50.4
comp=Z,7µm,21.5s,baz=176,slow=35
TKL **Tuckaleechee C** 35.90 356 IAmb IAmb 03 27 16.6
comp=Z,28nm,1.0s
TKL **Tuckaleechee C** 35.90 356 P P 03 27 09.7 -2.2
baz=174
V58A **Windy Hill, Pi** 35.95 2 IAmb IAmb 03 27 17.1
comp=Z,30nm,0.9s
V52A **Sevierville** 36.06 356 IAmb IAmb 03 27 20.1
comp=Z,46nm,1.1s
V52A **Sevierville** 36.06 356 P P 03 27 11.3 -2.0
baz=175
V51A **Loudon** 36.09 355 IAmb IAmb 03 27 18.4
comp=Z,43nm,0.9s
V51A **Loudon** 36.09 355 P P 03 27 11.9 -1.6
baz=174,SNR=6.2
W45A **Hickory Valley** 36.16 348 P P 03 27 13.3 -0.8
baz=165,SNR=8.4
HPIG 36.21 320 P P 03 27 16.7 +1.8
V48A **Smith Brothers** 36.31 352 IAmb IAmb 03 27 20.1
comp=Z,48nm,0.9s
V48A **Smith Brothers** 36.31 352 P P 03 27 12.7 -2.7
baz=169,SNR=24
ML02 **Panimavida** 36.32 167 P P 03 27 16.3 +0.9
X40A **Basin Creek Fa** 36.43 343 P P 03 27 16.3 -0.1
baz=159
IPMB **Ipameri, GO** 36.44 121 eP P 03 27 15.1 -1.8
U56A **King** 36.47 0 IAmb IAmb 03 27 24.1
comp=Z,50nm,1.1s
UALR **University of** 36.56 344 IAmb IAmb 03 27 24.5
comp=Z,54nm,1.1s
U59A **Littleton** 36.57 4 IAmb IAmb 03 27 44.8
comp=Z,46nm,1.4s
ROSB **Rosrio** 36.64 94 eP P 03 27 17.4 -1.1
MIAR **Mount Ida** 36.71 342 P P 03 27 18.9 +0.1
MIAR pmax pmax
comp=Z,29nm,1.1s
MIAR **Mount Ida** 36.71 342 P P 03 27 18.9 +0.1
MIAR **Mount Ida** 36.71 342 P P 03 27 17.0 -1.8
baz=158,SNR=14
MIAR **Mount Ida** 36.71 342 P P 03 27 18.1 -0.7
baz=158,SNR=14
TXAR **Lajitas Arras** 36.74 325 P P 03 27 19.6 +0.3
comp=Z,5.1nm,0.9s,baz=135,slow=8.5,SNR=14
TXAR PcP PcP 03 29 40.7 -1.0
comp=Z,0.2nm,0.5s,baz=289,slow=20,SNR=1.4
TX31 **Lajitas Ar. Si** 36.74 325 IAmb IAmb 03 27 25.7
comp=Z,47nm,1.1s
TX31 **Lajitas Ar. Si** 36.74 325 P P 03 27 20.3 +1.0
baz=139,SNR=6.9
TZTN **Tazewell** 36.76 356 IAmb IAmb 03 27 24.0
comp=Z,35nm,0.9s
TZTN **Tazewell** 36.76 356 P P 03 27 22.0 +2.7
baz=175,SNR=6.7
TZTN **Tazewell** 36.76 356 P P 03 27 18.0 -1.2
baz=175,SNR=6.7
PTGB **Pitanga** 36.82 133 eP P 03 27 19.0 -1.1
WVT **Waverly** 36.85 350 P P 03 27 21.5 +1.5
WVT pmax pmax
comp=Z,17nm,0.7s
WVT **Waverly** 36.85 350 P P 03 27 21.5 +1.5
WVT **Waverly** 36.85 350 P P 03 27 18.5 -1.5
baz=168
FRBT **Francisco Belt** 36.89 136 eP P 03 27 19.7 -0.9
W41B **Gary Mavity, V** 36.91 344 IAmb IAmb 03 27 27.5
comp=Z,53nm,1.1s
W41B **Gary Mavity, V** 36.91 344 P P 03 27 19.2 -1.3
baz=160,SNR=8.4
W41B **Gary Mavity, V** 36.91 344 P P 03 27 19.7 -0.8
baz=160,SNR=8.4
Z35A **Perchaven, San** 36.91 337 P P 03 27 22.1 +1.5
baz=152
U49A **Red Boiling Sp** 36.94 353 P P 03 27 19.6 -1.1
baz=171,SNR=5.4
WHAR **Wooly Hollow** 37.03 344 IAmb IAmb 03 27 28.4
comp=Z,44nm,1.0s
SLBS **Sierra La Lagu** 37.09 312 P P 03 27 24.2 +1.9
SLBS IAmb IAmb 03 27 29.3
comp=Z,66nm,1.2s
ITQB **Itaqui** 37.13 144 eP P 03 27 22.6 +0.2
ABTX **Abilene, Hawle** 37.32 333 P P 03 27 25.2 +1.1
baz=147,SNR=24
ABTX **Abilene, Hawle** 37.32 333 P P 03 27 23.8 -0.3
baz=147,SNR=24
BLA **Blacksburg** 37.33 0 IAmb IAmb 03 27 53.5
comp=Z,56nm,1.2s
BLA **Blacksburg** 37.33 0 P P 03 27 23.0 -1.1
baz=180
X37A **Clayton** 37.34 340 IAmb IAmb 03 27 30.1
comp=Z,56nm,1.5s
X37A **Clayton** 37.34 340 P P 03 27 24.3 +0.1
baz=155,SNR=5.8
W39A **Magazine** 37.38 342 IAmb IAmb 03 27 32.2
comp=Z,54nm,0.9s
W39A **Magazine** 37.38 342 P P 03 27 24.3 -0.1
baz=158,SNR=25
W39A **Magazine** 37.38 342 P P 03 27 24.0 -0.5
baz=158,SNR=25
SDBA **SAO DESIDERIO** 37.48 110 eP P 03 27 24.6 -1.1
LCAR **Lake Charles** 37.48 346 IAmb IAmb 03 27 29.9
comp=Z,52nm,0.8s
LCAR **Lake Charles** 37.48 346 P P 03 27 23.4 -1.9
baz=162,SNR=54
BB19B **Bebedouro** 37.58 125 eP P 03 27 26.5 0.0
LPIG **La Paz** 37.60 312 LR LR 03 39 03.3
comp=Z,5µm,21.5s,baz=96,slow=30
FRTB **Fartura** 37.92 129 eP P 03 27 28.6 -0.8
S54A **Dingess, Beckl** 37.92 359 IAmb IAmb 03 27 59.8
comp=Z,56nm,1.2s
PBMO **Poplar Bluff** 37.99 347 IAmb IAmb 03 27 56.9
comp=Z,42nm,1.1s
PBMO **Poplar Bluff** 37.99 347 P P 03 27 27.2 -2.4
baz=164,SNR=5.7
U40A **Yellville** 38.19 344 IAmb IAmb 03 27 38.5
comp=Z,54nm,0.9s
U40A **Yellville** 38.19 344 P P 03 27 30.3 -1.1
baz=160,SNR=29
U40A P P 03 27 30.3 -1.1
baz=160,SNR=29
U40A **Yellville** 38.19 344 P P 03 27 30.9 -0.4
baz=160,SNR=29
RPN **Rapa Nui** 38.32 224 LR LR 03 39 26.9
comp=Z,5µm,19.1s,baz=52,slow=30
ITAB **Concordia** 38.33 137 P P 03 27 31.6 -1.1
ITAB **Concordia** 38.33 137 eP P 03 27 32.4 -0.3
R55A **Marlinton** 38.40 1 IAmb IAmb 03 27 55.4
comp=Z,69nm,1.4s
HHAR **Hobbs** 38.43 343 P P 03 27 32.7 -0.7
baz=158
CBN **Corbin Frederi** 38.44 4 P P 03 27 32.7 -0.7
baz=185
R53A **Hurricane** 38.47 358 IAmb IAmb 03 28 04.0
comp=Z,57nm,1.2s
R50A **Paris** 38.54 355 P P 03 27 34.0 -0.3
baz=174
R50A P P 03 27 34.0 -0.3
baz=174
USIN **University of** 38.62 351 IAmb IAmb 03 27 40.8
comp=Z,64nm,0.9s
S44A **Carbondale** 38.63 349 IAmb IAmb 03 28 01.3
comp=Z,90nm,1.3s
S44A **Carbondale** 38.63 349 P P 03 27 34.8 -0.2
baz=166,SNR=5.5
SIUC **Southern Illin** 38.64 349 IAmb IAmb 03 28 01.4
comp=Z,91nm,1.2s
TUL1 **Leonard** 38.68 340 IAmb IAmb 03 27 42.8
comp=Z,65nm,1.1s
TUL1 **Leonard** 38.68 340 P P 03 27 35.6 +0.1
baz=155,SNR=8.4
TUL1 **Leonard** 38.68 340 P P 03 27 35.3 -0.2
baz=155,SNR=8.4
WMOK **Wichita Mounta** 38.76 336 P P 03 27 36.5 +0.4
baz=150,SNR=9.0
WMOK **Wichita Mounta** 38.76 336 P P 03 27 35.9 -0.3
baz=150,SNR=9.0
MGMO **Mountain Grove** 38.78 345 P P 03 27 35.8 -0.6
MGMO IAmb IAmb 03 28 03.3
comp=Z,90nm,1.2s
JANB **Januaria** 38.81 114 eP P 03 27 35.5 -1.5
RCLB **Rio Claro- Sao** 39.05 127 eP P 03 27 37.5 -1.4
Q52A **Bidwell** 39.10 358 IAmb IAmb 03 27 43.5
comp=Z,60nm,1.2s
FVM **French Village** 39.15 348 IAmb IAmb 03 28 05.7
comp=Z,122nm,1.4s
FVM **French Village** 39.15 348 P P 03 27 38.7 -0.7
baz=164,SNR=17
Q51A **Peebles** 39.22 357 P P 03 27 39.0 -0.9
baz=176,SNR=5.3
Q51A P P 03 27 39.0 -0.9
baz=176,SNR=5.3
LC01 **Cunco** 39.25 169 IAmb IAmb 03 28 01.6
comp=Z,62nm,1.1s
CCM **Cathedral Cave** 39.39 347 P P 03 27 40.7 -0.7
CCM pmax pmax
comp=Z,79nm,1.3s
CCM **Cathedral Cave** 39.39 347 P P 03 27 40.7 -0.7
CCM IAmb IAmb 03 28 07.8
comp=Z,79nm,1.3s
CCM **Cathedral Cave** 39.39 347 P P 03 27 40.7 -0.7
baz=163,SNR=21
CCM **Cathedral Cave** 39.39 347 P P 03 27 40.2 -1.2
baz=163
NBPS **Pedro II - PI** 39.41 97 eP P 03 27 41.1 -0.9
OLIL **Olney** 39.44 351 IAmb IAmb 03 27 45.7
comp=Z,49nm,0.8s
MNTX **Cornudas Mount** 39.49 326 P P 03 27 41.9 -0.5
baz=139,SNR=39
MNTX **Cornudas Mount** 39.49 326 P P 03 27 42.7 +0.3
baz=139,SNR=39
S39A **Bolivar** 39.57 344 IAmb IAmb 03 28 01.9
comp=Z,61nm,1.2s
S39A **Bolivar** 39.57 344 P P 03 27 40.7 -2.2
baz=160,SNR=24
CPSB **Cacapava Do Su** 39.58 142 eP P 03 27 43.0 -0.2
P53A **Whipple** 39.61 359 P P 03 27 41.9 -1.3
baz=179
P53A P P 03 27 41.9 -1.3
baz=179
SLM **Saint Louis** 39.73 348 IAmb IAmb 03 28 10.5
comp=Z,69nm,1.1s
Q44A **Meyer Farm, Va** 39.76 350 IAmb IAmb 03 27 50.3
comp=Z,78nm,1.0s
Q44A **Meyer Farm, Va** 39.76 350 P P 03 27 43.1 -1.4
baz=167,SNR=11
P52A **Corning** 39.77 358 P P 03 27 45.7 +1.1
P52A **Corning** 39.77 358 P P 03 27 43.3 -1.2
baz=178
MCWV **Mont Chateau** 39.78 1 P P 03 27 43.5 -1.1
baz=181
VAO **Valinhos** 39.79 127 eP P 03 27 44.4 -0.7
P48A **Milroy** 39.81 354 P P 03 27 42.9 -2.0
baz=172
P48A P P 03 27 42.9 -2.0
baz=172
P49A **Miami Univ. Ec** 39.82 355 P P 03 27 42.8 -2.1
baz=173
P49A **Miami Univ. Ec** 39.82 355 P P 03 27 43.6 -1.3
baz=173
T35A **Sooner Cattle** 39.83 340 IAmb IAmb 03 27 52.8
comp=Z,57nm,1.0s
T35B **Sooner Cattle** 39.83 340 P P 03 27 44.5 -0.6
baz=155,SNR=17
R40A **Maddies Statio** 39.86 346 P P 03 27 44.6 -0.7
baz=162,SNR=6.1
MSTX **Muleshoe** 39.90 331 P P 03 27 45.6 -0.3
baz=144,SNR=49
MSTX **Muleshoe** 39.90 331 P P 03 27 45.2 -0.7
baz=144,SNR=49
AMTX **Amarillo** 40.13 333 P P 03 27 48.7 +0.9
baz=146,SNR=24
AMTX **Amarillo** 40.13 333 P P 03 27 47.5 -0.2
baz=146
P46A **Rosedale** 40.18 352 IAmb IAmb 03 27 54.6
comp=Z,49nm,1.1s
P46A **Rosedale** 40.18 352 P P 03 27 48.6 +0.7
baz=170,SNR=8.1
U32A **Winter Ranch,** 40.27 337 P P 03 27 50.2 +1.4
baz=151,SNR=9.5
O54A **Avella** 40.30 0 P P 03 27 51.7 +2.8
baz=180,SNR=5.7
O54A P P 03 27 51.7 +2.8
baz=180,SNR=5.7
MVL **Millersville** 40.31 5 P P 03 27 49.1 +0.2
O53A **New Philadelph** 40.37 359 P P 03 27 48.0 -1.4
baz=179
ACSO **Alum Creek Sta** 40.40 357 P P 03 27 51.7 +2.0
baz=176,SNR=5.2
ACSO **Alum Creek Sta** 40.40 357 P P 03 27 48.5 -1.3
baz=176,SNR=5.2
PLTB **Pedras Altas** 40.44 143 P P 03 27 50.1 -0.1
PLTB IAmb IAmb 03 28 02.4
comp=Z,64nm,1.2s
PLTB **Pedras Altas** 40.44 143 eP P 03 27 49.6 -0.6
DIAM **Diamantina, MG** 40.52 118 eP P 03 27 51.9 +0.7
CNLB **Canela** 40.52 138 eP P 03 27 50.8 -0.2
P43A **Skaggs, Pawnee** 40.57 349 IAmb IAmb 03 27 57.1
comp=Z,50nm,0.9s
P43A **Skaggs, Pawnee** 40.57 349 P P 03 27 53.2 +2.1
baz=166,SNR=7.1
O48B **Farmland** 40.58 355 P P 03 27 49.0 -2.2
baz=173
BSCB **Bom Sucesso** 40.66 123 eP P 03 27 52.1 -0.2
NBMO **Morrinhos-CE** 40.73 95 eP P 03 27 51.3 -1.7
SSPA **Standing Stone** 40.83 3 P P 03 27 53.0 -0.3
SSPA **Standing Stone** 40.83 3 P P 03 27 52.8 -0.5
baz=184
O44A **Mansfield** 40.89 351 IAmb IAmb 03 27 59.3
comp=Z,53nm,1.1s
SRIG **Santa Rosalia** 40.91 315 P P 03 27 56.0 +1.8
SFIN **Lafayette** 40.91 353 IAmb IAmb 03 27 59.1
comp=Z,51nm,1.3s
SFIN **Lafayette** 40.91 353 P P 03 27 53.7 -0.2
baz=170
LUPA **Lehigh Univers** 41.00 6 P P 03 27 56.4 +1.7
PARB **Paraibuna** 41.03 126 eP P 03 27 54.8 -0.5
HSIG 41.07 318 P P 03 27 56.7 +1.2
LL04 **Puerto Octay** 41.11 170 P P 03 27 56.0 +0.5
LL04 IAmb IAmb 03 27 57.6
comp=Z,80nm,1.3s
N49A **Columbus Grove** 41.16 356 P P 03 27 58.6 +2.6
baz=174
N49A P P 03 27 58.6 +2.6
baz=174
PLCA **Paso Flores** 41.28 168 P P 03 27 57.4 +0.3
comp=Z,32nm,1.1s,baz=344,slow=9.0,SNR=28
PLCA **Paso Flores** 41.28 168 eP P 03 27 57.8 +0.7
PLCA **Paso Flores** 41.28 168 P P 03 27 57.8 +0.7
PLCA IAmb IAmb 03 27 59.6
comp=Z,86nm,1.3s
PLCA **Paso Flores** 41.28 168 eP P 03 27 57.2 +0.1
HDIL **Hopedale** 41.42 350 IAmb IAmb 03 28 03.5
comp=Z,45nm,0.8s
HDIL **Hopedale** 41.42 350 P P 03 27 59.4 +1.2
baz=167,SNR=7.6
HDIL **Hopedale** 41.42 350 P P 03 27 57.1 -1.0
baz=167,SNR=7.6
121A **Cookes Peak, D** 41.48 324 P P 03 27 59.8 +0.8
baz=136,SNR=38
121A **Cookes Peak, D** 41.48 324 P P 03 28 00.3 +1.3
baz=136,SNR=38
M53A **WI Miller and** 41.55 0 P P 03 27 59.7 +0.4
baz=180
319A **Douglas** 41.56 322 IAmb IAmb 03 28 06.6
comp=Z,49nm,1.0s
M50A **Fremont** 41.57 357 IAmb IAmb 03 28 03.3
comp=Z,43nm,0.9s
PAL **Palisades** 41.58 8 P P 03 27 58.8 -0.6
baz=190
TRNY **Table Rock, Ra** 41.67 7 P P 03 28 01.1 +0.8
KSU1 **Kansas State U** 41.85 341 P P 03 28 01.4 -0.3
baz=156,SNR=26
KSU1 **Kansas State U** 41.85 341 P P 03 28 01.1 -0.6
baz=156,SNR=26
R32A **Long Quarter,** 41.96 339 P P 03 28 03.1 +0.5
baz=152,SNR=23
Y22A **Socorro** 42.05 327 P P 03 28 04.2 +0.5
baz=138,SNR=20
Y22D **IRIS PASSCAL I** 42.13 327 P P 03 28 03.7 -0.6
baz=139
ERPA **Erie** 42.23 1 P P 03 28 04.4 -0.4
baz=181
NBMA **Muriti-CE** 42.39 101 eP P 03 28 04.5 -2.0
N38A **Joes South For** 42.47 346 IAmb IAmb 03 28 33.2
comp=Z,90nm,1.2s
AAM **Ann Arbor** 42.50 357 P P 03 28 06.0 -0.9
baz=175
BINY **Binghamton** 42.52 5 P P 03 28 05.8 -1.4
baz=187,SNR=5.5
ANMO **Albuquerque** 42.54 328 P P 03 28 08.8 +1.1
ANMO pmax pmax
comp=Z,53nm,0.9s
ANMO **Albuquerque** 42.54 328 P P 03 28 08.8 +1.1
ANMO IAmb IAmb 03 28 14.6
comp=Z,52nm,0.9s
ANMO **Albuquerque** 42.54 328 P P 03 28 08.4 +0.7
baz=140,SNR=74
ANMO **Albuquerque** 42.54 328 P P 03 28 07.7 0.0
baz=140
CBKS **Cedar Bluff** 42.68 338 P P 03 28 09.7 +1.2
baz=151,SNR=18
CBKS **Cedar Bluff** 42.68 338 P P 03 28 08.8 +0.2
baz=151,SNR=18
GDU01 **Guandu, BA** 42.83 110 eP P 03 28 11.6 +1.5
L42A **Oliver, Polo** 42.89 350 IAmb IAmb 03 28 15.4
comp=Z,55nm,1.1s
K50A **Casco** 42.92 358 IAmb IAmb 03 28 14.2
comp=Z,64nm,1.2s
K57A **Scipio Center** 43.01 5 IAmb IAmb 03 28 30.5
comp=Z,68nm,1.4s
TUC **Tucson** 43.13 322 P P 03 28 13.7 +1.3
TUC pmax pmax
comp=Z,33nm,1.2s
TUC **Tucson** 43.13 322 P P 03 28 13.7 +1.3
TUC **Tucson** 43.13 322 P P 03 28 12.6 +0.3
baz=133
L61B **Northampton** 43.17 9 P P 03 28 12.4 0.0
baz=191
N35A **Tabor** 43.17 343 IAmb IAmb 03 28 39.2
comp=Z,62nm,1.2s
L40A **Anamosa** 43.23 349 IAmb IAmb 03 28 18.6
comp=Z,53nm,1.1s
T25A **Trinidad** 43.25 332 IAmb IAmb 03 28 21.4
comp=Z,107nm,1.4s
T25A **Trinidad** 43.25 332 P P 03 28 14.3 +0.9
baz=144,SNR=25
CMC01 **Camacan, BA** 43.32 112 eP P 03 28 14.2 +0.3
HRV **Adam Dziewonsk** 43.41 10 P P 03 28 13.8 -0.5
baz=193
LL02 **Futaleuf** 43.42 171 P P 03 28 14.5 0.0
J47A **Sunmer** 43.51 356 IAmb IAmb 03 28 23.1
comp=Z,41nm,1.2s
J47A **Sunmer** 43.51 356 P P 03 28 13.8 -1.3
baz=174
J47A P P 03 28 13.8 -1.3
baz=174
SCIA **State Center** 43.52 346 IAmb IAmb 03 28 41.6
comp=Z,70nm,1.1s
SCIA **State Center** 43.52 346 P P 03 28 15.5 +0.3
baz=161
J58A **Remsen** 43.74 6 P P 03 28 16.5 -0.5
baz=188
J58A P P 03 28 16.5 -0.5
baz=188
JFWS **Jewell Farm** 43.88 350 IAmb IAmb 03 28 43.7
comp=Z,34nm,1.0s
JFWS **Jewell Farm** 43.88 350 P P 03 28 16.4 -1.7
baz=166
ACCN **Adirondack Com** 43.95 7 P P 03 28 20.9 +2.3
KSCO **Kaye Shedlock'** 44.00 335 IAmb IAmb 03 28 26.0
comp=Z,64nm,1.2s
KSCO **Kaye Shedlock'** 44.00 335 P P 03 28 20.4 +1.0
baz=147,SNR=12
KSCO **Kaye Shedlock'** 44.00 335 P P 03 28 19.4 +0.1
baz=147,SNR=12
I49A **Point Hope** 44.09 358 IAmb IAmb 03 28 23.5
comp=Z,41nm,0.8s
I49A **Point Hope** 44.09 358 P P 03 28 18.7 -1.0
baz=177
I49A P P 03 28 18.7 -1.0
baz=177
K38A **Parkersburg** 44.12 347 IAmb IAmb 03 28 45.9
comp=Z,59nm,1.1s
X18A **Snowflake** 44.17 325 IAmb IAmb 03 28 29.6
comp=Z,56nm,1.4s
214A **Organ Pipe Nat** 44.18 320 IAmb IAmb 03 28 27.7
comp=Z,59nm,1.2s
214A **Organ Pipe Nat** 44.18 320 P P 03 28 21.8 +1.0
baz=130,SNR=35
SDCO **Great Sand Dun** 44.25 332 P P 03 28 22.4 +0.9
SDCO IAmb IAmb 03 28 28.4
comp=Z,31nm,0.9s
SDCO **Great Sand Dun** 44.25 332 P P 03 28 21.7 +0.2
baz=143,SNR=37
SDCO **Great Sand Dun** 44.25 332 P P 03 28 22.6 +1.0
baz=143,SNR=37
L34A **Svendsen Farm,** 44.40 343 IAmb IAmb 03 28 38.2
comp=Z,36nm,0.9s
BGNE **Belgrade** 44.43 341 P P 03 28 22.7 0.0
baz=154
W18A **Petrified Fore** 44.47 325 P P 03 28 22.8 -0.4
baz=136
I42A **Draeger Farm,** 44.61 352 IAmb IAmb 03 28 34.1
comp=Z,36nm,1.1s
I42A **Draeger Farm,** 44.61 352 P P 03 28 21.6 -2.4
baz=168,SNR=9.1
I40A **Norwalk** 44.89 350 P P 03 28 26.8 +0.6
I40A **Norwalk** 44.89 350 P P 03 28 27.4 +1.2
baz=166,SNR=5.4
S22A **4UR Ranch, Cre** 44.90 330 P P 03 28 27.0 +0.3
baz=141,SNR=26
SADO **Sadowa** 44.90 2 LR LR 03 47 29.4
comp=Z,3µm,18.8s,baz=183,slow=37
SFX **San Felipe** 44.97 317 P P 03 28 28.5 +1.5
SFX IAmb IAmb 03 28 33.7
comp=Z,45nm,1.2s
X16A **Lo Mia Camp, P** 44.97 323 IAmb IAmb 03 28 34.2
comp=Z,26nm,1.0s
H43A **Windswept, Lux** 45.02 353 IAmb IAmb 03 28 30.9
comp=Z,42nm,0.8s
LBNH **Lisbon** 45.03 9 P P 03 28 26.7 -0.7
baz=192
RCBR **Riachuelo** 45.04 98 LR LR 03 47 57.6
comp=Z,25µm,18.3s,baz=64,slow=37
LONY **Lake Ozonia** 45.06 6 P P 03 28 25.7 -1.8
baz=188
Q24A **Divide** 45.06 333 P P 03 28 28.1 0.0
baz=144,SNR=20
GLMI **Grayling** 45.07 356 P P 03 28 25.6 -2.0
baz=174
MVCO **Mesa Verde** 45.33 328 P P 03 28 31.0 +0.9
baz=139,SNR=27
FRNY **Flat Rock** 45.39 7 IAmb IAmb 03 28 49.2
comp=Z,33nm,1.4s
OGNE **Ogallala** 45.41 337 P P 03 28 30.4 0.0
baz=149
I37A **Lemond, Waseca** 45.56 347 IAmb IAmb 03 28 57.2
comp=Z,26nm,1.1s
Y14A **Wickenburg** 45.60 322 IAmb IAmb 03 28 38.7
comp=Z,42nm,1.3s
WUAZ **Wupatki** 45.69 324 P P 03 28 33.9 +1.0
baz=134,SNR=29
COYC **Coyhaique** 45.71 172 IAmb IAmb 03 28 54.6
comp=Z,47nm,1.3s
K31A **O'Neill** 45.72 341 P P 03 28 33.6 +0.8
baz=154,SNR=22
ISCO **Idaho Springs** 45.95 333 P P 03 28 35.8 +0.7
ISCO pmax pmax
comp=Z,30nm,1.3s
ISCO **Idaho Springs** 45.95 333 P P 03 28 35.8 +0.7

ISCO IAmb IAmb 03 28 58.1
comp=Z,30nm,1.3s
ISCO Idaho Springs 45.95 333 P P 03 28 35.8 +0.7
baz=144,SNR=21
ISCO Idaho Springs 45.95 333 P P 03 28 35.2 +0.1
baz=144,SNR=21
MNTQ Montreal, Queb 46.04 7 IAmb IAmb 03 28 54.1
comp=Z,33nm,1.3s
ECSD EROS Data Cent 46.10 344 IAmb IAmb 03 29 02.4
comp=Z,50nm,1.4s
ECSD EROS Data Cent 46.10 344 P P 03 28 34.8 -1.0
baz=157,SNR=13
ECSD EROS Data Cent 46.10 344 P P 03 28 34.5 -1.3
baz=157,SNR=13
G40A Rib Lake 46.16 351 IAmb IAmb 03 28 42.1
comp=Z,27nm,1.2s
GLA Glamis 46.19 319 P P 03 28 37.0 +0.3
baz=129
PV07 Paradox Valley 46.34 329 P P 03 28 39.3 +1.2
PV07 IAmb IAmb 03 28 44.7
comp=Z,34nm,1.0s
BLYC Blythe 46.44 320 IAmb IAmb 03 28 51.1
comp=Z,36nm,1.3s
PKME Peaks-Kenny Pk 46.49 11 P P 03 28 38.1 -0.7
baz=196
PV23 Carpenter Ridg 46.54 329 IAmb IAmb 03 28 56.3
comp=Z,21nm,0.9s
PDMCI Parker Dam,Lak 46.55 321 P P 03 28 40.1 +0.6
baz=130,SNR=5.7
E46A Sault Ste Mari 46.59 357 IAmb IAmb 03 28 43.2
comp=Z,30nm,1.1s
E46A Sault Ste Mari 46.59 357 P P 03 28 37.5 -2.0
baz=175,SNR=5.4
SPMN Marine on St. 46.59 348 IAmb IAmb 03 29 05.1
comp=Z,32nm,1.2s
SPMN Marine on St. 46.59 348 P P 03 28 39.0 -0.6
baz=163
RMX La Rumorosa 46.74 318 P P 03 28 42.8 +1.6
SWSC Sam W. Stewart 46.77 318 P P 03 28 41.6 +0.5
baz=128,SNR=5.6
IKP In-Ko-Pah, Jac 46.79 318 P P 03 28 42.3 +0.8
baz=127
E43A Lone Tree Farm 46.82 354 IAmb IAmb 03 28 45.2
comp=Z,25nm,0.8s
W13A Hualapai Mount 46.91 322 IAmb IAmb 03 28 52.7
comp=Z,26nm,1.0s
BC3 Big Chuckawall 46.98 319 P P 03 28 42.8 -0.1
baz=129,SNR=19
N23A Red Feather La 46.99 334 P P 03 28 43.3 +0.1
baz=144
IRM Iron Mountain 47.09 320 P P 03 28 44.7 +0.9
baz=129,SNR=23
PHWY Pilot Hill 47.11 334 IAmb IAmb 03 29 11.9
comp=Z,31nm,1.4s
MONP2 Monument Peak 47.15 318 P P 03 28 44.9 +0.4
baz=127
NEE2 Needles Airpor 47.15 321 P P 03 28 44.7 +0.5
baz=130
F36A Milaca 47.35 348 IAmb IAmb 03 29 11.2
comp=Z,17nm,1.0s
SUSD Miller 47.43 342 P P 03 28 46.7 +0.4
baz=155
O20A White River Ci 47.44 331 P P 03 28 47.1 +0.4
baz=141,SNR=15
BELC Belle Mtn. Jos 47.55 319 P P 03 28 48.2 +0.7
baz=128,SNR=5.6
KNB Kanab 47.58 325 IAmb IAmb 03 28 54.7
comp=Z,51nm,1.3s
TPFO Pinon Flats 47.60 319 P P 03 28 48.3 +0.4
baz=128,SNR=5.3
109C Camp Elliot, M 47.61 317 P P 03 28 50.3 +2.5
109C Camp Elliot, M 47.61 317 P P 03 28 49.5 +1.7
baz=126
PFO Pinyon Flats O 47.61 319 LR LR 03 45 52.7
comp=Z,3μm,20.3s,baz=124,slow=32
PFO Pinyon Flats O 47.61 319 P P 03 28 50.1 +2.2
PFO pmax pmax
comp=Z,57nm,1.5s
PFO Pinyon Flats O 47.61 319 P P 03 28 50.1 +2.2
PFO Pinyon Flats O 47.61 319 P P 03 28 48.3 +0.4
baz=128,SNR=6.0
GMRC Granite Mounta 47.82 320 P P 03 28 49.6 0.0
baz=129,SNR=6.6
MTPU Mount Pierson 47.93 326 IAmb IAmb 03 28 57.3
comp=Z,30nm,1.4s
F33A 5 Mile Ranch, 47.97 345 IAmb IAmb 03 29 16.5
comp=Z,31nm,1.2s
Q16A Castle Valley 48.01 328 IAmb IAmb 03 29 08.9
comp=Z,36nm,1.4s
P18A Preston Nutter 48.05 329 IAmb IAmb 03 28 57.9
comp=Z,27nm,1.3s
MURC Murrieta 48.09 318 P P 03 28 52.5 +0.9
baz=127,SNR=5.1
RWWY Rawlins 48.19 333 IAmb IAmb 03 28 58.9
comp=Z,36nm,1.2s
P17A Butcher Ranch, 48.19 329 IAmb IAmb 03 28 58.7
comp=Z,29nm,0.9s
CCUT Cedar City 48.26 325 IAmb IAmb 03 29 00.2
comp=Z,28nm,1.2s
ELS Elsinore Mount 48.27 318 IAmb IAmb 03 29 09.1
comp=Z,43nm,1.3s
HEC Hector,Ludlow 48.28 320 P P 03 28 53.3 +0.2
baz=129
TMUT Trail Mountain 48.31 328 IAmb IAmb 03 28 59.8
comp=Z,26nm,1.3s
BBRC Big Bear Solar 48.31 319 P P 03 28 53.7 +0.2
baz=128
RDMU Red Mountain 48.43 331 IAmb IAmb 03 29 00.3
comp=Z,28nm,1.0s
GO08 Villa O'Higgin 48.48 173 P P 03 28 56.3 +2.0
GO08 IAmb IAmb 03 29 23.6
comp=Z,29nm,1.4s
SHPR Sheep Range 48.62 323 IAmb IAmb 03 29 16.6
comp=Z,35nm,1.4s
K22A Casper 48.67 335 IAmb IAmb 03 29 18.2
comp=Z,42nm,1.4s
K22A Casper 48.67 335 P P 03 28 57.1 +1.1
baz=144
RRX Edison Barstow 48.73 320 P P 03 28 57.4 +0.9
baz=128
BFSC Mount Baldy Ra 48.78 319 P P 03 28 57.5 +0.5
baz=127
GSC Goldstone, Bar 48.88 320 IAmb IAmb 03 29 07.7
comp=Z,38nm,1.3s
GSC Goldstone, Bar 48.88 320 P P 03 28 58.4 +0.8
baz=128,SNR=5.8
RSSD Black Hills 48.89 338 P P 03 28 59.0 +1.3
RSSD pmax pmax
comp=Z,25nm,0.9s
RSSD Black Hills 48.89 338 P P 03 28 59.0 +1.3
RSSD IAmb IAmb 03 29 27.8
comp=Z,25nm,0.9s
RSSD Black Hills 48.89 338 P P 03 28 58.3 +0.6
baz=148,SNR=13
RSSD Black Hills 48.89 338 P P 03 28 58.3 +0.6
baz=148
FMP Fort Macarthur 48.90 318 P P 03 28 58.4 +0.7
baz=126
SHOC Shoshone, Teco 48.91 321 P P 03 28 58.8 +1.0
baz=129,SNR=5.5
EYMN Ely 48.97 350 P P 03 28 58.0 0.0
baz=165
BATG Bathurst New B 49.09 13 P P 03 28 59.8 +0.9
BATG IAmb IAmb 03 29 04.5
comp=Z,23nm,1.0s
DECC Green Verdugo 49.24 318 P P 03 29 00.8 +0.4
baz=126
EDW2 Edwards Air Fo 49.39 319 P P 03 29 02.7 +1.1
baz=127,SNR=19
JLU Jordanelle 49.40 329 IAmb IAmb 03 29 30.1
comp=Z,33nm,1.2s
LRMC Laurel Mtn Rad 49.55 320 P P 03 29 03.8 +1.0
baz=128
TPNV Topopah Spring 49.57 322 P P 03 29 04.8 +1.7
baz=130,SNR=18
CTU Camp Tracy 49.62 329 IAmb IAmb 03 29 23.1
comp=Z,40nm,1.3s
FURC Furnace Creek, 49.64 321 P P 03 29 04.4 +1.1
baz=129,SNR=5.6
OSI Osito Audit: C 49.71 318 P P 03 29 05.0 +1.0
baz=126
MPMC Manual Prospec 49.78 321 P P 03 29 05.2 +0.5
baz=128
DUG Dugway, Tooele 49.81 328 P P 03 29 06.3 +1.5
DUG pmax pmax
comp=Z,22nm,1.2s
DUG Dugway, Tooele 49.81 328 P P 03 29 06.2 +1.5
DUG Dugway, Tooele 49.81 328 P P 03 29 04.2 -0.6

baz=136,SNR=21
ARVC Arvin 50.09 319 P P 03 29 07.5 +0.7
baz=126
R11A Troy Canyon, C 50.09 324 IAmb IAmb 03 29 14.9
comp=Z,50nm,1.4s
R11A Troy Canyon, C 50.09 324 P P 03 29 07.9 +0.9
baz=132,SNR=31
BW06 Boulder Array 50.11 332 P P 03 29 06.4 -0.7
baz=141
PDAR Pinedale Array 50.11 332 P P 03 29 07.4 +0.3
comp=Z,1.1nm,0.7s,baz=133,slow=6.5,SNR=9.2
PDAR LR LR 03 51 39.3
comp=Z,5μm,18.4s,baz=136,slow=38
AGMN Agassiz Nation 50.17 347 P P 03 29 06.8 -0.4
baz=160
ISA Isabella, Lake 50.17 319 IAmb IAmb 03 29 14.3
comp=Z,40nm,1.4s
ISA Isabella, Lake 50.17 319 P P 03 29 07.7 +0.2
baz=127
HWUT Hardware Ranch 50.20 330 IAmb IAmb 03 29 35.9
comp=Z,42nm,1.2s
GRAC Grapevine Rang 50.29 322 P P 03 29 07.5 -0.8
baz=129
CWC Cottonwood Cre 50.39 321 P P 03 29 09.9 +0.6
baz=128
BGU Big Grassy Mou 50.45 328 IAmb IAmb 03 29 15.9
comp=Z,33nm,1.1s
PKM Mcpherson Peak 50.60 318 P P 03 29 12.1 +1.2
baz=125
VES Vestal, Richgr 50.68 319 P P 03 29 11.8 +0.5
baz=126,SNR=6.0
MDND Maddock 50.71 344 P P 03 29 12.0 +0.7
MDND Maddock 50.71 344 P P 03 29 10.3 -0.9
baz=155
TIN Tinemaha, Big 50.86 321 P P 03 29 12.5 -0.3
baz=128
SMMC Simmler 50.97 318 P P 03 29 14.2 +0.7
baz=125
REDW Red Top Meadow 51.17 332 IAmb IAmb 03 29 29.7
comp=Z,56nm,1.4s
SNOW Snow King Moun 51.21 332 IAmb IAmb 03 29 36.0
comp=Z,34nm,1.2s
PAGB Antelope Grade 51.38 318 IAmb IAmb 03 29 35.5
comp=Z,71nm,1.4s
ELK Elko 51.51 327 LR LR 03 50 30.7
comp=Z,2μm,18.1s,baz=131,slow=35
MLAC Mammoth, Mammo 51.60 321 P P 03 29 16.7 -1.7
baz=128
FLWY Flagg Ranch 51.66 333 IAmb IAmb 03 29 27.0
comp=Z,46nm,1.2s
NVAR Mina Array Bea 51.77 322 P P 03 29 19.9 +0.2
comp=Z,3.9nm,0.7s,baz=136,slow=7.4,SNR=19
NVAR LR LR 03 49 08.8
comp=Z,3μm,20.4s,baz=126,slow=34
NVAR Mina Array Bea 51.77 322 P P 03 29 21.6 +1.9
LHV Little Huntoon 51.78 322 IAmb IAmb 03 29 42.8
comp=Z,58nm,1.3s
RLMT Red Lodge 51.83 334 P P 03 29 21.0 +1.0
baz=142
H17A Grant Village 51.84 333 P P 03 29 20.5 +0.3
baz=141
LAO LASA Array 51.88 338 P P 03 29 19.1 -1.0
baz=147
YFT Old Faithful 52.00 333 IAmb IAmb 03 29 43.3
comp=Z,49nm,1.5s
ULM Lac du Bonnet 52.01 348 P P 03 29 19.9 -1.1
comp=Z,13nm,0.6s,baz=149,slow=5.5,SNR=6.4
ULM Lac du Bonnet 52.01 348 IAmb IAmb 03 29 25.1
comp=Z,17nm,0.7s
PMPB Monarch Peak 52.02 319 P P 03 29 22.6 +1.2
RYN Ryan 52.02 322 IAmb IAmb 03 29 28.1
comp=Z,37nm,1.3s
KVN Kaiserville 52.04 323 IAmb IAmb 03 29 29.1
comp=Z,26nm,1.1s
YMR Madison River 52.23 333 IAmb IAmb 03 29 29.7
comp=Z,40nm,1.5s
YHL Hebgen Lake 52.47 333 IAmb IAmb 03 29 53.3
comp=Z,74nm,1.4s
DGMT Dagmar 52.68 341 IAmb IAmb 03 29 43.0
comp=Z,50nm,1.5s
DGMT Dagmar 52.68 341 P P 03 29 26.6 +0.6
baz=150
SAO San Andreas Ge 52.76 319 IAmb IAmb 03 29 49.4
comp=Z,41nm,1.4s
PNTR Pine Nut 52.97 322 P P 03 29 31.0 +2.4
PNTR IAmb IAmb 03 29 48.8
comp=Z,31nm,1.4s
HLID Hailey 53.06 330 IAmb IAmb 03 29 35.5
comp=Z,27nm,1.1s
HLID Hailey 53.06 330 P P 03 29 29.6 +0.5
baz=136,SNR=37
VCNR Virginia City 53.13 322 IAmb IAmb 03 29 41.5
comp=Z,33nm,1.3s
BOZ Bozeman (W) 53.24 333 IAmb IAmb 03 29 38.6
comp=Z,61nm,1.4s
BOZ Bozeman (W) 53.24 333 P P 03 29 30.6 +0.2
baz=140,SNR=34
BEKR Beckworth 53.91 323 P P 03 29 37.0 +1.6
BEKR IAmb IAmb 03 29 42.0
comp=Z,26nm,1.2s
EGMT Eagleton 54.35 336 IAmb IAmb 03 30 03.0
comp=Z,56nm,1.3s
EGMT Eagleton 54.35 336 P P 03 29 38.9 +0.5
baz=143
O03E Paynes Creek 55.05 322 IAmb IAmb 03 29 52.0
comp=Z,31nm,1.1s
O03E Paynes Creek 55.05 322 P P 03 29 42.7 -0.9
baz=127
J08A Circle Bar Ran 55.05 327 IAmb IAmb 03 29 51.3
comp=Z,42nm,1.4s
MOD Modoc Plateau 55.14 325 IAmb IAmb 03 29 52.3
comp=Z,58nm,1.4s
MSO Missoula 55.23 333 IAmb IAmb 03 30 04.7
comp=Z,30nm,1.3s
MSO Missoula 55.23 333 P P 03 29 44.9 +0.2
baz=138,SNR=12
O02D Mt. Diablo Mer 55.59 321 P P 03 29 48.2 +0.7
baz=126
M04C Macdoel 55.97 324 IAmb IAmb 03 29 59.6
comp=Z,33nm,1.1s
M04C Macdoel 55.97 324 P P 03 29 49.9 -0.3
baz=127
K05A Summer Lake 56.00 325 IAmb IAmb 03 30 01.4
comp=Z,45nm,1.2s
N02D Trinity Center 56.01 322 P P 03 29 50.5 +0.1
baz=126
I07A Izee 56.09 327 IAmb IAmb 03 29 58.2
comp=Z,26nm,1.0s
SCHQ Schefferville 56.12 10 P P 03 29 49.6 -1.3
comp=Z,14nm,1.1s,baz=203,slow=9.0,SNR=4.3
SCHQ Schefferville 56.12 10 P P 03 29 50.4 -0.5
SCHQ IAmb IAmb 03 29 55.0
comp=Z,33nm,1.2s
F10A Beach Ranch, E 56.18 330 IAmb IAmb 03 30 02.4
comp=Z,49nm,1.4s
M02C Callahan 56.34 323 P P 03 29 52.6 -0.3
baz=126
K04D Chiloquin, OR 56.43 324 P P 03 29 52.3 -1.2
baz=128
YBH Yreka Blue Hor 56.46 323 LR LR 03 53 31.1
comp=Z,3μm,21.5s,baz=138,slow=35
L04D Klamath Falls 56.51 324 P P 03 29 54.2 +0.1
baz=127,SNR=6.2
J05D Fort Rock, OR 56.54 325 P P 03 29 52.8 -1.6
baz=129,SNR=26
G08A Pilot Rock 56.60 328 P P 03 29 54.9 +0.2
G08A IAmb IAmb 03 30 02.7
comp=Z,56nm,1.3s
J04D Umpqua Nationa 57.02 325 P P 03 29 57.7 -0.1
baz=128
L02E Cave Junction 57.25 323 P P 03 29 59.0 -0.2
baz=126
I05D Terrebonne, OR 57.27 326 P P 03 29 58.5 -0.8
baz=129,SNR=15
RKT Rikitea 57.35 243 eT T 04 31 19.5
comp=Z,5.3nm,0.3s
F07A Phinny Hill Vi 57.51 328 IAmb IAmb 03 30 19.1
comp=Z,24nm,1.1s
FFC Flin Flon 57.58 346 P P 03 30 01.6 +0.4
FFC pmax pmax
comp=Z,45nm,1.5s
FFC Flin Flon 57.58 346 P P 03 30 01.6 +0.4
FFC IAmb IAmb 03 30 06.7
comp=Z,45nm,1.4s
K02D Willamette Mer 57.60 323 P P 03 30 01.5 -0.3
baz=126
NEW Newport 57.75 332 LR LR 03 56 36.6
comp=Z,2μm,18.4s,baz=140,slow=38

NEW Newport 57.75 332 P P 03 30 02.6 0.0
baz=135,SNR=10
G05D Wamic, OR 57.83 327 P P 03 30 04.0 +0.8
baz=130
I03D Drain, OR 58.01 325 P P 03 30 05.0 +0.5
baz=127
J01E Myrtle Point 58.03 324 P P 03 30 03.9 -0.8
baz=126
H04D Lebanon 58.16 326 P P 03 30 06.4 +0.8
baz=128
F05D White Salmon 58.32 328 P P 03 30 07.4 +0.8
baz=130
COR Corvallis 58.52 325 P P 03 30 09.7 +1.7
COR pmax pmax
comp=Z,126nm,1.3s
COR Corvallis 58.52 325 P P 03 30 09.7 +1.7
I02E Swisshome, OR 58.55 325 P P 03 30 09.7 +1.5
baz=127
LTY Liberty 58.80 329 IAmb IAmb 03 30 16.2
comp=Z,22nm,1.1s
F04A Amboy 58.87 327 IAmb IAmb 03 30 31.8
comp=Z,31nm,1.1s
G03D McMinnville, O 58.88 326 P P 03 30 11.4 +0.8
baz=128
F04D Rainier, OR 59.28 327 P P 03 30 12.5 -0.8
baz=128
E04D Cinebar 59.34 328 P P 03 30 14.2 +0.5
baz=129
C06D Leavenworth 59.35 330 P P 03 30 13.0 -0.8
baz=131
TAOE Nuku Hiva Isla 59.80 260 eS S 03 38 24.8 -4.1
comp=Z,7μm,26.0s
TAOE eLQ LQ 03 45 19.9
comp=Z,2μm,26.9s
TAOE eLR LR 03 47 53.8
comp=Z,5μm,23.6s,baz=80
D04E Lakebay 59.84 328 P P 03 30 15.7 -1.3
baz=129
B06A Marblemount 60.04 330 IAmb IAmb 03 30 24.2
comp=Z,24nm,1.0s
B05A Bryant 60.18 329 P P 03 30 18.4 -1.0
baz=130
D03D Eldon 60.23 328 P P 03 30 19.4 -0.4
baz=129
A04D Lummi Island 60.79 329 P P 03 30 22.8 -0.7
baz=130
PGC Sidney 61.12 329 P P 03 30 27.4 +1.6
PGC IAmb IAmb 03 30 32.4
comp=Z,27nm,0.9s
LLLB Lillooet 61.62 332 P P 03 30 31.3 +2.1
BBB Bella Bella 65.64 330 LR LR 04 00 49.0
comp=Z,2μm,18.6s,baz=134,slow=37
GRNB Grenville Isla 67.52 331 P P 03 31 10.2 +2.5
GRNB IAmb IAmb 03 31 14.6
comp=Z,22nm,1.1s
MACI Morro de la Ar 67.56 59 P P 03 31 08.6 -0.1
YKA Yellowknife Ar 67.63 344 P P 03 31 06.2 -1.9
comp=Z,4.1nm,0.9s,baz=139,slow=6.5,SNR=46
SMAI San Martin Ant 68.34 175 P P 03 31 13.8 +1.3
SMAI IAmb IAmb 03 31 14.4
comp=Z,40nm,1.4s
PPT Papeete 69.80 251 LR LR 03 54 12.8
comp=Z,3μm,19.8s,baz=60,slow=29
PPT2 Papeete2 69.81 251 eS S 03 40 27.0 -5.0
comp=Z,9μm,25.8s
PPT2 Papeete2 69.81 251 eLR LR 03 52 38.0
comp=Z,6μm,25.2s,baz=74
CRAG Craig 69.95 331 P P 03 31 22.9 +0.1
baz=122
WRAK Wrangell Islan 70.10 332 P P 03 31 22.2 -1.5
baz=123
DLBC Dease Lake 70.23 335 LR LR 04 05 51.3
comp=Z,3μm,18.1s,baz=113,slow=39
DLBC Dease Lake 70.23 335 IAmb IAmb 03 31 31.2
comp=Z,32nm,1.0s
SFJD Kangerlussuaq 70.41 12 LR LR 04 01 59.3
comp=Z,2μm,21.0s,baz=211,slow=36
TBI Tubuai 70.43 245 eLR LR 03 52 52.0
comp=Z,4μm,28.2s
TBI Tubuai 70.43 245 eT T 04 48 13.1
comp=Z,4.2nm,0.2s
WRGLY Wrigley 70.87 341 P P 03 31 27.7 -0.5
baz=134,SNR=21
DY2G Dye2 70.96 14 iP P 03 31 25.7 -3.4
DY2G IAmb IAmb 03 31 33.5
comp=Z,14nm,0.7s
TGTN Hyland Airport 71.42 338 P P 03 31 31.8 0.0
baz=129,SNR=6.6
SIT Sitka 71.83 332 P P 03 31 33.0 -1.2
baz=121
JIS Juneau Island 72.04 333 IAmb IAmb 03 31 42.6
comp=Z,29nm,1.1s
ILULI Ilulissat 72.21 11 iP P 03 31 37.6 +1.4
ILULI IAmb IAmb 03 31 41.9
comp=Z,13nm,0.8s
BESE Bessie Mountai 72.41 334 P P 03 31 40.9 +3.2
BESE IAmb IAmb 03 31 44.3
comp=Z,36nm,1.1s
ANGG Ammassalik, Gr 72.63 17 P P 03 31 40.3 +1.5
ANGG IAmb IAmb 03 31 44.6
comp=Z,21nm,1.1s
SKAG Skagway 73.08 334 P P 03 31 40.1 -1.5
baz=121
MMPY Sheldon Lake, 73.21 338 P P 03 31 42.8 +0.4
baz=126,SNR=36
WHY Whitehorse 73.53 335 P P 03 31 43.3 -1.1
baz=122
FARO Faro, Yukon 73.77 337 P P 03 31 44.7 -1.0
baz=124
M31M Drury Creek, Y 74.17 337 IAmb IAmb 03 31 54.4
comp=Z,30nm,1.4s
M31M Drury Creek, Y 74.17 337 P P 03 31 47.0 -1.0
baz=123
N31M Braeburn, Yuko 74.34 336 P P 03 31 50.2 +1.2
baz=122
ICESG Greenland Ices 74.58 14 iP P 03 31 47.5 -3.2
ICESG IAmb IAmb 03 31 55.5
comp=Z,31nm,0.9s
HYT Haines Junctio 74.72 335 P P 03 31 50.4 -1.0
baz=120,SNR=5.1
TTIG Tnine Tigouga, 74.91 58 P P 03 31 56.0 +2.8
PNL Peninsula 74.99 333 P P 03 31 51.5 -1.3
baz=118
YUK6 Outpost Mounta 75.14 335 P P 03 31 53.6 -0.3
baz=119,SNR=5.5
M30M Minto, Yukon 75.31 337 IAmb IAmb 03 32 00.7
comp=Z,24nm,1.1s
M30M Minto, Yukon 75.31 337 P P 03 31 54.9 +0.3
baz=121,SNR=16
C36M Paulatuk 75.35 345 P P 03 31 54.4 -0.3
baz=135
YUK4 Talbot Arm 75.46 335 P P 03 31 56.4 +0.6
baz=119,SNR=17
OUK Oukaimeden 75.51 58 P P 03 31 60.0 +3.2
LIC Lamto 75.78 84 ePKP1 P 03 31 57.3 -1.0
comp=Z,92nm,1.6s
PFVI Vila Bisbo 75.78 52 eP P 03 31 58.2 +0.4
comp=Z,108nm,1.9s
TIC Toumodi 75.80 83 ePKP1 P 03 31 57.0 -1.4
PMST Lisbon--Monsan 75.83 50 eP P 03 31 59.0 +0.9
comp=Z,124nm,1.4s
PTEO Sao Teotonio 75.95 51 eP P 03 31 59.5 +0.8
comp=Z,69nm,1.3s
MORF Marmelete 75.96 51 eP P 03 31 58.1 -0.9
MORF IAmb IAmb 03 32 05.1
comp=Z,97nm,1.4s
MORF Marmelete 75.96 51 eP P 03 31 59.2 +0.3
comp=Z,105nm,1.8s
MORF Marmelete 75.96 51 eP P 03 31 58.0 -0.9
DBIC Dimbokro 75.97 83 P P 03 31 57.2 -2.1
comp=Z,30nm,1.2s,baz=276,slow=7.0,SNR=12
DBIC LR LR 04 04 05.4
comp=Z,4μm,18.4s,baz=262,slow=35
DBIC Dimbokro 75.97 83 P P 03 31 58.5 -0.8
DBIC pmax pmax
comp=Z,84nm,1.5s
DBIC Dimbokro 75.97 83 P P 03 31 58.5 -0.8
KIC Kosan Boka 76.07 83 ePKP1 P 03 31 58.0 -1.9
comp=Z,44nm,0.8s
PACT Alcochete 76.11 50 eP P 03 32 00.6 +1.0
comp=Z,259nm,1.6s
TABL Table Mountain 76.12 334 IAmb IAmb 03 32 05.9
comp=Z,34nm,1.0s
PNCL Nicolau / Gran 76.21 51 eP P 03 31 59.9 -0.3
comp=Z,77nm,1.8s
LOGN Logan Glacier 76.23 334 IAmb IAmb 03 32 13.9
comp=Z,27nm,1.2s

PSBE **So Bento** 76.29 49 *e*P P 03 32 00.0 -0.7
comp=Z,60nm,1.5s
OUZM **OUZ** 76.40 58 P P 03 32 04.0 +2.3
YUK3 **Moose Creek** 76.43 335 P P 03 32 00.0 -1.2
baz=117,SNR=18
CTGM **Chitina Glacie** 76.44 334 IAmb IAmb 03 32 07.8
comp=Z,30nm,1.1s
CTG **Chitna Glacier** 76.44 334 P P 03 32 01.3 +0.1
baz=116
PCVE **Castro Verde** 76.50 51 *e*P P 03 32 02.6 +0.7
comp=Z,45nm,1.5s
PBDV **Barranco-do-Ve** 76.51 52 *e*P P 03 32 02.2 +0.2
comp=Z,52nm,1.5s
GRNC **Granite Creek** 76.52 334 IAmb IAmb 03 32 08.2
comp=Z,25nm,1.0s
BARN **Barnard Glacie** 76.62 334 IAmb IAmb 03 32 09.6
comp=Z,43nm,1.4s
PCAS **Casmilo, Conde** 76.62 49 *e*P P 03 32 02.4 -0.2
comp=Z,125nm,1.7s
PMTG **Montargil** 76.63 50 *e*P P 03 32 02.2 -0.4
comp=Z,57nm,1.8s
PVAQ **Vaqueiros** 76.70 51 *e*P P 03 32 02.7 -0.4
comp=Z,43nm,1.5s
COI **Coimbra** 76.72 49 *e*P P 03 32 02.9 -0.2
comp=Z,174nm,1.7s
ISLE **Juniper Island** 76.72 334 IAmb IAmb 03 32 09.0
comp=Z,39nm,1.2s
PTO **Porto** 76.77 48 *e*P P 03 32 03.5 +0.1
comp=Z,99nm,1.7s
J29M **Klondike Camp** 76.82 338 P P 03 32 03.7 +0.5
baz=120
BVCY **Beaver Creek** 76.89 336 P P 03 31 59.4 -4.3
baz=117
DAWY **Dawson** 77.08 337 IAmb IAmb 03 32 10.2
comp=Z,25nm,0.9s
DAWY **Dawson** 77.08 337 P P 03 32 04.0 -0.7
baz=119,SNR=17
PESTR **Estremoz** 77.08 50 *e*P P 03 32 04.7 -0.5
comp=Z,94nm,1.7s
PESTR **Estremoz** 77.08 50 IAmb IAmb 03 32 11.2
comp=Z,37nm,1.2s
SUCK **Suckling Hills** 77.15 333 P P 03 32 07.8 +2.7
SUCK IAmb IAmb 03 32 12.1
comp=Z,31nm,1.1s
KOWA **Kowa** 77.18 75 P P 03 32 05.9 -0.2
KOWA **Kowa** 77.18 75 P P 03 32 06.6 +0.5
PGAV **Gavieira, Arco** 77.19 47 *e*P P 03 32 05.6 -0.2
comp=Z,68nm,1.8s
PVIS **Viseu** 77.21 48 *e*P P 03 32 04.5 -1.4
comp=Z,73nm,1.5s
ZGR **Zagora** 77.26 59 P P 03 32 09.2 +2.7
M27K **Edge Creek, AK** 77.29 335 IAmb IAmb 03 32 12.3
comp=Z,32nm,1.0s
M27K **Edge Creek, AK** 77.29 335 P P 03 32 06.7 +0.7
baz=116
I29M **Ogilvie Camp,** 77.31 339 P P 03 32 05.7 -0.2
baz=120,SNR=35
INK **Inuvik** 77.31 342 P P 03 32 05.8 0.0
baz=125,SNR=45
PMRV **Marv??o** 77.34 49 *e*P P 03 32 04.7 -1.9
comp=Z,46nm,1.5s
PCBR **Castelo Branco** 77.35 49 *e*P P 03 32 05.6 -1.0
comp=Z,52nm,1.5s
MCARA **McCarthy VSAT** 77.36 334 P P 03 32 06.0 -0.2
baz=115,SNR=21
KAIM **Kayak Island** 77.39 332 P P 03 32 05.7 -0.7
baz=113,SNR=6.1
TZRR **Tazzarine** 77.39 58 P P 03 32 10.0 +2.8
MTE **Manteigas** 77.41 48 *e*P P 03 32 06.4 -0.7
comp=Z,53nm,2.0s
MTE **Manteigas** 77.41 48 IAmb IAmb 03 32 14.5
comp=Z,30nm,1.1s
POLO **Lamas de Olo** 77.42 47 *e*P P 03 32 06.5 -0.6
comp=Z,37nm,1.8s
PVRL **Vila Real** 77.45 48 *e*P P 03 32 07.6 +0.3
comp=Z,65nm,1.6s
VRDI **Verde Repeater** 77.48 334 IAmb IAmb 03 32 13.3
comp=Z,33nm,1.2s
A36M **Sachs Harbour** 77.49 347 P P 03 32 06.2 -0.6
baz=134,SNR=41
L27K **Beaver Creek,** 77.58 336 IAmb IAmb 03 32 13.8
comp=Z,40nm,1.3s
L27K **Beaver Creek,** 77.58 336 P P 03 32 07.3 -0.1
baz=116,SNR=29
BORG **Borgarnes** 77.66 22 LR LR 04 03 23.6
comp=Z,2µm,21.8s,baz=246,slow=34
GLB **Gilahina Butte** 77.72 334 IAmb IAmb 03 32 14.5
comp=Z,32nm,1.0s
M26K **Nabesna, AK** 77.78 335 IAmb IAmb 03 32 15.2
comp=Z,29nm,1.2s
M26K **Nabesna, AK** 77.78 335 P P 03 32 07.7 -1.0
baz=115,SNR=15
BMRM **Bremner River** 77.89 333 P P 03 32 08.4 -0.9
baz=113,SNR=16
MVO **Moncorvo** 77.94 48 *e*P P 03 32 09.5 -0.5
comp=Z,69nm,1.6s
EGAK **Eagle** 78.09 338 P P 03 32 10.5 +0.3
EGAK **Eagle** 78.09 338 P P 03 32 08.2 -2.0
baz=117,SNR=40
Q23K **Middleton Isla** 78.11 332 P P 03 32 06.5 -3.9
baz=111
N25K **Chitina, Valde** 78.14 334 IAmb IAmb 03 32 16.8
comp=Z,18nm,1.1s
N25K **Chitina, Valde** 78.14 334 P P 03 32 08.5 -2.1
baz=113,SNR=9.3
L26K **Log Cabin Wild** 78.19 336 IAmb IAmb 03 32 16.8
comp=Z,25nm,1.1s
L26K **Log Cabin Wild** 78.19 336 P P 03 32 10.8 0.0
baz=115,SNR=12
CHEFC **Chefchaouen** 78.21 54 P P 03 32 15.0 +3.3
EYAK **Cordova Ski Ar** 78.24 333 P P 03 32 11.0 -0.1
baz=112
PBRG **Bragança** 78.28 47 *e*P P 03 32 11.1 -0.7
comp=Z,61nm,1.7s
MDT **Midelt** 78.48 57 P P 03 32 15.0 +1.8
KLU **Klutina** 78.68 334 IAmb IAmb 03 32 19.4
comp=Z,24nm,1.0s
KLU **Klutina** 78.68 334 P P 03 32 13.4 -0.2
baz=112,SNR=7.2
HARP **HAARP** 78.69 335 P P 03 32 12.2 -1.4
baz=113
DOT **Dot Lake** 78.74 336 IAmb IAmb 03 32 20.5
comp=Z,54nm,1.4s
SCRK **Sand Creek** 78.84 336 IAmb IAmb 03 32 20.4
comp=Z,26nm,1.2s
SCRK **Sand Creek** 78.84 336 P P 03 32 12.4 -2.2
baz=114,SNR=20
J26L **Joseph Creek** 78.90 337 P P 03 32 14.8 0.0
baz=115,SNR=37
GLI **Glacier Island** 78.98 333 P P 03 32 14.4 -0.8
baz=111
M24K **Tolsona, Glenn** 79.02 334 P P 03 32 15.5 0.0
baz=112,SNR=12
PAX **Paxson** 79.05 335 IAmb IAmb 03 32 21.1
comp=Z,32nm,1.2s
PAX **Paxson** 79.05 335 P P 03 32 15.3 -0.4
baz=113,SNR=24
RIDG **Independent Ri** 79.10 336 IAmb IAmb 03 32 21.7
comp=Z,30nm,1.1s
RIDG **Independent Ri** 79.10 336 P P 03 32 15.6 -0.3
baz=113,SNR=16
AKLM **AKL** 79.33 55 P P 03 32 21.0 +3.1
PALE **Palemas** 79.36 54 P P 03 32 21.1 +3.1
SCM **Sheep Creek Mo** 79.43 334 P P 03 32 17.1 -0.7
baz=111,SNR=20
K24K **Donnelly Dome** 79.50 336 P P 03 32 17.2 -0.9
baz=113
PWL **Port Wells** 79.54 333 IAmb IAmb 03 32 25.5
comp=Z,35nm,1.2s
PWL **Port Wells** 79.54 333 P P 03 32 15.6 -2.8
baz=110
M23K **Glacier View** 79.59 334 P P 03 32 17.9 -0.6
baz=110,SNR=18
J25K **Salcha River,** 79.65 337 P P 03 32 17.7 -1.2
baz=113
PAB **San Pablo** 79.68 50 P P 03 32 19.1 -0.5
PAB pmax pmax
comp=Z,22nm,1.2s
PAB **San Pablo** 79.68 50 P P 03 32 19.1 -0.5
RAR **Rarotonga** 79.71 249 LR LR 04 00 24.5
comp=Z,3µm,18.1s,baz=88,slow=30
KNK **Knik Glacier** 79.79 333 IAmb IAmb 03 32 25.9
comp=Z,38nm,1.0s
KNK **Knik Glacier** 79.79 333 P P 03 32 16.6 -3.1
baz=110,SNR=16
SEW **Seward** 79.81 332 IAmb IAmb 03 32 25.0
comp=Z,31nm,1.1s
SEW **Seward** 79.81 332 P P 03 32 19.2 -0.6
baz=109,SNR=5.3
SML **Sawmill** 79.86 334 IAmb IAmb 03 32 25.6
comp=Z,38nm,1.0s
SML **Sawmill** 79.86 334 P P 03 32 17.0 -3.1
baz=110,SNR=14
WAT6 **Susitna Watana** 79.87 334 P P 03 32 18.3 -2.0
baz=110,SNR=31
DHY **Denali Highway** 79.89 335 P P 03 32 16.8 -3.6
baz=111,SNR=5.6
ESDC **Sonseca Array** 79.99 50 P P 03 32 20.1 -1.2
comp=Z,7.1nm,1.0s,baz=268,slow=5.5,SNR=30
ESBB **Sonseca Array** 79.99 50 IAmb IAmb 03 32 36.2
comp=Z,33nm,1.4s
O22K **Cooper Landing** 80.06 332 P P 03 32 19.3 -1.8
baz=108
GHO **Glory Hole Cre** 80.12 333 IAmb IAmb 03 32 26.9
comp=Z,33nm,0.8s
PMR **Palmer** 80.15 333 P P 03 32 21.0 -0.6
baz=109,SNR=5.1
SCO **Scoresbysund** 80.25 17 *i* P P 03 32 24.5 +2.6
SCO IAmb IAmb 03 32 27.8
comp=Z,2.1nm,0.8s
RC01 **Rabbit Creek A** 80.26 333 IAmb IAmb 03 32 27.7
comp=Z,34nm,1.0s
RC01 **Rabbit Creek A** 80.26 333 P P 03 32 20.1 -2.1
baz=108,SNR=6.2
WAT1 **Susitna Watana** 80.31 334 P P 03 32 21.6 -0.9
baz=110
BRSE **Bradley Lake S** 80.32 331 P P 03 32 19.8 -2.8
baz=107,SNR=5.8
ILAR **Eielson Array** 80.32 337 P P 03 32 22.4 -0.1
comp=Z,10nm,1.1s,baz=117,slow=3.1,SNR=17
ILAR **Eielson Array** 80.32 337 P P 03 32 22.2 -0.2
JBK **JBK** 80.37 55 P P 03 32 26.0 +2.4
BRLK **Bradley Lake** 80.39 331 IAmb IAmb 03 32 28.3
comp=Z,45nm,1.0s
CNPM **China Poot** 80.49 331 IAmb IAmb 03 32 29.0
comp=Z,27nm,1.1s
RND **Reindeer** 80.64 335 IAmb IAmb 03 32 30.0
comp=Z,39nm,1.0s
POKR **Poker Plat Res** 80.66 337 P P 03 32 21.5 -2.8
baz=111
KDAK **Kodiak Island** 80.68 329 P P 03 32 21.1 -3.4
baz=106
HOM **Homer** 80.73 331 P P 03 32 20.4 -4.3
baz=107
COLA **College** 80.74 337 *i* P P 03 32 24.9 +0.3
COLA pmax pmax
comp=Z,24nm,1.3s
COLA **College** 80.74 337 P P 03 32 22.9 -1.7
baz=111
TCOL **CIGO, UAF Yank** 80.74 337 P P 03 32 22.0 -2.7
baz=111
MCK **McKinley** 80.78 335 P P 03 32 24.6 -0.3
baz=110,SNR=6.8
OHAK **Old Harbor** 80.89 328 P P 03 32 22.2 -3.4
baz=105
MDM **Murphy Dome** 80.92 337 IAmb IAmb 03 32 31.8
comp=Z,38nm,1.3s
H24K **Noodor Dome** 81.10 337 IAmb IAmb 03 32 32.4
comp=Z,37nm,1.2s
H24K **Noodor Dome** 81.10 337 P P 03 32 26.4 -0.3
baz=111,SNR=23
NEA2 **Nenana** 81.13 336 IAmb IAmb 03 32 32.0
comp=Z,31nm,1.1s
NEA2 **Nenana** 81.13 336 P P 03 32 26.4 -0.4
baz=110,SNR=12
SII **Sitkinak Islan** 81.21 328 P P 03 32 25.2 -2.2
baz=104
FIGM **Figuig** 81.21 58 P P 03 32 31.0 +2.9
TRF **Thorofare Moun** 81.26 335 IAmb IAmb 03 32 36.1
comp=Z,28nm,1.2s
TRF **Thorofare Moun** 81.26 335 P P 03 32 27.1 -0.7
baz=108,SNR=10
BELA **Belgrano 2** 81.27 171 P P 03 32 27.3 0.0
BELA IAmb IAmb 03 32 29.3
comp=Z,48nm,1.4s
O20K **Slope Mountain** 81.32 331 P P 03 32 27.8 -0.2
baz=106,SNR=5.8
I23K **Minto, Yukon-K** 81.44 337 P P 03 32 28.1 -0.3
baz=110,SNR=16
SPCR **Spurr Chakacha** 81.44 332 P P 03 32 27.8 -0.8
baz=106,SNR=5.2
Q19K **Cape Douglas,** 81.52 330 IAmb IAmb 03 32 34.3
comp=Z,28nm,1.2s
Q19K **Cape Douglas,** 81.52 330 P P 03 32 27.1 -1.9
baz=105
KTH **Kantishna Hill** 81.56 335 IAmb IAmb 03 32 34.9
comp=Z,26nm,1.0s
H23K **Yukon River** 81.74 337 P P 03 32 28.1 -1.9
baz=109
BPAW **Bear Paw Mtn.** 81.76 335 P P 03 32 29.3 -0.8
baz=108,SNR=34
CHIR **Chirikof Isla** 81.82 327 P P 03 32 29.3 -1.2
baz=103
PPLA **Purkeypile** 81.92 334 P P 03 32 29.6 -1.6
baz=106,SNR=23
CAST **Castle Rocks** 82.02 334 P P 03 32 30.4 -1.2
baz=107,SNR=27
O19K **Port Alsworth** 82.17 331 IAmb IAmb 03 32 36.9
comp=Z,16nm,0.9s
O19K **Port Alsworth** 82.17 331 P P 03 32 28.3 -4.1
baz=104
CHUM **Lake Minchumin** 82.25 335 P P 03 32 31.5 -1.2
baz=107,SNR=6.1
N19K **Bonanza Creek** 82.40 332 IAmb IAmb 03 32 38.5
comp=Z,17nm,1.1s
N19K **Bonanza Creek** 82.40 332 P P 03 32 31.7 -2.0
baz=104
P18K **Big Mountain,** 82.42 330 P P 03 32 33.4 -0.4
baz=103
COLD **Coldfoot** 82.45 338 IAmb IAmb 03 32 40.0
comp=Z,18nm,1.1s
COLD **Coldfoot** 82.45 338 P P 03 32 34.0 +0.3
baz=109,SNR=13
I21K **Tanana** 82.50 336 IAmb IAmb 03 33 02.0
comp=Z,22nm,1.2s
I21K **Tanana** 82.50 336 P P 03 32 33.1 -0.9
baz=107
O18K **Koktuh Hills** 82.52 331 IAmb IAmb 03 32 39.2
comp=Z,22nm,1.0s
O18K **Koktuh Hills** 82.52 331 P P 03 32 32.6 -1.6
baz=104
L20K **Farewell, AK** 82.55 333 P P 03 32 30.5 -3.8
baz=105,SNR=5.9
DBG **Daneborg** 82.59 14 *i* P P 03 32 36.4 +2.2
DBG IAmb IAmb 03 33 08.3
comp=Z,1.9nm,0.8s
M19K **Big River Lodg** 82.64 333 IAmb IAmb 03 32 40.0
comp=Z,16nm,1.0s
M19K **Big River Lodg** 82.64 333 P P 03 32 31.3 -3.5
baz=104
TOA0 **Torodi Ar. Sit** 82.65 77 P P 03 32 33.8 -2.1
TOA0 IAmb IAmb 03 32 44.9
comp=Z,45nm,1.4s
TORD **Torodi Ar. Bea** 82.65 77 P P 03 32 33.5 -2.3
comp=Z,26nm,1.4s,baz=283,slow=3.2,SNR=27
TORD **Torodi Ar. Bea** 82.65 77 P P 03 32 34.5 -1.3
TORD IAmb IAmb 03 32 44.9
comp=Z,33nm,1.4s
TOLK **Toolik Lake Re** 82.70 340 P P 03 32 30.9 -4.1
baz=110
K20K **Telida** 82.86 334 P P 03 32 34.9 -1.1
baz=105,SNR=22
L19K **White Mountain** 82.92 333 IAmb IAmb 03 32 41.1
comp=Z,18nm,1.1s
L19K **White Mountain** 82.92 333 P P 03 32 35.1 -1.1
baz=104,SNR=12
H21K **Melozitna Rive** 82.97 337 P P 03 32 36.1 -0.3
baz=106
SVW2 **Sparrevohn** 82.99 332 IAmb IAmb 03 32 41.2
comp=Z,22nm,1.0s
N18K **Kilae Creek** 83.04 331 IAmb IAmb 03 32 41.9
comp=Z,28nm,1.1s
N18K **Kilae Creek** 83.04 331 P P 03 32 34.0 -2.9
baz=103,SNR=5.9
J20K **Nowinta River** 83.11 335 IAmb IAmb 03 32 42.1
comp=Z,18nm,1.0s
J20K **Nowinta River** 83.11 335 P P 03 32 32.1 -5.1
baz=105,SNR=11
IMAR **Indian Mountai** 83.43 337 P P 03 32 39.1 +0.3
TTA **Tatalina** 83.61 334 IAmb IAmb 03 32 45.3
comp=Z,17nm,1.4s
TTA **Tatalina** 83.61 334 P P 03 32 34.1 -5.8
baz=103
VNA3 **Neumayer Olymp** 83.67 162 P P 03 32 39.4 -0.6
MFF **Saint Martin d** 83.72 43 *e*P P 03 32 41.0 +0.3
MFF pmax pmax
comp=Z,12nm,0.9s
DAG **Danmarks Havn** 84.10 12 *i* P P 03 32 39.8 -2.2
DAG IAmb IAmb 03 32 47.1
comp=Z,6.5nm,0.9s
LFF **La Frestale** 84.14 45 *e*P P 03 32 43.2 +0.3
LFF pmax pmax
comp=Z,48nm,1.7s
GCSA **Galena City Sc** 84.40 335 P P 03 32 40.9 -2.8
baz=102
CAF **Calviac** 85.08 45 *e*P P 03 32 47.9 +0.2
CAF pmax pmax
comp=Z,68nm,1.8s
SNAA **Sanae** 85.89 162 P P 03 32 51.4 +0.1
comp=Z,21nm,1.2s,baz=283,slow=7.8,SNR=5.8
SNAA **Sanae** 85.89 162 P P 03 32 51.8 +0.6
SNAA pmax pmax
comp=Z,57nm,1.5s
SNAA **Sanae** 85.89 162 P P 03 32 51.8 +0.6
UCC **Uccle** 87.10 39 P P 03 32 58.3 +0.9
UCC pmax pmax
comp=Z,6.0nm,0.9s
UCC **Uccle** 87.10 39 P P 03 32 58.3 +0.9
DOU **Dourbes** 87.20 40 *d*P P 03 32 57.6 -0.3
comp=Z,12nm,1.1s
BMRD **Maredsous** 87.32 40 *dx* x 03 33 02.8
RDOG **Red Dog Mine** 87.36 338 IAmb IAmb 03 33 03.5
comp=Z,17nm,1.0s
RDOG **Red Dog Mine** 87.36 338 P P 03 32 57.6 -0.8
baz=97
RCHB **Rochefort** 87.61 40 *d*P P 03 32 59.1 -0.8
RCHB *dx* x 03 33 04.5
TROLL **Troll, Antarti** 87.61 162 P P 03 32 59.0 -0.7
BCLA **Clavier** 87.67 40 *dx* x 03 33 06.0
BSTI **Sart Tilman** 87.85 40 *d*P P 03 33 01.7 +0.6
BSTI *dx* x 03 33 06.7
BEBN **Eben Emael** 87.93 39 *d*P P 03 33 01.3 -0.1
ANM **Nome** 87.98 335 IAmb IAmb 03 33 09.5
comp=Z,21nm,1.3s
ANM **Nome** 87.98 335 P P 03 32 58.7 -2.7
baz=95,SNR=5.4
BHOU **Houvegnez** 88.12 40 *d*P P 03 33 03.3 +0.9
BHOU *dx* x 03 33 07.4
MEM **Membach** 88.13 40 *dx* x 03 33 08.0
WLF **Walferdange** 88.18 40 P P 03 33 03.3 +0.6
WLF pmax pmax
comp=Z,49nm,1.4s
WLF **Walferdange** 88.18 40 P P 03 33 03.3 +0.6
WLF **Walferdange** 88.18 40 *d*P P 03 33 03.5 +0.8
BTNL **Ternell** 88.21 40 *d*P P 03 33 02.6 -0.2
LPL **La Plagne** 88.41 45 *e*P P 03 33 07.0 +2.8
LPL pmax pmax
comp=Z,52nm,1.9s
ECH **Echery** 88.79 42 IAmb IAmb 03 33 20.3
comp=Z,23nm,1.3s
SENIN **Lac Senin/Sane** 88.83 44 IAmb IAmb 03 33 36.8
comp=Z,25nm,1.4s
TNA **Tin City** 89.13 335 P P 03 33 05.3 -1.4
baz=92
QSPA **South Pole Qui** 89.75 180 P P 03 33 10.5 +0.7
QSPA IAmb IAmb 03 33 12.6
comp=Z,29nm,1.2s
KEST **Kesra** 90.21 54 P P 03 33 12.4 -0.3
comp=Z,4.6nm,0.9s,baz=333,slow=5.7,SNR=4.4
KEST **Kesra** 90.21 54 IAmb IAmb 03 33 30.4
comp=Z,23nm,1.3s
TUE **Stuetta** 90.25 44 IAmb IAmb 03 33 40.4
comp=Z,21nm,1.4s
DAVA **Damuels** 90.61 43 *i* P P 03 33 15.9 +1.5
comp=Z,22nm,1.9s
AFI **Afiamalu** 90.98 256 LR LR 04 04 32.1
comp=Z,2µm,21.8s,baz=76,slow=29
SALO **Salr** 91.07 45 P P 03 33 16.8 +0.4
SALO IAmb IAmb 03 33 21.3
comp=Z,11nm,0.7s
FETA **Feichten** 91.19 43 *e*P P 03 33 17.6 +0.5
comp=Z,9.9nm,1.1s
RETA **Reutte** 91.21 43 *e*P P 03 33 18.3 +1.3
comp=Z,7.3nm,1.3s
MOTA **Moosalm** 91.44 43 *e*P P 03 33 19.2 +1.0
comp=Z,13nm,1.4s
SQTA **Sankt Quirin** 91.52 43 *i* P P 03 33 19.2 +0.7
comp=Z,17nm,2.0s,SNR=5.8
WATA **Walderalm** 91.76 43 P P 03 33 19.7 0.0
comp=Z,8nm,1.1s
WTTA **Wattenberg** 91.81 43 P P 03 33 21.6 +1.6
comp=Z,14nm,1.6s
CTI **Castel Tesino** 91.85 44 IAmb IAmb 03 33 41.8
comp=Z,14nm,1.1s
LATE **Laterza** 92.05 48 P P 03 33 20.7 -0.2
ABTA **Abfaltersbach** 92.42 43 *i* P P 03 33 23.3 +0.6
comp=Z,12nm,1.7s,SNR=7.2
CLL **Collm** 92.55 39 *e*P P 03 33 27.0 +4.0
comp=Z,24nm,1.8s
CLL *e*SKSac SKSac 03 43 52.0 -4.0
CLL *e*S ScS 03 44 31.0 +2.2
comp=N,2µm,15.4s
CLL *e*PS PnS 03 45 41.0 0.0
CLL Lm MLR 04 19 00.0
comp=Z,1µm,18.3s
STAL **STALIGIAL** 92.58 44 IAmb IAmb 03 33 26.0
comp=Z,27nm,1.5s
KBA **Koelnbreinsper** 92.98 43 *e*P P 03 33 26.5 +1.1
comp=Z,8.0nm,1.2s
KHC **Kasperske Hory** 93.03 41 *e*P P 03 33 30.5 +5.1
KHC **Kasperske Hory** 93.03 41 IAmb IAmb 03 33 32.1
comp=Z,13nm,1.4s
KHC **Kasperske Hory** 93.03 41 *e*P P 03 33 25.0 -0.4
KHC *e*pP P 03 33 30.5 +5.1
GERES **GERESS Array B** 93.13 41 P P 03 33 25.9 0.0
comp=Z,0.9nm,0.8s,baz=264,slow=11,SNR=7.2
BIOA **Bad Ischl, Aus** 93.15 42 *i* P P 03 33 26.8 +0.8
comp=Z,17nm,1.6s,SNR=5.9
BRG **Berggiesshubel** 93.17 39 *e*P P 03 33 26.6 +0.7
BRG **Berggiesshubel** 93.17 39 *e*P P 03 33 26.6 +0.7
MYKA **Terra Mystica** 93.20 43 *e*P P 03 33 27.6 +1.3
comp=Z,7.7nm,1.2s
CADS **Cadrg** 93.29 44 *e*P P 03 33 26.8 +0.1
CKRC **Cesky Krumlov** 93.53 41 *e*P P 03 33 33.5 +5.8
MOA **Molln** 93.56 42 *e*P P 03 33 27.8 0.0
comp=Z,9.5nm,1.6s
OBKA **Obir** 93.84 44 *e*P P 03 33 29.5 +0.3
comp=Z,8.7nm,1.6s
SOKA **Soboth** 94.16 43 *e*P P 03 33 31.9 +1.2
comp=Z,6.9nm,1.4s
PERS **Pernice** 94.22 43 *e*P P 03 33 29.2 -1.7
ARSA **Arzberg** 94.45 43 *e*P P 03 33 32.8 +0.9
comp=Z,5.3nm,1.2s
CHVC **Chvalec** 94.53 39 *e*P P 03 33 37.3 +5.1
CONA **Conrad Observa** 94.63 42 *e*P P 03 33 33.1 +0.3
comp=Z,12nm,1.7s
OSTC **Ostas** 94.63 39 *e*P P 03 33 38.5 +5.8
DPC **Dobruska-Polom** 94.72 40 *e*P P 03 33 38.3 +5.2
DPC **Dobruska-Polom** 94.72 40 *e*P P 03 33 38.3 +5.2
KRUC **Moravsky** 94.88 41 *e*P P 03 33 34.9 +1.1
RONA **Rosalia, Austr** 94.94 42 *e*P P 03 33 35.5 +1.3
comp=Z,8.8nm,1.4s
VRAC **Vranov** 94.99 41 *e*P P 03 33 34.9 +0.6
KRLC **Kraliky** 95.04 40 *e*P P 03 33 40.3 +5.7
KRLC **Kraliky** 95.04 40 *e*P P 03 33 40.3 +5.7
VNDA **Vanda** 95.46 191 P P 03 33 37.2 +1.3
comp=Z,1.5nm,1.2s,baz=117,slow=8.8,SNR=3.6
VNDA LR LR 04 09 54.6
comp=Z,1µm,19.4s,baz=137,slow=31
VNDA **Vanda** 95.46 191 P P 03 33 38.2 +2.3
VNDA pmax pmax
comp=Z,10.0nm,1.5s
VNDA **Vanda** 95.46 191 P P 03 33 38.2 +2.3
MODS **Modra-Piesok** 95.53 42 *e*P P 03 33 38.0 +1.2
MODS **Modra-Piesok** 95.53 42 *e*P P 03 33 38.0 +1.2
MORC **Moravsky Berou** 95.56 40 P P 03 33 37.5 +0.5
MORC pmax pmax
comp=Z,13nm,1.4s
MORC **Moravsky Berou** 95.56 40 P P 03 33 37.5 +0.5
MORC IAmb IAmb 03 33 44.0
comp=Z,12nm,1.4s
MORC **Moravsky Berou** 95.56 40 *e*P P 03 33 37.0 0.0
JAVC **Velka Javorina** 95.74 41 *e*P P 03 33 38.5 +0.7
RAO **Raoul Island** 96.16 241 LR LR 04 07 21.3
comp=Z,1µm,19.9s,baz=130,slow=29
TSUM **Tsumeb** 97.72 109 P P 03 33 45.7 -1.8
comp=Z,3.4nm,0.8s,baz=244,slow=3.1,SNR=4.9
TSUM **Tsumeb** 97.72 109 P P 03 33 47.9 +0.4
TSUM IAmb IAmb 03 33 56.9
comp=Z,8.7nm,1.1s
FINES **FINESS Array B** 98.24 28 P P 03 33 48.1 -0.7

comp=Z,1.5nm,0.9s,baz=306,slow=4.2,SNR=1.8
BILL Bilibino 98.75 339 ||e P Pdif 03 33 51.9 +1.0
BILL i *PP sP 03 33 55.5 -2.9
BILL e*SP pP 03 33 59.4 +2.9
BILL i 03 37 59.7
BILL e 03 45 19.0
BILL eSS SS 03 52 10.4 +5.1
BILL pmax pmax
comp=Z,8.0nm,1.6s
BILL MLR MLR
comp=Z,1µm,17.0s
BILL Bilibino 98.75 339 P Pdif 03 33 52.5 +1.5
BILL IAmb IAmb 03 33 56.4
comp=Z,14nm,1.4s
URZ Urewera 99.39 231 LR LR 04 11 07.4
comp=Z,3µm,18.8s,baz=211,slow=31
SYO Syowa Base 100.18 162 ⇑e PP **PP 03 38 03.6 +1.0**
SYO Syowa Base 100.18 162 ||e PKiKP **PKiKP 03 38 26.0 +1.4**
MILM Milestii Mici 103.46 42 e P **Pdif 03 34 10.0 -2.3**
MILM LRM MLR 04 18 12.0
comp=Z,1µm,18.0s
MILM Milestii Mici 103.46 42 e P **Pdif 03 34 10.0 -2.3**
DZM Mont Dzumac 111.00 246 e PS PS 03 48 52.4 -3.7
comp=Z,1µm,26.3s
DZM eSS SS 03 54 53.3 -2.7
comp=Z,4µm,28.8s
DZM Mont Dzumac 111.00 246 eLR LR 04 11 35.0
comp=Z,1µm,23.1s
H11S2 WAKE ISLAND Hyl 11.50 290 T T 05 39 39.0
baz=85,slow=75,SNR=12
H11S1 WAKE ISLAND Hyl 11.50 290 T T 05 39 40.0
baz=85,slow=75,SNR=15
H11S3 WAKE ISLAND Hyl 11.51 290 T T 05 39 36.4
baz=85,slow=75,SNR=8.1
KIV Kislovodsk 113.64 41 ePKiKP **PKiKP 03 38 52.5 +2.0**
KIV pmax pmax
comp=Z,8.0nm,1.1s
MAK Makhachkala 117.23 40 i PKiKP **PKPdf 03 38 52.4 -4.8**
MAK e 03 45 43.5
MAK ePS **PKKPdf 03 49 50.4 +0.5**
KMBO Kilima Mbogo 117.93 91 PKiP **PKPdf 03 38 59.2 -0.5**
comp=Z,0.4nm,0.3s,baz=238,slow=0.4,SNR=3.5
KMBO Kilima Mbogo 117.93 91 PKiKP **PKPdf 03 38 59.7 0.0**
KMBO Kilima Mbogo 117.93 91 PKPdf **PKPdf 03 38 59.7 0.0**
ABKAR Akbulak array 120.70 29 PKPdf **PKPdf 03 39 04.2 +0.4**
ZALV Zalesovo Beam 125.21 10 PKP **PKPdf 03 39 11.4 -0.8**
comp=Z,0.3nm,0.3s,baz=250,slow=4.4,SNR=5.5
ZALV Zalesovo Beam 125.21 10 PKiKP **PKPdf 03 39 11.6 -0.7**
ZALV Zalesovo Beam 125.21 10 **PKPdf 03 39 11.6 -0.7**
GEYT Alibeck 126.75 41 PKP **PKPdf 03 39 15.0 -0.8**
comp=Z,0.9nm,0.3s,baz=23,slow=23,SNR=1.4
GYA0B ALIBECK ARRAY 126.75 41 PKPdf **PKPdf 03 39 16.5 +0.7**
KURK Kurchatov 126.78 16 PKiKP **PKiKP 03 39 16.5 +0.7**
KURK Kurchatov 126.78 16 PKPdf **PKiKP 03 39 16.5 +0.7**
STKA Stephens Creek 128.80 227 PKP **PKPdf 03 39 21.1 +1.2**
comp=Z,5.4nm,1.0s,baz=125,slow=1.9,SNR=5.5
STKA Stephens Creek 128.80 227 PKPdf **PKPdf 03 39 21.0 +1.2**
MJAR Matsushiro Arr 129.04 319 PKP **PKiKP 03 39 22.7 +1.8**
comp=Z,1.4nm,0.4s,baz=235,slow=2.9,SNR=4.5
CTA Charters Tower 129.78 243 PKP **PKiKP 03 39 23.6 +0.8**
comp=Z,9.9nm,1.1s,baz=38,slow=4.1,SNR=3.9
ZAK Zakamensk 130.00 357 ePKiKP **PKPdf 03 39 21.5 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.6s
KK31 Karatay Array 130.20 28 PKiKP **PKPdf 03 39 23.2 +1.0**
KK31 Karatay Array 130.20 28 PKPdf **PKPdf 03 39 23.2 +1.0**
KKAR Karatay Array 130.20 28 PKiKP **PKPdf 03 39 21.6 -0.6**
KKAR Karatay Array 130.20 28 **PKPdf 03 39 21.6 -0.6**
MKAR Makanchi Array 131.36 16 PKP **PKPdf 03 39 23.4 -0.9**
comp=Z,0.1nm,0.3s,baz=173,slow=35,SNR=2.4
MKAR Makanchi Array 131.36 16 PKiKP **PKPdf 03 39 24.6 +0.3**
MKAR Makanchi Array 131.36 16 PKPdf **PKPdf 03 39 24.6 +0.3**
HRA Herat 131.52 42 PKPdf **PKPdf 03 39 26.4 +1.2**
ULN Ulaanbaatar 132.15 353 PKiKP **PKPdf 03 39 27.2 +1.3**
ULN Ulaanbaatar 132.15 353 PKPdf **PKPdf 03 39 27.1 +1.3**
SONM Songino Array 132.26 354 PKP **PKPdf 03 39 25.0 -1.1**
comp=Z,0.5nm,0.3s,baz=69,slow=2.1,SNR=4.7
SONM PP **PP 03 41 52.4 +5.1**
comp=Z,1.3nm,0.9s,baz=351,slow=4.8,SNR=4.1
SONM Songino Array 132.26 354 PKiKP **PKPdf 03 39 26.8 +0.7**
SONM Songino Array 132.26 354 **PKPdf 03 39 26.8 +0.7**
AAK Ala-Archa 132.33 25 PKiKP **PKPdf 03 39 27.7 +1.3**
AAK Ala-Archa 132.33 25 **PKPdf 03 39 27.7 +1.3**
TARG Taragay, Kyrgy 134.42 23 PKPdf **PKPdf 03 39 31.4 +0.7**
KSRS Korea Array 134.57 328 PKP **PKPdf 03 39 31.1 +0.6**
comp=Z,1.0nm,0.6s,baz=197,slow=42,SNR=2.5
WMQ Urumqi 135.45 12 ePKP **PKPdf 03 39 33.5 +1.4**
WMQ LR LR
comp=Z,1µm,17.7s
WMQ LR LR
comp=Z,2µm,20.1s
WMQ LR LR
comp=Z,1µm,20.1s
KSH Kashi 135.53 26 PKP **PKPdf 03 39 33.8 +1.3**
KSH PP **PP 03 42 15.6 +7.1**
KSH PKS **PKSdf 03 43 02.8 -6.1**
KSH SS SS 04 00 04.6 +0.3
KSH AMB AMB
comp=Z,690nm,11.6s
KSH LR LR
comp=Z,1µm,22.3s
KSH LR LR
comp=Z,2µm,20.0s
KSH LR LR
comp=Z,2µm,20.3s
HHC Hu-ho-hao-te 138.14 346 ePKP **PKPdf 03 39 33.8 -3.4**
HHC LR LR
comp=Z,1µm,18.6s
HHC LR LR
comp=Z,420nm,19.2s
HHC LR LR
comp=Z,2µm,18.9s
ASAR Alice Springs 138.82 232 PKhKP PKPpre 03 39 31.9
comp=Z,0.9nm,0.8s,baz=119,slow=3.5,SNR=4.6
ASAR Alice Springs 138.82 232 PKiKP **PKPdf 03 39 37.1 -1.8**
ASAR Alice Springs 138.82 232 PKPdf **PKPdf 03 39 37.1 -1.8**
WB2 Warramunga Arr 140.21 238 PKPdf **PKPdf 03 39 41.8 +0.3**
WRA Warramunga Arr 140.22 238 PKhKP PKPpre 03 39 38.7
comp=Z,6.8nm,0.9s,baz=115,slow=1.5,SNR=12
HNS HongShan 140.44 341 ||PKP **PKiKP 03 39 46.0 +2.1**
HNS LR LR
comp=Z,1µm,17.9s
HNS LR LR
comp=Z,960nm,19.2s
HNS LR LR
comp=Z,1µm,19.4s
NJ2 Nanjing 143.42 332 ePKP **PKPdf 03 39 47.3 +0.5**
LYN LuoYang 143.78 341 ePKP PKPab 03 39 44.8 +0.6
LYN AMB AMB
comp=Z,270nm,8.4s
LYN LR LR
comp=Z,1µm,16.7s
LYN LR LR
comp=Z,1µm,17.3s
LYN LR LR
comp=Z,2µm,20.2s
GOMU GeErMu 144.04 6 PKP PKPbc 03 39 46.8 +0.6
GOMU SS SS 04 01 50.5 +6.6
GOMU LR LR
comp=Z,500nm,20.2s
GOMU LR LR
comp=Z,780nm,20.3s
GOMU LR LR
comp=Z,600nm,20.5s
LZH Lanzhou 144.15 354 ePKP PKPbc 03 39 47.0 +0.8
LZH pPKP PKPdf 03 39 50.6 +2.3
LZH sPKP 03 39 53.3
LZH LR LR
comp=Z,2µm,17.9s
LZH LR LR
comp=Z,1µm,18.2s
LZH LR LR
comp=Z,2µm,20.3s
XAN Xi'an 145.25 346 PKPbc **PKPbc 03 39 46.4 -3.3**
XAN PKPab **PKPab 03 39 48.3 -1.5**
XAN pPKP pPKPab 03 39 53.3 -2.0
XAN sPKP 03 39 57.8
XAN PP **PP 03 43 08.3 +0.6**
XAN SKS **SKSdf 03 46 55.6 -3.4**
XAN AMB AMB
comp=Z,520nm,11.0s
XAN LR LR
comp=Z,4µm,22.1s
XAN LR LR
comp=Z,1µm,24.0s
XAN LR LR
comp=Z,3µm,20.6s
MTN Manton Dam 145.84 246 PKPbc **PKPdf 03 39 52.2 +0.8**
WHN Wuhan 146.70 336 PKPbc **PKPdf 03 39 53.5 +1.0**
WHN PKPab pPKPbc 03 39 58.0 -1.8
WHN PP **PP 03 43 17.8 +1.4**
WHN AMB AMB
comp=Z,720nm,9.9s
WHN LR LR
comp=Z,3µm,17.8s
WHN LR LR
comp=Z,2µm,18.1s
WHN LR LR
comp=Z,4µm,22.4s
KNRA Kununurra 146.86 240 **PKPdf 03 39 54.8 +1.6**
FAKI Fak Fak 146.92 264 PKPbc **PKPbc 03 39 55.8 +0.5**
NACB Ninganchiao 147.91 319 PKPbc **PKPbc 03 39 57.5 -0.2**
PYUN Piuthan 148.25 28 eP **PKPbc 03 39 58.3 -0.5**
comp=Z,288nm,1.7s
FITZ Fitzroy Crossi 148.30 233 PKPbc **PKPbc 03 39 58.4 -0.4**
DANN Dangsing 148.39 27 eP **PKPbc 03 39 59.0 -0.3**
comp=Z,577nm,2.0s
ENH Enshi 148.67 343 **PKPdf 03 39 58.0 +2.2**
KOLN Koldanda 148.81 28 eP **PKPbc 03 39 59.3 -1.0**
GKN Gorkha 149.08 26 eP **PKPbc 03 39 59.7 -1.2**
POO Poona 149.13 53 eP **PKPdf 03 39 52.0 -4.9**
QZH Quanzhou 149.21 324 ePKPbc **PKPdf 03 39 56.0 -0.8**
QZH SS SS 04 02 46.5 +3.2
QZH LR LR
comp=Z,640nm,21.8s
QZH LR LR
comp=Z,1µm,18.9s
QZH LR LR
comp=Z,1µm,19.3s
CD2 Chengdu 149.27 353 PKPbc **PKPdf 03 39 57.0 +0.1**
KKN Kakani 149.54 25 eP **PKPdf 03 40 00.4 +2.8**
DMN Daman 149.62 26 eP **PKPbc 03 40 01.4 -1.0**
GUN Gumba 149.68 24 eP **PKPbc 03 40 02.4 -0.2**
comp=Z,101nm,1.0s
LSA Lhasa 149.75 14 PKP2 **PKPbc 03 40 02.8 -0.1**
LSA Lhasa 149.75 14 PKPbc **PKPbc 03 40 02.8 -0.1**
PSA00 Pilbara Seismi 150.42 221 **PKPbc 03 40 03.4 -0.7**
TAPN Taplejung 150.89 22 eP **PKPbc 03 40 05.1 -0.4**
ODAN Odare 151.22 23 eP **PKPbc 03 40 04.9 -1.3**
GYA Guiyang 153.05 345 ||PKPbc **PKPdf 03 40 04.3 +1.4**
GYA PKPab **sPKPab 03 40 25.9 -3.0**
GYA PP **PP 03 44 00.3 +7.2**
GYA AMB AMB
comp=Z,300nm,10.3s
GYA LR LR
comp=Z,650nm,20.6s
GYA LR LR
comp=Z,680nm,19.8s
GYA LR LR
comp=Z,1µm,21.4s
HYBB Hyderabad (bro 153.42 49 ePKiKP **PKPdf 03 40 07.9 +4.4**
PZH PanZhiHua 153.85 355 PKPbc **PKPdf 03 40 04.3 +0.3**
PZH PKPab **pPKPab 03 40 28.1 -2.2**
PZH PP **PP 03 44 04.5 +7.1**
PZH SS SS 04 03 39.6 +6.4
PZH AMB AMB
comp=Z,330nm,8.6s
PZH LR LR
comp=Z,1µm,21.6s
PZH LR LR
comp=Z,870nm,21.1s
PZH LR LR
comp=Z,2µm,21.1s
KMI Kunming 155.11 353 ⇑PKP **PKPdf 03 40 04.0 -1.9**
KMI LR LR
comp=Z,960nm,21.4s
KMI LR LR
comp=Z,1µm,18.2s
KMI LR LR
comp=Z,2µm,23.6s
MMRI Maumere 155.49 248 PKPdf **PKPdf 03 40 06.1 -0.3**
MMRI PKPab **PKPab 03 40 31.2 -0.9**
QIZ Qiongzhong 158.72 332 PKP **PKPdf 03 40 10.4 0.0**
QIZ PP **PP 03 44 26.4 +1.6**
QIZ SS SS 04 04 30.3 +3.9
QIZ LR LR
comp=Z,1µm,21.6s
QIZ LR LR
comp=Z,1µm,20.1s
QIZ LR LR
comp=Z,2µm,21.6s
CMAR Chiang Mai Arr 161.96 1 PKP **PKPdf 03 40 14.2 +0.2**
comp=Z,1.0nm,0.3s,baz=44,slow=13,SNR=1.1
CMAR PKPab **PKPab 03 41 00.9 +1.2**
comp=Z,1.6nm,0.3s,baz=340,slow=4.9,SNR=10

*IDC **22** 03:24:21.4±1.1, 14°.42S×166°.04E, h0km, mb4.3/7, mb1 4.5/8, mb1mx4.1/30, mbtmp4.3/8, ML4.1/1, MS5.0/2, Ms1 5.0/2, ms1mx3.7/66, Error ellipse: s-maj=29.8km s-min=24.3km az=116.0*
*NEIC **22** 03:24:23.0±1.3, 14°.54S±0°.08×166°.27E±0°.08, h7km±4km, mb4.7/14, Error ellipse: s-maj=13.4km s-min=8.0km az=224.0*
ISC 22 03:24:26.4±0.6, **14°.55S**±0°.07×**166°.23E**±0°.07, **h35**km, **n32, σ1s34/31, mb4.5**/14, **1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.29**	**134**	Pn	**Pn**	**03 24 46.4**	**-1.6**
SANVU				Sn	**Sn**	**03 25 04.6**	**+0.5**
KOUNC	**Koumac, New Ca**	**6.25**	**197**		**Pn**	**03 25 55.0**	**-1.1**
DZM	**Mont Dzumac**	**7.48**	**178**	Pn	**Pn**	**03 26 12.6**	**-0.6**
	2.8nm,0.3s,baz=163,slow=23,SNR=26						
DZM				Sn	**Sn**	**03 27 34.9**	**-2.0**
	1.0nm,0.3s,baz=315,slow=22,SNR=2.4						
ONTNC	**Ouen Toro**	**7.72**	**178**	Pn	**Pn**	**03 26 15.6**	**-0.7**
OUENC	**Ouen Island, N**	**7.85**	**176**	Pn	**Pn**	**03 26 17.3**	**-0.8**
HNR	**Honiara**	**7.98**	**309**	Pn	**Pn**	**03 26 19.5**	**-0.5**
PINNC	**Pines Island,**	**8.10**	**172**	Pn	**Pn**	**03 26 21.3**	**-0.3**
FUNA	**Funafuti**	**14.04**	**66**	Pn	**Pn**	**03 27 41.3**	**-1.7**
RAO	**Raoul Island**	**20.71**	**138**	LR	LR	03 35 56.9	
	comp=Z,2µm,19.7s,baz=142,slow=33						
URZ	**Urewera**	**25.50**	**160**	P	**P**	**03 29 53.7**	**+2.2**
	2.2nm,0.3s,baz=268,slow=4.7,SNR=4.1						
URZ	**Urewera**	**25.50**	**160**	IAmb	IAmb	03 29 57.2	
	comp=Z,36nm,1.4s						
STKA	**Stephens Creek**	**28.35**	**228**	P	**P**	**03 30 15.8**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=65,slow=8.6,SNR=3.9						
WB2	**Warramunga Arr**	**30.88**	**255**	P	**P**	**03 30 39.1**	**-0.7**
WB2				IAmb	IAmb	03 30 40.3	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**30.89**	**255**	P	**P**	**03 30 38.9**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=90,slow=8.3,SNR=4.6						
AS31	**Alice Springs**	**31.80**	**249**	P	**P**	**03 30 47.5**	**-0.5**
ASAR	**Alice Springs**	**31.80**	**249**	P	**P**	**03 30 47.6**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=75,slow=9.3,SNR=8.5						
BBOO	**Buckleboo**	**32.90**	**231**	P	**P**	**03 30 57.1**	**-0.3**
BBOO				IAmb	IAmb	03 30 59.3	
	comp=Z,11nm,1.0s						
FORT	**Forrest**	**38.53**	**239**	P	**P**	**03 31 46.2**	**+0.5**
FORT				IAmb	IAmb	03 31 47.2	
	comp=Z,18nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.06**	**259**	P	**P**	**03 31 50.2**	**-0.1**
FITZ				IAmb	IAmb	03 31 53.1	
	comp=Z,3.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**73.96**	**294**	P	**P**	**03 35 56.7**	**-2.1**
	comp=Z,2.2nm,0.3s,baz=260,slow=14,SNR=4.1						
QSPA	**South Pole Qui**	**75.47**	**180**	P	**P**	**03 36 07.9**	**+1.1**
SHL	**Shillong**	**82.60**	**299**	P	**P**	**03 36 48.4**	**+1.7**
O22K	**Cooper Landing**	**82.66**	**20**	P	**P**	**03 36 47.1**	**+1.3**
MCK	**McKinley**	**85.30**	**18**	P	**P**	**03 37 00.1**	**+0.7**
MCK				IAmb	IAmb	03 37 01.6	
	comp=Z,7.0nm,1.0s						
IL31		**86.67**	**18**	P	**P**	**03 37 07.1**	**+1.1**
IL31				IAmb	IAmb	03 37 14.2	
	comp=Z,3.7nm,0.9s						
ILAR	**Eielson Array**	**86.67**	**18**	P	**P**	**03 37 06.3**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=238,slow=4.8,SNR=19						
NLWA	**Neilton Lookou**	**87.54**	**40**	P	**P**	**03 37 10.3**	**-0.4**
NLWA				IAmb	IAmb	03 37 13.0	
	comp=Z,7.6nm,1.2s						
SYO	**Syowa Base**	**88.59**	**197**	||eP	**P**	**03 37 18.6**	**+3.3**
MKAR	**Makanchi Array**	**96.38**	**317**	LR	LR	04 20 07.1	
	comp=Z,1µm,21.8s,baz=340,slow=35						
YKA	**Yellowknife Ar**	**97.85**	**27**	P	**P**	**03 37 58.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=253,slow=4.2,SNR=8.6						
TORD	**Torodi Ar. Bea**	**164.92**	**267**	PKPab	**PKPab**	**03 45 25.6**	**+1.3**
	comp=Z,1.1nm,1.1s,baz=104,slow=3.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**164.92**	**267**		**PKPab**	**03 45 22.4**	**-1.8**

*IDC **22** 03:47:34.5±1.6, 0°.24N×126°.23E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/52, mbtmp3.8/5, MS4.7/1, Ms1 4.7/1, ms1mx3.4/82, Error ellipse: s-maj=183.6km s-min=20.3km az=64.0*
*NEIC **22** 03:47:37.9±1.2, 0°.14S±0°.06×125°.27E±0°.06, h10km±1km, mb4.2/4, Error ellipse: s-maj=10.5km s-min=9.2km az=44.0*
*DJA **22** 03:47:38.6±0.3, 0°.3S±3°×12°.5E±°, h10km, M4.2/12, mb4.4/3, MLv4.0/12, MwMwp4.6/1, Mwp5.0/1*
ISC 22 03:47:37.1±0.8, **0°.22S**±0°.07×**125°.27E**±0°.04, **h10**km, **n24, σ1s19/23, mb4.0/7, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.51**	**301**	P	**Pb**	**03 48 05.3**	**0.0**
SANI	**Sanana**	**1.96**	**159**	P	**Pn**	**03 48 09.5**	**-0.9**
LBMI	**Labuha**	**2.27**	**101**	P	**Pn**	**03 48 17.4**	**+2.8**
TNTI	**Ternate**	**2.31**	**65**	Pn	**Pn**	**03 48 15.8**	**+0.5**
TNTI	**Ternate**	**2.31**	**65**	P	**Pb**	**03 48 18.4**	**-0.5**
LUWI	**Luwuk**	**2.63**	**252**		**Pn**	**03 48 20.9**	**+1.2**
LUWI	**Luwuk**	**2.63**	**252**	P	**Pn**	**03 48 20.0**	**+0.3**
MRSI	**Marisa**	**3.40**	**282**	P	**Pn**	**03 48 30.1**	**-0.2**
NLAI	**Namlea**	**3.51**	**149**	P	**Pn**	**03 48 31.8**	**0.0**
APSI	**Ampana**	**3.69**	**259**	P	**Pn**	**03 48 36.3**	**+2.1**
TOLI2	**Tolitoli**	**4.68**	**286**		**Pn**	**03 48 48.0**	**+0.1**
BNSI	**Bone**	**6.63**	**231**	P	**Pn**	**03 49 14.6**	**0.0**
	0.1nm19nm,0.7s						
SPSI	**Sidrap Palu**	**6.64**	**236**	P	**Pn**	**03 49 17.0**	**+2.2**
	0.2nm52nm,0.6s						
WRA	**Warramunga Arr**	**21.52**	**156**	P	**P**	**03 52 24.9**	**-1.6**
	0.6nm,0.5s,baz=337,slow=11,SNR=6.4						
WB2	**Warramunga Arr**	**21.53**	**156**	P	**P**	**03 52 28.7**	**+2.1**
WB2				IAmb	IAmb	03 53 15.9	
	comp=Z,6.7nm,1.1s						
AS31	**Alice Springs**	**24.77**	**161**	P	**P**	**03 52 59.3**	**+0.1**
ASAR	**Alice Springs**	**24.77**	**161**	P	**P**	**03 52 59.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=355,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**35.07**	**155**	P	**P**	**03 54 30.7**	**+0.2**
	comp=Z,1.8nm,1.0s,baz=300,slow=8.1,SNR=2.0						
DZM	**Mont Dzumac**	**45.60**	**121**	LR	LR	04 15 35.7	
	comp=Z,883nm,19.4s,baz=78,slow=37						
MK31	**Makanchi Array**	**60.01**	**327**	P	**P**	**03 57 44.1**	**0.0**
MK31				IAmb	IAmb	03 58 17.7	
	comp=Z,3.8nm,1.4s						
MKAR	**Makanchi Array**	**60.01**	**327**	P	**P**	**03 57 44.5**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=123,slow=8.0,SNR=17						
KURK	**Kurchatov**	**64.31**	**329**	P	**P**	**03 58 12.2**	**-0.6**
KKAR	**Karatay Array**	**65.17**	**319**	P	**P**	**03 58 17.6**	**-1.0**
AKTO	**Aktyubinsk**	**75.86**	**323**	P	**P**	**03 59 23.3**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=112,slow=7.1,SNR=7.5						

*SNET **22** 03:49:44.4±1.0, 12°.84N×90°.46W, h16km±7km, ML3.1*
*GCG **22** 03:50:06.9±0.3, 14°.69N×90°.79W, h12km±6km, MD3.7*
ISC 22 03:49:44.1±2.6, **12°.8N**±0°.2×**90°.47W**±0°.08, **h24**km, **n18, σ1s02/19, 2C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**1.26**	**32** ⇑	eP	**Pb**	**03 50 06.5**	**-0.8**
CEVE	**Cerro Verde**	**1.29**	**40** ||i	P	**Pb**	**03 50 07.5**	**-0.3**
JAYA	**Jayaque - finc**	**1.29**	**50** ||i	P	**Pb**	**03 50 07.4**	**-0.3**
JAYA				eS	**Sb**	**03 50 24.4**	**+0.5**
JAYA				IAML		03 50 31.8	
	comp=Z,405nm,0.3s						
SBLS	**San Blas**	**1.30**	**39** ⇑	eP	**Pb**	**03 50 07.5**	**-0.4**
RTR	**El Retiro**	**1.33**	**37**	eP	**Pb**	**03 50 08.1**	**-0.4**
SNJE	**San Jose**	**1.33**	**39**	eP	**Pb**	**03 50 07.9**	**-0.6**
BOQS	**Boqueron**	**1.47**	**52**	eP	**Pb**	**03 50 10.1**	**-0.7**
LFRS	**El Faro**	**1.58**	**60**	eP	**Pb**	**03 50 11.5**	**-1.2**
SJTE	**Alcalda de S**	**1.62**	**61**	eP	**Pb**	**03 50 11.7**	**+0.4**
FUG	**Fuego 3**	**1.65**	**347**	eP	**Pb**	**03 50 12.9**	**-1.0**
PAVA	**Las Pavas**	**1.73**	**59**	eP	**Pb**	**03 50 14.2**	**-1.0**
COEG	**Centro de Oper**	**1.74**	**63**	eP	**Pn**	**03 50 13.4**	**+0.6**
COEG				IAML		03 50 17.9	
	comp=Z,185nm,0.3s						
NBG	**Las Nubes**	**1.75**	**4**	eP	**Pb**	**03 50 16.6**	**+0.9**
MTO3	**Montecristo**	**1.90**	**35**	eP	**Pb**	**03 50 16.3**	**-1.8**
SCLA	**Alcaldia de Sa**	**1.91**	**63**	eP	**Pn**	**03 50 16.1**	**+1.0**
ESQI	**Esquipulas**	**2.04**	**32**	eP	**Pb**	**03 50 18.8**	**-1.8**
STG3	**Santiaguito 3,**	**2.15**	**330**	eP	**Pb**	**03 50 21.5**	**-1.0**
LCND	**La Caada**	**2.56**	**79**	eP	**Pn**	**03 50 25.1**	**+1.0**

*IDC **22** 03:55:52.7±1.2, 36°.00N×22°.82E, h0km, mb3.7/7, mb1 3.7/9, mb1mx3.5/63, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=25.2km s-min=21.9km az=30.0*
*ATH **22** 03:55:54.6, 35°.55N×22°.61E, h32km±3km, ML3.4/7, Error ellipse: s-maj=6.0km s-min=1.6km az=49.0*
*ISK **22** 03:55:56.7, 35°.71N×22°.81E, h21km, ML3.4/8*
*THE **22** 03:55:56.1, 35°.58N×22°.64E, h14km±1km, ML3.3/6, Error ellipse: s-maj=1.5km s-min=0.6km az=41.0*
ISC 22 03:55:54.3±1.3, **35°.59N**±0°.06×**22°.48E**±0°.04, **h38**km±2km, **n99, σ2s59/112, mb3.5/7, 7C-6D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.72**	**68**	P	**Pn**	**03 56 08.2**	**+0.2**
ANKY				S	**Sn**	**03 56 17.0**	**-0.8**
ANKY				AML	AML	03 56 19.0	
	comp=N,7674µm,0.5s						
ANKY				AML	AML	03 56 19.3	
	comp=E,9948µm,0.7s						
ANKY	**Antikythira Is**	**0.72**	**68**	P	**Pn**	**03 56 08.0**	**0.0**
ANKY				S	**Sn**	**03 56 16.3**	**-1.5**
	comp=E,4µm,0.6s						
KTHR	**Kythira**	**0.79**	**33**	P	**Pn**	**03 56 09.9**	**+1.0**
KTHR				S	**Sn**	**03 56 21.3**	**+1.7**
KTHR				AML	AML	03 56 24.1	
	comp=N,20307µm,0.4s						
KTHR				AML	AML	03 56 24.8	
	comp=E,24511µm,0.4s						
KTHR	**Kythira**	**0.79**	**33**	P	**Pn**	**03 56 09.9**	**+1.0**
KTHR				S	**Sn**	**03 56 20.9**	**+1.3**
	comp=E,4µm,0.4s						
KTHA	**Kythira Island**	**0.81**	**35**	P	**Pn**	**03 56 10.5**	**+1.3**
KTHA				AML	AML	03 56 25.1	
	comp=E,9898µm,0.8s						
KTHA				AML	AML	03 56 25.6	
	comp=N,3126µm,0.7s						
KTHA	**Kythira Island**	**0.81**	**35**	P	**Pn**	**03 56 10.6**	**+1.3**
KTHA				S	**Sn**	**03 56 21.1**	**+0.9**
	comp=N,3µm,0.7s						
RODP	**Rodopos**	**1.04**	**91**	P	**Pn**	**03 56 13.7**	**+1.3**
RODP				S	**Sn**	**03 56 25.6**	**-0.1**
	comp=N,422nm,0.4s						
RODP	**Rodopos**	**1.04**	**91**	PG	**Pn**	**03 56 12.7**	**+0.3**
RODP				SG	**Sn**	**03 56 24.0**	**-1.7**
KNDR	**Palaiochora Ch**	**1.05**	**110**	P	**Pn**	**03 56 12.7**	**+0.3**
KNDR				S	**Sn**	**03 56 23.9**	**-1.9**
KNDR				AML	AML	03 56 31.7	
	comp=N,4000µm,0.7s						
KNDR				AML	AML	03 56 34.9	
	comp=E,6038µm,0.6s						
KNDR	**Palaiochora Ch**	**1.05**	**110**	PG	**Pn**	**03 56 13.1**	**+0.7**
MNVA	**Monemvasia**	**1.18**	**22**	P	**Pn**	**03 56 17.4**	**+3.2**
VLI	**Veliai**	**1.18**	**18**	P	**Pn**	**03 56 17.3**	**+3.0**
VLI				AML	AML	03 56 40.4	
	comp=E,3311µm,0.5s						
VLI				AML	AML	03 56 40.9	
	comp=N,2538µm,0.6s						
VLI	**Veliai**	**1.18**	**18**	P	**Pn**	**03 56 17.3**	**+3.0**
VLI				S	**Sn**	**03 56 33.8**	**+4.7**
	comp=N,1µm,0.5s						
IMMV	**Iera Moni Meta**	**1.23**	**96**	P	**Pn**	**03 56 16.0**	**+1.1**
IMMV				AML	AML	03 56 33.8	
	comp=E,3331µm,0.8s						
IMMV				AML	AML	03 56 37.1	
	comp=N,4370µm,0.6s						
IMMV	**Iera Moni Meta**	**1.23**	**96**	P	**Pn**	**03 56 16.0**	**+1.1**
IMMV				S	**Sn**	**03 56 31.6**	**+1.2**
	comp=N,2µm,0.7s						
IMMV	**Iera Moni Meta**	**1.23**	**96**	PG	**Pn**	**03 56 16.1**	**+1.1**
IMMV				SG	**Sn**	**03 56 29.9**	**-0.5**
CHAN	**Chania**	**1.28**	**93**	P	**Pn**	**03 56 16.9**	**+1.4**
PYL	**PYLOS**	**1.43**	**336**	P	**Pn**	**03 56 20.5**	**+2.8**
PYL	**PYLOS**	**1.43**	**336**	P	**Pn**	**03 56 20.6**	**+3.0**
GVD	**Gavdhos**	**1.52**	**119**	P	**Pn**	**03 56 19.6**	**+0.7**

GVD	Gavdhos	1.52	119	P		Pn	03 56 19.6	+0.7
GVD	Gavdhos	1.52	119	PN		Pn	03 56 20.9	+2.0
GVDS	Gavdos	1.52	119	P		Pn	03 56 19.4	+0.6
ITM	Ithomi	1.65	345	P		Pn	03 56 24.5	+3.9
ITM	Ithomi	1.65	345	P		Pn	03 56 24.5	+3.9
ITM	Ithomi	1.65	345	PN		Pn	03 56 25.1	+4.5
KRND	KRANIDI	1.87	17	P		Pn	03 56 26.2	+2.5
KRND	KRANIDI	1.87	17	P		Pn	03 56 26.1	+2.5
IDI	Anoyia	1.99	98	Pn		Pn	03 56 26.4	+0.9
	comp=N,3.2nm,0.3s,baz=278,slow=12,SNR=24							
IDI				Sn		Sn	03 56 47.1	-2.1
	comp=N,11nm,0.3s,baz=320,slow=19,SNR=7.8							
IDI	Anoyia	1.99	98	P		Pn	03 56 26.1	+0.7
IDI				AML		AML	03 57 02.3	
	comp=N,644μm,0.7s							
IDI				AML		AML	03 57 08.7	
	comp=E,549μm,0.5s							
IDI	Anoyia	1.99	98	P		Pn	03 56 26.2	+0.7
IDI	Anoyia	1.99	98	PN		Pn	03 56 26.3	+0.9
EPID	Epidavros	2.08	14	P		Pn	03 56 29.6	+2.9
DRO	Drossia	2.43	346	P		Pn	03 56 36.0	+4.5
KLV	Kalavryta, Ach	2.46	354	P		Pn	03 56 36.3	+4.4
VLY	Voula,Athens	2.49	25	P		Pn	03 56 33.6	+1.4
DION	Dionisos Attik	2.74	25	P		Pn	03 56 37.4	+1.7
EFP	Efpalio	2.87	351	P		Pn	03 56 43.1	+5.7
APE	Apeiranthos	2.87	58	PN		Pn	03 56 38.5	+1.0
PSDA	Pessada-Kefalo	2.94	329	P		Pn	03 56 41.9	+3.5
ANX	Ano Chora	3.03	352	P		Pn	03 56 43.8	+4.1
LKR	Lokris	3.08	8	P		Pn	03 56 43.1	+2.8
DMLN	Damoulianata-K	3.13	328	P		Pn	03 56 44.2	+3.1
FSK	Fiskardo	3.25	332	P		Pn	03 56 46.7	+4.1
EVGI	Lefkada island	3.35	335	P		Pn	03 56 47.6	+3.5
EVR	Evrytania	3.36	351	P		Pn	03 56 49.5	+5.2
AGG	Agios Georgios	3.42	358	P		Pn	03 56 48.6	+3.5
AGG	Agios Georgios	3.42	358	PN		Pn	03 56 49.2	+4.1
AGG				SN		Sn	03 57 26.9	+2.4
MAKR	Makrakomi, Fth	3.42	356	P		Pn	03 56 49.8	+4.7
LKD2	Lefkada island	3.50	336	P		Pn	03 56 50.1	+3.9
CHOS	Chios island	4.00	45	PN		Pn	03 56 54.7	+1.7
SRN	Sarande	4.71	336	S		Sn	03 57 51.0	-5.0
SCTE	Santa Cesarea	5.48	326	P		Pn	03 57 15.3	+2.0
SCTE				S		Sn	03 58 10.1	-5.0
SCTE				AML		AML		
	comp=E,149μm,1.0s							
SCTE				AML		AML		
	comp=N,107μm,1.5s							
PIPA	Pietrapaola	5.94	313	⇑P		Pn	03 57 23.1	+3.4
PIPA				AML		AML		
	comp=E,65μm,0.9s							
PIPA				AML		AML		
	comp=N,55μm,1.3s							
SSY	Sortino	6.17	287	S		Sn	03 58 34.0	+1.8
ESML	S. M. di Licod	6.44	291	S		Sn	03 58 38.0	-0.7
SALB	San Lorenzo Be	6.47	313	⇓P		Pn	03 57 30.7	+3.7
SALB				S		Sn	03 58 37.4	-2.2
SALB				AML		AML		
	comp=N,43μm,1.5s							
SALB				AML		AML		
	comp=E,64μm,0.8s							
LTRZ	Laterza	6.70	320	⇓P		Pn	03 57 31.9	+1.8
NOCI	Noci	6.71	322	⇓P		Pn	03 57 31.8	+1.5
NOCI				S		Sn	03 58 40.0	-5.4
NOCI				AML		AML		
	comp=N,150μm,0.1s							
NOCI				AML		AML		
	comp=E,147μm,0.2s							
MATE	Matera	6.79	320	⇑P		Pn	03 57 33.8	+2.5
MATE				S		Sn	03 58 42.0	-5.3
MATE				AML		AML		
	comp=E,79μm,1.5s							
MATE				AML		AML		
	comp=N,74μm,0.2s							
CUC	Castrocucco	6.86	312	⇑P		Pn	03 57 36.7	+4.4
CUC				AML		AML		
	comp=E,39μm,0.5s							
CUC				AML		AML		
	comp=N,35μm,0.6s							
MIGL	Miglionico	6.90	318	⇑P		Pn	03 57 35.4	+2.6
SIRI	Monte Sirino -	6.95	313	⇑P		Pn	03 57 38.0	+4.5
SIRI				AML		AML		
	comp=E,57μm,1.0s							
SIRI				AML		AML		
	comp=N,41μm,0.2s							
AMUR	Altamura	7.03	321	P		Pn	03 57 36.8	+2.1
AMUR				S		Sn	03 58 47.7	-5.6
AMUR				AML		AML		
	comp=E,67μm,0.7s							
AMUR				AML		AML		
	comp=N,85μm,0.7s							
DRME	Dracevica, Mon	7.07	340	ePn		Pn	03 57 35.8	+0.7
MTSN	Montesano sull	7.07	313	P		Pn	03 57 38.9	+3.7
MTSN				S		Sn	03 58 50.6	-3.7
MTSN				AML		AML		
	comp=E,40μm,0.5s							
MTSN				AML		AML		
	comp=N,41μm,1.6s							
MCEL	Monticello	7.08	314	P		Pn	03 57 38.5	+3.2
MCEL				AML		AML		
	comp=N,64μm,0.7s							
MCEL				AML		AML		
	comp=E,68μm,0.5s							
SLCN	Sala Consilina	7.22	314	⇓P		Pn	03 57 41.8	+4.5
SLCN				AML		AML		
	comp=E,180μm,0.4s							
SLCN				AML		AML		
	comp=N,303μm,1.2s							
SLCN				AML		AML		
	comp=E,224μm,1.0s							
SLCN				AML		AML		
	comp=N,110μm,1.1s							
PDG	Podgorica	7.27	341	ePn		Pn	03 57 38.8	+0.9
MRVN	Minervino Murg	7.36	320	P		Pn	03 57 41.3	+2.2
MRVN				AML		AML		
	comp=E,64μm,0.2s							
MRVN				AML		AML		
	comp=N,50μm,0.7s							
CDRU	Civita di Ruta	7.48	313	⇑P		Pn	03 57 45.5	+4.7
HCY	Herceg Novi	7.51	337	ePn		Pn	03 57 40.6	-0.6
MRLC	Muro Lucano	7.54	315	P		Pn	03 57 44.8	+3.2
MRLC				AML		AML		
	comp=N,32μm,1.5s							
MRLC				AML		AML		
	comp=E,25μm,0.8s							
TREB	Trebinje	7.80	337	ePn		Pn	03 57 45.1	-0.1
SNAL	S. Angelo Dei	7.81	315	⇓P		Pn	03 57 47.9	+2.6
BRY	Bratogost	7.91	338	ePn		Pn	03 57 46.6	-0.2
MSAG	Monte S. Angel	7.98	322	⇓P		Pn	03 57 49.6	+2.0
MSAG				AML		AML		
	comp=N,160μm,1.0s							
MSAG				AML		AML		
	comp=E,84μm,1.1s							
STON	Ston	8.16	334	ePn		Pn	03 57 49.4	-0.6
APRC	Apricena	8.20	321	P		Pn	03 57 52.6	+2.0
APRC				AML		AML		
	comp=E,148μm,0.4s							
APRC				AML		AML		
	comp=N,108μm,0.5s							
RUDO	Rudo	8.37	344	ePn		Pn	03 57 52.1	-0.8
BBLS	Lazići	8.59	345	ePn		Pn	03 57 56.4	+0.3
DIVS	Divibare	8.71	348	ePn		Pn	03 57 56.8	-0.8
LIK	San Giovanni I	9.14	313	S		Sn	03 58 60.0	-45
MGRS	Mrkonjic Grad	9.73	337	ePn		Pn	03 58 11.8	+0.2
CERT	Cerreto	9.76	313	⇑P		Pn	03 58 15.2	+3.3
CERT				AML		AML		
	comp=N,36μm,0.1s							
CERT				AML		AML		
	comp=E,41μm,0.1s							
BRTR	Keskin Array B	9.76	62	Pn		Pn	03 58 11.2	-0.9
	comp=E,0.1nm,0.3s,baz=132,slow=49,SNR=2.0							
FRGS	Fruska Gora	9.77	349	ePn		Pn	03 58 10.9	-1.2
BLY	Banja Luka	10.00	338	ePn		Pn	03 58 15.6	+0.4
MORH	Mrgy, Hungar	11.00	346	ePn		Pn	03 58 27.6	-1.3
CRES	Cresnjev	11.52	335	ePn		Pn	03 58 35.4	-0.7
CEY	Cerknica	11.83	331	ePn		Pn	03 58 40.1	-0.2
AKASG	Malin Array Be	15.87	16	Pn		Pn	03 59 31.5	-3.1
	comp=E,0.6nm,0.3s,baz=210,slow=11,SNR=5.1							
FINES	FINESS Array B	25.97	4	P		P	04 01 23.4	+0.4
	comp=E,0.9nm,0.8s,baz=148,slow=11,SNR=4.1							
EKA	Eskdalemuir Ar	26.44	326	P		P	04 01 30.6	+3.3
	comp=E,0.8nm,0.5s,baz=132,slow=8.1,SNR=6.5							
NOA	NORSAR Array B	26.46	348	P		P	04 01 27.6	+0.1
	comp=E,0.3nm,0.4s,baz=159,slow=9.9,SNR=1.8							
TORD	Torodi Ar. Bea	29.16	225	P		P	04 02 00.6	+8.6
	comp=E,0.4nm,0.9s,baz=38,slow=10,SNR=2.5							
ARCES	ARCESS Array B	34.04	2	P		P	04 02 34.6	+0.3
	comp=E,2.9nm,1.0s,baz=185,slow=9.7,SNR=5.8							
MKAR	Makanchi Array	45.37	57	P		P	04 04 07.7	-1.1
	comp=E,1.0nm,0.6s,baz=276,slow=7.8,SNR=9.8							
YKA	Yellowknife Ar	76.34	341	P		P	04 07 40.4	+1.4
	comp=E,0.3nm,0.6s,baz=34,slow=5.4,SNR=9.6							

IDC 22 04:03:06.6±2.8, 7°48S×116°78E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.2/35, mbtmp3.4/4, Error ellipse: s-maj=171.5km s-min=23.3km az=54.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	21.05	128	P		P	04 07 52.5	+0.1
	0.3nm,0.5s,baz=309,slow=9.0,SNR=5.6							
ASAR	Alice Springs	23.00	136	P		P	04 08 13.0	-0.2
	0.5nm,0.5s,baz=315,slow=8.9,SNR=7.6							
SONM	Songino Array	55.84	352	P		P	04 12 46.1	+0.3
	0.6nm,0.4s,baz=164,slow=8.9,SNR=4.5							
MKAR	Makanchi Array	62.12	334	P		P	04 13 29.2	-0.2
	0.2nm,0.3s,baz=152,slow=5.8,SNR=5.2							

IDC 22 04:25:25.9±0.9, 0.°40S×81.°18W, h0km, mb3.8/7, mb1 4.1/10, mb1mx3.9/31, mbtmp4.0/10, ML2.8/3, Error ellipse: s-maj=30.8km s-min=16.5km az=64.0
IGQ 22 04:25:25±1.3, 0.°3S×4.°8W±1.°1, h10km
NEIC 22 04:25:34.0±1.7, 0.°82S±0.°05×80.°56W±0.°08, h10km±2km, mb4.3/10, Error ellipse: s-maj=13.8km s-min=7.3km az=254.0

ISC 22 04:25:32.4±0.8, 0.°62S±0.°03×80.°49W±0.°05, h10km, n102, σ2s06/98, mb3.9/7, 4C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAMA	Jama	0.46	39	P		Pg	04 25 40.0	-1.4
JAMA				S		Sb	04 25 51.0	+1.5
MAG1	Magdalena	0.90	53	P		Pg	04 25 48.0	-1.8
PPLP	Puerto Lpez	0.96	197	P		Pg	04 25 48.0	-3.0
PPLP				S		Sn	04 26 07.0	+1.1
PPLP	Puerto Lpez	0.96	197	P		Pg	04 25 49.0	-2.0
PPLP				S		Sn	04 26 07.0	+1.1
AV18	Acelerografo,	1.37	48	P		Pn	04 25 54.0	-3.7
AV18				S		Sg	04 26 21.0	+4.3
AMIL	Milagro (Trans	1.75	149	P		Pg	04 26 05.0	-1.1
ILLI	Illinizas Sur	1.77	93	P		Pb	04 26 03.0	-2.2
PAST	Pastocalle	1.85	92	P		Pn	04 26 04.0	-0.7
HPAL	Hacienda Las P	1.88	78	P		Pn	04 26 03.0	-2.0
GGPT	Toaza - Volcan	1.91	78	P		Pn	04 26 03.0	-2.5
PORT	Chimborazo Vol	1.91	116	Pn		Pg	04 26 07.0	-2.2
PORT	Chimborazo Vol	1.91	116	P		Pg	04 26 07.0	-2.2
JUA2	San Juan 2	1.93	78	P		Pn	04 26 04.0	-1.8
TERV	Terraza Guagua	1.94	77	P		Pn	04 26 04.0	-2.0
PINO	Pino	1.94	76	P		Pn	04 26 04.0	-2.0
TAMH	Tambohuasha Ch	1.94	118	P		Pg	04 26 08.0	-1.8
YANA	Yana	1.98	75	P		Pn	04 26 04.0	-2.5
CAMI	Rancho Maria	1.99	92	P		Pb	04 26 07.0	-2.0
BNAS	Cotopaxi Volca	2.01	91	P		Pb	04 26 08.0	-1.4
IGUA	Igualata	2.04	115	P		Pg	04 26 10.0	-1.7
BREF	Cotopaxi Volca	2.05	91	P		Pb	04 26 08.0	-2.2
PITA	Cotopaxi Volc	2.06	88	P		Pb	04 26 08.0	-2.2
BVC2	Cotopaxi Volca	2.08	91	P		Pb	04 26 09.0	-1.6
PULU	Pululahua	2.09	72	P		Pn	04 26 06.0	-1.9
VC1	Cotopaxi 1	2.09	91	P		Pb	04 26 09.0	-1.8
BTAM	Cotopaxi Volca	2.10	92	P		Pb	04 26 09.0	-1.9
VCES	Cotopaxi	2.10	95	P		Pb	04 26 09.0	-2.0
TAMB	Tambo	2.12	92	P		Pb	04 26 10.0	-1.4
BBIL	Ulba Tungurahu	2.17	112	P		Pb	04 26 11.0	-1.0
JUI6	Juive	2.17	112	P		Pb	04 26 11.0	-1.1
POND	Pondoa	2.19	111	P		Pb	04 26 11.0	-1.4
BMAS	Trigal station	2.19	114	P		Pg	04 26 12.0	-2.6
RETU	Refugio	2.21	112	P		Pb	04 26 12.0	-0.8
COHC	Cochancay	2.21	146	Pn		Pn	04 26 09.7	+0.4
ARRY	Arrayan	2.22	113	P		Pg	04 26 13.0	-2.0
BRUN	Tungurahua Vol	2.23	111	P		Pb	04 26 12.0	-1.0
BPAT	Tungurahua Vol	2.24	113	P		Pg	04 26 13.0	-2.4
ANTG	Antisana-Guama	2.24	87	P		Pn	04 26 10.0	-0.1
PIAT	Ana Tenorio	2.26	100	P		Pb	04 26 11.0	-2.6
CUSE	Cuicocha Este	2.28	66	eP		Pn	04 26 08.6	-2.0
CUSE	Cuicocha Este	2.28	66	P		Pn	04 26 08.0	-2.6
CUIC	Cuicocha-Domo	2.32	67	P		Pn	04 26 08.0	-3.1
CUSW	Cuicocha Oeste	2.32	67	P		Pn	04 26 09.0	-2.1
ANTS	Antisana-Sarah	2.32	87	P		Pb	04 26 12.0	-2.8
ISPG	Isla Puna-Puer	2.36	172	P		Pn	04 26 13.0	+1.7
URCU	Urcuqui	2.47	65	P		Pn	04 26 11.0	-2.2
CAYR	Refugio Cayamb	2.56	76	P		Pn	04 26 14.0	-0.6
YAHU	Yahuarcocha	2.61	68	P		Pn	04 26 15.0	-0.1
ACH1	Ecuador-Univer	2.71	168	P		Pg	04 26 25.0	+0.5
ARDO	Archidona, Ten	2.72	98	P		Pb	04 26 19.0	-2.2
CHMA	Chilma	2.84	59	P		Pn	04 26 14.0	-4.2
CHL2	Volc¡n Chiles	2.94	61	P		Pn	04 26 16.0	-3.7
ARNL	Arenillas	2.94	172			Pn	04 26 18.2	-1.0
ARNL	Arenillas	2.94	172	P		Pn	04 26 19.0	-0.3
TULM	Tulcn-Chalpat	3.01	64	Pn		Pb	04 26 24.5	-2.0
TULM	Tulcn-Chalpat	3.01	64	eP		Pn	04 26 19.1	-1.5
CMBC	Cumbal	3.08	60	eP		Pn	04 26 21.1	-0.6
BONI	La Bonita	3.15	70	P		Pn	04 26 22.0	-0.4
BOSC	San Juan Bosco	3.21	142	Pn		Pb	04 26 27.4	-2.3
BOSC	San Juan Bosco	3.21	142	P		Pb	04 26 28.0	-1.7
GCUF	Volcan Galeras	3.64	60	eP		Pn	04 26 26.8	-2.5
MCRA	Macar, Loja	3.76	172			Pn	04 26 30.2	-0.4
CRUC	La Cruz	4.15	58	eP		Pn	04 26 36.4	+0.1
GR1C	Gorgona, Isla	4.28	33	eP		Pb	04 26 45.0	-2.9
SOTA	Rioblanco	4.75	55	eP		Pn	04 26 45.0	+0.4
POPC	Popayan, Colom	4.94	51	eP		Pn	04 26 42.1	-4.8
PCON	Cinco Dias	5.03	54	eP		Pn	04 26 46.0	-2.6
MARP	Paez Belalcaza	5.69	53	eP		Pn	04 26 57.5	+0.1
GARC	Garzon, Huila	5.72	61	eP		Pn	04 26 56.5	-1.2
PTLC	Puerto Leguiza	5.75	82	eP		Pn	04 26 57.5	-0.4
YOTC	Yotoco, Valle	6.17	42	eP		Pn	04 27 07.1	+3.2
ORTC	Ortega, Tolima	6.91	49	eP		Pn	04 27 19.5	+5.6
PLMC	San Jos del P	6.91	37	eP		Pn	04 27 13.8	-0.2
ANIL	Santa Ana	7.18	45	eP		Pn	04 27 21.4	+3.5
MACC	Macarena, Meta	7.19	68	eP		Pn	04 27 20.5	+2.8
GUY2C	Guyana, Caldas	7.74	41	eP		Pn	04 27 27.2	+1.5
CBOC	Ciudad Bolivar	7.84	35	eP		Pn	04 27 32.0	+5.2
ROSC	El Rosal	8.21	49	Pn		Pn	04 27 33.9	+1.8
	1.2nm,0.3s,baz=61,slow=19,SNR=2.8							
ROSC				Sn		Sn	04 29 11.1	+5.9
	0.7nm,0.3s,baz=108,slow=22,SNR=1.0							
ROSC	El Rosal	8.21	49	Pn		Pn	04 27 35.1	+3.0
VILC	Villavicencio,	8.26	55	eP		Pn	04 27 31.1	-1.5
NORC	Norcasia	8.32	42	eP		Pn	04 27 41.6	+8.3
CHIC	Chingaza	8.53	52	eP		Pn	04 27 34.9	-1.7
CDITO	Canoas	9.44	345	Pn		Pn	04 27 52.0	+3.4
ZARC	Zaragoza, Cauc	9.82	35	Pn		Pn	04 27 58.3	+4.4
CVTR	Volcan Turrial	11.06	343	Pn		Pn	04 28 13.0	+1.8
NNA	Nana	11.86	162	Pn		Pn	04 28 21.1	-0.7
	0.6nm,0.3s,baz=220,slow=14,SNR=1.4							
SDV	Santo Domingo	13.62	46	Pn		Pn	04 28 47.4	+1.3
	0.2nm,0.3s,baz=203,slow=12,SNR=5.4							
SDV	Santo Domingo	13.62	46			Pn	04 28 48.6	+2.6
LPAZ	La Paz	19.77	143	P		Pn	04 30 05.0	-0.1
	5.1nm,0.7s,baz=315,slow=8.0,SNR=24							
LPAZ	La Paz	19.77	143			P	04 30 03.0	-0.6
PB16	IPOC Station P	20.65	149	P		P	04 30 12.6	-0.5
PB16				IAmb		IAmb	04 30 18.5	
	comp=Z,15nm,0.8s							
PB11	IPOC Station P	21.78	152	P		P	04 30 23.4	-1.4
GO01	Chusmiza	21.93	150	P		P	04 30 27.1	+0.4
GO01				IAmb		IAmb	04 30 37.5	
	comp=Z,13nm,0.9s							
PB06	IPOC Station P	24.39	155	P		P	04 30 50.0	-1.3
SIV	San Ignacio	24.50	130	P		P	04 30 51.9	-0.3
	comp=Z,1.5nm,0.5s,baz=295,slow=10,SNR=7.7							
LVC	Limon Verde	24.59	154	P		P	04 30 53.6	+0.3
	comp=Z,2.9nm,0.5s,baz=325,slow=6.8,SNR=3.0							
LVC	Limon Verde	24.59	154	P		P	04 30 52.9	-0.4
LVC				IAmb		IAmb	04 30 59.2	
	comp=Z,8.8nm,0.9s							
TXAR	Lajitas Array	37.11	325	P		P	04 32 33.9	-10
	comp=Z,0.2nm,0.6s,baz=134,slow=6.4,SNR=2.9							
PLCA	Paso Flores	40.94	168	P		P	04 33 14.1	-1.3
	comp=Z,3.8nm,1.0s,baz=359,slow=3.6,SNR=5.5							
PLCA	Paso Flores	40.94	168	IAmb		IAmb	04 33 17.8	
	comp=Z,8.8nm,1.2s							
NVAR	Mina Array Bea	52.13	322	P		P	04 34 34.8	-8.6
	comp=Z,1.1nm,0.9s,baz=134,slow=6.4,SNR=4.4							
YKA	Yellowknife Ar	67.98	344	P		P	04 36 23.0	-8.5
	comp=Z,0.7nm,0.9s,baz=134,slow=6.2,SNR=11							

IGQ 22 04:31:31±0.6, 0.°3S±3.°×8.°1W±.°, h0km
IDC 22 04:31:32.0±0.6, 0.°32S±80.°49W, h0km, mb4.6/20, mb1 4.8/24, mb1mx4.7/32, mbtmp4.6/24, ML3.0/3, MS4.3/15, Ms1 4.3/15, ms1mx4.0/66, Error ellipse: s-maj=19.1km s-min=10.7km az=57.0
VAO 22 04:31:33.5±0.4, 0.°30S×80.°41W, h10km, mb5.1
NEIC 22 04:31:34.2±2.3, 0.°42S±0.°06×80.°54W±0.°05, h10km±1km, mb5.0/337, Error ellipse: s-maj=9.4km s-min=8.2km az=171.0
GCMT 22 04:31:38.2±0.4, 0.°38S±0.°03×80.°82W±0.°03, h23km±1km, MW5.0/72, Moment Tensor Solution. s16,c18; s72,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.75±.33; Mθθ-0.69±.17; Mφφ-3.06±.21; Mrθ-0.13±.24; Mrφ-0.71±.12; Mθφ-3.12±.28; Best double couple: M=4.68800×10^16 NP1:φs21.00000°, δ25.00000°, λ103.00000°. NP2: φs187.00000°, δ66.00000°, λ84.00000°. Principal axes: T 4.9670, Plg69.0000°, Azm86.0000°; N -0.5530, Plg5.0000°, Azm190.0000°; P -4.4090, Plg21.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 22 04:31:34.7±0.3, 0.°37S±0.°03×80.°54W±0.°03, h21km±1km, n749, σ1s87/667, mb5.0/176, MS4.4/13, 2C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAB1	Cabo Pasado-Ma	0.11	96	P		Pb	04 31 40.0	-1.3
JAMA	Jama	0.35	71	P		Pb	04 31 42.0	-0.2
JAMA				S		Sb	04 31 49.0	+1.6
CHIS	Cerro-Chispas-	0.70	195	P		Pb	04 31 47.0	-1.2
FLF1	Flavio Alfaro-	0.70	89	P		Pn	04 31 49.0	-0.4
FLF1				S		Sn	04 31 59.0	-0.6
PPLP	Puerto Lpez	1.19	191	P		Pn	04 31 54.0	-2.1
PPLP				S		Sb	04 32 11.0	-0.5
PPLP	Puerto Lpez	1.19	191	P		Pn	04 31 55.0	-1.1
PPLP				S		Sn	04 32 12.0	+0.3
AV18	Acelerografo,	1.26	57	P		Pn	04 31 57.0	-0.1
BV15	Puerto Quito-O	1.42	68	P		Pn	04 31 58.0	-1.3
AV21	Acelerografo,	1.43	44	P		Pn	04 31 57.0	-2.4
AMA1	Acelerografo,	1.54	32	P		Pn	04 31 59.0	-1.9
APR2	Miler	1.64	74	P		Pn	04 32 01.0	-1.3
ILLI	Illinizas Sur	1.84	101	P		Pb	04 32 06.0	+0.4
PAST	Pastocalle	1.93	100	P		Pn	04 32 07.0	+0.4
GGPT	Toaza - Volcan	1.93	86	P		Pn	04 32 06.0	-0.6
JUA2	San Juan 2	1.94	85	P		Pn	04 32 06.0	-0.9
PINO	Pino	1.94	84	P		Pn	04 32 07.0	-0.1
TERV	Terraza Guagua	1.95	84	P		Pn	04 32 07.0	0.0
APR1	Acelerografo,	1.95	80	P		Pn	04 32 07.0	0.0
YANA	Yana	1.99	83	P		Pn	04 32 07.0	-0.5
AMIL	Milagro (Trans	1.99	152	P		Pb	04 32 09.0	-1.2
AMIL				S		Sb	04 32 37.0	+2.5
CAMI	Rancho Maria	2.06	98	P		Pn	04 32 10.0	+1.5
PORT	Chimborazo Vol	2.07	121	Pn		Pn	04 32 10.1	+1.2
PORT	Chimborazo Vol	2.07	121	P		Pn	04 32 10.0	+1.2
PULU	Pululahua	2.08	79	Pn		Pn	04 32 08.7	0.0
PULU	Pululahua	2.08	79	P		Pn	04 32 09.0	+0.3
BNAS	Cotopaxi Volca	2.08	98	P		Pn	04 32 10.0	+1.2
NAS2	Nasa	2.09	97	P		Pb	04 32 11.0	-1.2
TAMH	Tambohuasha Ch	2.11	123	P		Pb	04 32 11.0	-1.5
BMOR	Cotopaxi Volca	2.11	100	P		Pb	04 32 11.0	-1.6
PITA	Cotopaxi Volc	2.12	95	P		Pn	04 32 11.0	+1.7
BREF	Cotopaxi Volca	2.12	98	P		Pn	04 32 11.0	+1.5
BVC2	Cotopaxi Volca	2.15	98	P		Pb	04 32 12.0	-1.2
VC1	Cotopaxi 1	2.15	97	P		Pb	04 32 12.0	-1.3
BTAM	Cotopaxi Volca	2.16	98	P		Pb	04 32 12.0	-1.5
VCES	Cotopaxi	2.19	101	P		Pn	04 32 12.0	+1.7
AV11	Acelerografo,	2.19	82	P		Pn	04 32 12.0	+1.9
TAMB	Tambo	2.20	98	P		Pn	04 32 12.0	+1.5
IGUA	Igualata	2.20	120	P		Pn	04 32 12.0	+1.4
CUSE	Cuicocha Este	2.25	73	eP		Pn	04 32 11.4	+0.3
CUSE	Cuicocha Este	2.25	73	P		Pn	04 32 11.0	0.0
CUIC	Cuicocha-Domo	2.28	73	P		Pn	04 32 12.0	+0.5
CUSW	Cuicocha Oeste	2.29	73	P		Pn	04 32 11.0	-0.6
ANTG	Antisana-Guama	2.29	93	P		Pn	04 32 13.0

NNA Sn Sn 04 36 36.9 -3.8
4.7nm,0.3s,baz=215,slow=17,SNR=4.6
NNA Nana 12.11 162 Pn 04 34 26.4 +0.2
SOCV Socops 12.93 48 eP Pn 04 34 39.9 +2.6
ACON Acoyapa 13.10 340 Pn Pn 04 34 37.1 -2.5
SDV Santo Domingo 13.49 47 Pn Pn 04 34 45.7 +0.4
0.3nm,0.3s,baz=229,slow=9.5,SNR=13
SDV Santo Domingo 13.49 47 Pn 04 34 44.1 -1.1
SDV Santo Domingo 13.49 47 eP Pn 04 34 45.6 +0.4
SDV Santo Domingo 13.49 47 eP Pn 04 34 44.4 -0.8
BOAB BOACO BROADBAN 8.72 338 Pn 04 34 48.6 +0.5
MATN Matagalpa 14.26 338 Pn 04 34 55.5 0.0
BAUV El Baul 15.51 53 Pn 04 35 12.2 -0.2
BAUV El Baul 15.51 53 e Pn 04 35 12.4 0.0
TGUH Tegucigalpa,Un 15.81 335 Pn 04 35 15.9 -0.5
TGUH IAmb IAmb 04 35 25.2
comp=Z,105nm,1.1s
ETMB Extrema 17.06 124 eP Pn 04 35 29.3 -2.8
MTO3 Montecristo 17.08 330 Pn 04 35 30.8 -1.7
ESQI Esquipulas 17.20 330 Pn 04 35 33.1 -0.9
ESQI IAmb IAmb 04 35 55.2
comp=Z,156nm,1.4s
BIRV Birongo 17.82 52 Pn 04 35 41.3 -0.4
HUEH Huehuetenango 18.99 326 P P 04 35 54.5 -0.7
HUEH IAmb IAmb 04 36 04.2
comp=Z,50nm,0.5s
LPAZ La Paz 20.00 143 P Pn 04 36 08.9 +0.4
comp=Z,13nm,0.7s,baz=315,slow=9.9,SNR=58
LPAZ LR LR 04 45 21.0
comp=Z,1μm,18.6s,baz=306,slow=41
LPAZ La Paz 20.00 143 P P 04 36 06.6 -0.1
LPAZ La Paz 20.00 143 eP P 04 36 06.8 +0.1
MACA Manacapuru-AM 20.04 98 eP P 04 36 05.8 -0.8
CCIG Comitan 20.12 326 P P 04 36 07.2 -0.4
BOAV Boa Vista 20.20 82 eP P 04 36 07.5 -0.8
PB12 IPOC Station P 20.72 152 P P 04 36 12.5 -1.4
PB12 IAmb IAmb 04 36 20.0
comp=Z,36nm,0.8s
PB16 IPOC Station P 20.88 149 P P 04 36 15.1 -1.2
PB16 IAmb IAmb 04 36 22.6
comp=Z,49nm,0.9s
TRN Trinidad (W) 21.96 60 eP P 04 36 26.1 -1.2
PB11 IPOC Station P 22.02 152 IAmb IAmb 04 36 34.0
comp=Z,75nm,0.9s
GO01 Chusmiza 22.16 151 P P 04 36 30.2 +0.2
TA02 Huaiquique 22.24 153 IAmb IAmb 04 36 34.5
comp=Z,78nm,1.1s
CMIG Matias Romero 22.38 322 P P 04 36 30.6 -1.2
comp=Z,11nm,0.9s,baz=133,slow=6.5,SNR=11
CMIG LR LR 04 43 25.6
comp=Z,531nm,19.0s,baz=164,slow=32
PB08 IPOC Station P 22.59 151 IAmb IAmb 04 36 53.2
comp=Z,36nm,0.9s
PATCX Punta Patache 22.72 154 IAmb IAmb 04 36 45.7
comp=Z,66nm,1.0s
OBIP Obispado Ponce 22.86 36 P P 04 36 36.7 -0.2
OBIP IAmb IAmb 04 36 44.8
comp=Z,34nm,0.8s
CELP Cerrillos 22.91 36 P P 04 36 37.7 +0.3
CELP IAmb IAmb 04 36 52.2
comp=Z,62nm,1.2s
TOSP Speyside 23.02 59 e P 04 36 33.7 -4.8
SJG San Juan 23.19 37 P P 04 36 40.8 +0.5
comp=Z,12nm,0.6s,baz=180,slow=5.2,SNR=6.4
SJG LR LR 04 47 09.1
comp=Z,405nm,21.2s,baz=188,slow=40
SJG San Juan 23.19 37 IAmb IAmb 04 37 02.3
comp=Z,42nm,0.9s
PDPR Patillas Dam, 23.20 37 P P 04 36 40.5 +0.2
PDPR IAmb IAmb 04 36 53.4
comp=Z,35nm,1.0s
PB02 IPOC Station P 23.27 154 IAmb IAmb 04 36 59.4
comp=Z,50nm,0.9s
GCPR Guaynabo City 23.38 37 IAmb IAmb 04 36 43.8
comp=Z,55nm,1.0s
HUMP Col San Antoni 23.39 37 IAmb IAmb 04 36 48.9
comp=Z,78nm,1.2s
CBYP Canovanas 23.49 37 IAmb IAmb 04 37 08.4
comp=Z,74nm,1.2s
MTP Monte Pirata 23.54 38 IAmb IAmb 04 36 51.0
comp=Z,64nm,1.2s
PB07 IPOC Station P 23.63 155 IAmb IAmb 04 37 04.4
comp=Z,43nm,1.1s
VILB Vilhena 23.72 123 eP P 04 36 46.1 +0.5
PB09 IPOC Station P 23.97 153 P P 04 36 49.0 +0.9
PB09 IAmb IAmb 04 36 51.3
comp=Z,36nm,0.8s
BIM Bigot 24.29 52 P P 04 36 50.1 -0.8
SIV San Ignacio 24.69 130 P P 04 36 55.2 +0.6
comp=Z,21nm,0.7s,baz=299,slow=9.2,SNR=66
SIV LR LR 04 46 55.2
comp=Z,1μm,19.6s,baz=319,slow=37
LVC Limon Verde 24.83 154 P P 04 36 58.4 +2.3
comp=Z,16nm,0.6s,baz=334,slow=5.5,SNR=19
LVC LR LR 04 45 39.3
comp=Z,367nm,21.7s,baz=282,slow=34
LVC Limon Verde 24.83 154 P P 04 36 56.5 +0.4
LVC IAmb IAmb 04 37 00.9
comp=Z,26nm,0.8s
LVC Limon Verde 24.83 154 eP P 04 36 56.8 +0.6
PB10 IPOC Station P 24.96 158 IAmb IAmb 04 36 59.7
comp=Z,31nm,0.8s
ITTB Itaituba 25.09 99 eP P 04 36 57.7 -0.5
TLIG Tlapa 25.15 316 P P 04 36 59.7 +0.9
PTLB Pontes e Lacer 25.91 126 eP P 04 37 06.1 +0.6
NPGB Novo Progresso 25.98 105 eP P 04 37 05.5 -0.7
PDRB Porto dos Gac 26.15 116 eP P 04 37 07.2 -0.5
MALB Monte Alegre 26.31 93 eP P 04 37 09.1 -0.2
CLDB Colider 26.71 114 eP P 04 37 12.6 -0.2
GO02 Mina Guanaco 26.82 158 IAmb IAmb 04 37 17.2
comp=Z,25nm,0.9s
NBRS Nobres 28.14 121 eP P 04 37 26.3 +0.5
DWPF Disney Wildern 28.34 358 P P 04 37 27.4 +0.2
baz=178
MDP Montagnes des 28.39 79 P P 04 37 26.8 -1.1
comp=Z,17nm,1.1s,baz=273,slow=7.0,SNR=5.2
MCPB Macapa, AP 28.48 90 eP P 04 37 27.4 -1.4
AC02 Maricunga 28.51 158 IAmb IAmb 04 37 33.0
comp=Z,24nm,1.1s
SALV Santo Antonio 28.97 123 eP P 04 37 32.8 -0.2
PP1B Ponte de Pedra 30.50 126 eP P 04 37 46.3 -0.3
PRPB Parauapebas 31.20 101 eP P 04 37 51.7 -1.2
SNDB Serra Nova Dou 31.23 113 eP P 04 37 53.4 +0.3
ZAIG Zacatecas 31.45 318 P P 04 37 55.1 -0.1
AQDB Aquidauana 31.45 131 P P 04 37 54.8 -0.1
AQDB Aquidauana 31.45 131 eP P 04 37 54.9 -0.1
TIGA Tifton 31.77 355 P P 04 37 56.2 -1.4
baz=174
BRAL Brewton 31.97 349 P P 04 37 56.2 -3.2
baz=168
DVLD Doverlandia 32.30 121 eP P 04 38 03.1 +0.6
TMAB Tom-Au,PA,Br 32.49 94 eP P 04 38 03.4 -0.8
346A Big Creek Wild 32.70 346 P P 04 38 08.3 +2.5
154A Montrose 32.90 356 P P 04 38 11.3 +3.9
baz=175,SNR=7.8
344A Westbrook Farm 33.10 344 P P 04 38 14.2 +4.9
baz=161,SNR=11
152A Waverly Hall 33.10 354 IAmb IAmb 04 38 13.6
comp=Z,17nm,0.9s
152A Waverly Hall 33.10 354 P P 04 38 12.1 +2.8
baz=172,SNR=7.6
NHSC New Hope 33.30 1 P P 04 38 08.2 -2.8
baz=181
HKT Hockley 33.49 335 P P 04 38 13.9 +1.3
VA03 San Esteban 33.56 165 IAmb IAmb 04 38 16.5
comp=Z,25nm,0.9s
HAW Hawthorne Fire 33.57 358 P P 04 38 16.9 +3.6
baz=178,SNR=6.0
ROC1 El Roble 33.65 165 P P 04 38 13.8 -0.6
GOGA Godfrey 33.72 356 IAmb IAmb 04 38 18.9
comp=Z,20nm,0.8s
GOGA Godfrey 33.72 356 P P 04 38 17.2 +2.6
baz=175,SNR=7.1
GOGA Godfrey 33.72 356 P P 04 38 13.5 -1.1
baz=175,SNR=7.1
833A Chaparral WMA, 33.77 329 IAmb IAmb 04 38 20.7
comp=Z,25nm,1.1s
833A Chaparral WMA, 33.77 329 P P 04 38 18.0 +2.8
baz=145,SNR=6.9
833A Chaparral WMA, 33.77 329 P P 04 38 14.3 -0.9
baz=145,SNR=6.9
LRAL Lakeview Retre 33.78 350 P P 04 38 18.8 +3.6
baz=168,SNR=15
LRAL Lakeview Retre 33.78 350 P P 04 38 14.4 -0.8
baz=168,SNR=15

Z51A Franklin 33.80 353 IAmb IAmb 04 38 19.8
comp=Z,19nm,0.8s
Z51A Franklin 33.80 353 P P 04 38 19.3 +4.0
baz=172
SMTB Santa Maria do 33.88 105 eP P 04 38 16.5 +0.2
PEXB Peixe 34.05 111 eP P 04 38 16.7 -1.1
Z47A Carrollton 34.14 349 P P 04 38 21.6 +3.3
baz=167,SNR=10
CPUP Villa Florida 34.14 141 P P 04 38 17.8 -0.7
comp=Z,2.8nm,0.9s,baz=324,slow=9.1,SNR=4.7
CPUP LR LR 04 55 03.4
comp=Z,1μm,18.6s,baz=346,slow=41
CPUP Villa Florida 34.14 141 IAmb IAmb 04 38 19.4
comp=Z,14nm,1.4s
Y52A Lilburn 34.22 355 IAmb IAmb 04 38 23.3
comp=Z,14nm,0.9s
Y52A Lilburn 34.22 355 P P 04 38 21.6 +2.6
baz=174
Y52A P P 04 38 21.6 +2.6
baz=174
Y59A Loris 34.22 2 P P 04 38 21.7 +2.7
baz=183
Y59A P P 04 38 21.7 +2.7
baz=183
MT09 Talagante 34.42 166 IAmb IAmb 04 38 22.9
comp=Z,17nm,0.8s
143A Socs Landing, 34.46 344 P P 04 38 22.8 +1.7
HODGE Hodges 34.46 357 IAmb IAmb 04 38 25.5
comp=Z,21nm,0.9s
HODGE Hodges 34.46 357 P P 04 38 24.4 +3.4
baz=177,SNR=9.9
JSC Jenkinsville 34.48 359 P P 04 38 25.0 +3.7
baz=179,SNR=6.4
Y49A Blount Mountai 34.50 351 IAmb IAmb 04 38 25.8
comp=Z,14nm,0.8s
Y49A Blount Mountai 34.50 351 P P 04 38 24.3 +2.9
baz=170,SNR=7.5
NATX Nacogdoches 34.65 339 IAmb IAmb 04 38 27.8
comp=Z,27nm,1.0s
NATX Nacogdoches 34.65 339 P P 04 38 20.9 -1.8
baz=155
LMEL Las Melosas 34.68 165 IAmb IAmb 04 38 28.6
comp=Z,22nm,0.9s
BO04 La Punta 34.71 165 IAmb IAmb 04 38 26.0
comp=Z,24nm,1.1s
BIRD Birdtown, Kers 34.84 0 IAmb IAmb 04 38 28.7
comp=Z,14nm,1.0s
BIRD Birdtown, Kers 34.84 0 P P 04 38 27.5 +3.2
baz=180
BO01 Tunca 34.98 166 P P 04 38 25.4 -0.1
BO01 IAmb IAmb 04 38 37.8
comp=Z,25nm,1.4s
X51A Calhoun 34.99 354 IAmb IAmb 04 38 29.8
comp=Z,22nm,0.8s
X51A Calhoun 34.99 354 P P 04 38 29.1 +3.4
baz=172
X51A P P 04 38 29.1 +3.4
baz=172
PAULI Pauline 35.03 358 IAmb IAmb 04 38 30.6
comp=Z,19nm,0.8s
PAULI Pauline 35.03 358 P P 04 38 29.9 +3.9
baz=178,SNR=5.6
Y45A Yeager Farm, C 35.09 347 P P 04 38 30.3 +3.8
baz=164,SNR=18
MCR1 Marechal Candi 35.10 135 eP P 04 38 26.8 0.0
TRCB Terra Rica 35.12 131 eP P 04 38 26.8 -0.2
X48A Hartselle 35.18 351 IAmb IAmb 04 38 31.1
comp=Z,14nm,0.8s
X48A Hartselle 35.18 351 P P 04 38 30.2 +2.9
baz=169,SNR=9.5
CASEE Lake Jocassee 35.26 357 P P 04 38 31.6 +3.7
baz=176,SNR=10
ITRB Iturama 35.26 125 eP P 04 38 28.3 +0.1
237A Washetta, Mont 35.29 337 P P 04 38 31.7 +3.4
baz=153,SNR=5.4
KMSC Kings Mountain 35.34 359 P P 04 38 31.6 +2.9
baz=179,SNR=10
KMSC Kings Mountain 35.34 359 P P 04 38 27.9 -0.8
baz=179,SNR=10
W57A Gilead 35.35 1 IAmb IAmb 04 38 33.4
comp=Z,21nm,0.9s
W57A Gilead 35.35 1 P P 04 38 32.1 +3.5
baz=181
W57A P P 04 38 32.1 +3.5
baz=181
GO05 Huala 35.38 168 P P 04 38 29.8 +0.8
GO05 IAmb IAmb 04 38 31.0
comp=Z,26nm,1.0s
Z41A Richland Creek 35.39 342 P P 04 38 27.0 -2.1
baz=159
W52A Murphy 35.43 355 P P 04 38 32.5 +3.1
baz=174,SNR=10
BDFB Brasilia 35.51 117 P P 04 38 30.3 -0.2
comp=Z,18nm,0.9s,baz=283,slow=10,SNR=26
BDFB LR LR 04 53 10.1
comp=Z,707nm,18.4s,baz=317,slow=37
BDFB Brasilia 35.51 117 P P 04 38 30.1 -0.4
BDFB IAmb IAmb 04 38 31.6
comp=Z,22nm,0.9s
CNNC Cliffs of the 35.52 4 P P 04 38 29.0 -1.1
baz=184
W50A Signal Mountai 35.67 353 IAmb IAmb 04 38 35.6
comp=Z,20nm,0.8s
W50A Signal Mountai 35.67 353 P P 04 38 34.4 +2.8
baz=172,SNR=8.8
OXF Oxford 35.69 347 IAmb IAmb 04 38 35.8
comp=Z,19nm,1.0s
OXF Oxford 35.69 347 P P 04 38 29.8 -1.8
baz=165
JCT Junction City 35.74 331 P P 04 38 32.1 -0.1
baz=146,SNR=22
PLAL Pickwick Lake 35.87 349 P P 04 38 35.1 +1.9
PLAL IAmb IAmb 04 38 36.9
comp=Z,18nm,1.2s
V53A Saluda 35.92 357 IAmb IAmb 04 38 38.0
comp=Z,16nm,0.8s
V53A Saluda 35.92 357 P P 04 38 36.9 +3.2
baz=176,SNR=6.2
V53A P P 04 38 36.9 +3.2
baz=176,SNR=6.2
WHTX Lake Whitney, 35.95 335 IAmb IAmb 04 38 39.2
comp=Z,17nm,0.9s
WHTX Lake Whitney, 35.95 335 P P 04 38 37.4 +3.5
baz=150
WHTX Lake Whitney, 35.95 335 P P 04 38 33.3 -0.7
baz=150
TKL Tuckaleechee C 35.97 356 IAmb IAmb 04 38 38.3
comp=Z,14nm,0.8s
TKL Tuckaleechee C 35.97 356 P P 04 38 37.5 +3.4
baz=174,SNR=6.0
V58A Windy Hill, Pi 36.01 2 IAmb IAmb 04 38 38.7
comp=Z,26nm,0.9s
V58A Windy Hill, Pi 36.01 2 P P 04 38 38.1 +3.7
baz=182,SNR=6.0
V58A P P 04 38 38.1 +3.7
baz=182,SNR=6.0
V55A Taylorsville 36.05 359 IAmb IAmb 04 38 39.2
comp=Z,12nm,0.8s
V55A Taylorsville 36.05 359 P P 04 38 38.7 +4.0
baz=179
V55A P P 04 38 38.7 +4.0
baz=179
Z38A Mt. Pleasant 36.12 339 P P 04 38 38.3 +2.9
baz=155,SNR=6.3
V52A Sevierville 36.14 356 IAmb IAmb 04 38 39.7
comp=Z,25nm,0.8s
V52A Sevierville 36.14 356 P P 04 38 38.5 +2.9
baz=175,SNR=7.5
V51A Loudon 36.17 355 P P 04 38 39.1 +3.4
baz=174,SNR=8.8
ML02 Pamavida 36.22 167 P P 04 38 36.7 +0.5
W45A Hickory Valley 36.26 348 P P 04 38 39.5 +3.0
baz=165,SNR=7.1
IPMB Ipameri, GO 36.27 121 eP P 04 38 36.7 -0.3
HPIG 36.36 320 P P 04 38 38.9 +1.1
V48A Smith Brothers 36.40 351 P P 04 38 40.7 +3.0
baz=169,SNR=19
U56A King 36.53 0 IAmb IAmb 04 38 43.7
comp=Z,29nm,0.9s
U56A King 36.53 0 P P 04 38 42.9 +4.0
baz=180,SNR=6.2
U56A P P 04 38 42.9 +4.0
baz=180,SNR=6.2
X40A Basin Creek Fa 36.54 343 P P 04 38 37.0 -1.9
baz=159
PTGB Pitanga 36.67 133 eP P 04 38 41.2 +0.9
UALR University of 36.67 344 IAmb IAmb 04 38 44.3
comp=Z,29nm,1.0s

CLTN Cedars of Leba 36.68 352 IAmb IAmb 04 38 44.0
comp=Z,20nm,0.9s
U54A Nelsons Funny 36.73 358 IAmb IAmb 04 38 45.0
comp=Z,18nm,0.8s
U54A Nelsons Funny 36.73 358 P P 04 38 44.3 +3.7
baz=178,SNR=5.4
U54A P P 04 38 44.3 +3.7
baz=178,SNR=5.4
FRBT Francisco Belt 36.74 136 eP P 04 38 41.0 +0.1
MIAR Mount Ida 36.82 342 P P 04 38 43.8 +2.4
baz=158,SNR=12
MIAR Mount Ida 36.82 342 P P 04 38 40.0 -1.4
baz=158,SNR=12
TZTN Tazewell 36.84 356 IAmb IAmb 04 38 45.6
comp=Z,28nm,0.8s
TZTN Tazewell 36.84 356 P P 04 38 44.8 +3.4
baz=175,SNR=9.6
TZTN Tazewell 36.84 356 P P 04 38 40.0 -1.5
baz=175,SNR=9.6
TXAR Lajitas Array 36.89 325 P P 04 38 41.6 -0.5
comp=Z,4.1nm,1.2s,baz=141,slow=8.1,SNR=14
TXAR PcP PcP 04 41 06.4 +2.8
comp=Z,1.8nm,0.9s,baz=133,slow=5.5,SNR=6.4
TXAR Lajitas Array 36.89 325 P P 04 38 41.8 -0.3
WVT Waverly 36.95 350 P P 04 38 42.6 +0.2
WVT IAmb IAmb 04 38 45.4
comp=Z,17nm,0.7s
WVT Waverly 36.95 350 P P 04 38 39.7 -2.7
baz=168
ITQB Itaqui 36.99 144 P P 04 38 43.4 +0.6
ITQB Itaqui 36.99 144 eP P 04 38 43.6 +0.8
W41B Gary Mavity, V 37.02 344 IAmb IAmb 04 38 47.2
comp=Z,22nm,0.9s
W41B Gary Mavity, V 37.02 344 P P 04 38 46.4 +3.5
baz=160
W41B Gary Mavity, V 37.02 344 P P 04 38 41.7 -1.3
baz=160,SNR=9.6
U49A Red Boiling Sp 37.02 353 IAmb IAmb 04 38 46.8
comp=Z,16nm,0.8s
U49A Red Boiling Sp 37.02 353 P P 04 38 45.6 +2.6
baz=171,SNR=8.1
WHAR Wooly Hollow 37.14 344 IAmb IAmb 04 38 48.1
comp=Z,25nm,0.8s
T57A Hurt 37.20 2 IAmb IAmb 04 38 49.0
comp=Z,22nm,0.8s
T57A Hurt 37.20 2 P P 04 38 48.3 +3.7
baz=182,SNR=7.5
T57A P P 04 38 48.3 +3.7
baz=182,SNR=7.5
SDBA SAO DESIDERIO 37.31 110 eP P 04 38 45.5 -0.4
BLA Blacksburg 37.40 0 IAmb IAmb 04 38 51.5
comp=Z,33nm,1.2s
BLA Blacksburg 37.40 0 P P 04 38 43.9 -2.3
baz=180
BB19B Bebedouro 37.42 125 eP P 04 38 46.2 -0.5
T50A Nancy 37.42 354 P P 04 38 49.3 +2.9
baz=173
T50A P P 04 38 49.3 +2.9
baz=173
ABTX Abilene, Hawle 37.45 333 P P 04 38 47.0 +0.2
baz=148,SNR=9.9
ABTX Abilene, Hawle 37.45 333 P P 04 38 46.0 -0.7
baz=148,SNR=9.9
X37A Clayton 37.45 340 P 04 38 51.0 +4.3
W39A Magazine 37.49 342 P P 04 38 50.8 +3.8
baz=158,SNR=16
W39A Magazine 37.49 342 P P 04 38 46.3 -0.7
baz=158,SNR=16
LCAR Lake Charles 37.58 346 P P 04 38 50.3 +2.6
baz=162,SNR=16
T47A Sharon Grove 37.67 351 IAmb IAmb 04 38 51.8
comp=Z,20nm,0.8s
T47A Sharon Grove 37.67 351 P P 04 38 50.6 +2.1
baz=169,SNR=8.2
FRTB Fartura 37.76 129 eP P 04 38 48.6 -0.9
PARMO Parma 37.83 348 P P 04 38 52.2 +2.3
S51A Beattyville 37.93 356 P P 04 38 53.3 +2.6
baz=175,SNR=9.4
S51A P P 04 38 53.3 +2.6
baz=175,SNR=9.4
T45B Paducah 37.95 349 P P 04 38 53.7 +2.8
baz=167,SNR=6.6
PBMO Poplar Bluff 38.09 347 P P 04 38 54.9 +2.9
baz=164,SNR=7.8
U40A Yellville 38.30 344 P P 04 38 56.5 +2.7
baz=160,SNR=23
U40A P P 04 38 56.5 +2.7
baz=160,SNR=23
U40A Yellville 38.30 344 P P 04 38 52.7 -1.1
baz=160,SNR=23
RPN Rapa Nui 38.37 224 LR LR 04 50 48.6
comp=Z,373nm,18.4s,baz=356,slow=30
R55A Marlinton 38.47 1 P P 04 38 59.2 +3.9
baz=181,SNR=5.1
R55A P P 04 38 59.2 +3.9
baz=181,SNR=5.1
W35A Tecumseh 38.50 338 P 04 38 58.9 +3.4
R53A Hurricane 38.54 358 P P 04 38 59.3 +3.5
baz=178
R53A P P 04 38 59.3 +3.5
baz=178
HHAR Hobbs 38.54 343 P P 04 38 59.2 +3.3
baz=158
R50A Paris 38.62 355 P P 04 38 59.5 +2.9
baz=174,SNR=6.7
R50A P P 04 38 59.5 +2.9
baz=174,SNR=6.7
JANB Januaria 38.65 114 eP P 04 38 56.3 -0.9
R49A Shelbyville 38.71 354 P P 04 39 00.1 +2.9
baz=173,SNR=5.5
R49A P P 04 39 00.1 +2.9
baz=173,SNR=5.5
S44A Carbondale 38.73 349 P P 04 38 59.9 +2.6
baz=166,SNR=10
TUL1 Leonard 38.79 340 P P 04 39 00.4 +2.4
baz=155,SNR=13
TUL1 Leonard 38.79 340 P P 04 38 56.9 -1.1
baz=155,SNR=13
WMOK Wichita Mounta 38.88 336 P P 04 38 57.8 -0.9
baz=150,SNR=14
RCLB Rio Claro- Sao 38.89 127 eP P 04 38 58.7 -0.4
MGMO Mountain Grove 38.89 345 IAmb IAmb 04 39 03.0
comp=Z,30nm,0.8s
LC01 Cunco 39.15 169 P P 04 39 00.7 -0.3
FVM French Village 39.24 348 P P 04 39 04.5 +2.8
baz=164,SNR=14
NBPS Pedro II - PI 39.26 96 eP P 04 39 01.1 -1.2
Q51A Peebles 39.29 357 P P 04 39 05.0 +2.8
baz=176,SNR=9.1
Q51A P P 04 39 05.0 +2.8
baz=176,SNR=9.1
CPSB Cacapava Do Su 39.44 142 eP P 04 39 03.8 +0.3
CCM Cathedral Cave 39.49 347 P P 04 39 05.1 +1.3
CCM IAmb IAmb 04 39 07.4
comp=Z,23nm,1.0s
CCM Cathedral Cave 39.49 347 P P 04 39 06.5 +2.7
baz=163,SNR=15
CCM Cathedral Cave 39.49 347 P P 04 39 02.8 -1.1
baz=163
OLIL Olney 39.53 351 P P 04 39 06.6 +2.4
baz=168,SNR=18
MNTX Cornudas Mount 39.63 326 P P 04 39 04.0 -1.1
MNTX Cornudas Mount 39.63 326 P P 04 39 04.8 -0.4
baz=139,SNR=23
MNTX Cornudas Mount 39.63 326 P P 04 39 04.5 -0.6
baz=139,SNR=23
S39A Bolivar 39.67 344 IAmb IAmb 04 39 09.3
comp=Z,23nm,0.8s
P53A Whipple 39.68 359 P P 04 39 08.5 +3.2
baz=179,SNR=5.4
P53A P P 04 39 08.5 +3.2
baz=179,SNR=5.4
BLO Bloomington 39.74 353 IAmb IAmb 04 39 08.9
comp=Z,27nm,0.6s
SLM Saint Louis 39.83 348 IAmb IAmb 04 39 10.1
comp=Z,38nm,0.9s
P52A Corning 39.84 358 P P 04 39 05.8 -0.9
baz=178
Q44A Meyer Farm, Va 39.85 350 P P 04 39 09.0 +2.2
baz=167,SNR=14
P48A Milroy 39.90 354 P P 04 39 08.3 +1.1
baz=172,SNR=7.4
P48A P P 04 39 08.3 +1.1
baz=172,SNR=7.4
P49A Miami Univ. Ec 39.90 355 P P 04 39 08.8 +1.6
baz=174,SNR=5.1
P49A Miami Univ. Ec 39.90 355 P P 04 39 05.4 -1.8

baz=174,SNR=5.1
T35B Sooner Cattle 39.95 340 P P 04 39 10.4 +2.8
baz=155,SNR=12
R40A Maddies Statio 39.96 346 P P 04 39 10.2 +2.5
baz=162,SNR=9.4
MSTX Muleshoe 40.03 331 P P 04 39 08.2 -0.3
baz=144,SNR=25
MSTX Muleshoe 40.03 331 P P 04 39 07.3 -1.2
baz=144,SNR=25
AMTX Amarillo 40.26 333 P P 04 39 10.3 -0.1
baz=146,SNR=11
AMTX Amarillo 40.26 333 P P 04 39 09.9 -0.5
baz=146
P46A Rosedale 40.27 352 IAmb IAmb 04 39 13.1
comp=Z,18nm,0.8s
P46A Rosedale 40.27 352 P P 04 39 12.1 +1.9
baz=170,SNR=6.8
PLTB Pedras Altas 40.29 143 P P 04 39 10.4 -0.2
PLTB Pedras Altas 40.29 143 eP P 04 39 10.8 +0.2
O52A Adamsville 40.31 358 P P 04 39 13.3 +2.7
baz=178,SNR=5.7
O52A P P 04 39 13.3 +2.7
baz=178,SNR=5.7
DIAM Diamantina, MG 40.35 118 eP P 04 39 11.3 -0.2
O54A Avella 40.36 0 P P 04 39 13.1 +2.0
O54A IAmb IAmb 04 39 15.5
comp=Z,21nm,0.9s
O54A Avella 40.36 0 P P 04 39 14.2 +3.2
baz=180,SNR=5.6
O54A P P 04 39 14.2 +3.2
baz=180,SNR=5.6
O53A New Philadelph 40.44 359 IAmb IAmb 04 39 16.2
comp=Z,28nm,1.1s
O53A New Philadelph 40.44 359 P P 04 39 10.4 -1.2
baz=179
ACSO Alum Creek Sta 40.48 357 IAmb IAmb 04 39 15.6
comp=Z,24nm,0.8s
ACSO Alum Creek Sta 40.48 357 P P 04 39 15.1 +3.1
baz=176
ACSO Alum Creek Sta 40.48 357 P P 04 39 10.5 -1.4
baz=176
BSCB Bom Sucesso 40.49 123 eP P 04 39 11.4 -1.1
NBMO Morrinhos-CE 40.58 95 eP P 04 39 12.2 -1.0
O48B Farmland 40.66 355 P P 04 39 15.8 +2.3
baz=173,SNR=6.8
O48B Farmland 40.66 355 P P 04 39 11.4 -2.0
baz=173,SNR=6.8
P43A Skaggs, Pawnee 40.66 349 IAmb IAmb 04 39 16.8
comp=Z,32nm,0.8s
P43A Skaggs, Pawnee 40.66 349 P P 04 39 15.7 +2.2
baz=166,SNR=7.3
PARB Paraibuna 40.87 126 eP P 04 39 15.3 -0.3
SSPA Standing Stone 40.89 3 P P 04 39 16.8 +1.4
SSPA Standing Stone 40.89 3 P P 04 39 18.8 +3.4
baz=184,SNR=6.7
SSPA Standing Stone 40.89 3 P P 04 39 12.8 -2.6
baz=184
O44A Mansfield 40.98 351 IAmb IAmb 04 39 19.1
comp=Z,17nm,0.8s
O44A Mansfield 40.98 351 P P 04 39 18.4 +2.3
baz=168
SFIN Lafayette 41.00 352 P P 04 39 18.0 +1.8
baz=170
SFIN Lafayette 41.00 352 P P 04 39 15.0 -1.2
baz=170
LL04 Puerto Octay 41.02 171 P P 04 39 17.0 +0.6
P40A Paris 41.09 346 P P 04 39 19.4 +2.4
baz=162,SNR=6.2
N51A Ashland 41.13 358 IAmb IAmb 04 39 20.7
comp=Z,23nm,0.9s
PLCA Paso Flores 41.18 168 P P 04 39 19.0 +1.1
comp=Z,12nm,0.8s,baz=345,slow=9.6,SNR=30
PLCA Paso Flores 41.18 168 P P 04 39 17.9 0.0
PLCA IAmb IAmb 04 39 20.1
comp=Z,18nm,0.9s
PLCA Paso Flores 41.18 168 eP P 04 39 19.0 +1.1
NBPB Pedra_Branca-C 41.21 98 eP P 04 39 17.4 -1.0
N47A Urbana 41.33 354 IAmb IAmb 04 39 21.5
comp=Z,22nm,1.1s
N47A Urbana 41.33 354 P P 04 39 20.8 +1.9
baz=172,SNR=6.4
N47A P P 04 39 20.8 +1.9
baz=172,SNR=6.4
NBPN Ponto Novo - B 41.41 106 eP P 04 39 19.7 -0.5
HDIL Hopedale 41.51 350 P P 04 39 22.7 +2.2
baz=167,SNR=13
HDIL Hopedale 41.51 350 P P 04 39 18.7 -1.7
baz=167,SNR=13
M53A WI Miller and 41.62 360 P P 04 39 19.1 -2.2
baz=180
121A Cookes Peak, D 41.62 324 IAmb IAmb 04 39 28.2
comp=Z,22nm,1.1s
121A Cookes Peak, D 41.62 324 P P 04 39 22.1 +0.4
baz=137,SNR=5.2
M57A Sunshine Farm, 41.63 4 IAmb IAmb 04 39 26.4
comp=Z,19nm,0.8s
M57A Sunshine Farm, 41.63 4 P P 04 39 25.3 +3.8
baz=185,SNR=6.3
M57A P P 04 39 25.3 +3.8
baz=185,SNR=6.3
M50A Fremont 41.65 357 P P 04 39 23.1 +1.5
M50A IAmb IAmb 04 39 25.0
comp=Z,31nm,0.8s
M50A Fremont 41.65 357 P P 04 39 24.4 +2.9
baz=176
M50A P P 04 39 24.4 +2.9
baz=176
ESAR Angra dos Reis 41.68 125 eP P 04 39 21.7 -0.4
N41A Harden Midland 41.95 348 IAmb IAmb 04 39 27.1
comp=Z,25nm,0.8s
N41A Harden Midland 41.95 348 P P 04 39 26.4 +2.3
baz=164,SNR=5.2
KSU1 Kansas State U 41.96 341 P P 04 39 27.5 +3.3
baz=156,SNR=20
KSU1 Kansas State U 41.96 341 P P 04 39 23.9 -0.3
baz=156,SNR=20
R32A Long Quarter, 42.07 339 P P 04 39 28.3 +3.2
baz=152,SNR=19
NBMA Muriti-CE 42.23 101 eP P 04 39 26.3 -0.5
ERPA Erie 42.30 1 P P 04 39 25.2 -1.7
baz=181
N38A Joes South For 42.57 346 IAmb IAmb 04 39 32.7
comp=Z,32nm,1.1s
N38A Joes South For 42.57 346 P P 04 39 32.0 +2.9
baz=161,SNR=7.1
BINY Binghamton 42.58 5 IAmb IAmb 04 39 34.0
comp=Z,22nm,0.9s
BINY Binghamton 42.58 5 P P 04 39 33.2 +4.0
baz=187,SNR=5.9
BINY Binghamton 42.58 5 P P 04 39 28.5 -0.7
baz=187,SNR=5.9
GDU01 Guandu, BA 42.66 110 eP P 04 39 29.9 -0.4
ANMO Albuquerque 42.68 328 P P 04 39 30.4 0.0
ANMO IAmb IAmb 04 39 36.2
comp=Z,30nm,0.7s
ANMO Albuquerque 42.68 328 P P 04 39 30.7 +0.3
baz=140,SNR=70
ANMO Albuquerque 42.68 328 P P 04 39 30.7 +0.3
baz=140
SJMB Sao Joao De Ma 42.70 118 eP P 04 39 29.7 -0.9
CBKS Cedar Bluff 42.80 338 P P 04 39 34.1 +3.1
baz=151,SNR=8.5
CBKS Cedar Bluff 42.80 338 P P 04 39 31.0 -0.1
baz=151,SNR=8.5
L42A Oliver, Polo 42.98 350 P P 04 39 34.8 +2.3
baz=167
K50A Casco 43.00 358 IAmb IAmb 04 39 36.4
comp=Z,25nm,0.9s
K50A Casco 43.00 358 P P 04 39 35.3 +2.7
baz=177
K50A P P 04 39 35.3 +2.7
baz=177
K57A Scipio Center 43.06 4 IAmb IAmb 04 39 37.4
comp=Z,35nm,1.0s
K57A Scipio Center 43.06 4 P P 04 39 36.1 +3.0
baz=186,SNR=5.6
CMC01 Camacan, BA 43.15 112 eP P 04 39 34.1 -0.1
GUA01 Guaratinga, BA 43.24 114 eP P 04 39 34.5 -0.5
TUC Tucson 43.28 322 P P 04 39 34.6 -0.5
TUC Tucson 43.28 322 P P 04 39 35.0 -0.1
baz=133
L40A Anamosa 43.33 348 IAmb IAmb 04 39 38.3
comp=Z,22nm,0.9s
L40A Anamosa 43.33 348 P P 04 39 37.5 +2.2
baz=164,SNR=9.0
T25A Trinidad 43.38 332 P P 04 39 35.6 -0.4
baz=144,SNR=11
K43A Burlington 43.45 352 P P 04 39 37.8 +1.5
baz=169
CAM01 Campos-RJ 43.48 122 eP P 04 39 36.3 -0.4
J56A Wolcott 43.58 4 IAmb IAmb 04 39 41.2
comp=Z,18nm,0.8s
J56A Wolcott 43.58 4 P P 04 39 40.4 +3.2
baz=185,SNR=7.1
J56A P P 04 39 40.4 +3.2
baz=185,SNR=7.1
J47A Sunmer 43.59 355 IAmb IAmb 04 39 41.6
comp=Z,18nm,0.9s
J47A Sunmer 43.59 355 P P 04 39 39.6 +2.3
baz=174
J47A P P 04 39 39.6 +2.3
baz=174
RIB01 Linhares ES 43.61 118 eP P 04 39 37.1 -0.8
SCIA State Center 43.62 346 P P 04 39 40.2 +2.6
SCIA IAmb IAmb 04 39 41.1
comp=Z,35nm,1.0s
N33B J Bar K, Exete 43.72 341 P P 04 39 42.5 +4.1
baz=155,SNR=5.9
NBLA Lagarto - SE 43.76 105 eP P 04 39 38.3 -0.9
JFWS Jewell Farm 43.97 350 IAmb IAmb 04 39 43.3
comp=Z,14nm,0.8s
JFWS Jewell Farm 43.97 350 P P 04 39 42.2 +1.8
baz=166,SNR=6.0
JFWS Jewell Farm 43.97 350 P P 04 39 37.8 -2.6
baz=166,SNR=6.0
KSCO Kaye Shedlock' 44.12 335 P P 04 39 44.0 +2.1
baz=147,SNR=7.0
KSCO Kaye Shedlock' 44.12 335 P P 04 39 42.3 +0.4
baz=147,SNR=7.0
I49A Point Hope 44.17 358 P P 04 39 44.4 +2.5
baz=177,SNR=7.2
I49A P P 04 39 44.4 +2.5
baz=177,SNR=7.2
K38A Parkersburg 44.22 347 IAmb IAmb 04 39 45.4
comp=Z,18nm,1.0s
PECO Prince Edward 44.23 4 P P 04 39 43.9 +1.5
PECO IAmb IAmb 04 39 46.1
comp=Z,12nm,0.8s
214A Organ Pipe Nat 44.33 319 P P 04 39 43.6 0.0
214A Organ Pipe Nat 44.33 319 P P 04 39 42.8 -0.7
baz=130,SNR=14
SDCO Great Sand Dun 44.38 331 P P 04 39 44.7 +0.5
SDCO IAmb IAmb 04 39 50.0
comp=Z,12nm,0.7s
SDCO Great Sand Dun 44.38 331 P P 04 39 44.4 +0.3
baz=143,SNR=8.8
SDCO Great Sand Dun 44.38 331 P P 04 39 44.0 -0.2
baz=143,SNR=8.8
L34A Svendsen Farm, 44.51 343 IAmb IAmb 04 39 48.3
comp=Z,19nm,0.7s
I42A Draeger Farm, 44.70 351 IAmb IAmb 04 39 50.1
comp=Z,11nm,0.8s
RCBR Riachuelo 44.88 98 LR LR 04 58 31.0
comp=Z,631nm,18.2s,baz=72,slow=36
SADO Sadowa 44.97 1 LR LR 04 58 04.1
comp=Z,190nm,22.0s,baz=4.0,slow=36
SADO Sadowa 44.97 1 P P 04 39 49.8 +1.5
SADO IAmb IAmb 04 39 51.6
comp=Z,21nm,1.2s
I40A Norwalk 44.98 350 IAmb IAmb 04 39 51.4
comp=Z,17nm,0.9s
I40A Norwalk 44.98 350 P P 04 39 50.6 +2.1
baz=166
NBAN Anadia - AL 45.00 103 eP P 04 39 48.4 -0.7
S22A 4UR Ranch, Cre 45.03 330 P P 04 39 47.7 -1.7
baz=141,SNR=7.4
LONY Lake Ozonia 45.11 6 P P 04 39 46.9 -2.6
baz=188
X16A Lo Mia Camp, P 45.11 323 IAmb IAmb 04 39 55.8
comp=Z,10nm,0.8s
Q24A Divide 45.19 333 P P 04 39 49.6 -1.0
baz=144
G45A Suttons Bay 45.45 355 P P 04 39 54.5 +2.4
baz=173,SNR=7.1
G45A P P 04 39 54.5 +2.4
baz=173,SNR=7.1
113A Mohawk Valley, 45.47 320 P P 04 39 52.7 +0.2
113A IAmb IAmb 04 39 58.2
comp=Z,19nm,1.3s
MVCO Mesa Verde 45.47 328 IAmb IAmb 04 39 58.9
comp=Z,12nm,0.8s
MVCO Mesa Verde 45.47 328 P P 04 39 52.9 +0.1
baz=139,SNR=10
OGNE Ogallala 45.53 337 P P 04 39 51.4 -1.6
baz=149
I37A Lemond, Waseca 45.66 347 IAmb IAmb 04 39 57.7
comp=Z,11nm,0.9s
K31A O'Neill 45.84 341 P P 04 39 59.3 +4.0
baz=154,SNR=12
WUAZ Wupatki 45.84 324 P P 04 39 55.8 +0.1
baz=135,SNR=16
ISCO Idaho Springs 46.08 333 P P 04 39 58.7 +1.1
ISCO Idaho Springs 46.08 333 P P 04 40 00.6 +2.9
baz=144,SNR=8.9
ISCO Idaho Springs 46.08 333 P P 04 39 57.1 -0.6
baz=144,SNR=8.9
MNTQ Montreal, Queb 46.09 7 IAmb IAmb 04 40 01.6
comp=Z,11nm,0.8s
ECSD EROS Data Cent 46.21 344 P P 04 40 00.2 +2.0
baz=158,SNR=7.4
ECSD EROS Data Cent 46.21 344 P P 04 39 57.0 -1.2
baz=158,SNR=7.4
SMCO Snowmass 46.22 331 IAmb IAmb 04 40 04.2
comp=Z,7.7nm,0.8s
G40A Rib Lake 46.25 351 IAmb IAmb 04 40 01.7
comp=Z,13nm,1.1s
E46A Sault Ste Mari 46.66 356 IAmb IAmb 04 40 05.2
comp=Z,15nm,0.8s
E46A Sault Ste Mari 46.66 356 P P 04 40 04.0 +2.3
baz=175,SNR=5.1
SPMN Marine on St. 46.69 348 IAmb IAmb 04 40 04.8
comp=Z,21nm,1.4s
SPMN Marine on St. 46.69 348 P P 04 40 00.1 -1.8
baz=163
PDMCI Parker Dam,Lak 46.70 321 P P 04 40 02.2 0.0
baz=131
TRQ Mont Tremblant 46.70 6 P P 04 40 04.0 +1.9
TRQ IAmb IAmb 04 40 05.9
comp=Z,11nm,0.9s
IKP In-Ko-Pah, Jac 46.94 318 P P 04 40 02.3 -2.0
baz=127
N23A Red Feather La 47.11 334 P P 04 40 03.0 -2.7
baz=144
BC3 Big Chuckawall 47.13 319 P P 04 40 04.9 -0.8
baz=129
IRM Iron Mountain 47.24 320 P P 04 40 05.0 -1.5
baz=130
SUSD Miller 47.54 342 P P 04 40 11.5 +2.8
O20A White River Ci 47.58 331 P P 04 40 07.6 -1.6
baz=141
BELC Be Mtn. Jos 47.70 319 P P 04 40 09.3 -0.9
baz=128
PFO Pinyon Flats O 47.76 319 LR LR 04 57 14.4
comp=Z,367nm,19.0s,baz=80,slow=32
SRU San Rafael Swe 47.95 328 IAmb IAmb 04 40 17.5
comp=Z,19nm,1.1s
GMRC Granite Mounta 47.97 320 P P 04 40 10.4 -1.9
baz=129
F33A 5 Mile Ranch, 48.07 345 IAmb IAmb 04 40 16.1
comp=Z,14nm,1.3s
MURC Murrieta 48.24 318 P P 04 40 13.6 -0.7
baz=127
P17A Butcher Ranch, 48.33 329 IAmb IAmb 04 40 20.3
comp=Z,14nm,0.8s
CCUT Cedar City 48.40 325 P P 04 40 16.4 +0.8
CCUT IAmb IAmb 04 40 22.0
comp=Z,16nm,1.2s
HEC Hector,Ludlow 48.43 320 P P 04 40 15.7 -0.1
baz=129
RDMU Red Mountain 48.56 330 IAmb IAmb 04 40 21.9
comp=Z,13nm,0.8s
RSSD Black Hills 49.01 338 P P 04 40 25.0 +4.8
baz=148,SNR=6.7
RSSD Black Hills 49.01 338 P P 04 40 19.6 -0.6
baz=148
GSC Goldstone, Bar 49.02 320 P P 04 40 21.4 +1.0
GSC Goldstone, Bar 49.02 320 P P 04 40 19.0 -1.4
baz=129
JLU Jordanelle 49.53 329 IAmb IAmb 04 40 29.2
comp=Z,9.9nm,0.7s
EDW2 Edwards Air Fo 49.54 319 P P 04 40 24.0 -0.3
baz=127
TPNV Topopah Spring 49.71 322 P P 04 40 24.8 -0.9
baz=130,SNR=5.4
FURC Furnace Creek, 49.79 321 P P 04 40 26.0 0.0
baz=129
MPMC Manual Prospec 49.93 320 P P 04 40 25.1 -2.2
baz=128
DUG Dugway, Tooele 49.95 328 P P 04 40 27.2 -0.1
baz=136,SNR=5.9
E28A Huff 49.99 342 P P 04 40 31.6 +4.1
baz=153,SNR=6.0
R11A Troy Canyon, C 50.23 324 P P 04 40 28.9 -0.7
baz=132,SNR=6.3
ARVC Arvin 50.23 319 P P 04 40 29.3 -0.2
baz=126
BW06 Boulder Array 50.24 332 P P 04 40 28.0 -1.7
baz=141
PDAR Pinedale Array 50.24 332 P P 04 40 30.1 +0.5
comp=Z,0.9nm,0.6s,baz=135,slow=10,SNR=8.3
PDAR PcP PcP 04 41 51.5 +2.9
comp=Z,1.3nm,0.8s,baz=123,slow=5.5,SNR=3.7
AGMN Agassiz Nation 50.27 347 P P 04 40 32.6 +3.1
baz=160
AGMN Agassiz Nation 50.27 347 P P 04 40 27.9 -1.5
baz=160
ISA Isabella, Lake 50.32 319 P P 04 40 29.9 -0.3
ISA Isabella, Lake 50.32 319 P P 04 40 29.6 -0.6
baz=127
HWUT Hardware Ranch 50.33 330 IAmb IAmb 04 40 40.5
comp=Z,25nm,1.3s
BGU Big Grassy Mou 50.59 328 IAmb IAmb 04 40 37.6
comp=Z,17nm,1.1s
PKM Mcpherson Peak 50.75 318 P P 04 40 33.4 -0.2
baz=125
MDND Maddock 50.81 344 P P 04 40 32.7 -1.0
baz=155
VES Vestal, Richgr 50.83 319 P P 04 40 33.7 -0.2
baz=127
SMMC Simmler 51.12 318 P P 04 40 36.7 +0.5
baz=126
REDW Red Top Meadow 51.30 332 IAmb IAmb 04 40 43.0
comp=Z,24nm,1.4s
NV11 Mina Array Sit 51.82 322 P P 04 40 41.9 +0.3
NV11 IAmb IAmb 04 40 47.5
comp=Z,13nm,1.1s
NVAR Mina Array Bea 51.91 322 P P 04 40 42.5 +0.2
comp=Z,3.4nm,0.7s,baz=136,slow=7.5,SNR=13
NVAR LR LR 05 03 24.0
comp=Z,433nm,18.8s,baz=326,slow=37
RLMT Red Lodge 51.96 334 P P 04 40 41.3 -1.2
baz=142
H17A Grant Village 51.97 333 P P 04 40 41.7 -1.0
baz=141
ULM Lac du Bonnet 52.11 348 P P 04 40 45.3 +2.0
comp=Z,15nm,0.6s,baz=157,slow=7.8,SNR=20
BMN Battle Mountai 52.56 325 IAmb IAmb 04 40 52.6
comp=Z,24nm,1.0s
HLID Hailey 53.20 330 P P 04 40 50.9 -0.8
baz=136,SNR=13
BOZ Bozeman (W) 53.37 333 IAmb IAmb 04 40 58.3
comp=Z,13nm,1.1s
BOZ Bozeman (W) 53.37 333 P P 04 40 52.7 -0.2
baz=140,SNR=10
MFID Camas Ranch 53.82 329 P P 04 40 59.0 +2.8
MFID IAmb IAmb 04 41 01.8
comp=Z,14nm,1.0s
EGMT Eagleton 54.47 336 P P 04 40 59.4 -1.4
baz=143
ORV Oroville 54.57 322 IAmb IAmb 04 41 07.6
comp=Z,18nm,1.1s
O03E Paynes Creek 55.20 322 IAmb IAmb 04 41 13.5
comp=Z,11nm,0.9s
O03E Paynes Creek 55.20 322 P P 04 41 04.5 -1.7
baz=127
MSO Missoula 55.35 333 P P 04 41 06.6 -0.6
baz=138,SNR=9.5
M04C Macdoel 56.11 324 P P 04 41 11.5 -1.3
baz=128
SCHQ Schefferville 56.17 10 P P 04 41 14.8 +2.0
comp=Z,7.4nm,0.9s,baz=184,slow=4.9,SNR=5.3
SCHQ Schefferville 56.17 10 P P 04 41 14.7 +1.9
SCHQ IAmb IAmb 04 41 16.6
comp=Z,11nm,1.1s
I07A Izee 56.23 327 IAmb IAmb 04 41 19.4
comp=Z,9.9nm,0.9s
F10A Beach Ranch, E 56.32 330 IAmb IAmb 04 41 21.8
comp=Z,7.7nm,0.8s
M02C Callahan 56.49 323 P P 04 41 14.9 -0.5
baz=126
L04D Klamath Falls 56.65 324 P P 04 41 15.8 -0.9
baz=127
J05D Fort Rock, OR 56.69 325 P P 04 41 16.5 -0.4
baz=129,SNR=10
G08A Pilot Rock 56.74 328 IAmb IAmb 04 41 22.5
comp=Z,16nm,0.9s
J04D Umpqua Nationa 57.16 325 P P 04 41 19.7 -0.6
baz=128,SNR=6.8
I05D Terrebonne, OR 57.41 326 P P 04 41 21.5 -0.4
baz=129,SNR=9.0
I04A Tendick Farm, 57.67 325 P P 04 41 22.4 -1.3
baz=128
FFC Flin Flon 57.68 345 P P 04 41 25.4 +1.9
FFC IAmb IAmb 04 41 28.5
comp=Z,14nm,1.2s
K02D Willamette Mer 57.74 323 P P 04 41 22.5 -1.8
baz=126
NEW Newport 57.88 332 LR LR 05 07 15.4
comp=Z,445nm,18.3s,baz=62,slow=37
NEW Newport 57.88 332 P P 04 41 24.1 -1.0
baz=135
G05D Wamic, OR 57.97 327 P P 04 41 23.7 -2.1
baz=130
H04A Detroit Lake 58.09 326 P P 04 41 28.5 +1.8
H04A IAmb IAmb 04 41 31.6
comp=Z,18nm,1.0s
I03D Drain, OR 58.15 325 P P 04 41 25.3 -1.7
baz=127
J01E Myrtle Point 58.18 324 P P 04 41 25.5 -1.7
baz=126
H04D Lebanon 58.30 326 P P 04 41 26.1 -2.0
baz=128
F05D White Salmon 58.45 328 P P 04 41 27.8 -1.3
baz=130
I02E Swisshome, OR 58.69 325 P P 04 41 29.6 -1.2
baz=127
G03D McMinnville, O 59.02 326 P P 04 41 31.8 -1.2
baz=128
E04D Cinebar 59.48 328 P P 04 41 32.4 -3.8
baz=129
FCC Fort Churchill 59.93 352 P P 04 41 40.2 +1.2
D04E Lakebay 59.98 328 P P 04 41 37.1 -2.5
baz=129
EDM Edmonton 59.99 338 P P 04 41 41.7 +2.0
B05A Bryant 60.32 329 P P 04 41 40.1 -1.8
baz=130
D03D Eldon 60.37 328 P P 04 41 39.5 -2.8
baz=129
NLWA Neilton Lookou 60.69 328 P P 04 41 44.5 -0.1
A04D Lummi Island 60.92 329 P P 04 41 44.0 -2.1
baz=130
MACI Morro de la Ar 67.47 59 P P 04 42 30.2 +0.5
YKA Yellowknife Ar 67.74 344 P P 04 42 29.6 -0.8
comp=Z,10nm,0.9s,baz=136,slow=6.3,SNR=37
DLBC Dease Lake 70.36 335 P P 04 42 49.3 +2.4
WRGLY Wrigley 70.98 341 P P 04 42 49.9 -0.6
baz=134,SNR=13
TGTN Hyland Airport 71.54 338 P P 04 42 53.7 -0.3
baz=129,SNR=8.5
MMPY Sheldon Lake, 73.33 338 P P 04 43 05.1 +0.5
baz=126,SNR=17
FARO Faro, Yukon 73.89 337 P P 04 43 06.5 -1.5
baz=124
M31M Drury Creek, Y 74.29 337 P P 04 43 08.8 -1.5
baz=123
N31M Braeburn, Yuko 74.46 336 P P 04 43 11.3 0.0
baz=122,SNR=5.7
HYT Haines Junctio 74.84 335 P P 04 43 12.1 -1.5
baz=120
PNL Peninsula 75.11 333 P P 04 43 13.7 -1.4
baz=118
M30M Minto, Yukon 75.44 337 P P 04 43 16.4 -0.5
baz=121,SNR=8.9
C36M Paulatuk 75.45 345 P P 04 43 15.2 -1.5
baz=135
YUK4 Talbot Arm 75.58 335 P P 04 43 15.3 -2.6
baz=119
LIC Lamto 75.64 84 eP P 04 43 19.1 +0.1
comp=Z,32nm,1.1s
TIC Toumodi 75.66 83 eP P 04 43 18.6 -0.6
DBIC Dimbokro 75.83 83 P P 04 43 19.6 -0.5
comp=Z,12nm,0.9s,baz=287,slow=6.1,SNR=8.9
DBIC Dimbokro 75.83 83 P P 04 43 19.4 -0.7

PTEO	Sao Teotonio		75.87	51	*e*P		P		04 43 20.3	+0.5
	comp=Z,64nm,1.8s									
MORF	Marmelete		75.88	51	*e*P		P		04 43 20.6	+0.6
MORF					IAmb		IAmb		04 43 21.5	
	comp=Z,14nm,0.9s									
MORF	Marmelete		75.88	51	*e*P		P		04 43 20.9	+0.9
	comp=Z,47nm,1.7s									
KIC	Kosan Boka		75.93	83	*e*P		P		04 43 20.1	-0.6
	comp=Z,36nm,0.8s									
PNCL	Nicolau / Gran		76.14	51	*e*P		P		04 43 22.0	+0.7
	comp=Z,28nm,1.8s									
PSBE	So Bento		76.22	49	*e*P		P		04 43 22.6	+0.7
PCVE	Castro Verde		76.42	51	*e*P		P		04 43 23.5	+0.5
	comp=Z,22nm,1.5s									
YUK3	Moose Creek		76.55	335	P		P		04 43 22.6	-0.9
	baz=117,SNR=7.1									
PCAS	Casmilo, Conde		76.56	49	*e*P		P		04 43 24.2	+0.5
	comp=Z,55nm,1.3s									
PMTG	Montargil		76.56	50	*e*P		P		04 43 24.1	+0.4
CTGM	Chitina Glacie		76.56	334	P		P		04 43 25.3	+1.8
CTGM					IAmb		IAmb		04 43 29.6	
	comp=Z,14nm,1.0s									
CTG	Chitna Glacier		76.56	334	P		P		04 43 22.4	-1.1
	baz=116,SNR=6.2									
COI	Coimbra		76.65	49	*e*P		P		04 43 25.2	+1.0
	comp=Z,69nm,1.1s									
PTO	Porto		76.71	48	*e*P		P		04 43 30.1	+5.6
	comp=Z,51nm,1.9s									
PESTR	Estremoz		77.01	50	*e*P		P		04 43 26.8	+0.5
	comp=Z,36nm,1.2s									
PESTR	Estremoz		77.01	50	IAmb		IAmb		04 43 27.5	
	comp=Z,13nm,1.0s									
BVCY	Beaver Creek		77.01	335	P		P		04 43 25.1	-0.7
	baz=117									
KOWA	Kowa		77.05	75	P		P		04 43 26.9	0.0
PGAV	Gavieira, Arco		77.13	47	*e*P		P		04 43 27.5	+0.5
	comp=Z,39nm,1.9s									
PVIS	Viseu		77.14	48	*e*P		P		04 43 27.2	+0.1
	comp=Z,35nm,1.7s									
DAWY	Dawson		77.19	337	P		P		04 43 25.8	-1.0
	baz=119,SNR=14									
PMRV	Marv??o		77.27	49	*e*P		P		04 43 27.8	0.0
	comp=Z,18nm,1.7s									
PCBR	Castelo Branco		77.28	49	*e*P		P		04 43 27.8	0.0
	comp=Z,22nm,1.1s									
MTE	Manteigas		77.34	48	*e*P		P		04 43 28.4	+0.2
POLO	Lamas de Olo		77.35	47	*e*P		P		04 43 28.6	+0.3
	comp=Z,17nm,2.0s									
M27K	Edge Creek, AK		77.41	335	P		P		04 43 26.3	-1.9
	baz=116,SNR=9.8									
INK	Inuvik		77.42	342	P		P		04 43 27.7	-0.2
	baz=125,SNR=16									
I29M	Ogilvie Camp,		77.42	339	P		P		04 43 27.4	-0.7
	baz=120,SNR=13									
MCARA	McCarthy VSAT		77.48	334	P		P		04 43 31.8	+3.3
MCARA	McCarthy VSAT		77.48	334	P		P		04 43 29.1	+0.7
	baz=115,SNR=8.6									
A36M	Sachs Harbour		77.59	347	P		P		04 43 26.7	-2.1
	baz=134,SNR=49									
VRDI	Verde Repeater		77.61	334	P		P		04 43 32.2	+2.8
L27K	Beaver Creek,		77.70	336	IAmb		IAmb		04 43 35.0	
	comp=Z,9.6nm,0.9s									
L27K	Beaver Creek,		77.70	336	P		P		04 43 28.9	-0.8
	baz=116,SNR=11									
M26K	Nabesna, AK		77.90	335	P		P		04 43 33.6	+2.7
M26K					IAmb		IAmb		04 43 36.3	
	comp=Z,15nm,1.2s									
M26K	Nabesna, AK		77.90	335	P		P		04 43 30.7	-0.1
	baz=115,SNR=5.9									
BMRM	Bremner River		78.01	333	P		P		04 43 30.9	-0.6
	baz=113,SNR=8.3									
EGAK	Eagle		78.21	338	P		P		04 43 31.9	-0.5
	baz=117									
PBRG	Braganca		78.21	47	*e*P		P		04 43 33.3	+0.3
	comp=Z,26nm,1.6s									
N25K	Chitina, Valde		78.26	334	P		P		04 43 33.4	+0.4
	baz=113									
L26K	Log Cabin Wild		78.31	336	P		P		04 43 33.1	0.0
	baz=115									
KLU	Klutina		78.81	334	IAmb		IAmb		04 43 41.1	
	comp=Z,14nm,1.0s									
KLU	Klutina		78.81	334	P		P		04 43 34.6	-1.3
	baz=112,SNR=6.4									
DOT	Dot Lake		78.86	336	P		P		04 43 38.6	+2.5
SCRK	Sand Creek		78.97	336	P		P		04 43 34.6	-2.2
	baz=114,SNR=7.3									
J26L	Joseph Creek		79.02	337	P		P		04 43 35.7	-1.3
	baz=115,SNR=15									
M24K	Tolsona, Glenn		79.15	334	P		P		04 43 36.9	-0.8
	baz=112,SNR=6.1									
PAX	Paxson		79.17	335	IAmb		IAmb		04 43 42.9	
	comp=Z,13nm,1.1s									
PAX	Paxson		79.17	335	P		P		04 43 37.3	-0.7
	baz=113,SNR=8.9									
RIDG	Independent Ri		79.22	336	P		P		04 43 39.8	+1.7
RIDG					IAmb		IAmb		04 43 43.4	
	comp=Z,9.3nm,0.9s									
RIDG	Independent Ri		79.22	336	P		P		04 43 37.5	-0.6
	baz=114,SNR=7.8									
SCM	Sheep Creek Mo		79.55	334	P		P		04 43 39.1	-0.9
	baz=111,SNR=7.9									
PAB	San Pablo		79.61	50	P		P		04 43 41.2	+0.4
PAB					IAmb		IAmb		04 43 41.9	
	comp=Z,11nm,1.0s									
K24K	Donnelly Dome		79.62	336	P		P		04 43 39.0	-1.3
	baz=113									
PWL	Port Wells		79.67	333	P		P		04 43 39.3	-1.3
	baz=110,SNR=5.6									
M23K	Glacier View		79.72	334	P		P		04 43 39.7	-1.1
	baz=110,SNR=11									
J25K	Salcha River,		79.78	337	P		P		04 43 40.3	-0.8
	baz=113,SNR=7.4									
KNK	Knik Glacier		79.91	333	P		P		04 43 41.4	-0.5
	baz=110,SNR=7.4									
ESDC	Sonseca Array		79.92	50	P		P		04 43 42.0	-0.5
	comp=Z,4.4nm,0.8s,baz=266,slow=5.9,SNR=31									
SEW	Seward		79.94	332	P		P		04 43 40.4	-1.6
	baz=109									
SML	Sawmill		79.99	333	IAmb		IAmb		04 43 47.2	
	comp=Z,19nm,0.8s									
SML	Sawmill		79.99	333	P		P		04 43 41.0	-1.3
	baz=110,SNR=9.7									
WAT6	Susitna Watana		80.00	334	P		P		04 43 41.4	-1.1
	baz=111,SNR=14									
DHY	Denali Highway		80.02	335	P		P		04 43 40.7	-1.9
	baz=111									
PMR	Palmer		80.28	333	P		P		04 43 41.6	-2.1
	baz=109									
RC01	Rabbit Creek A		80.39	333	P		P		04 43 42.5	-1.9
	baz=109,SNR=7.2									
WAT1	Susitna Watana		80.44	334	P		P		04 43 41.4	-3.3
	baz=110									
IL31			80.44	337	P		P		04 43 46.4	+1.8
ILAR	Eielson Array		80.44	337	P		P		04 43 45.5	+0.8
	comp=Z,5.8nm,1.1s,baz=125,slow=3.5,SNR=23									
ILAR					PP		PP		04 46 54.5	+6.7
	comp=Z,0.6nm,0.8s,baz=114,slow=7.2,SNR=4.5									
BRSE	Bradley Lake S		80.45	331	P		P		04 43 43.1	-1.7
	baz=108									
M22K	Willow		80.78	333	P		P		04 43 45.7	-0.7
	baz=108,SNR=5.9									
MCK	McKinley		80.91	335	IAmb		IAmb		04 43 52.6	
	comp=Z,11nm,1.1s									
MCK	McKinley		80.91	335	P		P		04 43 46.4	-0.8
	baz=110,SNR=7.5									
CAPN	Captain Cook N		80.95	332	P		P		04 43 45.7	-1.6
	baz=107									
OHAK	Old Harbor		81.03	328	P		P		04 43 46.3	-1.6
	baz=105									
CUT	Chulitna		81.05	334	P		P		04 43 47.0	-0.8
	baz=108,SNR=6.0									
BELA	Belgrano 2		81.17	171	P		P		04 43 48.3	-0.1
BELA					IAmb		IAmb		04 43 49.9	
	comp=Z,12nm,1.2s									
H24K	Noodor Dome		81.22	337	P		P		04 43 48.0	-0.8
	baz=111,SNR=10									
NEA2	Nenana		81.25	336	P		P		04 43 47.5	-1.5
	baz=110									
TRF	Thorofare Moun		81.39	335	P		P		04 43 48.8	-1.1
	baz=108,SNR=7.0									
O20K	Slope Mountain		81.45	331	P		P		04 43 48.7	-1.5
	baz=106									
I23K	Minto, Yukon-K		81.56	337	P		P		04 43 49.1	-1.4
	baz=110,SNR=7.7									
SPCR	Spurr Chakacha		81.57	332	P		P		04 43 49.2	-1.6
	baz=106									
Q19K	Cape Douglas,		81.65	330	P		P		04 43 49.8	-1.5
	baz=105									
KTH	Kantishna Hill		81.69	335	IAmb		IAmb		04 43 56.0	
	comp=Z,14nm,0.9s									
H23K	Yukon River		81.86	337	P		P		04 43 51.1	-1.1
	baz=110									
BPAW	Bear Paw Mtn.		81.89	335	P		P		04 43 51.1	-1.3
	baz=108,SNR=12									
PPLA	Purkeypile		82.04	334	P		P		04 43 52.3	-1.1
	baz=107,SNR=10									
CAST	Castle Rocks		82.15	334	P		P		04 43 52.6	-1.1
	baz=107,SNR=14									
O19K	Port Alsworth		82.30	331	P		P		04 43 52.6	-1.9
	baz=104									
CHUM	Lake Minchumin		82.38	335	P		P		04 43 54.1	-0.8
	baz=107,SNR=5.7									
TORD	Torodi Ar. Bea		82.52	77	P		P		04 43 55.8	-0.8
	comp=Z,3.1nm,0.9s,baz=298,slow=6.0,SNR=16									
TORD					PP		PP		04 47 03.0	-3.3
	comp=Z,1.2nm,1.1s,baz=261,slow=3.9,SNR=3.6									
N19K	Bonanza Creek		82.53	332	P		P		04 43 54.3	-1.6
	baz=104									
COLD	Coldfoot		82.57	338	P		P		04 43 57.7	+1.8
COLD					IAmb		IAmb		04 44 01.6	
	comp=Z,11nm,1.1s									
COLD	Coldfoot		82.57	338	P		P		04 43 55.3	-0.6
	baz=109,SNR=6.1									
I21K	Tanana		82.62	336	IAmb		IAmb		04 44 00.7	
	comp=Z,7.2nm,1.0s									
I21K	Tanana		82.62	336	P		P		04 43 55.1	-1.0
	baz=107,SNR=5.3									
O18K	Koktuh Hills		82.65	331	IAmb		IAmb		04 44 00.9	
	comp=Z,11nm,1.1s									
O18K	Koktuh Hills		82.65	331	P		P		04 43 55.0	-1.5
	baz=104									
L20K	Farewell, AK		82.68	333	P		P		04 43 54.9	-1.6
	baz=105,SNR=9.2									
M19K	Big River Lodg		82.76	333	IAmb		IAmb		04 44 01.6	
	comp=Z,6.8nm,0.8s									
M19K	Big River Lodg		82.76	333	P		P		04 43 55.7	-1.3
	baz=104									
TOLK	Toolik Lake Re		82.82	340	P		P		04 43 55.5	-1.7
	baz=110									
K20K	Telida		82.99	334	P		P		04 43 57.0	-1.1
	baz=105,SNR=10									
L19K	White Mountain		83.04	333	P		P		04 44 00.9	+2.5
L19K					IAmb		IAmb		04 44 02.8	
	comp=Z,9.9nm,0.9s									
L19K	White Mountain		83.04	333	P		P		04 43 56.4	-2.1
	baz=104,SNR=8.8									
H21K	Melozitna Rive		83.09	337	P		P		04 43 56.5	-2.1
	baz=106									
SVW2	Sparrevohn		83.12	332	IAmb		IAmb		04 44 02.9	
	comp=Z,9.1nm,0.9s									
N18K	Kilae Creek		83.17	331	P		P		04 43 56.8	-2.3
	baz=103,SNR=6.4									
J20K	Nowinta River		83.24	335	IAmb		IAmb		04 44 03.3	
	comp=Z,8.9nm,0.8s									
J20K	Nowinta River		83.24	335	P		P		04 43 58.3	-1.1
	baz=105,SNR=8.5									
VNA3	Neumayer Olymp		83.56	162	P		P		04 44 01.4	+0.5
TTA	Tatalina		83.74	334	P		P		04 44 03.5	+1.4
TTA	Tatalina		83.74	334	P		P		04 44 00.7	-1.4
	baz=103									
GCSA	Galena City Sc		84.52	335	P		P		04 44 03.8	-2.0
	baz=103									
TROLL	Troll, Antarti		87.50	162	P		P		04 44 20.8	+0.1
ANM	Nome		88.11	335	P		P		04 44 22.6	-0.9
	baz=95									
QSPA	South Pole Qui		89.68	180	P		P		04 44 31.3	+0.2
QSPA					IAmb		IAmb		04 44 38.2	
	comp=Z,8.3nm,0.8s									
KEST	Kesra		90.12	54	P		P		04 44 35.9	+2.1
	comp=Z,5.5nm,0.9s,baz=250,slow=4.0,SNR=3.8									
NOA	NORSAR Array B		91.18	29	LR		LR		05 24 18.7	
	comp=Z,44nm,19.0s,baz=60,slow=35									
CTI	Castel Tesino		91.79	44	P		P		04 44 41.1	-0.2
CTI					IAmb		IAmb		04 44 46.6	
	comp=Z,4.2nm,0.9s									
SYO	Syowa Base		100.07	162	*e*Pdiff		Pdif		04 45 18.8	+0.5
SYO	Syowa Base		100.07	162	*e*PP		PP		04 49 23.0	-0.4
ZALV	Zalesovo Beam		125.25	11	PKP		PKPdf		04 50 33.0	-0.8
	comp=Z,0.6nm,0.5s,baz=343,slow=9.8,SNR=4.2									
STKA	Stephens Creek		128.86	227	PKP		PKPdf		04 50 41.2	-0.2
	comp=Z,2.4nm,0.9s,baz=355,slow=13,SNR=1.7									
MKAR	Makanchi Array		131.39	16	PKP		PKPdf		04 50 44.6	-1.2
	comp=Z,1.0nm,0.9s,baz=35,slow=3.5,SNR=2.6									
SONM	Songino Array		132.34	354	PKP		PKPdf		04 50 46.9	-0.8
	comp=Z,0.3nm,0.4s,baz=67,slow=42,SNR=2.4									
ASAR	Alice Springs		138.90	232	PKhKP		PKPpre		04 50 57.1	
	comp=Z,0.7nm,0.8s,baz=122,slow=3.3,SNR=4.1									
LZH	Lanzhou		144.24	354	*e*PKP		PKiKP		04 51 12.6	-0.9
LZH					pPKP		pPKPdf		04 51 16.3	-0.8
XAN	Xi'an		145.35	346	PKPbc		PKPbc		04 51 08.1	-3.4
XAN					pPKP		PKiKP		04 51 14.3	-1.4
XAN					sPKP				04 51 18.3	
KNRA	Kununurra		146.96	240	PKPbc		PKPbc		04 51 16.7	-0.1
CD2	Chengdu		149.36	353	PKPbc		PKPdf		04 51 18.0	-0.5
HYBB	Hyderabad (bro		153.35	49	*e*PKiKP		PKPbc		04 51 31.4	-1.0
PZH	PanZhiHua		153.93	355	PKPbc		PKPdf		04 51 25.8	+0.2

NEIC ***22*** *04:32:44.1±1.1, 57.85N±0.04×156.22W±0.10, h142km±4km, Error ellipse: s-maj=8.4km s-min=5.5km az=56.0*

AEIC ***22*** *04:32:45±1.1, 57.83N±0.05×156.2W±0.1, h135km±4km, ML3.4, ML3.3/54(NEIC), Error ellipse: s-maj=9.7km s-min=7.2km az=100.0*

IDC ***22*** *04:32:47.8±9.4, 58.33N×156.32W, h145km±74km, mb2.9/2, mb1 3.3/3, mb1mx2.9/49, mbtmp3.6/3, Error ellipse: s-maj=81.0km s-min=34.0km az=8.0*

ISC 22 04:32:44.4±1.0, 57.88N±0.05×156.18W±0.06, h142km±7km, n205, σ0.89/201, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
					Op	ISC	
PLK3	Peulik 3	0.20	194			Pn 04 33 03.2	-0.6
PLK1	Peulik 1	0.24	251			Pn 04 33 03.0	-0.7
KJL	Kejulik	0.36	61			Pn 04 33 03.9	-0.4
PLK5	Peulik 5	0.39	288			Pn 04 33 03.6	-0.7
ANCK	Angle Creek	0.48	48			Pn 04 33 04.4	-0.4
ANCK						Sn 04 33 20.7	+0.4
CAHL	Cahill	0.50	69			Pn 04 33 04.3	-0.6
KELA	Mount Kelaz	0.61	22			Pn 04 33 04.7	-0.8
KELA						Sn 04 33 21.6	0.0
P18K	Big Mountain,	1.59	18			Pn 04 33 14.1	-0.3
P18K	Big Mountain,	1.59	18	IAML		04 33 22.4	
	comp=E,31nm,0.5s						
P18K				IAML		04 33 36.9	
	comp=N,51nm,1.9s						
P18K	Big Mountain,	1.59	18	P		Pn 04 33 14.0	-0.3
	baz=198						
OHAK	Old Harbor	1.69	112			Pn 04 33 15.1	-0.3
OHAK						Sn 04 33 37.7	-1.4
OHAK	Old Harbor	1.69	112	IAML		04 33 38.3	
	comp=E,424nm,0.3s						
OHAK				IAML		04 33 38.9	
	comp=N,491nm,0.4s						
OHAK	Old Harbor	1.69	112	P		Pn 04 33 15.1	-0.3
	baz=292						
OHAK				S		Sn 04 33 37.7	-1.4
	baz=292						
Q19K	Cape Douglas,	1.70	51			Pn 04 33 15.7	+0.1
Q19K						Sn 04 33 39.5	+0.2
Q19K	Cape Douglas,	1.70	51	IAML		04 33 43.8	
	comp=E,709nm,0.9s						
Q19K				IAML		04 33 44.7	
	comp=N,725nm,0.8s						
Q19K	Cape Douglas,	1.70	51	P		Pn 04 33 15.7	+0.1
	baz=232						
Q19K				S		Sn 04 33 39.5	+0.2
	baz=232						
SII	Sitkinak Islan	1.71	140			Pn 04 33 15.3	-0.4
SII						Sn 04 33 38.8	-0.8
SII	Sitkinak Islan	1.71	140	IAML		04 33 39.8	
	comp=N,488nm,0.7s						
SII				IAML		04 33 49.9	
	comp=E,577nm,0.5s						
SII	Sitkinak Islan	1.71	140	P		Pn 04 33 15.3	-0.4
	baz=320						
SII				S		Sn 04 33 38.8	-0.8
	baz=320						
KDAK	Kodiak Island	1.92	91			Pn 04 33 18.2	+0.1
KDAK						Sn 04 33 42.8	-1.1
KDAK	Kodiak Island	1.92	91	IAML		04 33 44.6	
	comp=E,536nm,0.2s						
KDAK	Kodiak Island	1.92	91	S		Sn 04 33 42.8	-1.1
	baz=273						
O18K	Koktuh Hills	2.04	14			Pn 04 33 19.2	-0.3
O18K	Koktuh Hills	2.04	14	P		Pn 04 33 19.2	-0.3
	baz=194						
AUH	Augustine H	2.06	43			Pn 04 33 20.4	+0.6
AUQ	Augustine Qik'	2.07	43			Pn 04 33 20.3	+0.5
AUL	Augustine Lava	2.08	42			Pn 04 33 20.5	+0.5
CHIR	Chirikof Islan	2.09	171			Pn 04 33 19.1	-1.0
CHIR	Chirikof Islan	2.09	171	IAML		04 33 53.6	
	comp=N,346nm,2.1s						
CHIR				IAML		04 33 57.2	
	comp=E,319nm,2.4s						
CHIR	Chirikof Islan	2.09	171	P		Pn 04 33 19.1	-1.0
	baz=351						
AU22	Augustine Moun	2.10	43			Pn 04 33 20.8	+0.6
VNHG	Veniaminof 1	2.33	226			Pn 04 33 23.0	-0.1
P19K	Oil Pt	2.35	40			Pn 04 33 23.6	+0.4
P19K	Oil Pt	2.35	40	IAML		04 33 55.6	
	comp=N,104nm,0.8s						
P19K				IAML		04 33 57.8	
	comp=E,122nm,0.6s						
P19K	Oil Pt	2.35	40	P		Pn 04 33 23.6	+0.4
	baz=221						
OPT	Oil Point	2.35	40			Pn 04 33 23.9	+0.6
OPT	Oil Point	2.35	40	P		Pn 04 33 23.9	+0.6
	baz=221						
VNFG	Fog Glacier, M	2.44	230			Pn 04 33 24.5	0.0
VNFG	Fog Glacier, M	2.44	230	P		Pn 04 33 24.5	0.0
	baz=48						
O19K	Port Alsworth	2.51	22			Pn 04 33 25.2	0.0
O19K	Port Alsworth	2.51	22	IAML		04 33 56.8	
	comp=N,92nm,0.5s						
O19K				IAML		04 34 20.2	
	comp=E,130nm,0.5s						
O19K	Port Alsworth	2.51	22	P		Pn 04 33 25.2	0.0
	baz=203						
IVE	Iliamna Volcan	2.70	36			Pn 04 33 27.9	+0.2
N18K	Kilae Creek	2.81	3			Pn 04 33 28.8	-0.3
N18K	Kilae Creek	2.81	3	P		Pn 04 33 28.7	-0.3
	baz=183						
O20K	Slope Mountain	2.87	38			Pn 04 33 30.6	+0.7
O20K	Slope Mountain	2.87	38	P		Pn 04 33 30.6	+0.7
	baz=221						
HOM	Homer	2.96	51	Pn		Pn 04 33 31.3	+0.5
HOM				IAML		04 34 08.8	
	comp=E,172nm,0.7s						
HOM				IAML		04 34 09.1	
	comp=N,154nm,0.4s						
CNPM	China Poot	3.06	55			Pn 04 33 32.5	+0.3
CNPM	China Poot	3.06	55	IAML		04 34 08.8	
	comp=N,84nm,0.5s						
CNPM				IAML		04 34 15.1	
	comp=E,63nm,0.4s						
N19K	Bonanza Creek	3.07	16			Pn 04 33 32.8	+0.5
N19K	Bonanza Creek	3.07	16	P		Pn 04 33 32.8	+0.5
	baz=197						
RED	Redoubt Volcan	3.09	33			Pn 04 33 32.8	+0.2
RDWB	Redoubt West	3.13	32			Pn 04 33 33.2	0.0
RSO	Redoubt South	3.13	33			Pn 04 33 33.6	+0.3
SVW2	Sparrevohn	3.24	5			Pn 04 33 34.4	-0.1
BRLK	Bradley Lake	3.34	53			Pn 04 33 35.5	-0.3
BRLK	Bradley Lake	3.34	53	IAML		04 34 14.3	
	comp=N,101nm,0.2s						
BRLK				IAML		04 34 20.5	
	comp=E,63nm,0.1s						
BRSE	Bradley Lake S	3.39	54			Pn 04 33 36.2	-0.2
BRSE	Bradley Lake S	3.39	54	P		Pn 04 33 36.2	-0.2
	baz=238						
SDPT	Sand Point	3.48	225			Pn 04 33 36.8	-0.8
SDPT	Sand Point	3.48	225	IAML		04 34 52.6	
	comp=N,123nm,3.2s						
SDPT	Sand Point	3.48	225	P		Pn 04 33 36.8	-0.8
	baz=42						
CAPN	Captain Cook N	3.87	39			Pn 04 33 44.9	+2.2
CAPN	Captain Cook N	3.87	39	P		Pn 04 33 44.9	+2.2
	baz=223						
SPCG	Spurr Capps Gl	4.02	30			Pn 04 33 45.6	+0.9
SLKM	Skilak Lake	4.04	47			Pn 04 33 45.4	+0.4
SEW	Seward	4.13	54			Pn 04 33 46.7	+0.7
SEW	Seward	4.13	54	P		Pn 04 33 46.7	+0.7
	baz=240						
M19K	Big River Lodg	4.13	12			Pn 04 33 46.7	+0.6
M19K	Big River Lodg	4.13	12	P		Pn 04 33 46.7	+0.6
	baz=193						
O22K	Cooper Landing	4.22	49			Pn 04 33 47.8	+0.6
O22K	Cooper Landing	4.22	49	P		Pn 04 33 47.8	+0.6
	baz=234						
STLK	Strandline Lak	4.24	29			Pn 04 33 48.6	+1.0
L19K	White Mountain	4.37	8			Pn 04 33 49.4	+0.2
L19K	White Mountain	4.37	8	IAML		04 35 46.6	
	comp=E,14nm,3.6s						
L19K	White Mountain	4.37	8	P		Pn 04 33 49.4	+0.2
	baz=189						
RC01	Rabbit Creek A	4.60	43			Pn 04 33 52.3	0.0
RC01	Rabbit Creek A	4.60	43	P		Pn 04 33 52.3	0.0
	baz=228						
L20K	Farewell, AK	4.75	13			Pn 04 33 55.1	+0.8
L20K	Farewell, AK	4.75	13	P		Pn 04 33 55.1	+0.8
	baz=195						
M22K	Willow	4.94	36			Pn 04 33 56.7	0.0
M22K	Willow	4.94	36	P		Pn 04 33 56.7	0.0
	baz=220						
PWL	Port Wells	5.00	50			Pn 04 33 56.9	-0.7
TT01	Tatalina	5.04	1			Pn 04 33 58.2	+0.1
TTA	Tatalina	5.07	1	Pn		Pn 04 33 58.7	+0.2
TTA				IAML		04 35 32.7	
	comp=N,8.9nm,4.8s						
TTA				IAML		04 36

KLU	Klutina	6.33	51			Pn	04 34 15.7	+0.3
KLU	Klutina baz=239	6.33	51	P		Pn	04 34 15.7	+0.3
J20K	Nowinta River	6.39	8			Pn	04 34 16.7	+0.5
J20K	Nowinta River baz=190	6.39	8	P		Pn	04 34 16.7	+0.5
GOAT	Goat Mountain	6.47	60			Pn	04 34 17.6	+0.4
M24K	Tolsona, Glenn	6.56	46			Pn	04 34 18.2	-0.3
M24K	Tolsona, Glenn baz=234	6.56	46	P		Pn	04 34 18.2	-0.3
RND	Reindeer	6.61	30			Pn	04 34 18.3	-0.7
HMT	Hamilton	6.61	63	Pn		Pn	04 34 19.6	+0.5
BMRM	Bremner River	6.66	57			Pn	04 34 19.8	0.0
BMRM	Bremner River baz=247	6.66	57	P		Pn	04 34 19.8	0.0
BPAW	Bear Paw Mtn.	6.73	20			Pn	04 34 20.5	-0.2
BPAW	Bear Paw Mtn. baz=204	6.73	20	P		Pn	04 34 20.5	-0.2
SUCK	Suckling Hills	6.78	66	Pn		Pn	04 34 22.3	+1.0
DHY	Denali Highway	6.78	36			Pn	04 34 20.1	-1.4
DHY	Denali Highway baz=224	6.78	36	P		Pn	04 34 20.1	-1.4
MCK	McKinley	6.85	28			Pn	04 34 21.7	-0.6
MCK	McKinley baz=214	6.85	28	P		Pn	04 34 21.7	-0.6
BERG	Berg Lake	6.89	63	Pn		Pn	04 34 22.6	-0.3
N25K	Chitina, Valde	6.94	53			Pn	04 34 23.9	+0.4
N25K	Chitina, Valde baz=242	6.94	53	P		Pn	04 34 23.9	+0.4
UNV	Unalaska Valle	7.08	240			Pn	04 34 24.3	-1.1
UNV	Unalaska Valle baz=51	7.08	240	P		Pn	04 34 24.3	-1.1
HARP	HAARP	7.12	46			Pn	04 34 26.2	+0.3
HARP	HAARP baz=235	7.12	46	P		Pn	04 34 26.2	+0.3
KHIT	Khitrov Hills	7.12	63			Pn	04 34 26.6	+0.5
MSW	Makushin Switc	7.16	241			Pn	04 34 26.0	-0.6
GLB	Gilahina Butte	7.21	55			Pn	04 34 27.5	+0.4
SNH	Sunshine Point	7.26	66	Pn		Pn	04 34 29.1	+1.3
VRDI	Verde Repeater	7.28	57			Pn	04 34 28.5	+0.3
WAX	Waxell Ridge	7.32	64			Pn	04 34 28.5	-0.1
PAX	Paxson	7.35	42			Pn	04 34 29.1	+0.1
PAX	Paxson baz=231	7.35	42	P		Pn	04 34 29.1	+0.1
TGL	Tana Glacier	7.41	62			Pn	04 34 30.5	+0.7
MCARA	McCarthy VSAT	7.53	57			Pn	04 34 31.9	+0.5
MCARA	McCarthy VSAT baz=248	7.53	57	P		Pn	04 34 31.9	+0.5
PS10	TAPS Pump St10	7.55	38			Pn	04 34 32.2	+0.6
NEA2	Nenana	7.55	24			Pn	04 34 30.6	-1.0
I21K	Tanana	7.59	14			Pn	04 34 32.8	+0.6
I21K	Tanana baz=197	7.59	14	P		Pn	04 34 32.8	+0.6
ISLE	Juniper Island	7.60	63			Pn	04 34 33.0	+0.6
KIAG	Kiagna River	7.68	61			Pn	04 34 33.9	+0.4
PTPK	Patty Peak	7.71	59			Pn	04 34 34.6	+0.6
BALM	Baldy	7.72	60			Pn	04 34 34.5	+0.5
CCB	Clear Creek Bu	7.89	27			Pn	04 34 34.2	-1.9
GRNC	Granite Creek	7.91	63			Pn	04 34 37.3	+0.6
H21K	Melozitna Rive	7.96	10			Pn	04 34 37.9	+0.7
H21K	Melozitna Rive baz=193	7.96	10	P		Pn	04 34 37.9	+0.7
M26K	Nabesna, AK	7.98	50			Pn	04 34 37.8	+0.3
M26K	Nabesna, AK baz=241	7.98	50	P		Pn	04 34 37.8	+0.3
I23K	Minto, Yukon-K	7.98	21			Pn	04 34 37.4	0.0
BARN	Barnard Glacie	8.05	61			Pn	04 34 38.9	+0.5
MDM	Murphy Dome	8.05	25			Pn	04 34 37.2	-1.2
RIDG	Independent Ri	8.07	39			Pn	04 34 38.1	-0.4
RIDG	Independent Ri baz=228	8.07	39	P		Pn	04 34 38.1	-0.4
COLA	College	8.07	26			Pn	04 34 37.2	-1.3
L26K	Log Cabin Wild	8.16	45			Pn	04 34 40.2	+0.3
CTGM	Chitina Glacie	8.17	62	Pn		Pn	04 34 40.0	-0.1
IMAR	Indian Mountai	8.21	7	Pn		Pn	04 34 41.6	+1.2
IL31		8.22	29			Pn	04 34 38.6	-2.0
ILAR	Eielson Array comp=E,2.6nm,0.3s,baz=216,slow=13,SNR=144	8.22	29	P		Pn	04 34 38.6	-2.0
ILAR					S	Sn	04 36 07.0	-4.9
	comp=E,1.1nm,0.3s,baz=220,slow=23,SNR=22							
ILAR	Eielson Array	8.22	29			Pn	04 34 38.4	-2.2
DOT	Dot Lake	8.27	41	Pn		Pn	04 34 40.2	-1.1
POKR	Poker Plat Res	8.37	26			Pn	04 34 41.9	-0.7
POKR	Poker Plat Res baz=214	8.37	26	P		Pn	04 34 41.8	-0.7
M27K	Edge Creek, AK	8.43	52			Pn	04 34 44.0	+0.5
M27K	Edge Creek, AK baz=244	8.43	52	P		Pn	04 34 44.0	+0.5
SCRK	Sand Creek	8.51	39	Pn		Pn	04 34 43.5	-1.0
J25K	Salcha River,	8.52	33			Pn	04 34 42.3	-2.3
J25K	Salcha River, baz=222	8.52	33	P		Pn	04 34 42.3	-2.3
H23K	Yukon River	8.56	19	Pn		Pn	04 34 44.2	-1.0
YUK2	White River	8.65	57			Pn	04 34 47.5	+1.0
L27K	Beaver Creek,	8.78	48	Pn		Pn	04 34 47.5	-0.6
BCAR	Beaver Creek A	8.79	48			Pn	04 34 48.5	+0.2
YUK3	Moose Creek	8.82	57			Pn	04 34 49.5	+0.7
YUK3	Moose Creek baz=250	8.82	57	P		Pn	04 34 49.5	+0.7
H24K	Noodor Dome	8.88	23	Pn		Pn	04 34 49.6	+0.1
J26L	Joseph Creek baz=228	8.99	37	P		Pn	04 34 49.9	-1.2
YKA	Yellowknife Ar comp=E,0.1nm,0.3s,baz=276,slow=10.0,SNR=5.7	20.89	60	P		P	04 37 17.4	+2.4
SONM	Songino Array comp=E,1.0nm,0.7s,baz=46,slow=8.5,SNR=5.0	54.68	305	P		P	04 41 59.4	+0.9
BOSA	Boshof comp=E,4.0nm,1.1s,baz=270,slow=2.0,SNR=2.4	150.73	357	PKPbc		PKPbc	04 52 20.2	+0.7

*CNRM **22** 04:45:30.3, 35˚.56N×3˚.59W, h24km, ml2.3*
*MDD **22** 04:45:30.9±0.4, 35˚.53N×3˚.70W, h0km, mb_Lg2.5/10, Error ellipse: s-maj=3.5km s-min=3.0km az=136.0*
*SFS **22** 04:45:30.0, 35˚.52N×3˚.70W, ML2.5, ALBORAN SUR*
*INMG **22** 04:45:34.1±1.2, 35˚.45N×3˚.78W, h15km±8km, ML2.0, Error ellipse: s-maj=4.6km s-min=2.9km az=85.0*

ISC 22 04:45:31.2±1.1, 35˚.49N±0˚.02×3˚.60W±0˚.02, h22km±4km, n37, σ1§49/62, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	Palemas	0.39	225	P	Pb	04 45 38.9	-0.4
PALE				S	Sb	04 45 45.5	+0.6
EMEL	Melilla	0.56	110	Pg	Pb	04 45 42.5	0.0
EMEL				Sg	Sb	04 45 49.2	-0.9
GOG	Mont Gurugu	0.57	118	P	Pb	04 45 42.4	-0.1
GOG	Mont Gurugu	0.57	118	P	Pb	04 45 41.9	-0.7
GOG				S	Sb	04 45 49.7	-0.5
EALB	Alboran	0.64	46	Pg	Pn	04 45 44.9	-0.2
EALB				Sg	Sb	04 45 53.0	+0.6
EALB				*i* Vmb_Lg		04 45 55.8	
PVLZ	Peæn de	0.65	241	P	Pb	04 45 44.1	+0.1
PVLZ				S	Sb	04 45 52.6	-0.1
AKLM	AKL	1.00	192	P	Pn	04 45 50.1	0.0
AKLM	AKL	1.00	192	P	Pn	04 45 50.1	0.0
AKLM				S	Sn	04 46 04.8	+1.2
TAF	Taforalt	1.19	124	P	Pn	04 45 52.0	-0.6
TAF	Taforalt	1.19	124	P	Pn	04 45 52.0	-0.6
TAF				S	Sn	04 46 11.0	+2.9
ELGU	Los Guajares,	1.37	359	Pg	Pn	04 45 54.4	-0.7
ELGU				Sg	Sn	04 46 10.7	-2.0
ELGU				Sn	Sb	04 46 12.5	-0.8
ELGU				*i* Vmb_Lg		04 46 18.4	
EMIJ	Mijas	1.43	319	Pg	Pn	04 45 54.4	-1.5
EMIJ				Sg	Sn	04 46 12.1	-1.9
EMIJ				*i* Vmb_Lg		04 46 19.9	
JBK	JBK	1.44	143	P	Pn	04 45 55.2	-0.9
JBK	JBK	1.44	143	P	Pn	04 45 55.0	-1.2
JBK				S	Sn	04 46 12.0	-2.5
SMIR	Smir Dam	1.46	278	P	Pn	04 45 54.3	-2.0
SMIR				S	Sn	04 46 12.6	-2.1
CHEFC	Chefchaouen	1.47	255	P	Pb	04 46 00.2	+2.3
CHEFC	Chefchaouen	1.47	255	P	Pb	04 45 57.6	-0.3
CHEFC				S	Sb	04 46 17.5	+1.3
EBER	Berja	1.52	22	Pn	Pb	04 45 58.3	-0.5
EBER				Sn	Sb	04 46 17.9	+0.3
EBER				*i* Vmb_Lg		04 46 26.0	
EGOR	Sierra Gorda,	1.67	346	Pn	Pb	04 46 01.1	-0.1
EGOR				Sn	Sn	04 46 20.3	+0.2
EGOR				*i* Vmb_Lg		04 46 37.1	
EQUE	Quentar	1.71	4	Pn	Pb	04 46 01.1	-0.9
EQUE				Sn	Sn	04 46 19.8	-1.4
TDRA	Tendrara	2.77	151	P	Pn	04 46 11.3	-3.2
TDRA				S	Sn	04 46 49.5	+2.1
EADA	Adamuz	2.78	344	Pn	Pn	04 46 16.9	+2.4
EADA				Sn	Sn	04 46 49.5	+2.1
EADA				*i* Vmb_Lg		04 46 56.7	
MD31	MD31	2.79	200	P	Pn	04 46 14.9	+0.2
MD31				S	Sn	04 46 47.6	-0.1
MDT	Midelt	2.80	198	P	Pn	04 46 14.9	+0.1
MDT				S	Sn	04 46 49.2	+1.3
EMIN	Mina Concepcio	3.35	314	Pn	Pn	04 46 21.2	-1.1
EMIN				*i* Vmb_Lg		04 46 48.0	
EMIN				Sn	Sn	04 46 59.0	-2.5
ETOB	Tobarra	3.55	27	Pn	Pn	04 46 27.4	+2.3
ETOB				*i* Vmb_Lg		04 46 42.3	
ETOB				Sn	Sn	04 47 08.1	+1.7
EGRO	El Granado	3.73	304	Pn	Pn	04 46 28.9	+1.4
EGRO				*i* Vmb_Lg		04 46 41.9	
EGRO				Sn	Sn	04 47 08.6	-2.2
PVAQ	Vaqueiros	3.83	301	*e*Sn	Sn	04 47 11.9	-1.2
PVAQ				A	A	04 47 17.5	
	2.3nm,0.9s						
PVAQ	Vaqueiros	3.83	301	P	Pn	04 46 30.3	+1.5
PVAQ				S	Sn	04 47 10.4	-2.7
PBAR	Barrancos	3.84	315	*e*Sn	Sn	04 47 13.6	+0.1
PBDV	Barranco-do-Ve	3.90	298	*e*Pn	Pn	04 46 30.9	+1.0
PBDV				*e*Sn	Sn	04 47 14.3	-0.8
PBDV				A	A	04 47 22.9	
	2.4nm,0.6s						
PFVI	Vila Bisbo	4.52	293	*e*Sn	Sn	04 47 29.2	-1.1
PFVI				A	A	04 47 53.6	
	3.4nm,0.8s						
PTEO	Sao Teotonio	4.60	298	*e*Sn	Sn	04 47 30.9	-1.4
PESTR	Estremoz	4.63	318	*e*Sn	Sn	04 47 32.5	-0.6
PNCL	Nicolau / Gran	4.74	305	*e*Sn	Sn	04 47 34.8	-0.8
PNCL				A	A	04 47 39.5	
	1.6nm,0.4s						
PMRV	Marv??o	4.95	324	*e*Pn	Pn	04 46 46.9	+2.6
PSBE	So Bento	5.76	316	*e*Pn	Pn	04 46 57.7	+2.3

*BJI **22** 04:47:43.0±0.0, 7˚.58S×129˚.98E, h163km, mb4.9/54, mB5.3/18*
*MOS **22** 04:47:47.4±1.0, 7˚.01S×129˚.60E, h158km, mb4.9/29, Error ellipse: s-maj=11.1km s-min=5.9km az=120.9*
*DJA **22** 04:47:48.8±0.2, 7˚.52×13˚.0E±˚, h168km±4km, M5.0/41, mb5.3/41, mB5.4/28, MLv5.7/12, Mw(mB)4.9/28*
*NEIC **22** 04:47:49.6±1.9, 6.99S±0.06×129.68E±0.06, h159km±5km, mb5.0/80, Error ellipse: s-maj=10.0km s-min=7.7km az=212.0*
*IDC **22** 04:47:50.4±1.0, 7˚.01S×129˚.63E, h168km±8km, mb4.5/26, mb1 4.5/28, mb1mx4.3/40, mbtmp4.9/28, Error ellipse: s-maj=12.0km s-min=7.7km az=71.0*

ISC 22 04:47:49.2±0.3, 7˚.07S±0˚.04×129˚.67E±0˚.04, h165km±2km, h166km:pP-P, n420, σ1§45/450, mb5.0/96, 15C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	1.85	119		Pn	04 48 23.8	+0.1
SAUI	Saumlaki	1.85	119	P	Pn	04 48 24.3	+0.6
BNDI	Bandanaira	2.54	5	P	Pn	04 48 33.5	+1.8
AAI	Ambon	3.67	336	P	Pn	04 48 47.3	+1.6
MSAI	Masohi	3.78	349	P	Pn	04 48 49.9	+2.8
NLAI	Namlea	4.59	326	P	Pn	04 48 59.6	+2.0
FAKI	Fak Fak	4.86	32	Pn	Pn	04 48 59.0	-2.1
FAKI	Fak Fak	4.86	32	P	Pn	04 48 59.1	-2.1
FAKI	Fak Fak	4.86	32	P	Pn	04 49 00.1	-1.1
MTN	Manton Dam baz=5.9,SNR=1000	5.91	166	P	Pn	04 49 13.8	-1.1
MTN	Manton Dam	5.91	166	Pn	Pn	04 49 13.8	-1.1
MTN	Manton Dam	5.91	166	P	Pn	04 49 14.3	-0.7
SANI	Sanana 2.2nm5µm635nm,0.9s	6.20	324	P	Pn	04 49 20.7	+2.0
SANI	Sanana	6.20	324	P	Pn	04 49 20.9	+2.2
KDU	Kakadu baz=6.2,SNR=799	6.22	154	P	Pn	04 49 17.7	-1.3
KDU	Kakadu	6.22	154	P	Pn	04 49 18.3	-0.8
SIJI	Sorong 437nm,0.3s,baz=42,slow=8.5,SNR=680	6.37	15	P	Pn	04 49 18.9	-2.1
SIJI				S	Sn	04 50 25.9	-7.2
	151nm,0.3s,baz=345,slow=21,SNR=7.9						
SWI	Sorong	6.37	14	P	Pn	04 49 18.8	-2.2
BATI	Baumata 329nm,0.3s,baz=115,slow=3.7,SNR=112	6.71	242	P	Pn	04 49 25.3	-0.2
BATI				S	Sn	04 50 35.7	-5.5
	291nm,0.3s,baz=189,slow=2.4,SNR=18						
BATI	Baumata 8.5nm12µm781nm,0.6s	6.71	242	P	Pn	04 49 25.6	+0.1
LBMI	Labuha 8.3nm23µm3µm,0.6s	6.75	341	P	Pn	04 49 27.2	+1.1
BBSI	Bau Bau 0.3nm639nm82nm,1.0s	7.23	282	P	Pn	04 49 33.2	+0.7
MMRI	Maumere	7.53	258	Pn	Pn	04 49 36.2	-0.2
MMRI	Maumere 2.0nm5µm300nm,0.5s	7.53	258	P	Pn	04 49 36.3	-0.1
MMRI	Maumere	7.53	258	P	Pn	04 49 37.0	+0.6
TNTI	Ternate	8.13	343	Pn	Pn	04 49 44.0	-0.3
TNTI	Ternate 3µm310nm,0.8s	8.13	343	P	Pn	04 49 44.5	+0.2
TNTI	Ternate	8.13	343	P	Pn	04 49 45.2	+0.9
KNRA	Kununurra baz=8.6,SNR=1000	8.60	186	P	Pn	04 49 48.3	-2.2
KNRA	Kununurra	8.60	186	Pn	Pn	04 49 48.4	-2.2
KNRA	Kununurra	8.60	186	P	Pn	04 49 48.5	-2.0
BAKI	Biak 3µm,0.7s	8.68	48	P	Pn	04 49 52.5	+0.8
LUWI	Luwuk	9.12	311	Pn	Pn	04 49 57.7	+0.2
BSSI	Bau Bau, Buton 1µm93nm,1.0s	9.17	275	P	Pn	04 49 58.8	+0.7
BASI	Baing, Sumba 5µm325nm,0.5s	9.52	250	P	Pn	04 50 00.9	-1.8
BKSI	Bulukumba 2µm154nm,0.9s	9.65	280	P	Pn	04 50 05.4	+0.9
BNSI	Bone 101nm,0.7s	9.88	285	P	Pn	04 50 08.4	+0.9
APSI	Ampana	10.07	307	P	Pn	04 50 13.1	+3.1
KAPI	Kappang 3.4nm,0.3s,baz=117,slow=5.9,SNR=22	10.07	281	P	Pn	04 50 11.3	+1.2
KAPI	Kappang	10.07	281	*i* P	Pn	04 50 07.6	-2.5
KAPI	Kappang	10.07	281	Pn	Pn	04 50 10.0	0.0
KAPI	Kappang 98nm,1.3s	10.07	281	P	Pn	04 50 12.3	+2.2
GTOI	Gorontalo 446nm39nm,0.6s	10.14	319	P	Pn	04 50 14.8	+3.9
SPSI	Sidrap Palu 1µm60nm,0.7s	10.33	287	P	Pn	04 50 15.0	+1.6
WBSI	Waikabubak, Su 6µm394nm,0.8s	10.48	255	P	Pn	04 50 15.0	-0.5
MRSI	Marisa 1µm168nm,0.9s	10.76	314	P	Pn	04 50 19.8	+0.8
FITZ	Fitzroy Crossi 34nm,0.3s,baz=20,slow=10.0,SNR=251	11.64	199	P	Pn	04 50 26.7	-3.8
FITZ	Fitzroy Crossi baz=12	11.64	199	P	Pn	04 50 26.8	-3.8
PLAI	Plampang 5µm383nm,0.6s	11.91	261	P	Pn	04 50 31.1	-2.9
TOLI2	Tolitoli	12.03	312	Pn	Pn	04 50 37.1	+1.6
TOLI2	Tolitoli	12.03	312	P	Pn	04 50 37.9	+2.3
MPSI	Mapaga 18nm,0.5s	12.22	307	P	Pn	04 50 40.0	+2.0
WB0	Warramunga Arr	13.43	160	Pn	Pn	04 50 49.8	-3.5
WRAB	Tennant Creek	13.57	161	*ce*P	Pn	04 50 51.2	-3.9
WRAB				pmax	pmax		
	comp=Z,306nm,1.3s						
WRA	Warramunga Arr comp=Z,7.7nm,0.3s,baz=342,slow=13,SNR=250	13.57	161	P	Pn	04 50 51.2	-4.1
WRA				S	Sn	04 53 13.9	-12
	comp=Z,51nm,0.3s,baz=339,slow=22,SNR=17						
WB2	Warramunga Arr baz=14	13.57	161	P	Pn	04 50 51.6	-3.7
WB2	Warramunga Arr	13.57	161	Pn	Pn	04 50 51.2	-4.1
WR0	Warramunga Arr	13.65	160	Pn	Pn	04 50 52.1	-4.1
SRBI	Singaraja comp=Z,91nm,0.8s	14.37	265	P	Pn	04 51 04.7	-0.5
COEN	Coen	14.93	118	Pn	Pn	04 51 10.1	-2.1
COEN	Coen	14.93	118	P	Pn	04 51 11.2	-1.0
BBKI	Banjar Baru comp=Z,11µmcomp=Z,1µm,0.6s	15.19	283	P	Pn	04 51 15.4	-0.1
ABJI	Asem Bagus comp=Z,93nm,0.8s	15.32	266	P	Pn	04 51 17.0	-0.1
JAGI	Jajag, Banyuwa	15.44	264		Pn	04 51 16.2	-2.4
JAGI	Jajag, Banyuwa comp=Z,3µmcomp=Z,106nm,0.7s	15.44	264	P	Pn	04 51 16.7	-1.8
JAGI	Jajag, Banyuwa	15.44	264	P	P	04 51 18.9	-0.5
MTKI	Muara Teweh, K comp=Z,254nm,0.7s	15.94	292	P	P	04 51 26.0	+1.0
BLJI	Banyuglugur comp=Z,2µmcomp=Z,183nm,0.7s	15.96	267	P	Pn	04 51 24.8	0.0
GMJI	Gumukmas comp=Z,1µmcomp=Z,64nm,0.6s	16.13	265	P	Pn	04 51 25.3	-1.6
QIS	Mount Isa baz=16,SNR=116	16.50	145	P	P	04 51 29.9	-1.2
QIS	Mount Isa	16.50	145	P	P	04 51 30.4	-0.7
MYLDM	Lahad Datu	16.51	317		Pn	04 51 31.4	0.0
MYLDM				IAmb	IAmb	04 51 45.7	
	comp=Z,33nm,0.9s						
BWJI	Bawean comp=Z,340nm,0.6s	16.95	273	P	Pn	04 51 37.5	+0.7
AS31	Alice Springs	16.99	167		P	04 51 35.7	-0.8
ASAR	Alice Springs comp=Z,38nm,0.3s,baz=344,slow=9.7,SNR=1093	16.99	167	P	P	04 51 35.5	-1.0
ASAR				S	S	04 54 39.5	-5.8
	comp=Z,18nm,0.3s,baz=356,slow=26,SNR=6.1						
ASAR	Alice Springs	16.99	167	P	P	04 51 35.9	-0.6
ASAR	Alice Springs	16.99	167	P	P	04 51 35.9	-0.6
ASPA	Alice Springs baz=17	16.99	167	P	P	04 51 35.5	-1.0
GRJI	Gresik comp=Z,3µmcomp=Z,255nm,0.6s	17.07	269	P	Pn	04 51 38.0	-0.2
PSA00	Pilbara Seismi	17.26	212	P	P	04 51 39.2	-0.2
PSA00				IAmb	IAmb	04 51 58.2	
	comp=Z,87nm,1.4s						
PSA00	Pilbara Seismi	17.26	212	P	Pn	04 51 40.0	-0.5
PMG	Port Moresby comp=Z,3.0nm,0.3s,baz=274,slow=5.8,SNR=8.4	17.46	99	P	Pn	04 51 44.2	+1.2
PMG	Port Moresby	17.46	99	*ce*P	Pn	04 51 44.7	+1.7
PMG				pmax	pmax		
	comp=Z,82nm,1.3s						
PMG	Port Moresby comp=Z,56nm,0.8s	17.46	99		Pn	04 51 43.4	+0.4
PMG				IAmb	IAmb	04 51 58.9	
	comp=Z,56nm,0.8s						
PMG	Port Moresby	17.46	99	P	Pn	04 51 42.9	-0.1
PWJI	Pagerwojo comp=Z,3µmcomp=Z,166nm,0.6s	17.74	266	P	P	04 51 44.5	-0.2
WRKA	Warakurna	17.91	184	P	P	04 51 46.6	0.0
	baz=18,SNR=166						
WRKA	Warakurna	17.91	184	P	P	04 51 47.2	+0.6
MTSU	Mount Surprise baz=18,SNR=26	18.01	129	P	Pn	04 51 48.8	-0.7
MTSU	Mount Surprise	18.01	129	P	Pn	04 51 49.1	-0.4
MANU	Manus Island	18.33	75	P	Pn	04 51 52.7	-0.5
MANU				IAmb	IAmb	04 51 55.0	
	comp=Z,31nm,0.8s						
PCJI	Pacitan comp=Z,4µmcomp=Z,271nm,0.6s	18.36	265	P	P	04 51 49.1	-2.4
PBKI	Pangkalan Bun comp=Z,11µmcomp=Z,905nm,1.0s	18.45	283	P	Pn	04 51 54.3	-0.3
KKM	Kota Kinabalu comp=Z,42nm,0.8s	18.71	314	IAmb	IAmb	04 52 16.8	
UGM	Wanagama comp=Z,103nm,2.1s	19.00	266	P	P	04 51 58.1	-0.4
UGM	Wanagama	19.00	266	P	Pn	04 52 00.2	-0.9
SMRI	Semarang SMRI	19.09	269	P	P	04 52 00.5	+1.1
SMRI				IAmb	IAmb	04 52 09.1	
	comp=Z,86nm,0.6s						
SBUM	Sibu	19.82	298	P	P	04 52 08.4	+1.0
CTA	Charters Tower comp=Z,14nm,0.7s,baz=312,slow=11,SNR=7.4	20.64	130	P	P	04 52 17.4	+1.4
CTAO	Charters Tower CTAO	20.64	130	P	P	04 52 16.6	+0.6
				pmax	pmax		
	comp=Z,14nm,0.9s						
CTAO	Charters Tower	20.64	130	P	P	04 52 16.6	+0.6
CMJI	Cimerak comp=Z,64nm,0.9s	21.06	267	P	P	04 52 19.8	-0.7
KSM	Kuching KSM	21.10	293	P	P	04 52 20.9	-0.1
KSM				IAmb	IAmb	04 52 25.5	
	comp=Z,103nm,0.8s						
KSM	Kuching	21.10	293	P	P	04 52 22.8	+1.7
OOD	Oodnadatta	21.38	165	P	P	04 52 23.8	-0.1
GIRL	Giralia baz=21,SNR=16	21.46	222	P	P	04 52 25.5	+0.7
GIRL	Giralia	21.46	222	P	P	04 52 25.7	+0.9
LEM	Lembang comp=Z,80nm,0.6s,baz=52,slow=12,SNR=13	21.89	269	P	P	04 52 30.3	+0.8
MEEK	Meekatharra baz=22,SNR=9.4	22.12	207	P	P	04 52 31.7	+0.1
MEEK	Meekatharra	22.12	207	P	P	04 52 31.6	+0.1
CNJI	Cibinong comp=Z,135nm,1.2s	22.36	268	P	P	04 52 33.8	-0.2
TGY	Tagaytay City comp=Z,167nm,0.4s,baz=166,slow=6.4,SNR=4.8	22.75	338	P	P	04 52 37.2	-0.4
MULG	Mulgathing	23.45	170	P	P	04 52 44.2	+0.4
FORT	Forrest baz=24,SNR=54	23.63	183	P	P	04 52 45.8	+0.4
FORT	Forrest	23.63	183	P	P	04 52 45.2	-0.2
FORT	Forrest	23.63	183	P	P	04 52 46.0	+0.6
QLP	Quilpie baz=24,SNR=35	23.84	146	P	P	04 52 48.0	+0.7
QLP	Quilpie	23.84	146	P	P	04 52 48.1	+0.7
LCRK	Leigh Creek	24.60	162	P	P	04 52 54.7	+0.5
MORW	Morawa baz=25,SNR=8.6	25.38	209	P	P	04 53 01.3	+0.1
MORW	Morawa	25.38	209	P	P	04 53 02.5	+1.2
MORW				IAmb	IAmb	04 53 05.2	
	comp=Z,34nm,1.2s						
MORW	Morawa	25.38	209	P	P	04 53 01.5	+0.2
BBOO	Buckleboo baz=26,SNR=42	26.29	168	P	P	04 53 09.4	0.0
BBOO	Buckleboo BBOO	26.29	168	P	P	04 53 09.7	+0.3
				IAmb	IAmb	04 53 13.6	
	comp=Z,42nm,0.8s						
BBOO	Buckleboo	26.29	168	P	P	04 53 09.5	0.0
BLDU	Ballidu

comp=Z,3.5nm,0.6s,baz=165,slow=2.7,SNR=6.1
CMAR ScP **ScP** **05 00 42.4 +0.5**
comp=Z,1.9nm,0.3s,baz=154,slow=3.0,SNR=4.3
CHTO Chiang Mai 39.74 311 P **P** **04 55 05.8 -0.2**
CHTO pmax pmax
comp=Z,88nm,0.7s
CHTO Chiang Mai 39.74 311 P **P** **04 55 05.8 -0.2**
CHTO Chiang Mai 39.74 311 ⇑P **P** **04 55 06.3 +0.2**
GYA Guiyang 40.12 327 ⇓P P 04 55 14.5 +5.4
GYA pmax pmax
comp=Z,10.0nm,0.9s
WHN Wuhan 40.19 339 ⇓*i*P **P** **04 55 10.3 +0.9**
WHN sP **sP** **04 56 06.1 +3.9**
WHN pmax pmax
comp=Z,62nm,0.7s
NJ2 Nanjing 40.25 346 *e*P **P** **04 55 12.4 +2.4**
NJ2 pmax pmax
comp=Z,13nm,0.6s
JHS Saijyo 41.97 4 P **P** **04 55 23.7 -0.3**
JHS IAmb IAmb 04 55 25.4
comp=Z,22nm,1.0s
PZH PanZhiHua 42.99 322 P **P** **04 55 31.8 -0.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
MAJO Matsushiro 44.12 10 P **P** **04 55 40.7 -0.5**
MAJO pmax pmax
comp=Z,17nm,0.9s
MAJO Matsushiro 44.12 10 P **P** **04 55 40.7 -0.5**
MAJO IAmb IAmb 04 55 41.1
comp=Z,17nm,0.8s
MAJO Matsushiro 44.12 10 P **P** **04 55 40.6 -0.6**
MJAR Matsushiro Arr 44.12 10 P **P** **04 55 40.4 -0.8**
comp=Z,2.1nm,0.4s,baz=63,slow=2.8,SNR=12
MJAR Matsushiro Arr 44.12 10 P **P** **04 55 40.5 -0.8**
MJAR pmax pmax
comp=Z,6.0nm,0.9s
MJAR Matsushiro Arr 44.12 10 P **P** **04 55 40.5 -0.8**
KSAR Wonju Array Be 44.31 358 P **P** **04 55 42.8 +0.1**
KSAR Wonju Array Be 44.31 358 P **P** **04 55 42.8 +0.1**
KSRS Korea Array 44.33 358 P **P** **04 55 43.5 +0.7**
comp=Z,3.7nm,0.5s,baz=175,slow=9.5,SNR=14
CD2 Chengdu 45.19 328 *e*P **P** **04 55 52.0 +2.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
XAN Xi'an 45.37 336 ⇓P **P** **04 55 49.8 -1.4**
XAN pP pP 04 56 24.1 -2.4
XAN sP sP 04 56 42.6 -1.9
XAN PcP **PcP** **04 57 29.0 +1.2**
XAN pmax pmax
comp=Z,40nm,0.9s
XAN Xi'an 45.37 336 P **P** **04 55 50.2 -1.0**
HNS HongShan 46.40 344 ⇑P **P** **04 55 59.1 0.0**
HNS pmax pmax
comp=Z,28nm,0.7s
BJT Baijiatuau 48.49 346 P **P** **04 56 13.6 -1.6**
BJT pmax pmax
comp=Z,10.0nm,0.5s
BJT Baijiatuau 48.49 346 P **P** **04 56 13.6 -1.6**
BJT IAmb IAmb 04 56 16.1
comp=Z,9.7nm,0.5s
BJT Baijiatuau 48.49 346 P **P** **04 56 15.6 +0.3**
BJI Beijing 48.51 346 P **P** **04 56 15.8 +0.5**
BJI pmax pmax
comp=Z,11nm,0.6s
SHL Shillong 49.01 313 P **P** **04 56 18.7 -1.0**
SHL pmax pmax
comp=Z,66nm,0.9s
SHL Shillong 49.01 313 P **P** **04 56 18.7 -1.0**
SHL IAmb IAmb 04 56 20.2
comp=Z,66nm,0.9s
LZH Lanzhou 49.32 332 ⇓P **P** **04 56 22.4 +0.6**
LZH pmax pmax
comp=Z,29nm,1.3s
HHC Hu-ho-hao-te 50.51 342 *e*P **P** **04 56 33.3 +2.6**
HHC pmax pmax
comp=Z,22nm,1.0s
USRK Ussuriysk Ar. 51.08 2 P **P** **04 56 35.2 +0.6**
comp=Z,6.8nm,0.6s,baz=178,slow=6.6,SNR=27
USRK Ussuriysk Ar. 51.08 2 P **P** **04 56 35.5 +0.8**
USRK Ussuriysk Ar. 51.08 2 P **P** **04 56 35.5 +0.8**
RPZ Rata Peaks 51.38 142 P **P** **04 56 38.5 +1.4**
comp=Z,9.4nm,0.7s,baz=9.8,slow=18,SNR=4.9
LSA Lhasa 52.03 317 P **P** **04 56 41.6 -1.0**
LSA pmax pmax
comp=Z,20nm,0.9s
LSA Lhasa 52.03 317 P **P** **04 56 41.6 -1.0**
LSA IAmb IAmb 04 56 44.1
comp=Z,20nm,0.9s
LSA Lhasa 52.03 317 P **P** **04 56 43.4 +0.8**
LSA pP **pwP** **04 57 25.1 +0.5**
ODAN Odare 53.06 311 *e*P **P** **04 56 49.8 -0.2**
comp=Z,123nm,0.5s
TAPN Taplejung 53.09 312 *e*P **P** **04 56 50.2 -0.1**
comp=Z,151nm,0.3s
RAMN Ramite 53.70 311 *e*P **P** **04 56 54.8 +0.2**
comp=Z,172nm,0.4s
GTA Gaotai 53.88 331 ⇑P **P** **04 56 56.0 +0.4**
GTA pmax pmax
comp=Z,20nm,0.8s
GTA pmax pmax
comp=Z,910nm,8.4s
GTA LR LR
comp=Z,610nm,17.5s
GTA LR LR
comp=Z,610nm,17.5s
GTA LR LR
comp=Z,1μm,18.3s
GOMU GeÉrMu 54.07 325 P **P** **04 56 57.8 +0.5**
GOMU S S 05 04 30.5 +9.3
GOMU pmax pmax
comp=Z,3.0nm,0.7s
GOMU LR LR
comp=Z,400nm,17.3s
GOMU LR LR
comp=Z,200nm,18.0s
GOMU LR LR
comp=Z,300nm,18.1s
JIRN Jiri 54.39 311 *e*P **P** **04 56 59.6 -0.2**
GUN Gumba 54.76 311 *e*P **P** **04 57 02.3 -0.1**
comp=Z,161nm,0.5s
PKI Pulchoki 54.92 311 *e*P **P** **04 57 03.2 -0.4**
comp=Z,55nm,0.5s
PKIN Phulchoki 54.94 311 *e*P **P** **04 57 03.4 -0.2**
KKN Kakani 55.14 311 *e*P **P** **04 57 04.7 -0.3**
comp=Z,55nm,0.5s
DMN Daman 55.17 311 *e*P **P** **04 57 05.1 -0.2**
GKN Gorkha 55.73 311 *e*P **P** **04 57 09.0 -0.2**
comp=Z,91nm,0.3s
HYBB Hyderabad (bro 56.06 296 *e*P **P** **04 57 10.5 -1.0**
HYBB epP **pP** **04 57 48.4 -0.3**
HYBB esP **sP** **04 58 06.0 -0.5**
KLR Kul'dur 56.10 2 P **P** **04 57 12.2 +1.1**
comp=Z,1.2nm,0.4s,baz=233,slow=3.5,SNR=6.6
KLR Kul'dur 56.10 2*ce*P **P** **04 57 11.2 +0.1**
KLR pmax pmax
comp=Z,4.0nm,1.0s
KOLN Koldanda 56.40 310 *e*P **P** **04 57 13.9 0.0**
comp=Z,68nm,0.4s
DANN Dangsing 56.57 311 *e*P **P** **04 57 15.0 -0.3**
PYUN Piuthan 57.03 310 *e*P **P** **04 57 18.4 0.0**
comp=Z,168nm,0.7s
ULN Ulaanbaatar 58.23 342 P **P** **04 57 27.2 +0.8**
ULN pmax pmax
comp=Z,24nm,0.7s
ULN Ulaanbaatar 58.23 342 P **P** **04 57 27.2 +0.8**
ULN IAmb IAmb 04 57 28.3
comp=Z,24nm,0.7s
ULN Ulaanbaatar 58.23 342 P **P** **04 57 27.6 +1.2**
ULN pP **pwP** **04 58 10.4 +1.5**
ULN pwP **sP** **04 58 23.1 +1.5**
SONM Songino Array 58.41 342 P **P** **04 57 28.5 +0.9**
comp=Z,8.8nm,0.6s,baz=157,slow=6.6,SNR=34
SONM Songino Array 58.41 342 P **P** **04 57 27.6 +0.1**
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM Songino Array 58.41 342 P **P** **04 57 27.6 +0.1**
CASY Casey 60.58 189 P **P** **04 57 44.0 +2.1**
CASY Casey 60.58 189 P **P** **04 57 42.8 +0.8**
CASY X 04 57 54.6
CASY pP **PcP** **04 58 25.0 +0.3**
CASY pwP **sP** **04 58 40.0 +1.4**
CASY sP sP 04 58 53.0 +14
ZAK Zakamensk 61.63 341 *e*P **P** **04 57 49.7 +0.3**
ZAK *e* 04 58 25.5
ZAK pmax pmax

comp=Z,9.0nm,1.2s
NDI New Delhi 61.77 308 *e*P **P** **04 57 50.0 -0.6**
WMQ Urumqi 63.28 327 *e*P **P** **04 58 01.0 +0.6**
WMQ pmax pmax
comp=Z,62nm,0.9s
WMQ Urumqi 63.28 327 P **P** **04 58 01.6 +1.2**
MOY Mondy 63.48 340 *e*P **P** **04 58 03.0 +1.4**
MOY pmax pmax
comp=Z,20nm,1.6s
PETK Petropavlovsk- 64.50 18 P **P** **04 58 09.3 +1.2**
comp=Z,7.8nm,0.8s,baz=193,slow=5.8,SNR=7.8
PETK Petropavlovsk- 64.50 18 P **P** **04 58 08.9 +0.8**
NIL Nilore 67.02 311 P **P** **04 58 24.7 0.0**
NIL pmax pmax
comp=Z,48nm,0.6s
NIL Nilore 67.02 311 P **P** **04 58 24.7 0.0**
PDGK Podgornoye 67.66 323 P **P** **04 58 28.7 0.0**
KSH Kashi 67.85 318 P **P** **04 58 31.3 +1.4**
KSH PcP **PcP** **04 58 57.4 +2.1**
KSH PcS 05 02 57.6
KSH pmax pmax
comp=Z,15nm,0.7s
KSH LR LR
comp=Z,400nm,15.9s
KSH LR LR
comp=Z,460nm,15.9s
KSH LR LR
comp=Z,400nm,16.8s
CCD Concordia, Ant 68.08 182 P **P** **04 58 32.4 +1.3**
CCD X 04 58 57.3
CCD sP sP 04 59 42.9 +15
MK31 Makanchi Array 68.11 327 P **P** **04 58 31.0 -0.2**
MK31 pmax pmax
comp=Z,59nm,0.6s
MK31 Makanchi Array 68.11 327 P **P** **04 58 31.0 -0.2**
MKAR Makanchi Array 68.11 327 P **P** **04 58 32.0 +0.7**
comp=Z,97nm,0.6s,baz=116,slow=8.2,SNR=770
MKAR S **S** **05 07 17.0 -0.7**
comp=Z,1.5nm,1.0s,baz=131,slow=15,SNR=4.4
MKAR Makanchi Array 68.11 327 *i*P **P** **04 58 32.0 +0.7**
MKAR pmax pmax
comp=Z,97nm,0.6s
MAKZ Makanchi 68.29 327 P **P** **04 58 32.7 +0.3**
MAKZ pmax pmax
comp=Z,67nm,0.6s
MAKZ Makanchi 68.29 327 P **P** **04 58 32.7 +0.3**
MAKZ Makanchi 68.29 327 P **P** **04 58 33.0 +0.6**
MAKZ X 04 58 35.6
MAKZ pP **pP** **04 59 12.6 +1.7**
KDJ Kajisay 68.42 321 IAmb IAmb 04 58 35.6
comp=Z,42nm,1.4s
MA2 Magadan 68.53 11*ce*P **P** **04 58 35.5 +1.9**
MA2 pmax pmax
comp=Z,7.0nm,0.6s
MA2 Magadan 68.53 11 P **P** **04 58 34.3 +0.7**
MA2 IAmb IAmb 04 58 35.8
comp=Z,7.6nm,0.6s
YAK Yakutsk 68.90 0 *e*P **P** **04 58 34.4 -1.3**
YAK *e* 04 58 57.2
YAK *e**PP **sP** **04 59 26.5 -5.7**
YAK *e* 05 01 09.5
YAK *e*PPP PPP 05 02 51.3
YAK *e*S **S** **05 07 23.7 -2.6**
YAK *e* 05 08 15.4
YAK *e*SS **SS** **05 11 54.6 -0.7**
YAK pmax pmax
comp=Z,17nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,159nm,3.9s
YAK pmax pmax
comp=N,48nm,3.5s
YAK pmax pmax
comp=E,40nm,3.7s
YAK smax smax
comp=N,27nm,1.7s
YAK smax smax
comp=E,33nm,1.7s
MDOK Medeo 69.06 321 P **P** **04 58 38.0 +0.6**
BOOM Boomskoye usch 69.39 320 P **P** **04 58 40.4 +0.9**
BOOM pmax pmax
comp=Z,30nm,1.1s
BOOM Boomskoye usch 69.39 320 P **P** **04 58 40.4 +0.9**
BOOM IAmb IAmb 04 58 42.0
comp=Z,30nm,1.1s
TKM2 Tokmak 2 69.83 321 P **P** **04 58 43.2 +0.9**
SNR=32
TKM2 Tokmak 2 69.83 321 *i*P **P** **04 58 42.4 +0.2**
TKM2 pmax pmax
comp=Z,25nm,0.7s
KBK Karagaybulak 70.11 320 P **P** **04 58 45.1 +1.3**
SNR=5.6
UCH Uchtor 70.17 320 P **P** **04 58 45.6 +1.0**
SNR=33
AAK Ala-Archa 70.39 320 P **P** **04 58 46.6 +1.1**
SNR=21
AAK Ala-Archa 70.39 320 P **P** **04 58 46.7 +1.2**
comp=Z,22nm,0.8s,baz=122,slow=4.6,SNR=33
AAK Ala-Archa 70.39 320*ce*P **P** **04 58 46.7 +1.2**
AAK pmax pmax
comp=Z,27nm,0.8s
AAK Ala-Archa 70.39 320 P **P** **04 58 46.1 +0.6**
AAK IAmb IAmb 04 58 47.7
comp=Z,26nm,0.8s
AAK Ala-Archa 70.39 320 P **P** **04 58 46.9 +1.3**
AAK pP **pwP** **04 59 33.7 +6.0**
CHMS Chumysh 70.41 320 P **P** **04 58 46.0 +0.5**
SNR=7.7
CHMS Chumysh 70.41 320 *i*P **P** **04 58 45.7 +0.2**
CHMS pmax pmax
comp=Z,14nm,0.7s
KBL Kabul 70.56 310 P **P** **04 58 47.4 +0.5**
KBL pmax pmax
comp=Z,11nm,0.6s
KBL Kabul 70.56 310 P **P** **04 58 47.4 +0.5**
KBL IAmb IAmb 04 58 55.5
comp=Z,11nm,0.6s
AML Almayashu 70.65 319 P **P** **04 58 48.6 +1.2**
SNR=53
DRK Karamyk 70.67 316 P **P** **04 58 47.9 +0.4**
DRK IAmb IAmb 04 58 49.3
comp=Z,20nm,0.7s
USP Ospenovka 70.70 321 P **P** **04 58 48.2 +0.9**
SNR=52
EKS2 Erkin-Say 70.86 320 P **P** **04 58 49.8 +1.4**
SNR=34
ZAA0 Zalesovo Array 71.50 334 IAmb IAmb 04 58 52.5
comp=Z,34nm,0.7s
ZALV Zalesovo Beam 71.50 334 P **P** **04 58 51.6 -0.2**
comp=Z,33nm,0.6s,baz=125,slow=5.5,SNR=132
ZALV S **S** **05 07 54.4 -2.5**
comp=Z,2.2nm,0.7s,baz=148,slow=12,SNR=8.4
ZALV Zalesovo Beam 71.50 334 P **P** **04 58 51.2 -0.5**
BTK Batken 71.60 316 IAmb IAmb 04 58 55.3
comp=Z,13nm,0.9s
SEY Seymchan 71.94 11*ce*P **P** **04 58 55.9 +1.7**
SEY pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 72.41 329 P **P** **04 58 57.7 +0.5**
KURK pmax pmax
comp=Z,75nm,1.0s
KURK Kurchatov 72.41 329 P **P** **04 58 57.7 +0.5**
VNDA Vanda 72.41 173 P **P** **04 58 57.6 +0.7**
comp=Z,1.6nm,0.5s,baz=321,slow=7.0,SNR=32
VNDA Vanda 72.41 173 P **P** **04 58 57.7 +0.8**
VNDA pmax pmax
comp=Z,2.0nm,0.6s
VNDA Vanda 72.41 173 P **P** **04 58 57.7 +0.8**
KK31 Karatay Array 73.18 319 *i*P **P** **04 59 02.1 +0.1**
KK31 Karatay Array 73.18 319 IAmb IAmb 04 59 04.0
comp=Z,43nm,1.3s
KKAR Karatay Array 73.18 319 P **P** **04 59 02.0 0.0**
KKAR pmax pmax
comp=Z,43nm,1.3s
KKAR Karatay Array 73.18 319 P **P** **04 59 02.0 0.0**
KKAR IAmb IAmb 04 59 04.0
comp=Z,43nm,1.3s
TAS Tashkent 73.20 317 P **P** **04 59 03.0 +0.8**
TAS pmax pmax
comp=Z,112nm,1.2s
TAS Tashkent 73.20 317 P **P** **04 59 03.0 +0.8**
OTUK Ortayu 74.51 324 P **P** **04 59 10.3 +0.7**

MAW Mawson 74.76 201 P **P** **04 59 11.9 +1.2**
comp=Z,12nm,0.7s,baz=74,slow=5.8,SNR=38
MAW Mawson 74.76 201 P **P** **04 59 11.3 +0.6**
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 74.76 201 P **P** **04 59 11.3 +0.6**
SOCY Socotra 77.62 284 IAmb IAmb 04 59 28.5
comp=Z,13nm,0.8s
BRVK Borovoye 78.02 328*ce*P **P** **04 59 29.8 +0.5**
BRVK pmax pmax
comp=Z,47nm,1.0s
BRVK Borovoye 78.02 328 P **P** **04 59 29.6 +0.3**
BRVK IAmb IAmb 04 59 30.6
comp=Z,36nm,0.8s
TIXI Tiksi 78.56 360*ce*P **P** **04 59 31.9 0.0**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 78.56 360 P **P** **04 59 31.6 -0.2**
BILL Bilibino 79.26 13 P **P** **04 59 37.0 +1.2**
GEYT Alibeck 80.01 310 P **P** **04 59 41.2 +0.6**
comp=Z,5.5nm,0.7s,baz=108,slow=8.0,SNR=6.3
GEYT Alibeck 80.01 310 P **P** **04 59 41.3 +0.8**
VOI Vohitsoka 80.81 249 P **P** **04 59 45.7 +0.5**
VOI IAmb IAmb 04 59 46.8
comp=Z,36nm,0.6s
VOI Vohitsoka 80.81 249 P **P** **04 59 46.1 +0.8**
NRIK Noril'sk 81.55 346 P **P** **04 59 48.6 +0.7**
comp=Z,8.6nm,1.0s,baz=142,slow=5.4,SNR=6.2
NRIK Noril'sk 81.55 346*ce*P **P** **04 59 48.6 +0.7**
NRIK pmax pmax
comp=Z,7.0nm,0.9s
AB31 Akbulak array 82.36 322 *i*P **P** **04 59 52.3 -0.3**
ABKAR Akbulak array 82.36 322 P **P** **04 59 52.3 -0.3**
QSPA South Pole Qui 82.90 180 P **P** **04 59 55.5 +0.2**
comp=Z,5.3nm,0.7s,baz=162,slow=0.5,SNR=24
QSPA South Pole Qui 82.90 180 P **P** **04 59 55.7 +0.4**
SYO Syowa Base 83.47 201⇑*e*PcP **PcP** **05 00 03.2 +1.3**
AKTO Aktyubinsk 83.93 322 P **P** **05 00 00.7 +0.1**
SVE Sverdlovsk 84.66 329 *e*P **P** **05 00 04.6 +0.4**
SVE pmax pmax
comp=Z,59nm,1.2s
TNA Tin City 85.41 22 P **P** **05 00 08.1 +0.4**
ARU Arti 85.60 328*di*P **P** **05 00 08.4 -0.4**
ARU *PP **pP** **05 00 43.6 -6.2**
ARU 05 03 25.0
ARU S **S** **05 10 18.0 -8.7**
ARU pmax pmax
comp=Z,25nm,0.7s
ARU Arti 85.60 328 P **P** **05 00 08.6 -0.2**
ARU IAmb IAmb 05 00 10.4
comp=Z,36nm,1.0s
L20K Farewell, AK 90.02 27 P **P** **05 00 31.0 +1.2**
baz=255
K20K Telida 90.17 26 P **P** **05 00 31.8 +1.3**
baz=255
J20K Nowinta River 90.35 25 P **P** **05 00 31.9 +0.6**
J20K Nowinta River 90.35 25 P **P** **05 00 31.5 +0.3**
baz=254
BELG Belogornoye 90.72 323 *i*P **P** **05 00 34.9 +1.7**
BELG pmax pmax
comp=Z,3.0nm,0.9s
KIRV Kirov 90.93 329*ce*P **P** **05 00 32.3 -1.7**
CAST Castle Rocks 91.05 26 P **P** **05 00 36.6 +2.0**
baz=256
CHUM Lake Minchumin 91.06 26 P **P** **05 00 35.3 +0.8**
baz=256
ZEI Tsey 91.66 313 *e*P **P** **05 00 37.3 -0.8**
ZEI pmax pmax
comp=Z,12nm,1.4s
KMBO Kilima Mbogo 92.26 269 P **P** **05 00 42.4 +0.8**
comp=Z,3.5nm,1.0s,baz=100,slow=4.2,SNR=5.4
KMBO Kilima Mbogo 92.26 269 P **P** **05 00 42.0 +0.4**
KMBO pmax pmax
comp=Z,8.0nm,1.4s
KMBO Kilima Mbogo 92.26 269 P **P** **05 00 42.0 +0.4**
KNK Knik Glacier 92.28 28 P **P** **05 00 41.4 +1.1**
baz=260
SML Sawmill 92.41 28 P **P** **05 00 42.0 +1.0**
baz=260
RND Reindeer 92.47 26 IAmb IAmb 05 00 41.9
comp=Z,6.4nm,0.8s
KBZ Khabaz 92.51 314 *i*P **P** **05 00 39.4 -2.3**
KBZ pmax pmax
comp=Z,9.0nm,1.3s
GURO Guroymak-BITLI 92.51 308 IAmb IAmb 05 00 44.0
comp=Z,10nm,0.8s
I23K Minto, Yukon-K 92.58 25 P **P** **05 00 42.1 +0.6**
baz=259
H23K Yukon River 92.64 24 P **P** **05 00 42.4 +0.5**
baz=259
COLD Coldfoot 92.66 23 P **P** **05 00 43.1 +1.2**
baz=258
KIV Kislovodsk 92.69 314 *e*P **P** **05 00 41.2 -1.5**
KIV pmax pmax
comp=Z,8.0nm,1.0s
WAT6 Susitna Watana 92.82 27 P **P** **05 00 43.9 +0.9**
baz=260
DHY Denali Highway 93.07 27 P **P** **05 00 45.0 +0.9**
baz=261
CCB Clear Creek Bu 93.14 25 P **P** **05 00 43.5 -0.7**
TOLK Toolik Lake Re 93.18 21 P **P** **05 00 45.7 +1.3**
baz=259
H24K Noodor Dome 93.31 24 P **P** **05 00 45.5 +0.4**
baz=260
ILAR Eielson Array 93.55 25 P **P** **05 00 45.0 -1.1**
comp=Z,1.0nm,0.8s,baz=256,slow=4.4,SNR=8.7
ILAR PKKP **PKKPdf** **05 17 51.7 -0.6**
comp=Z,0.8nm,0.6s,baz=25,slow=1.7,SNR=8.2
ILAR Eielson Array 93.55 25 P **P** **05 00 45.0 -1.1**
ILAR Eielson Array 93.55 25 P **P** **05 00 44.9 -1.2**
K24K Donnelly Dome 93.89 26 P **P** **05 00 47.9 +0.2**
baz=262
PAX Paxson 93.91 27 P **P** **05 00 49.2 +1.3**
baz=262
J25K Salcha River, 94.17 26 P **P** **05 00 47.6 -1.5**
baz=262
RIDG Independent Ri 94.29 26 P **P** **05 00 49.4 -0.2**
baz=263
BELA Belgrano 2 94.73 183 P **P** **05 00 50.8 -0.5**
BELA IAmb IAmb 05 00 52.2
comp=Z,5.6nm,0.7s
J26L Joseph Creek 94.94 26 P **P** **05 00 53.1 +0.6**
baz=264
SNAA Sanae 95.52 194*ce*P **P** **05 00 56.3 +1.2**
SNAA pmax pmax
comp=Z,26nm,2.5s
L27K Beaver Creek, 95.57 27 P **P** **05 00 55.8 +0.4**
baz=266
BCAR Beaver Creek A 95.59 27 P **P** **05 00 56.3 +0.8**
BRTR Keskin Array B 99.11 309 P **Pdif** **05 01 10.8 -1.3**
comp=Z,0.8nm,0.7s,baz=126,slow=6.3,SNR=3.8
BOSA Boshof 99.14 240 P **Pdif** **05 01 11.4 -1.0**
comp=Z,2.2nm,0.7s,baz=89,slow=5.5,SNR=4.2
ARCES ARCESS Array B 101.53 340 P **Pdif** **05 01 20.8 -1.1**
comp=Z,4.4nm,1.1s,baz=91,slow=4.7,SNR=6.3
ARCES PKiKP **PKiKP** **05 05 45.1 +0.3**
comp=Z,0.7nm,0.4s,baz=103,slow=1.3,SNR=24
FINES FINESS Array B 102.67 331 P **Pdif** **05 01 26.7 -0.4**
comp=Z,0.6nm,0.5s,baz=64,slow=4.4,SNR=3.6
FINES PKiKP **PKiKP** **05 05 47.1 0.0**
comp=Z,1.1nm,0.4s,baz=81,slow=2.2,SNR=12
YKA Yellowknife Ar 107.96 26 PKiKP **PKiKP** **05 05 56.2 -0.6**
comp=Z,1.1nm,0.6s,baz=293,slow=1.6,SNR=40
YKA SKP 05 09 15.3
comp=Z,0.3nm,0.6s,baz=289,slow=2.1,SNR=4.6
NVAR Mina Array Bea 111.60 52 PKiKP **PKiKP** **05 06 05.0 +0.3**
comp=Z,0.6nm,0.6s,baz=222,slow=2.9,SNR=4.4
NVAR SKP 05 09 26.2
comp=Z,0.8nm,1.0s,baz=318,slow=2.0,SNR=4.0
GERES GERESS Array B 112.27 320 PKiKP **PKiKP** **05 06 05.8 +0.2**
comp=Z,2.0nm,0.5s,baz=86,slow=2.5,SNR=19
WTTA Wattenberg 114.03 319 *e*P **PKiKP** **05 06 09.2 +0.2**
comp=Z,14nm,0.4s
WATA Walderalm 114.05 319 *e*P **PKiKP** **05 06 09.1 0.0**
comp=Z,4.5nm,0.5s
MOTA Moosalm 114.36 319 *e*P **PKiKP** **05 06 09.7 0.0**
comp=Z,3.4nm,0.3s
FETA Feichten 114.70 319 *e*P **PKiKP** **05 06 10.5 +0.2**
comp=Z,1.6nm,0.4s
DAVA Damuels 115.17 319 *e*P **PKPdf** **05 06 11.5 +0.3**
comp=Z,9.2nm,0.4s
EGMT Eagleton 115.44 40 **PKPdf** **05 06 11.9 +0.3**
LOHW Long Hollow 116.20 45 **PKiKP** **05 06 13.6 +0.2**
PDAR Pinedale Array 117.17 45 PKP **PKiKP** **05 06 16.1 +0.8**
comp=Z,1.5nm,0.6s,baz=218,slow=0.6,SNR=18
PDAR PKKPbc **PKKPbc** **05 16 40.1 -1.3**

comp=Z,0.4nm,0.6s,baz=104,slow=5.0,SNR=6.0
LAO LASA Array 118.15 40 P **PKiKP 05 06 18.4 +1.5**
baz=291
KEST Kesra 118.61 307 PKP **PKiKP 05 06 18.7 +0.6**
comp=Z,2.8nm,0.6s,baz=201,slow=2.1,SNR=7.0
O20A White River Ci 118.86 48 PKPdf **PKiKP 05 06 19.3 +0.6**
RSSD Black Hills 120.53 42 PKIKP **PKPdf 05 06 21.4 -0.3**
RSSD Black Hills 120.53 42 PKPdf **PKPdf 05 06 21.4 -0.3**
RSSD Black Hills 120.53 42 P **PKiKP 05 06 22.0 +0.1**
baz=292
121A Cookes Peak, D 121.10 56 P **PKiKP 05 06 24.4 +1.2**
baz=282
Y22A Socorro 121.45 54 P **PKiKP 05 06 25.4 +1.5**
baz=284
SDCO Great Sand Dun 121.59 50 P **PKiKP 05 06 25.4 +1.1**
baz=287
ANMO Albuquerque 121.61 53 P **PKiKP 05 06 25.5 +1.3**
baz=285
ULM Lac du Bonnet 122.69 33 PKP **PKPdf 05 06 25.1 -0.3**
comp=Z,5.1nm,0.5s,baz=313,slow=2.1,SNR=7.3
MNTX Cornudas Mount 123.27 57 P **PKiKP 05 06 28.2 +0.9**
baz=284
K31A O'Neill 124.66 42 P **PKiKP 05 06 30.2 +0.4**
baz=296
F33A 5 Mile Ranch, 124.73 38 **PKPdf 05 06 29.5 0.0**
F33A 5 Mile Ranch, 124.73 38 P **PKiKP 05 06 30.2 +0.4**
baz=300
TX31 Lajitas Ar. Si 125.25 59 P **PKiKP 05 06 31.8 +0.4**
baz=283
TXAR Lajitas Array 125.25 59 PKP **PKiKP 05 06 31.9 +0.4**
comp=Z,0.8nm,0.5s,baz=277,slow=1.0,SNR=11
TXAR SKPbc SKiKP 05 09 35.2 -17
comp=Z,0.4nm,0.7s,baz=221,slow=1.2,SNR=4.5
TXAR PKKPab **PKKPbc 05 16 10.9 +0.4**
comp=Z,0.4nm,0.5s,baz=110,slow=6.0,SNR=5.0
TXAR Lajitas Array 125.25 59 PKPdf **PKPdf 05 06 30.6 -0.5**
AMTX Amarillo 125.40 52 P **PKiKP 05 06 32.7 +1.2**
baz=286
ECSD EROS Data Cent 125.55 40 PKPdf **PKPdf 05 06 30.2 -0.9**
ECSD EROS Data Cent 125.55 40 P **PKPdf 05 06 31.3 +0.2**
baz=298
BGNE Belgrade 125.58 43 P **PKiKP 05 06 31.9 +0.2**
baz=295
F36A Milaca 126.38 36 P **PKiKP 05 06 33.1 0.0**
baz=303
R32A Long Quarter, 126.41 47 P **PKiKP 05 06 33.8 +0.4**
baz=293
E38A The Farm, Brul 127.11 35 P **PKiKP 05 06 34.5 +0.1**
baz=305
SPMN Marine on St. 127.15 37 P **PKiKP 05 06 35.0 +0.4**
baz=303
ESDC Sonseca Array 127.33 315 PKP **PKiKP 05 06 35.2 0.0**
comp=Z,1.2nm,1.0s,baz=326,slow=1.0,SNR=6.0
ESDC PP **PP 05 08 37.4 +1.2**
comp=Z,1.2nm,1.0s,baz=57,slow=6.3,SNR=6.5
ESDC Sonseca Array 127.33 315 PKPdf **PKPdf 05 06 34.1 -0.5**
I37B Waseca 127.43 38 P **PKiKP 05 06 35.5 +0.3**
baz=302
KSU1 Kansas State U 127.63 45 P **PKiKP 05 06 36.2 +0.5**
baz=295
WMOK Wichita Mounta 127.70 51 P **PKiKP 05 06 36.3 +0.2**
baz=290
JCT Junction City 128.21 57 P **PKiKP 05 06 37.4 +0.2**
baz=286
TORD Torodi Ar. Bea 128.50 281 PKP **PKiKP 05 06 37.9 -0.2**
comp=Z,5.2nm,0.6s,baz=86,slow=1.9,SNR=34
TORD SKPbc SKiKP 05 09 41.2 -18
comp=Z,2.4nm,0.8s,baz=69,slow=3.7,SNR=11
PLCA Paso Flores 128.92 160 PKP **PKiKP 05 06 39.5 +1.0**
comp=Z,3.6nm,0.8s,baz=259,slow=1.7,SNR=8.0
L40A Anamosa 129.82 39 P **PKPdf 05 06 38.6 -0.6**
baz=302
JFWS Jewell Farm 129.96 38 PKIKP **PKPdf 05 06 38.9 -0.6**
JFWS Jewell Farm 129.96 38 **PKPdf 05 06 38.9 -0.6**
JFWS Jewell Farm 129.96 38 P **PKPdf 05 06 38.9 -0.6**
baz=304
I42A Draeger Farm, 130.20 36 P **PKPdf 05 06 39.7 -0.2**
baz=306
SCHQ Schefferville 130.57 12 PKP **PKiKP 05 06 41.7 +0.5**
comp=Z,1.4nm,0.5s,baz=329,slow=2.3,SNR=7.0
SCHQ SKPbc **SKPbc 05 09 48.3 -0.4**
comp=Z,14nm,0.9s,baz=354,slow=4.6,SNR=18
SCHQ PKKP **PKKPdf 05 16 38.7 -3.7**
comp=Z,4.0nm,1.1s,baz=76,slow=0.7,SNR=5.7
S39A Bolivar 130.57 45 P **PKPdf 05 06 41.2 +0.4**
baz=297
R40A Maddies Statio 131.03 44 P **PKPdf 05 06 41.6 -0.1**
baz=299
G45A Suttons Bay 131.33 33 P **PKiKP 05 06 43.1 +0.1**
baz=310
G45A P **PKiKP 05 06 43.1 +0.1**
baz=310
U40A Yellville 131.50 47 P **PKPdf 05 06 42.7 +0.1**
baz=297
U40A P **PKPdf 05 06 42.7 +0.1**
baz=297
CCM Cathedral Cave 131.85 44 PKIKP **PKPdf 05 06 43.0 -0.2**
CCM Cathedral Cave 131.85 44 PKPdf **PKPdf 05 06 43.0 -0.2**
CCM Cathedral Cave 131.85 44 P **PKPdf 05 06 43.3 0.0**
baz=299
M44A Midewin, Midew 132.17 38 P **PKiKP 05 06 44.4 -0.4**
baz=305
L48A N Adams 133.99 36 PKPdf **PKPdf 05 06 47.6 +0.4**
L48A N Adams 133.99 36 P **PKiKP 05 06 47.9 -0.6**
baz=310
L48A P **PKiKP 05 06 47.9 -0.6**
baz=310
DBIC Dimbokro 134.87 272 PKP **PKiKP 05 06 51.5 +0.5**
comp=Z,5.2nm,0.4s,baz=76,slow=2.2,SNR=13
DBIC SKPbc **SKPbc 05 10 04.6 -0.1**
comp=Z,2.5nm,0.5s,baz=123,slow=2.6,SNR=4.6
GO02 Mina Guanaco 142.88 150 PKPdf **PKPdf 05 07 02.1 -2.2**
BOAB BOACO BROADBAND 144.79 78 PKPdf **PKPab 05 07 06.7 -0.2**
PB06 IPOC Station P 144.92 148 PKPbc PKPbc 05 07 07.3 0.0
CPUP Villa Florida 146.11 169 PKPbc **PKPab 05 07 11.7 +0.2**
comp=Z,28nm,0.9s,baz=194,slow=1.7,SNR=50
CPUP SKPbc **SKPbc 05 10 34.5 +0.2**
comp=Z,9.6nm,0.8s,baz=206,slow=2.0,SNR=10
CPUP Villa Florida 146.11 169 PKPbc **PKPbc 05 07 10.2 -0.4**
TA01 Diego Aracena 146.31 145 PKPbc **PKPbc 05 07 11.2 -0.1**
PB12 IPOC Station P 147.74 143 PKPbc **PKPbc 05 07 15.2 -0.3**
MCRA Macar, Loja 148.32 110 **PKPdf 05 07 14.6 +1.0**
PB16 IPOC Station P 148.45 143 **PKPbc 05 07 16.3 -1.7**
ARNL Arenillas 148.50 109 PKPbc **PKPbc 05 07 16.4 -1.2**
LPAZ La Paz 150.86 143 PKP **PKPdf 05 07 19.9 +1.6**
comp=Z,10.0nm,0.6s,baz=203,slow=1.3,SNR=30
LPAZ PKPbc **PKiKP 05 07 25.4 +0.9**
comp=Z,10nm,0.4s,baz=30,slow=2.2,SNR=105
LPAZ pPKPbc **pPKPab 05 08 10.6 -2.7**
comp=Z,6.0nm,0.5s,baz=204,slow=0.7,SNR=4.5
LPAZ La Paz 150.86 143 **PKPdf 05 07 20.2 +2.0**
BDFB Brasilia 157.31 186 PKP **PKPdf 05 07 27.4 +0.7**
comp=Z,3.2nm,0.8s,baz=326,slow=2.8,SNR=5.3

*HLW **22** 04:49:23.5, 34˚.21N×25˚.40E, h10km±19km, Md3.5*
*ISK **22** 04:49:23.6, 34˚.46N×25˚.51E, h12km, ML3.1/13*
ISC 22 04:49:22.0±1.5, 34˚30N±0˚.10×25˚48E±0˚.07, h10km, n19, σ1ş23/18, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**1.02**	**36**	PG	**Pb**	**04 49 41.1**	**-0.6**
IDI	**Anoyia**	**1.10**	**334**	PG	**Pb**	**04 49 42.5**	**-0.7**
IDI				SG	**Sn**	**04 49 56.6**	**-2.3**
IMMV	**Iera Moni Meta**	**1.69**	**314**	PN	**Pn**	**04 49 52.2**	**+0.6**
KNDR	**Palaiochora Ch**	**1.75**	**303**	PN	**Pb**	**04 49 54.7**	**+0.6**
KARP	**Karpathos**	**1.86**	**47**	PN	**Pn**	**04 49 54.1**	**+0.1**
SLUM	**Salum**	**2.81**	**185**	P	Pn	04 50 06.0	-0.9
	baz=184						
SLUM				S	Sn	04 50 36.1	-4.7
	baz=184						
ARG	**Arkhangelos**	**2.89**	**48**	PN	**Pn**	**04 50 09.3**	**+1.2**
TURN	**Turunc**	**3.35**	**42**	PN	**Pn**	**04 50 15.3**	**+1.0**
DALY	**Dalyan (Mula)**	**3.61**	**45**	PN	**Pn**	**04 50 19.2**	**+1.3**
YER	**Yerkesik**	**3.64**	**38**	PN	**Pn**	**04 50 19.4**	**+1.0**
FETY	**Fethiye**	**3.76**	**51**	PN	**Pn**	**04 50 21.0**	**+1.0**
AKAS	**Kas**	**3.89**	**59**	PN	**Pn**	**04 50 23.5**	**+1.6**
ITM	**Ithomi**	**4.08**	**316**	PN	**Pn**	**04 50 26.2**	**+1.8**
CAME	**Cameli-Denizli**	**4.08**	**49**	PN	**Pn**	**04 50 26.1**	**+1.5**
ELL	**Elmali**	**4.36**	**55**	PN	**Pn**	**04 50 29.8**	**+1.4**
SWA2		**5.04**	**180**	P	Pn	04 50 36.4	-1.2
	baz=179						
SWA2				S	Sn	04 51 30.2	-5.6
	baz=179						
RYAN	**Fayoum**	**6.61**	**141**	P	**Pn**	**04 50 58.9**	**-0.4**
	baz=139						
GLL	**Jalalah**	**7.08**	**130**	P	**Pn**	**04 51 05.7**	**-0.1**
	baz=129						
NBNS	**Bani Suef**	**7.53**	**137**	P	**Pn**	**04 51 12.1**	**+0.3**
	baz=136						

GUC 22 05:09:01.3±0.7, 30˚41S×71˚22W, h54km±1km, ML3.8, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**0.43**	**57**	*eP*	Pn	05 09 12.2	-0.1
GO04				*i* S	Sn	05 09 20.5	+0.3
GO04				IAML		05 09 20.9	
	comp=E,12μm,0.2s						
CO06	**Fray Jorge**	**0.45**	**234**	⇑*i*P	Pn	05 09 12.1	-0.2
CO06				*i* S	Sn	05 09 20.3	+0.2
CO06				IAML		05 09 24.1	
	comp=E,3μm,0.4s						
CO05	**La Serena**	**0.49**	**358**	⇓*i*P	Pn	05 09 12.4	-0.2
CO05				*i* S	Sn	05 09 20.6	-0.2
CO05				IAML		05 09 21.4	
	comp=E,7μm,0.4s						
CO03	**El Pedregal**	**0.63**	**133**	⇓*i*P	Pn	05 09 14.4	0.0
CO03				*i* S	Sn	05 09 24.2	+0.3
CO03				IAML		05 09 24.9	
	comp=E,7μm,0.1s						
CO02	**Combarbal**	**0.81**	**167**	⇑*i*P	Pn	05 09 16.7	-0.1
CO02				*i* S	Sn	05 09 28.4	+0.3
CO01	**Juntas del Tor**	**1.06**	**66**	⇓*i*P	Pn	05 09 20.9	+0.7
CO01				*i* S	Sn	05 09 35.2	+1.0
CO01				IAML		05 09 35.9	
	comp=E,1μm,0.1s						
LCO	**Las Campanas**	**1.46**	**18**	*eP*	Pn	05 09 25.3	-0.4
LCO				*i* S	Sn	05 09 43.8	-0.1
VA06	**Catapilco**	**2.15**	**182**	⇓*i*P	Pn	05 09 35.4	+0.8
VA06				*i* S	Sn	05 10 02.4	+2.3
VA06				IAML		05 10 09.5	
	comp=N,720nm,0.5s						
AC04	**Llanos de Chal**	**2.20**	**3**	*eP*	Pn	05 09 35.4	0.0
AC04				IAML		05 10 10.3	
	comp=E,350nm,0.5s						
VA03	**San Esteban**	**2.42**	**167**	*eP*	Pn	05 09 39.4	+1.0
VA03				*i* S	Sn	05 10 08.6	+1.7
VA03				IAML		05 10 16.7	
	comp=E,838nm,0.8s						
ROCH	**El Roble**	**2.56**	**176**	*eP*		05 09 41.9	
ROCH				*eP*	Pn	05 09 39.5	-1.1
ROCH				*i* S	Sn	05 10 12.3	+1.7
ROCH				*i* S		05 10 13.5	
ROCH				IAML		05 10 19.1	
	comp=N,407nm,0.7s						
ROCH				IAML		05 10 21.6	
	comp=N,418nm,0.6s						
VA01	**Torpederas**	**2.63**	**188**	IAML		05 10 22.8	
	comp=E,236nm,0.2s						
MT02	**Curacav**	**2.84**	**179**	⇓*i*P	Pn	05 09 44.9	+0.7
MT02				*i* S	Sn	05 10 17.6	+0.3
MT02				IAML		05 10 25.4	
	comp=E,187nm,0.3s						
GO03	**Copiap**	**2.93**	**17**	*eP*	Pn	05 09 46.1	+0.6
GO03				*i* S	Sn	05 10 20.9	+1.3
GO03				IAML		05 10 30.0	
	comp=N,203nm,0.2s						
MT05	**Renca**	**3.00**	**172**	*eP*	Pn	05 09 47.9	+1.5
MT05				*i* S	Sn	05 10 24.7	+3.5
MT05				IAML		05 10 39.7	
	comp=E,541nm,0.2s						
FCH	**Farellones**	**3.02**	**165**	*eP*	Pn	05 09 49.3	+2.4
FCH				IAML		05 10 36.1	
	comp=E,129nm,0.3s						
AC06	**Mina Casimiro**	**3.13**	**14**	*eP*	Pn	05 09 48.8	+0.5
AC06				*i* S	Sn	05 10 24.9	+0.5
AC06				IAML		05 10 38.4	
	comp=N,145nm,0.7s						
MT03	**Universidad Ad**	**3.13**	**169**	*eP*	Pn	05 09 49.6	+1.3
MT03				IAML		05 10 40.2	
	comp=E,370nm,0.4s						
VA05	**Santo Domingo**	**3.26**	**186**	IAML		05 10 44.8	
	comp=N,417nm,0.5s						
MT09	**Talagante**	**3.36**	**177**	⇑*eP*	Pn	05 09 52.6	+1.1
MT09				*i* P	Pn	05 09 52.6	+1.1
MT09				*i* S	Sn	05 10 31.1	+0.9
MT09				IAML		05 10 43.0	
	comp=E,278nm,0.2s						
MT01	**Popeta**	**3.44**	**180**	*eP*	Pn	05 09 52.8	+0.3
MT01				*i* S	Sn	05 10 32.2	+0.1
MT01				IAML		05 10 46.2	
	comp=E,282nm,0.7s						
LMEL	**Las Melosas**	**3.54**	**166**	*eP*	Pn	05 09 56.2	+2.3
LMEL				*i* S	Sn	05 10 35.8	+1.3
LMEL				IAML		05 10 49.2	
	comp=N,160nm,0.4s						
BO04	**La Punta**	**3.61**	**172**	⇑*i*P	Pn	05 09 55.9	+1.1
BO04				*i* S	Sn	05 10 37.5	+1.4
BO01	**Tunca**	**3.97**	**178**	*eP*	Pn	05 09 60.0	+0.3
BO01				*i* S	Sn	05 10 44.8	-0.2
AC02	**Maricunga**	**4.01**	**28**	*eP*	Pn	05 10 01.5	+0.9
AC02				*i* S	Sn	05 10 47.4	+0.9

*NNC **22** 05:27:29.6±1.4, 54˚.15N×87˚.62E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=9.1km s-min=8.3km az=54.0, Suspected Mining explosion.*
*IDC **22** 05:27:33.4±2.9, 54˚.25N×87˚.25E, h0km, mb1 3.0/2, mb1mx2.9/51, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=23.3km s-min=16.2km az=60.0*
ISC 22 05:27:33.2±4.3, 54˚3N±0˚.2×87˚2E±0˚.2, h0km, n7, σ1ş59/11, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**258**	*i*		05 36 20.0	
	baz=80,slow=329,SNR=7.9						
ZAA0	**Zalesovo Array**	**1.42**	**258**	⇓P	**Pg**	**05 27 59.5**	**-0.8**
	0.3nm,0.3s,baz=86,slow=11						
ZAA0				⇑S	**Sn**	**05 28 22.2**	**+2.7**
	2.5nm,0.8s,baz=81,slow=25						
ZALV	**Zalesovo Beam**	**1.42**	**258**	Pg	**Pb**	**05 27 59.9**	**-0.6**
	1.0nm,0.3s,baz=77,slow=21,SNR=14						
ZALV				Lg	Lg	05 28 20.3	
	1.0nm,0.3s,baz=73,slow=25,SNR=5.3						
KURK	**Kurchatov**	**6.31**	**239**	⇑Pn	**Pn**	**05 29 07.1**	**-0.3**
	0.3nm,0.5s						
KURK				⇑Sn	**Sn**	**05 30 22.0**	**+1.8**
	0.9nm,0.8s						
KURK				⇓Lg	Lg	05 30 56.2	
	2.2nm,0.8s						
KURBB	**Kurchatov Arra**	**6.41**	**239**	Pn	**Pn**	**05 29 10.0**	**+1.2**
	0.1nm,0.3s,baz=56,slow=14,SNR=5.3						
KURBB				Sn	**Sn**	**05 30 22.9**	**+0.2**
	0.0nm,0.3s,baz=48,slow=49,SNR=1.2						
KURBB				Lg	Lg	05 30 58.5	
	0.0nm,0.3s,baz=57,slow=31,SNR=4.1						
KURBB	**Kurchatov Arra**	**6.41**	**239**	⇑Pn	**Pn**	**05 29 07.3**	**-1.5**
	3.0nm,1.2s						
KURBB				⇓Sn	**Sn**	**05 30 22.0**	**-0.7**
	1.4nm,0.8s						
KURBB				⇓Lg	Lg	05 30 56.0	
	3.5nm,0.8s						
MKAR	**Makanchi Array**	**8.10**	**204**	Pn	**Pn**	**05 29 33.6**	**+1.6**
	0.2nm,0.3s,baz=24,slow=13,SNR=6.8						
MKAR				Sn	**Sn**	**05 31 03.0**	**-1.1**
	0.1nm,0.3s,baz=24,slow=24,SNR=7.4						
MKAR				Lg	Lg	05 31 53.3	
	0.1nm,0.3s,baz=27,slow=32,SNR=5.0						

*IDC **22** 05:28:19.8±0.6, 40˚.51N×144˚.85E, h0km, mb4.3/28, mb1 4.4/38, mb1mx4.3/61, mbtmp4.3/38, ML3.4/6, MS3.7/2, Ms1 3.7/2, ms1mx3.0/100, Error ellipse: s-maj=14.2km s-min=12.0km az=126.0*
*JMA **22** 05:28:21.7±0.3, 40˚.51N×144˚.85E, h47km, M4.5*
*NIED **22** 05:28:21.7, 40˚.51N×144˚.85E, h47km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.79; $M_{\theta\theta}$0.73; $M_{\phi\phi}$1.06; $M_{r\theta}$-0.30; $M_{\theta\phi}$0.73; $M_{r\phi}$-0.90; Fault plane solution: $M_0$1.96000×10^{15} NP1: ϕ_s226.00000°, δ32.00000°, λ-76.00000°. NP2:ϕ_s30.00000°, δ59.00000°, λ-99.00000°.*
*MOS **22** 05:28:22.9±1.0, 40˚.66N×144˚.75E, h27km, mb4.7/24 Error ellipse: s-maj=8.5km s-min=4.9km az=94.8*

*NEIC **22** 05:28:25.1±1.0, 40˚.55N±0˚.06×144˚.7E±0˚.1, h29km±5km, mb4.5/35, Error ellipse: s-maj=14.4km s-min=9.3km az=95.0*
ISC 22 05:28:24.1±0.7, 40˚59N±0˚.04×144˚81E±0˚.04, h26km±4km, h27km:pP-P, n315, σ1ş31/335, mb4.4/65, MS4.1/4, 14C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**1.89**	**319**	*i* P	**Pn**	**05 28 53.9**	**-0.8**
ERM	**Erimo**	**1.89**	**319**	Pn	**Pn**	**05 28 53.8**	**-0.8**
JEM	**Erimo**	**1.89**	**319**	P	**Pn**	**05 28 53.5**	**-1.2**
JEM				S	**Sn**	**05 29 17.0**	**-0.7**
JTHR	**Tokachihiroo**	**2.04**	**327**	P	**Pn**	**05 28 55.9**	**-0.9**
JTHR				S	**Sn**	**05 29 19.7**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.29**	**318**	P	**Pn**	**05 29 00.1**	**-0.1**
JNBK				S	**Sn**	**05 29 28.5**	**+1.0**
JCH	**Churui**	**2.30**	**332**	P	**Pn**	**05 28 59.2**	**-1.0**
JCH				S	**Sn**	**05 29 25.8**	**-1.8**
JTH	**Tanohata**	**2.34**	**255**	P	**Pn**	**05 28 58.8**	**-2.1**
JTH				S	**Sn**	**05 29 25.2**	**-3.7**
JAK	**Akkeshi**	**2.41**	**358**	P	**Pn**	**05 29 00.1**	**-1.7**
JAK				*e*S	**Sn**	**05 29 28.1**	**-2.3**
JANG	**Nango**	**2.52**	**266**	P	**Pn**	**05 29 01.5**	**-1.9**
JANG				*e*S	**Sn**	**05 29 29.8**	**-3.4**
JAR	**Ashorobuto**	**2.81**	**344**	P	**Pn**	**05 29 05.9**	**-1.5**
JAR				S	**Sn**	**05 29 38.5**	**-1.9**
NEM2	**Nemuro 2**	**2.86**	**14**	P	**Pn**	**05 29 05.3**	**-2.7**
NEM2				*e*S	**Sn**	**05 29 37.5**	**-4.0**
NMR	**Nemuro--Hokkai**	**2.86**	**14**	*eP*	**Pn**	**05 29 05.6**	**-2.4**
NMR				*e*S	**Sn**	**05 29 38.5**	**-3.1**
JOM	**Ohasama**	**2.92**	**249**	P	**Pn**	**05 29 07.4**	**-1.4**
JOM				S	**Sn**	**05 29 40.3**	**-2.8**
JOT	**Ohata**	**2.96**	**287**	P	**Pn**	**05 29 08.6**	**-0.7**
JOT				*e*S	**Sn**	**05 29 41.4**	**-2.5**
GLVR	**Golovnino**	**3.19**	**9**	P	**Pn**	**05 29 11.4**	**-1.1**
GLVR				*e*S	**Sn**	**05 29 48.6**	**-1.1**
GLVR				smax	smax		
	comp=N,711nm,0.3s						
GLVR				smax	smax		
	comp=E,604nm,0.3s						
JMK	**Ichinoseki**	**3.21**	**241**	P	**Pn**	**05 29 11.2**	**-1.6**
JMK				*e*S	**Sn**	**05 29 46.8**	**-3.5**
JRA	**Rausu**	**3.35**	**4**	P	**Pn**	**05 29 13.3**	**-1.5**
JRA				*e*S	**Sn**	**05 29 51.6**	**-2.1**
JEW	**Eniwo**	**3.37**	**313**	P	**Pn**	**05 29 15.4**	**+0.3**
JEW				*e*S	**Sn**	**05 29 55.2**	**+1.0**
JEW	**Eniwo**	**3.37**	**313**	Pn	**Pn**	**05 29 13.8**	**-1.2**
JTKR	**Abashiri--Toko**	**3.44**	**349**	P	**Pn**	**05 29 15.2**	**-0.8**
JTKR				*e*S	**Sn**	**05 29 54.7**	**-1.2**
RUSJ	**Misakicho**	**3.53**	**5**	*eP*	**Pn**	**05 29 16.2**	**-1.0**
RUSJ				*e*S	**Sn**	**05 29 57.4**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**3.53**	**12**	*eP*	**Pn**	**05 29 15.9**	**-1.3**
YUK				*e*S	**Sn**	**05 29 55.8**	**-2.3**
YUK				pmax	pmax		
	comp=Z,264nm,0.2s						
YUK				smax	smax		
	comp=N,739nm,0.3s						
YUK				smax	smax		
	comp=E,775nm,0.5s						
SHO	**Shikotan**	**3.61**	**24**	*eP*	**Pn**	**05 29 15.9**	**-2.3**
SHO				*e*S	**Sn**	**05 29 56.7**	**-3.2**
SHO				pmax	pmax		
	comp=Z,47nm,0.2s						
SHO				pmax	pmax		
	comp=E,65nm,0.7s						
SHO				pmax	pmax		
	comp=N,52nm,0.5s						
SHO				smax	smax		
	comp=N,241nm,0.4s						
SHO				smax	smax		
	comp=E,207nm,0.3s						
JKK2	**Kamakawa 2**	**3.62**	**336**	P	**Pn**	**05 29 17.6**	**-0.9**
JKK2				*e*S	**Sn**	**05 30 02.4**	**+2.1**
JYK	**Kaneyama**	**3.81**	**245**	P	**Pn**	**05 29 20.2**	**-0.9**
JKA	**Kamikawa-asahi**	**3.89**	**336**	Pn	**Pn**	**05 29 21.1**	**-1.0**
ASAJ	**Asahikawa**	**3.89**	**336**	Pn	**Pn**	**05 29 21.5**	**-0.6**
	comp=E,3.9nm,0.3s,baz=207,slow=21,SNR=10						
ASAJ				Sn	**Sn**	**05 30 06.2**	**-0.7**
	comp=E,7.3nm,0.3s,baz=346,slow=24,SNR=3.5						
ASAJ				LR	LR	05 31 21.1	
	comp=E,622nm,18.8s,baz=108,slow=46						
JHR	**Hokuryu**	**3.90**	**325**	P	**Pn**	**05 29 23.2**	**+1.0**
JHR				*e*S	**Sn**	**05 30 09.9**	**+2.8**
JMM	**Marumori**	**4.14**	**230**		**Pn**	**05 29 22.9**	**-2.7**
KUR	**Kuril'sk**	**5.16**	**25**	*eP*	**Pn**	**05 29 38.4**	**-1.1**
KUR				*i* S	**Sn**	**05 30 34.6**	**-3.5**
KUR				pmax	pmax		
	comp=N,92nm,0.4s						
KUR				pmax	pmax		
	comp=E,57nm,0.4s						
KUR				pmax	pmax		
	comp=Z,165nm,0.4s						
KUR				smax	smax		
	comp=N,317nm,0.5s						
KUR				smax	smax		
	comp=E,253nm,0.7s						
JSD	**Sado**	**5.68**	**245**	Pn	**Pn**	**05 29 45.2**	**-1.5**
YSS	**Yuzh-Sakhalins**	**6.53**	**348**	*eP*	**Pn**	**05 29 58.5**	**+0.1**
YSS				MLR	MLR		
	comp=Z,800nm,13.0s						
MAJO	**Matsushiro**	**6.56**	**234**	P	**Pn**	**05 29 58.2**	**-0.7**
MAJO	**Matsushiro**	**6.56**	**234**	Pn	**Pn**	**05 29 58.2**	**-0.7**
MJAR	**Matsushiro Arr**	**6.56**	**234**	Pn	**Pn**	**05 29 57.8**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=55,slow=16,SNR=10						
MJAR	**Matsushiro Arr**	**6.56**	**234**	P	**Pn**	**05 29 58.2**	**-0.7**
MJAR	**Matsushiro Arr**	**6.56**	**234**		**Pn**	**05 29 58.2**	**-0.7**
MJB9	**Matsu-Tunnel**	**6.56**	**234**	Pn	**Pn**	**05 29 58.3**	**-0.6**
JGF	**Kuroka**	**7.70**	**232**	Pn	**Pn**	**05 30 14.3**	**-0.3**
JHJ	**Hachijo jima 2**	**8.47**	**210**	Pn	Pn	05 30 21.1	-4.0
	comp=Z,14nm,0.3s,baz=73,slow=15,SNR=1.6						
JHJ				Sn	Sn	05 31 49.1	-11
	comp=Z,17nm,0.3s,baz=62,slow=22,SNR=1.7						
USA0B	**Ussuriysk Arra**	**10.14**	**295**	P	**Pn**	**05 30 48.7**	**+0.7**
USA0B	**Ussuriysk Arra**	**10.14**	**295**	Pn	**Pn**	**05 30 48.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**10.14**	**295**	Pn	**Pn**	**05 30 48.1**	**+0.2**
	baz=107,slow=13,SNR=33						
USRK	**Ussuriysk Ar.**	**10.14**	**295**	P	**Pn**	**05 30 49.4**	**+1.4**
USRK	**Ussuriysk Ar.**	**10.14**	**295**	Pn	**Pn**	**05 30 49.4**	**+1.4**
JHS	**Saijyo**	**10.80**	**243**	Pn	**Pn**	**05 30 57.4**	**+0.4**
KLR	**Kul'dur**	**12.65**	**317**	Pn	**Pn**	**05 31 21.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=117,slow=9.7,SNR=4.4						
KLR	**Kul'dur**	**12.65**	**317**	*ePP*	**Pn**	**05 31 21.1**	**-1.0**
KLR				pmax	pmax		
	comp=Z,11nm,1.7s						
JNU	**Nakatsue**	**13.40**	**241**	Pn	**Pn**	**05 31 30.4**	**-2.3**
	baz=205,slow=12,SNR=1.9						
KSRS	**Korea Array**	**13.50**	**262**	Pn	**Pn**	**05 31 35.2**	**+1.4**
	baz=67,slow=13,SNR=4.7						
JCJ	**Chichijima**	**13.63**	**190**	Pn	Pn	05 31 32.1	-3.7
	comp=Z,3.3nm,0.3s,baz=276,slow=24,SNR=1.9						
PETK	**Petropavlovsk-**	**15.28**	**31**	Pn	**Pn**	**05 31 56.1**	**-

YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,34nm,1.6s
YAK pmax pmax
comp=N,26nm,1.9s
YAK pmax pmax
comp=E,14nm,1.6s
YAK smax smax
comp=N,17nm,1.8s
YAK smax smax
comp=E,31nm,1.9s
YAK MLR MLR
comp=Z,245nm,15.0s
YAK MLR MLR
comp=N,142nm,14.0s
YAK MLR MLR
comp=E,174nm,17.0s
HHC Hu-ho-hao-te 25.12 282 *e*P **P 05 33 47.1 +0.2**
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,220nm,6.3s
BOD Bodaibo 26.16 322 *e*P **P 05 33 55.5 -0.5**
BOD pmax pmax
comp=Z,10.0nm,1.2s
ULN Ulaanbaatar 27.80 298*ce*P **P 05 34 12.3 +1.2**
ULN pmax pmax
comp=Z,4.0nm,0.7s
H11N2 WAKE ISLAND Hy 28.09 131 T T 06 03 46.7
baz=323,slow=75,SNR=4.0
H11N1 WAKE ISLAND Hy 28.10 131 T T 06 03 35.7
baz=323,slow=75,SNR=5.1
H11N3 WAKE ISLAND Hy 28.11 131 T T 06 03 43.1
baz=323,slow=75,SNR=4.6
SONM Songino Array 28.24 298 P **P 05 34 15.4 +0.5**
comp=Z,3.1nm,0.8s,baz=90,slow=7.2,SNR=9.1
SONM Songino Array 28.24 298 P **P 05 34 15.5 +0.5**
SONM pmax pmax
comp=Z,12nm,1.8s
SONM Songino Array 28.24 298 IAmb IAmb 05 34 19.6
comp=Z,12nm,1.8s
H11S1 WAKE ISLAND Hy 28.95 133 T T 06 04 42.1
baz=324,slow=76,SNR=6.6
H11S3 WAKE ISLAND Hy 28.95 133 T T 06 04 44.2
baz=324,slow=76,SNR=4.8
H11S2 WAKE ISLAND Hy 28.97 133 T T 06 04 44.7
baz=324,slow=76,SNR=5.3
XAN Xi'an 29.14 269 ⇑P **P 05 34 23.9 +0.9**
XAN pP sP 05 34 33.4 +2.4
XAN pmax pmax
comp=Z,6.0nm,0.8s
BILL Bilibino 29.88 16*d i*P **P 05 34 29.7 +0.6**
BILL *i* *PP **pP 05 34 34.4 -0.6**
BILL *SP **pwP 05 34 42.0 -1.1**
BILL PPP PPP 05 35 36.0
BILL 05 37 28.0
BILL SS SS 05 40 54.0 -38
BILL pmax pmax
comp=Z,4.0nm,0.6s
BILL Bilibino 29.88 16 P **P 05 34 29.8 +0.8**
BILL IAmb IAmb 05 34 31.7
comp=Z,13nm,1.4s
ZAK Zakamensk 30.36 303*e*P **P 05 34 33.3 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TIXI Tiksi 32.15 351 P **P 05 34 47.6 -1.4**
comp=Z,0.5nm,0.3s,baz=270,slow=22,SNR=1.7
TIXI Tiksi 32.15 351*ce*P **P 05 34 48.1 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,2.5s
LZH Lanzhou 32.23 275*e*P P 05 34 46.4 -4.0
LZH pP pP 05 34 49.8 -6.1
LZH pmax pmax
comp=Z,16nm,1.3s
GTA Gaotai 34.20 283*e*P **P 05 35 08.5 +1.0**
GTA pP sP 05 35 16.3 +0.7
GTA sP pwP 05 35 19.3 -3.5
GTA pmax pmax
comp=Z,8.0nm,1.0s
GAMB Gambell 34.30 33 P **P 05 35 09.5 +1.6**
baz=248
ANM Nome 37.18 33 P **P 05 35 34.2 +1.6**
ANM pmax pmax
comp=Z,7.0nm,0.9s
ANM Nome 37.18 33 P **P 05 35 34.2 +1.6**
ANM IAmb IAmb 05 35 35.5
comp=Z,6.6nm,0.9s
ANM Nome 37.18 33 P **P 05 35 34.8 +2.2**
baz=254
PZH PanZhiHua 38.17 262 P **P 05 35 42.3 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.8s
GOMU GeErMu 39.01 280 P **P 05 35 49.4 +0.6**
GOMU pP pP 05 35 52.6 -1.7
GOMU sP sP 05 35 57.0 +0.1
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU pmax pmax
comp=Z,52nm,6.3s
N18K Kilae Creek 40.93 40 P **P 05 36 05.8 +1.8**
baz=268
TTA Tatalina 40.99 37 P **P 05 36 06.3 +1.7**
baz=266
NRIK Noril'sk 41.23 333 P **P 05 36 06.8 +0.4**
comp=Z,1.2nm,0.3s,baz=122,slow=10,SNR=1.8
NRIK Noril'sk 41.23 333*ce*P **P 05 36 06.7 +0.4**
NRIK pmax pmax
comp=Z,6.0nm,1.5s
O18K Koktuh Hills 41.26 42 P **P 05 36 07.9 +1.2**
baz=270
L19K White Mountain 41.48 38 P **P 05 36 09.9 +1.3**
baz=268
ZAA0 Zalesovo Array 41.59 310 P **P 05 36 09.5 +0.1**
ZAA0 IAmb IAmb 05 36 21.9
comp=Z,4.8nm,0.6s
ZALV Zalesovo Beam 41.59 310 P **P 05 36 10.1 +0.6**
comp=Z,2.3nm,0.7s,baz=82,slow=7.8,SNR=11
ZALV Zalesovo Beam 41.59 310 P **P 05 36 09.3 -0.2**
N19K Bonanza Creek 41.62 40 P **P 05 36 10.9 +1.1**
baz=269
WMQ Urumqi 41.71 294*e*P **P 05 36 12.1 +1.4**
WMQ LR LR
comp=N,150nm,16.3s
WMQ LR LR
comp=E,370nm,16.3s
WMQ LR LR
comp=Z,160nm,18.5s
K20K Telida 41.90 36 P **P 05 36 13.2 +1.3**
baz=267
J20K Nowinta River 41.92 35 P **P 05 36 13.2 +1.1**
J20K Nowinta River 41.92 35 P **P 05 36 12.9 +0.9**
baz=266
L20K Farewell, AK 41.95 38 P **P 05 36 13.5 +1.2**
baz=268
IMAR Indian Mountai 42.24 32 P **P 05 36 15.8 +1.1**
OHAK Old Harbor 42.36 45 P **P 05 36 16.8 +1.1**
baz=274
O20K Slope Mountain 42.55 41 P **P 05 36 17.8 +0.4**
baz=272
H21K Melozitna Rive 42.60 33 P **P 05 36 18.2 +0.6**
H21K Melozitna Rive 42.60 33 P **P 05 36 18.9 +1.4**
baz=266,SNR=7.8
KDAK Kodiak Island 42.70 45 P **P 05 36 18.8 +0.4**
baz=274
CHUM Lake Minchumin 42.71 36 P **P 05 36 19.2 +0.8**
baz=268,SNR=5.3
SPCR Spurr Chakacha 42.73 39 P **P 05 36 19.9 +1.1**
baz=271
PPLA Purkeypile 42.74 37 P **P 05 36 19.8 +0.9**
baz=269
CAST Castle Rocks 42.80 36 P **P 05 36 20.6 +1.3**
CAST Castle Rocks 42.80 36 P **P 05 36 20.9 +1.7**
baz=269,SNR=5.7
I21K Tanana 42.91 34 P **P 05 36 21.5 +1.4**
baz=267
BPAW Bear Paw Mtn. 43.30 35 P **P 05 36 24.0 +0.7**
baz=269
KTH Kantishna Hill 43.32 36 P **P 05 36 24.5 +1.0**
KTH IAmb IAmb 05 36 26.0
comp=Z,7.5nm,0.9s
BRSE Bradley Lake S 43.52 42 P **P 05 36 26.2 +1.1**
baz=274
TRF Thorofare Moun 43.60 36 P **P 05 36 26.6 +0.7**
baz=270
CUT Chulitna 43.63 38 P **P 05 36 25.2 -0.7**
baz=271
M22K Willow 43.72 39 P **P 05 36 26.7 +0.1**
baz=272
COLD Coldfoot 43.75 31 P **P 05 36 27.5 +0.6**
baz=266
RC01 Rabbit Creek A 43.93 40 P **P 05 36 28.9 +0.6**
baz=273
H23K Yukon River 43.95 33 P **P 05 36 30.2 +1.7**
baz=268,SNR=8.0
I23K Minto, Yukon-K 44.02 34 P **P 05 36 30.0 +1.1**
baz=269
TOLK Toolik Lake Re 44.09 29 P **P 05 36 31.2 +1.5**
TOLK IAmb IAmb 05 36 32.2
comp=Z,6.7nm,0.9s
TOLK Toolik Lake Re 44.09 29 P **P 05 36 31.1 +1.5**
baz=266,SNR=7.8
NEA2 Nenana 44.14 35 P **P 05 36 30.8 +0.8**
baz=270
PMR Palmer 44.20 39 P **P 05 36 30.8 +0.4**
baz=273
MCK McKinley 44.20 36 P **P 05 36 31.2 +0.6**
baz=271
WAT1 Susitna Watana 44.41 37 P **P 05 36 32.5 +0.3**
baz=272
MDM Murphy Dome 44.49 34 P **P 05 36 33.7 +0.8**
MDM IAmb IAmb 05 36 35.3
comp=Z,8.0nm,1.1s
KNK Knik Glacier 44.53 39 P **P 05 36 33.4 +0.2**
baz=274
SML Sawmill 44.56 38 P **P 05 36 33.8 +0.3**
baz=274
MK31 Makanchi Array 44.57 300 P **P 05 36 33.3 -0.4**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 44.57 300 P **P 05 36 33.3 -0.4**
MKAR Makanchi Array 44.57 300 P **P 05 36 34.0 +0.2**
comp=Z,2.3nm,0.6s,baz=84,slow=9.7,SNR=20
MKAR Makanchi Array 44.57 300 *i* P **P 05 36 34.0 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 44.57 300 P **P 05 36 33.3 -0.4**
PWL Port Wells 44.63 40 P **P 05 36 34.1 +0.1**
baz=275
H24K Noodor Dome 44.64 33 P **P 05 36 35.6 +1.5**
H24K IAmb IAmb 05 36 36.4
comp=Z,3.6nm,0.8s
H24K Noodor Dome 44.64 33 P **P 05 36 35.7 +1.7**
baz=270,SNR=5.8
WAT6 Susitna Watana 44.79 37 P **P 05 36 35.5 0.0**
baz=273
POKR Poker Plat Res 44.83 34 P **P 05 36 36.6 +1.1**
baz=271
M23K Glacier View 44.85 38 P **P 05 36 36.1 +0.4**
baz=274
DHY Denali Highway 44.93 37 P **P 05 36 36.9 +0.4**
baz=273
CMAR Chiang Mai Arr 44.98 255 P **P 05 36 38.2 +0.9**
comp=Z,1.1nm,0.3s,baz=42,slow=6.9,SNR=4.0
SCM Sheep Creek Mo 45.04 38 P **P 05 36 38.3 +1.0**
SCM pmax pmax
comp=Z,17nm,1.4s
SCM Sheep Creek Mo 45.04 38 P **P 05 36 38.3 +1.0**
SCM IAmb IAmb 05 36 57.7
comp=Z,17nm,1.4s
SCM Sheep Creek Mo 45.04 38 P **P 05 36 37.8 +0.5**
baz=274
IL31 45.07 34 P **P 05 36 38.3 +0.9**
IL31 IAmb IAmb 05 36 60.0
comp=Z,17nm,1.6s
ILAR Eielson Array 45.07 34 P **P 05 36 38.1 +0.7**
comp=Z,3.0nm,0.7s,baz=262,slow=6.7,SNR=34
M24K Tolsona, Glenn 45.56 38 P **P 05 36 42.4 +1.0**
baz=275
K24K Donnelly Dome 45.60 36 P **P 05 36 42.2 +0.5**
baz=274
J25K Salcha River, 45.73 34 P **P 05 36 43.2 +0.4**
baz=274
KLU Klutina 45.73 39 P **P 05 36 43.6 +0.8**
baz=276
Q23K Middleton Isla 45.77 42 P **P 05 36 44.4 +1.4**
baz=278
PAX Paxson 45.80 37 P **P 05 36 44.0 +0.6**
baz=275
KURK Kurchatov 45.91 306 P **P 05 36 44.3 0.0**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 45.91 306 P **P 05 36 44.3 0.0**
KURK IAmb IAmb 05 37 00.4
comp=Z,6.6nm,0.8s
EYAK Cordova Ski Ar 45.92 40 P **P 05 36 45.1 +0.9**
baz=277
BMAR Burnt Mountain 45.94 30 P **P 05 36 45.6 +1.3**
N25K Chitina, Valde 46.35 39 P **P 05 36 48.0 +0.3**
baz=277
SCRK Sand Creek 46.38 35 P **P 05 36 48.4 +0.4**
baz=275
BMRM Bremner River 46.43 39 P **P 05 36 49.2 +0.9**
baz=278
J26L Joseph Creek 46.52 34 P **P 05 36 49.2 +0.3**
baz=275
KAIM Kayak Island 46.67 41 P **P 05 36 51.1 +1.1**
baz=279
L26K Log Cabin Wild 46.76 36 P **P 05 36 52.2 +1.4**
baz=277
M26K Nabesna, AK 47.00 37 P **P 05 36 54.0 +1.3**
baz=278,SNR=6.8
MCARA McCarthy VSAT 47.13 39 P **P 05 36 54.6 +0.9**
baz=278
L27K Beaver Creek, 47.45 36 P **P 05 36 57.6 +1.5**
baz=278,SNR=6.1
BCAR Beaver Creek A 47.47 36 P **P 05 36 57.6 +1.3**
EGAK Eagle 47.52 34 P **P 05 36 57.9 +1.3**
baz=277
M27K Edge Creek, AK 47.52 37 P **P 05 36 58.0 +1.1**
baz=279
ISLE Juniper Island 47.58 40 P **P 05 36 58.6 +1.2**
ISLE IAmb IAmb 05 37 46.7
comp=Z,9.0nm,1.0s
BVCY Beaver Creek 47.98 37 P **P 05 37 01.4 +1.1**
baz=279
CTG Chitna Glacier 48.00 39 P **P 05 37 01.0 +0.4**
baz=280
YUK3 Moose Creek 48.28 38 P **P 05 37 03.5 +0.6**
baz=280
I29M Ogilvie Camp, 48.63 33 P **P 05 37 06.4 +1.1**
baz=279,SNR=8.9
YUK4 Talbot Arm 49.21 38 P **P 05 37 11.4 +1.4**
baz=282
YUK6 Outpost Mounta 49.43 39 P **P 05 37 12.9 +1.1**
baz=283
M30M Minto, Yukon 49.81 36 P **P 05 37 15.9 +1.6**
baz=282
HYT Haines Junctio 49.87 39 P **P 05 37 16.6 +1.6**
HYT Haines Junctio 49.87 39 P **P 05 37 16.9 +1.9**
baz=283,SNR=9.2
INK Inuvik 50.01 29 P **P 05 37 16.6 +1.0**
comp=Z,3.0nm,0.5s,baz=295,slow=6.7,SNR=31
INK Inuvik 50.01 29 P **P 05 37 16.8 +1.1**
baz=280
BVAR Borovoye Array 50.20 311 P **P 05 37 17.7 +0.3**
comp=Z,2.5nm,0.8s
BRVK Borovoye 50.26 311*ce*P **P 05 37 18.1 +0.3**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
N31M Braeburn, Yuko 50.52 38 P **P 05 37 21.3 +1.6**
baz=284
M31M Drury Creek, Y 50.98 37 P **P 05 37 24.4 +1.2**
baz=285
WHY Whitehorse 51.16 39 P **P 05 37 25.6 +1.0**
baz=286
KIP Kipapa 51.69 94*ce*P **P 05 37 31.4 +2.4**
A36M Sachs Harbour 51.96 23 P **P 05 37 31.8 +1.5**
baz=285,SNR=11
SIT Sitka 51.97 43 P **P 05 37 32.5 +1.9**
baz=288
MMPY Sheldon Lake, 52.27 36 P **P 05 37 34.3 +1.5**
baz=287
C36M Paulatuk 53.08 26 P **P 05 37 39.5 +0.9**
baz=288
ARU Arti 55.49 318 P **P 05 37 56.8 +0.5**
comp=Z,1.0nm,0.3s,baz=59,slow=2.8,SNR=4.6
ARU LR LR 06 05 54.7
comp=Z,111nm,18.2s,baz=70,slow=41
ARU Arti 55.49 318*d i*P **P 05 37 54.3 -2.0**
ARU 05 38 53.3
ARU S **S 05 45 37.1 -2.5**
ARU SS **SS 05 49 16.1 -7.8**
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 55.49 318 IAmb IAmb 05 37 57.4
comp=Z,7.9nm,1.1s
ABKAR Akbulak array 57.70 309 P **P 05 38 12.6 +0.3**
ABKAR IAmb IAmb 05 38 13.7
comp=Z,3.8nm,0.8s
AKTO Aktyubinsk 58.30 311 P **P 05 38 16.5 +0.1**
comp=Z,1.6nm,0.6s,baz=78,slow=12,SNR=5.5
RES Resolute Bay 58.48 16 P **P 05 38 18.4 +1.1**
RES pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 58.48 16 P **P 05 38 18.4 +1.1**
KIRV Kirov 59.03 323 P **P 05 38 21.4 +0.1**
comp=Z,3.9nm,0.4s,baz=65,slow=5.1,SNR=3.7
KIRV Kirov 59.03 323*ce*P **P 05 38 22.0 +0.7**
YKA Yellowknife Ar 59.40 32 P **P 05 38 24.0 +0.2**
comp=Z,0.8nm,0.7s,baz=302,slow=6.6,SNR=17
YKA Yellowknife Ar 59.40 32 P **P 05 38 24.0 +0.2**
YKA Yellowknife Ar 59.40 32 P **P 05 38 24.0 +0.2**
WRAB Tennant Creek 60.99 191*ce*P **P 05 38 37.0 +1.8**
WRAB pmax pmax
comp=Z,18nm,2.5s
WB2 Warramunga Arr 61.00 191 P **P 05 38 34.6 -0.6**
WRA Warramunga Arr 61.00 191 P **P 05 38 34.2 -1.0**
comp=Z,3.4nm,0.8s,baz=9.5,slow=6.8,SNR=21
WRA Warramunga Arr 61.00 191 P **P 05 38 34.4 -0.9**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 61.00 191 P **P 05 38 34.4 -0.9**
ARCES ARCESS Array B 61.60 340 P **P 05 38 39.1 +0.4**
comp=Z,2.9nm,0.8s,baz=354,slow=9.0,SNR=2.1
B05A Bryant 62.95 49 P **P 05 38 48.3 +0.2**
baz=302
GEYT Alibeck 64.44 299 P **P 05 38 58.5 +0.4**
comp=Z,1.6nm,0.5s,baz=34,slow=15,SNR=2.4
ASAR Alice Springs 64.73 191 P **P 05 38 59.2 -0.7**
comp=Z,1.4nm,0.7s,baz=5.0,slow=5.4,SNR=13
ASAR Alice Springs 64.73 191 P **P 05 38 59.7 -0.3**
ASAR Alice Springs 64.73 191 P **P 05 38 59.7 -0.3**
NEW Newport 65.75 47 P **P 05 39 07.4 +0.9**
baz=304
L04D Klamath Falls 66.08 54 P **P 05 39 09.9 +1.0**
baz=304
J05D Fort Rock, OR 66.15 53 P **P 05 39 10.3 +1.0**
baz=304
N02D Trinity Center 66.53 56 P **P 05 39 12.6 +1.0**
baz=304
OBN Obninsk 66.83 324⇑*e*P **P 05 39 13.5 +0.3**
OBN *e**PP **sP 05 39 23.8 +2.1**
OBN SS SS 05 52 21.0 -0.1
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,132nm,18.0s
FINES FINESS Array B 66.89 333 P **P 05 39 13.7 +0.2**
comp=Z,4.8nm,0.6s,baz=44,slow=7.8,SNR=27
FINES FINESS Array B 66.89 333 *i* P **P 05 39 14.0 +0.5**
FINES pmax pmax
comp=Z,5.0nm,0.6s
EGMT Eagleton 69.86 44 P **P 05 39 32.8 +0.4**
baz=309
HLID Hailey 70.03 49 P **P 05 39 33.9 +0.2**
baz=307
BOZ Bozeman (W) 70.36 46 P **P 05 39 36.5 +0.9**
baz=308
KIV Kislovodsk 70.56 312*e*P **P 05 39 37.9 +1.1**
KIV pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 70.58 311 P **P 05 39 37.9 +1.1**
comp=Z,7.2nm,0.9s,baz=57,slow=2.8,SNR=6.4
KBZ Khabaz 70.58 311*ce*P **P 05 39 39.2 +2.4**
LHV Little Huntoon 70.75 56 P **P 05 39 39.6 +1.7**
LHV IAmb IAmb 05 39 40.7
comp=Z,8.0nm,1.0s
NVAR Mina Array Bea 70.77 56 P **P 05 39 39.2 +0.9**
comp=Z,2.2nm,0.8s,baz=286,slow=7.1,SNR=12
NB2 NORSAR Subarra 71.91 338 P **P 05 39 45.1 +0.5**
comp=Z,1.7nm,0.7s,baz=34,slow=6.2
NOA NORSAR Array B 71.91 339 P **P 05 39 44.6 +0.1**
comp=Z,2.6nm,0.7s,baz=36,slow=6.1,SNR=7.8
RLMT Red Lodge 71.95 46 P **P 05 39 45.8 +0.4**
baz=310
ISA Isabella, Lake 72.32 58 P **P 05 39 47.4 -0.2**
baz=308
R11A Troy Canyon, C 72.51 54 P **P 05 39 49.1 +0.3**
baz=308
MPMC Manual Prospec 72.72 57 P **P 05 39 50.8 +0.7**
baz=308
FURC Furnace Creek, 72.86 57 P **P 05 39 52.0 +1.3**
baz=308
HWUT Hardware Ranch 72.89 50 P **P 05 39 52.2 +1.2**
HWUT IAmb IAmb 05 39 53.3
comp=Z,5.3nm,1.1s
TPNV Topopah Spring 72.96 56 P **P 05 39 52.5 +1.0**
baz=308
DUG Dugway, Tooele 73.05 51 P **P 05 39 52.7 +0.8**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 73.05 51 P **P 05 39 52.6 +0.8**
DUG IAmb IAmb 05 39 53.6
comp=Z,3.2nm,0.8s
DUG Dugway, Tooele 73.05 51 P **P 05 39 53.0 +1.1**
baz=309
AKASG Malin Array Be 73.08 323 P **P 05 39 51.6 0.0**
comp=Z,2.9nm,0.5s,baz=39,slow=5.8,SNR=19
EDW2 Edwards Air Fo 73.11 58 P **P 05 39 53.0 +0.7**
baz=308
QSM Queen of Sheba 73.17 57 P **P 05 39 53.6 +1.1**
BW06 Boulder Array 73.30 48 P **P 05 39 53.5 +0.1**
baz=310
PDAR Pinedale Array 73.30 48 P **P 05 39 53.4 -0.1**
comp=Z,1.3nm,0.8s,baz=268,slow=2.1,SNR=13
TUQ Turquoise Moun 74.10 57 P **P 05 39 59.0 +0.9**
baz=309
GMRC Granite Mounta 74.68 57 P **P 05 40 02.0 +0.5**
baz=309
PFO Pinyon Flats O 74.89 59 P **P 05 40 03.3 +0.5**
baz=309
TPFO Pinon Flats 74.90 59 P **P 05 40 04.1 +1.2**
baz=309
BELC Belle Mtn. Jos 74.95 58 P **P 05 40 03.8 +0.6**
baz=309
RSSD Black Hills 75.42 44 P **P 05 40 05.8 0.0**
baz=313
BC3 Big Chuckawall 75.52 58 P **P 05 40 07.3 +0.9**
baz=309
O20A White River Ci 75.76 49 P **P 05 40 08.0 +0.2**
baz=311
PDMCI Parker Dam,Lak 75.95 57 P **P 05 40 09.1 +0.5**
baz=310
AGMN Agassiz Nation 76.50 37 P **P 05 40 11.4 -0.2**
baz=317
N23A Red Feather La 76.56 47 P **P 05 40 13.3 +0.9**
baz=312
WUAZ Wupatki 76.91 54 P **P 05 40 15.1 +0.8**
baz=311
BUR08 Bucovina Ar. S 77.11 323 P **P 05 40 15.3 +0.1**
BUR08 IAmb IAmb 05 40 17.3
comp=Z,4.3nm,0.8s
BURAR Bucovina Array 77.13 323 P **P 05 40 15.2 -0.1**
ISCO Idaho Springs 77.49 48 P **P 05 40 17.8 +0.2**
baz=313
MVCO Mesa Verde 77.55 52 P **P 05 40 18.3 +0.4**
baz=312
X16A Lo Mia Camp, P 77.58 55 P **P 05 40 19.1 +1.0**
X16A IAmb IAmb 05 40 20.6
comp=Z,3.6nm,1.1s
S22A 4UR Ranch, Cre 78.18 50 P **P 05 40 22.2 +0.7**
baz=313
214A Organ Pipe Nat 78.31 58 P **P 05 40 22.9 +0.9**
baz=311
BRTR Keskin Array B 78.44 313 P **P 05 40 22.9 +0.1**
comp=Z,0.8nm,0.8s,baz=104,slow=6.6,SNR=2.5
CHVC Chvalec 78.73 330*e*P **P 05 40 25.1 +1.1**
DPC Dobruska-Polom 78.81 329*e*P **P 05 40 23.9 -0.6**
DPC Dobruska-Polom 78.81 329*e*P **P 05 40 23.9 -0.6**
KRLC Kraliky 78.85 329*e*P **P 05 40 25.6 +0.9**
KRLC Kraliky 78.85 329*e*P **P 05 40 25.6 +0.9**
CLL Collm 79.29 332 *i* P **P 05 40 27.8 +0.8**
CLL pmax pmax
comp=Z,10.0nm,0.7s
CLL Collm 79.29 332 *i* P **P 05 40 27.8 +0.8**
comp=Z,10.0nm,0.7s

TUC	**Tucson**	**79.38**	**57**	P		**P**	**05 40 28.7**	**+0.8**
	baz=312							
ECSD	**EROS Data Cent**	**79.49**	**40**	P		**P**	**05 40 27.9**	**-0.4**
	baz=317							
KSCO	**Kaye Shedlock'**	**79.71**	**47**	P		**P**	**05 40 30.4**	**+0.7**
	baz=314							
T25A	**Trinidad**	**80.00**	**49**	P		**P**	**05 40 31.8**	**+0.4**
	baz=314							
ANMO	**Albuquerque**	**80.29**	**52**	*ce*P		**P**	**05 40 35.0**	**+2.0**
ANMO				pmax		pmax		
	comp=Z,5.0nm,2.5s							
ANMO	**Albuquerque**	**80.29**	**52**	P		**P**	**05 40 33.6**	**+0.6**
ANMO	**Albuquerque**	**80.29**	**52**	P		**P**	**05 40 33.7**	**+0.6**
	baz=313							
KHC	**Kasperske Hory**	**80.85**	**330**	*e*P		**P**	**05 40 36.6**	**+1.1**
KHC				*e*			05 40 47.3	
KHC	**Kasperske Hory**	**80.85**	**330**	*e*P		**P**	**05 40 36.6**	**+1.1**
KHC				*e*pP		**pwP**	**05 40 47.3**	**-3.0**
GERES	**GERESS Array B**	**81.04**	**330**	P		**P**	**05 40 36.9**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=54,slow=6.8,SNR=7.9							
GERES	**GERESS Array B**	**81.04**	**330**	P		**P**	**05 40 36.4**	**-0.2**
121A	**Cookes Peak, D**	**81.12**	**55**	P		**P**	**05 40 38.4**	**+0.9**
	baz=313							
SCHQ	**Schefferville**	**81.17**	**18**	P		**P**	**05 40 36.9**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=349,slow=7.4,SNR=3.8							
MSTX	**Muleshoe**	**83.16**	**51**	P		**P**	**05 40 48.3**	**+0.3**
	baz=315							
MNTX	**Cornudas Mount**	**83.17**	**54**	P		**P**	**05 40 48.6**	**+0.5**
	baz=314							
WMOK	**Wichita Mounta**	**84.91**	**48**	P		**P**	**05 40 57.3**	**+0.4**
	baz=317							
HDIL	**Hopedale**	**85.44**	**38**	P		**P**	**05 40 59.7**	**+0.4**
	baz=322							
TX31	**Lajitas Ar. Si**	**85.88**	**55**	P		**P**	**05 41 02.0**	**+0.2**
TXAR	**Lajitas Array**	**85.88**	**55**	P		**P**	**05 41 01.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=290,slow=3.1,SNR=10							
TXAR	**Lajitas Array**	**85.88**	**55**	P		**P**	**05 41 02.2**	**+0.4**
TXAR	**Lajitas Array**	**85.88**	**55**	P		**P**	**05 41 02.2**	**+0.4**
ABTX	**Abilene, Hawle**	**85.95**	**50**	P		**P**	**05 41 02.6**	**+0.6**
	baz=317							
CCM	**Cathedral Cave**	**86.44**	**41**	P		**P**	**05 41 04.0**	**-0.3**
CCM				pmax		pmax		
	comp=Z,7.0nm,0.8s							
CCM	**Cathedral Cave**	**86.44**	**41**	P		**P**	**05 41 04.0**	**-0.3**
CCM	**Cathedral Cave**	**86.44**	**41**	P		**P**	**05 41 04.5**	**+0.1**
	baz=321							
SFIN	**Lafayette**	**86.60**	**37**	P		**P**	**05 41 04.8**	**-0.2**
	baz=323							
U40A	**Yellville**	**86.92**	**43**	P		**P**	**05 41 06.5**	**-0.2**
	baz=320							
O48B	**Farmland**	**87.58**	**36**	P		**P**	**05 41 09.9**	**+0.1**
	baz=324							
S44A	**Carbondale**	**87.70**	**40**	P		**P**	**05 41 10.4**	**0.0**
SIUC	**Southern Illin**	**87.70**	**40**	P		**P**	**05 41 10.2**	**-0.3**
MIAR	**Mount Ida**	**87.92**	**45**	P		**P**	**05 41 11.9**	**+0.4**
	baz=320							
X40A	**Basin Creek Fa**	**88.36**	**44**	P		**P**	**05 41 12.7**	**-1.0**
	baz=320							
P49A	**Miami Univ. Ec**	**88.36**	**36**	P		**P**	**05 41 13.5**	**-0.1**
	baz=325							
M53A	**WI Miller and**	**88.52**	**32**	P		**P**	**05 41 13.6**	**-0.7**
	baz=327							
O53A	**New Philadelph**	**89.29**	**33**	P		**P**	**05 41 17.9**	**0.0**
	baz=327							
WVT	**Waverly**	**89.64**	**40**	P		**P**	**05 41 19.7**	**+0.1**
	baz=323							
TORD	**Torodi Ar. Bea**	**116.54**	**319**	PKP		**PKPdf**	**05 47 04.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=13,slow=2.2,SNR=2.0							
VNDA	**Vanda**	**118.31**	**176**	PKP		**PKPdf**	**05 47 07.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=320,slow=7.8,SNR=2.0							

*WEL **22** 05:31:23.9±0.6,33°S×7°×17°9W±1°6, h307km±8km, M4.0/46, mB4.7/36, ML4.8/49, MLv4.8/46, Mw(mB)3.9/36, Error ellipse: s-maj=0.0km s-min=0.0km az=111.1*
*NOU **22** 05:32:01.6, 35°65S×178°51E, h342km, mb4.2/8, Off E. Coast of N. Island, N.Z.*

ISC 22 05:31:22.9±1.6, 32°5S±0°1×179°6W±0°2, h300km, n80, σ2s07/100, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**3.56**	**25**	S		**S**	**05 33 13.5**	**-0.2**
MXZ	**Matakaoa Point**	**5.31**	**198**	P		**Pn**	**05 32 46.7**	**+2.8**
MXZ				S		**S**	**05 33 51.4**	**+2.3**
WMGZ	**Waiomatatini S**	**5.53**	**196**	P		**Pn**	**05 32 50.3**	**+3.8**
WMGZ				S		**S**	**05 33 58.8**	**+5.1**
HAZ	**Te Kaha**	**5.64**	**201**	P		**Pn**	**05 32 49.3**	**+1.5**
HAZ				S		**S**	**05 33 57.9**	**+1.7**
PKGZ	**Pakihiroa**	**5.68**	**199**	P		**Pn**	**05 32 52.2**	**+3.8**
PKGZ				S		**S**	**05 33 56.4**	**-0.7**
PUZ	**Puketiti**	**5.80**	**197**	P		**Pn**	**05 32 52.2**	**+2.4**
PUZ				S		**S**	**05 34 02.1**	**+2.3**
RUGZ	**Raukumara Rang**	**5.87**	**201**	P		**Pn**	**05 32 51.4**	**+0.8**
RUGZ				S		**S**	**05 33 60.0**	**-1.3**
TWGZ	**Tauwhareparae**	**5.97**	**199**	P		**Pn**	**05 32 56.2**	**+4.4**
TWGZ				S		**S**	**05 34 06.8**	**+3.3**
WIAZ	**Waiheke Island**	**6.07**	**224**	P		**Pn**	**05 32 55.3**	**+2.3**
OPRZ	**Ohinepanea**	**6.17**	**210**	P		**Pn**	**05 32 57.4**	**+3.3**
CNGZ	**Carnagh Statio**	**6.21**	**196**	P		**Pn**	**05 32 57.5**	**+3.0**
MARZ	**Manawahe**	**6.24**	**208**	P		**Pn**	**05 32 58.5**	**+3.5**
MARZ				S		**S**	**05 34 13.8**	**+4.5**
MWZ	**Matawai**	**6.25**	**201**	P		**Pn**	**05 32 57.2**	**+2.1**
MWZ				S		**S**	**05 34 10.5**	**+0.9**
TKGZ	**Te Karaka**	**6.26**	**199**	P		**Pn**	**05 32 56.9**	**+1.8**
TKGZ				S		**S**	**05 34 08.4**	**-1.1**
EDRZ	**Edgecumbe**	**6.32**	**207**	P		**Pn**	**05 32 59.1**	**+3.1**
EDRZ				S		**S**	**05 34 16.9**	**+5.8**
URZ	**Urewera**	**6.32**	**204**	P		**Pn**	**05 32 55.4**	**-0.5**
URZ				S		**S**	**05 34 11.3**	**+0.4**
URZ	**Urewera**	**6.32**	**204**	P		**Pn**	**05 32 58.1**	**+2.2**
RAGZ	**Rawiri**	**6.43**	**201**	P		**Pn**	**05 32 59.3**	**+1.9**
RAGZ				S		**S**	**05 34 13.2**	**-0.4**
KMRZ	**Kaimai**	**6.44**	**213**	P		**Pn**	**05 33 00.4**	**+3.1**
TARZ	**Mount Tarawera**	**6.52**	**208**	P		**Pn**	**05 33 02.2**	**+3.8**
RIGZ	**Rimuhau**	**6.53**	**198**	P		**Pn**	**05 32 59.4**	**+1.0**
RTZ	**Ruatahuna**	**6.68**	**204**	P		**Pn**	**05 33 01.0**	**+0.6**
RTZ				S		**S**	**05 34 19.4**	**+0.3**
PRGZ	**Paritu Road**	**6.70**	**197**	P		**Pn**	**05 33 02.8**	**+2.3**
PRGZ				S		**S**	**05 34 19.3**	**-0.2**
SNGZ	**Shannon Statio**	**6.72**	**201**	P		**Pn**	**05 33 01.9**	**+1.1**
SNGZ				S		**S**	**05 34 19.9**	**0.0**
GRRZ	**Galatos Road**	**6.78**	**210**	P		**Pn**	**05 33 04.6**	**+3.1**
PRRZ	**Plateau Road**	**6.79**	**208**	P		**Pn**	**05 33 03.9**	**+2.2**
KNZ	**Kokohu**	**6.85**	**198**	P		**Pn**	**05 33 04.4**	**+2.1**
KNZ				S		**S**	**05 34 21.5**	**-1.1**
ALRZ	**Allen Road**	**6.87**	**208**	P		**Pn**	**05 33 04.7**	**+2.1**
MHGZ	**Mahia Peninsul**	**6.92**	**196**	P		**Pn**	**05 33 06.9**	**+3.8**
RAHZ	**Arahi**	**6.92**	**202**	P		**Pn**	**05 33 03.7**	**+0.5**
RAHZ				S		**S**	**05 34 23.0**	**-1.3**
MTHZ	**Maungataniwha**	**6.94**	**204**	P		**Pn**	**05 33 05.0**	**+1.5**
MTHZ				S		**S**	**05 34 23.9**	**-0.9**
TLZ	**Tolley Road**	**7.01**	**213**	P		**Pn**	**05 33 07.7**	**+3.3**
KUTZ	**Kaahu Road**	**7.02**	**211**	P		**Pn**	**05 33 06.9**	**+2.5**
WHHZ	**Waihua**	**7.02**	**200**	P		**Pn**	**05 33 03.1**	**-1.3**
WHHZ				S		**S**	**05 34 22.5**	**-4.1**
MRHZ	**Matea Rd**	**7.08**	**206**	P		**Pn**	**05 33 06.2**	**+1.1**
MRHZ				S		**S**	**05 34 24.9**	**-2.9**
NMHZ	**Naumai**	**7.17**	**203**	P		**Pn**	**05 33 06.9**	**+0.5**
NMHZ				S		**S**	**05 34 29.6**	**-0.5**
ARHZ	**Aropaoanui**	**7.27**	**201**	P		**Pn**	**05 33 07.6**	**+0.2**
BKZ	**Black Stump Fm**	**7.34**	**204**	P		**Pn**	**05 33 07.8**	**-0.6**
BKZ	**Black Stump Fm**	**7.34**	**204**	P		**Pn**	**05 33 09.3**	**+0.9**
KATZ	**Kakaramea**	**7.48**	**209**	P		**Pn**	**05 33 11.4**	**+1.3**
HIZ	**Hauiti**	**7.49**	**215**	P		**Pn**	**05 33 11.8**	**+1.7**
MCHZ	**McNeill Hill**	**7.53**	**202**	P		**Pn**	**05 33 11.9**	**+1.3**
NTVZ	**North Tongarir**	**7.59**	**209**	P		**Pn**	**05 33 12.3**	**+0.8**
TMVZ	**Te Maari**	**7.60**	**209**	P		**Pn**	**05 33 11.6**	**0.0**
KWHZ	**Kaweka Forest**	**7.60**	**204**	P		**Pn**	**05 33 11.8**	**+0.3**
KRVZ	**Karewarewa**	**7.61**	**209**	P		**Pn**	**05 33 12.3**	**+0.7**
CKHZ	**Cape Kidnapper**	**7.61**	**200**	P		**Pn**	**05 33 12.9**	**+1.4**
ETVZ	**East Tongariro**	**7.61**	**209**	P		**Pn**	**05 33 11.6**	**-0.1**
WTVZ	**West Tongariro**	**7.64**	**209**	P		**Pn**	**05 33 11.9**	**-0.2**
NNVZ	**North Ngauruho**	**7.65**	**209**	P		**Pn**	**05 33 12.7**	**+0.5**
OTVZ	**Oturere**	**7.65**	**209**	P		**Pn**	**05 33 12.2**	**-0.1**
SNVZ	**South Ngauruho**	**7.68**	**209**	P		**Pn**	**05 33 12.7**	**0.0**
NGZ	**Ngauruhoe**	**7.69**	**209**	P		**Pn**	**05 33 13.0**	**+0.3**
TUVZ	**Tukino**	**7.75**	**208**	P		**Pn**	**05 33 13.7**	**+0.3**
FWVZ	**Far West T-bar**	**7.78**	**209**	P		**Pn**	**05 33 13.6**	**-0.2**
BHHZ	**Black Hill Sta**	**7.78**	**206**	P		**Pn**	**05 33 12.6**	**-1.1**
WHVZ	**Whangaehu Hut**	**7.79**	**209**	P		**Pn**	**05 33 13.5**	**-0.4**
KAHZ	**Kahuranaki**	**7.79**	**200**	P		**Pn**	**05 33 13.7**	**-0.2**
KRHZ	**Kereru**	**7.81**	**203**	P		**Pn**	**05 33 13.7**	**-0.4**
TRVZ	**Turoa**	**7.82**	**209**	P		**Pn**	**05 33 13.9**	**-0.4**
WNVZ	**Wahianoa**	**7.82**	**208**	P		**Pn**	**05 33 13.6**	**-0.8**
MOVZ	**Moawhango**	**7.83**	**207**	P		**Pn**	**05 33 13.8**	**-0.5**
PKVZ	**Pokaka**	**7.89**	**210**	P		**Pn**	**05 33 15.1**	**0.0**
MTVZ	**Mangateitei**	**7.92**	**209**	P		**Pn**	**05 33 15.3**	**-0.2**
PXZ	**Pawanui**	**8.01**	**200**	P		**Pn**	**05 33 15.3**	**-1.2**
PNHZ	**Pukenui**	**8.11**	**203**	P		**Pn**	**05 33 16.4**	**-1.4**
WPHZ	**Waipukurau**	**8.17**	**202**	P		**Pn**	**05 33 18.8**	**+0.3**
PRHZ	**Porangahau**	**8.30**	**200**	P		**Pn**	**05 33 20.5**	**+0.5**
TSZ	**Takapari Road**	**8.32**	**204**	P		**Pn**	**05 33 19.6**	**-0.8**
NEZ	**North Egmont**	**8.45**	**215**	P		**Pn**	**05 33 24.2**	**+2.3**
DVHZ	**Dannevirke**	**8.47**	**202**	P		**Pn**	**05 33 21.0**	**-1.2**
PREZ	**Palmer Road**	**8.47**	**215**	P		**Pn**	**05 33 30.6**	**+8.5**
ANWZ	**Angora Road**	**8.52**	**201**	P		**Pn**	**05 33 23.0**	**+0.2**
PRWZ	**Pori Road**	**8.77**	**203**	P		**Pn**	**05 33 25.2**	**-0.6**
BFZ	**Birch Farm**	**8.80**	**201**	P		**Pn**	**05 33 24.8**	**-1.3**
CPWZ	**Castlepoint**	**9.02**	**201**	P		**Pn**	**05 33 28.8**	**0.0**
QRZ	**Quartz Range**	**10.41**	**215**	P		**Pn**	**05 33 43.0**	**-2.9**
KHZ	**Kahutara**	**11.27**	**207**	P		**Pn**	**05 33 52.5**	**-3.9**
RPZ	**Rata Peaks**	**13.36**	**211**	P		Pn	05 34 17.3	-4.4
ODZ	**Otahua Downs**	**14.61**	**208**	P		**P**	**05 34 33.3**	**-2.2**

*IDC **22** 05:37:36.8±0.8, 0°33S×80°03W, h0km, mb3.9/12, mb1 4.1/16, mb1mx4.0/30, mbtmp3.9/16, ML3.0/4, Error ellipse: s-maj=29.2km s-min=13.6km az=60.0*
*IGQ **22** 05:37:37±1.0, 0°S×3°×8°W±°, h7km*
*NEIC **22** 05:37:39.4±2.0, 0°40S×0°05×80°22W±0°07, h10km±1km, mb4.3/17, Error ellipse: s-maj=11.2km s-min=8.0km az=278.0*

ISC 22 05:37:39.7±1.0, 0°32S±0°04×80°21W±0°05, h17km±6km, n132, σ1s84/133, mb4.1/15, 7C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAMA	**Jama**	**0.06**	**8**	P		**Pg**	**05 37 43.0**	**-0.1**
CAB1	**Cabo Pasado-Ma**	**0.23**	**253**	P		**Pg**	**05 37 46.0**	**+1.0**
FLF1	**Flavio Alfaro-**	**0.37**	**96**	P		**Pn**	**05 37 51.0**	**+0.6**
FLF1				S		**Sn**	**05 38 05.0**	**+7.7**
MAG1	**Magdalena**	**0.51**	**61**	P		**Pn**	**05 37 52.0**	**-0.2**
CHIS	**Cerro-Chispas-**	**0.89**	**215**	P		Pb	05 37 50.0	-6.7
AV18	**Acelerografo,**	**0.97**	**50**	P		**Pb**	**05 37 58.0**	**-0.1**
BV15	**Puerto Quito-O**	**1.10**	**64**	P		**Pb**	**05 37 59.0**	**-1.3**
BV15				S		**Sn**	**05 38 22.0**	**+6.8**
APR2	**Miler**	**1.31**	**72**	P		**Pn**	**05 38 03.0**	**-0.3**
AMA1	**Acelerografo,**	**1.34**	**21**	P		**Pn**	**05 38 02.0**	**-1.7**
AMA1				S		**Sn**	**05 38 21.0**	**-0.1**
PPLP	**Puerto Lpez**	**1.34**	**205**	P		Pn	05 37 56.0	-7.7
PPLP				S		Sn	05 38 14.0	-7.2
PPLP	**Puerto Lpez**	**1.34**	**205**	P		Pn	05 37 57.0	-6.7
PPLP				S		Sn	05 38 15.0	-6.2
ILLI	**Illinizas Sur**	**1.54**	**105**	P		**Pn**	**05 38 08.0**	**+1.2**
ILLI				S		**Sn**	**05 38 21.0**	**-5.7**
HPAL	**Hacienda Las P**	**1.57**	**86**	P		**Pn**	**05 38 07.0**	**-0.1**
GGPT	**Toaza - Volcan**	**1.60**	**87**	P		**Pn**	**05 38 08.0**	**+0.4**
JUA2	**San Juan 2**	**1.61**	**86**	P		**Pb**	**05 38 09.0**	**-0.4**
PINO	**Pino**	**1.61**	**84**	P		**Pn**	**05 38 08.0**	**0.0**
PAST	**Pastocalle**	**1.62**	**103**	P		**Pn**	**05 38 09.0**	**+1.1**
TERV	**Terraza Guagua**	**1.62**	**85**	P		**Pn**	**05 38 09.0**	**+1.0**
YANA	**Yana**	**1.66**	**83**	P		**Pn**	**05 38 09.0**	**+0.5**
PULU	**Pululahua**	**1.75**	**79**			**Pn**	**05 38 10.3**	**+0.7**
PULU	**Pululahua**	**1.75**	**79**	P		**Pn**	**05 38 10.0**	**+0.4**
CAMI	**Rancho Maria**	**1.75**	**102**	P		**Pb**	**05 38 12.0**	**+0.4**
BNAS	**Cotopaxi Volca**	**1.77**	**101**	P		**Pb**	**05 38 12.0**	**0.0**
PITA	**Cotopaxi Volc**	**1.80**	**98**	P		**Pb**	**05 38 13.0**	**+0.5**
BREF	**Cotopaxi Volca**	**1.81**	**101**	P		**Pb**	**05 38 13.0**	**+0.2**
BVC2	**Cotopaxi Volca**	**1.83**	**101**	P		**Pb**	**05 38 13.0**	**-0.2**
PORT	**Chimborazo Vol**	**1.83**	**128**			**Pn**	**05 38 11.6**	**+0.5**
PORT				Sn		**Sn**	**05 38 31.3**	**-2.9**
PORT	**Chimborazo Vol**	**1.83**	**128**	P		**Pn**	**05 38 12.0**	**+1.0**
OTAV	**Otavalo**	**1.85**	**73**			**Pn**	**05 38 11.3**	**+0.2**
OTAV				Sn		**Sn**	**05 38 32.6**	**-1.7**
BTAM	**Cotopaxi Volca**	**1.85**	**101**	P		**Pb**	**05 38 13.0**	**-0.5**
TAMH	**Tambohuasha Ch**	**1.88**	**130**	P		**Pn**	**05 38 13.0**	**+1.5**
VCES	**Cotopaxi**	**1.88**	**105**	P		**Pn**	**05 38 13.0**	**+1.4**
TAMB	**Tambo**	**1.88**	**101**	P		**Pb**	**05 38 14.0**	**0.0**
AMIL	**Milagro (Trans**	**1.91**	**161**	P		**Pn**	**05 38 12.0**	**+0.5**
CUSE	**Cuicocha Este**	**1.92**	**71**	*e*P		**Pn**	**05 38 12.9**	**+0.9**
CUSE	**Cuicocha Este**	**1.92**	**71**	P		**Pn**	**05 38 12.0**	**0.0**
CUIC	**Cuicocha-Domo**	**1.95**	**72**	P		**Pn**	**05 38 13.0**	**+0.5**
CUSW	**Cuicocha Oeste**	**1.96**	**72**	P		**Pn**	**05 38 13.0**	**+0.5**
ANTG	**Antisana-Guama**	**1.97**	**95**	P		**Pb**	**05 38 15.0**	**-0.5**
AOTA	**Otavalo**	**2.04**	**74**	P		Pg	05 38 27.0	+8.1
ANTS	**Antisana-Sarah**	**2.05**	**95**	P		**Pb**	**05 38 16.0**	**-0.9**
ANTI	**Antisana**	**2.06**	**94**	P		**Pb**	**05 38 17.0**	**0.0**
BBIL	**Ulba Tungurahu**	**2.06**	**123**	P		**Pn**	**05 38 16.0**	**+2.1**
JUI6	**Juive**	**2.06**	**122**	P		**Pn**	**05 38 16.0**	**+2.1**
PIAT	**Ana Tenorio**	**2.06**	**109**	P		**Pn**	**05 38 16.0**	**+2.0**
POND	**Pondoa**	**2.07**	**122**	P		**Pn**	**05 38 16.0**	**+1.9**
BMAS	**Trigal station**	**2.10**	**124**	P		**Pn**	**05 38 16.0**	**+1.6**
RETU	**Refugio**	**2.10**	**122**	P		**Pn**	**05 38 17.0**	**+2.5**
URCU	**Urcuqui**	**2.10**	**69**	P		**Pn**	**05 38 15.0**	**+0.5**
ARRY	**Arrayan**	**2.12**	**124**	P		**Pn**	**05 38 16.0**	**+1.3**
BPAT	**Tungurahua Vol**	**2.13**	**123**	P		**Pn**	**05 38 17.0**	**+2.0**
ALIT	**Ecuador-Imbabu**	**2.16**	**59**	P		**Pn**	**05 38 15.0**	**-0.1**
AIB2	**Ibarra (Univer**	**2.21**	**73**	P		**Pn**	**05 38 13.0**	**-2.9**
CAYR	**Refugio Cayamb**	**2.23**	**81**	P		**Pb**	**05 38 19.0**	**-1.0**
ANGU	**Angureal**	**2.24**	**81**	P		**Pb**	**05 38 20.0**	**-0.1**
YAHU	**Yahuarcocha**	**2.25**	**72**	P		**Pb**	**05 38 19.0**	**-1.2**
COHC	**Cochancay**	**2.34**	**156**			**Pn**	**05 38 16.5**	**-0.9**
CHMA	**Chilma**	**2.45**	**61**	P		**Pn**	**05 38 19.0**	**-0.3**
ARDO	**Archidona, Ten**	**2.50**	**106**	P		**Pb**	**05 38 23.0**	**-1.3**
ECEN	**Cerro Negro**	**2.51**	**63**	P		**Pn**	**05 38 20.0**	**-0.3**
CHL1	**Volcn Chiles**	**2.52**	**64**	P		**Pn**	**05 38 21.0**	**+0.5**
CHL2	**Volcn Chiles**	**2.55**	**64**	P		**Pn**	**05 38 21.0**	**+0.2**
CONE	**Cono NE Rev Vo**	**2.58**	**84**	P		**Pb**	**05 38 25.0**	**-0.8**
ISPG	**Isla Puna-Puer**	**2.63**	**179**	P		**Pn**	**05 38 23.0**	**+1.5**
TULM	**Tulcn-Chalpat**	**2.64**	**67**			**Pb**	**05 38 24.8**	**-2.0**
TULM	**Tulcn-Chalpat**	**2.64**	**67**	*e*P		**Pn**	**05 38 23.7**	**+1.7**
CMBC	**Cumbal**	**2.70**	**62**	*e*P		**Pb**	**05 38 25.5**	**-2.4**
BONI	**La Bonita**	**2.79**	**74**	P		**Pb**	**05 38 27.0**	**-2.4**
CASC	**Dorado de Casc**	**2.91**	**81**	P		**Pb**	**05 38 29.0**	**-2.3**
ARNL	**Arenillas**	**3.21**	**177**			**Pn**	**05 38 28.7**	**-0.7**
ARNL	**Arenillas**	**3.21**	**177**	P		**Pn**	**05 38 28.0**	**-1.4**
CCUFI	**Cufio, Nario**	**3.25**	**62**	*e*P		**Pb**	**05 38 34.4**	**-2.9**
GCUF	**Volcan Galeras**	**3.25**	**62**	*e*P		**Pn**	**05 38 32.6**	**+2.2**
BOSC	**San Juan Bosco**	**3.30**	**149**			**Pn**	**05 38 33.3**	**+2.5**
BOSC	**San Juan Bosco**	**3.30**	**149**	P		**Pn**	**05 38 34.0**	**+3.2**
CRUC	**La Cruz**	**3.76**	**60**	*e*P		**Pn**	**05 38 38.0**	**+0.7**
GR1C	**Gorgona, Isla**	**3.88**	**32**	*e*P		**Pn**	**05 38 39.8**	**+1.1**
SOTA	**Rioblanco**	**4.35**	**56**	*e*P		**Pn**	**05 38 43.4**	**-2.2**
POPC	**Popayan, Colom**	**4.54**	**51**	*e*P		**Pn**	**05 38 47.0**	**-0.9**
PCON	**Cinco Dias**	**4.63**	**55**	*e*P		**Pn**	**05 38 48.8**	**-0.7**
ZUMB	**Zumba**	**4.64**	**167**	P		**Pn**	**05 38 51.0**	**+1.8**
MARP	**Paez Belalcaza**	**5.29**	**54**	*e*P		**Pn**	**05 38 57.8**	**-0.6**
PTLC	**Puerto Leguiza**	**5.44**	**85**	*e*P		**Pn**	**05 39 01.3**	**+1.2**
YOTC	**Yotoco, Valle**	**5.76**	**42**	*e*P		**Pn**	**05 39 06.7**	**+2.1**
ORTC	**Ortega, Tolima**	**6.50**	**50**	*e*P		**Pn**	**05 39 13.9**	**-0.9**
PLMC	**San Jos del P**	**6.51**	**37**	*e*P		**Pn**	**05 39 17.5**	**+2.6**
ANIL	**Santa Ana**	**6.78**	**45**	*e*P		**Pn**	**05 39 22.9**	**+4.1**
MACC	**Macarena, Meta**	**6.82**	**69**	*e*P		**Pn**	**05 39 19.3**	**+0.2**
GUY2C	**Guyana, Caldas**	**7.33**	**41**	*e*P		**Pn**	**05 39 28.2**	**+1.7**
CBOC	**Ciudad Bolivar**	**7.44**	**34**	*e*P		Pn	05 39 33.6	+5.9
ROSC	**El Rosal**	**7.81**	**49**	Pn		**Pn**	**05 39 31.7**	**-1.3**
	0.8nm,0.3s,baz=116,slow=22,SNR=1.9							
ROSC				Sn		**Sn**	**05 41 05.6**	**+4.4**
	0.2nm,0.3s,baz=169,slow=22,SNR=1.5							
ROSC	**El Rosal**	**7.81**	**49**			**Pn**	**05 39 35.3**	**+2.3**
ROSC	**El Rosal**	**7.81**	**49**	*e*P		**Pn**	**05 39 33.6**	**+0.7**
VILC	**Villavicencio,**	**7.86**	**56**	*e*P		**Pn**	**05 39 35.4**	**+1.9**
NORC	**Norcasia**	**7.91**	**42**	*e*P		**Pn**	**05 39 37.2**	**+3.0**
HELC	**Santa Helena**	**7.98**	**36**	*e*P		Pn	05 39 42.6	+7.2
CHIC	**Chingaza**	**8.13**	**53**	*e*P		**Pn**	**05 39 39.0**	**+1.6**
SPBC	**San Pablo de B**	**8.53**	**46**	*e*P		**Pn**	**05 39 42.6**	**-0.1**
PTBC	**PUERTO BERRIO,**	**8.91**	**40**	*e*P		**Pn**	**05 39 49.8**	**+1.9**
URCC	**San Jos de Ur**	**9.28**	**30**	*e*P		**Pn**	**05 39 57.0**	**+4.1**
RUSC	**La Rusia**	**9.42**	**49**	*e*P		**Pn**	**05 39 57.0**	**+1.7**
ZARC	**Zaragoza, Cauc**	**9.42**	**34**	Pn		**Pn**	**05 39 57.9**	**+3.0**
ZARC	**Zaragoza, Cauc**	**9.42**	**34**	*e*P		**Pn**	**05 39 57.0**	**+2.1**
NNA	**Nana**	**12.06**	**164**	Pn		**Pn**	**05 40 30.4**	**-0.6**
	0.8nm,0.3s,baz=221,slow=6.8,SNR=1.9							
NNA				Sn		**Sn**	**05 42 47.3**	**+1.9**
	2.4nm,0.3s,baz=232,slow=14,SNR=5.1							
SDV	**Santo Domingo**	**13.22**	**46**	Pn		**Pn**	**05 40 46.1**	**-0.9**
	0.1nm,0.3s,baz=223,slow=13,SNR=2.3							
TGUH	**Tegucigalpa,Un**	**15.90**	**334**			**P**	**05 41 27.1**	**+0.4**
TGUH					IAmb	IAmb	05 41 28.8	
	comp=Z,20nm,1.3s							
PETF	**Flores**	**19.59**	**331**	P		**P**	**05 42 07.0**	**-0.2**
LPAZ	**La Paz**	**19.84**	**144**	P		**P**	**05 42 10.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=15,SNR=12							
LPAZ	**La Paz**	**19.84**	**144**			**P**	**05 42 10.6**	**-0.1**
PB12	**IPOC Station P**	**20.61**	**152**	P		**P**	**05 42 19.0**	**+0.6**
PB12				IAmb		IAmb	05 43 00.8	
	comp=Z,14nm,1.2s							
PB16	**IPOC Station P**	**20.77**	**150**	P		**P**	**05 42 19.9**	**-0.7**
GO01	**Chusmiza**	**22.05**	**151**	P		**P**	**05 42 35.2**	**+0.8**
TDBA	**Terre de Bas,**	**24.39**	**48**	P		**P**	**05 42 58.9**	**+1.5**
SIV	**San Ignacio**	**24.48**	**130**	P		**P**	**05 42 57.0**	**-1.3**
	comp=Z,2.6nm,0.6s,baz=303,slow=8.6,SNR=14							
LVC	**Limon Verde**	**24.74**	**154**	P		**P**	**05 43 00.1**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=258,slow=17,SNR=1.9							
LVC	**Limon Verde**	**24.74**	**154**	IAmb		IAmb	05 43 07.0	
	comp=Z,17nm,1.5s							
BDFB	**Brasilia**	**35.24**	**117**	P		**P**	**05 44 32.1**	**-1.8**
	comp=Z,2.2nm,0.8s,baz=231,slow=12,SNR

MLPR	**Magueyes Islan**	**1.97**	**217**		**Pn**	**05 46 21.8 +0.1**
MLPR					**Sn**	**05 46 47.2 +1.5**
CRPR	**Cabo Rojo, PR**	**1.98**	**219**⇑	*eP*	**Pn**	**05 46 21.7 -0.1**
CRPR	**Cabo Rojo, PR**	**1.98**	**219**		**Pn**	**05 46 21.7 -0.1**
CRPR	**Cabo Rojo, PR**	**1.98**	**219**	IAML		05 47 03.4
	comp=N,80nm,0.9s					
CRPR	**Cabo Rojo, PR**	**1.98**	**219**	*i* P	**Pn**	**05 46 21.1 -0.7**
CRPR				IAML		05 46 49.4
	comp=Z,57nm,0.7s					
CDVI	**St. Croix**	**2.05**	**151**	*eP*	**Pb**	**05 46 24.5 -1.6**
CDVI				*eS*	**Sb**	**05 46 55.8 +4.7**
PCDR	**Punta Cana, DR**	**2.65**	**247**	*i* P	**Pn**	**05 46 31.6 +0.5**
PCDR				*eS*	**Sn**	**05 47 01.0 -1.6**
DR12	**Loma Pena Alta**	**3.47**	**258**	Pn	**Pn**	**05 46 41.6 -0.8**
BPA	**Boggy Peak**	**4.50**	**123**	*eP*	**Pn**	**05 46 55.9 -0.7**
BPA	**Boggy Peak**	**4.50**	**123**	*eS*	**Sn**	**05 47 43.9 -4.5**
ANBD	**Bethesda, Anti**	**4.58**	**122**	*eP*	**Pn**	**05 46 56.0 -1.5**
ANBD	**Bethesda, Anti**	**4.58**	**122**	*eS*	**Sn**	**05 47 47.8 -2.3**
SDDR	**Presa de Saban**	**5.21**	**265**		**Pn**	**05 47 06.7 +0.4**
SDDR	**Presa de Saban**	**5.21**	**265**	*i* P	**Pn**	**05 47 07.5 +1.1**
SDDR				*eS*	**Sn**	**05 47 58.8 -7.1**
SDDR				IAML		05 48 13.7
	comp=Z,23nm,2.1s					
GRTK	**Grand Turk**	**5.36**	**292**	Pn	**Pn**	**05 47 07.9 -0.4**
TXAR	**Lajitas Array**	**35.68**	**293**	P	**P**	**05 52 47.6 +1.0**
	comp=Z,0.3nm,0.7s,baz=116,slow=11,SNR=5.4					
LPAZ	**La Paz**	**35.69**	**184**	P	**P**	**05 52 47.9 +0.6**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=13,SNR=1.5					
YKA	**Yellowknife Ar**	**54.33**	**335**	P	**P**	**05 55 14.6 +0.4**
	comp=Z,0.1nm,0.5s,baz=113,slow=7.1,SNR=1.9					

*ISK **22** 06:01:22.2, 34°.77N × 26°.60E, h9km, ML3.2/14*
*IDC **22** 06:01:43.4± 11.0, 34°.99N × 26°.31E, h21 0km ± 121km, mb3.1/8, mb1 3.2/8, mb1mx3.0/49, mbtmp3.7/8, Error ellipse: s-maj=35.5km s-min=15.7km az=153.0*
ISC 22 06:01:24.8±1.0, **34°.86N**±0°.10 × **26°.56E**±0°.05, **h29**km, **n23**, σ1**s49**/24, **mb3.7/8**, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.37**	**312**	PG	**Pb**	**06 01 31.3**	**-2.0**
ZKR				SG	**Sb**	**06 01 38.8**	**-0.2**
KARP	**Karpathos**	**0.84**	**36**	PG	**Pn**	**06 01 40.2**	**-0.6**
HRKL	**Herakleio**	**1.27**	**291**	PN	**Pn**	**06 01 47.9**	**+1.2**
IDI	**Anoyia**	**1.43**	**288**	PN	**Pn**	**06 01 50.2**	**+1.3**
ARG	**Arkhangelos**	**1.86**	**43**	PN	**Pn**	**06 01 55.7**	**+0.9**
GVD	**Gavdhos**	**2.03**	**270**	PN	**Pn**	**06 01 57.9**	**+0.8**
IMMV	**Iera Moni Meta**	**2.19**	**287**	PN	**Pn**	**06 02 00.9**	**+1.6**
BODT	**Bodrum**	**2.28**	**15**	PN	**Pn**	**06 02 02.3**	**+1.8**
TURN	**Turunc**	**2.35**	**35**	PN	**Pn**	**06 02 02.4**	**+0.9**
APE	**Apeiranthos**	**2.35**	**340**	PN	**Pn**	**06 02 03.6**	**+2.0**
DALY	**Dalyan (Mula)**	**2.59**	**41**	PN	**Pn**	**06 02 06.1**	**+1.3**
MLSB	**Milas**	**2.62**	**22**	PN	**Pn**	**06 02 07.2**	**+2.0**
YER	**Yerkesik**	**2.67**	**31**	PN	**Pn**	**06 02 07.5**	**+1.6**
FETY	**Fethiye**	**2.71**	**49**	PN	**Pn**	**06 02 07.5**	**+1.0**
AKAS	**Kas**	**2.84**	**60**	PN	**Pn**	**06 02 09.2**	**+0.9**
ESDC	**Sonseca Array**	**24.69**	**290**	P	**P**	**06 06 43.7**	**+0.3**
	0.1nm,0.3s,baz=79,slow=11,SNR=1.8						
AKTO	**Aktyubinsk**	**27.62**	**46**	P	**P**	**06 07 10.9**	**+1.3**
	1.1nm,0.6s,baz=253,slow=13,SNR=2.9						
TORD	**Torodi Ar. Bea**	**31.19**	**232**	P	**P**	**06 07 42.1**	**+0.5**
	0.6nm,0.4s,baz=36,slow=8.1,SNR=8.2						
ARCES	**ARCESS Array B**	**34.73**	**359**	P	**P**	**06 08 11.6**	**-0.4**
	1.1nm,0.8s,baz=183,slow=7.1,SNR=1.4						
KURBB	**Kurchatov Arra**	**40.42**	**51**	P	**P**	**06 09 01.8**	**+1.5**
	1.0nm,0.6s,baz=275,slow=8.8,SNR=11						
MKAR	**Makanchi Array**	**42.98**	**56**	P	**P**	**06 09 22.7**	**+1.3**
	1.0nm,0.6s,baz=277,slow=6.9,SNR=12						
ZALV	**Zalesovo Beam**	**44.38**	**46**	P	**P**	**06 09 33.3**	**+0.8**
	1.6nm,0.5s,baz=271,slow=8.2,SNR=7.4						
YKA	**Yellowknife Ar**	**78.08**	**343**	P	**P**	**06 13 17.4**	**-3.1**
	0.1nm,0.5s,baz=39,slow=5.5,SNR=1.8						

*SOME **22** 06:03:39.4, 44°.30N × 81°.57E, h10km*
*NNC **22** 06:03:40.9± 1.3, 44°.44N × 81°.40E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=25.3km s-min=2.9km az=123.0*
ISC 22 06:03:39.0±2.1, **44°.20N**±0°.07 × **81°.82E**±0°.10, **h34**km±5km, **n11**, σ0**s89**/20, **3C-3D**, **Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**1.90**	**244**	⇑P	**Pb**	**06 04 13.1**	**0.0**
	1.9nm,0.3s						
PDGK				⇑S	**Sb**	**06 04 36.7**	**+0.2**
	4.1nm,0.4s						
SHLS	**Shalkode**	**2.00**	**239**	*eP*	**Pn**	**06 04 11.0**	**+0.5**
	2.9nm,0.1s						
SHLS				*eS*	**Sn**	**06 04 33.7**	**-0.8**
	9.4nm,0.3s						
KAPS	**Kapalarasan**	**2.06**	**303**	*eP*	**Pb**	**06 04 15.2**	**-0.6**
	7.2nm,0.3s						
KAPS				*eS*	**Sb**	**06 04 41.1**	**0.0**
	6.5nm,0.3s						
UZB	**Uzymbulak**	**2.29**	**244**	*eP*	**Pb**	**06 04 19.4**	**-0.2**
	3.9nm,0.2s						
UZB				*eS*	**Sb**	**06 04 48.1**	**+0.6**
	4.5nm,0.5s						
KPKS	**Kokpek**	**2.38**	**253**	*eP*	**Pb**	**06 04 20.1**	**-1.2**
	3.3nm,0.2s						
KPKS				*eS*	**Sb**	**06 04 49.5**	**-0.8**
	31nm,0.3s						
BLB	**Baldybastay**	**2.41**	**269**	*eP*	**Pb**	**06 04 20.8**	**-0.9**
	9.2nm,0.3s						
BLB				*eS*	**Sb**	**06 04 50.4**	**-0.6**
	4.7nm,0.3s						
MAKZ	**Makanchi**	**2.61**	**2**	⇓Pg	**Pb**	**06 04 24.6**	**-0.5**
	3.7nm,1.1s						
MAKZ				⇓Lg	Lg	06 04 57.5	
	2.5nm,0.6s						
MK31	**Makanchi Array**	**2.62**	**7**	⇓Pg	**Pb**	**06 04 25.1**	**-0.1**
	0.2nm,0.2s,baz=200,slow=14,SNR=14						
MK31				⇑Lg	Lg	06 04 58.9	
	0.5nm,0.3s,baz=190,slow=29,SNR=6.6						
SATY	**Saty**	**2.73**	**246**	*eP*	**Pb**	**06 04 26.4**	**-0.7**
	1.5nm,0.2s						
SATY				*eS*	**Sb**	**06 05 00.2**	**0.0**
	12nm,0.2s						
KTBS	**Karatobe**	**3.74**	**264**	*eP*	**Pb**	**06 04 44.6**	**+0.3**
	1.9nm,0.7s						
KTBS				*eS*	**Sb**	**06 05 31.6**	**+2.4**
	2.8nm,0.4s						
KUU	**Kurty**	**3.96**	**267**	*eP*	**Pb**	**06 04 47.9**	**-0.1**
	1.6nm,0.6s						
KUU				*eS*	**Sb**	**06 05 36.7**	**+1.2**
	1.7nm,0.3s						

*JMA **22** 06:05:42.9± 0.3, 43°.47N × 147°.55E, h11km ± 4km, M3.7*
*SKHL **22** 06:05:46.4± 0.1, 43°.60N × 147°.50E, h31km ± 6km, mb4.4/3*
ISC 22 06:05:45.2±2.7, **43°.62N**±0°.10 × **147°.5E**±0°.1, **h25**km±15km, **n17**, σ0**s73**/26, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.56**	**297**	*eP*	**Pb**	**06 05 56.7**	**+0.2**
SHO				AMB	AMB	06 05 59.7	
	210nm,0.3s						
SHO				*eS*	**Sb**	**06 06 04.5**	**+0.3**
SHO				A	A	06 06 06.4	
	2μm,0.3s						
SHO				A	A	06 06 06.4	
	2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.27**	**290**	*eP*	**Pn**	**06 06 07.5**	**+0.1**
YUK				AMB	AMB	06 06 07.9	
	230nm,0.2s						
YUK				*eS*	**Sn**	**06 06 23.2**	**-0.5**
YUK				A	A	06 06 24.7	
	350nm,0.2s						
YUK				A	A	06 06 24.7	
	1μm,0.2s						
NEM2	**Nemuro 2**	**1.32**	**259**	P	**Pn**	**06 06 07.1**	**-1.0**
NEM2				*eS*	**Sn**	**06 06 24.6**	**-0.3**
NMR	**Nemuro--Hokkai**	**1.33**	**260**	*eP*	**Pn**	**06 06 07.1**	**-1.1**
GLVR	**Golovnino**	**1.46**	**275**	*eP*	**Pn**	**06 06 09.7**	**-0.3**
GLVR				*eS*	**Sn**	**06 06 27.2**	**-1.1**
GLVR				A	A	06 06 28.9	
	830nm,0.3s						
GLVR				A	A	06 06 28.9	
	740nm,0.3s						
KUR	**Kuril'sk**	**1.63**	**8**	*eP*	**Pn**	**06 06 12.4**	**+0.1**
KUR				AMB	AMB	06 06 15.2	
	60nm,0.3s						
KUR				*eS*	**Sn**	**06 06 32.0**	**-0.5**
KUR				A	A	06 06 35.4	
	290nm,0.2s						
KUR				A	A	06 06 35.4	
	100nm,0.2s						
JRA	**Rausu**	**1.77**	**281**	P	**Pn**	**06 06 14.5**	**+0.3**
JKHN	**Kushirohamanak**	**1.81**	**253**	P	**Pn**	**06 06 14.4**	**-0.3**
JNSB	**Nemuroshibetsu**	**1.83**	**276**	P	**Pn**	**06 06 15.4**	**+0.3**
JNSB				*eS*	**Sb**	**06 06 39.3**	**-1.3**
JNK	**Nakash**	**2.04**	**270**	P	**Pn**	**06 06 17.9**	**0.0**
AKK	**Akkeshi**	**2.05**	**254**	*eP*	**Pn**	**06 06 19.0**	**+0.9**
JAK	**Akkeshi**	**2.16**	**254**	P	**Pn**	**06 06 19.0**	**-0.5**
JAK				*eS*	**Sn**	**06 06 45.9**	**+0.4**
JTKR	**Abashiri--Toko**	**2.64**	**279**	P	**Pn**	**06 06 27.3**	**+1.1**
JAR	**Ashorobuto**	**2.75**	**265**	P	**Pn**	**06 06 28.2**	**+0.4**
JAR				*eS*	**Sn**	**06 07 01.8**	**+1.6**
JOB	**Onbets**	**2.79**	**256**	P	**Pn**	**06 06 28.6**	**+0.4**
JCH	**Churui**	**3.21**	**253**	P	**Pn**	**06 06 34.1**	**+0.1**
JCH				*eS*	**Sn**	**06 07 11.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**3.75**	**251**	P	**Pn**	**06 06 42.0**	**+0.5**

*IDC **22** 06:17:21.1± 1.5, 0°.54S × 80°.98W, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.7/38, mbtmp3.6/9, ML2.6/1, Error ellipse: s-maj=54.9km s-min=23.2km az=40.0*
*IGQ **22** 06:17:23± 1.1, 0°.5 ± 4° × 8° ± 1W, h2km*
ISC 22 06:17:22.8±0.7, **0°.38S**±0°.04 × **80°.74W**±0°.06, **h10**km, **n93**, σ1**s28**/87, **mb3.7/8**, **4C**, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.55**	**78**	P	**Pb**	**06 17 35.0**	**+0.4**
FLF1	**Flavio Alfaro-**	**0.90**	**89**	P	**Pn**	**06 17 43.0**	**+1.4**
MAG1	**Magdalena**	**1.02**	**72**	P	**Pn**	**06 17 43.0**	**-0.2**
PPLP	**Puerto Lpez**	**1.16**	**182**	P	**Pn**	**06 17 46.0**	**+0.9**
AV18	**Acelerografo,**	**1.44**	**61**	P	**Pn**	**06 17 48.0**	**-1.0**
AV21	**Acelerografo,**	**1.58**	**49**	P	**Pn**	**06 17 49.0**	**-1.9**
BV15	**Puerto Quito-O**	**1.61**	**71**	P	**Pn**	**06 17 50.0**	**-1.3**
AMA1	**Acelerografo,**	**1.66**	**38**	P	**Pn**	**06 17 50.0**	**-2.0**
APR2	**Miler**	**1.83**	**76**	P	**Pn**	**06 17 53.0**	**-1.4**
ILLI	**Illinizas Sur**	**2.04**	**99**	P	**Pn**	**06 17 58.0**	**+0.3**
AMIL	**Milagro (Trans**	**2.09**	**147**	P	**Pg**	**06 18 04.0**	**+1.2**
HPAL	**Hacienda Las P**	**2.10**	**86**	P	**Pn**	**06 17 58.0**	**-0.3**
PAST	**Pastocalle**	**2.12**	**98**	P	**Pn**	**06 18 00.0**	**+1.2**
GGPT	**Tzaza - Volcan**	**2.13**	**88**	P	**Pn**	**06 17 59.0**	**+0.2**
JUA2	**San Juan 2**	**2.14**	**86**	P	**Pn**	**06 17 59.0**	**-0.1**
PINO	**Pino**	**2.15**	**84**	P	**Pn**	**06 17 59.0**	**-0.2**
APR1	**Acelerografo,**	**2.15**	**81**	P	**Pn**	**06 17 59.0**	**-0.1**
YANA	**Yana**	**2.19**	**83**	P	**Pn**	**06 18 00.0**	**+0.3**
PORT	**Chimborazo Vol**	**2.24**	**119**	P	**Pb**	**06 18 03.0**	**-0.8**
CAMI	**Rancho Maria**	**2.26**	**98**	P	**Pb**	**06 18 03.0**	**-1.0**
PULU	**Pululahua**	**2.27**	**80**	P	**Pn**	**06 18 01.0**	**+0.2**
TAMH	**Tambohuasha Ch**	**2.28**	**121**	P	**Pb**	**06 18 04.0**	**-0.3**
BNAS	**Cotopaxi Volca**	**2.28**	**97**	P	**Pb**	**06 18 03.0**	**-1.4**
PITA	**Cotopaxi Volc**	**2.32**	**94**	P	**Pn**	**06 18 03.0**	**+1.6**
BREF	**Cotopaxi Volca**	**2.32**	**97**	P	**Pb**	**06 18 04.0**	**-1.1**
BVC2	**Cotopaxi Volca**	**2.35**	**97**	P	**Pb**	**06 18 04.0**	**-1.5**
BTAM	**Cotopaxi Volca**	**2.36**	**97**	P	**Pb**	**06 18 04.0**	**-1.8**
IGUA	**Igualata**	**2.37**	**118**	P	**Pb**	**06 18 06.0**	**0.0**
VCES	**Cotopaxi**	**2.38**	**100**	P	**Pb**	**06 18 05.0**	**-1.2**
TAMB	**Tambo**	**2.39**	**97**	P	**Pb**	**06 18 05.0**	**-1.3**
CUSE	**Cuicocha Este**	**2.44**	**74**	*eP*	**Pn**	**06 18 03.6**	**+0.5**
CUSE	**Cuicocha Este**	**2.44**	**74**	P	**Pn**	**06 18 03.0**	**-0.1**
CUIC	**Cuicocha-Domo**	**2.48**	**74**	P	**Pn**	**06 18 04.0**	**+0.4**
CUSW	**Cuicocha Oeste**	**2.48**	**75**	P	**Pn**	**06 18 04.0**	**+0.3**
BBIL	**Ulba Tungurahu**	**2.49**	**115**	P	**Pb**	**06 18 07.0**	**-0.9**
JUI6	**Juive**	**2.50**	**115**	P	**Pb**	**06 18 07.0**	**-1.0**
POND	**Pondoa**	**2.51**	**114**	P	**Pb**	**06 18 07.0**	**-1.2**
BMAS	**Trigal station**	**2.52**	**116**	P	**Pb**	**06 18 07.0**	**-1.4**
RETU	**Refugio**	**2.53**	**115**	P	**Pb**	**06 18 08.0**	**-0.7**
ARRY	**Arrayan**	**2.54**	**116**	P	**Pb**	**06 18 08.0**	**-0.8**
BRUN	**Tungurahua Vol**	**2.55**	**114**	P	**Pb**	**06 18 07.0**	**-1.9**
PIAT	**Ana Tenorio**	**2.55**	**104**	P	**Pb**	**06 18 07.0**	**-2.0**
AOTA	**Otavalo**	**2.56**	**76**	P	**Pn**	**06 18 03.0**	**-1.7**
BPAT	**Tungurahua Vol**	**2.56**	**116**	P	**Pb**	**06 18 08.0**	**-1.2**
ANTS	**Antisana-Sarah**	**2.57**	**93**	P	**Pn**	**06 18 07.0**	**+1.9**
URCU	**Urcuqui**	**2.62**	**72**	P	**Pn**	**06 18 06.0**	**+0.5**
ISPG	**Isla Puna-Puer**	**2.63**	**167**	P	**Pg**	**06 18 13.0**	**-0.3**
CAYR	**Refugio Cayamb**	**2.76**	**82**	P	**Pn**	**06 18 09.0**	**+1.2**
ANGU	**Angureal**	**2.77**	**81**	P	**Pb**	**06 18 11.0**	**-1.7**
YAHU	**Yahuarcocha**	**2.77**	**74**	P	**Pn**	**06 18 10.0**	**+2.3**
CHMA	**Chilma**	**2.95**	**65**	P	**Pn**	**06 18 09.0**	**-1.0**
ARDO	**Archidona, Ten**	**3.00**	**102**	P	**Pb**	**06 18 14.0**	**-2.5**
CHL1	**Volc¡n Chiles**	**3.03**	**67**	P	**Pn**	**06 18 11.0**	**-0.3**
CHL2	**Volc¡n Chiles**	**3.06**	**67**	P	**Pn**	**06 18 11.0**	**-0.7**
TULM	**Tulcn-Chalpat**	**3.15**	**70**	*eP*	**Pb**	**06 18 19.8**	**+0.6**
CMBC	**Cumbal**	**3.20**	**66**⇑	*eP*	**Pn**	**06 18 14.4**	**+0.8**
ARNL	**Arenillas**	**3.22**	**168**	P	**Pb**	**06 18 19.0**	**-1.1**
BONI	**La Bonita**	**3.32**	**76**	P	**Pn**	**06 18 17.0**	**+1.9**
BOSC	**San Juan Bosco**	**3.55**	**141**	P	**Pb**	**06 18 24.0**	**-1.9**
GCUF	**Volcan Galeras**	**3.75**	**65**	*eP*	**Pn**	**06 18 21.6**	**+0.3**
GR1C	**Gorgona, Isla**	**4.23**	**37**	*eP*	**Pb**	**06 18 37.7**	**+0.3**
CRUC	**La Cruz**	**4.26**	**63**⇑	*eP*	**Pn**	**06 18 30.6**	**+2.5**
ZUMB	**Zumba**	**4.73**	**160**	P	**Pn**	06 18 40.0	+5.6
SOTA	**Rioblanco**	**4.83**	**59**	*eP*	**Pn**	**06 18 37.7**	**+1.7**
POPC	**Popayan, Colom**	**4.99**	**54**	*eP*	**Pn**	**06 18 39.5**	**+1.4**
PCON	**Cinco Dias**	**5.11**	**58**	*eP*	**Pn**	**06 18 41.3**	**+1.4**
MAES	**Baez Belalcaza**	**5.76**	**56**	*eP*	**Pn**	**06 18 49.3**	**+1.7**
GARC	**Garzon, Huila**	**5.83**	**64**	*eP*	**Pn**	**06 18 50.3**	**+0.6**
PTLC	**Puerto Leguiza**	**5.97**	**85**	*eP*	**Pn**	**06 18 52.1**	**+0.8**
YOTC	**Yotoco, Valle**	**6.17**	**45**	*eP*	**Pn**	**06 18 55.7**	**+1.5**
ORTC	**Ortega, Tolima**	**6.95**	**52**	*eP*	**Pn**	**06 19 04.7**	**-0.1**
ANIL	**Santa Ana**	**7.20**	**48**	*eP*	**Pn**	**06 19 11.9**	**+3.4**
MACC	**Macarena, Meta**	**7.33**	**70**	*eP*	**Pn**	**06 19 10.1**	**0.0**
GUY2C	**Guyana, Caldas**	**7.74**	**44**	*eP*	Pn	06 19 20.9	+4.9
CBOC	**Ciudad Bolivar**	**7.80**	**37**⇑	*eP*	Pn	06 19 22.6	+6.1
ROSC	**El Rosal**	**8.25**	**51**	Pn	Pn	06 19 28.4	+5.4
	1.4nm,0.3s,baz=300,slow=23,SNR=2.0						
ROSC				Sn	**Sn**	**06 20 56.9**	**+0.4**
	0.7nm,0.3s,baz=84,slow=21,SNR=1.2						
NORC	**Norcasia**	**8.32**	**45**	*eP*	Pn	06 19 31.6	+8.0
VILC	**Villavicencio,**	**8.34**	**58**	*eP*	**Pn**	**06 19 20.0**	**-3.1**
CHIC	**Chingaza**	**8.59**	**55**⇑	*eP*	**Pn**	**06 19 28.0**	**+0.3**
SPBC	**San Pablo de B**	**8.96**	**48**	*eP*	**Pn**	**06 19 31.6**	**-0.8**
PTBC	**PUERTO BERRIO,**	**9.31**	**42**	*eP*	**Pn**	**06 19 38.8**	**+1.7**
ZARC	**Zaragoza, Cauc**	**9.78**	**37**	*eP*	Pn	06 19 51.4	+7.8
SDV	**Santo Domingo**	**13.64**	**47**	Pn	**P**	**06 20 45.3**	**-0.4**
	0.6nm,0.3s,baz=239,slow=13,SNR=7.3						
LPAZ	**La Paz**	**20.11**	**142**	P	Pn	06 22 00.6	+1.1
	2.0nm,0.7s,baz=308,slow=8.2,SNR=12						
SIV	**San Ignacio**	**24.84**	**130**	P	**P**	**06 22 47.3**	**+1.5**
	1.1nm,0.7s,baz=317,slow=8.9,SNR=3.8						
TXAR	**Lajitas Array**	**36.78**	**325**	P	**P**	**06 24 30.6**	**-0.4**
	0.4nm,0.9s,baz=156,slow=6.9,SNR=2.6						
ANMO	**Albuquerque**	**42.58**	**328**	P	**P**	**06 25 19.2**	**-0.1**
	3.0nm,1.0s,baz=147,slow=8.6,SNR=7.0						
PDAR	**Pinedale Array**	**50.15**	**332**	P	**P**	**06 26 20.5**	**+1.6**
	0.4nm,0.9s,baz=149,slow=2.1,SNR=3.9						
NVAR	**Mina Array Bea**	**51.79**	**322**	P	**P**	**06 26 30.7**	**-0.6**
	0.9nm,0.8s,baz=128,slow=7.1,SNR=3.5						
YKA	**Yellowknife Ar**	**67.69**	**344**	P	**P**	**06 28 18.7**	**-1.2**
	0.2nm,0.7s,baz=144,slow=5.8,SNR=5.4						
INK	**Inuvik**	**77.36**	**342**	P	**P**	**06 29 18.9**	**+1.3**
	0.9nm,0.8s,baz=96,slow=2.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**82.72**	**77**	P	**P**	**06 29 47.0**	**-0.6**
	0.4nm,0.6s,baz=281,slow=4.7,SNR=2.8						
WRA	**Warramunga Arr**	**140.14**	**238**	PKP	**PKPdf**	**06 36 52.2**	**-0.7**
	0.3nm,0.8s,baz=109,slow=2.1,SNR=1.8						

*CNRM **22** 06:18:27.7, 35°.43N × 3°.75W, h17km, ml2.4*
*MDD **22** 06:18:29.8± 0.5, 35°.30N × 3°.75W, h23km ± 1km, mb_Lg2.4/12, Error ellipse: s-maj=4.8km s-min=2.6km az=164.0*
*INMG **22** 06:18:29.4± 1.5, 35°.42N × 3°.78W, h7km ± 5km, ML2.2, Error ellipse: s-maj=3.6km s-min=3.2km az=123.0*
*SFS **22** 06:18:29.0, 35°.30N × 3°.75W, h23km, ML2.4, ALBORAN SUR*
ISC 22 06:18:28.5±0.9, **35°.41N**±0°.02 × **3°.79W**±0°.02, **h15**km±7km, **n45**, σ1**s57**/77, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.23**	**213**	P	**Pg**	**06 18 32.9**	**-0.8**
PALE				S	**Sg**	**06 18 37.5**	**+0.3**
PVLZ	**Peæn de**	**0.48**	**241**	P	**Pg**	**06 18 38.2**	**+0.1**
PVLZ				S	**Sg**	**06 18 44.6**	**0.0**
GOG	**Mont Gurugu**	**0.67**	**106**	P	**Pg**	**06 18 41.0**	**-0.8**
GOG	**Mont Gurugu**	**0.67**	**106**	P	**Pg**	**06 18 40.8**	**-0.9**
GOG				S	**Sg**	**06 18 50.1**	**-0.6**
EMEL	**Melilla**	**0.69**	**99**	Pg	**Pg**	**06 18 41.9**	**0.0**
EMEL				Sg	**Sb**	**06 18 51.7**	**+0.2**
EALB	**Alboran**	**0.81**	**49**	Pg	**Pg**	**06 18 43.5**	**-0.7**
EALB				Sg	**Sb**	**06 18 55.0**	**0.0**
EALB				*i* Vmb_Lg		06 18 56.0	
AKLM	**AKL**	**0.90**	**184**	P	**Pn**	**06 18 49.0**	**+2.3**
TAF	**Taforalt**	**1.27**	**118**	P	**Pg**	**06 18 53.0**	**0.0**
TAF	**Taforalt**	**1.27**	**118**	P	**Pn**	**06 18 50.6**	**-1.2**
TAF				S	**Sb**	**06 19 08.1**	**-0.3**
CHEFC	**Chefchaouen**	**1.31**	**257**	P	**Pg**	**06 18 54.0**	**+0.3**
CHEFC	**Chefchaouen**	**1.31**	**257**	P	**Pn**	**06 18 52.3**	**0.0**
CHEFC				S	**Sg**	**06 19 13.3**	**+2.5**
SMIR	**Smir Dam**	**1.33**	**282**	P	**Pn**	**06 18 49.8**	**-2.7**
SMIR				S	**Sg**	**06 19 11.9**	**+0.5**
CEU	**Ceuta**	**1.38**	**291**	P	**Pn**	**06 18 49.2**	**-4.0**
CEU				S	**Sn**	**06 19 04.4**	**-6.8**
ECEU	**Ceuta**	**1.38**	**291**	Pn	**Pn**	**06 18 50.9**	**-2.3**
ECEU				Sn	**Sn**	**06 19 08.4**	**-2.9**
ECEU				*i* Vmb_Lg		06 19 08.8	
EMIJ	**Mijas**	**1.40**	**325**	Pn	**Pn**	**06 18 52.8**	**-0.8**
EMIJ				Sn	**Sn**	**06 19 10.5**	**-1.3**
EMIJ				*i* Vmb_Lg		06 19 20.3	
ELGU	**Los Guajares,**	**1.46**	**5**	Pn	**Pn**	**06 18 53.3**	**-1.1**
ELGU				Sn	**Sn**	**06 19 12.9**	**-0.4**
ELGU				*i* Vmb_Lg		06 19 18.9	
JBK	**JBK**	**1.47**	**137**	P	**Pb**	**06 18 56.0**	**+0.3**
JBK	**JBK**	**1.47**	**137**	P	**Pn**	**06 18 53.4**	**-1.3**
JBK				S	**Sn**	**06 19 12.2**	**-1.5**
EBER	**Berja**	**1.65**	**26**	Pn	**Pn**	**06 18 56.8**	**-0.3**
EBER				Sn	**Sn**	**06 19 17.7**	**-0.5**
EBER				*i* Vmb_Lg		06 19 24.5	
EGOR	**Sierra Gorda,**	**1.71**	**351**	Pn	**Pb**	**06 18 59.1**	**-0.7**
EGOR				Sn	**Sb**	**06 19 21.0**	**-0.3**
EGOR				*i* Vmb_Lg		06 19 29.2	
LCRM	**LCR**	**1.94**	**208**	P	**Pg**	**06 19 08.2**	**+2.3**
ENIJ	**Nijar**	**2.01**	**39**	Sn	**Sn**	**06 19 24.8**	**-2.1**
ENIJ				*i* Vmb_Lg		06 19 34.5	
MD31	**MD31**	**2.66**	**198**	P	**Pn**	**06 19 11.9**	**+0.9**
MD31				S	**Sn**	**06 19 42.2**	**-0.8**
MDT	**Midelt**	**2.68**	**195**	P	**Pn**	**06 19 11.6**	**+0.4**
MDT				S	**Sn**	**06 19 41.9**	**-1.5**
EADA	**Adamuz**	**2.82**	**347**	Pn	**Pn**	**06 19 14.2**	**+1.1**
EADA				Sn	**Sn**	**06 19 49.2**	**+2.4**
ECAB	**El Cabril**	**2.96**	**334**	Pn	**Pn**	**06 19 15.9**	**+0.8**
ECAB				Sn	**Sn**	**06 19 51.5**	**+1.1**
ECAB				*i* Vmb_Lg		06 19 58.1	
ECAB				Sg	**Sb**	**06 19 59.8**	**+2.7**
EZAR	**Zarzadilla de**	**2.98**	**34**	Pn	**Pn**	**06 19 16.3**	**+1.0**
EZAR				Sn	**Sn**	**06 19 50.7**	**-0.1**
EMUR	**La Murta**	**3.17**	**39**	S

CAPV Capacho 2.14 197 *e*P **Pb 07 04 21.3 -1.1**
CAPV *e*S **Sn 07 04 46.5 0.0**
SANV Sanarito 2.17 101 *e*P **Pb 07 04 21.9 -1.0**
SANV *e*S **Sn 07 04 47.2 +0.1**
OCAC Ocana 2.32 224 *e*P **Pg 07 04 26.9 -0.7**
OCAC *e*S **Sb 07 04 56.1 +1.7**
OCAC *i* 07 05 01.1
comp=Z,47nm,0.3s

IDC 22 07:14:35.0±2.5, 54°17N×86°37E, h0km, mb1 2.8/2, mb1mx2.8/45, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=19.6km s-min=12.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**257**	*i*		07 20 40.0	
	baz=74,slow=324,SNR=4.9						
ZALV	**Zalesovo Beam**	**0.94**	**257**	Pg	Pg	07 14 52.1	-0.8
	2.8nm,0.3s,baz=75,slow=17,SNR=40						
ZALV				Lg	Lg	07 15 06.9	
	5.7nm,0.3s,baz=78,slow=31,SNR=32						
ZALV				Rg	Rg	07 15 10.8	
	13nm,0.8s,baz=81,slow=32,SNR=15						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	07 16 04.3	-0.2
	0.1nm,0.3s,baz=53,slow=14,SNR=8.5						
KURBB				Lg	Lg	07 17 44.2	
	0.0nm,0.3s,baz=60,slow=33,SNR=1.9						
MKAR	**Makanchi Array**	**7.83**	**201**	Pn	Pn	07 16 32.0	+1.9
	0.1nm,0.3s,baz=24,slow=14,SNR=6.4						
MKAR				Lg	Lg	07 18 41.9	
	0.0nm,0.3s,baz=30,slow=32,SNR=3.1						

*IDC **22** 07:28:40.4±0.5, 29.°57S×111.°59W, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.2/27, mbtmp4.1/15, ML3.6/1, MS4.2/43, Ms1 4.2/43, ms1mx4.1/54, Error ellipse: s-maj=19.8km s-min=17.4km az=118.0*

*NEIC **22** 07:28:44.8±1.8, 29.°5S±0.°1×111.°8W±0.°1, h10km±1km, mb5.0/116, Error ellipse: s-maj=21.6km s-min=15.0km az=126.0*

*BJI **22** 07:28:45.0±0.0, 29.°50S×111.°90W, h10km, mB5.1/1, Ms5.4/1, Ms7 5.1/2*

*GCMT **22** 07:28:45.8±0.2, 29.°74S±0.°01×111.°82W±0.°01, h17km±1km, MW5.0/109, Moment Tensor Solution. s45,c53; s109,c162; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.40±.11; Mθθ-2.72±.09; Mϕϕ3.12±.11; Mrθ-1.44±.28; Mθϕ-2.06±.08; Mϕr-0.53±.23; Best double couple: Mo3.89800×10^16 NP1:ϕs120.00000°, δ73.00000°, λ-164.00000°. NP2:ϕs25.00000°, δ75.00000°, λ-17.00000°. Principal axes: T 3.7750, Plg1.0000°, Azm73.0000°; N 0.2480, Plg67.0000°, Azm165.0000°; P -4.0210, Plg23.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 07:28:44.7±0.4, 29°44S±0.°07×111°82W±0.°08, h16km, n383, σ1s38/335, mb5.0/68, MS4.3/46, 1C-1D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**3.09**	**43**	Pn	**Pn**	**07 29 33.9**	**+1.1**
RPN	**Rapa Nui**	**3.18**	**44**	Pn	**Pn**	**07 29 30.8**	**-3.2**
	7.5nm,0.3s,baz=201,slow=10,SNR=5.0						
RPN				Sn	**Sn**	**07 30 11.2**	**-0.4**
	4.5nm,0.3s,baz=288,slow=11,SNR=3.8						
RPN	**Rapa Nui**	**3.18**	**44**		**Pn**	**07 29 33.4**	**-0.6**
RKT	**Rikitea**	**21.68**	**281**	*e*T	T	07 55 42.8	
	5.2nm,0.3s						
H03N2	**Juan Fernandez**	**28.27**	**107**	T	T	08 04 00.2	
	baz=272,slow=73,SNR=489						
H03S2	**Juan Fernandez**	**28.27**	**107**	T	T	08 04 17.6	
	baz=274						
H03N3	**Juan Fernandez**	**28.28**	**107**	T	T	08 04 04.6	
	baz=272,slow=73,SNR=849						
H03S3	**Juan Fernandez**	**28.29**	**107**	T	T	08 04 14.6	
	baz=274						
H03N1	**Juan Fernandez**	**28.29**	**107**	T	T	08 04 04.3	
	baz=272,slow=73,SNR=1370						
H03S1	**Juan Fernandez**	**28.29**	**107**	T	T	08 04 15.3	
	baz=274						
LL05	**Los Muermos**	**33.19**	**122**	P	**P**	**07 35 22.8**	**+2.1**
TAOE	**Nuku Hiva Isla**	**33.53**	**302**	*e*LQ	LQ	07 42 40.5	
	575nm,25.8s						
TAOE				*e*LR	LR	07 44 05.9	
	comp=Z,544nm,25.3s,baz=134						
TBI	**Tubuai**	**34.16**	**271**	*e*LQ	LQ	07 42 59.7	
	817nm,27.0s						
TBI				*e*LR	LR	07 44 22.5	
	comp=Z,1μm,26.0s,baz=107						
TBI	**Tubuai**	**34.16**	**271**	*e*T	T	08 11 23.9	
	3.6nm,0.3s						
AY01	**Puyuhuapi**	**34.34**	**127**	P	**P**	**07 35 29.5**	**-1.1**
AY01				IAmb	IAmb	07 35 37.0	
	comp=Z,47nm,1.6s						
ML02	**Panimavida**	**34.43**	**111**	P	**P**	**07 35 31.4**	**-0.2**
ML02				IAmb	IAmb	07 35 38.0	
	comp=Z,29nm,1.1s						
LL02	**Futaleuf**	**34.67**	**124**	P	**P**	**07 35 34.9**	**+1.3**
LL02				IAmb	IAmb	07 35 36.0	
	comp=Z,29nm,1.4s						
COYC	**Coyhaique**	**34.99**	**128**	P	**P**	**07 35 38.8**	**+2.5**
COYC				IAmb	IAmb	07 35 45.3	
	comp=Z,36nm,1.1s						
MT05	**Renca**	**35.12**	**107**	P	**P**	**07 35 38.6**	**+1.0**
MT05				IAmb	IAmb	07 35 42.0	
	comp=Z,33nm,1.1s						
MT03	**Universidad Ad**	**35.30**	**107**	P	**P**	**07 35 40.2**	**+1.0**
MT03				IAmb	IAmb	07 35 43.9	
	comp=Z,26nm,1.1s						
PLCA	**Paso Flores**	**35.30**	**120**	P	**P**	**07 35 36.1**	**-3.0**
	comp=Z,1.5nm,0.8s,baz=342,slow=8.9,SNR=2.8						
PLCA				LR	LR	07 46 12.3	
	comp=Z,174nm,20.2s,baz=275,slow=30						
PLCA	**Paso Flores**	**35.30**	**120**	P	**P**	**07 35 40.4**	**+1.3**
PLCA	**Paso Flores**	**35.30**	**120**	*e*P	**P**	**07 35 36.3**	**-2.8**
LMEL	**Las Melosas**	**35.52**	**108**	P	**P**	**07 35 41.2**	**0.0**
LMEL				IAmb	IAmb	07 35 49.0	
	comp=Z,30nm,1.1s						
PPT2	**Papeete2**	**36.42**	**280**	*e*LR	LR	07 45 23.0	
	comp=Z,1μm,27.2s,baz=11						
PPT	**Papeete**	**36.43**	**280**	LR	LR	07 46 49.6	
	comp=Z,140nm,18.1s,baz=91,slow=30						
GO03	**Copiap**	**36.45**	**97**	P	**P**	**07 35 48.9**	**-0.2**
NNA	**Nana**	**36.84**	**69**	LR	LR	07 47 20.1	
	comp=Z,861nm,18.6s,baz=218,slow=30						
ZON	**Zonda**	**37.06**	**104**	P	**P**	**07 35 54.7**	**+0.5**
ZON				IAmb	IAmb	07 36 01.7	
	comp=Z,25nm,1.2s						
AC02	**Maricunga**	**37.58**	**97**	P	**P**	**07 35 58.0**	**-1.1**
AC02				IAmb	IAmb	07 36 07.2	
	comp=Z,41nm,1.7s						
LVC	**Limon Verde**	**38.98**	**90**	P	**P**	**07 36 06.8**	**-4.0**
	comp=Z,2.0nm,0.6s,baz=256,slow=9.6,SNR=1.7						
LVC				LR	LR	07 48 03.4	
	comp=Z,620nm,19.1s,baz=250,slow=30						
MCRA	**Macar, Loja**	**39.13**	**57**	P	**P**	**07 36 11.4**	**-0.4**
PB12	**IPOC Station P**	**39.21**	**84**	P	**P**	**07 36 11.6**	**-0.9**
ARNL	**Arenillas**	**39.61**	**55**	P	**P**	**07 36 14.4**	**-1.3**
ARNL				IAmb	IAmb	07 36 25.5	
	comp=Z,52nm,1.2s						
PB08	**IPOC Station P**	**39.64**	**86**	P	**P**	**07 36 16.4**	**0.0**
USHA	**Ushuaia**	**40.04**	**142**	LR	LR	07 49 12.7	
	comp=Z,625nm,19.9s,baz=261,slow=31						
BOSC	**San Juan Bosco**	**41.02**	**57**	P	**P**	**07 36 26.3**	**-1.3**
PORT	**Chimborazo Vol**	**41.98**	**55**	P	**P**	**07 36 35.7**	**-0.3**
PORT				IAmb	IAmb	07 36 42.9	
	comp=Z,42nm,0.8s						
LPAZ	**La Paz**	**42.09**	**82**	P	**P**	**07 36 34.1**	**-2.8**
	comp=Z,1.6nm,0.8s,baz=274,slow=7.0,SNR=5.6						
LPAZ				PcP	**PcP**	**07 38 29.2**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=235,slow=2.7,SNR=1.4						
LPAZ				LR	LR	07 50 01.9	
	comp=Z,433nm,18.9s,baz=251,slow=31						
LPAZ	**La Paz**	**42.09**	**82**	P	**P**	**07 36 36.2**	**-0.7**
LPAZ	**La Paz**	**42.09**	**82**	*e*P	**P**	**07 36 35.2**	**-1.8**
CZSB	**Cruzeiro do Su**	**42.60**	**67**	*e*P	**P**	**07 36 40.0**	**-0.4**
PULU	**Pululahua**	**43.22**	**53**	P	**P**	**07 36 45.1**	**-0.7**
PULU				IAmb	IAmb	07 36 51.9	
	comp=Z,22nm,0.9s						
RAR	**Rarotonga**	**43.87**	**269**	LR	LR	07 49 50.5	
	comp=Z,426nm,20.2s,baz=148,slow=29						
PMSA	**Palmer Station**	**46.13**	**154**	LR	LR	07 51 21.8	
	comp=Z,297nm,20.4s,baz=290,slow=30						
ETMB	**Extrema**	**46.82**	**75**	*e*P	**P**	**07 37 13.1**	**-1.0**
TBTG	**Tabatinga, AM**	**46.93**	**66**	*e*P	**P**	**07 37 12.6**	**-2.3**
JTS	**Las Juntas de**	**47.23**	**37**	LR	LR	07 52 13.5	
	comp=Z,302nm,18.4s,baz=276,slow=30						
JTS	**Las Juntas de**	**47.23**	**37**	P	**P**	**07 37 17.9**	**+0.7**
JTS				IAmb	IAmb	07 37 24.6	
	comp=Z,16nm,1.0s						
BRU2	**Volcan**	**47.24**	**41**	P	**P**	**07 37 19.6**	**+2.1**
CPUP	**Villa Florida**	**47.90**	**100**	LR	LR	07 53 54.4	
	comp=Z,286nm,20.5s,baz=256,slow=32						
SIV	**San Ignacio**	**48.34**	**85**	LR	LR	07 54 09.8	
	comp=Z,439nm,19.9s,baz=290,slow=32						
TLIG	**Tlapa**	**48.45**	**17**	P	**P**	**07 37 28.3**	**+1.6**
TLIG				IAmb	IAmb	07 37 33.4	
	comp=Z,20nm,0.9s						
MTO3	**Montecristo**	**48.68**	**30**	P	**P**	**07 37 29.1**	**+0.5**
MTO3				IAmb	IAmb	07 37 35.2	
	comp=Z,14nm,1.1s						
ESQI	**Esquipulas**	**48.83**	**29**	P	**P**	**07 37 31.5**	**+1.9**
CMIG	**Matias Romero**	**49.06**	**22**	LR	LR	07 54 30.4	
	comp=Z,49nm,18.0s,baz=188,slow=32						
ROSC	**El Rosal**	**49.56**	**53**	P	**P**	**07 37 31.9**	**-3.7**
	comp=Z,1.7nm,0.3s,baz=238,slow=15,SNR=1.4						
ROSC				LR	LR	07 55 05.4	
	comp=Z,502nm,19.4s,baz=226,slow=32						
ROSC	**El Rosal**	**49.56**	**53**	P	**P**	**07 37 36.3**	**+0.6**
ROSC				IAmb	IAmb	07 37 43.3	
	comp=Z,21nm,1.1s						
PTLB	**Pontes e Lacer**	**50.25**	**86**	*e*P	**P**	**07 37 37.8**	**-2.7**
PETF	**Flores**	**50.72**	**28**	P	**P**	**07 37 44.8**	**+0.9**
PETF				IAmb	IAmb	07 37 54.1	
	comp=Z,24nm,1.0s						
ZARC	**Zaragoza, Cauc**	**51.11**	**50**	P	**P**	**07 37 46.4**	**-0.5**
ZARC				IAmb	IAmb	07 37 52.3	
	comp=Z,14nm,0.7s						
ZAIG	**Zacatecas**	**52.66**	**11**	P	**P**	**07 38 00.7**	**+2.0**
SJCC	**San Jacinto, C**	**52.69**	**48**	P	**P**	**07 38 00.1**	**+1.4**
SJCC				IAmb	IAmb	07 38 05.0	
	comp=Z,34nm,1.2s						
LPIG	**La Paz**	**53.25**	**2**	LR	LR	07 55 30.7	
	comp=Z,221nm,19.5s,baz=188,slow=30						
NBRS	**Nobres**	**53.66**	**86**	*e*P	**P**	**07 38 03.5**	**-2.5**
SDV	**Santo Domingo**	**54.99**	**53**	LR	LR	07 58 55.0	
	comp=Z,262nm,18.1s,baz=212,slow=33						
SDV	**Santo Domingo**	**54.99**	**53**	P	**P**	**07 38 16.3**	**+0.5**
SDV				IAmb	IAmb	07 38 22.5	
	comp=Z,14nm,1.1s						
SDV	**Santo Domingo**	**54.99**	**53**	*e*P	**P**	**07 38 14.2**	**-1.6**
CLDB	**Colider**	**55.21**	**83**	*e*P	**P**	**07 38 19.2**	**+1.9**
FRTB	**Fartura**	**55.53**	**99**	*e*P	**P**	**07 38 19.4**	**-0.1**
AFI	**Afiamalu**	**57.26**	**272**	LR	LR	07 56 58.2	
	comp=Z,102nm,20.9s,baz=108,slow=30						
BOAV	**Boa Vista**	**58.35**	**66**	*e*P	**P**	**07 38 42.0**	**+2.5**
URZ	**Urewera**	**58.38**	**241**	P	**P**	**07 38 38.5**	**-0.9**
	comp=Z,8.8nm,1.0s,baz=342,slow=19,SNR=3.5						
URZ				LR	LR	07 58 06.5	
	comp=Z,547nm,19.9s,baz=210,slow=30						
URZ	**Urewera**	**58.38**	**241**	IAmb	IAmb	07 38 56.7	
	comp=Z,12nm,1.1s						
BFZ	**Birch Farm**	**58.45**	**238**	P	**P**	**07 38 43.6**	**+3.7**
ITTB	**Itaituba**	**58.51**	**76**	*e*P	**P**	**07 38 41.8**	**+1.1**
SNDB	**Serra Nova Dou**	**58.61**	**86**	*e*P	**P**	**07 38 38.5**	**-2.8**
833A	**Chaparral WMA,**	**58.65**	**13**	P	**P**	**07 38 42.3**	**+1.0**
833A	**Chaparral WMA,**	**58.65**	**13**	P	**P**	**07 38 41.9**	**+0.7**
	baz=193,SNR=6.9						
833A	**Chaparral WMA,**	**58.65**	**13**	P	**P**	**07 38 41.0**	**-0.2**
	baz=193,SNR=6.9						
IPMB	**Ipameri, GO**	**58.73**	**94**	*e*P	**P**	**07 38 41.4**	**-0.8**
BELA	**Belgrano 2**	**58.75**	**166**	P	**P**	**07 38 40.2**	**-1.2**
BELA				IAmb	IAmb	07 38 44.5	
	comp=Z,10.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**58.96**	**8**	P	**P**	**07 38 46.2**	**+2.7**
TX32	**Lajitas Array**	**58.96**	**8**	P	**P**	**07 38 45.5**	**+2.0**
TXAR	**Lajitas Array**	**58.96**	**8**	P	**P**	**07 38 43.4**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=195,slow=9.1,SNR=11						
TXAR				LR	LR	07 59 35.7	
	comp=Z,80nm,18.4s,baz=186,slow=31						
TXAR	**Lajitas Array**	**58.96**	**8**	P	**P**	**07 38 46.0**	**+2.5**
SBA	**Scott Base**	**59.64**	**194**	P	**P**	**07 38 49.2**	**+1.7**
SBA				IAmb	IAmb	07 38 52.0	
	comp=Z,12nm,1.1s						
BDFB	**Brasilia**	**59.87**	**92**	P	**P**	**07 38 46.4**	**-3.8**
	comp=Z,2.2nm,0.9s,baz=216,slow=21,SNR=2.2						
BDFB				LR	LR	08 01 39.4	
	comp=Z,110nm,18.9s,baz=264,slow=33						
319A	**Douglas**	**60.53**	**2**	P	**P**	**07 38 55.9**	**+1.6**
319A				IAmb	IAmb	07 39 00.6	
	comp=Z,19nm,0.9s						
JCT	**Junction City**	**60.67**	**12**	P	**P**	**07 38 55.3**	**+0.1**
JCT	**Junction City**	**60.67**	**12**	P	**P**	**07 38 55.1**	**0.0**
	baz=192,SNR=7.9						
JCT	**Junction City**	**60.67**	**12**	P	**P**	**07 38 55.5**	**+0.3**
	baz=192,SNR=7.9						
VNDA	**Vanda**	**60.70**	**194**	P	**P**	**07 38 52.7**	**-2.1**
	comp=Z,2.6nm,1.0s,baz=87,slow=12,SNR=4.9						
VNDA				LR	LR	08 00 29.7	
	comp=Z,233nm,18.7s,baz=86,slow=32						
VNDA	**Vanda**	**60.70**	**194**	P	**P**	**07 38 55.8**	**+1.0**
QSPA	**South Pole Qui**	**60.74**	**180**	LR	LR	08 01 58.7	
	comp=Z,129nm,18.1s,baz=104,slow=33						
HKT	**Hockley**	**60.99**	**16**	P	**P**	**07 38 58.0**	**+0.8**
HKT				IAmb	IAmb	07 39 08.1	
	comp=Z,22nm,1.4s						
214A	**Organ Pipe Nat**	**61.06**	**359**	P	**P**	**07 38 59.4**	**+1.6**
214A	**Organ Pipe Nat**	**61.06**	**359**	P	**P**	**07 38 57.6**	**-0.2**
	baz=179						
MNTX	**Cornudas Mount**	**61.11**	**6**	P	**P**	**07 38 58.0**	**-0.1**
MNTX	**Cornudas Mount**	**61.11**	**6**	P	**P**	**07 38 58.3**	**+0.2**
	baz=186,SNR=5.9						
MNTX	**Cornudas Mount**	**61.11**	**6**	P	**P**	**07 38 57.7**	**-0.4**
	baz=186,SNR=5.9						
435B	**Jarrell**	**61.40**	**14**	P	**P**	**07 39 00.9**	**+0.8**
435B	**Jarrell**	**61.40**	**14**	P	**P**	**07 39 00.0**	**-0.1**
	baz=194						
TUC	**Tucson**	**61.42**	**1**	P	**P**	**07 39 01.7**	**+1.5**
TUC	**Tucun**	**61.42**	**1**	P	**P**	**07 39 01.0**	**+0.7**
	baz=181						
RPZ	**Rata Peaks**	**61.47**	**234**	LR	LR	08 00 57.9	
	comp=Z,269nm,18.6s,baz=99,slow=32						
121A	**Cookes Peak, D**	**61.75**	**4**	P	**P**	**07 39 03.5**	**+0.9**
	baz=184						
113A	**Mohawk Valley,**	**61.90**	**358**	P	**P**	**07 39 06.2**	**+2.9**
113A				IAmb	IAmb	07 39 13.8	
	comp=Z,28nm,2.0s						
DUB01	**Friburgo-RJ**	**62.17**	**101**	*e*P	**P**	**07 39 09.8**	**+4.1**
WHTX	**Lake Whitney,**	**62.60**	**14**	P	**P**	**07 39 08.6**	**+0.5**
WHTX	**Lake Whitney,**	**62.60**	**14**	P	**P**	**07 39 08.4**	**+0.3**
	baz=194						
ABTX	**Abilene, Hawle**	**62.80**	**12**	P	**P**	**07 39 10.0**	**+0.6**
ABTX				IAmb	IAmb	07 39 14.7	
	comp=Z,16nm,1.1s						
ABTX	**Abilene, Hawle**	**62.80**	**12**	P	**P**	**07 39 09.5**	**+0.1**
	baz=192,SNR=5.0						
ABTX	**Abilene, Hawle**	**62.80**	**12**	P	**P**	**07 39 10.0**	**+0.6**
	baz=192,SNR=5.0						
BC3	**Big Chuckawall**	**62.85**	**357**	P	**P**	**07 39 09.3**	**-0.5**
	baz=176						
TPFO	**Pinon Flats**	**62.86**	**356**	P	**P**	**07 39 09.8**	**-0.2**
	baz=175						
PFO	**Pinyon Flats O**	**62.86**	**356**	LR	LR	08 00 11.8	
	comp=Z,155nm,20.0s,baz=184,slow=30						
PFO	**Pinyon Flats O**	**62.86**	**356**	P	**P**	**07 39 10.5**	**+0.5**
	baz=175						
NATX	**Nacogdoches**	**63.01**	**16**	P	**P**	**07 39 10.8**	**0.0**
	baz=197						
Y14A	**Wickenburg**	**63.05**	**359**	P	**P**	**07 39 12.4**	**+1.3**
Y22A	**Socorro**	**63.20**	**5**	P	**P**	**07 39 12.9**	**+0.6**
	baz=185,SNR=6.7						
BELC	**Belle Mtn. Jos**	**63.22**	**356**	P	**P**	**07 39 13.2**	**+0.8**
	baz=176						
SMTB	**Santa Maria do**	**63.28**	**85**	*e*P	**P**	**07 39 10.9**	**-2.2**
X16A	**Lo Mia Camp, P**	**63.51**	**0**	P	**P**	**07 39 15.3**	**+0.9**
MSTX	**Muleshoe**	**63.64**	**8**	P	**P**	**07 39 14.8**	**-0.3**
MSTX	**Muleshoe**	**63.64**	**8**	P	**P**	**07 39 15.5**	**+0.4**
	baz=189,SNR=7.1						
MSTX	**Muleshoe**	**63.64**	**8**	P	**P**	**07 39 14.8**	**-0.3**
	baz=189,SNR=7.1						
X18A	**Snowflake**	**63.65**	**2**	P	**P**	**07 39 16.0**	**+0.8**
X18A				IAmb	IAmb	07 39 21.5	
	comp=Z,11nm,0.9s						
MCPB	**Macapa, AP**	**63.74**	**74**	*e*P	**P**	**07 39 14.9**	**-1.2**
Z35A	**Percha ven, San**	**63.94**	**14**	P	**P**	**07 39 17.6**	**+0.7**
GMRC	**Granite Mounta**	**63.98**	**356**	P	**P**	**07 39 17.2**	**-0.2**
	baz=176						
ANMO	**Albuquerque**	**64.24**	**5**	LR	LR	08 02 05.1	
	comp=Z,132nm,21.6s,baz=190,slow=31						
ANMO	**Albuquerque**	**64.24**	**5**	P	**P**	**07 39 19.0**	**-0.2**
	baz=185						
MSVF	**Nonsavu**	**64.50**	**263**	LR	LR	08 02 36.0	
	comp=Z,87nm,21.3s,baz=114,slow=32						
SJMB	**Sao Joao De Ma**	**64.53**	**98**	*e*P	**P**	**07 39 20.9**	**-0.4**
GSC	**Goldstone, Bar**	**64.57**	**355**	P	**P**	**07 39 23.0**	**+1.9**
GSC				IAmb	IAmb	07 39 27.4	
	comp=Z,9.3nm,0.9s						
GSC	**Goldstone, Bar**	**64.57**	**355**	P	**P**	**07 39 22.2**	**+1.0**
	baz=175						
VBMS	**Vicksburg**	**64.57**	**20**	P	**P**	**07 39 21.3**	**+0.2**
	baz=200						
WUAZ	**Wupatki**	**64.61**	**0**	P	**P**	**07 39 21.5**	**0.0**
	baz=180						
SJG	**San Juan**	**64.62**	**49**	LR	LR	08 05 26.9	
	comp=Z,86nm,18.3s,baz=224,slow=34						
Z41A	**Richland Creek**	**64.91**	**18**	P	**P**	**07 39 24.0**	**+0.7**
X34A	**Smith Ranch, M**	**65.05**	**13**	P	**P**	**07 39 24.2**	**0.0**
X34A				IAmb	IAmb	07 39 33.2	
	comp=Z,18nm,1.0s						
VES	**Vestal, Richgr**	**65.29**	**354**	P	**P**	**07 39 25.8**	**+0.1**
	baz=173						
GWY	**Greenwater Val**	**65.44**	**356**	P	**P**	**07 39 28.9**	**+2.0**
FURC	**Furnace Creek,**	**65.73**	**356**	P	**P**	**07 39 28.9**	**+0.4**
	baz=175						
KNB	**Kanab**	**66.11**	**359**	P	**P**	**07 39 31.6**	**+0.4**
VNA3	**Neumayer Olymp**	**66.21**	**160**	pP	**P**	**07 39 33.2**	**+1.8**
Z47A	**Carrollton**	**66.24**	**22**	P	**P**	**07 39 32.5**	**+0.7**
	baz=202,SNR=5.7						
MDP	**Montagnes des**	**66.29**	**69**	LR	LR	08 05 40.5	
	comp=Z,182nm,18.6s,baz=240,slow=34						
MVCO	**Mesa Verde**	**66.37**	**3**	P	**P**	**07 39 33.9**	**+0.9**
MVCO				IAmb	IAmb	07 39 38.7	
	comp=Z,17nm,1.2s						
MVCO	**Mesa Verde**	**66.37**	**3**	P	**P**	**07 39 33.5**	**+0.5**
	baz=183						
LRAL	**Lakeview Retre**	**66.44**	**23**	P	**P**	**07 39 32.8**	**-0.3**
	baz=203						
T25A	**Trinidad**	**66.59**	**6**	P	**P**	**07 39 34.8**	**+0.5**
	baz=187						
SZCU	**Shurtz Canyon**	**66.69**	**359**	P	**P**	**07 39 36.7**	**+1.7**
TUL1	**Leonard**	**66.73**	**14**	P	**P**	**07 39 34.8**	**-0.2**
	baz=195,SNR=7.0						
TUL1	**Leonard**	**66.73**	**14**	P	**P**	**07 39 35.1**	**+0.1**
	baz=195,SNR=7.0						
W41B	**Gary Mavity, V**	**66.86**	**17**	P	**P**	**07 39 36.5**	**+0.7**
W41B	**Gary Mavity, V**	**66.86**	**17**	P	**P**	**07 39 36.2**	**+0.4**
	baz=198,SNR=7.1						
W41B	**Gary Mavity, V**	**66.86**	**17**	P	**P**	**07 39 36.3**	**+0.5**
	baz=198,SNR=7.1						
VNA1	**Neumayer--Stat**	**66.87**	**159**	pP	**P**	**07 39 37.3**	**+1.8**
S22A	**4UR Ranch, Cre**	**67.00**	**4**	P	**P**	**07 39 37.1**	**+0.1**
	baz=185,SNR=5.7						
VNA2	**Neumayer--Watz**	**67.02**	**160**	pP	**P**	**07 39 38.4**	**+1.8**
	baz=277,slow=4.0						
OXF	**Oxford**	**67.04**	**20**	P	**P**	**07 39 37.1**	**+0.2**
	baz=201						
SDCO	**Great Sand Dun**	**67.09**	**5**	P	**P**	**07 39 38.0**	**+0.4**
	baz=186,SNR=10						
SDCO	**Great Sand Dun**	**67.09**	**5**	P	**P**	**07 39 38.3**	**+0.7**
	baz=186,SNR=10						
HHAR	**Hobbs**	**67.50**	**16**	P	**P**	**07 39 40.1**	**+0.2**
	baz=197						
R11A	**Troy Canyon, C**	**67.53**	**357**	P	**P**	**07 39 41.0**	**+0.8**
	baz=176						
T35B	**Sooner Cattle**	**67.55**	**13**	P	**P**	**07 39 40.8**	**+0.6**
	baz=194,SNR=5.1						
TCRU	**Three Creeks R**	**67.70**	**359**	P	**P**	**07 39 43.1**	**+1.7**
TCRU				IAmb	IAmb	07 39 47.7	
	comp=Z,8.4nm,0.9s						
NVAR	**Mina Array Bea**	**67.79**	**354**	P	**P**	**07 39 41.8**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=185,slow=8.9,SNR=21						
NVAR				LR	LR	08 02 54.2	
	comp=Z,230nm,19.7s,baz=174,slow=30						
LCAR	**Lake Charles**	**68.00**	**18**	P	**P**	**07 39 44.6**	**+1.6**
SNAA	**Sanae**	**68.03**	**161**	pP	**P**	**07 39 44.7**	**+1.7**
SNAA	**Sanae**	**68.03**	**161**	LR	LR	08 04 44.4	
	comp=Z,127nm,19.4s,baz=290,slow=32						
GOGA	**Godfrey**	**68.03**	**25**	P	**P**	**07 39 43.8**	**+0.6**
	baz=206						
Q24A	**Divide**	**68.33**	**6**	P	**P**	**07 39 46.5**	**+1.0**
	baz=186						
SMCO	**Snowmass**	**68.41**	**4**	P	**P**	**07 39 46.1**	**+0.1**
SMCO				IAmb	IAmb	07 39 55.4	
	comp=Z,10nm,1.1s						
P17A	**Butcher Ranch,**	**68.57**	**1**	P	**P**	**07 39 48.1**	**+1.3**
P17A				IAmb	IAmb	07 39 52.2	
	comp=Z,16nm,1.2s						
KSCO	**Kaye Shedlock'**	**68.64**	**8**	P	**P**	**07 39 47.5**	**+0.4**
KSCO	**Kaye Shedlock'**	**68.64**	**8**	P	**P**	**07 39 48.0**	**+0.9**
	baz=188						
MGMO	**Mountain Grove**	**68.73**	**17**	P	**P**	**07 39 48.5**	**+0.9**
CBKS	**Cedar Bluff**	**68.83**	**10**	P	**P**	**07 39 48.4**	**+0.1**
	baz=191			

TZTN	**Tazewell**	**70.80**	**24**	P		**P**	**07 40 01.0**	**+0.6**
	baz=206							
NBLA	**Lagarto - SE**	**70.83**	**92**	*e*P		**P**	**07 40 03.3**	**+2.1**
M02C	**Callahan**	**71.21**	**351**	P		**P**	**07 40 04.5**	**+1.6**
	baz=170							
Q44A	**Meyer Farm, Va**	**71.24**	**19**	P		**P**	**07 40 03.7**	**+0.8**
	baz=201,SNR=6.9							
YBH	**Yreka Blue Hor**	**71.53**	**351**	LR		LR	08 04 41.5	
	comp=Z,324nm,19.4s,baz=160,slow=30							
N35A	**Tabor**	**71.53**	**13**	P		**P**	**07 40 07.2**	**+2.5**
	baz=195,SNR=5.8							
BGNE	**Belgrade**	**71.62**	**11**	P		**P**	**07 40 06.7**	**+1.4**
BGNE	**Belgrade**	**71.62**	**11**	P		**P**	**07 40 05.7**	**+0.5**
	baz=192							
NBPB	**Pedra_Branca-C**	**71.83**	**86**	*e*P		**P**	**07 40 10.0**	**+2.8**
R49A	**Shelbyville**	**71.83**	**22**	P		**P**	**07 40 07.3**	**+0.8**
	baz=204,SNR=5.0							
R49A				P		**P**	**07 40 07.3**	**+0.8**
	baz=204,SNR=5.0							
CNNC	**Cliffs of the**	**71.84**	**29**	P		**P**	**07 40 06.8**	**+0.1**
	baz=211							
BW06	**Boulder Array**	**71.88**	**2**	P		**P**	**07 40 06.2**	**-0.8**
	baz=182,SNR=7.4							
PDAR	**Pinedale Array**	**71.88**	**2**	P		**P**	**07 40 05.2**	**-1.9**
	comp=Z,2.3nm,0.6s,baz=176,slow=4.5,SNR=18							
PDAR				LR		LR	08 06 37.0	
	comp=Z,101nm,19.2s,baz=190,slow=32							
K22A	**Casper**	**71.90**	**4**	P		**P**	**07 40 07.3**	**+0.2**
K22A				IAmb		IAmb	07 40 12.5	
	comp=Z,21nm,1.2s							
K22A	**Casper**	**71.90**	**4**	P		**P**	**07 40 07.1**	**0.0**
	baz=185,SNR=9.5							
K22A	**Casper**	**71.90**	**4**	P		**P**	**07 40 06.7**	**-0.4**
	baz=185,SNR=9.5							
R50A	**Paris**	**72.10**	**22**	P		**P**	**07 40 09.4**	**+1.3**
	baz=205							
R50A				P		**P**	**07 40 09.4**	**+1.3**
	baz=205							
P46A	**Rosedale**	**72.42**	**20**	P		**P**	**07 40 13.0**	**+3.0**
	baz=202,SNR=6.2							
REDW	**Red Top Meadow**	**72.45**	**1**	P		**P**	**07 40 11.3**	**+0.9**
BLA	**Blacksburg**	**72.54**	**26**	P		**P**	**07 40 12.9**	**+2.0**
	baz=208							
BLA	**Blacksburg**	**72.54**	**26**	P		**P**	**07 40 10.0**	**-0.9**
	baz=208							
TPAW	**Teton Pass**	**72.58**	**1**	P		**P**	**07 40 10.4**	**-0.8**
TPAW				IAmb		IAmb	07 40 16.2	
	comp=Z,11nm,0.8s							
K02D	**Willamette Mer**	**72.60**	**351**	P		**P**	**07 40 11.8**	**+0.7**
	baz=169							
DZM	**Mont Dzumac**	**72.61**	**254**	LR		LR	08 04 34.4	
	comp=Z,295nm,20.9s,baz=60,slow=30							
DZM	**Mont Dzumac**	**72.61**	**254**	*e*S		S	07 49 25.5	-11
	comp=Z,131nm,24.9s							
DZM	**Mont Dzumac**	**72.61**	**254**	*e*LR		LR	08 02 14.4	
	comp=Z,903nm,28.1s,baz=115							
HLID	**Hailey**	**72.68**	**358**	P		**P**	**07 40 12.6**	**+0.9**
HLID				IAmb		IAmb	07 40 17.7	
	comp=Z,11nm,0.9s							
HLID	**Hailey**	**72.68**	**358**	P		**P**	**07 40 11.9**	**+0.2**
	baz=178,SNR=13							
K31A	**O'Neill**	**72.71**	**10**	P		**P**	**07 40 13.7**	**+2.0**
HDIL	**Hopedale**	**72.71**	**18**	P		**P**	**07 40 14.6**	**+2.9**
	baz=200,SNR=6.3							
HDIL	**Hopedale**	**72.71**	**18**	P		**P**	**07 40 12.4**	**+0.6**
	baz=200,SNR=6.3							
MOOW	**Moose Ponds**	**72.84**	**1**	P		**P**	**07 40 13.5**	**+0.7**
J05D	**Fort Rock, OR**	**72.88**	**353**	P		**P**	**07 40 14.3**	**+1.4**
	baz=171,SNR=6.9							
SCIA	**State Center**	**73.04**	**14**	P		**P**	**07 40 13.4**	**-0.3**
	baz=197							
Q51A	**Peebles**	**73.11**	**23**	P		**P**	**07 40 15.9**	**+1.8**
	baz=206							
Q51A				P		**P**	**07 40 15.9**	**+1.8**
	baz=206							
P49A	**Miami Univ. Ec**	**73.11**	**22**	P		**P**	**07 40 14.3**	**+0.1**
	baz=204							
SFIN	**Lafayette**	**73.16**	**19**	P		**P**	**07 40 13.7**	**-0.7**
	baz=202							
FLWY	**Flagg Ranch**	**73.17**	**1**	P		**P**	**07 40 14.8**	**+0.1**
FLWY				IAmb		IAmb	07 40 19.9	
	comp=Z,13nm,0.8s							
RSSD	**Black Hills**	**73.55**	**6**	P		**P**	**07 40 19.7**	**+2.8**
	baz=187,SNR=6.1							
RSSD	**Black Hills**	**73.55**	**6**	P		**P**	**07 40 17.1**	**+0.2**
	baz=187							
YHH	**Holmes Hill**	**73.88**	**1**	P		**P**	**07 40 19.7**	**+0.8**
YHH				IAmb		IAmb	07 40 29.1	
	comp=Z,16nm,1.4s							
I05D	**Terrebonne, OR**	**73.94**	**353**	P		**P**	**07 40 19.2**	**+0.2**
	baz=171							
P52A	**Corning**	**74.06**	**23**	P		**P**	**07 40 19.9**	**+0.1**
	baz=207,SNR=6.2							
ECSD	**EROS Data Cent**	**74.14**	**11**	P		**P**	**07 40 23.2**	**+3.1**
	baz=194,SNR=7.0							
ECSD	**EROS Data Cent**	**74.14**	**11**	P		**P**	**07 40 20.1**	**0.0**
	baz=194,SNR=7.0							
RLMT	**Red Lodge**	**74.24**	**2**	P		**P**	**07 40 22.1**	**+1.1**
RLMT	**Red Lodge**	**74.24**	**2**	P		**P**	**07 40 20.9**	**0.0**
	baz=182,SNR=7.3							
ACSO	**Alum Creek Sta**	**74.31**	**23**	P		**P**	**07 40 21.0**	**-0.2**
	baz=206							
G08A	**Pilot Rock**	**74.66**	**355**	P		**P**	**07 40 24.3**	**+1.1**
BOZ	**Bozeman (W)**	**74.68**	**0**	P		**P**	**07 40 24.2**	**+0.8**
BOZ	**Bozeman (W)**	**74.68**	**0**	P		**P**	**07 40 23.5**	**+0.1**
	baz=180							
RCBR	**Riachuelo**	**74.90**	**88**	LR		LR	08 10 38.2	
	comp=Z,311nm,20.4s,baz=10,slow=34							
MCWV	**Mont Chateau**	**74.91**	**25**	P		**P**	**07 40 24.0**	**-0.7**
	baz=208							
O53A	**New Philadelph**	**74.93**	**24**	P		**P**	**07 40 24.5**	**-0.3**
	baz=207,SNR=5.7							
I37A	**Lemond, Waseca**	**75.02**	**14**	P		**P**	**07 40 27.2**	**+2.0**
N51A	**Ashland**	**75.13**	**23**	P		**P**	**07 40 27.1**	**+1.2**
N51A	**Ashland**	**75.13**	**23**	P		**P**	**07 40 28.0**	**+2.1**
	baz=206							
N51A				P		**P**	**07 40 28.0**	**+2.1**
	baz=206							
L48A	**N Adams**	**75.39**	**21**	P		**P**	**07 40 28.1**	**+0.7**
L48A				IAmb		IAmb	07 40 32.4	
	comp=Z,14nm,0.8s							
HRY	**Holter Researc**	**75.79**	**360**	P		**P**	**07 40 30.1**	**+0.4**
MSO	**Missoula**	**75.94**	**358**	P		**P**	**07 40 31.0**	**+0.5**
	baz=178,SNR=5.8							
LAO	**LASA Array**	**75.94**	**4**	P		**P**	**07 40 31.9**	**+1.4**
LAO				IAmb		IAmb	07 40 35.9	
	comp=Z,23nm,1.2s							
LAO	**LASA Array**	**75.94**	**4**	P		**P**	**07 40 30.9**	**+0.4**
	baz=185							
AAM	**Ann Arbor**	**75.96**	**21**	P		**P**	**07 40 32.1**	**+1.5**
AAM				IAmb		IAmb	07 40 35.8	
	comp=Z,20nm,0.9s							
AAM	**Ann Arbor**	**75.96**	**21**	P		**P**	**07 40 30.4**	**-0.2**
	baz=205							
M53A	**WI Miller and**	**76.18**	**24**	P		**P**	**07 40 31.1**	**-0.8**
	baz=208							
E04D	**Cinebar**	**76.26**	**352**	P		**P**	**07 40 32.6**	**+0.4**
	baz=170							
SPMN	**Marine on St.**	**76.30**	**14**	P		**P**	**07 40 32.9**	**+0.4**
SPMN				IAmb		IAmb	07 40 37.6	
	comp=Z,8.8nm,0.8s							
SPMN	**Marine on St.**	**76.30**	**14**	P		**P**	**07 40 32.3**	**-0.2**
	baz=197							
F36A	**Milaca**	**76.76**	**13**	P		**P**	**07 40 36.2**	**+1.1**
F36A				IAmb		IAmb	07 40 40.6	
	comp=Z,21nm,1.0s							
F36A	**Milaca**	**76.76**	**13**	P		**P**	**07 40 35.9**	**+0.8**
	baz=196,SNR=7.0							
JTMT	**Jette**	**76.86**	**358**	P		**P**	**07 40 37.3**	**+1.5**
JTMT				IAmb		IAmb	07 40 40.9	
	comp=Z,8.0nm,0.8s							
G40A	**Rib Lake**	**76.91**	**15**	P		**P**	**07 40 36.8**	**+0.8**
	baz=199,SNR=5.3							
N58A	**Sunbury**	**77.12**	**27**	P		**P**	**07 40 38.6**	**+1.4**
N58A				IAmb		IAmb	07 40 45.6	
	comp=Z,24nm,1.2s							
EGMT	**Eagleton**	**77.13**	**1**	P		**P**	**07 40 37.7**	**+0.4**
	baz=182							
D03D	**Eldon**	**77.29**	**352**	P		**P**	**07 40 38.1**	**+0.1**
	baz=170							
NEW	**Newport**	**77.49**	**356**	LR		LR	08 09 48.4	
	comp=Z,249nm,18.0s,baz=179,slow=32							
NEW	**Newport**	**77.49**	**356**	P		**P**	**07 40 40.2**	**+1.0**
NEW				IAmb		IAmb	07 40 48.7	
	comp=Z,11nm,1.1s							
NEW	**Newport**	**77.49**	**356**	P		**P**	**07 40 39.1**	**-0.1**
	baz=175,SNR=6.1							
DGMT	**Dagmar**	**77.85**	**5**	P		**P**	**07 40 40.4**	**-0.8**
	baz=187							
B05A	**Bryant**	**77.90**	**353**	P		**P**	**07 40 41.5**	**+0.2**
	baz=171							
L56A	**Greenwood**	**77.91**	**25**	P		**P**	**07 40 41.2**	**-0.5**
	baz=210							
L56A				P		**P**	**07 40 41.2**	**-0.5**
	baz=210							
A04D	**Lummi Island**	**78.41**	**353**	P		**P**	**07 40 44.8**	**+0.6**
	baz=170							
AGMN	**Agassiz Nation**	**78.69**	**11**	P		**P**	**07 40 46.7**	**+0.8**
	baz=194							
EYMN	**Ely**	**79.17**	**14**	P		**P**	**07 40 49.2**	**+0.8**
	baz=198							
SYO	**Syowa Base**	**79.62**	**170**	‖*e*P		**P**	**07 40 51.0**	**+0.2**
SYO	**Syowa Base**	**79.62**	**170**	‖*e*pP		**P**	**07 40 53.0**	**+2.2**
SADO	**Sadowa**	**79.64**	**23**	LR		LR	08 11 30.1	
	comp=Z,52nm,21.4s,baz=194,slow=32							
WCNY	**West Carthage**	**80.21**	**26**	P		**P**	**07 40 56.1**	**+1.9**
	baz=211							
ULM	**Lac du Bonnet**	**80.59**	**10**	P		P	07 40 51.4	-4.7
	comp=Z,1.7nm,0.7s,baz=151,slow=8.0,SNR=1.6							
ULM				LR		LR	08 12 38.6	
	comp=Z,72nm,18.2s,baz=168,slow=33							
NCB	**Newcomb**	**80.75**	**27**	P		**P**	**07 40 58.6**	**+1.4**
NCB				IAmb		IAmb	07 41 06.6	
	comp=Z,28nm,1.4s							
LONY	**Lake Ozonia**	**81.16**	**26**	P		**P**	**07 40 59.2**	**-0.1**
	baz=212,SNR=6.2							
EDM	**Edmonton**	**82.32**	**359**	P		**P**	**07 41 06.5**	**+1.2**
BBB	**Bella Bella**	**82.52**	**350**	LR		LR	08 10 11.2	
	comp=Z,115nm,21.0s,baz=216,slow=30							
MAW	**Mawson**	**83.17**	**178**	P		**P**	**07 41 06.2**	**-3.4**
	comp=Z,1.7nm,0.8s,baz=351,slow=2.5,SNR=2.6							
FFC	**Flin Flon**	**84.25**	**6**	P		**P**	**07 41 15.5**	**+0.4**
FFC				IAmb		IAmb	07 41 20.0	
	comp=Z,8.0nm,1.1s							
DLBC	**Dease Lake**	**88.86**	**351**	LR		LR	08 14 16.2	
	comp=Z,170nm,20.3s,baz=138,slow=31							
YKA	**Yellowknife Ar**	**91.64**	**359**	P		**P**	**07 41 48.6**	**-1.8**
	comp=Z,1.8nm,0.8s,baz=173,slow=4.8,SNR=22							
YKA	**Yellowknife Ar**	**91.64**	**359**	P		**P**	**07 41 50.6**	**+0.2**
H11S2	**WAKE ISLAND Hy**	**91.80**	**290**	T		T	09 23 52.5	
	baz=119							
H11S1	**WAKE ISLAND Hy**	**91.82**	**290**	T		T	09 23 49.8	
	baz=119							
H11S3	**WAKE ISLAND Hy**	**91.82**	**290**	T		T	09 23 49.3	
	baz=119							
H11N3	**WAKE ISLAND Hy**	**92.25**	**291**	T		T	09 24 19.3	
	baz=119							
H11N1	**WAKE ISLAND Hy**	**92.27**	**291**	T		T	09 24 17.9	
	baz=119							
H11N2	**WAKE ISLAND Hy**	**92.27**	**291**	T		T	09 24 21.7	
	baz=119							
SCHQ	**Schefferville**	**92.40**	**24**	P		**P**	**07 41 53.0**	**-1.1**
	comp=Z,3.2nm,0.7s,baz=264,slow=12,SNR=3.3							
SCHQ				LR		LR	08 19 48.8	
	comp=Z,54nm,20.3s,baz=124,slow=33							
MMPY	**Sheldon Lake,**	**93.06**	**351**	P		**P**	**07 41 57.8**	**+0.7**
	baz=163							
BMRM	**Bremner River**	**93.97**	**345**	P		**P**	**07 42 02.2**	**+0.9**
	baz=152							
L27K	**Beaver Creek,**	**95.24**	**347**	P		**P**	**07 42 06.9**	**-0.1**
	baz=154							
L26K	**Log Cabin Wild**	**95.52**	**346**	P		**P**	**07 42 08.4**	**+0.1**
	baz=153							
PMR	**Palmer**	**95.61**	**343**	P		**P**	**07 42 08.2**	**-0.5**
	baz=148							
DAWY	**Dawson**	**95.69**	**348**	P		**P**	**07 42 08.4**	**-0.7**
	baz=156							
PAX	**Paxson**	**95.92**	**345**	P		**P**	**07 42 09.7**	**-0.6**
	baz=151							
WAT6	**Susitna Watana**	**96.11**	**344**	P		**P**	**07 42 11.0**	**-0.2**
	baz=149							
RIDG	**Independent Ri**	**96.47**	**346**	P		**P**	**07 42 12.1**	**-0.6**
	baz=151							
SCRK	**Sand Creek**	**96.50**	**346**	P		**P**	**07 42 12.9**	**0.0**
	baz=152							
EGAK	**Eagle**	**96.66**	**348**	P		**P**	**07 42 13.9**	**+0.4**
	baz=154							
I29M	**Ogilvie Camp,**	**96.70**	**349**	P		**P**	**07 42 14.3**	**+0.6**
	baz=157							
J26L	**Joseph Creek**	**96.88**	**347**	P		**P**	**07 42 15.6**	**+1.0**
	baz=152							
J25K	**Salcha River,**	**97.34**	**346**	P		**P**	**07 42 16.6**	**0.0**
	baz=151							
MCK	**McKinley**	**97.38**	**344**	P		Pdif	07 42 17.0	+0.2
	baz=148							
TRF	**Thorofare Moun**	**97.47**	**344**	P		**P**	**07 42 17.3**	**-0.1**
	baz=147							
PPLA	**Purkeypile**	**97.49**	**343**	P		**P**	**07 42 16.5**	**-0.9**
	baz=145							
ILAR	**Eielson Array**	**97.81**	**346**	P		**P**	**07 42 17.7**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=131,slow=3.7,SNR=2.5							
CAST	**Castle Rocks**	**97.89**	**343**	P		**P**	**07 42 17.9**	**-1.2**
	baz=145							
BPAW	**Bear Paw Mtn.**	**98.18**	**344**	P		**P**	**07 42 20.3**	**0.0**
	baz=146							
CHUM	**Lake Minchumin**	**98.33**	**343**	P		**P**	**07 42 20.8**	**-0.2**
	baz=145							
I23K	**Minto, Yukon-K**	**98.68**	**345**	P		**P**	**07 42 22.2**	**-0.3**
	baz=148							
INK	**Inuvik**	**98.78**	**352**	LR		LR	08 19 55.5	
	comp=Z,153nm,20.4s,baz=160,slow=31							
FRB	**Frobisher Bay**	**98.95**	**18**	LR		LR	08 27 07.9	
	comp=Z,46nm,20.7s,baz=199,slow=35							
H01W1	**Cape Leeuwin H**	**102.70**	**217**	T		T	09 37 22.5	
	baz=137,slow=75,SNR=5.7							
H01W2	**Cape Leeuwin H**	**102.71**	**217**	T		T	09 37 21.7	
	baz=137,slow=75,SNR=4.3							
H01W3	**Cape Leeuwin H**	**102.72**	**217**	T		T	09 37 25.6	
	baz=137,slow=75,SNR=5.4							
TORD	**Torodi Ar. Bea**	**116.71**	**90**	PKP		**PKPdf**	**07 47 28.4**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=202,slow=1.8,SNR=4.7							
ESDC	**Sonseca Array**	**121.15**	**59**	PKP		**PKPdf**	**07 47 36.2**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=264,slow=1.7,SNR=1.9							
TIXI	**Tiksi**	**126.81**	**340**	PKP		**PKPdf**	**07 47 44.2**	**-2.4**
	comp=Z,0.9nm,0.5s,baz=271,slow=23,SNR=1.1							
KLR	**Kul'dur**	**128.60**	**311**	PKP		**PKPdf**	**07 47 50.0**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=53,slow=5.1,SNR=4.3							
CLL	**Collm**	**133.89**	**46**	*e*PKPdf		**PKiKP**	**07 48 05.0**	**+3.1**
GERES	**GERESS Array B**	**134.58**	**49**	PKP		**PKPdf**	**07 48 00.7**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=234,slow=0.8,SNR=2.0							
NJ2	**Nanjing**	**136.69**	**287**	*e*PKP		**PKiKP**	**07 48 07.9**	**-0.4**
HHC	**Hu-ho-hao-te**	**143.09**	**300**	*e*PKP		PKPbc	07 48 16.1	+1.2
AKASG	**Malin Array Be**	**143.97**	**43**	PKhKP		PKPpre	07 48 14.2	
	comp=Z,0.3nm,0.3s,baz=270,slow=3.7,SNR=1.6							
BTO	**Baotou**	**144.28**	**300**	*e*PKP		**PKPdf**	**07 48 21.3**	**+1.2**
XAN	**Xi'an**	**145.22**	**288**	PKPbc		**PKPbc**	**07 48 19.4**	**-2.1**
XAN				pPKP		PKiKP	07 48 25.1	-0.7
XAN				sPKP			07 48 29.4	
SONM	**Songino Array**	**145.40**	**313**	PKPbc		**PKPbc**	**07 48 19.5**	**-2.3**
	comp=Z,1.0nm,0.5s,baz=91,slow=2.6,SNR=7.8							
SONM	**Songino Array**	**145.40**	**313**			**PKPbc**	**07 48 19.9**	**-1.9**
KIRV	**Kirov**	**148.12**	**19**	PKPbc		**PKPdf**	**07 48 27.0**	**+1.2**
	comp=Z,6.0nm,0.4s,baz=336,slow=9.3,SNR=2.1							
CD2	**Chengdu**	**149.29**	**282**	PKPbc		**PKPdf**	**07 48 29.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**149.93**	**256**	PKPbc		**PKPbc**	**07 48 33.4**	**-1.6**
	comp=Z,1.5nm,0.4s,baz=153,slow=0.9,SNR=14							
BRTR	**Keskin Array B**	**149.93**	**61**	PKPbc		**PKPdf**	**07 48 31.3**	**+1.7**
	comp=Z,5.9nm,0.8s,baz=222,slow=1.7,SNR=7.4							
BRTR	**Keskin Array B**	**149.93**	**61**	PKPdf		**PKPdf**	**07 48 29.1**	**-0.5**
CHTO	**Chiang Mai**	**150.09**	**256**			**PKPdf**	**07 48 29.5**	**-0.8**
PZH	**PanZhiHua**	**150.28**	**273**	PKPbc		**PKPdf**	**07 48 31.4**	**+0.9**
ARU	**Arti**	**152.17**	**11**	PKPbc		**PKPdf**	**07 48 35.6**	**+3.3**
	comp=Z,1.2nm,0.4s,baz=134,slow=19,SNR=1.4							
GTA	**Gaotai**	**152.20**	**299**	PKPbc		**PKPbc**	**07 48 36.9**	**-2.9**
BELG	**Belogornoye**	**152.49**	**28**	PKPbc		**PKPbc**	**07 48 37.0**	**-2.7**
	comp=Z,4.6nm,0.4s,baz=33,slow=14,SNR=2.0							
ZALV	**Zalesovo Beam**	**152.68**	**338**	PKP		**PKPdf**	**07 48 31.3**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=48,slow=2.1,SNR=1.8							
KBZ	**Khabaz**	**155.31**	**48**	PKP		**PKPdf**	**07 48 35.5**	**-1.6**
	comp=Z,3.4nm,1.0s,baz=349,slow=5.2,SNR=3.0							
BVAR	**Borovoye Array**	**156.38**	**357**	PKP		**PKPdf**	**07 48 37.6**	**-0.7**
	comp=Z,0.3nm,0.4s							
BVAR				PKPab		**PKPab**	**07 49 05.7**	**-0.9**
KURK	**Kurchatov**	**157.34**	**343**			**PKPdf**	**07 48 36.5**	**-3.1**
KURBB	**Kurchatov Arra**	**157.45**	**343**	PKP		**PKPdf**	**07 48 36.5**	**-3.2**
	comp=Z,0.3nm,0.6s,baz=23,slow=1.0,SNR=4.2							
KURBB				PKPab		**PKPab**	**07 49 11.1**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=23,slow=3.9,SNR=11							
AKTO	**Aktyubinsk**	**157.67**	**17**	PKPab		**PKPab**	**07 49 12.3**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=332,slow=1.6,SNR=2.9							
WMQ	**Urumqi**	**158.83**	**318**	*e*PKP		**PKPdf**	**07 48 43.1**	**+1.3**
MKAR	**Makanchi Array**	**159.48**	**331**	PKP		**PKPdf**	**07 48 41.2**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=32,slow=4.8,SNR=3.8							
MKAR				PKPab		**PKPab**	**07 49 18.0**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=45,slow=2.2,SNR=1.7							
HYBB	**Hyderabad (bro**	**164.73**	**221**	*e*PKPdf		**PKPdf**	**07 48 47.9**	**-0.7**
KSH	**Kashi**	**168.07**	**330**	PKP		**PKPdf**	**07 48 54.5**	**+3.8**

*IDC **22** 07:32:56.8±1.6, 4°45N×126°78E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/43, mbtmp3.7/5, Error ellipse: s-maj=108.1km s-min=19.0km az=70.0, Talaud Islands*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.44**	**183**	P	P	07 37 57.8	+0.3
	0.9nm,0.5s,baz=10,slow=11						
WRA	**Warramunga Arr**	**25.36**	**163**	P	P	07 38 26.4	+0.6
	2.3nm,0.6s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**28.80**	**166**	P	P	07 38 55.8	-1.1
	0.2nm,0.5s,baz=353,slow=7.8,SNR=4.7						
MKAR	**Makanchi Array**	**56.99**	**325**	P	P	07 42 44.9	+0.5
	0.6nm,0.5s,baz=122,slow=8.5,SNR=8.9						
KURBB	**Kurchatov Arra**	**61.16**	**327**	P	P	07 43 12.7	-0.5
	0.9nm,0.6s,baz=128,slow=6.5,SNR=11						

*IDC **22** 07:32:57.4±9.1, 60°21S×26°03W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.6/18, mbtmp3.8/2, Error ellipse: s-maj=322.9km s-min=44.1km az=166.0*

ISC 22 07:33:01.0±1.2, 59°8S±0°2×26°3W±0°2, h10km, n5, σ3°31/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA2	**Neumayer--Watz**	**13.60**	**153**	P	**P**	**07 36 23.2**	**+0.6**
	baz=311,slow=15						
VNA2				S	**Sn**	**07 38 42.2**	**-2.2**
	baz=308,slow=22						
SNAA	**Sanae**	**15.18**	**151**	P	**P**	**07 36 45.1**	**+4.8**
PLCA	**Paso Flores**	**33.26**	**285**	P	**P**	**07 39 38.4**	**+0.2**
	1.2nm,0.7s,baz=125,slow=9.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**76.12**	**28**	P	**P**	**07 44 48.5**	**-0.1**
	0.2nm,0.3s,baz=208,slow=6.4,SNR=4.8						
YKA	**Yellowknife Ar**	**139.19**	**315**	PKP	**PKPdf**	**07 52 24.2**	**-2.2**
	0.2nm,0.7s,baz=124,slow=2.3,SNR=2.6						

*NDI **22** 07:50:34.9±3.3, 24°67N×96°93E, h50km, ML4.1, mb4.3(NEIC)*
*IDC **22** 07:50:36.7±0.7, 24°83N×96°45E, h0km, mb3.9/16, mb1 4.0/17, mb1mx3.8/52, mbtmp3.9/17, ML4.6/1, MS3.4/7, Ms1 3.4/7, ms1mx2.9/92, Error ellipse: s-maj=34.9km s-min=13.9km az=60.0*
*NEIC **22** 07:50:43.8±2.3, 24°5N±0°1×96°1E±0°1, h57km±9km, mb4.3/20, Error ellipse: s-maj=21.6km s-min=11.1km az=47.0*

ISC 22 07:50:41.4±0.6, 24°61N±0°07×96°22E±0°06, h35km, n73, σ1°66/80, mb4.1/23, MS3.3/7, 3C, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**2.21**	**300**	*e*P	**Pn**	**07 51 17.8**	**+2.0**
KOHI				*e*S	**Sn**	**07 51 48.1**	**+6.1**
KOHI				IAML		07 51 53.2	
	comp=N,18μm,0.7s						
KOHI				IAML		07 51 54.5	
	comp=E,17μm,0.8s						
MOKO	**MOKOCHONG**	**2.30**	**318**	*e*P	**Pn**	**07 51 17.9**	**+0.9**
MOKO				⇑*e*S	**Sn**	**07 51 48.0**	**+3.9**
MOKO				IAML		07 51 51.6	
	comp=N,1μm,0.5s						
MOKO				IAML		07 51 55.6	
	comp=E,1μm,0.5s						
SILR	**SILCHAR**	**3.12**	**274**	⇑*e*P	**Pn**	**07 51 31.1**	**+3.1**
AZL	**Aizawl**	**3.34**	**256**	*e*P	**Pn**	**07 51 33.2**	**+2.0**
AZL				*e*S	Sn	07 52 17.9	+8.1
AZL				IAML		07 52 27.9	
	comp=E,160nm,0.7s						
AZL				IAML		07 52 32.7	
	comp=N,93nm,0.6s						
SHL	**Shillong**	**4.05**	**284**	Pn	**Pn**	**07 51 40.0**	**-1.0**
SHL	**Shillong**	**4.05**	**284**	*e*P	**Pn**	**07 51 41.8**	**+0.7**
GUWA	**GUWAHATI**	**4.39**	**292**	*e*P	**Pn**	**07 51 44.4**	**-1.2**
GUWA				*e*S	**Sn**	**07 52 37.0**	**+1.4**
GUWA				IAML		07 52 37.8	
	comp=E,194nm,0.5s						
GUWA				IAML		07 52 38.1	
	comp=N,138nm,0.4s						
PZH	**PanZhiHua**	**5.33**	**68**	Pg	Pn	07 52 15.6	+17
PZH				Sg	Sn	07 53 12.3	+13
PZH				smax	smax		
	comp=N,30nm,1.1s						
PZH				smax	smax		
	comp=E,40nm,1.0s						
PZH				LR	LR		
	comp=N,640nm,9.2s						
PZH				LR	LR		
	comp=E,450nm,8.8s						
PZH				LR	LR		
	comp=Z,500nm,10.0s	

PYUN				*e*Sn		**Sn**	07 55 49.8	**-2.0**	
	comp=Z,35nm,0.9s								
XAN	**Xi'an**	**14.51**	**47**	P		**P**	07 54 10.5	**0.0**	
XAN				pmax		pmax			
	comp=Z,7.0nm,1.0s								
XAN				LR		LR			
	comp=N,770nm,17.2s								
XAN				LR		LR			
	comp=E,270nm,16.5s								
XAN				LR		LR			
	comp=Z,160nm,12.4s								
WMQ	**Urumqi**	**20.40**	**342**	*e*P		Pn	07 55 17.3	-0.2	
WMQ				pmax		pmax			
	comp=Z,17nm,0.8s								
NIL	**Nilore**	**21.96**	**299**	P		**P**	**07 55 30.0**	**-2.2**	
KSH	**Kashi**	**22.63**	**316**	P		**P**	**07 55 40.6**	**+1.2**	
KSH				S		**S**	**07 59 42.8**	**-2.3**	
KSH				sS		sS	08 00 01.0	-0.1	
KSH				pmax		pmax			
	comp=Z,7.0nm,1.0s								
TARG	**Taragay, Kyrgy**	**22.92**	**323**	P		**P**	**07 55 45.2**	**+2.4**	
BOOM	**Boomskoye usch**	**24.46**	**322**	P		**P**	**07 55 59.2**	**+1.9**	
SONM	**Songino Array**	**24.54**	**17**	P		**P**	**07 55 55.8**	**-2.1**	
	comp=Z,0.9nm,0.7s,baz=201,slow=7.8,SNR=3.9								
MK31	**Makanchi Array**	**24.78**	**337**	P		**P**	**07 55 58.8**	**-1.1**	
MK31				lAmb		lAmb	07 56 10.5		
	comp=Z,5.8nm,0.8s								
MKAR	**Makanchi Array**	**24.78**	**337**	P		**P**	**07 55 59.4**	**-0.6**	
	comp=Z,5.0nm,0.6s,baz=143,slow=8.9,SNR=23								
MKAR	**Makanchi Array**	**24.78**	**337**	P		**P**	**07 55 58.6**	**-1.4**	
MAKZ	**Makanchi**	**24.91**	**336**	P		**P**	**07 56 02.1**	**+1.0**	
MAKZ				lAmb		lAmb	07 56 04.7		
	comp=Z,4.8nm,0.7s								
DRK	**Karamyk**	**25.35**	**312**	P		**P**	**07 56 05.6**	**+0.1**	
AAK	**Ala-Archa**	**25.39**	**320**	P		**P**	**07 56 06.4**	**+0.8**	
	comp=Z,0.9nm,0.2s,baz=146,slow=11,SNR=4.6								
AAK	**Ala-Archa**	**25.39**	**320**	P		**P**	**07 56 05.1**	**-0.5**	
KBL	**Kabul**	**25.56**	**299**	P		**P**	**07 56 06.8**	**-0.5**	
KBL				lAmb		lAmb	07 56 09.6		
	comp=Z,10nm,1.0s								
GAR	**Garm**	**26.16**	**309**	P		**P**	**07 56 12.1**	**-0.6**	
BTK	**Batken**	**26.29**	**312**	P		**P**	**07 56 13.6**	**-0.2**	
BTK				lAmb		lAmb	07 56 19.4		
	comp=Z,7.5nm,0.8s								
KKAR	**Karatay Array**	**28.04**	**317**	P		**P**	**07 56 28.7**	**-0.7**	
KURBB	**Kurchatov Arra**	**29.35**	**337**	P		**P**	**07 56 40.1**	**-0.7**	
	comp=Z,1.2nm,0.5s,baz=148,slow=9.1,SNR=10								
KSRS	**Korea Array**	**29.88**	**57**	LR		LR	08 09 24.0		
	comp=Z,24nm,19.2s,baz=225,slow=38								
ZAA0	**Zalesovo Array**	**30.52**	**347**	P		**P**	**07 56 52.0**	**+0.8**	
ZAA0				lAmb		lAmb	07 56 53.6		
	comp=Z,3.2nm,0.7s								
ZALV	**Zalesovo Beam**	**30.52**	**347**	P		**P**	**07 56 50.0**	**-1.1**	
	comp=Z,2.5nm,0.6s,baz=167,slow=8.9,SNR=10.0								
ZALV	**Zalesovo Beam**	**30.52**	**347**	P		**P**	**07 56 50.6**	**-0.5**	
WSAR	**Wadi Sarin**	**34.32**	**276**	LR		LR	08 13 12.4		
	comp=Z,30nm,18.4s,baz=147,slow=39								
BRVK	**Borovoye**	**34.49**	**332**	P		**P**	**07 57 26.6**	**+0.7**	
BRVK				lAmb		lAmb	07 57 45.1		
	comp=Z,2.4nm,0.8s								
GEYT	**Alibeck**	**34.93**	**302**	P		**P**	**07 57 32.3**	**+2.3**	
	comp=Z,2.7nm,0.6s,baz=101,slow=12,SNR=3.9								
GEYT	**Alibeck**	**34.93**	**302**	P		**P**	**07 57 29.7**	**-0.3**	
GEYT				lAmb		lAmb	07 57 32.9		
	comp=Z,4.4nm,1.0s								
KLR	**Kul'dur**	**37.03**	**39**	LR		LR	08 15 07.3		
	comp=Z,31nm,18.2s,baz=220,slow=40								
ABKAR	**Akbulak array**	**37.47**	**320**	P		**P**	**07 57 50.7**	**-0.9**	
ABKAR	**Akbulak array**	**37.47**	**320**	P		**P**	**07 57 50.9**	**-0.6**	
AKTO	**Aktyubinsk**	**39.12**	**321**	LR		LR	08 15 19.0		
	comp=Z,42nm,20.2s,baz=152,slow=38								
ARU	**Arti**	**41.87**	**329**	P		**P**	**07 58 28.1**	**+0.1**	
	comp=Z,0.9nm,0.3s,baz=125,slow=12,SNR=3.9								
ARU	**Arti**	**41.87**	**329**	lAmb		lAmb	07 58 30.6		
	comp=Z,3.1nm,0.5s								
MMAI	**Mount Meron Ar**	**53.31**	**294**	LR		LR	08 25 32.5		
	comp=Z,26nm,18.4s,baz=214,slow=39								
PETK	**Petropavlovsk-**	**53.67**	**41**	LR		LR	08 24 07.5		
	comp=Z,103nm,20.4s,baz=109,slow=38								
AKASG	**Malin Array Be**	**56.92**	**316**	P		**P**	**08 00 21.5**	**-1.4**	
	comp=Z,0.9nm,0.4s,baz=75,slow=6.6,SNR=2.9								
WRA	**Warramunga Arr**	**57.77**	**137**	P		**P**	**08 00 29.5**	**+0.2**	
	comp=Z,0.2nm,0.6s,baz=325,slow=7.6,SNR=4.7								
FINES	**FINESS Array B**	**59.22**	**328**	P		**P**	**08 00 39.3**	**+0.4**	
	comp=Z,1.5nm,0.8s,baz=98,slow=7.2,SNR=2.4								
ASAR	**Alice Springs**	**60.32**	**140**	P		**P**	**08 00 47.6**	**+0.7**	
	comp=Z,0.7nm,0.8s,baz=323,slow=7.2,SNR=7.2								
ARCES	**ARCESS Array B**	**60.44**	**338**	P		**P**	**08 00 45.7**	**-1.4**	
	comp=Z,2.1nm,0.9s,baz=96,slow=7.3,SNR=1.5								
NOA	**NORSAR Array B**	**66.40**	**328**	P		**P**	**08 01 25.1**	**-1.6**	
	comp=Z,0.6nm,0.6s,baz=83,slow=6.2,SNR=3.5								
GERES	**GERESS Array B**	**67.10**	**315**	P		**P**	**08 01 32.0**	**+0.6**	
	comp=Z,0.8nm,0.7s,baz=73,slow=6.0,SNR=4.4								
KEST	**Kesra**	**73.67**	**302**	LR		LR	08 39 38.2		
	comp=Z,122nm,21.1s,baz=226,slow=40								
ILAR	**Eielson Array**	**78.59**	**23**	P		**P**	**08 02 39.5**	**+0.3**	
	comp=Z,0.4nm,0.6s,baz=270,slow=3.6,SNR=5.5								
TORD	**Torodi Ar. Bea**	**88.65**	**284**	P		**P**	**08 03 33.6**	**+2.0**	
	comp=Z,0.2nm,0.5s,baz=85,slow=4.3,SNR=1.4								

*SOME **22** 07:55:45.1, 43.°25N×83.°98E, h10km*
*NNC **22** 07:55:52.1±3.5, 43.°56N×83.°61E, h0km, mb3.1, mpv2.8,*
Error ellipse: s-maj=34.6km s-min=13.3km az=122.0
ISC 22 07:55:51.2±2.0, 43.°50N±0.°09×83.°71E±0.°08, h10km, n21, σ2s26/41, 6C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
PDGK	**Podgornoye**	**3.08**	**268**	⇑*i*Pn		**Pn**	**07**	**56**	**41.4**	**+1.3**
	0.7nm,0.3s									
PDGK				⇑Pg		**Pb**	**07**	**56**	**46.4**	**+0.2**
	5.6nm,0.7s									
PDGK				⇑Lg		Lg	07	57	28.8	
	28nm,0.8s									
SHLS	**Shalkode**	**3.12**	**265**	*e*P		**Pn**	**07**	**56**	**40.5**	**-0.1**
	12nm,0.5s									
SHLS				*e*S		**Sn**	**07**	**57**	**20.6**	**+2.6**
	69nm,0.3s									
UZB	**Uzynbulak**	**3.44**	**266**	*e*P		**Pb**	**07**	**56**	**52.0**	**-0.3**
	5.6nm,0.2s									
UZB				*e*S		**Sg**	**07**	**57**	**40.4**	**-1.3**
	15nm,0.5s									
MK31	**Makanchi Array**	**3.44**	**343**	⇑Pn		**Pn**	**07**	**56**	**47.2**	**+2.3**
	2.7nm,0.8s,baz=166,slow=17,SNR=19									
MK31				⇑Pg		**Pb**	**07**	**56**	**52.7**	**+0.5**
	0.5nm,0.4s,baz=156,slow=17,SNR=9.8									
MK31				⇑Lg		Lg	07	57	38.6	
	1.9nm,0.3s,baz=151,slow=28,SNR=5.4									
MAKZ	**Makanchi**	**3.53**	**340**	⇓Pg		**Pb**	**07**	**56**	**54.6**	**+0.9**
	5.3nm,1.4s									
MAKZ				⇓Lg		Lg	07	57	42.3	
	3.3nm,0.7s									
KAPS	**Kapalarasan**	**3.59**	**301**	*e*P		**Pb**	**07**	**56**	**55.9**	**+1.0**
	2.4nm,0.3s									
KAPS				*e*S		**Sg**	**07**	**57**	**47.0**	**+0.3**
	7.8nm,0.3s									
KPKS	**Kokpek**	**3.66**	**271**	*e*P		**Pb**	**07**	**56**	**54.9**	**-1.1**
	6.1nm,0.2s									
KPKS				⇓*i*S		**Sg**	**07**	**57**	**45.5**	**-3.2**
	22nm,0.3s									
BLB	**Baldybastay**	**3.84**	**281**	*e*P		**Pb**	**07**	**56**	**58.9**	**-0.1**
	6.0nm,0.3s									
BLB				*e*S		**Sg**	**07**	**57**	**51.9**	**-2.5**
	13nm,0.2s									
ZHN	**Zhinishke**	**3.87**	**267**	*e*P		**Pb**	**07**	**56**	**58.3**	**-1.2**
	8.8nm,0.1s									
ZHN				*e*S		**Sg**	**07**	**57**	**51.1**	**-4.1**
	28nm,0.1s									
SATY	**Saty**	**3.90**	**265**	*e*P		**Pb**	**07**	**57**	**00.2**	**+0.1**
	4.8nm,0.3s									
SATY				*e*S		**Sg**	**07**	**57**	**54.7**	**-1.7**
	11nm,0.1s									
ZSN	**Zaisan**	**4.03**	**11**	*e*P		**Pb**	**07**	**57**	**02.6**	**+0.3**
	7.7nm,0.2s									
ZSN				*e*S		**Sg**	**07**	**57**	**58.7**	**-1.9**
	22nm,0.7s									
KURS	**Kuram**	**4.03**	**272**	*e*P		**Pb**	**07**	**57**	**04.5**	**+2.2**
	5.1nm,0.5s									
KURS				*e*S		**Sg**	**07**	**58**	**01.7**	**+1.0**
	10nm,0.7s									
ARXS	**Arharly**	**4.32**	**282**	*e*P		**Pb**	**07**	**57**	**09.4**	**+2.3**
	5.1nm,0.6s									
ARXS				*e*S		**Sg**	**07**	**58**	**10.0**	**+0.3**
	15nm,0.3s									
KOTS	**Kotyrbulak**	**4.82**	**269**	*e*P		**Pb**	**07**	**57**	**19.2**	**+3.4**
	4.0nm,0.5s									
KOTS				*e*S		**Sg**	**07**	**58**	**27.4**	**+1.5**
	19nm,0.6s									
MDOK	**Medeo**	**4.87**	**268**	*e*P		**Pb**	**07**	**57**	**19.3**	**+2.5**
	2.2nm,0.5s									
MDOK				*e*S		**Sg**	**07**	**58**	**27.3**	**-0.3**
	9.4nm,0.4s									
TNSS	**Tian-Shan**	**4.96**	**267**	*e*P		**Pb**	**07**	**57**	**21.5**	**+3.1**
	2.1nm,0.2s									
TNSS				*e*S		**Sg**	**07**	**58**	**30.9**	**+0.4**
	3.0nm,0.7s									
KTBS	**Karatobe**	**5.11**	**275**	*e*P		**Pg**	**07**	**57**	**25.2**	**-3.9**
	1.7nm,0.4s									
KTBS				*e*S		**Sg**	**07**	**58**	**37.3**	**+2.1**
	13nm,0.5s									
KUU	**Kurty**	**5.36**	**277**	*e*P		**Pb**	**07**	**57**	**28.7**	**+3.7**
	1.8nm,0.1s									
KUU				*e*S		**Sg**	**07**	**58**	**43.1**	**-0.1**
	3.8nm,0.4s									
KST	**Kastek**	**5.68**	**268**	*e*P		**Pb**	**07**	**57**	**34.6**	**+4.3**
	2.1nm,0.4s									
KST				*e*S		**Sg**	**07**	**58**	**53.6**	**+0.2**
	8.4nm,0.5s									
DGS	**Degeres**	**5.79**	**270**	*e*P		**Pb**	**07**	**57**	**34.5**	**+2.1**
	3.4nm,0.3s									
DGS				*e*S		**Sg**	**07**	**58**	**53.3**	**-3.8**
	6.9nm,0.5s									
KRBS	**Karabastau**	**5.84**	**275**	*e*P		**Pb**	**07**	**57**	**35.2**	**+2.1**
	1.2nm,0.5s									
KRBS				*e*S		**Sg**	**07**	**58**	**54.4**	**-4.2**
	2.2nm,0.6s									

*ANF **22** 08:04:46.0±1.0, 32.°34N×115.°23W, h5km, ML2.9/11, Error*
ellipse: s-maj=7.4km s-min=4.4km az=172.0
*ECX **22** 08:04:47.6±0.7, 32.°38N×115.°25W, h8km±1km, MD2.8,*
ML3.0
*MEX **22** 08:04:49.5±0.9, 32.°42N×115.°14W, h5km, MD4.1*
ISC 22 08:04:47.8±0.8, 32.°39N±0.°03×115.°26W±0.°02, h14km±5km, n36, σ0s74/54, 8C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
CPBX	**Cerro Prieto**	**0.05**	**305**	⇑*i*P		**Pg**	**08**	**04**	**50.8**	**+0.3**
CPBX				⇑*e*			08	04	54.7	
CPBX				IAML			08	04	54.7	
	comp=E,51μm,0.4s									
CPBX				*e*			08	04	58.3	
CPBX				IAML			08	04	58.3	
	comp=N,57μm,0.7s									
MBIG	**Mexicali**	**0.05**	**71**	*e*P		**Pg**	**08**	**04**	**49.8**	**-0.6**
MBIG				*e*P		**Pg**	**08**	**04**	**50.6**	**+0.1**
MBIG				*e*S		**Sg**	**08**	**04**	**52.2**	**0.0**
MBIG	**Mexicali**	**0.05**	**71**	⇑*i*P		**Pg**	**08**	**04**	**50.0**	**-0.4**
MBIG				*i*S		**Sg**	**08**	**04**	**52.7**	**+0.5**
CTLX	**Tlaxcala, TLX**	**0.12**	**49**	⇑*i*P		**Pb**	**08**	**04**	**52.2**	**+0.2**
CTLX				*i*S		**Sb**	**08**	**04**	**55.9**	**+1.1**
GUVIX	**Guadalupe Vict**	**0.17**	**120**	⇑*i*P		**Pb**	**08**	**04**	**53.1**	**+0.3**
GUVIX				*i*S		**Sb**	**08**	**04**	**57.0**	**+0.8**
YUCAX	**Ej. Yucatįn**	**0.25**	**32**	*e*P		**Pb**	**08**	**04**	**54.8**	**+0.6**
YUCAX				*i*S		**Sb**	**08**	**05**	**00.0**	**+1.5**
POT2	**Potabilizadora**	**0.26**	**335**	*e*P		**Pb**	**08**	**04**	**55.1**	**+0.8**
RITX	**Riito Sonora**	**0.34**	**132**	⇑*i*P		**Pb**	**08**	**04**	**56.0**	**+0.5**
EMSC	**East Mesa**	**0.42**	**33**	*e*P		**Pb**	**08**	**04**	**57.6**	**+0.6**
EMSC				*e*S		**Sb**	**08**	**05**	**04.7**	**+1.6**
DREC	**Desert Rsrch C**	**0.44**	**339**	*e*P		**Pb**	**08**	**04**	**58.6**	**+1.2**
DREC				*e*S		**Sn**	**08**	**05**	**06.6**	**-1.0**
ALAMX	**Rancho Alamar**	**0.54**	**225**	⇓*i*P		**Pb**	**08**	**04**	**59.5**	**+0.4**
ALAMX				*e*S		**Sb**	**08**	**05**	**06.7**	**0.0**
WESC	**Westside Schoo**	**0.55**	**313**	*e*P		**Pb**	**08**	**04**	**59.6**	**+0.4**
YUH2	**Yuha Desert**	**0.62**	**295**	*e*P		**Pb**	**08**	**05**	**00.5**	**+0.1**
YMD	**Yuma Desert**	**0.62**	**75**	⇑*i*P		**Pg**	**08**	**05**	**00.4**	**+0.4**
SWSC	**Sam W. Stewart**	**0.72**	**320**	*e*P		**Pb**	**08**	**05**	**01.8**	**-0.3**
SWSC	**Sam W. Stewart**	**0.72**	**320**	P		**Pb**	**08**	**05**	**01.9**	**-0.2**
	baz=140,SNR=25									
SWSC				S		**Sg**	**08**	**05**	**12.0**	**+0.8**
	baz=140									
RMX	**La Rumorosa**	**0.73**	**287**	IAML			08	05	12.2	
	comp=E,289nm,0.5s									
RMX				⇑*e*			08	05	12.2	
GLA	**Glamis**	**0.75**	**29**	*e*P		**Pb**	**08**	**05**	**02.4**	**-0.2**
GLA	**Glamis**	**0.75**	**29**	P		**Pb**	**08**	**05**	**02.5**	**-0.2**
	baz=209,SNR=40									
GLA				S		**Sb**	**08**	**05**	**12.7**	**-0.2**
	baz=209									
IKP	**In-Ko-Pah, Jac**	**0.77**	**290**	*e*P		**Pg**	**08**	**05**	**03.3**	**+0.6**
IKP	**In-Ko-Pah, Jac**	**0.77**	**290**	P		**Pg**	**08**	**05**	**03.1**	**+0.4**
	baz=109,SNR=66									
IKP				S		**Sg**	**08**	**05**	**14.1**	**+1.2**
	baz=109									
MONP2	**Monument Peak**	**1.10**	**297**	P		**Pb**	**08**	**05**	**08.0**	**-0.8**
	baz=116,SNR=49									
MONP2				S		**Sb**	**08**	**05**	**23.1**	**0.0**
	baz=116									
CBX	**Cerro Bola**	**1.19**	**267**	*e*P		**Pb**	**08**	**05**	**10.5**	**+0.2**
CBX				*e*S		**Sg**	**08**	**05**	**27.2**	**+0.7**
CBX	**Cerro Bola**	**1.19**	**267**	*e*P		**Pg**	**08**	**05**	**10.7**	**-0.1**
CBX				*e*S		**Sg**	**08**	**05**	**27.1**	**+0.7**
TJIG	**Tijuana**	**1.20**	**272**	*e*P		**Pb**	**08**	**05**	**10.8**	**+0.4**
TJIG				*e*S		**Sg**	**08**	**05**	**26.6**	**0.0**
BAR	**Barrett**	**1.23**	**284**	*e*P		**Pb**	**08**	**05**	**11.3**	**+0.4**
BAR				*e*S		**Sn**	**08**	**05**	**27.2**	**+0.1**
BC3	**Big Chuckawall**	**1.27**	**353**	P		**Pn**	**08**	**05**	**10.1**	**-1.2**
	baz=172,SNR=27									
SPIG	**San Pedro Mart**	**1.35**	**188**	*e*P		**Pn**	**08**	**05**	**12.4**	**-0.2**
SPIG				*i*S		**Sb**	**08**	**05**	**30.6**	**+0.2**
EML	**El Monte Cty P**	**1.43**	**291**	*e*P		**Pn**	**08**	**05**	**13.3**	**-0.1**
SDRC	**San Diego Road**	**1.47**	**284**	IAML			08	05	36.9	
	comp=N,102nm,0.7s									
SDRC				⇓*e*			08	05	36.9	
PFO	**Pinyon Flats O**	**1.58**	**321**	P		**Pn**	**08**	**05**	**14.4**	**-1.2**
	baz=140,SNR=16									
PFO				S		**Sn**	**08**	**05**	**34.6**	**-1.3**
	baz=140									
109C	**Camp Elliot, M**	**1.64**	**288**	P		**Pn**	**08**	**05**	**15.8**	**-0.4**
	baz=107									
109C				Sb		**Sg**	**08**	**05**	**39.7**	**-0.9**
	baz=107									
IRM	**Iron Mountain**	**1.77**	**3**	Sb		**Sg**	**08**	**05**	**44.0**	**-0.6**
	baz=183									
MURC	**Murrieta**	**2.03**	**307**	P		**Pn**	**08**	**05**	**20.9**	**-0.7**
	baz=126									
214A	**Organ Pipe Nat**	**2.12**	**101**	P		**Pn**	**08**	**05**	**21.8**	**-1.1**
	baz=283,SNR=11									
PDMCI	**Parker Dam,Lak**	**2.12**	**26**	Sb		**Sb**	**08**	**05**	**53.9**	**+1.6**
	baz=206									

*FUNV **22** 08:07:55.7, 10.°79N×62.°02W, h82km, MW3.4*
*TRN **22** 08:07:56.7, 10.°90N×62.°16W, h80km, MD3.4*
ISC 22 08:07:54.4±1.6, 10.°87N±0.°05×62.°16W±0.°05, h107km±15km, n19, σ1s40/31, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
TRN	**Trinidad (W)**	**0.77**	**107**	⇓*i*P		**Pn**	**08**	**08**	**14.3**	**+1.3**
TPP	**Pointe-a-Pierr**	**0.89**	**128**	*e*P		**Pn**	**08**	**08**	**14.7**	**+0.5**
TPP				*e*S		**Sn**	**08**	**08**	**27.5**	**-1.5**
CRUV	**Carupano**	**1.08**	**260**	*e*P		**Pn**	**08**	**08**	**16.9**	**+0.7**
CRUV				*e*S		**Sn**	**08**	**08**	**32.0**	**-0.6**
GRFF	**Grenada Fort F**	**1.24**	**19**	*e*P		**Pn**	**08**	**08**	**18.1**	**+0.1**
GRFF				*e*S		**Sn**	**08**	**08**	**34.4**	**-1.5**
GRGR	**Grenville**	**1.35**	**21**	*e*P		**Pn**	**08**	**08**	**19.6**	**+0.4**
GRGR				*e*S		**Sn**	**08**	**08**	**37.3**	**-0.7**
TPR	**Prospect**	**1.39**	**77**	*e*P		**Pn**	**08**	**08**	**21.1**	**+1.4**
GRHS	**Sauteurs**	**1.44**	**21**	*e*S		**Sn**	**08**	**08**	**39.4**	**-0.5**
BOT	**Bacolet**	**1.44**	**78**	*e*P		**Pn**	**08**	**08**	**21.6**	**+1.3**
GRSS	**Sisters**	**1.52**	**21**	*e*P		**Pn**	**08**	**08**	**22.7**	**+1.5**
GRSS				*e*S		**Sn**	**08**	**08**	**40.2**	**-1.4**
TOSP	**Speyside**	**1.65**	**75**	*e*P		**Pn**	**08**	**08**	**23.7**	**+0.9**
TOSP				*e*S		**Sn**	**08**	**08**	**44.1**	**-0.3**
GCMP	**Grenada, Carri**	**1.76**	**24**	*e*P		**Pn**	**08**	**08**	**24.9**	**+0.7**
GCMP				*e*S		**Sn**	**08**	**08**	**45.6**	**-1.2**
CUMV	**Cumana_UDO**	**2.05**	**258**	*e*P		**Pn**	**08**	**08**	**29.6**	**+1.8**
CUMV				*e*S		**Sn**	**08**	**08**	**54.3**	**+0.8**
PCRV	**Puerto La Cruz**	**2.53**	**254**	*e*P		**Pn**	**08**	**08**	**35.6**	**+1.4**
PCRV				*e*S		**Sn**	**08**	**09**	**04.2**	**-0.6**
PRGV	**PARIAGUAN**	**3.23**	**230**	*e*P		**Pn**	**08**	**08**	**44.2**	**+0.8**
PRGV				*e*S		**Sn**	**08**	**09**	**19.6**	**-1.6**
BIRV	**Birongo**	**4.06**	**265**	*e*P		**Pn**	**08**	**08**	**56.1**	**+1.6**
BIRV				*e*S		**Sn**	**08**	**09**	**40.8**	**-0.4**
BENV	**Beln**	**5.43**	**261**	*e*P		**Pn**	**08**	**09**	**14.6**	**+1.5**
BENV				*e*S		**Sn**	**08**	**10**	**12.9**	**-1.5**
CACV	**CAICARA DEL OR**	**5.43**	**233**	*e*P		Pn	08	09	08.0	-5.0
CACV				*e*S		Sn	08	10	02.0	-12
BAUV	**El Baul**	**6.11**	**252**	*e*S		**Sn**	**08**	**10**	**29.5**	**-1.2**
BAUV	**El Baul**	**6.11**	**252**	*e*P		**Pn**	**08**	**09**	**22.5**	**+0.3**
BAUV				*e*S		**Sn**	**08**	**10**	**26.8**	**-3.9**

*IDC **22** 08:13:10.2±0.7, 55.°22S×128.°71W, h0km, mb3.9/6,*
mb1 4.1/6, mb1mx3.8/32, mbtmp3.9/6, MS4.5/35,
Ms1 4.5/35, ms1mx4.4/54, Error ellipse: s-maj=38.0km
s-min=23.7km az=161.0
*NEIC **22** 08:13:13.5±1.7, 55.°3S±0.°1×128.°7W±0.°1, h10km±1km,*
mb4.7/18, Error ellipse: s-maj=25.1km s-min=5.2km
az=333.0
*GCMT **22** 08:13:18.5±0.1, 55.°43S±0.°01×128.°68W±0.°01, h18km,*
MW5.3/137, Moment Tensor Solution. s109,c174;
s137,c229; Duration: 1s1 Moment tensor: Scale 10^17
Nm; Mrr-0.16±.02; Mθθ0.83±.02; Mϕϕ-0.66±.02;
Mrθ-0.13±.04; Mθϕ0.99±.01; Mϕr0.04±.04; Best double
couple: M0 1.25100×10^17 NP1:ϕs199.00000°, δ84.00000°,
λ-179.00000°. NP2:ϕs108.00000°, δ89.00000°,
λ-6.00000°. Principal axes: T 1.3310, Plg4.0000°,
Azm154.0000°; N -0.1610, Plg84.0000°, Azm278.0000°;
P -1.1700, Plg5.0000°, Azm63.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
ISC 22 08:13:12.2±0.5, 55.°2S±0.°1×128.°8W±0.°1, h10km, n82, σ1s46/28, mb4.3/11, MS4.7/38, 1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
RPN	**Rapa Nui**	**31.38**	**35**	LR		LR	08	29	07.8	
	comp=Z,560nm,20.6s,baz=36,slow=30									
RKT	**Rikitea**	**32.32**	**349**	*e*T		T	08	53	31.8	
	23nm,0.3s									
PMSA	**Palmer Station**	**32.35**	**134**	LR		LR	08	28	57.6	
	comp=Z,2μm,21.2s,baz=256,slow=29									
VNDA	**Vanda**	**32.52**	**202**	P		**P**	**08**	**19**	**45.6**	**+3.1**
	1.4nm,0.9s,baz=88,slow=10,SNR=6.0									
VNDA				LR		LR	08	28	35.3	
	comp=Z,524nm,21.4s,baz=82,slow=28									
VNDA	**Vanda**	**32.52**	**202**	P		**P**	**08**	**19**	**43.8**	**+1.2**
USHA	**Ushuaia**	**33.69**	**115**	LR		LR	08	30	30.4	
	comp=Z,1μm,19.3s,baz=226,slow=31									
QSPA	**South Pole Qui**	**35.03**	**180**	P		**P**	**08**	**20**	**03.7**	**-1.0**
	2.5nm,0.9s,baz=148,slow=8.3,SNR=3.9									
QSPA	**South Pole Qui**	**35.03**	**180**	lAmb		lAmb	08	20	27.9	
	comp=Z,6.6nm,1.0s									
TBI	**Tubuai**	**35.28**	**326**	*e*S		S	08	25	19.3	-21
	comp=Z,322nm,31.8s									
TBI				*e*LR		LR	08	29	16.0	
	comp=Z,3μm,29.8s,baz=164									
TBI	**Tubuai**	**35.28**	**326**	*e*T		T	08	57	19.3	
	comp=Z,56nm,0.3s									
RPZ	**Rata Peaks**	**39.55**	**261**	LR		LR	08	33	03.6	
	comp=Z,1μm,21.1s,baz=120,slow=30									
URZ	**Urewera**	**39.65**	**272**	LR		LR	08	33	22.4	
	comp=Z,1μm,21.0s,baz=211,slow=30									
PLCA	**Paso Flores**	**40.38**	**94**	LR		LR	08	33	43.1	
	comp=Z,673nm,19.

ANMO	**Albuquerque**	**91.76**	**18**	LR	LR	08 58 54.6		
	comp=Z,98nm,21.8s,baz=181,slow=30							
H11N3	**WAKE ISLAND Hy 92.30**	**302**		T	T	10 08 40.8		
	baz=148,slow=76,SNR=20							
H11N1	**WAKE ISLAND Hy 92.30**	**302**		T	T	10 08 43.2		
	baz=148,slow=76,SNR=16							
H11N2	**WAKE ISLAND Hy 92.31**	**302**		T	T	10 08 42.1		
	baz=148,slow=76,SNR=16							
NVAR	**Mina Array Bea**	**93.64**	**8**	LR	LR	09 00 55.0		
	comp=Z,334nm,18.0s,baz=178,slow=31							
BOSA	**Boshof**	**93.65**	**157**	LR	LR	09 05 30.6		
	comp=Z,448nm,18.8s,baz=188,slow=34							
SIJI	**Sorong**	**94.97**	**261**	LR	LR	09 05 02.9		
	comp=Z,228nm,21.7s,baz=136,slow=33							
ELK	**Elko**	**96.22**	**10**	LR	LR	09 01 05.3		
	comp=Z,208nm,21.3s,baz=182,slow=30							
YBH	**Yreka Blue Hor**	**96.65**	**5**	LR	LR	09 00 19.4		
	comp=Z,442nm,21.8s,baz=137,slow=29							
LBTB	**Lobatse**	**97.20**	**157**	LR	LR	09 06 47.9		
	comp=Z,372nm,18.8s,baz=199,slow=33							
KAPI	**Kappang**	**97.94**	**249**	LR	LR	09 07 40.2		
	comp=Z,266nm,20.5s,baz=148,slow=33							
PDAR	**Pinedale Array**	**98.91**	**14**	LR	LR	09 03 23.5		
	comp=Z,252nm,19.9s,baz=184,slow=30							
H02S1	**DAWSON INLET T**	**108.03**	**358**	T	T	10 28 30.5		
	SNR=33							
ILAR	**Eielson Array**	**120.39**	**351**	PKP	**PKPdf**	**08 32 02.2**	**0.0**	
	comp=Z,0.5nm,0.9s,baz=203,slow=3.7,SNR=3.3							
ESDC	**Sonseca Array**	**140.69**	**90**	PKP	**PKPdf**	**08 32 39.3**	**-2.0**	
	comp=Z,0.2nm,0.4s,baz=242,slow=2.8,SNR=2.9							
KEST	**Kesra**	**145.48**	**107**	PKPbc	**PKPdf**	**08 32 48.1**	**-1.9**	
	comp=Z,2.4nm,0.7s,baz=228,slow=12,SNR=2.2							
SONM	**Songino Array**	**145.68**	**281**	PKPbc	**PKPab**	**08 32 51.0**	**+0.3**	
	comp=Z,2.6nm,0.7s,baz=134,slow=3.7,SNR=6.4							
EKA	**Eskdalemuir Ar**	**149.67**	**67**	PKPbc	**PKPbc**	**08 32 59.6**	**-1.1**	
	comp=Z,0.5nm,0.5s,baz=243,slow=3.1,SNR=1.9							
DAVOX	**Davos/Dischmat**	**153.01**	**91**	PKPbc	**PKPbc**	**08 33 09.3**	**+0.2**	
	comp=Z,1.1nm,0.4s,baz=222,slow=12,SNR=2.1							
GERES	**GERESS Array B**	**156.29**	**90**	PKP	**PKPdf**	**08 33 06.7**	**+0.5**	
	comp=Z,0.2nm,0.2s,baz=289,slow=3.0,SNR=1.2							
MKAR	**Makanchi Array**	**158.86**	**260**	PKPab	**PKPab**	**08 33 42.4**	**-3.1**	
	comp=Z,0.3nm,0.6s,baz=123,slow=3.6,SNR=1.8							
ZALV	**Zalesovo Beam**	**160.57**	**280**	PKPbc	**PKPab**	**08 33 50.9**	**-1.7**	
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=1.7							
BRTR	**Keskin Array B**	**160.62**	**135**	PKPab	**PKPab**	**08 33 51.7**	**-1.7**	
	comp=Z,0.4nm,0.7s,baz=174,slow=1.4,SNR=1.8							

IDC 22 08:16:48.4±1.9, 1°81N×127°13E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.2/51, mbtmp3.5/4, Error ellipse: s-maj=170.3km s-min=23.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.74**	**162**	P	P	08 21 52.2	-0.2
	0.7nm,0.6s,baz=341,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.16**	**166**	P	P	08 22 24.8	0.0
	0.2nm,0.5s,baz=351,slow=15,SNR=6.3						
MKAR	**Makanchi Array**	**59.36**	**326**	P	P	08 26 52.9	+0.4
	0.2nm,0.4s,baz=119,slow=6.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**63.57**	**328**	P	P	08 27 20.6	-0.3
	0.5nm,0.5s,baz=126,slow=5.8,SNR=2.9						

IDC 22 08:21:49.8±3.5, 55°67N×86°27E, h0km, mb1 2.7/2, mb1mx2.6/52, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=30.7km s-min=28.7km az=108.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**207**	*i*		08 33 30.9	
	baz=25,slow=323,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.92**	**207**	Pg	Pb	08 22 24.6	-1.0
	1.8nm,0.3s,baz=23,slow=17,SNR=25						
ZALV				Lg	Lg	08 22 51.2	
	1.7nm,0.3s,baz=12,slow=22,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.87**	**226**	Pn	Pn	08 23 32.0	+0.3
	0.1nm,0.3s,baz=44,slow=14,SNR=6.5						
KURBB				Lg	Lg	08 25 26.4	
	baz=50,slow=25,SNR=1.0						
MKAR	**Makanchi Array**	**9.23**	**197**	Pn	Pn	08 24 03.5	-0.6
	0.0nm,0.3s,baz=21,slow=12,SNR=2.9						

WEL 22 08:35:09.8±0.3, 44°S±3°×17°0E±°, h4km±2km, M3.5/21, ML3.7/25, MLv3.5/21, Error ellipse: s-maj=0.0km s-min=0.0km az=138.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBZ	**Lake Benmore**	**0.11**	**336**	P	Pg	08 35 12.2	+0.1
LBZ				S	Sg	08 35 13.8	+0.2
TMZ	**Timaru**	**0.55**	**79**	P	Pg	08 35 21.0	+0.5
ODZ	**Otahua Downs**	**0.62**	**153**	P	Pg	08 35 21.4	-0.4
ARCZ	**Arundel**	**0.86**	**51**	P	Pg	08 35 26.5	+0.2
ARCZ				S	Sg	08 35 37.9	+0.4
WKZ	**Wanaka**	**0.94**	**248**	P	Pg	08 35 27.8	-0.1
RPZ	**Rata Peaks**	**0.97**	**37**	P	Pg	08 35 28.0	-0.4
EAZ	**Earnscleugh**	**1.00**	**222**	P	Pg	08 35 28.4	-0.6
EAZ				S	Sb	08 35 43.5	+0.3
FOZ	**Fox Glacier**	**1.01**	**342**	P	Pg	08 35 28.8	-0.3
JCZ	**Jackson Bay**	**1.13**	**291**	P	Pg	08 35 31.5	0.0
JCZ				S	Sb	08 35 46.9	-0.1
GCSZ	**Gaunt Creek Bo**	**1.17**	**3**	P	Pg	08 35 31.7	-0.6
WACZ	**Wakanui South**	**1.27**	**65**	P	Pg	08 35 33.4	-0.7
WACZ				S	Sg	08 35 50.3	-0.3
MHCZ	**Mount Hutt**	**1.35**	**45**	P	Pg	08 35 36.7	+0.9
MHCZ				S	Sn	08 35 53.8	-0.1
HHSZ	**Highcliff Hill**	**1.42**	**170**	P	Pn	08 35 36.0	-0.4
HHSZ				S	Sg	08 35 55.5	+0.1
WVZ	**Waitaha Valley**	**1.46**	**14**	P	Pn	08 35 36.6	-0.3
TUZ	**Tuapeka**	**1.53**	**196**	P	Pn	08 35 36.8	-1.1
RACZ	**Rakaia**	**1.56**	**61**	P	Pg	08 35 39.8	0.0
RACZ				S	Sg	08 36 00.8	+0.9
MSZ	**Milford Sound**	**1.67**	**263**	P	Pg	08 35 41.5	-0.3
OXZ	**Oxford**	**1.74**	**49**	P	Pg	08 35 43.3	+0.1
MLZ	**Mavora Lakes**	**1.75**	**239**	P	Pn	08 35 40.4	-0.6
MQZ	**McQueen's Vall**	**1.90**	**67**	P	Pn	08 35 41.7	-1.3
INZ	**Inchbonnie**	**1.97**	**27**	P	Pb	08 35 46.4	+0.2
AKCZ	**Akaroa Harbour**	**2.01**	**73**	P	Pn	08 35 43.4	-1.1
WHZ	**Wether Hill Ro**	**2.15**	**228**	P	Pn	08 35 44.9	-1.6
OKCZ	**Okains Bay**	**2.17**	**70**	P	Pn	08 35 46.0	-0.7
AMCZ	**Amberley**	**2.18**	**54**	P	Pg	08 35 51.6	+0.1
SYZ	**Scrubby Hill**	**2.19**	**200**	P	Pn	08 35 45.6	-1.4
LTZ	**Lake Taylor**	**2.25**	**41**	P	Pn	08 35 46.9	-0.9
DCZ	**Deep Cove**	**2.40**	**245**	P	Pn	08 35 51.4	+1.5
GVZ	**Greta Valley S**	**2.53**	**54**	P	Pb	08 35 56.0	+0.3
APZ	**The Paps**	**2.83**	**213**	P	Pn	08 35 54.6	-1.2
PYZ	**Puysegur Point**	**3.02**	**235**	P	Pn	08 35 59.7	+1.3
KHZ	**Kahutara**	**3.17**	**50**	P	Pn	08 35 59.5	-0.9
THZ	**Tophouse**	**3.35**	**36**	P	Pn	08 36 02.3	-0.7
MRNZ	**Matariki Terra**	**3.60**	**32**	P	Pn	08 36 06.7	+0.3
MRNZ				P	Pb	08 36 11.6	-2.4
BSWZ	**Blackbirch Sta**	**3.84**	**45**	P	Pn	08 36 10.4	+0.8
TKNZ	**Takaka Hill**	**3.99**	**31**	P	Pn	08 36 10.5	-1.3
QRZ	**Quartz Range**	**4.03**	**25**	P	Pn	08 36 11.4	-0.9
MRZ	**Mangatainoka R**	**5.49**	**48**	P	Pn	08 36 30.7	-1.6
NBEZ	**Newall Road No**	**5.87**	**29**	P	Pn	08 36 42.0	+4.4
PKE	**Pukeiti**	**5.98**	**29**	P	Pn	08 36 39.0	-0.1

IDC 22 08:35:30.6±2.7, 28°06N×57°50E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/43, mbtmp3.5/6, Error ellipse: s-maj=79.6km s-min=25.9km az=159.0
DSN 22 08:35:30.7±1.8, 28°54N×57°99E, h10km, ML3.2/8, Error ellipse: s-maj=49.0km s-min=16.3km az=124.0
TEH 22 08:35:35.1, 28°42N×57°36E, h8km, ML3.3
OMAN 22 08:35:41.2±1.4, 28°04N×57°24E, h127km±22km, mb3.9/3, ml3.3/17, Error ellipse: s-maj=19.1km s-min=8.3km az=47.0

ISC 22 08:35:35.5±1.3, 28°30N±0°04×57°42E±0°05, h17km±10km, n66, σ2§00/72, mb3.4/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.43**	**145**	*e*Pg	**Pb**	**08 35 46.3**	**+1.6**
IBND	**Bandar-abas**	**1.15**	**223**	*e*Pg	**Pn**	**08 35 58.6**	**+1.7**
IBND				*e*Sg	**Sn**	**08 36 16.1**	**+3.9**
KBAM	**BAM**	**1.23**	**47**	*e*Pg	**Pg**	**08 35 58.5**	**-0.7**
KBAM				*e*Sg	**Sg**	**08 36 15.7**	**+0.4**
KBAM				*e*		08 36 18.6	
	comp=Z,6μm,0.3s						
GENO	**Geno**	**1.43**	**231**	*e*Pg	**Pb**	**08 36 02.5**	**+0.8**
GENO				*e*		08 36 27.7	
	comp=Z,10μm,0.3s						
NGRK	**Negar Kerman**	**1.47**	**336**	*e*		08 36 03.2	
	comp=Z,7μm,0.2s						
NGRK				*e*Pg	**Pn**	**08 36 01.1**	**-0.4**
CHMN	**Cheshme madani**	**1.56**	**4**	*e*Sg	**Sn**	**08 36 22.9**	**+0.2**
CHMN				*e*Pg	**Pn**	**08 36 03.2**	**+0.5**
CHMN				*e*		08 36 24.4	
	comp=Z,5μm,0.5s						
KRBR	**Kerman**	**1.77**	**341**	*e*Pg	**Pn**	**08 36 06.4**	**+0.8**
TVBK	**TV Kerman**	**1.77**	**341**	*e*		08 36 13.6	
	comp=Z,8μm,0.2s						
TVBK				*e*Pg	**Pn**	**08 36 06.3**	**+0.6**
KHGB	**Koh Gabri**	**2.22**	**338**	*e*Pn	**Pn**	**08 36 13.9**	**+2.1**
SHME	**Shamm**	**2.52**	**207**	P	**Pn**	**08 36 17.0**	**+1.4**
	SNR=15						
SHME				S	**Sn**	**08 36 47.2**	**+1.3**
SHME	**Shamm**	**2.52**	**207**	P	**Pn**	**08 36 17.0**	**+1.4**
BANOM	**Banah**	**2.57**	**203**	P	**Pn**	**08 36 17.8**	**+1.4**
	SNR=22						
BANOM				S	**Sn**	**08 36 49.7**	**+2.4**
BANOM	**Banah**	**2.57**	**203**	P	**Pn**	**08 36 18.0**	**+1.5**
BANOM				S	**Sg**	**08 36 55.6**	**-2.6**
LAR1	**LAR**	**2.77**	**258**	*e*Pn	**Pn**	**08 36 20.0**	**+0.9**
MASF	**Masafi**	**3.13**	**201**	P	**Pn**	**08 36 24.6**	**+0.5**
MSFE	**Esma-Masafi**	**3.14**	**201**	P	**Pn**	**08 36 25.9**	**+1.7**
ZHDN	**Zahedan**	**3.17**	**69**	*e*Pn	**Pn**	**08 36 28.1**	**+3.4**
UOSS	**Minazif**	**3.52**	**198**	P	**Pn**	**08 36 30.6**	**+1.2**
UOSS	**Minazif**	**3.52**	**198**	P	**Pn**	**08 36 32.0**	**+2.6**
HATD	**Hatta, Dubai**	**3.65**	**199**	P	**Pn**	**08 36 32.1**	**+0.9**
NAZ	**Nazwa, Dubai**	**3.66**	**206**	P	**Pn**	**08 36 31.7**	**+0.4**
NAZ	**Nazwa, Dubai**	**3.66**	**206**	P	**Pn**	**08 36 34.8**	**+3.5**
ASHO	**Ashiyiah**	**3.81**	**199**	P	**Pn**	**08 36 34.9**	**+1.5**
ASHO	**Ashiyiah**	**3.81**	**199**	P	**Pn**	**08 36 36.0**	**+2.6**
NHDN	**Nehbandan**	**3.83**	**36**	*e*Pn	**Pn**	**08 36 36.6**	**+2.7**
FAQ	**Al Faqa, Dubai**	**3.90**	**205**	P	**Pn**	**08 36 35.1**	**+1.8**
FAQ	**Al Faqa, Dubai**	**3.90**	**205**	P	**Pn**	**08 36 36.8**	**+2.1**
BSRN	**Basiran**	**3.94**	**22**	*e*Pn	**Pn**	**08 36 38.1**	**+2.8**
ASUD	**Al Ashush, Dub**	**4.11**	**208**	P	**Pn**	**08 36 38.7**	**+1.1**
ASUD	**Al Ashush, Dub**	**4.11**	**208**	P	**Pn**	**08 36 39.5**	**+1.9**
SOHO	**SOHO**	**4.23**	**191**	P	**Pn**	**08 36 39.1**	**-0.1**
SOHO	**SOHO**	**4.23**	**191**	P	**Pn**	**08 36 39.1**	**-0.1**
AJN	**Ajban**	**4.32**	**211**	P	**Pn**	**08 36 39.9**	**-0.5**
NGCH	**Negor - Chabah**	**4.43**	**131**	*e*Pn	**Pn**	**08 36 45.7**	**+3.8**
ALNE	**Al Ain**	**4.49**	**200**	P	**Pn**	**08 36 43.1**	**+0.4**
HOQ	**Hoqain**	**4.70**	**181**	P	**Pn**	**08 36 46.8**	**+1.1**
	SNR=6.5						
HOQ				S	**Sn**	**08 37 38.5**	**-1.4**
YZKH	**Yazd**	**4.75**	**330**	*e*Pn	**Pn**	**08 36 49.9**	**+3.5**
BIDO	**Bidbid**	**4.80**	**172**	P	**Pn**	**08 36 49.4**	**+2.3**
ARQ	**Araqi**	**5.01**	**190**	P	**Pn**	**08 36 52.6**	**+2.6**
WSAR	**Wadi Sarin**	**5.16**	**168**	P	**Pn**	**08 36 53.7**	**+1.7**
	SNR=60						
WSAR				S	**Sn**	**08 37 49.8**	**-1.3**
IMQN	**Monand**	**5.24**	**21**	*e*Pn	**Pn**	**08 36 56.4**	**+3.1**
SMDO	**Samad**	**5.25**	**174**	P	**Pn**	**08 36 55.3**	**+2.0**
AFRZ	**Afriz**	**5.29**	**15**	*e*Pn	**Pn**	**08 36 56.6**	**+2.8**
TKDS	**Koohdasht(Taba**	**5.30**	**357**	*e*Pn	**Pn**	**08 36 57.1**	**+3.1**
TABS	**Tabas**	**5.34**	**357**	*e*Pn	**Pn**	**08 36 57.9**	**+3.4**
AHBU	**AHRAM**	**5.42**	**277**	*e*Pn	Pn	08 37 00.4	+4.9
BSY	**Bisya**	**5.54**	**182**	P	**Pn**	**08 36 58.1**	**+0.9**
IRAM	**Ramesheh**	**5.59**	**310**	*e*Pn	**Pn**	**08 37 00.3**	**+2.2**
KLNJ	**Kolanjah**	**5.75**	**299**	*e*Pn	**Pn**	**08 37 02.9**	**+2.6**
ANAR	**Anarak**	**5.82**	**328**	*e*Pn	**Pn**	**08 37 03.1**	**+2.0**
WBK	**Wadi Bani Khal**	**5.84**	**166**	P	**Pn**	**08 37 03.3**	**+1.9**
	SNR=7.2						
SHRT	**Shahrakht**	**5.87**	**24**	*e*Pn	Pn	08 37 08.5	+6.7
SHMA	**Al-Shehemyia**	**6.25**	**249**	P	**Pn**	**08 37 08.3**	**+1.3**
JLN	**Jalan Bani Buh**	**6.38**	**163**	P	**Pn**	**08 37 10.5**	**+1.7**
TRNA	**Turayna**	**6.60**	**239**	P	**Pn**	**08 37 12.2**	**+0.4**
MHTO	**MHTO**	**7.30**	**176**	P	**Pn**	**08 37 21.7**	**+0.3**
ASAO	**Ashtian**	**8.87**	**316**	*e*Pn	**Pn**	**08 37 46.8**	**+3.7**
DMTO	**DMTO**	**10.78**	**193**	P	**Pn**	**08 38 08.1**	**-1.0**
WHFO	**Wadi Hawf**	**10.87**	**199**	P	**Pn**	**08 38 09.6**	**-0.8**
	SNR=11						
ABTO	**Aybut**	**11.54**	**200**	P	**Pn**	**08 38 18.5**	**-1.1**
BRTR	**Keskin Array B**	**22.70**	**306**	P	**P**	**08 40 36.1**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=113,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**26.83**	**40**	P	**P**	**08 41 12.1**	**-2.9**
	comp=Z,0.3nm,0.6s,baz=226,slow=7.3,SNR=1.7						
ZALV	**Zalesovo Beam**	**32.52**	**30**	P	**P**	**08 42 06.1**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=230,slow=9.4,SNR=5.6						
SONM	**Songino Array**	**42.40**	**49**	P	**P**	**08 43 28.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=271,slow=10,SNR=2.3						
TORD	**Torodi Ar. Bea**	**53.82**	**266**	P	**P**	**08 44 56.0**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=66,slow=7.9,SNR=5.5						
YKA	**Yellowknife Ar**	**89.30**	**356**	P	**P**	**08 48 28.4**	**-2.0**
	comp=Z,0.2nm,0.8s,baz=359,slow=5.4,SNR=4.5						

IGQ 22 08:52:16±0.7, 0°S±3°×8°1W±°, h10km
IDC 22 08:52:16.8±0.7, 0°10S×80°73W, h0km, mb4.5/18, mb1 4.6/22, mb1mx4.5/33, mbtmp4.5/22, ML3.1/3, MS4.1/31, Ms1 4.1/31, ms1mx3.9/65, Error ellipse: s-maj=21.0km s-min=11.7km az=62.0
NEIC 22 08:52:20.0±1.5, 0°24S±0°05×80°59W±0°04, h10km±1km, mb4.8/67, Error ellipse: s-maj=9.6km s-min=5.2km az=137.0
GCMT 22 08:52:23.0±0.3, 0°29S±0°03×80°95W±0°02, h15km, MW5.1/78, Moment Tensor Solution. s20,c21; s78,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 2.23±.09; Mθθ-0.19±.07; Mφφ-2.04±.08; Mrθ-0.23±.34; Mθφ 0.27±.07; Mφr-5.97±.30; Best double couple: M◎6.35000×10¹⁶ NP1:φ345.00000°, δ10.00000°, λ73.00000°. NP2: φ182.00000°, δ80.00000°, λ93.00000°. Principal axes: T 6.4530, Plg55.0000°, Azm95.0000°; N -0.2030, Plg3.0000°, Azm1.0000°; P -6.2470, Plg35.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
VAO 22 08:52:24.2±0.5, 0°51S×80°09W, h10km, mb4.9

ISC 22 08:52:21.4±1.3, 0°22S±0°04×80°73W±0°05, h32km±9km, n447, σ1§48/438, mb4.8/58, MS4.1/30, 1C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAB1	**Cabo Pasado-Ma**	**0.34**	**118**	P	**Pn**	**08 52 33.0**	**+2.8**
JAMA	**Jama**	**0.53**	**94**	P	**Pb**	**08 52 30.0**	**-2.5**
JAMA				S	**Sn**	**08 52 40.0**	**-0.6**
CHIS	**Cerro-Chispas-**	**0.82**	**180**	P	**Pn**	**08 52 34.0**	**-2.8**
FLF1	**Flavio Alfaro-**	**0.90**	**99**	P	**Pn**	**08 52 38.0**	**-0.6**
FLF1				S	**Sn**	**08 52 54.0**	**+4.2**
MAG1	**Magdalena**	**0.97**	**81**	P	**Pn**	**08 52 36.0**	**-2.8**
PPLP	**Puerto Lpez**	**1.31**	**182**	P	**Pn**	**08 52 41.0**	**-2.6**
PPLP				S	**Sn**	**08 52 58.0**	**-2.1**
PPLP	**Puerto Lpez**	**1.31**	**182**	P	**Pn**	**08 52 42.0**	**-1.6**
PPLP				S	**Sn**	**08 52 59.0**	**-1.1**
AV18	**Acelerografo,**	**1.36**	**67**	P	**Pn**	**08 52 44.0**	**-0.2**
AV21	**Acelerografo,**	**1.47**	**54**	P	**Pn**	**08 52 44.0**	**-1.7**
AMA1	**Acelerografo,**	**1.53**	**41**	P	**Pn**	**08 52 45.0**	**-1.5**
BV15	**Puerto Quito-O**	**1.56**	**76**	P	**Pn**	**08 52 45.0**	**-1.9**
APR2	**Miler**	**1.79**	**80**	P	**Pn**	**08 52 49.0**	**-1.1**
ILLI	**Illinizas Sur**	**2.06**	**104**	P	**Pn**	**08 52 53.0**	**-1.3**
HPAL	**Hacienda Las P**	**2.08**	**90**	P	**Pn**	**08 52 53.0**	**-1.4**
GGPT	**Toaza - Volcan**	**2.11**	**90**	P	**Pn**	**08 52 54.0**	**-0.9**
APR1	**Acelerografo,**	**2.13**	**85**	P	**Pn**	**08 52 54.0**	**-1.0**
PINO	**Pino**	**2.13**	**88**	P	**Pn**	**08 52 54.0**	**-1.2**
JUA2	**San Juan 2**	**2.13**	**90**	P	**Pn**	**08 52 54.0**	**-1.1**
TERV	**Terraza Guagua**	**2.13**	**89**	P	**Pn**	**08 52 55.0**	**-0.2**
PAST	**Pastocalle**	**2.14**	**103**	P	**Pn**	**08 52 55.0**	**-0.3**
YANA	**Yana**	**2.16**	**87**	P	**Pn**	**08 52 55.0**	**-0.7**
AMIL	**Milagro (Trans**	**2.21**	**149**	P	**Pn**	**08 52 57.0**	**+1.1**
PULU	**Pululahua**	**2.24**	**84**		**Pn**	**08 52 55.7**	**-0.9**
PULU	**Pululahua**	**2.24**	**84**	P	**Pn**	**08 52 56.0**	**-0.7**
CAMI	**Rancho Maria**	**2.27**	**101**	P	**Pn**	**08 52 58.0**	**+0.9**
BNAS	**Cotopaxi Volca**	**2.30**	**101**	P	**Pn**	**08 52 58.0**	**+0.5**
PORT	**Chimborazo Vol**	**2.31**	**122**		**Pn**	**08 52 56.3**	**-1.5**
PORT	**Chimborazo Vol**	**2.31**	**122**	P	**Pn**	**08 52 58.0**	**+0.2**
PITA	**Cotopaxi Volc**	**2.32**	**98**	P	**Pn**	**08 52 59.0**	**+1.2**
OTAV	**Otavalo**	**2.33**	**79**		**Pn**	**08 52 56.7**	**-1.1**
BREF	**Cotopaxi Volca**	**2.33**	**101**	P	**Pn**	**08 52 59.0**	**+0.9**
TAMH	**Tambohuasha Ch**	**2.35**	**124**	P	**Pn**	**08 52 59.0**	**+0.8**
BVC2	**Cotopaxi Volca**	**2.36**	**101**	P	**Pn**	**08 53 00.0**	**+1.6**
AV11	**Acelerografo,**	**2.37**	**86**	P	**Pn**	**08 53 00.0**	**+1.8**
VC1	**Cotopaxi 1**	**2.37**	**100**	P	**Pn**	**08 53 00.0**	**+1.5**
BTAM	**Cotopaxi Volca**	**2.38**	**101**	P	**Pn**	**08 53 00.0**	**+1.3**
CUSE	**Cuicocha Este**	**2.39**	**77**	*e*P	**Pn**	**08 52 58.2**	**-0.5**
CUSE				*e*S	**Sn**	**08 53 28.2**	**+1.0**
CUSE	**Cuicocha Este**	**2.39**	**77**	P	**Pn**	**08 52 58.0**	**-0.7**
VCES	**Cotopaxi**	**2.41**	**104**	P	**Pn**	**08 53 00.0**	**+1.0**
TAMB	**Tambo**	**2.41**	**101**	P	**Pn**	**08 53 00.0**	**+0.9**
CUIC	**Cuicocha-Domo**	**2.43**	**78**	P	**Pn**	**08 52 59.0**	**-0.2**
CUSW	**Cuicocha Oeste**	**2.43**	**78**	P	**Pn**	**08 52 59.0**	**-0.3**
IGUA	**Igualata**	**2.44**	**121**	P	**Pn**	**08 53 01.0**	**+1.4**
ANTG	**Antisana-Guama**	**2.49**	**96**	P	**Pn**	**08 53 01.0**	**+0.8**
BBIL	**Ulba Tungurahu**	**2.56**	**119**	P	**Pn**	**08 53 02.0**	**+1.1**
JUI6	**Juive**	**2.56**	**118**	P	**Pn**	**08 53 02.0**	**+1.1**
URCU	**Urcuqui**	**2.56**	**75**	P	**Pn**	**08 53 01.0**	**-0.1**
POND	**Pondoa**	**2.57**	**118**	P	**Pn**	**08 53 02.0**	**+0.8**
ANTS	**Antisana-Sarah**	**2.58**	**96**	P	**Pn**	**08 53 02.0**	**+0.6**
ANTI	**Antisana**	**2.58**	**95**	P	**Pn**	**08 53 03.0**	**+1.5**
BMAS	**Trigal station**	**2.59**	**119**	P	**Pn**	**08 53 03.0**	**+1.6**
RETU	**Refugio**	**2.59**	**118**	P	**Pn**	**08 53 03.0**	**+1.4**
BRUN	**Tungurahua Vol**	**2.61**	**117**	P	**Pn**	**08 53 03.0**	**+1.3**
ARRY	**Arrayan**	**2.61**	**119**	P	**Pn**	**08 53 03.0**	**+1.3**
BPAT	**Tungurahua Vol**	**2.63**	**119**	P	**Pn**	**08 53 03.0**	**+1.0**
COHC	**Cochancay**	**2.67**	**146**		**Pn**	**08 53 01.1**	**-1.1**
AIB2	**Ibarra (Univer**	**2.69**	**78**	P	**Pn**	**08 53 04.0**	**+1.3**
YAHU	**Yahuarcocha**	**2.73**	**78**	P	**Pn**	**08 53 05.0**	**+1.7**
CAYR	**Refugio Cayamb**	**2.74**	**85**	P	**Pn**	**08 53 05.0**	**+1.3**
ANGU	**Angureal**	**2.74**	**84**	P	**Pn**	**08 53 06.0**	**+2.3**
ISPG	**Isla Puna-Puer**	**2.79**	**168**	P	**Pn**	**08 53 05.0**	**+1.2**
CHMA	**Chilma**	**2.88**	**68**	P	**Pn**	**08 53 04.0**	**-1.3**
ECEN	**Cerro Negro**	**2.95**	**69**	P	**Pn**	**08 53 06.0**	**-0.5**
ARDO	**Archidona, Ten**	**3.03**	**105**	P	**Pn**	**08 53 09.0**	**+1.8**
TULM	**Tulcn-Chalpat**	**3.09**	**72**	*e*P	**Pn**	**08 53 10.2**	**+1.8**
TULM				*e*S	**Sb**	**08 53 57.9**	**+4.5**
CMBC	**Cumbal**	**3.13**	**68**	*e*P	**Pn**	**08 53 09.2**	**+0.3**
ARNL	**Arenillas**	**3.37**	**169**		**Pn**	**08 53 12.0**	**+0.2**
BOSC	**San Juan Bosco**	**3.67**	**142**		**Pn**	**08 53 13.1**	**-3.0**
CCUFI	**Ecuafio, Nario**	**3.68**	**67**	*e*P	**Pn**	**08 53 16.3**	**+1.7**
GCUF	**Volcan Galeras**	**3.68**	**67**	*e*P	**Pn**	**08 53 17.2**	**+0.7**
GCUF				*e*S	**Sn**	**08 54 03.1**	**+4.1**
CPAS1	**Pasto**	**3.69**	**68**	*e*P	**Pn**	**08 53 18.1**	**+1.5**
GR1C	**Gorgona, Isla**	**4.10**	**39**	*e*P	**Pn**	**08 53 18.4**	**-3.5**
CRUC	**La Cruz**	**4.18**	**65**	*e*P	**Pn**	**08 53 24.2**	**+1.0**
MCRA	**Macar, Loja**	**4.19**	**169**		**Pn**	**08 53 23.1**	**-0.1**
SOTA	**Rioblanco**	**4.74**	**60**	*e*P	**

comp=Z,16nm,0.8s,baz=312,slow=6.8,SNR=14
LVC LR LR 09 06 54.5
comp=Z,296nm,20.6s,baz=320,slow=35
LVC Limon Verde 25.05 153 P **P** **08 57 43.9 +0.5**
LVC IAmb IAmb 08 57 48.3
comp=Z,28nm,0.9s
LVC Limon Verde 25.05 153 *e*P **P** **08 57 45.5 +2.1**
PB10 IPOC Station P 25.18 158 P **P** **08 57 45.0 +0.9**
PB10 IAmb IAmb 08 57 48.2
comp=Z,25nm,1.1s
ITTB Itaituba 25.31 100 *e*P **P** **08 57 45.1 -0.3**
PTLB Pontes e Lacer 26.15 126 *e*P **P** **08 57 53.5 +0.6**
NPGB Novo Progresso 26.20 106 *e*P **P** **08 57 52.6 -0.9**
PDRB Porto dos Gac 26.38 116 *e*P **P** **08 57 54.7 -0.5**
MALB Monte Alegre 26.51 94 *e*P **P** **08 57 57.5 +1.2**
CLDB Colider 26.95 114 *e*P **P** **08 58 00.1 -0.2**
GO02 Mina Guanaco 27.03 157 P **P** **08 58 02.7 +1.5**
GO02 IAmb IAmb 08 58 51.6
comp=Z,17nm,0.9s
MDP Montagnes des 28.55 79 P **P** **08 58 14.6 0.0**
comp=Z,17nm,1.1s,baz=241,slow=8.5,SNR=5.3
MDP LR LR 09 12 10.1
comp=Z,449nm,19.6s,baz=256,slow=42
MCPB Macapa, AP 28.68 90 *e*P **P** **08 58 15.1 -0.6**
SALV Santo Antonio 29.21 123 *e*P **P** **08 58 21.1 +0.7**
PP1B Ponte de Pedra 30.74 126 *e*P **P** **08 58 34.3 +0.3**
PRPB Parauapebas 31.42 101 *e*P **P** **08 58 39.4 -0.6**
SNDB Serra Nova Dou 31.46 113 *e*P **P** **08 58 40.3 -0.1**
AQDB Aquidauana 31.70 131 P **P** **08 58 42.4 +0.1**
AQDB IAmb IAmb 08 58 43.8
comp=Z,24nm,1.0s
AQDB Aquidauana 31.70 131 *e*P **P** **08 58 43.1 +0.7**
NHSC New Hope 33.16 1 P **P** **08 58 55.8 +0.8**
baz=181
GOGA Godfrey 33.55 356 P **P** **08 58 59.0 +0.6**
baz=175
LRAL Lakeview Retre 33.60 350 P **P** **08 58 59.8 +1.0**
baz=168
SMTB Santa Maria do 34.10 106 *e*P **P** **08 59 03.8 +0.3**
CPUP Villa Florida 34.38 141 P **P** **08 59 05.2 -0.5**
comp=Z,2.0nm,1.0s,baz=350,slow=18,SNR=1.9
CPUP LR LR 09 15 11.3
comp=Z,303nm,18.4s,baz=328,slow=40
CPUP Villa Florida 34.38 141 IAmb IAmb 08 59 19.0
comp=Z,19nm,1.4s
Y45A Yeager Farm, C 34.90 347 P **P** **08 59 11.3 +1.2**
KMSC Kings Mountain 35.19 359 P **P** **08 59 12.0 -0.6**
baz=179
W52A Murphy 35.26 355 P **P** **08 59 13.9 +0.6**
W52A IAmb IAmb 08 59 28.5
comp=Z,9.3nm,0.8s
JCT Junction City 35.51 331 P **P** **08 59 16.7 +1.2**
JCT Junction City 35.51 331 P **P** **08 59 16.7 +1.2**
baz=146
BDFB Brasilia 35.75 117 P **P** **08 59 16.9 -0.9**
comp=Z,7.1nm,0.9s,baz=278,slow=10,SNR=7.8
BDFB LR LR 09 16 28.4
comp=Z,597nm,19.7s,baz=306,slow=40
TKL Tuckaleechee C 35.81 356 P **P** **08 59 16.8 -1.1**
comp=Z,7.5nm,1.0s,baz=174,slow=9.8,SNR=4.4
TKL LR LR 09 13 05.3
comp=Z,217nm,20.3s,baz=178,slow=35
ML02 Panimavida 36.41 167 P **P** **08 59 23.6 +0.6**
IPMB Ipameri, GO 36.52 121 *e*P **P** **08 59 23.9 -0.3**
MIAR Mount India 36.62 342 P **P** **08 59 24.9 +0.1**
baz=158
TXAR Lajitas Array 36.65 325 PcP **PcP** **09 01 47.8 -0.1**
comp=Z,1.7nm,1.0s,baz=138,slow=5.6,SNR=4.0
TZTN Tazewell 36.67 356 P **P** **08 59 25.4 +0.1**
baz=175
WVT Waverly 36.77 350 P **P** **08 59 25.7 -0.3**
baz=168
W41B Gary Mavity, V 36.82 344 P **P** **08 59 25.8 -0.7**
baz=160
PTGB Pitanga 36.91 133 *e*P **P** **08 59 27.3 -0.3**
ITQB Itaqui 37.22 144 *e*P **P** **08 59 31.2 +1.2**
BLA Blacksburg 37.25 0 P **P** **08 59 30.2 +0.1**
baz=180
W39A Magazine 37.28 342 P **P** **08 59 30.8 +0.3**
baz=158
LPIG La Paz 37.51 312 LR LR 09 11 03.2
comp=Z,245nm,20.9s,baz=163,slow=30
SDBA SAO DESIDERIO 37.54 110 *e*P **P** **08 59 33.0 -0.1**
FRTB Fartura 38.01 129 *e*P **P** **08 59 35.6 -1.3**
U40A Yellville 38.10 344 P **P** **08 59 37.9 +0.6**
baz=160
ITAB Concordia 38.42 137 *e*P **P** **08 59 38.6 -1.6**
CCM Cathedral Cave 39.30 347 P **P** **08 59 46.5 -0.9**
baz=163
MNTX Cornudas Mount 39.40 326 P **P** **08 59 47.6 -0.8**
baz=139
P52A Corning 39.69 358 P **P** **08 59 49.6 -1.0**
baz=178
P49A Miami Univ. Ec 39.73 355 P **P** **08 59 50.2 -0.8**
baz=174
MSTX Muleshoe 39.81 331 P **P** **08 59 50.8 -1.0**
baz=144,SNR=9.2
AMTX Amarillo 40.04 333 P **P** **08 59 53.9 +0.2**
baz=146
O53A New Philadelph 40.28 359 P **P** **08 59 55.1 -0.4**
baz=179
ACSO Alum Creek Sta 40.31 357 P **P** **08 59 55.2 -0.6**
baz=176
O48B Farmland 40.49 355 P **P** **08 59 57.3 0.0**
baz=173
DIAM Diamantina, MG 40.59 118 *e*P **P** **08 59 57.7 -0.9**
SSPA Standing Stone 40.75 3 P **P** **08 59 59.0 -0.4**
baz=184
SFIN Lafayette 40.82 353 P **P** **08 59 58.6 -1.4**
baz=170
PLCA Paso Flores 41.37 168 P **P** **09 00 06.0 +1.4**
comp=Z,8.7nm,1.1s,baz=344,slow=8.8,SNR=8.6
PLCA Paso Flores 41.37 168 *e*P **P** **09 00 06.4 +1.8**
121A Cookes Peak, D 41.39 324 **P** **09 00 06.8 +1.7**
121A IAmb IAmb 09 00 12.5
comp=Z,17nm,1.1s
121A Cookes Peak, D 41.39 324 P **P** **09 00 05.6 +0.6**
baz=136
319A Douglas 41.47 322 **P** **09 00 06.8 +1.1**
M53A WI Miller and 41.47 0 P **P** **09 00 05.4 +0.1**
baz=180
M57A Sunshine Farm, 41.50 4 P **P** **09 00 06.2 +0.7**
NBPN Ponto Novo - B 41.64 106 *e*P **P** **09 00 06.8 -0.4**
KSU1 Kansas State U 41.76 341 P **P** **09 00 08.4 +0.7**
baz=156
BINY Binghamton 42.45 5 P **P** **09 00 13.6 +0.3**
baz=187
ANMO Albuquerque 42.45 328 P **P** **09 00 13.8 +0.1**
comp=Z,12nm,0.9s,baz=139,slow=9.2,SNR=3.6
ANMO Albuquerque 42.45 328 **P** **09 00 15.6 +1.9**
ANMO Albuquerque 42.45 328 P **P** **09 00 14.8 +1.1**
baz=140
CBKS Cedar Bluff 42.59 338 **P** **09 00 16.7 +2.2**
CBKS IAmb IAmb 09 00 21.8
comp=Z,15nm,0.9s
CBKS Cedar Bluff 42.59 338 P **P** **09 00 16.0 +1.4**
baz=151
TUC Tucson 43.04 322 P **P** **09 00 19.3 +0.9**
baz=133
L61B Northampton 43.09 9 P **P** **09 00 18.7 +0.2**
baz=192
T25A Trinidad 43.15 332 **P** **09 00 20.7 +1.4**
T25A Trinidad 43.15 332 P **P** **09 00 20.7 +1.4**
baz=144
CMC01 Camacan, BA 43.39 112 *e*P **P** **09 00 20.9 -0.4**
RIB01 Linhares ES 43.85 118 *e*P **P** **09 00 24.3 -0.7**
KSCO Kaye Shedlock' 43.91 335 P **P** **09 00 26.0 +0.7**
baz=147
NBLA Lagarto - SE 43.99 106 *e*P **P** **09 00 25.7 -0.5**
X18A Snowflake 44.08 325 P **P** **09 00 28.3 +1.5**
214A Organ Pipe Nat 44.09 320 P **P** **09 00 28.5 +1.6**
214A IAmb IAmb 09 00 38.2
comp=Z,21nm,1.4s
214A Organ Pipe Nat 44.09 320 P **P** **09 00 28.4 +1.6**
baz=130,SNR=7.2
SDCO Great Sand Dun 44.16 332 P **P** **09 00 28.9 +1.4**
baz=143
W18A Petrified Fore 44.38 325 P **P** **09 00 31.8 +2.6**
W18A Petrified Fore 44.38 325 P **P** **09 00 31.1 +1.9**
baz=136
S22A 4UR Ranch, Cre 44.80 330 P **P** **09 00 34.5 +1.8**
baz=141
SADO Sadowa 44.82 2 LR LR 09 19 24.9
comp=Z,168nm,18.6s,baz=185,slow=36
X16A Lo Mia Camp, P 44.88 323 **P** **09 00 34.5 +1.2**
Q24A Divide 44.97 333 P **P** **09 00 35.6 +1.6**
baz=144
RCBR Riachuelo 45.09 98 LR LR 09 20 15.3
comp=Z,698nm,18.6s,baz=68,slow=37
NBAN Anadia - AL 45.22 103 *e*P **P** **09 00 35.6 -0.4**
113A Mohawk Valley, 45.23 320 P **P** **09 00 37.3 +1.5**
113A IAmb IAmb 09 00 46.9
comp=Z,12nm,1.3s
MVCO Mesa Verde 45.24 328 **P** **09 00 38.0 +1.8**
MVCO IAmb IAmb 09 00 41.1
comp=Z,28nm,1.8s
MVCO Mesa Verde 45.24 328 P **P** **09 00 38.0 +1.8**
baz=139
OGNE Ogallala 45.31 337 P **P** **09 00 39.0 +2.6**
baz=149
WUAZ Wupatki 45.60 324 P **P** **09 00 40.9 +2.0**
baz=134
ISCO Idaho Springs 45.86 333 P **P** **09 00 43.3 +2.3**
baz=144
IKP In-Ko-Pah, Jac 46.70 318 P **P** **09 00 49.4 +1.9**
baz=127
BC3 Big Chuckawall 46.89 319 P **P** **09 00 50.2 +1.2**
baz=129
N23A Red Feather La 46.89 334 P **P** **09 00 50.5 +1.4**
baz=144
IRM Iron Mountain 47.00 320 P **P** **09 00 51.2 +1.4**
baz=129
MONP2 Monument Peak 47.06 318 P **P** **09 00 51.2 +0.8**
baz=127
BELC Belle Mtn. Jos 47.46 319 P **P** **09 00 54.6 +1.1**
baz=128
TPFO Pinon Flats 47.51 319 P **P** **09 00 55.3 +1.4**
baz=128
109C Camp Elliot, M 47.52 317 P **P** **09 00 55.3 +1.6**
baz=126
PFO Pinyon Flats O 47.52 319 LR LR 09 19 02.9
comp=Z,141nm,19.5s,baz=146,slow=34
PFO Pinyon Flats O 47.52 319 P **P** **09 00 55.0 +1.1**
baz=128
GMRC Granite Mounta 47.73 320 P **P** **09 00 56.8 +1.2**
baz=129
Q16A Castle Valley 47.92 328 **P** **09 01 00.2 +3.2**
Q16A IAmb IAmb 09 01 02.8
comp=Z,17nm,1.6s
MURC Murrieta 48.00 318 P **P** **09 00 59.1 +1.5**
baz=127
SZCU Shurtz Canyon 48.04 325 P **P** **09 01 00.3 +2.3**
SZCU IAmb IAmb 09 01 04.8
comp=Z,10nm,1.4s
TMUT Trail Mountain 48.22 328 P **P** **09 01 01.5 +2.0**
BBRC Big Bear Solar 48.22 319 P **P** **09 01 00.6 +1.1**
baz=128
RDMU Red Mountain 48.33 331 P **P** **09 01 02.1 +1.9**
RDMU IAmb IAmb 09 01 04.8
comp=Z,14nm,1.1s
K22A Casper 48.57 335 P **P** **09 01 03.3 +1.3**
baz=144
GSC Goldstone, Bar 48.78 320 P **P** **09 01 05.5 +1.8**
baz=128
RSSD Black Hills 48.79 338 P **P** **09 01 06.2 +2.5**
baz=148
SHOC Shoshone, Teco 48.82 321 P **P** **09 01 05.8 +1.9**
baz=129
PSUT Pine Spring 49.12 325 P **P** **09 01 08.5 +2.1**
EDW2 Edwards Air Fo 49.30 319 P **P** **09 01 09.0 +1.5**
baz=127
JLU Jordanelle 49.30 329 P **P** **09 01 08.9 +1.1**
TPNV Topopah Spring 49.48 322 P **P** **09 01 10.3 +1.3**
baz=130
MPMC Manual Prospec 49.69 321 P **P** **09 01 11.9 +1.2**
baz=128
DUG Dugway, Tooele 49.72 328 P **P** **09 01 12.1 +1.3**
baz=136
ARVC Arvin 49.99 319 P **P** **09 01 14.9 +2.1**
baz=126
PDAR Pinedale Array 50.02 332 LR LR 09 22 57.5
comp=Z,107nm,18.2s,baz=136,slow=37
ISA Isabella, Lake 50.08 319 P **P** **09 01 15.4 +1.9**
baz=127
PKM Mcpherson Peak 50.51 318 P **P** **09 01 18.2 +1.3**
baz=125
VES Vestal, Richgr 50.59 319 P **P** **09 01 18.8 +1.5**
baz=126
ELK Elko 51.42 327 LR LR 09 23 06.0
comp=Z,169nm,18.8s,baz=148,slow=36
NVAR Mina Array Bea 51.67 322 P **P** **09 01 24.8 -0.9**
comp=Z,3.3nm,0.9s,baz=134,slow=7.0,SNR=15
NVAR LR LR 09 21 33.7
comp=Z,104nm,19.7s,baz=164,slow=34
H17A Grant Village 51.75 333 P **P** **09 01 26.9 +0.7**
baz=141
ULM Lac du Bonnet 51.92 348 P **P** **09 01 25.4 -1.6**
comp=Z,3.9nm,0.5s,baz=164,slow=9.4,SNR=6.3
ULM LR LR 09 25 31.8
comp=Z,73nm,19.6s,baz=156,slow=38
HLID Hailey 52.97 330 P **P** **09 01 35.9 +0.8**
baz=136,SNR=14
BCYI Bear Canyon 53.01 331 P **P** **09 01 36.1 +0.6**
PAHR Pah Rah Range 53.13 323 P **P** **09 01 38.4 +2.0**
MCMT McKenzie Canyo 53.13 332 P **P** **09 01 38.2 +1.8**
BOZ Bozeman (W) 53.15 333 P **P** **09 01 37.5 +1.1**
baz=140
EGMT Eagleton 54.26 336 P **P** **09 01 44.7 +0.3**
baz=143
DSPA Despedida 54.54 171 P **P** **09 01 47.9 +1.7**
PLID Pearl Lake 54.85 330 P **P** **09 01 51.5 +2.5**
MSO Missoula 55.13 333 P **P** **09 01 52.1 +1.3**
baz=138
O02D Mt. Diablo Mer 55.50 321 P **P** **09 01 53.1 -0.4**
baz=126
SCHQ Schefferville 56.05 10 P **P** **09 01 56.3 -0.8**
comp=Z,4.4nm,0.9s,baz=126,slow=5.3,SNR=4.6
SCHQ Schefferville 56.05 10 IAmb IAmb 09 02 09.3
comp=Z,23nm,1.4s
F10A Beach Ranch, E 56.09 330 P **P** **09 02 01.3 +3.6**
M02C Callahan 56.25 323 P **P** **09 01 59.6 +0.7**
baz=126
YBH Yreka Blue Hor 56.37 323 LR LR 09 26 47.6
comp=Z,126nm,18.1s,baz=124,slow=37
J05D Fort Rock, OR 56.45 325 P **P** **09 02 01.6 +1.2**
baz=129,SNR=7.0
G08A Pilot Rock 56.51 328 P **P** **09 02 02.2 +1.5**
G08A IAmb IAmb 09 02 07.6
comp=Z,20nm,1.4s
J04D Umpqua Nationa 56.93 325 P **P** **09 02 05.5 +1.7**
baz=128
I05D Terebonne, OR 57.17 326 P **P** **09 02 06.5 +1.2**
baz=129,SNR=7.4
RKT Rikitea 57.35 243 *e*T T 10 03 34.8
comp=Z,4.6nm,0.2s
I04A Tendick Farm, 57.44 325 P **P** **09 02 08.6 +1.4**
baz=128
K02D Willamette Mer 57.51 323 P **P** **09 02 09.5 +1.7**
baz=126
NEW Newport 57.66 332 LR LR 09 27 30.0
comp=Z,108nm,18.5s,baz=150,slow=37
NEW Newport 57.66 332 P **P** **09 02 11.4 +2.7**
NEW Newport 57.66 332 P **P** **09 02 10.2 +1.6**
baz=135
G05D Wamic, OR 57.74 327 P **P** **09 02 10.9 +1.6**
baz=130
I03D Drain, OR 57.92 325 P **P** **09 02 11.5 +1.0**
baz=127
J01E Myrtle Point 57.94 324 P **P** **09 02 12.1 +1.4**
baz=126
D05A Emumclaw 59.34 328 P **P** **09 02 22.2 +1.9**
D04E Lakebay 59.75 328 P **P** **09 02 25.0 +1.9**
baz=129
EDM Edmonton 59.77 338 P **P** **09 02 24.3 +1.0**
TAOE Nuku Hiva Isla 59.77 260 *e*LR LR 09 20 06.5
comp=Z,163nm,23.5s
D03D Eldon 60.14 328 P **P** **09 02 27.1 +1.3**
baz=129
A04D Lummi Island 60.70 329 P **P** **09 02 31.1 +1.5**
baz=130,SNR=6.0
LLLB Lillooet 61.52 332 P **P** **09 02 39.2 +3.9**
YKA Yellowknife Ar 67.54 344 P **P** **09 03 14.6 +0.4**
comp=Z,3.3nm,0.9s,baz=136,slow=6.2,SNR=49
MACI Morro de la Ar 67.55 59 P **P** **09 03 16.1 +0.7**
PPT Papeete 69.79 251 LR LR 09 28 24.3
comp=Z,245nm,18.4s,baz=51,slow=31
PPT2 Papeete2 69.79 251 *e*LR LR 09 24 51.8
comp=Z,259nm,24.8s
DLBC Dease Lake 70.14 335 LR LR 09 37 04.7
comp=Z,60nm,18.3s,baz=134,slow=38
TBI Tubuai 70.43 245 *e*T T 10 20 13.4
comp=Z,3.4nm,0.3s
WRGLY Wrigley 70.78 341 P **P** **09 03 35.1 +0.8**
baz=134
TGTN Hyland Airport 71.33 338 P **P** **09 03 39.5 +1.7**
baz=129
SIT Sitka 71.74 332 P **P** **09 03 42.5 +2.3**
baz=121
SKAG Skagway 72.99 334 P **P** **09 03 49.9 +2.2**
baz=121
MMPY Sheldon Lake, 73.11 338 P **P** **09 03 49.0 +0.5**
baz=126
FARO Faro, Yukon 73.68 337 P **P** **09 03 53.6 +1.8**
baz=124
M31M Drury Creek, Y 74.07 337 P **P** **09 03 55.1 +1.0**
baz=123
N31M Braeburn, Yuko 74.25 336 P **P** **09 03 56.8 +1.7**
baz=122
ICESG Greenland Ices 74.51 14 *i*P **P** **09 03 54.6 -2.3**
HYT Haines Junctio 74.62 335 P **P** **09 03 59.0 +1.6**
baz=120
PNL Peninsula 74.89 333 P **P** **09 04 00.5 +1.6**
baz=118
YUK6 Outpost Mounta 75.05 335 P **P** **09 04 01.8 +1.7**
baz=119
M30M Minto, Yukon 75.22 337 P **P** **09 04 01.8 +1.1**
baz=121
C36M Paulatuk 75.26 345 P **P** **09 04 00.7 0.0**
baz=135
YUK4 Talbot Arm 75.36 335 P **P** **09 04 02.8 +1.0**
baz=119,SNR=5.3
LIC Lamto 75.81 84 *e*P **P** **09 04 05.8 +0.7**
comp=Z,23nm,1.1s
TIC Toumodi 75.83 83 *e*P **P** **09 04 05.6 +0.4**
MORF Marmelete 75.94 51 *e*P **P** **09 04 06.2 +0.8**
MORF IAmb IAmb 09 04 07.8
comp=Z,31nm,1.3s
MORF Marmelete 75.94 51 *e*P **P** **09 04 07.5 +2.1**
comp=Z,40nm,1.5s
DBIC Dimbokro 76.00 83 P **P** **09 04 06.4 +0.3**
comp=Z,7.3nm,0.9s,baz=289,slow=4.0,SNR=6.8
DBIC LR LR 09 38 17.9
comp=Z,130nm,18.2s,baz=260,slow=36
KIC Kosan Boka 76.10 83 *e*P **P** **09 04 07.0 +0.3**
comp=Z,27nm,0.9s
PNCL Nicolau / Gran 76.19 51 *e*P **P** **09 04 08.2 +1.5**
comp=Z,20nm,2.0s
YUK3 Moose Creek 76.33 335 P **P** **09 04 08.9 +1.5**
baz=117
CTG Chitna Glacier 76.35 334 P **P** **09 04 08.3 +1.0**
baz=116
PBDV Barranco-do-Ve 76.49 52 *e*P **P** **09 04 11.2 +2.7**
comp=Z,27nm,1.6s
PCAS Casmilo, Conde 76.60 49 *e*P **P** **09 04 11.0 +2.0**
comp=Z,42nm,2.0s
PMTG Montargil 76.61 50 *e*P **P** **09 04 10.5 +1.4**
comp=Z,14nm,2.0s
PVAQ Vaqueiros 76.69 52 *e*LR LR 09 21 08.5
comp=Z,18nm,20.0s
BVCY Beaver Creek 76.79 336 P **P** **09 04 11.4 +1.7**
baz=117
DAWY Dawson 76.98 337 P **P** **09 04 11.1 +0.3**
baz=119,SNR=7.3
PESTR Estremoz 77.06 50 *e*P **P** **09 04 13.4 +1.7**
comp=Z,23nm,1.4s
PESTR Estremoz 77.06 50 P **P** **09 04 11.1 -0.6**
PESTR IAmb IAmb 09 04 13.9
comp=Z,7.6nm,0.9s
PGAV Gavieira, Arco 77.16 47 *e*P **P** **09 04 14.3 +2.0**
comp=Z,21nm,1.4s
EPYK Eagle Plains 77.18 340 P **P** **09 04 12.5 +0.8**
baz=122
PVIS Viseu 77.19 48 *e*P **P** **09 04 11.1 -1.3**
comp=Z,17nm,2.2s
M27K Edge Creek, AK 77.19 335 P **P** **09 04 13.1 +1.0**
baz=116,SNR=5.5
KOWA Kowa 77.20 75 P **P** **09 04 12.5 -0.4**
I29M Ogilvie Camp, 77.22 339 P **P** **09 04 13.0 +1.0**
baz=120,SNR=10
INK Inuvik 77.22 342 LR LR 09 40 47.4
comp=Z,151nm,18.3s,baz=122,slow=38
INK Inuvik 77.22 342 P **P** **09 04 12.3 +0.4**
INK IAmb IAmb 09 04 16.5
comp=Z,12nm,1.1s
INK Inuvik 77.22 342 P **P** **09 04 12.6 +0.8**
baz=125,SNR=12
MCARA McCarthy VSAT 77.26 334 P **P** **09 04 14.3 +2.0**
MCARA McCarthy VSAT 77.26 334 P **P** **09 04 13.5 +1.2**
baz=115
PCAB Cabril 77.29 47 *e*P **P** **09 04 14.0 +1.1**
comp=Z,14nm,1.2s
PMRV Marv??o 77.31 50 *e*P **P** **09 04 14.4 +1.3**
comp=Z,12nm,1.8s
PCBR Castelo Branco 77.33 49 *e*P **P** **09 04 14.8 +1.7**
comp=Z,16nm,1.4s
MTE Manteigas 77.39 49 *e*P **P** **09 04 14.7 +1.2**
comp=Z,21nm,2.0s
A36M Sachs Harbour 77.40 347 P **P** **09 04 13.3 +0.5**
baz=134,SNR=39
L27K Beaver Creek, 77.48 336 P **P** **09 04 14.7 +1.1**
baz=116
M26K Nabesna, AK 77.68 335 P **P** **09 04 15.8 +1.1**
baz=115
BMRM Bremner River 77.79 333 P **P** **09 04 16.4 +1.1**
baz=113
MVO Moncorvo 77.92 48 *e*LR LR 09 23 37.9
comp=Z,101nm,20.0s
EGAK Eagle 78.00 338 P **P** **09 04 17.2 +0.8**
EGAK IAmb IAmb 09 04 20.7
comp=Z,15nm,1.1s
EGAK Eagle 78.00 338 P **P** **09 04 17.1 +0.8**
baz=117,SNR=14
N25K Chitina, Valde 78.04 334 P **P** **09 04 18.0 +1.2**
baz=113
L26K Log Cabin Wild 78.09 336 P **P** **09 04 18.3 +1.3**
baz=115
PBRG Braganca 78.25 47 *e*P **P** **09 04 19.5 +1.2**
comp=Z,14nm,1.9s
KLU Klutina 78.58 334 P **P** **09 04 21.5 +1.7**
baz=112
HARP HAARP 78.60 335 P **P** **09 04 20.6 +0.8**
baz=113
SCRK Sand Creek 78.75 336 P **P** **09 04 21.0 +0.3**
baz=114
J26L Joseph Creek 78.80 337 P **P** **09 04 22.3 +1.4**
baz=115,SNR=8.0
M24K Tolsona, Glenn 78.93 334 P **P** **09 04 23.2 +1.6**
baz=112
PAX Paxson 78.96 335 P **P** **09 04 22.7 +1.0**
baz=113
RIDG Independent Ri 79.00 336 P **P** **09 04 23.5 +1.6**
baz=114
SCM Sheep Creek Mo 79.33 334 P **P** **09 04 25.5 +1.6**
baz=111
M23K Glacier View 79.50 334 P **P** **09 04 26.2 +1.6**
baz=110
J25K Salcha River, 79.56 337 P **P** **09 04 26.2 +1.2**
J25K IAmb IAmb 09 04 29.3
comp=Z,14nm,1.4s
J25K Salcha River, 79.56 337 P **P** **09 04 25.8 +0.8**
baz=113
KNK Knik Glacier 79.69 333 P **P** **09 04 26.6 +0.9**
baz=110
SEW Seward 79.72 332 P **P** **09 04 26.8 +1.0**
baz=109
SML Sawmill 79.77 334 P **P** **09 04 26.7 +0.5**
baz=110
WAT6 Susitna Watana 79.78 334 P **P** **09 04 27.2 +0.9**
baz=111,SNR=11
DHY Denali Highway 79.80 335 P **P** **09 04 27.8 +1.3**
baz=111
ESDC Sonseca Array 79.97 50 P **P** **09 04 29.0 +1.2**
comp=Z,3.4nm,0.8s,baz=267,slow=5.9,SNR=30
ESDC Sonseca Array 79.97 50 P **P** **09 04 28.4 +0.6**
GHO Glory Hole Cre 80.02 333 P **P** **09 04 28.7 +1.1**
GHO IAmb IAmb 09 04 35.1
comp=Z,8.9nm,0.9s
RC01 Rabbit Creek A 80.17 333 P **P** **09 04 29.6 +1.4**
baz=108
WAT1 Susitna Watana 80.22 334 P **P** **09 04 29.3 +0.7**
baz=110
BRSE Bradley Lake S 80.22 331 P **P** **09 04 28.7 +0.1**
baz=107
ILAR Eielson Array 80.22 337 P **P** **09 04 29.1 +0.5**
comp=Z,2.6nm,1.0s,baz=132,slow=3.3,SNR=13
ILAR LR LR 09 43 24.8
comp=Z,51nm,18.1s,baz=89,slow=38
BMAR Burnt Mountain 80.41 339 P **P** **09 04 30.8 +1.2**
M22K Willow 80.56 333 P **P** **09 04 31.3 +1.0**
baz=108
MCK McKinley 80.69 335 P **P** **09 04 31.6 +0.5**

	baz=110								
H24K	**Noodor Dome**	**81.00**	**337**	P		**P**	09 04 33.8	**+1.1**	
	baz=111,SNR=7.0								
NEA2	**Nenana**	**81.04**	**336**	P		**P**	09 04 33.5	**+0.7**	
	baz=110								
TRF	**Thorofare Moun**	**81.17**	**335**	P		**P**	09 04 35.0	**+1.2**	
	baz=108								
I23K	**Minto, Yukon-K**	**81.34**	**337**	P		**P**	09 04 35.5	**+1.0**	
	baz=110								
SPCR	**Spurr Chakacha**	**81.35**	**332**	P		**P**	09 04 35.8	**+1.1**	
	baz=106								
H23K	**Yukon River**	**81.64**	**337**	P		**P**	09 04 36.7	**+0.6**	
	baz=109								
BPAW	**Bear Paw Mtn.**	**81.67**	**335**	P		**P**	09 04 36.8	**+0.6**	
	baz=108								
PPLA	**Purkeypile**	**81.82**	**334**	P		**P**	09 04 38.1	**+0.8**	
	baz=107								
PPLA	**Purkeypile**	**81.82**	**334**	Pn		**P**	09 04 38.2	**+0.9**	
CAST	**Castle Rocks**	**81.93**	**334**	P		**P**	09 04 37.0	**-0.7**	
	baz=107,SNR=7.6								
CHUM	**Lake Minchumin**	**82.16**	**335**	P		**P**	09 04 38.4	**-0.4**	
	baz=107								
N19K	**Bonanza Creek**	**82.31**	**332**	P		**P**	09 04 39.6	**-0.2**	
	baz=104								
P18K	**Big Mountain,**	**82.33**	**330**	P		**P**	09 04 39.6	**-0.2**	
	baz=103								
COLD	**Coldfoot**	**82.36**	**338**	P		**P**	09 04 40.4	**+0.6**	
	baz=109								
I21K	**Tanana**	**82.40**	**336**	P		**P**	09 04 40.1	**0.0**	
	baz=107								
O18K	**Koktuh Hills**	**82.43**	**331**	P		**P**	09 04 41.0	**+0.7**	
	baz=104								
L20K	**Farewell, AK**	**82.46**	**333**	P		**P**	09 04 40.6	**+0.2**	
	baz=105								
TOLK	**Toolik Lake Re**	**82.61**	**340**	P		**P**	09 04 40.5	**-0.6**	
	baz=110								
TOA0	**Torodi Ar. Sit**	**82.67**	**77**	P		**P**	09 04 41.9	**-0.6**	
TOA0				IAmb		IAmb	09 05 01.8		
	comp=Z,16nm,1.5s								
TORD	**Torodi Ar. Bea**	**82.67**	**77**	P		**P**	09 04 42.7	**+0.2**	
	comp=Z,1.8nm,0.7s,baz=282,slow=7.2,SNR=12								
TORD	**Torodi Ar. Bea**	**82.67**	**77**	P		**P**	09 04 41.9	**-0.6**	
TORD				IAmb		IAmb	09 05 01.8		
	comp=Z,10nm,1.4s								
K20K	**Telida**	**82.77**	**334**	P		**P**	09 04 41.9	**-0.1**	
	baz=105								
L19K	**White Mountain**	**82.82**	**333**	P		**P**	09 04 42.5	**+0.2**	
	baz=104								
H21K	**Melozitna Rive**	**82.87**	**337**	P		**P**	09 04 42.3	**-0.2**	
	baz=106								
N18K	**Kilae Creek**	**82.95**	**331**	P		**P**	09 04 43.0	**0.0**	
	baz=103								
J20K	**Nowinta River**	**83.02**	**335**	P		**P**	09 04 43.2	**-0.1**	
	baz=105								
TTA	**Tatalina**	**83.52**	**334**	P		**P**	09 04 45.5	**-0.5**	
	baz=103								
DAG	**Danmarks Havn**	**84.03**	**12**	*i* P		**P**	09 04 47.0	**-1.2**	
GCSA	**Galena City Sc**	**84.31**	**335**	P		**P**	09 04 49.8	**0.0**	
	baz=102								
VAE	**Valguarnera**	**94.22**	**53**	LR		LR	09 46 42.3		
	comp=Z,230nm,18.9s,baz=152,slow=35								
VNDA	**Vanda**	**95.53**	**191**	LR		LR	09 45 10.1		
	comp=Z,58nm,18.2s,baz=137,slow=33								
TSUM	**Tsumeb**	**97.78**	**109**	LR		LR	09 48 01.7		
	comp=Z,160nm,20.3s,baz=326,slow=34								
SUR	**Sutherland**	**99.63**	**123**	LR		LR	09 46 32.4		
	comp=Z,146nm,21.0s,baz=288,slow=33								
ZALV	**Zalesovo Beam**	**125.14**	**10**	PKP		**PKPdf**	09 11 18.1	**-0.5**	
	comp=Z,0.4nm,0.3s,baz=356,slow=1.9,SNR=1.6								
KURK	**Kurchatov**	**126.72**	**16**			**PKPdf**	09 11 20.6	**-1.1**	
KURBB	**Kurchatov Arra**	**126.77**	**16**	PKP		**PKPdf**	09 11 20.6	**-1.2**	
	comp=Z,0.3nm,0.5s,baz=348,slow=2.1,SNR=2.9								
KSH	**Kashi**	**135.47**	**26**	PKP		**PKiKP**	09 11 40.8	**+0.4**	
KSH				sPKP			09 11 53.5		
ASAR	**Alice Springs**	**138.84**	**232**	PKHKP		PKPpre	09 11 39.0		
	comp=Z,1.1nm,0.9s,baz=114,slow=3.1,SNR=5.4								
ASAR				PKP		**PKPdf**	09 11 45.8	**+0.4**	
	comp=Z,1.2nm,0.7s,baz=119,slow=2.0,SNR=7.5								
WRA	**Warramunga Arr**	**140.23**	**238**	PKhKP		PKPpre	09 11 43.0		
	comp=Z,1.4nm,1.1s,baz=104,slow=1.9,SNR=4.8								
WRA				PKP		**PKPdf**	09 11 48.4	**+0.4**	
	comp=Z,2.3nm,0.8s,baz=104,slow=2.1,SNR=12								
XAN	**Xi'an**	**145.16**	**346**	pPKP		pPKPdf	09 12 07.3	+0.3	
XAN	**Xi'an**	**145.16**	**346**	PKPbc		**PKPbc**	09 11 55.6	**-0.3**	
PZH	**PanZhiHua**	**153.76**	**355**	PKPbc		**PKPdf**	09 12 09.1	**-1.3**	

IDC ***22*** *08:54:25.8±0.9, 15°.00N×87°.26W, h0km, mb4.0/12, mb1 4.3/13, mb1mx4.1/40, mbtmp4.0/13, ML3.3/1, Error ellipse: s-maj=35.5km s-min=17.4km az=55.0*

SNET ***22*** *08:54:27.9±1.3, 14°.86N×87°.47W, h10km, ML4.5*

NEIC ***22*** *08:54:28.1±1.9, 14°.81N±0°.07×87°.62W±0°.06, h9km±4km, mb4.5/44, Mwr4.3/24, Error ellipse: s-maj=10.8km s-min=7.6km az=206.0*

NEIC ***22*** *08:54:28.2, 14°.81N×87°.62W, h9km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=2.55; Mθθ-0.64; Mϕϕ3.20; Mrθ0.88; Mϕθ0.74; Mϕr0.93; Fault plane solution: M☉3.28000×10¹⁵ NP1:ϕ☉352.35000°, δ37.83000°, λ-118.25000°. NP2:ϕ☉206.58000°, δ57.30000°, λ-69.82000°. Principal axes: T 3.5286, Plg10.0000°, Azm282.0000°; N -0.5714, Plg17.0000°, Azm15.0000°; P -2.9573, Plg70.0000°, Azm162.0000°;*

INET ***22*** *08:54:31.2±1.4, 14°.70N×87°.53W, h15km±112km, ML4.1*

GCG ***22*** *08:54:32.9±3.2, 16°.21N×87°.99W, h32km±999km, MD4.5*

ISC 22 08:54:26.2±1.6, **14°.86N**±0°.05×**87°.57W**±0°.03, **h4**km±11km, **n214, σ1s49/214, mb4.4/22, 2C-4D, Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**0.85**	**160**	Pg		**Pb**	**08 54 43.6**	**0.0**
TGUH	**Tegucigalpa,Un**	**0.85**	**160**	⇑*eP*		**Pb**	**08 54 43.7**	**0.0**
TGUH	**Tegucigalpa,Un**	**0.85**	**160**	⇑*eP*		**Pb**	**08 54 43.7**	**0.0**
TGUH	**Tegucigalpa,Un**	**0.85**	**160**	*eP*		**Pb**	**08 54 43.5**	**-0.2**
PQSS	**Presa 15 de Se**	**1.56**	**218**	*eP*		**Pn**	**08 54 55.3**	**+0.5**
PQSS				*eS*		**Sg**	**08 55 17.2**	**+0.8**
PQSS	**Presa 15 de Se**	**1.56**	**218**	*eP*		**Pn**	**08 54 55.3**	**+0.5**
PQSS				*eS*		**Sg**	**08 55 17.2**	**+0.8**
PACA	**Pacayal**	**1.57**	**208**	*eP*		**Pb**	**08 54 55.6**	**-0.2**
LCND	**La Caada**	**1.57**	**191**	*eP*		**Pn**	**08 54 54.9**	**0.0**
LCND				*eS*		**Sg**	**08 55 18.3**	**+1.4**
LCND				IAML			08 55 26.5	
	comp=Z,6μm,0.8s							
LCND	**La Caada**	**1.57**	**191**	*eP*		**Pn**	**08 54 54.9**	**0.0**
LCND				*eS*		**Sg**	**08 55 18.3**	**+1.4**
LCND				IAML			08 55 26.5	
	comp=Z,6μm,0.8s							
LCY	**Lacayo**	**1.59**	**206**	*eP*		**Pb**	**08 54 56.7**	**+0.4**
LCY	**Lacayo**	**1.59**	**206**	*eP*		**Pb**	**08 54 56.7**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.61**	**224**	*eP*		**Pb**	**08 54 56.5**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.61**	**224**	*eP*		**Pb**	**08 54 56.5**	**-0.1**
COEB	**Comit de Eme**	**1.65**	**215**	*eP*		**Pb**	**08 54 57.5**	**+0.3**
COEB				IAML			08 55 29.0	
	comp=Z,4μm,0.4s							
COEB	**Comit de Eme**	**1.65**	**215**	*eP*		**Pb**	**08 54 57.5**	**+0.3**
COEB				IAML			08 55 29.0	
	comp=Z,4μm,0.4s							
COEB	**Comit de Eme**	**1.65**	**215**	*eP*		**Pn**	**08 54 56.2**	**+0.2**
COEB				IAML			08 55 22.3	
	comp=N,2μm,0.6s							
JUCU	**Jucuarˌn**	**1.73**	**202**	*eP*		**Pb**	**08 54 58.6**	**+0.1**
JUCU				*eS*		**Sg**	**08 55 22.8**	**+0.9**
JUCU				IAML			08 55 26.0	
	comp=Z,4μm,0.3s							
JUCU	**Jucuarˌn**	**1.73**	**202**	*eP*		**Pb**	**08 54 58.6**	**+0.1**
JUCU				*eS*		**Sg**	**08 55 22.8**	**+0.9**
JUCU				IAML			08 55 26.0	
	comp=Z,4μm,0.3s							
JUCU	**Jucuarˌn**	**1.73**	**202**	*eP*		**Pn**	**08 54 57.5**	**+0.3**
ESQI	**Esquipulas**	**1.74**	**260**			**Pn**	**08 54 57.4**	**0.0**
PAVA	**Las Pavas**	**1.75**	**229**	*eP*		**Pb**	**08 54 58.6**	**-0.4**
PAVA	**Las Pavas**	**1.75**	**229**	*eP*		**Pb**	**08 54 58.6**	**-0.4**
PAVA	**Las Pavas**	**1.75**	**229**	*eP*		**Pb**	**08 54 58.8**	**-0.2**
COEG	**Centro de Oper**	**1.77**	**226**	*eP*		**Pb**	**08 54 59.0**	**-0.3**
COEG				IAML			08 55 28.9	
	comp=Z,6μm,0.5s							
COEG	**Centro de Oper**	**1.77**	**226**	*eP*		**Pb**	**08 54 59.0**	**-0.3**
COEG				IAML			08 55 28.9	
	comp=Z,6μm,0.5s							
MTO3	**Montecristo**	**1.79**	**255**	Pn		**Pn**	**08 54 57.5**	**-0.6**
LBRS	**Las Brisas**	**1.81**	**232**	*eP*		**Pb**	**08 55 00.1**	**0.0**
LBRS	**Las Brisas**	**1.81**	**232**	*eP*		**Pb**	**08 55 00.1**	**0.0**
LFU	**La Fuente**	**1.86**	**234**	*eP*		**Pb**	**08 55 00.6**	**-0.2**
LFU	**La Fuente**	**1.86**	**234**	*eP*		**Pb**	**08 55 00.6**	**-0.2**
SJTE	**Alcalda de S**	**1.87**	**229**	*eP*		**Pb**	**08 55 00.6**	**-0.4**
SJTE	**Alcalda de S**	**1.87**	**229**	*eP*		**Pb**	**08 55 00.6**	**-0.4**
CSGN	**Cosiguina Volc**	**1.88**	**180**	*eP*		**Pn**	**08 54 59.0**	**-0.1**
LFRS	**El Faro**	**1.90**	**230**	*eP*		**Pb**	**08 55 01.3**	**-0.2**
LFRS	**El Faro**	**1.90**	**230**	*eP*		**Pb**	**08 55 01.3**	**-0.2**
UEES	**Universidad Ev**	**1.98**	**235**	*eP*		**Pb**	**08 55 02.5**	**-0.3**
UEES				IAML			08 55 35.9	
	comp=Z,3μm,0.5s							
UEES	**Universidad Ev**	**1.98**	**235**	*eP*		**Pb**	**08 55 02.5**	**-0.3**
UEES				IAML			08 55 35.9	
	comp=Z,3μm,0.5s							
SNET	**Serv Nac Est T**	**1.99**	**234**			**Pb**	**08 55 02.4**	**-0.7**
SNET	**Serv Nac Est T**	**1.99**	**234**	*eP*		**Pb**	**08 55 02.5**	**-0.5**
SNET				IAML			08 55 36.1	
	comp=Z,2μm,0.4s							
SNET	**Serv Nac Est T**	**1.99**	**234**	*eP*		**Pb**	**08 55 02.5**	**-0.5**
SNET				IAML			08 55 36.1	
	comp=Z,2μm,0.4s							
SNET	**Serv Nac Est T**	**1.99**	**234**	*eP*		**Pb**	**08 55 02.6**	**-0.5**
SNET				*eS*		**Sg**	**08 55 30.1**	**-0.1**
BOQS	**Boqueron**	**2.00**	**236**	*eP*		**Pb**	**08 55 02.9**	**-0.4**
BOQS	**Boqueron**	**2.00**	**236**	*eP*		**Pb**	**08 55 02.9**	**-0.4**
MRL	**Marmol**	**2.06**	**276**	*eP*		**Pn**	**08 55 01.9**	**+0.1**
MRL				*eS*		**Sn**	**08 55 28.8**	**+0.8**
CEDA	**San Andres**	**2.06**	**239**	*eP*		**Pb**	**08 55 03.5**	**-0.7**
CEDA				*eS*		**Sg**	**08 55 31.9**	**-0.6**
CEDA				IAML			08 55 40.0	
	comp=Z,9μm,0.6s							
CEDA	**San Andres**	**2.06**	**239**	*eP*		**Pb**	**08 55 03.5**	**-0.7**
CEDA				*eS*		**Sg**	**08 55 31.9**	**-0.6**
CEDA				IAML			08 55 40.0	
	comp=Z,9μm,0.6s							
CEDA	**San Andres**	**2.06**	**239**	*eP*		**Pb**	**08 55 03.5**	**-0.7**
LALI	**Alcalda de L**	**2.18**	**231**	*eP*		**Pb**	**08 55 06.4**	**+0.2**
JAYA	**Jayaque - finc**	**2.18**	**237**	*eP*		**Pb**	**08 55 05.8**	**-0.6**
JAYA				IAML			08 55 40.7	
	comp=Z,2μm,0.4s							
JAYA	**Jayaque - finc**	**2.18**	**237**	*eP*		**Pb**	**08 55 05.8**	**-0.6**
JAYA				IAML			08 55 40.7	
	comp=Z,2μm,0.4s							
SNJE	**San Jose**	**2.21**	**244**	*eP*		**Pb**	**08 55 06.1**	**-0.7**
SNJE	**San Jose**	**2.21**	**244**	*eP*		**Pb**	**08 55 06.1**	**-0.7**
CRIN	**San Cristobal**	**2.21**	**167**			**Pn**	**08 55 04.4**	**+0.6**
CRIN	**San Cristobal**	**2.21**	**167**	*eP*		**Pn**	**08 55 04.3**	**+0.6**
SBLS	**Las Blas**	**2.23**	**243**	⇓*iP*		**Pb**	**08 55 07.0**	**-0.3**
SBLS	**San Blas**	**2.23**	**243**	⇓*iP*		**Pb**	**08 55 07.0**	**-0.3**
CEVE	**Cerro Verde**	**2.24**	**243**	⇓*iP*		**Pb**	**08 55 07.3**	**-0.2**
CEVE	**Cerro Verde**	**2.24**	**243**	⇓*iP*		**Pb**	**08 55 07.3**	**-0.2**
SLOZ	**Alcaldia de Sa**	**2.30**	**249**	*eP*		**Pb**	**08 55 07.1**	**-1.2**
NUBE	**Las Nubes**	**2.34**	**246**	*eP*		**Pb**	**08 55 08.3**	**-0.8**
NUBE	**Las Nubes**	**2.34**	**246**	*eP*		**Pb**	**08 55 08.3**	**-0.8**
TEL3	**Telica 3**	**2.38**	**163**	*eP*		**Pn**	**08 55 06.9**	**+0.9**
CNGN	**Cerro Negro**	**2.50**	**160**			**Pn**	**08 55 07.4**	**-0.3**
MATN	**Matagalpa**	**2.50**	**140**			**Pn**	**08 55 07.8**	**+0.1**
MATN	**Matagalpa**	**2.50**	**140**	*eP*		**Pn**	**08 55 07.8**	**+0.1**
NBG	**Las Nubes**	**2.70**	**265**	*eP*		**Pb**	**08 55 15.8**	**+0.5**
NBG				*eS*		**Sb**	**08 55 50.4**	**+1.5**
COPN	**Copaltepe**	**2.83**	**160**	*eP*		**Pn**	**08 55 12.9**	**+0.7**
PCG	**Pacaya**	**2.98**	**261**	*eP*		**Pb**	**08 55 20.4**	**+0.4**
PETF	**Flores**	**3.01**	**313**			**Pn**	**08 55 13.4**	**-1.3**
BOAB	**BOACO BROADBAN**	**3.03**	**142**	Pn		**Pn**	**08 55 15.2**	**+0.3**
BOAB	**BOACO BROADBAN**	**3.03**	**142**	*eP*		**Pn**	**08 55 15.5**	**+0.6**
FUG	**Fuego 3**	**3.19**	**263**	*eP*		**Pb**	**08 55 24.4**	**+0.8**
ACON	**Acoyapa**	**3.70**	**141**			**Pn**	**08 55 24.4**	**+0.2**
ACON	**Acoyapa**	**3.70**	**141**	*eP*		**Pn**	**08 55 23.6**	**-0.6**
ACON	**Acoyapa**	**3.70**	**141**	*eP*		**Pn**	**08 55 24.4**	**+0.2**
HUEH	**Huehuetenango**	**3.83**	**277**			**Pn**	**08 55 26.2**	**+0.1**
ESPN	**Las Esperanzas**	**4.14**	**129**			**Pn**	**08 55 30.3**	**+0.1**
ESPN	**Las Esperanzas**	**4.14**	**129**	*eP*		**Pn**	**08 55 30.2**	**-0.1**
HZTE	**Horizontes, Gu**	**4.55**	**155**	Pn		**Pn**	**08 55 37.1**	**+1.2**
BUEV	**Buena Vista**	**4.56**	**152**	*eP*		**Pb**	**08 55 44.9**	**-1.9**
GPS2	**Hotel Rincn d**	**4.62**	**152**	*eP*		**Pn**	08 55 24.9	-12
CCIG	**Comitan**	**4.62**	**288**	Pn		**Pn**	**08 55 36.5**	**-0.5**
VMAR	**Armenia, Volca**	**4.68**	**149**	*eP*		**Pb**	**08 55 51.8**	**+2.9**
HORNC	**Hornillas**	**4.74**	**150**	*eP*		**Pb**	**08 55 48.9**	**-1.0**
COLC	**Colonia**	**4.77**	**151**	*eP*		**Pb**	**08 55 48.0**	**-2.4**
CUI	**Cuipilapa**	**4.79**	**150**	*eP*		**Pb**	**08 55 46.6**	**-4.2**
PTEN	**Parque Tenorio**	**4.83**	**148**	*eP*		**Pb**	**08 55 50.3**	**-1.2**
ACAL	**Aguas Claras**	**4.88**	**149**	*eP*		**Pg**	**08 55 57.1**	**-2.6**
ORTG	**Ortega, Santa**	**4.92**	**155**			**Pn**	**08 55 42.2**	**+1.2**
ORTG	**Ortega, Santa**	**4.92**	**155**	*eP*		**Pn**	**08 55 44.0**	**+2.9**
PLVR	**Palo Verde**	**4.98**	**154**	*eP*		**Pn**	**08 55 41.0**	**-0.9**
GUAI	**GUAI**	**4.99**	**156**	*eP*		**Pn**	**08 55 43.9**	**+2.0**
SAJU	**San Juanillo,**	**5.10**	**159**	*eP*		Pb	08 55 50.0	-6.0
DUNO	**Dulce Nombre,**	**5.17**	**157**			**Pn**	**08 55 46.9**	**+2.5**
DUNO	**Dulce Nombre,**	**5.17**	**157**	*eP*		**Pn**	**08 55 46.5**	**+2.1**
ARE1	**Arenal 1**	**5.18**	**147**	*eP*		Pb	08 55 51.3	-6.2
JTS	**Las Juntas de**	**5.21**	**150**	Pn		**Pn**	**08 55 45.1**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=41,slow=12,SNR=5.1							
JTS				Lg		Lg	08 57 09.0	
	comp=Z,1.1nm,0.3s,baz=242,slow=19,SNR=2.0							
JTS	**Las Juntas de**	**5.21**	**150**	Pn		**Pn**	**08 55 46.1**	**+1.1**
JTS	**Las Juntas de**	**5.21**	**150**	*eP*		**Pn**	**08 55 47.3**	**+2.3**
SRA1	**San Ramn**	**5.62**	**147**	*eP*		Pb	08 56 00.2	-4.8
RIFO	**Rio Frio, Sara**	**5.75**	**141**	*eP*		**Pb**	**08 56 07.1**	**-0.1**
HDC	**Heredia**	**5.89**	**145**	*eP*		**Pb**	**08 56 07.8**	**-1.8**
HDC3	**Heredia 3**	**5.89**	**145**	*eP*		**Pb**	**08 56 13.3**	**+3.6**
JACO	**JACO, Garabito**	**5.90**	**151**	*eP*		**Pb**	**08 56 07.8**	**-1.9**
RAFA	**San Farael, Vo**	**6.10**	**143**	*eP*		Pb	08 56 07.1	-6.2
PRVC	**Isla de Provid**	**6.20**	**103**	Pn		**Pn**	**08 56 00.4**	**+1.8**
RIMA	**Rio Macho**	**6.22**	**144**			**Pn**	**08 56 01.5**	**+1.4**
RIMA	**Rio Macho**	**6.22**	**144**	*eP*		**Pn**	**08 56 01.3**	**+2.2**
PEZE	**Perez Zeledon,**	**6.64**	**145**	Pn		**Pn**	**08 56 06.5**	**+1.7**
SRBA	**San Rafael, Bu**	**6.95**	**143**			**Pn**	**08 56 10.9**	**+2.0**
DRK0	**Durika**	**6.99**	**142**	*eP*		**Pn**	**08 56 10.9**	**+1.4**
CMIG	**Matias Romero**	**7.38**	**288**	Pn		**Pn**	**08 56 13.6**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=95,slow=9.7,SNR=19							
CMIG				Pg		Pb	08 56 41.2	+6.4
	comp=Z,2.0nm,0.3s,baz=114,slow=16,SNR=5.0							
CMIG				Sn		**Sn**	**08 57 33.7**	**-5.2**
	comp=Z,1.4nm,0.3s,baz=108,slow=9.4,SNR=4.1							
CMIG				Lg		Lg	08 58 18.2	
	comp=Z,0.6nm,0.3s,baz=50,slow=14,SNR=1.8							
SOR	**Soroa**	**8.99**	**28**	Pn		**Pn**	**08 56 39.4**	**+2.5**
656A	**Willston**	**15.17**	**17**			**Pn**	**08 58 02.0**	**+0.7**
553A	**Crawfordville**	**15.53**	**10**	Pn		**P**	**08 58 08.5**	**-2.0**
TIGA	**Tifton**	**16.90**	**12**	P		**P**	**08 58 26.4**	**+0.7**
	baz=193							
833A	**Chaparral WMA,**	**17.31**	**323**			**P**	**08 58 30.8**	**+0.4**
833A	**Chaparral WMA,**	**17.31**	**323**	P		**P**	**08 58 31.1**	**+0.8**
	baz=139							
VBMS	**Vicksburg**	**17.49**	**352**	P		**P**	**08 58 33.4**	**+1.2**
VBMS				IAmb		IAmb	08 58 38.1	
	comp=Z,31nm,1.1s							
VBMS	**Vicksburg**	**17.49**	**352**	P		**P**	**08 58 33.3**	**+1.1**
	baz=171							
LRAL	**Lakeview Retre**	**18.10**	**2**	P		**P**	**08 58 41.9**	**+3.0**
LRAL	**Lakeview Retre**	**18.10**	**2**	P		**P**	**08 58 41.4**	**+2.4**
	baz=182							
143A	**Socs Landing,**	**18.10**	**350**	P		**P**	**08 58 40.2**	**+1.2**
Z47A	**Carrollton**	**18.26**	**359**	P		**P**	**08 58 42.2**	**+1.4**
435B	**Jarrell**	**18.32**	**332**	P		**P**	**08 58 42.7**	**+1.2**
GOGA	**Godfrey**	**18.84**	**11**	P		**Pn**	**08 58 48.9**	**+1.3**
	baz=192							
Z41A	**Richland Creek**	**18.92**	**346**	P		**Pn**	**08 58 49.4**	**+0.8**
Z41A				IAmb		IAmb	08 59 17.9	
	comp=Z,44nm,1.4s							
Z41A	**Richland Creek**	**18.92**	**346**	P		**Pn**	**08 58 51.0**	**+2.4**
	baz=164							
WHTX	**Lake Whitney,**	**19.29**	**334**	P		**Pn**	**08 58 53.6**	**+0.5**
WHTX				IAmb		IAmb	08 58 57.4	
	comp=Z,19nm,0.8s							
WHTX	**Lake Whitney,**	**19.29**	**334**	P		**Pn**	**08 58 54.8**	**+1.7**
	baz=150							
WLAR	**White Oak Lake**	**19.40**	**346**	P		**P**	**08 58 53.5**	**+0.2**
OXF	**Oxford**	**19.64**	**355**	P		**Pn**	**08 58 58.2**	**+1.1**
	baz=175							
X40A	**Basin Creek Fa**	**20.11**	**347**	P		Pn	08 59 04.0	+1.2
	baz=165							
MIAR	**Mount Ida**	**20.33**	**346**	P		**P**	**08 59 04.3**	**+0.9**
MIAR	**Mount Ida**	**20.33**	**346**	P		Pn	08 59 06.3	+0.9
	baz=163							
Z35A	**Perchaven, San**	**20.38**	**336**	P		**P**	**08 59 04.6**	**+0.6**
W41B	**Gary Mavity, V**	**20.66**	**349**	P		Pn	08 59 10.1	+0.9
	baz=167							
TX31	**Lajitas Ar. Si**	**20.70**	**317**	P		**P**	**08 59 08.7**	**+1.1**
TX32	**Lajitas Array**	**20.70**	**317**	P		**P**	**08 59 08.0**	**+0.4**
TX32				IAmb		IAmb	08 59 17.2	
	comp=Z,37nm,1.9s							
TXAR	**Lajitas Array**	**20.70**	**317**	P		Pn	08 59 09.3	-0.5
	comp=Z,2.9nm,0.7s,baz=136,slow=9.0,SNR=21							
TXAR	**Lajitas Array**	**20.70**	**317**	P		**P**	**08 59 08.0**	**+0.4**
ABTX	**Abilene, Hawle**	**20.82**	**330**	P		Pn	08 59 10.6	-0.6
ABTX				IAmb		IAmb	08 59 34.9	
	comp=Z,28nm,1.2s							
ABTX	**Abilene, Hawle**	**20.82**	**330**	P		Pn	08 59 10.9	-0.3
	baz=146							
W39A	**Magazine**	**21.00**	**346**	P		**P**	**08 59 13.9**	**+3.2**
	baz=163							
WVT	**Waverly**	**21.18**	**359**	P		**P**	**08 59 14.8**	**+2.2**
	baz=179							
LCAR	**Lake Charles**	**21.36**	**352**	P		**P**	**08 59 16.3**	**+1.8**
LCAR				IAmb		IAmb	08 59 35.2	
	comp=Z,17nm,0.9s							
X34A	**Smith Ranch, M**	**21.72**	**337**	P		**P**	**08 59 20.9**	**+2.4**
X34A				IAmb		IAmb	08 59 45.3	
	comp=Z,16nm,0.9s							
U40A	**Yellville**	**21.92**	**349**	P		**P**	**08 59 22.9**	**+2.4**
U40A	**Yellville**	**21.92**	**349**	P		**P**	**08 59 23.0**	**+2.4**
	baz=166							
PBMO	**Poplar Bluff**	**21.98**	**354**	P		**P**	**08 59 22.5**	**+1.3**
PBMO				IAmb		IAmb	08 59 29.4	
	comp=Z,14nm,0.8s							
T47A	**Sharon Grove**	**22.04**	**1**	P		**P**	**08 59 23.3**	**+1.4**
T47A				IAmb		IAmb	08 59 30.4	
	comp=Z,39nm,1.6s							
FNO	**Franklin**	**22.15**	**338**			**P**	**08 59 24.4**	**+1.4**
FNO				IAmb		IAmb	08 59 27.5	
	comp=Z,14nm,0.8s							
TUL1	**Leonard**	**22.22**	**342**			**P**	**08 59 23.8**	**+0.1**
TUL1				IAmb		IAmb	08 59 32.3	
	comp=Z,17nm,0.9s							
TUL1	**Leonard**	**22.22**	**342**	P		**P**	**08 59 26.1**	**+2.3**
	baz=159							
WMOK	**Wichita Mounta**	**22.22**	**335**	P		**P**	**08 59 24.2**	**+0.3**
WMOK	**Wichita Mounta**	**22.22**	**335**	P		**P**	**08 59 25.5**	**+1.6**
	baz=150							
S44A	**Carbondale**	**22.79**	**357**	P		**P**	**08 59 29.8**	**-0.1**
S44A				IAmb		IAmb	08 59 39.2	
	comp=Z,22nm,0.9s							
SIUC	**Southern Illin**	**22.81**	**357**	P		**P**	**08 59 31.1**	**+1.0**
S39A	**Bolivar**	**23.30**	**348**	P		**P**	**08 59 36.7**	**+1.5**
S39A				IAmb		IAmb	09 00 07.5	
	comp=Z,15nm,1.1s							
CCM	**Cathedral Cave**	**23.33**	**353**	P		**P**	**08 59 35.6**	**+0.2**
	baz=171							
MNTX	**Cornudas Mount**	**23.36**	**319**

KURBB				⇑Lg	Lg	09 02 48.6			
	4.2nm,0.7s								
MK31	**Makanchi Array**	**7.94**	**200**	Pn	Pn	09 01 34.7	+1.5		
	0.5nm,0.4s,baz=29,slow=12,SNR=9.7								

NOU 22 09:00:32.7, 14.87S×167.43E, h23km, MLv4.5/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.61**	**201**	P	Pn	09 00 45.6	-0.4
DVP	**Devils Point**	**2.93**	**166**	P	Pn	09 01 17.9	0.0
KOUNC	**Koumac, New Ca**	**6.39**	**207**	P	Pn	09 02 05.6	+0.1
YATNC	**Mamie plateau,**	**7.17**	**184**	P	Pn	09 02 15.1	-1.1
DZM	**Mont Dzumac**	**7.22**	**187**	P	Pn	09 02 17.0	0.0
NOUC	**Port Laguerre**	**7.27**	**188**	P	Pn	09 02 17.9	+0.3
ONTNC	**Ouen Toro**	**7.46**	**187**	P	Pn	09 02 20.8	+0.7
OUENC	**Ouen Island, N**	**7.53**	**184**	P	Pn	09 02 21.6	+0.5

*AEIC **22** 09:00:49.3±3.7, 52.1°N±0.1°×176.53W±0.05, h21km±6km, Error ellipse: s-maj=14.9km s-min=3.3km az=166.0*
NEIC 22 09:00:48.4±1.8, 52.1N±0.1°×176.55W±0.08, h34km±10km, mb3.8/14, ML2.9/21(AEIC), Error ellipse: s-maj=16.7km s-min=2.5km az=154.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.22**	**203**		Pb	09 00 55.2	-0.2
ADK	**Adak**	**0.22**	**203**		Sb	09 00 59.1	-0.9
GSSP	**Great Sitkin S**	**0.23**	**88**		Pb	09 00 55.2	-0.2
GSCK	**Great Sitkin C**	**0.25**	**107**		Pb	09 00 55.7	0.0
GSTD	**Great Sitkin T**	**0.25**	**97**		Pn	09 00 55.4	+0.1
GSTD					Sb	09 00 59.7	-1.0
GSTR	**Great Sitkin T**	**0.30**	**88**		Pn	09 00 56.0	-0.3
KINC	**Kanaga Island**	**0.39**	**247**		Pb	09 00 57.8	0.0
GSIG	**Igitkin Island**	**0.40**	**104**		Pb	09 00 57.6	+0.1
KICM	**Kanaga Island**	**0.43**	**247**		Pn	09 00 58.5	+0.2
KIKV	**Kanaga Island**	**0.44**	**242**		Pn	09 00 58.6	+0.2
KIWB	**Kanaga Island**	**0.44**	**238**		Pn	09 00 58.6	+0.2
KIMD	**Kanaga Island**	**0.54**	**233**		Pb	09 01 00.3	+0.7
TAPA	**Tanaga Point A**	**0.83**	**251**		Pb	09 01 04.9	+0.4
TAFP	**Tanaga Falls P**	**0.91**	**259**		Pb	09 01 06.1	+0.3
TAFP					Sb	09 01 18.2	+0.6
TASE	**Tanaga Southea**	**0.96**	**255**		Pb	09 01 06.6	0.0
ATKA	**Atka Island**	**1.45**	**85**		Pb	09 01 13.6	-1.3
ATKA					Sb	09 01 31.9	-1.1
KOKL	**Mount Kliuchef**	**1.46**	**80**		Pb	09 01 14.2	-0.9
KOFP	**Korovin Flat P**	**1.52**	**82**		Pb	09 01 15.3	-0.7
J20K	**Nowinta River**	**16.80**	**35**	Pn	Pn	09 04 39.5	-1.2
DHY	**Denali Highway**	**18.93**	**43**	P	P	09 05 06.0	-0.2
I23K	**Minto, Yukon-K**	**19.06**	**36**	P	P	09 05 06.7	-0.7
I23K				IAmb	IAmb	09 05 10.3	
	comp=Z,6.8nm,0.9s						
M24K	**Tolsona, Glenn**	**19.12**	**47**	P	Pn	09 05 08.7	-0.5
H23K	**Yukon River**	**19.35**	**34**	P	P	09 05 10.6	-0.1
H23K				IAmb	IAmb	09 05 12.2	
	comp=Z,6.1nm,1.1s						
COLD	**Coldfoot**	**19.93**	**30**	P	P	09 05 14.7	-2.2
COLD				IAmb	IAmb	09 05 17.9	
	comp=Z,4.2nm,0.9s						
WAX	**Waxell Ridge**	**20.29**	**52**	P	P	09 05 19.9	-1.2
J25K	**Salcha River,**	**20.34**	**40**	P	P	09 05 21.6	+0.1
J25K				IAmb	IAmb	09 05 29.2	
	comp=Z,5.0nm,1.2s						
MCARA	**McCarthy VSAT**	**20.38**	**50**	P	P	09 05 19.6	-2.3
MCARA				IAmb	IAmb	09 05 24.4	
	comp=Z,5.6nm,1.0s						
SCRK	**Sand Creek**	**20.67**	**42**	P	P	09 05 25.1	0.0
TOLK	**Toolik Lake Re**	**20.98**	**28**	P	P	09 05 27.6	-0.8
TOLK				IAmb	IAmb	09 05 40.4	
	comp=Z,7.5nm,1.4s						
EGAK	**Eagle**	**22.09**	**41**	P	P	09 05 39.8	-0.4
EGAK				IAmb	IAmb	09 06 01.7	
	comp=Z,5.1nm,1.2s						

KRSZO 22 09:15:29.5, 46.18N×18.29E, h0km, Explosion. locality : Koml II. GT info : GT2 explosion, Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOVH	**Kovagotottos**	**0.16**	**237**	Pg	Pg	09 15 33.3	+0.8
KOVH				Lg	Lg	09 15 36.3	
KOVH	**Kovagotottos**	**0.16**	**237**	P	Pg	09 15 33.3	+0.8
KOVH				S	Sg	09 15 36.3	+1.6
MORH	**Mrgy, Hungar**	**0.25**	**81**	Pg	Pg	09 15 35.2	+1.0
MORH				Lg	Lg	09 15 39.2	
MORH	**Mrgy, Hungar**	**0.25**	**81**	P	Pg	09 15 35.2	+1.0
MORH				S	Sg	09 15 39.2	+1.8

*IDC **22** 09:20:46.8±1.5, 5.05S×153.56E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.5/44, mbtmp3.6/5, MS2.7/1, Ms1 2.7/1, ms1mx2.4/50, Error ellipse: s-maj=33.9km s-min=28.9km az=88.0*
ISC 22 09:20:54.9±1.5, 5.1S±0.2×153.4E±0.2, h56km, n8, σ1§11/8, mb3.6/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.52**	**299**	Pn	**Pn**	**09 21 19.0**	**-0.9**
	46nm,0.3s,baz=310,slow=1.8,SNR=28						
KRVT				Sn	**Sn**	**09 21 39.7**	**+1.0**
	89nm,0.3s,baz=26,slow=13,SNR=6.2						
PMG	**Port Moresby**	**7.52**	**235**	LR	LR	09 25 48.0	
	comp=Z,55nm,19.0s,baz=50,slow=39						
WRA	**Warramunga Arr**	**23.70**	**230**	P	**P**	**09 26 00.6**	**-1.3**
	0.4nm,0.7s,baz=53,slow=9.8,SNR=2.1						
ASAR	**Alice Springs**	**26.34**	**223**	P	**P**	**09 26 27.3**	**+1.4**
	0.4nm,0.8s,baz=55,slow=12,SNR=2.5						
KLR	**Kul'dur**	**57.25**	**343**	P	**P**	**09 30 36.5**	**0.0**
	0.5nm,0.4s,baz=125,slow=6.5,SNR=4.0						
MKAR	**Makanchi Array**	**80.89**	**319**	P	**P**	**09 33 02.7**	**-0.5**
	0.7nm,0.9s,baz=100,slow=6.6,SNR=4.5						
KURBB	**Kurchatov Arra**	**84.34**	**322**	P	**P**	**09 33 21.8**	**+0.7**
	0.5nm,0.7s,baz=106,slow=3.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.92**	**288**	PKPbc	**PKPbc**	**09 40 42.7**	**+0.3**
	0.7nm,0.3s,baz=78,slow=1.9,SNR=11						

*ISK **22** 09:21:04.5, 38.65N×39.56E, h20km, ML2.5/8*
*DDA **22** 09:21:05.4±0.0, 38.58N×39.58E, h7km±2km, ML2.1*
ISC 22 09:21:05.0±1.2, 38.62N±0.03×39.56E±0.03, h14km±10km, n15, σ0§81/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOVA	**Elazig, Kovanc**	**0.21**	**65**	P	**Pg**	**09 21 10.2**	**+0.4**
KOVA				S	**Sb**	**09 21 13.8**	**-0.9**
KOVA				*i* AML	AML	09 21 15.0	
	comp=E,271nm,0.3s						
SVRC	**Sivrice-ELAZID**	**0.31**	**221**	PG	**Pb**	**09 21 12.1**	**-0.4**
SVRC				SG	**Sb**	**09 21 17.8**	**+0.3**
ELZG	**Elazig**	**0.47**	**256**	P	**Pb**	**09 21 15.0**	**-0.2**
ELZG				S	**Sb**	**09 21 22.3**	**+0.2**
ELZG				*i* AML	AML	09 21 25.0	
	comp=E,134nm,0.4s						
ELZG				*i* AML	AML	09 21 26.0	
	comp=N,156nm,0.5s						
TNCL	**Tunceli-Merkez**	**0.50**	**358**	P	**Pb**	**09 21 15.5**	**-0.2**
TNCL				S	**Sb**	**09 21 23.3**	**+0.4**
TNCL				*i* AML	AML	09 21 24.0	
	comp=E,120nm,0.3s						
HANI	**Diyarbakir_Han**	**0.69**	**107**	P	**Pg**	**09 21 18.0**	**-0.3**
HANI				S	**Sb**	**09 21 29.1**	**+0.9**
DYBB	**Diyarbakir**	**0.80**	**145**	PG	**Pn**	**09 21 21.6**	**-0.4**
DYBB				SG	**Sn**	**09 21 32.9**	**-0.9**
MALT	**Malatya**	**0.94**	**252**	PG	**Pb**	**09 21 23.3**	**+0.1**
BNGB	**Bingl**	**0.95**	**66**	PG	**Pb**	**09 21 23.4**	**+0.1**
ERZN	**Erzincan**	**0.98**	**7**	PG	**Pb**	**09 21 23.1**	**-0.7**
KEMA	**Kemaliye**	**1.06**	**308**	P	**Pb**	**09 21 25.0**	**-0.2**
KEMA				S	**Sn**	**09 21 42.5**	**+2.3**
ARPR	**Arapgir-MALATY**	**1.07**	**297**	PG	**Pb**	**09 21 24.0**	**-1.4**
ILIC	**ilic-Erzincan**	**1.14**	**317**	PN	**Pb**	**09 21 25.2**	**-1.4**
MAZI	**Mazidag**	**1.35**	**149**	PN	**Pn**	**09 21 29.6**	**0.0**
MAZI				SN	**Sn**	**09 21 47.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.36**	**109**	PN	**Pn**	**09 21 29.7**	**0.0**
SVAN	**Silvan-Diyarba**	**1.36**	**109**	P	**Pb**	**09 21 30.6**	**+0.2**
SVAN				S	**Sg**	**09 21 49.1**	**+0.1**

IDC 22 09:24:48.1±3.0, 54.06N×86.53E, h0km, mb1 3.0/2, mb1mx2.8/46, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.2km s-min=15.1km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**264**	*i*		09 31 30.0	
	baz=83,slow=323,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.01**	**264**	Pg	Pg	09 25 06.8	-0.7
	0.6nm,0.3s,baz=83,slow=18,SNR=9.1						
ZALV				Lg	Lg	09 25 21.6	
	1.5nm,0.3s,baz=72,slow=20,SNR=8.8						
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	09 26 19.1	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=6.6						
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	Pn	09 26 43.0	+0.7
	0.1nm,0.3s,baz=23,slow=14,SNR=5.1						

JMA 22 09:28:25.9, 32.71N×130.71E, h13km±1km, M3.6, 3C Broadband fault plane solution: P waves. NP1: ϕ_s79.00000°, δ50.00000°, λ-82.00000°. **NP2:** ϕ_s246.00000°, δ40.00000°, λ-99.00000°. **Principal axes:** T Plg5.0000°, Azm163.0000°; N Plg6.0000°, Azm254.0000°; P Plg82.0000°, Azm33.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.18**	**152**	⇑P	Pg	09 28 30.1	0.0
JIU3				eS	Sg	09 28 33.2	+0.3
JTA	**Tamana**	**0.29**	**330**	⇑P	Pg	09 28 32.1	+0.1
JTA				eS	Sg	09 28 36.5	+0.4
JTZ	**Takazaki**	**0.87**	**158**	⇑P	Pb	09 28 43.1	+0.3
JTZ				S	Sb	09 28 54.6	+0.3

IDC 22 09:28:43.2±28.0, 22.70S×173.46W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/25, mbtmp4.0/4 Error ellipse: s-maj=525.0km s-min=164.2km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.52**	**266**	P	P	09 36 00.2	+0.9
	2.3nm,0.3s,baz=96,slow=12,SNR=2.3						
STKA	**Stephens Creek**	**40.74**	**247**	P	P	09 36 25.0	-1.0
	2.0nm,1.0s,baz=107,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**48.16**	**258**	P	P	09 37 25.4	-0.3
	0.2nm,0.3s,baz=94,slow=7.2,SNR=9.3						
WRA	**Warramunga Arr**	**48.51**	**263**	P	P	09 37 28.2	-0.1
	1.0nm,0.4s,baz=100,slow=7.9,SNR=15						

*ISK **22** 09:40:50.7, 39.46N×33.53E, h5km, ML2.0/12*
*DDA **22** 09:40:52.1±0.0, 39.42N×33.52E, h7km±3km, ML1.5*
ISC 22 09:40:51.4±1.0, 39.46N±0.02×33.51E±0.02, h7km±9km, n26, σ0§57/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.18**	**121**	PG	**Pg**	**09 40 55.7**	**+0.6**
KAMT				SG	**Sg**	**09 40 56.9**	**-0.8**
BRTR	**Keskin Array B**	**0.28**	**21**	PG	**Pg**	**09 40 56.6**	**-0.4**
BRTR				SG	**Sg**	**09 41 01.0**	**+0.3**
AFSR	**Afar-Bala (An**	**0.34**	**267**	PG	**Pg**	**09 40 57.9**	**-0.2**
AFSR				SG	**Sg**	**09 41 03.2**	**+0.6**
KIRS	**Kirsehir-Merke**	**0.46**	**136**	P	**Pg**	**09 41 00.5**	**+0.2**
KIRS				S	**Sb**	**09 41 07.7**	**-1.2**
KIRS				*i* AML	AML	09 41 08.0	
	comp=N,38nm,0.4s						
KIRS				*i* AML	AML	09 41 08.0	
	comp=E,46nm,0.3s						
KIRS	**Kirsehir-Merke**	**0.46**	**136**	P	**Pg**	**09 41 00.4**	**+0.2**
KIRS				S	**Sb**	**09 41 07.7**	**-1.2**
KIRS				*i* AML	AML	09 41 08.0	
	comp=N,38nm,0.4s						
KIRS				*i* AML	AML	09 41 09.0	
	comp=E,41nm,0.2s						
SERE	**Sereflikochisa**	**0.52**	**175**	PG	**Pg**	**09 41 01.3**	**-0.1**
SERE				SG	**Sg**	**09 41 08.6**	**+0.4**
KKUL	**Konya-Kulu**	**0.55**	**238**	P	**Pg**	**09 41 02.3**	**+0.3**
KKUL				S	**Sb**	**09 41 10.4**	**-1.1**
KKUL				*i* AML	AML	09 41 11.0	
	comp=N,26nm,0.2s						
KKUL				*i* AML	AML	09 41 11.0	
	comp=E,35nm,0.3s						
KKUL	**Konya-Kulu**	**0.55**	**238**	P	**Pg**	**09 41 02.2**	**+0.3**
KKUL				S	**Sb**	**09 41 10.4**	**-1.1**
KKUL				*i* AML	AML	09 41 11.0	
	comp=N,26nm,0.2s						
KKUL				*i* AML	AML	09 41 11.0	
	comp=E,35nm,0.3s						
YAYX	**Yaylak**	**0.57**	**156**	PG	**Pg**	**09 41 02.5**	**0.0**
KULU	**Kulu**	**0.58**	**223**	PG	**Pg**	**09 41 02.7**	**+0.2**
DELI	**KIRIKKALE**	**0.62**	**30**	P	**Pg**	**09 41 03.2**	**-0.2**
DELI				S	**Sg**	**09 41 11.2**	**-0.3**
DELI				*i* AML	AML	09 41 20.0	
	comp=E,17nm,0.2s						
DELI				*i* AML	AML	09 41 25.0	
	comp=N,9.8nm,0.3s						
DELI	**KIRIKKALE**	**0.62**	**30**	P	**Pg**	**09 41 03.0**	**-0.4**
DELI				S	**Sg**	**09 41 11.8**	**+0.2**
CDAG	**Cicekdag**	**0.69**	**76**	P	**Pg**	**09 41 04.9**	**+0.3**
CDAG				S	**Sb**	**09 41 15.6**	**+0.1**
CDAG				*i* AML	AML	09 41 19.0	
	comp=N,14nm,0.5s						
CDAG				*i* AML	AML	09 41 24.0	
	comp=E,17nm,0.2s						
CDAG	**Cicekdag**	**0.69**	**76**	P	**Pg**	**09 41 04.8**	**+0.2**
CDAG				S	**Sb**	**09 41 15.6**	**+0.1**
ANTO	**Ankara**	**0.69**	**306**	PG	**Pg**	**09 41 04.4**	**-0.2**
LOD	**Lodumlu**	**0.72**	**307**	PG	**Pg**	**09 41 05.5**	**+0.3**
AKSY	**AKSARAY - Alti**	**0.83**	**166**	P	**Pg**	**09 41 07.5**	**+0.1**
AKSY				S	**Sb**	**09 41 19.5**	**-0.3**
AKSY				*i* AML	AML	09 41 20.0	
	comp=N,16nm,0.2s						
CHBY	**Cihanbeyli**	**1.00**	**209**	PG	**Pg**	**09 41 10.9**	**+0.2**
CORM	**Corum**	**1.12**	**50**	PN	**Pg**	**09 41 12.2**	**-0.7**
GULA	**Gulagac**	**1.25**	**153**	PN	**Pg**	**09 41 14.6**	**-0.8**
SIRC	**Yozgat**	**1.27**	**95**	P	**Pg**	**09 41 15.9**	**+0.1**
SIRC				S	**Sn**	**09 41 34.0**	**+0.7**
SIRC				*i* AML	AML	09 41 36.0	
	comp=E,6.7nm,0.2s						
SIRC				*i* AML	AML	09 41 39.0	
	comp=N,14nm,0.2s						
SIRC	**Yozgat**	**1.27**	**95**	P	**Pg**	**09 41 16.0**	**+0.1**
SIRC				S	**Sn**	**09 41 33.9**	**+0.7**
SIRC				*i* AML	AML	09 41 37.0	
	comp=E,11nm,0.9s						
SIRC				*i* AML	AML	09 41 39.0	
	comp=N,14nm,0.2s						
COAL	**Corum-Alaca**	**1.38**	**55**	P	**Pn**	**09 41 17.2**	**-0.1**
COAL				S	**Sg**	**09 41 37.4**	**+1.4**
COAL				*i* AML	AML	09 41 40.0	
	comp=N,13nm,0.7s						
COAL				*i* AML	AML	09 41 44.0	
	comp=E,5.5nm,0.6s						
KIZT	**Kizilcal**	**1.40**	**246**	PN	**Pb**	**09 41 17.9**	**0.0**
YOZ	**Yozgat**	**1.41**	**82**	PN	**Pn**	**09 41 17.3**	**-0.4**
YUVA	**Yuva-Kibriscik**	**1.68**	**304**	PN	**Pn**	**09 41 21.8**	**+0.4**

NNC 22 09:46:57.4±5.2, 53.02N×91.35E, h0km, mb3.6, mpv3.3, 4C-4D, Error ellipse: s-maj=36.9km s-min=28.4km az=99.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**4.01**	**286**	⇓Pn	Pn	09 48 00.9	+0.8
	1.1nm,0.5s,baz=95,slow=16						
ZAA0				⇑Sn	Sn	09 48 49.9	+2.1
	9.6nm,1.2s,baz=98,slow=24						
KURK	**Kurchatov**	**8.21**	**259**	⇑Pn	Pn	09 48 57.7	0.0
	1.1nm,0.5s						
KURK				⇑Sn	Sn	09 50 30.7	-0.5
	1.2nm,0.3s						
KURK				⇓Lg	Lg	09 51 17.1	
	12nm,0.9s						
KURBB	**Kurchatov Arra**	**8.30**	**258**	⇓Pn	Pn	09 48 58.4	-0.5
	1.7nm,0.5s						
KURBB				⇓Sn	Sn	09 50 31.4	-1.9
	12nm,0.9s						
KURBB				⇑Lg	Lg	09 51 18.5	
	42nm,1.1s						

MK31	**Makanchi Array**	**8.54**	**227**	Lg	Lg	09 51 30.1			
	2.7nm,0.7s,baz=36,slow=29,SNR=3.6								

*IDC **22** 09:56:48.5±1.5, 0.09N×100.38E, h169km±11km, mb3.8/19, mb1 3.8/21, mb1mx3.5/67, mbtmp4.2/21, Error ellipse: s-maj=25.4km s-min=11.2km az=50.0*
*NEIC **22** 09:56:49.2±1.5, 0.03N±0.06×100.38E±0.08, h170km±4km, mb4.2/22, Error ellipse: s-maj=12.5km s-min=7.8km az=59.0*
*DJA **22** 09:56:49.9±0.4, 0.7°N±3°×10.0°E±°, h162km±6km, M4.2/16, mb4.4/4, mB5.1/2, MLv4.2/16, Mw(mB)4.4/2*
ISC 22 09:56:48.7±0.6, 0.10N±0.06×100.40E±0.06, h170km, n65, σ0§93/67, mb4.1/28, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**0.68**	**71**		**Pn**	**09 57 13.9**	**+0.7**
BKNI	**Bangkinang**	**0.68**	**71**	P	**Pn**	**09 57 14.1**	**+0.9**
PDSI	**Padang**	**1.01**	**176**	P	**Pn**	**09 57 16.4**	**+0.9**
MNSI	**Mandailing Nat**	**1.07**	**310**	P	**Pn**	**09 57 17.0**	**+1.0**
MNSI				S	**Sn**	**09 57 37.5**	**+0.5**
SISI	**Saibi**	**1.93**	**223**	P	**Pn**	**09 57 25.3**	**+1.0**
KRJI	**Kerinci**	**2.42**	**154**	P	**Pn**	**09 57 32.4**	**+2.4**
PPSI	**Pulau Pagai**	**2.87**	**188**	P	**Pn**	**09 57 35.6**	**+0.3**
PSI	**Prapat**	**3.06**	**331**	P	**Pn**	**09 57 37.9**	**+0.1**
	5.9nm,0.3s,baz=147,slow=11,SNR=32						
PSI				S	**Sn**	**09 58 13.6**	**-2.4**
	3.2nm,0.3s,baz=54,slow=19,SNR=8.3						
GSI	**Gunungsitoli**	**3.07**	**293**	Pn	**Pn**	**09 57 38.7**	**+1.0**
GSI	**Gunungsitoli**	**3.07**	**293**	P	**Pn**	**09 57 39.2**	**+1.5**
MYKOM	**Kota Tinggi**	**3.84**	**64**	Pn	**Pn**	**09 57 48.5**	**+1.1**
DSRI	**Dabo**	**4.22**	**98**	P	**Pn**	**09 57 52.7**	**+0.4**
KCSI	**Kotacane, Aceh**	**4.30**	**322**	P	**Pn**	**09 57 54.3**	**+0.9**
IPM	**Ipoh**	**4.40**	**8**	Pn	**Pn**	**09 57 57.1**	**+2.4**
MNAI	**Manna**	**5.11**	**150**	Pn	**Pn**	**09 58 03.7**	**-0.3**
MNAI	**Manna**	**5.11**	**150**	P	**Pn**	**09 58 04.0**	**0.0**
	3.3nm6µm140nm,1.0s						
KULM	**Kulim**	**5.16**	**3**	Pn	**Pn**	**09 58 05.4**	**+0.8**
MDSI	**Maura Dua**	**5.92**	**140**	P	**Pn**	**09 58 15.1**	**+0.6**
	0.1nm37nm,1.0s						
PPBI	**Pangkal Pinang**	**6.16**	**111**	P	**Pn**	**09 58 18.6**	**+0.9**
KASI	**Kota Agung**	**6.92**	**144**	P	**Pn**	**09 58 27.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**18.30**	**356**	P	**P**	**10 00 49.8**	**-0.1**
	0.3nm,0.3s,baz=181,slow=10,SNR=5.1						
WB0	**Warramunga Arr**	**38.72**	**123**	P	**P**	**10 03 57.7**	**+1.2**
WB0				lAmb	lAmb	10 04 17.9	
	comp=Z,7.0nm,1.2s						
WRA	**Warramunga Arr**	**38.75**	**123**	P	**P**	**10 03 56.5**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=305,slow=8.7,SNR=14						
WRA				PcP	**PcP**	**10 06 05.5**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=320,slow=2.5,SNR=7.1						
WB2	**Warramunga Arr**	**38.76**	**123**	P	**P**	**10 03 56.1**	**-0.8**
WB2				lAmb	lAmb	10 03 59.6	
	comp=Z,4.4nm,1.1s						
WR0	**Warramunga Arr**	**38.92**	**123**	P	**P**	**10 03 57.7**	**-0.5**
WR0				lAmb	lAmb	10 04 18.6	
	comp=Z,4.2nm,1.2s						
AS31	**Alice Springs**	**40.20**	**128**	P	**P**	**10 04 06.7**	**-2.1**
ASAR	**Alice Springs**	**40.20**	**128**	P	**P**	**10 04 08.1**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=298,slow=7.4,SNR=13						
ASAR				PcP	**PcP**	**10 06 10.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=318,slow=2.4,SNR=6.1						
ASAR				ScP	**ScP**	**10 09 41.5**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=310,slow=4.2,SNR=4.7						
KSRS	**Korea Array**	**45.03**	**31**	P	**P**	**10 04 47.0**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=222,slow=7.6,SNR=8.1						
TARG	**Taragay, Kyrgy**	**46.20**	**337**	P	**P**	**10 04 58.8**	**+1.7**
KDJ	**Kajisay**	**46.78**	**336**	P	**P**	**10 05 03.4**	**+2.1**
KDJ				lAmb	lAmb	10 05 04.5	
	comp=Z,7.8nm,0.9s						
GAR	**Garm**	**47.52**	**328**	P	**P**	**10 05 07.7**	**+0.6**
BOOM	**Boomskoye usch**	**47.59**	**335**	P	**P**	**10 05 08.8**	**+1.2**
BOOM				lAmb	lAmb	10 05 09.7	
	comp=Z,3.8nm,0.7s						
SONM	**Songino Array**	**47.83**	**5**	P	**P**	**10 05 09.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=188,slow=9.7,SNR=5.8						
SONM				PcP	**PcP**	**10 06 35.7**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=166,slow=4.7,SNR=5.4						
SONM	**Songino Array**	**47.83**	**5**	lAmb	lAmb	10 05 11.6	
	comp=Z,0.6nm,0.9s						
CHGR	**Chuyangaron**	**47.90**	**327**	P	**P**	**10 05 10.4**	**+0.5**
AAK	**Ala-Archa**	**48.32**	**334**	P	**P**	**10 05 13.8**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=216,slow=13,SNR=2.6						
AAK	**Ala-Archa**	**48.32**	**334**	lAmb	lAmb	10 05 16.9	
	comp=Z,1.8nm,0.6s						
MK31	**Makanchi Array**	**49.13**	**344**	P	**P**	**10 05 19.2**	**+0.1**
MK31				lAmb	lAmb	10 05 20.5	
	comp=Z,3.8nm,0.5s						
MKAR	**Makanchi Array**	**49.13**	**344**	P	**P**	**10 05 19.4**	**+0.3**
	comp=Z,4.8nm,0.4s,baz=160,slow=8.5,SNR=58						
MKAR	**Makanchi Array**	**49.13**	**344**	P	**P**	**10 05 19.1**	**0.0**
KK31	**Karatay Array**	**50.49**	**332**	P	**P**	**10 05 29.3**	**-0.1**
KK31				lAmb	lAmb	10 05 31.9	
	comp=Z,2.0nm,0.5s						
KKAR	**Karatay Array**	**50.49**	**332**	P	**P**	**10 05 30.0**	**+0.6**
USRK	**Usuriysk Ar.**	**52.13**	**29**	P	**P**	**10 05 42.5**	**+1.0**
	comp=Z,3.7nm,0.7s,baz=245,slow=3.8,SNR=11						
KURBB	**Kurchatov Arra**	**53.67**	**343**	P	**P**	**10 05 53.0**	**+0.4**
	comp=Z,1.9nm,0.4s,baz=157,slow=6.3,SNR=13						
KURBB				PcP	**PcP**	**10 06 57.2**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=152,slow=3.0,SNR=4.5						
KURK	**Kurchatov**	**53.73**	**343**	P	**P**	**10 05 53.0**	**0.0**

WEL 22 10:15:59.9,41°S±8″×17°3E±1″8, **h152**km±20km, **M2.6**/17, **mB5.0**/1, **MLv2.6**/17, **Mw(mB)4.4**/1, **Error ellipse: s-maj=0.0km s-min=0.0km az=101.5, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRNZ	**Matariki Terra**	**0.03**	**336**	P	Pn	10 16 20.7	+0.5
THZ	**Tophouse**	**0.35**	**164**	P	Pn	10 16 22.1	+1.2
TKNZ	**Takaka Hill**	**0.42**	**20**	P	Pn	10 16 21.2	+0.1
NNZ	**Nelson**	**0.50**	**65**	P	Pn	10 16 22.1	+0.6
QRZ	**Quartz Range**	**0.63**	**343**	P	Pn	10 16 21.6	-0.6
DSZ	**Denniston Nort**	**0.79**	**246**	P	Pn	10 16 22.6	-0.7
BSWZ	**Blackbirch Sta**	**0.87**	**109**	P	Pn	10 16 25.2	+1.4
TUWZ	**Tuamarina**	**0.88**	**90**	P	Pn	10 16 25.0	+1.2
DUWZ	**D'Urville Isla**	**1.07**	**55**	P	Pn	10 16 25.6	+0.2
KHZ	**Kahutara**	**1.14**	**150**	P	Pn	10 16 27.6	+1.6
TCW	**Tory Channel**	**1.15**	**80**	P	Pn	10 16 26.9	+0.8
LTZ	**Lake Taylor**	**1.40**	**195**	P	Pn	10 16 29.1	+0.5
WEL	**Wellington**	**1.51**	**85**	P	Pn	10 16 30.0	+0.3
GVZ	**Greta Valley S**	**1.55**	**173**	P	Pn	10 16 31.0	+0.9
BHW	**Baring Head**	**1.58**	**90**	P	Pn	10 16 30.7	+0.3
INZ	**Inchbonnie**	**1.63**	**217**	P	Pn	10 16 29.9	-1.0
KIW	**Kapiti Island**	**1.71**	**71**	P	Pn	10 16 31.7	-0.2
CAW	**Cannon Point**	**1.76**	**80**	P	Pn	10 16 32.2	-0.1
MSWZ	**Moikau Station**	**1.86**	**90**	P	Pn	10 16 33.7	+0.1
PLWZ	**Palliser**	**1.87**	**95**	P	Pn	10 16 33.9	+0.2
OGWZ	**Otaki Gorge**	**1.91**	**72**	P	Pn	10 16 33.8	-0.3
OXZ	**Oxford**	**1.97**	**196**	P	Pn	10 16 34.2	-0.6
MTW	**Mount Morrison**	**2.07**	**83**	P	Pn	10 16 35.6	-0.3
HOWZ	**Holdsworth Sta**	**2.14**	**77**	P	Pn	10 16 36.2	-0.5
TRWZ	**Traveller**	**2.19**	**90**	P	Pn	10 16 35.5	-1.8
WVZ	**Waitaha Valley**	**2.23**	**222**	P	Pn	10 16 35.7	-2.1
MRZ	**Mangatainoka R**	**2.25**	**71**	P	Pn	10 16 37.1	-1.0
MQZ	**McQueen's Vall**	**2.28**	**182**	P	Pn	10 16 37.4	-0.9
RACZ	**Rakaia**	**2.34**	**191**	P	Pn	10 16 38.3	-0.8
TMWZ	**Te Maipa**	**2.37**	**83**	P	Pn	10 16 38.6	-0.9
WAZ	**Wanganui**	**2.37**	**46**	P	Pn	10 16 38.2	-1.4
TIWZ	**Tintock**	**2.44**	**76**	P	Pn	10 16 38.6	-1.7
PRWZ	**Pori Road**	**2.57**	**71**	P	Pn	10 16 41.0	-0.9
RPZ	**Rata Peaks**	**2.61**	**209**	P	Pn	10 16 40.8	-1.7
GCSZ	**Gaunt Creek Bo**	**2.62**	**223**	P	Pn	10 16 39.9	-2.5
BFZ	**Birch Farm**	**2.73**	**75**	P	Pn	10 16 43.0	-0.9
ARCZ	**Arundel**	**2.78**	**205**	P	Pn	10 16 42.7	-1.8
DVHZ	**Dannevirke**	**2.81**	**67**	P	Pn	10 16 43.1	-1.9
FOZ	**Fox Glacier**	**3.04**	**225**	P	Pn	10 16 44.3	-3.4
TMZ	**Timaru**	**3.23**	**203**	P	Pn	10 16 48.3	-1.9
LBZ	**Lake Benmore**	**3.52**	**212**	P	Pn	10 16 50.9	-3.0
KAHZ	**Kahuranaki**	**3.52**	**64**	P	Pn	10 16 51.9	-2.1
BKZ	**Black Stump Fm**	**3.63**	**53**	P	Pn	10 16 51.8	-3.7
ODZ	**Otahua Downs**	**3.94**	**203**	P	Pn	10 16 56.9	-2.3
JCZ	**Jackson Bay**	**3.95**	**227**	P	Pn	10 16 55.8	-3.8
WKZ	**Wanaka**	**4.37**	**218**	P	Pn	10 17 00.3	-4.7
WHRZ	**Whale Island**	**4.82**	**44**	P	Pn	10 17 10.0	-1.0
CNGZ	**Carnagh Statio**	**5.11**	**57**	P	Pn	10 17 15.9	+1.2

*SOME **22** 10:28:46.3, 44.°75N×82.°07E, h15km*
*NNC **22** 10:28:47.5±1.0, 44.°72N×82.°17E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=14.9km s-min=2.5km az=116.0*

ISC 22 10:28:46.5±1.7, **44.°67N**±0.°06×**82.°2E**±0.°1, **h10**km, **n9, s0°99/18, 3C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**2.11**	**288**	*eP*	**Pb**	**10 29 23.8**	**-1.1**
	1.3nm,0.2s						
KAPS				*eS*	**Sb**	**10 29 50.7**	**-0.6**
	5.5nm,0.2s						
MK31	**Makanchi Array**	**2.12**	**2**	Pn	**Pb**	**10 29 23.9**	**-1.1**
	2.6nm,0.3s,baz=182,slow=14,SNR=70						
MK31				Sn	**Sb**	**10 29 51.5**	**0.0**
	0.7nm,0.2s,baz=183,slow=27,SNR=12						
MAKZ	**Makanchi**	**2.14**	**356**	⇑Pn	**Pn**	**10 29 23.9**	**+1.6**
	2.1nm,0.5s						
MAKZ				⇑Sn	**Sb**	**10 29 51.5**	**-0.5**
	5.2nm,0.6s						
PDGK	**Podgornoye**	**2.38**	**237**	⇓Pn	**Pb**	**10 29 27.4**	**-2.1**
	1.2nm,0.8s						
PDGK				⇑Sn	**Sb**	**10 29 59.1**	**+0.2**
	3.2nm,0.5s						
SHLS	**Shalkode**	**2.50**	**234**	*eP*	**Pn**	**10 29 28.0**	**+0.7**
	1.7nm,0.2s						
SHLS				*eS*	**Sn**	**10 29 58.1**	**+0.3**
	4.6nm,0.2s						
UZB	**Uzynbulak**	**2.76**	**238**	*eP*	**Pb**	**10 29 35.1**	**-0.9**
	1.6nm,0.2s						
UZB				*eS*	**Sb**	**10 30 10.1**	**+0.1**
	2.6nm,0.4s						
KPKS	**Kokpek**	**2.81**	**246**	*eP*	**Pb**	**10 29 36.0**	**-0.8**
	1.1nm,0.1s						
KPKS				*eS*	**Sb**	**10 30 11.7**	**+0.3**
	6.0nm,0.4s						
ARXS	**Arharly**	**3.17**	**263**	*eP*	**Pb**	**10 29 42.3**	**-0.7**
	0.9nm,0.3s						
ARXS				*eS*	**Sb**	**10 30 22.4**	**+0.7**
	5.9nm,0.5s						
SATY	**Saty**	**3.19**	**241**	*eP*	**Pb**	**10 29 42.3**	**-1.0**
	1.3nm,0.3s						
SATY				*eS*	**Sb**	**10 30 22.8**	**+0.6**
	6.5nm,0.2s						

*IDC **22** 10:36:23.9±1.6, 43.°25N×83.°88E, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.5/34, mbtmp3.7/5, ML2.8/3, Error ellipse: s-maj=61.1km s-min=15.3km az=66.0*
*SOME **22** 10:36:28.5, 43.°38N×83.°85E, h15km*
*NNC **22** 10:36:31.4±2.5, 43.°58N×83.°61E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=25.1km s-min=9.7km az=123.0*

ISC 22 10:36:24.9±0.9, **43.°32N**±0.°05×**83.°87E**±0.°05, **h10**km, **n25, s2°11/46, mb3.8/3, 4C-5D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.20**	**272**	⇓Pn	**Pb**	**10 37 19.8**	**-2.1**
	3.5nm,0.3s						
PDGK				⇓Pg	**Pg**	**10 37 26.8**	**+0.6**
	8.1nm,0.3s						
PDGK				⇑Lg	Lg	10 38 07.5	
	75nm,0.7s						
SHLS	**Shalkode**	**3.23**	**269**	*eP*	**Pb**	**10 37 21.2**	**-1.1**
	18nm,0.2s						
SHLS				*eS*	**Sb**	**10 37 59.1**	**-2.7**
	255nm,0.4s						
UZB	**Uzynbulak**	**3.55**	**269**	*eP*	**Pg**	**10 37 32.3**	**-0.5**
	14nm,0.3s						
UZB				*eS*	**Sg**	**10 38 18.2**	**-0.7**
	51nm,0.6s						
MK31	**Makanchi Array**	**3.65**	**343**	⇑Pn	**Pn**	**10 37 25.3**	**+3.9**
	0.1nm,0.3s,baz=154,slow=15,SNR=90						
MK31				⇑Pg	**Pb**	**10 37 31.2**	**+1.7**
	8.2nm,0.7s,baz=158,slow=16,SNR=22						
MK31				⇓Lg	Lg	10 38 17.4	
	5.8nm,0.3s,baz=156,slow=28,SNR=9.4						
MKAR	**Makanchi Array**	**3.65**	**343**	Pn	**Pn**	**10 37 24.7**	**+3.3**
	0.5nm,0.3s,baz=158,slow=14,SNR=13						
MKAR				Pg	**Pb**	**10 37 32.2**	**+2.8**
	2.5nm,0.3s,baz=147,slow=17,SNR=29						
MKAR				Sn	**Sn**	**10 38 09.4**	**+4.9**
	5.1nm,0.3s,baz=102,slow=15,SNR=6.3						
MKAR				Lg	Lg	10 38 17.3	
	12nm,0.3s,baz=152,slow=28,SNR=4.9						
MAKZ	**Makanchi**	**3.74**	**340**	⇓Pn	**Pb**	**10 37 27.5**	**-3.5**
	2.5nm,0.7s						
MAKZ				⇓Pg	**Pg**	**10 37 33.6**	**-2.8**
	4.9nm,0.6s						
MAKZ				⇑Lg	Lg	10 38 20.7	
	10nm,0.5s						
KPKS	**Kokpek**	**3.79**	**274**	*eP*	**Pg**	**10 37 35.6**	**-1.8**
	7.8nm,0.4s						
KPKS				*eS*	**Sg**	**10 38 24.3**	**-2.1**
	70nm,0.6s						
KAPS	**Kapalarasan**	**3.79**	**303**	*eP*	**Pg**	**10 37 35.5**	**-1.9**
	6.0nm,0.4s						
KAPS				*eS*	**Sg**	**10 38 23.7**	**-2.8**
	33nm,0.3s						
ZHN	**Zhinishke**	**3.98**	**270**	*eP*	**Pg**	**10 37 39.8**	**-1.3**
	24nm,0.2s						
ZHN				*eS*	**Sg**	**10 38 30.9**	**-1.7**
	74nm,0.2s						
SATY	**Saty**	**4.01**	**268**	*eP*	**Pg**	**10 37 40.8**	**-0.9**
	14nm,0.4s						
SATY				*eS*	**Sg**	**10 38 32.6**	**-1.0**
	78nm,0.7s						
KURS	**Kuram**	**4.16**	**274**	*eP*	**Pg**	**10 37 42.4**	**-2.2**
	5.2nm,0.7s						
KURS				*eS*	**Sg**	**10 38 35.8**	**-2.6**
	30nm,1.1s						
ZSN	**Zaisan**	**4.19**	**9**	*eP*	**Pg**	**10 37 42.8**	**-2.3**
	9.5nm,0.4s						
ZSN				*eS*	**Sg**	**10 38 36.1**	**-3.2**
	104nm,0.7s						
ARXS	**Arharly**	**4.47**	**284**	*eP*	**Pg**	**10 37 51.4**	**+1.0**
	16nm,0.7s						
ARXS				*eS*	**Sg**	**10 38 51.3**	**+3.0**
	66nm,0.5s						
KOTS	**Kotyrbulak**	**4.94**	**271**	*eP*	**Pg**	**10 37 58.8**	**-0.6**
	7.1nm,0.2s						
KOTS				*eS*	**Sg**	**10 39 04.1**	**+0.8**
	41nm,0.7s						
MDOK	**Medeo**	**4.99**	**271**	*eP*	**Pg**	**10 37 59.4**	**-1.1**
	3.9nm,0.6s						
MDOK				*eS*	**Sg**	**10 39 04.9**	**-0.2**
	25nm,0.9s						
TNSS	**Tian-Shan**	**5.07**	**269**	*eP*	**Pg**	**10 37 59.8**	**-2.3**
	4.2nm,0.4s						
TNSS				*eS*	**Sg**	**10 39 05.2**	**-2.5**
	11nm,0.7s						
MTBS	**Maitube**	**5.44**	**271**	*eP*	**Pg**	**10 38 07.7**	**-1.4**
	3.3nm,0.3s						
MTBS				*eS*	**Sg**	**10 39 19.0**	**-0.6**
	14nm,0.4s						
KUU	**Kurty**	**5.50**	**279**	*eP*	**Pg**	**10 38 07.9**	**-2.3**
	2.1nm,0.4s						
KUU				*eS*	**Sg**	**10 39 19.2**	**-2.2**
	15nm,0.5s						
DGS	**Degeres**	**5.92**	**272**	*eP*	**Pg**	**10 38 17.9**	**-0.2**
	8.8nm,0.5s						
DGS				*eS*	**Sg**	**10 39 36.3**	**+1.6**
	24nm,0.7s						
KRBS	**Karabastau**	**5.97**	**276**	*eP*	**Pg**	**10 38 17.8**	**-1.4**
	2.3nm,0.5s						
KRBS				*eS*	**Sg**	**10 39 36.5**	**-0.1**
	6.6nm,0.6s						
ZALV	**Zalesovo Beam**	**10.65**	**3**	Pn	**Pn**	**10 38 57.3**	**-0.1**
	0.1nm,0.3s,baz=182,slow=13,SNR=2.1						
ZALV				Lg	Lg	10 41 59.9	
	0.7nm,0.3s,baz=187,slow=30,SNR=4.8						
SONM	**Songino Array**	**16.38**	**66**	Pn	**P**	**10 40 16.9**	**-0.9**
	0.3nm,0.3s,baz=272,slow=11,SNR=2.3						
CMAR	**Chiang Mai Arr**	**27.87**	**148**	P	**P**	**10 42 15.4**	**+0.7**
	1.7nm,0.3s,baz=327,slow=8.0,SNR=1.7						
ARCES	**ARCESS Array B**	**39.23**	**332**	P	**P**	**10 43 54.4**	**+1.5**
	2.0nm,0.9s,baz=87,slow=6.4,SNR=3.7						
WRA	**Warramunga Arr**	**78.16**	**132**	P	**P**	**10 48 24.0**	**-0.3**
	0.3nm,0.8s,baz=334,slow=4.8,SNR=1.7						

*SNET **22** 10:38:54.6±0.9, 12.°34N×89.°37W, h9km±10km, ML3.5*
*GCG **22** 10:38:56.5±0.4, 12.°13N×89.°90W, h112km±76km, MD4.2*
*IDC **22** 10:38:56.1±2.5, 12.°90N×88.°98W, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/38, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=64.4km s-min=28.3km az=36.0*

ISC 22 10:38:57.7±1.2, **12.°32N**±0.°09×**89.°36W**±0.°06, **h47**km, **n25, s1°86/30, mb3.6/4, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.33**	**13**	*eP*	**Pn**	**10 39 18.1**	**-1.8**
JAYA	**Jayaque - finc**	**1.33**	**356**	*eP*	**Pn**	**10 39 18.1**	**-1.9**
JAYA				*eS*	**Sn**	**10 39 35.8**	**-0.8**
SJTE	**Alcalda de S**	**1.33**	**15**	*eP*	**Pn**	**10 39 18.5**	**-1.5**
SNET	**Serv Nac Est T**	**1.36**	**5**	*eP*	**Pn**	**10 39 18.9**	**-1.5**
COEG	**Centro de Oper**	**1.37**	**20**	*eP*	**Pn**	**10 39 18.8**	**-1.7**
BOQS	**Boqueron**	**1.41**	**3**	*eP*	**Pn**	**10 39 19.7**	**-1.4**
COEB	**Comit de Eme**	**1.42**	**35**	*eP*	**Pn**	**10 39 19.6**	**-1.6**
JUCU	**Jucuarįn**	**1.43**	**49**	*eP*	**Pn**	**10 39 19.9**	**-1.3**
JUCU				*eS*	**Sn**	**10 39 39.8**	**+0.9**
JUCU				IAML		10 39 45.9	
	comp=Z,842nm,0.4s						
LFU	**La Fuente**	**1.44**	**10**	*eP*	**Pn**	**10 39 20.6**	**-0.8**
PAVA	**Las Pavas**	**1.44**	**16**	*eP*	**Pn**	**10 39 20.1**	**-1.4**
SCLA	**Alcaldia de Sa**	**1.50**	**24**	*eP*	**Pn**	**10 39 21.0**	**-1.3**
PQSS	**Presa 15 de Se**	**1.51**	**31**	*eP*	**Pn**	**10 39 21.4**	**-0.9**
NUBE	**Las Nubes**	**1.62**	**345**	*eP*	**Pn**	**10 39 22.3**	**-1.7**
LCND	**La Caada**	**1.74**	**55**	*eP*	**Pn**	**10 39 24.6**	**-0.8**
LCND				IAML		10 39 58.1	
	comp=Z,482nm,0.3s						
MTO3	**Montecristo**	**2.06**	**360**	*eP*	**Pn**	**10 39 29.5**	**-0.6**
ESQI	**Esquipulas**	**2.23**	**0**	*eP*	**Pn**	**10 39 32.1**	**-0.1**
FUG	**Fuego 3**	**2.56**	**326**	*eP*	**Pn**	**10 39 36.8**	**-0.1**
FUG				*eS*	**Sn**	**10 40 04.3**	**-2.5**
MRL	**Marmol**	**2.76**	**353**	*eP*	Pn	10 39 43.0	+3.3
MRL				*eS*	Sn	10 40 19.5	+7.6
STG3	**Santiaguito 3,**	**3.21**	**318**	*eP*	**Pn**	**10 39 44.4**	**-1.3**
STG3				*eS*	**Sn**	**10 40 21.5**	**-1.3**
JTS	**Las Juntas de**	**4.77**	**115**	Pn	**Pn**	**10 40 09.0**	**+2.0**
	comp=Z,1.7nm,0.3s,baz=286,slow=20,SNR=11						
JTS				Sn	**Sn**	**10 40 57.9**	**-3.2**
	comp=Z,3.3nm,0.3s,baz=329,slow=21,SNR=5.1						
CMIG	**Matias Romero**	**7.14**	**312**	Pn	**Pn**	**10 40 41.0**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=126,slow=17,SNR=5.2						
CMIG				Sn	**Sn**	**10 41 55.4**	**-4.2**
	baz=255,slow=20,SNR=1.2						
TXAR	**Lajitas Array**	**21.53**	**324**	P	**P**	**10 43 45.5**	**+2.4**
	comp=Z,0.6nm,0.5s,baz=145,slow=11,SNR=6.7						
TKL	**Tuckaleechee C**	**23.78**	**11**	P	**P**	**10 44 05.2**	**-0.7**
	comp=Z,3.3nm,0.9s,baz=211,slow=12,SNR=3.9						
NVAR	**Mina Array Bea**	**36.59**	**320**	P	**P**	**10 46 03.0**	**+3.4**
	comp=Z,0.3nm,0.5s,baz=133,slow=10.0,SNR=2.3						
YKA	**Yellowknife Ar**	**53.26**	**346**	P	**P**	**10 48 11.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=144,slow=7.7,SNR=12						

*IDC **22** 10:39:52.4±1.0, 0.°02S×80.°55W, h0km, mb3.8/11, mb1 4.1/12, mb1mx3.9/35, mbtmp3.8/12, ML3.1/1, MS3.4/8, Ms1 3.4/8, ms1mx3.0/61, Error ellipse: s-maj=42.8km s-min=19.0km az=57.0*
*IGQ **22** 10:39:52±1.5, 0.°S±4.°×8.°1W±.°, h6km*
*NEIC **22** 10:39:55.4±1.7, 0.°12S±0.°06×80.°67W±0.°08, h16km±5km, mb4.3/18, Error ellipse: s-maj=11.4km s-min=8.8km az=79.0*

ISC 22 10:39:53.3±0.6, **0.°15S**±0.°04×**80.°81W**±0.°05, **h10**km, **n121, s1°57/121, mb4.1/16, MS3.2/6, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAB1	**Cabo Pasado-Ma**	**0.45**	**122**	P	Pn	10 40 11.0	+5.2
JAMA	**Jama**	**0.62**	**101**	P	**Pg**	**10 40 04.0**	**-1.2**
JAMA				S	**Sg**	**10 40 14.0**	**+0.6**
FLF1	**Flavio Alfaro-**	**0.99**	**102**	P	**Pg**	**10 40 12.0**	**-0.4**
FLF1				S	**Sn**	**10 40 29.0**	**+1.6**
MAG1	**Magdalena**	**1.04**	**86**	P	**Pg**	**10 40 12.0**	**-1.3**
PPLP	**Puerto Lpez**	**1.39**	**179**	P	**Pn**	**10 40 16.0**	**-2.8**
PPLP				S	**Sb**	**10 40 34.0**	**-3.3**
AV18	**Acelerografo,**	**1.41**	**71**	P	**Pn**	**10 40 18.0**	**-1.0**
AV18				S	**Sb**	**10 40 38.0**	**+0.3**
BV15	**Puerto Quito-O**	**1.62**	**79**	P	**Pn**	**10 40 19.0**	**-2.9**
ILLI	**Illinizas Sur**	**2.16**	**105**	P	**Pn**	**10 40 28.0**	**-1.8**
HPAL	**Hacienda Las P**	**2.16**	**92**	P	**Pn**	**10 40 27.0**	**-2.7**
GGPT	**Toaza - Volcan**	**2.19**	**92**	P	**Pn**	**10 40 28.0**	**-2.2**
APR1	**Acelerografo,**	**2.20**	**87**	P	**Pn**	**10 40 29.0**	**-1.2**
PINO	**Pino**	**2.20**	**90**	P	**Pn**	**10 40 29.0**	**-1.5**
JUA2	**San Juan 2**	**2.21**	**92**	P	**Pn**	**10 40 29.0**	**-1.4**
TERV	**Terraza Guagua**	**2.21**	**91**	P	**Pn**	**10 40 29.0**	**-1.5**
YANA	**Yana**	**2.24**	**89**	P	**Pn**	**10 40 29.0**	**-1.9**
PULU	**Pululahua**	**2.31**	**86**			**10 40 30.8**	**-1.0**
PULU	**Pululahua**	**2.31**	**86**	P	**Pn**	**10 40 30.0**	**-1.8**
CAMI	**Rancho Maria**	**2.37**	**103**	P	**Pn**	**10 40 32.0**	**-0.6**
BNAS	**Cotopaxi Volca**	**2.39**	**103**	P	**Pn**	**10 40 33.0**	**0.0**
OTAV	**Otavalo**	**2.39**	**81**		**Pn**	**10 40 31.6**	**-1.4**
PITA	**Cotopaxi Volc**	**2.41**	**100**	P	**Pn**	**10 40 33.0**	**-0.3**
PORT	**Chimborazo Vol**	**2.42**	**123**		**Pn**	**10 40 32.9**	**-0.6**
PORT	**Chimborazo Vol**	**2.42**	**123**	P	**Pn**	**10 40 32.0**	**-1.5**
BREF	**Cotopaxi Volca**	**2.43**	**102**	P	**Pn**	**10 40 34.0**	**+0.4**
BVC2	**Cotopaxi Volca**	**2.45**	**102**	P	**Pn**	**10 40 34.0**	**+0.1**
CUSE	**Cuicocha Este**	**2.45**	**79**	*eP*	**Pn**	**10 40 32.8**	**-1.0**
CUSE	**Cuicocha Este**	**2.45**	**79**	P	**Pn**	**10 40 33.0**	**-0.8**
TAMH	**Tambohuasha Ch**	**2.46**	**124**	P	**Pn**	**10 40 34.0**	**+0.1**
BTAM	**Cotopaxi Volca**	**2.47**	**102**	P	**Pn**	**10 40 34.0**	**-0.1**
CUIC	**Cuicocha-Domo**	**2.49**	**80**	P	**Pn**	**10 40 34.0**	**-0.3**
CUSW	**Cuicocha Oeste**	**2.50**	**80**	P	**Pn**	**10 40 34.0**	**-0.3**
VCES	**Cotopaxi**	**2.50**	**105**	P	**Pn**	**10 40 34.0**	**-0.5**
TAMB	**Tambo**	**2.50**	**103**	P	**Pn**	**10 40 34.0**	**-0.6**
ANTG	**Antisana-Guama**	**2.58**	**98**	P	**Pn**	**10 40 36.0**	**+0.4**
URCU	**Urcuqui**	**2.62**	**77**	P	**Pn**	**10 40 36.0**	**-0.1**
BBIL	**Ulba Tungurahu**	**2.66**	**119**	P	**Pn**	**10 40 37.0**	**+0.4**
ANTS	**Antisana-Sarah**	**2.66**	**98**	P	**Pn**	**10 40 37.0**	**+0.2**
JUI6	**Juive**	**2.66**	**119**	P	**Pn**	**10 40 36.0**	**-0.6**
ANTI	**Antisana**	**2.67**	**97**	P	**Pn**	**10 40 37.0**	**+0.1**
POND	**Pondoa**	**2.68**	**118**	P	**Pn**	**10 40 37.0**	**+0.2**
PIAT	**Ana Tenorio**	**2.69**	**108**	P	**Pn**	**10 40 37.0**	**+0.1**
BMAS	**Trigal station**	**2.69**	**120**	P	**Pn**	**10 40 37.0**	**0.0**
RETU	**Refugio**	**2.70**	**119**	P	**Pn**	**10 40 37.0**	**-0.2**
BRUN	**Tungurahua Vol**	**2.71**	**118**	P	**Pn**	**10 40 37.0**	**-0.3**
ARRY	**Arrayan**	**2.72**	**120**	P	**Pn**	**10 40 37.0**	**-0.3**
COHC	**Cochancay**	**2.78**	**146**			**10 40 36.5**	**-1.4**
YAHU	**Yahuarcocha**	**2.79**	**79**	P	**Pn**	**10 40 39.0**	**+0.7**
CAYR	**Refugio Cayamb**	**2.81**	**87**	P	**Pn**	**10 40 39.0**	**+0.1**
ANGU	**Angureal**	**2.81**	**86**	P	**Pn**	**10 40 39.0**	**+0.2**
ISPG	**Isla Puna-Puer**	**2.88**	**167**	P	**Pn**	**10 40 39.0**	**-0.3**
CHMA	**Chilma**	**2.92**	**70**	P	**Pn**	**10 40 39.0**	**-1.2**
ECEN	**Cerro Negro**	**3.00**	**71**	P	**Pn**	**10 40 39.0**	**-2.4**
CHL1	**Volcįn Chiles**	**3.01**	**72**	P	**Pn**	**10 40 41.0**	**-0.6**
CHL2	**Volcįn Chiles**	**3.04**	**72**	P	**Pn**	**10 40 41.0**	**-1.0**
ARDO	**Archidona, Ten**	**3.13**	**106**	P	**Pn**	**10 40 44.0**	**+1.3**
TULM	**Tulcn-Chalpat**	**3.14**	**74**	Pn	**Pn**	**10 40 40.6**	**-2.7**
TULM	**Tulcn-Chalpat**	**3.14**	**74**	*eP*	**Pn**	**10 40 45.5**	**+2.2**
TULM	**Tulcn-Chalpat**	**3.14**	**74**	P	**Pn**	**10 40 45.0**	**+1.7**
CONE	**Cono NE Rev Vo**	**3.17**	**89**	P	**Pn**	**10 40 44.0**	**+0.4**
CMBC	**Cumbal**	**3.17**	**70**	*eP*	**Pn**	**10 40 43.4**	**-0.3**
BONI	**La Bonita**	**3.33**	**80**	P	**Pn**	**10 40 47.0**	**+1.2**
ARNL	**Arenillas**	**3.46**	**168**			**10 40 47.5**	**+0.2**
ARNL	**Arenillas**	**3.46**	**168**	P	**Pn**	**10 40 47.0**	**-0.3**
GCUF	**Volcan Galeras**	**3.72**	**69**	*eP*	**Pn**	**10 40 54.8**	**+3.5**
BOSC	**San Juan Bosco**	**3.78**	**142**		**Pn**	**10 40 54.3**	**+2.5**
BOSC	**San Juan Bosco**	**3.78**	**142**	P	**Pn**	**10 40 54.0**	**+2.2**
GR1C	**Gorgona, Isla**	**4.09**	**40**	*eP*	**Pb**	**10 41 05.6**	**+0.1**
CRUC	**La Cruz**	**4.22**	**66**	*eP*	**Pn**	**10 40 58.5**	**+0.5**
MCRA	**Macar, Loja**	**4.28**	**168**		**Pn**	**10 40 58.2**	**-0.4**
SOTA	**Rioblanco**	**4.77**	**62**	*eP*	**Pn**	**10 41 05.8**	**+0.1**
POPC	**Popayan, Colom**	**4.92**	**57**	*eP*	**Pn**	**10 41 06.8**	**-0.7**
POPC				*eS*	**Sn**	**10 42 03.8**	**-0.9**
ZUMB	**Zumba**	**4.97**	**160**	P	**Pn**	**10 41 10.0**	**+1.8**
PCON	**Cinco Dias**	**5.05**	**61**	*eP*	**Pn**	**10 41 11.2**	**+1.6**
MARP	**Paez Belalcaza**	**5.69**	**59**	*eP*	**Pn**	**10 41 18.6**	**+0.4**
GARC	**Garzon, Huila**	**5.80**	**66**	*eP*	**Pn**	**10 41 19.2**	**-0.4**
YOTC	**Yotoco, Valle**	**6.06**	**47**	*eP*	**Pn**	**10 41 22.6**	**-0.6**
YOTC				*eS*	**Sn**	**10 42 29.3**	**-3.4**
YOTC				*i*		10 43 04.3	
	comp=Z,634nm,1.0s						
PLMC	**San Jos del P**	**6.75**	**42**	*eP*	**Pn**	**10 41 34.9**	**+2.3**
ORTC	**Ortega, Tolima**	**6.87**	**54**	*eP*	**Pn**	**10 41 33.7**	**-0.4**
ANIL	**Santa Ana**	**7.10**	**49**	*eP*	Pb	10 41 47.7	-9.2
ANIL				*eS*	**Sn**	**10 42 55.7**	**-2.8**
MACC	**Macarena, Meta**	**7.32**	**72**	*eP*	**Pn**	**10 41 43.7**	**+3.3**
MACC				*eS*	**Sn**	**10 43 10.1**	**+6.4**
CBOC	**Ciudad Bolivar**	**7.65**	**39**	*eP*	Pn	10 41 51.1	+6.0
CBOC				*eS*	**Sn**	**10 43 09.4**	**-2.7**
ROSC	**El Rosal**	**8.16**	**53**	Pn	**Pn**	**10 41 56.4**	**+4.2**
	comp=Z,2.8nm,0.3s,baz=148,slow=24,SNR=2.5						
ROSC				Sn	**Sn**	**10 43 21.8**	**-3.0**
	comp=Z,2.5nm,0.3s,baz=80,slow=23,SNR=1.6						
ROSC

CEVE IAML 10 47 32.2
comp=Z,20µm,0.3s
CEVE Cerro Verde 0.54 66 ∥iP Pn 10 47 17.8 +1.9
CEVE IAML 10 47 32.2
comp=Z,20µm,0.3s
SBLS San Blas 0.55 65 ∥iP Pn 10 47 17.8 +1.8
SBLS San Blas 0.55 65 ∥iP Pn 10 47 17.8 +1.8
SNJE San Jose 0.57 63 ∥iP Pn 10 47 18.1 +1.9
SNJE San Jose 0.57 63 ∥iP Pn 10 47 18.1 +1.9
JAYA Jayaque - finc 0.67 86 ∥eP Pn 10 47 18.8 +1.8
JAYA IAML 10 47 32.5
comp=Z,20µm,0.3s
JAYA Jayaque - finc 0.67 86 ∥eP Pn 10 47 18.8 +1.8
JAYA IAML 10 47 32.5
comp=Z,20µm,0.3s
UNIC Universidad Ca 0.68 57 ∥eP Pn 10 47 18.7 +1.6
UNIC Universidad Ca 0.68 57 ∥eP Pn 10 47 18.7 +1.6
CEDA San Andres 0.74 75 eP Pn 10 47 19.4 +1.7
CEDA San Andres 0.74 75 eP Pn 10 47 19.4 +1.7
CEDA San Andres 0.74 75 eP Pn 10 47 19.6 +1.9
LALI Alcalda de L 0.80 99 eP Pn 10 47 20.1 +1.8
LALI Alcalda de L 0.80 99 eP Pn 10 47 20.1 +1.8
LALI Alcalda de L 0.80 99 eP Pn 10 47 20.1 +1.8
PMON Piamonte 0.80 83 ∥iP Pn 10 47 20.3 +1.8
PMON Piamonte 0.80 83 ∥iP Pn 10 47 20.3 +1.8
ITCA Escuela Especi 0.83 85 eP Pn 10 47 20.9 +2.0
ITCA Escuela Especi 0.83 85 eP Pn 10 47 20.9 +2.0
BOQS Boqueron 0.84 81 eP Pn 10 47 20.7 +1.6
BOQS Boqueron 0.84 81 eP Pn 10 47 20.7 +1.6
UEES Universidad Ev 0.87 83 eP Pn 10 47 21.1 +1.8
UEES Universidad Ev 0.87 83 eP Pn 10 47 21.1 +1.8
SNET Serv Nac Est T 0.88 85 Pn 10 47 20.4 +1.0
SNET Serv Nac Est T 0.88 85 eP Pn 10 47 21.2 +1.9
SNET IAML 10 47 39.3
comp=Z,9µm,0.3s
SNET Serv Nac Est T 0.88 85 eP Pn 10 47 21.2 +1.9
SNET IAML 10 47 39.3
comp=Z,9µm,0.3s
SNET Serv Nac Est T 0.88 85 eP Pn 10 47 20.9 +1.6
SEMO Seminario San 0.89 84 eP Pn 10 47 21.4 +2.0
PCG Pacaya 0.91 329 eP Pn 10 47 22.3 +2.4
NBG Las Nubes 0.99 348 eP Pn 10 47 23.9 +2.9
LFU La Fuente 1.00 82 eP Pn 10 47 22.7 +1.9
LFU La Fuente 1.00 82 eP Pn 10 47 22.7 +1.9
LFRS El Faro 1.04 89 ∥eP Pn 10 47 23.1 +1.8
LFRS El Faro 1.04 89 ∥eP Pn 10 47 23.1 +1.8
LBRS Las Brisas 1.06 83 eP Pn 10 47 23.6 +2.0
LBRS Las Brisas 1.06 83 eP Pn 10 47 23.6 +2.0
FUG Fuego 3 1.08 320 eP Pn 10 47 23.8 +1.9
MTO3 Montecristo 1.08 44 Pn Pn 10 47 23.7 +1.7
MTO3 Montecristo 1.08 44 ∥iP Pn 10 47 23.7 +1.7
MTO3 Montecristo 1.08 44 ∥iP Pn 10 47 23.7 +1.7
MTO3 Montecristo 1.08 44 eP Pn 10 47 23.7 +1.7
SJTE Alcalda de S 1.09 90 ∥eP Pn 10 47 23.8 +1.8
SJTE Alcalda de S 1.09 90 ∥eP Pn 10 47 23.8 +1.8
PAVA Las Pavas 1.17 85 ∥iP Pn 10 47 24.8 +1.9
PAVA Las Pavas 1.17 85 ∥iP Pn 10 47 24.8 +1.9
PAVA Las Pavas 1.17 85 eP Pn 10 47 24.7 +1.9
COEG Centro de Oper 1.22 89 ∥eP Pn 10 47 25.3 +1.8
COEG Centro de Oper 1.22 89 ∥eP Pn 10 47 25.3 +1.8
ESQI Esquipulas 1.22 39 Pn 10 47 25.6 +2.1
ESQI Esquipulas 1.22 39 ∥iP Pn 10 47 25.6 +2.1
LLGN La Laguna 1.28 64 iP Pn 10 47 25.9 +1.6
LLGN La Laguna 1.28 64 iP Pn 10 47 25.9 +1.6
SCLA Alcaldia de Sa 1.37 86 ∥iP Pn 10 47 27.3 +2.0
SCLA Alcaldia de Sa 1.37 86 ∥iP Pn 10 47 27.3 +2.0
MRL Marmol 1.53 16 i Pn 10 47 30.7 +3.1
PQSS Presa 15 de Se 1.53 89 eP Pn 10 47 29.2 +1.8
PQSS Presa 15 de Se 1.53 89 eP Pn 10 47 29.2 +1.8
COEB Comit de Eme 1.56 94 ∥eP Pn 10 47 29.9 +1.9
COEB Comit de Eme 1.56 94 ∥eP Pn 10 47 29.9 +1.9
COEB Comit de Eme 1.56 94 eP Pn 10 47 29.8 +1.9
PACA Pacayal 1.76 94 eP Pn 10 47 32.8 +2.2
RTAL Retalhuleu 1.77 301 Pn 10 47 31.5 +0.9
RTAL Retalhuleu 1.77 301 eP Pn 10 47 31.5 +0.9
RTAL eS Sn 10 47 52.7 +0.3
STG3 Santiaguito 3, 1.77 308 eP Pn 10 47 32.7 +1.9
LCY Lacayo 1.80 96 eP Pn 10 47 33.2 +2.2
LCY Lacayo 1.80 96 eP Pn 10 47 33.2 +2.2
JUCU Jucuarįn 1.87 101 ∥eP Pn 10 47 33.5 +1.6
JUCU Jucuarįn 1.87 101 ∥eP Pn 10 47 33.5 +1.6
JUCU Jucuarįn 1.87 101 eP Pn 10 47 33.4 +1.5
HUEH Huehuetenango 2.16 322 Pn 10 47 38.1 +2.2
HUEH Huehuetenango 2.16 322 ∥iP Pn 10 47 38.1 +2.2
HUEH Huehuetenango 2.16 322 ∥iP Pn 10 47 38.1 +2.2
HUEH Huehuetenango 2.16 322 eP Pn 10 47 38.1 +2.2
LCND La Caada 2.20 98 ∥eP Pn 10 47 38.2 +1.9
LCND La Caada 2.20 98 ∥eP Pn 10 47 38.2 +1.9
CSGN Cosiguina Volc 2.58 104 eP Pn 10 47 43.5 +2.0
TGUH Tegucigalpa,Un 2.81 81 Pn Pn 10 47 46.2 +1.5
TGUH Tegucigalpa,Un 2.81 81 eP Pn 10 47 46.2 +1.7
CRIN San Cristobal 3.13 106 Pn 10 47 51.4 +2.4
CRIN San Cristobal 3.13 106 eP Pn 10 47 51.6 +2.6
CRIN eS Sn 10 48 27.2 +1.8
CCIG Comitan 3.29 324 Pn Pn 10 47 54.0 +2.8
PETF Flores 3.30 4 Pn 10 47 54.3 +3.1
PETF Flores 3.30 4 eP Pn 10 47 54.2 +3.0
TEL3 Telica 3 3.36 107 eP Pn 10 47 54.0 +1.9
CNGN Cerro Negro 3.52 108 Pn 10 47 54.8 +0.5
CNGN Cerro Negro 3.52 108 eP Pn 10 47 54.8 +0.5
CNGN IAML 10 48 39.6
comp=E,682nm,0.4s
MOMN Momotombo 3.70 108 eP Pn 10 47 58.5 +1.9
COPN Copaltepe 3.73 112 eP Pn 10 47 58.4 +1.3
TISN Laguna Tiscapa 4.04 111 eP Pn 10 48 02.5 +1.3
MGAN Managua 4.06 111 eP Pn 10 48 03.7 +2.2
HUEN 4.06 108 eP Pn 10 48 03.7 +1.5
MATN Matagalpa 4.15 99 Pn 10 48 04.2 +1.4
BOAB BOACO BROADBAN 4.50 104 Pn Pn 10 48 08.9 +1.3
BOAB BOACO BROADBAN 4.50 104 eP Pn 10 48 08.6 +1.1
ACON Acoyapa 5.10 108 Pn 10 48 17.1 +1.4
HZTE Horizontes, Gu 5.29 122 Pn Pn 10 48 21.9 +3.6
HZTE Horizontes, Gu 5.29 122 eP Pn 10 48 21.5 +3.2
GBS3 Finca Las Img 5.37 121 eP Pn 10 48 21.7 +2.3
GB1A Borinquen Arri 5.39 120 eP Pn 10 48 22.9 +3.1
BUEV Buena Vista 5.40 121 eP Pn 10 48 22.4 +2.5
BUAI Buenos Aires 5.42 120 eP Pn 10 48 22.2 +2.1
GPS2 Hotel Rincn d 5.47 121 eP Pn 10 48 23.6 +2.8
ORTG Ortega, Santa 5.59 125 Pn 10 48 25.6 +3.1
ORTG Ortega, Santa 5.59 125 eP Pn 10 48 25.3 +2.8
GUAI GUAI 5.61 126 eP Pn 10 48 25.6 +3.0
HORNC Hornillas 5.63 120 eP Pn 10 48 25.9 +2.8
COLC Colonia 5.64 121 eP Pn 10 48 25.6 +2.5
CUI Cuipilapa 5.67 121 eP Pn 10 48 25.8 +2.2
DUNO Dulce Nombre, 5.74 127 Pn 10 48 27.1 +2.7
CMIG Matias Romero 5.75 308 P Pn 10 48 25.6 +1.1
comp=E,4.9nm,0.3s,baz=123,slow=8.6,SNR=40
CMIG S Sn 10 49 31.0 +1.9
comp=E,1.6nm,0.3s,baz=82,slow=20,SNR=1.4
ACAL Aguas Claras 5.79 120 eP Pn 10 48 27.9 +2.6
PTEN Parque Tenorio 5.79 119 eP Pn 10 48 27.8 +2.5
ESPN Las Esperanzas 5.86 103 Pn 10 48 28.4 +2.4
JTS Las Juntas de 6.05 122 P Pn 10 48 30.9 +2.2
comp=E,15nm,0.3s,baz=0.8,slow=21,SNR=91
JTS S Sn 10 49 32.8 -3.8
comp=E,1.6nm,0.3s,baz=332,slow=19,SNR=1.2
JTS LR LR 10 50 06.1
comp=E,61nm,21.4s,baz=10,slow=30
JTS Las Juntas de 6.05 122 Pn Pn 10 48 31.3 +2.6
JTS Las Juntas de 6.05 122 eP Pn 10 48 30.8 +2.2
FORC Fortuna 6.19 120 eP Pn 10 48 33.8 +3.2
CAO2 Cobano, Puntar 6.28 128 Pn 10 48 34.7 +2.9
LAFE Finca La Fe, P 6.36 126 eP Pn 10 48 34.7 +1.8
JACO JACO, Garabito 6.64 126 Pn Pn 10 48 40.1 +3.3
HDC Heredia 6.90 121 Pn Pn 10 48 43.5 +3.1
RIMA Rio Macho 7.23 121 Pn 10 48 47.4 +2.4
PEZE Perez Zeledon, 7.59 123 Pn 10 48 53.0 +3.2
SRBA San Rafael, Bu 7.94 123 Pn 10 48 56.6 +2.0
DRK0 Durika 8.01 122 Pn 10 48 57.6 +2.0
RIOS Rincon, Osa 8.12 126 Pn 10 48 59.3 +2.3
CDTO Canoas 8.70 124 Pn 10 49 07.4 +2.4
BRU2 Volcan 8.73 122 Pn Pn 10 49 07.8 +2.4
TLIG Tlapa 9.03 297 Pn Pn 10 49 12.1 +2.6
SOR Soroa 11.36 36 Pn Pn 10 49 44.3 +3.1
553A Crawfordville 17.32 17 Pn P 10 51 01.0 +2.2
WHTX Lake Whitney, 19.49 341 P P 10 51 23.6 +1.0
WHTX IAmb IAmb 10 51 37.9
comp=Z,12nm,0.6s
LRAL Lakeview Retre 19.55 8 P Pn 10 51 25.6 +0.4
152A Waverly Hall 19.61 14 P P 10 51 25.3 +1.5
152A IAmb IAmb 10 51 26.4
comp=Z,9.6nm,0.9s
TX32 Lajitas Array 20.06 323 P Pn 10 51 31.6 +0.3
TXAR Lajitas Array 20.06 323 P Pn 10 51 31.5 +0.1
comp=Z,1.3nm,0.6s,baz=147,slow=12,SNR=14
TXAR PcP **PcP 10 55 41.4 -0.4**
comp=Z,0.8nm,0.6s,baz=157,slow=3.6,SNR=8.1
TXAR Lajitas Array 20.06 323 P Pn 10 51 32.2 +0.9
TX31 Lajitas Ar. Si 20.06 323 P Pn 10 51 31.6 +0.2
Z51A Franklin 20.13 12 P Pn 10 51 32.2 +0.1
Z51A IAmb IAmb 10 51 34.4
comp=Z,16nm,0.7s
Y49A Blount Mountai 20.44 9 P P 10 51 34.8 +1.9
Y49A IAmb IAmb 10 52 01.1
comp=Z,27nm,1.4s
GOGA Godfrey 20.63 16 P P 10 51 36.1 +1.2
OXF Oxford 20.82 2 P P 10 51 37.9 +0.9
OXF IAmb IAmb 10 51 41.1
comp=Z,14nm,0.6s
ABTX Abilene, Hawle 20.83 337 P P 10 51 37.0 -0.1
Y52A Lilburn 20.91 14 P P 10 51 38.4 +0.5
Y52A IAmb IAmb 10 51 39.6
comp=Z,8.6nm,0.8s
X48A Hartselle 20.94 7 P P 10 51 39.1 +0.9
X48A IAmb IAmb 10 51 41.8
comp=Z,10nm,0.7s
MIAR Mount Ida 21.08 352 P P 10 51 41.1 +1.4
FPAL Fort Paine 21.24 10 P P 10 51 42.3 +0.9
FPAL IAmb IAmb 10 51 43.1
comp=Z,8.7nm,0.7s
PLAL Pickwick Lake 21.36 5 P P 10 51 43.8 +1.1
PLAL IAmb IAmb 10 51 45.5
comp=Z,10nm,0.7s
W41B Gary Mavity, V 21.56 355 P P 10 51 45.1 +0.3
HODGE Hodges 21.74 18 P P 10 51 46.6 -0.2
HODGE IAmb IAmb 10 51 48.5
comp=Z,7.2nm,0.6s
W39A Magazine 21.75 352 P P 10 51 48.1 +1.2
SWET Sewanee 21.85 9 P P 10 51 48.4 +0.5
SWET IAmb IAmb 10 51 50.0
comp=Z,13nm,0.8s
W50A Signal Mountai 21.93 11 P P 10 51 49.0 +0.1
X34A Smith Ranch, M 22.03 343 P P 10 51 48.9 -1.1
X34A IAmb IAmb 10 51 50.7
comp=Z,8.3nm,0.9s
JSC Jenkinsville 22.10 20 P P 10 51 48.3 -2.3
JSC IAmb IAmb 10 51 56.8
comp=Z,14nm,1.3s
BAUV El Baul 22.15 100 P P 10 51 50.0 -1.4
V48A Smith Brothers 22.24 7 P P 10 51 52.7 +0.5
FCAR Ozark Folk Cen 22.26 356 P P 10 51 53.1 +0.7
BG3 Lake Jocassee 22.26 16 P P 10 51 53.2 +0.7
BG3 IAmb IAmb 10 51 53.6
comp=Z,5.4nm,0.6s
W35A Tecumseh 22.30 345 P P 10 51 51.6 -1.1
W35A IAmb IAmb 10 51 53.0
comp=Z,13nm,0.6s
CPCT Cooper Cave 22.33 12 P P 10 51 53.2 +0.1
CPCT IAmb IAmb 10 51 53.9
comp=Z,6.2nm,0.5s
WMOK Wichita Mounta 22.45 341 P P 10 51 53.0 -1.4
WVT Waverly 22.52 5 P P 10 51 55.2 +0.1
WVT IAmb IAmb 10 51 56.1
comp=Z,13nm,1.1s
CLTN Cedars of Leba 22.65 8 P P 10 51 56.7 +0.2
CLTN IAmb IAmb 10 51 57.7
comp=Z,12nm,1.0s
TKL Tuckaleechee C 22.69 14 P P 10 51 56.5 -0.4
comp=Z,5.0nm,0.4s,baz=184,slow=9.8,SNR=14
TKL LR LR 11 00 59.1
comp=Z,42nm,19.5s,baz=186,slow=37
TKL Tuckaleechee C 22.69 14 P P 10 51 57.1 +0.1
TKL IAmb IAmb 10 51 57.5
comp=Z,7.0nm,0.6s
U40A Yellville 22.78 354 P P 10 51 57.4 -0.5
MNTX Cornudas Mount 22.80 325 P P 10 51 58.7 +0.5
HHAR Hobbs 22.84 352 P P 10 51 58.9 +0.4
KMSC Kings Mountain 22.86 19 P P 10 51 58.8 +0.1
KMSC IAmb IAmb 10 52 00.2
comp=Z,9.1nm,0.8s
V52A Sevierville 22.91 14 P P 10 51 58.9 -0.3
V52A IAmb IAmb 10 52 10.1
comp=Z,11nm,1.2s
V53A Saluda 22.93 15 P P 10 51 59.4 -0.1
V53A IAmb IAmb 10 52 00.8
comp=Z,9.1nm,0.9s
PBMO Poplar Bluff 23.07 359 P P 10 52 00.9 +0.1
U49A Red Boiling Sp 23.14 9 P P 10 52 01.1 -0.3
W57A Gilead 23.32 21 P P 10 52 02.2 -1.0
W57A IAmb IAmb 10 52 03.8
comp=Z,9.6nm,0.8s
T45A Paducah 23.35 3 P P 10 52 03.5 +0.1
T47A Sharon Grove 23.44 6 P P 10 52 04.0 -0.2
MGMO Mountain Grove 23.53 356 P P 10 52 04.5 -0.5
BIRV Birongo 23.54 95 P P 10 52 04.2 -1.2
BIRV IAmb IAmb 10 52 25.3
comp=Z,29nm,1.3s
TZTN Tazewell 23.59 13 P P 10 52 04.2 -1.4
TZTN IAmb IAmb 10 52 07.2
comp=Z,19nm,1.4s
AMTX Amarillo 23.62 336 P P 10 52 05.9 -0.1
AMTX IAmb IAmb 10 52 08.0
comp=Z,5.2nm,0.5s
T50A Nancy 23.79 11 P P 10 52 06.9 -0.5
T50A IAmb IAmb 10 52 08.5
comp=Z,6.9nm,0.7s
S44A Carbondale 24.00 2 P P 10 52 09.1 -0.1
U54A Nelsons Funny 24.00 17 P P 10 52 10.1 +0.8
SIUC Southern Illin 24.02 2 P P 10 52 09.2 -0.1
S39A Bolivar 24.15 354 P P 10 52 09.9 -0.7
V58A Windy Hill, Pi 24.21 22 P P 10 52 10.6 -0.5
V58A IAmb IAmb 10 52 12.8
comp=Z,13nm,0.7s
CCM Cathedral Cave 24.37 358 P P 10 52 11.8 -0.7
CCM IAmb IAmb 10 52 13.7
comp=Z,5.9nm,0.6s
R40A Maddies Statio 24.66 356 P P 10 52 14.1 -1.1
Q44A Meyer Farm, Va 25.21 2 P P 10 52 20.1 -0.2
Q44A IAmb IAmb 10 52 22.9
comp=Z,13nm,0.8s
P40A Paris 25.88 357 P P 10 52 24.0 -2.2
P40A IAmb IAmb 10 52 26.4
comp=Z,6.8nm,0.6s
Q51A Peebles 26.02 12 P P 10 52 27.0 -0.6
I37A Lemond, Waseca 30.43 355 P P 10 53 05.7 -1.1
ECSD EROS Data Cent 30.53 351 P P 10 53 06.4 -1.3
ECSD IAmb IAmb 10 53 08.2
comp=Z,5.3nm,1.3s
SPMN Marine on St. 31.59 356 P P 10 53 15.9 -1.1
J56A Wolcott 31.70 19 P P 10 53 16.8 -1.1
F33A 5 Mile Ranch, 32.55 352 P P 10 53 23.9 -1.4
F33A IAmb IAmb 10 53 24.9
comp=Z,4.2nm,0.6s
PDAR Pinedale Array 33.55 334 P P 10 53 34.4 0.0
comp=Z,0.1nm,0.5s,baz=134,slow=6.4,SNR=1.9
PDAR PcP **PcP 10 56 11.9 -1.6**
comp=Z,0.2nm,0.4s,baz=151,slow=5.7,SNR=4.3
AGMN Agassiz Nation 34.91 353 P P 10 53 44.5 -1.3
NV11 Mina Array Sit 35.03 320 P P 10 53 49.0 +1.7
NV11 IAmb IAmb 10 53 50.6
comp=Z,2.8nm,0.8s
NVAR Mina Array Bea 35.13 320 P P 10 53 49.7 +1.6
comp=Z,3.7nm,0.7s,baz=135,slow=8.4,SNR=34
NVAR PcP **PcP 10 56 17.9 -0.3**
comp=Z,1.4nm,0.7s,baz=132,slow=3.5,SNR=9.6
NVAR Mina Array Bea 35.13 320 P P 10 53 50.2 +2.1
LHV Little Huntoon 35.15 319 P P 10 53 50.3 +2.3
ULM Lac du Bonnet 36.84 354 P P 10 54 00.2 -2.1
comp=Z,5.2nm,0.6s,baz=165,slow=8.9,SNR=5.7
ULM Lac du Bonnet 36.84 354 IAmb IAmb 10 54 01.1
comp=Z,4.6nm,0.6s
SIV San Ignacio 41.11 135 P P 10 54 38.7 +0.2
comp=Z,1.9nm,0.7s,baz=313,slow=9.6,SNR=4.2
SIV PcP **PcP 10 56 36.6 -0.2**
comp=Z,1.2nm,0.8s,baz=209,slow=14,SNR=2.7
EDM Edmonton 43.61 340 P P 10 54 57.0 -1.2
SCHQ Schefferville 44.98 19 P P 10 55 07.4 -1.8
comp=Z,10nm,0.4s,baz=219,slow=6.8,SNR=45
SCHQ LR LR 11 13 49.0
comp=Z,51nm,18.0s,baz=144,slow=36
SCHQ Schefferville 44.98 19 P P 10 55 07.2 -1.9
YKA Yellowknife Ar 51.83 346 P P 10 56 00.3 -1.4
comp=Z,0.7nm,0.4s,baz=147,slow=7.7,SNR=22
SFJD Kangerlussuaq 59.35 17 LR LR 11 22 23.9
comp=Z,27nm,19.2s,baz=196,slow=36
ILAR Eielson Array 63.92 336 P P 10 57 24.1 -2.1
comp=Z,0.3nm,0.8s,baz=135,slow=5.4,SNR=5.0
TORD Torodi Ar. Bea 88.70 77 P P 10 59 42.9 -4.4
comp=Z,0.3nm,0.6s,baz=300,slow=5.5,SNR=2.1
TORD Torodi Ar. Bea 88.70 77 IAmb IAmb 10 59 51.1
comp=Z,1.8nm,1.3s
MA2 Magadan 92.26 334 LR LR 11 46 30.4
comp=Z,14nm,18.3s,baz=218,slow=39
MKAR Makanchi Array 119.49 6 PKP PKPdf 11 05 39.8 -2.8
comp=Z,0.3nm,0.5s,baz=338,slow=1.6,SNR=3.2
KSH Kashi 125.58 13 PKP PKPdf 11 05 55.5 +0.8
WRA Warramunga Arr 137.06 255 PKP PKPdf 11 06 17.2 +0.5
comp=Z,1.2nm,0.6s,baz=86,slow=2.0,SNR=15
ASAR Alice Springs 137.24 250 PKP PKPdf 11 06 18.1 +1.1
comp=Z,0.5nm,0.6s,baz=81,slow=2.0,SNR=6.1
PZH PanZhiHua 138.49 344 PKP PKPdf 11 06 19.3 -0.1
CMAR Chiang Mai Arr 146.90 344 PKPbc PKPdf 11 06 34.7 +0.4
comp=Z,1.7nm,0.5s,baz=347,slow=3.4,SNR=11

IDC 22 10:54:29.2±2.5, 6°27S×129°49E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/49, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=151.7km s-min=33.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.39**	**161**	Pn	Pn	10 57 53.0	-1.3
	0.4nm,0.3s,baz=344,slow=13,SNR=24						
WRA				Sn	Sn	11 00 18.1	-17
	0.2nm,0.3s,baz=337,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**17.81**	**167**	P	P	10 58 39.7	+0.1
	0.1nm,0.3s,baz=343,slow=9.1,SNR=3.2						
ASAR				S	Sn	11 01 42.4	-16
	0.1nm,0.3s,baz=345,slow=26,SNR=1.7						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	11 05 26.2	0.0
	0.3nm,0.5s,baz=114,slow=8.0,SNR=2.7						

IDC 22 10:56:01.6±1.9, 16°43S×175°88W, h355km±35km, mb3.1/3, mb1 3.3/4, mb1mx3.0/35, mbtmp3.8/4, Error ellipse: s-maj=170.1km s-min=22.8km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.69**	**58**	P	Pn	10 57 18.7	+0.5
	2.6nm,0.3s,baz=122,slow=0.6,SNR=4.8						
AFI				S	S	10 58 20.1	+0.1
	1.0nm,0.3s,baz=46,slow=22,SNR=1.8						
WRA	**Warramunga Arr**	**47.29**	**258**	P	P	11 04 01.0	-0.1
	0.4nm,0.7s,baz=95,slow=6.1,SNR=4.6						
WRA				PcP	PcP	11 05 26.0	+0.2
	0.1nm,0.5s,baz=94,slow=3.5,SNR=1.1						
ASAR	**Alice Springs**	**47.53**	**253**	P	P	11 04 02.4	-0.5
	1.3nm,0.5s,baz=87,slow=8.1,SNR=15						
ILAR	**Eielson Array**	**83.93**	**12**	P	P	11 07 51.6	-0.5
	0.3nm,0.4s,baz=215,slow=5.6,SNR=11						
BRTR	**Keskin Array B**	**145.39**	**318**	PKPbc	PKPbc	11 14 58.6	-0.2
	0.8nm,0.8s,baz=98,slow=2.9,SNR=3.0						

*IDC **22** 11:17:05.2±1.0, 0°.08S×80°.03W, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/30, mbtmp3.6/8, ML2.9/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/47, Error ellipse: s-maj=39.3km s-min=19.8km az=63.0*

ISC 22 11:17:06.9±0.8, 0°.2S±0°.1×80°.28W±0°.09, h10km, n23, σ1°50/20, mb3.8/6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUSE	**Cuicocha Este**	**1.93**	**76**	eP	Pn	**11 17 41.1**	**+0.8**
TULM	**Tulcn-Chalpat**	**2.64**	**71**	eP	Pb	**11 17 54.4**	**-0.1**
CMBC	**Cumbal**	**2.69**	**66**	eP	Pn	**11 17 52.9**	**+2.2**
GCUF	**Volcan Galeras**	**3.24**	**65**	eP	Pn	**11 18 01.6**	**+3.3**
SOTA	**Rioblanco**	**4.32**	**58**	eP	Pn	**11 18 15.1**	**+1.9**
POPC	**Popayan, Colom**	**4.49**	**53**	eP	Pn	**11 18 15.8**	**+0.5**
PCON	**Cinco Dias**	**4.60**	**57**	eP	Pn	**11 18 18.8**	**+1.8**
MARP	**Paez Belalcaza**	**5.25**	**55**	eP	Pn	**11 18 27.2**	**+1.4**
GARC	**Garzon, Huila**	**5.32**	**64**	eP	Pn	11 18 21.7	-5.0
YOTC	**Yotoco, Valle**	**5.70**	**44**	eP	Pn	**11 18 30.7**	**-1.0**
ORTC	**Ortega, Tolima**	**6.46**	**51**	eP	Pn	**11 18 43.7**	**+1.6**
MACC	**Macarena, Meta**	**6.83**	**70**	eP	Pn	**11 18 47.8**	**+0.6**
ROSC	**El Rosal**	**7.76**	**50**	Pn	Pn	11 18 55.5	-4.8
	1.5nm,0.3s,baz=135,slow=22,SNR=1.4						
ROSC				Sn	**Sn**	**11 20 26.4**	**-2.0**
	baz=109,slow=21,SNR=0.9						
LPAZ	**La Paz**	**20.00**	**144**	P	P	**11 21 39.0**	**-1.4**
	0.0nm,0.3s,baz=310,slow=7.8,SNR=1.9						
SJG	**San Juan**	**22.87**	**37**	LR	LR	11 31 31.4	
	comp=Z,20nm,20.1s,baz=190,slow=38						
LVC	**Limon Verde**	**24.90**	**154**	P	P	**11 22 30.2**	**-0.3**
	2.4nm,0.9s,baz=312,slow=5.8,SNR=1.4						
TXAR	**Lajitas Array**	**36.87**	**325**	P	P	**11 24 15.8**	**-0.1**
	0.2nm,0.7s,baz=140,slow=10,SNR=2.0						
PLCA	**Paso Flores**	**41.33**	**169**	P	P	**11 24 52.7**	**-0.3**
	1.4nm,0.7s,baz=344,slow=14,SNR=2.4						
NVAR	**Mina Array Bea**	**51.91**	**322**	P	P	**11 26 17.4**	**+1.2**
	0.1nm,0.3s,baz=134,slow=7.8,SNR=2.0						
FRB	**Frobisher Bay**	**64.35**	**6**	LR	LR	11 59 30.9	
	comp=Z,20nm,18.1s,baz=31,slow=40						
YKA	**Yellowknife Ar**	**67.62**	**344**	P	P	**11 28 03.3**	**-0.3**
	0.5nm,0.7s,baz=137,slow=5.8,SNR=15						
TORD	**Torodi Ar. Bea**	**82.22**	**77**	P	P	**11 29 28.4**	**-0.7**
	0.4nm,0.5s,baz=281,slow=6.3,SNR=7.2						
WRA	**Warramunga Arr**	**140.65**	**237**	PKP	**PKPdf**	**11 36 37.8**	**0.0**
	0.4nm,0.9s,baz=116,slow=2.1,SNR=4.9						

*IDC **22** 11:52:29.9±1.1, 14°.63S×166°.38E, h0km, mb4.2/7, mb1 4.4/8, mb1mx3.9/37, mbtmp4.2/8, ML4.3/1, MS3.5/4, Ms1 3.5/4, ms1mx2.8/57, Error ellipse: s-maj=35.5km s-min=24.1km az=124.0*
*NOU **22** 11:52:34.9, 14°.74S×166°.33E, h10km, MLv4.7/16, Vanuatu Islands*
*NEIC **22** 11:52:35.6±1.3, 14°.59S±0°.02×166°.4E±0°.1, h35km±2km, mb4.8/35, Error ellipse: s-maj=17.4km s-min=3.0km az=86.0*

ISC 22 11:52:34.2±0.7, 14°62S±0°.07×166°33E±0°.09, h28km, n69, σ0°86/67, mb4.8/26, MS3.4/4, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.18**	**135**		**Pn**	**11 52 54.8**	**-0.1**
SANVU	**Saraoutou**	**1.18**	**135**	P	**Pb**	**11 52 55.5**	**-0.5**
DVP	**Devils Point**	**3.57**	**150**	P	**Pn**	**11 53 29.3**	**+1.6**
LIFNC	**LIFOU**	**6.19**	**172**	Pn	**Pn**	**11 54 04.0**	**+0.3**
LIFNC	**LIFOU**	**6.19**	**172**	P	**Pn**	**11 54 03.9**	**+0.1**
KOUNC	**Koumac, New Ca**	**6.22**	**198**		**Pn**	**11 54 03.8**	**-0.3**
KOUNC	**Koumac, New Ca**	**6.22**	**198**	P	**Pn**	**11 54 04.9**	**+0.7**
MARNC	**Mare, Loyalty**	**7.02**	**167**	Pn	**Pn**	**11 54 16.1**	**+1.0**
MARNC	**Mare, Loyalty**	**7.02**	**167**	P	**Pn**	**11 54 16.1**	**+1.0**
DZM	**Mont Dzumac**	**7.42**	**179**	Pn	**Pn**	**11 54 21.1**	**+0.3**
	5.0nm,0.3s,baz=324,slow=7.2,SNR=69						
DZM				Sn	**Sn**	**11 55 43.9**	**-0.1**
	0.6nm,0.3s,baz=325,slow=19,SNR=1.2						
DZM	**Mont Dzumac**	**7.42**	**179**	ePn	**Pn**	**11 54 21.4**	**+0.7**
	27nm,0.3s						
DZM				eSn	**Sn**	**11 55 43.1**	**-0.9**
	17nm,0.7s						
DZM				eLR	LR	11 56 05.3	
	comp=Z,320nm,27.6s						
DZM	**Mont Dzumac**	**7.42**	**179**		**Pn**	**11 54 21.9**	**+1.2**
DZM	**Mont Dzumac**	**7.42**	**179**	P	**Pn**	**11 54 21.6**	**+0.9**
YATNC	**Mamie plateau,**	**7.42**	**176**	P	**Pn**	**11 54 21.2**	**+0.5**
NOUC	**Port Laguerre**	**7.45**	**180**	P	**Pn**	**11 54 22.7**	**+1.7**
ONTNC	**Ouen Toro**	**7.65**	**179**		**Pn**	**11 54 24.5**	**+0.6**
ONTNC	**Ouen Toro**	**7.65**	**179**	P	**Pn**	**11 54 25.5**	**+1.6**
OUENC	**Ouen Island, N**	**7.78**	**177**	Pn	**

ASAR	**Alice Springs**	**31.87**	**249**	P		**P**		**11 58 56.8**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=76,slow=9.3,SNR=9.3								
ASAR				PcP		**PcP**		**12 01 48.0**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=46,slow=2.7,SNR=2.9								
FITZ	**Fitzroy Crossi**	**39.15**	**259**	P		**P**		**11 59 59.0**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=104,slow=8.3,SNR=3.3								
FITZ	**Fitzroy Crossi**	**39.15**	**259**	IAmb		IAmb		12 00 00.3	
	comp=Z,10nm,1.4s								
CMAR	**Chiang Mai Arr**	**74.08**	**294**	P		**P**		**12 04 10.3**	**+2.1**
	comp=Z,1.4nm,0.4s,baz=123,slow=4.3,SNR=11								
O22K	**Cooper Landing**	**82.68**	**20**	P		**P**		**12 04 55.3**	**+0.5**
PWL	**Port Wells**	**83.43**	**21**	P		**P**		**12 04 59.2**	**+0.4**
M22K	**Willow**	**83.50**	**19**	P		**P**		**12 04 59.0**	**0.0**
PMR	**Palmer**	**83.70**	**20**	P		**P**		**12 05 00.5**	**+0.4**
PMR				IAmb		IAmb		12 05 02.6	
	comp=Z,6.7nm,0.9s								
KNK	**Knik Glacier**	**83.79**	**20**	P		**P**		**12 05 01.2**	**+0.6**
KNK				IAmb		IAmb		12 05 01.9	
	comp=Z,13nm,1.0s								
GHO	**Glory Hole Cre**	**83.90**	**20**	P		**P**		**12 05 02.2**	**+1.0**
GHO				IAmb		IAmb		12 05 02.6	
	comp=Z,15nm,1.1s								
SML	**Sawmill**	**84.12**	**20**	P		**P**		**12 05 02.6**	**+0.3**
SML				IAmb		IAmb		12 05 04.9	
	comp=Z,20nm,1.3s								
CAST	**Castle Rocks**	**84.16**	**17**	P		**P**		**12 05 02.2**	**-0.2**
CAST				IAmb		IAmb		12 05 02.9	
	comp=Z,8.8nm,0.8s								
J20K	**Nowinta River**	**84.17**	**16**	P		**P**		**12 05 02.8**	**+0.4**
SCM	**Sheep Creek Mo**	**84.47**	**20**	P		**P**		**12 05 04.6**	**+0.5**
KTH	**Kantishna Hill**	**84.60**	**18**	P		**P**		**12 05 04.3**	**-0.4**
KTH				IAmb		IAmb		12 05 05.5	
	comp=Z,9.4nm,1.0s								
TRF	**Thorofare Moun**	**84.71**	**18**	P		**P**		**12 05 05.6**	**+0.2**
TRF				IAmb		IAmb		12 05 06.3	
	comp=Z,7.7nm,1.0s								
RND	**Reindeer**	**85.11**	**19**	P		**P**		**12 05 07.7**	**+0.4**
MCK	**McKinley**	**85.33**	**18**	P		**P**		**12 05 08.7**	**+0.3**
DHY	**Denali Highway**	**85.34**	**19**	P		**P**		**12 05 09.1**	**+0.6**
BWN	**Browne**	**85.49**	**18**	P		**P**		**12 05 09.5**	**+0.4**
I21K	**Tanana**	**85.53**	**16**	P		**P**		**12 05 10.1**	**+0.8**
H21K	**Melozitna Rive**	**85.68**	**16**			**P**		**12 05 11.0**	**+0.9**
H21K				IAmb		IAmb		12 05 12.2	
	comp=Z,7.4nm,1.1s								
IMAR	**Indian Mountai**	**85.69**	**15**			**P**		**12 05 11.1**	**+1.0**
CCB	**Clear Creek Bu**	**86.33**	**18**	P		**P**		**12 05 12.8**	**-0.4**
CCB				IAmb		IAmb		12 05 14.3	
	comp=Z,4.2nm,0.9s								
M26K	**Nabesna, AK**	**86.34**	**21**			**P**		**12 05 13.6**	**+0.1**
M26K				IAmb		IAmb		12 05 15.2	
	comp=Z,4.2nm,1.0s								
MDM	**Murphy Dome**	**86.43**	**18**	P		**P**		**12 05 14.3**	**+0.5**
MDM				IAmb		IAmb		12 05 15.0	
	comp=Z,8.9nm,1.0s								
COLA	**College**	**86.48**	**18**	P		**P**		**12 05 13.6**	**-0.4**
COLA				IAmb		IAmb		12 05 15.2	
	comp=Z,7.9nm,1.0s								
RIDG	**Independent Ri**	**86.62**	**20**	P		**P**		**12 05 14.9**	**+0.2**
RIDG				IAmb		IAmb		12 05 16.1	
	comp=Z,7.0nm,1.0s								
L26K	**Log Cabin Wild**	**86.63**	**21**	P		**P**		**12 05 15.0**	**+0.2**
H23K	**Yukon River**	**86.69**	**17**	P		**P**		**12 05 16.1**	**+1.1**
H23K				IAmb		IAmb		12 05 17.1	
	comp=Z,4.6nm,1.1s								
IL31		**86.70**	**18**	P		**P**		**12 05 14.4**	**-0.6**
IL31				IAmb		IAmb		12 05 16.3	
	comp=Z,6.8nm,0.8s								
ILAR	**Eielson Array**	**86.70**	**18**	P		**P**		**12 05 14.7**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=235,slow=5.2,SNR=46								
ILAR				LR		LR		12 38 48.8	
	comp=Z,33nm,18.8s,baz=20,slow=32								
DOT	**Dot Lake**	**86.81**	**20**	P		**P**		**12 05 15.6**	**-0.1**
DOT				IAmb		IAmb		12 05 17.5	
	comp=Z,4.1nm,1.0s								
J25K	**Salcha River,**	**87.06**	**19**	P		**P**		**12 05 16.5**	**-0.4**
J25K				IAmb		IAmb		12 05 18.6	
	comp=Z,7.0nm,0.8s								
SCRK	**Sand Creek**	**87.06**	**20**			**P**		**12 05 16.8**	**-0.2**
SCRK				IAmb		IAmb		12 05 18.5	
	comp=Z,4.6nm,0.9s								
BBB	**Bella Bella**	**87.19**	**34**	LR		LR		12 36 33.4	
	comp=Z,19nm,20.3s,baz=294,slow=30								
SYO	**Syowa Base**	**88.55**	**197**	$\Downarrow$*e*	X	P		12 05 29.4	+5.4
MKAR	**Makanchi Array**	**96.50**	**317**	P		**P**		**12 06 01.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=96,slow=5.8,SNR=2.6								
YKA	**Yellowknife Ar**	**97.86**	**27**	P		**P**		**12 06 06.3**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=253,slow=4.6,SNR=20								
Q24A	**Divide**	**97.90**	**52**	P		**P**		**12 06 07.0**	**-1.1**
Q24A				IAmb		IAmb		12 06 26.3	
	comp=Z,3.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**165.01**	**266**	PKPab		**PKPab**		**12 13 34.0**	**+0.6**
	comp=Z,0.7nm,1.0s,baz=53,slow=3.7,SNR=3.5								

*IDC **22** 12:07:22.6±1.1,40.52N×144.83E,h0km,mb3.6/10, mb1 3.8/13,mb1mx3.7/36,mbtmp3.6/13,ML3.0/3,MS3.2/2, Ms1 3.2/2,ms1mx2.3/90,Error ellipse: s-maj=25.3km s-min=20.1km az=123.0*

*JMA **22** 12:07:24.2±0.3,40.50N×144.87E,h49km,M3.7*

ISC 22 12:07:27.2±0.8,40.54N±0.05×144.84E±0.07,h36km,n33, σ1$ is 74/48, mb3.5/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.95**	**320**	P	**Pn**	**12 07 56.5**	**-1.2**
JEM				*e*S	**Sn**	**12 08 19.6**	**-1.3**
JTHR	**Tokachihiroo**	**2.10**	**327**	P	**Pn**	**12 07 58.7**	**-1.1**
JTHR				S	**Sn**	**12 08 22.7**	**-2.0**
JNBK	**Urakawa-nobuka**	**2.35**	**319**	P	**Pn**	**12 08 02.8**	**-0.4**
JNBK				S	**Sn**	**12 08 30.8**	**+0.1**
JCH	**Churui**	**2.35**	**332**	P	**Pn**	**12 08 02.0**	**-1.3**
JCH				S	**Sn**	**12 08 28.7**	**-2.2**
JTH	**Tanohata**	**2.36**	**256**	P	**Pn**	**12 08 01.5**	**-1.9**
JTH				*e*S	**Sn**	**12 08 28.1**	**-2.9**
JAK	**Akkeshi**	**2.46**	**357**	P	**Pn**	**12 08 02.6**	**-2.1**
JAK				S	**Sn**	**12 08 32.1**	**-1.4**
JANG	**Nango**	**2.54**	**267**	P	**Pn**	**12 08 04.3**	**-1.6**
JANG				*e*S	**Sn**	**12 08 32.3**	**-3.4**
JAR	**Ashorobuto**	**2.87**	**344**	P	**Pn**	**12 08 08.7**	**-1.7**
JAR				*e*S	**Sn**	**12 08 41.3**	**-2.4**
NEM2	**Nemuro 2**	**2.90**	**13**	P	**Pn**	**12 08 08.4**	**-2.4**
NEM2				S	**Sn**	**12 08 41.0**	**-3.5**
JOM	**Ohasama**	**2.93**	**250**	P	**Pn**	**12 08 10.0**	**-1.2**
JOM				*e*S	**Sn**	**12 08 43.3**	**-1.8**
JOT	**Ohata**	**3.00**	**288**	P	**Pn**	**12 08 11.3**	**-0.8**
JOT				*e*S	**Sn**	**12 08 44.7**	**-2.0**
JMK	**Ichinoseki**	**3.21**	**242**	P	**Pn**	**12 08 13.8**	**-1.3**
JMK				*e*S	**Sn**	**12 08 49.5**	**-2.6**
JRA	**Rausu**	**3.41**	**3**	P	**Pn**	**12 08 15.9**	**-1.8**
JRA				*e*S	**Sn**	**12 08 53.6**	**-3.2**
JEW	**Eniwo**	**3.43**	**313**	P	**Pn**	**12 08 18.0**	**-0.1**
JEW				S	**Sn**	**12 08 57.5**	**+0.1**
JTKR	**Abashiri--Toko**	**3.50**	**349**	P	**Pn**	**12 08 18.0**	**-1.0**
JTKR				S	**Sn**	**12 08 57.6**	**-1.6**
JKK2	**Kamakawa 2**	**3.68**	**336**	P	**Pn**	**12 08 20.9**	**-0.6**
JYK	**Kaneyama**	**3.82**	**246**	P	**Pn**	**12 08 22.8**	**-0.6**
ASAJ	**Asahikawa**	**3.95**	**336**	Pn	**Pn**	**12 08 24.1**	**-1.1**
	1.7nm,0.3s,baz=189,slow=12,SNR=20						
ASAJ				Sn	**Sn**	**12 09 06.1**	**-4.1**
	1.1nm,0.3s,baz=275,slow=23,SNR=1.8						
JHR	**Hokuryu**	**3.96**	**325**	P	**Pn**	**12 08 25.9**	**+0.6**
JHR				*e*S	**Sn**	**12 09 11.1**	**+0.7**
MJAR	**Matsushiro Arr**	**6.55**	**235**	Pn	**Pn**	**12 09 00.7**	**-0.3**
	0.3nm,0.3s,baz=24,slow=19,SNR=3.7						
USRK	**Ussuriysk Ar.**	**10.19**	**295**	Pn	**Pn**	**12 09 52.0**	**+1.2**
	baz=92,slow=15,SNR=5.1						
JOW	**Kunigami**	**19.37**	**230**	LR	LR	12 19 38.9	
	comp=Z,90nm,18.9s,baz=32,slow=38						
SEY	**Seymchan**	**22.88**	**9**	P	**P**	**12 12 27.2**	**0.0**
	0.8nm,0.5s,baz=184,slow=7.9,SNR=6.8						
SONM	**Songino Array**	**28.29**	**298**	P	**P**	**12 13 17.6**	**+0.4**
	0.4nm,0.6s,baz=104,slow=6.1,SNR=2.0						
NRIK	**Noril'sk**	**41.28**	**333**	P	**P**	**12 15 09.0**	**+0.4**
	1.3nm,0.4s,baz=90,slow=3.0,SNR=1.4						
ZALV	**Zalesovo Beam**	**41.65**	**310**	P	**P**	**12 15 12.1**	**+0.4**
	0.2nm,0.3s,baz=96,slow=7.2,SNR=1.6						
MKAR	**Makanchi Array**	**44.62**	**300**	P	**P**	**12 15 36.1**	**+0.2**
	0.2nm,0.4s,baz=90,slow=7.7,SNR=2.3						
ILAR	**Eielson Array**	**45.10**	**34**	P	**P**	**12 15 40.1**	**+0.7**
	0.5nm,0.7s,baz=264,slow=6.2,SNR=6.3						
INK	**Inuvik**	**50.04**	**29**	P	**P**	**12 16 19.5**	**+1.8**
	0.7nm,0.6s,baz=315,slow=7.1,SNR=5.9						
YKA	**Yellowknife Ar**	**59.43**	**32**	P	**P**	**12 17 26.6**	**+0.9**
	0.1nm,0.6s,baz=306,slow=7.0,SNR=2.6						
WRA	**Warramunga Arr**	**60.96**	**191**	P	**P**	**12 17 37.1**	**+0.5**
	0.6nm,0.7s,baz=7.6,slow=6.8,SNR=7.6						
ARCES	**ARCESS Array B**	**61.66**	**340**	LR	LR	12 47 04.6	
	comp=Z,16nm,20.5s,baz=88,slow=39						
FINES	**FINESS Array B**	**66.95**	**333**	P	**P**	**12 18 16.4**	**+0.8**
	4.7nm,1.0s,baz=39,slow=7.3,SNR=5.7						

*ISU **22** 12:11:06.2,40.33N×73.19E,h5km,Hypocentre not reviewed by the ISC*

*KRNET **22** 12:11:07.1±0.1,40.31N×73.23E,h18km,mb2.9*

*SOME **22** 12:11:08.9,40.38N×73.27E,h15km*

ISC 22 12:11:07.0±2.0,40.21N±0.08×73.16E±0.06,h3km±13km, n11,σ0$ is 94/21, 10C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.43**	**317**	$\Uparrow$*i*P	**Pg**	**12 11 15.0**	**-0.2**
	baz=2.0						
OHH				$\Uparrow$*i*S	**Sg**	**12 11 20.8**	**+0.1**
	baz=2.0						
OHH	**Osh**	**0.43**	**317**	P		12 11 14.7	
OHH				S		12 11 20.9	
FRG	**Fergana**	**1.07**	**279**	S		12 11 45.6	
SHAK	**Shakhimardan**	**1.12**	**257**	P		12 11 30.3	
SHAK				S		12 11 27.7	
SHAK				S		12 11 47.1	
CHMI	**Chimion**	**1.26**	**273**	S		12 11 50.9	
BTK	**Batken**	**1.80**	**266**	$\Uparrow$*e*P	**Pg**	**12 11 41.0**	**-0.5**
	baz=63						
BTK				$\Uparrow$*i*S	**Sg**	**12 12 05.8**	**+0.9**
	baz=63						
BTK	**Batken**	**1.80**	**266**	S		12 12 06.2	
ARK	**Arkit**	**1.83**	**331**	$\Uparrow$*i*P	**Pn**	**12 11 39.3**	**-0.1**
	baz=28						
ARK				$\Uparrow$*i*S	**Sn**	**12 12 02.9**	**-0.2**
	baz=28						
TRKS	**Terek-Say**	**2.02**	**311**	$\Uparrow$*i*P	**Pn**	**12 11 41.9**	**-0.2**
	baz=7.0						
TRKS				$\Uparrow$*i*S	**Sn**	**12 12 07.5**	**-0.5**
	baz=7.0						
MRKS	**Merke**	**2.53**	**1**	*e*P	**Pb**	**12 11 54.0**	**+0.9**
	4.1nm,0.2s						
MRKS				*e*S	**Sb**	**12 12 26.1**	**+1.3**
	20nm,0.4s						
AAK	**Ala-Archa**	**2.62**	**22**	$\Uparrow$*e*P	**Pn**	**12 11 49.8**	**-0.6**
	baz=22						
AAK				$\Uparrow$*i*S	**Sn**	**12 12 20.9**	**-1.9**
	baz=22						
IUG	**Iuzhnay**	**3.06**	**310**	*e*P	**Pg**	**12 12 04.6**	**-0.9**
	84nm,0.3s						
IUG				*e*S	**Sg**	**12 12 43.9**	**-1.2**
	11nm,0.4s						
SGDS	**Sogindy**	**3.42**	**18**	*e*P	**Pb**	**12 12 08.7**	**+0.5**
	0.8nm,1.0s						
SGDS				*e*S	**Sb**	**12 12 51.0**	**+0.8**
	1.0nm,0.5s						
KK31	**Karatay Array**	**3.51**	**326**	Pg	**Pb**	**12 12 09.9**	**+0.2**
	0.6nm,0.4s,baz=139,slow=16,SNR=8.9						
KK31				$\Downarrow$Lg	Lg	12 12 55.2	
	0.7nm,0.3s,baz=137,slow=30						
BRLS	**Borolday**	**3.76**	**320**	*e*P	**Pb**	**12 12 14.7**	**+0.7**
	1.0nm,0.1s						
BRLS				*e*S	**Sb**	**12 13 01.1**	**+1.0**
	2.9nm,0.3s						
KRBS	**Karabastau**	**3.95**	**27**	*e*P	**Pb**	**12 12 18.0**	**+0.7**
	0.8nm,0.4s						
KRBS				*e*S	**Sb**	**12 13 06.9**	**+1.3**
	2.2nm,0.7s						

*IDC **22** 13:10:54.6±13.0,25.73S×179.89E,h340km±216km, mb2.9/4,mb1 3.1/5,mb1mx3.0/41,mbtmp3.8/5,Error ellipse: s-maj=223.9km s-min=64.3km az=84.0*

*NEIC **22** 13:10:58.3±1.6,25.7S±0.2×179.4W±0.2,h445km±14km, mb4.1/15,Error ellipse: s-maj=36.1km s-min=14.6km az=53.0*

ISC 22 13:10:58.6±1.6,25.8S±0.2×179.4W±0.2,h450km,n26, σ1$ is 03/27,mb4.0/12,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.69**	**159**	P	**P**	**13 12 10.8**	**-0.2**
OUZ	**Omahuta**	**11.15**	**211**	P	**P**	**13 13 30.8**	**+2.7**
URZ	**Urewera**	**12.77**	**192**	P	**P**	**13 13 44.3**	**-1.3**
	1.6nm,0.3s,baz=276,slow=3.3,SNR=14						
URZ				S	**S**	**13 16 02.9**	**-0.6**
	0.6nm,0.3s,baz=334,slow=20,SNR=5.9						
URZ	**Urewera**	**12.77**	**192**	P	**P**	**13 13 45.4**	**-0.2**
BKZ	**Black Stump Fm**	**13.77**	**193**	P	**P**	**13 13 55.1**	**-1.3**
QRZ	**Quartz Range**	**16.42**	**202**	P	**P**	**13 14 24.8**	**+0.3**
FOZ	**Fox Glacier**	**19.76**	**204**	P	**P**	**13 14 58.4**	**+0.9**
STKA	**Stephens Creek**	**34.55**	**251**	P	**P**	**13 17 07.9**	**-0.1**
	0.9nm,0.6s,baz=89,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**34.55**	**251**	P	**P**	**13 17 08.3**	**+0.3**
BBOO	**Buckleboo**	**39.23**	**249**	P	**P**	**13 17 46.5**	**-0.2**
BBOO				IAmb	IAmb	13 17 50.6	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**42.28**	**263**	P	**P**	**13 18 11.3**	**0.0**
ASAR	**Alice Springs**	**42.28**	**263**	P	**P**	**13 18 11.5**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=92,slow=7.6,SNR=25						
ASAR	**Alice Springs**	**42.28**	**263**	P	**P**	**13 18 11.1**	**-0.3**
WR0	**Warramunga Arr**	**42.65**	**268**	P	**P**	**13 18 14.1**	**-0.2**
WR0				IAmb	IAmb	13 18 21.5	
	comp=Z,4.3nm,1.2s						
WB2	**Warramunga Arr**	**42.83**	**268**	P	**P**	**13 18 14.6**	**-1.1**
WB2				IAmb	IAmb	13 18 30.9	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**42.84**	**268**	P	**P**	**13 18 15.1**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=105,slow=8.6,SNR=9.6						
WRA	**Warramunga Arr**	**42.84**	**268**	P	**P**	**13 18 15.3**	**-0.5**
WB0	**Warramunga Arr**	**42.84**	**268**	P	**P**	**13 18 15.3**	**-0.5**
WB0				IAmb	IAmb	13 18 21.1	
	comp=Z,7.9nm,1.4s						
FORT	**Forrest**	**46.17**	**251**	P	**P**	**13 18 40.6**	**-0.9**
KNRA	**Kununurra**	**49.23**	**271**	P	**P**	**13 19 04.8**	**+0.1**
KNRA				IAmb	IAmb	13 19 28.8	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.23**	**267**	P	**P**	**13 19 19.5**	**0.0**
	comp=Z,0.6nm,0.5s,baz=98,slow=7.1,SNR=1.1						
FITZ	**Fitzroy Crossi**	**51.23**	**267**	P	**P**	**13 19 18.5**	**-1.0**
FITZ				IAmb	IAmb	13 19 43.1	
	comp=Z,3.5nm,1.1s						
VNDA	**Vanda**	**52.55**	**185**	P	**P**	**13 19 27.6**	**-0.5**
NWAO	**Narrogin (SRO)**	**54.95**	**247**	P	**P**	**13 19 44.7**	**-1.3**
NWAO				IAmb	IAmb	13 20 02.8	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**64.30**	**180**	P	**P**	**13 20 50.9**	**+2.7**
QSPA				IAmb	IAmb	13 21 07.5	
	comp=Z,7.8nm,1.5s						
SNAA	**Sanae**	**82.77**	**179**	P	**P**	**13 22 34.1**	**+0.2**
SNAA				IAmb	IAmb	13 22 58.7	
	comp=Z,5.9nm,1.1s						

IDC 22 13:16:35.5±1.7,8.91S×158.25E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/34,mbtmp3.3/3,Error ellipse: s-maj=54.5km s-min=21.5km az=5.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.76**	**107**	Pn	Pn	13 17 07.1	-0.2
	199nm,0.3s,baz=269,slow=5.3,SNR=91						
HNR				Sn	Sg	13 17 31.7	-0.4
	182nm,0.3s,baz=225,slow=24,SNR=24						
WRA	**Warramunga Arr**	**25.58**	**242**	P	P	13 22 06.4	-0.2
	0.2nm,0.5s,baz=67,slow=8.3,SNR=1.7						
ASAR	**Alice Springs**	**27.52**	**235**	P	P	13 22 24.4	+0.2
	0.3nm,0.9s,baz=63,slow=10,SNR=2.1						
MKAR	**Makanchi Array**	**86.97**	**318**	P	P	13 29 22.8	+0.1
	0.3nm,0.8s,baz=101,slow=4.6,SNR=2.9						

*IDC **22** 13:26:12.8±0.6,2.62S×79.89W,h0km,mb4.2/22, mb1 4.4/23,mb1mx4.3/41,mbtmp4.2/23,ML4.2/1,MS3.7/30, Ms1 3.7/30,ms1mx3.5/62,Error ellipse: s-maj=23.1km s-min=11.6km az=54.0*

*VAO **22** 13:26:15.0±0.7,2.82S×79.98W,h10km,mb4.9*

*IGQ **22** 13:26:18±0.3,3°S±2°×8°OW±°,h26km*

*NEIC **22** 13:26:20.5±2.5,2.74S±0.04×79.97W±0.08,h48km±4km, mb4.7/100,Error ellipse: s-maj=11.4km s-min=6.3km az=96.0*

ISC 22 13:26:18.1±0.3,2.76S±0.03×80.09W±0.04,h35km,n503, σ1$ is 55/494, mb4.7/55, MS3.8/27, 2C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPG	**Isla Puna-Puer**	**0.22**	**201**	P	**Pn**	**13 26 28.0**	**+2.8**
ACH1	**Ecuador-Univer**	**0.55**	**161**	P	**Pn**	**13 26 31.0**	**+1.5**
ACH2	**Ecuador-Machal**	**0.57**	**150**	P	**Pn**	**13 26 30.0**	**+0.3**
GYE3	**Ecuador-Guayaq**	**0.64**	**18**	P	**Pn**	**13 26 30.0**	**-0.6**
AGUAY	**Guayaquil**	**0.72**	**11**	P	**Pn**	**13 26 36.0**	**+4.2**
ARNL	**Arenillas**	**0.78**	**178**		**Pn**	**13 26 34.1**	**+1.5**
ARNL				Sn	**Sn**	**13 26 45.5**	**+2.5**
ARNL	**Arenillas**	**0.78**	**178**	P	**Pn**	**13 26 34.0**	**+1.5**
AMIL	**Milagro (Trans**	**0.80**	**38**	P	**Pn**	**13 26 33.0**	**+0.2**
COHC	**Cochancay**	**0.89**	**71**	Pn	**Pn**	**13 26 35.0**	**+0.9**
COHC	**Cochancay**	**0.89**	**71**	P	**Pn**	**13 26 34.0**	**-0.1**
ALIBE	**La Libertad**	**0.92**	**304**	P	**Pn**	**13 26 35.0**	**+0.6**
ACUE	**Ecuador-Cuenca**	**1.14**	**97**	P	**Pn**	**13 26 40.0**	**+2.1**
PPLP	**Puerto Lpez**	**1.39**	**331**	P	**Pn**	**13 26 40.0**	**-1.0**
AMCR	**Ecuador-Macara**	**1.60**	**175**	P	**Pn**	**13 26 45.0**	**+1.0**
MCRA	**Macar, Loja**	**1.60**	**175**	Pn	**Pn**	**13 26 45.4**	**+1.5**
MCRA	**Macar, Loja**	**1.60**	**175**	P	**Pn**	**13 26 45.0**	**+1.0**
GONZ	**Gonzanam**	**1.62**	**155**	P	**Pn**	**13 26 47.0**	**+2.5**
BOSC	**San Juan Bosco**	**1.64**	**104**	Pn	**Pn**	**13 26 48.4**	**+3.8**
BOSC	**San Juan Bosco**	**1.64**	**104**	P	**Pn**	**13 26 48.0**	**+3.4**
CHSH	**Refugio Sur-Vo**	**1.76**	**44**	P	**Pn**	**13 26 46.0**	**-0.6**
TAMH	**Tambohuasha Ch**	**1.79**	**47**	P	**Pn**	**13 26 47.0**	**+0.1**
PORT	**Chimborazo Vol**	**1.84**	**46**		**Pn**	**13 26 48.3**	**+0.5**
PORT	**Chimborazo Vol**	**1.84**	**46**	P	**Pn**	**13 26 48.0**	**+0.2**
SANGA	**Volcan Sangay**	**1.86**	**68**	P	**Pn**	**13 26 49.0**	**+1.1**
IGUA	**Igualata**	**1.93**	**49**	P	**Pn**	**13 26 49.0**	**+0.1**
BMAS	**Trigal station**	**2.04**	**52**	P	**Pn**	**13 26 51.0**	**+0.7**
BIL2	**Estacion Bilba**	**2.05**	**51**	P	**Pn**	**13 26 52.0**	**+1.6**
ARRY	**Arrayan**	**2.06**	**53**	P	**Pn**	**13 26 51.0**	**+0.5**
BBIL	**Ulba Tungurahu**	**2.07**	**51**	P	**Pn**	**13 26 52.0**	**+1.4**
BPAT	**Tungurahua Vol**	**2.08**	**53**	P	**Pn**	**13 26 52.0**	**+1.1**
JUI6	**Juive**	**2.10**	**51**	P	**Pn**	**13 26 52.0**	**+1.0**
RETU	**Refugio**	**2.10**	**52**	P	**Pn**	**13 26 52.0**	**+0.8**
POND	**Pondoa**	**2.11**	**51**	P	**Pn**	**13 26 52.0**	**+0.7**
LOJ1	**Universidad t**	**2.11**	**125**	P	Pn	13 26 46.0	-5.1
BRUN	**Tungurahua Vol**	**2.14**	**52**	P	**Pn**	**13 26 53.0**	**+1.3**
ZUMB	**Zumba**	**2.29**	**156**	P	**Pn**	**13 26 57.0**	**+3.5**
ALAT	**Latacunga**	**2.34**	**39**	P	**Pn**	**13 26 57.0**	**+2.5**
FLF1	**Flavio Alfaro-**	**2.40**	**6**	P	**Pn**	**13 26 55.0**	**0.0**
PUYO	**Puyo, Santa Ro**	**2.42**	**59**	P	**Pn**	**13 26 59.0**	**+3.7**
ILLI	**Illinizas Sur**	**2.45**	**34**	P	**Pn**	**13 26 58.0**	**+2.0**
APUY	**Puyo**	**2.46**	**58**	P	**Pn**	**13 27 00.0**	**+4.1**
JAMA	**Jama**	**2.49**	**357**	P	**Pn**	**13 26 55.0**	**-1.2**
PAST	**Pastocalle**	**2.52**	**35**	P	**Pn**	**13 26 59.0**	**+2.1**
PIAT	**Ana Tenorio**	**2.54**	**46**	P	**Pn**	**13 27 00.0**	**+2.9**
APSY	**Ecuador-Napo A**	**2.55**	**46**	P	**Pn**	**13 27 00.0**	**+2.7**
VCES	**Cotopaxi**	**2.58**	**41**	P	**Pn**	**13 27 01.0**	**+3.1**
BMOR	**Cotopaxi Volca**	**2.60**	**39**	P	**Pn**	**13 27 01.0**	**+2.9**
CAMI	**Rancho Maria**	**2.61**	**37**	P	**Pn**	**13 27 01.0**	**+2.8**
BNAS	**Cotopaxi Volca**	**2.63**	**38**	P	**Pn**	**13 27 02.0**	**+3.0**
BREF	**Cotopaxi Volca**	**2.66**	**38**	P	**Pn**	**13 27 02.0**	**+3.0**
NAS2	**Nasa**	**2.66**	**38**	P	**Pn**	**13 27 02.0**	**+3.1**
ASDO	**Santo Domingo**	**2.67**	**21**	P	**Pn**	**13 26 58.0**	**-0.6**
BTAM	**Cotopaxi Volca**	**2.68**	**39**	P	**Pn**	**13 27 02.0**	**+2.8**
BVC2	**Cotopaxi Volca**	**2.68**	**39**	P	**Pn**	**13 27 02.0**	**+2.7**
TAMB	**Tambo**	**2.68**	**40**	P	**Pn**	**13 27 02.0**	**+2.7**
MAG1	**Magdalena**	**2.69**	**7**	P	**Pn**	**13 26 59.0**	**0.0**
VC1	**Cotopaxi 1**	**2.70**	**39**	P	**Pn**	**13 27 03.0**	**+3.5**
PITA	**Cotopaxi Volc**	**2.75**	**37**	P	**Pn**	**13 27 03.0**	**+2.9**
ARDO	**Archidona, Ten**	**2.89**	**53**	P	**P

BARC Barichara 11.57 37 eP Pn 13 29 06.8 +5.6
UPA Univ. de Panam 11.68 3 eP Pn 13 29 06.5 +4.2
BCIP Isla Barro Col 11.86 1 Pn Pn 13 29 01.4 -3.3
BCIP Isla Barro Col 11.86 1 eP Pn 13 29 10.9 +6.1
RIOS Rincon, Osa 11.89 343 Pn Pn 13 29 06.0 +0.8
DRK0 Durika 12.35 345 Pn 13 29 12.3 +0.6
SRBA San Rafael, Bu 12.35 345 Pn 13 29 13.4 +1.7
OCAC Ocana 12.85 32 Pn Pn 13 29 16.3 -2.2
RIMA Rio Macho 13.00 343 Pn 13 29 16.7 -3.9
SJCC San Jacinto, C 13.50 21 Pn Pn 13 29 23.9 -3.4
SJCC San Jacinto, C 13.50 21 eP Pn 13 29 28.4 +1.2
JTS Las Juntas de 13.84 340 Pn Pn 13 29 33.7 +1.7
comp=Z,0.4nm,0.3s,baz=210,slow=6.5,SNR=8.8
JTS Las Juntas de 13.84 340 Pn Pn 13 29 33.4 +1.5
ORTG Ortega, Santa 14.09 338 Pn Pn 13 29 35.7 +0.3
SDV Santo Domingo 14.93 39 Pn Pn 13 29 47.0 +0.1
comp=Z,1.7nm,0.3s,baz=137,slow=3.3,SNR=10
SDV Lg Lg 13 33 57.1
comp=Z,0.1nm,0.3s,baz=150,slow=20,SNR=1.8
SDV LR LR 13 36 31.5
comp=Z,616nm,20.8s,baz=220,slow=42
SDV Santo Domingo 14.93 39 Pn Pn 13 29 45.7 -1.2
SDV Santo Domingo 14.93 39 eP Pn 13 29 46.1 -0.7
SDV Santo Domingo 14.93 39 eP Pn 13 29 47.2 +0.3
ETMB Extrema 15.46 118 eP Pn 13 29 49.5 -4.3
ACON Acoyapa 15.48 341 Pn Pn 13 29 51.0 -2.9
ACON IAmb IAmb 13 30 13.0
comp=Z,48nm,1.2s
BOAB BOACO BROADBAN 16.10 340 Pn Pn 13 29 59.1 -2.8
BOAB IAmb IAmb 13 30 20.7
comp=Z,158nm,1.5s
MATN Matagalpa 16.63 340 Pn 13 30 06.8 -1.9
BAUV El Baul 16.72 46 Pn 13 30 08.2 -1.6
BAUV IAmb IAmb 13 30 24.6
comp=Z,48nm,1.1s
LPAZ La Paz 17.86 140 P Pn 13 30 24.8 +0.2
comp=Z,0.3nm,0.3s,baz=334,slow=15,SNR=26
LPAZ La Paz 17.86 140 Pn 13 30 23.6 -1.0
LPAZ La Paz 17.86 140 eP Pn 13 30 23.5 -1.1
TGUH Tegucigalpa,Un 18.17 337 Pn 13 30 26.6 -1.2
TGUH IAmb IAmb 13 30 52.5
comp=Z,50nm,1.0s
PB12 IPOC Station P 18.43 149 Pn 13 30 31.8 +0.8
PB16 IPOC Station P 18.63 147 P Pn 13 30 34.8 +0.9
PB16 IAmb IAmb 13 30 40.4
comp=Z,36nm,0.9s
BIRV Birongo 19.04 46 P P 13 30 35.3 -2.0
BIRV IAmb IAmb 13 30 58.8
comp=Z,60nm,1.0s
MTO3 Montecristo 19.37 332 Pn 13 30 42.7 +0.3
MTO3 IAmb IAmb 13 31 12.0
comp=Z,40nm,1.2s
MACA Manacapuru-AM 19.39 92 eP P 13 30 40.4 -0.8
PB11 IPOC Station P 19.73 150 P 13 30 43.2 -1.8
PB11 IAmb IAmb 13 31 09.2
comp=Z,30nm,0.8s
GO01 Chusmiza 19.89 148 P P 13 30 47.0 -0.1
GO01 IAmb IAmb 13 30 57.9
comp=Z,71nm,1.2s
TA02 Huaiquique 19.93 152 P P 13 30 46.1 -0.9
TA02 IAmb IAmb 13 30 57.5
comp=Z,64nm,1.1s
TA01 Diego Aracena 20.16 152 P P 13 30 49.9 +0.4
TA01 IAmb IAmb 13 31 09.7
comp=Z,30nm,1.0s
BOAV Boa Vista 20.22 75 eP P 13 30 50.6 +0.2
PB08 IPOC Station P 20.30 149 P P 13 30 51.9 +0.4
PB02 IPOC Station P 20.94 153 P P 13 30 59.9 +1.7
PB02 IAmb IAmb 13 31 13.3
comp=Z,38nm,0.9s
PB07 IPOC Station P 21.30 153 P P 13 31 01.4 -0.7
PB07 IAmb IAmb 13 31 12.0
comp=Z,42nm,0.9s
FSCY Frank Sound, G 21.96 357 P P 13 31 07.9 -1.0
VILB Vilhena 22.13 118 eP P 13 31 10.8 -0.1
LVC Limon Verde 22.51 152 P P 13 31 15.2 -0.1
comp=Z,6.0nm,0.6s,baz=10,slow=5.4,SNR=7.0
LVC Limon Verde 22.51 152 P P 13 31 15.9 +0.6
LVC IAmb IAmb 13 31 40.4
comp=Z,47nm,0.9s
LVC Limon Verde 22.51 152 eP P 13 31 15.7 +0.4
SIV San Ignacio 22.88 126 P P 13 31 18.2 -0.6
comp=Z,10nm,0.7s,baz=295,slow=9.3,SNR=22
PTLB Pontes e Lacer 24.19 123 eP P 13 31 31.8 +0.3
ITTB Itaituba 24.36 94 eP P 13 31 31.9 -1.3
CMIG Matias Romero 24.54 324 P P 13 31 34.3 -0.4
comp=Z,10nm,1.0s,baz=146,slow=6.3,SNR=8.5
PDRB Porto dos Gac 24.77 112 eP P 13 31 36.0 -0.8
PDPR Patillas Dam, 24.87 33 P P 13 31 37.1 -0.5
SJG San Juan 24.88 33 P P 13 31 37.1 -0.6
comp=Z,10nm,0.4s,baz=223,slow=9.6,SNR=3.8
SJG LR LR 13 43 06.7
comp=Z,108nm,19.0s,baz=230,slow=41
SJG San Juan 24.88 33 P P 13 31 37.1 -0.6
NPGB Novo Progresso 25.00 101 eP P 13 31 37.6 -1.4
GCPR Guaynabo City 25.08 33 P P 13 31 38.9 -0.6
CBYP Canovanas 25.17 33 P P 13 31 40.8 +0.4
CLDB Colider 25.41 110 eP P 13 31 41.7 -1.0
MALB Monte Alegre 25.82 89 eP P 13 31 45.6 -0.7
AC02 Maricunga 26.14 157 P P 13 31 50.7 +1.0
NBRS Nobres 26.61 117 eP P 13 31 53.5 0.0
SALV Santo Antonio 27.34 120 eP P 13 32 00.6 +0.6
MCPB Macapa, AP 28.12 86 eP P 13 32 06.3 -0.8
MDP Montagnes des 28.51 74 P P 13 32 09.0 -1.6
comp=Z,11nm,0.9s,baz=253,slow=7.9,SNR=7.3
MDP LR LR 13 43 43.2
comp=Z,416nm,18.2s,baz=268,slow=37
PP1B Ponte de Pedra 28.80 123 eP P 13 32 13.6 +0.5
AQDB Aquidauana 29.59 128 P P 13 32 19.8 -0.3
AQDB Aquidauana 29.59 128 eP P 13 32 20.1 0.0
SNDB Serra Nova Dou 29.96 109 eP P 13 32 22.8 -0.5
PRPB Parauapebas 30.37 97 eP P 13 32 25.6 -1.5
TMAB Tom-Au,PA,Br 31.97 90 eP P 13 32 41.1 0.0
CPUP Villa Florida 32.04 139 P P 13 32 40.8 -0.7
comp=Z,1.3nm,0.7s,baz=17,slow=17,SNR=3.7
CPUP LR LR 13 47 27.0
comp=Z,172nm,19.5s,baz=316,slow=40
CPUP Villa Florida 32.04 139 P P 13 32 40.9 -0.7
PEXB Peixe 32.82 108 eP P 13 32 48.1 -0.5
SMTB Santa Maria do 32.88 102 eP P 13 32 48.9 -0.3
BDFB Brasilia 34.08 114 P P 13 32 57.8 -1.9
comp=Z,7.3nm,0.8s,baz=240,slow=8.3,SNR=5.8
BDFB LR LR 13 48 22.1
comp=Z,370nm,18.7s,baz=320,slow=39
BDFB Brasilia 34.08 114 P P 13 32 58.1 -1.6
BDFB IAmb IAmb 13 33 22.0
comp=Z,17nm,1.1s
TIGA Tifton 34.18 355 P P 13 32 59.5 -0.6
baz=174
IPMB Ipameri, GO 34.72 118 eP P 13 33 03.3 -1.9
PTGB Pitanga 34.73 131 eP P 13 33 04.3 -0.9
FRBT Francisco Belt 34.74 134 eP P 13 33 02.9 -2.3
833A Chaparral WMA, 36.05 330 P P 13 33 15.7 -0.6
baz=146
GOGA Godfrey 36.12 355 P P 13 33 16.1 -0.8
baz=174
SDBA SAO DESIDERIO 36.13 107 eP P 13 33 16.2 -1.1
ITAB Concordia 36.16 135 eP P 13 33 16.8 -0.6
LRAL Lakeview Retre 36.20 350 P P 13 33 17.6 +0.1
LRAL IAmb IAmb 13 33 18.4
comp=Z,10nm,1.0s
LRAL Lakeview Retre 36.20 350 P P 13 33 17.1 -0.5
baz=168
CPSB Cacapava Do Su 37.31 140 eP P 13 33 26.4 -0.7
JANB Januaria 37.32 111 eP P 13 33 26.1 -1.4
KMSC Kings Mountain 37.73 358 P P 13 33 30.1 -0.4
baz=178
JCT Junction City 38.04 332 P P 13 33 33.6 +0.4
JCT IAmb IAmb 13 33 48.3
comp=Z,13nm,0.9s
JCT Junction City 38.04 332 P P 13 33 33.7 +0.4
baz=147
PLTB Pedras Altas 38.13 142 P P 13 33 34.2 +0.1
PLTB Pedras Altas 38.13 142 eP P 13 33 34.4 +0.3
CPCT Cooper Cave 38.24 354 P P 13 33 33.2 -1.7
WHTX Lake Whitney, 38.30 336 P P 13 33 36.0 +0.7
WHTX IAmb IAmb 13 33 40.3
comp=Z,12nm,0.7s
WHTX Lake Whitney, 38.30 336 P P 13 33 35.9 +0.5
baz=151
TKL Tuckaleechee C 38.38 355 LR LR 13 48 33.6
comp=Z,196nm,21.5s,baz=170,slow=35
PLCA Paso Flores 38.77 168 P P 13 33 40.8 +1.4
comp=Z,0.8nm,0.5s,baz=4.4,slow=16,SNR=1.5
PLCA LR LR 13 48 36.5
comp=Z,58nm,18.3s,baz=358,slow=35
PLCA Paso Flores 38.77 168 P P 13 33 40.2 +0.8
BSCB Bom Sucesso 38.87 121 eP P 13 33 39.2 -1.2
DIAM Diamantina, MG 38.87 116 eP P 13 33 39.4 -1.2
X40A Basin Creek Fa 38.95 343 P P 13 33 41.6 +0.9
baz=159
TXAR Lajitas Array 39.10 326 P P 13 33 42.6 +0.3
comp=Z,1.2nm,0.8s,baz=148,slow=9.9,SNR=11
TXAR PcP PcP 13 35 52.1 +0.3
comp=Z,1.1nm,0.7s,baz=150,slow=5.6,SNR=4.5
TXAR LR LR 13 48 52.3
comp=Z,51nm,20.1s,baz=132,slow=35
TXAR Lajitas Array 39.10 326 P P 13 33 43.4 +1.1
TXAR PcP PcP 13 35 52.1 +0.3
TX31 Lajitas Ar. Si 39.10 326 P P 13 33 43.4 +1.1
TX31 IAmb IAmb 13 33 58.5
comp=Z,12nm,1.2s
TX32 Lajitas Array 39.10 326 P P 13 33 43.1 +0.8
TX32 PcP PcP 13 35 51.9 +0.1
PARB Paraibuna 39.13 124 eP P 13 33 41.5 -1.1
MIAR Mount Ida 39.22 342 P P 13 33 43.6 +0.5
MIAR Mount Ida 39.22 342 P P 13 33 42.9 -0.2
baz=158
TZTN Tazewell 39.24 356 P P 13 33 43.3 +0.1
baz=174
WVT Waverly 39.36 350 P P 13 33 43.2 -1.1
baz=168
Z35A Perchaven, San 39.39 337 P P 13 33 46.0 +1.4
Z35A IAmb IAmb 13 33 59.1
comp=Z,25nm,1.1s
W41B Gary Mavity, V 39.42 344 P P 13 33 45.8 +1.0
W41B IAmb IAmb 13 34 08.3
comp=Z,8.5nm,0.9s
W41B Gary Mavity, V 39.42 344 P P 13 33 44.6 -0.1
baz=161
WHAR Wooly Hollow 39.55 344 P P 13 33 45.8 0.0
WHAR IAmb IAmb 13 33 46.7
comp=Z,9.6nm,0.9s
ABTX Abilene, Hawle 39.77 334 P P 13 33 49.2 +1.4
ABTX IAmb IAmb 13 33 53.4
comp=Z,11nm,0.8s
ABTX Abilene, Hawle 39.77 334 P P 13 33 47.2 -0.5
baz=148
BLA Blacksburg 39.77 360 P P 13 33 47.6 -0.2
baz=179
W39A Magazine 39.89 342 P P 13 33 49.9 +1.3
W39A IAmb IAmb 13 33 51.0
comp=Z,12nm,0.8s
W39A Magazine 39.89 342 P P 13 33 49.4 +0.8
baz=158,SNR=7.3
LCAR Lake Charles 39.99 346 P P 13 33 49.4 -0.1
LCAR IAmb IAmb 13 34 16.6
comp=Z,8.4nm,0.8s
FCAR Ozark Folk Cen 40.07 345 P P 13 33 50.0 -0.1
U40A Yellville 40.70 344 P P 13 33 55.6 +0.2
U40A IAmb IAmb 13 33 56.6
comp=Z,14nm,0.9s
U40A Yellville 40.70 344 P P 13 33 54.9 -0.5
baz=160,SNR=9.8
HHAR Hobbs 40.94 343 P P 13 33 58.1 +0.8
TUL1 Leonard 41.18 341 P P 13 34 00.1 +0.8
TUL1 Leonard 41.18 341 P P 13 33 59.8 +0.5
baz=156
WMOK Wichita Mounta 41.23 336 P P 13 33 59.0 -0.8
baz=151,SNR=8.2
SJMB Sao Joao De Ma 41.24 115 eP P 13 33 58.8 -1.3
BSFB Barra de Sao F 41.58 115 eP P 13 34 01.2 -1.7
MNTX Cornudas Mount 41.86 327 P P 13 34 05.5 +0.5
MNTX Cornudas Mount 41.86 327 P P 13 34 04.6 -0.4
baz=140,SNR=8.6
CMC01 Camacan, BA 41.88 110 eP P 13 34 04.0 -1.4
GUA01 Guaratinga, BA 41.91 112 eP P 13 34 04.5 -1.1
CCM Cathedral Cave 41.91 347 P P 13 34 04.2 -1.0
baz=163
NAN01 Guarapari, ES 41.95 114 eP P 13 34 05.2 -0.7
RIB01 Linhares ES 42.13 116 eP P 13 34 05.9 -1.5
P52A Corning 42.23 358 P P 13 34 07.6 -0.2
baz=177
T35A Sooner Cattle 42.33 340 P P 13 34 09.9 +1.2
AMTX Amarillo 42.58 333 P P 13 34 11.7 +0.7
AMTX IAmb IAmb 13 34 36.4
comp=Z,14nm,0.9s
AMTX Amarillo 42.58 333 P P 13 34 10.6 -0.3
baz=147
NBLA Lagarto - SE 42.74 103 eP P 13 34 10.2 -2.2
O48B Farmland 43.06 354 P P 13 34 13.8 -0.8
baz=172
SSPA Standing Stone 43.24 2 P P 13 34 15.7 -0.4
baz=183
N58A Sunbury 43.51 4 P P 13 34 17.2 -0.9
N58A IAmb IAmb 13 34 38.9
comp=Z,15nm,1.1s
121A Cookes Peak, D 43.83 325 P P 13 34 22.6 +1.5
121A IAmb IAmb 13 34 38.0
comp=Z,12nm,1.1s
121A Cookes Peak, D 43.83 325 P P 13 34 22.3 +1.2
baz=138,SNR=7.6
319A Douglas 43.86 323 P P 13 34 22.9 +1.6
319A IAmb IAmb 13 34 42.6
comp=Z,17nm,1.2s
PAL Palisades 43.92 7 P P 13 34 21.4 -0.1
baz=189
RCBR Riachuelo 44.16 95 LR LR 13 54 43.4
comp=Z,290nm,20.3s,baz=60,slow=39
KSU1 Kansas State U 44.35 342 P P 13 34 25.5 +0.5
baz=156
BNM Barren Site 44.41 328 P P 13 34 27.7 +1.8
BINY Binghamton 44.91 4 P P 13 34 29.0 -0.4
baz=186
ANMO Albuquerque 44.94 329 P P 13 34 31.1 +1.2
ANMO IAmb IAmb 13 34 59.0
comp=Z,14nm,1.0s
ANMO Albuquerque 44.94 329 P P 13 34 31.2 +1.2
baz=141
CBKS Cedar Bluff 45.17 338 P P 13 34 32.9 +1.3
baz=152
TUC Tucson 45.42 323 P P 13 34 34.9 +1.2
TUC Tucson 45.42 323 P P 13 34 34.1 +0.3
baz=134
L61B Northampton 45.50 8 P P 13 34 33.9 -0.2
baz=190
T25A Trinidad 45.69 333 P P 13 34 35.9 0.0
baz=145
HRV Adam Dziewonsk 45.72 9 P P 13 34 35.4 -0.4
baz=192
214A Organ Pipe Nat 46.44 321 P P 13 34 42.6 +0.9
baz=132
KSCO Kaye Shedlock' 46.47 336 P P 13 34 41.6 -0.3
baz=148
X18A Snowflake 46.52 325 P P 13 34 43.9 +1.4
SDCO Great Sand Dun 46.69 332 P P 13 34 45.1 +1.2
SDCO Great Sand Dun 46.69 332 P P 13 34 44.2 +0.3
baz=144,SNR=14
W18A Petrified Fore 46.83 326 P P 13 34 45.7 +0.8
baz=137,SNR=5.3
S22A 4UR Ranch, Cre 47.32 331 P P 13 34 48.8 0.0
baz=142
SADO Sadowa 47.33 1 LR LR 13 55 33.1
comp=Z,56nm,22.0s,baz=179,slow=37
LBNH Lisbon 47.36 8 P P 13 34 48.4 -0.2
baz=191
LONY Lake Ozonia 47.43 5 P P 13 34 48.1 -1.1
baz=187
Q24A Divide 47.51 333 P P 13 34 50.3 0.0
baz=145
MVCO Mesa Verde 47.73 329 P P 13 34 51.8 -0.1
baz=140
WUAZ Wupatki 48.03 325 P P 13 34 55.7 +1.4
WUAZ Wupatki 48.03 325 P P 13 34 55.1 +0.8
baz=136,SNR=11
K31A O'Neill 48.23 342 P P 13 34 56.6 +1.1
ISCO Idaho Springs 48.40 334 P P 13 34 58.2 +1.0
ISCO Idaho Springs 48.40 334 P P 13 34 57.6 +0.4
baz=145
GLA Glamis 48.44 320 P P 13 34 58.0 +0.7
baz=130
G62A West of Eustis 48.53 9 P P 13 34 57.7 0.0
G62A pP pP 13 35 10.5 +2.4
ECSD EROS Data Cent 48.61 344 P P 13 34 57.4 -1.0
ECSD IAmb IAmb 13 35 13.7
comp=Z,12nm,1.0s
ECSD EROS Data Cent 48.61 344 P P 13 34 58.0 -0.4
baz=158
PV13 Radium Mtn., P 48.62 330 P P 13 34 60.0 +1.1
PV07 Paradox Valley 48.75 330 P P 13 35 00.7 +0.9
PV07 IAmb IAmb 13 35 22.0
comp=Z,8.3nm,0.9s
PKME Peaks-Kenny Pk 48.78 10 P P 13 34 59.0 -0.6
baz=194
BC3 Big Chuckawall 49.23 320 P P 13 35 04.4 +1.0
baz=130
IRM Iron Mountain 49.36 321 P P 13 35 04.6 +0.3
baz=131,SNR=6.9
BELC Belle Mtn. Jos 49.80 320 P P 13 35 06.9 -0.9
baz=130
TPFO Pinon Flats 49.84 320 P P 13 35 08.8 +0.7
baz=129
PFO Pinyon Flats O 49.85 320 P P 13 35 09.1 +1.0
comp=Z,1.8nm,0.6s,baz=187,slow=11,SNR=3.6
PFO LR LR 13 53 10.1
comp=Z,49nm,18.0s,baz=144,slow=32
PFO Pinyon Flats O 49.85 320 P P 13 35 09.2 +1.1
PFO IAmb IAmb 13 35 19.1
comp=Z,8.8nm,1.4s
PFO Pinyon Flats O 49.85 320 P P 13 35 09.2 +1.0
baz=129
O20A White River Ci 49.88 332 P P 13 35 08.9 +0.6
baz=142
GMRC Granite Mounta 50.09 321 P P 13 35 09.5 -0.5
baz=131
LCMT Little Creek M 50.16 325 P P 13 35 11.3 +0.8
LATQ La Tuque 50.35 6 P P 13 35 09.9 -1.6
LATQ pP pP 13 35 23.8 +1.8
HEC Hector,Ludlow 50.54 321 P P 13 35 14.0 +0.7
baz=130
P17A Butcher Ranch, 50.59 329 P P 13 35 14.8 +1.0
P17A IAmb IAmb 13 35 15.0
comp=Z,6.7nm,0.7s
TUQ Turquoise Moun 50.68 322 P P 13 35 15.0 +0.6
baz=131
CIS Catalina Islan 51.00 318 P P 13 35 15.6 -1.1
baz=127
BFSC Mount Baldy Ra 51.02 319 P P 13 35 17.5 +0.5
baz=128
GSC Goldstone, Bar 51.14 321 P P 13 35 18.5 +0.6
baz=130,SNR=6.0
SHOC Shoshone, Teco 51.20 322 P P 13 35 19.3 +1.1
baz=131
RSSD Black Hills 51.37 338 P P 13 35 21.9 +2.4
RSSD IAmb IAmb 13 35 34.6
comp=Z,8.2nm,0.9s
EYMN Ely 51.48 350 P P 13 35 18.2 -1.8
baz=165
EDW2 Edwards Air Fo 51.63 320 P P 13 35 22.2 +0.7
baz=128
SNCC San Nicolas Is 51.66 317 P P 13 35 22.8 +1.2
baz=126
TPNV Topopah Spring 51.87 323 P P 13 35 25.2 +1.8
TPNV IAmb IAmb 13 35 49.8
comp=Z,7.5nm,1.1s
TPNV Topopah Spring 51.87 323 P P 13 35 24.3 +0.9
baz=132,SNR=5.9
FURC Furnace Creek, 51.93 322 P P 13 35 24.3 +0.7
baz=131
MPMC Manual Prospec 52.05 321 P P 13 35 25.6 +0.8
baz=130
DUG Dugway, Tooele 52.20 328 P P 13 35 25.5 -0.3
baz=137
R11A Troy Canyon, C 52.42 325 P P 13 35 27.8 +0.3
baz=133,SNR=5.5
ISA Isabella, Lake 52.43 320 P P 13 35 27.8 +0.4
baz=128
BW06 Boulder Array 52.56 333 P P 13 35 28.5 0.0
BW06 IAmb IAmb 13 35 43.7
comp=Z,7.8nm,1.2s
BW06 Boulder Array 52.56 333 P P 13 35 28.4 -0.1
baz=142,SNR=5.2
PD31 Pinedale Array 52.56 333 P P 13 35 28.0 -0.4
PD31 IAmb IAmb 13 35 43.6
comp=Z,6.5nm,1.1s
PDAR Pinedale Array 52.56 333 P P 13 35 28.1 -0.3
comp=Z,2.4nm,0.9s,baz=139,slow=9.2,SNR=14
PDAR LR LR 13 58 28.0
comp=Z,52nm,20.0s,baz=138,slow=37
PDAR Pinedale Array 52.56 333 P P 13 35 29.1 +0.7
CWC Cottonwood Cre 52.66 321 P P 13 35 30.1 +0.8
baz=129
AGMN Agassiz Nation 52.68 347 P P 13 35 28.7 -0.3
baz=160
USHA Ushuaia 52.77 172 P P 13 35 30.5 +1.1
comp=Z,5.7nm,0.7s,baz=39,slow=21,SNR=2.0
ECR Eagle Creek 53.62 332 P P 13 35 37.6 +1.4
ELK Elko 53.89 327 LR LR 13 57 37.5
comp=Z,78nm,19.8s,baz=141,slow=35
OMMB Old Mammoth Mi 53.98 322 P P 13 35 40.4 +1.3
OMMB IAmb IAmb 13 35 41.4
comp=Z,13nm,1.1s
NVAR Mina Array Bea 54.07 323 P P 13 35 40.9 +1.2
comp=Z,3.9nm,0.7s,baz=130,slow=6.7,SNR=34
ULM Lac du Bonnet 54.53 348 P P 13 35 42.0 -0.4
comp=Z,2.6nm,0.5s,baz=189,slow=8.3,SNR=3.8
ULM Lac du Bonnet 54.53 348 P P 13 35 44.1 +1.6
YHH Holmes Hill 54.72 334 P P 13 35 46.6 +2.2
BMN Battle Mountai 54.77 326 P P 13 35 44.1 -0.4
BMN pP sP 13 35 59.0 -0.2
BMN IAmb IAmb 13 36 00.9
comp=Z,14nm,1.4s
GCMT Greycliff 55.00 335 P P 13 35 45.9 -0.3
DGMT Dagmar 55.18 341 P P 13 35 45.5 -1.7
baz=150
HLID Hailey 55.48 330 P P 13 35 51.4 +1.7
HLID Hailey 55.48 330 P P 13 35 49.3 -0.4
baz=137
BOZ Bozeman (W) 55.70 334 P P 13 35 51.4 +0.2
baz=141
MFID Camas Ranch 56.08 329 P P 13 35 55.2 +1.3
EGMT Eagleton 56.83 337 P P 13 35 58.5 -0.7
baz=144
WVOR Wild Horse Val 56.90 327 P P 13 36 00.6 +0.8
O03E Paynes Creek 57.35 323 P P 13 36 02.1 -0.9
baz=128
M04C Macdoel 58.29 324 P P 13 36 10.1 +0.5
baz=129
SCHQ Schefferville 58.44 9 P P 13 36 08.4 -1.8
comp=Z,2.9nm,0.9s,baz=253,slow=7.9,SNR=4.2
YBH Yreka Blue Hor 58.78 324 LR LR 14 01 18.9
comp=Z,61nm,18.4s,baz=131,slow=36
L04D Klamath Falls 58.84 324 P P 13 36 12.9 -0.5
baz=128
J05D Fort Rock, OR 58.90 326 P P 13 36 14.3 +0.5
baz=130
I05D Terrebonne, OR 59.63 327 P P 13 36 17.9 -0.9
baz=130
K02D Willamette Mer 59.92 324 P P 13 36 21.2 +0.3
baz=127
NEW Newport 60.19 332 LR LR 14 03 30.7
comp=Z,38nm,18.6s,baz=136,slow=37
EDM Edmonton 62.36 338 P P 13 36 36.0 -1.1
EDM pP pP 13 36 49.1 +1.2
EDM sP sP 13 36 57.6 +5.7
FRB Frobisher Bay 66.90 6 LR LR 14 06 14.4
comp=Z,29nm,21.6s,baz=212,slow=36
BBB Bella Bella 68.06 330 LR LR 14 07 55.7
comp=Z,52nm,18.3s,baz=210,slow=37
YKA Yellowknife Ar 70.14 344 P P 13 37 25.9 -0.8
comp=Z,1.7nm,0.9s,baz=136,slow=6.1,SNR=21
YKA Yellowknife Ar 70.14 344 P P 13 37 26.8 +0.1
WRAK Wrangell Islan 72.55 333 P P 13 37 40.4 -1.0
baz=124
DLBC Dease Lake 72.70 335 LR LR 14 11 35.6
comp=Z,61nm,19.7s,baz=235,slow=38
DLBC Dease Lake 72.70 335 P P 13 37 42.7 +0.4
DLBC pP sP 13 37 57.5 +0.2
DLBC IAmb IAmb 13 37 58.7
comp=Z,14nm,1.1s
DLBC sP PcP 13 38 04.8 +5.2
WRGLY Wrigley 73.37 341 P P 13 37 45.8 -0.3
baz=134
TGTN Hyland Airport 73.91 338 P P 13 37 49.4 0.0
baz=129
LIC Lamto 75.48 83 eP P 13 37 57.8 -1.6
comp=Z,38nm,2.2s
TIC Toumodi 75.52 82 eP P 13 37 59.0 -0.7
DBIC Dimbokro 75.68 82 P P 13 37 58.5 -2.0
comp=Z,1.4nm,0.7s,baz=268,slow=7.7,SNR=1.8
DBIC Dimbokro 75.68 82 P P 13 37 58.6 -2.0
DBIC IAmb IAmb 13 38 26.7
comp=Z,15nm,1.4s
MMPY Sheldon Lake, 75.69 338 P P 13 38 00.8 +1.1
baz=126
KIC Kosan Boka 75.77 83 eP P 13 38 00.2 -0.9
comp=Z,8.0nm,0.6s

M31M	**Drury Creek, Y**	**76.65**	**337**	P		**P**	**13 38 05.5**	**+0.4**
M31M				pP		**sP**	**13 38 19.8**	**-0.4**
M31M	**Drury Creek, Y**	**76.65**	**337**	P		**P**	**13 38 05.0**	**-0.1**
	baz=124							
N31M	**Braeburn, Yuko**	**76.81**	**336**	P		**P**	**13 38 04.9**	**-1.2**
	baz=122							
KOWA	**Kowa**	**77.24**	**75**	P		**P**	**13 38 07.9**	**-1.4**
KOWA				IAmb		IAmb	13 38 24.8	
	comp=Z,8.1nm,0.8s							
PNL	**Peninsula**	**77.44**	**333**	P		**P**	**13 38 10.2**	**+0.6**
	baz=118							
M30M	**Minto, Yukon**	**77.79**	**337**	P		**P**	**13 38 11.3**	**-0.2**
	baz=121,SNR=5.3							
RES	**Resolute Bay**	**77.85**	**356**	LR		LR	14 11 45.2	
	comp=Z,86nm,21.9s,baz=18,slow=35							
C36M	**Paulatuk**	**77.86**	**345**	P		**P**	**13 38 11.0**	**-0.7**
	baz=135							
YUK4	**Talbot Arm**	**77.92**	**335**	P		**P**	**13 38 12.5**	**0.0**
	baz=119							
YUK3	**Moose Creek**	**78.89**	**335**	P		**P**	**13 38 17.9**	**0.0**
	baz=118							
CTG	**Chitna Glacier**	**78.90**	**334**	P		**P**	**13 38 18.4**	**+0.6**
	baz=117							
BVCY	**Beaver Creek**	**79.36**	**336**	P		**P**	**13 38 19.4**	**-0.8**
	baz=117							
DAWY	**Dawson**	**79.56**	**337**	P		**P**	**13 38 20.8**	**-0.4**
	baz=119							
BORG	**Borgarnes**	**79.69**	**22**	LR		LR	14 10 58.8	
	comp=Z,25nm,20.1s,baz=224,slow=34							
M27K	**Edge Creek, AK**	**79.75**	**335**	P		**P**	**13 38 22.7**	**+0.2**
	baz=116							
EPYK	**Eagle Plains**	**79.77**	**340**	P		**P**	**13 38 22.4**	**+0.1**
	baz=122							
I29M	**Ogilvie Camp,**	**79.80**	**339**	P		**P**	**13 38 22.9**	**+0.4**
	baz=120							
MCARA	**McCarthy VSAT**	**79.81**	**334**	P		**P**	**13 38 23.4**	**+0.8**
	baz=115							
INK	**Inuvik**	**79.82**	**342**	LR		LR	14 15 15.1	
	comp=Z,74nm,20.4s,baz=102,slow=37							
INK	**Inuvik**	**79.82**	**342**	P		**P**	**13 38 22.2**	**-0.2**
INK				pP		**pP**	**13 38 35.8**	**+2.3**
INK	**Inuvik**	**79.82**	**342**	P		**P**	**13 38 22.0**	**-0.4**
	baz=125,SNR=6.3							
A36M	**Sachs Harbour**	**80.00**	**347**	P		**P**	**13 38 23.0**	**-0.4**
A36M	**Sachs Harbour**	**80.00**	**347**	P		**P**	**13 38 24.5**	**+1.1**
	baz=134							
BCAR	**Beaver Creek A**	**80.03**	**336**	P		**P**	**13 38 24.3**	**+0.4**
BCAR				pP		**sP**	**13 38 38.0**	**-1.0**
L27K	**Beaver Creek,**	**80.05**	**336**	P		**P**	**13 38 25.1**	**+1.1**
	baz=117							
M26K	**Nabesna, AK**	**80.24**	**335**	P		**P**	**13 38 25.0**	**0.0**
	baz=116							
BMRM	**Bremner River**	**80.34**	**333**	P		**P**	**13 38 25.4**	**-0.1**
	baz=114							
EGAK	**Eagle**	**80.57**	**338**	P		**P**	**13 38 27.3**	**+0.7**
EGAK				IAmb		IAmb	13 38 42.5	
	comp=Z,12nm,1.0s							
EGAK	**Eagle**	**80.57**	**338**	P		**P**	**13 38 26.4**	**-0.2**
	baz=118							
L26K	**Log Cabin Wild**	**80.66**	**336**	P		**P**	**13 38 26.9**	**-0.3**
	baz=115							
ESDC	**Sonseca Array**	**81.12**	**49**	P		**P**	**13 38 29.6**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=244,slow=6.5,SNR=4.4							
ESDC				LR		LR	14 09 27.8	
	comp=Z,23nm,21.7s,baz=257,slow=32							
ESDC	**Sonseca Array**	**81.12**	**49**	P		**P**	**13 38 31.2**	**+1.0**
KLU	**Klutina**	**81.13**	**334**	P		**P**	**13 38 28.4**	**-1.4**
	baz=113							
SCRK	**Sand Creek**	**81.32**	**336**	P		**P**	**13 38 30.5**	**-0.3**
	baz=115							
J26L	**Joseph Creek**	**81.38**	**337**	P		**P**	**13 38 30.8**	**-0.3**
	baz=115							
GLI	**Glacier Island**	**81.43**	**333**	P		**P**	**13 38 31.6**	**+0.3**
	baz=112							
M24K	**Tolsona, Glenn**	**81.48**	**334**	P		**P**	**13 38 32.1**	**+0.5**
	baz=112							
PAX	**Paxson**	**81.52**	**335**	P		**P**	**13 38 32.3**	**+0.5**
	baz=113							
RIDG	**Independent Ri**	**81.57**	**336**	P		**P**	**13 38 32.6**	**+0.5**
	baz=114							
SCM	**Sheep Creek Mo**	**81.88**	**334**	P		**P**	**13 38 33.0**	**-0.8**
	baz=111							
K24K	**Donnelly Dome**	**81.97**	**336**	P		**P**	**13 38 34.0**	**-0.1**
	baz=113							
PWL	**Port Wells**	**81.98**	**333**	P		**P**	**13 38 33.0**	**-1.2**
	baz=110							
M23K	**Glacier View**	**82.04**	**334**	P		**P**	**13 38 34.1**	**-0.5**
	baz=111							
J25K	**Salcha River,**	**82.13**	**337**	P		**P**	**13 38 34.5**	**-0.5**
	baz=114							
KNK	**Knik Glacier**	**82.23**	**333**	P		**P**	**13 38 35.7**	**+0.2**
	baz=110							
SML	**Sawmill**	**82.32**	**334**	P		**P**	**13 38 34.8**	**-1.2**
	baz=110							
WAT6	**Susitna Watana**	**82.33**	**334**	P		**P**	**13 38 35.6**	**-0.6**
	baz=111							
TOA0	**Torodi Ar. Sit**	**82.64**	**76**	P		**P**	**13 38 38.4**	**-0.1**
TOA0				IAmb		IAmb	13 38 53.3	
	comp=Z,14nm,1.5s							
TORD	**Torodi Ar. Bea**	**82.64**	**76**	P		**P**	**13 38 37.5**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=274,slow=7.3,SNR=7.9							
TORD	**Torodi Ar. Bea**	**82.64**	**76**	P		**P**	**13 38 39.7**	**+1.1**
BRSE	**Bradley Lake S**	**82.74**	**331**	P		**P**	**13 38 38.3**	**0.0**
	baz=108							
WAT1	**Susitna Watana**	**82.77**	**335**	P		**P**	**13 38 37.9**	**-0.4**
	baz=110							
IL31		**82.80**	**337**	P		**P**	**13 38 38.4**	**+0.1**
ILAR	**Eielson Array**	**82.80**	**337**	P		**P**	**13 38 37.3**	**-1.1**
	comp=Z,1.4nm,1.0s,baz=148,slow=4.0,SNR=8.2							
ILAR				PP		**PP**	**13 41 50.6**	**+1.8**
	comp=Z,1.0nm,0.9s,baz=97,slow=8.1,SNR=5.1							
ILAR	**Eielson Array**	**82.80**	**337**	P		**P**	**13 38 36.9**	**-1.5**
BMAR	**Burnt Mountain**	**83.00**	**339**	P		**P**	**13 38 39.9**	**+0.4**
KDAK	**Kodiak Island**	**83.08**	**329**	LR		LR	14 15 17.6	
	comp=Z,48nm,18.2s,baz=122,slow=36							
RND	**Reindeer**	**83.10**	**335**	P		**P**	**13 38 39.4**	**-0.7**
RND				pP		**sP**	**13 38 54.7**	**-0.4**
RND				IAmb		IAmb	13 38 55.5	
	comp=Z,7.3nm,0.8s							
MCK	**McKinley**	**83.25**	**335**	P		**P**	**13 38 41.2**	**+0.4**
	baz=110							
CUT	**Chulitna**	**83.38**	**334**	P		**P**	**13 38 41.7**	**+0.3**
	baz=109							
SNAA	**Sanae**	**83.39**	**162**	P		**P**	**13 38 42.0**	**+0.5**
SNAA				IAmb		IAmb	13 39 03.6	
	comp=Z,8.7nm,1.0s							
H24K	**Noodor Dome**	**83.58**	**337**	P		**P**	**13 38 41.8**	**-0.7**
	baz=111							
NEA2	**Nenana**	**83.61**	**336**	P		**P**	**13 38 42.4**	**-0.1**
	baz=110							
I23K	**Minto, Yukon-K**	**83.92**	**337**	P		**P**	**13 38 44.3**	**+0.2**
	baz=110							
H23K	**Yukon River**	**84.22**	**337**	P		**P**	**13 38 44.8**	**-0.9**
	baz=110							
BPAW	**Bear Paw Mtn.**	**84.23**	**335**	P		**P**	**13 38 45.2**	**-0.6**
	baz=108							
PPLA	**Purkeypile**	**84.37**	**334**	P		**P**	**13 38 45.9**	**-0.8**
	baz=107							
CAST	**Castle Rocks**	**84.48**	**335**	P		**P**	**13 38 46.5**	**-0.6**
	baz=107							
CHUM	**Lake Minchumin**	**84.72**	**335**	P		**P**	**13 38 46.2**	**-2.0**
	baz=107							
N19K	**Bonanza Creek**	**84.84**	**332**	P		**P**	**13 38 46.9**	**-2.2**
	baz=105							
EKA	**Eskdalemuir Ar**	**84.85**	**34**	P		**P**	**13 38 47.9**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=258,slow=4.2,SNR=4.1							
COLD	**Coldfoot**	**84.94**	**338**	P		**P**	**13 38 47.6**	**-1.7**
	baz=109							
I21K	**Tanana**	**84.97**	**336**	P		**P**	**13 38 48.6**	**-0.9**
	baz=108							
L20K	**Farewell, AK**	**85.00**	**333**	P		**P**	**13 38 48.4**	**-1.3**
	baz=106							
TOLK	**Toolik Lake Re**	**85.20**	**340**	P		**P**	**13 38 50.9**	**+0.3**
	baz=110							
K20K	**Telida**	**85.32**	**334**	P		**P**	**13 38 51.2**	**-0.1**
	baz=106							
N18K	**Kilae Creek**	**85.47**	**331**	P		**P**	**13 38 50.8**	**-1.3**
	baz=104							
DAG	**Danmarks Havn**	**86.37**	**12**	*i* P		P	13 39 09.0	+13
QSPA	**South Pole Qui**	**87.31**	**180**	P		**P**	**13 39 03.1**	**+2.0**
TNA	**Tin City**	**91.60**	**335**	P		**P**	**13 39 20.8**	**-0.3**
	baz=93							
DAVOX	**Davos/Dischmat**	**91.97**	**43**	LR		LR	14 16 59.0	
	comp=Z,23nm,21.1s,baz=260,slow=33							
VNDA	**Vanda**	**93.18**	**191**	P		**P**	**13 39 29.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=71,slow=7.0,SNR=1.8							
VNDA	**Vanda**	**93.18**	**191**	P		**P**	**13 39 29.8**	**+1.5**

SPITS	**Spitsbergen Ar**	**94.02**	**12**	LR		LR	14 24 10.0	
	comp=Z,27nm,18.7s,baz=36,slow=37							
TSUM	**Tsumeb**	**96.34**	**110**	LR		LR	14 21 00.9	
	comp=Z,79nm,20.6s,baz=322,slow=34							
SUR	**Sutherland**	**97.72**	**123**	LR		LR	14 21 46.0	
	comp=Z,56nm,19.3s,baz=260,slow=34							
FINES	**FINESS Array B**	**100.12**	**28**	LR		LR	14 20 41.8	
	comp=Z,42nm,20.5s,baz=244,slow=33							
ZALV	**Zalesovo Beam**	**127.50**	**11**	PKP		**PKPdf**	**13 45 19.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=264,slow=3.0,SNR=5.0							
ZALV	**Zalesovo Beam**	**127.50**	**11**			**PKPdf**	**13 45 20.0**	**+0.7**
KURK	**Kurchatov**	**128.95**	**17**			**PKiKP**	**13 45 25.8**	**+2.9**
KURBB	**Kurchatov Arra**	**129.00**	**17**	PKP		**PKPdf**	**13 45 22.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=331,slow=2.3,SNR=8.9							
MKAR	**Makanchi Array**	**133.54**	**17**	PKP		**PKPdf**	**13 45 28.6**	**-2.5**
	comp=Z,0.2nm,0.6s,baz=352,slow=1.7,SNR=2.0							
MKAR	**Makanchi Array**	**133.54**	**17**			**PKPdf**	**13 45 32.0**	**+0.9**
SONM	**Songino Array**	**134.75**	**354**	PKP		**PKPdf**	**13 45 32.7**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=355,slow=2.2,SNR=2.0							
KSRS	**Korea Array**	**136.95**	**327**	PKP		**PKPdf**	**13 45 35.7**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=29,slow=2.8,SNR=2.0							
KSH	**Kashi**	**137.44**	**28**	PKP		**PKPdf**	**13 45 39.5**	**+0.8**
ASAR	**Alice Springs**	**137.75**	**230**	PKhKP		PKPpre	13 45 30.5	
	comp=Z,0.6nm,1.0s,baz=120,slow=3.7,SNR=6.9							
ASAR				PKP		**PKPdf**	**13 45 38.5**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=103,slow=1.6,SNR=14							
ASAR	**Alice Springs**	**137.75**	**230**			**PKPdf**	**13 45 38.2**	**-1.5**
WRA	**Warramunga Arr**	**139.36**	**235**	PKP		**PKPdf**	**13 45 41.7**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=111,slow=2.2,SNR=12							
WRA	**Warramunga Arr**	**139.36**	**235**			**PKPdf**	**13 45 42.7**	**+0.1**
LYN	**LuoYang**	**146.28**	**341**	⇑PKPbc		PKiKP	13 46 10.4	+12
LYN				PP		**PP**	**13 49 19.3**	**+2.6**
XAN	**Xi'an**	**147.77**	**346**	PKPbc		**PKPbc**	**13 46 00.3**	**+0.4**
XAN				pPKP		pPKPdf	13 46 09.9	+1.4
XAN				sPKP			13 46 15.3	
CD2	**Chengdu**	**151.77**	**353**	PKPbc		**PKPdf**	**13 46 00.5**	**-3.0**
CMAR	**Chiang Mai Arr**	**164.38**	**3**	PKP		**PKPdf**	**13 46 17.7**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=356,slow=2.7,SNR=1.7							
CMAR				PKPab		**PKPab**	**13 47 11.4**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=333,slow=5.1,SNR=1.6							
CMAR	**Chiang Mai Arr**	**164.38**	**3**	PKPdf		**PKPdf**	**13 46 15.7**	**-3.3**
CMAR						**PKPab**	**13 47 09.7**	**-3.4**

*IDC **22** 13:36:05.4±1.0, 0°.20N×80°.65W, h0km, mb3.7/7, mb1 4.1/9, mb1mx3.8/46, mbtmp3.9/9, ML3.2/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/66, Error ellipse: s-maj=41.1km s-min=19.7km az=66.0*

*IGQ **22** 13:36:05±0.5, 0°.N±3°×8°.1W±°, h5km*

*NEIC **22** 13:36:07.9±2.9, 0°.27N±0°.07×80°.33W±0°.07, h10km±1km, mb4.4/12, Error ellipse: s-maj=15.2km s-min=6.0km az=313.0*

ISC 22 13:36:06.7±0.5, 0°.20N±0°.03×80°.37W±0°.06, h10km, n88, σ1§65/87, mb4.1/10, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.48**	**160**	P		**Pg**	**Pg**	**13 36 16.0**	**-0.2**
JAMA				S		**Sb**	**Sb**	**13 36 25.0**	**+0.4**
MAG1	**Magdalena**	**0.66**	**114**	P		**Pb**	**Pb**	**13 36 20.0**	**-0.3**
FLF1	**Flavio Alfaro-**	**0.76**	**136**	P		**Pb**	**Pb**	**13 36 22.0**	**-0.1**
AMA1	**Acelerografo,**	**0.98**	**41**	P		**Pg**	**Pg**	**13 36 25.0**	**-0.6**
BV15	**Puerto Quito-O**	**1.15**	**92**	S		**Sn**	**Sn**	**13 36 46.0**	**+1.3**
BV15				P		**Pb**	**Pb**	**13 36 27.0**	**-1.7**
PAC1	**Pacto, Paraso**	**1.58**	**88**	*eP*		**Pn**	**Pn**	**13 36 33.9**	**-1.1**
PAC1	**Pacto, Paraso**	**1.58**	**88**	P		**Pn**	**Pn**	**13 36 34.0**	**-1.0**
ACHO	**Acelerografo,**	**1.60**	**88**	P		**Pn**	**Pn**	**13 36 34.0**	**-1.2**
HPAL	**Hacienda Las P**	**1.77**	**103**	P		**Pn**	**Pn**	**13 36 36.0**	**-1.7**
PPLP	**Puerto Lpez**	**1.78**	**193**	P		**Pn**	**Pn**	**13 36 36.0**	**-1.5**
PPLP	**Puerto Lpez**	**1.78**	**193**	P		**Pn**	**Pn**	**13 36 35.0**	**-2.5**
PINO	**Pino**	**1.80**	**101**	P		**Pn**	**Pn**	**13 36 37.0**	**-1.4**
GGPT	**Toaza - Volcan**	**1.80**	**103**	P		**Pn**	**Pn**	**13 36 37.0**	**-1.2**
TERV	**Terraza Guagua**	**1.81**	**102**	P		**Pn**	**Pn**	**13 36 38.0**	**-0.4**
JUA2	**San Juan 2**	**1.81**	**103**	P		**Pn**	**Pn**	**13 36 38.0**	**-0.4**
YANA	**Yana**	**1.83**	**100**	P		**Pn**	**Pn**	**13 36 38.0**	**-0.7**
ILLI	**Illinizas Sur**	**1.88**	**119**	P		**Pn**	**Pn**	**13 36 39.0**	**-0.3**
PULU	**Pululahua**	**1.88**	**95**	Pn		**Pn**	**Pn**	**13 36 39.4**	**+0.1**
PULU	**Pululahua**	**1.88**	**95**	P		**Pn**	**Pn**	**13 36 39.0**	**-0.3**
OTAV	**Otavalo**	**1.92**	**89**	Pn		**Pb**	**Pb**	**13 36 41.1**	**-1.1**
PAST	**Pastocalle**	**1.94**	**117**	P		**Pn**	**Pn**	**13 36 40.0**	**-0.2**
CUSE	**Cuicocha Este**	**1.98**	**87**	*eP*		**Pb**	**Pb**	**13 36 41.6**	**-1.5**
CUSE	**Cuicocha Este**	**1.98**	**87**	P		**Pb**	**Pb**	**13 36 41.0**	**+0.4**
CUIC	**Cuicocha-Domo**	**2.01**	**87**	P		**Pb**	**Pb**	**13 36 43.0**	**-0.7**
CUSW	**Cuicocha Oeste**	**2.02**	**87**	P		**Pb**	**Pb**	**13 36 42.0**	**-1.8**
CAMI	**Rancho Maria**	**2.06**	**115**	P		**Pb**	**Pb**	**13 36 43.0**	**-1.5**
BNAS	**Cotopaxi Volca**	**2.08**	**115**	P		**Pb**	**Pb**	**13 36 43.0**	**-1.9**
NAS2	**Nasa**	**2.08**	**114**	P		**Pb**	**Pb**	**13 36 43.0**	**-1.9**
PITA	**Cotopaxi Volc**	**2.08**	**111**	P		**Pb**	**Pb**	**13 36 43.0**	**-1.8**
BREF	**Cotopaxi Volca**	**2.12**	**114**	P		**Pb**	**Pb**	**13 36 44.0**	**-1.5**
BMOR	**Cotopaxi Volca**	**2.12**	**116**	P		**Pb**	**Pb**	**13 36 44.0**	**-1.7**
URCU	**Urcuqui**	**2.13**	**84**	P		**Pb**	**Pb**	**13 36 44.0**	**-1.7**
BVC2	**Cotopaxi Volca**	**2.14**	**113**	P		**Pb**	**Pb**	**13 36 44.0**	**-1.9**
BTAM	**Cotopaxi Volca**	**2.16**	**114**	P		**Pb**	**Pb**	**13 36 45.0**	**-1.2**
TAMB	**Tambo**	**2.19**	**114**	P		**Pb**	**Pb**	**13 36 45.0**	**-1.8**
VCES	**Cotopaxi**	**2.21**	**117**	P		**Pb**	**Pb**	**13 36 46.0**	**-1.1**
ANTG	**Antisana-Guama**	**2.23**	**108**	P		**Pb**	**Pb**	**13 36 46.0**	**-1.4**
PORT	**Chimborazo Vol**	**2.30**	**136**	Pn		**Pn**	**Pn**	**13 36 46.4**	**+1.2**
PORT	**Chimborazo Vol**	**2.30**	**136**	P		**Pn**	**Pn**	**13 36 46.0**	**+0.8**
ANTI	**Antisana**	**2.30**	**106**	P		**Pb**	**Pb**	**13 36 47.0**	**-1.7**
YAHU	**Yahuarcocha**	**2.31**	**86**	P		**Pb**	**Pb**	**13 36 47.0**	**-1.7**
ANTS	**Antisana-Sarah**	**2.31**	**107**	P		**Pn**	**Pn**	**13 36 46.0**	**+0.6**
TAMH	**Tambohuasha Ch**	**2.35**	**137**	P		**Pn**	**Pn**	**13 36 46.0**	**+0.2**
CAYR	**Refugio Cayamb**	**2.37**	**94**	P		**Pb**	**Pb**	**13 36 49.0**	**-0.9**
CHMA	**Chilma**	**2.40**	**74**	P		**Pn**	**Pn**	**13 36 46.0**	**-0.4**
PIAT	**Ana Tenorio**	**2.42**	**119**	P		**Pn**	**Pn**	**13 36 48.0**	**+1.3**
ECEN	**Cerro Negro**	**2.48**	**75**	P		**Pn**	**Pn**	**13 36 48.0**	**+0.3**
JUI6	**Juive**	**2.49**	**130**	P		**Pn**	**Pn**	**13 36 49.0**	**+1.3**
CHL1	**Volc¡n Chiles**	**2.50**	**76**	P		**Pn**	**Pn**	**13 36 49.0**	**+1.1**
CHL2	**Volc¡n Chiles**	**2.53**	**76**	P		**Pn**	**Pn**	**13 36 49.0**	**+0.7**
RETU	**Refugio**	**2.53**	**130**	P		**Pb**	**Pb**	**13 36 50.0**	**-2.5**
BMAS	**Trigal station**	**2.54**	**132**	P		**Pb**	**Pb**	**13 36 50.0**	**-2.6**
ARRY	**Arrayan**	**2.56**	**131**	P		**Pn**	**Pn**	**13 36 50.0**	**+1.4**
CONE	**Cono NE Rev Vo**	**2.74**	**96**	P		**Pb**	**Pb**	**13 36 54.0**	**-2.1**
ARDO	**Archidona, Ten**	**2.83**	**115**	P		**Pb**	**Pb**	**13 36 55.0**	**-2.4**
BONI	**La Bonita**	**2.85**	**85**	P		**Pb**	**Pb**	**13 36 56.0**	**-1.9**
COHC	**Cochancay**	**2.87**	**157**	Pn		**Pn**	**Pn**	**13 36 52.2**	**-0.4**
GCUF	**Volcan Galeras**	**3.19**	**71**	*eP*		**Pb**	**Pb**	**13 37 01.1**	**-2.8**
GR1C	**Gorgona, Isla**	**3.55**	**38**	*eP*		**Pb**	**Pb**	**13 37 07.8**	**-1.9**
BOSC	**San Juan Bosco**	**3.82**	**151**	Pn		**Pb**	**Pb**	**13 37 10.1**	**-4.2**
SOTA	**Rioblanco**	**4.23**	**63**	*eP*		**Pb**	**Pb**	**13 37 16.7**	**-4.8**
MCRA	**Macar, Loja**	**4.56**	**175**	Pn		**Pn**	**Pn**	**13 37 18.0**	**+2.2**
YOTC	**Yotoco, Valle**	**5.51**	**47**	*eP*		**Pn**	**Pn**	**13 37 32.0**	**+3.0**
ROSC	**El Rosal**	**7.60**	**53**	Pn		**Pn**	**Pn**	**13 38 01.4**	**+3.4**
	2.3nm,0.3s,baz=298,slow=23,SNR=1.5								
ROSC				LR		LR	LR	13 41 03.2	
	comp=Z,123nm,21.6s,baz=185,slow=38								
NNA	**Nana**	**12.60**	**164**	Pn		**Pn**	**Pn**	**13 39 08.5**	**+2.3**
	1.0nm,0.3s,baz=159,slow=23,SNR=1.6								
LPAZ	**La Paz**	**20.35**	**144**	P		Pn		13 40 47.1	+0.9
	2.8nm,0.7s,baz=342,slow=6.6,SNR=6.1								
LPAZ				LR		LR		13 50 31.9	
	comp=Z,57nm,20.0s,baz=298,slow=42								
LPAZ	**La Paz**	**20.35**	**144**	P		Pn		13 40 46.0	-0.2
PB16	**IPOC Station P**	**21.29**	**150**	P		**P**		**13 40 55.1**	**+0.9**
PB16				IAmb		IAmb		13 41 09.5	
	comp=Z,8.9nm,0.8s								
TA02	**Huaiquique**	**22.68**	**154**	P		**P**		**13 41 09.8**	**+1.3**
TA02				IAmb		IAmb		13 41 14.9	
	comp=Z,27nm,1.1s								
SIV	**San Ignacio**	**24.93**	**131**	LR		LR		13 52 10.7	
	comp=Z,100nm,20.6s,baz=300,slow=38								
PLTB	**Pedras Altas**	**40.65**	**144**	P		**P**		**13 43 44.6**	**-2.6**
PLTB				IAmb		IAmb		13 43 54.7	
	comp=Z,10nm,1.4s								
PLCA	**Paso Flores**	**41.71**	**169**	P		**P**		**13 43 55.6**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=344,slow=9.9,SNR=4.9								
PLCA	**Paso Flores**	**41.71**	**169**	P		**P**		**13 43 54.8**	**-1.1**
PLCA				IAmb		IAmb		13 44 10.6	
	comp=Z,4.8nm,1.1s								
ANMO	**Albuquerque**	**42.29**	**328**	P		**P**		**13 44 02.4**	**+1.5**
ACCN	**Adirondack Com**	**43.41**	**7**	P		**P**		**13 44 10.5**	**+0.8**
PDAR	**Pinedale Array**	**49.82**	**332**	P		**P**		**13 44 60.0**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=119,slow=7.3,SNR=2.1								
NVAR	**Mina Array Bea**	**51.57**	**322**	P		**P**		**13 45 13.3**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=108,slow=8.6,SNR=1.6								
NVAR	**Mina Array Bea**	**51.57**	**322**	P		**P**		**13 45 14.2**	**+0.8**
YKA	**Yellowknife Ar**	**67.24**	**344**	P		**P**		**13 46 59.8**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=144,slow=6.0,SNR=6.7								
DIB	**Dawson Inlet,**	**68.15**	**329**	P		**P**		**13 47 08.8**	**+1.9**
DIB				IAmb		IAmb		13 47 35.4	
	comp=Z,4.7nm,0.9s								
INK	**Inuvik**	**76.93**	**342**	P		**P**		**13 47 59.2**	**+0.3**
	comp=Z,1.3nm,1.0s,baz=117,slow=2.3,SNR=3.9								
INK	**Inuvik**	**76.93**	**342**	P		**P**		**13 47 59.5**	**+0.5**
INK				IAmb		IAmb		13 48 02.7	
	comp=Z,5.0nm,1.4s								
TORD	**Torodi Ar. Bea**	**82.23**	**77**	P		**P**		**13 48 30.5**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=278,slow=6.0,SNR=2.5								
TORD	**Torodi Ar. Bea**	**82.23**	**77**	P		**P**		**13 48 25.7**	**-3.2**
SNAA	**Sanae**	**86.27**	**162**	P		**P**		**13 48 48.8**	**+0.4**
QSPA	**South Pole Qui**	**90.25**	**180**	P		**P**		**13 49 07.3**	**-0.3**
WRA	**Warramunga Arr**	**140.76**	**238**	PKP		**PKPdf**		**13 55 37.1**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=111,slow=2.4,SNR=1.6								
WRA	**Warramunga Arr**	**140.76**	**238**			**PKPdf**		**13 55 35.9**	**-1.9**

*PRU **22** 13:43:17.3±0.0, 51°.51N×16°.10E, h0km*

*VIE **22** 13:43:18.9±0.9, 51°.35N×16°.13E, h0km, mb2.2/2, ml2.6/2, Error ellipse: s-maj=8.4km s-min=5.4km az=70.0 68 km WNW of Wroclaw Suspected Mining induced.*

ISC 22 13:43:17.4±1.7, 51°.45N±0°.08×16°.08E±0°.05, h0km, n18, σ0§64/38, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**168**	*e*Pg		**Pg**	**Pg**	**13 43 29.8**	**+0.6**
KSP				*e*Sg		**Sb**	**Sb**	**13 43 39.1**	**-1.3**
CHVC	**Chvalec**	**0.86**	**181**	*e*PG		**Pb**	**Pb**	**13 43 34.7**	**-0.5**
CHVC				*e*SG		**Sb**	**Sb**	**13 43 47.3**	**0.0**
	comp=Z,23nm,0.4s								
OSTC	**Ostas**	**0.90**	**175**	*e*PG		**Pb**	**Pb**	**13 43 35.3**	**-0.5**
OSTC				*e*SG		**Sb**	**Sb**	**13 43 48.2**	**-0.1**
UPC	**Upice**	**0.94**	**183**	*e*PG		**Pg**	**Pg**	**13 43 35.9**	**+0.5**
UPC				*e*SG		**Sb**	**Sb**	**13 43 49.7**	**+0.1**
	comp=Z,32nm,0.2s								
DPC	**Dobruska-Polom**	**1.11**	**172**	*e*PG		**Pg**	**Pg**	**13 43 38.7**	**+0.1**
DPC				*e*SG		**Sb**	**Sb**	**13 43 54.1**	**-0.4**
	comp=Z,27nm,0.7s								
**P

WR0			IAmb	IAmb	14 00 15.6	
	comp=Z,10nm,1.5s					
WRAB	**Tennant Creek**	**22.93 228**	P	**P**	**13 59 52.5**	**-0.7**
WRAB			IAmb	IAmb	13 59 55.2	
	comp=Z,6.8nm,0.8s					
WB2	**Warramunga Arr**	**22.93 228**	P	**P**	**13 59 53.1**	**-0.2**
WB2			IAmb	IAmb	13 59 53.4	
	comp=Z,4.3nm,0.8s					
WRA	**Warramunga Arr**	**22.94 228**	P	**P**	**13 59 53.0**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=50,slow=9.1,SNR=32					
WRA	**Warramunga Arr**	**22.94 228**	P	**P**	**13 59 52.3**	**-1.1**
ARMA	**Armidale**	**25.40 181**	P	**P**	**14 00 18.7**	**+2.9**
KNRA	**Kununurra**	**25.40 243**	P	**P**	**14 00 16.8**	**+1.0**
KNRA			IAmb	IAmb	14 00 21.4	
	comp=Z,7.9nm,1.1s					
AS31	**Alice Springs**	**25.68 222**	P	**P**	**14 00 19.7**	**+1.3**
ASAR	**Alice Springs**	**25.68 222**	P	**P**	**14 00 18.9**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=54,slow=8.5,SNR=14					
ASAR	**Alice Springs**	**25.68 222**	P	**P**	**14 00 19.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**29.09 241**	P	**P**	**14 00 47.7**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=53,slow=8.5,SNR=10					
FITZ	**Fitzroy Crossi**	**29.09 241**	P	**P**	**14 00 47.4**	**-1.5**
MORW	**Morawa**	**41.83 231**	P	**P**	**14 02 37.1**	**-0.6**
ZALV	**Zalesovo Beam**	**80.90 326**	P	**P**	**14 06 58.2**	**-2.3**
ILAR	**Eielson Array**	**82.47 22**	P	P	14 07 04.4	-4.1
	comp=Z,0.2nm,0.6s,baz=240,slow=5.1,SNR=1.5					
QSPA	**South Pole Qui**	**85.07 180**	P	**P**	**14 07 22.0**	**0.0**
TORD	**Torodi Ar. Bea**	**149.77 288**	PKPbc	**PKPdf**	**14 14 35.1**	**+3.1**
	comp=Z,0.5nm,0.7s,baz=55,slow=3.5,SNR=3.8					
TORD	**Torodi Ar. Bea**	**149.77 288**	PKPdf	**PKPdf**	**14 14 27.9**	**-4.2**
TORD			PKPbc	**PKPbc**	**14 14 31.5**	**-5.4**
TORD			PKPab	**PKiKP**	**14 14 36.2**	**-1.6**

*IDC **22** 14:03:56.9±5.8, 8°.14S×123°.93E, h74^{km}±58^{km}, mb3.5/2, mb1 3.8/5, mb1mx3.4/40, mbtmp3.9/5, ML4.0/3, Error ellipse: s-maj=66.6km s-min=28.5km az=55.0*

*NEIC **22** 14:04:01.4±2.2, 8.7S±0.2°×123.41E±0.09, h113^{km}±11^{km}, mb4.1/14, Error ellipse: s-maj=23.1km s-min=12.5km az=181.0*

*DJA **22** 14:04:02.6±0.4, 9°.5S×12°.3E±°, h10^{km}, M3.5/5, MLv3.5/5*

ISC 22 14:04:00.3±0.7, 8°.67S±0.07°×123°.40E±0.07, h100^{km}, n46, σ2s24/47, mb4.0/10, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.15 271**			**Pn**	**14 04 24.6**	**+2.1**
MMRI	**Maumere**	**1.15 271**		P	**Pn**	**14 04 23.6**	**+1.2**
MMRI				S	**Sn**	**14 04 42.2**	**+3.0**
MMRI	**Maumere**	**1.15 271**		P	**Pn**	**14 04 25.0**	**+2.6**
BATI	**Baumata**	**1.55 171**		P	**Pn**	**14 04 31.6**	**+4.3**
	36nm,0.3s,baz=11,slow=1.5,SNR=36						
BATI				S	**Sn**	**14 04 54.8**	**+7.1**
	113nm,0.3s,baz=314,slow=18,SNR=8.4						
BATI	**Baumata**	**1.55 171**		P	**Pn**	**14 04 31.4**	**+4.1**
BBSI	**Bau Bau**	**3.27 345**		P	**Pn**	**14 04 51.6**	**+1.9**
PLAI	**Plampang**	**5.56 268**		P	**Pn**	**14 05 22.1**	**+1.4**
MTN	**Manton Dam**	**8.65 119**		Pn	**Pn**	**14 06 03.1**	**+0.3**
MTN	**Manton Dam**	**8.65 119**		P	**Pn**	**14 06 02.8**	**+0.1**
KNRA	**Kununurra**	**8.71 144**			**Pn**	**14 06 03.1**	**-0.4**
KNRA	**Kununurra**	**8.71 144**		P	**Pn**	**14 06 03.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**9.15 271**		Pn	**Pn**	**14 06 09.3**	**-0.2**
JAGI	**Jajag, Banyuwa**	**9.15 271**		P	**Pn**	**14 06 09.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**9.62 167**		P	**Pn**	**14 06 14.2**	**-1.7**
	0.6nm,0.3s,baz=360,slow=11,SNR=27						
FITZ				S	**Sn**	**14 07 55.2**	**-7.0**
	1.3nm,0.3s,baz=264,slow=18,SNR=13						
FITZ	**Fitzroy Crossi**	**9.62 167**			**Pn**	**14 06 14.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**9.62 167**		P	**Pn**	**14 06 14.7**	**-1.2**
KDU	**Kakadu**	**9.77 115**		P	**Pn**	**14 06 17.7**	**-0.2**
WB0	**Warramunga Arr**	**15.33 137**		Pn	**Pn**	**14 07 30.3**	**-1.0**
WB0				IAmb	IAmb	14 07 36.9	
	comp=Z,8.6nm,1.3s						
WRA	**Warramunga Arr**	**15.41 138**		P	**Pn**	**14 07 30.4**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=321,slow=14,SNR=51						
WRA				S	Sn	14 10 11.1	-12
	comp=Z,1.0nm,0.3s,baz=325,slow=20,SNR=9.8						
WRA	**Warramunga Arr**	**15.41 138**			**Pn**	**14 07 30.7**	**-1.7**
WB2	**Warramunga Arr**	**15.42 138**		Pn	**Pn**	**14 07 31.2**	**-1.3**
WB2				IAmb	IAmb	14 07 46.4	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**15.56 137**			**Pn**	**14 07 32.5**	**-1.7**
WR0				IAmb	IAmb	14 07 37.6	
	comp=Z,4.1nm,0.6s						
AS31	**Alice Springs**	**17.99 147**		P	**Pn**	**14 08 04.5**	**+0.5**
ASAR	**Alice Springs**	**17.99 147**		P	**Pn**	**14 08 04.3**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=328,slow=12,SNR=91						
ASAR				S	S	14 11 12.8	-12
	comp=Z,0.2nm,0.3s,baz=318,slow=21,SNR=8.1						
ASAR	**Alice Springs**	**17.99 147**		P	**Pn**	**14 08 04.6**	**+0.6**
MEEK	**Meekatharra**	**18.44 194**		P	**P**	**14 08 07.5**	**-0.6**
QIS	**Mount Isa**	**19.61 129**		P	**P**	**14 08 22.0**	**+1.1**
COEN	**Coen**	**20.08 107**		P	**P**	**14 08 23.9**	**-2.1**
COEN				IAmb	IAmb	14 08 44.6	
	comp=Z,11nm,0.9s						
COEN	**Coen**	**20.08 107**		P	Pn	14 08 30.4	+1.7
	comp=Z,16nm,2.3s						
MORW	**Morawa**	**21.44 198**		P	**P**	**14 08 38.7**	**-1.8**
MORW				IAmb	IAmb	14 08 49.3	
	comp=Z,10nm,1.1s						
OOD	**Oodnadatta**	**22.28 150**		P	**P**	**14 08 50.1**	**+0.7**
	comp=Z,11nm,1.9s						
FORT	**Forrest**	**22.43 169**		P	**P**	**14 08 50.9**	**+0.1**
FORT	**Forrest**	**22.43 169**		P	**P**	**14 08 50.7**	**-0.2**
	comp=Z,23nm,0.8s						
BLDU	**Ballidu**	**22.71 195**		P	**P**	**14 08 52.7**	**-1.2**
	comp=Z,8.2nm,1.8s						
KLBR	**Kellerberrin**	**23.41 192**		P	**P**	**14 08 59.6**	**-0.9**
	comp=Z,18nm,0.5s						
NWAO	**Narrogin (SRO)**	**24.81 192**		P	**P**	**14 09 12.4**	**-0.7**
BBOO	**Buckleboo**	**26.73 156**		P	**P**	**14 09 29.3**	**-1.2**
BBOO				IAmb	IAmb	14 09 49.3	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**28.62 146**		P	**P**	**14 09 47.8**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=320,slow=8.4,SNR=13						
STKA	**Stephens Creek**	**28.62 146**		P	**P**	**14 09 46.6**	**-0.7**
TOO	**Toolangi**	**35.03 149**		P	**P**	**14 10 42.9**	**-0.6**
MKAR	**Makanchi Array**	**66.23 330**		P	**P**	**14 14 35.4**	**-2.2**
	comp=Z,0.1nm,0.4s,baz=132,slow=7.7,SNR=2.6						
VNDA	**Vanda**	**71.67 172**		P	**P**	**14 15 09.8**	**-1.0**
VNDA				IAmb	IAmb	14 15 13.6	
	comp=Z,3.3nm,1.3s						
QSPA	**South Pole Qui**	**81.32 180**		P	**P**	**14 16 05.3**	**-0.3**
QSPA				IAmb	IAmb	14 16 19.8	
	comp=Z,7.8nm,1.5s						
VNA2	**Neumayer--Watz**	**94.07 194**		P	P	14 17 16.2	+9.0
	baz=315,slow=13						
VNA3	**Neumayer Olymp**	**94.40 194**		P	**P**	**14 17 12.6**	**+4.0**
VNA1	**Neumayer--Stat**	**94.47 194**		P	**P**	**14 17 10.6**	**+1.7**

*BJI **22** 14:31:35.9±0.0, 6°.63S×155°.87E, h88^{km}, mb4.7/24, mB4.7/15*

*NEIC **22** 14:31:36.1±1.4, 7°.00S±0.07°×155°.84E±0°.03, h78^{km}±5^{km}, mb4.8/53, Error ellipse: s-maj=10.4km s-min=3.3km az=163.0*

*IDC **22** 14:31:36.3±1.3, 6°.96S×155°.74E, h82^{km}±11^{km}, mb4.3/26, mb1 4.4/31, mb1mx4.3/46, mbtmp4.6/31, MS3.7/44, Ms1 3.7/44, ms1mx3.6/65, Error ellipse: s-maj=11.4km s-min=8.0km az=48.0*

*DJA **22** 14:31:38.1±0.6, 7°.5S±4°×15°.6E±°, h102^{km}±6^{km}, M4.9/42, mB5.4/14, mb5.0/42, MLv5.1/2, Mw(mB)4.8/14*

ISC 22 14:31:36.5±0.7, 7°.00S±0.05°×155°.77E±0.05, h86^{km}±6^{km}, n224, σ0s95/201, mb4.8/68, 2C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.54 308**		Pn	**Pn**	**14 32 44.4**	**+1.4**
RABL	**Rabaul**	**4.54 308**		P	**Pn**	**14 32 47.5**	**+4.5**
KRVT	**Keravat (AS076**	**4.58 306**		P	**Pn**	**14 32 42.7**	**-0.8**
	7.4nm,0.3s,baz=184,slow=2.6,SNR=3.5						
KRVT				S	**Sn**	**14 33 35.0**	**-0.5**
	39nm,0.3s,baz=136,slow=21,SNR=3.8						
KRVT				LR	LR	14 34 42.7	
	comp=Z,1μm,21.4s,baz=252,slow=41						
HNR	**Honiara**	**4.79 121**		P	**Pn**	**14 32 46.5**	**+0.3**
	22nm,0.3s,baz=246,slow=4.7,SNR=7.7						
HNR				S	**Sn**	**14 33 42.2**	**+1.6**
	35nm,0.3s,baz=329,slow=20,SNR=6.1						
HNR				LR	LR	14 34 41.6	
	comp=Z,1μm,18.2s,baz=296,slow=38						

HNR	**Honiara**	**4.79 121**	Pn	**Pn**	**14 32 45.0**	**-1.2**
HNR	**Honiara**	**4.79 121**	P	**Pn**	**14 32 48.3**	**+2.0**
PMG	**Port Moresby**	**8.85 254**	P	**Pn**	**14 33 42.0**	**+0.3**
	49nm,0.3s,baz=58,slow=9.2,SNR=85					
PMG			S	**Sn**	**14 35 20.3**	**+0.5**
	baz=120,slow=22,SNR=0.9					
PMG			LR	LR	14 36 56.0	
	comp=Z,924nm,20.9s,baz=52,slow=36					
PMG	**Port Moresby**	**8.85 254**	Pn	**Pn**	**14 33 41.4**	**-0.3**
PMG	**Port Moresby**	**8.85 254**	P	**Pn**	**14 33 42.2**	**+0.5**
PMG	**Port Moresby**	**8.85 254**	P	**Pn**	**14 33 42.1**	**+0.4**
COEN	**Coen**	**14.18 240**	Pn	**Pn**	**14 34 53.1**	**-0.2**
MTSU	**Mount Surprise**	**15.72 224**	P	**Pn**	**14 35 14.0**	**+0.9**
	baz=16,SNR=10					
MTSU	**Mount Surprise**	**15.72 224**	P	**P**	**14 35 15.2**	**-0.1**
CTA	**Charters Tower**	**15.95 214**	P	**P**	**14 35 17.4**	**-0.5**
	1.7nm,0.3s,baz=31,slow=14,SNR=32					
CTA			LR	LR	14 40 31.8	
	comp=Z,533nm,21.7s,baz=54,slow=34					
CTA	**Charters Tower**	**15.95 214**	P	**P**	**14 35 17.8**	**-0.1**
CTAO	**Charters Tower**	**15.95 214**	P	**P**	**14 35 17.9**	**0.0**
RK1H	**Rockhampton Ha**	**17.06 197**	P	**P**	**14 35 31.5**	**+1.3**
SMPI	**Sarmi**	**17.71 286**	P	**Pn**	**14 35 39.8**	**+2.1**
	51nm,0.9s					
DZM	**Mont Dzumac**	**18.18 147**	P	**Pn**	**14 35 43.5**	**0.0**
	1.1nm,0.3s,baz=350,slow=21,SNR=12					
DZM			LR	LR	14 41 45.4	
	comp=Z,207nm,21.8s,baz=339,slow=33					
DZM	**Mont Dzumac**	**18.18 147**	*e*Pn	**Pn**	**14 35 44.2**	**+0.8**
	76nm,1.3s					
DZM			*e*LR	LR	14 39 52.9	
	comp=Z,652nm,26.6s					
DZM	**Mont Dzumac**	**18.18 147**	P	**P**	**14 35 41.9**	**-0.8**
DZM	**Mont Dzumac**	**18.18 147**	P	**Pn**	**14 35 44.6**	**+1.2**
EIDS	**Eidsvold**	**18.81 193**	P	**P**	**14 35 48.8**	**-0.5**
	baz=19,SNR=5.6					
EIDS	**Eidsvold**	**18.81 193**		**P**	**14 35 49.0**	**-0.4**
EIDS	**Eidsvold**	**18.81 193**	P	**Pn**	**14 35 50.2**	**-0.6**
RMQ	**Roma**	**20.50 198**	P	**P**	**14 36 07.9**	**+0.2**
	baz=20,SNR=16					
RMQ	**Roma**	**20.50 198**	P	**P**	**14 36 08.6**	**+0.9**
QIS	**Mount Isa**	**20.66 228**	P	**P**	**14 36 09.1**	**-0.4**
	baz=20,SNR=8.4					
QIS	**Mount Isa**	**20.66 228**	P	Pn	14 36 11.1	-1.5
QLP	**Quilpie**	**22.36 208**	P	**P**	**14 36 27.4**	**-0.1**
	baz=22,SNR=22					
QLP	**Quilpie**	**22.36 208**	P	**P**	**14 36 27.7**	**+0.1**
GUMO	**Guam**	**23.14 332**	LR	LR	14 44 47.9	
	comp=Z,62nm,21.5s,baz=178,slow=34					
ARMA	**Armidale**	**23.62 189**	P	**P**	**14 36 40.7**	**+0.8**
	baz=24,SNR=6.0					
ARMA	**Armidale**	**23.62 189**	P	**P**	**14 36 40.1**	**+0.1**
ARMA			IAmb	IAmb	14 36 41.5	
	comp=Z,45nm,1.4s					
ARMA	**Armidale**	**23.62 189**	P	**P**	**14 36 40.8**	**+0.8**
KDU	**Kakadu**	**23.63 254**	P	**P**	**14 36 39.7**	**-0.4**
	baz=23,SNR=10					
MSVF	**Nonsavu**	**24.21 118**	P	**P**	**14 36 46.1**	**+0.8**
	comp=Z,10nm,0.6s,baz=204,slow=6.7,SNR=5.1					
MSVF			LR	LR	14 45 27.8	
	comp=Z,230nm,20.0s,baz=151,slow=34					
WR0	**Warramunga Arr**	**24.29 236**	P	**P**	**14 36 46.4**	**+0.3**
WR0			IAmb	IAmb	14 37 10.8	
	comp=Z,48nm,1.3s					
WB0	**Warramunga Arr**	**24.32 236**	P	**P**	**14 36 46.9**	**+0.6**
WB0			IAmb	IAmb	14 37 11.9	
	comp=Z,22nm,0.7s					
WB2	**Warramunga Arr**	**24.44 236**	P	**P**	**14 36 47.6**	**+0.2**
WRA	**Warramunga Arr**	**24.45 236**	P	**P**	**14 36 47.8**	**+0.3**
	comp=Z,8.8nm,0.7s,baz=60,slow=9.5,SNR=65					
WRA			PcP	**PcP**	**14 40 25.1**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=63,slow=2.5,SNR=5.9					
WRA			LR	LR	14 46 08.1	
	comp=Z,361nm,19.1s,baz=24,slow=36					
WRA	**Warramunga Arr**	**24.45 236**	P	**P**	**14 36 47.1**	**-0.4**
MTN	**Manton Dam**	**24.94 255**	P	**P**	**14 36 52.5**	**+0.5**
	baz=25,SNR=20					
MTN	**Manton Dam**	**24.94 255**	P	**P**	**14 36 51.0**	**-1.0**
MTN			IAmb	IAmb	14 36 53.2	
	comp=Z,62nm,0.9s					
SIJI	**Sorong**	**25.18 283**	P	**P**	**14 36 53.5**	**-0.7**
	comp=Z,35nm,0.7s,baz=57,slow=9.2,SNR=14					
SWI	**Sorong**	**25.19 283**	P	**P**	**14 36 55.9**	**+1.6**
	comp=Z,972nmcomp=Z,120nm,0.9s					
CMSA	**Comar Meteorol**	**26.17 200**	P	**P**	**14 37 02.6**	**-0.4**
	baz=26,SNR=68					
AS31	**Alice Springs**	**26.75 229**	P	**P**	**14 37 07.6**	**-0.7**
ASAR	**Alice Springs**	**26.75 229**	P	**P**	**14 37 07.8**	**-0.5**
	comp=Z,6.2nm,0.6s,baz=60,slow=10.0,SNR=148					
ASAR			PcP	**PcP**	**14 40 30.4**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=58,slow=2.4,SNR=6.1					
ASAR			ScP	**ScP**	**14 44 03.9**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=89,slow=4.7,SNR=2.7					
ASAR			LR	LR	14 47 37.0	
	comp=Z,313nm,18.2s,baz=103,slow=36					
ASAR	**Alice Springs**	**26.75 229**	P	**P**	**14 37 07.0**	**-1.3**
H11S3	**WAKE ISLAND Hy**	**27.53 23**	T	T	15 05 36.3	
	baz=202,slow=75,SNR=232					
H11S2	**WAKE ISLAND Hy**	**27.53 23**	T	T	15 05 37.4	
	baz=202,slow=75,SNR=298					
H11S1	**WAKE ISLAND Hy**	**27.55 23**	T	T	15 05 34.1	
	baz=202,slow=75,SNR=202					
KNRA	**Kununurra**	**27.82 250**	P	**P**	**14 37 17.9**	**0.0**
	baz=28,SNR=15					
KNRA	**Kununurra**	**27.82 250**	P	**P**	**14 37 17.7**	**-0.2**
KNRA			IAmb	IAmb	14 37 18.9	
	comp=Z,15nm,0.8s					
STKA	**Stephens Creek**	**28.06 206**	P	**P**	**14 37 20.0**	**+0.1**
	comp=Z,13nm,0.8s,baz=29,slow=14,SNR=13					
STKA			PcP	**PcP**	**14 40 33.0**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=40,slow=3.6,SNR=2.9					
STKA			LR	LR	14 48 42.0	
	comp=Z,382nm,18.3s,baz=23,slow=36					
STKA	**Stephens Creek**	**28.06 206**	P	**P**	**14 37 20.0**	**+0.1**
	baz=28,SNR=12					
STKA	**Stephens Creek**	**28.06 206**	P	**P**	**14 37 19.4**	**-0.6**
H11N1	**WAKE ISLAND Hy**	**28.72 22**	T	T	15 07 12.7	
	baz=212,slow=78,SNR=36					
H11N3	**WAKE ISLAND Hy**	**28.73 22**	T	T	15 07 05.7	
	baz=212,slow=78,SNR=38					
H11N2	**WAKE ISLAND Hy**	**28.73 22**	T	T	15 07 11.0	
	baz=212,slow=78,SNR=17					
LBMI	**Labuha**	**28.89 281**	P	**P**	**14 37 29.7**	**+2.2**
	comp=Z,690nmcomp=Z,60nm,0.8s					
HTT	**Hallett**	**30.59 208**	P	**P**	**14 37 42.6**	**+0.3**
	baz=30,SNR=3.5					
FITZ	**Fitzroy Crossi**	**31.35 247**	P	**P**	**14 37 48.8**	**-0.5**
	comp=Z,29nm,0.6s,baz=80,slow=7.8,SNR=114					
FITZ			LR	LR	14 50 47.0	
	comp=Z,196nm,19.4s,baz=74,slow=37					
FITZ	**Fitzroy Crossi**	**31.35 247**	P	**P**	**14 37 49.1**	**-0.1**
FITZ			IAmb	IAmb	14 37 49.7	
	comp=Z,30nm,0.7s					
BBOO	**Buckleboo**	**31.54 213**	P	**P**	**14 37 49.5**	**-1.2**
	baz=31,SNR=6.0					
BBOO	**Buckleboo**	**31.54 213**	P	**P**	**14 37 49.4**	**-1.3**
BBOO			IAmb	IAmb	14 38 02.8	
	comp=Z,16nm,1.1s					
WRKA	**Warakurna**	**31.80 233**	P	**P**	**14 37 52.3**	**-0.9**
	baz=32,SNR=31					
TOO	**Toolangi**	**31.83 196**	P	**P**	**14 37 54.3**	**+1.1**
BATI	**Baumata**	**31.89 262**	LR	LR	14 52 19.7	
	comp=Z,308nm,20.1s,baz=101,slow=39					
ARPS	**Mount Arapiles**	**32.24 201**	P	**P**	**14 37 56.8**	**0.0**
	baz=32,SNR=9.1					
KMSI	**Cibinong**	**32.59 282**	P	**P**	**14 38 01.5**	**+1.4**
	comp=Z,108nm,0.6s					
AFI	**Afiamalu**	**32.62 105**	LR	LR	14 48 44.6	
	comp=Z,154nm,21.1s,baz=320,slow=32					
DAV	**Davao City (W)**	**33.20 294**	LR	LR	14 51 38.6	
	comp=Z,59nm,19.1s,baz=94,slow=36					
MMRI	**Maumere**	**33.25 265**	P	P	14 38 18.8	+13
GTOI	**Gorontalo**	**33.55 282**	P	**P**	**14 38 10.2**	**+1.7**
	comp=Z,24nm,0.7s					
APSI	**Ampana**	**34.55 279**	P	**P**	**14 38 19.3**	**+2.1**
	comp=Z,26nm,0.8s					
MRSI	**Marisa**	**34.55 281**	P	P	14 38 31.8	+15
BSSI	**Bau Bau, Buton**	**35.05 269**	P	P	14 38 34.2	+13
FORT	**Forrest**	**35.12 224**	P	**P**	**14 38 21.6**	**-0.2**
	baz=35,SNR=32					
FORT	**Forrest**	**35.12 224**	P	**P**	**14 38 21.5**	**-0.3**
BNSI	**Bone**	**35.57 272**	P	**P**	**14 38 26.6**	**+0.7**
	comp=Z,584nmcomp=Z,25nm,1.4s					
TOLI2	**Tolitoli**	**35.83 282**	P	**P**	**14 38 26.8**	**-1.3**
TOLI2			IAmb	IAmb	14 38 47.6	
	comp=Z,12nm,0.7s					

MPSI	**Mapaga**	**36.52 280**	P	**P**	**14 38 33.1**	**-0.9**
	comp=Z,336nmcomp=Z,27nm,0.8s					
TAU	**Tasmania Unive**	**36.53 190**	P	**P**	**14 38 35.1**	**+1.4**
URZ	**Urewera**	**36.63 151**	P	**P**	**14 38 35.0**	**+0.4**
	comp=Z,5.6nm,0.5s,baz=270,slow=2.0,SNR=10					
URZ			LR	LR	14 50 31.9	
	comp=Z,111nm,21.5s,baz=31,slow=31					
QRZ	**Quartz Range**	**36.86 159**	P	**P**	**14 38 33.5**	**-3.0**
BKZ	**Black Stump Fm**	**37.07 153**	P	**P**	**14 38 37.6**	**-0.8**
BKZ			IAmb	IAmb	14 38 42.4	
	comp=Z,12nm,0.6s					
MBWA	**Marble Bar**	**37.56 244**	P	**P**	**14 38 42.3**	**-0.5**
PLAI	**Plampang**	**37.66 265**	P	**P**	**14 38 45.0**	**+1.3**
	comp=Z,61nm,0.7s					
THZ	**Tophouse**	**37.81 159**	P	**P**	**14 38 44.4**	**-0.3**
RPZ	**Rata Peaks**	**38.95 162**	P	**P**	**14 38 54.4**	**+0.2**
	comp=Z,37nm,0.8s,baz=18,slow=4.5,SNR=14					
RPZ			LR	LR	14 54 36.8	
	comp=Z,152nm,18.8s,baz=298,slow=35					
RPZ	**Rata Peaks**	**38.95 162**	P	**P**	**14 38 53.5**	**-0.6**
MYLDM	**Lahad Datu**	**39.11 287**	P	**P**	**14 38 57.2**	**+1.3**
MEEK	**Meekatharra**	**40.35 237**	P	**P**	**14 39 05.0**	**-1.0**
	baz=40,SNR=10					
BBKI	**Banjar Baru**	**40.90 273**	P	**P**	**14 39 11.8**	**+1.1**
KKM	**Kota Kinabalu**	**41.54 287**		**P**	**14 39 16.0**	**0.0**
JHJ	**Hachijo jima 2**	**42.69 340**	LR	LR	14 57 34.8	
	comp=Z,28nm,18.8s,baz=189,slow=37					
GIRL	**Giralia**	**42.88 244**	P	**P**	**14 39 26.6**	**-0.1**
JOW	**Kunigami**	**42.91 323**	LR	LR	14 55 36.7	
	comp=Z,66nm,19.3s,baz=110,slow=34					
KLBR	**Kellerberrin**	**43.07 230**	P	**P**	**14 39 27.7**	**-0.4**
	baz=43,SNR=10					
MORW	**Morawa**	**43.38 235**	P	**P**	**14 39 30.2**	**-0.4**
	baz=43,SNR=11					
MORW	**Morawa**	**43.38 235**	P	**P**	**14 39 30.2**	**-0.4**
MORW			IAmb	IAmb	14 39 31.1	
	comp=Z,14nm,0.7s					
BLDU	**Ballidu**	**43.46 232**	P	**P**	**14 39 31.0**	**-0.3**
	baz=43,SNR=7.2					
NWAO	**Narrogin (SRO)**	**44.06 229**	P	**P**	**14 39 36.6**	**+0.5**
NWAO			IAmb	IAmb	14 39 49.4	
	comp=Z,19nm,1.1s					
PCJI	**Pacitan**	**44.20 265**	P	**P**	**14 39 38.4**	**+1.0**
	comp=Z,68nm,1.2s					
STKI	**Sintang**	**44.73 277**	P	**P**	**14 39 42.8**	**+1.1**
UGM	**Wanagama**	**44.85 266**	P	**P**	**14 39 43.6**	**+0.9**
KSM	**Kuching**	**46.14 279**	P	**P**	**14 39 52.7**	**-0.1**
KSM			IAmb	IAmb	14 40 07.6	
	comp=Z,15nm,0.8s					
MJAR	**Matsushiro Arr**	**46.34 340**	P	**P**	**14 39 53.1**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=152,slow=11,SNR=4.7					
MJAR			LR	LR	14 56 05.8	
	comp=Z,25nm,20.5s,baz=183,slow=32					
CGJI	**Cibinong**	**49.70 267**	P	**P**	**14 40 18.8**	**-1.5**
	comp=Z,814nmcomp=Z,62nm,0.8s					
KSRS	**Korea Array**	**51.30 332**	P	**P**	**14 40 31.5**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=163,slow=8.8,SNR=5.0					
KSRS			PcP	**PcP**	**14 41 46.9**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=172,slow=4.5,SNR=1.6					
KSRS			LR	LR	15 00 37.9	
	comp=Z,34nm,21.1s,baz=125,slow=34					
DSRI	**Dabo**	**51.46 275**	P	**P**	**14 40 33.4**	**-0.2**
ASAJ	**Asahikawa**	**52.25 348**	LR	LR	15 00 16.9	
	comp=Z,75nm,21.8s,baz=162,slow=33					
PPT	**Papeete**	**54.26 107**	LR	LR	15 01 51.6	
	comp=Z,49nm,18.2s,baz=226,slow=33					
PPT2	**Papeete2**	**54.26 107**	*e*LR	LR	14 56 55.2	
	comp=Z,106nm,22.0s					
UBPT	**Khong Chiam**	**54.53 294**	P	**P**	**14 40 56.5**	**+0.4**
UBPT			IAmb	IAmb	14 41 09.6	
	comp=Z,24nm,1.1s					
TBI	**Tubuai**	**54.97 114**	*e*LR	LR	14 57 11.8	
	comp=Z,263nm,34.8s					
USRK	**Ussuriysk Ar.**	**55.30 339**	P	**P**	**14 41 00.4**	**-0.8**
	comp=Z,6.7nm,0.9s,baz=152,slow=10,SNR=10.0					
USRK	**Ussuriysk Ar.**	**55.30 339**	P	**P**	**14 41 00.9**	**-0.3**
IPM	**Ipoh**	**55.81 280**	P	**P**	**14 41 04.8**	**-0.6**
GSI	**Gunungsitoli**	**58.65 276**	P	**P**	**14 41 23.8**	**-1.6**
GSI	**Gunungsitoli**	**58.65 276**	P

ILAR Eielson Array 83.10 21 LR LR 15 15 52.7
comp=Z,102nm,21.2s,baz=178,slow=32
MK31 Makanchi Array 83.92 319 P **P** **14 43 57.1 +0.1**
MK31 IAmb IAmb 14 43 59.8
comp=Z,6.3nm,0.8s
MKAR Makanchi Array 83.92 319 P **P** **14 43 57.6 +0.5**
comp=Z,6.0nm,0.6s,baz=100,slow=7.0,SNR=56
MKAR Makanchi Array 83.92 319 P **P** **14 43 57.3 +0.2**
ZAA0 Zalesovo Array 84.61 326 P **P** **14 43 59.8 -0.6**
ZAA0 IAmb IAmb 14 44 00.6
comp=Z,7.8nm,1.1s
ZALV Zalesovo Beam 84.61 326 P **P** **14 43 59.8 -0.5**
comp=Z,2.6nm,0.5s,baz=105,slow=5.1,SNR=18
ZALV LR LR 15 23 46.2
comp=Z,26nm,18.6s,baz=114,slow=37
MAW Mawson 84.69 203 P **P** **14 44 00.9 +0.4**
comp=Z,6.7nm,0.6s,baz=98,slow=6.8,SNR=12
MAW LR LR 15 19 57.0
comp=Z,23nm,18.7s,baz=158,slow=34
MAW Mawson 84.69 203 P **P** **14 44 00.5 0.0**
baz=84,SNR=5.0
MAW Mawson 84.69 203 P **P** **14 44 00.6 +0.1**
KDJ Kajisay 86.26 313 P **P** **14 44 09.0 -0.1**
KDJ IAmb IAmb 14 44 12.3
comp=Z,4.5nm,0.7s
KSH Kashi 86.60 310 P **P** **14 44 13.3 +2.5**
KSH pP sP 14 44 40.4 -2.6
KSH sP pP 14 44 47.1 +13
KSH SS SS 15 00 28.6 +4.8
KSH pmax pmax
comp=Z,6.0nm,1.0s
BBB Bella Bella 87.06 37 LR LR 15 16 40.0
comp=Z,129nm,20.4s,baz=262,slow=31
BOOM Boomskoye usch 87.24 313 P **P** **14 44 14.2 +0.3**
BOOM IAmb IAmb 14 44 17.0
comp=Z,5.0nm,0.8s
KURK Kurchatov 87.31 322 P **P** **14 44 14.3 +0.6**
DLBC Dease Lake 87.76 30 LR LR 15 15 24.7
comp=Z,57nm,21.9s,baz=270,slow=30
AAK Ala-Archa 88.31 313 P **P** **14 44 19.6 +0.6**
YBH Yreka Blue Hor 88.32 48 LR LR 15 19 17.8
comp=Z,90nm,18.9s,baz=266,slow=32
NRIK Noril'sk 88.99 341 P **P** **14 44 20.3 -1.0**
comp=Z,3.3nm,0.6s,baz=124,slow=4.8,SNR=4.0
NRIK Noril'sk 88.99 341 P **P** **14 44 21.2 -0.1**
NRIK IAmb IAmb 14 44 34.2
comp=Z,4.6nm,0.8s
INK Inuvik 89.45 21 P **P** **14 44 23.9 +0.5**
comp=Z,1.0nm,0.5s,baz=228,slow=6.5,SNR=2.0
INK LR LR 15 20 14.4
comp=Z,88nm,21.3s,baz=222,slow=33
NVAR Mina Array Bea 91.12 52 P **P** **14 44 33.4 +1.2**
comp=Z,0.5nm,0.7s,baz=261,slow=4.5,SNR=2.8
NVAR LR LR 15 17 33.3
comp=Z,45nm,21.2s,baz=222,slow=30
PFO Pinyon Flats O 91.98 57 LR LR 15 19 23.1
comp=Z,68nm,19.9s,baz=312,slow=31
SYO Syowa Base 92.57 199 ⇑*i* P **P** **14 44 37.5 -0.5**
BRVK Borovoye 92.83 323 P **P** **14 44 38.8 -0.7**
BRVK IAmb IAmb 14 44 39.4
comp=Z,3.5nm,0.8s
A36M Sachs Harbour 93.21 18 P **P** **14 44 39.8 -1.0**
A36M IAmb IAmb 14 44 59.5
comp=Z,3.2nm,0.8s
NEW Newport 93.25 42 LR LR 15 21 09.6
comp=Z,87nm,19.3s,baz=270,slow=32
ELK Elko 93.75 50 LR LR 15 19 59.6
comp=Z,55nm,21.1s,baz=256,slow=31
YKA Yellowknife Ar 95.98 28 P **P** **14 44 53.4 -0.3**
comp=Z,0.7nm,0.8s,baz=266,slow=4.7,SNR=13
YKA PKKPbc **PKKPbc** **15 01 40.7 -3.6**
comp=Z,0.4nm,0.6s,baz=89,slow=2.9,SNR=9.9
PDAR Pinedale Array 98.13 48 P Pdif 14 45 04.3 0.0
comp=Z,0.2nm,0.6s,baz=252,slow=1.8,SNR=1.6
WSAR Wadi Sarin 99.26 292 LR LR 15 29 35.3
comp=Z,19nm,21.7s,baz=158,slow=35
ARU Arti 99.78 326 LR LR 15 32 24.0
comp=Z,26nm,20.0s,baz=64,slow=37
ARCES ARCESS Array B 109.81 343 PKiKP **PKiKP** **14 49 56.6 -0.5**
comp=Z,0.7nm,0.5s,baz=64,slow=2.8,SNR=5.5
FINES FINESS Array B 114.25 336 PKP PKPdf 14 50 05.1 -0.7
comp=Z,1.6nm,0.7s,baz=90,slow=1.7,SNR=5.1
AKASG Malin Array Be 117.99 325 PKP **PKPdf** **14 50 11.0 -2.3**
comp=Z,0.9nm,0.4s,baz=54,slow=2.5,SNR=6.9
BRTR Keskin Array B 118.96 312 PKP **PKPdf** **14 50 15.3 -0.4**
comp=Z,0.3nm,0.4s,baz=100,slow=5.1,SNR=3.7
BRTR Keskin Array B 118.96 312 **PKiKP** **14 50 16.2 +0.4**
NB2 NORSAR Subarra119.96 341 PKPdf **PKPdf** **14 50 15.4 -1.5**
comp=Z,1.2nm,0.8s,baz=39,slow=1.9
NOA NORSAR Array B 119.96 341 PKP **PKPdf** **14 50 16.1 -0.8**
comp=Z,0.6nm,0.6s,baz=47,slow=2.1,SNR=5.0
BOSA Boshof 120.61 231 PKP **PKPdf** **14 50 18.9 -0.4**
comp=Z,3.7nm,0.8s,baz=107,slow=1.9,SNR=5.8
BOSA Boshof 120.61 231 **PKiKP** **14 50 19.7 +0.4**
MLR Muntele Rosu 122.22 320 PKP **PKiKP** **14 50 22.2 +0.3**
comp=Z,1.4nm,0.5s,baz=140,slow=9.8,SNR=2.2
MLR Muntele Rosu 122.22 320 **PKiKP** **14 50 22.0 0.0**
KRLC Kraliky 125.11 329 *e*PKP **PKiKP** **14 50 27.7 +0.2**
CLL Collm 126.18 332 *i* PKPdf **PKPdf** **14 50 29.1 +0.1**
comp=Z,5.0nm,0.9s
CLL *i* x x 14 50 42.5
CKRC Cesky Krumlov 127.16 329 *e*PKP **PKiKP** **14 50 31.8 +0.3**
CKRC *ex* x 14 50 45.5
KHC Kasperske Hory 127.33 330 *e*PKP **PKiKP** **14 50 31.8 -0.1**
KHC *ex* x 14 50 45.3
GERES GERESS Array B 127.45 329 PKP **PKiKP** **14 50 32.2 0.0**
comp=Z,2.1nm,0.7s,baz=48,slow=2.0,SNR=18
EKA Eskdalemuir Ar 128.95 345 PKP **PKPdf** **14 50 34.0 -0.2**
comp=Z,0.4nm,0.4s,baz=353,slow=2.6,SNR=4.3
LPAZ La Paz 130.78 118 PKP **PKiKP** **14 50 40.5 0.0**
comp=Z,1.0nm,0.8s,baz=18,slow=19,SNR=2.7
ESDC Sonseca Array 142.72 334 PKhKP PKPpre 14 50 56.5
comp=Z,0.8nm,0.9s,baz=38,slow=3.1,SNR=5.8
PMRV Marv??o 144.33 337 *e*PKP PKPbc 14 51 01.9 +0.3
PMTG Montargil 144.96 338 *e*PKP **PKPdf** **14 51 03.9 -0.2**
PNCL Nicolau / Gran 145.91 338 *e*PKP **PKPab** **14 51 07.4 +0.3**
PCVE Castro Verde 146.14 337 *e*PKP **PKiKP** **14 51 09.4 -1.1**
PVAQ Vaqueiros 146.21 336 *e*PKP **PKPab** **14 51 08.5 +0.2**
PBDV Barranco-do-Ve 146.44 336 *e*PKP **PKiKP** **14 51 12.2 +1.1**
PTEO Sao Teotonio 146.49 337 *e*PKP **PKPab** **14 51 09.3 0.0**
BDFB Brasilia 147.43 134 PKPbc **PKPbc** **14 51 11.3 -0.4**
comp=Z,11nm,0.7s,baz=221,slow=3.7,SNR=4.9
BDFB Brasilia 147.43 134 **PKiKP** **14 51 14.5 +0.7**
MDT Midelt 148.50 327 PKPbc **PKPbc** **14 51 13.7 -0.3**
comp=Z,5.2nm,0.7s,baz=57,slow=2.6,SNR=7.6
TORD Torodi Ar. Bea 153.77 286 PKP **PKPdf** **14 51 18.2 -0.6**
comp=Z,0.9nm,0.9s,baz=30,slow=1.9,SNR=4.5
TORD PKPbc **PKPbc** **14 51 26.4 -0.4**
comp=Z,3.6nm,0.8s,baz=60,slow=2.5,SNR=16
TORD PKPab **PKPab** **14 51 39.2 -0.7**
comp=Z,3.3nm,0.7s,baz=61,slow=2.4,SNR=6.6
TORD Torodi Ar. Bea 153.77 286 **PKPdf** **14 51 17.4 -1.4**
TORD PKPbc **PKPbc** **14 51 26.6 -0.1**
KIC Kosan Boka 160.63 269 *e*PKIKP **PKPab** **14 52 09.7 +0.1**
comp=Z,16nm,0.6s
DBIC Dimbokro 160.76 270 PKP **PKPdf** **14 51 26.4 -1.2**
comp=Z,2.8nm,0.8s,baz=80,slow=5.6,SNR=3.4
DBIC PKPab **PKPab** **14 52 10.2 +0.1**
comp=Z,7.7nm,0.6s,baz=80,slow=4.1,SNR=11
DBIC Dimbokro 160.76 270 **PKPdf** **14 51 26.0 -1.7**
DBIC PKPab **PKPab** **14 52 10.1 0.0**
LIC Lamto 160.91 269 *e*PKIKP **PKPab** **14 52 09.9 -0.9**
comp=Z,16nm,0.9s
TIC Toumodi 160.92 270 *e*PKIKP **PKPab** **14 52 09.8 -1.1**

LDG ***22*** *14:40:37.6±0.1, 43.°08N×0.°12E, h2km, Md3.4/2, Ml3.5/43, Error ellipse: s-maj=1.5km s-min=1.4km az=101.0*
MRB ***22*** *14:40:38.4±0.5, 43.°02N×0.°12E, h4km±4km, ML3.2/20, Error ellipse: s-maj=1.8km s-min=1.2km az=203.0*
STR ***22*** *14:40:38.3±0.3, 43.°N±2.°×±.°, h3km, MLv3.0/12, preliminary*
MDD ***22*** *14:40:39.9±0.2, 43.°07N×0.°16E, h21km, mb_Lg3.2/28, Error ellipse: s-maj=1.6km s-min=1.3km az=2.0*
INMG ***22*** *14:40:40.1±1.6, 43.°00N×0.°09E, h13km±4km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.6km az=40.0*
ISC 22 14:40:36.9±0.8, 43.°14N±0.°01×0.°14E±0.°01, h17km±5km, n151, σ1^{s}71/291, 2C, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYLO	**Lourdes**	**0.14**	**253**	Pg	**Pb**	**14 40 41.7**	**+0.4**
PYLO				Sg	**Sg**	**14 40 43.0**	**-0.7**
PYLO	**Lourdes**	**0.14**	**253**	P	**Pb**	**14 40 41.6**	**+0.4**
PYLO				S	**Sb**	**14 40 44.3**	**+0.2**
EPF	**Esparros**	**0.18**	**127**	*e*Pg	**Pg**	**14 40 41.7**	**+0.2**
EPF				*e*Sg	**Sg**	**14 40 44.2**	**-0.4**
	3μm,0.3s						
EPF	**Esparros**	**0.18**	**127**	Pg	**Pg**	**14 40 41.7**	**+0.2**
EPF				Sg	**Sg**	**14 40 44.2**	**-0.4**
FMON	**Montouss**	**0.22**	**111**	P	**Pb**	**14 40 42.7**	**+0.2**
FMON				S	**Sg**	**14 40 46.3**	**+0.9**
VIEF	**Viey**	**0.27**	**199**	Pg	**Pg**	**14 40 42.3**	**-0.6**
VIEF				Sg	**Sg**	**14 40 45.3**	**-1.7**
ECHI	**Chisagues Biel**	**0.48**	**175**	Pg	**Pg**	**14 40 45.5**	**-1.0**
ECHI				Sg	**Sg**	**14 40 50.9**	**-2.2**
ECHI	**Chisagues Biel**	**0.48**	**175**	⇑P	**Pg**	**14 40 45.6**	**-1.0**
ECHI				S	**Sg**	**14 40 50.9**	**-2.2**
	2μm,0.2s						
ECHI	**Chisagues Biel**	**0.48**	**175**	Pg	**Pg**	**14 40 45.6**	**-1.0**
ECHI				Sg	**Sg**	**14 40 50.6**	**-2.4**
ECHI				*i* Vmb_Lg		14 40 51.6	
ETSF	**Etsaut**	**0.57**	**245**	*e*Pg	**Pg**	**14 40 48.1**	**-0.1**
ETSF				*e*Sg	**Sg**	**14 40 55.4**	**-0.4**
	2μm,0.2s						
ETSF	**Etsaut**	**0.57**	**245**	Pg	**Pg**	**14 40 48.1**	**-0.1**
ETSF				Sg	**Sg**	**14 40 55.4**	**-0.4**
CANF	**Canfranc**	**0.61**	**232**	Pg	**Pg**	**14 40 48.7**	**-0.4**
CANF				Sg	**Sg**	**14 40 56.4**	**-0.9**
ATE	**Arette**	**0.62**	**265**	Pg	**Pb**	**14 40 49.3**	**0.0**
ATE				Sg	**Sb**	**14 40 58.8**	**+1.0**
ATE	**Arette**	**0.62**	**265**	P	**Pb**	**14 40 49.4**	**0.0**
ATE				S	**Sb**	**14 40 58.8**	**+1.0**
	255nm,0.2s						
CARA	**Val d'Aran**	**0.66**	**131**	P	**Pg**	**14 40 49.5**	**-0.5**
CARA				S	**Sg**	**14 40 57.9**	**-0.9**
	1μm,0.2s						
MLS	**Moulis**	**0.72**	**104**	P	**Pg**	**14 40 50.4**	**-0.6**
MLS				Pg	**Pb**	**14 40 51.3**	**+0.2**
MLS				Sg	**Sb**	**14 41 01.8**	**+1.0**
MLS	**Moulis**	**0.72**	**104**	P	**Pg**	**14 40 51.0**	**-0.1**
MLS				S	**Sb**	**14 41 01.9**	**+1.1**
CTRE	**Tremp**	**0.94**	**150**	⇑P	**Pg**	**14 40 54.4**	**-0.8**
CTRE				S	**Sg**	**14 41 06.0**	**-1.6**
	245nm,0.3s						
CEST	**Esterri de Car**	**0.98**	**123**	P	**Pb**	**14 40 55.2**	**-0.4**
CEST				S	**Sg**	**14 41 08.6**	**-0.2**
	266nm,0.2s						
SJPF	**Ste Jean**	**1.00**	**269**	*e*Pg	**Pb**	**14 40 56.0**	**+0.1**
SJPF				*e*Sg	**Sb**	**14 41 08.7**	**-0.1**
	130nm,0.2s						
SJPF	**Ste Jean**	**1.00**	**269**	Pg	**Pb**	**14 40 56.0**	**+0.1**
OSSF	**Osses**	**1.03**	**277**	Pg	**Pn**	**14 40 57.1**	**+0.5**
CSOR	**Sort**	**1.06**	**136**	P	**Pb**	**14 40 56.4**	**-0.5**
CSOR				S	**Sb**	**14 41 10.1**	**-0.4**
	327nm,0.3s						
EORO	**Oroz-Betelu**	**1.09**	**257**	Pg	**Pn**	**14 40 58.0**	**+0.4**
EORO				Sg	**Sn**	**14 41 12.8**	**+0.5**
EORO	**Oroz-Betelu**	**1.09**	**257**	Pg	**Pn**	**14 40 58.0**	**+0.4**
EORO				Sg	**Sn**	**14 41 12.8**	**+0.5**
EORO				*i* Vmb_Lg		14 41 19.0	
EALK	**Alkurruntz**	**1.21**	**274**	Sg	**Sn**	**14 41 17.1**	**+1.9**
EALK	**Alkurruntz**	**1.21**	**274**	Pg	**Pn**	**14 40 57.7**	**-1.5**
EALK	**Alkurruntz**	**1.21**	**274**	Pg	**Pg**	**14 41 00.1**	**-0.1**
EALK				Sg	**Sn**	**14 41 16.8**	**+1.6**
EALK	**Alkurruntz**	**1.21**	**274**	Pg	**Pg**	**14 41 00.1**	**-0.1**
EALK				Sg	**Sn**	**14 41 16.8**	**+1.6**
EALK				*i* Vmb_Lg		14 41 22.0	
ARBS	**La Rabassa**	**1.25**	**123**	P	**Pn**	**14 41 00.2**	**+0.3**
ARBS				S	**Sb**	**14 41 16.7**	**+0.6**
	520nm,0.3s						
CORG	**Organya**	**1.26**	**136**	P	**Pn**	**14 41 00.2**	**+0.4**
CORG				S	**Sb**	**14 41 16.4**	**+0.2**
	199nm,0.4s						
EARA	**Aranguren**	**1.32**	**254**	Pg	**Pg**	**14 41 03.0**	**+0.7**
EARA	**Aranguren**	**1.32**	**254**	Pg	**Pg**	**14 41 03.0**	**+0.7**
EARA				Sg	**Sg**	**14 41 22.1**	**+2.6**
EARA				*i* Vmb_Lg		14 41 28.0	
CAVN	**Les Avellanes**	**1.34**	**160**	P	**Pn**	**14 41 01.1**	**+0.2**
CAVN				S	**Sb**	**14 41 18.1**	**-0.4**
	1μm,0.4s						
FNEB	**Nbias**	**1.46**	**99**	Pg	**Pg**	**14 41 05.3**	**+0.2**
FNEB	**Nbias**	**1.46**	**99**	P	**Pg**	**14 41 05.1**	**0.0**
FNEB				S	**Sg**	**14 41 24.7**	**+0.6**
	108nm,0.3s						
ESAC	**San Caprasio**	**1.49**	**198**	Pg	**Pb**	**14 41 04.7**	**+0.4**
ESAC				Sg	**Sb**	**14 41 24.0**	**+1.2**
CLLI	**Llivia**	**1.50**	**116**	P	**Pb**	**14 41 05.2**	**+0.7**
CLLI				S	**Sb**	**14 41 24.7**	**+1.4**
	199nm,0.2s						
MTLF	**Montolieu**	**1.53**	**82**	*e*Pn	**Pg**	**14 41 06.3**	**-0.1**
MTLF				*e*Sg	**Sg**	**14 41 27.3**	**+1.0**
	169nm,0.2s						
MTLF	**Montolieu**	**1.53**	**82**	Pn	**Pg**	**14 41 06.3**	**-0.1**
EMIR	**Miracle**	**1.60**	**140**	Pn	**Pb**	**14 41 06.4**	**+0.4**
EMIR				Sg	**Sb**	**14 41 27.4**	**+1.4**
EMIR	**Miracle**	**1.60**	**140**	Pn	**Pb**	**14 41 06.4**	**+0.4**
EMIR				Sg	**Sb**	**14 41 27.3**	**+1.4**
EMIR				*i* Vmb_Lg		14 41 29.9	
CBRU	**Bruguera**	**1.73**	**119**	P	**Pb**	**14 41 08.9**	**+0.6**
CBRU				S	**Sb**	**14 41 30.8**	**+1.0**
	282nm,0.5s						
CORI	**Orista**	**1.83**	**129**	P	**Pb**	**14 41 09.6**	**-0.3**
CORI				S	**Sb**	**14 41 32.9**	**+0.2**
	470nm,0.2s						
LRVF	**chteau la Riv**	**1.83**	**350**	Pn	**Pg**	**14 41 13.8**	**+1.6**
LRVF				Pg	**Pb**	**14 41 14.7**	**+4.6**
LRVF				Sn	**Sg**	**14 41 39.5**	**+3.5**
LFF	**La Frestale**	**1.85**	**13**	*e*Pn	**Pn**	**14 41 09.2**	**+1.3**
LFF	**La Frestale**	**1.85**	**13**	*e*Pg	**Pg**	**14 41 13.3**	**+0.9**
LFF				*e*Sn	**Sn**	**14 41 32.1**	**+1.2**
LFF				*e*Sg	**Sg**	**14 41 37.0**	**+0.6**
	392nm,0.3s						
FILF	**Fillols**	**1.87**	**107**	P	**Pn**	**14 41 09.3**	**+1.1**
FILF				S	**Sn**	**14 41 32.5**	**+0.9**
EPOB	**Poblet**	**1.92**	**158**	P	**Pn**	**14 41 09.7**	**+0.8**
EPOB				S	**Sn**	**14 41 33.9**	**+1.1**
	273nm,0.3s						
EPOB	**Poblet**	**1.92**	**158**	Pn	**Pn**	**14 41 09.6**	**+0.6**
EPOB				Pg	**Pb**	**14 41 11.5**	**0.0**
EPOB				Sn	**Sn**	**14 41 31.9**	**-0.8**
EPOB				Sg	**Sb**	**14 41 35.6**	**+0.3**
EPOB				*i* Vmb_Lg		14 41 36.5	
CGAR	**Garraf**	**1.99**	**158**	P	**Pg**	**14 41 15.6**	**+0.5**
CGAR				S	**Sg**	**14 41 42.2**	**+1.3**
	141nm,0.3s						
CBEU	**Beuda**	**2.07**	**114**	P	**Pn**	**14 41 13.1**	**+2.1**
CBEU				S	**Sb**	**14 41 39.5**	**-0.1**
	224nm,0.3s						
SJAF	**Saint Jean de**	**2.12**	**107**	Pn	**Pb**	**14 41 15.0**	**0.0**
SJAF				Pg	**Pg**	**14 41 17.9**	**+0.3**
SJAF	**Saint Jean de**	**2.12**	**107**	P	**Pb**	**14 41 14.6**	**-0.3**
SJAF				S	**Sb**	**14 41 40.9**	**-0.1**
	52nm,0.4s						
EJON	**La Jonquera**	**2.14**	**108**	Pg	**Pb**	**14 41 15.8**	**+0.5**
EJON				Sg	**Sg**	**14 41 45.5**	**-0.1**
EJON				*i* Vmb_Lg		14 41 50.4	
CFON	**Fontmartina**	**2.19**	**128**	P	**Pn**	**14 41 14.0**	**+1.4**
CFON				S	**Sn**	**14 41 41.8**	**+2.5**
ERTA	**Horta de San J**	**2.19**	**176**	P	**Pn**	**14 41 13.8**	**+1.2**
ERTA				S	**Sn**	**14 41 40.3**	**+0.9**
	98nm,0.2s						
ERTA	**Horta de San J**	**2.19**	**176**	Pg	**Pb**	**14 41 16.6**	**+0.5**
ERTA				Sg	**Sb**	**14 41 43.3**	**+0.4**
ERTA				*i* Vmb_Lg		14 41 48.3	
CAF	**Calviac**	**2.26**	**37**	*e*Pn	**Pn**	**14 41 14.3**	**+0.7**
CAF	**Calviac**	**2.26**	**37**	*e*Pg	**Pg**	**14 41 20.4**	**+0.1**
CAF				*e*Sn	**Sn**	**14 41 41.7**	**+0.6**
	117nm,0.2s						
CAF				*e*Sg	**Sg**	**14 41 50.5**	**+0.9**
	112nm,0.2s						
FBR	**Fabra**	**2.27**	**139**	P	**Pn**	**14 41 15.7**	**+2.0**
FBR				S	**Sn**	**14 41 43.2**	**+2.0**
RJF	**Les Rejaudoux**	**2.38**	**24**	*e*Pn	**Pn**	**14 41 15.8**	**+0.6**
RJF	**Les Rejaudoux**	**2.38**	**24**	*e*Pg	**Pg**	**14 41 23.1**	**+0.6**
RJF				*e*Sn	**Sn**	**14 41 44.8**	**+0.8**
	126nm,0.2s						
RJF				*e*Sg	**Sg**	**14 41 53.7**	**+0.4**
	185nm,0.3s						
CCAS	**Cassa de la Se**	**2.40**	**121**	P	**Pn**	**14 41 17.8**	**+2.4**
CCAS				S	**Sn**	**14 41 47.0**	**+2.6**
	69nm,0.4s						
CMAS	**Mas de Barbera**	**2.42**	**177**	P	**Pn**	**14 41 16.6**	**+0.9**
CMAS				S	**Sn**	**14 41 45.4**	**+0.4**
	146nm,0.3s						
ELAN	**Lanestosa**	**2.62**	**273**	Pn	**Pn**	**14 41 20.9**	**+2.4**
ELAN				Sn	**Sb**	**14 41 53.5**	**-1.8**
ELAN				*i* Vmb_Lg		14 42 02.9	
EMOS	**Mosqueruela**	**2.81**	**190**	P	**Pn**	**14 41 22.2**	**+0.9**
EMOS				S	**Sn**	**14 41 54.9**	**-0.1**
EMOS	**Mosqueruela**	**2.81**	**190**	Pn	**Pn**	**14 41 22.0**	**+0.7**
EMOS				Sn	**Sn**	**14 41 56.1**	**+1.1**
EMOS				Sg	**Sb**	**14 42 01.2**	**+0.1**
EMOS				*i* Vmb_Lg		14 42 10.3	
ETOR	**Torete**	**2.84**	**216**	Pn	**Pn**	**14 41 22.8**	**+1.2**
ETOR				Sn	**Sn**	**14 41 56.6**	**+1.1**
ETOR				Sg	**Sb**	**14 42 04.0**	**+2.2**
ETOR				*i* Vmb_Lg		14 42 12.5	
LASF	**Ste Croix**	**2.85**	**70**	*e*Pn	**Pn**	**14 41 22.5**	**+0.7**
LASF	**Ste Croix**	**2.85**	**70**	*e*Pg	**Pg**	**14 41 31.5**	**-0.1**
LASF				*e*Sn	**Sn**	**14 41 56.3**	**+0.5**
	33nm,0.2s						
LASF				*e*Sg	**Sg**	**14 42 08.5**	**-0.2**
	52nm,0.4s						
ECOL	**Islas Columbre**	**3.27**	**173**	Pn	**Pn**	**14 41 28.0**	**+0.6**
ECOL				Pg	**Pb**	**14 41 35.5**	**+1.1**
ECOL				Sg	**Sb**	**14 42 17.8**	**+3.9**
MFF	**Saint Martin d**	**3.47**	**357**	*e*Pn	**Pn**	**14 41 30.3**	**+0.2**
MFF	**Saint Martin d**	**3.47**	**357**	*e*Pg	**Pg**	**14 41 42.4**	**-0.9**
MFF				*e*Sn	**Sn**	**14 42 09.9**	**-0.9**
MFF				*e*Sg	**Sg**	**14 42 27.0**	**-1.2**
	61nm,0.3s						
TCF	**Toulx Ste Croi**	**3.47**	**24**	*e*Pn	**Pn**	**14 41 30.9**	**+0.6**
TCF	**Toulx Ste Croi**	**3.47**	**24**	*e*Pg	**Pg**	**14 41 44.3**	**+0.8**
TCF				*e*Sn	**Sn**	**14 42 11.1**	**0.0**
TCF				*e*Sg	**Sg**	**14 42 27.5**	**-1.0**
	40nm,0.2s						
ECHE	**Chera**	**3.65**	**194**	Pn	**Pn**	**14 41 33.3**	**+0.6**
ECHE				Pg	**Pb**	**14 41 43.5**	**+2.5**
ECHE				Sn	**Sn**	**14 42 13.3**	**-2.0**
ECHE				Sg	**Sb**	**14 42 28.2**	**+3.3**
ECHE				*i* Vmb_Lg		14 42 31.3	
VIVF	**Saint-Julien-l**	**3.69**	**61**	*e*Pn	**Pn**	**14 41 35.4**	**+2.1**
VIVF	**Saint-Julien-l**	**3.69**	**61**	*e*Pg	**Pg**	**14 41 46.4**	**-1.2**
VIVF				*e*Sn	**Sn**	**14 42 16.3**	**-0.1**
VIVF				*e*Sg	**Sg**	**14 42 34.0**	**-1.4**
	25nm,0.3s						
EARI	**Arriondas**	**3.92**	**274**	Pn	**Pn**	**14 41 38.3**	**+1.9**
EARI				Sn	**Sn**	**14 42 25.1**	**+3.1**
EARI				*i* Vmb_Lg		14 42 27.6	
BGF	**Bois d'Agland**	**3.92**	**28**	*e*Pn	**Pn**	**14 41 36.2**	**-0.2**
BGF	**Bois d'Agland**	**3.92**	**28**	*e*Pg	**Pg**	**14 41 51.2**	**-0.8**
BGF				*e*Sg	**Sg**	**14 42 42.3**	**-0.4**
	312nm,0.3s						
ETOS	**Mallorca**	**3.92**	**148**	Pn	**Pn**	**14 41 36.7**	**+0.2**
ETOS				Sn	**Sn**	**14 42 19.9**	**-2.3**
ETOS				*i* Vmb_Lg		14 42 22.8	
SMRF	**Simiane la Rot**	**4.04**	**76**	*e*Pn	**Pn**	**14 41 39.9**	**+1.9**
SMRF	**Simiane la Rot**	**4.04**	**76**	*e*P	**Pn**	**14 41 42.7**	**+4.7**
SMRF	**Simiane la Rot**	**4.04**	**76**	*e*Pg	**Pg**	**14 41 53.7**	**-0.5**
SMRF				*e*Sn	**Sn**	**14 42 25.8**	**+0.9**
SMRF				*e*Sg	**Sg**	**14 42 46.7**	**+0.2**
	13nm,0.4s						
GUD	**Guadarrama**	**4.06**	**234**	Pn	**Pn**	**14 41 40.5**	**+2.0**
GUD				Sn	**Sn**	**14 42 24.9**	**-0.9**
GUD				*i* Vmb_Lg		14 42 27.4	
GUD				Sg	**Sb**	**14 42 41.4**	**+4.4**
EIBI	**Ibiza**	**4.21**	**167**	Pn	**Pn**	**14 41 39.8**	**-0.6**
EIBI				Sn	**Sn**	**14 42 25.3**	**-3.9**
EIBI				*i* Vmb_Lg		14 42 27.2	
AVF	**Avril sur Loir**	**4.30**	**31**	*e*Pn	**Pn**	**14 41 42.7**	**+1.1**
AVF	**Avril sur Loir**	**4.30**	**31**	*e*Pg	**Pg**	**14 41 58.7**	**-0.6**
AVF				*e*Sn	**Sn**	**14 42 30.9**	**-0.5**
AVF				*e*Sg	**Sg**	**14 42 53.8**	**-1.2**
	50nm,0.4s						
SMF	**Signal de Mont**	**4.38**	**36**	*e*Pn	**Pn**	**14 41 43.7**	**+1.0**
SMF	**Signal de Mont**	**4.38**	**36**	*e*Pg	**Pg**	**14 41 59.7**	**-1.1**
SMF				*e*Sn	**Sn**	**14 42 33.6**	**+0.3**
SMF				*e*Sg	**Sg**	**14 42 56.6**	**-0.9**
	17nm,0.2s						
EBEN2	**Beriarda presa**	**4.47**	**183**	Pn	**Pn**	**14 41 44.1**	**+0.1**
EBEN2				Sn	**Sn**	**14 42 29.1**	**-6.5**
EBEN2				*i* Vmb_Lg		14 42 37.8	
HYF	**Humbligny**	**4.49**	**22**	*e*Pn	**Pn**	**14 41 45.8**	**+1.6**
HYF				*e*Sn	**Sn**	**14 42 35.4**	**-0.6**
HYF				*e*Sg	**Sg**	**14 42 59.5**	**-1.4**
AFON	**Font Roja**	**4.50**	**187**	Pn	**Pn**	**14 41 45.2**	**+0.7**
AFON				Sn	**Sn**	**14 42 34.4**	**-2.1**
AFON				*i* Vmb_Lg		14 42 48.7	
ORIF	**Oris-en-Rattie**	**4.50**	**65**	*e*Pn	**Pn**	**14 41 45.7**	**+1.2**
ORIF				*e*Sn	**Sn**	**14 42 36.0**	**-0.5**
ORIF				*e*Sg	**Sg**	**14 43 00.0**	**-1.4**
	6.2nm,0.4s						
SSF	**Saint Saulge**	**4.59**	**30**	*e*Pn	**Pn**	**14 41 45.3**	**-0.2**
SSF	**Saint Saulge**	**4.59**	**30**	*e*Pg	**Pg**	**14 42 04.2**	**-0.5**
SSF				*e*Sn	**Sn**	**14 42 38.0**	**-0.4**
SSF				*e*Sg	**Sg**	**14 43 02.7**	**-1.4**
	31nm,0.2s						
ESDC	**Sonseca Array**	**4.64**	**223**	Pn	**Pn**	**14 41 47.3**	**+0.9**
ESDC				Sn	**Sn**	**14 42 37.2**	**-2.6**
ESDC				*i* Vmb_Lg		14 42 40.7	
LMR	**La Mourre**	**4.66**	**85**	*e*P	**Pn**	**14 41 51.1**	**+4.6**
LMR	**La Mourre**	**4.66**	**85**	*e*Pg	**Pg**	**14 42 04.5**	**

MVO				*e*Sn	**Sn**	14 43 04.3	-1.3		
MVO				A	A	14 43 35.9			
	12nm,0.4s								
ROSF	**Rostrenen**	**5.72**	**336**	*e*Pn	**Pn**	**14 42 01.2**	**+0.1**		
ROSF				*e*Sn	**Sn**	**14 43 03.5**	**-2.8**		
ROSF				*e*Sg	**Sg**	**14 43 36.8**	**-3.5**		
	6.6nm,0.2s								
SFTF	**Sexfontaines**	**6.12**	**32**	*e*P	Pn	14 42 11.6	+5.1		
SFTF				*e*Sn	**Sn**	**14 43 14.9**	**-1.2**		
SFTF				*e*Sg	**Sg**	**14 43 49.8**	**-3.3**		
	12nm,0.5s								
EADA	**Adamuz**	**6.13**	**217**	Pn	**Pn**	**14 42 07.4**	**+0.7**		
EADA				Sn	**Sn**	**14 43 13.1**	**-3.4**		
EADA				*i* Vmb_Lg		14 43 21.3			
POLO	**Lamas de Olo**	**6.15**	**256**	*e*Pn	**Pn**	**14 42 08.5**	**+1.4**		
POLO				*e*Sn	**Sn**	**14 43 15.5**	**-1.6**		
POLO				A	A	14 43 55.9			
	2.7nm,0.7s								
ELOB	**Lobios**	**6.20**	**261**	Pn	**Pn**	**14 42 08.3**	**+0.6**		
ELOB				Sn	**Sn**	**14 43 17.9**	**-0.3**		
ELOB				*i* Vmb_Lg		14 43 22.7			
PGAV	**Gavieira, Arco**	**6.32**	**262**	*e*Pn	Pn	14 42 15.4	+5.9		
PGAV				*e*Sn	**Sn**	**14 43 21.3**	**-0.1**		
PGAV				A	A	14 43 52.8			
	3.0nm,0.6s								
MEZF	**Maizieres J'vi**	**6.36**	**31**	*e*Pg	**Pg**	**14 42 37.0**	**-1.7**		
	baz=209								
MEZF				*e*Sn	**Sn**	**14 43 20.6**	**-1.6**		
MEZF				*e*Sg	**Sg**	**14 43 58.1**	**-2.9**		
	16nm,0.4s								
SAVF	**Savonnieres en**	**6.48**	**31**	*e*Sg	**Sg**	**14 44 02.1**	**-2.8**		
	5.9nm,0.4s								
PGF	**Pioggiola**	**6.54**	**92**	*e*Pn	**Pn**	**14 42 13.7**	**+1.3**		
PGF				*e*Sn	**Sn**	**14 43 24.4**	**-2.3**		
	6.0nm,0.6s								
ECAB	**El Cabril**	**6.59**	**222**	Pn	**Pn**	**14 42 13.3**	**+0.1**		
ECAB				Sn	**Sn**	**14 43 24.1**	**-3.9**		
ECAB				*i* Vmb_Lg		14 43 42.6			
PCBR	**Castelo Branco**	**6.60**	**243**	*e*Sn	**Sn**	**14 43 25.3**	**-2.8**		
PCBR				*e*Sg	**Sg**	**14 44 06.3**	**-2.4**		
HINF	**Hinteralfeld**	**6.64**	**43**	*e*Pn	**Pn**	**14 42 13.9**	**+0.1**		
HINF				*e*Sg	**Sg**	**14 44 07.3**	**-2.6**		
	3.7nm,0.4s								
PAGF	**Fort de Pagny**	**6.67**	**34**	*e*Sg	**Sg**	**14 44 08.3**	**-2.5**		
	4.2nm,0.3s								
PMRV	**Marv??o**	**6.78**	**239**	*e*Pn	**Pn**	**14 42 16.5**	**+0.8**		
PMRV				*e*Sn	**Sn**	**14 43 29.5**	**-3.0**		
PMRV				A	A	14 43 31.5			
	3.7nm,0.3s								
PESTR	**Estremoz**	**7.24**	**236**	*e*Pn	**Pn**	**14 42 22.6**	**+0.6**		
PESTR				*e*Sn	**Sn**	**14 43 41.2**	**-2.6**		
CDF	**Champ du Feu**	**7.25**	**41**	*e*Sg	**Sg**	**14 44 26.0**	**-3.6**		
	2.4nm,0.4s								
PBAR	**Barrancos**	**7.38**	**230**	*e*Pn	**Pn**	**14 42 24.4**	**+0.6**		
PBAR				*e*Sn	**Sn**	**14 43 43.3**	**-3.8**		
BAIF	**Baives**	**7.46**	**21**	*e*Pg	**Pg**	**14 42 55.1**	**-4.6**		
PMTG	**Montargil**	**7.51**	**240**	*e*Pn	**Pn**	**14 42 27.2**	**+1.5**		
PMTG				*e*Sn	**Sn**	**14 43 49.2**	**-1.3**		
PNCL	**Nicolau / Gran**	**8.29**	**236**	*e*Pn	**Pn**	**14 42 39.0**	**+2.7**		
PNCL				*e*Sn	**Sn**	**14 44 06.6**	**-2.9**		
PVAQ	**Vaqueiros**	**8.30**	**229**	*e*Pn	**Pn**	**14 42 38.0**	**+1.5**		
PVAQ				*e*Sn	**Sn**	**14 44 04.5**	**-5.4**		
PCVE	**Castro Verde**	**8.32**	**231**	*e*Pn	Pn	14 42 43.0	+6.2		
MORF	**Marmelete**	**8.90**	**232**	*e*Pn	**Pn**	**14 42 47.0**	**+2.2**		
PFVI	**Vila Bisbo**	**9.12**	**232**	*e*Pn	**Pn**	**14 42 51.2**	**+3.5**		

IDC ***22*** *14:41:33.8±2.2,62.˚63N×151.˚42W,h82km±24km,mb3.1/5, mb1 3.4/9,mb1mx3.2/53,mbtmp3.5/9,Error ellipse: s-maj=24.7km s-min=20.3km az=40.0*

AEIC ***22*** *14:41:34±1.3,62.˚63N±0.˚03×151.˚22W±0.˚07,h83km±1km, ML3.3,ML3.5/156(NEIC),Error ellipse: s-maj=5.1km s-min=4.4km az=55.0*

NEIC ***22*** *14:41:34.5±1.2,62.˚65N±0.˚02×151.˚21W±0.˚07,h90km±6km, Error ellipse: s-maj=5.2km s-min=2.2km az=62.0*

ISC 22 14:41:34.4±0.8,62.˚63N±0.˚03×151.˚21W±0.˚03,h92km±6km, n255,σ0°75/236,mb3.3/5,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.49**	**117**		**Pn**	**Pn**	**14 41 49.1**	**-0.2**
CUT					**Sn**	**Sn**	**14 42 00.0**	**-0.3**
CUT	**Chulitna**	**0.49**	**117**	IAML			14 42 00.3	
	comp=E,8μm,0.4s							
CUT				IAML			14 42 00.6	
	comp=N,3μm,0.4s							
CUT	**Chulitna**	**0.49**	**117**	P	**Pn**	**Pn**	**14 41 49.1**	**-0.2**
	baz=298							
CUT				S	**Sn**	**Sn**	**14 42 00.0**	**-0.3**
	baz=298							
PPLA	**Purkeypile**	**0.52**	**301**		**Pn**	**Pn**	**14 41 49.8**	**+0.1**
PPLA					**Sn**	**Sn**	**14 42 01.1**	**+0.1**
PPLA	**Purkeypile**	**0.52**	**301**	P	**Pn**	**Pn**	**14 41 49.8**	**+0.1**
	baz=120							
PPLA				S	**Sn**	**Sn**	**14 42 01.1**	**+0.1**
	baz=120							
CAST	**Castle Rocks**	**0.88**	**334**		**Pn**	**Pn**	**14 41 52.9**	**-0.1**
CAST					**Sn**	**Sn**	**14 42 05.9**	**-0.9**
CAST	**Castle Rocks**	**0.88**	**334**	IAML			14 42 06.2	
	comp=E,813nm,0.6s							
CAST				IAML			14 42 06.2	
	comp=N,817nm,0.5s							
CAST	**Castle Rocks**	**0.88**	**334**	P	**Pn**	**Pn**	**14 41 52.9**	**-0.1**
	baz=153							
CAST				S	**Sn**	**Sn**	**14 42 05.9**	**-0.9**
	baz=153							
TRF	**Thorofare Moun**	**0.92**	**27**		**Pn**	**Pn**	**14 41 53.7**	**+0.2**
TRF	**Thorofare Moun**	**0.92**	**27**	IAML			14 42 09.1	
	comp=E,857nm,0.6s							
TRF				IAML			14 42 09.2	
	comp=N,673nm,0.5s							
TRF	**Thorofare Moun**	**0.92**	**27**	P	**Pn**	**Pn**	**14 41 53.7**	**+0.2**
	baz=208							
KTH	**Kantishna Hill**	**0.93**	**8**		**Pn**	**Pn**	**14 41 53.8**	**+0.2**
KTH					**Sn**	**Sn**	**14 42 07.4**	**-0.5**
KTH	**Kantishna Hill**	**0.93**	**8**	IAML			14 42 08.5	
	comp=E,616nm,0.5s							
KTH				IAML			14 42 08.6	
	comp=N,1μm,0.4s							
M22K	**Willow**	**1.02**	**149**		**Pn**	**Pn**	**14 41 54.2**	**-0.2**
M22K					**Sn**	**Sn**	**14 42 09.5**	**+0.1**
M22K	**Willow**	**1.02**	**149**	P	**Pn**	**Pn**	**14 41 54.2**	**-0.2**
	baz=330							
M22K				S	**Sn**	**Sn**	**14 42 09.5**	**+0.1**
	baz=330							
STLK	**Strandline Lak**	**1.18**	**195**		**Pn**	**Pn**	**14 41 56.0**	**-0.4**
WAT1	**Susitna Watana**	**1.24**	**80**		**Pn**	**Pn**	**14 41 56.8**	**-0.3**
WAT1					**Sn**	**Sn**	**14 42 13.9**	**-0.3**
WAT1	**Susitna Watana**	**1.24**	**80**	P	**Pn**	**Pn**	**14 41 56.8**	**-0.3**
	baz=262							
WAT1				S	**Sn**	**Sn**	**14 42 13.9**	**-0.3**
	baz=262							
L20K	**Farewell, AK**	**1.25**	**264**		**Pn**	**Pn**	**14 41 56.7**	**-0.4**
L20K	**Farewell, AK**	**1.25**	**264**	P	**Pn**	**Pn**	**14 41 56.7**	**-0.4**
	baz=82							
RND	**Reindeer**	**1.33**	**53**		**Pn**	**Pn**	**14 41 58.3**	**+0.1**
RND					**Sn**	**Sn**	**14 42 16.4**	**+0.3**
RND	**Reindeer**	**1.33**	**53**	IAML			14 42 19.1	
	comp=N,392nm,0.5s							
CHUM	**Lake Minchumin**	**1.35**	**339**		**Pn**	**Pn**	**14 41 58.6**	**+0.3**
CHUM					**Sn**	**Sn**	**14 42 16.4**	**0.0**
CHUM	**Lake Minchumin**	**1.35**	**339**	P	**Pn**	**Pn**	**14 41 58.6**	**+0.3**
	baz=158							
CHUM				S	**Sn**	**Sn**	**14 42 16.4**	**0.0**
	baz=158							
GHO	**Glory Hole Cre**	**1.38**	**128**		**Pn**	**Pn**	**14 41 59.0**	**+0.2**
GHO					**Sn**	**Sn**	**14 42 18.6**	**+1.4**
GHO	**Glory Hole Cre**	**1.38**	**128**	IAML			14 42 21.3	
	comp=N,1μm,0.6s							
SPCG	**Spurr Capps Gl**	**1.40**	**196**		**Pn**	**Pn**	**14 41 58.6**	**-0.5**
PMR	**Palmer**	**1.43**	**136**		**Pn**	**Pn**	**14 41 59.4**	**0.0**
PMR	**Palmer**	**1.43**	**136**	IAML			14 42 20.6	
	comp=N,570nm,0.6s							
PMR				IAML			14 42 21.9	
	comp=E,533nm,0.4s							
PMR	**Palmer**	**1.43**	**136**	P	**Pn**	**Pn**	**14 41 59.4**	**0.0**
	baz=318							
BPAW	**Bear Paw Mtn.**	**1.48**	**4**		**Pn**	**Pn**	**14 41 59.9**	**-0.1**
BPAW					**Sn**	**Sn**	**14 42 18.7**	**-0.6**
BPAW	**Bear Paw Mtn.**	**1.48**	**4**	IAML			14 42 20.1	
	comp=N,451nm,0.6s							
BPAW	**Bear Paw Mtn.**	**1.48**	**4**	P	**Pn**	**Pn**	**14 41 59.8**	**-0.1**
	baz=184							
BPAW				S	**Sn**	**Sn**	**14 42 18.7**	**-0.6**
	baz=184							
SPBG	**Spurr Blockage**	**1.48**	**202**		**Pn**	**Pn**	**14 42 00.7**	**+0.5**
CKN	**Chakachatna No**	**1.49**	**198**		**Pn**	**Pn**	**14 42 00.2**	**+0.1**
K20K	**Telida**	**1.49**	**300**		**Pn**	**Pn**	**14 42 00.1**	**0.0**
K20K					**Sn**	**Sn**	**14 42 19.0**	**-0.6**
K20K	**Telida**	**1.49**	**300**	P	**Pn**	**Pn**	**14 42 00.1**	**0.0**
	baz=118							
K20K				S	**Sn**	**Sn**	**14 42 19.0**	**-0.6**
	baz=118							
SPWE	**Spurr West**	**1.50**	**206**		**Pn**	**Pn**	**14 42 00.8**	**+0.4**
MCK	**McKinley**	**1.51**	**42**		**Pn**	**Pn**	**14 42 00.8**	**+0.4**
MCK	**McKinley**	**1.51**	**42**	P	**Pn**	**Pn**	**14 42 00.7**	**+0.4**
	baz=224							
SPCR	**Spurr Chakacha**	**1.51**	**199**		**Pn**	**Pn**	**14 42 00.3**	**-0.2**
SPCR	**Spurr Chakacha**	**1.51**	**199**	P	**Pn**	**Pn**	**14 42 00.3**	**-0.2**
	baz=18							
CKL	**Chakachamna La**	**1.54**	**201**		**Pn**	**Pn**	**14 42 01.0**	**+0.2**
FIS	**Fire Island**	**1.57**	**162**		**Pn**	**Pn**	**14 42 01.8**	**+0.7**
FIS	**Fire Island**	**1.57**	**162**	IAML			14 42 27.3	
	comp=N,1μm,0.7s							
FIS				IAML			14 42 27.8	
	comp=E,1μm,0.7s							
SML	**Sawmill**	**1.58**	**120**		**Pn**	**Pn**	**14 42 01.4**	**0.0**
SML	**Sawmill**	**1.58**	**120**	IAML			14 42 26.4	
	comp=N,1μm,0.4s							
SML	**Sawmill**	**1.58**	**120**	P	**Pn**	**Pn**	**14 42 01.4**	**0.0**
	baz=303							
WAT6	**Susitna Watana**	**1.61**	**90**		**Pn**	**Pn**	**14 42 01.1**	**-0.7**
WAT6	**Susitna Watana**	**1.61**	**90**	P	**Pn**	**Pn**	**14 42 01.1**	**-0.7**
	baz=273							
M19K	**Big River Lodg**	**1.66**	**245**		**Pn**	**Pn**	**14 42 01.7**	**-0.5**
M19K	**Big River Lodg**	**1.66**	**245**	P	**Pn**	**Pn**	**14 42 01.7**	**-0.5**
	baz=62							
RC01	**Rabbit Creek A**	**1.70**	**155**		**Pn**	**Pn**	**14 42 02.2**	**-0.5**
RC01	**Rabbit Creek A**	**1.70**	**155**	IAML			14 42 27.6	
	comp=E,323nm,0.4s							
RC01				IAML			14 42 34.8	
	comp=N,298nm,0.5s							
RC01	**Rabbit Creek A**	**1.70**	**155**	P	**Pn**	**Pn**	**14 42 02.2**	**-0.5**
	baz=336							
BWN	**Browne**	**1.73**	**26**		**Pn**	**Pn**	**14 42 03.6**	**+0.4**
BWN	**Browne**	**1.73**	**26**	IAML			14 42 29.5	
	comp=E,241nm,0.5s							
BWN				IAML			14 42 48.3	
	comp=N,243nm,0.6s							
L19K	**White Mountain**	**1.75**	**257**		**Pn**	**Pn**	**14 42 03.2**	**-0.3**
L19K	**White Mountain**	**1.75**	**257**	IAML			14 42 26.2	
	comp=N,215nm,0.8s							
L19K				IAML			14 42 26.6	
	comp=E,201nm,0.8s							
L19K	**White Mountain**	**1.75**	**257**	P	**Pn**	**Pn**	**14 42 03.2**	**-0.3**
	baz=73							
KNK	**Knik Glacier**	**1.79**	**132**		**Pn**	**Pn**	**14 42 03.9**	**-0.1**
KNK	**Knik Glacier**	**1.79**	**132**	IAML			14 42 33.0	
	comp=N,825nm,0.6s							
KNK	**Knik Glacier**	**1.79**	**132**	P	**Pn**	**Pn**	**14 42 03.8**	**-0.1**
	baz=315							
DHY	**Denali Highway**	**1.81**	**74**		**Pn**	**Pn**	**14 42 04.1**	**-0.3**
DHY	**Denali Highway**	**1.81**	**74**	IAML			14 42 31.3	
	comp=N,642nm,0.4s							
DHY				IAML			14 42 32.2	
	comp=E,667nm,0.4s							
DHY	**Denali Highway**	**1.81**	**74**	P	**Pn**	**Pn**	**14 42 04.1**	**-0.3**
	baz=258							
CAPN	**Captain Cook N**	**1.87**	**179**		**Pn**	**Pn**	**14 42 07.1**	**+2.2**
CAPN	**Captain Cook N**	**1.87**	**179**	P	**Pn**	**Pn**	**14 42 07.1**	**+2.2**
	baz=359							
SCM	**Sheep Creek Mo**	**1.99**	**112**		**Pn**	**Pn**	**14 42 06.3**	**-0.3**
J20K	**Nowinta River**	**2.04**	**321**		**Pn**	**Pn**	**14 42 07.2**	**+0.1**
J20K	**Nowinta River**	**2.04**	**321**	IAML			14 42 31.6	
	comp=E,145nm,0.8s							
J20K				IAML			14 42 47.9	
	comp=N,171nm,0.7s							
J20K	**Nowinta River**	**2.04**	**321**	P	**Pn**	**Pn**	**14 42 07.2**	**+0.1**
	baz=138							
DFR	**Drift River**	**2.17**	**200**		**Pn**	**Pn**	**14 42 09.0**	**+0.1**
RDJH	**Redoubt Jeurge**	**2.19**	**201**		**Pn**	**Pn**	**14 42 09.8**	**+0.6**
SLKM	**Skilak Lake**	**2.19**	**167**		**Pn**	**Pn**	**14 42 09.2**	**0.0**
NEA2	**Nenana**	**2.19**	**25**		**Pn**	**Pn**	**14 42 08.8**	**-0.3**
NEA2	**Nenana**	**2.19**	**25**	P	**Pn**	**Pn**	**14 42 08.8**	**-0.3**
	baz=207							
TTA	**Tatalina**	**2.23**	**280**		**Pn**	**Pn**	**14 42 09.5**	**-0.2**
TTA	**Tatalina**	**2.23**	**280**	P	**Pn**	**Pn**	**14 42 09.5**	**-0.2**
	baz=96							
TT01	**Tatalina**	**2.23**	**279**		**Pn**	**Pn**	**14 42 09.4**	**-0.2**
NCT	**North Crescent**	**2.24**	**202**		**Pn**	**Pn**	**14 42 10.3**	**+0.4**
PWL	**Port Wells**	**2.25**	**141**		**Pn**	**Pn**	**14 42 09.1**	**-0.8**
PWL	**Port Wells**	**2.25**	**141**	IAML			14 42 44.4	
	comp=N,562nm,0.4s							
PWL				IAML			14 42 45.5	
	comp=E,360nm,0.9s							
O22K	**Cooper Landing**	**2.27**	**161**		**Pn**	**Pn**	**14 42 11.2**	**+1.0**
RDWB	**Redoubt West**	**2.29**	**201**		**Pn**	**Pn**	**14 42 11.0**	**+0.4**
RSO	**Redoubt South**	**2.30**	**199**		**Pn**	**Pn**	**14 42 10.9**	**+0.1**
WRH	**Wood River Hil**	**2.31**	**36**		**Pn**	**Pn**	**14 42 10.8**	**0.0**
RED	**Redoubt Volcan**	**2.34**	**199**		**Pn**	**Pn**	**14 42 11.6**	**+0.3**
N19K	**Bonanza Creek**	**2.40**	**222**		**Pn**	**Pn**	**14 42 12.1**	**+0.1**
N19K	**Bonanza Creek**	**2.40**	**222**	P	**Pn**	**Pn**	**14 42 12.1**	**+0.1**
	baz=39							
M24K	**Tolsona, Glenn**	**2.41**	**100**		**Pn**	**Pn**	**14 42 12.4**	**+0.3**
M24K	**Tolsona, Glenn**	**2.41**	**100**	P	**Pn**	**Pn**	**14 42 12.4**	**+0.3**
	baz=285							
CCB	**Clear Creek Bu**	**2.53**	**35**		**Pn**	**Pn**	**14 42 13.5**	**-0.1**
CCB	**Clear Creek Bu**	**2.53**	**35**	IAML			14 42 46.0	
	comp=N,86nm,0.6s							
I21K	**Tanana**	**2.58**	**353**		**Pn**	**Pn**	**14 42 14.8**	**+0.5**
I21K	**Tanana**	**2.58**	**353**	P	**Pn**	**Pn**	**14 42 14.8**	**+0.5**
	baz=172							
SVW2	**Sparrevohn**	**2.58**	**235**		**Pn**	**Pn**	**14 42 14.2**	**-0.1**
PS10	**TAPS Pump St10**	**2.61**	**70**		**Pn**	**Pn**	**14 42 15.6**	**+0.9**
GLI	**Glacier Island**	**2.63**	**130**		**Pn**	**Pn**	**14 42 14.2**	**-0.8**
GLI	**Glacier Island**	**2.63**	**130**	P	**Pn**	**Pn**	**14 42 14.2**	**-0.8**
	baz=314							
O20K	**Slope Mountain**	**2.65**	**195**		**Pn**	**Pn**	**14 42 16.3**	**+1.0**
O20K	**Slope Mountain**	**2.65**	**195**	P	**Pn**	**Pn**	**14 42 16.3**	**+1.0**
	baz=14							
I23K	**Minto, Yukon-K**	**2.65**	**17**		**Pn**	**Pn**	**14 42 15.5**	**+0.3**
PAX	**Paxson**	**2.66**	**80**		**Pn**	**Pn**	**14 42 16.4**	**+1.0**
PAX	**Paxson**	**2.66**	**80**	P	**Pn**	**Pn**	**14 42 16.4**	**+1.0**
	baz=265							
SEW	**Seward**	**2.68**	**161**		**Pn**	**Pn**	**14 42 15.8**	**+0.2**
SEW	**Seward**	**2.68**	**161**	P	**Pn**	**Pn**	**14 42 15.8**	**+0.2**
	baz=342							
MDM	**Murphy Dome**	**2.68**	**28**		**Pn**	**Pn**	**14 42 15.8**	**+0.1**
TCOL	**CIGO, UAF Yank**	**2.70**	**32**		**Pn**	**Pn**	**14 42 16.2**	**+0.4**
TCOL	**CIGO, UAF Yank**	**2.70**	**32**	IAML			14 42 52.9	
	comp=E,346nm,0.5s							
TCOL				IAML			14 42 58.2	
	comp=N,354nm,0.5s							
TCOL	**CIGO, UAF Yank**	**2.70**	**32**	P	**Pn**	**Pn**	**14 42 16.2**	**+0.4**
	baz=215							
COLA	**College**	**2.70**	**32**		**Pn**	**Pn**	**14 42 16.0**	**+0.2**
COLA	**College**	**2.70**	**32**	IAML			14 42 55.3	
	comp=N,374nm,0.5s							
COLA				IAML			14 42 58.4	
	comp=N,401nm,0.5s							
JPK	**Jack Peak**	**2.70**	**124**		**Pn**	**Pn**	**14 42 15.5**	**-0.5**
PS11	**TAPS Pump St11**	**2.73**	**99**		**Pn**	**Pn**	**14 42 17.1**	**+0.7**
KLU	**Klutina**	**2.74**	**112**		**Pn**	**Pn**	**14 42 15.8**	**-0.8**
KLU	**Klutina**	**2.74**	**112**	P	**Pn**	**Pn**	**14 42 15.7**	**-0.8**
	baz=297							
PS08	**TAPS Pump Stn8**	**2.74**	**44**		**Pn**	**Pn**	**14 42 16.5**	**0.0**
IVE	**Iliamna Volcan**	**2.77**	**199**		**Pn**	**Pn**	**14 42 17.7**	**+0.8**
HARP	**HAARP**	**2.82**	**92**		**Pn**	**Pn**	**14 42 18.1**	**+0.6**
HARP	**HAARP**	**2.82**	**92**	P	**Pn**	**Pn**	**14 42 18.1**	**+0.6**
	baz=278							
O19K	**Port Alsworth**	**2.87**	**213**		**Pn**	**Pn**	**14 42 18.2**	**+0.1**
O19K	**Port Alsworth**	**2.87**	**213**	IAML			14 42 56.5	
	comp=E,145nm,0.4s							
O19K				IAML			14 43 21.2	
	comp=N,122nm,0.5s							
O19K	**Port Alsworth**	**2.87**	**213**	P	**Pn**	**Pn**	**14 42 18.2**	**+0.1**
	baz=30							
BRLK	**Bradley Lake**	**2.88**	**177**		**Pn**	**Pn**	**14 42 18.9**	**+0.5**
BRLK	**Bradley Lake**	**2.88**	**177**	IAML			14 43 00.7	
	comp=N,201nm,0.6s							
BRLK				IAML			14 43 03.8	
	comp=E,111nm,0.5s							
IL31		**2.88**	**40**		**Pn**	**Pn**	**14 42 18.4**	**+0.1**
ILAR	**Eielson Array**	**2.88**	**40**	P	**Pn**	**Pn**	**14 42 18.4**	**+0.1**
	comp=E,9.7nm,0.3s,baz=221,slow=14,SNR=267							
ILAR					S	**Sn**	**14 42 49.6**	**-2.5**
	comp=E,7.0nm,0.3s,baz=224,slow=15,SNR=2.7							
ILAR	**Eielson Array**	**2.88**	**40**		**Pn**	**Pn**	**14 42 18.0**	**-0.4**
BRSE	**Bradley Lake S**	**2.91**	**175**		**Pn**	**Pn**	**14 42 19.3**	**+0.5**
BRSE	**Bradley Lake S**	**2.91**	**175**	P	**Pn**	**Pn**	**14 42 19.3**	**+0.5**
	baz=356							
FID	**Port Fidalgo**	**2.94**	**128**		**Pn**	**Pn**	**14 42 18.2**	**-1.0**
FID	**Port Fidalgo**	**2.94**	**128**	IAML			14 43 07.7	
	comp=N,316nm,0.4s							
N18K	**Kilae Creek**	**2.97**	**231**		**Pn**	**Pn**	**14 42 19.5**	**0.0**
N18K	**Kilae Creek**	**2.97**	**231**	P	**Pn**	**Pn**	**14 42 19.5**	**0.0**
	baz=47							
DIV	**Divide**	**2.99**	**118**		**Pn**	**Pn**	**14 42 18.6**	**-1.2**
HOM	**Homer**	**2.99**	**184**		**Pn**	**Pn**	**14 42 20.7**	**+0.8**
HOM	**Homer**	**2.99**	**184**	IAML			14 43 01.0	
	comp=E,283nm,0.9s							
HOM				IAML			14 43 12.5	
	comp=N,271nm,0.6s							
HOM	**Homer**	**2.99**	**184**	P	**Pn**	**Pn**	**14 42 20.7**	**+0.8**
	baz=3.9							
POKR	**Poker Plat Res**	**3.00**	**32**		**Pn**	**Pn**	**14 42 20.5**	**+0.5**
POKR	**Poker Plat Res**	**3.00**	**32**	P	**Pn**	**Pn**	**14 42 20.5**	**+0.5**
	baz=216							
PS12	**TAPS Pump St12**	**3.09**	**109**		**Pn**	**Pn**	**14 42 20.5**	**-0.6**
RIDG	**Independent Ri**	**3.09**	**66**		**Pn**	**Pn**	**14 42 22.0**	**+0.8**
RIDG	**Independent Ri**	**3.09**	**66**	P	**Pn**	**Pn**	**14 42 22.0**	**+0.8**
	baz=252							
H21K	**Melozitna Rive**	**3.12**	**348**		**Pn**	**Pn**	**14 42 21.9**	**+0.4**
H21K	**Melozitna Rive**	**3.12**	**348**	P	**Pn**	**Pn**	**14 42 21.9**	**+0.4**
	baz=166							
CNPM	**China Poot**	**3.12**	**180**		**Pn**	**Pn**	**14 42 22.5**	**+1.0**
CNPM	**China Poot**	**3.12**	**180**	IAML			14 43 05.2	
	comp=E,208nm,0.9s							
CNPM				IAML			14 43 06.0	
	comp=N,231nm,0.6s							
P19K	**Oil Pt**	**3.15**	**199**		**Pn**	**Pn**	**14 42 22.1**	**+0.1**
P19K	**Oil Pt**	**3.15**	**199**	IAML			14 43 09.5	
	comp=N,87nm,0.5s							
P19K				IAML			14 43 10.2	
	comp=E,137nm,0.6s							
P19K	**Oil Pt**	**3.15**	**199**	P	**Pn**	**Pn**	**14 42 22.1**	**+0.1**
	baz=17							
N25K	**Chitina, Valde**	**3.27**	**105**		**Pn**	**Pn**	**14 42 23.2**	**-0.5**
N25K	**Chitina, Valde**	**3.27**	**105**	IAML			14 43 12.7	
	comp=N,198nm,0.4s							
N25K				IAML			14 43 13.7	
	comp=E,156nm,0.5s							
N25K	**Chitina, Valde**	**3.27**	**105**	P	**Pn**	**Pn**	**14 42 23.2**	**-0.5**
	baz=291							
J25K	**Salcha River,**	**3.28**	**50**		**Pn**	**Pn**	**14 42 23.7**	**0.0**
J25K	**Salcha River,**	**3.28**	**50**	IAML			14 43 04.4	
	comp=E,117nm,0.4s							
J25K				IAML			14 43 10.9	
	comp=N,115nm,0.4s							
J25K	**Salcha River,**	**3.28**	**50**	P	**Pn**	**Pn**	**14 42 23.7**	**0.0**
	baz=235							
H23K	**Yukon River**	**3.29**	**12**		**Pn**	**Pn**	**14 42 24.2**	**+0.5**
H23K	**Yukon River**	**3.29**	**12**	P	**Pn**	**Pn**	**14 42 24.2**	**+0.5**
	baz=194							
GCSA	**Galena City Sc**	**3.29**	**313**		**Pn**	**Pn**	**14 42 24.4**	**+0.6**
GCSA	**Galena City Sc**	**3.29**	**313**	P	**Pn**	**Pn**	**14 42 24.4**	**+0.6**
	baz=128							
EYAK	**Cordova Ski Ar**	**3.35**	**126**		**Pn**	**Pn**	**14 42 23.8**	**-0.8**
EYAK	**Cordova Ski Ar**	**3.35**	**126**	P	**Pn**	**Pn**	**14 42 23.7**	**-0.8**
	baz=311							
O18K	**Koktuh Hills**	**3.39**	**216**		**Pn**	**Pn**	**14 42 25.5**	**+0.3**
O18K	**Koktuh Hills**	**3.39**	**216**	P	**Pn**	**Pn**	**14 42 25.5**	**+0.

EGAK	**Eagle**	**4.96**	**60**	Pn		**Pn**	**14 42 46.1**	**-0.3**
EGAK				IAML			14 43 59.0	
	comp=E,56nm,0.8s							
EGAK				IAML			14 43 59.2	
	comp=E,68nm,0.8s							
CTG	**Chitna Glacier**	**4.97**	**105**	P		**Pn**	**14 42 46.4**	**-0.4**
	baz=294							
CTGM	**Chitina Glacie**	**4.98**	**105**				**14 42 46.4**	**-0.4**
CTGM	**Chitina Glacie**	**4.98**	**105**	IAML			14 44 05.3	
	comp=N,64nm,0.6s							
CTGM				IAML			14 44 05.3	
	comp=E,35nm,0.7s							
YUK3	**Moose Creek**	**5.11**	**95**			**Pn**	**14 42 48.5**	**-0.1**
YUK3	**Moose Creek**	**5.11**	**95**	P		**Pn**	**14 42 48.5**	**-0.1**
	baz=284							
LOGN	**Logan Glacier**	**5.18**	**106**			**Pn**	**14 42 48.8**	**-0.8**
LOGN	**Logan Glacier**	**5.18**	**106**	IAML			14 44 10.5	
	comp=E,50nm,0.7s							
TABL	**Table Mountain**	**5.30**	**110**			**Pn**	**14 42 50.0**	**-1.1**
TABL	**Table Mountain**	**5.30**	**110**	IAML			14 44 22.4	
	comp=N,52nm,1.0s							
DAWY	**Dawson**	**5.51**	**70**			**Pn**	**14 42 54.0**	**0.0**
DAWY	**Dawson**	**5.51**	**70**	P		**Pn**	**14 42 54.0**	**0.0**
	baz=260							
BM03	**Burnt Mountain**	**5.56**	**27**			**Pn**	**14 42 55.0**	**+0.5**
BMAR	**Burnt Mountain**	**5.57**	**27**	Pn		**Pn**	**14 42 55.4**	**+0.7**
PCA	**Pinnacle**	**5.85**	**111**			**Pn**	**14 42 57.8**	**-0.8**
PINM	**Pinnacle**	**5.85**	**111**	P		**Pn**	**14 42 57.8**	**-0.8**
	baz=300							
TOLK	**Toolik Lake Re**	**6.07**	**6**	Pn		**Pn**	**14 43 03.3**	**+1.8**
BCPM	**Bancas Point**	**6.19**	**111**	Pn		**Pn**	**14 43 02.6**	**-0.5**
I29M	**Ogilvie Camp,**	**6.30**	**59**			**Pn**	**14 43 04.7**	**+0.1**
PNL	**Peninsula**	**6.45**	**112**			**Pn**	**14 43 05.7**	**-0.9**
YUK5	**Granite Creek**	**6.49**	**97**			**Pn**	**14 43 06.3**	**-1.0**
ANM	**Nome**	**6.60**	**293**	Pn		**Pn**	**14 43 09.7**	**+1.0**
M30M	**Minto, Yukon**	**6.66**	**84**			**Pn**	**14 43 08.8**	**-0.7**
HYT	**Haines Junctio**	**6.76**	**99**			**Pn**	**14 43 13.8**	**+2.8**
INK	**Inuvik**	**9.27**	**45**	P		**Pn**	**14 43 46.3**	**+1.4**
	comp=N,0.3nm,0.3s,baz=233,slow=17,SNR=16							
INK				S		**Sn**	**14 45 23.6**	**-3.6**
	baz=254,slow=27,SNR=0.9							
INK	**Inuvik**	**9.27**	**45**			**Pn**	**14 43 45.7**	**+0.8**
YKA	**Yellowknife Ar**	**16.73**	**74**	P		**Pn**	**14 45 22.0**	**-0.8**
	comp=N,0.1nm,0.3s,baz=286,slow=10,SNR=8.4							
SEY	**Seymchan**	**25.10**	**296**	P		**P**	**14 46 49.9**	**-0.2**
	comp=N,0.8nm,0.7s,baz=90,slow=20,SNR=2.3							
NVAR	**Mina Array Bea**	**31.39**	**125**	P		**P**	**14 47 47.7**	**+1.2**
	comp=N,0.1nm,0.4s,baz=329,slow=8.7,SNR=1.4							
TXAR	**Lajitas Array**	**45.20**	**115**	P		**P**	**14 49 43.4**	**+1.2**
	comp=N,0.3nm,0.6s,baz=327,slow=5.7,SNR=3.7							
SONM	**Songino Array**	**53.95**	**306**	P		**P**	**14 50 48.7**	**+0.3**
	comp=N,0.5nm,0.6s,baz=44,slow=8.5,SNR=2.1							
MKAR	**Makanchi Array**	**62.90**	**322**	P		**P**	**14 51 49.7**	**-0.7**
	comp=N,0.2nm,0.4s,baz=37,slow=5.8,SNR=4.2							

*GCG **22** 14:57:51.6±0.6, 13˚.15N×90˚.14W, h16km±460km, MD3.8*
*SNET **22** 14:57:55.6±0.9, 13˚.41N×90˚.01W, h33km±3km, ML3.5*
ISC 22 14:57:53.7±2.3**, 13˚.3N**±0.1×**90.08W**±0.06**, h25**km±16km**,**
n24, σ0.940/32**, 2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.68**	**25**	*eP*	**Pb**	**14 58 07.0**	**0.0**
NUBE				*eS*	**Sb**	**14 58 15.2**	**-0.9**
CEVE	**Cerro Verde**	**0.70**	**39**	*eP*	**Pb**	**14 58 07.7**	**+0.3**
CEVE				*eS*	**Sb**	**14 58 17.4**	**+0.7**
CEVE				IAML		14 58 19.4	
	comp=Z,10μm,0.3s						
SBLS	**San Blas**	**0.71**	**39**	*eP*	**Pb**	**14 58 07.8**	**+0.2**
SBLS				*eS*	**Sb**	**14 58 17.1**	**+0.1**
JAYA	**Jayaque - finc**	**0.71**	**59**	*eP*	**Pb**	**14 58 07.5**	**-0.1**
JAYA				*eS*	**Sb**	**14 58 17.0**	**-0.1**
JAYA				IAML		14 58 18.4	
	comp=Z,3μm,0.2s						
RTR	**El Retiro**	**0.74**	**35**	*eP*	**Pb**	**14 58 08.3**	**+0.2**
SNJE	**San Jose**	**0.74**	**38**	*eP*	**Pb**	**14 58 08.2**	**+0.1**
SNJE				*eS*	**Sb**	**14 58 17.7**	**-0.1**
LALI	**Alcalda de L**	**0.76**	**75**	*eP*	**Pb**	**14 58 08.5**	**+0.2**
LALI				IAML		14 58 19.0	
	comp=Z,620nm,0.2s						
SLOZ	**Alcaldia de Sa**	**0.79**	**21**	*eP*	**Pb**	**14 58 08.8**	**-0.1**
BOQS	**Boqueron**	**0.90**	**60**	*e*	**Pn**	**14 58 11.0**	**0.0**
BOQS				*eP*	**Pn**	**14 58 11.0**	**0.0**
LFRS	**El Faro**	**1.04**	**71**	*eP*	**Pn**	**14 58 12.3**	**-0.6**
SJTE	**Alcalda de S**	**1.09**	**72**	*eP*	**Pn**	**14 58 12.9**	**-0.7**
SJTE				IAML		14 58 32.8	
	comp=Z,488nm,0.2s						
LBRS	**Las Brisas**	**1.10**	**66**	*eP*	**Pb**	**14 58 14.0**	**-0.1**
PAVA	**Las Pavas**	**1.19**	**69**	*eP*	**Pn**	**14 58 15.1**	**+0.2**
PAVA				*eS*	**Sn**	**14 58 30.2**	**-0.1**
CODG	**Centro de Oper**	**1.21**	**74**	*eP*	**Pn**	**14 58 14.7**	**-0.5**
PCG	**Pacaya**	**1.21**	**335**	*eP*	**Pn**	**14 58 15.4**	**+0.1**
MTO3	**Montecristo**	**1.31**	**32**	*eP*	**Pn**	**14 58 16.4**	**-0.3**
NBG	**Las Nubes**	**1.32**	**349**	*eP*	**Pb**	**14 58 18.0**	**0.0**
FUG	**Fuego 3**	**1.37**	**327**	*eP*	**Pn**	**14 58 17.3**	**-0.2**
ESQI	**Esquipulas**	**1.45**	**29**	*eP*	**Pn**	**14 58 18.1**	**-0.5**
PACA	**Pacayal**	**1.72**	**84**	*eP*	**Pn**	**14 58 22.7**	**+0.5**
LCY	**Lacayo**	**1.74**	**85**	*eP*	**Pn**	**14 58 22.9**	**+0.4**
LCY				*eS*	**Sn**	**14 58 44.0**	**0.0**
JUCU	**Jucuar¡n**	**1.78**	**91**	IAML		14 58 54.1	
	comp=Z,405nm,0.4s						
MRL	**Marmol**	**1.82**	**12**	*eP*	**Pn**	**14 58 24.7**	**+0.9**
STG3	**Santiaguito 3,**	**2.03**	**315**	*eP*	**Pn**	**14 58 26.4**	**-0.1**
STG3				*eS*	**Sn**	**14 58 51.4**	**+0.2**

*SOME **22** 15:01:33.1, 42˚.42N×82˚.30E, h15km*
*NNC **22** 15:01:35.8±2.1, 42˚.46N×82˚.15E, h0km, mb2.8, mpv2.4,*
Error ellipse: s-maj=16.9km s-min=7.4km az=146.0
ISC 22 15:01:33.8±2.3**, 42˚.4N**±0.1×**82˚.27E**±0.07**, h10**km**, n17,**
σ2.983/35**, 4C-5D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.20**	**291**	*eP*	**Pn**	**15 02 09.5**	**-1.0**
	4.0nm,0.2s						
SHLS				*eS*	**Sn**	**15 02 35.6**	**-2.3**
	12nm,0.2s						
PDGK	**Podgornoye**	**2.24**	**295**	⇓*Pg*	**Pb**	**15 02 14.6**	**+0.1**
	1.6nm,0.3s						
PDGK				⇓*Lg*	Lg	15 02 44.8	
	30nm,0.7s						
UZB	**Uzynbulak**	**2.50**	**288**	*eP*	**Pb**	**15 02 19.1**	**+0.2**
	3.4nm,0.2s						
UZB				*eS*	**Sg**	**15 02 52.1**	**-2.1**
	16nm,0.4s						
KPKS	**Kokpek**	**2.84**	**293**	*eP*	**Pb**	**15 02 24.5**	**-0.1**
	2.9nm,0.3s						
KPKS				*eS*	**Sb**	**15 03 01.1**	**+1.7**
	22nm,0.3s						
SATY	**Saty**	**2.92**	**284**	*eP*	**Pb**	**15 02 26.8**	**+0.7**
	2.2nm,0.3s						
SATY				*eS*	**Sg**	**15 03 05.7**	**-2.0**
	11nm,0.4s						
KURS	**Kuram**	**3.20**	**291**	*eP*	**Pb**	**15 02 31.0**	**+0.3**
	1.5nm,0.4s						
KURS				*eS*	**Sb**	**15 03 12.2**	**+2.4**
	5.8nm,1.0s						
BLB	**Baldybastay**	**3.25**	**303**	*eP*	**Pb**	**15 02 32.0**	**+0.5**
	1.8nm,0.2s						
BLB				*eS*	**Sb**	**15 03 14.1**	**+2.9**
	9.0nm,0.2s						
KAPS	**Kapalarasan**	**3.56**	**325**	*eP*	**Pb**	**15 02 36.1**	**-0.9**
	1.2nm,0.4s						
KAPS				*eS*	**Sb**	**15 03 21.0**	**+0.7**
	6.4nm,0.5s						
ARXS	**Arharly**	**3.71**	**301**	*eP*	**Pb**	**15 02 40.4**	**+0.9**
	0.7nm,0.3s						
ARXS				*eS*	**Sb**	**15 03 28.4**	**+3.9**
	9.1nm,0.5s						
MDOK	**Medeo**	**3.92**	**283**	*eP*	**Pb**	**15 02 43.0**	**-0.1**
	0.7nm,0.2s						
MDOK				*eS*	**Sb**	**15 03 32.6**	**+2.0**
	3.7nm,0.5s						
TNSS	**Tian-Shan**	**3.97**	**281**	*eP*	**Pb**	**15 02 45.9**	**+1.8**
	0.9nm,0.3s						
TNSS				*eS*	**Sg**	**15 03 38.0**	**-3.4**
	1.5nm,0.5s						
KTBS	**Karatobe**	**4.30**	**290**	*eP*	**Pb**	**15 02 51.0**	**+1.5**
	0.3nm,0.4s						
KTBS				*eS*	**Sb**	**15 03 46.4**	**+5.0**
	5.8nm,0.7s						
MK31	**Makanchi Array**	**4.38**	**0**	Pn	**Pn**	**15 02 43.7**	**+3.3**
	0.1nm,0.2s,baz=191,slow=13,SNR=9.6						
MK31				⇓*Pg*	**Pg**	**15 02 54.5**	**-3.2**
	0.4nm,0.4s,baz=182,slow=15,SNR=10						
MK31				⇑*Sn*	**Sn**	**15 03 34.6**	**+3.1**
	0.2nm,0.4s						
MK31				⇓*Lg*	Lg	15 03 52.1	
	2.6nm,0.7s,baz=178,slow=27,SNR=7.2						
MAKZ	**Makanchi**	**4.40**	**357**	⇓*Pn*	**Pn**	**15 02 43.6**	**+2.9**
	0.5nm,0.7s						
MAKZ				⇑*Pg*	**Pg**	**15 02 53.9**	**-4.2**
	0.5nm,0.6s						
MAKZ				⇑*Sn*	**Sn**	**15 03 36.7**	**+4.7**
	0.6nm,0.6s						
MAKZ				⇑*Lg*	Lg	15 03 53.3	
	0.9nm,0.6s						
KUU	**Kurty**	**4.59**	**291**	*eP*	**Pb**	**15 02 55.7**	**+1.3**
	0.6nm,0.1s						
KUU				*eS*	**Sb**	**15 03 54.4**	**+4.7**
	2.7nm,0.4s						
KRBS	**Karabastau**	**5.00**	**287**	*eP*	**Pb**	**15 03 04.9**	**+3.4**
	0.7nm,0.4s						
KRBS				*eS*	**Sg**	**15 04 10.3**	**-4.0**
	1.7nm,0.3s						
ZSN	**Zaisan**	**5.37**	**19**	*eP*	**Pg**	**15 03 12.2**	**-4.3**
	1.5nm,0.3s						
ZSN				*eS*	**Sg**	**15 04 22.7**	**-3.3**
	5.2nm,0.8s						

*UCR **22** 15:09:09.9±1.4, 10˚.66N×86˚.08W, h23km±6km, MW4.0*
*INET **22** 15:09:12.7±0.6, 10˚.76N×86˚.00W, h23km±5km, MW3.2*
ISC 22 15:09:10.1±1.5**, 10˚.64N**±0.04×**86˚.06W**±0.07**, h29**km±13km**,**
n33, σ0.979/42**, 5D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.47**	**81**	*eP*	**Pb**	**15 09 19.9**	**-0.1**
HZTE				*eS*	**Sb**	**15 09 27.9**	**+1.3**
GBS3	**Finca Las Img**	**0.61**	**77**	⇓*iP*	**Pb**	**15 09 21.7**	**-0.7**
GBS3				*i S*	**Sb**	**15 09 30.9**	**+0.2**
GUAI	**GUAI**	**0.66**	**124**	⇓*iP*	**Pb**	**15 09 22.7**	**-0.3**
GUAI				*i S*	**Sb**	**15 09 32.9**	**+1.0**
ORTG	**Ortega, Santa**	**0.66**	**115**	*eP*	**Pb**	**15 09 22.6**	**-0.5**
BUEV	**Buena Vista**	**0.67**	**76**	*eP*	**Pb**	**15 09 22.5**	**-0.8**
BUEV				*i S*	**Sb**	**15 09 32.1**	**-0.1**
SAJU	**San Juanillo,**	**0.67**	**148**	*eP*	**Pb**	**15 09 22.4**	**-0.8**
GB1A	**Borinquen Arri**	**0.68**	**75**	⇓*iP*	**Pb**	**15 09 22.7**	**-0.8**
GB1A				*i S*	**Sb**	**15 09 32.6**	**0.0**
GPS3	**Bodega del ICE**	**0.70**	**80**	*i P*	**Pb**	**15 09 22.3**	**-1.5**
VRLE	**La Escondida,**	**0.70**	**78**	*eP*	**Pb**	**15 09 22.9**	**-1.0**
GPS2	**Hotel Rincn d**	**0.71**	**81**	⇓*iP*	**Pb**	**15 09 23.1**	**-0.9**
BUAI	**Buenos Aires**	**0.76**	**72**	*i P*	**Pb**	**15 09 24.3**	**-0.5**
PLVR	**Palo Verde**	**0.76**	**112**	*eP*	**Pb**	**15 09 24.3**	**-0.6**
PLVR				*eS*	**Sb**	**15 09 35.4**	**+0.4**
DUNO	**Dulce Nombre,**	**0.79**	**135**	*eP*	**Pb**	**15 09 24.9**	**-0.4**
LIN1	**Limonal**	**0.80**	**86**	*i P*	**Pb**	**15 09 24.7**	**-0.8**
GUAB	**Guayabo de Bag**	**0.82**	**85**	*i P*	**Pb**	**15 09 24.9**	**-1.0**
GRZA	**Playa Garza**	**0.83**	**150**	*eP*	**Pb**	**15 09 24.7**	**-1.4**
HORNC	**Hornillas**	**0.87**	**85**	*i P*	**Pb**	**15 09 25.7**	**-1.0**
CUI	**Cuipilapa**	**0.89**	**89**	*eP*	**Pb**	**15 09 26.1**	**-0.8**
CUI				⇓*iP*	**Pb**	**15 09 26.2**	**-0.8**
VMAR	**Armenia, Volca**	**0.94**	**79**	*eP*	**Pb**	**15 09 27.2**	**-0.7**
ACAL	**Aguas Claras**	**1.01**	**90**	*i P*	**Pb**	**15 09 28.5**	**-0.6**
CONN	**Concepcion**	**1.01**	**25**	*eP*	**Pb**	**15 09 28.4**	**-0.7**
JTS	**Las Juntas de**	**1.15**	**107**	*eP*	**Pn**	**15 09 30.1**	**-0.2**
ARE1	**Arenal 1**	**1.33**	**97**	*eP*	**Pn**	**15 09 34.0**	**+1.1**
LAFE	**Finca La Fe, P**	**1.41**	**126**	*eP*	**Pn**	**15 09 32.8**	**-1.0**
ACON	**Acoyapa**	**1.58**	**33**	*eP*	**Pn**	**15 09 36.1**	**-0.1**
ACON				*eS*	**Sn**	**15 09 56.0**	**+0.3**
ACON	**Acoyapa**	**1.58**	**33**	*eP*	**Pn**	**15 09 36.1**	**-0.1**
COPN	**Copaltepe**	**1.62**	**341**	*eP*	**Pn**	**15 09 37.3**	**+0.6**
JACO	**JACO, Garabito**	**1.69**	**125**	*eP*	**Pn**	**15 09 39.3**	**+1.6**
HUEN		**1.69**	**356**	*eP*	**Pn**	**15 09 38.3**	**+0.6**
MOMM	**Momotombo**	**1.82**	**345**	*eP*	**Pn**	**15 09 39.9**	**+0.4**
BOAB	**BOACO BROADBAN**	**1.84**	**12**	*eP*	**Pn**	**15 09 39.9**	**+0.1**
BOAB				*eS*	**Sn**	**15 10 02.0**	**-0.1**
MATN	**Matagalpa**	**2.28**	**3**	*eP*	**Pn**	**15 09 46.4**	**+0.5**
ESPN	**Las Esperanzas**	**2.32**	**48**	*eP*	**Pn**	**15 09 46.6**	**+0.2**

*IDC **22** 15:19:06.9±2.3, 24˚.21S×179˚.99E, h494km±21km,*
mb3.3/10, mb1 3.5/11, mb1mx3.3/30, mbtmp4.1/11, Error
ellipse: s-maj=36.3km s-min=19.4km az=139.0
ISC 22 15:19:07.1±0.8**, 24˚.3S**±0.1×**179˚.9W**±0.2**, h500**km**, n15,**
σ0.992/17**, mb3.6**/10**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.79**	**277**	P	**P**	**15 21 55.9**	**+1.8**
	0.5nm,0.3s,baz=50,slow=23,SNR=5.8						
URZ	**Urewera**	**14.19**	**190**	P	**P**	**15 22 08.7**	**+0.2**
	0.6nm,0.3s,baz=128,slow=20,SNR=1.9						
STKA	**Stephens Creek**	**34.71**	**249**	P	**P**	**15 25 14.2**	**-0.4**
	1.5nm,0.4s,baz=96,slow=9.1,SNR=9.9						
ASAR	**Alice Springs**	**42.10**	**261**	P	**P**	**15 26 14.0**	**-0.9**
	1.8nm,0.5s,baz=95,slow=6.7,SNR=82						
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**15 26 16.8**	**-1.3**
	5.7nm,0.5s,baz=103,slow=7.9,SNR=20						
WRA				ScP	**ScP**	**15 31 03.5**	**+0.9**
	1.5nm,0.9s,baz=102,slow=4.4,SNR=4.7						
MJAR	**Matsushiro Arr**	**72.27**	**326**	P	**P**	**15 29 40.4**	**-0.9**
	0.8nm,0.4s,baz=57,slow=8.1,SNR=4.1						
KSRS	**Korea Array**	**78.61**	**320**	P	**P**	**15 30 17.2**	**+0.7**
	0.8nm,0.6s,baz=112,slow=4.9,SNR=4.9						
PETK	**Petropavlovsk-**	**79.48**	**346**	P	**P**	**15 30 21.0**	**+0.1**
	1.8nm,0.7s,baz=101,slow=7.7,SNR=5.9						
USRK	**Ussuriysk Ar.**	**81.14**	**327**	P	**P**	**15 30 29.6**	**-0.2**
	1.1nm,0.5s,baz=141,slow=3.0,SNR=6.6						
SEY	**Seymchan**	**89.65**	**348**	P	**P**	**15 31 10.8**	**+0.2**
	1.0nm,0.5s,baz=163,slow=19,SNR=9.0						
TXAR	**Lajitas Array**	**90.52**	**58**	P	**P**	**15 31 16.7**	**+1.1**
	0.3nm,0.7s,baz=201,slow=6.7,SNR=3.6						
ILAR	**Eielson Array**	**92.36**	**14**	P	**P**	**15 31 22.3**	**-0.8**
	0.5nm,0.8s,baz=218,slow=5.7,SNR=3.1						
FINES	**FINESS Array B**	**138.83**	**341**	PKhKP	PKPpre	15 37 25.2	
	0.9nm,0.7s,baz=56,slow=4.8,SNR=6.4						
FINES				PKP	**PKPdf**	**15 37 35.7**	**+0.2**
	0.5nm,0.4s,baz=85,slow=3.0,SNR=6.2						
FINES				SKPbc	**SKPbc**	**15 40 22.2**	**-0.8**
	1.8nm,0.7s,baz=90,slow=3.8,SNR=7.5						
AKASG	**Malin Array Be**	**145.35**	**327**	PKPbc	**PKPdf**	**15 37 47.3**	**0.0**
	0.7nm,0.3s,baz=47,slow=4.1,SNR=8.4						
BRTR	**Keskin Array B**	**147.90**	**307**	PKPbc	**PKPbc**	**15 37 55.0**	**-0.9**
	1.0nm,0.6s,baz=102,slow=2.9,SNR=5.1						

*DJA **22** 15:22:12.0±0.4, 6˚S±4˚×13˚1E±˚, h161km±12km, M4.0/9,*
mb3.9/6, mB4.7/2, MLv4.0/9, Mw(mB)4.0/2
ISC 22 15:22:13.4±1.2**, 5.73S**±0.09×**130.9E**±0.1**, h100**km**, n14,**
σ1.963/14**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.55**	**321**	P	**Pn**	**15 22 39.9**	**-0.4**
SAUI	**Saumlaki**	**2.27**	**170**	P	**Pn**	**15 22 51.4**	**+1.8**
SAUI	**Saumlaki**	**2.27**	**170**	P	**Pn**	**15 22 51.2**	**+1.6**
MSAI	**Masohi**	**3.07**	**320**	P	**Pn**	**15 23 00.3**	**+0.2**
AAI	**Ambon**	**3.36**	**307**	P	**Pn**	**15 23 03.7**	**-0.3**
SWI	**Sorong**	**4.85**	**4**	P	**Pn**	**15 23 23.8**	**-0.3**
LBMI	**Labuha**	**6.08**	**326**	P	**Pn**	**15 23 39.5**	**-1.4**
	0.1nm12nm,0.8s						
SANI	**Sanana**	**6.10**	**307**	P	**Pn**	**15 23 40.0**	**-1.1**
	0.0nm7.7nm,1.0s						
MTN	**Manton Dam**	**7.07**	**178**	P	**Pn**	**15 23 53.8**	**-0.5**
KDU	**Kakadu**	**7.09**	**167**	P	**Pn**	**15 23 53.6**	**-0.9**
KNRA	**Kununurra**	**10.10**	**192**	P	**Pn**	**15 24 33.1**	**-2.4**
COEN	**Coen**	**14.60**	**125**	P	**P**	**15 25 37.9**	**-0.9**
	28nm,1.8s						
QIS	**Mount Isa**	**17.00**	**151**	P	**P**	**15 26 08.8**	**+3.4**
	5.5nm,1.5s						
WRKA	**Warakurna**	**19.36**	**187**	P	**Pn**	**15 26 33.0**	**-0.3**

*IDC **22** 15:36:26.7±0.7, 0˚.31S×80˚.77W, h0km, mb4.1/15,*
mb1 4.3/17, mb1mx4.2/37, mbtmp4.2/17, ML3.9/2, MS4.2/15,
Ms1 4.2/15, ms1mx3.8/63, Error ellipse: s-maj=29.7km
s-min=12.7km az=58.0
*NEIC **22** 15:36:27.9±1.9, 0˚.51S±0.05×80˚.91W±0.06, h10km±1km,*
mb4.8/61, Error ellipse: s-maj=10.1km s-min=6.9km
az=118.0
*IGQ **22** 15:36:27±1.9, 0˚S±6˚×8˚1W±˚, h6km*
*VAO **22** 15:36:29.7±1.3, 0.˚40S×80˚.65W, h10km, mb4.7*
ISC 22 15:36:27.6±0.4**, 0˚.41S**±0.04×**80˚.90W**±0.05**, h10**km**, n189,**
σ1.937/162**, mb4.7**/41**, MS4.3**/16**, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.70**	**78**	S	**Sn**	**15 36 54.0**	**-0.7**
JAMA				P	**Pb**	**15 36 42.0**	**-0.1**
MAG1	**Magdalena**	**1.17**	**73**	P	**Pb**	**15 36 49.0**	**-1.0**
AV18	**Acelerografo,**	**1.59**	**63**	P	**Pn**	**15 36 55.0**	**-0.8**
HPAL	**Hacienda Las P**	**2.25**	**85**	P	**Pn**	**15 37 04.0**	**-1.3**
GGPT	**Toaza - Volcan**	**2.28**	**85**	P	**Pn**	**15 37 05.0**	**-0.7**
JUA2	**San Juan 2**	**2.30**	**85**	P	**Pn**	**15 37 06.0**	**0.0**
PINO	**Pino**	**2.30**	**84**	P	**Pn**	**15 37 06.0**	**-0.2**
YANA	**Yana**	**2.34**	**83**	P	**Pn**	**15 37 06.0**	**-0.6**
PORT	**Chimborazo Vol**	**2.36**	**116**	Pn	**Pn**	**15 37 07.4**	**+0.4**
CAMI	**Rancho Maria**	**2.40**	**96**	P	**Pn**	**15 37 09.0**	**+1.5**
BNAS	**Cotopaxi Volca**	**2.43**	**96**	P	**Pn**	**15 37 08.0**	**+0.2**
PULU	**Pululahua**	**2.43**	**80**	Pn	**Pn**	**15 37 07.7**	**-0.1**
PULU	**Pululahua**	**2.43**	**80**	P	**Pn**	**15 37 06.0**	**-1.8**
PITA	**Cotopaxi Volc**	**2.47**	**93**	P	**Pn**	**15 37 09.0**	**+0.7**
BREF	**Cotopaxi Volca**	**2.47**	**96**	P	**Pn**	**15 37 09.0**	**+0.5**
BVC2	**Cotopaxi Volca**	**2.50**	**96**	P	**Pn**	**15 37 10.0**	**+1.2**
BTAM	**Cotopaxi Volca**	**2.51**	**96**	P	**Pn**	**15 37 10.0**	**+1.0**
OTAV	**Otavalo**	**2.53**	**75**	Pn	**Pn**	**15 37 09.6**	**+0.4**
TAMB	**Tambo**	**2.54**	**96**	P	**Pn**	**15 37 10.0**	**+0.6**
CUSE	**Cuicocha Este**	**2.60**	**74**	*eP*	**Pn**	**15 37 08.7**	**-1.4**
CUSE	**Cuicocha Este**	**2.60**	**74**	P	**Pn**	**15 37 09.0**	**-1.1**
COHC	**Cochancay**	**2.62**	**141**	Pn	**Pn**	**15 37 09.3**	**-0.6**
CUIC	**Cuicocha-Domo**	**2.63**	**74**	P	**Pn**	**15 37 10.0**	**-0.6**
CUSW	**Cuicocha Oeste**	**2.64**	**75**	P	**Pn**	**15 37 12.0**	**+1.4**
URCU	**Urcuqui**	**2.77**	**72**	P	**Pn**	**15 37 12.0**	**-0.5**
CAYR	**Refugio Cayamb**	**2.92**	**82**	P	**Pn**	**15 37 16.0**	**+1.3**
YAHU	**Yahuarcocha**	**2.93**	**75**	P	**Pn**	**15 37 17.0**	**+2.4**
CHMA	**Chilma**	**3.10**	**66**	P	**Pn**	**15 37 15.0**	**-1.9**
CHL1	**Volc¡n Chiles**	**3.18**	**68**	P	**Pn**	**15 37 17.0**	**-1.3**
CHL2	**Volc¡n Chiles**	**3.21**	**68**	P	**Pn**	**15 37 18.0**	**-0.6**
ARNL	**Arenillas**	**3.22**	**165**		**Pn**	**15 37 17.0**	**-0.6**
ARNL	**Arenillas**	**3.22**	**165**	P	**Pb**	**15 37 23.0**	**-1.9**
CONE	**Cono NE Rev Vo**	**3.27**	**84**	P	**Pn**	**15 37 22.0**	**+2.7**
TULM	**Tulcn-Chalpat**	**3.30**	**70**	Pn	**Pn**	**15 37 22.1**	**+2.3**
TULM	**Tulcn-Chalpat**	**3.30**	**70**	*eP*	**Pb**	**15 37 24.9**	**-1.8**
BONI	**La Bonita**	**3.47**	**76**	P	**Pn**	**15 37 23.0**	**+1.0**
BOSC	**San Juan Bosco**	**3.63**	**139**	Pn	**Pn**	**15 37 27.9**	**+3.9**
CCUFI	**Cufio, Nario**	**3.91**	**65**	*eP*	**Pn**	**15 37 32.5**	**+4.3**
GCUF	**Volcan Galeras**	**3.91**	**65**	*eP*	**Pn**	**15 37 29.6**	**+1.5**
MCRA	**Macar, Loja**	**4.04**	**167**		**Pn**	**15 37 28.3**	**-1.3**
MCRA	**Macar, Loja**	**4.04**	**167**	P	**Pn**	**15 37 29.0**	**-0.6**
GR1C	**Gorgona, Isla**	**4.35**	**39**	*eP*	**Pb**	15 37 39.1	-5.1
POPC	**Popayan, Colom**	**5.14**	**55**	*eP*	**Pn**	**15 37 43.9**	**-1.0**
PCON	**Cinco Dias**	**5.26**	**59**	*eP*	**Pn**	**15 37 47.7**	**+0.9**
MARP	**Paez Belalcaza**	**5.90**	**57**	*eP*	**Pn**	**15 37 56.3**	**+0.9**
GARC	**Garzon, Huila**	**5.99**	**64**	*eP*	**Pn**	**15 37 57.3**	**+0.7**
PYTC	**Yotoco, Valle**	**6.30**	**46**	*eP*	**Pb**	**15 38 14.4**	**-3.2**
PLMC	**San Jos del P**	**7.01**	**41**	*eP*

LCAR					IAmb	IAmb	15 43 46.5		
	comp=Z,34nm,1.4s								
X34A	**Smith Ranch, M**	**38.27**	**337**	P	**P**		**15 43 50.6**	**+2.4**	
X34A					IAmb	IAmb	15 43 53.9		
	comp=Z,36nm,1.4s								
FVM	**French Village**	**39.21**	**348**	P	**P**		**15 43 56.3**	**+0.3**	
FVM					IAmb	IAmb	15 44 00.3		
	comp=Z,23nm,1.2s								
CCM	**Cathedral Cave**	**39.45**	**347**	P	**P**		**15 43 57.5**	**-0.5**	
CCM					IAmb	IAmb	15 44 03.2		
	comp=Z,26nm,1.4s								
S39A	**Bolivar**	**39.62**	**344**	P	**P**		**15 44 00.8**	**+1.3**	
S39A					IAmb	IAmb	15 44 04.3		
	comp=Z,36nm,1.4s								
T35A	**Sooner Cattle**	**39.87**	**340**	P	**P**		**15 44 02.9**	**+1.3**	
T35A					IAmb	IAmb	15 44 07.2		
	comp=Z,38nm,1.4s								
AMTX	**Amarillo**	**40.14**	**333**	P	**P**		**15 44 03.7**	**-0.3**	
AMTX					IAmb	IAmb	15 44 08.9		
	comp=Z,24nm,1.3s								
P40A	**Paris**	**41.04**	**347**	P	**P**		**15 44 10.7**	**-0.6**	
P40A					IAmb	IAmb	15 44 16.9		
	comp=Z,22nm,1.5s								
PLCA	**Paso Flores**	**41.22**	**168**	P	**P**		**15 44 13.7**	**+0.9**	
	comp=Z,3.5nm,0.9s,baz=332,slow=9.9,SNR=4.4								
PLCA	**Paso Flores**	**41.22**	**168**	P	**P**		**15 44 14.6**	**+1.8**	
121A	**Cookes Peak, D**	**41.45**	**325**	P	**P**		**15 44 14.7**	**-0.2**	
ANMO	**Albuquerque**	**42.53**	**328**	P	**P**		**15 44 22.9**	**-0.9**	
TUC	**Tucson**	**43.09**	**322**	P	**P**		**15 44 26.9**	**-1.3**	
214A	**Organ Pipe Nat**	**44.13**	**320**	P	**P**		**15 44 36.5**	**0.0**	
214A					IAmb	IAmb	15 44 42.3		
	comp=Z,24nm,1.5s								
SDCO	**Great Sand Dun**	**44.25**	**332**	P	**P**		**15 44 36.8**	**-0.9**	
X16A	**Lo Mia Camp, P**	**44.93**	**323**	P	**P**		**15 44 43.1**	**0.0**	
SADO	**Sadowa**	**45.02**	**2**	LR	LR		16 04 11.4		
	comp=Z,166nm,20.1s,baz=191,slow=37								
MVCO	**Mesa Verde**	**45.32**	**329**	P	**P**		**15 44 46.4**	**+0.1**	
MVCO					IAmb	IAmb	15 45 01.6		
	comp=Z,25nm,1.5s								
Y14A	**Wickenburg**	**45.56**	**322**	P	**P**		**15 44 48.5**	**+0.5**	
Y14A					IAmb	IAmb	15 44 53.2		
	comp=Z,14nm,1.4s								
WUAZ	**Wupatki**	**45.66**	**325**	P	**P**		**15 44 49.2**	**+0.4**	
WUAZ					IAmb	IAmb	15 44 54.7		
	comp=Z,18nm,1.2s								
K31A	**O'Neill**	**45.76**	**342**	P	**P**		**15 44 50.5**	**+1.2**	
ECSD	**EROS Data Cent**	**46.15**	**344**	P	**P**		**15 44 53.4**	**+1.0**	
ECSD					IAmb	IAmb	15 44 56.0		
	comp=Z,14nm,1.4s								
PV15	**Paradox Valley**	**46.17**	**330**	P	**P**		**15 44 53.2**	**+0.2**	
PKCU	**Pink Cliffs**	**47.56**	**326**	P	**P**		**15 45 04.5**	**+0.7**	
SRU	**San Rafael Swe**	**47.80**	**329**	P	**P**		**15 45 05.4**	**-0.2**	
SHPR	**Sheep Range**	**48.58**	**323**	P	**P**		**15 45 10.6**	**-1.0**	
SHPR					IAmb	IAmb	15 45 17.2		
	comp=Z,5.5nm,1.0s								
RSSD	**Black Hills**	**48.91**	**338**	P	**P**		**15 45 14.9**	**+0.9**	
RSSD					IAmb	IAmb	15 45 35.3		
	comp=Z,11nm,1.4s								
R11A	**Troy Canyon, C**	**50.05**	**324**	P	**P**		**15 45 22.8**	**-0.2**	
PDAR	**Pinedale Array**	**50.11**	**333**	P	**P**		**15 45 23.3**	**0.0**	
	comp=Z,1.4nm,1.1s,baz=157,slow=8.0,SNR=8.3								
PDAR					LR	LR	16 07 22.5		
	comp=Z,260nm,18.6s,baz=147,slow=37								
ELK	**Elko**	**51.49**	**327**	P	**P**		**15 45 34.0**	**+0.2**	
NVAR	**Mina Array Bea**	**51.73**	**323**	P	**P**		**15 45 36.5**	**+1.0**	
	comp=Z,1.7nm,0.7s,baz=137,slow=6.1,SNR=14								
NVAR	**Mina Array Bea**	**51.73**	**323**	P	**P**		**15 45 35.6**	**0.0**	
ULM	**Lac du Bonnet**	**52.07**	**348**	P	**P**		**15 45 39.2**	**+1.6**	
	comp=Z,1.3nm,0.4s,baz=151,slow=4.1,SNR=4.4								
BMN	**Battle Mountai**	**52.39**	**325**	P	**P**		**15 45 40.4**	**0.0**	
BCYI	**Bear Canyon**	**53.10**	**331**	P	**P**		**15 45 45.4**	**-0.2**	
MCMT	**McKenzie Canyo**	**53.22**	**332**	P	**P**		**15 45 47.4**	**+0.9**	
BOZ	**Bozeman (W)**	**53.25**	**333**	P	**P**		**15 45 46.7**	**0.0**	
BOZ					IAmb	IAmb	15 45 51.7		
	comp=Z,9.7nm,1.3s								
MFID	**Camas Ranch**	**53.67**	**329**	P	**P**		**15 45 49.8**	**+0.1**	
MFID					IAmb	IAmb	15 45 55.0		
	comp=Z,18nm,1.4s								
WVOR	**Wild Horse Val**	**54.51**	**326**	P	**P**		**15 45 54.2**	**-1.7**	
RKT	**Rikitea**	**57.12**	**243**	*e*T	T		16 47 38.7		
	comp=Z,2.1nm,0.3s								
TAOE	**Nuku Hiva Isla**	**59.58**	**260**	*e*LR	LR		16 03 59.5		
	comp=Z,281nm,23.7s								
EDM	**Edmonton**	**59.89**	**338**	P	**P**		**15 46 32.1**	**-1.5**	
EDM					IAmb	IAmb	15 46 37.6		
	comp=Z,13nm,1.2s								
FCC	**Fort Churchill**	**59.92**	**352**	P	**P**		**15 46 32.8**	**-0.8**	
FCC					IAmb	IAmb	15 46 38.0		
	comp=Z,13nm,1.1s								
YKA	**Yellowknife Ar**	**67.67**	**344**	P	**P**		**15 47 24.1**	**-0.6**	
	comp=Z,1.4nm,0.9s,baz=136,slow=6.0,SNR=19								
YKA	**Yellowknife Ar**	**67.67**	**344**	P	**P**		**15 47 26.3**	**+1.6**	
PPT2	**Papeete2**	**69.58**	**251**	*e*LR	LR		16 08 36.0		
	comp=Z,238nm,24.5s								
DBIC	**Dimbokro**	**76.18**	**83**	P	**P**		**15 48 16.5**	**-0.3**	
	comp=Z,9.3nm,1.0s,baz=286,slow=5.4,SNR=5.5								
DBIC					LR	LR	16 21 44.9		
	comp=Z,168nm,18.8s,baz=248,slow=36								
INK	**Inuvik**	**77.35**	**342**	P	**P**		**15 48 22.1**	**-0.2**	
A36M	**Sachs Harbour**	**77.55**	**347**	P	**P**		**15 48 22.3**	**-1.0**	
MDT	**Midelt**	**78.71**	**57**	LR	LR		16 23 02.7		
	comp=Z,74nm,19.4s,baz=340,slow=36								
ESDC	**Sonseca Array**	**80.22**	**50**	P	**P**		**15 48 39.2**	**+0.5**	
	comp=Z,1.2nm,1.0s,baz=263,slow=3.7,SNR=4.1								
ESDC	**Sonseca Array**	**80.22**	**50**	P	**P**		**15 48 38.9**	**+0.2**	
ILAR	**Eielson Array**	**80.33**	**337**	P	**P**		**15 48 39.7**	**+0.9**	
	comp=Z,0.9nm,1.0s,baz=132,slow=2.6,SNR=5.5								
BMAR	**Burnt Mountain**	**80.53**	**339**	P	**P**		**15 48 40.2**	**+0.4**	
BPAW	**Bear Paw Mtn.**	**81.77**	**335**	P	**P**		**15 48 46.0**	**-0.5**	
BPAW					IAmb	IAmb	15 48 50.5		
	comp=Z,13nm,1.3s								
TORD	**Torodi Ar. Bea**	**82.88**	**77**	P	**P**		**15 48 52.4**	**-0.8**	
	comp=Z,1.4nm,0.9s,baz=270,slow=5.0,SNR=6.5								
TORD					LR	LR	16 28 19.0		
	comp=Z,82nm,18.2s,baz=228,slow=38								
AFI	**Afiamalu**	**90.76**	**256**	LR	LR		16 23 32.8		
	comp=Z,110nm,18.0s,baz=66,slow=31								
SPITS	**Spitsbergen Ar**	**91.90**	**12**	LR	LR		16 30 52.4		
	comp=Z,54nm,20.7s,baz=32,slow=36								
URZ	**Urewera**	**99.16**	**231**	LR	LR		16 28 27.7		
	comp=Z,136nm,18.1s,baz=212,slow=31								
H11S2	**WAKE ISLAND Hyl**	**11.34**	**290**	T	T		17 55 36.6		
	baz=85,slow=75,SNR=27								
H11S1	**WAKE ISLAND Hyl**	**11.34**	**290**	T	T		17 55 36.9		
	baz=85,slow=75,SNR=10								
H11S3	**WAKE ISLAND Hyl**	**11.36**	**290**	T	T		17 55 37.9		
	baz=85,slow=75,SNR=15								
ZALV	**Zalesovo Beam**	**125.35**	**10**	PKP	**PKPdf**		**15 55 28.6**	**-0.2**	
	comp=Z,0.9nm,0.7s,baz=242,slow=3.2,SNR=4.2								
KSRS	**Korea Array**	**134.55**	**327**	PKP	**PKPdf**		**15 55 46.2**	**-0.5**	
	comp=Z,1.0nm,0.8s,baz=15,slow=2.1,SNR=2.7								
ASAR	**Alice Springs**	**138.59**	**232**	PKhKP	PKPpre		15 55 47.1		
	comp=Z,0.3nm,0.6s,baz=116,slow=2.2,SNR=2.2								
ASAR				PKP	**PKPdf**		**15 55 53.8**	**-1.0**	
	comp=Z,0.9nm,1.0s,baz=147,slow=3.0,SNR=4.4								
WRA	**Warramunga Arr**	**139.99**	**238**	PKhKP	PKPpre		15 55 49.6		
	comp=Z,0.4nm,0.7s,baz=138,slow=2.1,SNR=2.4								
WRA				PKP	**PKPdf**		**15 55 56.3**	**-1.0**	
	comp=Z,1.1nm,0.8s,baz=114,slow=2.2,SNR=11								
LZH	**Lanzhou**	**144.24**	**353**	*e*PKP	**PKPdf**		**15 56 04.4**	**-0.3**	
LZH				pPKP	sPKPdf		15 56 10.5	+1.3	
XAN	**Xi'an**	**145.31**	**346**	PKPbc	**PKPbc**		**15 56 04.5**	**-1.6**	
XAN				pPKP	sPKPdf		15 56 14.8	+3.8	
PZH	**PanZhiHua**	**153.94**	**355**	PKPbc	**PKPdf**		**15 56 18.0**	**-2.4**	
CMAR	**Chiang Mai Arr**	**162.07**	**1**	PKPab	**PKPab**		**15 57 16.6**	**+0.2**	
	comp=Z,0.3nm,0.2s,baz=349,slow=4.8,SNR=5.8								

IGQ ***22*** *15:38:59±1.0, 0˚.5˚×8˚1W±˚, h10km*
IDC ***22*** *15:39:03.1±0.8, 0˚.28S×80˚.77W, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.4/36, mbtmp4.5/15, ML4.0/1, Error ellipse: s-maj=32.0km s-min=14.3km az=49.0*
NEIC ***22*** *15:39:05.2±2.2, 0˚.27S±0˚.06×80˚.72W±0˚.05, h10km±1km, mb4.9/74, Error ellipse: s-maj=11.0km s-min=8.2km az=198.0*
VAO ***22*** *15:39:28.4±2.1, 0˚.53S×79˚.51W, h140km±24km, mb4.6*
ISC 22 15:39:04.5±0.4, 0˚.31S±0˚.05×80˚.81W±0˚.05, h10km, n367, σ1=07/362, mb4.8/48, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.60**	**85**	P	**Pb**	**15 39 17.0**	**-0.3**
JAMA	**Jama**	**0.60**	**85**	S	**Sn**	**15 39 29.0**	**-0.2**
FLF1	**Flavio Alfaro-**	**0.97**	**93**	P	**Pn**	**15 39 25.0**	**+0.8**
FLF1				S	**Sn**	**15 39 44.0**	**+5.9**
MAG1	**Magdalena**	**1.06**	**77**	P	**Pb**	**15 39 25.0**	**-0.1**
PPLP	**Puerto Lpez**	**1.23**	**178**	P	Pn	15 39 23.0	-4.8
PPLP	**Puerto Lpez**	**1.23**	**178**	P	**Pn**	**15 39 24.0**	**-3.8**
AV18	**Acelerografo,**	**1.47**	**65**	P	Pn	15 39 26.0	-5.1
BV15	**Puerto Quito-O**	**1.65**	**74**	P	**Pn**	**15 39 33.0**	**-0.7**
PAC1	**Pacto, Paraso**	**2.10**	**74**	*e*P	**Pn**	**15 39 38.8**	**-1.1**
PAC1	**Pacto, Paraso**	**2.10**	**74**	P	**Pn**	**15 39 39.0**	**-0.9**
ILLI	**Illinizas Sur**	**2.12**	**101**	P	**Pn**	**15 39 40.0**	**-0.5**
HPAL	**Hacienda Las P**	**2.16**	**87**	P	**Pn**	**15 39 40.0**	**-0.9**
AMIL	**Milagro (Trans**	**2.18**	**146**	P	**Pn**	**15 39 41.0**	**+0.1**
GGPT	**Toaza - Volcan**	**2.19**	**88**	P	**Pn**	**15 39 41.0**	**-0.4**
PAST	**Pastocalle**	**2.20**	**100**	P	**Pn**	**15 39 42.0**	**+0.4**
JUA2	**San Juan 2**	**2.21**	**87**	P	**Pn**	**15 39 42.0**	**+0.3**
PINO	**Pino**	**2.21**	**86**	P	**Pn**	**15 39 40.0**	**-1.8**
TERV	**Terraza Guagua**	**2.21**	**86**	P	**Pn**	**15 39 42.0**	**+0.2**
YANA	**Yana**	**2.25**	**85**	P	**Pn**	**15 39 42.0**	**-0.2**
PULU	**Pululahua**	**2.33**	**82**	Pn	**Pn**	**15 39 44.3**	**+0.9**
PULU	**Pululahua**	**2.33**	**82**	P	**Pn**	**15 39 43.0**	**-0.3**
CAMI	**Rancho Maria**	**2.33**	**99**	P	**Pn**	**15 39 44.0**	**+0.6**
PORT	**Chimborazo Vol**	**2.33**	**119**	Pn	**Pn**	**15 39 44.5**	**+0.9**
PORT	**Chimborazo Vol**	**2.33**	**119**	P	**Pn**	**15 39 44.0**	**+0.5**
BNAS	**Cotopaxi Volca**	**2.35**	**99**	P	**Pn**	**15 39 45.0**	**+1.2**
NAS2	**Nasa**	**2.36**	**98**	P	**Pn**	**15 39 45.0**	**+1.1**
TAMH	**Tambohuasha Ch**	**2.37**	**121**	P	**Pn**	**15 39 44.0**	**+0.1**
BMOR	**Cotopaxi Volca**	**2.38**	**100**	P	**Pn**	**15 39 45.0**	**+0.8**
PITA	**Cotopaxi Volc**	**2.39**	**96**	P	**Pn**	**15 39 45.0**	**+0.8**
BREF	**Cotopaxi Volca**	**2.39**	**99**	P	**Pn**	**15 39 45.0**	**+0.6**
BVC2	**Cotopaxi Volca**	**2.42**	**98**	P	**Pn**	**15 39 45.0**	**+0.3**
OTAV	**Otavalo**	**2.42**	**77**	Pn	**Pn**	**15 39 45.0**	**+0.4**
VC1	**Cotopaxi 1**	**2.43**	**98**	P	**Pn**	**15 39 46.0**	**+1.2**
BTAM	**Cotopaxi Volca**	**2.44**	**99**	P	**Pn**	**15 39 46.0**	**+1.0**
VCES	**Cotopaxi**	**2.46**	**101**	P	**Pn**	**15 39 46.0**	**+0.7**
IGUA	**Igualata**	**2.46**	**118**	P	**Pn**	**15 39 46.0**	**+0.7**
TAMB	**Tambo**	**2.47**	**99**	P	**Pn**	**15 39 46.0**	**+0.6**
CUSE	**Cuicocha Este**	**2.49**	**76**	*e*P	**Pn**	**15 39 45.5**	**0.0**
CUSE	**Cuicocha Este**	**2.49**	**76**	P	**Pn**	**15 39 46.0**	**+0.5**
CUIC	**Cuicocha-Domo**	**2.52**	**76**	P	**Pn**	**15 39 46.0**	**0.0**
ARRY	**Arrayan**	**2.63**	**117**	P	**Pn**	**15 39 49.0**	**+1.5**
PIAT	**Ana Tenorio**	**2.63**	**105**	P	**Pn**	**15 39 49.0**	**+1.5**
COHC	**Cochancay**	**2.64**	**144**	Pn	**Pn**	**15 39 46.2**	**-1.1**
ANTI	**Antisana**	**2.65**	**93**	P	**Pn**	**15 39 50.0**	**+2.1**
BPAT	**Tungurahua Vol**	**2.65**	**116**	P	**Pn**	**15 39 50.0**	**+2.2**
URCU	**Urcuqui**	**2.66**	**74**	P	**Pn**	**15 39 49.0**	**+1.1**
YAHU	**Yahuarcocha**	**2.82**	**76**	P	**Pn**	**15 39 52.0**	**+1.9**
TULM	**Tulcn-Chalpat**	**3.19**	**71**	Pn	**Pn**	**15 39 56.5**	**+1.3**
TULM	**Tulcn-Chalpat**	**3.19**	**71**	*e*P	**Pn**	**15 39 57.9**	**+2.7**
BOSC	**San Juan Bosco**	**3.65**	**141**	Pn	**Pn**	**15 40 04.7**	**+3.4**
CCUFI	**Cufio, Nario**	**3.78**	**66**	*e*P	**Pn**	**15 40 05.5**	**+2.1**
GR1C	**Gorgona, Isla**	**4.22**	**39**	*e*P	**Pb**	**15 40 18.0**	**-1.0**
POPC	**Popayan, Colom**	**5.01**	**56**	*e*P	**Pn**	**15 40 20.8**	**+0.8**
PCON	**Cinco Dias**	**5.13**	**59**	*e*P	**Pn**	**15 40 20.8**	**-1.2**
MARP	**Paez Belalcaza**	**5.78**	**57**	*e*P	**Pn**	**15 40 31.4**	**+0.7**
GARC	**Garzon, Huila**	**5.87**	**65**	*e*P	Pn	15 40 38.0	+6.2
ROSC	**El Rosal**	**8.26**	**52**	Pn	**Pn**	**15 41 07.8**	**+2.9**
	baz=150,slow=20,SNR=1.8						
PAYG	**Puerto Ayora**	**9.48**	**268**	Pn	**Pn**	**15 41 23.8**	**+2.5**
DRK0	**Durika**	**9.82**	**346**		**Pn**	**15 41 27.1**	**+1.0**
RIMA	**Rio Macho**	**10.46**	**343**	Pn	**Pn**	**15 41 36.6**	**+1.7**
JTS	**Las Juntas de**	**11.31**	**339**	Pn	**Pn**	**15 41 47.7**	**+1.3**
	1.0nm,0.3s,baz=216,slow=11,SNR=5.8						
SJCC	**San Jacinto, C**	**11.59**	**29**	Pn	**Pn**	**15 41 48.3**	**-1.9**
SDV	**Santo Domingo**	**13.65**	**48**	Pn	**Pn**	**15 42 20.2**	**+1.7**
	0.2nm,0.3s,baz=218,slow=14,SNR=3.4						
SDV	**Santo Domingo**	**13.65**	**48**	Pn	**Pn**	**15 42 20.1**	**+1.6**
SDV	**Santo Domingo**	**13.65**	**48**	*e*P	**P**	**15 42 25.6**	**-1.8**
MATN	**Matagalpa**	**14.10**	**339**	Pn	**Pn**	**15 42 23.6**	**-1.0**
BAUV	**El Baul**	**15.69**	**54**		**Pn**	**15 42 44.9**	**-1.0**
BAUV				IAmb	IAmb	15 43 32.9	
	comp=Z,62nm,1.1s						
MTO3	**Montecristo**	**16.89**	**330**	Pn	**Pn**	**15 43 01.2**	**-0.3**
BIRV	**Birongo**	**18.00**	**53**	P	**Pn**	**15 43 13.5**	**-1.6**
CCIG	**Comitan**	**19.92**	**326**	P	**P**	**15 43 33.5**	**-3.4**
LPAZ	**La Paz**	**20.21**	**142**	P	**P**	**15 43 40.6**	**+0.2**
	comp=Z,9.6nm,1.1s,baz=338,slow=7.9,SNR=6.3						
LPAZ	**La Paz**	**20.21**	**142**	P	**P**	**15 43 38.1**	**-2.3**
LPAZ	**La Paz**	**20.21**	**142**	*e*P	**P**	**15 43 40.5**	**+0.1**
BOAV	**Boa Vista**	**20.46**	**82**	*e*P	**P**	**15 43 42.8**	**+0.3**
PB16	**IPOC Station P**	**21.07**	**149**	P	**P**	**15 43 49.5**	**-0.2**
PB16				IAmb	IAmb	15 43 58.2	
	comp=Z,23nm,0.6s						
CMIG	**Matias Romero**	**22.17**	**322**	P	**P**	**15 44 00.9**	**0.0**
	comp=Z,19nm,1.2s,baz=141,slow=11,SNR=6.3						
PB11	**IPOC Station P**	**22.20**	**151**	P	**P**	**15 43 59.8**	**-1.7**
OBIP	**Obispado Ponce**	**22.98**	**37**	P	**P**	**15 44 09.0**	**-0.5**
OBIP				IAmb	IAmb	15 44 16.2	
	comp=Z,81nm,1.4s						
SJG	**San Juan**	**23.30**	**37**	P	**P**	**15 44 13.6**	**+0.8**
	comp=Z,26nm,0.2s,baz=321,slow=19,SNR=6.7						
PDPR	**Patillas Dam,**	**23.31**	**38**	P	**P**	**15 44 13.4**	**+0.5**
PDPR				IAmb	IAmb	15 44 18.4	
	comp=Z,68nm,1.2s						
GCPR	**Guaynabo City**	**23.49**	**37**	P	**P**	**15 44 11.8**	**-2.9**
CBYP	**Canovanas**	**23.60**	**38**	P	**P**	**15 44 15.1**	**-0.8**
MTP	**Monte Pirata**	**23.66**	**39**	P	**P**	**15 44 15.1**	**-1.3**
VILB	**Vilhena**	**23.98**	**122**	*e*P	**P**	**15 44 18.6**	**-0.9**
SIV	**San Ignacio**	**24.94**	**130**	P	**P**	**15 44 28.3**	**0.0**
	comp=Z,14nm,1.2s,baz=312,slow=9.0,SNR=9.7						
LVC	**Limon Verde**	**25.01**	**153**	P	**P**	**15 44 30.1**	**+0.9**
	comp=Z,3.7nm,0.3s,baz=316,slow=8.3,SNR=3.2						
LVC	**Limon Verde**	**25.01**	**153**	*e*P	**P**	**15 44 34.1**	**+4.9**
ITTB	**Itaituba**	**25.37**	**100**	*e*P	**P**	**15 44 31.1**	**-1.1**
PTLB	**Pontes e Lacer**	**26.16**	**126**	*e*P	**P**	**15 44 38.8**	**-0.5**
NPGB	**Novo Progresso**	**26.25**	**105**	*e*P	**P**	**15 44 39.1**	**-1.2**
PDRB	**Porto dos Gac**	**26.41**	**116**	*e*P	**P**	**15 44 40.9**	**-0.8**
MALB	**Monte Alegre**	**26.58**	**93**	*e*P	**P**	**15 44 42.8**	**-0.4**
CLDB	**Colider**	**26.98**	**114**	*e*P	**P**	**15 44 45.8**	**-1.0**
NBRS	**Nobres**	**28.41**	**120**	*e*P	**P**	**15 44 58.8**	**-0.8**
MCPB	**Macapa, AP**	**28.75**	**90**	*e*P	**P**	**15 45 01.2**	**-1.5**
SALV	**Santo Antonio**	**29.22**	**123**	*e*P	**P**	**15 45 05.7**	**-1.1**
ZAIG	**Zacatecas**	**31.23**	**319**	P	**P**	**15 45 24.6**	**-0.2**
PRPB	**Parauapebas**	**31.47**	**101**	*e*P	**P**	**15 45 25.4**	**-1.4**
SNDB	**Serra Nova Dou**	**31.50**	**113**	*e*P	**P**	**15 45 25.3**	**-1.7**
AQDB	**Aquidauana**	**31.69**	**131**	P	**P**	**15 45 25.7**	**-3.0**
AQDB	**Aquidauana**	**31.69**	**131**	*e*P	**P**	**15 45 27.5**	**-1.1**
DVLD	**Doverlandia**	**32.55**	**121**	*e*P	**P**	**15 45 36.1**	**-0.2**
833A	**Chaparral WMA,**	**33.59**	**329**	P	**P**	**15 45 45.6**	**+0.5**
	baz=145						
GOGA	**Godfrey**	**33.64**	**356**	P	**P**	**15 45 46.2**	**+0.8**
	baz=175						
LRAL	**Lakeview Retre**	**33.68**	**351**	P	**P**	**15 45 45.4**	**-0.5**
LRAL				IAmb	IAmb	15 45 50.6	
	comp=Z,17nm,0.9s						
LRAL	**Lakeview Retre**	**33.68**	**351**	P	**P**	**15 45 46.2**	**+0.4**
	baz=169,SNR=5.4						
SMTB	**Santa Maria do**	**34.15**	**105**	*e*P	**P**	**15 45 49.8**	**-0.4**
PEXB	**Peixe**	**34.32**	**111**	*e*P	**P**	**15 45 50.5**	**-1.1**
CPUP	**Villa Florida**	**34.36**	**141**	*e*P	**P**	**15 45 54.1**	**+2.2**
FPAL	**Fort Paine**	**34.96**	**353**	P	**P**	**15 45 54.9**	**-2.1**
FPAL				IAmb	IAmb	15 46 01.2	
	comp=Z,15nm,1.0s						
Y45A	**Yeager Farm, C**	**34.98**	**347**	P	**P**	**15 45 57.8**	**+0.7**
BG3	**Lake Jocassee**	**35.18**	**357**	P	**P**	**15 45 58.9**	**0.0**
BG3				IAmb	IAmb	15 46 03.2	
	comp=Z,23nm,1.1s						
Z41A	**Richland Creek**	**35.25**	**342**	P	**P**	**15 46 00.7**	**+1.2**
	baz=159						
KMSC	**Kings Mountain**	**35.27**	**359**	P	**P**	**15 45 59.9**	**+0.3**
KMSC	**Kings Mountain**	**35.27**	**359**	P	**P**	**15 46 00.6**	**+1.0**
	baz=179						
JCT	**Junction City**	**35.56**	**331**	P	**P**	**15 46 02.5**	**+0.3**
JCT				IAmb	IAmb	15 46 08.0	
	comp=Z,26nm,1.1s						
JCT	**Junction City**	**35.56**	**331**	P	**P**	**15 46 02.7**	**+0.5**
	baz=146						
OXF	**Oxford**	**35.57**	**348**	P	**P**	**15 46 02.6**	**+0.4**
	baz=165						
CPCT	**Cooper Cave**	**35.75**	**355**	P	**P**	**15 46 03.5**	**-0.2**
CPCT				IAmb	IAmb	15 46 08.4	
	comp=Z,22nm,1.0s						
PCMB	**Pacaembu**	**35.75**	**128**	*e*P	**P**	**15 46 04.7**	**+0.7**
WHTX	**Lake Whitney,**	**35.78**	**335**	P	**P**	**15 46 04.9**	**+0.9**
	baz=151						
V52A	**Sevierville**	**36.06**	**356**	P	**P**	**15 46 06.7**	**+0.3**
X40A	**Basin Creek Fa**	**36.41**	**343**	P	**P**	**15 46 10.2**	**+0.9**
	baz=159						
IPMB	**Ipameri, GO**	**36.53**	**121**	*e*P	**P**	**15 46 09.2**	**-1.6**
MIAR	**Mount Ida**	**36.68**	**342**	P	**P**	**15 46 12.8**	**+1.1**
MIAR	**Mount Ida**	**36.68**	**342**	P	**P**	**15 46 13.4**	**+1.7**
	baz=158						
TXAR	**Lajitas Array**	**36.68**	**325**	P	**P**	**15 46 11.4**	**-0.5**
	comp=Z,1.9nm,1.0s,baz=141,slow=8.1,SNR=6.7						
TXAR				PcP	**PcP**	**15 48 35.4**	**+0.7**
	comp=Z,1.4nm,1.0s,baz=116,slow=5.7,SNR=5.1						
TXAR	**Lajitas Array**	**36.68**	**325**	P	**P**	**15 46 10.8**	**-1.1**
TZTN	**Tazewell**	**36.76**	**356**	P	**P**	**15 46 12.9**	**+0.6**
	baz=175						
WVT	**Waverly**	**36.84**	**350**	P	**P**	**15 46 13.9**	**+0.9**
	baz=168						
W41B	**Gary Mavity, V**	**36.89**	**344**	P	**P**	**15 46 13.3**	**-0.1**
W41B				IAmb	IAmb	15 46 17.3	
	comp=Z,17nm,1.2s						
W41B	**Gary Mavity, V**	**36.89**	**344**	P	**P**	**15 46 14.2**	**+0.8**
	baz=161						
ABTX	**Abilene, Hawle**	**37.27**	**333**	P	**P**	**15 46 17.2**	**+0.4**
ABTX				IAmb	IAmb	15 46 22.3	
	comp=Z,31nm,1.2s						
ABTX	**Abilene, Hawle**	**37.27**	**333**	P	**P**	**15 46 17.4**	**+0.6**
	baz=148						
BLA	**Blacksburg**	**37.34**	**1**	P	**P**	**15 46 17.5**	**+0.2**
	baz=180						
W39A	**Magazine**	**37.35**	**342**	P	**P**	**15 46 18.2**	**+0.9**
	baz=158						
LCAR	**Lake Charles**	**37.46**	**346**	P	**P**	**15 46 17.4**	**-0.8**
LCAR				IAmb	IAmb	15 46 22.4	
	comp=Z,25nm,1.0s						
SDBA	**SAO DESIDERIO**	**37.58**	**110**	*e*P	**P**	**15 46 18.1**	**-1.6**
U40A	**Yellville**	**38.16**	**344**	P	**P**	**15 46 24.2**	**0.0**
U40A				IAmb	IAmb	15 46 28.9	
	comp=Z,26nm,1.1s						
U40A	**Yellville**	**38.16**	**344**	P	**P**	**15 46 24.8**	**+0.5**
	baz=160,SNR=7.3						
HHAR	**Hobbs**	**38.40**	**343**	P	**P**	**15 46 27.9**	**+1.6**
WMOK	**Wichita Mounta**	**38.71**	**336**	P	**P**	**15 46 29.8**	**+0.8**
	baz=150						
CCM	**Cathedral Cave**	**39.37**	**347**	P	**P**	**15 46 35.3**	**+0.9**
CCM				IAm

BFSC	Mount Baldy Ra	48.71 319	P	P	15 47 50.0	+0.4
	baz=127					
CIS	Catalina Islan	48.72 317	P	P	15 47 49.8	+0.3
	baz=126					
GSC	Goldstone, Bar	48.80 320	P	P	15 47 50.4	+0.1
	baz=129					
RSSD	Black Hills	48.85 338	P	P	15 47 50.7	+0.1
RSSD			IAmb	IAmb	15 47 56.3	
	comp=Z,8.6nm,1.0s					
RSSD	Black Hills	48.85 338	P	P	15 47 51.4	+0.9
	baz=148					
EDW2	Edwards Air Fo	49.32 319	P	P	15 47 54.8	+0.7
	baz=127					
LRMC	Laurel Mtn Rad	49.48 320	P	P	15 47 56.2	+0.7
	baz=128					
TPNV	Topopah Spring	49.50 322	P	P	15 47 56.2	+0.5
	baz=130					
MPMC	Manual Prospec	49.71 321	P	P	15 47 57.3	0.0
	baz=128					
DUG	Dugway, Tooele	49.76 328	P	P	15 47 58.0	+0.5
	baz=136					
ARVC	Arvin	50.01 319	P	P	15 48 00.5	+1.1
	baz=126					
R11A	Troy Canyon, C	50.02 324	P	P	15 48 00.4	+0.7
	baz=132					
PDAR	Pinedale Array	50.06 332	P	P	15 48 00.2	+0.3
	comp=Z,2.2nm,1.1s,baz=167,slow=7.2,SNR=6.2					
BW06	Boulder Array	50.06 332	P	P	15 47 59.6	-0.4
	baz=141					
ISA	Isabella, Lake	50.10 320	P	P	15 47 58.6	-1.5
ISA	Isabella, Lake	50.10 320	P	P	15 48 00.2	+0.1
	baz=127					
CWC	Cottonwood Cre	50.32 321	P	P	15 48 02.7	+0.8
	baz=128					
PKM	Mcpherson Peak	50.53 318	P	P	15 48 03.3	-0.2
	baz=125					
VES	Vestal, Richgr	50.60 319	P	P	15 48 04.5	+0.7
	baz=127					
MDND	Maddock	50.68 344	P	P	15 48 05.8	+1.6
	baz=155					
ELK	Elko	51.45 327	P	P	15 48 11.0	+0.5
NV11	Mina Array Sit	51.61 323	P	P	15 48 11.3	-0.2
NV11			IAmb	IAmb	15 48 18.9	
	comp=Z,16nm,1.2s					
OMMB	Old Mammoth Mi	51.62 321	P	P	15 48 11.9	+0.1
OMMB			IAmb	IAmb	15 48 17.2	
	comp=Z,14nm,1.2s					
NVAR	Mina Array Bea	51.70 322	P	P	15 48 12.9	+0.6
	comp=Z,8.0nm,1.0s,baz=141,slow=6.8,SNR=15					
RYN	Ryan	51.96 323	P	P	15 48 13.1	-1.1
RYN			IAmb	IAmb	15 48 17.1	
	comp=Z,17nm,1.4s					
KVN	Kaiserville	51.97 323	ScP	ScP	15 53 21.9	-2.1
ULM	Lac du Bonnet	51.99 348	P	P	15 48 14.4	+0.4
	comp=Z,3.9nm,0.8s,baz=158,slow=6.6,SNR=3.7					
BMN	Battle Mountai	52.35 325	IAmb	IAmb	15 48 22.4	
	comp=Z,16nm,1.1s					
HLID	Hailey	53.01 330	P	P	15 48 22.3	+0.5
	baz=136,SNR=9.3					
MCMT	McKenzie Canyo	53.17 332	P	P	15 48 23.6	+0.4
BOZ	Bozeman (W)	53.20 333	IAmb	IAmb	15 48 28.4	
	comp=Z,14nm,1.1s					
BOZ	Bozeman (W)	53.20 333	P	P	15 48 23.5	+0.3
	baz=140,SNR=10					
EGMT	Eagleton	54.31 336	P	P	15 48 31.4	+0.2
EGMT			IAmb	IAmb	15 48 36.2	
	comp=Z,16nm,1.2s					
EGMT	Eagleton	54.31 336	P	P	15 48 31.9	+0.7
	baz=143					
MSO	Missoula	55.18 333	P	P	15 48 38.5	+0.9
	baz=138					
M04C	Macdoel	55.91 324	P	P	15 48 43.7	+0.8
	baz=128					
N02D	Trinity Center	55.94 322	P	P	15 48 43.9	+0.8
	baz=126					
M02C	Callahan	56.28 323	P	P	15 48 45.9	+0.4
	baz=126					
K04D	Chiloquin, OR	56.37 324	P	P	15 48 47.1	+0.9
	baz=128					
L04D	Klamath Falls	56.45 324	P	P	15 48 47.1	+0.3
	baz=127					
J05D	Fort Rock, OR	56.48 325	P	P	15 48 47.7	+0.7
	baz=129					
WALA	Waterton Lakes	56.84 335	P	P	15 48 48.2	-1.3
J04D	Umpqua Nationa	56.96 325	P	P	15 48 51.4	+0.9
	baz=128					
L02E	Cave Junction	57.18 323	P	P	15 48 52.5	+0.7
	baz=126					
I05D	Terrebonne, OR	57.21 326	P	P	15 48 53.2	+1.1
	baz=129					
I04A	Tendick Farm,	57.47 325	P	P	15 48 55.3	+1.3
	baz=128					
K02D	Willamette Mer	57.54 324	P	P	15 48 56.0	+1.5
	baz=126					
NEW	Newport	57.70 332	P	P	15 48 55.9	+0.4
	baz=135					
G05D	Wamic, OR	57.77 327	P	P	15 48 57.2	+1.2
	baz=130					
I03D	Drain, OR	57.95 325	P	P	15 48 58.1	+0.9
	baz=127					
J01E	Myrtle Point	57.97 324	P	P	15 48 58.7	+1.3
	baz=126					
E04D	Cinebar	59.28 328	P	P	15 49 07.2	+0.8
	baz=129					
EDM	Edmonton	59.83 338	P	P	15 49 08.7	-1.5
D03D	Eldon	60.18 328	P	P	15 49 12.8	+0.2
	baz=129					
A04D	Lummi Island	60.73 330	P	P	15 49 16.8	+0.5
	baz=130					
YKA	Yellowknife Ar	67.60 344	P	P	15 50 00.8	-0.4
	comp=Z,6.6nm,1.0s,baz=138,slow=6.4,SNR=16					
YKA	Yellowknife Ar	67.60 344	P	P	15 50 01.0	-0.2
MACI	Morro de la Ar	67.67 59	P	P	15 50 02.5	-0.1
WRGLY	Wrigley	70.84 341	P	P	15 50 22.5	+1.3
	baz=134					
TGTN	Hyland Airport	71.38 338	P	P	15 50 26.0	+1.2
	baz=129					
SIT	Sitka	71.78 332	P	P	15 50 28.0	+1.0
	baz=121					
MMPY	Sheldon Lake,	73.17 338	P	P	15 50 36.0	+0.6
	baz=126,SNR=6.7					
WHY	Whitehorse	73.49 335	P	P	15 50 37.8	+0.4
	baz=122					
FARO	Faro, Yukon	73.73 337	P	P	15 50 39.1	+0.4
	baz=124					
M31M	Drury Creek, Y	74.13 337	P	P	15 50 41.8	+0.9
	baz=123					
N31M	Braeburn, Yuko	74.30 336	P	P	15 50 42.9	+1.0
	baz=122					
HYT	Haines Junctio	74.67 335	P	P	15 50 45.5	+1.2
	baz=120					
PNL	Peninsula	74.94 333	P	P	15 50 46.8	+1.1
	baz=118					
YUK6	Outpost Mounta	75.10 335	P	P	15 50 47.1	+0.2
	baz=119					
M30M	Minto, Yukon	75.27 337	P	P	15 50 48.0	+0.4
	baz=121					
C36M	Paulatuk	75.33 345	P	P	15 50 48.1	+0.4
	baz=135					
YUK4	Talbot Arm	75.41 335	P	P	15 50 49.5	+0.8
	baz=119					
LIC	Lamto	75.90 84	*e*PKIKP	P	15 50 51.0	-1.1
	comp=Z,48nm,1.5s					
TIC	Toumodi	75.92 83	*e*PKIKP	P	15 50 50.6	-1.7
DBIC	Dimbokro	76.08 83	P	P	15 50 53.0	-0.2
	comp=Z,23nm,1.2s,baz=283,slow=5.2,SNR=6.4					
DBIC	Dimbokro	76.08 83	P	P	15 50 52.3	-0.9
KIC	Kosan Boka	76.19 83	*e*PKIKP	P	15 50 51.1	-2.7
	comp=Z,45nm,1.4s					
YUK3	Moose Creek	76.38 335	P	P	15 50 54.3	+0.1
	baz=117					
BVCY	Beaver Creek	76.84 336	P	P	15 50 57.0	+0.5
	baz=117					
BGLC	Bering Glacier	76.90 333	P	P	15 50 57.3	+0.5
	baz=114					
DAWY	Dawson	77.04 337	P	P	15 50 57.7	+0.1
	baz=119					
EPYK	Eagle Plains	77.23 340	P	P	15 50 58.7	0.0
	baz=122					
M27K	Edge Creek, AK	77.24 335	P	P	15 50 58.8	-0.1
	baz=116					
I29M	Ogilvie Camp,	77.27 339	P	P	15 50 59.2	+0.3
	baz=120,SNR=7.0					
INK	Inuvik	77.28 342	P	P	15 50 58.6	-0.2
INK			IAmb	IAmb	15 51 03.9	
	comp=Z,17nm,1.1s					
INK	Inuvik	77.28 342	P	P	15 50 59.4	+0.6
	baz=125,SNR=17					
KOWA	Kowa	77.29 75	P	P	15 50 59.2	-0.8
MCARA	McCarthy VSAT	77.31 334	P	P	15 51 00.7	+1.5
	baz=115					
KAIM	Kayak Island	77.34 332	P	P	15 50 59.7	+0.4
	baz=113					
A36M	Sachs Harbour	77.47 347	P	P	15 50 58.6	-1.2
A36M	Sachs Harbour	77.47 347	P	P	15 50 59.3	-0.5
	baz=134,SNR=14					
L27K	Beaver Creek,	77.53 336	P	P	15 51 00.8	+0.4
L27K	Beaver Creek,	77.53 336	P	P	15 51 01.8	+1.3
	baz=116					
M26K	Nabesna, AK	77.73 335	P	P	15 51 02.2	+0.6
	baz=115					
BMRM	Bremner River	77.84 333	P	P	15 51 03.2	+1.0
	baz=113					
EGAK	Eagle	78.05 338	P	P	15 51 04.1	+0.9
EGAK			IAmb	IAmb	15 53 25.4	
	comp=Z,14nm,1.1s					
EGAK	Eagle	78.05 338	P	P	15 51 04.3	+1.1
	baz=117					
EYAK	Cordova Ski Ar	78.19 333	P	P	15 51 04.8	+0.7
	baz=112					
KLU	Klutina	78.63 334	P	P	15 51 07.2	+0.6
	baz=112					
SCRK	Sand Creek	78.80 336	P	P	15 51 08.4	+0.9
	baz=114					
J26L	Joseph Creek	78.86 337	P	P	15 51 08.2	+0.3
	baz=115					
M24K	Tolsona, Glenn	78.97 334	P	P	15 51 09.2	+0.7
	baz=112					
PAX	Paxson	79.01 335	P	P	15 51 09.4	+0.8
	baz=113					
RIDG	Independent Ri	79.05 336	P	P	15 51 09.2	+0.4
	baz=114					
SCM	Sheep Creek Mo	79.38 334	P	P	15 51 11.1	+0.4
	baz=111					
K24K	Donnelly Dome	79.46 336	P	P	15 51 11.9	+0.8
	baz=113					
J25K	Salcha River,	79.61 337	P	P	15 51 12.6	+0.7
	baz=113					
KNK	Knik Glacier	79.74 333	P	P	15 51 12.5	-0.1
	baz=110					
SEW	Seward	79.76 332	P	P	15 51 12.7	0.0
	baz=109					
SML	Sawmill	79.82 334	P	P	15 51 13.3	+0.2
	baz=110					
WAT6	Susitna Watana	79.83 334	P	P	15 51 13.9	+0.7
	baz=111					
ESDC	Sonseca Array	80.08 50	P	P	15 51 15.3	+0.3
	comp=Z,4.5nm,1.2s,baz=268,slow=5.2,SNR=10					
ESDC	Sonseca Array	80.08 50	P	P	15 51 14.8	-0.2
BRSE	Bradley Lake S	80.27 331	P	P	15 51 16.0	+0.6
	baz=108					
WAT1	Susitna Watana	80.27 334	P	P	15 51 16.5	+1.0
	baz=110					
ILAR	Eielson Array	80.28 337	P	P	15 51 15.6	+0.1
	comp=Z,2.5nm,1.2s,baz=110,slow=3.5,SNR=7.6					
BMAR	Burnt Mountain	80.47 339	P	P	15 51 16.2	-0.2
RND	Reindeer	80.59 335	P	P	15 51 18.2	+0.9
RND			IAmb	IAmb	15 52 52.8	
	comp=Z,25nm,1.7s					
M22K	Willow	80.60 333	P	P	15 51 18.1	+0.9
	baz=108					
MCK	McKinley	80.74 335	P	P	15 51 18.2	+0.3
	baz=110					
CUT	Chitina	80.88 334	P	P	15 51 19.0	+0.4
	baz=108					
MDM	Murphy Dome	80.88 337	P	P	15 51 19.0	+0.3
MDM			IAmb	IAmb	15 52 58.9	
	comp=Z,12nm,1.4s					
H24K	Noodor Dome	81.06 337	P	P	15 51 20.2	+0.6
	baz=111					
NEA2	Nenana	81.09 336	P	P	15 51 20.3	+0.5
	baz=110					
TRF	Thorofare Moun	81.22 335	P	P	15 51 21.2	+0.5
	baz=108					
SPCR	Spurr Chakacha	81.39 332	P	P	15 51 21.9	+0.4
	baz=106					
I23K	Minto, Yukon-K	81.40 337	P	P	15 51 21.8	+0.4
	baz=110					
H23K	Yukon River	81.70 337	P	P	15 51 23.8	+0.8
	baz=110					
BPAW	Bear Paw Mtn.	81.72 335	P	P	15 51 22.6	-0.5
BPAW			IAmb	IAmb	15 51 26.5	
	comp=Z,7.2nm,1.1s					
BPAW	Bear Paw Mtn.	81.72 335	P	P	15 51 23.8	+0.7
	baz=108					
CHIR	Chirikof Islan	81.76 327	P	P	15 51 24.4	+1.0
	baz=103					
PPLA	Purkeypile	81.87 334	P	P	15 51 24.2	+0.1
	baz=107					
CAST	Castle Rocks	81.98 335	P	P	15 51 24.8	+0.3
	baz=107					
CHUM	Lake Minchumin	82.21 335	P	P	15 51 25.9	+0.3
	baz=107					
N19K	Bonanza Creek	82.36 332	P	P	15 51 26.6	0.0
	baz=104					
P18K	Big Mountain,	82.37 330	P	P	15 51 26.5	-0.2
	baz=104					
COLD	Coldfoot	82.41 338	P	P	15 51 27.5	+0.8
	baz=109					
I21K	Tanana	82.46 336	P	P	15 51 27.7	+0.7
	baz=107					
O18K	Kotuk Hills	82.47 331	P	P	15 51 27.4	+0.3
	baz=104					
L20K	Farewell, AK	82.50 333	P	P	15 51 27.3	-0.1
	baz=105					
M19K	Big River Lodg	82.59 333	P	P	15 51 27.9	+0.2
	baz=105					
TOLK	Toolik Lake Re	82.67 340	P	P	15 51 28.1	+0.1
	baz=110					
TORD	Torodi Ar. Bea	82.77 77	P	P	15 51 28.8	-0.8
	comp=Z,9.5nm,1.2s,baz=258,slow=4.0,SNR=13					
TORD	Torodi Ar. Bea	82.77 77	P	P	15 51 28.6	-1.0
K20K	Telida	82.82 334	P	P	15 51 29.0	+0.1
	baz=105					
H21K	Melozitna Rive	82.92 337	P	P	15 51 30.0	+0.6
	baz=106					
J20K	Nowinta River	83.07 335	P	P	15 51 30.3	+0.1
	baz=105					
SDPT	Sand Point	84.38 326	P	P	15 51 37.1	+0.1
	baz=99					
H11S2	WAKE ISLAND Hy	11.39 290	T	T	17 58 11.1	
	baz=85,slow=75,SNR=24					
H11S1	WAKE ISLAND Hy	11.39 290	T	T	17 58 13.9	
	baz=85,slow=75,SNR=13					
H11S3	WAKE ISLAND Hy	11.40 290	T	T	17 58 14.8	
	baz=85,slow=75,SNR=18					
ZALV	Zalesovo Beam	125.24 10	PKP	PKPdf	15 58 04.9	-0.6
	comp=Z,1.0nm,0.6s,baz=317,slow=2.9,SNR=4.9					
MKAR	Makanchi Array	131.40 15	PKP	PKPdf	15 58 16.8	-0.8
	comp=Z,1.5nm,1.0s,baz=29,slow=2.8,SNR=5.2					
SONM	Songino Array	132.25 353	PKP	PKPdf	15 58 18.6	-0.7
	comp=Z,0.5nm,0.6s,baz=70,slow=1.7,SNR=2.0					
KSRS	Korea Array	134.52 328	PKP	PKPdf	15 58 23.1	-0.5
	comp=Z,2.0nm,0.8s,baz=1.5,slow=1.7,SNR=6.9					
ASAR	Alice Springs	138.72 232	PKhKP	PKPpre	15 58 23.2	
	comp=Z,0.5nm,0.9s,baz=133,slow=3.9,SNR=2.7					
ASAR			PKP	PKPdf	15 58 32.8	+0.8
	comp=Z,1.2nm,0.9s,baz=105,slow=2.1,SNR=6.8					
WRA	Warramunga Ar	140.12 238	PKhKP	PKPpre	15 58 29.9	
	comp=Z,1.1nm,0.9s,baz=118,slow=2.5,SNR=4.3					
WRA			PKP	PKPdf	15 58 35.3	+0.8
	comp=Z,1.8nm,0.8s,baz=113,slow=2.1,SNR=7.7					
LZH	Lanzhou	144.15 354	*e*PKP	PKPab	15 58 38.3	-0.7
LZH			pPKP	PKPdf	15 58 42.3	+0.8
PZH	PanZhiHua	153.84 355	PKPbc	PKPdf	15 59 00.3	+3.1
CMAR	Chiang Mai Arr	161.97 1	PKP	PKPdf	15 59 07.6	+0.4
	comp=Z,0.4nm,0.3s,baz=284,slow=2.3,SNR=5.4					
CMAR			PKPab	PKPab	15 59 51.9	-1.0
	comp=Z,0.5nm,0.4s,baz=350,slow=4.0,SNR=6.7					

*GCMT **22** 15:40:24.4±0.2, 10.61S±0.02×164.95E±0.01, h22km, MW5.0/92, Moment Tensor Solution. s41,c53; s92,c131; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.22±.15; $M_{\theta\theta}$=1.03±.09; $M_{\phi\phi}$=3.24±.11; $M_{r\theta}$=1.60±.18; $M_{\theta\phi}$=0.34±.08; $M_{\phi r}$=1.54±.15; Best double couple: M_0=3.63900×10^{16} NP1:ϕ_s205.00000°, δ37.00000°, λ-40.00000°. NP2: ϕ_s328.00000°, δ67.00000°, λ-120.00000°. Principal axes: T 3.7660, Plg17.0000°, Azm80.0000°; N -0.2640, Plg28.0000°, Azm341.0000°; P -3.5120, Plg57.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **22** 15:40:25.4±1.7, 10.8S±0.1×165.1E±0.1, h57km±8km, mb4.9/27 Error ellipse: s-maj=18.0km s-min=10.9km az=224.0*

*BJI **22** 15:40:26.2±0.0, 10.16S×164.69E, h45km, mb4.9/52, mB4.9/27, Ms4.5/14, Ms7 4.2/15*

*IDC **22** 15:40:26.2±3.0, 10.79S×165.01E, h58km±25km, mb4.2/19, mb1 4.4/21, mb1mx4.4/32, mbtmp4.5/21, ML5.2/3, MS4.2/46, Ms1 4.2/46, ms1mx4.1/64, Error ellipse: s-maj=19.1km s-min=13.4km az=77.0*

ISC 22 15:40:23.2±0.3, 10.75S±0.05×165.09E±0.05, h35km, n207, σ1.27/187, mb4.9/52, MS4.2/50, 4C-2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	Saraoutou	5.10	156	Pn	Pn	15 41 37.0	-0.1
SANVU	Saraoutou	5.10	156	P	Pn	15 41 37.3	+0.1
HNR	Honiara	5.23	284	P	Pn	15 41 40.9	+2.0
	328nm,0.3s,baz=145,slow=5.2,SNR=141						
HNR				S	Sn	15 42 40.4	+2.3
	212nm,0.3s,baz=143,slow=4.1,SNR=7.0						
HNR				LR	LR	15 43 42.8	
	comp=Z,5μm,19.2s,baz=116,slow=38						
HNR	Honiara	5.23	284	Pn	Pn	15 41 40.5	+1.6
DVP	Devils Point	7.55	157	P	Pn	15 42 11.1	+0.2
RTV	Rentapao	7.71	156	P	Pn	15 42 13.9	+0.9
KOUNC	Koumac, New Ca	9.77	184	Pn	Pn	15 42 42.2	+0.9
KOUNC	Koumac, New Ca	9.77	184	P	Pn	15 42 42.4	+1.1
LIFNC	LIFOU	10.18	169	Pn	Pn	15 42 45.0	-1.8
LIFNC	LIFOU	10.18	169	P	Pn	15 42 46.3	-0.6
MARNC	Mare, Loyalty	11.04	166	Pn	Pn	15 42 58.8	+0.2
MARNC	Mare, Loyalty	11.04	166	P	Pn	15 42 59.1	+0.5
DZM	Mont Dzumac	11.33	174	P	Pn	15 43 03.5	+0.7
	14nm,0.3s,baz=322,slow=8.3,SNR=380						
DZM				S	Sn	15 45 04.5	-3.7
	1.6nm,0.3s,baz=136,slow=18,SNR=2.0						
DZM				LR	LR	15 47 10.8	
	comp=Z,1μm,18.8s,baz=20,slow=36						
DZM	Mont Dzumac	11.33	174	*e*Pn	Pn	15 43 02.9	+0.2
	228nm,1.4s						
DZM				*e*LR	LR	15 45 42.1	
	comp=Z,2μm,24.6s						
DZM	Mont Dzumac	11.33	174	Pn	Pn	15 43 03.2	+0.5
DZM	Mont Dzumac	11.33	174	P	Pn	15 43 03.3	+0.5
NOUC	Port Laguerre	11.34	174	P	Pn	15 43 04.0	+1.2
YATNC	Mamie plateau,	11.38	171	P	Pn	15 43 02.6	-0.7
ONTNC	Ouen Toro	11.56	174	Pn	Pn	15 43 06.4	+0.6
ONTNC	Ouen Toro	11.56	174	P	Pn	15 43 07.2	+1.4
OUENC	Ouen Island, N	11.72	172	Pn	Pn	15 43 09.0	+1.0
OUENC	Ouen Island, N	11.72	172	P	Pn	15 43 09.1	+1.1
PINNC	Pines Island,	12.01	169	Pn	Pn	15 43 13.0	+1.1
PINNC	Pines Island,	12.01	169	P	Pn	15 43 12.8	+0.9
MSVF	Nonsavu	14.35	120	P	P	15 43 51.6	+1.1
	1.1nm,0.3s,baz=285,slow=11,SNR=9.1						
MSVF				LR	LR	15 48 05.2	
	comp=Z,705nm,18.0s,baz=307,slow=32						
RABL	Rabaul	14.37	296	P	Pn	15 43 41.0	-3.3
KRVT	Keravat (AS076	14.44	295	P	Pn	15 43 48.5	+3.3
	4.2nm,0.3s,baz=209,slow=3.4,SNR=13						
KRVT				LR	LR	15 49 44.6	
	comp=Z,1μm,18.4s,baz=266,slow=39						
PMG	Port Moresby	17.70	273	LR	LR	15 50 51.3	
	comp=Z,2μm,20.1s,baz=120,slow=36						
RK1H	Rockhampton Ha	18.75	226	P	Pn	15 44 40.0	+0.1
EIDS	Eidsvold	19.69	221	P	Pn	15 44 50.9	-0.2
	baz=20,SNR=40						
EIDS	Eidsvold	19.69	221	P	Pn	15 44 52.0	+0.9
EIDS				IAmb	IAmb	15 44 53.3	
	comp=Z,118nm,0.9s						
EIDS	Eidsvold	19.69	221	P	Pn	15 44 51.7	+0.6
CTA	Charters Tower	20.37	241	P	P	15 44 58.4	+1.4
	comp=Z,13nm,0.8s,baz=71,slow=10,SNR=12						
CTA				LR	LR	15 52 04.7	
	comp=Z,852nm,18.3s,baz=60,slow=34						
CTA	Charters Tower	20.37	241	P	P	15 44 58.4	+1.4
MTSU	Mount Surprise	21.40	248	P	P	15 45 09.2	+1.0
	baz=21,SNR=11						
MTSU	Mount Surprise	21.40	248	P	P	15 45 09.1	+1.0
LHI	Lord Howe Isla	21.41	194	P	P	15 45 09.6	+1.6
	baz=22,SNR=5.3						
COEN	Coen	21.64	259	P	P	15 45 09.6	-1.1
COEN	Coen	21.64	259	P	P	15 45 10.3	-0.4
RMQ	Roma	21.97	222	P	P	15 45 15.8	+1.7
	baz=22,SNR=71						
RMQ	Roma	21.97	222	P	P	15 45 16.2	+2.1
AFI	Afiamalu	22.81	100	LR	LR	15 52 36.6	
	comp=Z,2μm,19.2s,baz=263,slow=32						
ARMA	Armide	23.23	211	P	P	15 45 28.6	+1.2
	baz=23,SNR=22						
ARMA	Armidale	23.23	211	P	P	15 45 27.5	0.0
ARMA				IAmb	IAmb	15 45 29.8	
	comp=Z,69nm,1.0s						
ARMA	Armidale	23.23	211	P	P	15 45 28.7	+1.2
QLP	Quilpie	25.20	228	P	P	15 45 46.7	+1.0
	baz=25,SNR=55						
QLP	Quilpie	25.20	228	P	P	15 45 47.1	+1.4
MGCD	Mangrove Creek	25.78	208	P	P	15 45 51.2	+0.3
	baz=26,SNR=6.7						
MGCD	Mangrove Creek	25.78	208	P	P	15 45 52.4	+1.5
RIV	Riverview	26.28	207	P	P	15 45 55.2	-0.1
	baz=26,SNR=3.8						
QIS	Mount Isa	26.37	245	P	P	15 45 55.9	-0.5
	baz=26,SNR=4.6						
QIS	Mount Isa	26.37	245	P	P	15 45 57.1	+0.7
CMSA	Cobar Meteorol	27.39	218	P	P	15 46 05.9	+0.5
	baz=27,SNR=21						
CMSA	Cobar Meteorol	27.39	218	P	P	15 46 05.8	+0.4
SMPI	Sarmi	27.60	287	P	P	15 46 06.5	-1.0
	comp=Z,45nm,1.7s						
CNB	Canberra Magne	28.33	208	P	P	15 46 14.7	+0.8
INKA	Innaminka	28.43	230	P	P	15 46 16.1	+1.3
CAN	Canberra	28.50	208	P	P	15 46 15.4	0.0
CAN				IAmb	IAmb	15 46 20.6	
	comp=Z,40nm,1.5s						
H11S2	WAKE ISLAND Hy	29.10	3	T	T	16 16 53.4	
	baz=184,slow=76,SNR=639						
H11S3	WAKE ISLAND Hy	29.11	3	T	T	16 16 50.6	
	baz=184,slow=76,SNR=572						
H11S1	WAKE ISLAND Hy	29.12	3	T	T	16 16 51.7	
	baz=184,slow=76,SNR=608						
URZ	Urewera	29.43	161	LR	LR	15 57 19.2	
	comp=Z,625nm,19.4s,baz=31,slow=34						
BKZ	Black Stump Fm	30.07	162	P	P	15 46 29.6	+0.4
BKZ				IAmb	IAmb	15 46 55.5	
	comp=Z,24nm,1.0s						
BKZ	Black Stump Fm	30.07	162	P	P	15 46 29.6	+0.4
STKA	Stephens Creek	30.21	222	P	P	15 46 31.7	+1.2
	comp=Z,17nm,0.7s,baz=32,slow=9.0,SNR=33						
STKA				LR	LR	15 58 05.4	
	comp=Z,1μm,18.2s,baz=36,slow=35						
STKA	Stephens Creek	30.21	222	P	P	15 46 31.9	+1.3
	baz=30,SNR=30						
STKA	Stephens Creek	30.21	222	P	P	15 46 31.8	+1.2
STKA	Stephens Creek	30.21	222	P	P	15 46 31.8	+1.2
H11N1	WAKE ISLAND Hy	30.33	3	T	T	16 18 23.7	
	baz=182,slow=76,SNR=370						
H11N3	WAKE ISLAND Hy	30.33	3	T	T	16 18 28.1	
	baz=182,slow=76,SNR=243						
H11N2	WAKE ISLAND Hy	30.34	3	T	T	16 18 24.7	
	baz=182,slow=76,SNR=183						
QRZ	Quartz Range	30.67	169	P	P	15 46 36.2	+1.8
WB0	Warramunga Arr	30.89	249	P	P	15 46 35.5	-1.2
WB0				IAmb	IAmb	15 46 38.8	
	comp=Z,10nm,0.7s						

TOO	**Toolangi**	**31.99 210**	P	**P**	**15 46 47.3**	**+1.1**
TOO			lAmb	lAmb	15 46 48.3	
	comp=Z,18nm,0.7s					
TOO	**Toolangi**	**31.99 210**	P	**P**	**15 46 47.4**	**+1.1**
AS31	**Alice Springs**	**32.35 243**	P	**P**	**15 46 48.2**	**-1.4**
ASAR	**Alice Springs**	**32.35 243**	P	**P**	**15 46 47.9**	**-1.7**
	comp=Z,5.9nm,0.6s,baz=63,slow=10,SNR=89					
ASAR			LR	LR	15 59 20.7	
	comp=Z,634nm,18.6s,baz=74,slow=35					
ASAR	**Alice Springs**	**32.35 243**	P	**P**	**15 46 47.4**	**-2.2**
OOD	**Oodnadatta**	**32.39 234**	P	**P**	**15 46 50.4**	**+0.6**
KHZ	**Kahutara**	**32.40 168**	P	**P**	**15 46 51.0**	**+1.4**
HTT	**Hallett**	**32.95 223**	P	**P**	**15 46 55.4**	**+0.8**
	baz=33,SNR=20					
HTT	**Hallett**	**32.95 223**	P	**P**	**15 46 55.6**	**+0.9**
RPZ	**Rata Peaks**	**33.24 172**	P	**P**	**15 46 57.7**	**+0.6**
	comp=Z,9.3nm,0.8s,baz=318,slow=6.9,SNR=2.6					
RPZ			LR	LR	15 59 30.5	
	comp=Z,432nm,18.8s,baz=356,slow=34					
MTN	**Manton Dam**	**33.29 263**	P	**P**	**15 46 56.9**	**-0.9**
	baz=33,SNR=4.7					
MTN	**Manton Dam**	**33.29 263**	P	**P**	**15 46 55.8**	**-2.0**
ARPS	**Mount Arapiles**	**33.34 215**	P	**P**	**15 46 58.9**	**+1.0**
	baz=33,SNR=7.3					
TWOA	**Tennyson Woods**	**34.15 221**	P	**P**	**15 47 06.3**	**+1.2**
BBOO	**Buckleboo**	**34.56 226**	P	**P**	**15 47 09.1**	**+0.4**
	baz=34,SNR=45					
BBOO	**Buckleboo**	**34.56 226**	P	**P**	**15 47 09.3**	**+0.6**
MULG	**Mulgathing**	**34.77 231**	P	**P**	**15 47 10.3**	**-0.2**
SIJI	**Sorong**	**35.01 284**	LR	LR	16 03 46.4	
	comp=Z,456nm,18.3s,baz=172,slow=40					
RAR	**Rarotonga**	**35.27 112**	LR	LR	15 58 44.1	
	comp=Z,353nm,21.1s,baz=210,slow=31					
KNRA	**Kununurra**	**35.67 258**	P	**P**	**15 47 17.2**	**-1.2**
	baz=36,SNR=28					
KNRA	**Kununurra**	**35.67 258**	P	**P**	**15 47 17.0**	**-1.4**
KNRA	**Kununurra**	**35.67 258**	P	**P**	**15 47 17.3**	**-1.1**
WRKA	**Warakurna**	**37.64 243**	P	**P**	**15 47 33.8**	**-1.3**
	baz=38,SNR=16					
WRKA	**Warakurna**	**37.64 243**	P	**P**	**15 47 34.0**	**-1.2**
LBMI	**Labuha**	**38.68 283**	P	**P**	**15 47 44.4**	**+0.4**
	comp=Z,2μmcomp=Z,62nm,1.2s					
FITZ	**Fitzroy Crossi**	**38.83 255**	LR	LR	16 03 16.6	
	comp=Z,632nm,19.6s,baz=81,slow=35					
FITZ	**Fitzroy Crossi**	**38.83 255**	P	**P**	**15 47 44.1**	**-1.1**
TNTI	**Ternate**	**39.22 285**	P	**P**	**15 47 48.0**	**-0.5**
	comp=Z,11nm,1.2s					
FORT	**Forrest**	**39.69 234**	P	**P**	**15 47 50.9**	**-1.3**
FORT	**Forrest**	**39.69 234**	P	**P**	**15 47 52.8**	**+0.6**
BATI	**Baumata**	**40.72 267**	LR	LR	16 06 07.5	
	comp=Z,307nm,19.1s,baz=96,slow=38					
KMSI	**Cibinong**	**42.39 283**	P	**P**	**15 48 14.6**	**-0.1**
	comp=Z,42nm,1.0s					
GTOI	**Gorontalo**	**43.34 282**	P	**P**	**15 48 22.4**	**0.0**
	comp=Z,8.2nm,0.9s					
PPT	**Papeete**	**44.39 104**	LR	LR	16 04 11.9	
	comp=Z,364nm,18.4s,baz=260,slow=32					
PPT2	**Papeete2**	**44.39 104**	*e*S	**S**	**15 55 02.9**	**-0.6**
	comp=Z,148nm,26.8s					
PPT2			*e*LR	LR	16 01 02.0	
	comp=Z,667nm,22.2s,baz=271					
TBI	**Tubuai**	**45.04 112**	*e*LR	LR	16 01 19.8	
	comp=Z,909nm,27.5s,baz=282					
KAPI	**Kappang**	**45.23 274**	LR	LR	16 07 54.0	
	comp=Z,105nm,21.5s,baz=92,slow=36					
TOLI2	**Tolitoli**	**45.61 282**	P	**P**	**15 48 37.9**	**-2.6**
TOLI2			lAmb	lAmb	15 48 40.0	
	comp=Z,13nm,1.0s					
MPSI	**Mapaga**	**46.26 281**	P	**P**	**15 48 44.5**	**-1.1**
	comp=Z,13nm,1.0s					
MEEK	**Meekatharra**	**46.50 243**	P	**P**	**15 48 47.1**	**-0.3**
	baz=46,SNR=6.7					
MEEK	**Meekatharra**	**46.50 243**	P	**P**	**15 48 47.4**	**0.0**
NWAO	**Narrogin (SRO)**	**49.09 236**	P	**P**	**15 49 07.2**	**-0.2**
NWAO			pP	**pP**	**15 49 14.8**	**-1.5**
MORW	**Morawa**	**49.20 241**	P	**P**	**15 49 08.2**	**-0.1**
	baz=49,SNR=4.7					
MORW	**Morawa**	**49.20 241**	P	**P**	**15 49 07.7**	**-0.6**
MORW			lAmb	lAmb	15 49 08.8	
	comp=Z,9.8nm,0.8s					
MORW	**Morawa**	**49.20 241**	P	**P**	**15 49 07.9**	**-0.4**
JHJ	**Hachijo jima 2**	**49.85 332**	LR	LR	16 08 40.7	
	comp=Z,67nm,20.2s,baz=114,slow=34					
KKM	**Kota Kinabalu**	**51.44 287**	P	**P**	**15 49 23.9**	**-1.6**
JOW	**Kunigami**	**51.70 317**	LR	LR	16 10 40.6	
	comp=Z,141nm,20.1s,baz=130,slow=35					
MJAR	**Matsushiro Arr**	**53.42 333**	LR	LR	16 10 52.9	
	comp=Z,46nm,19.9s,baz=140,slow=34					
TAOE	**Nuku Hiva Isla**	**53.94 93**	*e*S	**S**	**15 57 15.9**	**-1.8**
	comp=Z,295nm,25.3s					
TAOE			*e*LQ	LQ	16 03 08.9	
	comp=Z,175nm,21.9s					
TAOE			*e*LR	LR	16 05 25.0	
	comp=Z,281nm,23.7s,baz=271					
TPUB	**Ta-pu**	**55.11 308**	P	**P**	**15 49 50.5**	**-1.8**
LEM	**Lembang**	**56.87 269**	LR	LR	16 15 17.3	
	comp=Z,96nm,21.6s,baz=185,slow=37					
ASAJ	**Asahikawa**	**58.31 341**	LR	LR	16 11 24.4	
	comp=Z,154nm,21.7s,baz=174,slow=32					
DRV	**Dumont d'Urvil**	**58.36 191**	P	**P**	**15 50 15.2**	**+0.6**
DRV			pP	**pP**	**15 50 21.9**	**-1.9**
DRV			sP	**pwP**	**15 50 29.7**	**-0.2**
KSRS	**Korea Array**	**59.27 326**	P	**P**	**15 50 21.6**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=154,slow=5.9,SNR=11					
NJ2	**Nanjing**	**61.36 316**	*e*P	**P**	**15 50 35.6**	**-0.2**
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.5s					
QIZ	**Qiongzhong**	**61.97 298**	P	**P**	**15 50 37.9**	**-2.3**
QIZ			S	**S**	**15 59 03.0**	**+0.5**
QIZ			LR	LR		
	comp=Z,270nm,23.1s					
USRK	**Ussuriysk Ar.**	**62.40 334**	P	**P**	**15 50 43.3**	**+0.8**
	comp=Z,4.2nm,0.9s,baz=119,slow=7.0,SNR=4.2					
SHEM	**Shemya Is, Ala**	**63.70 6**	LR	LR	16 15 11.7	
	comp=Z,130nm,19.7s,baz=208,slow=33					
PETK	**Petropavlovsk-**	**63.92 355**	P	**P**	**15 50 54.2**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=111,slow=7.9,SNR=1.8					
PETK			LR	LR	16 13 30.8	
	comp=Z,99nm,21.4s,baz=174,slow=31					
CN2	**Changchun**	**65.16 329**	*e*P	**P**	**15 50 59.8**	**-0.9**
CN2			pmax	pmax		
	comp=Z,20nm,0.8s					
CASY	**Casey**	**66.42 201**	P	**P**	**15 51 08.9**	**+0.4**
CASY			pP	**pP**	**15 51 15.6**	**-2.2**
CASY			pwP	**sP**	**15 51 21.5**	**+0.2**
KLR	**Kul'dur**	**66.53 337**	LR	LR	16 17 23.4	
	comp=Z,70nm,21.1s,baz=182,slow=33					
VNDA	**Vanda**	**66.77 181**	P	**P**	**15 51 11.3**	**+0.7**
	comp=Z,12nm,1.1s,baz=356,slow=6.9,SNR=30					
VNDA			LR	LR	16 18 22.5	
	comp=Z,204nm,18.1s,baz=30,slow=34					
VNDA	**Vanda**	**66.77 181**	P	**P**	**15 51 10.4**	**-0.2**
VNDA			lAmb	lAmb	15 51 12.9	
	comp=Z,24nm,1.2s					
SBA	**Scott Base**	**67.09 180**	P	**P**	**15 51 14.3**	**+1.7**
SBA			pP	**pP**	**15 51 21.3**	**-1.1**
SBA			pwP	**sP**	**15 51 26.2**	**0.0**
SBA			sP	**pwP**	**15 51 31.6**	**+5.0**
SBA			X		15 51 45.0	
PSI	**Prapat**	**67.19 278**	LR	LR	16 24 14.2	
	comp=Z,62nm,20.4s,baz=191,slow=39					
ENH	**Enshi**	**67.21 309**	P	**P**	**15 51 13.9**	**-0.3**
ENH			pP	**pP**	**15 51 19.9**	**-3.6**
HNS	**HongShan**	**67.24 318**	⇑P	**P**	**15 51 15.0**	**+0.8**
HNS			pmax	pmax		
	comp=Z,15nm,0.8s					
GYA	**Guiyang**	**67.72 304**	⇑P	**P**	**15 51 15.1**	**-2.5**
GYA			pmax	pmax		
	comp=Z,22nm,1.0s					
BJI	**Beijing**	**67.85 321**	P	**P**	**15 51 18.3**	**+0.3**
BJI			pmax	pmax		
	comp=Z,7.0nm,0.6s					
BJI			pmax	pmax		
	comp=Z,71nm,4.2s					
GSI	**Gunungsitoli**	**68.19 276**	P	**P**	**15 51 19.7**	**-1.0**
GSI	**Gunungsitoli**	**68.19 276**	P	**P**	**15 51 20.4**	**-0.3**
	comp=Z,45nm,0.9s					
CCD	**Concordia, Ant**	**68.37 191**	P	**P**	**15 51 21.8**	**+0.5**
CCD			pP	**pP**	**15 51 28.8**	**-1.8**
CCD			sP	**pwP**	**15 51 38.9**	**+2.1**
XAN	**Xi'an**	**69.45 313**	⇑P	**P**	**15 51 27.8**	**-0.4**
XAN			pP	sP	15 51 41.3	0.0
XAN			sP	pwP	15 51 48.3	+5.1
XAN			pmax	pmax		
	comp=Z,18nm,1.0s					
XAN			LR	LR		
	comp=Z,160nm,16.5s					
XAN			LR	LR		
	comp=Z,200nm,19.2s					
XAN	**Xi'an**	**69.45 313**	P	**P**	**15 51 27.9**	**-0.3**
XLT	**XiLinHaoTe**	**70.25 325**	⇓P	**P**	**15 51 33.8**	**+0.8**
XLT			pP	sP	15 51 47.9	+1.5
XLT			sP	pwP	15 51 52.6	+5.5
XLT			S	**S**	**16 00 41.3**	**-1.2**
XLT			sS	pS	16 00 57.3	+2.5
XLT			pmax	pmax		
	comp=Z,33nm,1.0s					
XLT			pmax	pmax		
	comp=Z,100nm,3.5s					
XLT			LR	LR		
	comp=Z,13nm,16.3s					
XLT			LR	LR		
	comp=Z,130nm,16.0s					
XLT			LR	LR		
	comp=Z,140nm,15.0s					
KMI	**Kunming**	**70.42 302**	⇑P	**P**	**15 51 36.3**	**+1.7**
KMI			pP	sP	15 51 48.6	+1.2
KMI			pmax	pmax		
	comp=Z,22nm,1.2s					
KMI			LR	LR		
	comp=Z,120nm,14.6s					
KMI			LR	LR		
	comp=Z,80nm,21.2s					
KMI			LR	LR		
	comp=Z,160nm,21.6s					
MA2	**Magadan**	**71.03 352**	LR	LR	16 18 00.2	
	comp=Z,145nm,21.1s,baz=168,slow=32					
HHC	**Hu-ho-hao-te**	**71.19 320**	*e*P	**P**	**15 51 39.6**	**+0.8**
HHC			pmax	pmax		
	comp=Z,15nm,0.9s					
HHC			pmax	pmax		
	comp=Z,72nm,6.2s					
CMAR	**Chiang Mai Arr**	**71.41 294**	P	**P**	**15 51 41.2**	**+0.9**
	comp=Z,5.5nm,0.9s,baz=121,slow=4.6,SNR=36					
CMAR			LR	LR	16 24 07.3	
	comp=Z,37nm,18.8s,baz=140,slow=37					
CHTO	**Chiang Mai**	**71.52 294**	P	**P**	**15 51 41.4**	**+0.4**
CHTO			pP	**pP**	**15 51 48.9**	**-1.6**
PZH	**PanZhiHua**	**71.78 303**	P	**P**	**15 51 42.9**	**+0.3**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,80nm,5.1s					
LZH	**Lanzhou**	**74.08 312**	*e*P	**P**	**15 51 57.6**	**+1.4**
LZH			pP	sP	15 52 09.8	+0.5
LZH			pmax	pmax		
	comp=Z,21nm,1.3s					
LZH			LR	LR		
	comp=Z,150nm,15.0s					
LZH			LR	LR		
	comp=Z,160nm,15.1s					
LZH			LR	LR		
	comp=Z,160nm,18.2s					
KDAK	**Kodiak Island**	**76.55 22**	LR	LR	16 24 44.6	
	comp=Z,108nm,18.3s,baz=207,slow=35					
YAK	**Yakutsk**	**77.64 344**	LR	LR	16 28 04.9	
	comp=Z,100nm,18.0s,baz=88,slow=37					
SONM	**Songino Array**	**78.05 324**	P	**P**	**15 52 18.9**	**+0.5**
	comp=Z,5.8nm,0.9s,baz=139,slow=6.1,SNR=31					
GTA	**Gaotai**	**78.39 314**	⇓P	**P**	**15 52 21.5**	**+1.0**
GTA			pP	PcP	15 52 29.0	-0.7
GTA			sP	sP	15 52 34.1	+0.4
GTA			pmax	pmax		
	comp=Z,16nm,1.2s					
GTA			pmax	pmax		
	comp=Z,50nm,6.0s					
GTA			LR	LR		
	comp=Z,76nm,15.5s					
GTA			LR	LR		
	comp=Z,100nm,16.3s					
GTA			LR	LR		
	comp=Z,94nm,15.9s					
GOMU	**GeErMu**	**80.83 310**	P	**P**	**15 52 35.3**	**+1.1**
GOMU			pmax	pmax		
	comp=Z,4.0nm,0.8s					
GOMU			pmax	pmax		
	comp=Z,52nm,4.6s					
N25K	**Chitina, Valde**	**82.12 22**	P	**P**	**15 52 40.1**	**0.0**
N25K			lAmb	lAmb	15 52 54.0	
	comp=Z,12nm,0.8s					
M26K	**Nabesna, AK**	**83.21 22**	P	**P**	**15 52 45.7**	**+0.1**
M26K			lAmb	lAmb	15 52 59.6	
	comp=Z,12nm,1.0s					
ILAR	**Eielson Array**	**83.44 19**	P	**P**	**15 52 46.8**	**0.0**
	comp=Z,1.3nm,0.8s,baz=231,slow=4.4,SNR=8.9					
L27K	**Beaver Creek,**	**84.04 21**	P	**P**	**15 52 51.5**	**+1.6**
L27K			lAmb	lAmb	15 53 04.2	
	comp=Z,6.5nm,0.9s					
YBH	**Yreka Blue Hor**	**84.15 46**	LR	LR	16 21 56.9	
	comp=Z,125nm,21.1s,baz=194,slow=30					
BBB	**Bella Bella**	**84.70 35**	LR	LR	16 22 59.7	
	comp=Z,181nm,20.6s,baz=244,slow=30					
MAW	**Mawson**	**84.75 202**	P	**P**	**15 52 54.3**	**+0.9**
	comp=Z,18nm,0.8s,baz=108,slow=6.4,SNR=22					
MAW			LR	LR	16 26 26.1	
	comp=Z,85nm,21.0s,baz=213,slow=33					
MAW	**Mawson**	**84.75 202**	P	**P**	**15 52 53.1**	**-0.3**
	baz=85,SNR=12					
MAW	**Mawson**	**84.75 202**	P	**P**	**15 52 52.2**	**-1.2**
MAW			lAmb	lAmb	15 52 55.4	
	comp=Z,6.0nm,0.9s					
PALK	**Pallekele**	**85.87 278**	LR	LR	16 34 25.2	
	comp=Z,62nm,20.0s,baz=236,slow=38					
NVAR	**Mina Array Bea**	**86.33 50**	P	**P**	**15 53 03.2**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=248,slow=7.8,SNR=3.8					
PFO	**Pinyon Flats O**	**86.44 55**	LR	LR	16 26 05.0	
	comp=Z,263nm,18.6s,baz=314,slow=32					
DLBC	**Dease Lake**	**86.46 29**	LR	LR	16 29 10.7	
	comp=Z,254nm,18.1s,baz=252,slow=34					
WMQ	**Urumqi**	**88.43 315**	*e*P	**P**	**15 53 10.3**	**-1.7**
WMQ			pmax	pmax		
	comp=Z,19nm,0.7s					
ELK	**Elko**	**89.24 48**	LR	LR	16 28 39.9	
	comp=Z,85nm,18.2s,baz=246,slow=32					
LPIG	**La Paz**	**89.47 65**	LR	LR	16 25 52.6	
	comp=Z,108nm,19.7s,baz=240,slow=30					
NEW	**Newport**	**89.94 41**	LR	LR	16 28 16.3	
	comp=Z,110nm,19.3s,baz=214,slow=32					
BELA	**Belgrano 2**	**90.82 176**	P	**P**	**15 53 21.8**	**-0.8**
MKAR	**Makanchi Array**	**92.87 317**	P	**P**	**15 53 32.1**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=100,slow=6.3,SNR=29					
MKAR	**Makanchi Array**	**92.87 317**	P	**P**	**15 53 32.3**	**-0.2**
ZALV	**Zalesovo Beam**	**92.94 324**	P	**P**	**15 53 31.5**	**-1.1**
	comp=Z,5.0nm,1.0s,baz=102,slow=4.9,SNR=15					
PDAR	**Pinedale Array**	**93.83 47**	P	**P**	**15 53 37.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=296,slow=44,SNR=1.9					
PDAR			LR	LR	16 28 46.9	
	comp=Z,90nm,21.4s,baz=220,slow=31					
A36M	**Sachs Harbour**	**94.01 17**	P	**P**	**15 53 37.6**	**+0.5**
A36M			lAmb	lAmb	15 53 52.1	
	comp=Z,5.6nm,1.0s					
ANMO	**Albuquerque**	**94.81 55**	LR	LR	16 29 03.9	
	comp=Z,124nm,20.1s,baz=267,slow=31					
YKA	**Yellowknife Ar**	**95.01 27**	P	**P**	**15 53 42.4**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=254,slow=4.7,SNR=6.3					
YKA			LR	LR	16 30 26.4	
	comp=Z,187nm,19.6s,baz=170,slow=32					
KSH	**Kashi**	**96.07 309**	P	**P**	**15 53 50.3**	**+2.8**
KSH			pP	sP	15 54 00.1	-0.6
KSH			sP	pwP	15 54 08.0	+5.1
KSH			sS	sS	16 05 24.5	+3.6
KSH			pmax	pmax		
	comp=Z,2.0nm,0.8s					
TXAR	**Lajitas Array**	**96.26 61**	P	**P**	**15 53 49.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=323,slow=50,SNR=1.7					
SNAA	**Sanae**	**97.36 184**	LR	LR	16 36 40.3	
	comp=Z,218nm,18.9s,baz=275,slow=35					
BRTR	**Keskin Array B**	**128.29 313**	PKP	**PKPdf**	**15 59 25.6**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=172,slow=3.5,SNR=3.8					
GERES	**GERESS Array B**	**135.16 333**	PKP	**PKPdf**	**15 59 39.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=29,slow=3.0,SNR=4.8					
KEST	**Kesra**	**146.79 322**	PKPbc	**PKPdf**	**16 00 01.3**	**+0.9**
	comp=Z,11nm,0.9s,baz=179,slow=1.1,SNR=10					
ESDC	**Sonseca Array**	**149.60 343**	PKPbc	**PKPbc**	**16 00 08.6**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=7.8,slow=2.3,SNR=7.4					
ESDC			PKPab	**PKPab**	**16 00 14.6**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=11,slow=3.9,SNR=6.7					
TORD	**Torodi Ar. Bea**	**163.58 280**	PKP	**PKPdf**	**16 00 22.4**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=312,slow=1.1,SNR=4.1					
TORD			PKPab	**PKPab**	**16 01 14.4**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=30,slow=2.4,SNR=4.7					

*GUC **22** 15:42:54.3±0.7,21°.89S×67°.45W,h215km±10km,ML4.1*
*SCB **22** 15:42:56.5±3.6,21°.77S×67°.39W,h47km±27km,ML3.4/5,*
MW3.4,Error ellipse: s-maj=11.3km s-min=8.1km az=0.0

ISC 22 15:42:53.0±2.3,21°.86S±0°.06×67°.29W±0°.05,
h192km±20km,n25,σ1ᵗ34/41,4C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.66**	**69**	P	**Pn**	**15 43 28.5**	**+0.6**
MOCB				S	**Sn**	**15 43 52.8**	**-2.1**
MOCB				IAML		15 43 56.1	
	129nm,0.4s						
LVC	**Limon Verde**	**1.67**	**243**	P	**Pn**	**15 43 29.4**	**+1.4**
YJA	**Yavi**	**1.68**	**101**	P	**Pn**	**15 43 28.7**	**+0.6**
PB09	**IPOC Station P**	**1.81**	**272**	P	**Pn**	**15 43 30.6**	**+1.4**
PB06	**IPOC Station P**	**2.27**	**248**	⇑*e*P	**Pn**	**15 43 34.8**	**+0.8**
PB06				*e*S	**Sn**	**15 44 05.9**	**0.0**
PB06	**IPOC Station P**	**2.27**	**248**	P	**Pn**	**15 43 35.1**	**+1.1**
PB07	**IPOC Station P**	**2.42**	**273**	⇑*e*P	**Pn**	**15 43 36.4**	**+0.8**
PB07				*e*S	**Sn**	**15 44 08.2**	**-0.5**
PB07	**IPOC Station P**	**2.42**	**273**	P	**Pn**	**15 43 36.9**	**+1.3**
PB07				S	**Sn**	**15 44 06.5**	**-2.2**
PB07				IAML		15 44 09.6	
	154nm,0.3s						
PB15	**IPOC Station P**	**2.42**	**236**	⇓*e*P	**Pn**	**15 43 36.7**	**+1.0**
PB15				*e*S	**Sn**	**15 44 09.6**	**+0.6**
PB15	**IPOC Station P**	**2.42**	**236**	P	**Pn**	**15 43 36.7**	**+1.0**
PB15				S	**Sn**	**15 44 06.7**	**-2.2**
PB15				IAML		15 44 14.0	
	449nm,0.3s						
PB08	**IPOC Station P**	**2.44**	**314**	*e*P	**Pn**	**15 43 37.8**	**+1.7**
PB08				*e*S	**Sn**	**15 44 10.7**	**+1.0**
PB08	**IPOC Station P**	**2.44**	**314**	P	**Pn**	**15 43 37.8**	**+1.7**
PB02	**IPOC Station P**	**2.48**	**282**	*e*P	**Pn**	**15 43 37.0**	**+0.7**
PB02				*e*S	**Sn**	**15 44 09.5**	**-0.5**
PB02				IAML		15 44 09.9	
	comp=N,488nm,0.3s						
PB02	**IPOC Station P**	**2.48**	**282**	P	**Pn**	**15 43 37.4**	**+1.1**
PB02				S	**Sn**	**15 44 08.4**	**-1.6**
PB02				IAML		15 44 10.4	
	comp=N,203nm,0.3s						
GO01	**Chusmiza**	**2.82**	**320**	*e*P	**Pn**	**15 43 41.9**	**+1.3**
GO01				*e*S	**Sn**	**15 44 18.7**	**+1.1**
GO01				IAML		15 44 22.7	
	comp=N,453nm,0.1s						
PATCX	**Punta Patache**	**2.86**	**291**	*e*P	**Pn**	**15 43 41.0**	**+0.3**
PATCX				*e*S	**Sn**	**15 44 16.8**	**-1.1**
PATCX				IAML		15 44 18.6	
	comp=E,334nm,0.5s						
HMBC	**Humberstone**	**2.89**	**303**	⇑*e*P	**Pn**	**15 43 41.4**	**+0.3**
HMBC				*e*S	**Sn**	**15 44 17.4**	**-1.2**
HMBC				IAML		15 44 17.6	
	comp=N,291nm,0.4s						
TA01	**Diego Aracena**	**2.99**	**295**	*e*P	**Pn**	**15 43 42.1**	**0.0**
TA01				*e*S	**Sn**	**15 44 18.8**	**-1.6**
TA01				IAML		15 44 19.6	
	comp=E,241nm,0.2s						
PB11	**IPOC Station P**	**3.04**	**313**	⇑*e*P	**Pn**	**15 43 43.2**	**+0.3**
PB11				*e*S	**Sn**	**15 44 21.4**	**-0.5**
PB11				IAML		15 44 22.9	
	comp=N,348nm,0.2s						
PB11	**IPOC Station P**	**3.04**	**313**	P	**Pn**	**15 43 43.5**	**+0.6**
PB11				S	**Sn**	**15 44 19.9**	**-2.0**
PB11				IAML		15 44 21.5	
	comp=N,118nm,0.3s						
PB10	**IPOC Station P**	**3.43**	**241**	P	**Pn**	**15 43 48.0**	**+0.6**
PB16	**IPOC Station P**	**4.08**	**329**	P	**Pn**	**15 43 57.6**	**+1.5**
PB12	**IPOC Station P**	**4.31**	**318**	*e*P	**Pn**	**15 43 57.4**	**-1.2**
PB12				*e*S	**Sn**	**15 44 47.3**	**-2.7**
PB12				IAML		15 44 49.4	
	comp=E,60nm,0.2s						
PB12				IAML		15 44 50.0	
	comp=N,54nm,0.3s						
BBOD	**La Paz, Gloria**	**5.34**	**346**	P	**Pn**	**15 44 14.0**	**+1.8**
LPAZ	**La Paz**	**5.60**	**352**	P	**Pn**	**15 44 17.1**	**+1.4**

*IDC **22** 15:51:46.5±3.3,27°.97S×136°.05E,h0km,mb4.2/1,*
mb1 3.5/4,mb1mx3.4/26,mbtmp3.4/4,ML2.6/3,Error ellipse: s-maj=53.5km s-min=26.3km az=53.0
*AUST **22** 15:51:48.7±1.6,28°.17S×135°.57E,h0km,Error ellipse: s-maj=38.4km s-min=11.6km az=107.0*

ISC 22 15:51:46.6±0.9,28°.05S±0°.06×136°.00E±0°.07,h10km,n8,
σ2ᵖ02/13,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OOD	**Oodnadatta**	**0.38**	**312**	P	**Pn**	**15 51 55.9**	**-2.1**
	baz=0.4						
OOD				S	**Sb**	**15 52 02.2**	**+1.0**
	baz=0.4						
MULG	**Mulgathing**	**2.80**	**217**	P	**Pn**	**15 52 29.2**	**-2.3**
	baz=2.5						
MULG				S	**Sn**	**15 53 03.8**	**-1.5**
	baz=2.5						
LCRK	**Leigh Creek**	**3.07**	**142**	P	**Pb**	**15 52 41.4**	**0.0**
	baz=3.2						
BBOO	**Buckleboo**	**4.75**	**179**	P	**Pn**	**15 52 59.7**	**+1.6**
	baz=4.7						
ASAR	**Alice Springs**	**4.76**	**336**	Pn	Pn	**15 52 59.5**	**+1.2**
	0.2nm,0.3s,baz=160,slow=12,SNR=16						
ASAR				Sn	**Sn**	**15 53 53.9**	**+0.2**
	0.2nm,0.3s,baz=158,slow=23,SNR=6.7						
STKA	**Stephens Creek**	**6.17**	**130**	Pn	**Pn**	**15 53 18.9**	**+1.1**
	0.1nm,0.3s,baz=294,slow=10.0,SNR=2.7						
STKA				Sn	**Sn**	**15 54 23.8**	**-4.6**
	0.2nm,0.3s,baz=270,slow=9.9,SNR=4.6						
WRA	**Warramunga Arr**	**8.21**	**349**	Pn	**Pn**	**15 53 46.3**	**+0.5**
	0.2nm,0.3s,baz=167,slow=13,SNR=14						
WRA				Sn	**Sn**	**15 55 17.7**	**-1.1**
	0.1nm,0.3s,baz=168,slow=26,SNR=1.5						
PMG	**Port Moresby**	**21.32**	**32**	P	**P**	**15 56 34.0**	**+0.3**
	11nm,0.8s,baz=219,slow=12,SNR=1.7						

*IDC **22** 15:52:33.3±2.4,33°.

	comp=Z,45nm,0.8s								
346A	**Big Creek Wild**	2.73	226		lAmb_Lg			15 54 07.2	
	comp=Z,46nm,0.7s								
CLTN	**Cedars of Leba**	2.86	14		Pn		**Pn**	**15 53 23.3**	**+1.3**
WVT	**Waverly**	2.87	349		Pn		**Pn**	**15 53 22.9**	**+0.9**
451A	**Vernon**	2.95	155		Pn		**Pb**	**15 53 24.9**	**-4.0**
CPCT	**Cooper Cave**	3.06	45		Pn		**Pn**	**15 53 26.2**	**+1.4**
CPCT					lAmb_Lg			15 54 20.5	
	comp=Z,43nm,0.8s								
GOGA	**Godfrey**	3.10	87				**Pn**	**15 53 27.6**	**+2.3**
W52A	**Murphy**	3.22	56		Pn		**Pn**	**15 53 29.2**	**+2.2**
V51A	**Loudon**	3.41	42		Pn		**Pn**	**15 53 30.7**	**+1.2**
GNAR	**Gosnell**	3.54	319		lAmb_Lg			15 54 32.8	
	comp=Z,41nm,0.7s								
TKL	**Tuckaleechee C**	3.65	49		Pn		**Pn**	**15 53 31.9**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=205,slow=17,SNR=8.5								
TKL					Pg		**Pb**	**15 53 40.8**	**-0.2**
	comp=Z,2.6nm,0.3s,baz=201,slow=21,SNR=12								
TKL					Sn		**Sn**	**15 54 16.8**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=5.2,slow=8.0,SNR=7.5								
TKL					Lg		Lg	15 54 25.4	
	comp=Z,3.9nm,0.3s,baz=291,slow=22,SNR=7.4								
TKL	**Tuckaleechee C**	3.65	49		Pn		**Pn**	**15 53 34.1**	**+1.2**
T47A	**Sharon Grove**	3.67	1		Pn		**Pn**	**15 53 33.4**	**+0.3**
T47A					lAmb_Lg			15 54 41.7	
	comp=Z,28nm,0.8s								
V52A	**Sevierville**	3.88	48		Pn		**Pn**	**15 53 37.0**	**+0.9**
V52A					lAmb_Lg			15 54 37.3	
	comp=Z,32nm,0.8s								
BG3	**Lake Jocassee**	3.90	63		lAmb_Lg			15 54 46.4	
	comp=Z,34nm,1.1s								
T50A	**Nancy**	4.17	27		lAmb_Lg			15 54 49.0	
	comp=Z,45nm,1.1s								
255A	**Hazlehurst**	4.20	108		Pn		**Pn**	**15 53 42.2**	**+1.9**
LCAR	**Lake Charles**	4.28	311		Pn		**Pn**	**15 53 42.4**	**+0.9**
V53A	**Saluda**	4.30	56		Pn		**Pn**	**15 53 43.4**	**+1.5**
V53A					lAmb_Lg			15 54 54.3	
	comp=Z,40nm,0.7s								
PBMO	**Poplar Bluff**	4.37	323		Pn		**Pn**	**15 53 42.9**	**+0.1**
PBMO					lAmb_Lg			15 54 53.4	
	comp=Z,22nm,1.0s								
UALR	**University of**	4.54	290		lAmb_Lg			15 55 07.3	
	comp=Z,21nm,0.8s								
W41B	**Gary Mavity, V**	4.60	295		Pn		**Pn**	**15 53 47.8**	**+1.9**
W41B					lAmb_Lg			15 55 10.3	
	comp=Z,21nm,1.0s								
WHAR	**Wooly Hollow**	4.67	296		Pn		**Pn**	**15 53 48.0**	**+1.1**
S44A	**Carbondale**	4.69	339		lAmb_Lg			15 55 07.2	
	comp=Z,33nm,0.7s								
SIUC	**Southern Illin**	4.70	340		lAmb_Lg			15 55 09.1	
	comp=Z,38nm,0.8s								
X40A	**Basin Creek Fa**	4.85	286		Pn		**Pn**	**15 53 48.6**	**-0.8**
T42A	**Van Buren**	4.91	320				**Pn**	**15 53 51.0**	**+0.8**
R49A	**Shelbyville**	5.23	18		lAmb_Lg			15 55 22.1	
	comp=Z,24nm,0.7s								
OLIL	**Olney**	5.46	352		lAmb_Lg			15 55 42.1	
	comp=Z,28nm,1.1s								
Q44A	**Meyer Farm, Va**	5.78	346		lAmb_Lg			15 55 42.6	
	comp=Z,20nm,0.7s								
CCM	**Cathedral Cave**	5.78	326		lAmb_Lg			15 55 46.8	
	comp=Z,18nm,1.1s								
BLO	**Bloomington**	5.87	5		lAmb_Lg			15 55 57.2	
	comp=Z,23nm,0.7s								
W57A	**Gilead**	6.22	71		lAmb_Lg			15 56 06.3	
	comp=Z,16nm,0.9s								
P46A	**Rosedale**	6.29	360		lAmb_Lg			15 56 03.5	
	comp=Z,20nm,0.8s								
P48A	**Milroy**	6.30	12		lAmb_Lg			15 55 55.6	
	comp=Z,21nm,1.0s								
P49A	**Miami Univ. Ec**	6.52	17		lAmb_Lg			15 56 09.1	
	comp=Z,21nm,0.8s								
R53A	**Hurricane**	6.56	39		lAmb_Lg			15 56 05.2	
	comp=Z,23nm,0.7s								
P43A	**Skaggs, Pawnee**	6.59	344		lAmb_Lg			15 56 16.9	
	comp=Z,15nm,0.7s								
S39A	**Bolivar**	6.65	313		Pn		**Pn**	**15 54 16.0**	**+1.9**
Q52A	**Bidwell**	6.89	34		lAmb_Lg			15 56 13.5	
	comp=Z,20nm,0.9s								
SFIN	**Lafayette**	7.06	0		lAmb_Lg			15 56 23.3	
	comp=Z,18nm,0.7s								
P40A	**Paris**	7.35	329		lAmb_Lg			15 56 31.3	
	comp=Z,18nm,0.9s								
HDIL	**Hopedale**	7.43	347		lAmb_Lg			15 56 34.3	
	comp=Z,22nm,0.7s								
T57A	**Hurt**	7.45	58		lAmb_Lg			15 56 43.1	
	comp=Z,13nm,0.9s								
Q54A	**Coxs Mills**	7.63	40		lAmb_Lg			15 56 44.6	
	comp=Z,20nm,1.0s								
ACSO	**Alum Creek Sta**	7.68	25		lAmb_Lg			15 56 47.2	
	comp=Z,17nm,0.8s								
P53A	**Whipple**	7.73	35		lAmb_Lg			15 56 45.3	
	comp=Z,19nm,0.8s								
N41A	**Harden Midland**	7.95	339		lAmb_Lg			15 56 52.2	
	comp=Z,16nm,0.8s								
N49A	**Columbus Grove**	7.96	17		Pn		**Pn**	**15 54 31.6**	**-0.5**
S57A	**Dark Hollow, R**	8.03	54		lAmb_Lg			15 57 01.7	
	comp=Z,16nm,1.1s								
P38A	**Dawn**	8.12	323		lAmb_Lg			15 57 01.3	
	comp=Z,11nm,0.8s								
U59A	**Littleton**	8.29	66		lAmb_Lg			15 56 57.5	
	comp=Z,11nm,0.9s								
O53A	**New Philadelph**	8.41	33		lAmb_Lg			15 57 03.1	
	comp=Z,12nm,0.8s								
N51A	**Ashland**	8.50	25		lAmb_Lg			15 57 15.6	
	comp=Z,19nm,0.8s								
Q56A	**Snyder Ridge,**	8.62	46		lAmb_Lg			15 57 08.4	
	comp=Z,11nm,0.8s								
O54A	**Avella**	8.76	37		lAmb_Lg			15 57 24.1	
	comp=Z,16nm,0.8s								
R58B	**Mineral**	8.87	56		lAmb_Lg			15 57 14.2	
	comp=Z,12nm,0.9s								
L48A	**N Adams**	8.89	13		lAmb_Lg			15 57 22.4	
	comp=Z,18nm,0.9s								
L40A	**Anamosa**	9.31	341		lAmb_Lg			15 57 52.7	
	comp=Z,11nm,0.8s								
ULM	**Lac du Bonnet**	18.11	342		P		**Pn**	**15 56 48.6**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=180,slow=13,SNR=3.2								
PDAR	**Pinedale Array**	19.95	305		P		Pn	15 57 11.8	+1.4
	comp=Z,0.4nm,0.7s,baz=104,slow=11,SNR=2.8								
NEW	**Newport**	26.94	313		LR		LR	16 10 59.5	
	comp=Z,163nm,19.7s,baz=151,slow=40								
ILAR	**Eielson Array**	47.56	330		P		**P**	**16 01 13.2**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=104,slow=6.0,SNR=6.1								
BORG	**Borgarnes**	50.15	31		LR		LR	16 22 30.1	
	comp=Z,97nm,21.6s,baz=244,slow=36								
FINES	**FINESS Array B**	71.30	28		P		**P**	**16 03 55.9**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=316,slow=7.8,SNR=5.3								
ASAR	**Alice Springs**	142.84	274		PKP		**PKPdf**	**16 12 07.2**	**-3.3**
	comp=Z,0.3nm,0.6s,baz=63,slow=2.9,SNR=5.9								

*SJA **22** 15:55:44.2±0.6,23°.66S×71°.42W,h11km,ML4.3,MW3.9*
*IDC **22** 15:55:49.3±0.8,23°.70S×71°.00W,h0km,mb4.2/7,*
mb1 4.4/12,mb1mx4.2/29,mbtmp4.1/12,ML4.0/5,MS3.8/5,
Ms1 3.8/5,ms1mx3.2/56,Error ellipse: s-maj=24.4km
s-min=18.4km az=179.0
*NEIC **22** 15:55:50.5±2.3,23°.60S±0°.05×71°.14W±0°.05,h16km±4km,*
mb4.6/14,ML4.3(GUC),Error ellipse: s-maj=7.2km
s-min=5.9km az=152.0
*GUC **22** 15:55:53.1±0.7,23°.63S×70°.98W,h41km±2km,ML4.3*
*VAO **22** 15:55:57.0±0.9,23°.55S×70°.77W,h44km±6km,mb4.4*

ISC 22 15:55:50.0±1.6,23°.59S±0°.03×71°.16W±0°.05,h11km±9km,
n133,σ1°40/137,mb4.5/13,MS4.2/3,13C-1D,Off coast of
northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB10	**IPOC Station P**	0.56	83	Pg		**Pg**	**15 56 01.4**	**+0.5**
PB10	**IPOC Station P**	0.56	83	⇓*i* P		**Pg**	**15 56 02.0**	**+1.1**
PB10				*i* S		**Sg**	**15 56 08.6**	**+0.3**
PB10				lAML			15 56 10.1	
	comp=N,47μm,0.3s							
PB14	**IPOC Station P**	1.25	146	Pn		**Pn**	**15 56 13.3**	**-0.4**
PB14	**IPOC Station P**	1.25	146	⇑*i* P		**Pn**	**15 56 13.4**	**-0.4**
PB14				*i* S		**Sb**	**15 56 28.2**	**-1.8**
PB14	**IPOC Station P**	1.25	146	*i* P		**Pn**	**15 56 13.4**	**-0.4**
PB14				*e*S		**Sb**	**15 56 28.4**	**-1.6**
PB14				lAML			15 56 29.0	
	comp=Z,3μm,0.7s							
PB15	**IPOC Station P**	1.60	77			**Pn**	**15 56 17.8**	**-0.6**
PB15	**IPOC Station P**	1.60	77	⇑*i* P		**Pn**	**15 56 17.8**	**-0.6**
PB15				*i* S		**Sn**	**15 56 37.1**	**-2.1**
PB15	**IPOC Station P**	1.60	77	*i* P		**Pn**	**15 56 18.4**	**0.0**
PB15				lAML			15 56 43.1	
	comp=Z,14μm,0.2s							
PB06	**IPOC Station P**	1.70	59			**Pn**	**15 56 18.9**	**-1.0**
PB06	**IPOC Station P**	1.70	59	⇑*i* P		**Pn**	**15 56 18.9**	**-1.0**
PB06				*e*S		**Sn**	**15 56 41.2**	**-0.6**
PB06				lAML			15 56 53.3	
	comp=N,4μm,0.4s							
PB06	**IPOC Station P**	1.70	59	*i* P		**Pn**	**15 56 19.0**	**-0.9**
PB06				lAML			15 56 51.0	
	comp=Z,3μm,1.7s							
GO02	**Mina Guanaco**	2.12	138	Pn		**Pn**	**15 56 26.7**	**+0.9**
GO02	**Mina Guanaco**	2.12	138	⇑*i* P		**Pn**	**15 56 26.7**	**+0.9**
GO02				*i* S		**Sn**	**15 56 52.2**	**-0.2**
GO02				lAML			15 57 06.0	
	comp=E,3μm,0.4s							
GO02	**Mina Guanaco**	2.12	138	*i* P		**Pn**	**15 56 26.7**	**+0.9**
PB07	**IPOC Station P**	2.19	33			**Pn**	**15 56 25.8**	**-0.8**
PB07	**IPOC Station P**	2.19	33	⇑*i* P		**Pn**	**15 56 26.0**	**-0.7**
PB07				lAML			15 57 08.2	
	comp=E,2μm,0.5s							
PB07	**IPOC Station P**	2.19	33	*i* P		**Pn**	**15 56 25.8**	**-0.8**
PB07				lAML			15 57 05.9	
	comp=Z,2μm,0.9s							
LVC	**Limon Verde**	2.29	65	Pn		**Pn**	**15 56 28.5**	**+0.4**
	comp=Z,66nm,0.3s,baz=252,slow=10,SNR=100							
LVC				Sn		**Sn**	**15 56 55.1**	**-1.4**
	comp=Z,182nm,0.3s,baz=71,slow=14,SNR=28							
LVC	**Limon Verde**	2.29	65	⇑*i* P		**Pn**	**15 56 28.5**	**+0.4**
LVC				*i* S		**Sn**	**15 56 55.1**	**-1.4**
LVC	**Limon Verde**	2.29	65	*i* P		**Pn**	**15 56 28.6**	**+0.4**
LVC				lAML			15 57 15.6	
	comp=Z,697nm,0.8s							
LVC	**Limon Verde**	2.29	65	*e*P		**Pn**	**15 56 27.0**	**-1.1**
PB09	**IPOC Station P**	2.51	45			**Pn**	**15 56 31.2**	**+0.2**
PB09	**IPOC Station P**	2.51	45	*e*P		**Pn**	**15 56 31.9**	**+0.9**
PB09				*e*S		**Sn**	**15 57 00.3**	**-1.4**
PB09				lAML			15 57 18.6	
	comp=E,2μm,0.5s							
PB02	**IPOC Station P**	2.54	28			**Pn**	**15 56 30.7**	**-0.6**
PB02	**IPOC Station P**	2.54	28	⇑*i* P		**Pn**	**15 56 30.7**	**-0.6**
PB02				*i* S		**Sn**	**15 56 58.4**	**-4.0**
PB02				lAML			15 57 17.2	
	comp=E,2μm,0.4s							
PB02	**IPOC Station P**	2.54	28	*i* P		**Pn**	**15 56 30.7**	**-0.6**
PB02				*e*S		**Sn**	**15 56 58.9**	**-3.4**
PB02				lAML			15 57 04.3	
	comp=Z,2μm,0.2s							
AC01	**Pan de Azucar**	2.60	169			**Pn**	**15 56 31.2**	**-0.9**
AC01	**Pan de Azucar**	2.60	169	⇑*i* P		**Pn**	**15 56 31.2**	**-0.9**
PATCX	**Punta Patache**	2.91	19	Pn		**Pn**	**15 56 35.4**	**-1.0**
PATCX	**Punta Patache**	2.91	19	⇑*i* P		**Pn**	**15 56 35.3**	**-1.0**
PATCX	**Punta Patache**	2.91	19	*i* P		**Pn**	**15 56 35.4**	**-1.0**
PATCX				lAML			15 57 13.1	
	comp=E,531nm,0.8s							
TA01	**Diego Aracena**	3.14	17			**Pn**	**15 56 38.3**	**-1.1**
HMBC	**Humberstone**	3.50	20	⇑*e*P		**Pn**	**15 56 43.6**	**-0.9**
AC02	**Maricunga**	3.72	151	Pn		**Pn**	**15 56 49.5**	**+1.6**
AC02	**Maricunga**	3.72	151	⇑*i* P		**Pn**	**15 56 49.7**	**+1.7**
AC02				*i* S		**Sn**	**15 57 31.6**	**-0.4**
AC02				lAML			15 57 37.9	
	comp=E,573nm,0.6s							
AC06	**Mina Casimiro**	3.83	169	Pn		**Pn**	**15 56 48.6**	**-0.4**
AC06	**Mina Casimiro**	3.83	169	⇑*i* P		**Pn**	**15 56 48.6**	**-0.4**
AC06				*i* S		**Sn**	**15 57 31.0**	**-3.0**
AC06				lAML			15 57 33.6	
	comp=E,340nm,0.2s							
PB08	**IPOC Station P**	3.90	29			**Pn**	**15 56 50.5**	**+0.2**
PB11	**IPOC Station P**	4.05	20	Pn		**Pn**	**15 56 51.8**	**-0.4**
GO03	**Copiap**	4.08	168			**Pn**	**15 56 52.0**	**-0.5**
GO03	**Copiap**	4.08	168	⇑*i* P		**Pn**	**15 56 51.9**	**-0.5**
GO03				*i* S		**Sn**	**15 57 37.4**	**-2.9**
GO03				lAML			15 57 40.3	
	comp=E,269nm,0.5s							
GO01	**Chusmiza**	4.30	26			**Pn**	**15 56 56.8**	**+0.8**
AC04	**Llanos de Chal**	4.60	179	Pn		**Pn**	**15 56 57.1**	**-2.5**
PB12	**IPOC Station P**	5.01	9	Pn		**Pn**	**15 57 04.4**	**-0.9**
LCO	**Las Campanas**	5.42	176	Pn		**Pn**	**15 57 09.7**	**-1.3**
PB16	**IPOC Station P**	5.45	17			**Pn**	**15 57 11.8**	**+0.1**
CO01	**Juntas del Tor**	6.44	172			**Pn**	**15 57 25.5**	**+0.5**
GO04	**Tololo Observa**	6.57	177			**Pn**	**15 57 25.7**	**-1.2**
LPAZ	**La Paz**	7.80	22	Pn		**Pn**	**15 57 46.4**	**+2.3**
	comp=E,2.6nm,0.3s,baz=229,slow=5.0,SNR=43							
LPAZ				LR		LR	16 00 08.5	
	comp=E,168nm,18.6s,baz=161,slow=33							
LPAZ	**La Paz**	7.80	22	Pn		**Pn**	**15 57 46.8**	**+2.7**
LPAZ	**La Paz**	7.80	22	*e*P		**Pn**	**15 57 46.6**	**+2.5**
H03N1	**Juan Fernandez**	11.95	213	Pn		**Pn**	**15 58 38.3**	**-1.8**
	baz=108,slow=15,SNR=37							
H03N1				T		T	16 11 28.1	
	baz=40,slow=72,SNR=124							
H03N2	**Juan Fernandez**	11.96	213	Pn		**Pn**	**15 58 39.2**	**-1.0**
	baz=108,slow=15,SNR=22							
H03N2				T		T	16 11 28.0	
	baz=40,slow=72,SNR=159							
H03N3	**Juan Fernandez**	11.96	213	Pn		**Pn**	**15 58 39.0**	**-1.4**
	baz=108,slow=15,SNR=48							
H03N3				T		T	16 11 20.3	
	baz=40,slow=72,SNR=126							
SIV	**San Ignacio**	12.13	53	Pn		**Pn**	**15 58 41.5**	**-1.5**
	comp=E,1.0nm,0.3s,baz=240,slow=10,SNR=9.6							
H03S3	**Juan Fernandez**	12.26	212	Pn		**Pn**	**15 58 42.1**	**-2.2**
	SNR=29							
H03S1	**Juan Fernandez**	12.27	212	Pn		**Pn**	**15 58 41.4**	**-3.1**
	SNR=27							
H03S2	**Juan Fernandez**	12.27	212	Pn		**Pn**	**15 58 42.8**	**-1.7**
	SNR=28							
NNA	**Nana**	12.74	334	LR		LR	16 02 53.1	
	comp=E,202nm,19.9s,baz=172,slow=33							
CPUP	**Villa Florida**	12.84	105	Pn		**Pn**	**15 58 50.8**	**-1.8**
	comp=E,0.2nm,0.3s,baz=299,slow=13,SNR=1.6							
CPUP	**Villa Florida**	12.84	105			**Pn**	**15 58 49.3**	**-3.3**
CPUP	**Villa Florida**	12.84	105	*e*P		**Pn**	**15 58 52.8**	**+0.1**
PTLB	**Pontes e Lacer**	13.92	57	*e*P		**Pn**	**15 59 06.8**	**-0.5**
ITQB	**Itaqui**	14.34	118	*e*P		**Pn**	**15 59 12.6**	**-0.5**
LC01	**Cunco**	15.28	182	Pn		**Pn**	**15 59 24.5**	**-1.2**
MCR1	**Marechal Candi**	15.67	97	*e*P		**Pn**	**15 59 30.5**	**-0.5**
FRBT	**Francisco Belt**	16.61	102	*e*P		**Pn**	**15 59 42.7**	**-0.4**
PLCA	**Paso Flores**	17.11	178	Pn		**Pn**	**15 59 48.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=360,slow=12,SNR=3.3							
PLCA	**Paso Flores**	17.11	178			**Pn**	**15 59 48.0**	**-1.2**
PLCA	**Paso Flores**	17.11	178	*e*P		**P**	**15 59 52.9**	**+2.0**
NBRS	**Nobres**	17.21	60	*e*P		**Pn**	**15 59 50.7**	**+0.1**
LL04	**Puerto Octay**	17.31	183			**Pn**	**15 59 50.0**	**-1.7**
LL04				lAmb		lAmb	15 59 56.2	
	comp=Z,29nm,1.1s							
PTGB	**Pitanga**	17.47	98	*e*P		**Pn**	**15 59 53.8**	**0.0**
PLTB	**Pedras Altas**	17.54	122	Pn		**Pn**	**15 59 49.1**	**-5.5**
ITAB	**Concordia**	17.57	106	*e*P		**Pn**	**15 59 54.2**	**-0.8**
PDRB	**Porto dos Gac**	18.17	52	*e*P		**Pn**	**16 00 02.8**	**+0.3**
PCMB	**Pacaembu**	18.48	88	*e*P		**P**	**16 00 05.5**	**-0.7**
CNLB	**Canela**	19.05	112	*e*P		**P**	**16 00 12.7**	**+0.3**
DVLD	**Doverlandia**	19.12	72	*e*P		**P**	**16 00 13.2**	**-0.1**
CLDB	**Colider**	19.34	52	*e*P		**P**	**16 00 15.9**	**+0.2**
FRTB	**Fartura**	19.81	94	*e*P		**P**	**16 00 19.4**	**-1.4**
TER01	**Tubaro-SC**	20.39	109	*e*P		**P**	**16 00 26.8**	**-0.2**
BB19B	**Bebedouro**	21.08	88	*e*P		**P**	**16 00 33.3**	**-1.4**
PET01	**Itanhaem-SP**	21.84	97	*e*P		**P**	**16 00 43.0**	**+0.4**
SNDB	**Serra Nova Dou**	22.13	62	*e*P		**P**	**16 00 44.0**	**-1.8**
VAO	**Valinhos**	22.23	93	*e*P		**P**	**16 00 45.2**	**-1.8**
MACA	**Manacapuru-AM**	22.69	28	*e*P		**P**	**16 00 52.5**	**+0.6**
BDFB	**Brasilia**	23.17	74	P		**P**	**16 00 56.9**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=308,slow=7.9,SNR=3.8							
ITTB	**Itaituba**	24.22	40	*e*P		**P**	**16 01 06.3**	**-0.7**
PEXB	**Peixe**	24.53	66	*e*P		**P**	**16 01 09.0**	**-0.9**
BSCB	**Bom Sucesso**	24.54	89	*e*P		**P**	**16 01 08.6**	**-1.4**
DIAM	**Diamantina, MG**	26.18	84	*e*P		**P**	**16 01 24.7**	**-0.3**
MC01	**Montes Claros**	26.42	80	*e*P		**P**	**16 01 26.6**	**-0.5**
JANB	**Januaria**	26.68	76	*e*P		**P**	**16 01 29.3**	**-0.1**
SMTB	**Santa Maria do**	26.89	61	*e*P		**P**	**16 01 31.9**	**+0.6**
SDBA	**SAO DESIDERIO**	27.28	71	*e*P		**P**	**16 01 34.7**	**-0.1**
VNA3	**Neumayer Olymp**	58.79	161	P		**P**	**16 05 48.9**	**+0.9**
VNA2	**Neumayer–Watz**	59.40	160	P		**P**	**16 05 53.2**	**+1.0**
	baz=289,slow=10.0							
SWET	**Sewanee**	60.13	346	P		**P**	**16 05 57.9**	**+0.2**
SNAA	**Sanae**	61.01	160	P		**P**	**16 06 04.5**	**+1.1**
SNAA	**Sanae**	61.01	160	P		**P**	**16 06 03.8**	**+0.4**
SNAA				lAmb		lAmb	16 06 18.3	
	comp=Z,17nm,1.4s							
TXAR	**Lajitas Array**	61.20	328	P		**P**	**16 06 07.5**	**+2.3**
	comp=Z,2.0nm,0.7s,baz=153,slow=8.4,SNR=20							
TX32	**Lajitas Array**	61.21	328	P		**P**	**16 06 06.1**	**+1.0**
TX32				lAmb		lAmb	16 06 07.9	
	comp=Z,2.8nm,0.8s							
TROLL	**Troll, Antarti**	62.73	160	P		**P**	**16 06 15.6**	**+0.7**
S39A	**Bolivar**	64.42	341	P		**P**	**16 06 26.2**	**-0.1**
R40A	**Maddies Statio**	64.66	342	P		**P**	**16 06 26.8**	**-1.0**
QSPA	**South Pole Qui**	66.61	180	P		**P**	**16 06 42.0**	**+1.6**
QSPA				lAmb		lAmb	16 06 54.6	
	comp=Z,4.3nm,0.8s							
ANMO	**Albuquerque**	67.15	329	P		**P**	**16 06 41.4**	**-2.9**
ANMO				lAmb		lAmb	16 06 59.9	
	comp=Z,4.4nm,0.9s							
PDAR	**Pinedale Array**	74.91	332	P		**P**	**16 07 33.2**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=141,slow=8.3,SNR=6.0							
PDAR	**Pinedale Array**	74.91	332	P		**P**	**16 07 31.1**	**-0.2**
NVAR	**Mina Array Bea**	75.89	324	P		**P**	**16 07 39.3**	**+2.4**
	comp=Z,1.4nm,0.8s,baz=149,slow=6.5,SNR=9.2							
SCHQ	**Schefferville**	78.18	3	LR		LR	16 43 38.0	
	comp=Z,108nm,21.4s,baz=284,slow=37							
MOD	**Modoc Plateau**	79.44	325	P		**P**	**16 07 53.9**	**-2.6**
MOD				lAmb		lAmb	16 08 12.1	
	comp=Z,7.2nm,1.1s							
TOA0	**Torodi Ar. Sit**	80.01	71	P		**P**	**16 07 59.6**	**-0.5**
TOA0				lAmb		lAmb	16 08 12.0	
	comp=Z,5.6nm,0.8s							
TORD	**Torodi Ar. Bea**	80.01	71	P		**P**	**16 08 00.5**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=254,slow=4.9,SNR=17							
TORD	**Torodi Ar. Bea**	80.01	71	P		**P**	**16 07 59.5**	**-0.5**
TORD				lAmb		lAmb	16 08 11.9	
	comp=Z,4.2nm,0.8s							
MAW	**Mawson**	82.93	164	LR		LR	16 46 49.1	
	comp=Z,131nm,18.0s,baz=233,slow=37							
BOSA	**Boshof**	84.30	119	P		**P**	**16 08 22.9**	**+0.3**
	comp=Z,2.7nm,1.1s,baz=225,slow=5.7,SNR=1.5							
YKA	**Yellowife Ar**	92.47	341	P		**P**	**16 09 01.8**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=138,slow=4.5,SNR=36							
BORG	**Borgarnes**	96.06	19	LR		LR	16 50 40.9	
	comp=Z,47nm,20.2s,baz=328,slow=34							
H11S2	**WAKE ISLAND Hyd**	26.05	276	T		T	18 34 17.8	
	baz=106,slow=74,SNR=27							
H11S1	**WAKE ISLAND Hyd**	26.06	276	T		T	18 34 09.5	
	baz=106,slow=74,SNR=19							
H11S3	**WAKE ISLAND Hyd**	26.07	276	T		T	18 34 12.3	
	baz=106,slow=74,SNR=19							
H11N3	**WAKE ISLAND Hyd**	26.20	278	T		T	18 34 26.3	
	baz=106,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hyd**	26.21	278	T		T	18 34 23.6	
	baz=106,slow=75,SNR=9.0							
H11N2	**WAKE ISLAND Hyd**	26.21	278	T		T	18 34 22.8	
	baz=106,slow=75,SNR=12							
ASAR	**Alice Springs**	127.10	209	PKP		**PKPdf**	**16 14 55.9**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=129,slow=1.5,SNR=6.8							
WRA	**Warramunga Arr**	130.10	212	PKP		**PKPdf**	**16 15 02.0**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=149,slow=1.8,SNR=3.3							
ZALV	**Zalesovo Beam**	144.71	25	PKP		**PKPdf**	**16 15 27.0**	**+0.4**
	comp=Z,3

comp=Z,0.7nm,0.7s,baz=100,slow=14,SNR=8.6
ASAR Alice Springs 42.29 260 P **P** **16 30 08.8 -0.4**
WR0 Warramunga Arr 42.41 265 P **P** **16 30 09.4 -0.7**
WR0 IAmb IAmb 16 30 10.2
comp=Z,7.6nm,0.9s
WB0 Warramunga Arr 42.59 266 P **P** **16 30 11.0 -0.6**
WB2 Warramunga Arr 42.59 265 P **P** **16 30 11.0 -0.5**
WRAB Tennant Creek 42.59 265 P **P** **16 30 10.7 -0.8**
WRA Warramunga Arr 42.60 265 P **P** **16 30 11.0 -0.6**
comp=Z,4.6nm,0.4s,baz=92,slow=8.4,SNR=157
WRA ScP **ScP** **16 34 53.6 +2.9**
comp=Z,1.5nm,0.9s,baz=98,slow=4.8,SNR=6.6
WRA S **S** **16 35 52.8 -2.7**
comp=Z,0.9nm,1.0s,baz=113,slow=14,SNR=3.7
WRA Warramunga Arr 42.60 265 P **P** **16 30 11.1 -0.5**
FORT Forrest 46.69 249 P **P** **16 30 42.3 -0.6**
MTN Manton Dam 47.54 274 P **P** **16 30 48.8 -0.7**
MTN IAmb IAmb 16 31 00.2
comp=Z,8.6nm,1.0s
KNRA Kununurra 48.83 269 P **P** **16 30 59.0 -0.1**
KNRA IAmb IAmb 16 30 59.9
comp=Z,13nm,1.1s
FITZ Fitzroy Crossi 51.02 265 P **P** **16 31 14.6 -0.5**
FITZ IAmb IAmb 16 31 16.3
comp=Z,4.3nm,0.6s
SIJI Sorong 52.35 288 P **P** **16 31 24.8 0.0**
comp=Z,11nm,0.7s,baz=131,slow=9.3,SNR=6.4
SBA Scott Base 55.09 183 P **P** **16 31 44.2 +1.2**
VNDA Vanda 55.09 185 P **P** **16 31 44.4 +1.3**
comp=Z,0.9nm,0.6s,baz=1.3,slow=6.1,SNR=12
VNDA Vanda 55.09 185 P **P** **16 31 44.1 +1.0**
MORW Morawa 57.25 249 P **P** **16 31 58.1 -0.7**
MORW IAmb IAmb 16 31 58.9
comp=Z,4.1nm,0.7s
QSPA South Pole Qui 66.88 180 P **P** **16 33 01.6 +0.8**
comp=Z,4.9nm,0.6s,baz=340,slow=0.8,SNR=34
QSPA South Pole Qui 66.88 180 P **P** **16 33 01.8 +0.9**
QSPA IAmb IAmb 16 33 02.5
comp=Z,4.7nm,0.7s
SMAI San Martin Ant 76.71 159 P **P** **16 33 58.4 +0.6**
SMAI IAmb IAmb 16 34 00.0
comp=Z,4.8nm,0.8s
BELA Belgrano 2 77.11 173 P **P** **16 33 59.3 -0.6**
PETK Petropavlovsk- 78.45 346 P **P** **16 34 08.3 +1.1**
comp=Z,1.9nm,0.7s,baz=98,slow=8.0,SNR=2.6
MAW Mawson 78.45 200 P **P** **16 34 07.9 +0.7**
comp=Z,2.0nm,0.7s,baz=190,slow=21,SNR=2.4
NVAR Mina Array Bea 84.15 44 P **P** **16 34 38.2 +1.0**
comp=Z,1.3nm,0.8s,baz=218,slow=9.7,SNR=7.1
TXAR Lajitas Array 89.94 58 P **P** **16 35 06.5 +1.8**
comp=Z,1.3nm,0.7s,baz=218,slow=5.7,SNR=15
PDAR Pinedale Array 92.09 44 P **P** **16 35 14.6 +0.2**
comp=Z,1.0nm,0.8s,baz=202,slow=4.6,SNR=7.7
MKAR Makanchi Array 111.78 313 PKiKP **PKiKP** **16 40 35.1 -0.8**
comp=Z,0.3nm,0.6s,baz=112,slow=1.0,SNR=5.1
ARCES ARCESS Array B 131.23 348 PKP **PKPdf** **16 41 11.0 -1.4**
comp=Z,5.5nm,1.1s,baz=348,slow=2.9,SNR=6.5
FINES FINESS Array B 137.82 342 PKP **PKPdf** **16 41 24.5 -0.5**
comp=Z,1.2nm,0.8s,baz=311,slow=4.3,SNR=3.8
NB2 NORSAR Subarra141.41 351 PKP **PKPdf** **16 41 26.0 -5.5**
comp=Z,0.6nm,0.5s,baz=23,slow=3.4
NOA NORSAR Array B141.41 351 PKhKP PKPpre 16 41 25.7
comp=Z,0.9nm,0.6s,baz=16,slow=4.9,SNR=5.8
AKASG Malin Array Be 144.45 328 PKP **PKPdf** **16 41 36.7 -0.4**
comp=Z,2.1nm,0.5s,baz=45,slow=4.2,SNR=19
BRTR Keskin Array B 147.26 308 PKPbc **PKPbc** **16 41 45.6 0.0**
comp=Z,0.7nm,0.6s,baz=150,slow=5.0,SNR=4.9
OKC Ostrava-Krasne 149.89 336 *e*PKP **PKiKP** **16 41 52.4 +0.1**
CHVC Chvalec 149.98 340 *e*PKP **PKiKP** **16 41 52.3 -0.2**
DPC Dobruska-Polom 150.10 339 *e*PKP **PKiKP** **16 41 52.7 -0.1**
KRLC Kraliky 150.18 338 *e*PKP **PKiKP** **16 41 52.8 -0.1**
CLL Collm 150.22 344 *i* PKPbc **PKiKP** **16 41 52.7 -0.2**
comp=Z,9.0nm,0.8s
CLL LmV 16 59 00.0
comp=Z,100nm,21.0s
PRU Pruhonice 150.97 341 *e*PKP **PKiKP** **16 41 54.6 +0.1**
KHC Kasperske Hory 152.03 341 *e*PKP **PKiKP** **16 41 57.1 +0.3**
CKRC Cesky Krumlov 152.08 340 *e*PKP **PKiKP** **16 41 57.3 +0.4**
GERES GERESS Array B 152.24 341 PKPbc **PKiKP** **16 41 57.4 +0.1**
comp=Z,0.6nm,0.7s,baz=38,slow=5.0,SNR=4.2
TORD Torodi Ar. Bea 169.90 189 PKPab **PKPab** **16 43 26.8 -0.6**
comp=Z,0.9nm,0.9s,baz=168,slow=4.3,SNR=4.0

*IASPEI **22** 16:26:55.0±0.9, 47°.29N±0°.02×122°.25W±0°.02, h25km±4km, Error ellipse: s-maj=2.9km s-min=2.7km az=129.4, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ANF **22** 16:26:54.4±0.4, 47°.32N×122°.17W, h9km±10km, ML2.4/6, Error ellipse: s-maj=4.5km s-min=2.6km az=121.0*
*SEA **22** 16:26:55.7±1.1, 47°.30N±0°.02×122°.25W±0°.03, h20km±2km, ML2.2/77, ML2.1/26(NEIC), Error ellipse: s-maj=2.9km s-min=2.6km az=125.0*
*NEIC **22** 16:26:55.1±1.3, 47°.29N±0°.02×122°.25W±0°.01, h25km±7km, Error ellipse: s-maj=3.2km s-min=1.2km az=172.0*
ISC 22 16:26:55.1±0.9, 47°.30N±0°.02×122°.25W±0°.02, h27km±4km, n88, σ0s57/109, Washington

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KNEL	**Kent Elementar**	**0.09**	**359**			**Pb**	**16 27 03.2**	**+3.3**
TBPA	**Tacoma Substat**	**0.09**	**245**			**Pb**	**16 26 59.4**	**-0.5**
SMNR	**Sumner High Sc**	**0.09**	**173**			**Pb**	**16 26 59.4**	**-0.7**
PAYL	**Puyallup Schoo**	**0.11**	**203**			**Pb**	**16 26 59.5**	**-0.6**
PAYL						**Sb**	**16 27 03.2**	**-0.3**
MPL	**Maple valley S**	**0.18**	**14**			**Pb**	**16 27 00.3**	**-0.4**
PCEP	**Pierce County**	**0.19**	**189**			**Pb**	**16 27 00.3**	**-0.5**
PCEP						**Sb**	**16 27 04.1**	**-0.5**
VVHS	**Vashon High Sc**	**0.19**	**312**			**Pb**	**16 27 00.5**	**-0.3**
D05A	**Enumclaw**	**0.21**	**121**			**Pb**	**16 27 00.9**	**-0.2**
D05A						**Sb**	**16 27 04.9**	**-0.3**
D05A	**Enumclaw**	**0.21**	**121**	IAML			16 27 05.5	
	comp=N,244nm,0.5s							
D05A				IAML			16 27 05.6	
	comp=E,133nm,0.3s							
RAW	**Raver**	**0.22**	**79**			**Pb**	**16 27 00.9**	**-0.3**
RAW						**Sb**	**16 27 05.2**	**-0.2**
GHW	**Garrison Hill**	**0.26**	**184**			**Pb**	**16 27 01.1**	**-0.6**
GHW						**Sb**	**16 27 05.4**	**-0.8**
SP2	**Seward Park 2**	**0.26**	**360**			**Pb**	**16 27 01.7**	**0.0**
SP2						**Sb**	**16 27 07.2**	**+0.9**
B941	**Kapowsin**	**0.31**	**176**			**Pb**	**16 27 01.7**	**-0.7**
B941						**Sb**	**16 27 06.5**	**-0.9**
ELW	**Echo Lake**	**0.32**	**52**			**Pb**	**16 27 02.2**	**-0.5**
ELW						**Sb**	**16 27 07.5**	**-0.3**
GSM	**Grass Mountain**	**0.32**	**107**			**Pb**	**16 27 02.4**	**-0.4**
RATT	**Rattlesnake La**	**0.33**	**67**			**Pb**	**16 27 02.3**	**-0.4**
RATT						**Sb**	**16 27 07.6**	**-0.3**
PCFR	**Pierce County**	**0.33**	**203**			**Pb**	**16 27 02.3**	**-0.5**
CDMR	**Cedar Moraine**	**0.36**	**69**			**Pb**	**16 27 02.8**	**-0.4**
CDMR						**Sb**	**16 27 08.5**	**-0.1**
D04E	**Lakebay**	**0.38**	**252**			**Pb**	**16 27 03.8**	**+0.3**
D04E						**Sn**	**16 27 10.9**	**-0.2**
D04E	**Lakebay**	**0.38**	**252**	P		**Pb**	**16 27 03.7**	**+0.3**
	baz=72,SNR=17							
D04E				S		**Sn**	**16 27 10.8**	**-0.2**
	baz=72							
RVC	**Mount Rainier-**	**0.40**	**152**			**Pb**	**16 27 03.6**	**-0.3**
GMW	**Gold Mountain**	**0.44**	**305**			**Pb**	**16 27 04.0**	**-0.5**
GNW	**Green Mountain**	**0.47**	**305**			**Pb**	**16 27 04.3**	**-0.7**
GNW						**Sb**	**16 27 11.4**	**-0.3**
OBSR	**Observation Ro**	**0.49**	**143**			**Pb**	**16 27 05.1**	**-0.4**
OBSR						**Sb**	**16 27 12.3**	**-0.2**
FMW	**Mount Fremont**	**0.54**	**133**			**Pb**	**16 27 05.6**	**-0.5**
C05A	**Tolt Reservoir**	**0.55**	**43**			**Pb**	**16 27 05.9**	**-0.4**
C05A						**Sb**	**16 27 13.5**	**-0.3**
RCS	**Mount Rainier-**	**0.55**	**140**			**Pb**	**16 27 06.0**	**-0.5**
RCS						**Sb**	**16 27 13.8**	**-0.4**
REMR	**Mount Rainier-**	**0.55**	**150**			**Pb**	**16 27 05.8**	**-0.5**
RCM	**Mount Rainier-**	**0.58**	**142**			**Pb**	**16 27 06.5**	**-0.5**
HTW	**Haystack Looko**	**0.60**	**32**			**Pb**	**16 27 06.5**	**-0.7**
HTW						**Sb**	**16 27 14.9**	**-0.4**
PANH	**Panhandle Gap,**	**0.60**	**136**			**Pb**	**16 27 06.7**	**-0.5**
D03D	**Eldon**	**0.62**	**293**			**Pb**	**16 27 06.8**	**-0.5**
D03D						**Sb**	**16 27 15.6**	**-0.1**
D03D	**Eldon**	**0.62**	**293**	P		**Pb**	**16 27 06.8**	**-0.5**
	baz=112,SNR=58							
D03D				S		**Sb**	**16 27 15.6**	**-0.1**
	baz=112							
LON	**Longmire**	**0.62**	**151**			**Pb**	**16 27 06.8**	**-0.6**
C04A	**Brinnon**	**0.65**	**311**			**Sb**	**16 27 16.5**	**+0.1**
HDW	**Hoodsport**	**0.65**	**303**			**Pb**	**16 27 07.3**	**-0.6**
HDW						**Sb**	**16 27 16.6**	**-0.1**
CPW	**Capitol Peak**	**0.69**	**242**			**Sb**	**16 27 18.1**	**+0.4**
E04D	**Cinebar**	**0.77**	**197**			**Pb**	**16 27 09.6**	**-0.3**
E04D	**Cinebar**	**0.77**	**197**	IAML			16 27 20.7	
	comp=E,72nm,0.3s							
E04D				IAML			16 27 21.9	
	comp=N,49nm,0.2s							
E04D	**Cinebar**	**0.77**	**197**	P		**Pb**	**16 27 09.5**	**-0.3**
	baz=186,SNR=19							
E04D				S		**Sn**	**16 27 20.4**	**-0.4**
	baz=16							
B017	**Montesano**	**0.94**	**252**			**Pb**	**16 27 13.0**	**+0.2**
TDL	**Tradedollar La**	**0.95**	**179**			**Pb**	**16 27 12.4**	**-0.5**
TWW	**Teanaway**	**0.95**	**99**			**Pb**	**16 27 13.4**	**+0.3**
B05A	**Bryant**	**0.97**	**6**			**Pn**	**16 27 12.9**	**-0.1**
B05A	**Bryant**	**0.97**	**6**	P		**Pn**	**16 27 12.6**	**-0.3**
	baz=186,SNR=19							
B05A				S		**Sb**	**16 27 25.7**	**0.0**
	baz=186							
B201	**Coldwater, Mou**	**0.99**	**181**			**Pb**	**16 27 13.1**	**-0.1**
ERK	**Elk Rock**	**0.99**	**184**			**Pn**	**16 27 13.0**	**-0.3**
JRO	**Jston Ridge Ob**	**1.02**	**179**			**Pn**	**16 27 13.7**	**0.0**
WISH	**Wishkah**	**1.05**	**261**			**Pb**	**16 27 14.8**	**+0.2**
WISH				IAML			16 27 41.6	
	comp=E,49nm,1.9s							
WISH				IAML			16 27 46.1	
	comp=N,55nm,4.8s							
SOSW	**Source of Smit**	**1.05**	**176**			**Pb**	**16 27 14.8**	**0.0**
BMW	**Boistfort Moun**	**1.06**	**220**			**Pn**	**16 27 14.3**	**+0.1**
LTY	**Liberty**	**1.08**	**91**			**Pn**	**16 27 14.6**	**+0.2**
LTY				IAML			16 27 29.0	
	comp=E,37nm,0.3s							
LTY				IAML			16 27 29.4	
	comp=N,34nm,0.2s							
BOLM	**Sugar Bowl**	**1.08**	**177**			**Pb**	**16 27 15.0**	**-0.2**
OLQ	**Olympics--Lake**	**1.08**	**282**			**Pb**	**16 27 14.9**	**-0.2**
WRW	**Wenatchee Ridg**	**1.08**	**58**			**Pb**	**16 27 15.2**	**-0.1**
ESD	**East Dome**	**1.10**	**176**			**Pb**	**16 27 16.1**	**+0.5**
FL2	**Flat Top 2**	**1.10**	**184**			**Pn**	**16 27 15.0**	**+0.2**
SHW	**Mount Saint He**	**1.10**	**180**			**Pb**	**16 27 15.3**	**-0.3**
NLWA	**Neilton Lookou**	**1.11**	**276**			**Pn**	**16 27 15.2**	**+0.5**
C06D	**Leavenworth**	**1.11**	**55**	S		**Sb**	**16 27 29.9**	**+0.2**
	baz=236							
GPW	**Glacier Peak**	**1.11**	**42**			**Pn**	**16 27 15.4**	**+0.3**
NAC	**Naches**	**1.12**	**119**			**Pb**	**16 27 16.2**	**+0.3**
B203	**Quarry, Mount**	**1.13**	**183**			**Pn**	**16 27 15.4**	**+0.3**
TBM	**Table Mountain**	**1.13**	**96**			**Pb**	**16 27 16.1**	**+0.1**
B019	**Raymond**	**1.16**	**237**			**Pb**	**16 27 17.0**	**+0.7**
E03A	**Lebam**	**1.17**	**231**	Pn		**Pb**	**16 27 17.1**	**+0.4**
E03A				IAML			16 27 38.0	
	comp=E,54nm,0.5s							
E03A				IAML			16 27 38.2	
	comp=N,45nm,0.7s							
CDFW	**Cedar Flats**	**1.19**	**173**			**Pb**	**16 27 16.8**	**-0.1**
RVW	**Rose Valley**	**1.20**	**197**			**Pn**	**16 27 16.5**	**+0.5**
EBG	**Ellensburg**	**1.21**	**108**			**Pb**	**16 27 18.0**	**+0.6**
RPW	**Rockport**	**1.25**	**23**			**Pb**	**16 27 17.8**	**-0.3**
SLFW	**Sugar Loaf**	**1.25**	**68**			**Pb**	**16 27 18.3**	**+0.5**
MTMW	**Mount Mitchell**	**1.27**	**179**			**Pb**	**16 27 18.2**	**-0.2**
B023	**Clatskanie**	**1.32**	**206**			**Pb**	**16 27 18.7**	**-0.4**
B06A	**Marblemount**	**1.33**	**23**			**Pn**	**16 27 17.9**	**+0.2**
B06A				IAML			16 27 39.0	
	comp=N,44nm,0.4s							
B06A				IAML			16 27 47.4	
	comp=E,50nm,0.3s							
ETW	**Entiat**	**1.34**	**76**			**Pb**	**16 27 20.1**	**+0.5**
F04A	**Amboy**	**1.37**	**185**			**Pn**	**16 27 18.9**	**+0.5**
F04A				IAML			16 27 37.6	
	comp=N,44nm,0.4s							
F04A				IAML			16 27 41.3	
	comp=E,40nm,0.3s							
MCW	**Mount Constitu**	**1.44**	**344**			**Pb**	**16 27 20.6**	**-0.6**
MBW	**Mount Baker**	**1.51**	**9**			**Pb**	**16 27 22.0**	**-0.4**
NLW	**Nelson Butte**	**1.51**	**58**			**Pb**	**16 27 22.8**	**+0.3**
F05D	**White Salmon**	**1.51**	**159**			**Pb**	**16 27 22.3**	**-0.2**
F05D	**White Salmon**	**1.51**	**159**	P		**Pb**	**16 27 22.1**	**-0.4**
	baz=339,SNR=9.3							
F05D				Sb		**Sb**	**16 27 42.5**	**+1.3**
	baz=339							
PGC	**Sidney**	**1.58**	**330**	Pn		**Pb**	**16 27 22.6**	**-0.9**
PGC				IAML			16 27 43.8	
	comp=N,16nm,0.5s							
WTV	**Waterville**	**1.61**	**75**			**Pb**	**16 27 24.8**	**+0.7**
C03A	**Quillayute Air**	**1.70**	**293**	Pn		**Pn**	**16 27 23.4**	**+0.5**
VDB	**Vedder Mountai**	**1.73**	**3**			**Pb**	**16 27 25.5**	**-0.7**
TDH	**Tom, Dick, Har**	**2.03**	**171**			**Pb**	**16 27 31.0**	**-0.4**
HAWA	**Hanford**	**2.07**	**115**	Pn		**Pn**	**16 27 28.6**	**+0.6**
HAWA				IAML			16 27 59.2	
	comp=N,14nm,0.4s							
G03D	**McMinnville, O**	**2.20**	**199**	Pn		**Pn**	**16 27 31.2**	**+1.4**

*IGQ **22** 16:27:00±1.2, 1°N±4°×8°0W±°, h6km*
*IDC **22** 16:27:02.3±0.8, 0°.92N×80°.03W, h0km, mb3.9/9, mb1 4.2/11, mb1mx3.9/30, mbtmp3.9/11, ML3.0/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/64, Error ellipse: s-maj=29.6km s-min=15.6km az=58.0*
*NEIC **22** 16:27:04.9±2.7, 0°.85N±0°.06×80°.00W±0°.06, h10km±1km, mb4.4/13, Error ellipse: s-maj=11.2km s-min=8.3km az=316.0*
*VAO **22** 16:27:24.8±1.8, 0°.01S×79°.11W, h103km±11km, mb4.2*
ISC 22 16:27:03.6±0.6, 0°.73N±0°.03×80°.19W±0°.05, h10km, n112, σ1s65/107, mb4.1/13, 1C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AMA1	**Acelerografo,**	**0.50**	**67**	P		**Pn**	**16 27 15.0**	**-1.9**
AMA1				S		**Sb**	**16 27 26.0**	**+4.0**
AV21	**Acelerografo,**	**0.64**	**96**	P		**Pb**	**16 27 16.0**	**-0.9**
AV21				S		**Sn**	**16 27 29.0**	**-0.1**
MAG1	**Magdalena**	**0.90**	**153**	P		**Pg**	**16 27 20.0**	**-1.0**
JAMA	**Jama**	**0.99**	**181**	P		**Pg**	**16 27 20.0**	**-2.6**
JAMA				S		**Sg**	**16 27 35.0**	**-0.5**
FLF1	**Flavio Alfaro-**	**1.14**	**162**	P		**Pb**	**16 27 25.0**	**-0.4**
APR2	**Miler**	**1.38**	**118**	P		**Pn**	**16 27 28.0**	**-1.0**
PAC1	**Pacto, Paraso**	**1.47**	**108**	*e*P		**Pn**	**16 27 28.9**	**-1.4**
PAC1	**Pacto, Paraso**	**1.47**	**108**	P		**Pn**	**16 27 29.0**	**-1.3**
HPAL	**Hacienda Las P**	**1.80**	**122**	P		**Pn**	**16 27 34.0**	**-1.1**
OTAV	**Otavalo**	**1.81**	**106**			**Pb**	**16 27 35.2**	**-1.8**
PINO	**Pino**	**1.81**	**119**	P		**Pn**	**16 27 35.0**	**-0.4**
TERV	**Terraza Guagua**	**1.82**	**120**	P		**Pn**	**16 27 35.0**	**-0.5**
YANA	**Yana**	**1.82**	**118**	P		**Pn**	**16 27 35.0**	**-0.5**
ALIT	**Ecuador-Imbabu**	**1.83**	**88**	P		**Pn**	**16 27 35.0**	**-0.2**
PULU	**Pululahua**	**1.83**	**113**			**Pb**	**16 27 35.7**	**-1.6**
PULU	**Pululahua**	**1.83**	**113**	P		**Pn**	**16 27 35.0**	**-0.4**
GGPT	**Toaza - Volcan**	**1.83**	**121**	P		**Pn**	**16 27 35.0**	**-0.5**
CUSE	**Cuicocha Este**	**1.84**	**103**	*e*P		**Pb**	**16 27 36.5**	**-1.1**
CUSE	**Cuicocha Este**	**1.84**	**103**	P		**Pb**	**16 27 36.0**	**-1.6**
JUA2	**San Juan 2**	**1.84**	**121**	P		**Pn**	**16 27 35.0**	**-0.7**
CUIC	**Cuicocha-Domo**	**1.88**	**103**	P		**Pn**	**16 27 36.0**	**-0.1**
CUSW	**Cuicocha Oeste**	**1.89**	**104**	P		**Pn**	**16 27 36.0**	**-0.3**
COTA	**Cotacachi**	**1.89**	**102**	P		**Pn**	**16 27 36.0**	**-0.4**
URCU	**Urcuqui**	**1.95**	**99**	P		**Pn**	**16 27 37.0**	**-0.2**
PAST	**Pastocalle**	**2.10**	**133**	P		**Pn**	**16 27 39.0**	**-0.2**
CHMA	**Chilma**	**2.13**	**87**	P		**Pn**	**16 27 38.0**	**-1.5**
YAHU	**Yahuarcocha**	**2.15**	**100**	P		**Pb**	**16 27 41.0**	**-1.8**
PITA	**Cotopaxi Volc**	**2.17**	**126**	P		**Pn**	**16 27 41.0**	**+0.7**
LNGL	**El Angel-Carch**	**2.18**	**90**	P		**Pn**	**16 27 41.0**	**-2.5**
CAMI	**Rancho Maria**	**2.19**	**130**	P		**Pn**	**16 27 41.0**	**+0.5**
BNAS	**Cotopaxi Volca**	**2.21**	**129**	P		**Pn**	**16 27 41.0**	**+0.3**
BREF	**Cotopaxi Volca**	**2.23**	**129**	P		**Pn**	**16 27 42.0**	**+0.7**
CHL1	**Volcn Chiles**	**2.24**	**89**	P		**Pn**	**16 27 41.0**	**-0.3**
VC1	**Cotopaxi 1**	**2.25**	**127**	P		**Pn**	**16 27 42.0**	**+0.7**
BVC2	**Cotopaxi Volca**	**2.25**	**128**	P		**Pn**	**16 27 42.0**	**+0.6**
CHL2	**Volcn Chiles**	**2.27**	**88**	P		**Pn**	**16 27 41.0**	**-0.6**
BTAM	**Cotopaxi Volca**	**2.27**	**128**	P		**Pb**	**16 27 43.0**	**-2.1**
ANTG	**Antisana-Guama**	**2.29**	**122**	P		**Pb**	**16 27 43.0**	**-2.3**
CAYR	**Refugio Cayamb**	**2.29**	**108**	P		**Pb**	**16 27 44.0**	**-1.5**
TAMB	**Tambo**	**2.31**	**128**	P		**Pn**	**16 27 43.0**	**+0.8**
ANTI	**Antisana**	**2.34**	**120**	P		**Pb**	**16 27 44.0**	**-2.3**
VCES	**Cotopaxi**	**2.35**	**130**	P		**Pn**	**16 27 43.0**	**+0.2**
CMBC	**Cumbal**	**2.37**	**85**	*e*P		**Pb**	**16 27 46.0**	**-0.6**
TULM	**Tulcn-Chalpat**	**2.40**	**90**			**Pn**	**16 27 42.0**	**-1.4**
TULM	**Tulcn-Chalpat**	**2.40**	**90**	*e*P		**Pb**	**16 27 45.1**	**-2.1**
CHSH	**Refugio Sur-Vo**	**2.58**	**149**	P		**Pn**	**16 27 46.0**	**+0.1**
PORT	**Chimborazo Vol**	**2.60**	**147**			**Pn**	**16 27 46.3**	**+0.1**
PORT	**Chimborazo Vol**	**2.60**	**147**	P		**Pn**	**16 27 46.0**	**-0.2**
BONI	**La Bonita**	**2.67**	**96**	P		**Pn**	**16 27 48.0**	**+1.1**
CCUFI	**Cufio, Nario**	**2.88**	**80**	*e*P		**Pb**	**16 27 51.8**	**-3.7**
GCUF	**Volcan Galeras**	**2.88**	**80**	*e*P		**Pb**	**16 27 51.8**	**-3.7**
CPAS1	**Pasto**	**2.90**	**81**	*e*P		**Pb**	**16 27 54.6**	**-1.1**
GR1C	**Gorgona, Isla**	**3.02**	**42**	*e*P		**Pg**	**16 28 03.2**	**+1.6**
CRUC	**La Cruz**	**3.34**	**76**	*e*P		**Pb**	**16 28 00.3**	**-2.8**
POPC	**Popayan, Colom**	**3.94**	**63**	*e*P		**Pn**	**16 28 05.1**	**+0.7**
PCON	**Cinco Dias**	**4.11**	**67**	*e*P		**Pn**	**16 28 08.0**	**+1.0**
BOSC	**San Juan Bosco**	**4.21**	**156**			**Pn**	**16 28 11.4**	**+3.3**
ARNL	**Arenillas**	**4.25**	**178**			**Pn**	**16 28 12.5**	**+4.0**
MARP	**Paez Belalcaza**	**4.72**	**64**	*e*P		**Pb**	16 28 20.4	-6.3
GARC	**Garzon, Huila**	**4.91**	**73**	*e*P		**Pn**	**16 28 21.3**	**+3.6**
YOTC	**Yotoco, Valle**	**5.01**	**50**	*e*P		**Pb**	16 28 25.1	-6.4
MCRA	**Macar, Loja**	**5.08**	**177**	Pn		**Pn**	**16 28 21.4**	**+1.6**
PLMC	**San Jos del P**	**5.69**	**43**	*e*P		**Pb**	**16 28 39.5**	**-3.6**
ORTC	**Ortega, Tolima**	**5.86**	**57**	*e*P		**Pb**	16 28 38.5	-7.4
ANIL	**Santa Ana**	**6.06**	**52**	*e*P		**Pn**	16 28 40.4	+6.8
MACC	**Macarena, Meta**	**6.49**	**77**	*e*P		**Pn**	**16 28 40.4**	**+1.1**
GUY2C	**Guyana, Caldas**	**6.56**	**47**	*e*P		**Pb**	**16 28 54.7**	**-3.5**
CBOC	**Ciudad Bolivar**	**6.58**	**39**	*e*P		**Pb**	**16 28 53.8**	**-4.6**
ROSC	**El Rosal**	**7.14**	**55**	Pn		**Pn**	**16 28 46.8**	**-1.7**
	2.3nm,0.3s,baz=124,slow=22,SNR=1.3							
ROSC				Sn		**Sn**	**16 30 07.5**	**-2.5**
	1.7nm,0.3s,baz=106,slow=23,SNR=1.2							
NORC	**Norcasia**	**7.16**	**48**	*e*P		Pn	16 28 57.6	+9.2
CHIC	**Chingaza**	**7.52**	**59**	*e*P		**Pn**	**16 28 57.6**	**+3.8**
PTBC	**PUERTO BERRIO,**	**8.12**	**45**	*e*P		Pn	16 29 09.0	+7.4
DRK0	**Durika**	**9.00**	**340**			**Pn**	**16 29 14.2**	**+0.2**
SRBA	**San Rafael, Bu**	**9.01**	**340**			**Pn**	**16 29 16.3**	**+2.3**
RIMA	**Rio Macho**	**9.69**	**338**	Pn		**Pn**	**16 29 24.6**	**+1.3**
JTS	**Las Juntas de**	**10.61**	**334**	Pn		**Pn**	**16 29 36.7**	**+0.8**
	0.5nm,0.3s,baz=45,slow=19,SNR=1.7							
CZSB	**Cruzeiro do Su**	**11.24**	**139**	*e*P		**Pn**	**16 29 44.8**	**+0.3**
SDV	**Santo Domingo**	**12.49**	**49**	LR		LR	16 35 55.9	
	comp=Z,52nm,18.6s,baz=235,slow=44							
SDV	**Santo Domingo**	**12.49**	**49**	*e*P		Pn	16 30 15.5	+14
NNA	**Nana**	**13.07**	**165**	LR		LR	16 35 25.3	
	comp=Z,149nm,19.8s,baz=316,slow=38							
ETMB	**Extrema**	**17.42**	**127**	*e*P		**Pn**	**16 31 05.8**	**-1.0**
LPAZ	**La Paz**	**20.68**	**145**	P		**P**	**16 31 45.2**	**+0.6**
	2.3nm,0.6s,baz=332,slow=12,SNR=7.9							
LPAZ				LR		LR	16 41 27.6	
	comp=Z,123nm,18.6s,baz=308,slow=42							
LPAZ	**La Paz**	**20.68**	**145**			**P**	**16 31 45.4**	**+0.8**
LPAZ	**La Paz**	**20.68**	**145**	*e*P		**P**	**16 31 44.0**	**-0.6**
PB12	**IPOC Station P**	**21.53**	**154**			**P**	**16 31 52.8**	**-0.4**
PB12				IAmb		IAmb	16 32 01.6	
	comp=Z,20nm,1.0s							
PB16	**IPOC Station P**	**21.67**	**152**	P		**P**	**16 31 55.3**	**+0.2**
PB16				IAmb		IAmb	16 32 02.9	
	comp=Z,11nm,0.9s							
PB11	**IPOC Station P**	**22.84**	**154**			**P**	**16 32 08.7**	**+1.5**
GO01	**Chusmiza**	**22.96**	**153**	P		**P**	**16 32 10.5**	**+1.6**
GO01				IAmb		IAmb	16 32 20.0	
	comp=Z,11nm,0.8s							
TA01	**Diego Aracena**	**23.33**	**156**	P		**P**	**16 32 11.4**	**-0.7**
TA01				IAmb		IAmb	16 32 23.1	
	comp=Z,9.8nm,0.9s							
VILB	**Vilhena**	**24.04**	**125**	*e*P		**P**	**16 32 19.0**	**-0.1**
PB02	**IPOC Station P**	**24.12**	**156**	P		**P**	**16 32 20.7**	**+0.8**
PB02				IAmb		IAmb	16 32 48.3	
	comp=Z,16n

PFVI	**Vila Bisbo**	**2.62**	**75**	P		**Pn**	**16 50 41.2 +1.8**
MORF	**Marmelete**	**2.80**	**72**	*e*P		**Pn**	**16 50 43.8 +1.9**
MORF				*e*S		**Sn**	**16 51 13.9 -0.7**
MORF				IAML			16 51 17.6
	comp=N,50nm,0.2s						
MORF	**Marmelete**	**2.80**	**72⇑**	*e*P		**Pn**	**16 50 43.9 +1.9**
MORF				*e*S		**Sn**	**16 51 15.5 +1.0**
MORF				A		A	16 51 18.5
	comp=N,29nm,0.2s						
PTEO	**Sao Teotonio**	**2.82**	**67**	*e*P		**Pn**	**16 50 44.5 +2.4**
PTEO				*e*S		**Sn**	**16 51 15.8 +0.9**
PTEO				A		A	16 51 17.8
	comp=N,24nm,0.7s						
PMST	**Lisbon--Monsan**	**3.16**	**44**	*e*P		**Pn**	**16 50 49.3 +2.5**
PMST				*e*S		**Sn**	**16 51 23.7 +0.4**
PMST				A		A	16 51 26.4
	comp=N,72nm,0.2s						
PNCL	**Nicolau / Gran**	**3.20**	**59**	*e*P		**Pn**	**16 50 49.6 +2.2**
PNCL				*e*S		**Sn**	**16 51 24.6 +0.3**
PNCL				A		A	16 51 28.0
	comp=N,21nm,0.7s						
PMAFR	**Mafra**	**3.27**	**40⇑**	*e*P		**Pn**	**16 50 50.5 +2.2**
PMAFR				*e*S		**Sn**	**16 51 26.1 +0.2**
PMAFR				A		A	16 51 27.9
	comp=N,231nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.34**	**76**	*e*P		**Pn**	**16 50 51.4 +2.0**
PBDV				*e*S		**Sn**	**16 51 28.2 +0.3**
PBDV				A		A	16 51 34.2
	comp=N,13nm,0.4s						
PCVE	**Castro Verde**	**3.36**	**69**	*e*P		**Pn**	**16 50 51.9 +2.3**
PCVE				*e*S		**Sn**	**16 51 28.7 +0.4**
PCVE				A		A	16 51 32.2
	comp=N,14nm,0.4s						
PACT	**Alcochete**	**3.38**	**47⇑**	*e*P		**Pn**	**16 50 52.6 +2.7**
PACT				*e*S		**Sn**	**16 51 30.4 +1.6**
PACT				A		A	16 51 31.7
	comp=N,46nm,0.4s						
PVAQ	**Vaqueiros**	**3.54**	**74⇑**	*e*P		**Pn**	**16 50 54.2 +2.1**
PVAQ				*e*S		**Sn**	**16 51 32.6 -0.2**
PVAQ				A		A	16 51 37.0
	comp=N,17nm,0.5s						
PVAQ	**Vaqueiros**	**3.54**	**74**	P		**Pn**	**16 50 54.1 +2.0**
PBEJ	**Beja**	**3.63**	**64**	*e*P		**Pn**	**16 50 55.6 +2.3**
PBEJ				*e*S		**Sn**	**16 51 34.8 -0.2**
PBEJ				A		A	16 51 40.1
	comp=N,6.6nm,0.2s						
EGRO	**El Granado**	**3.76**	**73**	P		**Pn**	**16 50 57.1 +2.0**
EGRO				⇑*i*Vmb_V			16 50 58.6
	comp=N,293nm,SNR=6.2						
EGRO				S		**Sn**	**16 51 37.3 -0.8**
EVO	**Evora**	**3.76**	**56**	P		**Pn**	**16 50 57.0 +1.9**
EVO				S		**Sn**	**16 51 37.2 -1.0**
PSBE	**So Bento**	**3.93**	**39**	*e*P		**Pn**	**16 51 00.0 +2.5**
PSBE				*e*S		**Sn**	**16 51 43.0 +0.6**
PSBE				A		A	16 51 46.3
	comp=N,53nm,0.5s						
PMTG	**Montargil**	**3.94**	**48**	*e*P		**Pn**	**16 50 59.3 +1.8**
PMTG				*e*S		**Sn**	**16 51 41.9 -0.6**
PMTG				A		A	16 51 45.9
	comp=N,22nm,0.1s						
PESTR	**Estremoz**	**4.22**	**55**	*e*P		**Pn**	**16 51 03.5 +2.1**
PESTR				*e*S		**Sn**	**16 51 48.0 -1.5**
PESTR				A		A	16 52 03.8
	comp=N,9.3nm,0.6s						
PESTR	**Estremoz**	**4.22**	**55**	P		**Pn**	**16 51 04.5 +3.1**
PBAR	**Barrancos**	**4.29**	**66**	*e*P		**Pn**	**16 51 05.2 +2.8**
PBAR				*e*S		**Sn**	**16 51 50.2 -1.0**
EMIN	**Mina Concepcio**	**4.44**	**72**	P		**Pn**	**16 51 06.2 +1.7**
EMIN				⇑*i*Vmb_V			16 51 07.1
	comp=N,263nm,SNR=5.2						
EMIN				S		**Sn**	**16 51 54.1 -0.7**
PCAS	**Casmilo, Conde**	**4.49**	**37**	*e*P		**Pn**	**16 51 07.4 +2.2**
PCAS				*e*S		**Sn**	**16 51 55.5 -0.7**
PCAS				A		A	16 52 00.2
	comp=N,20nm,0.3s						
EBAD	**Badajoz**	**4.55**	**59**	P		**Pn**	**16 51 07.7 +1.7**
EBAD				⇑*i*Vmb_V			16 51 10.9
	comp=N,244nm,SNR=4.6						
EBAD				S		**Sn**	**16 51 56.5 -1.2**
COI	**Coimbra**	**4.66**	**36**	*e*S		**Sn**	**16 51 59.8 -0.4**
PMRV	**Marv??o**	**4.67**	**50⇑**	*e*P		**Pn**	**16 51 09.2 +1.6**
PMRV				*e*S		**Sn**	**16 51 59.0 -1.6**
PMRV				A		A	16 52 01.7
	comp=N,21nm,0.7s						
PCBR	**Castelo Branco**	**4.88**	**45**	*e*P		**Pn**	**16 51 12.8 +2.3**
PCBR				*e*S		**Sn**	**16 52 04.2 -1.5**
PCBR				A		A	16 52 06.8
	comp=N,10nm,0.7s						
PMPST	**Porto Santo, M**	**4.93**	**228**	*e*P		Pn	16 51 08.2 -3.0
PMPST				*e*S		Sn	16 51 56.9 -10
PMPST				A		A	16 52 02.2
	comp=N,36nm,0.3s						
ESPR	**Espera**	**4.95**	**84**	P		**Pn**	**16 51 12.6 +1.2**
ESPR				S		**Sn**	**16 52 05.5 -1.9**
PMPS	**Porto Santo**	**4.95**	**227**	*e*P		Pn	16 51 08.6 -2.8
PMPS				*e*S		Sn	16 51 56.7 -11
PMPS				A		A	16 52 03.0
	comp=N,26nm,0.3s						
MTE	**Manteigas**	**5.24**	**41**	*e*P		**Pn**	**16 51 17.5 +2.1**
MTE				*e*S		**Sn**	**16 52 13.8 -0.8**
MTE				A		A	16 52 15.0
	comp=N,20nm,0.4s						
SRHM	**Skhour des Reh**	**5.25**	**139**	P		**Pn**	**16 51 14.7 -0.9**
PVIS	**Viseu**	**5.30**	**36**	*e*P		**Pn**	**16 51 18.3 +2.0**
PVIS				*e*S		**Sn**	**16 52 14.5 -1.6**
PVIS				A		A	16 52 17.2
	comp=N,38nm,0.5s						
PTO	**Porto**	**5.34**	**29**	*e*S		**Sn**	**16 52 15.4 -1.6**
ZHG	**ZHG**	**5.34**	**123**	P		**Pn**	**16 51 16.2 -0.7**
ECEU	**Ceuta**	**5.39**	**94**	S		**Sn**	**16 52 17.1 -1.1**
CEU	**Ceuta**	**5.39**	**94**	P		**Pn**	**16 51 20.0 +2.6**
CEU				S		Sn	16 52 12.2 -6.0
SMIR	**Smir Dam**	**5.42**	**97**	P		**Pn**	**16 51 17.8 -0.1**
ECAB	**El Cabril**	**5.48**	**71**	P		**Pn**	**16 51 20.2 +1.5**
ECAB				S		**Sn**	**16 52 17.9 -2.6**
PMAR	**Madeira**	**5.53**	**229**	*e*S		Sn	16 52 12.7 -9.3
PMAR				A		A	16 52 15.1
	comp=N,32nm,0.2s						
PMOZ	**Porto Moniz, M**	**5.64**	**231**	*e*P		Pn	16 51 18.9 -2.1
PMOZ				*e*S		Sn	16 52 14.7 -10
PMOZ				A		A	16 52 21.5
	comp=N,37nm,0.5s						
PMOZ	**Porto Moniz, M**	**5.64**	**231**	P		Pn	16 51 16.7 -4.2
EMIJ	**Mijas**	**5.82**	**87**	P		**Pn**	**16 51 24.5 +1.1**
EMIJ				S		**Sn**	**16 52 26.7 -2.1**
PVRL	**Vila Real**	**5.83**	**34**	*e*S		**Sn**	**16 52 26.2 -2.9**
PVRL				A		A	16 52 30.4
	comp=N,14nm,0.1s						
EPLA	**Plasencia**	**5.86**	**51**	P		**Pn**	**16 51 25.8 +1.8**
EPLA				⇑*i*Vmb_V			16 51 26.3
	comp=N,192nm,SNR=4.0						
EPLA				S		**Sn**	**16 52 28.4 -1.5**
POLO	**Lamas de Olo**	**5.87**	**33**	*e*P		**Pn**	**16 51 26.2 +2.0**
POLO				*e*S		**Sn**	**16 52 27.2 -3.0**
POLO				A		A	16 52 32.0
	comp=N,7.7nm,0.7s						
PCAB	**Cabril**	**6.05**	**29**	*e*P		**Pn**	**16 51 28.8 +2.2**
PCAB				*e*S		**Sn**	**16 52 32.7 -2.0**
PCAB				A		A	16 52 36.0
	comp=N,13nm,0.3s						
MVO	**Moncorvo**	**6.06**	**38**	*e*P		**Pn**	**16 51 28.6 +1.8**
MVO				*e*S		**Sn**	**16 52 32.5 -2.5**
MVO				A		A	16 52 34.9
	comp=N,32nm,0.5s						
EADA	**Adamuz**	**6.14**	**72**	P		**Pn**	**16 51 29.8 +1.9**
EADA				⇑*i*Vmb_V			16 51 30.7
	comp=N,320nm,SNR=9.2						
EADA				S		**Sn**	**16 52 35.3 -1.6**
ELOB	**Lobios**	**6.17**	**28**	P		**Pn**	**16 51 30.4 +2.0**
ELOB				⇑*i*Vmb_V			16 51 31.1
	comp=N,148nm,SNR=1.6						
ELOB				S		**Sn**	**16 52 35.1 -2.7**
PGAV	**Gavieira, Arco**	**6.18**	**27**	*e*P		**Pn**	**16 51 31.1 +2.7**
PGAV				*e*S		**Sn**	**16 52 35.6 -2.3**
PGAV				A		A	16 52 39.2
	comp=N,12nm,0.1s						
EZAM	**Zamans**	**6.20**	**23**	P		**Pn**	**16 51 30.3 +1.7**
EZAM				⇑*i*Vmb_V			16 51 32.7
	comp=N,279nm,SNR=2.0						
EZAM				S		**Sn**	**16 52 34.5 -3.7**
OUK	**Oukaimeden**	**6.29**	**146**	P		Pn	16 51 28.3 -1.9
EGOR	**Sierra Gorda,**	**6.36**	**82**	P		**Pn**	**16 51 32.3 +1.4**
EGOR				⇑*i*Vmb_V			16 51 35.9
	comp=N,76nm,SNR=1.7						
EGOR				S		**Sn**	**16 52 42.2 -0.1**
TTIG	**Tnine Tigouga,**	**6.63**	**152**	P		Pn	16 51 29.6 -5.1
CZD	**Col de Zad**	**6.68**	**119**	P		**Pn**	**16 51 35.4 -0.2**
PBRG	**Braganca**	**6.69**	**36**	*e*P		**Pn**	**16 51 36.1 +0.7**
PBRG				*e*S		**Sn**	**16 52 48.1 -2.3**
PBRG				A		A	16 52 50.3
	comp=N,14nm,0.1s						
ELGU	**Los Guajares,**	**6.74**	**84**	P		**Pn**	**16 51 37.2 +1.1**
ELGU				⇑*i*Vmb_V			16 51 39.8
	comp=N,133nm,SNR=1.5						
ELGU				S		**Sn**	**16 52 50.6 -1.0**
PAB	**San Pablo**	**6.76**	**61**	P		**Pn**	**16 51 37.3 +0.9**
PAB				⇑*i*Vmb_V			16 51 41.0
	comp=N,58nm,SNR=2.0						
PAB				S		**Sn**	**16 52 48.8 -3.3**
PAB	**San Pablo**	**6.76**	**61**	P		**Pn**	**16 51 38.8 +2.4**
EMAZ	**Mazaricos**	**6.85**	**19**	P		**Pn**	**16 51 39.3 +1.8**
EMAZ				⇑*i*Vmb_V			16 51 41.8
	comp=N,208nm,SNR=1.3						
EMAZ				S		Sn	16 52 49.1 -5.2
MD31	**MD31**	**6.97**	**119**	P		**Pn**	**16 51 38.4 -0.9**
OUZM	**OUZ**	**7.07**	**140**	P		**Pn**	**16 51 40.3 -0.4**
ESDC	**Sonseca Array**	**7.09**	**61**	P		**Pn**	**16 51 40.9 +0.1**
ESDC				⇑*i*Vmb_V			16 51 43.7
	comp=N,133nm,SNR=3.4						
ESDC				S		Sn	16 52 52.4 -7.7
MDT	**Midelt**	**7.11**	**119**	P		**Pn**	**16 51 41.9 +0.7**
GUD	**Guadarrama**	**7.41**	**54**	P		**Pn**	**16 51 46.8 +1.5**
GUD				S		**Sn**	**16 53 04.3 -3.8**
JBK	**JBK**	**7.99**	**103**	P		Pn	16 51 51.7 -1.8
CFUE	**Fuerteventura**	**7.99**	**192**	S		Sn	16 53 08.9 -14
ZGR	**Zagora**	**8.30**	**138**	P		Pn	16 51 55.9 -1.7
EZAR	**Zarzadilla de**	**8.34**	**77**	S		**Sn**	**16 53 27.8 -3.2**
CGIN	**Giniginamar, F**	**8.45**	**193**	S		Sn	16 53 18.5 -15
EARI	**Arriondas**	**8.56**	**35**	P		**Pn**	**16 52 01.8 +0.7**
EARI				⇑*i*Vmb_V			16 52 03.1
	comp=N,85nm,SNR=1.3						
EARI				S		**Sn**	**16 53 33.6 -2.9**
ETOB	**Tobarra**	**8.57**	**72**	P		**Pn**	**16 52 00.5 -0.7**
ETOB				⇑*i*Vmb_V			16 52 03.4
	comp=N,90nm,SNR=1.9						
ETOB				S		**Sn**	**16 53 34.1 -2.5**
ETOR	**Torete**	**8.89**	**58**	P		**Pn**	**16 52 06.8 +1.2**
ETOR				⇑*i*Vmb_V			16 52 08.0
	comp=N,125nm,SNR=2.0						
ETOR				S		Sn	16 53 39.3 -5.2
MACI	**Morro de la Ar**	**9.06**	**206**	S		Sn	16 53 31.4 -18
EGOM	**La Gomera**	**9.41**	**209**	S		Sn	16 53 40.8 -16
ELAN	**Lanestosa**	**9.41**	**42**	S		**Sn**	**16 53 53.2 -4.0**
EMOS	**Mosqueruela**	**9.83**	**63**	P		**Pn**	**16 52 21.1 +2.5**
EMOS				⇑*i*Vmb_V			16 52 22.6
	comp=N,59nm,SNR=1.1						
EMOS				S		**Sn**	**16 54 07.1 -0.6**
SJPF	**Ste Jean**	**10.59**	**48**	*e*Pn		**Pn**	**16 52 30.4 +1.6**
SJPF				*e*Sn		**Sn**	**16 54 21.6 -4.6**
	comp=N,2.8nm,0.4s						
ETSF	**Etsaut**	**10.88**	**51**	*e*Pn		**Pn**	**16 52 34.8 +2.0**
ETSF				*e*Sn		**Sn**	**16 54 29.0 -4.4**
	comp=N,1.6nm,0.4s						
EPF	**Esparros**	**11.52**	**52**	*e*Pn		**Pn**	**16 52 43.4 +1.9**
EPF				*e*Sn		Sn	16 54 43.2 -5.6
	comp=N,2.6nm,0.5s						
MFF	**Saint Martin d**	**13.43**	**38**	*e*P		Pn	16 53 14.3 +6.8
LASF	**Ste Croix**	**14.26**	**53**	*e*Pn		**Pn**	**16 53 21.1 +2.2**
LASF	**Ste Croix**	**14.26**	**53**	*e*P		Pn	16 53 24.6 +5.7

*IDC **22** 17:01:39.8±1.0, 67.°06N×20.°77E, h0km, mb1 2.9/3, mb1mx2.8/30, mbtmp2.8/3, ML1.6/3, Error ellipse: s-maj=11.7km s-min=4.2km az=154.0*
*UPP **22** 17:01:39.8±0.1, 67.°06N×20.°94E, h0km, ML2.0, Explosion*
*HEL **22** 17:01:40.5±0.1, 67.°08N×20.°95E, h0km, ML2.2, ML2.0(UPP), Explosion*
*HEL **22** 17:01:40.7, 67.°10N×21.°12E, h0km, ML2.2, Explosion*
*KOLA **22** 17:01:41.2, 67.°07N×20.°84E, h0km, ML2.5*

ISC 22 17:01:39.3±0.7, 67.°07N±0.°02×20.°94E±0.°02, h0km, n43, σ1s 47/58, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**290**	P	**Pg**	**17 01 43.1**	**+0.8**
DUNU				S	**Sg**	**17 01 45.5**	**+1.2**
DUNU	**Dundret**	**0.16**	**290**	*i* P	**Pg**	**17 01 43.1**	**+0.8**
DUNU				*i* S	**Sg**	**17 01 45.5**	**+1.2**
MASU	**Masugnsbyn**	**0.57**	**46**	P	**Pg**	**17 01 50.8**	**+0.6**
MASU	**Masugnsbyn**	**0.57**	**46**	*i* P	**Pg**	**17 01 50.8**	**+0.6**
ERTU	**Ertsjaerv**	**0.71**	**136**	P	**Pg**	**17 01 53.2**	**+0.2**
ERTU	**Ertsjaerv**	**0.71**	**136**	*e*P	**Pg**	**17 01 53.1**	**+0.1**
ERTU				*e*S	**Sg**	**17 02 03.3**	**+1.1**
PAJU	**Pajala**	**0.85**	**92**	P	**Pg**	**17 01 55.6**	**0.0**
PAJU	**Pajala**	**0.85**	**92**	*e*P	**Pg**	**17 01 55.5**	**-0.1**
PAJU				*e*S	**Sg**	**17 02 03.6**	**-3.0**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**17 01 56.7**	**0.0**
HARU	**Harads**	**0.91**	**179**	*e*P	**Pg**	**17 01 56.7**	**0.0**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**17 01 58.5**	**+0.1**
SALU	**Saltoluokta**	**1.00**	**289**	*e*P	**Pg**	**17 01 58.5**	**+0.1**
LANU	**Lannavaara**	**1.06**	**22**	P	**Pg**	**17 01 59.4**	**-0.3**
LANU	**Lannavaara**	**1.06**	**22**	*e*P	**Pg**	**17 01 59.3**	**-0.3**
NIKU	**Nikkaluokta**	**1.09**	**318**	P	**Pg**	**17 01 60.0**	**-0.2**
NIKU	**Nikkaluokta**	**1.09**	**318**	*e*P	**Pg**	**17 01 60.0**	**-0.2**
KOVU	**Salmi**	**1.20**	**346**	P	**Pg**	**17 02 02.0**	**-0.2**
KOVU	**Salmi**	**1.20**	**346**	*e*P	**Pg**	**17 02 02.0**	**-0.2**
KALU	**Kalix**	**1.55**	**140**	*e*P	**Pg**	**17 02 08.1**	**-0.1**
TOF	**Tornio**	**1.68**	**125**	*e*PG	**Pn**	**17 02 10.4**	**+0.6**
TOF				MSG		17 02 29.7	
	comp=Z,15nm,0.2s						
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**17 02 10.8**	**+0.6**
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**17 02 10.3**	**+0.1**
	baz=220						
HEF				*e*SN	**Sb**	**17 02 33.8**	**+0.5**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P	**Pb**	**17 02 15.7**	**+0.1**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*PB	**Pb**	**17 02 15.4**	**-0.1**
KIF				MSG		17 02 39.0	
	comp=Z,18nm,0.2s						
RNF	**Rovaniemi**	**2.06**	**101**	*e*PB	**Pn**	**17 02 16.4**	**+1.3**
RNF				*e*SG	**Sb**	**17 02 44.9**	**+1.3**
I37NO	**I37NO**	**2.20**	**338**	*i*		17 16 00.0	
	baz=157,slow=331,SNR=7.7						
SGF	**Sodankyl**	**2.20**	**78**	*e*PB	**Pn**	**17 02 18.5**	**+1.4**
OBF0	**Syolatti, Pyha**	**2.92**	**151**	*e*PG	**Pb**	**17 02 33.3**	**+1.2**
ARA0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pn**	**17 02 28.8**	**+0.7**
ARA0				*e*S	**Sn**	**17 03 03.1**	**-1.6**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**17 02 29.0**	**+0.9**
	baz=220,slow=13,SNR=50						
ARCES				Sn	**Sn**	**17 03 07.8**	**+3.1**
	baz=218,slow=24,SNR=11						
ARCES	**ARCESS Array B**	**3.00**	**32**	P	**Pn**	**17 02 29.2**	**+1.1**
ARCES				S	**Sn**	**17 03 06.0**	**+1.3**
OUF	**Merijarvi**	**3.13**	**148**	*e*P	**Pn**	**17 02 31.8**	**+2.0**
UMAU	**Umeaa**	**3.20**	**182**	*e*P	**Pn**	**17 02 31.9**	**+1.2**
UMAU				*e*SB	**Sb**	**17 03 14.0**	**-2.4**
OLKF	**Oulanka, Finla**	**3.44**	**99**	*e*P	**Pn**	**17 02 36.2**	**+2.0**
OLKF				*e*SB	**Sb**	**17 03 22.8**	**-0.7**
MSF	**Maaselka**	**3.45**	**106**	*e*P	**Pn**	**17 02 36.8**	**+2.6**
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**17 02 35.5**	**+0.5**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**17 02 39.3**	**+1.2**
HUSU	**Husum**	**3.81**	**192**	*e*P	**Pn**	**17 02 40.5**	**+1.3**
HUSU				*e*S	**Sn**	**17 03 24.6**	**0.0**
VAF	**Ylistaro**	**4.11**	**169**	*e*P	**Pn**	**17 02 45.2**	**+2.0**
APA0	**Apatity Array**	**4.69**	**78**	P	**Pn**	**17 02 51.9**	**+0.6**
APA0				S	**Sn**	**17 03 46.5**	**+0.1**
PRVG	**Vayda Guba**	**4.94**	**52**	P	**Pn**	**17 02 57.1**	**+2.4**
PRVG				S	**Sn**	**17 03 51.5**	**-0.9**
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 03 12.2**	**+2.1**
	comp=Z,0.0nm,0.3s,baz=345,slow=13,SNR=7.4						
FINES				Sn	**Sn**	**17 04 20.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=150,slow=39,SNR=1.8						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**17 03 25.7**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=10,slow=13,SNR=2.4						
NOA				Sn	**Sn**	**17 04 47.6**	**-5.4**
	comp=Z,0.0nm,0.3s,baz=32,slow=21,SNR=1.4						

IDC 22 17:22:00.9±74.0, 14.°64S×167.°06E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/42, mbtmp4.2/3, Error ellipse: s-maj=1248.0km s-min=111.6km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.90**	**229**	P	P	17 28 01.2	-0.4
	1.8nm,0.5s,baz=54,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**31.65**	**256**	P	P	17 28 26.4	+0.2
	1.3nm,0.6s,baz=82,slow=6.8,SNR=21						
ASAR	**Alice Springs**	**32.52**	**249**	P	P	17 28 33.8	+0.1
	1.8nm,0.3s,baz=74,slow=9.7,SNR=127						

*IDC **22** 17:45:26.9±3.7, 52.°90N×8.°23E, h0km, mb1 3.5/3, mb1mx3.1/32, mbtmp3.3/3, ML2.7/3, Error ellipse: s-maj=65.8km s-min=12.6km az=77.0*
*PRU **22** 17:45:31.1±0.0, 53.°53N×9.°76E, h0km*
*DNK **22** 17:45:31.8±3.0, 53.°12N×9.°16E, h15km±18km, ML3.1*
*BGR **22** 17:45:31.7±0.2, 53.°01N×9.°20E, h4km±1km, ML3.1/13, Error ellipse: s-maj=1.1km s-min=1.1km az=144.0*
*LDG **22** 17:45:32.5±0.2, 52.°98N×9.°25E, h5km, Ml3.1/21, Error ellipse: s-maj=4.0km s-min=3.2km az=164.0*
*BUG **22** 17:45:33.4±0.0, 52.°95N×9.°18E, h0km±1km, MD3.6/10, ML3.6/7*
*BNS **22** 17:45:37.3±0.3, 52.°89N×9.°03E, h3km, ML2.9*

ISC 22 17:45:28.5±0.7, 53.°11N±0.°03×9.°06E±0.°02, h0km, n86, σ2s 39/144, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RETH	**Rethem/Aller,**	**0.41**	**153**	*e*Pg	**Pg**	**17 45 37.7**	**+1.3**
NRDL	**Niedersach Rie**	**0.88**	**133**	*e*Pg	**Pb**	**17 45 47.5**	**+0.9**
NRDL				Sg	**Sg**	**17 45 57.2**	**+0.3**
IBBE	**Ibbenbueren Ea**	**1.11**	**224**	Pg	**Pn**	**17 45 52.8**	**+1.5**
IBBE				Sg	**Sn**	**17 46 08.7**	**+1.3**
BSEG	**Bad Segeberg**	**1.12**	**42**	*i* P	**Pn**	**17 45 53.6**	**+2.2**
BSEG				*i* S	**Sn**	**17 46 09.0**	**+1.4**
BSEG				IAML		17 46 12.4	
	comp=Z,48nm,0.1s						
IBBN	**Ibbenburen**	**1.12**	**225**	*i* P	**Pn**	**17 45 52.8**	**+1.3**
IBBN				IAML		17 46 11.7	
	comp=N,34700µm,0.1s						
IBBN	**Ibbenburen**	**1.12**	**225**	*e*Pg	**Pn**	**17 45 52.3**	**+0.8**
IBBN				*e*Sg	**Sn**	**17 46 09.2**	**+1.6**
IBBS	**Ibbenbueren So**	**1.15**	**225**	Pg	**Pn**	**17 45 53.5**	**+1.7**
IBBS				Sg	**Sn**	**17 46 09.2**	**+1.1**
CLNZ	**Clenze**	**1.16**	**97**	*e*Sg	**Sg**	**17 46 06.2**	**+0.6**
ASSE	**Asse, Remlinge**	**1.39**	**134**	*i* P	**Pn**	**17 45 55.1**	**+0.1**
ASSE				*i* S	**Sg**	**17 46 11.8**	**-1.2**
ASSE	**Asse, Remlinge**	**1.39**	**134**	*e*Pg	**Pn**	**17 45 54.6**	**-0.4**
ASSE				*e*Sg	**Sg**	**17 46 11.9**	**-1.2**
CLZ	**Clausthal**	**1.50**	**147**	*i* P	**Pn**	**17 45 56.3**	**-0.4**
CLZ				IAML		17 46 14.4	
	comp=Z,13nm,0.2s						
CLZ	**Clausthal**	**1.50**	**147**	*e*Pn	**Pn**	**17 45 56.5**	**-0.2**
CLZ				*e*Sg	**Sg**	**17 46 14.6**	**-2.1**
FLTG	**Flechtingen**	**1.54**	**119**	*e*Pn	**Pn**	**17 45 56.6**	**-0.5**
FLTG				*e*Pg	**Pg**	**17 45 58.7**	**+0.8**
SKMB	**Sankelmark Bun**	**1.63**	**8**	*i* S	**Sg**	**17 46 20.9**	**0.0**
GTTG	**Gottingen**	**1.66**	**160**	*e*Pn	**Pn**	**17 45 58.9**	**0.0**
GTTG				*e*Sg	**Sn**	**17 46 18.2**	**-2.7**
HMES	**Hamm, Michael-**	**1.66**	**210**	Pg	Pg	17 46 06.1	+5.7
HMES				Sg	**Sg**	**17 46 24.3**	**+2.4**
BAVN	**Auguste-Victor**	**1.81**	**222**	Pg	Pg	17 46 10.5	+7.3
KASTN	**Kahler Asten**	**1.95**	**192**	Pg	**Pg**	**17 46 06.4**	**+0.6**
KASTN				Sg	**Sg**	**17 46 31.3**	**+0.3**
BULI	**Ruhr-Universit**	**1.99**	**214**	Pn	**Pn**	**17 46 03.8**	**+0.4**
BULI				Sg	**Sg**	**17 46 36.3**	**+4.0**
BKLB	**Ruhr-Universit**	**2.00**	**214**	Pg	**Pg**	**17 46 07.2**	**+0.4**
BUG	**Bochum--Univer**	**2.00**	**214**	Pg	**Pg**	**17 46 07.2**	**+0.4**
BZER	**Hinxe**	**2.00**	**223**	Pg	**Pg**	**17 46 09.8**	**+2.9**
BZER				Sg	**Sg**	**17 46 35.9**	**+3.1**
HOBG	**Hohbusch**	**2.38**	**207**	*e*Pg	**Pb**	**17 46 13.1**	**+0.9**
HOBG				*e*Sg	**Sn**	**17 46 40.2**	**+1.7**
	comp=Z,126nm,0.5s						
BNS	**Bensberg**	**2.44**	**209**	*e*Sg	**Sn**	**17 46 41.7**	**+1.7**
	comp=Z,122nm,0.6s						
AHRW	**Bad Neuenahr-A**	**2.85**	**206**	Pg	**Pg**	**17 46 24.5**	**+1.4**
LLD	**Lille Linde**	**2.90**	**38**	*i* S	**Sn**	**17 46 51.1**	**-0.3**
TNS	**Taunus Mts**	**2.91**	**188**	Pg	**Pg**	**17 46 26.0**	**+1.7**
DREG	**Dreilaegerbach**	**3.01**	**217**	*e*Sn	**Sn**	**17 46 55.6**	**+1.5**
	comp=Z,35nm,0.3s						
CLL	**Collm**	**3.02**	**125**	*i* Pn	**Pb**	**17 46

HINF				*e*Sn	**Sn**	17 47 49.7	-5.4	
HINF				*e*Sg	**Sg**	17 48 21.0	-3.4	
	comp=Z,6.5nm,0.5s							
SFTF	**Sexfontaines**	**5.53**	**209**	*e*Pn	**Pn**	17 46 52.7	+0.6	
SFTF				*e*Sn	**Sn**	17 47 52.3	-4.0	
SFTF				*e*Sg	**Sg**	17 48 23.2	-2.9	
	comp=Z,1.8nm,0.1s							
MOTA	**Moosalm**	**5.92**	**166**	*e*Pn	**Pn**	17 46 57.1	-0.4	
	comp=Z,0.7nm,0.2s							
MOTA				Sg	**Sg**	17 48 39.6	+1.1	
	comp=Z,4.3nm,0.6s							
WATA	**Walderalm**	**6.00**	**163**	*e*Pn	**Pn**	17 46 59.1	+0.4	
	comp=Z,5.1nm,0.5s							
SQTA	**Sankt Quirin**	**6.05**	**166**	*e*Pn	**Pn**	17 47 00.0	+0.7	
	comp=Z,2.5nm,0.4s							
STRU	**Stroemstad**	**6.06**	**10**	*i* P	**Pn**	17 46 60.0	+0.7	
STRU				*i* S	**Sn**	17 48 03.6	-5.6	
VRAC	**Vranov**	**6.07**	**126**	*e*PN	**Pn**	17 47 02.5	+3.0	
WTTA	**Wattenberg**	**6.08**	**163**	*e*Pn	**Pn**	17 47 00.4	+0.6	
	comp=Z,3.2nm,0.4s							
KRUC	**Moravsky**	**6.14**	**128**	*e*PN	**Pn**	17 47 03.0	+2.5	
BIOA	**Bad Ischl, Aus**	**6.16**	**150**	*e*Sg	**Sg**	17 48 51.1	+4.8	
	comp=Z,4.5nm,0.4s							
FETA	**Feichten**	**6.19**	**169**	*e*Pn	**Pn**	17 47 00.4	-0.8	
	comp=Z,0.9nm,0.4s							
MOA	**Molln**	**6.22**	**146**	*e*Pn	**Pn**	17 47 01.0	-0.6	
	comp=Z,1.0nm,0.2s							
MOA				Sg	**Sg**	17 48 50.6	+2.3	
	comp=Z,3.4nm,0.3s							
LOR	**Lormes**	**6.73**	**212**	*e*Pn	**Pn**	17 47 08.6	+0.1	
	baz=36							
LOR	**Lormes**	**6.73**	**212**	*e*Pg	**Pg**	17 47 35.4	-2.0	
LOR				*e*Sn	**Sn**	17 48 21.0	-4.8	
	comp=Z,2.2nm,0.3s							
LOR				*e*Sg	**Sg**	17 49 06.3	+1.8	
	comp=Z,7.7nm,0.7s							
ABTA	**Abfaltersbach**	**6.74**	**159**	*i* Pn	**Pn**	17 47 10.1	+1.3	
	comp=Z,8.0nm,0.5s							
CONA	**Conrad Observa**	**6.76**	**137**	*i* Pn	**Pn**	17 47 12.3	+3.3	
	comp=Z,1.3nm,0.4s							
CONA				Sn	**Sn**	17 48 29.6	+3.0	
	comp=Z,2.9nm,0.4s							
CABF	**La Chapelle**	**6.78**	**198**	*e*Pn	**Pn**	17 47 08.9	-0.4	
CABF				*e*Sn	**Sn**	17 48 21.0	-6.2	
CABF				*e*Sg	**Sg**	17 49 01.4	-4.7	
	comp=Z,7.7nm,0.6s							
SSF	**Saint Saulge**	**7.02**	**213**	*e*Pn	**Pn**	17 47 13.3	+0.7	
SSF				*e*Sg	**Sg**	17 49 10.9	-3.1	
	comp=Z,1.8nm,0.4s							
SMF	**Signal de Mont**	**7.29**	**210**	*e*Pn	**Pn**	17 47 16.8	+0.6	
SMF	**Signal de Mont**	**7.29**	**210**	*e*Pg	**Pg**	17 47 47.0	-1.1	
SMF				*e*Sg	**Sg**	17 49 18.8	-3.7	
	comp=Z,3.9nm,0.5s							
AVF	**Avril sur Loir**	**7.31**	**212**	*e*Pn	**Pn**	17 47 17.6	+1.1	
AVF				*e*Sn	**Sn**	17 48 35.0	-5.1	
AVF				*e*Sg	**Sg**	17 49 19.6	-3.6	
	comp=Z,1.6nm,0.3s							
LDF	**La Druitiere**	**7.36**	**236**	*e*Pn	**Pn**	17 47 17.1	0.0	
LDF				*e*Sn	**Sn**	17 48 38.5	-2.7	
FLN	**La Foliniere**	**7.43**	**238**	*e*Pn	**Pn**	17 47 16.4	-1.7	
	baz=59							
FLN				*e*Sg	**Sg**	17 49 26.3	-0.6	
	comp=Z,1.1nm,0.2s							
OBKA	**Obir**	**7.50**	**150**	*e*Pn	**Pn**	17 47 21.2	+2.1	
	comp=Z,1.4nm,0.3s							
OBKA				*e*Sg	**Sg**	17 49 31.4	+2.2	
	comp=Z,2.1nm,0.5s							
GRR	**Gorron**	**7.86**	**237**	*e*Pn	**Pn**	17 47 23.5	-0.5	
GRR				*e*Sn	**Sn**	17 48 49.0	-4.6	
	comp=Z,1.9nm,0.3s							
NOA	**NORSAR Array B**	**8.04**	**8**	Pn	**Pn**	17 47 24.4	-2.1	
	comp=Z,0.0nm,0.3s,baz=191,slow=12,SNR=2.3							
NOA				Sn	**Sn**	17 48 54.5	-3.5	
	comp=Z,0.0nm,0.3s,baz=178,slow=18,SNR=2.1							
TCF	**Toulx Ste Croi**	**8.14**	**216**	*e*P	Pn	17 47 33.4	+5.5	
TCF				*e*Sg	**Sg**	17 49 46.0	-3.6	
	comp=Z,0.8nm,0.2s							
SGMF	**Saint Gilles**	**8.83**	**241**	*e*Pn	**Pn**	17 47 35.8	-1.4	
SGMF				*e*Sn	**Sn**	17 49 14.9	-2.4	
	comp=Z,0.7nm,0.3s							
BURAR	**Bucovina Array**	**11.68**	**112**	‖P	**Pn**	17 48 19.6	+3.1	
FINES	**FINESS Array B**	**12.40**	**41**	Pn	**Pn**	17 48 27.9	+1.9	
	comp=Z,0.1nm,0.3s,baz=249,slow=10,SNR=1.9							

PRU 22 17:46:53.8±0.0, 51.40N×16.18E, h0km, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.56**	**173**	*i* Pg		Pg	17 47 04.1	-0.5
KSP				*e*Sg		Sg	17 47 12.0	+0.2
CHVC	**Chvalec**	**0.82**	**186**	*e*PG		Pg	17 47 09.1	-0.3
CHVC				*e*SG		Sg	17 47 20.2	+0.2
	comp=Z,31nm,0.4s							
OSTC	**Ostas**	**0.84**	**178**	*e*PG		Pg	17 47 09.6	-0.4
OSTC				*e*SG		Sg	17 47 20.5	-0.4
	115nm,0.6s							
UPC	**Upice**	**0.90**	**187**	*e*PG		Pg	17 47 10.4	-0.6
UPC				*e*SG		Sg	17 47 22.8	+0.1
DPC	**Dobruska-Polom**	**1.05**	**175**	*e*PG		Pg	17 47 13.0	-1.0
DPC				*e*SG		Sg	17 47 27.5	-0.1
	comp=Z,32nm,0.5s							
PVCC	**Panska Ves**	**1.34**	**230**	*e*PG		Pg	17 47 18.7	-0.8
PVCC				*e*SG		Sb	17 47 37.6	+0.1
	comp=Z,131nm,0.3s							
KRLC	**Kraliky**	**1.38**	**164**	*e*PG		Pg	17 47 18.5	-1.7
KRLC				*e*SG		Sg	17 47 37.1	-1.0
	comp=Z,14nm,0.5s							
PRU	**Pruhonice**	**1.76**	**217**	*e*PG		Pn	17 47 25.6	+0.1
PRU				*e*SG		Sb	17 47 49.4	0.0
	comp=Z,26nm,0.6s							
MORC	**Moravsky Berou**	**1.84**	**151**	‖P		Pn	17 47 24.7	-2.0
MORC				‖S		Sn	17 47 49.1	-1.6
MORC	**Moravsky Berou**	**1.84**	**151**	*e*PN		Pn	17 47 24.9	-1.8
MORC				*e*SG		Sn	17 47 49.1	-1.6
VRAC	**Vranov**	**2.11**	**173**	ĵP		Pn	17 47 30.1	-0.2
VRAC				ĵS		Sn	17 47 56.2	-1.1
VRAC	**Vranov**	**2.11**	**173**	*e*PN		Pn	17 47 29.9	-0.5
VRAC				*e*SG		Sb	17 47 59.9	+0.2
KRUC	**Moravsky**	**2.34**	**177**	*e*PN		Pn	17 47 33.5	-0.1
KRUC				*e*SG		Sg	17 48 07.8	-1.3
OJC	**Ojcow**	**2.58**	**116**	*e*Pg		Pg	17 47 42.3	-0.9
OJC				*e*Sg		Sg	17 48 17.1	+0.4
NKC	**Novy Kostel**	**2.64**	**245**	*e*SG		Sg	17 48 18.6	+0.1
	comp=Z,16nm,0.3s							
JAVC	**Velka Javorina**	**2.72**	**159**	*e*PN		Pn	17 47 37.9	-0.9
KHC	**Kasperske Hory**	**2.82**	**217**	*e*PG		Pb	17 47 44.9	-0.1
KHC				*e*SG		Sg	17 48 23.6	-0.7
	comp=Z,8.9nm,0.5s							
KHC	**Kasperske Hory**	**2.82**	**217**	*e*SN		Pb	17 47 44.9	-0.1
CKRC	**Cesky Krumlov**	**2.85**	**206**	*e*PN		Pn	17 47 39.9	-0.6
CKRC				*e*PG		Pb	17 47 45.8	+0.3
CKRC				*e*SG		Sb	17 48 22.7	+1.8
	comp=Z,18nm,0.9s							
SMOL	**Smolenice**	**3.00**	**164**	*e*SG		Sg	17 48 30.3	+0.2
LANS	**Liptovska Anna**	**3.08**	**136**	*e*SG		Sg	17 48 32.7	-0.2

*IDC **22** 18:28:07.3±1.3, 11.81S×124.60E, h0km, mb3.6/3, mb1 4.2/6, mb1mx3.6/28, mbtmp4.0/6, ML4.2/3, MS3.2/3, Ms1 3.2/3, ms1mx2.6/50, Error ellipse: s-maj=86.4km s-min=21.1km az=62.0*

*DJA **22** 18:28:09.1±0.4, 12°S±5°×12°4E±°, h10km, M4.6/8, mb4.7/6, mB5.2/3, MLv4.5/8, Mw(mB)4.5/3*

*NEIC **22** 18:28:10.9±2.7, 11.86S±0.06×124.37E±0.07, h46km±6km, mb4.1/15, Error ellipse: s-maj=11.0km s-min=7.3km az=46.0*

ISC 22 18:28:09.7±0.5, 11.96S±0.05×124.33E±0.06, h35km, n60, σ1s84/65, mb4.2/8, South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.86**	**339**	Pn		**Pn**	**18 28 40.0**	**+0.9**
	78nm,0.3s,baz=238,slow=0.8,SNR=397							
BATI				Sn		**Sn**	**18 29 01.9**	**+0.5**
	50nm,0.3s,baz=69,slow=22,SNR=5.5							
BATI				LR		LR	18 29 51.0	
	comp=Z,324nm,18.1s,baz=214,slow=56							
BATI	**Baumata**	**1.86**	**339**	P		**Pn**	**18 28 40.0**	**+0.9**
MMRI	**Maumere**	**3.89**	**328**			**Pn**	**18 29 07.3**	**+0.3**
MMRI				Sn		**Sn**	**18 29 49.7**	**-1.9**
MMRI	**Maumere**	**3.89**	**328**	P		**Pn**	**18 29 06.8**	**-0.3**
MMRI				S		**Sn**	**18 29 50.0**	**-1.6**
MMRI	**Maumere**	**3.89**	**328**	P		**Pn**	**18 29 07.4**	**+0.3**
BASI	**Baing, Sumba**	**4.07**	**295**	P		**Pn**	**18 29 09.5**	**0.0**
WBSI	**Waikabubak, Su**	**5.37**	**295**	P		**Pn**	**18 29 26.5**	**-1.0**
	919nm91nm,0.9s							
KNRA	**Kununurra**	**5.67**	**131**			**Pn**	**18 29 34.8**	**+3.2**
KNRA					Sn	**Sn**	**18 30 36.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**6.24**	**168**	Pn		**Pn**	**18 29 41.6**	**+2.3**
	4.5nm,0.3s,baz=357,slow=9.8,SNR=237							
FITZ				Sn		**Sn**	**18 30 49.1**	**-0.3**
	17nm,0.3s,baz=210,slow=8.1,SNR=26							
MTN	**Manton Dam**	**6.70**	**98**			**Pn**	**18 29 47.8**	**+2.0**
MTN					Sn	**Sn**	**18 31 00.9**	**-0.1**
MTN	**Manton Dam**	**6.70**	**98**	P		**Pn**	**18 29 49.3**	**+3.6**
PLAI	**Plampang**	**7.16**	**295**	P		**Pn**	**18 29 50.8**	**-1.2**
	0.2nm50nm,0.7s							
PLAI	**Plampang**	**7.16**	**295**	P		**Pn**	**18 29 51.3**	**-0.7**
BKSI	**Bulukumba**	**7.79**	**327**	P		**Pn**	**18 30 01.4**	**+0.7**
	0.1nm18nm,1.0s							
SAUI	**Saumlaki**	**7.92**	**61**	Pn		**Pn**	**18 30 01.2**	**-1.2**
KDU	**Kakadu**	**7.99**	**96**	P		**Pn**	**18 30 06.3**	**+2.9**
KAPI	**Kappang**	**8.25**	**326**	LR		LR	18 33 24.7	
	comp=Z,64nm,20.4s,baz=38,slow=38							
BNSI	**Bone**	**8.59**	**331**	P		**Pn**	**18 30 15.2**	**+3.5**
SANI	**Sanana**	**9.98**	**10**	P		**Pn**	**18 30 34.0**	**+3.3**
MBWA	**Marble Bar**	**10.16**	**205**	Pn		**Pn**	**18 30 33.5**	**+0.4**
JAGI	**Jajag, Banyuwa**	**10.60**	**288**	Pn		**Pn**	**18 30 36.2**	**-3.0**
WB0	**Warramunga Arr**	**12.40**	**130**			**Pn**	**18 31 04.1**	**+0.1**
WRA	**Warramunga Arr**	**12.47**	**131**	Pn		**Pn**	**18 31 05.4**	**+0.5**
	1.2nm,0.3s,baz=308,slow=14,SNR=48							
WRA				Sn		Sn	18 33 14.6	-8.1
	4.5nm,0.3s,baz=292,slow=15,SNR=13							
WRA	**Warramunga Arr**	**12.47**	**131**			**Pn**	**18 31 05.0**	**+0.2**
WRA						Sn	18 33 14.5	-8.1
WRAB	**Tennant Creek**	**12.47**	**131**			**Pn**	**18 31 05.2**	**+0.3**
WRAB	**Tennant Creek**	**12.47**	**131**	P		**Pn**	**18 31 05.2**	**+0.3**
WB2	**Warramunga Arr**	**12.48**	**131**			**Pn**	**18 31 04.6**	**-0.4**
WR0	**Warramunga Arr**	**12.63**	**130**			**Pn**	**18 31 06.9**	**-0.1**
TOLI2	**Tolitoli**	**13.45**	**345**	Pn		**Pn**	**18 31 16.4**	**-1.9**
WRKA	**Warakurna**	**13.54**	**164**	P		**Pn**	**18 31 20.0**	**+0.6**
AS31	**Alice Springs**	**14.78**	**143**	Pn		**Pn**	**18 31 36.7**	**+0.4**
ASAR	**Alice Springs**	**14.78**	**143**	Pn		**Pn**	**18 31 37.1**	**+0.8**
	1.6nm,0.3s,baz=319,slow=12,SNR=253							
ASAR				Sn		**Sn**	**18 34 13.6**	**-5.4**
	1.1nm,0.3s,baz=315,slow=22,SNR=9.2							
ASAR				LR		LR	18 37 38.3	
	comp=Z,67nm,20.3s,baz=22,slow=39							
ASAR	**Alice Springs**	**14.78**	**143**			**Pn**	**18 31 36.5**	**+0.2**
MEEK	**Meekatharra**	**15.56**	**199**	P		**Pn**	**18 31 45.6**	**-1.0**
QIS	**Mount Isa**	**16.96**	**122**	P		**Pn**	**18 32 05.4**	**+0.9**
COEN	**Coen**	**18.47**	**98**	P		**Pn**	**18 32 23.8**	**+0.7**
COEN				IAmb		IAmb	18 32 45.1	
	comp=Z,20nm,1.2s							
COEN	**Coen**	**18.47**	**98**	P		**Pn**	**18 32 25.6**	**+2.5**
MORW	**Morawa**	**18.70**	**203**	P		**Pn**	**18 32 26.6**	**+0.9**
MORW				IAmb		IAmb	18 32 48.2	
	comp=Z,17nm,1.4s							
SBUM	**Sibu**	**18.70**	**319**	P		**P**	**18 32 24.5**	**-0.8**
OOD	**Oodnadatta**	**19.01**	**148**	P		**Pn**	**18 32 31.5**	**+2.0**
FORT	**Forrest**	**19.05**	**170**	P		**Pn**	**18 32 31.4**	**+1.5**
KSM	**Kuching**	**19.29**	**313**	P		**P**	**18 32 29.8**	**-2.0**
KSM				IAmb		IAmb	18 32 38.3	
	comp=Z,8.4nm,1.2s							
KKM	**Kota Kinabalu**	**19.62**	**335**	P		**P**	**18 32 34.3**	**-1.1**
KKM				IAmb		IAmb	18 32 36.7	
	comp=Z,13nm,0.9s							
NWAO	**Narrogin (SRO)**	**21.86**	**196**	P		**P**	**18 33 00.8**	**+1.4**
BBOO	**Buckleboo**	**23.38**	**154**	P		**P**	**18 33 17.1**	**+1.8**
BBOO				IAmb		IAmb	18 33 29.1	
	comp=Z,13nm,0.9s							
STKA	**Stephens Creek**	**25.41**	**144**	P		**P**	**18 33 34.4**	**+0.3**
PZH	**PanZhiHua**	**44.09**	**330**	P		**P**	**18 36 15.9**	**+1.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,80nm,5.2s							
WAKE	**Wake Island**	**51.98**	**54**	P		**P**	**18 37 12.5**	**-3.3**
HHC	**Hu-ho-hao-te**	**53.85**	**348**	*e*P		**P**	**18 37 32.0**	**+2.6**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,69nm,5.4s							
SONM	**Songino Array**	**61.63**	**346**	P		**P**	**18 38 25.3**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=165,slow=6.0,SNR=2.1							
SONM	**Songino Array**	**61.63**	**346**	P		**P**	**18 38 22.0**	**-2.0**
SONM				IAmb		IAmb	18 38 46.6	
	comp=Z,1.5nm,1.4s							
WMQ	**Urumqi**	**64.76**	**331**	*e*P		**P**	**18 38 45.9**	**+1.1**
VNDA	**Vanda**	**68.30**	**172**	P		**P**	**18 39 08.4**	**+1.6**
VNDA				IAmb		IAmb	18 39 36.4	
	comp=Z,2.4nm,1.4s							
MIDW	**Midway**	**69.08**	**53**	P		**P**	**18 39 11.9**	**-0.5**
MK31	**Makanchi Array**	**69.53**	**331**	P		**P**	**18 39 12.1**	**-2.8**
MKAR	**Makanchi Array**	**69.53**	**331**	P		**P**	**18 39 18.2**	**+3.3**
	comp=Z,0.5nm,0.8s,baz=137,slow=6.7,SNR=4.5							
MKAR	**Makanchi Array**	**69.53**	**331**	P		**P**	**18 39 13.3**	**-1.6**
RAR	**Rarotonga**	**72.75**	**109**	LR		LR	19 08 18.1	
	comp=Z,69nm,21.6s,baz=207,slow=33							
ZALV	**Zalesovo Beam**	**73.73**	**337**	P		**P**	**18 39 43.4**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=135,slow=5.4,SNR=2.0							
SOCY	**Socotra**	**73.82**	**287**	P		**P**	**18 39 41.7**	**+0.2**
SOCY				IAmb		IAmb	18 40 13.2	
	comp=Z,6.6nm,0.9s							

*MOS **22** 18:47:53.6±1.1, 1.56N×126.54E, h42km, mb5.2/37, Error ellipse: s-maj=8.0km s-min=4.3km az=113.8*

*NEIC **22** 18:47:57.1±2.0, 1.55N±0.06×126.51E±0.06, h57km±5km, mb5.1/180, Error ellipse: s-maj=9.2km s-min=7.4km az=221.0*

*BJI **22** 18:47:57.5±0.0, 1.35N×126.55E, h83km, mb4.8/63, mB4.9/33, Ms4.2/14, Ms7 3.8/14*

*IDC **22** 18:47:58.9±1.3, 1.44N×126.58E, h71km±11km, mb4.5/30, mb1 4.5/33, mb1mx4.5/42, mbtmp4.7/33, MS3.5/24, Ms1 3.4/24, ms1mx3.2/74, Error ellipse: s-maj=12.2km s-min=6.9km az=74.0*

*DJA **22** 18:47:59.1±0.2, 2°N±2°×12°7E±°, h79km±2km, M4.7/46, mb5.0/46, mB5.2/30, MLv5.0/18, Mw(mB)4.6/30, MwMwp4.6/4, Mwp5.0/4*

*KLM **22** 18:47:59, 1.60N×126.76E, h82km, mb5.1*

*GCMT **22** 18:48:01.1±0.3, 1.72N±0.02×126.68E±0.03, h56km±2km, MW4.8/70, Moment Tensor Solution. s34,c45; s70,c94; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.36±. 12; Mθθ0.10±.08; Mφφ1.26±.10; Mrθ-0.30±.05; Mθφ1.48±.07; Mφr1.00±.07; Best double couple: Mo2.21600×10^16 NP1:φs66.00000°, δ46.00000°, λ-38.00000°. NP2: φs185.00000°, δ54.00000°, λ-129.00000°. Principal axes: T 2.3910, Plg10.0000°, Azm302.0000°; N -0.3500, Plg34.0000°, Azm205.0000°; P -2.0400, Plg54.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 18:47:56.2±0.3, 1.54N±0.03×126.55E±0.04, h50km±2km, h50km:pP-P, n638, σ1s66/676, mb5.0/185, MS3.5/29, 8C-16D, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.12**	**133**			**Pn**	**18 48 18.2**	**+2.7**
TNTI					Sn	**Sn**	**18 48 32.7**	**+2.8**
TNTI	**Ternate**	**1.12**	**133**	P		**Pn**	**18 48 18.4**	**+2.9**
TNTI				S		**Sn**	**18 48 34.7**	**+4.8**
TNTI	**Ternate**	**1.12**	**133**	P		**Pn**	**18 48 18.5**	**+2.9**
LBMI	**Labuha**	**2.36**	**156**	P		**Pn**	**18 48 35.8**	**+3.2**
SGSI	**Sangihe**	**2.37**	**334**	P		**Pn**	**18 48 36.0**	**+3.4**
SGSI				S		**Sn**	**18 49 04.1**	**+3.6**
KMSI	**Cibinong**	**2.74**	**250**	P		**Pn**	**18 48 41.8**	**+4.0**
SANI	**Sanana**	**3.61**	**189**	P		**Pn**	**18 48 50.8**	**+1.1**
SANI	**Sanana**	**3.61**	**189**	P		**Pn**	**18 48 51.5**	**+1.8**
GTOI	**Gorontalo**	**3.65**	**256**	P		**Pn**	**18 48 54.0**	**+3.8**
LUWI	**Luwuk**	**4.56**	**236**			**Pn**	**18 49 04.4**	**+1.7**
LUWI	**Luwuk**	**4.56**	**236**	P		**Pn**	**18 49 04.5**	**+1.7**
LUWI	**Luwuk**	**4.56**	**236**	P		Pn	18 49 09.3	+6.5
MRSI	**Marisa**	**4.73**	**257**	P		**Pn**	**18 49 07.9**	**+2.9**
SWI	**Sorong**	**5.28**	**117**	P		**Pn**	**18 49 16.3**	**+3.7**
	0.5nm2μm1μm147nm,1.1s							
SIJI	**Sorong**	**5.29**	**117**	P		**Pn**	**18 49 15.9**	**+3.2**
	11nm,0.3s,baz=324,slow=14,SNR=54							
SIJI				S		**Sn**	**18 50 14.8**	**+2.4**
	2.6nm,0.3s,baz=177,slow=22,SNR=1.1							
SIJI				LR		LR	18 51 29.8	
	comp=Z,726nm,20.5s,baz=1.5,slow=40							

AAI	**Ambon**	**5.44**	**162**	P		**Pn**	**18 49 17.9**	**+3.0**
	1.4nm3μm301nm,0.8s							
APSI	**Ampana**	**5.47**	**244**	P		Pn	18 49 20.2	+5.0
	2.9nm5μm466nm,0.8s							
DAV	**Davao City (W)**	**5.58**	**350**	LR		LR	18 51 40.4	
	comp=Z,703nm,18.8s,baz=172,slow=39							
DAV	**Davao City (W)**	**5.58**	**350**	Pn		**Pn**	**18 49 16.4**	**-0.3**
TOLI2	**Tolitoli**	**5.78**	**266**	Pn		**Pn**	**18 49 21.7**	**+2.2**
TOLI2	**Tolitoli**	**5.78**	**266**	P		**Pn**	**18 49 22.7**	**+3.2**
BIPH	**Bislig**	**6.61**	**358**	ĵeP		**Pn**	**18 49 33.3**	**+2.5**
BIPH				*e*S		**Sn**	**18 50 41.4**	**-3.5**
MPSI	**Mapaga**	**6.76**	**260**	P		Pn	18 49 37.9	+5.0
	0.3nm1μm103nm,0.8s							
ZCP	**Zamboanga City**	**6.97**	**320**	‖*e*P		**Pn**	**18 49 39.1**	**+3.2**
ZCP	**Zamboanga City**	**6.97**	**320**	*e*S		Sn	18 49 55.3	-59
BBSI	**Bau Bau**	**8.03**	**210**	P		**Pn**	**18 49 54.2**	**+3.8**
	318nm43nm,0.8s							
TTSI	**Tana Toraja**	**8.12**	**236**	P		**Pn**	**18 49 54.4**	**+2.8**
	2μm211nm,0.6s							
SNPH	**Sibulan**	**8.43**	**337**	*e*P		Pn	18 50 04.4	+8.5
SPSI	**Sidrap Palu**	**8.71**	**231**	P		**Pn**	**18 50 01.7**	**+2.1**
	2μm118nm,0.5s							
BNSI	**Bone**	**8.73**	**227**	P		**Pn**	**18 50 02.5**	**+2.5**
	1μm91nm,0.7s							
MYLDM	**Lahad Datu**	**8.81**	**294**	Pn		**Pn**	**18 50 04.1**	**+3.0**
BKSI	**Bulukumba**	**9.36**	**223**	P		**Pn**	**18 50 11.3**	**+2.7**
	878nm78nm,0.6s							
KAPI	**Kappang**	**9.40**	**226**	P		**Pn**	**18 50 11.8**	**+2.5**
	9.6nm,0.3s,baz=342,slow=3.1,SNR=14							
KAPI				S		**Sn**	**18 51 54.3**	**+0.7**
	4.2nm,0.3s,baz=256,slow=22,SNR=1.9							
KAPI				LR		LR	18 54 23.8	
	comp=Z,129nm,19.1s,baz=60,slow=41							
KAPI	**Kappang**	**9.40**	**226**	Pn		**Pn**	**18 50 11.4**	**+2.2**
KAPI	**Kappang**	**9.40**	**226**	P		**Pn**	**18 50 13.3**	**+4.1**
BSSI	**Bau Bau, Buton**	**9.74**	**218**	P		**Pn**	**18 50 17.7**	**+3.9**
	1μm76nm,1.0s							
SPMM	**Sapulut**	**10.55**	**288**	P		Pn	18 50 30.0	+5.1
MMRI	**Maumere**	**10.98**	**203**	Pn		**Pn**	**18 50 34.5**	**+3.7**
MMRI	**Maumere**	**10.98**	**203**	P		Pn	18 50 37.6	+6.8
	6μm67nm,0.8s							
KKM	**Kota Kinabalu**	**11.24**	**294**	Pn		**Pn**	**18 50 35.4**	**+0.9**
KKM	**Kota Kinabalu**	**11.24**	**294**	P		Pn	18 50 40.7	+6.3
PPR	**Puerto Princes**	**11.29**	**317**	‖*i*P		**Pn**	**18 50 37.5**	**+2.5**
BATI	**Baumata**	**12.01**	**194**	P		**P**	**18 50 52.2**	**-4.4**
	589nm43nm,1.1s							
LQP	**Lukban**	**13.44**	**339**	‖*e*P		**Pn**	**18 51 07.3**	**+2.7**
PLAI	**Plampang**	**13.51**	**220**	P		**P**	**18 51 09.4**	**-3.7**
LUBP	**Lubang**	**13.63**	**333**	‖*i*P		**Pn**	**18 51 10.5**	**+3.5**
SBUM	**Sibu**	**14.35**	**274**			**Pn**	**18 51 19.4**	**+2.7**
SBUM	**Sibu**	**14.35**	**274**	P		**P**	**18 51 23.0**	**+0.5**
MTN	**Manton Dam**	**14.99**	**162**	P		**Pn**	**18 51 24.5**	**-0.6**
	baz=15,SNR=49							
MTN	**Manton Dam**	**14.99**	**162**	Pn		**Pn**	**18 51 24.1**	**-1.1**
MTN	**Manton Dam**	**14.99**	**162**	P		**Pn**	**18 51 24.7**	**-0.4**
STKI	**Sintang**	**15.14**	**265**	P		**Pn**	**18 51 29.2**	**+2.1**
	2μm28nm,1.5s							
KMMI	**Kalianget**	**15.18**	**236**	P		**P**	**18 51 34.5**	**+2.8**
	96nm,0.8s							
KDU	**Kakadu**	**15.31**	**158**	P		**P**	**18 51 31.7**	**-1.4**
	baz=15,SNR=27							
KDU	**Kakadu**	**15.31**	**158**	P		**Pn**	**18 51 30.2**	**+1.0**
JAGI	**Jajag, Banyuwa**	**15.86**	**231**	P		**P**	**18 51 38.5**	**-0.8**
JAGI	**Jajag, Banyuwa**	**15.86**	**231**	P		**P**	**18 51 41.1**	**+1.8**
KSM	**Kuching**	**16.23**	**270**	P		**

comp=Z,50nm,0.7s,baz=201,slow=7.3,SNR=12
JOW Kunigami 25.21 4 P **P** **18 53 17.7 +0.3**
JOW IAmb IAmb 18 53 20.6
comp=Z,52nm,0.7s
JOW Kunigami 25.21 4 P **P** **18 53 19.9 +2.5**
QIS Mount Isa 25.41 150 P **P** **18 53 19.8 +0.5**
baz=26,SNR=53
QIS Mount Isa 25.41 150 P **P** **18 53 20.4 +1.0**
IPM Ipoh 25.65 277 P **P** **18 53 20.5 -1.1**
IPM Ipoh 25.65 277 P **P** **18 53 25.4 +3.7**
AS31 Alice Springs 26.05 164 P **P** **18 53 24.9 -0.2**
AS31 IAmb IAmb 18 53 30.1
comp=Z,27nm,0.6s
ASAR Alice Springs 26.05 164 P **P** **18 53 24.9 -0.2**
comp=Z,21nm,0.5s,baz=348,slow=7.1,SNR=149
ASAR PcP **PcP** **18 56 52.6 +0.4**
comp=Z,2.4nm,0.5s,baz=345,slow=2.1,SNR=4.5
ASAR S **S** **18 57 49.7 -3.2**
comp=Z,4.4nm,0.8s,baz=352,slow=19,SNR=8.2
ASAR ScP **ScP** **19 00 26.6 -1.4**
comp=Z,1.1nm,0.6s,baz=333,slow=2.7,SNR=4.7
ASAR Alice Springs 26.05 164 P **P** **18 53 24.5 -0.7**
ASAR **PcP** **18 56 52.1 -0.2**
KULM Kulim 26.12 279 P **P** **18 53 25.2 -0.6**
RABL Rabaul 26.22 103 P **P** **18 53 26.5 -0.3**
RABL Rabaul 26.22 103 P **P** **18 53 28.4 +1.6**
MTSU Mount Surprise 26.23 139 P **P** **18 53 27.5 +0.7**
baz=26,SNR=26
MTSU Mount Surprise 26.23 139 P **P** **18 53 27.8 +1.0**
WRKA Warakurna 26.47 176 P **P** **18 53 29.5 +0.6**
baz=27,SNR=75
WRKA Warakurna 26.47 176 P **P** **18 53 30.4 +1.5**
GIRL Giralia 26.87 206 P **P** **18 53 33.8 +1.3**
baz=27,SNR=4.1
GIRL Giralia 26.87 206 P **P** **18 53 30.5 -2.0**
MNSI Mandailing Nat 26.97 269 P **P** **18 53 34.1 +0.5**
comp=Z,7μmcomp=Z,700nmcomp=Z,15nm,1.0s
PSI Prapat 27.63 273 P **P** **18 53 39.0 -0.6**
comp=Z,11nm,0.7s,baz=160,slow=2.3,SNR=9.5
CTA Charters Tower 28.90 139 P **P** **18 53 52.1 +1.4**
comp=Z,7.6nm,0.5s,baz=312,slow=9.8,SNR=4.4
CTA PcP **PcP** **18 57 00.2 +1.1**
comp=Z,11nm,0.9s,baz=92,slow=2.8,SNR=4.8
CTA LR LR 19 06 23.9
comp=Z,136nm,21.7s,baz=309,slow=38
CTAO Charters Tower 28.90 139 P **P** **18 53 52.9 +2.2**
CTAO X 18 53 56.7
CTAO pP **pP** **18 54 02.2 -0.8**
CTAO sP **sP** **18 54 09.2 +0.6**
GSI Gunungsitoli 28.97 270 P **P** **18 53 50.0 -1.4**
GSI IAmb IAmb 18 53 54.1
comp=Z,19nm,0.5s
GSI Gunungsitoli 28.97 270 P **P** **18 53 51.1 -0.3**
comp=Z,24nm,0.6s
GSI Gunungsitoli 28.97 270 P **P** **18 53 53.9 +2.5**
MEEK Meekatharra 29.04 195 P **P** **18 53 52.0 +0.1**
baz=29,SNR=12
JCJ Chichijima 29.51 29 P **P** **18 53 55.7 -0.3**
comp=Z,63nm,0.7s,baz=300,slow=22,SNR=5.6
JCJ Chichijima 29.51 29 P **P** **18 53 54.5 -1.5**
LHMI Lhok Sumawe 29.77 278 P **P** **18 53 55.9 -2.6**
LHMI IAmb IAmb 18 54 10.1
comp=Z,68nm,0.9s
JSU Suzuyama 30.04 7 P **P** **18 53 59.9 -0.7**
OOD Oodnadatta 30.46 164 P **P** **18 54 04.3 0.0**
WHN Wuhan 31.08 339 ⇓P **P** **18 54 14.5 +4.7**
NJ2 Nanjing 31.21 347 *e*P **P** **18 54 12.5 +1.6**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
GYA Guiyang 31.30 324 ⇓P **P** **18 54 13.6 +1.7**
GYA pmax pmax
comp=Z,3.0nm,1.2s
JNU Nakatsue 31.68 7 P **P** **18 54 15.6 +0.5**
comp=Z,22nm,0.8s,baz=164,slow=5.0
JNU Nakatsue 31.68 7 P **P** **18 54 14.2 -0.9**
JNU IAmb IAmb 18 54 17.1
comp=Z,28nm,0.9s
JNU Nakatsue 31.68 7 P **P** **18 54 16.4 +1.3**
comp=Z,34nm,1.0s
CMAR Chiang Mai Arr 31.87 304 P **P** **18 54 17.6 +0.6**
comp=Z,1.0nm,0.4s,baz=129,slow=7.5,SNR=11
CMAR ScP **ScP** **19 00 45.4 -1.1**
comp=Z,0.7nm,1.0s,baz=117,slow=0.3,SNR=4.3
CMAR Chiang Mai Arr 31.87 304 P **P** **18 54 14.6 -2.4**
CMAR **ScP** **19 00 40.3 -6.1**
CHTO Chiang Mai 32.04 304 P **P** **18 54 17.2 -1.3**
CHTO pmax pmax
comp=Z,11nm,1.3s
CHTO Chiang Mai 32.04 304 P **P** **18 54 17.2 -1.3**
CHTO Chiang Mai 32.04 304 P **P** **18 54 19.1 +0.6**
CHTO Chiang Mai 32.04 304 P **P** **18 54 18.9 +0.4**
CHTO pP **pP** **18 54 25.7 -5.3**
CHTO sP **pwP** **18 54 34.5 +1.4**
MORW Morawa 32.05 198 P **P** **18 54 18.6 +0.2**
baz=32,SNR=8.0
MORW Morawa 32.05 198 P **P** **18 54 16.9 -1.5**
MORW IAmb IAmb 18 54 44.8
comp=Z,31nm,1.4s
INKA Innaminka 32.15 156 P **P** **18 54 21.8 +2.5**
FORT Forrest 32.17 178 P **P** **18 54 20.4 +1.0**
baz=32,SNR=38
FORT Forrest 32.17 178 P **P** **18 54 17.6 -1.8**
FORT Forrest 32.17 178 P **P** **18 54 20.4 +1.0**
QLP Quilpie 32.75 150 P **P** **18 54 25.3 +0.7**
KMI Kunming 32.83 318 ⇑P **P** **18 54 27.9 +2.4**
KMI pmax pmax
comp=Z,9.0nm,0.9s
ENH Enshi 32.85 332 P **P** **18 54 23.6 -1.8**
ENH IAmb IAmb 18 54 33.0
comp=Z,17nm,0.8s
ENH Enshi 32.85 332 P **P** **18 54 25.8 +0.4**
ENH X 18 54 31.6
ENH pP **pP** **18 54 35.0 -3.0**
JTU Tsushima 32.93 4 P **P** **18 54 26.4 +0.5**
BLDU Ballidu 33.32 196 P **P** **18 54 29.6 +0.2**
baz=33,SNR=6.7
LCRK Leigh Creek 33.70 162 P **P** **18 54 34.6 +1.9**
JHJ Hachijo jima 2 33.79 20 LR LR 19 07 37.6
comp=Z,52nm,20.6s,baz=216,slow=35
JHS Saijyo 33.85 10 P **P** **18 54 33.6 -0.5**
KLBR Kellerberrin 33.99 193 P **P** **18 54 35.8 +0.5**
baz=34,SNR=6.3
KLBR Kellerberrin 33.99 193 P **P** **18 54 35.8 +0.5**
RK1H Rockhampton Ha 34.01 138 P **P** **18 54 36.6 +1.0**
PZH PanZhiHua 34.42 318 ⇓P **P** **18 54 39.8 +0.6**
PZH S **S** **19 00 03.8 -0.3**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.4s
PZH LR LR
comp=Z,540nm,20.8s
PZH LR LR
comp=Z,550nm,21.6s
PZH LR LR
comp=Z,620nm,21.5s
MUN Mundaring 34.74 196 P **P** **18 54 42.4 +0.6**
baz=35,SNR=6.7
INU Inuyama 35.02 15 P **P** **18 54 44.5 +0.4**
INU IAmb IAmb 18 54 46.2
comp=Z,34nm,0.8s
INU Inuyama 35.02 15 P **P** **18 54 45.4 +1.2**
INU Inuyama 35.02 15 P **P** **18 54 45.3 +1.2**
RMQ Roma 35.15 144 P **P** **18 54 45.5 0.0**
baz=35,SNR=4.6
RMQ Roma 35.15 144 P **P** **18 54 45.8 +0.4**
BBOO Buckleboo 35.33 166 P **P** **18 54 46.9 +0.1**
baz=36,SNR=12
BBOO Buckleboo 35.33 166 P **P** **18 54 46.5 -0.3**
BBOO Buckleboo 35.33 166 P **P** **18 54 47.9 +1.1**
JGF Kuroka 35.35 15 P **P** **18 54 47.5 +0.4**
NWAO Narrogin (SRO) 35.39 194 P **P** **18 54 46.4 -0.9**
NWAO pmax pmax
comp=Z,18nm,1.0s
NWAO Narrogin (SRO) 35.39 194 P **P** **18 54 46.4 -0.9**
NWAO IAmb IAmb 18 54 58.8
comp=Z,18nm,0.9s
NWAO Narrogin (SRO) 35.39 194 P **P** **18 54 47.9 +0.5**
TIA Tai'an 35.59 347 *e*P **P** **18 54 49.6 +0.5**
TIA pmax pmax
comp=Z,8.0nm,0.9s
KSAR Wonju Array Be 35.75 2 P **P** **18 54 48.7 -1.7**
KSAR 18 57 18.6
KSAR Wonju Array Be 35.75 2 P **P** **18 54 48.7 -1.7**
KSAR **PcP** **18 57 18.6 +1.0**

KSRS Korea Array 35.76 2 P **P** **18 54 52.5 +2.0**
comp=Z,3.7nm,0.5s,baz=180,slow=9.8,SNR=23
KSRS PcP **PcP** **18 57 19.1 +1.5**
comp=Z,3.2nm,0.7s,baz=179,slow=2.9,SNR=7.7
EIDS Eidsvold 35.77 140 P **P** **18 54 50.9 +0.2**
baz=36,SNR=5.2
EIDS Eidsvold 35.77 140 P **P** **18 54 49.6 -1.1**
EIDS Eidsvold 35.77 140 P **P** **18 54 52.4 +1.7**
KS19 Wonju Array Si 35.81 2 P **P** **18 54 50.1 -0.8**
KS19 IAmb IAmb 18 55 15.7
comp=Z,78nm,1.8s
WHYH Whyalla 35.93 164 P **P** **18 54 54.3 +2.4**
STKA Stephens Creek 36.17 158 P **P** **18 54 53.6 -0.4**
comp=Z,16nm,0.7s,baz=331,slow=8.9,SNR=38
STKA PcP **PcP** **18 57 19.6 +0.7**
comp=Z,3.2nm,0.5s,baz=322,slow=4.7,SNR=3.2
STKA LR LR 19 09 39.3
comp=Z,120nm,21.0s,baz=14,slow=36
STKA Stephens Creek 36.17 158 P **P** **18 54 54.0 0.0**
baz=36,SNR=24
STKA Stephens Creek 36.17 158 P **P** **18 54 53.0 -1.0**
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA Stephens Creek 36.17 158 P **P** **18 54 53.0 -1.0**
STKA Stephens Creek 36.17 158 P **P** **18 54 54.0 0.0**
NAPP Napperby 36.23 163 P **P** **18 54 55.1 +0.6**
XAN Xi'an 36.30 335 ⇓P **P** **18 54 56.5 +1.3**
XAN pP sP 18 55 17.4 +3.8
XAN sP pP 18 55 28.4 +21
XAN pmax pmax
comp=Z,25nm,1.0s
XAN LR LR
comp=Z,120nm,15.8s
XAN LR LR
comp=Z,150nm,20.6s
XAN Xi'an 36.30 335 P **P** **18 54 56.2 +1.0**
XAN pP **pP** **18 55 05.9 -2.0**
CD2 Chengdu 36.32 326 *e*P **P** **18 54 56.0 +0.6**
MAJO Matsushiro 36.47 16 P **P** **18 54 54.6 -1.9**
MAJO pmax pmax
comp=Z,26nm,1.0s
MAJO Matsushiro 36.47 16 P **P** **18 54 54.6 -1.9**
MAJO IAmb IAmb 18 54 58.7
comp=Z,26nm,0.9s
MAJO Matsushiro 36.47 16 P **P** **18 54 56.8 +0.3**
MAJO Matsushiro 36.47 16 P **P** **18 54 56.5 0.0**
MJAR Matsushiro Arr 36.47 16 P **P** **18 54 55.9 -0.6**
comp=Z,16nm,0.7s,baz=71,slow=1.9,SNR=28
MJAR LR LR 19 07 34.1
comp=Z,49nm,21.7s,baz=204,slow=32
MJAR Matsushiro Arr 36.47 16 P **P** **18 54 55.3 -1.2**
MJAR pmax pmax
comp=Z,9.0nm,0.8s
MJAR Matsushiro Arr 36.47 16 P **P** **18 54 55.3 -1.2**
MJB9 Matsu-Tunnel 36.47 16 P **P** **18 54 56.1 -0.5**
MJB9 IAmb IAmb 18 54 58.7
comp=Z,26nm,0.9s
HTT Hallett 36.69 163 P **P** **18 54 58.5 0.0**
baz=37,SNR=7.0
JYT Yasato 36.76 19 P **P** **18 54 56.6 -2.5**
JYT IAmb IAmb 18 54 58.0
comp=Z,26nm,1.0s
HNS HongShan 37.32 344 ⇓P **P** **18 55 08.4 +4.7**
HNS pmax pmax
comp=Z,13nm,0.7s
CMSA Cobar Meteorol 37.58 153 P **P** **18 55 06.9 +0.8**
baz=38,SNR=11
JSD Sado 37.88 15 P **P** **18 55 07.5 -1.0**
JMM Marumori 38.45 18 P **P** **18 55 12.2 -1.1**
BJT Baijiatuau 39.45 347 P **P** **18 55 21.2 -0.4**
BJT pmax pmax
comp=Z,24nm,1.0s
BJT Baijiatuau 39.45 347 P **P** **18 55 21.2 -0.4**
BJT IAmb IAmb 18 55 33.5
comp=Z,24nm,1.0s
BJT Baijiatuau 39.45 347 P **P** **18 55 23.9 +2.3**
BJT X 18 55 28.8
BJT pP **pP** **18 55 32.9 -1.5**
BJI Beijing 39.47 347 P **P** **18 55 23.9 +2.1**
BJI pmax pmax
comp=Z,12nm,0.8s
ARMA Armidale 39.76 145 P **P** **18 55 25.9 +1.4**
baz=40,SNR=15
ARMA Armidale 39.76 145 P **P** **18 55 23.6 -1.0**
ARMA IAmb IAmb 18 55 36.1
comp=Z,43nm,1.3s
ARMA Armidale 39.76 145 P **P** **18 55 26.0 +1.5**
LZH Lanzhou 40.31 331 *e*P **P** **18 55 31.6 +2.6**
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.2s
LZH LR LR
comp=Z,190nm,13.6s
LZH LR LR
comp=Z,270nm,14.0s
LZH LR LR
comp=Z,200nm,16.3s
ARPS Mount Arapiles 40.68 161 P **P** **18 55 32.7 +0.9**
baz=41,SNR=17
ARPS Mount Arapiles 40.68 161 P **P** **18 55 32.9 +1.1**
SHL Shillong 41.06 309 P **P** **18 55 34.7 -0.7**
SHL pmax pmax
comp=Z,14nm,0.6s
SHL Shillong 41.06 309 P **P** **18 55 34.7 -0.7**
SHL IAmb IAmb 18 55 37.7
comp=Z,14nm,0.6s
JTM Tenmabayashi 41.23 17 P **P** **18 55 34.7 -1.6**
JTM IAmb IAmb 18 55 38.9
comp=Z,55nm,0.8s
HHC Hu-ho-hao-te 41.42 343 *e*P P 18 55 43.0 +5.0
HHC pP sP 18 55 57.4 +0.8
HHC S **S** **19 01 54.1 +4.4**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,77nm,5.5s
HHC LR LR
comp=Z,140nm,19.5s
HHC LR LR
comp=Z,120nm,18.7s
HHC LR LR
comp=Z,160nm,20.6s
BRAT Ballarat 42.09 159 P **P** **18 55 45.2 +1.8**
CN2 Changchun 42.09 359 *e*P **P** **18 55 42.4 -1.0**
CN2 *es*P sP 18 56 09.9 +8.1
CAN Canberra 42.25 152 P **P** **18 55 43.7 -1.2**
CAN pmax pmax
comp=Z,116nm,1.8s
CAN Canberra 42.25 152 P **P** **18 55 43.7 -1.2**
CAN IAmb IAmb 18 55 46.9
comp=Z,116nm,1.8s
CAN Canberra 42.25 152 P **P** **18 55 46.3 +1.4**
CAN X 18 55 52.4
TOO Toolangi 42.68 158 P **P** **18 55 50.8 +2.5**
baz=43,SNR=6.9
TOO Toolangi 42.68 158 P **P** **18 55 49.2 +0.9**
TOO pmax pmax
comp=Z,13nm,1.0s
TOO Toolangi 42.68 158 P **P** **18 55 49.2 +0.9**
USA0B Ussuriysk Arra 42.76 6 P **P** **18 55 48.7 0.0**
USA0B pmax pmax
comp=Z,38nm,1.1s
USA0B Ussuriysk Arra 42.76 6 P **P** **18 55 48.7 0.0**
USA0B IAmb IAmb 18 55 51.5
comp=Z,38nm,1.1s
USRK Ussuriysk Ar. 42.76 6 P **P** **18 55 50.3 +1.6**
comp=Z,14nm,0.7s,baz=183,slow=7.1,SNR=45
USRK Ussuriysk Ar. 42.76 6 P **P** **18 55 49.1 +0.4**
MDJ Mudanjiang 42.98 3 P **P** **18 55 51.3 +0.7**
MDJ IAmb IAmb 18 55 53.3
comp=Z,25nm,0.9s
MDJ Mudanjiang 42.98 3 P **P** **18 55 52.6 +2.0**
MDJ pmax pmax
comp=Z,32nm,1.1s
MDJ pmax pmax
comp=Z,94nm,4.2s
MDJ Mudanjiang 42.98 3 P **P** **18 55 52.6 +2.0**
MDJ Mudanjiang 42.98 3 P **P** **18 55 52.4 +1.8**
MDJ X 18 55 57.5
MDJ pP **pP** **18 56 04.2 +0.8**
MDJ sP **sP** **18 56 11.4 +2.3**
KOUNC Koumac, New Ca 42.98 123 P **P** **18 55 51.3 +0.4**
KOUNC IAmb IAmb 18 56 25.2
comp=Z,65nm,1.8s

XLT XiLinHaoTe 43.20 349 ⇓*i*P **P** **18 55 55.3 +2.9**
XLT S **S** **19 02 17.1 +1.3**
XLT pmax pmax
comp=Z,17nm,1.1s
XLT pmax pmax
comp=Z,86nm,5.4s
LSA Lhasa 43.77 313 P **P** **18 55 57.1 -0.7**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 43.77 313 P **P** **18 55 57.0 -0.7**
LSA Lhasa 43.77 313 P **P** **18 55 59.4 +1.6**
BNX BinXian 44.03 1 ⇑P **P** **18 55 59.8 +0.8**
BNX pmax pmax
comp=Z,24nm,0.9s
BNX pmax pmax
comp=Z,290nm,3.7s
ASAJ Asahikawa 44.73 16 P **P** **18 56 06.3 +1.7**
comp=Z,25nm,0.9s,baz=224,slow=8.5,SNR=20
ASAJ LR LR 19 18 53.9
comp=Z,19nm,18.1s,baz=352,slow=41
ASAJ Asahikawa 44.73 16 P **P** **18 56 04.8 +0.2**
ASAJ pmax pmax
comp=Z,31nm,0.9s
JKA Kamikawa-asahi 44.73 16 P **P** **18 56 04.8 +0.2**
JKA IAmb IAmb 18 56 07.5
comp=Z,31nm,0.9s
GTA Gaotai 44.89 330 *e*P **P** **18 56 07.8 +1.7**
GTA PcP **PcP** **18 57 49.0 +1.9**
GTA ScP **ScP** **19 01 34.6 -1.0**
GTA pmax pmax
comp=Z,6.0nm,1.2s
TAPN Taplejung 45.19 308 *e*P **P** **18 56 08.7 -0.2**
comp=Z,14nm,0.4s
ODAN Odare 45.22 307 *e*P **P** **18 56 09.9 +0.8**
comp=Z,44nm,0.7s
DZM Mont Dzumac 45.45 123 LR LR 19 16 13.5
comp=Z,82nm,18.1s,baz=358,slow=37
DZM Mont Dzumac 45.45 123 P **P** **18 56 09.8 -1.0**
DZM IAmb IAmb 18 56 22.4
comp=Z,18nm,1.0s
DZM Mont Dzumac 45.45 123 P **P** **18 56 11.5 +0.6**
DZM pP **pP** **18 56 21.4 -2.3**
DZM sP **sP** **18 56 32.3 +3.0**
LIFNC LIFOU 45.58 121 P **P** **18 56 11.5 -0.2**
RAMN Ramite 45.89 307 *e*P **P** **18 56 15.1 +0.7**
comp=Z,28nm,0.6s
OUENC Ouen Island, N 45.94 124 P **P** **18 56 15.3 +0.8**
OUENC IAmb IAmb 18 57 01.9
comp=Z,46nm,1.3s
PALK Pallekele 46.04 279 LR LR 19 16 21.8
comp=Z,47nm,20.7s,baz=216,slow=37
PALK Pallekele 46.04 279 P **P** **18 56 14.4 -1.2**
PALK pmax pmax
comp=Z,13nm,1.1s
PALK Pallekele 46.04 279 **P** **18 56 14.4 -1.2**
PINNC Pines Island, 46.52 124 P **P** **18 56 16.5 -2.6**
GUN Gumba 46.89 308 *e*P **P** **18 56 22.7 +0.3**
comp=Z,87nm,0.5s
PKI Pulchoki 47.11 307 *e*P **P** **18 56 24.5 +0.4**
comp=Z,11nm,0.3s
PKIN Phulchoki 47.12 307 *e*P **P** **18 56 24.4 +0.3**
comp=Z,19nm,0.4s
KKN Kakani 47.31 307 *e*P **P** **18 56 25.4 -0.1**
comp=Z,27nm,0.5s
DMN Daman 47.37 307 *e*P **P** **18 56 27.0 +1.0**
YSS Yuzh-Sakhalins 47.39 15 *e*P **P** **18 56 26.6 +1.1**
YSS pmax pmax
comp=Z,20nm,0.5s
YSS Yuzh-Sakhalins 47.39 15 P **P** **18 56 26.5 +1.1**
YSS Yuzh-Sakhalins 47.39 15 P **P** **18 56 26.4 +1.0**
KLR Kul'dur 47.72 5 *ce*P **P** **18 56 29.2 +1.2**
comp=Z,7.8nm,0.6s,baz=195,slow=7.8,SNR=33
KLR Kul'dur 47.72 5 *ce*P **P** **18 56 26.4 -1.6**
KLR pmax pmax
comp=Z,22nm,1.3s
HIA Hailar 47.91 354 P **P** **18 56 28.3 -1.2**
HIA pmax pmax
comp=Z,16nm,1.1s
HIA Hailar 47.91 354 P **P** **18 56 28.3 -1.2**
HIA IAmb IAmb 18 56 39.2
comp=Z,16nm,1.1s
GKN Gorkha 47.92 307 *e*P **P** **18 56 31.2 +1.1**
comp=Z,26nm,0.6s
KOLN Koldanda 48.65 306 *e*P **P** **18 56 36.6 +0.8**
comp=Z,119nm,0.6s
DANN Dangsing 48.76 307 *e*P **P** **18 56 38.0 +1.2**
comp=Z,112nm,0.6s
ULN Ulaanbaatar 49.14 343 *i* P **P** **18 56 39.8 +0.6**
ULN pmax pmax
comp=Z,16nm,1.0s
ULN Ulaanbaatar 49.14 343 P **P** **18 56 38.4 -0.8**
ULN IAmb IAmb 18 57 07.4
comp=Z,44nm,1.4s
ULN Ulaanbaatar 49.14 343 P **P** **18 56 41.6 +2.4**
ULN pP **pP** **18 56 48.2 -4.1**
ULN sP **sP** **18 57 01.4 +3.5**
PYUN Piuthan 49.27 307 *e*P **P** **18 56 42.3 +1.7**
comp=Z,111nm,0.6s
SONM Songino Array 49.31 342 P **P** **18 56 41.6 +1.2**
comp=Z,11nm,0.8s,baz=156,slow=8.8,SNR=28
SONM ScP **ScP** **19 01 51.6 -2.3**
comp=Z,0.8nm,0.8s,baz=163,slow=6.0,SNR=3.8
SONM LR LR 19 20 21.0
comp=Z,38nm,21.1s,baz=150,slow=39
SONM Songino Array 49.31 342 P **P** **18 56 40.4 -0.1**
SONM pmax pmax
comp=Z,12nm,0.9s
SONM Songino Array 49.31 342 P **P** **18 56 40.4 -0.1**
SONM IAmb IAmb 18 56 46.8
comp=Z,12nm,0.9s
HYBB Hyderabad (bro 49.72 292 *e*P **P** **18 56 43.3 -0.6**
HYBB *e*pP **pP** **18 56 57.8 +0.8**
HYBB *es*P **sP** **18 57 04.6 +2.1**
CIT Chita 51.48 350 *e*P **P** **18 56 58.4 +1.8**
ZEA Zeya 52.03 1 *e*P **P** **18 57 01.6 +0.9**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 52.53 341 *e*P **P** **18 57 04.9 +0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
IRK Irkutsk 53.86 343 *e*P **P** **18 57 15.9 +1.7**
IRK pmax pmax
comp=Z,33nm,2.2s
MOY Mondy 54.37 341 *e*P **P** **18 57 19.5 +1.4**
MOY pmax pmax
comp=Z,22nm,1.8s
WMQ Urumqi 54.42 326 *e*P **P** **18 57 21.0 +2.5**
WMQ S **S** **19 04 56.1 +2.5**
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ pmax pmax
comp=Z,110nm,4.3s
WMQ LR LR
comp=Z,110nm,20.5s
WMQ LR LR
comp=Z,160nm,17.3s
KNGR Kungurtug, Tuv 54.73 338 *i* P **P** **18 57 19.7 -1.0**
BOD Bodaibo 57.00 352 *e*P **P** **18 57 37.6 +1.0**
BOD pmax pmax
comp=Z,20nm,1.5s
PEA0B Petropavlovsk- 57.52 22 P **P** **18 57 42.1 +1.7**
PEA0B pmax pmax
comp=Z,26nm,1.2s
PEA0B Petropavlovsk- 57.52 22 P **P** **18 57 42.1 +1.7**
PEA0B IAmb IAmb 18 57 42.8
comp=Z,26nm,1.1s
PETK Petropavlovsk- 57.52 22 P **P** **18 57 41.1 +0.7**
comp=Z,6.3nm,0.5s,baz=188,slow=5.9,SNR=24
PETK Petropavlovsk- 57.52 22 P **P** **18 57 40.8 +0.4**
ZSN Zaisan 58.25 328 *e*P **P** **18 57 45.9 +0.3**
ZSN Zaisan 58.25 328 *e*P **P** **18 57 46.0 +0.3**
baz=328
SHLS Shalkode 58.92 321 *e*P **P** **18 57 48.3 -2.3**
SHLS *e*S **S** **19 05 48.4 -4.8**
SHLS Shalkode 58.92 321 *e*P **P** **18 57 48.3 -2.3**
baz=321
SHLS *e*S **S** **19 05 48.4 -4.8**
baz=321
PDGK Podgornoye 58.99 321 P **P** **18 57 51.2 +0.1**
NIL Nilore 59.13 309 P **P** **18 57 51.7 -0.4**
NIL pmax pmax
comp=Z,10.0nm,0.7s
NIL Nilore 59.13 309 P **P** **18 57 51.7 -0.4**

NIL IAmb IAmb 18 58 41.7
comp=Z,9.5nm,0.7s
UZB Uzynbulak 59.19 321 *e*P **P** **18 57 52.0 -0.4**
UZB *e*S **S** **19 05 55.4 -1.3**
UZB pmax pmax
comp=Z,4.0nm,0.7s
UZB Uzynbulak 59.19 321 *e*P **P** **18 57 52.1 -0.4**
comp=Z,4.1nm,0.7s,baz=321
UZB *e*S **S** **19 05 55.5 -1.3**
baz=321
MK31 Makanchi Array 59.25 326 P **P** **18 57 51.9 -0.8**
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 59.25 326 P **P** **18 57 51.9 -0.8**
MK31 IAmb IAmb 18 58 20.6
comp=Z,8.4nm,0.8s
MKAR Makanchi Array 59.25 326 P **P** **18 57 53.3 +0.6**
comp=Z,12nm,0.5s,baz=120,slow=7.9,SNR=123
MKAR LR LR 19 25 09.2
comp=Z,45nm,19.9s,baz=98,slow=38
MKAR Makanchi Array 59.25 326 P **P** **18 57 52.6 -0.1**
TARG Taragay, Kyrgy 59.27 319 P **P** **18 57 54.1 +0.8**
TARG IAmb IAmb 18 58 31.8
comp=Z,7.7nm,0.8s
MAKZ Makanchi 59.44 326 P **P** **18 57 53.9 0.0**
MAKZ pmax pmax
comp=Z,12nm,0.6s
MAKZ Makanchi 59.44 326 P **P** **18 57 53.9 0.0**
MAKZ IAmb IAmb 18 57 58.2
comp=Z,12nm,0.6s
MAKZ Makanchi 59.44 326 P **P** **18 57 54.6 +0.7**
MAKZ pP **pP** **18 58 01.4 -5.9**
MAKZ sP **sP** **18 58 14.5 +1.6**
KSH Kashi 59.47 316 P **P** **18 57 56.3 +1.8**
KSH PcP **PcP** **18 58 44.0 +2.3**
KSH pmax pmax
comp=Z,4.0nm,0.8s
SATY Saty 59.53 321 *e*P **P** **18 57 54.5 -0.3**
SATY *e*S **S** **19 05 59.8 -1.3**
SATY pmax pmax
comp=Z,6.0nm,0.7s
SATY Saty 59.53 321 *e*P **P** **18 57 54.6 -0.3**
comp=Z,6.0nm,0.7s,baz=321
SATY *e*S **S** **19 05 59.9 -1.3**
baz=321
KPKS Kokpek 59.57 321 *e*P **P** **18 57 54.9 -0.1**
KPKS pmax pmax
comp=Z,7.0nm,0.7s
KPKS Kokpek 59.57 321 *e*P **P** **18 57 55.0 -0.1**
comp=Z,6.5nm,0.7s,baz=321
ZHN Zhinishke 59.57 321 *e*P **P** **18 57 54.8 -0.3**
ZHN Zhinishke 59.57 321 *e*P **P** **18 57 54.8 -0.3**
baz=321
KDJ Kajisay 59.87 319 P **P** **18 57 56.4 -0.8**
KDJ pmax pmax
comp=Z,13nm,0.9s
KDJ Kajisay 59.87 319 P **P** **18 57 56.4 -0.8**
KDJ IAmb IAmb 18 58 26.3
comp=Z,13nm,0.8s
YAK Yakutsk 60.39 2 LR LR 19 25 57.3
comp=Z,27nm,19.8s,baz=262,slow=38
YAK Yakutsk 60.39 2*d i*P **P** **18 58 00.9 +0.8**
YAK *e**PP **pwP** **18 58 15.3 -0.5**
YAK *e* 18 58 44.8
YAK *e* 19 00 13.7
YAK *e*PPP PPP 19 01 39.2
YAK *e*S **S** **19 06 11.6 +0.4**
YAK *e**SS **sS** **19 06 38.9 +5.4**
YAK *e* 19 07 42.2
YAK *e*SS **SS** **19 10 10.6 +1.0**
YAK pmax pmax
comp=Z,60nm,1.0s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,69nm,3.3s
YAK pmax pmax
comp=N,59nm,3.3s
YAK pmax pmax
comp=E,32nm,3.2s
YAK smax smax
comp=N,14nm,1.8s
YAK smax smax
comp=E,49nm,1.8s
YAK Yakutsk 60.39 2 P **P** **18 58 00.7 +0.6**
YAK Yakutsk 60.39 2 P **P** **18 58 00.9 +0.8**
YAK X 18 58 06.4
YAK pP **pP** **18 58 09.0 -4.5**
MDOK Medeo 60.45 320 P **P** **18 58 01.2 +0.1**
MDOK Medeo 60.45 320 *e*P **P** **18 58 00.6 -0.6**
baz=320
TNSS Tian-Shan 60.45 320 *e*P **P** **18 58 00.8 -0.6**
TNSS Tian-Shan 60.45 320 *e*P **P** **18 58 00.9 -0.6**
baz=320
TDK Taldyqorghan 60.53 323 *e*P **P** **18 58 01.4 0.0**
TDK pmax pmax
comp=Z,8.0nm,0.6s
TDK Taldyqorghan 60.53 323 *e*P **P** **18 58 01.4 0.0**
comp=Z,8.4nm,0.6s,baz=323
AAA Alma-Ata 60.56 320 *e*P **P** **18 58 01.5 -0.3**
AAA pmax pmax
comp=Z,11nm,1.0s
AAA Alma-Ata 60.56 320 *e*P **P** **18 58 01.5 -0.3**
comp=Z,11nm,1.0s,baz=320
CHKK Chushkaly 60.83 321 *e*P **P** **18 58 03.0 -0.5**
CHKK Chushkaly 60.83 321 *e*P **P** **18 58 03.1 -0.5**
baz=321
MA2 Magadan 60.86 14 LR LR 19 24 01.8
comp=Z,19nm,21.2s,baz=216,slow=36
MA2 Magadan 60.86 14*d i*P **P** **18 58 04.0 +0.6**
MA2 pmax pmax
comp=Z,36nm,0.8s
MA2 Magadan 60.86 14 P **P** **18 58 03.3 -0.1**
MA2 Magadan 60.86 14 P **P** **18 58 05.2 +1.8**
MA2 X 18 58 11.1
MA2 pP **pP** **18 58 16.7 +0.2**
MA2 pwP **pwP** **18 58 20.4 +0.6**
MA2 sP **sP** **18 58 26.1 +4.1**
SNZO South Karori 61.00 140 P **P** **18 58 03.6 -1.0**
URZ Urewera 61.09 136 LR LR 19 24 17.2
comp=Z,18nm,21.9s,baz=32,slow=36
KUU Kurty 61.26 321 *e*P **P** **18 58 06.3 -0.1**
KUU pmax pmax
comp=Z,12nm,0.7s
KUU Kurty 61.26 321 *e*P **P** **18 58 06.3 -0.1**
comp=Z,12nm,0.7s,baz=321
TKM2 Tokmak 2 61.27 319 P **P** **18 58 07.7 +0.9**
SNR=12
TKM2 Tokmak 2 61.27 319 *i*P **P** **18 58 07.3 +0.5**
TKM2 pmax pmax
comp=Z,8.0nm,0.6s
UCH Uchtor 61.67 318 P **P** **18 58 11.2 +1.4**
SNR=13
AAK Ala-Archa 61.86 319 LR LR 19 28 13.9
comp=Z,49nm,19.5s,baz=101,slow=39
AAK Ala-Archa 61.86 319 *i*P **P** **18 58 11.5 +0.8**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 61.86 319 P **P** **18 58 10.0 -0.8**
AAK IAmb IAmb 18 58 46.8
comp=Z,16nm,1.6s
AAK Ala-Archa 61.86 319 P **P** **18 58 11.6 +0.8**
AAK X 18 58 19.0
AAK pP **pP** **18 58 22.0 -2.2**
AAK sP **sP** **18 58 29.8 +0.1**
SGDS Sogindy 62.14 320 *e*P **P** **18 58 12.0 -0.4**
SGDS Sogindy 62.14 320 *e*P **P** **18 58 12.1 -0.4**
baz=320
USP Ospenovka 62.14 319 P **P** **18 58 13.2 +0.8**
SNR=15
AML Almayashu 62.17 318 P **P** **18 58 14.3 +1.2**
SNR=9.7
EKS2 Erkin-Say 62.35 318 P **P** **18 58 15.2 +1.2**
SNR=12
DRK Karamyk 62.39 315 P **P** **18 58 13.7 -0.8**
DRK IAmb IAmb 18 58 43.9
comp=Z,8.4nm,0.7s
ZAA0 Zalesovo Array 62.45 334 P **P** **18 58 14.1 -0.2**
ZAA0 IAmb IAmb 18 58 40.7
comp=Z,15nm,1.1s
ZALV Zalesovo Beam 62.45 334 P **P** **18 58 14.5 +0.3**
comp=Z,5.0nm,0.5s,baz=116,slow=6.8,SNR=20
ZALV LR LR 19 28 13.1
comp=Z,27nm,18.5s,baz=123,slow=39
ZALV Zalesovo Beam 62.45 334 P **P** **18 58 14.0 -0.3**
KBL Kabul 62.72 308 P **P** **18 58 15.3 -1.4**
KBL pmax pmax
comp=Z,10.0nm,0.7s
KBL Kabul 62.72 308 P **P** **18 58 15.3 -1.4**
KBL IAmb IAmb 18 58 21.8
comp=Z,9.7nm,0.7s
AFI Afiamalu 62.98 106 P **P** **18 58 17.8 -0.8**
AFI pmax pmax
comp=Z,169nm,1.4s
AFI Afiamalu 62.98 106 P **P** **18 58 17.8 -0.8**
BTLS Baital 63.24 321 *e*P **P** **18 58 19.7 0.0**
BTLS Baital 63.24 321 *e*P **P** **18 58 19.7 0.0**
baz=321
GAR Garm 63.28 314 P **P** **18 58 19.2 -1.0**
GAR IAmb IAmb 18 58 54.5
comp=Z,22nm,0.7s
BTK Batken 63.31 315 P **P** **18 58 19.9 -0.5**
BTK S **S** **19 06 46.8 -2.3**
BTK pmax pmax
comp=Z,8.0nm,0.9s
BTK Batken 63.31 315 P **P** **18 58 19.9 -0.5**
BTK **S** **19 06 46.9 -2.3**
KURBB Kurchatov Arra 63.48 328 P **P** **18 58 21.5 +0.4**
KURK Kurchatov 63.49 328*c i*P **P** **18 58 21.6 +0.4**
KURK pmax pmax
comp=Z,15nm,0.5s
KURK Kurchatov 63.49 328 P **P** **18 58 20.6 -0.5**
KURK Kurchatov 63.49 328 P **P** **18 58 21.8 +0.6**
KURK pP **pP** **18 58 29.9 -4.8**
KURK sP **sP** **18 58 34.2 -6.0**
CHGR Chuyangaron 64.00 313 P **P** **18 58 24.2 -0.7**
CHGR pmax pmax
comp=Z,18nm,0.9s
CHGR Chuyangaron 64.00 313 P **P** **18 58 24.2 -0.7**
CHGR IAmb IAmb 18 58 30.2
comp=Z,18nm,0.9s
SEY Seymchan 64.20 13 LR LR 19 24 56.3
comp=Z,18nm,21.7s,baz=266,slow=34
SEY Seymchan 64.20 13 *i*P **P** **18 58 27.3 +1.7**
SEY pmax pmax
comp=Z,29nm,1.1s
SMY Shemya 64.44 30 P **P** **18 58 26.0 -1.3**
SMY Shemya 64.44 30 P **P** **18 58 26.0 -1.3**
IUG Iuzhnay 64.66 317 *e*P **P** **18 58 29.1 -0.1**
IUG Iuzhnay 64.66 317 *e*P **P** **18 58 29.1 -0.1**
baz=317
KK31 Karatay Array 64.71 318 P **P** **18 58 28.2 -1.2**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KK31 Karatay Array 64.71 318 P **P** **18 58 28.2 -1.2**
KKAR Karatay Array 64.71 318 P **P** **18 58 28.4 -1.0**
KKAR pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 64.71 318 P **P** **18 58 28.4 -1.0**
OTUK Ortayu 65.76 324 P **P** **18 58 36.2 +0.1**
BRZS Berezniki 66.37 325 *e*P **P** **18 58 39.3 -0.6**
BRZS Berezniki 66.37 325 *e*P **P** **18 58 39.4 -0.6**
baz=325
HRA Herat 68.07 307 P **P** **18 58 50.2 -1.1**
KIWB Kanaga Island 68.60 34 P **P** **18 58 54.3 +0.4**
CASY Casey 68.63 187 P **P** **18 58 53.7 -0.1**
DRV Dumont d'Urvil 68.72 174 P **P** **18 58 54.2 -0.1**
ADK Adak 68.87 34 P **P** **18 58 55.2 -0.4**
ADK pmax pmax
comp=Z,40nm,1.2s
ADK Adak 68.87 34 P **P** **18 58 55.2 -0.4**
ADK IAmb IAmb 19 00 31.2
comp=Z,40nm,1.2s
BRVK Borovoye 69.13 328*c i*P **P** **18 58 57.9 +0.7**
BRVK pmax pmax
comp=Z,21nm,1.1s
BRVK Borovoye 69.13 328 P **P** **18 58 56.0 -1.2**
BRVK IAmb IAmb 18 59 06.3
comp=Z,18nm,0.9s
BRVK Borovoye 69.13 328 P **P** **18 58 58.0 +0.8**
BRVK pP **pP** **18 59 05.5 -5.4**
GSTR Great Sitkin T 69.31 34 P **P** **18 58 57.9 -0.5**
TIXI Tiksi 70.02 1 *i*P **P** **18 59 02.2 -0.2**
TIXI pmax pmax
comp=Z,12nm,0.7s
TIXI Tiksi 70.02 1 P **P** **18 59 01.6 -0.7**
TIXI IAmb IAmb 18 59 03.5
comp=Z,12nm,0.7s
TIXI Tiksi 70.02 1 P **P** **18 59 02.9 +0.5**
TIXI pP **pP** **18 59 10.1 -5.9**
BILL Bilibino 71.71 15*de*P **P** **18 59 12.9 +0.2**
BILL *e* 18 59 24.2
BILL *e**PP **PcP** **18 59 31.0 -0.5**
BILL S **S** **19 08 33.0 +4.4**
BILL pmax pmax
comp=Z,10.0nm,1.3s
BILL MLR MLR
comp=Z,24nm,17.0s
BILL Bilibino 71.71 15 P **P** **18 59 12.1 -0.6**
BILL Bilibino 71.71 15 P **P** **18 59 12.3 -0.4**
BILL pP **pP** **18 59 19.6 -6.4**
GEYT Alibeck 72.13 309 P **P** **18 59 17.7 +1.8**
comp=Z,3.6nm,0.6s,baz=206,slow=11,SNR=7.1
GEYT Alibeck 72.13 309 P **P** **18 59 14.3 -1.5**
GYA0 ALIBECK ARRAY 72.13 309 P **P** **18 59 13.9 -2.0**
GYA0 pmax pmax
comp=Z,21nm,1.2s
GYA0B ALIBECK ARRAY 72.13 309 P **P** **18 59 13.9 -2.0**
GYA0B IAmb IAmb 18 59 44.5
comp=Z,21nm,1.2s
NRIK Noril'sk 72.50 346 P **P** **18 59 18.3 +0.8**
comp=Z,5.4nm,0.6s,baz=125,slow=5.7,SNR=11
NRIK LR LR 19 34 36.2
comp=Z,39nm,18.3s,baz=120,slow=38
NRIK Noril'sk 72.50 346*d i*P **P** **18 59 18.2 +0.8**
NRIK pmax pmax
comp=Z,23nm,1.9s
NRIK Noril'sk 72.50 346 P **P** **18 59 16.5 -0.9**
NRIK IAmb IAmb 18 59 43.5
comp=Z,12nm,0.7s
SOCY Socotra 72.63 282 P **P** **18 59 17.6 -1.8**
SOCY IAmb IAmb 18 59 29.3
comp=Z,19nm,1.0s
NIKH Nikolski High 73.71 35 P **P** **18 59 23.2 -1.6**
AB31 Akbulak array 73.73 321 *i*P **P** **18 59 25.6 +0.5**
ABKAR Akbulak array 73.73 321 P **P** **18 59 24.6 -0.5**
ABKAR Akbulak array 73.73 321 P **P** **18 59 23.8 -1.2**
ABKAR IAmb IAmb 18 59 33.5
comp=Z,12nm,0.9s
RAR Rarotonga 75.37 112 P **P** **18 59 33.8 -1.3**
RAR Rarotonga 75.37 112 P **P** **18 59 33.8 -1.3**
SVE Sverdlovsk 75.73 329‖ *e*P **P** **18 59 37.6 +1.1**
SVE pmax pmax
comp=Z,27nm,0.8s
XMAS Kiritimati 75.96 88 P **P** **18 59 36.7 -2.0**
GAMB Gambell 76.46 24 P **P** **18 59 39.8 -0.7**
GAMB IAmb IAmb 19 00 45.1
comp=Z,43nm,1.4s
GAMB Gambell 76.46 24 P **P** **18 59 42.0 +1.5**
baz=245
ARU Arti 76.69 328 P **P** **18 59 42.2 +0.3**
comp=Z,26nm,19.6s,baz=82,slow=37
ARU Arti 76.69 328*d i*P **P** **18 59 42.2 +0.3**
ARU 18 59 53.0
ARU 19 02 31.2
ARU S **S** **19 09 24.6 -0.2**
ARU SS **SS** **19 14 21.9 +0.7**
ARU pmax pmax
comp=Z,14nm,0.7s
FALS False Pass 77.34 34 P **P** **18 59 45.4 -0.2**
FALS False Pass 77.34 34 P **P** **18 59 46.9 +1.3**
baz=254
SDPT Sand Point 79.10 34 P **P** **18 59 54.9 -0.4**
SDPT Sand Point 79.10 34 P **P** **18 59 56.1 +0.8**
baz=257
ANM Nome 79.33 24 P **P** **18 59 57.3 +0.9**
baz=251
LKRN Lenkeran, Azer 79.50 309 P **P** **18 59 59.6 +1.7**
ABPO Ambohimpanom 80.41 251 P **P** **19 00 02.1 -1.3**
ABPO pmax pmax
comp=Z,8.0nm,1.0s
ABPO Ambohimpanom 80.41 251 P **P** **19 00 02.1 -1.3**
SEKA Sheki 80.98 311 P **P** **19 00 07.3 +1.4**
MNGR Mingechevir, A 81.02 311 P **P** **19 00 07.7 +1.7**
VOI Vohitsoka 81.07 248 P **P** **19 00 05.2 -1.6**
VOI IAmb IAmb 19 00 14.9
comp=Z,9.8nm,0.6s
VNDA Vanda 81.29 173 P **P** **19 00 07.2 +0.6**
comp=Z,13nm,0.7s,baz=317,slow=6.6,SNR=60
VNDA Vanda 81.29 173 P **P** **19 00 06.5 -0.2**
VNDA pmax pmax
comp=Z,13nm,0.8s
VNDA Vanda 81.29 173 P **P** **19 00 06.5 -0.2**
VNDA IAmb IAmb 19 00 09.7
comp=Z,13nm,0.8s
RDOG Red Dog Mine 81.38 21 P **P** **19 00 08.7 +1.3**
baz=252
ZKTA Zakatala 81.45 312 P **P** **19 00 11.7 +3.4**
GANJ Ganja 81.58 311 P **P** **19 00 11.0 +1.9**
MAW Mawson 81.65 200 P **P** **19 00 08.8 +0.1**
comp=Z,4.5nm,0.9s,baz=263,slow=1.9,SNR=3.9
MAW Mawson 81.65 200 P **P** **19 00 09.0 +0.3**
MAW pmax pmax
comp=Z,12nm,1.9s
MAW Mawson 81.65 200 P **P** **19 00 09.0 +0.3**
CHIR Chirikof Islan 81.90 34 P **P** **19 00 11.4 +1.1**
CHIR Chirikof Islan 81.90 34 P **P** **19 00 11.9 +1.6**
baz=261
KIRV Kirov 81.99 329 *i*P **P** **19 00 08.9 -1.8**
BELG Belogornoye 82.03 323 *i*P **P** **19 00 10.6 -0.4**
BELG pmax pmax
comp=Z,3.0nm,0.8s
NAX Nakhchivan 82.09 309 P **P** **19 00 14.8 +2.9**
SBA Scott Base 82.20 172 P **P** **19 00 12.2 +0.7**
SBA pmax pmax
comp=Z,10.0nm,1.1s
SBA Scott Base 82.20 172 P **P** **19 00 12.2 +0.7**
N18K Kilae Creek 82.58 29 P **P** **19 00 14.1 +0.2**
N18K IAmb IAmb 19 00 17.2
comp=Z,29nm,1.5s
N18K Kilae Creek 82.58 29 P **P** **19 00 15.8 +1.9**
baz=260
P18K Big Mountain, 82.69 30 P **P** **19 00 13.7 -0.8**
P18K IAmb IAmb 19 00 16.2
comp=Z,38nm,1.7s
GNI Garni 82.75 310 P **P** **19 00 17.9 +2.5**
GNI pmax pmax
comp=Z,11nm,0.8s
GNI Garni 82.75 310 P **P** **19 00 17.9 +2.5**
GNI IAmb IAmb 19 00 36.1
comp=Z,11nm,0.8s
O18K Koktuh Hills 82.77 30 P **P** **19 00 14.7 -0.2**
O18K IAmb IAmb 19 00 17.9
comp=Z,40nm,1.6s
O18K Koktuh Hills 82.77 30 P **P** **19 00 16.4 +1.6**
baz=261
SVW2 Sparrevohn 82.80 29 P **P** **19 00 14.9 -0.1**
SII Sitkinak Islan 82.80 33 P **P** **19 00 17.1 +2.0**
SII Sitkinak Islan 82.80 33 P **P** **19 00 16.7 +1.6**
baz=262
GCSA Galena City Sc 82.90 25 P **P** **19 00 17.3 +2.0**
baz=258,SNR=12
TTA Tatalina 82.93 27 P **P** **19 00 17.3 +1.6**
TTA pmax pmax
comp=Z,25nm,1.2s
TTA Tatalina 82.93 27 P **P** **19 00 17.3 +1.6**
TTA IAmb IAmb 19 00 18.6
comp=Z,25nm,1.2s
TTA Tatalina 82.93 27 P **P** **19 00 17.5 +1.8**
baz=260,SNR=15
N19K Bonanza Creek 83.28 29 P **P** **19 00 19.3 +1.7**
N19K Bonanza Creek 83.28 29 P **P** **19 00 18.9 +1.3**
baz=261
L19K White Mountain 83.33 28 P **P** **19 00 19.4 +1.7**
L19K IAmb IAmb 19 00 20.8
comp=Z,18nm,0.9s
L19K White Mountain 83.33 28 P **P** **19 00 19.6 +2.0**
baz=261,SNR=14
OHAK Old Harbor 83.38 33 P **P** **19 00 19.2 +1.2**
OHAK Old Harbor 83.38 33 P **P** **19 00 18.6 +0.6**
baz=263
Q19K Cape Douglas, 83.42 31 P **P** **19 00 18.6 +0.3**
Q19K IAmb IAmb 19 00 19.2
comp=Z,15nm,0.8s
Q19K Cape Douglas, 83.42 31 P **P** **19 00 18.7 +0.5**
baz=262
M19K Big River Lodg 83.50 28 P **P** **19 00 20.4 +1.8**
M19K IAmb IAmb 19 00 21.8
comp=Z,18nm,0.9s
M19K Big River Lodg 83.50 28 P **P** **19 00 20.8 +2.3**
baz=261
ZEI Tsey 83.56 313 *e*P **P** **19 00 20.4 +0.9**
ZEI pmax pmax
comp=Z,14nm,0.7s
L20K Farewell, AK 83.82 27 P **P** **19 00 22.0 +1.8**
baz=262,SNR=8.0
KDAK Kodiak Island 83.83 32 LR LR 19 36 10.9
comp=Z,29nm,19.6s,baz=245,slow=34
KDAK Kodiak Island 83.83 32 P **P** **19 00 20.3 0.0**
KDAK pmax pmax
comp=Z,103nm,1.9s
KDAK Kodiak Island 83.83 32 P **P** **19 00 20.3 0.0**
KDAK Kodiak Island 83.83 32 P **P** **19 00 21.4 +1.1**
baz=263
K20K Telida 83.87 26 P **P** **19 00 22.1 +1.7**
K20K Telida 83.87 26 P **P** **19 00 22.5 +2.0**
baz=261
GEVA Gevas 83.94 308 P **P** **19 00 22.3 +0.7**
J20K Nowinta River 83.96 26 IAmb IAmb 19 00 24.1
comp=Z,11nm,0.8s
J20K Nowinta River 83.96 26 P **P** **19 00 22.8 +2.0**
baz=261
KARS Kars 84.04 311 P **P** **19 00 21.8 -0.2**
KARS pmax pmax
comp=Z,110nm,1.1s
KARS Kars 84.04 311 P **P** **19 00 21.8 -0.2**
PRGR Permogore 84.33 332 *e*P **P** **19 00 19.9 -2.9**
PRGR pmax pmax
comp=Z,53nm,1.5s
KBZ Khabaz 84.35 314 P **P** **19 00 24.3 +1.1**
comp=Z,6.5nm,1.0s,baz=140,slow=3.3,SNR=6.0
KBZ Khabaz 84.35 314 *i*P **P** **19 00 24.7 +1.5**
KBZ pmax pmax
comp=Z,13nm,1.1s
IMAR Indian Mountai 84.41 24 P **P** **19 00 24.0 +0.9**
SPCR Spurr Chakacha 84.43 29 P **P** **19 00 24.2 +0.8**
baz=263
KIV Kislovodsk 84.51 314 *e*P **P** **19 00 25.4 +1.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,21nm,20.0s
HOM Homer 84.53 30 P **P** **19 00 24.3 +0.5**
baz=264
PPLA Purkeypile 84.65 27 P **P** **19 00 24.8 +0.2**
baz=263
CHUM Lake Minchumin 84.72 26 P **P** **19 00 26.2 +1.5**
baz=263
H21K Melozitna Rive 84.75 24 P **P** **19 00 25.6 +0.8**
baz=262
CAST Castle Rocks 84.76 27 P **P** **19 00 26.3 +1.3**
baz=263
CAPN Captain Cook N 84.89 29 P **P** **19 00 26.5 +0.9**
baz=264
BRLK Bradley Lake 84.93 30 P **P** **19 00 25.7 -0.1**
BRSE Bradley Lake S 85.00 30 P **P** **19 00 26.8 +0.6**
baz=264
I21K Tanana 85.02 25 P **P** **19 00 27.7 +1.5**
baz=263
BPAW Bear Paw Mtn. 85.33 26 P **P** **19 00 29.1 +1.3**
baz=264
M22K Willow 85.49 28 P **P** **19 00 29.2 +0.7**
M22K Willow 85.49 28 P **P** **19 00 29.9 +1.3**
baz=265,SNR=5.9
VRH Novokhopyorsk 85.56 321 *e*P **P** **19 00 29.3 +0.1**
VRH pmax pmax
comp=Z,10.0nm,0.7s
TRF Thorofare Moun 85.57 27 P **P** **19 00 29.8 +0.6**
baz=265
RC01 Rabbit Creek A 85.61 29 P **P** **19 00 30.3 +1.0**
baz=265
SEW Seward 85.67 30 P **P** **19 00 29.7 +0.2**
SEW Seward 85.67 30 P **P** **19 00 30.4 +0.8**
baz=266
PMR Palmer 85.94 28 P **P** **19 00 31.8 +1.0**
PMR pmax pmax
comp=Z,11nm,0.8s
PMR Palmer 85.94 28 P **P** **19 00 31.8 +1.0**
PMR IAmb IAmb 19 00 55.2
comp=Z,11nm,0.8s
PMR Palmer 85.94 28 P **P** **19 00 31.8 +1.0**
baz=266
COLD Coldfoot 85.97 23 IAmb IAmb 19 00 33.4

	comp=Z,6.0nm,0.7s							
COLD	**Coldfoot**	**85.97**	**23**	P		**P**	**19 00 32.2**	**+1.3**
	baz=264							
H23K	**Yukon River**	**86.10**	**24**	P		**P**	**19 00 32.2**	**+0.6**
H23K	**Yukon River**	**86.10**	**24**	P		**P**	**19 00 32.6**	**+0.9**
	baz=265							
I23K	**Minto, Yukon-K**	**86.12**	**25**	P		**P**	**19 00 32.1**	**+0.5**
I23K	**Minto, Yukon-K**	**86.12**	**25**	P		**P**	**19 00 32.9**	**+1.2**
	baz=265							
MCK	**McKinley**	**86.19**	**26**	P		**P**	**19 00 32.7**	**+0.6**
	baz=266							
NEA2	**Nenana**	**86.20**	**25**	P		**P**	**19 00 32.9**	**+0.8**
	baz=266							
RND	**Reindeer**	**86.21**	**27**	IAmb		IAmb	19 00 33.6	
	comp=Z,5.8nm,0.6s							
KNK	**Knik Glacier**	**86.25**	**29**	P		**P**	**19 00 33.9**	**+1.5**
	baz=266,SNR=5.3							
PWL	**Port Wells**	**86.28**	**29**	P		**P**	**19 00 33.6**	**+1.0**
	baz=266							
WAT1	**Susitna Watana**	**86.30**	**27**	P		**P**	**19 00 33.4**	**+0.8**
	baz=266							
SML	**Sawmill**	**86.34**	**28**	P		**P**	**19 00 33.3**	**+0.4**
	baz=266							
TOLK	**Toolik Lake Re**	**86.34**	**21**	P		**P**	**19 00 34.0**	**+1.3**
	baz=265,SNR=6.7							
M23K	**Glacier View**	**86.63**	**28**	P		**P**	**19 00 35.0**	**+0.8**
	baz=267							
WAT6	**Susitna Watana**	**86.66**	**28**	P		**P**	**19 00 35.0**	**+0.4**
	baz=267							
TCOL	**CIGO, UAF Yank**	**86.74**	**25**	P		**P**	**19 00 36.0**	**+1.3**
	baz=267							
COLA	**College**	**86.74**	**25**	*i* P		**P**	**19 00 34.7**	**0.0**
COLA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
CCB	**Clear Creek Bu**	**86.75**	**25**	P		**P**	**19 00 34.2**	**-0.5**
H24K	**Noodor Dome**	**86.79**	**24**	P		**P**	**19 00 36.1**	**+1.1**
	baz=267							
SCM	**Sheep Creek Mo**	**86.82**	**28**	IAmb		IAmb	19 00 37.8	
	comp=Z,15nm,1.0s							
SCM	**Sheep Creek Mo**	**86.82**	**28**	P		**P**	**19 00 36.3**	**+1.0**
	baz=267							
GLI	**Glacier Island**	**86.89**	**29**	P		**P**	**19 00 36.6**	**+1.1**
	baz=268							
VORD	**Divnogorie**	**87.08**	**321**	*e*P		**P**	**19 00 39.3**	**+2.7**
VORD				pmax		pmax		
	comp=Z,20nm,0.4s							
ILAR	**Eielson Array**	**87.15**	**25**	P		**P**	**19 00 35.7**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=240,slow=5.0,SNR=12							
VORR	**Voronezh**	**87.15**	**321**	*e*P		**P**	**19 00 39.2**	**+2.2**
VORR				pmax		pmax		
	comp=Z,40nm,0.4s							
VSR	**Storozhevoye**	**87.17**	**321**	*e*P		**P**	**19 00 38.7**	**+1.6**
VSR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KLMR	**Klimovskoe**	**87.22**	**331**	*e*P		**P**	**19 00 35.8**	**-1.3**
KLMR				pmax		pmax		
	comp=Z,9.0nm,0.6s							
KLMR	**Klimovskoe**	**87.22**	**331**	*e*P		**P**	**19 00 35.8**	**-1.3**
KLMR				AMP			19 00 43.0	
	comp=Z,9.0nm,0.6s							
LPSR	**Galich'ya Gora**	**87.34**	**322**	*e*P		**P**	**19 00 39.4**	**+1.6**
LPSR				pmax		pmax		
	comp=Z,20nm,0.8s							
PAX	**Paxson**	**87.72**	**27**	P		**P**	**19 00 40.1**	**+0.5**
	baz=269							
J25K	**Salcha River,**	**87.80**	**26**	P		**P**	**19 00 39.2**	**-0.7**
	baz=269							
HARP	**HAARP**	**87.86**	**28**	P		**P**	**19 00 40.4**	**+0.2**
	baz=269							
RIDG	**Independent Ri**	**88.01**	**26**	P		**P**	**19 00 41.2**	**+0.2**
	baz=270							
BMRM	**Bremner River**	**88.11**	**29**	P		**P**	**19 00 42.7**	**+1.3**
	baz=270							
N25K	**Chitina, Valde**	**88.11**	**29**	P		**P**	**19 00 41.6**	**+0.1**
	baz=270							
SCRK	**Sand Creek**	**88.39**	**26**	P		**P**	**19 00 43.6**	**+0.8**
	baz=270							
MENT	**Mentasta**	**88.52**	**27**	IAmb		IAmb	19 00 58.2	
	comp=Z,9.1nm,1.1s							
J26L	**Joseph Creek**	**88.58**	**26**	P		**P**	**19 00 43.6**	**-0.1**
	baz=271							
OBN	**Obninsk**	**88.74**	**325**	*ce*P		**P**	**19 00 44.6**	**+0.2**
OBN				*i*			19 00 56.8	
OBN				*PP		**sP**	**19 01 03.0**	**-0.9**
OBN				*e*			19 11 26.7	
OBN				pmax		pmax		
	comp=Z,11nm,0.7s							
OBN				MLR		MLR		
	comp=Z,30nm,19.0s							
M26K	**Nabesna, AK**	**88.86**	**28**	P		**P**	**19 00 46.4**	**+1.4**
	baz=271							
KMBO	**Kilima Mbogo**	**89.33**	**269**	P		**P**	**19 00 50.2**	**+1.7**
	comp=Z,3.8nm,1.0s,baz=56,slow=7.0,SNR=7.3							
KMBO	**Kilima Mbogo**	**89.33**	**269**	P		**P**	**19 00 50.4**	**+2.0**
KMBO				pmax		pmax		
	comp=Z,17nm,1.7s							
KMBO	**Kilima Mbogo**	**89.33**	**269**	P		**P**	**19 00 50.4**	**+2.0**
KMBO				IAmb		IAmb	19 00 55.5	
	comp=Z,17nm,1.7s							
L27K	**Beaver Creek,**	**89.38**	**27**	IAmb		IAmb	19 00 49.6	
	comp=Z,5.7nm,0.8s							
L27K	**Beaver Creek,**	**89.38**	**27**	P		**P**	**19 00 48.4**	**+1.0**
	baz=272,SNR=8.8							
M27K	**Edge Creek, AK**	**89.38**	**28**	P		**P**	**19 00 48.1**	**+0.6**
	baz=272							
EGAK	**Eagle**	**89.60**	**25**	P		**P**	**19 00 48.8**	**+0.5**
	baz=273							
CTG	**Chitna Glacier**	**89.70**	**29**	P		**P**	**19 00 50.4**	**+1.4**
	baz=273							
BVCY	**Beaver Creek**	**89.85**	**28**	P		**P**	**19 00 50.8**	**+1.2**
	baz=273							
SYO	**Syowa Base**	**90.33**	**201**	⇑*i*X		**P**	**19 00 47.0**	**-4.6**
DAWY	**Dawson**	**90.41**	**26**	P		**P**	**19 00 53.1**	**+0.9**
	baz=274,SNR=5.5							
I29M	**Ogilvie Camp,**	**90.77**	**25**	IAmb		IAmb	19 04 20.2	
	comp=Z,3.8nm,0.7s							
I29M	**Ogilvie Camp,**	**90.77**	**25**	P		**P**	**19 00 54.4**	**+0.6**
	baz=275,SNR=6.1							
BR131	**Keskin Array S**	**91.27**	**310**	*i* P		**P**	**19 00 55.9**	**-1.0**
BRTR	**Keskin Array B**	**91.27**	**310**	P		**P**	**19 00 56.2**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=128,slow=4.6,SNR=5.7							
QSPA	**South Pole Qui**	**91.46**	**180**	P		**P**	**19 00 56.5**	**-0.5**
QSPA				IAmb		IAmb	19 01 19.8	
	comp=Z,12nm,1.4s							
HYT	**Haines Junctio**	**91.58**	**29**	IAmb		IAmb	19 01 07.2	
	comp=Z,18nm,1.8s							
HYT	**Haines Junctio**	**91.58**	**29**	P		**P**	**19 00 58.8**	**+1.0**
	baz=276							
M30M	**Minto, Yukon**	**91.72**	**27**	IAmb		IAmb	19 01 00.2	
	comp=Z,3.7nm,0.8s							
M30M	**Minto, Yukon**	**91.72**	**27**	P		**P**	**19 00 59.7**	**+1.4**
	baz=277							
INK	**Inuvik**	**92.25**	**22**	P		**P**	**19 01 00.1**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=253,slow=5.1,SNR=7.5							
INK	**Inuvik**	**92.25**	**22**	IAmb		IAmb	19 01 01.9	
	comp=Z,12nm,1.4s							
INK	**Inuvik**	**92.25**	**22**	P		**P**	**19 01 00.8**	**+0.3**
	baz=280							
N31M	**Braeburn, Yuko**	**92.33**	**28**	IAmb		IAmb	19 01 27.1	
	comp=Z,8.1nm,1.1s							
N31M	**Braeburn, Yuko**	**92.33**	**28**	P		**P**	**19 01 02.4**	**+1.3**
	baz=278							
ARCES	**ARCESS Array B**	**92.43**	**340**	P		**P**	**19 01 00.8**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=86,slow=5.7,SNR=9.6							
ARCES				PKKPbc		**PKKPdf**	**19 18 16.0**	**+0.9**
	comp=Z,3.6nm,1.1s,baz=270,slow=0.6,SNR=3.8							
ARCES	**ARCESS Array B**	**92.43**	**340**	P		**P**	**19 01 01.3**	**-0.1**
ARCES				pmax		pmax		
	comp=Z,64nm,1.8s							
ARCES	**ARCESS Array B**	**92.43**	**340**	P		**P**	**19 01 01.3**	**-0.1**
WHY	**Whitehorse**	**92.88**	**29**	IAmb		IAmb	19 01 06.2	
	comp=Z,8.5nm,1.0s							
WHY	**Whitehorse**	**92.88**	**29**	P		**P**	**19 01 05.0**	**+1.3**
	baz=278							
M31M	**Drury Creek, Y**	**92.88**	**28**	P		**P**	**19 01 03.6**	**-0.1**
M31M				IAmb		IAmb	19 01 28.5	
	comp=Z,15nm,1.6s							
M31M	**Drury Creek, Y**	**92.88**	**28**	P		**P**	**19 01 04.3**	**+0.6**
	baz=279							
FARO	**Faro, Yukon**	**93.36**	**28**	P		**P**	**19 01 06.8**	**+0.9**
	baz=280							
AKASG	**Malin Array Be**	**93.47**	**321**	P		**P**	**19 01 08.3**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=62,slow=5.4,SNR=3.4							
AKASG	**Malin Array Be**	**93.47**	**321**	P		**P**	**19 01 05.4**	**-1.1**
AKASG				pmax		pmax		
	comp=Z,2.0nm,1.1s							
AKASG	**Malin Array Be**	**93.47**	**321**	P		**P**	**19 01 05.4**	**-1.1**
FINES	**FINESS Array B**	**93.67**	**332**	P		**P**	**19 01 06.4**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=133,slow=8.1,SNR=6.5							
MMPY	**Sheldon Lake,**	**94.24**	**27**	P		**P**	**19 01 11.0**	**+1.1**
	baz=282							
WRAK	**Wrangell Islan**	**94.87**	**33**	P		**P**	**19 01 14.0**	**+1.2**
WRAK				IAmb		IAmb	19 01 15.3	
	comp=Z,9.0nm,0.8s							
WRAK	**Wrangell Islan**	**94.87**	**33**	P		**P**	**19 01 14.0**	**+1.2**
	baz=280							
C36M	**Paulatuk**	**95.32**	**20**	IAmb		IAmb	19 01 15.4	
	comp=Z,6.2nm,0.8s							
C36M	**Paulatuk**	**95.32**	**20**	P		**P**	**19 01 14.9**	**+0.2**
	baz=289							
TGTN	**Hyland Airport**	**95.86**	**28**	P		**P**	**19 01 18.3**	**+1.0**
	baz=284							
BURAR	**Bucovina Array**	**96.50**	**318**	P		**P**	**19 01 19.3**	**-1.4**
BURAR				IAmb		IAmb	19 01 28.3	
	comp=Z,3.7nm,0.9s							
BUR08	**Bucovina Ar. S**	**96.51**	**318**	P		**P**	**19 01 20.2**	**-0.5**
BBB	**Bella Bella**	**98.15**	**37**	LR		LR	19 39 04.8	
	comp=Z,18nm,19.1s,baz=282,slow=31							
UZH	**Uzhgorod**	**98.24**	**319**	*e*P		**P**	**19 01 27.5**	**-0.8**
UZH				*e*			19 01 43.5	
DAG	**Danmarks Havn**	**99.39**	**352**	*i* P		**Pdif**	**19 01 31.0**	**-1.8**
NOA	**NORSAR Array B**	**100.66**	**333**	P		**Pdif**	**19 01 39.9**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=66,slow=4.5,SNR=2.6							
YKA	**Yellowknife Ar**	**101.56**	**25**	P		**Pdif**	**19 01 43.6**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=297,slow=4.5,SNR=9.0							
214A	**Organ Pipe Nat**	**114.77**	**54**	P		**PKiKP**	**19 06 31.9**	**-0.1**
	baz=289							
RSSD	**Black Hills**	**116.02**	**38**	P		**PKiKP**	**19 06 34.1**	**-0.2**
	baz=301							
ECSD	**EROS Data Cent**	**120.68**	**35**	P		**PKPdf**	**19 06 42.8**	**-0.2**
	baz=308							
MNTX	**Cornudas Mount**	**120.76**	**51**	P		**PKiKP**	**19 06 44.1**	**+0.5**
	baz=294							
CBKS	**Cedar Bluff**	**121.54**	**41**	P		**PKiKP**	**19 06 45.1**	**+0.1**
	baz=302							
SCHQ	**Schefferville**	**122.75**	**9**	PKP		**PKiKP**	**19 06 47.2**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=8.1,slow=1.6,SNR=11							
TXAR	**Lajitas Array**	**123.06**	**53**	PKP		**PKiKP**	**19 06 49.0**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=212,slow=1.2,SNR=17							
TXAR	**Lajitas Array**	**123.06**	**53**	PKIKP		**PKiKP**	**19 06 49.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**123.40**	**287**	PKP		**PKiKP**	**19 06 49.2**	**0.0**
	comp=Z,1.1nm,0.3s,baz=57,slow=2.0,SNR=16							
TORD				PKKPbc		**PKKPbc**	**19 16 38.2**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=278,slow=3.3,SNR=6.1							
TORD	**Torodi Ar. Bea**	**123.40**	**287**	PKPdf		**PKPdf**	**19 06 48.8**	**-0.1**
WMOK	**Wichita Mounta**	**124.31**	**45**	P		**PKPdf**	**19 06 49.9**	**-0.3**
	baz=301							
JFWS	**Jewell Farm**	**124.75**	**32**	P		**PKPdf**	**19 06 50.6**	**-0.3**
	baz=313							
JCT	**Junction City**	**125.61**	**50**	P		**PKiKP**	**19 06 53.2**	**0.0**
	baz=297							
833A	**Chaparral WMA,**	**126.89**	**52**	P		**PKiKP**	**19 06 56.5**	**+0.7**
	baz=296							
CCM	**Cathedral Cave**	**127.39**	**38**	P		**PKiKP**	**19 06 56.4**	**-0.1**
	baz=310							
U40A	**Yellville**	**127.43**	**40**	P		**PKPdf**	**19 06 55.9**	**-0.2**
	baz=307							
MIAR	**Mount Ida**	**128.02**	**42**	P		**PKiKP**	**19 06 58.3**	**+0.4**
	baz=305							
O48B	**Farmland**	**129.32**	**31**	P		**PKPdf**	**19 06 59.8**	**+0.1**
	baz=317							
ACSO	**Alum Creek Sta**	**130.45**	**30**	P		**PKPdf**	**19 07 02.1**	**+0.3**
	baz=320							
DBIC	**Dimbokro**	**130.82**	**280**	PKP		**PKiKP**	**19 07 04.5**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=117,slow=4.8,SNR=4.2							
P52A	**Corning**	**131.32**	**30**	P		**PKiKP**	**19 07 04.2**	**-0.2**
	baz=320							
W50A	**Signal Mountai**	**132.85**	**36**			PKPpre	19 06 51.7	
TZTN	**Tazewell**	**132.90**	**33**	P		**PKiKP**	**19 07 07.8**	**+0.1**
	baz=317							
LRAL	**Lakeview Retre**	**133.27**	**40**	P		**PKiKP**	**19 07 08.0**	**-0.5**
	baz=311							
PLCA	**Paso Flores**	**138.02**	**160**	PKP		**PKiKP**	**19 07 17.7**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=142,slow=1.9,SNR=6.6							

TAP 22 18:52:15.7,21°.44N×121°.72E,h95km,ML3.0,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.57**	**347**	*e*P	Pn	18 52 31.5	0.0
	baz=347						
LAY	**Lan-yu**	**0.61**	**345**	*e*P	Pn	18 52 30.5	-1.5
	baz=345						
TSEB	**Hengchuen, Pin**	**0.89**	**301**	*e*P	Pn	18 52 36.7	+2.1
	baz=294						
TWKBT	**Hengchun**	**0.98**	**301**	*e*P	Pn	18 52 36.2	+0.7
	baz=295						
TWK1	**Hengchun**	**0.99**	**300**	P	Pn	18 52 36.1	+0.5
	baz=295						
TWK1				*e*S	Sn	18 52 51.3	+0.7
	baz=295						
HEN	**Hengchun**	**1.07**	**302**	*e*P	Pn	18 52 37.8	+1.2
	baz=300						
SLIU	**Shizi**	**1.15**	**312**	*e*P	Pn	18 52 38.2	+0.7
	baz=317						
TAWH	**Dawu Township**	**1.18**	**319**	*e*P	Pn	18 52 37.9	+0.1
	baz=324						
EAST	**Anshuo**	**1.24**	**319**	*e*P	Pn	18 52 39.9	+1.3
	baz=324						
LDUT	**Ludao**	**1.25**	**349**	*e*P	Pn	18 52 39.8	+1.2
	baz=344						
ECL	**Taimali**	**1.35**	**328**	*e*P	Pn	18 52 41.0	+1.1
	baz=329						
SCZT	**Fangliau**	**1.38**	**312**	P	Pn	18 52 41.0	+0.8
	baz=312						
SSPT	**Xinbi**	**1.49**	**314**	*e*P	Pn	18 52 43.1	+1.5
	baz=314						
TWGBT	**Beinan**	**1.49**	**337**	*e*P	Pn	18 52 41.5	-0.1
	baz=331						
WLCH	**Liuqiu**	**1.54**	**306**	*e*P	Pn	18 52 43.4	+1.2
	baz=306						
MASBT	**Mashibuluo**	**1.54**	**319**	*e*P	Pn	18 52 43.1	+0.8
	baz=323						
EDH	**Donghe**	**1.57**	**346**	*e*P	Pn	18 52 43.6	+1.0
	baz=346						
TSMG	**Majia**	**1.61**	**322**	*e*P	Pn	18 52 44.8	+1.7
	baz=323						
SSD	**Sandimen**	**1.65**	**322**	*e*P	Pn	18 52 44.9	+1.3
	baz=327						
SGLT	**Jiouru**	**1.71**	**318**	*e*P	Pn	18 52 46.0	+1.6
	baz=328						
FULB	**Fuli**	**1.79**	**347**	*e*P	Pn	18 52 46.4	+1.0
	baz=338						
TWM1	**Shoushan**	**1.83**	**319**	*e*P	Pn	18 52 47.9	+2.0
	baz=319						
ELDTW	**Lidao**	**1.86**	**339**	*e*P	Pn	18 52 48.1	+1.7
	baz=340						
STYH	**Taoyuan**	**1.93**	**333**	*e*P	Pn	18 52 48.9	+1.7
	baz=324						
EYUL	**Yuli**	**1.93**	**349**	*e*P	Pn	18 52 48.7	+1.4
	baz=340						
SGST	**Jiashian**	**1.94**	**327**	*e*P	Pn	18 52 49.3	+1.9
	baz=327						
YULB	**Yu-li**	**1.98**	**349**	*e*P	Pn	18 52 47.8	-0.1
	baz=341						
HGSD	**Ruisui**	**2.06**	**352**	*e*P	Pn	18 52 51.0	+2.1
	baz=357						
WTP	**Ta-pu**	**2.07**	**330**	*e*P	Pn	18 52 49.9	+0.8
	baz=331						
EHY	**Hungye**	**2.09**	**350**	*e*P	Pn	18 52 48.9	-0.3
	baz=342						
SNST	**Tainan City**	**2.10**	**328**	*e*P	Pn	18 52 49.9	+0.5
	baz=327						
TPUB	**Ta-pu**	**2.11**	**331**	*e*P	Pn	18 52 49.6	+0.1
	baz=322						
TWK	**Hsinying**	**2.15**	**328**	*e*P	Pn	18 52 51.6	+1.6
	baz=328						
CHN4	**Tsaushan**	**2.17**	**331**	*e*P	Pn	18 52 52.1	+1.8
	baz=331						
ALS	**Alishan**	**2.23**	**338**	*e*P	Pn	18 52 54.2	+2.9
	baz=328						
EGFH	**Guangfu**	**2.23**	**353**	*e*P	Pn	18 52 52.0	+0.9
	baz=356						
CHN5	**Tsauling**	**2.35**	**336**	*e*P	Pn	18 52 52.7	-0.2
	baz=327						
VWDT	**VWDT**	**2.36**	**347**	*e*P	Pn	18 52 52.7	-0.2
	baz=350						
WDLH	**Douliu**	**2.49**	**334**	*e*P	Pn	18 52 56.3	+1.7
	baz=334						
WSL	**Shuilin Townsh**	**2.49**	**327**	*e*P	Pn	18 52 55.2	+0.7
	baz=326						
SMLT	**Sun Moon Lake**	**2.55**	**343**	*e*P	Pn	18 52 56.7	+1.3
	baz=333						
OWD	**Renai**	**2.55**	**349**	*e*P	Pn	18 52 55.5	0.0
	baz=338						
TYC	**Yuchr**	**2.58**	**342**	*e*P	Pn	18 52 56.9	+1.2
	baz=342						
WDGT	**Dungji**	**2.63**	**314**	*e*P	Pn	18 52 54.9	-1.5
	baz=314						
CHGB	**Renai**	**2.66**	**349**	*e*P	Pn	18 52 56.3	-0.6
	baz=354						
WCS	**Beigang Elemen**	**2.71**	**344**	*e*P	Pn	18 52 56.9	-0.6
	baz=334						
WRL	**Guolierlin Hig**	**2.75**	**333**	*e*P	Pn	18 52 57.0	-0.9
	baz=333						
PHUB	**P'eng-hu**	**2.87**	**316**	*e*P	Pn	18 52 59.5	0.0
	baz=310						
WHP	**Taichung City**	**2.91**	**346**	*e*P	Pn	18 53 02.0	+1.7
	baz=336						

NEIC ***22*** *19:06:07.2±1.6,20°.1S±0°.2×177°.7W±0°.2,h412km±12km, mb4.0/13, Error ellipse: s-maj=27.7km s-min=23.4km az=169.0*

IDC ***22*** *19:06:09.5±8.7,19°.66S×177°.91W,h438km±95km,mb3.0/5, mb1 3.2/6,mb1mx2.9/41,mbtmp3.9/6, Error ellipse: s-maj=129.3km s-min=39.9km az=159.0*

ISC 22 19:06:10.4±1.1,20°.1S±0°.2×177°.8W±0°.2,h450km,n25, σ1s90°/25,mb4.1/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**13.30**	**262**	P	**P**	**19 09 01.1**	**-2.2**
PINNC	**Pines Island,**	**13.95**	**257**	P	**P**	**19 09 10.4**	**+0.1**
LIFNC	**LIFOU**	**14.01**	**265**	P	**P**	**19 09 08.5**	**-2.5**
DZM	**Mont Dzumac**	**14.81**	**260**	P	**P**	**19 09 20.0**	**+0.3**
	0.4nm,0.3s,baz=97,slow=18,SNR=2.1						
DZM	**Mont Dzumac**	**14.81**	**260**	P	**P**	**19 09 19.2**	**-0.4**
HNR	**Honiara**	**23.93**	**293**	P	**P**	**19 10 47.3**	**-0.2**
CTAO	**Charters Tower**	**33.69**	**264**	P	**P**	**19 12 13.1**	**+0.3**
CTAO				IAmb	IAmb	19 12 17.1	
	comp=Z,8.3nm,1.1s						
STKA	**Stephens Creek**	**38.11**	**244**	P	**P**	**19 12 49.9**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=84,slow=10,SNR=1.0						
BBOO	**Buckleboo**	**42.87**	**243**	P	**P**	**19 13 27.9**	**+0.2**
BBOO				IAmb	IAmb	19 13 42.5	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**44.62**	**262**	P	**P**	**19 13 41.0**	**-0.7**
WR0				IAmb	IAmb	19 14 05.3	
	comp=Z,12nm,1.5s						
AS31	**Alice Springs**	**44.77**	**256**	P	**P**	**19 13 42.8**	**+0.1**
ASAR	**Alice Springs**	**44.77**	**256**	P	**P**	**19 13 42.9**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=94,slow=8.4,SNR=46						
ASAR	**Alice Springs**	**44.77**	**256**	P	**P**	**19 13 42.5**	**-0.3**
WB0	**Warramunga Arr**	**44.79**	**262**	P	**P**	**19 13 42.3**	**-0.6**
WB0				IAmb	IAmb	19 14 19.0	
	comp=Z,9.1nm,1.2s						
WB2	**Warramunga Arr**	**44.80**	**262**	P	**P**	**19 13 42.5**	**-0.5**
WB2				IAmb	IAmb	19 14 20.6	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.81**	**262**	P	**P**	**19 13 42.5**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=95,slow=7.9,SNR=18						
FORT	**Forrest**	**49.60**	**246**	P	**P**	**19 14 19.3**	**+0.1**
KNRA	**Kununurra**	**50.84**	**266**	P	**P**	**19 14 28.6**	**+0.1**
KNRA				IAmb	IAmb	19 15 01.5	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.24**	**262**	P	**P**	**19 14 46.6**	**+0.8**
	comp=Z,1.7nm,1.0s,baz=76,slow=9.0,SNR=2.0						
FITZ	**Fitzroy Crossi**	**53.24**	**262**	P	**P**	**19 14 46.7**	**+0.8**
FITZ				IAmb	IAmb	19 15 04.1	
	comp=Z,6.4nm,1.4s						
SBA	**Scott Base**	**58.29**	**184**	P	**P**	**19 15 19.8**	**-0.3**
KSAR	**Wonju Array Be**	**76.70**	**318**	P	**P**	**19 17 16.0**	**+1.9**
KS19	**Wonju Array Si**	**76.75**	**318**	P	**P**	**19 17 15.9**	**+1.5**
TXAR	**Lajitas Array**	**86.70**	**57**	P	**P**	**19 18 05.1**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=223,slow=4.9,SNR=2.9						
CLL	**Collm**	**147.70**	**347**	*e*PKPbc	**PKPab**	**19 25 06.0**	**-1.0**

UPA ***22*** *19:14:31.2±2.7,9°.96N×83°.10W, h4km±9km,MW4.3*

UCR ***22*** *19:14:32.7±1.4,9°.96N×83°.20W, h11km±4km,MW3.9*

INET ***22*** *19:14:36.4±2.6,9°.85N×83°.44W, h5km, ML3.1, MW3.0*

ISC 22 19:14:31.1±1.2,10°.02N±0°.05×83°.12W±0°.04,h26km±10km, n55,σ0°.78/69,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATAN	**Batan**	**0.26**	**286**	*e*P	**Pb**	**19 14 38.1**	**+0.5**
VTCV	**VTCV, Calle Va**	**0.60**	**266**	*e*P	**Pn**	**19 14 43.1**	**-1.0**
CVTR	**Volcan Turrial**	**0.63**	**270**	*e*P	**Pb**	**19 14 43.6**	**-0.1**
VTUC	**Crater, Volcan**	**0.63**	**270**	*e*P	**Pb**	**19 14 43.6**	**-0.2**
VTRT	**Volcan Turrial**	**0.66**	**268**	*e*P	**Pn**	**19 14 44.4**	**-0.8**
RAFA	**San Farael, Vo**	**0.69**	**265**	*e*P	**Pn**	**19 14 44.5**	**-0.9**
DRK0	**Durika**	**0.77**	**189**	*e*P	**Pb**	**19 14 45.3**	**-0.6**
DRK0	**Durika**	**0.77**	**189**	*e*P	**Pb**	**19 14 45.3**	**-0.6**
DRK0				*e*S	**Sb**	**19 14 55.7**	**-0.3**
DRK0	**Durika**	**0.77**	**189**	*e*P	**Pb**	**19 14 45.3**	**-0.6**
DRK0				IAML		19 14 57.7	
	comp=Z,15μm,0.1s						

PLVR	Palo Verde	2.22 279	*e*P	Pb	19 15 09.7	-1.0
ORTG	Ortega, Santa	2.33 279	*e*P	Pb	19 15 11.1	-1.3
HZTE	Horizontes, Gu	2.53 286	*e*P	Pb	19 15 14.9	-0.9
HZTE			IAML		19 15 48.8	
	comp=Z,87nm,1.3s					

DJA ***22*** *19:14:59.6±0.3,8˚S±3˚×11˚9E±˚, h10km,M3.3/11, mb3.1/1, MLv3.4/11*
IDC ***22*** *19:15:04.7±1.9,7.˚49S×120˚.33E, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.3/61, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=94.2km s-min=14.9km az=68.0*

ISC 22 19:15:02.0±1.1, 7.˚78S±0.˚05×119.˚00E±0.˚06, h35km, n13, σ0s55/14, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.60**	**229**	P	**Pn**	**19 15 28.0**	**+0.1**
PLAI				S	**Sn**	**19 15 46.8**	**-0.5**
BSSI	**Bau Bau, Buton**	**2.19**	**42**	P	**Pn**	**19 15 35.8**	**-0.2**
BKSI	**Bulukumba**	**2.68**	**25**	P	**Pn**	**19 15 42.4**	**-0.3**
KAPI	**Kappang**	**2.84**	**15**	Pn	**Pn**	**19 15 45.2**	**+0.2**
	2.6nm,0.3s,baz=184,slow=5.6,SNR=8.1						
KAPI				Sn	**Sn**	**19 16 17.7**	**-0.4**
	5.5nm,0.3s,baz=179,slow=8.4,SNR=1.9						
KAPI				Lg	Lg	19 16 25.5	
	12nm,0.3s,baz=117,slow=22,SNR=4.0						
BASI	**Baing, Sumba**	**2.88**	**147**	P	**Pn**	**19 15 46.2**	**+0.7**
MMRI	**Maumere**	**3.31**	**105**	P	**Pn**	**19 15 51.4**	**0.0**
BNSI	**Bone**	**3.53**	**18**	P	**Pn**	**19 15 55.8**	**+1.4**
SRBI	**Singaraja**	**3.77**	**265**	P	**Pn**	**19 15 57.9**	**+0.2**
JAGI	**Jajag, Banyuwa**	**4.85**	**262**	P	**Pn**	**19 16 12.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**12.12**	**148**	Pn	**Pn**	**19 17 52.4**	**0.0**
	0.1nm,0.3s,baz=332,slow=12,SNR=2.7						
FITZ				Sn	Sn	19 19 56.9	-10
	0.1nm,0.3s,baz=105,slow=22,SNR=1.6						
WRA	**Warramunga Arr**	**19.16**	**131**	P	**P**	**19 19 22.3**	**-0.4**
	0.2nm,0.3s,baz=308,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**21.30**	**140**	P	**P**	**19 19 46.0**	**+0.1**
	1.5nm,0.5s,baz=315,slow=8.9,SNR=30						
MKAR	**Makanchi Array**	**63.38**	**333**	P	P	19 25 39.3	+11
	0.3nm,0.7s,baz=123,slow=7.1,SNR=2.7						

IDC 22 19:19:56.9±17.0, 10.˚66N×56.˚55E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.3/63, mbtmp3.8/4, Error ellipse: s-maj=346.9km s-min=81.7km az=179.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**39.68**	**1**	P	P	19 27 30.4	-0.2
	1.3nm,0.6s,baz=161,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**42.11**	**26**	P	P	19 27 51.1	+0.3
	0.2nm,0.5s,baz=205,slow=6.4,SNR=1.8						
ZALV	**Zalesovo Beam**	**48.71**	**22**	P	P	19 28 42.5	-0.5
	0.6nm,0.4s,baz=218,slow=6.6,SNR=5.2						
FINES	**FINESS Array B**	**55.38**	**343**	P	P	19 29 32.5	0.0
	1.0nm,0.6s,baz=162,slow=5.7,SNR=4.2						

DJA 22 19:22:27.2±0.2, 1.˚S±3.˚×12.˚2E±˚, h10km, M3.7/13, mb3.8/5, MLv3.6/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.65**	**128**	P	Pg	19 22 39.9	+0.1
APSI	**Ampana**	**0.67**	**246**	P	Pg	19 22 39.8	-0.3
MRSI	**Marisa**	**1.16**	**344**	P	Pb	19 22 47.8	-1.5
GTOI	**Gorontalo**	**1.47**	**31**	P	Pn	19 22 52.1	-1.7
KMSI	**Cibinong**	**2.10**	**55**	P	Pn	19 23 03.4	+0.9
MPSI	**Mapaga**	**2.55**	**292**	P	Pn	19 23 08.3	-0.4
TTSI	**Tana Toraja**	**3.42**	**226**	P	Pn	19 23 21.1	+0.6
SANI	**Sanana**	**3.98**	**111**	P	Pn	19 23 26.8	-1.5
SPSI	**Sidrap Palu**	**4.13**	**217**	P	Pn	19 23 30.8	+0.3
BNSI	**Bone**	**4.31**	**210**	P	Pn	19 23 34.2	+1.3
BKSI	**Bulukumba**	**5.12**	**205**	P	Pn	19 23 43.6	-0.4
	0.1nm11nm,1.2s						
LBMI	**Labuha**	**5.24**	**90**	P	Pn	19 23 45.3	-0.4
	0.1nm7.0nm,1.0s						
BSSI	**Bau Bau, Buton**	**5.74**	**198**	P	Pn	19 23 52.1	-0.5
	0.1nm28nm,1.3s						
PLAI	**Plampang**	**9.28**	**209**	P	Pn	19 24 40.4	-0.8

IDC 22 19:32:49.4±342.0, 57.˚07N×30.˚86E, h0km, Error ellipse: s-maj=82.7km s-min=46.5km az=150.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.51**	**93**	*i*		19 53 40.0	
	baz=277,slow=325,SNR=1.5						
I26DE	**FREYUNG INFRAS**	**13.18**	**239**	*i*		20 50 20.0	
	baz=41,slow=328,SNR=1.7						
I37NO	**I37NO**	**13.22**	**341**	*i*		20 40 27.8	
	baz=150,slow=334,SNR=2.1						
I48TN	**KESRA INFRASON**	**25.73**	**223**	*i*		22 13 00.0	
	baz=28,slow=320,SNR=0.7						

IDC ***22*** *19:33:22.4±0.8, 40.˚52N×144.˚93E, h0km, mb3.7/14, mb1 3.9/17, mb1mx3.6/67, mbtmp3.7/17, ML2.9/3, MS4.0/1, Ms1 4.0/1, ms1mx2.4/83, Error ellipse: s-maj=21.3km s-min=17.1km az=111.0*
JMA ***22*** *19:33:24.5±0.3, 40.˚50N×144.˚81E, h49km, M3.8*
NIED ***22*** *19:33:24.6, 40.˚50N×144.˚81E, h49km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr~4.54; Mθθ2.75; Mφφ 1.79; Mrθ~0.39; Mθφ 0.95; Mφr~0.34; Fault plane solution: M₀3.97000×10¹⁴ NP1: φs239.00000°, δ41.00000°, λ~89.00000°. NP2:φs57.00000°, δ49.00000°, λ~91.00000°.*

ISC 22 19:33:27.1±0.7, 40.˚51N±0.˚05×144.˚83E±0.˚07, h36km, n41, σ2s24/45, mb3.6/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.96**	**321**	P	**Pn**	**19 33 56.6**	**-1.2**
JEM				*e*S	**Sn**	**19 34 19.8**	**-1.4**
JTHR	**Tokachihiroo**	**2.12**	**328**	P	**Pn**	**19 33 58.4**	**-1.6**
JTHR				S	**Sn**	**19 34 22.3**	**-2.8**
JTH	**Tanohata**	**2.34**	**257**	P	**Pn**	**19 34 01.2**	**-1.8**
JTH				*e*S	**Sn**	**19 34 27.6**	**-2.9**
JNBK	**Urakawa-nobuka**	**2.36**	**319**	P	**Pn**	**19 34 01.9**	**-1.4**
JNBK				*e*S	**Sn**	**19 34 30.6**	**-0.4**
JCH	**Churui**	**2.38**	**333**	P	**Pn**	**19 34 02.1**	**-1.4**
JCH				*e*S	**Sn**	**19 34 28.5**	**-2.8**
JAK	**Akkeshi**	**2.49**	**358**	P	**Pn**	**19 34 02.8**	**-2.2**
JAK				*e*S	**Sn**	**19 34 30.9**	**-3.2**
JAR	**Ashorobuto**	**2.90**	**345**	P	**Pn**	**19 34 09.4**	**-1.3**
JAR				S	**Sn**	**19 34 41.4**	**-2.8**
JOM	**Ohasama**	**2.91**	**250**	S	**Sn**	**19 34 42.7**	**-1.8**
NEM2	**Nemuro 2**	**2.94**	**13**	P	**Pn**	**19 34 08.7**	**-2.5**
NEM2				S	**Sn**	**19 34 41.0**	**-4.1**
JOT	**Ohata**	**2.99**	**288**	*e*S	**Sn**	**19 34 43.6**	**-3.0**
JMK	**Ichinoseki**	**3.19**	**242**	P	**Pn**	**19 34 13.7**	**-0.9**
JRA	**Rausu**	**3.44**	**4**	S	**Sn**	**19 34 52.4**	**-5.1**
JEW	**Eniwo**	**3.44**	**314**	*e*S	**Sn**	**19 34 57.0**	**-0.6**
JTKR	**Abashiri--Toko**	**3.53**	**349**	P	**Pn**	**19 34 18.5**	**-0.8**
JTKR				*e*S	**Sn**	**19 34 57.5**	**-2.2**
JYK	**Kaneyama**	**3.79**	**247**	P	**Pn**	**19 34 22.5**	**-0.5**
JYK				*e*S	**Sn**	**19 35 05.8**	**-0.6**
ASAJ	**Asahikawa**	**3.97**	**336**	Pn	**Pn**	**19 34 24.8**	**-0.6**
	1.5nm,0.3s,baz=189,slow=14,SNR=20						
ASAJ				Sn	**Sn**	**19 35 09.6**	**-1.1**
	2.5nm,0.3s,baz=198,slow=20,SNR=8.7						
ASAJ				LR	LR	19 36 23.6	
	comp=Z,116nm,18.4s,baz=166,slow=45						
MJAR	**Matsushiro Arr**	**6.53**	**235**	Pn	**Pn**	**19 35 01.9**	**+1.3**
	0.1nm,0.3s,baz=60,slow=11,SNR=2.7						
JHJ	**Hachijo jima 2**	**8.41**	**210**	Pn	**Pn**	**19 35 23.3**	**-3.1**
	3.4nm,0.3s,baz=13,slow=14,SNR=1.7						
JHJ				Sn	**Sn**	**19 36 52.8**	**-7.2**
	2.9nm,0.3s,baz=81,slow=19,SNR=1.2						
USRK	**Ussuriysk Ar.**	**10.19**	**295**	Pn	**Pn**	**19 35 52.0**	**+1.2**
	baz=92,slow=13,SNR=5.3						
JCJ	**Chichijima**	**13.56**	**190**	LR	LR	19 41 00.8	
	comp=Z,31nm,19.9s,baz=164,slow=34						
SEY	**Seymchan**	**22.91**	**9**	P	**P**	**19 38 27.4**	**-0.1**
	0.9nm,0.6s,baz=136,slow=10,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.02**	**131**	T	T	20 08 36.2	
	baz=323						
H11N1	**WAKE ISLAND Hy**	**28.03**	**131**	T	T	20 08 40.5	
	baz=323						
H11N3	**WAKE ISLAND Hy**	**28.04**	**131**	T	T	20 08 40.1	
	baz=323						
SONM	**Songino Array**	**28.29**	**298**	P	**P**	**19 39 18.5**	**+1.4**
	0.4nm,0.5s,baz=90,slow=9.9,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**28.89**	**133**	T	T	20 09 47.4	
	baz=321						
H11S3	**WAKE ISLAND Hy**	**28.89**	**133**	T	T	20 09 42.1	
	baz=321						
H11S2	**WAKE ISLAND Hy**	**28.90**	**133**	T	T	20 09 45.2	
	baz=321						
ZALV	**Zalesovo Beam**	**41.65**	**310**	P	**P**	**19 41 13.2**	**+1.4**
	0.4nm,0.4s,baz=92,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**44.62**	**300**	P	**P**	**19 41 36.5**	**+0.6**
	0.4nm,0.5s,baz=76,slow=6.1,SNR=6.7						
ILAR	**Eielson Array**	**45.13**	**34**	P	**P**	**19 41 38.7**	**-0.9**
	0.6nm,0.6s,baz=263,slow=6.6,SNR=7.4						
KURBB	**Kurchatov Arra**	**46.05**	**306**	P	**P**	**19 41 47.7**	**+0.7**
	0.7nm,0.6s,baz=79,slow=8.6,SNR=3.7						
INK	**Inuvik**	**50.07**	**29**	P	**P**	**19 42 19.5**	**+1.6**
	0.7nm,0.5s,baz=291,slow=8.7,SNR=3.8						
RES	**Resolute Bay**	**58.56**	**16**	P	**P**	**19 43 20.4**	**+1.0**
	1.8nm,0.8s,baz=329,slow=9.2,SNR=5.1						
YKA	**Yellowknife Ar**	**59.46**	**32**	P	**P**	**19 43 26.3**	**+0.4**
	0.1nm,0.7s,baz=294,slow=6.0,SNR=2.1						
WRA	**Warramunga Arr**	**60.93**	**191**	P	**P**	**19 43 36.5**	**+0.2**
	1.2nm,0.7s,baz=7.9,slow=6.8,SNR=9.9						
ASAR	**Alice Springs**	**64.65**	**191**	P	**P**	**19 44 02.6**	**+1.5**
	0.5nm,0.8s,baz=12,slow=5.2,SNR=4.7						
FINES	**FINESS Array B**	**66.97**	**333**	P	**P**	**19 44 16.0**	**+0.4**
	1.6nm,0.6s,baz=54,slow=4.9,SNR=8.9						
NOA	**NORSAR Array B**	**71.99**	**338**	P	**P**	**19 44 46.9**	**+0.2**
	0.7nm,0.8s,baz=35,slow=6.0,SNR=2.2						
TXAR	**Lajitas Array**	**85.91**	**55**	P	**P**	**19 46 05.0**	**+1.4**
	0.2nm,0.6s,baz=310,slow=4.2,SNR=2.6						
VAE	**Valguarnera**	**90.07**	**323**	LR	LR	20 32 20.7	
	comp=Z,72nm,21.8s,baz=130,slow=39						

IDC ***22*** *19:38:09.8±0.4,4.˚43S×94.˚31E, h0km, mb4.6/50, mb1 4.6/53, mb1mx4.5/68, mbtmp4.6/53, ML5.4/3, MS4.3/30, Ms1 4.3/30, ms1mx4.1/48, Error ellipse: s-maj=12.4km s-min=9.8km az=26.0*
MOS ***22*** *19:38:10.4±1.2,4.˚42S×94.˚41E, h21km, mb5.1/43, MS4.4/8, Error ellipse: s-maj=7.0km s-min=3.9km az=112.9*
NEIC ***22*** *19:38:11.3±1.6,4.˚51S±0.˚06×94.˚37E±0.˚07, h15km±3km, mb5.2/171, Error ellipse: s-maj=10.8km s-min=9.2km az=98.0*
DJA ***22*** *19:38:12.3±0.3,4˚S±3˚×9˚4E±˚, h10km, M5.2/53, mb5.3/53, mB5.7/46, MLv6.2/7, Mw(mB)5.2/46, MwMwp4.8/11, Mwp5.2/11*
GCMT ***22*** *19:38:14.3±0.1,4.˚46S±0.˚01×94.˚41E±0.˚01, h35km, MW5.3/124, Moment Tensor Solution. s99,c160; s124,c219; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.04±.02; Mθθ0.00±.01; Mφφ -0.03±.02; Mrθ-0.14±.02; Mrφ-0.95±.01; Mθr-0.30±.02; Best double couple: M₀1.00200×10¹⁷ NP1:φs90.00000°, δ73.00000°, λ-174.00000°. NP2:φs359.00000°, δ84.00000°, λ-17.00000°. Principal axes: T 0.9460, Plg7.0000°, Azm46.0000°; N 0.1130, Plg72.0000°, Azm159.0000°; P -1.0590, Plg16.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KLM ***22*** *19:38:15,4.˚28S×94.˚24E, h30km, mb5.4*

ISC 22 19:38:12.1±0.4, 4.˚56S±0.˚04×94.˚36E±0.˚04, h20km±1km, h20km:pP-P, n654, σ1s50/673, mb5.0/219, MS4.5/61, 45C-90D, Fault plane solution: NP1:φs8.17036°, δ58.36549°, λ-34.83546°. NP2:φs118.22334°, δ60.89940°, λ-143.11055°. Principal axes: T Plg1.5460°, Azm242.6775°; N Plg44.3336°, Azm151.1665°; P Plg45.6247°, Azm334.2581°; Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**5.71**	**56**	P	**Pn**	**19 39 36.8**	**+0.9**
	20nm56µm5µm,0.5s						
PPSI	**Pulau Pagai**	**5.92**	**73**	P	**Pn**	**19 39 39.6**	**+0.9**
	14nm51µm3µm,0.6s						
GSI	**Gunungsitoli**	**6.65**	**29**	Pn	**Pn**	**19 39 47.9**	**-0.9**
GSI	**Gunungsitoli**	**6.65**	**29**	P	**Pn**	**19 39 48.2**	**-0.6**
	3.6nm9µm12µm781nm,0.7s						
GSI	**Gunungsitoli**	**6.65**	**29**	P	**Pn**	**19 39 48.4**	**-0.4**
MNSI	**Mandailing Nat**	**7.45**	**45**	P	**Pn**	**19 40 00.5**	**+0.7**
	10nm41µm2µm,0.4s						
KRJI	**Kerinci**	**7.50**	**71**	P	**Pn**	**19 40 01.3**	**+0.7**
	18nm6µm38µm3µm,0.5s						
COCO	**West Island**	**7.97**	**162**	P	**Pn**	**19 40 03.7**	**-3.2**
COCO	**West Island**	**7.97**	**162**	Pn	**Pn**	**19 40 03.7**	**-3.2**
BKNI	**Bangkinang**	**8.25**	**54**	Pn	**Pn**	**19 40 11.0**	**+0.2**
BKNI	**Bangkinang**	**8.25**	**54**	P	**Pn**	**19 40 11.4**	**+0.6**
	6µm12µm2µm,1.2s						
BKNI	**Bangkinang**	**8.25**	**54**	P	**Pn**	**19 40 12.5**	**+1.7**
RPSI	**Rantau Prapat**	**8.53**	**32**		**Pn**	**19 40 14.6**	**0.0**
RPSI					**Sn**	**19 41 47.0**	**-3.3**
MNAI	**Manna**	**8.58**	**89**		**Pn**	**19 40 15.7**	**+0.4**
MNAI	**Manna**	**8.58**	**89**	P	**Pn**	**19 40 16.1**	**+0.8**
	5µm439nm,0.7s						
MNAI	**Manna**	**8.58**	**89**	P	**Pn**	**19 40 16.2**	**+0.9**
PSI	**Prapat**	**8.62**	**32**	Pn	**Pn**	**19 40 14.6**	**-1.3**
	27nm,0.3s,baz=193,slow=10,SNR=58						
PSI				Sn	**Sn**	**19 41 47.0**	**-5.6**
	1.3nm,0.3s,baz=165,slow=18,SNR=1.6						
PSI				LR	LR	19 43 23.8	
	comp=Z,4µm,20.1s,baz=204,slow=37						
KCSI	**Kotacane, Aceh**	**8.72**	**23**	P	**Pn**	**19 40 16.1**	**-1.2**
	5µm340nm,0.5s						
RGRI	**Rengat**	**9.00**	**63**	P	**Pn**	**19 40 22.0**	**+0.9**
	7µm793nm,0.7s						
TSI	**Tuntungan**	**9.04**	**28**	P	**Pn**	**19 40 21.2**	**-0.4**
	5µm5µm514nm,0.8s						
LWLI	**Liwa**	**9.68**	**93**	P	**Pn**	**19 40 33.3**	**+2.8**
	6µm338nm,0.5s						
JMBI	**JAMBI**	**9.71**	**73**	P	**Pn**	**19 40 30.7**	**-0.2**
	3µm213nm,0.7s						
LHMI	**Lhok Sumawe**	**10.06**	**15**	Pn	**Pn**	**19 40 34.7**	**-0.9**
KASI	**Kota Agung**	**10.15**	**96**	P	**Pn**	**19 40 36.6**	**-0.2**
	2µm241nm,0.5s						
PMBI	**Palembang**	**10.52**	**82**		**Pn**	**19 40 41.1**	**-0.8**
PMBI	**Palembang**	**10.52**	**82**	P	**Pn**	**19 40 42.1**	**+0.2**
	5µm441nm,1.2s						
BLSI	**Bandar Lampung**	**10.88**	**95**	P	**Pn**	**19 40 46.5**	**-0.3**
	2µm124nm,0.5s						
DSRI	**Dabo**	**10.98**	**69**	P	**Pn**	**19 40 48.6**	**+0.3**
	1µm3µm218nm,1.4s						
IPM	**Ipoh**	**11.18**	**37**	Pn	**Pn**	**19 40 51.0**	**+0.1**
IPM	**Ipoh**	**11.18**	**37**	P	**Pn**	**19 40 52.2**	**+1.2**
MYKOM	**Kota Tinggi**	**11.39**	**57**	Pn	**Pn**	**19 40 54.0**	**+0.1**
CGJI	**Cibinong**	**11.47**	**101**	P	**Pn**	**19 40 56.0**	**+1.1**
	2µm209nm,0.6s						
TPRI	**Tanjung Pinang**	**11.53**	**62**	P	**Pn**	**19 40 56.4**	**+0.7**
	5µm571nm,1.5s						
KULM	**Kulim**	**11.63**	**33**	Pn	**Pn**	**19 40 56.2**	**-0.9**
PPBI	**Pangkal Pinang**	**12.00**	**79**	P	**Pn**	**19 41 02.5**	**+0.3**
	4µm52nm,1.0s						
SKJI	**Sukabumi**	**12.38**	**102**	P	**Pn**	**19 41 09.3**	**+1.9**
	1µm94nm,0.5s						
DBJI	**Dramaga**	**12.49**	**100**	P	**Pn**	**19 41 10.9**	**+1.9**
	2µm75nm,0.5s						
CBJI	**Citeko**	**12.57**	**99**	P	**Pn**	**19 41 13.8**	**+3.8**
	4µm267nm,0.5s						
XMIS	**Christmas Isla**	**12.65**	**118**	Pn	**Pn**	**19 41 06.9**	**-4.1**
CNJI	**Cibinong**	**12.99**	**103**	P	**Pn**	**19 41 15.7**	**-0.1**
	2µm2µm112nm,0.6s						
LEM	**Lembang**	**13.39**	**100**	Pn	**Pn**	**19 41 23.0**	**+1.7**
	24nm,0.3s,baz=190,slow=3.8,SNR=16						
LEM				Sn	**Sn**	**19 43 45.5**	**-4.2**
	9.8nm,0.3s,baz=306,slow=21,SNR=9.0						
LEM	**Lembang**	**13.39**	**100**	P	**Pn**	**19 41 24.0**	**+2.7**
	1µm42nm,0.5s						
TPI	**Tanjungpandan**	**13.39**	**83**	P	**Pn**	**19 41 22.1**	**+0.9**
	296nm15nm,1.3s						
SRIT	**Nakonsritamara**	**14.07**	**22**	Pn	**Pn**	**19 41 28.7**	**-1.9**
CMJI	**Cimerak**	**14.37**	**104**	P	**Pn**	**19 41 35.8**	**+1.2**
	61nm,0.7s						
PBA	**Port Blair**	**16.19**	**354**	P	**Pn**	**19 41 58.2**	**-0.3**
PBA					IAmb	IAmb	19 42 35.8
	comp=Z,137nm,1.1s						
SMRI	**Semarang**	**16.19**	**100**	P	**Pn**	**19 41 59.6**	**+0.9**
SMRI					IAmb	IAmb	19 42 25.9
	comp=Z,141nm,1.1s						
SMRI	**Semarang**	**16.19**	**100**	P	P	19 42 10.4	+8.6
UGM	**Wanagama**	**16.41**	**103**		**Pn**	**19 42 02.3**	**+0.8**
UGM	**Wanagama**	**16.41**	**103**	P	**P**	**19 42 03.2**	**-1.0**
	comp=Z,4µmcomp=Z,234nm,1.4s						
UGM	**Wanagama**	**16.41**	**103**	P	**Pn**	**19 42 02.9**	**+1.4**
KSM	**Kuching**	**17.03**	**70**		**Pn**	**19 42 09.2**	**-0.1**
KSM				IAmb	IAmb	19 42 15.1	
	comp=Z,376nm,1.8s						
KSM	**Kuching**	**17.03**	**70**	P	**P**	**19 42 12.0**	**+1.0**
KSM	**Kuching**	**17.03**	**70**	P	**P**	**19 42 11.5**	**+0.5**
PCJI	**Pacitan**	**17.10**	**103**	P	**P**	**19 42 13.9**	**+2.1**
	comp=Z,74nm,1.0s						
PWJI	**Pagerwojo**	**17.68**	**102**	P	**Pn**	**19 42 17.7**	**+0.3**
	comp=Z,2µmcomp=Z,63nm,1.8s						
STKI	**Sintang**	**17.71**	**75**	P	**Pn**	**19 42 18.3**	**+0.5**
	comp=Z,3µmcomp=Z,82nm,1.6s						
PALK	**Pallekele**	**17.99**	**311**	P	**Pn**	**19 42 21.8**	**+0.5**
	comp=Z,12nm,0.3s,baz=231,slow=13,SNR=90						
PALK				S	Sn	19 45 26.6	-15
	comp=Z,2.8nm,0.3s,baz=328,slow=20,SNR=4.5						
PALK				LR	LR	19 48 19.7	
	comp=Z,1µm,18.2s,baz=222,slow=34						
PALK	**Pallekele**	**17.99**	**311**	*ce*P	**P**	**19 42 22.6**	**+0.9**
PALK				pmax	pmax		
	comp=Z,38nm,0.3s						
PALK	**Pallekele**	**17.99**	**311**		**Pn**	**19 42 19.8**	**-1.5**
PALK				IAmb	IAmb	19 42 38.6	
	comp=Z,194nm,1.2s						
SBUM	**Sibu**	**19.16**	**69**	P	**P**	**19 42 31.8**	**-2.7**
SBUM				IAmb	IAmb	19 42 39.0	
	comp=Z,320nm,1.8s						
SBUM	**Sibu**	**19.16**	**69**	P	**Pn**	**19 42 37.0**	**+1.5**
BLJI	**Banyuglugur**	**19.39**	**100**	P	Pn	19 42 53.6	+15
ABJI	**Asem Bagus**	**20.02**	**100**	P	Pn	19 43 01.0	+15
JAGI	**Jajag, Banyuwa**	**20.05**	**102**	P	**P**	**19 42 43.5**	**-0.7**
JAGI				IAmb	IAmb	19 43 01.1	
	comp=Z,138nm,1.6s						
JAGI	**Jajag, Banyuwa**	**20.05**	**102**	P	Pn	19 42 45.8	-0.3
BBKI	**Banjar Baru**	**20.46**	**88**	P	Pn	19 42 53.5	+2.5
	comp=Z,807nmcomp=Z,51nm,1.8s						
MTKI	**Muara Teweh, K**	**20.82**	**81**	P	**P**	**19 42 54.2**	**+1.5**
	comp=Z,906nmcomp=Z,71nm,1.3s						
SRBI	**Singaraja**	**21.02**	**101**	P	**P**	**19 42 58.3**	**+3.5**
	comp=Z,2µmcomp=Z,147nm,1.3s						
KAAM	**Kaadhehdhoo**	**21.92**	**283**	P	**P**	**19 43 01.4**	**-3.1**
H08S2	**Diego Garcia H**	**21.95**	**261**	T	T	20 05 03.8	
	baz=83,slow=74,SNR=12						
H08S3	**Diego Garcia H**	**21.96**	**261**	T	T	20 05 06.9	
	baz=83,slow=74,SNR=17						
DGAR	**Diego Garcia**	**21.97**	**262**	*e*P	**P**	**19 43 03.8**	**-1.2**
DGAR				pmax	pmax		
	comp=Z,127nm,1.6s						
H08S1	**Diego Carcia H**	**21.97**	**261**	T	T	20 05 07.4	
	baz=83,slow=74,SNR=13						
UBPT	**Khong Chiam**	**22.57**	**29**	P	**P**	**19 43 10.4**	**-1.1**
UBPT				IAmb	IAmb	19 43 30.9	
	comp=Z,173nm,1.3s						
CM31	**Chiang Mai Arr**	**23.31**	**11**	P	**P**	**19 43 17.2**	**-1.9**
CM31				IAmb	IAmb	19 43 40.6	
	comp=Z,51nm,1.0s						
CMAR	**Chiang Mai Arr**	**23.31**	**11**	P	**P**	**19 43 19.7**	**+0.6**
	comp=Z,8.8nm,0.7s,baz=199,slow=9.0,SNR=47						
CMAR	**Chiang Mai Arr**	**23.31**	**11**	P	**P**	**19 43 18.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**23.31**	**11**	P	**P**	**19 43 18.2**	**-0.9**
PCHI	**Peechi**	**23.37**	**310**	*e*P	**P**	**19 43 20.7**	**+0.9**
PCHI				*e*S	**S**	**19 47 33.2**	**+1.3**
PLAI	**Plampang**	**23.64**	**102**	P	**P**	**19 43 24.0**	**+1.6**
	comp=Z,3µmcomp=Z,236nm,1.2s						
PLAI	**Plampang**	**23.64**	**102**	P	**P**	**19 43 23.3**	**+0.9**
CHTO	**Chiang Mai**	**23.66**	**11**	P	**P**	**19 43 22.0**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,29nm,1.1s						
CHTO	**Chiang Mai**	**23.66**	**11**	P	**P**	**19 43 22.0**	**-0.5**
CHTO	**Chiang Mai**	**23.66**	**11**	P	**P**	**19 43 23.1**	**+0.6**
SPMM	**Sapulut**	**23.93**	**68**	P	**P**	**19 43 27.0**	**+1.9**
KKM	**Kota Kinabalu**	**24.23**	**64**	P	**P**	**19 43 28.6**	**+0.5**
KKM	**Kota Kinabalu**	**24.23**	**64**	P	**P**	**19 43 29.5**	**+1.4**
KAPI	**Kappang**	**25.31**	**92**	P	**P**	**19 43 40.5**	**+2.8**
	comp=Z,7.5nm,0.5s,baz=300,slow=3.6,SNR=5.0						
KAPI	**Kappang**	**25.31**	**92**	*e*P	**P**	**19 43 39.2**	**+1.4**
KAPI				pmax	pmax		
	comp=Z,37nm,1.4s						
KAPI	**Kappang**	**25.31**	**92**	P	**P**	**19 43 35.5**	**-2.3**
KAPI				IAmb	IAmb	19 43 58.4	
	comp=Z,61nm,1.0s						
SPSI	**Sidrap Palu**	**25.35**	**90**	P	P	19 43 48.8	+11
**TTSI

PKI **Pulchoki** 33.09 345 *e*P P 19 44 47.2 0.0
PKIN **Phulchoki** 33.10 345 *e*P P 19 44 47.1 -0.1
GUN **Gumba** 33.30 346 *e*P P 19 44 49.7 +0.7
comp=Z,68nm,0.6s
KKN **Kakani** 33.33 345 *e*P P 19 44 49.3 +0.1
comp=Z,23nm,0.7s
LBMI **Labuha** 33.33 84 P P 19 44 51.2 +2.0
comp=Z,569nmcomp=Z,37nm,0.9s
TNTI **Ternate** 33.40 82 P P 19 44 48.3 -1.5
TNTI IAmb IAmb 19 45 04.2
comp=Z,25nm,1.2s
TNTI **Ternate** 33.40 82 P P 19 44 59.3 +10
FITZ **Fitzroy Crossi** 33.42 116 P P 19 44 51.0 +1.1
comp=Z,2.9nm,0.6s,baz=260,slow=6.9,SNR=16
FITZ **Fitzroy Crossi** 33.42 116 P P 19 44 49.4 -0.4
GKN **Gorkha** 33.70 344 *e*P P 19 44 52.5 +0.2
KOLN **Koldanda** 33.77 343 *e*P P 19 44 53.2 +0.2
comp=Z,48nm,0.9s
LSA **Lhasa** 34.20 355 P P 19 44 57.2 +0.2
LSA pmax pmax
comp=Z,83nm,1.6s
LSA **Lhasa** 34.20 355 P P 19 44 57.1 +0.2
LSA IAmb IAmb 19 45 30.2
comp=Z,83nm,1.6s
LSA **Lhasa** 34.20 355 P P 19 44 58.8 +1.8
LSA pmax pmax
comp=Z,33nm,0.6s
PYUN **Piuthan** 34.27 342 *e*P P 19 44 57.3 0.0
comp=Z,54nm,1.2s
DANN **Dangsing** 34.27 343 *e*P P 19 44 57.3 -0.1
KLBR **Kellerberrin** 34.73 143 P P 19 45 02.0 +1.0
H01W3 **Cape Leeuwin H** 35.30 151 T T 20 22 37.6
baz=329,slow=74,SNR=5.1
H01W2 **Cape Leeuwin H** 35.31 151 T T 20 22 39.6
baz=329,slow=74,SNR=6.1
H01W1 **Cape Leeuwin H** 35.32 151 T T 20 22 24.4
baz=329,slow=74,SNR=6.9
NWAO **Narrogin (SRO)** 35.40 146 P P 19 45 05.1 -1.7
NWAO pmax pmax
comp=Z,31nm,1.0s
NWAO **Narrogin (SRO)** 35.40 146 P P 19 45 05.1 -1.7
NWAO IAmb IAmb 19 45 21.9
comp=Z,31nm,0.9s
KNRA **Kununurra** 35.56 111 P P 19 45 09.5 +1.1
baz=36,SNR=7.3
KNRA **Kununurra** 35.56 111 P P 19 45 07.1 -1.4
KNRA IAmb IAmb 19 45 23.4
comp=Z,49nm,1.1s
KNRA **Kununurra** 35.56 111 P P 19 45 09.5 +1.1
CD2 **Chengdu** 36.39 14 P P 19 45 17.3 +1.9
CD2 sP pwP 19 45 23.9 -2.7
CD2 PP **PP** 19 46 45.0 +6.6
CD2 S **S** 19 50 54.8 -1.1
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 LR LR
comp=Z,2μm,20.0s
CD2 LR LR
comp=Z,930nm,14.3s
SAUI **Saumlaki** 36.87 97 P P 19 45 20.8 +1.2
KNMB **Chin-men Tao** 37.14 38 P P 19 45 20.9 -0.8
KNMB IAmb IAmb 19 46 15.5
comp=Z,42nm,0.8s
CNSH **ChangSha** 37.15 28 ⇑P P 19 45 22.3 +0.5
CNSH S **S** 19 51 09.3 +1.9
CNSH LR LR
comp=Z,760nm,14.3s
CNSH LR LR
comp=Z,380nm,12.0s
CNSH LR LR
comp=Z,780nm,14.0s
MTN **Manton Dam** 37.23 105 P P 19 45 24.3 +1.6
baz=37,SNR=6.3
MTN **Manton Dam** 37.23 105 P P 19 45 21.8 -0.9
MTN **Manton Dam** 37.23 105 P P 19 45 23.4 +0.7
ENH **Enshi** 37.54 22 P P 19 45 23.6 -1.6
ENH IAmb IAmb 19 45 39.8
comp=Z,39nm,1.1s
QZH **Quanzhou** 37.62 38 ⇑*i*P P 19 45 26.6 +0.8
QZH PP **PnPn** 19 46 56.3 +3.4
QZH S **S** 19 51 15.8 +1.2
QZH LR LR
comp=Z,660nm,15.2s
QZH LR LR
comp=Z,670nm,14.7s
QZH LR LR
comp=Z,550nm,18.5s
TWG **Pinlang** 37.71 43 P P 19 45 26.3 -0.3
TPUB **Ta-pu** 37.74 42 P P 19 45 25.9 -1.0
TPUB IAmb IAmb 19 45 43.4
comp=Z,89nm,1.2s
YULB **Yu-li** 38.25 42 P P 19 45 30.7 -0.5
YULB IAmb IAmb 19 45 48.1
comp=Z,73nm,1.4s
SSLB **Suanglung** 38.29 41 P P 19 45 29.3 -2.2
SSLB IAmb IAmb 19 45 47.6
comp=Z,49nm,1.0s
WRKA **Warakurna** 38.42 125 P P 19 45 34.5 +1.7
baz=39,SNR=7.7
WRKA **Warakurna** 38.42 125 P P 19 45 34.4 +1.7
KDU **Kakadu** 38.50 105 P P 19 45 35.8 +2.3
baz=38,SNR=3.9
KDU **Kakadu** 38.50 105 P P 19 45 34.3 +0.9
NACB **Ninganchiao** 38.98 42 P P 19 45 36.8 -0.5
NACB IAmb IAmb 19 45 53.6
comp=Z,28nm,0.8s
YHNB **Yeheng** 39.18 41 P P 19 45 38.7 -0.3
YHNB IAmb IAmb 19 45 55.0
comp=Z,44nm,1.3s
WHN **Wuhan** 39.80 27 ⇑P P 19 45 51.8 +7.8
WHN PP PnPn 19 47 31.4 +12
WHN PP PnPn 19 47 31.4 +12
WHN S **S** 19 51 52.4 +5.0
WHN sS sS 19 51 59.1 +4.0
WHN pmax pmax
comp=Z,410nm,4.7s
WHN LR LR
comp=N,760nm,12.0s
WHN LR LR
comp=E,2μm,18.3s
WHN LR LR
comp=Z,2μm,16.0s
GOMU **GeErMu** 40.54 1 P P 19 45 51.1 +0.5
GOMU pP pP 19 45 54.8 -0.5
GOMU sP sP 19 45 58.3 +1.2
GOMU S **S** 19 51 59.1 0.0
GOMU pmax pmax
comp=Z,9.0nm,1.3s
GOMU pmax pmax
comp=Z,56nm,5.2s
GOMU LR LR
comp=Z,160nm,16.9s
GOMU LR LR
comp=Z,290nm,16.6s
GOMU LR LR
comp=Z,110nm,16.7s
XAN **Xi'an** 40.78 19 P P 19 45 52.9 +0.7
XAN pP sP 19 45 58.8 +0.1
XAN sP pwP 19 46 02.6 -0.8
XAN S **S** 19 51 59.9 -2.2
XAN ScS **ScS** 19 55 52.8 -4.0
XAN pmax pmax
comp=Z,20nm,1.1s
XAN pmax pmax
comp=Z,220nm,5.3s
XAN LR LR
comp=Z,530nm,17.2s
XAN LR LR
comp=Z,1μm,19.6s
XAN LR LR
comp=Z,820nm,17.9s
RER **Riviere de l'E** 40.94 243 P P 19 45 54.6 +0.9
FORT **Forrest** 41.07 133 P P 19 45 53.1 -1.5
LZH **Lanzhou** 41.40 12 *e*P P 19 46 04.1 +6.7
LZH pP pwP 19 46 07.6 -1.0
LZH sP sP 19 46 10.3 +6.4
LZH PP PcP 19 47 47.0 -8.4
LZH S **S** 19 52 09.3 -2.1
LZH SS **SnSn** 19 55 25.6 +0.3
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,180nm,5.4s
LZH LR LR
comp=N,540nm,14.0s
LZH LR LR
comp=E,1μm,14.1s
LZH LR LR
comp=Z,900nm,16.3s
WRA **Warramunga Arr** 41.81 115 P P 19 46 01.9 +1.0
comp=Z,3.5nm,0.6s,baz=288,slow=9.1,SNR=28
WRA **Warramunga Arr** 41.81 115 P P 19 46 00.6 -0.3
WRA pmax pmax
comp=Z,4.0nm,1.2s
WRA **Warramunga Arr** 41.81 115 P P 19 46 00.6 -0.3
WB0 **Warramunga Arr** 41.81 115 P P 19 46 00.8 -0.1
WB0 IAmb IAmb 19 46 16.6
comp=Z,63nm,1.2s
WRAB **Tennant Creek** 41.82 115 P P 19 46 00.8 -0.2
WRAB pmax pmax
comp=Z,51nm,1.1s
WRAB **Tennant Creek** 41.82 115 P P 19 46 00.8 -0.2
WRAB IAmb IAmb 19 46 16.8
comp=Z,51nm,1.1s
WRAB **Tennant Creek** 41.82 115 P P 19 46 03.1 +2.2
WB2 **Warramunga Arr** 41.82 115 P P 19 46 01.1 +0.2
WB2 IAmb IAmb 19 46 16.8
comp=Z,56nm,1.1s
WR0 **Warramunga Arr** 42.00 115 P P 19 46 01.6 -0.8
WR0 IAmb IAmb 19 46 18.3
comp=Z,74nm,1.2s
LYN **LuoYang** 42.48 22 *e*P P 19 46 12.8 +6.7
LYN S **S** 19 52 29.9 +2.7
LYN pmax pmax
comp=Z,20nm,0.9s
LYN pmax pmax
comp=Z,190nm,9.8s
LYN LR LR
comp=Z,840nm,16.5s
LYN LR LR
comp=Z,1μm,16.1s
LYN LR LR
comp=Z,670nm,15.5s
AS31 **Alice Springs** 42.58 120 P P 19 46 07.0 -0.2
ASAR **Alice Springs** 42.58 120 P P 19 46 08.4 +1.3
comp=Z,1.6nm,0.7s,baz=294,slow=7.7,SNR=19
ASAR **Alice Springs** 42.58 120 P P 19 46 07.8 +0.7
NIL **Nilore** 42.92 334 P P 19 46 08.6 -1.1
NIL pmax pmax
comp=Z,31nm,1.1s
NIL **Nilore** 42.92 334 P P 19 46 08.6 -1.1
NJ2 **Nanjing** 43.23 31 *e*P P 19 46 13.9 +1.8
NJ2 sP **sP** 19 46 20.3 +1.6
NJ2 S **S** 19 52 42.9 +4.7
NJ2 ScS **ScS** 19 56 13.5 +1.8
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 LR LR
comp=Z,840nm,15.7s
NJ2 LR LR
comp=Z,1μm,16.2s
NJ2 LR LR
comp=Z,750nm,16.7s
SOCY **Socotra** 43.44 293 P P 19 46 15.0 +0.7
SSE **Sheshan** 43.74 34 P P 19 46 18.8 +2.5
SSE S **S** 19 52 50.3 +4.6
SSE pmax pmax
comp=Z,10.0nm,0.8s
SSE pmax pmax
comp=Z,48nm,3.4s
SSE LR LR
comp=Z,370nm,17.6s
SSE LR LR
comp=Z,320nm,17.7s
GTA **Gaotai** 44.04 6 ⇓P P 19 46 19.5 +0.8
GTA pP sP 19 46 24.1 -1.2
GTA sP pwP 19 46 26.4 -3.6
GTA S **S** 19 52 45.8 -4.4
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,56nm,6.4s
GTA LR LR
comp=Z,300nm,18.3s
GTA LR LR
comp=Z,390nm,15.1s
GTA LR LR
comp=Z,280nm,16.7s
WSAR **Wadi Sarin** 44.48 310 P P 19 46 23.1 +0.6
comp=Z,4.5nm,0.8s,baz=137,slow=3.5,SNR=3.6
WSAR LR LR 20 02 03.1
comp=Z,750nm,21.0s,baz=152,slow=32
JOW **Kunigami** 45.27 45 P P 19 46 29.6 +1.0
comp=Z,14nm,0.5s,baz=247,slow=10,SNR=5.7
JOW **Kunigami** 45.27 45 P P 19 46 29.8 +1.1
JOW IAmb IAmb 19 46 44.3
comp=Z,46nm,1.2s
TIY **Taiyuan** 45.29 20 *e*P P 19 46 34.8 +6.1
TIY PP **PP** 19 48 15.6 +0.7
TIY S **S** 19 53 08.0 -0.3
TIY pmax pmax
comp=Z,140nm,6.9s
TIY LR LR
comp=Z,700nm,13.7s
TIY LR LR
comp=Z,610nm,15.5s
TIY LR LR
comp=Z,550nm,12.8s
MULG **Mulgathing** 45.33 129 P P 19 46 30.4 +1.3
OOD **Oodnadatta** 45.59 125 P P 19 46 32.5 +1.3
KBL **Kabul** 45.62 330 P P 19 46 30.9 -0.7
KBL pmax pmax
comp=Z,18nm,1.2s
KBL **Kabul** 45.62 330 P P 19 46 30.9 -0.7
TIA **Tai'an** 45.82 26 *e*P P 19 46 33.0 +0.2
TIA S **S** 19 53 17.3 +1.5
TIA pmax pmax
comp=Z,14nm,1.3s
TIA pmax pmax
comp=Z,110nm,6.9s
TIA LR LR
comp=Z,250nm,20.6s
TIA LR LR
comp=Z,510nm,20.4s
TIA LR LR
comp=Z,620nm,14.7s
HNS **HongShan** 45.84 23 ⇑P P 19 46 34.5 +1.5
HNS pP **pwP** 19 46 41.3 -2.9
HNS S **S** 19 53 18.1 +2.0
HNS pmax pmax
comp=Z,17nm,0.9s
HNS LR LR
comp=Z,310nm,20.2s
HNS LR LR
comp=Z,590nm,19.6s
HNS LR LR
comp=Z,430nm,16.4s
QIS **Mount Isa** 46.75 114 P P 19 46 41.9 +1.5
baz=47,SNR=5.2
KSH **Kashi** 47.02 341 P P 19 46 40.5 -1.9
KSH sP pwP 19 46 51.3 -2.3
KSH PP **PP** 19 48 27.4 -5.8
KSH S **S** 19 53 26.1 -7.1
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH LR LR
comp=Z,370nm,20.9s
KSH LR LR
comp=Z,580nm,20.9s
KSH LR LR
comp=Z,660nm,20.9s
BTO **Baotou** 47.19 16 *e*P P 19 46 44.3 +0.7
BTO S **S** 19 53 38.8 +3.3
BTO LR LR
comp=Z,2μm,21.0s
BTO LR LR
comp=Z,5μm,23.5s
HHC **Hu-ho-hao-te** 47.86 18 *e*P P 19 46 57.3 +8.5
HHC sP pwP 19 47 06.5 +6.4
HHC S **S** 19 53 46.8 +1.8
HHC sS sS 19 54 05.3 +12
HHC pmax pmax
comp=Z,23nm,1.4s
HHC pmax pmax
comp=Z,170nm,4.2s
HHC LR LR
comp=N,810nm,14.7s
HHC LR LR
comp=E,320nm,16.9s
HHC LR LR
comp=Z,820nm,16.0s
BBOO **Buckleboo** 47.98 131 P P 19 46 50.0 +0.1
BBOO IAmb IAmb 19 48 05.9
comp=Z,30nm,1.4s
OPO **Ambohidratompo** 48.10 249 P P 19 46 52.3 +1.1
comp=Z,7.0nm,0.7s,baz=62,slow=6.4,SNR=13
ABPO **Ambohimpanom** 48.15 249 P P 19 46 51.1 -0.5
ABPO pmax pmax
comp=Z,26nm,1.5s
ABPO **Ambohimpanom** 48.15 249 P P 19 46 51.1 -0.5
ABPO IAmb IAmb 19 47 09.8
comp=Z,26nm,1.5s
TARG **Taragay, Kyrgy** 48.48 343 P P 19 46 53.0 -1.0
TARG IAmb IAmb 19 47 18.0
comp=Z,33nm,1.4s
DRK **Karamyk** 48.51 337 P P 19 46 53.2 -0.9
WMQ **Urumqi** 48.53 354 ⇓*i*P P 19 46 55.3 +1.4
WMQ sP pwP 19 47 07.3 +2.1
WMQ S **S** 19 53 54.3 -0.1
WMQ pmax pmax
comp=Z,82nm,1.1s
WMQ pmax pmax
comp=Z,120nm,4.3s
WMQ LR LR
comp=Z,180nm,21.7s
WMQ LR LR
comp=Z,290nm,21.3s
WMQ LR LR
comp=Z,240nm,21.3s
BJT **Baijiatuau** 48.68 22 P P 19 46 55.4 +0.3
BJT pmax pmax
comp=Z,30nm,1.1s
BJT **Baijiatuau** 48.68 22 P P 19 46 55.4 +0.3
BJT IAmb IAmb 19 47 11.2
comp=Z,30nm,1.1s
GAR **Garm** 48.70 335 P P 19 46 53.9 -1.6
BJI **Beijing** 48.71 22 P P 19 46 56.5 +1.3
BJI S **S** 19 53 55.6 -1.2
BJI pmax pmax
comp=Z,10.0nm,0.6s
BJI pmax pmax
comp=Z,76nm,5.0s
BJI LR LR
comp=Z,330nm,15.8s
BJI LR LR
comp=Z,510nm,16.4s
BJI LR LR
comp=Z,480nm,15.1s
CHGR **Chuyangaron** 48.92 334 P P 19 46 55.5 -1.5
CHGR pmax pmax
comp=Z,43nm,0.8s
CHGR **Chuyangaron** 48.92 334 P P 19 46 55.5 -1.5
KDJ **Kajisay** 49.03 343 P P 19 46 57.4 -0.5
KDJ pmax pmax
comp=Z,34nm,1.4s
KDJ **Kajisay** 49.03 343 P P 19 46 57.4 -0.5
KDJ IAmb IAmb 19 47 21.8
comp=Z,34nm,1.4s
VOI **Vohitsoka** 49.16 245 P P 19 46 59.5 +0.3
VOI IAmb IAmb 19 47 25.8
comp=Z,46nm,1.7s
HRA **Herat** 49.16 324 P P 19 46 59.0 -0.1
SHLS **Shalkode** 49.37 346 *e*P P 19 46 58.1 -2.3
SHLS pmax pmax
comp=Z,25nm,1.8s
SHLS **Shalkode** 49.37 346 *e*P P 19 46 58.2 -2.3
comp=Z,26nm,1.8s,baz=346
BTK **Batken** 49.39 336 P P 19 46 59.6 -1.1
BTK pmax pmax
comp=Z,152nm,2.0s
BTK **Batken** 49.39 336 P P 19 46 59.6 -1.1
UZB **Uzynbulak** 49.47 345 *e*P P 19 46 59.9 -1.3
UZB pmax pmax
comp=Z,6.0nm,0.7s
UZB **Uzynbulak** 49.47 345 *e*P P 19 46 60.0 -1.3
comp=Z,5.9nm,0.7s,baz=345
SATY **Saty** 49.55 345 *e*P P 19 47 00.6 -1.2
SATY pmax pmax
comp=Z,11nm,0.8s
SATY **Saty** 49.55 345 *e*P P 19 47 00.7 -1.2
comp=Z,11nm,0.8s,baz=345
ZHN **Zhinishke** 49.64 345 *e*P P 19 47 01.2 -1.3
ZHN **Zhinishke** 49.64 345 *e*P P 19 47 01.2 -1.3
baz=345
JSU **Suzuyama** 49.69 41 P P 19 47 01.9 -1.1
BOOM **Boomskoye usch** 49.72 342 P P 19 47 01.8 -1.4
BOOM pmax pmax
comp=Z,12nm,0.7s
BOOM **Boomskoye usch** 49.72 342 P P 19 47 01.8 -1.4
BOOM IAmb IAmb 19 47 04.6
comp=Z,12nm,0.7s
TNSS **Tian-Shan** 49.93 343 *e*P P 19 47 03.2 -1.8
TNSS **Tian-Shan** 49.93 343 *e*P P 19 47 03.2 -1.8
baz=343
UCH **Uchtor** 49.94 341 P P 19 47 05.4 +0.2
SNR=9.6
MDOK **Medeo** 50.02 343 *e*P P 19 47 03.8 -1.6
MDOK **Medeo** 50.02 343 *e*P P 19 47 03.8 -1.6
baz=344
MDOK LR LR 20 08 57.3
baz=344
DL2 **Dalian** 50.06 28 P P 19 47 06.4 +0.8
DL2 S **S** 19 54 19.6 +3.8
DL2 pmax pmax
comp=Z,33nm,1.0s
DL2 pmax pmax
comp=Z,190nm,5.8s
DL2 LR LR
comp=Z,260nm,17.0s
DL2 LR LR
comp=Z,540nm,15.6s
DL2 LR LR
comp=Z,330nm,16.2s
AAA **Alma-Ata** 50.09 343 *e*P P 19 47 04.2 -1.7
AAA pmax pmax
comp=Z,12nm,0.6s
AAA **Alma-Ata** 50.09 343 *e*P P 19 47 04.2 -1.7
comp=Z,12nm,0.6s,baz=343
AML **Almayashu** 50.13 340 P P 19 47 06.9 +0.3
SNR=18
KBK **Karagaybulak** 50.18 341 P P 19 47 07.2 +0.5
SNR=11
TKM2 **Tokmak 2** 50.22 342 P P 19 47 07.1 0.0
SNR=16
AAK **Ala-Archa** 50.31 341 P P 19 47 08.0 +0.3
SNR=6.2
AAK **Ala-Archa** 50.31 341 P P 19 47 08.0 +0.3
comp=Z,2.0nm,0.6s,baz=183,slow=7.3,SNR=15
AAK LR LR 20 08 19.6
comp=Z,587nm,20.8s,baz=162,slow=36
AAK **Ala-Archa** 50.31 341 *d*/*i*P P 19 47 07.1 -0.6
AAK pmax pmax
comp=Z,19nm,2.5s
AAK **Ala-Archa** 50.31 341 P P 19 47 06.6 -1.1
HTT **Hallett** 50.42 130 P P 19 47 10.6 +2.1
baz=51,SNR=4.9
FRU1 **Bishkek** 50.42 341 P P 19 47 06.6 -1.8
FRU1 pmax pmax
comp=Z,58nm,1.9s
FRU1 **Bishkek** 50.42 341 P P 19 47 06.6 -1.8
FRU1 IAmb IAmb 19 47 10.1
comp=Z,58nm,1.9s
CHMS **Chumysh** 50.55 341 P P 19 47 09.5 +0.2
SNR=5.3
EKS2 **Erkin-Say** 50.57 340 P P 19 47 09.6 0.0
SNR=19
MTSU **Mount Surprise** 50.63 110 P P 19 47 10.6 +0.2
baz=51,SNR=6.4
CHKK **Chushkaly** 50.67 344 *e*P P 19 47 08.6 -1.6
CHKK **Chushkaly** 50.67 344 *e*P P 19 47 08.6 -1.6
baz=344
USP **Ospenovka** 50.88 341 P P 19 47 11.8 0.0
SNR=39
KUU **Kurty** 50.89 343 *e*P P 19 47 09.9 -1.9
KUU pmax pmax
comp=Z,18nm,1.1s
KUU **Kurty** 50.89 343 *e*P P 19 47 10.0 -1.9
comp=Z,18nm,1.1s,baz=343
JNU **Nakatsue** 51.00 40 P P 19 47 12.8 -0.1
comp=Z,11nm,0.9s,baz=176,slow=7.9,SNR=4.6
JNU **Nakatsue** 51.00 40 P P 19 47 11.7 -1.2
SGDS **Sogindy** 51.00 342 *e*P P 19 47 11.5 -1.3
SGDS **Sogindy** 51.00 342 *e*P P 19 47 11.5 -1.3
baz=342
TAS **Tashkent** 51.08 336 P P 19 47 11.8 -1.5
TAS **Tashkent** 51.08 336 P P 19 47 11.8 -1.5
TJN **Taejon** 51.09 34 P P 19 47 12.0 -1.4

TJN pmax pmax
comp=Z,209nm,1.6s
TJN Taejon 51.09 34 P **P** **19 47 12.0 -1.4**
TDK Taldyqorghan 51.36 346 *eP* **P** **19 47 14.0 -1.3**
TDK pmax pmax
comp=Z,11nm,0.6s
TDK Taldyqorghan 51.36 346 *eP* **P** **19 47 14.1 -1.3**
comp=Z,11nm,0.6s,baz=346
IUG luzhnay 51.48 337 *eP* **P** **19 47 15.3 -1.1**
IUG luzhnay 51.48 337 *eP* **P** **19 47 15.3 -1.1**
baz=337
DZA Taraz 51.63 338 *eP* **P** **19 47 16.2 -1.2**
DZA Taraz 51.63 338 *eP* **P** **19 47 16.3 -1.2**
baz=338
STKA Stephens Creek 51.88 127 P **P** **19 47 21.1 +1.6**
comp=Z,2.6nm,0.6s,baz=300,slow=8.5,SNR=3.9
STKA LR LR 20 08 28.6
comp=Z,586nm,20.6s,baz=291,slow=35
STKA Stephens Creek 51.88 127 P **P** **19 47 20.6 +1.1**
baz=52,SNR=6.1
STKA Stephens Creek 51.88 127 P **P** **19 47 17.8 -1.7**
STKA pmax pmax
comp=Z,9.0nm,1.3s
STKA Stephens Creek 51.88 127 P **P** **19 47 17.8 -1.7**
XLT XiLinHaoTe 52.05 20 *eP* P 19 47 27.4 +6.8
XLT sP pwP 19 47 35.4 +3.4
XLT S **S** **19 54 47.4 +3.9**
XLT SS **SS** **19 58 23.6 +2.6**
XLT pmax pmax
comp=Z,12nm,1.4s
XLT pmax pmax
comp=Z,100nm,3.8s
XLT LR LR
comp=Z,700nm,16.4s
XLT LR LR
comp=Z,440nm,20.2s
KK31 Karatay Array 52.12 338 P **P** **19 47 19.7 -1.4**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KK31 Karatay Array 52.12 338 P **P** **19 47 19.6 -1.4**
KKAR Karatay Array 52.12 338 P **P** **19 47 19.4 -1.7**
KKAR pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 52.12 338 P **P** **19 47 19.4 -1.7**
KKAR Karatay Array 52.12 338 P **P** **19 47 19.7 -1.3**
KKAR IAmb IAmb 19 47 21.9
comp=Z,9.7nm,0.8s
KSAR Wonju Array Be 52.15 34 P **P** **19 47 19.9 -1.4**
KSAR Wonju Array Be 52.15 34 P **P** **19 47 19.9 -1.4**
KSRS Korea Array 52.18 34 P **P** **19 47 21.3 -0.2**
comp=Z,2.0nm,0.7s,baz=224,slow=9.3,SNR=7.8
KS19 Wonju Array Si 52.18 34 P **P** **19 47 20.4 -1.2**
MK31 Makanchi Array 52.23 350 P **P** **19 47 20.3 -1.5**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 52.23 350 P **P** **19 47 20.3 -1.5**
MKAR Makanchi Array 52.23 350 P **P** **19 47 21.6 -0.3**
comp=Z,6.5nm,0.6s,baz=156,slow=8.1,SNR=86
MKAR Makanchi Array 52.23 350 P **P** **19 47 20.6 -1.3**
MAKZ Makanchi 52.30 349 P **P** **19 47 20.7 -1.7**
MAKZ pmax pmax
comp=Z,49nm,1.9s
MAKZ Makanchi 52.30 349 P **P** **19 47 20.7 -1.7**
MAKZ IAmb IAmb 19 47 22.9
comp=Z,49nm,1.9s
ZSN Zaisan 52.46 352 *eP* **P** **19 47 22.4 -1.0**
ZSN pmax pmax
comp=Z,8.0nm,0.7s
ZSN Zaisan 52.46 352 *eP* **P** **19 47 22.5 -1.0**
comp=Z,8.2nm,0.7s,baz=352
PMG Port Moresby 52.59 98 P **P** **19 47 24.0 -1.0**
PMG pmax pmax
comp=Z,35nm,1.1s
PMG Port Moresby 52.59 98 P **P** **19 47 24.0 -1.0**
PMG IAmb IAmb 19 47 48.4
comp=Z,35nm,1.1s
BTLS Baital 52.62 342 *eP* **P** **19 47 23.2 -1.5**
BTLS Baital 52.62 342 *eP* **P** **19 47 23.2 -1.5**
baz=342
MANU Manus Island 52.97 89 P **P** **19 47 26.7 -1.2**
SONM Songino Array 53.23 10 P **P** **19 47 29.9 +0.6**
comp=Z,1.6nm,0.6s,baz=190,slow=9.3,SNR=17
SONM Songino Array 53.23 10 P **P** **19 47 28.3 -1.0**
SONM pmax pmax
comp=Z,11nm,1.0s
SONM Songino Array 53.23 10 P **P** **19 47 28.3 -1.0**
SNY Shenyang 53.29 27 ⇑P P 19 47 36.5 +6.8
SNY pmax pmax
comp=Z,12nm,0.5s
SNY pmax pmax
comp=Z,200nm,3.5s
SNY LR LR
comp=Z,450nm,16.4s
SNY LR LR
comp=Z,400nm,14.2s
SNY LR LR
comp=Z,570nm,17.1s
ULN Ulaanbaatar 53.38 11 P **P** **19 47 29.2 -1.3**
ULN pmax pmax
comp=Z,22nm,1.5s
ULN Ulaanbaatar 53.38 11 P **P** **19 47 29.2 -1.3**
JHS Saijyo 53.62 40 P **P** **19 47 30.9 -1.5**
JHS IAmb IAmb 19 48 34.8
comp=Z,98nm,1.9s
ATD Arta Tunnel 53.67 288 LR LR 20 06 42.2
comp=Z,183nm,18.9s,baz=92,slow=32
GEYT Alibeck 54.02 325 P **P** **19 47 35.7 +0.5**
comp=Z,11nm,0.6s,baz=138,slow=10.0,SNR=27
GEYT Alibeck 54.02 325 P **P** **19 47 34.6 -0.6**
GYA0B ALIBECK ARRAY 54.02 325 P **P** **19 47 34.3 -0.9**
KNGR Kungurtug, Tuv 55.01 2⇑*eP* **P** **19 47 43.1 +0.9**
CMSA Cobar Meteorol 55.05 126 P **P** **19 47 45.1 +2.3**
baz=55,SNR=8.7
ZAK Zakamensk 55.26 7 *eP* **P** **19 47 44.5 +0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.6s
CN2 Changchun 55.69 27 *eP* **P** **19 47 45.6 -1.5**
CN2 *ep*P pwP 19 47 55.6 -2.9
CN2 *es*P sP 19 47 59.5 +5.8
CN2 *eS* **S** **19 55 28.8 -3.7**
CN2 *es*S sS 19 55 45.4 +5.0
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 LR LR
comp=Z,240nm,16.0s
CN2 LR LR
comp=Z,330nm,16.0s
CN2 LR LR
comp=Z,400nm,17.0s
SEM Semipalatinsk 56.08 349 *eP* **P** **19 47 48.6 -1.5**
SEM pmax pmax
comp=Z,5.0nm,0.6s
SEM Semipalatinsk 56.08 349 *eP* **P** **19 47 48.6 -1.5**
comp=Z,5.2nm,0.6s,baz=349
SEM LR LR 20 12 28.0
baz=349
KIBK Kibwezi 56.24 270 P **P** **19 47 50.6 -1.1**
RMQ Roma 56.28 119 P **P** **19 47 53.6 +1.8**
baz=56,SNR=4.7
MOY Mondy 56.29 5 *eP* P 19 47 57.5 +6.1
MOY pmax pmax
comp=Z,11nm,1.9s
INU Inuyama 56.37 42 P **P** **19 47 51.1 -1.1**
INU IAmb IAmb 19 48 06.7
comp=Z,30nm,1.2s
KURBB Kurchatov Arra 56.63 348 P **P** **19 47 53.0 -0.7**
comp=Z,4.8nm,0.6s,baz=171,slow=6.7,SNR=46
KURBB LR LR 20 13 56.0
comp=Z,260nm,19.4s,baz=140,slow=38
KURK Kurchatov 56.70 348 *deP* **P** **19 47 53.4 -0.8**
KURK pmax pmax
comp=Z,23nm,1.3s
KURK Kurchatov 56.70 348 P **P** **19 47 53.0 -1.2**
KURK IAmb IAmb 19 47 54.8
comp=Z,51nm,1.6s
KMBO Kilima Mbogo 57.12 272 P **P** **19 47 58.6 +0.4**
comp=Z,1.0nm,0.4s,baz=49,slow=8.9,SNR=5.3
KMBO LR LR 20 06 43.0
comp=Z,269nm,20.6s,baz=93,slow=30
KMBO Kilima Mbogo 57.12 272 *i* P **P** **19 47 58.5 +0.3**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 57.12 272 P **P** **19 47 56.6 -1.6**
IRK Irkutsk 57.21 7 *eP* **P** **19 47 58.3 +0.5**
IRK pmax pmax
comp=Z,31nm,2.6s
BRZS Berezniki 57.47 344 *eP* **P** **19 47 57.6 -2.1**
BRZS Berezniki 57.47 344 *eP* **P** **19 47 57.6 -2.1**
baz=344
MAJO Matsushiro 57.85 41 P **P** **19 48 00.2 -2.4**
MAJO pmax pmax
comp=Z,24nm,1.5s
MAJO Matsushiro 57.85 41 P **P** **19 48 00.2 -2.4**
MAJO IAmb IAmb 19 48 17.0
comp=Z,24nm,1.4s
MJB9 Matsu-Tunnel 57.85 41 P **P** **19 48 00.7 -2.0**
MJB9 IAmb IAmb 19 48 17.0
comp=Z,24nm,1.4s
MJAR Matsushiro Arr 57.85 41 P **P** **19 48 03.5 +0.9**
comp=Z,3.9nm,0.9s,baz=220,slow=4.4,SNR=5.0
MJAR Matsushiro Arr 57.85 41 P **P** **19 48 00.5 -2.1**
MJAR pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 57.85 41 P **P** **19 48 00.5 -2.1**
HIA Hailar 57.97 19 P **P** **19 48 02.1 -1.2**
HIA pmax pmax
comp=Z,15nm,1.3s
HIA Hailar 57.97 19 P **P** **19 48 02.1 -1.2**
BNX BinXian 58.07 27 ⇓P **P** **19 48 04.9 +0.9**
BNX pmax pmax
comp=Z,24nm,1.1s
BNX pmax pmax
comp=Z,170nm,6.4s
EIDS Eidsvold 58.10 117 P **P** **19 48 03.2 -1.4**
EIDS IAmb IAmb 19 48 21.2
comp=Z,24nm,1.4s
JSD Sado 58.75 40 P **P** **19 48 07.4 -1.5**
JSD IAmb IAmb 19 48 26.1
comp=Z,34nm,1.5s
ZAA0 Zalesovo Array 58.84 353 P **P** **19 48 07.9 -1.2**
ZALV Zalesovo Beam 58.84 353 P **P** **19 48 08.5 -0.7**
comp=Z,16nm,0.6s,baz=181,slow=6.0,SNR=102
ZALV Zalesovo Beam 58.84 353 P **P** **19 48 08.0 -1.1**
CAN Canberra 58.86 129 P **P** **19 48 09.3 -0.5**
CAN pmax pmax
comp=Z,56nm,1.3s
CAN Canberra 58.86 129 P **P** **19 48 09.3 -0.5**
JYT Yasato 58.99 43 P **P** **19 48 08.5 -2.1**
USA0B Ussuriysk Arra 59.14 31 P **P** **19 48 10.7 -0.7**
USA0B pmax pmax
comp=Z,28nm,1.1s
USA0B Ussuriysk Arra 59.14 31 P **P** **19 48 10.7 -0.7**
USA0B IAmb IAmb 19 48 33.9
comp=Z,28nm,1.1s
USRK Ussuriysk Ar. 59.14 31 P **P** **19 48 11.8 +0.4**
comp=Z,5.8nm,0.6s,baz=238,slow=6.0,SNR=16
USRK Ussuriysk Ar. 59.14 31 P **P** **19 48 10.7 -0.7**
LODK Lodwar 59.47 277 P **P** **19 48 13.6 -0.9**
ARMA Armidale 59.65 123 P **P** **19 48 14.6 -0.9**
ARMA IAmb IAmb 19 48 38.7
comp=Z,27nm,1.3s
LKRN Lenkeran, Azer 60.22 320 P **P** **19 48 19.8 +0.8**
BRVK Borovoye 60.89 344 *ceP* **P** **19 48 22.3 -1.0**
BRVK pmax pmax
comp=Z,111nm,1.3s
BRVK Borovoye 60.89 344 P **P** **19 48 21.9 -1.4**
ABKAR Akbulak array 61.37 335 P **P** **19 48 26.0 -0.6**
ABKAR Akbulak array 61.37 335 P **P** **19 48 26.4 -0.2**
ABKAR IAmb IAmb 19 48 27.6
comp=Z,45nm,0.7s
MNGR Mingechevir, A 62.46 321 P **P** **19 48 35.0 +0.9**
NAX Nakhchivan 62.60 319 P **P** **19 48 36.1 +0.8**
SEKA Sheki 62.64 321 P **P** **19 48 36.0 +0.6**
KLR Kul'dur 62.64 27 ⇑*eP* **P** **19 48 35.4 +0.2**
comp=Z,2.2nm,0.7s,baz=232,slow=6.8,SNR=8.3
KLR Kul'dur 62.64 27⇑*eP* **P** **19 48 35.8 +0.6**
KLR pmax pmax
comp=Z,20nm,2.5s
CASY Casey 62.65 173 P **P** **19 48 36.6 +1.7**
GANJ Ganja 62.87 321 P **P** **19 48 37.8 +0.9**
AKTO Aktyubinsk 63.07 335 P **P** **19 48 37.7 -0.3**
comp=Z,7.1nm,0.9s,baz=133,slow=8.6,SNR=18
ZKTA Zakatala 63.24 322 P **P** **19 48 40.5 +1.2**
JEW Eniwo 63.53 37 P **P** **19 48 39.8 -1.4**
GNI Garni 63.62 319 P **P** **19 48 41.4 -0.6**
comp=Z,4.8nm,0.8s,baz=183,slow=3.5,SNR=6.1
GNI Garni 63.62 319 *deP* **P** **19 48 43.0 +0.9**
GNI pmax pmax
comp=Z,12nm,1.2s
GNI Garni 63.62 319 P **P** **19 48 40.2 -1.8**
GNI IAmb IAmb 19 49 22.7
comp=Z,30nm,1.2s
MBAR Mbarara 63.66 272 LR LR 20 12 50.3
comp=Z,185nm,21.4s,baz=78,slow=33
MBAR Mbarara 63.66 272 P **P** **19 48 43.3 +0.4**
MBAR pmax pmax
comp=Z,8.0nm,1.2s
MBAR Mbarara 63.66 272 P **P** **19 48 43.3 +0.4**
GEVA Gevas 63.79 317 P **P** **19 48 42.5 -0.8**
ERM Erimo 64.11 39 P **P** **19 48 44.9 -0.1**
ERM pmax pmax
comp=Z,42nm,1.3s
ERM Erimo 64.11 39 P **P** **19 48 44.9 -0.1**
ERM IAmb IAmb 19 49 04.3
comp=Z,42nm,1.3s
BOD Bodaibo 64.17 12 *eP* P 19 48 50.3 +5.2
BOD pmax pmax
comp=Z,21nm,1.3s
ZEA Zeya 64.29 21 *eP* **P** **19 48 49.3 +3.3**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=Z,200nm,17.0s
GURO Guroymak-BITLI 64.61 317 P **P** **19 48 48.6 0.0**
GURO IAmb IAmb 19 49 05.5
comp=Z,25nm,1.2s
MARD Mardin 64.90 315 P **P** **19 48 50.5 0.0**
MARD IAmb IAmb 19 49 06.5
comp=Z,23nm,1.0s
ASAJ Asahikawa 64.95 36 P **P** **19 48 51.0 +0.5**
comp=Z,4.4nm,0.7s,baz=270,slow=2.0,SNR=1.9
KARS Kars 64.95 319 P **P** **19 48 48.5 -2.3**
KARS pmax pmax
comp=Z,73nm,1.1s
KARS Kars 64.95 319 P **P** **19 48 48.5 -2.3**
JKA Kamikawa-asahi 64.95 36 P **P** **19 48 51.0 +0.5**
ZEI Tsey 65.56 321 *eP* **P** **19 48 55.5 +0.8**
ZEI pmax pmax
comp=Z,11nm,1.0s
ASF Jabal al Asfar 65.61 308 P **P** **19 48 56.0 +0.8**
comp=Z,4.5nm,0.8s,baz=123,slow=5.4,SNR=9.9
ASF LR LR 20 16 13.3
comp=Z,560nm,20.2s,baz=105,slow=35
ONI Oni 65.73 321 P **P** **19 48 54.1 -1.6**
ONI pmax pmax
comp=Z,25nm,1.1s
ONI Oni 65.73 321 P **P** **19 48 54.1 -1.6**
ONI IAmb IAmb 19 49 12.5
comp=Z,25nm,1.1s
LSZ Lusaka 65.83 255 P **P** **19 48 57.1 +0.2**
LSZ pmax pmax
comp=Z,16nm,1.3s
LSZ Lusaka 65.83 255 P **P** **19 48 57.1 +0.2**
LSZ IAmb IAmb 19 49 12.2
comp=Z,16nm,1.2s
EIL Elat 66.25 305 P **P** **19 48 59.6 +0.4**
comp=Z,4.6nm,0.8s,baz=83,slow=4.0,SNR=8.0
EIL LR LR 20 16 38.5
comp=Z,333nm,18.5s,baz=104,slow=35
GHAJ Ghor Haditha 66.34 307 P **P** **19 48 59.2 -0.5**
KOPT Kop Dagi 66.36 317 P **P** **19 49 00.3 +0.2**
KOPT IAmb IAmb 19 49 22.7
comp=Z,14nm,1.0s
MAW Mawson 66.51 193 P **P** **19 49 01.1 +1.0**
comp=Z,2.5nm,0.7s,baz=27,slow=9.6,SNR=3.8
MAW LR LR 20 14 52.0
comp=Z,177nm,18.1s,baz=40,slow=33
MAW Mawson 66.51 193 P **P** **19 49 01.0 +0.9**
MAW pmax pmax
comp=Z,9.0nm,1.7s
MAW Mawson 66.51 193 P **P** **19 49 01.0 +0.9**
KBZ Khabaz 66.68 322 P **P** **19 49 02.6 +1.0**
comp=Z,8.3nm,0.7s,baz=122,slow=5.8,SNR=24
KBZ LR LR 20 21 28.6
comp=Z,90nm,19.2s,baz=113,slow=39
KBZ Khabaz 66.68 322 *di*P **P** **19 49 02.3 +0.7**
KBZ pmax pmax
comp=Z,36nm,1.8s
YSS Yuzh-Sakhalins 66.68 34 P **P** **19 48 60.0 -1.6**
KVAR Kislovodsk Arr 66.92 322 P **P** **19 49 04.6 +1.2**
comp=Z,4.2nm,0.6s,baz=90,slow=20,SNR=4.3
KIV Kislovodsk 66.93 322 ⇓P **P** **19 49 04.1 +0.8**
KIV Kislovodsk 66.93 322 *eP* **P** **19 49 04.1 +0.8**
KIV *eS* **S** **19 57 56.7 +1.1**
KIV *eSS* **SS** **20 02 15.9 +1.5**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV Kislovodsk 66.93 322 P **P** **19 49 02.3 -1.1**
KIV IAmb IAmb 19 49 20.1
comp=Z,26nm,1.1s
SVE Sverdlovsk 67.05 341⇓*eP* **P** **19 49 04.3 +0.5**
SVE pmax pmax
comp=Z,64nm,1.3s
MMAI Mount Meron Ar 67.10 309 P **P** **19 49 05.1 +0.5**
comp=Z,1.3nm,0.6s,baz=153,slow=14,SNR=5.7
MMAI LR LR 20 18 37.7
comp=Z,491nm,18.0s,baz=258,slow=36
GOF Gofitskoye 67.30 323⇑*eP* **P** **19 49 05.5 -0.1**
GOF pmax pmax
comp=Z,23nm,0.7s
ARU Arti 67.44 339 P **P** **19 49 06.0 -0.3**
comp=Z,3.1nm,0.6s,baz=163,slow=3.1,SNR=16
ARU Arti 67.44 339*c i*P **P** **19 49 05.9 -0.3**
ARU 19 49 35.0
ARU 19 51 30.2
ARU S **S** **19 58 03.6 +2.5**
ARU SS **SS** **20 02 23.9 +2.2**
ARU pmax pmax
comp=Z,44nm,1.8s
ARU MLR MLR
comp=Z,193nm,16.0s
SOC Sochi 68.59 320 *eP* **P** **19 49 11.5 -2.2**
SOC *e* 19 51 42.3
SOC *e*PPP PPP 19 53 21.8
SOC *eS* **S** **19 58 14.4 -1.0**
SOC *e* 19 58 58.3
SOC MLR MLR
comp=Z,115nm,20.0s
LBTB Lobatse 68.85 245 LR LR 20 13 56.6
comp=Z,220nm,20.7s,baz=79,slow=31
LBTB Lobatse 68.85 245 P **P** **19 49 15.2 -0.7**
LBTB pmax pmax
comp=Z,64nm,1.8s
LBTB Lobatse 68.85 245 P **P** **19 49 15.2 -0.7**
BNN Bunyan 69.07 315 P **P** **19 49 16.1 -0.9**
BNN IAmb IAmb 19 49 33.8
comp=Z,24nm,1.0s
BELG Belogornoye 69.12 331 P **P** **19 49 16.4 -0.5**
comp=Z,20nm,0.8s,baz=108,slow=20,SNR=8.7
BELG Belogornoye 69.12 331*d i*P **P** **19 49 16.2 -0.6**
BELG pmax pmax
comp=Z,5.0nm,1.0s
TOKA Tokat 69.24 316 P **P** **19 49 15.5 -2.5**
TOKA IAmb IAmb 19 49 46.2
comp=Z,23nm,1.3s
CSS Mathiatis 69.42 310 P **P** **19 49 17.4 -1.7**
BOSA Boshof 69.50 241 P **P** **19 49 20.4 +0.5**
comp=Z,2.8nm,0.7s,baz=85,slow=3.4,SNR=8.4
BOSA LR LR 20 14 19.9
comp=Z,138nm,19.0s,baz=82,slow=31
BOSA Boshof 69.50 241 IAmb IAmb 19 50 41.6
comp=Z,54nm,1.6s
BR131 Keskin Array S 70.99 315 P **P** **19 49 27.6 -1.2**
BR131 pmax pmax
comp=Z,14nm,0.7s
BR131 Keskin Array S 70.99 315 P **P** **19 49 27.6 -1.2**
BR131 IAmb IAmb 19 49 29.2
comp=Z,14nm,0.7s
BRTR Keskin Array B 70.99 315 P **P** **19 49 28.3 -0.5**
comp=Z,7.8nm,0.6s,baz=132,slow=7.0,SNR=57
BRTR Keskin Array B 70.99 315 P **P** **19 49 27.0 -1.8**
VRH Novokhopyorsk 71.38 328 *eP* **P** **19 49 29.3 -1.4**
VRH pmax pmax
comp=Z,30nm,0.7s
ILGA Ilgaz 71.46 316 P **P** **19 49 30.9 -0.8**
ANTO Ankara 71.64 315 P **P** **19 49 31.7 -1.0**
ANTO pmax pmax
comp=Z,12nm,0.7s
ANTO Ankara 71.64 315 P **P** **19 49 31.7 -1.0**
ANTO IAmb IAmb 19 49 33.1
comp=Z,12nm,0.7s
YAK Yakutsk 71.71 17 P **P** **19 49 31.7 -0.7**
comp=Z,3.3nm,0.6s,baz=165,slow=1.7,SNR=7.4
YAK Yakutsk 71.71 17 *eP* **P** **19 49 32.4 0.0**
YAK *e**PP **pwP** **19 49 44.4 +0.5**
YAK *e* 19 49 51.7
YAK *e* 19 52 10.3
YAK *e*PPP PPP 19 53 55.1
YAK *eS* **S** **19 58 49.2 -1.9**
YAK *e* 19 59 40.3
YAK *eSS* **SS** **20 03 26.6 -0.6**
YAK pmax pmax
comp=Z,47nm,1.0s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=Z,39nm,3.4s
YAK pmax pmax
comp=N,22nm,3.5s
YAK pmax pmax
comp=E,50nm,3.2s
YAK smax smax
comp=N,29nm,3.2s
YAK smax smax
comp=E,36nm,3.1s
YAK MLR MLR
comp=Z,359nm,17.0s
YAK MLR MLR
comp=N,180nm,17.0s
YAK MLR MLR
comp=E,254nm,17.0s
YAK Yakutsk 71.71 17 P **P** **19 49 31.3 -1.1**
SANVU Saraoutou 72.28 105 P **P** **19 49 35.5 -1.3**
KIRV Kirov 72.40 337 P **P** **19 49 36.0 -0.7**
comp=E,14nm,0.6s,baz=191,slow=5.2,SNR=5.9
KIRV Kirov 72.40 337*deP* **P** **19 49 36.2 -0.4**
ELL Elmali 72.64 311 P **P** **19 49 39.1 +0.3**
ELL pmax pmax
comp=Z,99nm,1.1s
ELL Elmali 72.64 311 P **P** **19 49 39.1 +0.3**
AKAS Kas 72.70 310 P **P** **19 49 37.4 -1.7**
AKAS IAmb IAmb 19 50 12.2
comp=Z,19nm,0.9s
VSR Storozhevoye 72.75 327 *eP* **P** **19 49 37.8 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VORR Voronezh 72.96 328 *eP* **P** **19 49 40.5 +0.3**
VORR pmax pmax
comp=Z,44nm,2.0s
MDUB Mudurnu 73.00 315 P **P** **19 49 39.6 -1.2**
BORA Eskisehir 73.32 314 P **P** **19 49 41.7 -0.9**
BORA IAmb IAmb 19 49 58.8
comp=Z,20nm,1.1s
LPSR Galich'ya Gora 73.59 328 *eP* **P** **19 49 43.2 -0.7**
LPSR pmax pmax
comp=Z,70nm,1.8s
SUR Sutherland 73.68 238 LR LR 20 14 37.8
comp=Z,358nm,19.8s,baz=133,slow=30
SYO Syowa Base 73.69 198 ⇓*i*PcP **PcP** **19 50 02.0 +2.2**
NRIK Noril'sk 73.89 357 P **P** **19 49 44.9 -0.4**
comp=Z,5.6nm,0.6s,baz=142,slow=3.1,SNR=8.1
NRIK Noril'sk 73.89 357*deP* **P** **19 49 44.7 -0.6**
NRIK pmax pmax
comp=Z,10.0nm,0.8s
NRIK Noril'sk 73.89 357 P **P** **19 49 44.2 -1.0**
MANT Manisa 74.23 312 P **P** **19 49 46.4 -1.8**
KARP Karpathos 74.37 309 P **P** **19 49 48.9 +0.1**
BALB Balikesir 75.10 313 P **P** **19 49 52.0 -0.9**
BALB IAmb IAmb 19 50 09.3
comp=Z,36nm,1.4s
PRGR Permogore 75.84 338 *eP* **P** **19 49 54.8 -1.9**
PRGR pmax pmax
comp=Z,44nm,0.6s
MOS Moscow 75.87 331 *eP* **P** **19 49 56.1 -0.9**
MOS *e* 19 50 07.6
MOS pmax pmax
comp=Z,58nm,0.6s
TSUM Tsumeb 76.03 251 LR LR 20 20 36.4
comp=Z,198nm,18.6s,baz=96,slow=34
TSUM Tsumeb 76.03 251 P **P** **19 50 00.2 +1.3**
OBN Obninsk 76.07 330 ⇓P **P** **19 49 58.2 +0.1**
OBN Obninsk 76.07 330 P **P** **19 49 57.9 -0.3**
comp=Z,4.0nm,0.5s,baz=178,slow=3.7,SNR=5.2

OBN					LR	LR	20 26 40.5	
	comp=Z,29nm,18.5s,baz=182,slow=38							
OBN	**Obninsk**	**76.07**	**330**	*d*	*i*P	**P**	**19 49 58.1**	**0.0**
OBN					*e**PP	**sP**	**19 50 03.6**	**-1.3**
OBN					*i **SP	**pwP**	**19 50 08.2**	**-1.5**
OBN					*eS*	**S**	**19 59 34.7**	**-5.8**
OBN					*e*		20 00 12.6	
OBN					pmax	pmax		
	comp=Z,48nm,1.7s							
OBN					MLR	MLR		
	comp=Z,138nm,19.0s							
OBN	**Obninsk**	**76.07**	**330**		P	**P**	**19 49 57.2**	**-0.9**
OBN					IAmb	IAmb	19 50 14.8	
	comp=Z,50nm,1.3s							
IDI	**Anoyia**	**76.07**	**308**	⇓	P	**P**	**19 49 59.1**	**+0.3**
IDI	**Anoyia**	**76.07**	**308**		P	**P**	**19 49 59.0**	**+0.3**
	comp=Z,8.4nm,0.6s,baz=93,slow=9.2,SNR=19							
IDI					LR	LR	20 23 51.2	
	comp=Z,115nm,21.8s,baz=90,slow=36							
IDI	**Anoyia**	**76.07**	**308**		P	**P**	**19 49 58.0**	**-0.7**
IDI					IAmb	IAmb	19 50 46.0	
	comp=Z,42nm,1.5s							
TIRR	**Tirgusor**	**76.35**	**318**		P	**P**	**19 49 59.3**	**-0.7**
TIRR					pmax	pmax		
	comp=Z,107nm,1.5s							
TIRR	**Tirgusor**	**76.35**	**318**		P	**P**	**19 49 59.3**	**-0.7**
HARR	**Harsova**	**76.76**	**318**	⇑	P	**P**	**19 50 02.6**	**+0.3**
CFR	**Carcaliu**	**76.79**	**318**	⇑	P	**P**	**19 50 02.8**	**+0.3**
ALN	**Alexandroupoli**	**76.83**	**314**		P	**P**	**19 50 01.3**	**-1.5**
ALN					pmax	pmax		
	comp=Z,16nm,1.3s							
ALN	**Alexandroupoli**	**76.83**	**314**		P	**P**	**19 50 01.3**	**-1.5**
MILM	**Milestii Mici**	**76.97**	**320**	⇓	P	**P**	**19 50 02.9**	**-0.6**
MILM	**Milestii Mici**	**76.97**	**320**		P	**P**	**19 50 02.8**	**-0.6**
RAZG	**Razgrad**	**77.35**	**316**	⇓	P	**P**	**19 50 05.6**	**-0.1**
GHRR		**77.58**	**319**	⇓	P	**P**	**19 50 07.0**	**+0.2**
SORM	**Soroca**	**77.70**	**321**	⇓	P	**P**	**19 50 07.3**	**-0.2**
MA2	**Magadan**	**77.72**	**26**		P	**P**	**19 50 07.0**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=191,slow=10,SNR=2.3							
MA2	**Magadan**	**77.72**	**26**	⇓	*eP*	**P**	**19 50 07.9**	**+0.5**
MA2					pmax	pmax		
	comp=Z,9.0nm,1.5s							
MA2	**Magadan**	**77.72**	**26**		P	**P**	**19 50 06.1**	**-1.2**
KLMR	**Klimovskoe**	**77.75**	**336**	*e*	P	**P**	**19 50 03.8**	**-3.7**
KLMR					pmax	pmax		
	comp=Z,10.0nm,0.9s							
KLMR	**Klimovskoe**	**77.75**	**336**	*e*	P	**P**	**19 50 03.8**	**-3.7**
KLMR					AMP		19 50 07.8	
	comp=Z,10.0nm,0.9s							
VRI	**Vrincioaia**	**77.96**	**319**	⇓	P	**P**	**19 50 09.8**	**+0.7**
VRI	**Vrincioaia**	**77.96**	**319**		P	**P**	**19 50 09.7**	**+0.7**
PLOR	**Plostina**	**78.00**	**319**	⇑	P	**P**	**19 50 09.3**	**-0.1**
PLOR	**Plostina**	**78.00**	**319**		P	**P**	**19 50 09.2**	**-0.1**
PEA0B	**Petropavlovsk-**	**78.07**	**33**		P	**P**	**19 50 08.1**	**-1.4**
PEA0B					pmax	pmax		
	comp=Z,21nm,1.1s							
PEA0B	**Petropavlovsk-**	**78.07**	**33**		P	**P**	**19 50 08.1**	**-1.4**
PEA0B					IAmb	IAmb	19 51 18.7	
	comp=Z,21nm,1.1s							
NEHR	**Nehoiu**	**78.10**	**318**	⇑	P	**P**	**19 50 10.6**	**+0.7**
AKASG	**Malin Array Be**	**78.13**	**324**		P	**P**	**19 50 09.7**	**-0.2**
	comp=Z,6.4nm,0.6s,baz=81,slow=5.7,SNR=33							
AKASG	**Malin Array Be**	**78.13**	**324**	*i*	P	**P**	**19 50 09.6**	**-0.2**
AKASG					pmax	pmax		
	comp=Z,9.0nm,0.5s							
AKASG	**Malin Array Be**	**78.13**	**324**		P	**P**	**19 50 07.4**	**-2.4**
AKASG					IAmb	IAmb	19 50 11.0	
	comp=Z,37nm,1.8s							
AKBB	**Malin Array Si**	**78.13**	**324**		P	**P**	**19 50 09.0**	**-0.9**
AKBB					pmax	pmax		
	comp=Z,15nm,0.6s							
AKBB	**Malin Array Si**	**78.13**	**324**		P	**P**	**19 50 09.0**	**-0.9**
AKBB					IAmb	IAmb	19 50 10.1	
	comp=Z,15nm,0.6s							
TESR	**Tescani**	**78.22**	**319**	⇓	P	**P**	**19 50 10.8**	**+0.3**
COVR	**Voineasa-Covas**	**78.30**	**319**	⇑	P	**P**	**19 50 11.3**	**+0.3**
MLR	**Muntele Rosu**	**78.35**	**318**	⇑	P	**P**	**19 50 11.9**	**+0.6**
MLR	**Muntele Rosu**	**78.35**	**318**		P	**P**	**19 50 12.0**	**+0.6**
	comp=Z,17nm,0.6s,baz=83,slow=0.9,SNR=38							
MLR					LR	LR	20 25 57.9	
	comp=Z,135nm,21.8s,baz=89,slow=37							
MLR	**Muntele Rosu**	**78.35**	**318**		P	**P**	**19 50 11.3**	**-0.1**
MLR					pmax	pmax		
	comp=Z,28nm,0.8s							
MLR	**Muntele Rosu**	**78.35**	**318**		P	**P**	**19 50 11.3**	**-0.1**
MLR					IAmb	IAmb	19 50 13.1	
	comp=Z,28nm,0.8s							
HUMR	**Humele**	**78.70**	**317**	⇓	P	**P**	**19 50 13.3**	**+0.1**
DOPR	**Dopca**	**78.87**	**318**	⇑	P	**P**	**19 50 14.2**	**+0.1**
ITM	**Ithomi**	**78.88**	**309**		P	**P**	**19 50 13.5**	**-0.8**
VOIR		**78.93**	**318**	⇑	P	**P**	**19 50 15.4**	**+0.9**
VOIR		**78.93**	**318**		P	**P**	**19 50 15.4**	**+0.9**
AGG	**Agios Georgios**	**79.04**	**311**		P	**P**	**19 50 13.9**	**-1.3**
AGG					pmax	pmax		
	comp=Z,20nm,1.3s							
AGG	**Agios Georgios**	**79.04**	**311**		P	**P**	**19 50 13.9**	**-1.3**
AGG					IAmb	IAmb	19 50 30.5	
	comp=Z,20nm,1.3s							
ARR	**Arges**	**79.19**	**318**	⇑	P	**P**	**19 50 15.3**	**-0.7**
TIXI	**Tiksi**	**79.32**	**11**		P	**P**	**19 50 14.9**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=330,slow=3.3,SNR=24							
TIXI	**Tiksi**	**79.32**	**11**	*ce*	P	**P**	**19 50 15.4**	**-0.5**
TIXI					pmax	pmax		
	comp=Z,11nm,1.7s							
TIXI	**Tiksi**	**79.32**	**11**		P	**P**	**19 50 14.4**	**-1.5**
TIXI					IAmb	IAmb	19 50 41.0	
	comp=Z,18nm,1.1s							
VTS	**Vitosha**	**79.35**	**315**	⇓	P	**P**	**19 50 16.7**	**-0.2**
VTS	**Vitosha**	**79.35**	**315**		P	**P**	**19 50 15.6**	**-1.3**
VTS					pmax	pmax		
	comp=Z,6.0nm,0.7s							
VTS	**Vitosha**	**79.35**	**315**		P	**P**	**19 50 15.6**	**-1.3**
VAY	**Valandovo**	**79.47**	**313**	*i*	P	**P**	**19 50 17.1**	**-0.3**
BURAR	**Bucovina Array**	**79.51**	**320**	⇓	P	**P**	**19 50 18.8**	**+1.1**
BURAR	**Bucovina Array**	**79.51**	**320**		P	**P**	**19 50 18.7**	**+1.1**
BURAR	**Bucovina Array**	**79.51**	**320**		IAmb	IAmb	19 50 20.6	
	comp=Z,14nm,0.7s							
BUR08	**Bucovina Ar. S**	**79.53**	**320**		P	**P**	**19 50 18.1**	**+0.4**
LOT	**Lotru**	**79.79**	**318**	⇑	P	**P**	**19 50 19.0**	**-0.2**
STIP	**Stip**	**79.85**	**314**	*i*	P	**P**	**19 50 18.1**	**-1.4**
BLKB	**Belogradchik**	**80.02**	**316**	⇓	P	**P**	**19 50 20.4**	**0.0**
SEY	**Seymchan**	**80.14**	**23**		P	**P**	**19 50 20.9**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=226,slow=8.9,SNR=7.4							
SEY	**Seymchan**	**80.14**	**23**	⇓	*eP*	**P**	**19 50 21.2**	**+0.6**
SEY					pmax	pmax		
	comp=Z,5.0nm,1.7s							
FNA	**Florina**	**80.20**	**313**		P	**P**	**19 50 20.0**	**-1.5**
FNA					pmax	pmax		
	comp=Z,19nm,1.6s							
FNA	**Florina**	**80.20**	**313**		P	**P**	**19 50 20.0**	**-1.5**
MNK	**Minsk**	**80.33**	**327**	*i*	P	**P**	**19 50 22.2**	**+0.5**
MNK				*i*	S	**S**	**20 00 29.2**	**+2.8**
MNK				*i*	SS	**SS**	**20 05 41.4**	**+3.3**
MNK					MLR	MLR		
	comp=Z,236nm,21.0s							
MNK	**Minsk**	**80.33**	**327**	*i*	P	**P**	**19 50 22.3**	**+0.5**
MNK				*i*	P	**P**	**19 50 22.3**	**+0.5**
MNK				*i*	P	**P**	**19 50 22.3**	**+0.5**
	baz=111							
MNK				*i*	PP	PP	19 53 11.7	-13
MNK				*i*	PPP	PPP	19 55 06.4	
MNK				*i*	S	**S**	**20 00 29.3**	**+2.8**
MNK				*i*	SS	**SS**	**20 05 41.5**	**+3.3**
MNK				*i*	SSS	SSS	20 09 07.9	
MNK				*i*	LQ	LQ	20 20 41.6	
MNK				*i*	LR	LR	20 24 41.1	
MNK				*i*	LRM	MLR	20 29 04.7	
	comp=Z,236nm,20.8s							
MNK				*i*	LRM	MLR	20 29 35.0	
	comp=N,413nm,27.4s							
MNK				*i*	LRM	MLR	20 30 03.3	
	comp=E,38nm,25.8s							
GZR	**Gura Zlata**	**80.45**	**317**	⇑	P	**P**	**19 50 23.2**	**+0.5**
HERR	**Herculane**	**80.55**	**317**	⇓	P	**P**	**19 50 23.5**	**+0.3**
KBN	**Korca**	**80.59**	**312**		IAmb	IAmb	19 50 23.7	
	comp=Z,9.7nm,0.6s							
BOVS	**Bovan**	**80.70**	**315**	⇓	P	**P**	**19 50 23.1**	**-0.9**
VNDA	**Vanda**	**80.79**	**168**		P	**P**	**19 50 25.9**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=291,slow=4.1,SNR=3.9							
VNDA					LR	LR	20 21 11.3	
	comp=Z,158nm,20.5s,baz=302,slow=32							
VNDA	**Vanda**	**80.79**	**168**		P	**P**	**19 50 25.0**	**+1.1**
VNDA					pmax	pmax		
	comp=Z,13nm,1.3s							
VNDA	**Vanda**	**80.79**	**168**		P	**P**	**19 50 25.0**	**+1.1**
MESR	**Meseseni**	**80.84**	**319**	⇓	P	**P**	**19 50 25.4**	**+0.7**
LVV	**L'vov**	**80.95**	**322**	*e*	P	**P**	**19 50 25.8**	**+0.6**
LVV				*e*			19 50 36.7	
LVV				*e*	PPP	PPP	19 55 29.6	
LVV				*e*	S	**S**	**20 00 29.3**	**-3.8**
LVV					pmax	pmax		
	comp=Z,40nm,1.4s							
MDVR	**Moldovita**	**81.00**	**317**	⇑	P	**P**	**19 50 26.2**	**+0.5**
NACGM	**Naroch**	**81.07**	**327**	*e*	P	**P**	**19 50 25.8**	**+0.1**
BZS	**Buzias**	**81.29**	**317**	⇓	P	**P**	**19 50 27.3**	**+0.2**
SIRR	**Siria**	**81.44**	**318**	⇓	P	**P**	**19 50 28.7**	**+0.7**
UZH	**Uzhgorod**	**81.69**	**320**	*e*	P	P	19 50 21.6	-7.5
UZH				*e*			19 50 27.4	
KWP	**Kalwaria Pacla**	**81.71**	**321**		P	**P**	**19 50 29.3**	**0.0**
KWP	**Kalwaria Pacla**	**81.71**	**321**		P	**P**	**19 50 29.3**	**0.0**
KOLS	**Kolonicke sedl**	**81.78**	**321**	*e*	P	**P**	**19 50 31.5**	**+1.8**
KOLS	**Kolonicke sedl**	**81.78**	**321**	*e*	P	**P**	**19 50 31.5**	**+1.8**
DIVS	**Divibare**	**82.02**	**316**		IAmb	IAmb	19 50 32.5	
	comp=Z,38nm,1.7s							
PDG	**Podgorica**	**82.14**	**314**	⇓	P	**P**	**19 50 31.4**	**-0.2**
PDG	**Podgorica**	**82.14**	**314**		P	**P**	**19 50 30.7**	**-1.0**
PDG					IAmb	IAmb	19 50 32.4	
	comp=Z,17nm,0.6s							
SCTE	**Santa Cesarea**	**82.19**	**311**		P	**P**	**19 50 31.0**	**-1.0**
SCTE					IAmb	IAmb	19 51 12.6	
	comp=Z,30nm,0.9s							
VSU	**Vasula**	**82.39**	**331**	⇑	*eP*	**P**	**19 50 32.2**	**-0.4**
VSU					pmax	pmax		
	comp=Z,21nm,0.8s							
FRGS	**Fruska Gora**	**82.41**	**317**	⇓	P	**P**	**19 50 32.3**	**-0.8**
PSZ	**Piszkesteto**	**83.04**	**319**	⇓	P	**P**	**19 50 35.5**	**-0.9**
PSZ	**Piszkesteto**	**83.04**	**319**		P	**P**	**19 50 35.2**	**-1.1**
PSZ					pmax	pmax		
	comp=Z,14nm,1.3s							
PSZ	**Piszkesteto**	**83.04**	**319**		P	**P**	**19 50 35.2**	**-1.1**
PSZ	**Piszkesteto**	**83.04**	**319**		P	**P**	**19 50 34.9**	**-1.4**
TIP	**Timpagrande**	**83.30**	**310**	⇑	P	**P**	**19 50 38.0**	**+0.2**
MORH	**Mrgy, Hungar**	**83.45**	**317**	⇓	P	**P**	**19 50 38.6**	**+0.2**
MORH	**Mrgy, Hungar**	**83.45**	**317**		P	**P**	**19 50 38.2**	**-0.2**
LANS	**Liptovska Anna**	**83.62**	**320**	*e*	P	**P**	**19 50 40.6**	**+1.3**
LANS	**Liptovska Anna**	**83.62**	**320**	*e*	P	**P**	**19 50 40.6**	**+1.3**
CEL	**Celeste**	**83.78**	**309**		P	**P**	**19 50 39.5**	**-0.8**
CEL					IAmb	IAmb	19 52 53.1	
	comp=Z,12nm,0.7s							
KOVH	**Kovagotottos**	**83.79**	**317**		P	**P**	**19 50 40.0**	**-0.1**
FIA1	**FINESS Array S**	**83.80**	**333**		P	**P**	**19 50 39.0**	**-0.9**
FIA1					IAmb	IAmb	19 50 40.5	
	comp=Z,11nm,0.9s							
FINES	**FINESS Array B**	**83.80**	**333**		P	**P**	**19 50 39.9**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=103,slow=5.9,SNR=27							
FINES	**FINESS Array B**	**83.80**	**333**	*i*	P	**P**	**19 50 40.0**	**+0.1**
FINES					pmax	pmax		
	comp=Z,5.0nm,0.6s							
FINES	**FINESS Array B**	**83.80**	**333**		P	**P**	**19 50 39.4**	**-0.4**
VYHS	**Vyhne**	**83.86**	**320**	*e*	P	**P**	**19 50 41.5**	**+1.0**
VYHS	**Vyhne**	**83.86**	**320**	*e*	P	**P**	**19 50 41.5**	**+1.0**
CUC	**Castrocucco**	**84.17**	**311**		P	**P**	**19 50 41.4**	**-0.9**
MPLH	**Magyarpolny**	**84.41**	**318**		P	**P**	**19 50 43.6**	**+0.3**
SGRT	**San Giovanni R**	**84.55**	**313**		P	**P**	**19 50 43.7**	**-0.5**
EGYH	**Egyhazaskeszo**	**84.60**	**318**		P	**P**	**19 50 45.9**	**+1.6**
JAVC	**Velka Javorina**	**84.70**	**320**	*e*	P	**P**	**19 50 46.3**	**+1.5**
MODS	**Modra-Piesok**	**84.85**	**319**	*e*	P	**P**	**19 50 46.7**	**+1.2**
MODS	**Modra-Piesok**	**84.85**	**319**	*e*	P	**P**	**19 50 46.7**	**+1.2**
MORC	**Moravsky Berou**	**84.99**	**321**	⇑	P	**P**	**19 50 46.3**	**+0.1**
MORC	**Moravsky Berou**	**84.99**	**321**		P	**P**	**19 50 46.3**	**+0.1**
MORC	**Moravsky Berou**	**84.99**	**321**		IAmb	IAmb	19 50 48.5	
	comp=Z,32nm,1.9s							
MORC	**Moravsky Berou**	**84.99**	**321**	*e*	P	**P**	**19 50 46.8**	**+0.6**
RONA	**Rosalia, Austr**	**85.35**	**318**	*e*	P	**P**	**19 50 48.6**	**+0.5**
	comp=Z,2.3nm,0.6s							
QSPA	**South Pole Qui**	**85.43**	**180**		LR	LR	20 23 14.3	
	comp=Z,301nm,18.4s,baz=304,slow=32							
GOLS	**Golise**	**85.46**	**317**	*i*	P	**P**	**19 50 49.5**	**+0.8**
VRAC	**Vranov**	**85.49**	**320**	*e*	P	**P**	**19 50 48.9**	**+0.2**
KRLC	**Kraliky**	**85.53**	**321**	*e*	P	**P**	**19 50 49.8**	**+0.8**
KRLC	**Kraliky**	**85.53**	**321**	*e*	P	**P**	**19 50 49.8**	**+0.8**
KRUC	**Moravsky**	**85.57**	**320**	*e*	P	**P**	**19 50 49.4**	**+0.3**
BOJS	**Bojanci**	**85.62**	**316**	*i*	P	**P**	**19 50 50.4**	**+0.5**
CONA	**Conrad Observa**	**85.68**	**319**	*i*	P	**P**	**19 50 50.2**	**+0.4**
	comp=Z,3.7nm,1.2s							
ARSA	**Arzberg**	**85.77**	**318**	*e*	P	**P**	**19 50 51.2**	**+1.0**
	comp=Z,7.1nm,0.7s							
DPC	**Dobruska-Polom**	**85.88**	**321**	*e*	P	**P**	**19 50 52.1**	**+1.4**
DPC	**Dobruska-Polom**	**85.88**	**321**	*e*	P	**P**	**19 50 52.1**	**+1.4**
PERS	**Pernice**	**85.93**	**317**	*i*	P	**P**	**19 50 51.8**	**+0.8**
SOKA	**Soboth**	**85.99**	**317**	*i*	P	**P**	**19 50 52.1**	**+0.8**
	comp=Z,13nm,1.1s,SNR=11							
OSTC	**Ostas**	**85.99**	**321**	*e*	P	**P**	**19 50 52.6**	**+1.4**
CHVC	**Chvalec**	**86.10**	**321**	*e*	P	**P**	**19 50 53.2**	**+1.5**
UPC	**Upice**	**86.11**	**321**	*e*	P	**P**	**19 50 53.3**	**+1.6**
UPC	**Upice**	**86.11**	**321**	*e*	P	**P**	**19 50 53.3**	**+1.6**
OBKA	**Obir**	**86.29**	**317**	*e*	P	**P**	**19 50 53.7**	**+0.9**
	comp=Z,5.3nm,0.8s							
AQU	**L'Aquila**	**86.38**	**313**		P	**P**	**19 50 52.7**	**-0.6**
AQU					pmax	pmax		
	comp=Z,22nm,1.0s							
AQU	**L'Aquila**	**86.38**	**313**		P	**P**	**19 50 52.7**	**-0.6**
AQU					IAmb	IAmb	19 51 23.7	
	comp=Z,22nm,1.0s							
NRCA	**Norcia**	**86.66**	**313**		P	**P**	**19 50 53.8**	**-0.9**
MOA	**Molln**	**86.72**	**318**	*e*	P	**P**	**19 50 55.2**	**+0.3**
	comp=Z,4.8nm,1.1s							
CKRC	**Cesky Krumlov**	**86.87**	**319**	*e*	P	**P**	**19 50 56.8**	**+1.3**
MYKA	**Terra Mystica**	**86.92**	**317**	*e*	P	**P**	**19 50 56.5**	**+0.5**
	comp=Z,3.0nm,0.5s							
ARCES	**ARCESS Array B**	**86.98**	**341**		P	**P**	**19 50 56.3**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=87,slow=5.0,SNR=12							
BIOA	**Bad Ischl, Aus**	**87.11**	**318**	*e*	P	**P**	**19 50 56.9**	**+0.2**
	comp=Z,3.2nm,0.5s							
KBA	**Koelnbreinsper**	**87.20**	**317**	*e*	P	**P**	**19 50 57.4**	**0.0**
	comp=Z,2.6nm,0.8s							
GEC2	**GERESS Array S**	**87.27**	**319**		P	**P**	**19 50 56.7**	**-0.8**
GERES	**GERESS Array B**	**87.27**	**319**		P	**P**	**19 50 58.4**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=100,slow=6.2,SNR=42							
GERES	**GERESS Array B**	**87.27**	**319**		P	**P**	**19 50 56.7**	**-0.8**
KHC	**Kasperske Hory**	**87.40**	**320**	*e*	P	**P**	**19 50 58.8**	**+0.7**
KHC				*e*			19 51 08.0	
KHC					MLR	MLR		
	comp=Z,100nm,22.0s							
KHC	**Kasperske Hory**	**87.40**	**320**		IAmb	IAmb	19 51 00.3	
	comp=Z,25nm,1.8s							
KHC	**Kasperske Hory**	**87.40**	**320**	*e*	P	**P**	**19 50 58.8**	**+0.7**
KHC				*ex*		x	19 51 08.0	
KHC					AMS	AMS	20 30 50.0	
	comp=Z,100nm,22.0s							
BRG	**Berggiesshubel**	**87.47**	**321**	*e*	P	**P**	**19 50 59.6**	**+1.3**
BRG					Amp		19 51 01.6	
	comp=Z,13nm,1.5s							
BRG				*ex*		x	19 51 15.4	
BRG					Amp		19 51 16.4	
	comp=Z,8.2nm,1.4s							
BRG	**Berggiesshubel**	**87.47**	**321**	*e*	P	**P**	**19 50 59.6**	**+1.3**
BRG					pmax	pmax		
	comp=Z,13nm,1.5s							
BILL	**Bilibino**	**87.52**	**21**	⇓	*eP*	**P**	**19 51 00.1**	**+1.9**
BILL				*e*			19 51 06.0	
BILL				*e*			19 51 11.6	
BILL					SSS	SSS	20 10 57.0	
BILL					pmax	pmax		
	comp=Z,1.0nm,1.0s							
BILL					MLR	MLR		
	comp=Z,334nm,17.0s							
SNAA	**Sanae**	**87.97**	**198**		P	**P**	**19 51 01.9**	**+1.4**
SNAA	**Sanae**	**87.97**	**198**		LR	LR	20 24 44.8	
	comp=Z,154nm,18.2s,baz=53,slow=32							
SNAA	**Sanae**	**87.97**	**198**	⇓	*eP*	**P**	**19 51 02.6**	**+2.1**
SNAA					pmax	pmax		
	comp=Z,28nm,1.8s							
CLL	**Collm**	**88.13**	**322**	*e*	P	**P**	**19 51 02.0**	**+0.5**
CLL				*e*	PS	**PnS**	**20 02 47.0**	**-1.4**
CLL				*e*	SS	SS	20 07 39.0	+5.6
CLL					pmax	pmax		
	comp=Z,5.0nm,1.0s							
CLL	**Collm**	**88.13**	**322**	*e*	P	**P**	**19 51 02.0**	**+0.5**
	comp=Z,5.0nm,1.0s							
CLL				*ex*		x	19 51 17.0	
CLL				*e*	PP	**PP**	**19 54 27.0**	**-1.5**
CLL				*e*	S	**S**	**20 01 48.0**	**+3.3**
CLL				*e*	PS	**PnS**	**20 02 47.0**	**-1.4**
CLL				*e*	SS	**SS**	**20 07 39.0**	**+5.6**
CLL				*e*	SSS	SSS	20 11 12.0	
CLL				*e*	SSSS		20 14 06.0	
CTI	**Castel Tesino**	**88.19**	**316**		IAmb	IAmb	19 51 03.8	
	comp=Z,9.7nm,0.6s							
WTTA	**Wattenberg**	**88.38**	**317**	*e*	P	**P**	**19 51 03.2**	**+0.2**
	comp=Z,8.7nm,0.7s							
WATA	**Walderalm**	**88.43**	**318**	*e*	P	**P**	**19 51 03.2**	**0.0**
	comp=Z,5.6nm,0.7s							
KEST	**Kesra**	**88.59**	**306**		P	**P**	**19 51 05.9**	**+1.7**
	comp=Z,5.7nm,0.6s,baz=112,slow=1.8,SNR=8.4							
KEST					LR	LR	20 28 43.0	
	comp=Z,101nm,21.7s,baz=322,slow=34							
KEST	**Kesra**	**88.59**	**306**		P	**P**	**19 51 03.8**	**-0.3**
KEST					IAmb	IAmb	19 51 40.1	
	comp=Z,12nm,1.0s							
SQTA	**Sankt Quirin**	**88.66**	**317**	*i*	P	**P**	**19 51 04.6**	**+0.3**
	comp=Z,9.3nm,0.7s,SNR=6.1							
MOTA	**Moosalm**	**88.75**	**318**	*i*	P	**P**	**19 51 05.0**	**+0.2**
	comp=Z,8.5nm,0.8s,SNR=8.5							
FETA	**Feichten**	**88.96**	**317**	*e*	P	**P**	**19 51 06.4**	**+0.7**
	comp=Z,4.8nm,0.7s							
RETA	**Reutte**	**89.00**	**318**	*e*	P	**P**	**19 51 06.5**	**+0.7**
	comp=Z,7.6nm,0.6s							
GRFO	**Grafenberg**	**89.00**	**320**		P	**P**	**19 51 05.7**	**0.0**
GRFO					pmax	pmax		
	comp=Z,52nm,1.8s							
GRFO	**Grafenberg**	**89.00**	**320**		P	**P**	**19 51 05.7**	**0.0**
DAVOX	**Davos/Dischmat**	**89.51**	**317**		LR	LR	20 34 51.3	
	comp=Z,51nm,19.6s,baz=62,slow=38							
VNA2	**Neumayer--Watz**	**89.55**	**199**		P	**P**	**19 51 09.1**	**+1.2**
	baz=86,slow=5.0							
DAVA	**Damuels**	**89.57**	**317**	*i*	P	**P**	**19 51 09.6**	**+1.0**
	comp=Z,13nm,0.7s,SNR=7.8							
TUE	**Stuetta**	**89.83**	**316**		P	**P**	**19 51 09.2**	**-0.7**
TUE					IAmb	IAmb	19 51 30.8	
	comp=Z,16nm,1.3s							
SENIN	**Lac Senin/Sane**	**91.23**	**316**		IAmb	IAmb	19 51 45.7	
	comp=Z,15nm,1.3s							
TORD	**Torodi Ar. Bea**	**93.61**	**283**		P	**P**	**19 51 28.0**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=84,slow=5.6,SNR=11							
TORD					LR	LR	20 31 12.5	
	comp=Z,154nm,19.7s,baz=234,slow=34							
TORD	**Torodi Ar. Bea**	**93.61**	**283**		P	**P**	**19 51 27.1**	**-0.7**
TORD					IAmb	IAmb	19 52 05.2	
	comp=Z,9.3nm,1.4s							
ESDC	**Sonseca Array**	**99.30**	**309**		PP	**PP**	**19 55 56.0**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=87,slow=6.9,SNR=4.3							
ESDC					LR	LR	20 38 19.8	
	comp=Z,38nm,19.2s,baz=74,slow=36							
DBIC	**Dimbokro**	**99.65**	**276**		LR	LR	20 35 58.8	
	comp=Z,66nm,19.3s,baz=110,slow=35							
MDT	**Midelt**	**99.98**	**302**		LR	LR	20 37 02.6	
	comp=Z,167nm,19.3s,baz=114,slow=35							
YKA	**Yellowknife Ar**	**118.35**	**15**		PKKP		20 07 47.1	
	comp=Z,0.3nm,0.8s,baz=146,slow=4.0,SNR=4.0							
NBMA	**Muriti-CE**	**131.74**	**256**	*e*	P	**PKPdf**	**19 57 23.9**	**-1.1**
PDAR	**Pinedale Array**	**136.43**	**26**		PKP	**PKPdf**	**19 57 34.5**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=350,slow=2.0,SNR=1.8							
R11A	**Troy Canyon, C**	**136.72**	**35**		PKPpre		19 57 21.9	
PEXB	**Peixe**	**139.35**	**246**	*e*	P	**PKiKP**	**19 57 41.2**	**-0.2**
ANMO	**Albuquerque**	**144.14**	**30**		PKIKP	**PKPab**	**19 57 45.5**	**+0.5**
ANMO	**Albuquerque**	**144.14**	**30**		PKPdf	**PKPab**	**19 57 45.5**	**+0.5**
MCPB	**Macapa, AP**	**146.09**	**263**	*e*	P	**PKPbc**	**19 57 52.5**	**+0.5**
**CLD

YNR	**Norris Junctio**	**3.95**	**286**	Pn		**Pn**	**20 04 55.0**	**+1.6**
YPP	**Pitchstone Pla**	**3.97**	**280**			**Pn**	**20 04 54.1**	**+0.4**
REDW	**Red Top Meadow**	**4.01**	**267**			**Pn**	**20 04 52.5**	**-1.7**
REDW				IAML			20 06 02.5	
	comp=N,52nm,1.2s							
REDW				IAML			20 06 13.0	
	comp=N,47nm,0.8s							
YFT	**Old Faithful**	**4.01**	**282**	Pn		**Pn**	**20 04 54.2**	**-0.1**
YFT				IAML			20 05 29.1	
	comp=N,21nm,1.2s							
YFT				IAML			20 06 08.2	
	comp=E,24nm,0.9s							
TPAW	**Teton Pass**	**4.07**	**269**			**Pn**	**20 04 54.4**	**-0.7**
TPAW				IAML			20 06 08.0	
	comp=E,21nm,0.8s							
TPAW				IAML			20 06 18.3	
	comp=E,37nm,0.9s							
YHH	**Holmes Hill**	**4.09**	**287**			**Pn**	**20 04 53.0**	**-2.3**
FXWY	**Fox Creek**	**4.11**	**271**			**Pn**	**20 04 56.5**	**+0.9**
FXWY				IAML			20 06 25.3	
	comp=E,24nm,4.2s							
FXWY				IAML			20 07 20.5	
	comp=E,24nm,4.3s							
YMR	**Madison River**	**4.14**	**285**	Pn		**Pn**	**20 04 55.5**	**-0.5**
O20A	**White River Ci**	**4.18**	**212**			**Pn**	**20 04 56.2**	**-0.4**
O20A				IAML			20 06 07.0	
	comp=N,51nm,0.8s							
O20A				IAML			20 06 08.9	
	comp=E,42nm,0.8s							
AHID	**Auburn Hatcher**	**4.30**	**259**			**Pn**	**20 04 59.0**	**+0.7**
AHID				IAML			20 06 17.8	
	comp=E,39nm,0.9s							
AHID				IAML			20 06 20.5	
	comp=E,31nm,0.6s							
YHL	**Hebgen Lake**	**4.33**	**287**	Pn		**Pn**	**20 04 58.7**	**0.0**
YHL				IAML			20 06 22.3	
	comp=E,41nm,1.2s							
YHL				IAML			20 06 31.0	
	comp=N,35nm,1.0s							
E28A	**Huff**	**4.36**	**48**	Pn		**Pn**	**20 04 59.4**	**+0.4**
ECR	**Eagle Creek**	**4.43**	**263**	Pn		**Pn**	**20 05 00.4**	**+0.4**
RDMU	**Red Mountain**	**4.44**	**226**			**Pn**	**20 05 00.8**	**+0.7**
RDMU				IAML			20 06 14.1	
	comp=N,33nm,0.9s							
RDMU				IAML			20 06 32.3	
	comp=E,35nm,0.9s							
QLMT	**Earthquake Lak**	**4.50**	**286**	Pn		**Pn**	**20 05 01.3**	**+0.3**
SUSD	**Miller**	**4.67**	**79**	Pn		**Pn**	**20 05 03.1**	**-0.1**
SMCO	**Snowmass**	**4.70**	**195**	Pn		**Pn**	**20 05 04.5**	**+0.6**
SMCO				IAML			20 06 27.2	
	comp=E,21nm,0.9s							
SMCO				IAML			20 06 29.6	
	comp=E,19nm,0.9s							
Q24A	**Divide**	**4.76**	**178**			**Pn**	**20 05 03.2**	**-1.4**
Q24A				IAML			20 06 26.8	
	comp=E,24nm,0.8s							
DGMT	**Dagmar**	**4.82**	**9**	Pn		**Pn**	**20 05 05.0**	**-0.2**
BOZ	**Bozeman (W)**	**4.85**	**295**			**Pn**	**20 05 05.3**	**-0.4**
BOZ				IAML			20 06 26.5	
	comp=E,14nm,1.3s							
BOZ				IAML			20 06 28.8	
	comp=E,13nm,1.0s							
K31A	**O'Neill**	**4.96**	**101**			**Pn**	**20 05 08.4**	**+1.3**
HWUT	**Hardware Ranch**	**5.04**	**247**			**Pn**	**20 05 08.9**	**+0.6**
HWUT				IAML			20 06 30.3	
	comp=E,26nm,1.0s							
HWUT				IAML			20 06 50.9	
	comp=E,23nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.13**	**155**	Pn		**Pn**	**20 05 09.2**	**-0.4**
EGMT	**Eagleton**	**5.28**	**326**	Pn		**Pn**	**20 05 12.1**	**+0.5**
DLMT	**Dillon**	**5.43**	**290**			**Pn**	**20 05 14.6**	**+0.9**
HRY	**Holter Researc**	**5.46**	**305**	Pn		**Pn**	**20 05 12.3**	**-1.8**
LRM	**Limekiln Ridge**	**5.47**	**295**	Pn		**Pn**	**20 05 13.7**	**-0.6**
P18A	**Preston Nutter**	**5.49**	**223**			**Pn**	**20 05 13.9**	**-0.8**
MCMT	**McKenzie Canyo**	**5.49**	**284**			**Pn**	**20 05 13.2**	**-1.4**
JLU	**Jordanelle**	**5.50**	**238**	Pn		**Pn**	**20 05 15.1**	**+0.4**
CTU	**Camp Tracy**	**5.63**	**240**	Pn		**Pn**	**20 05 15.5**	**-0.9**
MDND	**Maddock**	**5.76**	**42**	Pn		**Pn**	**20 05 18.5**	**+0.3**
HVU	**Hansel Valley**	**5.79**	**253**	Pn		**Pn**	**20 05 18.1**	**-0.7**
BGNE	**Belgrade**	**5.80**	**111**	Pn		**Pn**	**20 05 17.5**	**-1.2**
PV07	**Paradox Valley**	**5.83**	**206**	Pn		**Pn**	**20 05 19.1**	**-0.2**
P17A	**Butcher Ranch,**	**5.85**	**225**			**Pn**	**20 05 19.8**	**+0.2**
PV15	**Paradox Valley**	**5.87**	**205**	Pn		**Pn**	**20 05 20.2**	**+0.4**
PV23	**Carpenter Ridg**	**5.94**	**209**	Pn		**Pn**	**20 05 21.4**	**+0.5**
MPU	**Maple Canyon**	**5.97**	**234**	Pn		**Pn**	**20 05 21.6**	**+0.4**
SDCO	**Great Sand Dun**	**5.97**	**181**			**Pn**	**20 05 22.4**	**+1.1**
PV10	**Paradox Valley**	**6.02**	**209**	Pn		**Pn**	**20 05 22.2**	**+0.3**
SRU	**San Rafael Swe**	**6.02**	**222**	Pn		**Pn**	**20 05 21.6**	**-0.3**
PV20	**West Nyswonger**	**6.03**	**208**	Pn		**Pn**	**20 05 21.2**	**-0.7**
S22A	**4UR Ranch, Cre**	**6.07**	**191**	Pn		**Pn**	**20 05 23.4**	**+0.7**
PV13	**Radium Mtn., P**	**6.14**	**206**	Pn		**Pn**	**20 05 21.4**	**-2.1**
TMUT	**Trail Mountain**	**6.23**	**227**	Pn		**Pn**	**20 05 25.6**	**+0.7**
NLU	**North Lily Min**	**6.27**	**235**	Pn		**Pn**	**20 05 25.7**	**+0.4**
BGU	**Big Grassy Mou**	**6.33**	**246**	Pn		**Pn**	**20 05 26.1**	**-0.1**
ECSD	**EROS Data Cent**	**6.34**	**87**	Pn		**Pn**	**20 05 25.6**	**-0.5**
CBKS	**Cedar Bluff**	**6.48**	**137**	Pn		**Pn**	**20 05 26.3**	**-1.7**
HLID	**Hailey**	**6.57**	**272**	Pn		**Pn**	**20 05 29.8**	**+0.4**
I10CA	**LAC DU BONNET**	**9.09**	**41**	*i*			21 00 00.0	
	baz=224,slow=329,SNR=0.8							
ULM	**Lac du Bonnet**	**9.20**	**41**	Lg		Lg	20 08 37.1	
	comp=E,0.5nm,0.3s,baz=139,slow=19,SNR=3.1							
TXAR	**Lajitas Array**	**14.42**	**174**	Pg		P	20 08 17.6	+54
	baz=352,slow=13,SNR=1.8							
YKA	**Yellowknife Ar**	**19.57**	**347**	P		**P**	**20 08 20.8**	**+0.3**
	comp=E,0.0nm,0.3s,baz=156,slow=11,SNR=6.5							
MKAR	**Makanchi Array**	**89.61**	**355**	P		**P**	**20 16 50.9**	**+0.1**
	comp=E,0.9nm,0.7s,baz=2.9,slow=3.7,SNR=4.5							

IDC 22 20:22:25.3±10.0, 0°.35S×75°.81W, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/28, mbtmp3.4/4, MS3.8/1, Ms1 3.8/1, ms1mx2.7/27, Error ellipse: s-maj=407.9km s-min=35.3km az=28.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**39.73**	**320**	P	P	20 30 00.6	+0.7
	0.1nm,0.5s,baz=153,slow=10,SNR=2.1						
PDAR	**Pinedale Array**	**52.54**	**329**	P	P	20 31 39.9	-0.9
	0.2nm,0.4s,baz=129,slow=8.5,SNR=2.8						
SCHQ	**Schefferville**	**55.49**	**6**	LR	LR	20 56 41.1	
	comp=Z,99nm,21.1s,baz=50,slow=37						
YKA	**Yellowknife Ar**	**69.11**	**342**	P	P	20 33 33.0	0.0
	0.2nm,0.5s,baz=140,slow=6.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**77.92**	**77**	P	P	20 34 25.9	+0.1
	0.3nm,0.5s,baz=284,slow=6.4,SNR=7.4						

STR 22 20:32:27.7±0.4, 43°.3N×3°.×°.E, h0km, MLv1.2/7, preliminary
LDG 22 20:32:27.3±0.1, 43°.44N×0°.61W, h16km±1km, Md2.0/3, Ml1.8/9, Error ellipse: s-maj=2.1km s-min=1.6km az=126.0
MDD 22 20:32:29.1±0.4, 43°.43N×0°.61W, h0km, mb_Lg2.7/4, Error ellipse: s-maj=3.6km s-min=2.8km az=163.0

ISC 22 20:32:27.4±1.0, 43°.42N±0°.03×0°.62W±0°.03, h26km±11km, n25, σ1°.97/45, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.34**	**191**	Pg	**Pb**	**20 32 34.6**	**-0.5**
ATE				Sg	**Sb**	**20 32 40.6**	**+0.2**
OSSF	**Osses**	**0.50**	**251**	Pg	**Pb**	**20 32 37.5**	**-0.2**
OSSF				Sg	**Sb**	**20 32 45.3**	**+0.8**
ETSF	**Etsaut**	**0.52**	**175**	*e*Pg	**Pb**	**20 32 37.5**	**-0.6**
ETSF	**Etsaut**	**0.52**	**175**	*e*Pn	**Pb**	**20 32 38.4**	**+0.3**
ETSF				*e*Sg	**Sb**	**20 32 44.3**	**-1.0**
	6.7nm,0.3s						
ETSF				*e*Sn	**Sn**	**20 32 47.5**	**+0.2**
	7.5nm,0.3s						
SJPF	**Ste Jean**	**0.54**	**236**	*e*Pg	**Pb**	**20 32 37.8**	**-0.5**
SJPF				*e*Sg	**Sb**	**20 32 45.9**	**+0.1**
	5.7nm,0.3s						
CANF	**Canfranc**	**0.66**	**174**	Pg	**Pb**	**20 32 40.2**	**-0.2**
CANF				Sg	**Sb**	**20 32 50.1**	**+0.9**
EALK	**Alkurruntz**	**0.68**	**253**	Pg	**Pb**	**20 32 40.4**	**-0.3**
EALK	**Alkurruntz**	**0.68**	**253**	Pg	**Pb**	**20 32 40.6**	**-0.1**
EALK				Sg	**Sn**	**20 32 51.7**	**+0.5**
EALK				*i* Vmb_Lg		20 32 55.2	
VIEF	**Viey**	**0.71**	**139**	Pg	**Pn**	**20 32 41.4**	**-0.4**
EORO	**Oroz-Betelu**	**0.73**	**224**	Pg	**Pb**	**20 32 41.5**	**0.0**
EORO				Sg	**Sb**	**20 32 51.3**	**+0.1**
EORO				*i* Vmb_Lg		20 32 55.2	
EPF	**Esparros**	**0.80**	**119**	*e*Pg	**Pn**	**20 32 42.6**	**-0.4**
EPF				*e*Sg	**Sn**	**20 32 53.8**	**-0.3**
	3.3nm,0.2s						
ECHI	**Chisagues Biel**	**0.96**	**141**	Pg	**Pn**	**20 32 46.7**	**+1.4**
MONQ	**Montcuq**	**1.62**	**53**	Pn	**Pb**	**20 32 56.8**	**+0.2**
MONQ				Sn	**Sb**	**20 33 18.1**	**+1.5**
ESAC	**San Caprasio**	**1.70**	**176**	Pn	**Pb**	**20 32 59.7**	**+1.7**
ESAC				Sn	**Sb**	**20 33 23.7**	**+4.8**
ESAC				*i* Vmb_Lg		20 33 31.1	
LFF	**La Frestale**	**1.81**	**32**	*e*Pn	**Pn**	**20 32 55.6**	**-1.3**
LFF	**La Frestale**	**1.81**	**32**	*e*Pg	**Pb**	**20 33 00.4**	**+0.6**
LFF				*e*Sg	**Sb**	**20 33 24.6**	**+2.6**
	1.8nm,0.3s						
MTLF	**Montolieu**	**2.07**	**91**	*e*P	**Pb**	**20 33 01.7**	**-2.5**
MTLF				*e*Sn	**Sn**	**20 33 24.0**	**-1.4**
MTLF				*e*Sg	**Sb**	**20 33 31.9**	**+2.4**
	0.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.43**	**38**	*e*Pn	**Pn**	**20 33 04.7**	**-0.7**
RJF	**Les Rejaudoux**	**2.43**	**38**	*e*Pg	**Pb**	**20 33 11.6**	**+1.2**
RJF				*e*Sn	**Sn**	**20 33 32.1**	**-2.2**
RJF				*e*Sg	**Sb**	**20 33 43.5**	**+3.6**
	1.7nm,0.4s						
CAF	**Calviac**	**2.45**	**51**	*e*P	**Pb**	**20 33 07.1**	**-3.6**
CAF	**Calviac**	**2.45**	**51**	*e*Pg	**Pb**	**20 33 12.9**	**+2.2**
CAF				*e*Sn	**Sn**	**20 33 30.9**	**-3.9**
CAF				*e*Sg	**Sb**	**20 33 42.9**	**+2.4**
	0.6nm,0.2s						
LASF	**Ste Croix**	**3.31**	**77**	*e*Pn	**Pn**	**20 33 16.2**	**-1.3**
LASF				*e*Sn	**Sn**	**20 33 53.2**	**-2.8**
	0.2nm,0.2s						
TCF	**Toulx Ste Croi**	**3.50**	**34**	*e*Pn	**Pn**	**20 33 18.8**	**-1.4**
TCF				*e*Sg	**Sb**	**20 34 16.4**	**+5.6**
	0.4nm,0.2s						
BGF	**Bois d'Agland**	**3.99**	**37**	*e*Pn	**Pn**	**20 33 26.0**	**-0.8**
BGF				*e*Sg	Sb	20 34 31.5	+6.9
	4.5nm,0.5s						
FLN	**La Foliniere**	**5.35**	**1**	*e*Pn	**Pn**	**20 33 44.9**	**-0.6**
	baz=186						

IDC 22 20:59:47.3±0.8, 24°.08N×122°.55E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.6/48, mbtmp3.8/11, ML3.2/1, MS3.4/2, Ms1 3.4/2, ms1mx2.5/95, Error ellipse: s-maj=28.9km s-min=17.7km az=63.0
JMA 22 20:59:51.6±0.2, 23°.96N×122°.50E, h24km±4km, M3.3
TAP 22 20:59:51.5, 23°.93N×122°.55E, h35km, ML3.9, D
ISC 22 20:59:51.0±1.0, 23°.90N±0°.02×122°.52E±0°.02, h27km±8km, n158, σ0°89/262, mb3.7/10, 8C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.67**	**35**	P	**Pb**	**21 00 03.9**	**-0.4**
JYNG				S	**Sb**	**21 00 12.0**	**-1.2**
YOJ	**Yonaguni jima**	**0.72**	**39**	P	**Pn**	**21 00 04.7**	**-0.7**
YOJ				S	**Sb**	**21 00 13.4**	**-1.1**
YOJ	**Yonaguni jima**	**0.72**	**39**	P	**Pn**	**21 00 04.8**	**-0.7**
YOJ	**Yonaguni jima**	**0.72**	**39**	⇓P	**Pn**	**21 00 04.7**	**-0.7**
	baz=38						
YOJ				*e*S	**Sb**	**21 00 13.4**	**-1.1**
	baz=38						
HWA	**Hwalien**	**0.84**	**275**	*e*S	**Sn**	**21 00 19.4**	**+0.9**
	baz=262						
TEYL	**Yanliau Villag**	**0.84**	**268**	*e*P	**Pb**	**21 00 07.3**	**+0.2**
	baz=258						
TEYL				S	**Sn**	**21 00 19.2**	**+0.6**
	baz=258						
ETL	**Fush Village**	**0.86**	**288**	*e*P	**Pb**	**21 00 07.8**	**+0.4**
	baz=272						
ETL				*e*S	**Sn**	**21 00 19.1**	**+0.1**
	baz=272						
TWD	**Chiawan**	**0.86**	**282**	P	**Pn**	**21 00 06.9**	**-0.5**
	baz=279						
TWD				*e*S	**Sn**	**21 00 18.4**	**-0.6**
	baz=279						
EWUT	**Wuta**	**0.87**	**309**	*e*P	**Pb**	**21 00 07.3**	**-0.2**
	baz=306						
EWUT				*e*S	**Sn**	**21 00 19.9**	**+0.8**
	baz=306						
ENA	**Nanau**	**0.88**	**307**	*e*P	**Pb**	**21 00 08.0**	**+0.2**
	baz=304						
ENA				*e*S	**Sn**	**21 00 20.4**	**+0.8**
	baz=304						
NACB	**Ninganchiao**	**0.89**	**288**	P	**Pb**	**21 00 07.5**	**-0.4**
	baz=273						
NACB				S	**Sn**	**21 00 18.9**	**-0.8**
	baz=273						
TEGC	**Jichi Village**	**0.92**	**258**	*e*S	**Sb**	**21 00 21.0**	**+0.9**
	baz=256						
TWC	**Suao**	**0.93**	**319**	⇓P	**Pb**	**21 00 07.9**	**-0.7**
	baz=306						
TWC				*e*S	**Sn**	**21 00 20.9**	**+0.1**
	baz=306						
ETM	**Tongmen**	**0.94**	**274**	*e*P	**Pn**	**21 00 08.2**	**-0.2**
	baz=264						
ETM				*e*S	**Sn**	**21 00 20.5**	**-0.5**
	baz=264						
ETLH	**Xiulin Townshi**	**0.99**	**288**	P	**Pb**	**21 00 09.2**	**-0.5**
	baz=276						
ETLH				*e*S	**Sb**	**21 00 22.0**	**-0.5**
	baz=276						
ESL	**Shilin**	**1.00**	**265**	*e*P	**Pn**	**21 00 08.7**	**-0.6**
	baz=263						
EGFH	**Guangfu**	**1.02**	**257**	*e*P	**Pn**	**21 00 09.8**	**+0.2**
	baz=255						
EGFH				*e*S	**Sn**	**21 00 23.3**	**+0.2**
	baz=255						
NDS	**Dongshan**	**1.03**	**315**	*e*P	**Pb**	**21 00 10.3**	**0.0**
	baz=312						
EGS		**1.08**	**331**	P	**Pb**	**21 00 11.2**	**+0.1**
	baz=328						
HGSD	**Ruisui**	**1.08**	**248**	P	**Pn**	**21 00 10.5**	**+0.1**
	baz=246						
HGSD				*e*S	**Sn**	**21 00 24.7**	**+0.2**
	baz=246						
LATG	**Datong**	**1.10**	**305**	P	**Pb**	**21 00 11.2**	**-0.4**
	baz=302						
LATG				*e*S	**Sb**	**21 00 26.3**	**+0.6**
	baz=302						
ILA	**Ilan**	**1.11**	**321**	*e*P	**Pb**	**21 00 12.0**	**+0.4**
	baz=319						
TWE	**Neicheng**	**1.13**	**317**	*e*P	**Pb**	**21 00 11.9**	**0.0**
	baz=315						
ECBN	**Changbin**	**1.14**	**239**	*e*P	**Pn**	**21 00 11.4**	**+0.2**
	baz=226						
ECBN				*e*S	**Sn**	**21 00 25.5**	**-0.4**
	baz=226						
ENTT	**Nioudou**	**1.14**	**310**	*e*P	**Pb**	**21 00 12.0**	**-0.1**
	baz=296						
NTC	**Toucheng**	**1.14**	**327**	*e*P	**Pb**	**21 00 11.9**	**-0.2**
	baz=324						
NTC				*e*S	**Sb**	**21 00 27.3**	**+0.8**
	baz=324						
NDT	**Datong Townshi**	**1.15**	**308**	*e*P	**Pb**	**21 00 12.1**	**-0.3**
	baz=305						
NDT				*e*S	**Sb**	**21 00 27.9**	**+1.0**
	baz=305						
NNSB	**Datong**	**1.16**	**297**	⇑P	**Pb**	**21 00 12.0**	**-0.6**
	baz=285						
NNSB				*e*S	**Sb**	**21 00 27.1**	**-0.2**
	baz=285						
EHY	**Hungye**	**1.16**	**251**	⇓P	**Pn**	**21 00 11.8**	**+0.2**
	baz=248						
EHY				*e*S	**Sn**	**21 00 27.3**	**+0.7**
	baz=248						
WHF	**Hehuan Shan**	**1.17**	**282**	⇓P	**Pn**	**21 00 12.2**	**+0.2**
	baz=270						
NNS	**Nan Shan**	**1.18**	**297**	P	**Pb**	**21 00 12.2**	**-0.6**
	baz=285						
NNS				*e*S	**Sb**	**21 00 27.9**	**+0.2**
	baz=285						
HATJ	**Hateruma jima**	**1.19**	**82**	P	**Pb**	**21 00 12.9**	**0.0**
HATJ				*e*S	**Sb**	**21 00 28.6**	**+0.7**
IRIF	**Iriomote-Funau**	**1.19**	**68**	P	**Pb**	**21 00 13.0**	**0.0**
TWB1	**Santiao Chiao**	**1.20**	**336**	*e*P	**Pb**	**21 00 12.5**	**-0.7**
	baz=349						
TWB1				*e*S	**Sb**	**21 00 27.8**	**-0.6**
	baz=349						
FUSB	**Fushanzhiwuyua**	**1.20**	**315**	⇑P	**Pb**	**21 00 13.1**	**-0.2**
	baz=301						
FUSB				*e*S	**Sb**	**21 00 29.5**	**+1.0**
	baz=301						
FUSS	**Fushou**	**1.21**	**287**	*e*P	**Pn**	**21 00 11.9**	**-0.6**
	baz=285						
YULB	**Yu-li**	**1.23**	**246**	P	**Pn**	**21 00 12.8**	**+0.4**
	baz=235						
YULB				*e*S	**Sn**	**21 00 28.4**	**+0.2**
	baz=235						
EYUL	**Yuli**	**1.23**	**244**	*e*P	**Pn**	**21 00 12.8**	**+0.4**
	baz=242						
EYUL				*e*S	**Sn**	**21 00 28.4**	**+0.3**
	baz=242						
OWD	**Renai**	**1.23**	**273**	*e*P	**Pn**	**21 00 13.1**	**+0.5**
	baz=270						
OWD				*e*S	**Sn**	**21 00 27.8**	**-0.5**
	baz=270						
CHGB	**Renai**	**1.24**	**278**	⇑P	**Pn**	**21 00 13.1**	**+0.3**
	baz=266						
CHGB				*e*S	**Sb**	**21 00 28.8**	**-0.8**
	baz=266						
TIPB	**Shuangxi**	**1.24**	**330**	P	**Pb**	**21 00 14.1**	**+0.3**
	baz=327						
TIPB				S	**Sb**	**21 00 29.3**	**-0.1**
	baz=327						
VWDT	**VWDT**	**1.27**	**264**	P	**Pn**	**21 00 13.5**	**+0.6**
	baz=261						
VWDT				S	**Sn**	**21 00 29.4**	**+0.3**
	baz=261						
NWLT	**Wulai**	**1.27**	**314**	*e*P	**Pb**	**21 00 14.2**	**-0.2**
	baz=299						
TWT	**Tachien**	**1.27**	**286**	*e*P	**Pb**	**21 00 14.0**	**-0.6**
	baz=284						
WUSB	**Renai**	**1.28**	**274**	P	**Pn**	**21 00 13.7**	**+0.4**
	baz=272						
WUSB				*e*S	**Sb**	**21 00 30.7**	**-0.1**
	baz=272						
TDCB	**Techi**	**1.29**	**286**	*e*P	**Pb**	**21 00 14.4**	**-0.3**
	baz=275						
TDCB				*e*S	**Sb**	**21 00 30.6**	**-0.5**
	baz=275						
YHNB	**Yeheng**	**1.29**	**307**	P	**Pb**	**21 00 14.3**	**-0.5**
YHNB	**Yeheng**	**1.29**	**307**	⇑P	**Pb**	**21 00 14.1**	**-0.7**
	baz=304						
NSK	**Sanguang**	**1.31**	**306**	P	**Pb**	**21 00 14.3**	**-0.7**
	baz=304						
NSK				*e*S	**Sb**	**21 00 30.9**	**-0.6**
	baz=304						
FULB	**Fuli**	**1.32**	**238**	P	**Pn**	**21 00 13.7**	**-0.1**
	baz=227						
FULB				S	**Sn**	**21 00 30.1**	**-0.4**
	baz=227						
SXI1	**Grass Mountain**	**1.32**	**334**	⇑P	**Pb**	**21 00 14.2**	**-1.1**
	baz=332						
SXI1				S	**Sb**	**21 00 31.9**	**0.0**
	baz=332						
CHKT	**Chengkung**	**1.32**	**233**	*e*P	**Pn**	**21 00 13.4**	**-0.3**
	baz=222						
CHKT				S	**Sn**	**21 00 29.2**	**-1.3**
	baz=222						
NWF	**Wu-fen Shan**	**1.34**	**330**	*e*P	**Pb**	**21 00 14.6**	**-1.0**
	baz=328						
NWF				*e*S	**Sb**	**21 00 33.3**	**+0.8**
	baz=328						
WFSB	**Wu-fen Shan**	**1.34**	**330**	*e*P	**Pb**	**21 00 14.6**	**-1.0**
	baz=328						
WFSB				*e*S	**Sb**	**21 00 33.2**	**+0.8**
	baz=328						
TWA	**Mucha**	**1.37**	**322**	*e*P	**Pb**	**21 00 16.2**	**+0.2**
	baz=336						
TWA				*e*S	**Sb**	**21 00 34.3**	**+1.1**
	baz=336						
NHDH	**Xindian Distri**	**1.39**	**320**	P	**Pb**	**21 00 16.2**	**-0.2**
	baz=333						
NHDH				*e*S	**Sb**	**21 00 34.6**	**+0.8**
	baz=333						
JKRS	**Kuro-shima**	**1.40**	**76**	P	**Pb**	**21 00 16.2**	**-0.4**
JKRS				*e*S	**Sb**	**21 00 35.1**	**+1.0**
TNOU	**National Taiwa**	**1.42**	**332**	*e*P	**Pb**	**21 00 16.1**	**-0.7**
	baz=330						
WPL	**Puli Township**	**1.43**	**275**	*e*P	**Pb**	**21 00 16.2**	**-0.9**
	baz=273						
ECS	**Chishang**	**1.44**	**236**	*e*P	**Pn**	**21 00 16.7**	**+1.4**
	baz=226						
ECS				*e*S	**Sn**	**21 00 33.8**	**+0.6**
	baz=226						
SSLB	**Suanglung**	**1.44**	**266**	P	**Pn**	**21 00 16.2**	**+0.9**
SSLB	**Suanglung**	**1.44**	**266**	*e*P	**Pn**	**21 00 16.1**	**+0.8**
	baz=264						
SSLB				*e*S	**Sb**	**21 00 34.4**	**-0.7**
	baz=264						
EDH	**Donghe**	**1.45**	**231**	*e*P	**Pn**	**21 00 15.2**	**-0.3**
	baz=222						
EDH				*e*S	**Sn**	**21 00 32.5**	**-1.0**
	baz=222						
DPDB	**Guoxing**	**1.46**	**276**	*e*P	**Pb**	**21 00 16.7**	**-0.9**
	baz=274						
NFF	**Wufeng Townshi**	**1.47**	**300**	*e*P	**Pb**	**21 00 17.4**	**-0.3**
	baz=297						
NFF				*e*S	**Sb**	**21 00 36.8**	**+0.7**
	baz=297						
WCS	**Beigang Elemen**	**1.48**	**276**	*e*P	**Pb**	**21 00 16.9**	**-1.0**
	baz=268						
WCS				*e*S	**Sb**	**21 00 36.1**	**-0.1**
	baz=268						
SMLT	**Sun Moon Lake**	**1.48**	**270**	*e*P	**Pn**	**21 00 16.9**	**+0.9**
	baz=267						
SMLT				*e*S	**Sb**	**21 00 35.5**	**-1.0**
	baz=267						
WHP	**Taichung City**	**1.48**	**285**	*e*P	**Pb**	**21 00 17.3**	**-0.7**
	baz=274						
YM01	**YM01**	**1.51**	**325**	*e*P	**Pb**	**21 00 18.4**	**-0.1**
	baz=323						
YM01				*e*S	**Sb**	**21 00 37.6**	**+0.4**
	baz=323						
TYC	**Yuchr**	**1.52**	**270**	P	**Pn**	**21 00 17.5**	**+1.1**
	baz=268						
TYC				*e*S	**Sb**	**21 00 37.5**	**0.0**
	baz=268						
YM08	**YM08**	**1.54**	**327**	*e*P	**Pb**	**21 00 17.7**	**-1.1**
	baz=325						
ELDTW	**Lidau**	**1.55**	**243**	P	**Pn**	**21 00 17.1**	**+0.1**
	baz=241						
ELDTW				*e*S	**Sn**	**21 00 36.3**	**+0.1**
	baz=241						
JIJ	**Ishigaki jima**	**1.56**	**72**	P	**Pn**	**21 00 17.6**	**+0.7**
JIJ				*e*S	**Sn**	**21 00 37.1**	**+0.9**
LDUT	**Ludao**	**1.56**	**218**	⇓*e*P	**Pn**	**21 00 16.6**

TCU				*e*S		**Sb**	**21 00 43.5**	**+0.8**
	baz=276							
TWGBT	**Beinan**	**1.71**	**231**	P		**Pn**	**21 00 19.1**	**+0.1**
	baz=222							
TWGBT				S		**Sn**	**21 00 39.6**	**-0.3**
	baz=222							
TWG	**Pinlang**	**1.71**	**231**	*e*P		**Pn**	**21 00 19.3**	**+0.2**
	baz=222							
TWG				*e*S		**Sn**	**21 00 39.8**	**-0.2**
	baz=222							
CHN5	**Tsauling**	**1.71**	**260**	P		**Pb**	**21 00 21.3**	**-0.7**
	baz=259							
PCYT	**Pengchaiyu**	**1.77**	**347**	P		**Pb**	**21 00 20.6**	**-2.2**
	baz=346							
WDJ	**Dajia District**	**1.77**	**285**	*e*P		**Pb**	**21 00 21.6**	**-1.3**
	baz=282							
WDJ				*e*S		**Sb**	**21 00 44.3**	**-0.3**
	baz=282							
JISG	**Ishigakijimahi**	**1.77**	**67**	P		**Pn**	**21 00 19.8**	**-0.1**
JISG				S		**Sn**	**21 00 42.5**	**+0.9**
WYL	**Yuanlin Townsh**	**1.77**	**272**	*e*P		**Pb**	**21 00 22.9**	**+0.1**
	baz=270							
WYL				*e*S		**Sb**	**21 00 46.1**	**+1.3**
	baz=270							
WCHH	**Zhanghua**	**1.80**	**276**	*e*P		**Pb**	**21 00 22.9**	**-0.5**
	baz=287							
WCHH				*e*S		**Sb**	**21 00 46.1**	**+0.6**
	baz=287							
WDLH	**Douliu**	**1.82**	**264**	*e*P		**Pb**	**21 00 23.2**	**-0.6**
	baz=261							
WDLH				*e*S		**Sb**	**21 00 47.9**	**+1.7**
	baz=261							
TPUB	**Ta-pu**	**1.83**	**251**	P		**Pb**	**21 00 23.4**	**-0.5**
TPUB	**Ta-pu**	**1.83**	**251**	P		**Pb**	**21 00 23.1**	**-0.8**
	baz=242							
TPUB				*e*S		**Sb**	**21 00 45.7**	**-0.7**
	baz=242							
CHN4	**Tsaushan**	**1.85**	**253**	*e*P		**Pb**	**21 00 23.5**	**-0.7**
	baz=242							
CHN4				*e*S		**Sb**	**21 00 47.8**	**+1.0**
	baz=242							
WTP	**Ta-pu**	**1.86**	**250**	*e*P		**Pb**	**21 00 23.5**	**-1.0**
	baz=240							
WTP				*e*S		**Sb**	**21 00 47.4**	**0.0**
	baz=240							
CHN2	**Minshiung**	**1.91**	**259**	*e*S		**Sb**	**21 00 49.1**	**+0.5**
	baz=257							
ECL	**Taimali**	**1.94**	**228**	*e*P		**Pn**	**21 00 22.1**	**0.0**
	baz=238							
ECL				*e*S		**Sn**	**21 00 44.7**	**-0.9**
	baz=238							
SGST	**Jiashian**	**1.95**	**246**	*e*P		**Pb**	**21 00 24.9**	**-1.1**
	baz=236							
SGST				*e*S		**Sb**	**21 00 49.4**	**-0.5**
	baz=236							
WRL	**Guolierlin Hig**	**1.96**	**270**	*e*P		**Pb**	**21 00 25.0**	**-1.1**
	baz=268							
WRL				*e*S		**Sb**	**21 00 49.8**	**-0.3**
	baz=268							
CHN1	**Nanshi**	**1.96**	**249**	*e*P		**Pb**	**21 00 25.5**	**-0.6**
	baz=247							
CHN1				S		**Sb**	**21 00 50.2**	**+0.1**
	baz=247							
CHY	**Chiayi**	**1.96**	**259**	*e*P		**Pb**	**21 00 25.9**	**-0.1**
	baz=257							
WTK	**Tuku**	**1.96**	**264**	*e*P		**Pb**	**21 00 25.2**	**-0.9**
	baz=262							
WTK				*e*S		**Sb**	**21 00 50.9**	**+0.7**
	baz=262							
TWK	**Hsinying**	**1.97**	**252**	P		**Pb**	**21 00 25.2**	**-1.0**
	baz=249							
TWK				S		**Sb**	**21 00 50.1**	**-0.3**
	baz=249							
SNST	**Tainan City**	**1.97**	**250**	*e*P		**Pb**	**21 00 26.2**	**-0.1**
	baz=248							
SNST				*e*S		**Sb**	**21 00 51.0**	**+0.5**
	baz=248							
LAY	**Lan-yu**	**2.06**	**206**	*e*P		**Pn**	**21 00 23.5**	**-0.3**
	baz=205							
LAY				*e*S		**Sn**	**21 00 46.9**	**-1.7**
	baz=205							
LYUB	**Lan-yu**	**2.08**	**205**	*e*P		**Pn**	**21 00 23.3**	**-0.7**
	baz=204							
LYUB				*e*S		**Sn**	**21 00 46.2**	**-2.9**
	baz=204							
WSF	**Szhu**	**2.12**	**263**	*e*S		**Sb**	**21 00 54.4**	**-0.3**
	baz=261							
ICHU	**Yijhu**	**2.12**	**256**	*e*P		**Pb**	**21 00 27.1**	**-1.7**
	baz=253							
ICHU				*e*S		**Sb**	**21 00 52.9**	**-1.9**
	baz=253							
WSL	**Shuilin Townsh**	**2.13**	**260**	*e*P		**Pn**	**21 00 27.1**	**+2.2**
	baz=258							
WSL				*e*S		**Sn**	**21 00 52.5**	**+2.1**
	baz=258							
TAW	**Tawu**	**2.14**	**224**	*e*P		**Pn**	**21 00 25.4**	**+0.5**
	baz=231							
TAW				*e*S		**Sn**	**21 00 50.9**	**+0.3**
	baz=231							
EAST	**Anshuo**	**2.15**	**226**	*e*P		**Pn**	**21 00 25.5**	**+0.3**
	baz=233							
MASBT	**Mashibuluo**	**2.16**	**234**	*e*P		**Pn**	**21 00 26.4**	**+1.2**
	baz=227							
MASBT				*e*S		**Sb**	**21 00 54.6**	**-1.1**
	baz=227							
TAWH	**Dawu Township**	**2.16**	**224**	*e*P		**Pn**	**21 00 25.9**	**+0.7**
	baz=231							
TAWH				*e*S		**Sn**	**21 00 50.6**	**-0.5**
	baz=231							
SHHT	**Tainan City**	**2.18**	**247**	*e*S		**Sb**	**21 00 56.7**	**+0.4**
	baz=256							
CHN8	**Yiju**	**2.19**	**256**	*e*P		**Pn**	**21 00 28.0**	**+2.4**
	baz=253							
CHN8				*e*S		**Sb**	**21 00 55.1**	**-1.5**
	baz=253							
SSPT	**Xinbi**	**2.28**	**232**	*e*P		**Pb**	**21 00 30.7**	**-0.9**
	baz=226							
SLIU	**Shizi**	**2.31**	**224**	*e*P		**Pn**	**21 00 28.1**	**+0.9**
	baz=230							
SMST	**Manzhou Townsh**	**2.43**	**220**	*e*P		**Pn**	**21 00 30.1**	**+1.1**
	baz=218							
SMST				*e*S		**Sn**	**21 00 58.2**	**+0.5**
	baz=218							
TSEB	**Hengchuen, Pin**	**2.49**	**217**	*e*S		**Sn**	**21 01 01.2**	**+2.0**
	baz=224							
HEN	**Hengchun**	**2.50**	**221**	*e*P		**Pn**	**21 00 31.4**	**+1.5**
	baz=219							
HEN				*e*S		**Sn**	**21 01 00.7**	**+1.2**
	baz=219							
WLCH	**Liuqiu**	**2.50**	**232**	*e*P		**Pb**	**21 00 35.3**	**0.0**
	baz=227							
TWKBT	**Hengchun**	**2.50**	**219**	*e*P		**Pn**	**21 00 31.6**	**+1.6**
	baz=217							
TWKBT				*e*S		**Sn**	**21 01 00.5**	**+0.9**
	baz=217							
TWK1	**Hengchun**	**2.51**	**219**	*e*P		**Pn**	**21 00 31.5**	**+1.4**
	baz=217							
TWK1				*e*S		**Sn**	**21 01 01.4**	**+1.7**
	baz=217							
JMJ	**Miyako jima 2**	**2.69**	**70**	P		**Pn**	**21 00 34.4**	**+1.9**
JMJ	**Miyako jima 2**	**2.69**	**70**	*e*P		**Pn**	**21 00 34.3**	**+1.8**
	baz=71							
JMJ				*e*S		**Sn**	**21 01 05.8**	**+1.6**
	baz=71							
WDGT	**Dungji**	**2.70**	**257**	*e*P		**Pn**	**21 00 34.5**	**+1.8**
	baz=254							
WDGT				*e*S		**Sn**	**21 01 05.2**	**+0.8**
	baz=254							
PHUB	**P'eng-hu**	**2.73**	**262**	P		**Pn**	**21 00 34.5**	**+1.4**
	baz=274							
PHUB				S		**Sn**	**21 01 06.2**	**+1.1**
	baz=274							
PNG	**Penghu**	**2.73**	**264**	P		**Pn**	**21 00 34.9**	**+1.8**
	baz=275							
PNG				S		**Sn**	**21 01 06.5**	**+1.2**
	baz=275							
VCHM	**Qimei**	**2.92**	**257**	P		**Pn**	**21 00 37.4**	**+1.7**
	baz=254							
VCHM				S		**Sn**	**21 01 10.6**	**+0.8**
	baz=254							
VWUC	**VWUC**	**3.00**	**292**	⇑P		**Pn**	**21 00 37.2**	**+0.4**
	baz=289							
VWUC				*e*S		**Sn**	**21 01 10.5**	**-1.3**
	baz=289							
MATB	**Ma-tsu**	**3.23**	**314**	*e*P		**Pn**	**21 00 40.9**	**+0.8**
	baz=302							
LYJJ	**Jianjiangzhen**	**3.63**	**317**	*e*P		**Pn**	**21 00 46.2**	**+0.8**
	baz=316							
XPSS	**Dashiqiu**	**3.68**	**326**	P		**Pn**	**21 00 46.6**	**+0.5**
	baz=324							
KNM	**Kinmen**	**3.77**	**279**	*e*P		**Pn**	**21 00 49.8**	**+2.5**
	baz=275							
KNM				*e*S		**Sn**	**21 01 33.4**	**+2.7**
	baz=275							
KNMB	**Chin-men Tao**	**3.81**	**279**	P		**Pn**	**21 00 48.5**	**+0.6**
	baz=276							
KNMB				*e*S		**Sn**	**21 01 31.1**	**-0.8**
	baz=276							
MHZQ	**Yeshan**	**3.85**	**305**	*e*P		**Pn**	**21 00 48.5**	**0.0**
	baz=302							
MHZQ				*e*S		**Sn**	**21 01 31.2**	**-1.6**
	baz=302							
AXDP	**Jialang**	**4.26**	**284**	*e*P		**Pn**	**21 00 54.8**	**+0.6**
	baz=281							
AXDP				*e*S		**Sn**	**21 01 42.8**	**-0.2**
	baz=281							
ZPLA	**Ao Xicun**	**4.36**	**271**	*e*P		**Pn**	**21 00 56.5**	**+0.9**
	baz=268							
ZPLA				*e*S		**Sn**	**21 01 44.3**	**-1.2**
	baz=268							
SXFK	**Yanhouchang**	**5.07**	**300**	*e*P		**Pn**	**21 01 05.2**	**-0.1**
	baz=300							
JOW	**Kunigami**	**5.97**	**60**	Pn		**Pn**	**21 01 17.0**	**-0.6**
	1.5nm,0.3s,baz=136,slow=19,SNR=7.0							
JOW				Sn		**Sn**	**21 02 24.2**	**-0.9**
	0.9nm,0.3s,baz=118,slow=22,SNR=1.2							
ASAJ	**Asahikawa**	**26.02**	**34**	LR		LR	21 16 33.6	
	comp=Z,57nm,18.4s,baz=216,slow=39							
SONM	**Songino Array**	**27.11**	**336**	P		**P**	**21 05 31.0**	**-0.7**
	0.6nm,0.8s,baz=153,slow=9.7,SNR=4.2							
SONM				PcP		**PcP**	**21 08 50.7**	**-1.3**
	0.2nm,0.4s,baz=147,slow=2.9,SNR=2.0							
MKAR	**Makanchi Array**	**39.39**	**316**	P		**P**	**21 07 18.3**	**-0.1**
	0.6nm,0.5s,baz=100,slow=9.6,SNR=4.1							
MKAR				PcP		**PcP**	**21 09 25.9**	**-0.3**
	0.2nm,0.7s,baz=109,slow=4.9,SNR=2.4							
ZALV	**Zalesovo Beam**	**41.15**	**327**	P		**P**	**21 07 31.7**	**-1.0**
	0.8nm,0.5s,baz=109,slow=8.0,SNR=5.1							
KURBB	**Kurchatov Arra**	**43.11**	**320**	P		**P**	**21 07 48.3**	**-0.5**
	0.3nm,0.3s,baz=109,slow=9.9,SNR=5.1							
WRA	**Warramunga Arr**	**45.08**	**164**	P		**P**	**21 08 06.0**	**+1.1**
	1.2nm,0.7s,baz=344,slow=8.8,SNR=9.4							
ASAR	**Alice Springs**	**48.56**	**166**	P		**P**	**21 08 34.4**	**+2.3**
	0.8nm,0.5s,baz=348,slow=7.3,SNR=18							
FINES	**FINESS Array B**	**72.30**	**330**	P		**P**	**21 11 13.9**	**+0.1**
	1.2nm,0.8s,baz=64,slow=6.3,SNR=6.0							
BRTR	**Keskin Array B**	**74.32**	**307**	P		**P**	**21 11 26.9**	**+0.6**
	0.9nm,1.0s,baz=116,slow=3.4,SNR=3.7							
HFS	**Hagfors**	**78.41**	**331**	LR		LR	21 50 30.9	
	comp=Z,26nm,19.5s,baz=105,slow=39							
NOA	**NORSAR Array B**	**79.04**	**332**	P		**P**	**21 11 51.8**	**-0.7**
	0.6nm,0.8s,baz=55,slow=5.9,SNR=2.2							
YKA	**Yellowknife Ar**	**82.75**	**23**	P		**P**	**21 12 11.5**	**-0.7**
	0.4nm,0.7s,baz=312,slow=5.0,SNR=13							

KRSC ***22*** *21:42:16.1±1.4,48.˚64N×154.˚26E,h197km±21km,ML5.1*
MOS ***22*** *21:42:18.9±1.0,49.˚18N×153.˚36E,h180km,mb3.9/9,Error ellipse: s-maj=10.5km s-min=3.7km az=62.8*
NEIC ***22*** *21:42:20.7±1.1,49.˚3N±0.˚1×153.˚19E±0.˚05,h173km±8km, mb4.4/136,Error ellipse: s-maj=15.5km s-min=3.3km az=168.0*
IDC ***22*** *21:42:21.3±0.7,49.˚29N×153.˚27E,h185km±6km, mb3.8/23, mb1 4.0/28,mb1mx3.7/54,mbtmp4.3/28,Error ellipse: s-maj=12.6km s-min=6.9km az=142.0*
ISC 22 21:42:20.4±0.5,**49.˚16N**±0.˚06×**153.˚43E**±0.˚05,**h180km**±5km, **h180km**;**pP-P,n403,**σ**1**°**05**/417,**mb4.3**/101,**6C-4D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
SKR	**Severo-Kuril's**	**2.31**	**48**		PN	**Pn**	**21**	**43**	**00.1**	**-0.6**
SKR					S	**Sn**	**21**	**43**	**31.0**	**-1.2**
SKR	**Severo-Kuril's**	**2.31**	**48**	*e*	P	**Pn**	**21**	**43**	**00.1**	**-0.6**
SKR				*e*	S	**Sn**	**21**	**43**	**31.0**	**-1.2**
PAU	**Pauzhetka**	**3.16**	**42**		PN	**Pn**	**21**	**43**	**10.2**	**-0.7**
PAU					S	**Sn**	**21**	**43**	**49.2**	**-1.2**
PAU	**Pauzhetka**	**3.16**	**42**	*e*	P	**Pn**	**21**	**43**	**10.2**	**-0.7**
PAU				*e*	S	**Sn**	**21**	**43**	**49.2**	**-1.2**
MIPR	**Malaya Ipel'ka**	**3.77**	**33**		PN	**Pn**	**21**	**43**	**18.5**	**+0.1**
MIPR	**Malaya Ipel'ka**	**3.77**	**33**	*e*	P	**Pn**	**21**	**43**	**18.5**	**+0.1**
KDTR	**Khodutka, Kamc**	**3.98**	**46**		PN	**Pn**	**21**	**43**	**18.7**	**-2.3**
KDTR	**Khodutka, Kamc**	**3.98**	**46**	*e*	P	**Pn**	**21**	**43**	**18.7**	**-2.3**
ASAK	**Asacha**	**4.29**	**40**		PN	**Pn**	**21**	**43**	**25.2**	**0.0**
ASAK					S	**Sn**	**21**	**44**	**16.4**	**+0.4**
ASAK	**Asacha**	**4.29**	**40**	*e*	P	**Pn**	**21**	**43**	**25.2**	**0.0**
ASAK				*e*	S	**Sn**	**21**	**44**	**16.4**	**+0.4**
APC	**Apacha**	**4.44**	**31**		PN	**Pn**	**21**	**43**	**26.9**	**0.0**
APC	**Apacha**	**4.44**	**31**	*e*	P	**Pn**	**21**	**43**	**26.9**	**0.0**
MTVR	**Mutnovka**	**4.49**	**40**		PN	**Pn**	**21**	**43**	**27.4**	**-0.3**
MTVR					S	**Sn**	**21**	**44**	**19.2**	**-1.3**
MTVR	**Mutnovka**	**4.49**	**40**	*e*	P	**Pn**	**21**	**43**	**27.4**	**-0.3**
MTVR				*e*	S	**Sn**	**21**	**44**	**19.2**	**-1.3**
GRL	**Gorelyy**	**4.49**	**39**		PN	**Pn**	**21**	**43**	**28.0**	**+0.3**
GRL	**Gorelyy**	**4.49**	**39**	*e*	P	**Pn**	**21**	**43**	**28.0**	**+0.3**
RUS	**Russkaya**	**4.59**	**43**		PN	**Pn**	**21**	**43**	**27.5**	**-1.4**
RUS	**Russkaya**	**4.59**	**43**	*e*	P	**Pn**	**21**	**43**	**27.5**	**-1.4**
KRMR	**Karymshinskiy**	**4.72**	**37**		PN	**Pn**	**21**	**43**	**30.1**	**-0.5**
KRMR	**Karymshinskiy**	**4.72**	**37**	*e*	P	**Pn**	**21**	**43**	**30.1**	**-0.5**
PEA0B	**Petropavlovsk-**	**4.78**	**33**	*ce*	PN	**Pn**	**21**	**43**	**31.2**	**-0.1**
PEA0B	**Petropavlovsk-**	**4.78**	**33**		Pn	**Pn**	**21**	**43**	**30.8**	**-0.5**
PETK	**Petropavlovsk-**	**4.78**	**33**		P	**Pn**	**21**	**43**	**31.2**	**-0.1**
	2.5nm,0.3s,baz=263,slow=18,SNR=5.6									
PETK					S	**Sn**	**21**	**44**	**27.3**	**+0.2**
	2.1nm,0.3s,baz=197,slow=20,SNR=4.0									
PETK	**Petropavlovsk-**	**4.78**	**33**		Pn	**Pn**	**21**	**43**	**30.7**	**-0.6**
PET	**Petropavlovsk**	**5.08**	**38**		PN	**Pn**	**21**	**43**	**35.6**	**+0.5**
PET	**Petropavlovsk**	**5.08**	**38**		Pn	**Pn**	**21**	**43**	**34.9**	**-0.3**
PET	**Petropavlovsk**	**5.08**	**38**	*e*	P	**Pn**	**21**	**43**	**35.6**	**+0.5**
DALK	**Dalny**	**5.12**	**39**		PN	**Pn**	**21**	**43**	**35.1**	**-0.6**
DALK	**Dalny**	**5.12**	**39**	*e*	P	**Pn**	**21**	**43**	**35.1**	**-0.6**
KOK	**Koryaka**	**5.27**	**36**		PN	**Pn**	**21**	**43**	**38.3**	**+0.5**
KOK	**Koryaka**	**5.27**	**36**	*e*	P	**Pn**	**21**	**43**	**38.3**	**+0.5**
UGLR	**Uglovaya**	**5.28**	**38**		PN	**Pn**	**21**	**43**	**38.2**	**+0.2**
UGLR	**Uglovaya**	**5.28**	**38**	*e*	P	**Pn**	**21**	**43**	**38.2**	**+0.2**
AVH	**Avacha**	**5.29**	**37**		PN	**Pn**	**21**	**43**	**38.3**	**+0.3**
AVH	**Avacha**	**5.29**	**37**	*e*	P	**Pn**	**21**	**43**	**38.3**	**+0.3**
SMAR	**Somma**	**5.31**	**37**		PN	**Pn**	**21**	**43**	**39.0**	**+0.5**
SMAR	**Somma**	**5.31**	**37**	*e*	P	**Pn**	**21**	**43**	**39.0**	**+0.5**
KRER	**Koryakskii**	**5.32**	**37**		PN	**Pn**	**21**	**43**	**38.7**	**+0.1**
KRER	**Koryakskii**	**5.32**	**37**	*e*	P	**Pn**	**21**	**43**	**38.7**	**+0.1**
GNL	**Ganaly**	**5.34**	**30**		PN	**Pn**	**21**	**43**	**39.6**	**+0.8**
GNL	**Ganaly**	**5.34**	**30**	*e*	P	**Pn**	**21**	**43**	**39.6**	**+0.8**
SDLR	**Sedlovina**	**5.36**	**38**		PN	**Pn**	**21**	**43**	**38.5**	**-0.5**
SDLR	**Sedlovina**	**5.36**	**38**	*e*	P	**Pn**	**21**	**43**	**38.5**	**-0.5**
KUR	**Kuril'sk**	**5.46**	**226**	*e*	PN	**Pn**	**21**	**43**	**40.3**	**0.0**
KUR				*i*	S	**Sn**	**21**	**44**	**45.0**	**+1.9**
KUR					pmax	pmax				
	comp=Z,66nm,0.8s									
KUR					smax	smax				
	comp=N,182nm,0.5s									
KUR					smax	smax				
	comp=E,78nm,0.6s									
SPN	**Mys Shipunski**	**5.72**	**44**		PN	**Pn**	**21**	**43**	**41.3**	**-2.3**
SPN	**Mys Shipunski**	**5.72**	**44**	*e*	P	**Pn**	**21**	**43**	**41.3**	**-2.3**
KII	**Karymskiy**	**6.15**	**35**		PN	**Pn**	**21**	**43**	**50.4**	**+1.1**
KII	**Karymskiy**	**6.15**	**35**	*e*	P	**Pn**	**21**	**43**	**50.4**	**+1.1**
SHO	**Shikotan**	**6.98**	**223**	*e*	PN	**Pn**	**21**	**43**	**56.6**	**-3.6**
SHO					pmax	pmax				
	comp=E,67nm,0.3s									
SHO					pmax	pmax				
	comp=Z,76nm,0.3s									
SHO					pmax	pmax				
	comp=N,42nm,0.2s									
YUK	**Yuzh-Kuril'sk**	**7.31**	**228**	*e*	PN	**Pn**	**21**	**44**	**03.8**	**-0.7**
YUK				*e*	S	**Sn**	**21**	**45**	**22.5**	**-4.4**
YUK					pmax	pmax				
	comp=Z,242nm,0.4s									
YUK					pmax	pmax				
	comp=E,127nm,0.5s									
YUK					pmax	pmax				
	comp=N,58nm,0.3s									
TUMR	**Tumrok**	**7.38**	**31**		PN	**Pn**	**21**	**44**	**05.8**	**+0.3**
TUMR	**Tumrok**	**7.38**	**31**	*e*	P	**Pn**	**21**	**44**	**06.3**	**+0.8**
TUMD	**Tumrok D**	**7.41**	**33**	*e*	P	**Pn**	**21**	**44**	**05.8**	**+0.1**
MKZ	**Mys Kozlova**	**7.45**	**40**		PN	**Pn**	**21**	**44**	**03.1**	**-3.1**
MKZ	**Mys Kozlova**	**7.45**	**40**	*e*	P	**Pn**	**21**	**44**	**03.1**	**-3.1**
ESO	**Esso**	**7.49**	**23**		PN	**Pn**	**21**	**44**	**08.4**	**+1.6**
ESO	**Esso**	**7.49**	**23**	*e*	P	**Pn**	**21**	**44**	**08.4**	**+1.6**
GLVR	**Golovnino**	**7.70**	**228**	*e*	PN	Pn	21	44	01.1	-8.5
KMNR	**Kamenistaya**	**7.80**	**30**		PN	**Pn**	**21**	**44**	**12.2**	**+1.3**
KMNR	**Kamenistaya**	**7.80**	**30**	*e*	P	**Pn**	**21**	**44**	**12.2**	**+1.3**
NMR	**Nemuro--Hokkai**	**7.88**	**226**	*e*	PN	**Pn**	**21**	**44**	**08.5**	**-3.4**
JKA	**Kamikawa-asahi**	**9.00**	**240**		Pn	**Pn**	**21**	**44**	**27.4**	**+0.7**
ASAJ	**Asahikawa**	**9.00**	**240**		P	**Pn**	**21**	**44**	**28.1**	**+1.4**
	comp=N,3.0nm,0.3s,baz=86,slow=15,SNR=32									
ASAJ					S	**Sn**	**21**	**46**	**09.8**	**+2.7**
	comp=N,0.5nm,0.3s,baz=279,slow=19,SNR=1.7									
KBG	**Krutoberegovo**	**9.06**	**35**		PN	**Pn**	**21**	**44**	**26.2**	**-1.1**
KBG	**Krutoberegovo**	**9.06**	**35**	*e*	P	**Pn**	**21**	**44**	**26.2**	**-1.1**
KBTR	**Krutoberegovo**	**9.06**	**35**		PN	**Pn**	**21**	**44**	**24.8**	**-2.6**
KBTR	**Krutoberegovo**	**9.06**	**35**	*e*	P	**Pn**	**21**	**44**	**24.8**	**-2.6**
BKI	**Bering**	**9.79**	**47**		PN	**Pn**	**21**	**44**	**34.2**	**-2.7**
BKI	**Bering**	**9.79**	**47**	*e*	P	**Pn**	**21**	**44**	**34.2**	**-2.7**
ERM	**Erimo**	**10.14**	**229**		PN	**Pn**	**21**	**44**	**40.6**	**-1.0**
ERM	**Erimo**	**10.14**	**229**		Pn	**Pn**	**21**	**44**	**40.6**	**-1.0**
SEY	**Seymchan**	**13.82**	**358**		P	**Pn**	**21**	**45**	**28.1**	**-0.3**
	comp=N,0.7nm,0.3s,baz=175,slow=10,SNR=14									
SEY	**Seymchan**	**13.82**	**358**	⇓*e*	P	**Pn**	**21**	**45**	**28.0**	**-0.5**
SEY					pmax	pmax				
	comp=Z,6.0nm,1.7s									
KLR	**Kul'dur**	**14.18**	**278**		P	**P**	**21**	**45**	**35.0**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=83,slow=10,SNR=21									
USA0B	**Ussuriysk Arra**	**15.52**	**259**		P	**P**	**21**	**45**	**50.4**	**+0.3**
USA0B					pmax	pmax				
	comp=Z,8.0nm,0.8s									
USA0B	**Ussuriysk Arra**	**15.52**	**259**			**P**	**21**	**45**	**50.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**15.52**	**259**		P	**Pn**	**21**	**45**	**49.2**	**-0.3**
	baz=64,slow=11,SNR=11									
JSD	**Sado**	**15.60**	**230**			**P**	**21**	**45**	**51.4**	**+0.3**
MJB9	**Matsu-Tunnel**	**16.80**	**227**			**P**	**21**	**46**	**03.9**	**-0.5**
MJB9					IAmb	IAmb	21	46	06.3	
	comp=Z,11nm,0.5s									
MAJO	**Matsushiro**	**16.80**	**227**		P	**P**	**21**	**46**	**04.4**	**0.0**
MAJO					pmax	pmax				
	comp=Z,12nm,0.5s									
MAJO	**Matsushiro**	**16.80**	**227**			**P**	**21**	**46**	**04.4**	**0.0**
MAJO					IAmb	IAmb	21	46	06.4	
	comp=Z,12nm,0.5s									
MJAR	**Matsushiro Arr**	**16.80**	**227**		P	**P**	**21**	**46**	**03.3**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=17,slow=14,SNR=10									
MJAR	**Matsushiro Arr**	**16.80**	**227**		P	**Pn**	**21**	**46**	**05.6**	**+0.4**
MJAR	**Matsushiro Arr**	**16.80**	**227**		P	**Pn**	**21**	**46**	**05.6**	**+0.4**
ZEA	**Zeya**	**16.91**	**296**	*e*	P	**P**	**21**	**46**	**05.1**	**-0.2**
BNX	**BinXian**	**17.90**	**269**	⇓	P	**P**	**21**	**46**	**11.1**	**-5.2**
BNX					pmax	pmax				
	comp=Z,10.0nm,0.6s									
BNX					pmax	pmax				
	comp=Z,300nm,4.8s									
JGF	**Kuroka**	**17.97**	**227**		P	**P**	**21**	**46**	**17.6**	**+0.5**
INU	**Inuyama**	**18.33**	**227**			**P**	**21**	**46**	**20.9**	**-0.1**
INU					IAmb	IAmb	21	46	21.7	
	comp=Z,12nm,1.0s									
YAK	**Yakutsk**	**18.46**	**323**	*e*	P	**P**	**21**	**46**	**22.5**	**+0.4**
YAK				*e*	S	**S**	**21**	**49**	**41.7**	**-1.4**
YAK					pmax	pmax				
	comp=Z,17nm,1.0s									
YAK					pmax	pmax				
	comp=N,3.0nm,1.2s									
YAK					pmax	pmax				
	comp=E,5.0nm,1.5s									
YAK					smax	smax				
	comp=N,81nm,3.5s									
YAK					smax	smax				
	comp=E,63nm,3.7s									
KIWB	**Kanaga Island**	**18.84**	**71**		P	**P**	**21**	**46**	**26.1**	**-0.3**
ADK	**Adak**	**19.13**	**70**		P	**P**	**21**	**46**	**28.7**	**-0.8**
ADK					pmax	pmax				
	comp=Z,18nm,1.1s									
ADK	**Adak**	**19.13**	**70**		P	**P**	**21**	**46**	**28.7**	**-0.8**
ADK					IAmb	IAmb	21	46	42.5	
	comp=Z,18nm,1.1s									
BILL	**Bilibino**	**20.00**	**14**	*d i*	P	**P**	**21**	**46**	**38.2**	**-0.4**
BILL				*e*	S	**S**	**21**	**50**	**08.5**	**-4.7**
BILL					pmax	pmax				
	comp=

I21K IAmb IAmb 21 48 34.2
comp=Z,6.1nm,0.8s
I21K Tanana 32.39 40 P **P** **21 48 33.0 +0.5**
baz=268,SNR=5.3
H11S1 WAKE ISLAND Hy 32.40 156 T T 22 22 00.7
baz=344,slow=76,SNR=134
H11S3 WAKE ISLAND Hy 32.41 156 T T 22 22 01.4
baz=344,slow=76,SNR=73
H11S2 WAKE ISLAND Hy 32.42 156 T T 22 22 05.5
baz=344,slow=76,SNR=124
KDAK Kodiak Island 32.46 54 P **P** **21 48 32.3 -0.8**
comp=Z,3.5nm,0.3s,baz=350,slow=1.3,SNR=20
KDAK Kodiak Island 32.46 54 P **P** **21 48 32.4 -0.8**
KDAK pmax pmax
comp=Z,13nm,1.0s
KDAK Kodiak Island 32.46 54 P **P** **21 48 32.4 -0.8**
BPAW Bear Paw Mtn. 32.79 42 IAmb IAmb 21 48 37.6
comp=Z,6.2nm,1.1s
BPAW Bear Paw Mtn. 32.79 42 P **P** **21 48 36.4 +0.3**
baz=270
KTH Kantishna Hill 32.82 43 P **P** **21 48 37.4 +1.0**
KTH IAmb IAmb 21 48 38.2
comp=Z,9.9nm,1.0s
CNPM China Poot 32.93 50 P **P** **21 48 36.7 -0.6**
CNPM IAmb IAmb 21 48 40.8
comp=Z,7.0nm,1.1s
BRLK Bradley Lake 33.08 50 P **P** **21 48 37.8 -0.8**
BRLK IAmb IAmb 21 48 52.4
comp=Z,14nm,1.2s
TRF Thorofare Moun 33.10 43 P **P** **21 48 39.6 +0.6**
TRF Thorofare Moun 33.10 43 P **P** **21 48 39.1 +0.2**
baz=272
BRSE Bradley Lake S 33.15 50 P **P** **21 48 39.6 +0.4**
baz=277
COLD Coldfoot 33.24 36 P **P** **21 48 40.6 +0.7**
COLD IAmb IAmb 21 48 41.1
comp=Z,9.1nm,0.8s
COLD Coldfoot 33.24 36 P **P** **21 48 40.2 +0.3**
baz=266,SNR=10
H23K Yukon River 33.43 39 P **P** **21 48 42.7 +1.1**
H23K IAmb IAmb 21 48 43.5
comp=Z,9.7nm,0.8s
H23K Yukon River 33.43 39 P **P** **21 48 42.4 +0.8**
baz=269,SNR=9.6
BWN Browne 33.45 42 P **P** **21 48 43.2 +1.4**
I23K Minto, Yukon-K 33.49 40 P **P** **21 48 43.0 +0.9**
I23K IAmb IAmb 21 48 43.4
comp=Z,5.5nm,0.9s
I23K Minto, Yukon-K 33.49 40 P **P** **21 48 42.8 +0.7**
baz=270
RC01 Rabbit Creek A 33.50 47 P **P** **21 48 42.2 -0.1**
RC01 IAmb IAmb 21 48 54.7
comp=Z,12nm,1.2s
TOLK Toolik Lake Re 33.60 34 P **P** **21 48 43.8 +0.7**
TOLK Toolik Lake Re 33.60 34 P **P** **21 48 43.4 +0.3**
baz=265,SNR=11
NEA2 Nenana 33.62 41 P **P** **21 48 44.1 +0.8**
NEA2 IAmb IAmb 21 48 45.0
comp=Z,8.4nm,0.7s
NEA2 Nenana 33.62 41 P **P** **21 48 43.5 +0.3**
baz=271,SNR=7.5
MCK McKinley 33.70 43 P **P** **21 48 44.7 +0.7**
MCK pmax pmax
comp=Z,5.0nm,0.9s
MCK McKinley 33.70 43 P **P** **21 48 44.7 +0.7**
MCK IAmb IAmb 21 48 44.9
comp=Z,5.3nm,0.9s
MCK McKinley 33.70 43 P **P** **21 48 43.8 -0.2**
baz=273
RND Reindeer 33.75 43 P **P** **21 48 44.4 0.0**
RND pmax pmax
comp=Z,5.0nm,0.7s
RND Reindeer 33.75 43 P **P** **21 48 44.4 0.0**
RND IAmb IAmb 21 48 45.1
comp=Z,5.1nm,0.7s
SEW Seward 33.75 49 P **P** **21 48 44.2 -0.2**
GHO Glory Hole Cre 33.83 46 P **P** **21 48 44.7 -0.5**
GHO IAmb IAmb 21 48 50.0
comp=Z,6.8nm,1.0s
MDM Murphy Dome 33.97 40 P **P** **21 48 47.1 +0.8**
MDM IAmb IAmb 21 48 48.3
comp=Z,7.4nm,0.9s
WRH Wood River Hil 34.05 41 P **P** **21 48 47.9 +1.0**
WRH IAmb IAmb 21 48 49.1
comp=Z,11nm,1.1s
KNK Knik Glacier 34.09 47 P **P** **21 48 47.5 +0.2**
KNK IAmb IAmb 21 48 56.2
comp=Z,8.6nm,0.8s
KNK Knik Glacier 34.09 47 P **P** **21 48 47.5 +0.2**
baz=276
SML Sawmill 34.11 46 P **P** **21 48 47.8 +0.3**
SML Sawmill 34.11 46 P **P** **21 48 47.6 0.0**
baz=276,SNR=7.1
H24K Noodor Dome 34.11 39 P **P** **21 48 48.5 +1.0**
H24K IAmb IAmb 21 48 49.4
comp=Z,7.0nm,0.9s
H24K Noodor Dome 34.11 39 P **P** **21 48 48.2 +0.7**
baz=270,SNR=7.1
TCOL CIGO, UAF Yank 34.13 41 P **P** **21 48 47.6 0.0**
TCOL CIGO, UAF Yank 34.13 41 P **P** **21 48 48.1 +0.5**
baz=272
COLA College 34.14 41 *c i* P **P** **21 48 48.1 +0.5**
COLA *i* *PP **pP** **21 49 25.7 +0.9**
COLA College 34.14 41 P **P** **21 48 47.9 +0.3**
baz=272
CCB Clear Creek Bu 34.16 41 P **P** **21 48 48.4 +0.5**
PWL Port Wells 34.21 48 P **P** **21 48 48.0 -0.3**
PWL Port Wells 34.21 48 P **P** **21 48 48.6 +0.2**
baz=277
POKR Poker Plat Res 34.31 40 P **P** **21 48 50.4 +1.3**
POKR Poker Plat Res 34.31 40 P **P** **21 48 49.9 +0.7**
baz=272,SNR=5.2
WAT6 Susitna Watana 34.31 45 P **P** **21 48 48.9 -0.5**
baz=276
M23K Glacier View 34.39 46 P **P** **21 48 49.9 -0.1**
baz=276
DHY Denali Highway 34.44 44 P **P** **21 48 50.5 0.0**
DHY IAmb IAmb 21 48 52.0
comp=Z,8.3nm,1.2s
DHY Denali Highway 34.44 44 P **P** **21 48 50.2 -0.3**
baz=275,SNR=5.7
IL31 34.55 41 P **P** **21 48 51.6 +0.4**
IL31 IAmb IAmb 21 48 52.8
comp=Z,6.4nm,0.6s
ILAR Eielson Array 34.55 41 P **P** **21 48 51.1 -0.1**
comp=Z,3.9nm,0.4s,baz=263,slow=5.9,SNR=90
SCM Sheep Creek Mo 34.58 46 P **P** **21 48 52.4 +0.8**
SCM pmax pmax
comp=Z,7.0nm,0.9s
SCM Sheep Creek Mo 34.58 46 P **P** **21 48 52.4 +0.8**
SCM IAmb IAmb 21 48 58.4
comp=Z,6.5nm,0.9s
SCM Sheep Creek Mo 34.58 46 P **P** **21 48 51.7 +0.1**
baz=277
YHNB Yeheng 34.99 237 P **P** **21 48 56.4 +0.9**
M24K Tolsona, Glenn 35.09 45 P **P** **21 48 56.9 +1.0**
M24K Tolsona, Glenn 35.09 45 P **P** **21 48 56.7 +0.7**
baz=277
K24K Donnelly Dome 35.09 42 P **P** **21 48 55.6 -0.4**
baz=275
FID Port Fidalgo 35.12 48 P **P** **21 48 55.9 -0.3**
J25K Salcha River, 35.21 41 P **P** **21 48 56.1 -0.9**
J25K Salcha River, 35.21 41 P **P** **21 48 55.9 -1.1**
baz=274,SNR=6.4
NACB Ninganchiao 35.26 237 P **P** **21 48 56.5 -1.2**
KLU Klutina 35.28 46 P **P** **21 48 58.2 +0.5**
KLU IAmb IAmb 21 48 59.0
comp=Z,5.8nm,0.5s
KLU Klutina 35.28 46 P **P** **21 48 57.6 0.0**
baz=278
PAX Paxson 35.31 44 P **P** **21 48 58.5 +0.6**
PAX pmax pmax
comp=Z,2.0nm,0.8s
PAX Paxson 35.31 44 P **P** **21 48 58.5 +0.6**
PAX Paxson 35.31 44 P **P** **21 48 58.1 +0.2**
baz=277
KNGR Kungurtug, Tuv 35.33 294 ‖ *e* P **P** **21 48 58.2 -0.1**
DIV Divide 35.41 47 P **P** **21 48 59.0 +0.3**
RIDG Independent Ri 35.51 42 P **P** **21 48 59.2 -0.4**
RIDG Independent Ri 35.51 42 P **P** **21 48 59.2 -0.4**
baz=276
HARP HAARP 35.52 45 P **P** **21 49 00.4 +0.8**
baz=278
SCRK Sand Creek 35.87 42 P **P** **21 49 02.4 -0.2**
SCRK Sand Creek 35.87 42 P **P** **21 49 01.9 -0.7**
baz=276,SNR=9.6

DOT Dot Lake 35.87 42 P **P** **21 49 02.0 -0.6**
N25K Chitina, Valde 35.90 46 P **P** **21 49 03.9 +1.1**
N25K IAmb IAmb 21 49 04.2
comp=Z,4.6nm,0.6s
N25K Chitina, Valde 35.90 46 P **P** **21 49 01.5 -1.3**
baz=279
SSLB Suanglung 35.92 237 P **P** **21 49 03.5 0.0**
SSLB IAmb IAmb 21 49 11.5
comp=Z,6.5nm,1.1s
BMRM Bremner River 35.99 47 P **P** **21 49 04.4 +0.7**
BMRM Bremner River 35.99 47 P **P** **21 49 03.8 +0.1**
baz=280
J26L Joseph Creek 36.00 41 P **P** **21 49 02.6 -1.1**
baz=276
YULB Yu-li 36.05 236 P **P** **21 49 04.5 +0.1**
YULB IAmb IAmb 21 49 10.7
comp=Z,10nm,1.0s
MENT Mentasta 36.11 44 P **P** **21 49 05.4 +0.8**
MENT IAmb IAmb 21 49 06.0
comp=Z,4.6nm,0.5s
L26K Log Cabin Wild 36.27 43 P **P** **21 49 06.5 +0.6**
baz=278
GLB Gilahina Butte 36.30 46 P **P** **21 49 06.9 +0.7**
GLB IAmb IAmb 21 49 12.7
comp=Z,6.4nm,1.1s
TPUB Ta-pu 36.49 237 P **P** **21 49 08.1 -0.1**
VRDI Verde Repeater 36.50 47 P **P** **21 49 08.6 +0.5**
VRDI IAmb IAmb 21 49 09.1
comp=Z,4.1nm,0.5s
M26K Nabesna, AK 36.52 44 P **P** **21 49 09.8 +1.7**
M26K IAmb IAmb 21 49 10.2
comp=Z,9.2nm,0.9s
M26K Nabesna, AK 36.52 44 P **P** **21 49 08.9 +0.8**
baz=279,SNR=7.6
MCARA McCarthy VSAT 36.68 46 P **P** **21 49 10.4 +1.0**
MCARA IAmb IAmb 21 49 13.0
comp=Z,7.9nm,1.2s
TGL Tana Glacier 36.89 47 P **P** **21 49 12.2 +0.9**
TGL IAmb IAmb 21 49 18.3
comp=Z,12nm,1.1s
WAX Waxell Ridge 36.94 48 P **P** **21 49 12.8 +1.2**
L27K Beaver Creek, 36.95 43 P **P** **21 49 13.1 +1.4**
L27K Beaver Creek, 36.95 43 P **P** **21 49 12.8 +1.1**
baz=279,SNR=15
EGAK Eagle 37.00 40 P **P** **21 49 12.2 +0.2**
EGAK IAmb IAmb 21 49 12.3
comp=Z,7.4nm,0.7s
EGAK Eagle 37.00 40 P **P** **21 49 11.6 -0.4**
baz=278,SNR=8.7
M27K Edge Creek, AK 37.04 44 P **P** **21 49 14.1 +1.5**
M27K IAmb IAmb 21 49 14.8
comp=Z,9.7nm,0.8s
M27K Edge Creek, AK 37.04 44 P **P** **21 49 13.3 +0.7**
baz=280,SNR=8.2
ISLE Juniper Island 37.16 47 P **P** **21 49 14.4 +0.9**
ISLE IAmb IAmb 21 49 20.6
comp=Z,8.3nm,0.8s
BARN Barnard Glacie 37.39 47 P **P** **21 49 16.6 +1.0**
BARN IAmb IAmb 21 49 17.1
comp=Z,7.5nm,0.6s
GRNC Granite Creek 37.41 47 P **P** **21 49 16.8 +0.9**
GRNC IAmb IAmb 21 49 17.5
comp=Z,8.9nm,0.7s
BVCY Beaver Creek 37.50 44 P **P** **21 49 17.3 +1.0**
baz=281,SNR=6.5
CTG Chitna Glacier 37.56 47 P **P** **21 49 17.9 +0.9**
baz=282,SNR=5.5
CTGM Chitina Glacie 37.56 47 P **P** **21 49 18.2 +1.2**
CTGM IAmb IAmb 21 49 18.8
comp=Z,9.4nm,0.8s
LOGN Logan Glacier 37.75 47 P **P** **21 49 19.5 +0.9**
LOGN IAmb IAmb 21 49 37.8
comp=Z,6.3nm,1.0s
TABL Table Mountain 37.77 47 P **P** **21 49 19.5 +0.7**
YUK3 Moose Creek 37.81 45 P **P** **21 49 19.1 0.0**
baz=282
DAWY Dawson 37.86 41 P **P** **21 49 19.9 +0.5**
DAWY Dawson 37.86 41 P **P** **21 49 20.0 +0.6**
baz=280
LZH Lanzhou 38.09 269 *e* P **P** **21 49 23.5 +1.8**
LZH pmax pmax
comp=Z,15nm,1.3s
EPYK Eagle Plains 38.60 37 P **P** **21 49 26.6 +1.2**
EPYK IAmb IAmb 21 49 27.2
comp=Z,6.2nm,0.6s
EPYK Eagle Plains 38.60 37 P **P** **21 49 26.3 +0.8**
baz=279,SNR=9.7
YUK4 Talbot Arm 38.75 46 P **P** **21 49 27.4 +0.4**
baz=284
GTA Gaotai 38.86 276 *e* P **P** **21 49 28.0 -0.1**
GTA pmax pmax
comp=Z,3.0nm,1.1s
YUK6 Outpost Mounta 38.98 46 P **P** **21 49 29.6 +0.7**
baz=285
M30M Minto, Yukon 39.31 43 P **P** **21 49 32.9 +1.5**
M30M Minto, Yukon 39.31 43 P **P** **21 49 32.4 +1.0**
baz=284
HYT Haines Junctio 39.42 46 P **P** **21 49 33.8 +1.4**
HYT IAmb IAmb 21 49 34.9
comp=Z,6.0nm,1.0s
HYT Haines Junctio 39.42 46 P **P** **21 49 33.7 +1.4**
baz=286,SNR=5.2
INK Inuvik 39.51 34 P **P** **21 49 33.8 +0.9**
comp=Z,7.6nm,0.4s,baz=299,slow=7.1,SNR=35
INK Inuvik 39.51 34 P **P** **21 49 34.0 +1.1**
INK pmax pmax
comp=Z,10.0nm,0.8s
INK Inuvik 39.51 34 P **P** **21 49 34.0 +1.1**
INK IAmb IAmb 21 49 34.6
comp=Z,9.6nm,0.8s
INK Inuvik 39.51 34 P **P** **21 49 33.7 +0.8**
baz=280,SNR=16
N31M Braeburn, Yuko 40.05 45 P **P** **21 49 39.5 +2.0**
N31M IAmb IAmb 21 49 40.3
comp=Z,12nm,1.0s
N31M Braeburn, Yuko 40.05 45 P **P** **21 49 39.2 +1.7**
baz=286,SNR=7.7
M31M Drury Creek, Y 40.49 43 P **P** **21 49 42.6 +1.5**
M31M IAmb IAmb 21 49 43.0
comp=Z,4.6nm,0.6s
M31M Drury Creek, Y 40.49 43 P **P** **21 49 42.3 +1.2**
baz=286,SNR=6.5
WHY Whitehorse 40.70 46 P **P** **21 49 43.7 +0.8**
baz=288
SKAG Skagway 40.85 48 P **P** **21 49 44.9 +0.9**
baz=288
ZALV Zalesovo Beam 41.41 304 P **P** **21 49 46.2 -2.4**
comp=Z,1.0nm,0.4s,baz=58,slow=6.9,SNR=6.8
ZALV PcP **PcP** **21 51 42.5 -0.5**
comp=Z,0.6nm,0.4s,baz=90,slow=1.9,SNR=2.5
ZALV Zalesovo Beam 41.41 304 *i* P **P** **21 49 46.9 -1.8**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
A36M Sachs Harbour 41.60 28 P **P** **21 49 51.0 +1.0**
A36M Sachs Harbour 41.60 28 P **P** **21 49 50.9 +1.0**
baz=283,SNR=41
SIT Sitka 41.66 51 P **P** **21 49 51.9 +1.3**
baz=291
MMPY Sheldon Lake, 41.76 42 P **P** **21 49 52.3 +0.8**
baz=288
C36M Paulatuk 42.63 31 P **P** **21 49 59.0 +0.7**
C36M Paulatuk 42.63 31 P **P** **21 49 58.9 +0.6**
baz=286,SNR=20
GOMU GeErMu 43.94 276 P **P** **21 50 09.1 -0.6**
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU pmax pmax
comp=Z,46nm,6.0s
JOHN Johnston Islan 44.11 124 P **P** **21 50 13.3 +2.6**
WMQ Urumqi 44.30 289 *e* P **P** **21 50 13.4 +1.3**
DIB Dawson Inlet, 44.69 55 P **P** **21 50 16.3 +1.3**
MOBC Moresby Island 44.99 55 P **P** **21 50 18.8 +1.4**
PZH PanZhiHua 45.62 260 P **P** **21 50 23.8 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,80nm,5.5s
GRNB Grenville Isla 45.75 54 P **P** **21 50 25.2 +1.9**
GRNB IAmb IAmb 21 50 25.5
comp=Z,5.6nm,0.6s
HG4B Hotspring 45.80 56 P **P** **21 50 24.4 +0.7**
HG4B IAmb IAmb 21 50 36.3
comp=Z,8.8nm,1.1s
KMI Kunming 45.94 257 ⇑ P **P** **21 50 25.4 0.0**
KMI pmax pmax
comp=Z,7.0nm,1.6s

MK31 Makanchi Array 46.06 295 P **P** **21 50 25.0 -0.9**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 46.06 295 P **P** **21 50 25.0 -0.9**
MKAR Makanchi Array 46.06 295 P **P** **21 50 25.0 -0.9**
comp=Z,2.5nm,0.7s,baz=68,slow=8.4,SNR=24
MKAR PcP **PcP** **21 51 58.6 -0.5**
comp=Z,0.6nm,0.6s,baz=46,slow=4.2,SNR=3.7
MKAR Makanchi Array 46.06 295 P **P** **21 50 25.0 -0.9**
MAKZ Makanchi 46.24 296 P **P** **21 50 26.9 -0.4**
MAKZ pmax pmax
comp=Z,1.0nm,0.6s
MAKZ Makanchi 46.24 296 P **P** **21 50 26.9 -0.4**
KURK Kurchatov 46.24 302 P **P** **21 50 25.9 -1.3**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 46.24 302 P **P** **21 50 25.9 -1.3**
KURBB Kurchatov Arra 46.34 302 P **P** **21 50 26.7 -1.2**
comp=Z,1.4nm,0.4s,baz=66,slow=8.6,SNR=5.8
KURBB pP **pP** **21 51 07.7 +0.7**
comp=Z,0.6nm,0.5s,baz=69,slow=8.6,SNR=2.1
EUNU Eureka 46.72 12 P **P** **21 50 30.7 +0.1**
RES Resolute Bay 48.48 19 P **P** **21 50 44.7 +0.6**
RES pmax pmax
comp=Z,6.0nm,0.6s
RES Resolute Bay 48.48 19 P **P** **21 50 44.7 +0.6**
RES IAmb IAmb 21 50 45.0
comp=Z,6.3nm,0.6s
YKA Yellowknife Ar 48.87 38 P **P** **21 50 47.6 +0.4**
comp=Z,4.0nm,0.6s,baz=298,slow=7.2,SNR=68
YKA Yellowknife Ar 48.87 38 P **P** **21 50 47.1 -0.2**
BRVK Borovoye 49.55 308 ‖ *e* P **P** **21 50 51.4 -1.2**
BRVK *i* *PP **pP** **21 51 31.8 -0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BOOM Boomskoye usch 52.21 294 P **P** **21 51 12.3 -0.4**
BOOM pmax pmax
comp=Z,3.0nm,0.9s
BOOM Boomskoye usch 52.21 294 P **P** **21 51 12.3 -0.4**
CMAR Chiang Mai Arr 53.18 255 P **P** **21 51 21.4 +1.5**
comp=Z,2.7nm,0.7s,baz=35,slow=6.7,SNR=24
CMAR PcP **PcP** **21 52 26.4 +0.9**
comp=Z,0.4nm,0.7s,baz=20,slow=2.9,SNR=4.4
CMAR Chiang Mai Arr 53.18 255 *i* P **P** **21 51 21.3 +1.4**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
B08A Colville Reser 54.32 55 P **P** **21 51 28.3 +0.4**
I04A Tendick Farm, 55.34 61 P **P** **21 51 35.8 +0.5**
baz=308
NEW Newport 55.56 54 P **P** **21 51 37.1 +0.4**
baz=308
ARCES ARCESS Array B 55.65 340 P **P** **21 51 36.4 -0.6**
comp=Z,7.1nm,1.2s,baz=34,slow=9.9,SNR=1.7
J04D Umpqua Nationa 55.85 62 P **P** **21 51 40.4 +1.3**
baz=308
PINE Pine Mountain 56.19 60 P **P** **21 51 43.2 +1.8**
PINE IAmb IAmb 21 51 44.2
comp=Z,5.3nm,0.8s
J05D Fort Rock, OR 56.33 61 P **P** **21 51 43.9 +1.4**
baz=309
L04D Klamath Falls 56.37 63 P **P** **21 51 43.3 +0.6**
baz=309
WALA Waterton Lakes 56.76 52 P **P** **21 51 46.0 +0.7**
WALA IAmb IAmb 21 51 46.8
comp=Z,4.7nm,0.8s
K05A Summer Lake 56.87 61 P **P** **21 51 48.0 +1.7**
K05A IAmb IAmb 21 51 49.0
comp=Z,7.3nm,1.0s
ABKAR Akbulak array 57.06 309 P **P** **21 51 45.8 -1.5**
O02D Mt. Diablo Mer 57.37 65 P **P** **21 51 50.9 +1.2**
JTMT Jette 57.38 53 P **P** **21 51 51.0 +1.3**
JTMT IAmb IAmb 21 51 51.5
comp=Z,3.1nm,0.6s
BMO Blue Mountains 57.57 57 P **P** **21 51 52.0 +1.0**
BMO pmax pmax
comp=Z,3.0nm,0.7s
BMO Blue Mountains 57.57 57 P **P** **21 51 52.0 +1.0**
MOD Modoc Plateau 57.73 62 P **P** **21 51 53.7 +1.4**
MOD IAmb IAmb 21 51 54.4
comp=Z,3.4nm,0.7s
PLID Pearl Lake 58.14 57 P **P** **21 51 56.3 +1.1**
MSO Missoula 58.14 54 P **P** **21 51 55.4 +0.4**
baz=310
BEKR Beckworth 59.00 64 P **P** **21 52 01.8 +0.6**
FCC Fort Churchill 59.13 34 P **P** **21 52 01.7 +0.2**
FCC pmax pmax
comp=Z,5.0nm,0.5s
FCC Fort Churchill 59.13 34 P **P** **21 52 01.7 +0.2**
HRY Holter Researc 59.33 53 P **P** **21 52 05.0 +1.8**
EGMT Eagleton 59.54 51 P **P** **21 52 04.9 +0.3**
baz=311
LRM Limekiln Ridge 59.58 54 P **P** **21 52 06.4 +1.3**
PAHR Pah Rah Range 59.67 63 P **P** **21 52 06.6 +0.9**
PNTR Pine Nut 59.95 64 P **P** **21 52 09.2 +1.5**
PNTR IAmb IAmb 21 52 09.8
comp=Z,7.4nm,0.9s
HLID Hailey 59.99 57 P **P** **21 52 07.3 -0.6**
baz=311
BOZ Bozeman (W) 60.16 54 P **P** **21 52 10.4 +1.4**
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 60.16 54 P **P** **21 52 10.4 +1.4**
BOZ Bozeman (W) 60.16 54 P **P** **21 52 10.0 +1.0**
baz=311
BMN Battle Mountai 60.46 61 P **P** **21 52 12.4 +1.4**
BMN pmax pmax
comp=Z,4.0nm,0.8s
BMN Battle Mountai 60.46 61 P **P** **21 52 12.4 +1.4**
BMN IAmb IAmb 21 52 13.2
comp=Z,4.1nm,0.8s
YHH Holmes Hill 61.11 54 P **P** **21 52 16.9 +1.3**
YHH IAmb IAmb 21 52 17.8
comp=Z,4.1nm,1.0s
NVAR Mina Array Bea 61.15 64 P **P** **21 52 16.9 +1.1**
comp=Z,2.6nm,0.6s,baz=294,slow=6.9,SNR=9.4
ELK Elko 61.38 60 P **P** **21 52 18.5 +1.1**
ELK pmax pmax
comp=Z,2.0nm,1.0s
ELK Elko 61.38 60 P **P** **21 52 18.5 +1.1**
H17A Grant Village 61.52 54 P **P** **21 52 20.4 +2.2**
baz=312
RLMT Red Lodge 61.72 53 P **P** **21 52 20.6 +1.0**
baz=313
MOOW Moose Ponds 61.86 55 P **P** **21 52 21.8 +1.3**
FINES FINESS Array B 61.95 334 P **P** **21 52 18.9 -1.5**
comp=Z,0.3nm,0.3s,baz=33,slow=7.4,SNR=6.7
FINES FINESS Array B 61.95 334 *i* P **P** **21 52 19.6 -0.9**
HWUT Hardware Ranch 62.86 57 P **P** **21 52 28.6 +1.4**
HWUT IAmb IAmb 21 52 29.2
comp=Z,3.5nm,0.8s
DUG Dugway, Tooele 63.12 59 P **P** **21 52 30.2 +1.4**
DUG pmax pmax
comp=Z,4.0nm,0.7s
DUG Dugway, Tooele 63.12 59 P **P** **21 52 30.2 +1.4**
DUG IAmb IAmb 21 52 30.6
comp=Z,3.8nm,0.7s
DUG Dugway, Tooele 63.12 59 P **P** **21 52 29.4 +0.6**
baz=313
BW06 Boulder Array 63.17 55 P **P** **21 52 29.5 +0.3**
baz=314
PDAR Pinedale Array 63.17 55 P **P** **21 52 30.0 +0.8**
comp=Z,3.7nm,0.7s,baz=303,slow=1.9,SNR=30
RSSD Black Hills 65.11 51 P **P** **21 52 42.4 +0.6**
RSSD pmax pmax
comp=Z,5.0nm,0.7s
RSSD Black Hills 65.11 51 P **P** **21 52 42.4 +0.6**
RSSD IAmb IAmb 21 52 43.1
comp=Z,4.8nm,0.7s
RSSD Black Hills 65.11 51 P **P** **21 52 42.0 +0.2**
baz=315
GMRC Granite Mounta 65.17 65 P **P** **21 52 43.1 +0.9**
baz=314
TPFO Pinon Flats 65.51 67 P **P** **21 52 44.8 +0.4**
baz=314
AGMN Agassiz Nation 66.01 43 P **P** **21 52 46.3 -0.8**
baz=318
NOA NORSAR Array B 66.02 341 P **P** **21 52 45.9 -1.2**
comp=Z,0.1nm,0.5s,baz=28,slow=6.6,SNR=1.0
N23A Red Feather La 66.41 54 P **P** **21 52 50.7 +0.5**
baz=316
WUAZ Wupatki 67.18 62 P **P** **21 52 56.3 +1.3**
baz=315
ISCO Idaho Springs 67.36 55 P **P** **21 52 57.0 +0.7**
baz=316
S22A 4UR Ranch, Cre 68.17 57 P **P** **21 53 02.3 +0.9**
baz=316

SDCO	**Great Sand Dun**	**68.90**	**57**	P	**P**	**21 53 05.7**	**-0.1**
	baz=317							
ECSD	**EROS Data Cent**	**69.06**	**47**	P	**P**	**21 53 06.1**	**-0.3**
ECSD				IAmb	IAmb	21 53 07.2		
	comp=Z,5.4nm,0.8s							
ECSD	**EROS Data Cent**	**69.06**	**47**	P	**P**	**21 53 06.4**	**0.0**
	baz=319							
D41A	**Chassel**	**70.13**	**40**	P	**P**	**21 53 13.1**	**+0.2**
ANMO	**Albuquerque**	**70.40**	**59**	*ce*P	**P**	**21 53 16.7**	**+1.8**
ANMO				pmax	pmax			
	comp=Z,3.0nm,2.5s							
ANMO	**Albuquerque**	**70.40**	**59**	P	**P**	**21 53 15.5**	**+0.6**
	baz=317							
WRA	**Warramunga Arr**	**70.86**	**199**	P	**P**	**21 53 17.4**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=19,slow=6.8,SNR=15							
SCHQ	**Schefferville**	**71.00**	**23**	P	**P**	**21 53 17.7**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=355,slow=5.8,SNR=14							
SCIA	**State Center**	**72.08**	**46**	P	**P**	**21 53 25.0**	**+0.3**
	baz=321							
PALK	**Pallekele**	**73.25**	**262**	P	**P**	**21 53 32.3**	**+0.3**
	comp=Z,4.2nm,0.7s,baz=88,slow=4.3,SNR=2.2							
MNTX	**Cornudas Mount**	**73.39**	**61**	P	**P**	**21 53 33.0**	**+0.5**
	baz=318							
GLMI	**Grayling**	**73.57**	**39**	P	**P**	**21 53 33.1**	**-0.3**
	baz=325							
ASAR	**Alice Springs**	**74.56**	**199**	P	**P**	**21 53 40.0**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=11,slow=5.4,SNR=29							
ASAR				pP	**pwP**	**21 54 24.8**	**-0.7**	
	comp=Z,0.3nm,0.7s,baz=13,slow=5.8,SNR=1.6							
WMOK	**Wichita Mounta**	**74.77**	**54**	P	**P**	**21 53 40.1**	**-0.4**
	baz=320							
TUL1	**Leonard**	**75.43**	**52**	P	**P**	**21 53 44.0**	**-0.2**
	baz=321							
CCM	**Cathedral Cave**	**76.03**	**47**	P	**P**	**21 53 47.0**	**-0.6**
	baz=323							
TXAR	**Lajitas Array**	**76.13**	**61**	P	**P**	**21 53 49.1**	**+0.6**
	comp=Z,3.9nm,0.5s,baz=296,slow=4.6,SNR=57							
TXAR				pP	**pP**	**21 54 33.5**	**+1.8**	
	comp=Z,0.2nm,0.7s,baz=289,slow=5.0,SNR=1.2							
U40A	**Yellville**	**76.58**	**49**	P	**P**	**21 53 50.0**	**-0.8**
	baz=322							
BRTR	**Keskin Array B**	**76.78**	**317**	P	**P**	**21 53 51.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=59,slow=2.9,SNR=2.5							
W41B	**Gary Mavity, V**	**77.81**	**50**	P	**P**	**21 53 57.3**	**-0.2**
	baz=323							
M53A	**WI Miller and**	**77.99**	**39**	P	**P**	**21 53 58.7**	**+0.2**
	baz=327							
ACSO	**Alum Creek Sta**	**78.03**	**41**	P	**P**	**21 53 58.8**	**+0.1**
	baz=326							
O53A	**New Philadelph**	**78.77**	**40**	P	**P**	**21 54 02.4**	**-0.4**
	baz=327							
PKME	**Peaks-Kenny Pk**	**78.84**	**29**	P	**P**	**21 54 02.8**	**-0.2**
	baz=333							
LBNH	**Lisbon**	**78.87**	**31**	P	**P**	**21 54 03.2**	**-0.1**
	baz=332							
P52A	**Corning**	**78.89**	**40**	P	**P**	**21 54 02.3**	**-1.2**
	baz=327							
BINY	**Binghamton**	**79.19**	**35**	P	**P**	**21 54 04.4**	**-0.7**
	baz=330							
WVT	**Waverly**	**79.20**	**46**	P	**P**	**21 54 05.6**	**+0.4**
	baz=324							
LMN	**Caledonia Moun**	**79.68**	**26**	P	**P**	**21 54 07.8**	**+0.2**
GGN	**Saint George**	**79.74**	**28**	P	**P**	**21 54 07.8**	**0.0**
SSPA	**Standing Stone**	**79.79**	**37**	P	**P**	**21 54 07.6**	**-0.7**
SSPA	**Standing Stone**	**79.79**	**37**	P	**P**	**21 54 08.1**	**-0.2**
	baz=329							
U49A	**Red Boiling Sp**	**79.85**	**45**	P	**P**	**21 54 08.6**	**-0.1**
T50A	**Nancy**	**79.86**	**44**	P	**P**	**21 54 08.7**	**-0.1**
T50A				IAmb	IAmb	21 54 09.5		
	comp=Z,3.7nm,0.6s							
HRV	**Adam Dziewonsk**	**80.53**	**32**	P	**P**	**21 54 12.7**	**+0.5**
	baz=332							
PLCA	**Paso Flores**	**148.13**	**92**	PKPbc	**PKPbc**	**22 01 44.4**	**0.0**
	comp=Z,1.9nm,0.9s,baz=283,slow=8.7,SNR=3.1							

*IDC **22** 21:46:37.2±3.3, 36°.05N×71°.77E, h88km±29km, mb3.4/9, mb1 3.6/14, mb1mx3.3/53, mbtmp3.8/14, MS3.1/1, Ms1 3.1/1, ms1mx2.2/63, Error ellipse: s-maj=25.2km s-min=21.6km az=9.0*

ISC 22 21:46:38.1±1.0, 36°.12N±0°.09×72°.1E±0°.1, h100km, n29, σ1℘85/27, mb3.5/8, 2C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.77**	**15**	P	**Pn**	**21 48 16.1**	**+1.1**
	1.2nm,0.3s,baz=172,slow=3.4,SNR=18						
AAK				S	**Sn**	**21 49 27.6**	**-3.0**
	0.5nm,0.3s,baz=340,slow=22,SNR=11						
KK31	**Karatay Array**	**7.08**	**351**	P	**Pn**	**21 48 18.8**	**-0.2**
	7.4nm,0.2s,baz=180,slow=11,SNR=204						
KK31				⇑S	Sn	21 49 32.4	-5.6
	2.8nm,0.3s,baz=252,slow=40,SNR=4.1						
GEYT	**Alibeck**	**11.32**	**283**	P	Pn	21 49 12.1	-4.6
	0.8nm,0.3s,baz=109,slow=13,SNR=10.0						
GEYT				S	Sn	21 51 10.5	-11
	0.3nm,0.3s,baz=114,slow=22,SNR=2.6						
PYUN	**Piuthan**	**12.21**	**128**	*e*P	**Pn**	**21 49 27.2**	**-1.6**
	13nm,0.4s						
DANN	**Dangsing**	**12.55**	**125**	*e*P	**Pn**	**21 49 31.7**	**-1.6**
	8.6nm,0.3s						
KOLN	**Koldanda**	**12.83**	**127**	*e*P	**Pn**	**21 49 35.5**	**-1.5**
	6.9nm,0.3s						
MKAR	**Makanchi Array**	**13.11**	**32**	P	**Pn**	**21 49 42.4**	**+2.0**
	0.1nm,0.3s,baz=224,slow=14,SNR=3.1						
GKN	**Gorkha**	**13.36**	**124**	*e*P	**Pn**	**21 49 42.3**	**-1.6**
	15nm,0.4s						
DMN	**Daman**	**13.93**	**124**	*e*P	**Pn**	**21 49 49.7**	**-1.7**
	4.3nm,0.3s						
KKN	**Kakani**	**13.93**	**123**	*e*P	**Pn**	**21 49 49.4**	**-2.0**
PKIN	**Phulchoki**	**14.15**	**123**	*e*P	**Pn**	**21 49 52.6**	**-1.6**
	4.5nm,0.2s						
PKI	**Pulchoki**	**14.16**	**123**	*e*P	**Pn**	**21 49 52.4**	**-2.0**
	2.9nm,0.2s						
GUN	**Gumba**	**14.27**	**121**	*e*P	**Pn**	**21 49 53.3**	**-2.5**
	6.7nm,0.3s						
JIRN	**Jiri**	**14.64**	**121**	*e*P	**Pn**	**21 49 58.5**	**-2.1**
	3.0nm,0.4s						
KURBB	**Kurchatov Arra**	**15.22**	**16**	P	**Pn**	**21 50 10.5**	**+3.1**
	0.1nm,0.3s,baz=204,slow=11,SNR=5.5						
RAMN	**Ramite**	**15.37**	**122**	*e*P	**Pn**	**21 50 08.0**	**-1.7**
	4.7nm,0.3s						
AB31	**Akbulak array**	**15.85**	**330**	P	**Pn**	**21 50 12.2**	**-3.1**
	0.4nm,0.3s,baz=148,slow=12,SNR=37						
AB31				⇑S	Sn	21 52 52.4	-18
	1.3nm,0.7s,baz=154,slow=24,SNR=4.2						
TAPN	**Taplejung**	**15.89**	**119**	*e*P	**Pn**	**21 50 14.3**	**-2.0**
	4.9nm,0.3s						
AKTO	**Aktyubinsk**	**17.55**	**329**	P	**P**	**21 50 35.6**	**-0.3**
	0.5nm,0.3s,baz=130,slow=8.2,SNR=5.0						
ZALV	**Zalesovo Beam**	**19.91**	**22**	P	**P**	**21 51 02.6**	**+1.0**
	1.7nm,0.3s,baz=216,slow=10,SNR=11						
EIL	**Elat**	**31.70**	**269**	LR	LR	22 05 47.4	
	comp=Z,33nm,20.1s,baz=288,slow=37						
FINES	**FINESS Array B**	**38.29**	**326**	P	**P**	**21 53 47.8**	**-0.7**
	0.6nm,0.6s,baz=111,slow=7.7,SNR=1.6						
ARCES	**ARCESS Array B**	**41.83**	**337**	P	**P**	**21 54 18.1**	**+0.4**
	2.8nm,0.9s,baz=119,slow=11,SNR=2.1						
NOA	**NORSAR Array B**	**45.21**	**323**	P	**P**	**21 54 45.0**	**+0.1**
	0.5nm,0.7s,baz=97,slow=7.7,SNR=1.7						
TIXI	**Tiksi**	**45.80**	**22**	P	**P**	**21 54 50.3**	**+1.0**
	0.9nm,0.3s,baz=342,slow=2.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**66.59**	**269**	P	P	21 57 16.2	-1.8
	0.2nm,0.6s,baz=52,slow=6.0,SNR=2.0						
WRA	**Warramunga Arr**	**81.04**	**123**	P	**P**	**21 58 43.9**	**+1.7**
	0.5nm,0.6s,baz=327,slow=5.0,SNR=12						
YKA	**Yellowknife Ar**	**81.58**	**3**	P	**P**	**21 58 45.0**	**+0.6**
	0.4nm,0.6s,baz=347,slow=5.3,SNR=9.8						
ASAR	**Alice Springs**	**83.32**	**126**	P	**P**	**21 58 55.4**	**+1.4**
	0.3nm,0.5s,baz=319,slow=4.9,SNR=3.0						

*VIE **22** 22:03:18.0±0.3, 46°.20N×11°.89E, h8km, mb1.5/3, ml1.9/14, Error ellipse: s-maj=2.2km s-min=1.5km az=170.0 25 km SSW of Alleghe*

ROM 22 22:03:16.8±0.1, 46°.160N±0°.009×11°.91E±0°.01, h5km, ML1.5/14, 7C-3D, Error ellipse: s-maj=1.0km s-min=0.9km az=12.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAU	**Forcella Aurin**	**0.09**	**36**	⇓*e*P	Pg	22 03 19.6	+0.8
FAU				*e*Sg	Sg	22 03 21.2	+1.0
AGOR	**Agordo**	**0.16**	**39**	⇑*e*P	Pg	22 03 20.6	+0.6
AGOR				*e*Sg	Sg	22 03 23.1	+1.0

CTI	**Castel Tesino**	**0.21**	**238**	⇑*i*P	Pg	22 03 21.6	+0.7
CTI				S	Sg	22 03 24.9	+1.2
CTI				AML	AML		
	comp=E,1115μm,0.2s						
CTI				AML	AML		
	comp=E,1110μm,0.2s						
CTI				AML	AML		
	comp=N,1079μm,0.3s						
VARN	**Col Varnada, M**	**0.22**	**140**	⇑*e*Pg	Pg	22 03 21.4	+0.4
VARN				*e*Sg	Sg	22 03 24.6	+0.6
VARN	**Col Varnada, M**	**0.22**	**140**	P	Sg	22 03 21.4	+0.4
VARN				S	Sg	22 03 24.6	+0.7
VARN				AML	AML		
	comp=E,338μm,0.4s						
VARN				AML	AML		
	comp=N,301μm,1.2s						
VARN				AML	AML		
	comp=N,302μm,1.2s						
ZIAN	**Ziano**	**0.27**	**296**	⇑*e*Pg	Pg	22 03 23.1	+1.1
ZIAN				*e*Sg	Sg	22 03 27.0	+1.5
ASOL	**Asolo**	**0.36**	**180**	P	Pg	22 03 24.2	+0.5
MTLO	**Montello**	**0.37**	**159**	*e*Pg	Pg	22 03 24.9	+0.9
CAE	**Caneva**	**0.40**	**112**	*e*Pg	Pg	22 03 24.7	+0.2
CAE				*e*Sg	Sg	22 03 30.9	+1.1
CIMO	**Cimolais**	**0.40**	**68**	P	Pg	22 03 24.1	-0.5
CIMO				AML	AML		
CIMO				AML	AML		
PANI	**Panarotta**	**0.41**	**255**	*e*Pg	Pb	22 03 25.9	-0.8
PANI				*e*Sg	Sg	22 03 31.4	+1.1
POLC	**Polcenigo**	**0.43**	**108**	P	Pg	22 03 25.3	+0.2
KOSI	**Kohlern**	**0.47**	**310**	⇑*i*P	Pb	22 03 26.9	-0.9
KOSI				S	Sg	22 03 33.6	+1.4
KOSI				AML	AML		
	comp=N,56μm,0.3s						
KOSI				AML	AML		
	comp=E,87μm,0.4s						
KOSI				AML	AML		
	comp=N,56μm,0.3s						
BRES	**Bressanone**	**0.55**	**348**	P	Pg	22 03 28.1	+0.6
APPI	**Appiano**	**0.57**	**304**	⇑*i*P	Pb	22 03 28.6	-0.7
APPI				S	Sg	22 03 36.3	+1.2
STAL	**STALIGIAL**	**0.57**	**80**	P	Pb	22 03 28.8	-0.4
STAL				AML	AML		
	comp=E,37μm,0.2s						
STAL				AML	AML		
	comp=N,31μm,0.3s						
DOSS	**Dosso del Somm**	**0.57**	**241**	*e*Pg	Pb	22 03 28.8	-0.6
DOSS				*e*Sg	Sg	22 03 36.1	+0.8
DOSS	**Dosso del Somm**	**0.57**	**241**	P	Pb	22 03 28.9	-0.5
DOSS				AML	AML		
	comp=E,66μm,0.2s						
DOSS				AML	AML		
	comp=N,65μm,0.4s						
OZOL	**Ozolo**	**0.64**	**293**	*e*Pg	Pb	22 03 29.9	-0.6
GAGG	**Gaggia**	**0.66**	**264**	*e*Pg	Pb	22 03 30.5	-0.4
GAGG	**Gaggia**	**0.66**	**264**	P	Pb	22 03 30.5	-0.5
ABSI	**Aberstueckl**	**0.70**	**325**	⇓*i*P	Pb	22 03 30.9	-0.7
ABSI				S	Sg	22 03 40.2	+0.9
ABSI				AML	AML		
	comp=E,90μm,0.3s						
ABSI				AML	AML		
	comp=N,64μm,0.4s						
MARN	**Marana (Italy)**	**0.71**	**223**	*e*Pg	Pb	22 03 31.2	-0.5
ABTA	**Abfaltersbach**	**0.72**	**35**	*i* Pg	Pb	22 03 31.3	-0.6
	comp=N,1.1nm,0.2s						
ABTA				*e*Sg	Sg	22 03 40.9	+0.8
	comp=N,3.1nm,0.2s,SNR=4.6						
CLUD	**Cludinico**	**0.74**	**66**	P	Pb	22 03 32.4	+0.2
ROVR	**Rover Verones**	**0.78**	**229**	P	Pb	22 03 32.6	-0.3
ROVR				AML	AML		
	comp=N,35μm,0.1s						
ROVR				AML	AML		
	comp=E,24μm,0.5s						
VARA	**Varagna**	**0.78**	**245**	*e*Pg	Pb	22 03 32.5	-0.4
RISI	**Rein**	**0.80**	**9**	P	Pb	22 03 32.7	-0.5
RISI				AML	AML		
	comp=N,26μm,0.4s						
RISI				AML	AML		
	comp=E,23μm,0.2s						
RISI				AML	AML		
	comp=N,26μm,0.4s						
ZOU	**Zoufplan**	**0.84**	**61**	P	Pb	22 03 34.4	+0.4
ROSI	**Rosskopf**	**0.84**	**336**	P	Pb	22 03 33.6	-0.4
CARE	**Lago del Cares**	**0.88**	**288**	*e*Pg	Pb	22 03 34.3	-0.4
MAGA	**Magasa**	**0.97**	**247**	P	Pb	22 03 36.3	+0.1
MAGA				AML	AML		
	comp=N,45μm,0.9s						
MAGA				AML	AML		
	comp=E,55μm,1.6s						
MAGA				AML	AML		
	comp=N,45μm,0.9s						
MABI	**Malga Bissina**	**0.97**	**264**	P	Pb	22 03 36.3	+0.1
MABI				AML	AML		
	comp=N,19μm,1.0s						
MABI				AML	AML		
	comp=E,12μm,1.4s						
PTCC	**Patocco-Chiusa**	**1.03**	**76**	P	Pb	22 03 37.5	+0.3
PTCC				AML	AML		
	comp=N,12μm,1.0s						
PTCC				AML	AML		
	comp=N,12μm,1.0s						
PTCC				AML	AML		
	comp=E,12μm,0.7s						
MOSI	**Grossmontoni**	**1.04**	**296**	P	Pb	22 03 37.5	0.0
MOSI				AML	AML		
	comp=N,36μm,0.9s						
MOSI				AML	AML		
	comp=E,31μm,1.4s						
SALO	**Salr**	**1.11**	**241**	P	Pn	22 03 39.2	+0.2
BRMO	**Bormio**	**1.11**	**287**	P	Pb	22 03 38.4	-0.1
WTTA	**Wattenberg**	**1.12**	**351**	*i* Pg	Pn	22 03 39.5	+0.1
	comp=E,0.3nm,0.1s						
WTTA				*i* Sg	Sb	22 03 54.2	+0.5
	comp=E,1.3nm,0.1s						
SQTA	**Sankt Quirin**	**1.16**	**336**	*e*Pg	Pn	22 03 39.7	-0.2
	comp=E,0.7nm,0.1s,SNR=8.2						
SQTA				*e*Sg	Sb	22 03 54.6	-0.3
	comp=E,4.2nm,0.2s						
ACOM	**Acomizza, Ital**	**1.18**	**70**	P	Pn	22 03 40.6	+0.4
ACOM				AML	AML		
	comp=E,43μm,0.5s						
ACOM				AML	AML		
	comp=E,43μm,0.5s						
ACOM				AML	AML		
	comp=N,32μm,1.3s						
FETA	**Feichten**	**1.18**	**317**	*i* Pg	Pn	22 03 40.3	+0.1
	comp=N,0.3nm,0.1s						
FETA				*i* Sg	Sb	22 03 55.2	-0.3
	comp=N,1.4nm,0.1s						
SABO	**M.te Sabotino**	**1.19**	**98**	P	Pn	22 03 40.8	+0.6
WATA	**Walderalm**	**1.20**	**349**	*i* Pg	Pn	22 03 40.8	+0.4
	comp=N,0.7nm,0.1s						
WATA				*i* Sg	Sn	22 03 56.6	-0.5
	comp=N,2.8nm,0.1s						
MYKA	**Terra Mystica**	**1.29**	**68**	*e*Pg	Pb	22 03 43.3	+1.7
	comp=N,1.1nm,0.2s						
MYKA				Sg	Sn	22 04 01.1	+1.8
	comp=N,0.4nm,0.1s						
MOTA	**Moosalm**	**1.31**	**335**	*i* Pg	Pb	22 03 42.8	+0.8
	comp=N,0.3nm,0.1s						
MOTA				*e*Sg	Sn	22 03 59.6	-0.2
	comp=N,0.6nm,0.1s						
KBA	**Koelnbreinsper**	**1.35**	**47**	*i* Pg	Pg	22 03 43.9	+1.2
	comp=N,0.3nm,0.1s						
KBA				*e*Sg	Sn	22 04 01.2	+0.3
	comp=N,0.7nm,0.2s						
TRI	**Trieste**	**1.37**	**109**	P	Pg	22 03 43.0	-0.1
BRJN	**Brijuni**	**1.80**	**133**	*e*Pg	Pn	22 03 49.4	+0.9
BRJN				Sg	Sn	22 04 09.4	-2.3
SMRN	**Sveta Marina**	**1.94**	**125**	*e*Pn	Pb	22 03 52.3	-0.2
SMRN				Sn	Sn	22 04 15.1	+0.1
NARO	**Abbazia di Nar**	**2.59**	**169**	⇓P	Pn	22 04 00.3	+0.9
NVLJ	**Novalja**	**2.63**	**126**	*e*Pn	Pn	22 03 59.8	0.0
NVLJ				Sn	Sn	22 04 30.4	-1.8
COR1	**Corinaldo**	**2.65**	**163**	⇑P	Pn	22 04 00.9	+0.8
COR1				AML	AML		
	comp=E,87μm,1.6s						
COR1				AML	AML		
	comp=N,100μm,1.5s						

ROM 22 22:03:53.3±0.0, 43°.289N±0°.002×12°.651E±0°.003, h9km, Md1.0/2, ML0.6/4, 3C-3D, Error ellipse: s-maj=0.2km s-min=0.1km az=23.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FOSV	**Fossato di Vic**	**0.08**	**86**	P	Pg	22 03 55.9	+0.4
FOSV				S	Sg	22 03 57.6	+0.5
FOSV				END			
MURB	**Monte Urbino**	**0.10**	**255**	⇑P	Pg	22 03 56.2	+0.4
MURB				S	Sg	22 03 58.1	+0.6
MURB				AML	AML		
	comp=N,162μm,1.3s						
MURB				AML	AML		
	comp=E,270μm,0.2s						
ATFO	**Monte Foce - G**	**0.10**	**323**	⇓P	Pg	22 03 56.2	+0.4
ATFO				S	Sg	22 03 58.2	+0.6
ATFO				AML	AML		
	comp=E,51μm,0.2s						
ATFO				AML	AML		
	comp=N,46μm,0.5s						
ATFO				END			
ATCC	**AVT- Casa Cast**	**0.10**	**185**	⇑P	Pg	22 03 56.3	+0.4
ATCC				S	Sg	22 03 58.2	+0.6
ATCC				AML	AML		
	comp=N,49μm,0.2s						
ATCC				AML	AML		
	comp=E,62μm,1.2s						
SSFR	**Montelago di S**	**0.18**	**33**	P	Pg	22 03 57.8	+0.7
SSFR				S	Sg	22 04 00.7	+1.1
ATVO	**AVT- Monte Val**	**0.20**	**298**	⇑P	Pg	22 03 58.0	+0.6
ATVO				AML	AML		
	comp=E,21μm,0.2s						
ATVO				AML	AML		
	comp=N,19μm,0.6s						
ATVO	**AVT- Monte Val**	**0.20**	**298**	P	Pg	22 03 58.0	+0.5
ATVO				S	Sg	22 04 01.6	+1.3
SNTG	**Esanatoglia**	**0.21**	**99**	P	Pg	22 03 58.3	+0.7
SNTG				S	Sg	22 04 02.1	+1.4
SNTG				AML	AML		
	comp=N,17μm,0.3s						
SNTG				AML	AML		
	comp=E,17μm,0.2s						
FRON	**Frontone**	**0.23**	**13**	P	Pg	22 03 58.7	+0.7
FRON	**Frontone**	**0.23**	**13**	P	Pg	22 03 58.6	+0.6
FRON				S	Sg	22 04 02.6	+1.3
ATTE	**AVT- Monte Tez**	**0.24**	**247**	P	Pg	22 03 58.8	+0.7
ATTE				S	Sg	22 04 02.7	+1.4
ATPI	**Pietralunga -**	**0.24**	**312**	⇓P	Pg	22 03 59.0	+0.8
ATPI	**Pietralunga -**	**0.24**	**312**	P	Pg	22 03 59.0	+0.7
ATPI				S	Sg	22 04 03.3	+1.7
PIEI	**Pieia**	**0.26**	**341**	P	Pg	22 03 59.2	+0.7
PIEI				AML	AML		
	comp=E,12μm,0.4s						
PIEI				AML	AML		
	comp=N,9μm,1.2s						
PIEI	**Pieia**	**0.26**	**341**	P	Pg	22 03 59.1	+0.5
PIEI				S	Sb	22 04 03.9	-0.9
ARVD	**Arcevia**	**0.30**	**45**	P	Pb	22 04 00.3	-0.5
ARVD				S	Sb	22 04 05.0	-0.8
CESI	**CESI - Serrava**	**0.34**	**147**	P	Pb	22 04 00.9	-0.6
CESI				S	Sb	22 04 06.0	-1.1
FDMO	**Fiordimonte**	**0.41**	**128**	P	Pg	22 04 01.8	+0.6
FDMO				S	Sb	22 04 08.4	-0.5
TRIV	**Trivento**	**2.07**	**137**	⇓P	Pg	22 04 34.7	+1.8

*VAO **22** 22:05:17.1±2.0, 1°.89S×81°.78W, h10km, mb4.3*
*IDC **22** 22:05:19.6±1.3, 1°.44S×80°.84W, h0km, mb3.6/5, mb1 4.0/8, mb1mx3.8/30, mbtmp3.9/8, ML3.1/2, MS3.5/12, Ms1 3.5/12, ms1mx3.2/48, Error ellipse: s-maj=45.1km s-min=21.1km az=56.0*
*IGQ **22** 22:05:24±0.6, 1°.5±2°×8°1W±°, h10km*
*NEIC **22** 22:05:24.1±2.4, 1°.47S±0°.06×81°.08W±0°.06, h33km±7km, mb4.3/10, Error ellipse: s-maj=9.8km s-min=8.1km az=122.0*

ISC 22 22:05:21.2±0.6, 1°.45S±0°.03×81°.05W±0°.05, h11km, n139, σ1℘90/135, mb4.1/10, MS3.4/9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPLP	**Puerto Lpez**	**0.29**	**109**	P	**Pg**	**22 05 27.0**	**-0.1**
PPLP				S	**Sg**	**22 05 31.0**	**-0.1**
CHIS	**Cerro-Chispas-**	**0.51**	**39**	P	**Pg**	**22 05 30.0**	**-1.3**
JAMA	**Jama**	**1.45**	**36**	P	**Pn**	**22 05 46.0**	**-1.5**
AMIL	**Milagro (Trans**	**1.60**	**115**	P	**Pn**	**22 05 50.0**	**+0.5**
FLF1	**Flavio Alfaro-**	**1.62**	**48**	P	**Pn**	**22 05 49.0**	**-0.8**
ISPG	**Isla Puna-Puer**	**1.75**	**150**	P	**Pg**	**22 05 55.0**	**+0.2**
MAG1	**Magdalena**	**1.87**	**43**	P	**Pn**	**22 05 54.0**	**+0.8**
COHC	**Cochancay**	**2.06**	**119**	Pn	**Pn**	**22 05 55.0**	**-0.8**
CHSH	**Refugio Sur-Vo**	**2.18**	**91**	P	**Pn**	**22 05 58.0**	**0.0**
TAMH	**Tambohuasha Ch**	**2.27**	**92**	P	**Pn**	**22 05 59.0**	**-0.1**
POCT	**Chimborazo Vol**	**2.27**	**90**	Pn	**Pn**	**22 05 59.5**	**+0.2**
PORT	**Chimborazo Vol**	**2.27**	**90**	P	**Pn**	**22 05 59.0**	**-0.3**
ARNL	**Arenillas**	**2.30**	**155**	Pn	**Pb**	**22 06 01.1**	**-1.8**
ARNL	**Arenillas**	**2.30**	**155**	P	**Pb**	**22 06 01.0**	**-1.8**
AV18	**Acelerografo,**	**2.35**	**42**	P	**Pb**	**22 06 04.0**	**+0.3**
IGUA	**Igualata**	**2.41**	**91**	P	**Pn**	**22 06 02.0**	**+0.9**
BV15	**Puerto Quito-O**	**2.43**	**49**	P	**Pn**	**22 06 01.0**	**+0.1**
ILLI	**Illinizas Sur**	**2.43**	**73**	P	**Pn**	**22 06 01.0**	**-0.4**
PAST	**Pastocalle**	**2.52**	**73**	P	**Pn**	**22 06 03.0**	**+0.4**
BBIL	**Ulba Tungurahu**	**2.56**	**90**	P	**Pn**	**22 06 05.0**	**+2.0**
BMAS	**Trigal station**	**2.57**	**91**	P	**Pn**	**22 06 04.0**	**+0.8**
JUI6	**Juive**	**2.58**	**89**	P	**Pn**	**22 06 04.0**	**+0.8**
ARRY	**Arrayan**	**2.59**	**91**	P	**Pn**	**22 06 04.0**	**+0.5**
POND	**Pondoa**	**2.59**	**89**	P	**Pn**	**22 06 04.0**	**+0.5**
RETU	**Refugio**	**2.60**	**90**	P	**Pn**	**22 06 05.0**	**+1.3**
BPAT	**Tungurahua Vol**	**2.62**	**91**	P	**Pn**	**22 06 05.0**	**+1.1**
CAMI	**Rancho Maria**	**2.66**	**73**	P	**Pn**	**22 06 05.0**	**+0.6**
BNAS	**Cotopaxi Volca**	**2.68**	**73**	P	**Pn**	**22 06 06.0**	**+1.2**
BMOR	**Cotopaxi Volca**	**2.69**	**75**	P	**Pn**	**22 06 05.0**	**+0.1**
HPAL	**Hacienda Las P**	**2.69**	**63**	P	**Pn**	**22 06 04.0**	**-0.8**
NAS2	**Nasa**	**2.70**	**73**	P	**Pn**	**22 06 06.0**	**+0.9**
GGPT	**

GCUF				*eS*		**Sb**	**22 07 32.0**	**-4.8**
GCUF				*i*			22 07 42.1	
	comp=Z,28nm,0.4s							
GR1C	**Gorgona, Isla**	**5.28**	**33**	*eP*		**Pn**	**22 06 42.7**	**+2.6**
GR1C				*eS*		**Sn**	**22 07 36.9**	**-4.1**
GR1C				*i*			22 07 59.1	
	comp=Z,389nm,0.5s							
SOTA	**Rioblanco**	**5.69**	**51**	*eP*		**Pn**	**22 06 47.7**	**+1.4**
SOTA				*i*			22 08 23.2	
	comp=Z,47nm,0.8s							
POPC	**Popayan, Colom**	**5.90**	**48**	*eP*		**Pn**	**22 06 48.7**	**-0.1**
POPC				*eS*		**Sn**	**22 07 56.2**	**-0.4**
POPC				*i*			22 08 17.2	
	comp=Z,15nm,0.4s							
PCON	**Cinco Dias**	**5.98**	**51**	*eP*		**Pn**	**22 06 51.6**	**+1.4**
PCON				*eS*		**Sn**	**22 08 05.2**	**+6.2**
PCON				*i*			22 08 21.6	
	comp=Z,18nm,0.6s							
GARC	**Garzon, Huila**	**6.63**	**57**	*eP*		**Pn**	**22 07 00.8**	**+2.0**
MARP	**Paez Belalcaza**	**6.64**	**50**	*eP*		**Pn**	**22 06 59.4**	**+0.3**
YOTC	**Yotoco, Valle**	**7.16**	**41**	*eP*		**Pn**	**22 07 07.4**	**+1.4**
YOTC				*eS*		**Sn**	**22 08 22.7**	**-4.8**
YOTC				*i*			22 08 46.4	
	comp=Z,9.6nm,0.5s							
ORTC	**Ortega, Tolima**	**7.87**	**47**	*eP*		**Pn**	**22 07 18.9**	**+3.1**
ORTC				*i*			22 09 21.6	
	comp=Z,8.7nm,0.5s							
PLMC	**San Jos del P**	**7.91**	**37**	*eP*		**Pn**	**22 07 15.8**	**-0.5**
PLMC				*eS*		**Sn**	**22 08 40.2**	**-5.7**
PLMC				*i*			22 09 15.2	
	comp=Z,12nm,0.3s							
MACC	**Macarena, Meta**	**8.04**	**64**	*eP*		**Pn**	**22 07 21.8**	**+3.7**
ANIL	**Santa Ana**	**8.16**	**44**	*eP*		Pn	22 07 25.5	+5.4
ANIL				*i*			22 09 17.9	
	comp=Z,15nm,0.6s							
GUY2C	**Guyana, Caldas**	**8.73**	**41**	*eP*		**Pn**	**22 07 30.3**	**+2.4**
GUY2C				*eS*		**Sn**	**22 09 03.2**	**-3.5**
GUY2C				*i*			22 09 29.8	
	comp=Z,4.8nm,0.6s							
CBOC	**Ciudad Bolivar**	**8.84**	**35**	*eP*		**Pn**	**22 07 33.4**	**+4.2**
CBOC				*eS*		**Sn**	**22 09 14.4**	**+5.5**
ROSC	**El Rosal**	**9.18**	**47**	Pn		**Pn**	**22 07 31.6**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=186,slow=21,SNR=1.9							
ROSC	**El Rosal**	**9.18**	**47**	Pn		**Pn**	**22 07 34.2**	**+0.1**
PAYG	**Puerto Ayora**	**9.27**	**275**	Pn		**Pn**	**22 07 34.8**	**-0.1**
PTBC	**PUERTO BERRIO,**	**10.31**	**40**	*eP*		Pn	22 07 54.9	+5.7
CZSB	**Cruzeiro do Su**	**10.39**	**127**	*eP*		**Pn**	**22 07 51.1**	**+0.8**
ZARC	**Zaragoza, Cauc**	**10.82**	**35**	Pn		**Pn**	**22 07 57.7**	**+1.5**
NNA	**Nana**	**11.27**	**158**	Pn		**Pn**	**22 08 01.3**	**-1.1**
	comp=Z,6.7nm,0.3s,baz=320,slow=11,SNR=6.7							
NNA					Sn	**Sn**	**22 10 06.9**	**-1.6**
	comp=Z,7.5nm,0.3s,baz=212,slow=18,SNR=10							
NNA	**Nana**	**11.27**	**158**			**Pn**	**22 08 02.3**	**-0.1**
JTS	**Las Juntas de**	**12.29**	**342**	LR		LR	22 12 03.6	
	comp=Z,169nm,18.8s,baz=196,slow=33							
JTS	**Las Juntas de**	**12.29**	**342**	Pn		**Pn**	**22 08 17.4**	**+1.0**
SDV	**Santo Domingo**	**14.60**	**45**	Pn		**P**	**22 08 54.1**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=233,slow=10,SNR=7.3							
SDV				LR		LR	22 15 47.4	
	comp=Z,103nm,18.9s,baz=233,slow=44							
SDV	**Santo Domingo**	**14.60**	**45**			**Pn**	**22 08 49.6**	**+1.5**
SDV	**Santo Domingo**	**14.60**	**45**	*eP*		**P**	**22 08 55.6**	**+1.0**
BIRV	**Birongo**	**18.89**	**51**	P		**Pn**	**22 09 42.9**	**+0.5**
LPAZ	**La Paz**	**19.48**	**140**	P		**P**	**22 09 47.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=334,slow=12,SNR=4.7							
LPAZ				LR		LR	22 19 16.0	
	comp=Z,148nm,18.5s,baz=324,slow=43							
LPAZ	**La Paz**	**19.48**	**140**	P		**P**	**22 09 46.9**	**-2.1**
MACA	**Manacapuru-AM**	**20.42**	**95**	*eP*		Pn	22 10 02.1	+1.3
BOAV	**Boa Vista**	**20.87**	**79**	*eP*		Pn	22 10 07.1	+1.0
GO01	**Chusmiza**	**21.50**	**148**	P		**P**	**22 10 10.5**	**-0.3**
GO01				IAmb		IAmb	22 10 24.6	
	comp=Z,11nm,0.9s							
TA02	**Huaiquique**	**21.53**	**151**	P		**P**	**22 10 10.1**	**-0.5**
TA02				IAmb		IAmb	22 10 24.9	
	comp=Z,12nm,0.8s							
PB08	**IPOC Station P**	**21.92**	**149**	P		**P**	**22 10 13.2**	**-1.9**
PATCX	**Punta Patache**	**22.00**	**152**	P		**P**	**22 10 14.9**	**-0.8**
PATCX				IAmb		IAmb	22 10 23.8	
	comp=Z,20nm,1.1s							
GTBY	**Guantanamo Bay**	**22.03**	**15**	P		**P**	**22 10 16.3**	**+0.4**
GTBY				IAmb		IAmb	22 10 33.1	
	comp=Z,17nm,1.1s							
VILB	**Vilhena**	**23.60**	**120**	*eP*		**P**	**22 10 32.5**	**+0.1**
LVC	**Limon Verde**	**24.12**	**152**	LR		LR	22 21 12.8	
	comp=Z,92nm,20.5s,baz=320,slow=40							
SJG	**San Juan**	**24.35**	**36**	LR		LR	22 21 27.5	
	comp=Z,57nm,20.2s,baz=184,slow=40							
SIV	**San Ignacio**	**24.42**	**127**	P		**P**	**22 10 38.5**	**-1.6**
	comp=Z,1.5nm,0.6s,baz=301,slow=7.7,SNR=7.4							
SIV				LR		LR	22 20 52.2	
	comp=Z,84nm,18.7s,baz=295,slow=38							
CBYP	**Canovanas**	**24.65**	**37**	P		**P**	**22 10 41.8**	**-0.4**
PTLB	**Pontes e Lacer**	**25.70**	**124**	*eP*		**P**	**22 10 52.0**	**+0.3**
PDRB	**Porto dos Gac**	**26.16**	**114**	*eP*		**P**	**22 10 57.5**	**+1.6**
CLDB	**Colider**	**26.77**	**111**	*eP*		**P**	**22 11 01.1**	**-0.4**
NBRS	**Nobres**	**28.06**	**118**	*eP*		**P**	**22 11 12.3**	**-0.8**
MCPB	**Macapa, AP**	**29.01**	**88**	*eP*		**P**	**22 11 25.8**	**+4.3**
MDP	**Montagnes des**	**29.11**	**77**	LR		LR	22 22 55.1	
	comp=Z,278nm,18.2s,baz=268,slow=36							
SNDB	**Serra Nova Dou**	**31.30**	**111**	*eP*		**P**	**22 11 41.8**	**0.0**
CPUP	**Villa Florida**	**33.65**	**139**	LR		LR	22 27 41.9	
	comp=Z,37nm,20.0s,baz=74,slow=40							
BDFB	**Brasilia**	**35.49**	**115**	LR		LR	22 29 12.9	
	comp=Z,140nm,18.1s,baz=327,slow=41							
IPMB	**Ipameri, GO**	**36.18**	**119**	*eP*		**P**	**22 12 24.2**	**-0.1**
ROSB	**Rosrio**	**36.92**	**93**	*eP*		**P**	**22 12 31.1**	**+0.5**
TXAR	**Lajitas Array**	**37.48**	**327**	P		**P**	**22 12 36.7**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=139,slow=12,SNR=2.8							
TXAR				PcP		**PcP**	**22 14 54.2**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=168,slow=4.6,SNR=2.5							
RCBR	**Riachuelo**	**45.25**	**97**	LR		LR	22 34 18.0	
	comp=Z,259nm,18.1s,baz=32,slow=39							
YBH	**Yreka Blue Hor**	**57.16**	**324**	LR		LR	22 38 52.3	
	comp=Z,266nm,18.2s,baz=219,slow=35							
YKA	**Yellowknife Ar**	**68.62**	**344**	P		**P**	**22 16 23.9**	**-0.2**
	comp=Z,0.9nm,1.1s,baz=135,slow=6.3,SNR=7.1							
DBIC	**Dimbokro**	**76.46**	**83**	LR		LR	22 49 25.1	
	comp=Z,50nm,18.2s,baz=185,slow=35							
A36M	**Sachs Harbour**	**78.52**	**347**	P		**P**	**22 17 21.7**	**-0.4**
A36M				IAmb		IAmb	22 17 31.7	
	comp=Z,3.5nm,0.9s							
ESDC	**Sonseca Array**	**81.00**	**50**	P		**P**	**22 17 36.3**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=262,slow=7.3,SNR=3.1							
TORD	**Torodi Ar. Bea**	**83.26**	**77**	P		**P**	**22 17 47.8**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=284,slow=5.2,SNR=3.8							
H11S2	**WAKE ISLAND Hyl**	**11.54**	**289**	T		T	00 24 46.2	
	baz=86,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hyl**	**11.54**	**289**	T		T	00 24 49.1	
	baz=86,slow=75,SNR=14							
H11S3	**WAKE ISLAND Hyl**	**11.55**	**289**	T		T	00 24 50.2	
	baz=86,slow=75,SNR=14							

IDC ***22*** *22:09:01.0±2.7, 23°.69S×68°.82W, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.6/28, mbtmp3.5/3, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/62, Error ellipse: s-maj=83.5km s-min=52.6km az=55.0*

GUC ***22*** *22:29:20.5±0.9, 22°.52S×68°.62W, h93km±4km, ML3.6*

ISC 22 22:29:19.0±1.0, 22°.52S±0°.04×68°.69W±0°.09, h109km±7km, n19, σ1s05/32, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.23**	**247**	*eP*	**Pn**	**22 29 34.0**	**-0.8**
LVC				*eS*	**Sn**	**22 29 45.2**	**-1.4**
PB06	**IPOC Station P**	**0.84**	**257**	*eP*	**Pn**	**22 29 39.3**	**+0.6**
PB06				*i* S	**Sn**	**22 29 54.1**	**+0.6**
PB06				IAML		22 29 55.6	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**0.89**	**324**	*eP*	**Pn**	**22 29 40.0**	**+0.8**
PB09				*eS*	**Sn**	**22 29 54.9**	**+0.6**
PB15	**IPOC Station P**	**1.00**	**226**⇑	*eP*	**Pn**	**22 29 41.5**	**+1.2**
PB15				*eS*	**Sn**	**22 29 57.2**	**+0.9**
PB07	**IPOC Station P**	**1.36**	**305**	*eP*	**Pn**	**22 29 45.0**	**+0.7**
PB07				*eS*	**Sn**	**22 30 03.9**	**+0.4**
PB07				IAML		22 30 04.9	
	comp=E,1μm,0.1s						
PB02	**IPOC Station P**	**1.64**	**317**	*eP*	**Pn**	**22 29 48.3**	**+0.7**
PB02				*eS*	**Sn**	**22 30 09.5**	**+0.2**
PB02				IAML		22 30 13.6	
	comp=E,1μm,0.4s						
PB10	**IPOC Station P**	**1.98**	**240**	*eP*	**Pn**	**22 29 52.6**	**+0.8**
PB10				*i* S	**Sn**	**22 30 15.5**	**-1.3**
PATCX	**Punta Patache**	**2.17**	**321**	*eP*	**Pn**	**22 29 54.3**	**0.0**
PATCX				*eS*	**Sn**	**22 30 21.1**	**-0.2**
PATCX				IAML		22 30 25.9	
	comp=N,384nm,0.6s						
TA01	**Diego Aracena**	**2.39**	**324**⇑	*eP*	**Pn**	**22 29 56.8**	**-0.2**
TA01				*eS*	**Sn**	**22 30 26.1**	**0.0**
TA01				IAML		22 30 32.3	
	comp=N,181nm,0.4s						
PB08	**IPOC Station P**	**2.41**	**349**	*eP*	**Pn**	**22 29 58.8**	**+1.2**
PB08				*eS*	**Sn**	**22 30 28.3**	**+1.2**
HMBC	**Humberstone**	**2.50**	**333**	*eP*	**Pn**	**22 29 58.1**	**-0.4**
HMBC				*eS*	**Sn**	**22 30 26.9**	**-1.9**
HMBC				IAML		22 30 34.1	
	comp=E,288nm,0.2s						
GO02	**Mina Guanaco**	**2.76**	**197**	*eP*	**Pn**	**22 30 02.8**	**+0.7**
GO02				*eS*	**Sn**	**22 30 36.1**	**+1.0**
GO02				IAML		22 30 48.9	
	comp=N,367nm,0.3s						
GO01	**Chusmiza**	**2.88**	**350**	*eP*	**Pn**	**22 30 05.0**	**+1.1**
GO01				*eS*	**Sn**	**22 30 39.2**	**+1.0**
PB11	**IPOC Station P**	**2.89**	**342**	*eP*	**Pn**	**22 30 03.5**	**-0.2**
PB11				*eS*	**Sn**	**22 30 37.8**	**-0.4**
PB11				IAML		22 30 48.5	
	comp=N,168nm,0.2s						
LPAZ	**La Paz**	**6.22**	**5**	Pn	**Pn**	**22 30 50.5**	**+1.5**
	comp=N,0.3nm,0.3s,baz=192,slow=9.3,SNR=8.9						
SIV	**San Ignacio**	**9.69**	**49**	LR	LR	22 35 27.2	
	comp=N,53nm,19.9s,baz=108,slow=37						
TORD	**Torodi Ar. Bea**	**77.50**	**70**	P	**P**	**22 41 02.1**	**-1.1**
	comp=N,0.3nm,0.5s,baz=260,slow=6.2,SNR=9.5						
YKA	**Yellowknife Ar**	**92.21**	**341**	P	**P**	**22 42 17.4**	**+1.3**
	comp=N,0.2nm,0.6s,baz=140,slow=4.4,SNR=5.9						
MKAR	**Makanchi Array**	**146.33**	**37**	PKPbc	**PKPbc**	**22 48 45.0**	**-2.2**
	comp=N,0.1nm,0.5s,baz=331,slow=3.0,SNR=1.4						

NEIC ***22*** *22:31:09.1±2.0, 19°.4S×178°.0W±0°.2, h514km±12km, mb4.0/7, Error ellipse: s-maj=23.9km s-min=16.0km az=91.0*

IDC ***22*** *22:31:10.3±6.7, 19°.14S×178°.27W, h503km±57km, mb2.9/3, mb1 3.2/4, mb1mx2.9/40, mbtmp3.8/4, Error ellipse: s-maj=247.6km s-min=29.6km az=157.0*

ISC 22 22:31:08.4±0.9, 19°.4S±0°.1×178°.1W±0°.1, h500km, n17, σ1s29/17, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.07**	**294**	P	**P**	**22 32 27.2**	**-0.3**
	comp=N,0.3s,baz=134,slow=7.5,SNR=10.0						
MSVF	**Nonsavu**	**4.07**	**294**	P	**P**	**22 32 28.9**	**+1.4**
OUENC	**Ouen Island, N**	**14.42**	**256**	P	**P**	**22 34 12.4**	**-0.2**
SANVU	**Saraoutou**	**14.62**	**283**	P	**P**	**22 34 15.4**	**+0.7**
DZM	**Mont Dzumac**	**14.73**	**257**	P	**P**	**22 34 15.6**	**-0.4**
THZ	**Tophouse**	**23.54**	**197**	P	**P**	**22 35 39.1**	**+0.3**
ODZ	**Otahua Downs**	**27.20**	**198**	P	**P**	**22 36 12.2**	**+1.1**
ODZ				IAmb	IAmb	22 36 20.8	
	comp=Z,6.9nm,1.2s						
WB0	**Warramunga Arr**	**44.68**	**261**	P	**P**	**22 38 33.7**	**-2.7**
WB0				IAmb	IAmb	22 38 40.1	
	comp=Z,5.1nm,1.1s						
WB2	**Warramunga Arr**	**44.69**	**261**	P	**P**	**22 38 34.8**	**-1.7**
WB2				IAmb	IAmb	22 38 35.9	
	comp=Z,5.3nm,1.1s						
WRA	**Warramunga Arr**	**44.70**	**261**	P	**P**	**22 38 35.5**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=98,slow=7.5,SNR=1.8						
AS31	**Alice Springs**	**44.72**	**256**	P	**P**	**22 38 36.9**	**+0.2**
AS31				IAmb	IAmb	22 38 38.5	
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**44.72**	**256**	P	**P**	**22 38 38.0**	**+1.3**
	comp=Z,2.1nm,0.4s,baz=89,slow=8.1,SNR=42						
ASAR	**Alice Springs**	**44.72**	**256**	P	**P**	**22 38 37.3**	**+0.6**
QSPA	**South Pole Qui**	**70.62**	**180**	P	**P**	**22 41 32.3**	**-0.2**
KIWB	**Kanaga Island**	**70.99**	**1**	P	**P**	**22 41 35.0**	**+0.2**
RYN	**Ryan**	**80.27**	**43**	P	**P**	**22 42 25.2**	**-1.8**
RYN				IAmb	IAmb	22 42 26.2	
	comp=Z,14nm,0.8s						
TXAR	**Lajitas Array**	**86.53**	**57**	P	**P**	**22 42 59.9**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=208,slow=5.1,SNR=4.1						

IDC ***22*** *22:43:01.6±0.8, 6°.70N×72°.88W, h164km±8km, mb3.1/4, mb1 3.5/6, mb1mx3.1/50, mbtmp3.7/6, Error ellipse: s-maj=28.9km s-min=8.3km az=132.0*

RSNC ***22*** *22:43:02.4±1.4, 6°.82N×73°.14W, h151km±5km, ML3.6, Mw3.8, Fault plane solution: NP1:φs52.00000°, δ18.00000°, λ153.00000°.*

ISC 22 22:43:01.1±0.8, 6°.85N±0°.03×73°.12W±0°.03, h157km±6km, n48, σ1s81/87, mb3.3/4, 4C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**194**⇑	*iP*	**Pn**	**22 43 22.9**	**+0.2**
BARC				*eS*	**Sn**	**22 43 38.3**	**-0.8**
BARC				*i*		22 43 39.1	
	comp=Z,1μm,0.2s						
PAMC	**Pamplona, Colo**	**0.64**	**41**⇓	*eP*	**Pn**	**22 43 25.8**	**+1.3**
PAMC				*eS*	**Sn**	**22 43 42.9**	**+0.3**
PAMC				*i*		22 43 45.4	
	comp=Z,807nm,0.7s						
RUSC	**La Rusia**	**0.95**	**178**⇑	*eP*	**Pn**	**22 43 26.9**	**+0.2**
RUSC				*eS*	**Sn**	**22 43 45.3**	**-1.0**
RUSC				*i*		22 43 46.7	
	comp=Z,618nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**257**⇑	*iP*	**Pn**	**22 43 29.2**	**-0.6**
PTBC				*eS*	**Sn**	**22 43 50.7**	**-1.1**
PTBC				*i*		22 43 52.5	
	comp=Z,374nm,0.1s						
TAMC	**Tame, Arauca**	**1.38**	**107**⇓	*iP*	**Pn**	**22 43 31.4**	**+1.3**
TAMC				*eS*	**Sn**	**22 43 52.6**	**+0.3**
TAMC				*i*		22 43 53.9	
	comp=Z,143nm,0.5s						
OCAC	**Ocana**	**1.40**	**352**	*eP*	**Pn**	**22 43 31.2**	**+0.9**
OCAC				*eS*	**Sn**	**22 43 53.5**	**+0.6**
OCAC				*i*		22 44 01.4	
	comp=Z,860nm,0.3s						
SPBC	**San Pablo de B**	**1.52**	**219**	*eP*	**Pn**	**22 43 31.6**	**+0.1**
SPBC				*eS*	**Sn**	**22 43 54.2**	**-0.7**
SPBC				*i*		22 44 01.0	
	comp=Z,730nm,0.2s						

NCEDC ***22*** *22:50:47.3±1.0, 37°.94N±0°.03×123°.06W±0°.04, h7km±7km, ML3.0/41, ML2.7/40(NEIC), Error ellipse: s-maj=5.8km s-min=2.2km az=56.0*

NEIC 22 22:50:45.8±1.3, 37°.89N±0°.03×123°.19W±0°.04, h10km±2km, Error ellipse: s-maj=6.4km s-min=3.0km az=54.0, Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FARB	**Farallon Islan**	**0.24**	**142**		Sg	22 50 55.7	+1.8
MCCM	**Marconi Confer**	**0.35**	**43**		Pg	22 50 52.7	-0.2
MCCM				Sg	Sg	22 50 56.9	-0.6
J061	**Lakeshore Driv**	**0.57**	**106**		Pb	22 50 57.4	-0.5
FTR	**Fort Ross**	**0.64**	**2**		Pg	22 50 58.5	+0.4
RFSB	**Richmond Field**	**0.67**	**87**		Pg	22 50 58.6	-0.3
BRK	**Berkeley--Havi**	**0.73**	**91**		Pg	22 50 59.7	-0.3
CVS	**Carmenet Viney**	**0.74**	**51**		Pg	22 50 59.8	-0.2
BL67	**Building 67, L**	**0.74**	**90**		Pg	22 51 00.1	0.0
BL88	**Building 88, L**	**0.74**	**90**		Pg	22 50 59.8	-0.3
VAK	**Adit at Lawren**	**0.74**	**90**		Pg	22 50 59.9	-0.2
BKS	**Berkeley--Byer**	**0.75**	**90**		Pg	22 51 00.2	-0.1
CMCM	**Mills College**	**0.81**	**97**		Pg	22 51 01.4	0.0
JRSC	**Jasper Ridge**	**0.89**	**122**		Pb	22 51 03.5	+0.1
GCRM	**Castle Rock Sp**	**0.96**	**23**		Pg	22 51 03.9	-0.4
GDXM	**Geysers**	**0.97**	**18**		Pg	22 51 03.9	-0.6
GDXM				Sg	Sg	22 51 17.1	-0.1
GDXM				IAML		22 51 18.2	
	comp=E,162nm,0.3s						

ZARC	**Zaragoza, Cauc**	**1.84**	**290**	*eP*		**Pn**	**22 43 35.0**	**+0.2**
ZARC				*eS*		**Sn**	**22 44 00.7**	**-0.1**
ZARC				*i*			22 44 11.2	
	comp=Z,536nm,0.4s							
NORC	**Norcasia**	**2.16**	**234**	*eP*		**Pn**	**22 43 38.7**	**+0.2**
NORC				*eS*		**Sn**	**22 44 06.6**	**-0.8**
NORC				*i*			22 44 14.7	
	comp=Z,305nm,0.2s							
CHIC	**Chingaza**	**2.29**	**195**⇑	*iP*		**Pn**	**22 43 41.1**	**+0.7**
CHIC				*eS*		**Sn**	**22 44 10.3**	**-0.5**
CHIC				*i*			22 44 12.8	
	comp=Z,366nm,0.4s							
ROSC	**El Rosal**	**2.32**	**211**	P		**Pn**	**22 43 42.7**	**+1.8**
	comp=Z,111nm,0.3s,baz=123,slow=17,SNR=62							
ROSC				S		**Sn**	**22 44 13.2**	**+1.7**
	comp=Z,99nm,0.3s,baz=185,slow=18,SNR=4.4							
ROSC	**El Rosal**	**2.32**	**211**	*eP*		**Pn**	**22 43 42.6**	**+1.8**
ROSC				*eS*		**Sn**	**22 44 13.6**	**+2.1**
ROSC				*i*			22 44 17.6	
	comp=Z,600nm,0.3s							
HELC	**Santa Helena**	**2.48**	**255**	*eP*		**Pn**	**22 43 43.9**	**+1.2**
HELC				*eS*		**Sn**	**22 44 14.6**	**-0.1**
HELC				*i*			22 44 22.5	
	comp=Z,237nm,0.3s							
UREC	**San Jos de Ur**	**2.56**	**291**	*eP*		**Pn**	**22 43 42.6**	**-0.6**
UREC				*eS*		**Sn**	**22 44 13.4**	**-2.4**
UREC				*i*			22 44 27.4	
	comp=Z,399nm,0.2s							
SOCV	**Socops**	**2.66**	**57**	*eP*		**Pn**	**22 43 45.5**	**+1.0**
SOCV				*eS*		**Sn**	**22 44 17.9**	**-0.3**
LL1C	**La Loma 1 Cana**	**2.71**	**351**	*eP*		**Pn**	**22 43 47.9**	**+2.7**
LL1C				*eS*		**Sn**	**22 44 22.7**	**+3.4**
GUY2C	**Guyana, Caldas**	**2.75**	**234**	*eP*		**Pn**	**22 43 47.0**	**+0.9**
GUY2C				*eS*		**Sn**	**22 44 22.1**	**+1.2**
GUY2C				*i*			22 44 28.1	
	comp=Z,188nm,0.3s							
VILC	**Villavicencio,**	**2.78**	**192**	*eP*		**Pn**	**22 43 46.4**	**+0.2**
VILC				*eS*		**Sn**	**22 44 20.3**	**-0.6**
PTGC	**Puerto Gaitan,**	**2.81**	**159**⇓	*iP*		**Pn**	**22 43 46.1**	**-0.3**
PTGC				*eS*		**Sn**	**22 44 19.0**	**-2.4**
PTGC				*i*			22 44 20.8	
	comp=Z,237nm,0.3s							
LL6C	**La Loma 6 Bece**	**2.87**	**357**	*eP*		**Pn**	**22 43 47.5**	**+0.4**
LL6C				*i*			22 44 28.9	
	comp=Z,101nm,0.5s							
CBOC	**Ciudad Bolivar**	**3.04**	**251**	*eP*		**Pn**	**22 43 50.3**	**+0.9**
CBOC				*eS*		**Sn**	**22 44 25.7**	**-1.0**
CBOC				*i*			22 44 42.6	
	comp=Z,85nm,0.4s							
DBBC	**Dabeiba**	**3.07**	**273**	*eP*		**Pn**	**22 43 50.2**	**+0.5**
DBBC				*eS*		**Sn**	**22 44 26.4**	**-1.0**
SDV	**Santo Domingo**	**3.19**	**50**	P		**Pn**	**22 43 52.5**	**+1.2**
	comp=Z,12nm,0.3s,baz=172,slow=2.3,SNR=81							
SDV				S		**Sn**	**22 44 29.4**	**-0.8**
	comp=Z,47nm,0.3s,baz=78,slow=24,SNR=46							
SDV	**Santo Domingo**	**3.19**	**50**	*eP*		**Pn**	**22 43 52.4**	**+1.1**
SDV				*eS*		**Sn**	**22 44 29.6**	**-0.7**
SDV				*i*			22 44 33.0	
	comp=Z,83nm,0.3s							
ANIL	**Santa Ana**	**3.26**	**224**	*eP*		**Pn**	**22 43 53.6**	**+1.3**
ANIL				*eS*		**Sn**	**22 44 33.0**	**+0.9**
ANIL				*i*			22 44 38.6	
	comp=Z,441nm,0.3s							
ORTC	**Ortega, Tolima**	**3.60**	**216**	*eP*		**Pn**	**22 43 57.1**	**+0.6**
ORTC				*eS*		**Sn**	**22 44 39.8**	**+0.2**
ORTC				*i*			22 44 46.6	
	comp=Z,121nm,0.5s							
CVALL	**Valledupar, Ce**	**3.64**	**358**	*eP*		**Pn**	**22 43 55.4**	**-1.5**
CVALL				*eS*		**Sn**	**22 44 38.4**	**-2.0**
CVALL				*i*			22 44 48.1	
	comp=Z,113nm,0.6s							
SJCC	**San Jacinto, C**	**3.65**	**326**	*eP*		**Pn**	**22 43 56.5**	**-0.5**
SJCC				*eS*		**Sn**	**22 44 37.6**	**-3.1**
SJCC				*i*			22 44 47.9	
	comp=Z,65nm,0.5s							
PLMC	**San Jos del P**	**3.69**	**239**	*eP*		**Pn**	**22 43 58.3**	**+0.7**
PLMC				*eS*		**Sn**	**22 44 41.8**	**+0.3**
PLMC				*i*			22 44 46.9	
	comp=Z,93nm,0.4s							
LCBC	**Los crdobas,**	**3.79**	**302**	*eP*		**Pn**	**22 43 58.0**	**-0.8**
LCBC				*eS*		**Sn**	**22 44 44.3**	**+0.7**
LCBC				*i*			22 44 47.6	
	comp=Z,110nm,0.3s							
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	*eP*		**Pn**	**22 44 03.2**	**-0.5**
CRJC				*eS*		**Sn**	**22 44 50.5**	**-1.9**
CRJC				*i*			22 44 55.4	
	comp=Z,117nm,0.6s							
YOTC	**Yotoco, Valle**	**4.29**	**229**	*eP*		**Pn**	**22 44 05.2**	**-0.2**
YOTC				*eS*		**Sn**	**22 44 55.9**	**+0.3**
**GUV

GDXM IAML 22 51 18.2
comp=N,196nm,0.4s
BDM Black Diamond 1.05 86 Pg 22 51 05.5 -0.4
GSGM Seigler Mounta 1.05 21 Pg 22 51 05.9 -0.1
HOPS Hopland Field 1.11 5 Pb 22 51 06.4 -0.7
HOPS Sg Sb 22 51 21.7 +0.1
HOPS IAML 22 51 29.2
comp=N,153nm,1.7s
MNRC McLaughlin Min 1.15 30 Pb 22 51 07.0 -0.8
WENL Wente Vineyard 1.16 103 Pb 22 51 08.0 0.0
MHC Mount Hamilton 1.34 113 Pn 22 51 09.8 -1.0
GNAM Navarro Ridge 1.36 345 Pn 22 51 10.2 -0.7
GHS Gilroy Hot Spr 1.59 119 Pn 22 51 12.9 -1.2
HFEM San Felipe 1.68 122 Pn 22 51 14.4 -0.9
SAO San Andreas Ge 1.78 128 Pn 22 51 16.5 -0.1
KCPM Cahto Peak 1.82 350 Pn Pb 22 51 18.7 -0.7
KCPM IAML 22 51 42.2
comp=N,68nm,2.6s
KCPM IAML 22 52 06.7
comp=E,83nm,3.6s
BJCM Johnson Can. 1.96 132 Pn 22 51 18.3 -0.8
HAST Hastings Reser 1.98 138 Pn 22 51 18.7 -0.8
ORV Oroville 2.13 38 Pn 22 51 20.4 -1.0
BBGB Big Mountain B 2.15 127 Pn Pn 22 51 23.1 +1.2
CMB Columbia Colle 2.22 85 Pn 22 51 23.1 +0.4
O02D Mt. Diablo Mer 2.31 8 Pn Pn 22 51 24.3 +0.3
KSMM Slide Mountain 2.42 342 Pn 22 51 24.6 -1.0
KMPM Mount Pierce 2.63 344 Pn Pn 22 51 28.7 +0.3
O03E Paynes Creek 2.64 24 Pn Pn 22 51 28.6 +0.1
O03E IAML 22 52 19.6
comp=E,20nm,3.1s
EMB Emerald Bay 2.66 65 Pn 22 51 29.1 +0.2
EMB IAML 22 52 06.1
comp=E,43nm,1.0s
MPK Martis Peak 2.85 59 Pn Pn 22 51 32.5 +1.0
MPK IAML 22 52 07.8
comp=E,44nm,0.6s
BEKR Beckworth 2.96 47 Pn 22 51 33.4 +0.3
BEKR IAML 22 52 10.1
comp=E,25nm,0.8s
BEKR IAML 22 52 10.5
comp=N,30nm,0.6s
JCC Jacoby Creek, 3.00 348 Pn Pn 22 51 33.3 -0.1
JCC IAML 22 52 52.1
comp=N,36nm,3.2s
PNTR Pine Nut 3.06 66 Pn 22 51 35.1 +0.7
PNTR IAML 22 52 17.5
comp=N,19nm,0.8s
PNTR IAML 22 52 32.6
comp=E,21nm,0.8s
VCNR Virginia City 3.11 62 Pn 22 51 36.0 +0.9
VCNR IAML 22 51 58.8
comp=E,29nm,0.1s
VCNR IAML 22 52 18.7
comp=N,21nm,0.6s
PAHR Pah Rah Range 3.48 57 Pn Pn 22 51 39.4 -0.8
M02C Callahan 3.51 4 Pn Pn 22 51 41.8 +1.3
M02C IAML 22 52 11.8
comp=N,12nm,4.3s
M02C IAML 22 52 29.0
comp=E,14nm,5.0s

IDC 22 22:56:07.8±1.9, 17°19S×71°32W, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/27, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=42.9km s-min=23.3km az=66.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.73**	**77**	Pg	Pg	22 57 18.0	-1.4
	2.0nm,0.3s,baz=255,slow=11,SNR=19						
LVC	**Limon Verde**	**6.09**	**153**	Pn	Pn	22 57 41.0	+1.6
	0.3nm,0.3s,baz=103,slow=3.6,SNR=1.5						
LVC				Sn	Sn	22 58 51.4	+1.4
	0.8nm,0.3s,baz=100,slow=17,SNR=1.7						
LVC				Lg	Lg	22 59 20.4	
	0.8nm,0.3s,baz=93,slow=22,SNR=1.9						
NNA	**Nana**	**7.04**	**317**	Sn	Sn	22 59 13.6	+0.6
	1.5nm,0.3s,baz=69,slow=21,SNR=1.6						
SIV	**San Ignacio**	**10.46**	**85**	Pn	Pn	22 58 42.9	+3.7
	0.2nm,0.3s,baz=120,slow=23,SNR=1.8						
H03N1	**Juan Fernandez**	**17.36**	**200**	T	T	23 18 25.9	
	baz=21,slow=74,SNR=80						
H03N2	**Juan Fernandez**	**17.37**	**200**	T	T	23 18 29.1	
	baz=21,slow=74,SNR=87						
H03N3	**Juan Fernandez**	**17.38**	**200**	T	T	23 18 29.2	
	baz=21,slow=74,SNR=67						
TORD	**Torodi Ar. Bea**	**78.68**	**72**	P	P	23 08 11.4	-1.1
	0.5nm,0.7s,baz=269,slow=4.8,SNR=4.9						
ESDC	**Sonseca Array**	**84.83**	**46**	P	P	23 08 43.8	-0.6
	0.1nm,0.4s,baz=270,slow=6.4,SNR=1.8						
YKA	**Yellowknife Ar**	**86.21**	**342**	P	P	23 08 51.9	+1.2
	0.2nm,0.8s,baz=134,slow=4.8,SNR=2.3						
H11N3	**WAKE ISLAND Hyl**	**24.38**	**282**	T	T	01 30 57.9	
	baz=99,slow=74						
H11N2	**WAKE ISLAND Hyl**	**24.39**	**282**	T	T	01 30 59.4	
	baz=99,slow=74						
H11N1	**WAKE ISLAND Hyl**	**24.40**	**282**	T	T	01 30 56.4	
	baz=99						
H11S2	**WAKE ISLAND Hyl**	**24.40**	**281**	T	T	01 31 07.1	
	baz=99,slow=74,SNR=10						
H11S1	**WAKE ISLAND Hyl**	**24.41**	**281**	T	T	01 31 00.1	
	baz=99,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hyl**	**24.42**	**281**	T	T	01 31 06.7	
	baz=99,slow=74,SNR=13						

*IDC **22** 23:00:56.0±0.6, 21.97N×102.55E, h0km, mb4.0/19, mb1 4.1/21, mb1mx4.0/54, mbtmp4.0/21, ML3.9/2, MS3.8/20, Ms1 3.8/20, ms1mx3.5/95, Error ellipse: s-maj=17.8km s-min=12.5km az=91.0*

*NEIC **22** 23:00:58.6±1.4, 21.92N±0.07×102.35E±0.07, h10km±1km, mb4.5/70, Error ellipse: s-maj=11.6km s-min=10.9km az=135.0*

*BJI **22** 23:00:58.0±0.0, 22.08N×102.22E, h13km, mb4.2/33, mB4.3/17, ML4.1/5, Ms4.5/38, Ms7 4.2/31*

ISC 22 23:00:57.9±0.3, 21°90N±0.04×102°36E±0.04, h10km, n134, σ1°27/133, mb4.4/51, MS3.8/21, 4C-1D, Laos

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.23**	**6**	⇑Pn	**Pn**	**23 01 50.0**	**+1.2**
KMI				smax	smax		
	comp=N,640nm,1.3s						
KMI				smax	smax		
	comp=E,930nm,1.2s						
KMI				LR	LR		
	comp=N,3μm,3.8s						
KMI				LR	LR		
	comp=E,4μm,4.6s						
KMI				LR	LR		
	comp=Z,2μm,3.9s						
CHTO	**Chiang Mai**	**4.44**	**227**		**Pn**	**23 02 05.0**	**-0.4**
CHTO				Pg	**Pg**	**23 02 20.6**	**-2.4**
PZH	**PanZhiHua**	**4.62**	**353**	Pn	**Pn**	**23 02 07.6**	**-0.2**
PZH				Sg	**Sg**	**23 03 21.6**	**-4.5**
PZH				smax	smax		
	comp=N,210nm,1.3s						
PZH				smax	smax		
	comp=E,250nm,1.2s						
PZH				LR	LR		
	comp=N,2μm,7.6s						
PZH				LR	LR		
	comp=E,6μm,8.1s						
PZH				LR	LR		
	comp=Z,2μm,9.0s						
CM31	**Chiang Mai Arr**	**4.70**	**224**	Pn	**Pn**	**23 02 09.2**	**+0.3**
CM31				Pg	**Pg**	**23 02 25.5**	**-2.4**
CMAR	**Chiang Mai Arr**	**4.70**	**224**	Pn	**Pn**	**23 02 09.8**	**+1.0**
	2.1nm,0.3s,baz=33,slow=12,SNR=49						
CMAR				Pg	**Pg**	**23 02 25.2**	**-2.6**
	26nm,0.3s,baz=40,slow=17,SNR=123						
CMAR				Lg	Lg	23 03 29.8	
	9.0nm,0.3s,baz=44,slow=30,SNR=6.0						
CMAR				LR	LR	23 04 28.0	
	comp=Z,753nm,18.5s,baz=45,slow=44						
CMAR	**Chiang Mai Arr**	**4.70**	**224**	Pg	**Pb**	**23 02 24.7**	**+4.3**
UBPT	**Khong Chiam**	**7.22**	**155**		**Pn**	**23 02 44.2**	**+0.7**
QIZ	**Qiongzhong**	**7.57**	**111**	Pn	**Pn**	**23 02 48.2**	**-0.2**
QIZ	**Qiongzhong**	**7.57**	**111**	P	**Pn**	**23 02 48.8**	**+0.4**
QIZ				S	**Sn**	**23 04 15.3**	**+1.0**
QIZ				LR	LR		
	comp=N,3μm,15.0s						
QIZ				LR	LR		
	comp=E,1μm,15.5s						
QIZ				LR	LR		
	comp=Z,730nm,7.6s						
ENH	**Enshi**	**10.51**	**36**	Pn	**Pn**	**23 03 27.7**	**-0.9**
CNSH	**ChangSha**	**11.44**	**55**	⇑P	**Pn**	**23 03 39.6**	**-1.7**
CNSH				S	**Sn**	**23 05 48.0**	**-1.2**
CNSH				LR	LR		
	comp=Z,2μm,5.1s						
CNSH				LR	LR		
	comp=Z,2μm,5.9s						
LSA	**Lhasa**	**12.73**	**310**		**Pn**	**23 03 59.0**	**-0.4**
XAN	**Xi'an**	**13.40**	**24**	P	**Pn**	**23 04 08.8**	**+0.6**
XAN				pP	P	23 04 14.0	-3.8
XAN				sP		23 04 17.3	
XAN				S	**Sn**	**23 06 42.3**	**+5.0**
XAN				LR	LR		
	comp=Z,2μm,11.7s						
XAN				LR	LR		
	comp=Z,3μm,11.7s						
XAN				LR	LR		
	comp=Z,2μm,9.8s						
WHN	**Wuhan**	**13.77**	**49**	⇓P	**Pn**	**23 04 11.6**	**-1.6**
WHN				S	**Sn**	**23 06 43.5**	**-2.7**
WHN				LR	LR		
	comp=Z,2μm,6.4s						
WHN				LR	LR		
	comp=Z,1μm,6.2s						
WHN				LR	LR		
	comp=Z,2μm,6.9s						
GOMU	**GeErMu**	**15.69**	**337**	P	**Pn**	**23 04 38.6**	**-0.8**
GOMU				pP	P	23 04 42.3	-1.2
GOMU				sP	pP	23 04 45.4	-1.2
GOMU				S	Sn	23 07 20.4	-13
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GOMU				pmax	pmax		
	comp=Z,43nm,3.9s						
GOMU				LR	LR		
	comp=Z,410nm,9.8s						
GOMU				LR	LR		
	comp=Z,290nm,9.9s						
GOMU				LR	LR		
	comp=Z,290nm,10.3s						
TPUB	**Ta-pu**	**16.93**	**82**	Pn	**Pn**	**23 04 55.1**	**+0.1**
SSLB	**Suanglung**	**17.24**	**80**	Pn	**Pn**	**23 04 59.2**	**+0.3**
IPM	**Ipoh**	**17.37**	**184**	Pn	**Pn**	**23 05 00.1**	**-0.4**
LHMI	**Lhok Sumawe**	**17.39**	**198**	Pn	**Pn**	**23 04 58.0**	**-2.7**
LHMI				IAmb	IAmb	23 05 03.1	
	comp=Z,64nm,1.3s						
GTA	**Gaotai**	**17.59**	**353**	⇑P	**P**	**23 05 06.9**	**+2.6**
GTA				pP	sP	23 05 10.6	+1.8
GTA				sP	pP	23 05 13.9	+6.5
GTA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,90nm,6.4s						
GTA				LR	LR		
	comp=Z,270nm,12.4s						
GTA				LR	LR		
	comp=Z,490nm,12.0s						
GTA				LR	LR		
	comp=Z,360nm,12.3s						
NJ2	**Nanjing**	**17.82**	**52**	*e*P	**P**	**23 05 08.0**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
HNS	**HongShan**	**18.78**	**32**	⇑P	**Pn**	**23 05 18.8**	**+1.2**
HNS				*e*S	**Sn**	**23 08 48.3**	**+0.6**
HNS				pmax	pmax		
	comp=Z,14nm,0.9s						
HNS				LR	LR		
	comp=Z,470nm,8.0s						
HNS				LR	LR		
	comp=Z,770nm,10.1s						
HNS				LR	LR		
	comp=Z,560nm,10.5s						
SSE	**Sheshan**	**19.15**	**58**	P	**P**	**23 05 21.4**	**0.0**
SSE				S	**Sn**	**23 08 58.0**	**+1.0**
SSE				pmax	pmax		
	comp=Z,22nm,0.7s						
SSE				pmax	pmax		
	comp=Z,52nm,4.8s						
SSE				LR	LR		
	comp=Z,170nm,16.8s						
SSE				LR	LR		
	comp=Z,250nm,16.6s						
TIA	**Tai'an**	**19.20**	**39**	*e*P	**P**	**23 05 20.6**	**-1.3**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TIA				LR	LR		
	comp=Z,350nm,14.2s						
TIA				LR	LR		
	comp=Z,600nm,8.8s						
TIA				LR	LR		
	comp=Z,580nm,17.7s						
PSI	**Prapat**	**19.28**	**190**	P	**Pn**	**23 05 25.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=338,slow=9.6,SNR=15						
PSI				LR	LR	23 12 46.3	
	comp=Z,201nm,18.2s,baz=300,slow=36						
HHC	**Hu-ho-hao-te**	**20.43**	**20**	*e*P	Pn	23 05 42.3	+4.7
HHC				S	Sn	23 09 29.6	+1.7
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,65nm,5.0s						
HHC				LR	LR		
	comp=N,400nm,11.6s						
HHC				LR	LR		
	comp=E,390nm,10.6s						
HHC				LR	LR		
	comp=Z,480nm,10.7s						
GSI	**Gunungsitoli**	**21.00**	**193**	P	**P**	**23 05 41.5**	**-0.1**
GSI				IAmb	IAmb	23 05 49.5	
	comp=Z,36nm,1.5s						
BJT	**Baijiatuao**	**21.55**	**30**	P	**P**	**23 05 47.3**	**0.0**
BJI	**Beijing**	**21.57**	**30**	P	**P**	**23 05 48.9**	**+1.4**
BJI				S	**S**	**23 09 50.9**	**+4.4**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SBUM	**Sibu**	**21.58**	**152**	P	**P**	**23 05 47.0**	**-0.8**
KSM	**Kuching**	**21.73**	**158**	P	**P**	**23 05 50.1**	**+0.6**
KSM				IAmb	IAmb	23 06 08.1	
	comp=Z,16nm,1.2s						
HYBB	**Hyderabad (bro**	**22.85**	**263**	*e*P	**P**	**23 06 01.5**	**-0.1**
HYBB				*e*S	**S**	**23 10 12.7**	**+1.4**
JOW	**Kunigami**	**24.09**	**73**	P	**P**	**23 06 10.7**	**-3.1**
WMQ	**Urumqi**	**25.02**	**334**	*e*P	**P**	**23 06 24.9**	**+2.9**
WMQ				pP	sP	23 06 27.0	+0.2
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,100nm,4.7s						
WMQ				LR	LR		
	comp=Z,430nm,16.1s						
WMQ				LR	LR		
	comp=Z,340nm,21.9s						
WMQ				LR	LR		
	comp=Z,300nm,17.7s						
PALK	**Pallekele**	**25.46**	**238**	P	**P**	**23 06 28.6**	**+2.3**
	comp=Z,16nm,1.0s,baz=147,slow=10.0,SNR=5.7						
PALK				LR	LR	23 16 50.6	
	comp=Z,125nm,19.9s,baz=138,slow=37						
PALK	**Pallekele**	**25.46**	**238**	P	**P**	**23 06 26.2**	**0.0**
PALK				IAmb	IAmb	23 06 30.0	
	comp=Z,16nm,0.9s						
SONM	**Songino Array**	**26.08**	**6**	P	**P**	**23 06 31.7**	**0.0**
	comp=Z,1.4nm,0.7s,baz=185,slow=9.2,SNR=12						
SONM	**Songino Array**	**26.08**	**6**	P	**P**	**23 06 32.3**	**+0.6**
MNAI	**Manna**	**26.11**	**179**	P	**P**	**23 06 32.1**	**0.0**
ULN	**Ulaanbaatar**	**26.18**	**7**	P	**P**	**23 06 31.7**	**-0.9**
ULN				IAmb	IAmb	23 06 50.3	
	comp=Z,7.7nm,1.1s						
KSRS	**Korea Array**	**26.96**	**49**	LR	LR	23 19 16.7	
	comp=Z,170nm,18.0s,baz=200,slow=41						
NIL	**Nilore**	**28.19**	**301**	P	**P**	**23 06 50.3**	**-0.5**
NIL				IAmb	IAmb	23 07 08.7	
	comp=Z,12nm,1.2s						
KSH	**Kashi**	**28.53**	**314**	P	P	23 06 58.8	+4.9
KSH				pP	sP	23 07 03.9	+5.3
KSH				sP	pP	23 07 06.8	+10
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				LR	LR		
	comp=Z,380nm,16.5s						
KSH				LR	LR		
	comp=Z,190nm,16.2s						
KSH				LR	LR		
	comp=Z,370nm,16.8s						
TARG	**Taragay, Kyrgy**	**28.57**	**319**	P	**P**	**23 06 54.3**	**-0.3**
LEM	**Lembang**	**29.01**	**169**	LR	LR	23 19 36.0	
	comp=Z,224nm,18.4s,baz=334,slow=39						
KDJ	**Kajisay**	**29.19**	**320**	P	**P**	**23 07 00.2**	**+0.4**
KDJ				IAmb	IAmb	23 07 14.3	
	comp=Z,3.3nm,0.8s						
MK31	**Makanchi Array**	**29.68**	**332**	P	**P**	**23 07 03.8**	**-0.1**
MKAR	**Makanchi Array**	**29.68**	**332**	P	**P**	**23 07 05.0**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=139,slow=9.0,SNR=13						
MKAR				PcP	**PcP**	**23 10 07.8**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=143,slow=3.6,SNR=2.4						
MKAR				LR	LR	23 20 39.8	
	comp=Z,121nm,20.6s,baz=123,slow=40						
MKAR	**Makanchi Array**	**29.68**	**332**	P	**P**	**23 07 04.0**	**+0.2**
MAKZ	**Makanchi**	**29.83**	**331**	P	**P**	**23 07 04.4**	**-0.8**
BOOM	**Boomskoye usch**	**30.15**	**319**	P	**P**	**23 07 08.3**	**+0.1**
AAK	**Ala-Archa**	**31.12**	**318**	LR	LR	23 21 60.0	
	comp=Z,124nm,19.9s,baz=98,slow=40						
AAK	**Ala-Archa**	**31.12**	**318**	P	**P**	**23 07 15.9**	**-0.9**
AAK				IAmb	IAmb	23 07 19.6	
	comp=Z,5.1nm,1.4s						
DRK	**Karamyk**	**31.38**	**311**	P	**P**	**23 07 19.6**	**+0.4**
DRK				IAmb	IAmb	23 07 22.3	
	comp=Z,8.3nm,1.2s						
KAPI	**Kappang**	**31.71**	**145**	LR	LR	23 23 27.0	
	comp=Z,105nm,18.4s,baz=320,slow=43						
JWT	**Wachi**	**31.77**	**58**	P	**P**	**23 07 22.1**	**-0.3**
KBL	**Kabul**	**31.80**	**301**	P	**P**	**23 07 23.1**	**+0.2**
KBL				IAmb	IAmb	23 07 26.2	
	comp=Z,3.7nm,1.1s						
GAR	**Garm**	**32.24**	**309**	P	**P**	**23 07 26.4**	**-0.3**
BTK	**Batken**	**32.31**	**311**	P	**P**	**23 07 27.5**	**+0.3**
BTK				IAmb	IAmb	23 07 35.6	
	comp=Z,5.0nm,0.8s						
CHGR	**Chuyangaron**	**32.95**	**308**	P	**P**	**23 07 33.0**	**+0.2**
CHGR				IAmb	IAmb	23 07 34.4	
	comp=Z,11nm,1.1s						
KKAR	**Karatay Array**	**33.87**	**316**	P	**P**	**23 07 41.0**	**+0.2**
KURBB	**Kurchatov Arra**	**34.21**	**333**	P	**P**	**23 07 44.6**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=142,slow=8.6,SNR=12						
KURBB				LR	LR	23 23 09.9	
	comp=Z,312nm,20.4s,baz=106,slow=39						
KURK	**Kurchatov**	**34.24**	**333**	P	**P**	**23 07 44.2**	**+0.5**
KURK				IAmb	IAmb	23 07 48.5	
	comp=Z,4.0nm,0.8s						
ZAA0	**Zalesovo Array**	**34.66**	**342**	P	**P**	**23 07 48.0**	**+0.6**
ZAA0				IAmb	IAmb	23 07 53.5	
	comp=Z,3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**34.66**	**342**	P	**P**	**23 07 47.4**	**0.0**
	comp=Z,2.6nm,0.7s,baz=148,slow=9.9,SNR=9.3						
ZALV				LR	LR	23 23 02.7	
	comp=Z,117nm,21.5s,baz=148,slow=38						
ZALV	**Zalesovo Beam**	**34.66**	**342**	P	**P**	**23 07 47.8**	**+0.5**
KLR	**Kul'dur**	**35.85**	**33**	LR	LR	23 24 44.7	
	comp=Z,255nm,18.1s,baz=236,slow=40						
MMRI	**Maumere**	**36.07**	**145**	P	**P**	**23 07 59.3**	**-0.6**
BRVK	**Borovoye**	**39.59**	**330**	P	**P**	**23 08 29.4**	**+0.2**
BRVK				IAmb	IAmb	23 08 34.2	
	comp=Z,5.4nm,0.7s						
GEYT	**Alibeck**	**41.14**	**303**	P	**P**	**23 08 42.8**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=123,slow=10,SNR=3.0						
GEYT				LR	LR	23 29 31.6	
	comp=Z,94nm,19.0s,baz=317,slow=42						
GYA0B	**ALIBECK ARRAY**	**41.14**	**303**	P	**P**	**23 08 42.7**	**+0.3**
GYA0B				IAmb	IAmb	23 08 45.6	
	comp=Z,13nm,1.4s						
ABKAR	**Akbulak array**	**43.17**	**320**	P	**P**	**23 08 58.7**	**0.0**
ABKAR	**Akbulak array**	**43.17**	**320**	P	**P**	**23 08 59.0**	**+0.3**
AKTO	**Aktyubinsk**	**44.78**	**321**	LR	LR	23 30 04.9	
	comp=Z,160nm,20.1s,baz=127,slow=39						
SOCY	**Socotra**	**47.08**	**266**	P	**P**	**23 09 28.7**	**-1.7**
SOCY				IAmb	IAmb	23 09 33.9	
	comp=Z,6.3nm,0.9s						
ARU	**Arti**	**47.10**	**328**	LR	LR	23 31 05.2	
	comp=Z,121nm,19.4s,baz=84,slow=38						
ARU	**Arti**	**47.10**	**328**	P	**P**	**23 09 29.1**	**-0.7**
NRIK	**Noril'sk**	**48.29**	**353**	P	**P**	**23 09 38.1**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=144,slow=7.4,SNR=4.9						
NRIK	**Noril'sk**	**48.29**	**353**	P	**P**	**23 09 39.3**	**+0.4**
NRIK				IAmb	IAmb	23 09 41.1	
	comp=Z,4.4nm,0.9s						
BELG	**Belogorrnoye**	**51.56**	**320**	LR	LR	23 34 43.6	
	comp=Z,98nm,20.9s,baz=113,slow=39						
WB0	**Warramunga Arr**	**51.92**	**141**	P	**P**	**23 10 06.5**	**-0.6**
WB0				IAmb	IAmb	23 10 24.5	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**52.02**	**141**	P	**P**	**23 10 07.1**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=330,slow=8.3,SNR=6.5						
WRA	**Warramunga Arr**	**52.02**	**141**	P	**P**	**23 10 08.1**	**+0.2**
WB2	**Warramunga Arr**	**52.03**	**141**	P	**P**	**23 10 08.3**	**+0.4**
WB2				IAmb	IAmb	23 10 18.7	
	comp=Z,5.2nm,0.9s						
TIXI	**Tiksi**	**52.05**	**10**	P	**P**	**23 10 07.8**	**+0.5**
WR0	**Warramunga Arr**	**52.15**	**141**	P	**P**	**23 10 09.3**	**+0.5**
WR0				IAmb	IAmb	23 10 23.1	
	comp=Z,6.7nm,1.1s						
MORW	**Morawa**	**52.36**	**165**	P	**P**	**23 10 10.4**	**+0.2**
MORW				IAmb	IAmb	23 10 20.2	
	comp=Z,9.5nm,1.3s						
KIRV	**Kirov**	**52.48**	**328**	LR	LR	23 36 09.7	
	comp=Z,90nm,18.2s,baz=150,slow=40						
KBZ	**Khabaz**	**53.31**	**309**	LR	LR	23 37 47.4	
	comp=Z,99nm,18.8s,baz=102,slow=41						
GURO	**Guroymak-BITLI**	**53.80**	**302**	P	**P**	**23 10 21.2**	**+0.2**
GURO				IAmb	IAmb	23 10 23.4	
	comp=Z,4.0nm,1.2s						
AS31	**Alice Springs**	**54.71**	**144**	P	**P**	**23 10 27.4**	**-0.2**
ASAR	**Alice Springs**	**54.71**	**144**	P	**P**	**23 10 27.1**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=330,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**54.71**	**144**	P	**P**	**23 10 28.0**	**+0.4**
KLMR	**Klimovskoe**	**57.93**	**329**	*e*P	**P**	**23 10 50.3**	**+0.2**
KLMR				AMP		23 10 52.3	
	comp=Z,11nm,1.1s						
OBN	**Obninsk**	**58.51**	**322**	LR	LR	23 37 33.3	
	comp=Z,26nm,21.2s,baz=346,slow=38						
AKASG	**Malin Array Be**	**62.77**	**317**	P	**P**	**23 11 22.8**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=70,slow=6.1,SNR=5.3						
ELL	**Elmali**	**63.52**	**301**	P	**P**	**23 11 27.7**	**-1.0**
FIA1	**FINESS Array S**	**64.46**	**329**	P	**P**	**23 11 34.3**	**0.0**
FINES	**FINESS Array B**	**64.47**	**329**	P	**P**	**23 11 33.4**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=88,slow=6.7,SNR=7.6						
FINES	**FINESS Array B**	**64.47**	**329**	P	**P**	**23 11 33.9**	**-0.5**
KEV	**Kevo**	**64.57**	**338**	P	**P**	**23 11 34.7**	**-0.1**
ARCES	**ARCESS Array B**	**65.07**	**338**	P	**P**	**23 11 37.1**	**-1.1**
	comp=Z,3.7nm,1.0s,baz=76,slow=7.5,SNR=2.1						
STKA	**Stephens Creek**	**65.35**	**144**	P	**P**	**23 11 40.0**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=326,slow=11,SNR=1.7						
MLR	**Muntele Rosu**	**65.35**	**311**	P	**P**	**23 11 40.4**	**-0.2**
MLR				IAmb	IAmb	23 11 43.1	
	comp=Z,5.0nm,1.0s						
BURAR	**Bucovina Array**	**65.61**	**314**	P	**P**	**23 11 41.7**	**-0.5**
KWP	**Kalwaria Pacla**	**67.03**	**316**	P	**P**	**23 11 51.8**	**+0.6**
KMBO	**Kilima Mbogo**	**67.45**	**259**	P	**P**	**23 11 55.6**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=31,slow=4.8,SNR=4.4						
KMBO				LR	LR	23 41 56.7	
	comp=Z,37nm,19.9s,baz=92,slow=36						
VTS	**Vitosha**	**67.70**	**308**	P	**P**	**23 11 55.9**	**+0.2**
VTS				IAmb	IAmb	23 12 08.5	
	comp=Z,5.2nm,1.3s						
IDI	**Anoyia**	**67.78**	**300**	P	**P**	**23 11 54.5**	**-1.8**
FNA	**Florina**	**69.40**	**307**	P	**P**	**23 12 06.5**	**+0.2**
FNA				IAmb	IAmb	23 12 09.9	
	comp=Z,2.4nm,0.8s						
VOI	**Vohitsoka**	**69.51**	**235**	P	**P**	**23 12 07.5**	**+0.3**
VOI				IAmb	IAmb	23 12 26.7	
	comp=Z,4.8nm,1.0s						
NC405	**NORSAR Array S**	**71.39**	**329**	P	**P**	**23 12 18.0**	**0.0**
NC303	**NORSAR Array S**	**71.53**	**329**	P	**P**	**23 12 20.2**	**+1.4**
NB2	**NORSAR Subarra**	**71.64**	**329**

comp=Z,6.7nm,1.3s
H23K Yukon River 77.34 24 P **P** **23 12 52.6 0.0**
H23K IAmb IAmb 23 12 53.9
comp=Z,4.3nm,1.0s
BPAW Bear Paw Mtn. 77.51 26 P **P** **23 12 53.6 +0.1**
BPAW IAmb IAmb 23 13 10.3
comp=Z,2.9nm,0.8s
BMAR Burnt Mountain 78.36 21 P **P** **23 12 58.8 +0.6**
RND Reindeer 78.66 26 P **P** **23 13 00.5 +0.5**
RND IAmb IAmb 23 13 04.8
comp=Z,6.2nm,1.0s
ILAR Eielson Array 78.81 24 P **P** **23 12 58.9 -1.8**
comp=Z,0.3nm,0.5s,baz=306,slow=5.1,SNR=5.0
INK Inuvik 81.34 18 P **P** **23 13 13.2 -1.0**
comp=Z,1.9nm,0.8s,baz=307,slow=5.4,SNR=2.9
INK Inuvik 81.34 18 P **P** **23 13 13.5 -0.8**
INK IAmb IAmb 23 13 18.6
comp=Z,6.7nm,1.1s
L27K Beaver Creek, 81.60 24 P **P** **23 13 16.5 +0.6**
L27K IAmb IAmb 23 13 21.1
comp=Z,4.0nm,1.1s
BCAR Beaver Creek A 81.62 24 P **P** **23 13 16.6 +0.6**
CTGM Chitina Glacie 82.94 26 P **P** **23 13 24.5 +1.5**
C36M Paulatuk 83.13 15 P **P** **23 13 23.2 -0.3**
YKA Yellowknife Ar 90.92 16 P **P** **23 14 00.6 -1.1**
comp=Z,0.2nm,0.6s,baz=328,slow=5.0,SNR=7.6
TXAR Lajitas Array 123.22 27 PKP **PKPdf** **23 19 55.6 -0.1**
comp=Z,0.2nm,0.7s,baz=117,slow=0.4,SNR=2.3

KRSC 22 23:12:32.7±1.9, 48°25N×155°80E, h61km±26km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**3.28**	**11**	*e*S			Sn	23 14 03.6	+4.2
KDTR	**Khodutka, Kamc**	**3.85**	**22**	*e*P			Pn	23 13 32.0	+2.6
KDTR				eS			Sn	23 14 16.1	+2.8
MIPR	**Malaya Ipel'ka**	**4.08**	**8**	*e*P			Pn	23 13 35.1	+2.6
ASAK	**Asacha**	**4.35**	**17**	*e*P			Pn	23 13 39.9	+3.6
MTVR	**Mutnovka**	**4.50**	**19**	*e*P			Pn	23 13 41.5	+3.0
RUS	**Russkaya**	**4.53**	**22**	*e*P			Pn	23 13 41.0	+2.3
GRL	**Gorelyy**	**4.54**	**18**	*e*P			Pn	23 13 42.6	+3.6
UGLR	**Uglovaya**	**5.32**	**20**	*e*P			Pn	23 13 54.5	+4.9
SMAR	**Somma**	**5.37**	**20**	*e*P			Pn	23 13 54.8	+4.5
SDLR	**Sedlovina**	**5.40**	**20**	*e*P			Pn	23 13 54.8	+4.1
SPN	**Mys Shipunski**	**5.54**	**27**	*e*P			Pn	23 13 57.5	+4.9

IDC ***22*** *23:14:19.7±0.4, 10°.39S×165°.12E, h0km, mb4.9/36, mb1 5.0/40, mb1mx4.9/48, mbtmp4.9/40, ML5.3/3, MS4.6/58, Ms1 4.6/58, ms1mx4.6/62, Error ellipse: s-maj=13.5km s-min=10.9km az=108.0*

BJI ***22*** *23:14:20.5±0.0, 10°.16S×165°.12E, h6km, mb5.1/70, mB5.2/57, Ms5.0/69, Ms7 4.7/66*

MOS ***22*** *23:14:22.5±0.8, 10°.35S×165°.00E, h24km, mb5.2/23, MS4.5/4, Error ellipse: s-maj=8.1km s-min=6.6km az=108.6*

NEIC ***22*** *23:14:23.0±1.4, 10°.36S±0°.06×165°.11E±0°.03, h10km±1km, mb5.4/291, Error ellipse: s-maj=11.9km s-min=2.8km az=152.0*

GCMT ***22*** *23:14:26.0±0.1, 10°.29S±0°.01×165°.11E±0°.01, h19km, MW5.4/135, Moment Tensor Solution. s119,c218; s135,c249; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=0.71±.02; Mθθ 1.32±.02; Mϕϕ=0.60±.02; Mrθ 0.37±.03; Mθϕ=0.10±.01; Mϕr=0.75±.04; Best double couple: Mo1.42200×10^17 NP1:ϕs59.00000°, δ48.00000°, λ=150.00000°. NP2:ϕs307.00000°, δ68.00000°, λ=46.00000°. Principal axes: T 1.4130, Plg12.0000°, Azm7.0000°; N 0.0180, Plg40.0000°, Azm108.0000°; P =1.4310, Plg48.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 23:14:23.2±0.4, 10°.40S±0°.04×165°.11E±0°.04, h17km±2km, h17km:pP-P,n760,σ1s36/725, mb5.3/221, MS4.7/88, 36C-72D, Fault plane solution: NP1:ϕs306.02161°, δ40.55672°, λ=56.94175°. **NP2:**ϕs85.43643°, δ56.97918°, λ=115.02451°. **Principal axes:** T Plg8.7370°, Azm193.0516°; N Plg20.7738°, Azm99.7095°; P Plg67.3042°, Azm304.6111°; **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.18**	**280**		Pn		**Pn**	**23 15 40.3**	**+0.4**
	168nm,0.3s,baz=168,slow=3.3,SNR=51								
HNR					Sn		**Sn**	**23 16 40.8**	**+1.4**
	375nm,0.3s,baz=164,slow=3.0,SNR=9.6								
HNR					LR		LR	23 17 52.7	
	comp=Z,18μm,18.6s,baz=120,slow=41								
HNR	**Honiara**	**5.18**	**280**				**Pn**	**23 15 41.2**	**+1.2**
HNR	**Honiara**	**5.18**	**280**	P			**Pn**	**23 15 41.8**	**+1.9**
SANVU	**Saraoutou**	**5.42**	**158**	Pn			**Pn**	**23 15 43.1**	**-0.1**
SANVU	**Saraoutou**	**5.42**	**158**	P			**Pn**	**23 15 43.5**	**+0.3**
DVP	**Devils Point**	**7.87**	**158**	P			**Pn**	**23 16 17.6**	**+0.7**
RTV	**Rentapao**	**8.02**	**157**	P			**Pn**	**23 16 21.5**	**+2.5**
KOUNC	**Koumac, New Ca**	**10.13**	**184**	Pn			**Pn**	**23 16 48.7**	**+0.8**
KOUNC	**Koumac, New Ca**	**10.13**	**184**	P			**Pn**	**23 16 48.9**	**+1.0**
LIFNC	**LIFOU**	**10.52**	**169**	Pn			**Pn**	**23 16 54.0**	**+0.7**
LIFNC	**LIFOU**	**10.52**	**169**	P			**Pn**	**23 16 55.5**	**+2.2**
MARNC	**Mare, Loyalty**	**11.37**	**166**				**Pn**	**23 17 03.8**	**-1.1**
MARNC	**Mare, Loyalty**	**11.37**	**166**	P			**Pn**	**23 17 06.1**	**+1.2**
DZM	**Mont Dzumac**	**11.68**	**174**	Pn			**Pn**	**23 17 09.6**	**+0.4**
	25nm,0.3s,baz=19,slow=13,SNR=159								
DZM					Sn		**Sn**	**23 19 15.8**	**-3.6**
	1.5nm,0.3s,baz=96,slow=13,SNR=1.0								
DZM					LR		LR	23 20 56.4	
	comp=Z,5μm,18.8s,baz=354,slow=34								
DZM	**Mont Dzumac**	**11.68**	**174**	*e*Pn			**Pn**	**23 17 09.8**	**+0.6**
	585nm,1.5s								
DZM				*e*LR			LR	23 19 53.7	
	comp=Z,9μm,26.2s								
DZM	**Mont Dzumac**	**11.68**	**174**	Pn			**Pn**	**23 17 10.2**	**+1.0**
DZM	**Mont Dzumac**	**11.68**	**174**	P			**Pn**	**23 17 10.4**	**+1.2**
NOUC	**Port Laguerre**	**11.70**	**175**	P			**Pn**	**23 17 11.0**	**+1.6**
YATNC	**Mamie plateau,**	**11.72**	**172**	P			**Pn**	**23 17 09.4**	**-0.3**
ONTNC	**Ouen Toro**	**11.91**	**174**				**Pn**	**23 17 12.9**	**+0.6**
ONTNC	**Ouen Toro**	**11.91**	**174**	P			**Pn**	**23 17 13.8**	**+1.4**
OUENC	**Ouen Island, N**	**12.07**	**172**	Pn			**Pn**	**23 17 15.9**	**+1.4**
OUENC	**Ouen Island, N**	**12.07**	**172**	P			**Pn**	**23 17 16.0**	**+1.5**
PINNC	**Pines Island,**	**12.35**	**170**				**Pn**	**23 17 19.5**	**+1.1**
PINNC	**Pines Island,**	**12.35**	**170**	P			**Pn**	**23 17 19.7**	**+1.4**
RABL	**Rabaul**	**14.24**	**295**	P			**Pn**	**23 17 46.0**	**+1.7**
KRVT	**Keravat (AS076**	**14.31**	**294**	Pn			**Pn**	**23 17 44.1**	**-1.2**
	8.4nm,0.3s,baz=25,slow=3.5,SNR=13								
KRVT					Sn		**Sn**	**23 20 17.3**	**-6.5**
	3.5nm,0.3s,baz=299,slow=23,SNR=1.9								
MSVF	**Nonsavu**	**14.51**	**122**	Pn			**P**	**23 17 55.6**	**+1.1**
	1.9nm,0.3s,baz=277,slow=9.1,SNR=9.8								
MSVF					LR		LR	23 21 42.2	
	comp=Z,902nm,19.6s,baz=303,slow=30								
MSVF	**Nonsavu**	**14.51**	**122**	P			**Pn**	**23 17 50.2**	**+2.2**
MSVF	**Nonsavu**	**14.51**	**122**				**Pn**	**23 17 50.2**	**+2.2**
PMG	**Port Moresby**	**17.71**	**272**	P			**Pn**	**23 18 29.4**	**+0.1**
	2.2nm,0.3s,baz=91,slow=6.9,SNR=29								
PMG					LR		LR	23 24 44.3	
	comp=Z,6μm,21.0s,baz=115,slow=35								
PMG	**Port Moresby**	**17.71**	**272**				**P**	**23 18 31.2**	**+1.2**
PMG					IAmb		IAmb	23 18 45.3	
	comp=Z,393nm,1.1s								
PMG	**Port Moresby**	**17.71**	**272**	P			**P**	**23 18 31.7**	**+1.7**
PMG	**Port Moresby**	**17.71**	**272**	P			**P**	**23 18 32.5**	**+2.5**
PATS	**Pohnpei**	**18.41**	**338**	P			**P**	**23 18 37.2**	**-0.4**
PATS					IAmb		IAmb	23 18 54.1	
	comp=Z,343nm,1.3s								
PATS	**Pohnpei**	**18.41**	**338**	P			**Pn**	**23 18 39.3**	**+1.6**
RK1H	**Rockhampton Ha**	**19.02**	**225**	P			**Pn**	**23 18 46.1**	**+1.0**
KWAJ	**Kwajalein Atol**	**19.23**	**8**	P			**P**	**23 18 46.7**	**0.0**
KWAJ					pmax		pmax		
	comp=Z,424nm,0.9s								
KWAJ	**Kwajalein Atol**	**19.23**	**8**	P			**P**	**23 18 46.7**	**0.0**
MANU	**Manus Island**	**19.48**	**294**	P			**Pn**	**23 18 50.5**	**-0.3**
MANU					IAmb		IAmb	23 18 55.3	
	comp=Z,305nm,1.1s								
EIDS	**Eidsvold**	**19.97**	**220**	P			**Pn**	**23 18 56.5**	**0.0**
	baz=20,SNR=46								
EIDS	**Eidsvold**	**19.97**	**220**	P			**Pn**	**23 18 56.5**	**0.0**
EIDS					IAmb		IAmb	23 18 58.4	
	comp=Z,295nm,1.1s								
EIDS	**Eidsvold**	**19.97**	**220**	P			**Pn**	**23 18 57.2**	**+0.7**
CTA	**Charters Tower**	**20.57**	**240**	P			**P**	**23 19 01.7**	**+0.3**
	comp=Z,22nm,1.0s,baz=62,slow=10.0,SNR=9.2								
CTA					LR		LR	23 26 05.6	
	comp=Z,2μm,18.4s,baz=60,slow=34								
CTA	**Charters Tower**	**20.57**	**240**	P			Pn	23 19 02.6	-1.0
MTSU	**Mount Surprise**	**21.56**	**247**	P			**P**	**23 19 12.1**	**0.0**
	baz=22,SNR=7.2								
MTSU	**Mount Surprise**	**21.56**	**247**	P			**P**	**23 19 13.0**	**+1.0**
COEN	**Coen**	**21.73**	**258**	P			**P**	**23 19 14.2**	**+0.4**
COEN	**Coen**	**21.73**	**258**	P			**P**	**23 19 15.2**	**+1.3**
LHI	**Lord Howe Isla**	**21.76**	**194**	P			**P**	**23 19 14.2**	**+0.2**
	baz=22,SNR=3.8								
LHI	**Lord Howe Isla**	**21.76**	**194**	P			**P**	**23 19 15.3**	**+1.4**
LHI					IAmb		IAmb	23 19 20.9	
	comp=Z,140nm,1.0s								
LHI	**Lord Howe Isla**	**21.76**	**194**	P			**P**	**23 19 14.3**	**+0.3**
RMQ	**Roma**	**22.25**	**222**	P			**P**	**23 19 20.4**	**+1.1**
	baz=22,SNR=42								
RMQ	**Roma**	**22.25**	**222**	P			**P**	**23 19 20.4**	**+1.1**
AFI	**Afiamalu**	**22.86**	**101**	LR			LR	23 26 36.0	
	comp=Z,3μm,19.1s,baz=278,slow=32								
ARMA	**Armidale**	**23.55**	**210**	P			**P**	**23 19 34.0**	**+1.2**
	baz=24,SNR=16								
ARMA	**Armidale**	**23.55**	**210**	P			**P**	**23 19 33.4**	**+0.5**
ARMA					IAmb		IAmb	23 19 35.4	
	comp=Z,224nm,1.2s								
ARMA	**Armidale**	**23.55**	**210**	P			**P**	**23 19 34.1**	**+1.2**
RAO	**Raoul Island**	**24.57**	**142**	LR			LR	23 27 51.6	
	comp=Z,1μm,19.2s,baz=311,slow=33								
QLP	**Quilpie**	**25.45**	**228**	P			**P**	**23 19 50.9**	**+0.5**
	baz=26,SNR=11								
QLP	**Quilpie**	**25.45**	**228**	P			**P**	**23 19 51.4**	**+1.0**
OUZ	**Omahuta**	**25.89**	**164**	P			**P**	**23 19 55.7**	**+1.5**
OUZ					IAmb		IAmb	23 20 01.8	
	comp=Z,89nm,1.1s								
OUZ	**Omahuta**	**25.89**	**164**	P			**P**	**23 19 55.8**	**+1.5**
QIS	**Mount Isa**	**26.54**	**245**	P			**P**	**23 19 59.4**	**-0.9**
	baz=27,SNR=3.5								
QIS	**Mount Isa**	**26.54**	**245**	P			**P**	**23 19 59.7**	**-0.6**
CMSA	**Cobar Meteorol**	**27.68**	**218**	P			**P**	**23 20 10.6**	**+0.2**
	baz=28,SNR=17								
CMSA	**Cobar Meteorol**	**27.68**	**218**	P			**P**	**23 20 10.8**	**+0.3**
MKAZ	**Moumakai**	**28.10**	**163**	P			**P**	**23 20 17.4**	**+3.4**
INKA	**Innaminka**	**28.68**	**230**	P			**P**	**23 20 19.8**	**+0.4**
H11S2	**WAKE ISLAND Hy**	**28.75**	**3**	T			T	23 50 28.7	
	baz=184,slow=76,SNR=1734								
H11S3	**WAKE ISLAND Hy**	**28.75**	**3**	T			T	23 50 29.0	
	baz=184,slow=76,SNR=1084								
H11S1	**WAKE ISLAND Hy**	**28.76**	**3**	T			T	23 50 30.0	
	baz=184,slow=76,SNR=1173								
TOZ	**Tahuroa Road**	**28.78**	**163**	P			**P**	**23 20 19.3**	**-0.8**
CAN	**Canberra**	**28.83**	**208**	P			**P**	**23 20 20.9**	**+0.2**
CAN					pmax		pmax		
	comp=Z,36nm,1.1s								
CAN	**Canberra**	**28.83**	**208**	P			**P**	**23 20 20.9**	**+0.2**
HIZ	**Hauiti**	**29.33**	**164**	P			**P**	**23 20 25.2**	**+0.2**
HIZ	**Hauiti**	**29.33**	**164**	P			P	23 20 31.3	+6.3
HIZ	**Hauiti**	**29.33**	**164**	P			**P**	**23 20 27.2**	**+2.2**
WAKE	**Wake Island**	**29.53**	**3**	P			**P**	**23 20 26.4**	**-0.5**
HAZ	**Te Kaha**	**29.53**	**159**	P			**P**	**23 20 28.4**	**+1.6**
MXZ	**Matakaoa Point**	**29.54**	**158**	P			**P**	**23 20 28.4**	**+1.4**
MXZ					IAmb		IAmb	23 20 34.4	
	comp=Z,79nm,0.9s								
MXZ	**Matakaoa Point**	**29.54**	**158**	P			P	23 20 32.7	+5.8
RUGZ	**Raukumara Rang**	**29.68**	**160**	P			**P**	**23 20 30.9**	**+2.6**
PKGZ	**Pakihiroa**	**29.75**	**159**	P			P	23 20 34.6	+5.7
URZ	**Urewera**	**29.76**	**161**	P			**P**	**23 20 28.6**	**-0.3**
	comp=Z,25nm,0.9s,baz=117,slow=2.3,SNR=5.9								
URZ					LR		LR	23 31 44.9	
	comp=Z,2μm,18.3s,baz=31,slow=35								
URZ	**Urewera**	**29.76**	**161**		IAmb		IAmb	23 20 41.6	
	comp=Z,50nm,0.9s								
URZ	**Urewera**	**29.76**	**161**	P			**P**	**23 20 32.9**	**+4.0**
URZ	**Urewera**	**29.76**	**161**	P			**P**	**23 20 30.6**	**+1.8**
WMGZ	**Waiomatatini S**	**29.81**	**158**	P			P	23 20 34.5	+5.2
MWZ	**Matawai**	**29.96**	**160**	P			**P**	**23 20 33.2**	**+2.4**
H11N1	**WAKE ISLAND Hy**	**29.97**	**3**	T			T	23 51 47.6	
	baz=182,slow=76,SNR=1369								
H11N3	**WAKE ISLAND Hy**	**29.98**	**3**	T			T	23 51 48.9	
	baz=182,slow=76,SNR=600								
TWGZ	**Tauwhareparae**	**29.98**	**159**	P			**P**	**23 20 34.8**	**+3.9**
H11N2	**WAKE ISLAND Hy**	**29.99**	**3**	T			T	23 51 48.2	
	baz=182,slow=76,SNR=722								
RTZ	**Ruatahuna**	**30.04**	**161**	P			P	23 20 23.9	-7.6
MRHZ	**Matea Rd**	**30.07**	**162**	P			**P**	**23 20 36.1**	**+4.4**
SNGZ	**Shannon Statio**	**30.31**	**161**	P			P	23 20 39.0	+5.2
BKZ	**Black Stump Fm**	**30.40**	**162**	P			**P**	**23 20 34.8**	**+0.2**
BKZ					IAmb		IAmb	23 20 48.2	
	comp=Z,81nm,1.0s								
BKZ	**Black Stump Fm**	**30.40**	**162**	P			**P**	**23 20 35.9**	**+1.3**
STKA	**Stephens Creek**	**30.49**	**222**	P			**P**	**23 20 35.6**	**+0.1**
	comp=Z,35nm,1.2s,baz=29,slow=7.4,SNR=19								
STKA					LR		LR	23 31 37.4	
	comp=Z,3μm,20.3s,baz=45,slow=34								
STKA	**Stephens Creek**	**30.49**	**222**	P			**P**	**23 20 35.8**	**+0.4**
	baz=31,SNR=16								
STKA	**Stephens Creek**	**30.49**	**222**	P			**P**	**23 20 36.2**	**+0.7**
KWHZ	**Kaweka Forest**	**30.62**	**163**	P			**P**	**23 20 38.8**	**+2.3**
QRZ	**Quartz Range**	**31.01**	**169**	P			**P**	**23 20 41.5**	**+1.6**
WRAB	**Tennant Creek**	**31.12**	**249**	*e*P			**P**	**23 20 39.3**	**-1.8**
WRAB					pmax		pmax		
	comp=Z,18nm,1.0s								
WRAB	**Tennant Creek**	**31.12**	**249**	P			**P**	**23 20 39.6**	**-1.5**
WB2	**Warramunga Arr**	**31.12**	**249**	P			**P**	**23 20 39.5**	**-1.7**
WRA	**Warramunga Arr**	**31.13**	**249**	P			**P**	**23 20 39.7**	**-1.5**
	comp=Z,8.5nm,0.8s,baz=78,slow=9.4,SNR=35								
WRA					PcP		**PcP**	**23 23 35.7**	**-0.8**
	comp=Z,3.0nm,1.0s,baz=77,slow=3.5,SNR=3.5								
GUMO	**Guam**	**31.17**	**319**		LR		LR	23 32 11.7	
	comp=Z,942nm,20.0s,baz=134,slow=34								
BFZ	**Birch Farm**	**31.73**	**164**	P			**P**	**23 20 46.7**	**+0.4**
THZ	**Tophouse**	**31.99**	**169**	P			**P**	**23 20 49.5**	**+0.9**
THZ					IAmb		IAmb	23 20 58.2	
	comp=Z,41nm,0.8s								
LCRK	**Leigh Creek**	**32.00**	**228**	P			**P**	**23 20 47.2**	**-1.5**
KDU	**Kakadu**	**32.05**	**263**	P			**P**	**23 20 47.8**	**-1.5**
	baz=32,SNR=8.5								
KDU	**Kakadu**	**32.05**	**263**	P			**P**	**23 20 48.7**	**-0.6**
BHW	**Baring Head**	**32.06**	**166**	P			**P**	**23 20 50.0**	**+0.9**
BSWZ	**Blackbirch Sta**	**32.13**	**168**	P			**P**	**23 20 51.3**	**+1.5**
MSWZ	**Moikau Station**	**32.16**	**166**	P			**P**	**23 20 50.9**	**+0.8**
PLWZ	**Palliser**	**32.31**	**166**	P			**P**	**23 20 51.4**	**+0.1**
TOO	**Toolangi**	**32.31**	**210**	P			**P**	**23 20 52.5**	**+1.0**
	baz=32,SNR=17								
TOO	**Toolangi**	**32.31**	**210**	P			**P**	**23 20 51.5**	**+0.1**
TOO					pmax		pmax		
	comp=Z,29nm,0.9s								
TOO	**Toolangi**	**32.31**	**210**	P			**P**	**23 20 51.5**	**+0.1**
TOO					IAmb		IAmb	23 20 53.0	
	comp=Z,29nm,0.8s								
TOO	**Toolangi**	**32.31**	**210**	P			**P**	**23 20 52.3**	**+0.9**
ASAR	**Alice Springs**	**32.54**	**242**	P			**P**	**23 20 51.5**	**-2.1**
	comp=Z,7.8nm,0.7s,baz=72,slow=9.6,SNR=73								
ASAR					PcP		**PcP**	**23 23 38.9**	**-1.4**
	comp=Z,2.3nm,1.0s,baz=84,slow=2.4,SNR=3.6								
ASAR					LR		LR	23 33 40.1	
	comp=Z,2μm,18.5s,baz=74,slow=36								
ASAR	**Alice Springs**	**32.54**	**242**	P			**P**	**23 20 50.7**	**-2.9**
OOD	**Oodnadatta**	**32.62**	**234**	P			**P**	**23 20 54.1**	**-0.1**
KHZ	**Kahutara**	**32.74**	**168**	P			**P**	**23 20 55.9**	**+0.9**
KHZ					IAmb		IAmb	23 21 06.2	
	comp=Z,41nm,0.7s								
KHZ	**Kahutara**	**32.74**	**168**	P			**P**	**23 20 56.6**	**+1.6**
LTZ	**Lake Taylor**	**32.86**	**170**	P			**P**	**23 20 58.0**	**+1.8**
LTZ					IAmb		IAmb	23 21 08.2	
	comp=Z,50nm,0.8s								
BRAT	**Ballarat**	**33.08**	**212**	P			**P**	**23 20 59.7**	**+1.6**
HTT	**Hallett**	**33.22**	**222**	P			**P**	**23 20 60.0**	**+0.4**
	baz=33,SNR=14								
HTT	**Hallett**	**33.22**	**222**	P			**P**	**23 20 59.9**	**+0.4**
OXZ	**Oxford**	**33.36**	**171**	P			**P**	**23 21 00.3**	**-0.1**
OXZ					IAmb		IAmb	23 21 12.2	
	comp=Z,48nm,0.9s								
MTN	**Manton Dam**	**33.36**	**262**	P			**P**	**23 20 59.8**	**-1.0**
	baz=33,SNR=7.0								
MTN	**Manton Dam**	**33.36**	**262**	IAmb			IAmb	23 21 00.7	
	comp=Z,32nm,0.9s								
MTN	**Manton Dam**	**33.36**	**262**	P			**P**	**23 21 00.6**	**-0.2**
GEXS	**Deakin Univers**	**33.40**	**211**	P			**P**	**23 20 59.3**	**-1.5**
	comp=Z,119nm,0.8s								
SAUI	**Saumlaki**	**33.45**	**271**	P			**P**	**23 21 01.7**	**0.0**
NAPP	**Napperby**	**33.59**	**223**	P			**P**	**23 21 04.4**	**+1.7**
	comp=Z,62nm,1.0s								
RPZ	**Rata Peaks**	**33.59**	**172**	P			**P**	**23 21 00.9**	**-1.6**
	comp=Z,20nm,0.9s,baz=132,slow=21,SNR=2.1								
RPZ					LR		LR	23 34 53.9	
	comp=Z,2μm,18.0s,baz=334,slow=37								
RPZ	**Rata Peaks**	**33.59**	**172**	P			**P**	**23 21 02.4**	**-0.1**
RPZ					IAmb		IAmb	23 21 10.0	
	comp=Z,44nm,0.9s								
RPZ	**Rata Peaks**	**33.59**	**172**	P			**P**	**23 21 02.8**	**+0.3**
ARPS	**Mount Arapiles**	**33.64**	**215**	P			**P**	**23 21 03.8**	**+0.8**
	baz=34,SNR=14								
ARPS	**Mount Arapiles**	**33.64**	**215**	P			**P**	**23 21 04.7**	**+1.7**
WHYH	**Whyalla**	**33.90**	**224**	P			**P**	**23 21 06.3**	**+1.0**
GLAD	**Gladstone**	**34.01**	**203**	P			**P**	**23 21 06.9**	**+0.8**
LBZ	**Lake Benmore**	**34.15**	**174**	P			**P**	**23 21 09.1**	**+1.7**
LBZ					IAmb		IAmb	23 21 19.4	
	comp=Z,60nm,1.4s								
TWOA	**Tennyson Woods**	**34.44**	**220**	P			**P**	**23 21 10.2**	**+0.2**
BBOO	**Buckleboo**	**34.82**	**226**	P			**P**	**23 21 13.2**	**-0.2**
	baz=35,SNR=6.1								
BBOO	**Buckleboo**	**34.82**	**226**	P			**P**	**23 21 12.8**	**-0.6**
BBOO	**Buckleboo**	**34.82**	**226**	P			**P**	**23 21 13.2**	**-0.2**
SIJI	**Sorong**	**34.95**	**284**	P			**P**	**23 21 13.4**	**-1.2**
	comp=Z,55nm,1.0s,baz=80,slow=6.6,SNR=34								
SIJI					LR		LR	23 37 05.5	
	comp=Z,1μm,18.8s,baz=112,slow=39								
MULG	**Mulgathing**	**35.02**	**231**	P			**P**	**23 21 14.1**	**-0.9**
BNDI	**Bandanaira**	**35.37**	**277**	P			**P**	**23 21 19.5**	**+1.2**
RAR	**Rarotonga**	**35.38**	**112**	LR			LR	23 32 46.3	
	comp=Z,786nm,21.7s,baz=259,slow=31								
KNRA	**Kununurra**	**35.77**	**258**	P			**P**	**23 21 20.6**	**-1.1**
	baz=36,SNR=7.6								
KNRA	**Kununurra**	**35.77**	**258**	IAmb			IAmb	23 21 21.2	
	comp=Z,42nm,0.9s								
KNRA	**Kununurra**	**35.77**	**258**	P			**P**	**23 21 20.6**	**-1.1**
TAU	**Tasmania Unive**	**35.92**	**202**	P			**P**	**23 21 22.7**	**+0.1**
TAU					pmax		pmax		
	comp=Z,69nm,1.3s								
TAU	**Tasmania Unive**	**35.92**	**202**	P			**P**	**23 21 22.7**	**+0.1**
TAU					IAmb		IAmb	23 21 25.0	
	comp=Z,69nm,1.3s								
WRKA	**Warakurna**	**37.83**	**242**	P			**P**	**23 21 37.5**	**-1.7**
	baz=38,SNR=7.6								
WRKA	**Warakurna**	**37.83**	**242**	P			**P**	**23 21 37.5**	**-1.7**
FITZ	**Fitzroy Crossi**	**38.95**	**254**	P			**P**	**23 21 47.1**	**-1.6**
	comp=Z,6.1nm,0.7s,baz=100,slow=6.2,SNR=12								
FITZ					LR		LR	23 38 02.0	
	comp=Z,3μm,18.5s,baz=82,slow=36								
FITZ	**Fitzroy Crossi**	**38.95**	**254**	P			**P**	**23 21 46.9**	**-1.8**
TNTI	**Ternate**	**39.15**	**284**	P			**P**	**23 21 50.5**	**+0.1**
TNTI					IAmb		IAmb	23 21 59.6	
	comp=Z,95nm,1.3s								
TNTI	**Ternate**	**39.15**	**284**	P			**P**	**23 21 51.9**	**+1.5**
SANI	**Sanana**	**39.73**	**279**	P			**P**	**23 21 55.2**	**0.0**
FORT	**Forrest**	**39.91**	**234**	P			**P**	**23 21 55.6**	**-1.0**
FORT	**Forrest**	**39.91**	**234**	P			**P**	**23 21 56.2**	**-0.3**
BATI	**Baumata**	**40.76**	**266**	P			**P**	**23 22 02.1**	**-1.7**
	comp=Z,63nm,0.8s,baz=343,slow=2.2,SNR=10								
BATI					LR		LR	23 39 19.9	
	comp=Z,969nm,19.3s,baz=111,slow=37								
MMRI	**Maumere**	**42.30**	**269**	P			**P**	**23 22 16.0**	**-0.4**
	comp=Z,136nm,1.3s								
DAV	**Davao City (W)**	**43.02**	**292**	LR			LR	23 40 09.0	
	comp=Z,514nm,18.2s,baz=102,slow=36								
LUWI	**Luwuk**	**43.09**	**280**	P			**P**	**23 22 22.8**	**0.0**
LUWI	**

NACB Ninganchiao 54.65 310 P **P** **23 23 51.3 -0.1**
TPUB Ta-pu 54.91 308 P **P** **23 23 53.7 +0.3**
SSLB Suanglung 54.93 309 IAmb IAmb 23 24 05.8
comp=Z,28nm,1.0s
SSLB Suanglung 54.93 309 P **P** **23 23 53.4 -0.1**
YHNB Yeheng 55.09 310 IAmb IAmb 23 23 57.4
comp=Z,64nm,1.1s
YHNB Yeheng 55.09 310 P **P** **23 23 55.4 +0.7**
JTM Tenmabayashi 55.56 338 P **P** **23 23 57.5 -0.2**
KSM Kuching 55.79 279 P **P** **23 23 59.9 0.0**
KSM Kuching 55.79 279 P **P** **23 24 00.0 +0.1**
LEM Lembang 56.90 269 LR LR 23 49 24.0
comp=Z,478nm,21.7s,baz=108,slow=37
QZH Quanzhou 57.36 309⇓*iP* **P** **23 24 11.4 +0.6**
QZH S **S** **23 32 07.3 +0.3**
QZH pmax pmax
comp=Z,190nm,5.0s
QZH LR LR
comp=Z,220nm,19.4s
QZH LR LR
comp=Z,260nm,18.5s
QZH LR LR
comp=Z,450nm,18.0s
JKA Kamikawa-asahi 57.98 341 P **P** **23 24 14.5 -0.3**
JKA IAmb IAmb 23 24 22.4
comp=Z,56nm,1.1s
ASAJ Asahikawa 57.98 341 P **P** **23 24 14.3 -0.5**
comp=Z,26nm,0.8s,baz=241,slow=12
ASAJ LR LR 23 45 17.3
comp=Z,392nm,21.2s,baz=165,slow=32
ASAJ Asahikawa 57.98 341 P **P** **23 24 14.5 -0.3**
ASAJ pmax pmax
comp=Z,56nm,1.1s
TJN Taejon 58.54 325 P **P** **23 24 18.6 -0.3**
TJN pmax pmax
comp=Z,64nm,0.8s
TJN Taejon 58.54 325 P **P** **23 24 18.6 -0.3**
TJN Taejon 58.54 325 P **P** **23 24 19.4 +0.5**
SSE Sheshan 58.96 316 P **P** **23 24 22.0 +0.1**
SSE S **S** **23 32 30.4 +2.8**
SSE pmax pmax
comp=Z,28nm,0.9s
SSE pmax pmax
comp=Z,100nm,5.7s
SSE LR LR
comp=Z,210nm,21.6s
SSE LR LR
comp=Z,150nm,21.5s
KSRS Korea Array 58.99 326 P **P** **23 24 21.5 -0.5**
comp=Z,9.8nm,1.1s,baz=149,slow=7.2,SNR=22
KSRS LR LR 23 46 03.3
comp=Z,222nm,20.9s,baz=140,slow=32
KS19 Wonju Array Si 59.06 326 P **P** **23 24 22.2 -0.3**
KS19 IAmb IAmb 23 24 38.4
comp=Z,21nm,1.1s
HKPS Hong Kong Po S 59.59 303 P **P** **23 24 26.1 -0.3**
HKPS IAmb IAmb 23 24 28.8
comp=Z,50nm,1.1s
INCN Inchon 59.73 325 P **P** **23 24 27.9 +0.7**
INCN pmax pmax
comp=Z,91nm,1.5s
INCN Inchon 59.73 325 P **P** **23 24 27.9 +0.7**
YSS Yuzh-Sakhalins 60.48 343 *e*P **P** **23 24 32.2 +0.1**
YSS *e* 23 26 45.9
YSS *e*S **S** **23 32 45.6 -1.1**
YSS *e*SS **SS** **23 36 45.8 +0.6**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS Yuzh-Sakhalins 60.48 343 P **P** **23 24 32.4 +0.3**
YSS IAmb IAmb 23 24 34.2
comp=Z,49nm,1.1s
YSS Yuzh-Sakhalins 60.48 343 P **P** **23 24 33.3 +1.2**
NJ2 Nanjing 61.12 316 *e*P **P** **23 24 37.4 +0.7**
NJ2 pP **sP** **23 24 42.3 -1.0**
NJ2 S **S** **23 32 57.3 +1.8**
NJ2 sS **sS** **23 33 02.3 -1.0**
NJ2 pmax pmax
comp=Z,19nm,0.6s
NJ2 pmax pmax
comp=Z,130nm,4.4s
NJ2 LR LR
comp=Z,620nm,16.7s
NJ2 LR LR
comp=Z,580nm,19.6s
NJ2 LR LR
comp=Z,880nm,20.1s
QIZ Qiongzhong 61.83 298 P **P** **23 24 43.4 +1.6**
QIZ S **S** **23 33 03.6 -1.3**
QIZ pmax pmax
comp=Z,43nm,2.0s
QIZ pmax pmax
comp=Z,240nm,6.6s
QIZ LR LR
comp=Z,430nm,25.5s
QIZ LR LR
comp=Z,380nm,22.3s
QIZ LR LR
comp=Z,490nm,22.3s
USA0B Ussuriysk Arra 62.09 334 P **P** **23 24 44.0 +1.0**
USA0B pmax pmax
comp=Z,79nm,1.5s
USA0B Ussuriysk Arra 62.09 334 P **P** **23 24 44.0 +1.0**
USRK Ussuriysk Ar. 62.09 334 P **P** **23 24 42.1 -1.0**
comp=Z,15nm,1.0s,baz=120,slow=6.8,SNR=17
USRK Ussuriysk Ar. 62.09 334 P **P** **23 24 43.4 +0.3**
USRK Ussuriysk Ar. 62.09 334 P **P** **23 24 43.4 +0.3**
MYKOM Kota Tinggi 62.15 278 P **P** **23 24 43.9 -0.2**
SHEM Shemya Is, Ala 63.34 6 LR LR 23 48 57.1
comp=Z,261nm,19.6s,baz=200,slow=33
PET Petropavlovsk 63.41 356 *e*P **P** **23 24 51.1 -0.5**
PET *e* 23 25 27.9
PET *e*S **S** **23 33 20.4 -3.1**
PET *e*SS **SS** **23 37 34.9 +4.1**
PET pmax pmax
comp=Z,35nm,1.3s
PET pmax pmax
comp=Z,200nm,12.8s
PET Petropavlovsk 63.41 356 P **P** **23 24 51.6 0.0**
PET IAmb IAmb 23 24 52.9
comp=Z,50nm,1.4s
PET Petropavlovsk 63.41 356 P **P** **23 24 51.9 +0.3**
MDJ Mudanjiang 63.49 332 P **P** **23 24 52.4 0.0**
MDJ IAmb IAmb 23 25 03.3
comp=Z,35nm,1.2s
MDJ Mudanjiang 63.49 332 P P 23 24 57.6 +5.3
MDJ pmax pmax
comp=Z,29nm,2.1s
MDJ pmax pmax
comp=Z,220nm,5.5s
WHN Wuhan 63.50 312⇑P **P** **23 24 52.9 +0.2**
WHN pP **pP** **23 24 57.5 0.0**
WHN sP **sP** **23 24 59.1 -0.1**
WHN S **S** **23 33 28.0 +2.5**
WHN LR LR
comp=Z,1μm,18.1s
WHN LR LR
comp=Z,860nm,18.5s
WHN LR LR
comp=Z,1μm,22.6s
PEA0B Petropavlovsk- 63.57 355 P **P** **23 24 53.2 +0.5**
PEA0B pmax pmax
comp=Z,84nm,1.5s
PEA0B Petropavlovsk- 63.57 355 P **P** **23 24 53.2 +0.5**
PETK Petropavlovsk- 63.57 355 P **P** **23 24 52.2 -0.5**
comp=Z,14nm,1.0s,baz=116,slow=6.8,SNR=11
PETK LR LR 23 47 04.5
comp=Z,393nm,20.8s,baz=185,slow=31
DL2 Dalian 63.59 323 P **P** **23 24 53.4 +0.3**
DL2 S **S** **23 33 29.0 +2.7**
DL2 pmax pmax
comp=Z,34nm,1.2s
DL2 pmax pmax
comp=Z,340nm,11.8s
DL2 LR LR
comp=Z,430nm,17.1s
DL2 LR LR
comp=Z,230nm,13.9s
DL2 LR LR
comp=Z,340nm,15.7s
KIWB Kanaga Island 63.86 12 P **P** **23 24 55.6 +1.0**
ADK Adak 63.99 12 P **P** **23 24 56.0 +0.5**
ADK pmax pmax
comp=Z,79nm,1.2s
ADK Adak 63.99 12 P **P** **23 24 56.0 +0.5**
ADK Adak 63.99 12 P **P** **23 24 56.5 +1.1**

GSTR Great Sitkin T 64.32 13 P **P** **23 24 59.0 +1.3**
UBPT Khong Chiam 64.35 293 P **P** **23 24 58.5 0.0**
UBPT IAmb IAmb 23 25 02.5
comp=Z,32nm,1.4s
SNY Shenyang 64.45 327⇑P P 23 24 50.9 -7.8
SNY S **S** **23 33 37.9 +1.0**
SNY pmax pmax
comp=Z,7.0nm,0.5s
SNY pmax pmax
comp=Z,110nm,3.9s
SNY LR LR
comp=N,710nm,15.9s
SNY LR LR
comp=E,380nm,15.3s
SNY LR LR
comp=Z,690nm,20.2s
BKNI Bangkinang 64.59 275 P **P** **23 25 00.4 +0.2**
BKNI Bangkinang 64.59 275 P **P** **23 25 01.4 +1.2**
TIA Tai'an 64.72 318⇓P **P** **23 25 00.3 -0.3**
TIA S **S** **23 33 42.8 +2.3**
TIA pmax pmax
comp=Z,12nm,1.1s
TIA LR LR
comp=Z,300nm,16.7s
TIA LR LR
comp=Z,440nm,19.6s
TIA LR LR
comp=Z,580nm,21.6s
CN2 Changchun 64.87 329 *e*P **P** **23 25 00.3 -1.1**
CN2 *es*P sP 23 25 07.3 -0.7
CN2 *e*S **S** **23 33 39.8 -2.2**
CN2 *e*SS **SS** **23 37 53.5 -0.5**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 LR LR
comp=Z,430nm,18.0s
CN2 LR LR
comp=Z,260nm,18.0s
CN2 LR LR
comp=Z,370nm,20.0s
BNX BinXian 65.35 332⇓P **P** **23 25 04.3 -0.2**
BNX pP **pP** **23 25 09.0 -0.3**
BNX sP **sP** **23 25 10.8 -0.2**
BNX PP **PP** **23 27 29.3 +0.7**
BNX S **S** **23 33 49.8 +2.0**
BNX sS **pS** **23 33 53.8 +0.1**
BNX pmax pmax
comp=Z,34nm,0.9s
BNX pmax pmax
comp=Z,370nm,4.8s
BNX LR LR
comp=Z,600nm,13.3s
BNX LR LR
comp=Z,630nm,15.6s
BNX LR LR
comp=Z,600nm,13.3s
IPM Ipoh 65.50 280 P **P** **23 25 06.5 +0.3**
IPM Ipoh 65.50 280 P **P** **23 25 06.8 +0.6**
GRNR Gornyy 65.83 340⇓*iP* **P** **23 25 08.3 +0.8**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
KULM Kulim 66.05 281 P **P** **23 25 09.3 -0.4**
KLR Kul'dur 66.22 337 P **P** **23 25 09.5 -0.5**
comp=Z,16nm,1.1s,baz=146,slow=4.8,SNR=26
KLR Kul'dur 66.22 337*e*P **P** **23 25 10.4 +0.4**
KLR pmax pmax
comp=Z,23nm,1.1s
NIKH Nikolski High 66.93 17 P **P** **23 25 14.1 -0.4**
baz=208
LYN LuoYang 66.95 315⇓P **P** **23 25 15.1 0.0**
LYN pP pP 23 25 19.8 0.0
LYN S **S** **23 34 12.3 +4.5**
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,240nm,8.6s
LYN LR LR
comp=Z,650nm,20.8s
LYN LR LR
comp=Z,330nm,17.3s
LYN LR LR
comp=Z,580nm,19.6s
HNS HongShan 66.99 318⇓P **P** **23 25 15.8 +0.6**
HNS S **S** **23 34 09.8 +1.7**
HNS pmax pmax
comp=Z,36nm,1.2s
HNS LR LR
comp=Z,270nm,16.1s
HNS LR LR
comp=Z,500nm,17.5s
HNS LR LR
comp=Z,540nm,19.2s
ENH Enshi 67.01 309 P **P** **23 25 14.6 -1.0**
VNDA Vanda 67.13 181 P **P** **23 25 15.7 +0.2**
comp=Z,13nm,1.1s,baz=348,slow=7.0,SNR=34
VNDA LR LR 23 49 47.2
comp=Z,288nm,20.6s,baz=30,slow=32
VNDA Vanda 67.13 181 P **P** **23 25 16.0 +0.5**
VNDA pmax pmax
comp=Z,44nm,1.4s
VNDA Vanda 67.13 181 P **P** **23 25 16.0 +0.5**
VNDA IAmb IAmb 23 25 17.5
comp=Z,44nm,1.4s
SBA Scott Base 67.45 180 P **P** **23 25 18.9 +1.4**
SBA pmax pmax
comp=Z,37nm,1.2s
SBA Scott Base 67.45 180 P **P** **23 25 18.9 +1.4**
SBA IAmb IAmb 23 25 31.8
comp=Z,37nm,1.1s
GYA Guiyang 67.54 304⇓P **P** **23 25 16.3 -2.8**
GYA PP **PP** **23 27 48.1 -0.2**
GYA S **S** **23 34 13.1 -2.3**
GYA pmax pmax
comp=Z,24nm,1.2s
GYA pmax pmax
comp=Z,260nm,5.0s
GYA LR LR
comp=Z,190nm,16.7s
GYA LR LR
comp=Z,280nm,19.0s
GYA LR LR
comp=Z,350nm,17.0s
BJT Baijiatuau 67.58 321 P **P** **23 25 18.5 -0.4**
BJT pmax pmax
comp=Z,34nm,1.4s
BJT Baijiatuau 67.58 321 P **P** **23 25 18.5 -0.4**
BJT IAmb IAmb 23 25 20.5
comp=Z,34nm,1.4s
BJI Beijing 67.59 321 P **P** **23 25 19.3 +0.4**
BJI S **S** **23 34 20.9 +5.7**
BJI pmax pmax
comp=Z,16nm,1.2s
BJI pmax pmax
comp=Z,230nm,6.6s
BJI LR LR
comp=Z,230nm,15.2s
BJI LR LR
comp=Z,230nm,15.0s
BJI LR LR
comp=Z,440nm,15.1s
GSI Gunungsitoli 68.18 276 P **P** **23 25 22.6 -0.7**
GSI Gunungsitoli 68.18 276 P **P** **23 25 23.8 +0.6**
UNV Unalaska Valle 68.38 18 P **P** **23 25 22.8 -0.8**
baz=210
TIY Taiyuan 68.66 317 P **P** **23 25 27.4 +1.5**
TIY S **S** **23 34 33.5 +5.1**
TIY pmax pmax
comp=Z,230nm,7.3s
TIY LR LR
comp=Z,340nm,20.6s
TIY LR LR
comp=Z,230nm,17.9s
TIY LR LR
comp=Z,310nm,18.6s
XAN Xi'an 69.23 312⇓P **P** **23 25 29.5 +0.1**
XAN pP pwP 23 25 40.3 +3.0
XAN PcP **PcP** **23 25 52.8 -0.3**
XAN S **S** **23 34 35.3 +0.2**
XAN pmax pmax
comp=Z,28nm,1.5s
XAN pmax pmax
comp=Z,300nm,8.6s
XAN LR LR
comp=Z,250nm,17.2s
XAN LR LR
comp=Z,440nm,17.9s
XAN LR LR
comp=Z,660nm,18.6s
XLT XiLinHaoTe 69.98 324⇓*iP* **P** **23 25 34.8 +0.9**
XLT S **S** **23 34 47.3 +3.6**
XLT ScS **SKSac** **23 35 32.6 -1.8**
XLT pmax pmax
comp=Z,59nm,1.2s
XLT LR LR
comp=Z,37nm,15.2s
XLT LR LR
comp=Z,310nm,15.5s
XLT LR LR
comp=Z,350nm,19.8s
FALS False Pass 70.19 19 P **P** **23 25 34.2 -0.6**
baz=213
KMI Kunming 70.25 301⇓P **P** **23 25 37.4 +1.2**
KMI pP pP 23 25 39.5 -1.5
KMI S **S** **23 34 51.1 +3.2**
KMI sS sS 23 34 54.5 -1.4
KMI SS **SS** **23 39 18.5 -0.1**
KMI pmax pmax
comp=Z,39nm,1.1s
KMI pmax pmax
comp=Z,310nm,7.0s
KMI LR LR
comp=Z,260nm,18.1s
KMI LR LR
comp=Z,260nm,22.1s
KMI LR LR
comp=Z,470nm,22.1s
SPIA Saint Paul Isl 70.33 14 P **P** **23 25 34.9 -0.7**
baz=206
MA2 Magadan 70.69 352 P **P** **23 25 36.7 -1.1**
comp=Z,7.2nm,0.7s,baz=154,slow=8.6,SNR=7.7
MA2 LR LR 23 51 22.9
comp=Z,559nm,21.9s,baz=174,slow=32
MA2 Magadan 70.69 352⇓*eP* **P** **23 25 36.9 -0.9**
MA2 pmax pmax
comp=Z,35nm,2.5s
MA2 Magadan 70.69 352 P **P** **23 25 37.0 -0.8**
MA2 Magadan 70.69 352 P **P** **23 25 37.6 -0.2**
HHC Hu-ho-hao-te 70.94 320 *e*P **P** **23 25 40.8 +0.9**
HHC sP pwP 23 25 49.3 +1.6
HHC S **S** **23 34 58.9 +3.9**
HHC sS sS 23 35 04.9 +2.0
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,250nm,4.7s
HHC LR LR
comp=Z,430nm,16.8s
HHC LR LR
comp=Z,220nm,16.5s
HHC LR LR
comp=Z,500nm,17.5s
CM31 Chiang Mai Arr 71.28 294 P **P** **23 25 42.3 0.0**
CM31 IAmb IAmb 23 25 44.6
comp=Z,42nm,1.1s
CMAR Chiang Mai Arr 71.28 294 P **P** **23 25 42.0 -0.3**
comp=Z,16nm,1.0s,baz=114,slow=4.2,SNR=62
CMAR LR LR 23 58 26.4
comp=Z,130nm,18.7s,baz=110,slow=37
CMAR Chiang Mai Arr 71.28 294 P **P** **23 25 43.0 +0.7**
CMAR Chiang Mai Arr 71.28 294 P **P** **23 25 43.0 +0.7**
CHTO Chiang Mai 71.39 294 P **P** **23 25 43.6 +0.6**
CHTO pmax pmax
comp=Z,59nm,1.4s
CHTO Chiang Mai 71.39 294 P **P** **23 25 43.6 +0.6**
CHTO IAmb IAmb 23 25 44.9
comp=Z,59nm,1.4s
CHTO Chiang Mai 71.39 294 P **P** **23 25 43.9 +0.9**
HIA Hailar 71.50 331 P **P** **23 25 42.5 -0.5**
HIA pmax pmax
comp=Z,31nm,1.3s
HIA Hailar 71.50 331 P **P** **23 25 42.5 -0.5**
HIA IAmb IAmb 23 25 44.6
comp=Z,31nm,1.3s
ZEA Zeya 71.51 337 *e*P **P** **23 25 43.9 +1.0**
ZEA pmax pmax
comp=Z,20nm,1.3s
SDPT Sand Point 71.55 20 P **P** **23 25 42.5 -0.6**
baz=216
PZH PanZhiHua 71.60 302⇓P **P** **23 25 44.5 +0.3**
PZH pP **pP** **23 25 48.4 -0.7**
PZH S **S** **23 35 05.0 +1.7**
PZH ScS **ScS** **23 35 50.8 +1.5**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,200nm,9.0s
PZH LR LR
comp=Z,730nm,20.2s
PZH LR LR
comp=Z,900nm,19.0s
PZH LR LR
comp=Z,1μm,22.1s
CD2 Chengdu 71.72 307 P **P** **23 25 45.5 +0.8**
CD2 S **S** **23 35 06.9 +2.6**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 LR LR
comp=Z,370nm,16.6s
CD2 LR LR
comp=Z,510nm,17.6s
BTO Baotou 71.80 319 *e*P **P** **23 25 46.3 +1.2**
BTO S **S** **23 35 05.8 +0.8**
BTO LR LR
comp=Z,1μm,16.3s
BTO LR LR
comp=Z,2μm,19.4s
CHIR Chirikof Islan 73.63 22 P **P** **23 25 54.3 -1.2**
baz=220
SEY Seymchan 73.77 354 P **P** **23 25 55.5 -0.6**
comp=Z,6.8nm,0.7s,baz=146,slow=6.2,SNR=22
SEY LR LR 23 53 14.6
comp=Z,469nm,21.8s,baz=164,slow=32
SEY Seymchan 73.77 354*ce*P **P** **23 25 56.0 -0.1**
SEY pmax pmax
comp=Z,46nm,2.5s
LZH Lanzhou 73.86 312⇓P **P** **23 25 58.8 +1.3**
LZH pP pP 23 26 02.3 0.0
LZH sP pwP 23 26 05.8 +0.4
LZH S **S** **23 35 31.8 +3.0**
LZH pmax pmax
comp=Z,45nm,1.3s
LZH pmax pmax
comp=Z,240nm,6.5s
LZH LR LR
comp=Z,390nm,15.7s
LZH LR LR
comp=Z,500nm,15.7s
LZH LR LR
comp=Z,560nm,18.0s
SII Sitkinak Islan 74.71 22 P **P** **23 26 00.8 -1.0**
baz=222
OHAK Old Harbor 75.54 22 IAmb IAmb 23 26 11.1
comp=Z,55nm,1.0s
OHAK Old Harbor 75.54 22 P **P** **23 26 05.4 -1.1**
baz=222
GAMB Gambell 76.04 10 IAmb IAmb 23 26 14.6
comp=Z,44nm,1.0s
GAMB Gambell 76.04 10 P **P** **23 26 09.2 -0.1**
baz=204
KDAK Kodiak Island 76.21 22 P **P** **23 26 10.1 -0.2**
comp=Z,19nm,0.9s,baz=239,slow=4.3,SNR=3.8
KDAK LR LR 23 54 09.0
comp=Z,310nm,20.0s,baz=240,slow=31
KDAK Kodiak Island 76.21 22 P **P** **23 26 11.4 +1.1**
KDAK pmax pmax
comp=Z,60nm,1.3s
KDAK Kodiak Island 76.21 22 P **P** **23 26 11.4 +1.1**
KDAK IAmb IAmb 23 26 17.3
comp=Z,60nm,1.2s
KDAK Kodiak Island 76.21 22 P **P** **23 26 09.8 -0.5**
baz=223
P18K Big Mountain, 76.50 20 P **P** **23 26 11.4 -0.6**
P18K Big Mountain, 76.50 20 P **P** **23 26 11.5 -0.5**
baz=220
Q19K Cape Douglas, 76.68 21 P **P** **23 26 12.2 -0.8**
baz=222,SNR=15
O18K Koktuh Hills 76.86 19 IAmb IAmb 23 26 30.9
comp=Z,63nm,1.4s
O18K Koktuh Hills 76.86 19 P **P** **23 26 13.8 -0.2**
baz=220
N18K Kilae Creek 77.28 19 P **P** **23 26 16.6 +0.3**
N18K Kilae Creek 77.28 19 P **P** **23 26 16.0 -0.3**

baz=219
YAK Yakutsk 77.30 344 P **P** **23 26 15.8 -0.6**
comp=Z,7.7nm,0.5s,baz=245,slow=1.0,SNR=1.4
YAK LR LR 00 01 42.7
comp=Z,247nm,18.1s,baz=109,slow=37
YAK Yakutsk 77.30 344 *e*P **P** **23 26 15.6 -0.8**
YAK *e* 23 26 20.4
YAK *e**PP **pwP** **23 26 25.1 +0.9**
YAK *e* 23 29 10.1
YAK *e*S **S** **23 36 03.1 -2.3**
YAK *e**SS **SKSac** **23 36 23.8 -4.5**
YAK *e* 23 36 30.7
YAK *e*SS **SS** **23 40 56.7 -7.4**
YAK *e*SSS SSS 23 44 21.6
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=Z,107nm,3.5s
YAK pmax pmax
comp=N,40nm,3.5s
YAK pmax pmax
comp=E,65nm,3.3s
YAK smax smax
comp=N,17nm,2.0s
YAK smax smax
comp=E,19nm,2.0s
YAK Yakutsk 77.30 344 P **P** **23 26 16.0 -0.4**
YAK IAmb IAmb 23 26 21.1
comp=Z,28nm,0.8s
P19K Oil Pt 77.36 20 P **P** **23 26 16.1 -0.7**
baz=222,SNR=6.1
O19K Port Alsworth 77.41 19 P **P** **23 26 16.6 -0.4**
ULN Ulaanbaatar 77.41 324 *de*P **P** **23 26 18.2 +0.6**
ULN pmax pmax
comp=Z,33nm,1.0s
ULN Ulaanbaatar 77.41 324 P **P** **23 26 18.0 +0.4**
ULN IAmb IAmb 23 26 19.6
comp=Z,30nm,1.0s
SONM Songino Array 77.78 324 P **P** **23 26 19.5 -0.1**
comp=Z,15nm,1.1s,baz=137,slow=5.9,SNR=55
SONM Songino Array 77.78 324 IAmb IAmb 23 26 21.4
comp=Z,29nm,1.2s
N19K Bonanza Creek 77.82 19 P **P** **23 26 18.6 -0.9**
baz=221
O20K Slope Mountain 77.89 20 P **P** **23 26 18.9 -0.9**
baz=223
HOM Homer 77.91 21 P **P** **23 26 20.9 +1.0**
HOM Homer 77.91 21 P **P** **23 26 19.4 -0.5**
baz=224
ANM Nome 77.99 13 P **P** **23 26 20.2 0.0**
ANM pmax pmax
comp=Z,24nm,1.1s
ANM Nome 77.99 13 P **P** **23 26 20.2 0.0**
ANM Nome 77.99 13 P **P** **23 26 20.4 +0.1**
baz=210
GTA Gaotai 78.16 314 ⇓P **P** **23 26 23.1 +1.2**
GTA pP sP 23 26 27.4 -1.1
GTA sP PcP 23 26 31.0 -0.4
GTA S **S** **23 36 18.4 +2.4**
GTA SS **SS** **23 41 21.3 +2.9**
GTA pmax pmax
comp=Z,30nm,1.4s
GTA pmax pmax
comp=Z,150nm,6.0s
GTA LR LR
comp=Z,310nm,18.3s
GTA LR LR
comp=Z,260nm,19.5s
GTA LR LR
comp=Z,380nm,17.1s
BILL Bilibino 78.24 0*c i*P **P** **23 26 21.8 +0.3**
BILL *i* 23 26 28.9
BILL *i**PP **PcP** **23 26 31.2 +0.3**
BILL *e**SP **pwP** **23 26 34.5 +5.2**
BILL *i* 23 29 19.2
BILL *e*PPP PPP 23 31 08.6
BILL *i*S **S** **23 36 22.4 +7.0**
BILL *i*PS **PnS** **23 36 48.5 -9.1**
BILL pmax pmax
comp=Z,25nm,1.1s
BILL MLR MLR
comp=Z,156nm,18.0s
BILL Bilibino 78.24 0 P **P** **23 26 21.4 -0.1**
BILL IAmb IAmb 23 26 27.1
comp=Z,29nm,0.9s
BRLK Bradley Lake 78.26 21 IAmb IAmb 23 26 27.0
comp=Z,53nm,0.9s
BRSE Bradley Lake S 78.29 21 P **P** **23 26 21.7 -0.3**
baz=224
TNA Tin City 78.36 11 P **P** **23 26 21.6 -0.6**
TNA IAmb IAmb 23 26 42.5
comp=Z,36nm,1.2s
TNA Tin City 78.36 11 P **P** **23 26 21.4 -0.8**
baz=207
M19K Big River Lodg 78.68 18 P **P** **23 26 24.7 +0.6**
M19K IAmb IAmb 23 26 32.2
comp=Z,55nm,0.9s
M19K Big River Lodg 78.68 18 P **P** **23 26 23.3 -0.8**
baz=221
L19K White Mountain 78.75 18 IAmb IAmb 23 26 30.2
comp=Z,44nm,0.9s
L19K White Mountain 78.75 18 P **P** **23 26 24.4 -0.1**
baz=220,SNR=29
TTA Tatalina 78.99 17 IAmb IAmb 23 26 31.3
comp=Z,46nm,1.0s
TTA Tatalina 78.99 17 P **P** **23 26 25.1 -0.8**
baz=219,SNR=33
SEW Seward 79.01 21 IAmb IAmb 23 26 30.4
comp=Z,48nm,1.2s
SEW Seward 79.01 21 P **P** **23 26 25.4 -0.5**
baz=226
O22K Cooper Landing 79.18 21 P **P** **23 26 27.3 +0.5**
L20K Farewell, AK 79.28 18 P **P** **23 26 27.6 +0.2**
baz=221,SNR=37
RC01 Rabbit Creek A 79.60 21 P **P** **23 26 29.9 +0.7**
RC01 IAmb IAmb 23 26 37.8
comp=Z,57nm,1.4s
RC01 Rabbit Creek A 79.60 21 P **P** **23 26 29.1 -0.1**
baz=225
QSPA South Pole Qui 79.60 180 LR LR 00 00 31.3
comp=Z,506nm,18.1s,baz=21,slow=35
QSPA South Pole Qui 79.60 180 P **P** **23 26 29.1 -0.3**
SHL Shillong 79.66 298 P **P** **23 26 30.5 0.0**
SHL pmax pmax
comp=Z,117nm,1.4s
SHL Shillong 79.66 298 P **P** **23 26 30.5 0.0**
BOD Bodaibo 79.68 335 *e*P **P** **23 26 29.0 -0.6**
BOD pmax pmax
comp=Z,22nm,1.8s
Q23K Middleton Isla 79.70 23 P **P** **23 26 30.0 +0.4**
Q23K Middleton Isla 79.70 23 P **P** **23 26 30.0 +0.4**
baz=228
MID Middleton Isla 79.70 23 P **P** **23 26 29.8 +0.1**
MID Middleton Isla 79.70 23 P **P** **23 26 29.8 +0.1**
K20K Telida 79.88 17 IAmb IAmb 23 26 36.2
comp=Z,40nm,1.1s
K20K Telida 79.88 17 P **P** **23 26 30.7 +0.1**
baz=221,SNR=29
PWL Port Wells 79.93 21 P **P** **23 26 30.5 -0.5**
baz=226,SNR=5.1
M22K Willow 79.94 20 P **P** **23 26 31.8 +0.8**
M22K IAmb IAmb 23 26 39.8
comp=Z,81nm,1.1s
M22K Willow 79.94 20 P **P** **23 26 30.8 -0.1**
baz=225
PPLA Purkeypile 80.11 18 P **P** **23 26 32.4 +0.3**
PPLA Purkeypile 80.11 18 P **P** **23 26 32.0 0.0**
baz=223
PMR Palmer 80.17 20 P **P** **23 26 32.2 +0.1**
baz=226
GCSA Galena City Sc 80.18 16 P **P** **23 26 32.6 +0.4**
baz=218
KNK Knik Glacier 80.27 21 P **P** **23 26 33.2 +0.4**
KNK IAmb IAmb 23 26 43.2
comp=Z,24nm,0.8s
KNK Knik Glacier 80.27 21 P **P** **23 26 32.8 0.0**
baz=226
CUT Chulitna 80.36 19 IAmb IAmb 23 26 37.8
comp=Z,45nm,1.1s
CUT Chulitna 80.36 19 P **P** **23 26 33.3 +0.1**
baz=224
GHO Glory Hole Cre 80.36 20 P **P** **23 26 34.4 +1.0**
GHO IAmb IAmb 23 26 56.0
comp=Z,40nm,1.1s
GLI Glacier Island 80.39 22 P **P** **23 26 32.9 -0.5**
GLI IAmb IAmb 23 26 37.9
comp=Z,36nm,1.0s
GLI Glacier Island 80.39 22 P **P** **23 26 32.6 -0.8**
baz=228
J20K Nowinta River 80.49 17 IAmb IAmb 23 26 41.8
comp=Z,31nm,1.1s
J20K Nowinta River 80.49 17 P **P** **23 26 33.6 -0.2**
baz=221,SNR=22
CAST Castle Rocks 80.53 18 IAmb IAmb 23 26 38.1
comp=Z,35nm,0.9s
CAST Castle Rocks 80.53 18 P **P** **23 26 33.1 -1.0**
baz=223,SNR=34
FID Port Fidalgo 80.53 22 P **P** **23 26 33.6 -0.6**
FID IAmb IAmb 23 26 38.6
comp=Z,49nm,1.0s
SML Sawmill 80.59 20 P **P** **23 26 35.1 +0.5**
SML IAmb IAmb 23 26 46.0
comp=Z,36nm,1.2s
SML Sawmill 80.59 20 P **P** **23 26 33.8 -0.8**
baz=226
GOMU GeErMu 80.63 309 P **P** **23 26 37.3 +1.6**
GOMU pP sP 23 26 40.8 -1.6
GOMU sP pwP 23 26 45.0 +1.4
GOMU S **S** **23 36 47.5 +4.7**
GOMU pmax pmax
comp=Z,8.0nm,1.2s
GOMU pmax pmax
comp=Z,110nm,5.8s
GOMU LR LR
comp=Z,140nm,17.5s
GOMU LR LR
comp=Z,180nm,17.7s
GOMU LR LR
comp=Z,110nm,17.7s
EYAK Cordova Ski Ar 80.66 22 P **P** **23 26 35.8 +0.9**
EYAK IAmb IAmb 23 26 39.7
comp=Z,33nm,1.1s
EYAK Cordova Ski Ar 80.66 22 P **P** **23 26 34.2 -0.7**
baz=229
KAIM Kayak Island 80.77 23 P **P** **23 26 36.5 +1.0**
KAIM Kayak Island 80.77 23 P **P** **23 26 34.6 -0.9**
baz=230
M23K Glacier View 80.79 21 P **P** **23 26 35.4 -0.2**
baz=227
CHUM Lake Minchumin 80.80 18 P **P** **23 26 35.4 -0.1**
baz=222
ZAK Zakamensk 80.82 325 *e*P **P** **23 26 35.3 -0.8**
ZAK pmax pmax
comp=Z,25nm,1.3s
SCM Sheep Creek Mo 80.95 21 IAmb IAmb 23 26 41.5
comp=Z,50nm,1.1s
SCM Sheep Creek Mo 80.95 21 P **P** **23 26 36.3 -0.2**
baz=227,SNR=5.7
KTH Kantishna Hill 80.98 18 IAmb IAmb 23 26 45.3
comp=Z,23nm,0.9s
DIV Divide 81.04 22 IAmb IAmb 23 26 41.8
comp=Z,46nm,1.0s
HMT Hamilton 81.09 23 P **P** **23 26 38.5 +1.2**
HMT IAmb IAmb 23 26 42.3
comp=Z,57nm,0.9s
TRF Thorofare Moun 81.10 19 P **P** **23 26 36.2 -1.2**
baz=224,SNR=5.8
SUCK Suckling Hills 81.11 23 P **P** **23 26 38.7 +1.4**
IRK Irkutsk 81.18 327 *e*P **P** **23 26 36.6 -1.3**
IRK pmax pmax
comp=Z,44nm,3.6s
KLU Klutina 81.22 21 IAmb IAmb 23 26 45.4
comp=Z,40nm,1.1s
KLU Klutina 81.22 21 P **P** **23 26 36.8 -1.2**
baz=229
WAT6 Susitna Watana 81.32 20 P **P** **23 26 38.0 -0.6**
baz=227
BPAW Bear Paw Mtn. 81.36 18 P **P** **23 26 38.6 0.0**
baz=224
BMRM Bremner River 81.36 22 IAmb IAmb 23 26 46.1
comp=Z,72nm,1.2s
BMRM Bremner River 81.36 22 P **P** **23 26 38.0 -0.7**
baz=230,SNR=6.9
RPN Rapa Nui 81.42 116 LR LR 23 54 56.8
comp=Z,504nm,19.9s,baz=292,slow=30
LSA Lhasa 81.48 302 P **P** **23 26 41.3 +0.7**
LSA pmax pmax
comp=Z,13nm,1.6s
RDOG Red Dog Mine 81.52 12 P **P** **23 26 39.2 -0.1**
RDOG IAmb IAmb 23 26 44.1
comp=Z,48nm,0.9s
RDOG Red Dog Mine 81.52 12 P **P** **23 26 39.5 +0.2**
baz=212
RND Reindeer 81.53 19 IAmb IAmb 23 26 47.3
comp=Z,27nm,1.0s
SNH Sunshine Point 81.54 23 P **P** **23 26 40.3 +0.7**
M24K Tolsona, Glenn 81.54 21 P **P** **23 26 39.7 +0.1**
baz=228,SNR=6.1
WAX Waxell Ridge 81.70 23 P **P** **23 26 41.1 +0.6**
MCK McKinley 81.73 19 IAmb IAmb 23 26 50.1
comp=Z,30nm,1.0s
MCK McKinley 81.73 19 P **P** **23 26 40.5 0.0**
baz=226
N25K Chitina, Valde 81.78 22 P **P** **23 26 41.0 0.0**
baz=230,SNR=35
DHY Denali Highway 81.78 20 P **P** **23 26 42.1 +1.1**
DHY Denali Highway 81.78 20 P **P** **23 26 41.0 0.0**
baz=227
I21K Tanana 81.86 17 P **P** **23 26 41.6 +0.5**
I21K IAmb IAmb 23 26 46.4
comp=Z,44nm,1.1s
I21K Tanana 81.86 17 P **P** **23 26 41.1 -0.1**
baz=223,SNR=24
BWN Browne 81.88 18 P **P** **23 26 42.4 +1.1**
BWN IAmb IAmb 23 26 46.1
comp=Z,34nm,0.9s
VRDI Verde Repeater 81.96 22 P **P** **23 26 42.1 +0.1**
VRDI IAmb IAmb 23 26 46.8
comp=Z,38nm,1.0s
H21K Melozitna Rive 81.98 16 IAmb IAmb 23 26 47.3
comp=Z,26nm,1.1s
H21K Melozitna Rive 81.98 16 P **P** **23 26 41.8 0.0**
baz=222,SNR=14
HARP HAARP 82.09 21 P **P** **23 26 42.1 -0.4**
baz=229,SNR=6.1
MCARA McCarthy VSAT 82.22 22 IAmb IAmb 23 26 49.2
comp=Z,48nm,1.0s
MCARA McCarthy VSAT 82.22 22 P **P** **23 26 42.4 -0.8**
baz=231,SNR=15
NEA2 Nenana 82.30 18 IAmb IAmb 23 26 47.4
comp=Z,34nm,1.3s
NEA2 Nenana 82.30 18 P **P** **23 26 42.6 -0.9**
baz=225,SNR=7.1
PAX Paxson 82.36 20 P **P** **23 26 43.9 -0.1**
baz=229
DIB Dawson Inlet, 82.48 33 P **P** **23 26 44.8 +0.2**
H02S1 DAWSON INLET T 82.48 33 T T 00 57 48.6
SNR=119
WRH Wood River Hil 82.52 19 P **P** **23 26 44.6 0.0**
WRH IAmb IAmb 23 26 51.0
comp=Z,28nm,1.0s
I23K Minto, Yukon-K 82.60 18 P **P** **23 26 44.5 -0.5**
baz=225
CTG Chitna Glacier 82.61 23 P **P** **23 26 44.6 -0.8**
baz=233,SNR=34
PNL Peninsula 82.62 25 P **P** **23 26 44.9 -0.5**
baz=235
MOY Mondy 82.69 326 *e*P **P** **23 26 45.4 -0.6**
MOY pmax pmax
comp=Z,16nm,2.7s
K24K Donnelly Dome 82.81 20 P **P** **23 26 45.8 -0.5**
baz=228,SNR=24
MDM Murphy Dome 82.81 18 IAmb IAmb 23 26 52.0
comp=Z,54nm,1.2s
TCOL CIGO, UAF Yank 82.86 18 IAmb IAmb 23 26 50.4
comp=Z,44nm,1.1s
TCOL CIGO, UAF Yank 82.86 18 P **P** **23 26 45.9 -0.4**
baz=226
COLA College 82.87 18 P **P** **23 26 48.0 +1.6**
COLA pmax pmax
comp=Z,45nm,1.1s
COLA College 82.87 18 P **P** **23 26 48.0 +1.6**
COLA IAmb IAmb 23 26 50.4
comp=Z,45nm,1.1s
COLA College 82.87 18 P **P** **23 26 46.1 -0.3**
baz=226
M26K Nabesna, AK 82.87 22 P **P** **23 26 46.1 -0.5**
baz=231,SNR=56
MENT Mentasta 82.95 21 IAmb IAmb 23 26 52.2
comp=Z,30nm,1.0s
SIT Sitka 82.98 28 P **P** **23 26 48.3 +1.1**
SIT pmax pmax
comp=Z,30nm,1.2s
SIT Sitka 82.98 28 P **P** **23 26 48.3 +1.1**
SIT IAmb IAmb 23 26 51.4
comp=Z,30nm,1.2s
SIT Sitka 82.98 28 P **P** **23 26 46.4 -0.8**
baz=239
H23K Yukon River 83.03 17 P **P** **23 26 47.2 0.0**
H23K IAmb IAmb 23 26 52.2
comp=Z,34nm,1.1s
H23K Yukon River 83.03 17 P **P** **23 26 47.0 -0.3**
baz=225,SNR=29
RIDG Independent Ri 83.08 20 P **P** **23 26 47.1 -0.5**
baz=229,SNR=35
IL31 83.10 19 IAmb IAmb 23 26 52.8
comp=Z,37nm,1.1s
ILAR Eielson Array 83.10 19 P **P** **23 26 46.8 -0.9**
comp=Z,29nm,1.0s,baz=223,slow=5.2,SNR=69
ILAR LR LR 00 01 23.2
comp=Z,321nm,18.4s,baz=181,slow=34
L26K Log Cabin Wild 83.14 21 IAmb IAmb 23 26 53.3
comp=Z,29nm,1.1s
L26K Log Cabin Wild 83.14 21 P **P** **23 26 47.3 -0.6**
baz=231,SNR=14
POKR Poker Plat Res 83.17 18 IAmb IAmb 23 26 52.8
comp=Z,31nm,1.0s
POKR Poker Plat Res 83.17 18 P **P** **23 26 47.1 -0.9**
baz=227,SNR=19
CRAG Craig 83.24 30 P **P** **23 26 48.9 +0.4**
CRAG IAmb IAmb 23 26 56.0
comp=Z,22nm,1.1s
CRAG Craig 83.24 30 P **P** **23 26 48.7 +0.2**
baz=241
M27K Edge Creek, AK 83.25 22 P **P** **23 26 48.9 +0.3**
baz=232,SNR=54
DOT Dot Lake 83.29 20 IAmb IAmb 23 26 53.6
comp=Z,39nm,1.0s
O02D Mt. Diablo Mer 83.31 47 P **P** **23 26 48.8 -0.7**
baz=250
L02E Cave Junction 83.41 45 P **P** **23 26 49.4 -0.4**
baz=250
YUK3 Moose Creek 83.43 23 P **P** **23 26 49.5 -0.2**
baz=234,SNR=57
J25K Salcha River, 83.48 19 P **P** **23 26 49.4 -0.3**
J25K Salcha River, 83.48 19 P **P** **23 26 49.3 -0.4**
baz=229,SNR=68
SCRK Sand Creek 83.52 20 IAmb IAmb 23 26 55.1
comp=Z,44nm,1.0s
SCRK Sand Creek 83.52 20 P **P** **23 26 49.7 -0.3**
baz=230,SNR=36
H24K Noodor Dome 83.53 18 P **P** **23 26 50.2 +0.3**
baz=226
J01E Myrtle Point 83.53 44 P **P** **23 26 49.7 -0.6**
baz=249
PMPB Monarch Peak 83.53 52 P **P** **23 26 49.2 -1.4**
PMPB IAmb IAmb 23 26 50.9
comp=Z,64nm,1.5s
K02D Willamette Mer 83.55 45 P **P** **23 26 50.1 -0.5**
baz=250
N02D Trinity Center 83.64 46 P **P** **23 26 50.1 -1.0**
N02D Trinity Center 83.64 46 P **P** **23 26 50.4 -0.6**
baz=250
BVCY Beaver Creek 83.66 22 P **P** **23 26 50.9 +0.3**
baz=233,SNR=21
M02C Callahan 83.67 46 P **P** **23 26 51.6 +0.4**
M02C Callahan 83.67 46 P **P** **23 26 51.2 -0.1**
baz=250
L27K Beaver Creek, 83.70 21 P **P** **23 26 50.8 -0.1**
L27K Beaver Creek, 83.70 21 P **P** **23 26 50.9 0.0**
baz=232,SNR=43
HOLB Holberg 83.74 36 P **P** **23 26 50.5 -0.8**
YUK6 Outpost Mounta 83.78 24 P **P** **23 26 51.0 -0.5**
baz=236,SNR=7.6
COLD Coldfoot 83.85 16 IAmb IAmb 23 26 58.0
comp=Z,19nm,1.0s
COLD Coldfoot 83.85 16 P **P** **23 26 51.5 +0.1**
baz=224,SNR=6.5
YBH Yreka Blue Hor 83.89 46 LR LR 23 55 49.6
comp=Z,443nm,21.8s,baz=248,slow=30
YBH Yreka Blue Hor 83.89 46 P **P** **23 26 53.4 +1.0**
YBH pmax pmax
comp=Z,14nm,1.0s
YBH Yreka Blue Hor 83.89 46 P **P** **23 26 53.4 +1.0**
YUK4 Talbot Arm 83.89 24 P **P** **23 26 52.7 +0.7**
baz=235,SNR=27
ODAN Odare 83.90 299 *e*P **P** **23 26 53.2 +0.3**
I02E Swisshome, OR 83.92 43 P **P** **23 26 51.7 -0.6**
baz=249
BESE Bessie Mountai 83.99 27 P **P** **23 26 53.3 +0.9**
J26L Joseph Creek 84.00 20 P **P** **23 26 52.3 -0.1**
baz=230,SNR=14
HUMO Hull Mountain 84.01 45 P **P** **23 26 54.0 +1.1**
HUMO IAmb IAmb 23 27 00.8
comp=Z,18nm,1.0s
JIS Juneau Island 84.05 28 P **P** **23 26 53.5 +0.9**
JIS IAmb IAmb 23 26 57.6
comp=Z,32nm,1.2s
HYT Haines Junctio 84.06 25 IAmb IAmb 23 26 57.8
comp=Z,40nm,1.1s
HYT Haines Junctio 84.06 25 P **P** **23 26 53.0 +0.2**
baz=236,SNR=20
O03E Paynes Creek 84.06 47 P **P** **23 26 54.6 +1.3**
O03E IAmb IAmb 23 27 00.8
comp=Z,27nm,1.1s
O03E Paynes Creek 84.06 47 P **P** **23 26 52.5 -0.8**
baz=251
WRAK Wrangell Islan 84.09 30 P **P** **23 26 53.5 +0.7**
WRAK IAmb IAmb 23 26 57.5
comp=Z,32nm,1.2s
GRNB Grenville Isla 84.11 33 IAmb IAmb 23 27 00.5
comp=Z,29nm,1.0s
I03D Drain, OR 84.11 44 P **P** **23 26 53.4 +0.1**
baz=250
RUBB Prince Rupert 84.17 32 P **P** **23 26 54.5 +1.2**
RUBB IAmb IAmb 23 27 00.1
comp=Z,30nm,1.2s
SKAG Skagway 84.24 26 P **P** **23 26 54.0 +0.5**
baz=238,SNR=8.5
L04D Klamath Falls 84.33 45 P **P** **23 26 55.2 +0.6**
L04D IAmb IAmb 23 27 01.7
comp=Z,27nm,1.1s
L04D Klamath Falls 84.33 45 P **P** **23 26 54.5 -0.1**
baz=251
BBB Bella Bella 84.40 35 LR LR 23 55 55.7
comp=Z,331nm,21.2s,baz=253,slow=30
BBB Bella Bella 84.40 35 P **P** **23 26 55.4 +0.9**
BBB IAmb IAmb 23 27 15.2
comp=Z,24nm,1.2s
M04C Macdoel 84.52 46 P **P** **23 26 55.3 -0.3**
baz=251
RAMN Ramite 84.60 299 *e*P **P** **23 26 56.5 0.0**
I04A Tendick Farm, 84.79 44 P **P** **23 26 56.8 0.0**
baz=250
J04D Umpqua Nationa 84.81 44 P **P** **23 26 57.8 +0.6**
J04D IAmb IAmb 23 27 07.8
comp=Z,30nm,0.9s
J04D Umpqua Nationa 84.81 44 P **P** **23 26 57.2 0.0**
baz=251
H04D Lebanon 84.81 43 P **P** **23 26 57.2 +0.3**
baz=250
E03A Lebam 84.97 41 P **P** **23 26 58.3 +0.8**
E03A IAmb IAmb 23 27 04.9
comp=Z,30nm,0.9s
EGAK Eagle 84.99 20 P **P** **23 26 57.7 +0.4**
baz=233,SNR=94
TOLK Toolik Lake Re 85.03 15 IAmb IAmb 23 27 02.3
comp=Z,25nm,1.5s
TOLK Toolik Lake Re 85.03 15 P **P** **23 26 57.8 +0.3**
baz=225
WHY Whitehorse 85.06 25 P **P** **23 26 57.8 -0.1**
WHY Whitehorse 85.06 25 P **P** **23 26 58.5 +0.6**
baz=239
MAW Mawson 85.09 202 P **P** **23 26 56.2 -1.6**
comp=Z,17nm,1.0s,baz=69,slow=5.7,SNR=10
MAW LR LR 23 55 49.8
comp=Z,296nm,21.6s,baz=98,slow=29
MAW Mawson 85.09 202 P **P** **23 26 57.3 -0.5**
baz=85,SNR=7.2
MAW Mawson 85.09 202 P **P** **23 26 57.9 +0.1**
MAW pmax pmax
comp=Z,6.0nm,1.1s
MAW Mawson 85.09 202 P **P** **23 26 57.9 +0.1**
N31M Braeburn, Yuko 85.12 24 IAmb IAmb 23 27 05.5
comp=Z,36nm,0.9s
N31M Braeburn, Yuko 85.12 24 P **P** **23 26 58.5 +0.5**

baz=238,SNR=18
CBB Campbell River 85.13 37 IAmb IAmb 23 27 06.1
comp=Z,18nm,0.9s
JIRN Jiri 85.13 299 *e*P **P** **23 26 59.8 +0.5**
F04D Rainier, OR 85.17 42 P **P** **23 26 58.1 -0.5**
baz=250
ISA Isabella, Lake 85.17 53 P **P** **23 26 59.1 +0.1**
baz=254
DAWY Dawson 85.18 21 P **P** **23 26 58.6 +0.3**
baz=234,SNR=62
M30M Minto, Yukon 85.31 23 IAmb IAmb 23 27 06.4
comp=Z,22nm,0.9s
M30M Minto, Yukon 85.31 23 P **P** **23 26 59.4 +0.4**
baz=237,SNR=26
EDW2 Edwards Air Fo 85.33 53 P **P** **23 26 59.8 0.0**
baz=254
TIXI Tiksi 85.34 349 P **P** **23 26 58.6 -0.3**
comp=Z,6.7nm,0.6s,baz=91,slow=24,SNR=24
TIXI LR LR 00 02 33.9
comp=Z,193nm,20.4s,baz=179,slow=34
TIXI Tiksi 85.34 349⇑ *e*P **P** **23 26 58.9 0.0**
TIXI pmax pmax
comp=Z,18nm,1.2s
TIXI Tiksi 85.34 349 P **P** **23 26 58.5 -0.4**
TIXI IAmb IAmb 23 26 59.9
comp=Z,22nm,1.1s
BFSC Mount Baldy Ra 85.42 54 P **P** **23 26 59.4 -0.9**
baz=254
CLRS Cowichan Lake 85.42 39 P **P** **23 26 59.5 -0.3**
CLRS IAmb IAmb 23 27 03.9
comp=Z,20nm,1.1s
J05D Fort Rock, OR 85.43 45 P **P** **23 27 00.1 0.0**
baz=251
GUN Gumba 85.46 299 *e*P **P** **23 27 01.0 +0.1**
comp=Z,91nm,1.1s
K05A Summer Lake 85.49 45 IAmb IAmb 23 27 07.8
comp=Z,26nm,1.0s
D03D Eldon 85.62 40 P **P** **23 27 01.2 +0.4**
baz=250
I05D Terrebonne, OR 85.69 44 P **P** **23 27 01.9 +0.6**
baz=251
PKI Pulchoki 85.78 299 *e*P **P** **23 27 02.1 -0.4**
comp=Z,118nm,1.3s
PGC Sidney 85.78 39 P **P** **23 27 01.8 +0.3**
PGC IAmb IAmb 23 27 08.6
comp=Z,20nm,0.9s
PINE Pine Mountain 85.79 44 IAmb IAmb 23 27 15.0
comp=Z,22nm,1.1s
PKIN Phulchoki 85.79 299 *e*P **P** **23 27 02.3 -0.2**
PALK Pallekele 85.84 278 LR LR 00 08 26.7
comp=Z,229nm,19.5s,baz=213,slow=38
PALK Pallekele 85.84 278 *de*P **P** **23 27 03.2 +0.5**
PALK pmax pmax
comp=Z,46nm,1.1s
PALK Pallekele 85.84 278 P **P** **23 27 03.1 +0.4**
KKN Kakani 85.94 299 *e*P **P** **23 27 03.1 -0.1**
DMN Daman 86.05 299 *e*P **P** **23 27 03.8 0.0**
M31M Drury Creek, Y 86.06 24 P **P** **23 27 02.8 +0.1**
baz=239,SNR=12
MONP2 Monument Peak 86.06 56 P **P** **23 27 03.3 -0.4**
baz=255
NVAR Mina Array Bea 86.08 50 P **P** **23 27 03.1 -0.6**
comp=Z,0.7nm,0.4s,baz=242,slow=6.4,SNR=7.1
NVAR LR LR 00 00 18.9
comp=Z,659nm,18.6s,baz=274,slow=32
DLBC Dease Lake 86.14 29 P **P** **23 27 02.3 -0.9**
comp=Z,4.0nm,1.1s,baz=175,slow=26,SNR=2.2
DLBC LR LR 23 58 37.3
comp=Z,687nm,20.1s,baz=248,slow=31
DLBC Dease Lake 86.14 29 P **P** **23 27 04.6 +1.4**
PFO Pinyon Flats O 86.22 55 LR LR 23 59 30.5
comp=Z,561nm,18.7s,baz=258,slow=31
PFO Pinyon Flats O 86.22 55⇓ *e*P **P** **23 27 04.4 +0.1**
PFO pmax pmax
comp=Z,6.0nm,0.9s
PFO Pinyon Flats O 86.22 55 P **P** **23 27 03.5 -0.8**
baz=255
TPFO Pinon Flats 86.22 55 P **P** **23 27 03.5 -0.8**
baz=255
IKP In-Ko-Pah, Jac 86.26 56 P **P** **23 27 03.8 -0.7**
baz=255
I29M Ogilvie Camp, 86.31 21 P **P** **23 27 04.8 +0.9**
baz=235
GKN Gorkha 86.55 299 *e*P **P** **23 27 05.5 -0.6**
SWSC Sam W. Stewart 86.58 56 P **P** **23 27 04.7 -1.2**
baz=255
HEC Hector Ludlow 86.64 54 P **P** **23 27 05.3 -1.0**
baz=255
BELC Belle Mtn. Jos 86.69 55 P **P** **23 27 06.5 -0.2**
baz=255
WVOR Wild Horse Val 86.99 46 IAmb IAmb 23 27 20.7
comp=Z,18nm,1.1s
LTY Liberty 87.08 41 P **P** **23 27 08.6 +0.5**
GMRC Granite Mounta 87.16 54 P **P** **23 27 08.9 0.0**
baz=255
TPNV Topopah Spring 87.25 52 P **P** **23 27 09.4 +0.1**
baz=255
J08A Circle Bar Ran 87.37 45 IAmb IAmb 23 27 26.3
comp=Z,21nm,1.3s
DANN Dangsing 87.38 299 *e*P **P** **23 27 09.5 -0.8**
comp=Z,91nm,1.4s
KOLN Koldanda 87.39 299 *e*P **P** **23 27 09.5 -0.7**
GLA Glamis 87.40 56 P **P** **23 27 09.9 -0.1**
baz=256
EPYK Eagle Plains 87.42 20 P **P** **23 27 10.2 +1.0**
baz=237
IRM Iron Mountain 87.42 55 P **P** **23 27 10.2 +0.2**
baz=256
MMPY Sheldon Lake, 87.53 24 P **P** **23 27 10.5 +0.6**
baz=242,SNR=12
SHPR Sheep Range 87.98 52 P **P** **23 27 13.2 +0.4**
PYUN Piuthan 87.99 299 *e*P **P** **23 27 11.8 -1.3**
comp=Z,44nm,1.1s
R11A Troy Canyon, C 88.12 51 P **P** **23 27 13.2 -0.3**
baz=255
D08A Wollman Farm, 88.15 42 P **P** **23 27 14.4 +1.3**
WMQ Urumqi 88.20 315 ⇑P **P** **23 27 13.9 +0.3**
WMQ pP pP 23 27 17.8 -0.7
WMQ S **S** **23 37 58.3 +0.7**
WMQ pmax pmax
comp=Z,25nm,1.7s
WMQ pmax pmax
comp=Z,180nm,6.7s
WMQ LR LR
comp=Z,250nm,16.7s
WMQ LR LR
comp=Z,150nm,18.5s
WMQ LR LR
comp=Z,230nm,21.7s
113A Mohawk Valley, 88.20 56 IAmb IAmb 23 27 35.6
comp=Z,19nm,1.5s
B08A Colville Reser 88.28 40 P **P** **23 27 14.4 +0.7**
214A Organ Pipe Nat 88.81 57 IAmb IAmb 23 27 39.7
comp=Z,23nm,1.3s
214A Organ Pipe Nat 88.81 57 P **P** **23 27 16.7 +0.1**
baz=257
F10A Beach Ranch, E 88.96 43 P **P** **23 27 17.5 +0.4**
ELK Elko 88.98 48 LR LR 00 06 37.6
comp=Z,250nm,18.0s,baz=256,slow=35
ELK Elko 88.98 48 P **P** **23 27 18.6 +1.1**
ELK pmax pmax
comp=Z,5.0nm,1.1s
ELK Elko 88.98 48 P **P** **23 27 18.6 +1.1**
MFID Camas Ranch 89.24 46 P **P** **23 27 18.4 -0.1**
LPIG La Paz 89.31 65 LR LR 23 59 56.7
comp=Z,379nm,19.5s,baz=238,slow=31
INK Inuvik 89.49 19 P **P** **23 27 18.3 -0.6**
comp=Z,8.6nm,1.2s,baz=261,slow=7.7,SNR=9.3
INK LR LR 00 01 43.3
comp=Z,458nm,22.0s,baz=224,slow=32
INK Inuvik 89.49 19 IAmb IAmb 23 27 24.0
comp=Z,21nm,1.4s
INK Inuvik 89.49 19 P **P** **23 27 19.7 +0.8**
baz=240
CCUT Cedar City 89.63 52 P **P** **23 27 20.6 -0.1**
NEW Newport 89.66 41 LR LR 00 03 13.1
comp=Z,311nm,18.4s,baz=259,slow=33
NEW Newport 89.66 41 P **P** **23 27 21.0 +0.7**
NEW pmax pmax
comp=Z,15nm,1.4s
NEW Newport 89.66 41 P **P** **23 27 21.0 +0.7**
NEW Newport 89.66 41 P **P** **23 27 19.7 -0.6**
baz=254
HYBB Hyderabad (bro 89.83 288 *e*P **P** **23 27 21.8 +0.1**
HYBB *e*PP **PP** **23 30 53.8 -0.7**
HYBB *e*SKSac **SKSac** **23 37 52.2 -0.2**
HLID Hailey 90.27 46 P **P** **23 27 22.6 -0.8**
baz=256
PKCU Pink Cliffs 90.42 52 P **P** **23 27 24.3 -0.2**
PKCU IAmb IAmb 23 27 47.0
comp=Z,24nm,1.1s
X16A Lo Mia Camp, P 90.46 55 P **P** **23 27 24.4 -0.1**
TUC Tucson 90.56 57 P **P** **23 27 24.9 0.0**
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC Tucson 90.56 57 P **P** **23 27 24.9 0.0**
TUC Tucson 90.56 57 P **P** **23 27 24.2 -0.7**
baz=258
DUG Dugway, Tooele 90.65 49 P **P** **23 27 24.9 -0.3**
baz=257
BGU Big Grassy Mou 90.65 49 P **P** **23 27 25.1 -0.2**
PCHI Peechi 90.67 281 *e*P P 23 27 20.4 -5.3
PCHI *e*S **S** **23 38 25.3 +3.7**
WUAZ Wupatki 90.75 54 P **P** **23 27 25.3 -0.5**
baz=258
HVU Hansel Valley 91.03 48 IAmb IAmb 23 27 38.8
comp=Z,14nm,0.9s
BELA Belgrano 2 91.18 176 P **P** **23 27 25.7 -1.1**
BELA IAmb IAmb 23 27 30.8
comp=Z,24nm,1.0s
JTMT Jette 91.37 42 P **P** **23 27 28.9 +0.5**
CTU Camp Tracy 91.55 49 P **P** **23 27 29.1 -0.4**
CTU IAmb IAmb 23 27 50.6
comp=Z,14nm,1.0s
Q16A Castle Valley 91.61 51 P **P** **23 27 29.6 -0.2**
Q16A IAmb IAmb 23 27 43.8
comp=Z,15nm,1.2s
MCMT McKenzie Canyo 91.66 45 P **P** **23 27 30.3 +0.3**
WALA Waterton Lakes 91.92 41 P **P** **23 27 31.2 +0.3**
WALA IAmb IAmb 23 27 38.2
comp=Z,15nm,1.1s
DLMT Dillon 91.95 44 IAmb IAmb 23 27 39.0
comp=Z,27nm,1.0s
LRM Limekiln Ridge 92.16 44 P **P** **23 27 32.3 0.0**
SYO Syowa Base 92.22 197⇓ *e*P **P** **23 27 31.6 -0.2**
SYO Syowa Base 92.22 197⇓ *es*P sP 23 27 37.0 -1.0
MK31 Makanchi Array 92.62 317 *d*P **P** **23 27 33.7 -0.4**
MK31 Makanchi Array 92.62 317 IAmb IAmb 23 27 35.2
comp=Z,28nm,1.3s
MKAR Makanchi Array 92.62 317 P **P** **23 27 33.8 -0.3**
comp=Z,9.8nm,0.9s,baz=101,slow=6.4,SNR=72
MKAR PP **PP** **23 31 18.3 +2.3**
comp=Z,1.1nm,1.0s,baz=105,slow=8.9,SNR=3.7
MKAR PKKP **PKKPdf** **23 44 44.6 -1.9**
comp=Z,1.9nm,0.8s,baz=269,slow=4.9,SNR=14
BOZ Bozeman (W) 92.67 44 IAmb IAmb 23 27 42.3
comp=Z,12nm,0.9s
BOZ Bozeman (W) 92.67 44 P **P** **23 27 34.3 -0.2**
baz=258,SNR=15
ZAA0 Zalesovo Array 92.67 324 IAmb IAmb 23 27 34.1
comp=Z,19nm,1.2s
ZALV Zalesovo Beam 92.67 324 P **P** **23 27 33.1 -0.9**
comp=Z,12nm,1.1s,baz=108,slow=4.8,SNR=32
ZALV LR LR 00 05 57.8
comp=Z,83nm,21.8s,baz=104,slow=33
YHL Hebgen Lake 92.82 45 P **P** **23 27 35.9 +0.5**
YHL IAmb IAmb 23 27 43.2
comp=Z,27nm,1.2s
MAKZ Makanchi 92.84 317 P **P** **23 27 34.7 -0.4**
MAKZ pmax pmax
comp=Z,34nm,1.2s
MAKZ Makanchi 92.84 317 P **P** **23 27 34.7 -0.4**
FLWY Flagg Ranch 93.01 46 P **P** **23 27 36.6 +0.5**
C36M Paulatuk 93.03 20 IAmb IAmb 23 27 39.2
comp=Z,14nm,1.1s
C36M Paulatuk 93.03 20 P **P** **23 27 36.4 +1.0**
baz=248
121A Cookes Peak, D 93.09 58 P **P** **23 27 35.8 -1.0**
baz=260
H17A Grant Village 93.16 46 P **P** **23 27 37.3 +0.4**
H17A Grant Village 93.16 46 P **P** **23 27 37.2 +0.3**
baz=259
MVCO Mesa Verde 93.35 53 P **P** **23 27 37.2 -0.7**
baz=260
SMAI San Martin Ant 93.42 163 IAmb IAmb 23 27 42.0
comp=Z,26nm,1.2s
PDAR Pinedale Array 93.57 47 P **P** **23 27 38.1 -0.7**
comp=Z,3.0nm,0.9s,baz=233,slow=3.0,SNR=12
PDAR LR LR 00 03 30.5
comp=Z,283nm,20.1s,baz=258,slow=32
A36M Sachs Harbour 93.66 17 P **P** **23 27 39.0 +0.8**
baz=248
ANMO Albuquerque 94.59 55 LR LR 00 05 03.1
comp=Z,400nm,18.4s,baz=270,slow=32
ANMO Albuquerque 94.59 55 P **P** **23 27 42.4 -1.3**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 94.59 55 P **P** **23 27 42.4 -1.3**
YKA Yellowknife Ar 94.69 27 P **P** **23 27 41.4 -1.8**
comp=Z,1.8nm,0.8s,baz=254,slow=4.5,SNR=22
YKA PP **PP** **23 31 33.5 +1.9**
comp=Z,0.4nm,0.9s,baz=259,slow=6.0,SNR=2.9
YKA LR LR 00 06 20.4
comp=Z,392nm,18.4s,baz=271,slow=33
NRIK Noril'sk 95.30 340 P **P** **23 27 44.5 -1.3**
comp=Z,2.8nm,0.5s,baz=118,slow=6.1,SNR=9.9
NRIK LR LR 00 07 37.6
comp=Z,210nm,21.4s,baz=104,slow=34
NRIK Noril'sk 95.30 340 *ce*P **P** **23 27 45.3 -0.5**
NRIK pmax pmax
comp=Z,10.0nm,1.1s
NRIK Noril'sk 95.30 340 IAmb IAmb 23 27 46.1
comp=Z,10nm,1.1s
KDJ Kajisay 95.36 312 P **P** **23 27 45.9 -1.1**
KDJ pmax pmax
comp=Z,10.0nm,1.3s
KDJ Kajisay 95.36 312 P **P** **23 27 45.9 -1.1**
KURK Kurchatov 95.75 320 *ce*P **P** **23 27 47.3 -1.0**
KURK pmax pmax
comp=Z,9.0nm,1.2s
KURK Kurchatov 95.75 320 P **P** **23 27 47.4 -0.8**
KURBB Kurchatov Arra 95.79 320 P **P** **23 27 46.9 -1.6**
comp=Z,1.3nm,0.8s,baz=94,slow=3.5,SNR=7.2
KURBB PP **PP** **23 31 39.5 -0.9**
comp=Z,0.3nm,0.6s,baz=100,slow=8.1,SNR=5.2
KSH Kashi 95.86 309 P **P** **23 27 50.9 +1.6**
KSH pP sP 23 27 54.8 -1.1
KSH PP **PP** **23 31 46.8 +5.2**
KSH SKS **SKSac** **23 38 26.6 +1.4**
KSH sS sS 23 39 16.3 +1.1
KSH pmax pmax
comp=Z,4.0nm,1.5s
KSH LR LR
comp=Z,250nm,17.5s
KSH LR LR
comp=Z,240nm,18.4s
KSH LR LR
comp=Z,340nm,18.4s
TXAR Lajitas Array 96.07 61 P **P** **23 27 49.3 -1.1**
comp=Z,0.4nm,1.0s,baz=172,slow=2.5,SNR=3.4
TXAR PP **PP** **23 31 42.2 -1.1**
comp=Z,0.5nm,1.0s,baz=269,slow=4.5,SNR=2.6
TXAR LR LR 00 04 49.5
comp=Z,456nm,19.1s,baz=261,slow=32
BOOM Boomskoye usch 96.32 312 P **P** **23 27 50.0 -1.3**
BOOM pmax pmax
comp=Z,10.0nm,1.4s
BOOM Boomskoye usch 96.32 312 P **P** **23 27 50.0 -1.3**
PMSA Palmer Station 96.53 161 LR LR 00 08 34.6
comp=Z,221nm,18.6s,baz=236,slow=34
TROLL Troll, Antarti 96.97 185 P **P** **23 27 53.1 -0.6**
AAK Ala-Archa 97.40 312 LR LR 00 15 47.9
comp=Z,135nm,18.0s,baz=88,slow=38
AAK Ala-Archa 97.40 312⇓ *e*P **P** **23 27 55.3 -0.9**
AAK pmax pmax
comp=Z,7.0nm,2.6s
AAK Ala-Archa 97.40 312 P **P** **23 27 54.9 -1.3**
SNAA Sanae 97.72 184 P Pdif 23 28 00.2 +3.2
SNAA Sanae 97.72 184 LR LR 00 10 44.0
comp=Z,482nm,18.6s,baz=155,slow=35
KKAR Karatay Array 100.36 312 P **Pdif** **23 28 08.3 -1.0**
KKAR Karatay Array 100.36 312 Pdif **Pdif** **23 28 08.3 -1.0**
BRVK Borovoye 101.12 322 *de*P **Pdif** **23 28 11.0 -1.4**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 101.12 322 Pdif **Pdif** **23 28 11.0 -1.4**
APA Apatity 114.63 342⇑ *i*PKIKP **PKiKP** **23 32 59.2 -2.9**
APA pmax pmax
comp=Z,9.0nm,1.0s
ARCES ARCESS Array B 115.55 345 PKP **PKiKP** **23 33 01.0 -2.8**
comp=Z,5.0nm,1.1s,baz=45,slow=1.8,SNR=2.0
ARCES ARCESS Array B 115.55 345 PKIKP **PKiKP** **23 33 01.0 -2.8**
MAK Makhachkala 117.16 313 *e*P **Pdif** **23 29 19.7 -4.2**
MAK *i* 23 33 03.9
MAK *e* 23 34 15.5
MAK *e*PPP PPP 23 36 43.3
MAK *e* 23 39 56.7
MAK *e*SS SS 23 50 33.1 +6.7
OBN Obninsk 119.93 329⇓ *i*PKIKP **PKPdf** **23 33 12.0 -0.6**
OBN *i* 23 33 19.9
OBN *e* 23 34 36.5
OBN *e*PPP PPP 23 37 08.7
OBN *e*SS SS 23 51 12.8 +12
OBN *e*SSS SSS 23 55 27.5
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,166nm,19.0s
KIV Kislovodsk 120.33 315 *i*PKIKP **PKPdf** **23 33 13.7 -0.2**
KIV pmax pmax
comp=Z,3.0nm,1.0s
FINES FINESS Array B 120.94 338 PKP **PKPdf** **23 33 12.6 -1.8**
comp=Z,1.2nm,0.8s,baz=320,slow=4.1,SNR=1.9
LPAZ La Paz 121.03 116 PKP **PKPdf** **23 33 16.3 -0.4**
comp=Z,2.2nm,0.8s,baz=255,slow=1.9,SNR=5.5
GURO Guroymak-BITLI 122.16 309 PKPdf **PKiKP** **23 33 18.1 +0.2**
SOC Sochi 122.50 315 *i*PKIKP **PKPdf** **23 33 15.1 -2.8**
SOC *e* 23 34 51.7
SOC *e* 23 40 06.2
SOC *e*PS PKKPdf 23 44 42.3 +52
SOC *e*SSS SSS 23 56 01.1
SOC MLR MLR
comp=Z,134nm,18.0s
NACGM Naroch 124.80 332 *e*PKP **PKiKP** **23 33 22.8 +0.4**
CPUP Villa Florida 124.92 132 PKP **PKPdf** **23 33 22.7 -0.4**
comp=Z,4.2nm,0.9s,baz=355,slow=0.5,SNR=7.3
SDV Santo Domingo 125.08 86 PKPdf **PKPdf** **23 33 22.5 -1.5**
BOSA Boshof 125.16 224 PKP **PKPdf** **23 33 22.5 -1.2**
comp=Z,3.2nm,1.0s,baz=308,slow=16,SNR=1.8
NOA NORSAR Array B 125.92 345 PKP **PKPdf** **23 33 22.7 -1.3**
comp=Z,0.5nm,0.7s,baz=32,slow=2.0,SNR=1.6
AKASG Malin Array Be 125.98 327 PKP **PKPdf** **23 33 23.5 -0.8**
comp=Z,0.3nm,0.2s,baz=74,slow=3.3,SNR=1.7
ASF Jabal al Asfar 127.67 303 PP PP 23 35 29.0 -0.7
comp=Z,2.1nm,0.9s,baz=184,slow=2.9,SNR=3.5
BRTR Keskin Array B 128.07 313 PKP **PKPdf** **23 33 28.4 -0.5**
comp=Z,0.6nm,0.9s,baz=116,slow=3.4,SNR=2.2
BRTR PP **PP** **23 35 29.5 -2.5**
comp=Z,2.7nm,1.1s,baz=111,slow=5.4,SNR=6.3
EIL Elat 129.83 300 PKP **PKPdf** **23 33 31.7 -0.7**
comp=Z,1.7nm,0.8s,baz=128,slow=10,SNR=2.3
UZH Uzhgorod 130.85 328 *e*PKIKP **PKPdf** **23 33 32.2 -1.5**
UZH *e* 23 33 38.4
UZH *e* 23 33 44.4
KRLC Kraliky 132.58 333 *e*PKIKP **PKPdf** **23 33 33.7 -3.3**
KRLC Kraliky 132.58 333 *e*PKP **PKPdf** **23 33 33.7 -3.3**
CLL Collm 133.26 336 *e*SS SS 23 53 48.0 +0.7
CLL *e*SSS SSS 23 58 42.0
CLL L L 00 32 00.0
comp=Z,200nm,21.7s
KRUC Moravsky 133.48 332 *e*PKP **PKPdf** **23 33 38.2 -0.5**
CONA Conrad Observa 134.53 331 *e*P **PKiKP** **23 33 42.7 +0.5**
comp=Z,4.0nm,1.6s
CKRC Cesky Krumlov 134.60 333 *e*PKP **PKiKP** **23 33 44.0 +1.8**
CKRC *ex* x 23 33 51.2
KHC Kasperske Hory 134.69 334 *e*PKIKP **PKiKP** **23 33 45.5 +3.1**
KHC *e* 23 36 19.5
KHC Kasperske Hory 134.69 334 *e*PKP **PKiKP** **23 33 45.5 +3.1**
KHC *ex* x 23 36 19.5
GERES GERESS Array B 134.85 334 PKP **PKPdf** **23 33 40.0 -1.4**
comp=Z,0.3nm,0.6s,baz=64,slow=4.5,SNR=2.4
GERES GERESS Array B 134.85 334 PKIKP **PKPdf** **23 33 40.0 -1.4**
ABTA Abfaltsbach 136.95 332 *e*P **PKiKP** **23 33 46.6 -0.6**
comp=Z,7.4nm,1.3s
WTTA Wattenberg 136.95 334 *e*P **PKiKP** **23 33 47.5 +0.2**
comp=Z,6.4nm,1.0s
MOTA Moosalm 137.12 334 *e*P **PKPdf** **23 33 46.3 +0.5**
comp=Z,8.6nm,1.4s
RETA Reutte 137.16 334 *e*P **PKiKP** **23 33 48.8 +1.2**
comp=Z,3.3nm,1.2s
SQTA Sankt Quirin 137.17 334 *e*P **PKiKP** **23 33 47.3 -0.3**
comp=Z,4.1nm,1.2s
FETA Feichten 137.53 334 *e*P **PKPdf** **23 33 44.2 -2.4**
comp=Z,3.4nm,0.9s
DAVOX Davos/Dischmat 138.09 334 PKhKP PKPpre 23 33 38.7
comp=Z,1.1nm,0.5s,baz=120,slow=20,SNR=2.4
DAVOX PKP **PKPdf** **23 33 46.5 -1.2**
comp=Z,2.0nm,0.8s,baz=294,slow=3.4,SNR=2.7
BDFB Brasilia 138.22 128 PKhKP PKPpre 23 33 44.4
comp=Z,2.8nm,0.8s,baz=179,slow=5.4,SNR=4.4
VSL Villasalto 143.86 327 PKPpre 23 33 54.9
VSL PKPdf **PKPdf** **23 33 59.4 +1.4**
KEST Kesra 146.53 323 PKPbc **PKPbc** **23 34 04.1 -0.1**
comp=Z,24nm,1.1s,baz=306,slow=3.3,SNR=13
KEST Kesra 146.53 323 **PKPbc** **23 34 04.3 +0.1**
PBRG Braganca 147.90 348 *e*PKP **PKPab** **23 34 11.0 +0.7**
PCAB Cabril 148.23 350 *e*PKP **PKPab** **23 34 12.6 +1.0**
PVRL Vila Real 148.60 350 *e*PKP **PKPab** **23 34 14.8 +1.7**
PVIS Viseu 149.17 350 *e*PKP **PKPab** **23 34 15.5 +0.1**
ESDC Sonseca Array 149.26 343 PKPbc **PKPbc** **23 34 10.7 -0.7**
comp=Z,4.3nm,1.1s,baz=7.0,slow=2.8,SNR=18
ESDC PP **PP** **23 37 42.2 +0.2**
comp=Z,1.7nm,1.1s,baz=13,slow=6.3,SNR=4.4
MTE Manteigas 149.42 349 *e*PKP **PKPbc** **23 34 11.2 -0.6**
PAB San Pablo 149.49 344 PKP2 **PKPbc** **23 34 12.4 +0.4**
PAB San Pablo 149.49 344 **PKPbc** **23 34 12.4 +0.4**
COI Coimbra 149.76 350 *e*PKP **PKPab** **23 34 23.1 +5.4**
PCBR Castelo Branco 149.94 349 *e*PKP **PKPab** **23 34 23.2 +4.7**
PMRV Marv??o 150.32 348 *e*PKP **PKiKP** **23 34 15.6 +0.8**
PMTG Montargil 150.83 349 *e*PKP **PKPab** **23 34 21.7 -0.5**
PESTR Estremoz 150.91 348 *e*PKP **PKPab** **23 34 23.7 +1.2**
PNCL Nicolau / Gran 151.82 349 *e*PKP **PKPab** **23 34 24.3 -2.0**
PCVE Castro Verde 152.19 348 *e*PKP **PKPab** **23 34 24.8 -3.1**
PVAQ Vaqueiros 152.34 348 *e*PKP **PKPab** **23 34 25.2 -3.3**
MDT Midelt 155.76 339 PKPbc PKPdf 23 34 26.6 +10
comp=Z,0.8nm,0.7s,baz=225,slow=2.2,SNR=2.4
MDT PKPab **PKPab** **23 34 42.2 -1.1**
comp=Z,6.6nm,1.1s,baz=109,slow=2.1,SNR=7.5
TORD Torodi Ar. Bea 163.54 281 PKP **PKPdf** **23 34 24.5 -1.7**
comp=Z,1.6nm,1.0s,baz=80,slow=1.7,SNR=6.0
TORD PKPab **PKPab** **23 35 16.9 -0.8**
comp=Z,9.2nm,1.1s,baz=90,slow=1.9,SNR=17
TORD PP **PP** **23 39 00.7 -2.6**
comp=Z,1.7nm,1.2s,baz=341,slow=8.6,SNR=4.3
TORD Torodi Ar. Bea 163.54 281 PKPdf **PKPdf** **23 34 25.5 -0.7**
TORD **PKPab** **23 35 17.4 -0.2**
KOWA Kowa 168.63 292 PKPab **PKPab** **23 35 39.8 -0.3**

NEIC ***22*** *23:16:44.7±2.8, 8.78S±0.05×74.76W±0.06, h116km±10km, mb4.2/12 Error ellipse: s-maj=10.9km s-min=2.8km az=134.0*
IDC ***22*** *23:16:49.3±4.5, 9.00S×75.01W, h178km±53km, mb3.3/3, mb1 3.6/4, mb1mx3.2/43, mbtmp3.8/4, MS2.2/1, Ms1 2.2/1, ms1mx2.1/21, Error ellipse: s-maj=57.4km s-min=27.2km az=38.0*
VAO ***22*** *23:17:01.3±1.2, 7.78S×72.91W, h148km±5km, mbR4.1*
ISC 22 23:16:45.2±0.6, 8.77S±0.06×74.69W±0.06, h150km, n39, σ2s40/39, mb4.0/7, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**2.22**	**62**	*e*P	**Pn**	**23 17 22.9**	**0.0**
NNA	**Nana**	**3.84**	**213**	P	**Pn**	**23 17 44.0**	**+0.6**
	11nm,0.3s,baz=30,slow=6.7,SNR=20						
NNA				S	**Sn**	**23 18 26.5**	**-2.1**
	32nm,0.3s,baz=173,slow=20,SNR=6.8						
NNA				LR	LR	23 19 05.8	
	comp=Z,32nm,18.7s,baz=102,slow=39						
NNA	**Nana**	**3.84**	**213**		**Pn**	**23 17 42.1**	**-1.3**
NNA					Sn	**23 18 24.1**	**-4.5**
BOSC	**San Juan Bosco**	**6.74**	**326**	Pn	**Pn**	**23 18 21.0**	**-1.1**
BOSC					Sn	**23 19 33.1**	**-4.8**
MCRA	**Macar, Loja**	**6.82**	**310**	Pn	**Pn**	**23 18 22.5**	**-0.4**
MCRA					Sn	**23 19 37.0**	**-2.4**
COHC	**Cochancay**	**7.74**	**324**	Pn	**Pn**	**23 18 34.8**	**-0.3**
PORT	**Chimborazo Vol**	**8.32**	**331**	Pn	**Pn**	**23 18 40.0**	**-3.4**
ETMB	**Extrema**	**8.43**	**98**	*e*P	**Pn**	**23 18 40.3**	**-4.1**
LPAZ	**La Paz**	**9.84**	**140**	*e*P	Pn	23 19 15.2	+11
VILB	**Vilhena**	**14.82**	**108**	*e*P	**Pn**	**23 20 05.9**	**-1.7**
MACA	**Manacapuru-AM**	**15.00**	**69**	*e*P	Pn	23 20 00.6	-9.1
AC01	**Pan de Azucar**	**17.72**	**168**	P	**P**	**23 20 41.6**	**+0.2**
AC01				IAmb	IAmb	23 20 52.2	
	comp=Z,18nm,1.1s						
PDRB	**Porto dos Gac**	**17.90**	**101**	*e*P	**P**	**23 20 43.4**	**-0.1**
BOAV	**Boa Vista**	**17.96**	**52**	*e*P	P	23 20 36.0	-8.2

SJCC	**San Jacinto, C**	**18.55**	**358**	P	**Pn**	**23 20 51.9**	**-0.7**
SJCC				IAmb	IAmb	23 21 04.8		
	comp=Z,11nm,1.0s							
CLDB	**Colider**	**18.73**	**98**	*e*P	**P**	**23 20 51.9**	**-0.7**
NPGB	**Novo Progresso**	**19.22**	**86**	*e*P	**P**	**23 20 54.9**	**-3.1**
ITTB	**Itaituba**	**19.33**	**78**	*e*P	**P**	**23 20 54.4**	**-4.7**
SALV	**Santo Antonio**	**19.85**	**113**	*e*P	**Pn**	**23 21 09.8**	**+1.9**
MCPB	**Macapa, AP**	**24.04**	**71**	*e*P	**P**	**23 21 44.9**	**-1.7**
SMTB	**Santa Maria do**	**26.78**	**92**	*e*P	**P**	**23 22 12.4**	**+1.0**
ITAB	**Concordia**	**28.15**	**134**	*e*P	P	23 22 35.1	+12
NBPS	**Pedro II - PI**	**33.30**	**85**	*e*P	**P**	**23 23 08.5**	**-0.5**
SWET	**Sewanee**	**45.02**	**347**	P	**P**	**23 24 46.2**	**+0.4**
SWET				IAmb	IAmb	23 24 50.1		
	comp=Z,2.9nm,0.7s							
T57A	**Hurt**	**45.73**	**355**	P	**P**	**23 24 53.0**	**+1.6**
T57A				IAmb	IAmb	23 24 54.0		
	comp=Z,4.0nm,0.7s							
S57A	**Dark Hollow, R**	**46.46**	**355**	P	**P**	**23 24 59.5**	**+2.5**
S57A				IAmb	IAmb	23 25 00.0		
	comp=Z,2.9nm,0.8s							
TXAR	**Lajitas Array**	**47.06**	**325**	P	**P**	**23 25 03.7**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=150,slow=8.6,SNR=13							
TXAR	**Lajitas Array**	**47.06**	**325**	P	**P**	**23 25 04.7**	**+2.7**
TX31	**Lajitas Ar. Si**	**47.06**	**325**	P	**P**	**23 25 05.0**	**+2.9**
TX32	**Lajitas Array**	**47.06**	**325**	P	**P**	**23 25 04.6**	**+2.5**
L56A	**Greenwood**	**50.73**	**357**	P	**P**	**23 25 32.9**	**+3.2**
BINY	**Binghamton**	**50.73**	**359**	P	**P**	**23 25 31.8**	**+2.1**
R32A	**Long Quarter,**	**52.02**	**336**	P	**P**	**23 25 40.2**	**+0.8**
PKME	**Peaks-Kenny Pk**	**54.00**	**5**	P	**P**	**23 25 55.7**	**+2.0**
PKME				IAmb	IAmb	23 25 59.8		
	comp=Z,3.6nm,0.9s							
YKA	**Yellowknife Ar**	**77.42**	**342**	P	**P**	**23 28 24.6**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=141,slow=5.8,SNR=12							
TORD	**Torodi Ar. Bea**	**78.90**	**75**	P	**P**	**23 28 35.7**	**+3.1**
	comp=Z,0.3nm,0.4s,baz=266,slow=4.4,SNR=10							
TORD	**Torodi Ar. Bea**	**78.90**	**75**	P	**P**	**23 28 36.0**	**+3.4**
ASAR	**Alice Springs**	**137.33**	**220**	PKP	**PKPdf**	**23 35 51.6**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=143,slow=2.3,SNR=1.7							
WRA	**Warramunga Arr**	**139.62**	**225**	PKP	**PKiKP**	**23 35 56.9**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=119,slow=2.1,SNR=5.5							

IDC 22 23:17:04.0±1.4, 8.00S×71.39W, h0km, mb3.3/2, mb1 3.7/5, mb1mx3.5/45, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=72.3km s-min=18.9km az=61.0, Western Brazil

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LPAZ	**La Paz**	**8.83**	**159**	Pn	Pn		23 19 14.4	+0.8
	0.1nm,0.3s,baz=324,slow=8.7,SNR=1.2							
LPAZ				Sn	Sn		23 20 54.7	+0.4
	0.1nm,0.3s,baz=87,slow=8.5,SNR=2.7							
LPAZ				Lg	Lg		23 21 43.4	
	0.0nm,0.3s,baz=188,slow=21,SNR=1.8							
SIV	**San Ignacio**	**12.84**	**129**	Pn	Pn		23 20 06.6	-1.4
	0.3nm,0.3s,baz=315,slow=19,SNR=9.4							
SIV				Lg	Lg		23 23 53.2	
	0.3nm,0.3s,baz=48,slow=18,SNR=1.6							
LVC	**Limon Verde**	**14.72**	**171**	Pn	Pn		23 20 34.6	+0.6
	0.2nm,0.3s,baz=275,slow=16,SNR=1.9							
TXAR	**Lajitas Array**	**48.41**	**321**	P	P		23 25 48.2	0.0
	0.1nm,0.3s,baz=134,slow=7.7,SNR=1.7							
YKA	**Yellowknife Ar**	**77.72**	**341**	P	P		23 29 01.6	-0.7
	0.2nm,0.5s,baz=143,slow=6.0,SNR=2.2							
MKAR	**Makanchi Array**	**135.26**	**26**	PKP	PKiKP		23 36 27.5	0.0
	0.2nm,0.6s,baz=333,slow=1.6,SNR=2.8							

IDC 22 23:19:04.3±1.4, 3.70N×70.95W, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.3/46, mbtmp3.6/3, ML2.4/2, Error ellipse: s-maj=27.4km s-min=23.2km az=93.0
RSNC 22 23:19:09.0±0.8, 3.82N×71.33W, h4km±3km, ML3.4, Mw3.5
ISC 22 23:19:04.5±1.5, 3.77N±0.04×71.16W±0.04, h1km±10km, n32, σ2s06/77, 1C, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PTGC	**Puerto Gaitan,**	**1.06**	**294**	*e*P	**Pg**		**23 19 23.9**	**-0.9**
PTGC				*e*S	**Sg**		**23 19 36.2**	**-2.3**
PTGC				*i*			23 19 39.0	
	comp=Z,692nm,0.3s							
GUVC	**San Jose del G**	**1.90**	**230**	*e*P	**Pb**		**23 19 40.0**	**+0.1**
GUVC				*e*S	**Sn**		**23 20 03.2**	**+0.5**
GUVC				*i*			23 20 09.0	
	comp=Z,702nm,0.2s							
VILC	**Villavicencio,**	**2.55**	**278**	*e*P	**Pb**		**23 19 49.5**	**-1.6**
VILC				*e*S	**Sn**		**23 20 18.9**	**+0.1**
CHIC	**Chingaza**	**2.70**	**289**	*e*P	**Pn**		**23 19 50.5**	**+1.0**
CHIC				*e*S	**Sn**		**23 20 21.4**	**-1.6**
CHIC				*i*			23 20 28.7	
	comp=Z,147nm,0.3s							
TAMC	**Tame, Arauca**	**2.73**	**347**	*e*P	**Pn**		**23 19 50.8**	**+1.4**
TAMC				*e*S	**Sn**		**23 20 24.1**	**+1.1**
TAMC				*i*			23 20 30.8	
	comp=Z,159nm,0.2s							
RUSC	**La Rusia**	**2.85**	**318**	*e*P	**Pn**		**23 19 52.7**	**+1.1**
RUSC				*e*S	**Sn**		**23 20 27.1**	**+0.3**
RUSC				*i*			23 20 40.9	
	comp=Z,46nm,0.4s							
MACC	**Macarena, Meta**	**3.13**	**239**	*e*P	**Pb**		**23 19 59.7**	**-1.2**
MACC				*e*S	**Sb**		**23 20 38.7**	**-0.9**
MACC				*i*			23 20 51.5	
	comp=Z,216nm,0.8s							
ROSC	**El Rosal**	**3.32**	**289**	Pn	**Pb**		**23 20 02.7**	**-1.8**
	comp=Z,5.6nm,0.3s,baz=115,slow=18,SNR=4.6							
ROSC				Pg	**Pg**		**23 20 09.9**	**+1.6**
	comp=Z,21nm,0.3s,baz=105,slow=12,SNR=12							
ROSC				Sn	**Sn**		**23 20 40.0**	**+1.7**
	comp=Z,12nm,0.3s,baz=24,slow=22,SNR=5.1							
ROSC				Lg	Lg		23 20 52.5	
	comp=Z,10nm,0.3s,baz=228,slow=22,SNR=3.6							
SPBC	**San Pablo de B**	**3.45**	**303**	*e*P	**Pn**		**23 19 59.3**	**-0.2**
SPBC				*e*Pg	**Pb**		**23 20 07.6**	**+1.1**
SPBC				*e*S	**Sn**		**23 20 39.3**	**-1.8**
SPBC				*e*Sg	**Sb**		**23 20 49.2**	**+0.1**
SPBC				*i*			23 20 57.7	
	comp=Z,72nm,0.3s							
BARC	**Barichara**	**3.45**	**324**	*e*P	**Pn**		**23 20 00.1**	**+0.5**
BARC				*e*Pg	**Pb**		**23 20 08.2**	**+1.6**
BARC				*e*S	**Sn**		**23 20 40.3**	**-1.1**
BARC				*i*			23 21 01.9	
	comp=Z,104nm,0.4s							
ELOV	**Elorza**	**3.62**	**27**	*e*P	**Pg**		**23 20 13.3**	**-0.7**
ELOV				*e*S	**Sb**		**23 20 56.2**	**+2.3**
PAMC	**Pamplona, Colo**	**3.87**	**337**	*e*P	**Pn**		**23 20 03.3**	**+0.8**
PAMC				*e*Pg	**Pb**		**23 20 15.3**	**+1.5**
PAMC				*e*S	**Sn**		**23 20 49.8**	**-2.1**
PAMC				*e*Sg	**Sb**		**23 21 03.4**	**+2.1**
PAMC				*i*			23 21 08.2	
	comp=Z,98nm,0.3s							
ORTC	**Ortega, Tolima**	**4.08**	**272**	*e*P	**Pn**		**23 20 10.2**	**+2.2**
ORTC				*e*Pg	**Pg**		**23 20 20.6**	**-2.1**
ORTC				*e*S	**Sn**		**23 20 54.8**	**-1.7**
ORTC				*e*Sg	**Sb**		**23 21 08.4**	**+1.4**
ORTC				*i*			23 21 19.4	
	comp=Z,58nm,0.6s							
NORC	**Norcasia**	**4.10**	**296**	*e*P	**Pn**		**23 20 09.4**	**+1.0**
NORC				*e*S	**Sn**		**23 20 54.8**	**-2.3**
PTBC	**PUERTO BERRIO,**	**4.28**	**310**	*e*P	**Pn**		**23 20 11.1**	**+0.3**
PTBC				*e*Pg	**Pb**		**23 20 21.8**	**+1.2**
PTBC				*e*S	**Sb**		**23 21 13.2**	**+0.3**
PTBC				*i*			23 21 19.4	
	comp=Z,34nm,0.4s							
ANIL	**Santa Ana**	**4.29**	**280**	*e*P	**Pn**		**23 20 12.5**	**+1.3**
ANIL				*e*Pg	**Pb**		**23 20 23.6**	**+2.7**
ANIL				*e*S	**Sn**		**23 21 03.8**	**+1.7**
ANIL				*e*Sg	**Sb**		**23 21 14.2**	**+0.9**
BETC	**Betania**	**4.40**	**256**	*e*P	**Pb**		**23 20 24.4**	**+1.7**
BETC				*e*S	**Sb**		**23 21 20.4**	**+3.9**
BETC				*i*			23 21 28.6	
	comp=Z,50nm,0.4s							
GUY2C	**Guyana, Caldas**	**4.43**	**289**	*e*P	Pn		23 20 05.4	-7.9
GUY2C				*e*Pg	**Pn**		**23 20 15.6**	**+2.3**
GUY2C				*e*S	**Sn**		**23 21 01.1**	**-4.7**
GUY2C				*i*			23 21 33.8	
	comp=Z,24nm,0.5s							
SOCV	**Socops**	**4.50**	**4**	*e*P	**Pn**		**23 20 13.8**	**0.0**
SOCV				*e*Pg	**Pb**		**23 20 27.6**	**+3.3**
SOCV				*e*S	**Sn**		**23 21 05.9**	**-1.0**
GARC	**Garzon, Huila**	**4.60**	**250**	*e*P	**Pn**		**23 20 16.3**	**+0.9**
GARC				*e*Pg	**Pb**		**23 20 24.9**	**-1.2**
GARC				*e*S	**Sn**		**23 21 08.4**	**-1.2**
MARP	**Paez Belalcaza**	**4.87**	**259**	*e*P	**Pn**		**23 20 21.6**	**+2.4**
MARP				*e*Pg	**Pb**		**23 20 33.2**	**+2.4**
MARP				*e*S	**Sn**		**23 21 15.4**	**-1.0**
MARP				*e*Sg	**Sb**		**23 21 31.8**	**+1.7**
MARP				*i*			23 21 42.2	
	comp=Z,15nm,0.6s							
OCAC	**Ocana**	**4.93**	**334**	*e*P	**Pn**		**23 20 20.5**	**+0.6**
OCAC				*e*Pg	**Pb**		**23 20 35.0**	**+3.2**
OCAC				*e*S	**Sn**		**23 21 17.0**	**-0.8**
OCAC				*i*			23 21 44.8	
	comp=Z,87nm,0.4s							
SDV	**Santo Domingo**	**5.11**	**6**	Pn	**Pn**		**23 20 22.0**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=176,slow=19,SNR=9.8							
SDV				Pg	**Pg**		**23 20 40.3**	**-2.3**
	comp=Z,14nm,0.3s,baz=130,slow=7.9,SNR=24							
SDV				Sn	**Sn**		**23 21 19.1**	**-3.2**
	comp=Z,6.6nm,0.3s,baz=299,slow=16,SNR=6.3							
SDV				Lg	Lg		23 21 46.3	
	comp=Z,14nm,0.3s,baz=260,slow=23,SNR=4.3							
SDV	**Santo Domingo**	**5.11**	**6**	*e*P	**Pn**		**23 20 21.7**	**-0.7**
SDV				*e*Pg	**Pg**		**23 20 42.5**	**0.0**
SDV				*e*S	**Sn**		**23 21 18.8**	**-3.5**
SDV				*i*			23 21 58.0	
	comp=Z,53nm,0.5s							
YOTC	**Yotoco, Valle**	**5.17**	**273**	*e*P	Pn		23 20 16.0	-7.2
YOTC				*e*Pg	**Pn**		**23 20 24.1**	**+0.9**
YOTC				*e*S	**Sn**		**23 21 18.3**	**-5.3**
ZARC	**Zaragoza, Cauc**	**5.22**	**315**	*e*P	**Pn**		**23 20 24.0**	**+0.3**
ZARC				*e*S	**Sn**		**23 21 18.4**	**-6.2**
ZARC				*i*			23 21 48.2	
	comp=Z,16nm,0.3s							
PLMC	**San Jose del P**	**5.23**	**283**	*e*P	**Pn**		**23 20 26.8**	**+2.9**
PCON	**Cinco Dias**	**5.42**	**255**	*e*P	**Pb**		**23 20 41.8**	**+1.5**
PCON				*e*S	**Sb**		**23 21 50.9**	**+4.8**
PCON				*i*			23 22 00.9	
	comp=Z,48nm,0.4s							
DBBC	**Dabeiba**	**5.97**	**303**	*e*P	**Pn**		**23 20 34.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**72.47**	**77**	P	**P**		**23 30 33.5**	**0.0**
	comp=Z,0.2nm,0.5s,baz=284,slow=5.5,SNR=1.5							
ASAR	**Alice Springs**	**148.74**	**228**	PKPbc	**PKPbc**		**23 38 53.1**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=126,slow=2.6,SNR=2.9							
WRA	**Warramunga Arr**	**150.39**	**235**	PKPbc	**PKPbc**		**23 38 58.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=109,slow=2.9,SNR=2.7							

DNK 22 23:28:27.9±2.6, 51.51N×16.36E, h0km±93km, ML1.8
IPEC 22 23:28:29.3±0.3, 51.52N×16.31E, h0km, ML2.3/3, Error ellipse: s-maj=2.7km s-min=1.4km az=52.0
IDC 22 23:28:30.1±1.0, 51.47N×16.21E, h0km, mb1 3.3/5, mb1mx3.1/53, mbtmp3.1/5, ML2.4/5, Error ellipse: s-maj=19.8km s-min=8.9km az=102.0
PRU 22 23:28:30.9±0.0, 51.46N×16.15E, h0km
VIE 22 23:28:31.4±0.8, 51.37N×16.17E, h0km, mb2.2/4, ml2.7/3, Error ellipse: s-maj=8.1km s-min=4.7km az=61.0 66 km WNW of Wroclaw Suspected Mining induced.
ISC 22 23:28:28.3±0.7, 51.58N±0.03×16.23E±0.03, h0km, n37, σ1s03/73, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSP	**Ksiaz**	**0.73**	**177**	*e*Pg	**Pg**		**23 28 42.5**	**+0.2**
KSP				*e*Sg	**Sg**		**23 28 51.0**	**-0.9**
CHVC	**Chvalec**	**0.99**	**186**	*e*PG	**Pg**		**23 28 47.3**	**0.0**
CHVC				*e*SG	**Sg**		**23 28 59.2**	**-1.0**
OSTC	**Ostas**	**1.02**	**180**	*e*PG	**Pg**		**23 28 47.9**	**+0.1**
OSTC				*e*SG	**Sg**		**23 29 00.2**	**-0.8**
UPC	**Upice**	**1.08**	**187**	*e*PG	**Pg**		**23 28 48.7**	**-0.2**
UPC				*e*SG	**Sg**		**23 29 01.8**	**-1.1**
	comp=Z,114nm,0.3s							
DPC	**Dobruska-Polom**	**1.23**	**177**	*e*PG	**Pg**		**23 28 51.4**	**-0.4**
DPC				*e*SG	**Sg**		**23 29 06.2**	**-1.5**
	comp=Z,36nm,0.3s							
PVCC	**Panska Ves**	**1.48**	**226**	*e*PG	**Pn**		**23 28 56.5**	**+0.3**
PVCC				*e*SG	**Sg**		**23 29 15.9**	**+0.1**
	comp=Z,115nm,0.2s							
KRLC	**Kraliky**	**1.54**	**167**	*e*PG	**Pn**		**23 28 56.8**	**-0.3**
KRLC				*e*SG	**Sg**		**23 29 15.9**	**-1.9**
	comp=Z,31nm,0.4s							
BRG	**Berggiesshubel**	**1.60**	**245**	Pg	**Pb**		**23 28 59.1**	**+0.4**
BRG				Sg	**Sn**		**23 29 19.7**	**+0.5**
BRG				Amp			23 29 22.5	
	comp=Z,33nm,0.3s							
PRU	**Pruhonice**	**1.92**	**215**	*e*PN	**Pn**		**23 29 02.3**	**+0.1**
PRU				*e*PG	**Pb**		**23 29 03.5**	**-0.6**
PRU				*e*SG	**Sn**		**23 29 27.0**	**0.0**
	comp=Z,28nm,0.4s							
MORC	**Moravsky Berou**	**1.99**	**155**	*e*Pn	**Pn**		**23 29 03.1**	**-0.1**
	baz=336							
MORC				*e*Sg	**Sn**		**23 29 29.4**	**+0.6**
	comp=Z,29nm,0.5s,baz=336							
CLL	**Collm**	**2.04**	**264**	*i* Pn	**Pn**		**23 29 03.9**	**+0.1**
CLL				*i* Pg	**Pb**		**23 29 06.9**	**+0.8**
CLL				*i* x	x		23 29 08.1	
CLL				*i* Sg	**Sg**		**23 29 34.2**	**+0.6**
	comp=Z,25nm,0.6s							
VRAC	**Vranov**	**2.28**	**174**	Pn	**Pn**		**23 29 07.4**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=356,slow=11,SNR=16							
VRAC				Lg	Lg		23 29 39.0	
	comp=Z,5.8nm,0.3s,baz=76,slow=21,SNR=13							
VRAC	**Vranov**	**2.28**	**174**	*e*Pn	**Pn**		**23 29 07.4**	**+0.2**
	baz=355							
VRAC				*e*Sg	**Sb**		**23 29 39.0**	**-0.1**
	comp=Z,17nm,0.3s,baz=355							
TREC	**Trest**	**2.33**	**192**	*e*SG	**Sb**		**23 29 40.4**	**-0.1**
KRUC	**Moravsky**	**2.52**	**177**	*e*Pn	**Pn**		**23 29 10.8**	**+0.3**
	baz=359							
KRUC				*e*Sg	**Sb**		**23 29 46.5**	**+0.6**
	comp=Z,12nm,0.4s,baz=359							
OJC	**Ojcow**	**2.64**	**120**	*e*Pn	**Pn**		**23 29 11.3**	**-0.8**
OJC				*e*Pg	**Pg**		**23 29 19.6**	**+0.8**
OJC				*e*Sg	**Sg**		**23 29 54.5**	**+1.5**
NKC	**Novy Kostel**	**2.74**	**242**	*e*PN	**Pn**		**23 29 14.4**	**+0.8**
NKC				*e*PG	**Pg**		**23 29 20.5**	**-0.4**
NKC				*e*SG	**Sg**		**23 29 56.9**	**+0.5**
	comp=Z,24nm,0.3s							
JAVC	**Velka Javorina**	**2.87**	**161**	*e*PN	**Pn**		**23 29 15.5**	**+0.1**
KHC	**Kasperske Hory**	**2.98**	**216**	*e*PN	**Pn**		**23 29 17.0**	**+0.2**
KHC				*e*PG	**Pb**		**23 29 22.8**	**+0.6**
KHC				*e*SN	**Sn**		**23 29 51.8**	**-1.4**
KHC				*e*SG	**Sb**		**23 30 00.9**	**+1.8**
	comp=Z,7.9nm,0.3s							
CKRC	**Cesky Krumlov**	**3.02**	**205**	*e*PN	**Pn**		**23 29 18.3**	**+0.9**
CKRC				*e*PG	**Pb**		**23 29 24.0**	**+1.1**
CKRC				*e*SG	**Sb**		**23 30 01.9**	**+1.5**
	comp=Z,14nm,0.7s							
GERES	**GERESS Array B**	**3.18**	**212**	Pn	**Pn**		**23 29 20.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=27,slow=13,SNR=15							
GERES				Pg	**Pb**		**23 29 26.2**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=33,slow=16,SNR=33							
GERES				Lg	Lg		23 30 08.5	
	comp=Z,4.5nm,0.3s,baz=33,slow=27,SNR=10							
LANS	**Liptovska Anna**	**3.19**	**138**	*e*PG	**Pg**		**23 29 28.2**	**-1.3**
LANS				*e*SG	**Sg**		**23 30 09.6**	**-1.2**
KOLL	**Kolacno**	**3.31**	**154**	*e*PN	**Pn**		**23 29 22.5**	**+1.2**
NIE	**Niedzica**	**3.38**	**128**	*e*P	**Pg**		**23 29 34.8**	**+1.7**
NIE				*e*S	**Sg**		**23 30 19.1**	**+2.3**
BSD	**Bornholm Skovb**	**3.63**	**348**	*i* P	**Pn**		**23 29 27.8**	**+2.1**
BSD				*i* S	**Sn**		**23 30 08.0**	**-1.2**
BSD				IAML			23 30 18.0	
	comp=Z,1.0nm,0.1s							
CONA	**Conrad Observa**	**3.66**	**184**	*i* Pn	**Pn**		**23 29 26.4**	**+0.2**
	comp=Z,0.5nm,0.2s							
CONA				*e*Sg	**Sg**		**23 30 24.7**	**-1.1**
	comp=Z,11nm,0.4s							
MOA	**Molln**	**3.94**	**200**	*i* Pn	**Pn**		**23 29 30.5**	**+0.5**
	comp=Z,0.4nm,0.1s,SNR=4.6							
MOA				*i* Sg	**Sg**		**23 30 34.1**	**-0.8**
	comp=Z,1.1nm,0.2s							
LUNU	**Lund**	**4.39**	**339**	*i* P	**Pn**		**23 29 37.0**	**+0.9**
LUNU				*i* S	**Sn**		**23 30 27.5**	**-0.3**
BLEU	**Blekinge**	**4.74**	**357**	*i* P	**Pn**		**23 29 42.0**	**+1.0**
BLEU				*i* S	**Sn**		**23 30 35.6**	**-1.0**
DEL	**Delary**	**5.10**	**345**	*i* P	**Pn**		**23 29 46.0**	**+0.2**
DEL				IAML			23 30 47.7	
	comp=Z,0.5nm,0.1s							
SQTA	**Sankt Quirin**	**5.45**	**219**	*i* Pn	**Pn**		**23 29 52.5**	**+1.6**
	comp=Z,0.8nm,0.1s							
SQTA				*e*Sg	**Sg**		**23 31 22.9**	**-0.4**
	comp=Z,0.5nm,0.2s							
FABU	**Falkenberg**	**5.81**	**341**	*i* P	**Pn**		**23 29 56.5**	**+0.9**
FABU				*i* S	**Sn**		**23 31 02.1**	**-0.8**
ONAU	**Onsala**	**6.35**	**338**	*i* P	**Pn**		**23 30 02.2**	**-0.8**
ONAU				*i* S	**Sn**		**23 31 13.6**	**-2.6**
BORU	**Boraas**	**6.39**	**343**	*i* P	**Pn**		**23 30 05.3**	**+1.7**
BORU				*i* S	**Sn**		**23 31 17.4**	**+0.1**
NOA	**NORSAR Array B**	**9.88**	**346**	Pn	**Pn**		**23 30 51.7**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=179,slow=11,SNR=2.0							
FINES	**FINESS Array B**	**11.27**	**25**	Pn	**Pn**		**23 31 10.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=215,slow=17,SNR=2.0							
ARCES	**ARCESS Array B**	**18.55**	**10**	Pn	**P**		**23 32 43.3**	**-2.9**
	baz=192,slow=13,SNR=1.2							

WEL 22 23:29:57.2, 44°S±7°×17°0E±1°3, h5km±13km, M3.0/8, mB5.3/1, ML2.9/14, MLv3.0/8, Mw(mB)4.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=93.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FOZ	**Fox Glacier**	**0.32**	**42**	P	Pg		23 30 04.4	+0.9
JCZ	**Jackson Bay**	**0.61**	**240**	P	Pb		23 30 10.5	+0.1
GCSZ	**Gaunt Creek Bo**	**0.74**	**53**	P	Pn		23 30 15.0	+0.6
LBZ	**Lake Benmore**	**0.78**	**142**	P	Pb		23 30 14.0	+0.8
WKZ	**Wanaka**	**1.11**	**199**	P	Pb		23 30 19.1	+0.2
RPZ	**Rata Peaks**	**1.12**	**88**	P	Pn		23 30 19.8	+0.3
WVZ	**Waitaha Valley**	**1.13**	**52**	P	Pn		23 30 20.5	+0.9
ARCZ	**Arundel**	**1.21**	**99**	P	Pn		23 30 21.5	+0.7
TMZ	**Timaru**	**1.24**	**120**	P	Pn		23 30 22.6	+1.5
EAZ	**Earnscleugh**	**1.47**	**186**	P	Pg		23 30 25.6	+0.2
ODZ	**Otahua Downs**	**1.51**	**148**	P	Pg		23 30 26.6	+0.5
MLZ	**Mavora Lakes**	**1.88**	**212**	P	Pg		23 30 33.0	-0.3
TUZ	**Tuapeka**	**2.18**	**178**	P	Pg		23 30 38.9	-0.1
HHSZ	**Highcliff Hill**	**2.25**	**160**	P	Pg		23 30 39.8	-0.5
MQZ	**McQueen's Vall**	**2.27**	**89**	P	Pg		23 30 43.0	+2.2
WHZ	**Wether Hill Ro**	**2.40**	**207**	P	Pn		23 30 38.6	+1.6
SYZ	**Scrubby Hill**	**2.78**	**185**	P	Pg		23 30 49.2	-1.2
QRZ	**Quartz Range**	**3.70**	**38**	P	Pn		23 30 57.0	+2.0
BSWZ	**Blackbirch Sta**	**3.81**	**59**	P	Pb		23 31 01.8	-3.2
ANWZ	**Angora Road**	**6.14**	**60**	P	Pn		23 31 28.1	-0.4

IDC 22 23:38:58.3±1.3, 26.35N×128.71E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/30, mbtmp3.6/7, ML3.4/1, MS4.1/8, Ms1 4.1/8, ms1mx3.4/89, Error ellipse: s-maj=48.9km s-min=18.1km az=55.0
JMA 22 23:39:01.0±0.3, 26.35N×128.94E, h30km±4km, M3.3
ISC 22 23:38:58.7±2.0, 26.40N±0.05×128.94E±0.03, h7km±13km, n28, σ1s01/30, mb3.6/6, MS4.2/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JOW	**Kunigami**	**0.74**	**306**	Pn	**Pn**		**23 39 15.4**	**-0.2**
	506nm,0.3s,baz=126,slow=22,SNR=615							
JOW				Sn	**Sn**		**23 39 25.2**	**-1.8**
	224nm,0.3s,baz=135,slow=27,SNR=9.6							
JOW	**Kunigami**	**0.74**	**306**	P	**Pn**		**23 39 15.4**	**-0.2**
JOW				S	**Sn**		**23 39 26.0**	**-1.1**
JYRO	**Yoronjima**	**0.77**	**325**	P	**Pn**		**23 39 15.9**	**0.0**
JYRO				*e*S	**Sn**		**23 39 27.2**	**-0.5**
JNTH	**Nagotoyohara**	**0.83**	**279**	P	**Pn**		**23 39 16.4**	**-0.4**
JNTH				*e*S	**Sb**		**23 39 27.1**	**+0.2**
JOKE	**Okinoerabujima**	**1.02**	**341**	P	**Pn**		**23 39 20.2**	**+0.8**
JJT3	**Tamagusuku3**	**1.07**	**257**	P	**Pn**		**23 39 20.4**	**+0.3**
JJT3				*e*S	**Sn**		**23 39 34.9**	**-0.3**
JIH	**Iheya**	**1.08**	**306**	P	**Pn**		**23 39 20.8**	**+0.6**
JIH				*e*S	**Sn**		**23 39 34.9**	**-0.5**
JTK	**Tokunoshima**	**1.39**	**0**	P	**Pg**		**23 39 25.2**	**-0.1**
JTK				*e*S	**Sb**		**23 39 43.0**	**+0.2**
JAGN	**Aguni-jima**	**1.54**	**278**	P	**Pb**		**23 39 27.3**	**-0.2**
JAGN				*e*S	**Sb**		**23 39 46.3**	**-0.8**
JAMN	**Amamin

FINES	**FINESS Array B**	**6.84**	**156**	Pn		**Pn**	**23**	**43**	**29.5 -1.7**
	comp=Z,0.1nm,0.3s,baz=346,slow=17,SNR=1.5								
FINES				Sn		**Sn**	**23**	**44**	**47.0 -2.6**
	comp=Z,0.1nm,0.3s,baz=348,slow=20,SNR=1.6								
FINES				Lg		Lg	23	45	19.0
	comp=Z,0.1nm,0.3s,baz=349,slow=26,SNR=2.0								
NOA	**NORSAR Array B**	**7.83**	**214**	Pn		**Pn**	**23**	**43**	**45.0 +0.2**
	comp=Z,0.0nm,0.3s,baz=24,slow=11,SNR=2.2								
NOA				Lg		Lg	23	45	55.1
	comp=Z,0.0nm,0.3s,baz=328,slow=9.2,SNR=1.3								
SPITS	**Spitsbergen Ar**	**10.50**	**356**	Pn		**Pn**	**23**	**44**	**22.0 +0.7**
	baz=156,slow=14,SNR=2.5								

*TAP **22** 23:58:56.0,24˝.24N×122˚.77E,h16km±1km,ML2.9,D*
*JMA **22** 23:58:56.0±0.1,24˝.21N×122˚.79E,h21km±3km,M2.5*
ISC 22 23:58:55.5±1.2,**24˝21N**±0˝.04×**122˚78E**±0˝.02,**h17**km±10km,
n58,σ0°**60**/**83**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYNG	**Yonagunijimaku**	**0.28**	**32**	P		**Pb**	**23 59 02.2**	**0.0**
JYNG				S		**Sb**	**23 59 06.6**	**0.0**
YOJ	**Yonaguni jima**	**0.33**	**40**	P		**Pb**	**23 59 03.1**	**+0.1**
YOJ				*e*S		**Sb**	**23 59 08.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.33**	**40**	*i* P		**Pb**	**23 59 03.0**	**+0.1**
	baz=42							
YOJ				*i* S		**Sb**	**23 59 07.8**	**-0.1**
	baz=42							
IRIF	**Iriomote-Funau**	**0.87**	**82**	P		**Pb**	**23 59 12.2**	**0.0**
TWC	**Suao**	**0.94**	**295**	*e*P		**Pb**	**23 59 12.8**	**-0.6**
	baz=294							
TWC				*e*S		**Sb**	**23 59 24.7**	**-0.8**
	baz=294							
EWUT	**Wuta**	**0.95**	**285**	*e*P		**Pb**	**23 59 13.1**	**-0.4**
	baz=283							
EWUT				*e*S		**Sb**	**23 59 25.2**	**-0.5**
	baz=283							
HATJ	**Hateruma jima**	**0.95**	**99**	P		**Pb**	**23 59 13.3**	**-0.2**
HATJ				*e*S		**Sb**	**23 59 25.9**	**+0.2**
ENA	**Nanau**	**0.97**	**283**	P		**Pb**	**23 59 13.6**	**-0.4**
	baz=282							
ENA				*e*S		**Sb**	**23 59 26.5**	**-0.1**
	baz=282							
EGS		**1.00**	**309**	*e*P		**Pg**	**23 59 15.6**	**+0.7**
	baz=309							
EGS				*e*S		**Sb**	**23 59 27.6**	**+0.3**
	baz=309							
NDS	**Dongshan**	**1.06**	**294**	*e*P		**Pb**	**23 59 15.3**	**-0.2**
	baz=303							
NDS				*e*S		**Sb**	**23 59 28.3**	**-0.8**
	baz=303							
TWB1	**Santiao Chiao**	**1.07**	**318**	P		**Pg**	**23 59 16.8**	**+0.4**
	baz=330							
TWB1				*e*S		**Sn**	**23 59 30.2**	**-0.2**
	baz=330							
NTC	**Toucheng**	**1.08**	**307**	*e*P		**Pg**	**23 59 16.5**	**0.0**
	baz=306							
NTC				*e*S		**Sn**	**23 59 30.2**	**-0.3**
	baz=306							
NACB	**Ninganchiao**	**1.09**	**268**	*e*P		**Pb**	**23 59 15.8**	**-0.1**
	baz=275							
JKRS	**Kuro-shima**	**1.12**	**88**	P		**Pn**	**23 59 16.4**	**0.0**
JKRS				S		**Sn**	**23 59 31.7**	**+0.3**
TWE	**Neicheng**	**1.14**	**297**	*e*P		**Pb**	**23 59 16.9**	**+0.2**
	baz=304							
TWE				*e*S		**Sb**	**23 59 31.4**	**+0.2**
	baz=304							
TIPB	**Shuangxi**	**1.16**	**311**	P		**Pg**	**23 59 17.9**	**0.0**
	baz=323							
TIPB				*e*S		**Sn**	**23 59 32.6**	**+0.2**
	baz=323							
ETLH	**Xiulin Townshi**	**1.19**	**270**	P		**Pn**	**23 59 17.6**	**+0.1**
	baz=269							
ENTT	**Nioudou**	**1.19**	**291**	P		**Pb**	**23 59 18.1**	**+0.4**
	baz=290							
LATG	**Datong**	**1.19**	**286**	P		**Pb**	**23 59 17.8**	**+0.1**
	baz=285							
LATG				*e*S		**Sb**	**23 59 32.9**	**0.0**
	baz=285							
SXI1	**Grass Mountain**	**1.21**	**317**	*e*P		**Pn**	**23 59 17.0**	**-0.7**
	baz=328							
FUSB	**Fushanzhiwuyua**	**1.22**	**297**	P		**Pb**	**23 59 18.4**	**+0.2**
	baz=308							
FUSB				*e*S		**Sn**	**23 59 34.0**	**0.0**
	baz=308							
NDT	**Datong Townshi**	**1.22**	**289**	P		**Pg**	**23 59 19.0**	**-0.2**
	baz=288							
NDT				*e*S		**Sg**	**23 59 34.9**	**-0.3**
	baz=288							
JIJ	**Ishigaki jima**	**1.25**	**83**	P		**Pn**	**23 59 17.9**	**-0.3**
JIJ				*e*S		**Sb**	**23 59 34.3**	**-0.2**
NWF	**Wu-fen Shan**	**1.25**	**313**	P		**Pn**	**23 59 18.5**	**+0.2**
	baz=313							
NWF				*e*S		**Sg**	**23 59 36.3**	**+0.2**
	baz=313							
ESL	**Shilin**	**1.30**	**253**	*e*P		**Pn**	**23 59 18.6**	**-0.3**
	baz=251							
NNSB	**Datong**	**1.30**	**280**	*e*P		**Pb**	**23 59 19.7**	**+0.2**
	baz=279							
NNSB				*e*S		**Sn**	**23 59 36.0**	**0.0**
	baz=279							
NWLT	**Wulai**	**1.30**	**296**	P		**Pb**	**23 59 20.2**	**+0.7**
	baz=295							
NWLT				*e*S		**Sg**	**23 59 36.8**	**-0.8**
	baz=295							
NNS	**Nan Shan**	**1.31**	**280**	*e*P		**Pb**	**23 59 20.2**	**+0.4**
	baz=279							
YHNB	**Yeheng**	**1.36**	**290**	*e*P		**Pb**	**23 59 21.1**	**+0.5**
	baz=281							
NSK	**Sanguang**	**1.38**	**290**	*e*P		**Pb**	**23 59 21.3**	**+0.4**
	baz=297							
NSK				*e*S		**Sb**	**23 59 38.4**	**0.0**
	baz=297							
WHF	**Hehuan Shan**	**1.39**	**268**	*e*P		**Pn**	**23 59 20.7**	**+0.2**
	baz=266							
HGSD	**Ruisui**	**1.44**	**240**	*e*P		**Pn**	**23 59 19.6**	**-1.2**
	baz=239							
JISG	**Ishigakijimahi**	**1.44**	**75**	P		**Pn**	**23 59 20.4**	**-0.5**
YM01	**YM01**	**1.45**	**310**	*e*P		**Pn**	**23 59 20.9**	**-0.1**
	baz=309							
CHGB	**Renai**	**1.48**	**265**	*e*P		**Pn**	**23 59 21.7**	**+0.1**
	baz=263							
OWD	**Renai**	**1.49**	**261**	*e*P		**Pn**	**23 59 21.4**	**-0.3**
	baz=259							
OWD				*e*S		**Sn**	**23 59 40.7**	**-0.1**
	baz=259							
ANP	**Anpu**	**1.50**	**311**	*e*P		**Pn**	**23 59 20.5**	**-1.4**
	baz=310							
EHY	**Hungye**	**1.51**	**243**	*e*P		**Pn**	**23 59 20.7**	**-1.1**
	baz=241							
WUSB	**Renai**	**1.54**	**262**	*e*P		**Pn**	**23 59 21.8**	**-0.5**
	baz=261							
VWDT	**VWDT**	**1.57**	**254**	*e*P		**Pn**	**23 59 22.3**	**-0.3**
	baz=252							
VWDT				*e*S		**Sn**	**23 59 42.5**	**0.0**
	baz=252							
NFF	**Wufeng Townshi**	**1.57**	**286**	*e*P		**Pb**	**23 59 25.0**	**+0.7**
	baz=271							
YULB	**Yu-li**	**1.58**	**239**	*e*P		**Pn**	**23 59 21.4**	**-1.5**
	baz=238							
EYUL	**Yuli**	**1.59**	**238**	P		**Pn**	**23 59 22.6**	**-0.4**
	baz=236							
LIOB	**Emei**	**1.67**	**285**	*e*P		**Pb**	**23 59 26.4**	**+0.6**
	baz=285							
NSTT	**Nanjuang**	**1.68**	**285**	*e*P		**Pb**	**23 59 26.3**	**+0.3**
	baz=284							
WHP	**Taichung City**	**1.68**	**273**	*e*P		**Pb**	**23 59 26.7**	**+0.7**
	baz=271							
WHP				*e*S		**Sb**	**23 59 46.9**	**0.0**
	baz=271							
WCS	**Beigang Elemen**	**1.72**	**265**	*e*P		**Pn**	**23 59 24.7**	**0.0**
	baz=264							
SSLB	**Suanglung**	**1.73**	**256**	*e*P		**Pn**	**23 59 25.0**	**+0.2**
	baz=242							
SMLT	**Sun Moon Lake**	**1.75**	**260**	*e*P		**Pn**	**23 59 25.5**	**+0.3**
	baz=258							
TYC	**Yuchr**	**1.79**	**261**	*e*P		**Pn**	**23 59 26.4**	**+0.8**
	baz=259							
JTJ	**Tarama**	**1.80**	**76**	*e*S		**Sn**	**23 59 48.5**	**+0.2**
ALS	**Alishan**	**1.94**	**249**	*e*P		**Pn**	**23 59 28.4**	**+0.4**
	baz=248							
STYH	**Taoyuan**	**2.11**	**241**	*e*P		**Pb**	**23 59 32.8**	**-0.6**
	baz=228							
TPUB	**Ta-pu**	**2.17**	**246**	*e*P		**Pn**	**23 59 30.9**	**0.0**
	baz=245							
CHN4	**Tsaushan**	**2.18**	**247**	*e*P		**Pn**	**23 59 32.7**	**+1.6**
	baz=246							
WTP	**Ta-pu**	**2.21**	**245**	*e*P		**Pn**	**23 59 32.8**	**+1.3**
	baz=243							
TWK	**Hsinying**	**2.30**	**246**	*e*P		**Pn**	**23 59 34.8**	**+2.0**
	baz=245							
CHN1	**Nanshi**	**2.31**	**244**	*e*P		**Pn**	**23 59 34.8**	**+2.0**
	baz=243							

TIR 23 00:12:10.8,40˝.29N×19˚.36E,h17km±1km**,Md2.4,Ml1.7,**
Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VLO	**Vlora**	**0.20**	**30**	P		Pg	00 12 14.5	-1.2
	baz=29							
VLO				S		Sb	00 12 19.6	0.0
	baz=29							
VLO				AMP				
	comp=N,6.1nm,0.1s,baz=29							
SRN	**Sarande**	**0.64**	**130**	P		Pb	00 12 24.0	+0.4
	baz=129							
SRN				S		Sb	00 12 33.4	+1.2
	baz=129							
SRN				AMP				
	comp=N,0.1nm,0.4s,baz=129							
SCTE	**Santa Cesarea**	**0.72**	**253**	P		Pb	00 12 25.2	+0.3
	baz=253							
SCTE				S		Sn	00 12 35.9	-1.0
	baz=253							
SCTE				AMP				
	comp=N,0.1nm,0.4s,baz=253							
LSK	**Leskovik**	**0.96**	**98**	P		Pg	00 12 29.3	-0.1
	baz=98							
LSK				S		Sn	00 12 43.4	+0.4
	baz=98							
LSK				AMP				
	comp=N,0.1nm,0.5s,baz=98							
FNA	**Florina**	**1.61**	**72**	P		Pg	00 12 41.6	-0.2
	baz=71							
NOCI	**Noci**	**1.82**	**287**	P		Pg	00 12 45.8	0.0
	baz=287							
RICI	**Ricice**	**3.61**	**333**	*e*Pn		Pn	00 13 05.6	-0.4
RICI				Sn		Sn	00 13 44.5	-3.7
HVAR	**Hvar**	**3.62**	**324**	*e*Pn		Pn	00 13 06.5	+0.4
HVAR				Sn		Sn	00 13 44.5	-3.9

*DDA **23** 00:13:40.8±0.0,38˚.23N×25˚.84E,h7km±1km,ML1.1*
ISC 23 00:13:40.4±4.4,**38˚2N**±0˝.2×**25˚8E**±0˝.2,**h10**km,**n3**,σ0°**45**/**6**,
Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZEYE	**Izmir, Urla-Ze**	**0.54**	**84**	P		**Pg**	**00 13 51.1**	**+0.3**
ZEYE				S		**Sg**	**00 13 57.3**	**-0.6**
ZEYE				*i* AML		AML	00 14 01.0	
	comp=E,11nm,0.2s							
URLA	**Izmir**	**0.63**	**74**	P		**Pg**	**00 13 52.6**	**0.0**
URLA				S		**Sg**	**00 14 01.3**	**+0.4**
URLA				*i* AML		AML	00 14 03.0	
	comp=E,18nm,0.3s							
URLA				*i* AML		AML	00 14 04.0	
	comp=N,22nm,0.6s							
BAYC	**CANAKKALE_Bayr**	**1.65**	**20**	P		**Pb**	**00 14 10.8**	**-0.1**
BAYC				S		**Sg**	**00 14 33.5**	**0.0**
BAYC				*i* AML		AML	00 14 52.0	
	comp=N,2.3nm,1.0s							

*IDC **23** 00:31:53.3±1.6,32˚.43S×71˚.79W,h0km,mb3.3/2,*
mb1 3.7/4,mb1mx3.6/16,mbtmp3.4/4,ML4.0/2,Error
ellipse: s-maj=65.7km s-min=34.1km az=80.0
*GUC **23** 00:31:57.2±0.8,32˚.60S×71˚.74W,h25km±4km,ML3.4*
ISC 23 00:31:56.6±1.2,**32˚59S**±0˝.03×**71˚74W**±0˝.05,**h26**km±9km,
n28,σ1°**07**/**48**,**3C-8D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA06	**Catapilco**	**0.38**	**86**	⇓*i* P		**Pb**	**00 32 05.5**	**+0.7**
VA06				*i* S		**Sb**	**00 32 11.0**	**+0.5**
VA06				IAML			00 32 12.0	
	comp=N,21µm,0.2s							
VA01	**Torpederas**	**0.44**	**169**	*e*P		**Pb**	**00 32 05.9**	**+0.1**
VA01				*i* S		**Sb**	**00 32 11.9**	**-0.2**
VA01				IAML			00 32 12.8	
	comp=N,4µm,0.1s							
ROCH	**El Roble**	**0.72**	**122**	*e*P		**Pn**	**00 32 10.9**	**-0.6**
ROCH				⇓*i* P		**Pb**	**00 32 08.6**	**-2.2**
ROCH				*i* S		**Sb**	**00 32 18.4**	**-2.0**
ROCH				IAML			00 32 19.1	
	comp=N,6µm,0.2s							
ROCH				*i* S		**Sn**	**00 32 20.9**	**-0.9**
ROCH				IAML			00 32 21.5	
	comp=N,8µm,0.3s							
MT02	**Curacav**	**0.84**	**143**	*e*P		**Pb**	**00 32 12.4**	**-0.2**
MT02				*i* S		**Sb**	**00 32 23.1**	**-0.3**
MT02				IAML			00 32 24.7	
	comp=Z,839nm,0.5s							
VA03	**San Esteban**	**1.02**	**100**	⇓*i* P		**Pn**	**00 32 15.5**	**+0.1**
VA03				*i* S		**Sb**	**00 32 29.2**	**+0.4**
VA03				IAML			00 32 29.9	
	comp=N,4µm,0.1s							
PEL	**Peldehue**	**1.05**	**122**	*e*P		**Pn**	**00 32 15.5**	**-0.2**
PEL				*i* S		**Sn**	**00 32 30.1**	**+0.5**
PEL				IAML			00 32 34.5	
	comp=E,2µm,0.1s							
VA05	**Santo Domingo**	**1.07**	**174**	*e*P		**Pn**	**00 32 16.0**	**+0.1**
VA05				*i* S		**Sb**	**00 32 30.2**	**+0.1**
VA05				IAML			00 32 33.6	
	comp=E,5µm,0.2s							
MT05	**Renca**	**1.16**	**134**	⇓*i* P		**Pn**	**00 32 18.0**	**+0.7**
MT05				*i* S		**Sb**	**00 32 33.2**	**+0.4**
MT05				IAML			00 32 35.0	
	comp=N,2µm,0.3s							
MT01	**Popeta**	**1.34**	**162**	*e*P		**Pn**	**00 32 20.0**	**+0.4**
MT01				*i* S		**Sb**	**00 32 37.5**	**-0.2**
MT01				IAML			00 32 41.4	
	comp=N,1µm,0.3s							
MT09	**Talagante**	**1.34**	**152**	⇓*i* P		**Pn**	**00 32 20.5**	**+0.7**
MT09				*i* S		**Sn**	**00 32 37.7**	**+0.8**
MT09				IAML			00 32 44.2	
	comp=E,979nm,0.3s							
MT03	**Universidad Ad**	**1.37**	**131**	⇓*i* P		**Pn**	**00 32 21.4**	**+1.1**
MT03				*i* S		**Sb**	**00 32 39.0**	**+0.2**
MT03				IAML			00 32 40.0	
	comp=N,2µm,0.3s							
FCH	**Farellones**	**1.43**	**121**	⇓*i* P		**Pn**	**00 32 22.0**	**+0.8**
FCH				*i* S		**Sb**	**00 32 40.9**	**+0.3**
FCH				IAML			00 32 42.6	
	comp=E,1µm,0.2s							
CO02	**Combarbal**	**1.52**	**25**	*e*P		**Pn**	**00 32 23.4**	**+1.1**
CO02				*i* S		**Sb**	**00 32 43.2**	**+0.1**
BO04	**La Punta**	**1.69**	**146**	⇓*i* P		**Pb**	**00 32 26.3**	**-0.8**
BO04				*i* S		**Sb**	**00 32 47.8**	**-0.1**
BO04				IAML			00 32 52.5	
	comp=E,755nm,0.4s							
LMEL	**Las Melosas**	**1.80**	**135**	*e*P		**Pb**	**00 32 28.2**	**-0.8**
LMEL				*i* S		**Sb**	**00 32 50.8**	**-0.4**
LMEL				IAML			00 32 55.5	
BO01	**Tunca**	**1.88**	**163**	⇑*i* P		**Pn**	**00 32 28.6**	**+1.5**
BO01				*i* S		**Sb**	**00 32 52.8**	**-0.5**
BO01				IAML			00 33 00.9	
	comp=N,298nm,0.4s							
BO03	**Pichilemu**	**1.91**	**185**	⇑*i* P		**Pn**	**00 32 27.9**	**+0.4**
BO03				IAML			00 33 02.0	
	comp=E,153nm,0.7s							
CO06	**Fray Jorge**	**1.91**	**3**	*e*P		**Pn**	**00 32 28.2**	**+0.6**
CO06				*i* S		**Sb**	**00 32 54.1**	**-0.2**
CO06				IAML			00 32 58.9	
	comp=N,301nm,0.3s							
CO03	**El Pedregal**	**1.96**	**28**	*e*P		**Pn**	**00 32 30.8**	**+2.4**
CO03				*i* S		**Sb**	**00 32 55.7**	**-0.2**
CO03				IAML			00 32 59.1	
	comp=E,491nm,0.3s							
GO05	**Huala**	**2.42**	**184**	⇑*i* P		**Pn**	**00 32 34.8**	**+0.3**
GO05				IAML			00 33 26.8	
	comp=E,157nm,0.3s							
GO04	**Tololo Observa**	**2.54**	**19**	*e*P		**Pn**	**00 32 38.2**	**+1.7**
GO04				*i* S		**Sb**	**00 33 11.4**	**-1.3**
CO05	**La Serena**	**2.70**	**9**	IAML			00 33 30.6	
	comp=N,294nm,0.8s							
CO01	**Juntas del Tor**	**2.96**	**29**	*e*P		**Pn**	**00 32 45.5**	**+3.3**
CO01				IAML			00 33 31.0	
	comp=N,164nm,0.6s							
PLCA	**Paso Flores**	**8.18**	**174**	Pn		**Pn**	**00 33 55.6**	**+1.8**
	comp=N,0.9nm,0.3s,baz=349,slow=14,SNR=36							
LPAZ	**La Paz**	**16.56**	**12**	Pn		**Pn**	**00 35 45.7**	**-2.1**
	comp=N,0.1nm,0.3s,baz=214,slow=3.6,SNR=1.9							
TXAR	**Lajitas Array**	**68.63**	**330**	P		**P**	**00 42 57.5**	**-0.2**
	comp=N,0.1nm,0.3s,baz=146,slow=5.4,SNR=1.4							
TORD	**Torodi Ar. Bea**	**83.50**	**70**	P		**P**	**00 44 23.4**	**+0.8**
	comp=N,0.2nm,0.7s,baz=242,slow=6.2,SNR=4.5							
ZALV	**Zalesovo Beam**	**152.90**	**31**	PKPbc		**PKPbc**	**00 51 51.3**	**+0.3**
	comp=N,0.4nm,0.5s,baz=336,slow=2.0,SNR=2.2							

*IDC **23** 00:54:59.5±0.8,12˚.44N×86˚.71W,h124km±7km,mb3.3/9,*
mb1 3.6/12,mb1mx3.4/41,mbtmp3.8/12,Error ellipse:
s-maj=26.4km s-min=9.0km az=55.0
*UCR **23** 00:55:00.7±1.3,12˚.36N×86˚.93W,h83km±20km,ML3.7,*
mb4.1(NEIC)
*NEIC **23** 00:55:00.1±1.4,12˚.39N±0˝.06×86˚.92W±0˝.03,h110km±5km,*
mb4.1/40,Error ellipse: s-maj=9.3km s-min=4.1km
az=182.0
*INET **23** 00:55:00.3±0.6,12˚.36N×86˚.95W,h106km±3km,MW3.7*
ISC 23 00:54:59.3±0.6,**12˚40N**±0˝.05×**86˚92W**±0˝.05,**h115**km±4km,
n149,σ0°**99**/**158**,**mb4.0**/**23**,**1C-4D**,**Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TELN	**Telica**	**0.23**	**23**	*e*P		**Pn**	**00 55 15.4**	**-0.1**
TELN				*e*P			00 55 16.3	
CNGN	**Cerro Negro**	**0.24**	**65**	Pn		**Pn**	**00 55 14.1**	**-1.4**
CNGN				Sn		**Sn**	**00 55 26.5**	**-1.2**
CNGN	**Cerro Negro**	**0.24**	**65**	*e*P		**Pn**	**00 55 14.3**	**-1.3**
CRIN	**San Cristobal**	**0.33**	**338**			**Pn**	**00 55 16.0**	**+0.1**
CRIN				Sn		**Sn**	**00 55 28.0**	**-0.4**
CRIN	**San Cristobal**	**0.33**	**338**	*e*P		**Pn**	**00 55 16.0**	**+0.1**
CRIN				*e*S		**Sn**	**00 55 29.1**	**+0.7**
MOMN	**Momotombo**	**0.37**	**88**	*e*P		**Pn**	**00 55 15.8**	**-0.3**
COPN	**Copaltepe**	**0.39**	**124**	*e*P		**Pn**	**00 55 15.8**	**-0.3**
APYN	**Apoyeque**	**0.58**	**106**	*e*P		**Pn**	**00 55 17.3**	**0.0**
TISN	**Laguna Tiscapa**	**0.69**	**111**	*e*P		**Pn**	**00 55 18.1**	**+0.1**
MGAN	**Managua**	**0.71**	**111**	*e*P		**Pn**	**00 55 18.3**	**+0.1**
CSGN	**Cosiguina Volc**	**0.85**	**313**	*e*P		**Pn**	**00 55 19.6**	**0.0**
MATN	**Matagalpa**	**1.11**	**61**			**Pn**	**00 55 23.0**	**+0.9**
MATN	**Matagalpa**	**1.11**	**61**	*e*P		**Pn**	**00 55 22.9**	**+0.7**
BOAB	**BOACO BROADBAN**	**1.23**	**87**	Pn		**Pn**	**00 55 24.1**	**+0.8**
BOAB	**BOACO BROADBAN**	**1.23**	**87**	*e*P		**Pn**	**00 55 24.2**	**+0.8**
CONN	**Concepcion**	**1.52**	**123**	*e*P		**Pn**	**00 55 26.5**	**-0.1**
CONN				*e*S		**Sn**	**00 55 47.7**	**+0.3**
VSM	**San Miguel**	**1.67**	**308**	*e*P		**Pn**	**00 55 29.4**	**+0.7**
VSM	**San Miguel**	**1.67**	**308**	*e*P		**Pn**	**00 55 29.4**	**+0.7**
LCY	**Lacayo**	**1.68**	**308**	*e*P		**Pn**	**00 55 29.4**	**+0.6**
LCY				IAML			00 55 58.5	
	comp=Z,1µm,0.3s							
LCY	**Lacayo**	**1.68**	**308**	*e*P		**Pn**	**00 55 29.4**	**+0.6**
LCY				IAML			00 55 58.5	
	comp=Z,1µm,0.3s							
TGUH	**Tegucigalpa,Un**	**1.69**	**348**	Pn		**Pn**	**00 55 29.9**	**+1.0**
TGUH	**Tegucigalpa,Un**	**1.69**	**348**	⇓*i* P		**Pn**	**00 55 29.8**	**+1.0**
TGUH	**Tegucigalpa,Un**	**1.69**	**348**	⇓*i* P		**Pn**	**00 55 29.8**	**+1.0**
PACA	**Pacayal**	**1.73**	**308**	*e*P		**Pn**	**00 55 30.1**	**+0.8**
PACA				*e*S		**Sn**	**00 55 53.7**	**+1.5**
PACA	**Pacayal**	**1.73**	**308**	*e*P		**Pn**	**00 55 30.1**	**+0.8**
PACA				*e*S		**Sn**	**00 55 53.7**	**+1.5**
ACON	**Acoyapa**	**1.76**	**104**	Pn		**Pn**	**00 55 30.0**	**+0.4**
ACON	**Acoyapa**	**1.76**	**104**	*e*P		**Pn**	**00 55 30.0**	**+0.4**
ACON	**Acoyapa**	**1.76**	**104**	*e*P		**Pn**	**00 55 30.0**	**+0.4**
HZTE	**Horizontes, Gu**	**2.12**	**142**	Pn		**Pn**	**00 55 34.6**	**+0.5**
HZTE	**Horizontes, Gu**	**2.12**	**142**	*e*P		**Pn**	**00 55 34.5**	**+0.5**
HZTE	**Horizontes, Gu**	**2.12**	**142**	*e*P		**Pn**	**00 55 34.5**	**+0.5**
BUEV	**Buena Vista**	**2.17**	**137**	*i* P		**Pn**	**00 55 34.8**	**-0.1**
BUEV				*i* S		**Sn**	**00 56 01.7**	**-0.3**
COEG	**Centro de Oper**	**2.26**	**303**	*e*P		**Pn**	**00 55 36.5**	**+0.6**
LIM1	**Limonal**	**2.35**	**136**	⇑*i* P		**Pn**	**00 55 37.6**	**+0.5**
VMAR	**Armenia, Volca**	**2.37**	**132**	*e*P		**Pn**	**00 55 37.2**	**-0.1**
HORNC	**Hornillas**	**2.39**	**134**	*i* P		**Pn**	**00 55 37.9**	**+0.3**
COLC	**Colonia**	**2.41**	**135**	*e*P		**Pn**	**00 55 38.0**	**+0.3**
COLC				*i* P			00 55 38.3	
COLC				*i* S		**Sn**	**00 56 07.4**	**+0.1**
LFRS	**El Faro**	**2.42**	**301**	*e*P		**Pn**	**00 55 38.5**	**+0.6**
LFRS	**El Faro**	**2.42**	**301**	*e*P		**Pn**	**00 55 38.5**	**+0.6**
CUI	**Cuipilapa**	**2.44**	**135**	*e*P		**Pn**	**00 55 38.5**	**+0.2**
ORTG	**Ortega, Santa**	**2.48**	**144**			**Pn**	**00 55 39.5**	**+0.7**
ORTG	**Ortega, Santa**	**2.48**	**144**	*e*P		**Pn**	**00 55 39.5**	**+0.7**
GUAI	**GUAI**	**2.53**	**147**	*i* P		**Pn**	**00 55 40.1**	**+0.8**
PTEN	**Parque Tenorio**	**2.53**	**131**	*i* P		**Pn**	**00 55 39.8**	**+0.4**
ESPN	**Las Esperanzas**	**2.57**	**94**	Pn		**Pn**	**00 55 40.9**	**+1.1**
SNET	**Serv Nac Est T**	**2.59**	**300**	Pn		**Pn**	**00 55 40.3**	**+0.1**
SNET	**Serv Nac Est T**	**2.59**	**300**	*e*S		**Sn**	**00 56 10.8**	**-0.8**
SNET	**Serv Nac Est T**	**2.59**	**300**	*e*S		**Sn**	**00 56 10.8**	**-0.8**
SAJU	**San Juanillo,**	**2.60**	**153**	*e*P		**Pn**	**00 55 40.5**	**+0.2**
BOQS	**Boqueron**	**2.65**	**300**	IAML			00 56 16.9	
	comp=Z,802nm,0.4s							
BOQS	**Boqueron**	**2.65**	**300**	IAML			00 56 16.9	
	comp=Z,802nm,0.4s							
DUNO	**Dulce Nombre,**	**2.70**	**149**	Pn		**Pn**	**00 55 42.0**	**+0.6**
DUNO	**Dulce Nombre,**	**2.70**	**149**	*e*P		**Pn**	**

152A	**Waverly Hall**	**20.28**	**5**	P	**P**	**00 59 26.2**	**+0.4**
152A				IAmb	IAmb	00 59 30.9	
	comp=Z,5.8nm,0.5s						
GOGA	**Godfrey**	**21.16**	**8**	P	**P**	**00 59 36.7**	**+1.5**
GOGA				IAmb	IAmb	00 59 39.0	
	comp=Z,7.5nm,0.6s						
MTP	**Monte Pirata**	**21.37**	**72**	P	**P**	**00 59 39.0**	**+1.3**
MTP				IAmb	IAmb	00 59 44.0	
	comp=Z,8.4nm,0.8s						
X51A	**Calhoun**	**22.15**	**5**	P	**P**	**00 59 46.4**	**+0.7**
X51A				IAmb	IAmb	01 00 04.0	
	comp=Z,11nm,1.1s						
X43A	**Marvell**	**22.32**	**351**	P	**P**	**00 59 47.6**	**+0.2**
JSC	**Jenkinsville**	**22.39**	**12**	P	**P**	**00 59 49.8**	**+1.6**
Y59A	**Loris**	**22.71**	**18**	P	**P**	**00 59 52.3**	**+0.9**
BIRD	**Birdtown, Kers**	**22.91**	**14**	P	**P**	**00 59 54.5**	**+1.2**
TXAR	**Lajitas Array**	**22.95**	**320**	P	**P**	**00 59 53.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=130,slow=9.8,SNR=5.4						
TXAR				pP	**pP**	**01 00 19.1**	**+2.7**
	comp=Z,1.3nm,0.7s,baz=142,slow=10,SNR=5.6						
TXAR	**Lajitas Array**	**22.95**	**320**	P	**P**	**00 59 54.5**	**+0.7**
TX31	**Lajitas Ar. Si**	**22.95**	**320**	P	**P**	**00 59 55.6**	**+1.7**
CPCT	**Cooper Cave**	**23.05**	**5**	P	**P**	**00 59 53.5**	**-1.2**
CPCT				IAmb	IAmb	00 59 57.2	
	comp=Z,11nm,1.2s						
ABTX	**Abilene, Hawle**	**23.27**	**332**	P	**P**	**00 59 57.3**	**+0.6**
ABTX				IAmb	IAmb	00 59 58.5	
	comp=Z,3.2nm,0.4s						
TKL	**Tuckaleechee C**	**23.33**	**6**	P	**P**	**00 59 56.5**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=208,slow=5.0,SNR=5.2						
TKL	**Tuckaleechee C**	**23.33**	**6**	P	**P**	**00 59 58.8**	**+1.5**
TKL				IAmb	IAmb	00 59 60.0	
	comp=Z,8.2nm,1.1s						
V53A	**Saluda**	**23.47**	**8**	P	**P**	**00 59 59.3**	**+0.7**
W57A	**Gilead**	**23.51**	**14**	P	**P**	**00 59 59.4**	**+0.5**
W57A				IAmb	IAmb	01 00 00.3	
	comp=Z,5.2nm,0.7s						
V52A	**Sevierville**	**23.54**	**7**	P	**P**	**01 00 00.5**	**+1.4**
V52A				IAmb	IAmb	01 00 03.2	
	comp=Z,7.6nm,1.1s						
CLTN	**Cedars of Leba**	**23.60**	**1**	P	**P**	**01 00 01.6**	**+1.9**
CLTN				IAmb	IAmb	01 00 02.0	
	comp=Z,5.8nm,0.8s						
WVT	**Waverly**	**23.64**	**358**	P	**P**	**01 00 02.0**	**+1.9**
TZTN	**Tazewell**	**24.23**	**7**	P	**P**	**01 00 05.9**	**+0.4**
TZTN				IAmb	IAmb	01 00 24.2	
	comp=Z,7.7nm,1.1s						
V58A	**Windy Hill, Pi**	**24.34**	**16**	P	**P**	**01 00 07.7**	**+1.4**
V58A				IAmb	IAmb	01 00 08.3	
	comp=Z,7.1nm,0.8s						
SVB	**Belmont**	**25.04**	**85**	P	**P**	**01 00 14.1**	**+1.1**
MPOM	**Morne Pois Mar**	**25.43**	**82**	P	**P**	**01 00 16.6**	**+0.1**
Q51A	**Peebles**	**26.71**	**6**	P	**P**	**01 00 27.9**	**+0.1**
Q51A				IAmb	IAmb	01 00 33.7	
	comp=Z,4.0nm,0.6s						
Q56A	**Snyder Ridge,**	**27.41**	**13**	P	**P**	**01 00 35.7**	**+1.6**
Q56A				IAmb	IAmb	01 00 36.1	
	comp=Z,5.4nm,1.0s						
P53A	**Whipple**	**27.42**	**9**	P	**P**	**01 00 35.5**	**+1.3**
P53A				IAmb	IAmb	01 00 45.8	
	comp=Z,6.7nm,1.1s						
P52A	**Corning**	**27.46**	**8**	P	**P**	**01 00 35.1**	**+0.7**
P38A	**Dawn**	**27.74**	**349**	P	**P**	**01 00 36.6**	**-0.4**
P38A				IAmb	IAmb	01 00 37.4	
	comp=Z,3.4nm,0.8s						
M55A	**Ridgway**	**29.83**	**12**	P	**P**	**01 00 55.4**	**-0.1**
M57A	**Sunshine Farm,**	**30.08**	**15**	P	**P**	**01 00 59.4**	**+1.7**
PDAR	**Pinedale Array**	**36.07**	**331**	P	**P**	**01 01 49.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=132,slow=9.0,SNR=3.6						
SCHQ	**Schefferville**	**45.18**	**16**	P	**P**	**01 03 03.1**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=212,slow=5.7,SNR=10						
SCHQ	**Schefferville**	**45.18**	**16**	P	**P**	**01 03 03.4**	**-1.1**
FCC	**Fort Churchill**	**46.59**	**355**	P	**P**	**01 03 14.5**	**-0.9**
YKA	**Yellowknife Ar**	**53.80**	**344**	P	**P**	**01 04 08.3**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=142,slow=7.1,SNR=14						
YKA				pP	**pP**	**01 04 37.9**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=140,slow=7.6,SNR=6.1						
PLCA	**Paso Flores**	**54.99**	**165**	P	**P**	**01 04 18.7**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=338,slow=6.4,SNR=6.3						
PLCA	**Paso Flores**	**54.99**	**165**	P	**P**	**01 04 19.5**	**+0.8**
PLCA				IAmb	IAmb	01 04 32.7	
	comp=Z,2.3nm,1.1s						
ILAR	**Eielson Array**	**66.28**	**336**	P	**P**	**01 05 34.2**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=103,slow=5.3,SNR=2.0						
ILAR				pP	**PcP**	**01 06 06.0**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=154,slow=6.6,SNR=2.6						
ESDC	**Sonseca Array**	**76.82**	**52**	P	**P**	**01 06 37.0**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=273,slow=5.8,SNR=7.6						
TORD	**Torodi Ar. Bea**	**85.92**	**78**	P	**P**	**01 07 25.0**	**-2.1**
	comp=Z,0.4nm,0.9s,baz=291,slow=4.0,SNR=1.6						
STKA	**Stephens Creek**	**131.50**	**238**	PKP	**PKPdf**	**01 13 58.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=128,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**139.73**	**248**	PKP	**PKPdf**	**01 14 14.6**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=89,slow=1.7,SNR=20						
WRA	**Warramunga Arr**	**139.75**	**254**	PKP	**PKPdf**	**01 14 14.9**	**+0.3**
	comp=Z,3.2nm,0.5s,baz=90,slow=2.3,SNR=49						

*IDC **23** 00:58:49.4±1.5, 17°.32S×178°.89W, h542km±14km, mb3.2/10, mb1 3.5/11, mb1mx3.2/42, mbtmp4.1/11, Error ellipse: s-maj=29.1km s-min=15.9km az=147.0*
*NEIC **23** 00:58:50.4±1.5, 17°.27S±0°.06×178°.9W±0°.1, h557km±8km, mb4.1/29, Error ellipse: s-maj=18.1km s-min=9.3km az=98.0*

ISC 23 00:58:49.7±0.5,**17°.3S**±0°.1×**178°.92W**±0°.09,**h550**km,**n51,** σ1§**02**/53,**mb4.1**/24,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.93**	**260**	P	**P**	**01 00 05.4**	**+0.9**
	14nm,0.3s,baz=114,slow=5.3,SNR=59						
MSVF	**Nonsavu**	**2.93**	**260**	P	**P**	**01 00 05.8**	**+1.3**
NIUE	**Niue**	**8.73**	**103**	P	**P**	**01 00 55.6**	**+0.8**
KNTN	**Kanton**	**16.04**	**27**	P	**P**	**01 02 09.4**	**-0.4**
KNTN				IAmb	IAmb	01 02 20.4	
	comp=Z,7.2nm,0.7s						
KOUNC	**Koumac, New Ca**	**16.23**	**256**	P	**P**	**01 02 12.6**	**+1.2**
EIDS	**Eidsvold**	**29.04**	**249**	P	**P**	**01 04 05.6**	**-0.4**
EIDS				IAmb	IAmb	01 04 13.4	
	comp=Z,3.8nm,1.1s						
CTA	**Charters Tower**	**33.08**	**260**	P	**P**	**01 04 40.6**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=100,slow=4.2,SNR=2.4						
CTAO	**Charters Tower**	**33.08**	**260**	P	**P**	**01 04 40.4**	**-0.3**
CTAO				IAmb	IAmb	01 04 43.9	
	comp=Z,6.5nm,1.1s						
CAN	**Canberra**	**33.72**	**231**	P	**P**	**01 04 45.3**	**-0.6**
COEN	**Coen**	**36.62**	**270**	P	**P**	**01 05 08.2**	**-2.0**
TOO	**Toolangi**	**37.21**	**230**	P	**P**	**01 05 15.0**	**+0.2**
TOO				IAmb	IAmb	01 05 27.1	
	comp=Z,3.9nm,0.9s						
STKA	**Stephens Creek**	**38.52**	**240**	P	**P**	**01 05 25.9**	**+0.4**
	comp=Z,1.9nm,0.4s,baz=81,slow=11,SNR=9.9						
STKA	**Stephens Creek**	**38.52**	**240**	P	**P**	**01 05 26.0**	**+0.5**
BBOO	**Buckleboo**	**43.30**	**240**	P	**P**	**01 06 03.2**	**-0.2**
BBOO				IAmb	IAmb	01 06 03.7	
	comp=Z,5.7nm,0.6s						
WR0	**Warramunga Arr**	**44.09**	**259**	P	**P**	**01 06 08.9**	**-0.8**
WB0	**Warramunga Arr**	**44.24**	**259**	P	**P**	**01 06 10.8**	**-0.1**
WB0				IAmb	IAmb	01 06 15.0	
	comp=Z,5.0nm,1.1s						
WB2	**Warramunga Arr**	**44.27**	**259**	P	**P**	**01 06 10.7**	**-0.4**
WB2				IAmb	IAmb	01 06 26.1	
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**44.28**	**259**	P	**P**	**01 06 10.7**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=93,slow=7.8,SNR=16						
WRA				ScP	**ScP**	**01 10 46.3**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=84,slow=5.1,SNR=3.0						
WRA	**Warramunga Arr**	**44.28**	**259**	IAmb	IAmb	01 06 11.7	
	comp=Z,0.2nm,0.8s						
AS31	**Alice Springs**	**44.50**	**254**	P	**P**	**01 06 13.2**	**+0.2**
AS31				IAmb	IAmb	01 06 13.7	
	comp=Z,4.2nm,0.5s						
ASAR	**Alice Springs**	**44.51**	**254**	P	**P**	**01 06 13.1**	**+0.2**
	comp=Z,12nm,0.6s,baz=88,slow=8.1,SNR=156						
ASAR				PcP	**PcP**	**01 07 44.6**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=90,slow=5.4,SNR=2.1						
ASAR				ScP	**ScP**	**01 10 47.7**	**+3.4**
	comp=Z,0.4nm,0.8s,baz=104,slow=3.9,SNR=2.7						
ASAR	**Alice Springs**	**44.51**	**254**	P	**P**	**01 06 13.3**	**+0.3**
GUMO	**Guam**	**47.10**	**308**	P	**P**	**01 06 32.3**	**-0.3**
	comp=Z,86nm,0.9s,baz=165,slow=20,SNR=2.0						
MTN	**Manton Dam**	**48.34**	**268**	P	**P**	**01 06 42.4**	**+0.4**
MTN				IAmb	IAmb	01 06 56.9	
	comp=Z,12nm,1.1s						
FORT	**Forrest**	**49.85**	**244**	P	**P**	**01 06 52.5**	**-0.4**
KNRA	**Kununurra**	**50.08**	**264**	P	**P**	**01 06 55.4**	**+0.6**
KNRA				IAmb	IAmb	01 06 56.1	
	comp=Z,8.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.66**	**260**	P	**P**	**01 07 14.0**	**+0.6**
MBWA	**Marble Bar**	**57.77**	**256**	P	**P**	**01 07 48.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**59.09**	**242**	P	**P**	**01 07 59.1**	**+1.4**
NWAO				IAmb	IAmb	01 08 03.3	
	comp=Z,10nm,1.1s						
VNDA	**Vanda**	**61.05**	**185**	P	**P**	**01 08 08.6**	**-1.3**
	comp=Z,0.4nm,0.9s,baz=27,slow=11,SNR=1.8						
VNDA	**Vanda**	**61.05**	**185**	P	**P**	**01 08 08.7**	**-1.2**
KIWB	**Kanaga Island**	**68.84**	**1**	P	**P**	**01 08 56.9**	**-2.3**
JHS	**Saijyo**	**69.09**	**319**	P	**P**	**01 09 01.3**	**+0.2**
JHS				IAmb	IAmb	01 09 17.1	
	comp=Z,6.9nm,1.0s						
UGM	**Wanagama**	**69.19**	**268**	P	**P**	**01 09 02.4**	**+0.3**
QSPA	**South Pole Qui**	**72.79**	**180**	P	**P**	**01 09 20.6**	**-1.8**
O18K	**Koktuh Hills**	**79.22**	**12**	P	**P**	**01 09 58.1**	**+0.4**
O18K				IAmb	IAmb	01 10 14.5	
	comp=Z,5.7nm,1.1s						
NVAR	**Mina Array Bea**	**79.30**	**44**	P	**P**	**01 09 59.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=235,slow=8.7,SNR=3.6						
GHO	**Glory Hole Cre**	**82.30**	**14**	P	**P**	**01 10 13.9**	**+0.2**
GHO				IAmb	IAmb	01 10 28.5	
	comp=Z,7.8nm,1.0s						
SNH	**Sunshine Point**	**82.50**	**17**	P	**P**	**01 10 14.2**	**-0.5**
E07A	**Sunnyside**	**82.79**	**37**	P	**P**	**01 10 17.1**	**+0.7**
SEY	**Seymchan**	**83.04**	**347**	P	**P**	**01 10 17.9**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=147,slow=6.2,SNR=6.9						
CAST	**Castle Rocks**	**83.10**	**12**	P	**P**	**01 10 17.1**	**-0.4**
PCA	**Pinnacle**	**83.19**	**18**	P	**P**	**01 10 18.0**	**-0.2**
PCA				IAmb	IAmb	01 10 22.9	
	comp=Z,7.2nm,1.0s						
N25K	**Chitina, Valde**	**83.21**	**16**	P	**P**	**01 10 18.2**	**-0.1**
GLB	**Gilahina Butte**	**83.28**	**16**	P	**P**	**01 10 19.8**	**+1.3**
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**01 10 33.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=212,slow=4.4,SNR=5.9						
PDAR	**Pinedale Array**	**87.22**	**44**	P	**P**	**01 10 37.6**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=219,slow=3.5,SNR=3.8						
CMAR	**Chiang Mai Arr**	**88.21**	**290**	P	**P**	**01 10 41.8**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=123,slow=3.3,SNR=1.7						
BRTR	**Keskin Array B**	**143.99**	**315**	PKP	**PKPdf**	**01 17 23.7**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=117,slow=3.5,SNR=7.0						
CLL	**Collm**	**144.73**	**347**	*e*PKPbc	**PKPab**	**01 17 25.0**	**0.0**
GERES	**GERESS Array B**	**146.87**	**345**	PKPbc	**PKPbc**	**01 17 31.2**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=23,slow=4.4,SNR=5.2						

*ISN **23** 01:16:36.0±1.1, 32°.98N×45°.90E, h15km±999km, ML3.2*
*TEH **23** 01:16:36.3, 32°.98N×45°.82E, h19km, ML3.1*

ISC 23 01:16:36.0±1.5,**32°.98N**±0°.04×**45°.79E**±0°.07,**h12**km±9km, **n19,** σ1§**15**/24,**Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.18**	**42**	*e*Pg	**Pg**	**01 16 40.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**01 16 42.2**	**-0.5**
IBDR				AML	AML	01 16 43.6	
	comp=N,5μm,0.2s						
IBDR				AML	AML	01 16 44.8	
	comp=E,6μm,0.4s						
RAFI	**Al-Rafai**	**1.28**	**167**	*e*Pg	**Pn**	**01 17 00.0**	**+0.3**
RAFI				*e*Sg	**Sb**	**01 17 16.0**	**-0.5**
RAFI				AML	AML	01 17 26.1	
	comp=E,220nm,0.5s						
DHL1	**Dehloran**	**1.29**	**103**	*e*Pg	**Pg**	**01 17 00.9**	**+0.1**
DHL1				*e*Sg	**Sg**	**01 17 18.4**	**+0.8**
IGHG	**Ghaleghazi**	**1.50**	**26**	*e*Sg	**Sg**	**01 17 25.8**	**+1.6**
IGHG				*e*Pg	**Pg**	**01 17 04.8**	**+0.1**
IGHG				*e*		01 17 34.5	
	comp=Z,3μm,0.8s						
KCHF	**Cheshme Sefid,**	**1.66**	**39**	*e*		01 17 30.3	
	comp=Z,3μm,0.4s						
KCHF				*e*Pg	**Pb**	**01 17 06.6**	**-0.1**
IDHR	**Dehrash**	**1.79**	**16**	*e*		01 17 11.9	
	comp=Z,2μm,0.2s						
IDHR				*e*Pg	**Pb**	**01 17 09.5**	**+0.7**
KER	**Kermanshah**	**1.80**	**38**	*e*		01 17 40.0	
	comp=Z,2μm,0.5s						
KER				*e*Pg	**Pb**	**01 17 08.9**	**0.0**
IKFM	**Kafar-mosalman**	**1.81**	**72**	*e*		01 17 34.2	
	comp=Z,5μm,0.5s						
IKFM				*e*Pg	**Pb**	**01 17 08.7**	**-0.4**
ILIN	**Lien**	**2.17**	**26**	*e*Pn	**Pb**	**01 17 13.9**	**-1.4**
IBZA	**Bozab**	**2.28**	**49**	*e*Pn	**Pn**	**01 17 15.0**	**+1.3**
IBZA				*e*		01 17 50.2	
	comp=Z,989nm,0.7s						
HSAM	**Samen**	**2.65**	**62**	*e*Pn	**Pn**	**01 17 19.9**	**+1.0**
IKRK	**Kirkuk**	**2.70**	**334**	*e*Pn	**Pn**	**01 17 21.0**	**+1.8**
IKRK				*e*Sn	**Sb**	**01 17 55.0**	**-2.3**
HAGD	**Aghdareh**	**3.34**	**56**	*e*Pn	**Pn**	**01 17 29.7**	**+1.4**
HAGD				*e*		01 17 30.7	
	comp=Z,350nm,0.2s						
QABG	**Abgarm-Qazvin**	**4.16**	**48**	*e*Pn	**Pn**	**01 17 39.4**	**-0.1**
IRAZ	**Razeghan**	**4.20**	**54**	*e*	**Pg**	**01 17 54.5**	**-2.0**
	comp=Z,177nm,0.6s						
IPIR	**Pirpir**	**4.31**	**93**	*e*Pn	**Pn**	**01 17 42.5**	**+0.9**
IPIR				*e*		01 18 34.2	
	comp=Z,161nm,0.4s						
IKLH	**Kolahrood**	**4.87**	**84**	*e*Pn	**Pn**	**01 17 50.6**	**+1.3**
KLNJ	**Kolanjah**	**5.31**	**110**	*e*Pn	**Pn**	**01 17 56.2**	**+0.7**
KRSH	**Karshahi**	**5.40**	**78**	*e*Pn	**Pn**	**01 17 57.1**	**+0.6**

*IDC **23** 01:24:30.0±0.5, 0°.64N×80°.29W, h0km, mb4.7/23, mb1 4.9/27, mb1mx4.8/31, mbtmp4.7/27, ML3.4/4, MS5.1/53, Ms1 5.1/53, ms1mx5.1/64, Error ellipse: s-maj=17.9km s-min=10.4km az=56.0*
*MOS **23** 01:24:31.6±1.1, 0°.64N×80°.36W, h12km, mb5.5/30, MS5.0/20, Error ellipse: s-maj=10.3km s-min=6.3km az=107.5*
*VAO **23** 01:24:33.9±0.3, 0°.50N×80°.14W, h10km, mb5.2*
*IGQ **23** 01:24:33±0.9, 1°N±4°×8°0W±°, h9km*
*NEIC **23** 01:24:33.9±1.8, 0°.61N±0°.05×80°.25W±0°.05, h10km±1km, mb5.3/583, Ms_20 5.4/343, Mwb5.8/61, Mww5.7, Error ellipse: s-maj=9.4km s-min=7.8km az=112.0*
*NEIC **23** 01:24:33.9, 0°.60N×80°.26W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.39; $M_{\theta\theta}$0.99; $M_{\phi\phi}$-1.38; $M_{r\theta}$-3.06; $M_{\theta\phi}$0.36; $M_{\phi r}$-4.91; Fault plane solution: $M_0$5.92000×10^{17} NP1:φ211.57000°, δ88.03000°, λ101.89000°. NP2:φ310.84000°, δ12.05000°, λ9.47000°. Principal axes: T 5.9139, Plg46.0000°, Azm134.0000°; N 0.0178, Plg12.0000°, Azm31.0000°; P -5.9316, Plg42.0000°, Azm290.0000°;*
*BJI **23** 01:24:34.0±0.0, 0°.60N×80°.30W, h10km, mB5.9/53, Ms5.7/60, Ms7 5.5/57*
*GCMT **23** 01:24:35.9±0.1, 0°.69N±0°.01×80°.56W±0°.01, h12km, MW5.7/146, Moment Tensor Solution. s121,c202; s146,c307; Duration: 1§7 Moment tensor: Scale 10^{17} Nm; M_{rr}2.10±.02; $M_{\theta\theta}$-0.16±.02; $M_{\phi\phi}$-1.93±.03; $M_{r\theta}$-2.01±.07; $M_{\theta\phi}$-0.61±.02; $M_{\phi r}$-2.87±.07; Best double couple: $M_0$4.08800×10^{17} NP1:φ4.00000°, δ17.00000°, λ63.00000°. NP2:φ212.00000°, δ75.00000°, λ98.00000°. Principal axes: T 4.1530, Plg59.0000°, Azm133.0000°; N -0.1230, Plg8.0000°, Azm30.0000°; P -4.0240, Plg29.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 01:24:42, 0°.60N×80°.27W, h12km, Moment Tensor Solution. Duration: 16§0 Moment tensor: Scale 10^{17}Nm; M_{rr}2.98; $M_{\theta\theta}$-0.55; $M_{\phi\phi}$-2.43; $M_{r\theta}$0.11; $M_{\theta\phi}$-0.69; $M_{\phi r}$-2.65; Fault plane solution: $M_0$3.88000×10^{17} NP1:φ27.00000°, δ25.00000°, λ110.00000°. NP2:φ185.00000°, δ67.00000°, λ81.00000°. Principal axes: T 4.0918, Plg67.0000°, Azm78.0000°; N -0.4634, Plg8.0000°, Azm189.0000°; P -3.6284, Plg21.0000°, Azm282.0000°;*

ISC 23 01:24:32.8±0.2,**0°.61N**±0°.03×**80°.30W**±0°.03,**h11**km,**n1401,** σ1§**79**/1157,**mb5.2**/348,**MS5.3**/267,**33C-171D,Fault plane solution: NP1:**φ≈215.25214°,δ20.03740°,λ-76.81342°. **NP2:**φ≈21.24842°,δ70.51263°,λ-94.75597°. **Principal axes:** T Plg25.3670°, Azm114.9686°; N Plg4.4830°, Azm22.8383°; P Plg64.1837°, Azm283.5114°; **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMA1	**Acelerografo,**	**0.66**	**61**	P	**Pg**	**01 24 46.0**	**+0.4**
AMA1				S	**Sn**	**01 25 00.0**	**+1.5**
AV21	**Acelerografo,**	**0.75**	**86**	P	**Pg**	**01 24 47.0**	**-0.4**
AV21				S	**Sn**	**01 25 02.0**	**+1.2**
MAG1	**Magdalena**	**0.86**	**142**	P	**Pg**	**01 24 49.0**	**-0.4**
AV18	**Acelerografo,**	**0.87**	**110**	P	**Pb**	**01 24 50.0**	**0.0**
JAMA	**Jama**	**0.87**	**174**	P	**Pg**	**01 24 48.0**	**-1.7**
FLF1	**Flavio Alfaro-**	**1.06**	**155**	P	**Pb**	**01 24 53.0**	**-0.3**
BV15	**Puerto Quito-O**	**1.16**	**113**	P	**Pb**	**01 24 53.0**	**-2.0**
APR2	**Miler**	**1.43**	**112**	P	**Pn**	**01 24 58.0**	**-0.8**
APR1	**Acelerografo,**	**1.80**	**111**	P	**Pn**	**01 25 04.0**	**-0.3**
HPAL	**Hacienda Las P**	**1.84**	**117**	P	**Pn**	**01 25 03.0**	**-1.7**
PINO	**Pino**	**1.85**	**114**	P	**Pn**	**01 25 04.0**	**-1.1**
TERV	**Terraza Guagua**	**1.86**	**115**	P	**Pn**	**01 25 05.0**	**-0.2**
GGPT	**Toaza - Volcan**	**1.87**	**116**	P	**Pn**	**01 25 04.0**	**-1.2**
YANA	**Yana**	**1.87**	**113**	P	**Pn**	**01 25 05.0**	**-0.3**
JUA2	**San Juan 2**	**1.88**	**116**	P	**Pn**	**01 25 05.0**	**-0.4**
OTAV	**Otavalo**	**1.88**	**101**	P	**Pn**	**01 25 05.0**	**-0.4**
OTAV	**Otavalo**	**1.88**	**101**			**01 25 05.0**	**-0.4**
CUSE	**Cuicocha Este**	**1.92**	**99**	*e*P	**Pn**	**01 25 05.6**	**-0.3**
CUSE				*e*S	**Sg**	**01 25 34.8**	**+0.1**
CUSE	**Cuicocha Este**	**1.92**	**99**	P	**Pn**	**01 25 05.0**	**-0.9**
ALIT	**Ecuador-Imbabu**	**1.94**	**85**	P	**Pn**	**01 25 06.0**	**0.0**
CUIC	**Cuicocha-Domo**	**1.96**	**99**	P	**Pn**	**01 25 07.0**	**+0.6**
CUSW	**Cuicocha Oeste**	**1.97**	**99**	P	**Pn**	**01 25 07.0**	**+0.4**
COTA	**Cotacachi**	**1.98**	**98**	P	**Pn**	**01 25 07.0**	**+0.2**
AV11	**Acelerografo,**	**2.04**	**109**	P	**Pb**	**01 25 09.0**	**-1.1**
ILLI	**Illinizas Sur**	**2.05**	**130**	P	**Pn**	**01 25 07.0**	**-0.7**
URCU	**Urcuqui**	**2.05**	**95**	P	**Pn**	**01 25 07.0**	**-0.6**
PAST	**Pastocalle**	**2.10**	**128**	P	**Pn**	**01 25 08.0**	**-0.4**
PPLP	**Puerto Lpez**	**2.19**	**193**	P	**Pn**	**01 25 11.0**	**+1.7**
PITA	**Cotopaxi Volc**	**2.19**	**122**	P	**Pn**	**01 25 10.0**	**+0.3**
CAMI	**Rancho Maria**	**2.20**	**126**	P	**Pn**	**01 25 10.0**	**+0.2**
AIB2	**Ibarra (Univer**	**2.21**	**97**	P	**Pn**	**01 25 11.0**	**+1.3**
NAS2	**Nasa**	**2.21**	**124**	P	**Pn**	**01 25 11.0**	**+1.0**
BNAS	**Cotopaxi Volca**	**2.22**	**125**	P	**Pn**	**01 25 11.0**	**+0.9**
YAHU	**Yahuarcocha**	**2.24**	**96**	P	**Pb**	**01 25 12.0**	**-1.5**
BREF	**Cotopaxi Volca**	**2.25**	**124**	P	**Pn**	**01 25 12.0**	**+1.4**
VC1	**Cotopaxi 1**	**2.27**	**123**	P	**Pn**	**01 25 12.0**	**+1.3**
BVC2	**Cotopaxi Volca**	**2.27**	**124**	P	**Pn**	**01 25 12.0**	**+1.2**
BMOR	**Cotopaxi Volca**	**2.27**	**126**	P	**Pn**	**01 25 11.0**	**+0.2**
BTAM	**Cotopaxi Volca**	**2.29**	**124**	P	**Pn**	**01 25 11.0**	**-0.1**
LNGL	**El Angel-Carch**	**2.30**	**87**	P	**Pn**	**01 25 11.0**	**-0.1**
ANTG	**Antisana-Guama**	**2.32**	**118**	P	**Pn**	**01 25 12.0**	**+0.5**
TAMB	**Tambo**	**2.32**	**124**	P	**Pn**	**01 25 13.0**	**+1.5**
ECEN	**Cerro Negro**	**2.33**	**85**	P	**Pn**	**01 25 11.0**	**-0.7**
ANGU	**Angureal**	**2.35**	**104**	P	**Pb**	**01 25 14.0**	**-1.7**
CHL1	**Volcn Chiles**	**2.36**	**86**	P	**Pn**	**01 25 12.0**	**0.0**
VCES	**Cotopaxi**	**2.36**	**126**	P	**Pn**	**01 25 13.0**	**+0.9**
CAYR	**Refugio Cayamb**	**2.36**	**104**	P	**Pn**	**01 25 14.0**	**+1.8**
ANTM	**Antisana-La Mi**	**2.37**	**119**	P	**Pn**	**01 25 13.0**	**+0.9**
CAYA	**Cayambe**	**2.37**	**103**	P	**Pn**	**01 25 13.0**	**+0.9**
ANTI	**Antisana**	**2.38**	**116**	P	**Pn**	**01 25 14.0**	**+1.6**
CHL2	**Volcn Chiles**	**2.38**	**85**	P	**Pn**	**01 25 12.0**	**-0.4**
ANTS	**Antisana-Sarah**	**2.39**	**117**	P	**Pn**	**01 25 14.0**	**+1.4**
TULM	**Tulcn-Chalpat**	**2.51**	**88**	Pn	**Pn**	**01 25 15.7**	**+1.6**
TULM	**Tulcn-Chalpat**	**2.51**	**88**	*e*P	**Pn**	**01 25 14.3**	**+0.3**
PORT	**Chimborazo Vol**	**2.56**	**144**		**Pn**	**01 25 15.3**	**+0.4**
CCUFI	**Cufio, Nario**	**3.01**	**78**	*e*P	**Pb**	**01 25 24.8**	**-2.0**
GCUF	**Volcan Galeras**	**3.01**	**78**	*e*P	**Pn**	**01 25

SOCV Socops 12.11 51 *eP* Pn 01 27 27.1 +1.6
ESPN Las Esperanzas 12.18 341 *eP* Pn 01 27 23.8 -2.6
ACON Acoyapa 12.28 337 *eP* Pn 01 27 28.1 +0.3
SDV Santo Domingo 12.65 49 Pn Pn 01 27 30.8 -2.3
0.9nm,0.3s,baz=323,slow=20,SNR=4.2
SDV Sn **Sn** 01 29 50.9 -3.3
1.0nm,0.3s,baz=241,slow=19,SNR=1.7
SDV LR LR 01 33 29.5
comp=Z,13µm,18.9s,baz=230,slow=43
SDV Santo Domingo 12.65 49 **Pn** 01 27 34.6 +1.5
SDV Santo Domingo 12.65 49 *eP* Pn 01 27 32.5 -0.6
SDV Santo Domingo 12.65 49 *eP* Pn 01 27 35.6 +2.4
PRVC Isla de Provid 12.73 355 **Pn** 01 27 35.1 +1.2
NNA Nana 12.98 165 Pn Pn 01 27 37.7 +0.3
1.7nm,0.3s,baz=332,slow=8.9,SNR=2.3
NNA Sn **Sn** 01 30 05.4 +3.4
1.3nm,0.3s,baz=0.0,slow=14,SNR=1.6
NNA LR LR 01 32 46.7
comp=Z,7µm,19.8s,baz=342,slow=38
NNA Nana 12.98 165 P **Pn** 01 27 39.7 +2.3
NNA 01 30 05.4
NNA Nana 12.98 165 **Pn** 01 27 39.7 +2.3
BAUV El Baul 14.74 55 *eP* Pn 01 28 03.5 +1.9
TGUH Tegucigalpa,Un 15.04 333 **Pn** 01 28 06.3 +0.7
SNET Serv Nac Est T 15.72 326 Pn Pn 01 28 14.9 +0.4
SNET IAmb IAmb 01 28 23.1
comp=Z,319nm,1.1s
MTO3 Montecristo 16.37 327 IAmb IAmb 01 28 29.9
comp=Z,216nm,1.3s
BIRV Birongo 17.04 54 Pn **Pn** 01 28 29.8 -1.6
ETMB Extrema 17.43 127 *eP* **Pn** 01 28 33.1 -3.1
MTDJ Mount Denham 17.71 9 Pn **Pn** 01 28 38.6 -1.1
MTDJ IAmb IAmb 01 28 45.0
comp=Z,368nm,1.5s
JAKH Jacmel 19.11 23 P **P** 01 28 52.7 -3.2
JAKH IAmb IAmb 01 29 08.6
comp=Z,376nm,1.5s
BOAV Boa Vista 19.84 85 *eP* **P** 01 29 04.4 +0.4
GTBY Guantanamo Bay 19.86 14 P **P** 01 29 04.6 +0.5
MACA Manacapuru-AM 19.96 101 *eP* **P** 01 29 03.2 -2.0
LPAZ La Paz 20.64 145 P **P** 01 29 12.7 -0.6
comp=Z,31nm,0.7s,baz=327,slow=12,SNR=58
LPAZ La Paz 20.64 145 P **P** 01 29 13.0 -0.3
LPAZ pmax pmax
comp=Z,129nm,1.1s
LPAZ La Paz 20.64 145 P **P** 01 29 13.0 -0.3
LPAZ IAmb IAmb 01 29 31.6
comp=Z,129nm,1.1s
LPAZ La Paz 20.64 145 *eP* **P** 01 29 12.6 -0.7
TRN Trinidad (W) 21.26 61 *eP* **P** 01 29 19.9 +0.6
CRPR Cabo Rojo, PR 21.61 36 P **P** 01 29 25.3 +2.3
PB16 IPOC Station P 21.61 151 IAmb IAmb 01 29 35.7
comp=Z,207nm,1.2s
MLPR Magueyes Islan 21.62 36 IAmb IAmb 01 29 29.5
comp=Z,179nm,1.4s
GRGR Grenville 21.75 58 *eP* **P** 01 29 28.4 +3.7
CMIG Matias Romero 21.78 320 P **P** 01 29 24.0 -1.0
comp=Z,24nm,0.9s,baz=138,slow=7.0,SNR=18
CMIG LR LR 01 36 14.8
comp=Z,9µm,19.5s,baz=144,slow=32
GRHS Sauteurs 21.81 57 *eP* **P** 01 29 24.1 -1.2
ICMP Isla Caja de M 21.86 37 P **P** 01 29 26.5 +0.7
OBIP Obispado Ponce 21.93 37 IAmb IAmb 01 29 54.4
comp=Z,201nm,1.3s
AGPR Aguadilla, PR 21.97 35 P **P** 01 29 27.9 +1.0
CELP Cerrillos 21.98 37 P **P** 01 29 27.2 +0.2
GCMP Grenada, Carri 22.12 57 *eP* **P** 01 29 27.4 -1.2
SJG San Juan 22.26 38 P **P** 01 29 29.9 -0.2
comp=Z,10nm,0.5s,baz=162,slow=4.7,SNR=3.9
SJG LR LR 01 38 55.9
comp=Z,4µm,20.2s,baz=206,slow=39
SJG San Juan 22.26 38 P **P** 01 29 31.3 +1.2
SJG pmax pmax
comp=Z,236nm,1.3s
SJG MLR MLR
comp=Z,4µm,21.0s
SJG San Juan 22.26 38 P **P** 01 29 31.3 +1.2
PDPR Patillas Dam, 22.27 38 IAmb IAmb 01 29 45.8
comp=Z,133nm,1.2s
TOSP Speyside 22.31 61 P **P** 01 29 29.9 -0.8
TOSP IAmb IAmb 01 29 37.1
comp=Z,134nm,1.0s
TOSP Speyside 22.31 61 *eP* **P** 01 29 27.9 -2.8
SVB Belmont 22.67 55 *eP* **P** 01 29 34.8 +0.3
CDVI St. Croix 22.88 41 P **P** 01 29 36.8 +0.2
CDVI IAmb IAmb 01 29 45.1
comp=Z,124nm,0.9s
CDVI St. Croix 22.88 41 *eP* **P** 01 29 36.3 -0.3
MCLT Moule a Chique 23.16 55 *eP* **P** 01 29 39.7 0.0
STVI Saint Thomas 23.19 40 P **P** 01 29 40.4 +0.6
TA01 Diego Aracena 23.26 155 IAmb IAmb 01 29 56.7
comp=Z,122nm,1.0s
SLBI Saint Lucia, B 23.30 54 *eP* **P** 01 29 41.3 +0.3
PB08 IPOC Station P 23.34 153 IAmb IAmb 01 29 49.7
comp=Z,155nm,1.3s
BIM Bigot 23.50 53 *eP* **P** 01 29 41.5 -1.5
FDF Fort de France 23.56 53 *eP* **P** 01 29 41.8 -1.8
MPOM Morne Pois Mar 23.63 54 *eP* **P** 01 29 44.4 +0.2
H05S1 Guadeloupe/Mar 23.64 54 P **P** 01 29 45.0 +0.7
MDN Morne-Daniel 23.71 51 *eP* **P** 01 29 49.3 +4.2
DSLB Salisbury 23.76 51 *eP* **P** 01 29 40.1 -5.4
ILAM Ilet Lapin Mar 23.80 53 *eP* **P** 01 29 46.4 +0.4
TDBA Terre de Bas, 23.84 50 *eP* **P** 01 29 49.5 +3.2
MDVC Dominica, Viel 23.87 50 *eP* **P** 01 29 44.9 -1.7
SEUS St. Eustatius 23.91 44 *eP* **P** 01 29 39.9 -7.0
MLYT Lee's Yard 23.97 47 *eP* **P** 01 29 48.7 +1.2
MBFL Flemmings, Mon 23.97 47 *eP* **P** 01 29 49.0 +1.4
CBE Ff, Capester 23.99 49 *eP* **P** 01 29 47.9 +0.1
BBGH Gun Hill 24.02 58 IAMs_20 IAMs_20 01 39 36.3
comp=Z,10µm,21.0s
BBGH Gun Hill 24.02 58 *eP* **P** 01 29 47.8 -0.3
PB02 IPOC Station P 24.05 156 IAmb IAmb 01 29 52.1
comp=Z,110nm,1.1s
VILB Vilhena 24.06 125 *eP* **P** 01 29 48.3 -0.1
MAGL Barre de l'ile 24.17 50 *eP* **P** 01 29 49.0 -0.4
SMRT St. Maarten 24.22 43 P **P** 01 29 49.5 -0.4
ABD La Joyeuse, An 24.33 49 *eP* **P** 01 29 45.6 -5.2
BPA Boggy Peak 24.42 47 *eP* **P** 01 29 50.6 -1.1
ANBD Bethesda, Anti 24.48 47 *eP* P 01 29 42.2 -10
ANWB Willy Bob 24.87 46 *eP* **P** 01 29 51.0 -4.8
ITTB Itaituba 25.03 102 *eP* **P** 01 29 56.5 -0.9
061Z Ochoppi 25.11 359 P **P** 01 29 58.5 +0.6
baz=178
SIV San Ignacio 25.15 132 P **P** 01 29 56.8 -1.5
comp=Z,26nm,0.9s,baz=302,slow=8.9,SNR=52
SIV LR LR 01 41 38.4
comp=Z,12µm,19.6s,baz=320,slow=41
PB06 IPOC Station P 25.42 156 IAmb IAmb 01 30 05.4
comp=Z,73nm,1.1s
LVC Limon Verde 25.61 155 P **P** 01 30 02.8 0.0
comp=Z,55nm,0.9s,baz=315,slow=6.9,SNR=25
LVC LR LR 01 41 48.6
comp=Z,6µm,18.9s,baz=325,slow=40
LVC Limon Verde 25.61 155 P **P** 01 30 03.4 +0.6
LVC pmax pmax
comp=Z,180nm,1.3s
LVC Limon Verde 25.61 155 P **P** 01 30 03.4 +0.6
LVC Limon Verde 25.61 155 *eP* **P** 01 30 04.6 +1.8
PB10 IPOC Station P 25.78 159 IAmb IAmb 01 30 12.6
comp=Z,110nm,1.3s
PB15 IPOC Station P 25.91 157 IAmb IAmb 01 30 15.0
comp=Z,123nm,1.4s
NPGB Novo Progresso 26.02 107 *eP* **P** 01 30 04.0 -2.2
MALB Monte Alegre 26.14 95 *eP* **P** 01 30 06.7 -0.7
UNM Universidad Na 26.24 316 IAMs_20 IAMs_20 01 38 10.0
comp=Z,9µm,21.0s
PTLB Pontes e Lacer 26.30 128 *eP* **P** 01 30 08.6 -0.2
PDRB Porto dos Gac 26.37 118 *eP* **P** 01 30 09.5 0.0
PB14 IPOC Station P 26.86 160 IAmb IAmb 01 30 29.2
comp=Z,99nm,1.3s
CLDB Colider 26.90 116 *eP* **P** 01 30 13.4 -0.8
GO02 Mina Guanaco 27.64 159 IAmb IAmb 01 30 25.7
comp=Z,84nm,1.4s
MDP Montagnes des 27.97 80 P **P** 01 30 23.6 -0.2
comp=Z,16nm,0.8s,baz=253,slow=9.5,SNR=9.4
MDP LR LR 01 40 47.1
comp=Z,7µm,21.9s,baz=268,slow=35
AC01 Pan de Azucar 28.20 161 P **P** 01 30 25.9 +0.2
AC01 IAmb IAmb 01 30 41.0
comp=Z,104nm,1.4s
MCPB Macapa, AP 28.25 92 *eP* **P** 01 30 28.3 +1.9
SALV Santo Antonio 29.32 125 *eP* **P** 01 30 35.8 0.0
AC02 Maricunga 29.33 159 IAmb IAmb 01 30 40.4
comp=Z,62nm,1.2s

AC06 Mina Casimiro 29.41 162 P **P** 01 30 37.4 +1.0
AC06 IAmb IAmb 01 30 51.1
comp=Z,53nm,1.2s
AC04 Llanos de Chal 29.99 164 P **P** 01 30 42.6 +1.0
TIGA Tifton 30.82 354 P **P** 01 30 48.5 -0.4
baz=174
TIGA S **S** 01 35 57.0 +4.6
baz=174
LCO Las Campanas 30.85 163 P **P** 01 30 49.4 -0.1
LCO pmax pmax
comp=Z,30nm,1.1s
LCO Las Campanas 30.85 163 P **P** 01 30 49.4 -0.1
PP1B Ponte de Pedra 30.88 127 *eP* **P** 01 30 49.5 -0.1
BRAL Brewton 31.06 349 P **P** 01 30 51.4 +0.4
baz=167
BRAL S **S** 01 35 58.6 +2.4
baz=167
PRPB Parauapebas 31.16 103 *eP* **P** 01 30 52.5 +0.3
SNDB Serra Nova Dou 31.39 114 *eP* **P** 01 30 53.8 -0.4
CO05 La Serena 31.57 165 IAmb IAmb 01 31 02.8
comp=Z,46nm,1.0s
KVTX Kingsville 31.66 329 P **P** 01 30 57.7 +1.3
baz=145
250A Grady 31.70 350 IAmb IAmb 01 31 00.1
comp=Z,57nm,1.4s
250A Grady 31.70 350 P **P** 01 30 55.8 -0.9
baz=169
346A Big Creek Wild 31.82 345 P **P** 01 30 57.7 0.0
baz=162
AQDB Aquidauana 31.92 132 IAmb IAmb 01 31 00.5
comp=Z,65nm,1.2s
AQDB Aquidauana 31.92 132 *eP* **P** 01 30 59.0 +0.3
CO01 Juntas del Tor 31.94 163 IAmb IAmb 01 31 14.9
comp=Z,38nm,1.2s
154A Montrose 31.94 356 P **P** 01 30 57.9 -0.9
baz=175
152A Waverly Hall 32.16 353 P **P** 01 30 59.8 -0.9
baz=172
CO06 Fray Jorge 32.19 166 P **P** 01 31 01.8 +0.9
344A Westbrook Farm 32.23 343 IAmb IAmb 01 31 09.2
comp=Z,48nm,0.9s
344A Westbrook Farm 32.23 343 P **P** 01 31 01.6 +0.3
baz=160
TMAB Tom-Au,PA,Br 32.33 95 *eP* **P** 01 31 02.5 +0.1
441A DeRidder 32.38 339 P **P** 01 31 03.0 +0.4
baz=155
ACDV Cuesta del Vie 32.41 162 *eP* **P** 01 31 05.8 +2.7
ACLC CERRO LA CRUZ 32.48 158 *eP* **P** 01 31 04.8 +1.1
DVLD Doverlandia 32.61 123 *eP* **P** 01 31 05.2 +0.3
342B Flagon Creek P 32.65 341 P **P** 01 31 04.8 -0.2
baz=157
735A Kenedy 32.69 331 P **P** 01 31 05.6 +0.2
baz=146
HKT Hockley 32.71 335 P **P** 01 31 05.4 -0.1
HKT pmax pmax
comp=Z,39nm,1.5s
HKT MLR MLR
comp=Z,4µm,20.0s
HKT Hockley 32.71 335 P **P** 01 31 05.4 -0.1
HKT IAmb IAmb 01 31 09.6
comp=Z,39nm,1.4s
HKT Hockley 32.71 335 P **P** 01 31 05.2 -0.3
baz=150
GOGA Godfrey 32.76 355 P **P** 01 31 05.0 -0.9
baz=174
GOGA Godfrey 32.76 355 P **P** 01 31 05.1 -0.9
baz=174
GOGA S **S** 01 36 22.8 0.0
baz=174
Z51A Franklin 32.85 352 IAmb IAmb 01 31 14.3
comp=Z,40nm,1.3s
Z51A Franklin 32.85 352 P **P** 01 31 05.8 -0.9
baz=171
LRAL Lakeview Retre 32.86 350 P **P** 01 31 06.2 -0.7
baz=168,SNR=9.3
LRAL Lakeview Retre 32.86 350 P **P** 01 31 05.9 -0.9
baz=168,SNR=9.3
LRAL S **S** 01 36 26.0 +1.7
baz=168
VBMS Vicksburg 32.89 344 P **P** 01 31 05.6 -1.5
baz=161
VBMS Vicksburg 32.89 344 P **P** 01 31 06.1 -0.9
baz=161
VBMS S **S** 01 36 25.8 +1.1
baz=161
146A Union 32.91 346 P **P** 01 31 06.6 -0.6
baz=164
833A Chaparral WMA, 33.07 328 IAmb IAmb 01 31 11.8
comp=Z,81nm,1.5s
833A Chaparral WMA, 33.07 328 P **P** 01 31 08.7 +0.1
baz=143
833A Chaparral WMA, 33.07 328 P **P** 01 31 08.8 +0.1
baz=143
833A S **S** 01 36 28.0 +0.4
baz=143
Z47A Carrollton 33.23 348 IAmb IAmb 01 31 17.2
comp=Z,23nm,0.8s
Z47A Carrollton 33.23 348 P **P** 01 31 09.0 -1.0
baz=166
Y57A Sumter 33.23 360 P **P** 01 31 11.0 +0.9
Y57A IAmb IAmb 01 31 17.8
comp=Z,50nm,1.2s
Y52A Lilburn 33.27 354 IAmb IAmb 01 31 17.9
comp=Z,42nm,1.5s
Y52A Lilburn 33.27 354 P **P** 01 31 09.1 -1.3
baz=173
Y52A P **P** 01 31 09.1 -1.3
baz=173
AVFE Valle Fertil 33.41 160 *eP* **P** 01 31 12.4 +0.6
HODGE Hodges 33.50 357 IAmb IAmb 01 31 21.3
comp=Z,49nm,1.4s
HODGE Hodges 33.50 357 P **P** 01 31 11.6 -0.8
baz=176
APLL PUNTA DE LOS L 33.51 158 *eP* **P** 01 31 13.6 +1.0
JSC Jenkinsville 33.51 359 IAmb IAmb 01 31 19.5
comp=Z,36nm,1.2s
JSC Jenkinsville 33.51 359 P **P** 01 31 11.8 -0.7
baz=178
Y49A Blount Mountai 33.57 351 P **P** 01 31 11.7 -1.3
baz=169
143A Socs Landing, 33.59 343 P **P** 01 31 12.1 -1.1
baz=160
RTLL Cerro Villicun 33.69 162 *eP* **P** 01 31 15.3 +1.1
ZON Zonda 33.83 162 IAmb IAmb 01 31 31.1
comp=Z,63nm,1.3s
ZON Zonda 33.83 162 *eP* **P** 01 31 16.8 +1.5
NATX Nacogdoches 33.83 338 IAmb IAmb 01 31 32.0
comp=Z,62nm,1.4s
NATX Nacogdoches 33.83 338 P **P** 01 31 14.8 -0.5
baz=154
NATX Nacogdoches 33.83 338 P **P** 01 31 14.9 -0.4
baz=154
BIRD Birdtown, Kers 33.86 360 IAmb IAmb 01 31 18.8
comp=Z,52nm,1.5s
RTLS Leoncito 33.88 163 *eP* **P** 01 31 18.3 +2.2
SMTB Santa Maria do 33.91 107 *eP* **P** 01 31 15.2 -1.2
X51A Calhoun 34.05 353 IAmb IAmb 01 31 25.1
comp=Z,47nm,1.2s
PAULI Pauline 34.06 358 IAmb IAmb 01 31 20.9
comp=Z,65nm,1.5s
PAULI Pauline 34.06 358 P **P** 01 31 17.1 -0.2
baz=177
VA06 Catapilco 34.07 166 P **P** 01 31 19.1 +1.7
FPAL Fort Paine 34.12 352 IAmb IAmb 01 31 23.2
comp=Z,25nm,0.9s
PEXB Peixe 34.19 113 *eP* **P** 01 31 17.6 -1.1
435B Jarrell 34.20 333 IAmb IAmb 01 31 22.4
comp=Z,25nm,0.9s
435B Jarrell 34.20 333 P **P** 01 31 17.5 -1.0
baz=148
435B Jarrell 34.20 333 P **P** 01 31 18.4 -0.1
baz=148
435B S **S** 01 36 39.4 -5.7
baz=148
AUSP Uspallata 34.25 163 *eP* **P** 01 31 21.7 +2.4
X48A Hartselle 34.25 350 P **P** 01 31 17.5 -1.4
baz=168
BG3 Lake Jocassee 34.29 356 IAmb IAmb 01 31 28.4
comp=Z,51nm,1.2s
CASEE Lake Jocassee 34.29 356 P **P** 01 31 18.5 -0.8
baz=175
W57A Gilead 34.37 0 IAmb IAmb 01 31 27.9
comp=Z,32nm,1.1s
W57A Gilead 34.37 0 P **P** 01 31 18.7 -1.2
baz=180
W57A P **P** 01 31 18.7 -1.2
baz=180

KMSC Kings Mountain 34.37 358 IAmb IAmb 01 31 28.9
comp=Z,86nm,1.5s
KMSC Kings Mountain 34.37 358 P **P** 01 31 19.2 -0.8
baz=178
KMSC Kings Mountain 34.37 358 P **P** 01 31 19.4 -0.5
baz=178
KMSC S **S** 01 36 47.0 -0.6
baz=178
W52A Murphy 34.47 355 IAmb IAmb 01 31 29.6
comp=Z,42nm,1.2s
W52A Murphy 34.47 355 P **P** 01 31 20.0 -0.9
baz=174
237A Washetta, Mont 34.49 336 P **P** 01 31 20.3 -0.8
baz=152
CNNC Cliffs of the 34.52 3 IAMs_20 IAMs_20 01 46 10.9
comp=Z,5µm,18.0s
CNNC Cliffs of the 34.52 3 P **P** 01 31 21.1 -0.2
baz=184
Z41A Richland Creek 34.54 341 P **P** 01 31 21.3 -0.1
Z41A IAmb IAmb 01 31 25.3
comp=Z,87nm,1.4s
Z41A Richland Creek 34.54 341 P **P** 01 31 20.7 -0.8
baz=158
Z41A P **P** 01 31 20.7 -0.8
baz=158
Z41A Richland Creek 34.54 341 P **P** 01 31 20.5 -1.0
baz=158
Z41A S **S** 01 36 51.7 +1.4
baz=158
W50A Signal Mountai 34.73 353 IAmb IAmb 01 31 30.3
comp=Z,60nm,1.4s
W50A Signal Mountai 34.73 353 P **P** 01 31 21.6 -1.6
baz=171
ASAL Salagasta 34.75 163 *eP* **P** 01 31 25.1 +1.7
CPUP Villa Florida 34.76 142 P **P** 01 31 21.3 -2.1
comp=Z,10nm,0.9s,baz=329,slow=8.6,SNR=14
CPUP LR LR 01 48 39.7
comp=Z,8µm,18.2s,baz=332,slow=42
CPUP Villa Florida 34.76 142 P **P** 01 31 23.3 -0.1
CPUP pmax pmax
comp=Z,53nm,1.4s
CPUP Villa Florida 34.76 142 P **P** 01 31 23.3 -0.1
CPUP IAmb IAmb 01 31 29.0
comp=Z,53nm,1.4s
CPUP Villa Florida 34.76 142 *eP* **P** 01 31 22.4 -1.1
PEL Peldehue 34.77 166 P **P** 01 31 24.1 +0.5
PEL pmax pmax
comp=Z,149nm,1.5s
PEL MLR MLR
comp=Z,3µm,19.0s
PEL Peldehue 34.77 166 P **P** 01 31 24.1 +0.5
MT02 Curacav 34.78 166 IAmb IAmb 01 31 28.0
comp=Z,56nm,1.1s
OXF Oxford 34.79 347 P **P** 01 31 22.6 -1.0
OXF pmax pmax
comp=Z,80nm,1.2s
OXF MLR MLR
comp=Z,3µm,19.0s
OXF Oxford 34.79 347 P **P** 01 31 22.6 -1.0
OXF Oxford 34.79 347 P **P** 01 31 21.9 -1.6
baz=164
OXF Oxford 34.79 347 P **P** 01 31 22.0 -1.6
baz=164
SWET Sewanee 34.83 352 IAmb IAmb 01 31 26.7
comp=Z,43nm,1.2s
CPCT Cooper Cave 34.88 354 IAmb IAmb 01 31 33.1
comp=Z,57nm,1.0s
PLAL Pickwick Lake 34.96 349 IAmb IAmb 01 31 44.1
comp=Z,42nm,1.4s
V53A Saluda 34.96 356 P **P** 01 31 24.1 -1.0
baz=176
V53A P **P** 01 31 24.1 -1.0
baz=176
MT05 Renca 35.00 166 P **P** 01 31 25.5 0.0
JCT Junction City 35.01 330 P **P** 01 31 25.7 +0.1
JCT pmax pmax
comp=Z,105nm,1.4s
JCT Junction City 35.01 330 P **P** 01 31 25.7 +0.1
JCT Junction City 35.01 330 P **P** 01 31 26.1 +0.5
baz=144,SNR=17
JCT Junction City 35.01 330 P **P** 01 31 26.0 +0.5
baz=144,SNR=17
JCT S **S** 01 36 57.8 0.0
baz=144
TKL Tuckaleechee C 35.02 355 LR LR 01 45 23.6
comp=Z,5µm,19.1s,baz=176,slow=36
TKL Tuckaleechee C 35.02 355 IAmb IAmb 01 31 32.9
comp=Z,56nm,1.2s
TKL Tuckaleechee C 35.02 355 P **P** 01 31 24.6 -1.0
baz=174
WHTX Lake Whitney, 35.17 334 IAmb IAmb 01 31 30.5
comp=Z,68nm,1.2s
WHTX Lake Whitney, 35.17 334 P **P** 01 31 26.4 -0.5
baz=149,SNR=16
WHTX Lake Whitney, 35.17 334 P **P** 01 31 26.5 -0.5
baz=149,SNR=16
WHTX S **S** 01 37 01.3 +1.2
baz=149
V52A Sevierville 35.19 355 IAmb IAmb 01 31 35.0
comp=Z,48nm,1.2s
V52A Sevierville 35.19 355 P **P** 01 31 25.3 -1.7
baz=174,SNR=9.3
AAGR Agrelo 35.22 163 *eP* **P** 01 31 29.7 +2.2
V51A Loudon 35.22 354 IAmb IAmb 01 31 35.9
comp=Z,55nm,1.1s
V51A Loudon 35.22 354 P **P** 01 31 26.0 -1.2
baz=173,SNR=11
Z38A Mt. Pleasant 35.29 338 IAmb IAmb 01 31 32.2
comp=Z,76nm,1.3s
Z38A Mt. Pleasant 35.29 338 P **P** 01 31 27.3 -0.6
baz=154
MT01 Popeta 35.33 167 IAmb IAmb 01 31 36.1
comp=Z,28nm,0.9s
W45A Hickory Valley 35.36 347 P **P** 01 31 26.5 -1.9
baz=164
V48A Smith Brothers 35.48 351 IAmb IAmb 01 31 37.8
comp=Z,74nm,1.2s
V48A Smith Brothers 35.48 351 P **P** 01 31 28.2 -1.3
baz=169,SNR=17
U56A King 35.56 360 IAmb IAmb 01 31 36.6
comp=Z,33nm,1.0s
U56A King 35.56 360 P **P** 01 31 29.5 -0.7
baz=180
U56A P **P** 01 31 29.5 -0.7
baz=180
LMEL Las Melosas 35.56 165 IAmb IAmb 01 31 37.8
comp=Z,70nm,1.1s
TRCB Terra Rica 35.59 133 *eP* **P** 01 31 30.6 -0.1
BO04 La Punta 35.60 166 P **P** 01 31 31.4 +0.8
BO04 IAmb IAmb 01 31 37.3
comp=Z,64nm,1.1s
ITRB Iturama 35.62 126 *eP* **P** 01 31 30.8 -0.3
MRA San Martin 35.62 159 *eP* **P** 01 31 31.4 +0.4
U59A Littleton 35.64 3 P **P** 01 31 30.3 -0.6
baz=184
U59A P **P** 01 31 30.3 -0.6
baz=184
X40A Basin Creek Fa 35.68 342 P **P** 01 31 30.1 -1.2
baz=158
X40A S **S** 01 37 03.8 -4.1
baz=158
BDFB Brasilia 35.74 118 P **P** 01 31 30.4 -1.8
comp=Z,20nm,0.9s,baz=277,slow=12,SNR=23
BDFB LR LR 01 46 28.5
comp=Z,8µm,18.9s,baz=292,slow=37
U54A Nelsons Funny 35.76 358 IAmb IAmb 01 31 39.7
comp=Z,66nm,1.3s
U54A Nelsons Funny 35.76 358 P **P** 01 31 30.8 -1.2
baz=177
U54A P **P** 01 31 30.8 -1.2
baz=177
UALR University of 35.80 343 IAmb IAmb 01 31 35.1
comp=Z,58nm,1.3s
TZTN Tazewell 35.88 356 IAMs_20 IAMs_20 01 45 10.9
comp=Z,4µm,19.0s
TZTN Tazewell 35.88 356 P **P** 01 31 31.9 -1.0
baz=174,SNR=11
TZTN Tazewell 35.88 356 P **P** 01 31 32.0 -1.0
baz=174,SNR=11
TZTN S **S** 01 37 08.9 -2.0
baz=174
PCMB Pacaembu 35.93 130 *eP* **P** 01 31 32.0 -1.7
MIAR Mount Ida 35.97 341 IAmb IAmb 01 31 42.3
comp=Z,36nm,1.2s
MIAR Mount Ida 35.97 341 P **P** 01 31 32.5 -1.3
baz=157,SNR=19
MIAR Mount Ida 35.97 341 P **P** 01 31 32.7 -1.1

MIAR baz=157,SNR=19 S **S** **01 37 08.4 -3.9**
WVT baz=157 **Waverly** **36.03 350** P **P** **01 31 32.7 -1.5**
WVT comp=Z,41nm,1.5s pmax pmax
WVT comp=Z,2µm,18.0s MLR MLR
WVT **Waverly** **36.03 350** P **P** **01 31 32.7 -1.5**
WVT **Waverly** **36.03 350** P **P** **01 31 31.7 -2.5**
WVT baz=167 **Waverly** **36.03 350** P **P** **01 31 32.0 -2.2**
WVT baz=167 S **S** **01 37 07.9 -5.2**
U49A baz=167 **Red Boiling Sp** **36.08 352** IAmb IAmb 01 31 37.4
U49A comp=Z,64nm,1.4s **Red Boiling Sp** **36.08 352** P **P** **01 31 33.4 -1.3**
W41B baz=171,SNR=11 **Gary Mavity, V** **36.15 343** P **P** **01 31 34.2 -1.1**
W41B baz=160,SNR=12 **Gary Mavity, V** **36.15 343** P **P** **01 31 34.0 -1.3**
W41B baz=160,SNR=12 S **S** **01 37 12.0 -3.0**
T57A baz=160 **Hurt** **36.22 1** IAmb IAmb 01 31 44.1
T57A comp=Z,30nm,0.9s **Hurt** **36.22 1** P **P** **01 31 35.0 -0.9**
T57A baz=182 P **P** **01 31 35.0 -0.9**
TX31 baz=182 **Lajitas Ar. Si** **36.23 324** IAmb IAmb 01 31 47.6
TX31 comp=Z,62nm,1.4s **Lajitas Ar. Si** **36.23 324** P **P** **01 31 36.0 -0.2**
TXAR baz=138,SNR=9.5 **Lajitas Array** **36.23 324** P **P** **01 31 34.4 -1.8**
TXAR comp=Z,6.5nm,1.2s,baz=152,slow=8.5,SNR=20 PcP **PcP** **01 34 00.7 -0.8**
Z35A comp=Z,5.3nm,1.0s,baz=150,slow=5.8,SNR=7.8 **Perchaven, San** **36.24 336** IAmb IAmb 01 31 42.0
Z35A comp=Z,56nm,1.1s **Perchaven, San** **36.24 336** P **P** **01 31 36.2 +0.1**
T59A baz=150 **Double "B" Far** **36.27 4** P **P** **01 31 36.4 +0.2**
WHAR comp=Z,46nm,1.1s **Wooly Hollow** **36.27 343** IAmb IAmb 01 31 44.5
GO05 **Huala** **36.29 168** P **P** **01 31 37.1 +0.6**
ROSB **Rosrio** **36.33 96** *eP* **P** **01 31 35.4 -1.7**
BLA comp=Z,4µm,21.0s **Blacksburg** **36.42 360** IAMs_20 IAMs_20 01 48 55.1
BLA baz=180 **Blacksburg** **36.42 360** P **P** **01 31 36.5 -1.1**
BLA baz=180 **Blacksburg** **36.42 360** P **P** **01 31 37.2 -0.5**
BLA baz=180 S **S** **01 37 17.5 -1.7**
T50A baz=172 **Nancy** **36.47 354** P **P** **01 31 36.2 -1.8**
T50A baz=172 P **P** **01 31 36.2 -1.8**
IPMB **Ipameri, GO** **36.57 122** *eP* **P** **01 31 38.2 -1.0**
X37A **Clayton** **36.62 339** IAmb IAmb 01 31 47.2
X37A comp=Z,56nm,1.4s **Clayton** **36.62 339** P **P** **01 31 38.8 -0.6**
W39A baz=154,SNR=12 **Magazine** **36.64 341** IAmb IAmb 01 31 59.4
W39A comp=Z,105nm,1.5s **Magazine** **36.64 341** P **P** **01 31 38.8 -0.7**
W39A baz=157,SNR=16 **Magazine** **36.64 341** P **P** **01 31 38.9 -0.5**
ABTX baz=157,SNR=16 **Abilene, Hawle** **36.69 332** IAmb IAmb 01 31 48.3
ABTX comp=Z,63nm,1.5s **Abilene, Hawle** **36.69 332** P **P** **01 31 39.9 -0.2**
ABTX baz=146,SNR=16 **Abilene, Hawle** **36.69 332** P **P** **01 31 39.8 -0.2**
ABTX baz=146,SNR=16 S **S** **01 37 22.3 -1.1**
LCAR baz=146 **Lake Charles** **36.69 345** IAmb IAmb 01 31 42.4
LCAR comp=Z,37nm,0.9s **Lake Charles** **36.69 345** P **P** **01 31 38.5 -1.4**
T47A baz=162,SNR=20 **Sharon Grove** **36.74 351** P **P** **01 31 38.8 -1.5**
SLBS baz=169 **Sierra La Lagu** **36.78 311** P **P** **01 31 41.5 +0.5**
SLBS comp=Z,78nm,1.3s IAmb IAmb 01 31 52.7
PARMO **Parma** **36.93 347** IAmb IAmb 01 31 47.7
S51A comp=Z,79nm,1.0s **Beattyville** **36.97 356** IAmb IAmb 01 31 50.6
S51A comp=Z,44nm,1.1s **Beattyville** **36.97 356** P **P** **01 31 41.2 -1.1**
S51A baz=174,SNR=10 P **P** **01 31 41.2 -1.1**
S57A baz=174,SNR=10 **Dark Hollow, R** **36.99 2** P **P** **01 31 42.1 -0.3**
S57A baz=182 P **P** **01 31 42.1 -0.3**
S54A baz=182 **Dingess, Beckl** **37.02 359** IAmb IAmb 01 31 46.0
S54A comp=Z,58nm,1.4s **Dingess, Beckl** **37.02 359** P **P** **01 31 42.8 +0.1**
S54A baz=178 P **P** **01 31 42.8 +0.1**
PTGB baz=178 **Pitanga** **37.17 135** *eP* **P** **01 31 43.4 -0.8**
PBMO **Poplar Bluff** **37.19 346** P **P** **01 31 42.5 -1.6**
FRBT baz=163,SNR=10 **Francisco Belt** **37.28 137** *eP* **P** **01 31 43.7 -1.4**
LPIG **La Paz** **37.29 311** LR LR 01 43 32.0
U40A comp=Z,2µm,21.1s,baz=114,slow=31 **Yellville** **37.43 343** IAmb IAmb 01 31 54.6
U40A comp=Z,46nm,1.2s **Yellville** **37.43 343** P **P** **01 31 45.0 -1.1**
U40A baz=159,SNR=23 S **S** **01 37 31.3 -3.2**
SDBA baz=159 **SAO DESIDERIO** **37.43 111** *eP* **P** **01 31 45.4 -1.1**
CBN **Corbin Frederi** **37.51 4** S **S** **01 37 36.5 +0.9**
R53A baz=185 **Hurricane** **37.57 358** P **P** **01 31 46.0 -1.3**
R53A baz=177 P **P** **01 31 46.0 -1.3**
X34A baz=177 **Smith Ranch, M** **37.58 336** IAmb IAmb 01 31 50.5
ITQB comp=Z,64nm,1.4s **Itaqui** **37.64 145** P **P** **01 31 48.5 +0.4**
ITQB **Itaqui** **37.64 145** *eP* **P** **01 31 48.2 +0.2**
R50A **Paris** **37.67 355** IAmb IAmb 01 31 50.9
R50A comp=Z,72nm,1.5s **Paris** **37.67 355** P **P** **01 31 46.9 -1.3**
R50A baz=173,SNR=12 P **P** **01 31 46.9 -1.3**
HHAR baz=173,SNR=12 **Hobbs** **37.68 342** P **P** **01 31 47.2 -1.2**
R49A baz=157 **Shelbyville** **37.77 354** IAmb IAmb 01 31 56.9
R49A comp=Z,65nm,1.3s **Shelbyville** **37.77 354** P **P** **01 31 47.2 -1.8**
R49A baz=172,SNR=12 P **P** **01 31 47.2 -1.8**
USIN baz=172,SNR=12 **University of** **37.79 350** IAmb IAmb 01 31 56.7
BB19B comp=Z,74nm,1.1s **Bebedouro** **37.79 127** *eP* **P** **01 31 48.2 -1.3**
S44A **Carbondale** **37.81 348** IAmb IAmb 01 31 57.2
S44A comp=Z,56nm,1.2s **Carbondale** **37.81 348** P **P** **01 31 47.6 -1.8**
SIUC baz=165 **Southern Illin** **37.83 348** IAmb IAmb 01 31 57.3
TUL1 comp=Z,64nm,1.2s **Leonard** **37.96 339** P **P** **01 31 49.7 -1.0**
TUL1 baz=154,SNR=5.1 **Leonard** **37.96 339** P **P** **01 31 49.6 -1.1**
FNO baz=154,SNR=5.1 **Franklin** **37.98 337** IAmb IAmb 01 32 14.9
MGMO comp=Z,47nm,1.2s **Mountain Grove** **38.01 344** P **P** **01 31 49.9 -1.2**
MGMO comp=Z,78nm,1.3s IAmb IAmb 01 31 53.9
WMOK **Wichita Mounta** **38.09 335** P **P** **01 31 51.2 -0.6**
WMOK baz=149,SNR=15 **Wichita Mounta** **38.09 335** P **P** **01 31 51.0 -0.8**
WMOK baz=149,SNR=15 S **S** **01 37 46.0 +1.3**
Q54A baz=149 **Coxs Mills** **38.19 359** IAmb IAmb 01 32 01.1
FRTB comp=Z,74nm,1.4s **Fartura** **38.20 131** *eP* **P** **01 31 52.0 -1.0**
Q52A **Bidwell** **38.21 358** IAmb IAmb 01 32 01.1
Q52A comp=Z,82nm,1.3s **Bidwell** **38.21 358** P **P** **01 31 51.6 -1.1**
Q52A baz=177 P **P** **01 31 51.6 -1.1**
Q56A baz=177 **Snyder Ridge,** **38.26 1** P **P** **01 31 53.3 +0.1**
Q56A baz=182,SNR=8.6 P **P** **01 31 53.3 +0.1**
Q51A baz=182,SNR=8.6 **Peebles** **38.33 356** IAmb IAmb 01 31 58.9
Q51A comp=Z,66nm,1.4s **Peebles** **38.33 356** P **P** **01 31 51.6 -2.1**
Q51A baz=175 P **P** **01 31 51.6 -2.1**
FVM baz=175 **French Village** **38.34 347** IAmb IAmb 01 32 01.7
FVM comp=Z,65nm,1.1s **French Village** **38.34 347** P **P** **01 31 51.8 -2.1**
CCM baz=164,SNR=14 **Cathedral Cave** **38.60 346** P **P** **01 31 54.2 -1.9**
CCM comp=Z,65nm,1.2s pmax pmax
CCM comp=Z,3µm,19.0s MLR MLR
CCM **Cathedral Cave** **38.60 346** P **P** **01 31 54.2 -1.9**
CCM comp=Z,65nm,1.2s IAmb IAmb 01 32 03.7
CCM baz=162,SNR=22 **Cathedral Cave** **38.60 346** P **P** **01 31 54.0 -2.0**
CCM baz=162 **Cathedral Cave** **38.60 346** P **P** **01 31 54.1 -1.9**
CCM baz=162 S **S** **01 37 47.0 -5.3**
OLIL **Olney** **38.61 350** IAmb IAmb 01 32 03.6
OLIL comp=Z,70nm,1.0s **Olney** **38.61 350** P **P** **01 31 54.1 -1.9**
P53A baz=167 **Whipple** **38.70 359** IAmb IAmb 01 32 05.4
P53A comp=Z,78nm,1.4s **Whipple** **38.70 359** P **P** **01 31 55.0 -1.9**
P53A baz=178 P **P** **01 31 55.0 -1.9**
ITAB baz=178 **Concordia** **38.73 138** P **P** **01 31 57.2 -0.1**
ITAB **Concordia** **38.73 138** *eP* **P** **01 31 56.5 -0.8**
BLO **Bloomington** **38.80 352** IAmb IAmb 01 31 59.7
S39A comp=Z,80nm,1.5s **Bolivar** **38.80 343** P **P** **01 31 56.2 -1.6**
JANB baz=159,SNR=19 **Januaria** **38.83 115** *eP* **P** **01 31 56.6 -1.7**
MCWV **Mont Chateau** **38.87 1** IAMs_20 IAMs_20 01 50 50.8
MCWV comp=Z,5µm,20.0s **Mont Chateau** **38.87 1** P **P** **01 31 57.4 -0.8**
MCWV baz=181 S **S** **01 37 55.3 -0.9**
P52A baz=181 **Corning** **38.87 358** IAMs_20 IAMs_20 01 48 24.8
P52A comp=Z,5µm,19.0s **Corning** **38.87 358** P **P** **01 31 56.9 -1.4**
P52A baz=177 S **S** **01 37 52.2 -4.1**
Q44A baz=177 **Meyer Farm, Va** **38.94 349** IAmb IAmb 01 32 04.3
Q44A comp=Z,51nm,0.9s **Meyer Farm, Va** **38.94 349** P **P** **01 31 56.4 -2.4**
P48A baz=166,SNR=10 **Milroy** **38.95 354** IAmb IAmb 01 32 04.8
P48A comp=Z,59nm,1.3s **Milroy** **38.95 354** P **P** **01 31 56.2 -2.7**
P48A baz=172 P **P** **01 31 56.2 -2.7**
P49A baz=172 **Miami Univ. Ec** **38.95 355** P **P** **01 31 55.9 -3.0**
P49A baz=173 **Miami Univ. Ec** **38.95 355** P **P** **01 31 58.6 -0.4**
P49A baz=173 S **S** **01 37 52.7 -4.8**
MNTX **Cornudas Mount** **38.97 325** P **P** **01 31 59.4 +0.1**
MNTX comp=Z,69nm,1.4s IAmb IAmb 01 32 03.2
MNTX baz=138,SNR=47 **Cornudas Mount** **38.97 325** P **P** **01 31 58.7 -0.6**
MNTX baz=138,SNR=47 **Cornudas Mount** **38.97 325** P **P** **01 31 58.7 -0.6**
MNTX baz=138 S **S** **01 37 59.8 +1.7**
R40A **Maddies Statio** **39.08 345** P **P** **01 31 58.0 -2.0**
T35A baz=161,SNR=10 **Sooner Cattle** **39.12 339** IAmb IAmb 01 32 03.8
T35B comp=Z,71nm,1.3s **Sooner Cattle** **39.12 339** P **P** **01 31 59.9 -0.5**
NBPS baz=154,SNR=14 **Pedro II - PI** **39.13 98** *eP* **P** **01 32 01.7 +0.7**
RPN **Rapa Nui** **39.25 223** LR LR 01 43 32.9
RCLB comp=Z,2µm,19.1s,baz=45,slow=29 **Rio Claro- Sao** **39.28 128** *eP* **P** **01 32 02.5 +0.5**
MSTX **Muleshoe** **39.30 330** IAmb IAmb 01 32 07.5
MSTX comp=Z,86nm,1.3s **Muleshoe** **39.30 330** P **P** **01 32 02.3 +0.1**
MSTX baz=143,SNR=17 **Muleshoe** **39.30 330** P **P** **01 32 01.8 -0.4**
MSTX baz=143,SNR=17 S **S** **01 38 06.0 +2.8**
O52A baz=143 **Adamsville** **39.34 358** P **P** **01 32 00.8 -1.5**
O52A baz=178 P **P** **01 32 00.8 -1.5**
O54A baz=178 **Avella** **39.39 360** P **P** **01 32 01.8 -0.8**
O54A **Avella** **39.39 360** P **P** **01 32 01.6 -1.0**
O54A baz=180 P **P** **01 32 01.6 -1.0**
O53A baz=180 **New Philadelph** **39.46 359** IAMs_20 IAMs_20 01 49 01.4
O53A comp=Z,4µm,19.0s **New Philadelph** **39.46 359** P **P** **01 32 02.0 -1.2**
O53A baz=178 S **S** **01 38 01.7 -3.4**
ACSO baz=178 **Alum Creek Sta** **39.51 357** IAmb IAmb 01 32 11.5
ACSO comp=Z,4µm,1.1s IAMs_20 IAMs_20 01 47 23.0
ACSO comp=Z,4µm,20.0s **Alum Creek Sta** **39.51 357** P **P** **01 32 02.1 -1.5**
ACSO baz=176 **Alum Creek Sta** **39.51 357** P **P** **01 32 02.1 -1.5**
AMTX baz=176 **Amarillo** **39.51 332** P **P** **01 32 04.2 +0.4**
AMTX baz=145,SNR=9.4 **Amarillo** **39.51 332** P **P** **01 32 03.9 +0.1**
AMTX baz=145 S **S** **01 38 06.3 0.0**
PAGS baz=145 **Pennsylvania G** **39.57 4** IAmb IAmb 01 32 07.1
U32A comp=Z,61nm,1.3s **Winter Ranch,** **39.59 336** IAmb IAmb 01 32 12.2
EPT comp=Z,133nm,1.4s **El Paso** **39.68 324** IAMs_20 IAMs_20 01 47 36.1
O48B comp=Z,4µm,19.0s **Farmland** **39.71 354** P **P** **01 32 02.8 -2.4**
O48B baz=172 **Farmland** **39.71 354** P **P** **01 32 03.1 -2.2**
O48B baz=172 S **S** **01 38 02.9 -6.0**
P43A baz=172 **Skaggs, Pawnee** **39.75 349** IAmb IAmb 01 32 13.2
P43A comp=Z,115nm,1.5s **Skaggs, Pawnee** **39.75 349** P **P** **01 32 03.1 -2.5**
MC01 baz=166 **Montes Claros** **39.76 117** *eP* **P** **01 32 04.9 -1.2**
SSPA **Standing Stone** **39.90 3** P **P** **01 32 06.4 -0.5**
SSPA **Standing Stone** **39.90 3** P **P** **01 32 06.3 -0.6**
VAO baz=184 **Valinhos** **40.03 128** *eP* **P** **01 32 06.4 -1.9**
CPSB **Cacapava Do Su** **40.06 143** *eP* **P** **01 32 07.5 -0.9**
SFIN **Lafayette** **40.06 352** P **P** **01 32 05.6 -2.7**
LC01 baz=169 **Cunco** **40.07 170** P **P** **01 32 08.8 +0.4**
LC01 comp=Z,78nm,1.1s IAmb IAmb 01 32 14.8
N58A baz=186 **Sunbury** **40.17 4** P **P** **01 32 08.3 -0.8**
N58A baz=186 P **P** **01 32 08.3 -0.8**
N49A comp=Z,62nm,1.4s **Columbus Grove** **40.28 355** IAmb IAmb 01 32 18.4
N47A comp=Z,72nm,1.4s **Urbana** **40.38 354** IAmb IAmb 01 32 12.2
PET01 **Itanhaem-SP** **40.47 130** *eP* **P** **01 32 11.7 -0.1**
HDIL comp=Z,32nm,0.7s **Hopedale** **40.59 349** IAmb IAmb 01 32 12.7
HDIL baz=166,SNR=8.5 **Hopedale** **40.59 349** P **P** **01 32 10.2 -2.3**
HDIL baz=166,SNR=8.5 **Hopedale** **40.59 349** P **P** **01 32 10.1 -2.5**
DIAM **Diamantina, MG** **40.61 119** *eP* **P** **01 32 11.7 -1.5**
PAL baz=190 **Palisades** **40.62 7** P **P** **01 32 12.3 -0.5**
PAL baz=190 S **S** **01 38 24.4 +1.9**
M57A **Sunshine Farm,** **40.64 4** P **P** **01 32 12.8 -0.2**
M57A baz=185 **Sunshine Farm,** **40.64 4** P **P** **01 32 12.6 -0.4**
M57A baz=185 P **P** **01 32 12.6 -0.4**
M53A comp=Z,5µm,20.0s **WI Miller and** **40.64 360** IAMs_20 IAMs_20 01 49 07.6
M53A baz=179 **WI Miller and** **40.64 360** S **S** **01 38 19.2 -3.6**
M50A comp=Z,46nm,0.9s **Fremont** **40.68 357** IAmb IAmb 01 32 16.1
LR03 comp=Z,47nm,1.1s **Panguipulli** **40.71 171** IAmb IAmb 01 32 17.0
PLTB **Pedras Altas** **40.94 144** P **P** **01 32 15.9 +0.3**
PLTB comp=Z,48nm,1.0s IAmb IAmb 01 32 17.1
PLTB **Pedras Altas** **40.94 144** *eP* **P** **01 32 15.2 -0.4**
KSPA **Keystone Colle** **40.97 5** IAmb IAmb 01 32 25.0
KSPA comp=Z,52nm,1.2s **Keystone Colle** **40.97 5** P **P** **01 32 15.6 0.0**
121A baz=187,SNR=8.7 **Cookes Peak, D** **40.98 324** P **P** **01 32 17.5 +1.3**
121A baz=135,SNR=20 S **S** **01 38 32.8 +4.3**
N41A baz=135 **Harden Midland** **41.05 348** IAmb IAmb 01 32 23.4
LPA comp=Z,116nm,1.5s **La Plata** **41.06 152** *d iP* P 01 32 09.8 -6.8
LPA PP **PP** **01 33 48.4 -3.0**
LPA PCP **PcP** **01 34 12.7 -3.6**
LPA S **S** **01 38 32.0 +2.8**
LPA PKIKP **PKiKP** **01 41 26.9 +2.0**
LPA SS **SnSn** **01 41 46.7 +7.2**
319A comp=Z,88nm,1.4s **Douglas** **41.09 321** IAmb IAmb 01 32 37.3
KSU1 comp=Z,75nm,1.1s **Kansas State U** **41.12 341** IAmb IAmb 01 32 22.5
KSU1 baz=155,SNR=10 **Kansas State U** **41.12 341** P **P** **01 32 16.0 -0.9**
KSU1 baz=155,SNR=10 **Kansas State U** **41.12 341** P **P** **01 32 16.1 -0.9**
KSU1 baz=155 S **S** **01 38 27.2 -2.7**
R32A baz=151,SNR=13 **Long Quarter,** **41.26 338** P **P** **01 32 18.0 -0.1**
PARB **Paraibuna** **41.26 128** *eP* **P** **01 32 17.2 -1.3**
M63A comp=Z,58nm,1.1s **Gales Ferry** **41.29 9** IAmb IAmb 01 32 25.8
ERPA comp=Z,4µm,19.0s **Erie** **41.32 0** IAMs_20 IAMs_20 01 49 27.5
ERPA baz=180 **Erie** **41.32 0** P **P** **01 32 17.1 -1.5**
ERPA baz=180 S **S** **01 38 28.3 -4.6**
NBPN **Ponto Novo - B** **41.46 107** *eP* **P** **01 32 19.9 -0.3**
BINY **Binghamton** **41.58 5** P **P** **01 32 20.6 -0.1**
BINY baz=186,SNR=8.5 **Binghamton** **41.58 5** P **P** **01 32 20.7 -0.1**
BINY baz=186,SNR=8.5 **Binghamton** **41.58 5** P **P** **01 32 20.6 -0.1**
BINY baz=186 S **S** **01 38 36.1 -0.7**
Y22D comp=Z,3µm,18.0s **IRIS PASSCAL I** **41.59 326** IAMs_20 IAMs_20 01 49 25.3
Y22D baz=138 **IRIS PASSCAL I** **41.59 326** P **P** **01 32 22.2 +1.1**
AAM comp=Z,5µm,19.0s **Ann Arbor** **41.61 356** IAMs_20 IAMs_20 01 48 38.5
AAM baz=175 **Ann Arbor** **41.61 356** P **P** **01 32 19.1 -1.8**
WVNY baz=182 **West Valley, N** **41.64 2** P **P** **01 32 19.6 -1.6**
N38A comp=Z,58nm,0.9s **Joes South For** **41.69 345** IAmb IAmb 01 32 29.2
BRYW comp=Z,3µm,20.0s **Bryant College** **41.87 10** IAMs_20 IAMs_20 01 51 36.8
L44A comp=Z,4µm,20.0s **Lake County Fo** **41.95 352** IAMs_20 IAMs_20 01 52 01.2
L44A baz=169 **Lake County Fo** **41.95 352** S **S** **01 38 33.8 -8.3**
ANMO comp=Z,2µm,19.7s,baz=129,slow=36 **Albuquerque** **41.98 327** LR LR 01 49 34.8
ANMO comp=Z,51nm,1.0s pmax pmax
ANMO comp=Z,2µm,19.0s **Albuquerque** **41.98 327** P **P** **01 32 25.0 +0.6**
ANMO comp=Z,51nm,0.9s IAmb IAmb 01 32 34.7
ANMO baz=139,SNR=60 **Albuquerque** **41.98 327** P **P** **01 32 25.1 +0.7**
ANMO baz=139 **Albuquerque** **41.98 327** P **P** **01 32 25.3 +0.9**
ANMO baz=139 S **S** **01 38 45.5 +2.2**
CBKS baz=150,SNR=9.5 **Cedar Bluff** **41.99 337** P **P** **01 32 24.5 +0.3**
CBKS baz=150 S **S** **01 38 43.9 +0.9**
K50A comp=Z,102nm,1.4s **Casco** **42.03 357** IAmb IAmb 01 32 31.3
ESAR **Angra dos Reis** **42.05 126** *eP* **P** **01 32 24.4 -0.4**
K57A comp=Z,48nm,1.1s **Scipio Center** **42.07 4** IAmb IAmb 01 32 28.4
K57A baz=186,SNR=12 **Scipio Center** **42.07 4** P **P** **01 32 24.0 -0.8**
PLCA comp=Z,57nm,0.9s,baz=341,slow=9.3,SNR=62 **Paso Flores** **42.09 169** P **P** **01 32 24.0 -1.0**
PLCA comp=Z,2µm,18.2s,baz=6.0,slow=35 LR LR 01 48 51.0
PLCA comp=Z,113nm,1.1s **Paso Flores** **42.09 169** P **P** **01 32 25.7 +0.6**
PLCA comp=Z,113nm,1.1s pmax pmax
PLCA **Paso Flores** **42.09 169** P **P** **01 32 25.7 +0.6**
PLCA **Paso Flores** **42.09 169** *eP* **P** **01 32 25.6 +0.6**
NBMA **Muriti-CE** **42.17 102** *eP* **P** **01 32 25.3 -0.7**
HCNY baz=189 **Howe Caverns** **42.23 6** P **P** **01 32 25.9 -0.2**
NBCL comp=Z,3µm,18.0s **Cascavel-CE** **42.24 97** *eP* **P** **01 32 26.7 +0.1**
TRY **Troy** **42.35 7** IAMs_20 IAMs_20 01 51 28.6
MAN01 comp=Z,3µm,20.0s **Angra dos Reis** **42.36 126** *eP* **P** **01 32 27.6 +0.1**
WES **Weston** **42.36 10** IAMs_20 IAMs_20 01 51 40.9
L40A comp=Z,71nm,1.2s **Anamosa** **42.42 348** IAmb IAmb 01 32 34.8
L40A baz=164 **Anamosa** **42.42 348** P **P** **01 32 25.8 -1.9**
HRV comp=Z,3µm,19.0s **Adam Dziewonsk** **42.44 10** IAMs_20 IAMs_20 01 51 33.1
HRV baz=193 **Adam Dziewonsk** **42.44 10** P **P** **01 32 27.9 +0.2**
J56A baz=185 **Wolcott** **42.59 4** P **P** **01 32 27.6 -1.3**
J56A baz=185 P **P** **01 32 27.6 -1.3**
T25A comp=Z,45nm,1.1s **Trinidad** **42.63 331** IAmb IAmb 01 32 40.3
T25A baz=143,SNR=15 **Trinidad** **42.63 331** P **P** **01 32 30.9 +1.2**
T25A baz=143 S **S** **01 38 58.2 +5.3**
TUC TUC comp=Z,30nm,1.3s **Tucson** **42.67 321** P pmax **P** pmax **01 32 30.1 +0.2**
TUC comp=Z,11µm,18.0s MLR MLR
TUC **Tucson** **42.67 321** P **P** **01 32 30.1 +0.2**
TUC baz=132 **Tucson** **42.67 321** P **P** **01 32 30.1 +0.2**

TUC S **S** **01 38 57.4 +4.1**
baz=132
SCIA **State Center** **42.73 346** IAmb IAmb 01 32 37.6
comp=Z,68nm,1.1s
SCIA **State Center** **42.73 346** P **P** **01 32 28.2 -1.9**
baz=161
SCIA S **S** **01 38 48.0 -5.7**
baz=161
GDU01 **Guandu, BA** **42.78 111** *e*P **P** **01 32 30.0 -0.9**
SJMB **Sao Joao De Ma** **42.94 119** *e*P **P** **01 32 30.9 -1.3**
J59A **Piesco** **42.98 6** P **P** **01 32 30.8 -1.3**
baz=188
J59A P **P** **01 32 30.8 -1.3**
baz=188
JFWS **Jewell Farm** **43.05 349** IAmb IAmb 01 32 34.3
comp=Z,49nm,1.1s
JFWS **Jewell Farm** **43.05 349** IAMs_20 IAMs_20 01 52 47.5
comp=Z,3µm,20.0s
JFWS **Jewell Farm** **43.05 349** P **P** **01 32 30.0 -2.7**
baz=165
JFWS **Jewell Farm** **43.05 349** P **P** **01 32 30.0 -2.7**
baz=165
JFWS S **S** **01 38 56.0 -2.4**
baz=165
CMC01 **Camacan, BA** **43.30 113** *e*P **P** **01 32 34.9 -0.2**
DUB01 **Friburgo-RJ** **43.31 124** *e*P **P** **01 32 36.1 +1.0**
K38A **Parkersburg** **43.32 347** IAmb IAmb 01 32 38.9
comp=Z,55nm,1.1s
KSCO **Kaye Shedlock'** **43.34 334** P **P** **01 32 35.4 +0.1**
KSCO IAmb IAmb 01 32 40.7
comp=Z,53nm,1.1s
KSCO **Kaye Shedlock'** **43.34 334** P **P** **01 32 35.8 +0.5**
baz=146
KSCO S **S** **01 39 04.6 +1.5**
baz=146
FFD **Franklin Falls** **43.37 9** IAMs_20 IAMs_20 01 51 49.4
comp=Z,3µm,18.0s
WCNY **West Carthage** **43.38 5** P **P** **01 32 34.8 -0.6**
baz=187
GUA01 **Guaratinga, BA** **43.43 115** *e*P **P** **01 32 35.5 -0.7**
NCB **Newcomb** **43.51 6** P **P** **01 32 35.3 -1.1**
baz=189
NAN01 **Guarapari, ES** **43.57 117** *e*P **P** **01 32 37.9 +0.6**
MCVT **Middlebury Col** **43.64 8** P **P** **01 32 36.7 -0.8**
baz=190
SDCO **Great Sand Dun** **43.64 331** IAmb IAmb 01 32 45.0
comp=Z,33nm,0.9s
SDCO **Great Sand Dun** **43.64 331** P **P** **01 32 39.0 +1.1**
baz=142,SNR=61
SDCO **Great Sand Dun** **43.64 331** P **P** **01 32 38.9 +1.0**
baz=142,SNR=61
SDCO S **S** **01 39 11.2 +3.3**
baz=142
L34A **Svendsen Farm,** **43.65 343** IAmb IAmb 01 32 45.1
comp=Z,39nm,1.1s
BGNE **Belgrade** **43.70 341** IAmb IAmb 01 32 46.1
comp=Z,88nm,1.4s
BGNE **Belgrade** **43.70 341** P **P** **01 32 37.2 -0.8**
baz=154
BGNE S **S** **01 39 05.9 -2.2**
baz=154
214A **Organ Pipe Nat** **43.75 319** IAmb IAmb 01 32 50.3
comp=Z,77nm,1.4s
214A **Organ Pipe Nat** **43.75 319** P **P** **01 32 39.2 +0.6**
baz=129,SNR=26
I42A **Draeger Farm,** **43.77 351** IAmb IAmb 01 32 45.9
comp=Z,93nm,1.4s
I42A **Draeger Farm,** **43.77 351** P **P** **01 32 36.4 -2.1**
baz=168,SNR=8.3
DELO **Deloro Mine** **43.78 3** P **P** **01 32 37.3 -1.3**
CAM01 **Campos-RJ** **43.79 123** *e*P **P** **01 32 38.3 -0.7**
NBLA **Lagarto - SE** **43.80 107** *e*P **P** **01 32 37.1 -2.1**
RIB01 **Linhares ES** **43.86 119** *e*P **P** **01 32 39.1 -0.6**
W18A **Petrified Fore** **43.95 325** P **P** **01 32 41.3 +1.0**
baz=135,SNR=55
W18A S **S** **01 39 15.7 +3.5**
baz=135
SADO **Sadowa** **43.98 1** LR LR 01 50 35.6
comp=Z,2µm,21.6s,baz=184,slow=36
VT1 **Waterbury** **44.05 8** IAMs_20 IAMs_20 01 52 38.2
comp=Z,3µm,18.0s
I40A **Norwalk** **44.06 349** IAmb IAmb 01 32 47.3
comp=Z,53nm,1.2s
I40A **Norwalk** **44.06 349** P **P** **01 32 38.4 -2.5**
baz=165
LBNH **Lisbon** **44.08 9** P **P** **01 32 41.2 +0.3**
baz=192
LBNH S **S** **01 39 15.7 +2.4**
baz=192
ALF01 **Guarapari-ES** **44.08 121** *e*P **P** **01 32 41.5 +0.1**
LONY **Lake Ozonia** **44.11 6** P **P** **01 32 40.2 -1.1**
baz=188
LONY S **S** **01 39 12.2 -1.7**
baz=188
H43A **Windswept, Lux** **44.17 352** IAmb IAmb 01 32 42.5
comp=Z,37nm,0.8s
H43A **Windswept, Lux** **44.17 352** P **P** **01 32 39.2 -2.5**
baz=169
GLMI **Grayling** **44.19 356** P **P** **01 32 39.7 -2.1**
baz=174
LL02 **Futaleuf** **44.26 171** P **P** **01 32 43.3 +0.9**
LL02 IAmb IAmb 01 32 48.3
comp=Z,83nm,1.4s
S22A **4UR Ranch, Cre** **44.30 330** IAmb IAmb 01 33 07.5
comp=Z,40nm,1.4s
S22A **4UR Ranch, Cre** **44.30 330** P **P** **01 32 43.9 +0.6**
baz=140,SNR=26
S22A S **S** **01 39 21.9 +4.4**
baz=140
BMNY **Brushton-Moira** **44.34 6** P **P** **01 32 41.3 -1.7**
baz=188
FRNY **Flat Rock** **44.44 7** P **P** **01 32 43.2 -0.6**
FRNY **Flat Rock** **44.44 7** P **P** **01 32 42.9 -0.9**
baz=190
Q24A **Divide** **44.44 332** IAmb IAmb 01 32 48.9
comp=Z,44nm,1.4s
Q24A **Divide** **44.44 332** P **P** **01 32 44.8 +0.5**
baz=143,SNR=19
Q24A S **S** **01 39 24.2 +4.7**
baz=143
X16A **Lo Mia Camp, P** **44.48 322** IAmb IAmb 01 32 54.3
comp=Z,26nm,0.9s
G45A **Suttons Bay** **44.49 355** P **P** **01 32 42.0 -2.3**
baz=172
G45A P **P** **01 32 42.0 -2.3**
baz=172
SFX **San Felipe** **44.58 316** P **P** **01 32 46.5 +1.3**
SFX IAmb IAmb 01 32 51.9
comp=Z,45nm,1.3s
OGNE **Ogallala** **44.72 337** P **P** **01 32 46.4 +0.1**
baz=148,SNR=5.6
OGNE **Ogallala** **44.72 337** P **P** **01 32 46.8 +0.5**
baz=148,SNR=5.6
OGNE S **S** **01 39 27.3 +4.2**
baz=148
I37A **Lemond, Waseca** **44.77 347** IAmb IAmb 01 32 52.8
comp=Z,23nm,0.8s
MVCO **Mesa Verde** **44.77 328** IAmb IAmb 01 32 52.9
comp=Z,74nm,1.3s
MVCO IAMs_20 IAMs_20 01 52 03.5
comp=Z,4µm,18.0s
MVCO **Mesa Verde** **44.77 328** P **P** **01 32 47.3 +0.4**
baz=138,SNR=23
MVCO S **S** **01 39 27.4 +3.2**
baz=138
RCBR **Riachuelo** **44.78 99** LR LR 01 51 03.6
comp=Z,3µm,21.7s,baz=64,slow=36
113A **Mohawk Valley,** **44.89 319** IAmb IAmb 01 32 51.1
comp=Z,38nm,1.3s
K31A **O'Neill** **44.99 341** P **P** **01 32 47.3 -1.0**
baz=153,SNR=11
MNTQ **Montreal, Queb** **45.09 7** IAmb IAmb 01 32 57.7
comp=Z,35nm,1.2s
Y14A **Wickenburg** **45.14 321** IAmb IAmb 01 32 59.0
comp=Z,38nm,1.3s
WUAZ **Wupatki** **45.19 324** P **P** **01 32 51.3 +1.1**
baz=133,SNR=17
WUAZ S **S** **01 39 36.2 +6.0**
baz=133
G62A **West of Eustis** **45.25 10** IAmb IAmb 01 32 58.5
comp=Z,52nm,1.1s
G62A **West of Eustis** **45.25 10** P **P** **01 32 49.2 -1.1**
baz=194,SNR=14
G62A P **P** **01 32 49.2 -1.1**
baz=194,SNR=14
ISCO **Idaho Springs** **45.32 332** P **P** **01 32 51.9 +0.6**
baz=143,SNR=12
ISCO **Idaho Springs** **45.32 332** P **P** **01 32 51.9 +0.6**
baz=143,SNR=12
ISCO S **S** **01 39 36.2 +3.9**
baz=143
G40A **Rib Lake** **45.32 350** IAmb IAmb 01 32 58.2
comp=Z,57nm,1.4s
G40A **Rib Lake** **45.32 350** P **P** **01 32 48.6 -2.3**
baz=166,SNR=11
ECSD **EROS Data Cent** **45.34 343** IAmb IAmb 01 32 57.9
comp=Z,34nm,1.1s
ECSD **EROS Data Cent** **45.34 343** IAMs_20 IAMs_20 01 52 04.1
comp=Z,3µm,20.0s
ECSD **EROS Data Cent** **45.34 343** P **P** **01 32 48.9 -2.2**
baz=157,SNR=16
ECSD **EROS Data Cent** **45.34 343** P **P** **01 32 49.1 -1.9**
baz=157,SNR=16
ECSD S **S** **01 39 25.1 -6.7**
baz=157
AY01 **Puyuhuapi** **45.35 172** P **P** **01 32 51.4 +0.3**
AY01 IAmb IAmb 01 32 56.7
comp=Z,54nm,1.4s
EMMW **East Machias** **45.36 13** IAMs_20 IAMs_20 01 54 47.2
comp=Z,3µm,19.0s
SMCO **Snowmass** **45.48 331** IAMs_20 IAMs_20 01 54 11.2
comp=Z,3µm,18.0s
F42A **Maple Grove Fa** **45.49 352** IAmb IAmb 01 33 00.6
comp=Z,62nm,1.3s
PKME **Peaks-Kenny Pk** **45.52 11** P **P** **01 32 52.0 -0.3**
baz=195
PKME **Peaks-Kenny Pk** **45.52 11** S **S** **01 39 35.8 +1.6**
baz=195
TRQ **Mont Tremblant** **45.70 6** P **P** **01 32 53.4 -0.6**
E46A **Sault Ste Mari** **45.70 356** IAmb IAmb 01 33 01.1
comp=Z,39nm,1.1s
E46A **Sault Ste Mari** **45.70 356** P **P** **01 32 51.9 -2.0**
baz=174,SNR=6.2
PV07 **Paradox Valley** **45.76 329** IAmb IAmb 01 33 07.0
comp=Z,35nm,1.0s
GLA **Glamis** **45.77 318** IAmb IAmb 01 32 58.9
comp=Z,44nm,1.3s
GLA **Glamis** **45.77 318** P **P** **01 32 55.0 +0.3**
baz=128,SNR=8.8
SPMN **Marine on St.** **45.78 348** IAmb IAmb 01 33 01.4
comp=Z,34nm,1.0s
SPMN **Marine on St.** **45.78 348** P **P** **01 32 51.6 -2.9**
baz=162
SPMN **Marine on St.** **45.78 348** P **P** **01 32 51.9 -2.6**
baz=162
SPMN S **S** **01 39 31.0 -7.1**
baz=162
G65A **Princeton** **45.81 13** IAmb IAmb 01 33 00.2
comp=Z,35nm,1.2s
GGN **Saint George** **45.89 13** IAmb IAmb 01 33 02.0
comp=Z,48nm,1.4s
PV10 **Paradox Valley** **45.92 328** P **P** **01 32 56.2 +0.2**
NBRF **Rio Formoso -** **45.94 103** *e*P **P** **01 32 57.6 +1.4**
E43A **Log Tree Farm** **45.95 354** P **P** **01 32 53.3 -2.6**
baz=171,SNR=9.9
COWI **Conover** **45.96 351** IAmb IAmb 01 33 03.4
comp=Z,39nm,1.5s
COWI IAMs_20 IAMs_20 01 52 27.6
comp=Z,3µm,18.0s
COWI **Conover** **45.96 351** P **P** **01 32 53.7 -2.2**
baz=168
PV23 **Carpenter Ridg** **45.96 328** IAmb IAmb 01 33 06.0
comp=Z,26nm,0.8s
BLYC **Blythe** **46.00 319** IAmb IAmb 01 32 58.8
comp=Z,35nm,1.4s
PDMCI **Parker Dam,Lak** **46.10 320** P **P** **01 32 57.5 +0.3**
baz=130
YUH **Yuha Desert** **46.26 317** IAmb IAmb 01 33 08.0
comp=Z,39nm,1.2s
N23A **Red Feather La** **46.35 333** IAmb IAmb 01 33 08.6
comp=Z,36nm,1.1s
N23A **Red Feather La** **46.35 333** P **P** **01 32 59.8 +0.4**
baz=143,SNR=11
N23A S **S** **01 39 52.2 +5.2**
baz=143
SWSC **Sam W. Stewart** **46.35 318** P **P** **01 32 59.7 +0.5**
baz=127
IKP **In-Ko-Pah, Jac** **46.39 317** P **P** **01 33 00.4 +0.8**
baz=126
W13A **Hualapai Mount** **46.44 321** IAmb IAmb 01 33 06.6
comp=Z,17nm,0.9s
PHWY **Pilot Hill** **46.46 334** IAmb IAmb 01 33 04.5
comp=Z,32nm,1.1s
F36A **Milaca** **46.55 347** IAmb IAmb 01 33 01.1
comp=Z,25nm,1.2s
F36A **Milaca** **46.55 347** P **P** **01 32 58.0 -2.5**
baz=162,SNR=10
BC3 **Big Chuckawall** **46.55 319** P **P** **01 33 01.2 +0.3**
baz=128,SNR=9.2
CBX **Cerro Bola** **46.57 316** P **P** **01 33 02.4 +1.2**
IRM **Iron Mountain** **46.65 319** P **P** **01 33 02.2 +0.6**
baz=128
SUSD **Miller** **46.69 342** P **P** **01 33 00.1 -1.5**
baz=154
BAR **Barrett** **46.79 317** IAmb IAmb 01 33 25.4
comp=Z,31nm,1.4s
E63A **Oxbow** **46.80 11** P **P** **01 33 01.2 -1.3**
baz=196
E63A P **P** **01 33 01.2 -1.3**
baz=196
D41A **Chassel** **46.82 352** P **P** **01 33 00.2 -2.5**
baz=169
O20A **White River Ci** **46.84 330** IAmb IAmb 01 33 30.2
comp=Z,42nm,1.4s
O20A **White River Ci** **46.84 330** P **P** **01 33 03.7 +0.5**
baz=140,SNR=16
E38A **The Farm, Brul** **46.86 349** IAmb IAmb 01 33 09.4
comp=Z,24nm,1.1s
E38A **The Farm, Brul** **46.86 349** P **P** **01 33 00.6 -2.3**
baz=164
LATQ **La Tuque** **47.04 7** IAmb IAmb 01 33 14.9
comp=Z,26nm,1.0s
KNB **Kanab** **47.07 324** IAmb IAmb 01 33 26.9
comp=Z,42nm,1.3s
BELC **Belle Mtn. Jos** **47.12 319** P **P** **01 33 05.8 +0.4**
baz=127,SNR=6.8
F33A **5 Mile Ranch,** **47.19 345** IAmb IAmb 01 33 12.8
comp=Z,38nm,1.3s
PFO **Pinyon Flats O** **47.19 318** LR LR 01 51 18.6
comp=Z,5µm,18.5s,baz=126,slow=34
PFO **Pinyon Flats O** **47.19 318** P **P** **01 33 06.0 0.0**
PFO pmax pmax
comp=Z,39nm,1.4s
PFO **Pinyon Flats O** **47.19 318** P **P** **01 33 06.0 0.0**
PFO IAmb IAmb 01 33 09.4
comp=Z,39nm,1.4s
PFO **Pinyon Flats O** **47.19 318** IAMs_20 IAMs_20 01 51 06.2
comp=Z,5µm,19.0s
PFO **Pinyon Flats O** **47.19 318** P **P** **01 33 06.5 +0.6**
baz=126
109C **Camp Elliot, M** **47.21 317** IAMs_20 IAMs_20 01 50 55.3
comp=Z,4µm,18.0s
109C **Camp Elliot, M** **47.21 317** P **P** **01 33 06.3 +0.3**
baz=125
SRU **San Rafael Swe** **47.25 328** IAmb IAmb 01 33 16.1
comp=Z,41nm,1.2s
LCMT **Little Creek M** **47.31 324** IAmb IAmb 01 33 14.0
comp=Z,27nm,1.2s
D62A **Allapoint, All** **47.31 10** P **P** **01 33 06.7 +0.2**
baz=195,SNR=12
D62A P **P** **01 33 06.7 +0.2**
baz=195,SNR=12
GMRC **Granite Mounta** **47.38 320** P **P** **01 33 07.7 +0.4**
baz=128,SNR=12
MTPU **Mount Pierson** **47.40 325** IAmb IAmb 01 33 32.3
comp=Z,23nm,1.2s
P18A **Preston Nutter** **47.48 328** IAmb IAmb 01 33 20.9
comp=Z,31nm,1.2s
LMQ **La Malbaie** **47.55 9** P **P** **01 33 07.8 -0.5**
RWWY **Rawlins** **47.56 333** IAMs_20 IAMs_20 01 53 54.5
comp=Z,3µm,19.0s
P17A **Butcher Ranch,** **47.63 328** IAmb IAmb 01 33 13.4
comp=Z,34nm,1.1s
MURC **Murrieta** **47.68 317** P **P** **01 33 10.3 +0.6**
baz=126
TMUT **Trail Mountain** **47.75 327** IAmb IAmb 01 33 14.5
comp=Z,22nm,1.1s
RDMU **Red Mountain** **47.83 330** IAmb IAmb 01 33 20.4
comp=Z,43nm,1.2s
HEC **Hector,Ludlow** **47.84 319** P **P** **01 33 11.8 +0.8**
baz=128
ELS **Elsinore Mount** **47.87 317** IAmb IAmb 01 33 17.1
comp=Z,26nm,1.2s
TUQ **Turquoise Moun** **47.95 320** P **P** **01 33 12.7 +0.8**
baz=128
K22A **Casper** **48.02 334** P **P** **01 33 12.8 +0.5**
baz=144,SNR=14
K22A S **S** **01 40 12.0 +1.5**
baz=144
BATG **Bathurst New B** **48.11 13** IAmb IAmb 01 33 16.7
comp=Z,34nm,1.1s
SHPR **Sheep Range** **48.14 322** IAmb IAmb 01 33 22.9
comp=Z,44nm,1.4s
EYMN **Ely** **48.14 350** IAmb IAmb 01 33 21.2
comp=Z,24nm,1.2s
EYMN **Ely** **48.14 350** IAMs_20 IAMs_20 01 55 45.2
comp=Z,3µm,19.0s
EYMN **Ely** **48.14 350** P **P** **01 33 14.0 +1.0**
baz=165
EYMN S **S** **01 40 04.9 -6.9**
baz=165
RSSD **Black Hills** **48.20 337** P **P** **01 33 14.1 +0.4**
RSSD pmax pmax
comp=Z,30nm,0.8s
RSSD MLR MLR
comp=Z,2µm,18.0s
RSSD **Black Hills** **48.20 337** P **P** **01 33 14.1 +0.4**
RSSD **Black Hills** **48.20 337** P **P** **01 33 14.2 +0.4**
baz=147,SNR=45
RSSD **Black Hills** **48.20 337** P **P** **01 33 14.7 +1.0**
baz=147
RSSD S **S** **01 40 15.3 +2.2**
baz=147
RRX **Edison Barstow** **48.30 319** P **P** **01 33 15.7 +1.3**
baz=127
BFSC **Mount Baldy Ra** **48.37 318** P **P** **01 33 15.4 +0.4**
baz=126
MPU **Maple Canyon** **48.49 328** IAmb IAmb 01 33 24.3
comp=Z,37nm,1.4s
PASC **Pasadena Art C** **48.68 317** IAMs_20 IAMs_20 01 51 42.8
comp=Z,3µm,19.0s
NLU **North Lily Min** **48.69 327** IAmb IAmb 01 33 34.4
comp=Z,29nm,1.5s
JLU **Jordanelle** **48.82 328** IAmb IAmb 01 33 28.4
comp=Z,44nm,1.3s
DECC **Green Verdugo** **48.83 317** P **P** **01 33 19.6 +1.1**
baz=125
QSM **Queen of Sheba** **48.88 320** IAmb IAmb 01 33 28.0
comp=Z,30nm,1.2s
EDW2 **Edwards Air Fo** **48.97 318** P **P** **01 33 20.0 +0.4**
baz=126,SNR=8.7
CTU **Camp Tracy** **49.04 328** IAmb IAmb 01 33 30.0
comp=Z,47nm,1.2s
TPNV **Topopah Spring** **49.10 322** P **P** **01 33 21.9 +1.2**
baz=129
LRMC **Laurel Mtn Rad** **49.11 319** P **P** **01 33 22.2 +1.4**
baz=127
E28A **Huff** **49.14 341** P **P** **01 33 20.0 -0.7**
baz=153
FURC **Furnace Creek,** **49.18 321** P **P** **01 33 22.1 +1.0**
baz=128
DUG **Dugway, Tooele** **49.26 327** P **P** **01 33 22.4 +0.6**
DUG pmax pmax
comp=Z,34nm,1.3s
DUG MLR MLR
comp=Z,8µm,18.0s
DUG **Dugway, Tooele** **49.26 327** P **P** **01 33 22.4 +0.6**
DUG IAmb IAmb 01 33 34.1
comp=Z,34nm,1.2s
DUG **Dugway, Tooele** **49.26 327** P **P** **01 33 22.4 +0.6**
baz=135,SNR=13
DUG S **S** **01 40 31.1 +3.1**
baz=135
OSI **Osito Audit: C** **49.30 317** P **P** **01 33 22.7 +0.5**
baz=125
MPMC **Manual Prospec** **49.33 320** P **P** **01 33 22.4 -0.1**
baz=127
MPMC S **S** **01 40 33.9 +4.6**
baz=127
AGMN **Agassiz Nation** **49.38 346** P **P** **01 33 20.5 -1.9**
baz=159
AGMN **Agassiz Nation** **49.38 346** P **P** **01 33 20.8 -1.6**
baz=159
BW06 **Boulder Array** **49.49 332** P **P** **01 33 23.3 -0.4**
baz=140,SNR=12
PDAR **Pinedale Array** **49.49 332** P **P** **01 33 23.0 -0.7**
comp=Z,3.7nm,0.9s,baz=128,slow=8.4,SNR=16
PDAR PcP **PcP** **01 34 44.5 -1.2**
comp=Z,3.1nm,1.0s,baz=104,slow=6.6,SNR=1.9
PDAR ScP **ScP** **01 38 41.4 +0.1**
comp=Z,0.1nm,0.4s,baz=119,slow=5.6,SNR=2.2
PDAR LR LR 01 55 21.5
comp=Z,5µm,18.7s,baz=146,slow=37
PDAR **Pinedale Array** **49.49 332** P **P** **01 33 23.6 -0.1**
R11A **Troy Canyon, C** **49.59 323** IAmb IAmb 01 33 27.1
comp=Z,38nm,1.5s
R11A **Troy Canyon, C** **49.59 323** P **P** **01 33 25.4 +0.9**
baz=131
ARVC **Arvin** **49.67 318** P **P** **01 33 26.0 +1.2**
baz=125
ISA **Isabella, Lake** **49.74 319** P **P** **01 33 25.9 +0.4**
ISA pmax pmax
comp=Z,21nm,1.3s
ISA **Isabella, Lake** **49.74 319** P **P** **01 33 25.9 +0.4**
ISA **Isabella, Lake** **49.74 319** P **P** **01 33 25.5 0.0**
baz=126
GRAC **Grapevine Rang** **49.83 321** P **P** **01 33 27.4 +1.3**
baz=128
BGU **Big Grassy Mou** **49.89 328** IAmb IAmb 01 33 38.5
comp=Z,62nm,1.3s
CWC **Cottonwood Cre** **49.95 320** P **P** **01 33 27.1 -0.1**
baz=127
MDND **Maddock** **49.95 343** P **P** **01 33 26.5 -0.3**
baz=154
PKM **Mcpherson Peak** **50.20 317** P **P** **01 33 29.3 +0.1**
baz=124
AHID **Auburn Hatcher** **50.23 331** IAmb IAmb 01 33 47.6
comp=Z,32nm,1.4s
AHID IAMs_20 IAMs_20 01 54 47.0
comp=Z,3µm,19.0s
VES **Vestal, Richgr** **50.25 319** P **P** **01 33 29.9 +0.6**
baz=126,SNR=7.4
TIN **Tinemaha, Big** **50.41 320** P **P** **01 33 31.5 +0.9**
baz=127
SMMC **Simmler** **50.56 317** P **P** **01 33 32.0 +0.3**
baz=124
SNOW **Snow King Moun** **50.59 331** IAmb IAmb 01 33 46.3
comp=Z,55nm,1.4s
SNOW IAMs_20 IAMs_20 01 56 09.4
comp=Z,4µm,18.0s
LOHW **Long Hollow** **50.63 332** P **P** **01 33 32.1 -0.2**
LOHW IAMs_20 IAMs_20 01 55 24.5
comp=Z,4µm,21.0s
TPAW **Teton Pass** **50.70 331** IAmb IAmb 01 33 43.6
comp=Z,52nm,1.4s
VOG **Valley Oaks Go** **50.72 319** P **P** **01 33 33.2 +0.3**
baz=126
MOOW **Moose Ponds** **50.80 332** IAmb IAmb 01 33 44.8
comp=Z,36nm,1.4s
MOOW IAMs_20 IAMs_20 01 55 29.0
comp=Z,4µm,21.0s
PAGB **Antelope Grade** **50.96 318** IAmb IAmb 01 33 50.3
comp=Z,33nm,1.2s
ELK **Elko** **50.98 326** LR LR 01 53 46.5
comp=Z,3µm,21.6s,baz=124,slow=34
ELK **Elko** **50.98 326** IAmb IAmb 01 33 47.0
comp=Z,35nm,1.4s
ELK IAMs_20 IAMs_20 01 53 35.8
comp=Z,3µm,21.0s
MLAC **Mammoth, Mammo** **51.14 321** P **P** **01 33 36.9 +0.6**
baz=127
RLMT **Red Lodge** **51.18 334** IAMs_20 IAMs_20 01 55 37.4
comp=Z,3µm,20.0s
RLMT **Red Lodge** **51.18 334** P **P** **01 33 36.0 -0.4**
baz=142
LAO **LASA Array** **51.19 337** IAmb IAmb 01 33 44.7
comp=Z,32nm,1.2s
LAO IAMs_20 IAMs_20 01 57 59.1
comp=Z,3µm,18.0s
LAO **LASA Array** **51.19 337** P **P** **01 33 35.1 -1.2**
baz=146
LAO **LASA Array** **51.19 337** P **P** **01 33 36.4 +0.1**
baz=146
LAO S **S** **01 40 56.9 +2.4**
baz=146
NV11 **Mina Array Sit** **51.20 322** P **P** **01 33 37.4 +0.8**
ULM **Lac du Bonnet** **51.21 347** P **P** **01 33 33.8 -2.5**
comp=Z,19nm,0.6s,baz=159,slow=7.9,SNR=26
H17A **Grant Village** **51.21 332** P **P** **01 33 38.0 +1.3**
baz=140,SNR=7.9
NVAR **Mina Array Bea** **51.29 322** P **P** **01 33 37.2 -0.1**
comp=Z,14nm,0.7s,baz=137,slow=7.3,SNR=51

NVAR LR LR 01 54 40.7
comp=Z,3µm,19.2s,baz=123,slow=35
LHV Little Huntoon 51.31 321 IAmb IAmb 01 33 45.4
comp=Z,43nm,1.0s
YFT Old Faithful 51.38 332 IAmb IAmb 01 33 48.7
comp=Z,40nm,1.2s
RYN Ryan 51.55 322 IAmb IAmb 01 33 50.6
comp=Z,37nm,1.2s
YMR Madison River 51.60 332 IAmb IAmb 01 33 59.4
comp=Z,41nm,1.2s
BMN Battle Mountai 51.90 324 P **P** **01 33 42.3 +0.5**
BMN pmax pmax
comp=Z,54nm,1.3s
BMN Battle Mountai 51.90 324 P **P** **01 33 42.3 +0.5**
BMN IAmb IAmb 01 33 51.1
comp=Z,54nm,1.3s
DGMT Dagmar 51.95 340 IAMs_20 IAMs_20 01 58 50.3
comp=Z,2µm,18.0s
DGMT Dagmar 51.95 340 P **P** **01 33 41.9 0.0**
baz=149
CMB Columbia Colle 52.37 320 IAMs_20 IAMs_20 01 54 36.9
comp=Z,3µm,20.0s
HLID Hailey 52.48 329 IAmb IAmb 01 33 54.5
comp=Z,58nm,1.5s
HLID Hailey 52.48 329 P **P** **01 33 46.6 +0.6**
baz=135,SNR=37
PNTR Pine Nut 52.50 322 IAmb IAmb 01 34 03.0
comp=Z,44nm,1.4s
BOZ Bozeman (W) 52.61 333 IAmb IAmb 01 33 56.1
comp=Z,54nm,1.3s
BOZ IAMs_20 IAMs_20 01 56 49.9
comp=Z,2µm,18.0s
BOZ Bozeman (W) 52.61 333 P **P** **01 33 46.3 -0.7**
baz=139,SNR=41
BOZ S **S** **01 41 18.5 +4.1**
baz=139
PAHR Pah Rah Range 52.74 322 IAmb IAmb 01 34 03.9
comp=Z,54nm,1.4s
DLMT Dillon 52.89 332 IAmb IAmb 01 34 00.8
comp=Z,47nm,1.5s
DLMT IAMs_20 IAMs_20 01 56 55.5
comp=Z,3µm,18.0s
MFID Camas Ranch 53.11 328 IAMs_20 IAMs_20 01 55 00.3
comp=Z,2µm,20.0s
LRM Limekiln Ridge 53.16 332 P **P** **01 33 50.8 -0.4**
EGMT Eagleton 53.68 336 P **P** **01 33 54.9 +0.1**
baz=142,SNR=24
ORV Oroville 53.96 321 IAMs_20 IAMs_20 01 55 21.3
comp=Z,3µm,20.0s
MCCM Marconi Confer 54.05 319 IAMs_20 IAMs_20 01 55 10.9
comp=Z,3µm,18.0s
PLID Pearl Lake 54.36 329 IAmb IAmb 01 34 08.9
comp=Z,33nm,1.4s
PLID IAMs_20 IAMs_20 01 57 24.6
comp=Z,3µm,19.0s
O03E Paynes Creek 54.58 322 IAmb IAmb 01 34 16.0
comp=Z,29nm,1.1s
O03E IAMs_20 IAMs_20 01 56 04.7
comp=Z,3µm,20.0s
O03E Paynes Creek 54.58 322 P **P** **01 34 01.6 +0.1**
baz=126
MSO Missoula 54.60 332 IAMs_20 IAMs_20 01 57 28.9
comp=Z,4µm,20.0s
MSO Missoula 54.60 332 P **P** **01 34 01.4 -0.1**
baz=137,SNR=33
MOD Modoc Plateau 54.63 324 IAmb IAmb 01 34 12.9
comp=Z,27nm,1.4s
HOPS Hopland Field 54.65 320 IAMs_20 IAMs_20 01 55 54.6
comp=Z,4µm,19.0s
BMO Blue Mountains 54.87 328 IAMs_20 IAMs_20 01 58 01.2
comp=Z,3µm,19.0s
MG03 Isla Dawson 54.88 173 P **P** **01 34 04.0 +0.7**
MG03 IAmb IAmb 01 34 09.9
comp=Z,46nm,1.1s
SCHQ Schefferville 55.16 9 P **P** **01 34 03.4 -1.9**
comp=Z,10nm,1.2s,baz=241,slow=6.1,SNR=4.7
SCHQ LR LR 02 00 59.3
comp=Z,1µm,18.2s,baz=206,slow=40
SCHQ Schefferville 55.16 9 P **P** **01 34 05.1 -0.2**
JTMT Jette 55.43 333 IAmb IAmb 01 34 17.3
comp=Z,39nm,1.3s
M04C Macdoel 55.48 323 IAMs_20 IAMs_20 01 57 11.4
comp=Z,39nm,19.0s
M04C Macdoel 55.48 323 P **P** **01 34 08.6 +0.6**
baz=126
K05A Summer Lake 55.48 324 IAmb IAmb 01 34 25.2
comp=Z,62nm,1.4s
F10A Beach Ranch, E 55.60 329 IAmb IAmb 01 34 37.7
comp=Z,58nm,1.4s
M02C Callahan 55.86 322 IAMs_20 IAMs_20 01 56 47.7
comp=Z,3µm,21.0s
K04D Chiloquin, OR 55.93 324 P **P** **01 34 11.6 +0.3**
baz=127
YBH Yreka Blue Hor 55.97 322 IAMs_20 IAMs_20 01 56 33.5
comp=Z,2µm,22.0s
L04D Klamath Falls 56.01 323 IAmb IAmb 01 34 19.5
comp=Z,26nm,0.9s
L04D Klamath Falls 56.01 323 P **P** **01 34 12.4 +0.6**
baz=126
J05D Fort Rock, OR 56.02 325 P **P** **01 34 11.8 -0.1**
baz=128,SNR=20
G08A Pilot Rock 56.04 328 IAmb IAmb 01 34 17.4
comp=Z,41nm,1.5s
USHA Ushuaia 56.11 172 LR LR 01 57 47.1
comp=Z,1µm,18.2s,baz=7.5,slow=36
PINE Pine Mountain 56.17 325 P **P** **01 34 13.4 +0.4**
PINE IAmb IAmb 01 34 21.6
comp=Z,50nm,1.4s
WALA Waterton Lakes 56.24 334 IAmb IAmb 01 34 21.5
comp=Z,31nm,0.9s
E09A Wood Farm, Sta 56.43 329 IAmb IAmb 01 34 19.9
comp=Z,54nm,1.3s
J04D Umpqua Nationa 56.51 324 IAmb IAmb 01 34 32.0
comp=Z,38nm,0.9s
J04D IAMs_20 IAMs_20 01 58 31.6
comp=Z,4µm,20.0s
HUMO Hull Mountain 56.63 323 IAMs_20 IAMs_20 01 57 54.9
comp=Z,2µm,20.0s
I05D Terrebonne, OR 56.73 326 P **P** **01 34 17.6 +0.8**
baz=128,SNR=9.1
L02E Cave Junction 56.76 322 IAMs_20 IAMs_20 01 58 03.4
comp=Z,3µm,20.0s
FFC Flin Flon 56.80 345 P **P** **01 34 16.1 -0.9**
FFC pmax pmax
comp=Z,64nm,1.5s
FFC MLR MLR
comp=Z,3µm,20.0s
FFC Flin Flon 56.80 345 P **P** **01 34 16.1 -0.9**
FFC IAmb IAmb 01 34 25.8
comp=Z,64nm,1.5s
FFC Flin Flon 56.80 345 IAMs_20 IAMs_20 02 02 26.5
comp=Z,3µm,20.0s
I04A Tendick Farm, 57.01 325 P **P** **01 34 19.3 +0.4**
baz=127
HAWA Hanford 57.06 329 IAMs_20 IAMs_20 01 59 04.2
comp=Z,2µm,20.0s
K02D Willamette Mer 57.11 323 P **P** **01 34 19.8 +0.2**
baz=125,SNR=7.4
NEW Newport 57.13 332 LR LR 01 58 48.1
comp=Z,3µm,21.4s,baz=131,slow=36
NEW Newport 57.13 332 IAmb IAmb 01 34 28.1
comp=Z,30nm,1.4s
NEW Newport 57.13 332 IAMs_20 IAMs_20 01 58 36.9
comp=Z,3µm,20.0s
NEW Newport 57.13 332 P **P** **01 34 19.5 -0.1**
baz=134,SNR=17
NEW S **S** **01 42 15.4 +0.6**
baz=134
G05D Wamic, OR 57.28 327 P **P** **01 34 20.7 0.0**
baz=129
H04A Detroit Lake 57.42 326 IAmb IAmb 01 34 35.7
comp=Z,37nm,1.3s
F05D White Salmon 57.76 327 IAmb IAmb 01 34 37.8
comp=Z,38nm,1.2s
F05D White Salmon 57.76 327 P **P** **01 34 24.1 +0.1**
baz=129
COR Corvallis 58.00 325 P **P** **01 34 26.7 +1.0**
COR pmax pmax
comp=Z,125nm,1.5s
COR Corvallis 58.00 325 P **P** **01 34 26.7 +1.0**
I02E Swisshome, OR 58.03 324 IAMs_20 IAMs_20 01 59 29.0
comp=Z,2µm,20.0s
RKT Rikitea 58.12 242 *e*T T 02 37 01.9
comp=Z,2.5nm,0.2s
LTY Liberty 58.22 329 IAmb IAmb 01 34 35.7
comp=Z,29nm,1.2s
F04A Amboy 58.32 327 IAmb IAmb 01 34 38.5
comp=Z,39nm,1.2s

G03D McMinnville, O 58.35 326 IAMs_20 IAMs_20 01 58 25.5
comp=Z,3µm,20.0s
F04D Rainier, OR 58.74 326 P **P** **01 34 31.7 +0.9**
baz=128
C06D Leavenworth 58.77 329 P **P** **01 34 31.6 +0.5**
baz=130
E04D Cinebar 58.78 327 IAmb IAmb 01 34 58.8
comp=Z,45nm,1.5s
B05A Bryant 59.60 329 P **P** **01 34 36.1 -0.7**
baz=129
D03D Eldon 59.67 328 P **P** **01 34 37.5 +0.2**
baz=128
D03D S **S** **01 42 51.4 +3.7**
baz=128
NLWA Neilton Lookou 60.00 327 P **P** **01 34 40.5 +0.9**
NLWA IAmb IAmb 01 34 48.5
comp=Z,33nm,1.1s
A04D Lummi Island 60.21 329 P **P** **01 34 41.4 +0.5**
baz=129
A04D S **S** **01 42 59.6 +5.0**
baz=129
TAOE Nuku Hiva Isla 60.35 260 *e*S S 01 42 48.9 -8.9
comp=Z,1µm,24.8s
TAOE *e*LQ LQ 01 49 58.2
comp=Z,3µm,27.7s
TAOE *e*LR LR 01 52 31.8
comp=Z,4µm,23.6s,baz=84
PGC Sidney 60.55 329 IAmb IAmb 01 34 54.6
comp=Z,25nm,1.1s
LLLB Lillooet 61.01 331 P **P** **01 34 47.4 +1.0**
CBB Campbell River 62.39 329 P **P** **01 34 56.7 +1.0**
FRB Frobisher Bay 63.59 6 LR LR 02 04 02.4
comp=Z,1µm,20.2s,baz=192,slow=37
MBO M'Bour 64.06 74 IAMs_20 IAMs_20 02 05 26.6
comp=Z,3µm,18.0s
BBB Bella Bella 65.06 330 LR LR 02 04 26.2
comp=Z,1µm,19.5s,baz=133,slow=37
NRS Narsarsuaq 65.98 18 IAMs_20 IAMs_20 02 03 01.7
comp=Z,2µm,22.0s
PMSA Palmer Station 66.31 172 P **P** **01 35 22.6 +1.6**
YKA Yellowknife Ar 66.87 343 P **P** **01 35 22.8 -1.9**
comp=Z,18nm,1.0s,baz=138,slow=5.9,SNR=79
PMOZ Porto Moniz, M 67.25 55 *e*S **S** **01 44 30.5 +7.3**
PMOZ Porto Moniz, M 67.25 55 *e*LR LR 01 56 45.4
comp=Z,630nm,18.0s
SMAI San Martin Ant 69.21 175 P **P** **01 35 40.2 +0.9**
SFJD Kangerlussuaq 69.44 12 LR LR 02 06 52.8
comp=Z,1µm,18.8s,baz=216,slow=37
SFJD Kangerlussuaq 69.44 12 P **P** **01 35 40.5 -0.2**
SFJD pmax pmax
comp=Z,60nm,1.5s
SFJD MLR MLR
comp=Z,1µm,19.0s
SFJD Kangerlussuaq 69.44 12 P **P** **01 35 40.5 -0.2**
SFJD Kangerlussuaq 69.44 12 IAMs_20 IAMs_20 02 10 18.1
comp=Z,1µm,19.0s
WRAK Wrangell Islan 69.48 332 IAMs_20 IAMs_20 02 05 45.5
comp=Z,2µm,21.0s
WRAK Wrangell Islan 69.48 332 P **P** **01 35 40.7 -0.5**
baz=123
DLBC Dease Lake 69.58 335 LR LR 02 08 00.6
comp=Z,2µm,19.4s,baz=118,slow=38
DY2G Dye2 69.98 14 *i* P **P** **01 35 42.3 -2.1**
DY2G IAmb IAmb 01 35 48.8
comp=Z,14nm,0.6s
WTLY Watson Lake, Y 70.06 336 P **P** **01 35 45.5 +0.7**
baz=127
WTLY S **S** **01 44 58.2 +2.8**
baz=127
WRGLY Wrigley 70.14 341 P **P** **01 35 45.3 +0.1**
baz=133
PPT Papeete 70.47 251 LR LR 01 59 13.0
comp=Z,2µm,18.3s,baz=74,slow=30
PPT2 Papeete2 70.47 251 *e*S S 01 44 52.7 -9.0
comp=Z,1µm,24.2s
PPT2 Papeete2 70.47 251 *e*LR LR 01 57 09.8
comp=Z,3µm,24.8s,baz=83
TGTN Hyland Airport 70.73 338 P **P** **01 35 49.6 +0.7**
baz=128,SNR=15
TGTN S **S** **01 45 07.4 +4.3**
baz=128
TBI Tubuai 71.17 245 *e*S S 01 45 00.2 -9.4
comp=Z,1µm,24.5s
TBI *e*LQ LQ 01 54 28.5
comp=Z,988nm,27.5s
TBI *e*LR LR 01 57 28.5
comp=Z,3µm,26.5s,baz=84
SIT Sitka 71.22 332 P **P** **01 35 53.3 +1.5**
baz=120
SIT S **S** **01 45 14.5 +5.8**
baz=120
ILULI Ilulissat 71.24 11 IAMs_20 IAMs_20 02 11 04.8
comp=Z,2µm,19.0s
SKAG Skagway 72.44 334 IAmb IAmb 01 36 05.8
comp=Z,30nm,1.4s
SKAG Skagway 72.44 334 P **P** **01 35 59.7 +0.6**
baz=121
MMPY Sheldon Lake, 72.51 338 P **P** **01 36 00.1 +0.5**
baz=126,SNR=29
MMPY S **S** **01 45 27.0 +3.3**
baz=126
WHY Whitehorse 72.87 335 P **P** **01 36 02.1 +0.3**
WHY Whitehorse 72.87 335 P **P** **01 36 01.6 -0.2**
baz=122
FARO Faro, Yukon 73.09 337 P **P** **01 36 03.4 +0.4**
baz=123
M31M Drury Creek, Y 73.48 337 IAmb IAmb 01 36 14.0
comp=Z,23nm,1.2s
M31M IAMs_20 IAMs_20 02 10 18.1
comp=Z,2µm,19.0s
M31M Drury Creek, Y 73.48 337 P **P** **01 36 05.9 +0.6**
baz=122,SNR=14
ICESG Greenland Ices 73.61 14 *i* P **P** **01 36 02.6 -3.7**
ICESG IAmb IAmb 01 36 10.1
comp=Z,27nm,0.7s
N31M Braeburn, Yuko 73.67 336 IAMs_20 IAMs_20 02 11 55.0
comp=Z,2µm,22.0s
N31M Braeburn, Yuko 73.67 336 P **P** **01 36 07.0 +0.6**
baz=121,SNR=10
N31M S **S** **01 45 38.0 +1.1**
baz=121
HYT Haines Junctio 74.06 335 P **P** **01 36 09.9 +1.0**
baz=119
HYT S **S** **01 45 46.0 +4.5**
baz=119
TTIG Tnine Tigouga, 74.10 58 P P 01 36 16.0 +6.3
PNL Peninsula 74.35 333 P **P** **01 36 14.6 +4.1**
baz=117
PNL S **S** **01 45 48.9 +4.3**
baz=117
YUK6 Outpost Mounta 74.49 335 P **P** **01 36 12.6 +1.1**
baz=118
YUK6 S **S** **01 45 49.7 +3.2**
baz=118
RES Resolute Bay 74.49 356 LR LR 02 09 16.2
comp=Z,2µm,20.1s,baz=158,slow=36
M30M Minto, Yukon 74.64 336 P **P** **01 36 12.2 +0.1**
baz=120,SNR=16
M30M S **S** **01 45 49.1 +1.3**
baz=120
OUK Oukaimeden 74.69 58 P P 01 36 21.0 +7.6
YUK4 Talbot Arm 74.80 335 P **P** **01 36 14.2 +1.0**
baz=118,SNR=10.0
SRHM Skhour des Reh 74.86 57 P P 01 36 21.0 +7.0
PINM Pinnacle 74.93 333 P **P** **01 36 14.4 +0.6**
baz=116
LIS Lisbon 74.97 50 *e*P **P** **01 36 15.4 +1.0**
LIS IAmb IAmb 01 36 20.6
comp=Z,46nm,1.0s
LIS *e*S **S** **01 45 53.8 +1.7**
LIS Lisbon 74.97 50 *e*P **P** **01 36 15.4 +1.0**
MORF Marmelete 75.08 52 *e*P **P** **01 36 16.0 +0.8**
MORF IAmb IAmb 01 36 22.7
comp=Z,85nm,1.5s
MORF *e*S **S** **01 45 55.3 +1.6**
MORF Marmelete 75.08 52 *e*P **P** **01 36 16.9 +1.7**
comp=Z,62nm,1.8s
MORF Marmelete 75.08 52 *e*P **P** **01 36 16.0 +0.8**
LIC Lamto 75.29 84 *e*PKIKP **P** **01 36 16.9 +0.1**
comp=Z,104nm,1.5s
TIC Toumodi 75.30 83 *e*PKIKP **P** **01 36 17.1 +0.2**
PNCL Nicolau / Gran 75.33 51 *e*P **P** **01 36 18.1 +1.6**
comp=Z,41nm,1.4s
AVE Averroes 75.39 56 P P 01 36 23.9 +6.9
DBIC Dimbokro 75.47 83 P **P** **01 36 16.6 -1.2**
comp=Z,19nm,1.0s,baz=297,slow=4.9,SNR=11
DBIC Dimbokro 75.47 83 P **P** **01 36 18.1 +0.3**

DBIC pmax pmax
comp=Z,133nm,1.5s
DBIC Dimbokro 75.47 83 P **P** **01 36 18.1 +0.3**
TABL Table Mountain 75.48 333 IAmb IAmb 01 36 38.7
comp=Z,46nm,1.3s
KIC Kosan Boka 75.58 84 *e*PKIKP **P** **01 36 17.0 -1.4**
comp=Z,88nm,1.2s
OUZM OUZ 75.58 58 P P 01 36 25.0 +6.7
LOGN Logan Glacier 75.58 334 IAmb IAmb 01 36 46.3
comp=Z,34nm,1.4s
PBDV Barranco-do-Ve 75.63 52 *e*P **P** **01 36 21.7 +3.4**
comp=Z,37nm,1.5s
PCAS Casmilo, Conde 75.73 49 *e*P **P** **01 36 20.2 +1.4**
comp=Z,61nm,1.4s
PMTG Montargil 75.74 50 *e*P **P** **01 36 20.3 +1.4**
comp=Z,26nm,1.4s
YUK3 Moose Creek 75.77 335 P **P** **01 36 19.1 +0.3**
baz=116,SNR=12
YUK3 S **S** **01 46 03.2 +2.5**
baz=116
CTGM Chitina Glacie 75.79 334 IAmb IAmb 01 36 43.4
comp=Z,35nm,1.4s
CTGM IAMs_20 IAMs_20 02 11 06.3
comp=Z,2µm,20.0s
CTG Chitna Glacier 75.79 334 P **P** **01 36 16.5 -2.4**
baz=116
COI Coimbra 75.82 49 *e*P **P** **01 36 20.7 +1.4**
comp=Z,107nm,1.6s
PVAQ Vaqueiros 75.83 52 *e*P **P** **01 36 21.5 +2.1**
comp=Z,23nm,1.7s
PVAQ Vaqueiros 75.83 52 *e*LR LR 02 00 58.7
comp=Z,1µm,18.0s
GRNC Granite Creek 75.88 334 IAmb IAmb 01 36 34.1
comp=Z,38nm,1.3s
BARN Barnard Glacie 75.98 334 IAmb IAmb 01 36 28.7
comp=Z,26nm,1.2s
BARN IAMs_20 IAMs_20 02 11 02.1
comp=Z,2µm,20.0s
ISLE Juniper Island 76.08 333 IAmb IAmb 01 36 41.8
comp=Z,46nm,1.4s
ISLE IAMs_20 IAMs_20 02 10 29.0
comp=Z,2µm,19.0s
TULEG Thule 76.12 3 IAMs_20 IAMs_20 02 11 14.7
comp=Z,2µm,20.0s
J29M Klondike Camp 76.12 338 P **P** **01 36 20.3 -0.3**
baz=119
J29M S **S** **01 46 07.2 +3.0**
baz=119
SNH Sunshine Point 76.14 333 IAMs_20 IAMs_20 02 12 05.4
comp=Z,2µm,18.0s
PESTR Estremoz 76.19 50 *e*P **P** **01 36 22.6 +1.1**
comp=Z,69nm,1.6s
PESTR Estremoz 76.19 50 P **P** **01 36 22.2 +0.8**
PESTR IAmb IAmb 01 36 28.0
comp=Z,35nm,1.3s
PESTR Estremoz 76.19 50 P P 01 36 27.4 +5.9
BVCY Beaver Creek 76.22 335 P **P** **01 36 20.7 -0.5**
baz=116
BVCY S **S** **01 46 08.7 +3.4**
baz=116
WAX Waxell Ridge 76.25 333 IAMs_20 IAMs_20 02 11 11.4
comp=Z,2µm,20.0s
PGAV Gavieira, Arco 76.28 47 *e*S **S** **01 46 13.7 +6.8**
PGAV Gavieira, Arco 76.28 47 *e*LR LR 02 01 23.8
comp=Z,896nm,20.0s
PVIS Viseu 76.31 48 *e*P **P** **01 36 22.5 +0.3**
comp=Z,38nm,1.5s
TGL Tana Glacier 76.37 333 IAmb IAmb 01 36 33.8
comp=Z,39nm,1.1s
TGL IAMs_20 IAMs_20 02 10 48.4
comp=Z,2µm,18.0s
DAWY Dawson 76.39 337 IAmb IAmb 01 36 33.1
comp=Z,21nm,0.9s
DAWY Dawson 76.39 337 P **P** **01 36 21.9 -0.2**
baz=118,SNR=19
DAWY S **S** **01 46 08.4 +1.4**
baz=118
PCAB Cabril 76.41 47 *e*P **P** **01 36 23.9 +1.2**
PMRV Marv??o 76.45 50 *e*P **P** **01 36 23.6 +0.7**
comp=Z,32nm,1.8s
PMRV Marv??o 76.45 50 *e*LR LR 02 01 33.8
comp=Z,681nm,20.0s
ZGR Zagora 76.45 59 P P 01 36 30.0 +6.7
PCBR Castelo Branco 76.46 49 *e*P **P** **01 36 24.1 +1.2**
comp=Z,35nm,1.9s
MTE Manteigas 76.51 49 *e*S **S** **01 46 17.3 +7.9**
MTE Manteigas 76.51 49 *e*LR LR 02 01 27.0
comp=Z,663nm,20.0s
EPYK Eagle Plains 76.55 340 IAMs_20 IAMs_20 02 11 57.9
comp=Z,1µm,20.0s
EPYK Eagle Plains 76.55 340 P **P** **01 36 23.0 0.0**
baz=121,SNR=16
EPYK S **S** **01 46 09.9 +1.1**
baz=121
PVRL Vila Real 76.55 48 *e*P **P** **01 36 24.7 +1.2**
comp=Z,35nm,1.7s
INK Inuvik 76.56 342 LR LR 02 12 43.2
comp=Z,2µm,19.0s,baz=114,slow=38
INK Inuvik 76.56 342 P **P** **01 36 22.6 -0.3**
baz=124,SNR=38
INK S **S** **01 46 08.5 -0.2**
baz=124
KOWA Kowa 76.56 75 P **P** **01 36 23.6 -0.4**
KOWA IAMs_20 IAMs_20 02 12 03.9
comp=Z,2µm,19.0s
TZRR Tazzarine 76.58 59 P P 01 36 31.1 +7.1
I29M Ogilvie Camp, 76.60 339 IAmb IAmb 01 36 37.6
comp=Z,28nm,1.0s
I29M Ogilvie Camp, 76.60 339 P **P** **01 36 21.7 -1.6**
baz=119,SNR=14
I29M S **S** **01 46 10.7 +1.3**
baz=119
M27K Edge Creek, AK 76.63 335 IAmb IAmb 01 36 38.1
comp=Z,39nm,1.4s
M27K Edge Creek, AK 76.63 335 P **P** **01 36 24.1 +0.5**
baz=115,SNR=12
M27K S **S** **01 46 11.5 +1.6**
baz=115
BORG Borgarnes 76.66 22 LR LR 02 06 56.1
comp=Z,912nm,22.0s,baz=250,slow=33
A36M Sachs Harbour 76.69 347 IAmb IAmb 01 36 27.7
comp=Z,29nm,0.9s
A36M Sachs Harbour 76.69 347 P **P** **01 36 21.7 -1.8**
baz=133,SNR=38
A36M S **S** **01 46 05.2 -4.7**
baz=133
MCARA McCarthy VSAT 76.71 334 P **P** **01 36 25.9 +2.0**
MCARA McCarthy VSAT 76.71 334 P **P** **01 36 24.7 +0.8**
baz=114,SNR=12
MCARA S **S** **01 46 14.4 +3.8**
baz=114
VRDI Verde Repeater 76.84 334 IAmb IAmb 01 36 39.8
comp=Z,30nm,1.0s
VRDI IAMs_20 IAMs_20 02 13 48.9
comp=Z,2µm,18.0s
L27K Beaver Creek, 76.91 336 IAmb IAmb 01 36 36.9
comp=Z,40nm,1.2s
L27K IAMs_20 IAMs_20 02 11 53.6
comp=Z,1µm,19.0s
L27K Beaver Creek, 76.91 336 P **P** **01 36 25.1 +0.1**
baz=116,SNR=22
L27K S **S** **01 46 15.8 +3.0**
baz=116
MVO Moncorvo 77.04 48 *e*P **P** **01 36 27.5 +1.2**
comp=Z,41nm,1.4s
MVO Moncorvo 77.04 48 *e*LR LR 02 01 35.4
comp=Z,667nm,18.0s
GLB Gilahina Butte 77.08 334 IAmb IAmb 01 36 34.5
comp=Z,29nm,1.2s
GLB IAMs_20 IAMs_20 02 14 06.3
comp=Z,2µm,19.0s
M26K Nabesna, AK 77.12 335 IAmb IAmb 01 36 34.5
comp=Z,36nm,1.4s
M26K Nabesna, AK 77.12 335 P **P** **01 36 26.1 -0.2**
baz=114
M26K S **S** **01 46 15.0 -0.1**
baz=114
GOLM Goulmima 77.22 58 P P 01 36 35.0 +7.4
BMRM Bremner River 77.25 333 IAMs_20 IAMs_20 02 11 39.8
comp=Z,2µm,20.0s
BMRM Bremner River 77.25 333 P **P** **01 36 26.6 -0.5**
baz=112,SNR=5.7
BMRM S **S** **01 46 18.0 +1.3**
baz=112
CZD Col de Zad 77.32 56 P P 01 36 36.0 +7.7
CHEFC Chefchaouen 77.36 54 P P 01 36 36.1 +7.8
EGAK Eagle 77.40 337 P **P** **01 36 27.5 -0.2**
EGAK IAmb IAmb 01 36 41.9

comp=Z,38nm,1.1s
EGAK Eagle 77.40 337 P P 01 36 27.4 -0.3
baz=116,SNR=42
EGAK S **S** **01 46 19.8 +1.8**
baz=116
SMIR Smir Dam 77.41 54 P P 01 36 36.0 +7.6
N25K Chitina, Valde 77.49 334 IAmb IAmb 01 36 40.0
comp=Z,16nm,0.9s
N25K IAMs_20 IAMs_20 02 14 20.2
comp=Z,2µm,19.0s
N25K Chitina, Valde 77.49 334 P P 01 36 28.1 -0.3
baz=113
N25K S **S** **01 46 20.1 +0.7**
baz=113
L26K Log Cabin Wild 77.52 335 IAmb IAmb 01 36 33.5
comp=Z,20nm,1.1s
L26K Log Cabin Wild 77.52 335 P P 01 36 28.2 -0.3
baz=114
LCRM LCR 77.56 56 P P 01 36 36.0 +6.5
MENT Mentasta 77.64 335 IAmb IAmb 01 36 40.3
comp=Z,15nm,0.8s
MDT Midelt 77.65 57 LR LR 02 08 09.3
comp=Z,517nm,19.8s,baz=284,slow=34
MDT Midelt 77.65 57 P P 01 36 37.5 +7.5
KLU Klutina 78.04 333 IAmb IAmb 01 36 37.5
comp=Z,48nm,1.4s
KLU IAMs_20 IAMs_20 02 12 15.6
comp=Z,2µm,19.0s
KLU Klutina 78.04 333 P P 01 36 32.2 +0.7
baz=111
DOT Dot Lake 78.07 336 IAmb IAmb 01 36 36.3
comp=Z,32nm,1.2s
SCRK Sand Creek 78.17 336 IAmb IAmb 01 36 38.4
comp=Z,18nm,1.0s
SCRK IAMs_20 IAMs_20 02 13 60.0
comp=Z,2µm,18.0s
SCRK Sand Creek 78.17 336 P P 01 36 32.1 -0.1
baz=114,SNR=20
SCRK S **S** **01 46 27.8 +1.1**
baz=114
J26L Joseph Creek 78.22 337 P P 01 36 32.5 +0.1
baz=114,SNR=32
J26L S **S** **01 46 29.0 +2.0**
baz=114
M24K Tolsona, Glenn 78.37 334 IAMs_20 IAMs_20 02 14 55.5
comp=Z,2µm,19.0s
M24K Tolsona, Glenn 78.37 334 P P 01 36 33.0 -0.3
baz=111
PAX Paxson 78.39 335 IAmb IAmb 01 36 39.1
comp=Z,43nm,1.4s
PAX Paxson 78.39 335 P P 01 36 33.2 -0.2
baz=112,SNR=16
PAX S **S** **01 46 28.7 -0.2**
baz=112
RIDG Independent Ri 78.43 336 P P 01 36 33.5 0.0
baz=113
RIDG S **S** **01 46 27.4 -1.8**
baz=113
SCM Sheep Creek Mo 78.79 334 IAMs_20 IAMs_20 02 12 30.4
comp=Z,2µm,18.0s
SCM Sheep Creek Mo 78.79 334 P P 01 36 35.5 -0.1
baz=110
PAB San Pablo 78.79 50 P P **01 36 36.1 0.0**
PAB pmax pmax
comp=Z,36nm,1.3s
PAB MLR MLR
comp=Z,1µm,20.0s
PAB San Pablo 78.79 50 P P 01 36 36.1 0.0
PAB IAmb IAmb 01 36 42.8
comp=Z,36nm,1.2s
PAB San Pablo 78.79 50 P P 01 36 42.2 +6.1
PWL Port Wells 78.92 332 IAMs_20 IAMs_20 02 14 46.8
comp=Z,2µm,19.0s
M23K Glacier View 78.95 333 P P 01 36 36.1 -0.3
baz=110
J25K Salcha River, 78.98 337 IAMs_20 IAMs_20 02 13 25.2
comp=Z,2µm,19.0s
J25K Salcha River, 78.98 337 P P 01 36 36.3 -0.2
baz=112,SNR=12
J25K S **S** **01 46 36.6 +1.5**
baz=112
ESDC Sonseca Array 79.10 50 P P **01 36 36.4 -1.4**
comp=Z,4.8nm,1.0s,baz=269,slow=5.4,SNR=27
ESDC Sonseca Array 79.10 50 IAmb IAmb 01 36 44.7
comp=Z,62nm,1.5s
ESBB Sonseca Array 79.10 50 IAmb IAmb 01 36 44.6
comp=Z,63nm,1.5s
KNK Knik Glacier 79.15 333 IAmb IAmb 01 36 50.8
comp=Z,42nm,1.3s
KNK IAMs_20 IAMs_20 02 15 17.8
comp=Z,2µm,20.0s
KNK Knik Glacier 79.15 333 P P 01 36 37.7 +0.1
baz=109
KNK S **S** **01 46 37.1 +0.1**
baz=109
SEW Seward 79.20 332 S S **01 46 36.3 -1.1**
baz=108
WAT6 Susitna Watana 79.22 334 P P 01 36 37.7 -0.4
baz=110,SNR=20
WAT6 S **S** **01 46 37.0 -1.1**
baz=110
SML Sawmill 79.23 333 IAmb IAmb 01 36 52.4
comp=Z,50nm,1.2s
SML IAMs_20 IAMs_20 02 15 28.0
comp=Z,2µm,18.0s
SML Sawmill 79.23 333 P P 01 36 36.4 -1.6
baz=109
SML S **S** **01 46 38.5 +0.6**
baz=109
DHY Denali Highway 79.24 335 IAMs_20 IAMs_20 02 14 18.3
comp=Z,1µm,18.0s
DHY Denali Highway 79.24 335 S S **01 46 37.3 -0.9**
baz=110
SCO Scoresbysund 79.26 17 IAMs_20 IAMs_20 02 13 44.6
comp=Z,1µm,19.0s
O22K Cooper Landing 79.44 332 IAMs_20 IAMs_20 02 11 30.9
comp=Z,1µm,20.0s
GHO Glory Hole Cre 79.48 333 IAmb IAmb 01 36 50.6
comp=Z,28nm,0.9s
PMR Palmer 79.52 333 P P 01 36 39.0 -0.4
baz=108
PMR S **S** **01 46 40.3 -0.5**
baz=108
JBK JBK 79.53 55 P P 01 36 47.0 +6.6
RC01 Rabbit Creek A 79.64 332 IAMs_20 IAMs_20 02 13 55.0
comp=Z,1µm,20.0s
RC01 Rabbit Creek A 79.64 332 P P 01 36 42.3 +2.1
baz=108
RC01 S **S** **01 46 41.7 -0.4**
baz=108
ILAR Eielson Array 79.64 336 P P 01 36 37.8 -2.3
comp=Z,9.3nm,1.1s,baz=122,slow=3.4,SNR=18
ILAR PP **PP** **01 39 43.0 +2.2**
comp=Z,1.4nm,1.0s,baz=107,slow=6.2,SNR=4.5
ILAR LR LR 02 14 12.8
comp=Z,2µm,18.1s,baz=124,slow=38
ILAR Eielson Array 79.64 336 P P 01 36 39.9 -0.2
ILAR Eielson Array 79.64 336 P P 01 36 39.9 -0.2
TAF Taforalt 79.70 55 P P 01 36 48.0 +6.8
BRLK Bradley Lake 79.79 331 IAMs_20 IAMs_20 02 11 42.2
comp=Z,1µm,18.0s
TDRA Tendrara 79.83 57 P P 01 36 49.0 +6.9
CNPM China Poot 79.89 331 IAMs_20 IAMs_20 02 11 36.8
comp=Z,1µm,19.0s
RND Reindeer 79.98 335 IAmb IAmb 01 36 53.3
comp=Z,24nm,0.9s
POKR Poker Plat Res 79.98 337 P P 01 36 41.7 -0.3
baz=111
POKR S **S** **01 46 44.8 -0.9**
baz=111
M22K Willow 80.02 333 P P 01 36 42.0 -0.1
baz=108
WRH Wood River Hil 80.02 336 IAMs_20 IAMs_20 02 13 37.9
comp=Z,2µm,19.0s
COLA College 80.06 336 *i* P **P 01 36 41.6 -0.7**
COLA pmax pmax
comp=Z,22nm,1.2s
COLA College 80.06 336 IAMs_20 IAMs_20 02 14 04.1
comp=Z,2µm,19.0s
COLA College 80.06 336 P P 01 36 42.4 +0.1
baz=110
TCOL CIGO, UAF Yank 80.07 336 S S **01 46 46.5 0.0**
baz=110
KDAK Kodiak Island 80.10 329 LR LR 02 12 06.4
comp=Z,1µm,19.2s,baz=120,slow=36
KDAK Kodiak Island 80.10 329 IAMs_20 IAMs_20 02 11 35.4
comp=Z,2µm,19.0s
MCK McKinley 80.12 335 IAmb IAmb 01 36 50.4
comp=Z,35nm,1.5s
MCK IAMs_20 IAMs_20 02 13 24.6
comp=Z,2µm,19.0s
MCK McKinley 80.12 335 P P 01 36 41.5 -1.3
baz=109
MDM Murphy Dome 80.24 336 IAmb IAmb 01 36 49.1
comp=Z,30nm,1.2s
MDM IAMs_20 IAMs_20 02 14 08.8
comp=Z,2µm,18.0s
CUT Chulitna 80.28 334 IAMs_20 IAMs_20 02 10 57.8
comp=Z,2µm,22.0s
CUT Chulitna 80.28 334 P P 01 36 43.0 -0.6
baz=108
H24K Noodor Dome 80.41 337 IAmb IAmb 01 36 50.3
comp=Z,34nm,1.3s
H24K IAMs_20 IAMs_20 02 14 25.0
comp=Z,2µm,19.0s
H24K Noodor Dome 80.41 337 P P 01 36 43.6 -0.7
baz=110,SNR=17
H24K S **S** **01 46 51.0 +0.8**
baz=110
RAR Rarotonga 80.41 248 LR LR 02 03 02.4
comp=Z,1µm,20.3s,baz=92,slow=29
NEA2 Nenana 80.46 336 IAmb IAmb 01 36 50.1
comp=Z,27nm,1.2s
NEA2 IAMs_20 IAMs_20 02 14 28.5
comp=Z,2µm,18.0s
NEA2 Nenana 80.46 336 P P 01 36 42.9 -1.6
baz=109
NEA2 S **S** **01 46 50.0 -0.6**
baz=109
BWN Browne 80.49 335 IAMs_20 IAMs_20 02 14 19.4
comp=Z,1µm,18.0s
TRF Thorofare Moun 80.61 335 P P **01 36 45.2 -0.3**
TRF IAmb IAmb 01 37 04.3
comp=Z,36nm,1.4s
TRF IAMs_20 IAMs_20 02 13 53.5
comp=Z,2µm,19.0s
I23K Minto, Yukon-K 80.76 336 IAmb IAmb 01 36 49.4
comp=Z,30nm,1.2s
I23K IAMs_20 IAMs_20 02 14 42.3
comp=Z,2µm,18.0s
I23K Minto, Yukon-K 80.76 336 P P 01 36 45.6 -0.4
baz=109,SNR=16
I23K S **S** **01 46 53.4 -0.3**
baz=109
P19K Oil Pt 80.90 331 IAMs_20 IAMs_20 02 12 16.5
comp=Z,1µm,19.0s
P19K Oil Pt 80.90 331 S S **01 46 54.4 -1.2**
baz=104
KTH Kantishna Hill 80.91 335 IAmb IAmb 01 36 54.4
comp=Z,34nm,1.3s
KTH IAMs_20 IAMs_20 02 14 01.4
comp=Z,2µm,19.0s
Q19K Cape Douglas, 80.93 330 IAMs_20 IAMs_20 02 11 55.3
comp=Z,1µm,21.0s
H23K Yukon River 81.05 337 P P 01 36 47.5 -0.2
baz=109
H23K S **S** **01 46 56.6 -0.2**
baz=109
BPAW Bear Paw Mtn. 81.10 335 IAmb IAmb 01 36 55.4
comp=Z,46nm,1.4s
BPAW IAMs_20 IAMs_20 02 15 08.4
comp=Z,2µm,18.0s
BPAW Bear Paw Mtn. 81.10 335 P P 01 36 46.9 -1.1
baz=107,SNR=18
BPAW S **S** **01 46 55.2 -2.3**
baz=107
PPLA Purkeypile 81.27 334 P P 01 36 48.0 -1.1
baz=106
PPLA S **S** **01 46 58.3 -1.2**
baz=106
CAST Castle Rocks 81.37 334 IAmb IAmb 01 37 04.9
comp=Z,46nm,1.4s
CAST IAMs_20 IAMs_20 02 14 03.6
comp=Z,2µm,20.0s
CAST Castle Rocks 81.37 334 P P 01 36 48.3 -1.1
baz=106,SNR=11
CAST S **S** **01 46 58.1 -2.2**
baz=106
O19K Port Alsworth 81.57 331 IAMs_20 IAMs_20 02 12 31.1
comp=Z,1µm,18.0s
CHUM Lake Minchumin 81.60 335 P P 01 36 48.1 -2.4
baz=106,SNR=5.1
CHUM S **S** **01 46 59.8 -2.7**
baz=106
COLD Coldfoot 81.75 338 P P 01 36 52.0 +0.7
baz=108
COLD S **S** **01 47 06.7 +2.7**
baz=108
N19K Bonanza Creek 81.79 332 IAmb IAmb 01 37 07.0
comp=Z,27nm,1.3s
N19K IAMs_20 IAMs_20 02 17 16.0
comp=Z,1µm,18.0s
I21K Tanana 81.82 336 IAmb IAmb 01 37 07.4
comp=Z,29nm,1.5s
I21K IAMs_20 IAMs_20 02 12 30.5
comp=Z,1µm,21.0s
P18K Big Mountain, 81.83 330 IAMs_20 IAMs_20 02 12 34.1
comp=Z,1µm,20.0s
L20K Farewell, AK 81.92 333 P P 01 36 51.1 -1.2
baz=104,SNR=11
O18K Koktuh Hills 81.92 331 IAmb IAmb 01 37 02.8
comp=Z,50nm,1.3s
O18K IAMs_20 IAMs_20 02 12 38.5
comp=Z,2µm,20.0s
TOLK Toolik Lake Re 81.98 340 IAMs_20 IAMs_20 02 14 36.5
comp=Z,2µm,21.0s
M19K Big River Lodg 82.01 333 IAmb IAmb 01 37 03.4
comp=Z,16nm,0.9s
M19K IAMs_20 IAMs_20 02 16 58.4
comp=Z,2µm,20.0s
M19K Big River Lodg 82.01 333 P P 01 36 51.2 -1.6
baz=104
TOA0 Torodi Ar. Sit 82.06 77 P P **01 36 53.2 -0.9**
TORD Torodi Ar. Bea 82.06 77 P P **01 36 52.7 -1.4**
comp=Z,6.2nm,0.9s,baz=281,slow=6.6,SNR=36
TORD LR LR 02 14 17.4
comp=Z,620nm,19.1s,baz=246,slow=36
TORD Torodi Ar. Bea 82.06 77 P P **01 36 52.8 -1.2**
BELA Belgrano 2 82.10 171 P P **01 36 54.0 +0.9**
K20K Telida 82.22 334 IAmb IAmb 01 37 01.1
comp=Z,48nm,1.4s
K20K IAMs_20 IAMs_20 02 17 48.0
comp=Z,1µm,18.0s
K20K Telida 82.22 334 P P 01 36 52.9 -1.0
baz=104,SNR=12
L19K White Mountain 82.28 333 IAmb IAmb 01 37 01.3
comp=Z,24nm,1.2s
L19K IAMs_20 IAMs_20 02 13 38.9
comp=Z,2µm,20.0s
H21K Melozitna Rive 82.29 336 IAMs_20 IAMs_20 02 17 04.7
comp=Z,2µm,19.0s
H21K Melozitna Rive 82.29 336 P P 01 36 56.3 +2.0
baz=106
N18K Kilae Creek 82.43 331 IAmb IAmb 01 37 02.8
comp=Z,33nm,1.1s
N18K IAMs_20 IAMs_20 02 15 27.0
comp=Z,1µm,19.0s
N18K Kilae Creek 82.43 331 P P 01 36 53.1 -2.0
baz=102,SNR=10.0
J20K Nowinta River 82.45 335 IAMs_20 IAMs_20 02 16 01.2
comp=Z,2µm,18.0s
J20K Nowinta River 82.45 335 P P 01 36 53.0 -2.1
baz=104,SNR=9.6
DAG Danmarks Havn 83.13 12 *i* P **P 01 36 55.2 -3.1**
DAG IAmb IAmb 01 37 01.9
comp=Z,2.8nm,0.8s
GCSA Galena City Sc 83.74 335 P P **01 37 01.1 -0.5**
baz=102
VNA3 Neumayer Olymp 84.42 162 P P **01 37 05.3 +0.3**
VNA1 Neumayer--Stat 84.67 161 P P **01 37 07.0 +0.7**
VNA2 Neumayer--Watz 85.03 162 P P **01 37 08.2 +0.1**
baz=291,slow=5.0
A21K Barrow 85.06 342 IAMs_20 IAMs_20 02 21 06.6
comp=Z,1µm,19.0s
NOR Nord 85.65 8 *e*P **P 01 37 09.1 -2.0**
SSB Saint Sauveur 85.93 45 IAmb IAmb 01 37 19.9
comp=Z,34nm,1.3s
DOU Dourbes 86.25 40 *d*P **P 01 37 15.3 +0.7**
BMRD Maredsous 86.37 40 *d*P **P 01 37 15.5 +0.3**
BMRD *dx* x 01 37 20.3
BGES Gesves 86.58 40 *d*P **P 01 37 17.0 +0.7**
SNAA Sanae 86.64 162 P **P 01 37 16.3 +0.1**
SNAA Sanae 86.64 162 LR LR 02 14 35.1
comp=Z,930nm,21.5s,baz=302,slow=35
SNAA Sanae 86.64 162 P **P 01 37 15.7 -0.5**
SNAA pmax pmax
comp=Z,28nm,1.1s
SNAA Sanae 86.64 162 P **P 01 37 15.7 -0.5**
SNAA IAmb IAmb 01 37 21.6
comp=Z,28nm,1.1s
RCHB Rochefort 86.66 40 *d*P **P 01 37 16.8 +0.2**
RCHB *dx* x 01 37 21.7
RDOG Red Dog Mine 86.67 338 IAMs_20 IAMs_20 02 19 46.4
comp=Z,1µm,20.0s
RDOG Red Dog Mine 86.67 338 P **P 01 37 17.4 +1.1**
baz=97
BCLA Clavier 86.72 40 *d*P **P 01 37 17.8 +0.8**
BCLA *d*PcP **pP** **01 37 20.4 -0.1**
BSTI Sart Tilman 86.90 40 *d*P **P 01 37 18.6 +0.8**
BSTI *dx* x 01 37 23.4
MEM Membach 87.18 40 *dx* x 01 37 23.6
WLF Walferdange 87.23 40 P **P 01 37 21.7 +2.2**
WLF pmax pmax
comp=Z,72nm,1.4s
WLF Walferdange 87.23 40 P **P 01 37 21.7 +2.2**
WLF IAMs_20 IAMs_20 02 13 09.0
comp=Z,957nm,20.0s
WLF Walferdange 87.23 40 *d*P **P 01 37 20.4 +0.9**
WLF *dx* x 01 37 25.1
BTNL Ternell 87.25 40 *dx* x 01 37 24.7
ANM Nome 87.33 334 IAMs_20 IAMs_20 02 17 17.1
comp=Z,2µm,20.0s
BNI Bardonecchia 87.43 45 IAMs_20 IAMs_20 02 17 38.4
comp=Z,2µm,20.0s
TROLL Troll, Antarti 88.35 162 P **P 01 37 25.1 +0.6**
TNA Tin City 88.46 335 S **S 01 48 13.7 +3.2**
baz=92
TUE Stuetta 89.31 44 IAmb IAmb 01 37 35.6
comp=Z,17nm,1.0s
TUE IAMs_20 IAMs_20 02 17 12.5
comp=Z,950nm,20.0s
KEST Kesra 89.36 54 P **P 01 37 29.9 -0.1**
comp=Z,2.8nm,0.8s,baz=278,slow=6.6,SNR=4.1
KEST LR LR 02 15 53.0
comp=Z,472nm,21.0s,baz=223,slow=34
KEST Kesra 89.36 54 P **P 01 37 30.8 +0.8**
DAVA Damuels 89.67 43 *e*P **P 01 37 32.0 +0.7**
comp=Z,20nm,1.5s
GAMB Gambell 90.08 334 IAMs_20 IAMs_20 02 21 01.7
comp=Z,1µm,19.0s
GAMB Gambell 90.08 334 S **S 01 48 29.9 +4.2**
baz=88
NOA NORSAR Array B 90.20 29 P **P 01 37 32.7 -0.6**
comp=Z,0.5nm,0.8s,baz=291,slow=6.2,SNR=4.0
NOA LR LR 02 15 58.2
comp=Z,476nm,19.6s,baz=260,slow=34
FETA Feichten 90.26 43 *e*P **P 01 37 33.7 -0.3**
comp=Z,1nm,1.3s
MOTA Moosalm 90.51 43 *e*P **P 01 37 35.7 +0.5**
comp=Z,14nm,1.6s
GRFO Grafenberg 90.52 40 IAMs_20 IAMs_20 02 21 38.3
comp=Z,817nm,19.0s
GRA1 Grafenberg Arr 90.52 40 IAMs_20 IAMs_20 02 21 47.3
comp=Z,835nm,18.0s
GRF Grafenberg Arr 90.52 40 *e*P **P 01 37 33.5 -1.5**
comp=Z,96nm,2.5s,baz=263,slow=5.4
GRF *e*L L 02 14 39.9
comp=Z,768nm,20.5s
SQTA Sankt Quirin 90.58 43 *e*P **P 01 37 36.2 +0.7**
comp=Z,20nm,1.4s
QSPA South Pole Qui 90.66 180 P **P 01 37 36.4 +0.9**
MOX Moxa 90.75 40 *e*L L 02 19 51.8
comp=Z,743nm,20.1s
SPITS Spitsbergen Ar 90.78 12 LR LR 02 20 19.4
comp=Z,670nm,18.3s,baz=36,slow=37
WATA Walderalm 90.83 43 *i* P **P 01 37 36.1 -0.6**
comp=Z,15nm,1.4s
WTTA Wattenberg 90.87 43 *e*P **P 01 37 36.4 -0.6**
comp=Z,16nm,1.6s
CTI Castel Tesino 90.92 44 IAmb IAmb 01 37 43.2
comp=Z,22nm,1.2s
TEOL Teolo 90.95 45 IAmb IAmb 01 37 42.4
comp=Z,16nm,1.1s
NKC Novy Kostel 91.30 40 AMS AMS 02 22 00.0
comp=Z,900nm,17.7s
HFS Hagfors 91.47 30 LR LR 02 17 05.2
comp=Z,761nm,19.5s,baz=267,slow=34
ABTA Abfaltersbach 91.49 43 *e*P **P 01 37 38.6 -1.1**
comp=Z,12nm,1.2s
AFI Afiamalu 91.58 256 LR LR 02 08 58.8
comp=Z,1µm,21.7s,baz=76,slow=29
CLL Collm 91.60 39 *e*P **P 01 37 41.0 +1.0**
CLL *e* 01 48 15.0
CLL *e*S **S** **01 48 41.0 +0.9**
CLL MLR MLR
comp=Z,700nm,19.3s
CLL Collm 91.60 39 *e*P **P 01 37 40.0 0.0**
CLL *e*SKSac **SKSac** **01 48 15.0 +2.4**
CLL *e*S **S** **01 48 41.0 +0.9**
comp=N,1µm,15.4s
CLL *e*S **S** **01 48 41.0 +0.9**
CLL *e*S **S** **01 48 41.0 +0.9**
comp=Z,300nm,10.8s
CLL *e*PS **PnS** **01 49 52.0 +0.9**
CLL *e*SS **SS** **01 54 42.0 -4.5**
CLL *e*SSS SSS 01 58 24.0
CLL LmH 02 15 00.0
comp=N,500nm,21.5s
CLL LmH 02 15 00.0
comp=E,300nm,21.7s
CLL LmV 02 20 00.0
comp=Z,700nm,19.3s
RGN Rugen 91.61 36 IAMs_20 IAMs_20 02 19 09.9
comp=Z,1µm,20.0s
KBA Koelnbreinsper 92.04 43 *e*P **P 01 37 42.6 +0.2**
comp=Z,9.4nm,1.2s
KHC Kasperske Hory 92.08 41 *e*P **P 01 37 43.6 +1.3**
KHC *e* 01 48 46.0
KHC MLR MLR
comp=Z,700nm,21.3s
KHC Kasperske Hory 92.08 41 IAmb IAmb 01 37 49.2
comp=Z,18nm,1.5s
KHC Kasperske Hory 92.08 41 *e*P **P 01 37 43.6 +1.3**
KHC *ex* x 01 38 24.0
KHC *e*S **S** **01 48 46.0 +1.3**
KHC AMS AMS 02 19 00.0
comp=Z,700nm,21.3s
GERES GERESS Array B 92.18 41 P **P 01 37 42.7 -0.2**
comp=Z,0.8nm,0.9s,baz=264,slow=6.4,SNR=6.3
GERES LR LR 02 15 50.0
comp=Z,549nm,21.4s,baz=260,slow=33
BIOA Bad Ischl, Aus 92.21 42 *e*P **P 01 37 43.5 +0.6**
comp=Z,17nm,1.2s
CKRC Cesky Krumlov 92.59 41 *e*S **S 01 48 49.7 +0.5**
CKRC AMS AMS 02 15 20.0
comp=Z,600nm,17.0s
MOA Molln 92.62 42 *e*P **P 01 37 43.9 -1.0**
comp=Z,13nm,1.4s
PVCC Panska Ves 92.64 40 *e*S **S 01 48 51.0 +1.5**
PVCC AMS AMS 02 23 50.0
comp=Z,700nm,20.6s
PRU Pruhonice 92.66 40 *e*S **S 01 48 49.7 0.0**
PRU AMS AMS 02 22 40.0
comp=Z,900nm,19.9s
CRNS Crni Vrh 92.73 44 *i* P **P 01 37 44.8 -0.6**
OBKA Obir 92.90 44 *e*P **P 01 37 45.7 -0.5**
comp=Z,5.7nm,1.1s
SOKA Soboth 93.22 43 *e*P **P 01 37 48.1 +0.4**
comp=Z,5.3nm,1.0s
PDKS Podkum 93.25 44 *i* P **P 01 37 47.4 -0.4**
TREC Trest 93.32 41 *e*S **S 01 48 57.4 +1.7**
TREC AMS AMS 02 16 10.0
comp=Z,800nm,18.6s
VAE Valguarnera 93.38 53 LR LR 02 20 18.3
comp=Z,377nm,18.1s,baz=194,slow=36
ARSA Arzberg 93.52 43 *e*P **P 01 37 49.6 +0.6**
comp=Z,12nm,1.3s
UPC Upice 93.56 39 *e*S **S 01 49 02.0 +4.4**
UPC AMS AMS 02 21 00.0
comp=Z,900nm,19.0s
CHVC Chvalec 93.57 39 *e*S **S 01 49 02.5 +4.6**
CHVC AMS AMS 02 20 50.0
comp=Z,700nm,18.6s
OSTC Ostas 93.68 39 *e*P **P 01 37 49.2 -0.4**
OSTC *e*S **S** **01 49 00.9 +2.1**
OSTC AMS AMS 02 21 00.0
comp=Z,900nm,21.8s
CONA Conrad Observa 93.69 42 *e*P **P 01 37 49.2 -0.6**
comp=Z,17nm,1.5s
DPC Dobruska-Polom 93.77 40 *e*P **P 01 37 49.6 -0.5**
DPC *e* 01 49 02.2
DPC MLR MLR

comp=Z,800nm,22.2s
DPC Dobruska-Polom 93.77 40 *e*P **P 01 37 49.6 -0.5**
DPC *e*S **S 01 49 02.2 +2.6**
DPC AMS AMS 02 21 00.0
comp=Z,800nm,22.2s
KRUC Moravsky 93.94 41 *e*P **P 01 37 50.8 0.0**
RONA Rosalia, Austr 94.00 42 P **P 01 37 49.6 -1.6**
comp=Z,13nm,1.3s
VRAC Vranov 94.04 41 LR LR 02 17 18.5
comp=Z,710nm,20.6s,baz=268,slow=34
VRAC Vranov 94.04 41 *e*P **P 01 37 51.5 +0.2**
KRLC Kraliky 94.09 40 *e*P **P 01 37 52.1 +0.5**
KRLC *e* 01 49 06.2
KRLC MLR MLR
comp=Z,700nm,20.9s
KRLC Kraliky 94.09 40 *e*P **P 01 37 52.1 +0.5**
KRLC *e*S **S 01 49 06.2 +3.8**
KRLC AMS AMS 02 16 50.0
comp=Z,700nm,20.9s
MODS Modra-Piesok 94.59 42 *e*P **P 01 37 55.1 +1.2**
MODS Modra-Piesok 94.59 42 *e*P **P 01 37 55.1 +1.2**
MORC Moravsky Berou 94.61 40 *e*P **P 01 37 54.2 +0.2**
ARCES ARCESS Array B 94.92 20 LR LR 02 15 00.3
comp=Z,220nm,21.9s,baz=286,slow=32
OKC Ostrava-Krasne 94.99 40 *e*S **S 01 49 14.0 +3.8**
OKC AMS AMS 02 24 10.0
comp=Z,900nm,20.8s
TIP Timpagrande 95.09 51 IAMs_20 IAMs_20 02 19 30.8
comp=Z,1μm,22.0s
KOLL Kolacno 95.31 41 *e*P **P 01 37 57.6 +0.5**
OJC Ojcow 96.00 39 IAMs_20 IAMs_20 02 18 44.7
comp=Z,800nm,20.0s
PSZ Piszkesteto 96.38 42 P **P 01 38 05.0 +2.9**
VNDA Vanda 96.43 191 LR LR 02 13 41.7
comp=Z,391nm,19.6s,baz=122,slow=31
VNDA Vanda 96.43 191 P **P 01 38 03.8 +2.2**
VNDA pmax pmax
comp=Z,1.0nm,1.0s
VNDA Vanda 96.43 191 P **P 01 38 03.8 +2.2**
RAO Raoul Island 96.95 241 LR LR 02 11 41.2
comp=Z,940nm,20.8s,baz=131,slow=29
DIVS Divibare 96.97 46 P **P 01 38 06.8 +1.9**
DIVS IAmb IAmb 01 38 11.0
comp=Z,6.7nm,1.2s
FINES FINESS Array B 97.25 28 P **P 01 38 03.2 -2.4**
comp=Z,0.8nm,0.8s,baz=276,slow=14,SNR=1.5
FINES LR LR 02 19 51.5
comp=Z,392nm,19.2s,baz=292,slow=34
TSUM Tsumeb 97.64 109 LR LR 02 21 53.0
comp=Z,2μm,18.9s,baz=273,slow=35
UZH Uzhgorod 97.86 41 *e*P **P 01 38 07.2 -1.4**
UZH *e* 01 38 13.8
UZH *e* 01 48 40.2
UZH *e*S **S 01 49 27.2 -7.7**
UZH *e*SS SS 01 56 30.8 +15
BILL Bilibino 98.03 340 *i* P **P 01 38 08.2 -0.8**
BILL *e* 01 42 06.9
BILL *e*PPP PPP 01 44 11.5
BILL *i* S **SKSac 01 48 45.6 -1.0**
BILL *e*SS **SS 01 56 17.5 +0.4**
BILL *e*SSS SSS 02 00 04.0
BILL pmax pmax
comp=Z,8.0nm,1.5s
BILL Bilibino 98.03 340 IAMs_20 IAMs_20 02 27 39.8
comp=Z,911nm,19.0s
APA Apatity 98.31 21 ⇓ *i* P P 01 38 01.4 -8.9
APA pmax pmax
comp=Z,7.0nm,1.0s
SHEM Shemya Is, Ala 98.93 324 LR LR 02 19 59.7
comp=Z,331nm,21.6s,baz=80,slow=34
NACGM Naroch 99.26 34 *e*P **Pdif 01 38 14.6 -0.3**
SUR Sutherland 99.71 123 LR LR 02 19 27.1
comp=Z,1μm,21.0s,baz=264,slow=33
MNK Minsk 99.98 34 *i* P **Pdif 01 38 16.9 -1.1**
MNK *i* 01 42 23.7
MNK *i* PPP PPP 01 44 32.8
MNK *i* S **SKSac 01 48 55.8 -1.0**
MNK *i* SS **SS 01 56 49.0 +4.0**
MNK *i* SSS SSS 02 00 37.1
MNK pmax pmax
comp=N,3.0nm,1.0s
MNK pmax pmax
comp=Z,4.0nm,1.0s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK MLR MLR
comp=N,167nm,15.0s
MNK MLR MLR
comp=E,72nm,25.0s
MNK MLR MLR
comp=Z,481nm,20.0s
MNK Minsk 99.98 34 *i* P **Pdif 01 38 16.9 -1.1**
comp=E,1.0nm,1.0s
MNK *i* P **Pdif 01 38 16.9 -1.1**
comp=N,3.0nm,1.0s
MNK *i* P **Pdif 01 38 16.9 -1.1**
comp=Z,4.0nm,1.0s,baz=286
MNK *i* PP **PP 01 42 23.8 +0.9**
MNK *i* PPP PPP 01 44 32.9
MNK *i* S **SKSac 01 48 55.8 -1.0**
MNK *i* SS **SS 01 56 49.1 +4.0**
MNK *i* SSS SSS 02 00 37.1
MNK *i* LQ LQ 02 17 34.2
MNK *i* LR LR 02 23 15.4
MNK *i* LRM MLR 02 24 56.2
comp=N,167nm,15.3s
MNK *i* LRM MLR 02 24 58.7
comp=E,72nm,25.4s
MNK *i* LRM MLR 02 25 08.6
comp=Z,481nm,19.7s
URZ Urewera 100.26 231 IAMs_20 IAMs_20 02 15 01.9
comp=Z,1μm,19.0s
BKZ Black Stump Fm 100.62 230 IAMs_20 IAMs_20 02 14 18.6
comp=Z,1μm,20.0s
SYO Syowa Base 100.92 161 ⇓ *e*PDdiff pDdif 01 38 25.5 +0.1
HIZ Hauiti 101.98 231 IAMs_20 IAMs_20 02 20 17.3
comp=Z,1μm,18.0s
MILM Milestii Mici 102.51 42 *e*P **Pdif 01 38 34.0 +4.5**
MILM Milestii Mici 102.51 42 *e*P **Pdif 01 38 34.0 +4.5**
MILM *e* 01 50 13.0
MILM MLR MLR
comp=Z,400nm,18.5s
TIRR Tirgusor 102.84 44 IAMs_20 IAMs_20 02 22 22.5
comp=Z,1μm,20.0s
THZ Tophouse 102.90 227 IAMs_20 IAMs_20 02 15 54.2
comp=Z,1μm,22.0s
OBN Obninsk 104.53 32 *i* P **Pdif 01 38 39.1 +0.9**
OBN *e* 01 42 58.8
OBN *e*PPP PPP 01 45 11.0
OBN *e* 01 49 12.8
OBN *e*SS SS 01 57 47.7 -0.1
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,556nm,14.0s
MA2 Magadan 108.10 335 IAMs_20 IAMs_20 02 37 05.2
comp=Z,668nm,18.0s
SOC Sochi 110.87 42 *i* PKIKP **PKiKP 01 43 05.6 -0.8**
SOC *e* 01 43 45.9
SOC *e*PPP PPP 01 46 04.1
SOC *e* 01 49 44.9
SOC *e*SS SS 01 59 14.3 +0.1
SOC MLR MLR
comp=Z,265nm,18.0s
DZM Mont Dzumac 111.73 247 *e*PS PS 01 53 15.5 -8.6
comp=Z,342nm,30.4s
DZM Mont Dzumac 111.73 247 *e*LR LR 02 16 21.3
comp=Z,976nm,24.3s
KIV Kislovodsk 112.69 41 *i* PKIKP **PKiKP 01 43 09.6 -0.4**
KIV *e* 01 43 58.7
KIV *e*PS **PS 01 53 34.3 +2.4**
KIV *e*SS SS 01 59 42.0 +3.3
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,251nm,21.0s
KBZ Khabaz 112.93 41 *i* PKIKP **PKiKP 01 43 12.3 +2.0**
YAK Yakutsk 113.52 345 IAMs_20 IAMs_20 02 35 15.1
comp=Z,938nm,19.0s
KOUNC Koumac, New Ca 113.95 248 IAMs_20 IAMs_20 02 20 26.9
comp=Z,1μm,22.0s
ARU Arti 114.18 24 IAMs_20 IAMs_20 02 31 26.6
comp=Z,623nm,20.0s
MAK Makhachkala 116.28 40 *e*P **Pdif 01 39 26.2 -4.6**
MAK *e*PPP PPP 01 46 51.0
MAK *e* 01 50 05.5
MAK *e*SS SS 02 00 22.7 -2.9
NKL Nikolayevsk 116.50 334 *i* PKIKP **PKPdf 01 43 14.5 -2.4**
NKL *e* 01 44 20.1
NKL *e*SS SS 02 00 27.2 -0.4
FURI Furi 118.49 80 IAMs_20 IAMs_20 02 33 38.6
comp=Z,982nm,20.0s
YSS Yuzh-Sakhalins 119.53 327 *i* PKIKP **PKPdf 01 43 21.5 -1.4**
YSS *e* 01 44 43.3
YSS *e* 01 50 16.8
YSS *e*PS **PS 01 54 32.9 -0.7**
YSS *e*SS SS 02 01 08.3 +1.1
YSS Yuzh-Sakhalins 119.53 327 IAMs_20 IAMs_20 02 44 28.5
comp=Z,724nm,20.0s
ABKAR Akbulak array 119.71 29 **PKiKP 01 43 23.7 +0.4**
BRVK Borovoye 121.15 20 *i* PKIKP **PKiKP 01 43 26.4 +0.4**
BRVK Borovoye 121.15 20 IAMs_20 IAMs_20 02 47 14.9
comp=Z,743nm,19.0s
ATD Arta Tunnel 122.26 76 IAMs_20 IAMs_20 02 39 25.2
comp=Z,749nm,18.0s
KLR Kul'dur 123.20 335 PKP **PKPdf 01 43 29.4 -0.6**
comp=Z,2.3nm,1.0s,baz=29,slow=8.1,SNR=4.6
ZAA0 Zalesovo Array 124.24 11 PKPdf **PKPdf 01 43 31.0 -0.8**
ZALV Zalesovo Beam 124.24 11 PKP **PKPdf 01 43 31.2 -0.6**
comp=Z,6.1nm,0.9s,baz=318,slow=2.0,SNR=14
GEYT Alibeck 125.80 40 PKP **PKPdf 01 43 34.5 -0.8**
comp=Z,4.9nm,0.9s,baz=222,slow=1.9,SNR=7.3
GYA0B ALIBECK ARRAY 125.80 40 PKPdf **PKPdf 01 43 34.8 -0.5**
KURK Kurchatov 125.80 16 PKIKP **PKPdf 01 43 34.0 -0.8**
KURK Kurchatov 125.80 16 PKPdf **PKPdf 01 43 34.0 -0.8**
KURK Kurchatov 125.80 16 IAMs_20 IAMs_20 02 43 42.7
comp=Z,808nm,18.0s
BNX BinXian 127.77 336 PKP **PKPdf 01 43 37.3 -1.5**
BNX AMB AMB
comp=Z,250nm,4.2s
MJAR Matsushiro Arr 128.60 320 PKP **PKPdf 01 43 40.2 -0.5**
comp=Z,3.9nm,0.9s,baz=115,slow=1.7,SNR=4.5
MJAR Matsushiro Arr 128.60 320 PKIKP **PKPdf 01 43 40.5 -0.2**
MJAR Matsushiro Arr 128.60 320 PKPdf **PKPdf 01 43 40.5 -0.2**
MAJO Matsushiro 128.60 320 *i* PKIKP **PKiKP 01 43 41.2 -0.1**
MAJO Matsushiro 128.60 320 IAMs_20 IAMs_20 02 32 02.7
comp=Z,706nm,21.0s
ZAK Zakamensk 129.11 357 *e*PKIKP **PKPdf 01 43 39.3 -2.0**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
KK31 Karatay Array 129.21 27 PKIKP **PKiKP 01 43 42.7 +0.3**
KK31 Karatay Array 129.21 27 PKPdf **PKiKP 01 43 42.7 +0.3**
KKAR Karatay Array 129.21 27 PKIKP **PKPdf 01 43 40.5 -1.1**
KKAR Karatay Array 129.21 27 PKPdf **PKPdf 01 43 40.5 -1.1**
STKA Stephens Creek 129.71 228 PKP **PKPdf 01 43 41.9 -1.0**
comp=Z,11nm,1.1s,baz=122,slow=3.4,SNR=6.6
STKA Stephens Creek 129.71 228 PKIKP **PKPdf 01 43 42.4 -0.5**
STKA Stephens Creek 129.71 228 PKPdf **PKPdf 01 43 42.4 -0.5**
CN2 Changchun 130.16 336 PKP **PKiKP 01 43 44.4 +0.2**
CN2 PP **PP 01 46 00.8 +5.7**
CN2 SS SS 02 03 21.3 +0.8
CN2 LR LR
comp=Z,700nm,21.0s
CN2 LR LR
comp=Z,500nm,21.0s
CN2 LR LR
comp=Z,600nm,22.0s
MAKZ Makanchi 130.28 16 PKIKP **PKPdf 01 43 42.1 -1.5**
MAKZ Makanchi 130.28 16 **PKPdf 01 43 42.1 -1.5**
MK31 Makanchi Array 130.38 16 *i* PKIKP **PKPdf 01 43 41.6 -2.2**
MKAR Makanchi Array 130.38 16 PKP **PKPdf 01 43 42.7 -1.1**
comp=Z,5.3nm,1.0s,baz=0.0,slow=2.4,SNR=12
HRA Herat 130.58 41 PKPdf **PKPdf 01 43 44.8 0.0**
UOSS Minazif 130.84 56 IAMs_20 IAMs_20 02 42 05.8
comp=Z,629nm,20.0s
ULN Ulaanbaatar 131.30 353 PKIKP **PKiKP 01 43 46.7 +0.1**
ULN Ulaanbaatar 131.30 353 PKPdf **PKiKP 01 43 46.7 +0.1**
AAK Ala-Archa 131.33 25 PKP **PKPdf 01 43 44.9 -1.0**
comp=Z,4.3nm,0.9s,baz=72,slow=3.2,SNR=3.6
AAK Ala-Archa 131.33 25 *i* PKIKP **PKPdf 01 43 45.2 -0.7**
AAK Ala-Archa 131.33 25 PKPdf **PKPdf 01 43 45.1 -0.7**
AAK Ala-Archa 131.33 25 IAMs_20 IAMs_20 02 42 32.5
comp=Z,652nm,21.0s
SONM Songino Array 131.40 354 PKP **PKPdf 01 43 42.6 -3.3**
comp=Z,0.3nm,0.3s,baz=333,slow=0.6,SNR=3.0
SONM Songino Array 131.40 354 PKIKP **PKPdf 01 43 45.5 -0.3**
SONM Songino Array 131.40 354 PKPdf **PKPdf 01 43 45.5 -0.3**
BOOM Boomskoye usch 132.05 24 PKIKP **PKPdf 01 43 46.7 -0.6**
BOOM Boomskoye usch 132.05 24 **PKPdf 01 43 46.7 -0.6**
KDJ Kajisay 132.84 23 PKIKP **PKiKP 01 43 49.8 -0.1**
KDJ Kajisay 132.84 23 PKPdf **PKiKP 01 43 49.8 -0.1**
SOCY Socotra 132.88 73 IAMs_20 IAMs_20 02 46 17.1
comp=Z,740nm,19.0s
XLT XiLinHaoTe 133.33 344 *e*PKP **PKiKP 01 43 51.3 +0.6**
XLT SKS **SKSdf 01 50 57.6 -3.5**
XLT SKKS **SKKSac 01 53 08.1 -4.6**
XLT AMB AMB
comp=Z,370nm,7.6s
XLT LR LR
comp=Z,71nm,19.0s
XLT LR LR
comp=Z,540nm,19.8s
XLT LR LR
comp=Z,810nm,18.5s
KSRS Korea Array 134.01 328 PKP **PKPdf 01 43 49.6 -1.2**
comp=Z,1.9nm,0.6s,baz=13,slow=1.9,SNR=11
KSAR Wonju Array Be 134.04 328 PKIKP **PKPdf 01 43 49.2 -1.7**
KSAR Wonju Array Be 134.04 328 PKPdf **PKPdf 01 43 49.2 -1.7**
WMQ Urumqi 134.48 12 PKP **PKPdf 01 43 51.8 +0.1**
WMQ PP PP 01 46 32.6 +10
WMQ PKS **PKSdf 01 47 24.6 -3.4**
WMQ SKS **SKSdf 01 51 02.3 -0.8**
WMQ AMB AMB
comp=Z,270nm,8.9s
WMQ LR LR
comp=Z,840nm,20.7s
WMQ LR LR
comp=Z,450nm,22.5s
WMQ LR LR
comp=Z,590nm,22.5s
KSH Kashi 134.54 26 PKP **PKiKP 01 43 53.0 -0.4**
KSH PP **PP 01 46 25.9 +2.4**
KSH PKS **PKSdf 01 47 24.8 -3.6**
KSH SS SS 02 04 18.9 +4.6
KSH AMB AMB
comp=Z,260nm,4.5s
KSH LR LR
comp=Z,640nm,22.2s
KSH LR LR
comp=Z,360nm,22.2s
KSH LR LR
comp=Z,850nm,21.6s
DL2 Dalian 135.82 335 SS SS 02 04 25.3 -3.9
DL2 AMB AMB
comp=Z,350nm,9.8s
DL2 LR LR
comp=N,340nm,23.7s
DL2 LR LR
comp=E,310nm,25.9s
DL2 LR LR
comp=Z,780nm,24.0s
BJI Beijing 136.84 341 PKP **PKPdf 01 43 57.0 +1.0**
BJI PP **PP 01 46 39.1 +1.5**
BJI LR LR
comp=Z,580nm,18.8s
BJI LR LR
comp=Z,390nm,17.1s
BJI LR LR
comp=Z,990nm,18.8s
BJT Baijiatuan 136.86 341 PKIKP **PKPdf 01 43 55.8 -0.3**
BJT Baijiatuan 136.86 341 PKPdf **PKPdf 01 43 55.8 -0.3**
HHC Hu-ho-hao-te 137.35 347 *e*PKP **PKPdf 01 43 54.8 -2.3**
HHC AMB AMB
comp=Z,460nm,7.2s
HHC LR LR
comp=Z,670nm,17.8s
HHC LR LR
comp=Z,260nm,17.8s
HHC LR LR
comp=Z,1μm,17.8s
ASAR Alice Springs 139.69 233 PKhKP PKPpre 01 43 52.7
comp=Z,0.5nm,0.7s,baz=115,slow=3.7,SNR=3.7
ASAR PKP **PKPdf 01 43 59.0 -2.9**
comp=Z,1.5nm,0.7s,baz=117,slow=3.7,SNR=8.8
ASAR Alice Springs 139.69 233 PKIKP **PKPdf 01 43 59.1 -2.7**
ASAR Alice Springs 139.69 233 PKPdf **PKPdf 01 43 59.1 -2.7**
HNS HongShan 139.71 341 ⇑ PKP **PKiKP 01 44 02.9 -0.9**
HNS PKS **PKSdf 01 47 35.3 -2.1**
HNS SKKS 01 53 48.1
HNS AMB AMB
comp=Z,270nm,6.0s
HNS LR LR
comp=Z,350nm,19.3s
HNS LR LR
comp=Z,610nm,19.2s
HNS LR LR
comp=Z,900nm,21.2s
TIA Tai'an 139.94 338 *e*PKP **PKPdf 01 43 55.0 -6.9**
TIA PP **PP 01 47 02.4 +5.4**
TIY Taiyuan 140.09 344 PKP **PKPdf 01 44 03.5 +1.3**
TIY AMB AMB
comp=Z,280nm,6.9s
TIY LR LR
comp=Z,550nm,18.5s
TIY LR LR
comp=Z,470nm,20.6s
TIY LR LR
comp=Z,490nm,15.1s
GTA Gaotai 140.17 360 PKP **PKiKP 01 44 03.9 -1.0**
GTA PP **PP 01 47 04.3 +6.1**
GTA PKS **PKSdf 01 47 39.0 +0.5**
GTA AMB AMB
comp=Z,220nm,9.1s
GTA LR LR
comp=Z,500nm,19.7s
GTA LR LR
comp=Z,600nm,21.7s
GTA LR LR
comp=Z,920nm,22.5s
WRAB Tennant Creek 141.04 238 *i* PKIKP **PKPdf 01 44 02.8 -1.5**
WRA Warramunga Arr 141.04 238 PKhKP PKPpre 01 43 55.4
comp=Z,4.1nm,1.1s,baz=176,slow=1.6,SNR=8.5
WRA PKP **PKPdf 01 44 02.2 -2.1**
comp=Z,8.2nm,1.2s,baz=113,slow=2.1,SNR=12
SSE Sheshan 142.44 329 PKP **PKPdf 01 44 06.0 -0.5**
SSE SS SS 02 05 48.3 +0.6
SSE AMB AMB
comp=Z,210nm,4.6s
SSE LR LR
comp=Z,280nm,18.9s
SSE LR LR
comp=Z,210nm,19.6s
NJ2 Nanjing 142.80 333 *e*PKP **PKPdf 01 44 07.3 +0.2**
NJ2 PP **PP 01 47 17.3 +2.7**
NJ2 SS SS 02 05 57.4 +5.8
NJ2 AMB AMB
comp=Z,760nm,7.7s
NJ2 LR LR
comp=Z,970nm,19.4s
NJ2 LR LR
comp=Z,550nm,18.5s
NJ2 LR LR
comp=Z,980nm,22.3s
LYN LuoYang 143.03 342 *e*PKP PKPbc 01 44 05.6 +1.5
LYN SKKS 01 54 07.3
LYN AMB AMB
comp=Z,590nm,4.7s
LYN LR LR
comp=Z,1μm,18.8s
LYN LR LR
comp=Z,200nm,26.5s
LYN LR LR
comp=Z,1μm,19.6s
GOMU GeErMu 143.10 7 PKP **PKiKP 01 44 10.9 -0.4**
GOMU LR LR
comp=Z,740nm,20.8s
GOMU LR LR
comp=Z,91nm,19.4s
GOMU LR LR
comp=Z,820nm,19.4s
LZH Lanzhou 143.29 354 ⇓ PKP PKPab 01 44 02.9 -1.0
LZH pPKP PKPdf 01 44 08.3 +0.2
LZH PKS **PKSdf 01 47 39.9 -4.1**
LZH SKKS 01 54 10.9
LZH AMB AMB
comp=Z,770nm,9.3s
LZH LR LR
comp=Z,840nm,18.1s
LZH LR LR
comp=Z,650nm,18.0s
LZH LR LR
comp=Z,830nm,20.3s
XAN Xi'an 144.46 347 PKP **PKPab 01 44 05.3 -2.9**
XAN pPKP PKPdf 01 44 09.9 -0.2
XAN sPKP 01 44 13.8
XAN PP **PP 01 47 29.3 +5.1**
XAN AMB AMB
comp=Z,760nm,8.9s
XAN LR LR
comp=Z,800nm,18.6s
XAN LR LR
comp=Z,690nm,19.2s
XAN LR LR
comp=Z,1μm,19.9s
WHN Wuhan 146.03 337 ⇓ PKPbc **PKPdf 01 44 11.6 -1.2**
WHN PP **PP 01 47 36.6 +2.9**
WHN SKKS 01 54 26.8
WHN AMB AMB
comp=Z,960nm,7.6s
WHN LR LR
comp=Z,1μm,19.9s
WHN LR LR
comp=Z,1μm,18.0s
WHN LR LR
comp=Z,2μm,22.6s
MTN Manton Dam 146.56 247 **PKPdf 01 44 14.2 +0.1**
TATO Taipei 146.96 322 IAMs_20 IAMs_20 03 02 23.8
comp=Z,700nm,18.0s
YHNB Yeheng 147.25 322 IAMs_20 IAMs_20 02 46 48.3
comp=Z,657nm,20.0s
PYUN Piuthan 147.26 28 *e*P **PKPbc 01 44 17.1 -0.3**
comp=Z,106nm,1.1s
DANN Dangsing 147.40 27 *e*P **PKPbc 01 44 16.9 -1.0**
comp=Z,187nm,1.0s
NACB Ninganchiao 147.47 321 IAMs_20 IAMs_20 02 51 50.3
comp=Z,728nm,19.0s
KNRA Kununurra 147.65 241 **PKPdf 01 44 17.1 +1.2**
MORW Morawa 147.69 207 **PKPdf 01 44 16.8 +1.2**
KOLN Koldanda 147.82 27 *e*P **PKPdf 01 44 17.5 +1.4**
comp=Z,124nm,1.2s
ENH Enshi 147.91 344 PKPbc **PKPbc 01 44 17.8 -1.1**
GKN Gorkha 148.09 26 *e*P **PKPbc 01 44 18.9 -0.7**
SSLB Suanglung 148.15 321 **PKPdf 01 44 17.6 +1.1**
SSLB IAMs_20 IAMs_20 03 01 51.3
comp=Z,739nm,20.0s
YULB Yu-li 148.22 320 IAMs_20 IAMs_20 03 02 43.2
comp=Z,632nm,19.0s
CD2 Chengdu 148.42 353 PKPbc **PKPdf 01 44 16.4 -0.4**
CD2 pPKP pPKPdf 01 44 20.6 +0.1
CD2 PP **PP 01 47 48.9 +1.4**
CD2 SKKS 01 54 40.3
CD2 AMB AMB
comp=Z,670nm,7.5s
CD2 LR LR
comp=Z,620nm,18.6s
CD2 LR LR
comp=Z,790nm,18.6s
KKN Kakani 148.55 25 *e*P **PKPbc 01 44 20.7 -0.2**
comp=Z,106nm,1.1s
DMN Daman 148.63 25 *e*P **PKPbc 01 44 20.3 -0.9**
comp=Z,130nm,1.1s
CNSH ChangSha 148.69 337 ⇑ PKPbc **PKPdf 01 44 15.1 -2.2**
CNSH LR LR
comp=Z,380nm,21.8s
CNSH LR LR
comp=Z,300nm,19.3s
CNSH LR LR
comp=Z,570nm,21.0s
GUN Gumba 148.69 24 *e*P **PKPbc 01 44 20.4 -1.1**
comp=Z,264nm,1.1s
QZH Quanzhou 148.70 326 ⇓ *i* PKPbc **PKPdf 01 44 17.3 0.0**
QZH *e*PP **PP 01 47 51.9 +2.1**
QZH SKKS 01 54 41.8
QZH LR LR
comp=Z,450nm,20.8s
QZH LR LR
comp=Z,250nm,18.0s
QZH LR LR
comp=Z,570nm,19.5s
TPUB Ta-pu 148.71 321 PKPbc **PKPbc 01 44 21.7 +0.5**
TPUB IAMs_20 IAMs_20 03 04 17.1
comp=Z,618nm,19.0s
LSA Lhasa 148.77 14 PKIKP **PKPdf 01 44 19.6 +1.6**
LSA Lhasa 148.77 14 PKPbc **PKPdf 01 44 19.6 +1.6**
LSA Lhasa 148.77 14 PKPbc **PKiKP 01 44 22.9 -0.3**

PKIN	**Phulchoki**	**148.78**	**25**	*e*P		**PKPbc**	**01 44 20.6**	**-1.0**
	comp=Z,128nm,1.3s								
PKI	**Pulchoki**	**148.79**	**25**	*e*P		**PKPbc**	**01 44 20.3**	**-1.4**
	comp=Z,116nm,1.1s								
KNMB	**Chin-men Tao**	**149.19**	**325**	IAMs_20		IAMs_20	02 55 47.1		
	comp=Z,552nm,21.0s								
TAPN	**Taplejung**	**149.90**	**22**	*e*P		**PKPbc**	**01 44 22.7**	**-1.8**
MBWA	**Marble Bar**	**151.73**	**222**			**PKPbc**	**01 44 27.9**	**-0.7**
GYA	**Guiyang**	**152.26**	**347**	⇑PKPbc		**PKPdf**	**01 44 25.6**	**+2.5**
GYA				PP		**PP**	**01 48 14.6**	**+4.7**
GYA				SKKS			01 54 58.9		
GYA				SS		**SS**	**02 07 37.0**	**-1.0**
GYA				AMB		AMB			
	comp=Z,330nm,10.6s								
GYA				LR		LR			
	comp=Z,230nm,20.6s								
GYA				LR		LR			
	comp=Z,210nm,21.8s								
GYA				LR		LR			
	comp=Z,650nm,19.9s								
TNTI	**Ternate**	**152.30**	**273**	IAMs_20		IAMs_20	02 39 43.5		
	comp=Z,516nm,21.0s								
HYBB	**Hyderabad (bro**	**152.52**	**48**	*e*PKPdf		**PKPdf**	**01 44 23.3**	**-0.2**
HYBB				*e*PKiKP		**PKiKP**	**01 44 31.7**	**+1.0**
HYBB				*es*PKiKP		**sPKiKP**	**01 44 36.0**	**+0.3**
HYBB				*e*SKSdf		**SKSdf**	**01 51 30.5**	**-0.8**
HYBB				*e*SKKSac		**SKKSac**	**01 55 07.1**	**+2.9**
PZH	**PanZhiHua**	**152.97**	**356**	PKPbc		**PKPdf**	**01 44 26.1**	**+2.0**
PZH				sPKP			01 44 32.1		
PZH				PKPab		**pPKPab**	**01 44 44.3**	**-1.7**
PZH				SKKS			01 55 02.5		
PZH				SS		**SS**	**02 07 48.6**	**+3.1**
PZH				AMB		AMB			
	comp=Z,260nm,5.4s								
PZH				LR		LR			
	comp=Z,1μm,16.7s								
PZH				LR		LR			
	comp=Z,1μm,17.6s								
PZH				LR		LR			
	comp=Z,1μm,17.8s								
DAV	**Davao City (W)**	**153.08**	**287**	IAMs_20		IAMs_20	03 08 17.3		
	comp=Z,549nm,20.0s								
KMI	**Kunming**	**154.25**	**354**	⇓PKPbc		**PKPdf**	**01 44 26.3**	**+0.2**
KMI				sPKP			01 44 30.8		
PCHI	**Peechi**	**154.26**	**64**	*e*P		**PKPdf**	**01 44 23.7**	**-2.4**
PCHI				*ex*		SKKSac	01 55 01.0	-13	
LUWI	**Luwuk**	**156.93**	**269**	IAMs_20		IAMs_20	03 06 24.2		
	comp=Z,382nm,21.0s								
QIZ	**Qiongzhong**	**158.09**	**333**	IAMs_20		IAMs_20	03 04 23.4		
	comp=Z,681nm,21.0s								
QIZ	**Qiongzhong**	**158.09**	**333**	PKP		**PKPdf**	**01 44 33.8**	**+2.8**
QIZ				SS		SS	02 08 42.9	+1.4	
QIZ				AMB		AMB			
	comp=Z,480nm,11.9s								
QIZ				LR		LR			
	comp=Z,440nm,21.5s								
QIZ				LR		LR			
	comp=Z,540nm,19.1s								
QIZ				LR		LR			
	comp=Z,470nm,19.9s								
TOLI2	**Tolitoli**	**158.85**	**275**	PKPdf		**PKPdf**	**01 44 30.9**	**-1.2**
TOLI2				PKPab		**PKPab**	**01 45 08.0**	**0.0**
TOLI2				IAMs_20		IAMs_20	02 51 45.1		
	comp=Z,367nm,20.0s								
KAPI	**Kappang**	**159.51**	**257**	IAMs_20		IAMs_20	03 10 18.5		
	comp=Z,468nm,21.0s								
CMAR	**Chiang Mai Arr**	**161.04**	**2**	PKP		**PKPdf**	**01 44 33.5**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=295,slow=2.3,SNR=10								
CMAR				PKPab		**PKPab**	**01 45 13.8**	**-3.2**	
	comp=Z,1.6nm,0.7s,baz=351,slow=6.5,SNR=4.1								
CMAR	**Chiang Mai Arr**	**161.04**	**2**	PKIKP		**PKPdf**	**01 44 32.4**	**-2.0**
CMAR							01 45 16.5		
CMAR	**Chiang Mai Arr**	**161.04**	**2**	PKPdf		**PKPdf**	**01 44 32.4**	**-2.0**
CMAR				PKPab		**PKPab**	**01 45 16.5**	**-0.5**

*JMA **23** 01:24:34.7±0.2, 39°.76N×143°.57E, h23km, M3.8*
*IDC **23** 01:25:11.6±4.2, 37°.95N×139°.85E, h273km±76km, mb2.9/5, mb1 2.9/5, mb1mx2.7/34, mbtmp3.5/5, Error ellipse: s-maj=170.8km s-min=72.1km az=15.0*
ISC 23 01:24:34.4±1.6, 39°.82N±0°.07×143°.47E±0°.10, h6km, n18, σ0§96/21, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.24**	**276**	P	**Pb**	**01 24 58.2**	**0.0**
JTH				S	**Sb**	**01 25 15.1**	**+0.7**
MIYJ	**Miyakonagasawa**	**1.29**	**260**	P	**Pb**	**01 24 58.8**	**-0.3**
MIYJ				*e*S	**Sb**	**01 25 16.5**	**+0.5**
JKEN	**Kujiedanarisaw**	**1.41**	**287**	P	**Pn**	**01 25 00.6**	**+0.1**
JANG	**Nango**	**1.60**	**291**	P	**Pn**	**01 25 03.3**	**+0.1**
JOM	**Ohasama**	**1.71**	**259**	P	**Pb**	**01 25 05.3**	**-1.0**
JOM				*e*S	**Sn**	**01 25 27.3**	**+0.3**
JMK	**Ichinoseki**	**1.94**	**244**	P	**Pn**	**01 25 07.9**	**0.0**
JTM	**Tenmabayashi**	**2.08**	**299**	P	**Pb**	**01 25 11.5**	**-0.9**
JIO	**Ouri**	**2.13**	**231**	P	**Pn**	**01 25 09.8**	**-0.7**
JOT	**Ohata**	**2.42**	**311**	P	**Pb**	**01 25 17.4**	**-0.9**
JNBK	**Urakawa-nobuka**	**2.52**	**348**	P	**Pb**	**01 25 19.5**	**-0.5**
JYK	**Kaneyama**	**2.57**	**251**	P	**Pn**	**01 25 17.5**	**+1.0**
JCH	**Churui**	**2.80**	**358**	P	**Pn**	**01 25 20.5**	**+0.8**
JCH				*e*S	**Sn**	**01 25 54.0**	**+0.3**
MJAR	**Matsushiro Arr**	**5.28**	**233**	P	**Pn**	**01 25 55.3**	**+1.6**
	0.2nm,0.3s,baz=41,slow=12,SNR=4.3						
SONM	**Songino Array**	**27.71**	**299**	P	**P**	**01 30 23.6**	**+0.2**
	0.4nm,0.7s,baz=89,slow=7.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**41.30**	**310**	P	**P**	**01 32 21.7**	**+1.4**
	0.4nm,0.4s,baz=85,slow=8.6,SNR=2.0						
MKAR	**Makanchi Array**	**44.07**	**300**	P	**P**	**01 32 40.6**	**-2.4**
	0.4nm,0.8s,baz=74,slow=8.1,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.62**	**306**	P	**P**	**01 32 54.8**	**-0.4**
	0.4nm,0.6s,baz=80,slow=8.0,SNR=3.4						
FINES	**FINESS Array B**	**67.11**	**332**	P	P	01 35 37.9	+10
	1.3nm,0.8s,baz=39,slow=9.0,SNR=4.0						

*IDC **23** 01:51:10.6±1.1, 60°.14N×29°.35W, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.4/66, mbtmp3.6/10, ML3.6/3, Error ellipse: s-maj=25.4km s-min=19.8km az=23.0*
ISC 23 01:51:12.0±0.9, 60°.1N±0°.1×29°.39W±0°.10, h10km, n10, σ1§14/11, mb3.6/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**5.95**	**35**	Pn	**Pn**	**01 52 41.3**	**+1.4**
	2.6nm,0.3s,baz=229,slow=5.4,SNR=9.7						
BORG				Sn	**Sn**	**01 53 47.0**	**-1.0**
	0.2nm,0.3s,baz=297,slow=4.5,SNR=1.1						
EKA	**Eskdalemuir Ar**	**14.76**	**97**	Pn	**Pn**	**01 54 40.4**	**-0.1**
	baz=304,slow=9.4,SNR=2.2						
FRB	**Frobisher Bay**	**18.55**	**298**	P	**P**	**01 55 27.0**	**-1.5**
	0.1nm,0.3s,baz=104,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**24.27**	**44**	P	**P**	**01 56 28.6**	**-0.2**
	2.2nm,0.9s,baz=276,slow=9.0,SNR=1.4						
ESDC	**Sonseca Array**	**25.93**	**131**	P	**P**	**01 56 44.8**	**+0.7**
	0.5nm,0.8s,baz=330,slow=8.9,SNR=3.7						
YKA	**Yellowknife Ar**	**38.17**	**312**	P	**P**	**01 58 32.0**	**+1.0**
	0.4nm,0.7s,baz=53,slow=8.9,SNR=7.7						
PDAR	**Pinedale Array**	**49.56**	**288**	P	**P**	**02 00 03.1**	**+0.1**
	0.5nm,0.7s,baz=69,slow=4.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**52.18**	**140**	P	**P**	**02 00 22.2**	**-0.4**
	0.4nm,0.6s,baz=332,slow=7.5,SNR=6.5						
KURBB	**Kurchatov Arra**	**55.30**	**47**	P	**P**	**02 00 43.3**	**-1.8**
	0.7nm,0.8s,baz=324,slow=8.3,SNR=2.7						
MKAR	**Makanchi Array**	**59.87**	**48**	P	**P**	**02 01 18.1**	**+0.7**
	0.7nm,0.7s,baz=338,slow=5.8,SNR=7.5						

GUC 23 02:16:16.8±0.4, 37°.69S×74°.48W, h44km±12km, ML3.7, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.39**	**53**	*e*P	Pn	02 16 39.8	+0.1
CCSP				*e*S	Sn	02 16 57.3	+0.6
CCSP				IAML		02 17 00.9	
	comp=E,1μm,0.3s						
BI05	**Punta Hualpn**	**1.40**	**48**	*e*P	Pn	02 16 39.7	-0.1
LR02	**Universidad Au**	**2.32**	**156**	*e*P	Pn	02 16 53.0	+0.5
LR02				*i* S	Sn	02 17 19.9	+0.2
LC01	**Cunco**	**2.38**	**121**	⇑*i*P	Pn	02 16 56.5	+3.2
LC01				*i* S	Sn	02 17 26.4	+5.2
LC01				IAML		02 17 29.0	
	comp=N,167nm,0.3s						
LR03	**Panguipulli**	**2.56**	**140**	⇑*i*P	Pn	02 16 58.8	+3.1
LR03				*i* S	Sn	02 17 28.0	+2.4
LR03				IAML		02 17 32.9	
	comp=N,798nm,0.5s						
GO05	**Huala**	**3.38**	**38**	*e*P	Pn	02 17 07.4	+0.3
GO05				*i* S	Sn	02 17 46.2	+0.3
GO05				IAML		02 17 53.4	
	comp=N,48nm,0.5s						
LL04	**Puerto Octay**	**3.59**	**154**	*e*P	Pn	02 17 10.9	+0.9
LL04				*i* S	Sn	02 17 49.6	-1.5
LL04				*e*		02 17 49.6	
LL04				IAML		02 17 53.9	
	comp=N,313nm,0.3s						
LL05	**Los Muermos**	**3.79**	**168**	*e*P	Pn	02 17 13.0	+0.3
BO03	**Pichilemu**	**3.79**	**33**	*e*P	Pn	02 17 12.1	-0.5
BO03				*i* S	Sn	02 17 55.8	-0.1
BO01	**Tunca**	**4.29**	**41**	*e*P	Pn	02 17 20.3	+0.7
BO01				*i* S	Sn	02 18 09.7	+1.3
MT01	**Popeta**	**4.64**	**35**	*e*P	Pn	02 17 24.1	-0.2
MT09	**Talagante**	**4.83**	**37**	*e*P	Pn	02 17 27.7	+0.6
MT09				*i* S	Sn	02 18 21.6	-0.3
MT09				IAML		02 18 27.4	
MT02	**Curacav**	**5.20**	**33**	⇓*i*P	Pn	02 17 31.1	-0.9
MT02				*i* S	Sn	02 18 29.2	-1.5
MT02				IAML		02 18 42.2	
	comp=E,14nm,0.6s						
ROCH	**El Roble**	**5.50**	**32**	*e*P	Pn	02 17 34.7	-1.6
FCH	**Farellones**	**5.54**	**39**	*e*P	Pn	02 17 37.4	+0.4
FCH				*i* S	Sn	02 18 40.8	+1.3

IDC 23 02:27:36.3±2.3, 3°.67N×127°.81E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, Error ellipse: s-maj=156.5km s-min=28.1km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.33**	**165**	P	P	02 32 56.2	+0.3
	0.6nm,0.4s,baz=345,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**27.81**	**168**	P	P	02 33 27.4	-0.1
	0.4nm,0.8s,baz=355,slow=9.3,SNR=2.7						
MKAR	**Makanchi Array**	**58.22**	**325**	P	P	02 37 32.2	-0.3
	0.2nm,0.4s,baz=113,slow=6.7,SNR=4.4						

*IDC **23** 02:57:50.6±1.0, 5°.34N×125°.30E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/50, mbtmp3.7/6, Error ellipse: s-maj=73.7km s-min=18.8km az=68.0*
ISC 23 02:57:52.4±1.0, 5°.5N±0°.2×126°.0E±0°.2, h10km, n8, σ0§88/8, mb3.7/6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.14**	**298**	⇓*i*P	**Pn**	**02 58 15.0**	**+0.5**
CTBH	**Cotabato--PC H**	**2.38**	**315**	⇑*i*P	**Pb**	**02 58 35.6**	**+0.2**
WRA	**Warramunga Arr**	**26.63**	**162**	P	**P**	**03 03 31.4**	**0.0**
	0.7nm,0.4s,baz=332,slow=11,SNR=18						
ASAR	**Alice Springs**	**30.05**	**165**	P	**P**	**03 04 01.9**	**0.0**
	0.5nm,0.4s,baz=345,slow=7.7,SNR=15						
STKA	**Stephens Creek**	**40.08**	**159**	P	**P**	**03 05 28.2**	**0.0**
	1.1nm,0.5s,baz=310,slow=6.1,SNR=4.0						
MKAR	**Makanchi Array**	**55.64**	**325**	P	**P**	**03 07 27.7**	**-1.0**
	0.5nm,0.5s,baz=128,slow=7.6,SNR=9.3						
KURBB	**Kurchatov Arra**	**59.81**	**327**	P	**P**	**03 07 56.5**	**-1.4**
	0.2nm,0.3s,baz=116,slow=8.4,SNR=4.7						
ILAR	**Eielson Array**	**83.81**	**26**	P	**P**	**03 10 22.7**	**+0.9**
	0.2nm,0.7s,baz=246,slow=5.3,SNR=4.8						

*NEIC **23** 03:13:41.0±0.8, 19°.6N±0°.2×66°.37W±0°.06, h33km±28km, Error ellipse: s-maj=25.8km s-min=6.8km az=167.0*
*RSPR **23** 03:13:41.7, 19°.40N×66°.33W, h102km±7km, MD3.5/11*
ISC 23 03:13:40.2±1.9, 19°.51N±0°.09×66°.33W±0°.04, h19km, n50, σ0§48/56, 10C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCPR	**Guaynabo City**	**1.22**	**169**	⇓*e*P	**Pn**	**03 14 02.5**	**+0.2**
GCPR	**Guaynabo City**	**1.22**	**169**		**Pn**	**03 14 02.5**	**+0.2**
GCPR	**Guaynabo City**	**1.22**	**169**		**Sb**	**03 14 18.1**	**0.0**
GCPR				IAML		03 14 18.3	
	comp=N,46nm,0.4s						
AOPR	**Arecibo Observ**	**1.23**	**199**	⇓*e*P	**Pn**	**03 14 01.9**	**-0.5**
AOPR	**Arecibo Observ**	**1.23**	**199**	*e*S	**Sb**	**03 14 18.2**	**-0.1**
AOPR	**Arecibo Observ**	**1.23**	**199**		**Pn**	**03 14 01.9**	**-0.5**
AOPR					**Sb**	**03 14 18.2**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.31**	**196**	⇑*e*P	**Pn**	**03 14 03.6**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.31**	**196**	*e*S	**Sb**	**03 14 21.4**	**+0.8**
UUPR	**Utuado, UPR, P**	**1.31**	**196**		**Pn**	**03 14 03.6**	**+0.1**
UUPR					**Sb**	**03 14 21.4**	**+0.8**
CBYP	**Canovanas**	**1.32**	**160**	⇑*e*P	**Pn**	**03 14 03.8**	**+0.2**
CBYP	**Canovanas**	**1.32**	**160**	*e*S	**Sb**	**03 14 22.0**	**+1.1**
CBYP	**Canovanas**	**1.32**	**160**		**Pn**	**03 14 03.8**	**+0.2**
CBYP					**Sb**	**03 14 22.0**	**+1.1**
SJG	**San Juan**	**1.41**	**173**	Pn	**Pn**	**03 14 05.1**	**+0.3**
SJG					**Sn**	**03 14 22.4**	**-0.5**
SJG				IAML		03 14 28.5	
	comp=N,30nm,0.9s						
SJG				IAML		03 14 29.2	
	comp=N,42nm,0.7s						
HUMP	**Col San Antoni**	**1.44**	**161**	⇑*e*P	**Pn**	**03 14 05.6**	**+0.3**
HUMP	**Col San Antoni**	**1.44**	**161**	*e*S	**Sn**	**03 14 24.2**	**+0.5**
HUMP	**Col San Antoni**	**1.44**	**161**		**Pn**	**03 14 05.6**	**+0.3**
HUMP					**Sn**	**03 14 24.2**	**+0.5**
HUMP	**Col San Antoni**	**1.44**	**161**	IAML		03 14 26.1	
	comp=N,31nm,0.4s						
CELP	**Cerrillos**	**1.45**	**189**	⇑*e*P	**Pn**	**03 14 05.5**	**0.0**
CELP	**Cerrillos**	**1.45**	**189**	*e*S	**Sn**	**03 14 24.2**	**+0.2**
CELP	**Cerrillos**	**1.45**	**189**		**Pn**	**03 14 05.5**	**0.0**
CELP	**Cerrillos**	**1.45**	**189**		**Sn**	**03 14 24.2**	**+0.2**
CELP	**Cerrillos**	**1.45**	**189**	IAML		03 14 19.8	
	comp=E,28nm,3.7s						
OBIP	**Obispado Ponce**	**1.49**	**190**	⇑*e*P	**Pn**	**03 14 06.1**	**+0.2**
OBIP	**Obispado Ponce**	**1.49**	**190**	*e*S	**Sn**	**03 14 25.0**	**+0.2**
OBIP	**Obispado Ponce**	**1.49**	**190**		**Pn**	**03 14 06.1**	**+0.2**
OBIP					**Sn**	**03 14 25.0**	**+0.2**
OBIP	**Obispado Ponce**	**1.49**	**190**	IAML		03 14 34.0	
	comp=N,32nm,1.1s						
LSP	**Las Mesas**	**1.51**	**208**	⇑*e*P	**Pn**	**03 14 06.3**	**0.0**
LSP	**Las Mesas**	**1.51**	**208**	*e*S	**Sb**	**03 14 26.4**	**0.0**
PDPR	**Patillas Dam,**	**1.52**	**169**	Pn	**Pn**	**03 14 06.4**	**+0.1**
PDPR					**Sn**	**03 14 26.2**	**+0.7**
PDPR				IAML		03 14 28.8	
	comp=E,41nm,0.6s						
IGPR	**InterUniversit**	**1.56**	**172**	⇑*e*P	**Pn**	**03 14 07.3**	**+0.4**
CUPR	**Culebra, Puert**	**1.56**	**140**	⇑*e*P	**Pn**	**03 14 07.2**	**+0.3**
CUPR	**Culebra, Puert**	**1.56**	**140**	*e*S	**Sn**	**03 14 26.8**	**+0.2**
CUPR	**Culebra, Puert**	**1.56**	**140**		**Pn**	**03 14 07.2**	**+0.3**
CUPR					**Sn**	**03 14 26.8**	**+0.2**
MTP	**Monte Pirata**	**1.59**	**152**	⇑*e*P	**Pn**	**03 14 07.4**	**0.0**
MTP	**Monte Pirata**	**1.59**	**152**	*e*S	**Sn**	**03 14 27.7**	**+0.2**
MTP	**Monte Pirata**	**1.59**	**152**		**Pn**	**03 14 07.4**	**0.0**
MTP					**Sn**	**03 14 27.7**	**+0.2**
MTP	**Monte Pirata**	**1.59**	**152**	IAML		03 14 38.1	
	comp=E,30nm,1.6s						
MTP				IAML		03 14 47.2	
	comp=N,25nm,2.3s						
CRPR	**Cabo Rojo, PR**	**1.67**	**206**	⇓*e*P	**Pn**	**03 14 08.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.67**	**206**	*e*S	**Sn**	**03 14 29.9**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.67**	**206**		**Pn**	**03 14 08.7**	**+0.2**
CRPR				IAML		03 14 36.9	
	comp=E,27nm,3.0s						
CRPR	**Cabo Rojo, PR**	**1.67**	**206**		**Sn**	**03 14 29.9**	**+0.6**
MLPR	**Magueyes Islan**	**1.68**	**204**	⇓*e*P	**Pn**	**03 14 08.7**	**+0.1**
MLPR	**Magueyes Islan**	**1.68**	**204**	*e*S	**Sn**	**03 14 29.4**	**-0.1**
MLPR	**Magueyes Islan**	**1.68**	**204**		**Pn**	**03 14 08.7**	**+0.1**
MLPR					**Sn**	**03 14 29.4**	**-0.1**
MLPR	**Magueyes Islan**	**1.68**	**204**	IAML		03 14 37.0	
	comp=N,33nm,1.8s						
MLPR				IAML		03 14 48.4	
	comp=E,33nm,3.5s						
STVI	**Saint Thomas**	**1.75**	**131**	Pn	**Pb**	**03 14 10.6**	**-1.0**
SJVI	**Gifft Hill Sch**	**1.89**	**128**	⇑*e*P	**Pb**	**03 14 13.1**	**-1.1**
SJVI	**Gifft Hill Sch**	**1.89**	**128**	*e*S	**Sn**	**03 14 35.5**	**+0.6**
SJVI	**Gifft Hill Sch**	**1.89**	**128**		**Pb**	**03 14 13.1**	**-1.1**
SJVI					**Sn**	**03 14 35.5**	**+0.6**
DR12	**Loma Pena Alta**	**2.97**	**256**	⇓*e*P	**Pn**	**03 14 27.2**	**+0.8**

*IGQ **23** 03:16:48±2.0, 1°.N±7°×8°.1W±1°.1, h3km*
*IDC **23** 03:16:52.2±1.8, 1°.38N×79°.83W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/35, mbtmp3.7/5, Error ellipse: s-maj=81.9km s-min=27.4km az=51.0*
ISC 23 03:16:50.5±0.9, 0°.69N±0°.06×80°.32W±0°.07, h10km, n36, σ1§23/37, mb3.8/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMA1	**Acelerografo,**	**0.65**	**68**	P	**Pn**	**03 17 06.0**	**+0.2**
AMA1				S	**Sn**	**03 17 19.0**	**+2.9**
AV21	**Acelerografo,**	**0.78**	**92**	P	**Pn**	**03 17 08.0**	**+0.5**
AV21				S	**Sn**	**03 17 22.0**	**+2.7**
AV18	**Acelerografo,**	**0.92**	**114**	P	**Pn**	**03 17 10.0**	**+0.4**
MAG1	**Magdalena**	**0.93**	**144**	P	**Pb**	**03 17 09.0**	**+0.2**
JAMA	**Jama**	**0.95**	**173**	P	**Pg**	**03 17 08.0**	**-0.8**
FLF1	**Flavio Alfaro-**	**1.14**	**155**	P	**Pn**	**03 17 13.0**	**+0.3**
BV15	**Puerto Quito-O**	**1.22**	**116**	P	**Pn**	**03 17 14.0**	**+0.3**
APR1	**Acelerografo,**	**1.86**	**113**	P	**Pb**	**03 17 24.0**	**-0.8**
HPAL	**Hacienda Las P**	**1.90**	**118**	P	**Pb**	**03 17 24.0**	**-1.5**
PINO	**Pino**	**1.91**	**116**	P	**Pb**	**03 17 25.0**	**-0.8**
TERV	**Terraza Guagua**	**1.92**	**116**	P	**Pb**	**03 17 25.0**	**-1.0**
YANA	**Yana**	**1.93**	**115**	P	**Pb**	**03 17 25.0**	**-1.1**
GGPT	**Toaza - Volcan**	**1.93**	**118**	P	**Pn**	**03 17 24.0**	**+0.2**
JUA2	**San Juan 2**	**1.94**	**118**	P	**Pb**	**03 17 25.0**	**-1.2**
CUSE	**Cuicocha Este**	**1.96**	**101**	P	**Pb**	**03 17 26.0**	**-0.6**
CUIC	**Cuicocha-Domo**	**2.00**	**101**	P	**Pb**	**03 17 26.0**	**-1.2**
CUSW	**Cuicocha Oeste**	**2.01**	**101**	P	**Pg**	**03 17 28.0**	**-1.2**
COTA	**Cotacachi**	**2.02**	**100**	P	**Pg**	**03 17 28.0**	**-1.3**
URCU	**Urcuqui**	**2.08**	**97**	P	**Pb**	**03 17 28.0**	**-0.7**
ILLI	**Illinizas Sur**	**2.12**	**131**	P	**Pn**	**03 17 26.0**	**-0.5**
PAST	**Pastocalle**	**2.17**	**129**	P	**Pn**	**03 17 28.0**	**+0.8**
CHMA	**Chilma**	**2.27**	**86**	P	**Pn**	**03 17 29.0**	**+0.7**
CAMI	**Rancho Maria**	**2.27**	**127**	P	**Pb**	**03 17 31.0**	**-0.9**
YAHU	**Yahuarcocha**	**2.27**	**98**	P	**Pb**	**03 17 32.0**	**+0.1**
BNAS	**Cotopaxi Volca**	**2.28**	**126**	P	**Pb**	**03 17 31.0**	**-1.2**
BREF	**Cotopaxi Volca**	**2.32**	**126**	P	**Pb**	**03 17 32.0**	**-0.8**
BVC2	**Cotopaxi Volca**	**2.33**	**125**	P	**Pb**	**03 17 32.0**	**-1.0**
BTAM	**Cotopaxi Volca**	**2.35**	**125**	P	**Pb**	**03 17 33.0**	**-0.4**
ECEN	**Cerro Negro**	**2.36**	**87**	P	**Pb**	**03 17 32.0**	**-1.4**
CHL1	**Volcjn Chiles**	**2.38**	**87**	P	**Pb**	**03 17 32.0**	**-1.8**
TAMB	**Tambo**	**2.39**	**125**	P	**Pb**	**03 17 33.0**	**-1.0**
LPAZ	**La Paz**	**20.72**	**145**	P	Pn	03 21 37.7	+3.4
	0.6nm,0.7s,baz=324,slow=9.5,SNR=2.3						
ULM	**Lac du Bonnet**	**51.13**	**347**	P	**P**	**03 25 50.9**	**-2.5**
	2.4nm,0.6s,baz=148,slow=1.1,SNR=2.9						
NVAR	**Mina Array Bea**	**51.21**	**322**	P	**P**	**03 25 56.5**	**+1.9**
	0.8nm,0.6s,baz=121,slow=8.5,SNR=4.9						
YKA	**Yellowknife Ar**	**66.79**	**343**	P	**P**	**03 27 42.3**	**+0.3**
	0.4nm,0.7s,baz=140,slow=5.8,SNR=8.3						
TORD	**Torodi Ar. Bea**	**82.07**	**77**	P	**P**	**03 29 12.4**	**+0.5**
	0.3nm,0.7s,baz=280,slow=4.2,SNR=5.6						

IDC 23 03:29:32.5±8.3, 5°.54S×145°.56E, h98km±54km, mb3.8/3, mb1 3.9/5, mb1mx3.4/43, mbtmp4.1/5, Error ellipse: s-maj=93.9km s-min=45.9km az=38.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.16**	**158**	P	Pn	03 30 34.1	+0.2
	13nm,0.3s,baz=345,slow=7.4,SNR=13						
PMG				S	Sn	03 31 21.5	+0.1
	12nm,0.3s,baz=142,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**18.00**	**216**	P	P	03 33 35.4	-0.3
	0.6nm,0.3s,baz=44,slow=11,SNR=27						
ASAR	**Alice Springs**	**21.23**	**211**	P	P	03 34 10.7	0.0
	1.0nm,0.4s,baz=37,slow=7.8,SNR=22						
FITZ	**Fitzroy Crossi**	**23.12**	**236**	P	P	03 34 29.8	-0.4
	13nm,0.8s,baz=50,slow=9.0,SNR=39						
STKA	**Stephens Creek**	**26.47**	**188**	P	P	03 35 01.2	+0.7
	1.1nm,0.4s,baz=3.0,slow=14,SNR=5.8						

AAE 23 03:32:16.7±2.0, 10°.96N×40°.17E, h19km±999km, ML4.3, Ethiopia

| Code | Station Name | Δ° | AZ°

comp=E,25nm,0.2s
KTH IAML 03 38 33.9
comp=N,23nm,0.3s
MCK McKinley 0.49 70 Pn 03 38 33.0 +0.4
MCK McKinley 0.49 70 Sn 03 38 47.4 -0.6
MCK McKinley 0.49 70 IAML 03 38 34.8
comp=E,46nm,0.2s
RND Reindeer 0.53 108 Pn 03 38 33.0 +0.1
RND Reindeer 0.53 108 Sn 03 38 47.9 -0.5
RND Reindeer 0.53 108 IAML 03 38 33.7
comp=N,59nm,0.2s
RND IAML 03 38 33.8
comp=E,96nm,0.2s
BWN Browne 0.65 20 Pn 03 38 34.2 +0.7
BWN Sn **03 38 49.3 -0.3**
BWN Browne 0.65 20 IAML 03 38 49.9
comp=N,320nm,0.7s
BPAW Bear Paw Mtn. 0.70 320 Pn 03 38 33.9 -0.1
BPAW Sn **03 38 49.0 -1.2**
BPAW Bear Paw Mtn. 0.70 320 IAML 03 38 49.6
comp=E,171nm,0.4s
BPAW IAML 03 38 49.8
comp=N,144nm,0.8s
CAST Castle Rocks 0.96 262 Pn 03 38 36.1 +0.1
CAST Sn **03 38 53.0 -0.8**
CAST Castle Rocks 0.96 262 IAML 03 38 53.7
comp=N,120nm,0.7s
CHUM Lake Minchumin 1.09 288 Pn 03 38 37.4 +0.3
CHUM Sn **03 38 55.2 -0.6**
NEA2 Nenana 1.10 21 Pn 03 38 37.1 -0.1
NEA2 Nenana 1.10 21 IAML 03 38 55.4
comp=E,75nm,0.9s
NEA2 IAML 03 38 55.5
comp=N,72nm,0.6s
CUT Chulitna 1.18 187 Pn 03 38 38.2 +0.3
CUT Chulitna 1.18 187 IAML 03 38 58.5
comp=N,364nm,0.3s
PPLA Purkeypile 1.21 237 Pn 03 38 39.0 +0.5
WRH Wood River Hil 1.23 42 Pn 03 38 38.5 +0.1
WRH Sn **03 38 57.1 -1.0**
DHY Denali Highway 1.27 112 Pn 03 38 39.3 +0.3
DHY Sn **03 38 59.4 +0.1**
DHY Denali Highway 1.27 112 IAML 03 39 00.8
comp=E,231nm,0.3s
WAT6 Susitna Watana 1.42 133 Pn 03 38 40.6 0.0
WAT6 Sn **03 39 01.7 -0.3**
CCB Clear Creek Bu 1.44 40 Pn 03 38 40.6 +0.1
MDM Murphy Dome 1.59 28 Pn 03 38 42.6 +0.3
MDM Sn **03 39 03.9 -1.1**
TCOL CIGO, UAF Yank 1.60 34 Pn 03 38 42.6 +0.3
TCOL CIGO, UAF Yank 1.60 34 IAML 03 39 04.9
comp=E,143nm,0.7s
TCOL IAML 03 39 08.9
comp=N,143nm,0.6s
COLA College 1.60 34 Pn 03 38 42.6 +0.2
COLA College 1.60 34 IAML 03 39 04.8
comp=N,154nm,0.7s
COLA IAML 03 39 08.9
comp=N,153nm,0.6s
I23K Minto, Yukon-K 1.61 9 Pn 03 38 42.6 +0.2
IL31 1.81 47 Pn 03 38 44.5 -0.1
ILAR Eielson Array 1.81 47 P **Pn 03 38 44.6 -0.1**
comp=N,2.8nm,0.3s,baz=231,slow=11,SNR=152
ILAR S **Sn 03 39 07.5 -2.0**
comp=N,1.5nm,0.3s,baz=226,slow=17,SNR=8.2
ILAR Eielson Array 1.81 47 Pn **Pn 03 38 43.9 -0.8**
M22K Willow 1.82 182 Pn 03 38 42.5 -2.4
I21K Tanana 1.84 332 Pn 03 38 45.4 +0.4
K20K Telida 1.85 265 Pn 03 38 45.5 +0.2
K20K Telida 1.85 265 IAML 03 39 10.3
comp=N,27nm,0.8s
K20K IAML 03 39 10.4
comp=E,53nm,0.8s
GHO Glory Hole Cre 1.87 165 Pn 03 38 45.6 +0.1
GHO Sn **03 39 10.9 +0.2**
PS10 TAPS Pump St10 1.89 93 Pn 03 38 47.1 +1.4
POKR Poker Plat Res 1.91 34 Pn 03 38 46.1 +0.3
SML Sawmill 1.92 156 Pn 03 38 45.9 -0.2
SML Sawmill 1.92 156 IAML 03 39 13.5
comp=N,94nm,0.6s
SML IAML 03 39 18.1
comp=E,66nm,0.6s
J20K Nowinta River 1.95 290 Pn 03 38 46.6 +0.2
J20K Sn **03 39 11.4 -0.9**
PMR Palmer 2.02 169 Pn 03 38 47.0 -0.2
PMR Palmer 2.02 169 IAML 03 39 20.5
comp=E,129nm,0.5s
PMR IAML 03 39 20.9
comp=N,87nm,0.4s
L20K Farewell, AK 2.09 240 Pn 03 38 48.5 +0.3
PAX Paxson 2.12 104 Pn 03 38 49.0 +0.5
PAX Sn **03 39 16.4 +0.2**
SCM Sheep Creek Mo 2.12 144 Pn 03 38 48.3 -0.2
SCM Sheep Creek Mo 2.12 144 IAML 03 39 18.8
comp=N,89nm,0.6s
SCM IAML 03 39 19.0
comp=E,83nm,0.4s
STLK Strandline Lak 2.25 203 Pn 03 38 50.5 +0.4
H23K Yukon River 2.27 4 Pn 03 38 50.6 +0.4
KNK Knik Glacier 2.27 161 Pn 03 38 50.5 +0.2
J25K Salcha River, 2.27 61 Pn 03 38 50.4 0.0
J25K Sn **03 39 18.1 -1.4**
J25K Salcha River, 2.27 61 IAML 03 39 22.6
comp=E,30nm,0.5s
M24K Tolsona, Glenn 2.28 128 Pn 03 38 50.9 +0.5
M24K Tolsona, Glenn 2.28 128 IAML 03 39 21.4
comp=N,87nm,0.5s
M24K IAML 03 39 30.9
comp=E,94nm,0.7s
RIDG Independent Ri 2.29 83 Pn 03 38 50.8 +0.3
RIDG Independent Ri 2.29 83 IAML 03 39 20.0
comp=E,58nm,0.7s
RIDG IAML 03 39 22.4
comp=N,37nm,0.7s
H21K Melozitna Rive 2.43 331 Pn 03 38 52.4 +0.2
H24K Noodor Dome 2.45 21 Pn 03 38 52.7 +0.2
SPCG Spurr Capps Gl 2.48 204 Pn 03 38 53.5 +0.6
HARP HAARP 2.49 116 Pn 03 38 53.6 +0.6
RC01 Rabbit Creek A 2.49 177 Pn 03 38 53.2 +0.2
RC01 Sn **03 39 22.8 -1.4**
M19K Big River Lodg 2.63 233 Pn 03 38 54.9 +0.1
M19K Big River Lodg 2.63 233 IAML 03 39 27.6
comp=E,13nm,1.1s
L19K White Mountain 2.64 240 Pn 03 38 55.0 +0.2
DOT Dot Lake 2.64 86 Pn 03 38 54.7 -0.2
SCRK Sand Creek 2.69 79 Pn 03 38 55.5 -0.1
SCRK Sand Creek 2.69 79 IAML 03 39 30.5
comp=E,27nm,0.7s
SCRK IAML 03 39 30.5
comp=N,38nm,0.9s
KLU Klutina 2.80 136 Pn 03 38 56.5 -0.4
KLU Klutina 2.80 136 IAML 03 39 35.4
comp=N,44nm,0.4s
KLU IAML 03 39 42.6
comp=E,36nm,0.3s
TTA Tatalina 2.81 260 Pn 03 38 57.0 0.0
PWL Port Wells 2.83 164 Pn 03 38 57.3 +0.1
CAPN Captain Cook N 2.87 192 Pn **Pn 03 38 58.0 +0.4**
IMAR Indian Mountai 2.92 328 Pn 03 38 57.7 -0.6
GLI Glacier Island 3.02 152 Pn 03 39 59.0 -0.7
L26K Log Cabin Wild 3.04 97 Pn 03 38 60.0 +0.1
L26K Log Cabin Wild 3.04 97 IAML 03 39 57.8
comp=N,52nm,0.5s
L26K IAML 03 40 00.1
comp=E,47nm,0.4s
SLKM Skilak Lake 3.08 182 Pn 03 39 00.6 +0.2
O22K Cooper Landing 3.10 178 Pn **Pn 03 39 00.3 -0.4**
DIV Divide 3.13 139 Pn 03 39 00.3 -0.9
N25K Chitina, Valde 3.17 126 Pn 03 39 01.8 +0.2
N25K Chitina, Valde 3.17 126 IAML 03 39 41.1
comp=E,26nm,0.5s
N25K IAML 03 39 42.3
comp=N,45nm,0.7s
FID Port Fidalgo 3.27 148 Pn 03 39 02.4 -0.5
RDWB Redoubt West 3.38 205 Pn 03 39 05.0 +0.5
RSO Redoubt South 3.38 204 Pn **Pn 03 39 04.5 -0.1**
M26K Nabesna, AK 3.39 107 Pn 03 39 04.9 +0.4
M26K IAML 03 39 58.5
comp=E,16nm,0.5s
M26K IAML 03 40 02.5
comp=N,24nm,0.6s
N19K Bonanza Creek 3.48 219 Pn 03 39 06.0 +0.3
N19K Bonanza Creek 3.48 219 IAML 03 40 08.9
comp=N,12nm,2.0s
N19K IAML 03 40 15.5
comp=E,11nm,3.0s
SEW Seward 3.49 176 Pn 03 39 05.8 +0.2
GLB Gilahina Butte 3.56 124 Pn 03 39 06.9 +0.1
GLB Gilahina Butte 3.56 124 IAML 03 39 50.6
comp=E,16nm,0.5s
GLB IAML 03 39 52.2
comp=N,22nm,0.5s
SVW2 Sparrevohn 3.61 229 Pn 03 39 06.7 -0.6
SVW2 IAML 03 40 10.0
comp=E,14nm,3.8s
SVW2 IAML 03 40 17.8
comp=N,10nm,2.8s
BMRM Bremner River 3.62 134 Pn 03 39 07.0 -0.4
BMRM Bremner River 3.62 134 IAML 03 39 50.8
comp=E,31nm,0.5s
BMRM IAML 03 40 08.3
comp=N,27nm,0.6s
EYAK Cordova Ski Ar 3.62 145 Pn **Pn 03 39 07.6 +0.2**
L27K Beaver Creek, 3.71 94 Pn 03 39 08.4 -0.2
L27K Beaver Creek, 3.71 94 IAML 03 39 51.4
comp=E,13nm,0.5s
L27K IAML 03 39 51.5
comp=N,10nm,0.3s
BCAR Beaver Creek A 3.73 94 Pn **Pn 03 39 08.0 -0.8**
VRDI Verde Repeater 3.83 125 Pn 03 39 10.4 -0.1
VRDI Verde Repeater 3.83 125 IAML 03 39 57.0
comp=N,14nm,0.9s
VRDI IAML 03 39 58.3
comp=E,11nm,1.7s
BRLK Bradley Lake 3.84 187 Pn 03 39 10.5 +0.1
BRSE Bradley Lake S 3.86 186 Pn 03 39 10.5 -0.1
M27K Edge Creek, AK 3.89 105 Pn **Pn 03 39 11.4 +0.4**
M27K IAML 03 39 44.9
comp=N,10nm,4.7s
M27K IAML 03 40 18.1
comp=E,11nm,1.1s
MCARA McCarthy VSAT 3.90 121 Pn **Pn 03 39 11.3 +0.2**
MCARA IAML 03 39 59.6
comp=N,22nm,2.0s
MCARA IAML 03 40 00.8
comp=E,22nm,0.9s
EGAK Eagle 4.04 69 Pn **Pn 03 39 13.1 +0.2**
EGAK IAML 03 40 00.7
comp=E,15nm,0.8s
EGAK IAML 03 40 20.6
comp=E,15nm,1.0s
RAGM Ragged Mountai 4.05 140 Pn **Pn 03 39 12.8 -0.4**
CNPM China Poot 4.10 189 Pn 03 39 13.8 0.0
HMT Hamilton 4.22 138 Pn **Pn 03 39 15.2 -0.1**
BERG Berg Lake 4.34 134 Pn **Pn 03 39 17.5 +0.5**
BALM Baldy 4.37 122 Pn 03 39 17.3 -0.1
TGL Tana Glacier 4.38 127 Pn **Pn 03 39 16.6 -0.9**
TGL IAML 03 40 07.9
comp=N,16nm,0.7s
KIAG Kiagna River 4.44 123 Pn 03 39 17.8 -0.6
BMAR Burnt Mountain 4.48 28 Pn **Pn 03 39 18.5 -0.2**
WAX Waxell Ridge 4.58 130 Pn **Pn 03 39 20.4 +0.2**
DAWY Dawson 4.71 79 Pn 03 39 22.0 +0.1
DAWY Dawson 4.71 79 IAML 03 40 43.4
comp=E,4.8nm,0.8s
DAWY IAML 03 40 45.6
comp=N,8.8nm,2.5s
GRNC Granite Creek 4.79 123 Pn **Pn 03 39 21.8 -1.3**
GRNC IAML 03 40 09.6
comp=N,9.2nm,2.2s
GRNC IAML 03 41 43.6
comp=E,7.2nm,5.0s
CTGM Chitina Glacie 4.80 119 Pn **Pn 03 39 23.0 -0.2**
CTGM IAML 03 40 10.4
comp=E,7.1nm,2.7s
CTGM IAML 03 41 08.8
comp=N,8.4nm,4.6s
LOGN Logan Glacier 5.02 119 Pn **Pn 03 39 26.2 +0.1**
LOGN IAML 03 40 33.5
comp=E,7.8nm,2.8s
LOGN IAML 03 40 34.1
comp=N,9.4nm,3.7s
TOLK Toolik Lake Re 5.10 2 Pn **Pn 03 39 27.3 +0.4**
TOLK IAML 03 41 02.4
comp=E,6.0nm,4.7s
TOLK IAML 03 41 55.2
comp=N,5.7nm,4.5s
I29M Ogilvie Camp, 5.36 65 Pn 03 39 29.7 -0.7
I29M IAML 03 41 11.3
comp=N,6.9nm,4.2s
I29M IAML 03 41 15.4
comp=E,6.0nm,2.5s
KDAK Kodiak Island 5.95 194 P **Pn 03 39 37.3 -0.9**
comp=E,0.2nm,0.3s,baz=59,slow=8.1,SNR=12
INK Inuvik 8.21 47 P **Pn 03 40 08.7 +0.2**
comp=E,0.1nm,0.3s,baz=227,slow=9.3,SNR=2.0
YKA Yellowknife Ar 15.95 78 P **P 03 41 50.5 +1.0**
comp=E,0.0nm,0.3s,baz=288,slow=13,SNR=5.4
ANMO Albuquerque 39.05 116 LR LR 04 04 25.6
comp=E,74nm,19.6s,baz=338,slow=40
SONM Songino Array 53.86 306 P **P 03 47 21.3 +0.5**
comp=E,0.3nm,0.4s,baz=39,slow=9.3,SNR=2.5

*IGQ **23** 04:06:31±1.1, 1°N±5°×8°OW±°, h10km*
*NEIC **23** 04:06:33.4±1.9, 0.°59N×0.°06×80.°38W×0.°04, h10km±1km, mb4.8/334, Error ellipse: s-maj=9.5km s-min=7.1km az=190.0*
*IDC **23** 04:06:35.6±4.0, 0.°70N×80.°35W, h33km±31km, mb4.4/17, mb1 4.6/20, mb1mx4.4/30, mbtmp4.6/20, ML3.7/3, MS3.5/11, Ms1 3.6/11, ms1mx3.1/65, Error ellipse: s-maj=22.7km s-min=10.5km az=58.0*
*VAO **23** 04:06:40.8±0.4, 0.°36N×79.°47W, h10km, mb4.8*
ISC 23 04:06:32.6±0.3, 0.°64N×0.°03×80.°37W±0.°04, h11km, n557, σ1§14/412, mb4.8/174, MS3.5/9, 6C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
AMA1	**Acelerografo,**	**0.71**	**65**	P	**Pg**	**04**	**06**	**46.0**	**-0.3**
AMA1				S	**Sn**	**04**	**06**	**59.0**	**-0.4**
AV21	**Acelerografo,**	**0.82**	**88**	P	**Pg**	**04**	**06**	**47.0**	**-1.4**
JAMA	**Jama**	**0.91**	**170**	P	**Pg**	**04**	**06**	**49.0**	**-1.1**
JAMA				S	**Sg**	**04**	**07**	**02.0**	**+0.1**
MAG1	**Magdalena**	**0.92**	**140**	P	**Pg**	**04**	**06**	**50.0**	**-0.3**
AV18	**Acelerografo,**	**0.94**	**110**	P	**Pg**	**04**	**06**	**50.0**	**-0.8**
FLF1	**Flavio Alfaro-**	**1.12**	**152**	P	**Pb**	**04**	**06**	**53.0**	**-1.0**
APR2	**Miler**	**1.50**	**112**	P	**Pn**	**04**	**06**	**58.0**	**-1.6**
HPAL	**Hacienda Las P**	**1.91**	**116**	P	**Pn**	**04**	**07**	**04.0**	**-1.4**
PINO	**Pino**	**1.93**	**114**	P	**Pn**	**04**	**07**	**05.0**	**-0.9**
TERV	**Terraza Guagua**	**1.94**	**115**	P	**Pn**	**04**	**07**	**05.0**	**-1.0**
GGPT	**Toaza - Volcan**	**1.94**	**116**	P	**Pn**	**04**	**07**	**04.0**	**-1.9**
YANA	**Yana**	**1.95**	**113**	P	**Pn**	**04**	**07**	**05.0**	**-1.0**
JUA2	**San Juan 2**	**1.95**	**116**	P	**Pn**	**04**	**07**	**05.0**	**-1.1**
OTAV	**Otavalo**	**1.96**	**102**		**Pn**	**04**	**07**	**05.7**	**-0.4**
CUSE	**Cuicocha Este**	**1.99**	**100**	*e*P	**Pn**	**04**	**07**	**05.7**	**-0.9**
CUSE				*e*S	**Sb**	**04**	**07**	**33.5**	**-0.7**
CUSE	**Cuicocha Este**	**1.99**	**100**	P	**Pn**	**04**	**07**	**06.0**	**-0.6**
ALIT	**Ecuador-Imbabu**	**2.01**	**86**	P	**Pn**	**04**	**07**	**05.0**	**-1.6**
CUIC	**Cuicocha-Domo**	**2.03**	**99**	P	**Pn**	**04**	**07**	**07.0**	**-0.1**
CUSW	**Cuicocha Oeste**	**2.04**	**100**	P	**Pn**	**04**	**07**	**07.0**	**-0.3**
COTA	**Cotacachi**	**2.05**	**98**	P	**Pn**	**04**	**07**	**07.0**	**-0.5**
ILLI	**Illinizas Sur**	**2.12**	**129**	P	**Pn**	**04**	**07**	**07.0**	**-1.4**
URCU	**Urcuqui**	**2.12**	**95**	P	**Pn**	**04**	**07**	**08.0**	**-0.3**
PAST	**Pastocalle**	**2.17**	**127**	P	**Pn**	**04**	**07**	**09.0**	**-0.1**
PITA	**Cotopaxi Volc**	**2.27**	**122**	P	**Pn**	**04**	**07**	**11.0**	**+0.6**
CAMI	**Rancho Maria**	**2.27**	**125**	P	**Pn**	**04**	**07**	**11.0**	**+0.5**
AIB2	**Ibarra (Univer**	**2.28**	**97**	P	**Pn**	**04**	**07**	**12.0**	**+1.6**
NAS2	**Nasa**	**2.29**	**124**	P	**Pn**	**04**	**07**	**11.0**	**+0.3**
BNAS	**Cotopaxi Volca**	**2.29**	**125**	P	**Pn**	**04**	**07**	**11.0**	**+0.2**
YAHU	**Yahuarcocha**	**2.31**	**97**	P	**Pn**	**04**	**07**	**12.0**	**+1.1**
CHMA	**Chilma**	**2.31**	**84**	P	**Pn**	**04**	**07**	**09.0**	**-1.9**
BREF	**Cotopaxi Volca**	**2.32**	**124**	P	**Pn**	**04**	**07**	**11.0**	**-0.3**
VC1	**Cotopaxi 1**	**2.34**	**123**	P	**Pn**	**04**	**07**	**12.0**	**+0.5**
BVC2	**Cotopaxi Volca**	**2.34**	**123**	P	**Pn**	**04**	**07**	**12.0**	**+0.5**
BTAM	**Cotopaxi Volca**	**2.36**	**124**	P	**Pn**	**04**	**07**	**12.0**	**+0.2**
ANTG	**Antisana-Guama**	**2.40**	**118**	P	**Pn**	**04**	**07**	**13.0**	**+0.7**
TAMB	**Tambo**	**2.40**	**124**	P	**Pn**	**04**	**07**	**13.0**	**+0.7**
ECEN	**Cerro Negro**	**2.40**	**86**	P	**Pn**	**04**	**07**	**11.0**	**-1.3**
CHL1	**Volc¡n Chiles**	**2.42**	**86**	P	**Pn**	**04**	**07**	**11.0**	**-1.7**
ANGU	**Angureal**	**2.43**	**104**	P	**Pn**	**04**	**07**	**15.0**	**+2.2**
VCES	**Cotopaxi**	**2.43**	**126**	P	**Pn**	**04**	**07**	**13.0**	**+0.2**
CAYR	**Refugio Cayamb**	**2.44**	**105**	P	**Pn**	**04**	**07**	**14.0**	**+1.1**
ANTM	**Antisana-La Mi**	**2.44**	**119**	P	**Pn**	**04**	**07**	**14.0**	**+1.1**
CHL2	**Volc¡n Chiles**	**2.45**	**86**	P	**Pn**	**04**	**07**	**12.0**	**-1.0**
ANTI	**Antisana**	**2.46**	**116**	P	**Pn**	**04**	**07**	**14.0**	**+0.9**
ANTS	**Antisana-Sarah**	**2.47**	**117**	P	**Pn**	**04**	**07**	**14.0**	**+0.7**
TULM	**Tulcn-Chalpat**	**2.58**	**88**		**Pn**	**04**	**07**	**15.6**	**+0.9**
TULM	**Tulcn-Chalpat**	**2.58**	**88**	*e*P	**Pn**	**04**	**07**	**14.9**	**+0.1**
CHSH	**Refugio Sur-Vo**	**2.59**	**145**	P	**Pn**	**04**	**07**	**15.0**	**0.0**
PORT	**Chimborazo Vol**	**2.62**	**143**	Pn	**Pn**	**04**	**07**	**15.3**	**-0.2**
PORT	**Chimborazo Vol**	**2.62**	**143**	P	**Pn**	**04**	**07**	**15.0**	**-0.5**
PIAT	**Ana Tenorio**	**2.66**	**128**	P	**Pn**	**04**	**07**	**16.0**	**+0.3**
TAMH	**Tambohuasha Ch**	**2.69**	**144**	P	**Pn**	**04**	**07**	**16.0**	**-0.2**
JUI6	**Juive**	**2.79**	**137**	P	**Pn**	**04**	**07**	**18.0**	**+0.5**
BBIL	**Ulba Tungurahu**	**2.80**	**138**	P	**Pn**	**04**	**07**	**18.0**	**+0.4**
POND	**Pondoa**	**2.80**	**137**	P	**Pn**	**04**	**07**	**18.0**	**+0.3**
CONE	**Cono NE Rev Vo**	**2.81**	**104**	P	**Pn**	**04**	**07**	**20.0**	**+2.2**
RETU	**Refugio**	**2.83**	**137**	P	**Pn**	**04**	**07**	**19.0**	**+0.8**
BMAS	**Trigal station**	**2.84**	**138**	P	**Pn**	**04**	**07**	**19.0**	**+0.7**
BONI	**La Bonita**	**2.84**	**94**	P	**Pn**	**04**	**07**	**19.0**	**+0.8**
ARRY	**Arrayan**	**2.86**	**138**	P	**Pn**	**04**	**07**	**19.0**	**+0.5**
BPAT	**Tungurahua Vol**	**2.87**	**138**	P	**Pn**	**04**	**07**	**20.0**	**+1.2**
ARDO	**Archidona, Ten**	**3.04**	**122**	P	**Pn**	**04**	**07**	**21.0**	**+0.4**
CASC	**Dorado de Casc**	**3.07**	**99**	P	**Pn**	**04**	**07**	**22.0**	**+0.9**
CCUFI	**Cufio, Nario**	**3.08**	**79**	*e*P	**Pn**	**04**	**07**	**20.2**	**-1.4**
GCUF	**Volcan Galeras**	**3.08**	**79**	*e*P	Pn	04	07	16.7	-4.9
CPAS2	**Pasto**	**3.17**	**79**	*e*P	**Pn**	**04**	**07**	**24.3**	**+1.6**
GR1C	**Gorgona, Isla**	**3.22**	**43**	*e*P	**Pn**	**04**	**07**	**22.1**	**-1.0**
COHC	**Cochancay**	**3.28**	**160**		**Pn**	**04**	**07**	**23.0**	**-0.9**
CRUC	**La Cruz**	**3.54**	**75**	*e*P	**Pn**	**04**	**07**	**27.5**	**-0.3**
SOTA	**Rioblanco**	**4.04**	**68**	*e*P	**Pn**	**04**	**07**	**34.7**	**-0.1**
POPC	**Popayan, Colom**	**4.14**	**63**	*e*P	**Pn**	**04**	**07**	**34.7**	**-1.3**
ARNL	**Arenillas**	**4.17**	**176**		**Pn**	**04**	**07**	**36.2**	**0.0**
BOSC	**San Juan Bosco**	**4.20**	**154**		**Pn**	**04**	**07**	**38.4**	**+1.6**
PCON	**Cinco Dias**	**4.31**	**67**	*e*P	**Pn**	**04**	**07**	**38.3**	**-0.3**
MARP	**Paez Belalcaza**	**4.92**	**64**	*e*P	**Pn**	**04**	**07**	**45.5**	**-1.3**
MCRA	**Macar, Loja**	**4.99**	**175**	Pn	**Pn**	**04**	**07**	**48.5**	**+0.9**
GARC	**Garzon, Huila**	**5.11**	**72**	*e*P	Pn	04	07	41.9	-7.4
YOTC	**Yotoco, Valle**	**5.21**	**50**	*e*P	**Pn**	**04**	**07**	**52.8**	**+2.1**
BETC	**Betania**	**5.33**	**68**	*e*P	Pn	04	07	58.2	+6.0
PLMC	**San Jos del P**	**5.88**	**44**	*e*P	**Pn**	**04**	**08**	**01.8**	**+2.0**
ORTC	**Ortega, Tolima**	**6.06**	**57**	*e*P	**Pn**	**04**	**08**	**01.8**	**-0.5**
ANIL	**Santa Ana**	**6.26**	**52**	*e*P	**Pn**	**04**	**08**	**07.2**	**+1.9**
MACC	**Macarena, Meta**	**6.69**	**77**	*e*P	**Pn**	**04**	**08**	**10.8**	**0.0**
GUY2C	**Guyana, Caldas**	**6.76**	**48**	*e*P	**Pn**	**04**	**08**	**14.4**	**+2.2**
CBOC	**Ciudad Bolivar**	**6.77**	**40**	*e*P	Pn	04	08	18.0	+5.9
HELC	**Santa Helena**	**7.33**	**41**	*e*P	Pn	04	08	25.2	+5.2
ROSC	**El Rosal**	**7.34**	**55**	Pn	Pn	04	08	25.1	+4.9
ROSC	2.6nm,0.3s,baz=323,slow=20,SNR=3.3				**Sn**	**04**	**09**	**45.4**	**+1.7**
	3.1nm,0.3s,baz=44,slow=23,SNR=5.1								
ROSC	**El Rosal**	**7.34**	**55**		**Pn**	**04**	**08**	**22.4**	**+2.2**
ROSC	**El Rosal**	**7.34**	**55**	*e*P	**Pn**	**04**	**08**	**21.6**	**+1.5**
NORC	**Norcasia**	**7.35**	**48**	*e*P	**Pn**	**04**	**08**	**21.6**	**+1.6**
VILC	**Villavicencio,**	**7.51**	**63**	*e*P	Pn	04	08	27.0	+4.8
CHIC	**Chingaza**	**7.72**	**59**	*e*P	**Pn**	**04**	**08**	**27.0**	**+1.6**
GUVC	**San Jose del G**	**7.96**	**76**	*e*P	**Pn**	**04**	**08**	**28.8**	**+0.4**
SPBC	**San Pablo de B**	**8.02**	**51**	*e*P	**Pn**	**04**	**08**	**30.6**	**+1.4**
CDITO	**Canoas**	**8.27**	**342**		**Pn**	**04**	**08**	**33.3**	**+0.7**
PTBC	**PUERTO BERRIO,**	**8.31**	**45**	*e*P	**Pn**	**04**	**08**	**36.0**	**+2.8**
BRU2	**Volcan**	**8.43**	**344**	Pn	**Pn**	**04**	**08**	**36.8**	**+1.9**
UREC	**San Jos de Ur**	**8.55**	**34**	*e*P	Pn	04	08	32.4	-4.0
ZARC	**Zaragoza, Cauc**	**8.75**	**39**		**Pn**	**04**	**08**	**41.3**	**+2.2**
ZARC	**Zaragoza, Cauc**	**8.75**	**39**	*e*P	**Pn**	**04**	**08**	**37.8**	**-1.3**
RUSC	**La Rusia**	**8.95**	**54**	*e*P	**Pn**	**04**	**08**	**46.9**	**+4.5**
DRK0	**Durika**	**9.04**	**342**		**Pn**	**04**	**08**	**43.8**	**+0.6**
SRBA	**San Rafael, Bu**	**9.04**	**341**		**Pn**	**04**	**08**	**43.2**	**0.0**
BARC	**Barichara**	**9.29**	**50**	*e*P	**Pn**	**04**	**08**	**48.6**	**+1.8**
PEZE	**Perez Zeledon,**	**9.29**	**339**	Pn	**Pn**	**04**	**08**	**47.5**	**+0.9**
RIMA	**Rio Macho**	**9.71**	**339**		**Pn**	**04**	**08**	**53.4**	**+0.9**
CVTR	**Volcan Turrial**	**9.91**	**340**		**Pn**	**04**	**08**	**55.8**	**+0.3**
PAYG	**Puerto Ayora**	**10.01**	**263**	Pn	**Pn**	**04**	**08**	**56.9**	**+0.5**
HDC	**Heredia**	**10.02**	**338**		**Pn**	**04**	**08**	**58.0**	**+1.3**
PAMC	**Pamplona, Colo**	**10.14**	**49**	*e*P	**Pn**	**04**	**08**	**59.5**	**+0.9**
OCAC	**Ocana**	**10.31**	**43**	Pn	**Pn**	**04**	**09**	**02.4**	**+1.7**
OCAC	**Ocana**	**10.31**	**43**	*e*P	**Pn**	**04**	**08**	**59.5**	**-1.2**
SJCC	**San Jacinto, C**	**10.55**	**29**	Pn	**Pn**	**04**	**09**	**04.9**	**+1.0**
SJCC	**San Jacinto, C**	**10.55**	**29**	*e*P	**Pn**	**04**	**09**	**03.1**	**-0.8**
JTS	**Las Juntas de**	**10.62**	**335**	Pn	**Pn**	**04**	**09**	**06.3**	**+1.5**
JTS	0.6nm,0.3s,baz=192,slow=8.3,SNR=22			LR	LR	04	11	50.8	
	comp=Z,108nm,21.6s,baz=174,slow=30								
ORTG	**Ortega, Santa**	**10.91**	**333**		**Pn**	**04**	**09**	**10.7**	**+1.9**
CZSB	**Cruzeiro do Su**	**11.29**	**138**	*e*P	**Pn**	**04**	**09**	**13.2**	**-0.7**
TBTG	**Tabatinga, AM**	**11.50**	**115**	*e*P	**Pn**	**04**	**09**	**17.5**	**+0.7**
TBTG	**Tabatinga, AM**	**11.50**	**115**	*e*P	**Pn**	**04**	**09**	**13.8**	**-3.0**
SOCV	**Socops**	**12.14**	**51**	*e*P	**Pn**	**04**	**09**	**24.7**	**-1.0**
SDV	**Santo Domingo**	**12.69**	**49**	Pn	**Pn**	**04**	**09**	**33.8**	**+0.4**
	1.3nm,0.3s,baz=164,slow=0.2,SNR=14								
SDV	**Santo Domingo**	**12.69**	**49**	Pn	**Pn**	**04**	**09**	**34.8**	**+1.5**
SDV	**Santo Domingo**	**12.69**	**49**	*e*P	**Pn**	**04**	**09**	**35.5**	**+2.2**
SDV	**Santo Domingo**	**12.69**	**49**	*e*P	**Pn**	**04**	**09**	**33.8**	**+0.4**
NNA	**Nana**	**13.02**	**165**	Pn	**Pn**	**04**	**09**	**38.9**	**+1.1**
NNA	1.2nm,0.3s,baz=323,slow=5.1,SNR=3.7			LR	LR	04	14	32.2	
	comp=Z,162nm,20.9s,baz=332,slow=36								
NNA	**Nana**	**13.02**	**165**		**Pn**	**04**	**09**	**39.9**	**+2.2**
TGUH	**Tegucigalpa,Un**	**14.98**	**333**	IAmb	IAmb	04	10	07.5	
	comp=Z,58nm,1.1s								
BIRV	**Birongo**	**17.09**	**55**	Pn	**Pn**	**04**	**10**	**31.8**	**+0.2**
BIRV	comp=Z,50nm,0.8s			IAmb	IAmb	04	10	41.0	
ETMB	**Extrema**	**17.50**	**127**	*e*P	**Pn**	**04**	**10**	**33.3**	**-3.5**
BOAV	**Boa Vista**	**19.91**	**85**	*e*P	**P**	**04**	**11**	**04.2**	**-0.3**
MACA	**Manacapuru-AM**	**20.03**	**101**	*e*P	**P**	**04**	**11**	**03.9**	**-1.9**
LPAZ	**La Paz**	**20.70**	**145**	P	**P**	**04**	**11**	**13.5**	**-0.1**
	comp=Z,9.2nm,0.5s,baz=330,slow=14,SNR=4.9								
LPAZ				LR	LR	04	21	19.3	
	comp=Z,192nm,18.4s,baz=312,slow=43								
LPAZ	**La Paz**	**20.70**	**145**	*e*P	**P**	**04**	**11**	**13.6**	**-0.1**
PB12	**IPOC Station P**	**21.53**	**153**	IAmb	IAmb	04	11	27.4	
	comp=Z,54nm,1.0s								
PB16	**IPOC Station P**	**21.67**	**151**	IAmb	IAmb	04	11	30.4	
	comp=Z,28nm,0.8s								
CMIG	**Matias Romero**	**21.72**	**320**	P	**P**	**04**	**11**	**23.6**	**-0.3**
	comp=Z,14nm,0.8s,baz=117,slow=7.5,SNR=21								
CMIG				LR	LR	04	18	03.8	
	comp=Z,124nm,20.6s,baz=204,slow=32								
OBIP	**Obispado Ponce**	**21.95**	**37**	IAmb	IAmb

SALV Santo Antonio 29.39 125 eP P 04 12 37.0 +0.9
PP1B Ponte de Pedra 30.95 127 eP P 04 12 49.7 -0.3
PRPB Parauapebas 31.24 103 eP P 04 12 53.0 +0.5
SNDB Serra Nova Dou 31.47 114 eP P 04 12 54.0 -0.6
GO04 Tololo Observa 31.97 164 IAmb IAmb 04 13 07.2
comp=Z,14nm,0.9s
CO01 Juntas del Tor 31.98 163 P P 04 13 00.1 +0.9
CO01 IAmb IAmb 04 13 06.7
comp=Z,12nm,1.2s
AQDB Aquidauana 31.99 132 P P 04 12 59.1 +0.1
AQDB IAmb IAmb 04 13 04.0
comp=Z,12nm,0.9s
AQDB Aquidauana 31.99 132 eP P 04 12 59.1 +0.1
TMAB Tom-Au,PA,Br 32.40 95 eP P 04 13 03.5 +0.7
CO03 El Pedregal 32.63 164 IAmb IAmb 04 13 11.4
comp=Z,11nm,0.9s
DVLD Doverlandia 32.68 123 eP P 04 13 04.8 -0.5
LRAL Lakeview Retre 32.83 350 IAmb IAmb 04 13 10.3
comp=Z,9.4nm,0.7s
LRAL Lakeview Retre 32.83 350 P P 04 13 05.3 -0.9
baz=168
833A Chaparral WMA, 33.01 328 P P 04 13 07.9 0.0
SMTB Santa Maria do 33.99 107 eP P 04 13 18.3 +1.6
FPAL Fort Paine 34.08 352 IAmb IAmb 04 13 23.5
comp=Z,14nm,0.9s
435B Jarrell 34.14 333 IAmb IAmb 04 13 18.6
comp=Z,9.0nm,0.8s
PEXB Peixe 34.26 113 eP P 04 13 19.1 +0.1
BG3 Lake Jocassee 34.26 356 IAmb IAmb 04 13 24.5
comp=Z,15nm,1.1s
KMSC Kings Mountain 34.34 359 P P 04 13 18.8 -0.6
baz=178
W50A Signal Mountai 34.69 353 IAmb IAmb 04 13 27.6
comp=Z,27nm,1.4s
CPUP Villa Florida 34.82 142 P P 04 13 24.5 +0.8
comp=Z,4.3nm,0.9s,baz=327,slow=8.5,SNR=8.0
CPUP PcP PcP 04 15 56.8 -0.2
comp=Z,1.5nm,0.7s,baz=315,slow=2.9,SNR=3.2
CPUP Villa Florida 34.82 142 IAmb IAmb 04 13 27.1
comp=Z,6.0nm,0.9s
CPUP Villa Florida 34.82 142 eP P 04 13 25.3 +1.6
CPCT Cooper Cave 34.85 354 IAmb IAmb 04 13 28.0
comp=Z,12nm,0.8s
JCT Junction City 34.95 330 IAmb IAmb 04 13 26.3
comp=Z,15nm,0.9s
JCT Junction City 34.95 330 P P 04 13 25.5 +0.7
baz=145,SNR=6.5
TKL Tuckaleechee C 34.99 355 LR LR 04 28 17.5
comp=Z,74nm,19.3s,baz=98,slow=37
WHTX Lake Whitney, 35.12 334 IAmb IAmb 04 13 30.9
comp=Z,13nm,0.9s
V52A Sevierville 35.16 355 IAmb IAmb 04 13 31.1
comp=Z,11nm,0.9s
V51A Loudon 35.18 354 IAmb IAmb 04 13 30.7
comp=Z,14nm,1.0s
BO04 La Punta 35.64 166 P P 04 13 30.8 +0.1
BO04 IAmb IAmb 04 13 36.9
comp=Z,16nm,0.9s
TRCB Terra Rica 35.66 133 eP P 04 13 32.1 +1.1
ITRB Iturama 35.70 126 eP P 04 13 32.8 +1.5
UALR University of 35.76 343 P P 04 13 31.5 -0.1
UALR IAmb IAmb 04 13 35.5
comp=Z,12nm,0.9s
BDFB Brasilia 35.82 118 P P 04 13 31.6 -0.9
comp=Z,6.4nm,0.8s,baz=281,slow=12,SNR=6.7
BDFB Brasilia 35.82 118 P P 04 13 32.4 -0.1
BDFB IAmb IAmb 04 13 38.0
comp=Z,18nm,1.2s
TZTN Tazewell 35.85 356 IAmb IAmb 04 13 36.8
comp=Z,25nm,1.2s
TZTN Tazewell 35.85 356 P P 04 13 31.4 -1.0
baz=175
MIAR Mount Ida 35.92 341 P P 04 13 32.2 -0.8
baz=157
WVT Waverly 35.99 350 P P 04 13 33.3 -0.3
WVT Waverly 35.99 350 P P 04 13 30.7 -2.9
baz=167
W41B Gary Mavity, V 36.10 343 IAmb IAmb 04 13 38.4
comp=Z,9.7nm,0.8s
W41B Gary Mavity, V 36.10 343 P P 04 13 33.3 -1.3
baz=160
TXAR Lajitas Array 36.17 324 P P 04 13 34.5 -0.9
comp=Z,1.4nm,0.9s,baz=143,slow=8.6,SNR=13
TXAR PcP PcP 04 16 00.8 -0.3
comp=Z,2.5nm,0.9s,baz=142,slow=4.2,SNR=8.8
WHAR Wooly Hollow 36.22 343 IAmb IAmb 04 13 39.3
comp=Z,12nm,0.8s
W39A Magazine 36.59 341 P P 04 13 38.0 -0.8
baz=157,SNR=8.9
ABTX Abilene, Hawle 36.64 332 P P 04 13 39.5 +0.2
ABTX Abilene, Hawle 36.64 332 P P 04 13 39.3 0.0
baz=147
IPMB Ipameri, GO 36.65 122 eP P 04 13 38.7 -0.9
LCAR Lake Charles 36.65 345 IAmb IAmb 04 13 42.6
comp=Z,16nm,0.7s
S51A Beattyville 36.94 356 IAmb IAmb 04 13 45.8
comp=Z,31nm,1.4s
LPIG La Paz 37.22 311 LR LR 04 24 46.4
comp=Z,91nm,19.5s,baz=234,slow=29
PTGB Pitanga 37.24 135 eP P 04 13 44.4 -0.2
FRBT Francisco Belt 37.35 137 eP P 04 13 47.7 +2.3
U40A Yellville 37.38 343 P P 04 13 44.2 -1.2
baz=159,SNR=10
SDBA SAO DESIDERIO 37.51 111 eP P 04 13 46.0 -0.9
X34A Smith Ranch, M 37.53 336 P P 04 13 47.4 +0.7
ITQB Itaqui 37.71 145 P P 04 13 48.2 -0.1
ITQB Itaqui 37.71 145 eP P 04 13 49.2 +0.9
R49A Shelbyville 37.73 354 IAmb IAmb 04 13 51.6
comp=Z,18nm,1.1s
USIN University of 37.75 351 IAmb IAmb 04 13 52.7
comp=Z,24nm,1.1s
TUL1 Leonard 37.91 339 P P 04 13 48.9 -1.0
baz=154
FNO Franklin 37.93 337 P P 04 13 51.2 +1.0
WMOK Wichita Mounta 38.04 335 P P 04 13 50.4 -0.7
baz=149,SNR=8.1
FRTB Fartura 38.27 131 eP P 04 13 54.4 +1.1
FVM French Village 38.30 347 IAmb IAmb 04 13 58.3
comp=Z,15nm,0.9s
Q51A Peebles 38.30 356 IAmb IAmb 04 13 57.3
comp=Z,25nm,1.2s
CCM Cathedral Cave 38.56 346 P P 04 13 53.7 -1.8
CCM Cathedral Cave 38.56 346 P P 04 13 53.6 -1.8
baz=162
OLIL Olney 38.57 350 IAmb IAmb 04 13 58.9
comp=Z,28nm,0.9s
P52A Corning 38.84 358 IAmb IAmb 04 14 01.9
comp=Z,24nm,1.1s
P52A Corning 38.84 358 P P 04 13 56.8 -0.9
baz=177
Q44A Meyer Farm, Va 38.90 349 IAmb IAmb 04 14 01.6
comp=Z,22nm,0.9s
MNTX Cornudas Mount 38.91 325 P P 04 13 58.4 -0.1
baz=138,SNR=13
P49A Miami Univ. Ec 38.92 355 P P 04 13 55.8 -2.6
baz=173
T35A Sooner Cattle 39.07 339 P P 04 13 59.1 -0.6
MSTX Muleshoe 39.25 330 P P 04 14 01.5 +0.2
baz=143,SNR=5.9
RCLB Rio Claro- Sao 39.35 128 eP P 04 14 03.2 +0.8
O53A New Philadelph 39.43 359 P P 04 14 01.4 -1.3
baz=179
ACSO Alum Creek Sta 39.48 357 P P 04 14 01.7 -1.4
ACSO IAmb IAmb 04 14 02.2
comp=Z,17nm,0.8s
ACSO Alum Creek Sta 39.48 357 P P 04 14 01.8 -1.4
baz=176
U32A Winter Ranch, 39.54 336 IAmb IAmb 04 14 04.2
comp=Z,22nm,0.9s
O48B Farmland 39.67 354 P P 04 14 02.3 -2.4
baz=172
P43A Skaggs, Pawnee 39.71 349 IAmb IAmb 04 14 07.9
comp=Z,19nm,1.1s
MC01 Montes Claros 39.84 117 eP P 04 14 05.5 -1.0
SSPA Standing Stone 39.88 3 P P 04 14 05.8 -0.5
SSPA Standing Stone 39.88 3 P P 04 14 05.5 -0.8
baz=184
LUPA Lehigh Univers 40.03 6 IAmb IAmb 04 14 12.8
comp=Z,19nm,1.1s
LC01 Cunco 40.11 170 P P 04 14 09.0 +0.7
LC01 IAmb IAmb 04 14 14.1
comp=Z,24nm,1.0s
HDIL Hopedale 40.55 350 IAmb IAmb 04 14 14.3
comp=Z,22nm,0.8s
HDIL Hopedale 40.55 350 P P 04 14 09.2 -2.8
baz=166

M57A Sunshine Farm, 40.62 4 P P 04 14 11.5 -1.0
M57A IAmb IAmb 04 14 17.2
comp=Z,16nm,0.9s
DIAM Diamantina, MG 40.69 119 eP P 04 14 15.2 +1.6
121A Cookes Peak, D 40.91 324 IAmb IAmb 04 14 17.7
comp=Z,19nm,0.8s
121A Cookes Peak, D 40.91 324 P P 04 14 16.8 +1.4
baz=136,SNR=12
KSPA Keystone Colle 40.94 5 IAmb IAmb 04 14 20.9
comp=Z,16nm,1.0s
PLTB Pedras Altas 41.00 144 P P 04 14 15.0 -0.9
PLTB IAmb IAmb 04 14 21.6
comp=Z,35nm,1.2s
PLTB Pedras Altas 41.00 144 eP P 04 14 19.2 +3.4
319A Douglas 41.03 321 IAmb IAmb 04 14 18.1
comp=Z,18nm,0.7s
PARB Paraibuna 41.34 128 eP P 04 14 19.4 +0.6
NBPN Ponto Novo - B 41.53 107 eP P 04 14 21.8 +1.3
BINY Binghamton 41.56 5 IAmb IAmb 04 14 24.8
comp=Z,22nm,0.9s
BINY Binghamton 41.56 5 P P 04 14 20.3 0.0
baz=187
ANMO Albuquerque 41.92 327 LR LR 04 34 46.1
comp=Z,57nm,18.5s,baz=24,slow=40
ANMO Albuquerque 41.92 327 P P 04 14 23.4 -0.2
ANMO IAmb IAmb 04 14 25.4
comp=Z,22nm,0.9s
ANMO Albuquerque 41.92 327 P P 04 14 24.3 +0.7
baz=139
CBKS Cedar Bluff 41.94 337 P P 04 14 24.0 +0.5
baz=150
K57A Scipio Center 42.05 4 P P 04 14 24.3 0.0
K57A IAmb IAmb 04 14 28.2
comp=Z,19nm,0.9s
ESAR Angra dos Reis 42.12 126 eP P 04 14 27.4 +2.2
PLCA Paso Flores 42.13 169 P P 04 14 25.5 +0.4
comp=Z,28nm,0.9s,baz=350,slow=9.8,SNR=17
PLCA Paso Flores 42.13 169 P P 04 14 25.7 +0.6
L40A Anamosa 42.38 348 IAmb IAmb 04 14 30.2
comp=Z,25nm,1.1s
T25A Trinidad 42.58 331 P P 04 14 30.4 +1.5
baz=143
TUC Tucson 42.60 321 P P 04 14 28.6 -0.5
TUC Tucson 42.60 321 P P 04 14 29.5 +0.4
baz=132
SCIA State Center 42.69 346 P P 04 14 27.9 -1.6
baz=161
GDU01 Guandu, BA 42.85 111 eP P 04 14 32.0 +0.8
J59A Piesco 42.96 6 P P 04 14 31.0 -0.7
JFWS Jewell Farm 43.01 349 P P 04 14 29.0 -3.1
baz=166
SJMB Sao Joao De Ma 43.02 119 eP P 04 14 33.9 +1.4
CMC01 Camacan, BA 43.38 113 eP P 04 14 36.4 +0.9
GUA01 Guaratinga, BA 43.50 115 eP P 04 14 37.6 +1.1
SDCO Great Sand Dun 43.59 331 IAmb IAmb 04 14 43.7
comp=Z,17nm,0.8s
SDCO Great Sand Dun 43.59 331 P P 04 14 38.2 +1.0
baz=142,SNR=18
L34A Svendsen Farm, 43.60 343 IAmb IAmb 04 14 39.9
comp=Z,25nm,1.1s
214A Organ Pipe Nat 43.69 319 P P 04 14 38.5 +0.8
214A IAmb IAmb 04 14 39.4
comp=Z,11nm,0.8s
214A Organ Pipe Nat 43.69 319 P P 04 14 38.4 +0.6
baz=129,SNR=11
I42A Draeger Farm, 43.73 351 IAmb IAmb 04 14 40.7
comp=Z,21nm,1.1s
NBLA Lagarto - SE 43.87 107 eP P 04 14 40.0 +0.5
RIB01 Linhares ES 43.94 119 eP P 04 14 39.1 -0.9
I40A Norwalk 44.03 349 IAmb IAmb 04 14 42.7
comp=Z,12nm,0.8s
I63A Otisfield 44.09 10 IAmb IAmb 04 14 45.8
comp=Z,16nm,0.9s
S22A 4UR Ranch, Cre 44.25 330 P P 04 14 43.4 +0.9
baz=140,SNR=8.8
X16A Lo Mia Camp, P 44.42 322 IAmb IAmb 04 14 45.6
comp=Z,14nm,0.7s
OGNE Ogallala 44.67 337 P P 04 14 46.3 +0.7
baz=148
MVCO Mesa Verde 44.71 328 P P 04 14 46.6 +0.5
MVCO IAmb IAmb 04 14 48.7
comp=Z,13nm,0.8s
MVCO Mesa Verde 44.71 328 P P 04 14 46.6 +0.5
baz=138,SNR=11
I37A Lemond, Waseca 44.72 347 IAmb IAmb 04 14 45.2
comp=Z,13nm,0.9s
113A Mohawk Valley, 44.82 319 IAmb IAmb 04 14 48.3
comp=Z,9.5nm,0.9s
Y14A Wickenburg 45.07 321 IAmb IAmb 04 14 50.4
comp=Z,12nm,1.2s
WUAZ Wupatki 45.13 324 P P 04 14 50.7 +1.2
baz=134,SNR=11
ISCO Idaho Springs 45.27 332 P P 04 14 50.1 -0.5
ISCO Idaho Springs 45.27 332 P P 04 14 51.3 +0.6
baz=143,SNR=10
G40A Rib Lake 45.28 350 IAmb IAmb 04 14 48.9
comp=Z,13nm,1.1s
ECSD EROS Data Cent 45.29 343 IAmb IAmb 04 14 53.3
comp=Z,11nm,0.9s
ECSD EROS Data Cent 45.29 343 P P 04 14 48.1 -2.3
baz=157,SNR=13
SMCO Snowmass 45.42 331 IAmb IAmb 04 14 53.7
comp=Z,12nm,0.8s
PKME Peaks-Kenny Pk 45.51 11 IAmb IAmb 04 14 58.5
comp=Z,11nm,1.1s
PKME Peaks-Kenny Pk 45.51 11 P P 04 14 51.3 -0.7
baz=196
GLA Glamis 45.70 318 IAmb IAmb 04 14 55.3
comp=Z,9.4nm,0.8s
GLA Glamis 45.70 318 P P 04 14 54.3 +0.4
baz=128
PV07 Paradox Valley 45.70 329 P P 04 14 55.0 +0.9
PV07 IAmb IAmb 04 14 59.7
comp=Z,14nm,0.9s
SPMN Marine on St. 45.74 348 P P 04 14 51.2 -2.7
baz=163
PV23 Carpenter Ridg 45.90 328 IAmb IAmb 04 15 01.5
comp=Z,14nm,0.8s
COWI Conover 45.93 352 IAmb IAmb 04 14 58.2
comp=Z,11nm,1.0s
PDMCI Parker Dam,Lak 46.03 320 P P 04 14 57.2 +0.9
baz=130
U15A North Rim 46.29 324 IAmb IAmb 04 15 05.2
comp=Z,10nm,1.1s
N23A Red Feather La 46.29 333 IAmb IAmb 04 15 04.8
comp=Z,7.5nm,0.9s
N23A Red Feather La 46.29 333 P P 04 14 59.3 +0.6
baz=144,SNR=7.3
PHWY Pilot Hill 46.40 334 P P 04 14 59.7 +0.2
BC3 Big Chuckawall 46.48 319 P P 04 15 00.9 +0.8
baz=128
F36A Milaca 46.50 347 IAmb IAmb 04 15 02.7
comp=Z,9.5nm,0.8s
IRM Iron Mountain 46.59 319 P P 04 15 01.4 +0.6
baz=128,SNR=6.1
O20A White River Ci 46.78 331 IAmb IAmb 04 15 03.8
comp=Z,5.9nm,0.8s
O20A White River Ci 46.78 331 P P 04 15 02.9 +0.4
baz=140,SNR=6.3
KNB Kanab 47.00 324 IAmb IAmb 04 15 10.8
comp=Z,9.3nm,0.9s
BELC Belle Mtn. Jos 47.05 319 P P 04 15 05.3 +0.7
baz=127,SNR=5.7
F33A 5 Mile Ranch, 47.15 345 IAmb IAmb 04 15 07.6
comp=Z,9.8nm,0.8s
D62A Allapoint, All 47.30 11 P P 04 15 06.0 -0.1
GMRC Granite Mounta 47.31 320 P P 04 15 07.0 +0.4
baz=125
Q16A Castle Valley 47.40 327 IAmb IAmb 04 15 12.5
comp=Z,8.8nm,1.2s
P18A Preston Nutter 47.42 328 IAmb IAmb 04 15 15.0
comp=Z,9.7nm,1.0s
CCUT Cedar City 47.68 324 IAmb IAmb 04 15 11.7
comp=Z,12nm,1.2s
TCRU Three Creeks R 47.88 326 IAmb IAmb 04 15 13.8
comp=Z,7.9nm,0.8s
K22A Casper 47.96 334 IAmb IAmb 04 15 16.9
comp=Z,10nm,0.9s
K22A Casper 47.96 334 P P 04 15 11.9 +0.3
baz=144,SNR=7.2
SHPR Sheep Range 48.08 322 P P 04 15 12.5 0.0
SHPR IAmb IAmb 04 15 19.7
comp=Z,8.6nm,1.1s
RSSD Black Hills 48.15 337 P P 04 15 13.4 +0.4
RSSD Black Hills 48.15 337 P P 04 15 13.7 +0.6
baz=148
BFSC Mount Baldy Ra 48.30 318 P P 04 15 14.8 +0.6
baz=126
PSUT Pine Spring 48.63 325 IAmb IAmb 04 15 41.4
comp=Z,7.1nm,0.8s
JLU Jordanelle 48.76 328 IAmb IAmb 04 15 23.3
comp=Z,8.8nm,0.8s
EDW2 Edwards Air Fo 48.90 318 P P 04 15 19.1 +0.3
baz=126
CTU Camp Tracy 48.98 328 IAmb IAmb 04 15 27.3
comp=Z,11nm,1.1s
FURC Furnace Creek, 49.12 321 P P 04 15 21.3 +1.0
baz=128
DUG Dugway, Tooele 49.20 327 P P 04 15 20.9 -0.2
DUG Dugway, Tooele 49.20 327 P P 04 15 21.5 +0.5
baz=135,SNR=6.9
MPMC Manual Prospec 49.27 320 P P 04 15 21.9 +0.1
baz=127
AGMN Agassiz Nation 49.33 346 IAmb IAmb 04 15 24.8
comp=Z,9.5nm,0.9s
AGMN Agassiz Nation 49.33 346 P P 04 15 19.7 -2.0
baz=160
PDAR Pinedale Array 49.44 332 P P 04 15 22.4 -0.5
comp=Z,3.1nm,0.8s,baz=123,slow=8.7,SNR=32
PDAR LR LR 04 38 04.2
comp=Z,49nm,19.9s,baz=88,slow=38
BW06 Boulder Array 49.44 332 P P 04 15 22.6 -0.4
baz=140,SNR=6.5
R11A Troy Canyon, C 49.52 323 P P 04 15 24.1 +0.5
baz=131,SNR=5.5
HWUT Hardware Ranch 49.55 329 IAmb IAmb 04 15 28.8
comp=Z,11nm,0.8s
ARVC Arvin 49.60 318 P P 04 15 25.2 +1.1
baz=125
ISA Isabella, Lake 49.67 319 P P 04 15 25.2 +0.5
ISA Isabella, Lake 49.67 319 P P 04 15 25.3 +0.5
baz=126
BGU Big Grassy Mou 49.83 328 IAmb IAmb 04 15 31.3
comp=Z,11nm,0.9s
CWC Cottonwood Cre 49.88 320 P P 04 15 26.8 +0.5
baz=127
BCW Bitter Crk WRg 49.89 317 P P 04 15 27.4 +1.0
LCH Last Change Ra 50.08 321 IAmb IAmb 04 15 49.1
comp=Z,13nm,1.4s
PKM Mcpherson Peak 50.13 317 P P 04 15 28.8 +0.5
baz=124
VES Vestal, Richgr 50.18 319 P P 04 15 29.5 +1.1
baz=126
SMMC Simmler 50.49 317 P P 04 15 31.9 +1.0
baz=124
LOHW Long Hollow 50.58 332 P P 04 15 31.5 -0.1
FLWY Flagg Ranch 50.98 332 IAmb IAmb 04 15 39.9
comp=Z,10nm,0.9s
RLMT Red Lodge 51.13 334 IAmb IAmb 04 15 36.0
comp=Z,7.9nm,0.7s
RLMT Red Lodge 51.13 334 P P 04 15 35.2 -0.5
baz=142,SNR=13
LAO LASA Array 51.14 337 P P 04 15 35.2 -0.3
baz=146
H17A Grant Village 51.16 332 P P 04 15 36.7 +0.7
baz=140
ULM Lac du Bonnet 51.17 347 P P 04 15 33.0 -2.6
comp=Z,17nm,0.7s,baz=155,slow=7.7,SNR=20
OMMB Old Mammoth Mi 51.17 320 IAmb IAmb 04 15 37.7
comp=Z,13nm,0.9s
LKWY Lake 51.21 333 IAmb IAmb 04 15 42.2
comp=Z,9.7nm,0.9s
NVAR Mina Array Bea 51.23 322 P P 04 15 37.5 +0.9
comp=Z,17nm,0.7s,baz=137,slow=7.5,SNR=99
NVAR PcP PcP 04 16 51.1 -0.8
comp=Z,1.3nm,0.8s,baz=134,slow=5.2,SNR=0.7
NVAR Mina Array Bea 51.23 322 P P 04 15 37.1 +0.5
YMP Mirror Lake Pl 51.23 333 IAmb IAmb 04 15 58.1
comp=Z,8.1nm,0.8s
MDPB Devils Postpil 51.23 320 IAmb IAmb 04 15 38.1
comp=Z,12nm,0.8s
KVN Kaiserville 51.49 322 IAmb IAmb 04 15 44.4
comp=Z,9.3nm,0.9s
YMR Madison River 51.55 332 IAmb IAmb 04 15 45.1
comp=Z,12nm,1.0s
YHL Hebgen Lake 51.78 332 IAmb IAmb 04 15 46.9
comp=Z,18nm,1.1s
BMN Battle Mountai 51.84 324 P P 04 15 41.0 -0.1
BMN IAmb IAmb 04 15 42.4
comp=Z,13nm,0.9s
YERR Yerington 52.15 322 IAmb IAmb 04 15 47.0
comp=Z,8.6nm,0.9s
HLID Hailey 52.42 329 IAmb IAmb 04 15 51.2
comp=Z,11nm,0.8s
HLID Hailey 52.42 329 P P 04 15 45.6 +0.3
baz=135,SNR=29
BOZ Bozeman (W) 52.56 333 IAmb IAmb 04 15 47.3
comp=Z,11nm,0.8s
BOZ Bozeman (W) 52.56 333 P P 04 15 46.4 +0.1
baz=139,SNR=19
MFID Camas Ranch 53.05 328 P P 04 15 50.6 +0.6
MFID IAmb IAmb 04 15 56.2
comp=Z,12nm,0.9s
EGMT Eagleton 53.62 336 IAmb IAmb 04 15 59.0
comp=Z,11nm,0.8s
EGMT Eagleton 53.62 336 P P 04 15 53.9 -0.2
baz=143,SNR=7.9
ORV Oroville 53.90 321 IAmb IAmb 04 15 57.8
comp=Z,11nm,0.9s
WVOR Wild Horse Val 53.94 325 IAmb IAmb 04 16 07.1
comp=Z,12nm,1.1s
O03E Paynes Creek 54.51 322 P P 04 16 00.5 -0.2
baz=126
MSO Missoula 54.55 332 IAmb IAmb 04 16 05.9
comp=Z,9.7nm,0.8s
MSO Missoula 54.55 332 P P 04 16 00.7 -0.2
baz=137,SNR=9.5
O02D Mt. Diablo Mer 55.06 321 P P 04 16 03.3 -1.4
baz=125
M04C Macdoel 55.41 323 IAmb IAmb 04 16 08.0
comp=Z,14nm,1.1s
M04C Macdoel 55.41 323 P P 04 16 07.0 -0.2
baz=127
K05A Summer Lake 55.42 324 IAmb IAmb 04 16 10.0
comp=Z,8.1nm,0.9s
I07A Izee 55.49 326 IAmb IAmb 04 16 09.1
comp=Z,7.2nm,0.9s
F10A Beach Ranch, E 55.54 330 P P 04 16 08.1 0.0
F10A IAmb IAmb 04 16 15.8
comp=Z,14nm,1.1s
M02C Callahan 55.80 322 P P 04 16 08.9 -1.1
baz=125
L04D Klamath Falls 55.95 323 P P 04 16 10.8 -0.3
baz=126,SNR=6.2
J05D Fort Rock, OR 55.96 325 P P 04 16 11.5 +0.3
baz=128,SNR=9.3
G08A Pilot Rock 55.98 328 IAmb IAmb 04 16 16.4
comp=Z,8.4nm,0.9s
PINE Pine Mountain 56.11 325 IAmb IAmb 04 16 13.7
comp=Z,13nm,1.1s
J04D Umpqua Nationa 56.44 324 P P 04 16 14.9 +0.2
baz=127,SNR=8.4
I05D Terrebonne, OR 56.67 326 P P 04 16 16.3 +0.2
baz=128
FFC Flin Flon 56.75 345 P P 04 16 16.2 -0.1
FFC IAmb IAmb 04 16 21.1
comp=Z,19nm,1.4s
I04A Tendick Farm, 56.95 325 P P 04 16 17.3 -0.8
baz=127
K02D Willamette Mer 57.05 323 P P 04 16 18.9 0.0
baz=125
NEW Newport 57.08 332 P P 04 16 18.5 -0.4
baz=135
H04A Detroit Lake 57.36 326 IAmb IAmb 04 16 25.7
comp=Z,11nm,1.0s
I03D Drain, OR 57.44 324 P P 04 16 22.3 +0.9
baz=126
J01E Myrtle Point 57.47 323 P P 04 16 22.7 +1.0
baz=125
I02E Swisshome, OR 57.97 324 P P 04 16 26.4 +1.2
baz=126
LTY Liberty 58.16 329 IAmb IAmb 04 16 31.8
comp=Z,10nm,1.2s
FCC Fort Churchill 58.96 352 IAmb IAmb 04 16 34.7
comp=Z,7.6nm,0.8s
LLLB Lillooet 60.95 331 P P 04 16 46.4 +0.7
LLLB IAmb IAmb 04 16 51.3
comp=Z,12nm,1.0s
CBB Campbell River 62.33 329 P P 04 16 55.1 +0.1
YKA Yellowknife Ar 66.82 343 P P 04 17 23.1 -1.0
comp=Z,6.2nm,0.8s,baz=137,slow=6.0,SNR=120
DLBC Dease Lake 69.52 335 P P 04 17 41.5 +0.2
DY2G Dye2 69.97 14 i P P 04 17 40.2 -3.9
DY2G IAmb IAmb 04 17 45.6
comp=Z,9.4nm,0.6s

WRGLY	**Wrigley**	70.09	341	P	P	04 17 44.2	-0.6
	baz=134,SNR=6.4						
TGTN	**Hyland Airport**	70.67	338	P	P	04 17 48.8	+0.6
	baz=128,SNR=10						
MMPY	**Sheldon Lake,**	72.46	338	P	P	04 17 59.3	+0.3
	baz=126,SNR=23						
M31M	**Drury Creek, Y**	73.43	337	P	P	04 18 04.8	+0.1
	baz=122,SNR=8.8						
ICESG	**Greenland Ices**	73.60	14	*i* P	P	04 18 01.7	-4.2
ICESG				IAmb	IAmb	04 18 08.1	
	comp=Z,18nm,0.6s						
N31M	**Braeburn, Yuko**	73.62	336	P	P	04 18 05.8	-0.1
	baz=121						
M30M	**Minto, Yukon**	74.58	336	IAmb	IAmb	04 18 16.5	
	comp=Z,8.1nm,0.9s						
M30M	**Minto, Yukon**	74.58	336	P	P	04 18 11.4	0.0
	baz=120,SNR=10.0						
YUK4	**Talbot Arm**	74.75	335	P	P	04 18 13.1	+0.5
	baz=118						
LIC	**Lamto**	75.36	84	*e*P	P	04 18 15.8	-1.1
	comp=Z,21nm,1.4s						
TIC	**Toumodi**	75.37	83	*e*P	P	04 18 16.4	-0.6
DBIC	**Dimbokro**	75.53	83	P	P	04 18 18.1	+0.3
	comp=Z,5.5nm,0.9s,baz=279,slow=5.8,SNR=3.5						
DBIC	**Dimbokro**	75.53	83	IAmb	IAmb	04 18 22.6	
	comp=Z,19nm,1.2s						
KIC	**Kosan Boka**	75.64	84	*e*P	P	04 18 17.2	-1.3
	comp=Z,12nm,0.8s						
YUK3	**Moose Creek**	75.72	335	P	P	04 18 18.1	-0.1
	baz=117						
CTG	**Chitna Glacier**	75.74	334	P	P	04 18 18.9	+0.6
	baz=116						
BARN	**Barnard Glacie**	75.92	334	IAmb	IAmb	04 18 24.9	
	comp=Z,9.0nm,0.8s						
J29M	**Klondike Camp**	76.07	338	P	P	04 18 20.3	+0.3
	baz=119						
PESTR	**Estremoz**	76.23	50	P	P	04 18 23.1	+1.6
DAWY	**Dawson**	76.34	337	P	P	04 18 21.2	-0.3
	baz=118,SNR=14						
EPYK	**Eagle Plains**	76.50	340	IAmb	IAmb	04 18 27.4	
	comp=Z,8.6nm,0.9s						
EPYK	**Eagle Plains**	76.50	340	P	P	04 18 22.0	-0.4
	baz=121						
INK	**Inuvik**	76.52	342	P	P	04 18 22.1	-0.3
	baz=125,SNR=37						
I29M	**Ogilvie Camp,**	76.55	339	IAmb	IAmb	04 18 29.2	
	comp=Z,8.2nm,0.7s						
I29M	**Ogilvie Camp,**	76.55	339	P	P	04 18 22.3	-0.4
	baz=119,SNR=13						
M27K	**Edge Creek, AK**	76.57	335	P	P	04 18 23.2	+0.2
	baz=115						
KOWA	**Kowa**	76.62	75	P	P	04 18 24.0	-0.1
A36M	**Sachs Harbour**	76.65	347	P	P	04 18 21.4	-1.6
	baz=134,SNR=28						
MCARA	**McCarthy VSAT**	76.66	334	P	P	04 18 23.8	+0.5
	baz=114						
L27K	**Beaver Creek,**	76.86	336	IAmb	IAmb	04 18 29.9	
	comp=Z,8.9nm,1.0s						
L27K	**Beaver Creek,**	76.86	336	P	P	04 18 24.5	0.0
	baz=116,SNR=10						
M26K	**Nabesna, AK**	77.06	335	IAmb	IAmb	04 18 30.6	
	comp=Z,16nm,1.3s						
M26K	**Nabesna, AK**	77.06	335	P	P	04 18 25.6	-0.1
	baz=114						
BMRM	**Bremner River**	77.19	333	P	P	04 18 26.6	+0.2
	baz=113,SNR=7.6						
EGAK	**Eagle**	77.35	337	P	P	04 18 26.9	-0.2
EGAK	**Eagle**	77.35	337	P	P	04 18 27.0	-0.2
	baz=117,SNR=18						
L26K	**Log Cabin Wild**	77.47	335	IAmb	IAmb	04 18 32.9	
	comp=Z,8.6nm,0.9s						
L26K	**Log Cabin Wild**	77.47	335	P	P	04 18 28.2	+0.3
	baz=114						
MENT	**Mentasta**	77.59	335	IAmb	IAmb	04 18 31.1	
	comp=Z,15nm,1.3s						
DOT	**Dot Lake**	78.02	336	IAmb	IAmb	04 18 36.3	
	comp=Z,10nm,0.9s						
SCRK	**Sand Creek**	78.12	336	IAmb	IAmb	04 18 37.4	
	comp=Z,13nm,1.0s						
SCRK	**Sand Creek**	78.12	336	P	P	04 18 31.3	-0.3
	baz=114,SNR=15						
J26L	**Joseph Creek**	78.16	337	P	P	04 18 31.7	-0.1
	baz=114,SNR=20						
PAX	**Paxson**	78.34	335	IAmb	IAmb	04 18 37.8	
	comp=Z,12nm,1.1s						
PAX	**Paxson**	78.34	335	P	P	04 18 32.8	0.0
	baz=112						
RIDG	**Independent Ri**	78.37	336	P	P	04 18 32.8	-0.1
	baz=113,SNR=11						
SCM	**Sheep Creek Mo**	78.73	334	P	P	04 18 34.6	-0.3
	baz=110						
K24K	**Donnelly Dome**	78.78	336	P	P	04 18 35.1	0.0
	baz=112						
J25K	**Salcha River,**	78.92	337	IAmb	IAmb	04 18 42.6	
	comp=Z,6.7nm,0.8s						
J25K	**Salcha River,**	78.92	337	P	P	04 18 35.7	-0.3
	baz=113,SNR=9.0						
KNK	**Knik Glacier**	79.10	333	P	P	04 18 37.0	0.0
	baz=109						
ESDC	**Sonseca Array**	79.14	50	P	P	04 18 37.5	-0.2
	comp=Z,4.1nm,1.0s,baz=266,slow=4.7,SNR=13						
ESDC	**Sonseca Array**	79.14	50	P	P	04 18 38.2	+0.5
SML	**Sawmill**	79.17	333	IAmb	IAmb	04 18 47.4	
	comp=Z,13nm,1.0s						
WAT6	**Susitna Watana**	79.17	334	P	P	04 18 36.9	-0.6
	baz=110,SNR=6.6						
GHO	**Glory Hole Cre**	79.42	333	IAmb	IAmb	04 18 43.6	
	comp=Z,12nm,0.8s						
ILAR	**Eielson Array**	79.59	336	P	P	04 18 38.6	-0.9
	comp=Z,3.1nm,0.9s,baz=115,slow=3.9,SNR=21						
ILAR				PP	PP	04 21 38.4	-1.7
	comp=Z,0.7nm,0.8s,baz=112,slow=7.7,SNR=5.0						
RND	**Reindeer**	79.93	335	IAmb	IAmb	04 18 47.9	
	comp=Z,9.5nm,0.8s						
KDAK	**Kodiak Island**	80.04	329	LR	LR	04 54 14.6	
	comp=Z,20nm,18.2s,baz=175,slow=36						
MDM	**Murphy Dome**	80.19	336	P	P	04 18 42.2	-0.6
CUT	**Chulitna**	80.22	334	P	P	04 18 42.6	-0.4
	baz=108						
H24K	**Noodor Dome**	80.36	337	IAmb	IAmb	04 18 48.4	
	comp=Z,9.3nm,1.0s						
H24K	**Noodor Dome**	80.36	337	P	P	04 18 43.4	-0.4
	baz=110,SNR=10						
NEA2	**Nenana**	80.41	336	IAmb	IAmb	04 18 49.2	
	comp=Z,12nm,1.2s						
NEA2	**Nenana**	80.41	336	P	P	04 18 43.3	-0.7
	baz=109						
TRF	**Thorofare Moun**	80.55	335	P	P	04 18 44.2	-0.8
	baz=108						
I23K	**Minto, Yukon-K**	80.71	336	IAmb	IAmb	04 18 50.6	
	comp=Z,9.8nm,0.9s						
I23K	**Minto, Yukon-K**	80.71	336	P	P	04 18 45.1	-0.5
	baz=109						
KTH	**Kantishna Hill**	80.86	335	IAmb	IAmb	04 18 46.3	
	comp=Z,7.7nm,1.0s						
BPAW	**Bear Paw Mtn.**	81.05	335	IAmb	IAmb	04 18 51.5	
	comp=Z,9.4nm,0.9s						
BPAW	**Bear Paw Mtn.**	81.05	335	P	P	04 18 46.5	-0.9
	baz=107						
PPLA	**Purkeypile**	81.22	334	P	P	04 18 47.4	-1.1
	baz=106						
CAST	**Castle Rocks**	81.32	334	IAmb	IAmb	04 18 52.7	
	comp=Z,9.8nm,1.0s						
CAST	**Castle Rocks**	81.32	334	P	P	04 18 47.7	-1.2
	baz=106,SNR=8.1						
CHUM	**Lake Minchumin**	81.54	335	P	P	04 18 48.4	-1.6
	baz=106						
DBG	**Daneborg**	81.60	14	*i* P	P	04 18 41.5	-8.6
DBG				IAmb	IAmb	04 18 53.7	
	comp=Z,1.5nm,0.8s						
COLD	**Coldfoot**	81.70	338	IAmb	IAmb	04 18 56.0	
	comp=Z,6.9nm,1.0s						
I21K	**Tanana**	81.77	336	P	P	04 18 50.1	-1.1
	baz=106						
L20K	**Farewell, AK**	81.86	333	P	P	04 18 50.4	-1.4
	baz=104						
O18K	**Koktuh Hills**	81.86	331	P	P	04 18 51.2	-0.7
	baz=103						
TOLK	**Toolik Lake Re**	81.93	340	P	P	04 18 51.2	-0.9
	baz=109						
M19K	**Big River Lodg**	81.95	333	P	P	04 18 51.4	-0.9
	baz=104						
TOA0	**Torodi Ar. Sit**	82.12	77	P	P	04 18 53.7	-0.4
TORD	**Torodi Ar. Bea**	82.12	77	P	P	04 18 52.9	-1.2
	comp=Z,2.9nm,0.8s,baz=278,slow=5.5,SNR=15						
TORD	**Torodi Ar. Bea**	82.12	77	P	P	04 18 54.9	+0.8
TORD				IAmb	IAmb	04 18 57.9	
	comp=Z,9.7nm,1.4s						
BELA	**Belgrano 2**	82.14	171	P	P	04 18 52.9	-0.1
BELA				IAmb	IAmb	04 18 57.9	
	comp=Z,10nm,1.0s						
K20K	**Telida**	82.16	334	IAmb	IAmb	04 18 57.8	
	comp=Z,9.9nm,1.1s						
K20K	**Telida**	82.16	334	P	P	04 18 51.8	-1.5
	baz=104						
L19K	**White Mountain**	82.23	333	IAmb	IAmb	04 18 58.0	
	comp=Z,8.3nm,1.0s						
L19K	**White Mountain**	82.23	333	P	P	04 18 52.2	-1.5
	baz=104						
SVW2	**Sparrevohn**	82.32	332	IAmb	IAmb	04 18 57.8	
	comp=Z,9.9nm,0.9s						
N18K	**Kilae Creek**	82.38	331	P	P	04 18 52.8	-1.7
	baz=102						
J20K	**Nowinta River**	82.40	335	IAmb	IAmb	04 18 58.9	
	comp=Z,16nm,1.5s						
J20K	**Nowinta River**	82.40	335	P	P	04 18 53.1	-1.4
	baz=104						
TTA	**Tatalina**	82.92	333	IAmb	IAmb	04 19 01.6	
	comp=Z,9.9nm,1.4s						
TTA	**Tatalina**	82.92	333	P	P	04 18 55.6	-1.8
	baz=103						
DAG	**Danmarks Havn**	83.11	12	*i* P	P	04 18 55.6	-2.4
DAG				IAmb	IAmb	04 19 00.5	
	comp=Z,2.1nm,0.7s						
VNA3	**Neumayer Olymp**	84.46	162	P	P	04 19 04.5	-0.5
VNA2	**Neumayer--Watz**	85.08	162	P	P	04 19 05.6	-2.5
	baz=310,slow=6.0						
SNAA	**Sanae**	86.68	162	P	P	04 19 13.5	-2.6
TROLL	**Troll, Antarti**	88.40	162	P	P	04 19 23.9	-0.6
TUE	**Stuetta**	89.34	44	P	P	04 19 30.5	+0.9
TUE				IAmb	IAmb	04 19 34.3	
	comp=Z,6.6nm,0.9s						
QSPA	**South Pole Qui**	90.68	180	P	P	04 19 36.0	+0.8
ABKAR	**Akbulak array**	119.72	29	PKPdf	PKiKP	04 25 25.4	+2.4
ZALV	**Zalesovo Beam**	124.23	11	PKP	PKPdf	04 25 30.8	-0.6
	comp=Z,1.1nm,0.5s,baz=316,slow=4.0,SNR=5.8						
ZALV	**Zalesovo Beam**	124.23	11	PKPdf	PKPdf	04 25 33.2	+1.8
KURK	**Kurchatov**	125.79	16		PKPdf	04 25 33.6	-1.0
KURBB	**Kurchatov Arra**	125.85	16	PKP	PKPdf	04 25 33.6	-1.1
	comp=Z,3.2nm,0.8s,baz=324,slow=2.4,SNR=5.0						
STKA	**Stephens Creek**	129.67	228	PKP	PKPdf	04 25 41.9	-0.6
	comp=Z,4.1nm,0.7s,baz=87,slow=1.3,SNR=8.5						
STKA	**Stephens Creek**	129.67	228		PKPdf	04 25 40.7	-1.9
MKAR	**Makanchi Array**	130.37	16	PKP	PKPdf	04 25 42.6	-0.9
	comp=Z,2.2nm,0.9s,baz=347,slow=2.7,SNR=4.9						
MKAR	**Makanchi Array**	130.37	16	PKPdf	PKPdf	04 25 45.7	+2.3
AAK	**Ala-Archa**	131.34	25	PKPdf	PKiKP	04 25 50.1	+3.5
	comp=Z,3.0nm,0.9s,baz=279,slow=7.4,SNR=4.1						
AAK	**Ala-Archa**	131.34	25	PKPdf	PKPdf	04 25 48.1	+2.5
SONM	**Songino Array**	131.37	354	PKP	PKPdf	04 25 45.0	-0.4
	comp=Z,1.2nm,0.8s,baz=48,slow=2.1,SNR=4.0						
SONM	**Songino Array**	131.37	354	PKPdf	PKPdf	04 25 46.8	+1.3
XLT	**XiLinHaoTe**	133.28	344	*e*PKP	PKiKP	04 25 52.6	+2.2
KSRS	**Korea Array**	133.95	328	PKP	PKPdf	04 25 49.2	-1.2
	comp=Z,1.8nm,0.7s,baz=358,slow=1.7,SNR=7.4						
KSAR	**Wonju Array Be**	133.98	328	PKPdf	PKPdf	04 25 48.8	-1.7
WMQ	**Urumqi**	134.47	12	*e*PKP	PKPdf	04 25 52.8	+1.5
KSH	**Kashi**	134.54	26	PKP	PKiKP	04 25 55.1	+2.0
HHC	**Hu-ho-hao-te**	137.30	347	*e*PKP	PKPdf	04 25 53.8	-3.0
AS31	**Alice Springs**	139.65	233	PKPdf	PKPdf	04 26 01.2	-0.3
ASAR	**Alice Springs**	139.65	233	PKhKP	PKPpre	04 25 51.8	
	comp=Z,1.0nm,0.8s,baz=119,slow=3.3,SNR=7.1						
ASAR				PKP	PKPdf	04 26 01.4	-0.1
	comp=Z,3.3nm,0.8s,baz=96,slow=2.7,SNR=15						
WRA	**Warramunga Arr**	141.00	238	PKhKP	PKPpre	04 25 55.3	
	comp=Z,1.8nm,0.8s,baz=114,slow=2.6,SNR=9.0						
WRA				PKP	PKPdf	04 26 02.3	-1.6
	comp=Z,3.7nm,0.8s,baz=114,slow=2.5,SNR=12						
WRA	**Warramunga Arr**	141.00	238	PKPdf	PKPdf	04 26 01.5	-2.4
NJ2	**Nanjing**	142.75	332	*e*PKP	PKPdf	04 26 06.1	-0.6
LZH	**Lanzhou**	143.25	354	*e*PKP	PKPab	04 26 03.4	0.0
LZH				pPKP	PKPbc	04 26 07.6	+3.0
LZH				sPKP		04 26 11.5	
XAN	**Xi'an**	144.42	347	PKP	PKPbc	04 26 10.3	+2.3
WHN	**Wuhan**	145.97	337	PKPbc	PKPdf	04 26 14.4	+2.0
MTN	**Manton Dam**	146.51	247	PKPbc	PKPdf	04 26 15.4	+1.8
PZH	**PanZhiHua**	152.94	356	PKPbc	PKPdf	04 26 23.1	-0.7

*CNRM **23** 04:08:22.8, 35°.85N × 3°.34W, h14km, ml2.9*
*IGIL **23** 04:08:24.4, 35°.83N × 3°.31W, h15km*
*INMG **23** 04:08:24.4 ± 0.9, 35°.84N × 3°.41W, h0km, ML2.3, Error ellipse: s-maj=2.3km s-min=1.6km az=69.0*
*SFS **23** 04:08:25.0, 35°.82N × 3°.30W, h21km, ML2.9, ALBORAN SUR*
*MDD **23** 04:08:25.8 ± 0.4, 35°.83N × 3°.31W, h21km ± 1km, mb_Lg2.9/13, Error ellipse: s-maj=3.4km s-min=2.8km az=159.0*
ISC 23 04:08:24.5 ± 1.1, 35°.82N ± 0°.02 × 3°.37W ± 0°.03, h21 km ± 3km, n58, σ 1°09/86, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	0.30	66	Pg	Pb	04 08 30.7	-0.4
EALB				Sg	Sb	04 08 36.8	+1.1
EALB				*i* Vmb_Lg		04 08 38.8	
EMEL	**Melilla**	0.62	147	Pg	Pb	04 08 37.0	+0.4
EMEL				Sg	Sb	04 08 45.3	+0.3
GOG	**Mont Gurugu**	0.67	153	P	Pb	04 08 38.0	+0.4
GOG				S	Sb	04 08 47.0	+0.5
PALE	**Palemas**	0.76	218	P	Pb	04 08 39.5	+0.5
PALE				S	Sb	04 08 49.4	+0.5
PVLZ	**Peæn de**	1.00	230	P	Pb	04 08 41.9	-1.1
PVLZ				S	Sb	04 08 54.7	-0.9
ELGU	**Los Guajares,**	1.07	349	Pg	Pb	04 08 42.6	-1.7
ELGU				Sg	Sb	04 08 57.4	-0.5
EBER	**Berja**	1.15	20	Pg	Pn	04 08 44.3	-1.2
EBER				Sg	Sb	04 09 00.3	+0.1
EBER				*i* Vmb_Lg		04 09 03.6	
TAF	**Taforalt**	1.27	142	P	Pn	04 08 47.5	+0.4
EMIJ	**Mijas**	1.36	304	Pg	Pn	04 08 46.5	-1.8
EMIJ				Sg	Sn	04 09 07.8	+2.2
EMIJ				*i* Vmb_Lg		04 09 08.5	
AKLM	**AKL**	1.37	197	P	Pn	04 08 48.8	+0.4
AKLM				S	Sn	04 09 05.1	-0.8
EGOR	**Sierra Gorda,**	1.42	335	Pg	Pn	04 08 47.7	-1.5
EGOR				Sg	Sn	04 09 07.8	+0.4
EGOR				*i* Vmb_Lg		04 09 10.3	
ENIJ	**Nijar**	1.48	39	Pg	Pn	04 08 50.1	+0.1
ENIJ				*i* Vmb_Lg		04 09 07.4	
ENIJ				Sg	Sn	04 09 08.1	-0.7
JBK	**JBK**	1.62	156	P	Pn	04 08 51.9	-0.1
JBK				S	Sn	04 09 10.8	-1.6
CEU	**Ceuta**	1.63	273	P	Pn	04 08 49.0	-3.0
CEU				S	Sn	04 09 09.2	-3.1
SMIR	**Smir Dam**	1.64	266	P	Pn	04 08 50.9	-1.2
CHEFC	**Chefchaouen**	1.76	247	P	Pn	04 08 54.4	+0.6
EJIF	**Jimena Fronter**	1.81	291	Pn	Pn	04 08 53.8	-0.7
EJIF				Sn	Sn	04 09 14.6	-2.2
EADA	**Adamuz**	2.54	338	Pn	Pn	04 09 05.2	+0.7
EADA				Sn	Sn	04 09 35.3	+0.5
EADA				*i* Vmb_Lg		04 09 42.2	
CART	**Cartagena**	2.60	46	P	Pn	04 09 05.4	+0.2
CART				S	Sn	04 09 31.6	-4.6
EMUR	**La Murta**	2.65	40	Pn	Pn	04 09 07.1	+1.1
EMUR				*i* Vmb_Lg		04 09 36.4	
EMUR				Sn	Sn	04 09 37.0	-0.5
ECAB	**El Cabril**	2.79	325	Pn	Pn	04 09 08.6	+0.7
ECAB				Sn	Sn	04 09 41.8	+0.9
ECAB				*i* Vmb_Lg		04 09 57.5	
TDRA	**Tendrara**	2.98	158	P	Pn	04 09 12.0	+1.2
CZD	**Col de Zad**	3.10	207	P	Pn	04 09 14.4	+1.9
CZD				S	Sn	04 09 47.7	-1.4
MD31	**MD31**	3.16	202	P	Pn	04 09 14.4	+1.3
MD31				S	Sn	04 09 49.0	-1.2
MDT	**Midelt**	3.17	199	P	Pn	04 09 14.5	+1.3
ETOB	**Tobarra**	3.17	27	Pn	Pn	04 09 15.1	+1.9
ETOB				Sn	Sn	04 09 51.3	+0.7
ETOB				*i* Vmb_Lg		04 10 09.5	
EMIN	**Mina Concepcio**	3.29	307	Pn	Pn	04 09 14.2	-0.6
EMIN				Sn	Sn	04 09 54.0	+0.7
EGRO	**El Granado**	3.72	299	Pn	Pn	04 09 20.5	-0.3
EGRO				*i* Vmb_Lg		04 09 23.6	
EGRO				Sn	Sn	04 10 04.4	+0.5
PBAR	**Barrancos**	3.76	310	*e*Pn	Pn	04 09 21.5	+0.2
PAB	**San Pablo**	3.80	349	Pn	Pn	04 09 23.4	+1.5
PAB				Sn	Sn	04 10 06.2	+0.2
PAB				Sg		04 10 21.5	
PAB	**San Pablo**	3.80	349	P	Pn	04 09 23.1	+1.2
PVAQ	**Vaqueiros**	3.84	296	*e*Pn	Pn	04 09 22.0	-0.4
PVAQ				*e*Sn	Sn	04 10 06.8	0.0
PVAQ				A	A	04 10 11.2	
	4.6nm,0.6s						
PVAQ	**Vaqueiros**	3.84	296	P	Pn	04 09 21.9	-0.4
PBDV	**Barranco-do-Ve**	3.94	293	*e*Pn	Pn	04 09 23.7	0.0
PBDV				*e*Sn	Sn	04 10 09.4	+0.1
PBDV				A	A	04 10 17.0	
	3.5nm,0.8s						
EBAD	**Badajoz**	4.13	316	Pn	Pn	04 09 27.0	+0.7
EBAD				Sn	Sn	04 10 14.2	+0.3
EBAD				*i* Vmb_Lg		04 10 20.0	
PCVE	**Castro Verde**	4.16	297	*e*Pn	Pn	04 09 27.5	+0.7
PCVE				*e*Sn	Sn	04 10 15.3	+0.4
PCVE				A	A	04 10 21.4	
	3.1nm,0.2s						
UCM	**Universidad Co**	4.48	1	P	Pn	04 09 37.4	+6.2
UCM				S	Sn	04 10 23.0	+0.3
MORF	**Marmelete**	4.50	291	*e*P	Pn	04 09 30.9	-0.6
MORF	**Marmelete**	4.50	291	*e*Pn	Pn	04 09 31.8	+0.3
MORF				*e*Sn	Sn	04 10 23.4	+0.1
MORF				A	A	04 10 31.3	
	3.1nm,0.6s						
PESTR	**Estremoz**	4.54	313	*e*Pn	Pn	04 09 33.1	+1.2
PESTR	**Estremoz**	4.54	313	P	Pn	04 09 31.6	-0.4
PESTR				S	Sn	04 10 23.0	-1.0
PFVI	**Vila Bisbo**	4.59	288	*e*Pn	Pn	04 09 33.2	+0.6
PFVI				*e*Sn	Sn	04 10 25.4	+0.1
PFVI	**Vila Bisbo**	4.59	288	P	Pn	04 09 33.9	+1.2
PTEO	**Sao Teotonio**	4.64	293	*e*Pn	Pn	04 09 33.8	+0.5
PNCL	**Nicolau / Gran**	4.72	301	*e*Pn	Pn	04 09 34.8	+0.3
PNCL				*e*Sn	Sn	04 10 28.7	+0.1
PNCL				A	A	04 10 33.2	
	1.8nm,0.4s						
PMRV	**Marv??o**	4.81	320	*e*Pn	Pn	04 09 36.3	+0.5
PMRV				*e*Sn	Sn	04 10 31.1	+0.2
PMRV				A	A	04 10 54.5	
	2.4nm,0.4s						
PMTG	**Montargil**	5.04	311	*e*Pn	Pn	04 09 39.8	+0.9
PCBR	**Castelo Branco**	5.17	322	*e*Pn	Pn	04 09 41.5	+0.9
MTE	**Manteigas**	5.63	326	*e*Pn	Pn	04 09 48.5	+1.4
PMAFR	**Mafra**	5.65	305	*e*Pn	Pn	04 09 49.0	+1.7
OUZM	**OUZ**	5.66	211	P	Pn	04 09 47.8	+0.3
PSBE	**So Bento**	5.67	312	*e*Pn	Pn	04 09 48.6	+1.1
OUK	**Oukaimeden**	5.94	220	P	Pn	04 09 51.9	+0.4
PVIS	**Viseu**	6.05	325	*e*Pn	Pn	04 09 53.7	+1.0
MVO	**Moncorvo**	6.06	333	*e*Pn	Pn	04 09 54.0	+1.1
PBRG	**Braganca**	6.53	337	*e*Pn	Pn	04 10 00.4	+1.0
POLO	**Lamas de Olo**	6.54	329	*e*Pn	Pn	04 10 00.9	+1.4
TTIG	**Tnine Tigouga,**	6.76	220	P	Pn	04 10 01.7	-0.9

*UCR **23** 04:11:29.3 ± 2.1, 7°.85N × 82°.50W, h10km ± 23km, MW3.6*
*UPA **23** 04:11:31.4 ± 0.6, 7°.88N × 82°.58W, h28km ± 3km, MW3.7*
ISC 23 04:11:29.6 ± 2.1, 7°.81N ± 0°.10 × 82°.57W ± 0°.04, h26 km ± 12km, n23, σ 0s73/43, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTPM	**Petroterminale**	0.50	321	*e*P	Pb	04 11 40.0	+0.2
PTPM				*e*S	Sb	04 11 47.1	+0.4
PEDE3	**Pedregal, Chir**	0.59	14	*e*P	Pb	04 11 41.6	+0.3
PEDE3				*e*S	Sb	04 11 49.6	+0.3
CHIR3	**Chiriqui UPA,**	0.62	22	*e*P	Pb	04 11 42.3	+0.3
CHIR3				*e*S	Sb	04 11 50.8	+0.5
DVD	**David**	0.63	10⇑	*e*P	Pb	04 11 42.2	+0.1
DVD				*e*S	Sb	04 11 50.0	-0.5
BAGA3	**Bagala, Chiriq**	0.65	3	*e*P	Pb	04 11 42.8	+0.4
BAGA3				*e*S	Sb	04 11 51.1	-0.1
CCOL	**Caracol de Cor**	0.72	326	*e*P	Pb	04 11 43.4	0.0
CCOL				*e*S	Sn	04 11 54.2	0.0
CDITO	**Canoas**	0.82	338	*e*P	Pb	04 11 45.2	+0.1
CDITO				*e*S	Sb	04 11 55.2	-0.6
REME3	**Remedios, Chir**	0.83	60	*e*P	Pn	04 11 46.5	+0.8
REME3				*e*S	Sn	04 11 56.9	-0.2
BCO2	**Palmira**	0.90	2	*e*P	Pb	04 11 46.6	-0.1
BCO2				*e*S	Sb	04 11 58.0	-0.4
PIRO	**Carate, Puerto**	0.96	308	*e*P	Pb	04 11 46.5	-1.2
PIRO	**Carate, Puerto**	0.96	308	*e*P	Pb	04 11 46.7	-0.9
PIRO				*e*S	Sb	04 11 58.9	-1.1
LNBQ3	**Los Naranjos,**	0.98	7	*e*P	Pb	04 11 47.8	-0.2
LNBQ3				*e*S	Sb	04 12 00.0	-0.6
BRU2	**Volcan**	0.98	353	*e*P	Pb	04 11 47.7	-0.4
BRU2				*e*S	Sb	04 12 00.5	-0.3
BRU2	**Volcan**	0.98	353	*e*P	Pb	04 11 47.9	-0.2
BRU2				*e*S	Sb	04 12 00.4	-0.3
BC3P	**Paso Ancho**	1.00

TNSS	Tian-Shan	7.98	323	*e*P		Pn	04 18 07.0	+1.7
TNSS	Tian-Shan	7.98	323	*e*P		Pn	04 18 07.0	+1.7
	baz=322							
MDOK	Medeo	8.03	324	P		Pn	04 18 08.0	+2.3
MDOK							04 19 39.6	
MDOK	Medeo	8.03	324	*i* P		Pn	04 18 07.7	+2.0
	baz=323							
MDOK	Medeo	8.03	324	⇑Pn		Pn	04 18 08.0	+2.3
	comp=Z,12nm,0.4s							
MDOK				⇓Sn		Sn	04 19 39.6	+2.9
	comp=Z,17nm,0.7s							
MDOK				⇓Lg		Lg	04 20 24.3	
	comp=Z,40nm,0.7s							
BOOM	Boomskoye usch	8.12	317	P		Pn	04 18 08.5	+1.6
BOOM	Boomskoye usch	8.12	317	Pn		Pn	04 18 08.5	+1.6
AAA	Alma-Ata	8.13	324	*e*P		Pn	04 18 09.6	+2.6
AAA	Alma-Ata	8.13	324	*e*P		Pn	04 18 09.6	+2.6
	baz=323							
TKM2	Tokmak 2	8.59	318	P		Pn	04 18 15.8	+2.4
	SNR=21							
TKM2	Tokmak 2	8.59	318	P		Pn	04 18 16.2	+2.7
TKM2	Tokmak 2	8.59	318	⇓Pn		Pn	04 18 16.3	+2.7
	comp=Z,12nm,0.7s							
TKM2				⇓Lg		Lg	04 20 46.5	
	comp=Z,14nm,0.7s							
CHKK	Chushkaly	8.60	327	*e*P		Pn	04 18 14.7	+1.4
CHKK	Chushkaly	8.60	327	*e*P		Pn	04 18 14.8	+1.4
	baz=326							
UCH	Uchtor	8.78	311	P		Pn	04 18 19.3	+3.0
	SNR=12							
KUU	Kurty	8.92	325	*e*P		Pn	04 18 19.4	+1.6
KUU	Kurty	8.92	325	*e*P		Pn	04 18 19.5	+1.6
	baz=324							
NIL	Nilore	8.94	252	P		Pn	04 18 19.1	+1.0
NIL	Nilore	8.94	252	Pn		Pn	04 18 19.1	+1.0
AAK	Ala-Archa	9.04	313	P		Pn	04 18 20.8	+1.3
	SNR=8.2							
AAK	Ala-Archa	9.04	313	Pn		Pn	04 18 23.5	+4.0
	comp=Z,1.5nm,0.3s,baz=104,slow=8.3,SNR=16							
AAK				Lg		Lg	04 21 03.3	
	comp=Z,0.7nm,0.3s,baz=285,slow=16,SNR=4.9							
AAK	Ala-Archa	9.04	313	Pn		Pn	04 18 21.2	+1.7
GOMU	GeErMu	9.15	90	P		Pn	04 18 23.5	+2.2
GOMU				pP			04 18 27.0	
GOMU				sP			04 18 30.9	
GOMU				S		Sn	04 20 09.8	+5.2
GOMU				pmax	pmax			
	comp=Z,2.0nm,0.4s							
GOMU				pmax	pmax			
	comp=Z,50nm,7.8s							
AML	Almayashu	9.24	308	P		Pn	04 18 25.5	+3.0
	SNR=13							
SGDS	Sogindy	9.47	317	*e*P		Pn	04 18 27.0	+1.6
SGDS	Sogindy	9.47	317	*e*P		Pn	04 18 27.0	+1.6
	baz=316							
DRK	Karamyk	9.57	290	Pn		Pn	04 18 28.1	+1.1
MK31	Makanchi Array	10.01	355	*e*P		Pn	04 18 33.4	+0.7
MK31							04 20 22.9	
MK31	Makanchi Array	10.01	355	Pn		Pn	04 18 33.0	+0.3
MK31	Makanchi Array	10.01	355	Pn		Pn	04 18 33.4	+0.7
	comp=Z,2.8nm,0.3s,baz=175,slow=13,SNR=117							
MK31				⇓Sn		Sn	04 20 23.0	-2.1
	comp=Z,6.2nm,0.7s,baz=176,slow=24,SNR=6.3							
MK31				⇑Lg		Lg	04 21 16.3	
	comp=Z,12nm,0.6s,baz=156,slow=26,SNR=4.9							
MKAR	Makanchi Array	10.01	355	Pn		Pn	04 18 33.5	+0.8
	comp=Z,2.7nm,0.3s,baz=177,slow=12,SNR=105							
MKAR				Sn		Sn	04 20 24.2	-0.9
	comp=Z,2.5nm,0.3s,baz=179,slow=22,SNR=6.2							
MKAR				Lg		Lg	04 21 33.1	
	comp=Z,1.2nm,0.3s,baz=174,slow=28,SNR=5.4							
MKAR				LR		LR	04 23 14.0	
	comp=Z,58nm,21.0s,baz=146,slow=42							
MKAR	Makanchi Array	10.01	355	P		Pn	04 18 32.7	0.0
MKAR							04 20 24.2	
MKAR	Makanchi Array	10.01	355	Pn		Pn	04 18 32.7	0.0
MAKZ	Makanchi	10.05	354	P		Pn	04 18 33.5	+0.3
MAKZ							04 20 21.4	
MAKZ	Makanchi	10.05	354			Pn	04 18 33.3	0.0
MAKZ	Makanchi	10.05	354	⇑Pn		Pn	04 18 33.6	+0.3
	comp=Z,7.3nm,0.5s							
MAKZ				⇑Sn		Sn	04 20 21.4	-4.6
	comp=Z,11nm,0.7s							
MAKZ				⇑Lg		Lg	04 21 22.8	
	comp=Z,26nm,1.4s							
BTK	Batken	10.44	292	P		Pn	04 18 38.9	+0.2
BTK	Batken	10.44	292	Pn		Pn	04 18 38.9	+0.2
GAR	Garm	10.62	286			Pn	04 18 41.1	-0.1
ZSN	Zaisan	10.68	5	*e*P		Pn	04 18 42.3	+0.5
ZSN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ZSN	Zaisan	10.68	5	*e*P		Pn	04 18 42.3	+0.5
	comp=Z,4.5nm,1.0s,baz=5.2							
BTLS	Baital	10.88	322	*e*P		Pn	04 18 47.0	+2.5
BTLS	Baital	10.88	322	*e*P		Pn	04 18 47.0	+2.5
	baz=321							
CHGR	Chuyangaron	11.49	284	Pn		Pn	04 18 52.0	-1.0
IUG	Iuzhnay	11.67	301	*e*P		Pn	04 18 56.6	+1.1
IUG	Iuzhnay	11.67	301	*e*P		Pn	04 18 56.6	+1.1
	baz=300							
KK31	Karatay Array	11.76	306	*e*P		Pn	04 18 57.9	+1.3
KK31	Karatay Array	11.76	306			Pn	04 18 57.3	+0.6
KK31	Karatay Array	11.76	306	⇓Pn		Pn	04 18 57.9	+1.3
	comp=Z,1.3nm,0.6s,baz=123,slow=12,SNR=15							
KKAR	Karatay Array	11.76	306	P		Pn	04 18 57.3	+0.6
KKAR	Karatay Array	11.76	306			Pn	04 18 57.3	+0.6
KURBB	Kurchatov Arra	14.26	347	Pn		Pn	04 19 29.7	-0.9
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=10							
KURBB				Sn		Sn	04 22 06.1	-2.6
	comp=Z,0.0nm,0.3s,baz=162,slow=17,SNR=2.0							
KURBB	Kurchatov Arra	14.26	347	P		Pn	04 19 30.7	0.0
KURBB	Kurchatov Arra	14.26	347	⇑Pn		Pn	04 19 30.7	0.0
	comp=Z,2.5nm,0.6s							
KURK	Kurchatov	14.33	347	P		Pn	04 19 29.7	-2.0
KURK							04 22 06.1	
KURK	Kurchatov	14.33	347	Pn		Pn	04 19 31.4	-0.2
BRZS	Berezniki	15.30	333	*e*P		Pn	04 19 46.0	+1.2
BRZS	Berezniki	15.30	333	*e*P		Pn	04 19 46.1	+1.2
	baz=332							
ZAA0	Zalesovo Array	17.16	3			Pn	04 20 06.2	-2.4
ZAA0	Zalesovo Array	17.16	3	⇑Pn		Pn	04 20 04.3	-4.3
	comp=Z,1.1nm,1.1s							
ZALV	Zalesovo Beam	17.16	3	P		Pn	04 20 06.2	-2.4
	comp=Z,0.5nm,0.3s,baz=184,slow=13,SNR=17							
BVAR	Borovoye Array	18.62	335	P		P	04 20 26.6	+0.3
BRVK	Borovoye	18.68	335	*ce*P		P	04 20 27.9	+0.9
BRVK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BRVK	Borovoye	18.68	335			P	04 20 27.5	+0.5
BRVK				IAmb	IAmb		04 20 33.4	
	comp=Z,5.6nm,0.8s							
SONM	Songino Array	20.13	50	P		P	04 20 40.5	-2.6
	comp=Z,0.6nm,0.8s,baz=257,slow=13,SNR=6.2							
GEYT	Alibeck	20.17	281	LR		LR	04 29 57.3	
	comp=Z,59nm,21.4s,baz=115,slow=41							
ULN	Ulaanbaatar	20.55	50	*ce*P		P	04 20 48.4	+0.7
ULN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ULN	Ulaanbaatar	20.55	50	P		P	04 20 45.1	-2.6
AB31	Akbulak array	21.12	313	*i* P		P	04 20 53.9	+0.3
AB31	Akbulak array	21.12	313	Pn		P	04 20 53.9	+0.3
	comp=Z,6.5nm,0.7s,baz=113,slow=10,SNR=55							
ABKAR	Akbulak array	21.12	313	P		P	04 20 53.9	+0.3
GYA	Guiyang	22.23	111	⇓P		P	04 21 02.3	-3.5
GYA				pmax	pmax			
	comp=Z,15nm,0.8s							
AKTO	Aktyubinsk	22.77	315	P		P	04 21 10.8	-0.5
	comp=Z,1.6nm,0.6s,baz=91,slow=12,SNR=4.5							
ARU	Arti	25.78	327	*c* *i*P		P	04 21 38.4	-1.3
ARU							04 22 13.2	
ARU				S		S	04 26 05.9	-2.9
ARU				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KIRV	Kirov	31.08	325	*ce*P		P	04 22 27.2	+0.3
NRIK	Noril'sk	32.66	3	*ce*P		P	04 22 41.6	+0.9
NRIK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ZEA	Zeya	34.49	47	*e*P		P	04 23 00.8	+3.9
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.5s							
ANN	Anapa	35.36	298	*e*P		P	04 23 03.7	-0.7
ANN				*e**PP		sP	04 23 12.9	+3.3
ANN				*e*S		S	04 28 35.5	-3.1
OBN	Obninsk	36.55	315	*e*P		P	04 23 15.1	+0.6
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BR131	Keskin Array S	38.83	290	P		P	04 23 32.5	-1.7
BR131				pmax	pmax			
	comp=Z,4.0nm,1.2s							
BR131	Keskin Array S	38.83	290	P		P	04 23 32.5	-1.7
BR131				IAmb	IAmb		04 23 41.9	
	comp=Z,3.8nm,1.1s							
BRTR	Keskin Array B	38.83	290	P		P	04 23 34.8	+0.6
	comp=Z,1.1nm,0.9s,baz=96,slow=8.8,SNR=4.5							
BRTR	Keskin Array B	38.83	290	*ce*P		P	04 23 35.7	+1.5
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
FINES	FINESS Array B	43.03	324	P		P	04 24 08.4	+0.2
	comp=Z,1.7nm,0.8s,baz=91,slow=8.6,SNR=5.4							
ARCES	ARCESS Array B	44.91	335	P		P	04 24 23.0	-0.3
	comp=Z,1.7nm,0.8s,baz=107,slow=7.8,SNR=4.0							
MA2	Magadan	47.84	39	LR		LR	04 45 45.0	
	comp=Z,40nm,18.2s,baz=290,slow=37							
MA2	Magadan	47.84	39	*i* P		P	04 24 47.9	+1.5
MA2				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SEY	Seymchan	48.50	35	*i* P		P	04 24 52.5	+1.0
SEY				pmax	pmax			
	comp=Z,3.0nm,1.4s							
NB2	NORSAR Subarra	50.19	323	P		P	04 25 04.0	-0.5
	comp=Z,0.4nm,0.4s,baz=84,slow=7.9							
NOA	NORSAR Array B	50.19	323	P		P	04 25 04.0	-0.5
	comp=Z,0.2nm,0.4s,baz=76,slow=7.3,SNR=2.1							
NOA				LR		LR	04 47 36.4	
	comp=Z,18nm,19.4s,baz=290,slow=38							
NOA	NORSAR Array B	50.19	323	P		P	04 25 04.0	-0.5
GERES	GERESS Array B	50.86	307	P		P	04 25 10.4	+0.6
	comp=Z,0.7nm,0.8s,baz=78,slow=8.6,SNR=6.5							
BILL	Bilibino	53.80	28	*e*P		P	04 25 31.8	+0.6
BILL				pmax	pmax			
	comp=Z,1.0nm,1.2s							
KMBO	Kilima Mbogo	57.08	239	P		P	04 25 54.9	-0.9
KMBO				pmax	pmax			
	comp=Z,8.0nm,1.7s							
KMBO	Kilima Mbogo	57.08	239	P		P	04 25 54.9	-0.9
KMBO				IAmb	IAmb		04 25 58.6	
	comp=Z,7.6nm,1.7s							
ILAR	Eielson Array	71.36	20	P		P	04 27 27.6	-0.9
	comp=Z,0.6nm,0.7s,baz=322,slow=5.9,SNR=6.4							
WRA	Warramunga Arr	74.08	131	P		P	04 27 42.6	-2.7
	comp=Z,0.9nm,0.9s,baz=328,slow=5.7,SNR=5.5							
WB2	Warramunga Ar	74.09	131	P		P	04 27 44.2	-1.1
TOA0	Torodi Ar. Sit	75.72	276	P		P	04 27 54.1	-0.9
TORD	Torodi Ar. Bea	75.72	276	P		P	04 27 53.7	-1.3
	comp=Z,0.3nm,0.4s,baz=46,slow=5.4,SNR=11							
TORD	Torodi Ar. Bea	75.72	276	IAmb	IAmb		04 29 42.5	
	comp=Z,6.3nm,1.6s							
ASAR	Alice Springs	76.67	133	P		P	04 27 56.5	-3.7
	comp=Z,0.3nm,0.7s,baz=342,slow=8.9,SNR=1.9							
YKA	Yellowknife Ar	79.97	8	P		P	04 28 17.1	-0.8
	comp=Z,0.8nm,0.7s,baz=340,slow=5.0,SNR=12							

*TUL **23** 05:09:38.5±0.2, 36°.52N±0°.02×98°.98W±0°.04, h5km±4km, ML3.0, mb_Lg2.7/52(NEIC), Error ellipse: s-maj=5.3km s-min=0.9km az=118.0*
*ANF **23** 05:09:38.8±0.6, 36°.52N×98°.99W, h5km, ML3.5/8, Error ellipse: s-maj=6.5km s-min=3.7km az=106.0*
*NEIC **23** 05:09:39.4±0.3, 36°.52N±0°.03×98°.96W±0°.04, h3km±5km, Error ellipse: s-maj=4.5km s-min=3.5km az=63.0*

ISC 23 05:09:38.8±1.2, 36°.51N±0°.06×99°.02W±0°.07, h10km±10km, n36, σ0s86/14, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	Winter Ranch,	0.13	174	Pg	Pg	05 09 41.8	-0.2
U32A	Winter Ranch,	0.13	174	P	Pg	05 09 41.8	-0.2
	baz=5.8						
U32A				S	Sg	05 09 44.4	+0.3
	baz=5.8						
FNO	Franklin	1.81	133	Pn	Pn	05 10 10.9	+0.8
R32A	Long Quarter,	1.92	7	IAmb_Lg		05 10 42.2	
	comp=Z,29nm,1.0s						
R32A	Long Quarter,	1.92	7	P	Pn	05 10 12.8	+1.1
	baz=187						
R32A				S	Sb	05 10 38.5	+0.4
	baz=187						
T35A	Sooner Cattle	2.05	78	IAmb_Lg		05 10 44.1	
	comp=Z,46nm,0.9s						
T35B	Sooner Cattle	2.05	78	P	Pn	05 10 14.3	+0.9
	baz=260						
T35B				S	Sb	05 10 41.8	0.0
	baz=260						
X34A	Smith Ranch, M	2.14	153	IAmb_Lg		05 10 47.1	
	comp=Z,35nm,1.0s						
CBKS	Cedar Bluff	2.37	346	IAmb_Lg		05 10 56.8	
	comp=Z,29nm,0.8s						
TUL1	Leonard	2.68	102	Pb	Pb	05 10 26.2	-0.7
	baz=284						
TUL1				Sb	Sb	05 11 01.1	+1.4
	baz=284						
AMTX	Amarillo	2.71	234	IAmb_Lg		05 11 05.7	
	comp=Z,22nm,0.7s						
X37A	Clayton	3.54	122	P	Pn	05 10 34.1	+0.3
	baz=304						
KSCO	Kaye Shedlock'	3.79	312	IAmb_Lg		05 11 47.4	
	comp=Z,13nm,0.7s						
ABTX	Abilene, Hawle	3.91	188	Pb	Pb	05 10 47.4	-0.6
	baz=7.8						
HHAR	Hobbs	4.10	92	IAmb_Lg		05 11 49.1	
	comp=Z,14nm,0.8s						
T25A	Trinidad	4.37	280	IAmb_Lg		05 12 02.4	
	comp=Z,14nm,0.7s						
N33B	J Bar K, Exete	4.39	16	S	Sn	05 11 35.6	-1.3
	baz=196						
S39A	Bolivar	4.70	74	IAmb_Lg		05 12 04.2	
	comp=Z,19nm,0.7s						
S39A	Bolivar	4.70	74	P	Pn	05 10 49.7	-0.2
	baz=257						
BGNE	Belgrade	4.94	8	IAmb_Lg		05 12 21.8	
	comp=Z,17nm,0.9s						
U40A	Yellville	4.97	90	IAmb_Lg		05 12 22.4	
	comp=Z,9.8nm,0.7s						
P38A	Dawn	5.33	53	IAmb_Lg		05 12 28.5	
	comp=Z,9.6nm,0.7s						
X40A	Basin Creek Fa	5.43	110	IAmb_Lg		05 12 38.5	
	comp=Z,7.7nm,0.9s						
Q24A	Divide	5.44	299	IAmb_Lg		05 12 31.9	
	comp=Z,11nm,1.1s						
MGMO	Mountain Grove	5.45	81	IAmb_Lg		05 12 30.4	
	comp=Z,14nm,0.9s						
WHAR	Wooly Hollow	5.60	101	IAmb_Lg		05 12 40.6	
	comp=Z,13nm,0.9s						
435B	Jarrell	5.84	168	IAmb_Lg		05 12 57.2	
	comp=Z,7.7nm,0.7s						
JCT	Junction City	6.05	186	IAmb_Lg		05 12 57.6	
	comp=Z,11nm,1.0s						
Z41A	Richland Creek	6.05	121	IAmb_Lg		05 13 04.1	
	comp=Z,13nm,1.0s						
LCAR	Lake Charles	6.37	92	IAmb_Lg		05 13 01.9	
	comp=Z,6.9nm,0.8s						
CCM	Cathedral Cave	6.39	74	IAmb_Lg		05 13 05.8	
	comp=Z,11nm,0.8s						
PBMO	Poplar Bluff	6.91	85	IAmb_Lg		05 13 23.8	
	comp=Z,9.5nm,0.7s						
PHWY	Pilot Hill	6.93	316	IAmb_Lg		05 13 24.3	
	comp=Z,5.8nm,0.8s						
N23A	Red Feather La	6.96	311	IAmb_Lg		05 13 31.1	
	comp=Z,13nm,0.9s						
K22A	Casper	8.43	319	IAmb_Lg		05 14 29.1	
	comp=Z,7.7nm,0.9s						
RSSD	Black Hills	8.51	335	IAmb_Lg		05 14 16.2	
	comp=Z,4.5nm,0.8s						

IDC 23 05:31:12.0±2.8, 4°.32N×124°.52E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.1/32, mbtmp3.4/3, Error ellipse: s-maj=342.0km s-min=25.9km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.97	159	P	P	05 36 46.4	-0.1
	0.3nm,0.6s,baz=337,slow=9.8,SNR=5.6						
ASAR	Alice Springs	29.28	162	P	P	05 37 16.3	+0.1
	0.3nm,0.5s,baz=344,slow=6.7,SNR=6.4						
MKAR	Makanchi Array	55.83	326	P	P	05 40 51.1	-0.1
	0.2nm,0.3s,baz=122,slow=7.0,SNR=7.4						

*IDC **23** 05:36:39.8±1.1, 7°.09N×73°.33W, h122km±37km, mb3.3/3, mb1 3.7/5, mb1mx3.2/30, mbtmp3.9/5, Error ellipse:*
s-maj=67.7km s-min=8.4km az=133.0
*RSNC **23** 05:36:41.1±1.0, 6°.81N×73°.12W, h143km±4km, ML3.5*

ISC 23 05:36:40.0±0.9, 6°.84N±0°.03×73°.11W±0°.03, h149km±6km, n30, σ1s04/57, mb3.4/3, 10C-7D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.25	197	⇓*i*P	Pn	05 37 00.7	0.0
BARC				*e*S	Sn	05 37 15.2	-1.1
BARC				*i*		05 37 16.4	
	comp=Z,946nm,0.2s						
PAMC	Pamplona, Colo	0.64	39	⇓*e*P	Pn	05 37 03.6	+0.9
PAMC				*i*		05 37 04.0	
	comp=Z,1μm,0.2s						
PAMC				*e*S	Sn	05 37 20.3	+0.5
RUSC	La Rusia	0.94	179	⇑*e*P	Pn	05 37 04.6	-0.1
RUSC				*e*S	Sn	05 37 23.1	-0.5
RUSC				*i*		05 37 24.7	
	comp=Z,596nm,0.4s						
TAMC	Tame, Arauca	1.36	107	⇓*i*P	Pn	05 37 09.1	+0.9
TAMC				*e*S	Sn	05 37 30.0	+0.3
PTBC	PUERTO BERRIO,	1.37	258	⇑*e*P	Pn	05 37 07.8	-0.5
PTBC				*e*S	Sn	05 37 28.0	-1.7
PTBC				*i*		05 37 30.6	
	comp=Z,349nm,0.2s						
OCAC	Ocana	1.41	351	*e*P	Pn	05 37 09.1	+0.4
OCAC				*e*S	Sn	05 37 30.8	0.0
OCAC				*i*		05 37 32.9	
	comp=Z,704nm,0.6s						
SPBC	San Pablo de B	1.52	219	⇑*i*P	Pn	05 37 09.6	-0.2
SPBC				*e*S	Sn	05 37 31.5	-1.1
SPBC				*i*		05 37 34.0	
	comp=Z,667nm,0.3s						
ZARC	Zaragoza, Cauc	1.86	291	*e*P	Pn	05 37 13.8	+0.4
ZARC				*e*S	Sn	05 37 39.4	+0.3
ZARC				*i*		05 37 46.8	
	comp=Z,368nm,0.2s						
NORC	Norcasia	2.16	234	⇓*e*P	Pn	05 37 16.7	-0.4
NORC				*e*S	Sn	05 37 44.7	-0.8
NORC				*i*		05 37 51.9	
	comp=Z,223nm,0.2s						
CHIC	Chingaza	2.28	196	⇑*e*P	Pn	05 37 19.1	+0.2
CHIC				*e*S	Sn	05 37 47.5	-1.2
CHIC				*i*		05 37 51.5	
	comp=Z,164nm,0.5s						
ROSC	El Rosal	2.32	211	P	Pn	05 37 20.6	+1.3
	comp=Z,91nm,0.3s,baz=15,slow=4.6,SNR=121						
ROSC				S	Sn	05 37 49.4	-0.2
	comp=Z,72nm,0.3s,baz=41,slow=20,SNR=5.1						
HELC	Santa Helena	2.49	255	*e*P	Pn	05 37 21.2	-0.1
HELC				*e*S	Sn	05 37 52.7	-0.5
HELC				*i*		05 38 00.0	
	comp=Z,194nm,0.3s						
UREC	San Jos de Ur	2.57	291	*e*P	Pn	05 37 21.5	-0.5
UREC				*e*S	Sn	05 37 52.3	-2.1
UREC				*i*		05 37 56.6	
	comp=Z,212nm,0.2s						
SOCV	Socops	2.66	57	*e*P	Pn	05 37 23.7	+0.6
SOCV				*e*S	Sn	05 37 55.9	-0.3
GUY2C	Guyana, Caldas	2.76	235	⇑*e*P	Pn	05 37 25.3	+0.5
GUY2C				*e*S	Sn	05 37 58.9	-0.3
GUY2C				*i*		05 38 05.5	
	comp=Z,162nm,0.3s						
VILC	Villavicencio,	2.77	192	⇓*e*P	Pn	05 37 24.2	-0.4
VILC				*e*S	Sn	05 37 58.7	-0.3
PTGC	Puerto Gaitan,	2.79	160	⇑*e*P	Pn	05 37 24.1	-0.7
PTGC				*e*S	Sn	05 37 56.7	-2.6
PTGC				*i*		05 37 59.6	
	comp=Z,231nm,0.5s						
LL6C	La Loma 6 Bece	2.89	357	⇑*e*P	Pn	05 37 25.6	-0.3
LL6C				*e*S	Sn	05 38 01.1	-0.4
LL6C				*i*		05 38 09.2	
	comp=Z,48nm,0.4s						
CBOC	Ciudad Bolivar	3.04	252	⇑*i*P	Pn	05 37 28.9	+0.7
CBOC				*e*S	Sn	05 38 04.5	-0.8
CBOC				*i*		05 38 05.5	
	comp=Z,44nm,0.4s						
SDV	Santo Domingo	3.19	50	P	Pn	05 37 30.6	+0.7
	comp=Z,20nm,0.3s,baz=190,slow=2.9,SNR=197						
SDV				S	Sn	05 38 07.4	-1.2
	comp=Z,35nm,0.3s,baz=252,slow=22,SNR=46						
SDV	Santo Domingo	3.19	50	⇑*e*P	Pn	05 37 30.4	+0.5
SDV				*e*S	Sn	05 38 08.0	-0.5
SDV				*i*		05 38 12.7	
	comp=Z,123nm,0.6s						
ANIL	Santa Ana	3.26	225	*e*P	Pn	05 37 31.9	+0.8
ANIL				*e*S	Sn	05 38 10.3	-0.2
ANIL				*i*		05 38 22.3	
	comp=Z,253nm,0.4s						
ORTC	Ortega, Tolima	3.60	216	*e*P	Pn	05 37 35.0	-0.2
ORTC				*e*S	Sn	05 38 17.4	-0.5
ORTC				*i*		05 38 25.3	
	comp=Z,82nm,0.5s						
PLMC	San Jos del P	3.70	239	⇓*e*P	Pn	05 37 36.8	+0.4
PLMC				*e*S	Sn	05 38 20.5	+0.4
PLMC				*i*		05 38 25.5	
	comp=Z,67nm,0.3s						
CRJC	Cerrejon, Guaj	4.16	3	⇑*e*P	Pn	05 37 41.4	-1.1
CRJC				*e*S	Sn	05 38 28.1	-3.0
CRJC				*i*		05 38 33.5	
	comp=Z,66nm,0.4s						
GUVC	San Jose del G	4.29	174	⇓*i*P	Pn	05 37 43.7	-0.4
GUVC				*e*S	Sn	05 38 32.0	-1.9
GUVC				*i*		05 38 36.7	
	comp=Z,131nm,0.2s						
YOTC	Yotoco, Valle	4.29	229	*e*P	Pn	05 37 43.6	-0.7
YOTC				*e*S	Sn	05 38 37.5	+3.3
TXAR	Lajitas Array	36.46	312	P	P	05 43 31.6	+0.7
	comp=Z,0.4nm,0.6s,baz=124,slow=9.0,SNR=6.8						
SCHQ	Schef

ADK	**Adak**	**71.89**	**1**	P		**P**	**05 58 11.8**	**-0.5**
PETK	**Petropavlovsk-**	**75.95**	**346**	P		**P**	**05 58 35.0**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=185,slow=14,SNR=6.1							
BELA	**Belgrano 2**	**79.82**	**173**	P		**P**	**05 58 55.5**	**-0.2**
BELA				IAmb		IAmb	06 01 46.0	
	comp=Z,22nm,2.0s							
YBH	**Yreka Blue Hor**	**80.46**	**39**	P		**P**	**05 59 01.4**	**+1.8**
YBH				IAmb		IAmb	06 00 44.0	
	comp=Z,34nm,1.9s							
BEKR	**Beckworth**	**80.76**	**42**	P		**P**	**05 59 02.2**	**+0.8**
NVAR	**Mina Array Bea**	**81.24**	**44**	P		**P**	**05 59 05.2**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=222,slow=8.0,SNR=10							
O18K	**Koktuh Hills**	**82.11**	**12**	P		**P**	**05 59 07.4**	**-0.1**
O18K				IAmb		IAmb	05 59 08.1	
	comp=Z,12nm,0.8s							
H04A	**Detroit Lake**	**82.58**	**37**	P		**P**	**05 59 10.9**	**+0.6**
H04A				IAmb		IAmb	05 59 11.8	
	comp=Z,17nm,1.6s							
SVW2	**Sparrevohn**	**83.20**	**11**	P		**P**	**05 59 12.5**	**-0.5**
F10A	**Beach Ranch, E**	**86.16**	**38**	P		**P**	**05 59 27.8**	**0.0**
F10A				IAmb		IAmb	05 59 29.1	
	comp=Z,5.6nm,0.8s							
TRF	**Thorofare Moun**	**86.36**	**12**	P		**P**	**05 59 27.7**	**-0.8**
TRF				IAmb		IAmb	05 59 28.7	
	comp=Z,6.8nm,0.8s							
RND	**Reindeer**	**86.62**	**13**	P		**P**	**05 59 29.0**	**-0.5**
RND				IAmb		IAmb	05 59 30.0	
	comp=Z,8.0nm,0.8s							
TXAR	**Lajitas Array**	**87.39**	**58**	P		**P**	**05 59 35.5**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=216,slow=6.2,SNR=13							
WRH	**Wood River Hil**	**87.72**	**13**	P		**P**	**05 59 33.6**	**-0.9**
WRH				IAmb		IAmb	05 59 34.7	
	comp=Z,4.2nm,0.8s							
CCB	**Clear Creek Bu**	**87.94**	**13**	P		**P**	**05 59 34.5**	**-1.1**
CCB				IAmb		IAmb	05 59 35.1	
	comp=Z,5.1nm,0.6s							
IL31		**88.24**	**13**	P		**P**	**05 59 36.4**	**-0.5**
IL31				IAmb		IAmb	06 02 43.4	
	comp=Z,13nm,1.6s							
ILAR	**Eielson Array**	**88.24**	**13**	P		**P**	**05 59 36.2**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=219,slow=5.7,SNR=23							
ILAR	**Eielson Array**	**88.24**	**13**	P		**P**	**05 59 36.1**	**-0.8**
M30M	**Minto, Yukon**	**88.94**	**18**	P		**P**	**05 59 39.9**	**-0.4**
M30M				IAmb		IAmb	05 59 41.8	
	comp=Z,4.0nm,0.9s							
PDAR	**Pinedale Array**	**89.17**	**43**	P		**P**	**05 59 42.6**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=209,slow=2.7,SNR=8.8							
DAWY	**Dawson**	**89.41**	**16**	P		**P**	**05 59 42.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**89.56**	**290**	P		**P**	**05 59 45.7**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=140,slow=3.1,SNR=7.4							
YKA	**Yellowknife Ar**	**96.55**	**25**	P		**P**	**06 00 14.2**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=246,slow=4.3,SNR=3.6							
ARCES	**ARCESS Array B**	**128.63**	**349**	PKP		**PKPdf**	**06 05 47.2**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=59,slow=5.8,SNR=6.6							
FINES	**FINESS Array B**	**135.43**	**343**	PKhKP	PKPpre		06 05 57.0	
	comp=Z,3.3nm,1.1s,baz=330,slow=5.0,SNR=2.6							
AKASG	**Malin Array Be**	**142.59**	**331**	PKhKP	PKPpre		06 06 10.8	
	comp=Z,4.2nm,0.6s,baz=50,slow=4.5,SNR=18							
BRTR	**Keskin Array B**	**146.32**	**312**	PKPbc		**PKPbc**	**06 06 23.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=161,slow=5.2,SNR=7.3							
OSTC	**Ostas**	**147.62**	**342**	*e*PKP		**PKPbc**	**06 06 27.3**	**+0.4**
OSTC				*ex*		x	06 06 35.2	
CLL	**Collm**	**147.75**	**346**	*i* PKPbc		**PKPbc**	**06 06 26.9**	**-0.2**
	comp=Z,8.0nm,0.8s							
CLL				*i* PKPab		**PKPab**	**06 06 31.3**	**-0.4**
	comp=Z,4.0nm,0.8s							
CLL				*e*SKPbc		**SKPbc**	**06 09 07.0**	**-1.4**
DPC	**Dobruska-Polom**	**147.78**	**342**	*e*PKP		**PKPbc**	**06 06 27.2**	**-0.1**
KRLC	**Kraliky**	**147.89**	**341**	*e*PKP		**PKPbc**	**06 06 27.6**	**0.0**
PRU	**Pruhonice**	**148.60**	**344**	*e*PKP		**PKPbc**	**06 06 29.1**	**-0.2**
KHC	**Kasperske Hory**	**149.64**	**344**	*e*PKP		**PKPbc**	**06 06 31.8**	**-0.1**
KHC				*ex*		x	06 06 40.1	
CKRC	**Cesky Krumlov**	**149.73**	**343**	*e*PKP		**PKPbc**	**06 06 32.0**	**-0.1**
GERES	**GERESS Array B**	**149.87**	**344**	PKPbc		**PKPbc**	**06 06 32.2**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=60,slow=3.9,SNR=11							
CONA	**Conrad Observa**	**150.07**	**340**	*i* P		**PKiKP**	**06 06 33.1**	**-0.5**
	comp=Z,2.8nm,0.7s							
RONA	**Rosalia, Austr**	**150.13**	**340**	*i* P		**PKPbc**	**06 06 33.1**	**0.0**
	comp=Z,3.7nm,0.6s							
WATA	**Walderalm**	**151.80**	**345**	*e*P		**PKPbc**	**06 06 36.3**	**-0.7**
	comp=Z,2.5nm,0.5s							
RETA	**Reutte**	**151.84**	**347**	*i* P		**PKPbc**	**06 06 36.4**	**-0.7**
	comp=Z,1.7nm,0.5s							
WTTA	**Wattenberg**	**151.85**	**345**	*i* P		**PKPbc**	**06 06 36.7**	**-0.5**
	comp=Z,3.0nm,0.7s							
MOTA	**Moosalm**	**151.90**	**346**	*i* P		**PKPbc**	**06 06 36.6**	**-0.6**
	comp=Z,2.4nm,0.7s							
SQTA	**Sankt Quirin**	**151.99**	**346**	*i* P		**PKPbc**	**06 06 36.8**	**-0.6**
	comp=Z,3.9nm,0.8s							
ABTA	**Abfaltersbach**	**152.11**	**344**	*i* P		**PKPbc**	**06 06 36.7**	**-1.0**
	comp=Z,3.0nm,0.7s							
FETA	**Feichten**	**152.29**	**346**	*i* P		**PKPbc**	**06 06 37.8**	**-0.3**
	comp=Z,2.3nm,1.2s							

*IDC **23** 05:49:09.1±1.3, 14˚22S×166˚68E, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.8/33, mbtmp4.1/7, ML3.7/1, MS3.5/17, Ms1 3.5/17, ms1mx3.2/62, Error ellipse: s-maj=37.5km s-min=27.6km az=115.0*

*NEIC **23** 05:49:11.2±1.9, 14˚.29S±0˚.10×166˚.9E±0˚.1, h10km±6km, mb4.5/12, Error ellipse: s-maj=19.5km s-min=9.4km az=52.0*

ISC 23 05:49:10.7±1.0, 14˚30S±0˚09×166˚8E±0˚1, h10km, n37, σ1§59/24, mb4.4/11, MS3.4/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.20**	**162**		**Pn**	**05 49 31.3**	**-2.3**
KOUNC	**Koumac, New Ca**	**6.67**	**201**		**Pn**	**05 50 48.5**	**-0.4**
MARNC	**Mare, Loyalty**	**7.24**	**171**	Pn	**Pn**	**05 50 58.0**	**+1.4**
DZM	**Mont Dzumac**	**7.74**	**183**	Pn	**Pn**	**05 51 03.5**	**-0.1**
	1.2nm,0.3s,baz=289,slow=17,SNR=14						
DZM				Sn	**Sn**	**05 52 29.9**	**-1.6**
	baz=156,slow=20,SNR=1.3						
DZM				LR	LR	05 53 47.1	
	comp=Z,335nm,18.9s,baz=30,slow=36						
DZM	**Mont Dzumac**	**7.74**	**183**	*e*Pn	**Pn**	**05 51 08.4**	**+4.8**
	18nm,0.6s						
DZM				*e*LR	LR	05 52 32.6	
	comp=Z,277nm,22.8s						
ONTNC	**Ouen Toro**	**7.97**	**182**	Pn	**Pn**	**05 51 08.9**	**+2.2**
HNR	**Honiara**	**8.28**	**305**	LR	LR	05 54 11.2	
	comp=Z,227nm,20.6s,baz=144,slow=37						
HNR	**Honiara**	**8.28**	**305**	Pn	**Pn**	**05 51 11.8**	**+0.9**
MSVF	**Nonsavu**	**11.33**	**109**	LR	LR	05 55 33.5	
	comp=Z,436nm,18.1s,baz=177,slow=34						
KRVT	**Keravat (AS076**	**17.64**	**303**	LR	LR	06 01 07.5	
	comp=Z,100nm,18.2s,baz=237,slow=41						
EIDS	**Eidsvold**	**18.43**	**231**	P	**Pn**	**05 53 26.4**	**0.0**
PMG	**Port Moresby**	**19.84**	**282**	LR	LR	06 00 05.3	
	comp=Z,79nm,18.9s,baz=36,slow=33						
CTA	**Charters Tower**	**20.46**	**251**	LR	LR	06 00 32.8	
	comp=Z,89nm,18.6s,baz=80,slow=34						
BKZ	**Black Stump Fm**	**26.20**	**163**	P	**P**	**05 54 47.4**	**+1.7**
BKZ				IAmb	IAmb	05 54 53.3	
	comp=Z,6.5nm,0.9s						
STKA	**Stephens Creek**	**28.94**	**229**	P	**P**	**05 55 10.7**	**+0.4**
	comp=Z,4.5nm,0.7s,baz=42,slow=8.3,SNR=12						
STKA	**Stephens Creek**	**28.94**	**229**	P	**P**	**05 55 10.4**	**+0.1**
WB0	**Warramunga Arr**	**31.44**	**255**	P	**P**	**05 55 31.3**	**-1.3**
WB0				IAmb	IAmb	05 55 37.6	
	comp=Z,3.5nm,0.7s						
WRA	**Warramunga Arr**	**31.51**	**255**	P	**P**	**05 55 31.5**	**-1.7**
	comp=Z,1.5nm,0.9s,baz=87,slow=8.7,SNR=5.8						
WRA				LR	LR	06 07 37.2	
	comp=Z,82nm,18.6s,baz=33,slow=35						
ASAR	**Alice Springs**	**32.42**	**248**	P	**P**	**05 55 39.5**	**-1.7**
	comp=Z,1.8nm,0.8s,baz=78,slow=9.7,SNR=6.8						
ASAR				LR	LR	06 07 29.7	
	comp=Z,45nm,18.6s,baz=320,slow=34						
RAR	**Rarotonga**	**32.51**	**107**	LR	LR	06 06 17.0	
	comp=Z,62nm,21.5s,baz=240,slow=32						
BBOO	**Buckleboo**	**33.50**	**231**	P	**P**	**05 55 51.0**	**+0.5**
GUMO	**Guam**	**35.21**	**321**	LR	LR	06 09 39.6	
	comp=Z,60nm,20.3s,baz=130,slow=35						
KNRA	**Kununurra**	**36.75**	**263**	P	**P**	**05 56 17.4**	**-1.3**
KNRA				IAmb	IAmb	05 56 20.9	
	comp=Z,8.1nm,0.9s						
FORT	**Forrest**	**39.14**	**239**	P	**P**	**05 56 38.8**	**0.0**
FITZ	**Fitzroy Crossi**	**39.66**	**259**	LR	LR	06 12 17.1	
	comp=Z,71nm,18.2s,baz=123,slow=35						
MBWA	**Marble Bar**	**45.23**	**254**	P	**P**	**05 57 28.2**	**-0.4**
MBWA				IAmb	IAmb	05 57 39.5	
	comp=Z,6.1nm,1.1s						
MORW	**Morawa**	**49.06**	**244**	P	**P**	**05 57 57.8**	**-0.6**
MORW				IAmb	IAmb	05 57 58.6	
	comp=Z,6.5nm,0.8s						
JAGI	**Jajag, Banyuwa**	**51.86**	**270**	P	**P**	**05 58 20.1**	**+0.3**
SHEM	**Shemya Is, Ala**	**67.05**	**5**	LR	LR	06 26 38.2	
	comp=Z,30nm,18.4s,baz=18,slow=34						
PETK	**Petropavlovsk-**	**67.59**	**354**	LR	LR	06 26 50.2	
	comp=Z,21nm,18.1s,baz=140,slow=34						
MA2	**Magadan**	**74.76**	**352**	LR	LR	06 27 23.0	
	comp=Z,29nm,21.8s,baz=200,slow=31						
QSPA	**South Pole Qui**	**75.73**	**180**	P	**P**	**06 00 57.2**	**+0.7**
	comp=Z,4.1nm,1.0s,baz=307,slow=5.9,SNR=4.9						
QSPA	**South Pole Qui**	**75.73**	**180**	IAmb	IAmb	06 01 03.5	
	comp=Z,4.6nm,1.0s						
KDAK	**Kodiak Island**	**79.22**	**21**	LR	LR	06 31 47.1	
	comp=Z,52nm,18.5s,baz=181,slow=32						
ILAR	**Eielson Array**	**86.25**	**18**	P	**P**	**06 01 51.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=239,slow=5.2,SNR=6.6						
ILAR				LR	LR	06 36 15.9	
	comp=Z,34nm,18.9s,baz=255,slow=33						
BBB	**Bella Bella**	**86.67**	**34**	LR	LR	06 35 19.5	
	comp=Z,15nm,21.0s,baz=265,slow=32						
MKAR	**Makanchi Array**	**96.59**	**316**	P	**P**	**06 02 41.5**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=96,slow=6.7,SNR=3.7						

IDC 23 06:10:52.0±9.3, 10˚.93N×141˚.35E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/51, mbtmp3.9/5, MS3.1/2, Ms1 3.1/2, ms1mx2.4/81, Error ellipse: s-maj=282.1km s-min=54.9km az=177.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**21.01**	**164**	LR	LR	06 23 28.6	
	comp=Z,36nm,18.1s,baz=156,slow=36						
MKAR	**Makanchi Array**	**61.06**	**318**	P	P	06 21 09.6	+1.8
	0.2nm,0.6s,baz=99,slow=9.1,SNR=1.9						
ILAR	**Eielson Array**	**72.43**	**25**	P	P	06 22 19.8	-0.2
	0.6nm,0.6s,baz=251,slow=6.3,SNR=12						
YKA	**Yellowknife Ar**	**86.78**	**27**	P	P	06 23 39.4	+1.4
	0.5nm,0.7s,baz=289,slow=5.0,SNR=8.1						
YKA				LR	LR	07 03 21.7	
	comp=Z,12nm,18.9s,baz=298,slow=36						
ARCES	**ARCESS Array B**	**88.52**	**342**	P	P	06 23 44.3	-1.9
	5.6nm,1.1s,baz=71,slow=8.2,SNR=4.2						
FINES	**FINESS Array B**	**92.08**	**334**	P	P	06 24 01.6	-1.4
	0.5nm,0.5s,baz=90,slow=7.6,SNR=6.3						

*INET **23** 06:14:50.4±0.9, 10˚.87N×86˚.78W, h2km±4km, MW3.6*
*UCR **23** 06:14:53.2±1.3, 10˚.76N×86˚.65W, h15km±9km, MW3.8*

ISC 23 06:14:49.3±2.9, 10˚90N±0˚06×86˚78W±0˚09, h14km±20km, n22, σ0§72/27, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.17**	**99**	*e*P	**Pn**	**06 15 12.0**	**+0.7**
HZTE	**Horizontes, Gu**	**1.17**	**99**	*e*P	**Pn**	**06 15 12.1**	**+0.7**
HZTE				*e*S	**Sn**	**06 15 27.7**	**+0.1**
COPN	**Copaltepe**	**1.29**	**8**	*e*P	**Pb**	**06 15 13.5**	**+0.1**
GBS3	**Finca Las Img**	**1.30**	**95**	*i* P	**Pn**	**06 15 13.7**	**+0.6**
CONN	**Concepcion**	**1.31**	**59**	*e*P	**Pn**	**06 15 13.3**	**+0.1**
SAJU	**San Juanillo,**	**1.33**	**128**	*e*P	**Pn**	**06 15 13.5**	**0.0**
SAJU				*e*S	**Sb**	**06 15 29.5**	**-1.6**
TISN	**Laguna Tiscapa**	**1.33**	**22**	*e*P	**Pb**	**06 15 14.0**	**-0.2**
MGAN	**Managua**	**1.35**	**23**	*e*P	**Pb**	**06 15 14.2**	**-0.1**
BUEV	**Buena Vista**	**1.35**	**94**	*i* P	**Pn**	**06 15 14.5**	**+0.7**
GB1A	**Borinquen Arri**	**1.35**	**93**	*i* P	**Pb**	**06 15 14.8**	**+0.3**
GUAI	**GUAI**	**1.39**	**116**	*i* P	**Pn**	**06 15 14.8**	**+0.5**
GUAI				*i* S	**Sb**	**06 15 31.3**	**-1.4**
DUNO	**Dulce Nombre,**	**1.50**	**123**	*e*P	**Pn**	**06 15 16.3**	**+0.4**
HUEN		**1.55**	**22**	*e*P	**Pn**	**06 15 16.9**	**+0.4**
HUEN				*e*S	**Sg**	**06 15 39.4**	**+0.1**
CNGN	**Cerro Negro**	**1.59**	**3**	*e*P	**Pn**	**06 15 16.6**	**-0.6**
CUI	**Cuipilapa**	**1.60**	**98**	*i* P	**Pn**	**06 15 18.3**	**+1.0**
VMAR	**Armenia, Volca**	**1.63**	**93**	*e*P	**Pb**	**06 15 19.1**	**-0.1**
CRIN	**San Cristobal**	**1.81**	**351**	*e*P	**Pn**	**06 15 21.0**	**+0.8**
BOAB	**BOACO BROADBAN**	**1.89**	**35**	*e*P	**Pn**	**06 15 21.1**	**-0.1**
BOAB				*e*S	**Sb**	**06 15 46.6**	**-0.4**
JTS	**Las Juntas de**	**1.89**	**108**	*e*P	**Pn**	**06 15 22.6**	**+1.4**
LAFE	**Finca La Fe, P**	**2.13**	**120**	*e*P	**Pn**	**06 15 24.6**	**+0.1**
MATN	**Matagalpa**	**2.19**	**22**	*e*P	**Pn**	**06 15 25.6**	**+0.2**
CSGN	**Cosiguina Volc**	**2.21**	**340**	*e*P	**Pn**	**06 15 26.3**	**+0.7**

*NOU **23** 06:31:20.9, 15˚.32S×167˚.53E, h25km, MLv3.9/5, Vanuatu Islands*

IDC 23 06:31:11.5±13.0, 15˚27S×165˚34E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/30, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=234.5km s-min=36.1km az=53.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.81**	**96**	P	Pn	06 31 29.8	-14
DVP	**Devils Point**	**3.66**	**132**	P	Pn	06 31 59.5	-10
DZM	**Mont Dzumac**	**6.84**	**171**	Pn	Pn	06 32 53.2	0.0
	0.7nm,0.3s,baz=315,slow=22,SNR=18						
DZM				Sn	Sn	06 34 12.5	+0.5
	0.5nm,0.3s,baz=323,slow=20,SNR=1.3						
STKA	**Stephens Creek**	**27.23**	**228**	P	P	06 36 57.6	+0.3
	1.2nm,0.4s,baz=46,slow=9.6,SNR=5.7						
WRA	**Warramunga Arr**	**29.89**	**257**	P	P	06 37 20.6	-0.6
	0.3nm,0.3s,baz=71,slow=4.4,SNR=1.4						
ASAR	**Alice Springs**	**30.74**	**249**	P	P	06 37 28.8	+0.1
	0.6nm,0.4s,baz=79,slow=9.1,SNR=12						

*NNC **23** 06:35:00.4±0.6, 41˚.93N×76˚.78E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=3.8km s-min=2.2km az=176.0*
*KRNET **23** 06:35:00.2±0.1, 41˚.93N×76˚.77E, h16km, mb4.1*
*SOME **23** 06:35:00.4, 42˚.00N×76˚.80E, h15km*
*KNET **23** 06:35:01.4±0.6, 41˚.93N×76˚.66E, h14km±2km, ml3.1, Error ellipse: s-maj=5.5km s-min=3.0km az=40.0*

ISC 23 06:35:01.2±1.2, 41˚.99N±0˚.03×76˚.70E±0˚.02, h2km±9km, n116, σ1§09/200, 28C-36D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.39**	**69**	*i*P	**Pg**	**06 35 07.5**	**-1.2**
	baz=58						
KDJ				⇑*i*S	**Sg**	**06 35 12.8**	**-0.9**
	baz=58						
ULHL	**Ulahol**	**0.42**	**307**	⇓P	**Pg**	**06 35 10.1**	**+0.7**
	86nm,0.1s						
ULHL				⇓S	**Sb**	**06 35 17.7**	**-0.8**
	467nm,0.1s						
ULHL	**Ulahol**	**0.42**	**307**	⇑*i*P	**Pg**	**06 35 09.9**	**+0.6**
	baz=9.0						
ULHL				⇑*i*S	**Sb**	**06 35 16.9**	**-1.5**
	baz=9.0						
IZV	**Izvestkoviy**	**1.05**	**357**	*e*P	**Pb**	**06 35 21.8**	**-0.3**
	baz=54						
IZV				*e*S	**Sn**	**06 35 37.1**	**-1.2**
	baz=54						
IZV	**Izvestkoviy**	**1.05**	**357**	*e*P	**Pb**	**06 35 21.8**	**-0.3**
	148nm,0.2s						
IZV				*e*S	**Sn**	**06 35 37.0**	**-1.2**
	211nm,0.3s						
IZV	**Izvestkoviy**	**1.05**	**357**	P	**Pb**	**06 35 21.8**	**-0.3**
	148nm,0.2s						
IZV				S	**Sn**	**06 35 37.0**	**-1.2**
	211nm,0.3s						
TNSS	**Tian-Shan**	**1.06**	**10**	*e*P	**Pg**	**06 35 21.6**	**0.0**
	baz=7.0						
TNSS				*e*S	**Sb**	**06 35 36.8**	**-0.2**
	baz=7.0						
TNSS	**Tian-Shan**	**1.06**	**10**	*e*P	**Pg**	**06 35 21.6**	**0.0**
	165nm,0.2s						
TNSS				*e*S	**Sb**	**06 35 36.8**	**-0.2**
	165nm,0.5s						
TNSS	**Tian-Shan**	**1.06**	**10**	*i* P	**Pg**	**06 35 21.5**	**0.0**
	baz=7.3						
TNSS				*e*S	**Sb**	**06 35 36.5**	**-0.5**
	baz=7.3						
TNSS	**Tian-Shan**	**1.06**	**10**	P	**Pg**	**06 35 21.6**	**0.0**
	165nm,0.2s						
TNSS				S	**Sb**	**06 35 36.8**	**-0.2**
	165nm,0.5s						
ANVS	**Anan'yevo**	**1.07**	**42**	⇓*i*P	**Pg**	**06 35 20.8**	**-0.9**
	baz=38						
ANVS				⇓*i*S	**Sg**	**06 35 35.7**	**+0.1**
	baz=38						
MTBS	**Maitube**	**1.16**	**350**	*e*P	**Pb**	**06 35 23.4**	**-0.5**
	baz=48						
MTBS				*e*S	**Sn**	**06 35 39.8**	**-1.0**
	baz=48						
MTBS	**Maitube**	**1.16**	**350**	*e*P	**Pb**	**06 35 23.4**	**-0.5**
	148nm,0.1s						
MTBS				*e*S	**Sn**	**06 35 39.8**	**-1.0**
	217nm,0.2s						
MTBS	**Maitube**	**1.16**	**350**	P	**Pb**	**06 35 23.4**	**-0.5**
	148nm,0.1s						
MTBS				S	**Sn**	**06 35 39.8**	**-1.0**
	217nm,0.2s						
KST	**Kastek**	**1.18**	**333**	*e*P	**Pb**	**06 35 24.0**	**-0.4**
	baz=32						
KST				*e*S	**Sn**	**06 35 40.8**	**-0.8**
	baz=32						
KST	**Kastek**	**1.18**	**333**	*e*P	**Pb**	**06 35 24.0**	**-0.4**
	89nm,0.1s						
KST				*e*S	**Sn**	**06 35 40.8**	**-0.8**
	285nm,0.3s						
KST	**Kastek**	**1.18**	**333**	P	**Pb**	**06 35 24.0**	**-0.4**
	89nm,0.1s						
KST				S	**Sn**	**06 35 40.8**	**-0.8**
	285nm,0.3s						
MDOK	**Medeo**	**1.20**	**12**	*e*P	**Pb**	**06 35 23.9**	**-0.8**
	baz=9.0						
MDOK				*e*S	**Sg**	**06 35 40.7**	**+0.9**
	baz=9.0						
MDOK	**Medeo**	**1.20**	**12**	*e*P	**Pb**	**06 35 23.9**	**-0.8**
	649nm,0.3s						
MDOK				*e*S	**Sg**	**06 35 40.6**	**+0.9**
	189nm,0.2s						
MDOK	**Medeo**	**1.20**	**12**	*i* P	**Pb**	**06 35 23.9**	**-0.8**
	baz=9.9						
MDOK				*e*S	**Sn**	**06 35 40.9**	**-1.2**
	baz=9.9						
MDOK	**Medeo**	**1.20**	**12**	⇑P	**Pb**	**06 35 23.8**	**-1.0**
	350nm,0.4s						
MDOK				⇓S	**Sn**	**06 35 40.8**	**-1.2**
MDOK	**Medeo**	**1.20**	**12**	Pg	**Pb**	**06 35 23.9**	**-0.8**
	649nm,0.3s						
MDOK				Lg	Lg	06 35 40.7	
	189nm,0.2s						
AAA	**Alma-Ata**	**1.23**	**8**	*e*P	**Pg**	**06 35 25.1**	**+0.4**
	400nm,0.2s						
AAA				*e*S	**Sn**	**06 35 42.8**	**+0.2**
	18nm,0.1s						
AAA	**Alma-Ata**	**1.23**	**8**	*e*P	**Pb**	**06 35 24.9**	**-0.2**
	baz=5.2						
AAA	**Alma-Ata**	**1.23**	**8**	P	**Pg**	**06 35 25.1**	**+0.4**
	400nm,0.2s						
AAA				S	**Sn**	**06 35 42.8**	**+0.2**
	18nm,0.1s						
TKM2	**Tokmak 2**	**1.23**	**319**	⇓P	**Pg**	**06 35 24.9**	**+0.1**
	28nm,0.1s,SNR=132						
TKM2				⇓S	**Sn**	**06 35 43.1**	**+0.1**
	295nm,0.1s						
TKM2	**Tokmak 2**	**1.23**	**319**	⇑*i*P	**Pn**	**06 35 24.8**	**-0.9**
	baz=19						
TKM2				⇑*i*S	**Sn**	**06 35 42.7**	**-0.3**
	baz=19						
TKM2	**Tokmak 2**	**1.23**	**319**	⇑P	**Pn**	**06 35 24.7**	**-0.9**
	9.2nm,0.3s						
TKM2				⇑S	**Sn**	**06 35 43.0**	**0.0**
	279nm,0.5s						
KNDC	**Almaty**	**1.24**	**9**	⇑P	**Pb**	**06 35 25.2**	**-0.2**
	665nm,0.5s						
KNDC				⇑S	**Sn**	**06 35 43.7**	**+0.8**
	590nm,0.3s						
KOTS	**Kotyrbulak**	**1.28**	**14**	*e*P	**Pn**	**06 35 25.5**	**-0.7**
	baz=11						
KOTS				*e*S	**Sn**	**06 35 43.4**	**-0.6**
	baz=11						
KOTS	**Kotyrbulak**	**1.28**	**14**	*e*P	**Pn**	**06 35 25.5**	**-0.7**
	469nm,0.1s						
KOTS				*e*S	**Sn**	**06 35 43.4**	**-0.6**
	737nm,0.4s						
KOTS	**Kotyrbulak**	**1.28**	**14**	P	**Pn**	**06 35 25.5**	**-0.7**
	469nm,0.1s						
KOTS				S	**Sn**	**06 35 43.4**	**-0.6**
	737nm,0.4s						
DGS	**Degeres**	**1.42**	**332**	*e*P	**Pg**	**06 35 28.6**	**+0.1**
	baz=31						
DGS				*e*S	**Sg**	**06 35 48.7**	**+1.7**
	baz=31						
DGS	**Degeres**	**1.42**	**332**	*e*P	**Pg**	**06 35 28.6**	**+0.1**
	140nm,0.1s						
DGS				*e*S	**Sg**	**06 35 48.6**	**+1.7**
	269nm,0.4s						
DGS	**Degeres**	**1.42**	**332**	P	**Pg**	**06 35 28.6**	**+0.1**
	140nm,0.1s						
DGS				S	**Sg**	**06 35 48.7**	**+1.7**
	269nm,0.4s						
KBK	**Karagaybulak**	**1.46**	**298**	⇓P	**Pg**	**06 35 29.0**	**-0.2**
	26nm,0.1s,SNR=53						
KBK				⇓S	**Sg**	**06

	84nm,0.5s								
KRBS	**Karabastau**	**1.86**	**337**	*e*P		**Pb**	**06 35 36.2**	**+0.3**	
	baz=36								
KRBS				*e*S		**Sg**	**06 36 01.8**	**+0.8**	
	baz=36								
KRBS	**Karabastau**	**1.86**	**337**	*e*P		**Pb**	**06 35 36.2**	**+0.3**	
KRBS	84nm,0.1s			*e*S		**Sg**	**06 36 01.8**	**+0.8**	
	255nm,0.3s								
KRBS	**Karabastau**	**1.86**	**337**	P		**Pb**	**06 35 36.2**	**+0.3**	
KRBS	84nm,0.1s			S		**Sg**	**06 36 01.8**	**+0.8**	
	255nm,0.3s								
CHKK	**Chushkaly**	**1.87**	**6**	*e*P		**Pb**	**06 35 36.0**	**-0.2**	
CHKK	baz=5.0			*e*S		**Sg**	**06 36 01.4**	**0.0**	
	baz=5.0								
CHKK	**Chushkaly**	**1.87**	**6**	*e*P		**Pb**	**06 35 36.0**	**-0.2**	
CHKK	153nm,0.3s			*e*S		**Sg**	**06 36 01.3**	**0.0**	
	602nm,0.2s								
CHKK	**Chushkaly**	**1.87**	**6**	*i* Pn		**Pb**	**06 35 36.0**	**-0.2**	
CHKK	baz=5.2			Pg		**Pb**	**06 35 36.0**	**-0.2**	
	153nm,0.3s								
CHKK	602nm,0.2s			Lg		Lg	06 36 01.3		
KUU	**Kurty**	**1.92**	**352**	*e*P		**Pb**	**06 35 36.9**	**0.0**	
KUU	baz=51			*e*S		**Sg**	**06 36 03.0**	**+0.2**	
	baz=51								
KUU	**Kurty**	**1.92**	**352**	*e*P		**Pb**	**06 35 36.9**	**0.0**	
KUU	118nm,0.3s			*e*S		**Sg**	**06 36 03.0**	**+0.2**	
	177nm,0.5s								
KUU	**Kurty**	**1.92**	**352**	*i* Pn		**Pb**	**06 35 37.0**	**0.0**	
KUU	baz=351			*i* Sn		**Sg**	**06 36 03.5**	**+0.7**	
	baz=351								
KUU	**Kurty**	**1.92**	**352**	Pg		**Pb**	**06 35 36.9**	**0.0**	
KUU	118nm,0.3s			Lg		Lg	06 36 03.0		
	177nm,0.5s								
USP	**Ospenovka**	**2.06**	**309**	⇓P		**Pb**	**06 35 39.2**	**-0.2**	
USP	52nm,0.2s,SNR=53			⇓S		**Sg**	**06 36 08.2**	**+0.8**	
	82nm,0.2s								
USP	**Ospenovka**	**2.06**	**309**	⇑*i*P		**Pb**	**06 35 38.5**	**-0.8**	
USP	baz=9.0			⇑*i*S		**Sg**	**06 36 06.6**	**-0.8**	
	baz=9.0								
UZB	**Uzynbulak**	**2.07**	**55**	*e*P		**Pn**	**06 35 37.7**	**+0.6**	
UZB	baz=53			*e*S		**Sb**	**06 36 05.0**	**-0.8**	
	baz=53								
UZB	**Uzynbulak**	**2.07**	**55**	*e*P		**Pn**	**06 35 37.7**	**+0.6**	
UZB	73nm,0.3s			*e*S		**Sb**	**06 36 05.0**	**-0.8**	
	165nm,0.3s								
UZB	**Uzynbulak**	**2.07**	**55**	*i* Pn		**Pn**	**06 35 37.4**	**+0.3**	
UZB	baz=54			*i* Sn		**Sb**	**06 36 05.4**	**-0.4**	
	baz=54								
UZB	**Uzynbulak**	**2.07**	**55**	Pg		**Pn**	**06 35 37.7**	**+0.6**	
UZB	73nm,0.3s			Lg		Lg	06 36 05.0		
	165nm,0.3s								
KPKS	**Kokpek**	**2.08**	**44**	*e*P		**Pb**	**06 35 38.1**	**-1.5**	
KPKS	baz=42			*e*S		**Sb**	**06 36 05.0**	**-0.9**	
	baz=42								
KPKS	**Kokpek**	**2.08**	**44**	*e*P		**Pb**	**06 35 38.1**	**-1.5**	
KPKS	121nm,0.4s			*e*S		**Sb**	**06 36 05.1**	**-0.9**	
	720nm,0.4s								
KPKS	**Kokpek**	**2.08**	**44**	*i* Pn		**Pb**	**06 35 38.1**	**-1.5**	
KPKS	baz=43			*i* Sn		**Sb**	**06 36 06.4**	**+0.5**	
	baz=43								
SGDS	**Sogindy**	**2.11**	**315**	*e*P		**Pb**	**06 35 39.8**	**-0.3**	
SGDS	35nm,0.2s			*e*S		**Sg**	**06 36 08.2**	**-0.8**	
	157nm,0.3s								
SGDS	**Sogindy**	**2.11**	**315**	*i* P		**Pb**	**06 35 39.8**	**-0.3**	
SGDS	baz=314			Pg		**Pb**	**06 35 39.8**	**-0.3**	
	35nm,0.2s								
SGDS	157nm,0.3s			Lg		Lg	06 36 08.2		
AML	**Almayashu**	**2.24**	**275**	⇑P		**Pb**	**06 35 41.6**	**-1.0**	
	19nm,0.2s,SNR=67								
EKS2	**Erkin-Say**	**2.27**	**288**	⇓*i*P		**Pb**	**06 35 41.2**	**-1.7**	
EKS2	baz=89			⇓*i*S		**Sb**	**06 36 11.2**	**-0.2**	
	baz=89								
SHLS	**Shalkode**	**2.35**	**59**	*e*P		**Pg**	**06 35 47.6**	**+1.3**	
SHLS	43nm,0.4s			*e*S		**Sg**	**06 36 21.5**	**+4.8**	
	267nm,0.7s								
SHLS	**Shalkode**	**2.35**	**59**	*i* Pn		**Pg**	**06 35 46.0**	**-0.3**	
SHLS	baz=62			Pg		**Pg**	**06 35 47.6**	**+1.3**	
	43nm,0.4s								
SHLS	267nm,0.7s			Lg		Lg	06 36 21.5		
ARXS	**Arharly**	**2.37**	**20**	*e*P		**Pb**	**06 35 43.8**	**-0.8**	
ARXS	114nm,0.7s			*e*S		**Sb**	**06 36 15.6**	**+1.3**	
	366nm,0.4s								
ARXS	**Arharly**	**2.37**	**20**	Pg		**Pb**	**06 35 43.8**	**-0.8**	
ARXS	114nm,0.7s			Lg		Lg	06 36 15.6		
	366nm,0.4s								
PDGK	**Podgornoye**	**2.46**	**56**	Pg		**Pn**	**06 35 43.1**	**+0.7**	
PDGK	46nm,0.4s			Lg		Lg	06 36 13.8		
	120nm,0.8s								
PDGK	**Podgornoye**	**2.46**	**56**	⇓Pg		**Pn**	**06 35 43.0**	**+0.6**	
PDGK	61nm,0.5s			⇑Lg		Lg	06 36 16.1		
	330nm,0.9s								
BLB	**Baldybastay**	**2.48**	**31**	*e*P		**Pb**	**06 35 46.1**	**-0.3**	
BLB	197nm,0.4s			*e*S		**Sb**	**06 36 18.8**	**+1.3**	
	604nm,0.3s								
BLB	**Baldybastay**	**2.48**	**31**	Pg		**Pb**	**06 35 46.1**	**-0.3**	
BLB	197nm,0.4s			Lg		Lg	06 36 18.8		
	604nm,0.3s								
MRKS	**Merke**	**2.68**	**287**	*e*P		**Pg**	**06 35 52.2**	**-0.3**	
MRKS	64nm,0.5s			*e*S		**Sg**	**06 36 29.2**	**+2.0**	
	165nm,0.3s								
MRKS	**Merke**	**2.68**	**287**	Pg		**Pg**	**06 35 52.2**	**-0.3**	
MRKS	64nm,0.5s			Lg		Lg	06 36 29.2		
	165nm,0.3s								
DJR	**Jarkent**	**3.26**	**43**	*e*P		**Pb**	**06 35 59.5**	**-0.2**	
DJR	8.7nm,0.4s			*e*S		**Sb**	**06 36 41.8**	**+1.9**	
	28nm,0.2s								
DJR	**Jarkent**	**3.26**	**43**	Pg		**Pb**	**06 35 59.5**	**-0.2**	
DJR	8.7nm,0.4s			Lg		Lg	06 36 41.8		
	28nm,0.2s								
TDK	**Taldyqorghan**	**3.26**	**22**	*e*P		**Pb**	**06 36 01.0**	**+1.3**	
TDK	82nm,0.4s			*e*S		**Sg**	**06 36 44.5**	**-1.3**	
	192nm,0.5s								
TDK	**Taldyqorghan**	**3.26**	**22**	*e*Pg		**Pg**	**06 36 02.2**	**-1.4**	
	baz=21								
TDK	**Taldyqorghan**	**3.26**	**22**	Pg		**Pb**	**06 36 01.0**	**+1.3**	
TDK	82nm,0.4s			Lg		Lg	06 36 44.5		
	192nm,0.5s								
OHH	**Osh**	**3.29**	**245**	⇑*i*P		**Pn**	**06 35 54.8**	**+1.0**	
OHH	baz=46			⇑*i*S		**Sn**	**06 36 34.7**	**+1.2**	
	baz=46								
ARK	**Arkit**	**3.54**	**268**	⇑*i*P		**Pn**	**06 35 58.6**	**+1.4**	
ARK	baz=70			⇑*i*S		**Sn**	**06 36 41.3**	**+1.6**	
	baz=70								
BTLS	**Baital**	**3.61**	**329**	*e*P		**Pb**	**06 36 06.7**	**+1.1**	
BTLS	13nm,0.3s			*e*S		**Sg**	**06 36 54.1**	**-2.9**	
	80nm,0.5s								
BTLS	**Baital**	**3.61**	**329**	*e*Pb		**Pb**	**06 36 07.0**	**+1.4**	
	baz=328								
BTLS				*e*Pg		**Pg**	**06 36 08.2**	**-2.1**	
	baz=328								
BTLS	**Baital**	**3.61**	**329**	Pg		**Pb**	**06 36 06.7**	**+1.1**	
BTLS	13nm,0.3s			Lg		Lg	06 36 54.1		
	80nm,0.5s								
KAPS	**Kapalarasan**	**3.82**	**30**	*e*P		**Pb**	**06 36 09.6**	**+0.3**	
KAPS	21nm,0.4s			*e*S		**Sb**	**06 36 58.9**	**+3.0**	
	32nm,0.4s								
KAPS	**Kapalarasan**	**3.82**	**30**	Pg		**Pb**	**06 36 09.5**	**+0.3**	
KAPS	21nm,0.4s			Lg		Lg	06 36 58.9		
	32nm,0.4s								
TRKS	**Terek-Say**	**4.18**	**266**	⇓*i*P		**Pn**	**06 36 07.4**	**+1.3**	
TRKS	baz=66			⇓*i*S		**Sn**	**06 36 56.4**	**+0.8**	
	baz=66								
KK31	**Karatay Array**	**4.70**	**286**	⇓Pg		**Pb**	**06 36 27.0**	**+2.7**	
	4.6nm,0.8s,baz=106,slow=15,SNR=28								
KK31				⇑Lg		Lg	06 37 30.0		
	30nm,0.7s,baz=105,slow=27,SNR=11								
KKAR	**Karatay Array**	**4.70**	**286**	⇓*i*P		**Pn**	**06 36 14.9**	**+1.8**	
KKAR	baz=86			⇓*i*S		**Sn**	**06 37 09.5**	**+1.3**	
	baz=86								
BTK	**Batken**	**4.85**	**248**	⇓*i*P		**Pn**	**06 36 16.4**	**+1.2**	
BTK	baz=49			⇓*i*S		**Sn**	**06 37 11.8**	**-0.1**	
	baz=49								
IUG	**Iuzhnay**	**4.96**	**274**	*e*P		**Pg**	**06 36 33.1**	**-3.2**	
IUG	238nm,0.4s			*e*S		**Sg**	**06 37 39.2**	**-1.3**	
	67nm,0.4s								
IUG	**Iuzhnay**	**4.96**	**274**	*e*Pg		**Pg**	**06 36 34.1**	**-2.2**	
	baz=274								
IUG	**Iuzhnay**	**4.96**	**274**	Pg		**Pg**	**06 36 33.1**	**-3.2**	
IUG	238nm,0.4s			Lg		Lg	06 37 39.2		
	67nm,0.4s								
BRLS	**Boroldaу**	**5.17**	**284**	*e*P		**Pg**	**06 36 38.4**	**-1.9**	
BRLS	2.7nm,0.4s			*e*S		**Sg**	**06 37 48.4**	**+1.1**	
	20nm,0.5s								
BRLS	**Boroldaу**	**5.17**	**284**	Pg		**Pg**	**06 36 38.4**	**-1.9**	
BRLS	2.7nm,0.4s			Lg		Lg	06 37 48.4		
	20nm,0.5s								
MK31	**Makanchi Array**	**6.25**	**38**	⇑Pn		**Pn**	**06 36 36.0**	**+1.5**	
	1.6nm,0.6s,baz=211,slow=14,SNR=13								
MK31				⇑Pg		**Pb**	**06 36 54.4**	**+3.7**	
	2.6nm,0.5s,baz=226,slow=14,SNR=4.0								
MK31				⇓Lg		Lg	06 38 14.2		
	10nm,0.9s,baz=214,slow=27,SNR=2.8								
OTUK	**Ortayu**	**6.97**	**335**	⇑Lg		Lg	06 38 39.5		
	46nm,1.1s								
KURBB	**Kurchatov Arra**	**8.73**	**8**	⇓Lg		Lg	06 39 37.6		
SEM	**Semipalatinsk**	**8.77**	**15**	*e*Pg		Pg	06 37 43.9	-5.2	
	baz=15								

IDC ***23*** *06:41:43.8±1.4, 41°.84N×76°.67E, h0km, mb3.7/4, mb1 3.7/9, mb1mx3.4/56, mbtmp3.7/9, ML3.1/4, MS2.8/2, Ms1 2.8/2, ms1mx2.3/94, Error ellipse: s-maj=22.4km s-min=11.4km az=172.0*

KRNET ***23*** *06:41:44.6±0.1, 41°.92N×76°.76E, h18km, mb4.6*

SOME ***23*** *06:41:45.0, 41°.98N×76°.75E, h10km, MS3.4*

KNET ***23*** *06:41:45.6±0.5, 41°.90N×76°.60E, h10km±2km, ml3.6, Error ellipse: s-maj=3.7km s-min=3.4km az=64.0*

MOS ***23*** *06:41:45.2±0.8, 41°.88N×76°.77E, h13km, mb4.2/2, Error ellipse: s-maj=6.2km s-min=4.6km az=85.5*

MOS Felt (III) at Kok-Say, Toguz-Bulak, Konur-Olon, Komsomol; (II-III) at Tort-Kul, Bokonbayevo.

NNC ***23*** *06:41:45.3±0.6, 41°.96N×76°.78E, h0km, mb4.8, mpv4.7, Error ellipse: s-maj=3.8km s-min=2.2km az=175.0*

BJI ***23*** *06:41:46.4±0.0, 42°.04N×76°.81E, h17km, ML3.6/7*

ISC 23 06:41:45.3±1.1, 41°.95N±0°.03×76°.72E±0°.01, h3km±8km, n169, σ1°18/282, mb3.9/5, 40C-42D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.39**	**62**	*i* Pg		**Pg**	**06 41 51.9**	**-1.0**
KDJ	**Kajisay**	**0.39**	**62**	⇓*i*P		**Pg**	**06 41 51.9**	**-1.0**
	baz=57							
KDJ				⇓*i*S		**Sg**	**06 41 57.3**	**-0.7**
	baz=57							
ULHL	**Ulahol**	**0.46**	**311**	⇓P		**Pg**	**06 41 54.4**	**+0.2**
	179nm,0.1s							
ULHL				⇑S		**Sg**	**06 42 01.7**	**+1.4**
	759nm,0.1s							
ULHL	**Ulahol**	**0.46**	**311**	*i* Pg		**Pg**	**06 41 54.4**	**+0.2**
ULHL				*i* S		**Sg**	**06 42 01.5**	**+1.2**
ULHL	**Ulahol**	**0.46**	**311**	⇓*i*P		**Pg**	**06 41 54.4**	**+0.2**
	baz=11							
ULHL				⇓*i*S		**Sg**	**06 42 01.5**	**+1.2**
	baz=11							
IZV	**Izvestkoviy**	**1.09**	**356**	*e*P		**Pg**	**06 42 06.2**	**-0.1**
	baz=55							
IZV				*e*S		**Sb**	**06 42 21.8**	**+0.1**
	baz=55							
IZV	**Izvestkoviy**	**1.09**	**356**	*e*P		**Pg**	**06 42 06.2**	**-0.1**
	464nm,0.4s							
IZV				*e*S		**Sb**	**06 42 21.8**	**+0.1**
	813nm,0.4s							
IZV	**Izvestkoviy**	**1.09**	**356**	P		**Pg**	**06 42 06.2**	**-0.1**
	464nm,0.4s							
IZV				S		**Sb**	**06 42 21.8**	**+0.1**
	813nm,0.4s							
ANVS	**Anan'yevo**	**1.09**	**40**	*i* PG		**Pg**	**06 42 05.1**	**-1.2**
ANVS				*i* S		**Sg**	**06 42 19.9**	**-0.6**
ANVS	**Anan'yevo**	**1.09**	**40**	⇑*i*P		**Pg**	**06 42 05.1**	**-1.2**
	baz=37							
ANVS				⇑*i*S		**Sg**	**06 42 19.9**	**-0.6**
	baz=37							
TNSS	**Tian-Shan**	**1.10**	**9**	*i* PG		**Pg**	**06 42 05.8**	**-0.6**
TNSS				*e*S		**Sb**	**06 42 22.1**	**-0.2**
TNSS	**Tian-Shan**	**1.10**	**9**	*e*P		**Pg**	**06 42 05.9**	**-0.6**
	baz=7.0							
TNSS				*e*S		**Sg**	**06 42 21.2**	**+0.4**
	baz=7.0							
TNSS	**Tian-Shan**	**1.10**	**9**	*e*P		**Pg**	**06 42 05.9**	**-0.6**
	747nm,0.3s							
TNSS				*e*S		**Sg**	**06 42 21.2**	**+0.4**
	510nm,0.4s							
TNSS	**Tian-Shan**	**1.10**	**9**	*i* P		**Pg**	**06 42 05.9**	**-0.6**
	baz=5.3							
TNSS				*e*S		**Sb**	**06 42 22.2**	**-0.2**
	baz=5.3							
TNSS	**Tian-Shan**	**1.10**	**9**	P		**Pg**	**06 42 05.9**	**-0.6**
	747nm,0.3s							
TNSS				S		**Sg**	**06 42 21.2**	**+0.4**
	510nm,0.4s							
MTBS	**Maitube**	**1.20**	**350**	*e*P		**Pn**	**06 42 07.7**	**-1.5**
	baz=49							
MTBS				*e*S		**Sb**	**06 42 24.2**	**-0.6**
	baz=49							
MTBS	**Maitube**	**1.20**	**350**	*e*P		**Pn**	**06 42 07.7**	**-1.5**
	351nm,0.3s							
MTBS				*e*S		**Sb**	**06 42 24.2**	**-0.6**
	492nm,0.2s							
MTBS	**Maitube**	**1.20**	**350**	P		**Pn**	**06 42 07.7**	**-1.5**
	351nm,0.3s							
MTBS				S		**Sb**	**06 42 24.2**	**-0.6**
	492nm,0.2s							
KST	**Kastek**	**1.23**	**333**	*e*P		**Pn**	**06 42 08.3**	**-1.3**
	baz=33							
KST				*e*S		**Sb**	**06 42 25.1**	**-0.6**
	baz=33							
KST	**Kastek**	**1.23**	**333**	*e*P		**Pn**	**06 42 08.3**	**-1.3**
	160nm,0.3s							
KST				*e*S		**Sb**	**06 42 25.1**	**-0.6**
	539nm,0.2s							
KST	**Kastek**	**1.23**	**333**	P		**Pn**	**06 42 08.3**	**-1.3**
	160nm,0.3s							
KST				S		**Sb**	**06 42 25.1**	**-0.6**
	539nm,0.2s							
MDOK	**Medeo**	**1.24**	**11**	*i* PG		**Pn**	**06 42 08.1**	**-1.6**
MDOK				*e*S		**Sb**	**06 42 25.5**	**-0.5**
MDOK	**Medeo**	**1.24**	**11**	*e*P		**Pn**	**06 42 08.3**	**-1.4**
	baz=10.0							
MDOK				*e*S		**Sb**	**06 42 25.3**	**-0.7**
	baz=10.0							
MDOK	**Medeo**	**1.24**	**11**	*e*P		**Pn**	**06 42 08.3**	**-1.4**
	2μm,0.4s							
MDOK				*e*S		**Sb**	**06 42 25.3**	**-0.7**
	466nm,0.2s							
MDOK	**Medeo**	**1.24**	**11**	*i* P		**Pn**	**06 42 08.2**	**-1.6**
	baz=8.0							
MDOK				*e*S		**Sb**	**06 42 25.6**	**-0.5**
	baz=8.0							
MDOK	**Medeo**	**1.24**	**11**	⇑P		**Pn**	**06 42 08.2**	**-1.6**
	1μm,0.4s							
MDOK				⇑S		**Sb**	**06 42 25.4**	**-0.5**
	284nm,0.4s							
MDOK	**Medeo**	**1.24**	**11**	Pg		**Pn**	**06 42 08.3**	**-1.4**
	2μm,0.4s							
MDOK				Lg		Lg	06 42 25.3	
	466nm,0.2s							
AAA	**Alma-Ata**	**1.27**	**7**	*d* iPG		**Pn**	**06 42 09.3**	**-0.8**
AAA				*e*S		**Sg**	**06 42 27.6**	**+1.4**
AAA	**Alma-Ata**	**1.27**	**7**	*e*P		**Pn**	**06 42 09.3**	**-0.8**
	baz=5.0							
AAA				*e*S		**Sg**	**06 42 27.3**	**+1.1**
	baz=5.0							
AAA	**Alma-Ata**	**1.27**	**7**	*e*P		**Pn**	**06 42 09.3**	**-0.8**
	2μm,0.4s							
AAA				*e*S		**Sg**	**06 42 27.3**	**+1.1**
	44nm,0.1s							
AAA	**Alma-Ata**	**1.27**	**7**	⇓*i*P		**Pn**	**06 42 09.3**	**-0.8**
	baz=3.6							
AAA				*e*S		**Sg**	**06 42 27.6**	**+1.4**
	baz=3.6							
AAA	**Alma-Ata**	**1.27**	**7**	P		**Pn**	**06 42 09.3**	**-0.8**
	2μm,0.4s							
AAA				S		**Sg**	**06 42 27.3**	**+1.1**
	44nm,0.1s							
TKM2	**Tokmak 2**	**1.28**	**320**	⇓P		**Pn**	**06 42 09.3**	**-1.1**
	65nm,0.1s,SNR=142							
TKM2				⇓S		**Sn**	**06 42 27.6**	**-0.5**
	962nm,0.1s							
TKM2	**Tokmak 2**	**1.28**	**320**	PG		**Pn**	**06 42 09.0**	**-1.3**
TKM2				S		**Sb**	**06 42 27.4**	**+0.2**
TKM2	**Tokmak 2**	**1.28**	**320**	⇑*i*P		**Pn**	**06 42 09.1**	**-1.3**
	baz=20							
TKM2				⇑*i*S		**Sb**	**06 42 26.9**	**-0.3**
	baz=20							
TKM2	**Tokmak 2**	**1.28**	**320**	⇑P		**Pn**	**06 42 09.1**	**-1.3**
	32nm,0.3s							
TKM2				⇑S		**Sb**	**06 42 27.4**	**+0.2**
	708nm,0.5s							
KNDC	**Almaty**	**1.28**	**8**	PG		**Pn**	**06 42 09.5**	**-0.7**
KNDC				S		**Sg**	**06 42 28.2**	**+1.6**
KNDC	**Almaty**	**1.28**	**8**	⇓P		**Pn**	**06 42 09.6**	**-0.7**
	2μm,0.4s							
KNDC				⇓S		**Sg**	**06 42 28.2**	**+1.6**
KOTS	**Kotyrbulak**	**1.32**	**13**	*e*P		**Pn**	**06 42 09.8**	**-1.1**
	baz=11							
KOTS				*e*S		**Sb**	**06 42 27.6**	**-0.7**
	baz=11							
KOTS	**Kotyrbulak**	**1.32**	**13**	*e*P		**Pn**	**06 42 09.8**	**-1.1**
	2μm,0.3s							
KOTS				*e*S		**Sb**	**06 42 27.6**	**-0.7**
	2μm,0.8s							
KOTS	**Kotyrbulak**	**1.32**	**13**	P		**Pn**	**06 42 09.8**	**-1.1**
	2μm,0.3s							
KOTS				S		**Sb**	**06 42 27.6**	**-0.7**
	2μm,0.8s							
DGS	**Degeres**	**1.47**	**332**	*e*P		**Pn**	**06 42 12.9**	**0.0**
	baz=32							
DGS				*e*S		**Sb**	**06 42 32.8**	**+0.2**
	baz=32							
DGS	**Degeres**	**1.47**	**332**	*e*P		**Pn**	**06 42 12.8**	**0.0**
	376nm,0.5s							
DGS				*e*S		**Sb**	**06 42 32.8**	**+0.2**
	686nm,0.4s							
DGS	**Degeres**	**1.47**	**332**	P		**Pn**	**06 42 12.8**	**0.0**
	376nm,0.5s							
DGS				S		**Sb**	**06 42 32.8**	**+0.2**
	686nm,0.4s							
KBK	**Karagaybulak**	**1.49**	**299**	⇑P		**Pn**	**06 42 13.1**	**-0.2**
	86nm,0.1s,SNR=87							
KBK				⇓S		**Sg**	**06 42 34.7**	**+1.4**
	593nm,0.2s							
KBK	**Karagaybulak**	**1.49**	**299**	*i* PN		**Pn**	**06 42 12.9**	**-0.3**
KBK				*i* S		**Sb**	**06 42 33.5**	**+0.3**
KBK	**Karagaybulak**	**1.49**	**299**	⇑*i*P		**Pn**	**06 42 12.9**	**-0.3**
	baz=0.0							
KBK				⇑*i*S		**Sb**	**06 42 33.5**	**+0.3**
	baz=0.0							
UCH	**Uchtor**	**1.66**	**280**	⇑P		**Pn**	**06 42 15.4**	**-0.4**
	203nm,0.4s,SNR=385							
UCH				⇓S		**Sb**	**06 42 38.8**	**+0.4**
	410nm,0.4s							
UCH	**Uchtor**	**1.66**	**280**	*i* PN		**Pn**	**06 42 16.0**	**+0.2**
UCH				*i* S		**Sb**	**06 42 38.8**	**+0.4**
UCH	**Uchtor**	**1.66**	**280**	⇓*i*P		**Pn**	**06 42 16.0**	**+0.2**
	baz=81							
UCH				⇓*i*S		**Sb**	**06 42 38.8**	**+0.4**
	baz=81							
SATY	**Saty**	**1.67**	**48**	*d* iPN		**Pn**	**06 42 15.0**	**-0.6**
SATY				*e*S		**Sb**	**06 42 37.7**	**-0.7**
SATY	**Saty**	**1.67**	**48**	*e*P		**Pn**	**06 42 15.2**	**-0.4**
	baz=46							
SATY				*e*S		**Sb**	**06 42 37.1**	**-1.3**
	baz=46							
SATY	**Saty**	**1.67**	**48**	*e*P		**Pn**	**06 42 15.2**	**-0.4**
	326nm,0.3s							
SATY				*e*S		**Sb**	**06 42 37.1**	**-1.3**
	1μm,0.4s							
SATY	**Saty**	**1.67**	**48**	⇓*i*P		**Pn**	**06 42 15.1**	**-0.6**
	baz=44							
SATY				*e*S		**Sb**	**06 42 37.7**	**-0.7**
	baz=44							
SATY	**Saty**	**1.67**	**48**	P		**Pn**	**06 42 15.2**	**-0.4**
	326nm,0.3s							
SATY				S		**Sb**	**06 42 37.1**	**-1.3**
	1μm,0.4s							
ZHN	**Zhinishke**	**1.76**	**46**	*e*P		**Pn**	**06 42 16.7**	**-0.1**
	baz=44							
ZHN				*e*S		**Sb**	**06 42 40.2**	**-0.7**
	baz=44							
ZHN	**Zhinishke**	**1.76**	**46**	*e*P		**Pn**	**06 42 16.7**	**-0.1**
	299nm,0.2s							
ZHN				*e*S		**Sb**	**06 42 40.2**	**-0.7**
	2μm,0.3s							
ZHN	**Zhinishke**	**1.76**	**46**	P		**Pn**	**06 42 16.7**	**-0.1**
	299nm,0.2s							
ZHN				S		**Sb**	**06 42 40.2**	**-0.7**
	2μm,0.3s							
FRU1	**Bishkek**	**1.77**	**300**	*i* PN		**Pb**	**06 42 18.0**	**-0.5**
FRU1				*i* S		**Sg**	**06 42 42.4**	**+0.2**
FRU1	**Bishkek**	**1.77**	**300**	⇓*i*P		**Pb**	**06 42 18.0**	**-0.5**
	baz=1.0							
FRU1				⇓*i*S		**Sg**	**06 42 42.4**	**+0.2**
	baz=1.0							
AAK	**Ala-Archa**	**1.79**	**294**	⇑P		**Pb**	**06 42 17.8**	**-0.9**
	79nm,0.2s,SNR=236							
AAK				⇓S		**Sb**	**06 42 42.2**	**+0.4**
	527nm,0.3s							
AAK	**Ala-Archa**	**1.79**	**294**	Pn		**Pb**	**06 42 18.0**	**-0.9**
	42nm,0.3s,baz=115,slow=9.0,SNR=135							
AAK				Lg		Lg	06 42 41.1	
	87nm,0.3s,baz=293,slow=19,SNR=11							
AAK				LR		LR	06 42 42.5	
	comp=Z,32nm,18.7s,baz=148,slow=33							
AAK	**Ala-Archa**	**1.79**	**294**	*c* iPN		**Pb**	**06 42 17.9**	**-0.9**
AAK				*i* S		**Sg**	**06 42 43.1**	**+0.3**
AAK				pmax		pmax		
	comp=Z,281nm,0.5s							
AAK	**Ala-Archa

KURS	**Kuram**	**1.88**	**34**	*e*P	**Pb**	**06 42 19.1**	**-1.2**
	comp=Z,306nm,0.4s						
KURS				*e*S	**Sb**	**06 42 43.6**	**-0.6**
	comp=Z,290nm,0.5s						
KURS	**Kuram**	**1.88**	**34**	P	**Pb**	**06 42 19.1**	**-1.2**
	comp=Z,306nm,0.4s						
KURS				S	**Sb**	**06 42 43.6**	**-0.6**
	comp=Z,290nm,0.5s						
KRBS	**Karabastau**	**1.91**	**337**	*e*P	**Pb**	**06 42 20.3**	**-0.5**
	baz=36						
KRBS				*e*S	**Sb**	**06 42 45.7**	**+0.5**
	baz=36						
KRBS	**Karabastau**	**1.91**	**337**	*e*P	**Pb**	**06 42 20.3**	**-0.5**
	comp=Z,302nm,0.3s						
KRBS				*e*S	**Sb**	**06 42 45.7**	**+0.5**
	comp=Z,744nm,0.3s						
KRBS	**Karabastau**	**1.91**	**337**	P	**Pb**	**06 42 20.3**	**-0.5**
	comp=Z,302nm,0.3s						
KRBS				S	**Sb**	**06 42 45.7**	**+0.5**
	comp=Z,744nm,0.3s						
CHKK	**Chushkaly**	**1.92**	**6**	⇓*i*PN	**Pb**	**06 42 20.3**	**-0.6**
CHKK				*e*		06 42 46.4	
CHKK	**Chushkaly**	**1.92**	**6**	*e*P	**Pb**	**06 42 20.4**	**-0.6**
	baz=5.0						
CHKK				*e*S	**Sb**	**06 42 45.7**	**+0.3**
	baz=5.0						
CHKK	**Chushkaly**	**1.92**	**6**	*e*P	**Pb**	**06 42 20.4**	**-0.6**
	comp=Z,565nm,0.3s						
CHKK				*e*S	**Sb**	**06 42 45.7**	**+0.3**
	comp=Z,1μm,0.3s						
CHKK	**Chushkaly**	**1.92**	**6**	⇓*i*Pn	**Pb**	**06 42 20.3**	**-0.6**
	baz=4.2						
CHKK				*e*Sn	**Sg**	**06 42 46.5**	**-0.4**
	baz=4.2						
CHKK	**Chushkaly**	**1.92**	**6**	P	**Pb**	**06 42 20.4**	**-0.6**
	comp=Z,565nm,0.3s						
CHKK				S	**Sb**	**06 42 45.7**	**+0.3**
	comp=Z,1μm,0.3s						
KUU	**Kurty**	**1.97**	**352**	*i* PN	**Pb**	**06 42 21.3**	**-0.4**
KUU				*e*		06 42 47.8	
KUU	**Kurty**	**1.97**	**352**	*e*P	**Pb**	**06 42 21.4**	**-0.4**
	baz=51						
KUU				*e*S	**Sb**	**06 42 47.4**	**+0.7**
	baz=51						
KUU	**Kurty**	**1.97**	**352**	*e*P	**Pb**	**06 42 21.4**	**-0.4**
	comp=Z,381nm,0.3s						
KUU				*e*S	**Sb**	**06 42 47.3**	**+0.6**
	comp=Z,821nm,0.5s						
KUU	**Kurty**	**1.97**	**352**	*i* Pn	**Pb**	**06 42 21.3**	**-0.4**
	baz=351						
KUU				*e*Sn	**Sb**	**06 42 47.8**	**+1.1**
	baz=351						
KUU	**Kurty**	**1.97**	**352**	Pg	**Pb**	**06 42 21.4**	**-0.4**
	comp=Z,381nm,0.3s						
KUU				Lg	Lg	06 42 47.3	
	comp=Z,821nm,0.5s						
UZB	**Uzynbulak**	**2.08**	**54**	*d* iPN	**Pb**	**06 42 21.7**	**-2.2**
UZB				*e*		06 42 49.2	
UZB	**Uzynbulak**	**2.08**	**54**	*e*P	**Pb**	**06 42 22.2**	**-1.7**
	baz=53						
UZB				*e*S	**Sb**	**06 42 49.1**	**-1.2**
	baz=53						
UZB	**Uzynbulak**	**2.08**	**54**	*e*P	**Pb**	**06 42 22.2**	**-1.7**
	comp=Z,203nm,0.5s						
UZB				*e*S	**Sb**	**06 42 49.1**	**-1.2**
	comp=Z,743nm,0.4s						
UZB	**Uzynbulak**	**2.08**	**54**	⇓*i*Pn	**Pb**	**06 42 21.7**	**-2.2**
	baz=51						
UZB				*e*Sn	**Sb**	**06 42 49.2**	**-1.0**
	baz=51						
UZB	**Uzynbulak**	**2.08**	**54**	Pg	**Pb**	**06 42 22.2**	**-1.7**
	comp=Z,203nm,0.5s						
UZB				Lg	Lg	06 42 49.1	
	comp=Z,743nm,0.4s						
KPKS	**Kokpek**	**2.10**	**43**	*d* iPN	**Pb**	**06 42 22.4**	**-1.7**
KPKS				*e*		06 42 50.3	
KPKS	**Kokpek**	**2.10**	**43**	*e*P	**Pb**	**06 42 22.6**	**-1.5**
	baz=42						
KPKS				*e*S	**Sb**	**06 42 49.6**	**-1.1**
	baz=42						
KPKS	**Kokpek**	**2.10**	**43**	*e*P	**Pb**	**06 42 22.6**	**-1.5**
	comp=Z,381nm,0.3s						
KPKS				*e*S	**Sb**	**06 42 49.5**	**-1.1**
	comp=Z,3μm,0.4s						
KPKS	**Kokpek**	**2.10**	**43**	⇓*i*Pn	**Pb**	**06 42 22.5**	**-1.7**
	baz=40						
KPKS				*e*Sn	**Sb**	**06 42 50.4**	**-0.3**
	baz=40						
USP	**Ospenovka**	**2.10**	**310**	⇑P	**Pb**	**06 42 23.6**	**-0.6**
	comp=Z,177nm,0.3s,SNR=120						
USP				⇓S	**Sg**	**06 42 52.7**	**-0.2**
	comp=Z,498nm,0.3s						
USP	**Ospenovka**	**2.10**	**310**	*i* PN	**Pn**	**06 42 22.4**	**+0.9**
USP				*i* S	**Sb**	**06 42 50.0**	**-0.7**
USP	**Ospenovka**	**2.10**	**310**	⇑*i*P	**Pn**	**06 42 22.4**	**+0.9**
	baz=10.0						
USP				⇑*i*S	**Sb**	**06 42 50.0**	**-0.7**
	baz=10.0						
SGDS	**Sogindy**	**2.15**	**315**	*d* iPN	**Pb**	**06 42 24.3**	**-0.6**
SGDS				*e*		06 42 53.5	
SGDS	**Sogindy**	**2.15**	**315**	*e*P	**Pb**	**06 42 24.4**	**-0.6**
	comp=Z,100nm,0.3s						
SGDS				*e*S	**Sb**	**06 42 52.9**	**+0.7**
	comp=Z,370nm,0.3s						
SGDS	**Sogindy**	**2.15**	**315**	⇓*i*Pn	**Pb**	**06 42 24.3**	**-0.6**
	baz=315						
SGDS				*e*Sn	**Sb**	**06 42 53.5**	**+1.4**
	baz=315						
SGDS	**Sogindy**	**2.15**	**315**	Pg	**Pb**	**06 42 24.4**	**-0.6**
	comp=Z,100nm,0.3s						
SGDS				Lg	Lg	06 42 52.9	
	comp=Z,370nm,0.3s						
AML	**Almayashu**	**2.26**	**276**	*i* PN	**Pn**	**06 42 24.8**	**+0.8**
AML				*i* S	**Sb**	**06 42 54.2**	**-1.3**
EKS2	**Erkin-Say**	**2.29**	**289**	*i* PN	**Pn**	**06 42 25.1**	**+0.9**
EKS2				*i* S	**Sb**	**06 42 54.7**	**-1.6**
EKS2	**Erkin-Say**	**2.29**	**289**	⇓*i*P	**Pn**	**06 42 25.1**	**+0.9**
	baz=90						
EKS2				⇓*i*S	**Sb**	**06 42 54.7**	**-1.6**
	baz=90						
SHLS	**Shalkode**	**2.36**	**58**	*d* iPN	**Pg**	**06 42 30.0**	**-0.6**
SHLS	**Shalkode**	**2.36**	**58**	*e*P	**Pg**	**06 42 32.2**	**+1.7**
	comp=Z,154nm,0.4s						
SHLS				*e*S	**Sg**	**06 43 06.3**	**+5.1**
	comp=Z,1μm,0.6s						
SHLS	**Shalkode**	**2.36**	**58**	⇓*i*Pn	**Pg**	**06 42 30.0**	**-0.6**
	baz=60						
SHLS	**Shalkode**	**2.36**	**58**	Pg	**Pg**	**06 42 32.2**	**+1.7**
	comp=Z,154nm,0.4s						
SHLS				Lg	Lg	06 43 06.3	
	comp=Z,1μm,0.6s						
ARXS	**Arharly**	**2.41**	**19**	*e*P	**Pb**	**06 42 28.7**	**-0.6**
	comp=Z,386nm,0.8s						
ARXS				*e*S	**Sb**	**06 43 00.0**	**+0.5**
	comp=Z,1μm,0.4s						
ARXS	**Arharly**	**2.41**	**19**	Pg	**Pb**	**06 42 28.7**	**-0.6**
	comp=Z,386nm,0.8s						
ARXS				Lg	Lg	06 43 00.0	
	comp=Z,1μm,0.4s						
PDGK	**Podgornoye**	**2.47**	**55**	PN	**Pn**	**06 42 27.0**	**+0.4**
PDGK						06 43 00.2	
PDGK	**Podgornoye**	**2.47**	**55**	Pg	**Pb**	**06 42 28.8**	**-1.6**
	comp=Z,181nm,0.4s						
PDGK				Lg	Lg	06 43 00.4	
	comp=Z,432nm,0.8s						
PDGK	**Podgornoye**	**2.47**	**55**	⇑Pg	**Pn**	**06 42 27.0**	**+0.4**
	comp=Z,211nm,0.5s						
PDGK				⇑Lg	Lg	06 43 00.3	
	comp=Z,1μm,0.8s						
KSH	**Kashi**	**2.49**	**193**	Pn	**Pg**	**06 42 34.6**	**+1.6**
KSH				Sn	Sg	06 43 17.6	+12
KSH				smax	smax		
	comp=Z,1μm,0.9s						
KSH				smax	smax		
	comp=Z,740nm,0.7s						
BLB	**Baldybastay**	**2.51**	**30**	*e*P	**Pb**	**06 42 30.5**	**-0.6**
	comp=Z,659nm,0.5s						
BLB				*e*S	**Sb**	**06 43 03.0**	**+0.6**
	comp=Z,2μm,0.5s						
BLB	**Baldybastay**	**2.51**	**30**	Pg	**Pb**	**06 42 30.5**	**-0.6**
	comp=Z,659nm,0.5s						
BLB				Lg	Lg	06 43 03.0	
	comp=Z,2μm,0.5s						
MRKS	**Merke**	**2.71**	**288**	*e*P	**Pg**	**06 42 36.6**	**-0.6**
	comp=Z,225nm,0.4s						
MRKS				*e*S	**Sg**	**06 43 13.7**	**+1.4**
	comp=Z,468nm,0.3s						
MRKS	**Merke**	**2.71**	**288**	Pg	**Pg**	**06 42 36.6**	**-0.6**
	comp=Z,225nm,0.4s						
MRKS				Lg	Lg	06 43 13.7	
	comp=Z,468nm,0.3s						
DJR	**Jarkent**	**3.28**	**42**	*e*P	**Pb**	**06 42 43.8**	**-0.4**
	comp=Z,42nm,0.4s						
DJR				*e*S	**Sb**	**06 43 25.8**	**+1.2**
	comp=Z,110nm,0.5s						
DJR	**Jarkent**	**3.28**	**42**	Pg	**Pb**	**06 42 43.8**	**-0.4**
	comp=Z,42nm,0.4s						
DJR				Lg	Lg	06 43 25.8	
	comp=Z,110nm,0.5s						
OHH	**Osh**	**3.29**	**246**	*i* PN	**Pn**	**06 42 38.8**	**+1.0**
OHH				*i* S	**Sn**	**06 43 18.3**	**+0.9**
OHH	**Osh**	**3.29**	**246**	⇑*i*P	**Pn**	**06 42 38.8**	**+1.0**
	baz=46						
OHH				⇑*i*S	**Sn**	**06 43 18.3**	**+0.9**
	baz=46						
TDK	**Taldyqorghan**	**3.29**	**21**	*e*PN	**Pg**	**06 42 47.9**	**-0.5**
TDK	**Taldyqorghan**	**3.29**	**21**	*e*P	**Pb**	**06 42 45.7**	**+1.3**
	comp=Z,343nm,0.4s						
TDK				*e*S	**Sg**	**06 43 29.4**	**-1.7**
	comp=Z,455nm,0.6s						
TDK	**Taldyqorghan**	**3.29**	**21**	*e*Pg	**Pg**	**06 42 48.0**	**-0.5**
	baz=20						
TDK	**Taldyqorghan**	**3.29**	**21**	Pg	**Pb**	**06 42 45.7**	**+1.3**
	comp=Z,343nm,0.4s						
TDK				Lg	Lg	06 43 29.4	
	comp=Z,455nm,0.6s						
ARK	**Arkit**	**3.55**	**269**	*i* PN	**Pn**	**06 42 42.5**	**+1.0**
ARK	**Arkit**	**3.55**	**269**	⇑*i*P	**Pn**	**06 42 42.5**	**+1.0**
	baz=70						
ARK				⇑*i*S	**Sn**	**06 43 24.7**	**+0.6**
	baz=70						
BTLS	**Baital**	**3.65**	**329**	*e*PN	**Pb**	**06 42 46.7**	**-3.8**
BTLS	**Baital**	**3.65**	**329**	*e*P	**Pb**	**06 42 50.5**	**0.0**
	comp=Z,47nm,0.4s						
BTLS				*e*S	**Sb**	**06 43 37.4**	**+2.1**
	comp=Z,64nm,0.4s						
BTLS	**Baital**	**3.65**	**329**	Pg	**Pb**	**06 42 50.5**	**0.0**
	comp=Z,47nm,0.4s						
BTLS				Lg	Lg	06 43 37.4	
	comp=Z,64nm,0.4s						
KAPS	**Kapalarasan**	**3.85**	**29**	*e*P	**Pb**	**06 42 53.9**	**-0.1**
	comp=Z,72nm,0.4s						
KAPS				*e*S	**Sb**	**06 43 43.1**	**+2.2**
	comp=Z,238nm,0.5s						
KAPS	**Kapalarasan**	**3.85**	**29**	Pg	**Pb**	**06 42 53.9**	**-0.1**
	comp=Z,72nm,0.4s						
KAPS				Lg	Lg	06 43 43.1	
	comp=Z,238nm,0.5s						
TRKS	**Terek-Say**	**4.19**	**266**	*i* PN	**Pn**	**06 42 51.2**	**+0.9**
TRKS				*i* S	**Sn**	**06 43 39.7**	**-0.2**
TRKS	**Terek-Say**	**4.19**	**266**	⇑*i*P	**Pn**	**06 42 51.2**	**+0.9**
	baz=66						
TRKS				⇑*i*S	**Sn**	**06 43 39.7**	**-0.2**
	baz=66						
KK31	**Karatay Array**	**4.73**	**286**	*e*PN	**Pb**	**06 43 10.1**	**+1.2**
KK31				*e*		06 44 11.8	
KK31	**Karatay Array**	**4.73**	**286**	⇓Pg	**Pg**	**06 43 14.2**	**-1.7**
	comp=Z,19nm,0.7s,baz=104,slow=16,SNR=33						
KK31				⇓Lg	Lg	06 44 11.9	
	comp=Z,21nm,0.4s,baz=105,slow=27,SNR=6.2						
KKAR	**Karatay Array**	**4.73**	**286**	*i* PN	**Pn**	**06 42 58.9**	**+1.3**
KKAR				*i* S	**Sn**	**06 43 53.0**	**+0.1**
KKAR	**Karatay Array**	**4.73**	**286**	⇑*i*P	**Pn**	**06 42 58.7**	**+1.1**
	baz=87						
KKAR				⇑*i*S	**Sn**	**06 43 53.0**	**+0.1**
	baz=87						
BTK	**Batken**	**4.84**	**249**	*i* PN	**Pn**	**06 43 00.4**	**+1.2**
BTK				*i* S	**Sn**	**06 43 55.7**	**-0.2**
BTK	**Batken**	**4.84**	**249**	⇓*i*P	**Pn**	**06 43 00.4**	**+1.2**
	baz=50						
BTK				⇓*i*S	**Sn**	**06 43 55.7**	**-0.2**
	baz=50						
IUG	**Iuzhnay**	**4.98**	**275**	*e*PN	**Pn**	**06 43 02.6**	**+1.5**
IUG				*e*		06 43 18.6	
IUG	**Iuzhnay**	**4.98**	**275**	*e*P	**Pg**	**06 43 17.7**	**-3.1**
	comp=Z,674nm,0.4s						
IUG				*e*S	**Sg**	**06 44 24.0**	**-1.4**
	comp=Z,196nm,0.5s						
IUG	**Iuzhnay**	**4.98**	**275**	*e*Pn	**Pn**	**06 43 02.6**	**+1.5**
	baz=275						
IUG				*e*Pg	**Pg**	**06 43 18.6**	**-2.1**
	baz=275						
IUG	**Iuzhnay**	**4.98**	**275**	Pg	**Pg**	**06 43 17.7**	**-3.1**
	comp=Z,674nm,0.4s						
IUG				Lg	Lg	06 44 24.0	
	comp=Z,196nm,0.5s						
BRLS	**Borolday**	**5.20**	**284**	*e*P	**Pg**	**06 43 22.4**	**-2.6**
	comp=Z,5.4nm,0.3s						
BRLS				*e*S	**Sg**	**06 44 31.9**	**-0.4**
	comp=Z,65nm,0.6s						
BRLS	**Borolday**	**5.20**	**284**	Pg	**Pg**	**06 43 22.4**	**-2.6**
	comp=Z,5.4nm,0.3s						
BRLS				Lg	Lg	06 44 31.9	
	comp=Z,65nm,0.6s						
MAKZ	**Makanchi**	**6.15**	**36**	PN	**Pn**	**06 43 19.6**	**+2.5**
MAKZ						06 43 34.2	
MAKZ						06 44 55.1	
MAKZ	**Makanchi**	**6.15**	**36**	⇓Pn	**Pn**	**06 43 19.6**	**+2.5**
	comp=Z,2.9nm,1.1s						
MAKZ				⇑Pg	**Pb**	**06 43 34.2**	**+1.2**
	comp=Z,11nm,0.8s						
MAKZ				⇑Lg	Lg	06 44 55.1	
	comp=Z,18nm,0.9s						
MK31	**Makanchi Array**	**6.28**	**38**	PN	**Pn**	**06 43 19.8**	**+0.9**
MK31						06 44 56.6	
MK31	**Makanchi Array**	**6.28**	**38**	Pn	**Pn**	**06 43 19.8**	**+0.9**
	comp=Z,2.3nm,0.4s,baz=214,slow=16,SNR=44						
MK31				Pg	Pg	06 43 40.8	-4.8
	comp=Z,7.6nm,0.5s,baz=215,slow=15,SNR=6.8						
MK31				⇑Lg	Lg	06 44 56.7	
	comp=Z,30nm,0.8s,baz=218,slow=26,SNR=4.8						
MKAR	**Makanchi Array**	**6.28**	**38**	Pn	**Pn**	**06 43 20.4**	**+1.5**
	comp=Z,1.5nm,0.3s,baz=213,slow=14,SNR=22						
MKAR				Lg	Lg	06 44 59.8	
	comp=Z,3.1nm,0.3s,baz=218,slow=28,SNR=6.4						
MKAR				LR	LR	06 46 10.7	
	comp=Z,38nm,21.9s,baz=228,slow=42						
OTUK	**Ortayu**	**7.02**	**335**	⇓Lg	Lg	06 45 24.1	
	comp=Z,139nm,1.1s						
WMQ	**Urumqi**	**8.28**	**73**	*e*P	**Pn**	**06 43 47.8**	**+1.5**
WMQ				S	**Sn**	**06 45 23.1**	**+2.8**
KURBB	**Kurchatov Arra**	**8.77**	**8**	Pn	**Pn**	**06 43 51.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=4.8						
KURBB				Lg	Lg	06 46 18.9	
	comp=Z,0.5nm,0.3s,baz=144,slow=44,SNR=8.3						
KURBB	**Kurchatov Arra**	**8.77**	**8**	P	**Pn**	**06 43 56.4**	**+3.5**
KURBB	**Kurchatov Arra**	**8.77**	**8**	⇑Pn	**Pn**	**06 43 56.5**	**+3.5**
	comp=Z,1.8nm,0.5s						
KURBB				⇓Lg	Lg	06 46 20.7	
	comp=Z,27nm,0.7s						
KURK	**Kurchatov**	**8.87**	**8**	⇓*e*P	**Pn**	**06 43 57.2**	**+2.9**
KURK				*e*S	**Sn**	**06 45 35.1**	**+0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,2.4s						
KURK				smax	smax		
	comp=Z,10.0nm,1.0s						
BVAR	**Borovoye Array**	**11.88**	**341**	Pn	**Pn**	**06 44 35.0**	**-0.4**
BVAR				Lg	Lg	06 48 00.8	
BRVK	**Borovoye**	**11.93**	**341**	⇓*e*P	**Pn**	**06 44 39.9**	**+3.7**
ZALV	**Zalesovo Beam**	**13.17**	**21**	Pn	**Pn**	**06 44 54.6**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=215,slow=14,SNR=5.0						
ZALV				Lg	Lg	06 48 47.6	
	comp=Z,0.1nm,0.3s,baz=211,slow=25,SNR=3.5						
AKTO	**Aktyubinsk**	**15.45**	**310**	Pn	**Pn**	**06 45 22.1**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=104,slow=12,SNR=2.6						
SONM	**Songino Array**	**21.75**	**64**	P	**P**	**06 46 39.7**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=273,slow=13,SNR=4.1						
WSAR	**Wadi Sarin**	**24.00**	**225**	LR	LR	06 58 07.8	
	comp=Z,42nm,18.9s,baz=254,slow=41						
OBN	**Obninsk**	**29.23**	**311**	*e*P	**P**	**06 47 48.2**	**+0.1**
OBN				*e*		06 48 42.4	
OBN				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**32.42**	**281**	P	**P**	**06 48 17.1**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=91,slow=8.0,SNR=7.6						
BILL	**Bilibino**	**51.74**	**29**	*e*P	**P**	**06 50 52.6**	**-0.9**
BILL				*e*		06 52 51.3	
TORD	**Torodi Ar. Bea**	**70.22**	**270**	P	**P**	**06 52 58.4**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=49,slow=5.9,SNR=9.1						
YKA	**Yellowknife Ar**	**75.51**	**5**	P	**P**	**06 53 28.9**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=350,slow=5.8,SNR=7.3						
YKA	**Yellowknife Ar**	**75.51**	**5**	*i* P	**P**	**06 53 30.2**	**-0.3**

*SNET **23** 06:57:09.9±0.8, 13°.22N×89°.90W, h13km±7km, ML2.9*
*GCG **23** 06:57:12.3±0.4, 13°.39N×90°.22W, h7km±7km, MD3.6*
ISC 23 06:57:08.7±2.4, **13°.28N**±0°.09×**89°.91W**±0°.05, **h15**km±17km, **n21**, **σ0°.55**/30, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEVE	**Cerro Verde**	**0.61**	**28**	*e*P	**Pn**	**06 57 23.2**	**+0.1**
CEVE				IAML		06 57 35.3	
	comp=Z,860nm,0.2s						
SBLS	**San Blas**	**0.62**	**27**	*e*P	**Pn**	**06 57 23.1**	**-0.2**
NUBE	**Las Nubes**	**0.63**	**12**	*i* P	**Pn**	**06 57 23.1**	**-0.2**
NUBE				*e*S	**Sn**	**06 57 32.5**	**-0.6**
NUBE				IAML		06 57 33.4	
	comp=Z,636nm,0.1s						
SNJE	**San Jose**	**0.65**	**27**	*e*P	**Pn**	**06 57 23.4**	**-0.2**
RTR	**El Retiro**	**0.66**	**23**	*e*P	**Pn**	**06 57 23.8**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.75**	**10**	*e*P	**Pn**	**06 57 24.7**	**-0.1**
SLOZ				*e*S	**Sn**	**06 57 36.2**	**+0.3**
SLOZ				IAML		06 57 41.7	
	comp=Z,197nm,0.3s						
BOQS	**Boqueron**	**0.76**	**54**	*e*P	**Pn**	**06 57 25.2**	**0.0**
BOQS				IAML		06 57 45.5	
	comp=Z,187nm,0.2s						
SNET	**Serv Nac Est T**	**0.78**	**59**	*e*P	**Pn**	**06 57 25.0**	**-0.2**
SNET				IAML		06 57 25.7	
	comp=Z,497nm,0.3s						
UEES	**Universidad Ev**	**0.79**	**57**	*e*P	**Pn**	**06 57 25.4**	**0.0**
UEES				*e*S	**Sn**	**06 57 37.0**	**+0.2**
UEES				IAML		06 57 42.0	
	comp=Z,477nm,0.1s						
LFRS	**El Faro**	**0.90**	**68**	*e*P	**Pn**	**06 57 26.7**	**-0.2**
LFRS				IAML		06 57 43.9	
	comp=Z,729nm,0.2s						
SJTE	**Alcalda de S**	**0.94**	**69**	*e*P	**Pn**	**06 57 27.5**	**0.0**
SJTE				*e*S	**Sn**	**06 57 40.3**	**-0.5**
SJTE				IAML		06 57 44.2	
	comp=Z,172nm,0.2s						
PAVA	**Las Pavas**	**1.04**	**66**	*e*P	**Pn**	**06 57 29.6**	**+0.7**
PAVA				IAML		06 57 48.5	
	comp=Z,156nm,0.2s						
COEG	**Centro de Oper**	**1.06**	**71**	*e*P	**Pn**	**06 57 29.1**	**0.0**
COEG				*e*S	**Sn**	**06 57 44.0**	**+0.3**
COEG				IAML		06 57 52.4	
	comp=Z,280nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.23**	**70**	*e*P	**Pb**	**06 57 31.8**	**+0.1**
PQSS	**Presa 15 de Se**	**1.36**	**75**	*e*P	**Pb**	**06 57 33.7**	**-0.2**
NBG	**Las Nubes**	**1.36**	**342**	*e*P	**Pn**	**06 57 34.5**	**+1.1**
NBG				*e*S	**Sb**	**06 57 52.4**	**+0.9**
COEB	**Comit de Eme**	**1.36**	**81**	*e*P	**Pn**	**06 57 33.4**	**+0.1**
COEB				IAML		06 57 55.6	
	comp=Z,101nm,0.2s						
FUG	**Fuego 3**	**1.47**	**322**	*e*P	**Pn**	**06 57 34.8**	**0.0**
FUG				*e*S	**Sn**	**06 57 52.1**	**-1.7**
PACA	**Pacayal**	**1.56**	**83**	*e*P	**Pb**	**06 57 37.0**	**-0.4**
PACA				*e*S	**Sg**	**06 57 58.8**	**-0.3**
PACA				IAML		06 58 05.1	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**1.97**	**89**	*e*P	**Pn**	**06 57 42.0**	**+0.5**
STG3	**Santiaguito 3,**	**2.14**	**312**	*e*P	**Pn**	**06 57 44.8**	**+0.7**
STG3				*e*S	**Sn**	**06 58 09.9**	**-0.7**

*ATH **23** 07:26:04.6, 38°.78N×20°.56E, h26km±7km, ML2.5/2, Error ellipse: s-maj=8.9km s-min=2.2km az=153.0*
*THE **23** 07:26:05.8, 38°.76N×20°.67E, h8km, ML2.4/6, Error ellipse: s-maj=1.8km s-min=0.4km az=84.0*
ISC 23 07:26:04.6±1.2, **38°.79N**±0°.05×**20°.68E**±0°.09, **h14**km±6km, **n14**, **σ0°.62**/24, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKD2	**Lefkada island**	**0.01**	**278**	P	**Pg**	**07 26 07.2**	**+0.1**
LKD2				S	**Sg**	**07 26 08.3**	**-0.5**
TSLK	**Tsoukalades, L**	**0.04**	**336**	P	**Pg**	**07 26 07.9**	**+0.7**
TSLK				S	**Sg**	**07 26 09.4**	**+0.4**
	9μm,0.3s						
NYDR	**Nydri-Lefkada**	**0.07**	**167**	P	**Pg**	**07 26 07.7**	**+0.3**
NYDR				S	**Sg**	**07 26 08.9**	**-0.4**
	5μm,0.1s						
EVGI	**Lefkada island**	**0.17**	**186**	P	**Pg**	**07 26 08.9**	**+0.3**
EVGI				S	**Sg**	**07 26 11.2**	**-0.1**
	3μm,0.1s						
FSK	**Fiskardo**	**0.34**	**195**	P	**Pb**	**07 26 12.3**	**-0.1**
FSK				S	**Sb**	**07 26 17.4**	**-0.2**
FSK				AML	AML	07 26 18.1	
	comp=N,2056μm,0.3s						
FSK				AML	AML	07 26 18.2	
	comp=E,3025μm,0.2s						
FSK	**Fiskardo**	**0.34**	**195**	P	**Pb**	**07 26 12.2**	**-0.2**
FSK				S	**Sg**	**07 26 16.4**	**+0.2**
	comp=E,1μm,0.2s						
KEF4	**Livadi, Kephal**	**0.56**	**201**	P	**Pg**	**07 26 15.6**	**0.0**
KEF4				S	**Sg**	**07 26 24.3**	**+1.1**
DMLN	**Damoulianata-K**	**0.60**	**204**	P	**Pg**	**07 26 16.1**	**-0.8**
DMLN	**Damoulianata-K**	**0.60**	**204**	P	**Pg**	**07 26 16.4**	**+0.1**
DMLN				S	**Sg**	**07 26 25.0**	**+0.8**
	comp=E,285nm,0.3s						
VLS	**Valsamata**	**0.61**	**186**	P	**Pb**	**07 26 16.5**	**-0.6**
VLS				S	**Sg**	**07 26 25.6**	**+0.9**
VLS				AML	AML	07 26 26.4	
	comp=E,800μm,0.1s						
VLS				AML	AML	07 26 28.9	
	comp=N,520μm,0.3s						
VLS	**Valsamata**	**0.61**	**186**	P	**Pb**	**07 26 16.5**	**-0.6**
VLS				S	**Sg**	**07 26 25.5**	**+0.8**
	comp=N,345nm,0.1s						
KEF3	**Kipouria, Keph**

ELT	**Eltsovka**	**2.81**	**317**	Pg		**Pb**	**07 38 16.1**	**-0.1**
ELT				Sg		**Sg**	**07 38 55.5**	**+0.1**
ARDR	**Aradan**	**2.83**	**60**	Pg		**Pg**	**07 38 20.1**	**+0.7**
ARDR				Sg		**Sg**	**07 38 58.2**	**+2.1**
UKR	**Ust'-Kan**	**2.94**	**266**	PN		**Pg**	**07 38 20.0**	**-1.5**
UKR	**Ust'-Kan**	**2.94**	**266**	Pg		**Pg**	**07 38 21.2**	**-0.3**
UKR				Sg		**Sg**	**07 38 59.6**	**+0.1**
ERU	**Erunakovo, Kuz**	**3.16**	**338**	Pg		**Pg**	**07 38 25.2**	**-0.5**
ERU				Sg		**Sg**	**07 39 07.6**	**+1.0**
KZLR	**Kyzyl**	**3.19**	**80**	⇓*i* PN		**Pg**	**07 38 25.3**	**-1.0**
KZLR				*e*S		**Sg**	**07 39 07.9**	**+0.2**
KZLR	**Kyzyl**	**3.19**	**80**	Pg		**Pg**	**07 38 25.9**	**-0.4**
KZLR				Sg		**Sg**	**07 39 08.6**	**+1.0**
VCHU	**Verkh-Chumysh,**	**3.27**	**328**	PN		**Pg**	**07 38 26.7**	**+0.5**
VCHU	**Verkh-Chumysh,**	**3.27**	**328**	Pg		**Pg**	**07 38 26.7**	**-1.1**
VCHU				Sg		**Sg**	**07 39 11.3**	**+1.1**
SHRR	**Shira**	**3.29**	**8**	*i* PN		**Pg**	**07 38 27.0**	**-1.3**
SHRR				*i* SG		**Sg**	**07 39 10.8**	**-0.1**
KOTO	**Kotino, Kuzbas**	**3.32**	**334**	Pg		**Pg**	**07 38 29.3**	**+0.5**
KOTO				Sg		**Sg**	**07 39 13.4**	**+1.7**
POMOR	**Pomortsevo, Ku**	**3.62**	**332**	Pg		**Pg**	**07 38 32.1**	**-2.6**
POMOR				Sg		**Sg**	**07 39 23.8**	**+2.2**
ERNS	**Erzin**	**3.78**	**103**	PN		**Pb**	**07 38 31.7**	**-1.1**
ERNS	**Erzin**	**3.78**	**103**	Pg		**Pg**	**07 38 34.8**	**-2.8**
ERNS				Sg		**Sg**	**07 39 26.1**	**-0.5**
SALR	**Pechorkino, Sa**	**3.90**	**326**	PN		**Pg**	**07 38 38.6**	**-1.3**
SALR	**Pechorkino, Sa**	**3.90**	**326**	Pg		**Pb**	**07 38 31.6**	**-3.1**
SALR				Sg		**Sg**	**07 39 28.8**	**-1.5**
ZAA0	**Zalesovo Array**	**3.90**	**316**	⇑Pn		**Pb**	**07 38 30.4**	**-4.3**
	1.3nm,0.4s							
ZAA0				⇑Lg		Lg	07 39 26.5	
	11nm,0.6s							
ZALV	**Zalesovo Beam**	**3.90**	**316**	*i* PN		**Pb**	**07 38 30.2**	**-4.5**
ZALV				pmax	pmax			
	comp=Z,6.0nm,0.3s							
BRCR	**Berchikul'**	**4.46**	**352**	PN		**Pb**	**07 38 40.8**	**-3.5**
BRCR	**Berchikul'**	**4.46**	**352**	Pg		**Pg**	**07 38 47.4**	**-3.2**
BRCR				Sg		**Sg**	**07 39 49.0**	**+0.7**
KEM	**Kemerovo**	**4.57**	**335**	Pg		**Pg**	**07 38 50.3**	**-2.4**
KEM				Sg		**Sg**	**07 39 53.9**	**+2.1**
MINR	**Mina**	**4.67**	**36**	Pg		**Pg**	**07 38 54.1**	**-0.6**
MINR				Sg		**Sg**	**07 39 58.4**	**+3.3**
ZSN	**Zaisan**	**4.81**	**220**	Pg		**Pb**	**07 38 47.8**	**-2.6**
	comp=Z,6.2nm,0.3s							
ZSN				Lg		Lg	07 39 57.7	
	comp=Z,75nm,0.8s							
KNGR	**Kungurtug, Tuv**	**5.17**	**94**	PN		**Pg**	**07 39 02.4**	**-1.9**
KNGR	**Kungurtug, Tuv**	**5.17**	**94**	Pg		**Pg**	**07 39 03.7**	**-0.5**
KNGR				Sg		**Sg**	**07 40 16.6**	**+5.4**
NVS	**Novosibirsk**	**5.18**	**317**	Pg		**Pg**	**07 39 02.7**	**-1.8**
NVS				Sg		**Sg**	**07 40 13.2**	**+1.6**
NVSII	**Novosibirsk**	**5.18**	**317**	Pg		**Pg**	**07 39 02.1**	**-2.4**
NVSII				Sg		**Sg**	**07 40 11.1**	**-0.5**
KRAR	**Krasnoyarsk**	**5.21**	**22**⇑	*e*PN		Pb	07 38 52.0	-5.0
SHTK	**Zheleznogorsk-**	**5.68**	**24**	PN		**Pb**	**07 39 05.5**	**+0.5**
SEM	**Semipalatinsk**	**5.86**	**265**	Pg		**Pb**	**07 39 06.3**	**-2.0**
	comp=Z,17nm,0.4s							
SEM				Lg		Lg	07 40 29.9	
	comp=Z,55nm,0.7s							
MK31	**Makanchi Array**	**6.46**	**229**	PN		Pn	07 39 05.3	+3.9
MK31				SN		**Sn**	**07 40 20.2**	**+4.5**
MK31	**Makanchi Array**	**6.46**	**229**	⇓Pn		Pn	07 39 05.3	+3.9
	comp=Z,7.1nm,0.6s,baz=49,slow=11,SNR=103							
MK31				⇑Sn		**Sn**	**07 40 20.2**	**+4.5**
	comp=Z,3.1nm,0.4s							
MK31				Lg		Lg	07 40 46.5	
	comp=Z,19nm,0.7s,baz=46,slow=28,SNR=8.2							
MKAR	**Makanchi Array**	**6.46**	**229**	*i* PN		Pn	07 39 05.5	+4.1
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.4s							
MAKZ	**Makanchi**	**6.60**	**231**	PN		Pn	07 39 07.4	+4.1
MAKZ	**Makanchi**	**6.60**	**231**	⇓Pn		Pn	07 39 07.4	+4.1
	comp=Z,2.7nm,0.5s							
MAKZ				⇓Lg		Lg	07 40 52.5	
	comp=Z,11nm,0.6s							
KURK	**Kurchatov**	**6.83**	**270**	*de*PN		Pn	07 39 09.7	+3.2
KURK				*e*S		**Sn**	**07 40 29.0**	**+4.1**
KURK				pmax	pmax			
	comp=Z,7.0nm,1.7s							
KURK				smax	smax			
	comp=Z,14nm,1.0s							
KURK	**Kurchatov**	**6.83**	**270**	⇑Pn		Pn	07 39 11.0	+4.5
	comp=Z,5.7nm,0.7s							
KURK				⇑Sn		**Sn**	**07 40 28.0**	**+3.1**
	comp=Z,7.7nm,0.6s							
KURK				⇓Lg		Lg	07 41 02.4	
	comp=Z,41nm,0.7s							
KURBB	**Kurchatov Arra**	**6.90**	**269**	PN		Pn	07 39 11.9	+4.4
KURBB	**Kurchatov Arra**	**6.90**	**269**	⇑Pn		Pn	07 39 12.0	+4.5
	comp=Z,7.2nm,0.4s							
KURBB				⇓Lg		Lg	07 41 04.3	
	comp=Z,62nm,0.6s							
KUR17	**Kurchatov Arra**	**6.94**	**269**	⇓Sn		**Sn**	**07 40 29.6**	**+2.1**
	comp=Z,2.7nm,0.4s							
KAPS	**Kapalarasan**	**8.96**	**232**	Pg		Pg	07 40 02.6	-14
	comp=Z,1.1nm,0.1s							
KAPS				Lg		Lg	07 42 05.4	
	comp=Z,6.8nm,0.1s							
DJR	**Jarkent**	**9.46**	**227**	Pg		Pn	07 40 12.4	+30
	comp=Z,2.7nm,0.1s							
DJR				Lg		Lg	07 42 22.3	
	comp=Z,5.3nm,0.6s							
BRVK	**Borovoye**	**11.89**	**286**	P		**Pn**	**07 40 18.4**	**+2.7**
BRVK				SN		**Sn**	**07 42 22.7**	**-6.2**
BRVK	**Borovoye**	**11.89**	**286**	⇑Pn		**Pn**	**07 40 18.4**	**+2.7**
	comp=Z,1.3nm,0.5s							
BRVK				⇓Sn		**Sn**	**07 42 22.7**	**-6.2**
	comp=Z,1.6nm,0.6s							
OBN	**Obninsk**	**31.27**	**298**	*e*P		P	07 43 50.9	+4.6
OBN				*e*			07 44 50.3	
CMAR	**Chiang Mai Arr**	**33.57**	**163**	*i* P		P	07 44 13.0	+6.2
BILL	**Bilibino**	**39.26**	**35**	*e*P		P	07 45 00.8	+6.0
BILL				*e*			07 46 33.1	
BILL				pmax	pmax			
	comp=Z,1.0nm,1.0s							

*IDC **23** 07:50:31.1±1.6,0.°48N×80.°11W,h0km,mb3.4/5,mb1 3.7/5, mb1mx3.5/32,mbtmp3.4/5,MS2.8/2,Ms1 2.8/2, ms1mx2.4/35,Error ellipse: s-maj=88.2km s-min=24.3km az=53.0*

ISC 23 07:50:31.3±1.2,0.°3S±0.°1×80.°5W±0.°1,h16km,n22, σ2s04/19,mb3.5/4,1C-1D,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUSE	**Cuicocha Este**	**2.16**	**75**⇑	*e*P	**Pn**	**07 51 05.0**	**-2.0**
TULN	**Tulcn-Chalpat**	**2.86**	**70**	*e*P	**Pn**	**07 51 16.5**	**-0.3**
CMBC	**Cumbal**	**2.91**	**66**	*e*P	**Pn**	**07 51 17.4**	**0.0**
GCUF	**Volcan Galeras**	**3.47**	**65**	*e*P	**Pn**	**07 51 25.1**	**0.0**
GR1C	**Gorgona, Isla**	**3.98**	**35**	*e*P	**Pn**	**07 51 35.6**	**+3.9**
SOTA	**Rioblanco**	**4.55**	**58**	*e*P	**Pn**	**07 51 39.5**	**-0.4**
POPC	**Popayan, Colom**	**4.71**	**54**	*e*P	**Pn**	**07 51 39.5**	**-2.5**
PCON	**Cinco Dias**	**4.83**	**58**	*e*P	**Pn**	**07 51 45.2**	**+1.4**
MARP	**Paez Belalcaza**	**5.48**	**56**	*e*P	**Pn**	**07 51 49.1**	**-3.5**
BETC	**Betania**	**5.83**	**60**⇓	*e*P	**Pg**	**07 52 23.6**	**+0.6**
YOTC	**Yotoco, Valle**	**5.91**	**44**	*e*P	**Pn**	**07 51 55.3**	**-3.0**
ORTC	**Ortega, Tolima**	**6.67**	**52**	*e*P	**Pn**	**07 52 08.2**	**-0.6**
ANIL	**Santa Ana**	**6.93**	**47**	*e*P	**Pn**	**07 52 12.1**	**-0.5**
MACC	**Macarena, Meta**	**7.05**	**70**	*e*P	**Pn**	**07 52 14.0**	**0.0**
JTS	**Las Juntas de**	**11.39**	**337**	LR	LR	07 56 34.1	
	comp=Z,64nm,18.2s,baz=188,slow=33						
NNA	**Nana**	**12.20**	**163**	LR	LR	07 57 56.7	
	comp=Z,28nm,18.7s,baz=338,slow=35						
LPAZ	**La Paz**	**20.05**	**143**	P	Pn	07 55 11.4	+5.0
	1.3nm,0.6s,baz=335,slow=8.0,SNR=8.9						
SIV	**San Ignacio**	**24.72**	**130**	P	**P**	**07 55 55.9**	**+3.7**
	0.4nm,0.5s,baz=297,slow=11,SNR=1.9						
NVAR	**Mina Array Bea**	**51.86**	**322**	P	**P**	**07 59 39.0**	**-0.3**
	0.4nm,0.7s,baz=151,slow=5.8,SNR=2.4						
YKA	**Yellowknife Ar**	**67.65**	**344**	P	**P**	**08 01 26.0**	**-1.2**
	0.3nm,0.9s,baz=133,slow=6.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**82.44**	**77**	P	**P**	**08 02 53.6**	**-0.1**
	0.3nm,0.7s,baz=281,slow=6.6,SNR=1.8						
WRA	**Warramunga Arr**	**140.42**	**237**	PKP	**PKiKP**	**08 10 02.2**	**-1.2**
	0.3nm,0.7s,baz=112,slow=2.3,SNR=2.0						

*NNC **23** 08:15:52.3±3.7,38.°45N×70.°12E,h0km,mb4.3,mpv4.1, Error ellipse: s-maj=29.3km s-min=25.0km az=7.0*

*IDC **23** 08:15:53.6±1.0,38.°66N×70.°25E,h0km,mb3.7/8, mb1 3.9/13,mb1mx3.7/47,mbtmp3.8/13,ML3.4/5,MS2.5/2, Ms1 2.5/2,ms1mx2.2/94,Error ellipse: s-maj=23.3km s-min=13.4km az=147.0*

ISC 23 08:15:54.9±0.9,38.°50N±0.°08×70.°12E±0.°07,h10km,n34, σ2s05/38,mb3.8/8,14C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.54**	**36**	P	**Pn**	**08 17 03.1**	**-0.9**
	SNR=36						
KK31	**Karatay Array**	**4.61**	**4**	Pn	**Pn**	**08 17 05.8**	**+1.2**
	13nm,0.5s,baz=184,slow=13,SNR=110						
KK31				⇓Pg	**Pb**	**08 17 17.2**	**+1.4**
	3.8nm,0.3s,baz=183,slow=14,SNR=5.5						
KK31				⇑Sn	**Sn**	**08 17 58.6**	**+0.4**
	11nm,0.4s						
KK31				⇑Lg	Lg	08 18 17.0	
	42nm,0.7s,baz=177,slow=32,SNR=6.2						
EKS2	**Erkin-Say**	**5.00**	**33**	P	**Pn**	**08 17 11.8**	**+1.7**
	SNR=19						
UCH	**Uchtor**	**5.01**	**41**	P	**Pn**	**08 17 09.8**	**-0.8**
	SNR=20						
AAK	**Ala-Archa**	**5.31**	**37**	P	**Pn**	**08 17 14.2**	**-0.2**
	SNR=9.6						
AAK	**Ala-Archa**	**5.31**	**37**	Pn	**Pn**	**08 17 14.2**	**-0.2**
	2.9nm,0.3s,baz=208,slow=6.0,SNR=14						
AAK				Lg	Lg	08 18 23.0	
	0.8nm,0.3s,baz=162,slow=20,SNR=1.3						
AAK				LR	LR	08 19 35.2	
	comp=Z,64nm,20.9s,baz=258,slow=43						
KBK	**Karagaybulak**	**5.54**	**40**	P	**Pn**	**08 17 17.7**	**+0.1**
	SNR=17						
CHMS	**Chumysh**	**5.71**	**37**	P	**Pn**	**08 17 22.5**	**+2.8**
	SNR=12						
CHMS	**Chumysh**	**5.71**	**37**	⇑Pn	**Pn**	**08 17 20.7**	**+1.0**
	28nm,0.7s						
CHMS				⇓Sn	**Sn**	**08 18 28.3**	**+3.0**
	56nm,0.9s						
USP	**Ospenovka**	**5.80**	**33**	P	**Pn**	**08 17 23.3**	**+2.2**
	SNR=8.4						
TKM2	**Tokmak 2**	**6.07**	**42**	P	**Pn**	**08 17 27.8**	**+3.0**
	SNR=16						
TKM2	**Tokmak 2**	**6.07**	**42**	⇑Pn	**Pn**	**08 17 23.6**	**-1.2**
	28nm,0.8s						
TKM2				⇑Pg	**Pb**	**08 17 40.9**	**+0.1**
	12nm,0.8s						
TKM2				⇓Sn	**Sn**	**08 18 39.2**	**+4.8**
	21nm,0.9s						
TKM2				⇑Lg	Lg	08 19 00.6	
	12nm,0.7s						
MDOK	**Medeo**	**7.02**	**46**	⇓Pn	**Pn**	**08 17 36.3**	**-1.6**
	13nm,0.7s						
MDOK				⇑Lg	Lg	08 19 32.7	
	21nm,0.9s						
PDGK	**Podgornoye**	**8.58**	**53**	⇑Pn	Pn	08 17 52.9	-6.3
	3.2nm,0.6s						
PDGK				⇑Lg	Lg	08 20 20.2	
	17nm,1.1s						
GEYT	**Alibeck**	**9.47**	**270**	Pn	**Pn**	**08 18 11.4**	**+0.1**
	0.7nm,0.3s,baz=116,slow=9.8,SNR=2.4						
OTUK	**Ortayu**	**9.87**	**9**	⇑Pn	**Pn**	**08 18 14.6**	**-2.2**
	1.3nm,0.8s						
OTUK				⇓Sn	Sn	08 20 20.9	+13
	5.8nm,0.7s						
OTUK				⇓Lg	Lg	08 21 03.3	
	15nm,1.1s						
MK31	**Makanchi Array**	**12.19**	**43**	⇑P	**Pn**	**08 18 47.1**	**-1.6**
	3.6nm,0.9s,baz=230,slow=14,SNR=29						
MKAR	**Makanchi Array**	**12.19**	**43**	Pn	**Pn**	**08 18 46.3**	**-2.3**
	0.3nm,0.3s,baz=228,slow=14,SNR=22						
AB31	**Akbulak array**	**13.01**	**329**	Pn	**Pn**	**08 18 58.4**	**-1.2**
	1.0nm,0.4s,baz=131,slow=14,SNR=5.6						
KURBB	**Kurchatov Arra**	**13.51**	**24**	Pn	**Pn**	**08 19 02.5**	**-4.0**
	0.1nm,0.3s,baz=213,slow=12,SNR=6.0						
KURBB				Lg	Lg	08 22 54.7	
	0.1nm,0.3s,baz=209,slow=26,SNR=4.5						
KURBB				LR	LR	08 23 44.1	
	comp=Z,18nm,18.1s,baz=358,slow=35						
KURBB	**Kurchatov Arra**	**13.51**	**24**	⇑P	Pn	08 19 00.9	-5.6
KURK	**Kurchatov**	**13.62**	**24**	⇑P	**P**	**08 19 13.7**	**-3.3**
BVAR	**Borovoye Array**	**14.53**	**1**	Pn	**Pn**	**08 19 18.8**	**-1.6**
AKTO	**Aktyubinsk**	**14.71**	**328**	Pn	**Pn**	**08 19 25.7**	**+2.8**
	0.4nm,0.3s,baz=78,slow=14,SNR=3.1						
AKTO				Sn	**Sn**	**08 22 03.3**	**-2.6**
	0.3nm,0.3s,baz=146,slow=17,SNR=2.7						
AKTO	**Aktyubinsk**	**14.71**	**328**	⇑Pn	**Pn**	**08 19 24.0**	**+1.1**
	5.6nm,0.8s						
ZALV	**Zalesovo Beam**	**18.44**	**28**	P	**P**	**08 20 06.2**	**-4.1**
	0.4nm,0.3s,baz=224,slow=11,SNR=10						
KBZ	**Khabaz**	**21.12**	**293**	P	**P**	**08 20 40.7**	**+1.0**
	2.3nm,0.7s,baz=99,slow=4.0,SNR=5.4						
FINES	**FINESS Array B**	**35.44**	**325**	P	**P**	**08 22 51.4**	**+0.4**
	1.0nm,0.7s,baz=116,slow=8.7,SNR=4.1						
ARCES	**ARCESS Array B**	**39.03**	**337**	P	**P**	**08 23 21.3**	**-0.1**
	2.1nm,0.8s,baz=117,slow=9.2,SNR=1.7						
ESDC	**Sonseca Array**	**55.92**	**296**	P	**P**	**08 25 33.9**	**+0.8**
	0.3nm,0.6s,baz=55,slow=7.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**65.09**	**267**	P	**P**	**08 26 35.9**	**-0.1**
	0.7nm,0.9s,baz=49,slow=4.7,SNR=4.6						
YKA	**Yellowknife Ar**	**79.28**	**2**	P	**P**	**08 27 58.8**	**-1.3**
	0.8nm,0.8s,baz=353,slow=5.7,SNR=8.5						
WRA	**Warramunga Arr**	**83.63**	**122**	P	**P**	**08 28 24.6**	**+0.8**
	0.3nm,0.5s,baz=324,slow=4.8,SNR=7.4						
ASAR	**Alice Springs**	**85.96**	**124**	P	**P**	**08 28 36.5**	**+1.0**
	0.2nm,0.7s,baz=319,slow=4.9,SNR=1.9						

ISC 23 08:20:27.7±1.4,14.°19S×173.°76W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.4/40,mbtmp3.6/2,Error ellipse: s-maj=127.2km s-min=25.7km az=168.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.94**	**82**	Pn	Pn	08 21 02.7	+0.7
	28nm,0.3s,baz=214,slow=4.1,SNR=13						
AFI				Sn	Sn	08 21 21.5	-5.6
	34nm,0.3s,baz=49,slow=21,SNR=4.1						
WRA	**Warramunga Arr**	**49.80**	**256**	P	P	08 29 23.7	+1.0
	0.3nm,0.7s,baz=90,slow=6.8,SNR=5.5						
ASAR	**Alice Springs**	**50.17**	**251**	P	P	08 29 25.3	-0.2
	0.6nm,0.5s,baz=84,slow=8.3,SNR=11						
BRTR	**Keskin Array B**	**145.00**	**322**	PKPbc	PKPab	08 40 04.0	-2.7
	0.4nm,0.7s,baz=9.7,slow=4.0,SNR=1.5						

*INET **23** 08:27:29.4±0.6, 12.°20N×88.°72W,h15km±7km,MW3.5*
*IDC **23** 08:27:29.5±2.1, 12.°63N×88.°29W,h0km,mb3.8/5, mb1 4.1/6,mb1mx3.7/41,mbtmp3.8/6,ML3.5/1,MS3.4/9, Ms1 3.4/9,ms1mx3.0/67,Error ellipse: s-maj=61.7km s-min=29.4km az=46.0*
*NEIC **23** 08:27:30.6±2.4, 12.°32N±0.°08×88.°51W±0.°08,h10km±2km, mb4.1/6, Error ellipse: s-maj=16.8km s-min=8.4km az=221.0*
*SNET **23** 08:27:32.9±0.8, 12.°27N×88.°56W,h35km±9km,ML3.0*
*UCR **23** 08:27:32.8±1.3, 12.°27N×88.°55W,h36km±999km, mb4.1(NEIC)*

ISC 23 08:27:32.2±2.0,12.°29N±0.°06×88.°51W±0.°05,h31km±15km, n70,σ0s94/73,mb4.0/7,MS3.6/8,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**1.15**	**54**	*e*P	**Pn**	**08 27 52.5**	**+0.3**
LCND	**La Caada**	**1.18**	**31**	*e*P	**Pn**	**08 27 53.3**	**+0.7**
LCND	**La Caada**	**1.18**	**31**	*e*P	**Pn**	**08 27 53.3**	**+0.7**
LCND				IAML		08 28 19.2	
	comp=Z,324nm,0.4s						
COEB	**Comit de Eme**	**1.20**	**359**	*e*P	**Pn**	**08 27 53.7**	**+0.7**
COEB	**Comit de Eme**	**1.20**	**359**	*e*P	**Pn**	**08 27 53.7**	**+0.7**
COEB				IAML		08 28 15.8	
	comp=Z,419nm,0.3s						
PQSS	**Presa 15 de Se**	**1.33**	**358**	*e*P	**Pn**	**08 27 55.5**	**+0.9**
PQSS	**Presa 15 de Se**	**1.33**	**358**	*e*P	**Pn**	**08 27 55.5**	**+0.9**
PQSS				IAML		08 28 18.2	
	comp=Z,113nm,0.2s						
COEG	**Centro de Oper**	**1.37**	**345**	*e*P	**Pn**	**08 27 55.4**	**+0.1**
COEG				*e*S	**Sb**	**08 28 13.7**	**-0.8**
COEG	**Centro de Oper**	**1.37**	**345**	*e*P	**Pn**	**08 27 55.4**	**+0.1**
COEG				*e*S	**Sb**	**08 28 13.7**	**-0.8**
SJTE	**Alcalda de S**	**1.40**	**340**	*e*P	**Pn**	**08 27 56.6**	**+0.9**
SJTE	**Alcalda de S**	**1.40**	**340**	*e*P	**Pn**	**08 27 56.6**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.42**	**351**	*e*P	**Pn**	**08 27 56.9**	**+0.9**
SCLA				*e*S	**Sb**	**08 28 15.9**	**0.0**
SCLA	**Alcaldia de Sa**	**1.42**	**351**	*e*P	**Pn**	**08 27 56.9**	**+0.9**
SCLA				*e*S	**Sb**	**08 28 15.9**	**0.0**
PAVA	**Las Pavas**	**1.48**	**344**	*e*P	**Pn**	**08 27 57.2**	**+0.5**
PAVA	**Las Pavas**	**1.48**	**344**	*e*P	**Pn**	**08 27 57.2**	**+0.5**
PAVA				IAML		08 28 26.0	
	comp=Z,333nm,0.6s						
CRIN	**San Cristobal**	**1.48**	**74**		**Pn**	**08 27 57.5**	**+0.7**
CRIN	**San Cristobal**	**1.48**	**74**	*e*P	**Pn**	**08 27 57.6**	**+0.8**
SNET	**Serv Nac Est T**	**1.56**	**333**		**Pn**	**08 27 57.4**	**-0.5**
CNGN	**Cerro Negro**	**1.78**	**83**		**Pn**	**08 28 01.2**	**+0.3**
CNGN	**Cerro Negro**	**1.78**	**83**	*e*P	**Pn**	**08 28 01.0**	**+0.1**
COPN	**Copaltepe**	**1.88**	**93**	*e*P	**Pn**	**08 28 01.9**	**-0.2**
MOMN	**Momotombo**	**1.93**	**86**	*e*P	**Pn**	**08 28 03.2**	**+0.3**
NUBE	**Las Nubes**	**2.02**	**323**	*e*P	**Pn**	**08 28 04.6**	**+0.3**
NUBE				*e*S	**Sn**	**08 28 28.6**	**-0.1**
NUBE	**Las Nubes**	**2.02**	**323**	*e*P	**Pn**	**08 28 04.6**	**+0.3**
NUBE				*e*S	**Sn**	**08 28 28.6**	**-0.1**
SLOZ	**Alcaldia de Sa**	**2.12**	**324**	*e*P	**Pn**	**08 28 06.5**	**+0.9**
SLOZ				*e*S	**Sn**	**08 28 32.1**	**+1.1**
TGUH	**Tegucigalpa,Un**	**2.13**	**34**	Pn	**Pn**	**08 28 06.9**	**+1.1**
TISN	**Laguna Tiscapa**	**2.20**	**94**	*e*P	**Pn**	**08 28 06.7**	**+0.2**
MGAN	**Managua**	**2.22**	**93**	*e*P	**Pn**	**08 28 07.1**	**+0.2**
MTO3	**Montecristo**	**2.25**	**339**	Pn	**Pn**	**08 28 08.1**	**+0.5**
ESQI	**Esquipulas**	**2.40**	**340**		**Pn**	**08 28 10.5**	**+1.1**
MATN	**Matagalpa**	**2.60**	**76**		**Pn**	**08 28 12.4**	**+0.2**
BOAB	**BOACO BROADBAN**	**2.79**	**86**	Pn	**Pn**	**08 28 14.2**	**-0.4**
BOAB	**BOACO BROADBAN**	**2.79**	**86**	*e*P	**Pn**	**08 28 14.9**	**+0.3**
BOAB				*e*S	**Sn**	**08 28 49.2**	**+2.0**
HZTE	**Horizontes, Gu**	**3.26**	**118**	Pn	**Pn**	**08 28 22.1**	**+1.0**
ACON	**Acoyapa**	**3.28**	**95**		**Pn**	**08 28 20.6**	**-0.9**
ACON	**Acoyapa**	**3.28**	**95**	*e*P	**Pn**	**08 28 20.6**	**-0.9**
ACON	**Acoyapa**	**3.28**	**95**	*e*P	**Pn**	**08 28 21.2**	**-0.2**
ACON				*e*S	**Sn**	**08 28 59.2**	**-0.3**
ORTG	**Ortega, Santa**	**3.55**	**122**		**Pn**	**08 28 26.0**	**+0.7**
CUI	**Cuipilapa**	**3.66**	**116**	*e*P	**Pn**	**08 28 26.9**	**+0.1**
DUNO	**Dulce Nombre,**	**3.69**	**126**		**Pn**	**08 28 26.9**	**-0.2**
JTS	**Las Juntas de**	**4.02**	**119**	Pn	**Pn**	**08 28 33.3**	**+1.7**
	comp=Z,3.4nm,0.3s,baz=17,slow=11,SNR=16						
JTS				Sn	**Sn**	**08 29 15.8**	**-1.9**
	comp=Z,2.7nm,0.3s,baz=340,slow=17,SNR=4.1						
JTS	**Las Juntas de**	**4.02**	**119**	Pn	**Pn**	**08 28 31.8**	**+0.2**
ESPN	**Las Esperanzas**	**4.12**	**91**		**Pn**	**08 28 34.9**	**+1.9**
CAO2	**Cobano, Puntar**	**4.22**	**127**	Pn	**Pn**	**08 28 34.5**	**0.0**
JACO	**JACO, Garabito**	**4.59**	**124**	Pn	**Pn**	**08 28 42.4**	**+2.9**
RIMA	**Rio Macho**	**5.21**	**118**		**Pn**	**08 28 49.3**	**+1.2**
RIMA	**Rio Macho**	**5.21**	**118**	*e*P	**Pn**	**08 28 49.5**	**+1.4**
CDM	**Cerro de Muert**	**5.40**	**120**	*e*P	**Pn**	**08 28 52.5**	**+1.5**
PEZE	**Perez Zeledon,**	**5.56**	**121**	Pn	**Pn**	**08 28 54.2**	**+1.3**
SRBA	**San Rafael, Bu**	**5.90**	**120**	Pn	**Pn**	**08 28 58.9**	**+1.3**
DRK0	**Durika**	**5.99**	**120**		**Pn**	**08 29 00.3**	**+1.4**
BRU2	**Volcan**	**6.69**	**121**	Pn	**Pn**	**08 29 09.8**	**+1.2**
SDV	**Santo Domingo**	**17.89**	**99**	LR	LR	08 39 32.0	
	comp=Z,35nm,19.9s,baz=290,slow=41						
435B	**Jarrell**	**20.23**	**337**	P	**P**	**08 32 04.6**	**-0.1**
435B				IAmb	IAmb	08 32 06.4	
	comp=Z,9.3nm,0.7s						
JCT	**Junction City**	**20.91**	**332**	P	**P**	**08 32 12.3**	**+0.1**
JCT				IAmb	IAmb	08 32 13.7	
	comp=Z,7.7nm,0.8s						
TXAR	**Lajitas Array**	**22.05**	**323**	P	**P**	**08 32 26.2**	**+1.6**
	comp=Z,1.5nm,0.7s,baz=145,slow=12,SNR=29						
TX31	**Lajitas Ar. Si**	**22.06**	**323**	P	**P

153nm,0.5s
MRKS eS Sg 08 54 26.3 +0.5
2µm,0.5s
MRKS Merke 1.99 16 Pg Pb 08 53 59.0 +1.1
153nm,0.5s
MRKS Lg Lg 08 54 26.3
2µm,0.5s
CHMG Chimgan 2.01 292 P 08 53 59.9
UCH Uchtor 2.06 47 P Pn 08 53 57.2 +0.6
SNR=1073
UCH Uchtor 2.06 47 *i* PN Pn 08 53 57.4 +0.8
UCH *i* S Sn 08 54 24.3 +1.8
UCH Uchtor 2.06 47 ⇓*i*P Pn 08 53 57.4 +0.8
baz=46
UCH ⇓*i*S Sn 08 54 24.3 +1.8
baz=46
EKS2 Erkin-Say 2.07 27 P Pn 08 53 57.6 +1.3
SNR=87
EKS2 Erkin-Say 2.07 27 *i* PN Pn 08 53 57.7 +1.3
EKS2 *i* S Sn 08 54 24.8 +2.6
EKS2 Erkin-Say 2.07 27 ⇑*i*P Pn 08 53 57.7 +1.3
baz=26
EKS2 ⇑*i*S Sn 08 54 24.8 +2.6
baz=26
CHRV Charvak 2.08 294 P 08 54 01.0
IUG Iuzhnay 2.27 306 *i* PN Pn 08 54 01.5 +2.4
IUG Iuzhnay 2.27 306 *e*P Pb 08 54 03.4 +0.7
2µm,0.3s
IUG *e*S Sg 08 54 34.0 -0.7
414nm,0.5s
IUG Iuzhnay 2.27 306 *i* Pg Pn 08 54 01.6 +2.4
baz=304
IUG *e*Lg Lg 08 54 32.9
baz=304
IUG Iuzhnay 2.27 306 Pg Pb 08 54 03.4 +0.7
2µm,0.3s
IUG Lg Lg 08 54 34.0
414nm,0.5s
TGS TashGRES 2.32 286 P 08 54 08.0
TGS S 08 53 32.8
TGS S 08 54 44.6
AAK Ala-Archa 2.35 39 P Pn 08 54 01.5 +1.2
SNR=324
AAK Ala-Archa 2.35 39 Pn Pn 08 54 01.5 +1.2
78nm,0.3s,baz=184,slow=4.6,SNR=365
AAK Lg Lg 08 54 32.3
254nm,0.3s,baz=167,slow=23,SNR=34
AAK LR LR 08 55 08.8
comp=Z,174nm,18.5s,baz=230,slow=47
AAK Ala-Archa 2.35 39 *i* PN Pn 08 54 01.5 +1.2
AAK *i* S Sn 08 54 31.2 +2.1
AAK Ala-Archa 2.35 39 ⇑*i*P Pn 08 54 01.5 +1.2
baz=38
AAK ⇑*i*S Sn 08 54 31.2 +2.1
baz=38
TAS Tashkent 2.47 283 *i* PN Pb 08 54 05.5 -0.5
TAS *i* S Sb 08 54 38.2 +1.8
TAS Tashkent 2.47 283 ⇑*i*P Pb 08 54 05.5 -0.5
baz=81
TAS ⇑*i*S Sb 08 54 38.2 +1.8
baz=81
TAS Tashkent 2.47 283 P 08 54 08.1
TAS S 08 54 46.4
FRU1 Bishkek 2.54 38 *i* PN Pn 08 54 04.3 +1.4
FRU1 *i* S Sn 08 54 36.2 +2.3
FRU1 Bishkek 2.54 38 ⇑*i*P Pn 08 54 04.3 +1.4
baz=37
FRU1 ⇑*i*S Sn 08 54 36.2 +2.3
baz=37
KBK Karagaybulak 2.59 44 P Pn 08 54 05.3 +1.7
SNR=129
KBK Karagaybulak 2.59 44 *i* PN Pn 08 54 04.7 +1.1
KBK *i* S Sn 08 54 37.0 +1.8
KBK Karagaybulak 2.59 44 ⇓*i*P Pn 08 54 04.7 +1.1
baz=44
KBK ⇓*i*S Sn 08 54 37.0 +1.8
baz=44
CHM Chimkent 2.63 305 PN Pn 08 54 06.6 +2.6
CHM 08 54 41.1
KK31 Karatay Array 2.71 328 *e*PN Pn 08 54 06.8 +1.7
KK31 *i* 08 54 10.8
KK31 08 54 42.3
KK31 08 54 46.6
KK31 Karatay Array 2.71 328 Pn Pn 08 54 06.8 +1.7
4.6nm,0.3s,baz=133,slow=13,SNR=1001
KK31 ⇑Pg Pb 08 54 10.8 +0.7
131nm,0.7s,baz=145,slow=17,SNR=8.1
KK31 ⇑Lg Lg 08 54 46.6
172nm,0.7s,baz=146,slow=28,SNR=5.6
KKAR Karatay Array 2.71 328 *i* PN Pn 08 54 07.1 +2.0
KKAR *i* S Sn 08 54 41.6 +3.7
KKAR Karatay Array 2.71 328 ⇑*i*P Pn 08 54 07.1 +2.0
baz=26
KKAR ⇑*i*S Sn 08 54 41.6 +3.7
baz=26
CHMS Chumysh 2.75 37 P Pn 08 54 06.9 +1.3
SNR=22
CHMS Chumysh 2.75 37 *i* PN Pn 08 54 06.8 +1.2
CHMS *i* S Sn 08 54 40.6 +1.8
CHMS Chumysh 2.75 37 ⇓*i*P Pn 08 54 06.8 +1.2
baz=36
CHMS ⇓*i*S Sn 08 54 40.6 +1.8
baz=36
CHMS Chumysh 2.75 37 ⇑Pn Pn 08 54 06.6 +1.0
46nm,0.5s
CHMS ⇑Sn Sn 08 54 41.1 +2.3
USP Ospenovka 2.86 31 P Pn 08 54 08.1 +0.9
SNR=20
USP Ospenovka 2.86 31 *i* PN Pn 08 54 08.1 +0.9
USP *i* S Sn 08 54 43.5 +1.9
USP Ospenovka 2.86 31 ⇑*i*P Pn 08 54 08.1 +0.9
baz=30
USP ⇑*i*S Sn 08 54 43.5 +1.9
baz=30
BRLS Borolday 2.96 319 *e*P Pb 08 54 14.2 -0.3
37nm,0.6s
BRLS *e*S Sb 08 54 53.1 +2.5
137nm,0.5s
BRLS Borolday 2.96 319 Pg Pb 08 54 14.1 -0.3
37nm,0.6s
BRLS Lg Lg 08 54 53.1
137nm,0.5s
KSH Kashi 2.97 115 Pn Pn 08 54 09.6 +0.9
KSH Sn Sn 08 54 45.3 +0.9
KSH pmax pmax
comp=Z,54nm,0.7s
KSH smax smax
comp=N,1µm,0.7s
KSH smax smax
comp=E,410nm,0.7s
SGDS Sogindy 3.07 30 *e*PN Pn 08 54 09.7 -0.3
SGDS Sogindy 3.07 30 *e*P Pb 08 54 15.0 -1.2
comp=E,77nm,0.4s
SGDS *e*S Sb 08 54 53.8 +0.2
comp=E,180nm,0.3s
SGDS Sogindy 3.07 30 ⇑*i*I I 08 54 11.0
baz=30
SGDS *e*Pg Pb 08 54 15.7 -0.5
baz=30
TKM2 Tokmak 2 3.12 47 P Pn 08 54 12.2 +1.2
SNR=93
TKM2 Tokmak 2 3.12 47 PN Pn 08 54 11.6 +0.7
TKM2 08 54 15.7
TKM2 08 54 53.2
TKM2 Tokmak 2 3.12 47 ⇓*i*P Pn 08 54 12.1 +1.2
baz=46
TKM2 ⇓*i*S Sn 08 54 49.6 +1.3
baz=46
TKM2 Tokmak 2 3.12 47 ⇑Pn Pn 08 54 11.7 +0.7
comp=E,76nm,0.6s
TKM2 ⇓Pg Pb 08 54 18.8 +1.6
comp=E,62nm,0.3s
TKM2 ⇓Lg Lg 08 54 53.3
comp=E,184nm,0.4s
ULHL Ulahol 3.15 62 P Pn 08 54 11.7 +0.4
SNR=29
ULHL Ulahol 3.15 62 *i* PN Pn 08 54 12.6 +1.3
ULHL *i* S Sn 08 54 51.4 +2.4
ULHL Ulahol 3.15 62 ⇑*i*P Pn 08 54 12.6 +1.3
baz=62
ULHL ⇑*i*S Sn 08 54 50.4 +1.4
baz=62
CHGR Chuyangaron 3.36 231 *i* PN Pb 08 54 18.1 -3.2
CHGR *i* S Sb 08 55 00.0 -2.2
CHGR Chuyangaron 3.36 231 ⇓*i*P Pb 08 54 18.1 -3.2
baz=31
CHGR ⇓*i*S Sb 08 55 00.0 -2.2
baz=31
KST Kastek 3.41 48 *e*P Pb 08 54 20.2 -1.8
comp=E,47nm,0.3s
KST *e*S Sb 08 55 03.0 -0.5
comp=E,142nm,0.5s
KST Kastek 3.41 48 Pg Pb 08 54 20.2 -1.8
comp=E,47nm,0.3s
KST Lg Lg 08 55 03.0
comp=E,142nm,0.5s
DGS Degeres 3.43 44 *e*P Pb 08 54 21.7 -0.7
comp=E,226nm,0.3s
DGS *e*S Sb 08 55 05.5 +1.2
comp=E,263nm,0.6s
DGS Degeres 3.43 44 Pg Pb 08 54 21.7 -0.7
comp=E,226nm,0.3s
DGS Lg Lg 08 55 05.5
comp=E,263nm,0.6s
MTBS Maitube 3.73 51 *e*P Pb 08 54 25.4 -2.1
comp=E,19nm,0.4s
MTBS *e*S Sb 08 55 11.7 -1.0
comp=E,171nm,0.5s
TNSS Tian-Shan 3.99 55 *i* PN Pn 08 54 24.2 +1.2
TNSS Tian-Shan 3.99 55 *e*P Pb 08 54 30.7 -1.4
comp=E,20nm,0.3s
TNSS *e*S Sb 08 55 20.7 +0.2
comp=E,37nm,0.7s
TNSS Tian-Shan 3.99 55 ⇑*i*I I 08 54 24.2
baz=55
TNSS *i* Pb Pb 08 54 29.3 -2.8
baz=55
TNSS *i* Pg Pn 08 54 31.6 +8.6
baz=55
TNSS *e*Lg Lg 08 55 24.2
baz=55
AAA Alma-Ata 4.06 53 *e*PN Pn 08 54 23.5 -0.2
AAA *e* 08 54 34.3
AAA Alma-Ata 4.06 53 *e*P Pb 08 54 33.6 +0.4
comp=E,63nm,0.2s
AAA *e*S Sb 08 55 25.7 +3.4
comp=E,202nm,0.7s
AAA Alma-Ata 4.06 53 *e*Pn Pn 08 54 23.6 -0.2
baz=53
AAA *e*Pg Pb 08 54 34.4 +1.2
baz=53
AAA Alma-Ata 4.06 53 Pg Pb 08 54 33.6 +0.4
AAA Lg Lg 08 55 27.2
MDOK Medeo 4.12 54 PN Pn 08 54 25.3 +0.8
MDOK 08 54 32.1
MDOK 08 55 26.8
MDOK Medeo 4.12 54 *e*P Pb 08 54 34.5 +0.3
comp=E,21nm,0.3s
MDOK *e*S Sb 08 55 27.3 +3.3
comp=E,67nm,0.6s
MDOK Medeo 4.12 54 *i* I I 08 54 25.6
baz=54
MDOK *i* Pb Pb 08 54 32.2 -2.0
baz=54
MDOK *i* Pg Pg 08 54 34.7 -5.9
baz=54
MDOK Medeo 4.12 54 ⇑Pn Pn 08 54 25.4 +0.8
comp=E,18nm,0.7s
MDOK ⇑Pg Pb 08 54 32.1 -2.0
comp=E,47nm,0.6s
MDOK ⇓Lg Lg 08 55 26.8
comp=E,118nm,0.8s
KUU Kurty 4.18 42 *i* PN Pb 08 54 36.3 +1.1
KUU Kurty 4.18 42 *e*P Pb 08 54 34.7 -0.5
comp=E,37nm,0.3s
KUU *e*S Sb 08 55 28.6 +2.8
comp=E,152nm,0.7s
KUU Kurty 4.18 42 *i* I I 08 54 25.5
baz=41
KUU *i* Pg Pb 08 54 36.3 +1.1
baz=41
KTBS Karatobe 4.24 46 *e*P Pb 08 54 36.3 +0.2
comp=E,31nm,0.3s
KTBS *e*S Sb 08 55 30.1 +2.8
comp=E,280nm,0.6s
ANVS Anan'yevo 4.33 61 *i* PN Pn 08 54 29.0 +1.5
ANVS *i* S Sn 08 55 18.8 +0.7
ANVS Anan'yevo 4.33 61 ⇑*i*P Pn 08 54 29.0 +1.5
baz=61
ANVS ⇑*i*S Sn 08 55 18.8 +0.7
baz=61
BTLS Baital 4.36 15 *e*PN Pb 08 54 36.5 -1.7
BTLS *e* 08 54 39.4
BTLS Baital 4.36 15 *e*P Pb 08 54 39.1 +0.8
comp=E,13nm,0.6s
BTLS *e*S Sb 08 55 35.1 +4.3
comp=E,113nm,0.9s
BTLS Baital 4.36 15 *e*Pb Pb 08 54 36.5 -1.7
baz=14
BTLS *e*Pg Pg 08 54 39.4 -5.8
baz=14
BTLS *e*Lg Lg 08 55 38.0
baz=14
CHKK Chushkaly 4.50 46 *i* PN Pb 08 54 41.4 +0.8
CHKK Chushkaly 4.50 46 *e*P Pb 08 54 40.5 -0.1
comp=E,18nm,0.6s
CHKK *e*S Sb 08 55 37.9 +3.1
comp=E,54nm,0.4s
CHKK Chushkaly 4.50 46 *i* Pg Pb 08 54 41.4 +0.8
baz=46
CHKK Chushkaly 4.50 46 Pg Pb 08 54 40.5 -0.1
comp=E,18nm,0.6s
CHKK Lg Lg 08 55 37.9
comp=E,54nm,0.4s
SATY Saty 4.94 61 *e*PN Pb 08 54 48.6 +0.5
SATY Saty 4.94 61 *e*P Pb 08 54 49.2 +1.0
comp=E,31nm,0.5s
SATY *e*S Sb 08 55 52.3 +4.7
comp=E,103nm,0.7s
SATY Saty 4.94 61 *e*Pg Pb 08 54 48.7 +0.5
baz=61
KURS Kuram 4.99 56 *e*P Pb 08 54 49.6 +0.6
comp=E,14nm,0.6s
KURS *e*S Sb 08 55 52.9 +4.0
comp=E,50nm,0.6s
ZHN Zhinishke 5.01 60 *e*P Pb 08 54 50.9 +1.6
comp=E,14nm,0.2s
ZHN *e*S Sb 08 55 55.1 +5.6
comp=E,56nm,0.3s
KPKS Kokpek 5.30 58 *e*PN Pn 08 54 41.3 +0.5
KPKS Kokpek 5.30 58 *e*P Pb 08 54 56.3 +2.0
comp=E,15nm,0.3s
KPKS *e*S Sb 08 56 05.0 +6.9
comp=E,66nm,0.5s
KPKS Kokpek 5.30 58 *i* Pg Pb 08 54 56.1 +1.8
baz=58
UZB Uzynbulak 5.39 62 *e*PN Pb 08 54 57.2 +1.4
UZB Uzynbulak 5.39 62 *e*P Pb 08 54 58.1 +2.3
comp=E,20nm,0.5s
UZB *e*S Sb 08 56 07.5 +7.0
comp=E,58nm,0.7s
UZB Uzynbulak 5.39 62 *i* Pg Pb 08 54 58.3 +2.5
baz=62
UZB *e*Lg Lg 08 56 07.6
baz=62
SHLS Shalkode 5.69 64 *e*PN Pb 08 55 02.8 +1.9
SHLS Shalkode 5.69 64 *e*P Pg 08 55 08.5 -2.1
comp=E,6.0nm,0.5s
SHLS *e*S Sg 08 56 25.3 +1.1
comp=E,56nm,0.5s
SHLS Shalkode 5.69 64 *e*Pg Pg 08 55 07.5 -3.1
baz=65
SHLS *e*Lg Lg 08 56 26.3
baz=65
PDGK Podgornoye 5.78 62 PN Pb 08 55 04.9 +2.5
PDGK 08 56 17.6
PDGK Podgornoye 5.78 62 ⇑Pg Pb 08 55 05.0 +2.5
comp=E,11nm,0.7s
PDGK ⇓Lg Lg 08 56 17.7
comp=E,52nm,0.7s
CEP Cherat 7.00 184 P Pn 08 55 08.3 +4.1
CEP S Sn 08 56 28.0 +4.1
CHCP Chirah Chowk 7.18 175 P Pn 08 55 10.3 +3.8
OTUK Ortayu 7.42 359 ⇑Lg Lg 08 57 12.9
comp=E,150nm,1.1s
THW Thamme Wali 8.04 185 P Pn 08 55 20.8 +2.5
MK31 Makanchi Array 9.26 47 P Pn 08 55 34.5 -0.4
MK31 Makanchi Array 9.26 47 ⇑Pn Pn 08 55 34.5 -0.4
comp=E,1.9nm,0.5s,baz=222,slow=11,SNR=35
MK31 ⇓Lg Lg 08 58 10.0
comp=E,7.0nm,0.7s,baz=235,slow=26,SNR=5.0
MKAR Makanchi Array 9.26 47 Pn Pn 08 55 34.4 -0.6
comp=E,0.3nm,0.3s,baz=229,slow=14,SNR=14
MKAR Lg Lg 08 58 10.1
comp=E,0.5nm,0.3s,baz=247,slow=25,SNR=6.5
MKAR LR LR 08 59 24.7
comp=E,69nm,19.2s,baz=225,slow=40
KURBB Kurchatov Arra 10.66 21 Pn Pn 08 55 51.6 -2.6
comp=E,0.1nm,0.3s,baz=215,slow=12,SNR=9.8
KURBB Lg Lg 08 58 56.2
comp=E,0.3nm,0.3s,baz=203,slow=28,SNR=7.4
KURBB Kurchatov Arra 10.66 21 P Pn 08 55 50.6 -3.5
KURBB Kurchatov Arra 10.66 21 ⇑Pn Pn 08 55 50.6 -3.5
comp=E,2.0nm,0.5s
KURBB ⇓Lg Lg 08 58 55.6
comp=E,56nm,0.7s
KURK Kurchatov 10.77 21 ⇑*e*P Pn 08 55 53.0 -2.6
KURK Kurchatov 10.77 21 ⇑Pn Pn 08 55 53.1 -2.5
comp=E,0.9nm,0.6s
KURK ⇑Lg Lg 08 58 59.8
comp=E,39nm,0.9s
AB31 Akbulak array 12.23 318 *e*P Pn 08 56 13.9 -1.6
AB31 Akbulak array 12.23 318 Pn Pn 08 56 13.9 -1.6
comp=E,3.8nm,0.7s,baz=127,slow=13,SNR=46
BVAR Borovoye Array 12.29 354 Pn Pn 08 56 14.5 -1.9
BVA4 Borovoye Array 12.29 354 ⇑Pn Pn 08 56 14.2 -2.2
comp=E,1.9nm,0.5s
BVA4 ⇑Sn Sn 08 58 43.4 +10
comp=E,3.3nm,0.6s
BVA4 ⇓Lg Lg 08 59 43.6
comp=E,12nm,0.6s
BRVK Borovoye 12.33 354 ⇓*e*P Pn 08 56 13.7 -3.2
AKTO Aktyubinsk 13.94 318 Pn Pn 08 56 37.1 -1.8
comp=E,0.2nm,0.3s,baz=132,slow=16,SNR=4.5
AKTO LR LR 09 02 49.0
comp=E,30nm,18.3s,baz=134,slow=40
ZALV Zalesovo Beam 15.52 28 Pn Pn 08 56 58.9 -1.3
comp=E,0.4nm,0.3s,baz=224,slow=15,SNR=5.4
ZALV Zalesovo Beam 15.52 28 *i* P Pn 08 57 01.3 +1.1
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ARU Arti 18.07 334 P Pn 08 57 33.1 +0.7
comp=Z,0.0nm,0.3s,baz=174,slow=9.4,SNR=5.1
ARU LR LR 09 05 17.8
comp=Z,20nm,21.1s,baz=176,slow=40
MAK Makhachkala 18.71 285 *e*P P 08 57 36.0 -3.9
MAK *e*S Sn 09 01 08.0 -1.4
MAK pmax pmax
comp=Z,254nm,1.3s
MAK MLR MLR
comp=Z,83nm,15.0s
KBZ Khabaz 22.04 287 P P 08 58 19.9 +3.9
comp=Z,1.5nm,0.7s,baz=198,slow=3.2,SNR=2.4
SONM Songino Array 25.09 62 P P 08 58 45.5 -0.8
comp=Z,0.5nm,0.4s,baz=278,slow=13,SNR=2.8
OBN Obninsk 27.61 313 *e*P P 08 59 07.8 -0.9
OBN *e* 08 59 51.4
OBN pmax pmax
comp=Z,3.0nm,0.5s
BRTR Keskin Array B 29.50 281 P P 08 59 30.1 +4.2
comp=Z,1.8nm,0.7s,baz=90,slow=6.4,SNR=9.2
AKASG Malin Array Be 31.35 303 P P 08 59 43.3 +1.4
comp=Z,1.6nm,0.5s,baz=76,slow=8.6,SNR=4.9
FINES FINESS Array B 34.66 322 P P 09 00 10.1 -0.6
comp=Z,1.6nm,0.7s,baz=110,slow=10,SNR=8.2
FINES LR LR 09 13 50.9
comp=Z,30nm,18.1s,baz=296,slow=35
FINES FINESS Array B 34.66 322 *i* P P 09 00 10.8 +0.1
FINES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 37.66 335 P P 09 00 36.0 -0.2
comp=Z,2.8nm,0.9s,baz=110,slow=8.0,SNR=3.5
ARCES ARCESS Array B 37.66 335 P P 09 00 36.0 -0.2
GERES GERESS Array B 41.52 302 P P 09 01 10.2 +1.3
comp=Z,1.0nm,0.6s,baz=70,slow=12,SNR=10
NB2 NORSAR Subarra 41.72 320 P P 09 01 09.8 -0.4
comp=Z,2.5nm,0.8s,baz=90,slow=8.6
NOA NORSAR Array B 41.72 320 P P 09 01 09.7 -0.5
comp=Z,1.4nm,0.7s,baz=90,slow=8.1,SNR=6.7
JHJ Hachijo jima 2 53.13 75 LR LR 09 27 41.9
comp=Z,42nm,18.3s,baz=114,slow=39
BILL Bilibino 54.22 28 *e*P P 09 02 44.0 -2.8
BILL pmax pmax
comp=Z,1.0nm,1.0s
TORD Torodi Ar. Bea 67.03 268 P P 09 04 13.7 -1.1
comp=Z,1.3nm,0.6s,baz=51,slow=4.7,SNR=11
INK Inuvik 69.45 10 P P 09 04 26.3 -2.9
comp=Z,1.4nm,1.1s,baz=0.9,slow=2.7,SNR=2.5
YKA Yellowknife Ar 76.87 3 P P 09 05 11.2 -2.0
comp=Z,0.2nm,0.5s,baz=352,slow=5.8,SNR=7.7
WRA Warramunga Arr 83.33 123 P P 09 05 46.1 -2.5
comp=Z,0.3nm,0.7s,baz=298,slow=6.0,SNR=1.9
ASAR Alice Springs 85.81 126 P P 09 05 58.6 -2.5
comp=Z,0.9nm,0.7s,baz=317,slow=5.0,SNR=12

JMA ***23*** *08:55:58.4±0.1, 23°.97N×121°.65E, h16km±1km, M3.1*
TAP ***23*** *08:56:00.3, 24°.17N×121°.75E, h12km, ML3.7, C*
IDC ***23*** *08:56:18.9±12.0, 24°.07N×122°.87E, h168km±83km, mb2.9/2, mb1 3.2/3, mb1mx2.7/63, mbtmp3.4/3, Error ellipse: s-maj=363.8km s-min=29.9km az=91.0*
ISC 23 08:55:59.9±0.8**, 24°.15N**±0°.01×**121°.81E**±0°.02**, h11**km±5km**,**
n109, σ**0ˢ65**/196**, 5C-27D, Taiwan**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
EHP Heping Village 0.17 337 P Pg 08 56 03.9 +0.3
baz=358
EHP S Sg 08 56 06.7 +0.4
baz=358
ETL Fush Village 0.17 272 ⇓*i*P Pg 08 56 03.7 0.0
baz=265
ETL S Sg 08 56 06.2 -0.2
baz=265
NACB Ninganchiao 0.20 276 ⇓*i*P Pg 08 56 03.9 -0.2
baz=272
NACB *i* S Sg 08 56 06.5 -0.5
baz=272
TWD Chiawan 0.21 250 ⇑*i*P Pg 08 56 04.4 +0.1
baz=244
TWD *i* S Sg 08 56 07.3 0.0
baz=244
HWA Hwalien 0.26 227 *e*P Pb 08 56 06.3 -0.3
baz=225
HWA *e*S Sb 08 56 10.5 -0.6
baz=225
ENA Nanau 0.28 347 ⇓*i*P Pg 08 56 05.9 +0.3
baz=359
ENA *i* S Sg 08 56 09.8 +0.4
baz=359
EWUT Wuta 0.29 354 ⇓*i*P Pg 08 56 06.3 +0.5
baz=4.0
EWUT *i* S Sg 08 56 10.1 +0.3
baz=4.0
ETLH Xiulin Townshi 0.31 280 ⇓*i*P Pg 08 56 05.8 -0.3
baz=279
ETLH *i* S Sg 08 56 09.8 -0.5
baz=279
TEYL Yanliau Villag 0.34 215 P Pb 08 56 08.1 0.0
baz=217
TEYL S Sb 08 56 15.1 +1.5
baz=217
ETM Tongmen 0.35 237 ⇓*i*P Pg 08 56 06.9 +0.1
baz=231
ETM S Sg 08 56 11.6 +0.1
baz=231
TWC Suao 0.46 4 ⇓*i*P Pb 08 56 09.4 -0.6
baz=5.0
TWC *i* S Sb 08 56 15.9 -0.8
baz=5.0
LATG Datong 0.46 326 ⇓*i*P Pg 08 56 09.0 0.0
baz=330
LATG S Sg 08 56 15.4 +0.3
baz=330
NNSB Datong 0.48 305 ⇓*i*P Pg 08 56 09.2 -0.1
baz=307
NNSB S Sg 08 56 15.0 -0.6
baz=307
ESL Shilin 0.48 226 ⇓*i*P Pg 08 56 09.5 +0.2
baz=227
ESL S Sg 08 56 16.6 +0.8
baz=227
NDS Dongshan 0.49 350 ⇓*i*P Pg 08 56 09.9 +0.5
baz=355
NDS S Sg 08 56 16.1 +0.2
baz=355
NNS Nan Shan 0.49 306 ⇓*i*P Pg 08 56 09.4 -0.2
baz=308
NNS *i* S Sg 08 56 15.4 -0.6
baz=308

WHF	**Hehuan Shan**	0.50	269	⇓	*i* P	Pg	08 56 09.5	-0.3
	baz=268								
WHF					*i* S	Sg	08 56 15.9	-0.5
	baz=268								
TEGC	**Jichi Village**	0.51	209		*e*P	Pb	08 56 11.8	+0.9
	baz=196								
TEGC					*e*S	Sn	08 56 21.3	-0.6
	baz=196								
NDT	**Datong Townshi**	0.52	329	⇓	*i* P	Pg	08 56 10.4	+0.3
	baz=332								
NDT					*i* S	Sg	08 56 17.5	+0.4
	baz=332								
ENTT	**Nioudou**	0.53	335	⇓	*i* P	Pg	08 56 10.6	+0.3
	baz=340								
ENTT					*i* S	Sg	08 56 17.7	+0.3
	baz=340								
TWE	**Neicheng**	0.58	347		*i* P	Pg	08 56 11.6	+0.4
	baz=352								
TWE					*i* S	Sg	08 56 19.3	+0.5
	baz=352								
TWT	**Tachien**	0.59	280	⇓	*i* P	Pg	08 56 11.7	+0.3
	baz=279								
TWT					*i* S	Sg	08 56 19.1	-0.1
	baz=279								
CHGB	**Renai**	0.59	261	⇓	*i* P	Pg	08 56 11.4	0.0
	baz=253								
CHGB					S	Sg	08 56 18.3	-0.9
	baz=253								
EGFH	**Guangfu**	0.60	216		P	Pb	08 56 12.2	-0.2
	baz=220								
EGFH					S	Sb	08 56 20.9	+0.1
	baz=220								
TDCB	**Techi**	0.60	280	⇓	*i* P	Pg	08 56 11.8	+0.1
	baz=280								
TDCB					*i* S	Sg	08 56 19.0	-0.7
	baz=280								
ILA	**Ilan**	0.61	355	⇓	*i* P	Pb	08 56 12.5	-0.2
	baz=354								
ILA					S	Sb	08 56 21.4	+0.1
	baz=354								
OWD	**Renai**	0.61	251		P	Pg	08 56 11.6	-0.2
	baz=249								
OWD					S	Sg	08 56 19.0	-1.0
	baz=249								
FUSB	**Fushanzhiwuyua**	0.64	341	⇓	*i* P	Pg	08 56 12.6	+0.3
	baz=345								
FUSB					*i* S	Sg	08 56 20.7	0.0
	baz=345								
YHNB	**Yeheng**	0.65	322	⇓	*i* P	Pg	08 56 12.6	+0.1
	baz=325								
YHNB					*i* S	Sg	08 56 20.7	-0.4
	baz=325								
WUSB	**Renai**	0.66	256	⇓	*i* P	Pg	08 56 12.6	0.0
	baz=247								
WUSB					S	Sg	08 56 20.4	-0.9
	baz=247								
NSK	**Sanguang**	0.67	322	⇓	*i* P	Pg	08 56 12.8	0.0
	baz=325								
NSK					*i* S	Sg	08 56 21.3	-0.3
	baz=325								
NWLT	**Wulai**	0.68	336	⇓		Pg	08 56 13.4	+0.3
	baz=339								
NWLT					S	Sg	08 56 21.9	-0.2
	baz=339								
NTC	**Toucheng**	0.70	1	⇓	P	Pb	08 56 13.9	-0.2
	baz=5.0								
NTC					S	Sg	08 56 22.8	+0.2
	baz=5.0								
VWDT	**VWDT**	0.73	237	⇓	*i* P	Pg	08 56 14.1	+0.1
	baz=235								
VWDT					S	Sb	08 56 24.7	0.0
	baz=235								
HGSD	**Ruisui**	0.75	208		*e*P	Pn	08 56 15.8	-0.7
	baz=194								
HGSD					S	Sn	08 56 29.1	+1.3
	baz=194								
EHY	**Hungye**	0.79	215	⇑	*i* P	Pg	08 56 14.8	-0.2
	baz=224								
NFF	**Wufeng Townshi**	0.79	307		*e*P	Pg	08 56 15.3	+0.1
	baz=308								
NFF					*e*S	Sg	08 56 25.1	-0.4
	baz=308								
WPL	**Puli Township**	0.79	260		P	Pg	08 56 15.4	+0.2
	baz=251								
WPL					*e*S	Sb	08 56 27.0	+0.4
	baz=251								
WHP	**Taichung City**	0.80	279		*e*P	Pg	08 56 15.5	+0.2
	baz=279								
WHP					*e*S	Sg	08 56 25.8	0.0
	baz=279								
TIPB	**Shuangxi**	0.81	1		P	Pb	08 56 16.1	0.0
	baz=4.0								
TIPB					S	Sg	08 56 26.2	-0.1
	baz=4.0								
WCS	**Beigang Elemen**	0.83	264		*e*P	Pg	08 56 15.9	0.0
	baz=255								
WCS					*e*S	Sg	08 56 26.1	-0.6
	baz=255								
NHDH	**Xindian Distri**	0.85	342		*e*P	Pb	08 56 16.7	0.0
	baz=344								
NHDH					*e*S	Sg	08 56 27.0	-0.3
	baz=344								
TWA	**Mucha**	0.85	346		*e*P	Pb	08 56 16.8	+0.1
	baz=349								
TWA					*e*S	Sb	08 56 28.4	+0.2
	baz=349								
TWB1	**Santiao Chiao**	0.87	11		*e*P	Pb	08 56 17.1	+0.1
	baz=14								
TWB1					*e*S	Sb	08 56 28.3	-0.3
	baz=14								
LIOB	**Emei**	0.88	304		P	Pb	08 56 17.2	0.0
	baz=306								
SMLT	**Sun Moon Lake**	0.88	252		P	Pg	08 56 16.9	+0.1
	baz=251								
SMLT					*e*S	Sb	08 56 29.2	+0.2
	baz=251								
NSTT	**Nanjuang**	0.88	303	⇑	P	Pg	08 56 17.0	+0.2
	baz=304								
NSTT					S	Sg	08 56 27.9	-0.4
	baz=304								
TYC	**Yuchr**	0.91	254	⇑	P	Pg	08 56 17.2	-0.2
	baz=254								
TYC					S	Sg	08 56 29.2	0.0
	baz=254								
EYUL	**Yuli**	0.92	209		*e*P	Pn	08 56 19.2	+0.4
	baz=224								
TWF1	**Yuli**	0.93	211		P	Pb	08 56 18.3	+0.3
	baz=221								
TWF1					S	Sb	08 56 31.2	+0.8
	baz=221								
HSN1	**Hsinchu**	0.95	311		*e*P	Pg	08 56 18.1	-0.2
	baz=312								
HSN1					*e*S	Sg	08 56 30.8	+0.1
	baz=312								
TWQ1	**Liyutan**	0.97	282		*e*P	Pn	08 56 19.7	+0.2
	baz=292								
TWQ1					*e*S	Sb	08 56 32.4	+0.8
	baz=292								
SBCB	**Hsinchu**	0.99	310		*e*P	Pn	08 56 20.1	+0.4
	baz=311								
SBCB					*e*S	Sn	08 56 34.9	+1.2
	baz=311								
NCU	**National Centr**	0.99	325		*e*P	Pb	08 56 19.5	+0.4
	baz=327								
NCU					*e*S	Sb	08 56 33.0	+0.7
	baz=327								
NCUH	**Zhongli**	0.99	325		*e*P	Pg	08 56 18.9	-0.1
	baz=326								
NCUH					*e*S	Sb	08 56 33.0	+0.7
	baz=326								
TNOU	**National Taiwa**	0.99	358		P	Pn	08 56 19.8	0.0
	baz=360								
TNOU					*e*S	Sn	08 56 33.7	-0.2
	baz=360								
NSY	**Sanyi**	0.99	285		*e*P	Pb	08 56 19.7	+0.5
	baz=286								
NSY					*e*S	Sg	08 56 32.5	+0.5
	baz=286								
HSN	**Hsinchu**	1.00	310		*e*P	Pn	08 56 20.2	+0.3
	baz=314								
HSN					*e*S	Sn	08 56 34.6	+0.5
	baz=314								
NMLH	**Miaoli**	1.01	293		*e*P	Pb	08 56 19.7	+0.4
	baz=293								
TWS1	**Kuangyinshan**	1.01	339		*e*P	Pn	08 56 19.9	-0.2
	baz=349								
TWS1					*e*S	Sb	08 56 33.6	+0.9
	baz=349								
YM01	**YM01**	1.01	347		*e*P	Pn	08 56 19.9	-0.2
	baz=349								
YM01					*e*S	Sb	08 56 33.3	+0.4
	baz=349								
TCU	**Taichung**	1.04	270		*e*P	Pg	08 56 19.4	-0.4
	baz=270								
WJS	**Zhushan**	1.04	252		*e*P	Pn	08 56 20.6	0.0
	baz=247								
WJS					*e*S	Sb	08 56 34.5	+0.7
	baz=247								
FULB	**Fuli**	1.06	207		*e*P	Pn	08 56 20.8	0.0
	baz=221								
FULB					*e*S	Sn	08 56 36.2	+0.6
	baz=221								
JYNG	**Yonagunijimaku**	1.07	74		P	Pn	08 56 21.8	+0.9
JYNG					*e*S	Sn	08 56 38.0	+2.1
WDJ	**Dajia District**	1.09	280		*e*P	Pn	08 56 21.8	+0.7
	baz=281								
WDJ					*e*S	Sn	08 56 37.2	+1.0
	baz=281								
NHW	**Xinwu Township**	1.10	321		*e*P	Pb	08 56 20.7	-0.3
	baz=322								
NHW					*e*S	Sb	08 56 36.1	+0.8
	baz=322								
ALS	**Alishan**	1.12	235	⇑	*i* P	Pg	08 56 21.4	-0.1
	baz=226								
ALS					S	Sb	08 56 37.2	+0.9
	baz=226								
TWY	**Chenhua**	1.13	350		*e*P	Pb	08 56 21.6	0.0
	baz=352								
TWY					*e*S	Sn	08 56 37.6	+0.3
	baz=352								
YOJ	**Yonaguni jima**	1.14	74		P	Pn	08 56 22.6	+0.8
YOJ					S	Sn	08 56 39.5	+2.1
YOJ	**Yonaguni jima**	1.14	74		*e*P	Pn	08 56 22.7	+1.0
	baz=66								
YOJ					*e*S	Sn	08 56 39.4	+2.0
	baz=66								
WCHH	**Zhanghua**	1.15	267		*e*P	Pn	08 56 22.7	+0.8
	baz=267								
WCHH					*e*S	Sn	08 56 38.9	+1.2
	baz=267								
CHN5	**Tsauling**	1.18	242		*e*P	Pb	08 56 22.2	-0.1
	baz=243								
CHN5					*e*S	Sn	08 56 38.7	+0.2
	baz=243								
ELDTW	**Lidau**	1.21	217		P	Pb	08 56 21.9	-0.9
	baz=206								
ELDTW					S	Sn	08 56 39.4	+0.1
	baz=206								
WDLH	**Douliu**	1.25	249		*e*P	Pg	08 56 24.1	+0.1
	baz=250								
EDH	**Donghe**	1.27	202		*e*P	Pb	08 56 23.6	-0.1
	baz=202								
EDH					*e*S	Sn	08 56 41.3	+0.8
	baz=202								
WRL	**Guolierlin Hig**	1.34	259		*e*P	Pn	08 56 24.9	+0.4
	baz=260								
WRL					*e*S	Sg	08 56 43.2	+0.3
	baz=260								
STYH	**Taoyuan**	1.36	224		*e*P	Pn	08 56 25.1	+0.2
	baz=225								
CHN4	**Tsaushan**	1.37	235		P	Pg	08 56 26.1	-0.2
	baz=236								
CHN4					*e*S	Sg	08 56 44.2	+0.1
	baz=236								
TPUB	**Ta-pu**	1.38	232		*e*P	Pn	08 56 25.3	+0.1
	baz=222								
TPUB					*e*S	Sg	08 56 44.1	-0.1
	baz=222								
STYT	**Tauyuan**	1.38	225		*e*P	Pn	08 56 25.6	+0.4
	baz=226								
STYT					*e*S	Sg	08 56 44.6	+0.2
	baz=226								
WTK	**Tuku**	1.38	251		*e*P	Pg	08 56 26.6	+0.1
	baz=237								
LONT	**Longtian**	1.39	207		*e*P	Pb	08 56 25.9	0.0
	baz=208								
WTP	**Ta-pu**	1.42	231	⇓	P	Pb	08 56 26.7	+0.2
	baz=231								
WTP					S	Sg	08 56 47.7	+2.0
	baz=231								
TWGBT	**Beinan**	1.49	207		*e*P	Pn	08 56 26.8	+0.1
	baz=208								
TWG	**Pinlang**	1.49	207		*e*P	Pg	08 56 29.1	+0.6
	baz=208								
TWK	**Hsinying**	1.50	234		P	Pb	08 56 27.9	+0.1
	baz=235								
TWK					S	Sg	08 56 47.9	-0.3
	baz=235								
CHN1	**Nanshi**	1.52	231		*e*P	Pb	08 56 28.3	+0.1
	baz=222								
CHN1					*e*S	Sb	08 56 48.2	+0.7
	baz=222								
SNST	**Tainan City**	1.52	233		*e*P	Pn	08 56 27.6	+0.5
	baz=234								
SNST					*e*S	Sg	08 56 50.2	+1.3
	baz=234								
WSF	**Szhu**	1.54	251		*e*S	Sg	08 56 50.0	+0.4
	baz=252								
SGST	**Jiashian**	1.55	227		*e*P	Pn	08 56 27.8	+0.3
	baz=228								
SGST					*e*S	Sg	08 56 49.4	-0.5
	baz=228								
WSL	**Shuilin Townsh**	1.58	247		*e*P	Pb	08 56 29.0	-0.2
	baz=249								
WSL					*e*S	Sg	08 56 50.7	-0.1
	baz=249								
ICHU	**Yijhu**	1.61	241		*e*P	Pb	08 56 29.4	-0.3
	baz=243								
ICHU					*e*S	Sg	08 56 51.4	-0.4
	baz=243								
IRIF	**Iriomote-Funau**	1.76	84		P	Pb	08 56 31.0	-1.2
IRIF					S	Sb	08 56 54.1	-0.2
SSD	**Sandimen**	1.77	218		*e*P	Pb	08 56 32.5	+0.1
	baz=232								
TSMG	**Majia**	1.80	217		*e*P	Pb	08 56 31.9	-0.9
	baz=231								
MASBT	**Mashibuluo**	1.88	215		*e*P	Pn	08 56 32.9	+0.9
	baz=215								
MASBT					*e*S	Sb	08 56 58.1	+0.3
	baz=215								
EAST	**Anshuo**	1.97	207		*e*P	Pb	08 56 34.8	-1.0
	baz=195								
JKRS	**Kuro-shima**	2.01	87		P	Pb	08 56 35.4	-1.0
JKRS					S	Sb	08 57 01.7	+0.2
SCZT	**Fangliau**	2.08	212		*e*P	Pn	08 56 36.3	+1.5
	baz=196								
JIJ	**Ishigaki jima**	2.14	84		P	Pn	08 56 36.7	+1.1
JIJ					*e*S	Sb	08 57 03.2	-2.0
PHUB	**P'eng-hu**	2.15	253		*e*P	Pn	08 56 34.0	-1.7
	baz=257								
PHUB					*e*S	Sn	08 57 02.2	-0.2
	baz=257								
WDGT	**Dungji**	2.16	246		*e*P	Pn	08 56 36.4	+0.5
	baz=249								
JISG	**Ishigakijimahi**	2.32	79		P	Pn	08 56 38.8	+0.8
JISG					S	Sb	08 57 08.1	-2.3
LYJJ	**Jianjiangzhen**	3.02	323		*e*P	Pn	08 56 46.8	-1.0
	baz=321								
AXDP	**Jialang**	3.58	283		*e*P	Pn	08 56 54.6	-0.8
	baz=283								
KSRS	**Korea Array**	14.25	20		P	P	08 59 29.9	+0.9
	0.1nm,0.3s,baz=197,slow=12,SNR=5.5								
WRA	**Warramunga Arr**	45.50	163		P	P	09 04 18.8	-0.7
	0.3nm,0.8s,baz=345,slow=8.9,SNR=1.4								
YKA	**Yellowknife Ar**	82.77	23		P	P	09 08 22.2	-1.6
	0.2nm,0.6s,baz=309,slow=5.0,SNR=6.8								

NOU 23 08:59:01.3, 15.56S×167.71E, h107km, MLv4.2/15, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.50**	**283**	P		Pn	08 59 18.5	+0.7
DVP	**Devils Point**	**2.20**	**168**	P		Pn	08 59 36.9	+0.1
RTV	**Rentapao**	**2.32**	**163**	P		Pn	08 59 38.3	0.0
LIFNC	**LIFOU**	**5.21**	**185**	P		Pn	09 00 15.2	-1.7
	86nm,1.1s							
YATNC	**Mamie plateau,**	**6.51**	**187**	P		Pn	09 00 33.5	-1.1
	19nm,0.7s							
DZM	**Mont Dzumac**	**6.59**	**190**	P		Pn	09 00 34.3	-1.4
NOUC	**Port Laguerre**	**6.64**	**191**	P		Pn	09 00 36.7	+0.4
ONTNC	**Ouen Toro**	**6.82**	**190**	P		Pn	09 00 40.9	+2.2
	33nm,1.0s							
OUENC	**Ouen Island, N**	**6.87**	**187**	P		Pn	09 00 39.5	0.0
	18nm,1.9s							
PINNC	**Pines Island,**	**7.02**	**182**	P		Pn	09 00 42.6	+1.1
	65nm,2.3s							

*GUC **23** 09:00:27.7±0.6,24°.15S×68°.93W,h80km±11km,ML4.5*
*NEIC **23** 09:00:27.1±2.2,24°.15S±0°.04×69°.08W±0°.06,h89km±5km,*
mb4.5/92,ML4.5(GUC),Error ellipse: s-maj=8.5km
s-min=5.3km az=93.0
*IDC **23** 09:00:28.9±0.5,24°.08S×69°.02W,h100km±3km,mb4.0/12,*
mb1 4.1/15,mb1mx4.0/29,mbtmp4.3/15,MS3.1/5,
Ms1 3.1/5,ms1mx2.8/58,Error ellipse: s-maj=16.3km
s-min=7.2km az=87.0
*SJA **23** 09:00:28.0±2.0,24°.14S×69°.16W,h80km,ML4.5,MW4.2*
*VAO **23** 09:00:30.5±0.7,23°.93S×68°.86W,h107km±4km,mb4.6*

ISC 23 09:00:27.7±0.4,24°.12S±0°.03×69°.12W±0°.04, h96km±3km, n226,σ1°49/224,mb4.5/55,13C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.96**	**340**			Pn	09 00 47.2	-0.6
PB15					Sn	Sn	09 01 03.8	+1.1
PB15	**IPOC Station P**	**0.96**	**340**	⇓	*i* P	Pn	09 00 48.6	+0.9
PB15					*i* S	Sn	09 01 04.0	+1.3
PB15	**IPOC Station P**	**0.96**	**340**		*i* P	Pn	09 00 48.8	+1.0
PB15					*e*S	Sn	09 01 04.1	+1.4
PB15					IAML		09 01 04.3	
	comp=Z,69μm,0.3s							
GO02	**Mina Guanaco**	**1.12**	**202**		Pn	Pn	09 00 49.9	+0.3
GO02					Sn	Sn	09 01 06.5	+0.5
GO02	**Mina Guanaco**	**1.12**	**202**	⇑	*i* P	Pn	09 00 50.2	+0.6
GO02					*i* S	Sn	09 01 06.6	+0.5
GO02					IAML		09 01 07.4	
	comp=N,24μm,0.5s							
GO02	**Mina Guanaco**	**1.12**	**202**		*i* P	Pn	09 00 50.2	+0.6
GO02					*e*S	Sn	09 01 06.8	+0.7
PB14	**IPOC Station P**	**1.28**	**246**		Pn	Pn	09 00 50.0	-0.5
PB14					Sn	Sn	09 01 08.2	-1.0
PB14	**IPOC Station P**	**1.28**	**246**	⇑	*i* P	Pn	09 00 51.3	-0.1
PB14					*i* S	Sn	09 01 08.9	-0.3
PB14					IAML		09 01 09.5	
	comp=N,4μm,0.5s							
PB14	**IPOC Station P**	**1.28**	**246**		*i* P	Pn	09 00 51.3	-0.1
PB14					*e*S	Sn	09 01 08.7	-0.5
PB14					IAML		09 01 09.6	
	comp=Z,5μm,0.5s							
PB10	**IPOC Station P**	**1.45**	**294**			Pn	09 00 53.0	-0.2
PB10	**IPOC Station P**	**1.45**	**294**	⇑	*i* P	Pn	09 00 53.2	+0.1
PB10					*i* S	Sn	09 01 12.4	0.0
PB10					IAML		09 01 15.3	
	comp=E,5μm,0.3s							
PB10	**IPOC Station P**	**1.45**	**294**		*i* P	Pn	09 00 53.4	+0.3
PB10					IAML		09 01 16.1	
	comp=Z,2μm,0.3s							
PB06	**IPOC Station P**	**1.47**	**343**			Pn	09 00 53.7	+0.1
PB06	**IPOC Station P**	**1.47**	**343**	⇑	*i* P	Pn	09 00 54.5	+0.9
PB06					*i* S	Sn	09 01 13.5	+0.4
PB06					IAML		09 01 15.1	
	comp=E,20μm,0.8s							
PB06	**IPOC Station P**	**1.47**	**343**		*i* P	Pn	09 00 54.6	+1.0
PB06					*e*S	Sn	09 01 14.5	+1.4
PB06					IAML		09 01 17.1	
	comp=Z,10μm,0.3s							
LVC	**Limon Verde**	**1.51**	**7**		P	Pn	09 00 55.3	+0.9
	comp=Z,628nm,0.3s,baz=151,slow=9.8,SNR=5821							
LVC					S	Sn	09 01 14.7	+0.3
	comp=Z,1μm,0.3s,baz=78,slow=23,SNR=180							
LVC	**Limon Verde**	**1.51**	**7**		Pn	Pn	09 00 55.5	+1.1
LVC	**Limon Verde**	**1.51**	**7**	*e*P		Pn	09 00 54.4	0.0
LVC				*i* S		Sn	09 01 14.9	+0.5
LVC	**Limon Verde**	**1.51**	**7**	*i* P		Pn	09 00 55.7	+1.3
LVC				*e*S		Sn	09 01 15.0	+0.5
LVC				IAML			09 01 18.1	
	comp=Z,4μm,0.6s							
LVC	**Limon Verde**	**1.51**	**7**	*e*P		Pn	09 00 55.2	+0.8
PB09	**IPOC Station P**	**2.31**	**357**			Pn	09 01 05.5	+1.0
PB09	**IPOC Station P**	**2.31**	**357**	⇓	*i* P	Pn	09 01 05.8	+1.3
PB09					*i* S	Sn	09 01 34.4	+1.8
PB09					IAML		09 01 36.2	
	comp=N,2μm,0.1s							
PB09	**IPOC Station P**	**2.31**	**357**		*i* P	Pn	09 01 06.0	+1.5
AC01	**Pan de Azucar**	**2.42**	**213**			Pn	09 01 05.0	-0.8
AC01	**Pan de Azucar**	**2.42**	**213**	⇑	*i* P	Pn	09 01 04.8	-1.0
AC01					*i* S	Sn	09 01 29.9	-5.0
AC01					IAML		09 01 37.4	
	comp=N,2μm,0.2s							
AC01	**Pan de Azucar**	**2.42**	**213**		*i* P	Pn	09 01 04.8	-1.0
AC01					IAML		09 01 35.6	
	comp=Z,1μm,0.4s							
PB07	**IPOC Station P**	**2.48**	**343**			Pn	09 01 06.5	-0.2
PB07	**IPOC Station P**	**2.48**	**343**	⇑	*i* P	Pn	09 01 06.7	0.0
PB07					IAML		09 01 38.4	
	comp=E,2μm,0.6s							
PB07	**IPOC Station P**	**2.48**	**343**		*i* P	Pn	09 01 06.7	0.0
AC02	**Maricunga**	**2.71**	**180**		Pn	Pn	09 01 11.2	+1.3
AC02	**Maricunga**	**2.71**	**180**	⇓	*i* P	Pn	09 01 11.3	+1.3
AC02					IAML		09 01 50.7	
	comp=E,1μm,0.2s							
AC02	**Maricunga**	**2.71**	**180**		*i* P	Pn	09 01 11.4	+1.4
AC02					IAML		09 02 12.4	
	comp=Z,894nm,0.7s							
PB02	**IPOC Station P**	**2.88**	**345**			Pn	09 01 11.5	-0.4
PB02	**IPOC Station P**	**2.88**	**345**	⇓	*i* P	Pn	09 01 11.6	-0.4
PB02					*i* S	Sn	09 01 39.3	-6.6
PB02					IAML		09 01 46.5	
	comp=E,2μm,0.4s							
AC06	**Mina Casimiro**	**3.41**	**199**		Pn	Pn	09 01 17.4	-1.6
AC06	**Mina Casimiro**	**3.41**	**199**	⇑	*i* P	Pn	09 01 17.4	-1.6
PATCX	**Punta Patache**	**3.42**	**344**			Pn	09 01 17.9	-1.3
PATCX	**Punta Patache**	**3.42**	**344**	⇑	*i* P	Pn	09 01 17.9	-1.3
PATCX					IAML		09 02 26.5	
	comp=E,2μm,0.4s							
FSA	**Cafayete**	**3.47**	**126**		*i* P	Pn	09 01 22.3	+2.4
GO03	**Copiap**	**3.60**	**196**			Pn	09 01 20.6	-1.0
GO03	**Copiap**	**3.60**	**196**	*e*P		Pn	09 01 20.2	-1.3
TA01	**Diego Aracena**	**3.67**	**344**	Pn		Pn	09 01 20.7	-1.7
TA01	**Diego Aracena**	**3.67**	**344**	⇑	*i* P	Pn	09 01 20.7	-1.7
HMBC	**Humberstone**	**3.89**	**349**	⇑	*i* P	Pn	09 01 24.0	-1.5
TA02	**Huaiquique**	**3.94**	**346**			Pn	09 01 24.6	-1.5
TA02	**Huaiquique**	**3.94**	**346**	*e*P		Pn	09 01 24.6	-1.5
PB08	**IPOC Station P**	**3.96**	**360**			Pn	09 01 26.4	-0.3
PB08	**IPOC Station P**	**3.96**	**360**	⇑	*i* P	Pn	09 01 26.4	-0.3
PB11	**IPOC Station P**	**4.37**	**353**	Pn		Pn	09 01 30.4	-1.6
PB11	**IPOC Station P**	**4.37**	**353**	⇑	*i* P	Pn	09 01 30.3	-1.7
GO01	**Chusmiza**	**4.43**	**359**			Pn	09 01 32.4	-0.8
GO01	**Chusmiza**	**4.43**	**359**	⇑	*i* P	Pn	09 01 32.3	-0.8
AC04	**Llanos de Chal**	**4.43**	**203**	Pn		Pn	09 01 29.4	-3.3
AC04	**Llanos de Chal**	**4.43**	**203**	*e*P		Pn	09 01 29.5	-3.3
**L

TRCB	**Terra Rica**	**15.19**	**88**	*eP*		**Pn**	**09 03 57.0**	**-0.1**
PTGB	**Pitanga**	**15.55**	**96**	*eP*		**Pn**	**09 04 01.3**	**-0.4**
ITAB	**Concordia**	**15.63**	**105**			**Pn**	**09 04 01.7**	**-0.9**
ITAB					IAmb	IAmb	09 04 27.5	
	comp=Z,81nm,1.5s							
ITAB	**Concordia**	**15.63**	**105**	*eP*		**Pn**	**09 04 03.3**	**+0.7**
PLTB	**Pedras Altas**	**15.67**	**122**	Pn		**Pn**	**09 04 01.2**	**-1.9**
NBRS	**Nobres**	**15.91**	**55**	*eP*		**Pn**	**09 04 04.6**	**-1.7**
C2SB	**Chapadao do Su**	**16.06**	**74**	*eP*		**Pn**	**09 04 08.0**	**0.0**
PLCA	**Paso Flores**	**16.61**	**184**	P		**Pn**	**09 04 14.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=333,slow=13,SNR=6.1							
PLCA	**Paso Flores**	**16.61**	**184**			**Pn**	**09 04 13.9**	**-0.8**
PCMB	**Pacaembu**	**16.65**	**85**	*eP*		**Pn**	**09 04 13.8**	**-1.5**
CZSB	**Cruzeiro do Su**	**16.66**	**348**	*eP*		**Pn**	**09 04 13.9**	**-1.4**
PDRB	**Porto dos Gac**	**17.12**	**46**	*eP*		**Pn**	**09 04 17.9**	**-3.3**
DVLD	**Doverlandia**	**17.54**	**68**	*eP*		**P**	**09 04 24.3**	**-1.6**
FRTB	**Fartura**	**17.92**	**92**	*eP*		**P**	**09 04 27.9**	**-2.2**
ITRB	**Iturama**	**17.95**	**79**	*eP*		**P**	**09 04 29.6**	**-0.8**
CLDB	**Colider**	**18.28**	**46**	*eP*		**P**	**09 04 33.0**	**-1.1**
TIJ01	**Guaruva-PR**	**18.32**	**98**	*eP*		**P**	**09 04 34.4**	**-0.1**
TER01	**Tubaro-SC**	**18.45**	**108**	*eP*		**P**	**09 04 35.5**	**-0.4**
BB19B	**Bebedouro**	**19.25**	**85**	*eP*		**P**	**09 04 45.2**	**+0.4**
GO07	**Milladeo Hill,**	**19.32**	**190**	P		**P**	**09 04 45.4**	**+0.2**
TBTG	**Tabatinga, AM**	**19.83**	**358**	*eP*		**Pn**	**09 04 52.2**	**-1.2**
RCLB	**Rio Claro- Sao**	**19.91**	**89**	*eP*		**P**	**09 04 51.4**	**-0.4**
PET01	**Itanhaem-SP**	**19.93**	**95**	*eP*		**P**	**09 04 51.6**	**-0.4**
VAO	**Valinhos**	**20.34**	**91**	*eP*		**P**	**09 04 55.1**	**-1.4**
IPMB	**Ipameri, GO**	**20.43**	**77**	*eP*		**P**	**09 04 57.5**	**0.0**
SNDB	**Serra Nova Dou**	**20.78**	**58**	*eP*		**P**	**09 04 58.8**	**-2.4**
NPGB	**Novo Progresso**	**21.50**	**40**	*eP*		**P**	**09 05 06.2**	**-2.8**
PARB	**Paraibuna**	**21.52**	**93**	*eP*		**P**	**09 05 08.8**	**-0.4**
BDFB	**Brasilia**	**21.54**	**71**	P		**P**	**09 05 09.5**	**0.0**
	comp=Z,29nm,0.7s,baz=244,slow=11,SNR=41							
BDFB	**Brasilia**	**21.54**	**71**	P		**P**	**09 05 07.8**	**-1.7**
SLP01	**Ubatuba-SP**	**21.95**	**93**	*eP*		**P**	**09 05 14.6**	**+0.8**
CFSA	**Confresa**	**21.99**	**54**	*eP*		**P**	**09 05 14.2**	**0.0**
MCRA	**Macar, Loja**	**22.24**	**330**	P		**P**	**09 05 17.3**	**+0.5**
MACA	**Manacapuru-AM**	**22.37**	**23**	*eP*		**P**	**09 05 17.1**	**-1.0**
ESAR	**Angra dos Reis**	**22.64**	**92**	*eP*		**P**	**09 05 20.4**	**-0.5**
BSCB	**Bom Sucesso**	**22.69**	**87**	*eP*		**P**	**09 05 20.9**	**-0.6**
PEXB	**Peixe**	**23.07**	**62**	*eP*		**P**	**09 05 23.8**	**-1.5**
MAN01	**Angra dos Reis**	**23.10**	**92**	*eP*		**P**	**09 05 26.1**	**+0.6**
ITTB	**Itaituba**	**23.50**	**35**	*eP*		**P**	**09 05 27.8**	**-1.3**
VASD1	**Vassouras-RJ**	**23.66**	**91**	*eP*		**P**	**09 05 31.2**	**+0.6**
DIAM	**Diamantina, MG**	**24.40**	**81**	*eP*		**P**	**09 05 37.1**	**-0.3**
DUB01	**Friburgo-RJ**	**24.67**	**91**	*eP*		**P**	**09 05 39.5**	**-0.3**
MC01	**Montes Claros**	**24.70**	**77**	*eP*		**P**	**09 05 37.5**	**-2.6**
JANB	**Januaria**	**25.02**	**73**	*eP*		**P**	**09 05 41.1**	**-1.9**
CAM01	**Campos-RJ**	**25.37**	**90**	*eP*		**P**	**09 05 46.2**	**+0.1**
SMTB	**Santa Maria do**	**25.56**	**57**	*eP*		**P**	**09 05 47.2**	**-0.6**
SDBA	**SAO DESIDERIO**	**25.73**	**67**	*eP*		**P**	**09 05 47.2**	**-2.2**
PRPB	**Parauapebas**	**25.73**	**49**	*eP*		**P**	**09 05 49.0**	**-0.4**
MALB	**Monte Alegre**	**26.39**	**35**	*eP*		**P**	**09 05 54.9**	**-0.4**
ALF01	**Guarapari-ES**	**26.47**	**88**	*eP*		**P**	**09 05 55.2**	**-0.8**
SJMB	**Sao Joao De Ma**	**26.53**	**84**	*eP*		**P**	**09 05 55.3**	**-1.3**
BSFB	**Barra de Sao F**	**26.80**	**84**	*eP*		**P**	**09 05 56.6**	**-2.5**
RIB01	**Linhares ES**	**27.09**	**85**	*eP*		**P**	**09 06 02.2**	**+0.6**
BOAV	**Boa Vista**	**27.65**	**19**	*eP*		**P**	**09 06 08.1**	**+1.5**
NAN01	**Guarapari, ES**	**27.75**	**83**	*eP*		**P**	**09 06 06.1**	**-1.4**
GUA01	**Guaratinga, BA**	**28.45**	**80**	*eP*		**P**	**09 06 12.8**	**-0.9**
CMC01	**Camacan, BA**	**29.14**	**78**	*eP*		**P**	**09 06 20.0**	**+0.1**
ROSC	**El Rosal**	**29.23**	**349**	LR		LR	09 20 28.0	
	comp=Z,2nm,18.6s,baz=344,slow=41							
TMAB	**Tom-Au,PA,Br**	**29.67**	**46**	*eP*		**P**	**09 06 24.7**	**+0.2**
GDU01	**Guandu, BA**	**29.74**	**75**	*eP*		**P**	**09 06 23.6**	**-1.6**
NBPN	**Ponto Novo - B**	**30.50**	**69**	*eP*		**P**	**09 06 31.7**	**-0.2**
NBLA	**Lagarto - SE**	**32.51**	**72**	*eP*		**P**	**09 06 47.6**	**-2.0**
SDV	**Santo Domingo**	**32.84**	**357**	LR		LR	09 20 52.7	
	comp=Z,45nm,18.9s,baz=140,slow=37							
NBPS	**Pedro II - PI**	**33.09**	**58**	*eP*		**P**	**09 06 53.7**	**-1.0**
MDP	**Montagnes des**	**33.19**	**31**	P		**P**	**09 06 59.0**	**+3.6**
	comp=Z,23nm,1.1s,baz=207,slow=10,SNR=5.6							
MDP					LR	LR	09 21 48.4	
	comp=Z,50nm,18.6s,baz=260,slow=39							
NBMA	**Muriti-CE**	**33.51**	**65**	*eP*		**P**	**09 06 59.1**	**+0.7**
NBPB	**Pedra_Branca-C**	**33.87**	**62**	*eP*		**P**	**09 07 00.6**	**-0.8**
CVTR	**Volcan Turrial**	**36.82**	**335**	P		**P**	**09 07 26.6**	**-0.5**
SNAA	**Sanae**	**59.88**	**160**	P		**P**	**09 10 23.2**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=266,slow=7.8,SNR=8.4							
SNAA	**Sanae**	**59.88**	**160**	P		**P**	**09 10 23.4**	**+0.3**
SNAA					IAmb	IAmb	09 10 49.2	
	comp=Z,5.7nm,0.9s							
Y49A	**Blount Mountai**	**59.96**	**343**	P		**P**	**09 10 23.4**	**-0.5**
Y49A					IAmb	IAmb	09 10 45.8	
	comp=Z,7.6nm,1.1s							
X51A	**Calhoun**	**60.24**	**345**	P		**P**	**09 10 25.8**	**-0.1**
V58A	**Windy Hill, Pi**	**60.33**	**351**	P		**P**	**09 10 26.8**	**+0.4**
X48A	**Hartselle**	**60.69**	**343**	P		**P**	**09 10 28.6**	**-0.2**
W50A	**Signal Mountai**	**60.96**	**345**	P		**P**	**09 10 30.5**	**-0.3**
WVT	**Waverly**	**62.48**	**343**	P		**P**	**09 10 40.0**	**-0.8**
TX31	**Lajitas Ar. Si**	**62.67**	**326**	IAmb		IAmb	09 10 43.6	
	comp=Z,6.0nm,0.8s							
TXAR	**Lajitas Array**	**62.67**	**326**	P		**P**	**09 10 43.4**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=148,slow=8.9,SNR=20							
TXAR					pP	**pP**		**09 11 07.5**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=126,slow=7.9,SNR=3.8							
X37A	**Clayton**	**63.48**	**336**	IAmb		IAmb	09 10 48.9	
	comp=Z,7.6nm,0.9s							
ABTX	**Abilene, Hawle**	**63.50**	**331**	IAmb		IAmb	09 10 48.9	
	comp=Z,4.5nm,0.8s							
U40A	**Yellville**	**64.19**	**339**	IAmb		IAmb	09 10 52.9	
	comp=Z,8.0nm,1.1s							
R40A	**Maddies Statio**	**65.77**	**340**	P		**P**	**09 11 02.1**	**-0.2**
M55A	**Ridgway**	**65.86**	**352**	P		**P**	**09 11 03.5**	**+0.5**
M55A					IAmb	IAmb	09 11 04.0	
	comp=Z,6.5nm,0.9s							
MSTX	**Muleshoe**	**66.04**	**330**	IAmb		IAmb	09 11 05.5	
	comp=Z,9.5nm,1.0s							
QSPA	**South Pole Qui**	**66.08**	**180**	P		**P**	**09 11 05.5**	**+1.2**
319A	**Douglas**	**67.25**	**323**	IAmb		IAmb	09 11 14.7	
	comp=Z,6.8nm,0.8s							
ANMO	**Albuquerque**	**68.59**	**328**	P		**P**	**09 11 20.3**	**-0.2**
FRNY	**Flat Rock**	**68.74**	**357**	P		**P**	**09 11 21.9**	**+0.9**
FRNY					IAmb	IAmb	09 11 22.6	
	comp=Z,10nm,1.2s							
TUC	**Tucson**	**68.79**	**323**	P		**P**	**09 11 21.4**	**-0.3**
LIC	**Lamto**	**69.32**	**73**	*eP*		**P**	**09 11 25.1**	**-0.2**
	comp=Z,45nm,2.0s							
TIC	**Toumodi**	**69.53**	**73**	*eP*		**P**	**09 11 26.0**	**-0.6**
KIC	**Kosan Boka**	**69.64**	**73**	*eP*		**P**	**09 11 27.0**	**-0.2**
	comp=Z,8.1nm,0.5s							
DBIC	**Dimbokro**	**69.68**	**73**	P		**P**	**09 11 27.8**	**+0.3**
	comp=Z,4.1nm,0.5s,baz=239,slow=5.4,SNR=5.8							
DBIC					pP	**pP**		**09 11 53.1**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=265,slow=6.1,SNR=6.4							
SDCO	**Great Sand Dun**	**70.40**	**330**	P		**P**	**09 11 32.0**	**+0.2**
O20A	**White River Ci**	**73.59**	**330**	IAmb		IAmb	09 11 53.0	
	comp=Z,9.3nm,0.9s							
SRU	**San Rafael Swe**	**73.86**	**328**	IAmb		IAmb	09 11 54.4	
	comp=Z,5.3nm,0.9s							
P18A	**Preston Nutter**	**74.13**	**328**	IAmb		IAmb	09 11 56.5	
	comp=Z,6.1nm,1.0s							
VNDA	**Vanda**	**74.25**	**190**	P		**P**	**09 11 55.8**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=119,slow=8.2,SNR=6.2							
P17A	**Butcher Ranch,**	**74.25**	**328**	IAmb		IAmb	09 11 56.8	
	comp=Z,5.7nm,0.9s							
RWWY	**Rawlins**	**74.37**	**331**	IAmb		IAmb	09 11 57.5	
	comp=Z,9.1nm,1.1s							
RDMU	**Red Mountain**	**74.55**	**329**	IAmb		IAmb	09 11 57.8	
	comp=Z,4.3nm,0.8s							
GWY	**Greenwater Val**	**74.93**	**322**	IAmb		IAmb	09 12 00.8	
	comp=Z,4.9nm,0.9s							
RSSD	**Black Hills**	**75.07**	**335**	P		**P**	**09 11 59.1**	**0.0**
RSSD					IAmb	IAmb	09 12 01.0	
	comp=Z,4.3nm,0.8s							
AGMN	**Agassiz Nation**	**75.97**	**342**	IAmb		IAmb	09 12 04.8	
	comp=Z,4.4nm,0.8s							
PDAR	**Pinedale Array**	**76.28**	**331**	P		**P**	**09 12 06.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=130,slow=6.9,SNR=7.3							
PDAR					pP	**pP**		**09 12 32.7**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=128,slow=8.2,SNR=2.5							
HWUT	**Hardware Ranch**	**76.30**	**329**	IAmb		IAmb	09 12 08.1	
	comp=Z,6.4nm,0.9s							
AHID	**Auburn Hatcher**	**76.98**	**330**	IAmb		IAmb	09 12 12.0	
	comp=Z,7.9nm,0.8s							
REDW	**Red Top Meadow**	**77.33**	**330**	IAmb		IAmb	09 12 24.1	
	comp=Z,10nm,1.4s							
SNOW	**Snow King Moun**	**77.37**	**330**	IAmb		IAmb	09 12 14.9	
	comp=Z,5.8nm,0.8s							
NVAR	**Mina Array Bea**	**77.44**	**322**	P		**P**	**09 12 14.4**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=160,slow=6.3,SNR=5.1							
TPAW	**Teton Pass**	**77.48**	**330**	IAmb		IAmb	09 12 15.1	
	comp=Z,4.7nm,0.8s							
ULM	**Lac du Bonnet**	**77.75**	**343**	P		**P**	**09 12 13.6**	**-0.3**
	comp=Z,4.3nm,0.5s,baz=142,slow=4.5,SNR=6.2							
ULM	**Lac du Bonnet**	**77.75**	**343**	IAmb		IAmb	09 12 14.6	
	comp=Z,4.3nm,0.7s							
KVN	**Kaiserville**	**77.76**	**323**	IAmb		IAmb	09 12 16.5	
	comp=Z,10nm,1.3s							
FLWY	**Flagg Ranch**	**77.83**	**331**	IAmb		IAmb	09 12 17.4	
	comp=Z,7.0nm,0.8s							
RLMT	**Red Lodge**	**78.03**	**332**	IAmb		IAmb	09 12 17.5	
	comp=Z,4.5nm,0.6s							
LAO	**LASA Array**	**78.06**	**335**	IAmb		IAmb	09 12 17.1	
	comp=Z,6.4nm,0.8s							
YMP	**Mirror Lake Pl**	**78.11**	**331**	IAmb		IAmb	09 12 34.1	
	comp=Z,4.9nm,0.8s							
YMR	**Madison River**	**78.41**	**331**	IAmb		IAmb	09 12 20.9	
	comp=Z,8.5nm,0.9s							
TOA0	**Torodi Ar. Sit**	**78.42**	**70**	P		**P**	**09 12 18.6**	**+0.2**
TOA0					IAmb	IAmb	09 12 45.2	
	comp=Z,7.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**78.42**	**70**	P		**P**	**09 12 18.5**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=259,slow=5.5,SNR=22							
TORD					pP	**pP**		**09 12 44.5**	**+0.2**
	comp=Z,7.0nm,0.7s,baz=255,slow=5.0,SNR=9.0							
TORD	**Torodi Ar. Bea**	**78.42**	**70**	P		**P**	**09 12 18.7**	**+0.3**
TORD					IAmb	IAmb	09 12 45.2	
	comp=Z,6.1nm,0.7s							
YHH	**Holmes Hill**	**78.45**	**331**	IAmb		IAmb	09 12 21.1	
	comp=Z,6.1nm,0.9s							
YHL	**Hegen Lake**	**78.64**	**331**	IAmb		IAmb	09 12 22.1	
	comp=Z,4.2nm,0.8s							
SCHQ	**Schefferville**	**78.65**	**1**	P		**P**	**09 12 19.2**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=140,slow=9.1,SNR=3.0							
SCHQ	**Schefferville**	**78.65**	**1**	P		**P**	**09 12 18.9**	**+0.2**
HLID	**Hailey**	**79.15**	**328**	P		**P**	**09 12 23.8**	**+1.8**
HLID					IAmb	IAmb	09 12 24.8	
	comp=Z,8.2nm,0.9s							
ORV	**Oroville**	**80.01**	**322**	IAmb		IAmb	09 12 29.2	
	comp=Z,10nm,1.2s							
PLID	**Pearl Lake**	**81.05**	**328**	P		**P**	**09 12 33.4**	**+1.2**
PLID					IAmb	IAmb	09 12 34.2	
	comp=Z,7.3nm,0.8s							
MAW	**Mawson**	**81.89**	**163**	P		**P**	**09 12 37.3**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=232,slow=7.5,SNR=3.1							
MAW					pP	**pP**		**09 13 03.3**	**+1.1**
	comp=Z,9.1nm,0.9s,baz=235,slow=7.5,SNR=5.9							
MAW	**Mawson**	**81.89**	**163**	P		**P**	**09 12 36.5**	**+0.4**
JTMT	**Jette**	**82.25**	**331**	P		**P**	**09 12 39.5**	**+1.1**
JTMT					IAmb	IAmb	09 12 40.3	
	comp=Z,4.6nm,0.6s							
BOSA	**Boshof**	**82.40**	**118**	P		**P**	**09 12 44.2**	**+4.4**
	comp=Z,3.5nm,0.7s,baz=285,slow=5.5,SNR=6.9							
BOSA					pP	**pP**		**09 13 06.2**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=293,slow=2.8,SNR=8.6							
PINE	**Pine Mountain**	**82.60**	**325**	IAmb		IAmb	09 12 42.8	
	comp=Z,10nm,1.1s							
WALA	**Waterton Lakes**	**83.08**	**332**	IAmb		IAmb	09 12 44.3	
	comp=Z,6.0nm,0.8s							
FCC	**Fort Churchill**	**85.13**	**347**	P		**P**	**09 12 53.1**	**+0.5**
FCC					IAmb	IAmb	09 12 53.4	
	comp=Z,2.7nm,0.6s							
EDM	**Edmonton**	**86.04**	**335**	P		**P**	**09 12 57.3**	**0.0**
CASY	**Casey**	**89.89**	**180**	P		**P**	**09 13 16.8**	**+1.2**
YKA	**Yellowknife Ar**	**93.58**	**341**	P		**P**	**09 13 32.5**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=138,slow=4.6,SNR=54							
YKA					pP	**pP**		**09 13 59.2**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=138,slow=4.7,SNR=3.0							
YKA					sP	**sP**		**09 14 09.9**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=137,slow=4.4,SNR=4.9							
ASAR	**Alice Springs**	**127.51**	**207**	PKP		**PKPdf**	**09 19 21.9**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=136,slow=1.7,SNR=20							
ASAR					pPKP	**pPKPdf**	**09 19 49.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=133,slow=1.6,SNR=3.3							
WRA	**Warramunga Arr**	**130.60**	**210**	PKP		**PKPdf**	**09 19 28.4**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=151,slow=1.7,SNR=22							
WRA					pPKP	**pPKPdf**	**09 19 56.0**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=154,slow=1.7,SNR=2.9							
ZALV	**Zalesovo Beam**	**144.38**	**26**	PKP		**PKPdf**	**09 19 52.0**	**-0.2**
	comp=Z,7.1nm,0.8s,baz=297,slow=4.1,SNR=28							
ZALV					pPKP	**pPKPdf**	**09 20 19.4**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=298,slow=4.7,SNR=5.7							
KSH	**Kashi**	**146.84**	**54**	PKPbc		**PKPab**	**09 20 00.3**	**-0.3**
KSH					pPKP	pPKPbc	09 20 26.4	-0.1
KSH					sPKP		09 20 39.8	
MKAR	**Makanchi Array**	**147.83**	**38**	PKPbc		**PKPbc**	**09 20 02.2**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=307,slow=2.7,SNR=12							
MKAR					pPKPbc	**pPKPbc**	**09 20 29.3**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=308,slow=2.5,SNR=8.3							
MKAR	**Makanchi Array**	**147.83**	**38**	PKPdf		**PKPdf**	**09 19 59.3**	**+0.8**
MKAR						**PKPbc**	**09 20 02.4**	**+0.9**
KSRS	**Korea Array**	**160.27**	**316**	PKPab		**PKPab**	**09 20 58.2**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=63,slow=4.0,SNR=5.4							
PZH	**PanZhiHua**	**171.40**	**72**	PKP		**PKPdf**	**09 20 24.1**	**-1.5**

KRSZO 23 09:04:37.0, 46°18.18′N × 18°29.29′E, h0 km, Explosion. GT info : GT2 explosion locality : Koml II., Hungary

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KOVH	**Kovagotottos**	**0.16**	**237**	Pg	Pg		09 04 40.4	+0.4
KOVH					Lg	Lg	09 04 43.6	
KOVH	**Kovagotottos**	**0.16**	**237**	P	Pg		09 04 40.4	+0.4
KOVH					S	Sg	09 04 43.6	+1.5
MORH	**Mrgy, Hungar**	**0.25**	**81**	Pg	Pg		09 04 42.8	+1.1
MORH					Lg	Lg	09 04 47.3	
MORH	**Mrgy, Hungar**	**0.25**	**81**	P	Pg		09 04 42.8	+1.1
MORH					S	Sg	09 04 47.3	+2.4

IDC ***23*** *09:08:32.8±8.3, 3.°31N × 125.°23E, h131±km ± 89km, mb3.7/3, mb1 3.9/4, mb1mx3.4/42, mbtmp4.1/4, Error ellipse: s-maj=144.7km s-min=20.7km az=69.0*

DJA ***23*** *09:08:37.6±0.3, 3.°N ± 2.°× 12.°6E ± °, h154±km ± 3km, M4.6/18, mb4.6/13, mB5.1/9, MLv4.7/18, Mw(mB)4.5/9*

NEIC ***23*** *09:08:37.3± 1.0, 3.°38N ± 0.°08 × 125.°7E ± 0.°1, h162±km ± 8km, mb4.5/22, Error ellipse: s-maj=16.3km s-min=10.0km az=64.0*

MAN ***23*** *09:08:39.4, 3.°77N × 125.°63E, h182km, mb5.4, ML4.4, MS4.6, Hypocentre not reviewed by the ISC*

ISC 23 09:08:35.6±0.6, 3.°44N ± 0.°06 × 125.°75E ± 0.°07, h150 km, n58, σ1°45/60, mb4.5/11, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.34**	**318**	P		**Pn**	**09 08 58.9**	**+2.6**
SGSI					S	**Sn**	**09 09 15.5**	**+3.5**
DDMP	**Don Marcelino,**	**2.65**	**359**	*eP*		**Pn**	**09 09 20.2**	**+1.5**
GSPH	**General Santos**	**2.75**	**343**	*iP*		**Pn**	**09 09 21.2**	**+1.2**
TNTI	**Ternate**	**3.10**	**149**			**Pn**	**09 09 24.7**	**+0.5**
TNTI	**Ternate**	**3.10**	**149**	P		**Pn**	**09 09 25.0**	**+0.8**
TNTI					S	**Sn**	**09 10 03.7**	**+1.8**
TNTI	**Ternate**	**3.10**	**149**	P		**Pn**	**09 09 25.8**	**+1.6**
KMSI	**Cibinong**	**3.35**	**212**	P		**Pn**	**09 09 29.3**	**+1.9**
DAV	**Davao City (W)**	**3.62**	**357**	Pn		**Pn**	**09 09 33.4**	**+2.5**
GTOI	**Gorontalo**	**3.91**	**225**	P		**Pn**	**09 09 35.9**	**+1.3**
LBMI	**Labuha**	**4.41**	**157**	P		**Pn**	**09 09 41.7**	**+0.5**
LBMI					S	**Sn**	**09 10 31.7**	**-0.7**
MRSI	**Marisa**	**4.81**	**232**	P		**Pn**	**09 09 48.4**	**+1.8**
PAGZ	**Pagadian**	**4.98**	**332**	*eP*		**Pn**	**09 09 49.4**	**+0.7**
LUWI	**Luwuk**	**5.35**	**214**	P		**Pn**	**09 09 56.7**	**+2.9**
	1.0nm4μm307nm,0.8s							
LUWI	**Luwuk**	**5.35**	**214**	P		**Pn**	**09 09 57.5**	**+3.7**
SANI	**Sanana**	**5.45**	**178**	P		**Pn**	**09 09 53.8**	**-1.3**
	3.2nm29μm144nm,0.6s							
SANI	**Sanana**	**5.45**	**178**	P		**Pn**	**09 09 53.9**	**-1.2**
TOLI2	**Tolitoli**	**5.48**	**245**			**Pn**	**09 09 54.9**	**-0.5**
APSI	**Ampana**	**5.96**	**224**	P		**Pn**	**09 10 03.9**	**+2.1**
	0.3nm2μm44nm,0.8s							
GLSP	**General Luna,**	**6.32**	**3**	*eP*		**Pn**	**09 10 07.8**	**+1.2**
MPSI	**Mapaga**	**6.61**	**242**	P		**Pn**	**09 10 11.5**	**+1.0**
	0.1nm14nm,0.7s							
SWI	**Sorong**	**6.96**	**128**	P		**Pn**	**09 10 16.3**	**+1.1**
	0.2nm43nm,0.8s							
SIJI	**Sorong**	**6.97**	**128**	P		**Pn**	**09 10 17.2**	**+1.8**
	7.0nm,0.3s,baz=336,slow=21,SNR=12							
MSAI	**Masohi**	**7.45**	**155**	P		Pn	09 10 16.7	-5.0
AAI	**Ambon**	**7.48**	**161**	P		**Pn**	**09 10 22.8**	**+0.6**
TTSI	**Tana Toraja**	**8.75**	**223**	P		**Pn**	**09 10 40.8**	**+1.7**
	0.2nm796nm61nm,0.8s							
SPSI	**Sidrap Palu**	**9.48**	**219**	P		**Pn**	**09 10 49.2**	**+0.5**
	61nm,0.7s							
KAPI	**Kappang**	**10.31**	**216**	P		**Pn**	**09 11 00.3**	**+0.4**
BBKI	**Banjar Baru**	**12.88**	**238**	P		**Pn**	**09 11 35.5**	**+2.1**
	6μm66nm,1.0s							
BATI	**Baumata**	**13.71**	**189**	P		**P**	**09 11 49.5**	**+1.9**
WBSI	**Waikabubak, Su**	**14.46**	**206**	P		P	09 12 05.0	+9.1
KSM	**Kuching**	**15.55**	**263**	P		**Pn**	**09 12 07.9**	**+0.8**
KSM					IAmb	IAmb	09 12 09.6	
	comp=Z,12nm,0.8s							
JAGI	**Jajag, Banyuwa**	**16.55**	**224**			**Pn**	**09 12 20.3**	**+1.2**
JAGI					IAmb	IAmb	09 12 31.8	
	comp=Z,53nm,1.3s							
MTN	**Manton Dam**	**17.03**	**162**	P		**P**	**09 12 23.8**	**-0.6**
MTN					IAmb	IAmb	09 12 26.2	
	comp=Z,8.0nm,0.6s							
UGM	**Wanagama**	**18.92**	**233**	P		**P**	**09 12 44.6**	**-0.4**
KNRA	**Kunungurra**	**19.22**	**171**	P		**P**	**09 12 48.2**	**0.0**
FITZ	**Fitzroy Crossi**	**21.40**	**180**	P		**P**	**09 13 10.6**	**-1.0**
COEN	**Coen**	**24.44**	**135**	P		**P**	**09 13 40.9**	**+0.2**
COEN					IAmb	IAmb	09 13 43.8	
	comp=Z,30nm,1.4s							
WB0	**Warramunga Arr**	**24.57**	**160**	P		**P**	**09 13 41.4**	**-0.4**
WB0					IAmb	IAmb	09 13 43.3	
	comp=Z,12nm,1.0s							
WRA	**Warramunga Arr**	**24.72**	**160**	P		**P**	**09 13 42.3**	**-0.8**
	comp=Z,5.2nm,0.5s,baz=338,slow=10,SNR=56							
WRA	**Warramunga Arr**	**24.72**	**160**	P		**P**	**09 13 42.6**	**-0.5**
WB2	**Warramunga Arr**	**24.72**	**160**	P		**P**	**09 13 42.8**	**-0.4**
WB2					IAmb	IAmb	09 13 45.0	
	comp=Z,7.7nm,0.8s							
WR0	**Warramunga Arr**	**24.80**	**160**	P		**P**	**09 13 43.1**	**-0.8**
MBWA	**Marble Bar**	**25.14**	**193**	P		**P**	**09 13 46.2**	**-0.8**
MBWA					IAmb	IAmb	09 13 47.8	
	comp=Z,19nm,0.8s							
AS31	**Alice Springs**	**28.08**	**164**	P		**P**	**09 14 12.9**	**-0.4**
ASAR	**Alice Springs**	**28.08**	**164**	P		**P**	**09 14 12.8**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=344,slow=6.7,SNR=29						

CBYP					Sn	09 32 26.9	+0.2		
GCPR	**Guaynabo City**	**1.42 207**	⇑	*e*P	**Pn**	09 32 09.4	-0.8		
GCPR	**Guaynabo City**	**1.42 207**		*e*S	**Sn**	09 32 28.1	+0.3		
GCPR	**Guaynabo City**	**1.42 207**			**Pn**	09 32 09.7	-0.5		
GCPR				Sn	**Sn**	09 32 28.4	+0.7		
MTP	**Monte Pirata**	**1.49 185**	⇑	*e*P	**Pn**	09 32 10.9	-0.3		
MTP	**Monte Pirata**	**1.49 185**		*e*S	**Sn**	09 32 28.8	-0.7		
MTP	**Monte Pirata**	**1.49 185**			**Pn**	09 32 11.2	+0.1		
MTP					**Sn**	09 32 28.7	-0.7		
MTP				IAML		09 32 40.3			
	comp=E,862nm,0.6s								
HUMP	**Col San Antoni**	**1.50 196**	⇑	*e*P	**Pn**	09 32 10.5	-0.7		
HUMP	**Col San Antoni**	**1.50 196**			**Pn**	09 32 10.7	-0.5		
SJG	**San Juan**	**1.63 205**		Pn	Pn	09 32 07.3	-5.7		
	comp=E,7.3nm,0.3s,baz=313,slow=15,SNR=7.2								
SJG				Sn	**Sn**	09 32 33.4	+0.6		
	comp=E,59nm,0.3s,baz=19,slow=21,SNR=8.6								
SJG	**San Juan**	**1.63 205**			**Pn**	09 32 12.8	-0.2		
PDPR	**Patillas Dam,**	**1.67 200**			**Pn**	09 32 13.1	-0.4		
IGPR	**InterUniversit**	**1.75 202**	⇑	*e*P	**Pn**	09 32 14.4	-0.2		
IGPR	**InterUniversit**	**1.75 202**		*e*S	**Sn**	09 32 35.7	0.0		
AOPR	**Arecibo Observ**	**1.77 226**	⇑	*e*P	**Pn**	09 32 14.6	-0.4		
AOPR	**Arecibo Observ**	**1.77 226**		*e*S	**Sn**	09 32 37.2	+0.9		
AOPR	**Arecibo Observ**	**1.77 226**			**Pn**	09 32 14.9	-0.1		
AOPR				IAML		09 32 44.9			
	comp=N,1μm,0.7s								
AOPR	**Arecibo Observ**	**1.77 226**		*e*P	**Pn**	09 32 15.4	+0.4		
CELP	**Cerrillos**	**1.87 216**	⇑	*e*P	**Pn**	09 32 16.1	-0.2		
CELP	**Cerrillos**	**1.87 216**		*e*S	**Sn**	09 32 39.3	+0.6		
CELP	**Cerrillos**	**1.87 216**			**Pn**	09 32 16.2	-0.1		
CELP				IAML		09 32 46.2			
	comp=E,416nm,0.8s								
CELP				IAML		09 32 53.0			
	comp=N,432nm,0.8s								
OBIP	**Obispado Ponce**	**1.91 216**	⇑	*e*P	**Pn**	09 32 16.8	-0.1		
OBIP	**Obispado Ponce**	**1.91 216**		*e*S	**Sn**	09 32 38.7	-1.0		
OBIP	**Obispado Ponce**	**1.91 216**			**Pn**	09 32 16.9	0.0		
OBIP				IAML		09 33 01.9			
	comp=N,384nm,1.1s								
CDVI	**St. Croix**	**1.93 161**		Pn	**Pn**	09 32 18.6	+1.5		
AGPR	**Aguadilla, PR**	**1.96 235**	⇓	*e*P	**Pn**	09 32 17.5	0.0		
AGPR	**Aguadilla, PR**	**1.96 235**		*e*S	**Sn**	09 32 41.2	+0.3		
AGPR	**Aguadilla, PR**	**1.96 235**			**Pn**	09 32 17.5	0.0		
AGPR				IAML		09 32 54.0			
	comp=E,431nm,1.2s								
AGPR				IAML		09 32 57.9			
	comp=N,406nm,1.0s								
AGPR	**Aguadilla, PR**	**1.96 235**		*i* P	**Pn**	09 32 18.4	+0.9		
AGPR				*e*S	**Sn**	09 32 41.5	+0.6		
AGPR				IAML		09 33 21.4			
	comp=Z,275nm,1.5s								
ICMP	**Isla Caja de M**	**2.00 212**	⇓	*e*P	**Pn**	09 32 18.8	+0.8		
ICMP	**Isla Caja de M**	**2.00 212**		*e*S	**Sn**	09 32 41.6	-0.2		
ICMP	**Isla Caja de M**	**2.00 212**			**Pn**	09 32 18.6	+0.5		
ICMP				IAML		09 32 55.4			
	comp=E,691nm,0.8s								
LSP	**Las Mesas**	**2.12 229**	⇑	*e*P	**Pn**	09 32 19.8	+0.1		
LSP	**Las Mesas**	**2.12 229**		*e*S	**Sn**	09 32 45.3	+0.4		
GBPR	**Guanica, Bosqu**	**2.12 221**	⇑	*e*P	**Pn**	09 32 20.1	+0.4		
GBPR	**Guanica, Bosqu**	**2.12 221**		*e*S	**Sn**	09 32 45.2	+0.2		
PRSN	**Puerto Rico Se**	**2.13 230**			**Pn**	09 32 20.2	+0.2		
PRSN				IAML		09 32 55.3			
	comp=E,650nm,0.3s								
MLPR	**Magueyes Islan**	**2.23 224**	⇓	*e*P	**Pn**	09 32 21.3	0.0		
MLPR	**Magueyes Islan**	**2.23 224**		*e*S	**Sn**	09 32 48.0	+0.3		
MLPR	**Magueyes Islan**	**2.23 224**			**Pn**	09 32 21.3	0.0		
MLPR				IAML		09 33 07.4			
	comp=E,298nm,0.8s								
CRPR	**Cabo Rojo, PR**	**2.25 226**	⇑	*e*P	**Pn**	09 32 21.3	-0.2		
CRPR	**Cabo Rojo, PR**	**2.25 226**		*e*S	**Sn**	09 32 48.1	+0.1		
CRPR	**Cabo Rojo, PR**	**2.25 226**			**Pn**	09 32 21.6	0.0		
CRPR	**Cabo Rojo, PR**	**2.25 226**		*i* P	**Pn**	09 32 21.7	+0.1		
CRPR				*e*S	**Sn**	09 32 52.2	+4.2		
CRPR				IAML		09 33 07.0			
	comp=Z,155nm,0.4s								
IDE	**Isla Desecheo**	**2.29 239**	⇑	*e*P	**Pn**	09 32 22.1	+0.1		
IDE	**Isla Desecheo**	**2.29 239**		*e*S	**Sn**	09 32 49.5	+0.5		
SMRT	**St. Maarten**	**2.69 124**			**Pn**	09 32 28.1	+0.4		
SMRT				IAML		09 33 20.1			
	comp=N,487nm,0.7s								
SMRT	**St. Maarten**	**2.69 124**		*e*S	**Sn**	09 33 03.6	+4.6		
DR12	**Loma Pena Alta**	**3.83 259**	⇑	*e*P	**Pn**	09 32 42.9	-0.4		
DR12	**Loma Pena Alta**	**3.83 259**			**Pn**	09 32 43.3	0.0		
ANWB	**Willy Bob**	**3.94 118**		*e*P	**Pn**	09 32 45.4	+0.7		
ANWB				*e*S	**Sn**	09 33 29.7	+0.1		
MBFL	**Flemmings, Mon**	**4.15 132**		*e*P	**Pn**	09 32 48.9	+1.2		
MLYT	**Lee's Yard**	**4.19 132**		*e*P	**Pn**	09 32 49.3	+1.1		
ANDO	**Antigua, Disas**	**4.20 125**		*e*P	**Pn**	09 32 45.8	-2.6		
BPA	**Boggy Peak**	**4.22 126**		*e*P	**Pn**	09 32 47.5	-1.1		
BPA	**Boggy Peak**	**4.22 126**		*e*S	**Sn**	09 33 35.9	-0.9		
ANBD	**Bethesda, Anti**	**4.29 126**		*e*P	**Pn**	09 32 48.8	-0.8		
ANBD	**Bethesda, Anti**	**4.29 126**		*e*S	**Sn**	09 33 37.2	-1.2		
BANI	**BANI**	**4.83 257**		Pn	**Pn**	09 32 58.4	+1.3		
CBE	**Ff, Capester**	**5.04 133**		Pn	**Pn**	09 33 00.3	+0.4		
CBE	**Ff, Capester**	**5.04 133**		*e*P	**Pn**	09 33 01.5	+1.6		
CBE	**Ff, Capester**	**5.04 133**		*e*S	**Sn**	09 33 59.2	+2.3		
MAGL	**Barre de l'ile**	**5.35 132**		*e*P	**Pn**	09 33 05.0	+0.9		
SDDR	**Presa de Saban**	**5.58 265**		Pn	**Pn**	09 33 08.7	+1.4		
SDDR	**Presa de Saban**	**5.58 265**		*i* P	**Pn**	09 33 08.7	+1.3		
DSLB	**Salisbury**	**5.62 137**		*e*P	**Pn**	09 33 09.0	+1.1		
DSLB	**Salisbury**	**5.62 137**		*e*P	**Pn**	09 33 10.4	+2.6		
GRTK	**Grand Turk**	**5.69 291**		Pn	**Pn**	09 33 08.8	0.0		
LONE2	**Loma La Sidra**	**5.82 261**		*i* P	**Pn**	09 33 12.3	+1.6		
LONE2				IAML		09 34 24.7			
	comp=Z,30nm,1.7s								
MPOM	**Morne Pois Mar**	**6.72 139**		*e*P	**Pn**	09 33 25.2	+2.3		
GTBY	**Guantanamo Bay**	**9.14 274**		Pn	**Pn**	09 33 54.9	-1.2		
SDV	**Santo Domingo**	**11.78 206**		Pn	**Pn**	09 34 34.7	+2.3		
	comp=Z,0.4nm,0.3s,baz=39,slow=11,SNR=9.2								
SDV				LR	LR	09 39 14.3			
	comp=Z,44nm,20.7s,baz=44,slow=39								
SDV	**Santo Domingo**	**11.78 206**		Pn	**Pn**	09 34 30.6	-1.8		
BBSR	**BB Station**	**12.74 3**		Pn	**Pn**	09 34 44.1	-1.2		
MDP	**Montagnes des**	**19.03 138**		LR	LR	09 43 31.9			
	comp=Z,37nm,19.5s,baz=284,slow=38								
JTS	**Las Juntas de**	**21.00 247**		P	**P**	09 36 27.1	+0.6		
	comp=Z,5.9nm,0.9s,baz=89,slow=9.1,SNR=3.6								
JTS				LR	LR	09 45 24.1			
	comp=Z,19nm,18.4s,baz=82,slow=40								
CMIG	**Matias Romero**	**28.07 270**		LR	LR	09 50 17.4			
	comp=Z,23nm,18.6s,baz=63,slow=40								
LPAZ	**La Paz**	**35.75 184**		P	**P**	09 38 41.1	-1.0		
	comp=Z,1.3nm,0.7s,baz=298,slow=5.4,SNR=6.1								
TXAR	**Lajitas Array**	**36.01 293**		P	**P**	09 38 45.6	+1.9		
	comp=Z,0.1nm,0.5s,baz=112,slow=11,SNR=4.8								
PDAR	**Pinedale Array**	**43.64 312**		P	P	09 39 50.3	+3.3		
	comp=Z,0.2nm,0.5s,baz=116,slow=8.1,SNR=1.8								
CPUP	**Villa Florida**	**46.32 170**		P	**P**	**09 40 06.3**	**-1.8**		
	comp=Z,1.4nm,0.8s,baz=358,slow=4.2,SNR=3.4								
NVAR	**Mina Array Bea**	**49.23 304**		P	P	09 40 34.6	+3.7		
	comp=Z,0.3nm,0.5s,baz=85,slow=10.0,SNR=3.8								
YKA	**Yellowknife Ar**	**54.46 334**		P	P	09 41 11.9	+2.7		
	comp=Z,0.4nm,0.6s,baz=112,slow=7.7,SNR=7.9								
ESDC	**Sonseca Array**	**55.97 55**		P	P	09 41 24.8	+4.2		
	comp=Z,0.6nm,0.9s,baz=272,slow=7.3,SNR=4.2								
INK	**Inuvik**	**63.89 337**		P	P	09 42 17.2	+2.9		
	comp=Z,1.5nm,1.0s,baz=87,slow=2.5,SNR=3.2								
TORD	**Torodi Ar. Bea**	**64.37 84**		P	P	09 42 21.6	+3.1		
	comp=Z,0.6nm,0.8s,baz=270,slow=4.3,SNR=2.9								

IDC ***23*** *09:32:54.1±0.5,31.94N×94.98E,h0km,mb4.3/26, mb1 4.4/30,mb1mx4.3/50,mbtmp4.3/30,ML4.1/4,MS3.9/53, Ms1 3.9/53,ms1mx3.7/89,Error ellipse: s-maj=17.0km s-min=11.9km az=41.0*

NDI ***23*** *09:32:55.1±4.0,32.20N×95.23E,h10km,ML4.3, mb4.8(NEIC)*

MOS ***23*** *09:32:55.2±0.8,31.92N×95.06E,h20km,mb4.9/44, MS4.0/5,Error ellipse: s-maj=7.3km s-min=3.7km az=122.5*

BJI ***23*** *09:32:56.0±0.0,31.93N×95.08E,h8km,mb4.5/41, mB4.9/23,ML4.4/7,Ms4.6/60,Ms7 4.4/56*

GCMT ***23*** *09:32:56.0±0.3,31.76N±0.03×95.08E±0.02,h24km, MW4.8/80,Moment Tensor Solution. s27,c30; s80,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~1.75±.14; Mθθ0.05±.08; Mθφ 1.70±.08; Mrθ~0.74±.14; Mφφ0.97±.05; Mφr~0.10±.10; Best double couple: M₀2.10900×10¹⁶ NP1:φs185.00000°,δ43.00000°,λ-121.00000°. NP2: φs44.00000°,δ54.00000°,λ-64.00000°. Principal axes: T 2.1900, Plg6.0000°, Azm116.0000°; N -0.1570,*

Plg21.0000°, Azm209.0000°; P -2.0280, Plg68.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC ***23*** *09:32:57.0±1.5,32.00N±0.08×95.10E±0.09,h16km±4km, mb4.8/109 Error ellipse: s-maj=11.4km s-min=10.9km az=158.0*

ISC 23 09:32:56.1±0.3,**31.99N**±0.03×**94.98E**±0.03,**h10**km,**n358,** σ1**9**/**78**/343,**mb4.7**/105,**MS3.9**/58,**15C-20D,Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.01**	**236**	P	**Pn**	**09 34 02.5**	**+4.5**
LSA	**Lhasa**	**4.01**	**236**	Pn	**Pn**	**09 34 02.5**	**+4.5**
LSA	**Lhasa**	**4.01**	**236**	Pn	**Pn**	**09 34 02.5**	**+4.5**
LSA				Sn	**Sb**	**09 34 54.8**	**-1.0**
LSA				LR	LR		
	comp=N,1μm,4.6s						
LSA				LR	LR		
	comp=E,930nm,5.3s						
LSA				LR	LR		
	comp=Z,1μm,5.7s						
GOMU	**GeErMu**	**4.20**	**358**	Pn	**Pn**	**09 34 04.5**	**+4.0**
GOMU				Sn	**Sb**	**09 34 58.8**	**-2.4**
GOMU				Sg	**Sg**	**09 35 11.1**	**+0.2**
MOKO	**MOKOCHONG**	**5.67**	**184**	*e*P	**Pn**	**09 34 22.5**	**+2.1**
KOHI	**KOHIMA**	**6.30**	**187**	*e*P	**Pn**	**09 34 30.5**	**+1.4**
KOHI				*e*S	**Sn**	**09 35 43.2**	**+2.0**
KOHI				IAML		09 36 15.9	
	comp=N,491nm,0.8s						
KOHI				IAML		09 36 24.7	
	comp=E,702nm,1.1s						
GUWA	**GUWAHATI**	**6.46**	**207**	*e*P	**Pn**	**09 34 35.6**	**+4.4**
GUWA				*e*S	**Sn**	**09 35 44.6**	**-0.3**
GUWA				IAML		09 35 48.9	
	comp=N,205nm,0.9s						
GUWA				IAML		09 35 49.6	
	comp=E,178nm,1.1s						
SHL	**Shillong**	**6.96**	**204**	P	**Pn**	**09 34 38.6**	**+0.4**
SHL						09 35 57.0	
SHL	**Shillong**	**6.96**	**204**	Pn	**Pn**	**09 34 38.6**	**+0.4**
SHL				Sn	**Sn**	**09 35 57.0**	**-0.5**
SHL	**Shillong**	**6.96**	**204**	*e*P	**Pn**	**09 34 37.6**	**-0.6**
CD2	**Chengdu**	**7.58**	**96**	Pn	**Pn**	**09 34 48.6**	**+2.0**
CD2				Sn	**Sn**	**09 36 14.5**	**+1.9**
CD2				LR	LR		
	comp=E,4μm,9.2s						
CD2				LR	LR		
	comp=E,5μm,9.6s						
TURI	**Tura**	**7.60**	**214**	*e*P	**Pn**	**09 34 47.9**	**+0.9**
TURI				*e*S	**Sn**	**09 36 13.8**	**+0.5**
PZH	**PanZhiHua**	**8.05**	**131**	P	**Pn**	**09 34 54.8**	**+1.6**
PZH				S	**Sn**	**09 36 27.3**	**+3.0**
PZH				SS	**SnSn**	**09 36 41.3**	**+5.4**
PZH				pmax	pmax		
	comp=E,20nm,0.9s						
PZH				pmax	pmax		
	comp=E,110nm,4.2s						
PZH				LR	LR		
	comp=E,3μm,9.4s						
PZH				LR	LR		
	comp=E,3μm,10.0s						
PZH				LR	LR		
	comp=E,3μm,9.8s						
ODAN	**Odare**	**8.36**	**234**	*e*Sn	**Sn**	**09 36 36.2**	**+3.9**
	comp=E,93nm,0.7s						
GTA	**Gaotai**	**8.38**	**27**	*e*P	**Pn**	**09 34 59.3**	**+1.6**
GTA				pmax	pmax		
	comp=E,4.0nm,1.0s						
GTA				LR	LR		
	comp=E,720nm,10.7s						
GTA				LR	LR		
	comp=E,1μm,10.3s						
GTA				LR	LR		
	comp=E,560nm,13.0s						
LZH	**Lanzhou**	**8.41**	**59**	*e*P	**Pn**	**09 35 00.3**	**+2.1**
LZH				*e*S	**Sn**	**09 36 36.4**	**+3.1**
LZH				SS	**SnSn**	**09 36 49.1**	**+4.3**
LZH				pmax	pmax		
	comp=E,25nm,1.0s						
LZH				smax	smax		
	comp=E,59nm,1.3s						
LZH				smax	smax		
	comp=E,66nm,1.3s						
LZH				LR	LR		
	comp=E,4μm,10.8s						
LZH				LR	LR		
	comp=E,2μm,11.4s						
LZH				LR	LR		
	comp=E,3μm,13.0s						
JIRN	**Jiri**	**8.77**	**243**	*e*Pn	**Pn**	**09 35 05.4**	**+2.1**
JIRN				*e*Sn	**Sn**	**09 36 44.9**	**+2.4**
	comp=E,22nm,1.0s						
RAMN	**Ramite**	**8.87**	**238**	*e*Pn	**Pn**	**09 35 07.1**	**+2.6**
GUN	**Gumba**	**8.88**	**245**	*e*Pn	**Pn**	**09 35 05.3**	**+0.5**
GUN				*e*Sn	**Sn**	**09 36 46.8**	**+1.7**
KKN	**Kakani**	**9.40**	**246**	*e*Pn	**Pn**	**09 35 11.8**	**-0.1**
KKN				*e*Sn	**Sn**	**09 36 59.2**	**+1.4**
	comp=E,78nm,0.8s						
PKI	**Pulchoki**	**9.41**	**245**	*e*Pn	**Pn**	**09 35 12.6**	**+0.5**
PKIN	**Phulchoki**	**9.42**	**245**	*e*Pn	**Pn**	**09 35 12.5**	**+0.4**
DMN	**Daman**	**9.63**	**246**	*e*Sn	**Sn**	**09 37 04.5**	**+1.2**
	comp=E,173nm,1.1s						
KMI	**Kunming**	**9.66**	**133**	⇓P	**Pn**	**09 35 15.4**	**0.0**
KMI				S	**Sn**	**09 37 07.4**	**+3.3**
KMI				pmax	pmax		
	comp=E,13nm,0.8s						
KMI				pmax	pmax		
	comp=E,110nm,4.6s						
KMI				LR	LR		
	comp=E,2μm,6.3s						
KMI				LR	LR		
	comp=E,3μm,7.1s						
KMI				LR	LR		
	comp=E,3μm,9.6s						
GKN	**Gorkha**	**9.81**	**249**	*e*Pn	**Pn**	**09 35 17.8**	**+0.4**
DANN	**Dangsing**	**10.37**	**252**	*e*Pn	**Pn**	**09 35 24.7**	**-0.4**
KOLN	**Koldanda**	**10.74**	**250**	*e*Pn	**Pn**	**09 35 29.6**	**-0.5**
PYUN	**Piuthan**	**11.09**	**253**	*e*Pn	**Pn**	**09 35 34.0**	**-1.0**
GYA	**Guiyang**	**11.59**	**115**	⇑P	**Pn**	**09 35 44.9**	**+3.1**
GYA				pP		09 35 46.9	
GYA				S	**Sn**	**09 37 53.4**	**+2.0**
GYA				pmax	pmax		
	comp=E,17nm,0.9s						
GYA				pmax	pmax		
	comp=E,190nm,5.1s						
GYA				LR	LR		
	comp=E,1μm,9.4s						
GYA				LR	LR		
	comp=E,1μm,6.8s						
GYA				LR	LR		
	comp=E,2μm,12.7s						
XAN	**Xi'an**	**11.88**	**76**	⇑P	**Pn**	**09 35 45.5**	**-0.1**
XAN				sP		09 35 52.6	
XAN				S	**Sn**	**09 37 58.0**	**-0.2**
XAN				pmax	pmax		
	comp=E,15nm,1.7s						
XAN				LR	LR		
	comp=E,4μm,13.7s						
XAN				LR	LR		
	comp=E,1μm,13.1s						
XAN				LR	LR		
	comp=E,4μm,11.7s						
ENH	**Enshi**	**12.54**	**94**	Pn	**Pn**	**09 35 53.4**	**-1.2**
LGTI	**Lohaghat**	**12.93**	**263**	*e*P	**Pn**	**09 36 01.4**	**+1.5**
WMQ	**Urumqi**	**13.13**	**336**	*e*P	**Pn**	**09 36 00.1**	**-2.5**
WMQ				LR	LR		
	comp=N,2μm,9.9s						
WMQ				LR	LR		
	comp=E,610nm,10.1s						
WMQ				LR	LR		
	comp=Z,350nm,13.9s						
CHTO	**Chiang Mai**	**13.60**	**164**	P	**Pn**	**09 36 06.2**	**-2.9**
CHTO	**Chiang Mai**	**13.60**	**164**	Pn	**Pn**	**09 36 06.2**	**-2.9**
CMAR	**Chiang Mai Arr**	**13.94**	**164**	Pn	**Pn**	**09 36 14.2**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=341,slow=13,SNR=1.9						
CMAR				Lg	Lg	09 40 09.6	
	comp=Z,0.6nm,0.3s,baz=3.9,slow=28,SNR=1.4						
CMAR				LR	LR	09 42 06.4	
	comp=Z,590nm,20.6s,baz=0.0,slow=40						
CMAR	**Chiang Mai Arr**	**13.94**	**164**		**Pn**	**09 36 14.2**	**+0.4**
LYN	**LuoYang**	**14.85**	**75**	*e*P	**Pn**	**09 36 23.1**	**-3.0**
LYN				S	**Sn**	**09 39 03.5**	**-7.2**
LYN				LR	LR		
	comp=Z,1μm,8.4s						
LYN				LR	LR		
	comp=Z,2μm,9.2s						
LYN				LR	LR		
	comp=Z,2μm,9.7s						
JHNI	**Jhansi**	**15.81**	**250**	*e*P	**P**	**09 36 41.8**	**-0.9**
BHK	**Bhakra**	**15.82**	**273**	*e*P	**P**	**09 36 42.6**	**-0.2**
HHC	**Hu-ho-hao-te**	**15.99**	**52**	*e*P	**Pn**	**09 36 42.1**	**+0.9**
HHC				S	**Sn**	**09 39 41.3**	**+2.8**
HHC				LR	LR		
	comp=Z,1μm,10.2s						
HHC				LR	LR		
	comp=Z,1μm,10.2s						
HHC				LR	LR		
	comp=Z,1μm,11.1s						
CNSH	**ChangSha**	**15.99**	**99**	⇓P	**Pn**	**09 36 37.1**	**-4.0**
CNSH				LR	LR		
	comp=Z,610nm,8.4s						
CNSH				LR	LR		
	comp=Z,1μm,9.6s						
CNSH				LR	LR		
	comp=Z,1μm,10.6s						
KUDL	**Kundal**	**16.46**	**261**	*e*P	**P**	**09 36 49.5**	**-0.3**
SHLS	**Shalkode**	**16.57**	**317**	*e*P	**Pn**	**09 36 46.6**	**-2.0**
SHLS	**Shalkode**	**16.57**	**317**	*e*P	**Pn**	**09 36 46.6**	**-2.0**
	baz=317						
WHN	**Wuhan**	**16.62**	**90**	⇓P	**Pn**	**09 36 47.1**	**-2.1**
WHN				S	**S**	**09 40 02.1**	**-3.3**
WHN				pmax	pmax		
	comp=Z,180nm,1.9s						
WHN				LR	LR		
	comp=Z,2μm,8.3s						
WHN				LR	LR		
	comp=Z,3μm,10.2s						
WHN				LR	LR		
	comp=Z,5μm,8.4s						
TARG	**Taragay, Kyrgy**	**16.81**	**310**		**Pn**	**09 36 50.0**	**-1.9**
UZB	**Uzynbulak**	**16.82**	**316**	*e*P	**Pn**	**09 36 52.7**	**+0.9**
UZB	**Uzynbulak**	**16.82**	**316**	*e*P	**Pn**	**09 36 52.8**	**+0.9**
	baz=316						
HNS	**HongShan**	**17.09**	**66**	⇑P	**Pn**	**09 36 54.3**	**-0.7**
HNS				*e*S	**Sn**	**09 40 02.9**	**-2.1**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HNS				LR	LR		
	comp=Z,1μm,10.0s						
HNS				LR	LR		
	comp=Z,2μm,11.5s						
HNS				LR	LR		
	comp=Z,2μm,11.7s						
SATY	**Saty**	**17.14**	**315**	*e*P	**P**	**09 36 57.0**	**-0.5**
SATY	**Saty**	**17.14**	**315**	*e*P	**P**	**09 36 57.0**	**-0.5**
	baz=315						
KSH	**Kashi**	**17.14**	**301**	P	**P**	**09 37 01.0**	**+3.5**
KSH				pP	sP	09 37 06.8	+3.2
KSH				sP	pP	09 37 08.3	+6.6
KSH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KSH				LR	LR		
	comp=Z,2μm,16.5s						
KSH				LR	LR		
	comp=Z,2μm,15.9s						
KSH				LR	LR		
	comp=Z,2μm,16.8s						
ZHN	**Zhinishke**	**17.19**	**315**	*e*P	**Pn**	**09 36 57.1**	**+0.8**
ZHN	**Zhinishke**	**17.19**	**315**	*e*P	**Pn**	**09 36 57.1**	**+0.8**
	baz=315						
KPKS	**Kokpek**	**17.21**	**316**	*e*P	**Pn**	**09 36 57.4**	**+0.8**
KPKS	**Kokpek**	**17.21**	**316**	*e*P	**Pn**	**09 36 57.5**	**+0.8**
	baz=316						
ZSN	**Zaisan**	**17.26**	**336**	*e*P	**Pn**	**09 36 58.2**	**+1.0**
ZSN	**Zaisan**	**17.26**	**336**	*e*P	**Pn**	**09 36 58.2**	**+1.0**
	baz=336						
KDJ	**Kajisay**	**17.41**	**311**	P	**P**	**09 37 00.4**	**-0.2**
KDJ				pmax	pmax		
	comp=Z,28nm,1.4s						
KDJ	**Kajisay**	**17.41**	**311**	P	**P**	**09 37 00.4**	**-0.2**
MK31	**Makanchi Array**	**17.70**	**330**	*d* iP	**P**	**09 37 04.3**	**+0.7**
MK31	**Makanchi Array**	**17.70**	**330**	P	**Pn**	**09 37 02.4**	**-0.3**
MKAR	**Makanchi Array**	**17.70**	**330**	P	**Pn**	**09 37 02.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=139,slow=12,SNR=14						
MKAR				LR	LR	09 44 44.1	
	comp=Z,270nm,21.5s,baz=144,slow=40						
MKAR	**Makanchi Array**	**17.70**	**330**	*i* P	**Pn**	**09 37 03.2**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**17.70**	**330**	P	**Pn**	**09 37 02.1**	**-0.6**
MAKZ	**Makanchi**	**17.85**	**330**	P	**Pn**	**09 37 04.9**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,24nm,1.4s						
MAKZ	**Makanchi**	**17.85**	**330**	P	**Pn**	**09 37 04.8**	**+0.4**
TNSS	**Tian-Shan**	**18.02**	**313**	*e*P	**P**	**09 37 08.0**	**+0.5**
TNSS	**Tian-Shan**	**18.02**	**313**	*e*P	**P**	**09 37 08.0**	**+0.5**
	baz=313						
MDOK	**Medeo**	**18.03**	**313**	*e*P	**P**	**09 37 07.9**	**+0.6**
MDOK	**Medeo**	**18.03**	**313**	*e*P	**P**	**09 37 08.0**	**+0.6**
	baz=313						
SONM	**Songino Array**	**18.05**	**25**	P	**Pn**	**09 37 06.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=242,slow=3.1,SNR=2.0						
SONM	**Songino Array**	**18.05**	**25**	P	**Pn**	**09 37 04.7**	**-2.4**
AAA	**Alma-Ata**	**18.14**	**313**	*e*P	**P**	**09 37 09.3**	**+0.9**
AAA	**Alma-Ata**	**18.14**	**313**	*e*

SGDS **Sogindy** 19.70 311 *e*P P 09 37 26.0 +0.5
SGDS **Sogindy** 19.70 311 *e*P P 09 37 26.1 +0.5
baz=311
MOY **Mondy** 20.15 11 *e*P Pn 09 37 32.3 0.0
MOY pmax pmax
comp=Z,27nm,1.7s
DRK **Karamyk** 20.21 298 P Pn 09 37 33.2 -0.2
NJ2 **Nanjing** 20.24 83 *e*P P 09 37 31.5 +0.1
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
XLT **XiLinHaoTe** 20.38 48 *e*P Pn 09 37 35.3 +0.2
XLT pP sP 09 37 39.5 +0.2
XLT sP pP 09 37 43.0 +5.7
XLT PP **PnPn** 09 37 57.4 +7.4
XLT S **S** 09 41 22.6 +1.2
XLT sS sS 09 41 29.4 +1.3
XLT SS **SnSn** 09 41 50.6 +11
XLT pmax pmax
comp=Z,15nm,1.2s
XLT pmax pmax
comp=Z,140nm,4.5s
XLT LR LR
comp=Z,79nm,14.3s
XLT LR LR
comp=Z,480nm,13.5s
XLT LR LR
comp=Z,710nm,13.1s
HYBB **Hyderabad (bro** 20.78 230 *e*P P 09 37 37.7 +0.3
HYBB IVmB_BB 09 37 40.7
comp=Z,105nm,1.1s
HYBB *es*P **sP** 09 37 48.8 +5.2
HYBB *e*S Sn 09 41 32.8 -1.6
HYBB IVMs_BB IVMs_BB 09 42 41.5
comp=Z,132nm,5.7s
BTLS **Baital** 20.86 315 *e*P P 09 37 38.6 +0.6
BTLS **Baital** 20.86 315 *e*P P 09 37 38.7 +0.7
baz=314
BTK **Batken** 21.09 299 P P 09 37 41.3 +0.6
BTK pmax pmax
comp=Z,52nm,1.3s
BTK **Batken** 21.09 299 P P 09 37 41.3 +0.6
BTK IAmb IAmb 09 37 50.7
comp=Z,52nm,1.2s
GAR **Garm** 21.23 296 P P 09 37 42.4 +0.1
IRK **Irkutsk** 21.34 16 *e*P P 09 37 44.0 +0.8
IRK pmax pmax
comp=Z,54nm,1.5s
SEM **Semipalatinsk** 21.41 334 *e*P P 09 37 43.5 -0.7
SEM **Semipalatinsk** 21.41 334 *e*P P 09 37 43.5 -0.7
baz=333
KBL **Kabul** 21.82 284 P P 09 37 49.1 +0.4
KBL pmax pmax
comp=Z,73nm,1.1s
KBL **Kabul** 21.82 284 P P 09 37 49.1 +0.4
CHGR **Chuyangaron** 22.05 295 P P 09 37 50.9 -0.2
CHGR pmax pmax
comp=Z,152nm,1.0s
CHGR **Chuyangaron** 22.05 295 P P 09 37 50.9 -0.2
KURBB **Kurchatov Arra** 22.25 332 P P 09 37 53.2 +0.2
comp=Z,6.7nm,0.9s,baz=144,slow=9.9,SNR=59
KURBB PcP **PcP** 09 41 48.2 -0.7
comp=Z,1.3nm,1.0s,baz=127,slow=1.7,SNR=4.3
KURBB LR LR 09 47 29.5
comp=Z,291nm,21.6s,baz=114,slow=39
IUG **Iuzhnay** 22.27 304 *e*P P 09 37 53.6 +0.2
IUG **Iuzhnay** 22.27 304 *e*P P 09 37 53.7 +0.2
baz=304
KK31 **Karatay Array** 22.27 307 P P 09 37 54.1 +0.8
KK31 pmax pmax
comp=Z,28nm,1.3s
KK31 **Karatay Array** 22.27 307 P P 09 37 54.1 +0.8
KK31 IAmb IAmb 09 38 02.1
comp=Z,28nm,1.3s
KKAR **Karatay Array** 22.27 307 P P 09 37 54.1 +0.8
KKAR pmax pmax
comp=Z,28nm,1.3s
KKAR **Karatay Array** 22.27 307 P P 09 37 54.1 +0.8
KKAR IAmb IAmb 09 38 02.1
comp=Z,28nm,1.3s
KKAR **Karatay Array** 22.27 307 P P 09 37 54.3 +1.0
KURK **Kurchatov** 22.29 332 P P 09 37 53.3 0.0
KURK pmax pmax
comp=Z,18nm,0.9s
KURK **Kurchatov** 22.29 332 P P 09 37 53.3 0.0
KURK IAmb IAmb 09 38 04.6
comp=Z,18nm,0.9s
SSE **Sheshan** 22.34 85 P P 09 37 50.4 -3.6
SSE S S 09 41 52.0 -7.6
SSE pmax pmax
comp=Z,11nm,0.6s
SSE LR LR
comp=Z,200nm,12.7s
SSE LR LR
comp=Z,430nm,12.7s
ZAA0 **Zalesovo Array** 23.12 345 P P 09 38 01.5 -0.6
ZAA0 IAmb IAmb 09 38 04.8
comp=Z,23nm,1.2s
ZALV **Zalesovo Beam** 23.12 345 P P 09 38 02.0 -0.1
comp=Z,9.2nm,1.0s,baz=168,slow=7.6,SNR=28
ZALV **Zalesovo Beam** 23.12 345 P P 09 38 01.9 -0.2
BRZS **Berezniki** 24.47 324 *e*P P 09 38 15.2 0.0
BRZS **Berezniki** 24.47 324 *e*P P 09 38 15.3 0.0
baz=324
CN2 **Changchun** 26.62 55 *e*P P 09 38 35.3 +0.6
CN2 *e*S S 09 43 07.5 -2.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,700nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,500nm,15.0s
KSAR **Wonju Array Be** 27.50 69 P P 09 38 41.3 -1.3
KSAR **Wonju Array Be** 27.50 69 P P 09 38 41.3 -1.3
BVAR **Borovoye Array** 27.52 327 P P 09 38 43.4 +0.7
comp=Z,0.8nm,0.5s
KSRS **Korea Array** 27.53 69 P P 09 38 43.4 +0.5
comp=Z,0.8nm,0.6s,baz=254,slow=10,SNR=3.5
KSRS LR LR 09 50 40.3
comp=Z,442nm,20.5s,baz=255,slow=39
BRVK **Borovoye** 27.59 327 P P 09 38 43.2 0.0
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK **Borovoye** 27.59 327 P P 09 38 43.2 0.0
PSI **Prapat** 29.27 172 LR LR 09 50 35.1
comp=Z,137nm,19.0s,baz=316,slow=36
JOW **Kunigami** 29.38 91 LR LR 09 51 38.1
comp=Z,276nm,20.4s,baz=216,slow=38
GEYT **Alibeck** 30.65 291 P P 09 39 11.8 +1.1
comp=Z,3.4nm,0.8s,baz=220,slow=13,SNR=3.9
GEYT LR LR 09 54 01.1
comp=Z,461nm,20.2s,baz=88,slow=41
GEYT **Alibeck** 30.65 291 P P 09 39 11.7 +1.0
GYA0 **ALIBECK ARRAY** 30.65 291 P P 09 39 11.6 +0.9
GYA0 pmax pmax
comp=Z,7.0nm,0.9s
GYA0B **ALIBECK ARRAY** 30.65 291 P P 09 39 11.6 +0.9
GYA0B IAmb IAmb 09 39 18.3
comp=Z,7.5nm,0.8s
USRK **Ussuriysk Ar.** 31.31 56 LR LR 09 53 26.7
comp=Z,267nm,18.5s,baz=246,slow=39
ABKAR **Akbulak array** 31.34 314 P P 09 39 17.5 +0.9
ZEA **Zeya** 31.68 37 *e*P P 09 39 20.4 +0.8
KLR **Kul'dur** 32.40 47 P P 09 39 27.2 +1.4
comp=Z,2.3nm,0.9s,baz=262,slow=9.3,SNR=4.3
KLR LR LR 09 53 45.4
comp=Z,280nm,19.5s,baz=252,slow=39
KLR **Kul'dur** 32.40 47⇓ *e*P P 09 39 24.5 -1.4
KLR pmax pmax
comp=Z,14nm,2.5s
KLR **Kul'dur** 32.40 47 P P 09 39 27.2 +1.4
WSAR **Wadi Sarin** 33.24 264 LR LR 09 54 14.4
comp=Z,183nm,20.5s,baz=106,slow=38
SVE **Sverdlovsk** 34.30 327 *e*P P 09 39 43.7 +1.3
SVE pmax pmax
comp=Z,22nm,1.5s
MYLDM **Lahad Datu** 34.59 136 P P 09 39 45.4 +0.1
ARU **Arti** 35.09 325 LR LR 09 55 14.2
comp=Z,114nm,18.6s,baz=111,slow=38
ARU **Arti** 35.09 325 *d* iP P 09 39 49.7 +0.5
ARU 09 41 08.7
ARU S S 09 45 24.3 +2.7
ARU SS SnSn 09 47 34.0 -3.5
ARU pmax pmax
comp=Z,16nm,1.4s
ARU MLR MLR
comp=Z,358nm,14.0s
MJAR **Matsushiro Arr** 35.79 71 LR LR 09 54 37.6
comp=Z,136nm,20.7s,baz=278,slow=36
YAK **Yakutsk** 37.41 26 LR LR 09 56 42.1
comp=Z,167nm,18.6s,baz=269,slow=38
YAK **Yakutsk** 37.41 26⇑ *e*P P 09 40 08.8 -0.1
YAK pmax pmax
comp=Z,21nm,0.9s
JHJ **Hachijo jima 2** 37.56 76 LR LR 09 57 28.2
comp=Z,210nm,18.1s,baz=293,slow=39
NRIK **Noril'sk** 37.63 356 P P 09 40 11.4 +0.6
comp=Z,3.4nm,0.6s,baz=159,slow=6.6,SNR=6.9
NRIK LR LR 09 55 19.2
comp=Z,110nm,18.3s,baz=244,slow=36
NRIK **Noril'sk** 37.63 356⇑ *i*P P 09 40 11.2 +0.5
NRIK pmax pmax
comp=Z,17nm,1.6s
NRIK **Noril'sk** 37.63 356 P P 09 40 11.2 +0.5
NRIK IAmb IAmb 09 40 12.1
comp=Z,20nm,1.4s
DAV **Davao City (W)** 37.78 124 LR LR 09 58 26.2
comp=Z,375nm,18.0s,baz=333,slow=41
LWLI **Liwa** 37.80 165 P P 09 40 19.9 +7.0
MAK **Makhachkala** 38.77 300 *e*P P 09 40 16.3 -4.4
MAK *e*S S 09 46 12.2 -5.8
MAK MLR MLR
comp=Z,128nm,13.0s
ASAJ **Asahikawa** 38.89 58 P P 09 40 21.9 +0.3
comp=Z,7.0nm,0.9s,baz=247,slow=7.7,SNR=1.9
ASAJ LR LR 09 57 12.0
comp=Z,107nm,18.7s,baz=282,slow=38
ASAJ **Asahikawa** 38.89 58 P P 09 40 22.0 +0.3
YSS **Yuzh-Sakhalins** 39.17 53 *e*P P 09 40 23.3 -0.6
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,200nm,16.0s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=E,200nm,13.0s
BELG **Belogornoye** 39.70 315 P P 09 40 28.2 -0.1
comp=E,26nm,1.1s,baz=292,slow=6.9,SNR=5.9
BELG **Belogornoye** 39.70 315 *d* iP P 09 40 28.6 +0.3
BELG pmax pmax
comp=Z,7.0nm,1.1s
LEM **Lembang** 40.44 160 LR LR 09 58 06.6
comp=Z,148nm,20.7s,baz=322,slow=37
KIRV **Kirov** 40.47 325 LR LR 09 58 22.2
comp=Z,162nm,19.2s,baz=114,slow=38
KIRV **Kirov** 40.47 325⇑ *e*P P 09 40 34.6 0.0
GNI **Garni** 40.96 296 P P 09 40 39.6 +0.5
comp=Z,9.2nm,0.3s,baz=61,slow=12,SNR=3.8
GNI **Garni** 40.96 296⇑ *e*P P 09 40 40.6 +1.4
GNI pmax pmax
comp=Z,31nm,1.8s
GNI **Garni** 40.96 296 P P 09 40 40.2 +1.0
JCJ **Chichijima** 41.10 84 LR LR 09 57 58.5
comp=Z,144nm,19.8s,baz=298,slow=37
KPJI **Karang Pucung** 41.31 159 P P 09 40 47.3 +5.4
comp=Z,25nm,1.2s
ONI **Oni** 41.77 300 P P 09 40 46.5 +0.9
ONI pmax pmax
comp=Z,20nm,1.3s
ONI **Oni** 41.77 300 P P 09 40 46.5 +0.9
ONI IAmb IAmb 09 40 49.1
comp=Z,20nm,1.3s
TTSI **Tana Toraja** 42.08 141 P P 09 40 52.6 +4.3
comp=Z,20nm,1.0s
KBZ **Khabaz** 42.12 301⇓ *e*P P 09 40 50.5 +2.1
KBZ pmax pmax
comp=Z,7.0nm,1.5s
KARS **Kars** 42.18 297 P P 09 40 50.1 +0.9
KARS pmax pmax
comp=Z,62nm,1.2s
KARS **Kars** 42.18 297 P P 09 40 50.1 +0.9
KVAR **Kislovodsk Arr** 42.26 302 LR LR 10 02 05.1
comp=Z,125nm,18.3s,baz=274,slow=41
KIV **Kislovodsk** 42.27 302 *e*P P 09 40 51.7 +1.9
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,112nm,16.0s
GEVA **Gevas** 42.46 293 P P 09 40 52.3 +0.8
SOCY **Socotra** 42.47 252 P P 09 40 48.5 -3.2
SOCY IAmb IAmb 09 40 50.5
comp=Z,20nm,1.0s
GURO **Guroymak-BITLI** 43.23 294 P P 09 40 59.2 +1.5
PRGR **Permogore** 43.32 328 *e*P P 09 40 56.5 -1.3
PRGR pmax pmax
comp=Z,64nm,1.5s
TIXI **Tiksi** 43.65 15⇑ *i*P P 09 40 59.8 -0.6
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI **Tiksi** 43.65 15 P P 09 40 59.8 -0.6
KAPI **Kappang** 43.71 143 LR LR 10 00 51.9
comp=Z,95nm,18.8s,baz=318,slow=38
MARD **Mardin** 44.40 292 P P 09 41 08.3 +1.2
MARD IAmb IAmb 09 41 13.8
comp=Z,12nm,1.1s
VORR **Voronezh** 44.75 313 *e*P P 09 41 09.6 +0.1
MA2 **Magadan** 45.81 36 LR LR 10 01 44.7
comp=Z,76nm,19.8s,baz=252,slow=38
MA2 **Magadan** 45.81 36⇓ *e*P P 09 41 17.9 +0.1
MA2 pmax pmax
comp=Z,4.0nm,1.3s
KLMR **Klimovskoe** 45.93 326 *e*P P 09 41 17.2 -1.4
KLMR *e* 09 43 06.5
KLMR pmax pmax
comp=Z,31nm,1.3s
KLMR **Klimovskoe** 45.93 326 *e*P P 09 41 17.3 -1.4
KLMR AMP 09 41 20.1
comp=Z,31nm,1.3s
KLMR *e*PP PP 09 43 06.6 +0.5
KLMR *e*SS SS 09 51 32.5 +5.1
KLMR *e*SS SS 09 51 32.5 +5.1
ANN **Anapa** 45.98 303 *e*P P 09 41 16.2 -3.2
ANN *e**PP pP 09 41 21.6 -2.5
ANN *e* 09 43 06.2
ANN *e*S S 09 48 00.8 -3.5
ANN pmax pmax
comp=Z,41nm,1.2s
MOS **Moscow** 46.05 319 *e*P P 09 41 20.0 +0.3
MOS pmax pmax
comp=Z,42nm,1.1s
OBN **Obninsk** 46.59 318⇓ *e*P P 09 41 24.8 +0.9
OBN pmax pmax
comp=Z,53nm,2.5s
SEY **Seymchan** 47.29 32⇓ *i*P P 09 41 29.6 +0.2
SEY pmax pmax
comp=Z,4.0nm,1.1s
BNN **Bunyan** 47.95 295 P P 09 41 35.7 +0.7
ASF **Jabal al Asfar** 48.67 287 LR LR 10 05 53.3
comp=Z,241nm,20.4s,baz=107,slow=41
BR131 **Keskin Array S** 49.47 297 P P 09 41 46.7 0.0
BR131 pmax pmax
comp=Z,4.0nm,1.0s
BR131 **Keskin Array S** 49.47 297 P P 09 41 46.7 0.0
BRTR **Keskin Array B** 49.47 297 P P 09 41 45.6 -1.1
comp=Z,1.0nm,0.8s,baz=87,slow=12,SNR=4.7
BRTR **Keskin Array B** 49.47 297 *i*P P 09 41 46.9 +0.2
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR **Keskin Array B** 49.47 297 P P 09 41 47.0 +0.2
MMAI **Mount Meron Ar** 49.65 288 LR LR 10 07 00.2
comp=Z,83nm,19.7s,baz=236,slow=41
ANTO **Ankara** 50.08 297 P P 09 41 51.4 +0.1
ANTO pmax pmax
comp=Z,8.0nm,0.7s
ANTO **Ankara** 50.08 297 P P 09 41 51.4 +0.1
ANTO IAmb IAmb 09 41 54.4
comp=Z,8.3nm,0.7s
EIL **Elat** 51.02 284 LR LR 10 08 16.7
comp=Z,156nm,19.1s,baz=62,slow=42
AKASG **Malin Array Be** 51.04 312 P P 09 41 57.7 -0.5
comp=Z,3.2nm,0.5s,baz=73,slow=6.4,SNR=14
MDUB **Mudumu** 51.15 299 P P 09 41 58.4 -1.0
MNK **Minsk** 51.60 317 *i* P P 09 42 00.1 -2.2
MNK *i* 09 43 57.8
MNK *i* PPP PPP 09 44 57.9
MNK *i* S S 09 47 21.7 -1.4
MNK *i* SSS SSS 09 54 36.1
MNK pmax pmax
comp=N,26nm,0.8s
MNK pmax pmax
comp=E,6.0nm,1.2s
MNK pmax pmax
comp=Z,20nm,0.7s
MNK MLR MLR
comp=N,48nm,8.0s
MNK MLR MLR
comp=Z,126nm,13.0s
MNK MLR MLR
comp=E,22nm,15.0s
MNK **Minsk** 51.60 317 *i* P P 09 42 00.2 -2.2
comp=E,6.0nm,1.2s
MNK *i* P P 09 42 00.2 -2.2
comp=N,26nm,0.8s
MNK *i* P P 09 42 00.2 -2.2
comp=Z,20nm,0.7s,baz=87
MNK *i* PP PP 09 43 57.9 -1.8
MNK *i* PPP PPP 09 44 58.0
MNK *i* S S 09 49 21.8 -1.4
MNK *i* SS SS 09 52 59.1 +0.2
MNK *i* SSS SSS 09 54 36.1
MNK *i* LQ LQ 10 00 15.8
MNK *i* LR LR 10 03 05.0
MNK *i* LRM MLR 10 06 04.5
comp=N,48nm,8.3s
MNK *i* LRM MLR 10 06 28.1
comp=Z,126nm,12.8s
MNK *i* LRM MLR 10 06 31.3
comp=E,22nm,15.3s
BORA **Eskisehir** 51.84 298 P P 09 42 03.6 -0.9
SORM **Soroca** 51.88 309 ⇑P P 09 42 04.4 -0.2
VSU **Vasula** 52.12 322 ⇑ *i*P P 09 42 05.1 -1.1
VSU pmax pmax
comp=Z,162nm,3.6s
NACGM **Naroch** 52.22 317 *e*P P 09 42 07.0 0.0
ISP **Isparta** 52.26 295 P P 09 42 07.6 -0.1
ISP pmax pmax
comp=Z,14nm,1.2s
ISP **Isparta** 52.26 295 P P 09 42 07.6 -0.1
ISP IAmb IAmb 09 42 08.5
comp=Z,14nm,1.2s
FINES **FINESS Array B** 52.46 326 P P 09 42 08.4 -0.2
comp=Z,2.2nm,0.9s,baz=93,slow=7.6,SNR=6.6
FINES LR LR 10 05 22.3
comp=Z,119nm,19.5s,baz=80,slow=37
FINES **FINESS Array B** 52.46 326 P P 09 42 09.0 +0.4
FINES **FINESS Array B** 52.46 326 P P 09 42 09.0 +0.4
ELL **Elmali** 53.01 294 P P 09 42 13.1 -0.2
ELL pmax pmax
comp=Z,55nm,1.2s
ELL **Elmali** 53.01 294 P P 09 42 13.1 -0.2
ARCES **ARCESS Array B** 53.25 336 P P 09 42 14.6 +0.2
comp=Z,11nm,1.1s,baz=90,slow=6.1,SNR=7.3
ARCES LR LR 10 07 57.5
comp=Z,127nm,19.0s,baz=94,slow=40
ARCES **ARCESS Array B** 53.25 336 P P 09 42 14.7 +0.2
ARCES pmax pmax
comp=Z,15nm,1.2s
ARCES **ARCESS Array B** 53.25 336 P P 09 42 14.7 +0.2
ARCES IAmb IAmb 09 42 20.4
comp=Z,15nm,1.2s
VRI **Vrincioaia** 53.34 306 ⇓P P 09 42 15.8 +0.3
VRI **Vrincioaia** 53.34 306 P P 09 42 14.6 -0.8
VRI pmax pmax
comp=Z,15nm,1.6s
PLOR **Plostina** 53.39 306 ⇓P P 09 42 16.9 +0.9
PLOR **Plostina** 53.39 306 P P 09 42 16.8 +0.9
BILL **Bilibino** 53.77 26 *d* iP P 09 42 18.7 +0.5
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL **Bilibino** 53.77 26 P P 09 42 18.1 -0.1
BILL IAmb IAmb 09 42 19.4
comp=Z,8.7nm,1.3s
MLR **Muntele Rosu** 53.94 306 ⇓P P 09 42 21.0 +1.0
MLR **Muntele Rosu** 53.94 306 P P 09 42 20.3 +0.3
MLR pmax pmax
comp=Z,14nm,1.0s
MLR **Muntele Rosu** 53.94 306 P P 09 42 20.3 +0.3
MLR IAmb IAmb 09 42 27.4
comp=Z,14nm,1.0s
BURAR **Bucovina Array** 54.05 308 ⇓P P 09 42 21.0 +0.3
BURAR **Bucovina Array** 54.05 308 P P 09 42 20.7 -0.1
BUR08 **Bucovina Ar. S** 54.06 308 P P 09 42 21.0 +0.2
SUW **Suwalki** 54.39 316 P P 09 42 23.2 +0.2
SUW pmax pmax
comp=Z,33nm,0.9s
SUW **Suwalki** 54.39 316 P P 09 42 23.2 +0.2
ARR **Arges** 54.87 306 ⇓P P 09 42 27.1 +0.4
DRGR 55.88 308 ⇓P P 09 42 34.4 +0.4
DRGR 55.88 308 P P 09 42 34.4 +0.4
DRGR pmax pmax
comp=Z,6.0nm,1.3s
VTS **Vitosha** 56.49 303 P P 09 42 38.3 -0.1
VTS pmax pmax
comp=Z,12nm,1.4s
VTS **Vitosha** 56.49 303 P P 09 42 38.3 -0.1
VTS IAmb IAmb 09 42 40.1
comp=Z,12nm,1.4s
SPITS **Spitsbergen Ar** 56.60 346 LR LR 10 11 12.8
comp=Z,105nm,18.4s,baz=211,slow=41
BLKB **Belogradchik** 56.63 304 ⇑P P 09 42 39.1 -0.2
MDVR **Moldovita** 57.02 306 ⇑P P 09 42 42.5 +0.4
OJC **Ojcow** 57.07 312 P P 09 42 42.8 +0.5
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC **Ojcow** 57.07 312 P P 09 42 42.8 +0.5
OJC IAmb IAmb 09 42 43.7
comp=Z,7.2nm,0.9s
KNRA **Kunumurra** 57.40 141 P P 09 42 43.6 -1.3
LIT **Litokhoron** 57.70 300 P P 09 42 46.2 -0.8
LIT pmax pmax
comp=Z,7.0nm,1.2s
LIT **Litokhoron** 57.70 300 P P 09 42 46.2 -0.8
LIT IAmb IAmb 09 42 46.9
comp=Z,7.3nm,1.2s
FITZ **Fitzroy Crossi** 57.83 145 LR LR 10 10 34.1
comp=Z,50nm,18.7s,baz=313,slow=39
AGG **Agios Georgios** 58.13 299 P P 09 42 49.0 -1.0
AGG pmax pmax
comp=Z,9.0nm,1.3s
AGG **Agios Georgios** 58.13 299 IAmb IAmb 09 42 50.4
comp=Z,17nm,1.3s
DIVS **Divibare** 58.39 305 IAmb IAmb 09 42 53.4
comp=Z,9.6nm,1.2s
MORC **Moravsky Berou** 58.59 312 IAmb IAmb 09 42 58.9
comp=Z,6.7nm,1.1s
MORC **Moravsky Berou** 58.59 312 *e*P P 09 42 53.6 +0.6
MORC *e* 09 42 58.5
HFS **Hagfors** 58.61 325 LR LR 10 09 03.6
comp=Z,75nm,19.7s,baz=74,slow=37
JAVC **Velka Javorina** 58.72 311 *e*P P 09 42 55.7 +1.7
JAVC *e* 09 43 00.7
SHEM **Shemya Is, Ala** 58.93 44 LR LR 10 10 24.3
comp=Z,81nm,20.0s,baz=12,slow=38
KRLC **Kraliky** 58.99 313 *e*P P 09 42 56.1 +0.3
KRLC **Kraliky** 58.99 313 *e*P P 09 42 56.1 +0.3
DPC **Dobruska-Polom** 59.21 313 *e*P P 09 42 58.4 +1.0
DPC *e* 09 43 03.0
DPC **Dobruska-Polom** 59.21 313 *e*P P 09 42 58.4 +1.0
DPC *e*pP pP 09 43 03.0 +0.8
OSTC **Ostas** 59.23 313 *e*P P 09 42 58.2 +0.8
VRAC **Vranov** 59.30 312 *e*P P 09 42 58.5 +0.6
NC405 **NORSAR Array S** 59.38 326 P P 09 42 58.1 -0.2
NB2 **NORSAR Subarra** 59.64 326 P P 09 42 59.1 -1.0
comp=Z,12nm,1.4s,baz=80,slow=6.5
NOA **NORSAR Array B** 59.64 326 P P 09 42 59.4 -0.7
comp=Z,2.8nm,1.1s,baz=80,slow=6.6,SNR=5.5
BRG **Berggiesshubel** 60.54 314 *e*P P 09 43 07.0 +0.5
BRG Amp 09 43 08.5
comp=Z,6.0nm,1.1s
BRG **Berggiesshubel** 60.54 314 *e*P P 09 43 06.9 +0.5
BRG pmax pmax
comp=Z,6.0nm,1.1s
CKRC **Cesky Krumlov** 60.88 312 *e*P P 09 43 09.5 +0.7
CKRC *ex* x 09 43 14.1
CLL **Collm** 61.00 315 *e*P P 09 43 09.0 -0.5
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL **Collm** 61.00 315 *e*P P 09 43 09.0 -0.5
comp=Z,7.0nm,1.3s
CLL *i* pP pP 09 43 14.2 -0.2
CLL L L 10 13 00.0
comp=Z,200nm,20.4s

KHC	**Kasperske Hory**	**61.25**	**312**	⇓*e*P		**P**		**09 43 12.3**	**+1.0**
KHC				pmax		pmax			
	comp=E,25nm,2.5s								
KHC	**Kasperske Hory**	**61.25**	**312**	*e*P		**P**		**09 43 09.2**	**-2.1**
GEC2	**GERESS Array S**	**61.26**	**312**	P		**P**		**09 43 11.8**	**+0.3**
GEC2				IAmb		IAmb		09 43 17.5	
	comp=Z,8.6nm,1.3s								
GERES	**GERESS Array B**	**61.26**	**312**	P		**P**		**09 43 11.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=50,slow=4.2,SNR=10								
GERES				LR		LR		10 14 35.5	
	comp=Z,220nm,18.1s,baz=86,slow=41								
GERES	**GERESS Array B**	**61.26**	**312**	P		**P**		**09 43 11.8**	**+0.3**
GERES	**GERESS Array B**	**61.26**	**312**	P		**P**		**09 43 11.8**	**+0.3**
KMBO	**Kilima Mbogo**	**63.69**	**251**	P		**P**		**09 43 28.2**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=50,slow=13,SNR=5.2								
KMBO				LR		LR		10 10 21.7	
	comp=Z,62nm,18.3s,baz=92,slow=35								
KMBO	**Kilima Mbogo**	**63.69**	**251**	P		**P**		**09 43 28.0**	**-0.3**
KMBO				pmax		pmax			
	comp=Z,13nm,1.4s								
KMBO	**Kilima Mbogo**	**63.69**	**251**	P		**P**		**09 43 28.0**	**-0.3**
KMBO				IAmb		IAmb		09 43 34.0	
	comp=Z,13nm,1.4s								
MURB	**Monte Urbino**	**63.80**	**306**	P		**P**		**09 43 28.7**	**+0.2**
WB0	**Warramunga Arr**	**63.83**	**138**	P		**P**		**09 43 27.8**	**-1.0**
WRAB	**Tennant Creek**	**63.94**	**138**⇑	*e*P		**P**		**09 43 28.7**	**-0.8**
WRAB				pmax		pmax			
	comp=Z,13nm,1.0s								
WRAB	**Tennant Creek**	**63.94**	**138**	P		**P**		**09 43 28.1**	**-1.4**
WRAB				IAmb		IAmb		09 43 33.1	
	comp=Z,10nm,0.9s								
WRA	**Warramunga Arr**	**63.94**	**138**	P		**P**		**09 43 28.8**	**-0.8**
	comp=Z,5.0nm,0.8s,baz=307,slow=12,SNR=25								
WRA	**Warramunga Arr**	**63.94**	**138**	P		**P**		**09 43 28.2**	**-1.3**
WRA	**Warramunga Arr**	**63.94**	**138**	P		**P**		**09 43 28.2**	**-1.3**
WB2	**Warramunga Arr**	**63.95**	**138**	P		**P**		**09 43 28.6**	**-1.0**
WB2				IAmb		IAmb		09 43 33.1	
	comp=Z,8.5nm,0.8s								
JMIC	**Jan Mayen**	**64.33**	**339**	LR		LR		10 14 11.2	
	comp=Z,32nm,21.8s,baz=78,slow=38								
DAVOX	**Davos/Dischmat**	**64.35**	**311**	LR		LR		10 15 31.8	
	comp=Z,256nm,20.6s,baz=80,slow=40								
TUE	**Stuetta**	**64.80**	**310**	P		**P**		**09 43 34.8**	**-0.4**
TUE				IAmb		IAmb		09 43 50.5	
	comp=Z,6.3nm,0.9s								
AS31	**Alice Springs**	**66.69**	**141**	P		**P**		**09 43 46.7**	**-0.6**
ASAR	**Alice Springs**	**66.69**	**141**	P		**P**		**09 43 47.0**	**-0.3**
	comp=Z,4.9nm,0.7s,baz=325,slow=6.4,SNR=60								
ASAR				LR		LR		10 14 36.3	
	comp=Z,39nm,21.0s,baz=342,slow=38								
ASAR	**Alice Springs**	**66.69**	**141**	P		**P**		**09 43 47.0**	**-0.3**
EUNU	**Eureka**	**68.19**	**0**	IAmb		IAmb		09 43 58.0	
	comp=Z,10nm,1.2s								
EKA	**Eskdalemuir Ar**	**68.66**	**323**	LR		LR		10 17 01.7	
	comp=Z,136nm,20.6s,baz=34,slow=38								
KEST	**Kesra**	**68.95**	**300**	P		**P**		**09 44 01.3**	**-0.4**
	comp=Z,4.9nm,1.0s,baz=328,slow=3.9,SNR=4.3								
H21K	**Melozitna Rive**	**69.72**	**24**	IAmb		IAmb		09 44 07.1	
	comp=Z,8.9nm,1.3s								
J20K	**Nowinta River**	**70.04**	**26**	IAmb		IAmb		09 44 09.3	
	comp=Z,7.2nm,1.2s								
VOI	**Vohitsoka**	**70.70**	**227**	P		**P**		**09 44 11.6**	**-0.9**
L19K	**White Mountain**	**70.84**	**28**	P		**P**		**09 44 12.9**	**+0.2**
L19K				IAmb		IAmb		09 44 14.9	
	comp=Z,13nm,1.2s								
BPAW	**Bear Paw Mtn.**	**71.23**	**25**	IAmb		IAmb		09 44 17.4	
	comp=Z,14nm,1.3s								
CTA	**Charters Tower**	**71.36**	**129**	LR		LR		10 17 21.5	
	comp=Z,28nm,20.2s,baz=270,slow=37								
NEA2	**Nenana**	**71.62**	**24**	IAmb		IAmb		09 44 18.3	
	comp=Z,9.1nm,1.2s								
BORG	**Borgarnes**	**71.66**	**336**	LR		LR		10 16 31.3	
	comp=Z,48nm,19.1s,baz=55,slow=36								
MDM	**Murphy Dome**	**71.69**	**24**	IAmb		IAmb		09 44 23.0	
	comp=Z,13nm,1.4s								
COLA	**College**	**71.87**	**24**⇑*i*P			**P**		**09 44 19.0**	**+0.2**
COLA				pmax		pmax			
	comp=Z,11nm,1.1s								
COLA	**College**	**71.87**	**24**	P		**P**		**09 44 18.4**	**-0.4**
ILAR	**Eielson Array**	**72.26**	**23**	P		**P**		**09 44 20.0**	**-1.2**
	comp=Z,2.5nm,1.0s,baz=284,slow=5.0,SNR=14								
A36M	**Sachs Harbour**	**72.59**	**12**	IAmb		IAmb		09 44 24.0	
	comp=Z,10nm,0.9s								
RES	**Resolute Bay**	**73.39**	**3**	LR		LR		10 17 45.9	
	comp=Z,52nm,19.5s,baz=68,slow=37								
RIDG	**Independent Ri**	**73.61**	**24**	IAmb		IAmb		09 44 32.7	
	comp=Z,18nm,1.3s								
INK	**Inuvik**	**73.73**	**17**	P		**P**		**09 44 29.7**	**-0.1**
	comp=Z,3.1nm,1.0s,baz=314,slow=6.7,SNR=6.9								
SCRK	**Sand Creek**	**73.74**	**23**	IAmb		IAmb		09 44 30.6	
	comp=Z,6.4nm,1.0s								
EGAK	**Eagle**	**74.12**	**22**	IAmb		IAmb		09 44 33.8	
	comp=Z,10nm,1.2s								
KDAK	**Kodiak Island**	**74.25**	**31**	LR		LR		10 18 45.8	
	comp=Z,77nm,20.7s,baz=51,slow=37								
KLU	**Klutina**	**74.67**	**26**	IAmb		IAmb		09 44 37.3	
	comp=Z,9.0nm,1.0s								
C36M	**Paulatuk**	**75.00**	**13**	IAmb		IAmb		09 44 38.1	
	comp=Z,11nm,1.3s								
L27K	**Beaver Creek,**	**75.08**	**23**	IAmb		IAmb		09 44 40.1	
	comp=Z,6.2nm,1.1s								
M26K	**Nabesna, AK**	**75.12**	**24**	IAmb		IAmb		09 44 44.0	
	comp=Z,10nm,1.3s								
BBOO	**Buckleboo**	**75.22**	**145**	P		**P**		**09 44 38.3**	**-0.6**
ESDC	**Sonseca Array**	**76.51**	**308**	P		**P**		**09 44 45.1**	**-1.4**
	comp=Z,1.8nm,1.0s,baz=45,slow=5.1,SNR=10								
ESDC				LR		LR		10 23 14.9	
	comp=Z,72nm,20.4s,baz=102,slow=40								
ESDC	**Sonseca Array**	**76.51**	**308**	P		**P**		**09 44 46.1**	**-0.4**
STKA	**Stephens Creek**	**77.32**	**141**	P		**P**		**09 44 50.0**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=330,slow=7.8,SNR=5.3								
STKA				LR		LR		10 21 34.1	
	comp=Z,50nm,19.1s,baz=220,slow=38								
SFJD	**Kangerlussuaq**	**77.92**	**347**	LR		LR		10 24 21.6	
	comp=Z,87nm,18.1s,baz=20,slow=40								
M31M	**Drury Creek, Y**	**78.09**	**21**	IAmb		IAmb		09 45 00.1	
	comp=Z,8.4nm,1.4s								
HYT	**Haines Junctio**	**78.11**	**23**	IAmb		IAmb		09 44 57.3	
	comp=Z,11nm,1.4s								
N31M	**Braeburn, Yuko**	**78.19**	**22**	IAmb		IAmb		09 44 57.5	
	comp=Z,11nm,1.2s								
LSZ	**Lusaka**	**79.33**	**245**	LR		LR		10 18 26.6	
	comp=Z,42nm,20.4s,baz=178,slow=34								
SKAG	**Skagway**	**79.85**	**24**	IAmb		IAmb		09 45 07.2	
	comp=Z,13nm,1.0s								
MDT	**Midelt**	**80.49**	**303**	LR		LR		10 25 53.8	
	comp=Z,26nm,21.8s,baz=188,slow=40								
DLBC	**Dease Lake**	**82.39**	**22**	P		**P**		**09 45 18.4**	**+0.2**
DLBC				IAmb		IAmb		09 45 23.6	
	comp=Z,12nm,1.4s								
YKA	**Yellowknife Ar**	**82.88**	**13**	P		**P**		**09 45 20.0**	**-0.6**
	comp=Z,3.5nm,1.1s,baz=338,slow=4.6,SNR=20								
YKA	**Yellowknife Ar**	**82.88**	**13**	P		**P**		**09 45 20.0**	**-0.6**
YKA	**Yellowknife Ar**	**82.88**	**13**	P		**P**		**09 45 19.3**	**-1.3**
FRB	**Frobisher Bay**	**83.69**	**353**	LR		LR		10 24 23.4	
	comp=Z,35nm,19.2s,baz=18,slow=37								
TOA0	**Torodi Ar. Sit**	**85.89**	**283**	P		**P**		**09 45 36.2**	**-0.5**
TOA0				IAmb		IAmb		09 45 37.6	
	comp=Z,14nm,1.4s								
TORD	**Torodi Ar. Bea**	**85.89**	**283**	P		**P**		**09 45 36.5**	**-0.2**
	comp=Z,4.5nm,1.1s,baz=31,slow=4.1,SNR=15								
TORD	**Torodi Ar. Bea**	**85.89**	**283**	P		**P**		**09 45 36.0**	**-0.6**
TORD				IAmb		IAmb		09 45 38.4	
	comp=Z,11nm,1.3s								
FCC	**Fort Churchill**	**89.27**	**5**	P		**P**		**09 45 51.3**	**-0.8**
FCC				pmax		pmax			
	comp=Z,5.0nm,1.2s								
FCC	**Fort Churchill**	**89.27**	**5**	P		**P**		**09 45 51.3**	**-0.8**
FCC				IAmb		IAmb		09 45 52.2	
	comp=Z,4.5nm,1.2s								
TSUM	**Tsumeb**	**89.84**	**247**	LR		LR		10 26 16.3	
	comp=Z,44nm,20.4s,baz=150,slow=36								
EDM	**Edmonton**	**91.63**	**17**	IAmb		IAmb		09 46 04.1	
	comp=Z,8.2nm,1.2s								
SCHQ	**Schefferville**	**92.12**	**350**	LR		LR		10 31 44.8	
	comp=Z,56nm,19.3s,baz=90,slow=38								
FFC	**Flin Flon**	**92.41**	**10**	P		**P**		**09 46 06.2**	**-0.6**
FFC				pmax		pmax			
	comp=Z,5.0nm,1.2s								
FFC	**Flin Flon**	**92.41**	**10**	P		**P**		**09 46 06.2**	**-0.6**
FFC				IAmb		IAmb		09 46 06.8	
	comp=Z,5.1nm,1.2s								
DBIC	**Dimbokro**	**94.78**	**281**	LR		LR		10 34 31.4	
	comp=Z,72nm,18.6s,baz=120,slow=39								
NEW	**Newport**	**95.09**	**21**	LR		LR		10 31 30.8	
	comp=Z,55nm,18.3s,baz=339,slow=37								

*NNC **23** 09:47:18.7±12.0, 44.09N×77.47E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=89.0km s-min=56.5km az=84.0*

SOME 23 09:47:15.5, 44.65N×82.12E, h20km, 2C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.69**	**260**	*e*P	Pb	09 47 47.5	+1.4
	2.4nm,0.3s						
DJR				*e*S	Sb	09 48 10.4	+3.5
	6.9nm,0.2s						
DJR	**Jarkent**	**1.69**	**260**	P	Pb	09 47 47.5	+1.4
	2.4nm,0.3s						
DJR				S	Sb	09 48 10.4	+3.5
	6.9nm,0.2s						
KAPS	**Kapalarasan**	**2.06**	**289**	*e*P	Pb	09 47 52.6	+0.3
	1.4nm,0.1s						
KAPS				*e*S	Sb	09 48 19.3	+1.9
	4.5nm,0.2s						
KAPS	**Kapalarasan**	**2.06**	**289**	Pg	Pb	09 47 52.6	+0.3
	1.4nm,0.1s						
KAPS				Lg	Lg	09 48 19.3	
	4.5nm,0.2s						
MK31	**Makanchi Array**	**2.15**	**3**	⇑Pn	Pb	09 47 53.4	-0.3
	1.6nm,0.4s,baz=183,slow=15,SNR=73						
MK31				⇑Sn	Sb	09 48 20.6	+0.7
	2.3nm,0.4s,baz=191,slow=20,SNR=18						
SHLS	**Shalkode**	**2.43**	**233**	*e*P	Pn	09 47 56.0	+1.8
	3.6nm,0.2s						
SHLS				*e*S	Sn	09 48 25.5	+2.1
	10.0nm,0.2s						
SHLS	**Shalkode**	**2.43**	**233**	Pg	Pn	09 47 56.0	+1.8
	3.6nm,0.2s						
SHLS				Lg	Lg	09 48 25.5	
	10.0nm,0.2s						
KPKS	**Kokpek**	**2.74**	**246**	*e*P	Pb	09 48 04.2	+0.3
	7.1nm,0.1s						
KPKS				*e*S	Sb	09 48 39.1	+2.0
	8.4nm,0.3s						

*THE **23** 10:33:59.2, 35.73N×27.47E, h6km±1km, ML3.1/3, Error ellipse: s-maj=1.8km s-min=0.3km az=139.0*
*ISK **23** 10:33:59.2, 35.82N×27.33E, h9km, ML3.3/18*
*IDC **23** 10:33:59.9±1.5, 36.10N×26.74E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/43, mbtmp3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/90, Error ellipse: s-maj=56.0km s-min=25.5km az=149.0*
*ATH **23** 10:33:59.0, 35.70N×27.44E, h26km±2km, ML3.5/2, Error ellipse: s-maj=5.4km s-min=1.2km az=142.0*
*DDA **23** 10:34:00.0±0.0, 35.75N×27.49E, h21km±1km, ML3.2*

ISC 23 10:33:59.6±1.0, 35.80N±0.03×27.39E±0.03, h8km±8km, n55, σ0.99/76, mb3.6/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.31**	**217**	P	**Pg**	**10 34 05.8**	**+0.1**
KARP				S	**Sg**	**10 34 10.6**	**+0.8**
KARP				AML	AML	10 34 11.4	
	comp=N,35104μm,0.1s						
KARP				AML	AML	10 34 11.9	
	comp=E,52698μm,0.2s						
KARP	**Karpathos**	**0.31**	**217**	P	**Pg**	**10 34 05.9**	**+0.1**
KARP				S	**Sg**	**10 34 10.5**	**+0.8**
KARP	**Karpathos**	**0.31**	**217**	PG	**Pg**	**10 34 05.8**	**+0.1**
KARP				SG	**Sg**	**10 34 10.6**	**+0.8**
ARG	**Arkhangelos**	**0.73**	**55**	P	**Pb**	**10 34 13.6**	**-1.0**
ARG				S	**Sb**	**10 34 24.9**	**+0.1**
ARG				AML	AML	10 34 26.8	
	comp=N,2708μm,0.5s						
ARG				AML	AML	10 34 27.7	
	comp=E,3871μm,0.3s						
ARG	**Arkhangelos**	**0.73**	**55**	P	**Pg**	**10 34 13.3**	**-0.4**
ARG				S	**Sb**	**10 34 24.1**	**-0.7**
	comp=E,2μm,0.3s						
ARG	**Arkhangelos**	**0.73**	**55**	PG	**Pb**	**10 34 14.7**	**+0.1**
ARG				SG	**Sb**	**10 34 24.9**	**+0.1**
NISR	**Nisiros**	**0.84**	**346**	P	**Pn**	**10 34 17.5**	**-0.3**
NISR	**Nisiros**	**0.84**	**346**	P	**Pg**	**10 34 16.6**	**+0.8**
NISR				S	**Sn**	**10 34 30.4**	**0.0**
	comp=E,1μm,0.5s						
KOSK	**Kos Island**	**1.01**	**341**	PG	**Pg**	**10 34 18.5**	**-0.5**
KOSK				SG	**Sg**	**10 34 32.4**	**+0.3**
ZKR	**Zakros**	**1.17**	**235**	P	**Pb**	**10 34 21.4**	**-0.7**
ZKR	**Zakros**	**1.17**	**235**	P	**Pb**	**10 34 20.8**	**-1.3**
ZKR				S	**Sg**	**10 34 37.5**	**+0.2**
	comp=E,1μm,0.3s						
ZKR	**Zakros**	**1.17**	**235**	PN	**Pb**	**10 34 21.6**	**-0.5**
ZKR				SN	**Sn**	**10 34 37.8**	**-0.8**
TURN	**Turunc**	**1.20**	**35**	PN	**Pg**	**10 34 22.5**	**-0.1**
TURN				SN	**Sn**	**10 34 39.8**	**+0.7**
TURN	**Turunc**	**1.20**	**35**	P	**Pn**	**10 34 22.1**	**-0.6**
TURN				S	**Sn**	**10 34 39.2**	**0.0**
TURN				*i* AML	AML	10 34 45.0	
	comp=E,440nm,0.6s						
TURN				*i* AML	AML	10 34 46.0	
	comp=E,367nm,0.5s						
BODT	**Bodrum**	**1.27**	**357**	P	**Pn**	**10 34 22.7**	**-1.0**
BODT				S	**Sg**	**10 34 41.5**	**+1.2**
BODT	**Bodrum**	**1.27**	**357**	PN	**Pn**	**10 34 23.3**	**-0.4**
BDRM	**Kayabasi**	**1.27**	**2**	P	**Pn**	**10 34 23.1**	**-0.6**
BDRM				S	**Sb**	**10 34 39.9**	**-0.4**
DALY	**Dalyan (Mula)**	**1.44**	**45**	PN	**Pb**	**10 34 26.5**	**-0.2**
YER	**Yerkesik**	**1.52**	**28**	PN	**Pn**	**10 34 27.4**	**+0.2**
MLSB	**Milas**	**1.53**	**12**	PN	**Pn**	**10 34 27.0**	**-0.3**
FETY	**Fethiye**	**1.61**	**58**	PN	**Pb**	**10 34 28.9**	**-0.6**
FETY	**Fethiye**	**1.61**	**58**	P	**Pb**	**10 34 29.0**	**-0.6**
FETY				S	**Sg**	**10 34 51.1**	**-0.1**
FETY				*i* AML	AML	10 34 56.0	
	comp=E,281nm,0.6s						
FETY				*i* AML	AML	10 34 57.0	
	comp=E,297nm,0.6s						
MULA	**Mugla, Merkez-**	**1.64**	**27**	P	**Pg**	**10 34 30.8**	**-0.3**
MULA				S	**Sg**	**10 34 52.2**	**-0.1**
MULA				*i* AML	AML	10 35 02.0	
	comp=E,238nm,0.4s						
DDIM	**Aydin, Didim**	**1.66**	**356**	P	**Pg**	**10 34 31.5**	**0.0**
SNT5	**Nea Kammeni, S**	**1.72**	**291**	P	**Pn**	**10 34 30.1**	**+0.2**
AKAS	**Kas**	**1.85**	**76**	PN	**Pb**	**10 34 32.2**	**-1.6**
AKAS	**Kas**	**1.85**	**76**	P	**Pb**	**10 34 32.1**	**-1.7**
AKAS				S	**Sn**	**10 34 54.2**	**-1.2**
AKAS				*i* AML	AML	10 34 58.0	
	comp=E,214nm,0.4s						
AKAS				*i* AML	AML	10 34 58.0	
	comp=E,250nm,0.4s						
AYDN	**Tasoluk**	**1.90**	**12**	P	**Pn**	**10 34 32.3**	**-0.2**
GCAM	**G?zelcaml?**	**1.91**	**356**	PN	**Pn**	**10 34 32.5**	**+0.1**
CAME	**Cameli-Denizli**	**1.92**	**53**	PN	**Pn**	**10 34 32.5**	**-0.3**
HRKL	**Herakleio**	**1.93**	**256**	PN	**Pn**	**10 34 31.9**	**-0.8**
APE	**Apeiranthos**	**1.96**	**311**	PN	**Pn**	**10 34 33.2**	**-0.1**
CAEL	**Denizli, Camel**	**2.04**	**49**	P	**Pb**	**10 34 36.0**	**-1.1**
CAEL				S	**Sg**	**10 35 03.8**	**-1.5**
CAEL				*i* AML	AML	10 35 18.0	
	comp=E,374nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.07**	**36**	P	**Pb**	**10 34 36.7**	**-0.8**
TAVA				S	**Sb**	**10 35 03.3**	**-0.1**
TAVA				*i* AML	AML	10 35 09.0	
	comp=E,142nm,0.4s						
TAVA				*i* AML	AML	10 35 10.0	
	comp=E,147nm,0.5s						
IDI	**Anoyia**	**2.10**	**257**	PN	**Pn**	**10 34 34.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.18**	**10**	PN	**Pn**	**10 34 36.6**	**+0.2**
ELL	**Elmali**	**2.25**	**64**	PN	**Pb**	**10 34 38.2**	**-2.3**
GOLH	**Golhisar**	**2.27**	**50**	P	**Pb**	**10 34 39.8**	**-1.1**
GOLH				S	**Sb**	**10 35 07.9**	**-1.1**
GOLH				*i* AML	AML	10 35 18.0	
	comp=E,228nm,0.5s						
GOLH				*i* AML	AML	10 35 22.0	
	comp=E,195nm,0.7s						
DGB	**zmir**	**2.29**	**350**	P	**Pn**	**10 34 36.8**	**-0.8**
AKUM	**Antalya-Kumluc**	**2.45**	**77**	P	**Pn**	**10 34 40.0**	**+0.1**
AKUM				S	**Sn**	**10 35 10.1**	**0.0**
URLA	**Izmir**	**2.64**	**346**	PN	**Pn**	**10 34 42.6**	**+0.1**
KORT	**Korkueli**	**2.67**	**62**	PN	**Pn**	**10 34 44.3**	**+1.2**
KORT	**Korkueli**	**2.67**	**62**	P	**Pn**	**10 34 44.3**	**+1.2**
KORT				S	**Sn**	**10 35 16.8**	**+1.0**
KORT				*i* AML	AML	10 35 31.0	
	comp=E,89nm,0.7s						
IMMV	**Iera Moni Meta**	**2.80**	**264**	PN	**Pn**	**10 34 44.3**	**-0.4**
MANT	**Manisa**	**2.85**	**19**	P	**Pn**	**10 34 47.1**	**+1.5**
GVD	**Gavdhos**	**2.86**	**251**	PN	**Pn**	**10 34 45.7**	**+0.1**
BRDR	**BURDUR-Merkez**	**2.87**	**48**	P	**Pb**	**10 34 50.3**	**-0.7**
KULA	**Kula-Manisa**	**2.90**	**20**	PN	**Pn**	**10 34 47.0**	**+0.8**
PASA	**Karahalli, USA**	**3.05**	**33**	P	**Pn**	**10 34 49.0**	**+0.8**
USAK	**Uak-Merkez**	**3.19**	**24**	P	**Pn**	**10 34 50.8**	**+0.6**
GNI	**Garni**	**14.36**	**67**	LR	LR	10 43 22.2	
	comp=E,32nm,18.3s,baz=234,slow=38						
TORD	**Torodi Ar. Bea**	**32.30**	**232**	P	**P**	**10 40 28.6**	**-0.6**
	comp=E,0.6nm,0.5s,baz=34,slow=8.8,SNR=7.4						
KURBB	**Kurchatov Arra**	**39.30**	**52**	P	**P**	**10 41 32.2**	**+3.3**
	comp=E,0.3nm,0.4s,baz=276,slow=8.8,SNR=5.5						
MKAR	**Makanchi Array**	**41.90**	**57**	P	**P**	**10 41 54.1**	**+3.6**
	comp=E,0.4nm,0.7s,baz=275,slow=7.2,SNR=4.3						
SCHQ	**Schefferville**	**63.88**	**320**	P	**P**	**10 44 30.3**	**-2.3**
	comp=E,2.1nm,0.8s,baz=55,slow=5.2,SNR=6.0						

*THE **23** 10:35:22.3, 38.48N×20.57E, h13km, ML3.1/5, Error ellipse: s-maj=1.0km s-min=0.2km az=105.0*
*ATH **23** 10:35:22.1, 38.50N×20.54E, h16km±2km, ML3.5/2, Error ellipse: s-maj=2.5km s-min=0.8km az=112.0*
*IDC **23** 10:35:44.8±75.0, 40.69N×23.65E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.1/44, mbtmp3.5/3, Error ellipse: s-maj=1368.0km s-min=63.5km az=46.0*

ISC 23 10:35:21.6±0.8, 38.50N±0.02×20.53E±0.06, h17km±5km, n26, σ0.26/43, mb3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSK	**Fiskardo**	**0.05**	**143**	P	**Pg**	**10 35 25.1**	**+0.3**
FSK				S	**Sg**	**10 35 26.5**	**-0.4**
FSK				AML	AML	10 35 27.2	
FSK				AML	AML	10 35 27.3	
	comp=N,37637μm,0.2s						
FSK	**Fiskardo**	**0.05**	**143**	P	**Pg**	**10 35 24.9**	**+0.1**
FSK				S	**Sg**	**10 35 26.1**	**-0.8**
EVGI	**Lefkada island**	**0.16**	**39**	P	**Pb**	**10 35 26.2**	**+0.1**
EVGI				S	**Sg**	**10 35 29.0**	**+0.1**
EVGI	**Lefkada island**	**0.16**	**39**	P	**Pb**	**10 35 26.2**	**+0.1**
EVGI				S	**Sg**	**10 35 28.9**	**+0.1**
DRAG	**Dragano-Lefkad**	**0.19**	**11**	P	**Pg**	**10 35 26.5**	**+0.2**
KEF4	**Livadi, Kephal**	**0.25**	**199**	P	**Pg**	**10 35 27.3**	**+0.1**
KEF4				S	**Sb**	**10 35 32.0**	**+0.4**
KEF4	**Livadi, Kephal**	**0.25**	**199**	P	**Pg**	**10 35 27.5**	**+0.2**
KEF4				S	**Sb**	**10 35 31.6**	**-0.1**
NYDR	**Nydri-Lefkada**	**0.26**	**32**	P	**Pg**	**10 35 27.5**	**+0.2**
NYDR	**Nydri-Lefkada**	**0.26**	**32**	P	**Pg**	**10 35 27.5**	**+0.2**
NYDR				S	**Sg**	**10 35 31.6**	**+0.3**
	comp=N,6μm,0.2s						
DMLN	**Damoulianata-K**	**0.28**	**205**	P	**Pg**	**10 35 28.0**	**+0.2**
DMLN				S	**Sb**	**10 35 32.8**	**+0.1**
DMLN	**Damoulianata-K**	**0.28**	**205**	P	**Pg**	**10 35 28.0**	**+0.2**
DMLN				S	**Sb**	**10 35 32.6**	**-0.1**
	comp=N,8μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.30**	**193**	P	**Pg**	**10 35 28.2**	**+0.1**
LXRA				S	**Sb**	**10 35 33.7**	**+0.5**
LKD2	**Lefkada island**	**0.31**	**19**	P	**Pg**	**10 35 28.4**	**+0.1**
LKD2	**Lefkada island**	**0.31**	**19**	P	**Pg**	**10 35 28.4**	**+0.1**
LKD2				S	**Sb**	**10 35 33.6**	**+0.1**
	comp=N,2μm,0.3s						
ARGA	**Argostoli. Kep**	**0.32**	**187**	P	**Pb**	**10 35 29.2**	**+0.4**
VLS	**Valsamata**	**0.32**	**171**	P	**Pg**	**10 35 28.5**	**0.0**
VLS				S	**Sb**	**10 35 33.5**	**-0.2**
VLS				AML	AML	10 35 33.7	
	comp=N,16288μm,0.2s						
VLS				AML	AML	10 35 34.3	
	comp=E,24760μm,0.2s						
VLS	**Valsamata**	**0.32**	**171**	P	**Pg**	**10 35 28.4**	**0.0**
VLS				S	**Sg**	**10 35 33.3**	**+0.1**
	comp=E,10μm,0.1s						
KEF3	**Kipouria, Keph**	**0.33**	**206**	P	**Pg**	**10 35 28.1**	**-0.4**
KEF3				S	**Sg**	**10 35 33.1**	**-0.1**
TSLK	**Tsoukalades, L**	**0.34**	**17**	P	**Pb**	**10 35 29.2**	**0.0**
TSLK	**Tsoukalades, L**	**0.34**	**17**	P	**Pb**	**10 35 29.2**	**0.0**
TSLK				S	**Sb**	**10 35 34.7**	**+0.3**
	comp=E,3μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.39**	**173**	P	**Pg**	**10 35 29.5**	**-0.1**
PSDA				S	**Sg**	**10 35 35.0**	**+0.1**
RLS	**Riolos of Patr**	**0.86**	**120**	P	**Pg**	**10 35 38.2**	**-0.1**
OHR	**Ohrid**	**2.62**	**5**	*i* Pn

JIRN Jiri 8.70 242 *e*P Pn **10 43 05.6 +1.1**
20nm,0.7s
RAMN Ramite 8.80 237 *e*P Pn **10 43 07.9 +2.2**
28nm,0.5s
GUN Gumba 8.80 245 *e*P Pn **10 43 06.6 +0.7**
41nm,0.5s
PKI Pulchoki 9.34 244 *e*P Pn **10 43 13.5 +0.3**
38nm,0.6s
PKIN Phulchoki 9.34 244 *e*P Pn **10 43 13.9 +0.7**
35nm,0.7s
KMI Kunming 9.76 133 ⇑P Pn **10 43 19.9 +1.0**
KMI sP 10 43 26.4
KMI S **Sn** **10 45 12.3 +3.6**
KMI pmax pmax
comp=Z,16nm,0.7s
KMI LR LR
comp=N,530nm,8.5s
KMI LR LR
comp=E,880nm,7.7s
KMI LR LR
comp=Z,940nm,11.3s
DANN Dangsing 10.28 252 *e*P Pn **10 43 25.7 -0.4**
42nm,0.7s
KOLN Koldanda 10.65 249 *e*P Pn **10 43 31.0 -0.1**
PYUN Piuthan 11.00 252 *e*P Pn **10 43 35.9 0.0**
44nm,0.7s
BOK Bokaro 11.41 226 *e*P Pn **10 43 44.1 +2.8**
BOK IAmb IAmb 10 43 46.0
comp=Z,24nm,0.7s
GYA Guiyang 11.70 115 ⇑P Pn 10 43 50.3 +4.9
GYA S **Sn** **10 46 01.0 +4.8**
GYA pmax pmax
comp=Z,23nm,0.8s
GYA pmax pmax
comp=Z,140nm,6.0s
GYA LR LR
comp=Z,280nm,8.2s
GYA LR LR
comp=Z,230nm,5.4s
GYA LR LR
comp=Z,150nm,4.9s
XAN Xi'an 11.97 77 ⇑P Pn **10 43 48.3 -0.7**
XAN sP 10 43 56.3
XAN pmax pmax
comp=Z,12nm,1.2s
XAN LR LR
comp=Z,1μm,14.4s
XAN LR LR
comp=Z,280nm,12.4s
XAN LR LR
comp=Z,1μm,12.4s
ENH Enshi 12.65 94 Pn Pn **10 43 56.3 -1.9**
WMQ Urumqi 13.05 336 *e*P Pn **10 44 05.5 +1.7**
WMQ LR LR
comp=Z,590nm,12.5s
WMQ LR LR
comp=Z,440nm,11.9s
WMQ LR LR
comp=Z,370nm,11.9s
CMAR Chiang Mai Arr 14.01 164 Pn P **10 44 22.2 -2.6**
comp=Z,1.0nm,0.3s,baz=338,slow=12,SNR=8.9
CMAR LR LR 10 50 07.6
comp=Z,168nm,21.1s,baz=340,slow=39
CMAR Chiang Mai Arr 14.01 164 P Pn **10 44 17.2 +0.4**
CMAR Chiang Mai Arr 14.01 164 Pn Pn **10 44 17.2 +0.4**
SMLA Simla 15.11 271 *e*P Pn **10 44 31.0 -0.8**
SMLA IAmb IAmb 10 44 42.1
comp=Z,15nm,0.7s
HHC Hu-ho-hao-te 16.05 52 *e*P Pn **10 44 44.3 +0.2**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,100nm,5.7s
HHC LR LR
comp=Z,440nm,9.5s
HHC LR LR
comp=Z,260nm,8.9s
HHC LR LR
comp=Z,430nm,9.8s
SHLS Shalkode 16.48 317 *e*P Pn **10 44 48.3 -1.2**
SHLS pmax pmax
comp=Z,35nm,2.1s
SHLS Shalkode 16.48 317 *e*P Pn **10 44 48.4 -1.2**
comp=Z,35nm,2.1s,baz=317
PDGK Podgornoye 16.56 317 P Pn **10 44 51.9 +1.2**
TARG Taragay, Kyrgy 16.71 310 Pn **10 44 51.1 -1.7**
UZB Uzynbulak 16.73 316 *e*P P **10 44 54.8 -0.3**
UZB Uzynbulak 16.73 316 *e*P P **10 44 54.8 -0.3**
baz=315
WHN Wuhan 16.73 90 P Pn **10 44 50.1 -2.6**
WHN LR LR
comp=Z,770nm,8.9s
WHN LR LR
comp=Z,1μm,9.1s
WHN LR LR
comp=Z,1μm,8.0s
KSH Kashi 17.04 301 P P **10 45 02.8 +4.3**
KSH pP sP 10 45 08.4 +3.8
KSH S S **10 48 18.8 +2.7**
KSH sS sS 10 48 23.1 +0.3
KSH pmax pmax
comp=Z,8.0nm,1.0s
SATY Saty 17.04 315 *e*P P **10 44 58.9 +0.3**
SATY pmax pmax
comp=Z,18nm,1.2s
SATY Saty 17.04 315 *e*P P **10 44 58.9 +0.3**
comp=Z,18nm,1.2s,baz=314
ZHN Zhinishke 17.09 315 *e*P P **10 44 59.7 +0.7**
ZHN Zhinishke 17.09 315 *e*P P **10 44 59.8 +0.7**
baz=314
KPKS Kokpek 17.11 316 *e*P P **10 45 00.0 +0.7**
KPKS Kokpek 17.11 316 *e*P P **10 45 00.1 +0.7**
baz=316
HNS HongShan 17.16 66 ⇓P P **10 45 02.8 +3.0**
HNS *e*S **Sn** **10 48 11.4 +2.4**
HNS pmax pmax
comp=Z,12nm,0.8s
HNS LR LR
comp=Z,350nm,9.8s
HNS LR LR
comp=Z,710nm,11.5s
HNS LR LR
comp=Z,680nm,11.1s
ZSN Zaisan 17.19 337 *e*P P **10 44 59.8 -0.2**
ZSN Zaisan 17.19 337 *e*P P **10 44 59.9 -0.2**
baz=336
KDJ Kajisay 17.31 311 P Pn **10 45 00.1 -0.1**
KDJ pmax pmax
comp=Z,11nm,0.9s
KDJ Kajisay 17.31 311 P Pn **10 45 00.1 -0.1**
MK31 Makanchi Array 17.62 330 P Pn **10 45 03.7 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 17.62 330 P Pn **10 45 03.7 -0.1**
MKAR Makanchi Array 17.62 330 P Pn **10 45 04.1 +0.2**
comp=Z,0.5nm,0.3s,baz=137,slow=13,SNR=18
MKAR LR LR 10 52 45.4
comp=Z,84nm,20.0s,baz=133,slow=40
MKAR Makanchi Array 17.62 330 P Pn **10 45 03.7 -0.1**
MKAR Makanchi Array 17.62 330 P Pn **10 45 03.7 -0.1**
MAKZ Makanchi 17.77 330 P Pn **10 45 04.2 -1.4**
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
MAKZ Makanchi 17.77 330 P Pn **10 45 04.2 -1.4**
TNSS Tian-Shan 17.92 313 *e*P P **10 45 10.9 +2.3**
TNSS Tian-Shan 17.92 313 *e*P P **10 45 11.0 +2.3**
baz=312
MDOK Medeo 17.93 313 *e*P P **10 45 09.6 +1.3**
MDOK Medeo 17.93 313 *e*P P **10 45 09.7 +1.3**
baz=313
AAA Alma-Ata 18.04 313 *e*P P **10 45 11.6 +2.1**
AAA Alma-Ata 18.04 313 *e*P P **10 45 11.6 +2.1**
baz=313
SONM Songino Array 18.06 26 P P **10 45 11.4 +1.6**
comp=Z,0.4nm,0.3s,baz=224,slow=10,SNR=4.8
SONM Songino Array 18.06 26 P P **10 45 09.9 +0.1**
SONM pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 18.06 26 P P **10 45 09.9 +0.1**
NIL Nilore 18.23 281 P Pn **10 45 10.6 -0.9**
NIL pmax pmax
comp=Z,27nm,0.8s
NIL Nilore 18.23 281 P Pn **10 45 10.6 -0.9**
NIL IAmb IAmb 10 45 17.6
comp=Z,27nm,0.8s
BOOM Boomskoye usch 18.29 310 P Pn **10 45 12.2 0.0**
BOOM pmax pmax
comp=Z,15nm,1.0s
BOOM Boomskoye usch 18.29 310 P Pn **10 45 12.2 0.0**
ULN Ulaanbaatar 18.34 27⇑*e*P Pn **10 45 11.1 -1.6**
ULN Ulaanbaatar 18.34 27 P Pn **10 45 10.8 -1.9**
CHKK Chushkaly 18.34 315 *e*P P **10 45 14.4 +1.6**
CHKK Chushkaly 18.34 315 *e*P P **10 45 14.4 +1.6**
baz=314
QIZ Qiongzhong 18.69 130 P P **10 45 14.0 -2.7**
QIZ S **Sn** **10 48 45.5 -0.6**
QIZ LR LR
comp=Z,330nm,17.1s
QIZ LR LR
comp=Z,280nm,14.0s
QIZ LR LR
comp=Z,360nm,19.3s
TKM2 Tokmak 2 18.72 311 P Pn **10 45 19.7 +2.2**
KUU Kurty 18.76 314 *e*P Pn **10 45 18.7 +1.0**
KUU pmax pmax
comp=Z,28nm,1.5s
KUU Kurty 18.76 314 *e*P Pn **10 45 18.8 +1.0**
comp=Z,28nm,1.5s,baz=314
AAK Ala-Archa 19.30 309 P Pn **10 45 25.7 +1.1**
comp=Z,0.2nm,0.3s,baz=124,slow=12,SNR=13
AAK LR LR 10 54 11.8
comp=Z,257nm,21.5s,baz=104,slow=41
AAK Ala-Archa 19.30 309 P P **10 45 23.0 -0.5**
AAK pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 19.30 309 P **10 45 23.0 -0.5**
ZAK Zakamensk 19.38 16 *e*P P **10 45 23.7 -0.5**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
SGDS Sogindy 19.59 311 *e*P Pn **10 45 28.2 +0.3**
SGDS Sogindy 19.59 311 *e*P Pn **10 45 28.2 +0.3**
baz=311
MOY Mondy 20.13 11 *e*P P **10 45 33.3 +0.9**
MOY pmax pmax
comp=Z,13nm,1.3s
NJ2 Nanjing 20.33 84 *e*P P **10 45 34.8 +0.2**
NJ2 pmax pmax
comp=Z,11nm,0.7s
XLT XiLinHaoTe 20.44 49 *e*P Pn 10 45 38.6 +0.7
XLT pP sP 10 45 44.1 +2.1
XLT sP pP 10 45 46.3 +6.2
XLT PP **PnPn** **10 45 59.3 +6.4**
XLT S Sn 10 49 30.1 +1.9
XLT sS pS 10 49 34.3 -1.8
XLT SS **SnSn** **10 49 52.8 +10**
XLT pmax pmax
comp=Z,16nm,0.9s
XLT pmax pmax
comp=Z,130nm,6.7s
XLT LR LR
comp=Z,19nm,11.8s
XLT LR LR
comp=Z,130nm,12.6s
XLT LR LR
comp=Z,200nm,12.6s
HYBB Hyderabad (bro 20.72 229 *e*P P **10 45 39.4 +0.4**
HYBB *e*S Sn 10 49 33.0 -2.2
HYBB IVMs_BB IVMs_BB 10 51 54.3
comp=Z,98nm,4.6s
BTLS Baital 20.76 315 *e*P P **10 45 40.0 +0.9**
BTLS pmax pmax
comp=Z,16nm,1.2s
BTLS Baital 20.76 315 *e*P P **10 45 40.1 +0.9**
comp=Z,16nm,1.2s,baz=314
BTK Batken 20.99 299 P P **10 45 41.0 -0.8**
BTK pmax pmax
comp=Z,40nm,1.3s
BTK Batken 20.99 299 P P **10 45 41.0 -0.8**
BTK IAmb IAmb 10 45 53.6
comp=Z,40nm,1.3s
GAR Garm 21.12 296 P P **10 45 43.6 +0.4**
SEM Semipalatinsk 21.33 334 *e*P P **10 45 45.0 -0.5**
SEM Semipalatinsk 21.33 334 *e*P P **10 45 45.0 -0.5**
baz=333
KBL Kabul 21.71 284 P P **10 45 50.9 +1.2**
KBL pmax pmax
comp=Z,65nm,1.1s
KBL Kabul 21.71 284 P P **10 45 50.9 +1.2**
CHGR Chuyangaron 21.95 295 P P **10 45 51.0 -1.1**
CHGR pmax pmax
comp=Z,75nm,0.8s
CHGR Chuyangaron 21.95 295 P P **10 45 52.0 -0.1**
IUG luzhnay 22.16 304 *e*P P **10 45 56.9 +2.5**
IUG luzhnay 22.16 304 *e*P P **10 45 56.9 +2.5**
baz=304
KK31 Karatay Array 22.17 307 P P **10 45 54.2 -0.1**
KK31 pmax pmax
comp=Z,16nm,1.2s
KK31 Karatay Array 22.17 307 P P **10 45 54.2 -0.1**
KK31 IAmb IAmb 10 46 02.3
comp=Z,16nm,1.1s
KKAR Karatay Array 22.17 307 P P **10 45 54.2 -0.1**
KKAR Karatay Array 22.17 307 P P **10 45 54.2 -0.1**
KURBB Kurchatov Arra 22.17 332 P P **10 45 54.7 +0.4**
comp=Z,11nm,0.7s,baz=139,slow=11,SNR=38
KURBB LR LR 10 54 42.5
comp=Z,101nm,21.9s,baz=109,slow=37
KURBB Kurchatov Arra 22.17 332 P P **10 45 54.1 -0.2**
KURK Kurchatov 22.21 332*c i*P P **10 45 54.0 -0.6**
KURK pmax pmax
comp=Z,47nm,1.7s
KURK Kurchatov 22.21 332 P P **10 45 54.0 -0.6**
KURK IAmb IAmb 10 46 00.4
comp=Z,19nm,0.8s
SSE Sheshan 22.44 85 P P **10 45 53.3 -4.0**
SSE S S **10 49 58.1 -5.6**
SSE pmax pmax
comp=Z,20nm,0.7s
SSE LR LR
comp=Z,110nm,13.9s
SSE LR LR
comp=Z,160nm,13.6s
TAS Tashkent 22.44 302 P P **10 45 56.9 -0.4**
TAS pmax pmax
comp=Z,55nm,0.6s
TAS Tashkent 22.44 302 P P **10 45 56.9 -0.4**
ZAA0 Zalesovo Array 23.06 345 P P **10 46 02.3 -1.4**
ZALV Zalesovo Beam 23.06 345 P P **10 46 03.1 -0.5**
comp=Z,2.5nm,0.9s,baz=146,slow=8.2,SNR=14
ZALV LR LR 10 54 31.6
comp=Z,27nm,18.5s,baz=131,slow=36
ZALV Zalesovo Beam 23.06 345 *i* P P **10 46 04.5 +0.9**
ZALV pmax pmax
comp=Z,4.0nm,1.0s
ZALV Zalesovo Beam 23.06 345 P P **10 46 01.5 -2.1**
OTUK Ortayu 23.51 320 P P **10 46 07.8 -0.5**
SRIT Nakonsritamara 23.73 168 P P **10 46 10.6 0.0**
SRIT IAmb IAmb 10 46 24.1
comp=Z,7.2nm,0.7s
BRZS Berezniki 24.38 324 *e*P P **10 46 17.8 +1.3**
BRZS Berezniki 24.38 324 *e*P P **10 46 17.9 +1.3**
baz=323
HIA Hailar 25.37 40⇓*e*P P **10 46 24.9 -0.6**
HIA pmax pmax
comp=Z,12nm,1.3s
CN2 Changchun 26.69 55 *e*P P **10 46 36.8 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,17.0s
BRVK Borovoye 27.50 327⇓*e*P P **10 46 45.0 +0.3**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 27.50 327 P P **10 46 44.9 +0.3**
BRVK IAmb IAmb 10 46 50.3
comp=Z,6.4nm,0.9s
KSRS Korea Array 27.61 69 LR LR 10 58 41.1
comp=Z,129nm,20.1s,baz=260,slow=39
JOW Kunigami 29.48 91 LR LR 10 59 47.8
comp=Z,145nm,19.2s,baz=120,slow=39
GEYT Alibeck 30.54 291 P P 10 47 17.8 +5.9
comp=Z,2.0nm,0.5s,baz=210,slow=8.3,SNR=4.3
GEYT LR LR 11 02 02.3
comp=Z,128nm,20.0s,baz=132,slow=41
ABKAR Akbulak array 31.24 314 P P **10 47 19.1 +1.3**
ZEA Zeya 31.72 37 *e*P P **10 47 22.5 +0.5**
KLR Kul'dur 32.45 47 P P **10 47 27.4 -1.1**
comp=Z,1.7nm,0.8s,baz=260,slow=11,SNR=6.1
KLR LR LR 11 00 21.2
comp=Z,27nm,19.2s,baz=268,slow=36
KLR Kul'dur 32.45 47⇑*i*P P **10 47 27.5 -1.0**
KLR pmax pmax
comp=Z,8.0nm,1.9s
AKTO Aktyubinsk 32.81 315 LR LR 11 02 25.4
comp=Z,128nm,18.4s,baz=100,slow=39
WSAR Wadi Sarin 33.15 264 LR LR 11 04 26.7
comp=Z,54nm,18.4s,baz=131,slow=42
ARU Arti 35.00 325 LR LR 11 02 53.9
comp=Z,50nm,20.4s,baz=108,slow=38
ARU Arti 35.00 325*c i*P P **10 47 52.0 +1.4**
ARU 10 49 08.3
ARU 10 50 22.1
ARU S **S** **10 53 24.4 +2.0**
ARU pmax pmax
comp=Z,13nm,1.2s
MJAR Matsushiro Arr 35.87 71 LR LR 11 02 37.5
comp=Z,46nm,18.4s,baz=221,slow=36
YAK Yakutsk 37.42 26⇑*e*P P **10 48 10.6 -0.6**
YAK pmax pmax
comp=Z,12nm,0.6s
NRIK Noril'sk 37.59 356 P P **10 48 12.7 +0.2**
comp=Z,2.9nm,0.7s,baz=186,slow=7.4,SNR=4.1
NRIK Noril'sk 37.59 356*de*P P **10 48 12.2 -0.3**
NRIK pmax pmax
comp=Z,7.0nm,1.1s
NRIK Noril'sk 37.59 356 P P **10 48 11.7 -0.8**
JHJ Hachijo jima 2 37.65 76 LR LR 11 05 29.8
comp=Z,69nm,18.2s,baz=28,slow=39
DAV Davao City (W) 37.88 124 LR LR 11 05 58.6
comp=Z,108nm,19.6s,baz=330,slow=40
MAK Makhachkala 38.67 300 *e*P P **10 48 21.7 -0.3**
MAK *e*S S **10 54 18.8 +0.2**
MAK MLR MLR
comp=Z,88nm,17.0s
KIRV Kirov 40.38 325 LR LR 11 06 13.1
comp=Z,74nm,18.8s,baz=89,slow=38
GNI Garni 40.85 296 LR LR 11 08 36.0
comp=Z,45nm,19.3s,baz=94,slow=40
JCJ Chichijima 41.20 84 LR LR 11 06 18.1
comp=Z,38nm,20.0s,baz=138,slow=37
ONI Oni 41.66 300 P P **10 48 47.8 +0.9**
ONI pmax pmax
comp=Z,15nm,1.1s
ONI Oni 41.66 300 P P **10 48 47.8 +0.9**
ONI IAmb IAmb 10 48 54.4
comp=Z,15nm,1.1s
KBZ Khabaz 42.02 301 LR LR 11 10 06.2
comp=Z,48nm,18.4s,baz=63,slow=42
KIV Kislovodsk 42.16 302 P P **10 48 50.8 -0.2**
KIV pmax pmax
comp=Z,9.0nm,0.5s
KIV Kislovodsk 42.16 302 P P **10 48 50.8 -0.2**
KIV IAmb IAmb 10 49 19.0
comp=Z,8.9nm,0.5s
SOCY Socotra 42.38 252 P P **10 48 50.2 -2.9**
SOCY IAmb IAmb 10 48 55.9
comp=Z,9.4nm,0.8s
TIXI Tiksi 43.65 15⇑*i*P P **10 49 01.4 -1.1**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
TIXI Tiksi 43.65 15 P P **10 49 01.2 -1.3**
TIXI IAmb IAmb 10 49 05.5
comp=Z,2.8nm,0.5s
KAPI Kappang 43.80 143 LR LR 11 08 34.3
comp=Z,44nm,19.1s,baz=295,slow=38
VORR Voronezh 44.65 313 *e*P P **10 49 11.6 +0.7**
KLMR Klimovskoe 45.84 326 *e*P P **10 49 18.6 -1.6**
KLMR pmax pmax
comp=Z,27nm,1.5s
KLMR Klimovskoe 45.84 326 *e*P P **10 49 18.6 -1.6**
KLMR AMP 10 49 22.1
comp=Z,27nm,1.5s
MA2 Magadan 45.84 36 LR LR 11 07 31.0
comp=Z,27nm,18.6s,baz=286,slow=35
MA2 Magadan 45.84 36⇑*e*P P **10 49 20.6 +0.4**
MA2 pmax pmax
comp=Z,7.0nm,1.3s
MOS Moscow 45.95 319 *e*P P **10 49 21.4 +0.3**
OBN Obninsk 46.49 318 *e*P P **10 49 27.7 +2.3**
OBN *e* 10 51 17.0
OBN *e*PPP PPP 10 51 59.0
OBN pmax pmax
comp=Z,7.0nm,1.0s
SEY Seymchan 47.31 32⇑*e*P P **10 49 30.3 -1.4**
SEY pmax pmax
comp=Z,4.0nm,1.7s
ILGA Ilgaz 49.06 299 P P **10 49 46.5 +0.7**
BRTR Keskin Array B 49.36 297 P P **10 49 49.9 +1.9**
comp=Z,0.9nm,0.8s,baz=99,slow=6.4,SNR=4.6
BRTR Keskin Array B 49.36 297 P P **10 49 49.5 +1.5**
AKASG Malin Array Be 50.94 312 P P **10 49 59.6 -0.1**
comp=Z,0.7nm,0.3s,baz=73,slow=6.9,SNR=6.2
AKASG LR LR 11 15 35.8
comp=Z,118nm,20.2s,baz=127,slow=41
NACGM Naroch 52.12 317 *e*P P **10 50 12.1 +3.6**
ISP Isparta 52.15 295 P P **10 50 07.6 -1.5**
ISP pmax pmax
comp=Z,7.0nm,1.1s
ISP Isparta 52.15 295 P P **10 50 07.6 -1.5**
ISP IAmb IAmb 10 50 11.4
comp=Z,7.3nm,1.1s
TIRR Tirgusor 52.31 304 P P **10 50 09.2 -0.8**
TIRR pmax pmax
comp=Z,27nm,1.2s
TIRR Tirgusor 52.31 304 P P **10 50 09.2 -0.8**
FINES FINESS Array B 52.37 326 P P **10 50 10.1 -0.1**
comp=Z,2.2nm,1.0s,baz=294,slow=4.4,SNR=2.1
FINES LR LR 11 14 10.2
comp=Z,55nm,20.6s,baz=28,slow=38
ARCES ARCESS Array B 53.17 336 P P **10 50 16.7 +0.6**
comp=Z,3.4nm,0.8s,baz=92,slow=9.7,SNR=8.0
BILL Bilibino 53.78 26 *e*P P **10 50 19.9 -0.6**
BILL *e* 10 51 27.1
BILL *e* 10 52 23.5
BILL *e*PPP PPP 10 53 25.8
BILL pmax pmax
comp=Z,17nm,3.8s
BILL Bilibino 53.78 26 P P **10 50 19.4 -1.1**
BILL IAmb IAmb 10 50 23.7
comp=Z,7.2nm,1.4s
MLR Muntele Rosu 53.84 306 P P **10 50 21.6 +0.1**
MLR pmax pmax
comp=Z,14nm,1.1s
MLR Muntele Rosu 53.84 306 P P **10 50 21.6 +0.1**
BURAR Bucovina Array 53.95 308 P P **10 50 20.1 -2.1**
BURAR pmax pmax
comp=Z,2.0nm,0.9s
BURAR Bucovina Array 53.95 308 P P **10 50 20.1 -2.1**
SUW Suwalki 54.30 316 P P **10 50 24.6 +0.2**
SUW pmax pmax
comp=Z,32nm,0.9s
SUW Suwalki 54.30 316 P P **10 50 24.6 +0.2**
IDI Anoyia 57.22 294 P P **10 50 45.9 +0.1**
IDI IAmb IAmb 10 50 49.2
comp=Z,11nm,1.2s
MORC Moravsky Berou 58.49 312 *e*P P **10 50 55.0 +0.5**
HFS Hagfors 58.52 325 LR LR 11 19 21.5
comp=Z,27nm,19.1s,baz=158,slow=39
JAVC Velka Javorina 58.62 311 *e*P P **10 50 57.0 +1.5**
VRAC Vranov 59.20 312 LR LR 11 21 11.3
comp=Z,63nm,20.3s,baz=88,slow=41
NB2 NORSAR Subarra 59.55 326 P P **10 51 04.7 +3.0**
comp=Z,5.9nm,1.0s,baz=79,slow=7.4
NOA NORSAR Array B 59.55 326 P P **10 51 01.9 +0.2**
comp=Z,2.9nm,0.9s,baz=78,slow=6.8,SNR=6.2
NOA LR LR 11 19 27.9
comp=Z,23nm,19.5s,baz=65,slow=39
GERES GERESS Array B 61.16 312 P P **10 51 13.4 +0.5**
comp=Z,0.8nm,0.6s,baz=7.6,slow=3.0,SNR=4.8
GERES LR LR 11 20 18.0
comp=Z,56nm,19.9s,baz=68,slow=39
KMBO Kilima Mbogo 63.60 250 P P **10 51 33.6 +3.7**
comp=Z,1.6nm,0.5s,baz=45,slow=16,SNR=3.6
KMBO Kilima Mbogo 63.60 250 P P **10 51 29.2 -0.8**
KMBO pmax pmax
comp=Z,7.0nm,1.5s
KMBO Kilima Mbogo 63.60 250 P P **10 51 29.2 -0.8**
KMBO IAmb IAmb 10 51 30.9
comp=Z,7.3nm,1.4s
MURB Monte Urbino 63.70 306 P P **10 51 26.7 -3.3**
WB0 Warramunga Arr 63.92 138 P P **10 51 30.2 -1.4**
WRAB Tennant Creek 64.03 138⇑*e*P P **10 51 33.3 +1.0**

WRAB pmax pmax
comp=Z,7.0nm,0.8s
WRA Warramunga Arr 64.03 138 P **P** **10 51 33.4 +1.1**
comp=Z,5.0nm,0.8s,baz=307,slow=12,SNR=43
WRA Warramunga Arr 64.03 138 P **P** **10 51 30.8 -1.5**
WRA Warramunga Arr 64.03 138 P **P** **10 51 30.8 -1.5**
WB2 Warramunga Arr 64.04 138 P **P** **10 51 31.0 -1.3**
WR0 Warramunga Arr 64.16 138 P **P** **10 51 33.3 +0.2**
WR0 IAmb IAmb 10 51 38.2
comp=Z,7.0nm,1.2s
DAVOX Davos/Dischmat 64.25 311 LR LR 11 26 00.8
comp=Z,77nm,18.2s,baz=83,slow=42
TUE Stuetta 64.70 310 P **P** **10 51 36.1 -0.6**
TUE IAmb IAmb 10 51 44.6
comp=Z,9.1nm,1.3s
AS31 Alice Springs 66.78 141 P **P** **10 51 49.7 -0.4**
AS31 IAmb IAmb 10 51 52.1
comp=Z,1.9nm,0.6s
ASAR Alice Springs 66.78 141 P **P** **10 51 51.2 +1.2**
comp=Z,4.6nm,0.6s,baz=326,slow=6.6,SNR=59
ASAR Alice Springs 66.78 141 P **P** **10 51 48.6 -1.4**
EUNU Eureka 68.16 0 P **P** **10 51 58.1 0.0**
EUNU IAmb IAmb 10 51 59.5
comp=Z,6.0nm,1.4s
MBAR Mbarara 68.58 255 *ceP* **P** **10 52 06.5 +4.6**
MBAR pmax pmax
comp=Z,8.0nm,1.7s
MBAR Mbarara 68.58 255 P **P** **10 52 00.5 -1.4**
MBAR IAmb IAmb 10 52 06.8
comp=Z,4.9nm,0.9s
TOLK Toolik Lake Re 69.10 21 P **P** **10 52 03.8 -0.3**
TOLK IAmb IAmb 10 52 31.4
comp=Z,3.9nm,1.1s
IMAR Indian Mountai 69.22 24 P **P** **10 52 04.0 -0.8**
UNV Unalaska Valle 69.54 39 P **P** **10 52 07.0 0.0**
J20K Nowinta River 70.05 26 P **P** **10 52 09.9 -0.1**
J20K IAmb IAmb 10 52 26.1
comp=Z,5.3nm,1.1s
BMAR Burnt Mountain 71.33 21 P **P** **10 52 17.2 -0.6**
PPLA Purkeypile 71.49 26 P **P** **10 52 17.1 -1.9**
PPLA IAmb IAmb 10 52 23.1
comp=Z,8.1nm,1.0s
NEA2 Nenana 71.63 24 P **P** **10 52 19.2 -0.4**
NEA2 IAmb IAmb 10 52 22.8
comp=Z,7.9nm,1.3s
MDM Murphy Dome 71.70 24 P **P** **10 52 19.1 -1.0**
MDM IAmb IAmb 10 52 24.1
comp=Z,9.1nm,1.4s
TCOL CIGO, UAF Yank 71.88 24 P **P** **10 52 20.3 -0.8**
TCOL IAmb IAmb 10 52 21.1
comp=Z,5.5nm,1.0s
COLA College 71.88 24⇑ *eP* **P** **10 52 20.6 -0.4**
COLA pmax pmax
comp=Z,6.0nm,1.1s
ILAR Eielson Array 72.27 23 P **P** **10 52 21.7 -1.7**
comp=Z,1.7nm,1.1s,baz=286,slow=6.2,SNR=8.9
A36M Sachs Harbour 72.57 12 P **P** **10 52 24.9 -0.2**
A36M IAmb IAmb 10 52 29.0
comp=Z,4.6nm,0.8s
SML Sawmill 73.59 26 P **P** **10 52 30.8 -0.5**
INK Inuvik 73.73 17 P **P** **10 52 31.4 -0.5**
INK pmax pmax
comp=Z,3.0nm,1.2s
INK Inuvik 73.73 17 P **P** **10 52 31.4 -0.5**
SCRK Sand Creek 73.75 23 P **P** **10 52 31.5 -0.8**
SCRK IAmb IAmb 10 52 35.1
comp=Z,6.0nm,1.1s
BCAR Beaver Creek A 75.09 23 P **P** **10 52 39.9 -0.2**
BBOO Buckleboo 75.31 145 P **P** **10 52 41.5 -0.1**
BBOO IAmb IAmb 10 52 43.5
comp=Z,8.0nm,0.9s
ESDC Sonseca Array 76.41 308 P **P** **10 52 47.4 -0.7**
comp=Z,0.9nm,0.8s,baz=32,slow=6.0,SNR=4.9
ESDC Sonseca Array 76.41 308 IAmb IAmb 10 52 48.3
comp=Z,1.5nm,1.2s
STKA Stephens Creek 77.41 141 P **P** **10 52 54.3 +0.8**
comp=Z,3.0nm,0.7s,baz=335,slow=4.8,SNR=7.9
STKA Stephens Creek 77.41 141⇑ *eP* **P** **10 52 53.4 -0.1**
STKA Stephens Creek 77.41 141 IAmb IAmb 10 52 55.8
comp=Z,1.1nm,0.9s
HYT Haines Junctio 78.11 23 P **P** **10 52 56.5 -0.8**
HYT IAmb IAmb 10 52 58.7
comp=Z,9.7nm,1.5s
YKA Yellowknife Ar 82.87 13 P **P** **10 53 21.1 -1.6**
comp=Z,0.9nm,0.9s,baz=332,slow=4.6,SNR=10
YKA Yellowknife Ar 82.87 13 P **P** **10 53 21.8 -0.9**
YKA Yellowknife Ar 82.87 13 P **P** **10 53 21.8 -0.9**
TOA0 Torodi Ar. Sit 85.78 283 P **P** **10 53 37.0 -1.3**
TOA0 IAmb IAmb 10 53 50.1
comp=Z,7.9nm,1.4s
TORD Torodi Ar. Bea 85.78 283 P **P** **10 53 38.1 -0.2**
comp=Z,2.5nm,0.8s,baz=47,slow=3.8,SNR=7.0
TORD Torodi Ar. Bea 85.78 283 P **P** **10 53 37.4 -0.9**
TORD IAmb IAmb 10 53 43.1
comp=Z,3.1nm,0.9s
SCHQ Schefferville 92.07 350 LR LR 11 40 43.5
comp=Z,29nm,18.3s,baz=93,slow=39

*NNC **23** 11:06:09.3±2.8,40˚.85N×70˚.10E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=19.7km s-min=11.1km az=26.0*
*SOME **23** 11:06:09.6,40˚.95N×70˚.03E,h20km*
*KRNET **23** 11:06:13.8±0.1,41˚.61N×70˚.35E,h13km,mb2.8*
ISC 23 11:06:12.4±1.9,41˚.15N±0˚.07×70˚.33E±0˚.04,h4km±11km, n19,σ2$07/34,8C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRKS	**Terek-Say**	**0.72**	**58**	⇑*iP*		**Pg**	**11 06 26.1**	**-0.2**
TRKS	baz=3.0			⇑*iS*		**Sg**	**11 06 35.4**	**-0.3**
	baz=3.0							
TAS	**Tashkent**	**0.80**	**283**	⇑*iP*		**Pn**	**11 06 30.2**	**-0.3**
TAS	baz=51			⇑*iS*		**Sb**	**11 06 41.9**	**+1.9**
	baz=51							
IUG	**Iuzhnay**	**1.03**	**348**	*eP*		**Pg**	**11 06 30.4**	**-1.7**
IUG	31nm,0.1s			*eS*		**Sg**	**11 06 45.6**	**+0.2**
	160nm,0.6s							
IUG	**Iuzhnay**	**1.03**	**348**	P		**Pn**	**11 06 34.2**	**+0.6**
IUG	351nm,0.4s			S		**Sn**	**11 06 52.7**	**+4.1**
	160nm,0.6s							
CHM	**Chimkent**	**1.29**	**335**	*eP*		**Pn**	**11 06 36.0**	**-1.3**
CHM	5.6nm,0.3s			*eS*		**Sb**	**11 06 55.3**	**+1.1**
	204nm,0.2s							
ARK	**Arkit**	**1.39**	**61**	⇓*iP*		**Pn**	**11 06 37.2**	**-1.5**
ARK	baz=81			⇓*iS*		**Sb**	**11 06 54.1**	**-3.1**
	baz=81							
BRLS	**Borolday**	**1.92**	**349**	*eP*		**Pn**	**11 06 44.2**	**-1.7**
BRLS	4.1nm,0.3s			*eS*		**Sn**	**11 07 09.1**	**-1.4**
	7.2nm,0.3s							
BRLS	**Borolday**	**1.92**	**349**	P		**Pn**	**11 06 44.2**	**-1.7**
BRLS	4.1nm,0.3s			S		**Sn**	**11 07 09.1**	**-1.4**
	7.2nm,0.3s							
KK31	**Karatay Array**	**1.96**	**4**	⇑*P*n		**Pb**	**11 06 48.3**	**-0.4**
KK31	1.9nm,0.3s,baz=188,slow=16,SNR=14			⇑*S*n		**Sg**	**11 07 17.3**	**+1.9**
	2.7nm,0.3s,baz=193,slow=23,SNR=8.1							
MRKS	**Merke**	**2.69**	**53**	*eP*		**Pg**	**11 07 04.9**	**+0.9**
MRKS	4.4nm,0.4s			*eS*		**Sg**	**11 07 44.2**	**+5.4**
	11nm,0.5s							
MRKS	**Merke**	**2.69**	**53**	Pg		**Pg**	**11 07 04.9**	**+0.9**
MRKS	4.4nm,0.4s			Lg		Lg	11 07 44.2	
	11nm,0.5s							
EKS2	**Erkin-Say**	**2.99**	**58**⇑	*iP*		**Pn**	**11 07 01.5**	**+0.9**
EKS2	baz=66			⇑*iS*		**Sn**	**11 07 36.3**	**-0.7**
	baz=66							
UCH	**Uchtor**	**3.32**	**70**⇓	*eP*		**Pn**	**11 07 07.3**	**+1.8**
UCH	baz=77			⇓*iS*		**Sn**	**11 07 46.4**	**+0.9**
	baz=77							
SGDS	**Sogindy**	**3.94**	**53**	*eP*		**Pg**	**11 07 25.2**	**-2.6**
SGDS	1.0nm,0.1s			*eS*		**Sg**	**11 08 19.2**	**+0.4**
	2.7nm,0.4s							
SGDS	**Sogindy**	**3.94**	**53**	Pg		**Pg**	**11 07 25.2**	**-2.6**
SGDS				Lg		Lg	11 08 19.2	

KST Kastek 4.60 64 *eP* **Pg** **11 07 38.2 -2.3**
1.1nm,0.1s
KST *eS* **Sg** **11 08 41.8 +1.6**
4.8nm,0.4s
KST Kastek 4.60 64 Pg **Pg** **11 07 38.2 -2.3**
1.1nm,0.1s
KST Lg Lg 11 08 41.8
4.8nm,0.4s
BTLS Baital 4.75 34 *eP* **Pg** **11 07 42.2 -1.2**
0.8nm,0.1s
BTLS *eS* **Sg** **11 08 48.3 +3.4**
3.2nm,0.4s
BTLS Baital 4.75 34 Pg **Pg** **11 07 42.2 -1.2**
BTLS Lg Lg 11 08 48.3

IDC 23 11:10:44.2±2.2,2˚.00S×133˚.76E,h0km,mb3.5/2, mb1 3.9/5,mb1mx3.4/47,mbtmp3.7/5,ML3.8/3,MS4.3/2, Ms1 4.3/2,ms1mx2.7/46,Error ellipse: s-maj=50.0km s-min=22.3km az=63.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**2.73**	**294**	Pn		Pn	11 11 30.1	+0.7
	15nm,0.3s,baz=162,slow=22,SNR=28							
SIJI				Sn		Sn	11 12 03.8	+0.7
	19nm,0.3s,baz=287,slow=22,SNR=11							
WRA	**Warramunga Arr**	**17.84**	**178**	P		P	11 14 54.8	-0.1
	0.3nm,0.3s,baz=356,slow=12,SNR=17							
FITZ	**Fitzroy Crossi**	**17.88**	**206**	P		Pn	11 14 53.9	-0.6
	0.3nm,0.3s,baz=39,slow=11,SNR=9.9							
FITZ				S		Sn	11 18 02.3	-12
	0.1nm,0.3s,baz=120,slow=20,SNR=1.1							
KRVT	**Keravat (AS076**	**18.38**	**98**	LR		LR	11 21 14.7	
	comp=Z,1μm,21.8s,baz=358,slow=34							
ASAR	**Alice Springs**	**21.54**	**180**	P		P	11 15 35.1	-0.1
	0.9nm,0.5s,baz=7.0,slow=13,SNR=32							
DZM	**Mont Dzumac**	**37.52**	**125**	LR		LR	11 31 50.6	
	comp=Z,476nm,21.6s,baz=310,slow=34							
MKAR	**Makanchi Array**	**66.26**	**324**	P		P	11 21 34.1	-0.2
	0.3nm,0.4s,baz=116,slow=8.4,SNR=4.7							

*IDC **23** 11:19:02.1±0.6,6˚.08S×149˚.48E,h46km±6km,mb4.3/24, mb1 4.4/27,mb1mx4.3/47,mbtmp4.6/27,ML3.8/3,MS3.6/29, Ms1 3.6/29,ms1mx3.5/60,Error ellipse: s-maj=13.8km s-min=8.0km az=111.0*
*NEIC **23** 11:19:04.4±1.3,6˚.12S±0˚.06×149˚.53E±0˚.05,h62km±5km, mb4.8/47,Error ellipse: s-maj=10.0km s-min=5.6km az=147.0*
*DJA **23** 11:19:04.8±0.4,6˚S±4˚×14˚9E±˚,h52km±6km,M5.0/14, mB5.3/5,mb5.0/14,ML5.2/3,Mw(mB)4.8/5*
ISC 23 11:19:03.9±0.5,6˚.20S±0˚.04×149˚.51E±0˚.05,h62km±5km, h62km:pP-P,n181,σ1$33/181,mb4.8/43,2D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.13**	**53**	P		**Pn**	**11 19 49.9**	**-1.1**
	101nm,0.3s,baz=29,slow=0.8,SNR=31							
KRVT				S		**Sn**	**11 20 32.7**	**+5.5**
	59nm,0.3s,baz=7.6,slow=15,SNR=1.7							
RABL	**Rabaul**	**3.31**	**53**	Pn		**Pn**	**11 19 53.1**	**-0.3**
RABL	**Rabaul**	**3.31**	**53**	P		**Pn**	**11 19 53.1**	**-0.3**
PMG	**Port Moresby**	**3.95**	**216**	P		**Pn**	**11 20 03.1**	**+1.1**
	90nm,0.3s,baz=39,slow=5.2,SNR=230							
PMG				S		**Sn**	**11 20 47.3**	**+0.2**
	214nm,0.3s,baz=32,slow=16,SNR=13							
PMG				LR		LR	11 21 38.5	
	comp=Z,1μm,21.9s,baz=1.0,slow=39							
PMG	**Port Moresby**	**3.95**	**216**	Pn		**Pn**	**11 20 03.4**	**+1.4**
PMG	**Port Moresby**	**3.95**	**216**	P		**Pn**	**11 20 03.4**	**+1.4**
MANU	**Manus Island**	**4.65**	**333**	Pn		**Pn**	**11 20 13.4**	**+1.7**
MMPI	**Merauke**	**9.33**	**255**	P		**Pn**	**11 21 16.3**	**+0.6**
COEN	**Coen**	**9.91**	**218**	P		**Pn**	**11 21 24.2**	**+0.4**
	baz=10.0							
COEN	**Coen**	**9.91**	**218**	Pn		**Pn**	**11 21 24.5**	**+0.7**
COEN	**Coen**	**9.91**	**218**	P		**Pn**	**11 21 24.6**	**+0.8**
SMPI	**Sarmi**	**11.55**	**291**	P		**Pn**	**11 21 48.1**	**+1.9**
	2μm22nm,1.3s							
MTSU	**Mount Surprise**	**12.90**	**203**	P		**Pn**	**11 22 05.4**	**+0.8**
	baz=13,SNR=45							
MTSU	**Mount Surprise**	**12.90**	**203**	P		**Pn**	**11 22 06.7**	**+2.1**
CTA	**Charters Tower**	**14.16**	**193**	P		**Pn**	**11 22 22.4**	**+0.9**
	0.3nm,0.3s,baz=12,slow=14,SNR=10							
CTA				LR		LR	11 27 45.5	
	comp=Z,295nm,19.0s,baz=19,slow=37							
CTA	**Charters Tower**	**14.16**	**193**	P		**Pn**	**11 22 22.6**	**+1.0**
	baz=14							
CTA	**Charters Tower**	**14.16**	**193**	P		**Pn**	**11 22 22.7**	**+1.2**
CTAO	**Charters Tower**	**14.16**	**193**	P		**Pn**	**11 22 21.9**	**+0.4**
RK1H	**Rockhampton Ha**	**17.12**	**177**	P		**P**	**11 23 02.3**	**+2.4**
QIS	**Mount Isa**	**17.21**	**213**	P		**Pn**	**11 23 00.4**	**+0.1**
	baz=17,SNR=24							
QIS	**Mount Isa**	**17.21**	**213**	P		**Pn**	**11 23 00.6**	**+0.3**
KDU	**Kakadu**	**17.99**	**248**	P		**P**	**11 23 08.2**	**-1.4**
	baz=18,SNR=26							
KDU	**Kakadu**	**17.99**	**248**	P		**Pn**	**11 23 12.0**	**+2.1**
SIJI	**Sorong**	**18.96**	**286**	LR		LR	11 32 24.2	
	comp=Z,192nm,20.5s,baz=30,slow=42							
EIDS	**Eidsvold**	**19.12**	**176**	P		**Pn**	**11 23 23.8**	**+0.4**
	baz=19,SNR=9.7							
EIDS	**Eidsvold**	**19.12**	**176**	P		**Pn**	**11 23 24.5**	**+1.1**
EIDS				IAmb		IAmb	11 23 25.0	
	comp=Z,24nm,0.8s							
EIDS	**Eidsvold**	**19.12**	**176**	P		**Pn**	**11 23 24.2**	**+0.8**
MTN	**Manton Dam**	**19.28**	**249**	P		**P**	**11 23 23.5**	**-0.4**
	baz=19,SNR=9.3							
MTN	**Manton Dam**	**19.28**	**249**	P		**P**	**11 23 23.6**	**-0.2**
MTN				IAmb		IAmb	11 23 37.0	
	comp=Z,22nm,0.6s							
MTN	**Manton Dam**	**19.28**	**249**	P		**P**	**11 23 24.0**	**+0.2**
SANVU	**Saraoutou**	**19.64**	**119**	P		**P**	**11 23 27.5**	**-0.2**
SANVU				IAmb		IAmb	11 23 31.0	
	comp=Z,62nm,0.9s							
SANVU	**Saraoutou**	**19.64**	**119**	P		**Pn**	**11 23 30.1**	**+0.5**
WB0	**Warramunga Arr**	**19.94**	**226**	P		**P**	**11 23 31.5**	**+0.4**
WB0				IAmb		IAmb	11 23 45.2	
	comp=Z,37nm,0.7s							
WR0	**Warramunga Arr**	**19.96**	**225**	P		**P**	**11 23 31.8**	**+0.6**
WR0				IAmb		IAmb	11 23 46.9	
	comp=Z,40nm,0.8s							
WRAB	**Tennant Creek**	**20.08**	**226**	P		**P**	**11 23 33.0**	**+0.5**
WRAB				IAmb		IAmb	11 23 45.8	
	comp=Z,54nm,0.7s							
WRAB	**Tennant Creek**	**20.08**	**226**	P		**P**	**11 23 33.3**	**+0.8**
WC3	**Warramunga Arr**	**20.08**	**226**	P		**P**	**11 23 33.1**	**+0.5**
	baz=20							
WB2	**Warramunga Arr**	**20.09**	**226**	P		**P**	**11 23 33.0**	**+0.4**
WB2				IAmb		IAmb	11 23 45.9	
	comp=Z,43nm,0.8s							
WRA	**Warramunga Arr**	**20.10**	**226**	P		**P**	**11 23 32.9**	**+0.2**
	comp=Z,22nm,0.5s,baz=50,slow=11,SNR=134							
WRA				pP		**pP**	**11 23 43.7**	**-1.0**
	comp=Z,28nm,0.6s,baz=51,slow=11,SNR=17							
WRA				S		**S**	**11 27 09.1**	**-6.2**
	comp=Z,5.4nm,0.8s,baz=52,slow=24,SNR=7.0							
WRA				PcP		**PcP**	**11 27 46.2**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=36,slow=2.0,SNR=7.2							
WRA				LR		LR	11 32 31.0	
	comp=Z,262nm,18.9s,baz=32,slow=40							
WRA	**Warramunga Arr**	**20.10**	**226**	P		**P**	**11 23 32.6**	**-0.1**
RMQ	**Roma**	**20.19**	**182**	P		Pn	11 23 35.9	-0.1
	baz=20,SNR=25							
RMQ	**Roma**	**20.19**	**182**	P		Pn	11 23 36.4	+0.4
GUMO	**Guam**	**20.19**	**347**	P		**P**	**11 23 33.0**	**-0.7**
	comp=Z,124nm,1.0s,baz=14,slow=19,SNR=2.8							
GUMO				LR		LR	11 30 21.8	
	comp=Z,141nm,21.1s,baz=154,slow=34							
GUMO	**Guam**	**20.19**	**347**	P		**P**	**11 23 33.4**	**-0.3**
KOUNC	**Koumac, New Ca**	**20.23**	**136**	P		Pn	11 23 36.3	-0.2
	comp=Z,24nm,1.4s							
QLP	**Quilpie**	**20.89**	**193**	P		**P**	**11 23 42.6**	**+1.5**
	baz=21,SNR=35							
QLP	**Quilpie**	**20.89**	**193**	P		Pn	11 23 43.4	-0.8
KNRA	**Kununurra**	**22.42**	**243**	P		**P**	**11 23 56.9**	**-0.7**
	baz=22,SNR=48							
KNRA	**Kununurra**	**22.42**	**243**	P		**P**	**11 23 57.5**	**-0.2**
KNRA				IAmb		IAmb	11 24 00.9	
	comp=Z,45nm,0.7s							
KNRA	**Kununurra**	**22.42**	**243**	P		**P**	**11 23 59.0**	**+1.3**
DZM	**Mont Dzumac**	**22.73**	**136**	P		**P**	**11 24 00.6**	**-0.4**
	comp=Z,16nm,0.7s,baz=124,slow=23,SNR=17							
DZM				pP		**pP**	**11 24 13.1**	**0.0**
	comp=Z,26nm,1.1s,baz=324,slow=12,SNR=5.0							

DZM Mont Dzumac 22.73 136 *eP* **P** **11 24 00.3 -0.8**
comp=Z,63nm,1.1s
DZM *epP* **pP** **11 24 13.6 +0.4**
comp=Z,97nm,1.4s
DZM *eS* **S** **11 28 01.5 -3.8**
comp=Z,261nm,24.8s
DZM *e*LQ LQ 11 28 40.8
comp=Z,310nm,32.0s
DZM *e*LR LR 11 29 38.0
comp=Z,821nm,23.4s
DZM Mont Dzumac 22.73 136 P **P** **11 24 01.5 +0.5**
DZM IAmb IAmb 11 24 14.9
comp=Z,37nm,1.1s
DZM Mont Dzumac 22.73 136 P **P** **11 24 01.3 +0.2**
AS31 Alice Springs 22.95 219 P **P** **11 24 03.8 +0.5**
AS31 IAmb IAmb 11 24 26.5
comp=Z,11nm,0.5s
ASAR Alice Springs 22.95 219 P **P** **11 24 03.1 -0.2**
comp=Z,11nm,0.6s,baz=52,slow=9.6,SNR=177
ASAR pP **pP** **11 24 15.1 -0.5**
comp=Z,16nm,0.6s,baz=53,slow=9.2,SNR=15
ASAR PcP **PcP** **11 27 51.8 +0.1**
comp=Z,2.2nm,0.7s,baz=73,slow=2.9,SNR=4.4
ASAR S **S** **11 28 12.2 +3.2**
comp=Z,9.6nm,1.1s,baz=36,slow=22,SNR=11
ASAR LR LR 11 33 28.3
comp=Z,216nm,19.7s,baz=32,slow=38
ASAR Alice Springs 22.95 219 P **P** **11 24 03.8 +0.4**
INKA Innaminka 22.98 200 P **P** **11 24 04.1 +0.6**
YATNC Mamie plateau, 23.04 135 P **P** **11 24 05.9 +1.8**
OUENC Ouen Island, N 23.24 136 P **P** **11 24 05.7 -0.3**
OUENC IAmb IAmb 11 24 07.4
comp=Z,40nm,1.1s
OUENC Ouen Island, N 23.24 136 P **P** **11 24 06.6 +0.6**
ARMA Armidale 24.18 176 P **P** **11 24 16.2 +1.5**
baz=24,SNR=6.3
ARMA Armidale 24.18 176 P **P** **11 24 16.1 +1.5**
ARMA IAmb IAmb 11 24 18.4
comp=Z,47nm,1.2s
OOD Oodnadatta 25.17 210 P **P** **11 24 24.7 +1.1**
CMSA Cobar Meteorol 25.46 188 P **P** **11 24 26.7 +0.5**
baz=26,SNR=9.3
CMSA Cobar Meteorol 25.46 188 P **P** **11 24 27.2 +1.0**
BATI Baumata 25.88 259 P **P** **11 24 30.0 -0.3**
comp=Z,21nm,0.4s,baz=184,slow=3.0,SNR=4.2
FITZ Fitzroy Crossi 26.12 241 P **P** **11 24 32.2 -0.1**
comp=Z,19nm,0.6s,baz=52,slow=7.6,SNR=106
FITZ LR LR 11 35 33.5
comp=Z,127nm,21.2s,baz=66,slow=38
FITZ Fitzroy Crossi 26.12 241 P **P** **11 24 32.0 -0.3**
baz=26
FITZ Fitzroy Crossi 26.12 241 P **P** **11 24 32.6 +0.3**
FITZ IAmb IAmb 11 24 46.1
comp=Z,40nm,0.8s
LCRK Leigh Creek 26.36 202 P **P** **11 24 34.9 +0.6**
STKA Stephens Creek 26.60 195 P **P** **11 24 37.6 +1.1**
comp=Z,16nm,0.8s,baz=352,slow=8.9,SNR=30
STKA LR LR 11 36 08.3
comp=Z,218nm,18.6s,baz=21,slow=38
STKA Stephens Creek 26.60 195 P **P** **11 24 37.5 +1.1**
baz=27,SNR=13
STKA Stephens Creek 26.60 195 P **P** **11 24 37.6 +1.1**
STKA Stephens Creek 26.60 195 P **P** **11 24 39.0 +2.5**
DAV Davao City (W) 27.27 299 LR LR 11 36 00.9
comp=Z,67nm,19.8s,baz=143,slow=38
WRKA Warakurna 27.64 225 P **P** **11 24 45.9 -0.1**
baz=28,SNR=41
WRKA Warakurna 27.64 225 P **P** **11 24 47.0 +1.1**
MULG Mulgathing 28.02 209 P **P** **11 24 49.7 +0.4**
HTT Hallett 28.83 199 P **P** **11 24 57.7 +1.3**
baz=29,SNR=4.6
NAPP Napperby 28.85 200 P **P** **11 24 59.6 +3.0**
BBOO Buckleboo 29.29 204 P **P** **11 24 59.2 -1.3**
BBOO IAmb IAmb 11 25 38.3
comp=Z,73nm,2.0s
KAPI Kappang 29.64 271 LR LR 11 40 05.9
comp=Z,56nm,19.6s,baz=87,slow=43
MSVF Nonsavu 30.13 115 P **P** **11 25 07.3 -0.9**
ARPS Mount Arapiles 31.23 192 P **P** **11 25 18.5 +0.9**
baz=31,SNR=5.1
ARPS Mount Arapiles 31.23 192 P **P** **11 25 19.0 +1.4**
TOO Toolangi 31.44 186 P **P** **11 25 19.7 +0.2**
TOO IAmb IAmb 11 26 10.7
comp=Z,76nm,1.9s
FORT Forrest 31.68 217 P **P** **11 25 21.8 +0.2**
FORT Forrest 31.68 217 P **P** **11 25 22.8 +1.2**
MBWA Marble Bar 32.44 240 P **P** **11 25 28.2 -0.2**
JCJ Chichijima 33.85 348 LR LR 11 38 59.6
comp=Z,48nm,18.2s,baz=143,slow=36
MEEK Meekatharra 35.76 232 P **P** **11 25 57.2 0.0**
baz=36,SNR=8.8
MEEK Meekatharra 35.76 232 P **P** **11 25 57.7 +0.5**
GIRL Giralia 37.73 241 P **P** **11 26 15.6 +1.7**
JOW Kunigami 38.75 329 LR LR 11 39 21.4
comp=Z,146nm,19.4s,baz=230,slow=32
MORW Morawa 38.93 230 P **P** **11 26 23.8 -0.2**
baz=39,SNR=4.3
MORW Morawa 38.93 230 P **P** **11 26 24.2 +0.3**
MORW IAmb IAmb 11 26 37.3
comp=Z,15nm,0.8s
MORW Morawa 38.93 230 P **P** **11 26 25.2 +1.2**
KLBR Kellerberrin 38.98 226 P **P** **11 26 23.7 -0.6**
baz=39,SNR=7.2
KLBR Kellerberrin 38.98 226 P **P** **11 26 24.1 -0.3**
NWAO Narrogin (SRO) 40.09 224 P **P** **11 26 33.6 0.0**
NWAO IAmb IAmb 11 27 45.1
comp=Z,41nm,1.4s
JHJ Hachijo jima 2 40.18 347 LR LR 11 41 04.0
comp=Z,106nm,21.5s,baz=76,slow=33
MUN Mundaring 40.29 226 P **P** **11 26 35.0 -0.3**
baz=40,SNR=4.4
MUN Mundaring 40.29 226 P **P** **11 26 36.9 +1.6**
YULB Yu-li 40.30 318 P **P** **11 26 36.0 +0.6**
YULB IAmb IAmb 11 26 51.5
comp=Z,15nm,0.8s
TPUB Ta-pu 40.69 317 P **P** **11 26 36.4 -2.2**
RKGY Rocky Gully 41.23 222 P **P** **11 26 45.5 +2.5**
TUWZ Tuamarina 41.29 152 P **P** **11 26 43.8 +0.5**
LEM Lembang 41.62 267 P **P** **11 26 45.1 -1.5**
comp=Z,14nm,0.5s,baz=315,slow=19,SNR=2.1
MSWZ Moikau Station 41.90 151 P **P** **11 26 49.2 +0.9**
MLZ Mavora Lakes 42.24 160 P **P** **11 26 52.0 +0.9**
DBJI Dramaga 42.49 267 P **P** **11 27 00.8 +7.3**
JNU Nakatsue 42.92 337 P **P** **11 26 56.2 -0.5**
comp=Z,16nm,0.8s,baz=104,slow=1.3,SNR=7.3
INU Inuyama 42.97 345 P **P** **11 26 56.0 -1.0**
MJAR Matsushiro Arr 43.82 347 P **P** **11 27 02.4 -1.4**
comp=Z,4.9nm,0.9s,baz=57,slow=6.6,SNR=5.7
MJAR LR LR 11 43 19.1
comp=Z,82nm,21.2s,baz=179,slow=33
MJAR Matsushiro Arr 43.82 347 P **P** **11 27 02.4 -1.4**
MAJO Matsushiro 43.82 347 P **P** **11 27 02.6 -1.3**
MAJO IAmb IAmb 11 27 07.0
comp=Z,8.2nm,0.8s
MJB9 Matsu-Tunnel 43.82 347 P **P** **11 27 03.0 -0.9**
JTM Tenmabayashi 47.39 351 P **P** **11 27 31.7 -0.3**
KSRS Korea Array 47.87 337 P **P** **11 27 34.6 -1.1**
comp=Z,2.8nm,0.8s,baz=157,slow=7.8,SNR=18
KSRS LR LR 11 47 39.4
comp=Z,28nm,19.0s,baz=150,slow=36
NJ2 Nanjing 47.96 324 *eP* **P** **11 27 37.3 +0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
ASAJ Asahikawa 50.47 354 P **P** **11 27 55.4 -0.1**
comp=Z,12nm,0.9s,baz=145,slow=12,SNR=4.4
ASAJ LR LR 11 49 51.9
comp=Z,32nm,18.9s,baz=204,slow=37
USRK Ussuriysk Ar. 52.60 344 P **P** **11 28 10.7 -0.7**
comp=Z,4.7nm,0.9s,baz=206,slow=8.3,SNR=4.6
USRK LR LR 11 48 10.9
comp=Z,97nm,21.4s,baz=150,slow=33
USRK Ussuriysk Ar. 52.60 344 P **P** **11 28 10.9 -0.5**
BNX BinXian 55.35 341 ⇓P **P** **11 28 31.4 0.0**
BNX pmax pmax
comp=Z,26nm,1.1s
BNX pmax pmax
comp=Z,250nm,3.6s
CMAR Chiang Mai Arr 55.55 297 P **P** **11 28 34.5 +1.1**
comp=Z,1.0nm,0.3s,baz=134,slow=6.0,SNR=4.1
CMAR LR LR 11 54 42.8
comp=Z,12nm,18.3s,baz=310,slow=39
PZH PanZhiHua 56.55 307 P **P** **11 28 42.8 +2.3**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.6s

KLR	**Kul'dur**	**57.34**	**346**	P		**P**	**11 28 45.7**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=131,slow=4.8,SNR=8.0							
KLR				LR		LR	11 51 35.3	
	comp=Z,47nm,20.6s,baz=168,slow=34							
XLT	**XiLinHaoTe**	**58.28**	**332**	*eP*		**P**	**11 28 52.4**	**0.0**
XLT				pP		pP	11 29 09.1	+0.2
XLT				sP		sP	11 29 16.3	+0.3
XLT				pmax		pmax		
	comp=Z,7.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,130nm,5.6s							
HHC	**Hu-ho-hao-te**	**58.34**	**327**	*eP*		**P**	**11 28 56.6**	**+3.7**
HHC				pmax		pmax		
	comp=Z,21nm,0.7s							
HHC				pmax		pmax		
	comp=Z,110nm,5.4s							
PEA0B	**Petropavlovsk-**	**59.49**	**6**	P		**P**	**11 29 00.3**	**-0.1**
PETK	**Petropavlovsk-**	**59.49**	**6**	P		**P**	**11 28 59.4**	**-1.1**
	comp=Z,6.9nm,0.6s,baz=169,slow=7.5,SNR=29							
PETK				LR		LR	11 52 16.9	
	comp=Z,42nm,20.1s,baz=208,slow=34							
PETK	**Petropavlovsk-**	**59.49**	**6**	P		**P**	**11 28 59.6**	**-0.8**
LZH	**Lanzhou**	**60.01**	**318**	*eP*		**P**	**11 29 06.3**	**+1.7**
LZH				pP		pP	11 29 15.3	-5.9
LZH				sP		sP	11 29 20.6	-7.6
LZH				pmax		pmax		
	comp=Z,20nm,1.3s							
LZH				pmax		pmax		
	comp=Z,78nm,6.2s							
LZH				LR		LR		
	comp=N,140nm,15.4s							
LZH				LR		LR		
	comp=E,150nm,15.0s							
LZH				LR		LR		
	comp=Z,220nm,17.9s							
PPT2	**Papeete2**	**60.45**	**107**	*e*LR		LR	11 47 02.7	
	comp=Z,172nm,26.5s							
MA2	**Magadan**	**65.57**	**1**	P		**P**	**11 29 39.8**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=173,slow=7.8,SNR=5.9							
MA2				LR		LR	11 58 00.3	
	comp=Z,33nm,19.5s,baz=185,slow=36							
MA2	**Magadan**	**65.57**	**1**	P		**P**	**11 29 39.9**	**-1.0**
SONM	**Songino Array**	**65.81**	**330**	P		**P**	**11 29 42.6**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=170,slow=5.3,SNR=4.6							
SONM				LR		LR	11 55 23.1	
	comp=Z,53nm,21.4s,baz=208,slow=33							
SONM	**Songino Array**	**65.81**	**330**	P		**P**	**11 29 44.1**	**+1.2**
SONM				IAmb		IAmb	11 30 00.6	
	comp=Z,10nm,1.4s							
VNDA	**Vanda**	**71.58**	**177**	P		**P**	**11 30 19.3**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=331,slow=6.5,SNR=16							
VNDA				pP		**pP**	**11 30 32.2**	**-1.9**
	comp=Z,3.0nm,0.8s,baz=282,slow=4.2,SNR=9.0							
VNDA	**Vanda**	**71.58**	**177**	P		**P**	**11 30 19.4**	**+1.3**
FALS	**False Pass**	**72.30**	**26**	P		**P**	**11 30 23.0**	**+0.3**
WMQ	**Urumqi**	**74.58**	**319**	*eP*		**P**	**11 30 37.6**	**+1.1**
BILL	**Bilibino**	**75.01**	**6**	P		**P**	**11 30 39.2**	**+0.9**
MKAR	**Makanchi Array**	**79.25**	**320**	P		**P**	**11 31 01.1**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=99,slow=6.3,SNR=5.5							
MKAR				LR		LR	12 04 26.7	
	comp=Z,46nm,21.8s,baz=77,slow=34							
MKAR	**Makanchi Array**	**79.25**	**320**	P		**P**	**11 31 01.4**	**-1.2**
CNPM	**China Poot**	**80.40**	**26**	P		**P**	**11 31 08.2**	**-0.3**
ZALV	**Zalesovo Beam**	**80.52**	**327**	P		**P**	**11 31 07.0**	**-2.3**
	comp=Z,1.4nm,0.6s,baz=111,slow=6.1,SNR=6.9							
ZALV				LR		LR	12 04 46.4	
	comp=Z,57nm,21.9s,baz=115,slow=34							
ZALV	**Zalesovo Beam**	**80.52**	**327**	P		**P**	**11 31 07.8**	**-1.4**
CAST	**Castle Rocks**	**82.04**	**23**	P		**P**	**11 31 17.3**	**+0.2**
IMAR	**Indian Mountai**	**82.80**	**20**	P		**P**	**11 31 20.2**	**-0.8**
MAW	**Mawson**	**83.03**	**203**	P		**P**	**11 31 22.5**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=18,slow=20,SNR=2.2							
MAW				pP		**pP**	**11 31 35.1**	**-4.0**
	comp=Z,3.4nm,0.7s,baz=80,slow=9.2,SNR=4.2							
MAW	**Mawson**	**83.03**	**203**	P		**P**	**11 31 22.9**	**+0.7**
AAK	**Ala-Archa**	**83.26**	**314**	LR		LR	12 08 14.2	
	comp=Z,44nm,20.7s,baz=86,slow=36							
RND	**Reindeer**	**83.29**	**24**	P		**P**	**11 31 23.4**	**-0.3**
RND				IAmb		IAmb	11 32 02.9	
	comp=Z,10nm,1.2s							
QSPA	**South Pole Qui**	**83.77**	**180**	P		**P**	**11 31 27.0**	**+0.7**
QSPA				IAmb		IAmb	11 31 40.7	
	comp=Z,13nm,1.0s							
IL31		**84.69**	**23**	P		**P**	**11 31 29.3**	**-1.4**
IL31				IAmb		IAmb	11 32 21.9	
	comp=Z,19nm,2.0s							
ILAR	**Eielson Array**	**84.69**	**23**	P		**P**	**11 31 28.5**	**-2.3**
	comp=Z,1.4nm,0.7s,baz=249,slow=5.1,SNR=13							
ILAR	**Eielson Array**	**84.69**	**23**	P		**P**	**11 31 29.7**	**-1.1**
J25K	**Salcha River,**	**85.21**	**23**	P		**P**	**11 31 31.9**	**-1.6**
M27K	**Edge Creek, AK**	**85.74**	**26**	P		**P**	**11 31 37.5**	**+1.3**
M27K				IAmb		IAmb	11 32 57.3	
	comp=Z,25nm,2.0s							
NRIK	**Noril'sk**	**86.24**	**342**	P		**P**	**11 31 36.3**	**-2.0**
	comp=Z,2.9nm,0.6s,baz=74,slow=3.4,SNR=1.8							
NRIK				LR		LR	12 11 18.5	
	comp=Z,35nm,18.6s,baz=149,slow=36							
EGAK	**Eagle**	**86.94**	**24**	P		**P**	**11 31 42.3**	**+0.5**
EGAK				IAmb		IAmb	11 32 27.9	
	comp=Z,10nm,1.5s							
DAWY	**Dawson**	**87.41**	**25**	P		**P**	**11 31 45.2**	**+1.0**
SYO	**Syowa Base**	**91.26**	**200**	⇓*iP*		**P**	**11 32 02.2**	**0.0**
GEYT	**Alibeck**	**94.86**	**307**	LR		LR	12 16 39.4	
	comp=Z,49nm,21.2s,baz=122,slow=36							
ARU	**Arti**	**95.64**	**326**	LR		LR	12 15 05.1	
	comp=Z,80nm,21.8s,baz=120,slow=35							
AKTO	**Aktyubinsk**	**95.68**	**320**	LR		LR	12 14 39.6	
	comp=Z,47nm,21.5s,baz=93,slow=35							
YKA	**Yellowknife Ar**	**98.18**	**28**	PKKPbc		PKKPbc	11 49 04.6	-4.0
	comp=Z,0.1nm,0.5s,baz=95,slow=2.7,SNR=4.7							
PLCA	**Paso Flores**	**120.57**	**145**	PKP		**PKiKP**	**11 37 49.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=284,slow=3.6,SNR=7.2							
PLCA	**Paso Flores**	**120.57**	**145**			**PKPdf**	**11 37 48.7**	**-0.4**
GERES	**GERESS Array B**	**123.47**	**326**	PKP		**PKPdf**	**11 37 52.4**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=96,slow=6.8,SNR=4.2							
GERES	**GERESS Array B**	**123.47**	**326**			**PKPdf**	**11 37 53.7**	**-0.7**
LPAZ	**La Paz**	**136.57**	**121**	PKP		**PKiKP**	**11 38 21.8**	**-0.8**
	comp=Z,3.2nm,1.0s,baz=353,slow=3.8,SNR=7.1							
LPAZ				PKKPab			11 46 49.1	
	comp=Z,2.1nm,0.5s,baz=312,slow=2.7,SNR=5.2							
LPAZ	**La Paz**	**136.57**	**121**			**PKPdf**	**11 38 19.6**	**-1.2**
CPUP	**Villa Florida**	**138.49**	**142**	PKP		**PKiKP**	**11 38 25.4**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=311,slow=2.2,SNR=3.8							
SDV	**Santo Domingo**	**140.13**	**84**	PKP		**PKPdf**	**11 38 26.6**	**-0.2**
	comp=Z,6.2nm,0.8s,baz=333,slow=6.8,SNR=8.8							
TORD	**Torodi Ar. Bea**	**147.56**	**285**	PKPbc		**PKPbc**	**11 38 41.2**	**-1.0**
	comp=Z,4.1nm,1.0s,baz=73,slow=2.7,SNR=32							
BDFB	**Brasilia**	**152.21**	**142**	PKP		**PKPdf**	**11 38 47.8**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=272,slow=7.7,SNR=4.0							
BDFB				PKPbc		**PKPbc**	**11 38 53.4**	**-0.4**
	comp=Z,12nm,0.6s,baz=196,slow=3.8,SNR=23							
BDFB				PKPab		**pPKPdf**	**11 39 05.5**	**+0.2**
	comp=Z,6.9nm,0.5s,baz=231,slow=1.8,SNR=9.7							
BDFB	**Brasilia**	**152.21**	**142**			**PKPdf**	**11 38 45.2**	**-1.9**
BDFB				PKPbc		**PKPbc**	**11 38 53.9**	**+0.2**
BDFB				PKPab		**pPKPdf**	**11 39 06.4**	**+1.0**
DBIC	**Dimbokro**	**154.52**	**272**	PKPab		**PKPab**	**11 39 13.4**	**0.0**
	comp=Z,1.1nm,0.4s,baz=65,slow=6.9,SNR=3.6							

*IDC **23** 11:19:45.6±4.0,35°.71N×106°.28E,h0km,mb3.9/6, mb1 4.0/7,mb1mx3.6/58,mbtmp3.9/7,ML3.9/1,MS3.5/4, Ms1 3.5/4,ms1mx2.7/100,Error ellipse: s-maj=80.1km s-min=35.0km az=1.0*

*NEIC **23** 11:19:48.1±1.2,35°.7N±0°.1×106°.4E±0°.2,h15km±4km, mb4.0/9,Error ellipse: s-maj=24.1km s-min=13.2km az=64.0*

ISC 23 11:19:47.0±0.9,35°.7N±0°.1×106°.3E±0°.1,h10km,n27, σ0°58/24,mb3.9/9,MS3.6/4,Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**6.00**	**153**			Pn	**Pn**	**11 21 15.5**	**-0.3**
SONM	**Songino Array**	**12.16**	**0**			Pn	**Pn**	**11 22 40.3**	**-0.1**
	0.7nm,0.3s,baz=186,slow=14,SNR=3.8								
SONM	**Songino Array**	**12.16**	**0**				**Pn**	**11 22 40.0**	**-0.3**
ULN	**Ulaanbaatar**	**12.20**	**2**			Pn	**Pn**	**11 22 41.0**	**+0.1**
MK31	**Makanchi Array**	**21.14**	**309**			P	**P**	**11 24 32.0**	**0.0**
MKAR	**Makanchi Array**	**21.14**	**309**			P	**P**	**11 24 31.9**	**-0.2**
	2.0nm,0.5s,baz=110,slow=13,SNR=14								
MKAR	**Makanchi Array**	**21.14**	**309**			P	**P**	**11 24 32.0**	**0.0**
ZAA0	**Zalesovo Array**	**23.65**	**327**			P	**P**	**11 24 57.6**	**-0.8**
ZAA0						IAmb	IAmb	11 24 59.5	
	comp=Z,2.8nm,0.9s								
ZALV	**Zalesovo Beam**	**23.65**	**327**	P			**P**	**11 24 57.1**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=129,slow=10,SNR=8.2								
ZALV				LR		LR		11 34 40.9	
	comp=Z,32nm,20.4s,baz=80,slow=38								
ZALV	**Zalesovo Beam**	**23.65**	**327**	P			**P**	**11 24 57.6**	**-0.7**
KURBB	**Kurchatov Arra**	**25.00**	**315**	*eP*			**P**	**11 25 10.2**	**-0.7**
	comp=Z,1.3nm,0.2s,baz=127,slow=8.1,SNR=4.4								
KK31	**Karatay Array**	**28.50**	**296**	P			**P**	**11 25 42.9**	**+0.4**
KKAR	**Karatay Array**	**28.50**	**296**	P			**P**	**11 25 42.9**	**+0.4**
ABKAR	**Akbulak array**	**36.24**	**307**	P			**P**	**11 26 49.7**	**-0.4**
ABKAR	**Akbulak array**	**36.24**	**307**	P			**P**	**11 26 50.5**	**+0.4**
ABKAR					IAmb		IAmb	11 26 55.5	
	comp=Z,2.4nm,1.2s								
TIXI	**Tiksi**	**37.92**	**11**	P			**P**	**11 27 03.6**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=90,slow=20,SNR=8.0								
TIXI	**Tiksi**	**37.92**	**11**	P			**P**	**11 27 03.9**	**-0.2**
TIXI					IAmb		IAmb	11 27 04.4	
	comp=Z,2.2nm,0.5s								
ARU	**Arti**	**38.12**	**318**	P			**P**	**11 27 05.9**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=3.8								
J20K	**Nowinta River**	**62.42**	**29**	P			**P**	**11 30 10.4**	**+0.6**
JMIC	**Jan Mayen**	**64.13**	**341**	LR		LR		12 00 52.4	
	comp=Z,20nm,18.5s,baz=274,slow=38								
BMAR	**Burnt Mountain**	**64.36**	**24**	P			**P**	**11 30 23.4**	**+0.8**
KDAK	**Kodiak Island**	**66.02**	**35**	LR		LR		12 02 09.1	
	comp=Z,60nm,18.6s,baz=22,slow=38								
INK	**Inuvik**	**67.24**	**20**	P			**P**	**11 30 41.1**	**+0.1**
BCAR	**Beaver Creek A**	**67.75**	**27**	P			**P**	**11 30 45.7**	**+1.2**
C36M	**Paulatuk**	**68.98**	**17**	P			**P**	**11 30 51.5**	**-0.5**
C36M					IAmb		IAmb	11 30 52.8	
	comp=Z,1.2nm,0.8s								
YKA	**Yellowknife Ar**	**76.79**	**18**	P			**P**	**11 31 38.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=330,slow=5.2,SNR=18								
ULM	**Lac du Bonnet**	**92.23**	**14**	LR		LR		12 18 50.4	
	comp=Z,56nm,18.5s,baz=22,slow=38								

*SJA **23** 11:24:13.4±0.5, 19°.68S×69°.49W,h93km±2km, ML4.2, MW4.0*

*NEIC **23** 11:24:15.2±1.0, 19°.71S±0°.05×69°.50W±0°.08,h89km±5km, mb4.2/9, ML4.3(GUC),Error ellipse: s-maj=10.6km s-min=6.8km az=108.0*

*GUC **23** 11:24:15.7±0.7, 19°.68S×69°.47W,h85km±2km, ML4.3*

*VAO **23** 11:24:16.2±0.6, 19°.77S×69°.41W,h142km±7km, mb4.3*

*IDC **23** 11:24:17.8±1.8, 19°.72S×69°.09W,h113km±16km, mb3.6/4, mb1 3.8/7, mb1mx3.5/31, mbtmp4.1/7, Error ellipse: s-maj=35.8km s-min=14.4km az=101.0*

ISC 23 11:24:14.6±0.6, 19°.66S±0°.03×69°.45W±0°.05, h89km±5km, n66, σ1°52/92, mb4.1/5, 7C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.22**	**242**				**Pn**	**11 24 27.9**	**+0.1**
PB11	**IPOC Station P**	**0.22**	**242**	⇑*iP*			**Pn**	**11 24 27.8**	**+0.1**
PB11				*i*S			**Sn**	**11 24 37.6**	**+0.1**
PB11				IAML				11 24 38.7	
	comp=E,65μm,0.2s								
PB11	**IPOC Station P**	**0.22**	**242**	*eP*			**Pn**	**11 24 27.6**	**-0.1**
PB11				*eS*			**Sn**	**11 24 38.1**	**+0.7**
PB11				IAML				11 24 38.8	
	comp=Z,14μm,0.2s								
GO01	**Chusmiza**	**0.24**	**93**				**Pn**	**11 24 28.8**	**+0.6**
GO01	**Chusmiza**	**0.24**	**93**	*eP*			**Pn**	**11 24 28.5**	**+0.2**
GO01				*i*S			**Sn**	**11 24 39.3**	**+1.1**
GO01				IAML				11 24 40.6	
	comp=N,58μm,0.1s								
GO01	**Chusmiza**	**0.24**	**93**	*eP*			**Pn**	**11 24 28.4**	**+0.2**
GO01				*eS*			**Sn**	**11 24 39.6**	**+1.3**
PB08	**IPOC Station P**	**0.56**	**150**	⇓*iP*			**Pn**	**11 24 30.5**	**+0.3**
PB08				*i*S			**Sn**	**11 24 42.4**	**+0.7**
PB08				IAML				11 24 43.6	
	comp=E,11μm,0.1s								
PB08	**IPOC Station P**	**0.56**	**150**	*eP*			**Pn**	**11 24 30.3**	**+0.2**
PB08				*eS*			**Sn**	**11 24 42.5**	**+0.9**
PB08				IAML				11 24 43.8	
	comp=Z,4μm,0.1s								
HMBC	**Humberstone**	**0.74**	**214**	⇑*iP*			**Pn**	**11 24 31.4**	**-0.2**
HMBC				*i*S			**Sn**	**11 24 43.5**	**-0.8**
HMBC				IAML				11 24 46.1	
	comp=N,11μm,0.6s								
TA02	**Huaiquique**	**0.89**	**226**				**Pn**	**11 24 32.5**	**-0.4**
TA02	**Huaiquique**	**0.89**	**226**	⇑*iP*			**Pn**	**11 24 32.7**	**-0.3**
TA02				*i*S			**Sn**	**11 24 46.1**	**-0.6**
TA02				IAML				11 24 50.0	
	comp=N,25μm,0.3s								
TA02	**Huaiquique**	**0.89**	**226**	*eP*			**Pn**	**11 24 32.6**	**-0.4**
TA02				IAML				11 24 49.4	
	comp=Z,8μm,0.1s								
TA01	**Diego Aracena**	**1.14**	**217**	⇑*iP*			**Pn**	**11 24 35.5**	**-0.3**
TA01				*i*S			**Sn**	**11 24 50.6**	**-1.1**
TA01				IAML				11 24 54.4	
	comp=E,4μm,0.3s								
TA01	**Diego Aracena**	**1.14**	**217**	*eP*			**Pn**	**11 24 35.0**	**-0.8**
TA01				*eS*			**Sn**	**11 24 51.8**	**+0.1**
PB16	**IPOC Station P**	**1.31**	**357**				**Pn**	**11 24 40.6**	**+2.0**
PB12	**IPOC Station P**	**1.33**	**321**	⇑*iP*			**Pn**	**11 24 38.3**	**+0.1**
PB12				*i*S			**Sn**	**11 24 56.6**	**+0.6**
PB12				IAML				11 25 03.3	
	comp=E,5μm,0.3s								
PB12	**IPOC Station P**	**1.33**	**321**	*eP*			**Pn**	**11 24 38.0**	**-0.2**
PB12				*eP*			**Pn**	**11 24 38.0**	**-0.2**
PB12				*eP*			**Pn**	**11 24 38.1**	**-0.1**
PB12				*eS*			**Sn**	**11 24 57.0**	**+0.9**
PB12				IAML				11 25 01.7	
	comp=Z,2μm,0.4s								
PATCX	**Punta Patache**	**1.33**	**210**				**Pn**	**11 24 38.0**	**-0.3**
PATCX	**Punta Patache**	**1.33**	**210**	⇑*iP*			**Pn**	**11 24 37.9**	**-0.3**
PATCX				*i*S			**Sn**	**11 24 55.2**	**-1.0**
PATCX				IAML				11 25 03.2	
	comp=E,5μm,0.4s								
PATCX	**Punta Patache**	**1.33**	**210**	*eP*			Pn	11 24 32.6	-5.7
PATCX				*eP*			Pn	11 24 32.6	-5.7
PATCX				*eP*			Pn	11 24 32.6	-5.7
PATCX				*eP*			**Pn**	**11 24 38.0**	**-0.3**
PATCX				*eP*			**Pn**	**11 24 38.0**	**-0.3**
PATCX				*eP*			**Pn**	**11 24 38.1**	**-0.3**
PATCX				IAML				11 25 01.2	
	comp=Z,3μm,0.6s								
AP01	**Chacalluta**	**1.53**	**326**				**Pn**	**11 24 41.5**	**+0.8**
AP01	**Chacalluta**	**1.53**	**326**	⇓*iP*			**Pn**	**11 24 41.5**	**+0.8**
AP01				*i*S			**Sn**	**11 25 01.2**	**+0.7**
AP01				IAML				11 25 10.9	
	comp=E,13μm,0.8s								
AP01	**Chacalluta**	**1.53**	**326**	*eP*			**Pn**	**11 24 41.0**	**+0.3**
AP01				IAML				11 25 10.7	
	comp=Z,2μm,0.2s								
PB02	**IPOC Station P**	**1.71**	**194**	⇑*iP*			**Pn**	**11 24 43.1**	**0.0**
PB02				*i*S			**Sn**	**11 25 04.3**	**-0.4**
PB02				IAML				11 25 11.3	
	comp=E,6μm,0.3s								
PB02	**IPOC Station P**	**1.71**	**194**	*eP*			**Pn**	**11 24 43.0**	**0.0**
PB02				*eS*			**Sn**	**11 25 04.8**	**+0.2**
PB02				IAML				11 25 13.8	
	comp=Z,5μm,0.2s								
PB07	**IPOC Station P**	**2.10**	**191**	*eP*			**Pn**	**11 24 48.8**	**+0.5**
PB07				*i*S			**Sn**	**11 25 13.6**	**-0.3**
PB07				IAML				11 25 19.9	
	comp=N,3μm,0.4s								
PB09	**IPOC Station P**	**2.14**	**175**	*eP*			**Pn**	**11 24 50.0**	**+1.2**
PB09				IAML				11 25 22.9	
	comp=E,1μm,0.4s								
LVC	**Limon Verde**	**2.98**	**170**	P			**Pn**	**11 25 01.7**	**+1.5**
	comp=E,21nm,0.3s,baz=52,slow=13,SNR=66								
LVC				S			**Sn**	**11 25 37.4**	**+2.1**
	comp=E,57nm,0.3s,baz=9.7,slow=12,SNR=6.3								
LVC	**Limon Verde**	**2.98**	**170**	*eP*			**Pn**	**11 25 01.4**	**+1.1**
LVC	**Limon Verde**	**2.98**	**170**	*eP*			**Pn**	**11 25 02.0**	**+1.8**
LVC				*eS*			Sn	11 25 21.1	-14
LVC	**Limon Verde**	**2.98**	**170**	*eP*			**Pn**	**11 25 01.7**	**+1.5**
PB06	**IPOC Station P**	**3.04**	**182**	*eP*			**Pn**	**11 25 00.8**	**0.0**
PB06				*i*S			**Sn**	**11 25 34.0**	**-2.3**
PB06				IAML				11 25 51.5	
	comp=N,711nm,0.5s								
PB06	**IPOC Station P**	**3.04**	**182**	*eP*			**Pn**	**11 25 01.0**	**+0.2**
PB06				*eS*			Sn	11 25 21.1	-15
PB06				*eS*			**Sn**	**11 25 36.1**	**-0.2**
PB06				IAML				11 25 45.2	
	comp=Z,563nm,0.3s								
PB15	**IPOC Station P**	**3.54**	**180**	*eP*			**Pn**	**11 25 05.7**	**-1.9**
PB15	**IPOC Station P**	**3.54**	**180**	*eP*			**Pn**	**11 25 07.6**	**+0.1**
PB15				*eS*			Sn	11 25 59.3	+11
LPAZ	**La Paz**	**3.58**	**21**	P			**Pn**	**11 25 12.9**	**+4.4**
	comp=Z,5.6nm,0.3s,baz=166,slow=8.1,SNR=37								
LPAZ				S			**Sn**	**11 25 44.2**	**-5.8**
	comp=Z,2.4nm,0.3s,baz=238,slow=3.9,SNR=3.6								
LPAZ	**La Paz**	**3.58**	**21**	Pn			**Pn**	**11 25 12.1**	**+3.6**
LPAZ	**La Paz**	**3.58**	**21**	*eP*			**Pn**	**11 25 13.0**	**+4.5**
LPAZ	**La Paz**	**3.58**	**21**	*eP*			**Pn**	**11 25 12.1**	**+3.6**
PB10	**IPOC Station P**	**3.97**	**195**	*eP*			**Pn**	**11 25 12.3**	**-0.9**
PB10	**IPOC Station P**	**3.97**	**195**	*eP*			**Pn**	**11 25 13.0**	**-0.3**
PB10				*eP*			**Pn**	**11 25 13.3**	**0.0**
PB10				*eS*			**Sn**	**11 26 04.1**	**+5.3**
GO02	**Mina Guanaco**	**5.48**	**181**	Pn			**Pn**	**11 25 34.0**	**-0.1**
AC02	**Maricunga**	**7.15**	**178**				**Pn**	**11 25 56.2**	**-0.8**
SIV	**San Ignacio**	**8.77**	**67**	P			**Pn**	**11 26 17.0**	**-1.7**
	comp=Z,3.9nm,0.3s,baz=260,slow=9.8,SNR=43								
ETMB	**Extrema**	**10.27**	**18**	*eP*			**Pn**	**11 26 41.2**	**+2.1**
PTLB	**Pontes e Lacer**	**10.69**	**69**	*eP*			**Pn**	**11 26 44.8**	**0.0**
VILB	**Vilhena**	**11.10**	**54**	*eP*			**Pn**	**11 26 51.1**	**+0.7**
MT02	**Curacav**	**13.63**	**186**	Pn			**Pn**	**11 27 23.5**	**-0.7**
SNDB	**Serra Nova Dou**	**19.05**	**69**	*eP*			**P**	**11 28 28.6**	**-1.4**
ITTB	**Itaituba**	**20.24**	**43**	*eP*			**P**	**11 28 41.4**	**-1.5**
BDFB	**Brasilia**	**20.81**	**82**	P			**P**	**11 28 50.8**	**+1.6**
	comp=Z,1.7nm,0.4s,baz=229,slow=10,SNR=3.5								
BDFB	**Brasilia**	**20.81**	**82**	P			**P**	**11 28 49.5**	**+0.4**
BDFB					IAmb		IAmb	11 29 00.1	
	comp=Z,12nm,1.4s								
PLCA	**Paso Flores**	**21.03**	**182**	P			**P**	**11 28 53.6**	**+2.4**
	comp=Z,0.9nm,0.6s,baz=4.4,slow=13,SNR=3.8								
PLCA	**Paso Flores**	**21.03**	**182**	P			**P**	**11 28 53.2**	**+1.9**
553A	**Crawfordville**	**51.61**	**343**	P			**P**	**11 33 12.3**	**+0.3**
SNAA	**Sanae**	**64.18**	**161**	P			**P**	**11 34 38.4**	**-1.2**
DBIC	**Dimbokro**	**68.71**	**74**	P			**P**	**11 35 08.2**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=251,slow=4.1,SNR=4.2								
DBIC	**Dimbokro**	**68.71**	**74**	P			**P**	**11 35 08.8**	**-0.5**
DBIC					IAmb		IAmb	11 35 14.4	
	comp=Z,15nm,1.4s								
QSPA	**South Pole Qui**	**70.53**	**180**	P			**P**	**11 35 20.3**	**+0.6**
QSPA					IAmb		IAmb	11 35 26.5	
	comp=Z,6.5nm,1.4s								
TORD	**Torodi Ar. Bea**	**77.22**	**71**	P			**P**	**11 35 58.2**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=250,slow=5.5,SNR=24								
TORD	**Torodi Ar. Bea**	**77.22**	**71**	P			**P**	**11 35 58.5**	**-1.0**
TORD					IAmb		IAmb	11 36 01.5	
	comp=Z,4.0nm,1.4s								
VNDA	**Vanda**	**78.57**	**190**	P			**P**	**11 36 07.0**	**+1.0**
YKA	**Yellowknife Ar**	**89.29**	**341**	P			**P**	**11 37 00.8**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=134,slow=4.7,SNR=17								
YKA	**Yellowknife Ar**	**89.29**	**341**	P			**P**	**11 36 59.8**	**-0.6**
MKAR	**Makanchi Array**	**144.42**	**34**	PKP			**PKPdf**	**11 43 40.0**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=315,slow=3.3,SNR=2.0								
MKAR	**Makanchi Array**	**144.42**	**34**				PKPbc	11 43 39.5	+0.2

*IDC **23** 11:25:13.7±4.2, 3°.79S×142°.75E,h60km±37km, mb3.9/10, mb1 4.1/12,mb1mx3.8/36,mbtmp4.3/12,ML4.6/1,Error ellipse: s-maj=24.7km s-min=18.9km az=67.0*

*NEIC **23** 11:25:15.2±1.8, 3°.7S±0°.1×142°.7E±0°.1, h69km±6km, mb4.5/34,Error ellipse: s-maj=20.1km s-min=14.7km az=77.0*

**ISC 23 11:25:19.5±0.5, 3

BOOM					IAmb	IAmb	11 36 55.2		
	comp=Z,4.2nm,0.7s								
P19K	**Oil Pt**	**80.59**	**28**	P		**P**	**11 37 19.1**	**0.0**	
L19K	**White Mountain**	**80.96**	**25**	P		**P**	**11 37 21.8**	**+0.7**	
L19K					IAmb	IAmb	11 37 32.2		
	comp=Z,5.0nm,1.1s								
J20K	**Nowinta River**	**82.13**	**23**	P		**P**	**11 37 27.7**	**+0.6**	
J20K					IAmb	IAmb	11 37 29.2		
	comp=Z,4.7nm,0.9s								
PPLA	**Purkeypile**	**82.38**	**25**	P		**P**	**11 37 28.6**	**-0.1**	
PPLA					IAmb	IAmb	11 37 43.1		
	comp=Z,11nm,1.4s								
CAST	**Castle Rocks**	**82.64**	**24**	P		**P**	**11 37 29.5**	**-0.4**	
RC01	**Rabbit Creek A**	**82.75**	**27**	P		**P**	**11 37 29.9**	**-0.6**	
RC01					IAmb	IAmb	11 37 43.3		
	comp=Z,13nm,1.2s								
IMAR	**Indian Mountai**	**83.08**	**22**	P		**P**	**11 37 32.0**	**-0.1**	
PWL	**Port Wells**	**83.30**	**27**	P		**P**	**11 37 32.7**	**-0.6**	
IL31		**85.26**	**24**	P		**P**	**11 37 41.8**	**-1.3**	
IL31					IAmb	IAmb	11 37 42.7		
	comp=Z,3.5nm,0.8s								
ILAR	**Eielson Array**	**85.26**	**24**	P		**P**	**11 37 42.0**	**-1.1**	
	comp=Z,2.3nm,0.6s,baz=258,slow=4.8,SNR=38								
ILAR	**Eielson Array**	**85.26**	**24**	P		**P**	**11 37 41.8**	**-1.4**	
TOLK	**Toolik Lake Re**	**85.64**	**20**	P		**P**	**11 37 46.8**	**+1.9**	
TOLK					IAmb	IAmb	11 37 49.4		
	comp=Z,2.9nm,0.8s								
QSPA	**South Pole Qui**	**86.08**	**180**	P		**P**	**11 37 48.1**	**+0.7**	
	comp=Z,2.0nm,0.7s,baz=312,slow=1.5,SNR=15								
QSPA	**South Pole Qui**	**86.08**	**180**	P		**P**	**11 37 47.8**	**+0.4**	
BMAR	**Burnt Mountain**	**87.00**	**22**	P		**P**	**11 37 53.1**	**+1.4**	
EGAK	**Eagle**	**87.61**	**25**	P		**P**	**11 37 55.0**	**+0.4**	
EGAK					IAmb	IAmb	11 38 04.7		
	comp=Z,2.3nm,0.9s								
ABKAR	**Akbulak array**	**88.16**	**319**	P		**P**	**11 37 56.8**	**-0.7**	
GERES	**GERESS Array B**	**117.70**	**325**	PKP		**PKiKP**	**11 43 53.2**	**+0.7**	
	comp=Z,0.4nm,0.6s,baz=116,slow=3.1,SNR=3.8								
GERES	**GERESS Array B**	**117.70**	**325**			**PKPdf**	**11 43 52.2**	**-0.3**	
KIC	**Kosan Boka**	**147.45**	**276**	*e*PKIKP		**PKPbc**	**11 44 51.7**	**+0.5**	
	comp=Z,22nm,1.3s								
DBIC	**Dimbokro**	**147.55**	**276**	PKPbc		**PKiKP**	**11 44 52.7**	**-0.8**	
	comp=Z,6.5nm,0.9s,baz=122,slow=3.2,SNR=4.8								
DBIC	**Dimbokro**	**147.55**	**276**			**PKPbc**	**11 44 52.1**	**+0.7**	
TIC	**Toumodi**	**147.71**	**276**	*e*PKIKP		**PKPbc**	**11 44 51.2**	**-0.7**	
LIC	**Lamto**	**147.74**	**275**	*e*PKIKP		**PKPbc**	**11 44 52.0**	**0.0**	
	comp=Z,11nm,0.8s								

IDC ***23*** *11:33:45.0±0.7,54.86S×129.45W,h0km,mb4.2/6, mb1 4.5/6,mb1mx4.2/30,mbtmp4.2/6,MS4.2/32, Ms1 4.2/32,ms1mx4.0/53,Error ellipse: s-maj=36.7km s-min=23.3km az=157.0*

NEIC ***23*** *11:33:46.5±1.1,55.15S±0.1×129.2W±0.2,h10km±1km, mb4.7/13,Error ellipse: s-maj=21.6km s-min=16.0km az=302.0*

GCMT ***23*** *11:33:51.5±0.2,55.36S±0.01×128.93W±0.01,h20km±1km, MW5.1/114,Moment Tensor Solution. s70,c93; s114,c174; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.20±.14; Mθθ3.31±.14; Mϕϕ-3.10±.12; Mrθ-0.31±.25; Mθϕ4.59±.10; Mϕr0.38±.23; Best double couple: M≈5.62000×1016 NP1:ϕs198.00000°,δ86.00000°, λ-177.00000°. NP2:ϕs107.00000°,δ87.00000°, λ-4.00000°. Principal axes: T 5.7050, Plg1.0000°, Azm153.0000°; N -0.1630, Plg85.0000°, Azm253.0000°; P -5.5360, Plg5.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 11:33:46.3±0.6,55.05S±0.1×129.2W±0.1,h10km,n86, σ0s91/34,mb4.6/10,MS4.3/36,2D,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMAI	**San Martin Ant**	**30.80**	**140**	P	**P**	**11 39 59.1**	**-2.5**
RPN	**Rapa Nui**	**31.40**	**36**	LR	LR	11 48 05.1	
	comp=Z,205nm,19.6s,baz=336,slow=27						
RKT	**Rikitea**	**32.14**	**350**	*e*T	T	12 13 56.7	
	34nm,0.3s						
VNDA	**Vanda**	**32.56**	**202**	LR	LR	11 49 09.8	
	comp=Z,149nm,20.9s,baz=93,slow=28						
PMSA	**Palmer Station**	**32.61**	**124**	LR	LR	11 49 34.5	
	comp=Z,664nm,21.9s,baz=265,slow=29						
USHA	**Ushuaia**	**33.95**	**115**	LR	LR	11 50 58.5	
	comp=Z,438nm,20.2s,baz=203,slow=30						
TBI	**Tubuai**	**35.04**	**326**	*e*LR	LR	11 49 15.4	
	comp=Z,1μm,27.0s,baz=166						
TBI	**Tubuai**	**35.04**	**326**	*e*T	T	12 17 34.5	
	131nm,0.3s						
QSPA	**South Pole Qui**	**35.17**	**180**	P	**P**	**11 40 41.8**	**+1.9**
	6.2nm,0.9s,baz=103,slow=5.7,SNR=7.3						
QSPA				LR	LR	11 53 30.1	
	comp=Z,739nm,18.6s,baz=84,slow=34						
QSPA	**South Pole Qui**	**35.17**	**180**	P	**P**	**11 40 39.8**	**-0.1**
QSPA					IAmb	IAmb	11 40 42.3		
	comp=Z,19nm,1.3s						
BELA	**Belgrano 2**	**37.88**	**160**	P	**P**	**11 41 03.7**	**+0.9**
LL02	**Futaleuf**	**38.30**	**97**	P	**P**	**11 41 08.2**	**+1.6**
LL02					IAmb	IAmb	11 41 33.0		
	comp=Z,10nm,1.4s						
CMWZ	**Cape Campbell**	**38.78**	**266**	P	**P**	**11 41 11.4**	**+0.7**
RPZ	**Rata Peaks**	**39.35**	**261**	LR	LR	11 53 31.0	
	comp=Z,615nm,21.2s,baz=119,slow=30						
URZ	**Urewera**	**39.42**	**272**	LR	LR	11 54 09.5	
	comp=Z,396nm,19.6s,baz=212,slow=31						
PPT2	**Papeete2**	**40.49**	**329**	*e*S	S	11 47 11.4	-23
	comp=Z,172nm,26.5s						
PPT2				*e*LR	LR	11 51 49.8	
	comp=Z,1μm,26.8s,baz=166						
PPT	**Papeete**	**40.51**	**329**	LR	LR	11 54 42.0	
	comp=Z,327nm,18.6s,baz=158,slow=31						
H03S2	**Juan Fernandez**	**40.58**	**80**	T	T	12 24 46.3	
	baz=222,SNR=204						
H03S1	**Juan Fernandez**	**40.58**	**80**	T	T	12 24 42.7	
	baz=222,SNR=266						
H03S3	**Juan Fernandez**	**40.59**	**80**	T	T	12 24 48.7	
	baz=222,SNR=352						
PLCA	**Paso Flores**	**40.61**	**95**	P	**P**	**11 41 25.2**	**-0.8**
RAR	**Rarotonga**	**40.82**	**313**	LR	LR	11 55 38.7	
	comp=Z,236nm,19.6s,baz=159,slow=32						
H03N3	**Juan Fernandez**	**40.86**	**79**	T	T	12 25 06.1	
	baz=224,slow=72,SNR=3366						
H03N2	**Juan Fernandez**	**40.86**	**79**	T	T	12 25 04.9	
	baz=224,slow=72,SNR=3399						
H03N1	**Juan Fernandez**	**40.87**	**79**	T	T	12 25 04.9	
	baz=224,slow=72,SNR=2758						
VAH	**Vaihoa**	**42.19**	**333**	*e*T	T	12 26 29.0	
	comp=Z,161nm,0.2s						
PMOR	**Pomariorio Ree**	**42.48**	**333**	*e*T	T	12 26 51.8	
	comp=Z,8.3nm,0.3s						
TAOE	**Nuku Hiva Isla**	**46.85**	**345**	*e*S	S	11 48 49.6	-17
	comp=Z,231nm,26.2s						
TAOE				*e*LR	LR	11 54 53.6	
	comp=Z,944nm,25.7s						
SNAA	**Sanae**	**48.13**	**160**	LR	LR	12 01 21.8	
	comp=Z,509nm,20.3s,baz=257,slow=34						
SNAA	**Sanae**	**48.13**	**160**	P	**P**	**11 42 25.5**	**-0.3**
SNAA					IAmb	IAmb	11 42 32.6		
	comp=Z,11nm,1.3s						
SYO	**Syowa Base**	**56.02**	**175**	*e*K	P	11 43 18.2	-6.1
SYO	**Syowa Base**	**56.02**	**175**	*e*pP	**P**	**11 43 25.0**	**+0.7**
PLTB	**Pedras Altas**	**56.61**	**99**	P	**P**	**11 43 29.4**	**+0.2**
DZM	**Mont Dzumac**	**57.55**	**278**	*e*LR	LR	11 59 40.0	
	comp=Z,401nm,29.0s						
LPAZ	**La Paz**	**60.30**	**75**	P	**P**	**11 43 56.3**	**+0.5**
	comp=Z,5.2nm,0.9s,baz=186,slow=3.3,SNR=11						
LPAZ	**La Paz**	**60.30**	**75**	P	**P**	**11 43 55.9**	**+0.1**
LPAZ					IAmb	IAmb	11 43 58.0		
	comp=Z,8.2nm,1.0s						
PAYG	**Puerto Ayora**	**62.76**	**45**	P	**P**	**11 44 11.3**	**-0.3**
STKA	**Stephens Creek**	**64.13**	**251**	LR	LR	12 06 30.5	
	comp=Z,260nm,21.5s,baz=192,slow=31						
CTA	**Charters Tower**	**70.70**	**262**	LR	LR	12 11 08.3	
	comp=Z,104nm,19.6s,baz=106,slow=32						
DRK0	**Durika**	**74.65**	**47**	P	**P**	**11 45 27.1**	**+1.2**
AS31	**Alice Springs**	**74.76**	**251**	P	**P**	**11 45 26.4**	**0.0**
ASAR	**Alice Springs**	**74.76**	**251**	P	**P**	**11 45 26.1**	**-0.4**
ASAR					LR	LR	12 14 17.3		
	comp=Z,277nm,19.2s,baz=155,slow=33						
ROSC	**El Rosal**	**74.83**	**58**	LR	LR	12 11 53.2	
	comp=Z,149nm,20.8s,baz=220,slow=31						
H01W1	**Cape Leeuwin H**	**75.34**	**229**	T	T	13 08 57.0	
	baz=146,slow=76,SNR=105						
H01W2	**Cape Leeuwin H**	**75.34**	**229**	T	T	13 08 58.9	
	baz=146,slow=76,SNR=119						
H01W3	**Cape Leeuwin H**	**75.36**	**229**	T	T	13 08 56.9	
	baz=146,slow=76,SNR=113						
WB2	**Warramunga Arr**	**77.51**	**253**	P	**P**	**11 45 42.3**	**+0.2**
WB2					IAmb	IAmb	11 45 57.8		
	comp=Z,6.6nm,1.1s						
WRA	**Warramunga Arr**	**77.52**	**253**	P	**P**	**11 45 42.5**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=144,slow=5.1,SNR=13						
WRA					LR	LR	12 16 06.0		
	comp=Z,179nm,20.2s,baz=80,slow=33						
WRA	**Warramunga Arr**	**77.52**	**253**	P	**P**	**11 45 41.9**	**-0.3**
WB0	**Warramunga Arr**	**77.63**	**253**	P	**P**	**11 45 42.5**	**-0.3**
WB0					IAmb	IAmb	11 46 04.2		
	comp=Z,6.7nm,1.1s						
PMG	**Port Moresby**	**78.72**	**270**	LR	LR	12 16 47.0	
	comp=Z,136nm,18.8s,baz=146,slow=33						
KRVT	**Keravat (AS076**	**80.05**	**277**	LR	LR	12 16 41.3	
	comp=Z,68nm,19.1s,baz=293,slow=32						
LPIG	**La Paz**	**80.44**	**17**	LR	LR	12 13 18.6	
	comp=Z,91nm,18.8s,baz=190,slow=30						
FITZ	**Fitzroy Crossi**	**83.74**	**247**	P	**P**	**11 46 13.7**	**-1.7**
	comp=Z,2.4nm,1.1s,baz=180,slow=6.1,SNR=2.0						
FITZ					LR	LR	12 18 16.8		
	comp=Z,144nm,21.6s,baz=149,slow=32						
FITZ	**Fitzroy Crossi**	**83.74**	**247**	P	**P**	**11 46 15.1**	**-0.4**
FITZ					IAmb	IAmb	11 46 21.9		
	comp=Z,7.3nm,1.0s						
TXAR	**Lajitas Array**	**86.82**	**22**	P	**P**	**11 46 31.0**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=188,slow=7.6,SNR=4.4						
TXAR	**Lajitas Array**	**86.82**	**22**	P	**P**	**11 46 29.4**	**-1.2**
PFO	**Pinyon Flats O**	**88.94**	**11**	LR	LR	12 16 56.9	
	comp=Z,148nm,21.0s,baz=228,slow=29						
SUR	**Sutherland**	**89.22**	**155**	LR	LR	12 19 36.8	
	comp=Z,130nm,20.6s,baz=176,slow=31						
SJG	**San Juan**	**90.24**	**58**	LR	LR	12 21 50.9	
	comp=Z,50nm,20.5s,baz=246,slow=32						
H11S2	**WAKE ISLAND Hy**	**91.08**	**301**	T	T	13 27 58.3	
	baz=149,slow=76,SNR=45						
H11S3	**WAKE ISLAND Hy**	**91.10**	**301**	T	T	13 27 56.1	
	baz=149,slow=76,SNR=31						
H11S1	**WAKE ISLAND Hy**	**91.10**	**301**	T	T	13 27 59.6	
	baz=149,slow=76,SNR=34						
BATI	**Baumata**	**91.33**	**250**	LR	LR	12 24 32.9	
	comp=Z,195nm,20.2s,baz=182,slow=33						
H11N3	**WAKE ISLAND Hy**	**92.03**	**302**	T	T	13 29 07.5	
	baz=146,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**92.03**	**302**	T	T	13 29 07.8	
	baz=146,slow=76,SNR=43						
H11N2	**WAKE ISLAND Hy**	**92.05**	**302**	T	T	13 29 08.9	
	baz=146,slow=76,SNR=31						
NVAR	**Mina Array Bea**	**93.54**	**9**	LR	LR	12 19 40.2	
	comp=Z,149nm,21.1s,baz=197,slow=30						
BOSA	**Boshof**	**93.87**	**158**	LR	LR	12 23 52.5	
	comp=Z,166nm,19.0s,baz=190,slow=32						
SIJI	**Sorong**	**94.77**	**262**	LR	LR	12 25 30.5	
	comp=Z,96nm,22.0s,baz=141,slow=33						
ELK	**Elko**	**96.13**	**11**	LR	LR	12 21 37.2	
	comp=Z,78nm,20.8s,baz=244,slow=30						
YBH	**Yreka Blue Hor**	**96.53**	**5**	LR	LR	12 20 59.5	
	comp=Z,153nm,20.6s,baz=185,slow=29						
LBTB	**Lobatse**	**97.42**	**157**	LR	LR	12 27 42.4	
	comp=Z,174nm,18.7s,baz=170,slow=33						
KAPI	**Kappang**	**97.77**	**250**	LR	LR	12 28 08.5	
	comp=Z,145nm,20.4s,baz=140,slow=33						
TKL	**Tukalschee C**	**98.34**	**36**	LR	LR	12 25 47.6	
	comp=Z,77nm,20.3s,baz=236,slow=32						
PDAR	**Pinedale Array**	**98.83**	**15**	LR	LR	12 24 04.6	
	comp=Z,109nm,19.9s,baz=206,slow=31						
H02S1	**DAWSON INLET T**	**107.88**	**358**	T	T	13 48 58.0	
	SNR=19						
ILAR	**Eielson Array**	**120.22**	**351**	PKP	**PKPdf**	**11 52 35.0**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=190,slow=3.5,SNR=7.5						
ILAR	**Eielson Array**	**120.22**	**351**		**PKPdf**	**11 52 35.8**	**-0.1**
SONM	**Songino Array**	**145.42**	**282**	PKPbc	**PKPdf**	**11 53 23.2**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=100,slow=2.2,SNR=8.4						
KEST	**Kesra**	**145.74**	**107**	PKPbc	**PKPab**	**11 53 25.8**	**+0.5**
	comp=Z,5.0nm,0.8s,baz=234,slow=5.8,SNR=4.4						
KEST	**Kesra**	**145.74**	**107**		**PKPbc**	**11 53 24.6**	**-0.3**
GERES	**GERESS Array B**	**156.51**	**90**	PKP	**PKPdf**	**11 53 40.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=204,slow=2.2,SNR=2.0						
MKAR	**Makanchi Array**	**158.66**	**260**	PKPab	**PKPab**	**11 54 18.1**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=151,slow=3.3,SNR=2.7						
MKAR	**Makanchi Array**	**158.66**	**260**	PKPdf	**PKPdf**	**11 53 42.4**	**-0.8**
MKAR					**PKPab**	**11 54 17.5**	**-1.2**
ZALV	**Zalesovo Beam**	**160.32**	**281**	PKPab	**PKPab**	**11 54 25.9**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=108,slow=3.2,SNR=2.3						

AEIC ***23*** *11:36:56.2±2.2,55.12N±0.06×159.93W±0.09,h2km±7km, Error ellipse: s-maj=9.9km s-min=6.5km az=149.0*

NEIC 23 11:36:57.5±1.7,55.06N±0.05×159.89W±0.06,h15km±9km, ML3.5/16,ML2.6(AEIC)**,Error ellipse: s-maj=7.5km s-min=4.9km az=203.0,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**0.45**	**311**	Pg	Pg	11 37 06.1	-0.4
PS4A	**Pavlof South-4**	**1.17**	**285**		Pn	11 37 18.8	-0.4
VNHG	**Veniaminof 1**	**1.24**	**19**		Pn	11 37 18.9	-1.4
VNFG	**Fog Glacier, M**	**1.25**	**9**		Pn	11 37 20.5	+0.1
DT1	**Dutton Round H**	**1.38**	**273**		Pn	11 37 21.6	-0.5
BALA	**Baldy Mountain**	**1.67**	**276**		Pb	11 37 27.6	-0.3
FALS	**False Pass**	**2.05**	**266**		Pn	11 37 31.3	0.0
CHIR	**Chirikof Islan**	**2.55**	**71**	Pn	Pn	11 37 39.3	+1.1
CHIR				IAML		11 38 26.9		
	comp=E,152nm,2.1s						
CHIR				IAML		11 39 05.0		
	comp=N,169nm,2.9s						
AKUT	**Akutan**	**3.55**	**257**	Pn	Pn	11 37 53.8	+1.9
SII	**Sitkinak Islan**	**3.55**	**63**	Pn	Pn	11 37 52.4	+0.3
SII				IAML		11 38 29.3		
	comp=N,166nm,3.1s						
SII				IAML		11 38 48.4		
	comp=E,105nm,2.6s						
UNV	**Unalaska Valle**	**4.05**	**255**	Pn	Pn	11 37 57.9	-0.9
OHAK	**Old Harbor**	**4.28**	**57**	Pn	Pn	11 38 03.0	+1.0
OHAK				IAML		11 40 38.6		
	comp=N,58nm,2.9s						
OHAK				IAML		11 40 43.6		
	comp=E,41nm,2.7s						
KDAK	**Kodiak Island**	**4.89**	**53**	Pn	Pn	11 38 10.4	+0.1
KDAK				IAML		11 38 59.1		
	comp=E,42nm,3.0s						
KDAK				IAML		11 39 35.3		
	comp=E,35nm,3.2s						
P18K	**Big Mountain,**	**5.03**	**28**	Pn	Pn	11 38 12.0	-0.3
Q19K	**Cape Douglas,**	**5.17**	**39**	Pn	Pn	11 38 13.6	-0.6
O18K	**Koktuh Hills**	**5.43**	**26**	Pn	Pn	11 38 16.3	-1.6
N18K	**Kilae Creek**	**6.03**	**19**	Pn	Pn	11 38 24.8	-1.2
SVW2	**Sparrevohn**	**6.47**	**19**	Pn	Pn	11 38 32.7	+0.6
M19K	**Big River Lodg**	**7.45**	**20**	Pn	Pn	11 38 45.8	+0.4
L19K	**White Mountain**	**7.61**	**18**	Pn	Pn	11 38 47.6	-0.1
TTA	**Tatalina**	**8.15**	**13**	Pn	Pn	11 38 55.5	+0.5
PWL	**Port Wells**	**8.45**	**42**	Pn	Pn	11 38 57.7	-1.6

NIC ***23*** *11:46:18.8±0.0,35.45N×32.41E,h2km±3km,Ml2.0/2*
DDA ***23*** *11:46:24.9±0.0,36.24N×32.66E,h7km±1km,ML1.2*

ISC 23 11:46:16.4±0.9,35.56N±0.03×32.40E±0.07,h10km,n10, σ1s51/15,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALFC	**Alefka**	**0.44**	**158**	P	**Pg**	**11 46 26.0**	**+1.0**
ALFC				S	**Sb**	**11 46 31.4**	**-1.5**
ALFC				AML	AML	11 46 31.5	
	1.5nm,0.2s						
ALFC				AML	AML	11 46 31.5	
	1.5nm,0.2s						
ALFC				AML	AML	11 46 32.5	
	1.8nm,0.2s						
ALFC				AML	AML	11 46 32.5	
	1.8nm,0.2s						
AKMS	**Akamas**	**0.55**	**186**	P	**Pb**	**11 46 28.2**	**+0.1**
AKMS				S	**Sb**	**11 46 35.0**	**-0.9**
AKMS				AML	AML	11 46 35.4	
	0.4nm,0.3s						
AKMS				AML	AML	11 46 35.4	
	0.4nm,0.3s						
AKMS				AML	AML	11 46 35.5	
	0.2nm,0.2s						
AKMS				AML	AML	11 46 35.5	
	0.2nm,0.2s						
GAZI	**Gazipasa**	**0.68**	**354**	P	**Pg**	**11 46 31.1**	**+1.6**
GAZI				S	**Sg**	**11 46 39.5**	**+1.1**
NATA	**Nata**	**0.79**	**170**	P	**Pg**	**11 46 32.1**	**+0.4**
SZAC	**Souni**	**0.90**	**154**	P	**Pn**	**11 46 35.5**	**+0.4**
SZAC				S	**Sn**	**11 46 47.2**	**-0.9**
ASGA	**Asgata**	**1.04**	**138**	P	**Pb**	**11 46 37.6**	**+1.1**
GULN	**MERSIN_Gulnar**	**1.12**	**56**	P	**Pb**	**11 46 38.1**	**+0.2**
GULN				S	**Sb**	**11 46 49.0**	**-3.4**
GULN				*i* AML	AML	11 46 51.0	
	comp=N,9.3nm,0.4s						
GULN				*i* AML	AML	11 46 53.0	
	comp=E,10nm,0.2s						
KEPZ	**Antalya-Kepez**	**1.48**	**335**	P	**Pn**	**11 46 42.4**	**-0.8**
KEPZ				S	**Sn**	**11 47 00.9**	**-1.8**
KKBE	**Karaman, Kazim**	**1.71**	**15**	P	Pn	11 46 44.3	-2.1
KERG	**Konya-Eregli**	**2.31**	**36**	P	**Pn**	**11 46 55.8**	**+1.1**

GII ***23*** *11:49:06.6±0.0,34.84N×33.91E,h18km,Mm2.8/3*
ISK ***23*** *11:49:06.9,34.89N×33.82E,h18km,ML2.9/15*
DDA ***23*** *11:49:07.6±0.0,35.09N×33.87E,h11km±1km,ML2.6*
NIC ***23*** *11:49:08.3±0.0,34.87N×33.80E,h10km±34km,Ml2.8/7*

ISC 23 11:49:06.9±0.9,34.83N±0.02×33.88E±0.03,h23km±4km, n52,σ1s106/85,2D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PARAL	**Paralimni**	**0.21**	**39**	*i*P	**Pb**	**11 49 13.0**	**+0.6**
PARAL				S	**Sb**	**11 49 18.3**	**+2.1**
PARAL				AML	AML	11 49 19.5	
	12nm,0.7s						
PARAL				AML	AML	11 49 19.5	
	12nm,0.7s						
PARAL				AML	AML	11 49 20.7	
	18nm,0.4s						
PARAL				AML	AML	11 49 20.7	
	18nm,0.4s						
MVOU	**Mavrovouni**	**0.27**	**312**	*i*P	**Pb**	**11 49 12.3**	**-1.0**
MVOU				S	**Sb**	**11 49 16.1**	**-1.6**
MVOU				AML	AML	11 49 16.4	
	20nm,0.4s						
MVOU				AML	AML	11 49 16.4	
	20nm,0.4s						
MVOU				AML	AML	11 49 18.9	
	7.5nm,0.4s						
MVOU				AML	AML	11 49 18.9	
	7.5nm,0.4s						
AKIN	**Akıncılar- Kıb**	**0.39**	**298**	PG	**Pb**	**11 49 13.8**	**-1.3**
AKIN				SG	**Sb**	**11 49 19.3**	**-1.4**
CSS	**Mathiatis**	**0.47**	**286**	PG	**Pb**	**11 49 15.6**	**-0.9**
CSS				SG	**Sb**	**11 49 21.9**	**-1.2**
CSS	**Mathiatis**	**0.47**	**286**	P	**Pb**	**11 49 15.6**	**-0.9**
CSS				S	**Sb**	**11 49 21.4**	**-1.6**
CSS	**Mathiatis**	**0.47**	**286**	Pg	**Pb**	**11 49 15.8**	**-0.7**
ATHAL	**Athalassa**	**0.50**	**308**	P	**Pb**	**11 49 16.6**	**-0.5**
ATHAL				S	**Sb**	**11 49 24.2**	**+0.3**
ATHAL				AML	AML	11 49 28.2	
	4.8nm,0.5s						
ATHAL				AML	AML	11 49 28.2	
	4.8nm,0.5s						
ATHAL				AML	AML	11 49 39.4	
	4.6nm,0.5s						
ATHAL				AML	AML	11 49 39.4	
	4.6nm,0.5s						
ASGA	**Asgata**	**0.52**	**265**	P	**Pb**	**11 49 17.2**	**-0.2**
ASGA				S	**Sb**	**11 49 25.2**	**+0.7**
ASGA				AML	AML	11 49 30.2	
	1.9nm,0.9s						
ASGA				AML	AML	11 49 30.2	
	1.9nm,0.9s						
ASGA				AML	AML	11 49 30.7	
	1.3nm,0.6s						
ASGA				AML	AML	11 49 30.7	
	1.3nm,0.6s						
LFK	**Lefkose**	**0.53**	**327**	PG	**Pb**	**11 49 16.5**	**-1.1**
LFK				SG	**Sb**	**11 49 23.3**	**-1.5**
EREN	**Erenkoy**	**0.73**	**19**	PG	**Pb**	**11 49 21.0**	**0.0**
EREN				SG	**Sn**	**11 49 31.4**	**-1.0**
EREN	**Erenkoy**	**0.73**	**19**	P	**Pb**	**11 49 20.1**	**-0.9**
SZAC	**Souni**	**0.82**	**265**	P	**Pn**	**11 49 23.6**	**+0.5**
SZAC				AML	AML	11 49 43.6	
	1.4nm,0.4s						
ALFC	**Alefka**	**1.10**	**287**	P	**Pb**	**11 49 27.4**	**+0.2**
ALFC				S	**Sn**	**11 49 43.0**	**+1.6**
ALFC				AML	AML	11 49 46.4	
	1.6nm,0.9s						
ALFC				AML	AML	11 49 46.4	
	1.6nm,0.9s						
ALFC				AML	AML	11 49 47.5	
	1.1nm,0.6s						
ALFC				AML	AML	11 49 47.5	
	1.1nm,0.6s						
AKMS	**Akamas**	**1.28**	**279**	P	**Pb**	**11 49 30.8**	**+0.5**
AKMS				AML	AML	11 49 55.0	
	0.6nm,0.8s						
AKK1	**Akkuyu-Mersin**	**1.34**	**348**	PN	**Pn**	**11 49 30.4**	**+0.3**
TISA	**Tisan-Mersin**	**1.34**	**353**	PN	**Pn**	**11 49 30.5**	**+0.4**
AKKU	**Akkuyu-Mersin**	**1.35**	**349**	PN	**Pn**	**11 49 30.5**	**+0.2**
AKKU					SN	**Sb**	**11 49 47.8**	**-0.5**
KARG	**Kargicak-Mersi**	**1.37**	**354**	PN	**Pn**	**11 49 30.9**	**+0.2**
IKL	**Isikli**	**1.41**	**354**	PN	**Pn**	**11 49 31.0**	**-0.2**
IKL				PN	**Sn**	**11 49 49.3**	**

SEDI				*i* AML	AML	11 50 40.0			
	comp=N,27nm,0.6s								
AMAZ	**Amatzia**	**3.41**	**165**	Pn	**Pn**	**11 49 59.7**	**+1.1**		
AMAZ				Sn	**Sn**	**11 50 39.0**	**+0.7**		
YAHY	**KAYSERI_Yahyal**	**3.47**	**20**	P	**Pn**	**11 50 00.4**	**+0.9**		
DSI	**Dead Sea**	**3.49**	**158**	Pn	**Pn**	**11 49 59.5**	**-0.3**		
YTIR	**Yattir**	**3.61**	**163**	Pn	**Pn**	**11 50 01.7**	**+0.2**		
YTIR				Sn	**Sn**	**11 50 44.3**	**+0.8**		
MDBI	**Mazsada**	**3.72**	**160**	Pn	**Pn**	**11 50 03.8**	**+0.9**		
MDBI				Sn	**Sn**	**11 50 46.6**	**+0.5**		
PRNI	**Paran**	**4.57**	**168**	Pn	**Pn**	**11 50 15.9**	**+1.3**		
KRMI	**Paran Flat**	**4.76**	**171**	Pn	**Pn**	**11 50 18.2**	**+1.0**		
KRMI				Sn	**Sn**	**11 51 12.1**	**+0.4**		
HRFI	**Mount Harif**	**4.88**	**168**	Pn	**Pn**	**11 50 19.8**	**+0.9**		
HRFI				Sn	**Sn**	**11 51 15.1**	**+0.3**		

IDC ***23*** *11:53:47.5±0.8,52˚.90S×118˚.08W,h0km,mb3.7/6, mb1 4.0/6,mb1mx3.9/20,mbtmp3.7/6,MS4.0/30, Ms1 4.0/30,ms1mx3.9/51,Error ellipse: s-maj=47.0km s-min=24.1km az=150.0*

NEIC ***23*** *11:53:49.0±2.0,52˚.6S±0˚.1×118˚.8W±0˚.2,h14km±4km, mb4.7/18,Error ellipse: s-maj=23.3km s-min=17.0km az=122.0*

ISC 23 11:53:48.5±0.6,52˚.6S±0˚.1×118˚.6W±0˚.1,h10km,n77, σ1§47/38,mb4.4/14,MS4.1/30,1C-1D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**26.30**	**19**	P		**P**	**11 59 22.6**	**-1.4**
RPN	**Rapa Nui**	**26.35**	**19**	LR		LR	12 07 07.3	
	comp=Z,111nm,18.1s,baz=308,slow=30							
MG05	**Puerto Natales**	**27.93**	**107**			**P**	**11 59 42.0**	**+3.4**
MG05				IAmb		IAmb	11 59 42.2	
	comp=Z,29nm,1.1s							
GO09	**Cerro Castillo**	**28.18**	**106**	P		**P**	**11 59 41.5**	**+0.8**
GO09				IAmb		IAmb	12 00 08.5	
	comp=Z,16nm,1.1s							
PMSA	**Palmer Station**	**29.83**	**135**	LR		LR	12 08 27.8	
	comp=Z,171nm,20.3s,baz=280,slow=30							
H03S2	**Juan Fernandez**	**33.89**	**72**	T		T	12 35 56.0	
	baz=221,SNR=296							
H03S1	**Juan Fernandez**	**33.89**	**72**	T		T	12 35 57.3	
	baz=221,SNR=330							
H03S3	**Juan Fernandez**	**33.90**	**72**	T		T	12 35 56.4	
	baz=221,SNR=290							
H03N3	**Juan Fernandez**	**34.16**	**72**	T		T	12 36 16.2	
	baz=224,slow=72,SNR=1049							
H03N2	**Juan Fernandez**	**34.17**	**72**	T		T	12 36 13.4	
	baz=224,slow=72,SNR=821							
H03N1	**Juan Fernandez**	**34.18**	**72**	T		T	12 36 15.1	
	baz=224,slow=72,SNR=450							
PLCA	**Paso Flores**	**34.41**	**89**	LR		LR	12 11 19.0	
	comp=Z,199nm,20.1s,baz=226,slow=31							
VNDA	**Vanda**	**37.13**	**201**	P		**P**	**12 00 59.0**	**+0.3**
	comp=Z,1.0nm,1.1s,baz=104,slow=4.2,SNR=3.1							
VNDA				LR		LR	12 12 58.9	
	comp=Z,214nm,19.8s,baz=88,slow=31							
VNDA	**Vanda**	**37.13**	**201**	P		**P**	**12 00 58.3**	**-0.3**
QSPA	**South Pole Qui**	**37.62**	**180**	LR		LR	12 14 10.5	
	comp=Z,198nm,20.9s,baz=104,slow=33							
QSPA	**South Pole Qui**	**37.62**	**180**	P		**P**	**12 01 01.5**	**-1.6**
QSPA				IAmb		IAmb	12 01 10.7	
	comp=Z,10nm,1.1s							
BELA	**Belgrano 2**	**38.01**	**160**	P		**P**	**12 01 05.7**	**-0.4**
BELA				IAmb		IAmb	12 01 10.1	
	comp=Z,8.1nm,1.2s							
VA05	**Santo Domingo**	**38.34**	**79**	P		**P**	**12 01 10.5**	**+1.2**
PPT	**Papeete**	**42.55**	**313**	LR		LR	12 14 54.0	
	comp=Z,235nm,20.5s,baz=151,slow=30							
URZ	**Urewera**	**45.83**	**262**	LR		LR	12 17 19.3	
	comp=Z,204nm,19.7s,baz=211,slow=31							
RPZ	**Rata Peaks**	**46.03**	**252**	LR		LR	12 17 12.6	
	comp=Z,137nm,19.1s,baz=122,slow=30							
VNA3	**Neumayer Olymp**	**46.72**	**155**	P		**P**	**12 02 18.4**	**+1.5**
VNA2	**Neumayer--Watz**	**47.50**	**155**	P		**P**	**12 02 24.9**	**+1.9**
	baz=233,slow=11							
LVC	**Limon Verde**	**48.10**	**71**	LR		LR	12 17 05.5	
	comp=Z,195nm,21.4s,baz=220,slow=29							
SNAA	**Sanae**	**48.12**	**157**	P		**P**	**12 02 29.2**	**+1.3**
SNAA	**Sanae**	**48.12**	**157**	LR		LR	12 20 55.0	
	comp=Z,380nm,20.1s,baz=262,slow=34							
SNAA	**Sanae**	**48.12**	**157**	P		**P**	**12 02 27.0**	**-0.9**
SNAA				IAmb		IAmb	12 02 30.7	
	comp=Z,12nm,1.2s							
TROLL	**Troll, Antarti**	**49.08**	**159**	P		**P**	**12 02 37.7**	**+2.2**
CPUP	**Villa Florida**	**52.20**	**85**	P		**P**	**12 02 57.2**	**-2.1**
	comp=Z,1.1nm,0.8s,baz=248,slow=14,SNR=2.9							
CPUP				LR		LR	12 22 00.1	
	comp=Z,419nm,18.4s,baz=226,slow=33							
CPUP	**Villa Florida**	**52.20**	**85**	P		**P**	**12 02 57.3**	**-2.1**
NNA	**Nana**	**52.48**	**55**	LR		LR	12 19 41.3	
	comp=Z,171nm,19.5s,baz=194,slow=30							
LPAZ	**La Paz**	**53.56**	**67**	P		**P**	**12 03 10.3**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=225,slow=11,SNR=4.2							
LPAZ				LR		LR	12 20 14.9	
	comp=Z,225nm,21.9s,baz=214,slow=30							
LPAZ	**La Paz**	**53.56**	**67**	P		**P**	**12 03 09.7**	**-0.5**
LPAZ				IAmb		IAmb	12 03 13.5	
	comp=Z,5.5nm,1.2s							
SYO	**Syowa Base**	**57.67**	**171⇑**	*e*X		P	12 03 32.8	-5.5
SYO	**Syowa Base**	**57.67**	**171⇓**	*e*pP		pP	12 03 40.6	0.0
SIV	**San Ignacio**	**57.85**	**73**	LR		LR	12 25 21.2	
	comp=Z,90nm,18.5s,baz=282,slow=33							
BOSC	**San Juan Bosco**	**59.37**	**48**	P		**P**	**12 03 51.3**	**+0.3**
BOSC				IAmb		IAmb	12 03 55.2	
	comp=Z,4.9nm,0.8s							
MAW	**Mawson**	**60.14**	**181**	LR		LR	12 27 30.0	
	comp=Z,109nm,19.3s,baz=180,slow=34							
OTAV	**Otavalo**	**62.40**	**47**	P		**P**	**12 04 13.2**	**+1.2**
OTAV				IAmb		IAmb	12 04 21.5	
	comp=Z,2.9nm,0.8s							
DZM	**Mont Dzumac**	**63.72**	**268**	LR		LR	12 26 42.0	
	comp=Z,87nm,19.2s,baz=196,slow=31							
BDFB	**Brasilia**	**65.93**	**84**	LR		LR	12 29 53.6	
	comp=Z,259nm,21.9s,baz=125,slow=33							
ROSC	**El Rosal**	**68.34**	**48**	LR		LR	12 29 41.6	
	comp=Z,132nm,19.6s,baz=190,slow=32							
SRBA	**San Rafael, Bu**	**68.54**	**38**	P		**P**	**12 04 50.7**	**-0.5**
SRBA				IAmb		IAmb	12 05 01.7	
	comp=Z,8.8nm,1.1s							
JTS	**Las Juntas de**	**68.93**	**36**	LR		LR	12 28 18.0	
	comp=Z,127nm,20.6s,baz=263,slow=30							
STKA	**Stephens Creek**	**70.87**	**243**	LR		LR	12 30 00.4	
	comp=Z,142nm,20.7s,baz=202,slow=31							
SDV	**Santo Domingo**	**73.60**	**50**	LR		LR	12 32 51.6	
	comp=Z,82nm,20.6s,baz=200,slow=32							
CTA	**Charters Tower**	**77.36**	**254**	LR		LR	12 35 01.9	
	comp=Z,52nm,19.3s,baz=121,slow=32							
LCCY	**Blossom Villag**	**79.34**	**37**	P		**P**	**12 05 54.0**	**-0.2**
MDP	**Montagnes des**	**79.75**	**68**	LR		LR	12 36 17.6	
	comp=Z,72nm,19.4s,baz=208,slow=32							
RCBR	**Riachuelo**	**80.85**	**88**	LR		LR	12 39 49.9	
	comp=Z,313nm,18.1s,baz=346,slow=34							
ASAR	**Alice Springs**	**81.50**	**242**	P		**P**	**12 06 06.4**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=152,slow=6.0,SNR=3.3							
ASAR				LR		LR	12 36 33.7	
	comp=Z,146nm,19.4s,baz=168,slow=31							
ASAR	**Alice Springs**	**81.50**	**242**	P		**P**	**12 06 05.4**	**-0.6**
H01W1	**Cape Leeuwin H**	**81.53**	**221**	T		T	13 36 28.2	
	baz=150,slow=76,SNR=32							
H01W2	**Cape Leeuwin H**	**81.53**	**221**	T		T	13 36 30.5	
	baz=150,slow=76,SNR=33							
H01W3	**Cape Leeuwin H**	**81.54**	**221**	T		T	13 36 30.5	
	baz=150,slow=76,SNR=31							
TXAR	**Lajitas Array**	**82.60**	**13**	P		**P**	**12 06 13.1**	**+1.6**
	comp=Z,0.3nm,0.9s,baz=188,slow=5.5,SNR=1.5							
SJG	**San Juan**	**83.74**	**49**	LR		LR	12 40 46.3	
	comp=Z,59nm,19.1s,baz=243,slow=34							
WRA	**Warramunga Arr**	**84.26**	**245**	P		**P**	**12 06 21.0**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=144,slow=4.4,SNR=5.6							
WRA				LR		LR	12 39 33.7	
	comp=Z,175nm,18.9s,baz=38,slow=32							
WRA	**Warramunga Arr**	**84.26**	**245**	P		**P**	**12 06 18.0**	**-2.4**
T25A	**Trinidad**	**90.19**	**11**	P		**P**	**12 06 48.5**	**-0.3**
NVAR	**Mina Array Bea**	**90.63**	**0**	LR		LR	12 39 52.9	
	comp=Z,87nm,18.4s,baz=232,slow=30							
TKL	**Tuckaleechee C**	**92.96**	**28**	LR		LR	12 41 59.8	
	comp=Z,23nm,21.8s,baz=175,slow=31							
H11S2	**WAKE ISLAND Hy**	**95.57**	**293**	T		T	13 54 09.6	
	baz=144,slow=76,SNR=242							
H11S3	**WAKE ISLAND Hy**	**95.58**	**293**	T		T	13 54 05.1	
	baz=144,slow=76,SNR=155							
H11S1	**WAKE ISLAND Hy**	**95.58**	**293**	T		T	13 54 14.2	
	baz=144,slow=76,SNR=152							
H11N3	**WAKE ISLAND Hy**	**96.44**	**294**	T		T	13 55 13.8	
	baz=144,slow=76,SNR=88							
H11N1	**WAKE ISLAND Hy**	**96.44**	**294**	T		T	13 55 16.2	
	baz=144,slow=76,SNR=75							
H11N2	**WAKE ISLAND Hy**	**96.46**	**294**	T		T	13 55 16.6	
	baz=144,slow=76,SNR=63							
BATI	**Baumata**	**99.06**	**242**	LR		LR	12 46 24.7	
	comp=Z,149nm,21.8s,baz=188,slow=32							
ILAR	**Eielson Array**	**119.04**	**347**	PKP		**PKiKP**	**12 12 39.1**	**+3.2**
	comp=Z,0.4nm,0.8s,baz=179,slow=4.5,SNR=4.1							
ILAR	**Eielson Array**	**119.04**	**347**			**PKiKP**	**12 12 36.4**	**+0.4**
GERES	**GERESS Array B**	**149.99**	**78**	PKPbc		**PKPbc**	**12 13 38.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=208,slow=2.6,SNR=5.8							
GERES	**GERESS Array B**	**149.99**	**78**	PKPdf		**PKPdf**	**12 13 32.2**	**-1.1**
GERES						**pPKPbc**	**12 13 39.8**	**-1.0**
GERES				PKPab		**PKPab**	**12 13 44.2**	**+0.1**
CLL	**Collm**	**150.57**	**73**	*e*(PKPbc)		**PKPbc**	**12 13 39.0**	**-0.4**
CLL				*e*PKPab		**PKPab**	**12 13 46.0**	**-0.3**
SONM	**Songino Array**	**151.19**	**279**	PKPbc		**PKiKP**	**12 13 43.1**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=180,slow=1.4,SNR=3.1							
BRTR	**Keskin Array B**	**157.03**	**113**	PKPab		**PKPab**	**12 14 11.4**	**-2.7**
	comp=Z,0.7nm,0.8s,baz=104,slow=1.8,SNR=2.7							
MKAR	**Makanchi Array**	**165.33**	**255**	PKPab		**PKPab**	**12 14 51.4**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=132,slow=4.1,SNR=5.1							

IDC ***23*** *11:58:57.5±1.3,53˚.02S×118˚.58W,h0km,mb3.5/4, mb1 3.9/4,mb1mx3.7/23,mbtmp3.5/4,Error ellipse: s-maj=77.4km s-min=34.7km az=123.0*

ISC 23 11:58:59.1±1.3,53˚.0S±0˚.3×118˚.6W±0˚.5,h10km,n21, σ0§57/6,mb3.6/4,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**34.02**	**72**	T		T	12 41 06.8	
	baz=220,SNR=56							
H03S1	**Juan Fernandez**	**34.02**	**72**	T		T	12 41 14.2	
	baz=220,SNR=57							
H03S3	**Juan Fernandez**	**34.03**	**72**	T		T	12 41 08.0	
	baz=220,SNR=58							
H03N3	**Juan Fernandez**	**34.29**	**71**	T		T	12 41 31.6	
	baz=224,slow=71,SNR=48							
H03N2	**Juan Fernandez**	**34.30**	**71**	T		T	12 41 29.8	
	baz=224,slow=71,SNR=78							
H03N1	**Juan Fernandez**	**34.31**	**71**	T		T	12 41 29.8	
	baz=224,slow=71,SNR=52							
VNDA	**Vanda**	**36.71**	**201**	P		**P**	**12 06 06.0**	**+0.4**
	0.6nm,0.9s,baz=96,slow=9.2,SNR=2.3							
H01W1	**Cape Leeuwin H**	**81.19**	**221**	T		T	13 41 45.0	
	baz=150,slow=76,SNR=10							
H01W2	**Cape Leeuwin H**	**81.19**	**221**	T		T	13 41 45.5	
	baz=150,slow=76,SNR=11							
H01W3	**Cape Leeuwin H**	**81.21**	**221**	T		T	13 41 46.0	
	baz=150,slow=76,SNR=9.7							
ASAR	**Alice Springs**	**81.30**	**242**	P		**P**	**12 11 15.3**	**-0.3**
	0.2nm,0.3s,baz=152,slow=4.2,SNR=2.1							
TXAR	**Lajitas Array**	**83.04**	**13**	P		**P**	**12 11 24.9**	**+0.4**
	0.4nm,0.9s,baz=204,slow=8.8,SNR=4.5							
WRA	**Warramunga Arr**	**84.08**	**245**	P		**P**	**12 11 29.9**	**-0.2**
	0.6nm,0.9s,baz=142,slow=4.5,SNR=2.6							
H11S2	**WAKE ISLAND Hy**	**95.76**	**293**	T		T	13 59 13.9	
	baz=144,slow=76,SNR=82							
H11S3	**WAKE ISLAND Hy**	**95.77**	**293**	T		T	13 59 20.3	
	baz=144,slow=76,SNR=39							
H11S1	**WAKE ISLAND Hy**	**95.78**	**293**	T		T	13 59 15.2	
	baz=144,slow=76,SNR=44							
H11N3	**WAKE ISLAND Hy**	**96.64**	**294**	T		T	14 00 20.5	
	baz=144,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy**	**96.64**	**294**	T		T	14 00 26.0	
	baz=144,slow=75,SNR=31							
H11N2	**WAKE ISLAND Hy**	**96.65**	**294**	T		T	14 00 26.6	
	baz=144,slow=75,SNR=24							
GERES	**GERESS Array B**	**150.07**	**79**	PKPbc		**PKPbc**	**12 18 48.4**	**-0.7**
	0.9nm,0.7s,baz=222,slow=1.8,SNR=4.1							
MKAR	**Makanchi Array**	**165.21**	**253**	PKPab		**PKPab**	**12 20 00.3**	**0.0**
	0.3nm,0.6s,baz=122,slow=5.4,SNR=2.5							

AAE 23 12:02:27.9±31.0,10˚.28N×40˚.87E,h33km±515km,ML4.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.31**	**57**	*e*P		Pb	12 03 16.3	+7.3
ATD				*i* Sg		Sn	12 03 18.4	-13
ATD	**Arta Tunnel**	**2.31**	**57**	*e*P		Pb	12 03 16.3	+7.3
ATD				*i* Sg		Sn	12 03 18.4	-13
ATD				IAML			12 03 19.2	
	comp=E,2μm,1.1s							
AAE	**Adis Abeba**	**2.42**	**239**	*e*P		Pb	12 03 18.5	+7.6
AAE				*e*S		Sn	12 03 22.5	-12
AAE	**Adis Abeba**	**2.42**	**239**	*e*P		Pb	12 03 18.5	+7.6
AAE				*e*S		Sn	12 03 22.5	-12
AAE				IAML			12 03 26.9	
	comp=E,78nm,0.3s							
FURI	**Furi**	**2.56**	**238**	*e*P		Pb	12 03 14.7	+1.4
FURI				*e*S		Sn	12 03 16.6	-21
FURI	**Furi**	**2.56**	**238**	*e*P		Pb	12 03 14.7	+1.4
FURI				*e*S		Sn	12 03 16.6	-21
FURI				IAML			12 03 19.1	
	comp=E,2μm,0.3s							

DSN ***23*** *12:15:31.9±2.2,27˚.45N×52˚.61E,h10km,ML3.8/10,Error ellipse: s-maj=27.8km s-min=13.2km az=172.0*

TEH ***23*** *12:15:32.1,27˚.55N×52˚.55E,h21km,ML3.8*

ISC 23 12:15:32.9±1.2,27˚.55N±0˚.07×52˚.61E±0˚.06,h14km,n59, σ0§93/61,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.54**	**113**	*e*Pg		**Pg**	**12 15 43.3**	**-0.2**
LMD1				*e*Sg		**Sb**	**12 15 52.6**	**+0.9**
LMD1				*e*			12 15 53.9	
	comp=Z,94μm,0.3s							
JHRM	**Jahrom**	**1.28**	**42**	*e*Pg		**Pn**	**12 15 56.8**	**+0.4**
JHRM				*e*			12 16 22.5	
	comp=Z,31μm,0.6s							
LAR1	**LAR**	**1.57**	**85**	*e*Pn		**Pb**	**12 16 01.6**	**-0.2**
AHBU	**AHRAM**	**1.75**	**319**	*e*Pn		**Pn**	**12 16 03.5**	**+0.7**
SHI	**Shiraz**	**2.08**	**358**	*e*			12 16 51.2	
	comp=Z,4μm,0.9s							
SHI				*e*Pn		**Pn**	**12 16 08.2**	**+0.6**
KAZ1	**Kazerun**	**2.23**	**338**	*e*			12 16 54.1	
	comp=E,13μm,0.4s							
KAZ1				*e*Pn		**Pn**	**12 16 09.9**	**+0.3**
JRN	**Qarnain Island**	**2.61**	**175**	*e*Pn		**Pn**	**12 16 14.2**	**-0.4**
GENO	**Geno**	**3.17**	**92**	*e*Pn		**Pn**	**12 16 23.8**	**+1.3**
GENO				*e*			12 17 31.9	
	comp=Z,2μm,0.9s							
SHME	**Shamm**	**3.49**	**115**	*e*Pn		**Pn**	**12 16 27.2**	**+0.4**
SHME	**Shamm**	**3.49**	**115**	P		**Pn**	**12 16 25.8**	**-1.0**
KLNJ	**Kolanjah**	**3.56**	**346**	*e*Pn		**Pn**	**12 16 28.7**	**+0.7**
SLWR	**Sila**	**3.57**	**194**	*e*Pn		**Pn**	**12 16 28.6**	**+0.8**
GHWR	**Ruwais**	**3.58**	**176**	*e*Pn		**Pn**	**12 16 27.8**	**-0.2**
AJN	**Ajban**	**3.67**	**144**	*e*Pn		**Pn**	**12 16 29.6**	**+0.4**
BANOM	**Banah**	**3.68**	**115**	*e*Pn		**Pn**	**12 16 29.7**	**+0.3**
BANOM	**Banah**	**3.68**	**115**	P		**Pn**	**12 16 29.1**	**-0.2**
BANOM				S		**Sn**	**12 17 12.4**	**-0.2**
NAZ	**Nazwa, Dubai**	**3.75**	**132**	*e*Pn		**Pn**	**12 16 30.7**	**+0.4**
NAZ	**Nazwa, Dubai**	**3.75**	**132**	P		**Pn**	**12 16 28.4**	**-1.9**
ASUD	**Al Ashush, Dub**	**3.80**	**139**	*e*Pn		**Pn**	**12 16 31.8**	**+0.7**
ASUD	**Al Ashush, Dub**	**3.80**	**139**	P		**Pn**	**12 16 31.2**	**+0.1**
MSFE	**Esma-Masafi**	**3.86**	**124**	*e*Pn		**Pn**	**12 16 32.0**	**+0.1**
MSFE	**Esma-Masafi**	**3.86**	**124**	P		**Pn**	**12 16 30.6**	**-1.3**
FAQ	**Al Faqa, Dubai**	**3.87**	**136**	*e*Pn		**Pn**	**12 16 32.2**	**+0.1**
FAQ	**Al Faqa, Dubai**	**3.87**	**136**	P		**Pn**	**12 16 31.5**	**-0.6**
MZWR	**Madinat Zayed**	**3.95**	**163**	*e*Pn		**Pn**	**12 16 33.0**	**0.0**
UOSS	**Minazif**	**4.14**	**128**	*e*Pn		**Pn**	**12 16 34.3**	**-1.5**
UOSS	**Minazif**	**4.14**	**128**	P		**Pn**	**12 16 33.7**	**-2.1**
HATD	**Hatta, Dubai**	**4.17**	**130**	*e*Pn		**Pn**	**12 16 35.2**	**-0.9**
HATD	**Hatta, Dubai**	**4.17**	**130**	P		**Pn**	**12 16 33.8**	**-2.3**
NGRK	**Negar Kerman**	**4.18**	**59**	*e*Pn		**Pn**	**12 16 36.7**	**+0.1**
NGRK				*e*			12 17 05.8	
	comp=Z,486nm,0.7s							
IMEH	**Mehriz**	**4.20**	**24**	*e*Pn		**Pn**	**12 16 38.0**	**+1.2**
ASHO	**Ashiyiah**	**4.22**	**132**	*e*Pn		**Pn**	**12 16 35.9**	**-0.9**
ASHO	**Ashiyiah**	**4.22**	**132**	P		**Pn**	**12 16 36.3**	**-0.5**
IRAM	**Ramesheh**	**4.25**	**357**	*e*Pn		**Pn**	**12 16 37.2**	**-0.2**
KHGB	**Koh Gabri**	**4.40**	**49**	*e*Pn		**Pn**	**12 16 40.3**	**+0.7**
KHGB				*e*			12 17 39.9	
	comp=Z,498nm,1.2s							
ALNE	**Al Ain**	**4.49**	**140**	*e*Pn		**Pn**	**12 16 40.2**	**-0.3**
MZR	**Muzera**	**4.60**	**170**	*e*Pn		**Pn**	**12 16 42.2**	**+0.1**
IBAF	**Bafgh**	**4.78**	**32**	*e*Pn		**Pn**	**12 16 45.4**	**+0.8**
IBAF				*e*			12 16 46.0	
	comp=Z,700nm,0.2s							
IGAR	**Gharneh**	**4.86**	**354**	*e*Pn		**Pn**	**12 16 45.9**	**+0.1**
CHMN	**Cheshme madani**	**4.90**	**61**	*e*Pn		**Pn**	**12 16 47.7**	**+1.2**
CHMN				*e*			12 16 50.6	
	comp=E,547nm,0.4s							
SOHO	**SOHO**	**4.91**	**133**	P		**Pn**	**12 16 44.0**	**-2.2**
AMIS	**Naft Sefid**	**5.02**	**326**	*e*Pn		**Pn**	**12 16 46.9**	**-0.9**
YZKH	**Yazd**	**5.12**	**19**	*e*Pn		**Pn**	**12 16 50.0**	**+0.8**
NASN	**Na'in**	**5.23**	**2**	*e*Pn		**Pn**	**12 16 51.0**	**0.0**
IPIR	**Pirpir**	**5.33**	**344**	*e*Pn		**Pn**	**12 16 51.9**	**-0.4**
IZEF	**Zefreh**	**5.33**	**357**	*e*Pn		**Pn**	**12 16 52.2**	**-0.1**
UMZA	**Um Al Zommool**	**5.34**	**154**	*e*Pn		**Pn**	**12 16 50.3**	**-2.0**
KBAM	**BAM**	**5.38**	**72**	*e*Pn		**Pn**	**12 16 54.1**	**+1.2**
KBAM				*e*			12 18 04.9	
	comp=Z,464nm,0.7s							
ANAR	**Anarak**	**5.70**	**9**	*e*Pn		**Pn**	**12 16 56.9**	**-0.4**
IKLH	**Kolahrood**	**5.82**	**351**	*e*Pn		**Pn**	**12 16 57.8**	**-1.2**
KRSH	**Karshahi**	**6.41**	**356**	*e*Pn		**Pn**	**12 17 06.0**	**-1.1**
TPRV	**Parvadeh(Tabas**	**6.50**	**32**	*e*Pn		**Pn**	**12 17 08.8**	**+0.6**
KHMZ	**Khomeyn**	**6.58**	**340**	*e*Pn		**Pn**	**12 17 10.1**	**+0.7**
ISFB	**Sefidab**	**6.79**	**357**	*e*Pn		**Pn**	**12 17 10.5**	**-1.6**
BSRN	**Basiran**	**7.17**	**51**	*e*Pn		**Pn**	**12 17 16.5**	**-1.0**
TKDS	**Koohdasht(Taba**	**7.18**	**32**	*e*Pn		**Pn**	**12 17 17.4**	**-0.2**
TABS	**Tabas**	**7.21**	**31**	*e*Pn		**Pn**	**12 17 17.9**	**-0.1**
ASAO	**Ashtian**	**7.32**	**343**	*e*Pn		**Pn**	**12 17 19.7**	**+0.1**
SHRO	**Shahrood**	**8.89**	**18**	*e*Pn		**Pn**	**12 17 41.4**	**+0.3**

NOU ***23*** *12:41:50.5,22˚.43S×179˚.80E,h583km,mb4.4/38,South of Fiji Islands*

NEIC ***23*** *12:41:53.0±2.2,22˚.6S±0˚.1×179˚.4E±0˚.1,h568km±7km, mb4.5/37,Error ellipse: s-maj=17.2km s-min=16.2km az=221.0*

IDC ***23*** *12:41:53.8±1.4,22˚.57S×179˚.28E,h580km±14km, mb3.6/17,mb1 3.7/19,mb1mx3.5/37,mbtmp4.6/19,Error ellipse: s-maj=14.9km s-min=12.8km az=98.0*

ISC 23 12:41:51.1±0.4,22˚.68S±0˚.06×179˚.40E±0˚.07,h550km, n190,σ2§08/215,mb4.3/34,1C-5D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.08**	**345**	P		**P**	**12 43 24.7**	**+2.8**
	30nm,0.3s,baz=184,slow=3.2,SNR=56							
MSVF	**Nonsavu**	**5.08**	**345**	P		**P**	**12 43 24.4**	**+2.5**
GLKZ	**Green Lake**	**6.99**	**160**	P		**P**	**12 43 42.7**	**+3.9**
GLKZ				S		**S**	**12 45 11.7**	**+4.5**
NIUE	**Niue**	**10.60**	**72**	P		**P**	**12 44 16.8**	**+1.5**
MARNC	**Mare, Loyalty**	**10.61**	**274**	P		**P**	**12 44 17.7**	**+2.3**
LIFNC	**LIFOU**	**11.46**	**277**	P		**P**	**12 44 25.6**	**+1.5**
DZM	**Mont Dzumac**	**12.00**	**270**	P		**P**	**12 44 31.3**	**+1.4**
	0.3nm,0.3s,baz=54,slow=17,SNR=2.1							
DZM	**Mont Dzumac**	**12.00**	**270**	P		**P**	**12 44 32.0**	**+2.2**
OUZ	**Omahuta**	**13.48**	**201**			**P**	**12 44 48.6**	**+3.8**
OUZ	**Omahuta**	**13.48**	**201**	P		**P**	**12 44 48.4**	**+3.6**
OUZ	**Omahuta**	**13.48**	**201**	P		**P**	**12 44 48.8**	**+4.0**
SANVU	**Saraoutou**	**13.58**	**300**	P		**P**	**12 44 46.8**	**+0.7**
**SANV

RABL	**Rabaul**	**32.13 301**	P	**P**	**12 47 35.1**	**+1.1**
QLP	**Quilpie**	**32.14 256**	P	**P**	**12 47 34.6**	**+0.6**
TOO	**Toolangi**	**32.66 235**	P	**P**	**12 47 38.3**	**-0.1**
TOO			IAmb	IAmb	12 47 40.1	
	comp=Z,5.3nm,0.7s					
TOO	**Toolangi**	**32.66 235**	P	**P**	**12 47 39.5**	**+1.2**
MTSU	**Mount Surprise**	**33.14 271**	P	**P**	**12 47 43.1**	**+0.5**
PMG	**Port Moresby**	**33.58 288**	P	**P**	**12 47 46.2**	**-0.1**
	comp=Z,14nm,0.5s,baz=101,slow=7.9,SNR=9.1					
PMG	**Port Moresby**	**33.58 288**	P	**P**	**12 47 47.0**	**+0.7**
PMG	**Port Moresby**	**33.58 288**	P	**P**	**12 47 46.4**	**+0.1**
STKA	**Stephens Creek**	**34.68 246**	P	**P**	**12 47 55.7**	**+0.4**
	comp=Z,2.8nm,0.4s,baz=99,slow=12,SNR=12					
STKA	**Stephens Creek**	**34.68 246**	P	**P**	**12 47 55.1**	**-0.2**
STKA	**Stephens Creek**	**34.68 246**	P	**P**	**12 47 56.3**	**+1.0**
INKA	**Innaminka**	**35.23 254**	P	**P**	**12 48 01.3**	**+1.3**
COEN	**Coen**	**35.39 278**	P	**P**	**12 48 02.3**	**+0.9**
COEN			IAmb	IAmb	12 48 17.0	
	comp=Z,28nm,1.4s					
COEN	**Coen**	**35.39 278**	P	**P**	**12 48 01.9**	**+0.5**
QIS	**Mount Isa**	**36.98 266**	P	**P**	**12 48 14.2**	**-0.3**
HTT	**Hallett**	**37.09 244**	P	**P**	**12 48 15.6**	**+0.3**
LCRK	**Leigh Creek**	**37.48 249**	P	**P**	**12 48 18.9**	**+0.5**
BBOO	**Buckleboo**	**39.43 246**	P	**P**	**12 48 34.0**	**-0.2**
BBOO			IAmb	IAmb	12 48 48.5	
	comp=Z,17nm,1.2s					
BBOO	**Buckleboo**	**39.43 246**	P	**P**	**12 48 33.8**	**-0.4**
OOD	**Oodnadatta**	**39.71 253**	P	**P**	**12 48 37.5**	**+1.0**
MULG	**Mulgathing**	**41.07 249**	P	**P**	**12 48 47.1**	**-0.2**
AS31	**Alice Springs**	**41.70 259**	P	**P**	**12 48 51.8**	**-0.7**
AS31			IAmb	IAmb	12 48 53.8	
	comp=Z,3.2nm,0.3s					
ASAR	**Alice Springs**	**41.70 259**	P	**P**	**12 48 52.0**	**-0.5**
	comp=Z,4.0nm,0.6s,baz=98,slow=7.8,SNR=79					
ASAR			PcP	**PcP**	**12 50 35.5**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=102,slow=3.7,SNR=8.8					
ASAR	**Alice Springs**	**41.70 259**	P	**P**	**12 48 52.4**	**0.0**
WR0	**Warramunga Arr**	**41.76 265**	P	**P**	**12 48 52.7**	**-0.3**
WB0	**Warramunga Arr**	**41.94 265**	P	**P**	**12 48 53.3**	**-1.0**
WB0			IAmb	IAmb	12 48 54.3	
	comp=Z,5.5nm,0.6s					
WB2	**Warramunga Arr**	**41.94 265**	P	**P**	**12 48 53.2**	**-1.2**
WB2			IAmb	IAmb	12 48 56.7	
	comp=Z,17nm,1.5s					
WRAB	**Tennant Creek**	**41.94 265**	P	**P**	**12 48 53.4**	**-1.0**
WRAB	**Tennant Creek**	**41.94 265**	P	**P**	**12 48 53.4**	**-1.0**
WRA	**Warramunga Arr**	**41.95 265**	P	**P**	**12 48 53.3**	**-1.2**
	comp=Z,3.1nm,0.4s,baz=93,slow=7.9,SNR=104					
WRA			PcP	**PcP**	**12 50 34.6**	**-2.3**
	comp=Z,0.8nm,0.5s,baz=96,slow=2.7,SNR=3.3					
WRA	**Warramunga Arr**	**41.95 265**	P	**P**	**12 48 53.3**	**-1.2**
FORT	**Forrest**	**46.23 249**	P	**P**	**12 49 26.9**	**-0.4**
FORT			IAmb	IAmb	12 49 27.5	
	comp=Z,17nm,0.6s					
FORT	**Forrest**	**46.23 249**	P	**P**	**12 49 26.7**	**-0.6**
MTN	**Manton Dam**	**46.82 274**	P	**P**	**12 49 30.8**	**-1.2**
MTN			IAmb	IAmb	12 49 38.1	
	comp=Z,12nm,1.1s					
KNRA	**Kununurra**	**48.15 269**	P	**P**	**12 49 41.3**	**-0.6**
KNRA			IAmb	IAmb	12 49 42.0	
	comp=Z,16nm,0.6s					
FITZ	**Fitzroy Crossi**	**50.38 265**	P	**P**	**12 49 58.2**	**-0.1**
	comp=Z,6.7nm,0.4s,baz=100,slow=4.9,SNR=82					
FITZ	**Fitzroy Crossi**	**50.38 265**	P	**P**	**12 49 58.4**	**0.0**
FITZ			IAmb	IAmb	12 49 59.6	
	comp=Z,7.3nm,0.5s					
SIJI	**Sorong**	**51.53 288**	P	**P**	**12 50 06.0**	**-0.7**
	comp=Z,7.2nm,0.3s,baz=152,slow=6.7,SNR=7.4					
BATI	**Baumata**	**54.59 274**	P	**P**	**12 50 29.5**	**+0.9**
	comp=Z,24nm,0.5s,baz=92,slow=2.2,SNR=5.0					
MEEK	**Meekatharra**	**54.94 253**	P	**P**	**12 50 30.1**	**-0.8**
KLBR	**Kellerberrin**	**54.96 247**	P	**P**	**12 50 30.3**	**-0.6**
MBWA	**Marble Bar**	**55.04 259**	P	**P**	**12 50 30.5**	**-1.2**
MBWA			IAmb	IAmb	12 50 31.0	
	comp=Z,11nm,0.5s					
NWAO	**Narrogin (SRO)**	**55.24 245**	P	**P**	**12 50 32.3**	**-0.5**
NWAO			IAmb	IAmb	12 50 49.6	
	comp=Z,16nm,1.1s					
VNDA	**Vanda**	**55.55 185**	P	**P**	**12 50 36.1**	**+2.0**
	comp=Z,1.0nm,0.4s,baz=19,slow=7.9,SNR=20					
VNDA	**Vanda**	**55.55 185**	P	**P**	**12 50 35.4**	**+1.2**
SBA	**Scott Base**	**55.56 183**	P	**P**	**12 50 37.4**	**+3.1**
BLDU	**Ballidu**	**55.97 248**	P	**P**	**12 50 37.0**	**-0.9**
MORW	**Morawa**	**56.78 249**	P	**P**	**12 50 43.3**	**-0.2**
MORW	**Morawa**	**56.78 249**	P	**P**	**12 50 42.7**	**-0.8**
GIRL	**Giralia**	**59.66 256**	P	**P**	**12 51 03.1**	**+0.1**
GIRL	**Giralia**	**59.66 256**	P	**P**	**12 51 03.7**	**+0.7**
PLAI	**Plampang**	**60.51 273**	P	**P**	**12 51 07.8**	**-1.0**
CASY	**Casey**	**60.97 206**	P	**P**	**12 51 10.4**	**-0.5**
CASY			IAmb	IAmb	12 51 12.1	
	comp=Z,14nm,1.1s					
TOLI2	**Tolitoli**	**61.74 284**	P	**P**	**12 51 16.8**	**0.0**
QSPA	**South Pole Qui**	**67.40 180**	P	**P**	**12 51 53.3**	**+1.5**
QSPA			IAmb	IAmb	12 51 54.5	
	comp=Z,17nm,0.8s					
MJAR	**Matsushiro Arr**	**70.58 326**	P	**P**	**12 52 10.7**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=162,slow=8.5,SNR=4.4					
LEM	**Lembang**	**70.61 271**	P	**P**	**12 52 11.9**	**-0.2**
	comp=Z,24nm,0.6s,baz=20,slow=22,SNR=4.7					
SMAI	**San Martin Ant**	**77.44 159**	P	**P**	**12 52 51.3**	**+1.8**
BELA	**Belgrano 2**	**77.71 173**	P	**P**	**12 52 50.8**	**-0.1**
BELA			IAmb	IAmb	12 52 52.1	
	comp=Z,8.8nm,0.7s					
PETK	**Petropavlovsk-**	**77.79 347**	P	**P**	**12 52 50.2**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=128,slow=7.6,SNR=6.6					
MAW	**Mawson**	**78.69 200**	P	**P**	**12 52 56.6**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=118,slow=8.8,SNR=7.1					
MAW	**Mawson**	**78.69 200**	P	**P**	**12 52 56.6**	**+0.4**
DSPA	**Despedida**	**84.16 147**	P	**P**	**12 53 25.5**	**+1.0**
O18K	**Koktuh Hills**	**84.83 13**	P	**P**	**12 53 26.2**	**-1.3**
O18K			IAmb	IAmb	12 53 46.5	
	comp=Z,16nm,1.4s					
TROLL	**Troll, Antarti**	**85.54 181**	P	**P**	**12 53 30.7**	**-0.4**
SNAA	**Sanae**	**85.89 179**	P	**P**	**12 53 32.0**	**-0.7**
SNAA	**Sanae**	**85.89 179**	P	**P**	**12 53 32.2**	**-0.5**
SNAA			IAmb	IAmb	12 53 49.8	
	comp=Z,8.3nm,1.2s					
VNA3	**Neumayer Olymp**	**86.12 177**	P	**P**	**12 53 33.0**	**-0.7**
VNA2	**Neumayer--Watz**	**86.53 178**	P	**P**	**12 53 35.2**	**-0.4**
	baz=185,slow=4.0					
CMAR	**Chiang Mai Arr**	**88.58 291**	P	**P**	**12 53 46.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=136,slow=3.8,SNR=5.6					
TXAR	**Lajitas Array**	**90.26 58**	P	**P**	**12 53 55.8**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=211,slow=5.5,SNR=9.9					
ILAR	**Eielson Array**	**90.98 14**	P	**P**	**12 53 55.3**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=212,slow=5.3,SNR=7.6					
ILAR	**Eielson Array**	**90.98 14**	P	**P**	**12 53 56.7**	**+0.4**
MKAR	**Makanchi Array**	**110.92 313**	PKiKP	**PKiKP**	**12 59 20.1**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=205,slow=1.0,SNR=5.7					
MKAR	**Makanchi Array**	**110.92 313**		**PKiKP**	**12 59 20.3**	**-1.7**
KURBB	**Kurchatov Arra**	**113.98 317**	PKiKP	**PKiKP**	**12 59 25.7**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=112,slow=1.7,SNR=7.3					
BVAR	**Borovoye Array**	**119.16 319**	PKP	**PKPdf**	**12 59 36.1**	**-1.5**
	comp=Z,1.3nm,0.5s					
ARU	**Arti**	**125.58 324**	PKP	**PKPdf**	**12 59 49.4**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=158,slow=5.4,SNR=4.6					
ARCES	**ARCESS Array B**	**130.58 348**	PKP	**PKPdf**	**12 59 57.6**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=42,slow=3.9,SNR=9.2					
ARCES			SKPab	**SKPbc**	**13 02 30.5**	**-1.2**
	comp=Z,5.3nm,0.9s,baz=8.9,slow=6.4,SNR=5.3					
ARCES	**ARCESS Array B**	**130.58 348**	PKPdf	**PKPdf**	**12 59 58.5**	**-0.4**
FINES	**FINESS Array B**	**137.12 342**	PKhKP	PKPpre	13 00 00.9	
	comp=Z,1.7nm,1.0s,baz=358,slow=5.7,SNR=6.0					
FINES			PKP	**PKPdf**	**13 00 09.6**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=20,slow=2.2,SNR=6.2					
FINES			SKP	**SKPbc**	**13 02 50.4**	**-2.6**
	comp=Z,1.7nm,0.9s,baz=358,slow=5.7,SNR=3.5					
AKASG	**Malin Array Be**	**143.65 328**	PKP	PKPab	13 00 20.6	-1.8
	comp=Z,5.0nm,0.5s,baz=52,slow=4.5,SNR=30					
AKASG	**Malin Array Be**	**143.65 328**		PKPab	13 00 20.8	-1.5
AKBB	**Malin Array Si**	**143.65 328**		PKPab	13 00 21.1	-1.2
BRTR	**Keskin Array B**	**146.40 308**	PKPbc	**PKPdf**	**13 00 29.3**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=138,slow=5.3,SNR=7.3					
BRTR	**Keskin Array B**	**146.40 308**		**PKPbc**	**13 00 30.0**	**-1.1**
BURAR	**Bucovina Array**	**147.65 327**	⇓P	**PKiKP**	**13 00 34.6**	**-1.0**
HARR	**Harsova**	**147.94 320**	⇓P	**PKPbc**	**13 00 34.0**	**-0.7**
OSTC	**Ostas**	**149.22 339**	*e*PKP	**PKiKP**	**13 00 38.0**	**-0.6**
CHVC	**Chvalec**	**149.25 339**	*e*PKP	**PKPbc**	**13 00 37.6**	**-0.2**
DPC	**Dobruska-Polom**	**149.37 339**	*e*PKP	**PKiKP**	**13 00 38.1**	**-0.9**
ARR	**Arges**	**149.41 324**	⇑P	**PKiKP**	**13 00 38.9**	**-0.3**
KRLC	**Kraliky**	**149.44 338**	*e*PKP	**PKPbc**	**13 00 38.1**	**-0.2**
DRGR		**149.47 328**	⇓P	**PKPbc**	**13 00 36.9**	**-1.7**
CLL	**Collm**	**149.53 343**	*i* PKPbc	**PKPbc**	**13 00 37.9**	**-0.5**
	comp=Z,7.0nm,0.5s					
PVCC	**Panska Ves**	**149.78 341**	*e*PKP	**PKiKP**	**13 00 39.1**	**-0.6**
PRU	**Pruhonice**	**150.26 340**	*e*PKP	**PKPbc**	**13 00 39.9**	**-0.3**
KHC	**Kasperske Hory**	**151.31 340**	*e*PKP	**PKPbc**	**13 00 42.2**	**-0.5**
CKRC	**Cesky Krumlov**	**151.35 339**	*e*PKP	**PKPbc**	**13 00 42.3**	**-0.5**
GERES	**GERESS Array B**	**151.53 340**	PKPbc	**PKPbc**	**13 00 42.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=60,slow=3.5,SNR=8.4					
GERES	**GERESS Array B**	**151.53 340**		**PKPbc**	**13 00 42.2**	**-1.1**
BLKB	**Belogradchik**	**151.60 323**	⇓P	**PKPbc**	**13 00 43.1**	**-0.4**
MORH	**Mrgy, Hungar**	**151.81 331**	⇓P	**PKPbc**	**13 00 42.7**	**-1.1**
ESDC	**Sonseca Array**	**162.82 9**	PKPab	**PKPab**	**13 01 42.3**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=13,slow=4.3,SNR=4.6					
TORD	**Torodi Ar. Bea**	**170.27 193**	PKPab	**PKPab**	**13 02 15.2**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=163,slow=3.8,SNR=7.2					
TORD	**Torodi Ar. Bea**	**170.27 193**	PKPdf	**PKPdf**	**13 00 54.5**	**-2.4**
TORD				**PKPab**	**13 02 16.2**	**-0.6**

*NNC **23** 13:16:16.6±0.5, 50.°03N×78.°84E, h0km, mb2.5, mpv2.3, Error ellipse: s-maj=16.8km s-min=2.3km az=67.0, Suspected Mining explosion.*
*IDC **23** 13:16:17.6±1.0, 50.°04N×78.°78E, h0km, mb1 2.7/2, mb1mx2.6/43, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=14.3km s-min=6.6km az=64.0*
ISC 23 13:16:16.0±2.3, 50.02N±0.07×78.5E±0.3, h0km, n16, σ0.8s9/27, 17C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.56**	**2**	⇓P	**Pb**	**13 16 28.0**	**-0.7**
KUR07				⇓S	**Sb**	**13 16 37.0**	**-0.3**
KUR06	**Kurchatov Arra**	**0.58**	**2**	⇑P	**Pb**	**13 16 28.5**	**-0.6**
KUR06				⇑S	**Sb**	**13 16 37.7**	**-0.2**
KUR14	**Kurchatov Arra**	**0.60**	**6**	⇑P	**Pb**	**13 16 28.4**	**-0.9**
KUR14				⇑S	**Sb**	**13 16 37.3**	**-1.0**
KUR15	**Kurchatov Arra**	**0.60**	**4**	⇑P	**Pb**	**13 16 28.6**	**-0.8**
KUR15				⇓S	**Sb**	**13 16 37.8**	**-0.6**
KURBB	**Kurchatov Arra**	**0.60**	**3**	Pg	**Pb**	**13 16 28.9**	**-0.5**
	1.2nm,0.3s,baz=168,slow=17,SNR=24						
KURBB				Lg	Lg	13 16 38.5	
	2.0nm,0.3s,baz=162,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**0.60**	**3**	⇑P	**Pb**	**13 16 28.9**	**-0.5**
	2.4nm,0.2s						
KURBB				⇓S	**Sb**	**13 16 38.0**	**-0.4**
	13nm,0.3s						
KUR16	**Kurchatov Arra**	**0.61**	**1**	⇑P	**Pb**	**13 16 28.9**	**-0.6**
KUR16				⇑S	**Sb**	**13 16 38.4**	**-0.2**
KUR17	**Kurchatov Arra**	**0.61**	**359**	⇑P	**Pb**	**13 16 29.2**	**-0.4**
KUR17				⇑S	**Sb**	**13 16 38.9**	**+0.2**
KUR05	**Kurchatov Arra**	**0.62**	**3**	⇑P	**Pb**	**13 16 29.1**	**-0.7**
KUR05				⇓S	**Sb**	**13 16 38.2**	**-0.9**
KUR04	**Kurchatov Arra**	**0.64**	**3**	⇑P	**Pb**	**13 16 29.6**	**-0.5**
KUR04				⇑S	**Sb**	**13 16 38.8**	**-0.8**
KURK	**Kurchatov**	**0.70**	**7**	⇑P	**Pb**	**13 16 30.2**	**-0.9**
	2.2nm,0.3s						
KURK				⇓S	**Sb**	**13 16 40.1**	**-1.1**
	4.3nm,0.4s						
MAKZ	**Makanchi**	**3.97**	**143**	⇓Pg	**Pb**	**13 17 26.3**	**-0.5**
	0.1nm,0.2s						
MAKZ				⇑Lg	Lg	13 18 17.3	
	1.4nm,0.5s						
MK31	**Makanchi Array**	**4.11**	**140**	⇓Pn	**Pn**	**13 17 21.1**	**+1.1**
	baz=322,slow=8.5,SNR=14						
MK31				⇑Pg	**Pb**	**13 17 29.1**	**0.0**
	0.2nm,0.3s,baz=326,slow=15,SNR=5.5						
MK31				⇑Lg	Lg	13 18 22.1	
	0.4nm,0.4s,baz=331,slow=26,SNR=8.8						
MKAR	**Makanchi Array**	**4.11**	**140**	Pn	**Pn**	**13 17 21.0**	**+1.0**
	0.2nm,0.3s,baz=326,slow=11,SNR=11						
MKAR				Pg	**Pb**	**13 17 27.1**	**-2.1**
	0.3nm,0.3s,baz=322,slow=13,SNR=11						
MKAR				Lg	Lg	13 18 22.4	
	0.6nm,0.3s,baz=337,slow=25,SNR=10						
ZALV	**Zalesovo Beam**	**5.54**	**42**	Pn	**Pn**	**13 17 41.5**	**+1.8**
	0.4nm,0.3s,baz=232,slow=14,SNR=5.2						
I46RU	**ZALESOVO INFRA**	**5.55**	**42**	*i*		13 50 10.0	
	baz=226,slow=320,SNR=2.4						

*IDC **23** 13:22:06.9±6.5, 23.°88S×176.°62W, h152km±52km, mb3.7/5, mb1 3.8/6, mb1mx3.3/37, mbtmp4.2/6, MS2.9/2, Ms1 2.8/2, ms1mx2.4/65, Error ellipse: s-maj=55.8km s-min=34.6km az=144.0*
ISC 23 13:22:08.7±1.7, 23.°9S±0.2×176.°8W±0.2, h150km, n10, σ1.8s82/10, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.82**	**321**	P	**Pn**	**13 23 58.9**	**-0.9**
	4.4nm,0.3s,baz=128,slow=12,SNR=13						
MSVF				LR	LR	13 27 02.9	
	comp=Z,57nm,20.4s,baz=119,slow=38						
CTA	**Charters Tower**	**34.38**	**269**	P	**P**	**13 28 42.0**	**+0.3**
	3.2nm,0.4s,baz=83,slow=9.1,SNR=9.4						
STKA	**Stephens Creek**	**37.41**	**248**	P	**P**	**13 29 08.3**	**+1.0**
	3.7nm,1.0s,baz=106,slow=5.4,SNR=3.1						
STKA				LR	LR	13 41 40.4	
	comp=Z,20nm,18.5s,baz=204,slow=31						
ASAR	**Alice Springs**	**44.89**	**260**	P	**P**	**13 30 08.1**	**-0.5**
	1.6nm,0.8s,baz=92,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**45.30**	**265**	P	**P**	**13 30 10.2**	**-1.7**
	0.8nm,0.4s,baz=100,slow=8.3,SNR=26						
FITZ	**Fitzroy Crossi**	**53.72**	**265**	P	**P**	**13 31 14.7**	**-1.0**
	1.1nm,0.6s,baz=119,slow=7.7,SNR=1.6						
CMAR	**Chiang Mai Arr**	**92.28**	**289**	P	**P**	**13 35 05.6**	**+3.4**
	1.0nm,0.8s,baz=130,slow=2.5,SNR=6.1						
AKASG	**Malin Array Be**	**146.53**	**330**	PKPbc	**PKPbc**	**13 41 31.5**	**-0.6**
	0.6nm,0.4s,baz=39,slow=4.4,SNR=4.9						
BRTR	**Keskin Array B**	**149.90**	**309**	PKPbc	**PKPdf**	**13 41 37.2**	**+0.7**
	0.8nm,0.8s,baz=102,slow=4.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**169.17**	**172**	PKPab	**PKPab**	**13 43 08.9**	**-2.2**
	0.4nm,0.8s,baz=184,slow=4.3,SNR=2.2						

*JMA **23** 13:39:29.7±0.1, 42.°94N×145.°48E, h46km±1km, M3.0*
*SKHL **23** 13:39:30.1±0.4, 42.°90N×145.°60E, h31km±5km, mb3.6/3*
ISC 23 13:39:29.3±2.1, 42.°9N±0.1×145.°52E±0.0, h47km±13km, n14, σ0.9s41/22, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.31**	**304**	P	**Pn**	**13 39 38.4**	**+0.2**
JKHN				*e*S	**Sn**	**13 39 44.4**	**-0.1**
NEM2	**Nemuro 2**	**0.48**	**20**	P	**Pn**	**13 39 40.3**	**+0.2**
NEM2				*e*S	**Sn**	**13 39 47.6**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.48**	**19**	*i* P	**Pn**	**13 39 40.3**	**+0.2**
NMR				*i* S	**Sn**	**13 39 47.8**	**0.0**
AKK	**Akkeshi**	**0.51**	**282**	*e*P	**Pn**	**13 39 40.4**	**+0.1**
JAK	**Akkeshi**	**0.61**	**278**	P	**Pn**	**13 39 41.7**	**+0.1**
JAK				*e*S	**Sn**	**13 39 50.5**	**0.0**
GLVR	**Golovnino**	**0.83**	**0**	*e*P	**Pn**	**13 39 44.8**	**+0.2**
GLVR				AMB	AMB	13 39 45.1	
	20nm,0.2s						
GLVR				*e*S	**Sn**	**13 39 56.0**	**+0.3**
GLVR				A	A	13 39 56.5	
	130nm,0.2s						
GLVR				A	A	13 39 56.5	
	520nm,0.2s						
JNK	**Nakash**	**0.89**	**320**	P	**Pn**	**13 39 45.3**	**-0.1**
JNK				*e*S	**Sn**	**13 39 56.1**	**-1.2**
JNSB	**Nemuroshibetsu**	**0.94**	**337**	P	**Pn**	**13 39 46.2**	**+0.1**
JRA	**Rausu**	**1.07**	**345**	P	**Pn**	**13 39 48.0**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**1.15**	**13**	*e*P	**Pn**	**13 39 49.3**	**+0.3**
YUK				AMB	AMB	13 39 51.4	
	40nm,0.2s						
YUK				*e*S	**Sn**	**13 40 03.3**	**-0.3**
YUK				A	A	13 40 05.7	
	160nm,0.3s						
YUK				A	A	13 40 05.7	
	290nm,0.3s						
JOB	**Onbets**	**1.23**	**270**	P	**Pn**	**13 39 50.2**	**+0.1**
JAR	**Ashorobuto**	**1.33**	**287**	P	**Pn**	**13 39 51.7**	**+0.2**
SHO	**Shikotan**	**1.36**	**45**	*e*P	**Pn**	**13 39 51.8**	**+0.1**
SHO				AMB	AMB	13 39 54.6	
	10.0nm,0.3s						
SHO				*e*S	**Sn**	**13 40 08.0**	**-0.5**
SHO				A	A	13 40 11.2	
	100nm,0.2s						
SHO				A	A	13 40 11.2	
	140nm,0.2s						
JTKR	**Abashiri--Toko**	**1.58**	**313**	P	**Pn**	**13 39 55.6**	**+0.8**

IDC 23 14:00:03.9±7.3, 8.°75S×129.°23E, h76km±82km, mb3.1/1, mb1 3.2/4, mb1mx2.9/33, mbtmp3.3/4, ML3.1/3, MS3.5/1, Ms1 3.4/1, ms1mx2.3/23, Error ellipse: s-maj=52.3km s-min=43.5km az=27.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.93**	**200**	P	Pn	14 02 23.7	0.0
	0.2nm,0.3s,baz=37,slow=11,SNR=16						
FITZ				S	Sn	14 04 12.3	-1.1
	0.3nm,0.3s,baz=6.7,slow=17,SNR=2.2						
WRA	**Warramunga Arr**	**12.17**	**157**	P	Pn	14 02 54.4	0.0
	0.1nm,0.3s,baz=346,slow=13,SNR=11						
WRA				S	Sn	14 05 09.4	+1.0
	0.3nm,0.3s,baz=328,slow=23,SNR=4.6						
ASAR	**Alice Springs**	**15.49**	**164**	P	Pn	14 03 38.9	+0.9
	0.1nm,0.3s,baz=336,slow=9.4,SNR=1.8						
ASAR				S	Sn	14 06 31.0	+2.0
	0.1nm,0.3s,baz=315,slow=16,SNR=5.4						
STKA	**Stephens Creek**	**25.72**	**155**	LR	LR	14 15 54.9	
	comp=Z,98nm,19.8s,baz=200,slow=37						
MKAR	**Makanchi Array**	**69.28**	**328**	P	P	14 11 03.0	+0.1
	0.2nm,0.4s,baz=125,slow=7.2,SNR=2.0						

*NORS **23** 14:16:52.2±0.0, 42.°74N×45.°74E, h51km, MPVA3.8*
*DRS **23** 14:16:52.8±0.0, 43.°26N×45.°45E, h30km*
MOS 23 14:16:50.4±0.0, 43.°04N×45.°92E, h78km±2km, MPVA3.8, 2C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.17**	**118**	*e*P	Pn	14 17 03.0	+1.0
DVE				*e*S	Sn	14 17 11.9	+1.4
DVE	**Vedeno**	**0.17**	**118**	*e*Pg	Pn	14 17 03.0	+1.0
DVE				*e*Sg	Sn	14 17 11.9	+1.4
GROC	**Groznyy**	**0.19**	**331**	*e*P	Pn	14 17 03.8	+1.8
GROC				*e*S	Sn	14 17 13.9	+3.4
GROC	**Groznyy**	**0.19**	**331**	*e*Pg	Pn	14 17 03.8	+1.9
GROC				*e*Sg	Sn	14 17 13.9	+3.4
BTLR	**Botlikh**	**0.43**	**149**	⇓*i*P	Pn	14 17 04.9	+1.4
BTLR				*e*S	Sn	14 17 14.7	+1.5
BTLR				*e*S		14 17 15.0	
BTLR				pmax	pmax		
	comp=Z,333nm,0.3s						
BTLR				smax	smax		
	comp=N,941nm,0.4s						
BTLR				smax	smax		
	comp=E,1μm,0.3s						
BTLR				smax	smax		
	comp=E,810nm,0.3s						
BTLR	**Botlikh**	**0.43**	**149**	*i* Pg	Pn	14 17 05.0	+1.4
BTLR				*e*Sg	Sn	14 17 14.8	+1.5
DLMR	**Dylym**	**0.52**	**86**	*e*P	Pn	14 17 05.4	+1.2
DLMR				*e*S	Sn	14 17 16.1	+1.7
DLMR				*e*S		14 17 16.3	
DLMR				pmax	pmax		
	comp=Z,120nm,0.2s						
DLMR				smax	smax		
	comp=E,2μm,0.2s						
DLMR				smax	smax		
	comp=N,904nm,0.3s						
DLMR				smax	smax		
	comp=E,2μm,0.2s						
DLMR	**Dylym**	**0.52**	**86**	*e*Pg	Pn	14 17 05.5	+1.3
DLMR				*e*Sg	Sn	14 17 16.2	+1.8
DBC	**Dubki**	**0.67**	**91**	⇑*i*P	Pn	14 17 06.9	+1.2
DBC				*e*S	Sn	14 17 18.5	+1.5
DBC	**Dubki**	**0.67**	**91**	*i* Pg	Pn	14 17 06.9	+1.3
DBC				*e*Sg	Sn	14 17 18.5	+1.5
UNCR	**Uncukul**	**0.72**	**116**	⇓*i*P	Pn	14 17 07.5	+1.3
UNCR				*e*S	Sn	14 17 19.3	+1.4
UNCR	**Uncukul**	**0.72**	**116**	*i* Pg	Pn	14 17 07.5	+1.3
UNCR				*e*Sg	Sn	14 17 19.3	+1.4
KRNR	**Karanay**	**0.76**	**106**	*e*P

comp=N,85nm,0.4s
URKR smax smax
comp=N,69nm,0.4s
URKR Urkarakh 1.54 124 *e*Pg Pn 14 17 18.4 +2.2
URKR *e*Sg Sn 14 17 38.4 +2.7
LSNR Lesken 1.55 280 *e*P Pn 14 17 18.7 +2.4
LSNR *e*S Sn 14 17 37.3 +1.3
LSNR Lesken 1.55 280 *e*Pg Pn 14 17 18.7 +2.3
LSNR *e*Sg Sn 14 17 37.3 +1.3
DIGR Digorskoe uzhe 1.72 266 *e*P Pn 14 17 18.7 -0.1
DIGR *e*S Sn 14 17 40.0 -0.2
DIGR Digorskoe uzhe 1.72 266 *e*Pg Pn 14 17 18.7 -0.1
DIGR *e*Sg Sn 14 17 40.0 -0.2
ONI Oni 1.87 257 *e*P Pn 14 17 24.2 +3.6
ONI *e*S Sn 14 17 46.4 +2.9
ONI Oni 1.87 257 *e*Pg Pn 14 17 24.2 +3.6
ONI *e*Sg Sn 14 17 46.4 +2.9
AKT Akhty 2.06 139 *e*P Pn 14 17 24.5 +1.4
AKT *e*S Sn 14 17 49.6 +1.6
AKT Akhty 2.06 139 *e*Pg Pn 14 17 24.5 +1.4
AKT *e*Sg Sn 14 17 49.6 +1.6
PYA1 Pyatigorsk 2.29 298 *e*P Pn 14 17 27.1 +0.9
PYA1 *e*S Sn 14 17 52.9 -0.7
PYA1 Pyatigorsk 2.29 298 *e*Pn Pn 14 17 27.1 +0.9
PYA1 *e*Sn Sn 14 17 52.9 -0.7
KBZ Khabaz 2.31 288 *e*P Pn 14 17 26.6 +0.3
KBZ *e*S Sn 14 17 52.7 -1.1
KBZ Khabaz 2.31 288 *e*Pn Pn 14 17 26.6 +0.3
KBZ *e*Sn Sn 14 17 52.7 -1.1
NEY Neytrino 2.35 276 *e*P Pn 14 17 28.3 +1.2
NEY *e*S Sn 14 17 54.7 -0.4
NEY Neytrino 2.35 276 *e*Pn Pn 14 17 28.3 +1.2
NEY *e*Sn Sn 14 17 54.7 -0.4
BEYR Belyy Ugol+ 2.46 294 *e*P Pn 14 17 29.1 +0.7
BEYR *e*S Sn 14 17 56.6 -0.9
BEYR Belyy Ugol+ 2.46 294 *e*Pn Pn 14 17 29.1 +0.7
BEYR *e*Sn Sn 14 17 56.6 -1.0
SHA1 Shidzhatmaz 2.48 288 *e*P Pn 14 17 29.8 +0.9
SHA1 *e*S Sn 14 17 57.5 -0.8
SHA1 Shidzhatmaz 2.48 288 *e*Pn Pn 14 17 29.8 +0.9
SHA1 *e*Sn Sn 14 17 57.5 -0.9
KIV Kislovodsk 2.53 292 *e*P Pn 14 17 30.8 +1.4
KIV *e*S Sn 14 17 58.4 -0.8
KIV Kislovodsk 2.53 292 *e*Pn Pn 14 17 30.8 +1.5
KIV *e*Sn Sn 14 17 58.4 -0.8
ALER Alexandrovskoy 2.77 309 *e*P Pn 14 17 34.2 +1.5
ALER *e*S Sn 14 18 06.1 +0.9
ALER Alexandrovskoy 2.77 309 *e*Pn Pn 14 17 34.2 +1.6
ALER *e*Sn Sn 14 18 06.1 +1.0
GOF Gofitskoye 2.90 315↑ *e*P Pn 14 17 35.0 +0.7
GOF *e*S Sn 14 18 08.6 +0.6
GOF pmax pmax
comp=Z,26nm,0.6s
GOF smax smax
comp=E,34nm,0.5s
GOF smax smax
comp=N,33nm,0.5s
GOF Gofitskoye 2.90 315 *e*Pn Pn 14 17 35.8 +1.5
GOF *e*Sn Sn 14 18 08.9 +0.9

MOS 23 14:18:00.7±0.0, 42°.96N×45°.72E, h11km, MPVA3.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.25**	**13**	*e*Pg	Pg	14 18 06.3	+0.4
GROC				*e*Sg	Sb	14 18 12.1	+0.4
DVE	**Vedeno**	**0.30**	**90**	*e*Pg	Pb	14 18 07.7	-0.5
DVE				*e*Sg	Sb	14 18 14.1	+1.0
BTLR	**Botlikh**	**0.47**	**128**	*e*Pg	Pb	14 18 11.6	+0.5
BTLR				*e*Sg	Sb	14 18 19.5	+1.4
DBC	**Dubki**	**0.82**	**85**	*e*Pg	Pn	14 18 20.0	+1.8
DBC				*e*Sg	Sn	14 18 30.3	-0.1
UNCR	**Uncukul**	**0.83**	**107**	*e*Pg	Pb	14 18 17.1	0.0
UNCR				*e*Sg	Sn	14 18 32.8	+2.2
XNZR	**Khunzakh**	**0.84**	**119**	*e*Pg	Pn	14 18 19.5	+0.9
XNZR				*e*Sg	Sn	14 18 32.7	+1.7
KRNR	**Karanay**	**0.89**	**98**	*e*Pg	Pn	14 18 19.9	+0.7
KRNR				*e*Sg	Sn	14 18 32.6	+0.6
ARKR	**Arakani**	**1.01**	**110**	*e*Pg	Pn	14 18 20.9	+0.1
ARKR				*e*Sg	Sn	14 18 37.3	+2.4
LACR	**Lac**	**1.05**	**263**	*e*Pg	Pn	14 18 22.0	+0.5
LACR				*e*Sg	Sn	14 18 39.5	+3.3
STDR	**Stavd-Durt**	**1.28**	**289**	*e*Pg	Pg	14 18 27.0	+1.7
STDR				*e*Sg	Sg	14 18 48.8	+6.9
DIGR	**Digorskoe uzhe**	**1.57**	**269**	*e*Pg	Pb	14 18 30.1	+0.3
DIGR				*e*Sg	Sg	14 18 53.6	+2.4
ONI	**Oni**	**1.71**	**258**	*e*Pg	Pg	14 18 33.5	+0.1
ONI				*e*Sg	Sg	14 18 58.8	+3.2
KBZ	**Khabaz**	**2.20**	**291**	*e*Sg	Sg	14 19 10.9	-0.3
NEY	**Neytrino**	**2.21**	**279**	*e*Sg	Sg	14 19 10.5	-1.3
SHA1	**Shidzhatmaz**	**2.36**	**290**	*e*Sn	Sg	14 19 14.8	-1.9

NOU 23 14:35:26.1, 14°.93S×167°.34E, h72km, MLv4.1/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.53**	**194**	P	Pn	14 35 40.7	+1.3
DVP	**Devils Point**	**2.90**	**164**	P	Pn	14 36 10.0	+0.1
DZM	**Mont Dzumac**	**7.15**	**187**	P	Pn	14 37 08.1	-0.1
	12nm,1.1s						
PINNC	**Pines Island,**	**7.64**	**179**	P	Pn	14 37 14.7	-0.1
	70nm,1.6s						

*IDC **23** 15:13:21.6±4.0, 23°.73S×179°.80W, h519km±42km, mb3.4/10, mb1 3.5/12, mb1mx3.3/37, mbtmp4.2/12, Error ellipse: s-maj=29.5km s-min=24.9km az=154.0*
ISC 23 15:13:19.5±0.7, 23°.75±0°.1×179°.7W±0°.1, h500km, n22, σ1°37/21, mb3.8/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.91**	**274**	P	**P**	**15 16 08.2**	**+0.4**
	0.2nm,0.3s,baz=94,slow=18,SNR=2.4						
URZ	**Urewera**	**14.80**	**190**	P	**P**	**15 16 28.2**	**+0.7**
	0.7nm,0.3s,baz=165,slow=15,SNR=2.0						
CTA	**Charters Tower**	**31.79**	**270**	P	**P**	**15 19 02.8**	**+0.4**
	7.6nm,0.4s,baz=95,slow=11,SNR=30						
STKA	**Stephens Creek**	**35.10**	**248**	P	**P**	**15 19 30.1**	**-0.1**
	1.5nm,0.5s,baz=106,slow=13,SNR=4.1						
ASAR	**Alice Springs**	**42.38**	**260**	P	**P**	**15 20 28.9**	**-0.6**
	1.3nm,0.4s,baz=96,slow=7.8,SNR=56						
WRA	**Warramunga Arr**	**42.73**	**266**	P	**P**	**15 20 31.3**	**-1.1**
	2.5nm,0.5s,baz=97,slow=8.3,SNR=82						
KSRS	**Korea Array**	**78.27**	**320**	P	**P**	**15 24 28.1**	**+1.0**
	0.8nm,0.7s,baz=125,slow=5.0,SNR=4.1						
PETK	**Petropavlovsk-**	**78.95**	**346**	P	**P**	**15 24 30.5**	**0.0**
	2.1nm,0.6s,baz=122,slow=6.9,SNR=5.4						
SEY	**Seymchan**	**89.11**	**348**	P	**P**	**15 25 21.0**	**+0.5**
	1.6nm,0.6s,baz=111,slow=8.5,SNR=16						
CMAR	**Chiang Mai Arr**	**89.74**	**290**	P	**P**	**15 25 26.1**	**+1.6**
	0.9nm,0.8s,baz=152,slow=4.1,SNR=5.3						
TXAR	**Lajitas Array**	**90.04**	**58**	P	**P**	**15 25 27.6**	**+1.8**
	0.5nm,0.6s,baz=210,slow=5.8,SNR=8.2						
ILAR	**Eielson Array**	**91.73**	**13**	P	**P**	**15 25 32.4**	**-0.2**
	0.4nm,0.7s,baz=237,slow=5.0,SNR=2.8						
AKTO	**Aktyubinsk**	**128.34**	**316**	PKP	**PKPdf**	**15 31 28.2**	**-0.4**
	0.8nm,0.5s,baz=112,slow=5.4,SNR=3.8						
ARCES	**ARCESS Array B**	**131.72**	**348**	PKP	**PKPdf**	**15 31 32.9**	**-1.5**
	1.4nm,0.5s,baz=48,slow=1.8,SNR=7.3						
FINES	**FINESS Array B**	**138.32**	**342**	PKhKP	PKPpre	15 31 37.2	
	0.6nm,0.5s,baz=64,slow=4.4,SNR=7.0						
FINES				PKP	**PKPdf**	**15 31 47.2**	**+0.3**
	0.6nm,0.5s,baz=82,slow=4.0,SNR=3.8						
NB2	**NORSAR Subarra**	**141.90**	**351**	PKP	**PKPdf**	**15 31 49.0**	**-4.5**
	comp=Z,0.8nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**141.90**	**351**	PKhKP	PKPpre	15 31 47.8	
	comp=Z,0.2nm,0.4s,baz=65,slow=1.9,SNR=4.1						
AKASG	**Malin Array Be**	**144.94**	**328**	PKP	**PKPdf**	**15 31 58.2**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=46,slow=5.0,SNR=10						
BRTR	**Keskin Array B**	**147.69**	**309**	PKPbc	**PKPbc**	**15 32 07.0**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=144,slow=4.4,SNR=6.5						
CLL	**Collm**	**150.72**	**344**	*i* PKPbc	**PKPbc**	**15 32 14.3**	**-0.2**
	comp=Z,7.0nm,0.8s						
GERES	**GERESS Array B**	**152.74**	**341**	PKPbc	**PKPbc**	**15 32 18.6**	**-0.7**
	comp=Z,0.2nm,0.2s,baz=3.4,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**169.46**	**187**	PKPab	**PKPab**	**15 33 45.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=132,slow=2.1,SNR=2.3						

IDC 23 15:33:54.1±11.0, 5°.20S×149°.54E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/30, mbtmp3.3/3, Error ellipse: s-maj=180.8km s-min=92.7km az=17.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.82**	**224**	P	P	15 38 37.4	-0.1
	0.6nm,1.1s,baz=48,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**23.75**	**218**	P	P	15 39 09.8	+1.4
	0.2nm,0.5s,baz=47,slow=8.8,SNR=5.4						
STKA	**Stephens Creek**	**27.57**	**195**	P	P	15 39 41.7	-1.3
	1.9nm,0.8s,baz=5.3,slow=9.2,SNR=3.7						

IDC 23 16:00:47.3±3.0, 10°.98S×110°.93E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/31, mbtmp3.6/3, Error ellipse: s-maj=140.9km s-min=29.7km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.24**	**114**	P	P	16 06 06.0	-0.2
	0.9nm,0.4s,baz=287,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**25.26**	**123**	P	P	16 06 15.3	-0.2
	0.9nm,0.6s,baz=296,slow=9.2,SNR=22						
MKAR	**Makanchi Array**	**62.95**	**338**	P	P	16 11 16.1	+0.4
	0.1nm,0.5s,baz=142,slow=5.8,SNR=1.5						

*CNRM **23** 16:06:18.7, 35°.51N×3°.61W, h16km, ml2.1*
*SFS **23** 16:06:19.0, 35°.35N×3°.58W, h37km, ML2.5, ALBORAN SUR*
*MDD **23** 16:06:19.8±1.0, 35°.35N×3°.58W, h37km±22km, mb_Lg2.5/8, Error ellipse: s-maj=12.8km s-min=4.3km az=156.0*
*INMG **23** 16:06:22.8±1.3, 35°.46N×3°.77W, h28km±13km, ML1.8, Error ellipse: s-maj=5.3km s-min=3.1km az=91.0*
ISC 23 16:06:19.2±1.2, 35°.49N±0°.03×3°.63W±0°.03, h21km±4km, n25, σ1°28/45, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**223**	P	**Pb**	**16 06 27.1**	**+0.1**
PALE				S	**Sb**	**16 06 33.0**	**+0.7**
EMEL	**Melilla**	**0.58**	**109**	Pg	**Pb**	**16 06 30.4**	**-0.4**
EMEL				Sg	**Sb**	**16 06 37.4**	**-1.3**
GOG	**Mont Gurugu**	**0.59**	**117**	P	**Pb**	**16 06 30.2**	**-0.6**
GOG				S	**Sb**	**16 06 37.6**	**-1.2**
PVLZ	**Peæn de**	**0.63**	**240**	P	**Pb**	**16 06 32.0**	**+0.4**
PVLZ				S	**Sb**	**16 06 39.9**	**-0.1**
EALB	**Alboran**	**0.66**	**47**	Pg	**Pn**	**16 06 33.0**	**-0.3**
EALB				Sg	**Sn**	**16 06 43.1**	**+0.1**
EALB				*i* Vmb_Lg		16 06 44.4	
TAF	**Taforalt**	**1.21**	**124**	P	**Pb**	**16 06 41.8**	**+0.5**
TAF				S	**Sb**	**16 06 58.3**	**+1.9**
ELGU	**Los Guajares,**	**1.37**	**0**	Pg	**Pn**	**16 06 43.5**	**+0.3**
ELGU				Sg	**Sn**	**16 07 00.1**	**-0.6**
ELGU				*i* Vmb_Lg		16 07 05.7	
EMIJ	**Mijas**	**1.41**	**320**	Pn	**Pn**	**16 06 43.5**	**-0.2**
EMIJ				Sg	**Sn**	**16 07 02.0**	**+0.4**
EMIJ				*i* Vmb_Lg		16 07 02.9	
SMIR	**Smir Dam**	**1.44**	**278**	P	**Pn**	**16 06 42.9**	**-1.1**
CHEFC	**Chefchaouen**	**1.45**	**255**	P	**Pb**	**16 06 45.9**	**+0.5**
CHEFC				S	**Sn**	**16 07 03.5**	**+0.9**
JBK	**JBK**	**1.45**	**143**	P	**Pn**	**16 06 43.3**	**-1.0**
JBK				S	**Sb**	**16 07 04.1**	**+0.5**
ECEU	**Ceuta**	**1.48**	**286**	Sn	**Sn**	**16 07 01.4**	**-1.8**
ECEU				*i* Vmb_Lg		16 07 03.3	
EBER	**Berja**	**1.53**	**23**	Pn	**Pn**	**16 06 45.4**	**+0.1**
EBER				Sn	**Sn**	**16 07 05.8**	**+1.2**
EBER				*i* Vmb_Lg		16 07 09.1	
EGOR	**Sierra Gorda,**	**1.66**	**347**	Pn	**Pb**	**16 06 49.3**	**+0.1**
EGOR				Sn	**Sn**	**16 07 08.2**	**+0.3**
EGOR				*i* Vmb_Lg		16 07 15.9	
MD31	**MD31**	**2.78**	**200**	P	**Pn**	**16 07 03.3**	**+0.8**
MD31				S	**Sb**	**16 07 38.0**	**-3.8**
MDT	**Midelt**	**2.79**	**197**	P	**Pn**	**16 07 03.5**	**+0.8**
MDT				S	**Sn**	**16 07 37.7**	**+2.0**
EMIN	**Mina Concepcio**	**3.34**	**314**	Pn	**Pn**	**16 07 10.6**	**+0.5**
EMIN				Sn	**Sn**	**16 07 49.0**	**-0.1**
EMIN				*i* Vmb_Lg		16 07 54.4	
EGRO	**El Granado**	**3.71**	**304**	Pn	**Pn**	**16 07 15.3**	**+0.1**
EGRO				*i* Vmb_Lg		16 07 39.8	
EGRO				Sn	**Sn**	**16 07 58.0**	**-0.3**
PVAQ	**Vaqueiros**	**3.81**	**301**	*e*Pn	**Pn**	**16 07 17.9**	**+1.4**
PVAQ				*e*Sn	**Sn**	**16 07 59.0**	**-1.6**
PVAQ				A	A	16 08 12.1	
	1.4nm,0.6s						
PVAQ	**Vaqueiros**	**3.81**	**301**	P	**Pn**	**16 07 18.0**	**+1.4**
PBAR	**Barrancos**	**3.83**	**315**	*e*Sn	**Sn**	**16 08 00.3**	**-0.8**
PBDV	**Barranco-do-Ve**	**3.88**	**298**	*e*Pn	**Pn**	**16 07 18.8**	**+1.2**
PBDV				*e*Sn	**Sn**	**16 08 00.7**	**-1.9**
PBDV				A	A	16 08 01.8	
	2.3nm,0.6s						
PCVE	**Castro Verde**	**4.14**	**302**	*e*Pn	**Pn**	**16 07 22.2**	**+1.1**
PCVE				*e*Sn	**Sn**	**16 08 06.9**	**-2.0**
PNCL	**Nicolau / Gran**	**4.72**	**305**	*e*Pn	**Pn**	**16 07 29.8**	**+0.7**
PNCL				*e*Sn	**Sn**	**16 08 20.9**	**-2.2**
PNCL				A	A	16 08 53.6	
	1.6nm,0.7s						
PMRV	**Marv??o**	**4.94**	**324**	*e*Pn	**Pn**	**16 07 34.8**	**+2.7**

*JMA **23** 16:08:46.2±0.1, 24°.09N×122°.43E, h28km±4km, M2.5*
*TAP **23** 16:08:46.2, 24°.13N×122°.45E, h32km, ML3.0, D*
ISC 23 16:08:45.9±1.0, 24°.07N±0°.02×122°.44E±0°.02, h27km±11km, n93, σ0°78/158, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.60**	**51**	P	**Pb**	**16 08 57.8**	**-0.1**
JYNG				*e*S	**Sb**	**16 09 05.5**	**-0.5**
YOJ	**Yonaguni jima**	**0.65**	**53**	P	**Pb**	**16 08 58.7**	**-0.1**
YOJ				S	**Sb**	**16 09 07.1**	**-0.4**
YOJ	**Yonaguni jima**	**0.65**	**53**	*i* P	**Pb**	**16 08 58.6**	**-0.2**
	baz=56						
YOJ				S	**Sb**	**16 09 07.2**	**-0.2**
	baz=56						
EWUT	**Wuta**	**0.71**	**302**	*i* P	**Pb**	**16 08 59.6**	**-0.1**
	baz=298						
EWUT				*e*S	**Sb**	**16 09 09.2**	**+0.1**
	baz=298						
ENA	**Nanau**	**0.73**	**299**	P	**Pb**	**16 09 00.1**	**+0.1**
	baz=295						
ENA				*e*S	**Sn**	**16 09 10.2**	**-0.5**
	baz=295						
ETL	**Fush Village**	**0.75**	**277**	*e*P	**Pb**	**16 09 00.9**	**+0.5**
	baz=257						
ETL				*e*S	**Sn**	**16 09 11.2**	**-0.1**
	baz=257						
TWC	**Suao**	**0.76**	**315**	*i* P	**Pb**	**16 08 60.0**	**-0.6**
	baz=302						
TWC				*e*S	**Sb**	**16 09 09.6**	**-1.0**
	baz=302						
TWD	**Chiawan**	**0.77**	**271**	*e*P	**Pn**	**16 09 00.6**	**-0.3**
	baz=267						
TWD				*e*S	**Sb**	**16 09 10.9**	**0.0**
	baz=267						
NACB	**Ninganchiao**	**0.78**	**278**	*e*P	**Pn**	**16 09 00.6**	**-0.5**
	baz=260						
NACB				*e*S	**Sb**	**16 09 11.0**	**-0.1**
	baz=260						
TEYL	**Yanliau Villag**	**0.80**	**255**	*e*P	**Pn**	**16 09 01.4**	**+0.1**
	baz=242						
TEYL				*e*S	**Sn**	**16 09 12.9**	**+0.6**
	baz=242						
NDS	**Dongshan**	**0.86**	**310**	*e*P	**Pb**	**16 09 02.2**	**-0.1**
	baz=308						
NDS				*e*S	**Sb**	**16 09 13.0**	**-0.6**
	baz=308						
ETM	**Tongmen**	**0.87**	**263**	*e*P	**Pn**	**16 09 01.9**	**-0.5**
	baz=259						
ETM				*e*S	**Sn**	**16 09 13.9**	**-0.3**
	baz=259						
ETLH	**Xiulin Townshi**	**0.89**	**279**	*e*P	**Pn**	**16 09 02.5**	**-0.1**
	baz=276						
ETLH				*e*S	**Sn**	**16 09 14.5**	**-0.1**
	baz=276						
EGS		**0.90**	**329**	*e*P	**Pb**	**16 09 03.1**	**+0.1**
	baz=317						
EGS				*e*S	**Sb**	**16 09 14.1**	**-0.4**
	baz=317						
ILA	**Ilan**	**0.94**	**318**	*e*P	**Pb**	**16 09 03.9**	**+0.4**
	baz=309						
ILA				*e*S	**Sb**	**16 09 16.9**	**+1.3**
	baz=309						
LATG	**Datong**	**0.95**	**299**	*e*P	**Pb**	**16 09 03.9**	**0.0**
	baz=297						
LATG				*e*S	**Sb**	**16 09 17.1**	**+0.9**
	baz=297						
TWE	**Neicheng**	**0.96**	**313**	*e*P	**Pb**	**16 09 03.7**	**-0.1**
	baz=311						
TWE				*e*S	**Sb**	**16 09 16.9**	**+0.7**
	baz=311						
NTC	**Toucheng**	**0.96**	**325**	*e*P	**Pb**	**16 09 03.8**	**-0.2**
	baz=323						
NTC				*e*S	**Sb**	**16 09 16.3**	**+0.1**
	baz=323						
ENTT	**Nioudou**	**0.98**	**306**	*i* P	**Pb**	**16 09 04.3**	**0.0**
	baz=303						
ENTT				*e*S	**Sb**	**16 09 17.1**	**+0.3**
	baz=303						
NDT	**Datong Townshi**	**1.00**	**302**	*e*P	**Pb**	**16 09 04.4**	**-0.2**
	baz=300						
NDT				*e*S	**Sb**	**16 09 17.4**	**+0.1**
	baz=300						
TWB1	**Santiao Chiao**	**1.02**	**336**	P	**Pb**	**16 09 04.5**	**-0.5**
	baz=351						
TWB1				*e*S	**Sn**	**16 09 17.2**	**-0.7**
	baz=351						
NNSB	**Datong**	**1.03**	**290**	P	**Pn**	**16 09 04.8**	**+0.1**
	baz=288						
NNSB				S	**Sb**	**16 09 18.3**	**0.0**
	baz=288						
FUSB	**Fushanzhiwuyua**	**1.04**	**312**	*e*P	**Pb**	**16 09 05.4**	**+0.1**
	baz=301						
FUSB				*e*S	**Sb**	**16 09 18.6**	**+0.1**
	baz=301						
NNS	**Nan Shan**	**1.04**	**291**	P	**Pn**	**16 09 04.9**	**+0.1**
	baz=288						
NNS				*e*S	**Sb**	**16 09 18.6**	**-0.2**
	baz=288						
TIPB	**Shuangxi**	**1.06**	**328**	*e*P	**Pb**	**16 09 05.4**	**-0.3**
	baz=318						
TIPB				*e*S	**Sb**	**16 09 18.5**	**-0.6**
	baz=318						
WHF	**Hehuan Shan**	**1.07**	**274**	P	**Pn**	**16 09 05.4**	**-0.2**
	baz=259						
WHF				*e*S	**Sn**	**16 09 19.4**	**-0.5**
	baz=259						
HGSD	**Ruisui**	**1.09**	**238**	*e*P	**Pn**	**16 09 05.2**	**-0.2**
	baz=235						
HGSD				*e*S	**Sn**	**16 09 18.8**	**-0.9**
	baz=235						
NWLT	**Wulai**	**1.11**	**310**	*e*P	**Pb**	**16 09 06.1**	**-0.4**
	baz=308						
NWLT				*e*S	**Sb**	**16 09 20.7**	**+0.2**
	baz=308						
YHNB	**Yeheng**	**1.14**	**302**	P	**Pb**	**16 09 06.6**	**-0.4**
	baz=289						
YHNB				*e*S	**Sn**	**16 09 20.6**	**-0.3**
	baz=289						
SXI1	**Grass Mountain**	**1.14**	**333**	*e*P	**Pn**	**16 09 06.1**	**-0.1**
	baz=346						
SXI1				*e*S	**Sn**	**16 09 20.2**	**-0.8**
	baz=346						
NSK	**Sanguang**	**1.16**	**302**	*e*P	**Pn**	**16 09 06.7**	**+0.4**
	baz=289						
NSK				*e*S	**Sn**	**16 09 21.3**	**0.0**
	baz=289						
CHGB	**Renai**	**1.16**	**270**	*e*P	**Pn**	**16 09 06.6**	**0.0**
	baz=255						
CHGB				*e*S	**Sn**	**16 09 21.3**	**-0.2**
	baz=255						
OWD	**Renai**	**1.16**	**265**	P	**Pn**	**16 09 06.5**	**0.0**
	baz=261						
OWD				*e*S	**Sn**	**16 09 20.8**	**-0.8**
	baz=261						
NWF	**Wu-fen Shan**	**1.16**	**329**	P	**Pn**	**16 09 06.6**	**+0.1**
	baz=328						
NWF				*e*S	**Sb**	**16 09 22.5**	**+0.3**
	baz=328						
WFSB	**Wu-fen Shan**	**1.16**	**329**	*e*P	**Pn**	**16 09 06.6**	**+0.2**
	baz=328						
WFSB				*e*S	**Sb**	**16 09 22.0**	**-0.1**
	baz=328						
EHY	**Hungye**	**1.17**	**241**	*e*P	**Pn**	**16 09 06.7**	**+0.2**
	baz=238						
EHY				*e*S	**Sn**	**16 09 20.7**	**-0.8**
	baz=238						
ECBN	**Changbin**	**1.18**	**231**	*e*S	**Sn**	**16 09 20.7**	**-1.0**
	baz=227						
TDCB	**Techi**	**1.18**	**279**	*e*P	**Pn**	**16 09 06.9**	**+0.1**
	baz=265						
TWA	**Mucha**	**1.19**	**319**	*e*P	**Pb**	**16 09 07.6**	**-0.3**
	baz=318						
TWA				*e*S	**Sb**	**16 09 23.6**	**+0.6**
	baz=318						
IRIF	**Iriomote-Funau**	**1.21**	**77**	P	**Pn**	**16 09 07.4**	**+0.4**
WUSB	**Renai**	**1.21**	**267**	P	**Pn**	**16 09 07.4**	**+0.3**
	baz=263						
WUSB				*e*S	**Sn**	**16 09 22.7**	**-0.1**
	baz=263						
NHDH	**Xindian Distri**	**1.22**	**317**	*e*P	**Pb**	**16 09 08.4**	**+0.1**
	baz=316						
NHDH				*e*S	**Sb**	**16 09 24.3**	**+0.7**
	baz=316						
VWDT	**VWDT**	**1.23**	**255**	*e*P	**Pn**	**16 09 08.2**	**+0.9**
	baz=241						
VWDT				*e*S	**Sn**	**16 09 23.8**	**+0.8**
	baz=241						
TNOU	**National Taiwa**	**1.23**	**331**	P	**Pn**	**16 09 07.3**	**-0.1**
	baz=329						
YULB	**Yu-li**	**1.25**	**237**	*e*P	**Pn**	**16 09 07.6**	**0.0**
	baz=249						
YULB				*e*S	**Sn**	**16 09 22.9**	**-0.5**
	baz=249						
HATJ	**Hateruma jima**	**1.25**	**90**	P	**Pb**	**16 09 08.4**	**-0.4**
HATJ				*e*S	**Sb**	**16 09 25.0**	**+0.5**
TATO	**Taipei**	**1.25**	**316**	*e*P	**Pb**	**16 09 08.9**	**+0.1**
	baz=330						
TATO				*e*S	**Sb**	**16 09 25.4**	**+0.9**
	baz=330						
EYUL	**Yuli**	**1.25**	**235**	*e*P	**Pn**	**16 09 07.8**	**+0.1**
	baz=232						
EYUL				*e*S	**Sn**	**16 09 23.7**	**+0.1**
	baz=232						
TWF1	**Yuli**	**1.27**	**236**	*e*P	**Pn**	**16 09 07.9**	**+0.1**
	baz=233						
NFF	**Wufeng Townshi**	**1.33**	**295**	*e*P	**Pb**	**16 09 10.0**	**-0.2**
	baz=293						
NFF				*e*S	**Sb**	**16 09 27.4**	**+0.5**
	baz=293						
YM01	**YM01**	**1.33**	**324**	*e*P	**Pn**	**16 09 09.1**	**+0.4**
	baz=321						
WPL	**Puli Township**	**1.36**	**268**	*e*P	**Pn**	**16 09 09.9**	**+0.9**
	baz=265						
WHP	**Taichung City**	**1.38**	**279**	*e*P	**Pb**	**16 09 10.7**	**-0.4**
	baz=265						
WHP				*e*S	**Sb**	**16 09 28.0**	**-0.4**
	baz=265						
DPDB	**Guoxing**	**1.38**	**269**	*e*P	**Pn**	**16 09 10.2**	**+0.7**
	baz=266						
**TWS1

	baz=233							
NMLH	Miaoli	1.57	287	eP		Pn	16 09 12.9	+0.9
	baz=285							
JIJ	Ishigaki jima	1.58	79	P		Pn	16 09 12.4	+0.2
JIJ				S		Sn	16 09 32.1	+0.4
WJS	Zhushan	1.58	261	eP		Pb	16 09 13.9	-0.7
	baz=259							
PCYT	Pengchaiyu	1.59	348	eP		Pn	16 09 12.2	-0.1
	baz=348							
WWF	Wufeng	1.59	269	eP		Pb	16 09 14.2	-0.5
	baz=267							
WWF				eS		Sb	16 09 33.9	-0.5
	baz=267							
ALS	Alishan	1.60	250	eP		Pn	16 09 13.8	+1.1
	baz=247							
LDUT	Ludao	1.65	213	eP		Pn	16 09 12.1	-1.0
	baz=210							
LDUT				eS		Sn	16 09 31.1	-2.3
	baz=210							
TWGBT	Beinan	1.77	225	eP		Pn	16 09 14.6	-0.1
	baz=234							
TWG	Pinlang	1.77	226	eP		Pn	16 09 14.6	-0.2
	baz=234							
WDLH	Douliu	1.78	258	eP		Pb	16 09 17.3	-0.6
	baz=255							
JISG	Ishigakijimahi	1.78	73	P		Pn	16 09 15.2	+0.3
JISG				S		Sn	16 09 37.5	+0.8
TPUB	Ta-pu	1.83	246	eP		Pb	16 09 18.1	-0.6
	baz=243							
TPUB				eS		Sb	16 09 40.3	-0.9
	baz=243							
CHN4	Tsaushan	1.84	247	eP		Pb	16 09 18.8	-0.1
	baz=245							
CHN4				eS		Sb	16 09 41.9	+0.4
	baz=245							
WTP	Ta-pu	1.86	244	eP		Pb	16 09 18.6	-0.8
	baz=241							
WTP				eS		Sb	16 09 42.2	-0.1
	baz=241							
TWK	Hsinying	1.96	246	eP		Pn	16 09 19.1	+1.7
	baz=243							
CHN1	Nanshi	1.96	244	eP		Pb	16 09 20.5	-0.5
	baz=241							
SGST	Jiashian	1.97	240	eP		Pn	16 09 18.9	+1.4
	baz=237							
SGST				eS		Sn	16 09 43.6	+2.3
	baz=237							
SNST	Tainan City	1.97	245	eP		Pb	16 09 20.6	-0.6
	baz=242							
SNST				eS		Sb	16 09 44.3	-1.0
	baz=242							
SSD	Sandimen	2.12	232	eP		Pb	16 09 22.3	-1.4
	baz=220							
TSMG	Majia	2.14	231	eP		Pn	16 09 21.8	+2.0
	baz=220							
MASBT	Mashibuluo	2.21	229	eP		Pn	16 09 21.5	+0.7
	baz=221							
MASBT				eS		Sn	16 09 50.4	+3.2
	baz=221							
SSPT	Xinbi	2.34	228	eP		Pn	16 09 24.5	+2.0
	baz=220							
SCZT	Fangliau	2.38	225	eP		Pn	16 09 25.4	+2.3
	baz=217							
SCZT				eS		Sn	16 09 53.4	+1.9
	baz=217							
SLIU	Shizi	2.38	220	eP		Pn	16 09 25.1	+1.8
	baz=217							
WDGT	Dungji	2.67	253	eP		Pn	16 09 28.8	+1.6
	baz=239							
WDGT				eS		Sn	16 09 59.5	+0.9
	baz=239							
PHUB	P'eng-hu	2.68	259	eP		Pn	16 09 28.2	+0.9
	baz=270							
PHUB				eS		Sn	16 09 59.6	+0.7
	baz=270							
MATB	Ma-tsu	3.07	313	eP		Pn	16 09 32.5	-0.1
	baz=300							
MATB				eS		Sn	16 10 06.9	-1.5
	baz=300							
XPSS	Dashiqiu	3.50	325	eP		Pn	16 09 38.5	0.0
	baz=322							

*IDC **23** 16:13:17.1±2.4, 32°.80N×130°.54E, h0km, mb3.8/1, mb1 3.6/2, mb1mx3.1/42, mbtmp3.5/2, ML2.3/1, Error ellipse: s-maj=30.2km s-min=12.7km az=147.0*
*JMA **23** 16:13:20.0, 32°.83N×130°.78E, h5km±1km, M3.0*
JMA Felt III J1.

ISC 23 16:13:19.2±1.3, 32°.77N±0°.06×130°.77E±0°.07, h13km±10km, n7, σ1§20/9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	Izumi3	0.22	170	P		Pb		16 13 25.7	+0.5
JTA	Tamana	0.28	314	P		Pg		16 13 25.0	0.0
JTA				eS		Sg		16 13 28.7	-0.2
JNU	Nakatsue	0.36	15	Pg		Pg		16 13 26.1	-0.5
	13nm,0.3s,baz=191,slow=13,SNR=28								
JNU				Lg		Lg		16 13 30.6	
	230nm,0.3s,baz=352,slow=19,SNR=48								
JNU	Nakatsue	0.36	15	P		Pg		16 13 26.3	-0.3
JNU				S		Sg		16 13 30.9	-0.6
KSRS	Korea Array	5.22	334	Pg		Pb		16 14 51.5	+1.1
	0.1nm,0.3s,baz=154,slow=14,SNR=3.0								
KSRS				Lg		Lg		16 16 00.4	
	0.7nm,0.3s,baz=154,slow=30,SNR=10								
MJAR	Matsushiro Arr	7.19	56	Pn		Pn		16 15 05.5	+1.3
	0.0nm,0.3s,baz=230,slow=13,SNR=6.4								
FINES	FINESS Array B	68.30	330	P		P		16 24 17.9	-1.8
	0.8nm,0.8s,baz=67,slow=11,SNR=3.8								

*IDC **23** 16:37:56.8±1.6, 30°.13N×51°.74E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.3/54, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=46.2km s-min=32.2km az=49.0*
*TEH **23** 16:37:57.3, 30°.21N×51°.78E, h7km, ML3.4*
*DSN **23** 16:38:02.2±1.6, 29°.90N×51°.93E, h10km, ML3.8/9, Error ellipse: s-maj=28.1km s-min=11.7km az=33.0*
*OMAN **23** 16:38:05.2±0.3, 29°.87N×51°.94E, h166km±14km, mb3.8/7, ml4.2/1, Error ellipse: s-maj=11.1km s-min=4.6km az=6.0*

ISC 23 16:37:57.7±0.6, 30°.19N±0°.03×51°.87E±0°.04, h8km, n74, σ2§46/100, mb3.6/3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAZ1	Kazerun	0.60	199	eSg		Sb		16 38 18.0	-1.1
KAZ1				ePg		Pg		16 38 09.4	+0.1
KAZ1				e				16 38 21.6	
	comp=Z,75μm,0.3s								
SHI	Shiraz	0.79	134	ePg		Pb		16 38 13.8	+0.1
SHI				eSg		Sn		16 38 28.4	+1.1
SHI				e				16 38 30.3	
	comp=Z,34μm,0.2s								
KLNJ	Kolanjah	0.85	344	ePg		Pg		16 38 13.8	-0.3
KLNJ				e				16 38 35.3	
	comp=Z,19μm,0.4s								
AHBU	AHRAM	1.42	201	ePg		Pg		16 38 26.2	+1.3
ABEH	Behbahan	1.45	287	ePn		Pb		16 38 25.0	0.0
IRAM	Ramesheh	1.67	15	ePn		Pb		16 38 29.3	+0.4
IRAM				e				16 39 00.3	
	comp=Z,3μm,0.4s								
IBRJ	Brojen	1.79	343	ePn		Pb		16 38 30.4	-0.5
IBRJ				e				16 39 05.6	
	comp=Z,2μm,1.0s								
IGAR	Gharneh	2.21	4	ePn		Pb		16 38 37.9	-0.2
JHRM	Jahrom	2.25	138	ePn		Pb		16 38 38.4	-0.2
SHK1	Shahrekord	2.29	339	ePn		Pb		16 38 38.3	-1.1
SHK1				e				16 39 25.1	
	comp=Z,1μm,0.7s								
IPIR	Pirpir	2.62	342	ePn		Pn		16 38 42.9	+2.3
IPIR				e				16 39 39.9	
	comp=Z,1μm,1.0s								
IMEH	Mehriz	2.65	62	ePn		Pb		16 38 45.3	-0.2
AMIS	Naft Sefid	2.66	304	ePn		Pb		16 38 42.5	+1.6
NASN	Na'in	2.72	17	ePn		Pb		16 38 45.4	-1.4
IZEF	Zefreh	2.72	8	ePn		Pb		16 38 45.5	-1.4
IKLH	Kolahrood	3.13	356	ePn		Pb		16 38 51.1	-2.6
IKLH				e				16 39 55.4	
	comp=Z,814nm,0.7s								
YZKH	Yazd	3.20	46	ePn		Pb		16 38 52.5	-2.4
ANAR	Anarak	3.38	27	ePn		Pb		16 38 54.8	-3.2
QAMS	Qamsar	3.56	354	ePn		Pn		16 38 56.0	+2.5
QAMS				e				16 39 57.0	
	comp=Z,462nm,0.5s								
KRSH	Karshahi	3.77	3	ePn		Pn		16 38 59.1	+2.7
KHMZ	Khomeyn	3.89	336	ePn		Pn		16 39 01.1	+3.1
KHGB	Koh Gabri	3.99	86	ePn		Pn		16 39 02.6	+3.2
KHGB				e				16 39 20.4	
	comp=Z,379nm,0.6s								
ISFB	Sefidab	4.16	4	ePn		Pn		16 39 04.3	+2.7
KRBR	Kerman	4.25	92	ePn		Pn		16 39 07.1	+4.1
TVBK	TV Kerman	4.25	92	e				16 39 24.6	
	comp=Z,850nm,0.4s								
TVBK				ePn		Pn		16 39 06.9	+3.9
NGRK	Negar Kerman	4.26	96	e				16 39 24.5	
	comp=Z,646nm,0.3s								
NGRK				ePn		Pn		16 39 06.9	+3.7
SHMA	Al-Shehemyia	4.39	191	P		Pn		16 39 06.6	+1.9
SHMA				S		Sn		16 39 56.0	-0.1
KHOR	Al-Khor Airpor	4.56	184	P		Pn		16 39 09.2	+2.2
KHOR				S		Sn		16 39 59.9	-0.3
ASAO	Ashtian	4.61	341	ePn		Pn		16 39 11.4	+3.4
GENO	Geno	4.69	125	e		Sn		16 40 09.1	+5.3
	comp=Z,514nm,0.2s								
IKFM	Kafar-mosalman	4.77	315	ePn		Pn		16 39 12.9	+3.0
IVRN	Varamin	4.79	359	ePn		Pn		16 39 13.0	+2.7
HSAM	Samen	4.87	326	ePn		Pn		16 39 13.7	+2.2
TPRV	Parvadeh(Tabas	4.99	54	ePn		Pn		16 39 16.9	+3.9
HAGD	Aghdareh	5.16	334	ePn		Pn		16 39 18.0	+2.5
JRN	Qarnain Island	5.30	170	P		Pn		16 39 20.3	+3.1
JRN				S		Sn		16 40 18.0	-0.5
	SNR=9.8								
TRNA	Turayna	5.47	186	P		Pn		16 39 20.9	+1.4
TRNA				S		Sn		16 40 19.8	-2.7
IANJ	Anjilo	5.54	18	ePn		Pn		16 39 23.9	+3.3
SHME	Shamm	5.59	137	P		Pn		16 39 21.9	+0.7
SHME				S		Sn		16 40 26.5	+0.8
TABS	Tabas	5.64	51	ePn		Pn		16 39 26.2	+4.2
BANOM	Banah	5.78	136	P		Pn		16 39 24.8	+0.9
	SNR=24								
BANOM				S		Sn		16 40 27.6	-2.8
BANOM	Banah	5.78	136	P		Pn		16 39 24.8	+0.9
BANOM				S		Sn		16 40 29.0	-0.5
KBAM	BAM	5.83	99	ePn		Pn		16 39 28.0	+3.5
IGHG	Ghaleghazi	6.09	314	ePn		Pn		16 39 30.7	+2.4
MASF	Masafi	6.12	141	P		Pn		16 39 30.0	+1.4
	SNR=8.1								
MASF				S		Sn		16 40 37.2	-1.7
MSFE	Esma-Masafi	6.13	141	P		Pn		16 39 27.4	-1.3
NAZ	Nazwa, Dubai	6.18	146	P		Pn		16 39 31.1	+1.8
NAZ				S		Sn		16 40 39.0	-1.2
NAZ				S		Sn		16 40 40.1	-0.1
	SNR=8.9								
SNGE	Sanandaj	6.20	323	ePn		Pn		16 39 30.9	+1.2
GHWR	Ruwais	6.27	172	P		Pn		16 39 31.6	+1.1
GHWR				S		Sn		16 40 39.7	-2.7
ASUD	Al Ashush, Dub	6.34	150	P		Pn		16 39 32.9	+1.4
	SNR=7.7								
ASUD				S		Sn		16 40 43.3	-0.8
	SNR=7.3								
ASUD	Al Ashush, Dub	6.34	150	P		Pn		16 39 32.3	+0.8
FAQ	Al Faqa, Dubai	6.36	148	P		Pn		16 39 34.0	+2.3
FAQ				S		Sn		16 40 42.1	-2.4
	SNR=14								
FAQ	Al Faqa, Dubai	6.36	148	P		Pn		16 39 32.9	+1.2
BSRN	Basiran	6.47	72	ePn		Pn		16 39 37.5	+4.1
UOSS	Minazif	6.49	143	P		Pn		16 39 34.7	+1.1
UOSS				S		Sn		16 40 44.4	-3.5
UOSS	Minazif	6.49	143	P		Pn		16 39 34.1	+0.5
HATD	Hatta, Dubai	6.55	144	P		Pn		16 39 35.3	+0.9
HATD				S		Sn		16 40 47.2	-2.2
	SNR=13								
HATD	Hatta, Dubai	6.55	144	P		Pn		16 39 36.0	+1.6
ASHO	Ashiyiah	6.63	145	P		Pn		16 39 36.8	+1.2
	SNR=11								
ASHO				S		Sn		16 40 48.4	-2.9
ASHO	Ashiyiah	6.63	145	P		Pn		16 39 36.1	+0.5
ASHO				S		Sn		16 40 48.5	-2.9
SHRO	Shahrood	6.75	30	ePn		Pn		16 39 41.2	+4.0
ALNE	Al Ain	7.02	150	P		Pn		16 39 42.7	+1.8
ALNE				S		Sn		16 40 58.2	-2.7
MZR	Muzera	7.30	168	P		Pn		16 39 47.3	+2.6
	SNR=7.0								
MZR				S		Sn		16 41 04.4	-3.5
MZR	Muzera	7.30	168	P		Pn		16 39 45.5	+0.7
ARQ	Araqi	7.99	148	P		Pn		16 39 54.5	+0.2
	SNR=7.2								
ARQ				S		Sn		16 41 21.1	-3.8
	SNR=8.4								
HOQ	Hoqain	8.18	142	P		Pn		16 39 56.0	-0.8
HOQ				S		Sn		16 41 26.3	-3.2
	SNR=5.8								
WSAR	Wadi Sarin	9.19	137	Pn		Pn		16 40 10.8	+0.2
	comp=Z,0.7nm,0.3s,baz=321,slow=7.7,SNR=17								
WSAR				Sn		Sn		16 41 48.3	-6.0
	comp=Z,0.8nm,0.3s,baz=114,slow=18,SNR=5.9								
WSAR	Wadi Sarin	9.19	137	P		Pn		16 40 10.9	+0.2
	SNR=15								
WSAR				S		Sn		16 41 49.2	-5.2
WBK	Wadi Bani Khal	9.87	138	P		Pn		16 40 19.9	-0.2
	SNR=8.4								
MHTO	MHTO	10.69	148	P		Pn		16 40 30.6	-0.6
MHTO				S		Sn		16 42 23.6	-7.5
BRTR	Keskin Array B	17.68	307	P		P		16 42 05.9	+0.4
	comp=Z,0.1nm,0.3s,baz=128,slow=11,SNR=4.3								
FINES	FINESS Array B	35.57	339	P		P		16 44 54.1	-1.1
	comp=Z,0.6nm,0.7s,baz=171,slow=9.8,SNR=1.2								
TORD	Torodi Ar. Bea	49.21	261	P		P		16 46 45.9	-0.9
	comp=Z,0.7nm,0.4s,baz=58,slow=8.2,SNR=7.6								
YKA	Yellowknife Ar	87.00	354	P		P		16 50 45.2	+1.9
	comp=Z,0.1nm,0.6s,baz=12,slow=6.0,SNR=3.5								

*MAN **23** 17:25:27.4, 20°.02N×120°.82E, h12km, mb4.4, ML3.2, MS3.0, Hypocentre not reviewed by the ISC*
*IDC **23** 17:25:32.0±8.9, 20°.06N×121°.46E, h75km±88km, mb3.3/5, mb1 3.6/6, mb1mx3.2/47, mbtmp3.8/6, ML4.7/1, MS3.0/3, Ms1 3.0/3, ms1mx2.5/39, Error ellipse: s-maj=55.0km s-min=18.7km az=69.0*

ISC 23 17:25:28.4±0.9, 20°.2N±0°.1×121°.4E±0°.2, h40km, n15, σ1§25/11, mb3.5/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAMP	Sagada Mountai	3.12	189	eP		Pn		17 26 14.6	-0.5
CAUP	Cauayan	3.24	173	eP		Pn		17 26 18.7	+1.9
BOLP	Bolinao	4.04	201	eP		Pn		17 26 28.4	+0.6
SMPP	San Manuel, Pa	4.07	190	eP		Pn		17 26 27.5	-0.7
BALP	Baler	4.42	178	eP		Pn		17 26 34.4	+1.5
LQP	Lukban	6.03	179	eP		Pn		17 27 07.1	+12
DAV	Davao City (W)	13.64	162	LR		LR		17 34 43.7	
	comp=Z,36nm,18.6s,baz=307,slow=41								
JNU	Nakatsue	15.41	31	P		P		17 29 06.3	-0.8
	2.2nm,0.3s,baz=297,slow=7.2,SNR=8.9								
KLR	Kul'dur	30.15	14	LR		LR		17 45 53.1	
	comp=Z,27nm,19.8s,baz=192,slow=40								
SONM	Songino Array	30.15	340	LR		LR		17 45 11.9	
	comp=Z,41nm,18.3s,baz=118,slow=39								
MKAR	Makanchi Array	41.42	319	P		P		17 33 12.3	+1.2
	0.8nm,0.8s,baz=123,slow=8.6,SNR=6.7								
WRA	Warramunga Arr	41.84	162	P		P		17 33 13.0	-1.7
	1.3nm,0.6s,baz=342,slow=9.0,SNR=8.2								
ZALV	Zalesovo Beam	43.75	329	P		P		17 33 30.3	+0.6
	0.3nm,0.3s,baz=130,slow=10,SNR=3.6								
ASAR	Alice Springs	45.25	164	P		P		17 33 41.6	-0.5
	1.0nm,0.8s,baz=345,slow=6.8,SNR=16								
YKA	Yellowknife Ar	86.57	23	P		P		17 38 07.0	-0.1
	0.1nm,0.4s,baz=312,slow=3.9,SNR=2.9								

*IDC **23** 17:37:14.7±8.8, 36°.50N×71°.48E, h117km±57km, mb3.2/4, mb1 3.4/10, mb1mx3.0/43, mbtmp3.7/10, Error ellipse: s-maj=75.0km s-min=40.2km az=174.0*
*NNC **23** 17:37:14.5±5.7, 36°.64N×71°.03E, h100km±92km, mb3.6, mpv4.3, Error ellipse: s-maj=50.3km s-min=40.3km az=151.0*

ISC 23 17:37:12.4±1.1, 36°.38N±0°.09×71°.4E±0°.1, h114km, n30, σ1§42/33, mb3.6/4, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.00	16	P		Pn		17 38 39.1	-0.1
	SNR=111								
UCH	Uchtor	6.31	21	P		Pn		17 38 43.8	+0.4
	SNR=11								
EKS2	Erkin-Say	6.53	16	P		Pn		17 38 46.4	+0.4
	SNR=27								
AAK	Ala-Archa	6.68	20	P		Pn		17 38 48.6	+0.5
	SNR=25								
AAK	Ala-Archa	6.68	20	P		Pn		17 38 48.9	+0.8
	2.7nm,0.3s,baz=207,slow=8.7,SNR=77								
AAK				S		Sn		17 40 02.0	-0.8
	0.3nm,0.3s,baz=323,slow=19,SNR=3.9								
KK31	Karatay Array	6.75	354	P		Pn		17 38 48.0	-0.9
	5.8nm,0.2s,baz=186,slow=14,SNR=238								
KK31				⇑S		Sn		17 39 59.8	-4.4
	2.4nm,0.3s,baz=184,slow=23,SNR=8.9								
KBK	Karagaybulak	6.83	22	P		Pn		17 38 51.1	+0.9
	SNR=10.0								
CHMS	Chumysh	7.09	20	P		Pn		17 38 53.8	+0.3
	SNR=9.0								
USP	Ospenovka	7.27	18	P		Pn		17 38 56.3	+0.3
	SNR=6.6								
TKM2	Tokmak 2	7.28	25	P		Pn		17 38 57.0	+0.8
	SNR=5.4								
TKM2	Tokmak 2	7.28	25	⇑P		Pn		17 38 56.4	+0.1
	10nm,0.6s								
TKM2				⇑S		Sn		17 40 18.1	+0.7
	4.5nm,1.0s								
PYUN	Piuthan	12.81	127	eP		Pn		17 40 08.6	-1.9
	3.3nm,0.4s								
DANN	Dangsing	13.15	124	eP		Pn		17 40 13.7	-1.3
	5.7nm,0.5s								
MKAR	Makanchi Array	13.19	35	P		Pn		17 40 15.8	+0.6
	0.0nm,0.3s,baz=221,slow=13,SNR=5.4								
GKN	Gorkha	13.96	123	eP		Pn		17 40 23.5	-1.9
KKN	Kakani	14.53	122	eP		Pn		17 40 31.7	-1.1
PKIN	Phulchoki	14.75	123	eP		Pn		17 40 34.4	-1.2
	1.6nm,0.2s								
PKI	Pulchoki	14.76	123	eP		Pn		17 40 34.1	-1.7
	1.4nm,0.2s								
KURBB	Kurchatov Arra	15.13	18	P		P		17 40 42.0	-0.4
	0.2nm,0.3s,baz=208,slow=11,SNR=6.6								
AB31	Akbulak array	15.35	331	P		Pn		17 40 39.9	-2.7
	1.0nm,0.5s,baz=132,slow=13,SNR=40								
TAPN	Taplejung	16.50	118	eP		Pn		17 40 57.2	-0.2
BVAR	Borovoye Array	16.66	358	P		P		17 41 00.2	+1.0
AKTO	Aktyubinsk	17.05	330	P		Pn		17 41 03.2	-0.4
	0.3nm,0.3s,baz=146,slow=3.6,SNR=6.1								
AKTO	Aktyubinsk	17.05	330	⇓P		Pn		17 41 02.6	-1.0
	3.2nm,0.8s								
ZALV	Zalesovo Beam	19.88	24	P		P		17 41 35.1	+0.6
	0.8nm,0.3s,baz=208,slow=10.0,SNR=17								
FINES	FINESS Array B	37.77	326	P		P		17 44 18.9	+1.9
	0.5nm,0.6s,baz=104,slow=8.0,SNR=4.8								
ARCES	ARCESS Array B	41.38	338	P		P		17 44 49.0	+2.2
	1.2nm,0.7s,baz=114,slow=9.0,SNR=1.1								
NB2	NORSAR Subarra	44.67	323	P		P		17 45 15.0	+1.5
	comp=Z,1.2nm,0.6s,baz=95,slow=7.9								
NOA	NORSAR Array B	44.67	323	P		P		17 45 14.1	+0.6
	comp=Z,0.8nm,0.9s,baz=107,slow=7.2,SNR=4.0								
YKA	Yellowknife Ar	81.34	3	P		P		17 49 16.7	+0.9
	comp=Z,0.2nm,0.8s,baz=348,slow=5.1,SNR=4.0								

*WEL **23** 17:41:24.7±0.6, 34°.S±7°×17°.9W±1°.4, h144km±19km, M4.5/19, mB4.9/7, ML4.8/12, MLv4.8/19, Mw(mB)4.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=113.5*
*NEIC **23** 17:41:30.5±2.6, 33°.71S±0°.09×179°.5E±0°.2, h132km±7km, mb4.5/17, Error ellipse: s-maj=19.5km s-min=13.4km az=97.0*
*IDC **23** 17:41:35.2±5.1, 34°.49S×179°.99E, h216km±51km, mb3.1/2, mb1 3.5/4, mb1mx3.2/27, mbtmp4.0/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/13, Error ellipse: s-maj=61.3km s-min=39.6km az=174.0*

ISC 23 17:41:32.4±0.8, 33°.84S±0°.07×179°.5E±0°.1, h150km, n87, σ2§83/109, mb4.5/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.84	195	Pn		Pn		17 42 30.0	-0.5
MXZ				Sn		Sn		17 43 12.9	-2.7
MXZ	Matakaoa Point	3.84	195	P		Pn		17 42 29.8	-0.7
MXZ				S		Sn		17 43 17.8	+2.1
WMGZ	Waiomatatini S	4.07	192	P		Pn		17 42 33.9	+0.5
WMGZ				S		Sn		17 43 24.0	+3.1
HAZ	Te Kaha	4.15	199	P		Pn		17 42 35.4	+0.9
HAZ				S		Sn		17 43 26.7	+3.8
PUZ	Puketiti	4.34	193	P		Pn		17 42 35.9	-1.2
PUZ				S		Sn		17 43 28.7	+1.2
RUGZ	Raukumara Rang	4.38	199	P		Pn		17 42 38.3	+0.7
RUGZ				S		Sn		17 43 29.8	+1.4
WIAZ	Waiheke Island	4.64	229	P		Pn		17 42 46.7	+5.8
CNGZ	Carnagh Statio	4.75	193	P		Pn		17 42 41.4	-1.0
MWZ	Matawai	4.76	199	P		Pn		17 42 42.3	-0.3
MWZ				S		Sn		17 43 40.6	+3.2
MKAZ	Moumakai	4.82	226	P		Pn		17 42 48.2	+4.9
URZ	Urewera	4.82	203	P		Pn		17 42 43.2	-0.1
	6.8nm,0.3s,baz=263,slow=3.3,SNR=38								
URZ				S		Sn		17 43 40.7	+2.2
	13nm,0.3s,baz=146,slow=4.2,SNR=4.5								
URZ	Urewera	4.82	203			Pn		17 42 43.2	-0.1
URZ						Sn		17 43 37.2	-1.4
URZ	Urewera	4.82	203	P		Pn		17 42 43.8	+0.5
URZ				S		Sn		17 43 40.8	+2.2
MUGZ	Murupara	5.13	205	P		Pn		17 42 47.1	-0.3
MUGZ				S		Sn		17 43 48.6	+2.5
SNGZ	Shannon Statio	5.23	199	P		Pn		17 42 48.5	-0.4
SNGZ				S		Sn		17 43 50.3	+1.8
RAHZ	Arahi	5.43	200	P		Pn		17 42 50.2	-1.2
BKZ	Black Stump Fm	5.84	204					17 42 56.0	-1.0
NNVZ	North Ngauruho	6.14	210	P		Pn		17 43 02.6	+1.6
SNVZ	South Ngauruho	6.18	209	P		Pn		17 43 03.0	+1.5
NGZ	Ngauruhoe	6.18	210	P		Pn		17 43 01.6	0.0
NGZ				S		Sn		17 44 19.2	+7.7
FWVZ	Far West T-bar	6.27	209	P		Pn		17 43 04.2

WACZ	**Wakanui South**	**11.72**	**208**	P	**Pn**	**17 44 10.9**	**-3.9**
RPZ	**Rata Peaks**	**11.86**	**211**	P	**Pn**	**17 44 12.5**	**-4.1**
	1.1nm,0.3s,baz=199,slow=2.1,SNR=6.7						
RPZ				S	**Sn**	**17 46 21.5**	**-6.1**
	1.8nm,0.3s,baz=328,slow=24,SNR=9.5						
RPZ	**Rata Peaks**	**11.86**	**211**	P	**Pn**	**17 44 13.0**	**-3.7**
ARCZ	**Arundel**	**11.99**	**210**	P	**Pn**	**17 44 15.0**	**-3.4**
OUENC	**Ouen Island, N**	**15.94**	**312**	P	**P**	**17 45 08.0**	**-1.0**
OUENC				IAmb	IAmb	17 45 10.2	
	comp=Z,51nm,1.4s						
DZM	**Mont Dzumac**	**16.44**	**312**	LR	LR	17 50 04.5	
	comp=Z,48nm,21.8s,baz=230,slow=30						
NIUE	**Niue**	**17.46**	**35**	P	**P**	**17 45 24.4**	**-1.4**
KOUNC	**Koumac, New Ca**	**18.91**	**311**	P	**P**	**17 45 39.7**	**-1.9**
KOUNC				IAmb	IAmb	17 45 44.3	
	comp=Z,18nm,1.0s						
SANVU	**Saraoutou**	**21.43**	**326**	P	**P**	**17 46 07.3**	**-1.4**
SANVU				IAmb	IAmb	17 46 30.9	
	comp=Z,24nm,0.9s						
ASAR	**Alice Springs**	**40.97**	**272**	P	**P**	**17 49 01.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=110,slow=7.8,SNR=14						
WR0	**Warramunga Arr**	**42.10**	**277**	P	**P**	**17 49 09.1**	**-0.7**
WB2	**Warramunga Arr**	**42.27**	**277**	P	**P**	**17 49 10.2**	**-1.0**
WB2				IAmb	IAmb	17 50 00.5	
	comp=Z,9.8nm,1.3s						
WRA	**Warramunga Arr**	**42.28**	**277**	P	**P**	**17 49 10.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=116,slow=7.8,SNR=12						
WB0	**Warramunga Arr**	**42.32**	**278**	P	**P**	**17 49 10.0**	**-1.6**
WB0				IAmb	IAmb	17 50 15.0	
	comp=Z,26nm,1.9s						
SBA	**Scott Base**	**44.46**	**184**	P	**P**	**17 49 31.7**	**+3.8**
SBA				IAmb	IAmb	17 49 33.2	
	comp=Z,18nm,1.9s						
VNDA	**Vanda**	**44.47**	**185**	P	**P**	**17 49 29.6**	**+1.6**
MTN	**Manton Dam**	**48.58**	**284**	P	**P**	**17 50 01.5**	**+0.7**
KNRA	**Kununurra**	**49.00**	**279**	P	**P**	**17 50 06.7**	**+2.7**
FITZ	**Fitzroy Crossi**	**50.37**	**274**	P	**P**	**17 50 14.4**	**+0.1**
FITZ				IAmb	IAmb	17 51 35.3	
	comp=Z,18nm,1.6s						
QSPA	**South Pole Qui**	**56.27**	**180**	P	**P**	**17 51 00.1**	**+3.2**
QSPA				IAmb	IAmb	17 51 00.5	
	comp=Z,4.6nm,0.7s						
BELA	**Belgrano 2**	**66.66**	**173**	P	**P**	**17 52 07.5**	**+1.2**
SNAA	**Sanae**	**74.77**	**179**	P	**P**	**17 52 56.2**	**+0.8**
SNAA				IAmb	IAmb	17 55 20.3	
	comp=Z,29nm,1.9s						
PLCA	**Paso Flores**	**81.68**	**134**	P	**P**	**17 53 34.0**	**-0.1**
FINES	**FINESS Array B**	**147.55**	**336**	PKPbc	**PKPdf**	**18 00 54.3**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=23,slow=3.4,SNR=12						
FINES	**FINESS Array B**	**147.55**	**336**		**PKPdf**	**18 00 53.8**	**-1.4**

*SKHL **23** 17:55:26.3±0.4, 45°.10N×150°.50E, h68km±1km, mb4.7/4*
*MOS **23** 17:55:26.7±1.4, 45°.13N×150°.26E, h56km, mb4.3/1, Error ellipse: s-maj=20.2km s-min=11.3km az=142.3*
*JMA **23** 17:55:27.9±0.7, 45°.38N×150°.05E, h30km, M4.1*
*IDC **23** 17:55:31.7±3.3, 45°.34N×150°.07E, h83km±31km, mb3.1/5, mb1 3.3/7, mb1mx3.0/41, mbtmp3.5/7, MS2.9/1, Ms1 2.9/1, ms1mx2.0/22, Error ellipse: s-maj=43.0km s-min=22.2km az=130.0*

ISC 23 17:55:26.2±0.8, 44°.96N±0°.09×150°.40E±0°.08, h35km, n40, σ2s14/49, mb3.3/5, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.82**	**279**	*i* P N	**Pn**	**17 55 53.7**	**-1.3**
KUR				eS	**Sn**	**17 56 13.2**	**-3.5**
KUR				pmax	pmax		
	comp=Z,181nm,0.4s						
KUR				smax	smax		
	comp=N,562nm,0.7s						
KUR				smax	smax		
	comp=E,395nm,0.3s						
KUR	**Kuril'sk**	**1.82**	**279**	*i* P	**Pn**	**17 55 53.7**	**-1.3**
KUR				AMB	AMB	17 55 54.6	
	comp=E,180nm,0.4s						
KUR				eS	**Sn**	**17 56 14.0**	**-2.7**
KUR				A	A	17 56 14.8	
	comp=E,560nm,0.5s						
KUR				A	A	17 56 14.8	
	comp=E,400nm,0.5s						
SHO	**Shikotan**	**2.78**	**248**	*e*P N	**Pn**	**17 56 07.7**	**-0.6**
SHO				S	**Sn**	**17 56 40.7**	**+0.1**
SHO				pmax	pmax		
	comp=E,28nm,0.3s						
SHO				pmax	pmax		
	comp=Z,56nm,0.3s						
SHO				pmax	pmax		
	comp=N,22nm,0.2s						
SHO				smax	smax		
	comp=N,41nm,0.1s						
SHO				smax	smax		
	comp=E,103nm,0.2s						
SHO	**Shikotan**	**2.78**	**248**	*e*P	**Pn**	**17 56 08.5**	**+0.2**
SHO				AMB	AMB	17 56 11.9	
	comp=E,60nm,0.3s						
SHO				eS	**Sn**	**17 56 40.7**	**+0.1**
SHO				A	A	17 56 47.0	
	comp=E,80nm,0.2s						
SHO				A	A	17 56 47.0	
	comp=E,130nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.38**	**256**	*e*P N	**Pn**	**17 56 18.0**	**+1.6**
YUK				S	**Sn**	**17 56 56.7**	**+1.4**
YUK				pmax	pmax		
	comp=N,24nm,0.2s						
YUK				pmax	pmax		
	comp=Z,125nm,0.2s						
YUK				smax	smax		
	comp=N,110nm,0.5s						
YUK				smax	smax		
	comp=E,222nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.38**	**256**	*e*P	**Pn**	**17 56 18.0**	**+1.6**
YUK				AMB	AMB	17 56 20.3	
	comp=E,130nm,0.3s						
YUK				eS	**Sn**	**17 56 56.7**	**+1.4**
YUK				A	A	17 57 01.3	
	comp=E,110nm,0.4s						
YUK				A	A	17 57 01.3	
	comp=E,220nm,0.4s						
GLVR	**Golovnino**	**3.71**	**252**	*e*P N	**Pn**	**17 56 22.7**	**+1.7**
GLVR				eS	**Sn**	**17 57 05.1**	**+1.6**
GLVR				pmax	pmax		
	comp=Z,69nm,0.1s						
GLVR				smax	smax		
	comp=N,230nm,0.2s						
GLVR				smax	smax		
	comp=E,178nm,0.2s						
GLVR	**Golovnino**	**3.71**	**252**	*e*P	**Pn**	**17 56 22.7**	**+1.7**
GLVR				AMB	AMB	17 56 25.0	
	comp=E,70nm,0.2s						
GLVR				eS	**Sn**	**17 57 05.1**	**+1.6**
GLVR				A	A	17 57 15.2	
	comp=E,230nm,0.2s						
GLVR				A	A	17 57 15.2	
	comp=E,180nm,0.2s						
NEM2	**Nemuro 2**	**3.71**	**246**	P	**Pn**	**17 56 21.7**	**+0.7**
NEM2				eS	**Sn**	**17 57 01.2**	**-2.3**
NMR	**Nemuro--Hokkai**	**3.72**	**246**	*e*P N	**Sn**	**17 56 22.0**	**+0.8**
NMR				eS	**Sn**	**17 57 02.5**	**-1.2**
NMR	**Nemuro--Hokkai**	**3.72**	**246**	*e*P	**Pn**	**17 56 22.0**	**+0.8**
NMR				eS	**Sn**	**17 57 03.5**	**-0.2**
RUSJ	**Misakicho**	**3.79**	**259**	*e*P N	**Pn**	**17 56 25.3**	**+3.3**
RUSJ				eS	**Sn**	**17 57 09.5**	**+4.2**
JRA	**Rausu**	**3.92**	**257**	P	**Pn**	**17 56 26.4**	**+2.6**
JNK	**Nakash**	**4.31**	**253**	P	**Pn**	**17 56 31.1**	**+1.9**
JNK				eS	**Sn**	**17 57 19.5**	**+1.3**
AKK	**Akkeshi**	**4.46**	**246**	*e*P	**Pn**	**17 56 32.3**	**+1.0**
JAK	**Akkeshi**	**4.56**	**246**	P	**Pn**	**17 56 33.2**	**+0.5**
JAK				eS	**Sn**	**17 57 23.3**	**-1.2**
JTKR	**Abashiri--Toko**	**4.75**	**260**	P	**Pn**	**17 56 37.4**	**+2.1**
JAR	**Ashorobuto**	**5.06**	**253**	P	**Pn**	**17 56 41.8**	**+2.3**
JAR				eS	**Sn**	**17 57 37.4**	**+0.7**
JOB	**Onbets**	**5.17**	**249**	P	**Pn**	**17 56 42.4**	**+1.3**
JCH	**Churui**	**5.61**	**248**	P	**Pn**	**17 56 48.4**	**+1.3**
JCH				eS	**Sn**	**17 57 48.5**	**-1.8**
JKA	**Kamikawa-asahi**	**5.64**	**264**	*e*P	**Pn**	**17 56 50.2**	**+2.7**
ASAJ	**Asahikawa**	**5.64**	**264**	P	**Pn**	**17 56 50.2**	**+2.6**
	comp=E,0.3nm,0.3s,baz=126,slow=8.7,SNR=5.1						
JNBK	**Urakawa-nobuka**	**6.17**	**247**	P	**Pn**	**17 56 55.4**	**+0.7**
JNBK				eS	**Sn**	**17 58 00.0**	**-4.0**
JANG	**Nango**	**7.99**	**238**	eS	Sn	17 58 41.1	-7.9
JTH	**Tanohata**	**8.06**	**234**	eS	**Sn**	**17 58 44.0**	**-6.7**
PETK	**Petropavlovsk-**	**9.45**	**28**	P	**Pn**	**17 57 42.5**	**+2.7**
	comp=E,0.2nm,0.3s,baz=205,slow=13,SNR=6.5						

YAK	**Yakutsk**	**20.91**	**332**	LR	LR	18 07 49.5	
	comp=E,35nm,21.8s,baz=263,slow=36						
YAK	**Yakutsk**	**20.91**	**332**	*e*P	**P**	**18 00 05.4**	**+0.1**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK	**Yakutsk**	**20.91**	**332**	*e*P	**P**	**18 00 05.4**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**28.65**	**146**	T	T	18 31 58.6	
	baz=336,slow=76,SNR=261						
H11N1	**WAKE ISLAND Hy**	**28.66**	**146**	T	T	18 32 01.9	
	baz=336,slow=76,SNR=240						
H11N3	**WAKE ISLAND Hy**	**28.66**	**146**	T	T	18 31 59.6	
	baz=336,slow=76,SNR=256						
H11S1	**WAKE ISLAND Hy**	**29.68**	**147**	T	T	18 33 16.0	
	baz=336,slow=76,SNR=265						
H11S3	**WAKE ISLAND Hy**	**29.69**	**147**	T	T	18 33 16.7	
	baz=336,slow=76,SNR=204						
H11S2	**WAKE ISLAND Hy**	**29.70**	**147**	T	T	18 33 15.3	
	baz=336,slow=76,SNR=241						
INK	**Inuvik**	**44.17**	**31**	P	**P**	**18 03 28.9**	**-2.1**
	comp=N,0.5nm,0.5s,baz=270,slow=4.0,SNR=1.8						
YKA	**Yellowknife Ar**	**53.48**	**35**	P	**P**	**18 04 42.3**	**-0.2**
	comp=N,0.1nm,0.5s,baz=303,slow=7.2,SNR=2.2						
FINES	**FINESS Array B**	**64.83**	**334**	P	**P**	**18 05 58.5**	**-2.5**
	comp=N,1.5nm,1.0s,baz=29,slow=8.7,SNR=5.5						
ASAR	**Alice Springs**	**69.94**	**196**	P	**P**	**18 06 35.9**	**+2.1**
	comp=N,0.2nm,0.8s,baz=7.9,slow=6.3,SNR=4.4						
TXAR	**Lajitas Array**	**80.03**	**58**	P	**P**	**18 07 32.1**	**-0.2**
	comp=N,0.2nm,0.6s,baz=290,slow=4.0,SNR=4.2						

*NEIC **23** 18:14:24.6±2.5, 56°.33N±0°.04×155°.89W±0°.07, h59km±4km, Error ellipse: s-maj=6.5km s-min=5.3km az=159.0*
*AEIC **23** 18:14:25±2.3, 56°.30N±0°.05×155°.84W±0°.05, h63km±6km, ML3.2, mb3.8/4(NEIC), ML3.4/33(NEIC), Error ellipse: s-maj=8.1km s-min=4.2km az=172.0*
*IDC **23** 18:14:27.2±6.1, 56°.65N×156°.01W, h52km±47km, mb3.2/3, mb1 3.5/6, mb1mx3.2/40, mbtmp3.4/6, ML3.1/3, Error ellipse: s-maj=42.1km s-min=31.3km az=34.0*

ISC 23 18:14:25.7±0.9, 56.42N±0°.06×155.81W±0°.05, h51km±12km, n121, σ1s20/131, mb3.3/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIR	**Chirikof Islan**	**0.61**	**170**	Pn	**Pn**	**18 14 37.1**	**-1.3**
CHIR					**Sn**	**18 14 46.6**	**-0.8**
CHIR				IAML		18 14 48.6	
	comp=E,2μm,0.8s						
CHIR				IAML		18 14 49.7	
	comp=N,3μm,0.5s						
CHIR	**Chirikof Islan**	**0.61**	**170**	P	**Pn**	**18 14 37.1**	**-1.3**
	baz=346						
CHIR				S	**Sn**	**18 14 46.7**	**-0.7**
	baz=346						
SII	**Sitkinak Islan**	**0.91**	**81**	Pn	**Pn**	**18 14 42.8**	**+0.5**
SII				Sn	**Sn**	**18 14 56.5**	**+2.0**
SII	**Sitkinak Islan**	**0.91**	**81**	P	**Pn**	**18 14 42.9**	**+0.6**
	baz=255						
SII				S	**Sn**	**18 14 56.9**	**+2.4**
	baz=255						
PLK3	**Peulik 3**	**1.30**	**349**		**Pn**	**18 14 48.6**	**+1.1**
PLK3					**Sn**	**18 15 06.6**	**+2.9**
PLBL	**Peulik Blue Cr**	**1.40**	**337**		**Pn**	**18 14 50.0**	**+1.1**
ANPB	**Aniakchak Plen**	**1.42**	**287**		**Pn**	**18 14 48.8**	**-0.4**
ANNW	**Aniakchak Nort**	**1.44**	**293**		**Pn**	**18 14 49.7**	**+0.3**
PLK1	**Peulik 1**	**1.45**	**343**		**Pn**	**18 14 50.6**	**+1.1**
CHGN	**Chignik**	**1.45**	**266**	Pn	**Pn**	**18 14 48.1**	**-1.5**
CHGN				Sn	**Sn**	**18 15 05.5**	**-1.9**
OHAK	**Old Harbor**	**1.60**	**59**	Pn	**Pn**	**18 14 52.1**	**+0.6**
OHAK				Sn	**Sn**	**18 15 11.7**	**+0.5**
OHAK	**Old Harbor**	**1.60**	**59**	P	**Pn**	**18 14 52.2**	**+0.6**
	baz=238						
OHAK				S	**Sn**	**18 15 12.6**	**+1.4**
	baz=238						
KJL	**Kejulik**	**1.64**	**4**		**Pn**	**18 14 53.5**	**+1.3**
CAHL	**Cahill**	**1.66**	**9**		**Pn**	**18 14 53.6**	**+1.2**
ANCK	**Angle Creek**	**1.79**	**5**		**Pn**	**18 14 55.6**	**+1.3**
VNHG	**Veniaminof 1**	**1.88**	**265**		**Pn**	**18 14 54.9**	**-0.6**
KELA	**Mount Kelaz**	**2.03**	**1**		**Pn**	**18 14 59.1**	**+1.6**
VNFG	**Fog Glacier, M**	**2.09**	**268**		**Pn**	**18 14 58.8**	**+0.4**
VNFG	**Fog Glacier, M**	**2.09**	**268**	P	**Pn**	**18 14 58.8**	**+0.4**
	baz=88						
KDAK	**Kodiak Island**	**2.23**	**51**	P	**Pn**	**18 15 00.6**	**+0.5**
	comp=N,4.5nm,0.3s,baz=209,slow=6.4,SNR=79						
KDAK				S	**Sn**	**18 15 27.4**	**+1.0**
	comp=N,21nm,0.3s,baz=63,slow=22,SNR=27						
KDAK	**Kodiak Island**	**2.23**	**51**	Pn	**Pn**	**18 15 00.6**	**+0.5**
KDAK				Sn	**Sn**	**18 15 26.6**	**+0.1**
KDAK				IAML		18 15 51.0	
	comp=N,164nm,0.9s						
KDAK	**Kodiak Island**	**2.23**	**51**	P	**Pn**	**18 15 00.6**	**+0.5**
	baz=232						
Q19K	**Cape Douglas,**	**2.77**	**24**		**Pn**	**18 15 09.1**	**+1.5**
SDPT	**Sand Point**	**2.84**	**250**	Pn	**Pn**	**18 15 07.1**	**-1.4**
SDPT				IAML		18 15 53.9	
	comp=N,137nm,1.5s						
P18K	**Big Mountain,**	**3.00**	**6**	Pn	**Pn**	**18 15 11.0**	**+0.3**
P18K	**Big Mountain,**	**3.00**	**6**	P	**Pn**	**18 15 11.2**	**+0.5**
	baz=186						
O18K	**Koktuh Hills**	**3.46**	**5**	Pn	**Pn**	**18 15 18.0**	**+0.9**
O18K				IAML		18 16 19.5	
	comp=N,63nm,0.8s						
O18K				IAML		18 16 26.6	
	comp=E,85nm,0.9s						
O18K	**Koktuh Hills**	**3.46**	**5**	P	**Pn**	**18 15 17.8**	**+0.8**
	baz=186						
P19K	**Oil Pt**	**3.52**	**22**		**Pn**	**18 15 19.4**	**+1.5**
P19K				IAML		18 16 32.8	
	comp=E,62nm,0.9s						
P19K				IAML		18 16 37.7	
	comp=N,70nm,0.9s						
O19K	**Port Alsworth**	**3.87**	**11**		**Pn**	**18 15 23.2**	**+0.6**
CNPM	**China Poot**	**3.95**	**36**	Pn	**Pn**	**18 15 24.7**	**+0.9**
CNPM				IAML		18 16 30.8	
	comp=E,44nm,0.6s						
CNPM				IAML		18 16 39.4	
	comp=N,44nm,1.8s						
BRLK	**Bradley Lake**	**4.25**	**36**	Pn	**Pn**	**18 15 28.2**	**+0.3**
BRLK				IAML		18 16 15.2	
	comp=N,43nm,0.2s						
BRLK				IAML		18 16 54.9	
	comp=E,37nm,1.4s						
N18K	**Kilae Creek**	**4.27**	**359**	Pn	**Pn**	**18 15 28.1**	**-0.1**
N18K				IAML		18 16 46.7	
	comp=N,30nm,0.8s						
N18K				IAML		18 16 55.1	
	comp=E,36nm,1.3s						
BRSE	**Bradley Lake S**	**4.28**	**37**		**Pn**	**18 15 28.7**	**+0.4**
BRSE	**Bradley Lake S**	**4.28**	**37**	P	**Pn**	**18 15 28.7**	**+0.4**
	baz=220						
RSO	**Redoubt South**	**4.36**	**20**		**Pn**	**18 15 30.6**	**+1.0**
RDWB	**Redoubt West**	**4.37**	**20**		**Pn**	**18 15 31.5**	**+1.9**
N19K	**Bonanza Creek**	**4.46**	**8**	Pn	**Pn**	**18 15 29.6**	**-1.3**
N19K				IAML		18 16 56.3	
	comp=N,28nm,0.7s						
N19K				IAML		18 17 06.6	
	comp=E,26nm,1.2s						
N19K	**Bonanza Creek**	**4.46**	**8**	P	**Pn**	**18 15 32.2**	**+1.4**
	baz=190						
DFR	**Drift River**	**4.49**	**20**		**Pn**	**18 15 33.1**	**+1.8**
FALS	**False Pass**	**4.59**	**253**	Pn	**Pn**	**18 15 30.0**	**-2.5**
SVW2	**Sparrevohn**	**4.69**	**1**		**Pn**	**18 15 33.9**	**0.0**
SVW2				IAML		18 17 01.8	
	comp=E,25nm,1.7s						
SEW	**Seward**	**4.99**	**40**	Pn	**Pn**	**18 15 36.7**	**-1.2**
M19K	**Big River Lodg**	**5.55**	**7**		**Pn**	**18 15 44.5**	**-1.2**
RC01	**Rabbit Creek Å**	**5.65**	**31**	Pn	**Pn**	**18 15 45.9**	**-1.1**
L19K	**White Mountain**	**5.80**	**4**	Pn	**Pn**	**18 15 48.4**	**-0.7**
PWL	**Port Wells**	**5.92**	**38**	Pn	**Pn**	**18 15 50.6**	**-0.2**
KNK	**Knik Glacier**	**6.29**	**34**	Pn	**Pn**	**18 15 55.4**	**-0.4**
GLI	**Glacier Island**	**6.38**	**42**	Pn	**Pn**	**18 15 56.1**	**-0.9**
GHO	**Glory Hole Cre**	**6.43**	**31**	Pn	**Pn**	**18 15 58.0**	**+0.1**
FID	**Port Fidalgo**	**6.53**	**44**	Pn	**Pn**	**18 15 57.7**	**-1.3**
TTA	**Tatalina**	**6.53**	**359**	Pn	**Pn**	**18 16 00.3**	**+1.1**
SML	**Sawmill**	**6.63**	**32**	Pn	**Pn**	**18 15 59.2**	**-1.3**
CUT	**Chulitna**	**6.63**	**23**	Pn	**Pn**	**18 16 02.1**	**+1.6**
UNV	**Unalaska Valle**	**6.65**	**252**	Pn	**Pn**	**18 16 00.7**	**0.0**
EYAK	**Cordova Ski Ar**	**6.70**	**48**	Pn	**Pn**	**18 16 00.7**	**-0.7**
PPLA	**Purkeypile**	**6.75**	**14**	Pn	**Pn**	**18 16 02.5**	**+0.3**
SCM	**Sheep Creek Mo**	**6.96**	**35**	Pn	**Pn**	**18 16 04.5**	**-0.5**
K20K	**Telida**	**7.01**	**6**	Pn	**Pn**	**18 16 07.3**	**+1.6**
RAGM	**Ragged Mountai**	**7.07**	**51**	Pn	**Pn**	**18 16 05.7**	**-0.9**
KLU	**Klutina**	**7.21**	**41**	Pn	**Pn**	**18 16 07.2**	**-1.3**

CAST	**Castle Rocks**	**7.27**	**13**	Pn	**Pn**	**18 16 09.5**	**+0.4**
BMRM	**Bremner River**	**7.40**	**47**	Pn	**Pn**	**18 16 09.9**	**-1.2**
BERG	**Berg Lake**	**7.50**	**53**	Pn	**Pn**	**18 16 13.8**	**+1.4**
M24K	**Tolsona, Glenn**	**7.54**	**37**	Pn	**Pn**	**18 16 13.4**	**+0.5**
KTH	**Kantishna Hill**	**7.56**	**17**	Pn	**Pn**	**18 16 13.3**	**0.0**
TRF	**Thorofare Moun**	**7.58**	**19**	Pn	**Pn**	**18 16 13.7**	**+0.2**
N25K	**Chitina, Valde**	**7.77**	**43**	Pn	**Pn**	**18 16 15.3**	**-0.9**
SNH	**Sunshine Point**	**7.80**	**56**	Pn	**Pn**	**18 16 16.9**	**+0.3**
J20K	**Nowinta River**	**7.83**	**5**	Pn	**Pn**	**18 16 17.9**	**+1.0**
RND	**Reindeer**	**7.83**	**24**	Pn	**Pn**	**18 16 16.9**	**0.0**
WAX	**Waxell Ridge**	**7.91**	**54**	Pn	**Pn**	**18 16 17.3**	**-0.7**
DHY	**Denali Highway**	**7.91**	**29**	Pn	**Pn**	**18 16 17.4**	**-0.7**
SPIA	**Saint Paul Isl**	**7.96**	**281**	Pn	**Pn**	**18 16 18.8**	**+0.1**
GLB	**Gilahina Butte**	**7.99**	**46**	Pn	**Pn**	**18 16 19.3**	**+0.2**
VRDI	**Verde Repeater**	**8.02**	**48**	Pn	**Pn**	**18 16 19.5**	**-0.1**
TGL	**Tana Glacier**	**8.05**	**52**	Pn	**Pn**	**18 16 19.4**	**-0.6**
BPAW	**Bear Paw Mtn.**	**8.07**	**15**	Pn	**Pn**	**18 16 21.0**	**+0.9**
MCK	**McKinley**	**8.10**	**22**	Pn	**Pn**	**18 16 21.8**	**+1.2**
ISLE	**Juniper Island**	**8.20**	**54**	Pn	**Pn**	**18 16 20.9**	**-1.2**
MCARA	**McCarthy VSAT**	**8.27**	**48**	Pn	**Pn**	**18 16 22.0**	**-0.9**
BWN	**Browne**	**8.39**	**19**	Pn	**Pn**	**18 16 24.5**	**+0.1**
PAX	**Paxson**	**8.39**	**34**	Pn	**Pn**	**18 16 23.1**	**-1.4**
GRNC	**Granite Creek**	**8.52**	**54**	Pn	**Pn**	**18 16 25.3**	**-1.1**
BARN	**Barnard Glacie**	**8.70**	**52**	Pn	**Pn**	**18 16 27.2**	**-1.8**
CTGM	**Chitina Glacie**	**8.80**	**53**	Pn	**Pn**	**18 16 30.6**	**+0.3**
NEA2	**Nenana**	**8.84**	**19**	Pn	**Pn**	**18 16 30.2**	**-0.5**
M26K	**Nabesna, AK**	**8.86**	**42**	Pn	**Pn**	**18 16 31.8**	**+0.8**
LOGN	**Logan Glacier**	**8.89**	**54**	Pn	**Pn**	**18 16 31.0**	**-0.5**
WRH	**Wood River Hil**	**8.93**	**22**	Pn	**Pn**	**18 16 30.6**	**-1.3**
I21K	**Tanana**	**8.98**	**10**	Pn	**Pn**	**18 16 32.3**	**-0.3**
RIDG	**Independent Ri**	**9.15**	**32**	Pn	**Pn**	**18 16 35.0**	**0.0**
BCPM	**Bancas Point**	**9.24**	**61**	Pn	**Pn**	**18 16 35.1**	**-1.1**
M27K	**Edge Creek, AK**	**9.26**	**44**	Pn	**Pn**	**18 16 37.5**	**+1.0**
MDM	**Murphy Dome**	**9.33**	**20**	Pn	**Pn**	**18 16 35.7**	**-1.7**
H21K	**Melozitna Rive**	**9.38**	**8**		**Pn**	**18 16 37.1**	**-1.0**
ANM	**Nome**	**9.42**	**334**	Pn	**Pn**	**18 16 37.5**	**-1.2**
IL31		**9.45**	**24**	Pn	**Pn**	**18 16 37.4**	**-1.5**
ILAR	**Eielson Array**	**9.45**	**24**	P	**Pn**	**18 16 39.2**	**+0.2**
	comp=E,0.2nm,0.3s,baz=217,slow=13,SNR=9.1						
ILAR				S	**Sn**	**18 18 20.5**	**-3.1**
	comp=E,0.1nm,0.3s,baz=97,slow=26,SNR=2.6						
ILAR	**Eielson Array**	**9.45**	**24**	Pn	**Pn**	**18 16 37.4**	**-1.6**
SCRK	**Sand Creek**	**9.58**	**33**	Pn	**Pn**	**18 16 40.4**	**-0.6**
POKR	**Poker Plat Res**	**9.63**	**22**	Pn	**Pn**	**18 16 41.8**	**+0.3**
IMAR	**Indian Mountai**	**9.65**	**5**	Pn	**Pn**	**18 16 42.3**	**+0.6**
J25K	**Salcha River,**	**9.68**	**28**	Pn	**Pn**	**18 16 41.8**	**-0.4**
L27K	**Beaver Creek,**	**9.69**	**41**	Pn	**Pn**	**18 16 43.1**	**+0.8**
BCAR	**Beaver Creek A**	**9.70**	**41**	Pn	**Pn**	**18 16 41.2**	**-1.4**
H23K	**Yukon River**	**9.90**	**15**	Pn	**Pn**	**18 16 43.6**	**-1.6**
H24K	**Noodor Dome**	**10.19**	**19**	Pn	**Pn**	**18 16 46.9**	**-2.2**
GAMB	**Gambell**	**10.80**	**320**	Pn	**Pn**	**18 16 54.3**	**-3.2**
TNA	**Tin City**	**10.87**	**332**	Pn	**Pn**	**18 16 56.8**	**-1.6**
EGAK	**Eagle**	**11.02**	**35**	Pn	**Pn**	**18 17 00.3**	**-0.2**
BMAR	**Burnt Mountain**	**12.22**	**21**	Pn	**Pn**	**18 17 12.9**	**-3.9**
INK	**Inuvik**	**15.64**	**32**	P	**Pn**	**18 18 02.5**	**+0.1**
	comp=E,0.1nm,0.3s,baz=230,slow=7.9,SNR=3.0						
INK	**Inuvik**	**15.64**	**32**	Pn	**Pn**	**18 18 02.1**	**-0.3**
INK				IAmb	IAmb	18 18 04.1	
	comp=Z,11nm,1.6s						
C36M	**Paulatuk**	**19.10**	**35**	P	**P**	**18 18 41.8**	**-2.0**
A36M	**Sachs Harbour**	**20.12**	**27**	P	**P**	**18 18 54.6**	**-0.3**
A36M				IAmb	IAmb	18 18 59.0	
	comp=Z,4.4nm,0.8s						
YKA	**Yellowknife Ar**	**21.49**	**57**	P	**P**	**18 19 11.0**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=271,slow=9.9,SNR=13						
YKA	**Yellowknife Ar**	**21.49**	**57**	P	**P**	**18 19 09.2**	**-0.6**
TXAR	**Lajitas Array**	**45.33**	**104**	P	**P**	**18 22 41.0**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=303,slow=5.0,SNR=2.7						
AKASG	**Malin Array Be**	**73.16**	**357**	P	**P**	**18 25 50.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=6.7,slow

mb1 3.7/4, mb1mx3.4/32, mbtmp3.5/4, Error ellipse: s-maj=189.8km s-min=27.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.55**	**158**	P	P	18 37 43.8	-0.1
	0.3nm,0.3s,baz=336,slow=10,SNR=28						
ASAR	**Alice Springs**	**28.85**	**162**	P	P	18 38 14.4	+0.8
	0.5nm,0.5s,baz=342,slow=7.0,SNR=31						
STKA	**Stephens Creek**	**39.08**	**157**	P	P	18 39 41.1	-1.1
	0.6nm,0.4s,baz=343,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**56.20**	**326**	P	P	18 41 55.0	0.0
	0.1nm,0.4s,baz=120,slow=5.8,SNR=1.4						

IDC 23 18:43:45.0±2.9, 6°27'S×129°7'7"E, h129km±39km, mb3.1/1, mb1 3.2/5, mb1mx2.8/41, mbtmp3.6/5, Error ellipse: s-maj=70.0km s-min=21.2km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.57**	**16**	P	Pn	18 45 06.2	+0.3
	1.0nm,0.3s,baz=212,slow=23,SNR=23						
SIJI				S	Sn	18 46 03.9	-4.9
	2.6nm,0.3s,baz=193,slow=22,SNR=21						
FITZ	**Fitzroy Crossi**	**12.43**	**199**	P	Pn	18 46 37.2	-0.4
	0.2nm,0.3s,baz=22,slow=11,SNR=15						
FITZ				S	Sn	18 48 47.6	-7.1
	0.3nm,0.3s,baz=152,slow=18,SNR=6.6						
WRA	**Warramunga Arr**	**14.30**	**162**	P	Pn	18 46 59.7	-2.0
	0.1nm,0.3s,baz=349,slow=13,SNR=1.6						
WRA				S	Sn	18 49 28.5	-11
	0.6nm,0.3s,baz=336,slow=23,SNR=12						
ASAR	**Alice Springs**	**17.75**	**167**	P	Pn	18 47 44.5	+0.4
	0.2nm,0.3s,baz=344,slow=11,SNR=29						
ASAR				S	S	18 50 50.9	-10
	0.1nm,0.3s,baz=358,slow=28,SNR=5.1						
MKAR	**Makanchi Array**	**67.50**	**327**	P	P	18 54 27.1	-0.1
	0.4nm,0.8s,baz=138,slow=7.6,SNR=3.7						

*NOU **23** 19:07:33.7, 35°.68S×178°.94E, h337km, ML4.8/8, Off E. Coast of N. Island, N.Z.*
*IDC **23** 19:07:56.5±5.3, 36°.61S×177°.68E, h172km±62km, mb3.4/2, mb1 3.7/2, mb1mx3.3/20, mbtmp3.9/2, Error ellipse: s-maj=109.2km s-min=45.5km az=179.0*
*WEL **23** 19:08:01.4±0.9, 37°S±7"×17°7'E±', h176km±9km, M3.3/18, ML3.6/7, MLv3.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=31.4*

ISC 23 19:07:59.1±1.1, 36°.99S±0°.07×177°.41E±0°.07, h209km±7km, n106, σ1s19/118, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.82**	**159**	P	Pn	19 08 27.9	-0.7
MXZ	**Matakaoa Point**	**0.91**	**129**	P	Pn	19 08 28.6	-0.6
MXZ				S	Sn	19 08 50.6	-2.0
RUGZ	**Raukumara Rang**	**0.99**	**168**	P	Pn	19 08 28.9	-0.9
PKGZ	**Pakihiroa**	**1.04**	**150**	P	Pn	19 08 30.0	0.0
PKGZ				S	Sn	19 08 52.5	-1.8
WMGZ	**Waiomatatini S**	**1.15**	**136**	P	Pn	19 08 30.8	+0.1
WMGZ				S	Sn	19 08 54.2	-1.3
MARZ	**Manawahe**	**1.15**	**210**	P	Pn	19 08 32.3	+1.6
TWGZ	**Tauwhareparae**	**1.27**	**159**	P	Pn	19 08 32.6	+1.0
TWGZ				S	Sn	19 08 57.2	+0.1
PUZ	**Puketiti**	**1.27**	**148**	P	Pn	19 08 31.8	+0.2
PUZ				S	Sn	19 08 55.3	-1.9
URZ	**Urewera**	**1.29**	**191**	P	Pn	19 08 31.7	0.0
	9.0nm,0.3s,baz=262,slow=5.5,SNR=43						
URZ				S	Sn	19 08 55.2	-2.1
	8.6nm,0.3s,baz=341,slow=4.8,SNR=5.2						
URZ	**Urewera**	**1.29**	**191**	P	Pn	19 08 31.7	0.0
URZ				S	Sn	19 08 55.6	-1.7
URZ	**Urewera**	**1.29**	**191**	P	Pn	19 08 31.7	0.0
MWZ	**Matawai**	**1.34**	**176**	P	Pn	19 08 32.6	+0.4
MWZ				S	Sn	19 08 56.7	-1.5
KUZ	**Kuaotunu**	**1.38**	**280**	P	Pn	19 08 31.1	-1.4
KMRZ	**Kaimai**	**1.45**	**234**	P	Pn	19 08 33.6	+0.5
TKGZ	**Te Karaka**	**1.48**	**167**	P	Pn	19 08 34.1	+0.7
TKGZ				S	Sn	19 08 59.7	-0.5
MUGZ	**Murupara**	**1.57**	**199**	P	Pn	19 08 34.6	+0.5
MUGZ				S	Sn	19 09 00.1	-1.4
CNGZ	**Carnagh Statio**	**1.62**	**157**	P	Pn	19 08 35.8	+1.2
RTZ	**Ruatahuna**	**1.66**	**192**	P	Pn	19 08 35.5	+0.5
TOZ	**Tahuroa Road**	**1.69**	**244**	P	Pn	19 08 35.8	+0.6
PRRZ	**Plateau Road**	**1.71**	**208**	P	Pn	19 08 36.2	+0.9
RIGZ	**Rimuhau**	**1.73**	**171**	P	Pn	19 08 36.5	+0.8
RIGZ				S	Sn	19 09 04.4	+0.1
GRZ	**Great Barrier**	**1.74**	**295**	P	Pn	19 08 34.0	-1.7
ALRZ	**Allen Road**	**1.78**	**208**	P	Pn	19 08 37.2	+1.1
SNGZ	**Shannon Statio**	**1.79**	**182**	P	Pn	19 08 36.9	+0.7
SNGZ				S	Sn	19 09 05.0	-0.2
MKAZ	**Moumakai**	**1.80**	**266**	P	Pn	19 08 36.1	-0.2
MTHZ	**Maungataniwha**	**1.91**	**193**	P	Pn	19 08 38.4	+1.0
RAHZ	**Arahi**	**1.94**	**188**	P	Pn	19 08 38.8	+1.2
RAHZ				S	Sn	19 09 07.9	+0.1
PRGZ	**Paritu Road**	**1.96**	**169**	P	Pn	19 08 38.7	+0.9
MRHZ	**Matea Rd**	**2.00**	**203**	P	Pn	19 08 38.9	+0.7
KNZ	**Kokohu**	**2.04**	**174**	P	Pn	19 08 39.3	+0.8
NMHZ	**Naumai**	**2.15**	**193**	P	Pn	19 08 41.3	+1.4
MHGZ	**Mahia Peninsul**	**2.19**	**170**	P	Pn	19 08 41.5	+1.4
AWAZ	**Awhitu Peninsu**	**2.22**	**267**	P	Pn	19 08 40.7	+0.3
WTAZ	**Waiatarua**	**2.27**	**271**	P	Pn	19 08 41.2	+0.1
RVAZ	**Riverhead Bore**	**2.28**	**275**	P	Pn	19 08 40.9	-0.2
BKZ	**Black Stump Fm**	**2.29**	**198**	P	Pn	19 08 41.4	+0.2
BKZ	**Black Stump Fm**	**2.29**	**198**	P	Pn	19 08 41.4	+0.2
ARHZ	**Aropaoanui**	**2.29**	**188**	P	Pn	19 08 42.3	+1.1
NTVZ	**North Tongarir**	**2.51**	**213**	P	Pn	19 08 45.0	+1.3
MCHZ	**McNeill Hill**	**2.51**	**193**	P	Pn	19 08 44.5	+0.9
TMVZ	**Te Maari**	**2.51**	**212**	P	Pn	19 08 45.0	+1.3
ETVZ	**East Tongariro**	**2.52**	**212**	P	Pn	19 08 44.7	+0.9
HIZ	**Hauiti**	**2.53**	**232**	P	Pn	19 08 45.5	+1.7
HIZ	**Hauiti**	**2.53**	**232**	P	Pn	19 08 45.5	+1.7
KWHZ	**Kaweka Forest**	**2.55**	**197**	P	Pn	19 08 44.6	+0.6
NNVZ	**North Ngauruho**	**2.56**	**213**	P	Pn	19 08 45.3	+1.0
OTVZ	**Oturere**	**2.57**	**212**	P	Pn	19 08 45.0	+0.6
NGZ	**Ngauruhoe**	**2.60**	**213**	P	Pn	19 08 45.9	+1.1
TUVZ	**Tukino**	**2.66**	**211**	P	Pn	19 08 46.2	+0.8
CKHZ	**Cape Kidnapper**	**2.67**	**186**	P	Pn	19 08 46.1	+0.7
FWVZ	**Far West T-bar**	**2.69**	**212**	P	Pn	19 08 46.6	+0.8
BHHZ	**Black Hill Sta**	**2.71**	**203**	P	Pn	19 08 46.1	+0.2
WNVZ	**Wahianoa**	**2.73**	**211**	P	Pn	19 08 46.7	+0.5
MOVZ	**Moawhango**	**2.74**	**208**	P	Pn	19 08 46.3	0.0
KRHZ	**Kereru**	**2.77**	**197**	P	Pn	19 08 46.7	+0.2
PKVZ	**Pokaka**	**2.81**	**215**	P	Pn	19 08 47.9	+0.8
KAHZ	**Kahuranaki**	**2.83**	**188**	P	Pn	19 08 48.0	+0.8
MTVZ	**Mangateitei**	**2.83**	**212**	P	Pn	19 08 48.0	+0.7
PXZ	**Pawanui**	**3.06**	**188**	P	Pn	19 08 50.1	+0.3
PNHZ	**Pukenui**	**3.07**	**198**	P	Pn	19 08 49.8	-0.1
WPHZ	**Waipukurau**	**3.16**	**194**	P	Pn	19 08 51.2	+0.2
TSZ	**Takapari Road**	**3.27**	**200**	P	Pn	19 08 52.0	-0.2
PRHZ	**Porangahau**	**3.32**	**190**	P	Pn	19 08 53.1	+0.2
WAZ	**Wanganui**	**3.35**	**214**	P	Pn	19 08 53.7	+0.5
DVHZ	**Dannevirke**	**3.44**	**196**	P	Pn	19 08 53.7	-0.6
NEZ	**North Egmont**	**3.46**	**228**	P	Pn	19 08 57.3	+2.6
ANWZ	**Angora Road**	**3.54**	**192**	P	Pn	19 08 55.6	+0.1
POWZ	**Post Office Ro**	**3.63**	**200**	P	Pn	19 08 56.3	-0.2
PRWZ	**Pori Road**	**3.73**	**197**	P	Pn	19 08 57.7	-0.1
BFZ	**Birch Farm**	**3.79**	**194**	P	Pn	19 08 58.1	-0.5
BFZ	**Birch Farm**	**3.79**	**194**	P	Pn	19 08 58.1	-0.5
MRZ	**Mangatainoka R**	**3.93**	**201**	P	Pn	19 08 59.5	-0.8
TIWZ	**Tintock**	**3.96**	**197**	P	Pn	19 09 00.1	-0.5
CPWZ	**Castlepoint**	**4.02**	**193**	P	Pn	19 09 01.7	+0.3
HOWZ	**Holdsworth Sta**	**4.17**	**200**	P	Pn	19 09 02.2	-1.0
OGWZ	**Otaki Gorge**	**4.20**	**204**	P	Pn	19 09 02.6	-0.9
TMWZ	**Te Maipa**	**4.27**	**196**	P	Pn	19 09 03.8	-0.7
KIW	**Kapiti Island**	**4.33**	**206**	P	Pn	19 09 03.9	-1.2
MTW	**Mount Morrison**	**4.42**	**199**	P	Pn	19 09 04.8	-1.4
CAW	**Cannon Point**	**4.50**	**203**	P	Pn	19 09 05.7	-1.5
TRWZ	**Traveller**	**4.60**	**196**	P	Pn	19 09 07.7	-0.8
PAWZ	**Paruwai Farm**	**4.64**	**199**	P	Pn	19 09 07.7	-1.4
DUWZ	**D'Urville Isla**	**4.68**	**215**	P	Pn	19 09 08.3	-1.3
MSWZ	**Moikau Station**	**4.72**	**200**	P	Pn	19 09 08.5	-1.6
WEL	**Wellington**	**4.75**	**205**	P	Pn	19 09 09.1	-1.3
SNZO	**South Karori**	**4.80**	**205**	P	Pn	19 09 09.7	-1.3
BHW	**Baring Head**	**4.83**	**203**	P	Pn	19 09 09.8	-1.6
PLWZ	**Palliser**	**4.87**	**199**	P	Pn	19 09 10.1	-1.8
TCW	**Tory Channel**	**4.87**	**209**	P	Pn	19 09 10.1	-1.8
TUWZ	**Tuamarina**	**5.18**	**210**	P	Pn	19 09 14.0	-1.9
NNZ	**Nelson**	**5.25**	**215**	P	Pn	19 09 15.1	-1.7
QRZ	**Quartz Range**	**5.40**	**223**	P	Pn	19 09 18.1	-0.6
BSWZ	**Blackbirch Sta**	**5.45**	**209**	P	Pn	19 09 17.8	-1.6
MRNZ	**Matariki Terra**	**5.69**	**218**	P	Pn	19 09 20.2	-2.3
THZ	**Tophouse**	**5.90**	**215**	P	Pn	19 09 24.4	-0.8
KHZ	**Kahutara**	**6.18**	**208**	P	Pn	19 09 26.8	-1.9
KHZ	**Kahutara**	**6.18**	**208**	P	Pn	19 09 26.8	-1.9
GVZ	**Greta Valley S**	**6.85**	**208**	P	Pn	19 09 35.3	-2.0
LTZ	**Lake Taylor**	**7.00**	**213**	P	Pn	19 09 37.2	-2.1
OKCZ	**Okains Bay**	**7.50**	**205**	P	Pn	19 09 43.9	-1.8
MQZ	**McQueen's Vall**	**7.62**	**207**	P	Pn	19 09 44.3	-3.0
TMZ	**Timaru**	**8.84**	**211**	P	Pn	19 10 00.8	-2.3
ODZ	**Otahua Downs**	**9.53**	**210**	P	Pn	19 10 06.5	-5.4
ASAR	**Alice Springs**	**39.50**	**277**	P	**P**	**19 15 11.8**	**+2.2**
	1.0nm,0.5s,baz=119,slow=8.0,SNR=32						
WRA	**Warramunga Arr**	**41.12**	**282**	P	**P**	**19 15 24.8**	**+1.9**
	0.8nm,0.5s,baz=119,slow=8.1,SNR=17						
FINES	**FINESS Array B**	**149.66**	**333**	PKPbc	**PKPbc**	**19 27 23.4**	**+0.4**
	0.7nm,0.7s,baz=23,slow=6.4,SNR=4.6						

*IDC **23** 19:26:24.6±1.3, 14°.25S×166°.38E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.6/37, mbtmp3.8/7, ML3.7/1, MS3.0/3, Ms1 3.0/3, ms1mx2.5/58, Error ellipse: s-maj=45.9km s-min=25.0km az=130.0*
*NEIC **23** 19:26:29.2±1.7, 14°.41S±0°.09×166°.6E±0°.1, h29km±7km, mb4.6/9, Error ellipse: s-maj=18.6km s-min=6.4km az=52.0*

ISC 23 19:26:28.6±0.8, 14°.42S±0°.08×166°.6E±0°.1, h28km, n27, σ1s12/27, mb4.0/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.20**	**149**		**Pn**	**19 26 49.1**	**-0.4**
SANVU					**Sb**	**19 27 05.4**	**-0.4**
KOUNC	**Koumac, New Ca**	**6.47**	**199**		**Pn**	**19 28 03.3**	**+1.2**
DZM	**Mont Dzumac**	**7.61**	**181**	Pn	**Pn**	**19 28 18.5**	**+0.6**
	1.2nm,0.3s,baz=346,slow=14,SNR=15						
DZM				Sn	**Sn**	**19 29 42.3**	**-1.0**
	baz=60,slow=20,SNR=0.9						
DZM				LR	LR	19 30 32.1	
	comp=Z,71nm,19.0s,baz=3.5,slow=32						
ONTNC	**Ouen Toro**	**7.85**	**181**	Pn	**Pn**	**19 28 22.0**	**+1.0**
OUENC	**Ouen Island, N**	**7.96**	**178**	Pn	**Pn**	**19 28 22.8**	**+0.3**
PINNC	**Pines Island,**	**8.19**	**174**	Pn	**Pn**	**19 28 26.5**	**+0.7**
PMG	**Port Moresby**	**19.62**	**283**	LR	LR	19 37 51.6	
	comp=Z,76nm,18.1s,baz=70,slow=35						
BKZ	**Black Stump Fm**	**26.16**	**162**	P	**P**	**19 32 00.0**	**-0.7**
STKA	**Stephens Creek**	**28.68**	**228**	P	**P**	**19 32 24.0**	**+0.7**
	1.3nm,0.6s,baz=15,slow=12,SNR=2.4						
WB0	**Warramunga Arr**	**31.17**	**256**	P	**P**	**19 32 44.2**	**-1.3**
WB0				IAmb	IAmb	19 33 12.1	
	comp=Z,9.6nm,1.5s						
WRA	**Warramunga Arr**	**31.24**	**255**	P	**P**	**19 32 45.0**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=81,slow=7.7,SNR=6.0						
ASAR	**Alice Springs**	**32.14**	**248**	P	**P**	**19 32 53.0**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=73,slow=9.5,SNR=8.8						
BBOO	**Buckleboo**	**33.23**	**231**	P	**P**	**19 33 03.9**	**+0.4**
BBOO				IAmb	IAmb	19 33 07.4	
	comp=Z,13nm,1.2s						
GUMO	**Guam**	**35.15**	**321**	LR	LR	19 48 38.8	
	comp=Z,17nm,18.5s,baz=114,slow=38						
FITZ	**Fitzroy Crossi**	**39.40**	**259**	P	**P**	**19 33 53.9**	**-2.4**
	comp=Z,1.5nm,0.7s,baz=51,slow=6.5,SNR=2.1						
FITZ	**Fitzroy Crossi**	**39.40**	**259**	P	**P**	**19 33 55.3**	**-1.1**
MORW	**Morawa**	**48.78**	**244**	P	**P**	**19 35 10.6**	**-0.9**
MORW				IAmb	IAmb	19 35 16.0	
	comp=Z,9.0nm,1.2s						
SBA	**Scott Base**	**63.45**	**180**	P	**P**	**19 36 57.3**	**+1.8**
SBA				IAmb	IAmb	19 37 10.1	
	comp=Z,11nm,1.5s						
QSPA	**South Pole Qui**	**75.61**	**180**	P	**P**	**19 38 11.2**	**+0.4**
QSPA				IAmb	IAmb	19 38 19.9	
	comp=Z,7.5nm,1.4s						
SEW	**Seward**	**82.24**	**21**	P	**P**	**19 38 48.2**	**+1.2**
J20K	**Nowinta River**	**83.92**	**16**	P	**P**	**19 38 55.6**	**0.0**
ILAR	**Eielson Array**	**86.45**	**18**	P	**P**	**19 39 06.6**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=239,slow=5.1,SNR=7.9						
MKAR	**Makanchi Array**	**96.51**	**317**	P	**P**	**19 39 55.2**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=104,slow=6.1,SNR=3.9						
MKAR	**Makanchi Array**	**96.51**	**317**	P	**P**	**19 39 56.1**	**+0.5**
ARCES	**ARCESS Array B**	**119.78**	**345**	PKP	**PKPdf**	**19 45 14.7**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=57,slow=3.3,SNR=1.4						
FINES	**FINESS Array B**	**125.18**	**338**	PKP	**PKiKP**	**19 45 27.9**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=76,slow=8.0,SNR=4.7						
KEST	**Kesra**	**150.53**	**320**	PKPbc	**PKiKP**	**19 46 20.2**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=17,slow=11,SNR=1.9						

*NOU **23** 19:30:58.6, 14°.07S×172°.17W, h91km, MLv2.9/4, Samoa Islands*

IDC 23 19:30:35.7±4.8, 15°.48S×173°.81W, h52km±89km, mb3.8/2, mb1 3.9/3, mb1mx3.2/33, mbtmp4.1/3, ML3.9/1, Error ellipse: s-maj=312.7km s-min=42.7km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.51**	**52**	P	Pn	19 31 14.2	+0.1
	24nm,0.3s,baz=61,slow=1.6,SNR=18						
AFI				S	Sn	19 31 39.1	-4.5
	58nm,0.3s,baz=319,slow=1.6,SNR=11						
AFI	**Afiamalu**	**2.51**	**52**	P	Pn	19 31 14.3	+0.2
STKA	**Stephens Creek**	**43.66**	**240**	P	P	19 38 35.5	0.0
	1.4nm,0.8s,baz=95,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**49.71**	**252**	P	P	19 39 22.9	-0.2
	2.2nm,0.7s,baz=87,slow=8.2,SNR=29						
BRTR	**Keskin Array B**	**145.97**	**321**	PKPbc	PKPdf	19 50 09.2	-0.1
	0.4nm,0.6s,baz=46,slow=4.2,SNR=3.6						

*GII **23** 19:32:09.4±0.0, 37°.75N×36°.66E, h1km±3km, Mm3.8/3*
*IDC **23** 19:32:15.6±4.3, 36°.27N×35°.97E, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.1/30, mbtmp3.4/3, ML2.8/1, MS2.6/2, Ms1 2.6/2, ms1mx2.2/70, Error ellipse: s-maj=79.8km s-min=26.5km az=40.0*
*ISK **23** 19:32:20.4, 36°.88N×36°.61E, h14km, ML3.6/26*
*DDA **23** 19:32:20.1±0.0, 36°.91N×36°.62E, h7km±2km, MW3.8*

ISC 23 19:32:20.6±1.1, 36°.93N±0°.02×36°.60E±0°.02, h3km±9km, n94, σ0s96/115, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMA	**Osmaniye**	**0.26**	**13**	P	**Pg**	**19 32 26.0**	**+0.3**
KAMA				S	**Sg**	**19 32 30.0**	**+0.8**
KUZU	**Kuzuini**	**0.41**	**112**	P	**Pg**	**19 32 28.3**	**-0.2**
KUZU				S	**Sg**	**19 32 33.7**	**-0.2**
HCB	**Kahramanmara**	**0.48**	**31**	P	**Pg**	**19 32 29.8**	**-0.1**
HCB				S	**Sg**	**19 32 36.3**	**+0.1**
TAHT	**Tahtakopru-Hat**	**0.64**	**211**	PG	**Pg**	**19 32 32.8**	**-0.1**
TAHT				SG	**Sg**	**19 32 41.5**	**+0.3**
KHMN	**Narli-Kahraman**	**0.65**	**44**	PG	**Pb**	**19 32 33.8**	**+0.7**
KAHM	**Kahramanmaras,**	**0.67**	**28**	P	**Pg**	**19 32 33.5**	**+0.1**
KAHM				S	**Sg**	**19 32 42.3**	**+0.3**
ANDN	**Andirin**	**0.68**	**343**	P	**Pg**	**19 32 32.3**	**-1.3**
CEYT	**Ceyhan**	**0.68**	**277**	PG	**Pb**	**19 32 34.5**	**-0.6**
CEYT				SG	**Sb**	**19 32 45.0**	**0.0**
YURE	**YUREGIR**	**0.78**	**263**	P	**Pb**	**19 32 36.1**	**-0.7**
KOZT	**Kozan**	**0.83**	**312**	PG	**Pb**	**19 32 37.1**	**-0.5**
KOZT				SG	**Sn**	**19 32 50.3**	**-1.5**
YAYL	**Yayladag**	**0.97**	**204**	PG	**Pg**	**19 32 39.2**	**-0.1**
YAYL				SG	**Sg**	**19 32 52.3**	**+0.4**
YAYL	**Yayladag**	**0.97**	**204**	P	**Pb**	**19 32 39.6**	**-0.6**
YAYL				S	**Sg**	**19 32 52.4**	**+0.4**
AKO	**Adana**	**1.06**	**300**	P	**Pb**	**19 32 41.8**	**+0.2**
SAIM	**ADANA**	**1.12**	**339**	P	**Pg**	**19 32 41.8**	**-0.4**
KARA	**Karaisali**	**1.28**	**286**	PN	**Pg**	**19 32 44.7**	**-0.3**
KARA				SN	**Sn**	**19 33 02.4**	**-0.6**
DED	**Mersin**	**1.44**	**272**	P	**Pn**	**19 32 46.7**	**-0.9**
DED				S	**Sb**	**19 33 05.3**	**-1.5**
ELBS	**KAHRAMANMARAS**	**1.46**	**17**	P	**Pg**	**19 32 48.5**	**0.0**
ELBS				S	**Sg**	**19 33 08.2**	**+0.7**
ATAB	**Bozova**	**1.46**	**68**	P	**Pn**	**19 32 46.3**	**-1.5**
ATAB				S	**Sb**	**19 33 04.2**	**-3.2**
CMRD	**Camardi-Nigde**	**1.48**	**300**	PN	**Pn**	**19 32 47.9**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.48**	**355**	PN	**Pn**	**19 32 48.2**	**-0.1**
GULE	**Gulek**	**1.50**	**284**	P	**Pb**	**19 32 49.0**	**-0.1**
GULE				S	**Sg**	**19 33 09.1**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**1.52**	**320**	P	**Pb**	**19 32 49.5**	**0.0**
MERS	**Mersin**	**1.66**	**269**	PN	**Pn**	**19 32 49.8**	**-0.9**
AKCD	**Akcadag**	**1.73**	**37**	P	**Pn**	**19 32 51.6**	**0.0**
AKCD				S	**Sg**	**19 33 16.0**	**0.0**
DARE	**Darende-Malaty**	**1.79**	**23**	PN	**Pn**	**19 32 52.4**	**0.0**
NIDE	**Nigde/Merkez-G**	**1.80**	**307**	P	**Pb**	**19 32 53.4**	**-0.9**
NIDE				S	**Sg**	**19 33 17.8**	**-0.6**
CUGUR	**Gurin_SVAS**	**1.87**	**16**	P	**Pn**	**19 32 53.8**	**+0.2**
CUGUR				S	**Sb**	**19 33 19.3**	**0.0**
SANL	**SANLIURFA_Merk**	**1.93**	**82**	P	**Pn**	**19 32 55.1**	**+0.8**
NIG	**Nigde**	**1.97**	**307**	PN	**Pn**	**19 32 54.8**	**-0.3**
MALT	**Malatya**	**2.01**	**46**	PN	**Pn**	**19 32 55.3**	**-0.2**
BNN	**Bunyan**	**2.01**	**343**	PN	**Pn**	**19 32 55.7**	**+0.2**
KERG	**Konya-Eregli**	**2.03**	**285**	P	**Pb**	**19 32 57.5**	**-0.8**
SILI	**Silifke-Mersin**	**2.22**	**256**	PN	**Pn**	**19 32 57.7**	**-0.6**
HEKM	**Malatya_Hekimh**	**2.23**	**29**	P	**Pb**	**19 33 01.0**	**-0.5**
HEKM				S	**Sg**	**19 33 32.7**	**+0.6**
AVNS	**Nevsehir-Avano**	**2.33**	**324**	P	**Pn**	**19 33 01.1**	**+1.2**
CUAYA	**Sivas-Altinyay**	**2.34**	**3**	P	**Pn**	**19 33 01.1**	**+1.1**
CUAYA				S	**Sg**	**19 33 36.1**	**+0.4**
GULA	**Gulagac**	**2.35**	**308**	PN	**Pn**	**19 33 00.0**	**-0.1**
KEBE	**Keben-Mersin**	**2.37**	**259**	PN	**Pn**	**19 32 59.8**	**-0.6**
EREN	**Erenkoy**	**2.41**	**235**	PN	**Pn**	**19 33 00.0**	**-0.8**
EREN	**Erenkoy**	**2.41**	**235**	P	**Pn**	**19 33 00.6**	**-0.2**
KARG	**Kargicak-Mersi**	**2.43**	**254**	PN	**Pn**	**19 33 00.8**	**-0.4**
IKL	**Isikli**	**2.44**	**255**	PN	**Pn**	**19 33 00.4**	**-0.9**
ELZG	**Elazig**	**2.46**	**50**	P	**Pn**	**19 33 01.2**	**-0.5**
CUKAN	**kangal_SIVAS**	**2.48**	**16**	P	**Pn**	**19 33 03.5**	**+1.4**
YESI	**Yesilovacik-Me**	**2.49**	**254**	PN	**Pn**	**19 33 01.3**	**-0.6**
CUSAR	**Sarkisla-SIVAS**	**2.50**	**354**	P	**Pn**	**19 33 03.5**	**+1.2**
ARPR	**Arapgir-MALATY**	**2.56**	**32**	PN	**Pn**	**19 33 03.4**	**+0.3**
AKKU	**Akkuyu-Mersin**	**2.57**	**254**	PN	**Pn**	**19 33 02.6**	**-0.5**
TEVE	**Tevekalti-Mers**	**2.58**	**260**	PN	**Pn**	**19 33 02.7**	**-0.6**
AKK1	**Akkuyu-Mersin**	**2.58**	**253**	PN	**Pn**	**19 33 02.9**	**-0.3**
KOZK	**Kozakli-Nevseh**	**2.66**	**330**	PN	**Pn**	**19 33 05.1**	**+0.7**
SIRC	**Yozgat**	**2.66**	**335**	P	**Pn**	**19 33 05.2**	**+0.7**
KRMN	**Karaman**	**2.68**	**276**	PN	**Pn**	**19 33 04.7**	**0.0**
HWQ	**Hawqa**	**2.70**	**192**	*eP*	**Pn**	**19 33 04.9**	**-0.1**
BERE	**Bereket-Mersin**	**2.77**	**259**	PN	**Pn**	**19 33 05.7**	**-0.3**
KEMA	**Kemaliye**	**2.78**	**32**	P	**Pn**	**19 33 06.9**	**+0.9**
AKSY	**AKSARAY - Alti**	**2.83**	**308**	P	**Pn**	**19 33 08.3**	**+1.6**
HACI	**Hacifakili, Ak**	**2.85**	**346**	P	**Pn**	**19 33 07.8**	**+0.6**
YOZ	**Yozgat**	**2.89**	**340**	PN	**Pn**	**19 33 08.1**	**+0.5**
KKBE	**Karaman, Kazim**	**2.94**	**277**	P	**Pn**	**19 33 10.5**	**+2.3**
ERMK	**Ermenek**	**2.97**	**266**	P	**Pn**	**19 33 10.6**	**+1.8**
LFK	**Lefkose**	**2.98**	**237**	PN	**Pn**	**19 33 08.1**	**-0.6**
DIYA	**Diyarbakir**	**2.98**	**69**	P	**Pn**	**19 33 08.1**	**-0.6**
YAYX	**Yaylak**	**2.98**	**313**	PN	**Pn**	**19 33 09.1**	**+0.3**
DYBB	**Diyarbakir**	**3.00**	**69**	PN	**Pn**	**19 33 09.2**	**+0.1**
SVSK	**Karacayir**	**3.00**	**6**	PN	**Pn**	**19 33 09.9**	**+0.9**
KIRS	**Kirsehir-Merke**

comp=Z,11nm,0.8s,baz=151,slow=7.7,SNR=25
CPUP LR LR 20 12 59.3
comp=Z,64nm,21.5s,baz=189,slow=34
CPUP Villa Florida 39.73 314 P **P** **19 58 22.0 -0.7**
CPUP IAmb IAmb 19 58 23.9
comp=Z,12nm,0.8s
ZON Zonda 39.77 297 P **P** **19 58 23.6 +0.6**
ZON IAmb IAmb 19 58 24.6
comp=Z,17nm,0.6s
CO02 Combarbal 41.11 294 P **P** **19 58 34.6 +0.4**
CO02 IAmb IAmb 19 58 37.4
comp=Z,18nm,0.8s
CO01 Juntas del Tor 41.73 296 P **P** **19 58 39.4 -0.1**
CO01 IAmb IAmb 19 58 42.3
comp=Z,24nm,0.8s
GO04 Tololo Observa 41.89 295 P **P** **19 58 40.2 -0.5**
GO04 IAmb IAmb 19 58 55.3
comp=Z,14nm,0.9s
SBA Scott Base 42.13 184 P **P** **19 58 44.7 +2.8**
CO05 La Serena 42.30 295 P **P** **19 58 43.8 -0.1**
VNDA Vanda 42.61 183 P **P** **19 58 48.6 +2.7**
comp=Z,3.8nm,0.6s,baz=186,slow=7.2,SNR=50
VNDA LR LR 20 16 38.0
comp=Z,47nm,19.0s,baz=197,slow=36
VNDA Vanda 42.61 183 P **P** **19 58 48.4 +2.6**
LCO Las Campanas 42.83 296 P **P** **19 58 48.8 +0.3**
LCO IAmb IAmb 19 58 49.8
comp=Z,18nm,0.8s
AC02 Maricunga 44.01 300 P **P** **19 58 58.1 -0.2**
AC02 IAmb IAmb 19 59 00.6
comp=Z,17nm,0.8s
AC06 Mina Casimiro 44.10 298 P **P** **19 58 58.4 0.0**
AC06 IAmb IAmb 19 58 59.7
comp=Z,16nm,0.8s
AQDB Aquidauana 44.57 320 P **P** **19 59 02.5 +0.3**
AQDB IAmb IAmb 19 59 03.9
comp=Z,9.2nm,0.6s
AQDB Aquidauana 44.57 320 *eP* **P** **19 59 01.8 -0.4**
GO02 Mina Guanaco 45.67 300 P **P** **19 59 10.6 -0.7**
JANB Januaria 46.72 336 *eP* **P** **19 59 19.2 -0.1**
BOSA Boshof 46.80 72 P **P** **19 59 22.4 +2.4**
comp=Z,1.4nm,0.5s,baz=204,slow=6.7,SNR=6.1
BOSA Boshof 46.80 72 P **P** **19 59 21.9 +2.0**
BOSA IAmb IAmb 19 59 28.1
comp=Z,11nm,1.2s
BDFB Brasilia 46.98 331 P **P** **19 59 21.2 -0.1**
comp=Z,2.2nm,0.6s,baz=122,slow=4.7,SNR=5.3
BDFB Brasilia 46.98 331 P **P** **19 59 20.9 -0.4**
PP1B Ponte de Pedra 47.01 322 *eP* **P** **19 59 22.9 +1.5**
LVC Limon Verde 47.62 303 LR LR 20 18 36.5
comp=Z,36nm,21.9s,baz=214,slow=35
LVC Limon Verde 47.62 303 P **P** **19 59 26.9 +0.2**
LVC IAmb IAmb 19 59 28.5
comp=Z,7.5nm,0.8s
LVC Limon Verde 47.62 303 *eP* **P** **19 59 27.4 +0.7**
PB09 IPOC Station P 48.49 303 P **P** **19 59 33.5 +0.4**
PB09 IAmb IAmb 19 59 36.2
comp=Z,20nm,1.2s
PB02 IPOC Station P 49.19 302 P **P** **19 59 37.9 -0.5**
SDBA SAO DESIDERIO 49.41 336 *eP* **P** **19 59 40.3 +0.2**
NBLA Lagarto - SE 49.63 346 *eP* **P** **19 59 41.5 -0.2**
CASY Casey 50.08 159 P **P** **19 59 46.3 +1.8**
CASY IAmb IAmb 19 59 48.6
comp=Z,9.3nm,1.2s
NBPN Ponto Novo - B 50.11 343 *eP* **P** **19 59 45.2 -0.1**
GO01 Chusmiza 50.36 304 P **P** **19 59 47.8 0.0**
GO01 IAmb IAmb 19 59 49.2
comp=Z,7.0nm,0.8s
PTLB Pontes e Lacer 50.40 318 *eP* **P** **19 59 46.9 -0.6**
SIV San Ignacio 50.57 315 LR LR 20 21 07.8
comp=Z,40nm,19.4s,baz=112,slow=36
TSUM Tsumeb 51.47 57 LR LR 20 18 56.7
comp=Z,35nm,18.8s,baz=319,slow=33
PB16 IPOC Station P 51.68 305 P **P** **19 59 57.4 -0.4**
LPAZ La Paz 52.96 307 P **P** **20 00 05.0 -2.4**
comp=Z,3.0nm,0.7s,baz=131,slow=8.5,SNR=8.6
LPAZ LR LR 20 22 20.9
comp=Z,27nm,21.8s,baz=154,slow=36
LPAZ La Paz 52.96 307 P **P** **20 00 06.2 -1.2**
LPAZ La Paz 52.96 307 *eP* **P** **20 00 06.2 -1.2**
VILB Vilhena 53.09 318 *eP* **P** **20 00 07.7 +0.1**
PDRB Porto dos Gac 53.22 322 *eP* **P** **20 00 08.3 -0.3**
ETMB Extrema 58.13 312 *eP* **P** **20 00 42.0 -1.8**
BOAV Boa Vista 67.62 323 *eP* **P** **20 01 46.9 0.0**
MDP Montagnes des 68.08 332 LR LR 20 29 41.8
comp=Z,37nm,20.5s,baz=7.5,slow=34
MCRA Macar, Loja 68.61 301 P **P** **20 01 52.2 -1.0**
MCRA IAmb IAmb 20 01 54.4
comp=Z,4.0nm,0.7s
DBIC Dimbokro 68.68 23 P **P** **20 01 52.2 -1.2**
comp=Z,2.8nm,0.5s,baz=197,slow=7.1,SNR=6.5
DBIC Dimbokro 68.68 23 P **P** **20 01 52.9 -0.6**
DBIC IAmb IAmb 20 01 56.8
comp=Z,24nm,1.4s
COHC Cochancay 70.02 302 P **P** **20 02 01.0 -0.8**
OTAV Otavalo 72.12 304 P **P** **20 02 15.0 -0.1**
TOA0 Torodi Ar. Sit 76.40 28 P **P** **20 02 40.1 +0.8**
TOA0 IAmb IAmb 20 02 43.2
comp=Z,6.7nm,0.5s
TOA0 Torodi Ar. Sit 76.40 28 P **P** **20 02 40.3 +1.0**
SNR=21
TORD Torodi Ar. Bea 76.40 28 P **P** **20 02 40.1 +0.8**
comp=Z,6.0nm,0.4s,baz=197,slow=6.0,SNR=92
TORD Torodi Ar. Bea 76.40 28 P **P** **20 02 40.2 +0.9**
KOWA Kowa 76.47 23 P **P** **20 02 41.9 +2.2**
SDV Santo Domingo 77.03 315 LR LR 20 38 48.2
comp=Z,47nm,18.9s,baz=164,slow=38
STKA Stephens Creek 87.93 170 P **P** **20 03 39.7 0.0**
comp=Z,1.8nm,0.9s,baz=161,slow=6.5,SNR=3.9
STKA Stephens Creek 87.93 170 P **P** **20 03 41.4 +1.7**
ASAR Alice Springs 95.11 162 P **P** **20 04 13.2 0.0**
comp=Z,1.1nm,0.6s,baz=183,slow=4.1,SNR=26
ASAR Alice Springs 95.11 162 P **P** **20 04 13.1 -0.1**
FINES FINESS Array B 127.75 29 PKP **PKPdf** **20 09 53.2 -0.5**
comp=Z,1.7nm,0.7s,baz=136,slow=2.3,SNR=8.0
ARCES ARCESS Array B 134.51 23 PKP **PKPdf** **20 10 06.1 -0.3**
comp=Z,3.0nm,0.9s,baz=316,slow=3.3,SNR=4.8
GOMU GeErMu 136.09 96 PKP **PKPdf** **20 10 08.4 -2.5**
CD2 Chengdu 136.20 109 PKP **PKiKP** **20 10 12.5 0.0**
MKAR Makanchi Array 137.75 75 SKPbc **SKPbc** **20 13 40.9 -3.0**
comp=Z,0.7nm,0.7s,baz=238,slow=2.3,SNR=8.5
WMQ Urumqi 138.28 82 *e*PKP **PKiKP** **20 10 17.8 +1.4**
WMQ LR LR
comp=Z,130nm,20.3s
YKA Yellowknife Ar 139.25 315 PKP **PKPdf** **20 10 13.3 -2.0**
comp=Z,0.4nm,0.6s,baz=139,slow=2.0,SNR=7.6
YKA PP **PP** **20 13 08.8 -1.5**
comp=Z,0.2nm,0.8s,baz=130,slow=6.3,SNR=4.2
YKA SKPbc **SKPbc** **20 13 41.5 -6.0**
comp=Z,0.4nm,0.8s,baz=129,slow=2.8,SNR=4.0
YKA Yellowknife Ar 139.25 315 **PKPdf** **20 10 13.9 -1.4**
ZALV Zalesovo Beam 143.72 98 PKP PKPbc 20 10 21.3 0.0
comp=Z,1.4nm,0.5s,baz=238,slow=4.2,SNR=9.7
ZALV Zalesovo Beam 143.72 68 PKPbc 20 10 21.9 +0.6
NJ2 Nanjing 143.91 125 *e*PKP **PKiKP** **20 10 27.8 -0.4**
HYT Haines Junctio 147.29 302 PKPbc **PKPab** **20 10 33.6 -0.5**
A36M Sachs Harbour 147.69 325 PKPdf **PKPdf** **20 10 30.8 +0.9**
A36M PKPbc **PKiKP** **20 10 34.5 -0.2**
M30M Minto, Yukon 147.84 305 PKPdf **PKPdf** **20 10 31.6 +1.2**
HHC Hu-ho-hao-te 147.94 108 *e*PKPbc **PKPbc** **20 10 35.0 +0.5**
INK Inuvik 148.98 316 PKPbc **PKPdf** **20 10 33.8 +1.7**
comp=Z,1.4nm,0.7s,baz=93,slow=6.9,SNR=5.1
INK Inuvik 148.98 316 **PKPdf** **20 10 33.5 +1.4**
BCAR Beaver Creek A 150.12 304 PKPdf **PKPbc** **20 10 36.8 -2.5**
SONM Songino Array 150.45 93 PKPbc **PKPbc** **20 10 40.8 +0.2**
comp=Z,1.3nm,0.5s,baz=252,slow=2.3,SNR=14
XLT XiLinHaoTe 152.42 109 *e*PKPbc **PKPdf** **20 10 41.6 +3.3**
ILAR Eielson Array 152.84 306 PKPbc **PKPbc** **20 10 43.9 -1.5**
comp=Z,0.6nm,0.5s,baz=338,slow=0.6,SNR=4.3
ILAR Eielson Array 152.84 306 **PKPbc** **20 10 44.6 -0.8**

*DDA **23** 19:51:58.4±0.0,36.91N×36.62E,h6km±1km,MW4.0*
*IDC **23** 19:51:59.0±0.9,36.91N×36.63E,h0km,mb3.3/7,*
mb1 3.5/12,mb1mx3.3/47,mbtmp3.4/12,ML3.3/5,MS2.5/2,
Ms1 2.5/2,ms1mx2.1/48,Error ellipse: s-maj=18.6km
s-min=13.6km az=77.0
*ISK **23** 19:51:58.6,36.87N×36.58E,h14km,ML3.8/36*
*GII **23** 19:51:58.2±0.0,37.01N×36.30E,h1km,Mm3.9/2*
*NIC **23** 19:52:04.2±0.0,36.70N×36.19E,h10km±31km,Ml3.7/4*
ISC 23 19:51:58.6±1.1,**36.90N**±0.02×**36.61E**±0.02,**h3km**±8km,
n135,σ1§26/167,mb3.2/6,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMA	**Osmaniye**	**0.29**	**10**	P	**Pg**	**19 52 04.1**	**-0.1**
KAMA				S	**Sg**	**19 52 08.5**	**+0.5**
KUZU	**Kuzuini**	**0.40**	**108**	P	**Pg**	**19 52 06.7**	**+0.5**
KUZU				S	**Sg**	**19 52 12.1**	**+0.7**
HCB	**Kahramanmara**	**0.51**	**29**	P	**Pg**	**19 52 08.1**	**-0.1**
HCB				S	**Sg**	**19 52 15.1**	**+0.2**
TAHT	**Tahtakopru-Hat**	**0.62**	**213**	PG	**Pg**	**19 52 10.9**	**+0.4**
TAHT				SG	**Sg**	**19 52 19.5**	**+0.9**
KHMN	**Narli-Kahraman**	**0.66**	**42**	PG	**Pb**	**19 52 11.9**	**-0.9**
KAHM	**Kahramanmaras,**	**0.69**	**26**	P	**Pg**	**19 52 12.0**	**+0.2**
KAHM				S	**Sg**	**19 52 20.8**	**+0.1**
CEYT	**Ceyhan**	**0.69**	**279**	PG	**Pg**	**19 52 12.2**	**+0.3**
ANDN	**Andirin**	**0.71**	**343**	P	**Pg**	**19 52 12.3**	**+0.1**
ANDN				S	**Sb**	**19 52 23.4**	**-0.5**
YURE	**YUREGIR**	**0.78**	**265**	P	**Pb**	**19 52 14.8**	**-0.1**
YURE				S	**Sn**	**19 52 28.6**	**-0.3**
KOZT	**Kozan**	**0.85**	**313**	PG	**Pg**	**19 52 15.2**	**+0.3**
KOZT				SG	**Sb**	**19 52 28.1**	**+0.3**
ASUZ	**Hatay-Arsuz**	**0.90**	**228**	P	**Pg**	**19 52 15.8**	**0.0**
ASUZ				S	**Sb**	**19 52 28.7**	**-0.4**
YAYL	**Yayladag**	**0.95**	**205**	PG	**Pg**	**19 52 16.9**	**+0.1**
YAYL				SG	**Sb**	**19 52 29.9**	**-1.0**
YAYL	**Yayladag**	**0.95**	**205**	P	**Pn**	**19 52 17.8**	**-1.2**
YAYL				S	**Sn**	**19 52 31.0**	**-2.1**
AKO	**Adana**	**1.08**	**302**	P	**Pb**	**19 52 19.5**	**-0.5**
AKO				S	**Sn**	**19 52 34.6**	**-1.6**
SAIM	**ADANA**	**1.15**	**339**	P	**Pb**	**19 52 20.5**	**-0.7**
SAIM				S	**Sn**	**19 52 36.8**	**-1.3**
DED	**Mersin**	**1.45**	**273**	P	**Pn**	**19 52 25.3**	**-0.5**
DED				S	**Sg**	**19 52 45.8**	**+0.7**
ATAB	**Bozova**	**1.47**	**67**	P	**Pb**	**19 52 26.1**	**-0.4**
ATAB				S	**Sn**	**19 52 43.2**	**-2.5**
ELBS	**KAHRAMANMARAS**	**1.48**	**16**	P	**Pg**	**19 52 27.0**	**0.0**
ELBS				S	**Sg**	**19 52 46.4**	**+0.2**
CMRD	**Camardi-Nigde**	**1.50**	**301**	PN	**Pn**	**19 52 25.8**	**-0.7**
GULE	**Gulek**	**1.51**	**285**	P	**Pb**	**19 52 26.8**	**-0.5**
GULE				S	**Sg**	**19 52 47.9**	**+0.7**
SARI	**SarD1z-Kayseri**	**1.51**	**354**	PN	**Pb**	**19 52 26.6**	**-0.8**
YAHY	**KAYSERI_Yahyal**	**1.55**	**321**	P	**Pb**	**19 52 27.9**	**-0.1**
YAHY				S	**Sg**	**19 52 49.3**	**+1.0**
SURC	**SANLIURFA_SURC**	**1.61**	**90**	P	**Pb**	**19 52 28.1**	**-0.9**
SURC				S	**Sn**	**19 52 46.7**	**-2.6**
MERS	**Mersin**	**1.67**	**270**	PN	**Pn**	**19 52 27.8**	**-1.0**
AKCD	**Akcadag**	**1.74**	**37**	P	**Pn**	**19 52 29.8**	**-0.1**
AKCD				S	**Sg**	**19 52 55.0**	**+0.4**
DARE	**Darende-Malaty**	**1.81**	**22**	PN	**Pb**	**19 52 30.9**	**-1.5**
NIDE	**Nigde/Merkez-G**	**1.82**	**308**	P	**Pb**	**19 52 31.7**	**-1.0**
NIDE				S	**Sb**	**19 52 56.2**	**+0.3**
CUGUR	**Gurin_SVAS**	**1.90**	**16**	P	**Pb**	**19 52 33.1**	**-0.9**
CUGUR				S	**Sg**	**19 53 00.3**	**+0.8**
SANL	**SANLIURFA_Merk**	**1.93**	**81**	P	**Pn**	**19 52 31.5**	**-0.8**
SANL				S	**Sb**	**19 52 58.0**	**-0.9**
NIG	**Nigde**	**1.99**	**308**	PN	**Pn**	**19 52 32.9**	**-0.6**
BNN	**Bunyan**	**2.04**	**343**	PN	**Pn**	**19 52 33.9**	**-0.1**
KERG	**Konya-Eregli**	**2.05**	**285**	P	**Pb**	**19 52 35.3**	**-1.2**
KERG				S	**Sb**	**19 53 00.6**	**-1.8**
SILI	**Silifke-Mersin**	**2.22**	**257**	PN	**Pn**	**19 52 35.7**	**-0.6**
HEKM	**Malatya_Hekimh**	**2.25**	**28**	P	**Pb**	**19 52 39.4**	**-0.5**
HEKM				S	**Sg**	**19 53 11.3**	**+0.5**
AVNS	**Nevsehir-Avano**	**2.36**	**324**	P	**Pb**	**19 52 39.6**	**-2.2**
AVNS				S	**Sb**	**19 53 11.3**	**-0.1**
CUAYA	**Sivas-Altinyay**	**2.36**	**3**	P	**Pn**	**19 52 39.2**	**+0.8**
CUAYA				S	**Sg**	**19 53 15.1**	**+0.6**
KEBE	**Keben-Mersin**	**2.37**	**260**	PN	**Pn**	**19 52 37.8**	**-0.6**
GULA	**Gulagac**	**2.37**	**308**	PN	**Pn**	**19 52 38.3**	**-0.2**
EREN	**Erenkoy**	**2.40**	**236**	PN	**Pn**	**19 52 38.1**	**-0.6**
EREN	**Erenkoy**	**2.40**	**236**	P	**Pn**	**19 52 39.1**	**+0.3**
KARG	**Kargicak-Mersi**	**2.43**	**254**	PN	**Pn**	**19 52 38.2**	**-1.1**
IKL	**Isikli**	**2.44**	**255**	PN	**Pn**	**19 52 38.4**	**-0.9**
YESY	**Yesilyurt**	**2.44**	**292**	PN	**Pn**	**19 52 39.1**	**-0.4**
ELZG	**Elazig**	**2.47**	**49**	P	**Pn**	**19 52 39.9**	**-0.1**
YESI	**Yesilovacik-Me**	**2.49**	**254**	PN	**Pn**	**19 52 38.3**	**-1.7**
CUKAN	**kangal_SIVAS**	**2.51**	**15**	P	**Pn**	**19 52 41.1**	**+0.7**
CUSAR	**Sarkisla-SIVAS**	**2.53**	**354**	P	**Pn**	**19 52 41.2**	**+0.4**
AKKU	**Akkuyu-Mersin**	**2.57**	**254**	PN	**Pn**	**19 52 40.4**	**-0.7**
AKK2	**Akkuyu-Mersin**	**2.58**	**254**	PN	**Pn**	**19 52 40.4**	**-0.8**
AKK1	**Akkuyu-Mersin**	**2.58**	**254**	PN	**Pn**	**19 52 40.7**	**-0.6**
ARPR	**Arapgir-MALATY**	**2.58**	**31**	PN	**Pn**	**19 52 41.5**	**+0.1**
TEVE	**Tevekalti-Mers**	**2.58**	**261**	PN	**Pn**	**19 52 40.7**	**-0.7**
HWQ	**Hawqa**	**2.67**	**192**	*eP*	**Pn**	**19 52 42.8**	**+0.2**
KOZK	**Kozakli-Nevseh**	**2.68**	**330**	PN	**Pn**	**19 52 42.8**	**0.0**
KRMN	**Karaman**	**2.69**	**277**	PN	**Pn**	**19 52 42.0**	**-0.8**
SIRC	**Yozgat**	**2.69**	**335**	P	**Pn**	**19 52 44.9**	**-2.5**
BERE	**Bereket-Mersin**	**2.78**	**260**	PN	**Pn**	**19 52 43.3**	**-0.8**
KEMA	**Kemaliye**	**2.79**	**32**	P	**Pn**	**19 52 44.3**	**0.0**
PARAL	**Paralimni**	**2.82**	**228**	P	**Pn**	**19 52 44.9**	**+0.4**
PARAL				S	**Sn**	**19 53 15.8**	**-3.3**
PARAL				AML	AML	19 53 31.6	
	1.8nm,1.1s						
PARAL				AML	AML	19 53 31.6	
	1.8nm,1.1s						
PARAL				AML	AML	19 53 33.2	
	0.9nm,0.9s						
PARAL				AML	AML	19 53 33.2	
	0.9nm,0.9s						
AKSY	**AKSARAY - Alti**	**2.85**	**309**	P	**Pn**	**19 52 45.8**	**+0.7**
HACI	**Hacifakili, Ak**	**2.88**	**346**	P	**Pn**	**19 52 45.9**	**+0.4**
TEKE	**Tekeli-Mersin**	**2.91**	**256**	PN	**Pn**	**19 52 45.1**	**-0.7**
YOZ	**Yozgat**	**2.92**	**340**	PN	**Pn**	**19 52 46.4**	**+0.4**
KKBE	**Karaman, Kazim**	**2.95**	**277**	P	**Pb**	**19 52 48.5**	**-3.3**
LFK	**Lefkose**	**2.97**	**238**	PN	**Pn**	**19 52 45.9**	**-0.8**
ERMK	**Ermenek**	**2.98**	**266**	P	**Pn**	**19 52 48.9**	**+2.0**
DIYA	**Diyarbakir**	**2.98**	**69**	P	**Pn**	**19 52 46.0**	**-0.8**
YAYX	**Yaylak**	**3.00**	**313**	PN	**Pn**	**19 52 47.4**	**+0.2**
DYBB	**Diyarbakir**	**3.00**	**68**	PN	**Pn**	**19 52 47.5**	**+0.3**
SVSK	**Karacayir**	**3.03**	**6**	PN	**Pn**	**19 52 48.2**	**+0.8**
MVOU	**Mavrovouni**	**3.06**	**233**	P	**Pn**	**19 52 46.7**	**-1.1**
MVOU				S	**Sn**	**19 53 20.6**	**-4.3**
MVOU				AML	AML	19 53 32.0	
	0.4nm,1.1s						
MVOU				AML	AML	19 53 32.0	
	0.4nm,1.1s						
MVOU				AML	AML	19 53 32.6	
	0.6nm,0.7s						
MVOU				AML	AML	19 53 32.6	
	0.6nm,0.7s						
KIRS	**Kirsehir-Merke**	**3.08**	**317**	P	**Pn**	**19 52 49.8**	**+1.6**
BHL	**Bhannes**	**3.09**	**195**	*eP*	**Pn**	**19 52 47.6**	**-0.8**
KOVA	**Elazig, Kovanc**	**3.12**	**54**	P	**Pn**	**19 52 48.6**	**-0.1**
MAZI	**Mazidag**	**3.12**	**79**	PN	**Pn**	**19 52 49.3**	**+0.5**
CUZAR	**Zara_SIVAS**	**3.12**	**17**	P	**Pn**	**19 52 50.0**	**+2.0**
ATHL	**Athalassa**	**3.14**	**237**	P	**Pn**	**19 52 49.3**	**+0.4**
SERE	**Sereflikochisa**	**3.15**	**311**	PN	**Pn**	**19 52 49.2**	**-0.1**
TNCL	**Tunceli-Merkez**	**3.21**	**45**	P	**Pn**	**19 52 50.4**	**+0.4**
CDAG	**Cicekdag**	**3.24**	**328**	P	**Pn**	**19 52 51.8**	**+1.4**
ALIN	**Konya, Altinte**	**3.27**	**296**	P	**Pn**	**19 52 53.5**	**+2.6**
CKRK	**Yozgat, Cekere**	**3.28**	**345**	P	**Pn**	**19 52 51.8**	**+0.8**
CSS	**Mathiatis**	**3.29**	**235**	PN	**Pn**	**19 52 50.4**	**-0.6**
CSS	**Mathiatis**	**3.29**	**235**	P	**Pn**	**19 52 49.5**	**-1.5**
CSS	**Mathiatis**	**3.29**	**235**	Pn	**Pn**	**19 52 49.2**	**-1.8**
DQRL	**Deir Qamar**	**3.30**	**195**	*eP*	**Pn**	**19 52 51.3**	**+0.1**
HDMB	**Hadim**	**3.30**	**272**	PN	**Pn**	**19 52 51.1**	**-0.3**
KAMT	**Kaman**	**3.36**	**318**	PN	**Pn**	**19 52 52.5**	**+0.4**
MARD	**Mardin**	**3.36**	**82**	P	**Pn**	**19 52 51.0**	**-1.2**
HANI	**Diyarbakir_Han**	**3.37**	**62**	P	**Pn**	**19 52 51.2**	**-1.0**
CHBY	**Cihanbeyli**	**3.39**	**301**	PN	**Pn**	**19 52 52.4**	**-0.1**
ASGA	**Asgata**	**3.45**	**233**	P	**Pn**	**19 52 53.3**	**+0.1**
ASGA				AML	AML	19 53 44.4	
	0.4nm,0.7s						
ASGA				AML	AML	19 53 47.6	
	0.5nm,1.1s						
RCY	**Rachaya**	**3.45**	**191**	*eP*	**Pn**	**19 52 54.0**	**+0.6**
KMER	**Konya-Meram**	**3.49**	**286**	P	**Pb**	**19 52 57.4**	**-3.6**
GAZI	**Gazipasa**	**3.52**	**260**	PN	**Pn**	**19 52 53.2**	**-1.0**
GAZI	**Gazipasa**	**3.52**	**260**	P	**Pn**	**19 52 55.4**	**+1.3**
KONT	**Konya--Tatoy**	**3.54**	**288**	PN	**Pn**	**19 52 54.8**	**+0.3**
KONT	**Konya--Tatoy**	**3.54**	**288**	P	**Pb**	**19 52 58.5**	**-3.3**
COAL	**Corum-Alaca**	**3.58**	**340**	P	**Pn**	**19 52 55.4**	**+0.2**
LADK	**Ladik-KONYA**	**3.61**	**292**	PN	**Pn**	**19 52 55.9**	**+0.3**
SHBL	**Chebaa**	**3.61**	**192**	*eP*	**Pn**	**19 52 55.8**	**+0.2**
BRTR	**Keskin Array B**	**3.66**	**321**	Pn	**Pn**	**19 52 58.0**	**+1.7**
BRTR	0.8nm,0.3s,baz=152,slow=30,SNR=29			Lg	Lg	19 53 57.1	
	1.0nm,0.3s,baz=147,slow=30,SNR=4.2						
ALFC	**Alefka**	**3.68**	**243**	P	**Pn**	**19 52 55.2**	**-1.3**
ALFC				AML	AML	19 53 40.3	
	0.5nm,0.6s						
ALFC				AML	AML	19 53 40.6	
	0.6nm,0.4s						
KKUL	**Konya-Kulu**	**3.69**	**309**	P	**Pn**	**19 52 58.5**	**+1.8**
NATI	**Neve Ativ**	**3.70**	**191**	Pn	**Pn**	**19 52 57.2**	**+0.6**
DELI	**KIRIKKALE**	**3.74**	**327**	P	**Pn**	**19 52 59.2**	**+1.9**
GEM	**Giv'at Ha'Em**	**3.76**	**192**	Pn	**Pn**	**19 52 57.9**	**+0.4**
ALUC	**Giresun/Alucra**	**3.83**	**26**	P	**Pn**	**19 52 58.6**	**-0.1**
KELT	**Kelkit**	**3.85**	**32**	P	**Pn**	**19 52 59.2**	**+0.2**
SEDI	**Konya, Seydise**	**3.91**	**280**	P	**Pn**	**19 53 02.8**	**+3.0**
AKMS	**Akamas**	**3.94**	**243**	P	**Pn**	**19 53 00.1**	**+0.1**
MMA0B	**Mount Meron ar**	**4.00**	**195**	Pn	**Pn**	**19 53 01.7**	**+0.8**
MMA0B				Sn	**Sn**	**19 53 49.9**	**+1.6**
MMAI	**Mount Meron Ar**	**4.00**	**195**	Pn	**Pn**	**19 53 00.1**	**-0.8**
	9.9nm,0.3s,baz=325,slow=24,SNR=48						
MMAI				Sn	**Sn**	**19 53 47.7**	**-0.7**
	17nm,0.3s,baz=354,slow=36,SNR=2.8						
KEPZ	**Antalya-Kepez**	**4.01**	**272**	P	**Pn**	**19 53 03.2**	**+2.2**
OFRI	**`Ofer**	**4.47**	**198**	Pn	**Pn**	**19 53 07.4**	**+0.1**
OFRI				Sn	**Sn**	**19 54 00.9**	**+1.0**
MMLI	**Mount Malkishu**	**4.56**	**193**	P	**Pn**	**19 53 09.4**	**+0.9**
MMLI	**Mount Malkishu**	**4.56**	**193**	Pn	**Pn**	**19 53 10.0**	**+1.5**
HMDT	**Nahal Hemdat**	**4.72**	**191**	Pn	**Pn**	**19 53 12.8**	**+2.1**
ASF	**Jabal al Asfar**	**4.72**	**177**	Pn	**Pn**	**19 53 11.8**	**+0.9**
	0.4nm,0.3s,baz=2.9,slow=12,SNR=4.0						
ASF				Sn	**Sb**	**19 54 15.5**	**-3.9**
	3.1nm,0.3s,baz=177,slow=1.9,SNR=3.8						
ASF				Lg	Lg	19 54 28.3	
	9.0nm,0.3s,baz=191,slow=23,SNR=8.3						
SLTI	**Sal'it**	**4.82**	**196**	Pn	**Pn**	**19 53 13.1**	**+1.0**
SLTI				Sn	**Sn**	**19 54 10.9**	**+2.3**
OSC2	**CSNet OBS 4**	**5.22**	**224**	P	**Pn**	**19 53 17.5**	**0.0**
OSC1	**CSNet OBS 1**	**5.53**	**234**	P	**Pn**	**19 53 22.8**	**+1.1**
KZIT	**Kziot**	**6.25**	**198**	P	**Pn**	**19 53 32.8**	**+1.0**
HRFI	**Mount Harif**	**6.97**	**191**	Pn	**Pn**	**19 53 43.2**	**+1.6**
HRFI				Sn	**Sn**	**19 55 04.5**	**+3.0**
GNI	**Garni**	**7.16**	**61**	LR	LR	19 56 48.2	
	comp=Z,37nm,21.5s,baz=250,slow=41						
EIL	**Elat**	**7.34**	**191**	Pn	**Pn**	**19 53 49.7**	**+2.9**
	0.2nm,0.3s,baz=39,slow=24,SNR=2.8						
EIL				Sn	Sn	19 55 19.5	+8.9
	0.6nm,0.3s,baz=197,slow=11,SNR=1.8						
EIL				Lg	Lg	19 55 56.0	
	0.5nm,0.3s,baz=235,slow=23,SNR=3.6						
IDI	**Anoyia**	**9.62**	**264**	Pn	**Pn**	**19 54 18.6**	**+0.6**
	1.6nm,0.3s,baz=63,slow=14,SNR=18						
OBN	**Obninsk**	**18.22**	**360**	LR	LR	20 04 36.4	
	comp=Z,15nm,20.9s,baz=186,slow=42						
GERES	**GERESS Array B**	**20.51**	**313**	P	Pn	19 56 40.2	+0.2
	0.2nm,0.4s,baz=116,slow=12,SNR=4.3						
FINES	**FINESS Array B**	**25.45**	**348**	P	**P**	**19 57 27.3**	**-0.1**
	1.1nm,0.7s,baz=145,slow=12,SNR=4.8						
KURBB	**Kurchatov Arra**	**32.78**	**52**	P	**P**	**19 58 32.7**	**-0.1**
	0.3nm,0.4s,baz=265,slow=8.4,SNR=3.2						
MKAR	**Makanchi Array**	**35.00**	**59**	P	**P**	**19 58 53.0**	**+0.8**
	0.2nm,0.6s,baz=267,slow=8.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**37.06**	**47**	P	**P**	**19 59 11.2**	**+1.4**
	0.2nm,0.3s,baz=247,slow=9.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**39.15**	**242**	P	**P**	**19 59 29.2**	**+1.5**
	0.3nm,0.8s,baz=45,slow=8.4,SNR=2.3						
YKA	**Yellowknife Ar**	**78.27**	**347**	P	**P**	**20 04 00.2**	**+0.8**
	0.1nm,0.6s,baz=22,slow=5.1,SNR=3.1						

*IDC **23** 19:53:56.8±1.9,27.57N×52.46E,h0km,mb3.6/7,*
mb1 3.8/10,mb1mx3.5/50,mbtmp3.7/10,ML3.6/3,MS3.0/3,
Ms1 3.0/3,ms1mx2.5/83,Error ellipse: s-maj=42.0km
s-min=23.3km az=15.0
*TEH **23** 19:53:59.8,27.54N×52.55E,h20km,ML3.8*
*DSN **23** 19:54:01.5±1.4,27.35N×52.63E,h10km,ML3.8/11,Error*
ellipse: s-maj=16.4km s-min=8.1km az=172.0
*OMAN **23** 19:54:03.5±1.6,27.35N×52.73E,h140km±11km,mb3.8/7,*
ml4.0/8,Error ellipse: s-maj=20.3km s-min=7.2km az=18.0
ISC 23 19:53:58.8±0.6,**27.50N**±0.04×**52.54E**±0.04,**h14km,n92,**
σ1§79/99,mb3.6/8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.57**	**106**	*e*Pg	**Pb**	**19 54 10.9**	**+0.3**
LMD1				*e*Sg	**Sn**	**19 54 20.5**	**-1.4**
LMD1				*e*		19 54 21.8	
	comp=Z,77μm,0

UMZA	**Um Al Zommool**	**5.33**	**153**	*e*Pn		**Pn**	**19 55 19.6**	**+1.7**
IPIR	**Pirpir**	**5.36**	**345**	*e*Pn		**Pn**	**19 55 19.8**	**+1.2**
KBAM	**BAM**	**5.46**	**71**	*e*Pn		**Pn**	**19 55 22.2**	**+2.4**
KBAM				*e*			19 56 31.1	
	comp=Z,390nm,1.0s							
ARQ	**Araqi**	**5.49**	**138**	P		**Pn**	**19 55 21.6**	**+1.5**
	SNR=21							
ANAR	**Anarak**	**5.76**	**10**	*e*Pn		**Pn**	**19 55 25.0**	**+1.0**
HOQ	**Hoqain**	**5.81**	**131**	P		**Pn**	**19 55 26.6**	**+2.0**
	SNR=8.5							
HOQ				S		**Sn**	**19 56 30.1**	**-1.0**
BSY	**Bisya**	**6.34**	**137**	P		**Pn**	**19 55 33.8**	**+1.8**
	SNR=9.6							
KRSH	**Karshahi**	**6.46**	**357**	*e*Pn		**Pn**	**19 55 34.1**	**+0.5**
KHMZ	**Khomeyn**	**6.60**	**341**	*e*Pn		**Pn**	**19 55 36.7**	**+1.1**
SMDO	**Samad**	**6.66**	**130**	P		**Pn**	**19 55 39.0**	**+2.7**
	SNR=6.8							
ISFB	**Sefidab**	**6.83**	**358**	*e*Pn		**Pn**	**19 55 38.8**	**+0.1**
WSAR	**Wadi Sarin**	**6.95**	**126**	Pn		**Pn**	**19 55 41.8**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=347,slow=9.1,SNR=13							
WSAR				Sn		**Sn**	**19 56 56.2**	**-3.0**
	comp=Z,2.1nm,0.3s,baz=173,slow=17,SNR=2.3							
WSAR				LR		LR	19 58 52.8	
	comp=Z,101nm,18.2s,baz=316,slow=42							
WSAR	**Wadi Sarin**	**6.95**	**126**	P		**Pn**	**19 55 42.2**	**+1.9**
	SNR=11							
WSAR				S		**Sn**	**19 56 55.1**	**-4.0**
TABS	**Tabas**	**7.29**	**32**	*e*Pn		**Pn**	**19 55 45.5**	**+0.6**
ASAO	**Ashtian**	**7.35**	**344**	*e*Pn		**Pn**	**19 55 46.4**	**+0.5**
HSAM	**Samen**	**7.50**	**334**	*e*Pn		**Pn**	**19 55 48.6**	**+0.7**
WBK	**Wadi Bani Khal**	**7.59**	**128**	P		**Pn**	**19 55 51.6**	**+2.5**
	SNR=8.6							
NHDN	**Nehbandan**	**7.61**	**58**	*e*Pn		**Pn**	**19 55 51.2**	**+1.8**
NGCH	**Negor - Chabah**	**7.99**	**104**	*e*Pn		**Pn**	**19 55 55.5**	**+1.0**
MHTO	**MHTO**	**8.16**	**141**	P		**Pn**	**19 55 58.0**	**+1.2**
	SNR=6.9							
MHTO				S		**Sn**	**19 57 25.7**	**-3.1**
SHRO	**Shahrood**	**8.96**	**18**	*e*Pn		**Pn**	**19 56 09.5**	**+1.6**
WHFO	**Wadi Hawf**	**9.60**	**173**	P		**Pn**	**19 56 16.0**	**-0.7**
	SNR=17							
SHAO	**Shalim**	**9.85**	**163**	P		**Pn**	**19 56 19.7**	**-0.4**
	SNR=8.2							
SHAO				S		**Sn**	**19 58 08.5**	**-2.0**
DMTO	**DMTO**	**9.99**	**167**	P		**Pn**	**19 56 22.0**	**0.0**
	SNR=15							
DMTO				S		**Sn**	**19 58 11.4**	**-2.5**
KBZ	**Khabaz**	**17.97**	**337**	P		**Pn**	**19 58 08.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=157,slow=15,SNR=4.0							
BRTR	**Keskin Array B**	**19.86**	**313**	P		**P**	**19 58 30.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=134,slow=13,SNR=8.6							
AKTO	**Aktyubinsk**	**23.28**	**9**	P		**P**	**19 59 08.2**	**+2.3**
	comp=Z,0.8nm,0.5s,baz=188,slow=5.5,SNR=2.7							
IDI	**Anoyia**	**24.79**	**295**	P		**P**	**19 59 19.4**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=132,slow=14,SNR=1.3							
MKAR	**Makanchi Array**	**30.27**	**43**	P		**P**	**20 00 09.1**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=243,slow=6.3,SNR=1.8							
KURBB	**Kurchatov Arra**	**30.38**	**33**	P		**P**	**20 00 11.6**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=233,slow=8.4,SNR=5.0							
PALK	**Pallekele**	**33.42**	**122**	LR		LR	20 14 56.0	
	comp=Z,35nm,18.1s,baz=78,slow=38							
ZALV	**Zalesovo Beam**	**35.47**	**33**	P		**P**	**20 00 54.1**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=252,slow=8.6,SNR=6.6							
FINES	**FINESS Array B**	**38.29**	**340**	P		**P**	**20 01 16.7**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=139,slow=11,SNR=10							
NOA	**NORSAR Array B**	**43.46**	**332**	LR		LR	20 22 13.9	
	comp=Z,9.7nm,19.2s,baz=195,slow=39							
EKA	**Eskdalemuir Ar**	**48.47**	**321**	P		**P**	**20 02 39.6**	**-1.1**
	comp=Z,6.6nm,1.3s,baz=101,slow=7.4,SNR=3.9							
YKA	**Yellowknife Ar**	**89.73**	**354**	P		**P**	**20 06 56.1**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=7.7,slow=4.9,SNR=4.5							

NOU 23 20:11:47.7, 14.78S×167.24E, h95km, MLv4.5/13,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.66**	**183**	P	Pn	20 12 05.1	+0.7
DVP	**Devils Point**	**3.07**	**163**	P	Pn	20 12 34.5	+0.3
KOUNC	**Koumac, New Ca**	**6.39**	**206**	P	Pn	20 13 19.6	+0.3
DZM	**Mont Dzumac**	**7.29**	**186**	P	Pn	20 13 31.0	-0.7
NOUC	**Port Laguerre**	**7.34**	**187**	P	Pn	20 13 31.8	-0.4
ONTNC	**Ouen Toro**	**7.52**	**186**	P	Pn	20 13 34.8	+0.1
OUENC	**Ouen Island, N**	**7.61**	**183**	P	Pn	20 13 35.6	-0.3
PINNC	**Pines Island,**	**7.79**	**179**	P	Pn	20 13 38.4	0.0

*AEIC **23** 20:15:57±2.3, 52.12N±0.07×171.20W±0.06, h31km±4km, Error ellipse: s-maj=9.8km s-min=4.9km az=172.0*
*IDC **23** 20:15:58.7±2.6, 52.24N×171.24W, h42km±22km, mb3.8/27, mb1 4.0/30, mb1mx3.9/48, mbtmp4.0/30, ML3.6/3, MS3.2/20, Ms1 3.2/20, ms1mx3.0/95, Error ellipse: s-maj=19.8km s-min=10.7km az=174.0*
*NEIC **23** 20:15:58.2±2.2, 52.02N±0.08×171.10W±0.06, h47km±6km, mb4.2/78, ML4.2/6, ML3.9(AEIC), Error ellipse: s-maj=11.4km s-min=5.0km az=170.0*

ISC 23 20:15:57.9±0.6, 52.0N±0.1×171.13W±0.04, h42km, n167,
σ1.9 04/153, mb4.2/54, MS3.2/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.67**	**55**		**Pn**	**20 16 23.8**	**-0.9**
KOFP	**Korovin Flat P**	**1.84**	**278**		**Pn**	**20 16 27.0**	**-0.1**
ATKA	**Atka Island**	**1.90**	**276**		**Pn**	**20 16 26.9**	**-0.9**
KOKL	**Mount Kliuchef**	**1.91**	**280**		**Pn**	**20 16 28.2**	**+0.2**
OKFG	**Magazine Ridge**	**2.39**	**54**		**Pn**	**20 16 35.2**	**+0.6**
GSTR	**Great Sitkin T**	**3.04**	**273**		**Pn**	**20 16 43.9**	**+0.4**
GSTD	**Great Sitkin T**	**3.10**	**272**		**Pn**	**20 16 44.2**	**-0.1**
GSTD					**Sn**	**20 17 21.9**	**+1.9**
GSCK	**Great Sitkin C**	**3.11**	**271**		**Pn**	**20 16 44.5**	**+0.1**
UNV	**Unalaska Valle**	**3.33**	**55**		**Pn**	**20 16 47.9**	**+0.5**
UNV					**Sn**	**20 17 27.0**	**+1.3**
ADK	**Adak**	**3.44**	**270**		**Pn**	**20 16 48.5**	**-0.4**
ADK	**Adak**	**3.44**	**270**	IAML		20 17 42.0	
	382nm,1.2s						
ADK				IAML		20 17 44.6	
	522nm,0.4s						
KIWB	**Kanaga Island**	**3.73**	**269**		**Pn**	**20 16 53.8**	**+0.9**
AKUT	**Akutan**	**3.85**	**55**	Pn	**Pn**	**20 16 57.3**	**+2.7**
AKUT				IAML		20 18 00.6	
	comp=E,224nm,0.9s						
SPIA	**Saint Paul Isl**	**5.17**	**5**	Pn	**Pn**	**20 17 14.8**	**+2.1**
SDPT	**Sand Point**	**7.14**	**58**	Pn	**Pn**	**20 17 41.5**	**+1.9**
CHGN	**Chignik**	**8.59**	**55**	Pn	**Pn**	**20 18 00.6**	**+1.1**
SHEM	**Shemya Is, Ala**	**9.06**	**280**	LR	LR	20 21 25.8	
	comp=E,101nm,20.0s,baz=60,slow=36						
O18K	**Koktuh Hills**	**11.84**	**42**	Pn	**Pn**	**20 18 46.8**	**+2.8**
N18K	**Kilae Creek**	**12.07**	**38**	Pn	**Pn**	**20 18 49.5**	**+2.4**
KDAK	**Kodiak Island**	**12.10**	**54**	P	**Pn**	**20 18 46.2**	**-1.3**
	comp=E,0.7nm,0.3s,baz=251,slow=15,SNR=1.6						
KDAK	**Kodiak Island**	**12.10**	**54**		**Pn**	**20 18 46.7**	**-0.8**
SVW2	**Sparrevohn**	**12.45**	**37**	Pn	**Pn**	**20 18 54.3**	**+2.0**
M19K	**Big River Lodg**	**13.41**	**36**		**Pn**	**20 19 07.9**	**+2.6**
L19K	**White Mountain**	**13.42**	**34**	Pn	**Pn**	**20 19 08.6**	**+3.0**
TTA	**Tatalina**	**13.56**	**31**	Pn	**Pn**	**20 19 10.7**	**+3.1**
K20K	**Telida**	**14.49**	**32**	Pn	**P**	**20 19 23.0**	**-2.9**
RC01	**Rabbit Creek A**	**14.80**	**44**	Pn	**Pn**	**20 19 24.1**	**-0.1**
J20K	**Nowinta River**	**15.04**	**30**	P	**P**	**20 19 30.3**	**-1.8**
CAST	**Castle Rocks**	**15.20**	**34**		**P**	**20 19 32.9**	**-0.8**
CAST				IAmb	IAmb	20 19 39.4	
	comp=Z,4.3nm,0.5s						
PWL	**Port Wells**	**15.31**	**46**	Pn	**Pn**	**20 19 30.0**	**-0.8**
PWL				IAmb	IAmb	20 19 57.7	
	comp=Z,21nm,1.5s						
KTH	**Kantishna Hill**	**15.69**	**35**		**P**	**20 19 37.8**	**-1.4**
KTH				IAmb	IAmb	20 19 39.5	
	comp=Z,13nm,1.2s						
TRF	**Thorofare Moun**	**15.85**	**36**		**P**	**20 19 39.8**	**-1.4**
BPAW	**Bear Paw Mtn.**	**16.01**	**33**		**Pn**	**20 19 41.0**	**+1.1**
RND	**Reindeer**	**16.36**	**37**	Pn	**Pn**	**20 19 44.6**	**+0.4**
IMAR	**Indian Mountai**	**16.50**	**25**		**P**	**20 19 48.5**	**+0.3**
H21K	**Melozitna Rive**	**16.52**	**27**		**P**	**20 19 49.0**	**+0.7**
DHY	**Denali Highway**	**16.75**	**40**	Pn	**Pn**	**20 19 49.2**	**0.0**
I23K	**Minto, Yukon-K**	**17.22**	**32**	P	**P**	**20 19 55.6**	**-0.5**
I23K				IAmb	IAmb	20 20 19.5	
	comp=Z,20nm,1.5s						
WRH	**Wood River Hil**	**17.24**	**35**	P	**P**	**20 19 56.5**	**+0.2**
GLB	**Gilahina Butte**	**17.56**	**47**		**Pn**	**20 19 58.5**	**-0.7**
VRDI	**Verde Repeater**	**17.65**	**48**		**Pn**	**20 19 59.7**	**-0.8**
IL31		**17.84**	**35**		**Pn**	**20 20 01.7**	**-0.8**
ILAR	**Eielson Array**	**17.84**	**35**	P	**Pn**	**20 20 00.3**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=231,slow=10,SNR=11						
ILAR	**Eielson Array**	**17.84**	**35**	P	**Pn**	**20 20 02.1**	**-0.5**
MCARA	**McCarthy VSAT**	**17.90**	**48**		**Pn**	**20 20 03.1**	**-0.2**
MCARA				IAmb	IAmb	20 20 10.2	
	comp=Z,9.5nm,0.9s						
RIDG	**Independent Ri**	**18.07**	**39**		**Pn**	**20 20 04.8**	**-0.6**
H24K	**Noodor Dome**	**18.14**	**31**	P	**Pn**	**20 20 06.0**	**-0.3**
GRNC	**Granite Creek**	**18.30**	**50**	P	**P**	**20 20 08.3**	**+0.1**
GRNC				IAmb	IAmb	20 20 12.8	
	comp=Z,12nm,0.7s						
J25K	**Salcha River,**	**18.30**	**37**	P	**P**	**20 20 06.2**	**-1.9**
BARN	**Barnard Glacie**	**18.43**	**49**	P	**Pn**	**20 20 11.9**	**+1.9**
BARN				IAmb	IAmb	20 20 14.0	
	comp=Z,9.4nm,0.6s						
SCRK	**Sand Creek**	**18.51**	**39**	P	**P**	**20 20 09.4**	**-1.1**
CTGM	**Chitina Glacie**	**18.56**	**50**	P	**Pn**	**20 20 12.8**	**+1.2**
CTGM				IAmb	IAmb	20 20 15.7	
	comp=Z,11nm,0.9s						
PETK	**Petropavlovsk-**	**18.91**	**286**	P	**Pn**	**20 20 15.0**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=89,slow=14,SNR=5.6						
PETK				LR	LR	20 25 32.9	
	comp=Z,31nm,21.5s,baz=99,slow=31						
BCAR	**Beaver Creek A**	**19.03**	**43**	P	**Pn**	**20 20 16.8**	**-0.4**
BILL	**Bilibino**	**19.41**	**334**	P	**Pn**	**20 20 21.1**	**-0.4**
BILL				IAmb	IAmb	20 20 37.3	
	comp=Z,9.9nm,1.2s						
TOLK	**Toolik Lake Re**	**19.57**	**24**	P	**Pn**	**20 20 23.2**	**-0.4**
EGAK	**Eagle**	**19.97**	**39**	P	**P**	**20 20 26.1**	**-0.1**
BMAR	**Burnt Mountain**	**20.15**	**30**	P	**P**	**20 20 28.9**	**+0.7**
HYT	**Haines Junctio**	**20.35**	**51**	P	Pn	20 20 32.1	-0.7
HYT				IAmb	IAmb	20 20 55.9	
	comp=Z,9.3nm,0.7s						
SKAG	**Skagway**	**21.25**	**55**	P	**P**	**20 20 41.3**	**+1.2**
SKAG				IAmb	IAmb	20 20 45.7	
	comp=Z,8.2nm,0.9s						
M31M	**Drury Creek, Y**	**22.07**	**48**	P	**P**	**20 20 49.3**	**+0.4**
M31M				IAmb	IAmb	20 20 58.2	
	comp=Z,7.5nm,1.4s						
SEY	**Seymchan**	**22.11**	**314**	P	**P**	**20 20 49.0**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=116,slow=7.5,SNR=21						
MA2	**Magadan**	**22.43**	**305**	P	**P**	**20 20 52.0**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=143,slow=20,SNR=3.0						
MA2				LR	LR	20 28 48.6	
	comp=Z,48nm,21.7s,baz=102,slow=35						
MA2	**Magadan**	**22.43**	**305**	P	**P**	**20 20 53.9**	**+1.2**
MA2				IAmb	IAmb	20 21 11.0	
	comp=Z,6.8nm,1.1s						
DLBC	**Dease Lake**	**23.98**	**58**	P	**P**	**20 21 09.4**	**+1.1**
	comp=Z,4.7nm,0.8s,baz=257,slow=7.3,SNR=6.7						
DLBC	**Dease Lake**	**23.98**	**58**	P	**P**	**20 21 09.8**	**+1.5**
DLBC				IAmb	IAmb	20 21 13.7	
	comp=Z,7.0nm,0.9s						
INK	**Inuvik**	**24.22**	**34**	P	**P**	**20 21 10.0**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=245,slow=7.8,SNR=31						
INK				PcP	**PcP**	**20 24 50.7**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=213,slow=2.5,SNR=6.4						
INK	**Inuvik**	**24.22**	**34**	P	**P**	**20 21 09.8**	**-0.4**
INK				IAmb	IAmb	20 21 14.0	
	comp=Z,9.0nm,1.4s						
BBB	**Bella Bella**	**26.14**	**72**	LR	LR	20 30 00.8	
	comp=Z,42nm,20.4s,baz=315,slow=32						
YKA	**Yellowknife Ar**	**31.27**	**48**	P	**P**	**20 22 14.2**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=274,slow=7.8,SNR=29						
YKA				PcP	**PcP**	**20 25 07.8**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=287,slow=2.3,SNR=10.0						
YKA	**Yellowknife Ar**	**31.27**	**48**	P	**P**	**20 22 11.8**	**-1.5**
ASAJ	**Asahikawa**	**31.45**	**274**	LR	LR	20 33 36.0	
	comp=Z,49nm,21.5s,baz=64,slow=34						
TIXI	**Tiksi**	**32.46**	**329**	PcP	**PcP**	**20 25 09.9**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=270,slow=7.1,SNR=11						
YAK	**Yakutsk**	**32.57**	**311**	LR	LR	20 35 06.8	
	comp=Z,44nm,21.4s,baz=89,slow=35						
YBH	**Yreka Blue Hor**	**34.07**	**88**	LR	LR	20 32 48.6	
	comp=Z,96nm,19.3s,baz=260,slow=30						
NEW	**Newport**	**34.14**	**74**	P	**P**	**20 22 39.5**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=226,slow=2.3,SNR=4.5						
NEW	**Newport**	**34.14**	**74**	P	**P**	**20 22 39.6**	**+0.9**
NEW				IAmb	IAmb	20 22 56.7	
	comp=Z,5.4nm,1.2s						
KLR	**Kul'dur**	**35.54**	**289**	LR	LR	20 38 34.4	
	comp=Z,36nm,19.1s,baz=38,slow=38						
H11N2	**WAKE ISLAND Hy**	**36.53**	**216**	T	T	21 02 16.9	
	baz=30,slow=77,SNR=24						
H11N3	**WAKE ISLAND Hy**	**36.54**	**216**	T	T	21 02 07.3	
	baz=30,slow=77,SNR=24						
H11N1	**WAKE ISLAND Hy**	**36.55**	**216**	T	T	21 02 16.1	
	baz=30,slow=77,SNR=22						
RES	**Resolute Bay**	**37.13**	**25**	P	**P**	**20 23 03.1**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=232,slow=13,SNR=3.6						
RES	**Resolute Bay**	**37.13**	**25**	P	**P**	**20 23 03.4**	**-0.5**
RES				IAmb	IAmb	20 23 04.2	
	comp=Z,2.4nm,1.2s						
JSD	**Sado**	**37.62**	**269**	P	**P**	**20 23 08.3**	**-0.1**
H11S1	**WAKE ISLAND Hy**	**37.73**	**216**	T	T	21 03 47.0	
	baz=22,slow=76,SNR=99						
H11S2	**WAKE ISLAND Hy**	**37.74**	**216**	T	T	21 03 51.7	
	baz=22,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**37.74**	**216**	T	T	21 03 53.3	
	baz=22,slow=76,SNR=54						
USA0B	**Ussuriysk Arra**	**37.90**	**281**	P	**P**	**20 23 10.4**	**-0.3**
USA0B				IAmb	IAmb	20 23 11.8	
	comp=Z,4.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**37.90**	**281**	P	**P**	**20 23 10.5**	**-0.2**
EUNU	**Eureka**	**38.34**	**16**	P	**P**	**20 23 14.4**	**+0.3**
EUNU				IAmb	IAmb	20 23 32.1	
	comp=Z,2.8nm,1.3s						
MCMT	**McKenzie Canyo**	**38.41**	**77**	P	**P**	**20 23 16.4**	**+1.1**
MAJO	**Matsushiro**	**38.60**	**267**	P	**P**	**20 23 17.6**	**+0.8**
MAJO				IAmb	IAmb	20 23 27.3	
	comp=Z,6.1nm,1.1s						
MJAR	**Matsushiro Arr**	**38.60**	**267**	P	**P**	**20 23 16.9**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=34,slow=17,SNR=6.5						
BOZ	**Bozeman (W)**	**38.73**	**75**	P	**P**	**20 23 18.7**	**+0.8**
NVAR	**Mina Array Bea**	**38.75**	**89**	P	**P**	**20 23 19.8**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=316,slow=7.6,SNR=2.5						
NVAR				ScP	**ScP**	**20 29 14.6**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=268,slow=4.4,SNR=4.1						
PDAR	**Pinedale Array**	**41.53**	**78**	P	**P**	**20 23 42.0**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=298,slow=4.4,SNR=9.6						
FCC	**Fort Churchill**	**41.98**	**49**	P	**P**	**20 23 44.9**	**+0.6**
FCC				IAmb	IAmb	20 23 45.8	
	comp=Z,8.2nm,0.8s						
JCJ	**Chichijima**	**42.77**	**253**	LR	LR	20 40 18.1	
	comp=Z,30nm,19.9s,baz=140,slow=34						
PFO	**Pinyon Flats O**	**43.00**	**93**	LR	LR	20 38 45.2	
	comp=Z,63nm,20.1s,baz=59,slow=32						
KSRS	**Korea Array**	**44.36**	**276**	P	**P**	**20 24 04.6**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=56,slow=8.2,SNR=14						
KSRS				LR	LR	20 41 34.9	
	comp=Z,13nm,21.7s,baz=45,slow=35						
SPITS	**Spitsbergen Ar**	**49.96**	**358**	P	**P**	**20 24 46.3**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=12,slow=7.4,SNR=6.4						
ULN	**Ulaanbaatar**	**50.16**	**300**	P	**P**	**20 24 48.6**	**-0.5**
ULN				IAmb	IAmb	20 24 49.2	
	comp=Z,1.6nm,0.9s						
SONM	**Songino Array**	**50.53**	**300**	P	**P**	**20 24 51.8**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=51,slow=5.8,SNR=13						
SONM				PcP	**PcP**	**20 26 09.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=67,slow=2.0,SNR=3.9						
SONM				LR	LR	20 48 22.1	
	comp=Z,58nm,18.0s,baz=17,slow=39						
SONM	**Songino Array**	**50.53**	**300**	P	**P**	**20 24 51.5**	**-0.3**
SONM				IAmb	IAmb	20 24 59.4	
	comp=Z,2.8nm,1.5s						
LPIG	**La Paz**	**53.52**	**97**	LR	LR	20 44 32.2	
	comp=Z,21nm,19.3s,baz=232,slow=32						
E46A	**Sault Ste Mari**	**53.77**	**59**	P	**P**	**20 25 16.3**	**+0.6**
E46A				IAmb	IAmb	20 25 22.5	
	comp=Z,6.7nm,1.1s						
TX31	**Lajitas Ar. Si**	**53.84**	**87**	P	**P**	**20 25 16.5**	**-0.1**
TXAR	**Lajitas Array**	**53.84**	**87**	P	**P**	**20 25 17.4**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=298,slow=4.9,SNR=9.0						
TXAR	**Lajitas Array**	**53.84**	**87**	P	**P**	**20 25 16.5**	**-0.1**
SCHQ	**Schefferville**	**56.41**	**42**	P	**P**	**20 25 35.1**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=315,slow=10.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**56.93**	**317**	P	**P**	**20 25 37.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=331,slow=2.3,SNR=4.0						
ZALV				PcP	**PcP**	**20 26 33.5**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=53,slow=7.6,SNR=5.8						
ZALV				LR	LR	20 51 27.3	
	comp=Z,31nm,20.2s,baz=25,slow=38						
ZALV	**Zalesovo Beam**	**56.93**	**317**	P	**P**	**20 25 36.8**	**-1.5**
ARCES	**ARCESS Array B**	**58.13**	**353**	P	**P**	**20 25 45.9**	**-0.7**
	comp=Z,7.4nm,1.1s,baz=26,slow=9.0,SNR=12						
ARCES				PcP	**PcP**	**20 26 37.8**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=25,slow=6.0,SNR=4.5						
ARCES				LR	LR	20 50 34.1	
	comp=Z,24nm,21.9s,baz=240,slow=36						
WVT	**Waverly**	**58.67**	**70**	P	**P**	**20 25 51.0**	**+0.2**
WVT				IAmb	IAmb	20 26 01.5	
	comp=Z,8.3nm,1.4s						
M55A	**Ridgway**	**60.02**	**60**	P	**P**	**20 26 00.2**	**0.0**
TKL	**Tuckaleechee C**	**61.34**	**68**	LR	LR	20 51 30.0	
	comp=Z,29nm,18.4s,baz=110,slow=35						
G62A	**West of Eustis**	**61.57**	**52**	P	**P**	**20 26 11.3**	**+0.7**
MK31	**Makanchi Array**	**63.24**	**312**	P	**P**	**20 26 20.8**	**-0.9**
MK31				IAmb	IAmb	20 26 22.0	
	comp=Z,1.2nm,0.9s						
MKAR	**Makanchi Array**	**63.24**	**312**	P	**P**	**20 26 20.9**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=47,slow=6.7,SNR=17						
MKAR	**Makanchi Array**	**63.24**	**312**	P	**P**	**20 26 20.7**	**-1.0**
BRVK	**Borovoye**	**63.34**	**324**	P	**P**	**20 26 21.9**	**-0.3**
BRVK				IAmb	IAmb	20 26 22.4	
	comp=Z,2.1nm,0.7s						
MAKZ	**Makanchi**	**63.37**	**313**	P	**P**	**20 26 21.4**	**-1.2**
MAKZ				IAmb	IAmb	20 26 22.0	
	comp=Z,1.0nm,0.7s						
GGN	**Saint George**	**63.42**	**50**	P	**P**	**20 26 22.8**	**-0.1**
LMN	**Caledonia Moun**	**63.82**	**48**	P	**P**	**20 26 25.6**	**0.0**
GBN	**Guysborough**	**65.66**	**47**	P	**P**	**20 26 37.8**	**+0.3**
FIA1	**FINESS Array S**	**66.03**	**351**	P	**P**	**20 26 38.9**	**-0.7**
FIA1				IAmb	IAmb	20 26 39.3	
	comp=Z,6.8nm,1.2s						
FINES	**FINESS Array B**	**66.03**	**351**	P	**P**	**20 26 38.6**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=19,slow=7.5,SNR=21						
FINES	**FINESS Array B**	**66.03**	**351**	P	**P**	**20 26 38.4**	**-1.2**
NC303	**NORSAR Array S**	**67.07**	**359**	P	**P**	**20 26 45.8**	**-0.5**
NC303				IAmb	IAmb	20 26 52.4	
	comp=Z,6.3nm,1.1s						
NOA	**NORSAR Array B**	**67.25**	**359**	P	**P**	**20 26 46.4**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=0.9,slow=6.4,SNR=3.6						
NOA				LR	LR	20 57 19.9	
	comp=Z,9.5nm,18.9s,baz=60,slow=37						
KDJ	**Kajisay**	**69.16**	**312**	P	**P**	**20 26 59.4**	**-0.5**
KDJ				IAmb	IAmb	20 27 00.3	
	comp=Z,2.8nm,0.6s						
BOOM	**Boomskoye usch**	**69.44**	**313**	P	**P**	**20 27 01.7**	**+0.1**
BOOM				IAmb	IAmb	20 27 02.2	
	comp=Z,4.7nm,0.6s						
AAK	**Ala-Archa**	**69.96**	**314**	P	**P**	**20 27 04.6**	**-0.2**
AAK				IAmb	IAmb	20 27 05.4	
	comp=Z,4.1nm,0.5s						
ABKAR	**Akbulak array**	**70.13**	**327**	P	**P**	**20 27 04.6**	**-1.0**
ABKAR				IAmb	IAmb	20 27 05.6	
	comp=Z,2.2nm,0.6s						
KK31	**Karatay Array**	**71.30**	**317**	P	**P**	**20 27 12.2**	**-0.6**
KK31				IAmb	IAmb	20 27 12.7	
	comp=Z,1.5nm,0.6s						
KKAR	**Karatay Array**	**71.30**	**317**	P	**P**	**20 27 12.2**	**-0.6**
PABE	**Paberze**	**72.09**	**351**	P	**P**	**20 27 16.5**	**-0.7**
UBPT	**Khong Chiam**	**74.07**	**274**	P	**P**	**20 27 29.3**	**-0.3**
UBPT				IAmb	IAmb	20 27 33.3	
	comp=Z

baz=293
ENTT Nioudou 1.27 300 P **Pn** **20 25 11.5 0.0**
baz=298
EGFH Guangfu 1.28 255 *e*P **Pn** **20 25 11.4 -0.1**
baz=254
TIPB Shuangxi 1.29 318 *e*P **Pn** **20 25 12.0 +0.3**
baz=316
TIPB eS **Sn** **20 25 28.2 -0.6**
baz=316
JIJ Ishigaki jima 1.29 74 P **Pb** **20 25 12.2 0.0**
JIJ S **Sg** **20 25 29.1 -0.9**
NDT Datong Townshi 1.30 297 P **Pn** **20 25 12.1 +0.3**
baz=296
FUSB Fushanzhiwuyua 1.32 305 *e*P **Pn** **20 25 12.6 +0.5**
baz=303
NNSB Datong 1.34 288 *e*P **Pn** **20 25 13.0 +0.5**
baz=287
NNSB eS **Sn** **20 25 30.0 -0.1**
baz=287
HGSD Ruisui 1.34 248 *e*P **Pn** **20 25 11.8 -0.6**
baz=247
HGSD eS **Sn** **20 25 28.6 -1.4**
baz=247
NNS Nan Shan 1.35 289 *e*P **Pn** **20 25 13.3 +0.7**
baz=287
NNS eS **Sn** **20 25 30.2 -0.2**
baz=287
SXI1 Grass Mountain 1.36 323 *e*P **Pn** **20 25 12.5 -0.1**
baz=321
WHF Hehuan Shan 1.39 276 P **Pn** **20 25 13.5 +0.1**
baz=274
NWLT Wulai 1.39 304 *e*P **Pn** **20 25 13.8 +0.8**
baz=302
NWF Wu-fen Shan 1.39 320 *e*P **Pn** **20 25 13.4 +0.2**
baz=318
EHY Hungye 1.43 250 P **Pn** **20 25 13.3 -0.2**
baz=249
YHNB Yeheng 1.44 297 *e*P **Pn** **20 25 14.6 +0.9**
baz=296
NSK Sanguang 1.46 297 *e*P **Pn** **20 25 14.8 +0.9**
baz=296
NSK eS **Sn** **20 25 32.5 -0.4**
baz=296
OWD Renai 1.47 268 *e*P **Pn** **20 25 14.3 +0.1**
baz=267
OWD eS **Sn** **20 25 32.8 -0.5**
baz=267
CHGB Renai 1.47 272 *e*P **Pn** **20 25 14.5 +0.2**
baz=271
NHDH Xindian Distri 1.48 310 *e*P **Pb** **20 25 16.2 +0.7**
baz=308
YULB Yu-li 1.49 246 *e*P **Pn** **20 25 14.5 +0.1**
baz=245
YULB eS **Sn** **20 25 33.3 -0.4**
baz=245
EYUL Yuli 1.49 244 *e*P **Pn** **20 25 14.4 0.0**
baz=243
EYUL eS **Sn** **20 25 33.5 -0.2**
baz=243
TWF1 Yuli 1.51 245 P **Pn** **20 25 15.0 +0.3**
baz=244
JISG Ishigakijimahi 1.51 67 *e*S **Sb** **20 25 35.2 +0.3**
WUSB Renai 1.52 270 *e*P **Pn** **20 25 15.3 +0.4**
baz=268
WUSB eS **Sn** **20 25 35.2 +0.7**
baz=268
VWDT VWDT 1.52 261 *e*P **Pn** **20 25 15.2 +0.4**
baz=260
YM01 YM01 1.58 316 *e*P **Pb** **20 25 18.3 +1.2**
baz=314
FULB Fuli 1.58 240 *e*P **Pn** **20 25 15.2 -0.5**
baz=239
FULB eS **Sn** **20 25 35.0 -1.0**
baz=239
NFF Wufeng Townshi 1.64 293 *e*P **Pb** **20 25 18.3 +0.2**
baz=291
TWS1 Kuangyinshan 1.65 312 *e*P **Pg** **20 25 19.8 0.0**
baz=310
SSLB Suanglung 1.68 263 *e*P **Pn** **20 25 18.1 +1.0**
baz=262
WHP Taichung City 1.69 279 *e*P **Pb** **20 25 19.5 +0.4**
baz=278
EDH Donghe 1.70 233 *e*P **Pn** **20 25 16.6 -0.7**
baz=232
EDH eS **Sn** **20 25 37.0 -1.9**
baz=232
WCS Beigang Elemen 1.71 272 *e*P **Pn** **20 25 18.4 +1.0**
baz=271
SMLT Sun Moon Lake 1.72 266 *e*P **Pn** **20 25 18.5 +0.8**
baz=265
LIOB Emei 1.73 292 *e*P **Pb** **20 25 19.8 +0.2**
baz=290
NSTT Nanjuang 1.73 291 *e*P **Pb** **20 25 19.9 +0.2**
baz=290
NSTT eS **Sb** **20 25 42.5 +1.1**
baz=290
TYC Yuchr 1.76 267 *e*P **Pn** **20 25 19.0 +0.8**
baz=266
ELDTW Lidau 1.81 244 *e*P **Pn** **20 25 18.7 -0.2**
baz=242
JTJ Tarama 1.86 70 P **Pb** **20 25 21.2 -0.7**
ALS Alishan 1.88 255 *e*P **Pn** **20 25 21.0 +1.0**
baz=254
WWF Wufeng 1.90 271 *e*P **Pb** **20 25 23.4 +0.8**
baz=270
TWGBT Beinan 1.96 233 *e*P **Pn** **20 25 20.6 -0.3**
baz=232
TWG Pinlang 1.96 233 *e*P **Pn** **20 25 20.6 -0.3**
baz=232
TWG eS **Sn** **20 25 44.1 -1.2**
baz=232
WDLH Douliu 2.08 262 *e*P **Pb** **20 25 25.7 +0.2**
baz=260
TPUB Ta-pu 2.09 251 *e*P **Pn** **20 25 24.6 +1.8**
baz=250
CHN4 Tsaushan 2.11 252 *e*P **Pb** **20 25 25.2 -0.9**
baz=251
CHN1 Nanshi 2.22 249 *e*P **Pn** **20 25 26.7 +2.2**
baz=248
TWK Hsinying 2.23 251 *e*P **Pn** **20 25 26.7 +2.1**
baz=250
SNST Tainan City 2.23 250 *e*P **Pn** **20 25 27.0 +2.3**
baz=249
EAST Anshuo 2.40 228 *e*P **Pn** **20 25 27.4 +0.4**
baz=227
MASBT Mashibuluo 2.41 235 *e*P **Pn** **20 25 28.0 +0.8**
baz=234
SSPT Xinbi 2.54 234 *e*P **Pn** **20 25 31.6 +2.8**
baz=233
WDGT Dungji 2.96 256 *e*P **Pn** **20 25 36.7 +2.1**
baz=255
PHUB P'eng-hu 2.98 261 *e*P **Pn** **20 25 36.4 +1.5**
baz=260
PNG Penghu 2.98 262 *e*P **Pn** **20 25 36.4 +1.4**
baz=261
VWUC VWUC 3.19 289 *e*P **Pn** **20 25 38.4 +0.7**
baz=287

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*IDC **23** 20:30:58.4±1.0, 27°.99N×84°.92E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.7/43, mbtmp3.8/14, ML4.2/2, Error ellipse: s-maj=32.0km s-min=18.3km az=60.0*
*NDI **23** 20:31:05.0±3.9, 27°.99N×85°.02E, h150km, ML3.7*
ISC 23 20:30:59.8±0.6, **27°.94N**±0°.06×**85°.01E**±0°.05, **h12**km, **n30, s204/37, mb3.8/12, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOK	**Bokaro**	**4.21**	**169**	*e*P	**Pn**	**20 32 06.4**	**+2.6**
BOK				eS	**Sn**	**20 32 56.4**	**+3.5**
LGTI	**Lohaghat**	**4.45**	**291**	*e*P	Pb	20 32 12.5	-5.4
LGTI				eS	**Sn**	**20 33 02.2**	**+3.4**
PTH	**Pithoragarh**	**4.50**	**292**	*e*P	**Pn**	**20 32 10.8**	**+2.8**
PTH				eS	**Sn**	**20 33 01.3**	**+0.8**
TURI	**Tura**	**5.32**	**115**	*e*P	**Pn**	**20 32 20.2**	**+1.1**
TURI				*e*P	**Sn**	**20 33 18.1**	**-2.3**
TURI				IAML		20 33 19.3	
	comp=E,89nm,0.2s						
GUWA	**GUWAHATI**	**6.21**	**105**	*e*P	**Pn**	**20 32 31.3**	**0.0**
GUWA				eS	**Sn**	**20 33 41.8**	**-0.4**
JHNI	**Jhansi**	**6.29**	**248**	*e*P	**Pn**	**20 32 33.9**	**+1.4**
JHNI				eS	**Sn**	**20 33 39.0**	**-5.4**
JBP	**Jabalpur**	**6.57**	**225**	*ex*	Pb	20 32 46.9	-7.3
SMLA	**Simla**	**7.53**	**297**	*e*P	**Pn**	**20 32 50.8**	**+1.3**
SMLA				eS	**Sn**	**20 34 12.4**	**-2.5**
SMLA				IAML		20 34 18.3	
	comp=N,52nm,0.4s						
SMLA				IAML		20 34 20.0	
	comp=E,52nm,0.3s						
BHPL	**Bhopal**	**8.29**	**237**	*e*P	**Pn**	**20 33 01.9**	**+1.9**
BHPL				eS	**Sn**	**20 34 29.7**	**-4.0**
BHPL				IAML		20 34 34.1	
	comp=E,98nm,0.3s						
BHPL				IAML		20 34 35.4	
	comp=N,98nm,0.6s						
KOHI	**KOHIMA**	**8.42**	**103**	*e*P	**Pn**	**20 33 02.4**	**+0.5**
KOHI				eS	**Sn**	**20 34 33.1**	**-3.9**
KOHI				IAML		20 34 38.5	
	comp=E,32nm,1.1s						
KOHI				IAML		20 34 38.9	
	comp=N,23nm,0.9s						
CHCP	**Chirah Chowk**	**11.59**	**302**	P	**Pn**	**20 33 44.9**	**-0.3**
THW	**Thamme Wali**	**12.43**	**296**	P	**Pn**	**20 33 54.6**	**-2.1**
CEP	**Cherat**	**12.68**	**301**	P	**Pn**	**20 33 58.0**	**-2.2**
CMAR	**Chiang Mai Arr**	**15.90**	**123**	Pn	**P**	**20 34 46.6**	**-0.6**
	comp=N,0.3nm,0.3s,baz=313,slow=11,SNR=5.3						
WMQ	**Urumqi**	**15.99**	**7**	*e*P	**P**	**20 34 50.0**	**+1.8**
GTA	**Gaotai**	**16.79**	**43**	*e*P	**P**	**20 34 57.1**	**0.0**
GTA				pP	sP	20 35 01.8	-0.8
GTA				sP	pP	20 35 04.8	+3.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**16.97**	**333**	Pn	**Pn**	**20 34 58.0**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=170,slow=20,SNR=5.2						
MKAR	**Makanchi Array**	**18.94**	**354**	P	**Pn**	**20 35 21.4**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=178,slow=12,SNR=63						
KURBB	**Kurchatov Arra**	**23.18**	**349**	P	**P**	**20 36 05.5**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=166,slow=10,SNR=6.5						
SONM	**Songino Array**	**25.91**	**34**	P	**P**	**20 36 33.2**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=225,slow=9.2,SNR=20						
ZALV	**Zalesovo Beam**	**25.98**	**360**	P	**P**	**20 36 32.6**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=188,slow=9.6,SNR=10						
TIXI	**Tiksi**	**49.89**	**17**	P	**P**	**20 39 52.8**	**0.0**
	comp=Z,0.6nm,0.5s,baz=94,slow=23,SNR=4.7						
FINES	**FINESS Array B**	**51.09**	**328**	P	**P**	**20 40 02.2**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=104,slow=9.3,SNR=11						
ARCES	**ARCESS Array B**	**53.54**	**338**	P	**P**	**20 40 20.6**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=100,slow=7.8,SNR=11						
NOA	**NORSAR Array B**	**58.17**	**327**	P	**P**	**20 40 53.1**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=115,slow=5.3,SNR=1.5						
WRA	**Warramunga Arr**	**67.39**	**129**	P	**P**	**20 41 56.9**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=324,slow=6.2,SNR=2.7						
ASAR	**Alice Springs**	**69.68**	**133**	P	**P**	**20 42 10.9**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=317,slow=6.3,SNR=7.4						
TORD	**Torodi Ar. Bea**	**78.13**	**279**	P	**P**	**20 42 59.4**	**0.0**
	comp=Z,0.3nm,0.6s,baz=62,slow=3.7,SNR=2.2						
ILAR	**Eielson Array**	**79.21**	**20**	P	**P**	**20 43 03.0**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=314,slow=5.2,SNR=6.4						
YKA	**Yellowknife Ar**	**88.52**	**9**	P	**P**	**20 43 51.1**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=338,slow=4.7,SNR=8.6						

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*REN **23** 20:36:09.0±1.6, 36°.48N±0°.03×113°.96W±0°.03, h5km±7km, Error ellipse: s-maj=4.2km s-min=3.0km az=177.0*
NEIC 23 20:36:08.7±1.3, **36°.46N**±0°.02×**113°.98W**±0°.02, **h2**km±8km, **ML2.5**/50, **ML2.5**/6(REN), **Error ellipse: s-maj=3.9km s-min=1.0km az=207.0, Western Arizona**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.69**	**3**		Pg	20 36 22.1	+0.2
ICU					Sg	20 36 31.1	+0.3
LCMT	**Little Creek M**	**0.80**	**47**		Pg	20 36 24.1	0.0
LCMT					Sg	20 36 33.8	-0.8
LCMT				IAML		20 36 34.5	
	comp=E,240nm,0.2s						
LCMT				IAML		20 36 35.6	
	comp=N,199nm,0.1s						
SHPR	**Sheep Range**	**0.96**	**273**	Pg	Pg	20 36 26.6	-0.4
KNB	**Kanab**	**1.08**	**59**		Pg	20 36 29.2	-0.1
KNB				IAML		20 36 43.6	
	comp=N,148nm,0.5s						
KNB	**Kanab**	**1.08**	**59**		Sg	20 36 43.3	0.0
CCUT	**Cedar City**	**1.19**	**24**		Pg	20 36 31.3	-0.2
CCUT					Sg	20 36 45.9	-1.1
PRN	**Pahroc Range**	**1.28**	**318**		Pg	20 36 33.0	-0.1
SZCU	**Shurtz Canyon**	**1.34**	**32**		Pg	20 36 34.3	+0.1
U15A	**North Rim**	**1.36**	**91**		Pb	20 36 35.1	+0.2
U15A				IAML		20 36 53.1	
	comp=N,119nm,0.5s						
U15A				IAML		20 36 56.3	
	comp=E,132nm,0.7s						
W13A	**Hualapai Mount**	**1.36**	**177**	Pn	Pb	20 36 35.3	+0.4
PKCU	**Pink Cliffs**	**1.66**	**53**		Pb	20 36 39.8	-0.2
S11A	**Rachel**	**1.84**	**310**		Pb	20 36 42.3	-0.8
TPNV	**Topopah Spring**	**1.89**	**286**		Pn	20 36 41.8	-0.3
PSUT	**Pine Spring**	**2.07**	**3**		Pb	20 36 46.2	-0.8
PSUT				IAML		20 37 20.0	
	comp=E,22nm,0.5s						
MTPU	**Mount Pierson**	**2.13**	**42**		Pn	20 36 46.2	+0.7
MTPU				IAML		20 37 16.5	
	comp=N,46nm,0.6s						
MTPU				IAML		20 37 19.1	
	comp=E,39nm,0.4s						
GWY	**Greenwater Val**	**2.19**	**264**		Pn	20 36 47.0	+0.8
GWY				IAML		20 36 60.0	
	comp=E,23nm,0.5s						
R11A	**Troy Canyon, C**	**2.28**	**326**		Pn	20 36 46.8	-0.7
R11A				IAML		20 37 22.1	
	comp=E,20nm,0.3s						
R11A				IAML		20 37 22.6	
	comp=N,18nm,0.3s						
QSM	**Queen of Sheba**	**2.39**	**259**		Pn	20 36 49.6	+0.8
QSM				IAML		20 37 30.7	
	comp=E,16nm,1.9s						
Y14A	**Wickenburg**	**2.64**	**162**	Pn	Pn	20 36 53.3	+1.1
Y14A				IAML		20 37 36.0	
	comp=N,16nm,0.6s						
Y14A				IAML		20 37 38.2	
	comp=E,14nm,0.5s						
GRAC	**Grapevine Rang**	**2.77**	**282**		Pn	20 36 54.5	+0.4
GRAC				IAML		20 37 39.5	
	comp=N,26nm,0.7s						
GRAC				IAML		20 38 13.2	
	comp=E,23nm,1.9s						
LCH	**Last Change Ra**	**3.04**	**286**		Pn	20 36 57.5	-0.4
TPH	**Tonopah**	**3.05**	**303**		Pn	20 36 58.2	+0.2
NVAR	**Mina Array Bea**	**3.96**	**301**	Pn	Pn	20 37 09.8	-0.9
LHV	**Little Huntoon**	**4.03**	**298**		Pn	20 37 11.3	+0.1
LHV				IAML		20 38 53.1	
	comp=N,11nm,4.8s						

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*IDC **23** 20:37:33.3±26.0, 19°.48S×177°.95W, h337km±274km, mb3.3/6, mb1 3.6/6, mb1mx3.2/23, mbtmp4.0/6, Error ellipse: s-maj=127.9km s-min=50.6km az=174.0*
*NEIC **23** 20:37:48.2±0.8, 20°.2S±0°.1×177°.8W±0°.2, h522km±8km, mb4.2/21, Error ellipse: s-maj=25.6km s-min=14.8km az=127.0*
ISC 23 20:37:51.3±0.9, **20°.3S**±0°.2×**178°.0W**±0°.1, **h550**km, **n31, s076/31, mb4.0/15, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**13.72**	**258**		**P**	**20 40 46.8**	**-0.9**
DZM	**Mont Dzumac**	**14.59**	**260**	P	**P**	**20 40 56.5**	**-0.3**
KOUNC	**Koumac, New Ca**	**16.58**	**266**	P	**P**	**20 41 17.2**	**+0.8**
KOUNC				IAmb	IAmb	20 41 18.7	
	comp=Z,10nm,0.9s						
OUZ	**Omahuta**	**16.61**	**205**	P	**P**	**20 41 15.8**	**-0.6**
OUZ				IAmb	IAmb	20 41 36.8	
	comp=Z,6.6nm,1.0s						
BKZ	**Black Stump Fm**	**19.40**	**193**	P	**P**	**20 41 40.1**	**-1.7**
ARMA	**Armidale**	**29.14**	**244**	P	**P**	**20 43 08.9**	**+0.4**
CTAO	**Charters Tower**	**33.48**	**264**	P	**P**	**20 43 45.6**	**0.0**
CTAO				IAmb	IAmb	20 43 54.5	
	comp=Z,6.5nm,0.9s						
TOO	**Toolangi**	**36.00**	**233**	P	**P**	**20 44 06.1**	**-0.3**
TOO				IAmb	IAmb	20 44 07.4	
	comp=Z,5.1nm,0.9s						
COEN	**Coen**	**37.54**	**273**	P	**P**	**20 44 19.3**	**0.0**
COEN				IAmb	IAmb	20 44 28.2	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**37.86**	**244**	P	**P**	**20 44 22.1**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=87,slow=11,SNR=6.2						
STKA	**Stephens Creek**	**37.86**	**244**	P	**P**	**20 44 21.9**	**+0.2**
BBOO	**Buckleboo**	**42.62**	**243**	P	**P**	**20 44 59.1**	**-0.6**
BBOO				IAmb	IAmb	20 45 16.5	
	comp=Z,9.2nm,1.1s						
WR0	**Warramunga Arr**	**44.41**	**262**	P	**P**	**20 45 13.6**	**-0.2**
AS31	**Alice Springs**	**44.54**	**257**	P	**P**	**20 45 15.1**	**+0.3**
ASAR	**Alice Springs**	**44.54**	**257**	P	**P**	**20 45 15.0**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=96,slow=7.6,SNR=88						
ASAR	**Alice Springs**	**44.54**	**257**	P	**P**	**20 45 14.5**	**-0.3**
WB0	**Warramunga Arr**	**44.58**	**262**	P	**P**	**20 45 15.1**	**-0.1**
WB0				IAmb	IAmb	20 45 15.4	
	comp=Z,4.5nm,0.6s						
WB2	**Warramunga Arr**	**44.59**	**262**	P	**P**	**20 45 15.0**	**-0.2**
WB2				IAmb	IAmb	20 45 15.6	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**44.60**	**262**	P	**P**	**20 45 15.1**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=97,slow=7.8,SNR=58						
WRA	**Warramunga Arr**	**44.60**	**262**	P	**P**	**20 45 14.8**	**-0.5**
MTN	**Manton Dam**	**49.13**	**270**	P	**P**	**20 45 49.0**	**-0.5**
KNRA	**Kununurra**	**50.65**	**266**	P	**P**	**20 46 00.5**	**0.0**
FITZ	**Fitzroy Crossi**	**53.03**	**262**	P	**P**	**20 46 18.1**	**+0.5**
MBWA	**Marble Bar**	**57.87**	**257**	P	**P**	**20 46 51.4**	**+0.1**
MBWA				IAmb	IAmb	20 46 52.3	
	comp=Z,5.3nm,1.1s						
MORW	**Morawa**	**59.88**	**248**	P	**P**	**20 47 04.6**	**-0.1**
MORW				IAmb	IAmb	20 47 25.8	
	comp=Z,6.3nm,1.1s						
QSPA	**South Pole Qui**	**69.78**	**180**	P	**P**	**20 48 07.8**	**+1.4**
QSPA				IAmb	IAmb	20 48 10.2	
	comp=Z,8.0nm,1.5s						
P18K	**Big Mountain,**	**81.57**	**12**	P	**P**	**20 49 10.1**	**-1.4**
TXAR	**Lajitas Array**	**86.97**	**57**	P	**P**	**20 49 39.1**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=220,slow=7.5,SNR=3.9						
IMAR	**Indian Mountai**	**87.95**	**10**	P	**P**	**20 49 41.9**	**-0.5**
ILAR	**Eielson Array**	**88.11**	**13**	P	**P**	**20 49 41.7**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=219,slow=5.3,SNR=2.1						
CMAR	**Chiang Mai Arr**	**90.02**	**290**	P	**P**	**20 49 54.8**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=106,slow=3.1,SNR=3.5						

IDC 23 20:45:54.6±4.0, **10°.96S**×**165°.87E**, **h70**km±36km, **mb3.3/3, mb1 3.8/5, mb1mx3.3/27, mbtmp3.9/5, ML4.3/2, Error ellipse: s-maj=37.3km s-min=33.5km az=134.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.03**	**284**	P	Pn	20 47 21.4	+0.2
	19nm,0.3s,baz=319,slow=2.5,SNR=6.0						
DZM	**Mont Dzumac**	**11.06**	**177**	P	Pn	20 48 29.9	-0.2
	0.9nm,0.3s,baz=8.2,slow=5.3,SNR=24						
WRA	**Warramunga Arr**	**31.63**	**250**	P	P	20 52 11.4	+0.1
	1.1nm,0.8s,baz=80,slow=8.8,SNR=7.7						
ASAR	**Alice Springs**	**32.94**	**243**	P	P	20 52 22.5	-0.3
	0.3nm,0.7s,baz=66,slow=10,SNR=5.7						
ILAR	**Eielson Array**	**83.39**	**18**	P	P	20 58 13.9	+0.1
	0.5nm,0.8s,baz=232,slow=5.2,SNR=6.1						

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*GCG **23** 20:47:38.5±0.8, 16°.36N×89°.22W, h35km±806km, MD3.8*
*SNET **23** 20:47:40.0±1.1, 12°.86N×89°.59W, h19km±4km, ML3.6*
*UCR **23** 20:47:40.1±1.2, 12°.86N×89°.59W, h19km±4km, ML3.6*
ISC 23 20:47:40.2±2.3, **12°.86N**±0°.08×**89°.58W**±0°.04, **h19**km±4km, **n47, s050/73, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.67**	**22**	*e*P	**Pb**	**20 47 52.1**	**-1.1**
LALI				eS	**Sg**	**20 48 03.0**	**+0.5**
LALI	**Alcalda de L**	**0.67**	**22**	*e*P	**Pb**	**20 47 52.1**	**-1.1**
LALI				eS	**Sg**	**20 48 03.0**	**+0.5**
SNET	**Serv Nac Est T**	**0.89**	**22**	eS	**Sg**	**20 48 09.4**	**+0.1**
SNET				IAML		20 48 11.6	
	comp=Z,1μm,0.2s						
SNET	**Serv Nac Est T**	**0.89**	**22**	eS	**Sg**	**20 48 09.4**	**+0.1**
SNET				IAML		20 48 11.6	
	comp=Z,1μm,0.2s						
LFRS	**El Faro**	**0.91**	**34**	*e*P	**Pb**	**20 47 57.4**	**0.0**
LFRS	**El Faro**	**0.91**	**34**	*e*P	**Pb**	**20 47 57.4**	**0.0**
UEES	**Universidad Ev**	**0.91**	**21**	*e*P	**Pb**	**20 47 57.1**	**-0.4**
UEES				eS	**Sb**	**20 48 09.5**	**+0.2**
UEES	**Universidad Ev**	**0.91**	**21**	*e*P	**Pb**	**20 47 57.1**	**-0.4**
UEES				eS	**Sb**	**20 48 09.5**	**+0.2**
BOQS	**Boqueron**	**0.91**	**18**	*e*P	**Pb**	**20 47 57.3**	**-0.3**
BOQS				eS	**Sn**	**20 48 11.7**	**+0.6**
BOQS	**Boqueron**	**0.91**	**18**	*e*P	**Pb**	**20 47 57.3**	**-0.3**
BOQS				eS	**Sn**	**20 48 11.7**	**+0.6**
SJTE	**Alcalda de S**	**0.93**	**37**	*e*P	**Pb**	**20 47 57.4**	**-0.4**
SJTE				eS	**Sb**	**20 48 09.8**	**0.0**
SJTE	**Alcalda de S**	**0.93**	**37**	*e*P	**Pb**	**20 47 57.4**	**-0.4**
SJTE				eS	**Sb**	**20 48 09.8**	**0.0**
CEVE	**Cerro Verde**	**0.96**	**357**	*e*P	**Pb**	**20 47 58.0**	**-0.4**
CEVE				eS	**Sn**	**20 48 12.0**	**-0.2**
CEVE				IAML		20 48 14.5	
	comp=Z,3μm,0.3s						
CEVE	**Cerro Verde**	**0.96**	**357**	*e*P	**Pb**	**20 47 58.0**	**-0.4**
CEVE				eS	**Sn**	**20 48 12.0**	**-0.2**
CEVE				IAML		20 48 14.5	
	comp=Z,3μm,0.3s						
SBLS	**San Blas**	**0.97**	**357**	*e*P	**Pb**	**20 47 57.7**	**-0.9**
SBLS	**San Blas**	**0.97**	**357**	*e*P	**Pb**	**20 47 57.7**	**-0.9**
LFU	**La Fuente**	**0.99**	**27**	*e*P	**Pn**	**20 47 58.9**	**-0.3**
LFU	**La Fuente**	**0.99**	**27**	*e*P	**Pn**	**20 47 58.9**	**-0.3**
SNJE	**San Jose**	**1.00**	**358**	*e*P	**Pb**	**20 47 58.4**	**-0.7**
SNJE	**San Jose**	**1.00**	**358**	*e*P	**Pb**	**20 47 58.4**	**-0.7**
COEG	**Centro de Oper**	**1.01**	**42**	*i* P	**Pb**	**20 47 58.8**	**-0.4**
COEG				eS	**Sn**	**20 48 13.2**	**-0.1**
COEG	**Centro de Oper**	**1.01**	**42**	*i* P	**Pb**	**20 47 58.8**	**-0.4**
COEG				eS	**Sn**	**20 48 13.2**	**-0.1**
RTR	**El Retiro**	**1.03**	**356**	*e*P	**Pb**	**20 47 59.1**	**-0.4**
RTR	**El Retiro**	**1.03**	**356**	*e*P	**Pb**	**20 47 59.1**	**-0.4**
PAVA	**Las Pavas**	**1.05**	**36**	*e*P	**Pb**	**20 47 59.7**	**-0.2**
PAVA				eS	**Sg**	**20 48 14.8**	**+0.3**
PAVA	**Las Pavas**	**1.05**	**36**	*e*P	**Pb**	**20 47 59.7**	**-0.2**
PAVA				eS	**Sg**	**20 48 14.8**	**+0.3**
NUBE	**Las Nubes**	**1.05**	**349**	*e*P	**Pb**	**20 47 58.6**	**-1.3**
NUBE				eS	**Sb**	**20 48 13.3**	**-0.1**
NUBE	**Las Nubes**	**1.05**	**349**	*e*P	**Pb**	**20 47 58.6**	**-1.3**
NUBE				eS	**Sb**	**20 48 13.3**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.17**	**350**	*e*P	**Pb**	**20 48 01.6**	**-0.4**
SLOZ				eS	**Sn**	**20 48 17.2**	**0.0**
SCLA	**Alcaldia de Sa**	**1.17**	**45**	*e*P	**Pn**	**20 48 01.4**	**-0.2**
SCLA				eS	**Sg**	**20 48 18.2**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.17**	**45**	*e*P	**Pn**	**20 48 01.4**	**-0.2**
SCLA				eS	**Sg**	**20 48 18.2**	**-0.1**
COEB	**Comit de Eme**	**1.20**	**58**	*e*P	**Pn**	**20 48 01.6**	**-0.5**
COEB				eS	**Sn**	**20 48 18.6**	**+0.7**
COEB	**Comit de Eme**	**1.20**	**58**	*e*P	**Pn**	**20 48 01.6**	**-0.5**
COEB				eS	**Sn**	**20 48 18.6**	**+0.7**
PQSS	**Presa 15 de Se**	**1.25**	**53**	*i* P	**Pn**	**20 48 02.5**	**-0.2**
PQSS	**Presa 15 de Se**	**1.25**	**53**	*i* P	**Pn**	**20 48 02.5**	**-0.2**
PACA	**Pacayal**	**1.36**	**64**	*e*P	**Pn**	**20 48 03.9**	**-0.5**
PACA	**Pacayal**	**1.36**	**64**	*e*P	**Pn**	**20 48 03.9**	**-0.5**
VSM	**San Miguel**	**1.39**	**66**	*e*P	**Pn**	**20 48 04.7**	**-0.1**
VSM	**San Miguel**	**1.39**	**66**	*e*P	**Pn**	**20 48 04.7**	**-0.1**
MTO3	**Montecristo**	**1.54**	**8**	*e*P	**Pn**	**20 48 06.8**	**-0.1**
MTO3				eS	**Sb**	**20 48 27.9**	**+0.4**
MTO3	**Montecristo**	**1.54**	**8**	*e*P	**Pn**	**20 48 06.8**	**-0.1**
MTO3				eS	**Sb**	**20 48 27.9**	**+0.4**
ESQI	**Esquipulas**	**1.70**	**8**	*e*P	**Pn**	**20 48 09.5**	**+0.5**
ESQI				eS	**Sb**	**20 48 32.0**	**-0.1**
LCND	**La Caada**	**1.70**	**75**	*e*P	**Pn**	**20 48 09.2**	**+0.3**
LCND	**La Caada**	**1.70**	**75**	*e*P	**Pn**	**20 48 09.2**	**+0.3**
NBG	**Las Nubes**

n191,σ1⁰16/197, mb4.3/56, 1C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.18**	**130**	P	**Pn**	**21 03 07.8**	**-0.6**
JAMN				S	**Sn**	**21 03 15.1**	**-1.1**
JAM	**Amami Oshima**	**0.52**	**84**	P	**Pn**	**21 03 10.2**	**-0.6**
JAM				S	**Sn**	**21 03 19.1**	**-1.4**
JTK	**Tokunoshima**	**0.57**	**186**	P	**Pn**	**21 03 11.3**	**-0.1**
JTK				S	**Sn**	**21 03 21.1**	**-0.4**
JTAJ	**Takarajima**	**0.81**	**11**	P	**Pn**	**21 03 13.2**	**-0.7**
JTAJ				*e*S	**Sn**	**21 03 24.6**	**-1.4**
JZK	**Kikaishima**	**0.84**	**93**	P	**Pn**	**21 03 15.7**	**+1.4**
JZK				S	**Sn**	**21 03 29.8**	**+3.1**
JOKE	**Okinoerabujima**	**1.07**	**202**	P	**Pn**	**21 03 17.6**	**+0.4**
JOKE				*e*S	**Sn**	**21 03 31.9**	**+0.2**
JYRO	**Yoronjima**	**1.42**	**201**	P	**Pn**	**21 03 22.3**	**+0.7**
JYRO				*e*S	**Sn**	**21 03 40.0**	**+0.3**
JIH	**Iheya**	**1.62**	**216**	P	**Pn**	**21 03 24.8**	**+0.6**
JIH				S	**Sn**	**21 03 44.5**	**+0.2**
JNN	**Nakanoshima**	**1.66**	**27**	P	**Pn**	**21 03 24.5**	**-0.3**
JNN				*e*S	**Sn**	**21 03 44.5**	**-0.8**
JOW	**Kunigami**	**1.66**	**204**	P	**Pn**	**21 03 25.4**	**+0.5**
	156nm,0.3s,baz=98,slow=21,SNR=562						
JOW				S	**Sn**	**21 03 45.3**	**0.0**
	220nm,0.3s,baz=155,slow=27,SNR=15						
JOW				LR	LR	21 04 25.3	
	comp=Z,204nm,18.1s,baz=118,slow=52						
JOW	**Kunigami**	**1.66**	**204**	P	**Pn**	**21 03 25.3**	**+0.5**
JOW				S	**Sn**	**21 03 45.9**	**+0.6**
JSU	**Suzuyama**	**3.37**	**21**	Pn	**Pn**	**21 03 48.9**	**+0.9**
JNU	**Nakatsue**	**5.01**	**18**	P	**Pn**	**21 04 12.6**	**+2.3**
	7.0nm,0.3s,baz=178,slow=5.5,SNR=54						
JNU				S	**Sn**	**21 05 05.4**	**-1.5**
	3.8nm,0.3s,baz=205,slow=7.7,SNR=7.6						
JNU	**Nakatsue**	**5.01**	**18**		**Pn**	**21 04 11.9**	**+1.6**
JTU	**Tsushima**	**6.16**	**3**		**Pn**	**21 04 27.9**	**+1.9**
YOJ	**Yonaguni jima**	**6.64**	**236**	Pn	**Pn**	**21 04 31.7**	**-0.9**
JHS	**Saijyo**	**7.48**	**27**	Pn	**Pn**	**21 04 44.8**	**+0.7**
YHNB	**Yeheng**	**7.77**	**244**		**Pn**	**21 04 49.2**	**+1.1**
NACB	**Ninganchiao**	**7.86**	**240**	Pn	**Pn**	**21 04 47.7**	**-1.6**
TJN	**Taejon**	**8.12**	**350**	Pn	**Pn**	**21 04 53.4**	**+0.7**
SSLB	**Suanglung**	**8.56**	**240**		**Pn**	**21 04 57.4**	**-1.5**
TPUB	**Ta-pu**	**9.08**	**238**	Pn	**Pn**	**21 05 04.5**	**-1.5**
KSAR	**Wonju Array Be**	**9.11**	**354**	Pn	**Pn**	**21 05 07.2**	**+0.9**
KSRS	**Korea Array**	**9.12**	**354**	P	**Pn**	**21 05 09.1**	**+2.7**
	0.8nm,0.3s,baz=176,slow=14,SNR=29						
KSRS				LR	LR	21 08 44.0	
	comp=Z,56nm,18.9s,baz=175,slow=38						
KS19	**Wonju Array Si**	**9.17**	**354**		**Pn**	**21 05 08.5**	**+1.4**
NJ2	**Nanjing**	**9.53**	**295**	*e*P	**Pn**	**21 05 14.3**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
INU	**Inuyama**	**9.73**	**42**	Pn	**Pn**	**21 05 16.2**	**+1.4**
JGF	**Kuroka**	**10.11**	**42**	Pn	**Pn**	**21 05 21.9**	**+1.9**
MAJO	**Matsushiro**	**11.25**	**41**	Pn	**Pn**	**21 05 37.7**	**+2.1**
MJAR	**Matsushiro Arr**	**11.26**	**41**	P	**Pn**	**21 05 39.0**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=236,slow=13,SNR=9.3						
MJB9	**Matsu-Tunnel**	**11.26**	**41**	Pn	**Pn**	**21 05 37.4**	**+1.8**
JCJ	**Chichijima**	**11.73**	**93**	P	**Pn**	**21 05 40.9**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=292,slow=19,SNR=1.6						
JCJ	**Chichijima**	**11.73**	**93**	Pn	**Pn**	**21 05 41.5**	**-0.7**
JMM	**Marumori**	**13.67**	**43**	Pn	**Pn**	**21 06 09.1**	**+0.9**
LYN	**LuoYang**	**15.41**	**298**	*e*P	**P**	**21 06 36.4**	**+2.5**
CN2	**Changchun**	**15.68**	**350**	*e*P	**P**	**21 06 40.4**	**+3.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJT	**Baijiatuau**	**15.74**	**321**	P	**P**	**21 06 39.4**	**+1.8**
BJI	**Beijing**	**15.75**	**321**	P	**P**	**21 06 36.5**	**-1.1**
BJI				sP	**sP**	**21 07 00.6**	**-0.3**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**15.99**	**8**	LR	LR	21 12 19.9	
	comp=Z,52nm,21.0s,baz=220,slow=35						
BNX	**BinXian**	**17.40**	**356**	⇑P	**P**	**21 06 58.1**	**+2.3**
BNX				pmax	pmax		
	comp=Z,12nm,0.9s						
BNX				pmax	pmax		
	comp=Z,100nm,6.6s						
XAN	**Xi'an**	**18.09**	**293**	P	**Pn**	**21 07 05.5**	**+1.4**
XAN				pP	pP	21 07 12.3	-5.6
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XLT	**XiLinHaoTe**	**18.66**	**330**	*e*P	**Pn**	**21 07 13.1**	**+2.1**
XLT				pP	pP	21 07 26.1	+1.8
XLT				sP	sP	21 07 36.3	+3.1
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,190nm,5.6s						
HHC	**Hu-ho-hao-te**	**18.98**	**316**	*e*P	**Pn**	**21 07 17.0**	**+2.3**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,4.6s						
ASAJ	**Asahikawa**	**19.12**	**31**	P	**P**	**21 07 13.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=128,slow=19,SNR=1.4						
ASAJ				LR	LR	21 14 02.7	
	comp=Z,20nm,20.9s,baz=301,slow=35						
JKA	**Kamikawa-asahi**	**19.12**	**31**	P	**P**	**21 07 14.9**	**+0.2**
JKA				IAmb	IAmb	21 07 25.0	
	comp=Z,22nm,1.2s						
GUMO	**Guam**	**20.82**	**132**	LR	LR	21 14 37.2	
	comp=Z,26nm,21.5s,baz=126,slow=34						
KLR	**Kul'dur**	**20.95**	**5**	P	**P**	**21 07 32.2**	**-2.3**
	comp=Z,1.0nm,0.5s,baz=202,slow=10,SNR=7.6						
KLR				LR	LR	21 15 03.0	
	comp=Z,21nm,19.3s,baz=208,slow=35						
DAV	**Davao City (W)**	**21.42**	**189**	LR	LR	21 16 51.9	
	comp=Z,17nm,18.4s,baz=320,slow=39						
YSS	**Yuzh-Sakhalins**	**21.45**	**26**	P	**P**	**21 07 41.2**	**+1.3**
YSS				IAmb	IAmb	21 08 02.2	
	comp=Z,38nm,1.5s						
LZH	**Lanzhou**	**22.61**	**296**	*e*P	**P**	**21 07 52.3**	**-0.3**
LZH				pP	pP	21 07 59.8	-7.6
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
PZH	**PanZhiHua**	**24.27**	**272**	P	**P**	**21 08 09.3**	**+1.0**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.2s						
ULN	**Ulaanbaatar**	**25.88**	**325**	P	**P**	**21 08 24.1**	**+1.3**
SONM	**Songino Array**	**26.20**	**324**	P	**P**	**21 08 26.3**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=141,slow=11,SNR=15						
SONM	**Songino Array**	**26.20**	**324**	P	**P**	**21 08 26.5**	**+0.9**
GTA	**Gaotai**	**26.52**	**302**	*e*P	**P**	**21 08 29.6**	**+0.9**
GTA				pP	pP	21 08 35.9	-9.4
GTA				sP	sP	21 08 39.3	-14
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PETK	**Petropavlovsk-**	**32.53**	**33**	LR	LR	21 24 31.3	
	comp=Z,19nm,20.3s,baz=210,slow=40						
MA2	**Magadan**	**34.58**	**19**	LR	LR	21 24 25.5	
	comp=Z,17nm,18.4s,baz=240,slow=37						
WMQ	**Urumqi**	**36.38**	**306**	*e*P	**P**	**21 09 57.5**	**+2.5**
WMQ				pmax	pmax		
	comp=Z,29nm,0.7s						
SEY	**Seymchan**	**37.79**	**17**	LR	LR	21 26 43.6	
	comp=Z,29nm,19.8s,baz=336,slow=38						
MK31	**Makanchi Array**	**40.68**	**310**	P	**P**	**21 10 31.1**	**+0.1**
MKAR	**Makanchi Array**	**40.68**	**310**	P	**P**	**21 10 29.2**	**-1.8**
	comp=Z,2.2nm,0.8s,baz=96,slow=10,SNR=34						
MKAR	**Makanchi Array**	**40.68**	**310**	P	**P**	**21 10 31.2**	**+0.2**
MAKZ	**Makanchi**	**40.89**	**310**	P	**P**	**21 10 33.0**	**+0.3**
ZAA0	**Zalesovo Array**	**41.01**	**321**	P	**P**	**21 10 33.2**	**-0.3**
ZALV	**Zalesovo Beam**	**41.01**	**321**	P	**P**	**21 10 33.0**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=106,slow=9.1,SNR=12						
MTN	**Manton Dam**	**41.01**	**177**	P	**P**	**21 10 32.0**	**-1.8**
TARG	**Taragay, Kyrgy**	**43.40**	**302**	P	**P**	**21 10 54.8**	**+1.1**
TARG				IAmb	IAmb	21 10 56.0	
	comp=Z,3.8nm,0.6s						
KURK	**Kurchatov**	**43.79**	**315**	P	**P**	**21 10 56.1**	**0.0**
KURK				IAmb	IAmb	21 10 56.9	
	comp=Z,2.8nm,0.6s						
KURBB	**Kurchatov Arra**	**43.83**	**315**	P	**P**	**21 10 54.2**	**-2.2**
	comp=Z,2.8nm,0.6s,baz=101,slow=9.0,SNR=33						
KDJ	**Kajisay**	**43.87**	**302**	P	**P**	**21 10 57.7**	**+0.5**
BOOM	**Boomskoye usch**	**44.80**	**303**	P	**P**	**21 11 04.9**	**+0.3**
KSH	**Kashi**	**44.82**	**299**	P	P	21 11 12.8	+8.1
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL	**Bilibino**	**45.44**	**19**	P	**P**	**21 11 08.4**	**-0.6**
BILL				IAmb	IAmb	21 11 09.7	
	comp=Z,3.4nm,0.6s						
AAK	**Ala-Archa**	**45.87**	**303**	P	**P**	**21 11 13.6**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=119,slow=9.5,SNR=6.3						
AAK	**Ala-Archa**	**45.87**	**303**	P	**P**	**21 11 13.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**46.30**	**184**	P	**P**	**21 11 15.6**	**-0.7**
WB0	**Warramunga Arr**	**48.12**	**173**	P	**P**	**21 11 30.2**	**-0.3**
WB0				IAmb	IAmb	21 11 46.5	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**48.29**	**173**	P	**P**	**21 11 31.9**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=353,slow=8.2,SNR=15						
KK31	**Karatay Array**	**48.78**	**304**	P	**P**	**21 11 35.9**	**+0.5**
KK31				IAmb	IAmb	21 11 36.9	
	comp=Z,1.9nm,0.6s						
KKAR	**Karatay Array**	**48.78**	**304**	P	**P**	**21 11 35.8**	**+0.4**
GAR	**Garm**	**49.24**	**298**	P	**P**	**21 11 39.5**	**+0.4**
GAR				IAmb	IAmb	21 11 40.3	
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**49.25**	**317**	P	**P**	**21 11 39.2**	**+0.4**
BRVK				IAmb	IAmb	21 11 40.4	
	comp=Z,2.3nm,0.7s						
CHGR	**Chuyangaron**	**50.18**	**298**	P	**P**	**21 11 45.8**	**-0.4**
AS31	**Alice Springs**	**51.94**	**174**	P	**P**	**21 11 59.1**	**-0.2**
ASAR	**Alice Springs**	**51.94**	**174**	P	**P**	**21 12 00.1**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=7.0,slow=13,SNR=18						
ASAR	**Alice Springs**	**51.94**	**174**	P	**P**	**21 11 59.4**	**0.0**
ABKAR	**Akbulak array**	**55.72**	**312**	P	**P**	**21 12 26.8**	**+0.1**
ABKAR	**Akbulak array**	**55.72**	**312**	P	**P**	**21 12 26.2**	**-0.5**
N18K	**Kilae Creek**	**58.47**	**34**	P	**P**	**21 12 46.6**	**+0.6**
SVW2	**Sparrevohn**	**58.60**	**33**	P	**P**	**21 12 47.6**	**+0.8**
P18K	**Big Mountain,**	**58.87**	**35**	P	**P**	**21 12 49.0**	**+0.2**
	baz=274						
M19K	**Big River Lodg**	**59.14**	**32**	P	**P**	**21 12 51.5**	**+1.0**
	baz=273						
J20K	**Nowinta River**	**59.16**	**30**	P	**P**	**21 12 51.6**	**+1.1**
J20K	**Nowinta River**	**59.16**	**30**	P	**P**	**21 12 51.8**	**+1.2**
	baz=272,SNR=7.8						
K20K	**Telida**	**59.22**	**31**	P	**P**	**21 12 52.0**	**+0.9**
K20K				IAmb	IAmb	21 12 53.0	
	comp=Z,4.3nm,0.8s						
K20K	**Telida**	**59.22**	**31**	P	**P**	**21 12 52.3**	**+1.2**
	baz=272						
IMAR	**Indian Mountai**	**59.28**	**28**	P	**P**	**21 12 51.6**	**+0.2**
L20K	**Farewell, AK**	**59.35**	**32**	P	**P**	**21 12 52.8**	**+0.8**
	baz=273						
H21K	**Melozitna Rive**	**59.68**	**28**	P	**P**	**21 12 54.7**	**+0.5**
H21K				IAmb	IAmb	21 12 56.4	
	comp=Z,3.4nm,0.8s						
H21K	**Melozitna Rive**	**59.68**	**28**	P	**P**	**21 12 55.3**	**+1.1**
	baz=272						
CHUM	**Lake Minchumin**	**59.97**	**30**	P	**P**	**21 12 57.4**	**+1.2**
	baz=274,SNR=5.8						
I21K	**Tanana**	**60.04**	**29**	P	**P**	**21 12 58.0**	**+1.3**
	baz=273						
PPLA	**Purkeypile**	**60.10**	**31**	P	**P**	**21 12 58.4**	**+1.1**
	baz=274						
CAST	**Castle Rocks**	**60.11**	**31**	P	**P**	**21 12 58.0**	**+0.8**
CAST				IAmb	IAmb	21 12 59.3	
	comp=Z,6.2nm,1.0s						
CAST	**Castle Rocks**	**60.11**	**31**	P	**P**	**21 12 58.1**	**+0.8**
	baz=274,SNR=6.0						
KDAK	**Kodiak Island**	**60.40**	**37**	P	**P**	**21 12 59.2**	**0.0**
BPAW	**Bear Paw Mtn.**	**60.54**	**30**	P	**P**	**21 13 01.1**	**+0.9**
BPAW				IAmb	IAmb	21 13 02.3	
	comp=Z,7.8nm,1.3s						
BPAW	**Bear Paw Mtn.**	**60.54**	**30**	P	**P**	**21 13 00.9**	**+0.8**
	baz=275						
H23K	**Yukon River**	**61.01**	**28**	P	**P**	**21 13 04.7**	**+1.5**
H23K	**Yukon River**	**61.01**	**28**	P	**P**	**21 13 04.8**	**+1.5**
	baz=275,SNR=12						
STKA	**Stephens Creek**	**61.09**	**168**	P	**P**	**21 13 03.7**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=322,slow=9.3,SNR=3.7						
STKA	**Stephens Creek**	**61.09**	**168**	P	**P**	**21 13 03.6**	**-0.5**
I23K	**Minto, Yukon-K**	**61.15**	**29**	P	**P**	**21 13 05.0**	**+0.8**
I23K				IAmb	IAmb	21 13 05.7	
	comp=Z,5.8nm,1.2s						
I23K	**Minto, Yukon-K**	**61.15**	**29**	P	**P**	**21 13 04.9**	**+0.8**
	baz=275						
M22K	**Willow**	**61.17**	**32**	P	**P**	**21 13 04.3**	**0.0**
	baz=277						
NEA2	**Nenana**	**61.33**	**29**	P	**P**	**21 13 06.0**	**+0.6**
NEA2	**Nenana**	**61.33**	**29**	P	**P**	**21 13 06.1**	**+0.7**
	baz=276,SNR=10						
MCK	**McKinley**	**61.48**	**30**	P	**P**	**21 13 06.6**	**+0.1**
MCK	**McKinley**	**61.48**	**30**	P	**P**	**21 13 06.8**	**+0.2**
	baz=277						
RND	**Reindeer**	**61.56**	**30**	P	**P**	**21 13 07.1**	**0.0**
MDM	**Murphy Dome**	**61.65**	**29**	P	**P**	**21 13 08.3**	**+0.7**
H24K	**Noodor Dome**	**61.69**	**28**	P	**P**	**21 13 09.0**	**+1.1**
H24K				IAmb	IAmb	21 13 09.9	
	comp=Z,3.6nm,0.7s						
H24K	**Noodor Dome**	**61.69**	**28**	P	**P**	**21 13 09.1**	**+1.2**
	baz=276,SNR=5.6						
POKR	**Poker Plat Res**	**61.96**	**28**	P	**P**	**21 13 10.9**	**+1.2**
	baz=277						
WAT6	**Susitna Watana**	**62.17**	**31**	P	**P**	**21 13 11.1**	**-0.2**
	baz=278						
IL31		**62.24**	**29**	P	**P**	**21 13 11.6**	**+0.2**
IL31				IAmb	IAmb	21 13 13.2	
	comp=Z,2.4nm,0.7s						
ILAR	**Eielson Array**	**62.24**	**29**	P	**P**	**21 13 10.3**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=274,slow=6.2,SNR=26						
DHY	**Denali Highway**	**62.26**	**31**	P	**P**	**21 13 11.7**	**-0.2**
	baz=278						
BMAR	**Burnt Mountain**	**62.79**	**26**	P	**P**	**21 13 16.6**	**+1.3**
K24K	**Donnelly Dome**	**62.86**	**30**	P	**P**	**21 13 15.8**	**0.0**
	baz=279						
J25K	**Salcha River,**	**62.91**	**29**	P	**P**	**21 13 15.0**	**-1.1**
	baz=279						
RIDG	**Independent Ri**	**63.28**	**30**	P	**P**	**21 13 18.1**	**-0.5**
	baz=280						
SCRK	**Sand Creek**	**63.61**	**29**	P	**P**	**21 13 20.7**	**-0.1**
	baz=281,SNR=5.6						
J26L	**Joseph Creek**	**63.69**	**29**	P	**P**	**21 13 21.1**	**-0.2**
	baz=281,SNR=5.5						
L26K	**Log Cabin Wild**	**64.08**	**30**	P	**P**	**21 13 23.5**	**-0.3**
	baz=282						
M26K	**Nabesna, AK**	**64.37**	**31**	P	**P**	**21 13 26.4**	**+0.7**
M26K				IAmb	IAmb	21 13 27.1	
	comp=Z,7.2nm,1.0s						
M26K	**Nabesna, AK**	**64.37**	**31**	P	**P**	**21 13 26.4**	**+0.7**
	baz=282,SNR=5.6						
EGAK	**Eagle**	**64.65**	**28**	P	**P**	**21 13 27.5**	**0.0**
EGAK				IAmb	IAmb	21 13 30.5	
	comp=Z,8.8nm,1.4s						
EGAK	**Eagle**	**64.65**	**28**	P	**P**	**21 13 27.6**	**+0.2**
	baz=283						
L27K	**Beaver Creek,**	**64.75**	**30**	P	**P**	**21 13 28.9**	**+0.7**
	baz=283						
BCAR	**Beaver Creek A**	**64.77**	**30**	P	**P**	**21 13 28.8**	**+0.5**
M27K	**Edge Creek, AK**	**64.89**	**31**	P	**P**	**21 13 29.8**	**+0.6**
	baz=283						
DAWY	**Dawson**	**65.57**	**29**	P	**P**	**21 13 34.1**	**+0.6**
	baz=285						
EPYK	**Eagle Plains**	**66.04**	**26**	P	**P**	**21 13 37.0**	**+0.5**
	baz=286,SNR=11						
INK	**Inuvik**	**66.66**	**24**	P	**P**	**21 13 40.5**	**+0.2**
INK				IAmb	IAmb	21 13 40.9	
	comp=Z,3.1nm,0.7s						
INK	**Inuvik**	**66.66**	**24**	P	**P**	**21 13 40.5**	**+0.2**
	baz=288,SNR=6.2						
M30M	**Minto, Yukon**	**67.11**	**30**	P	**P**	**21 13 43.9**	**+0.6**
	baz=287						
HYT	**Haines Junctio**	**67.31**	**32**	P	**P**	**21 13 45.7**	**+0.9**
HYT				IAmb	IAmb	21 13 46.6	
	comp=Z,3.1nm,0.8s						
HYT	**Haines Junctio**	**67.31**	**32**	P	**P**	**21 13 46.0**	**+1.2**
	baz=288						
N31M	**Braeburn, Yuko**	**67.90**	**31**	P	**P**	**21 13 49.5**	**+1.2**
	baz=289						
A36M	**Sachs Harbour**	**67.99**	**19**	P	**P**	**21 13 48.8**	**+0.1**
A36M				IAmb	IAmb	21 13 52.1	
	comp=Z,7.1nm,0.8s						
A36M	**Sachs Harbour**	**67.99**	**19**	P	**P**	**21 13 49.0**	**+0.3**
	baz=294						
M31M	**Drury Creek, Y**	**68.29**	**30**	P	**P**	**21 13 51.3**	**+0.5**
	baz=290						
ARCES	**ARCESS Array B**	**68.29**	**338**	P	**P**	**21 13 48.3**	**-2.3**
	comp=Z,6.0nm,1.1s,baz=68,slow=9.9,SNR=2.2						
KBZ	**Khabaz**	**68.36**	**309**	P	**P**	**21 13 50.7**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=103,slow=4.5,SNR=6.2						
FARO	**Faro, Yukon**	**68.74**	**30**	P	**P**	**21 13 54.4**	**+0.8**
	baz=290						
C36M	**Paulatuk**	**69.46**	**21**	P	**P**	**21 13 57.9**	**+0.1**
C36M	**Paulatuk**	**69.46**	**21**	P	**P**	**21 13 57.9**	**+0.1**
	baz=296,SNR=9.1						
MMPY	**Sheldon Lake,**	**69.50**	**29**	P	**P**	**21 13 59.2**	**+0.9**
	baz=292						
EUNU	**Eureka**	**70.09**	**6**	P	**P**	**21 14 00.2**	**-1.4**
EUNU				IAmb	IAmb	21 14 08.5	
	comp=Z,6.1nm,1.5s						
SOCY	**Socotra**	**71.24**	**274**	P	**P**	**21 14 08.1**	**-1.6**
SOCY				IAmb	IAmb	21 14 09.0	
	comp=Z,5.5nm,0.7s						
FIA1	**FINESS Array S**	**71.36**	**330**	P	**P**	**21 14 08.4**	**-1.1**
FIA1				IAmb	IAmb	21 14 29.3	
	comp=Z,13nm,1.4s						
FINES	**FINESS Array B**	**71.36**	**330**	P	**P**	**21 14 08.1**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=66,slow=5.5,SNR=17						
FINES	**FINESS Array B**	**71.36**	**330**	P	**P**	**21 14 08.2**	**-1.4**
RES	**Resolute Bay**	**73.33**	**11**	P	**P**	**21 14 20.8**	**-0.3**
RES				IAmb	IAmb	21 14 21.4	
	comp=Z,2.9nm,0.6s						
AKASG	**Malin Array Be**	**74.38**	**319**	P	**P**	**21 14 26.9**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=63,slow=7.4,SNR=6.4						
AKBB	**Malin Array Si**	**74.38**	**319**	P	**P**	**21 14 26.7**	**-0.9**
AKBB				IAmb	IAmb	21 14 27.1	
	comp=Z,2.6nm,0.7s						
BRTR	**Keskin Array B**	**76.29**	**308**	P	**P**	**21 14 37.9**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=101,slow=5.8,SNR=7.6						
BRTR	**Keskin Array B**	**76.29**	**308**	P	**P**	**21 14 38.1**	**-0.9**
YKA	**Yellowknife Ar**	**76.31**	**25**	P	**P**	**21 14 38.6**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=300,slow=5.5,SNR=47						
YKA	**Yellowknife Ar**	**76.31**	**25**	P	**P**	**21 14 38.2**	**-0.2**
NC405	**NORSAR Array S**	**77.48**	**334**	P	**P**	**21 14 44.0**	**-1.0**
NB2	**NORSAR Subarra**	**77.72**	**334**	P	**P**	**21 14 42.1**	**-4.4**
	comp=Z,8.8nm,1.2s,baz=48,slow=5.1						
NOA	**NORSAR Array B**	**77.72**	**334**	P	**P**	**21 14 45.2**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=54,slow=5.2,SNR=4.0						
BUR08	**Bucovina Ar. S**	**78.13**	**318**	P	**P**	**21 14 49.1**	**0.0**
BUR08				IAmb	IAmb	21 14 53.3	
	comp=Z,4.7nm,1.4s						
BURAR	**Bucovina Array**	**78.13**	**318**	P	**P**	**21 14 48.9**	**-0.2**
KWP	**Kalwaria Pacla**	**78.58**	**320**	P	**P**	**21 14 52.0**	**+0.6**
MLR	**Muntele Rosu**	**78.72**	**316**	P	**P**	**21 14 52.6**	**+0.2**
CLL	**Collm**	**82.81**	**325**	*e*P	**P**	**21 15 13.0**	**-0.9**
DIVS	**Divibare**	**83.07**	**317**	P	**P**	**21 15 14.9**	**-0.7**
DIVS				IAmb	IAmb	21 15 15.1	
	comp=Z,3.5nm,1.1s						
LIT	**Litokhoron**	**83.64**	**312**	P	**P**	**21 15 17.7**	**-0.7**
LIT				IAmb	IAmb	21 15 18.1	
	comp=Z,4.2nm,0.7s						
GERES	**GERESS Array B**	**83.93**	**323**	P	**P**	**21 15 19.1**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=26,slow=6.4,SNR=5.1						
GERES	**GERESS Array B**	**83.93**	**323**	P	**P**	**21 15 19.4**	**-0.4**
IDI	**Anoyia**	**84.51**	**307**	P	**P**	**21 15 22.3**	**-0.7**
IDI				IAmb	IAmb	21 15 47.0	
	comp=Z,9.7nm,1.1s						
ITM	**Ithomi**	**85.56**	**310**	P	**P**	**21 15 26.8**	**-1.4**
FCC	**Fort Churchill**	**86.10**	**21**	P	**P**	**21 15 29.8**	**-0.5**
FCC				IAmb	IAmb	21 15 30.8	
	comp=Z,3.3nm,0.7s						
CMB	**Columbia Colle**	**87.41**	**48**	P	**P**	**21 15 38.2**	**+0.9**
CMB				IAmb	IAmb	21 15 38.6	
	comp=Z,2.0nm,0.6s						
KVN	**Kaiserville**	**88.30**	**46**	P	**P**	**21 15 43.1**	**+1.4**
NVAR	**Mina Array Bea**	**88.53**	**46**	P	**P**	**21 15 44.1**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=309,slow=4.5,SNR=3.1						
PDAR	**Pinedale Array**	**91.07**	**39**	P	**P**	**21 15 55.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=240,slow=1.2,SNR=5.9						
ULM	**Lac du Bonnet**	**92.21**	**27**	P	**P**	**21 15 59.1**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=35,slow=1.6,SNR=4.4						

NEIC ***23*** *21:05:07.0±2.4, 16°.89S±0°.06×172°.42W±0°.10, h10km±1km, mb4.7/9, Error ellipse: s-maj=15.4km s-min=10.5km az=91.0*

IDC ***23*** *21:05:08.7±0.8, 16°.86S×173°.06W, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.8/40, mbtmp3.9/8, MS3.8/28, Ms1 3.8/28, ms1mx3.5/68, Error ellipse: s-maj=40.6km s-min=21.0km az=133.0*

ISC 23 21:05:07.8±0.5, 16°.89S±0°.06×172°.5W±0°.1, h10km, n75, σ1⁰90/50, mb4.2/11, MS3.8/28, 1D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.05**

comp=Z,84nm,18.5s,baz=174,slow=32
PDAR Pinedale Array 82.81 41 P **P 21 17 36.2 +3.5**
comp=Z,1.0nm,0.9s,baz=242,slow=3.2,SNR=6.9
PDAR LR LR 21 48 15.5
comp=Z,26nm,18.9s,baz=56,slow=31
CMIG Matias Romero 83.58 70 LR LR 21 49 28.0
comp=Z,41nm,18.9s,baz=204,slow=32
ILAR Eielson Array 83.74 11 P **P 21 17 39.1 +2.4**
comp=Z,0.4nm,0.6s,baz=223,slow=6.3,SNR=6.3
IMAR Indian Mountai 83.83 8 P 21 17 39.0 +1.9
BMAR Burnt Mountain 86.55 10 P **P 21 17 52.2 +1.4**
MAW Mawson 86.66 198 LR LR 21 56 00.9
comp=Z,139nm,18.2s,baz=85,slow=35
BJT Baijiatuau 87.10 313 P **P 21 17 55.0 +0.9**
JTS Las Juntas de 90.64 80 LR LR 21 52 15.8
comp=Z,47nm,18.0s,baz=167,slow=31
YKA Yellowknife Ar 91.12 23 P **P 21 18 15.0 +2.6**
comp=Z,0.2nm,0.8s,baz=221,slow=4.6,SNR=4.2
SYO Syowa Base 91.31 191⇓ *e*P **P 21 18 11.7 -1.7**
ULM Lac du Bonnet 94.55 39 LR LR 21 57 35.2
comp=Z,67nm,20.2s,baz=8.5,slow=33
LVC Limon Verde 95.61 116 LR LR 21 53 08.3
comp=Z,46nm,19.0s,baz=252,slow=30
CHVC Chvalec 145.69 350 *e*PKP **PKiKP 21 24 50.7 +0.1**
OSTC Ostas 145.69 350 *e*PKP **PKiKP 21 24 50.7 +0.1**
DPC Dobruska-Polom 145.87 350 *e*PKP **PKiKP 21 24 51.2 +0.1**
MORC Moravsky Berou 146.20 348 *e*PKP **PKPab 21 24 48.7 -0.5**
KHC Kasperske Hory 147.46 353 *e*PKP **PKiKP 21 24 57.2 +2.8**
CKRC Cesky Krumlov 147.67 352 *e*PKP **PKPab 21 24 56.9 +2.0**
GERES GERESS Array B 147.73 352 PKPbc **PKPab 21 24 56.5 +1.2**
comp=Z,0.1nm,0.3s,baz=171,slow=3.5,SNR=3.5
BRTR Keskin Array B 147.84 320 PKPbc **PKPab 21 24 56.6 +0.5**
comp=Z,1.5nm,0.9s,baz=96,slow=2.5,SNR=9.3
CONA Conrad Observa 148.29 349 *i* P **PKPab 21 24 58.3 +0.8**
comp=Z,6.6nm,1.4s
RONA Rosalia, Austr 148.43 349 *e*P **PKPab 21 24 58.0 0.0**
comp=Z,1.8nm,0.7s
MOA Molln 148.63 351 *e*P **PKPab 21 24 58.2 -0.6**
comp=Z,3.2nm,1.2s
ARSA Arzberg 149.01 349 *e*P **PKPab 21 24 58.8 -1.5**
comp=Z,3.6nm,1.1s
RETA Reutte 149.37 356 *e*P **PKPab 21 25 01.0 -0.9**
comp=Z,3.1nm,0.8s
WATA Walderalm 149.45 355 *i* P **PKPab 21 24 59.9 -2.4**
comp=Z,2.9nm,0.9s
MOTA Moosalm 149.49 355 *i* P **PKPab 21 25 01.4 -1.1**
comp=Z,4.9nm,1.4s
KBA Koelnbreinsper 149.51 352 *e*P **PKPab 21 25 01.5 -1.0**
comp=Z,5.2nm,1.3s
WTTA Wattenberg 149.52 354 *i* P **PKPab 21 25 00.7 -1.9**
comp=Z,4.7nm,1.3s
SQTA Sankt Quirin 149.60 355 *i* P **PKPab 21 25 00.2 -2.6**
comp=Z,6.3nm,1.2s
DAVA Damuels 149.63 357 *i* P **PKiKP 21 25 00.2 +1.1**
comp=Z,6.3nm,1.1s
SOKA Soboth 149.65 350 *i* P **PKiKP 21 24 59.9 +0.9**
comp=Z,2.6nm,1.0s
FETA Feichten 149.84 356 *i* P **PKPab 21 25 01.0 -2.8**
comp=Z,5.3nm,1.2s
OBKA Obir 149.89 350 *e*P **PKPab 21 25 01.5 -2.5**
comp=Z,2.4nm,0.7s
ABTA Abfaltersbach 149.94 353 *i* P **PKPab 21 25 01.3 -2.9**
comp=Z,4.0nm,0.9s

WEL 23 21:13:44.9±0.9, 37°S±7′×17°9W±′, h33km, M3.4/9, ML3.8/17, MLv3.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=5.2, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.35**	**251**	P	Pn	21 14 21.3	+0.1
WMGZ				S	Sn	21 14 49.9	+1.0
MXZ	**Matakaoa Point**	**2.37**	**258**	P	Pn	21 14 20.4	-1.1
MXZ				S	Sn	21 14 49.0	-0.4
PUZ	**Puketiti**	**2.55**	**247**	P	Pn	21 14 23.6	-0.4
PUZ				S	Sn	21 14 55.3	+1.4
PKGZ	**Pakihiroa**	**2.63**	**252**	P	Pn	21 14 25.1	0.0
PKGZ				S	Sn	21 14 56.6	+0.8
CNGZ	**Carnagh Statio**	**2.76**	**239**	P	Pn	21 14 27.3	+0.4
CNGZ				S	Sn	21 14 59.9	+0.8
TWGZ	**Tauwhareparae**	**2.79**	**246**	P	Pn	21 14 27.8	+0.5
TWGZ				S	Sn	21 15 01.3	+1.4
HAZ	**Te Kaha**	**2.82**	**256**	P	Pn	21 14 27.8	+0.2
HAZ				S	Sn	21 15 01.3	+0.8
RUGZ	**Raukumara Rang**	**2.95**	**252**	P	Pn	21 14 30.3	+0.7
RUGZ				S	Sn	21 15 04.6	+0.7
TKGZ	**Te Karaka**	**2.99**	**243**	P	Pn	21 14 29.9	-0.1
TKGZ				S	Sn	21 15 06.1	+1.4
RIGZ	**Rimuhau**	**3.17**	**239**	P	Pn	21 14 32.6	+0.1
RIGZ				S	Sn	21 15 10.2	+0.9
MWZ	**Matawai**	**3.18**	**246**	P	Pn	21 14 32.6	0.0
MWZ				S	Sn	21 15 09.0	-0.5
PRGZ	**Paritu Road**	**3.21**	**235**	P	Pn	21 14 33.1	+0.1
PRGZ				S	Sn	21 15 12.1	+2.0
MHGZ	**Mahia Peninsul**	**3.32**	**231**	P	Pn	21 14 34.4	-0.2
KNZ	**Kokohu**	**3.40**	**235**	P	Pn	21 14 34.9	-0.6
KNZ				S	Sn	21 15 14.3	-0.4
URZ	**Urewera**	**3.46**	**249**	P	Pn	21 14 37.5	+1.0
URZ				S	Sn	21 15 16.4	+0.1
SNGZ	**Shannon Statio**	**3.50**	**240**	P	Pn	21 14 36.2	-0.8
SNGZ				S	Sn	21 15 18.1	+0.8
MTHZ	**Maungataniwha**	**3.88**	**242**	P	Pn	21 14 42.3	0.0
MTHZ				S	Sn	21 15 27.3	+0.6
ARHZ	**Aropaoanui**	**3.97**	**236**	P	Pn	21 14 44.0	+0.5
BKZ	**Black Stump Fm**	**4.26**	**240**	P	Pn	21 14 47.2	-0.3
BKZ				S	Sn	21 15 36.4	+0.3
MCHZ	**McNeill Hill**	**4.26**	**235**	P	Pn	21 14 47.5	0.0
MCHZ				S	Sn	21 15 36.9	+0.8
CTZ	**Chatham Island**	**6.82**	**167**	P	Pn	21 15 23.8	+1.2
CTZ				S	Sn	21 16 39.2	+0.1

*NEIC **23** 21:23:43.0±1.5, 20.00S±0.04×69.26W±0.06, h93km±4km, Error ellipse: s-maj=8.4km s-min=5.7km az=123.0*
*GUC **23** 21:23:44.1±0.7, 19.98S×69.29W, h89km±2km, ML4.1*
*IDC **23** 21:23:46.0±1.8, 19.99S×68.84W, h119km±17km, mb3.5/3, mb1 3.7/7, mb1mx3.4/39, mbtmp4.0/7, Error ellipse: s-maj=32.9km s-min=18.8km az=100.0*

ISC 23 21:23:42.5±0.6, 19.99S±0.03×69.31W±0.05, h92km±5km, n51, σ1§39/69, mb4.1/4, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.21**	**135**		**Pn**	**21 23 57.2**	**+0.9**
PB08				Sn	**Sn**	**21 24 07.7**	**+1.2**
PB08	**IPOC Station P**	**0.21**	**135**⇓	*i*P	**Pn**	**21 23 57.1**	**+0.9**
PB08				*i* S	**Sn**	**21 24 08.0**	**+1.6**
PB08				IAML		21 24 09.0	
	comp=E,11μm,0.2s						
GO01	**Chusmiza**	**0.34**	**19**		**Pn**	**21 23 57.8**	**+0.7**
GO01				Sn	**Sn**	**21 24 08.6**	**+0.8**
GO01	**Chusmiza**	**0.34**	**19**⇓	*i*P	**Pn**	**21 23 57.7**	**+0.7**
GO01				*i* S	**Sn**	**21 24 08.5**	**+0.8**
GO01				IAML		21 24 10.3	
	comp=E,19μm,0.1s						
PB11	**IPOC Station P**	**0.40**	**305**		**Pn**	**21 23 57.3**	**+0.3**
PB11				Sn	**Sn**	**21 24 08.2**	**+0.6**
PB11	**IPOC Station P**	**0.40**	**305**⇑	*i*P	**Pn**	**21 23 57.8**	**+0.8**
PB11				*i* S	**Sn**	**21 24 08.1**	**+0.4**
PB11				IAML		21 24 09.3	
	comp=N,13μm,0.1s						
HMBC	**Humberstone**	**0.61**	**242**⇑	*i*P	**Pn**	**21 23 59.4**	**+0.9**
HMBC				*i* S	**Sn**	**21 24 11.6**	**+1.2**
HMBC				IAML		21 24 13.2	
	comp=E,15μm,0.6s						
TA02	**Huaiquique**	**0.82**	**250**		**Pn**	**21 24 01.2**	**+0.8**
TA02				Sn	**Sn**	**21 24 15.1**	**+1.3**
TA02	**Huaiquique**	**0.82**	**250**	*i*P	**Pn**	**21 24 01.3**	**+0.9**
TA02				*i* S	**Sn**	**21 24 14.9**	**+1.2**
TA02				IAML		21 24 19.0	
	comp=N,12μm,0.2s						
TA01	**Diego Aracena**	**0.99**	**235**		**Pn**	**21 24 03.0**	**+0.8**
TA01				Sn	**Sn**	**21 24 17.7**	**+0.6**
TA01	**Diego Aracena**	**0.99**	**235**⇑	*i*P	**Pn**	**21 24 03.1**	**+0.8**
TA01				*i* S	**Sn**	**21 24 17.8**	**+0.7**
PATCX	**Punta Patache**	**1.14**	**224**		**Pn**	**21 24 04.7**	**+0.6**
PATCX	**Punta Patache**	**1.14**	**224**	*i*P	**Pn**	**21 24 04.8**	**+0.7**
PATCX				*i* S	**Sn**	**21 24 21.1**	**+0.8**
PATCX				IAML		21 24 27.9	
	comp=N,2μm,0.8s						
PB02	**IPOC Station P**	**1.43**	**202**		**Pn**	**21 24 08.4**	**+0.8**
PB02	**IPOC Station P**	**1.43**	**202**⇓	*i*P	**Pn**	**21 24 08.6**	**+1.0**
PB02				*i* S	**Sn**	**21 24 27.3**	**+0.8**
PB02				IAML		21 24 34.3	
	comp=E,4μm,0.3s						
PB16	**IPOC Station P**	**1.66**	**354**	Pn	**Pn**	**21 24 12.9**	**+1.9**
PB16	**IPOC Station P**	**1.66**	**354**	*e*P	**Pn**	**21 24 12.9**	**+1.9**
PB16				*i* S	**Sn**	**21 24 34.9**	**+2.4**
PB12	**IPOC Station P**	**1.68**	**325**	Pn	**Pn**	**21 24 11.1**	**+0.4**
PB12	**IPOC Station P**	**1.68**	**325**⇑	*i*P	**Pn**	**21 24 11.4**	**+0.7**
PB12				*i* S	**Sn**	**21 24 32.3**	**+0.2**
PB12				IAML		21 24 39.8	
	comp=E,3μm,0.4s						
PB09	**IPOC Station P**	**1.79**	**178**	Pn	**Pn**	**21 24 13.9**	**+1.6**
PB09	**IPOC Station P**	**1.79**	**178**	*e*P	**Pn**	**21 24 13.8**	**+1.5**
PB09				*e*S	**Sn**	**21 24 37.3**	**+2.3**
PB07	**IPOC Station P**	**1.81**	**197**		**Pn**	**21 24 13.8**	**+1.3**
PB07	**IPOC Station P**	**1.81**	**197**	*e*P	**Pn**	**21 24 13.3**	**+0.8**
PB07				*i* S	**Sn**	**21 24 37.0**	**+1.7**
PB07				IAML		21 24 43.2	
	comp=N,2μm,0.1s						
AP01	**Chacalluta**	**1.89**	**329**	Pn	**Pn**	**21 24 14.2**	**+0.9**
AP01	**Chacalluta**	**1.89**	**329**	*e*P	**Pn**	**21 24 14.5**	**+1.2**
AP01				*e*S	**Sn**	**21 24 38.2**	**+1.4**
LVC	**Limon Verde**	**2.63**	**172**	P	**Pn**	**21 24 26.3**	**+2.7**
	comp=N,19nm,0.3s,baz=344,slow=9.0,SNR=60						
LVC				S	**Sn**	**21 24 57.8**	**+2.9**
	comp=N,36nm,0.3s,baz=21,slow=7.8,SNR=20						
LVC	**Limon Verde**	**2.63**	**172**	Pn	**Pn**	**21 24 25.8**	**+2.3**
PB06	**IPOC Station P**	**2.71**	**185**		**Pn**	**21 24 23.1**	**-1.2**
LPAZ	**La Paz**	**3.85**	**17**	P	**Pn**	**21 24 43.6**	**+3.3**
	comp=N,2.3nm,0.3s,baz=188,slow=8.3,SNR=76						
LPAZ	**La Paz**	**3.85**	**17**		**Pn**	**21 24 42.8**	**+2.6**
GO02	**Mina Guanaco**	**5.15**	**183**	Pn	**Pn**	**21 24 57.1**	**-0.4**
AC01	**Pan de Azucar**	**6.24**	**191**	Pn	**Pn**	**21 25 10.1**	**-1.9**
SIV	**San Ignacio**	**8.79**	**64**	P	**Pn**	**21 25 45.1**	**-1.8**
	comp=N,2.8nm,0.3s,baz=258,slow=9.3,SNR=32						
CPUP	**Villa Florida**	**12.69**	**122**	P	**Pn**	**21 26 37.3**	**-2.4**
	comp=N,0.1nm,0.3s,baz=302,slow=12,SNR=7.9						
CPUP	**Villa Florida**	**12.69**	**122**		**Pn**	**21 26 37.2**	**-2.5**
ITAB	**Concordia**	**17.30**	**118**		**Pn**	**21 27 37.8**	**-0.6**
ITAB				IAmb	IAmb	21 28 03.8	
	comp=Z,21nm,1.4s						
MCRA	**Macar, Loja**	**18.67**	**325**	P	**Pn**	**21 27 54.6**	**-0.3**
PLCA	**Paso Flores**	**20.70**	**183**	P	Pn	21 28 18.9	+0.3
	comp=Z,0.9nm,0.6s,baz=4.8,slow=12,SNR=5.7						
PLCA	**Paso Flores**	**20.70**	**183**	P	**P**	**21 28 16.2**	**+0.8**
BDFB	**Brasilia**	**20.73**	**81**	P	**P**	**21 28 16.1**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=218,slow=12,SNR=3.5						
BDFB	**Brasilia**	**20.73**	**81**	P	**P**	**21 28 15.6**	**-0.4**
BDFB				IAmb	IAmb	21 28 18.4	
	comp=Z,9.9nm,1.4s						
CELP	**Cerrillos**	**37.93**	**4**	P	**P**	**21 30 50.5**	**-0.7**
BIRD	**Birdtown, Kers**	**55.36**	**349**	P	**P**	**21 33 06.8**	**-0.2**
TXAR	**Lajitas Array**	**59.18**	**325**	P	**P**	**21 33 34.6**	**+0.4**
QSPA	**South Pole Qui**	**70.19**	**180**	P	**P**	**21 34 46.6**	**+1.3**
QSPA				IAmb	IAmb	21 35 07.4	
	comp=Z,3.3nm,1.3s						
TOA0	**Torodi Ar. Sit**	**77.21**	**71**	P	**P**	**21 35 26.0**	**-1.0**
TOA0				IAmb	IAmb	21 35 45.5	
	comp=Z,4.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**77.21**	**71**	P	**P**	**21 35 25.0**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=255,slow=5.1,SNR=8.6						
TORD	**Torodi Ar. Bea**	**77.21**	**71**	P	**P**	**21 35 26.0**	**-1.1**
TORD				IAmb	IAmb	21 35 53.9	
	comp=Z,2.7nm,1.5s						
YKA	**Yellowknife Ar**	**89.65**	**341**	P	**P**	**21 36 30.2**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=134,slow=4.8,SNR=35						
MKAR	**Makanchi Array**	**144.62**	**34**	PKP	**PKPab**	**21 43 06.8**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=325,slow=4.1,SNR=2.6						
SONM	**Songino Array**	**152.01**	**6**	PKPbc	**PKPbc**	**21 43 27.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=4.7,slow=1.7,SNR=4.2						

*NEIC **23** 21:24:57.9±2.4, 24.78S±0.04×69.09W±0.06, h98km±5km, mb4.4/20, ML4.4(GUC), Error ellipse: s-maj=8.5km s-min=4.8km az=61.0*
*IDC **23** 21:24:57.5±0.6, 24.87S×69.00W, h93km±4km, mb3.9/13, mb1 4.0/15, mb1mx3.9/35, mbtmp4.2/15, MS3.1/3, Ms1 3.1/3, ms1mx2.7/55, Error ellipse: s-maj=19.0km s-min=8.9km az=85.0*
*SJA **23** 21:24:57.6±1.0, 24.85S×69.12W, h80km, ML4.1, MW3.9*
*GUC **23** 21:24:57.4±0.7, 24.87S×69.34W, h118km±4km, ML4.4*
*VAO **23** 21:25:13.5±1.4, 24.24S×67.96W, h168km±9km, mb4.4*

ISC 23 21:24:57.2±0.5, 24.82S±0.03×69.14W±0.04, h96km±4km, n142, σ1§51/160, mb4.3/19, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.53**	**231**		**Pn**	**21 25 14.8**	**+1.6**
GO02				Sn	**Sn**	**21 25 27.6**	**+2.6**
GO02	**Mina Guanaco**	**0.53**	**231**⇑	*i*P	**Pn**	**21 25 14.8**	**+1.6**
GO02				*i* S	**Sn**	**21 25 27.5**	**+2.5**
PB14	**IPOC Station P**	**1.17**	**279**	Pn	**Pn**	**21 25 20.6**	**+1.0**
PB14				Sn	**Sn**	**21 25 37.8**	**+1.5**
PB14	**IPOC Station P**	**1.17**	**279**⇑	*e*P	**Pn**	**21 25 21.0**	**+0.5**
PB14				*i* S	**Sn**	**21 25 36.6**	**+0.3**
PB14				IAML		21 25 39.7	
	comp=N,2μm,0.2s						
PB14	**IPOC Station P**	**1.17**	**279**	*e*P	**Pn**	**21 25 20.5**	**+1.0**
PB14				*e*S	**Sn**	**21 25 37.9**	**+1.5**
PB14				IAML		21 25 40.7	
	comp=Z,3μm,0.4s						
PB15	**IPOC Station P**	**1.64**	**349**	Pn	**Pn**	**21 25 23.3**	**-1.9**
PB15	**IPOC Station P**	**1.64**	**349**	*e*P	**Pn**	**21 25 27.7**	**+2.6**
PB10	**IPOC Station P**	**1.84**	**315**	Pn	**Pn**	**21 25 28.1**	**+0.6**
PB10	**IPOC Station P**	**1.84**	**315**⇑	*e*P	**Pn**	**21 25 27.7**	**+0.2**
PB10				*i* S	**Sn**	**21 25 50.3**	**-0.3**
PB10				IAML		21 25 58.4	
	comp=E,3μm,0.3s						
AC01	**Pan de Azucar**	**1.87**	**225**		**Pn**	**21 25 28.8**	**+0.9**
AC02	**Maricunga**	**2.00**	**180**		**Pn**	**21 25 31.9**	**+1.8**
AF01	**San Pedro de A**	**2.06**	**25**	Pn	**Pn**	**21 25 31.7**	**+1.0**
PB06	**IPOC Station P**	**2.15**	**349**	*i* S	**Sn**	**21 25 58.1**	**+0.1**
PB06				IAML		21 26 02.3	
	comp=E,2μm,0.6s						
LVC	**Limon Verde**	**2.21**	**5**	P	**Pn**	**21 25 33.5**	**+0.7**
	comp=E,55nm,0.3s,baz=197,slow=17,SNR=2.0						
LVC				S	**Sn**	**21 25 59.9**	**0.0**
	comp=E,185nm,0.3s,baz=50,slow=20,SNR=14						
LVC	**Limon Verde**	**2.21**	**5**		**Pn**	**21 25 33.3**	**+0.6**
LVC	**Limon Verde**	**2.21**	**5**	*i* S	**Sn**	**21 25 59.6**	**-0.3**
AC06	**Mina Casimiro**	**2.75**	**203**	Pn	**Pn**	**21 25 39.4**	**-0.1**
AC06	**Mina Casimiro**	**2.75**	**203**	*e*P	**Pn**	**21 25 39.5**	**-0.1**
AC06				*i* S	**Sn**	**21 26 11.0**	**-1.0**
AC06				IAML		21 26 18.6	
	comp=N,823nm,0.4s						
GO03	**Copiap**	**2.93**	**199**		**Pn**	**21 25 42.4**	**+0.4**
GO03	**Copiap**	**2.93**	**199**⇑	*i*P	**Pn**	**21 25 42.4**	**+0.4**
GO03				*i* S	**Sn**	**21 26 09.7**	**-6.7**
GO03				IAML		21 26 23.9	
	comp=N,785nm,0.4s						
GO03	**Copiap**	**2.93**	**199**	*e*P	**Pn**	**21 25 42.6**	**+0.7**
GO03				*e*S	**Sn**	**21 26 17.6**	**+1.3**
PB09	**IPOC Station P**	**3.02**	**358**	*e*P	**Pn**	**21 25 45.7**	**+2.5**
PB09				*i* S	Sn	21 26 10.4	-8.2
FSA	**Cafayete**	**3.13**	**115**	*e*P	**Pn**	**21 25 46.7**	**+2.0**
PB07	**IPOC Station P**	**3.16**	**347**	*e*P	**Pn**	**21 25 46.2**	**+1.1**
SLA	**San Lorenzo**	**3.30**	**89**	*e*P	**Pn**	**21 25 49.0**	**+1.9**
PB02	**IPOC Station P**	**3.56**	**349**	*e*P	**Pn**	**21 25 51.1**	**+0.7**
HJA	**Humahuaca**	**3.77**	**65**	*e*P	**Pn**	**21 25 56.0**	**+2.5**
AC04	**Llanos de Chal**	**3.79**	**207**	Pn	**Pn**	**21 25 52.1**	**-1.3**
AC04	**Llanos de Chal**	**3.79**	**207**	*e*P	**Pn**	**21 25 51.9**	**-1.5**
AC04	**Llanos de Chal**	**3.79**	**207**	*e*P	**Pn**	**21 25 52.1**	**-1.3**
AC04				*e*S	**Sn**	**21 26 42.6**	**+5.7**
AC04				IAML		21 26 55.2	
	comp=Z,336nm,0.7s						
YJA	**Yavi**	**4.24**	**52**	*e*P	**Pn**	**21 26 02.0**	**+2.0**
LCO	**Las Campanas**	**4.40**	**198**	Pn	**Pn**	**21 26 01.1**	**-0.9**
LCO	**Las Campanas**	**4.40**	**198**⇑	*i*P	**Pn**	**21 26 00.8**	**-1.1**
LCO				*i* S	**Sn**	**21 26 51.5**	**-0.6**
LCO	**Las Campanas**	**4.40**	**198**	*e*P	**Pn**	**21 26 01.0**	**-0.9**
GO01	**Chusmiza**	**5.13**	**359**	Pn	**Pn**	**21 26 11.2**	**-0.9**
CO01	**Juntas del Tor**	**5.20**	**189**	Pn	**Pn**	**21 26 13.3**	**+0.5**
CO01	**Juntas del Tor**	**5.20**	**189**	*e*P	**Pn**	**21 26 14.2**	**+1.4**
CO01				IAML		21 27 45.5	
	comp=Z,74nm,0.5s						
CO05	**La Serena**	**5.41**	**200**		**Pn**	**21 26 13.3**	**-2.0**
GO04	**Tololo Observa**	**5.53**	**195**		**Pn**	**21 26 15.5**	**-1.7**
GO04	**Tololo Observa**	**5.53**	**195**	*e*P	**Pn**	**21 26 15.6**	**-1.7**
GO04				IAML		21 27 53.9	
	comp=E,880nm,0.5s						
GO04	**Tololo Observa**	**5.53**	**195**	*e*P	**Pn**	**21 26 16.1**	**-1.1**
GO04				*e*S	**Sn**	**21 27 18.7**	**-0.9**

ACCO Cerro Coronel 5.74 179 *e*P **Pn 21 26 24.0 +3.8**
ACCO *e*S **Sn 21 27 25.1 +0.1**
AVFE Valle Fertil 6.00 166 *e*P **Pn 21 26 24.4 +0.9**
APLL PUNTA DE LOS L 6.01 158 *e*P **Pn 21 26 25.0 +1.4**
CO03 El Pedregal 6.15 193 **Pn 21 26 24.1 -1.4**
CO06 Fray Jorge 6.23 200 Pn **Pn 21 26 23.5 -3.1**
RTLL Cerro Villicun 6.51 175 *e*P **Pn 21 26 32.6 +2.2**
RTLL *e*S **Sn 21 27 41.1 -2.0**
CO02 Combarbal 6.56 194 Pn **Pn 21 26 28.9 -2.3**
TCA Tanti 7.63 149 *e*P **Pn 21 26 46.0 +0.4**
ASAL Salagasta 7.74 178 *e*P **Pn 21 26 48.5 +1.2**
VA06 Catapilco 7.94 193 Pn **Pn 21 26 46.9 -2.9**
VA03 San Esteban 8.01 189 Pn **Pn 21 26 48.8 -2.0**
VA03 San Esteban 8.01 189 *e*P **Pn 21 26 49.9 -0.9**
AAGR Agrelo 8.24 178 *e*P **Pn 21 26 55.0 +1.1**
LPAZ La Paz 8.54 7 P **Pn 21 26 57.6 -1.1**
comp=E,0.8nm,0.3s,baz=50,slow=7.9,SNR=1.5
LPAZ La Paz 8.54 7 Pn **Pn 21 26 58.2 -0.5**
VA05 Santo Domingo 9.06 193 Pn **Pn 21 27 03.9 -1.2**
BO04 La Punta 9.22 188 Pn **Pn 21 27 07.3 0.0**
CPUP Villa Florida 10.77 101 LR LR 21 32 28.2
comp=E,60nm,20.2s,baz=8.0,slow=42
SIV San Ignacio 11.59 42 P **Pn** 21 27 34.2 -5.3
comp=E,4.3nm,0.3s,baz=232,slow=7.0,SNR=37
SIV S LR LR 21 32 37.4
comp=E,53nm,21.3s,baz=114,slow=40
PTLB Pontes e Lacer 13.23 47 *e*P **Pn 21 28 00.1 -1.2**
FRBT Francisco Belt 14.57 98 *e*P **P 21 28 21.5 -1.0**
ETMB Extrema 15.18 11 *e*P **P 21 28 30.6 +1.3**
TRCB Terra Rica 15.24 86 **P 21 28 28.7 -1.2**
SALV Santo Antonio 15.41 57 *e*P **Pn 21 28 25.6 -3.7**
ITAB Concordia 15.47 103 Pn **Pn 21 28 28.4 -1.6**
ITAB IAmb IAmb 21 28 32.0
comp=Z,17nm,0.5s
ITAB Concordia 15.47 103 *e*P **P 21 28 31.5 -1.0**
PTGB Pitanga 15.51 93 *e*P **P 21 28 32.7 -0.3**
PLCA Paso Flores 15.91 184 **P 21 28 38.1 +0.8**
PCMB Pacaembu 16.74 83 *e*P **Pn 21 28 44.9 -0.9**
CNLB Canela 16.89 109 *e*P **P 21 28 48.0 -0.2**
PDRB Porto dos Gac 17.63 44 *e*P **P 21 28 55.5 -0.9**
DVLD Doverlandia 17.83 66 *e*P **P 21 28 57.2 -1.4**
FRTB Fartura 17.93 89 *e*P **P 21 28 58.4 -1.3**
ITRB Iturama 18.11 77 *e*P **P 21 29 00.6 -1.1**
BB19B Bebedouro 19.34 83 *e*P **P 21 29 14.1 -1.0**
RCLB Rio Claro- Sao 19.94 88 *e*P **P 21 29 19.9 -1.8**
VAO Valinhos 20.35 89 *e*P **P 21 29 24.6 -1.5**
TBTG Tabatinga, AM 20.53 358 *e*P Pn 21 29 34.5 +3.5
IPMB Ipameri, GO 20.62 75 *e*P **P 21 29 27.5 -1.6**
SNDB Serra Nova Dou 21.18 56 *e*P **P 21 29 32.8 -2.2**
PARB Paraibuna 21.52 91 *e*P **P 21 29 38.1 -0.5**
BDFB Brasilia 21.80 69 P **P 21 29 40.2 -1.5**
comp=Z,7.9nm,0.6s,baz=239,slow=13,SNR=14
BDFB Brasilia 21.80 69 P **P 21 29 39.6 -2.0**
NPGB Novo Progresso 22.06 39 *e*P **P 21 29 41.5 -2.7**
MCRA Macar, Loja 22.84 331 P **P 21 29 52.2 -0.3**
BOSC San Juan Bosco 23.36 336 P **P 21 29 56.6 -0.9**
BOSC IAmb IAmb 21 30 00.1
comp=Z,7.8nm,0.5s
PEXB Peixe 23.42 61 *e*P **P 21 29 56.6 -1.4**
ITTB Itaituba 24.08 35 *e*P **P 21 30 02.4 -1.4**
DIAM Diamantina, MG 24.54 80 *e*P **P 21 30 07.8 -0.3**
JANB Januaria 25.24 72 *e*P **P 21 30 13.2 -1.2**
SMTB Santa Maria do 25.96 56 *e*P **P 21 30 19.9 -1.1**
SDBA SAO DESIDERIO 26.02 66 *e*P **P 21 30 20.6 -0.9**
PRPB Parauapebas 26.21 48 *e*P **P 21 30 22.7 -0.5**
SJMB Sao Joao De Ma 26.64 82 *e*P **P 21 30 26.7 -0.3**
MALB Monte Alegre 26.98 34 *e*P **P 21 30 29.6 -0.5**
GUA01 Guaratinga, BA 28.59 79 *e*P **P 21 30 43.1 -1.4**
NBPS Pedro II - PI 33.48 57 *e*P **P 21 31 26.5 -1.1**
MDP Montagnes des 33.80 31 P **P 21 31 30.7 +0.5**
comp=Z,21nm,1.1s,baz=174,slow=10,SNR=5.5
NBMA Muriti-CE 33.83 64 *e*P **P 21 31 30.1 -0.4**
SNAA Sanae 59.23 160 P **P 21 34 48.0 0.0**
comp=Z,1.5nm,0.6s,baz=290,slow=9.1,SNR=7.1
SNAA Sanae 59.23 160 P **P 21 34 47.9 -0.1**
833A Chaparral WMA, 60.34 329 P **P 21 34 56.1 +0.1**
JCT Junction City 62.35 330 P **P 21 35 09.7 0.0**
TXAR Lajitas Array 63.25 326 P **P 21 35 16.9 +1.2**
comp=Z,0.6nm,0.5s,baz=150,slow=7.8,SNR=9.9
TXAR PcP **PcP 21 35 53.4 +1.3**
comp=Z,0.1nm,0.4s,baz=156,slow=6.9,SNR=2.2
TXAR Lajitas Array 63.25 326 P **P 21 35 15.6 -0.1**
TX31 Lajitas Ar. Si 63.25 326 P **P 21 35 15.6 -0.1**
TX31 IAmb IAmb 21 35 33.1
comp=Z,5.0nm,1.2s
S39A Bolivar 66.21 339 P **P 21 35 34.3 -0.3**
S39A IAmb IAmb 21 35 35.5
comp=Z,7.0nm,0.7s
ANMO Albuquerque 69.17 328 P **P 21 35 55.4 +1.8**
comp=Z,1.0nm,0.6

*JMA **23** 21:34:55.3, 33.05N×131.15E, h10km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs301.00000°, δ72.00000°, λ-22.00000°. NP2:φs38.00000°, δ69.00000°, λ-161.00000°. Principal axes: T Plg2.0000°, Azm350.0000°; N Plg62.0000°, Azm84.0000°; P Plg28.0000°, Azm259.0000°;*
JMA Felt III J1.
*IDC **23** 21:34:55.9±1.9, 33.06N×131.14E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.1/46, mbtmp3.3/3, ML2.6/2, MS3.0/4, Ms1 3.0/4, ms1mx2.5/57 Error ellipse: s-maj=23.5km s-min=9.7km az=3.0*
*NIED **23** 21:34:55.3, 33.05N×131.15E, h10km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr0.08; Mθθ3.14; Mφφ-3.23; Mrθ-1.52; Mθφ2.00; Mφr-0.81; Fault plane solution: M0 4.11000×10^14 NP1: φs301.00000°, δ71.00000°, λ11.00000°. NP2: φs207.00000°, δ79.00000°, λ160.00000°.*

ISC 23 21:34:57.3±1.0, 33.01N±0.05×131.16E±0.04, h12km, n12, σ2s18/13, 1C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.26**	**295**	**Pg**	**Pg**	**21 35 00.0**	**-2.7**
	2μm,0.3s,baz=107,slow=4.6,SNR=3597						
JNU				Lg	Lg	21 35 03.3	
	4μm,0.3s,baz=340,slow=18,SNR=138						
JNU	**Nakatsue**	**0.26**	**295**	**⇓P**	**Pg**	**21 35 00.4**	**-2.3**
JNU				S	**Sg**	**21 35 03.9**	**-2.4**
JBEP	**Beppuamama**	**0.38**	**33**	**⇑P**	**Pg**	**21 35 02.7**	**-2.3**
JUS	**Usuki**	**0.50**	**84**	**⇓P**	**Pg**	**21 35 04.7**	**-2.4**
JTA	**Tamana**	**0.53**	**265**	**⇓P**	**Pg**	**21 35 05.5**	**-2.1**
JIU3	**Izumi3**	**0.55**	**212**	**⇓P**	**Pg**	**21 35 06.5**	**-1.5**
JIU3				S	**Sg**	**21 35 14.8**	**-0.5**
KSRS	**Korea Array**	**5.16**	**330**	Pn	**Pn**	**21 36 15.5**	**+1.2**
	0.2nm,0.3s,baz=143,slow=14,SNR=7.7						
KSRS				Pg	**Pb**	**21 36 30.1**	**+2.6**
	0.9nm,0.3s,baz=144,slow=17,SNR=9.7						
KSRS				Lg	Lg	21 37 35.3	
	1.8nm,0.3s,baz=150,slow=30,SNR=9.6						
KSRS				LR	LR	21 38 17.8	
	comp=Z,53nm,20.3s,baz=155,slow=40						
MJAR	**Matsushiro Arr**	**6.79**	**57**	**Pn**	**Pn**	**21 36 36.9**	**+0.1**
	0.1nm,0.3s,baz=240,slow=14,SNR=2.6						
KLR	**Kul'dur**	**16.21**	**1**	**Pn**	**P**	**21 38 49.4**	**+1.5**
	0.1nm,0.3s,baz=161,slow=9.5,SNR=5.5						
KLR				LR	LR	21 43 56.4	
	comp=Z,36nm,22.0s,baz=140,slow=33						
SONM	**Songino Array**	**23.83**	**316**	**P**	**P**	**21 40 10.5**	**+0.2**
	0.8nm,0.7s,baz=138,slow=11,SNR=6.5						
CMAR	**Chiang Mai Arr**	**32.29**	**251**	LR	LR	21 56 05.8	
	comp=Z,28nm,18.7s,baz=135,slow=39						
DLBC	**Dease Lake**	**66.83**	**34**	LR	LR	22 14 45.4	
	comp=Z,32nm,19.7s,baz=144,slow=36						

*IDC **23** 21:41:25.0±3.6, 5.20S×145.67E, h82km±34km, mb3.8/7, mb1 3.9/10, mb1mx3.5/39, mbtmp4.1/10, MS3.0/2, Ms1 3.0/2, ms1mx2.4/56, Error ellipse: s-maj=27.0km s-min=21.1km az=91.0*
*NEIC **23** 21:41:27.1±1.3, 5.35S±0.07×145.7E±0.1, h96km±11km, mb4.1/10, Error ellipse: s-maj=17.4km s-min=9.7km az=84.0*

ISC 23 21:41:25.7±0.8, 5.28S±0.07×145.7E±0.1, h86km, n33, σ1s12/35, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.63**	**28**	**Pn**	**Pn**	**21 42 22.0**	**+2.3**
PMG	**Port Moresby**	**4.36**	**160**	P	**Pn**	**21 42 30.1**	**+0.4**
	8.1nm,0.3s,baz=350,slow=6.0,SNR=13						
PMG				S	**Sn**	**21 43 17.1**	**-2.2**
	18nm,0.3s,baz=152,slow=18,SNR=12						
PMG				LR	LR	21 44 05.7	
	comp=Z,114nm,20.5s,baz=50,slow=36						
PMG	**Port Moresby**	**4.36**	**160**	Pn	**Pn**	**21 42 29.8**	**+0.2**
PMG				Sn	**Sn**	**21 43 17.9**	**-1.4**
PMG	**Port Moresby**	**4.36**	**160**	P	**Pn**	**21 42 30.3**	**+0.6**
COEN	**Coen**	**8.97**	**196**		**Pn**	**21 43 34.5**	**+2.0**
COEN	**Coen**	**8.97**	**196**	P	**Pn**	**21 43 35.2**	**+2.8**
CTAO	**Charters Tower**	**14.73**	**178**	Pn	**Pn**	**21 44 49.9**	**+0.2**
KDU	**Kakadu**	**14.96**	**240**	P	**P**	**21 44 55.2**	**-0.8**
SIJI	**Sorong**	**15.02**	**286**	P	**Pn**	**21 44 52.4**	**-1.1**
	0.4nm,0.3s,baz=171,slow=19,SNR=1.6						
MTN	**Manton Dam**	**16.19**	**241**	Pn	**Pn**	**21 45 07.6**	**-0.6**
MTN				IAmb	IAmb	21 45 16.4	
	comp=Z,35nm,1.4s						
WB0	**Warramunga Arr**	**18.11**	**216**	P	**P**	**21 45 30.1**	**-0.7**
WB0				IAmb	IAmb	21 45 33.3	
	comp=Z,10nm,1.2s						
WRAB	**Tennant Creek**	**18.26**	**216**	P	**P**	**21 45 32.9**	**+0.3**
WRA	**Warramunga Arr**	**18.27**	**216**	P	**P**	**21 45 31.5**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=36,slow=12,SNR=34						
WRA	**Warramunga Arr**	**18.27**	**216**	P	**P**	**21 45 31.9**	**-0.8**
KNRA	**Kununurra**	**19.55**	**237**		**P**	**21 45 45.9**	**-0.8**
KNRA	**Kununurra**	**19.55**	**237**	P	**Pn**	**21 45 49.8**	**+1.0**
AS31	**Alice Springs**	**21.51**	**211**	P	**P**	**21 46 08.1**	**+0.3**
ASAR	**Alice Springs**	**21.51**	**211**	P	**P**	**21 46 08.4**	**+0.6**
	comp=Z,2.3nm,0.5s,baz=38,slow=7.6,SNR=43						
ASAR	**Alice Springs**	**21.51**	**211**	P	**P**	**21 46 07.5**	**-0.3**
BATI	**Baumata**	**22.33**	**256**	P	**P**	**21 46 16.6**	**0.0**
	comp=Z,8.6nm,0.5s,baz=271,slow=2.8,SNR=4.5						
FITZ	**Fitzroy Crossi**	**23.35**	**235**	P	**P**	**21 46 26.9**	**+0.2**
	comp=Z,6.4nm,0.5s,baz=51,slow=10,SNR=26						
FITZ				LR	LR	21 55 45.2	
	comp=Z,68nm,20.8s,baz=342,slow=37						
FITZ	**Fitzroy Crossi**	**23.35**	**235**	P	**P**	**21 46 26.2**	**-0.5**
FITZ				IAmb	IAmb	21 46 28.5	
	comp=Z,8.3nm,0.9s						
OOD	**Oodnadatta**	**24.32**	**202**	P	**P**	**21 46 36.2**	**+0.8**
WRKA	**Warakurna**	**25.76**	**219**	P	**P**	**21 46 48.1**	**-0.5**
STKA	**Stephens Creek**	**26.74**	**188**	P	**P**	**21 46 58.0**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=3.6,slow=11,SNR=7.6						
STKA	**Stephens Creek**	**26.74**	**188**	P	**P**	**21 46 57.2**	**0.0**
STKA				IAmb	IAmb	21 47 02.5	
	comp=Z,1.4nm,1.1s						
MULG	**Mulgathing**	**27.17**	**202**	P	**P**	**21 47 02.8**	**+1.6**
FORT	**Forrest**	**30.30**	**211**	P	**P**	**21 47 28.5**	**-0.4**
KSRS	**Korea Array**	**45.61**	**340**	P	**P**	**21 49 37.7**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=148,slow=9.6,SNR=4.3						
VNDA	**Vanda**	**72.71**	**176**	P	**P**	**21 52 44.6**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=341,slow=7.5,SNR=5.8						
VNDA	**Vanda**	**72.71**	**176**	P	**P**	**21 52 43.8**	**-0.2**
VNDA				IAmb	IAmb	21 52 44.7	
	comp=Z,8.1nm,1.5s						
QSPA	**South Pole Qui**	**84.69**	**180**	P	**P**	**21 53 49.3**	**-0.6**
QSPA				IAmb	IAmb	21 53 55.2	
	comp=Z,4.0nm,1.4s						
ILAR	**Eielson Array**	**85.35**	**23**	P	**P**	**21 53 51.5**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=255,slow=5.2,SNR=8.8						

*IDC **23** 21:51:35.6±1.4, 15.17S×66.90E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/36, mbtmp3.8/9, MS3.5/10, Ms1 3.5/10, ms1mx3.0/78, Error ellipse: s-maj=46.5km s-min=25.0km az=36.0*
*NEIC **23** 21:51:38.2±1.3, 15.21S±0.1×66.96E±0.1, h16km, n46, σ0s70/28, mb4.3/20, MS3.5/10, Mid-Indian Ridge*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.16**	**37**	T	T	22 03 06.0	
	baz=216,slow=75,SNR=311						
H08S2	**Diego Garcia H**	**9.17**	**37**	T	T	22 03 07.4	
	baz=216,slow=75,SNR=450						
H08S3	**Diego Garcia H**	**9.18**	**37**	T	T	22 03 05.4	
	baz=216,slow=75,SNR=592						
ABPO	**Ambohimpanom**	**19.25**	**255**	P	**Pn**	**21 56 03.2**	**-0.4**
ABPO				IAmb	IAmb	21 56 11.1	
	comp=Z,33nm,1.7s						
SOCY	**Socotra**	**29.97**	**334**	P	**P**	**21 57 45.8**	**-0.6**
SOCY				IAmb	IAmb	21 57 47.9	
	comp=Z,12nm,1.2s						
PSI	**Prapat**	**36.30**	**63**	LR	LR	22 10 15.5	
	comp=Z,77nm,20.3s,baz=203,slow=31						
LBTB	**Lobatse**	**39.94**	**249**	LR	LR	22 12 41.2	
	comp=Z,81nm,20.5s,baz=114,slow=32						
BOSA	**Boshof**	**40.76**	**244**	LR	LR	22 14 30.7	
	comp=Z,43nm,19.6s,baz=53,slow=34						
CMAR	**Chiang Mai Arr**	**45.87**	**44**	P	**P**	**22 00 01.2**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=233,slow=7.6,SNR=5.9						
CMAR				LR	LR	22 17 09.9	
	comp=Z,59nm,19.6s,baz=235,slow=33						
CMAR	**Chiang Mai Arr**	**45.87**	**44**	P	**P**	**22 00 00.6**	**+0.3**
H01W3	**Cape Leeuwin H**	**46.62**	**124**	T	T	22 49 54.3	
	baz=283,slow=75,SNR=22						
H01W2	**Cape Leeuwin H**	**46.62**	**124**	T	T	22 49 53.8	
	baz=283,slow=75,SNR=24						
H01W1	**Cape Leeuwin H**	**46.64**	**124**	T	T	22 49 56.0	
	baz=283,slow=75,SNR=27						
KAPI	**Kappang**	**52.83**	**85**	LR	LR	22 20 50.0	
	comp=Z,40nm,19.4s,baz=312,slow=33						
FITZ	**Fitzroy Crossi**	**56.14**	**102**	LR	LR	22 21 51.7	
	comp=Z,37nm,20.7s,baz=252,slow=32						
AAK	**Ala-Archa**	**57.84**	**7**	LR	LR	22 22 45.1	
	comp=Z,43nm,20.4s,baz=248,slow=32						
GURO	**Guroymak-BITLI**	**58.23**	**337**	P	**P**	**22 01 32.2**	**-0.1**
GURO				IAmb	IAmb	22 01 41.6	
	comp=Z,2.1nm,0.6s						
BRTR	**Keskin Array B**	**62.73**	**332**	P	**P**	**22 02 02.7**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=131,slow=4.4,SNR=3.7						
MKAR	**Makanchi Array**	**63.11**	**12**	P	**P**	**22 02 06.5**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=197,slow=4.5,SNR=3.4						
MKAR	**Makanchi Array**	**63.11**	**12**	P	**P**	**22 02 04.8**	**-0.4**
ASAR	**Alice Springs**	**63.27**	**109**	P	**P**	**22 02 06.4**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=281,slow=7.5,SNR=4.3						
ASAR				LR	LR	22 27 26.3	
	comp=Z,36nm,18.7s,baz=220,slow=34						
WRA	**Warramunga Arr**	**64.09**	**105**	P	**P**	**22 02 12.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=263,slow=6.3,SNR=5.3						
WRA	**Warramunga Arr**	**64.09**	**105**	IAmb	IAmb	22 02 18.6	
	comp=Z,0.4nm,1.6s						
WR0	**Warramunga Arr**	**64.28**	**105**	P	**P**	**22 02 12.9**	**-0.6**
ABKAR	**Akbulak array**	**64.34**	**355**	P	**P**	**22 02 13.3**	**+0.1**
ABKAR	**Akbulak array**	**64.34**	**355**	P	**P**	**22 02 13.5**	**+0.3**
ABKAR				IAmb	IAmb	22 02 28.6	
	comp=Z,5.9nm,1.6s						
ZALV	**Zalesovo Beam**	**70.43**	**11**	P	**P**	**22 02 52.4**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=189,slow=3.9,SNR=5.5						
SONM	**Songino Array**	**71.85**	**27**	P	**P**	**22 02 59.6**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=228,slow=6.9,SNR=4.5						
SONM	**Songino Array**	**71.85**	**27**	IAmb	IAmb	22 03 21.1	
	comp=Z,5.7nm,1.8s						
AKASG	**Malin Array Be**	**73.35**	**336**	P	**P**	**22 03 09.2**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=131,slow=5.6,SNR=7.7						
QSPA	**South Pole Qui**	**75.01**	**180**	P	**P**	**22 03 19.7**	**+0.6**
QSPA				IAmb	IAmb	22 03 41.9	
	comp=Z,13nm,1.6s						
RONA	**Rosalia, Austr**	**77.10**	**328**	*e*P	P	22 03 35.8	+4.7
	comp=Z,3.0nm,0.9s						
ARSA	**Arzberg**	**77.22**	**327**	*i* P	P	22 03 36.6	+4.9
	comp=Z,3.4nm,0.7s						
CONA	**Conrad Observa**	**77.47**	**328**	*i* P	**P**	**22 03 33.9**	**+0.7**
	comp=Z,4.1nm,1.2s						
KSRS	**Korea Array**	**77.50**	**45**	LR	LR	22 38 07.7	
	comp=Z,9.4nm,18.2s,baz=275,slow=36						
MOA	**Molln**	**78.26**	**327**	*i* P	**P**	**22 03 37.1**	**-0.4**
	comp=Z,4.0nm,1.2s						
KBA	**Koelnbreinsper**	**78.28**	**326**	*i* P	**P**	**22 03 38.6**	**+0.7**
	comp=Z,2.7nm,1.1s						
ABTA	**Abfaltersbach**	**78.54**	**325**	*e*P	**P**	**22 03 40.2**	**+1.1**
	comp=Z,3.4nm,0.9s						
WTTA	**Wattenberg**	**79.33**	**325**	*e*P	**P**	**22 03 44.1**	**+0.5**
	comp=Z,3.6nm,1.0s						
SENIN	**Lac Senin/Sane**	**81.28**	**323**	P	**P**	**22 03 54.6**	**+0.4**
ESDC	**Sonseca Array**	**85.44**	**313**	P	**P**	**22 04 16.3**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=105,slow=3.7,SNR=8.6						
ESDC	**Sonseca Array**	**85.44**	**313**	P	**P**	**22 04 15.8**	**+0.2**
ESDC				IAmb	IAmb	22 04 17.2	
	comp=Z,2.3nm,1.1s						
PAB	**San Pablo**	**85.66**	**313**	P	**P**	**22 04 17.3**	**+0.6**
YAK	**Yakutsk**	**91.11**	**25**	LR	LR	22 43 28.9	
	comp=Z,26nm,19.9s,baz=268,slow=34						
YKA	**Yellowknife Ar**	**132.63**	**1**	PKP	**PKiKP**	**22 10 51.6**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=356,slow=2.7,SNR=4.2						
PDAR	**Pinedale Array**	**152.24**	**354**	PKPbc	**PKiKP**	**22 11 33.8**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=40,slow=2.5,SNR=5.7						

*TUL **23** 22:32:42.6±0.4, 36.22N±0.02×97.566W±0.009, h5km±7km, ML3.4, mb_Lg3.3/99(NEIC), Error ellipse: s-maj=2.8km s-min=0.9km az=191.0*
*ANF **23** 22:32:42.5±0.3, 36.25N×97.59W, h5km, ML4.0/14, Error ellipse: s-maj=4.0km s-min=2.8km az=11.0*
*NEIC **23** 22:32:43.3±0.4, 36.22N±0.02×97.57W±0.02, h4km±7km, Error ellipse: s-maj=2.3km s-min=1.8km az=192.0*

ISC 23 22:32:42.0±1.4, 36.23N±0.03×97.57W±0.03, h1km±12km, n91, σ0s65/68, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.65**	**151**		**Pg**	**22 32 55.1**	**+0.6**
OK009	**Oakdale Elemen**	**0.66**	**169**		**Pg**	**22 32 55.2**	**+0.6**
OK001	**Jones High Sch**	**0.70**	**161**		**Pg**	**22 32 56.0**	**+0.5**
FNO	**Franklin**	**0.98**	**172**		**Pg**	**22 33 02.9**	**+0.1**
T35A	**Sooner Cattle**	**1.10**	**51**	Pg	**Pg**	**22 33 03.3**	**+0.2**
T35B	**Sooner Cattle**	**1.10**	**51**	P	**Pg**	**22 33 03.4**	**+0.3**
	baz=231,SNR=771						
T35B				S	**Sb**	**22 33 18.4**	**-0.3**
	baz=231						
U32A	**Winter Ranch,**	**1.16**	**278**		**Pg**	**22 33 04.4**	**0.0**
U32A	**Winter Ranch,**	**1.16**	**278**	P	**Pg**	**22 33 04.3**	**0.0**
	baz=98,SNR=42						
U32A				S	**Sb**	**22 33 20.7**	**+0.1**
	baz=98						
TUL1	**Leonard**	**1.48**	**102**	Pg	**Pn**	**22 33 09.1**	**-0.7**
TUL1	**Leonard**	**1.48**	**102**	P	**Pn**	**22 33 09.2**	**-0.6**
	baz=283,SNR=258						
TUL1				S	**Sn**	**22 33 29.4**	**-0.4**
	baz=283						
X34A	**Smith Ranch, M**	**1.64**	**188**		**Pb**	**22 33 12.6**	**-0.4**
WMOK	**Wichita Mounta**	**1.78**	**214**		**Pn**	**22 33 14.3**	**+0.2**
WMOK	**Wichita Mounta**	**1.78**	**214**	P	**Pn**	**22 33 14.2**	**+0.2**
	baz=33,SNR=90						
R32A	**Long Quarter,**	**2.37**	**338**		**Pn**	**22 33 23.2**	**+1.1**
R32A	**Long Quarter,**	**2.37**	**338**	P	**Pb**	**22 33 24.4**	**-1.1**
	baz=157,SNR=20						
R32A				Sb	**Sb**	**22 33 56.9**	**+1.5**
	baz=157						
X37A	**Clayton**	**2.43**	**132**		**Pn**	**22 33 23.6**	**+0.7**
X37A	**Clayton**	**2.43**	**132**	P	**Pn**	**22 33 23.9**	**+0.9**
	baz=313,SNR=58						
X37A				S	**Sn**	**22 33 54.7**	**+1.3**
	baz=313						
Z35A	**Perchaven, San**	**2.90**	**175**		**Pn**	**22 33 29.4**	**0.0**
Z35A	**Perchaven, San**	**2.90**	**175**	Pb	**Pb**	**22 33 34.3**	**-0.3**
	baz=355						
HHAR	**Hoxie**	**2.94**	**88**		**Pn**	**22 33 29.9**	**0.0**
KSU1	**Kansas State U**	**2.97**	**15**		**Pn**	**22 33 31.4**	**+1.0**
KSU1	**Kansas State U**	**2.97**	**15**	IAmb_Lg		22 34 19.7	
	comp=Z,58nm,0.8s						
CBKS	**Cedar Bluff**	**3.10**	**327**		**Pn**	**22 33 33.0**	**+0.8**
W39A	**Magazine**	**3.25**	**107**		**Pn**	**22 33 34.2**	**0.0**
W39A	**Magazine**	**3.25**	**107**	P	**Pn**	**22 33 34.6**	**+0.5**
	baz=290,SNR=44						
W39A				Sb	**Sg**	**22 34 26.2**	**-0.3**
	baz=290						
AMTX	**Amarillo**	**3.61**	**249**		**Pn**	**22 33 39.6**	**+0.4**
AMTX				IAmb_Lg		22 34 39.2	
	comp=Z,54nm,0.7s						
Z38A	**Mt. Pleasant**	**3.65**	**144**		**Pn**	**22 33 39.9**	**+0.2**
MIAR	**Mount Ida**	**3.67**	**116**	Pn	**Pn**	**22 33 40.4**	**+0.4**
MIAR				IAmb_Lg		22 34 46.1	
	comp=Z,74nm,0.8s						
MIAR	**Mount Ida**	**3.67**	**116**	P	**Pn**	**22 33 40.7**	**+0.7**
	baz=298,SNR=48						
S39A	**Bolivar**	**3.70**	**66**		**Pn**	**22 33 40.9**	**+0.4**
S39A	**Bolivar**	**3.70**	**66**	P	**Pn**	**22 33 41.0**	**+0.6**
	baz=248,SNR=74						
U40A	**Yellville**	**3.81**	**87**		**Pn**	**22 33 41.2**	**-0.7**
U40A				IAmb_Lg		22 34 44.3	
	comp=Z,107nm,0.7s						
ABTX	**Abilene, Hawle**	**3.98**	**206**		**Pn**	**22 33 44.4**	**+0.1**
ABTX				IAmb_Lg		22 34 49.9	
	comp=Z,52nm,1.0s						
WHTX	**Lake Whitney,**	**4.23**	**179**		**Pn**	**22 33 48.0**	**+0.4**
WHTX	**Lake Whitney,**	**4.23**	**179**	P	**Pn**	**22 33 48.2**	**+0.6**
	baz=359,SNR=7.8						
X40A	**Basin Creek Fa**	**4.25**	**113**		**Pn**	**22 33 48.6**	**+0.8**
X40A				IAmb_Lg		22 34 59.8	
	comp=Z,86nm,0.8s						
X40A	**Basin Creek Fa**	**4.25**	**113**	P	**Pn**	**22 33 48.8**	**+0.9**
	baz=296,SNR=20						
X40A				P	**Pn**	**22 33 48.8**	**+0.9**
	baz=296,SNR=20						
MGMO	**Mountain Grove**	**4.36**	**76**		**Pn**	**22 33 50.0**	**+0.5**
MGMO				IAmb_Lg		22 34 59.7	
	comp=Z,56nm,0.7s						
WHAR	**Wooly Hollow**	**4.40**	**101**		**Pn**	**22 33 49.1**	**-0.9**
WHAR				IAmb_Lg		22 35 07.7	
	comp=Z,64nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.43**	**93**	Pn	**Pn**	**22 33 50.3**	**-0.1**
WLAR	**White Oak Lake**	**4.46**	**123**	IAmb_Lg		22 35 06.3	
	comp=Z,47nm,0.7s						
W41B	**Gary Mavity, V**	**4.46**	**102**		**Pn**	**22 33 50.5**	**-0.3**
W41B				IAmb_Lg		22 35 07.3	
	comp=Z,85nm,1.0s						
W41B	**Gary Mavity, V**	**4.46**	**102**	S	**Sn**	**22 34 42.4**	**-0.9**
	baz=285						
237A	**Washetta, Mont**	**4.46**	**160**		**Pn**	**22 33 49.5**	**-1.4**
N33A	**J Bar K, Exete**	**4.50**	**1**	IAmb_Lg		22 35 16.5	
	comp=Z,56nm,0.9s						
UALR	**University of**	**4.51**	**107**	Pn	**Pn**	**22 33 52.2**	**+0.8**
P38A	**Dawn**	**4.66**	**42**	IAmb_Lg		22 35 12.1	
	comp=Z,65nm,0.7s						
R40A	**Maddies Statio**	**4.71**	**62**		**Pn**	**22 33 54.6**	**+0.3**
R40A				IAmb_Lg		22 35 09.8	
	comp=Z,46nm,0.8s						
R40A	**Maddies Statio**	**4.71**	**62**	P	**Pn**	**22 33 54.5**	**+0.3**
	baz=245,SNR=45						
KSCO	**Kaye Shedlock'**	**4.88**	**306**	Pn	**Pn**	**22 33 56.7**	**0.0**
KSCO				IAmb_Lg		22 35 26.7	
	comp=Z,58nm,0.8s						
Z41A	**Richland Creek**	**4.92**	**126**	IAmb_Lg		22 35 31.4	
	comp=Z,73nm,0.7s						
LCAR	**Lake Charles**	**5.20**	**90**		**Pn**	**22 34 00.3**	**-0.6**
CCAR	**Cane Creek**	**5.29**	**114**	Pn	**Pn**	**22 34 02.1**	**0.0**
CCM	**Cathedral Cave**	**5.38**	**68**	Pn	**Pn**	**22 34 03.3**	**0.0**
CCM				IAmb_Lg		22 35 39.0	
	comp=Z,57nm,0.8s						
435B	**Jarrell**	**5.43**	**180**	IAmb_Lg		22 35 44.1	
	comp=Z,38nm,0.7s						
P40A	**Paris**	**5.47**	**51**		**Pn**	**22 34 04.7**	**-0.1**
P40A				IAmb_Lg		22 35 40.2	
	comp=Z,63nm,0.9s						
T25A	**Trinidad**	**5.57**	**281**	Pn	**Pn**	**22 34 07.0**	**+0.7**
T25A				IAmb_Lg		22 35 53.0	
	comp=Z,45nm,0.8s						
N38A	**Joes South For**	**5.69**	**35**	Pn	**Pn**	**22 34 06.9**	**-0.8**
PBMO	**Poplar Bluff**	**5.78**	**82**	IAmb_Lg		22 35 46.9	
	comp=Z,66nm,0.8s						
OGNE	**Ogallala**	**5.86**	**325**	IAmb_Lg		22 36 02.8	
	comp=Z,42nm,0.7s						
FVM	**French Village**	**5.97**	**71**	Pn	**Pn**	**22 34 10.9**	**-0.7**
FVM				IAmb_Lg		22 35 53.1	
	comp=Z,43nm,0.9s						
JCT	**Junction City**	**6.03**	**199**	Pn	**Pn**	**22 34 12.5**	**0.0**
143A	**Socs Landing,**	**6.19**	**123**	IAmb_Lg		22 36 03.0	
	comp=Z,45nm,0.7s						
SLM	**Saint Louis**	**6.31**	**65**	IAmb_Lg		22 36 03.6	
	comp=Z,43nm,0.7s						
Q24A	**Divide**	**6.61**	**297**	Pn	**Pn**	**22 34 19.7**	**-0.9**
Q24A				IAmb_Lg		22 36 15.0	
	comp=Z,34nm,0.9s						
HALT	**Halls**	**6.68**	**90**	IAmb_Lg		22 36 20.5	
	comp=Z,50nm,0.8s						
S44A	**Carbondale**	**6.82**	**75**	IAmb_Lg		22 36 18.1	
	comp=Z,44nm,0.8s						
SIUC	**Southern Illin**	**6.85**	**75**	Pn	**Pn**	**22 34 23.8**	**+0.1**
SIUC				IAmb_Lg		22 36 19.3	
	comp=Z,49nm,0.8s						
OXF	**Oxford**	**6.89**	**102**	IAmb_Lg		22 36 30.2	
	comp=Z,52nm,0.7s						
W45A	**Hickory Valley**	**6.91**	**96**	IAmb_Lg		22 36 41.0	
	comp=Z,39nm,0.8s						
Y45A	**Yeager Farm, C**	**7.00**	**107**	IAmb_Lg		22 36 45.3	
	comp=Z,32nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.22**	**59**	Pn	**Pn**	**22 34 29.0**	**+0.3**
P43A				IAmb_Lg		22 36 40.5	
	comp=Z,44nm,0.8s						
ISCO	**Idaho Springs**	**7.28**	**302**		**Pn**	**22 34 30.4**	**+0.6**
ECSD	**EROS Data Cent**	**7.53**	**5**	Pn	**Pn**	**22 34 32.1**	**-0.9**
L40A	**Anamosa**	**7.63**	**38**	IAmb_Lg		22 36 46.8	
	comp=Z,41nm,1.0s						
MNTX	**Cornudas Mount**	**7.90**	**237**	Pn	**Pn**	**22 34 37.1**	**-1.0**
OLIL	**Olney**	**7.94**	**69**	IAmb_Lg		22 37 04.3	
	comp=Z,43nm,1.0s						
Y22D	**IRIS PASSCAL I**	**7.95**	**257**	IAmb_Lg		22 37 14.2	
	comp=Z,40nm,0.8s						
PHWY	**Pilot Hill**	**7.97**	**312**	Pn	**Pn**	**22 34 39.4**	**0.0**
PHWY				IAmb_Lg		22 37 04.3	
	comp=Z,18nm,0.9s						
833A	**Chaparral WMA,**	**8.03**	**192**	IAmb_Lg		22 37 02.7	
	comp=Z,20nm,0.9s						
N23A	**Red Feather La**	**8.04**	**308**	IAmb_Lg		22

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.74**	**228**	P	**Pn**	**22 43 06.9**	**+0.9**
	1μm,0.3s,baz=120,slow=3.8,SNR=715						
GUMO				S	**Sn**	**22 43 19.8**	**+0.5**
	2μm,0.3s,baz=84,slow=20,SNR=80						
GUMO				LR	LR	22 43 26.7	
	comp=Z,68nm,21.8s,baz=87,slow=45						
PATS	**Pohnpei**	**14.56**	**115**	Pn	**Pn**	**22 46 10.3**	**+0.8**
H11S3	**WAKE ISLAND Hy**	**20.86**	**75**	T	T	23 09 18.8	
	baz=263,slow=74,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**20.88**	**75**	T	T	23 09 20.2	
	baz=263,slow=74,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**20.88**	**75**	T	T	23 09 15.9	
	baz=263,slow=74,SNR=4.8						
WB0	**Warramunga Arr**	**35.35**	**198**	P	**P**	**22 49 33.6**	**-0.6**
WB0				IAmb	IAmb	22 49 48.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**35.53**	**198**	P	**P**	**22 49 35.4**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=22,slow=9.4,SNR=25						
WRA	**Warramunga Arr**	**35.53**	**198**	P	**P**	**22 49 34.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**37.46**	**212**	P	**P**	**22 49 51.9**	**-0.3**
FITZ				IAmb	IAmb	22 49 56.1	
	comp=Z,8.3nm,1.4s						
AS31	**Alice Springs**	**39.17**	**197**	P	**P**	**22 50 07.0**	**+0.4**
ASAR	**Alice Springs**	**39.17**	**197**	P	**P**	**22 50 06.2**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=20,slow=12,SNR=23						
ASAR	**Alice Springs**	**39.17**	**197**	P	**P**	**22 50 06.5**	**-0.1**
PETK	**Petropavlovsk-**	**40.13**	**11**	P	**P**	**22 50 12.5**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=203,slow=11,SNR=5.7						
MA2	**Magadan**	**45.59**	**4**	P	**P**	**22 50 58.2**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=179,slow=9.9,SNR=3.7						
SONM	**Songino Array**	**46.65**	**324**	P	**P**	**22 51 08.4**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=124,slow=3.9,SNR=4.1						
SONM	**Songino Array**	**46.65**	**324**	P	**P**	**22 51 06.2**	**-0.6**
BBOO	**Buckleboo**	**47.48**	**191**	P	**P**	**22 51 11.9**	**-1.3**
SEY	**Seymchan**	**49.03**	**4**	P	**P**	**22 51 24.4**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=169,slow=5.6,SNR=8.1						
MK31	**Makanchi Array**	**61.52**	**316**	P	**P**	**22 52 55.5**	**+0.9**
MK31				IAmb	IAmb	22 53 22.5	
	comp=Z,1.4nm,1.3s						
MKAR	**Makanchi Array**	**61.52**	**316**	P	**P**	**22 52 55.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=90,slow=8.3,SNR=6.5						
MKAR	**Makanchi Array**	**61.52**	**316**	P	**P**	**22 52 54.9**	**+0.2**
ZALV	**Zalesovo Beam**	**61.55**	**324**	P	**P**	**22 52 56.0**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=98,slow=7.6,SNR=1.7						
O18K	**Koktuh Hills**	**62.72**	**29**	P	**P**	**22 53 02.9**	**+0.4**
O18K				IAmb	IAmb	22 53 17.5	
	comp=Z,16nm,1.4s						
KDAK	**Kodiak Island**	**63.36**	**32**	P	**P**	**22 53 07.5**	**+0.9**
KURK	**Kurchatov**	**64.56**	**320**	P	**P**	**22 53 15.0**	**+0.3**
KURK				IAmb	IAmb	22 53 23.0	
	comp=Z,3.8nm,1.4s						
KURBB	**Kurchatov Arra**	**64.61**	**320**	P	**P**	**22 53 15.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=99,slow=7.1,SNR=5.3						
CAST	**Castle Rocks**	**65.32**	**26**	P	**P**	**22 53 20.3**	**+0.9**
CAST				IAmb	IAmb	22 53 20.9	
	comp=Z,4.1nm,0.7s						
IMAR	**Indian Mountai**	**65.53**	**23**	P	**P**	**22 53 20.5**	**-0.2**
RND	**Reindeer**	**66.70**	**27**	P	**P**	**22 53 28.1**	**-0.2**
RND				IAmb	IAmb	22 53 55.1	
	comp=Z,9.2nm,1.4s						
FID	**Port Fidalgo**	**67.14**	**30**	P	**P**	**22 53 31.6**	**+0.5**
DHY	**Denali Highway**	**67.26**	**27**	P	**P**	**22 53 33.0**	**+1.0**
DHY				IAmb	IAmb	22 54 00.2	
	comp=Z,10nm,1.5s						
ILAR	**Eielson Array**	**67.89**	**25**	P	**P**	**22 53 34.5**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=254,slow=5.9,SNR=12						
BMAR	**Burnt Mountain**	**69.44**	**23**	P	**P**	**22 53 45.8**	**+0.4**
BCAR	**Beaver Creek A**	**69.75**	**28**	P	**P**	**22 53 47.8**	**+0.4**
HYT	**Haines Junctio**	**71.51**	**30**	P	**P**	**22 53 59.6**	**+1.5**
HYT				IAmb	IAmb	22 54 00.9	
	comp=Z,7.3nm,1.3s						
INK	**Inuvik**	**73.70**	**22**	P	**P**	**22 54 10.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=280,slow=7.0,SNR=5.3						
ABKAR	**Akbulak array**	**76.55**	**318**	P	**P**	**22 54 27.8**	**+0.2**
YKA	**Yellowknife Ar**	**82.17**	**27**	P	**P**	**22 54 57.9**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=286,slow=5.1,SNR=11						
YKA	**Yellowknife Ar**	**82.17**	**27**	P	**P**	**22 54 57.4**	**-0.4**
FINES	**FINESS Array B**	**90.95**	**335**	P	**P**	**22 55 39.2**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=57,slow=7.0,SNR=9.8						
FINES	**FINESS Array B**	**90.95**	**335**	P	**P**	**22 55 39.0**	**-1.7**

AAE 23 22:43:20.4±2.2, 10°.92N×40°.33E, h29km±999km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKE	**Ethiopia-Afar**	**1.44**	**204**	*e*P	Pn	22 43 43.3	-1.6
ANKE				*e*S	Sn	22 44 00.7	-2.4
ANKE				IAML		22 44 07.7	
	comp=N,4μm,0.4s						
AAE	**Adis Abeba**	**2.43**	**219**	*e*P	Pn	22 43 55.9	-2.5
AAE				*e*S	Sn	22 44 22.1	-5.2
AAE	**Adis Abeba**	**2.43**	**219**	*e*P	Pn	22 43 56.0	-2.5
AAE				*e*S	Sn	22 44 23.2	-4.1
AAE				IAML		22 44 25.0	
	comp=N,407nm,0.5s						
AAE	**Adis Abeba**	**2.43**	**219**	*e*P	Pn	22 43 55.9	-2.5
AAE				*e*S	Sn	22 44 22.1	-5.2
FURI	**Furi**	**2.58**	**219**	*e*P	Pn	22 43 58.3	-2.3
FURI				*e*S	Sn	22 44 28.6	-2.6
FURI	**Furi**	**2.58**	**219**	*e*P	Pn	22 44 00.5	-0.1
FURI				*e*S	Sn	22 44 28.9	-2.3
FURI				IAML		22 44 31.0	
	comp=N,201nm,0.3s						
FURI	**Furi**	**2.58**	**219**	*e*P	Pn	22 43 58.3	-2.3
FURI				*e*S	Sn	22 44 28.6	-2.6

*IDC **23** 22:43:28.3±1.5, 15°.29S×66°.89E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/62, mbtmp3.7/9, MS3.6/9, Ms1 3.6/9, ms1mx3.1/84, Error ellipse: s-maj=50.2km s-min=25.4km az=34.0*

ISC 23 22:43:30.9±1.5, 15°.3S±0°.3×67°.0E±0°.2, h14km, n33, σ0s93/19, mb4.2/18, MS3.5/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.30**	**36**	T	T	22 55 12.0	
	baz=216,slow=76,SNR=110						
H08S2	**Diego Garcia H**	**9.31**	**36**	T	T	22 55 12.0	
	baz=216,slow=76,SNR=164						
H08S3	**Diego Garcia H**	**9.32**	**36**	T	T	22 55 13.4	
	baz=216,slow=76,SNR=162						
PALK	**Pallekele**	**26.21**	**32**	LR	LR	22 56 07.2	
	comp=Z,92nm,20.4s,baz=333,slow=29						
KMBO	**Kilima Mbogo**	**32.53**	**293**	LR	LR	23 00 36.2	
	comp=Z,57nm,18.6s,baz=89,slow=32						
PSI	**Prapat**	**36.37**	**63**	LR	LR	23 02 19.2	
	comp=Z,125nm,18.2s,baz=248,slow=31						
LSZ	**Lusaka**	**37.38**	**265**	LR	LR	23 04 42.1	
	comp=Z,150nm,19.0s,baz=107,slow=34						
MBAR	**Mbarara**	**38.63**	**289**	LR	LR	23 04 43.2	
	comp=Z,76nm,18.5s,baz=198,slow=33						
LBTB	**Lobatse**	**39.90**	**249**	LR	LR	23 05 06.9	
	comp=Z,99nm,19.4s,baz=353,slow=33						
BOSA	**Boshof**	**40.70**	**244**	LR	LR	23 06 43.8	
	comp=Z,54nm,18.0s,baz=352,slow=34						
SUR	**Sutherland**	**45.16**	**239**	LR	LR	23 07 04.9	
	comp=Z,64nm,19.2s,baz=0.0,slow=31						
CMAR	**Chiang Mai Arr**	**45.99**	**44**	P	**P**	**22 51 54.4**	**+0.3**
	0.3nm,0.3s,baz=237,slow=9.1,SNR=5.0						
CMAR				LR	LR	23 08 21.3	
	comp=Z,56nm,21.4s,baz=190,slow=32						
H01W3	**Cape Leeuwin H**	**46.49**	**124**	T	T	23 41 53.5	
	baz=283,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**46.49**	**124**	T	T	23 41 53.4	
	baz=283,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**46.51**	**124**	T	T	23 41 54.8	
	baz=283,slow=75,SNR=14						
BRTR	**Keskin Array B**	**62.92**	**332**	P	**P**	**22 53 56.6**	**-0.4**
	0.5nm,0.9s,baz=176,slow=6.7,SNR=3.9						
ASAR	**Alice Springs**	**63.18**	**109**	P	**P**	**22 53 58.9**	**-0.2**
	0.5nm,0.9s,baz=274,slow=6.4,SNR=5.2						
MKAR	**Makanchi Array**	**63.30**	**12**	P	**P**	**22 54 00.0**	**+0.8**
	0.2nm,0.5s,baz=208,slow=8.0,SNR=2.3						
WRA	**Warramunga Arr**	**64.02**	**105**	P		**22 54 05.5**	**+0.8**
	0.7nm,0.9s,baz=266,slow=6.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**70.62**	**11**	P	**P**	**22 54 46.0**	**+0.4**
	0.3nm,0.3s,baz=276,slow=4.2,SNR=2.3						
AKASG	**Malin Array Be**	**73.54**	**336**	P	**P**	**22 55 01.7**	**-1.5**
	1.2nm,0.7s,baz=128,slow=5.6,SNR=7.0						
RONA	**Rosalia, Austr**	**77.28**	**328**	*i* P	**P**	**22 55 25.5**	**+0.7**
	2.1nm,0.8s						
SOKA	**Soboth**	**77.30**	**326**	*i* P	**P**	**22 55 27.0**	**+2.0**
	8.0nm,1.9s						
ARSA	**Arzberg**	**77.40**	**327**	*i* P	**P**	**22 55 26.4**	**+0.9**
	4.8nm,0.9s						
OBKA	**Obir**	**77.45**	**326**	*i* P	**P**	**22 55 27.4**	**+1.4**
	9.0nm,1.5s						
KSRS	**Korea Array**	**77.62**	**45**	P	**P**	**22 55 25.7**	**-1.2**
	1.2nm,0.8s,baz=245,slow=6.2,SNR=5.6						
CONA	**Conrad Observa**	**77.66**	**328**	*i* P	**P**	**22 55 27.5**	**+0.5**
	3.2nm,1.1s						
MOA	**Molln**	**78.44**	**327**	*i* P	**P**	**22 55 31.9**	**+0.6**
	6.3nm,1.0s						
ABTA	**Abfaltersbach**	**78.71**	**325**	*i* P	**P**	**22 55 33.6**	**+0.7**
	3.8nm,0.9s						
WATA	**Walderalm**	**79.58**	**325**	*e*P	**P**	**22 55 37.5**	**-0.2**
	4.0nm,1.2s						
DAVA	**Damuels**	**80.49**	**325**	*i* P	**P**	**22 55 42.6**	**-0.1**
	7.3nm,1.8s						
ESDC	**Sonseca Array**	**85.59**	**313**	P	**P**	**22 56 09.2**	**+0.1**
	1.0nm,0.8s,baz=102,slow=3.8,SNR=7.9						
PDAR	**Pinedale Array**	**152.44**	**354**	PKPbc	**PKPbc**	**23 03 27.0**	**-0.2**
	0.5nm,0.7s,baz=70,slow=1.1,SNR=3.5						

*THE **23** 23:02:50.8, 39°.40N×19°.95E, h47km±1km, ML2.7/4, Error ellipse: s-maj=2.8km s-min=0.4km az=55.0*
*ATH **23** 23:02:50.6, 39°.28N×19°.88E, h25km±1km, ML2.5/5, Error ellipse: s-maj=2.7km s-min=0.9km az=245.0*

ISC 23 23:02:51.6±1.0, 39°.31N±0°.03×19°.91E±0°.05, h22km±7km, n39, σ0s77/64, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.41**	**348**	P	**Pb**	**23 02 59.8**	**-0.4**
KEK				S	**Sb**	**23 03 06.8**	**+0.7**
KEK				AML	AML	23 03 10.3	
	comp=N,496μm,0.3s						
KEK				AML	AML	23 03 10.8	
	comp=E,686μm,0.2s						
KEK	**Kerkira**	**0.41**	**348**	P	**Pb**	**23 02 59.9**	**-0.4**
KEK				S	**Sb**	**23 03 06.6**	**+0.4**
SRN	**Sarande**	**0.58**	**7**	P	**Pb**	**23 03 01.5**	**-1.6**
SRN				S	**Sb**	**23 03 09.3**	**-1.6**
TSLK	**Tsoukalades, L**	**0.76**	**129**	P	**Pb**	**23 03 05.1**	**-1.0**
TSLK				S	**Sb**	**23 03 16.6**	**+0.7**
TSLK				AML	AML	23 03 19.6	
	comp=N,920μm,0.3s						
TSLK				AML	AML	23 03 21.1	
	comp=E,1059μm,0.2s						
TSLK	**Tsoukalades, L**	**0.76**	**129**	P	**Pb**	**23 03 05.4**	**-0.6**
TSLK				S	**Sn**	**23 03 17.0**	**-0.7**
	comp=E,515nm,0.3s						
LKD2	**Lefkada island**	**0.78**	**131**	P	**Pb**	**23 03 05.5**	**-1.0**
LKD2				S	**Sb**	**23 03 17.0**	**+0.3**
LKD2				AML	AML	23 03 20.9	
	comp=E,934μm,0.2s						
LKD2				AML	AML	23 03 21.5	
	comp=N,754μm,0.3s						
LKD2	**Lefkada island**	**0.78**	**131**	P	**Pb**	**23 03 05.7**	**-0.8**
LKD2				S	**Sb**	**23 03 17.5**	**+0.9**
	comp=N,425nm,0.2s						
DRAG	**Dragano-Lefkad**	**0.81**	**140**	P	**Pb**	**23 03 06.1**	**-0.8**
DRAG				S	**Sn**	**23 03 18.3**	**-0.8**
DRAG	**Dragano-Lefkad**	**0.81**	**140**	P	**Pb**	**23 03 06.2**	**-0.8**
DRAG				S	**Sn**	**23 03 18.3**	**-0.8**
NYDR	**Nydri-Lefkada**	**0.85**	**134**	P	**Pb**	**23 03 06.7**	**-1.0**
NYDR				S	**Sb**	**23 03 19.1**	**+0.4**
NYDR	**Nydri-Lefkada**	**0.85**	**134**	P	**Pb**	**23 03 06.9**	**-0.8**
NYDR				S	**Sn**	**23 03 19.6**	**-0.5**
	comp=N,560nm,0.4s						
EVGI	**Lefkada island**	**0.90**	**139**	P	**Pb**	**23 03 07.5**	**-1.0**
EVGI				S	**Sb**	**23 03 20.4**	**+0.3**
EVGI	**Lefkada island**	**0.90**	**139**	P	**Pb**	**23 03 07.5**	**-1.0**
EVGI				S	**Sb**	**23 03 20.4**	**+0.3**
	comp=N,338nm,0.3s						
FSK	**Fiskardo**	**0.99**	**149**	P	**Pb**	**23 03 09.8**	**-0.2**
FSK				AML	AML	23 03 26.6	
	comp=N,484μm,0.2s						
FSK				AML	AML	23 03 27.1	
	comp=E,576μm,0.3s						
KEF4	**Livadi, Kephal**	**1.12**	**159**	P	**Pb**	**23 03 12.6**	**+0.4**
DMLN	**Damoulianata-K**	**1.13**	**161**	P	**Pb**	**23 03 12.4**	**0.0**
KEF3	**Kipouria, Keph**	**1.15**	**163**	P	**Pn**	**23 03 12.1**	**-0.4**
VLS	**Valsamata**	**1.25**	**154**	P	**Pn**	**23 03 13.5**	**-0.2**
VLS				AML	AML	23 03 33.8	
	comp=N,549μm,0.5s						
VLS				AML	AML	23 03 34.5	
	comp=E,417μm,0.2s						
KPRO	**Kipourio**	**1.30**	**60**	P	**Pb**	**23 03 15.8**	**+0.5**
PSDA	**Pessada-Kefalo**	**1.30**	**156**	P	**Pn**	**23 03 15.1**	**-0.3**
NEST	**Nestorio**	**1.41**	**38**	P	**Pn**	**23 03 17.0**	**+1.0**
PVO	**Paravola**	**1.44**	**118**	P	**Pn**	**23 03 16.7**	**+0.4**
THL	**Klokotos Trika**	**1.65**	**80**	P	**Pb**	**23 03 20.7**	**-0.6**
ANX	**Ano Chora**	**1.72**	**114**	P	**Pn**	**23 03 21.6**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.75**	**99**	P	**Pb**	**23 03 22.2**	**-0.9**
LAKA	**Lakka**	**1.94**	**123**	P	**Pn**	**23 03 24.5**	**+1.3**
DRO	**Drossia**	**1.96**	**133**	P	**Pn**	**23 03 24.6**	**+1.1**
DBRK	**Dubrovnik**	**3.61**	**339**	*e*Pn	**Pn**	**23 03 46.6**	**+0.4**
DBRK				Sn	**Sn**	**23 04 28.3**	**+0.1**
STON	**Ston**	**3.93**	**336**	*e*Pn	**Pn**	**23 03 50.8**	**+0.2**
STON				Sn	**Sn**	**23 04 35.7**	**-0.3**
LSTV	**Lastovo**	**4.14**	**328**	*e*Pn	**Pn**	**23 03 53.7**	**+0.2**
LSTV				Sn	**Sn**	**23 04 40.5**	**-0.8**
MAKA	**Makarska**	**4.53**	**332**	*e*Pn	**Pn**	**23 03 59.3**	**+0.5**
MAKA				Sn	**Sn**	**23 04 50.9**	**0.0**
HVAR	**Hvar**	**4.67**	**327**	*e*Pn	**Pn**	**23 04 00.4**	**-0.2**
HVAR				Sn	**Sn**	**23 04 53.2**	**-0.9**
RICI	**Ricice**	**4.68**	**334**	*e*Pn	**Pn**	**23 04 01.7**	**+0.8**
RICI				Sn	**Sn**	**23 04 54.4**	**-0.1**
KIJV	**Kijevo**	**5.38**	**332**	*e*Pn	**Pn**	**23 04 11.3**	**+0.8**
KIJV				Sn	**Sn**	**23 05 11.9**	**+0.2**
ZIRJ	**Zirje**	**5.40**	**325**	*e*Pn	**Pn**	**23 04 11.8**	**+1.1**
ZIRJ				Sn	**Sn**	**23 05 11.7**	**-0.4**
MORI	**Morici**	**5.54**	**327**	*e*Pn	**Pn**	**23 04 13.7**	**+1.0**
MORI				Sn	**Sn**	**23 05 16.0**	**+0.4**
DUGI	**Dugi Otok**	**5.92**	**324**	*e*Pn	**Pn**	**23 04 19.5**	**+1.5**
DUGI				Sn	**Sn**	**23 05 24.9**	**-0.3**
VIRC	**Vir**	**6.16**	**326**	*e*Pn	**Pn**	**23 04 22.4**	**+1.2**
VIRC				Sn	**Sn**	**23 05 30.6**	**-0.4**
A250A	**Rusevo Krmpots**	**6.86**	**329**	*e*Pn	**Pn**	**23 04 31.3**	**+0.4**
A250A				Sn	**Sn**	**23 05 47.8**	**-0.5**

*IDC **23** 23:02:55.0±0.5, 51°.81N×178°.65W, h0km, mb4.0/26, mb1 4.1/30, mb1mx4.0/66, mbtmp4.0/30, ML3.7/3, MS3.4/6, Ms1 3.4/6, ms1mx2.9/104, Error ellipse: s-maj=17.6km s-min=10.9km az=172.0*
*AEIC **23** 23:02:56±2.0, 51°.64N±0°.10×178°.50W±0°.06, h8km±3km, ML4.3, mb4.3/90(NEIC), Error ellipse: s-maj=14.4km s-min=4.9km az=167.0*
*NEIC **23** 23:02:57.2±1.6, 51°.73N±0°.10×178°.53W±0°.06, h10km±1km, Error ellipse: s-maj=17.0km s-min=6.0km az=172.0*

ISC 23 23:02:56.2±0.5, 51°.58N±0°.07×178°.53W±0°.03, h10km, n237, σ1s27/230, mb4.2/55, MS4.0/4, 1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.23**	**319**		**Pg**	**23 03 02.1**	**+1.1**
GAEA	**Gareloi East**	**0.24**	**325**		**Pg**	**23 03 02.2**	**+1.0**
TASE	**Tanaga Southea**	**0.39**	**50**		**Pg**	**23 03 04.5**	**+0.5**
TAFP	**Tanaga Falls P**	**0.46**	**47**		**Pg**	**23 03 05.3**	**+0.1**
TAPA	**Tanaga Point A**	**0.50**	**62**		**Pg**	**23 03 06.3**	**+0.3**
KIMD	**Kanaga Island**	**0.82**	**77**		**Pg**	**23 03 11.7**	**-0.3**
KICM	**Kanaga Island**	**0.89**	**67**		**Pg**	**23 03 13.4**	**0.0**
KIKV	**Kanaga Island**	**0.89**	**70**		**Pg**	**23 03 13.1**	**-0.3**
KIWB	**Kanaga Island**	**0.90**	**72**	Pg	**Pg**	**23 03 13.0**	**-0.5**
ADK	**Adak**	**1.18**	**75**	Pg	**Pn**	**23 03 17.5**	**-1.3**
ADK				Sg	**Sb**	**23 03 33.0**	**-1.0**
GSCK	**Great Sitkin C**	**1.53**	**73**		**Pn**	**23 03 23.5**	**-0.1**
GSTD	**Great Sitkin T**	**1.55**	**71**		**Pn**	**23 03 23.3**	**-0.6**
GSTR	**Great Sitkin T**	**1.61**	**71**	Pn	**Pn**	**23 03 24.6**	**-0.1**
ATKA	**Atka Island**	**2.75**	**75**		**Pn**	**23 03 40.4**	**+0.1**
ATKA					**Sn**	**23 04 14.3**	**+0.6**
KOKL	**Mount Kliuchef**	**2.78**	**73**		**Pn**	**23 03 41.1**	**+0.4**
KOFP	**Korovin Flat P**	**2.83**	**74**		**Pn**	**23 03 42.3**	**+0.8**
SHEM	**Shemya Is, Ala**	**4.68**	**287**	Pn	**Pn**	**23 04 06.7**	**-0.2**
	1.2nm,0.3s,baz=64,slow=16,SNR=2.1						
SHEM				Sn	**Sn**	**23 05 01.3**	**+0.1**
	4.0nm,0.3s,baz=99,slow=20,SNR=1.3						
SHEM				LR	LR	23 05 53.0	
	comp=Z,371nm,18.3s,baz=118,slow=39						
SMY	**Shemya**	**4.68**	**287**	Pn	**Pn**	**23 04 06.2**	**-0.7**
NIKH	**Nikolski High**	**6.10**	**73**	Pn	**Pn**	**23 04 27.5**	**+1.2**
NIKH	**Nikolski High**	**6.10**	**73**	P	**Pn**	**23 04 29.0**	**+2.7**
	baz=262						
SPIA	**Saint Paul Isl**	**7.40**	**38**	Pn	**Pn**	**23 04 43.5**	**-0.6**
SPIA	**Saint Paul Isl**	**7.40**	**38**	P	**Pn**	**23 04 44.5**	**+0.5**
	baz=225						
UNV	**Unalaska Valle**	**7.64**	**68**		**Pn**	**23 04 47.9**	**+0.4**
UNV	**Unalaska Valle**	**7.64**	**68**	P	**Pn**	**23 04 50.4**	**+2.9**
	baz=258						
AKGG	**Akutan Green G**	**8.02**	**66**		**Pn**	**23 04 54.0**	**+1.3**
AKUT	**Akutan**	**8.13**	**67**	Pn	**Pn**	**23 04 54.3**	**+0.2**
PETK	**Petropavlovsk-**	**14.60**	**285**	Pn	**Pn**	**23 06 22.4**	**-0.2**
	0.1nm,0.3s,baz=62,slow=28,SNR=1.7						
PETK				Sn	Sn	23 08 53.5	-11
	0.1nm,0.3s,baz=66,slow=22,SNR=1.7						
PETK				LR	LR	23 11 42.1	
	comp=Z,67nm,20.9s,baz=95,slow=36						
P18K	**Big Mountain,**	**15.28**	**50**		**Pn**	**23 06 33.0**	**+1.3**
P18K	**Big Mountain,**	**15.28**	**50**	P	**P**	**23 06 35.8**	**-0.8**
	baz=250						
O18K	**Koktuh Hills**	**15.46**	**49**	Pn	**Pn**	**23 06 35.7**	**+1.6**
O18K				IAmb	IAmb	23 06 42.3	
	comp=Z,18nm,0.8s						
O18K	**Koktuh Hills**	**15.46**	**49**	P	**P**	**23 06 37.7**	**-0.9**
	baz=248,SNR=5.4						
N18K	**Kilae Creek**	**15.48**	**45**	P	**P**	**23 06 41.2**	**+2.3**
	baz=244						
OHAK	**Old Harbor**	**15.69**	**59**	Pn	**Pn**	**23 06 35.3**	**-1.7**
SVW2	**Sparrevohn**	**15.80**	**44**	P	**P**	**23 06 41.3**	**-1.1**
SVW2				IAmb	IAmb	23 06 53.8	
	comp=Z,22nm,1.2s						
Q19K	**Cape Douglas,**	**15.90**	**53**		**P**	**23 06 42.5**	**-1.1**
O19K	**Port Alsworth**	**16.00**	**48**	P	**P**	**23 06 46.8**	**+2.3**
	baz=248						
N19K	**Bonanza Creek**	**16.17**	**46**		**Pn**	**23 06 43.6**	**+0.3**
N19K				IAmb	IAmb	23 06 59.0	
	comp=Z,12nm,0.7s						
KDAK	**Kodiak Island**	**16.17**	**57**	Pn	**Pn**	**23 06 41.1**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=284,slow=12,SNR=1.6						
KDAK				Sn	**Sn**	**23 09 41.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=188,slow=8.7,SNR=1.7						
KDAK				LR	LR	23 13 47.3	
	comp=Z,226nm,19.1s,baz=265,slow=40						
KDAK	**Kodiak Island**	**16.17**	**57**	Pn	**Pn**	**23 06 41.7**	**-1.5**
KDAK				IAmb	IAmb	23 07 09.5	
	comp=Z,47nm,1.2s						
TTA	**Tatalina**	**16.55**	**38**	Pn	**Pn**	**23 06 47.7**	**-0.4**
TTA	**Tatalina**	**16.55**	**38**	P	**Pn**	**23 06 49.0**	**+0.9**
	baz=237						
L19K	**White Mountain**	**16.62**	**41**		**Pn**	**23 06 48.4**	**-0.7**
L19K				IAmb	IAmb	23 06 59.8	
	comp=Z,16nm,0.9s						
L19K	**White Mountain**	**16.62**	**41**	P	**P**	**23 06 51.1**	**-0.4**
	baz=241						
M19K	**Big River Lodg**	**16.68**	**42**	P	**Pn**	**23 06 51.3**	**+1.6**
RSO	**Redoubt South**	**16.82**	**48**		**Pn**	**23 06 51.3**	**-0.4**
L20K	**Farewell, AK**	**17.16**	**41**	P	**P**	**23 06 58.0**	**+0.5**
	baz=242						
CNPM	**China Poot**	**17.26**	**52**		**Pn**	**23 06 57.2**	**+0.1**
CNPM				IAmb	IAmb	23 07 18.4	
	comp=Z,19nm,1.0s						
K20K	**Telida**	**17.52**	**38**		**Pn**	**23 06 59.9**	**-0.4**
K20K	**Telida**	**17.52**	**38**	P	**P**	**23 07 01.6**	**+0.2**
	baz=239						
J20K	**Nowinta River**	**17.93**	**36**	P	**P**	**23 07 06.5**	**+0.6**
	baz=237						
PPLA	**Purkeypile**	**18.05**	**41**	P	**Pn**	**23 07 06.7**	**-0.2**
PPLA				IAmb	IAmb	23 07 34.4	
	comp=Z,45nm,1.4s						
BILL	**Bilibino**	**18.09**	**341**		**Pn**	**23 07 06.3**	**-1.0**
SEW	**Seward**	**18.28**	**51**		**P**	**23 07 10.6**	**+0.8**
SEW				IAmb	IAmb	23 07 13.8	
	comp=Z,19nm,1.2s						
CAST	**Castle Rocks**	**18.33**	**40**	P	**P**	**23 07 11.2**	**+0.8**
CAST	**Castle Rocks**	**18.33**	**40**	P	**P**	**23 07 13.9**	**+3.5**
	baz=242						
CHUM	**Lake Minchumin**	**18.46**	**38**

H24K	**Noodor Dome**	**21.07**	**36**	P		**P**	**23 07 42.1**	**+1.9**
	baz=242,SNR=13							
GLB	**Gilahina Butte**	**21.28**	**49**	P		**P**	**23 07 40.4**	**-2.2**
GLB				IAmb		IAmb	23 07 59.1	
	comp=Z,16nm,1.2s							
RIDG	**Independent Ri**	**21.43**	**42**	P		**P**	**23 07 44.2**	**+0.1**
RIDG				IAmb		IAmb	23 07 53.0	
	comp=Z,27nm,1.5s							
RIDG	**Independent Ri**	**21.43**	**42**	P		**P**	**23 07 44.0**	**-0.1**
	baz=251							
J25K	**Salcha River,**	**21.52**	**40**	P		**P**	**23 07 45.5**	**+0.5**
	baz=249							
L26K	**Log Cabin Wild**	**21.87**	**45**	P		**P**	**23 07 50.8**	**+2.0**
	baz=255,SNR=14							
SCRK	**Sand Creek**	**21.87**	**42**	P		**P**	**23 07 48.4**	**-0.5**
SCRK	**Sand Creek**	**21.87**	**42**	P		**P**	**23 07 49.0**	**+0.1**
	baz=252,SNR=6.4							
M26K	**Nabesna, AK**	**21.87**	**47**	P		**P**	**23 07 49.8**	**+1.0**
	baz=257							
TOLK	**Toolik Lake Re**	**22.00**	**28**	P		**P**	**23 07 50.6**	**+0.4**
TOLK				IAmb		IAmb	23 07 58.9	
	comp=Z,15nm,1.1s							
TOLK	**Toolik Lake Re**	**22.00**	**28**	P		**P**	**23 07 51.6**	**+1.4**
	baz=234,SNR=6.4							
J26L	**Joseph Creek**	**22.21**	**41**	P		**P**	**23 07 52.3**	**-0.2**
	baz=251							
M27K	**Edge Creek, AK**	**22.37**	**47**	P		**P**	**23 07 54.3**	**0.0**
M27K				IAmb		IAmb	23 08 07.6	
	comp=Z,8.8nm,0.9s							
M27K	**Edge Creek, AK**	**22.37**	**47**	P		**P**	**23 07 56.5**	**+2.2**
	baz=258							
TABL	**Table Mountain**	**22.41**	**52**	P		**P**	**23 07 53.4**	**-1.4**
L27K	**Beaver Creek,**	**22.55**	**45**	P		**P**	**23 07 56.4**	**+0.3**
	baz=257							
BCAR	**Beaver Creek A**	**22.57**	**45**	P		**P**	**23 07 56.1**	**-0.2**
BVCY	**Beaver Creek**	**22.84**	**47**	P		**P**	**23 08 01.3**	**+2.0**
	baz=259							
YUK3	**Moose Creek**	**22.92**	**49**	P		**P**	**23 08 01.8**	**+1.6**
	baz=261							
BMAR	**Burnt Mountain**	**22.97**	**34**	P		**P**	**23 08 01.6**	**+1.2**
EGAK	**Eagle**	**23.28**	**41**	P		**P**	**23 08 03.3**	**-0.4**
EGAK				IAmb		IAmb	23 08 09.8	
	comp=Z,8.3nm,0.8s							
EGAK	**Eagle**	**23.28**	**41**	P		**P**	**23 08 04.5**	**+0.9**
	baz=254							
DAWY	**Dawson**	**23.84**	**43**	P		**P**	**23 08 09.1**	**-0.1**
HYT	**Haines Junctio**	**24.23**	**52**	P		**P**	**23 08 12.0**	**-1.0**
I29M	**Ogilvie Camp,**	**24.60**	**41**	P		**P**	**23 08 15.4**	**-0.8**
EPYK	**Eagle Plains**	**25.49**	**39**	P		**P**	**23 08 23.9**	**-0.3**
EPYK				IAmb		IAmb	23 08 30.8	
	comp=Z,11nm,1.2s							
EPYK	**Eagle Plains**	**25.49**	**39**	P		**P**	**23 08 25.4**	**+1.2**
	baz=255							
ASAJ	**Asahikawa**	**26.88**	**269**	P		**P**	**23 08 36.6**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=79,slow=16,SNR=1.4							
INK	**Inuvik**	**27.19**	**35**	P		**P**	**23 08 38.8**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=250,slow=13,SNR=3.6							
INK	**Inuvik**	**27.19**	**35**	P		**P**	**23 08 39.4**	**-0.1**
INK	**Inuvik**	**27.19**	**35**	P		**P**	**23 08 41.0**	**+1.6**
	baz=255							
DLBC	**Dease Lake**	**28.10**	**57**	LR		LR	23 18 55.1	
	comp=Z,86nm,21.9s,baz=276,slow=34							
TIXI	**Tiksi**	**30.54**	**330**	P		**P**	**23 09 08.4**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=95,slow=23,SNR=8.1							
TIXI	**Tiksi**	**30.54**	**330**	P		**P**	**23 09 08.9**	**-0.3**
A36M	**Sachs Harbour**	**30.82**	**29**	P		**P**	**23 09 16.4**	**+4.7**
	baz=258,SNR=5.7							
KLR	**Kul'dur**	**31.29**	**286**	P		**P**	**23 09 15.4**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=55,slow=8.3,SNR=7.0							
USRK	**Ussuriysk Ar.**	**33.44**	**277**	P		**P**	**23 09 33.0**	**-2.0**
	comp=Z,3.4nm,0.6s,baz=56,slow=9.8,SNR=5.4							
USRK	**Ussuriysk Ar.**	**33.44**	**277**	P		**P**	**23 09 34.5**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**33.79**	**205**	T		T	23 46 25.7	
	baz=18,slow=76,SNR=452							
H11N3	**WAKE ISLAND Hy**	**33.80**	**205**	T		T	23 46 26.3	
	baz=18,slow=76,SNR=428							
H11N1	**WAKE ISLAND Hy**	**33.81**	**205**	T		T	23 46 27.1	
	baz=18,slow=76,SNR=365							
MJAR	**Matsushiro Arr**	**33.99**	**261**	P		**P**	**23 09 39.3**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=50,slow=7.4,SNR=1.6							
YKA	**Yellowknife Ar**	**34.97**	**47**	P		**P**	**23 09 47.6**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=280,slow=7.5,SNR=11							
YKA				PcP		**PcP**	**23 12 19.6**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=282,slow=3.1,SNR=5.1							
YKA				ScP		**ScP**	**23 16 04.2**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=284,slow=3.0,SNR=1.4							
YKA				LR		LR	23 25 04.5	
	comp=Z,122nm,19.1s,baz=317,slow=38							
YKA	**Yellowknife Ar**	**34.97**	**47**	P		**P**	**23 09 47.3**	**-0.7**
H11S1	**WAKE ISLAND Hy**	**35.01**	**205**	T		T	23 47 53.3	
	baz=18,slow=74							
H11S2	**WAKE ISLAND Hy**	**35.02**	**205**	T		T	23 47 52.5	
	baz=18,slow=74							
H11S3	**WAKE ISLAND Hy**	**35.02**	**205**	T		T	23 47 51.6	
	baz=18							
I04A	**Tendick Farm,**	**37.73**	**79**	P		**P**	**23 10 14.2**	**+2.3**
	baz=302							
I07A	**Izee**	**39.36**	**77**	P		**P**	**23 10 26.4**	**+0.7**
I07A				IAmb		IAmb	23 10 32.5	
	comp=Z,5.0nm,0.8s							
RES	**Resolute Bay**	**39.48**	**25**	P		**P**	**23 10 26.4**	**+0.3**
O02D	**Mt. Diablo Mer**	**39.53**	**84**	P		**P**	**23 10 28.6**	**+1.5**
O02D				IAmb		IAmb	23 10 46.1	
	comp=Z,9.7nm,1.2s							
KSRS	**Korea Array**	**39.81**	**271**	P		**P**	**23 10 29.6**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=61,slow=8.1,SNR=5.6							
EUNU	**Eureka**	**40.04**	**16**	P		**P**	**23 10 30.5**	**-0.3**
MOD	**Modoc Plateau**	**40.07**	**80**	P		**P**	**23 10 32.5**	**+0.9**
MOD				IAmb		IAmb	23 10 38.2	
	comp=Z,4.2nm,0.8s							
BMN	**Battle Mountai**	**42.82**	**80**	P		**P**	**23 10 54.8**	**+0.5**
BMN				IAmb		IAmb	23 11 01.0	
	comp=Z,3.5nm,0.7s							
MCMT	**McKenzie Canyo**	**42.95**	**72**	P		**P**	**23 10 55.4**	**0.0**
BOZ	**Bozeman (W)**	**43.25**	**70**	P		**P**	**23 10 58.1**	**+0.4**
XLT	**XiLinHaoTe**	**43.30**	**287**	*eP*		**P**	**23 10 58.6**	**+0.6**
XLT				pP		sP	23 11 02.9	+0.7
XLT				sP		pP	23 11 05.0	+4.0
XLT				pmax		pmax		
	comp=Z,9.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,140nm,5.6s							
NVAR	**Mina Array Bea**	**43.36**	**83**	P		**P**	**23 10 59.9**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=290,slow=7.2,SNR=8.6							
NVAR				PcP		**PcP**	**23 12 47.2**	**0.0**
	comp=Z,0.7nm,0.8s,baz=0.0,slow=1.5,SNR=3.7							
NVAR	**Mina Array Bea**	**43.36**	**83**	P		**P**	**23 10 59.3**	**+0.6**
ELK	**Elko**	**43.85**	**78**	P		**P**	**23 11 03.0**	**+0.4**
ELK				IAmb		IAmb	23 11 09.7	
	comp=Z,4.6nm,0.9s							
YHH	**Holmes Hill**	**44.16**	**71**	P		**P**	**23 11 05.4**	**+0.3**
YHH				IAmb		IAmb	23 11 29.0	
	comp=Z,4.2nm,1.0s							
R11A	**Troy Canyon, C**	**45.09**	**81**	P		**P**	**23 11 13.2**	**+0.7**
R11A				IAmb		IAmb	23 11 18.3	
	comp=Z,5.9nm,1.1s							
R11A	**Troy Canyon, C**	**45.09**	**81**	P		**P**	**23 11 13.8**	**+1.3**
	baz=309,SNR=8.1							
TPNV	**Topopah Spring**	**45.55**	**83**	P		**P**	**23 11 16.6**	**+0.5**
TPNV	**Topopah Spring**	**45.55**	**83**	P		**P**	**23 11 17.8**	**+1.6**
	baz=310							
DUG	**Dugway, Tooele**	**45.66**	**77**	P		**P**	**23 11 18.1**	**+1.2**
DUG				IAmb		IAmb	23 11 27.9	
	comp=Z,4.7nm,0.9s							
DUG	**Dugway, Tooele**	**45.66**	**77**	P		**P**	**23 11 18.1**	**+1.2**
	baz=308							
BW06	**Boulder Array**	**46.08**	**73**	P		**P**	**23 11 21.1**	**+0.7**
BW06				IAmb		IAmb	23 11 43.3	
	comp=Z,5.0nm,1.1s							
PDAR	**Pinedale Array**	**46.08**	**73**	P		**P**	**23 11 20.9**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=322,slow=4.5,SNR=11							
PDAR	**Pinedale Array**	**46.08**	**73**	P		**P**	**23 11 21.1**	**+0.7**
GSC	**Goldstone, Bar**	**46.26**	**86**	P		**P**	**23 11 22.1**	**+0.4**
SONM	**Songino Array**	**46.71**	**297**	P		**P**	**23 11 24.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=84,slow=5.5,SNR=2.9							
HHC	**Hu-ho-hao-te**	**47.80**	**286**	*eP*		**P**	**23 11 33.3**	**-0.4**
HHC				pmax		pmax		
	comp=Z,13nm,0.7s							
HHC				pmax		pmax		
	comp=Z,190nm,5.1s							
HHC				LR		LR		
	comp=N,280nm,15.1s							
HHC				LR		LR		
	comp=E,180nm,15.9s							
HHC				LR		LR		
	comp=Z,240nm,15.2s							

U15A	**North Rim**	**48.33**	**81**	P		**P**	**23 11 38.8**	**+0.8**
O20A	**White River Ci**	**48.46**	**75**	P		**P**	**23 11 39.0**	**+0.1**
O20A	**White River Ci**	**48.46**	**75**	P		**P**	**23 11 39.4**	**+0.5**
	baz=308							
WUAZ	**Wupatki**	**49.49**	**81**	P		**P**	**23 11 46.9**	**+0.1**
WUAZ	**Wupatki**	**49.49**	**81**	P		**P**	**23 11 48.4**	**+1.6**
	baz=311							
SPB2	**Spitsbergen Ar**	**50.18**	**356**	P		**P**	**23 11 50.9**	**-0.4**
TUC	**Tucson**	**51.99**	**84**	P		**P**	**23 12 05.7**	**+0.1**
TUC				IAmb		IAmb	23 12 07.2	
	comp=Z,3.0nm,0.8s							
TUC	**Tucson**	**51.99**	**84**	P		**P**	**23 12 06.7**	**+1.1**
	baz=313							
121A	**Cookes Peak, D**	**53.69**	**82**	P		**P**	**23 12 19.2**	**+0.9**
121A				IAmb		IAmb	23 12 26.8	
	comp=Z,4.0nm,0.8s							
XAN	**Xi'an**	**53.79**	**281**	P		**P**	**23 12 18.9**	**+0.1**
XAN				pmax		pmax		
	comp=Z,7.0nm,1.0s							
LZH	**Lanzhou**	**55.49**	**286**	⇑P		**P**	**23 12 32.3**	**+1.0**
LZH				pP		sP	23 12 38.3	+2.7
LZH				sP		pP	23 12 43.8	+9.4
LZH				pmax		pmax		
	comp=Z,20nm,1.3s							
MNTX	**Cornudas Mount**	**55.75**	**81**	P		**P**	**23 12 33.4**	**+0.4**
MNTX				IAmb		IAmb	23 12 38.4	
	comp=Z,3.8nm,1.1s							
MNTX	**Cornudas Mount**	**55.75**	**81**	P		**P**	**23 12 34.0**	**+1.0**
	baz=314							
ARCES	**ARCESS Array B**	**57.92**	**350**	P		**P**	**23 12 47.1**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=17,slow=6.4,SNR=10							
ARCES	**ARCESS Array B**	**57.92**	**350**	P		**P**	**23 12 47.0**	**-0.9**
TX32	**Lajitas Array**	**58.45**	**82**	P		**P**	**23 12 52.6**	**+0.3**
TX32				IAmb		IAmb	23 12 57.1	
	comp=Z,4.2nm,1.2s							
TXAR	**Lajitas Array**	**58.45**	**82**	P		**P**	**23 12 52.8**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=305,slow=5.5,SNR=43							
TXAR				PcP		**PcP**	**23 13 43.6**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=241,slow=0.6,SNR=6.6							
TXAR	**Lajitas Array**	**58.45**	**82**	P		**P**	**23 12 52.5**	**+0.3**
KURK	**Kurchatov**	**59.00**	**314**	P		**P**	**23 12 55.5**	**-0.1**
KURK				IAmb		IAmb	23 12 56.1	
	comp=Z,1.2nm,0.6s							
KURBB	**Kurchatov Arra**	**59.11**	**314**	P		**P**	**23 12 54.4**	**-2.0**
	comp=Z,0.9nm,0.5s,baz=42,slow=6.7,SNR=8.1							
WMQ	**Urumqi**	**59.37**	**303**	*eP*		**P**	**23 13 02.3**	**+3.9**
WMQ				LR		LR		
	comp=Z,190nm,18.9s							
MK31	**Makanchi Array**	**60.04**	**308**	P		**P**	**23 13 01.8**	**-1.2**
MKAR	**Makanchi Array**	**60.04**	**308**	P		**P**	**23 13 00.6**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=50,slow=8.3,SNR=9.1							
MKAR	**Makanchi Array**	**60.04**	**308**	P		**P**	**23 13 01.8**	**-1.1**
PZH	**PanZhiHua**	**63.48**	**280**	P		**P**	**23 13 28.6**	**+2.1**
PZH				pmax		pmax		
	comp=Z,7.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,90nm,4.3s							
FIA1	**FINESS Array S**	**65.62**	**347**	P		**P**	**23 13 39.3**	**-0.4**
FINES	**FINESS Array B**	**65.62**	**347**	P		**P**	**23 13 38.4**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=31,slow=4.4,SNR=4.3							
FINES	**FINESS Array B**	**65.62**	**347**	P		**P**	**23 13 38.7**	**-1.1**
KDJ	**Kajisay**	**65.94**	**308**	P		**P**	**23 13 42.6**	**+0.2**
KDJ				IAmb		IAmb	23 14 05.9	
	comp=Z,1.5nm,1.1s							
AAK	**Ala-Archa**	**66.86**	**310**	P		**P**	**23 13 46.8**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=39,slow=5.2,SNR=5.1							
AAK	**Ala-Archa**	**66.86**	**310**	P		**P**	**23 13 47.7**	**-0.6**
NOA	**NORSAR Array B**	**67.46**	**355**	P		**P**	**23 13 50.5**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=4.1,slow=6.3,SNR=3.4							
AKTO	**Aktyubinsk**	**67.62**	**325**	P		**P**	**23 13 52.0**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=75,slow=5.8,SNR=5.2							
ABKAR	**Akbulak array**	**67.88**	**323**	P		**P**	**23 13 52.9**	**-1.5**
ABKAR	**Akbulak array**	**67.88**	**323**	P		**P**	**23 13 53.0**	**-1.3**
ABKAR				IAmb		IAmb	23 14 05.2	
	comp=Z,2.1nm,1.0s							
KK31	**Karatay Array**	**68.37**	**313**	P		**P**	**23 13 56.9**	**-0.7**
KK31				IAmb		IAmb	23 14 24.0	
	comp=Z,2.4nm,1.4s							
KKAR	**Karatay Array**	**68.37**	**313**	P		**P**	**23 13 57.7**	**0.0**
KKAR	**Karatay Array**	**68.37**	**313**	P		**P**	**23 13 57.6**	**-0.1**
KKAR				IAmb		IAmb	23 14 24.0	
	comp=Z,2.4nm,1.4s							
KSH	**Kashi**	**68.51**	**307**	P		**P**	**23 14 02.8**	**+4.1**
KSH				pP		sP	23 14 06.8	+3.7
KSH				sP		pP	23 14 09.3	+7.4
CMAR	**Chiang Mai Arr**	**71.16**	**276**	P		**P**	**23 14 15.1**	**0.0**
	comp=Z,0.7nm,0.4s,baz=332,slow=7.0,SNR=7.6							
CMAR	**Chiang Mai Arr**	**71.16**	**276**	P		**P**	**23 14 14.6**	**-0.5**
GAR	**Garm**	**71.68**	**310**	P		**P**	**23 14 17.9**	**-0.2**
AKASG	**Malin Array Be**	**75.41**	**342**	P		**P**	**23 14 38.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=10.0,slow=5.8,SNR=2.5							
BURAR	**Bucovina Array**	**79.10**	**344**	P		**P**	**23 14 60.0**	**-0.7**
MLR	**Muntele Rosu**	**81.03**	**343**	P		**P**	**23 15 10.9**	**-0.2**
MLR				IAmb		IAmb	23 15 36.9	
	comp=Z,5.5nm,1.4s							
WR0	**Warramunga Arr**	**82.21**	**224**	P		**P**	**23 15 17.9**	**+0.6**
WRA	**Warramunga Arr**	**82.28**	**224**	P		**P**	**23 15 18.0**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=32,slow=5.8,SNR=7.2							
TEOL	**Teolo**	**83.03**	**353**	P		**P**	**23 15 21.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**84.72**	**232**	P		**P**	**23 15 31.8**	**+1.5**
BRTR	**Keskin Array B**	**84.83**	**336**	P		**P**	**23 15 29.9**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=17,slow=5.4,SNR=4.9							
BRTR	**Keskin Array B**	**84.83**	**336**	P		**P**	**23 15 30.2**	**-0.7**
AS31	**Alice Springs**	**85.75**	**223**	P		**P**	**23 15 36.2**	**+0.8**
ASAR	**Alice Springs**	**85.75**	**223**	P		**P**	**23 15 36.6**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=24,slow=5.6,SNR=25							
ASAR	**Alice Springs**	**85.75**	**223**	P		**P**	**23 15 36.5**	**+1.1**
STKA	**Stephens Creek**	**90.19**	**213**	P		**P**	**23 15 58.4**	**+2.1**
	comp=Z,4.3nm,0.7s,baz=356,slow=6.0,SNR=8.7							
STKA	**Stephens Creek**	**90.19**	**213**	P		**P**	**23 15 58.4**	**+2.1**
STKA				IAmb		IAmb	23 15 59.4	
	comp=Z,1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**115.54**	**360**	PKP		**PKiKP**	**23 21 36.3**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=45,slow=2.2,SNR=2.6							
H03N2	**Juan Fernandez**	**121.04**	**106**	T		T	01 33 35.6	
	baz=317,slow=77,SNR=20							
H03N1	**Juan Fernandez**	**121.05**	**106**	T		T	01 33 36.9	
	baz=317,slow=77,SNR=20							
H03N3	**Juan Fernandez**	**121.05**	**106**	T		T	01 33 36.3	
	baz=317,slow=77,SNR=14							
MAW	**Mawson**	**146.75**	**218**	PKPbc		**PKPab**	**23 22 37.8**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=66,slow=1.9,SNR=13							
MAW	**Mawson**	**146.75**	**218**			**PKPab**	**23 22 37.6**	**-0.5**
BOSA	**Boshof**	**150.96**	**313**	PKPbc		**PKPbc**	**23 22 48.0**	**-1.1**
	comp=Z,3.4nm,0.7s,baz=26,slow=1.0,SNR=8.3							
BOSA	**Boshof**	**150.96**	**313**			**PKPbc**	**23 22 48.4**	**-0.7**

*BJI **23** 23:11:07.3±0.0, 17°.40S×172°.43W, h5km, mb5.3/58, mB5.7/60,Ms5.3/72,Ms7 5.0/68*
*IDC **23** 23:11:07.7±0.4, 17°.45S×172°.61W, h0km, mb4.8/26, mb1 5.0/26,mb1mx4.9/38,mbtmp4.8/26,MS5.1/58, Ms1 5.1/58,ms1mx5.0/63,Error ellipse: s-maj=16.5km s-min=12.5km az=120.0*
*NEIC **23** 23:11:08.5±2.9, 17°.28S±0°.06×172°.39W±0°.07, h10km±1km, mb5.3/137,Error ellipse: s-maj=11.8km s-min=10.5km az=58.0*
*BGR **23** 23:11:09.0±0.0, 17°.48S×172°.14W, h33km*
*MOS **23** 23:11:09.2±1.7, 17°.49S×172°.77W, h13km, mb5.3/24, MS5.1/12,Error ellipse: s-maj=8.6km s-min=8.2km az=84.5*
*NOU **23** 23:11:11.2, 17°.11S×172°.20W, h56km, mb5.2/44, Tonga Islands Region*
*GCMT **23** 23:11:13.5±0.1, 17°.41S±0°.01×172°.21W±0°.01, h12km, MW5.4/153, Moment Tensor Solution. s113,c183; s153,c291; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr 1.21±.01; Mθθ -0.14±.01; Mφφ -1.08±.01; Mrθ 0.05±.04; Mθφ -0.39±.01; Mφr 0.88±.04; Best double couple: M0 1.49900×10^17 NP1:φs 209.00000°, δ 28.00000°, λ 106.00000°. NP2:φs 10.00000°, δ 63.00000°, λ 81.00000°. Principal axes: T 1.5110, Plg71.0000°, Azm262.0000°; N -0.0310, Plg8.0000°, Azm14.0000°; P -1.4870, Plg18.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 23:11:08.6±0.5, 17°.58S±0°.04×172°.46W±0°.04, h12km±2km, h15km:pP-P,n770,σ1§82/799,mb5.3/134,MS5.1/104, 45C-40D,Tonga Islands region

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

NIUE	**Niue**	**2.83**	**122**	P		**Pn**	**23 11 51.4**	**-2.3**
	baz=2.7,SNR=809							
NIUE	**Niue**	**2.83**	**122**	Pn		**Pn**	**23 11 51.6**	**-2.0**
NIUE	**Niue**	**2.83**	**122**	P		**Pn**	**23 11 52.4**	**-1.2**
AFI	**Afiamalu**	**3.71**	**10**	P		**Pn**	**23 12 05.5**	**-0.3**
AFI	**Afiamalu**	**3.71**	**10**	Pn		Pn	23 11 58.2	-7.6
AFI	**Afiamalu**	**3.71**	**10**	P		Pn	23 11 58.7	-7.1
MSVF	**Nonsavu**	**9.05**	**268**	Pn		**Pn**	**23 13 22.5**	**+3.4**
	3.6nm,0.3s,baz=111,slow=10,SNR=23							
MSVF				Sn		Sn	23 15 12.5	+11
	2.1nm,0.3s,baz=32,slow=21,SNR=0.7							
MSVF				LR		LR	23 16 16.5	
	comp=Z,15μm,20.0s,baz=95,slow=35							
MSVF	**Nonsavu**	**9.05**	**268**	P		**Pn**	**23 13 19.4**	**+0.2**
MSVF	**Nonsavu**	**9.05**	**268**	Pn		**Pn**	**23 13 19.4**	**+0.2**
RAR	**Rarotonga**	**12.51**	**109**	Pn		**Pn**	**23 14 04.4**	**-2.0**
	8.0nm,0.3s,baz=246,slow=7.1,SNR=14							
RAR				Sn		Sn	23 16 36.3	+11
	baz=359,slow=15,SNR=1.5							
RAR				LR		LR	23 17 52.6	
	comp=Z,2μm,18.7s,baz=302,slow=32							
RAR	**Rarotonga**	**12.51**	**109**	P		**Pn**	**23 14 04.3**	**-2.1**
RAR	**Rarotonga**	**12.51**	**109**	Pn		**Pn**	**23 14 04.3**	**-2.1**
RAR	**Rarotonga**	**12.51**	**109**	P		**Pn**	**23 14 05.8**	**-0.6**
RAO	**Raoul Island**	**12.65**	**202**	Sn		**Sn**	**23 16 36.2**	**+7.0**
	72nm,0.3s,baz=283,slow=24,SNR=2.0							
GLKZ	**Green Lake**	**12.66**	**202**	P		**Pn**	**23 14 06.5**	**-2.0**
GLKZ				S		**Sn**	**23 16 21.9**	**-7.5**
MARNC	**Mare, Loyalty**	**18.79**	**255**	P		**P**	**23 15 26.6**	**-1.4**
PINNC	**Pines Island,**	**19.52**	**252**	P		**P**	**23 15 35.0**	**-0.9**
PINNC				IAmb		IAmb	23 16 06.8	
	comp=Z,333nm,1.4s							
SANVU	**Saraoutou**	**19.61**	**273**	P		**P**	**23 15 35.8**	**-1.2**
SANVU				IAmb		IAmb	23 15 57.6	
	comp=Z,166nm,1.3s							
SANVU	**Saraoutou**	**19.61**	**273**	P		**Pn**	**23 15 39.3**	**+0.9**
YATNC	**Mamie plateau,**	**19.93**	**254**	P		**Pn**	**23 15 43.6**	**+1.5**
OUENC	**Ouen Island, N**	**20.03**	**253**	P		**P**	**23 15 41.1**	**-0.5**
OUENC	**Ouen Island, N**	**20.03**	**253**	P		Pn	23 15 44.2	+0.9
DZM	**Mont Dzumac**	**20.34**	**254**	P		**P**	**23 15 42.8**	**-2.2**
	comp=Z,9.3nm,0.6s,baz=71,slow=19,SNR=13							
DZM				S		**S**		**23 19 31.3 -1.7**
	comp=Z,3.0nm,0.9s,baz=90,slow=14,SNR=1.5							
DZM				LR		LR	23 23 26.5	
	comp=Z,5μm,18.1s,baz=88,slow=36							
DZM	**Mont Dzumac**	**20.34**	**254**	*eP*		**P**	**23 15 44.3**	**-0.7**
	comp=Z,89nm,1.2s							
DZM				*e*LR		LR	23 20 29.2	
	comp=Z,8μm,25.5s							
DZM	**Mont Dzumac**	**20.34**	**254**	P		**P**	**23 15 42.0**	**-3.0**
DZM	**Mont Dzumac**	**20.34**	**254**	P		**P**	**23 15 45.0**	**0.0**
ONTNC	**Ouen Toro**	**20.37**	**253**	P		**P**	**23 15 44.8**	**-0.4**
ONTNC				IAmb		IAmb	23 16 16.9	
	comp=Z,218nm,1.7s							
NOUC	**Port Laguerre**	**20.47**	**254**	P		Pn	23 15 49.8	+1.3
GRZ	**Great Barrier**	**21.46**	**208**	P		**P**	**23 16 00.0**	**+3.2**
MXZ	**Matakaoa Point**	**21.50**	**200**	P		P	23 16 04.6	+7.4
OUZ	**Omahuta**	**21.51**	**213**	P		**P**	**23 15 59.1**	**+1.6**
OUZ				IAmb		IAmb	23 16 13.9	
	comp=Z,90nm,1.0s							
OUZ	**Omahuta**	**21.51**	**213**	P		**P**	**23 15 58.4**	**+0.9**
OUZ	**Omahuta**	**21.51**	**213**	P		**P**	**23 16 00.4**	**+3.0**
	comp=Z,100nm,1.5s							
WMGZ	**Waiomatatini S**	**21.70**	**200**	P		P	23 16 07.2	+7.8
WCZ	**Waipu Caves**	**21.71**	**210**	P		**P**	**23 16 03.4**	**+3.8**
KUZ	**Kuaotunu**	**21.76**	**206**	P		**P**	**23 16 04.1**	**+4.0**
PAE	**Paea**	**21.81**	**94**	*eP*		**P**	**23 16 01.8**	**+1.0**

comp=Z,10nm,0.6s,baz=86,slow=11,SNR=4.6
CTA S **S** **23 24 41.8 +6.2**
comp=Z,4.0nm,1.0s,baz=71,slow=17,SNR=1.1
CTA LR LR 23 33 14.3
comp=Z,2µm,19.1s,baz=93,slow=34
CTAO Charters Tower 39.09 260 P **P** **23 18 32.9 -3.0**
CTAO pmax pmax
comp=Z,17nm,0.9s
CTAO Charters Tower 39.09 260 P **P** **23 18 32.9 -3.0**
PMG Port Moresby 40.03 276 P **P** **23 18 42.8 -1.0**
comp=Z,22nm,0.9s,baz=345,slow=5.0,SNR=3.1
PMG S **S** **23 24 50.1 +0.4**
comp=Z,3.2nm,0.2s,baz=246,slow=19,SNR=1.2
PMG LR LR 23 34 28.6
comp=Z,1µm,18.6s,baz=72,slow=35
PMG Port Moresby 40.03 276*d iP* **P** **23 18 43.8 0.0**
PMG pmax pmax
comp=Z,36nm,1.0s
PMG Port Moresby 40.03 276 P **P** **23 18 42.1 -1.8**
CMSA Cobar Meteorol 40.27 242 P **P** **23 18 44.4 -1.3**
baz=40,SNR=11
CMSA Cobar Meteorol 40.27 242 P **P** **23 18 44.6 -1.1**
QLP Quilpie 40.95 250 P **P** **23 18 49.8 -1.6**
baz=41,SNR=9.5
QLP Quilpie 40.95 250 P **P** **23 18 50.2 -1.2**
comp=Z,60nm,0.7s
MTSU Mount Surprise 41.07 262 P **P** **23 18 49.7 -2.8**
baz=41,SNR=5.7
TOO Toolangi 41.83 233 P **P** **23 18 57.2 -1.4**
baz=42,SNR=7.6
TOO Toolangi 41.83 233 P **P** **23 18 57.9 -0.6**
TOO pmax pmax
comp=Z,33nm,1.2s
TOO Toolangi 41.83 233 P **P** **23 18 57.9 -0.6**
TOO Toolangi 41.83 233 P **P** **23 19 00.3 +1.8**
H11N3 WAKE ISLAND Hy 42.24 330 T T 00 04 22.9
baz=150,slow=76,SNR=5.0
H11N1 WAKE ISLAND Hy 42.24 330 T T 00 04 12.0
baz=150,slow=76,SNR=15.9
H11N2 WAKE ISLAND Hy 42.26 330 T T 00 04 19.5
baz=150,slow=76,SNR=5.9
MANU Manus Island 42.35 287 P **P** **23 19 00.8 -2.1**
TAU Tasmania Unive 42.37 225 P **P** **23 19 02.8 0.0**
TAU pmax pmax
comp=Z,150nm,1.7s
TAU Tasmania Unive 42.37 225 P **P** **23 19 02.8 0.0**
TAU IAmb IAmb 23 19 14.5
comp=Z,150nm,1.7s
COEN Coen 42.78 268 P **P** **23 19 04.0 -2.4**
COEN IAmb IAmb 23 19 09.4
comp=Z,86nm,1.7s
COEN Coen 42.78 268 P **P** **23 19 04.8 -1.6**
BRAT Ballarat 43.02 233 P **P** **23 19 09.7 +1.6**
STKA Stephens Creek 43.77 242 P **P** **23 19 12.9 -1.3**
comp=Z,6.3nm,0.7s,baz=82,slow=9.8,SNR=17
STKA LR LR 23 35 46.7
comp=Z,2µm,19.1s,baz=78,slow=34
STKA Stephens Creek 43.77 242 P **P** **23 19 13.6 -0.7**
baz=44,SNR=12
STKA Stephens Creek 43.77 242 P **P** **23 19 13.0 -1.3**
STKA pmax pmax
comp=Z,7.0nm,1.4s
STKA Stephens Creek 43.77 242 P **P** **23 19 13.0 -1.3**
STKA Stephens Creek 43.77 242 P **P** **23 19 13.6 -0.7**
comp=Z,5.0nm,1.1s
HTT Hallett 46.22 240 P **P** **23 19 32.4 -1.4**
baz=46,SNR=8.9
HTT Hallett 46.22 240 P **P** **23 19 32.7 -1.1**
LCRK Leigh Creek 46.51 245 P **P** **23 19 35.2 -0.8**
NAPP Napperby 46.83 241 P **P** **23 19 41.2 +2.7**
BBOO Buckleboo 48.53 242 P **P** **23 19 50.8 -1.0**
baz=49,SNR=40
BBOO Buckleboo 48.53 242 P **P** **23 19 50.1 -1.7**
BBOO IAmb IAmb 23 19 52.2
comp=Z,24nm,0.7s
BBOO Buckleboo 48.53 242 P **P** **23 19 50.8 -1.0**
OOD Oodnadatta 48.60 248 P **P** **23 19 52.5 +0.1**
WR0 Warramunga Arr 50.07 258 P **P** **23 20 01.6 -2.2**
WR0 IAmb IAmb 23 20 22.1
comp=Z,36nm,1.4s
MULG Mulgathing 50.09 245 P **P** **23 20 02.7 -1.0**
WRAB Tennant Creek 50.25 258*ce*P **P** **23 20 02.9 -2.2**
WRAB pmax pmax
comp=Z,26nm,1.2s
WRAB Tennant Creek 50.25 258 P **P** **23 20 02.8 -2.3**
WRA Warramunga Arr 50.26 258 P **P** **23 20 03.2 -2.0**
comp=Z,12nm,0.7s,baz=94,slow=6.8,SNR=66
WRA LR LR 23 41 15.1
comp=Z,4µm,18.6s,baz=101,slow=36
WRA Warramunga Arr 50.26 258 P **P** **23 20 02.1 -3.1**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 50.26 258 P **P** **23 20 02.1 -3.1**
AS31 Alice Springs 50.33 254 P **P** **23 20 03.2 -2.5**
AS31 IAmb IAmb 23 20 15.7
comp=Z,19nm,0.7s
ASAR Alice Springs 50.33 254 P **P** **23 20 04.1 -1.6**
comp=Z,54nm,0.7s,baz=89,slow=8.3,SNR=374
ASAR S S 23 27 07.5 -11
comp=Z,0.7nm,1.0s,baz=349,slow=34,SNR=1.9
ASAR LR LR 23 40 55.0
comp=Z,2µm,18.5s,baz=95,slow=36
ASAR Alice Springs 50.33 254 P **P** **23 20 03.5 -2.2**
KDU Kakadu 53.23 267 P **P** **23 20 25.9 -1.5**
baz=53,SNR=4.3
MTN Manton Dam 54.48 267 P **P** **23 20 36.5 0.0**
baz=55,SNR=3.5
MTN Manton Dam 54.48 267 P **P** **23 20 34.0 -2.5**
MTN IAmb IAmb 23 20 53.5
comp=Z,102nm,2.0s
FORT Forrest 55.27 244 P **P** **23 20 41.4 -0.6**
FORT IAmb IAmb 23 20 44.9
comp=Z,34nm,0.7s
FORT Forrest 55.27 244 P **P** **23 20 40.9 -1.1**
WRKA Warakurna 55.33 251 P **P** **23 20 41.0 -1.6**
baz=55,SNR=56
WRKA Warakurna 55.33 251 P **P** **23 20 41.1 -1.6**
KNRA Kununurra 56.16 263 P **P** **23 20 46.7 -1.9**
baz=56,SNR=6.6
KNRA Kununurra 56.16 263 P **P** **23 20 46.4 -2.2**
KNRA Kununurra 56.16 263 P **P** **23 20 46.7 -1.9**
SIJI Sorong 57.72 280 LR LR 23 44 56.2
comp=Z,2µm,19.8s,baz=78,slow=35
SWI Sorong 57.73 280 P **P** **23 20 58.4 -1.4**
comp=Z,2µmcomp=Z,177nm,0.8s
SWI Sorong 57.73 280 P **P** **23 20 58.6 -1.2**
comp=Z,2µmcomp=Z,177nm,0.8s
RPN Rapa Nui 58.64 111 LR LR 23 40 30.6
comp=Z,1µm,18.6s,baz=282,slow=30
FITZ Fitzroy Crossi 58.66 259 LR LR 23 46 25.0
comp=Z,3µm,18.0s,baz=101,slow=36
FITZ Fitzroy Crossi 58.66 259 P **P** **23 21 05.6 -0.7**
SBA Scott Base 61.17 185 P **P** **23 21 24.0 +1.4**
SBA pmax pmax
comp=Z,76nm,1.9s
SBA Scott Base 61.17 185 P **P** **23 21 24.0 +1.4**
VNDA Vanda 61.31 186 P **P** **23 21 26.1 +2.6**
comp=Z,1.7nm,0.8s,baz=22,slow=7.6,SNR=11
VNDA S S 23 29 55.9 +12
comp=Z,0.7nm,1.1s,baz=304,slow=7.6,SNR=2.5
VNDA LR LR 23 44 47.3
comp=Z,581nm,19.7s,baz=31,slow=33
VNDA Vanda 61.31 186 P **P** **23 21 25.3 +1.8**
VNDA pmax pmax
comp=Z,27nm,1.7s
VNDA Vanda 61.31 186 P **P** **23 21 25.3 +1.8**
VNDA IAmb IAmb 23 22 09.3
comp=Z,27nm,1.7s
LBMI Labuha 61.34 279 P **P** **23 21 25.6 +0.9**
comp=Z,800nmcomp=Z,65nm,1.2s
TNTI Ternate 61.94 281 P **P** **23 21 26.9 -1.9**
JCJ Chichijima 62.51 314 LR LR 23 44 51.1
comp=Z,2µm,19.9s,baz=110,slow=32
MBWA Marble Bar 63.64 255 P **P** **23 21 38.8 -1.2**
MBWA IAmb IAmb 23 21 51.6
comp=Z,51nm,1.6s
MEEK Meekatharra 63.84 249 P **P** **23 21 40.0 -1.3**
baz=64,SNR=9.7
MEEK Meekatharra 63.84 249 P **P** **23 21 41.5 +0.1**
MMRI Maumere 63.97 269 P **P** **23 21 41.3 -1.0**
KLBR Kellerberrin 64.04 243 P **P** **23 21 43.4 +0.8**
baz=64,SNR=10.0
KLBR Kellerberrin 64.04 243 P **P** **23 21 43.0 +0.5**
NWAO Narrogin (SRO) 64.36 241 P **P** **23 21 45.2 +0.6**
NWAO pmax pmax
comp=Z,168nm,1.9s
NWAO Narrogin (SRO) 64.36 241 P **P** **23 21 45.2 +0.6**
BLDU Ballidu 65.03 244 P **P** **23 21 49.1 +0.1**
baz=65,SNR=16
BLDU Ballidu 65.03 244 P **P** **23 21 49.8 +0.8**
MUN Mundaring 65.31 242 P **P** **23 21 51.1 +0.2**
baz=65,SNR=9.8
MUN Mundaring 65.31 242 P **P** **23 21 52.4 +1.6**
LUWI Luwuk 65.67 277 P **P** **23 21 52.5 -0.9**
LUWI Luwuk 65.67 277 P **P** **23 21 53.3 -0.1**
comp=Z,71nm,1.1s
MORW Morawa 65.79 246 P **P** **23 21 53.9 -0.1**
baz=66,SNR=4.2
MORW Morawa 65.79 246 P **P** **23 21 52.4 -1.6**
MORW IAmb IAmb 23 21 56.8
comp=Z,38nm,1.4s
DAV Davao City (W) 65.90 286 LR LR 23 50 35.5
comp=Z,750nm,18.1s,baz=121,slow=36
GTOI Gorontalo 65.99 279 P **P** **23 21 57.1 +1.6**
comp=Z,341nmcomp=Z,14nm,1.5s
GTOI Gorontalo 65.99 279 P **P** **23 21 57.2 +1.7**
comp=Z,341nmcomp=Z,14nm,1.5s
APSI Ampana 66.78 277 P **P** **23 22 02.1 +1.6**
comp=Z,1µmcomp=Z,76nm,1.2s
MRSI Marisa 66.95 278 P **P** **23 22 00.8 -0.8**
comp=Z,1µmcomp=Z,896nmcomp=Z,24nm,1.2s
MRSI Marisa 66.95 278 P **P** **23 22 01.2 -0.4**
comp=Z,1µmcomp=Z,894nmcomp=Z,24nm,1.2s
BNSI Bone 67.18 273 P **P** **23 22 05.6 +2.5**
KAPI Kappang 67.34 272 S **S** **23 31 02.9 +3.1**
comp=Z,3.5nm,0.3s,baz=292,slow=11,SNR=0.8
KAPI LR LR 23 51 00.1
comp=Z,412nm,20.6s,baz=99,slow=36
KAPI Kappang 67.34 272*d iP* **P** **23 22 02.2 -1.9**
KAPI pmax pmax
comp=Z,36nm,1.5s
KAPI Kappang 67.34 272 P **P** **23 22 00.9 -3.1**
KAPI IAmb IAmb 23 22 05.7
comp=Z,60nm,1.6s
PLAI Plampang 68.17 267 P **P** **23 22 07.9 -1.4**
PLAI Plampang 68.17 267 P **P** **23 22 07.9 -1.4**
comp=Z,1µmcomp=Z,49nm,1.4s
TOLI2 Tolitoli 68.25 278 P **P** **23 22 08.2 -1.6**
TOLI2 IAmb IAmb 23 22 11.2
comp=Z,44nm,1.3s
GIRL Giralia 68.40 252 P **P** **23 22 09.7 -1.0**
CASY Casey 68.82 205 P **P** **23 22 13.3 +0.8**
CASY IAmb IAmb 23 22 27.3
comp=Z,18nm,0.8s
MPSI Mapaga 68.83 277 P **P** **23 22 13.1 -0.4**
JMM Marumori 70.50 322 P **P** **23 22 19.8 -3.4**
SHEM Shemya Is, Ala 70.98 351 S **S** **23 31 44.1 +2.9**
comp=Z,29nm,0.6s,baz=289,slow=22,SNR=1.9
SHEM LR LR 23 50 19.6
comp=Z,2µm,19.3s,baz=146,slow=33
MJAR Matsushiro Arr 71.17 320 P **P** **23 22 27.8 +0.4**
comp=Z,4.2nm,0.8s,baz=149,slow=9.2,SNR=7.8
MJAR Matsushiro Arr 71.17 320 P **P** **23 22 26.5 -0.9**
MJAR pmax pmax
comp=Z,22nm,1.4s
MJAR Matsushiro Arr 71.17 320 P **P** **23 22 26.5 -0.9**
MAJO Matsushiro 71.18 320*de*P **P** **23 22 28.6 +1.2**
MAJO pmax pmax
comp=Z,27nm,1.3s
MAJO Matsushiro 71.18 320 P **P** **23 22 24.2 -3.2**
MAJO IAmb IAmb 23 22 29.9
comp=Z,30nm,1.2s
JAGI Jajag, Banyuwa 71.72 267 P **P** **23 22 28.6 -2.6**
MYLDM Lahad Datu 71.76 282 P **P** **23 22 28.8 -2.6**
JSD Sado 72.11 321 P **P** **23 22 30.0 -3.0**
JSD IAmb IAmb 23 22 35.5
comp=Z,58nm,1.4s
KUR Kuril'sk 72.16 332 P P 23 22 23.3 -10
KUR *e* 23 25 08.4
KUR *eS* **S** **23 31 59.0 +3.8**
KUR MLR MLR
comp=Z,2µm,15.0s
KUR MLR MLR
comp=E,2µm,16.0s
KUR MLR MLR
comp=N,2µm,15.0s
QSPA South Pole Qui 72.48 180 P **P** **23 22 36.3 +1.4**
QSPA IAmb IAmb 23 23 15.8
comp=Z,78nm,1.7s
JOW Kunigami 72.49 306 LR LR 23 50 08.9
comp=Z,512nm,20.2s,baz=132,slow=32
TGY Tagaytay City 72.85 291 LR LR 23 51 02.9
comp=Z,2µm,20.4s,baz=104,slow=33
VES Vestal, Richgr 73.30 43 P **P** **23 22 40.5 +0.4**
baz=233
SKR Severo-Kuril's 73.37 340*e*P P 23 22 49.4 +9.3
SKR *eS* **SKiKP** **23 32 10.4 -1.0**
SKR pmax pmax
comp=Z,200nm,5.3s
SKR MLR MLR
comp=Z,600nm,18.0s
MONP2 Monument Peak 73.38 47 P **P** **23 22 41.7 +0.8**
baz=236
LPIG La Paz 73.42 57 LR LR 23 48 50.3
comp=Z,1µm,18.6s,baz=216,slow=31
EDW2 Edwards Air Fo 73.45 44 P **P** **23 22 42.5 +1.4**
baz=234
ISA Isabella, Lake 73.59 43 P **P** **23 22 38.2 -3.7**
ISA pmax pmax
comp=Z,20nm,1.4s
ISA Isabella, Lake 73.59 43 P **P** **23 22 38.2 -3.7**
ISA Isabella, Lake 73.59 43 P **P** **23 22 41.9 -0.1**
baz=234
O02D Mt. Diablo Mer 73.73 37 P **P** **23 22 44.3 +1.6**
baz=229
PFO Pinyon Flats O 73.76 46 LR LR 23 49 22.9
comp=Z,2µm,18.6s,baz=240,slow=31
PFO Pinyon Flats O 73.76 46*ti iP* **P** **23 22 44.8 +1.8**
PFO pmax pmax
comp=Z,19nm,1.3s
PFO Pinyon Flats O 73.76 46 P **P** **23 22 44.3 +1.3**
baz=236
CMB Columbia Colle 73.81 40 P **P** **23 22 39.6 -3.6**
CMB pmax pmax
comp=Z,14nm,1.3s
CMB Columbia Colle 73.81 40 P **P** **23 22 39.6 -3.6**
ASAJ Asahikawa 73.86 328 P **P** **23 22 44.2 +1.0**
comp=Z,18nm,0.8s,baz=224,slow=17,SNR=9.3
ASAJ S **SKiKP** **23 32 12.4 0.0**
comp=Z,3.3nm,0.8s,baz=330,slow=31,SNR=1.1
ASAJ LR LR 23 48 22.0
comp=Z,395nm,21.8s,baz=162,slow=30
JNU Nakatsue 73.94 313 S **S** **23 32 16.7 +0.6**
comp=Z,92nm,0.8s,baz=6.0,slow=14,SNR=0.4
BELC Belle Mtn. Jos 74.29 46 P **P** **23 22 47.3 +1.2**
baz=236
N02D Trinity Center 74.30 37 P **P** **23 22 47.4 +1.4**
baz=229
CWC Cottonwood Cre 74.31 43 P **P** **23 22 46.7 +0.5**
baz=234
O03E Paynes Creek 74.39 38 P **P** **23 22 46.7 +0.2**
baz=230
MPMC Manual Prospec 74.47 44 P **P** **23 22 48.1 +0.9**
baz=234,SNR=15
BC3 Big Chuckawall 74.47 47 P **P** **23 22 49.7 +2.5**
baz=236
GSC Goldstone, Bar 74.49 44 P **P** **23 22 47.6 +0.4**
baz=235
M02C Callahan 74.49 36 P **P** **23 22 48.4 +1.4**
baz=229
HEC Hector,Ludlow 74.53 45 P **P** **23 22 47.3 -0.2**
baz=235
GLA Glamis 74.58 47 P **P** **23 22 48.9 +1.1**
baz=237
PET Petropavlovsk 74.62 342*e*P **P** **23 22 48.7 +1.3**
PET *eS* **S** **23 32 21.6 -1.1**
PET *e*PS **PnS** **23 32 57.5 0.0**
PET pmax pmax
comp=Z,400nm,16.6s
PET MLR MLR
comp=Z,2µm,18.0s
PET MLR MLR
comp=Z,1µm,17.0s
YBH Yreka Blue Hor 74.80 36 LR LR 23 51 37.2
comp=Z,2µm,18.2s,baz=231,slow=32
YBH Yreka Blue Hor 74.80 36 P **P** **23 22 45.2 -3.6**
YBH pmax pmax
comp=Z,62nm,1.8s
YBH Yreka Blue Hor 74.80 36 P **P** **23 22 45.2 -3.6**
YBH IAmb IAmb 23 22 52.9
comp=Z,62nm,1.8s
GMRC Granite Mounta 74.96 45 P **P** **23 22 45.5 -4.5**
baz=236
PEA0B Petropavlovsk- 74.97 342 P **P** **23 22 45.6 -3.9**
PEA0B pmax pmax
comp=Z,40nm,1.1s
PEA0B Petropavlovsk- 74.97 342 P **P** **23 22 45.6 -3.9**
PEA0B IAmb IAmb 23 23 08.6
comp=Z,40nm,1.1s
PETK Petropavlovsk- 74.97 342 P **P** **23 22 49.3 -0.1**
comp=Z,28nm,0.8s,baz=157,slow=8.0,SNR=28
PETK S **S** **23 32 29.9 +3.2**
comp=Z,2.2nm,0.9s,baz=190,slow=16,SNR=2.3
PETK Petropavlovsk- 74.97 342 P **P** **23 22 45.5 -4.0**
BEKR Beckworth 74.97 39 P P 23 22 44.9 -5.1
GRAC Grapevine Rang 75.10 43 P **P** **23 22 51.8 +1.1**
baz=234
FURC Furnace Creek, 75.12 43 P **P** **23 22 51.7 +1.0**
baz=235
M04C Macdoel 75.33 37 P **P** **23 22 54.2 +2.2**
baz=230
L04D Klamath Falls 75.34 36 P **P** **23 22 53.6 +1.5**
baz=229
NVAR Mina Array Bea 75.35 41 P **P** **23 22 52.7 +0.3**
comp=Z,7.6nm,0.7s,baz=227,slow=8.9,SNR=27
NVAR S **S** **23 32 38.0 +5.9**
comp=Z,0.2nm,0.3s,baz=206,slow=23,SNR=1.3
NVAR LR LR 23 51 30.8
comp=Z,2µm,18.1s,baz=237,slow=32
NVAR Mina Array Bea 75.35 41 P **P** **23 22 47.6 -4.7**
214A Organ Pipe Nat 75.43 49 P **P** **23 22 52.7 0.0**
baz=238
SMRI Semarang 75.64 267 P **P** **23 22 53.1 -1.1**
PDMCI Parker Dam,Lak 75.74 47 P **P** **23 22 55.6 +1.3**
baz=237
TPNV Topopah Spring 75.80 43 P **P** **23 22 57.1 +2.3**
baz=235
YSS Yuzh-Sakhalins 75.81 330*ce*P **P** **23 22 56.2 +1.8**
YSS *e**SP **PcP** **23 23 12.4 +5.4**
YSS *e* 23 25 45.2
YSS *e*S **S** **23 32 36.5 +0.2**
YSS *e*PPS PPS 23 33 15.1
YSS pmax pmax
comp=Z,70nm,0.9s
YSS pmax pmax
comp=Z,500nm,6.8s
YSS smax smax
comp=N,800nm,6.7s
YSS Yuzh-Sakhalins 75.81 330 P **P** **23 22 51.7 -2.7**
J04D Umpqua Nationa 76.12 35 P **P** **23 22 58.2 +1.6**
baz=229
J05D Fort Rock, OR 76.64 36 P **P** **23 23 01.0 +1.6**
baz=230
SBUM Sibu 76.77 277 P **P** **23 22 59.1 -1.5**
KDAK Kodiak Island 76.88 11 S **S** **23 32 45.1 -2.4**
comp=N,7.1nm,0.9s,baz=319,slow=23,SNR=1.5
KDAK LR LR 23 55 09.9
comp=N,840nm,18.2s,baz=218,slow=34
SSLB Suanglung 76.89 300 P **P** **23 22 57.5 -3.6**
SSLB IAmb IAmb 23 23 08.0
comp=Z,19nm,0.8s
TPUB Ta-pu 76.94 300 P **P** **23 22 59.0 -2.4**
R11A Troy Canyon, C 77.03 43 P P 23 22 57.1 -4.8
R11A Troy Canyon, C 77.03 43 P **P** **23 23 02.5 +0.6**
baz=235,SNR=11
TUC Tucson 77.08 50 P **P** **23 23 02.9 +0.7**
baz=240
I05D Terrebonne, OR 77.26 35 P **P** **23 23 03.9 +1.1**
baz=230
TEY Ternei 77.61 326*e*P **P** **23 23 01.3 -3.3**
P18K Big Mountain, 77.98 9 P **P** **23 23 03.7 -2.7**
P18K IAmb IAmb 23 23 08.9
comp=Z,50nm,1.2s
P18K Big Mountain, 77.98 9 P **P** **23 23 06.5 +0.1**
baz=197
E04D Cinebar 78.07 33 P **P** **23 23 07.8 +0.7**
baz=228
KSM Kuching 78.28 275 P **P** **23 23 08.5 -0.6**
KSRS Korea Array 78.34 315 P **P** **23 23 10.2 +1.4**
comp=Z,24nm,1.1s,baz=129,slow=5.9,SNR=8.5
KSRS S **S** **23 33 04.2 +0.1**
comp=Z,0.4nm,0.3s,baz=50,slow=18,SNR=1.9
KSRS LR LR 23 54 27.8
comp=Z,598nm,19.6s,baz=130,slow=33
LEM Lembang 78.39 266 LR LR 23 58 09.5
comp=Z,559nm,20.6s,baz=160,slow=36
O18K Koktuh Hills 78.42 9 P **P** **23 23 09.4 +0.6**
baz=197
HPIG 78.45 57 P **P** **23 23 05.4 -4.6**
ELK Elko 78.63 41 LR LR 23 54 27.6
comp=Z,2µm,18.0s,baz=245,slow=33
N18K Kilae Creek 79.12 8 P **P** **23 23 11.7 -1.0**
baz=196
MSHR Mys Shultsa 79.18 321*ll eP* **P** **23 23 15.2 +1.8**
MSHR pmax pmax
comp=Z,21nm,1.3s
ZAIG Zacatecas 79.21 62 P **P** **23 23 10.6 -3.8**
QZH Quanzhou 79.33 300*ti iP* **P** **23 23 14.6 0.0**
QZH S **S** **23 33 17.8 +2.5**
QZH pmax pmax
comp=Z,560nm,4.7s
QZH LR LR
comp=Z,360nm,21.8s
QZH LR LR
comp=Z,540nm,33.6s
121A Cookes Peak, D 79.40 51 P **P** **23 23 16.5 +1.5**
baz=241
121A Cookes Peak, D 79.40 51 P **P** **23 23 16.6 +1.5**
baz=241
SMAI San Martin Ant 79.42 158 P **P** **23 23 14.1 -0.2**
SMAI IAmb IAmb 23 23 42.0
comp=Z,52nm,1.4s
BBB Bella Bella 79.43 26 LR LR 23 52 41.3
comp=Z,951nm,18.7s,baz=214,slow=31
N19K Bonanza Creek 79.45 9 P **P** **23 23 14.6 0.0**
baz=197,SNR=6.7
HAWA Hanford 79.55 34 P **P** **23 23 11.9 -3.5**
USA0B Ussuriysk Arra 79.66 323 P **P** **23 23 14.6 -1.4**
USA0B pmax pmax
comp=Z,30nm,1.3s
USA0B Ussuriysk Arra 79.66 323 P **P** **23 23 14.6 -1.4**
USA0B IAmb IAmb 23 23 19.2
comp=Z,30nm,1.2s
USRK Ussuriysk Ar. 79.66 323 P **P** **23 23 17.3 +1.3**
comp=Z,7.7nm,0.9s,baz=93,slow=4.0,SNR=13
USRK S **S** **23 33 15.8 -2.2**
comp=Z,1.5nm,0.7s,baz=136,slow=44,SNR=0.8
USRK LR LR 23 57 43.0
comp=Z,799nm,18.4s,baz=120,slow=35
USRK Ussuriysk Ar. 79.66 323 P **P** **23 23 14.3 -1.7**
BMO Blue Mountains 79.83 36 P **P** **23 23 14.7 -2.3**
BMO pmax pmax
comp=Z,10.0nm,1.1s
BMO Blue Mountains 79.83 36 P **P** **23 23 14.7 -2.3**
DUG Dugway, Tooele 79.85 42 P **P** **23 23 17.9 +0.6**
baz=237
SSE Sheshan 79.98 307 P **P** **23 23 16.8 -1.2**
SSE S **S** **23 33 21.3 -0.7**
SSE pmax pmax
comp=Z,24nm,0.6s
SSE LR LR
comp=Z,180nm,23.5s
SSE LR LR
comp=Z,170nm,23.7s
RC01 Rabbit Creek A 80.49 11 P **P** **23 23 21.4 +1.3**
baz=202
M19K Big River Lodg 80.51 9 P **P** **23 23 19.8 -0.4**
baz=197
F10A Beach Ranch, E 80.55 36 P **P** **23 23 17.8 -3.1**
Y22A Socorro 80.67 50 P **P** **23 23 23.2 +1.3**
baz=242
PLID Pearl Lake 80.71 37 P **P** **23 23 17.3 -4.6**
L19K White Mountain 80.71 8 P **P** **23 23 20.6 -0.7**
baz=197
HLID Hailey 80.75 39 P **P** **23 23 20.9 -1.2**
HLID Hailey 80.75 39 P **P** **23 23 22.6 +0.6**
baz=235,SNR=21
GLI Glacier Island 80.81 12 P **P** **23 23 22.7 +0.9**
baz=204
P17A Butcher Ranch, 80.81 44 P **P** **23 23 22.2 -0.4**
P17A IAmb IAmb 23 23 27.0
comp=Z,40nm,1.6s
MNTX Cornudas Mount 80.81 53 P **P** **23 23 22.2 -0.3**
MNTX Cornudas Mount 80.81 53 P **P** **23 23 23.8 +1.3**
baz=243
MNTX Cornudas Mount 80.81 53 P **P** **23 23 23.7 +1.3**
baz=243
M22K Willow 81.04 11 P **P** **23 23 23.9 +0.9**

baz=202
PMR Palmer 81.07 11 P P 23 23 24.6 +1.5
baz=202
TX31 Lajitas Ar. Si 81.08 55 P P 23 23 25.6 +1.5
baz=244
TX32 Lajitas Array 81.08 55 P P 23 23 22.9 -1.2
TXAR Lajitas Array 81.08 55 P P 23 23 25.5 +1.4
comp=Z,8.9nm,1.1s,baz=216,slow=6.2,SNR=21
TXAR LR LR 23 53 52.8
comp=Z,610nm,18.5s,baz=246,slow=32
TXAR Lajitas Array 81.08 55 P P 23 23 24.0 -0.2
L20K Farewell, AK 81.13 9 P P 23 23 22.7 -0.8
baz=198,SNR=6.3
NKL Nikolayevsk 81.19 334 *e*P P 23 23 23.0 -0.9
NKL *e* 23 26 26.9
NKL *e*S S 23 33 34.7 +1.1
NKL pmax pmax
comp=E,3.0nm,1.0s
NKL pmax pmax
comp=Z,25nm,1.4s
NKL smax smax
comp=E,2.0nm,0.7s
NKL smax smax
comp=N,1.0nm,1.2s
NKL MLR MLR
comp=E,13nm,11.0s
NKL MLR MLR
comp=Z,411nm,17.0s
TTA Tatalina 81.28 8 P P 23 23 25.0 +0.6
baz=196,SNR=14
MDJ Mudanjiang 81.29 322 P P 23 23 24.0 -0.7
MDJ IAmb IAmb 23 23 28.2
comp=Z,65nm,1.5s
MDJ Mudanjiang 81.29 322 P P 23 23 27.3 +2.6
MDJ S S 23 33 39.9 +4.7
MDJ pmax pmax
comp=Z,29nm,1.3s
MDJ pmax pmax
comp=Z,640nm,6.8s
MDJ LR LR
comp=Z,530nm,15.7s
MDJ LR LR
comp=Z,820nm,17.8s
MDJ LR LR
comp=Z,1μm,19.1s
BMRM Bremner River 81.41 13 P P 23 23 24.7 -0.4
baz=207
GRNR Gornyy 81.47 330 ⇓*i*P P 23 23 27.6 +2.0
GRNR *e* 23 33 41.0
GRNR pmax pmax
comp=Z,8.0nm,0.9s
GRNR MLR MLR
comp=E,290nm,16.0s
ANMO Albuquerque 81.52 49 LR LR 23 54 29.6
comp=E,1μm,18.7s,baz=245,slow=32
ANMO Albuquerque 81.52 49 ⇑*e*P P 23 23 27.6 +1.2
ANMO pmax pmax
comp=Z,12nm,1.3s
ANMO Albuquerque 81.52 49 P P 23 23 25.6 -0.8
ANMO Albuquerque 81.52 49 P P 23 23 27.3 +0.9
baz=242
ANMO Albuquerque 81.52 49 P P 23 23 27.6 +1.2
baz=242
M23K Glacier View 81.52 12 P P 23 23 26.3 +0.7
baz=204
PNL Peninsula 81.54 16 P P 23 23 25.0 -0.7
baz=212
CUT Chulitna 81.63 10 P P 23 23 25.6 -0.4
CUT Chulitna 81.63 10 P P 23 23 26.3 +0.3
baz=201
SCM Sheep Creek Mo 81.63 12 P P 23 23 27.1 +0.9
baz=204
BELA Belgrano 2 81.72 172 P P 23 23 27.7 +1.0
BELA IAmb IAmb 23 23 30.6
comp=Z,65nm,2.0s
PMSA Palmer Station 81.83 156 LR LR 23 52 58.0
comp=Z,1μm,19.3s,baz=246,slow=31
VRDI Verde Repeater 81.90 14 P P 23 23 27.2 -0.6
VRDI IAmb IAmb 23 23 39.3
comp=Z,32nm,1.4s
K20K Telida 81.94 8 P P 23 23 28.1 +0.4
baz=198,SNR=8.3
N25K Chitina, Valde 81.98 13 P P 23 23 27.1 -1.0
N25K IAmb IAmb 23 24 05.9
comp=Z,29nm,1.4s
N25K Chitina, Valde 81.98 13 P P 23 23 26.5 -1.6
baz=207
NEW Newport 82.00 34 LR LR 23 55 41.8
comp=Z,2μm,18.1s,baz=229,slow=33
NEW Newport 82.00 34 P P 23 23 29.7 +1.2
baz=232
M24K Tolsona, Glenn 82.11 12 P P 23 23 29.3 +0.6
baz=205
CTG Chitna Glacier 82.16 15 P P 23 23 29.2 +0.1
baz=210
NJ2 Nanjing 82.19 307 *e*P P 23 23 31.3 +1.6
NJ2 pP **sP** 23 23 33.1 +1.4
NJ2 sP **PcP** 23 23 35.0 -0.1
NJ2 S **S** 23 33 48.8 +3.9
NJ2 sS **SKKSac** 23 33 53.8 0.0
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,450nm,6.7s
NJ2 LR LR
comp=Z,640nm,18.5s
NJ2 LR LR
comp=Z,350nm,14.2s
NJ2 LR LR
comp=Z,930nm,20.8s
PMBI Palembang 82.23 269 P P 23 23 30.6 +0.2
WAT6 Susitna Watana 82.24 11 P P 23 23 30.0 +0.5
baz=204,SNR=13
CAST Castle Rocks 82.29 9 P P 23 23 29.9 +0.3
baz=200,SNR=7.0
WAT1 Susitna Watana 82.32 11 P P 23 23 28.9 -0.9
baz=203
MCMT McKenzie Canyo 82.39 38 P P 23 23 30.5 -0.4
MA2 Magadan 82.50 342 P P 23 23 30.8 0.0
comp=Z,5.9nm,1.0s,baz=116,slow=4.8,SNR=5.1
MA2 S S 23 33 39.7 -7.3
comp=Z,2.1nm,0.8s,baz=182,slow=22,SNR=1.4
MA2 LR LR 23 57 29.0
comp=Z,709nm,19.6s,baz=150,slow=34
MA2 Magadan 82.50 342 *de*P P 23 23 31.9 +1.1
MA2 pmax pmax
comp=Z,25nm,2.5s
MA2 Magadan 82.50 342 P P 23 23 30.2 -0.6
MA2 IAmb IAmb 23 23 45.7
comp=Z,26nm,1.4s
SKAG Skagway 82.52 18 P P 23 23 33.3 +2.5
baz=216
S22A 4UR Ranch, Cre 82.59 47 P P 23 23 33.4 +1.2
baz=241
TRF Thorofare Moun 82.60 10 P P 23 23 30.9 -0.5
baz=201
CHUM Lake Minchumin 82.69 9 P P 23 23 31.4 -0.3
baz=199,SNR=7.9
J20K Nowinta River 82.72 8 P P 23 23 31.9 +0.1
baz=198,SNR=22
DHY Denali Highway 82.76 11 P P 23 23 31.7 -0.5
DHY IAmb IAmb 23 23 35.9
comp=Z,23nm,1.4s
DHY Denali Highway 82.76 11 P P 23 23 33.5 +1.2
baz=204,SNR=6.8
O20A White River Ci 82.80 44 P P 23 23 33.6 +0.6
baz=240
KLR Kul'dur 82.83 327 P P 23 23 33.0 +0.3
comp=Z,4.4nm,1.0s,baz=132,slow=5.3,SNR=7.8
KLR S S 23 33 49.4 -1.4
comp=Z,0.3nm,0.3s,baz=296,slow=16,SNR=1.5
KLR LR LR 23 56 21.4
comp=Z,348nm,19.8s,baz=135,slow=33
KLR Kul'dur 82.83 327 *ce*P P 23 23 34.1 +1.4
KLR pmax pmax
comp=Z,17nm,1.4s
MSO Missoula 82.89 36 P P 23 23 31.9 -1.4
MSO IAmb IAmb 23 24 09.2
comp=Z,38nm,1.9s
MSO Missoula 82.89 36 P P 23 23 33.8 +0.6
baz=235,SNR=6.1
YUK6 Outpost Mounta 82.90 16 P P 23 23 35.1 +2.0
baz=213,SNR=9.6
HYT Haines Junctio 83.03 16 P P 23 23 32.0 -1.6
HYT IAmb IAmb 23 23 46.0
comp=Z,25nm,1.2s
HYT Haines Junctio 83.03 16 P P 23 23 34.8 +1.1
baz=213,SNR=9.3
PAX Paxson 83.03 12 P P 23 23 32.2 -1.4
PAX pmax pmax
comp=Z,25nm,1.6s
PAX Paxson 83.03 12 P P 23 23 32.2 -1.4
PAX IAmb IAmb 23 23 37.1
comp=Z,25nm,1.6s
PAX Paxson 83.03 12 P P 23 23 33.1 -0.4
baz=206
M26K Nabesna, AK 83.04 13 P P 23 23 32.5 -1.0
M26K IAmb IAmb 23 23 37.0
comp=Z,39nm,1.5s
M26K Nabesna, AK 83.04 13 P P 23 23 33.9 +0.3
baz=208,SNR=10
YUK3 Moose Creek 83.08 15 P P 23 23 34.4 +0.3
baz=211,SNR=10
MCK McKinley 83.09 10 P P 23 23 33.6 -0.2
baz=202,SNR=16
BPAW Bear Paw Mtn. 83.10 9 P P 23 23 32.7 -1.1
baz=201
YUK4 Talbot Arm 83.17 16 P P 23 23 34.5 +0.1
baz=212
LRM Limekiln Ridge 83.17 38 P P 23 23 34.3 -0.6
BNX BinXian 83.20 322 ⇓P P 23 23 36.0 +1.3
BNX pP **pwP** 23 23 44.5 -2.2
BNX PP **PP** 23 26 47.9 +1.5
BNX S **S** 23 33 55.8 +1.1
BNX pmax pmax
comp=Z,48nm,1.0s
BNX pmax pmax
comp=Z,730nm,6.2s
BNX LR LR
comp=Z,1μm,15.8s
BNX LR LR
comp=Z,960nm,16.0s
BNX LR LR
comp=Z,2μm,17.9s
QLMT Earthquake Lak 83.23 39 P P 23 23 34.9 -0.3
M27K Edge Creek, AK 83.25 14 P P 23 23 34.0 -0.8
M27K IAmb IAmb 23 23 39.3
comp=Z,47nm,1.3s
M27K Edge Creek, AK 83.25 14 P P 23 23 35.6 +0.8
baz=209,SNR=15
H03S2 Juan Fernandez 83.26 123 T T 00 54 46.7
baz=252
H03S1 Juan Fernandez 83.27 123 T T 00 54 49.0
baz=252
H03S3 Juan Fernandez 83.27 123 T T 00 54 47.6
baz=252
BW06 Boulder Array 83.29 41 P P 23 23 34.7 -0.9
BW06 Boulder Array 83.29 41 P P 23 23 35.5 0.0
baz=239
PDAR Pinedale Array 83.29 41 P P 23 23 35.5 0.0
comp=Z,3.3nm,0.7s,baz=205,slow=3.1,SNR=18
PDAR S S 23 33 58.6 +2.3
comp=Z,0.4nm,0.9s,baz=258,slow=13,SNR=4.0
PDAR LR LR 23 57 00.8
comp=Z,1μm,18.4s,baz=248,slow=33
PDAR Pinedale Array 83.29 41 P P 23 23 35.4 -0.2
CN2 Changchun 83.33 320 *e*P P 23 23 36.9 +1.5
CN2 sP pwP 23 23 43.8 -3.6
CN2 S **S** 23 33 55.5 -0.6
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,500nm,6.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,800nm,17.0s
DL2 Dalian 83.34 314 P P 23 23 37.9 +2.3
DL2 S **S** 23 33 59.3 +2.9
DL2 pmax pmax
comp=Z,57nm,1.2s
DL2 pmax pmax
comp=Z,500nm,8.2s
DL2 LR LR
comp=Z,270nm,13.7s
DL2 LR LR
comp=Z,340nm,18.7s
DL2 LR LR
comp=Z,540nm,19.4s
DLBC Dease Lake 83.40 21 LR LR 23 56 23.0
comp=Z,654nm,18.1s,baz=232,slow=33
SNY Shenyang 83.48 317 ⇓P P 23 23 37.9 +1.7
SNY S **S** 23 34 00.1 +2.4
SNY pmax pmax
comp=Z,44nm,1.6s
SNY pmax pmax
comp=Z,640nm,6.9s
SNY LR LR
comp=Z,410nm,19.2s
SNY LR LR
comp=Z,420nm,19.8s
SNY LR LR
comp=Z,640nm,20.0s
H17A Grant Village 83.51 40 P P 23 23 38.7 +2.0
baz=238,SNR=11
SDCO Great Sand Dun 83.51 47 P P 23 23 38.1 +1.2
baz=242
L26K Log Cabin Wild 83.52 13 P P 23 23 36.5 +0.5
baz=208,SNR=6.7
BOZ Bozeman (W) 83.53 38 P P 23 23 35.8 -0.8
BOZ pmax pmax
comp=Z,16nm,1.0s
BOZ Bozeman (W) 83.53 38 P P 23 23 35.8 -0.8
BOZ IAmb IAmb 23 23 41.3
comp=Z,16nm,1.0s
BOZ Bozeman (W) 83.53 38 P P 23 23 37.1 +0.4
baz=237,SNR=30
BVCY Beaver Creek 83.54 14 P P 23 23 36.9 +0.8
baz=210
USHA Ushuaia 83.62 146 LR LR 23 53 55.4
comp=Z,1μm,20.3s,baz=234,slow=31
WHY Whitehorse 83.62 18 P P 23 23 35.4 -1.3
WHY IAmb IAmb 23 23 56.0
comp=Z,28nm,1.5s
WHY Whitehorse 83.62 18 P P 23 23 37.9 +1.2
baz=216
K24K Donnelly Dome 83.73 12 P P 23 23 38.5 +1.4
baz=206,SNR=6.0
CMIG Matias Romero 83.77 70 LR LR 23 54 04.1
comp=Z,2μm,18.0s,baz=240,slow=31
MSTX Muleshoe 83.79 52 P P 23 23 40.4 +2.2
baz=244
MSTX Muleshoe 83.79 52 P P 23 23 40.7 +2.5
baz=244
RIDG Independent Ri 83.85 12 P P 23 23 37.7 0.0
baz=206,SNR=5.7
NEA2 Nenana 83.86 10 P P 23 23 36.9 -0.8
NEA2 Nenana 83.86 10 P P 23 23 38.1 +0.4
baz=202
L27K Beaver Creek, 83.88 13 P P 23 23 37.4 -0.5
L27K IAmb IAmb 23 23 41.6
comp=Z,27nm,1.6s
L27K Beaver Creek, 83.88 13 P P 23 23 39.5 +1.6
baz=209,SNR=8.0
BCAR Beaver Creek A 83.89 14 P P 23 23 37.4 -0.6
DOT Dot Lake 83.92 12 P P 23 23 36.6 -1.4
DOT IAmb IAmb 23 23 42.0
comp=Z,18nm,1.0s
I21K Tanana 83.97 9 P P 23 23 38.6 +0.4
baz=200,SNR=7.0
T25A Trinidad 84.00 48 P P 23 23 39.7 +0.3
baz=243
HRY Holter Researc 84.03 37 P P 23 23 38.2 -0.9
N31M Braeburn, Yuko 84.05 17 P P 23 23 38.0 -0.7
N31M IAmb IAmb 23 23 42.5
comp=Z,47nm,1.4s
N31M Braeburn, Yuko 84.05 17 P P 23 23 39.6 +0.9
baz=215,SNR=8.3
833A Chaparral WMA, 84.07 58 P P 23 23 40.3 +0.7
baz=247
833A Chaparral WMA, 84.07 58 P P 23 23 40.8 +1.2
baz=247
SCRK Sand Creek 84.23 12 P P 23 23 39.6 -0.2
baz=207,SNR=14
RWWY Rawlins 84.25 43 P P 23 23 39.6 -1.0
RWWY IAmb IAmb 23 25 45.8
comp=Z,21nm,0.9s
H21K Melozitna Rive 84.31 8 P P 23 23 39.4 -0.6
baz=199,SNR=15
TCOL CIGO, UAF Yank 84.33 10 P P 23 23 39.2 -0.8
TCOL IAmb IAmb 23 23 44.2
comp=Z,34nm,1.0s
TCOL CIGO, UAF Yank 84.33 10 P P 23 23 40.3 +0.3
baz=204
COLA College 84.33 10 *c*/P P 23 23 39.8 -0.2
COLA pmax pmax
comp=Z,33nm,1.0s
COLA College 84.33 10 P P 23 23 39.4 -0.6
COLA IAmb IAmb 23 23 42.7
comp=Z,32nm,0.9s
I23K Minto, Yukon-K 84.33 10 P P 23 23 38.8 -1.2
I23K IAmb IAmb 23 23 45.4
comp=Z,36nm,1.4s
I23K Minto, Yukon-K 84.33 10 P P 23 23 40.4 +0.3
baz=202,SNR=16
MDM Murphy Dome 84.34 10 P P 23 23 39.2 -1.0
IL31 84.40 11 P P 23 23 39.5 -0.8
ILAR Eielson Array 84.40 11 P P 23 23 39.3 -1.1
comp=Z,9.2nm,1.1s,baz=221,slow=4.2,SNR=31
ILAR S S 23 34 01.3 -4.7
comp=Z,0.1nm,0.5s,baz=320,slow=35,SNR=1.5
ILAR LR LR 23 57 21.3
comp=Z,867nm,19.4s,baz=179,slow=33
ILAR Eielson Array 84.40 11 P P 23 23 39.5 -0.9
ILAR Eielson Array 84.40 11 P P 23 23 39.5 -0.9
ISCO Idaho Springs 84.40 45 P P 23 23 42.1 +0.7
baz=242
ISCO Idaho Springs 84.40 45 P P 23 23 41.9 +0.5
baz=242
IMAR Indian Mountai 84.50 8 P P 23 23 40.1 -0.8
MYKOM Kota Tinggi 84.52 274 P P 23 23 42.5 +0.3
J25K Salcha River, 84.54 11 P P 23 23 41.2 0.0
baz=206,SNR=18
QIZ Qiongzhong 84.55 292 P P 23 23 43.5 +1.3
QIZ S S 23 34 08.6 -0.8
QIZ SS SS 23 39 35.9 -4.8
QIZ pmax pmax
comp=Z,590nm,8.4s
QIZ LR LR
comp=Z,270nm,15.9s
QIZ LR LR
comp=Z,430nm,22.3s
QIZ LR LR
comp=Z,530nm,15.9s
POKR Poker Plat Res 84.62 10 P P 23 23 41.0 -0.6
POKR Poker Plat Res 84.62 10 P P 23 23 41.3 -0.3
baz=204,SNR=20
M30M Minto, Yukon 84.68 16 P P 23 23 41.7 -0.2
baz=214,SNR=8.5
RLMT Red Lodge 84.69 39 P P 23 23 43.2 +0.6
baz=239
J26L Joseph Creek 84.79 12 P P 23 23 43.5 +1.0
baz=208,SNR=26
SEY Seymchan 84.85 345 P P 23 23 42.4 -0.3
comp=Z,9.9nm,0.8s,baz=139,slow=6.7,SNR=29
SEY S S 23 34 06.8 -3.6
comp=Z,0.7nm,0.3s,baz=180,slow=24,SNR=6.9
SEY LR LR 23 57 28.9
comp=Z,505nm,19.9s,baz=173,slow=33
SEY Seymchan 84.85 345 ⇑*i*P P 23 23 42.4 -0.3
SEY pmax pmax
comp=Z,23nm,1.1s
H23K Yukon River 84.94 9 P P 23 23 43.2 +0.1
baz=202,SNR=6.9
M31M Drury Creek, Y 85.02 17 P P 23 23 44.0 +0.4
baz=216,SNR=11
WHN Wuhan 85.05 304 ⇑P P 23 23 44.8 +0.3
WHN S S 23 34 15.8 +1.9
WHN pmax pmax
comp=Z,870nm,8.6s
WHN LR LR
comp=Z,680nm,12.2s
WHN LR LR
comp=Z,810nm,14.5s
WHN LR LR
comp=Z,1μm,17.2s
H24K Noodor Dome 85.21 10 P P 23 23 43.4 -1.2
H24K Noodor Dome 85.21 10 P P 23 23 43.6 -0.9
baz=203
CNSH ChangSha 85.27 301 ⇑P P 23 23 47.8 +2.2
CNSH S S 23 34 16.8 +0.6
CNSH pmax pmax
comp=Z,29nm,1.2s
CNSH LR LR
comp=Z,580nm,19.4s
CNSH LR LR
comp=Z,490nm,20.2s
TIA Tai'an 85.30 310 ⇓P P 23 23 47.8 +2.2
TIA S S 23 34 14.3 -1.8
TIA pmax pmax
comp=Z,23nm,1.1s
TIA pmax pmax
comp=Z,540nm,7.3s
TIA LR LR
comp=Z,350nm,22.1s
TIA LR LR
comp=Z,490nm,19.6s
TIA LR LR
comp=Z,560nm,21.1s
DAWY Dawson 85.30 14 P P 23 23 44.4 -0.7
DAWY Dawson 85.30 14 P P 23 23 45.8 +0.7
baz=212,SNR=13
FARO Faro, Yukon 85.33 17 P P 23 23 46.8 +1.6
baz=217
EGAK Eagle 85.53 13 P P 23 23 45.3 -0.8
EGAK IAmb IAmb 23 23 50.5
comp=Z,37nm,1.4s
EGAK Eagle 85.53 13 P P 23 23 46.2 +0.1
baz=210,SNR=12
ABTX Abilene, Hawle 85.60 54 P P 23 23 49.2 +1.9
baz=246
ABTX Abilene, Hawle 85.60 54 P P 23 23 49.1 +1.9
baz=246
LL02 Futaleuf 85.63 134 P P 23 23 48.4 +1.1
LL02 IAmb IAmb 23 23 52.7
comp=Z,23nm,1.2s
RDOG Red Dog Mine 85.67 4 P P 23 23 45.6 -1.1
EGMT Eagleton 85.92 37 P P 23 23 47.2 -1.4
EGMT IAmb IAmb 23 24 18.3
comp=Z,28nm,1.6s
EGMT Eagleton 85.92 37 P P 23 23 49.4 +0.9
baz=238
MAW Mawson 86.02 198 P P 23 23 50.3 +1.6
comp=Z,2.3nm,0.5s,baz=194,slow=8.3,SNR=6.6
MAW S S 23 34 19.3 -3.0
comp=Z,2.3nm,0.3s,baz=56,slow=17,SNR=12
MAW LR LR 00 01 43.1
comp=Z,1μm,19.1s,baz=114,slow=35
MAW Mawson 86.02 198 P P 23 23 51.0 +2.3
MAW Mawson 86.02 198 P P 23 23 51.0 +2.3
COLD Coldfoot 86.15 8 P P 23 23 50.4 +1.3
baz=201
MMPY Sheldon Lake, 86.23 18 P P 23 23 51.1 +1.4
baz=219,SNR=12
I29M Ogilvie Camp, 86.65 14 P P 23 23 51.2 -0.4
I29M IAmb IAmb 23 23 55.6
comp=Z,40nm,1.5s
I29M Ogilvie Camp, 86.65 14 P P 23 23 52.0 +0.3
baz=212
BKNI Bangkinang 86.76 271 P P 23 23 54.0 +0.6
BILL Bilibino 86.78 352 ⇑*i*P P 23 23 51.5 -0.7
BILL *e* 23 27 17.7
BILL *e*PPP PPP 23 29 10.9
BILL pmax pmax
comp=Z,26nm,1.0s
BILL MLR MLR
comp=Z,300nm,16.0s
BILL Bilibino 86.78 352 P P 23 23 51.3 -0.9
BILL IAmb IAmb 23 23 56.0
comp=Z,18nm,0.9s
BMAR Burnt Mountain 87.22 10 P P 23 23 54.1 -0.3
UBPT Khong Chiam 87.22 287 P P 23 23 55.7 +0.2
UBPT IAmb IAmb 23 23 58.3
comp=Z,34nm,1.6s
PLCA Paso Flores 87.39 132 P P 23 23 58.0 +1.9
comp=Z,4.7nm,0.8s,baz=224,slow=8.2,SNR=7.1
PLCA S S 23 34 42.4 +5.6
comp=Z,1.7nm,0.9s,baz=124,slow=2.4,SNR=2.0
PLCA LR LR 23 55 59.5
comp=Z,1μm,18.6s,baz=239,slow=31
PLCA Paso Flores 87.39 132 P P 23 23 56.9 +0.8
PLCA pmax pmax
comp=Z,42nm,1.9s
PLCA Paso Flores 87.39 132 P P 23 23 56.9 +0.8
PLCA IAmb IAmb 23 24 42.4
comp=Z,42nm,1.9s
RSSD Black Hills 87.46 42 P P 23 23 56.3 0.0
RSSD pmax pmax

comp=Z,8.0nm,1.1s
RSSD Black Hills 87.46 42 P **P** **23 23 56.3 0.0**
RSSD Black Hills 87.46 42 P **P** **23 23 56.5 +0.1**
baz=243
RSSD Black Hills 87.46 42 P **P** **23 23 56.5 +0.1**
baz=243
HNS HongShan 87.55 310 ⇑P **P** **23 23 58.0 +1.4**
HNS SKS **SKSac** **23 34 27.0 +2.5**
HNS S **S** **23 34 37.8 -0.2**
HNS pmax pmax
comp=Z,41nm,1.5s
HNS pmax pmax
comp=Z,560nm,5.9s
HNS LR LR
comp=Z,230nm,16.9s
HNS LR LR
comp=Z,690nm,20.4s
HNS LR LR
comp=Z,630nm,18.4s
TOLK Toolik Lake Re 87.56 8 P **P** **23 23 54.6 -1.4**
TOLK Toolik Lake Re 87.56 8 P **P** **23 23 56.9 +0.9**
baz=202
HKT Hockley 87.57 58*c* *i*P **P** **23 24 00.0 +3.2**
HKT pmax pmax
comp=Z,25nm,2.9s
HKT Hockley 87.57 58 P **P** **23 23 55.9 -1.0**
HKT IAmb IAmb 23 24 43.6
comp=Z,42nm,1.9s
BJT Baijiatuau 87.61 313 P **P** **23 23 57.8 +0.9**
BJT pmax pmax
comp=Z,77nm,1.3s
BJT Baijiatuau 87.61 313 P **P** **23 23 57.8 +0.9**
BJI Beijing 87.61 313 P **P** **23 23 59.5 +2.7**
BJI S **SKSac** **23 34 29.9 +5.2**
BJI pmax pmax
comp=Z,44nm,1.3s
BJI pmax pmax
comp=Z,520nm,4.2s
BJI LR LR
comp=Z,240nm,16.7s
BJI LR LR
comp=Z,360nm,15.7s
BJI LR LR
comp=Z,530nm,18.2s
ZEA Zeya 87.74 329 *e*P **P** **23 23 59.4 +2.2**
ZEA *e*S **S** **23 34 42.2 +3.0**
ZEA pmax pmax
comp=N,10.0nm,1.6s
ZEA pmax pmax
comp=Z,20nm,2.0s
ZEA pmax pmax
comp=Z,200nm,5.1s
ZEA smax smax
comp=N,300nm,12.5s
ZEA MLR MLR
comp=N,300nm,19.0s
ZEA MLR MLR
comp=Z,400nm,19.0s
EPYK Eagle Plains 87.86 14 P **P** **23 23 57.2 -0.3**
EPYK Eagle Plains 87.86 14 P **P** **23 23 57.9 +0.4**
baz=214,SNR=14
MTO3 Montecristo 87.89 74 P **P** **23 23 58.5 -0.6**
IPM Ipoh 88.02 275 P **P** **23 23 59.1 -0.4**
LYN LuoYang 88.09 307⇓ *i*P **P** **23 24 02.0 +2.7**
LYN SKS **SKSac** **23 34 22.3 -5.6**
LYN S **SKKSac** **23 34 35.3 -2.8**
LYN pmax pmax
comp=Z,40nm,1.4s
LYN pmax pmax
comp=Z,540nm,7.5s
LYN LR LR
comp=Z,490nm,19.4s
LYN LR LR
comp=Z,930nm,18.6s
LYN LR LR
comp=Z,1μm,19.2s
KULM Kulim 88.62 276 P **P** **23 24 02.6 +0.3**
ENH Enshi 88.84 302 P **P** **23 24 02.1 -0.9**
MT01 Popeta 89.30 125 P **P** **23 24 06.1 +0.9**
MT01 IAmb IAmb 23 24 12.6
comp=Z,26nm,0.9s
XLT XiLinHaoTe 89.32 317 *e*P **P** **23 24 07.3 +2.3**
XLT pP pwP 23 24 13.0 -3.9
XLT sP sP 23 24 14.6 +7.6
XLT SKS **SKSac** **23 34 33.4 -1.7**
XLT S **ScS** **23 35 00.8 +1.3**
XLT sS sS 23 35 02.8 +5.8
XLT pmax pmax
comp=Z,18nm,1.0s
XLT pmax pmax
comp=Z,270nm,6.3s
XLT LR LR
comp=Z,410nm,17.7s
XLT LR LR
comp=Z,440nm,18.5s
TIY Taiyuan 89.33 310 *e*P **P** **23 24 08.1 +2.9**
TIY SKS **SKSac** **23 34 37.8 +2.4**
TIY pmax pmax
comp=Z,23nm,0.7s
TIY pmax pmax
comp=Z,510nm,5.1s
TIY LR LR
comp=Z,400nm,14.4s
TIY LR LR
comp=Z,340nm,18.5s
TIY LR LR
comp=Z,510nm,15.1s
HIA Hailar 89.47 323 P **P** **23 24 04.2 -1.3**
HIA pmax pmax
comp=Z,37nm,1.5s
HIA Hailar 89.47 323 P **P** **23 24 04.2 -1.3**
HIA IAmb IAmb 23 24 08.7
comp=Z,37nm,1.5s
PSI Prapat 89.52 273 S **SKSac** **23 34 37.4 -0.3**
comp=Z,1.4nm,0.3s,baz=334,slow=18,SNR=1.8
PSI LR LR 00 04 50.3
comp=Z,367nm,20.9s,baz=128,slow=36
MT02 Curacav 89.60 125 P **P** **23 24 07.7 +1.1**
GYA Guiyang 89.85 298⇓ P **P** **23 24 11.0 +3.1**
GYA PP **PP** **23 27 44.0 +3.2**
GYA S **S** **23 34 58.1 -2.4**
GYA pmax pmax
comp=Z,48nm,1.3s
GYA pmax pmax
comp=Z,590nm,6.4s
GYA LR LR
comp=Z,170nm,9.4s
GYA LR LR
comp=Z,320nm,17.2s
GYA LR LR
comp=Z,420nm,16.9s
PEL Peldehue 90.00 125 P **P** **23 24 08.7 +0.1**
PEL pmax pmax
comp=Z,30nm,1.0s
PEL Peldehue 90.00 125 P **P** **23 24 08.7 +0.1**
PEL IAmb IAmb 23 24 14.4
comp=Z,30nm,1.0s
INK Inuvik 90.16 14 S **S** **23 34 55.5 -5.8**
comp=Z,0.9nm,1.1s,baz=321,slow=12,SNR=1.7
INK LR LR 00 01 17.2
comp=Z,931nm,18.3s,baz=198,slow=33
INK Inuvik 90.16 14 P **P** **23 24 07.5 -0.7**
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 90.16 14 P **P** **23 24 07.5 -0.7**
INK Inuvik 90.16 14 P **P** **23 24 07.4 -0.7**
baz=217
GSI Gunungsitoli 90.35 271 P **P** **23 24 11.1 +0.7**
TROLL Troll, Antarti 90.57 178 P **P** **23 24 12.2 +1.6**
SRIT Nakonsritamara 90.61 279 P **P** **23 24 11.1 -0.4**
VNA3 Neumayer Olymp 90.61 175 P **P** **23 24 11.8 +1.2**
XAN Xi'an 90.63 306 P **P** **23 24 14.0 +2.7**
XAN SKS **SKSac** **23 34 45.0 +2.0**
XAN S **S** **23 35 04.3 -2.9**
XAN pmax pmax
comp=Z,31nm,1.6s
XAN pmax pmax
comp=Z,360nm,9.9s
XAN LR LR
comp=Z,590nm,19.2s
XAN LR LR
comp=Z,380nm,19.2s
XAN LR LR
comp=Z,500nm,18.5s
SYO Syowa Base 90.65 191⇓ *e*P **P** **23 24 12.0 +1.3**
SYO Syowa Base 90.65 191⇓ *ep*P pP 23 24 15.4 +3.5
SNAA Sanae 90.69 177 P **P** **23 24 12.1 +1.1**
SNAA Sanae 90.69 177 LR LR 00 03 40.6
comp=Z,917nm,18.3s,baz=173,slow=35
SNAA Sanae 90.69 177 P **P** **23 24 12.5 +1.5**
SNAA pmax pmax
comp=Z,16nm,1.2s
SNAA Sanae 90.69 177 P **P** **23 24 12.5 +1.5**
SNAA IAmb IAmb 23 24 31.2
comp=Z,16nm,1.2s
JTS Las Juntas de 90.72 80 LR LR 23 57 01.3
comp=Z,2μm,18.0s,baz=316,slow=30
JTS Las Juntas de 90.72 80*c* *i*P **P** **23 24 13.8 +1.7**
JTS pmax pmax
comp=Z,42nm,1.0s
GO04 Tololo Observa 90.97 122 P **P** **23 24 13.8 +0.5**
VNA2 Neumayer--Watz 91.12 175 P **P** **23 24 14.8 +1.9**
baz=197,slow=4.0
HHC Hu-ho-hao-te 91.16 313 *e*P **P** **23 24 11.5 -2.2**
HHC SKS **SKSac** **23 34 42.5 -3.4**
HHC S **S** **23 35 11.8 -0.1**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,330nm,5.5s
HHC LR LR
comp=Z,280nm,15.4s
HHC LR LR
comp=Z,310nm,14.6s
HHC LR LR
comp=Z,700nm,15.7s
YAK Yakutsk 91.46 336 *e*P **P** **23 24 13.7 -0.7**
YAK *e*S **SKSac** **23 34 42.1 -4.2**
YAK *e* 23 35 10.2
YAK *e*SS **SS** **23 41 12.4 -7.4**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK smax smax
comp=E,52nm,4.5s
YAK smax smax
comp=N,58nm,3.6s
NNA Nana 91.69 103 LR LR 23 57 24.1
comp=N,661nm,18.3s,baz=254,slow=30
YKA Yellowknife Ar 91.73 23 P **P** **23 24 15.7 0.0**
comp=N,7.3nm,1.2s,baz=236,slow=4.1,SNR=26
BTO Baotou 92.16 312 *e*P **P** **23 24 20.5 +2.2**
BTO S **S** **23 35 27.8 +6.9**
BTO LR LR
comp=N,990nm,13.5s
BTO LR LR
comp=N,1μm,15.7s
ECSD EROS Data Cent 92.16 45 P **P** **23 24 19.5 +1.3**
baz=248
U40A Yellville 92.19 53 P **P** **23 24 19.3 +0.8**
baz=250
W41B Gary Mavity, V 92.25 54 P **P** **23 24 19.3 +0.6**
baz=250
KMI Kunming 92.77 295 ⇑P **P** **23 24 23.8 +2.1**
KMI pP sP 23 24 25.4 +1.8
KMI SKS **SKSac** **23 34 55.6 -0.3**
KMI S **ScS** **23 35 29.4 +0.1**
KMI SS **SS** **23 41 45.5 +4.7**
KMI pmax pmax
comp=N,25nm,1.2s
KMI pmax pmax
comp=N,280nm,3.8s
KMI LR LR
comp=N,320nm,18.7s
KMI LR LR
comp=N,540nm,18.6s
KMI LR LR
comp=N,600nm,17.8s
CD2 Chengdu 93.70 301 *e*P **P** **23 24 24.0 -1.6**
PZH PanZhiHua 94.05 296⇓ P **P** **23 24 30.3 +2.9**
PZH SKS **SKSac** **23 35 04.3 +1.6**
PZH S **S** **23 35 33.3 -5.0**
PZH sS **sS** **23 35 44.0 +3.4**
PZH pmax pmax
comp=N,10.0nm,1.3s
PZH pmax pmax
comp=N,210nm,6.1s
PZH LR LR
comp=N,680nm,16.7s
PZH LR LR
comp=N,930nm,18.8s
PZH LR LR
comp=N,880nm,17.2s
CMAR Chiang Mai Arr 94.14 288 P **P** **23 24 29.4 +1.5**
comp=N,5.0nm,0.9s,baz=100,slow=2.7,SNR=33
CMAR S **SKSac** **23 35 03.0 -0.2**
comp=N,1.3nm,0.3s,baz=119,slow=24,SNR=1.5
CMAR LR LR 00 02 28.8
comp=N,538nm,21.0s,baz=100,slow=33
CMAR Chiang Mai Arr 94.14 288 P **P** **23 24 29.1 +1.3**
CHTO Chiang Mai 94.25 288 P **P** **23 24 28.9 +0.6**
CHTO pmax pmax
comp=Z,45nm,1.7s
CHTO Chiang Mai 94.25 288 P **P** **23 24 28.9 +0.6**
A36M Sachs Harbour 94.80 13 P **P** **23 24 29.1 -0.5**
A36M IAmb IAmb 23 24 43.3
comp=Z,12nm,0.8s
A36M Sachs Harbour 94.80 13 P **P** **23 24 31.2 +1.6**
baz=225
ULM Lac du Bonnet 95.05 39 LR LR 00 04 33.7
comp=Z,2μm,18.0s,baz=256,slow=34
ULM Lac du Bonnet 95.05 39⇓ *e*P **P** **23 24 32.2 +0.9**
LZH Lanzhou 95.23 306 ⇑P **P** **23 24 31.9 -0.7**
LZH sP pwP 23 24 42.9 -1.7
LZH SKS **SKSac** **23 35 11.8 +3.1**
LZH sS sS 23 35 56.0 +5.4
LZH pmax pmax
comp=Z,23nm,1.5s
LZH pmax pmax
comp=Z,350nm,9.1s
LZH LR LR
comp=Z,330nm,16.8s
LZH LR LR
comp=Z,450nm,17.0s
LZH LR LR
comp=Z,630nm,19.5s
LVC Limon Verde 95.27 116 LR LR 23 59 07.1
comp=Z,1μm,19.7s,baz=231,slow=30
BOD Bodaibo 96.25 329 *e*P **P** **23 24 37.6 +1.1**
BOD pmax pmax
comp=Z,6.0nm,1.7s
ULN Ulaanbaatar 96.65 318*ce*P **P** **23 24 41.9 +3.1**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 96.65 318 P **P** **23 24 37.6 -1.2**
SONM Songino Array 97.06 318 P Pdif 23 24 42.0 +1.2
comp=Z,1.4nm,0.7s,baz=134,slow=4.3,SNR=4.0
SONM S **SKSac** **23 35 14.5 -3.2**
comp=Z,0.2nm,0.4s,baz=139,slow=32,SNR=1.5
SONM Songino Array 97.06 318 P Pdif 23 24 42.0 +1.3
TIXI Tiksi 97.33 344 P **P** **23 24 40.8 -0.3**
comp=Z,1.8nm,0.8s,baz=269,slow=23,SNR=8.2
TIXI S **SKSac** **23 35 14.7 -3.1**
comp=Z,0.3nm,0.3s,baz=270,slow=24,SNR=1.3
TIXI Tiksi 97.33 344⇓ *i*P Pdif 23 24 42.5 +1.3
TIXI pmax pmax
comp=Z,7.0nm,1.4s
TIXI Tiksi 97.33 344 P Pdif 23 24 41.4 +0.2
LPAZ La Paz 98.23 110 LR LR 00 00 42.8
comp=Z,532nm,19.3s,baz=246,slow=30
TKL Tuckaleechee C 99.00 56 LR LR 00 05 14.7
comp=Z,539nm,18.4s,baz=255,slow=33
ROSC El Rosal 99.19 88 LR LR 00 01 49.2
comp=Z,359nm,18.8s,baz=236,slow=31
GTA Gaotai 99.23 308 *e*P **Pdif** **23 24 52.8 +2.2**
GTA pP pwP 23 24 59.0 -3.6
GTA sP sP 23 25 02.9 +10
GTA pmax pmax
comp=Z,5.0nm,1.2s
GOMU GeErMu 102.31 304 P **Pdif** **23 25 03.9 -0.8**
GOMU SKS 23 35 46.4
GOMU SS **SS** **23 43 54.3 -0.8**
GOMU LR LR
comp=Z,110nm,15.2s
GOMU LR LR
comp=Z,210nm,15.3s
GOMU LR LR
comp=Z,250nm,15.5s
ZALV Zalesovo Beam 111.49 322 PKiKP **PKiKP** **23 29 42.4 -0.2**
comp=Z,0.3nm,0.4s,baz=177,slow=2.5,SNR=2.8
MK31 Makanchi Array 112.98 314⇓ *i*PKiKP **PKiKP** **23 29 44.9 -0.8**
MKAR Makanchi Array 112.98 314 Pdiff **Pdif** **23 25 52.7 +1.3**
comp=Z,0.1nm,0.3s,baz=154,slow=11,SNR=2.2
MKAR PKiKP **PKiKP** **23 29 45.8 +0.1**
comp=Z,0.9nm,0.8s,baz=56,slow=1.7,SNR=8.7
MKAR PKKPbc **PKKPbc** **23 40 34.3 +0.5**
comp=Z,0.3nm,0.8s,baz=318,slow=1.6,SNR=4.0
KURK Kurchatov 115.36 318 PKiKP **PKiKP** **23 29 49.8 -0.3**
KURBB Kurchatov Arra 115.42 318 PKP **PKiKP** **23 29 49.8 -0.4**
comp=Z,1.1nm,0.7s,baz=86,slow=1.9,SNR=10
KSH Kashi 117.48 306 PKP **PKiKP** **23 30 00.1 +5.4**
KSH AMB AMB
comp=Z,310nm,6.9s
KSH LR LR
comp=Z,360nm,18.4s
KSH LR LR
comp=Z,450nm,16.8s
KSH LR LR
comp=Z,270nm,22.5s
AAK Ala-Archa 118.56 309 PKP **PKiKP** **23 29 56.8 0.0**
comp=Z,0.3nm,0.4s,baz=158,slow=11,SNR=1.9
AAK Ala-Archa 118.56 309⇓ *i*PKiKP **PKiKP** **23 29 57.4 +0.6**
BVAR Borovoye Array 120.14 322 PKP **PKiKP** **23 29 59.8 +0.5**
comp=Z,2.3nm,0.8s
BRVK Borovoye 120.20 322⇓ *i*PKiKP **PKPdf** **23 29 58.9 -0.4**
ARU Arti 125.66 328 PKP **PKPdf** **23 30 09.9 +0.2**
comp=Z,0.5nm,0.4s,baz=82,slow=15,SNR=2.7
ARU PP **PP** **23 31 58.1 -3.4**
comp=Z,0.3nm,0.4s,baz=37,slow=6.5,SNR=1.7
ARU Arti 125.66 328 *i* PKiKP **PKiKP** **23 30 11.3 +1.2**
ARU 23 32 00.0
ARU PPP PPP 23 34 41.7
ARU 23 37 22.8
ARCES ARCESS Array B 126.88 352 PKP **PKiKP** **23 30 12.7 +0.5**
comp=Z,3.9nm,0.8s,baz=5.7,slow=2.4,SNR=3.6
AKTO Aktyubinsk 128.24 321 PKP **PKiKP** **23 30 16.2 +0.8**
comp=Z,1.5nm,1.0s,baz=46,slow=5.7,SNR=2.9
BOSA Boshof 130.99 201 PKP **PKiKP** **23 30 22.5 +0.6**
comp=Z,5.5nm,0.9s,baz=130,slow=4.7,SNR=4.2
KLMR Klimovskoe 131.14 340 *e*PKiKP **PKiKP** **23 30 20.6 -0.3**
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 131.14 340 *e*PKPdf **PKiKP** **23 30 20.7 -0.2**
KLMR AMP 23 30 24.9
comp=Z,15nm,1.3s
KLMR *e*PKKP **PKKPdf** **23 40 17.1 -3.2**
GEYT Alibeck 131.51 305 PKP **PKPdf** **23 30 21.2 -0.3**
comp=Z,0.8nm,0.4s,baz=68,slow=8.0,SNR=1.9
BELG Belogornoye 133.19 327 PKP **PKPdf** **23 30 24.4 +0.3**
comp=Z,5.0nm,0.8s,baz=153,slow=9.4,SNR=2.0
VALR Valaam 133.24 345⇓ *i*PKiKP **PKiKP** **23 30 26.2 +1.1**
LBTB Lobatse 134.15 203 PKP **PKiKP** **23 30 27.9 -0.5**
comp=Z,6.0nm,1.0s,baz=183,slow=7.0,SNR=3.5
OBN Obninsk 136.46 336 *i* PKiKP **PKiKP** **23 30 32.4 +0.5**
OBN *e* 23 33 12.1
OBN *e*PPP PPP 23 36 09.6
OBN pmax pmax
comp=Z,7.0nm,0.8s
VSU Vasula 136.79 345⇑ *i*PKiKP **PKPdf** **23 30 29.0 -1.7**
MATP Matopo 136.99 209 PKP **PKPdf** **23 30 32.8 +0.4**
comp=Z,4.9nm,0.8s,baz=293,slow=1.7,SNR=6.0
MAK Makhachkala 137.78 315 *e*P **Pdif** **23 27 37.1 -4.6**
MAK *i* 23 30 30.5
MAK *e* 23 33 18.1
MAK *e*PPP PPP 23 36 24.1
MAK *e*SP SP 23 43 45.1 -0.7
VSR Storozhevoye 138.09 330 *e*PKiKP **PKiKP** **23 30 35.3 0.0**
VSR pmax pmax
comp=Z,10.0nm,1.7s
MNK Minsk 139.95 342 *i* PKiKP **PKPdf** **23 30 35.1 -1.5**
MNK *i* 23 33 34.2
MNK *i* PPP PPP 23 36 34.1
MNK *i* 23 37 45.5
MNK *i* SS SS 23 51 52.1 -1.3
MNK *i* SSS SSS 23 57 04.3
MNK pmax pmax
comp=E,3.0nm,1.2s
MNK pmax pmax
comp=N,9.0nm,1.2s
MNK pmax pmax
comp=Z,3.0nm,0.8s
MNK MLR MLR
comp=E,48nm,26.0s
MNK Minsk 139.95 342 *i* PKP **PKPdf** **23 30 35.2 -1.5**
comp=E,3.0nm,1.2s,baz=31
MNK *i* PKP **pPKPdf** **23 30 35.4 -2.7**
comp=N,9.0nm,1.2s
MNK *i* PKP **pPKPdf** **23 30 35.4 -2.7**
comp=Z,3.0nm,0.8s
MNK *i* PP **PP** **23 33 34.3 +1.8**
MNK *i* PPP PPP 23 36 34.1
MNK *i* SKS **SKSdf** **23 37 45.5 -1.2**
MNK *i* SKKS **SKKSdf** **23 47 15.4 -0.6**
MNK *i* SS **SS** **23 51 52.1 -1.3**
MNK *i* SSS SSS 23 57 04.4
KBZ Khabaz 140.42 319⇓ *i*PKiKP **PKPdf** **23 30 38.9 +1.1**
KIV Kislovodsk 140.44 319 *i* PKiKP **PKiKP** **23 30 41.1 +0.6**
KIV *e* 23 33 35.7
KIV *e*SS SS 23 51 57.6 -3.1
KIV pmax pmax
comp=Z,4.0nm,1.0s
GNI Garni 140.82 313 PKP **PKPdf** **23 30 40.1 +1.2**
comp=Z,1.2nm,0.3s,baz=32,slow=11,SNR=1.9
GNI Garni 140.82 313 **PKPdf** **23 30 37.9 -1.0**
LSZ Lusaka 141.52 213 PKP **PKPdf** **23 30 39.9 -0.9**
comp=Z,0.7nm,0.2s,baz=123,slow=18,SNR=1.4
SOC Sochi 142.46 321 *i* PKiKP **PKiKP** **23 30 44.5 0.0**
SOC *e* 23 33 47.6
SOC *e*PPP PPP 23 36 59.8
AKASG Malin Array Be 142.69 337 PKP **PKPdf** **23 30 40.2 -1.5**
comp=Z,0.3nm,0.3s,baz=24,slow=4.3,SNR=1.5
AKBB Malin Array Si 142.69 337⇑ *i*PKiKP **PKiKP** **23 30 44.5 -0.3**
GURO Guroymak-BITLI 143.39 312 PKPdf PKPbc 23 30 41.7 +1.1
LVV L'vov 145.20 341 *e*PKP2 **PKPbc** **23 30 45.6 -0.1**
FLTG Flechtingen 145.20 356 *e*PKPbc **PKPab** **23 30 45.8 +0.1**
comp=Z,17nm,1.1s,baz=6.0,slow=2.8
KMBO Kilima Mbogo 145.33 241 PKPbc **PKPdf** **23 30 49.6 +1.8**
comp=Z,22nm,1.1s,baz=98,slow=3.4,SNR=28
KMBO Kilima Mbogo 145.33 241 **PKPbc** **23 30 46.1 -1.4**
ATD Arta Tunnel 145.34 265 PKPbc **PKPdf** **23 30 49.2 +1.8**
comp=Z,20nm,1.0s,baz=38,slow=1.7,SNR=6.9
CLZ Clausthal 145.74 357 *e*PKPbc **PKPab** **23 30 48.4 +0.6**
comp=Z,85nm,1.7s,baz=6.0,slow=2.8
KWP Kalwaria Pacla 145.76 342 *e*PKPbc **PKPab** **23 30 48.5 +0.6**
KWP Kalwaria Pacla 145.76 342 PKP2 **PKPdf** **23 30 47.1 0.0**
KWP Kalwaria Pacla 145.76 342 **PKPdf** **23 30 47.1 0.0**
KIS Kishinev 145.82 334⇑ *i*PKP **PKPdf** **23 30 47.0 -0.2**
comp=Z,25nm,0.6s
KIS *e*LR LR 00 33 38.0
comp=Z,300nm,20.5s
KIS Kishinev 145.82 334*c* *i*PKP2 **PKPdf** **23 30 47.0 -0.2**
KIS pmax pmax
comp=Z,25nm,0.6s
MILM Milestii Mici 145.88 334⇓ *i*PKP **PKPab** **23 30 49.0 +0.7**
comp=Z,100nm,1.6s
MILM *e*L L 00 33 44.0
MILM LRM MLR 00 47 11.0
comp=Z,600nm,19.5s
MILM Milestii Mici 145.88 334*d* *i*PKP2 **PKPab** **23 30 49.0 +0.7**
MILM pmax pmax
comp=Z,100nm,1.6s
OJC Ojcow 145.98 346 *e*PKPbc **PKPab** **23 30 48.8 +0.1**
OJC Ojcow 145.98 346 PKiKP **PKPdf** **23 30 46.4 -1.0**
OJC Ojcow 145.98 346 PKPdf **PKPdf** **23 30 46.4 -1.0**
GTTG Gottingen 146.06 357 *e*PKPbc **PKPab** **23 30 49.0 +0.2**
comp=Z,80nm,1.5s,baz=6.0,slow=2.8
CLL Collm 146.07 354 *i* PKP2 **PKPab** **23 30 49.0 +0.1**
CLL pmax pmax
comp=Z,114nm,1.8s
CLL MLR MLR
comp=Z,500nm,19.3s
CLL Collm 146.07 354 *i* PKPbc **PKPab** **23 30 49.0 +0.1**
comp=Z,114nm,1.8s
CLL *i* x x 23 30 57.5
comp=Z,46nm,1.1s
CLL *e*SSS SSS 23 58 54.0
CLL Lm MLR 00 39 00.0
comp=N,400nm,19.0s
CLL Lm MLR 00 39 00.0
comp=E,300nm,18.9s
CLL Lm MLR 00 39 00.0
comp=Z,500nm,19.3s
CLL Collm 146.07 354 *e*PKPbc **PKPab** **23 30 48.6 -0.3**
comp=Z,114nm,1.8s,baz=6.0,slow=2.8

KSP	Ksiaz	146.08	350	*e*PKPbc	PKPab	23	30	49.6 +0.6
CHVC	Chvalec	146.37	350	*e*PKP	PKPab	23	30	50.1 0.0
OSTC	Ostas	146.37	350	*e*PKP	PKPab	23	30	50.4 +0.2
OSTC				AMS	AMS	00	41	40.0
	comp=Z,900nm,23.0s							
BRG	Berggiesshubel	146.39	353	*e*PKP	PKPab	23	30	50.1 -0.1
BRG				Amp		23	30	54.9
	comp=Z,47nm,1.4s							
BRG				*ex*	x	23	30	59.4
BRG				Amp		23	31	02.6
	comp=Z,53nm,1.6s							
BRG	Berggiesshubel	146.39	353	*e*PKP2	PKPab	23	30	50.0 -0.1
BRG				pmax	pmax			
	comp=Z,47nm,1.4s							
BRG	Berggiesshubel	146.39	353	*e*PKPbc	PKPab	23	30	50.0 -0.1
	comp=Z,49nm,1.4s,baz=6.0,slow=2.8							
FBE	Freiberg	146.41	353	*e*PKPbc	PKPab	23	30	50.4 +0.2
	comp=Z,114nm,1.4s,baz=6.0,slow=2.8							
UPC	Upice	146.45	350	*e*PKP2	PKPab	23	30	50.7 +0.3
UPC				MLR	MLR			
	comp=Z,500nm,16.3s							
UPC	Upice	146.45	350	*e*PKP	PKPab	23	30	50.7 +0.3
UPC				AMS	AMS	00	43	10.0
	comp=Z,500nm,16.3s							
KOLS	Kolonicke sedl	146.51	342	*e*PKP2	PKPab	23	30	51.1 +0.4
KOLS	Kolonicke sedl	146.51	342	*e*PKP	PKPab	23	30	51.1 +0.4
DPC	Dobruska-Polom	146.56	350	*e*PKP2	PKPab	23	30	50.7 -0.2
DPC				MLR	MLR			
	comp=Z,700nm,20.1s							
DPC	Dobruska-Polom	146.56	350	*e*PKP	PKPab	23	30	50.7 -0.2
DPC				AMS	AMS	00	41	40.0
	comp=Z,700nm,20.1s							
NIE	Niedzica	146.60	345	*e*PKPbc	PKiKP	23	30	52.1 -0.8
PVCC	Panska Ves	146.65	352	AMS	AMS	00	40	20.0
	comp=Z,700nm,21.0s							
OKC	Ostrava-Krasne	146.70	347	*e*PKP2	PKPab	23	30	51.3 -0.1
OKC	Ostrava-Krasne	146.70	347	*e*PKP	PKPab	23	30	51.3 -0.1
BURAR	Bucovina Array	146.71	338	↑P	PKiKP	23	30	52.7 -0.7
KRLC	Kraliky	146.74	349	*e*PKP2	PKPbc	23	30	50.8 +0.3
KRLC				MLR	MLR			
	comp=Z,600nm,17.0s							
KRLC	Kraliky	146.74	349	*e*PKP	PKPbc	23	30	50.8 +0.3
KRLC				AMS	AMS	00	47	20.0
	comp=Z,600nm,17.0s							
CRVS	Cervenica-Dubn	146.77	343	*e*PKP2	PKPab	23	30	51.6 -0.1
CRVS	Cervenica-Dubn	146.77	343	*e*PKP	PKPab	23	30	51.6 -0.1
UZH	Uzhgorod	146.78	342	*e*PKP2	PKPab	23	30	51.5 -0.2
MOX	Moxa	146.85	355	*e*PKPbc	PKPab	23	30	51.5 -0.5
	comp=Z,53nm,1.5s,baz=6.0,slow=2.8							
MORC	Moravsky Berou	146.88	348	↓P	PKPab	23	30	52.3 +0.1
MORC	Moravsky Berou	146.88	348	*e*PKP	PKPab	23	30	51.9 -0.3
PLN	Plauen	146.96	355	*e*PKPbc	PKPab	23	30	52.1 -0.4
	comp=Z,47nm,1.6s,baz=6.0,slow=2.8							
TANN	Tannenbergstha	147.00	354	*e*PKPbc	PKPab	23	30	52.0 -0.6
	baz=6.0,slow=2.8							
VLDR	Vladesti	147.04	333	↓P	PKPab	23	30	53.0 +0.1
LANS	Liptovska Anna	147.06	346	*e*PKP2	PKPab	23	30	53.2 +0.3
LANS	Liptovska Anna	147.06	346	*e*PKP	PKPab	23	30	53.2 +0.3
TESR	Tescani	147.09	335	↓P	PKPab	23	30	53.4 +0.3
VARL	Varlezi	147.09	334	↑P	PKPab	23	30	53.4 +0.3
GHRR		147.15	334	↑P	PKPab	23	30	53.6 +0.4
PRU	Pruhonice	147.18	352	*e*PKP2	PKPbc	23	30	52.4 +0.8
PRU				MLR	MLR			
	comp=Z,800nm,20.0s							
PRU	Pruhonice	147.18	352	*e*PKP	PKPbc	23	30	52.4 +0.8
PRU				AMS	AMS	00	40	30.0
	comp=Z,800nm,20.0s							
NKC	Novy Kostel	147.19	354	*e*PKP2	PKiKP	23	30	55.4 +1.3
NKC				MLR	MLR			
	comp=Z,500nm,18.7s							
NKC	Novy Kostel	147.19	354	*e*PKP	PKiKP	23	30	55.4 +1.3
NKC				AMS	AMS	00	38	50.0
	comp=Z,500nm,18.7s							
SCTR	Scanteiesti	147.21	333	↓P	PKPab	23	30	53.8 +0.3
TLCR		147.23	332	↓P	PKiKP	23	30	54.0 -0.2
BMR	Baia Mare	147.25	340	↑P	PKiKP	23	30	54.5 +0.2
IZVR	Izvoarele	147.41	333	↓P	PKPab	23	30	54.0 -0.3
MANZ	Manzenberg	147.46	355	*e*PKPbc	PKPbc	23	30	52.9 +0.4
	comp=Z,9.2nm,1.4s,baz=6.0,slow=2.8							
ARCR	ARCALIA	147.47	338	↑P	PKPab	23	30	53.9 -0.6
VRAC	Vranov	147.51	349	↓P	PKPab	23	30	54.1 -0.6
VRAC	Vranov	147.51	349	PKPbc	PKPbc	23	30	53.0 +0.4
	comp=Z,27nm,1.2s,baz=349,slow=2.7,SNR=15							
VRAC	Vranov	147.51	349	*e*PKP	PKPbc	23	30	53.5 +0.9
ODBI	Odobesti	147.54	334	↓P	PKiKP	23	30	55.5 +0.6
CFR	Carcaliu	147.54	332	↑P	PKPab	23	30	54.5 -0.3
PLOR	Plostina	147.63	335	↓P	PKiKP	23	30	54.9 -0.3
ROTZ	Rotzenmuhle	147.67	354	*e*PKPbc	PKPbc	23	30	53.7 +0.7
	comp=Z,8.6nm,1.3s,baz=6.0,slow=2.8							
TREC	Trest	147.72	350	AMS	AMS	00	40	10.0
	comp=Z,600nm,21.1s							
JAVC	Velka Javorina	147.73	347	*e*PKP	PKiKP	23	30	55.3 0.0
OZUR		147.78	336	↑P	PKiKP	23	30	55.1 -0.4
KRUC	Moravsky	147.78	349	*e*PKP	PKPbc	23	30	53.9 +0.6
COVR	Voineasa-Covas	147.82	335	↑P	PKiKP	23	30	54.9 -0.7
VYHS	Vyhne	147.82	346	*e*PKP2	PKiKP	23	30	54.5 -0.9
VYHS	Vyhne	147.82	346	*e*PKP	PKiKP	23	30	54.5 -0.9
MESR	Meseseni	147.89	340	↑P	PKiKP	23	30	55.1 -0.5
WLF	Walferdange	147.97	2	PKIKP	PKPbc	23	30	52.9 -0.9
WLF	Walferdange	147.97	2		PKPbc	23	30	52.9 -0.9
WLF	Walferdange	147.97	2	*e*PKPbc	PKiKP	23	30	55.2 -0.5
	comp=Z,34nm,1.1s,baz=6.0,slow=2.8							
HARR	Harsova	148.01	332	↑P	PKiKP	23	30	55.3 -0.6
LTVH	Ltavrtes, Hu	148.01	341	↓P	PKiKP	23	30	55.8 0.0
LTVH	Ltavrtes, Hu	148.01	341	PKP	PKPab	23	30	56.4 -0.3
CBBR	Cluj-Babes-Bol	148.02	339	↑P	PKiKP	23	30	55.8 -0.1
DOPR	Dopca	148.04	336	↑P	PKiKP	23	30	56.1 +0.1
CJR	Cluj-Napoca	148.06	339	↑P	PKiKP	23	30	55.5 -0.5
PSZ	Piszkesteto	148.09	344	↑P	PKiKP	23	30	56.3 +0.2
PSZ	Piszkesteto	148.09	344	PKIKP	PKPbc	23	30	53.5 -0.8
PSZ	Piszkesteto	148.09	344		PKPbc	23	30	53.5 -0.8
PSZ	Piszkesteto	148.09	344	PKP	PKiKP	23	30	56.4 +0.3
SMOL	Smolenice	148.11	348	*e*PKP2	PKiKP	23	30	55.8 -0.2
SMOL	Smolenice	148.11	348	*e*PKP	PKiKP	23	30	55.8 -0.2
KHC	Kasperske Hory	148.15	352	PKIKP	PKPdf	23	30	52.0 +0.8
KHC	Kasperske Hory	148.15	352		PKPdf	23	30	52.0 +0.8
KHC	Kasperske Hory	148.15	352	*e*PKP	PKPbc	23	30	55.2 +0.8
KHC				*ex*	x	23	31	05.0
KHC				AMS	AMS	00	40	00.0
	comp=Z,600nm,19.2s							
MLR	Muntele Rosu	148.21	335	↓P	PKiKP	23	30	55.9 -0.6
MLR	Muntele Rosu	148.21	335	PKPbc	PKPbc	23	30	54.6 -0.2
	baz=0.0,slow=1.0							
MLR	Muntele Rosu	148.21	335	PKIKP	PKPdf	23	30	52.5 +1.0
MLR	Muntele Rosu	148.21	335		PKPdf	23	30	52.5 +1.0
MODS	Modra-Piesok	148.27	348	*e*PKP2	PKiKP	23	30	56.0 -0.4
MODS	Modra-Piesok	148.27	348	*e*PKP	PKiKP	23	30	56.0 -0.4
DRGR		148.28	340	↑P	PKiKP	23	30	55.9 -0.6
BORR	Bors	148.31	341	↓P	PKPbc	23	30	55.4 +0.7
CKRC	Cesky Krumlov	148.36	351	*e*PKP	PKiKP	23	30	55.8 -0.8
CKRC				AMS	AMS	00	41	20.0
	comp=Z,400nm,17.5s							
BR131	Keskin Array S	148.40	320	PKIKP	PKPdf	23	30	51.8 -0.2
BR131	Keskin Array S	148.40	320		PKPdf	23	30	51.8 -0.2
BRTR	Keskin Array B	148.40	320	PKPbc	PKPbc	23	30	56.3 +0.8
	comp=Z,5.9nm,0.9s,baz=122,slow=1.6,SNR=29							
BRTR	Keskin Array B	148.40	320	PKHKP	PKPpre	23	30	51.0
BRTR	Keskin Array B	148.40	320	PKPdf	PKPdf	23	30	51.0 -1.0
GEC2	GERESS Array S	148.41	352		PKPdf	23	30	51.4 -0.3
GEC2	GERESS Array S	148.41	352	*e*PKPbc	PKiKP	23	30	56.1 -0.6
	comp=Z,26nm,1.3s,baz=6.0,slow=2.8							
GERES	GERESS Array B	148.41	352	PKPbc	PKPbc	23	30	55.5 +0.3
	comp=Z,3.9nm,0.8s,baz=47,slow=2.5,SNR=25							
GERES	GERESS Array B	148.41	352	PKIKP	PKPdf	23	30	52.5 +0.8
GERES	GERESS Array B	148.41	352		PKPdf	23	30	52.5 +0.8
ZST	Bratislava	148.48	348	*e*PKP2	PKPab	23	30	59.9 +1.4
ZST	Bratislava	148.48	348	*e*PKP	PKPab	23	30	59.9 +1.4
BSZH	Besenyszg	148.56	343	↑P	PKiKP	23	30	56.6 -0.3
SRO	Srobarova	148.58	346	*e*PKP2	PKiKP	23	30	56.9 -0.1
SRO	Srobarova	148.58	346	*e*PKP	PKiKP	23	30	56.9 -0.1
VOIR		148.61	336	↓P	PKiKP	23	30	57.2 -0.1
LEHL	Lehliu	148.67	333	↑P	PKiKP	23	30	57.7 +0.4
BUD	Budapest	148.72	345	PKP	PKPab	23	30	59.1 -0.3
ARR	Arges	148.83	336	↑P	PKiKP	23	30	58.2 +0.5
CONA	Conrad Observa	148.97	349	*i* P	PKPbc	23	30	55.6 -1.0
	comp=Z,61nm,1.6s,SNR=21							
CSKK	Cskako	149.01	346	PKP	PKiKP	23	30	57.9 -0.1
DEV	Deva	149.01	339	↑P	PKiKP	23	30	57.8 -0.2
SOP	Sopron	149.08	348	PKP	PKPab	23	30	59.7 -1.2
SIRR	Siria	149.09	341	↓P	PKiKP	23	30	57.9 -0.2
RONA	Rosalia, Austr	149.11	348	*e*P	PKPbc	23	30	57.2 +0.3
	comp=Z,44nm,1.4s,SNR=20							
EGYH	Egyhazaskeszo	149.17	347	PKP	PKiKP	23	30	59.1 +0.9
LODK	Lodwar	149.31	246		PKPbc	23	30	56.8 -1.7
MOA	Molln	149.31	351	*e*P	PKiKP	23	30	58.3 -0.2
	comp=Z,24nm,1.2s,SNR=8.7							
BFO	Black Forest	149.32	359	PKIKP	PKPbc	23	30	56.4 -1.0
BFO	Black Forest	149.32	359		PKPbc	23	30	56.4 -1.0
BFO	Black Forest	149.32	359	*e*PKPbc	PKPbc	23	30	57.8 +0.4
	comp=Z,38nm,1.3s,baz=6.0,slow=2.8							
CLF	Chambon-Foret	149.33	7		PKPdf	23	30	55.0 +2.0
FUR	Furstenfeldbru	149.34	355	*e*PKPbc	PKiKP	23	30	58.5 -0.2
	comp=Z,42nm,1.3s,baz=6.0,slow=2.8							
MPLH	Magyarpolny	149.36	347	PKP	PKiKP	23	30	58.7 +0.1
ECH	Echery	149.44	0	PKIKP	PKPdf	23	30	54.4 +1.2
ECH	Echery	149.44	0		PKPdf	23	30	54.4 +1.2
RAZG	Razgrad	149.53	332	↑P	PKiKP	23	30	59.3 +0.2
BIOA	Bad Ischl, Aus	149.55	352	*e*P	PKiKP	23	30	58.8 -0.3
	comp=Z,26nm,1.3s,SNR=10							
RJOB	Jochberg	149.62	353	*e*PKPbc	PKiKP	23	30	58.9 -0.4
	comp=Z,16nm,1.2s,baz=6.0,slow=2.8							
BZS	Buzias	149.68	340	↑P	PKiKP	23	30	59.2 -0.1
ARSA	Arzberg	149.69	349	*e*P	PKiKP	23	30	59.1 -0.2
	comp=Z,23nm,1.4s,SNR=7.7							
ASF	Jabal al Asfar	149.78	304	PKPbc	PKiKP	23	30	59.9 -0.2
	comp=Z,6.6nm,1.1s,baz=28,slow=0.5,SNR=7.1							
UBR	Ueberruh	149.91	357	*e*PKPbc	PKiKP	23	30	59.7 -0.2
	comp=Z,49nm,1.5s,baz=6.0,slow=2.8							
BHL	Bhannes	150.04	308	*e*P	PKiKP	23	31	00.9 +0.3
RETA	Reutte	150.06	356	*e*P	PKPbc	23	30	59.4 +0.1
	comp=Z,19nm,1.4s,SNR=8.2							
HERR	Herculane	150.06	339	↑P	PKiKP	23	31	00.1 -0.1
VLAD	Vladila	150.06	335	↑P	PKPbc	23	30	59.6 +0.3
WATA	Walderalm	150.14	354	*e*P	PKiKP	23	31	00.2 -0.2
	comp=Z,29nm,1.6s,SNR=10.0							
MOTA	Moosalm	150.17	355	*e*P	PKiKP	23	31	00.4 -0.2
	comp=Z,39nm,1.5s,SNR=15							
KBA	Koelnbreinsper	150.19	352	*e*P	PKPbc	23	30	59.9 +0.1
	comp=Z,14nm,1.2s							
WTTA	Wattenberg	150.21	354	*e*P	PKiKP	23	31	00.7 +0.1
	comp=Z,36nm,1.3s,SNR=13							
SHBL	Chebaa	150.21	307	*e*P	PKiKP	23	31	02.3 +1.2
KOVH	Kovagotottos	150.25	345	PKP	PKPbc	23	30	59.9 +0.3
SQTA	Sankt Quirin	150.28	355	*e*P	PKPbc	23	31	00.3 +0.4
	comp=Z,36nm,1.6s,SNR=9.8							
DAVA	Damsels	150.31	357	*e*P	PKPbc	23	30	60.0 0.0
	comp=Z,32nm,1.1s							
KOGS	Kog	150.32	348	*i* PKPbc	PKiKP	23	31	01.5 +0.9
SOKA	Soboth	150.33	350	*e*P	PKPbc	23	30	58.6 -1.4
	comp=Z,28nm,1.3s,SNR=13							
MDVR	Moldovita	150.38	339	↑P	PKPbc	23	31	00.4 +0.2
FETA	Feichten	150.52	356	*e*P	PKiKP	23	31	01.6 +0.4
	comp=Z,32nm,1.2s,SNR=6.7							
OBKA	Obir	150.57	350	*i* P	PKPbc	23	30	59.4 -1.2
	comp=Z,12nm,1.6s							
MYKA	Terra Mystica	150.59	351	*e*P	PKPbc	23	31	00.6 0.0
	comp=Z,23nm,1.5s,SNR=7.9							
ABTA	Abfaltersbach	150.62	353	*e*P	PKPbc	23	31	00.3 -0.4
	comp=Z,28nm,1.1s,SNR=12							
FRGS	Fruska Gora	150.65	342	↓P	PKPbc	23	31	00.2 -0.5
DAVOX	Davos/Dischmat	150.82	357	PKPbc	PKPbc	23	31	01.4 +0.2
	comp=Z,7.1nm,0.6s,baz=6.1,slow=3.2,SNR=14							
MBAR	Mbarara	150.88	234	PKPbc	PKiKP	23	31	03.7 +0.7
	comp=Z,3.2nm,0.2s,baz=82,slow=3.8,SNR=13							
MBAR	Mbarara	150.88	234	PKIKP	PKPdf	23	30	59.5 +2.8
MBAR	Mbarara	150.88	234		PKPdf	23	30	59.5 +2.8
BLKB	Belogradchik	151.05	337	↓P	PKPbc	23	31	00.6 -1.1
BOJS	Bojanci	151.42	349	*i* PKPbc	PKiKP	23	31	03.6 +0.6
DIVS	Divibare	151.55	341		PKPbc	23	31	00.8 -2.1
VTS	Vitosha	151.69	335	↓P	PKPbc	23	31	03.6 +0.2
EIL	Elat	152.23	301	PKPbc	PKiKP	23	31	06.0 +0.8
	comp=Z,15nm,1.1s,baz=165,slow=4.9,SNR=12							
ESDC	Sonseca Array	155.82	22	PKPab	PKPab	23	31	30.6 +1.1
	comp=Z,3.0nm,1.2s,baz=333,slow=2.8,SNR=6.8							
IDI	Anoyia	156.56	322	PKPab	PKPab	23	31	33.5 +0.7
	comp=Z,9.4nm,1.1s,baz=313,slow=19,SNR=3.9							
MDT	Mideĺt	161.29	34	PKP	PKPdf	23	31	11.9 +2.1
	comp=Z,3.7nm,1.1s,baz=19,slow=0.9,SNR=7.3							
TORD	Torodi Ar. Bea	172.85	127	PKP	PKPdf	23	31	18.3 -0.3
	comp=Z,3.1nm,0.9s,baz=314,slow=2.5,SNR=12							
TORD				PKPab	sPKPab	23	32	46.2 -0.4
	comp=Z,5.6nm,0.8s,baz=256,slow=4.6,SNR=12							
TORD	Torodi Ar. Bea	172.85	127		PKPdf	23	31	16.1 -2.6
TORD				PKPab	PKPab	23	32	43.5 -1.4

JMA ***23*** *23:18:37.4, 33.05N×131.15E, h10km±1km, M4.1*
Broadband fault plane solution: P waves. NP1: ϕ_s304.00000°, δ88.00000°, λ-12.00000°. NP2:ϕ_s35.00000°, δ78.00000°, λ-178.00000°. Principal axes: T Plg7.0000°, Azm350.0000°; N Plg78.0000°, Azm115.0000°; P Plg10.0000°, Azm259.0000°;
JMA Felt III J1.
IDC ***23*** *23:18:37.3±0.8, 32.95N×131.10E, h0km, mb3.6/8, mb1 3.8/12,mb1mx3.6/75,mbtmp3.7/12,ML3.4/3,MS3.1/3, Ms1 3.1/3,ms1mx2.8/89 Error ellipse: s-maj=22.3km s-min=6.1km az=44.0*
NIED ***23*** *23:18:37.4, 33.05N×131.15E, h10km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.25; $M_{\theta\theta}$1.05; $M_{\phi\phi}$-0.81; $M_{r\theta}$-0.60; $M_{\theta\phi}$0.54; $M_{r\phi}$0.22; Fault plane solution: $M_0$1.25000×10^{15} NP1: ϕ_s210.00000°, δ58.00000°, λ-174.00000°. NP2: ϕ_s117.00000°, δ85.00000°, λ-32.00000°.*

ISC 23 23:18:39.1±0.7, 33.04N±0.05×131.13E±0.04, h12km, n19, σ1s70/21, mb3.7/8, 1C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.23**	**292**	Pg	**Pg**	**23 18 42.0**	**-2.0**
	1μm,0.3s,baz=92,slow=7.5,SNR=5754						
JNU				Lg	Lg	23 18 45.5	
	5μm,0.3s,baz=340,slow=12,SNR=83						
JNU				LR	LR	23 19 04.0	
	comp=Z,933nm,18.9s,baz=302,slow=106						
JNU	**Nakatsue**	**0.23**	**292**	↓P	**Pg**	**23 18 42.3**	**-1.7**
JNU				S	**Sg**	**23 18 45.8**	**-1.5**
JBEP	**Beppuamama**	**0.38**	**38**	↑P	**Pg**	**23 18 44.8**	**-1.9**
JTA	**Tamana**	**0.51**	**262**	↓P	**Pg**	**23 18 47.6**	**-1.5**
JUS	**Usuki**	**0.52**	**87**	↓P	**Pg**	**23 18 46.8**	**-2.5**
JIU3	**Izumi3**	**0.56**	**209**	↓P	**Pg**	**23 18 48.7**	**-1.3**
KSRS	**Korea Array**	**5.13**	**330**	Pn	**Pn**	**23 19 55.9**	**+0.2**
	0.7nm,0.3s,baz=142,slow=14,SNR=16						
KSRS				Pg	**Pb**	**23 20 10.8**	**+2.1**
	1.8nm,0.3s,baz=148,slow=18,SNR=9.0						
KSRS				Sn	**Sn**	**23 20 51.8**	**-3.0**
	1.9nm,0.3s,baz=145,slow=26,SNR=5.2						
KSRS				Lg	Lg	23 21 14.3	
	3.1nm,0.3s,baz=150,slow=30,SNR=9.7						
KSRS				LR	LR	23 22 00.0	
	comp=Z,178nm,20.6s,baz=165,slow=39						
JOW	**Kunigami**	**6.66**	**203**	Pn	**Pn**	**23 20 16.9**	**+0.1**
	2.5nm,0.3s,baz=93,slow=23,SNR=6.3						
MJAR	**Matsushiro Arr**	**6.79**	**57**	Pn	**Pn**	**23 20 20.5**	**+2.0**
	baz=243,slow=12,SNR=1.7						
MJAR				LR	LR	23 23 27.9	
	comp=Z,133nm,21.4s,baz=170,slow=42						
JHJ	**Hachijo jima 2**	**7.26**	**87**	LR	LR	23 22 27.3	
	comp=Z,135nm,18.4s,baz=46,slow=31						
KLR	**Kul'dur**	**16.18**	**1**	Pn	**P**	**23 22 29.2**	**-0.2**
	0.1nm,0.3s,baz=149,slow=8.1,SNR=8.9						
SONM	**Songino Array**	**23.80**	**316**	P	**P**	**23 23 52.7**	**+0.9**
	2.4nm,0.7s,baz=133,slow=10,SNR=18						
MKAR	**Makanchi Array**	**39.28**	**305**	P	**P**	**23 26 08.9**	**+1.2**
	0.3nm,0.7s,baz=99,slow=7.5,SNR=4.5						
KURBB	**Kurchatov Arra**	**41.99**	**311**	P	**P**	**23 26 31.0**	**+1.0**
	0.7nm,0.7s,baz=97,slow=9.0,SNR=8.5						
WRA	**Warramunga Arr**	**52.77**	**176**	P	**P**	**23 27 52.5**	**-1.6**
	0.4nm,0.3s,baz=360,slow=8.0,SNR=5.1						
ASAR	**Alice Springs**	**56.45**	**177**	P	**P**	**23 28 19.4**	**-1.4**
	1.2nm,0.9s,baz=2.6,slow=4.0,SNR=4.8						
ILAR	**Eielson Array**	**57.28**	**30**	P	**P**	**23 28 26.9**	**+0.6**
	0.2nm,0.6s,baz=297,slow=5.9,SNR=1.7						
FINES	**FINESS Array B**	**68.22**	**330**	P	**P**	**23 29 41.0**	**+1.8**
	0.7nm,0.8s,baz=51,slow=3.7,SNR=1.4						
YKA	**Yellowknife Ar**	**71.32**	**27**	P	**P**	**23 29 57.5**	**-0.7**
	0.2nm,0.7s,baz=301,slow=6.0,SNR=3.6						

IDC ***23*** *23:23:34.6±1.2, 44.58N×28.77E, h0km, mb4.0/1, mb1 3.4/5, mb1mx3.1/66, mbtmp3.3/5, ML2.6/3, MS4.0/6, Ms1 4.0/6, ms1mx3.0/96, Error ellipse: s-maj=19.5km s-min=13.4km az=40.0*
MCSM ***23*** *23:23:38.9±0.6, 45.7N±5.5×2.9E±*, h5km±2km, ML3.3*
IASPEI ***23*** *23:23:39.9±0.9, 44.82N±0.02×28.49E±0.03, h15km±5km, MS4.8/3, Error ellipse: s-maj=4.2km s-min=2.7km az=92.4,*

GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009
SOF ***23*** *23:23:39.6, 44.79N×28.19E, h5km, MD3.3*
BUC ***23*** *23:23:40.1±0.2, 44.82N×28.49E, h3km±1km, ml3.2/52, Error ellipse: s-maj=1.8km s-min=1.0km az=87.0*

ISC 23 23:23:39.2±0.7, 44.82N±0.01×28.52E±0.02, h13km±4km, n108, σ1s17/150, MS4.8/3, 54C-52D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPGR	**Topolog**	**0.08**	**296**	↓P	**Pg**	**23 23 43.1**	**+1.0**
TPGR				↑S	**Sg**	**23 23 44.8**	**+0.8**
JURR	**Jurilovca**	**0.26**	**102**	↓P	**Pb**	**23 23 46.6**	**+0.8**
TIRR	**Tirgusor**	**0.37**	**192**	↑P	**Pb**	**23 23 47.7**	**+0.1**
TIRR				↑S	**Sb**	**23 23 52.5**	**-0.7**
TLCR		**0.42**	**30**	↑P	**Pb**	**23 23 49.2**	**+0.8**
TLCR				↑S	**Sb**	**23 23 55.5**	**+0.8**
TLBR	**Topalu**	**0.44**	**231**	↑P	**Pb**	**23 23 48.5**	**-0.2**
TLBR				↑S	**Sg**	**23 23 53.9**	**+0.2**
HARR	**Harsova**	**0.44**	**253**	↑P	**Pb**	**23 23 48.4**	**-0.3**
CFR	**Carcaliu**	**0.45**	**323**	↑P	**Pg**	**23 23 48.3**	**+0.3**
CFR				↓S	**Sg**	**23 23 54.2**	**+0.2**
CVDA	**Cernavoda**	**0.60**	**215**	↑P	**Pb**	**23 23 51.7**	**+0.3**
CVDA				↑S	**Sb**	**23 23 59.4**	**-0.4**
TSCT	**Constanta Port**	**0.67**	**171**	↓P	**Pb**	**23 23 53.3**	**+0.7**
TSCT				↑S	**Sb**	**23 24 02.2**	**+0.4**
GIUM	**Giurgiulesti**	**0.70**	**342**	↓P	**Pb**	**23 23 53.4**	**+0.2**
GIUM				↓S	**Sb**	**23 24 03.0**	**+0.4**
GISR	**Galati**	**0.70**	**332**	↑P	**Pg**	**23 23 52.8**	**0.0**
GISR				↓S	**Sg**	**23 24 02.3**	**+0.3**
EFOR	**EFORIE**	**0.75**	**174**	↑

1.8nm,0.3s,baz=189,slow=11,SNR=5.0
AKASG Sn **Sn** **23 26 10.9 -2.7**
5.1nm,0.3s,baz=163,slow=17,SNR=7.6
AKASG Lg Lg 23 26 39.5
12nm,0.3s,baz=205,slow=16,SNR=15
AKBB Malin Array Si 5.90 4 Pn **Pn** **23 25 07.4 +1.2**
AKBB pP **pPn** **23 25 08.6 -0.8**
AK19 Malin Array Si 5.91 3 Pn **Pn** **23 25 07.8 +1.5**
AK23 Malin Array Si 5.96 4 Pn **Pn** **23 25 07.8 +0.8**
AK21 Malin Array Si 5.97 3 Pn **Pn** **23 25 08.2 +1.1**
BRTR Keskin Array B 6.35 142 Pn Pn 23 25 06.3 -6.3
0.0nm,0.3s,baz=320,slow=13,SNR=1.5
DAVOX Davos/Dischmat 13.15 285 LR LR 23 31 49.6
comp=Z,157nm,21.5s,baz=86,slow=37
FINES FINESS Array B 16.71 356 Pn **Pn** **23 27 27.4 -5.4**
0.1nm,0.3s,baz=174,slow=14,SNR=8.3
FINES Sn Sn 23 30 25.7 -12
0.2nm,0.3s,baz=174,slow=18,SNR=6.2
FINES LR LR 23 33 34.1
comp=Z,74nm,18.5s,baz=273,slow=35
HFS Hagfors 17.72 335 LR LR 23 34 42.6
comp=Z,89nm,21.3s,baz=270,slow=37
NOA NORSAR Array B 19.20 334 P **P** **23 28 01.8 -0.6**
0.0nm,0.3s,baz=139,slow=9.4,SNR=0.9
ARCES ARCESS Array B 24.82 357 P **P** **23 29 01.1 +0.5**
3.2nm,0.9s,baz=168,slow=13,SNR=2.1
SADO Sadowa 70.17 314 LR LR 00 07 44.1
comp=Z,579nm,19.1s,baz=228,slow=38
JNU Nakatsue 75.27 58 LR LR 00 09 40.8
comp=Z,656nm,22.0s,baz=280,slow=37
SJG San Juan 80.68 286 LR LR 00 10 43.9
comp=Z,289nm,18.0s,baz=264,slow=35

IDC 23 23:23:44.3±2.4, 6°67.5S×130°14.E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.3/53, mbtmp3.5/3, ML3.5/2, MS4.0/1, Ms1 4.0/1, ms1mx3.0/68, Error ellipse: s-maj=153.3km s-min=31.9km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.81**	**163**	Pn	Pn	23 27 00.7	-0.7
	0.2nm,0.3s,baz=346,slow=13,SNR=2.2						
WRA				Sn	Sn	23 29 26.2	-9.4
	0.3nm,0.3s,baz=331,slow=23,SNR=6.2						
DAV	**Davao City (W)**	**14.39**	**341**	LR	LR	23 32 31.6	
	comp=Z,599nm,19.7s,baz=156,slow=37						
ASAR	**Alice Springs**	**17.28**	**168**	P	Pn	23 27 47.7	+0.5
	0.2nm,0.3s,baz=340,slow=9.0,SNR=11						
ASAR				S	Sn	23 30 48.7	-11
	0.1nm,0.3s,baz=297,slow=33,SNR=2.0						
MKAR	**Makanchi Array**	**68.03**	**327**	P	P	23 34 45.6	0.0
	0.5nm,0.5s,baz=126,slow=7.3,SNR=7.6						

*UPP **23** 23:30:21.6±0.0, 67°.85N×20°.21E, h0km, ML2.7, Explosion*
*IDC **23** 23:30:22.9±1.0, 67°.79N×20°.52E, h0km, mb1 2.7/3, mb1mx2.6/61, mbtmp2.5/3, ML2.3/3, Error ellipse: s-maj=16.1km s-min=8.2km az=111.0*
*HEL **23** 23:30:22.2±0.0, 67°.85N×20°.21E, h0km, ML2.0, ML2.7(UPP), Explosion*
ISC 23 23:30:21.6±0.7, 67°.84N±0°.02×20°.24E±0°.02, h0km, n41, σ0s97/58, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.25**	**266**	P	**Pg**	**23 30 26.2**	**0.0**
RATU				S	**Sg**	**23 30 29.5**	**+0.1**
RATU	**Laukkuluspa**	**0.25**	**266**	*i* P	**Pg**	**23 30 26.2**	**0.0**
RATU				*i* S	**Sg**	**23 30 29.5**	**+0.1**
KOVU	**Salmi**	**0.39**	**356**	P	**Pg**	**23 30 28.9**	**-0.1**
KOVU				S	**Sg**	**23 30 33.9**	**0.0**
KOVU	**Salmi**	**0.39**	**356**	*i* P	**Pg**	**23 30 28.9**	**-0.1**
KOVU				*i* S	**Sg**	**23 30 33.9**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**274**	P	**Pg**	**23 30 30.1**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**274**	*i* P	**Pg**	**23 30 30.1**	**-0.2**
LANU	**Lannavaara**	**0.69**	**72**	P	**Pg**	**23 30 34.8**	**0.0**
LANU	**Lannavaara**	**0.69**	**72**	*e*P	**Pg**	**23 30 34.6**	**-0.2**
LANU				*e*S	**Sg**	**23 30 44.2**	**+0.5**
DUNU	**Dundret**	**0.73**	**170**	P	**Pg**	**23 30 35.5**	**-0.1**
DUNU	**Dundret**	**0.73**	**170**	*i* P	**Pg**	**23 30 35.5**	**-0.1**
MASU	**Masugnsbyn**	**0.78**	**119**	P	**Pg**	**23 30 36.4**	**0.0**
MASU	**Masugnsbyn**	**0.78**	**119**	*i* P	**Pg**	**23 30 36.4**	**0.0**
SALU	**Saltoluokta**	**0.81**	**236**	P	**Pg**	**23 30 36.7**	**-0.3**
SALU	**Saltoluokta**	**0.81**	**236**	*i* P	**Pg**	**23 30 36.7**	**-0.3**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	**Pg**	**23 30 44.4**	**+0.1**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	**Pg**	**23 30 43.8**	**-0.5**
	baz=189						
KIF				MSG		23 30 59.1	
	comp=Z,14nm,0.2s						
KIF				*e*S	**Sg**	**23 31 00.0**	**+0.3**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**23 30 47.1**	**-0.8**
PAJU	**Pajala**	**1.38**	**125**	*e*P	**Pg**	**23 30 46.9**	**-1.1**
	baz=298						
PAJU				*e*SB	**Sg**	**23 31 05.7**	**-0.1**
HEF	**Hetta**	**1.40**	**64**	*e*P	**Pn**	**23 30 47.6**	**-0.8**
HEF	**Hetta**	**1.40**	**64**	*e*PG	**Pn**	**23 30 47.5**	**-0.8**
HEF				MSG		23 31 05.0	
	comp=Z,13nm,0.2s						
HEF				*e*SB	**Sg**	**23 31 05.9**	**-0.7**
ERTU	**Ertsjaerv**	**1.50**	**149**	P	**Pn**	**23 30 49.1**	**-0.5**
ERTU	**Ertsjaerv**	**1.50**	**149**	*e*P	**Pn**	**23 30 49.1**	**-0.5**
HARU	**Harads**	**1.71**	**170**	P	**Pn**	**23 30 52.9**	**+0.3**
HARU	**Harads**	**1.71**	**170**	*e*P	**Pn**	**23 30 52.9**	**+0.3**
KALU	**Kalix**	**2.34**	**147**	P	**Pn**	**23 31 02.6**	**+1.4**
KALU	**Kalix**	**2.34**	**147**	*e*P	**Pn**	**23 31 02.5**	**+1.3**
	baz=337						
KALU				*e*SB	**Sb**	**23 31 33.0**	**-0.9**
TOF	**Tornio**	**2.39**	**136**	*e*PB	**Pn**	**23 31 03.4**	**+1.5**
TOF				MSG		23 31 33.3	
	comp=Z,7.8nm,0.2s						
TOF				*e*SG	**Sb**	**23 31 35.7**	**+0.4**
SGF	**Sodankyl**	**2.44**	**97**	*e*P	**Pn**	**23 31 03.7**	**+1.2**
	baz=286						
SGF				*e*SG	**Sb**	**23 31 38.0**	**+1.2**
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB	**Pn**	**23 31 06.0**	**+1.7**
RNF				*e*SB	**Sb**	**23 31 40.4**	**0.0**
ARA0	**ARCESS Array S**	**2.57**	**46**	*e*P	**Pn**	**23 31 05.3**	**+0.9**
	baz=228						
ARA0				*e*S	**Sn**	**23 31 34.8**	**-1.5**
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	**Pn**	**23 31 05.1**	**+0.7**
	baz=225,slow=16,SNR=30						
ARCES				Sn	**Sb**	**23 31 38.6**	**-2.0**
	baz=229,slow=24,SNR=22						
KEV	**Kevo**	**3.12**	**49**	*e*P	**Pn**	**23 31 13.1**	**+1.2**
KEV				*e*S	**Sn**	**23 31 51.1**	**+1.3**
KEV				MSG		23 31 54.3	
	comp=Z,4.8nm,0.2s						
VRF	**Varrio**	**3.56**	**87**	*e*PG	**Pb**	**23 31 25.2**	**-0.1**
	baz=272						
OUL	**Oulu**	**3.58**	**138**	*e*PG	**Pb**	**23 31 26.1**	**+0.5**
OLKF	**Oulanka, Finla**	**3.90**	**109**	*e*P	**Pn**	**23 31 23.8**	**+1.2**
MSF	**Maaselka**	**3.98**	**115**	*e*P	**Pn**	**23 31 25.1**	**+1.4**
	baz=309						
UMAU	**Umeaa**	**3.98**	**177**	*e*P	**Pn**	**23 31 27.0**	**+3.3**
KU6	**Riekki**	**4.21**	**111**	*e*P	**Pn**	**23 31 27.7**	**+0.8**
	baz=301						
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**23 32 04.2**	**+0.6**
	baz=345,slow=14,SNR=0.9						
FINES				Sn	**Sn**	**23 33 21.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=341,slow=23,SNR=2.1						
FINES				Lg	Lg	23 33 54.6	
	comp=Z,0.3nm,0.3s,baz=344,slow=24,SNR=6.3						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**23 32 16.6**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=22,slow=11,SNR=0.8						
NOA				Sn	**Sn**	**23 33 43.8**	**-2.6**
	comp=Z,0.0nm,0.3s,baz=352,slow=14,SNR=1.5						
NOA				Lg	Lg	23 34 29.3	
	comp=Z,0.0nm,0.3s,baz=36,slow=23,SNR=1.7						
SPITS	**Spitsbergen Ar**	**10.45**	**356**	Pn	**Pn**	**23 32 52.8**	**+0.4**
	baz=168,slow=16,SNR=3.2						

*MAN **23** 23:38:33.4, 12°.63N×123°.42E, h4km, mb4.5, ML3.4, MS3.2, Hypocentre not reviewed by the ISC*
*IDC **23** 23:38:33.4±1.0, 12°.50N×123°.24E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/35, mbtmp3.6/9, ML4.3/1, MS4.3/5, Ms1 4.2/5, ms1mx3.5/70, Error ellipse: s-maj=40.6km s-min=18.7km az=65.0*
*NEIC **23** 23:38:35.0±1.1, 12°.49N±0°.09×123°.5E±0°.1, h10km±1km, mb4.4/15, Error ellipse: s-maj=21.7km s-min=15.7km az=77.0*
ISC 23 23:38:33.9±1.4, 12°.58N±0°.04×123°.43E±0°.05, h5km±9km, n55, σ1s22/56, mb4.2/17, MS4.3/5, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.29**	**138**	*i*P	**Pg**	**23 38 40.1**	**+0.7**
MMPH				*e*S	**Sb**	**23 38 45.0**	**-1.7**
SCSP	**San Jose Seism**	**1.08**	**5**	*e*P	**Pg**	**23 38 53.8**	**-0.7**
RCP	**Roxas**	**1.21**	**214**	*e*P	**Pn**	**23 38 56.9**	**-0.6**
RCP				*e*S	**Sn**	**23 39 14.6**	**+0.3**
PVCP	**Virac**	**1.24**	**35**	*e*P	**Pn**	**23 38 55.6**	**-2.3**
GQP	**Guinayangan**	**1.63**	**324**	*e*P	**Pn**	**23 39 02.5**	**-0.8**
GQP				*i* S	**Sn**	**23 39 25.8**	**+1.1**
BOAC	**Boac**	**1.78**	**300**	*e*P	**Pn**	**23 39 04.2**	**-1.0**
JCNP	**Jose Panganiba**	**1.85**	**337**	*e*P	**Pn**	**23 39 04.3**	**-1.9**
OCLP	**Ormoc**	**1.91**	**143**	*e*P	**Pb**	**23 39 08.3**	**-0.8**
LLP	**Lapu-Lapu**	**2.31**	**167**	*i*P	**Pn**	**23 39 13.0**	**+0.4**
LLP				*i* S	**Sb**	**23 39 43.1**	**-1.7**
LQP	**Lukban**	**2.39**	**310**	*e*P	**Pn**	**23 39 13.4**	**-0.6**
LQP				*e*S	**Sg**	**23 39 52.3**	**+1.5**
MSLP	**Maasin**	**2.80**	**150**	*e*P	**Pn**	**23 39 20.9**	**+1.5**
CNOP	**Candoni, Negro**	**2.84**	**196**	*e*P	**Pn**	**23 39 17.6**	**-2.3**
TGY	**Tagaytay City**	**2.86**	**302**	Pn	**Pn**	**23 39 19.9**	**-0.4**
	49nm,0.3s,baz=133,slow=7.2,SNR=2.1						
TGY				Sn	**Sb**	**23 39 59.5**	**-1.3**
	32nm,0.3s,baz=194,slow=8.4,SNR=1.2						
TGY	**Tagaytay City**	**2.86**	**302**	*e*P	**Pn**	**23 39 18.8**	**-1.5**
MACP	**Maragondon, Ca**	**3.12**	**303**	*e*P	**Pn**	**23 39 27.0**	**+3.2**
BUSP	**Coron**	**3.21**	**260**	*e*P	**Pn**	**23 39 24.9**	**-0.1**
GLSP	**General Luna,**	**3.83**	**136**	*e*P	**Pn**	**23 39 35.1**	**+1.5**
SMPP	**San Manuel, Pa**	**4.44**	**323**	*e*P	**Pn**	**23 39 43.1**	**+1.1**
PAGZ	**Pagadian**	**4.70**	**181**	*e*P	**Pn**	**23 39 48.0**	**+2.5**
SAMP	**Sagada Mountai**	**5.10**	**332**	*e*P	**Pn**	**23 39 51.5**	**+0.4**
MYLDM	**Lahad Datu**	**8.81**	**214**	Pn	**Pn**	**23 40 42.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**24.29**	**287**	P	**P**	**23 43 51.2**	**-1.3**
	1.2nm,0.3s,baz=89,slow=7.6,SNR=1.3						
KSRS	**Korea Array**	**25.10**	**8**	P	**P**	**23 44 01.1**	**+1.5**
	0.5nm,0.4s,baz=201,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**34.05**	**161**	P	**P**	**23 45 19.5**	**+0.2**
	1.1nm,0.7s,baz=347,slow=8.7,SNR=5.3						
AS31	**Alice Springs**	**37.45**	**164**	P	**P**	**23 45 46.6**	**-1.9**
ASAR	**Alice Springs**	**37.45**	**164**	P	**P**	**23 45 48.4**	**-0.1**
	0.7nm,0.6s,baz=351,slow=7.3,SNR=5.1						
ASAR	**Alice Springs**	**37.45**	**164**	P	**P**	**23 45 47.0**	**-1.4**
SONM	**Songino Array**	**37.93**	**341**	P	**P**	**23 45 51.8**	**-0.6**
	0.2nm,0.4s,baz=55,slow=42,SNR=1.8						
MORW	**Morawa**	**42.01**	**190**	P	**P**	**23 46 24.9**	**-1.5**
MORW				IAmb	IAmb	23 46 32.8	
	comp=Z,9.3nm,0.9s						
BBOO	**Buckleboo**	**46.72**	**165**	P	**P**	**23 47 02.9**	**-1.1**
STKA	**Stephens Creek**	**47.51**	**159**	P	**P**	**23 47 09.6**	**-0.5**
MK31	**Makanchi Array**	**48.52**	**323**	P	**P**	**23 47 17.6**	**-0.3**
MK31				IAmb	IAmb	23 47 23.9	
	comp=Z,2.5nm,0.9s						
MKAR	**Makanchi Array**	**48.52**	**323**	P	**P**	**23 47 18.3**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=120,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**48.52**	**323**	P	**P**	**23 47 17.3**	**-0.6**
ZAA0	**Zalesovo Array**	**51.28**	**332**	P	**P**	**23 47 39.5**	**+0.7**
ZAA0				IAmb	IAmb	23 47 43.7	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**51.28**	**332**	P	**P**	**23 47 37.6**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=96,slow=11,SNR=2.3						
ZALV	**Zalesovo Beam**	**51.28**	**332**	P	**P**	**23 47 39.6**	**+0.8**
KURK	**Kurchatov**	**52.60**	**326**	P	**P**	**23 47 49.1**	**+0.5**
KURK				IAmb	IAmb	23 47 55.1	
	comp=Z,5.9nm,1.1s						
KURBB	**Kurchatov Arra**	**52.61**	**326**	LR	LR	00 13 05.6	
	comp=Z,213nm,21.1s,baz=67,slow=39						
GAR	**Garm**	**53.68**	**309**	P	**P**	**23 47 57.2**	**+0.1**
GAR				IAmb	IAmb	23 48 03.5	
	comp=Z,6.4nm,1.0s						
KKAR	**Karatay Array**	**54.66**	**314**	P	**P**	**23 48 04.1**	**+0.2**
KKAR	**Karatay Array**	**54.66**	**314**	P	**P**	**23 48 04.3**	**+0.3**
TIXI	**Tiksi**	**59.13**	**2**	P	**P**	**23 48 36.7**	**+1.6**
GEYT	**Alibeck**	**62.94**	**306**	P	**P**	**23 49 02.3**	**+0.6**
GEYT				IAmb	IAmb	23 49 09.7	
	comp=Z,4.3nm,1.2s						
GYA0B	**ALIBECK ARRAY**	**62.94**	**306**	P	**P**	**23 49 01.9**	**+0.2**
ABKAR	**Akbulak array**	**63.32**	**319**	P	**P**	**23 49 03.9**	**-0.1**
ABKAR	**Akbulak array**	**63.32**	**319**	P	**P**	**23 49 03.9**	**-0.1**
ABKAR				IAmb	IAmb	23 49 10.3	
	comp=Z,5.9nm,1.5s						
AKTO	**Aktyubinsk**	**64.78**	**320**	LR	LR	00 20 06.7	
	comp=Z,202nm,21.6s,baz=61,slow=38						
KBZ	**Khabaz**	**74.61**	**312**	LR	LR	00 28 03.9	
	comp=Z,164nm,19.4s,baz=38,slow=40						
KVAR	**Kislovodsk Arr**	**74.74**	**312**	LR	LR	00 28 08.9	
	comp=Z,192nm,19.6s,baz=282,slow=40						
GURO	**Guroymak-BITLI**	**75.59**	**307**	P	**P**	**23 50 20.2**	**-0.1**
GURO				IAmb	IAmb	23 50 27.5	
	comp=Z,4.3nm,1.0s						
BMAR	**Burnt Mountain**	**79.25**	**23**	P	**P**	**23 50 40.4**	**+0.4**
AKASG	**Malin Array Be**	**83.02**	**320**	LR	LR	00 32 19.2	
	comp=Z,200nm,19.9s,baz=4.5,slow=39						
BURAR	**Bucovina Array**	**86.28**	**318**	P	**P**	**23 51 17.8**	**+0.7**
BURAR				IAmb	IAmb	23 51 23.8	
	comp=Z,1.8nm,1.1s						
YKA	**Yellowknife Ar**	**92.77**	**23**	P	**P**	**23 51 48.7**	**+1.5**
	comp=Z,0.1nm,0.6s,baz=293,slow=4.2,SNR=2.1						

*NEIC **24** 00:13:25.0±2.0, 0°.29S±0°.07×125°.34E±0°.05, h10km±1km, mb4.5/37, Error ellipse: s-maj=12.1km s-min=9.0km az=164.0*
*DJA **24** 00:13:28.9±0.3, 0°.3S±3°×12°.5E±°, h10km, M4.7/12, mb4.8/7, mB5.0/3, MLv4.6/12, Mw(mB)4.3/3*
*IDC **24** 00:13:30.0±3.3, 0°.19S×125°.32E, h50km±34km, mb3.9/16, mb1 4.0/19, mb1mx3.9/39, mbtmp4.2/19, ML4.1/3, Error ellipse: s-maj=23.7km s-min=13.4km az=71.0*
ISC 24 00:13:29.8±0.4, 0°.27S±0°.05×125°.30E±0°.04, h50km, n88, σ1s56/94, mb4.3/31, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.56**	**303**	P	**Pn**	**00 13 54.1**	**-1.1**
KMSI				S	**Sn**	**00 14 15.2**	**+0.9**
LBMI	**Labuha**	**2.23**	**99**	P	Pn	00 14 08.9	+4.6
LBMI				S	**Sn**	**00 14 32.1**	**+1.4**
TNTI	**Ternate**	**2.31**	**63**	Pn	Pn	00 14 02.2	-3.2
TNTI	**Ternate**	**2.31**	**63**	P	Pn	00 14 11.4	+6.0
TNTI				S	**Sn**	**00 14 37.8**	**+5.1**
LUWI	**Luwuk**	**2.64**	**253**	Pn	**Pn**	**00 14 08.3**	**-1.6**
LUWI	**Luwuk**	**2.64**	**253**	P	**Pn**	**00 14 10.8**	**+0.9**
LUWI				S	**Sn**	**00 14 47.7**	**+6.9**
MRSI	**Marisa**	**3.44**	**282**	P	**Pn**	**00 14 19.1**	**-1.8**
APSI	**Ampana**	**3.71**	**260**	P	**Pn**	**00 14 25.5**	**+1.0**
AAI	**Ambon**	**4.46**	**140**	P	Pn	00 14 42.3	+7.4
TOLI2	**Tolitoli**	**4.72**	**287**	Pn	**Pn**	**00 14 38.3**	**-0.2**
MSAI	**Masohi**	**4.74**	**130**	P	**Pn**	**00 14 41.5**	**+2.7**
MPSI	**Mapaga**	**5.43**	**276**	P	**Pn**	**00 14 49.9**	**+1.6**
	0.4nm1μm56nm,0.8s						
TTSI	**Tana Toraja**	**6.13**	**243**	P	**Pn**	**00 14 58.6**	**+0.8**
	0.4nm1μm88nm,0.8s						
BNSI	**Bone**	**6.61**	**232**	P	**Pn**	**00 15 04.9**	**+0.4**
	0.2nm36nm,0.6s						
SPSI	**Sidrap Palu**	**6.63**	**236**	P	**Pn**	**00 15 05.8**	**+1.1**
	0.2nm1μm60nm,0.5s						
KAPI	**Kappang**	**7.27**	**230**	P	**Pn**	**00 15 15.7**	**+2.2**
	2.5nm,0.3s,baz=62,slow=15,SNR=3.5						
KAPI				S	**Sn**	**00 16 32.5**	**-2.3**
	2.7nm,0.3s,baz=88,slow=23,SNR=1.8						
KAPI	**Kappang**	**7.27**	**230**		**Pn**	**00 15 11.0**	**-2.5**
FAKI	**Fak Fak**	**7.43**	**111**	Pn	**Pn**	**00 15 14.6**	**-1.0**
MYLDM	**Lahad Datu**	**8.69**	**309**	Pn	**Pn**	**00 15 33.7**	**+0.8**
MTN	**Manton Dam**	**13.77**	**155**	Pn	**Pn**	**00 16 42.0**	**-0.3**
KSM	**Kuching**	**15.09**	**277**	Pn	**Pn**	**00 17 00.6**	**+0.6**
KSM				IAmb	IAmb	00 17 06.3	
	comp=Z,17nm,0.6s						
KNRA	**Kununurra**	**15.69**	**168**	Pn	**Pn**	**00 17 07.2**	**-0.4**
KNRA				IAmb	IAmb	00 17 07.8	
	comp=Z,59nm,1.2s						
FITZ	**Fitzroy Crossi**	**17.72**	**179**	P	**P**	**00 17 34.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=336,slow=13,SNR=1.9						
FITZ				S	**S**	**00 20 56.3**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=358,slow=4.7,SNR=1.5						
FITZ	**Fitzroy Crossi**	**17.72**	**179**		**Pn**	**00 17 30.5**	**-2.5**
LEM	**Lembang**	**18.80**	**249**	P	**Pn**	**00 17 47.1**	**+0.7**
	comp=Z,3.0nm,0.3s,baz=81,slow=13,SNR=6.3						
CBJI	**Citeko**	**19.40**	**251**	P	**Pn**	**00 17 54.4**	**+1.0**
	comp=Z,81nm,0.6s						
CGJI	**Cibinong**	**20.55**	**252**	P	Pn	00 18 07.5	+0.5
WB0	**Warramunga Arr**	**21.33**	**156**	P	**P**	**00 18 10.5**	**-2.2**
MBWA	**Marble Bar**	**21.46**	**194**	P	**P**	**00 18 12.7**	**-1.4**
WRA	**Warramunga Arr**	**21.46**	**156**	P	**P**	**00 18 14.3**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=336,slow=12,SNR=16						
WRA				S	S	00 21 57.6	-12
	comp=Z,0.3nm,0.4s,baz=349,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**21.46**	**156**	P	**P**	**00 18 12.5**	**-1.6**
XMIS	**Christmas Isla**	**22.01**	**242**	P	**P**	**00 18 18.9**	**-1.2**
COEN	**Coen**	**22.32**	**128**	P	**P**	**00 18 23.9**	**+0.5**
COEN				IAmb	IAmb	00 18 36.4	
	comp=Z,17nm,1.1s						
IPM	**Ipoh**	**24.71**	**281**	P	**P**	**00 18 46.1**	**-0.4**
IPM				IAmb	IAmb	00 18 57.3	
	comp=Z,14nm,1.3s						
AS31	**Alice Springs**	**24.71**	**161**	P	**P**	**00 18 46.0**	**-0.5**
ASAR	**Alice Springs**	**24.71**	**161**	P	**P**	**00 18 47.1**	**+0.7**
	comp=Z,2.4nm,1.0s,baz=341,slow=8.6,SNR=16						
ASAR				PcP	**PcP**	**00 22 22.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=4.1,slow=2.9,SNR=4.4						
ASAR	**Alice Springs**	**24.71**	**161**	P	**P**	**00 18 46.0**	**-0.5**
FORT	**Forrest**	**30.45**	**175**	P	**P**	**00 19 37.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**31.89**	**307**	P	**P**	**00 19 50.9**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=140,slow=7.8,SNR=6.9						
CMAR	**Chiang Mai Arr**	**31.89**	**307**	P	**P**	**00 19 49.5**	**-1.1**
CHTO	**Chiang Mai**	**32.09**	**308**	P	**P**	**00 19 51.6**	**-0.8**
CHTO				IAmb	IAmb	00 19 54.0	
	comp=Z,5.9nm,1.1s						
STKA	**Stephens Creek**	**35.01**	**155**	P	**P**	**00 20 18.5**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=332,slow=7.4,SNR=5.6						
STKA	**Stephens Creek**	**35.01**	**155**	P	**P**	**00 20 17.8**	**+0.2**
KSRS	**Korea Array**	**37.62**	**3**	P	**P**	**00 20 39.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=180,slow=8.5,SNR=2.3						
MJAR	**Matsushiro Arr**	**38.54**	**17**	P	**P**	**00 20 45.8**	**-1.8**
	comp=Z,1.5nm,0.5s,baz=184,slow=9.1,SNR=6.7						
MJAR	**Matsushiro Arr**	**38.54**	**17**	P	**P**	**00 20 46.7**	**-0.9**
JMM	**Marumori**	**40.55**	**19**	P	**P**	**00 21 05.4**	**+1.1**
USRK	**Ussuriysk Ar.**	**44.68**	**7**	P	**P**	**00 21 38.2**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=197,slow=7.5,SNR=8.2						
KLR	**Kul'dur**	**49.62**	**6**	P	**P**	**00 22 15.6**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=222,slow=7.5,SNR=7.4						
SONM	**Songino Array**	**50.66**	**344**	P	**P**	**00 22 23.8**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=156,slow=8.7,SNR=13						
SONM	**Songino Array**	**50.66**	**344**	P	**P**	**00 22 23.7**	**-0.4**
PEA0B	**Petropavlovsk-**	**59.65**	**22**	P	**P**	**00 23 30.6**	**+1.8**
PETK	**Petropavlovsk-**	**59.65**	**22**	P	**P**	**00 23 28.9**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=205,slow=12,SNR=5.6						
PETK	**Petropavlovsk-**	**59.65**	**22**	P	**P**	**00 23 30.9**	**+2.2**
KSH	**Kashi**	**59.92**	**317**	P	**P**	**00 23 33.8**	**+2.7**
KSH				pP	pwP	00 23 46.1	-1.4
KSH				PcP	**PcP**	**00 24 19.3**	**+2.3**
KSH				PcS	**PcS**	**00 28 20.5**	**+1.1**
KSH				S	**S**	**00 31 41.8**	**+2.0**
KSH				sS	sS	00 32 07.9	+6.9
KSH	**Kashi**	**59.92**	**317**	SS	SS	00 35 38.8	+1.8
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSH				LR	LR		
	comp=N,490nm,21.6s						
KSH				LR	LR		
	comp=E,400nm,23.8s						
KSH				LR	LR		
	comp=Z,200nm,20.0s						
MK31	**Makanchi Array**	**60.07**	**327**	P	**P**	**00 23 31.2**	**-0.6**
MK31				IAmb	IAmb	00 23 33.9	
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**60.07**	**327**	P	**P**	**00 23 31.4**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=120,slow=8.4,SNR=33						
MKAR	**Makanchi Array**	**60.07**	**327**	P	**P**	**00 23 30.8**	**-1.0**
MAKZ	**Makanchi**	**60.24**	**327**	P	**P**	**00 23 32.9**	**-0.1**
MAKZ				IAmb	IAmb	00 23 35.0	
	comp=Z,2.9nm,0.6s						
KDJ	**Kajisay**	**60.43**	**320**	P	**P**	**00 23 34.7**	**+0.1**
KDJ				IAmb	IAmb	00 23 37.2	
	comp=Z,4.1nm,0.6s						
BOOM	**Boomskoye usch**	**61.41**	**320**	P	**P**	**00 23 41.8**	**+0.6**
BO

PB08	**IPOC Station P**	**2.43**	**154**	*e*P		**Pn**	**00 21 34.6**	**+0.7**
PB08				*i* S		**Sn**	**00 22 03.8**	**+0.1**
PB08				IAML			00 22 05.4	
	comp=E,263nm,0.1s							
TA01	**Diego Aracena**	**2.60**	**178**	*e*P		**Pn**	**00 21 35.5**	**-0.3**
TA01				*i* S		**Sn**	**00 22 05.2**	**-2.0**
TA01				IAML			00 22 07.0	
	comp=N,117nm,0.3s							
LPAZ	**La Paz**	**2.64**	**52**	Pn		**Pn**	**00 21 36.4**	**-0.5**
	comp=N,4.6nm,0.3s,baz=252,slow=2.8,SNR=112							
PATCX	**Punta Patache**	**2.86**	**178**	⇑*i*P		**Pn**	**00 21 39.1**	**-0.2**
PATCX				IAML			00 22 14.5	
	comp=E,58nm,0.7s							
PB02	**IPOC Station P**	**3.37**	**174**	*e*P		**Pn**	**00 21 46.3**	**+0.1**
PB02				*i* S		**Sn**	**00 22 23.4**	**-2.1**
H03N1	**Juan Fernandez**	**17.26**	**205**	T		T	00 42 29.6	
	baz=28,slow=73,SNR=10							
H03N2	**Juan Fernandez**	**17.27**	**205**	T		T	00 42 40.6	
	baz=28,slow=73,SNR=5.6							
H03N3	**Juan Fernandez**	**17.28**	**205**	T		T	00 42 33.1	
	baz=28,slow=73,SNR=5.2							
TXAR	**Lajitas Array**	**56.99**	**325**	P		P	00 30 24.7	-5.0
	comp=E,0.2nm,0.6s,baz=125,slow=9.4,SNR=4.2							
TORD	**Torodi Ar. Bea**	**77.43**	**72**	P		**P**	**00 32 39.5**	**+0.6**
	comp=E,0.2nm,0.3s,baz=244,slow=5.1,SNR=4.7							
YKA	**Yellowknife Ar**	**87.43**	**341**	P		**P**	**00 33 29.9**	**+0.1**
	comp=E,0.4nm,1.0s,baz=136,slow=4.5,SNR=6.7							

*KRSC **24** 00:28:50.7±2.2,51.02N×157.01E,h124km±19km,ML3.6*
*IDC **24** 00:28:53.9±4.8,51.38N×156.27E,h143km±29km,mb3.0/4, mb1 3.3/4,mb1mx2.8/51,mbtmp3.4/4,Error ellipse: s-maj=60.4km s-min=25.8km az=179.0*

ISC 24 00:28:51.2±1.0,51.07N±0.09×156.79E±0.09,h132km±6km, n36,σ1$75/39,mb3.2/4,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**0.40**	**2**	*e*P		**Pn**	**00 29 09.6**	**-0.3**
PAU				*e*S		**Sn**	**00 29 23.7**	**-0.5**
SKR	**Severo-Kuril's**	**0.57**	**228**	*i* P		**Pn**	**00 29 11.1**	**+0.2**
SKR				*e*S		**Sn**	**00 29 25.8**	**0.0**
KDTR	**Khodutka, Kamc**	**1.09**	**47**	*e*P		**Pn**	**00 29 15.1**	**0.0**
KDTR				*e*S		**Sn**	**00 29 32.5**	**-0.8**
MIPR	**Malaya Ipel'ka**	**1.21**	**359**	*e*P		**Pn**	**00 29 15.9**	**-0.4**
MIPR				*e*S		**Sn**	**00 29 34.0**	**-1.5**
ASK	**Asacha**	**1.49**	**27**	*e*P		**Pn**	**00 29 19.9**	**+0.6**
MTVR	**Mutnovka**	**1.66**	**31**	*e*P		**Pn**	**00 29 21.8**	**+0.5**
MTVR				*e*S		**Sn**	**00 29 44.6**	**+0.2**
GRL	**Gorelyy**	**1.69**	**28**	*e*P		**Pn**	**00 29 22.5**	**+0.9**
RUS	**Russkaya**	**1.74**	**37**	*e*P		**Pn**	**00 29 22.6**	**+0.6**
RUS				*e*S		**Sn**	**00 29 45.8**	**+0.1**
KRMR	**Karymshinskiy**	**1.95**	**25**	*e*P		**Pn**	**00 29 25.3**	**+0.7**
PETK	**Petropavlovsk-**	**2.12**	**15**	P		**Pn**	**00 29 26.3**	**-0.4**
	1.3nm,0.3s,baz=172,slow=11,SNR=27							
PETK				S		**Sn**	**00 29 54.8**	**+0.9**
	0.6nm,0.3s,baz=223,slow=30,SNR=5.1							
PET	**Petropavlovsk**	**2.27**	**30**	*e*S		**Sn**	**00 29 58.7**	**+1.5**
DALK	**Dalny**	**2.31**	**31**	*e*P		**Pn**	**00 29 30.0**	**+1.0**
DALK				*e*S		**Sn**	**00 29 58.5**	**+0.4**
UGLK	**Uglovaya**	**2.48**	**29**	*e*P		**Pn**	**00 29 33.0**	**+1.7**
KOK	**Koryaka**	**2.50**	**26**	*e*P		**Pn**	**00 29 33.2**	**+1.7**
AVH	**Avacha**	**2.51**	**28**	*e*P		**Pn**	**00 29 33.6**	**+2.1**
SMAR	**Somma**	**2.52**	**29**	*e*P		**Pn**	**00 29 34.3**	**+2.4**
KRER	**Koryakskii**	**2.54**	**28**	*e*P		**Pn**	**00 29 33.7**	**+1.6**
SDLR	**Sedlovina**	**2.56**	**29**	*e*P		**Pn**	**00 29 33.8**	**+1.5**
KRX	**Arik**	**2.56**	**26**	*e*P		**Pn**	**00 29 33.7**	**+1.4**
NLC	**Nalytchevo**	**2.63**	**36**	*e*S		**Sn**	**00 30 03.5**	**-1.8**
GNL	**Ganaly**	**2.73**	**15**	*e*P		**Pn**	**00 29 34.9**	**+0.5**
SPN	**Mys Shipunski**	**2.85**	**43**	*e*P		**Pn**	**00 29 36.6**	**+0.8**
SPN				*e*S		**Sn**	**00 30 09.4**	**-0.9**
MKZ	**Mys Kozlova**	**4.60**	**39**	*e*P		**Pn**	**00 29 58.4**	**-0.4**
TUMD	**Tumrok D**	**4.68**	**26**	*e*P		**Pn**	**00 30 00.5**	**+0.6**
TUMR	**Tumrok**	**4.68**	**24**	*e*P		**Pn**	**00 30 00.7**	**+0.7**
BKI	**Bering**	**6.90**	**50**	*e*S		**Sn**	**00 31 39.3**	**-7.4**
H11N2	**WAKE ISLAND Hy**	**32.27**	**162**	T		T	01 09 13.0	
	baz=348							
H11N1	**WAKE ISLAND Hy**	**32.29**	**162**	T		T	01 09 15.0	
	baz=348							
H11N3	**WAKE ISLAND Hy**	**32.29**	**162**	T		T	01 09 12.8	
	baz=348							
H11S1	**WAKE ISLAND Hy**	**33.43**	**163**	T		T	01 10 33.6	
	baz=347,slow=74							
H11S3	**WAKE ISLAND Hy**	**33.44**	**163**	T		T	01 10 35.5	
	baz=347,slow=74							
H11S2	**WAKE ISLAND Hy**	**33.45**	**163**	T		T	01 10 19.1	
	baz=347							
YKA	**Yellowknife Ar**	**46.03**	**40**	P		**P**	**00 37 02.0**	**+1.1**
	0.2nm,0.9s,baz=303,slow=7.9,SNR=2.4							
MKAR	**Makanchi Array**	**47.19**	**296**	P		**P**	**00 37 09.3**	**-0.9**
	0.2nm,0.4s,baz=61,slow=7.0,SNR=7.1							
NVAR	**Mina Array Bea**	**58.38**	**67**	P		**P**	**00 38 35.5**	**+2.8**
	0.1nm,0.3s,baz=311,slow=7.0,SNR=1.7							
FINES	**FINESS Array B**	**61.14**	**335**	P		**P**	**00 38 48.8**	**-2.1**
	1.7nm,0.9s,baz=15,slow=5.8,SNR=3.6							

NOU 24 00:34:23.8,14.61S×167.47E,h97km,mb4.0/12,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**0.87**	**197**	P		Pn	00 34 42.6	0.0
DVP	**Devils Point**	**3.17**	**168**	P		Pn	00 35 11.7	-0.1
KOUNC	**Koumac, New Ca**	**6.64**	**207**	P		Pn	00 35 58.5	-0.3
YATNC	**Mamie plateau,**	**7.43**	**184**	P		Pn	00 36 09.3	-0.3
NOUC	**Port Laguerre**	**7.53**	**188**	P		Pn	00 36 10.9	-0.1
ONTNC	**Ouen Toro**	**7.72**	**187**	P		Pn	00 36 13.9	+0.4
OUENC	**Ouen Island, N**	**7.79**	**184**	P		Pn	00 36 14.9	+0.5

*SJA **24** 00:35:01.9±0.9,24.16S×67.12W,h198km±9km,ML4.6, MW4.3*
*NEIC **24** 00:35:02.7±2.0,24.18S±0.05×66.95W±0.08,h169km±5km, mb4.5/79,Md4.4(SJA),Error ellipse: s-maj=10.7km s-min=7.8km az=97.0*
*IDC **24** 00:35:02.7±0.9,24.10S×66.95W,h171km±8km,mb4.0/15, mb1 4.1/22,mb1mx4.1/31,mbtmp4.5/22,Error ellipse: s-maj=11.9km s-min=10.5km az=39.0*
*VAO **24** 00:35:04.1±0.4,24.06S×67.03W,h198km±4km,mb4.6*
*GUC **24** 00:35:04.2±0.6,24.18S×67.31W,h201km±9km,ML4.7*

ISC 24 00:35:02.8±0.6,24.17S±0.03×67.12W±0.03,h179km±5km, n254,σ1$41/298,mb4.4/52,13C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AF01	**San Pedro de A**	**1.55**	**321**	Pn		**Pn**	**00 35 37.5**	**+2.0**
AF01				Sn		**S**	**00 36 03.5**	**+2.8**
SLA	**San Lorenzo**	**1.57**	**111**	*e*P		**Pn**	**00 35 37.4**	**+1.8**
SLA				*e*S		**S**	**00 36 03.4**	**+2.6**
HJA	**Humahuaca**	**1.84**	**59**	*i* P		**Pn**	**00 35 40.1**	**+1.6**
HJA				*e*P			00 35 40.2	
HJA				*e*S		**S**	**00 36 08.3**	**+2.3**
FSA	**Cafayete**	**2.20**	**152**	*e*P		**Pn**	**00 35 43.3**	**+1.1**
FSA				*e*S		**S**	**00 36 10.9**	**-1.8**
LVC	**Limon Verde**	**2.26**	**313**	P		**Pn**	**00 35 44.6**	**+1.6**
	138nm,0.3s,baz=136,slow=5.8,SNR=1031							
LVC				S		**S**	**00 36 14.0**	**-0.1**
	342nm,0.3s,baz=16,slow=23,SNR=6.5							
LVC	**Limon Verde**	**2.26**	**313**			**Pn**	**00 35 44.8**	**+1.6**
LVC				Sn		**S**	**00 36 15.4**	**+1.3**
LVC	**Limon Verde**	**2.26**	**313**	*e*P		**Pn**	**00 35 44.4**	**+1.3**
LVC				*i* S		**S**	**00 36 14.9**	**+0.7**
LVC	**Limon Verde**	**2.26**	**313**	*e*P		**Pn**	**00 35 44.4**	**+1.3**
LVC				*e*S		**S**	**00 36 15.6**	**+1.4**
LVC				IAML			00 36 16.8	
	comp=Z,890nm,0.5s							
LVC	**Limon Verde**	**2.26**	**313**	*e*P		**Pn**	**00 35 44.7**	**+1.6**
PB15	**IPOC Station P**	**2.35**	**293**			**Pn**	**00 35 45.6**	**+1.6**
PB15	**IPOC Station P**	**2.35**	**293**	⇑*i*P		**Pn**	**00 35 45.5**	**+1.6**
PB15				*i* S		**S**	**00 36 16.4**	**+0.5**
PB15	**IPOC Station P**	**2.35**	**293**	*e*P		**Pn**	**00 35 45.6**	**+1.6**
PB15				*e*S		**S**	**00 36 17.1**	**+1.3**
PB15				IAML			00 36 19.3	
	comp=Z,6μm,0.2s							
GO02	**Mina Guanaco**	**2.46**	**246**			**Pn**	**00 35 46.4**	**+1.2**
GO02	**Mina Guanaco**	**2.46**	**246**	⇑*i*P		**Pn**	**00 35 46.5**	**+1.3**
GO02				*i* S		**S**	**00 36 18.6**	**+0.6**
GO02				IAML			00 36 20.1	
	comp=N,3μm,0.4s							
GO02	**Mina Guanaco**	**2.46**	**246**	*e*P		**Pn**	**00 35 46.5**	**+1.3**
GO02				*e*S		**S**	**00 36 19.1**	**+1.0**
YJA	**Yavi**	**2.47**	**37**	*e*P		**Pn**	**00 35 47.3**	**+1.7**
YJA				*e*S		**S**	**00 36 19.6**	**+0.9**
PB06	**IPOC Station P**	**2.68**	**302**			**Pn**	**00 35 49.0**	**+1.3**
PB06	**IPOC Station P**	**2.68**	**302**	⇑*i*P		**Pn**	**00 35 49.1**	**+1.3**
PB06				*i* S		**S**	**00 36 22.5**	**0.0**
PB06				IAML			00 36 23.8	
	comp=E,3μm,0.5s							
PB06	**IPOC Station P**	**2.68**	**302**	*e*P		**Pn**	**00 35 48.8**	**+1.1**
PB06				*e*S		**S**	**00 36 23.1**	**+0.6**
PB06				IAML			00 36 24.3	
	comp=Z,2μm,0.1s							
PB14	**IPOC Station P**	**3.03**	**261**			**Pn**	**00 35 52.6**	**+0.6**
PB14	**IPOC Station P**	**3.03**	**261**	⇑*i*P		**Pn**	**00 35 52.6**	**+0.6**
PB14				*i* S		**S**	**00 36 28.9**	**-1.4**
PB14				IAML			00 36 30.3	
	comp=E,399nm,0.5s							
PB14	**IPOC Station P**	**3.03**	**261**	*e*P		**Pn**	**00 35 52.6**	**+0.6**
PB14				*e*S		**S**	**00 36 30.6**	**+0.3**
PB14				IAML			00 36 32.4	
	comp=Z,471nm,1.1s							
PB09	**IPOC Station P**	**3.06**	**320**			**Pn**	**00 35 54.1**	**+1.7**
PB09	**IPOC Station P**	**3.06**	**320**	⇑*i*P		**Pn**	**00 35 53.9**	**+1.5**
PB09				*i* S		**S**	**00 36 31.3**	**+0.4**
PB09				IAML			00 36 33.2	
	comp=N,2μm,0.2s							
PB09	**IPOC Station P**	**3.06**	**320**	*e*P		**Pn**	**00 35 53.9**	**+1.5**
PB09				*e*S		**S**	**00 36 31.2**	**+0.4**
PB09				IAML			00 36 32.2	
	comp=Z,2μm,0.6s							
PB10	**IPOC Station P**	**3.21**	**281**			**Pn**	**00 35 54.9**	**+0.9**
PB10	**IPOC Station P**	**3.21**	**281**	⇑*i*P		**Pn**	**00 35 54.9**	**+0.9**
PB10				*i* S		**S**	**00 36 32.7**	**-1.1**
PB10				IAML			00 36 39.5	
	comp=N,1μm,0.5s							
PB10	**IPOC Station P**	**3.21**	**281**	*e*P		**Pn**	**00 35 54.9**	**+0.9**
PB10				*e*S		**S**	**00 36 33.3**	**-0.5**
PB10				IAML			00 36 39.4	
	comp=Z,776nm,0.4s							
AC02	**Maricunga**	**3.22**	**214**			**Pn**	**00 35 55.9**	**+1.3**
AC02	**Maricunga**	**3.22**	**214**	⇑*i*P		**Pn**	**00 35 55.8**	**+1.3**
AC02				*i* S		**S**	**00 36 35.3**	**+0.4**
AC02	**Maricunga**	**3.22**	**214**	*e*P		**Pn**	**00 35 55.8**	**+1.3**
AC02				*e*S		**S**	**00 36 33.6**	**-1.2**
PB07	**IPOC Station P**	**3.52**	**313**			**Pn**	**00 35 58.5**	**+0.4**
PB07	**IPOC Station P**	**3.52**	**313**	⇑*i*P		**Pn**	**00 35 58.6**	**+0.6**
PB07				*i* S		**S**	**00 36 39.2**	**-1.8**
PB07	**IPOC Station P**	**3.52**	**313**	*i* P		**Pn**	**00 35 58.6**	**+0.6**
PB07				*e*S		**S**	**00 36 39.4**	**-1.6**
PB07				*e*S			00 36 40.4	
PB07				IAML			00 36 44.8	
	comp=Z,2μm,0.5s							
AC01	**Pan de Azucar**	**3.72**	**237**			**Pn**	**00 35 59.8**	**-0.5**
AC01	**Pan de Azucar**	**3.72**	**237**	⇑*i*P		**Pn**	**00 35 59.8**	**-0.5**
AC01				*i* S		**S**	**00 36 42.8**	**-2.4**
AC01	**Pan de Azucar**	**3.72**	**237**	*e*P		**Pn**	**00 35 59.9**	**-0.4**
AC01				*e*S		**S**	**00 36 43.1**	**-2.0**
AC01				IAML			00 36 44.8	
	comp=Z,307nm,0.4s							
PB02	**IPOC Station P**	**3.82**	**317**			**Pn**	**00 36 01.9**	**+0.2**
PB02	**IPOC Station P**	**3.82**	**317**	⇑*i*P		**Pn**	**00 36 01.8**	**+0.1**
PB02				*i* S		**S**	**00 36 45.5**	**-2.2**
PB02	**IPOC Station P**	**3.82**	**317**	*e*P		**Pn**	**00 36 01.9**	**+0.2**
PB02				*e*S			00 36 40.6	
PB02				*e*S			00 36 46.3	
PB02				IAML			00 36 57.1	
	comp=Z,2μm,0.3s							
AC06	**Mina Casimiro**	**4.31**	**222**	Pn		**Pn**	**00 36 07.2**	**-0.7**
AC06	**Mina Casimiro**	**4.31**	**222**	⇑*i*P		**Pn**	**00 36 07.1**	**-0.7**
AC06				*i* S		**S**	**00 36 56.7**	**-2.1**
PATCX	**Punta Patache**	**4.35**	**319**			**Pn**	**00 36 07.8**	**-0.8**
PATCX	**Punta Patache**	**4.35**	**319**	*e*P		**Pn**	**00 36 07.7**	**-0.8**
PATCX				*i* S		**S**	**00 36 54.8**	**-5.1**
PATCX	**Punta Patache**	**4.35**	**319**	*e*P		**Pn**	**00 36 08.0**	**-0.5**
PATCX				*e*P			00 36 08.3	
PATCX				*e*P		**P**	**00 36 08.5**	**0.0**
PATCX				*e*P		**P**	**00 36 08.5**	**0.0**
PATCX				IAML			00 37 07.3	
	comp=Z,487nm,0.6s							
GO03	**Copiap**	**4.42**	**219**			**Pn**	**00 36 08.5**	**-0.8**
GO03	**Copiap**	**4.42**	**219**	⇑*i*P		**Pn**	**00 36 08.3**	**-0.9**
GO03				*i* S		**S**	**00 36 58.9**	**-2.4**
GO03	**Copiap**	**4.42**	**219**	*e*P		**Pn**	**00 36 08.5**	**-0.8**
GO03				*e*P			00 36 08.7	
GO03				*e*S		**S**	**00 36 59.6**	**-1.7**
PB08	**IPOC Station P**	**4.43**	**334**			**Pn**	**00 36 10.5**	**+0.8**
PB08	**IPOC Station P**	**4.43**	**334**	⇑*i*P		**Pn**	**00 36 10.6**	**+0.8**
PB08				*i* S		**S**	**00 37 01.1**	**-0.9**
TA01	**Diego Aracena**	**4.57**	**321**	Pn		**Pn**	**00 36 10.5**	**-0.7**
TA01	**Diego Aracena**	**4.57**	**321**	*e*P		**Pn**	**00 36 10.9**	**-0.3**
TA01				*i* S		**S**	**00 37 03.0**	**-1.7**
TA01	**Diego Aracena**	**4.57**	**321**	*e*P		**Pn**	**00 36 11.1**	**-0.1**
TA01				*e*S		**S**	**00 36 58.1**	**-6.5**
TA01				IAML			00 37 05.3	
	comp=Z,358nm,0.5s							
TA02	**Huaiquique**	**4.78**	**324**			**Pn**	**00 36 13.5**	**-0.3**
GO01	**Chusmiza**	**4.87**	**336**			**Pn**	**00 36 15.7**	**+0.1**
PB11	**IPOC Station P**	**4.97**	**331**	Pn		**Pn**	**00 36 15.7**	**-0.9**
ACLC	**CERRO LA CRUZ**	**5.24**	**178**	*e*P		**Pn**	**00 36 20.4**	**+0.4**
ACLC				*e*S		**S**	**00 37 18.7**	**-2.0**
AC04	**Llanos de Chal**	**5.36**	**221**	⇓*i*P		**Pn**	**00 36 19.7**	**-1.7**
AC04				*e*S		**S**	**00 37 20.1**	**-3.1**
AC04	**Llanos de Chal**	**5.36**	**221**	*e*P		**Pn**	**00 36 19.7**	**-1.7**
AC04				*e*S		**S**	**00 37 20.1**	**-3.1**
AC04				IAML			00 37 21.7	
	comp=Z,180nm,0.7s							
PB16	**IPOC Station P**	**6.21**	**339**			**Pn**	**00 36 32.7**	**-0.5**
PB16	**IPOC Station P**	**6.21**	**339**	*e*P		**Pn**	**00 36 33.3**	**+0.1**
PB16				*e*S		**S**	**00 37 43.3**	**-1.0**
PB16				IAML			00 37 56.5	
	comp=Z,55nm,0.5s							
APLL	**PUNTA DE LOS L**	**6.23**	**175**	*e*P		**Pn**	**00 36 32.5**	**-0.2**
APLL				*e*S		**S**	**00 37 39.9**	**-3.8**
PB12	**IPOC Station P**	**6.28**	**331**	*e*P		**Pn**	**00 36 32.5**	**-1.1**
PB12				*e*S		**S**	**00 37 40.6**	**-4.5**
PB12				IAML			00 37 41.9	
	comp=Z,115nm,0.8s							
AVFE	**Valle Fertil**	**6.47**	**183**	*e*S		**S**	**00 37 45.3**	**-4.3**
ACCO	**Cerro Coronel**	**6.63**	**195**	*e*P		**Pn**	**00 36 38.4**	**+0.2**
CO05	**La Serena**	**6.80**	**212**			**Pn**	**00 36 38.6**	**-1.6**
ZON	**Zonda**	**7.48**	**190**			**Pn**	**00 36 48.0**	**-1.2**
LPAZ	**La Paz**	**7.89**	**353**	P		**Pn**	**00 36 56.3**	**+0.9**
	comp=Z,3.8nm,0.3s,baz=151,slow=9.3,SNR=82							
LPAZ				S		**S**	**00 38 22.6**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=324,slow=21,SNR=2.1							
LPAZ	**La Paz**	**7.89**	**353**	Pn		**Pn**	**00 36 55.9**	**+0.5**
LPAZ	**La Paz**	**7.89**	**353**	*e*P		**Pn**	**00 36 56.0**	**+0.6**
VA03	**San Esteban**	**9.08**	**199**			**Pn**	**00 37 08.9**	**-1.4**
CPUP	**Villa Florida**	**9.12**	**106**	P		**Pn**	**00 37 09.5**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=288,slow=12,SNR=19							
CPUP	**Villa Florida**	**9.12**	**106**			Pn	00 37 09.0	-1.9
MT03	**Universidad Ad**	**9.76**	**197**			**Pn**	**00 37 19.3**	**+0.1**
SIV	**San Ignacio**	**9.92**	**36**	P		**Pn**	**00 37 19.4**	**-2.0**
	comp=Z,3.9nm,0.3s,baz=213,slow=13,SNR=99							
SIV				S			00 38 57.5	
	comp=Z,0.4nm,0.3s,baz=215,slow=15,SNR=4.9							
MT09	**Talagante**	**10.15**	**199**	Pn		**Pn**	**00 37 22.9**	**-1.5**
BO01	**Tunca**	**10.76**	**198**			**Pn**	**00 37 31.3**	**-0.9**
AQDB	**Aquidauana**	**11.19**	**73**	Pn		**Pn**	**00 37 37.0**	**-0.9**
PTLB	**Pontes e Lacer**	**11.47**	**42**	*e*P		**Pn**	**00 37 39.6**	**-1.9**
GO05	**Huala**	**11.59**	**200**	Pn		**Pn**	**00 37 43.3**	**+0.5**
ML02	**Panimavida**	**12.14**	**197**			**Pn**	**00 37 49.6**	**-0.3**
FRBT	**Francisco Belt**	**12.87**	**101**	*e*P		**Pn**	**00 38 03.3**	**+3.9**
VILB	**Vilhena**	**12.94**	**32**	*e*P		**Pn**	**00 38 00.3**	**+0.1**
PP1B	**Ponte de Pedra**	**13.17**	**63**	*e*P		Pn	00 38 00.9	-2.3
TRCB	**Terra Rica**	**13.37**	**87**			**Pn**	**00 38 05.0**	**-0.7**
TRCB	**Terra Rica**	**13.37**	**87**	*e*P		**Pn**	**00 38 05.3**	**-0.4**
SALV	**Santo Antonio**	**13.52**	**55**	*e*P		**Pn**	**00 38 05.9**	**-1.7**
CPSB	**Cacapava Do Su**	**13.66**	**120**	*e*P		**Pn**	**00 38 08.3**	**-1.0**
PTGB	**Pitanga**	**13.73**	**95**	*e*P		**Pn**	**00 38 09.9**	**-0.3**
ITAB	**Concordia**	**13.86**	**106**			**Pn**	**00 38 11.0**	**-0.7**
ITAB	**Concordia**	**13.86**	**106**	*e*P		**Pn**	**00 38 10.9**	**-0.8**
PLTB	**Pedras Altas**	**14.13**	**125**			**Pn**	**00 38 13.5**	**-1.7**
PLTB	**Pedras Altas**	**14.13**	**125**	*e*P		**Pn**	**00 38 16.8**	**+1.6**
ETMB	**Extrema**	**14.30**	**4**	*e*P		**Pn**	**00 38 16.4**	**-0.9**
PCMB	**Pacaembu**	**14.84**	**83**	*e*P		**Pn**	**00 38 22.5**	**-1.5**
NNA	**Nana**	**15.22**	**321**	P		**P**	**00 38 31.5**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=176,slow=14,SNR=1.6							
LC01	**Cunco**	**15.23**	**194**			**Pn**	**00 38 28.6**	**-0.1**
PDRB	**Porto dos Gac**	**15.91**	**40**	*e*P		**P**	**00 38 35.6**	**-1.7**
LR03	**Panguipulli**	**16.04**	**195**			**Pn**	**00 38 38.2**	**-0.2**
LR03				IAmb		IAmb	00 38 40.5	
	comp=Z,19nm,0.8s							
FRTB	**Fartura**	**16.10**	**91**	*e*P		**P**	**00 38 38.6**	**-0.7**
ITRB	**Iturama**	**16.17**	**77**	*e*P		**P**	**00 38 39.3**	**-0.8**
TER01	**Tubarao-SC**	**16.70**	**109**	*e*P		**P**	**00 38 45.3**	**-0.5**
PLCA	**Paso Flores**	**16.77**	**189**	P		**Pn**	**00 38 47.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=12,slow=12,SNR=22							
PLCA	**Paso Flores**	**16.77**	**189**	P		**Pn**	**00 38 47.0**	**-0.3**
PLCA				IAmb		IAmb	00 38 55.7	
	comp=Z,17nm,0.9s							
PLCA	**Paso Flores**	**16.77**	**189**	*e*P		**Pn**	**00 38 47.1**	**-0.3**
CLDB	**Colider**	**17.05**	**41**	*e*P		**P**	**00 38 48.9**	**-0.9**
CZSB	**Cruzeiro do Su**	**17.20**	**341**	*e*P		**P**	**00 38 50.8**	**-0.6**
LL04	**Puerto Octay**	**17.27**	**194**	P		**P**	**00 38 52.1**	**+0.2**
LL04				IAmb		IAmb	00 38 54.9	
	comp=Z,24nm,0.8s							
BB19B	**Bebedouro**	**17.44**	**83**	*e*P		**P**	**00 38 53.5**	**-0.5**
LL03	**Petrohue**	**17.49**	**193**	P		**Pn**	**00 38 55.0**	**-0.8**
LL05	**Los Muermos**	**17.99**	**196**	P		**P**	**00 39 00.2**	**+0.4**
RCLB	**Rio Claro- Sao**	**18.08**	**88**	*e*P		**P**	**00 39 00.3**	**-0.8**
PET01	**Itanhaem-SP**	**18.10**	**94**	*e*P		**P**	**00 38 59.7**	**-1.5**
VAO	**Valinhos**	**18.51**	**90**	*e*P		**P**	**00 39 04.6**	**-1.2**
IPMB	**Ipameri, GO**	**18.68**	**74**	*e*P		**P**	**00 39 07.1**	**-0.5**
SNDB	**Serra Nova Dou**	**19.30**	**54**	*e*P		**P**	**00 39 12.7**	**-1.5**
LL02	**Futaleuf**	**19.37**	**190**	P		**P**	**00 39 15.6**	**+0.8**
GO07	**Milladeo Hill,**	**19.66**	**194**	P		**P**	**00 39 17.8**	**0.0**
PARB	**Paraibuna**	**19.70**	**92**	*e*P		**P**	**00 39 17.8**	**-0.8**
BDFB	**Brasilia**	**19.85**	**68**	P		**P**	**00 39 19.8**	**-0.5**
	comp=Z,8.3nm,0.3s,baz=243,slow=11,SNR=170							
BDFB	**Brasilia**	**19.85**	**68**	P		**P**	**00 39 19.4**	**-0.9**
TBTG	**Tabatinga, AM**	**20.05**	**352**	*e*P		**P**	**00 39 21.4**	**-0.9**
NPGB	**Novo Progresso**	**20.42**	**35**	*e*P		**P**	**00 39 23.7**	**-2.6**
ESAR	**Angra dos Reis**	**20.82**	**91**	*e*P		**P**	**00 39 29.2**	**-1.2**
MAN01	**Angra dos Reis**	**21.27**	**91**	*e*P		**P**	**00 39 33.8**	**-1.5**
PEXB	**Peixe**	**21.50**	**59**	*e*P		**P**	**00 39 35.8**	**-2.0**
COYC	**Coyhaique**	**21.73**	**189**	P		**P**	**00 39 39.4**	**-0.4**
MACA	**Manacapuru-AM**	**21.79**	**18**	*e*P		**P**	**00 39 38.8**	**-1.8**
VAS01	**Vassouras-RJ**	**21.84**	**90**	*e*P		**P**	**00 39 40.5**	**-0.7**
ITTB	**Itaituba**	**22.54**	**31**	*e*P		**P**	**00 39 45.7**	**-2.2**
DIAM	**Diamantina, MG**	**22.61**	**80**	*e*P		**P**	**00 39 47.8**	**-0.9**
DUB01	**Friburgo-RJ**	**22.85**	**90**	*e*P		**P**	**00 39 50.1**	**-0.6**
MCRA	**Macar, Loja**	**23.24**	**326**	P		**P**	**00 39 55.1**	**+0.7**
MCRA				IAmb		IAmb	00 39 57.7	
	comp=Z,

SDCO	**Great Sand Dun**	**71.37**	**329**	P		**P**		**00 46 04.7**	**+1.2**
E46A	**Sault Ste Mari**	**71.91**	**348**	P		**P**		**00 46 06.0**	**-0.1**
E46A				IAmb		IAmb		00 46 07.3	
	comp=Z,6.4nm,0.8s								
E43A	**Lone Tree Farm**	**72.48**	**346**	P		**P**		**00 46 09.8**	**+0.2**
E43A				IAmb		IAmb		00 46 10.6	
	comp=Z,5.4nm,0.7s								
KOWA	**Kowa**	**72.61**	**65**	P		**P**		**00 46 10.8**	**-0.2**
KOWA				IAmb		IAmb		00 46 11.6	
	comp=Z,5.6nm,0.8s								
COWI	**Conover**	**72.73**	**344**	P		**P**		**00 46 11.3**	**+0.3**
COWI				IAmb		IAmb		00 46 11.8	
	comp=Z,12nm,1.4s								
ECSD	**EROS Data Cent**	**72.79**	**338**	P		**P**		**00 46 11.7**	**+0.3**
ECSD				IAmb		IAmb		00 46 12.7	
	comp=Z,10.0nm,1.3s								
ISCO	**Idaho Springs**	**73.07**	**330**	P		**P**		**00 46 14.9**	**+1.3**
SBA	**Scott Base**	**73.51**	**190**	P		**P**		**00 46 17.7**	**+2.4**
DRLN	**Deer Lake**	**73.59**	**7**	P		**P**		**00 46 16.4**	**+0.5**
DRLN				IAmb		IAmb		00 46 28.7	
	comp=Z,9.4nm,1.1s								
U15A	**North Rim**	**73.82**	**323**	P		**P**		**00 46 20.7**	**+2.7**
VNDA	**Vanda**	**74.52**	**190**	P		**P**		**00 46 23.1**	**+2.0**
	comp=Z,2.1nm,0.9s,baz=135,slow=3.1,SNR=11								
VNDA	**Vanda**	**74.52**	**190**	P		**P**		**00 46 23.2**	**+2.0**
KNB	**Kanab**	**74.54**	**324**	P		**P**		**00 46 24.4**	**+2.4**
KNB				IAmb		IAmb		00 46 25.8	
	comp=Z,11nm,0.9s								
O20A	**White River Ci**	**74.56**	**328**	P		**P**		**00 46 23.2**	**+1.1**
O20A				IAmb		IAmb		00 46 25.1	
	comp=Z,7.6nm,0.9s								
LCMT	**Little Creek M**	**74.77**	**323**	P		**P**		**00 46 25.4**	**+2.1**
MTPU	**Mount Pierson**	**74.95**	**325**	P		**P**		**00 46 26.1**	**+1.4**
SHPR	**Sheep Range**	**75.47**	**322**	P		**P**		**00 46 29.8**	**+2.4**
SUR	**Sutherland**	**75.83**	**119**	P		**P**		**00 46 30.1**	**+0.3**
RSSD	**Black Hills**	**75.91**	**334**	P		**P**		**00 46 31.3**	**+1.6**
GWY	**Greenwater Val**	**76.11**	**321**	P		**P**		**00 46 32.7**	**+1.8**
GWY				IAmb		IAmb		00 46 33.9	
	comp=Z,6.7nm,0.9s								
TOA0	**Torodi Ar. Sit**	**76.73**	**69**	P		**P**		**00 46 34.2**	**-0.6**
TOA0				IAmb		IAmb		00 46 35.2	
	comp=Z,6.2nm,0.8s								
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P		**P**		**00 46 34.2**	**-0.5**
	comp=Z,4.4nm,0.6s,baz=259,slow=5.7,SNR=69								
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P		**P**		**00 46 34.2**	**-0.5**
PD31	**Pinedale Array**	**77.23**	**329**	P		**P**		**00 46 38.2**	**+0.9**
PDAR	**Pinedale Array**	**77.23**	**329**	P		**P**		**00 46 38.3**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=133,slow=7.6,SNR=13								
PDAR	**Pinedale Array**	**77.23**	**329**	P		**P**		**00 46 38.1**	**+0.9**
AHID	**Auburn Hatcher**	**77.96**	**328**	P		**P**		**00 46 42.5**	**+1.3**
AHID				IAmb		IAmb		00 46 43.7	
	comp=Z,9.0nm,1.1s								
ULM	**Lac du Bonnet**	**78.35**	**342**	P		**P**		**00 46 43.5**	**+0.6**
	comp=Z,3.4nm,0.5s,baz=140,slow=7.4,SNR=4.5								
LOHW	**Long Hollow**	**78.37**	**329**	P		**P**		**00 46 44.8**	**+1.3**
ELK	**Elko**	**78.54**	**325**	P		**P**		**00 46 45.6**	**+1.1**
NVAR	**Mina Array Bea**	**78.60**	**321**	P		**P**		**00 46 46.8**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=154,slow=6.8,SNR=8.0								
SCHQ	**Schefferville**	**78.67**	**0**	P		**P**		**00 46 44.9**	**+0.3**
	comp=Z,3.0nm,1.1s,baz=174,slow=6.3,SNR=5.2								
SCHQ	**Schefferville**	**78.67**	**0**	P		**P**		**00 46 44.7**	**+0.2**
SCHQ				IAmb		IAmb		00 47 13.0	
	comp=Z,8.5nm,1.2s								
YHH	**Holmes Hill**	**79.39**	**330**	P		**P**		**00 46 51.2**	**+2.1**
BOSA	**Boshof**	**80.76**	**117**	P		**P**		**00 46 56.8**	**0.0**
	comp=Z,5.2nm,0.9s,baz=256,slow=3.9,SNR=14								
BOSA	**Boshof**	**80.76**	**117**	P		**P**		**00 46 56.7**	**-0.1**
BOSA				IAmb		IAmb		00 46 58.4	
	comp=Z,20nm,1.4s								
MAW	**Mawson**	**81.31**	**163**	P		**P**		**00 46 59.7**	**+1.1**
	comp=Z,4.2nm,0.6s,baz=208,slow=6.2,SNR=11								
LBTB	**Lobatse**	**82.42**	**114**	P		**P**		**00 47 05.9**	**+0.4**
LBTB				IAmb		IAmb		00 47 09.0	
	comp=Z,3.8nm,0.5s								
FCC	**Fort Churchill**	**85.59**	**346**	P		**P**		**00 47 21.4**	**+1.0**
FCC				IAmb		IAmb		00 47 22.1	
	comp=Z,6.7nm,0.7s								
ESDC	**Sonseca Array**	**86.59**	**44**	P		**P**		**00 47 26.8**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=240,slow=6.3,SNR=5.1								
YKA	**Yellowknife Ar**	**94.24**	**340**	P		**P**		**00 48 01.6**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=131,slow=4.6,SNR=52								
ASAR	**Alice Springs**	**128.26**	**205**	PKP		**PKiKP**		**00 53 48.9**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=137,slow=1.8,SNR=33								
ASAR				SKPbc		SKPbc		00 56 51.2	
	comp=Z,0.4nm,0.6s,baz=142,slow=3.7,SNR=4.8								
ASAR	**Alice Springs**	**128.26**	**205**			**PKiKP**		**00 53 48.7**	**-0.5**
WRA	**Warramunga Arr**	**131.43**	**207**	PKP		**PKiKP**		**00 53 55.2**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=152,slow=1.7,SNR=27								
WRA				SKPbc		**SKPab**		**00 57 03.5**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=154,slow=3.7,SNR=10								
ZALV	**Zalesovo Beam**	**143.59**	**28**	PKP		**PKPdf**		**00 54 14.7**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=303,slow=4.6,SNR=11								
ZALV				SKPbc		**SKiKP**		**00 57 38.5**	**0.0**
	comp=Z,0.9nm,0.7s,baz=289,slow=4.4,SNR=4.9								
ZALV	**Zalesovo Beam**	**143.59**	**28**			**PKPdf**		**00 54 14.6**	**-1.2**
BATI	**Baumata**	**144.25**	**198**	PKP		**PKPdf**		**00 54 18.4**	**+0.1**
	comp=Z,16nm,0.5s,baz=160,slow=2.0,SNR=4.9								
KSH	**Kashi**	**145.38**	**55**	PKPbc		**PKPab**		**00 54 20.6**	**+0.3**
MKAR	**Makanchi Array**	**146.72**	**40**	PKPbc		**PKPbc**		**00 54 22.4**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=341,slow=0.8,SNR=28								
MKAR	**Makanchi Array**	**146.72**	**40**			**PKPbc**		**00 54 22.3**	**-1.1**
MKAR				PKPbc		**PKPab**		**00 54 24.6**	**-0.5**
SIJI	**Sorong**	**149.38**	**218**	PKPbc		**PKiKP**		**00 54 32.5**	**+0.1**
	comp=Z,12nm,0.7s,baz=27,slow=5.7,SNR=12								
PZH	**PanZhiHua**	**169.66**	**75**	PKP		**PKPdf**		**00 54 48.4**	**-1.0**

*AEIC **24** 00:40:46.2±1.0, 51.45N±0.07×177.11W±0.08, h38km±8km, Error ellipse: s-maj=10.1km s-min=6.2km az=157.0*

NEIC 24 00:40:46.9±1.0, 51.43N±0.07×177.13W±0.08, h38km±15km, mb3.8/15, ML3.4(AEIC)**, Error ellipse: s-maj=10.9km s-min=6.2km az=158.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.34**	**349**		Pn	00 40 55.3	0.0
KIWB	**Kanaga Island**	**0.43**	**358**		Pn	00 40 56.4	0.0
KIWB	**Kanaga Island**	**0.43**	**358**	Sn	Sn	00 41 03.9	+0.7
KIKV	**Kanaga Island**	**0.45**	**357**		Pn	00 40 56.8	0.0
KICM	**Kanaga Island**	**0.49**	**355**		Pn	00 40 57.5	0.0
ADK	**Adak**	**0.53**	**31**		Pn	00 40 57.4	-0.7
ADK	**Adak**	**0.53**	**31**	Sn	Sn	00 41 05.9	+0.1
TAPA	**Tanaga Point A**	**0.58**	**313**		Pn	00 40 58.6	-0.2
ADAG	**Mount Adagdak**	**0.64**	**30**		Pn	00 40 59.4	-0.2
TASE	**Tanaga Southea**	**0.70**	**306**		Pn	00 41 00.6	+0.2
TAFP	**Tanaga Falls P**	**0.71**	**312**		Pn	00 41 00.4	0.0
GSTD	**Great Sitkin T**	**0.88**	**44**		Pn	00 41 02.3	-0.5
GSTR	**Great Sitkin T**	**0.94**	**44**		Pn	00 41 03.5	-0.1
GAEA	**Gareloi East**	**1.07**	**290**		Pn	00 41 05.5	+0.2
GALAA	**Gareloi Lava P**	**1.08**	**289**		Pn	00 41 05.7	+0.3
GANO	**Gareloi North**	**1.12**	**291**		Pn	00 41 06.0	+0.1
GASW	**Gareloi Southw**	**1.13**	**289**		Pn	00 41 06.2	+0.1
ATKA	**Atka Island**	**1.98**	**66**		Pn	00 41 17.6	-0.2
KOKL	**Mount Kliuchef**	**2.02**	**63**		Pn	00 41 19.4	+0.9
KOFP	**Korovin Flat P**	**2.06**	**64**		Pn	00 41 19.8	+0.8
NIKH	**Nikolski High**	**5.32**	**70**	Pn	Pn	00 42 04.7	+1.1
SPIA	**Saint Paul Isl**	**7.03**	**32**	Pn	Pn	00 42 28.8	+1.7
P18K	**Big Mountain,**	**14.72**	**49**	Pn	Pn	00 44 13.1	+0.9
O18K	**Koktuh Hills**	**14.91**	**47**	Pn	Pn	00 44 16.8	+2.0
N18K	**Kilae Creek**	**14.98**	**44**	Pn	Pn	00 44 16.8	+1.1
OHAK	**Old Harbor**	**15.03**	**58**	Pn	Pn	00 44 16.3	+0.1
Q19K	**Cape Douglas,**	**15.31**	**52**	Pn	Pn	00 44 21.2	+1.2
KDAK	**Kodiak Island**	**15.52**	**56**	Pn	Pn	00 44 22.3	-0.4
L19K	**White Mountain**	**16.17**	**40**		P	00 44 32.9	-0.9
L19K				IAmb	IAmb	00 44 36.8	
	comp=Z,11nm,1.4s						
M19K	**Big River Lodg**	**16.22**	**41**		Pn	00 44 32.6	+1.0
M19K				IAmb	IAmb	00 44 47.6	
	comp=Z,8.1nm,1.4s						
CNPM	**China Poot**	**16.68**	**51**	Pn	Pn	00 44 37.4	+0.1
CNPM				IAmb	IAmb	00 45 01.1	
	comp=Z,32nm,1.4s						
CAST	**Castle Rocks**	**17.90**	**38**		Pn	00 44 52.6	0.0
KTH	**Kantishna Hill**	**18.42**	**39**	P	P	00 44 58.7	0.0
KTH				IAmb	IAmb	00 45 17.4	
	comp=Z,9.3nm,1.2s						
TRF	**Thorofare Moun**	**18.62**	**39**		Pn	00 45 02.2	+0.7
TRF				IAmb	IAmb	00 45 27.5	
	comp=Z,4.9nm,1.2s						
BPAW	**Bear Paw Mtn.**	**18.67**	**37**	P	Pn	00 45 02.2	+0.2
IMAR	**Indian Mountai**	**18.80**	**30**	P	P	00 45 01.9	-0.7
RND	**Reindeer**	**19.18**	**40**	P	P	00 45 04.8	-2.2
DHY	**Denali Highway**	**19.66**	**42**	P	P	00 45 10.5	-1.8
DHY				IAmb	IAmb	00 45 33.1	
	comp=Z,5.3nm,1.2s						
CCB	**Clear Creek Bu**	**20.15**	**38**	P	P	00 45 16.9	-0.5
CCB				IAmb	IAmb	00 45 45.8	
	comp=Z,4.8nm,1.4s						
RIDG	**Independent Ri**	**20.96**	**42**	P	P	00 45 24.5	-1.9
RIDG				IAmb	IAmb	00 45 38.1	
	comp=Z,12nm,1.5s						
BCAR	**Beaver Creek A**	**22.06**	**45**	P	P	00 45 38.0	-0.1
BMAR	**Burnt Mountain**	**22.62**	**33**	P	P	00 45 43.5	-0.5
PDAR	**Pinedale Array**	**45.29**	**73**	P	P	00 49 00.3	-0.6

*IDC **24** 00:53:28.6±5.3, 17.34S×177.53W, h160km±47km, mb3.6/4, mb1 3.8/4, mb1mx3.4/34, mbtmp4.1/4, Error ellipse: s-maj=36.0km s-min=18.5km az=95.0*

*NEIC **24** 00:54:06.5±0.8, 18.3S±0.1×177.6W±0.2, h579km±10km, mb4.2/27, Error ellipse: s-maj=21.3km s-min=19.3km az=80.0*

ISC 24 00:54:08.0±0.8, 18.4S±0.1×177.7W±0.1, h600km, n36, σ0.8 78/36, mb4.1/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.23**	**53**	P	**P**	**00 55 59.9**	**-0.5**
DZM	**Mont Dzumac**	**15.31**	**253**	P	**P**	**00 57 19.1**	**-0.1**
DZM				IAmb	IAmb	00 57 38.2	
	comp=Z,7.3nm,1.1s						
URZ	**Urewera**	**20.31**	**192**	P	**P**	**00 58 03.4**	**-1.0**
	comp=Z,6.0nm,0.3s,baz=272,slow=3.9,SNR=21						
URZ				S	S	01 01 51.6	+36
	comp=Z,6.0nm,0.8s,baz=270,slow=20,SNR=6.8						
URZ	**Urewera**	**20.31**	**192**	P	**P**	**00 58 02.4**	**-2.0**
BKZ	**Black Stump Fm**	**21.31**	**192**	P	**P**	**00 58 11.1**	**-2.4**
BKZ				IAmb	IAmb	00 58 13.8	
	comp=Z,8.8nm,1.1s						
THZ	**Tophouse**	**24.64**	**197**	P	**P**	**00 58 42.7**	**-0.3**
MLZ	**Mavora Lakes**	**29.38**	**201**	P	**P**	**00 59 23.4**	**-0.9**
CAN	**Canberra**	**33.95**	**233**	P	**P**	**01 00 03.4**	**+0.2**
CTAO	**Charters Tower**	**34.02**	**261**	P	**P**	**01 00 03.5**	**-0.5**
TOO	**Toolangi**	**37.39**	**232**	P	**P**	**01 00 32.3**	**+0.8**
TOO				IAmb	IAmb	01 00 50.1	
	comp=Z,14nm,1.4s						
COEN	**Coen**	**37.77**	**271**	P	**P**	**01 00 35.4**	**+0.6**
STKA	**Stephens Creek**	**38.98**	**242**	P	**P**	**01 00 45.4**	**+1.0**
BBOO	**Buckleboo**	**43.76**	**242**	P	**P**	**01 01 22.0**	**0.0**
BBOO				IAmb	IAmb	01 01 34.9	
	comp=Z,26nm,1.5s						
WR0	**Warramunga Arr**	**45.01**	**260**	P	**P**	**01 01 31.3**	**-0.4**
WR0				IAmb	IAmb	01 01 34.6	
	comp=Z,7.7nm,1.3s						
WB0	**Warramunga Arr**	**45.17**	**260**	P	**P**	**01 01 32.1**	**-0.8**
WB0				IAmb	IAmb	01 01 33.3	
	comp=Z,8.8nm,1.3s						
WB2	**Warramunga Arr**	**45.19**	**260**	P	**P**	**01 01 32.5**	**-0.6**
WB2				IAmb	IAmb	01 01 47.2	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**45.20**	**260**	P	**P**	**01 01 33.0**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=97,slow=7.0,SNR=20						
WRA	**Warramunga Arr**	**45.20**	**260**	P	**P**	**01 01 32.8**	**-0.4**
AS31	**Alice Springs**	**45.30**	**255**	P	**P**	**01 01 33.9**	**0.0**
ASAR	**Alice Springs**	**45.30**	**255**	P	**P**	**01 01 33.9**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=90,slow=7.9,SNR=53						
ASAR	**Alice Springs**	**45.30**	**255**	P	**P**	**01 01 33.7**	**-0.3**
MTN	**Manton Dam**	**49.45**	**269**	P	**P**	**01 02 04.3**	**-0.7**
MTN				IAmb	IAmb	01 02 04.6	
	comp=Z,13nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.60**	**261**	P	**P**	**01 02 35.0**	**+0.2**
SBA	**Scott Base**	**59.99**	**184**	P	**P**	**01 03 18.3**	**+1.0**
VNDA	**Vanda**	**60.03**	**185**	P	**P**	**01 03 18.7**	**+1.1**
QSPA	**South Pole Qui**	**71.67**	**180**	P	**P**	**01 04 31.1**	**+1.0**
SCM	**Sheep Creek Mo**	**83.53**	**14**	P	**P**	**01 05 33.7**	**+0.1**
SCM				IAmb	IAmb	01 05 35.9	
	comp=Z,17nm,1.2s						
K20K	**Telida**	**83.55**	**10**	P	**P**	**01 05 34.0**	**+0.3**
K20K				IAmb	IAmb	01 05 38.9	
	comp=Z,4.8nm,1.2s						
CAST	**Castle Rocks**	**83.96**	**11**	P	**P**	**01 05 35.5**	**-0.2**
CAST				IAmb	IAmb	01 05 40.1	
	comp=Z,7.0nm,1.5s						
GLB	**Gilahina Butte**	**84.04**	**16**	P	**P**	**01 05 36.2**	**+0.1**
GLB				IAmb	IAmb	01 05 39.2	
	comp=Z,2.9nm,0.9s						
TRF	**Thorofare Moun**	**84.33**	**12**	P	**P**	**01 05 37.5**	**-0.2**
TRF				IAmb	IAmb	01 05 44.3	
	comp=Z,9.0nm,1.4s						
RND	**Reindeer**	**84.58**	**13**	P	**P**	**01 05 38.9**	**+0.1**
RND				IAmb	IAmb	01 06 01.3	
	comp=Z,3.3nm,1.1s						
CCB	**Clear Creek Bu**	**85.90**	**12**	P	**P**	**01 05 44.5**	**-0.5**
CCB				IAmb	IAmb	01 05 45.0	
	comp=Z,5.6nm,1.4s						
IMAR	**Indian Mountai**	**86.03**	**10**	P	**P**	**01 05 45.8**	**+0.2**
ILAR	**Eielson Array**	**86.20**	**13**	P	**P**	**01 05 46.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=218,slow=5.0,SNR=6.3						
BMAR	**Burnt Mountain**	**88.98**	**12**	P	**P**	**01 06 00.1**	**+0.7**

*GUC **24** 00:55:32.7±0.7, 21.32S×70.62W, h47km±7km, ML4.2*

*NEIC **24** 00:55:32.5±1.5, 21.30S±0.03×70.64W±0.07, h44km±6km, mb4.4/14, ML4.2(GUC), Error ellipse: s-maj=9.3km s-min=2.5km az=70.0*

*VAO **24** 00:55:34.0±1.6, 21.14S×70.06W, h10km, mb4.4*

*IDC **24** 00:55:35.2±3.3, 21.16S×70.34W, h64km±31km, mb3.6/5, mb1 3.9/7, mb1mx3.6/30, mbtmp3.9/7, ML4.1/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/48, Error ellipse: s-maj=28.3km s-min=23.9km az=79.0*

ISC 24 00:55:31.4±1.0, 21.29S±0.03×70.71W±0.05, h34km±3km, n94, σ1.922/106, mb4.2/9, 14C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**0.70**	**48**		**Pb**	**00 55 45.9**	**+0.6**
PATCX				Sn	**Sb**	**00 55 54.9**	**+0.1**
PATCX	**Punta Patache**	**0.70**	**48**	⇑*iP*	**Pb**	**00 55 45.8**	**+0.4**
PATCX				*eS*	**Sb**	**00 55 54.6**	**-0.2**
PATCX				IAML		00 55 55.6	
	comp=N,25μm,0.3s						
PB02	**IPOC Station P**	**0.76**	**92**		**Pb**	**00 55 46.0**	**-0.3**
PB02				Sn	**Sn**	**00 55 55.4**	**-0.6**
PB02	**IPOC Station P**	**0.76**	**92**	⇓*eP*	**Pb**	**00 55 46.2**	**-0.1**
PB02				*iS*	**Sn**	**00 55 55.4**	**-0.6**
PB02				IAML		00 55 56.0	
	comp=N,40μm,0.4s						
TA01	**Diego Aracena**	**0.88**	**34**		**Pb**	**00 55 48.1**	**-0.1**
TA01				Sn	**Sn**	**00 55 58.6**	**-0.2**
TA01	**Diego Aracena**	**0.88**	**34**	⇑*iP*	**Pb**	**00 55 48.1**	**-0.1**
TA01				*eS*	**Sn**	**00 55 58.8**	**0.0**
TA01				IAML		00 56 00.3	
	comp=N,10μm,0.5s						
PB07	**IPOC Station P**	**0.88**	**120**		**Pb**	**00 55 48.0**	**-0.4**
PB07				Sn	**Sn**	**00 55 58.7**	**-0.4**
PB07	**IPOC Station P**	**0.88**	**120**	⇓*iP*	**Pb**	**00 55 47.9**	**-0.4**
PB07				*eS*	**Sn**	**00 55 58.5**	**-0.6**
PB07				IAML		00 55 59.2	
	comp=N,24μm,0.3s						
TA02	**Huaiquique**	**1.15**	**28**		**Pb**	**00 55 52.0**	**-0.9**
TA02	**Huaiquique**	**1.15**	**28**	⇑*iP*	**Pb**	**00 55 52.0**	**-0.9**
TA02				*eS*	**Sn**	**00 56 06.0**	**+0.4**
TA02				IAML		00 56 06.8	
	comp=E,5μm,0.1s						
HMBC	**Humberstone**	**1.27**	**37**	⇑*iP*	**Pn**	**00 55 53.4**	**+0.6**
HMBC				*eS*	**Sn**	**00 56 06.4**	**-2.3**
HMBC				IAML		00 56 08.8	
	comp=N,4μm,0.3s						
PB09	**IPOC Station P**	**1.45**	**110**		**Pn**	**00 55 56.5**	**+1.1**
PB09	**IPOC Station P**	**1.45**	**110**	⇑*iP*	**Pn**	**00 55 56.6**	**+1.2**
PB09				*eS*	**Sn**	**00 56 13.2**	**-0.1**
PB09				IAML		00 56 15.3	
	comp=N,7μm,0.5s						
PB06	**IPOC Station P**	**1.76**	**143**		**Pn**	**00 56 00.1**	**+0.5**
PB06	**IPOC Station P**	**1.76**	**143**	⇑*iP*	**Pn**	**00 56 00.0**	**+0.5**
PB06				*eS*	**Sn**	**00 56 20.4**	**-0.5**
PB11	**IPOC Station P**	**1.81**	**33**	Pn	**Pn**	**00 56 01.0**	**+0.6**
PB08	**IPOC Station P**	**1.85**	**52**		**Pn**	**00 56 01.9**	**+0.8**
PB08	**IPOC Station P**	**1.85**	**52**	⇑*iP*	**Pn**	**00 56 02.1**	**+1.0**
PB08				*eS*	**Sn**	**00 56 23.1**	**-0.3**
PB08				IAML		00 56 24.7	
	comp=N,2μm,0.6s						
LVC	**Limon Verde**	**2.12**	**128**	P	**Pn**	**00 56 06.3**	**+1.6**
	comp=N,37nm,0.3s,baz=22,slow=6.5,SNR=920						
LVC				S	**Sn**	**00 56 30.4**	**+0.3**
	comp=N,110nm,0.3s,baz=32,slow=19,SNR=27						
LVC				LR	LR	00 56 44.3	
	comp=N,84nm,20.0s,baz=290,slow=35						
LVC	**Limon Verde**	**2.12**	**128**	⇑*eP*	**Pn**	**00 56 05.9**	**+1.1**
LVC				*eS*	**Sn**	**00 56 30.6**	**+0.5**
LVC	**Limon Verde**	**2.12**	**128**	*eP*	**Pn**	**00 56 05.9**	**+1.1**
GO01	**Chusmiza**	**2.15**	**42**		**Pn**	**00 56 06.2**	**+1.0**
GO01	**Chusmiza**	**2.15**	**42**	⇑*iP*	**Pn**	**00 56 06.2**	**+1.0**
GO01				*eS*	**Sn**	**00 56 30.5**	**-0.5**
GO01				IAML		00 56 34.2	
	comp=N,3μm,0.1s						
PB10	**IPOC Station P**	**2.21**	**176**	Pn	**Pn**	**00 56 06.6**	**+0.9**
PB10	**IPOC Station P**	**2.21**	**176**	⇑*eP*	**Pn**	**00 56 06.3**	**+0.6**
PB10				*eS*	**Sn**	**00 56 31.4**	**-0.5**
PB15	**IPOC Station P**	**2.22**	**149**		**Pn**	**00 56 06.5**	**+0.5**
PB15	**IPOC Station P**	**2.22**	**149**	⇑*iP*	**Pn**	**00 56 06.5**	**+0.5**
PB15				*eS*	**Sn**	**00 56 31.3**	**-1.1**
PB12	**IPOC Station P**	**2.69**	**8**	Pn	**Pn**	**00 56 13.3**	**+1.0**
PB12	**IPOC Station P**	**2.69**	**8**	⇑*iP*	**Pn**	**00 56 13.3**	**+1.0**
PB12				*eS*	**Sn**	**00 56 42.3**	**-1.5**
AF01	**San Pedro de A**	**2.87**	**126**	Pn	**Pn**	**00 56 17.2**	**+2.3**
PB16	**IPOC Station P**	**3.15**	**21**		**Pn**	**00 56 20.8**	**+1.6**
PB16	**IPOC Station P**	**3.15**	**21**	⇑*iP*	**Pn**	**00 56 20.7**	**+1.6**
PB16				*eS*	**Sn**	**00 56 55.0**	**-0.9**
PB14	**IPOC Station P**	**3.33**	**175**	Pn	**Pn**	**00 56 21.7**	**+0.4**
PB14	**IPOC Station P**	**3.33**	**175**	⇑*iP*	**Pn**	**00 56 21.6**	**+0.2**
PB14				*eS*	**Sn**	**00 56 58.0**	**-1.9**
GO02	**Mina Guanaco**	**3.99**	**165**	Pn	**Pn**	**00 56 31.5**	**+1.1**
GO02	**Mina Guanaco**	**3.99**	**165**	*eP*	**Pn**	**00 56 31.3**	**+1.0**
GO02				*eS*	**Sn**	**00 57 16.8**	**+0.7**
AC01	**Pan de Azucar**	**4.83**	**179**	Pn	**Pn**	**00 56 41.0**	**-0.8**
LPAZ	**La Paz**	**5.54**	**27**	P	**Pn**	**00 56 56.2**	**+4.1**
	comp=N,0.5nm,0.3s,baz=307,slow=3.1,SNR=22						
LPAZ				LR	LR	00 59 14.4	
	comp=N,119nm,21.9s,baz=237,slow=42						
LPAZ	**La Paz**	**5.54**	**27**	Pn	**Pn**	**00 56 54.7**	**+2.7**
LPAZ	**La Paz**	**5.54**	**27**	*eP*	**Pn**	**00 56 52.5**	**+0.4**
AC02	**Maricunga**	**5.70**	**166**	Pn	**Pn**	**00 56 55.0**	**+0.8**
AC06	**Mina Casimiro**	**6.05**	**177**	Pn	**Pn**	**00 56 57.0**	**-0.8**
AC04	**Llanos de Chal**	**6.89**	**183**	Pn	**Pn**	**00 57 07.9**	**-2.1**
GO04	**Tololo Observa**	**8.84**	**181**	Pn	**Pn**	**00 57 35.7**	**-1.3**
SIV	**San Ignacio**	**10.54**	**62**	P	**Pn**	**00 57 58.0**	**-2.2**
	comp=N,2.1nm,0.3s,baz=250,slow=9.4,SNR=34						
MT02	**Curacav**	**11.93**	**182**	Pn	**Pn**	**00 58 20.7**	**+1.7**
VILB	**Vilhena**	**13.02**	**52**	*eP*	**Pn**	**00 58 32.8**	**-1.3**
AQDB	**Aquidauana**	**14.05**	**89**	Pn	**Pn**	**00 58 47.9**	**-0.2**
H03N1	**Juan Fernandez**	**14.12**	**209**	T	T	01 13 20.2	
	baz=35,slow=72,SNR=65						
H03N2	**Juan Fernandez**	**14.13**	**209**	T	T	01 13 25.6	
	baz=35,slow=72,SNR=81						
H03N3	**Juan Fernandez**	**14.13**	**209**	T	T	01 13 24.6	
	baz=35,slow=72,SNR=89						
TRCB	**Terra Rica**	**16.82**	**98**	Pn	**Pn**	**00 59 23.0**	**-1.4**
ITAB	**Concordia**	**17.93**	**113**		**Pn**	**00 59 37.1**	**-1.0**
PLCA	**Pa

0.4nm,0.3s,baz=350,slow=26,SNR=7.8
MAJO Matsushiro 43.49 8 P **P** **01 15 31.2 -2.1**
PZH PanZhiHua 43.51 320 PKP **P** **01 15 35.1 +1.3**
SONM Songino Array 58.45 341 P **P** **01 17 27.7 +2.2**
0.2nm,0.4s,baz=148,slow=8.5,SNR=2.7
SONM Songino Array 58.45 341 IAmb IAmb 01 19 05.1
comp=Z,3.3nm,1.6s
MK31 Makanchi Array 68.50 326 P **P** **01 18 31.9 0.0**
MK31 IAmb IAmb 01 18 34.2
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 68.50 326 P **P** **01 18 33.7 +1.8**
comp=Z,1.5nm,0.4s,baz=116,slow=8.2,SNR=23
MAKZ Makanchi 68.69 326 P **P** **01 18 34.1 +1.1**
MAKZ IAmb IAmb 01 18 35.2
comp=Z,1.5nm,0.6s

*IDC **24** 01:14:09.7±2.0,30˚.24S×60˚.66E,h0km,mb3.8/3,*
mb1 3.9/4,mb1mx3.4/43,mbtmp3.8/4,ML3.6/1,MS3.6/1,
Ms1 3.6/1,ms1mx2.8/76,Error ellipse: s-maj=173.6km
s-min=26.4km az=25.0
ISC 24 01:14:15.7±2.4,26˚S×2˚.4E×0˚.7,h10km,n10,σ1s52/7,
mb3.9/3,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.04**	**296**	Pn		**P**		**01 18 07.5**	**+2.5**
	0.2nm,0.3s,baz=136,slow=18,SNR=1.4								
OPO				Sn		**Sn**		**01 20 58.3**	**-1.3**
	0.4nm,0.3s,baz=94,slow=19,SNR=1.6								
KMBO	**Kilima Mbogo**	**34.85**	**312**	LR		LR		01 34 46.8	
	comp=Z,77nm,18.5s,baz=268,slow=34								
H01W2	**Cape Leeuwin H**	**44.92**	**114**	T		T		02 10 05.1	
	baz=261,slow=75,SNR=4.9								
H01W3	**Cape Leeuwin H**	**44.92**	**114**	T		T		02 10 07.1	
	baz=261,slow=75,SNR=5.3								
H01W1	**Cape Leeuwin H**	**44.94**	**114**	T		T		02 10 08.1	
	baz=261,slow=75,SNR=4.9								
ASAR	**Alice Springs**	**64.09**	**105**	P		**P**		**01 24 50.1**	**-0.3**
	0.6nm,0.7s,baz=240,slow=6.3,SNR=9.0								
WRA	**Warramunga Arr**	**65.72**	**107**	P		**P**		**01 25 01.3**	**+0.2**
	1.2nm,1.1s,baz=238,slow=6.7,SNR=3.3								
TORD	**Torodi Ar. Bea**	**70.85**	**296**	P		**P**		**01 25 32.2**	**-1.0**
	1.0nm,0.9s,baz=145,slow=5.3,SNR=4.9								
YKA	**Yellowknife Ar**	**143.84**	**358**	PKPbc		**PKiKP**		**01 33 54.2**	**+0.2**
	1.6nm,0.8s,baz=351,slow=2.9,SNR=21								
ULM	**Lac du Bonnet**	**150.90**	**331**	PKPbc		**PKPbc**		**01 34 07.9**	**-0.5**
	2.6nm,0.6s,baz=72,slow=3.2,SNR=3.9								

*CNRM **24** 01:14:36.2,35˚.52N×3˚.61W,h17km,ml2.9*
*MDD **24** 01:14:37.1±0.4,35˚.47N×3˚.66W,h0km,mb_Lg2.9/11,*
Error ellipse: s-maj=3.4km s-min=2.8km az=153.0
*SFS **24** 01:14:37.0,35˚.46N×3˚.65W,ML2.9,ALBORAN SUR*
*INMG **24** 01:14:37.8±1.6,35˚.47N×3˚.60W,h12km±8km,ML2.4,Error*
ellipse: s-maj=5.2km s-min=3.5km az=95.0
ISC 24 01:14:36.6±1.1,35˚.47N±0˚.03×3˚.66W±0˚.02,h14km±9km,
n50,σ1s36/81,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**223**	P		**Pg**		**01 14 44.6**	**+1.0**
PALE				S		**Sb**		**01 14 50.6**	**+0.8**
GOG	**Mont Gurugu**	**0.59**	**114**	P		**Pg**		**01 14 47.9**	**-0.3**
GOG				S		**Sg**		**01 14 54.9**	**-1.2**
EMEL	**Melilla**	**0.59**	**106**	Pg		**Pg**		**01 14 48.3**	**0.0**
EMEL				Sg		**Sg**		**01 14 55.7**	**-0.5**
PVLZ	**Peæn de**	**0.60**	**241**	P		**Pg**		**01 14 49.6**	**+1.2**
PVLZ				S		**Sg**		**01 14 57.6**	**+1.1**
EALB	**Alboran**	**0.69**	**47**	Pg		**Pg**		**01 14 49.9**	**-0.2**
EALB				Sg		**Sb**		**01 15 00.8**	**+1.0**
EALB				*i* Vmb_Lg				01 15 04.5	
AKLM	**AKL**	**0.97**	**190**	P		**Pg**		**01 14 55.6**	**+0.3**
AKLM				S		**Sg**		**01 15 06.7**	**-1.4**
TAF	**Taforalt**	**1.21**	**122**	P		**Pg**		**01 15 01.0**	**+1.1**
TAF	**Taforalt**	**1.21**	**122**	P		**Pb**		**01 14 57.5**	**-1.8**
TAF				S		**Sb**		**01 15 16.1**	**+1.4**
ELGU	**Los Guajares,**	**1.40**	**1**	Pg		**Pn**		**01 15 00.8**	**-1.0**
ELGU				Sg		**Sb**		**01 15 18.9**	**-1.4**
ELGU				*i* Vmb_Lg				01 15 23.7	
EMIJ	**Mijas**	**1.42**	**321**	Pg		**Pn**		**01 15 00.3**	**-1.8**
EMIJ				Sg		**Sn**		**01 15 20.2**	**-0.3**
EMIJ				*i* Vmb_Lg				01 15 23.2	
CHEFC	**Chefchaouen**	**1.42**	**256**	P		**Pn**		**01 15 04.0**	**+1.8**
CHEFC	**Chefchaouen**	**1.42**	**256**	P		**Pn**		**01 15 03.4**	**+1.2**
CHEFC				S		**Sn**		**01 15 21.0**	**+0.3**
SMIR	**Smir Dam**	**1.42**	**279**	P		**Pn**		**01 15 00.5**	**-1.5**
JBK	**JBK**	**1.44**	**141**	P		**Pg**		**01 15 05.1**	**+0.8**
CEU	**Ceuta**	**1.46**	**288**	P		**Pn**		**01 15 00.2**	**-2.4**
CEU				S		**Sn**		**01 15 17.6**	**-3.9**
EBER	**Berja**	**1.56**	**23**	Pg		**Pn**		**01 15 03.3**	**-0.8**
EBER				Sg		**Sn**		**01 15 25.2**	**+1.0**
EBER				*i* Vmb_Lg				01 15 26.4	
EGOR	**Sierra Gorda,**	**1.68**	**348**	Pn		**Pn**		**01 15 07.4**	**+1.7**
EGOR				Sn		**Sn**		**01 15 28.7**	**+1.6**
EGOR				*i* Vmb_Lg				01 15 42.5	
EJIF	**Jimena Fronter**	**1.77**	**304**	Pn		**Pn**		**01 15 07.9**	**+1.1**
EJIF				Sn		**Sn**		**01 15 29.5**	**+0.4**
LCRM	**LCR**	**2.03**	**210**	P		**Pg**		**01 15 16.0**	**+0.3**
LCRM	**LCR**	**2.03**	**210**	P		**Pn**		**01 15 10.8**	**+0.2**
IFR	**Ifrane**	**2.29**	**212**	P		**Pn**		**01 15 14.2**	**0.0**
IFR				S		**Sn**		**01 15 41.4**	**-0.9**
CZD	**Col de Zad**	**2.69**	**206**	P		**Pn**		**01 15 20.4**	**+0.7**
MD31	**MD31**	**2.75**	**200**	P		**Pn**		**01 15 20.6**	**+0.3**
MDT	**Midelt**	**2.76**	**197**	P		**Pn**		**01 15 21.4**	**+0.9**
TDRA	**Tendrara**	**2.77**	**150**	P		**Pn**		**01 15 22.0**	**+1.2**
EADA	**Adamuz**	**2.80**	**345**	Pn		**Pn**		**01 15 22.7**	**+1.7**
EADA				Sn		**Sn**		**01 15 56.0**	**+1.5**
EADA				*i* Vmb_Lg				01 16 02.3	
EMIN	**Mina Concepcio**	**3.34**	**314**	Pn		**Pn**		**01 15 28.4**	**0.0**
EMIN				*i* Vmb_Lg				01 15 47.1	
EMIN				Sn		**Sn**		**01 16 09.7**	**+1.8**
ETOB	**Tobarra**	**3.59**	**27**	Pn		**Pn**		**01 15 32.3**	**+0.3**
ETOB				Sn		**Sn**		**01 16 16.5**	**+2.3**
ETOB				*i* Vmb_Lg				01 16 37.8	
EGRO	**El Granado**	**3.71**	**305**	Pn		**Pn**		**01 15 34.7**	**+1.2**
EGRO				Sn		**Sn**		**01 16 17.3**	**+0.4**
EGRO				*i* Vmb_Lg				01 16 22.3	
PVAQ	**Vaqueiros**	**3.80**	**302**	*e*Pn		**Pn**		**01 15 35.2**	**+0.4**
PVAQ				*e*Sn		**Sn**		**01 16 17.6**	**-1.7**
PVAQ				A		A		01 16 23.5	
	5.8nm,0.6s								
PVAQ	**Vaqueiros**	**3.80**	**302**	P		**Pn**		**01 15 34.9**	**+0.2**
PVAQ	**Vaqueiros**	**3.80**	**302**	P		**Pn**		**01 15 34.9**	**+0.2**
PBAR	**Barrancos**	**3.83**	**316**	*e*Pn		**Pn**		**01 15 36.0**	**+0.8**
PBAR				*e*Sn		**Sn**		**01 16 19.6**	**-0.4**
PBDV	**Barranco-do-Ve**	**3.88**	**298**	*e*Pn		**Pn**		**01 15 36.3**	**+0.4**
PBDV				*e*Sn		**Sn**		**01 16 19.8**	**-1.4**
PBDV				A		A		01 16 36.3	
	4.5nm,0.6s								
PAB	**San Pablo**	**4.11**	**352**	Pn		**Pn**		**01 15 41.3**	**+2.2**
PAB				Sn		**Sn**		**01 16 27.2**	**+0.2**
PCVE	**Castro Verde**	**4.14**	**303**	*e*Pn		**Pn**		**01 15 40.0**	**+0.6**
PCVE				*e*Sn		**Sn**		**01 16 27.1**	**-0.5**
PCVE				A		A		01 16 33.1	
	3.2nm,0.6s								
PBEJ	**Beja**	**4.24**	**308**	*e*Sn		**Sn**		**01 16 29.0**	**-1.0**
EBAD	**Badajoz**	**4.24**	**322**	Pn		**Pn**		**01 15 41.3**	**+0.5**
EBAD				Sn		**Sn**		**01 16 29.6**	**-0.4**
EBAD				*i* Vmb_Lg				01 16 38.8	
MORF	**Marmelete**	**4.43**	**296**	*e*Sn		**Sn**		**01 16 34.8**	**0.0**
PTEO	**Sao Teotonio**	**4.58**	**298**	*e*Pn		**Pn**		**01 15 48.8**	**+3.4**
PTEO				*e*Sn		**Sn**		**01 16 38.8**	**+0.4**
PESTR	**Estremoz**	**4.63**	**318**	*e*Pn		**Pn**		**01 15 47.6**	**+1.5**
PESTR				*e*Sn		**Sn**		**01 16 37.9**	**-1.7**
PESTR				A		A		01 16 59.8	
	3.0nm,0.6s								
PESTR	**Estremoz**	**4.63**	**318**	P		**Pn**		**01 15 45.4**	**-0.7**
EVO	**Evora**	**4.64**	**313**	P		**Pn**		**01 15 47.4**	**+1.1**
EVO				S		**Sn**		**01 16 38.2**	**-1.7**
PNCL	**Nicolau / Gran**	**4.72**	**305**	*e*Pn		**Pn**		**01 15 47.6**	**+0.3**
PNCL				*e*Sn		**Sn**		**01 16 40.2**	**-1.6**
PNCL				A		A		01 16 57.0	
	2.9nm,0.6s								
PMRV	**Marv??o**	**4.95**	**324**	*e*Pn		**Pn**		**01 15 51.8**	**+1.3**
PMRV				*e*Sn		**Sn**		**01 16 46.4**	**-1.1**
PMRV				A		A		01 17 14.4	
	4.0nm,0.5s								
PCBR	**Castelo Branco**	**5.32**	**326**	*e*Pn		**Pn**		**01 15 56.8**	**+1.3**
PCBR				*e*Sn		**Sn**		**01 16 53.9**	**-2.7**
PSBE	**So Bento**	**5.75**	**316**	*e*Pn		**Pn**		**01 16 03.1**	**+1.6**
PVIS	**Viseu**	**6.22**	**329**	*e*Pn		**Pn**		**01 16 10.3**	**+2.3**
MVO	**Moncorvo**	**6.28**	**336**	*e*Pn		**Pn**		**01 16 10.8**	**+2.0**
POLO	**Lamas de Olo**	**6.73**	**332**	*e*Pn		**Pn**		**01 16 16.9**	**+1.8**

*JMA **24** 01:17:31.9±0.1,24˚.25N×122˚.02E,h35km±4km,M2.7*
*TAP **24** 01:17:32.4,24˚.38N×122˚.00E,h21km,ML3.5,C*
ISC 24 01:17:32.3±0.9,24˚.37N±0˚.02×122˚.06E±0˚.02,h17km±7km,
n105,σ0s97/175,6C-18D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.27**	**287**	⇓*i*P		**Pb**		**01 17 38.0**	**-0.8**
	baz=295								
EWUT				*i* S		**Sb**		**01 17 41.9**	**-1.1**
	baz=295								
EHP	**Heping Village**	**0.30**	**259**	P		**Pg**		**01 17 38.2**	**-0.5**
	baz=258								
EHP				S		**Sb**		**01 17 43.0**	**-0.9**
	baz=258								
ENA	**Nanau**	**0.30**	**282**	⇓*i*P		**Pg**		**01 17 38.3**	**-0.5**
	baz=288								
ENA				*i* S		**Sb**		**01 17 42.6**	**-1.3**
	baz=288								
TWC	**Suao**	**0.31**	**321**	⇓*i*P		**Pg**		**01 17 38.8**	**-0.2**
	baz=337								
TWC				*i* S		**Sb**		**01 17 42.9**	**-1.3**
	baz=337								
NDS	**Dongshan**	**0.41**	**310**	⇓*i*P		**Pg**		**01 17 40.6**	**-0.1**
	baz=316								
NDS				S		**Sg**		**01 17 45.7**	**-0.8**
	baz=316								
ETL	**Fush Village**	**0.45**	**243**	P		**Pg**		**01 17 40.9**	**-0.5**
	baz=241								
NACB	**Ninganchiao**	**0.47**	**246**	⇓*i*P		**Pb**		**01 17 41.0**	**-1.2**
	baz=236								
NACB				S		**Sg**		**01 17 47.5**	**-0.6**
	baz=236								
ILA	**Ilan**	**0.49**	**324**	*e*P		**Pb**		**01 17 40.7**	**-1.8**
	baz=329								
ILA				S		**Sg**		**01 17 49.0**	**+0.3**
	baz=329								
EGS		**0.49**	**346**	*e*P		**Pb**		**01 17 42.6**	**+0.1**
	baz=353								
EGS				*e*S		**Sg**		**01 17 48.8**	**0.0**
	baz=353								
TWE	**Neicheng**	**0.50**	**314**	⇓*i*P		**Pb**		**01 17 42.2**	**-0.6**
	baz=322								
TWE				S		**Sb**		**01 17 48.5**	**-1.3**
	baz=322								
TWD	**Chiawan**	**0.51**	**236**	P		**Pb**		**01 17 42.0**	**-0.9**
	baz=232								
TWD				S		**Sn**		**01 17 51.8**	**-1.5**
	baz=232								
LATG	**Datong**	**0.52**	**289**	⇓*i*P		**Pb**		**01 17 42.2**	**-0.8**
	baz=294								
LATG				S		**Sb**		**01 17 48.7**	**-1.6**
	baz=294								
ENTT	**Nioudou**	**0.53**	**301**	⇓*i*P		**Pb**		**01 17 42.5**	**-0.7**
	baz=305								
ENTT				S		**Sb**		**01 17 49.0**	**-1.6**
	baz=305								
NTC	**Toucheng**	**0.53**	**336**	P		**Pb**		**01 17 42.7**	**-0.5**
	baz=344								
NTC				S		**Sb**		**01 17 49.8**	**-0.7**
	baz=344								
NDT	**Datong Townshi**	**0.55**	**295**	⇑*i*P		**Pb**		**01 17 43.1**	**-0.5**
	baz=298								
NDT				*i* S		**Sb**		**01 17 49.7**	**-1.5**
	baz=298								
ETLH	**Xiulin Townshi**	**0.55**	**253**	⇓P		**Pb**		**01 17 42.6**	**-1.1**
	baz=255								
ETLH				S		**Sb**		**01 17 50.7**	**-0.6**
	baz=255								
HWA	**Hwalien**	**0.57**	**227**	*e*P		**Pg**		**01 17 44.5**	**+0.9**
	baz=220								
HWA				*e*S		**Sn**		**01 17 55.5**	**+0.8**
	baz=220								
FUSB	**Fushanzhiwuyua**	**0.58**	**312**	⇓*i*P		**Pb**		**01 17 43.8**	**-0.4**
	baz=318								
FUSB				S		**Sb**		**01 17 51.2**	**-0.9**
	baz=318								
NNSB	**Datong**	**0.62**	**276**	⇓*i*P		**Pb**		**01 17 44.0**	**-0.8**
	baz=281								
NNSB				S		**Sb**		**01 17 51.8**	**-1.6**
	baz=281								
NNS	**Nan Shan**	**0.63**	**277**	⇓P		**Pb**		**01 17 44.1**	**-0.9**
	baz=282								
NNS				S		**Sb**		**01 17 52.0**	**-1.6**
	baz=282								
TIPB	**Shuangxi**	**0.64**	**340**	⇑P		**Pb**		**01 17 45.1**	**0.0**
	baz=347								
TIPB				S		**Sb**		**01 17 53.0**	**-0.7**
	baz=347								
TWB1	**Santiao Chiao**	**0.64**	**354**	P		**Pb**		**01 17 45.1**	**+0.1**
	baz=354								
TWB1				S		**Sb**		**01 17 53.1**	**-0.6**
	baz=354								
NWLT	**Wulai**	**0.65**	**309**	*e*P		**Pb**		**01 17 44.9**	**-0.4**
	baz=310								
NWLT				S		**Sb**		**01 17 52.6**	**-1.5**
	baz=310								
TEYL	**Yanliau Villag**	**0.65**	**220**	P		**Pb**		**01 17 45.5**	**+0.2**
	baz=216								
TEYL				*e*S		**Sn**		**01 17 57.2**	**+0.5**
	baz=216								
ETM	**Tongmen**	**0.66**	**232**	*e*P		**Pb**		**01 17 45.0**	**-0.4**
	baz=228								
YHNB	**Yeheng**	**0.69**	**296**	⇓*i*P		**Pb**		**01 17 45.5**	**-0.6**
	baz=300								
YHNB				S		**Sb**		**01 17 53.9**	**-1.4**
	baz=300								
NSK	**Sanguang**	**0.71**	**296**	⇓*i*P		**Pb**		**01 17 45.7**	**-0.7**
	baz=300								
NSK				S		**Sb**		**01 17 54.5**	**-1.4**
	baz=300								
SXI1	**Grass Mountain**	**0.74**	**347**	*e*P		**Pb**		**01 17 47.1**	**+0.2**
	baz=357								
SXI1				*e*S		**Sb**		**01 17 55.9**	**-0.9**
	baz=357								
NWF	**Wu-fen Shan**	**0.74**	**340**	P		**Pg**		**01 17 47.5**	**+0.5**
	baz=337								
NWF				S		**Sb**		**01 17 56.7**	**-0.2**
	baz=337								
WFSB	**Wu-fen Shan**	**0.74**	**340**	P		**Pg**		**01 17 47.3**	**+0.4**
	baz=337								
WFSB				S		**Sb**		**01 17 56.8**	**0.0**
	baz=337								
TWA	**Mucha**	**0.75**	**325**	P		**Pb**		**01 17 47.0**	**0.0**
	baz=336								
TWA				S		**Sb**		**01 17 56.5**	**-0.4**
	baz=336								
WHF	**Hehuan Shan**	**0.76**	**253**	⇓*i*P		**Pb**		**01 17 46.5**	**-0.9**
	baz=257								
WHF				S		**Sn**		**01 17 59.2**	**-0.8**
	baz=257								
NHDH	**Xindian Distri**	**0.77**	**321**	*e*P		**Pb**		**01 17 47.3**	**+0.1**
	baz=317								
NHDH				*e*S		**Sb**		**01 17 56.2**	**-1.3**
	baz=317								
ESL	**Shilin**	**0.80**	**226**	⇑P		**Pb**		**01 17 47.3**	**-0.4**
	baz=222								
TATO	**Taipei**	**0.80**	**319**	*e*P		**Pb**		**01 17 48.2**	**+0.4**
	baz=316								
TATO				*e*S		**Sb**		**01 17 57.9**	**-0.4**
	baz=316								
JYNG	**Yonaguni jima**	**0.81**	**84**	P		**Pb**		**01 17 47.7**	**-0.3**
JYNG				*e*S		**Sg**		**01 17 59.2**	**+0.4**
TWT	**Tachien**	**0.82**	**262**	P		**Pb**		**01 17 48.0**	**-0.2**
	baz=264								
TWT				*e*S		**Sb**		**01 17 59.3**	**+0.3**
	baz=264								
TNOU	**National Taiwa**	**0.82**	**341**	P		**Pn**		**01 17 49.1**	**-0.1**
	baz=341								
TNOU				*e*S		**Sb**		**01 17 58.8**	**-0.2**
	baz=341								
CHGB	**Renai**	**0.87**	**249**	⇓*i*P		**Pb**		**01 17 48.5**	**-0.6**
	baz=247								
CHGB				S		**Sb**		**01 18 00.2**	**-0.3**
	baz=247								
YOJ	**Yonaguni jima**	**0.87**	**84**	P		**Pb**		**01 17 48.8**	**-0.2**
YOJ				S		**Sg**		**01 18 01.7**	**+0.9**
YOJ	**Yonaguni jima**	**0.87**	**84**	*e*P		**Pb**		**01 17 48.7**	**-0.2**
	baz=76								
YOJ				*e*S		**Sg**		**01 18 01.6**	**+0.9**
	baz=76								
YM01	**YM01**	**0.89**	**330**	*e*P		**Pg**		**01 17 50.1**	**+0.3**
	baz=335								
YM01				*e*S		**Sb**		**01 18 01.3**	**+0.1**
	baz=335								
NFF	**Wufeng Townshi**	**0.90**	**287**	*e*P		**Pb**		**01 17 49.9**	**+0.3**
	baz=294								
EGFH	**Guangfu**	**0.91**	**220**	*e*P		**Pb**		**01 17 49.1**	**-0.5**
	baz=200								
OWD	**Renai**	**0.91**	**243**	⇑P		**Pb**		**01 17 49.5**	**-0.2**
	baz=240								
OWD				*e*S		**Sb**		**01 18 02.1**	**+0.5**
	baz=240								
WUSB	**Renai**	**0.94**	**247**	⇓P		**Pb**		**01 17 50.0**	**-0.2**
	baz=235								
WUSB				*e*S		**Sg**		**01 18 03.5**	**+0.5**
	baz=235								
LIOB	**Emei**	**0.99**	**286**	*e*P		**Pg**		**01 17 52.0**	**+0.4**
	baz=293								
NCU	**National Centr**	**1.00**	**307**	*e*P		**Pg**		**01 17 53.0**	**+1.4**
	baz=317								
NCU				*e*S		**Sg**		**01 18 07.0**	**+2.2**
	baz=317								
NCUH	**Zhongli**	**1.00**	**307**	*e*P		**Pg**		**01 17 52.8**	**+1.2**
	baz=317								
NCUH				*e*S		**Sg**		**01 18 07.3**	**+2.6**
	baz=317								
TWY	**Chenhua**	**1.00**	**335**	*e*P		**Pg**		**01 17 52.4**	**+0.7**
	baz=340								
TWY				*e*S		**Sb**		**01 18 04.2**	**+0.2**
	baz=340								
NSTT	**Nanjuang**	**1.00**	**285**	*e*P		**Pn**		**01 17 51.7**	**0.0**
	baz=292								
WHP	**Taichung City**	**1.02**	**265**	*e*P		**Pn**		**01 17 52.2**	**+0.2**
	baz=271								
WHP				*e*S		**Sn**		**01 18 05.5**	**-0.5**
	baz=271								
VWDT	**VWDT**	**1.04**	**234**	⇑P		**Pb**		**01 17 51.5**	**-0.4**
	baz=231								
VWDT				S		**Sg**		**01 18 06.9**	**+0.8**
	baz=231								
HGSD	**Ruisui**	**1.05**	**214**	*e*P		**Pb**		**01 17 51.5**	**-0.6**
	baz=196								
SBCB	**Hsinchu**	**1.07**	**294**	*e*P		**Pn**		**01 17 52.8**	**+0.3**
	baz=296								
SBCB				*e*S		**Sg**		**01 18 09.3**	**+2.3**
	baz=296								
WPL	**Puli Township**	**1.07**	**251**	*i* P		**Pb**		**01 17 52.5**	**+0.1**
	baz=238								
DPDB	**Guoxing**	**1.09**	**252**	*i* P		**Pn**		**01 17 53.0**	**+0.1**
	baz=240								
EHY	**Hungye**	**1.09**	**218**	*e*P		**Pn**		**01 17 51.5**	**-1.4**
	baz=215								
WCS	**Beigang Elemen**	**1.09**	**254**	*e*P		**Pn**		**01 17 52.9**	**-0.1**
	baz=245								
WCS				*e*S		**Sg**		**01 18 08.5**	**+0.6**
	baz=245								
SSLB	**Suanglung**	**1.17**	**240**	⇑P		**Pn**		**01 17 53.4**	**-0.6**
	baz=239								
SMLT	**Sun Moon Lake**	**1.17**	**246**	P		**Pn**		**01 17 54.0**	**0.0**
	baz=234								
SMLT				*e*S		**Sg**		**01 18 10.3**	**+0.1**
	baz=234								
NMLH	**Miaoli**	**1.17**	**279**	*e*P		**Pg**		**01 17 55.1**	**+0.1**
	baz=279								
NMLH				*e*S		**Sg**		**01 18 11.9**	**+1.6**
	baz=279								
NSY	**Sanyi**	**1.19**	**273**	*e*P		**Pg**		**01 17 55.4**	**+0.1**
	baz=273								
NSY				*e*S		**Sg**		**01 18 13.0**	**+2.2**
	baz=273								
TYC	**Yuchr**	**1.19**	**247**	P		**Pn**		**01 17 54.3**	**0.0**
	baz=235								
YULB	**Yu-li**	**1.20**	**216**	P		**Pn**		**01 17 52.6**	**-1.7**
	baz=213								
EYUL	**Yuli**	**1.22**	**214**	*e*P		**Pn**		**01 17 54.5**	**-0.2**
	baz=226								
TWF1	**Yuli**	**1.23**	**215**	*e*P		**Pn**		**01 17 53.5**	**-1.3**
	baz=226								
TCU	**Taichung**	**1.28**	**260**	*e*P		**Pg**		**01 17 57.0**	**-0.1**
	baz=259								
TCU				*e*S		**Sg**		**01 18 15.4**	**+1.5**
	baz=259								
WWF	**Wufeng**	**1.29**	**256**	*e*P		**Pg**		**01 17 58.0**	**+0.8**
	baz=255								
WDJ	**Dajia District**	**1.30**	**269**	*e*P		**Pb**		**01 17 56.6**	**+0.3**
	baz=270								
WJS	**Zhushan**	**1.33**	**246**	*e*P		**Pb**		**01 17 57.2**	**+0.2**
	baz=233								
WJS				*e*S		**Sg**		**01 18 16.8**	**+1.3**
	baz=233								
FULB	**Fuli**	**1.36**	**211**	*e*P		**Pn**		**01 17 56.7**	**+0.1**
	baz=194								
WCHH	**Zhanghua**	**1.40**	**258**	*e*P		**Pb**		**01 17 58.8**	**+0.7**
	baz=258								
WCHH				*e*S		**Sg**		**01 18 18.7**	**+1.0**
	baz=258								
ALS	**Alishan**	**1.43**	**234**	P		**Pb**		**01 17 58.6**	**-0.2**
	baz=231								
CHN5	**Tsauling**	**1.48**	**239**	⇓P		**Pb**		**01 17 59.5**	**0.0**
	baz=221								
CHN5				S		**Sg**		**01 18 20.4**	**+0.3**
	baz=221								
ELDTW	**Lidau**	**1.52**	**219**	*e*P		**Pn**		**01 17 57.5**	**-1.3**
	baz=204								
IRIF	**Iriomote-Funau**	**1.52**	**91**	P		**Pn**		**01 17 58.1**	**-0.7**
IRIF				*e*S		**Sn**		**01 18 17.1**	**-1.1**
WDLH	**Douliu**	**1.55**	**244**	*e*P		**Pb**		**01 18 00.7**	**+0.1**
	baz=243								
EDH	**Donghe**	**1.55**	**207**	*e*P		**Pn**		**01 17 57.7**	**-1.5**
	baz=190								
EDH				*e*S		**Sn**		**01 18 16.2**	**-2.8**
	baz=190							

	baz=215							
EAST	**Anshuo**	**2.27**	**210**	*e*P		**Pn**	**01 18 10.6**	**+1.5**
	baz=195							
SCZT	**Fangliau**	**2.39**	**214**	*e*P		**Pn**	**01 18 12.2**	**+1.4**
	baz=199							
SLIU	**Shizi**	**2.44**	**209**	*e*P		**Pn**	**01 18 10.9**	**-0.5**
	baz=197							
VWUC	**VWUC**	**2.46**	**285**	*e*P		**Pn**	**01 18 11.0**	**-0.6**
	baz=287							
VWUC				*e*S		**Sn**	**01 18 40.3**	**-1.0**
	baz=287							
WDGT	**Dungji**	**2.46**	**244**	*e*P		**Pn**	**01 18 12.5**	**+0.8**
	baz=243							

IDC ***24*** *01:19:53.9±63.0, 14°.96S×178°.82E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.9/3, Error ellipse: s-maj=1142.0km s-min=177.6km az=73.0*
NOU ***24*** *01:21:34.7, 18°.63S×168°.92E, h151km, MLv4.0/17, Vanuatu Islands*
ISC 24 01:21:34.6±2.1, 18°.64S±0°.06×169°.0E±0°.2, h150km, n16, σ1s01/16, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RTV	**Rentapao**	**1.00**	**328**	P		**Pn**	**01 22 00.1**	**+0.7**
RTV	**Rentapao**	**1.00**	**328**	P		**Pn**	**01 21 59.2**	**-0.2**
DVP	**Devils Point**	**1.19**	**320**	P		**Pn**	**01 22 00.7**	**-0.4**
DVP	**Devils Point**	**1.19**	**320**	P		**Pn**	**01 22 01.2**	**+0.1**
LIFNC	**LIFOU**	**2.69**	**218**	P		**Pn**	**01 22 16.3**	**-1.7**
MARNC	**Mare, Loyalty**	**2.96**	**198**	P		**Pn**	**01 22 20.5**	**-1.0**
SANVU	**Saraoutou**	**3.61**	**331**	P		**Pn**	**01 22 28.6**	**-1.2**
YATNC	**Mamie plateau,**	**3.93**	**210**	P		**Pn**	**01 22 32.7**	**-1.2**
DZM	**Mont Dzumac**	**4.16**	**215**	P		**Pn**	**01 22 36.9**	**-0.2**
OUENC	**Ouen Island, N**	**4.26**	**208**	P		**Pn**	**01 22 38.6**	**+0.3**
NOUC	**Port Laguerre**	**4.26**	**216**	P		**Pn**	**01 22 38.9**	**+0.6**
ONTNC	**Ouen Toro**	**4.35**	**213**	P		**Pn**	**01 22 40.2**	**+0.7**
KOUNC	**Koumac, New Ca**	**4.82**	**246**	P		**Pn**	**01 22 45.4**	**-0.3**
STKA	**Stephens Creek**	**27.97**	**237**	P		**P**	**01 27 13.2**	**+1.9**
	1.1nm,0.6s,baz=94,slow=11,SNR=1.5							
WRA	**Warramunga Arr**	**32.70**	**262**	P		**P**	**01 27 52.3**	**-0.7**
	0.3nm,0.6s,baz=98,slow=6.8,SNR=1.9							
ASAR	**Alice Springs**	**33.05**	**255**	P		**P**	**01 27 55.9**	**-0.2**
	2.4nm,0.4s,baz=82,slow=8.7,SNR=53							

IDC ***24*** *01:36:41.1±2.1, 19°.43N×109°.10W, h0km, mb3.4/5, mb1 3.8/8, mb1mx3.6/50, mbtmp3.5/8, ML3.1/3, MS3.3/8, Ms1 3.3/8, ms1mx3.1/39, Error ellipse: s-maj=59.3km s-min=24.0km az=63.0*
ISC 24 01:36:45.1±1.9, 19°.4N±0°.2×109°.1W±0°.2, h26km, n16, σ0s64/8, mb3.4/4, MS3.3/3, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LPIG	**La Paz**	**4.77**	**347**	LR	LR		01 39 23.2	
	comp=Z,265nm,21.1s,baz=182,slow=34							
TXAR	**Lajitas Array**	**11.02**	**26**	Pn		**Pn**	**01 39 20.9**	**-0.2**
	0.0nm,0.3s,baz=196,slow=13,SNR=6.8							
TXAR				LR	LR		01 43 05.4	
	comp=Z,134nm,19.9s,baz=27,slow=35							
CMIG	**Matias Romero**	**13.70**	**98**	Pn		**Pn**	**01 39 58.0**	**+0.2**
	0.2nm,0.3s,baz=299,slow=11,SNR=4.1							
CMIG				LR	LR		01 44 40.1	
	comp=Z,94nm,19.4s,baz=314,slow=35							
PFO	**Pinyon Flats O**	**15.57**	**337**	LR	LR		01 45 24.8	
	comp=Z,127nm,19.8s,baz=144,slow=34							
ANMO	**Albuquerque**	**15.62**	**8**	Pn		**Pn**	**01 40 25.0**	**+1.3**
	0.0nm,0.3s,baz=260,slow=4.7,SNR=2.2							
ANMO				LR	LR		01 45 53.3	
	comp=Z,197nm,19.4s,baz=112,slow=35							
NVAR	**Mina Array Bea**	**20.54**	**339**	P		**P**	**01 41 21.8**	**-0.1**
	0.5nm,0.7s,baz=162,slow=10,SNR=2.5							
ELK	**Elko**	**21.88**	**347**	P		**P**	**01 41 36.1**	**-0.2**
	0.6nm,0.3s,baz=91,slow=9.1,SNR=4.2							
PDAR	**Pinedale Array**	**23.26**	**359**	P		**P**	**01 41 50.4**	**-0.4**
	0.2nm,0.5s,baz=162,slow=9.3,SNR=4.1							
TKL	**Tuckaleechee C**	**27.54**	**49**	LR		LR	01 54 01.4	
	comp=Z,71nm,20.6s,baz=186,slow=38							
BBB	**Bella Bella**	**35.90**	**340**	LR		LR	01 57 36.4	
	comp=Z,86nm,20.4s,baz=38,slow=35							
YKA	**Yellowknife Ar**	**43.18**	**356**	P		**P**	**01 44 43.2**	**-0.2**
	0.6nm,0.9s,baz=173,slow=7.9,SNR=8.3							
RES	**Resolute Bay**	**55.80**	**5**	LR		LR	02 11 43.7	
	comp=Z,25nm,18.4s,baz=56,slow=38							
H03N2	**Juan Fernandez**	**59.95**	**151**	T		T	02 52 03.8	
	baz=329							
H03N1	**Juan Fernandez**	**59.96**	**151**	T		T	02 52 23.1	
	baz=329,slow=74							
H03N3	**Juan Fernandez**	**59.97**	**151**	T		T	02 52 14.7	
	baz=329,slow=74							
CPUP	**Villa Florida**	**67.78**	**130**	P		**P**	**01 47 40.9**	**0.0**
	1.4nm,0.9s,baz=318,slow=0.2,SNR=4.1							

IDC 24 01:39:09.9±2.1, 4°.60S×144°.03E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.5/50, mbtmp3.7/5, ML3.8/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/58, Error ellipse: s-maj=38.9km s-min=27.5km az=72.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**5.70**	**147**	Pn		Pn	01 40 37.8	+1.9
	1.8nm,0.3s,baz=324,slow=3.6,SNR=4.7							
PMG				Sn		Sn	01 41 44.1	+1.9
	1.3nm,0.3s,baz=351,slow=19,SNR=2.0							
PMG				LR		LR	01 43 16.4	
	comp=Z,51nm,20.1s,baz=100,slow=43							
WRA	**Warramunga Arr**	**17.94**	**211**	P		Pn	01 43 19.7	-1.3
	0.3nm,0.3s,baz=32,slow=11,SNR=7.8							
ASAR	**Alice Springs**	**21.33**	**206**	P		P	01 43 57.3	-1.4
	1.0nm,0.5s,baz=38,slow=8.6,SNR=16							
FITZ	**Fitzroy Crossi**	**22.44**	**232**	P		P	01 44 09.2	-1.4
	3.8nm,0.5s,baz=42,slow=9.6,SNR=22							
MKAR	**Makanchi Array**	**74.55**	**321**	P		P	01 50 52.7	+2.0
	0.1nm,0.4s,baz=121,slow=7.6,SNR=2.3							

NEIC ***24*** *01:42:59.8±1.4, 57°.60N±0°.04×154°.54W±0°.08, h68km±9km, Error ellipse: s-maj=6.2km s-min=5.4km az=61.0*
IDC ***24*** *01:42:59.2±2.1, 57°.76N×154°.74W, h58km±21km, mb3.6/18, mb1 3.7/21, mb1mx3.5/77, mbtmp3.9/21, ML3.8/3, MS3.8/1, Ms1 3.8/1, ms1mx2.5/97, Error ellipse: s-maj=32.9km s-min=18.8km az=175.0*
AEIC ***24*** *01:43:01±1.6, 57°.60N±0°.03×154°.52W±0°.06, h58km±7km, ML3.5, ML3.6/62(NEIC), Error ellipse: s-maj=5.5km s-min=4.0km az=51.0*
ISC 24 01:42:59.7±0.8, 57°.64N±0°.04×154°.47W±0°.04, h70km±8km, n218, σ0s97/214, mb3.9/17, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CAHL	**Cahill**	**0.61**	**314**			**Pn**	**01 43 13.8**	**+0.1**
KJL	**Kejulik**	**0.72**	**306**			**Pn**	**01 43 15.2**	**+0.2**
ACHA	**Angle Creek He**	**0.73**	**322**			**Pn**	**01 43 15.4**	**+0.3**
ACHA						**Sn**	**01 43 26.5**	**0.0**
KCG	**Knife Ck. Glac**	**0.76**	**333**			**Pn**	**01 43 15.8**	**+0.5**
OHAK	**Old Harbor**	**0.76**	**122**	Pn		**Pn**	**01 43 15.5**	**+0.2**
OHAK	**Old Harbor**	**0.76**	**122**	P		**Pn**	**01 43 15.5**	**+0.2**
	baz=300							
ANCK	**Angle Creek**	**0.79**	**316**			**Pn**	**01 43 15.9**	**+0.2**
KDAK	**Kodiak Island**	**1.02**	**81**	P		**Pn**	**01 43 19.1**	**+0.7**
	128nm,0.3s,baz=249,slow=1.9,SNR=2103							
KDAK				LR		LR	01 43 19.6	
	comp=Z,48nm,19.5s,baz=6.4,slow=18							
KDAK				S		**Sn**	**01 43 33.4**	**+0.9**
KDAK	**Kodiak Island**	**1.02**	**81**	Pn		**Pn**	**01 43 19.2**	**+0.7**
KDAK				IAML			01 43 34.5	
	1μm,0.4s							
KDAK				IAML			01 43 34.5	
	2μm,0.7s							
SII	**Sitkinak Islan**	**1.09**	**172**			**Pn**	**01 43 19.4**	**+0.1**
SII	**Sitkinak Islan**	**1.09**	**172**	P		**Pn**	**01 43 19.4**	**+0.1**
	baz=350							
Q19K	**Cape Douglas,**	**1.37**	**18**			**Pn**	**01 43 23.6**	**+0.6**
Q19K	**Cape Douglas,**	**1.37**	**18**			**Sn**	**01 43 42.0**	**+1.5**
Q19K	**Cape Douglas,**	**1.37**	**18**	IAML			01 43 43.6	
	comp=E,895nm,0.8s							
Q19K				IAML			01 43 47.3	
	comp=N,886nm,0.7s							
Q19K	**Cape Douglas,**	**1.37**	**18**	P		**Pn**	**01 43 23.9**	**+1.0**
	baz=199							
Q19K				S		**Sn**	**01 43 42.0**	**+1.5**
	baz=199							
P18K	**Big Mountain,**	**1.81**	**348**			**Pn**	**01 43 29.0**	**+0.2**
P18K						**Sn**	**01 43 50.8**	**0.0**
P18K	**Big Mountain,**	**1.81**	**348**	P		**Pn**	**01 43 29.0**	**+0.2**
	baz=168							
P18K				S		**Sn**	**01 43 50.8**	**0.0**
	baz=168							
AUQ	**Augustine Qik'**	**1.81**	**17**			**Pn**	**01 43 30.3**	**+1.5**
AUH	**Augustine H**	**1.82**	**17**			**Pn**	**01 43 30.6**	**+1.7**
AUL	**Augustine Lava**	**1.83**	**17**			**Pn**	**01 43 30.7**	**+1.6**
AU22	**Augustine Moun**	**1.84**	**18**			**Pn**	**01 43 30.6**	**+1.5**
CHIR	**Chirikof Islan**	**1.93**	**200**	Pn		**Pn**	**01 43 30.1**	**-0.2**
CHIR	**Chirikof Islan**	**1.93**	**200**			**Sn**	**01 43 52.0**	**-1.5**
CHIR	**Chirikof Islan**	**1.93**	**200**	IAML			01 43 52.7	
	comp=E,391nm,0.3s							
CHIR				IAML			01 43 53.1	
	comp=N,452nm,0.3s							
CHIR	**Chirikof Islan**	**1.93**	**200**	P		**Pn**	**01 43 29.7**	**-0.6**
	baz=18							
CHIR				S		**Sn**	**01 43 52.0**	**-1.5**
	baz=18							
OPT	**Oil Point**	**2.12**	**17**			**Pn**	**01 43 34.6**	**+1.6**
OPT	**Oil Point**	**2.12**	**17**	P		**Pn**	**01 43 34.6**	**+1.6**
	baz=199							
P19K	**Oil Pt**	**2.12**	**17**			**Pn**	**01 43 33.5**	**+0.4**
P19K	**Oil Pt**	**2.12**	**17**			**Sn**	**01 44 00.2**	**+1.7**
P19K	**Oil Pt**	**2.12**	**17**	IAML			01 44 00.6	
	comp=E,307nm,0.5s							
P19K				IAML			01 44 01.2	
	comp=N,272nm,0.4s							
P19K	**Oil Pt**	**2.12**	**17**	P		**Pn**	**01 43 34.5**	**+1.4**
	baz=199							
P19K				S		**Sn**	**01 44 00.2**	**+1.7**
	baz=199							
ANPB	**Aniakchak Plen**	**2.23**	**250**			**Pn**	**01 43 34.8**	**+0.2**
O18K	**Koktuh Hills**	**2.26**	**351**			**Pn**	**01 43 35.1**	**+0.3**
O18K	**Koktuh Hills**	**2.26**	**351**			**Sn**	**01 44 02.0**	**+0.3**
O18K	**Koktuh Hills**	**2.26**	**351**	IAML			01 44 02.8	
	comp=E,178nm,1.0s							
O18K				IAML			01 44 03.2	
	comp=N,182nm,0.9s							
O18K	**Koktuh Hills**	**2.26**	**351**	P		**Pn**	**01 43 35.4**	**+0.6**
	baz=171							
O18K				S		**Sn**	**01 44 02.0**	**+0.3**
	baz=171							
HOM	**Homer**	**2.51**	**35**			**Pn**	**01 43 39.3**	**+1.1**
HOM	**Homer**	**2.51**	**35**	P		**Pn**	**01 43 39.7**	**+1.5**
	baz=217							
CNPM	**China Poot**	**2.54**	**40**			**Pn**	**01 43 39.1**	**+0.4**
CNPM	**China Poot**	**2.54**	**40**			**Sn**	**01 44 08.8**	**+0.3**
CNPM	**China Poot**	**2.54**	**40**	IAML			01 44 09.8	
	comp=E,170nm,0.3s							
CNPM				IAML			01 44 10.2	
	comp=N,182nm,0.5s							
O19K	**Port Alsworth**	**2.57**	**2**			**Pn**	**01 43 39.6**	**+0.6**
O19K				IAML			01 44 10.2	
	comp=N,412nm,0.5s							
O19K	**Port Alsworth**	**2.57**	**2**	P		**Pn**	**01 43 40.1**	**+1.1**
	baz=182							
O20K	**Slope Mountain**	**2.63**	**21**			**Pn**	**01 43 41.4**	**+1.4**
O20K	**Slope Mountain**	**2.63**	**21**	P		**Pn**	**01 43 41.4**	**+1.4**
	baz=202							
BRLK	**Bradley Lake**	**2.84**	**40**	Pn		**Pn**	**01 43 42.7**	**-0.1**
BRSE	**Bradley Lake S**	**2.87**	**41**			**Pn**	**01 43 43.7**	**+0.6**
BRSE	**Bradley Lake S**	**2.87**	**41**	P		**Pn**	**01 43 43.7**	**+0.6**
	baz=224							
RED	**Redoubt Volcan**	**2.93**	**17**			**Pn**	**01 43 45.2**	**+1.2**
RED						**Sn**	**01 44 19.7**	**+1.7**
VNHG	**Veniaminof 1**	**2.94**	**243**			**Pn**	**01 43 44.6**	**+0.5**
RSO	**Redoubt South**	**2.97**	**17**			**Pn**	**01 43 46.3**	**+1.7**
RDWB	**Redoubt West**	**2.98**	**16**			**Pn**	**01 43 46.1**	**+1.3**
RDJH	**Redoubt Jeurge**	**3.09**	**15**			**Pn**	**01 43 47.6**	**+1.4**
VNFG	**Fog Glacier, M**	**3.09**	**246**			**Pn**	**01 43 46.7**	**+0.5**
VNFG	**Fog Glacier, M**	**3.09**	**246**	P		**Pn**	**01 43 46.7**	**+0.5**
	baz=62							
N18K	**Kilae Creek**	**3.14**	**347**			**Pn**	**01 43 47.5**	**+0.7**
N18K	**Kilae Creek**	**3.14**	**347**	P		**Pn**	**01 43 47.5**	**+0.7**
	baz=166							
N19K	**Bonanza Creek**	**3.19**	**360**			**Pn**	**01 43 48.8**	**+1.2**
N19K	**Bonanza Creek**	**3.19**	**360**	IAML			01 44 37.0	
	comp=E,110nm,0.9s							
N19K	**Bonanza Creek**	**3.19**	**360**	P		**Pn**	**01 43 48.8**	**+1.2**
	baz=180							
SVW2	**Sparrevohn**	**3.52**	**351**			**Pn**	**01 43 52.7**	**+0.7**
CAPN	**Captain Cook N**	**3.58**	**27**	Pn		**Pn**	**01 43 54.3**	**+1.6**
SEW	**Seward**	**3.59**	**44**			**Pn**	**01 43 52.7**	**-0.2**
SEW	**Seward**	**3.59**	**44**	P		**Pn**	**01 43 52.7**	**-0.2**
	baz=228							
SLKM	**Skilak Lake**	**3.62**	**36**			**Pn**	**01 43 53.4**	**+0.1**
O22K	**Pioneer Landing**	**3.76**	**39**			**Pn**	**01 43 56.3**	**+1.1**
CKN	**Chakachatna No**	**3.79**	**17**			**Pn**	**01 43 57.1**	**+1.5**
SPCG	**Spurr Capps Gl**	**3.88**	**18**			**Pn**	**01 43 58.1**	**+1.2**
SDPT	**Sand Point**	**4.04**	**238**			**Pn**	**01 43 58.8**	**-0.2**
SDPT	**Sand Point**	**4.04**	**238**	IAML			01 44 48.4	
	comp=N,101nm,1.0s							
SDPT				IAML			01 45 25.4	
	comp=E,139nm,3.1s							
SDPT	**Sand Point**	**4.04**	**238**	P		**Pn**	**01 43 58.8**	**-0.2**
	baz=53							
STLK	**Strandline Lak**	**4.10**	**18**			**Pn**	**01 44 01.1**	**+1.2**
RC01	**Rabbit Creek A**	**4.23**	**33**			**Pn**	**01 44 02.2**	**+0.6**
RC01	**Rabbit Creek A**	**4.23**	**33**	IAML			01 44 51.4	
	comp=E,104nm,0.3s							
RC01				IAML			01 44 52.5	
	comp=N,89nm,0.3s							
RC01	**Rabbit Creek A**	**4.23**	**33**	P		**Pn**	**01 44 02.2**	**+0.6**
	baz=217							
M19K	**Big River Lodg**	**4.28**	**1**			**Pn**	**01 44 03.6**	**+1.3**
M19K	**Big River Lodg**	**4.28**	**1**	P		**Pn**	**01 44 03.6**	**+1.3**
	baz=181							
PWL	**Port Wells**	**4.51**	**42**			**Pn**	**01 44 05.5**	**0.0**
PWL	**Port Wells**	**4.51**	**42**	IAML			01 44 57.4	
	comp=N,96nm,0.6s							
PWL				IAML			01 44 58.6	
	comp=E,82nm,0.3s							
L19K	**White Mountain**	**4.57**	**358**			**Pn**	**01 44 07.9**	**+1.7**
L19K	**White Mountain**	**4.57**	**358**	IAML			01 45 25.1	
	comp=E,39nm,1.2s							
L19K	**White Mountain**	**4.57**	**358**	P		**Pn**	**01 44 07.9**	**+1.7**
	baz=178							
M22K	**Willow**	**4.68**	**26**			**Pn**	**01 44 08.8**	**+1.0**
M22K	**Willow**	**4.68**	**26**	P		**Pn**	**01 44 08.8**	**+1.0**
	baz=210							
PS4A	**Pavlof South-4**	**4.69**	**244**			**Pn**	**01 44 08.2**	**+0.2**
PMR	**Palmer**	**4.81**	**32**			**Pn**	**01 44 09.3**	**-0.1**
PMR	**Palmer**	**4.81**	**32**	IAML			01 45 03.6	
	comp=N,33nm,0.3s							
PMR				IAML			01 45 05.4	
	comp=E,32nm,0.3s							
PMR	**Palmer**	**4.81**	**32**	P		**Pn**	**01 44 09.3**	**-0.1**
	baz=217							
L20K	**Farewell, AK**	**4.87**	**3**			**Pn**	**01 44 11.7**	**+1.4**
L20K	**Farewell, AK**	**4.87**	**3**	P		**Pn**	**01 44 11.7**	**+1.4**
	baz=184							
KNK	**Knik Glacier**	**4.87**	**36**			**Pn**	**01 44 10.2**	**-0.2**
KNK	**Knik Glacier**	**4.87**	**36**	IAML			01 45 08.0	
	comp=N,55nm,0.4s							
KNK				IAML			01 45 12.0	
	comp=E,61nm,0.4s							
KNK	**Knik Glacier**	**4.87**	**36**	P		**Pn**	**01 44 10.2**	**-0.2**
	baz=222							
GLI	**Glacier Island**	**4.99**	**46**			**Pn**	**01 44 11.5**	**-0.5**
GLI	**Glacier Island**	**4.99**	**46**	IAML			01 45 08.0	
	comp=N,45nm,0.6s							
GLI				IAML			01 45 10.4	
	comp=E,53nm,0.3s							
GLI	**Glacier Island**	**4.99**	**46**	P		**Pn**	**01 44 11.5**	**-0.5**
	baz=232							
GHO	**Glory Hole Cre**	**5.01**	**32**			**Pn**	**01 44 13.4**	**+1.1**
GHO				IAML			01 45 08.2	
	comp=E,67nm,0.3s							
GHO				IAML			01 45 12.4	
	comp=N,67nm,0.5s							
FID	**Port Fidalgo**	**5.16**	**49**			**Pn**	**01 44 13.5**	**-0.8**
FID	**Port Fidalgo**	**5.16**	**49**	IAML			01 45 13.1	
	comp=N,63nm,0.2s							
FID				IAML			01 45 14.8	
	comp=E,55nm,0.5s							
SML	**Sawmill**	**5.21**	**34**			**Pn**	**01 44 14.9**	**-0.2**
SML	**Sawmill**	**5.21**	**34**	IAML			01 45 18.3	
	comp=N,37nm,0.5s							
SML				IAML			01 45 37.9	
	comp=E,27nm,1.7s							
SML	**Sawmill**	**5.21**	**34**	P		**Pn**	**01 44 14.9**	**-0.2**
	baz=219							
CUT	**Chulitna**	**5.23**	**22**			**Pn**	**01 44 16.7**	**+1.5**
JPK	**Jack Peak**	**5.29**	**46**			**Pn**	**01 44 15.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**5.36**	**53**			**Pn**	**01 44 17.0**	**0.0**
EYAK	**Cordova Ski Ar**	**5.36**	**53**	P		**Pn**	**01 44 17.0**	**0.0**
	baz=241							
TTA	**Tatalina**	**5.37**	**352**			**Pn**	**01 44 17.8**	**+0.6**
TTA	**Tatalina**	**5.37**	**352**	P		**Pn**	**01 44 17.8**	**+0.6**
	baz=171							
PPLA	**Purkeypile**	**5.40**	**11**	Pn		**Pn**	**01 44 19.5**	**+1.8**
SCM	**Sheep Creek Mo**	**5.55**	**38**			**Pn**	**01 44 19.9**	**+0.2**
DIV	**Divide**	**5.66**	**48**			**Pn**	**01 44 21.5**	**+0.3**
KAIM	**Kayak Island**	**5.71**	**62**	Pn		**Pn**	**01 44 23.0**	**+1.1**
K20K	**Telida**	**5.75**	**2**			**Pn**	**01 44 23.7**	**+1.4**
K20K	**Telida**	**5.75**	**2**	P		**Pn**	**01 44 23.7**	**+1.4**
	baz=182							
KLU	**Klutina**	**5.82**	**45**			**Pn**	**01 44 23.5**	**+0.1**
KLU	**Klutina**	**5.82**	**45**	P		**Pn**	**01 44 23.5**	**+0.1**
	baz=232							
GOAT	**Goat Mountain**	**5.82**	**55**			**Pn**	**01 44 23.9**	**+0.5**
CAST	**Castle Rocks**	**5.92**	**10**	Pn		**Pn**	**01 44 26.3**	**+1.6**
HMT	**Hamilton**	**5.93**	**59**	Pn		**Pn**	**01 44 24.9**	**+0.1**
WAT1	**Susitna Watana**	**5.99**	**27**			**Pn**	**01 44 25.6**	**0.0**
WAT1	**Susitna Watana**	**5.99**	**27**	P		**Pn**	**01 44 25.6**	**0.0**
	baz=212							
WAT6	**Susitna Watana**	**5.99**	**31**			**Pn**	**01 44 25.7**	**-0.2**
WAT6	**Susitna Watana**	**5.99**	**31**	P		**Pn**	**01 44 25.7**	**-0.2**
	baz=217							
NICHA	**Nichawak Mount**	**6.03**	**60**			**Pn**	**01 44 26.7**	**+0.5**
BMRM	**Bremner River**	**6.06**	**52**			**Pn**	**01 44 26.6**	**0.0**
BMRM	**Bremner River**	**6.06**	**52**	P		**Pn**	**01 44 26.6**	**0.0**
	baz=241							
SUCK	**Suckling Hills**	**6.06**	**62**	Pn		**Pn**	**01 44 27.3**	**+0.6**
M24K	**Tolsona, Glenn**	**6.13**	**39**			**Pn**	**01 44 28.2**	**+0.6**
M24K	**Tolsona, Glenn**	**6.13**	**39**	P		**Pn**	**01 44 28.2**	**+0.6**
	baz=227							
TRF	**Thorofare Moun**	**6.19**	**18**			**Pn**	**01 44 28.7**	**+0.2**
TRF	**Thorofare Moun**	**6.19**	**18**	P		**Pn**	**01 44 28.7**	**+0.2**
	baz=201							
KTH	**Kantishna Hill**	**6.19**	**15**			**Pn**	**01 44 28.6**	**+0.1**
BERG	**Berg Lake**	**6.21**	**59**			**Pn**	**01 44 28.9**	**+0.2**
GRIN	**Grindle Hills**	**6.35**	**61**			**Pn**	**01 44 31.4**	**+0.8**
N25K	**Chitina, Valde**	**6.40**	**47**			**Pn**	**01 44 31.6**	**+0.3**
N25K	**Chitina, Valde**	**6.40**	**47**	P		**Pn**	**01 44 31.6**	**+0.3**
	baz=236							
RND	**Reindeer**	**6.42**	**23**			**Pn**	**01 44 31.5**	**-0.1**
KHIT	**Khitrov Hills**	**6.44**	**59**			**Pn**	**01 44 32.2**	**+0.4**
DHY	**Denali Highway**	**6.49**	**30**			**Pn**	**01 44 33.1**	**+0.5**
DHY	**Denali Highway**	**6.49**	**30**	P		**Pn**	**01 44 33.1**	**+0.5**
	baz=216							
SNH	**Sunshine Point**	**6.54**	**62**	Pn		**Pn**	**01 44 33.8**	**+0.6**
J20K	**Nowinta River**	**6.57**	**1**			**Pn**	**01 44 34.6**	**+1.1**
WAX	**Waxell Ridge**	**6.63**	**60**			**Pn**	**01 44 35.0**	**+0.6**
GLB	**Gilahina Butte**	**6.63**	**50**			**Pn**	**01 44 34.6**	**+0.2**
VRDI	**Verde Repeater**	**6.67**	**53**			**Pn**	**01 44 35.6**	**+0.4**
HARP	**HAARP**	**6.68**	**40**			**Pn**	**01 44 36.1**	**+1.1**
HARP	**HAARP**	**6.68**	**40**	P		**Pn**	**01 44 36.1**	**+1.1**
	baz=228							
MCK	**McKinley**	**6.69**	**22**			**Pn**	**01 44 35.6**	**+0.3**
MCK	**McKinley**	**6.69**	**22**	P		**Pn**	**01 44 35.6**	**+0.3**
	baz=206							
BPAW	**Bear Paw Mtn.**	**6.71**	**13**			**Pn**	**01 44 35.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**6.71**	**13**	P		**Pn**	**01 44 35.8**	**+0.4**
	baz=196							
TGL	**Tana Glacier**	**6.75**	**58**			**Pn**	**01 44 36.8**	**+0.7**
ISLE	**Juniper Island**	**6.92**	**59**			**Pn**	**01 44 39.0**	**+0.5**
MCARA	**McCarthy VSAT**	**6.93**	**52**			**Pn**	**01 44 38.9**	**+0.5**
MCARA	**McCarthy VSAT**	**6.93**	**52**	P		**Pn**	**01 44 38.9**	**+0.5**
	baz=242							
PAX	**Paxson**	**6.97**	**36**			**Pn**	**01 44 39.1**	**0.0**
PAX	**Paxson**	**6.97**	**36**	P		**Pn**	**01 44 39.1**	**0.0**
	baz=224							
BAGL	**Bagley Icefiel**	**7.00**	**61**			**Pn**	**01 44 40.2**	**+0.8**
KIAG	**Kiagna River**	**7.03**	**57**			**Pn**	**01 44 40.5**	**+0.5**
BALM	**Baldy**	**7.08**	**56**			**Pn**	**01 44 40.9**	**+0.3**
PTPK	**Patty Peak**	**7.08**	**55**			**Pn**	**01 44 41.4**	**+0.6**
GRNC	**Granite Creek**	**7.23**	**59**			**Pn**	**01 44 43.5**	**+0.7**
BARN	**Barnard Glacie**	**7.39**

*IDC **24** 01:46:55.5±1.0, 46˚.13N×53˚.44E, h0km, mb3.3/7, mb1 3.5/16, mb1mx3.4/47, mbtmp3.4/16, ML3.4/8, Error ellipse: s-maj=26.3km s-min=9.4km az=152.0*

ISC 24 01:46:55.7±0.6, **46˚.16N**±0˚.06×**53˚.41E**±0˚.05, **h10**km, **n20, σ2s17/28, mb3.3/7, 3C-2D, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKTO	**Aktyubinsk**	**5.27**	**34**	Pn	**Pn**	**01 48 16.4**	**+1.9**
	0.6nm,0.3s,baz=203,slow=11,SNR=9.1						
AKTO				Sn	**Sn**	**01 49 16.0**	**+0.8**
	0.8nm,0.3s,baz=216,slow=19,SNR=9.0						
AKTO	**Aktyubinsk**	**5.27**	**34**	⇑Pn	**Pn**	**01 48 15.1**	**+0.7**
	0.6nm,0.6s						
AKTO				⇑Sn	**Sn**	**01 49 15.8**	**+0.6**
	2.2nm,0.5s						
AKTO				⇓Lg	Lg	01 49 42.1	
	5.1nm,0.8s						
AB31	**Akbulak array**	**5.39**	**53**	Pn	**Pn**	**01 48 18.9**	**+2.8**
	0.2nm,0.2s,baz=238,slow=13,SNR=19						
AB31				Pg	**Pg**	**01 48 36.6**	**-2.3**
	0.6nm,0.3s,baz=227,slow=17,SNR=4.8						
AB31				⇓Sn	**Sn**	**01 49 20.9**	**+2.8**
	1.3nm,0.3s,baz=242,slow=23,SNR=4.7						
AB31				⇑Lg	Lg	01 49 45.5	
	2.5nm,0.5s,baz=222,slow=26						
BELG	**Belogornoye**	**7.29**	**331**	Sn	**Sn**	**01 50 01.6**	**-3.4**
	1.3nm,0.3s,baz=186,slow=23,SNR=1.9						
KBZ	**Khabaz**	**7.84**	**256**	Pn	**Pn**	**01 48 51.0**	**+1.3**
	1.6nm,0.3s,baz=54,slow=8.7,SNR=41						
KBZ				Sn	**Sn**	**01 50 17.1**	**-1.3**
	0.7nm,0.3s,baz=131,slow=20,SNR=4.2						
KVAR	**Kislovodsk Arr**	**7.90**	**258**	Pn	**Pn**	**01 48 51.4**	**+0.7**
	baz=121,slow=19,SNR=1.4						
KVAR				Sn	**Sn**	**01 50 16.7**	**-3.3**
	baz=144,slow=12,SNR=2.8						
GEYT	**Alibeck**	**8.94**	**155**	Pn	**Pn**	**01 49 04.4**	**-0.4**
	0.1nm,0.3s,baz=343,slow=9.2,SNR=1.5						
GEYT				Sn	**Sn**	**01 50 41.9**	**-3.6**
	0.3nm,0.3s,baz=0.3,slow=32,SNR=2.2						
ARU	**Arti**	**10.78**	**15**	Sn	**Sn**	**01 51 25.9**	**-4.6**
	0.0nm,0.3s,baz=257,slow=22,SNR=2.0						
BVAR	**Borovoye Array**	**12.97**	**52**	Pn	**Pn**	**01 49 58.6**	**-1.2**
BVAR				Sn	**Sn**	**01 52 20.2**	**-3.9**
BRTR	**Keskin Array B**	**15.82**	**253**	Pn	**P**	**01 50 41.9**	**-0.5**
	0.1nm,0.3s,baz=64,slow=13,SNR=1.5						
KURBB	**Kurchatov Arra**	**17.24**	**66**	P	**P**	**01 50 58.9**	**+1.0**
	0.1nm,0.3s,baz=250,slow=14,SNR=2.4						
MLR	**Muntele Rosu**	**19.12**	**278**	P	**Pn**	**01 51 21.9**	**+2.3**
	0.2nm,0.3s,baz=54,slow=17,SNR=2.3						
MKAR	**Makanchi Array**	**19.86**	**78**	P	**P**	**01 51 26.6**	**-0.2**
	0.1nm,0.3s,baz=280,slow=9.8,SNR=2.1						
ZALV	**Zalesovo Beam**	**21.48**	**57**	P	**P**	**01 51 46.1**	**+1.9**
	0.5nm,0.5s,baz=258,slow=10,SNR=2.5						
FINES	**FINESS Array B**	**22.00**	**324**	P	**P**	**01 51 49.6**	**0.0**
	0.6nm,0.3s,baz=132,slow=11,SNR=19						
IDI	**Anoyia**	**24.06**	**253**	P	**P**	**01 52 11.3**	**+0.2**
	2.0nm,0.8s,baz=61,slow=21,SNR=1.6						
GERES	**GERESS Array B**	**26.75**	**290**	P	**P**	**01 52 37.0**	**+1.6**
	0.2nm,0.3s,baz=108,slow=13,SNR=1.8						
ESDC	**Sonseca Array**	**41.72**	**282**	P	**P**	**01 54 45.5**	**+0.8**
	0.2nm,0.7s,baz=52,slow=8.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**54.41**	**250**	P	**P**	**01 56 23.6**	**+0.7**
	0.1nm,0.6s,baz=38,slow=7.3,SNR=5.4						
YKA	**Yellowknife Ar**	**71.27**	**354**	P	**P**	**01 58 15.9**	**+1.3**
	0.1nm,0.4s,baz=4.6,slow=6.7,SNR=2.7						

*IDC **24** 01:48:47.4±2.0, 15˚.43S×178˚.86W, h425km±23km, mb3.2/9, mb1 3.5/11, mb1mx3.3/29, mbtmp3.9/11, Error ellipse: s-maj=35.4km s-min=18.1km az=149.0*

ISC 24 01:48:45.5±0.8, **15˚.3S**±0˚.2×**178˚.8W**±0˚.2, **h400**km, **n13, σ1s44/13, mb3.6/9, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.92**	**231**	P	**Pn**	**01 49 58.9**	**+2.0**
	18nm,0.3s,baz=82,slow=7.1,SNR=38						
DZM	**Mont Dzumac**	**15.55**	**242**	P	**P**	**01 52 05.4**	**+1.3**
	0.2nm,0.3s,baz=41,slow=20,SNR=0.9						
URZ	**Urewera**	**23.20**	**188**	P	**P**	**01 53 16.6**	**-2.2**
	3.6nm,0.5s,baz=296,slow=9.2,SNR=1.7						
WRA	**Warramunga Arr**	**44.83**	**257**	P	**P**	**01 56 20.0**	**-2.1**
	0.5nm,0.6s,baz=97,slow=6.8,SNR=5.2						
ASAR	**Alice Springs**	**45.23**	**252**	P	**P**	**01 56 24.3**	**-0.9**
	4.7nm,0.4s,baz=85,slow=8.6,SNR=125						
NVAR	**Mina Array Bea**	**77.77**	**44**	P	**P**	**02 00 00.5**	**+0.4**
	0.9nm,0.8s,baz=218,slow=9.2,SNR=6.1						
ILAR	**Eielson Array**	**83.39**	**13**	P	**P**	**02 00 27.9**	**-0.8**
	1.0nm,0.6s,baz=231,slow=5.5,SNR=17						
TXAR	**Lajitas Array**	**84.88**	**58**	P	**P**	**02 00 38.7**	**+1.7**
	0.5nm,0.7s,baz=220,slow=6.5,SNR=8.6						
PDAR	**Pinedale Array**	**85.68**	**44**	P	**P**	**02 00 41.1**	**+0.4**
	0.6nm,0.6s,baz=195,slow=2.6,SNR=6.1						
SONM	**Songino Array**	**91.32**	**319**	P	**P**	**02 01 07.1**	**+0.1**
	0.2nm,0.4s,baz=81,slow=7.8,SNR=2.8						
YKA	**Yellowknife Ar**	**92.08**	**25**	P	**P**	**02 01 09.2**	**-0.8**
	0.1nm,0.6s,baz=335,slow=7.0,SNR=2.3						
BELG	**Belogornoye**	**127.92**	**326**	PKP	**PKPdf**	**02 07 04.0**	**-0.2**
	6.6nm,0.6s,baz=53,slow=5.1,SNR=1.9						
GERES	**GERESS Array B**	**144.97**	**346**	PKPbc	**PKPdf**	**02 07 35.8**	**-0.2**
	0.6nm,0.5s,baz=32,slow=3.5,SNR=7.3						

*IDC **24** 02:04:22.4±3.7, 62˚.09N×3˚.25E, h0km, mb1 3.0/4, mb1mx2.9/45, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=38.1km s-min=20.3km az=44.0*
*DNK **24** 02:04:23.4±2.3, 61˚.64N×2˚.87E, h15km±58km, ML2.2, Probable volcanic*
*BER **24** 02:04:23.0±1.3, 61˚.81N×2˚.47E, h18km±8km, ML2.2, Confirmed Earthquake*
*UPP **24** 02:04:26.2±3.0, 61˚.63N×3˚.42E, h0km, ML2.2, Suspected explosion*

ISC 24 02:04:20.1±1.9, **61˚.73N**±0˚.06×**2˚.59E**±0˚.05, **h17**km±11km, **n45, σ2s06/72, 1D, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOO	**Floro**	**1.18**	**95**	*e*P	**Pg**	**02 04 43.2**	**+0.4**
FOO				*e*S	**Sn**	**02 04 58.6**	**+1.2**
FOO				IAML		02 05 00.2	
	comp=Z,34nm,0.1s						
SUE	**Sulen**	**1.25**	**122**	*e*P	**Pn**	**02 04 44.8**	**+2.2**
SUE				*e*S	**Sn**	**02 05 01.4**	**+2.4**
SUE				IAML		02 05 02.2	
	comp=Z,91nm,0.2s						
ASK	**Askoy**	**1.78**	**134**	*e*P	**Pn**	**02 04 52.2**	**+2.2**
ASK				*e*S	**Sg**	**02 05 15.3**	**-2.1**
ASK				IAML		02 05 17.6	
	comp=Z,63nm,0.2s						
HYA	**Hoyanger**	**1.82**	**107**	*e*P	**Pn**	**02 04 52.9**	**+2.4**
HYA				*e*S	**Sb**	**02 05 15.0**	**-0.3**
HYA				IAML		02 05 20.5	
	comp=Z,28nm,0.2s						
BER	**Bergen**	**1.90**	**134**	*e*P	**Pn**	**02 04 54.3**	**+2.7**
BER				*e*S	**Sb**	**02 05 17.0**	**-0.7**
AKN	**Aaknes**	**2.13**	**76**	*e*P	**Pn**	**02 04 56.7**	**+1.8**
AKN				*e*S	**Sn**	**02 05 22.6**	**+1.6**
AKN				IAML		02 05 28.3	
	comp=Z,25nm,0.2s						
LRW	**Lerwick**	**2.44**	**231**	*e*P	**Pn**	**02 05 00.7**	**+1.7**
MOL	**Molde**	**2.48**	**68**	*e*P	**Pn**	**02 05 01.0**	**+1.5**
ODD1	**Odda**	**2.69**	**131**	*e*P	**Pn**	**02 05 05.4**	**+2.8**
ODD1				*e*S	**Sn**	**02 05 37.0**	**+2.2**
ODD1				IAML		02 05 38.6	
	comp=Z,46nm,0.3s						
KMY	**Karmoy**	**2.85**	**151**	*e*P	**Pn**	**02 05 07.4**	**+2.7**
KMY				*e*S	**Sn**	**02 05 40.3**	**+1.7**
KMY				IAML		02 05 45.2	
	comp=Z,18nm,0.1s						
SKAR	**Skarslia**	**2.96**	**108**	*e*P	**Pn**	**02 05 09.1**	**+2.8**
SKAR				*e*S	**Sn**	**02 05 43.0**	**+1.5**
SKAR				IAML		02 05 44.8	
	comp=Z,10.0nm,0.1s						
BLS5	**Blasjo**	**3.00**	**139**	⇓*i*P	**Pn**	**02 05 09.7**	**+2.9**
BLS5				*e*S	**Sn**	**02 05 43.9**	**+1.5**
BLS5				IAML		02 05 45.8	
	comp=Z,22nm,0.2s						
DOMB	**Dombas**	**3.08**	**81**	*e*P	**Pn**	**02 05 10.1**	**+2.2**
KONO	**Kongsberg**	**4.03**	**118**	*e*P	**Pn**	**02 05 22.8**	**+1.8**
KONO				*e*S	**Sn**	**02 06 07.7**	**0.0**
KONO				IAML		02 06 10.8	
	comp=Z,5.4nm,0.3s						
NAO01	**NORSAR Array S**	**4.10**	**99**	*e*P	**Pn**	**02 05 24.1**	**+2.2**
SNART	**Snartemo**	**4.12**	**144**	*i*P	**Pn**	**02 05 24.0**	**+1.9**
SNART				*i*S	**Sn**	**02 06 05.2**	**-4.6**
SNART				IAML		02 06 12.9	
	comp=Z,5.9nm,0.1s						
SNART	**Snartemo**	**4.12**	**144**	*e*P	**Pn**	**02 05 24.8**	**+2.6**
SNART				*e*S	**Sn**	**02 06 09.8**	**-0.1**
NOA	**NORSAR Array B**	**4.21**	**96**	Pn	**Pn**	**02 05 24.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=286,slow=14,SNR=13						
NOA				Sn	**Sn**	**02 06 08.4**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=307,slow=6.0,SNR=4.9						
NOA				Lg	Lg	02 06 26.7	
	comp=Z,0.1nm,0.3s,baz=324,slow=10,SNR=4.2						
HOMB	**Homborsund**	**4.57**	**137**	*i*P	**Pn**	**02 05 31.0**	**+2.7**
HOMB				*i*S	**Sn**	**02 06 19.0**	**-1.9**
HOMB				IAML		02 06 25.2	
	comp=Z,2.2nm,0.1s						
HOMB	**Homborsund**	**4.57**	**137**	*e*P	**Pn**	**02 05 31.2**	**+2.9**
BIGH	**Upper Bighouse**	**4.59**	**228**	*e*P	**Pn**	**02 05 29.6**	**+0.9**
BIGH				*e*S	**Sn**	**02 06 19.2**	**-2.4**
STRU	**Stroemstad**	**5.05**	**119**	*i*P	**Pn**	**02 05 36.1**	**+1.2**
STRU				P	**Pn**	**02 05 36.1**	**+1.2**
STRU				*i*S	**Sn**	**02 06 29.0**	**-3.7**
STRU				S	**Sn**	**02 06 30.7**	**-2.1**
STRU				IAML		02 06 33.3	
	comp=Z,0.7nm,0.1s						
STRU	**Stroemstad**	**5.05**	**119**	*e*P	**Pn**	**02 05 36.6**	**+1.7**
STRU				*e*S	**Sn**	**02 06 30.3**	**-2.4**
STRU	**Stroemstad**	**5.05**	**119**	P	**Pn**	**02 05 36.1**	**+1.2**
STRU				S	**Sn**	**02 06 30.7**	**-2.1**
FINU	**Finntorp**	**5.41**	**111**	P	**Pn**	**02 05 41.2**	**+1.3**
FINU				S	**Sn**	**02 06 39.3**	**-2.3**
FINU	**Finntorp**	**5.41**	**111**	P	**Pn**	**02 05 41.2**	**+1.3**
FINU				S	**Sn**	**02 06 39.3**	**-2.3**
DRUM	**Mains of Drumt**	**5.49**	**210**	*e*P	**Pn**	**02 05 42.8**	**+1.9**
DRUM				*e*S	**Sn**	**02 06 41.8**	**-1.8**
UDD	**Uddeholm**	**5.62**	**102**	P	**Pn**	**02 05 44.8**	**+2.0**
HFS	**Hagfors**	**5.65**	**102**	Pn	**Pn**	**02 05 44.5**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=296,slow=28,SNR=8.7						
HFS				Sn	**Sn**	**02 06 45.4**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=67,slow=23,SNR=2.1						
HFS				Lg	Lg	02 07 13.7	
	comp=Z,0.3nm,0.3s,baz=95,slow=28,SNR=1.3						
VANU	**Vaenersborg**	**5.75**	**120**	P	**Pn**	**02 05 46.3**	**+1.8**
VANU	**Vaenersborg**	**5.75**	**120**	P	**Pn**	**02 05 46.3**	**+1.8**
TJOU	**Tjoern**	**5.87**	**125**	P	**Pn**	**02 05 48.0**	**+1.8**
TJOU	**Tjoern**	**5.87**	**125**	P	**Pn**	**02 05 48.0**	**+1.8**
NASU	**Vaermlandsnaes**	**5.97**	**113**	P	**Pn**	**02 05 49.1**	**+1.6**
NASU	**Vaermlandsnaes**	**5.97**	**113**	P	**Pn**	**02 05 49.1**	**+1.6**
KPL	**Plockton**	**6.08**	**227**	*e*P	**Pn**	**02 05 49.4**	**+0.4**
KPL				*e*S	Sn	02 06 53.7	-4.4
MUD	**Monsted U'grnd**	**6.28**	**144**	*i*P	**Pn**	**02 05 52.9**	**+1.1**
MUD				*i*S	**Sn**	**02 07 03.2**	**0.0**
MUD				IAML		02 07 06.7	
	comp=Z,0.5nm,0.1s						
ROTU	**Roteberg**	**6.33**	**87**	P	**Pn**	**02 05 53.6**	**+1.2**
ROTU	**Roteberg**	**6.33**	**87**	P	**Pn**	**02 05 53.6**	**+1.2**
ONAU	**Onsala**	**6.43**	**128**	P	**Pn**	**02 05 55.6**	**+1.7**
ONAU	**Onsala**	**6.43**	**128**	P	**Pn**	**02 05 55.6**	**+1.7**
BORU	**Boraas**	**6.59**	**124**	*i*P	**Pn**	**02 05 56.4**	**+0.4**
BORU				P	**Pn**	**02 05 57.7**	**+1.6**
BORU				*i*S	**Sn**	**02 07 07.4**	**-3.3**
BORU	**Boraas**	**6.59**	**124**	P	**Pn**	**02 05 57.7**	**+1.6**
FINES	**FINESS Array B**	**11.18**	**81**	Pn	**Pn**	**02 06 57.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=291,slow=12,SNR=6.0						
ARCES	**ARCESS Array B**	**12.19**	**40**	Pn	Pn	02 07 10.0	-2.7
	baz=225,slow=13,SNR=5.4						
ARCES				Sn	Sn	02 09 17.1	-11
	baz=229,slow=21,SNR=1.3						

WEL 24 02:08:44.6±0.8, **42˚.S**±5˚×**17˚.7E**±˚, **h33**km, **M3.3**/23, **ML3.5**/25, **MLv3.3**/23, **Error ellipse: s-maj=0.0km s-min=0.0km az=141.3, Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRWZ	**Traveller**	**1.51**	**304**	P	Pn	02 09 09.5	+0.2
TRWZ				S	Sb	02 09 29.4	-1.3
TMWZ	**Te Maipa**	**1.58**	**316**	P	Pn	02 09 11.2	+0.9
CPWZ	**Castlepoint**	**1.59**	**327**	P	Pn	02 09 11.8	+1.4
PAWZ	**Paruwai Farm**	**1.68**	**300**	P	Pn	02 09 11.9	+0.2
PAWZ				S	Sn	02 09 33.3	+1.2
PLWZ	**Palliser**	**1.71**	**293**	P	Pn	02 09 11.9	-0.2
PLWZ				S	Sn	02 09 33.3	+0.5
MTW	**Mount Morrison**	**1.76**	**307**	P	Pn	02 09 13.0	+0.2
MTW				S	Sn	02 09 34.7	+0.6
BFZ	**Birch Farm**	**1.77**	**332**	P	Pn	02 09 13.2	+0.3
BFZ				S	Sn	02 09 35.8	+1.5
MSWZ	**Moikau Station**	**1.78**	**297**	P	Pn	02 09 12.9	-0.1
MSWZ				S	Sn	02 09 34.9	+0.4
TIWZ	**Tintock**	**1.84**	**323**	P	Pn	02 09 14.5	+0.6
TIWZ				S	Sn	02 09 37.6	+1.6
ANWZ	**Angora Road**	**1.90**	**339**	P	Pn	02 09 15.0	+0.3
ANWZ				S	Sn	02 09 37.9	+0.4
HOWZ	**Holdsworth Sta**	**1.93**	**314**	P	Pn	02 09 15.5	+0.4
HOWZ				S	Sn	02 09 38.9	+0.7
PRWZ	**Pori Road**	**1.98**	**328**	P	Pn	02 09 16.6	+0.8
BHW	**Baring Head**	**2.04**	**293**	P	Pn	02 09 16.5	0.0
BHW				S	Sn	02 09 41.0	+0.1
PRHZ	**Porangahau**	**2.05**	**344**	P	Pn	02 09 16.4	-0.4
PRHZ				S	Sn	02 09 41.3	+0.1
CAW	**Cannon Point**	**2.06**	**303**	P	Pn	02 09 17.1	+0.3
CAW				S	Sn	02 09 41.8	+0.4
MRZ	**Mangatainoka R**	**2.07**	**319**	P	Pn	02 09 17.4	+0.4
DVHZ	**Dannevirke**	**2.14**	**335**	P	Pn	02 09 18.2	+0.2
DVHZ				S	Sn	02 09 42.1	-1.4
WEL	**Wellington**	**2.16**	**296**	P	Pn	02 09 18.6	+0.4
OGWZ	**Otaki Gorge**	**2.18**	**310**	P	Pn	02 09 19.0	+0.6
POWZ	**Post Office Ro**	**2.21**	**327**	P	Pn	02 09 19.4	+0.5
POWZ				S	Sn	02 09 45.2	+0.2
PXZ	**Pawanui**	**2.24**	**350**	P	Pn	02 09 19.2	-0.2
WPHZ	**Waipukurau**	**2.29**	**342**	P	Pn	02 09 20.4	+0.4
WPHZ				S	Sn	02 09 47.2	+0.2
TSZ	**Takapari Road**	**2.43**	**334**	P	Pn	02 09 22.4	+0.5
KAHZ	**Kahuranaki**	**2.48**	**351**	P	Pn	02 09 21.8	-0.8
PNHZ	**Pukenui**	**2.49**	**339**	P	Pn	02 09 22.5	-0.3
TCW	**Tory Channel**	**2.53**	**293**	P	Pn	02 09 23.7	+0.4
CKHZ	**Cape Kidnapper**	**2.59**	**355**	P	Pn	02 09 23.1	-1.1
BSWZ	**Blackbirch Sta**	**2.65**	**280**	P	Pn	02 09 24.4	-0.6
TUWZ	**Tuamarina**	**2.68**	**287**	P	Pn	02 09 25.2	-0.1
KRHZ	**Kereru**	**2.71**	**344**	P	Pn	02 09 25.9	+0.1
KHZ	**Kahutara**	**2.84**	**265**	P	Pn	02 09 25.6	-1.9
KHZ				S	Sn	02 10 00.4	-0.1
MCHZ	**McNeill Hill**	**2.84**	**350**	P	Pn	02 09 27.6	0.0
KWHZ	**Kaweka Forest**	**2.91**	**346**	P	Pn	02 09 28.3	-0.3
BHHZ	**Black Hill Sta**	**2.92**	**340**	P	Pn	02 09 29.1	+0.3
DUWZ	**D'Urville Isla**	**2.96**	**298**	P	Pn	02 09 30.5	+1.3
ARHZ	**Aropaoanui**	**2.99**	**355**	P	Pn	02 09 28.7	-0.9
WAZ	**Wanganui**	**3.07**	**323**	P	Pn	02 09 33.2	+2.5
MOVZ	**Moawhango**	**3.09**	**336**	P	Pn	02 09 31.9	+0.9
MHGZ	**Mahia Peninsul**	**3.12**	**8**	P	Pn	02 09 28.5	-2.9
BKZ	**Black Stump Fm**	**3.15**	**348**	P	Pn	02 09 31.3	-0.6
NNZ	**Nelson**	**3.15**	**288**	P	Pn	02 09 32.1	+0.3
NMHZ	**Naumai**	**3.17**	**352**	P	Pn	02 09 31.5	-0.7
MTVZ	**Mangateitei**	**3.20**	**333**	P	Pn	02 09 34.1	+1.6
WNVZ	**Wahianoa**	**3.21**	**335**	P	Pn	02 09 34.2	+1.5
KNZ	**Kokohu**	**3.23**	**4**	P	Pn	02 09 30.3	-2.7
TUVZ	**Tukino**	**3.24**	**336**	P	Pn	02 09 34.9	+1.6
TRVZ	**Turoa**	**3.25**	**334**	P	Pn	02 09 34.9	+1.5
WHVZ	**Whangaehu Hut**	**3.25**	**335**	P	Pn	02 09 34.8	+1.4
GVZ	**Greta Valley S**	**3.27**	**256**	P	Pn	02 09 31.9	-1.6
FWVZ	**Far West T-bar**	**3.29**	**335**	P	Pn	02 09 35.3	+1.3
SNVZ	**South Ngauruho**	**3.32**	**336**	P	Pn	02 09 35.6	+1.2
PKVZ	**Pokaka**	**3.33**	**332**	P	Pn	02 09 35.9	+1.6
RAHZ	**Arahi**	**3.33**	**356**	P	Pn	02 09 33.4	-1.0
OTVZ	**Oturere**	**3.34**	**337**	P	Pn	02 09 35.7	+1.1
PRGZ	**Paritu Road**	**3.34**	**7**	P	Pn	02 09 32.3	-2.2
NGZ	**Ngauruhoe**	**3.34**	**336**	P	Pn	02 09 35.8	+1.1
ETVZ	**East Tongariro**	**3.35**	**338**	P	Pn	02 09 35.7	+1.0
THZ	**Tophouse**	**3.35**	**277**	P	Pn	02 09 34.0	-0.6
TMVZ	**Te Maari**	**3.37**	**338**	P	Pn	02 09 35.9	+1.0
NNVZ	**North Ngauruho**	**3.38**	**336**	P	Pn	02 09 36.3	+1.1
NTVZ	**North Tongarir**	**3.39**	**337**	P	Pn	02 09 36.4	+1.1
WTVZ	**West Tongariro**	**3.40**	**336**	P	Pn	02 09 36.5	+1.1
KRVZ	**Karewarewa**	**3.41**	**337**	P	Pn	02 09 36.7	+1.2
MTHZ	**Maungataniwha**	**3.41**	**353**	P	Pn	02 09 34.2	-1.3
SNGZ	**Shannon Statio**	**3.46**	**360**	P	Pn	02 09 34.7	-1.4
OKCZ	**Okains Bay**	**3.48**	**243**	P	Pn	02 09 33.5	-2.9
TKNZ	**Takaka Hill**	**3.51**	**289**	P	Pn	02 09 37.4	+0.6
MRNZ	**Matariki Terra**	**3.54**	**282**	P	Pn	02 09 37.3	+0.1
RIGZ	**Rimuhau**	**3.55**	**5**	P	Pn	02 09 35.3	-2.1
RTZ	**Ruatahuna**	**3.64**	**355**	P	Pn	02 09 37.5	-1.1
AKCZ	**Akaroa Harbour**	**3.64**	**242**	P	Pn	02 09 35.7	-2.9
WATZ	**Wairara**	**3.74**	**340**	P	Pn	02 09 40.8	+0.8
RAGZ	**Rawiri**	**3.75**	**1**	P	Pn	02 09 38.3	-1.8
MQZ	**McQueen's Vall**	**3.75**	**245**	P	Pn	02 09 36.7	-3.3
MUGZ	**Murupara**	**3.79**	**353**	P	Pn	02 09 38.8	-1.9
LTZ	**Lake Taylor**	**3.80**	**260**	P	Pn	02 09 39.1	-1.7
TKGZ	**Te Karaka**	**3.82**	**6**	P	Pn	02 09 38.7	-2.3
KHEZ	**Kahui Hut**	**3.89**	**318**	P	Pn	02 09 45.0	+2.9
QRZ	**Quartz Range**	**3.89**	**290**	P	Pn	02 09 43.0	+1.0
MWZ	**Matawai**	**3.91**	**2**	P	Pn	02 09 40.0	-2.3
RRRZ	**Republican Roa**	**3.96**	**350**	P	Pn	02 09 42.2	-0.7
PKE	**Pukeiti**	**3.98**	**319**	P	Pn	02 09 46.6	+3.3
URZ	**Urewera**	**3.99**	**357**	P	Pn	02 09 41.7	-1.6
TARZ	**Mount Tarawera**	**4.06**	**350**	P	Pn	02 09 43.9	-0.5
TWGZ	**Tauwhareparae**	**4.09**	**7**	P	Pn	02 09 42.6	-2.2
DSZ	**Denniston Nort**	**4.17**	**275**	P	Pn	02 09 45.7	-0.2
HIZ	**Hauiti**	**4.19**	**332**	P	Pn	02 09 46.6	+0.4
PUZ	**Puketiti**	**4.23**	**10**	P	Pn	02 09 43.2	-3.5
RUGZ	**Raukumara Rang**	**4.28**	**3**	P	Pn	02 09 44.8	-2.7
WACZ	**Wakanui South**	**4.38**	**245**	P	Pn	02 09 46.5	-2.2
PKGZ	**Pakihiroa**	**4.39**	**7**	P	Pn	02 09 45.9	-3.0
INZ	**Inchbonnie**	**4.40**	**262**	P	Pn	02 09 47.9	-1.1
WMGZ	**Waiomatatini S**	**4.50**	**11**	P	Pn	02 09 47.2	-3.1
HAZ	**Te Kaha**	**4.50**	**4**	P	Pn	02 09 47.8	-2.6
CTZ	**Chatham Island**	**4.66**	**111**	P	Pn	02 09 41.6	-11
CTZ				S	Sn	02 10 26.2	-19
MXZ	**Matakaoa Point**	**4.73**	**9**	P	Pn	02 09 50.4	-3.2
ARCZ	**Arundel**	**4.83**	**247**	P	Pn	02 09 53.4	-1.7
WVZ	**Waitaha Valley**	**4.95**	**258**	P	Pn	02 09 55.8	-0.8
TMZ	**Timaru**	**5.10**	**243**	P	Pn	02 09 56.0	-2.7
GCSZ	**Gaunt Creek Bo**	**5.28**	**256**	P	Pn	02 10 00.3	-0.8
ODZ	**Otahua Downs**	**5.62**	**238**	P	Pn	02 10 02.9	-2.9
FOZ	**Fox Glacier**	**5.69**	**254**	P	Pn	02 10 06.4	-0.3

WEL 24 02:19:27.9, 43˚S±4˚×**17˚3E**±˚, **h14**km±6km, **M3.3**/27, **ML3.5**/36, **MLv3.3**/27, **Error ellipse: s-maj=0.0km s-min=0.0km az=74.4, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.24**	**206**	P	Pb	02 19 34.5	+0.5
MQZ				S	Sb	02 19 38.7	+0.6
OKCZ	**Okains Bay**	**0.30**	**141**	P	Pb	02 19 35.8	+0.7
OKCZ				S	Sb	02 19 40.9	+1.0
AMCZ	**Amberley**	**0.33**	**341**	P	Pb	02 19 35.9	+0.2
AKCZ	**Akaroa Harbour**	**0.39**	**168**	P	Pb	02 19 37.5	+0.9
RACZ	**Rakaia**	**0.53**	**244**	P	Pn	02 19 40.4	-0.7
GVZ	**Greta Valley S**	**0.55**	**18**	P	Pb	02 19 40.0	+0.5
OXZ	**Oxford**	**0.58**	**287**	P	Pb	02 19 40.6	+0.8
LTZ	**Lake Taylor**	**0.81**	**331**	P	Pn	02 19 44.8	-0.2
WACZ	**Wakanui South**	**0.83**	**237**	P	Pn	02 19

baz=36
TKM2 Tokmak 2 2.85 337 ⇓Pn Pg 02 24 48.1 -1.7
4.3nm,0.5s
TKM2 ⇑Lg Lg 02 25 28.1
22nm,0.6s
KBK Karagaybulak 2.85 326 P Pg 02 24 51.1 +1.3
SNR=7.5
KBK Karagaybulak 2.85 326 ⇑*i*P Pb 02 24 47.4 +1.1
baz=25
KBK ⇑*e*S Sb 02 25 22.5 +1.2
baz=25
MDOK Medeo 2.86 360 *e*P Pg 02 24 49.2 -0.9
6.7nm,0.6s
MDOK *e*S Sg 02 25 28.1 +0.9
22nm,0.5s
MDOK Medeo 2.86 360 ⇓Pn Pg 02 24 49.4 -0.7
12nm,0.9s
MDOK Lg Lg 02 25 28.4
37nm,1.2s
MDOK Medeo 2.86 360 Pg Pg 02 24 49.2 -0.9
6.7nm,0.6s
MDOK Lg Lg 02 25 28.1
22nm,0.5s
KST Kastek 2.87 343 *e*P Pg 02 24 49.5 -0.7
5.1nm,0.5s
KST *e*S Sg 02 25 28.6 +1.2
16nm,0.5s
KST Kastek 2.87 343 Pg Pg 02 24 49.5 -0.7
5.1nm,0.5s
KST Lg Lg 02 25 28.6
16nm,0.5s
MTBS Maitube 2.87 350 *e*P Pg 02 24 49.4 -0.9
4.7nm,0.0s
MTBS *e*S Sg 02 25 28.5 +1.1
14nm,0.4s
MTBS Maitube 2.87 350 Pg Pg 02 24 49.4 -0.9
4.7nm,0.3s
MTBS Lg Lg 02 25 28.5
14nm,0.4s
SATY Saty 2.93 19 *e*P Pg 02 24 50.3 -1.1
2.4nm,0.1s
SATY *e*S Sg 02 25 30.2 +0.8
21nm,0.0s
SATY Saty 2.93 19 Pg Pg 02 24 50.3 -1.1
7.2nm,0.6s
SATY Lg Lg 02 25 30.2
25nm,0.4s
KOTS Kotyrbulak 2.94 0 *e*P Pg 02 24 50.8 -0.6
8.8nm,0.1s
KOTS *e*S Sg 02 25 30.9 +1.4
57nm,0.3s
KOTS Kotyrbulak 2.94 0 Pg Pg 02 24 50.8 -0.6
8.8nm,0.3s
KOTS Lg Lg 02 25 30.9
57nm,0.7s
AAK Ala-Archa 3.04 321 P Pg 02 24 56.3 +2.8
SNR=11
AAK Ala-Archa 3.04 321 ⇑*i*P Pb 02 24 50.3 +0.8
baz=19
AAK ⇑*i*S Sb 02 25 27.1 +0.3
baz=19
DGS Degeres 3.10 342 *e*P Pg 02 24 54.3 -0.4
24nm,0.2s
DGS *e*S Sg 02 25 36.6 +1.8
27nm,0.6s
DGS Degeres 3.10 342 Pg Pg 02 24 54.3 -0.4
25nm,0.5s
DGS Lg Lg 02 25 36.6
27nm,0.6s
FRU1 Bishkek 3.11 325 ⇑*i*P Pb 02 24 51.6 +0.9
baz=23
FRU1 ⇑*i*S Sb 02 25 29.2 +0.5
baz=23
AML Almayashu 3.14 307 P Pb 02 24 53.1 +1.7
SNR=10
UZB Uzynbulak 3.20 26 *e*P Pg 02 24 55.0 -1.4
3.0nm,0.1s
UZB *e*S Sg 02 25 38.5 +0.6
11nm,0.6s
UZB Uzynbulak 3.20 26 Pg Pg 02 24 55.0 -1.4
3.4nm,0.4s
UZB Lg Lg 02 25 38.4
11nm,0.6s
CHMS Chumysh 3.21 328 ⇓Pn Pb 02 24 53.7 +1.3
5.2nm,0.5s
CHMS ⇑Lg Lg 02 25 39.0
13nm,0.5s
KURS Kuram 3.29 14 *e*P Pg 02 24 56.1 -2.2
4.5nm,0.2s
KURS *e*S Sg 02 25 39.9 -1.0
8.9nm,0.9s
KURS Kuram 3.29 14 Pg Pg 02 24 56.1 -2.2
4.6nm,0.8s
KURS Lg Lg 02 25 39.9
8.9nm,0.9s
SHLS Shalkode 3.37 31 *e*P Pg 02 25 01.8 +2.1
2.2nm,0.1s
SHLS *e*S Sg 02 25 50.0 +6.6
13nm,0.6s
SHLS Shalkode 3.37 31 Pg Pg 02 25 01.8 +2.1
2.3nm,0.2s
SHLS Lg Lg 02 25 50.0
13nm,0.6s
KPKS Kokpek 3.38 20 *e*P Pg 02 24 58.7 -1.4
5.3nm,0.1s
KPKS *e*S Sg 02 25 44.2 +0.3
28nm,0.4s
KTBS Karatobe 3.42 355 *e*P Pg 02 24 59.5 -1.4
5.9nm,0.4s
KTBS *e*S Sg 02 25 45.5 +0.3
17nm,0.6s
KTBS Karatobe 3.42 355 Pg Pg 02 24 59.5 -1.4
5.9nm,0.4s
KTBS Lg Lg 02 25 45.5
17nm,0.6s
PDGK Podgornoye 3.52 30 Pg Pg 02 25 00.8 -1.9
2.1nm,0.6s
PDGK Lg Lg 02 25 48.2
7.5nm,0.5s
PDGK Podgornoye 3.52 30 ⇓Pn Pg 02 25 01.4 -1.3
8.5nm,0.7s
PDGK ⇓Lg Lg 02 25 53.7
15nm,0.7s
USP Ospenovka 3.54 328 P Pg 02 25 02.9 -0.1
SNR=10
USP Ospenovka 3.54 328 ⇓*i*P Pb 02 24 56.8 -1.2
baz=26
USP ⇓*i*S Sb 02 25 38.9 -2.1
baz=26
KRBS Karabastau 3.55 343 *e*P Pg 02 25 02.1 -1.2
6.9nm,0.5s
KRBS *e*S Sg 02 25 50.2 +0.8
9.7nm,0.1s
KRBS Karabastau 3.55 343 Pg Pg 02 25 02.1 -1.2
6.9nm,0.5s
KRBS Lg Lg 02 25 50.2
10nm,0.6s
CHKK Chushkaly 3.56 359 *e*P Pg 02 25 01.8 -1.5
1.6nm,0.0s
CHKK *e*S Sg 02 25 49.5 +0.2
19nm,0.2s
CHKK Chushkaly 3.56 359 Pg Pg 02 25 01.8 -1.5
CHKK Lg Lg 02 25 49.5
KUU Kurty 3.63 352 *e*P Pg 02 25 02.6 -2.2
1.7nm,0.4s
KUU *e*S Sg 02 25 51.2 -0.8
12nm,0.5s
KUU Kurty 3.63 352 Pg Pg 02 25 02.6 -2.2
1.7nm,0.4s
KUU Lg Lg 02 25 51.2
12nm,0.5s
SGDS Sogindy 3.65 331 *e*P Pg 02 25 03.0 -2.1
3.1nm,0.0s
SGDS *e*S Sg 02 25 51.8 -0.4
7.7nm,0.4s
SGDS Sogindy 3.65 331 Pg Pg 02 25 02.9 -2.1
5.8nm,0.5s
SGDS Lg Lg 02 25 52.2
7.7nm,0.4s
MRKS Merke 3.79 311 *e*P Pg 02 25 05.2 -2.6
1.8nm,0.2s
MRKS *e*S Sg 02 25 56.0 -0.9
4.6nm,0.5s
MRKS Merke 3.79 311 Pg Pg 02 25 05.2 -2.6
1.7nm,0.4s
MRKS Lg Lg 02 25 56.1
4.6nm,0.5s
BLB Baldybastay 3.94 15 *e*P Pg 02 25 07.7 -2.9
7.3nm,0.1s
BLB *e*S Sg 02 25 59.7 -1.9
11nm,0.4s
BLB Baldybastay 3.94 15 Pg Pg 02 25 07.7 -2.9
7.3nm,0.4s
BLB Lg Lg 02 26 00.5
11nm,0.4s
DJR Jarkent 4.50 26 *e*P Pg 02 25 18.4 -3.1
1.0nm,0.2s
DJR *e*S Sg 02 26 18.1 -1.7
8.8nm,0.3s
DJR Jarkent 4.50 26 Pg Pg 02 25 18.3 -3.1
1.0nm,0.2s
DJR Lg Lg 02 26 18.1
8.8nm,0.3s
BTLS Baital 5.24 336 *e*P Pg 02 25 32.3 -3.2
0.7nm,0.1s
BTLS *e*S Sg 02 26 42.2 -1.3
3.8nm,0.2s
KK31 Karatay Array 5.66 302 ⇑Pg Pg 02 25 41.1 -2.5
1.2nm,0.7s,baz=127,slow=17,SNR=8.6
KK31 ⇓Lg Lg 02 26 59.6
2.1nm,0.7s,baz=120,slow=29

NOU 24 02:56:18.3, 14°.38S×167°.30E, h115km, MLv 4.3/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.06**	**185**	P	Pn	02 56 40.9	+0.3
DVP	**Devils Point**	**3.43**	**166**	P	Pn	02 57 11.1	+0.9
YATNC	**Mamie plateau,**	**7.65**	**183**	P	Pn	02 58 06.6	-0.4
DZM	**Mont Dzumac**	**7.69**	**186**	P	Pn	02 58 07.9	+0.2

*INET **24** 03:14:21.0±2.5, 15°.51N×87°.56W, h1km±10km, MW3.7*
*SNET **24** 03:14:25.6±2.1, 15°.05N×87°.36W, h34km±179km, ML4.2*
*UCR **24** 03:14:25.4±2.4, 15°.06N×87°.34W, h34km±212km, ML4.0*
*IDC **24** 03:14:26.1±1.5, 15°.15N×87°.61W, h0km, mb3.2/3, mb1 3.6/5, mb1mx3.4/45, mbtmp3.3/5, ML3.2/2, MS2.7/3, Ms1 2.7/3, ms1mx2.5/28, Error ellipse: s-maj=43.8km s-min=22.8km az=43.0*
ISC 24 03:14:30.4±0.9, 15°.06N±0°.06×87°.63W±0°.05, h35km, n41, σ2s18/50, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACA	**Pacayal**	**1.72**	**203**	*e*P	**Pn**	**03 14 54.8**	**-3.2**
PACA	**Pacayal**	**1.72**	**203**	*e*P	**Pn**	**03 14 54.8**	**-3.2**
PACA	**Pacayal**	**1.72**	**203**	*e*P	**Pn**	**03 14 55.0**	**-3.0**
SCLA	**Alcaldia de Sa**	**1.72**	**218**	*e*P	**Pn**	**03 14 55.1**	**-2.8**
SCLA				*e*S	**Sn**	**03 15 18.7**	**0.0**
SCLA	**Alcaldia de Sa**	**1.72**	**218**	*e*P	**Pn**	**03 14 55.1**	**-2.8**
SCLA				*e*S	**Sn**	**03 15 18.7**	**0.0**
ESQI	**Esquipulas**	**1.73**	**253**	*e*P	**Pn**	**03 14 58.1**	**0.0**
LCND	**La Caada**	**1.76**	**188**	*e*P	**Pn**	**03 14 54.5**	**-4.0**
LCND				IAML		03 15 21.9	
	comp=Z,2μm,0.3s						
LCND	**La Caada**	**1.76**	**188**	*e*P	**Pn**	**03 14 54.5**	**-4.0**
LCND				IAML		03 15 21.9	
	comp=Z,2μm,0.3s						
COEB	**Comit de Eme**	**1.78**	**209**	*e*P	**Pn**	**03 14 56.7**	**-2.1**
COEB				IAML		03 15 26.1	
	comp=Z,1μm,0.4s						
COEB	**Comit de Eme**	**1.78**	**209**	*e*P	**Pn**	**03 14 56.7**	**-2.1**
COEB				IAML		03 15 26.1	
	comp=Z,1μm,0.4s						
MTO3	**Montecristo**	**1.80**	**249**	*e*P	**Pn**	**03 14 57.1**	**-2.0**
MTO3	**Montecristo**	**1.80**	**249**	*e*P	**Pn**	**03 14 57.1**	**-2.0**
MTO3	**Montecristo**	**1.80**	**249**	*e*P	**Pn**	**03 14 57.2**	**-2.0**
PAVA	**Las Pavas**	**1.84**	**223**	*e*P	**Pn**	**03 14 57.8**	**-1.9**
PAVA				*e*S	**Sn**	**03 15 22.2**	**+0.3**
PAVA				IAML		03 15 26.1	
	comp=Z,2μm,0.3s						
PAVA	**Las Pavas**	**1.84**	**223**	*e*P	**Pn**	**03 14 57.8**	**-1.9**
PAVA				*e*S	**Sn**	**03 15 22.2**	**+0.3**
PAVA				IAML		03 15 26.1	
	comp=Z,2μm,0.3s						
PAVA	**Las Pavas**	**1.84**	**223**	*e*P	**Pn**	**03 14 58.4**	**-1.3**
COEG	**Centro de Oper**	**1.88**	**220**	*e*P	**Pn**	**03 14 58.7**	**-1.4**
COEG	**Centro de Oper**	**1.88**	**220**	*e*P	**Pn**	**03 14 58.7**	**-1.4**
LFRS	**El Faro**	**1.99**	**224**	*e*P	**Pn**	**03 15 00.8**	**-0.9**
LFRS				*e*S	**Sn**	**03 15 27.8**	**+2.3**
LFRS	**El Faro**	**1.99**	**224**	*e*P	**Pn**	**03 15 00.8**	**-0.9**
LFRS				*e*S	**Sn**	**03 15 27.8**	**+2.3**
BOQS	**Boqueron**	**2.07**	**231**	*e*P	**Pn**	**03 15 02.5**	**-0.4**
BOQS				*e*S	**Sn**	**03 15 30.8**	**+3.2**
BOQS	**Boqueron**	**2.07**	**231**	*e*P	**Pn**	**03 15 02.5**	**-0.4**
BOQS				*e*S	**Sn**	**03 15 30.8**	**+3.2**
CSGN	**Cosiguina Volc**	**2.08**	**178**	*e*P	**Pn**	**03 15 00.4**	**-2.5**
RCON	**San Juan de Ri**	**2.12**	**137**	*e*P	**Pn**	**03 15 04.1**	**+0.5**
CEVE	**Cerro Verde**	**2.29**	**238**	*e*P	**Pn**	**03 15 05.0**	**-1.0**
CEVE				IAML		03 15 42.2	
	comp=Z,1μm,0.5s						
CEVE	**Cerro Verde**	**2.29**	**238**	*e*P	**Pn**	**03 15 05.0**	**-1.0**
CEVE				IAML		03 15 42.2	
	comp=Z,1μm,0.5s						
NUBE	**Las Nubes**	**2.38**	**241**	*e*P	**Pn**	**03 15 04.8**	**-2.2**
NUBE	**Las Nubes**	**2.38**	**241**	*e*P	**Pn**	**03 15 04.8**	**-2.2**
CRIN	**San Cristobal**	**2.42**	**166**	*e*P	**Pn**	**03 15 06.2**	**-1.3**
TELN	**Telica**	**2.56**	**162**	*e*P	**Pn**	**03 15 07.9**	**-1.6**
TEL3	**Telica 3**	**2.59**	**163**	*e*P	**Pn**	**03 15 09.0**	**-0.9**
MATN	**Matagalpa**	**2.69**	**142**	*e*P	**Pn**	**03 15 07.5**	**-3.8**
CNGN	**Cerro Negro**	**2.70**	**160**	*e*P	**Pn**	**03 15 10.0**	**-1.5**
BOAB	**BOACO BROADBAN**	**3.23**	**143**	*e*P	**Pn**	**03 15 15.2**	**-3.4**
JTS	**Las Juntas de**	**5.42**	**151**	Pn	**Pn**	**03 15 49.7**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=33,slow=16,SNR=2.3						
JTS				Sn	**Sn**	**03 16 53.8**	**+3.9**
	comp=Z,1.1nm,0.3s,baz=221,slow=19,SNR=1.2						
JTS				Lg	Lg	03 17 14.0	
	comp=Z,1.4nm,0.3s,baz=218,slow=19,SNR=2.1						
JTS				LR	LR	03 18 15.1	
	comp=Z,41nm,20.2s,baz=98,slow=42						
CMIG	**Matias Romero**	**7.26**	**287**	Pn	**Pn**	**03 16 13.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=121,slow=8.8,SNR=6.6						
CMIG				Sn	**Sn**	**03 17 31.9**	**-3.3**
	comp=Z,0.6nm,0.3s,baz=118,slow=22,SNR=8.0						
CMIG				Lg	Lg	03 18 14.8	
	comp=Z,0.1nm,0.3s,baz=43,slow=19,SNR=2.2						
ROSC	**El Rosal**	**16.57**	**126**	LR	LR	03 26 50.7	
	comp=Z,22nm,18.3s,baz=87,slow=45						
TXAR	**Lajitas Array**	**20.51**	**316**	P	**P**	**03 19 06.9**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=145,slow=10.0,SNR=3.6						
LPIG	**La Paz**	**23.15**	**296**	LR	LR	03 27 48.4	
	comp=Z,45nm,18.1s,baz=70,slow=35						
YKA	**Yellowknife Ar**	**51.06**	**344**	P	**P**	**03 23 29.2**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=140,slow=7.4,SNR=8.7						
YKA				PcP	**PcP**	**03 24 44.5**	**0.0**
	comp=Z,0.2nm,0.8s,baz=144,slow=3.2,SNR=2.8						
ILAR	**Eielson Array**	**63.58**	**336**	P	**P**	**03 24 57.7**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=100,slow=7.1,SNR=5.6						

*BGR **24** 03:15:03.4±0.6, 49°.68N×18°.50E, h1km, ML3.0/8, Error ellipse: s-maj=13.3km s-min=8.9km az=172.0*
*VIE **24** 03:15:04.4±0.2, 49°.92N×18°.55E, h0km, mb2.4/4, ml2.7/5, Error ellipse: s-maj=4.3km s-min=1.5km az=162.0 23 km ENE of Ostrava Suspected Mining induced.*
*IPEC **24** 03:15:04.5±0.2, 49°.85N×18°.55E, h1km, ML2.8/4, Error ellipse: s-maj=1.3km s-min=1.1km az=154.0*
*MCSM **24** 03:15:04.1±0.3, 50°.N.5×1°.9E±°, h6km±3km, ML3.1*
ISC 24 03:15:04.0±0.7, 49°.86N±0°.02×18°.54E±0°.02, h0km, n59, σ0s84/99, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.26**	**266**	*e*PG	**Pg**	**03 15 09.8**	**+1.0**
OKC				*e*SG	**Sg**	**03 15 12.9**	**+0.8**
	comp=Z,642nm,0.7s						
OKC	**Ostrava-Krasne**	**0.26**	**266**	*e*Pg	**Pb**	**03 15 10.2**	**-1.3**
OKC				*e*Sg	**Sb**	**03 15 14.5**	**-1.9**
OKC	**Ostrava-Krasne**	**0.26**	**266**	Pg	**Pb**	**03 15 10.1**	**-1.3**
RAC	**Raciborz**	**0.32**	**316**	*e*PG	**Pb**	**03 15 12.2**	**-0.3**
RAC				*e*SG	**Sb**	**03 15 18.1**	**-0.2**
MORC	**Moravsky Berou**	**0.65**	**263**	*e*Pg	**Pg**	**03 15 17.0**	**+0.6**
	baz=83						
MORC				*e*Sg	**Sg**	**03 15 24.8**	**-0.1**
	222nm,0.6s,baz=83						
MORC	**Moravsky Berou**	**0.65**	**263**	*e*Pg	**Pb**	**03 15 17.5**	**-0.7**
MORC				*e*Sg	**Sg**	**03 15 26.0**	**+1.1**
MORC	**Moravsky Berou**	**0.65**	**263**	Pg	**Pb**	**03 15 17.4**	**-0.8**
MORC				Sg	**Sg**	**03 15 26.4**	**+1.5**
OJC	**Ojcow**	**0.89**	**65**	*e*Pg	**Pg**	**03 15 21.2**	**+0.2**
OJC				*e*Sg	**Sb**	**03 15 34.1**	**-0.5**
OJC	**Ojcow**	**0.89**	**65**	*e*Pg	**Pg**	**03 15 21.0**	**0.0**
OJC	**Ojcow**	**0.89**	**65**	Pg	**Pg**	**03 15 21.1**	**+0.1**
LANS	**Liptovska Anna**	**0.93**	**139**	*e*PG	**Pg**	**03 15 21.9**	**+0.2**
LANS				*e*SG	**Sg**	**03 15 34.2**	**+0.4**
LANS				*e*LG	Lg	03 15 38.6	
JAVC	**Velka Javorina**	**1.15**	**210**	*e*Pg	**Pb**	**03 15 26.8**	**+0.1**
	baz=30						
JAVC				*e*Sg	**Sg**	**03 15 40.3**	**-0.5**
	138nm,0.8s,baz=30						
JAVC	**Velka Javorina**	**1.15**	**210**	*e*PG	**Pb**	**03 15 26.9**	**+0.2**
JAVC				*e*SG	**Sg**	**03 15 40.4**	**-0.4**
KRLC	**Kraliky**	**1.16**	**282**	*e*PG	**Pg**	**03 15 26.0**	**-0.1**
KRLC				*e*SG	**Sg**	**03 15 41.3**	**+0.2**
	comp=Z,96nm,0.4s						
KRLC	**Kraliky**	**1.16**	**282**	Pg	**Pg**	**03 15 25.7**	**-0.4**
NIE	**Niedzica**	**1.22**	**110**	*e*Pg	**Pn**	**03 15 28.3**	**0.0**
NIE				*e*Sg	**Sn**	**03 15 46.8**	**+1.2**
NIE	**Niedzica**	**1.22**	**110**	Pg	**Pn**	**03 15 28.2**	**-0.2**
KOLL	**Kolacno**	**1.28**	**184**	*e*PG	**Pg**	**03 15 28.2**	**-0.3**
KOLL				*e*SG	**Sg**	**03 15 45.4**	**+0.3**
VYHS	**Vyhne**	**1.38**	**172**	*e*PG	**Pg**	**03 15 29.5**	**-0.9**
VYHS				*e*SG	**Sg**	**03 15 48.1**	**0.0**
VYHS				*e*LG	Lg	03 15 51.5	
VYHS	**Vyhne**	**1.38**	**172**	Pg	**Pg**	**03 15 29.4**	**-0.9**
VRAC	**Vranov**	**1.38**	**247**	*e*Pg	**Pg**	**03 15 30.3**	**-0.1**
	baz=66						
VRAC				*e*Sg	**Sg**	**03 15 47.6**	**-0.7**
	80nm,0.4s,baz=66						
DPC	**Dobruska-Polom**	**1.51**	**290**	*e*PG	**Pn**	**03 15 32.3**	**0.0**
DPC				*e*SG	**Sg**	**03 15 52.6**	**+0.1**
	comp=Z,68nm,0.7s						
DPC	**Dobruska-Polom**	**1.51**	**290**	*e*Pg	**Pn**	**03 15 32.0**	**-0.4**
DPC				*e*Sg	**Sn**	**03 15 52.9**	**+0.2**
DPC	**Dobruska-Polom**	**1.51**	**290**	Pn	**Pn**	**03 15 31.9**	**-0.4**
SMOL	**Smolenice**	**1.53**	**209**	*e*PG	**Pn**	**03 15 32.2**	**-0.3**
SMOL				*e*SG	**Sg**	**03 15 52.6**	**-0.4**
KRUC	**Moravsky**	**1.61**	**241**	*e*Pg	**Pn**	**03 15 33.6**	**0.0**
	baz=60						
KRUC				*e*Sg	**Sn**	**03 15 54.7**	**-0.4**
	88nm,0.7s,baz=60						
OSTC	**Ostas**	**1.65**	**296**	*e*PG	**Pn**	**03 15 34.4**	**+0.2**
OSTC				*e*SG	**Sg**	**03 15 57.4**	**+0.4**
	comp=Z,88nm,0.7s						
OSTC	**Ostas**	**1.65**	**296**	Pn	**Pn**	**03 15 34.4**	**+0.2**
MODS	**Modra-Piesok**	**1.70**	**210**	*e*PG	**Pn**	**03 15 34.7**	**-0.2**
MODS				*e*SG	**Sn**	**03 15 56.7**	**-0.6**
MODS				*e*LG	Lg	03 16 01.2	
KSP	**Ksiaz**	**1.75**	**305**	*e*Pb	**Pn**	**03 15 35.2**	**-0.3**
KSP				*e*Pg	**Pg**	**03 15 37.5**	**+0.1**
KSP				*e*Sg	**Sg**	**03 16 00.2**	**+0.2**
KSP	**Ksiaz**	**1.75**	**305**	*e*Pn	**Pn**	**03 15 35.5**	**0.0**
KSP				*e*Sg	**Sb**	**03 15 59.1**	**-0.3**
KSP	**Ksiaz**	**1.75**	**305**	Pn	**Pn**	**03 15 34.6**	**-0.9**
UPC	**Upice**	**1.75**	**293**	*e*PG	**Pb**	**03 15 36.7**	**-0.3**
UPC				*e*SG	**Sg**	**03 16 00.2**	**0.0**
	comp=Z,66nm,0.8s						
CHVC	**Chvalec**	**1.76**	**296**	*e*PG	**Pb**	**03 15 36.5**	**-0.6**
CHVC				*e*SG	**Sg**	**03 16 00.8**	**+0.4**
	comp=Z,167nm,1.2s						
KECS	**Kecovo**	**1.88**	**136**	*e*SN	**Sn**	**03 16 01.5**	**-0.1**
KECS				*e*LG	Lg	03 16 06.7	
ZST	**Bratislava**	**1.91**	**210**	*e*SG	**Sn**	**03 16 01.9**	**-0.6**
TREC	**Trest**	**2.06**	**255**	*e*SG	**Sb**	**03 16 08.8**	**+0.3**
	comp=Z,71nm,1.0s						
CRVS	**Cervenica-Dubn**	**2.13**	**115**	*e*PN	**Pg**	**03 15 44.6**	**-0.2**
CRVS				*e*LG	Lg	03 16 19.6	
PSZ	**Piszkesteto**	**2.13**	**155**	P	**Pn**	**03 15 41.0**	**+0.1**
PRU	**Pruhonice**	**2.59**	**274**	*e*PG	**Pb**	**03 15 51.7**	**+0.5**
PRU				*e*SG	**Sb**	**03 16 25.4**	**+1.9**
	comp=Z,30nm,0.5s						
KOLS	**Kolonicke sedl**	**2.61**	**109**	*e*PN	**Pb**	**03 15 51.3**	**-0.2**
CONA	**Conrad Observa**	**2.62**	**224**	*e*Pn	**Pn**	**03 15 46.7**	**-0.8**
	2.2nm,0.4s						
CONA				Pg	**Pg**	**03 15 54.5**	**+0.4**
	4.6nm,0.4s						
RONA	**Rosalia, Austr**	**2.62**	**215**	Pn	**Pn**	**03 15 47.9**	**+0.3**
	4.9nm,0.4s						
RONA				Sn	**Sn**	**03 16 21.0**	**+1.0**
	17nm,0.6s						
PVCC	**Panska Ves**	**2.64**	**286**	*e*PG	**Pb**	**03 15 53.1**	**+1.0**
PVCC				*e*SG	**Sg**	**03 16 27.8**	**-0.9**
	comp=Z,65nm,0.5s						
MPLH	**Magyarpolny**	**2.77**	**194**	P	**Pn**	**03 15 49.4**	**-0.2**
CKRC	**Cesky Krumlov**	**2.96**	**251**	*e*PG	**Pb**	**03 15 58.8**	**+1.3**
CKRC				*e*SG	**Sg**	**03 16 36.6**	**-2.2**
BRG	**Berggiesshubel**	**3.12**	**291**	Pg	**Pb**	**03 16 01.4**	**+1.3**
BRG				Sg	**Sg**	**03 16 42.3**	**-1.7**
BRG				Amp		03 16 44.1	
	comp=Z,22nm,0.6s						
ARSA	**Arzberg**	**3.29**	**219**	*e*Pn	**Pn**	**03 15 57.3**	**+0.6**
	comp=Z,1.0nm,0.4s						
ARSA				*e*Sn	**Sn**	**03 16 37.3**	**+0.8**
	comp=Z,2.4nm,0.4s						
KHC	**Kasperske Hory**	**3.32**	**259**	*e*PG	**Pb**	**03 16 04.9**	**+1.3**
KHC				*e*SG	**Sg**	**03 16 48.4**	**-2.0**
	comp=Z,42nm,0.9s						
GEC2	**GERESS Array S**	**3.32**	**254**	*e*Pg	**Pg**	**03 16 05.8**	**-1.8**
GEC2				*e*Sg	**Sb**	**03 16 45.7**	**+1.0**
MOA	**Molln**	**3.46**	**236**	*e*Pn	**Pn**	**03 15 59.1**	**0.0**
	comp=Z,0.4nm,0.3s						
MOA				*e*Sn	**Sn**	**03 16 41.2**	**+0.3**
	comp=Z,6.7nm,0.5s						
FBE	**Freiberg**	**3.49**	**290**	*e*Sg	**Sg**	**03 16 53.6**	**-2.3**
WET	**Wettzell**	**3.76**	**261**	*e*Pg	**Pb**	**03 16 12.9**	**+1.7**
WET				*e*Sg	**Sb**	**03 16 58.6**	**+1.4**
CLL	**Collm**	**3.82**	**294**	*i* Pn	Pn	03 15 54.7	-9.2
CLL				*i* Pg	**Pg**	**03 16 17.0**	**-0.1**
CLL				*i* Sg	**Sg**	**03 17 06.1**	**-0.4**
	comp=Z,25nm,0.7s						
NKC	**Novy Kostel**	**3.94**	**278**	*e*SG	**Sg**	**03 17 10.0**	**-0.6**
	comp=Z,28nm,0.6s						
OBKA	**Obir**	**4.28**	**220**	*e*Pn	**Pn**	**03 16 11.6**	**+1.2**
	comp=Z,0.5nm,0.3s						
LUBAR	**Lubar, Ukraine**	**5.96**	**86**	Pn	**Pn**	**03 16 33.0**	**-0.3**
LUBAR				pP	**Pn**	**03 16 34.2**	**+0.9**
MI30	**MI30,Zelenitsa**	**6.25**	**78**	Pn	**Pn**	**03 16 36.1**	**-1.2**
AKBB	**Malin Array Si**	**6.90**	**79**	Pn	**Pn**	**03 16 45.3**	**-1.0**
AKBB				Sn	**Sn**	**03 18 05.5**	**+0.1**

GCMT 24 03:22:38.0±0.1, 49°.63S±0°.01×115°.74W±0°.01, h21km±1km, MW5.2/120, Moment Tensor Solution. s74,c116; s120,c185; Duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.76±.16; $M_{\theta\theta}$3.19±.16; $M_{\phi\phi}$-2.43±.15; $M_{r\theta}$1.13±.27; $M_{\theta\phi}$6.53±.13; $M_{r\phi}$0.82±.25; Best double couple: $M_0$7.22500×10^{16} NP1: ϕ_s102.00000°, δ83.00000°, λ6.00000°. NP2: ϕ_s11.00000°, δ84.00000°, λ173.00000°. Principal axes: T 7.7190, Plg9.0000°, Azm327.0000°; N -0.9850, Plg81.0000°, Azm151.0000°; P -6.7300, Plg1.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**37.20**	**302**	*e*LR	LR	03 39 16.9	
	comp=Z,1μm,26.2s,baz=146						
PPT2	**Papeete2**	**41.98**	**307**	*e*S	S	03 36 20.0	-25
	179nm,25.2s						
PPT2				*e*LQ	LQ	03 39 39.0	
	2μm,30.0s						
PPT2				*e*LR	LR	03 41 33.8	
	comp=Z,2μm,27.2s,baz=156						
TAOE	**Nuku Hiva Isla**	**45.47**	**325**	*e*S	S	03 37 13.4	-23
	197nm,25.7s						
TAOE				*e*LR	LR	03 43 18.5	
	comp=Z,1μm,27.5s,baz=172						
DZM	**Mont Dzumac**	**65.72**	**264**	*e*LQ	LQ	03 49 13.7	
	1μm,33.5s						
DZM				*e*LR	LR	03 51 58.0	
	comp=Z,365nm,23.9s						

*SNET **24** 03:25:24.8±1.0, 14°.10N×89°.77W, h11km±3km, ML3.4*
*GCG **24** 03:25:28.4±0.6, 14°.27N×89°.80W, h6km±6km, MD3.4*
ISC 24 03:25:25.5±0.9, 14°.13N±0°.04×89°.74W±0°.03, h11km±8km, n20, σ0s86/29, 2D, Guatemala

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

SLOZ	**Alcaldia de Sa**	**0.11**	**201**ǁ	*eP*	**Pg**	**03 25 28.1**	**-0.3**
SLOZ				*eS*	**Sg**	**03 25 29.9**	**-0.5**
NUBE	**Las Nubes**	**0.23**	**189**ǁ	*eP*	**Pg**	**03 25 30.1**	**-0.3**
NUBE				*eS*	**Sg**	**03 25 32.9**	**-0.7**
SNJE	**San Jose**	**0.29**	**153**	*eP*	**Pg**	**03 25 31.3**	**-0.2**
SNJE				*eS*	**Sg**	**03 25 37.1**	**+1.6**
SBLS	**San Blas**	**0.31**	**158**	*eP*	**Pg**	**03 25 31.5**	**-0.4**
CEVE	**Cerro Verde**	**0.32**	**159**	*eP*	**Pg**	**03 25 31.7**	**-0.4**
CEVE				*eS*	**Sg**	**03 25 38.1**	**+1.6**
CEVE				IAML		03 25 40.0	
	comp=Z,6μm,0.4s						
MTO3	**Montecristo**	**0.46**	**54**	*eP*	**Pg**	**03 25 34.6**	**0.0**
BOQS	**Boqueron**	**0.59**	**131**	*eP*	**Pg**	**03 25 36.7**	**-0.5**
UEES	**Universidad Ev**	**0.64**	**130**	*eP*	**Pg**	**03 25 37.2**	**-0.7**
UEES				IAML		03 25 50.3	
	comp=Z,982nm,0.3s						
SNET	**Serv Nac Est T**	**0.66**	**131**	*eP*	**Pg**	**03 25 37.5**	**-1.0**
LFU	**La Fuente**	**0.72**	**122**	*eP*	**Pg**	**03 25 38.9**	**-0.6**
NBG	**Las Nubes**	**0.74**	**308**	*eP*	**Pb**	**03 25 41.4**	**+0.7**
NBG				*eS*	**Sb**	**03 25 51.9**	**+0.9**
LFRS	**El Faro**	**0.83**	**127**	*eP*	**Pg**	**03 25 40.6**	**-1.0**
LFRS				*eS*	**Sg**	**03 25 52.3**	**-0.1**
SJTE	**Alcalda de S**	**0.88**	**125**	*eP*	**Pg**	**03 25 41.5**	**-1.0**
PAVA	**Las Pavas**	**0.88**	**118**	*eP*	**Pg**	**03 25 41.7**	**-0.9**
PAVA				IAML		03 25 57.5	
	comp=Z,736nm,0.4s						
MRL	**Marmol**	**0.95**	**3**	*eP*	**Pb**	**03 25 44.8**	**+0.6**
MRL				*eS*	**Sb**	**03 25 57.0**	**+0.1**
COEG	**Centro de Oper**	**0.98**	**121**	*eP*	**Pg**	**03 25 43.3**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.07**	**113**	*eP*	**Pg**	**03 25 44.9**	**-1.3**
FUG	**Fuego 3**	**1.11**	**287**	*eP*	**Pb**	**03 25 47.3**	**+0.4**
FUG				*eS*	**Sn**	**03 26 02.9**	**+0.2**
PACA	**Pacayal**	**1.53**	**115**	*eP*	**Pn**	**03 25 52.7**	**-0.3**
PACA				IAML		03 26 20.5	
	comp=Z,980nm,0.5s						
STG3	**Santiaguito 3,**	**1.86**	**288**	*eP*	**Pb**	**03 26 00.1**	**+0.3**
STG3				*eS*	**Sg**	**03 26 24.1**	**-1.4**

*IDC **24** 03:27:10.1±1.4, 15°.46S×66°.88E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.7/51, mbtmp3.9/10, MS3.9/37, Ms1 3.9/37, ms1mx3.7/83, Error ellipse: s-maj=46.1km s-min=24.5km az=34.0*

*NEIC **24** 03:27:13.5±1.2, 15°.4S±0°.2×67°.0E±0°.2, h10km±2km, mb4.3/9, Error ellipse: s-maj=32.4km s-min=27.2km az=238.0*

*GCMT **24** 03:27:15.5±0.3, 15°.21S±0°.03×67°.11E±0°.03, h19km±1km, MW4.9/88, Moment Tensor Solution. s21,c26; s88,c110; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.94±.18; Mθθ 1.38±.12; Mϕϕ 1.55±.13; Mrθ -0.36±.26; Mrϕ -1.08±.07; Mθϕ -0.77±.30; Best double couple: Mo 2.85200×10¹⁶ NP1:ϕs 125.00000°, δ43.00000°, λ -109.00000°. NP2: ϕs 330.00000°, δ50.00000°, λ -74.00000°. Principal axes: T 2.5680, Plg4.0000°, Azm49.0000°; N 0.5570, Plg13.0000°, Azm139.0000°; P -3.1350, Plg77.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 03:27:12.8±1.3, 15°.5S±0°.3×66°.9E±0°.2, h14km, n64, σ0°.87/24, mb4.2/19, MS3.9/36, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.47**	**36**	T	T	03 38 40.6	
	baz=215,slow=76						
H08S2	**Diego Garcia H**	**9.48**	**36**	T	T	03 38 56.5	
	baz=215,slow=76						
H08S3	**Diego Garcia H**	**9.49**	**36**	T	T	03 38 56.0	
	baz=215,slow=76						
OPO	**Ambohidratompo**	**19.13**	**258**	LR	LR	03 37 05.3	
	comp=Z,186nm,18.6s,baz=223,slow=31						
PALK	**Pallekele**	**26.38**	**32**	LR	LR	03 41 04.3	
	comp=Z,261nm,21.6s,baz=316,slow=32						
ATD	**Arta Tunnel**	**35.88**	**317**	LR	LR	03 47 13.6	
	comp=Z,182nm,20.5s,baz=144,slow=34						
PSI	**Prapat**	**36.48**	**63**	LR	LR	03 46 14.4	
	comp=Z,512nm,20.8s,baz=240,slow=31						
LSZ	**Lusaka**	**37.32**	**265**	LR	LR	03 48 26.9	
	comp=Z,769nm,19.5s,baz=112,slow=34						
MBAR	**Mbarara**	**38.65**	**289**	LR	LR	03 47 58.6	
	comp=Z,346nm,18.5s,baz=90,slow=32						
WSAR	**Wadi Sarin**	**39.30**	**348**	LR	LR	03 47 43.3	
	comp=Z,153nm,19.0s,baz=190,slow=31						
LBTB	**Lobatse**	**39.80**	**249**	LR	LR	03 48 53.9	
	comp=Z,459nm,19.0s,baz=33,slow=33						
BOSA	**Boshof**	**40.59**	**244**	LR	LR	03 48 51.9	
	comp=Z,331nm,19.2s,baz=85,slow=32						
LEM	**Lembang**	**40.77**	**82**	LR	LR	03 48 58.8	
	comp=Z,159nm,19.3s,baz=144,slow=32						
CMAR	**Chiang Mai Arr**	**46.15**	**44**	P	**P**	**03 35 37.7**	**+0.6**
	1.4nm,0.3s,baz=234,slow=7.7,SNR=4.8						
CMAR				LR	LR	03 52 47.0	
	comp=Z,332nm,19.9s,baz=225,slow=33						
H01W3	**Cape Leeuwin H**	**46.43**	**124**	T	T	04 25 23.4	
	baz=284,slow=75						
H01W2	**Cape Leeuwin H**	**46.43**	**124**	T	T	04 25 27.9	
	baz=284,slow=75						
H01W1	**Cape Leeuwin H**	**46.44**	**124**	T	T	04 25 33.4	
	baz=284,slow=75						
TSUM	**Tsumeb**	**47.13**	**258**	LR	LR	03 53 43.8	
	comp=Z,206nm,21.8s,baz=131,slow=34						
KAPI	**Kappang**	**52.88**	**85**	LR	LR	03 55 23.7	
	comp=Z,227nm,22.0s,baz=246,slow=32						
GEYT	**Alibeck**	**53.73**	**351**	LR	LR	03 58 11.4	
	comp=Z,69nm,19.3s,baz=184,slow=35						
EIL	**Elat**	**54.44**	**325**	LR	LR	03 56 15.4	
	comp=Z,114nm,21.8s,baz=232,slow=32						
MMAI	**Mount Meron Ar**	**56.83**	**328**	LR	LR	03 59 47.9	
	comp=Z,80nm,18.9s,baz=16,slow=34						
AAK	**Ala-Archa**	**58.21**	**7**	LR	LR	04 01 43.1	
	comp=Z,108nm,18.9s,baz=208,slow=36						
GNI	**Garni**	**59.04**	**340**	LR	LR	04 01 44.9	
	comp=Z,39nm,19.6s,baz=201,slow=35						
DAV	**Davao City (W)**	**62.25**	**73**	LR	LR	04 03 23.6	
	comp=Z,66nm,19.6s,baz=270,slow=35						
KBZ	**Khabaz**	**62.86**	**341**	LR	LR	04 04 20.5	
	comp=Z,37nm,20.1s,baz=199,slow=36						
BRTR	**Keskin Array B**	**63.05**	**332**	P	**P**	**03 37 37.8**	**-2.0**
	0.5nm,0.9s,baz=138,slow=6.9,SNR=5.0						
BRTR				LR	LR	04 04 01.7	
	comp=Z,50nm,21.1s,baz=138,slow=35						
KVAR	**Kislovodsk Ar**	**63.13**	**341**	LR	LR	04 05 10.7	
	comp=Z,32nm,18.5s,baz=70,slow=36						
ASAR	**Alice Springs**	**63.16**	**109**	P	**P**	**03 37 40.8**	**-0.1**
	0.5nm,0.9s,baz=266,slow=6.1,SNR=5.8						
ASAR				LR	LR	04 02 33.2	
	comp=Z,233nm,18.9s,baz=232,slow=34						
MK31	**Makanchi Array**	**63.48**	**12**	P	**P**	**03 37 43.0**	**+0.7**
MKAR	**Makanchi Array**	**63.48**	**12**	P	**P**	**03 37 42.2**	**-0.1**
	0.7nm,1.0s,baz=226,slow=8.6,SNR=2.3						
MKAR				LR	LR	04 04 27.6	
	comp=Z,74nm,22.0s,baz=190,slow=35						
MKAR	**Makanchi Array**	**63.48**	**12**	P	**P**	**03 37 42.7**	**+0.4**
WRA	**Warramunga Arr**	**64.01**	**105**	P	**P**	**03 37 45.3**	**-1.1**
	0.9nm,0.7s,baz=269,slow=6.1,SNR=4.8						
ABKAR	**Akbulak array**	**64.71**	**355**	P	**P**	**03 37 50.4**	**+0.1**
ABKAR				IAmb	IAmb	03 37 51.8	
	comp=Z,1.8nm,0.9s						
KURBB	**Kurchatov Arra**	**66.57**	**8**	LR	LR	04 04 34.9	
	comp=Z,102nm,20.6s,baz=172,slow=34						
ZALV	**Zalesovo Beam**	**70.79**	**11**	P	**P**	**03 38 27.7**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=172,slow=2.9,SNR=2.3						
ZALV				LR	LR	04 09 40.8	
	comp=Z,61nm,18.0s,baz=228,slow=36						
SONM	**Songino Array**	**72.18**	**27**	P	**P**	**03 38 37.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=217,slow=7.0,SNR=4.7						
JOW	**Kunigami**	**72.88**	**55**	LR	LR	04 07 42.7	
	comp=Z,125nm,21.4s,baz=234,slow=33						
AKASG	**Malin Array Be**	**73.69**	**336**	P	**P**	**03 38 45.1**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=132,slow=5.8,SNR=5.5						
DBIC	**Dimbokro**	**74.40**	**282**	LR	LR	04 10 11.3	
	comp=Z,82nm,20.3s,baz=155,slow=35						
KIRV	**Kirov**	**75.16**	**351**	LR	LR	04 12 06.9	
	comp=Z,47nm,20.2s,baz=150,slow=36						
VNDA	**Vanda**	**76.09**	**167**	LR	LR	04 08 58.0	
	comp=Z,25nm,19.0s,baz=222,slow=33						
ARSA	**Arzberg**	**77.52**	**327**	*eP*	P	03 39 15.8	+7.7
	comp=Z,4.1nm,0.8s						
KSAR	**Wonju Array Be**	**77.74**	**45**	P	**P**	**03 39 09.8**	**+0.4**
KSRS	**Korea Array**	**77.77**	**45**	P	**P**	**03 39 09.7**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=248,slow=5.4,SNR=5.1						
KSRS				LR	LR	04 15 04.9	
	comp=Z,56nm,18.2s,baz=250,slow=37						

CONA	**Conrad Observa**	**77.78**	**328**	*eP*	P	03 39 16.2	+6.7
	comp=Z,4.1nm,0.9s						
MOA	**Molln**	**78.56**	**327**	*eP*	**P**	**03 39 14.8**	**+0.9**
	comp=Z,4.2nm,0.9s						
ABTA	**Abfaltersbach**	**78.83**	**325**	*eP*	**P**	**03 39 16.4**	**+1.0**
	comp=Z,1.4nm,0.8s						
WTTA	**Wattenberg**	**79.62**	**325**	*eP*	P	03 39 24.9	+5.0
	comp=Z,4.1nm,1.3s						
MOTA	**Moosalm**	**79.96**	**325**	*eP*	**P**	**03 39 21.7**	**+0.1**
	comp=Z,3.3nm,0.9s						
DAVA	**Damuels**	**80.61**	**325**	*eP*	**P**	**03 39 24.2**	**-1.0**
	comp=Z,4.2nm,1.1s						
SENIN	**Lac Senin/Sane**	**81.57**	**323**	P	**P**	**03 39 31.0**	**+0.6**
SENIN				IAmb	IAmb	03 39 33.0	
	comp=Z,5.7nm,0.9s						
STU	**Stuttgart**	**81.83**	**326**	P	**P**	**03 39 32.6**	**+1.2**
MDJ	**Mudanjiang**	**82.47**	**40**	P	**P**	**03 39 34.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**83.77**	**41**	LR	LR	04 14 49.3	
	comp=Z,55nm,21.8s,baz=200,slow=34						
JCJ	**Chichijima**	**84.33**	**60**	LR	LR	04 12 32.0	
	comp=Z,56nm,21.4s,baz=130,slow=32						
JHJ	**Hachijo jima 2**	**84.57**	**54**	LR	LR	04 17 01.0	
	comp=Z,37nm,19.5s,baz=258,slow=35						
MJAR	**Matsushiro Arr**	**84.70**	**50**	LR	LR	04 18 02.1	
	comp=Z,45nm,19.3s,baz=194,slow=36						
ESDC	**Sonseca Array**	**85.68**	**313**	P	**P**	**03 39 52.2**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=112,slow=3.4,SNR=9.0						
ESDC	**Sonseca Array**	**85.68**	**313**	P	**P**	**03 39 52.9**	**+1.5**
ESDC				IAmb	IAmb	03 39 53.2	
	comp=Z,1.9nm,1.0s						
PMSA	**Palmer Station**	**91.83**	**199**	LR	LR	04 14 23.1	
	comp=Z,93nm,20.0s,baz=96,slow=31						
DZM	**Mont Dzumac**	**92.81**	**114**	LR	LR	04 21 24.7	
	comp=Z,98nm,18.6s,baz=246,slow=35						
YKA	**Yellowknife Ar**	**133.00**	**1**	PKP	**PKPdf**	**03 46 28.2**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=14,slow=2.0,SNR=4.5						
PDAR	**Pinedale Array**	**152.61**	**354**	PKPbc	**PKPbc**	**03 47 09.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=108,slow=2.7,SNR=4.6						

*ISU **24** 03:30:29.3, 40°.54N×68°.83E, h16km, Hypocentre not reviewed by the ISC*

*KRNET **24** 03:30:31.2±0.1, 40°.74N×69°.18E, h25km, mb2.6*

ISC 24 03:30:31.4±2.4, 40°.74N±0°.08×69°.2E±0°.2, h12km±20km, n6, σ0°.36/11, 8C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NZBK	**Nazarbek**	**0.49**	**356**	S		03 30 52.6	
TAS	**Tashkent**	**0.60**	**10**ǁ	*iP*	**Pg**	**03 30 43.0**	**0.0**
	baz=9.0						
TAS				ǁ*iS*	**Sb**	**03 30 51.7**	**-0.5**
	baz=9.0						
MINT	**Mingtut**	**1.41**	**100**	P		03 30 59.1	
MINT				S		03 31 20.2	
BTK	**Batken**	**1.44**	**118**↑	*iP*	**Pn**	**03 30 57.3**	**0.0**
	baz=18						
BTK				↑*iS*	**Sb**	**03 31 16.0**	**-0.4**
	baz=18						
TRKS	**Terek-Say**	**1.69**	**61**↑	*iP*	**Pn**	**03 31 01.0**	**0.0**
	baz=64						
TRKS				↑*iS*	**Sn**	**03 31 23.0**	**+0.3**
	baz=64						
CHMI	**Chimion**	**1.86**	**104**	P		03 31 05.7	
CHMI				S		03 31 32.4	
FRG	**Fergana**	**2.03**	**99**	P		03 31 08.9	
FRG				S		03 31 37.0	
SHAK	**Shakhimardan**	**2.12**	**111**	P		03 31 09.8	
SHAK				S		03 31 38.0	
ARK	**Arkit**	**2.36**	**62**↑	*iP*	**Pn**	**03 31 10.6**	**+0.5**
	baz=62						
ARK				↑*iS*	**Sn**	**03 31 39.1**	**-0.1**
	baz=62						
DRK	**Karamyk**	**2.38**	**121**↑	*iP*	**Pn**	**03 31 10.9**	**+0.4**
	baz=21						
DRK				↑*iS*	**Sn**	**03 31 39.8**	**-0.1**
	baz=21						
KK31	**Karatay Array**	**2.57**	**23**	Pn	**Pb**	**03 31 17.5**	**0.0**
	0.6nm,0.3s,baz=200,slow=9.5,SNR=34						
KK31				Lg	Lg	03 31 52.8	
	8.2nm,0.5s,baz=205,slow=31,SNR=17						

IDC 24 03:57:19.8±8.7, 23°.72S×149°.30E, h0km, mb1 3.3/4, mb1mx3.0/33, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=104.5km s-min=28.0km az=95.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**4.59**	**321**	Pn	Pn	03 58 30.4	0.0
	0.3nm,0.3s,baz=143,slow=15,SNR=1.7						
CTA				Sn	Sn	03 59 24.9	+0.4
	0.8nm,0.3s,baz=65,slow=19,SNR=1.5						
STKA	**Stephens Creek**	**10.60**	**218**	Pn	Pn	03 59 53.0	0.0
	0.1nm,0.3s,baz=4.8,slow=12,SNR=1.4						
STKA				Sn	Sn	04 01 52.7	+0.1
	0.1nm,0.3s,baz=343,slow=19,SNR=1.8						
STKA				Lg	Lg	04 02 57.5	
	0.1nm,0.3s,baz=285,slow=21,SNR=3.3						
ASAR	**Alice Springs**	**14.11**	**267**	Pn	Pn	04 00 39.7	-1.2
	0.0nm,0.3s,baz=88,slow=14,SNR=1.4						
WRA	**Warramunga Arr**	**14.39**	**282**	Pn	Pn	04 00 46.7	+1.8
	0.0nm,0.3s,baz=111,slow=14,SNR=1.3						
WRA				Lg	Lg	04 04 47.8	
	0.0nm,0.3s,baz=108,slow=27,SNR=4.6						

*IDC **24** 04:29:39.0±1.4, 14°.43S×166°.19E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/36, mbtmp3.8/4, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/60, Error ellipse: s-maj=55.7km s-min=30.9km az=122.0*

*NOU **24** 04:29:41.5, 14°.52S×166°.24E, h0km, mb3.9/10, Vanuatu Islands*

ISC 24 04:29:44.1±1.1, 14°.54S±0°.10×166°.3E±0°.1, h35km, n10, σ1ș43/11, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.26**	**136**	P	**Pn**	**04 30 05.7**	**+0.5**
KOUNC	**Koumac, New Ca**	**6.28**	**198**	P	**Pn**	**04 31 15.2**	**+0.9**
DZM	**Mont Dzumac**	**7.50**	**179**	Pn	**Pn**	**04 31 31.3**	**+0.2**
	1.1nm,0.3s,baz=180,slow=13,SNR=23						
DZM				Sn	**Sn**	**04 32 53.1**	**-1.8**
	0.4nm,0.3s,baz=134,slow=22,SNR=1.4						
DZM				LR	LR	04 34 09.5	
	comp=Z,55nm,20.6s,baz=42,slow=36						
DZM	**Mont Dzumac**	**7.50**	**179**	P	**Pn**	**04 31 31.7**	**+0.7**
YATNC	**Mamie plateau,**	**7.50**	**176**	P	**Pn**	**04 31 31.9**	**+0.8**
NOUC	**Port Laguerre**	**7.52**	**180**	P	**Pn**	**04 31 34.2**	**+2.9**
OUENC	**Ouen Island, N**	**7.86**	**176**	P	**Pn**	**04 31 37.3**	**+1.4**
ASAR	**Alice Springs**	**31.87**	**249**	P	**P**	**04 36 05.5**	**-0.7**
	0.3nm,0.5s,baz=77,slow=9.2,SNR=8.5						
ILAR	**Eielson Array**	**86.64**	**18**	P	**P**	**04 42 24.0**	**+0.4**
	0.7nm,0.7s,baz=235,slow=4.6,SNR=8.4						
YKA	**Yellowknife Ar**	**97.81**	**27**	P	**P**	**04 43 15.0**	**-0.5**
	0.2nm,0.6s,baz=259,slow=4.8,SNR=5.3						

*DJA **24** 04:32:26.0±0.3, 7°.S±2°×10°.3E±°, h11km±2km, M5.0/49, mb5.0/49, mB5.4/25, MLv5.4/22, Mw(mB)4.9/25, MwMwp6.3/1, Mwp6.2/1*

*MOS **24** 04:32:26.3±1.1, 6°.82S×102°.61E, h24km, mb5.4/68, Error ellipse: s-maj=9.5km s-min=4.2km az=114.0*

*KLM **24** 04:32:26, 7°.02S×102°.39E, h16km, mb5.2*

*NEIC **24** 04:32:26.1±2.1, 7°.03S±0°.06×102°.58E±0°.07, h10km±1km, mb5.2/103, Error ellipse: s-maj=11.8km s-min=10.8km az=269.0*

*BJI **24** 04:32:27.0±0.0, 7°.00S×102°.60E, h33km, mb5.2/74, mB5.2/54, Ms4.9/69, Ms7 4.7/65*

*GCMT **24** 04:32:28.1±0.2, 7°.17S±0°.01×102°.62E±0°.02, h16km±1km, MW5.0/107, Moment Tensor Solution. s31,c38; s107,c149; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.07±.16; Mθθ 1.86±.12; Mϕϕ 0.20±.13; Mrθ -2.14±.38; Mθϕ -3.35±.09; Mrϕ -1.20±.36; Best double couple: Mo 4.59700×10¹⁶ NP1:ϕs 344.00000°, δ53.00000°, λ -28.00000°. NP2:ϕs 92.00000°, δ68.00000°, λ -140.00000°. Principal axes: T 4.6320, Plg9.0000°, Azm215.0000°; N -0.0780, Plg45.0000°, Azm116.0000°; P -4.5620, Plg43.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **24** 04:32:30.9±2.3, 7°.04S×102°.73E, h53km±20km, mb4.6/40, mb1 4.6/42, mb1mx4.5/58, mbtmp4.8/42, ML4.4/2, MS4.0/57, Ms1 4.0/57, ms1mx3.9/84 Error ellipse: s-maj=15.1km s-min=7.9km az=37.0*

ISC 24 04:32:26.7±0.5, 7°.08S±0°.04×102°.62E±0°.04, h21km±5km, h20km:pP-P, n785, σ1ș21/832, mb5.2/167, MS4.3/82, 10C-37D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**2.42**	**50**	P	**Pn**	**04 33 04.7**	**-0.4**
LWLI	**Liwa**	**2.50**	**35**	P	**Pn**	**04 33 06.0**	**-0.2**
LWLI				S	**Sn**	**04 33 33.5**	**-2.6**
MNAI	**Manna**	**2.72**	**7**	Pn	**Pn**	**04 33 08.2**	**-1.0**
MNAI	**Manna**	**2.72**	**7**	P	**Pn**	**04 33 08.5**	**-0.7**
MNAI				S	**Sn**	**04 33 41.2**	**-0.3**
MNAI	**Manna**	**2.72**	**7**	P	**Pn**	**04 33 08.7**	**-0.5**
MDSI	**Maura Dua**	**3.00**	**31**	P	**Pn**	**04 33 13.1**	**0.0**
MDSI				S	**Sn**	**04 33 46.6**	**-1.9**
CGJI	**Cibinong**	**3.08**	**82**	P	**Pn**	**04 33 14.1**	**-0.1**
BLSI	**Bandar Lampung**	**3.11**	**57**	P	**Pn**	**04 33 14.9**	**+0.3**
KLI	**Kotabumi**	**3.13**	**45**	P	**Pn**	**04 33 15.7**	**+0.9**
KSI	**Kapahiang**	**3.40**	**360**	P	**Pn**	**04 33 17.8**	**-0.9**
KSI				S	**Sn**	**04 33 55.7**	**-2.8**
SKJI	**Sukabumi**	**3.91**	**89**	P	**Pn**	**04 33 26.1**	**+0.6**
DBJI	**Dramaga**	**4.13**	**83**	P	**Pn**	**04 33 29.3**	**+0.6**
CBJI	**Citeko**	**4.25**	**81**	P	**Pn**	**04 33 32.4**	**+2.1**
CNJI	**Cibinong**	**4.48**	**93**	P	**Pn**	**04 33 32.5**	**-0.9**
XMIS	**Christmas Isla**	**4.52**	**139**	Pn	Pn	04 33 29.1	-4.8
PMBI	**Palembang**	**4.65**	**28**	Pn	**Pn**	**04 33 36.5**	**+0.7**
LEM	**Lembang**	**4.97**	**87**	P	**Pn**	**04 33 42.0**	**+1.7**
	76nm,0.3s,baz=228,slow=6.8,SNR=30						
LEM				S	**Sn**	**04 34 37.8**	**+0.6**
	82nm,0.3s,baz=346,slow=23,SNR=4.4						
LEM				LR	LR	04 35 56.5	
	comp=Z,2μm,20.2s,baz=332,slow=42						
LEM	**Lembang**	**4.97**	**87**	P	**Pn**	**04 33 42.9**	**+2.6**
LEM	**Lembang**	**4.97**	**87**	P	**Pn**	**04 33 42.6**	**+2.3**
	1.1nm3μm222nm,0.7s						
PPSI	**Pulau Pagai**	**5.01**	**329**	P	**Pn**	**04 33 38.9**	**-1.9**
KRJI	**Kerinci**	**5.09**	**347**	P	**Pn**	**04 33 40.7**	**-1.2**
JMBI	**JAMBI**	**5.50**	**11**	P	**Pn**	**04 33 47.3**	**-0.2**
JCJI	**Jatiwangi**	**5.64**	**84**	P	**Pn**	**04 33 50.8**	**+1.4**
	1.3nm231nm,0.6s						
CMJI	**Cimerak**	**5.82**	**97**	P	**Pn**	**04 33 51.3**	**-0.6**
	3.3nm9μm311nm,0.4s						
PPBI	**Pangkal Pinang**	**6.01**	**36**	P	**Pn**	**04 33 54.9**	**+0.4**
	4.3nm25μm66nm,0.6s						
SISI	**Saibi**	**6.71**	**328**	P	**Pn**	**04 34 01.9**	**-2.2**
	0.8nm2μm190nm,0.7s						
DSRI	**Dabo**	**6.84**	**17**	P	**Pn**	**04 34 06.0**	**+0.1**
BKNI	**Bangkinang**	**7.52**	**348**		**P**	**04 34 12.9**	**-2.4**
BKNI	**Bangkinang**	**7.52**	**348**	P	**Pn**	**04 34 13.2**	**-2.1**
	1.6nm105nm,0.6s						
BKNI	**Bangkinang**	**7.52**	**348**	P	**Pn**	**04 34 13.4**	**-1.9**
COCO	**West Island**	**7.64**	**228**	P	**Pn**	**04 34 16.1**	**-0.7**
COCO	**West Island**	**7.64**	**228**	Pn	**Pn**	**04 34 16.1**	**-0.7**
SMRI	**Semarang**	**7.76**	**90**		**P**	**04 34 20.1**	**+1.5**
SMRI	**Semarang**	**7.76**	**90**	P	**Pn**	**04 34 21.4**	**+2.9**
	1.0nm5μm270nm,0.7s						
SMRI	**Semarang**	**7.76**	**90**	P	**Pn**	**04 34 21.8**	**+3.3**
UGM	**Wanagama**	**7.88**	**97**	Pn	**Pn**	**04 34 19.7**	**-0.5**
UGM	**Wanagama**	**7.88**	**97**	P	**Pn**	**04 34 19.9**	**-0.3**
	2.2nm412nm,0.9s						
UGM	**Wanagama**	**7.88**	**97**	P	**Pn**	**04 34 20.9**	**+0.7**
TPRI	**Tanjung Pinang**	**8.17**	**14**	P	**Pn**	**04 34 23.6**	**-0.5**
	71nm,0.9s						
MNSI	**Mandailing Nat**	**8.39**	**339**	P	**Pn**	**04 34 24.3**	**-2.9**
PCJI	**Pacitan**	**8.55**	**98**	P	**Pn**	**04 34 29.0**	**-0.4**
	3μm334nm,1.2s						
MYKOM	**Kota Tinggi**	**8.89**	**8**	Pn	**Pn**	**04 34 34.1**	**+0.1**
PWJI	**Pagerwojo**	**9.15**	**96**	P	**Pn**	**04 34 37.9**	**+0.3**
	3μm278nm,0.9s						
GSI	**Gunungsitoli**	**9.73**	**329**	Pn	**Pn**	**04 34 41.8**	**-3.8**
GSI	**Gunungsitoli**	**9.73**	**329**	P	**Pn**	**04 34 42.8**	**-2.8**
	1μm70nm,0.8s						
GSI	**Gunungsitoli**	**9.73**	**329**	P	**Pn**	**04 34 43.0**	**-2.6**
RPSI	**Rantau Prapat**	**10.39**	**339**		**Pn**	**04 34 51.8**	**-2.8**
PSI	**Prapat**	**10.48**	**339**	P	**Pn**	**04 34 51.8**	**-4.2**
	0.8nm,0.3s,baz=167,slow=10,SNR=18						
PSI				S	Sn	04 36 40.5	-13
	0.8nm,0.3s,baz=277,slow=18,SNR=1.7						
JRMM	**Jerantut**	**10.89**	**359**	P	**Pn**	**04 35 01.0**	**-0.5**
STKI	**Sintang**	**11.33**	**52**	P	**Pn**	**04 35 09.0**	**+1.5**
	16μm26nm,0.8s						
KSM	**Kuching**	**11.45**	**42**	Pn	**Pn**	**04 35 08.0**	**-1.1**
KSM	**Kuching**	**11.45**	**42**	P	**Pn**	**04 35 10.1**	**+1.0**
**

CHTO	**Chiang Mai**	**25.98**	**352**	P	**P**	**04 37 57.7**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,39nm,1.0s						
CHTO	**Chiang Mai**	**25.98**	**352**	P	**P**	**04 37 57.7**	**-0.5**
CHTO				IAmb	IAmb	04 38 00.8	
	comp=Z,39nm,1.0s						
CHTO	**Chiang Mai**	**25.98**	**352**	P	**P**	**04 37 58.5**	**+0.4**
CHTO	**Chiang Mai**	**25.98**	**352**	P	**P**	**04 37 58.6**	**+0.4**
PALK	**Pallekele**	**26.10**	**303**	P	**P**	**04 38 01.5**	**+2.1**
	comp=Z,35nm,1.0s,baz=239,slow=7.3,SNR=11						
PALK				LR	LR	04 47 07.3	
	comp=Z,402nm,19.6s,baz=232,slow=34						
PALK	**Pallekele**	**26.10**	**303**	P	**P**	**04 38 00.0**	**+0.6**
PALK				pmax	pmax		
	comp=Z,80nm,1.2s						
PALK	**Pallekele**	**26.10**	**303**	P	**P**	**04 37 60.0**	**+0.6**
PALK				IAmb	IAmb	04 38 03.7	
	comp=Z,80nm,1.2s						
PALK	**Pallekele**	**26.10**	**303**	P	**P**	**04 38 02.6**	**+3.2**
DAV	**Davao City (W)**	**26.87**	**59**	LR	LR	04 48 26.2	
	comp=Z,427nm,22.0s,baz=178,slow=36						
QIZ	**Qiongzhong**	**26.90**	**15**	P	**P**	**04 38 08.5**	**+2.0**
QIZ				S	**S**	**04 42 45.0**	**+2.6**
QIZ				LR	LR		
	comp=Z,950nm,16.3s						
QIZ				LR	LR		
	comp=Z,920nm,13.9s						
QIZ				LR	LR		
	comp=Z,740nm,20.7s						
KNRA	**Kununurra**	**26.99**	**111**	P	**P**	**04 38 06.5**	**-0.9**
	baz=27,SNR=4.6						
KNRA	**Kununurra**	**26.99**	**111**	P	**P**	**04 38 08.7**	**+1.3**
KNRA				IAmb	IAmb	04 38 21.2	
	comp=Z,41nm,0.9s						
KNRA	**Kununurra**	**26.99**	**111**	P	**P**	**04 38 10.0**	**+2.6**
MTN	**Manton Dam**	**28.64**	**104**	P	**P**	**04 38 21.7**	**-0.5**
	baz=29,SNR=4.1						
SIJI	**Sorong**	**29.22**	**79**	LR	LR	04 50 30.9	
	comp=Z,185nm,20.5s,baz=114,slow=37						
H01W3	**Cape Leeuwin H**	**29.63**	**161**	T	T	05 10 19.7	
	baz=338,slow=76						
H01W2	**Cape Leeuwin H**	**29.65**	**161**	T	T	05 09 52.2	
	baz=338,slow=76						
H01W1	**Cape Leeuwin H**	**29.65**	**161**	T	T	05 10 04.0	
	baz=338,slow=76						
H08S2	**Diego Garcia H**	**29.88**	**267**	T	T	05 10 24.3	
	baz=89,slow=75						
H08S3	**Diego Garcia H**	**29.89**	**267**	T	T	05 10 15.3	
	baz=89,slow=75						
H08S1	**Diego Carcia H**	**29.90**	**267**	T	T	05 10 42.6	
	baz=89,slow=75						
WRKA	**Warakurna**	**30.35**	**129**	P	**P**	**04 38 37.8**	**+0.5**
	baz=30,SNR=3.6						
PCHI	**Peechi**	**31.47**	**304**	⇓*e*P	**P**	**04 38 50.0**	**+2.8**
PCHI				*e*S	S	04 43 41.4	-13
KMI	**Kunming**	**32.01**	**0**	⇓P	**P**	**04 38 53.9**	**+1.9**
KMI				pP	pwP	04 39 03.6	+1.3
KMI				sP	sP	04 39 08.8	+10
KMI				S	**S**	**04 44 04.3**	**+1.4**
KMI				pmax	pmax		
	comp=Z,36nm,1.0s						
KMI				pmax	pmax		
	comp=Z,130nm,3.5s						
KMI				LR	LR		
	comp=Z,2μm,15.1s						
KMI				LR	LR		
	comp=Z,240nm,14.1s						
KMI				LR	LR		
	comp=Z,2μm,13.1s						
WB0	**Warramunga Arr**	**33.30**	**115**	P	**P**	**04 39 02.8**	**-0.5**
WRA	**Warramunga Arr**	**33.31**	**116**	P	**P**	**04 39 03.3**	**0.0**
	comp=Z,3.3nm,0.8s,baz=264,slow=12,SNR=15						
WRA				LR	LR	04 54 30.2	
	comp=Z,164nm,18.8s,baz=259,slow=40						
WRAB	**Tennant Creek**	**33.31**	**116**	⇓*e*P	**P**	**04 39 03.3**	**-0.1**
WRAB	**Tennant Creek**	**33.31**	**116**	P	**P**	**04 39 04.5**	**+1.1**
WB2	**Warramunga Arr**	**33.32**	**116**	P	**P**	**04 39 03.0**	**-0.4**
	baz=33						
WB2	**Warramunga Arr**	**33.32**	**116**	P	**P**	**04 39 03.9**	**+0.5**
PZH	**PanZhiHua**	**33.39**	**359**	⇓P	**P**	**04 39 04.6**	**+0.6**
PZH				pP	**pwP**	**04 39 16.6**	**+2.3**
PZH				sP	sP	04 39 21.3	+10
PZH				S	**S**	**04 44 24.3**	**0.0**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,130nm,4.9s						
PZH				LR	LR		
	comp=Z,2μm,14.1s						
PZH				LR	LR		
	comp=Z,3μm,16.5s						
PZH				LR	LR		
	comp=Z,2μm,15.6s						
WR0	**Warramunga Arr**	**33.49**	**116**	P	**P**	**04 39 05.1**	**+0.2**
GYA	**Guiyang**	**33.57**	**7**	⇑P	**P**	**04 39 06.6**	**+1.1**
GYA				pP	pwP	04 39 15.9	0.0
GYA				PcP	**PcP**	**04 41 46.3**	**+0.3**
GYA				S	**S**	**04 44 28.3**	**+1.3**
GYA				pmax	pmax		
	comp=Z,35nm,1.1s						
GYA				pmax	pmax		
	comp=Z,210nm,3.5s						
GYA				LR	LR		
	comp=Z,530nm,22.1s						
GYA				LR	LR		
	comp=Z,580nm,20.4s						
GYA				LR	LR		
	comp=Z,650nm,23.9s						
HYBB	**Hyderabad (bro**	**34.03**	**316**	*e*P	**P**	**04 39 10.2**	**+0.6**
HYBB				*e*S	**S**	**04 44 35.7**	**+1.4**
SHL	**Shillong**	**34.09**	**343**	P	**P**	**04 39 10.0**	**-0.2**
SHL				pmax	pmax		
	comp=Z,87nm,1.4s						
SHL	**Shillong**	**34.09**	**343**	P	**P**	**04 39 10.0**	**-0.2**
SHL	**Shillong**	**34.09**	**343**	P	**P**	**04 39 10.5**	**+0.3**
	SNR=6.4						
ASAR	**Alice Springs**	**34.25**	**122**	P	**P**	**04 39 11.1**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=297,slow=7.7,SNR=17						
ASAR				PcP	**PcP**	**04 41 47.8**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=296,slow=2.7,SNR=3.3						
ASAR				LR	LR	04 56 26.8	
	comp=Z,271nm,18.0s,baz=310,slow=42						
ASAR	**Alice Springs**	**34.25**	**122**	P	**P**	**04 39 11.9**	**+0.3**
ASAR	**Alice Springs**	**34.25**	**122**	P	**P**	**04 39 11.9**	**+0.3**
AS31	**Alice Springs**	**34.26**	**122**	P	**P**	**04 39 10.5**	**-1.0**
SSLB	**Suanglung**	**35.52**	**30**	P	**P**	**04 39 21.8**	**-0.6**
CNSH	**ChangSha**	**36.44**	**15**	⇑P	**P**	**04 39 31.3**	**+1.1**
CNSH				S	**S**	**04 45 09.0**	**-1.9**
CNSH				pmax	pmax		
	comp=Z,29nm,1.1s						
CNSH				LR	LR		
	comp=Z,680nm,18.2s						
CNSH				LR	LR		
	comp=Z,390nm,16.3s						
CNSH				LR	LR		
	comp=Z,790nm,15.5s						
ODAN	**Odare**	**36.83**	**337**	*e*P	**P**	**04 39 35.1**	**+1.3**
	comp=Z,300nm,0.8s						
TAPN	**Taplejung**	**37.14**	**338**	*e*P	**P**	**04 39 38.2**	**+1.6**
	comp=Z,383nm,0.9s						
RAMN	**Ramite**	**37.22**	**336**	*e*P	**P**	**04 39 38.9**	**+1.8**
	comp=Z,92nm,0.5s						
OOD	**Oodnadatta**	**37.48**	**127**	P	**P**	**04 39 39.4**	**+0.3**
ENH	**Enshi**	**37.72**	**10**	P	**P**	**04 39 40.5**	**-0.5**
ENH				IAmb	IAmb	04 39 42.0	
	comp=Z,39nm,0.8s						
CD2	**Chengdu**	**37.79**	**2**	P	**P**	**04 39 41.6**	**0.0**
CD2				pP	pwP	04 39 51.8	-0.2
CD2				S	**S**	**04 45 29.8**	**-1.7**
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				pmax	pmax		
	comp=Z,130nm,5.0s						
CD2				LR	LR		
	comp=Z,2μm,18.8s						
CD2				LR	LR		
	comp=Z,990nm,15.1s						
JIRN	**Jiri**	**38.02**	**336**	*e*P	**P**	**04 39 45.8**	**+1.8**
	comp=Z,30nm,1.0s						
POO	**Poona**	**38.12**	**312**	*e*P	**P**	**04 39 41.0**	**-3.6**
LSA	**Lhasa**	**38.19**	**344**	P	**P**	**04 39 45.4**	**-0.2**
LSA				pmax	pmax		
	comp=Z,52nm,0.9s						
LSA	**Lhasa**	**38.19**	**344**	P	**P**	**04 39 45.4**	**-0.2**
LSA				IAmb	IAmb	04 39 48.0	
	comp=Z,52nm,0.9s						
LSA	**Lhasa**	**38.19**	**344**	P	**P**	**04 39 46.3**	**+0.7**
LSA				pmax	pmax		
	comp=Z,75nm,1.0s						
LSA	**Lhasa**	**38.19**	**344**	P	**P**	**04 39 47.0**	**+1.4**
QIS	**Mount Isa**	**38.22**	**114**	P	**P**	**04 39 46.2**	**+0.7**
	baz=38,SNR=7.3						
QIS	**Mount Isa**	**38.22**	**114**	P	**P**	**04 39 46.5**	**+1.0**
	comp=Z,16nm,0.9s						
PKI	**Pulchoki**	**38.26**	**335**	*e*P	**P**	**04 39 46.8**	**+0.8**
PKIN	**Phulchoki**	**38.27**	**335**	*e*P	**P**	**04 39 46.9**	**+0.9**
GUN	**Gumba**	**38.36**	**336**	*e*P	**P**	**04 39 48.4**	**+1.5**
	comp=Z,302nm,0.8s						
DMN	**Daman**	**38.42**	**335**	*e*P	**P**	**04 39 48.6**	**+1.3**
	comp=Z,229nm,1.0s						
KKN	**Kakani**	**38.51**	**335**	*e*P	**P**	**04 39 49.1**	**+1.1**
	comp=Z,274nm,1.0s						
GKN	**Gorkha**	**38.97**	**334**	*e*P	**P**	**04 39 52.9**	**+1.1**
	comp=Z,432nm,1.1s						
WHN	**Wuhan**	**39.06**	**16**	⇓P	**P**	**04 39 52.9**	**+0.6**
WHN				pP	**pwP**	**04 40 02.8**	**0.0**
WHN				S	**S**	**04 45 57.4**	**+6.8**
WHN				pmax	pmax		
	comp=Z,86nm,1.1s						
WHN				LR	LR		
	comp=Z,2μm,18.5s						
WHN				LR	LR		
	comp=Z,3μm,16.2s						
WHN				LR	LR		
	comp=Z,1μm,14.3s						
KOLN	**Koldanda**	**39.22**	**333**	*e*P	**P**	**04 39 55.3**	**+1.3**
	comp=Z,270nm,1.0s						
DANN	**Dangsing**	**39.65**	**333**	*e*P	**P**	**04 39 58.8**	**+1.2**
	comp=Z,358nm,1.0s						
PYUN	**Piuthan**	**39.78**	**332**	*e*P	**P**	**04 39 59.7**	**+1.1**
XAN	**Xi'an**	**41.33**	**8**	P	**P**	**04 40 10.8**	**-0.3**
XAN				pP	pwP	04 40 20.8	-0.8
XAN				sP	sP	04 40 26.0	+7.6
XAN				PcP	**PcP**	**04 42 09.3**	**-0.1**
XAN				S	**S**	**04 46 21.0**	**-3.6**
XAN				pmax	pmax		
	comp=Z,77nm,1.2s						
XAN				pmax	pmax		
	comp=Z,210nm,3.5s						
XAN				LR	LR		
	comp=Z,940nm,17.2s						
XAN				LR	LR		
	comp=Z,590nm,13.7s						
XAN				LR	LR		
	comp=Z,2μm,15.8s						
NJ2	**Nanjing**	**41.88**	**21**	⇓P	**P**	**04 40 16.3**	**+0.7**
NJ2				pP	**pwP**	**04 40 26.4**	**+0.2**
NJ2				PP	**PP**	**04 41 55.3**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,25nm,0.6s						
NJ2				LR	LR		
	comp=Z,290nm,15.2s						
NJ2				LR	LR		
	comp=Z,690nm,14.2s						
NJ2				LR	LR		
	comp=Z,700nm,16.1s						
JOW	**Kunigami**	**41.89**	**35**	LR	LR	04 57 05.4	
	comp=Z,101nm,21.5s,baz=73,slow=35						
MTSU	**Mount Surprise**	**42.05**	**109**	P	**P**	**04 40 18.6**	**+1.3**
	baz=42						
LYN	**LuoYang**	**42.44**	**12**	⇓*i*P	**P**	**04 40 20.8**	**+0.7**
LYN				pP	pwP	04 40 31.0	+0.4
LYN				S	**S**	**04 46 41.3**	**+0.4**
LYN				pmax	pmax		
	comp=Z,60nm,1.2s						
LYN				pmax	pmax		
	comp=Z,70nm,4.4s						
LYN				LR	LR		
	comp=Z,1μm,16.1s						
LYN				LR	LR		
	comp=Z,1μm,16.5s						
HTT	**Hallett**	**42.61**	**133**	P	**P**	**04 40 22.1**	**+0.4**
	baz=43,SNR=3.8						
LZH	**Lanzhou**	**42.95**	**1**	⇓P	**P**	**04 40 25.6**	**+1.1**
LZH				pP	pwP	04 40 35.8	+1.0
LZH				PP	**PP**	**04 42 06.3**	**+1.8**
LZH				PcP	**PcP**	**04 42 15.3**	**+0.4**
LZH				S	**S**	**04 46 48.6**	**-0.1**
LZH				sS	sS	04 47 06.8	+8.8
LZH				pmax	pmax		
	comp=Z,52nm,1.3s						
LZH				pmax	pmax		
	comp=Z,200nm,5.4s						
LZH				LR	LR		
	comp=Z,850nm,11.9s						
LZH				LR	LR		
	comp=Z,960nm,12.5s						
LZH				LR	LR		
	comp=Z,780nm,15.7s						
GOMU	**GeErMu**	**43.67**	**351**	P	**P**	**04 40 30.9**	**+0.4**
GOMU				S	**S**	**04 47 00.4**	**+0.8**
GOMU				pmax	pmax		
	comp=Z,16nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,130nm,6.6s						
GOMU				LR	LR		
	comp=Z,390nm,16.2s						
GOMU				LR	LR		
	comp=Z,110nm,16.4s						
GOMU				LR	LR		
	comp=Z,270nm,16.1s						
STKA	**Stephens Creek**	**43.88**	**129**	P	**P**	**04 40 32.1**	**+0.1**
	comp=Z,6.5nm,0.9s,baz=311,slow=7.2,SNR=13						
STKA				LR	LR	04 58 33.0	
	comp=Z,291nm,21.6s,baz=307,slow=36						
STKA	**Stephens Creek**	**43.88**	**129**	P	**P**	**04 40 32.7**	**+0.7**
	baz=44,SNR=10						
STKA	**Stephens Creek**	**43.88**	**129**	P	**P**	**04 40 31.9**	**-0.1**
STKA	**Stephens Creek**	**43.88**	**129**	P	**P**	**04 40 31.9**	**-0.1**
STKA	**Stephens Creek**	**43.88**	**129**	P	**P**	**04 40 33.1**	**+1.1**
QLP	**Quilpie**	**44.03**	**121**	P	**P**	**04 40 34.9**	**+1.7**
PMG	**Port Moresby**	**44.12**	**96**	P	**P**	**04 40 33.5**	**-0.6**
	comp=Z,12nm,0.8s,baz=275,slow=11,SNR=2.1						
PMG				LR	LR	05 02 37.1	
	comp=Z,116nm,18.1s,baz=276,slow=41						
PMG	**Port Moresby**	**44.12**	**96**	⇓*e*P	**P**	**04 40 35.1**	**+1.0**
PMG				pmax	pmax		
	comp=Z,29nm,1.3s						
CTA	**Charters Tower**	**44.20**	**112**	P	**P**	**04 40 33.4**	**-1.3**
	comp=Z,4.4nm,0.8s,baz=292,slow=11,SNR=2.4						
CTA				LR	LR	05 00 12.8	
	comp=Z,240nm,21.3s,baz=271,slow=38						
CTA	**Charters Tower**	**44.20**	**112**	P	**P**	**04 40 33.8**	**-0.9**
	baz=44						
TIA	**Tai'an**	**45.16**	**17**	⇓P	**P**	**04 40 41.6**	**-0.5**
TIA				pmax	pmax		
	comp=Z,23nm,1.0s						
TIA				pmax	pmax		
	comp=Z,110nm,4.3s						
TIA				LR	LR		
	comp=Z,640nm,14.5s						
TIA				LR	LR		
	comp=Z,390nm,15.1s						
TIA				LR	LR		
	comp=Z,1μm,14.5s						
TIY	**Taiyuan**	**45.49**	**11**	*e*P	**P**	**04 40 45.0**	**+0.3**
TIY				S	**S**	**04 47 24.3**	**-1.2**
TIY				pmax	pmax		
	comp=Z,37nm,0.5s						
TIY				pmax	pmax		
	comp=Z,170nm,4.9s						
TIY				LR	LR		
	comp=Z,770nm,13.1s						
TIY				LR	LR		
	comp=Z,470nm,13.1s						
TIY				LR	LR		
	comp=Z,510nm,15.1s						
HNS	**HongShan**	**45.66**	**13**	⇓P	**P**	**04 40 46.3**	**+0.3**
HNS				pP	**pwP**	**04 40 56.6**	**+0.1**
HNS				S	**S**	**04 47 29.1**	**+1.3**
HNS				pmax	pmax		
	comp=Z,33nm,0.9s						
HNS				LR	LR		
	comp=Z,240nm,14.1s						
HNS				LR	LR		
	comp=Z,590nm,14.8s						
HNS				LR	LR		
	comp=Z,520nm,16.7s						
GTA	**Gaotai**	**46.33**	**357**	⇓P	**P**	**04 40 52.5**	**+1.2**
GTA				pP	pwP	04 41 02.3	+0.6
GTA				sP	sP	04 41 05.8	+7.0
GTA				PcP	**PcP**	**04 42 27.1**	**+0.7**
GTA				S	**S**	**04 47 39.3**	**+1.7**
GTA				pmax	pmax		
	comp=Z,23nm,1.0s						
GTA				pmax	pmax		
	comp=Z,220nm,6.4s						
GTA				LR	LR		
	comp=Z,760nm,15.5s						
GTA				LR	LR		
	comp=Z,960nm,20.7s						
GTA				LR	LR		
	comp=Z,970nm,16.3s						
GUMO	**Guam**	**46.70**	**64**	LR	LR	05 01 08.8	
	comp=Z,56nm,20.9s,baz=114,slow=37						
CMSA	**Cobar Meteorol**	**46.94**	**127**	P	**P**	**04 40 57.4**	**+1.2**
	baz=47,SNR=6.7						
CMSA	**Cobar Meteorol**	**46.94**	**127**	P	**P**	**04 40 57.7**	**+1.5**
RMQ	**Roma**	**47.88**	**119**	P	**P**	**04 41 05.5**	**+1.8**
BTO	**Baotou**	**47.93**	**8**	*e*P	**P**	**04 41 03.1**	**-0.7**
BTO				S	**S**	**04 47 58.5**	**-1.9**
BTO				LR	LR		
	comp=Z,3μm,14.2s						
BTO				LR	LR		
	comp=Z,2μm,12.0s						
JNU	**Nakatsue**	**48.16**	**32**	P	**P**	**04 41 05.2**	**-0.4**
JNU				IAmb	IAmb	04 41 06.0	
	comp=Z,21nm,1.1s						
HHC	**Hu-ho-hao-te**	**48.40**	**9**	*e*P	**P**	**04 41 08.6**	**+1.2**
HHC				sP	pwP	04 41 24.0	+6.1
HHC				S	**S**	**04 48 11.6**	**+4.6**
HHC				pmax	pmax		
	comp=Z,45nm,0.9s						
HHC				pmax	pmax		
	comp=Z,97nm,5.1s						
HHC				LR	LR		
	comp=Z,1μm,17.3s						
HHC				LR	LR		
	comp=Z,320nm,18.8s						
HHC				LR	LR		
	comp=Z,1μm,16.9s						
BJT	**Baijiatuau**	**48.50**	**14**	P	**P**	**04 41 08.1**	**0.0**
BJT				pmax	pmax		
	comp=Z,65nm,1.5s						
BJT	**Baijiatuau**	**48.50**	**14**	P	**P**	**04 41 08.1**	**0.0**
BJI	**Beijing**	**48.52**	**14**	P	**P**	**04 41 08.6**	**+0.4**
BJI				pP	**pwP**	**04 41 18.8**	**-1.2**
BJI				S	**S**	**04 48 13.9**	**+5.3**
BJI				pmax	pmax		
	comp=Z,29nm,1.2s						
BJI				pmax	pmax		
	comp=Z,150nm,4.8s						
BJI				LR	LR		
	comp=Z,800nm,14.3s						
BJI				LR	LR		
	comp=Z,910nm,14.9s						
TJN	**Taejon**	**49.07**	**27**	*d i*P	**P**	**04 41 11.8**	**-0.7**
NIL	**Nilore**	**49.16**	**327**	P	**P**	**04 41 12.2**	**-1.1**
NIL				pmax	pmax		
	comp=Z,83nm,0.8s						
NIL	**Nilore**	**49.16**	**327**	P	**P**	**04 41 12.2**	**-1.1**
NIL	**Nilore**	**49.16**	**327**	P	**P**	**04 41 13.1**	**-0.2**
KRVT	**Keravat (AS076**	**49.22**	**90**	LR	LR	05 04 58.0	
	comp=Z,66nm,22.0s,baz=3.6,slow=40						
INCN	**Inchon**	**49.68**	**25**	P	**P**	**04 41 19.0**	**+1.8**
INCN				pmax	pmax		
	comp=Z,21nm,1.2s						
INCN	**Inchon**	**49.68**	**25**	P	**P**	**04 41 19.0**	**+1.8**
INCN				IAmb	IAmb	04 41 27.1	
	comp=Z,21nm,1.2s						
KSRS	**Korea Array**	**50.21**	**26**	P	**P**	**04 41 21.4**	**+0.3**
	comp=Z,16nm,0.8s,baz=227,slow=7.4,SNR=49						
KSRS				LR	LR	05 03 55.1	
	comp=Z,126nm,19.1s,baz=220,slow=38						
KS19	**Wonju Array Si**	**50.23**	**26**	P	**P**	**04 41 21.0**	**-0.4**
KS19				IAmb	IAmb	04 41 22.6	
	comp=Z,19nm,0.8s						
JHS	**Saijyo**	**50.79**	**33**	P	**P**	**04 41 24.3**	**-1.4**
JCJ	**Chichijima**	**51.20**	**47**	LR	LR	05 05 02.5	
	comp=Z,65nm,18.7s,baz=140,slow=38						
JLN	**Jalan Bani Buh**	**51.34**	**306**	P	**P**	**04 41 31.8**	**+1.8**
DQM	**DQM**	**51.84**	**302**	P	**P**	**04 41 36.1**	**+2.3**
	SNR=5.4						
WBK	**Wadi Bani Khal**	**51.92**	**306**	P	**P**	**04 41 35.9**	**+1.6**
MHTO	**MHTO**	**51.96**	**304**	P	**P**	**04 41 35.5**	**+0.8**
	SNR=5.3						
SOCY	**Socotra**	**52.00**	**291**	P	**P**	**04 41 35.6**	**+0.4**
SOCY	**Socotra**	**52.00**	**291**	P	**P**	**04 41 36.7**	**+1.5**
KBL	**Kabul**	**52.16**	**325**	P	**P**	**04 41 36.1**	**-0.1**
KBL				pmax	pmax		
	comp=Z,30nm,1.4s						
KBL	**Kabul**	**52.16**	**325**	P	**P**	**04 41 36.0**	**-0.1**
KBL				IAmb	IAmb	04 41 37.3	
	comp=Z,30nm,1.4s						
KBL	**Kabul**	**52.16**	**325**	P	**P**	**04 41 36.1**	**-0.1**
	SNR=9.0						
XLT	**XiLinHaoTe**	**52.18**	**12**	⇓*i*P	**P**	**04 41 36.3**	**+0.3**
XLT				pP	pwP	04 41 46.4	-1.4
XLT				sP	sP	04 41 50.0	+6.6
XLT				PcP	**PcP**	**04 42 45.6**	**-1.9**
XLT				PcS	**PcS**	**04 46 46.3**	**+0.5**
XLT				sS	sS	04 49 09.5	+0.5
XLT				pmax	pmax		
	comp=Z,36nm,0.9s						
XLT				pmax	pmax		
	comp=Z,230nm,5.6s						
XLT				LR	LR		
	comp=Z,46nm,13.9s						
XLT				LR	LR		
	comp=Z,290nm,14.3s						
XLT				LR	LR		
	comp=Z,640nm,15.6s						
WMQ	**Urumqi**	**52.43**	**346**	⇓*i*P	**P**	**04 41 39.3**	**+1.4**
WMQ				pP	pwP	04 41 49.8	+0.4
WMQ				S	**S**	**04 49 05.1**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,210nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.7s						
WMQ				LR	LR		
	comp=Z,440nm,21.5s						
WMQ				LR	LR		
	comp=Z,150nm,21.5s						
WMQ				LR	LR		
	comp=Z,220nm,19.3s						
WSAR	**Wadi Sarin**	**52.50**	**306**	P	**P**	**04 41 39.9**	**+1.2**
	comp=Z,12nm,0.8s,baz=160,slow=8.4,SNR=10						
WSAR				LR	LR	05 03 13.6	
	comp=Z,337nm,18.4s,baz=151,slow=35						
WSAR	**Wadi Sarin**	**52.50**	**306**	P	**P**	**04 41 40.8**	**+2.2**
	SNR=7.0						
JMDO	**Jabal Madar**	**52.50**	**305**	P	**P**	**04 41 40.3**	**+1.6**
KSH	**Kashi**	**52.51**	**334**	P	**P**	**04 41 37.9**	**-0.7**
KSH				pP	pwP	04 41 49.3	-0.6
KSH				sP	sP	04 41 53.3	+7.5
KSH				PP	**PP**	**04 43 37.6**	**-0.2**
KSH				S	**S**	**04 49 03.3**	**-1.0**
KSH				sS	sS	04 49 15.3	+2.0
KSH				pmax	pmax		
	comp=Z,64nm,0.8s						
KSH				LR	LR		
	comp=Z,570nm,15.9s						
KSH				LR	LR		
	comp=Z,260nm,16.2s						
KSH				LR	LR		
	comp=Z,250nm,16.2s						
SMDO	**Samad**	**52.88**	**306**	P	**P**	**04 41 43.4**	**+1.8**
	SNR=10						
BIDO	**Bidbid**	**53.04**	**306**	P	**P**	**04 41 45.0**	**+2.4**
	SNR=12						
DMTO	**DMTO**	**53.13**	**298**	P	**P**	**04 41 44.5**	**+1.1**
JHJ	**Hachijo jima 2**	**53.33**	**39**	LR	LR	05 05 26.1	
	comp=Z,76nm,20.4s,baz=272,slow=37						
BSY	**Bisya**	**53.41**	**305**	P	**P**	**04 41 47.3**	**+1.9**
	SNR=8.9						
HOQ	**Hoqain**	**53.72**	**306**	P	**P**	**04 41 50.0**	**+2.3**
	SNR=8.7						
DOK	**Doka**	**54.20**	**299**	P	**P**	**04 41 52.3**	**+1.1**
KDJ	**Kajisay**	**54.21**	**337**	P	**P**	**04 41 51.1**	**0.0**
KDJ				pmax	pmax		
	comp=Z,59nm,0.9s						
KDJ	**Kajisay**	**54.21**	**337**	P	**P**	**04 41 51.1**	**0.0**
ARQ	**Araqi**	**54.24**	**305**	P	**P**	**04 41 53.3**	**+1.8**
WHFO	**Wadi Hawf**	**54.24**	**298**	P	**P**	**04 41 52.4**	**+0.8**
SHLS	**Shalkode**	**54.24**	**339**	*e*P	**P**	**04 41 48.4**	**-2.8**
SHLS				*i* S	**S**	**04 49 25.6**	**-2.2**
SHLS				pmax	pmax		

comp=Z,15nm,1.0s
SHLS Shalkode 54.24 339 *e*P **P 04 41 48.5 -2.8**
comp=Z,15nm,1.0s,baz=340
SHLS *i* S **S 04 49 25.6 -2.2**
baz=340
UZB Uzynbulak 54.39 339 *e*P **P 04 41 50.7 -1.7**
UZB pmax pmax
comp=Z,19nm,1.0s
UZB Uzynbulak 54.39 339 *e*P **P 04 41 50.8 -1.7**
comp=Z,19nm,1.0s,baz=339
ABTO Aybut 54.44 297 P **P 04 41 54.3 +1.2**
SATY Saty 54.54 338 *e*P **P 04 41 51.6 -1.8**
SATY pmax pmax
comp=Z,15nm,0.9s
SATY Saty 54.54 338 *e*P **P 04 41 51.6 -1.8**
comp=Z,15nm,0.9s,baz=338
SOHO SOHO 54.61 306 *i* P **P 04 41 55.4 +1.3**
SNR=6.4
ZHN Zhinishke 54.62 338 *e*P **P 04 41 52.5 -1.5**
ZHN Zhinishke 54.62 338 *e*P **P 04 41 52.6 -1.5**
baz=338
ULHL Ulahol 54.68 336 P **P 04 41 54.8 +0.2**
SNR=19
ULHL Ulahol 54.68 336 P **P 04 41 54.8 +0.2**
ULHL pmax pmax
comp=Z,17nm,1.1s
CN2 Changchun 54.70 20 *e*P **P 04 41 53.8 -0.6**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,19.0s
MJAR Matsushiro Arr 54.73 35 LR LR 05 05 55.5
comp=Z,60nm,19.7s,baz=231,slow=37
GAR Garm 54.77 329 IAmb IAmb 04 41 56.5
comp=Z,42nm,0.9s
SONM Songino Array 54.78 3 P **P 04 41 56.3 +1.2**
comp=Z,39nm,0.8s,baz=181,slow=9.5,SNR=249
SONM LR LR 05 08 07.3
comp=Z,254nm,18.4s,baz=184,slow=39
SONM Songino Array 54.78 3 P **P 04 41 55.7 +0.7**
SONM pmax pmax
comp=Z,50nm,0.9s
SONM Songino Array 54.78 3 P **P 04 41 55.7 +0.7**
KPKS Kokpek 54.79 339 *e*P **P 04 41 53.3 -1.9**
KPKS Kokpek 54.79 339 *e*P **P 04 41 53.3 -1.9**
baz=339
ULN Ulaanbaatar 54.84 4*d i*P **P 04 41 56.5 +0.9**
ULN pmax pmax
comp=Z,38nm,1.0s
ULN Ulaanbaatar 54.84 4 P **P 04 41 56.0 +0.4**
ULN IAmb IAmb 04 41 57.7
comp=Z,33nm,0.9s
ULN Ulaanbaatar 54.84 4 P **P 04 41 56.1 +0.5**
BOOM Boomskoye usch 55.00 336 P **P 04 41 56.7 -0.1**
BOOM pmax pmax
comp=Z,46nm,1.2s
BOOM Boomskoye usch 55.00 336 P **P 04 41 56.7 -0.1**
BOOM IAmb IAmb 04 41 58.3
comp=Z,46nm,1.2s
TNSS Tian-Shan 55.07 337 *e*P **P 04 41 55.9 -1.7**
TNSS Tian-Shan 55.07 337 *e*P **P 04 41 56.0 -1.7**
baz=337
MDOK Medeo 55.14 337 *e*P **P 04 41 55.9 -1.9**
MDOK Medeo 55.14 337 *e*P **P 04 41 55.9 -1.9**
baz=337
AAA Alma-Ata 55.23 337 *e*P **P 04 41 57.1 -1.2**
AAA pmax pmax
comp=Z,49nm,2.6s
AAA Alma-Ata 55.23 337 *e*P **P 04 41 57.2 -1.2**
comp=Z,49nm,2.6s,baz=337
ASHO Ashiyiah 55.26 306 P **P 04 42 00.2 +1.4**
HATD Hatta, Dubai 55.26 307 P **P 04 42 00.4 +1.6**
UOSS Minazif 55.27 307 P **P 04 41 59.9 +1.0**
BTK Batken 55.33 331 P **P 04 41 58.7 -0.4**
BTK pmax pmax
comp=Z,47nm,1.1s
BTK Batken 55.33 331 P **P 04 41 58.7 -0.4**
BTK IAmb IAmb 04 42 00.7
comp=Z,47nm,1.1s
UCH Uchtor 55.37 335 P **P 04 42 00.4 +0.5**
SNR=22
TKM2 Tokmak 2 55.50 336 P **P 04 42 00.8 +0.3**
SNR=40
TKM2 Tokmak 2 55.50 336 P **P 04 41 59.6 -0.9**
KBK Karagaybulak 55.55 335 P **P 04 42 01.7 +1.0**
SNR=8.4
AML Almayashu 55.64 334 P **P 04 42 02.2 +0.5**
SNR=34
AML Almayashu 55.64 334 P **P 04 42 02.0 +0.3**
AML pmax pmax
comp=Z,44nm,1.3s
AML Almayashu 55.64 334 P **P 04 42 01.2 -0.5**
AML Almayashu 55.64 334 *i* P **P 04 42 02.4 +0.7**
SNR=34
FAQ Al Faqa, Dubai 55.66 306 P **P 04 42 03.2 +1.5**
SNR=6.9
FAQ Al Faqa, Dubai 55.66 306 *i* P **P 04 42 03.1 +1.5**
SNR=15
NAZ Nazwa, Dubai 55.72 307 P **P 04 42 03.1 +1.0**
AAK Ala-Archa 55.72 335 P **P 04 42 02.6 +0.6**
SNR=13
AAK Ala-Archa 55.72 335 P **P 04 42 02.3 +0.3**
comp=Z,13nm,1.0s,baz=164,slow=5.7,SNR=28
AAK Ala-Archa 55.72 335*d i*P **P 04 42 02.4 +0.4**
AAK pmax pmax
comp=Z,50nm,2.5s
AAK Ala-Archa 55.72 335 P **P 04 42 01.6 -0.4**
AAK IAmb IAmb 04 42 03.8
comp=Z,23nm,1.1s
AAK Ala-Archa 55.72 335 P **P 04 42 02.2 +0.3**
AAK Ala-Archa 55.72 335 *i* P **P 04 42 02.6 +0.6**
SNR=13
CHKK Chushkaly 55.75 338 *e*P **P 04 42 00.1 -1.9**
CHKK Chushkaly 55.75 338 *e*P **P 04 42 00.2 -1.9**
baz=338
ASUD Al Ashush, Dub 55.81 306 P **P 04 42 05.1 +2.2**
ASUD Al Ashush, Dub 55.81 306 *i* P **P 04 42 05.0 +2.2**
SNR=8.8
MSHR Mys Shultsa 55.84 25⇑*i*P **P 04 42 02.9 +0.3**
MSHR pmax pmax
comp=Z,12nm,1.7s
CHMS Chumysh 55.91 336 P **P 04 42 02.7 -0.5**
SNR=7.9
KUU Kurty 56.03 337 *e*P **P 04 42 02.2 -1.8**
KUU pmax pmax
comp=Z,37nm,0.9s
KUU Kurty 56.03 337 *e*P **P 04 42 02.2 -1.8**
comp=Z,37nm,0.9s,baz=337
EKS2 Erkin-Say 56.04 335 P **P 04 42 04.7 +0.5**
SNR=42
HRA Herat 56.19 320 P **P 04 42 05.4 -0.2**
HRA IAmb IAmb 04 42 06.8
comp=Z,27nm,1.3s
USP Ospenovka 56.23 336 P **P 04 42 05.7 +0.2**
SNR=22
SGDS Sogindy 56.34 336 *e*P **P 04 42 04.7 -1.6**
SGDS pmax pmax
comp=Z,15nm,1.3s
SGDS Sogindy 56.34 336 *e*P **P 04 42 04.7 -1.6**
comp=Z,15nm,1.3s,baz=336
ZSN Zaisan 56.52 346 *e*P **P 04 42 05.9 -1.5**
ZSN *e*S **S 04 49 57.8 0.0**
ZSN pmax pmax
comp=Z,35nm,1.1s
ZSN Zaisan 56.52 346 *e*P **P 04 42 05.9 -1.5**
comp=Z,35nm,1.1s,baz=346
ZSN *e*S **S 04 49 57.9 0.0**
baz=346
MZWR Madinat Zayed 56.59 304 P **P 04 42 09.8 +1.5**
MK31 Makanchi Array 56.60 343 P **P 04 42 08.1 +0.1**
MK31 pmax pmax
comp=Z,38nm,1.4s
MK31 Makanchi Array 56.60 343 P **P 04 42 08.1 +0.1**
MK31 IAmb IAmb 04 42 09.3
comp=Z,38nm,1.4s
MKAR Makanchi Array 56.60 343 P **P 04 42 08.1 +0.1**
comp=Z,12nm,0.7s,baz=145,slow=7.8,SNR=121
MKAR LR LR 05 09 29.3
comp=Z,100nm,21.6s,baz=150,slow=39
MAKZ Makanchi 56.70 343 P **P 04 42 08.1 -0.7**
MAKZ pmax pmax
comp=Z,20nm,1.3s
MAKZ Makanchi 56.70 343 P **P 04 42 08.1 -0.7**
MAKZ IAmb IAmb 04 42 10.8
comp=Z,20nm,1.3s
HNR Honiara 56.73 97 LR LR 05 08 58.3
comp=Z,86nm,20.1s,baz=213,slow=39
MDJ Mudanjiang 56.90 23 P **P 04 42 10.5 +0.3**
TAS Tashkent 57.04 330 P **P 04 42 11.3 0.0**
TAS pmax pmax
comp=Z,99nm,0.9s
TAS Tashkent 57.04 330 P **P 04 42 11.2 0.0**
BNX BinXian 57.07 20⇑P **P 04 42 11.8 +0.5**
BNX pmax pmax
comp=Z,180nm,1.1s
BNX pmax pmax
comp=Z,190nm,3.7s
ZAK Zakamensk 57.23 1 *e*P **P 04 42 10.9 -1.6**
ZAK pmax pmax
comp=Z,30nm,1.1s
DZA Taraz 57.30 333 *e*P **P 04 42 11.5 -1.5**
DZA pmax pmax
comp=Z,15nm,0.8s
DZA Taraz 57.30 333 *e*P **P 04 42 11.6 -1.5**
comp=Z,15nm,0.8s,baz=333
IUG Iuzhnay 57.31 332 *e*P **P 04 42 11.7 -1.6**
IUG Iuzhnay 57.31 332 *e*P **P 04 42 11.8 -1.6**
baz=332
USA0B Ussuriysk Arra 57.52 25 P **P 04 42 14.0 -0.5**
USA0B pmax pmax
comp=Z,29nm,1.0s
USA0B Ussuriysk Arra 57.52 25 P **P 04 42 14.0 -0.5**
USA0B IAmb IAmb 04 42 15.5
comp=Z,29nm,0.9s
USRK Ussuriysk Ar. 57.52 25 P **P 04 42 14.4 -0.1**
comp=Z,22nm,0.8s,baz=217,slow=6.9,SNR=40
KNGR Kungurtug, Tuv 57.62 356⇑*i*P **P 04 42 16.4 +1.1**
KK31 Karatay Array 57.83 333 *i* P **P 04 42 16.3 -0.5**
KK31 Karatay Array 57.83 333 P **P 04 42 16.3 -0.5**
BTLS Baital 57.89 336 *e*P **P 04 42 14.7 -2.4**
BTLS Baital 57.89 336 *e*P **P 04 42 14.8 -2.4**
baz=336
MOY Mondy 58.53 359 *e*P **P 04 42 22.4 +0.8**
MOY pmax pmax
comp=Z,35nm,2.0s
IRK Irkutsk 59.10 1 *e*P **P 04 42 25.6 +0.1**
IRK pmax pmax
comp=Z,63nm,1.6s
SEM Semipalatinsk 60.45 344 *e*P **P 04 42 33.5 -1.5**
SEM Semipalatinsk 60.45 344 *e*P **P 04 42 33.6 -1.5**
baz=344
GEYT Alibeck 61.00 321 P **P 04 42 38.7 -0.2**
comp=Z,8.6nm,0.8s,baz=160,slow=9.1,SNR=14
GEYT Alibeck 61.00 321 P **P 04 42 38.0 -0.9**
GEYT IAmb IAmb 04 42 39.8
comp=Z,13nm,0.9s
GYA0B ALIBECK ARRAY 61.00 321 IAmb IAmb 04 42 39.8
comp=Z,15nm,0.9s
KURBB Kurchatov Arra 61.13 343 P **P 04 42 39.5 +0.1**
comp=Z,9.3nm,0.7s,baz=162,slow=6.0,SNR=65
KURBB Kurchatov Arra 61.13 343 P **P 04 42 38.4 -1.0**
KURK Kurchatov 61.19 343*d i*P **P 04 42 39.7 -0.1**
KURK pmax pmax
comp=Z,35nm,1.3s
KURK Kurchatov 61.19 343 P **P 04 42 39.5 -0.3**
KURK IAmb IAmb 04 42 40.5
comp=Z,19nm,0.8s
KLR Kul'dur 61.58 21 LR LR 05 12 04.3
comp=Z,264nm,18.1s,baz=222,slow=39
KLR Kul'dur 61.58 21*d i*P **P 04 42 41.8 -0.7**
KLR pmax pmax
comp=Z,39nm,1.7s
ATD Arta Tunnel 62.27 287 LR LR 05 05 14.2
comp=Z,88nm,20.3s,baz=116,slow=32
ASAJ Asahikawa 62.43 31 LR LR 05 10 48.4
comp=Z,107nm,20.8s,baz=44,slow=37
BRZS Berezniki 62.50 339 *e*P **P 04 42 47.1 -1.6**
BRZS pmax pmax
comp=Z,16nm,1.3s
BRZS Berezniki 62.50 339 *e*P **P 04 42 47.1 -1.6**
comp=Z,16nm,1.3s,baz=339
ZALV Zalesovo Beam 62.62 348 P **P 04 42 49.1 -0.2**
comp=Z,26nm,0.9s,baz=160,slow=4.7,SNR=85
ZALV LR LR 05 10 46.1
comp=Z,153nm,20.4s,baz=146,slow=37
ZALV Zalesovo Beam 62.62 348 *i* P **P 04 42 49.4 0.0**
ZALV pmax pmax
comp=Z,27nm,0.9s
ZALV Zalesovo Beam 62.62 348 P **P 04 42 49.0 -0.3**
DZM Mont Dzumac 63.14 111 LR LR 05 13 52.9
comp=Z,181nm,18.1s,baz=220,slow=39
ZEA Zeya 64.06 16 *e*P **P 04 42 59.7 +0.8**
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 64.49 29 *e*P **P 04 43 01.7 -0.1**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,100nm,13.0s
YSS Yuzh-Sakhalins 64.49 29 P **P 04 43 01.4 -0.4**
YSS Yuzh-Sakhalins 64.49 29 P **P 04 43 01.8 -0.1**
GRNR Gornyy 64.59 23⇓*i*P **P 04 43 02.9 +0.5**
GRNR pmax pmax
comp=Z,20nm,0.9s
BOD Bodaibo 65.34 7 *e*P **P 04 43 07.5 +0.4**
BOD pmax pmax
comp=Z,45nm,1.0s
KMBO Kilima Mbogo 65.42 272 P **P 04 43 09.5 +0.6**
comp=Z,4.8nm,1.1s,baz=61,slow=8.3,SNR=4.7
KMBO LR LR 05 06 05.0
comp=Z,89nm,20.0s,baz=88,slow=31
KMBO Kilima Mbogo 65.42 272 P **P 04 43 09.5 +0.6**
KMBO pmax pmax
comp=Z,14nm,1.4s
KMBO Kilima Mbogo 65.42 272 IAmb IAmb 04 43 11.8
comp=Z,14nm,1.4s
KMBO Kilima Mbogo 65.42 272 P **P 04 43 10.9 +2.0**
BVAR Borovoye Array 65.82 339 P **P 04 43 10.1 -0.3**
comp=Z,12nm,0.8s
BRVK Borovoye 65.89 339 P **P 04 43 10.6 -0.2**
BRVK pmax pmax
comp=Z,35nm,1.3s
BRVK Borovoye 65.89 339 P **P 04 43 10.6 -0.2**
BRVK IAmb IAmb 04 43 11.7
comp=Z,35nm,1.3s
BRVK Borovoye 65.89 339 P **P 04 43 10.5 -0.2**
MAW Mawson 66.08 196 LR LR 05 05 47.9
comp=Z,350nm,21.8s,baz=27,slow=30
AB31 Akbulak array 67.32 331 *i* P **P 04 43 19.4 -0.6**
ABKAR Akbulak array 67.32 331 P **P 04 43 19.6 -0.5**
LKRN Lenkeran, Azer 67.55 317 P **P 04 43 22.3 +0.6**
LODK Lodwar 67.93 277 P **P 04 43 24.6 -0.2**
AKTO Aktyubinsk 69.04 331 P **P 04 43 30.1 -0.7**
RPZ Rata Peaks 69.58 134 LR LR 05 12 14.4
comp=Z,212nm,20.6s,baz=272,slow=34
MNGR Mingechevir, A 69.70 318 P **P 04 43 35.7 +0.6**
SEKA Sheki 69.84 319 P **P 04 43 35.9 -0.2**
NAX Nakhchivan 70.02 316 P **P 04 43 38.0 +0.8**
GANJ Ganja 70.15 318 P **P 04 43 38.1 +0.2**
ZKTA Zakatala 70.43 319 P **P 04 43 40.3 +0.7**
MAK Makhachkala 70.52 320 *e*P P 04 43 34.8 -5.2
MAK *e*S **S 04 52 44.2 -8.1**
MAK pmax pmax
comp=Z,167nm,1.4s
GNI Garni 70.98 317*d i*P **P 04 43 43.6 +0.4**
GNI pmax pmax
comp=Z,14nm,0.9s
GNI Garni 70.98 317 P **P 04 43 43.8 +0.6**
GEVA Gevas 71.34 314 P **P 04 43 45.4 0.0**
GEVA IAmb IAmb 04 43 48.4
comp=Z,16nm,1.2s
MBAR Mbarara 71.95 272 LR LR 05 10 03.1
comp=Z,121nm,18.4s,baz=358,slow=31
MBAR Mbarara 71.95 272⇓*e*P **P 04 43 49.8 +0.2**
MBAR pmax pmax
comp=Z,7.0nm,1.1s
YAK Yakutsk 72.02 13 LR LR 05 19 56.2
comp=Z,159nm,18.2s,baz=268,slow=40
YAK Yakutsk 72.02 13*d i*P **P 04 43 48.0 -0.7**
YAK *e**PP **pP 04 43 50.8 -3.0**
YAK *e* 04 44 03.2
YAK *e*S **S 04 53 10.5 +1.5**
YAK *e* 04 53 53.2
YAK *e*SS **SS 04 57 42.0 -4.3**
YAK pmax pmax
comp=Z,71nm,0.9s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,18nm,1.3s
YAK smax smax
comp=N,56nm,4.0s
YAK smax smax
comp=E,41nm,4.1s
YAK MLR MLR
comp=Z,362nm,18.0s
YAK Yakutsk 72.02 13 P **P 04 43 48.1 -0.6**
GURO Guroymak-BITLI 72.17 314 IAmb IAmb 04 43 52.2
comp=Z,14nm,0.8s
KARS Kars 72.33 316 P **P 04 43 51.0 -0.3**
KARS pmax pmax
comp=Z,128nm,1.3s
KARS Kars 72.33 316 P **P 04 43 51.0 -0.3**
SVE Sverdlovsk 72.34 337*ce*P **P 04 43 51.4 +0.6**
SVE pmax pmax
comp=Z,64nm,1.2s
MARD Mardin 72.57 313 P **P 04 43 52.8 0.0**
ZEI Tsey 72.75 319 *e*P **P 04 43 54.0 +0.2**
ZEI pmax pmax
comp=Z,13nm,1.0s
ARU Arti 72.88 336 P **P 04 43 53.9 -0.1**
comp=Z,7.8nm,0.8s,baz=124,slow=3.0,SNR=31
ARU LR LR 05 19 24.2
comp=Z,176nm,20.0s,baz=179,slow=39
ARU Arti 72.88 336*d i*P **P 04 43 54.0 0.0**
ARU 04 44 10.6
ARU 04 46 32.1
ARU S **SKiKP 04 53 23.4 -3.0**
ARU SS **SS 04 58 04.0 +4.3**
ARU pmax pmax
comp=Z,46nm,1.2s
ONI Oni 72.96 318 IAmb IAmb 04 44 05.1
comp=Z,15nm,1.1s
BKZ Black Stump Fm 73.06 129 P **P 04 43 55.7 +0.1**
BKZ Black Stump Fm 73.06 129 P **P 04 43 56.5 +0.9**
LSZ Lusaka 73.20 256 LR LR 05 09 45.6
comp=Z,178nm,21.4s,baz=112,slow=30
URZ Urewera 73.48 128 P **P 04 43 57.6 -0.4**
comp=Z,7.7nm,0.8s,baz=266,slow=15,SNR=2.3
URZ LR LR 05 15 20.4
comp=Z,144nm,20.8s,baz=211,slow=35
ASF Jabal al Asfar 73.67 306 P **P 04 44 00.4 +1.0**
comp=Z,23nm,1.0s,baz=134,slow=1.6,SNR=32
KBZ Khabaz 73.83 319 P **P 04 44 00.3 +0.4**
comp=Z,21nm,0.9s,baz=113,slow=4.7,SNR=35
KBZ Khabaz 73.83 319*d i*P **P 04 44 00.1 +0.2**
KOPT Kop Dagi 73.86 315 P **P 04 44 01.2 +0.7**
KOPT IAmb IAmb 04 44 03.7
comp=Z,19nm,1.2s
KIV Kislovodsk 74.07 319 *e*P **P 04 44 01.8 +0.4**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,60nm,18.0s
KIV Kislovodsk 74.07 319 P **P 04 44 01.7 +0.3**
KIV IAmb IAmb 04 44 03.4
comp=Z,17nm,0.9s
KIV Kislovodsk 74.07 319 P **P 04 44 02.4 +1.0**
EIL Elat 74.46 303 P **P 04 44 04.7 +0.8**
comp=Z,33nm,1.1s,baz=129,slow=4.9,SNR=28
EIL LR LR 05 15 46.7
comp=Z,128nm,18.3s,baz=95,slow=35
MMAI Mount Meron Ar 75.14 307 P **P 04 44 08.6 +0.7**
comp=Z,5.3nm,0.7s,baz=167,slow=16,SNR=13
MMAI LR LR 05 19 25.4
comp=Z,152nm,18.1s,baz=310,slow=37
LBTB Lobatse 75.31 246 LR LR 05 10 42.3
comp=Z,153nm,21.2s,baz=92,slow=30
BELG Belogornoye 75.39 329*d i*P **P 04 44 08.3 -0.4**
BELG pmax pmax
comp=Z,9.0nm,1.2s
BOSA Boshof 75.57 242 P **P 04 44 11.5 +1.0**
comp=Z,10nm,0.9s,baz=90,slow=6.2,SNR=12
BOSA LR LR 05 10 29.2
comp=Z,125nm,20.8s,baz=102,slow=30
VSLR Vesyoloye 75.59 318*d i*P **P 04 44 09.8 -0.3**
PETK Petropavlovsk- 75.83 31 P **P 04 44 09.9 -1.3**
comp=Z,5.7nm,0.9s,baz=220,slow=6.7,SNR=7.5
PETK LR LR 05 19 27.4
comp=Z,68nm,20.2s,baz=247,slow=37
PETK Petropavlovsk- 75.83 31 P **P 04 44 11.0 -0.2**
PETK Petropavlovsk- 75.83 31 P **P 04 44 11.0 -0.2**
SOC Sochi 75.85 318 *e*P **P 04 44 10.3 -1.3**
SOC *e* 04 46 59.0
SOC *e*PPP PPP 04 48 45.5
SOC *e*S **S 04 53 53.8 +0.8**
SOC *e*SS **SS 04 58 42.2 -3.4**
SOC *e*SSS SSS 05 02 04.8
SOC pmax pmax
comp=Z,15nm,0.8s
PET Petropavlovsk 76.27 31 *e*P **P 04 44 13.3 -0.4**
PET pmax pmax
comp=Z,42nm,0.7s
PET MLR MLR
comp=Z,200nm,20.0s
PET Petropavlovsk 76.27 31 P **P 04 44 13.2 -0.4**
PET IAmb IAmb 04 44 13.9
comp=Z,22nm,0.8s
PET Petropavlovsk 76.27 31 P **P 04 44 14.1 +0.4**
MA2 Magadan 76.61 23 LR LR 05 18 10.5
comp=Z,81nm,22.0s,baz=268,slow=36
MA2 Magadan 76.61 23*d i*P **P 04 44 15.9 +0.4**
MA2 pmax pmax
comp=Z,76nm,1.7s
MA2 Magadan 76.61 23 P **P 04 44 15.4 -0.1**
MA2 Magadan 76.61 23 P **P 04 44 16.1 +0.6**
VNDA Vanda 76.71 169 P **P 04 44 16.0 +0.1**
comp=Z,4.6nm,1.2s,baz=285,slow=4.8,SNR=10
VNDA LR LR 05 15 43.0
comp=Z,100nm,18.2s,baz=306,slow=34
VNDA Vanda 76.71 169 P **P 04 44 16.8 +0.9**
VNDA pmax pmax
comp=Z,14nm,1.4s
VNDA Vanda 76.71 169 P **P 04 44 16.8 +0.9**
BNN Bunyan 76.75 313 IAmb IAmb 04 44 18.3
comp=Z,49nm,1.2s
TOKA Tokat 76.82 314 P **P 04 44 16.9 -0.4**
TOKA IAmb IAmb 04 44 18.2
comp=Z,14nm,0.9s
NRIK Noril'sk 76.96 355 P **P 04 44 16.8 -0.5**
comp=Z,5.7nm,0.8s,baz=145,slow=5.1,SNR=10
NRIK LR LR 05 23 07.2
comp=Z,108nm,18.9s,baz=191,slow=40
NRIK Noril'sk 76.96 355*d i*P **P 04 44 16.6 -0.7**
NRIK pmax pmax
comp=Z,18nm,1.3s
NRIK Noril'sk 76.96 355 IAmb IAmb 04 44 18.0
comp=Z,18nm,1.2s
VRH Novokhopyorsk 77.96 326 *e*P **P 04 44 22.0 -1.3**
VRH pmax pmax
comp=Z,30nm,0.8s
KIRV Kirov 78.05 335 P **P 04 44 23.8 +0.2**
comp=Z,34nm,0.8s,baz=152,slow=2.4,SNR=22
KIRV Kirov 78.05 335*d i*P **P 04 44 24.1 +0.5**
BRTR Keskin Array B 78.66 313 P **P 04 44 27.1 -0.6**
comp=Z,11nm,0.8s,baz=134,slow=7.1,SNR=80
BRTR LR LR 05 21 39.8
comp=Z,119nm,18.0s,baz=147,slow=38
BRTR Keskin Array B 78.66 313 P **P 04 44 26.9 -0.8**
BR131 Keskin Array S 78.66 313*d i*P **P 04 44 27.1 -0.6**
BR131 Keskin Array S 78.66 313 IAmb IAmb 04 44 28.3
comp=Z,23nm,0.8s
BR131 Keskin Array S 78.66 313 P **P 04 44 27.6 0.0**
SNR=15
VORD Divnogorie 79.23 325 *e*P **P 04 44 29.1 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s
ANTO Ankara 79.32 313 P **P 04 44 31.3 +0.1**
ANTO pmax pmax
comp=Z,26nm,1.0s
ANTO Ankara 79.32 313 P **P 04 44 31.3 +0.1**
ANTO IAmb IAmb 04 44 32.3
comp=Z,26nm,0.9s
SUR Sutherland 79.35 238 LR LR 05 13 29.1
comp=Z,156nm,18.3s,baz=116,slow=31
SEY Seymchan 79.37 21⇓*i*P **P 04 44 30.3 -0.5**
SEY pmax pmax

comp=Z,27nm,1.7s
VSR **Storozhevoye** 79.41 325 *e*P P 04 44 30.2 -1.1
VSR pmax pmax
comp=Z,20nm,1.1s
VORR **Voronezh** 79.58 326 *e*P P 04 44 30.3 -1.9
VORR pmax pmax
comp=Z,80nm,0.5s
SIM **Simferopol'** 80.09 318 *e*P P 04 44 34.9 -0.2
SIM pmax pmax
comp=Z,15nm,0.7s
LPSR **Galich'ya Gora** 80.14 326 *e*P P 04 44 34.7 -0.5
LPSR pmax pmax
comp=Z,20nm,0.9s
ISP **Isparta** 80.40 310 P P 04 44 35.9 -1.2
ISP pmax pmax
comp=Z,8.0nm,0.7s
ISP **Isparta** 80.40 310 P P 04 44 35.9 -1.2
TIXI **Tiksi** 80.45 8 LR LR 05 24 28.9
comp=Z,257nm,18.8s,baz=183,slow=39
TIXI **Tiksi** 80.45 8⇑ *i*P P 04 44 35.8 -0.7
TIXI pmax pmax
comp=Z,12nm,1.1s
TIXI **Tiksi** 80.45 8 P P 04 44 35.6 -0.9
BORA **Eskisehir** 81.04 312 IAmb IAmb 04 44 41.5
comp=Z,21nm,0.8s
PRGR **Permogore** 81.34 336 *e*P P 04 44 38.1 -3.3
MANT **Manisa** 82.07 310 IAmb IAmb 04 44 47.0
comp=Z,14nm,0.9s
MOS **Moscow** 82.17 329 *e*P P 04 44 44.4 -1.5
MOS *e* 04 47 52.3
MOS pmax pmax
comp=Z,53nm,1.0s
OBN **Obninsk** 82.46 328 P P 04 44 47.4 -0.1
comp=Z,6.9nm,0.7s,baz=81,slow=3.7,SNR=13
OBN **Obninsk** 82.46 328*d* *i*P P 04 44 47.8 +0.4
OBN *e* 04 44 52.9
OBN *i* 04 47 56.1
OBN *i*S S 04 55 04.7 +2.0
OBN pmax pmax
comp=Z,98nm,1.7s
OBN **Obninsk** 82.46 328 P P 04 44 47.2 -0.2
BALB **Balikesir** 82.88 311 IAmb IAmb 04 44 51.5
comp=Z,27nm,0.9s
TSUM **Tsumeb** 83.04 252 LR LR 05 16 41.8
comp=Z,143nm,20.5s,baz=62,slow=32
TSUM **Tsumeb** 83.04 252 P P 04 44 52.1 +0.6
TSUM IAmb IAmb 04 44 53.7
comp=Z,16nm,0.9s
KLMR **Klimovskoe** 83.51 334 *e*P P 04 44 51.4 -1.4
KLMR *e* 04 48 02.8
KLMR pmax pmax
comp=Z,32nm,1.1s
KLMR **Klimovskoe** 83.51 334 *e*P P 04 44 51.4 -1.4
KLMR AMP 04 44 54.4
comp=Z,32nm,1.1s
KLMR *e*PP PP 04 48 02.9 -2.4
IDI **Anoyia** 84.14 307 P P 04 44 57.2 +0.5
comp=Z,18nm,0.7s,baz=73,slow=7.3,SNR=17
IDI LR LR 05 21 46.8
comp=Z,28nm,21.2s,baz=103,slow=35
IDI **Anoyia** 84.14 307 IAmb IAmb 04 44 58.5
comp=Z,22nm,0.8s
SHEM **Shemya Is, Ala** 84.57 35 LR LR 05 21 46.5
comp=Z,44nm,21.9s,baz=332,slow=35
AKASG **Malin Array Be** 85.07 322 P P 04 45 00.0 -0.9
comp=Z,1.6nm,0.6s,baz=78,slow=5.4,SNR=14
AKASG LR LR 05 27 50.0
comp=Z,38nm,19.2s,baz=168,slow=39
AKASG **Malin Array Be** 85.07 322 *i*P P 04 45 00.5 -0.5
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB **Malin Array Si** 85.07 322*d* *i*P P 04 45 00.2 -0.8
AKBB pmax pmax
comp=Z,9.0nm,0.9s
AKBB **Malin Array Si** 85.07 322 P P 04 45 00.4 -0.6
VRI **Vrincioaia** 85.33 317 P P 04 45 03.3 +0.9
MLR **Muntele Rosu** 85.76 317 P P 04 45 04.6 -0.1
comp=Z,16nm,0.8s,baz=172,slow=0.8,SNR=42
MLR **Muntele Rosu** 85.76 317 P P 04 45 05.3 +0.6
BURAR **Bucovina Array** 86.77 319 IAmb IAmb 04 45 11.9
comp=Z,16nm,0.8s
BUR08 **Bucovina Ar. S** 86.79 319 P P 04 45 10.2 +0.5
BUR08 IAmb IAmb 04 45 12.2
comp=Z,19nm,1.0s
VTS **Vitosha** 87.00 313 IAmb IAmb 04 45 11.6
comp=Z,9.8nm,0.8s
BILL **Bilibino** 87.00 20⇓ *e*P P 04 45 09.8 -0.3
BILL *e* 04 45 14.3
BILL *e* 04 48 38.3
BILL *i*S SKSac 04 55 35.5 -0.4
BILL pmax pmax
comp=Z,19nm,3.6s
LIT **Litokhoron** 87.02 311 IAmb IAmb 04 45 11.5
comp=Z,35nm,1.2s
PUL **Pulkovo** 87.30 331⇑ *e*P P 04 45 12.8 +1.1
PUL pmax pmax
comp=Z,70nm,0.6s
VALR **Valaam** 87.56 333*d* *i*P P 04 45 12.8 -0.1
VALR pmax pmax
comp=Z,28nm,0.9s
NACGM **Naroch** 87.69 326 *e*P P 04 45 14.4 +0.7
LVV **L'vov** 88.06 321 *e*P P 04 45 15.8 +0.2
VSU **Vasula** 88.68 329⇑ *e*P P 04 45 19.0 +0.7
VSU pmax pmax
comp=Z,59nm,1.6s
APA **Apatity** 88.73 339⇓ *i*P P 04 45 19.0 +0.6
APA pmax pmax
comp=Z,9.0nm,0.8s
APA MLR MLR
comp=Z,800nm,16.0s
KWP **Kalwaria Pacla** 88.85 320 *e*P P 04 45 20.1 +0.7
UZH **Uzhgorod** 88.91 319 *e*P P 04 45 20.4 +0.8
UZH *i* 04 45 27.5
KOLS **Kolonicke sedl** 88.98 319 *e*P P 04 45 21.4 +1.4
KOLS **Kolonicke sedl** 88.98 319 *e*P P 04 45 21.4 +1.4
CRVS **Cervenica-Dubn** 89.50 319 *e*P P 04 45 23.2 +0.7
CRVS **Cervenica-Dubn** 89.50 319 *e*P P 04 45 23.2 +0.7
SUW **Suwalki** 89.51 325 *e*P P 04 45 22.1 -0.2
FINES **FINESS Array B** 89.79 332 P P 04 45 23.6 +0.2
comp=Z,3.0nm,0.6s,baz=117,slow=5.3,SNR=30
FINES LR LR 05 29 41.8
comp=Z,133nm,20.2s,baz=140,slow=38
FINES **FINESS Array B** 89.79 332 P P 04 45 23.4 -0.1
FINES **FINESS Array B** 89.79 332 P P 04 45 23.4 -0.1
PDG **Podgorica** 89.85 313 IAmb IAmb 04 45 25.5
comp=Z,32nm,1.1s
PSZ **Piszkesteto** 90.35 318 IAmb IAmb 04 45 28.2
comp=Z,11nm,1.0s
NIE **Niedzica** 90.35 320 *e*P P 04 45 28.0 +1.6
OJC **Ojcow** 90.81 320 *e*P P 04 45 29.2 +0.7
VYHS **Vyhne** 91.14 319 *e*P P 04 45 31.4 +1.3
VYHS **Vyhne** 91.14 319 *e*P P 04 45 31.4 +1.3
KOVH **Kovagotottos** 91.26 316 P P 04 45 31.0 +0.3
JAVC **Velka Javorina** 91.96 319 *e*P P 04 45 35.1 +1.1
ARCES **ARCESS Array B** 92.11 340 P P 04 45 33.8 -0.3
comp=Z,4.1nm,0.8s,baz=75,slow=5.3,SNR=8.4
ARCES LR LR 05 32 24.9
comp=Z,115nm,20.0s,baz=98,slow=39
MODS **Modra-Piesok** 92.15 318 *e*P P 04 45 35.9 +1.1
MODS **Modra-Piesok** 92.15 318 *e*P P 04 45 35.9 +1.1
MORC **Moravsky Berou** 92.18 320 P P 04 45 35.6 +0.7
MORC **Moravsky Berou** 92.18 320 *e*P P 04 45 35.4 +0.5
KRLC **Kraliky** 92.71 320 *e*P P 04 45 38.3 +0.9
KRLC **Kraliky** 92.71 320 *e*P P 04 45 38.3 +0.9
GOLS **Golise** 92.95 316 *i*P P 04 45 39.2 +0.6
DPC **Dobruska-Polom** 93.03 320 *e*P P 04 45 39.6 +0.7
DPC **Dobruska-Polom** 93.03 320 *e*P P 04 45 39.6 +0.7
KSP **Ksiaz** 93.12 321 *e*P P 04 45 40.0 +0.9
OSTC **Ostas** 93.13 320 *e*P P 04 45 39.1 -0.2
CHVC **Chvalec** 93.23 320 *e*P P 04 45 40.2 +0.4
PERS **Pernice** 93.38 316 *i*P P 04 45 41.0 +0.4
PRU **Pruhonice** 94.13 320 *e*P P 04 45 44.5 +0.6
PRU **Pruhonice** 94.13 320 *e*P P 04 45 44.5 +0.6
CKRC **Cesky Krumlov** 94.16 319 *e*P P 04 45 44.7 +0.6
GAMB **Gambell** 94.38 26 P P 04 45 44.1 -0.5
GEC2 **GERESS Array S** 94.56 319 P P 04 45 45.6 -0.4
GEC2 IAmb IAmb 04 45 47.3
comp=Z,11nm,1.2s
GERES **GERESS Array B** 94.56 319 P P 04 45 45.8 -0.2
comp=Z,1.6nm,0.8s,baz=111,slow=3.4,SNR=15
KHC **Kasperske Hory** 94.67 319 *e*P P 04 45 46.3 -0.1
KHC **Kasperske Hory** 94.67 319 *e*P P 04 45 46.3 -0.1
STAL **STALIGIAL** 95.00 316 P P 04 45 47.4 -0.6
STAL IAmb IAmb 04 45 48.9
comp=Z,17nm,1.3s
CLL **Collm** 95.23 321 *i*P P 04 45 49.0 +0.1
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL **Collm** 95.23 321 *i*P P 04 45 49.0 +0.1
comp=Z,9.0nm,1.4s
HFS **Hagfors** 95.55 330 LR LR 05 32 50.7
comp=Z,64nm,18.1s,baz=96,slow=38
SPITS **Spitsbergen Ar** 96.11 348 LR LR 05 37 39.2
comp=Z,156nm,18.3s,baz=226,slow=41
KEST **Kesra** 96.74 305 LR LR 05 34 30.7
comp=Z,79nm,18.4s,baz=248,slow=38
NB2 **NORSAR Subarra** 96.82 331 P P 04 45 55.0 -0.9
comp=Z,1.4nm,0.9s,baz=93,slow=4.6
NOA **NORSAR Array B** 96.82 331 LR LR 05 33 52.9
comp=Z,76nm,19.8s,baz=85,slow=38
DAVOX **Davos/Dischmat** 96.98 316 P P 04 45 57.1 -0.1
comp=Z,1.2nm,0.7s,baz=11,slow=3.2,SNR=5.4
TORD **Torodi Ar. Bea** 102.18 282 P Pdif 04 46 20.8 -0.1
comp=Z,0.7nm,1.0s,baz=76,slow=6.1,SNR=3.4
YKA **Yellowknife Ar** 118.38 19 PKP PKPdf 04 51 11.5 -0.9
comp=Z,2.2nm,0.8s,baz=312,slow=1.7,SNR=33
B05A **Bryant** 124.22 35 P PKiKP 04 51 24.6 +0.3
baz=302
EDM **Edmonton** 125.50 26 PKIKP PKPdf 04 51 25.8 -0.6
EDM **Edmonton** 125.50 26 PKPdf 04 51 25.8 -0.6
B08A **Colville Reser** 125.69 33 PKPdf 04 51 26.4 -0.5
C09A **Chrisman Ranch** 126.60 33 PKPdf PKiKP 04 51 29.2 +0.1
J04D **Umpqua Nationa** 126.78 40 P PKiKP 04 51 30.4 +0.6
baz=300
FCC **Fort Churchill** 126.86 11 PKIKP PKPdf 04 51 27.7 -1.0
FCC **Fort Churchill** 126.86 11 PKPdf PKPdf 04 51 27.7 -1.0
NEW **Newport** 126.94 32 P PKiKP 04 51 30.2 +0.3
baz=308
J05D **Fort Rock, OR** 127.32 40 P PKiKP 04 51 31.8 +0.9
baz=300
M04C **Macdoel** 127.66 41 P PKPdf 04 51 31.3 +0.3
baz=299
ORV **Oroville** 128.94 44 PKIKP PKPdf 04 51 32.7 -0.7
ORV **Oroville** 128.94 44 PKPdf 04 51 32.6 -0.7
PLID **Pearl Lake** 129.47 35 PKPdf PKiKP 04 51 35.2 0.0
MSO **Missoula** 129.52 32 P PKiKP 04 51 35.1 0.0
baz=310
EGMT **Eagleton** 130.80 28 P PKPdf 04 51 37.1 +0.3
baz=316
DLMT **Dillon** 131.18 33 PKPdf PKPdf 04 51 37.7 0.0
HLID **Hailey** 131.30 36 P PKiKP 04 51 39.9 +1.0
baz=308
BOZ **Bozeman (W)** 131.54 32 P PKiKP 04 51 39.0 -0.3
baz=312
SCHQ **Schefferville** 131.63 352 PKP PKPdf 04 51 38.3 +0.3
comp=Z,4.4nm,0.9s,baz=9.6,slow=4.9,SNR=6.2
NVAR **Mina Array Bea** 131.66 44 PKP PKPdf 04 51 39.0 +0.1
comp=Z,0.6nm,0.6s,baz=274,slow=2.4,SNR=5.8
NVAR **Mina Array Bea** 131.66 44 PKPdf PKiKP 04 51 39.7 -0.2
YHL **Hebgen Lake** 132.27 32 PKPdf PKiKP 04 51 40.8 -0.2
HVU **Hansel Valley** 133.34 37 PKIKP PKiKP 04 51 43.1 0.0
HVU **Hansel Valley** 133.34 37 PKPdf PKiKP 04 51 43.1 0.0
MPMC **Manual Prospec** 133.38 46 P PKiKP 04 51 43.6 +0.3
baz=299
SNOW **Snow King Moun** 133.42 33 PKPdf PKiKP 04 51 43.5 +0.2
R11A **Troy Canyon, C** 133.54 42 P PKiKP 04 51 43.6 0.0
baz=302
GSC **Goldstone, Bar** 134.22 46 P PKiKP 04 51 45.1 +0.2
baz=299
PDAR **Pinedale Array** 134.54 33 PKP PKPdf 04 51 44.8 +0.6
comp=Z,0.8nm,0.7s,baz=342,slow=0.3,SNR=6.8
GMRC **Granite Mounta** 135.30 46 P PKiKP 04 51 47.6 +0.4
baz=299
K22A **Casper** 136.23 31 P PKPdf 04 51 47.4 +0.2
baz=316
RSSD **Black Hills** 136.36 28 PKIKP PKPdf 04 51 46.3 -1.2
RSSD **Black Hills** 136.36 28 PKPdf 04 51 46.3 -1.2
RSSD **Black Hills** 136.36 28 P PKPdf 04 51 46.9 -0.6
baz=320
RSSD **Black Hills** 136.36 28 P PKPdf 04 51 47.8 +0.4
baz=320
O20A **White River Ci** 137.03 35 P PKiKP 04 51 49.9 -0.8
baz=312
N23A **Red Feather La** 137.78 33 P PKiKP 04 51 52.6 +0.3
baz=315
PV11 **David Mesa, Pa** 137.85 38 PKPdf PKPdf 04 51 51.2 +0.8
F36A **Milaca** 138.92 17 P PKPdf 04 51 51.4 -0.4
baz=335
S22A **4UR Ranch, Cre** 139.44 37 P PKiKP 04 51 54.7 -1.1
baz=312
ECSD **EROS Data Cent** 139.78 22 PKPdf PKPdf 04 51 54.2 +0.7
ECSD **EROS Data Cent** 139.78 22 P PKPdf 04 51 53.7 +0.2
baz=330
E46A **Sault Ste Mari** 140.40 8 PKPdf PKPdf 04 51 54.8 +0.2
T25A **Trinidad** 141.26 35 PKPdf PKPdf 04 51 57.7 +1.0
T25A **Trinidad** 141.26 35 P PKPdf 04 51 52.6 -4.0
baz=314
ANMO **Albuquerque** 141.48 40⇑ *i*PKIKP PKPdf 04 51 58.1 +1.0
ANMO **Albuquerque** 141.48 40 P PKPdf 04 51 53.8 -3.3
baz=310,SNR=7.3
ANMO **Albuquerque** 141.48 40 P PKPdf 04 51 58.5 +1.4
baz=310
CPUP **Villa Florida** 141.51 210 PKhKP PKPpre 04 51 52.3
comp=Z,1.6nm,1.0s,baz=90,slow=6.1,SNR=4.4
BDFB **Brasilia** 143.18 232 PKhKP PKPpre 04 51 57.2
comp=Z,7.3nm,1.0s,baz=155,slow=3.4,SNR=8.8
BDFB **Brasilia** 143.18 232 PKIKP PKPbc 04 51 58.8 +1.4
BDFB **Brasilia** 143.18 232 PKPbc 04 51 58.8 +1.4
MNTX **Cornudas Mount** 144.19 43 PKPdf PKPdf 04 52 01.0 -0.7
MNTX **Cornudas Mount** 144.19 43 P PKPdf 04 52 01.0 -0.7
baz=308
MNTX **Cornudas Mount** 144.19 43 P PKPdf 04 52 01.7 -0.1
baz=308,SNR=9.6
L46A **Eue Claire** 144.32 11 P PKPab 04 51 59.6 0.0
baz=345
L46A P PKPab 04 51 59.6 0.0
baz=345
N41A **Harden Midland** 144.41 18 P PKPab 04 51 60.0 0.0
baz=337,SNR=6.8
AAM **Ann Arbor** 144.48 8 P PKPbc 04 52 00.4 0.0
baz=349
AAM **Ann Arbor** 144.48 8 P PKPbc 04 52 00.5 +0.1
baz=349
K57A **Scipio Center** 144.48 359 PKPab 04 52 00.1 0.0
K57A **Scipio Center** 144.48 359 P PKPbc 04 52 00.4 0.0
baz=6,SNR=13
P38A **Dawn** 144.49 22 P PKPab 04 52 00.2 -0.1
baz=332,SNR=17
L61B **Northampton** 144.53 354 P PKPab 04 52 00.4 0.0
baz=8.1
M44A **Midewin, Midew** 144.54 14 P PKPab 04 51 59.9 -0.5
baz=342,SNR=8.4
L48A **N Adams** 144.72 9 P PKPab 04 52 01.0 -0.1
baz=348,SNR=19
L48A P PKPab 04 52 01.0 -0.1
baz=348,SNR=19
WVNY **West Valley, N** 144.80 2 P PKPab 04 52 01.0 -0.3
baz=358,SNR=8.2
L59A **Walton** 144.97 357 PKPab 04 52 01.3 -0.8
L59A **Walton** 144.97 357 P PKPab 04 52 01.5 -0.6
baz=4.1,SNR=5.9
L59A P PKPab 04 52 01.5 -0.6
baz=4.1,SNR=5.9
BINY **Binghamton** 145.00 358 P PKPab 04 52 01.6 -0.5
baz=2.5,SNR=7.4
BINY **Binghamton** 145.00 358 P PKPab 04 52 01.8 -0.3
baz=2.5
HDIL **Hopedale** 145.00 16 P PKPab 04 52 01.9 -0.2
baz=339,SNR=14
HDIL **Hopedale** 145.00 16 P PKPab 04 52 01.9 -0.2
baz=339
ERPA **Erie** 145.03 3 P PKPbc 04 52 02.0 -0.2
baz=356,SNR=9.9
ERPA **Erie** 145.03 3 P PKPbc 04 52 02.0 -0.2
baz=356,SNR=9.9
L56A **Greenwood** 145.09 0 PKPbc 04 52 01.9 -0.5
L56A **Greenwood** 145.09 0 P PKPbc 04 52 01.5 -0.9
baz=360,SNR=11
L56A P PKPbc 04 52 01.5 -0.9
baz=360,SNR=11
P40A **Paris** 145.10 20 P PKPbc 04 52 02.2 -0.3
baz=334,SNR=30
UCCT **U Connecticut** 145.13 353 PKPbc 04 52 01.5 -0.9
NPNY **Mohonk Preserv** 145.35 356 P PKPbc 04 52 02.3 -0.9
baz=5.7,SNR=7.4
M50A **Fremont** 145.45 8 P PKPbc 04 52 02.8 -0.7
baz=350,SNR=13
M50A P PKPbc 04 52 02.8 -0.7
baz=350,SNR=13
ALLY **Alegheny Colle** 145.49 4 P PKPbc 04 52 02.5 -1.2
baz=355,SNR=6.7
M52A **Chesterland** 145.50 5 P PKPdf 04 52 02.2 -1.5
baz=353,SNR=17
M52A P PKPdf 04 52 02.2 -1.5
baz=353,SNR=17
N47A **Urbana** 145.53 11 PKPdf PKPdf 04 52 02.5 -1.2
N47A **Urbana** 145.53 11 P PKPdf 04 52 03.2 -0.5
baz=346,SNR=19
N47A P PKPdf 04 52 03.2 -0.5
baz=346,SNR=19
T35B **Sooner Cattle** 145.56 28 P PKPdf 04 52 03.2 -0.8
baz=325,SNR=20
O44A **Mansfield** 145.60 15 P PKPdf 04 52 03.4 -0.5
baz=340,SNR=11
KSPA **Keystone Colle** 145.63 358 P PKPdf 04 52 03.7 -0.2
baz=2.9,SNR=15
M53A **WI Miller and** 145.66 4 P PKPdf 04 52 03.7 -0.3
baz=354,SNR=13
BRNY **Black Rk. Fore** 145.68 356 P PKPdf 04 52 04.0 0.0
baz=6.0,SNR=6.4
SFIN **Lafayette** 145.72 13 P PKPdf 04 52 04.0 -0.1
baz=343,SNR=24
SFIN **Lafayette** 145.72 13 P PKPdf 04 52 04.2 +0.1
baz=343
M55A **Ridgway** 145.73 2 P PKPdf 04 52 03.8 -0.4
baz=358,SNR=10
M55A P PKPdf 04 52 03.8 -0.4
baz=358,SNR=10
N49A **Columbus Grove** 145.76 9 PKPdf 04 52 04.2 +0.1
N49A **Columbus Grove** 145.76 9 P PKPdf 04 52 03.8 -0.3
baz=348,SNR=14
N49A P PKPdf 04 52 03.8 -0.3
baz=348,SNR=14
P43A **Skaggs, Pawnee** 145.79 17 P PKPdf 04 52 04.2 -0.1
baz=338,SNR=18
M57A **Sunshine Farm,** 145.88 360 P PKPdf 04 52 04.6 +0.2
baz=0.5,SNR=15
M57A P PKPdf 04 52 04.6 +0.2
baz=0.5,SNR=15
N51A **Ashland** 146.01 7 P PKPdf 04 52 04.3 -0.3
baz=351,SNR=6.7
N51A P PKPdf 04 52 04.3 -0.3
baz=351,SNR=6.7
ODNJ **Ogdensburg** 146.05 356 P PKPdf 04 52 05.0 +0.3
baz=5.0,SNR=7.3
PAL **Palisades** 146.07 355 PKP2 PKPbc 04 52 05.3 -0.2
PAL **Palisades** 146.07 355 PKPbc PKPbc 04 52 05.3 -0.2
R40A **Maddies Statio** 146.13 21 P PKPdf 04 52 05.0 +0.1
baz=333,SNR=42
WMOK **Wichita Mounta** 146.14 33 P PKPdf 04 52 05.5 +0.5
baz=320,SNR=21
WMOK **Wichita Mounta** 146.14 33 P PKPdf 04 52 05.4 +0.3
baz=320
O48B **Farmland** 146.24 11 P PKPdf 04 52 04.7 -0.3
baz=346,SNR=13
O48B **Farmland** 146.24 11 P PKPdf 04 52 05.0 0.0
baz=346,SNR=13
S39A **Bolivar** 146.26 23 P PKPdf 04 52 05.0 -0.2
baz=331,SNR=39
N53A **Lisbon** 146.27 5 P PKPdf 04 52 04.7 -0.3
baz=354,SNR=15
N53A P PKPdf 04 52 04.7 -0.3
baz=354,SNR=15
N58A **Sunbury** 146.38 359 P PKPdf 04 52 05.3 +0.1
baz=1.3,SNR=12
N58A P PKPdf 04 52 05.3 +0.1
baz=1.3,SNR=12
O49A **Covington** 146.45 10 P PKPdf 04 52 05.0 -0.3
baz=348,SNR=10
O49A P PKPdf 04 52 05.0 -0.3
baz=348,SNR=10
SLM **Saint Louis** 146.50 18 P PKPbc 04 52 06.4 -0.5
baz=337,SNR=5.1
SSPA **Standing Stone** 146.58 1 PKPdf 04 52 05.7 +0.1
SSPA **Standing Stone** 146.58 1 P PKPdf 04 52 04.5 -1.0
baz=359,SNR=14
SSPA **Standing Stone** 146.58 1 P PKPdf 04 52 06.0 +0.4
baz=359
ACSO **Alum Creek Sta** 146.61 8 P PKPdf 04 52 05.6 0.0
baz=350,SNR=22
ACSO **Alum Creek Sta** 146.61 8 P PKPbc 04 52 06.9 -0.2
baz=350,SNR=22
HPIG 146.66 50 PKPbc PKPab 04 52 08.7 -0.3
CCM **Cathedral Cave** 146.70 20 PKP2 PKPdf 04 52 06.4 +0.6
CCM **Cathedral Cave** 146.70 20 PKPdf 04 52 06.4 +0.6
CCM **Cathedral Cave** 146.70 20 P PKPdf 04 52 05.6 -0.2
baz=334,SNR=25
CCM **Cathedral Cave** 146.70 20 P PKPbc 04 52 07.1 -0.4
baz=334
TUL1 **Leonard** 146.71 28 P PKPdf 04 52 06.3 +0.4
baz=325,SNR=9.6
TUL1 **Leonard** 146.71 28 P PKPdf 04 52 06.6 +0.7
baz=325
PANJ **Princeton** 146.76 356 P PKPdf 04 52 05.7 -0.2
baz=4.9,SNR=5.9
TX31 **Lajitas Ar. Si** 146.79 45 PKPdf 04 52 07.0 +0.7
TX31 **Lajitas Ar. Si** 146.79 45 P PKPdf 04 52 06.9 +0.5
baz=307
TX32 **Lajitas Array** 146.79 45 PKPbc PKPab 04 52 08.9 -0.4
TXAR **Lajitas Array** 146.79 45 PKPbc PKPbc 04 52 07.5 -0.6
comp=Z,13nm,0.8s,baz=220,slow=1.0,SNR=98
TXAR **Lajitas Array** 146.79 45 PKP2 PKPbc 04 52 08.2 +0.1
TXAR **Lajitas Array** 146.79 45 PKPbc PKPbc 04 52 08.2 +0.1
O53A **New Philadelph** 146.79 5 P PKPbc 04 52 07.1 -0.5
baz=353,SNR=13
O52A **Adamsville** 146.86 6 P PKPdf 04 52 05.7 -0.3
baz=352,SNR=12
O52A P PKPdf 04 52 05.7 -0.3
baz=352,SNR=12
O54A **Avella** 146.93 4 P PKPdf 04 52 06.4 +0.3
baz=355,SNR=17
O54A P PKPdf 04 52 06.4 +0.3
baz=355,SNR=17
P48A **Milroy** 146.96 11 P PKPdf 04 52 05.8 -0.4
baz=345,SNR=20
P48A P PKPdf 04 52 05.8 -0.4
baz=345,SNR=20
TUPA **Temple Univers** 147.00 357 P PKPbc 04 52 08.2 0.0
baz=4.1,SNR=7.2
P49A **Miami Univ. Ec** 147.02 10 PKPdf 04 52 06.9 +0.6
P49A **Miami Univ. Ec** 147.02 10 P PKPdf 04 52 06.7 +0.3
baz=347,SNR=15
P49A **Miami Univ. Ec** 147.02 10 P PKPbc 04 52 07.7 -0.6
baz=347,SNR=15
OLIL **Olney** 147.03 16 P PKPdf 04 52 06.4 0.0
baz=340,SNR=14
FVM **French Village** 147.04 19 P PKPbc 04 52 07.6 -0.9
baz=336,SNR=11
ABTX **Abilene, Hawle** 147.22 36 P PKPbc 04 52 08.5 -0.7
baz=316,SNR=21
ABTX **Abilene, Hawle** 147.22 36 P PKPbc 04 52 09.9 +0.8
baz=316,SNR=21
HHAR **Hobbs** 147.22 25 P PKPdf 04 52 06.4 -0.4
baz=329
P52A **Corning** 147.31 7 P PKPbc 04 52 08.5 -0.6
baz=351,SNR=15
P51A **Williamsport** 147.34 8 P PKPbc 04 52 08.4 -0.8
baz=350,SNR=17
P51A P PKPbc 04 52 08.4 -0.8
baz=350,SNR=17
GEDE **Greenville** 147.37 358 P PKPbc 04 52 08.6 -0.7
baz=3.3,SNR=6.5
MCWV **Mont Chateau** 147.49 4 P PKPdf 04 52 07.3 +0.2
baz=356,SNR=9.0
MCWV **Mont Chateau** 147.49 4 P PKPbc 04 52 09.5 -0.2
baz=356
P53A **Whipple** 147.53 6 P PKPbc 04 52 09.4 -0.4
baz=353,SNR=13
P53A P PKPbc 04 52 09.4 -0.4
baz=353,SNR=13
U40A **Yellville** 147.60 24 PKPdf 04 52 07.3 -0.1
U40A **Yellville** 147.60 24 P PKPdf 04 52 07.2 -0.3
baz=331,SNR=42
U40A P PKPdf 04 52 07.2 -0.3
baz=331,SNR=42
U40A **Yellville** 147.60 24 P PKPbc 04 52 09.8 -0.2
baz=331,SNR=42
S44A **Carbondale** 147.67 18 P PKPdf 04 52 07.7 +0.2
baz=338,SNR=12
P57A **Homestead Farm** 147.73 1 P PKPdf 04 52 07.8 +0.3
baz=359,SNR=8.4
P57A P PKPdf 04 52 07.8 +0.3
baz=359,SNR=8.4
Q51A **Peebles** 147.74 9 P PKPbc 04 52 09.5 -0.9
baz=349,SNR=14
Q51A P PKPbc 04 52 09.5 -0.9
baz=349,SNR=14
Q52A **Bidwell** 147.95 7 P PKPbc 04 52 10.1 -0.8
baz=351,SNR=21

Q52A				P		PKPbc	04 52 10.1	-0.8
	baz=351,SNR=21							
X37A	**Clayton**	**147.99**	**29**	P		**PKPdf**	04 52 08.7	+0.6
	baz=325,SNR=22							
Z35A	**Perchaven, San**	**148.03**	**33**	PKPbc		**PKPbc**	04 52 11.3	0.0
Z35A	**Perchaven, San**	**148.03**	**33**	P		**PKPdf**	04 52 08.3	+0.1
	baz=321,SNR=6.4							
Q54A	**Coxs Mills**	**148.08**	**5**	P		**PKPbc**	04 52 10.8	-0.5
	baz=354,SNR=8.8							
Q54A				P		PKPbc	04 52 10.8	-0.5
	baz=354,SNR=8.8							
PBMO	**Poplar Bluff**	**148.13**	**20**	P		PKPbc	04 52 10.6	-0.9
	baz=335,SNR=33							
R49A	**Shelbyville**	**148.13**	**12**	P		**PKPbc**	04 52 10.5	-0.9
	baz=345,SNR=9.4							
R49A				P		PKPbc	04 52 10.5	-0.9
	baz=345,SNR=9.4							
Q56A	**Snyder Ridge,**	**148.14**	**3**	P		**PKPdf**	04 52 08.5	+0.2
	baz=357,SNR=7.3							
Q56A				P		**PKPdf**	04 52 08.5	+0.2
	baz=357,SNR=7.3							
W39A	**Magazine**	**148.21**	**26**	P		**PKPbc**	04 52 11.2	-0.5
	baz=328,SNR=9.3							
W39A	**Magazine**	**148.21**	**26**	P		**PKPbc**	04 52 11.4	-0.3
	baz=328,SNR=9.3							
R50A	**Paris**	**148.31**	**10**			**PKPbc**	04 52 10.4	-1.5
R50A	**Paris**	**148.31**	**10**	P		**PKPbc**	04 52 11.1	-0.7
	baz=347,SNR=7.2							
R50A				P		**PKPbc**	04 52 11.1	-0.7
	baz=347,SNR=7.2							
T45B	**Paducah**	**148.48**	**17**	P		**PKPbc**	04 52 12.0	-0.3
	baz=338,SNR=6.1							
LCAR	**Lake Charles**	**148.51**	**22**	P		**PKPbc**	04 52 12.2	-0.2
	baz=333,SNR=18							
R53A	**Hurricane**	**148.61**	**7**	P		**PKPbc**	04 52 12.6	-0.1
	baz=351,SNR=15							
R53A				P		**PKPbc**	04 52 12.6	-0.1
	baz=351,SNR=15							
JCT	**Junction City**	**148.63**	**39**	P		**PKPdf**	04 52 10.3	+1.0
	baz=314							
JCT	**Junction City**	**148.63**	**39**	P		**PKPbc**	04 52 13.7	+0.7
	baz=314							
HICK	**Hickman**	**148.74**	**19**	PKPbc		**PKPbc**	04 52 12.7	-0.4
R55A	**Marlinton**	**148.84**	**4**	P		**PKPbc**	04 52 12.6	-0.8
	baz=355							
R55A				P		**PKPbc**	04 52 12.6	-0.8
	baz=355							
MIAR	**Mount Ida**	**148.85**	**26**	P		**PKPbc**	04 52 13.7	+0.3
	baz=328,SNR=31							
MIAR	**Mount Ida**	**148.85**	**26**	P		**PKPbc**	04 52 13.8	+0.4
	baz=328,SNR=31							
W41B	**Gary Mavity, V**	**148.87**	**24**	P		**PKPbc**	04 52 12.9	-0.5
	baz=331,SNR=7.1							
W41B	**Gary Mavity, V**	**148.87**	**24**	P		**PKPbc**	04 52 12.9	-0.5
	baz=331,SNR=7.1							
PB15	**IPOC Station P**	**148.92**	**194**	PKPbc		**PKPbc**	04 52 13.2	-1.0
PEBM	**Pemiscott Bayo**	**148.92**	**20**	PKPbc		**PKPbc**	04 52 13.0	-0.5
T47A	**Sharon Grove**	**148.93**	**15**	P		**PKPbc**	04 52 12.9	-0.6
	baz=341,SNR=13							
WHTX	**Lake Whitney,**	**148.94**	**34**	PKPbc		**PKPbc**	04 52 12.8	-0.9
WHTX	**Lake Whitney,**	**148.94**	**34**	P		**PKPbc**	04 52 14.0	+0.3
	baz=319,SNR=7.2							
WHTX	**Lake Whitney,**	**148.94**	**34**	P		**PKiKP**	04 52 14.7	-0.3
	baz=319,SNR=7.2							
GNAR	**Gosnell**	**149.00**	**20**	PKPbc		**PKPbc**	04 52 13.4	-0.4
S51A	**Beattyville**	**149.06**	**10**	P		**PKPbc**	04 52 12.9	-0.9
	baz=348,SNR=18							
S51A				P		**PKPbc**	04 52 12.9	-0.9
	baz=348,SNR=18							
HBAR	**Harrisburg**	**149.15**	**21**	PKPbc		**PKPbc**	04 52 13.9	-0.2
S54A	**Dingess, Beckl**	**149.21**	**6**	P		**PKPbc**	04 52 13.5	-0.8
	baz=352							
S54A				P		**PKPbc**	04 52 13.5	-0.8
	baz=352							
X40A	**Basin Creek Fa**	**149.22**	**25**	P		**PKPbc**	04 52 14.3	-0.1
	baz=329,SNR=12							
X40A				P		**PKPbc**	04 52 14.3	-0.1
	baz=329,SNR=12							
X40A	**Basin Creek Fa**	**149.22**	**25**	P		**PKPbc**	04 52 14.8	+0.5
	baz=329,SNR=12							
LVC	**Limon Verde**	**149.35**	**195**	PKP2		**PKiKP**	04 52 16.2	-0.5
LVC	**Limon Verde**	**149.35**	**195**	PKPbc		**PKiKP**	04 52 16.1	-0.5
S57A	**Dark Hollow, R**	**149.42**	**2**	P		**PKPbc**	04 52 13.8	-0.9
	baz=357,SNR=6.4							
S57A				P		**PKPbc**	04 52 13.8	-0.9
	baz=357,SNR=6.4							
WVT	**Waverly**	**149.54**	**17**	PKP2		**PKPbc**	04 52 14.5	-0.6
WVT	**Waverly**	**149.54**	**17**	PKPbc		**PKPbc**	04 52 14.5	-0.6
WVT	**Waverly**	**149.54**	**17**	P		**PKPbc**	04 52 14.7	-0.3
	baz=339,SNR=65							
WVT	**Waverly**	**149.54**	**17**	P		**PKPbc**	04 52 15.2	+0.1
	baz=339							
U49A	**Red Boiling Sp**	**149.71**	**13**	P		**PKPbc**	04 52 15.3	-0.2
	baz=344,SNR=14							
435B	**Jarrell**	**149.76**	**36**	P		**PKPbc**	04 52 16.3	+0.5
	baz=317							
435B	**Jarrell**	**149.76**	**36**	P		**PKiKP**	04 52 16.7	-0.1
	baz=317							
237A	**Washetta, Mont**	**149.83**	**32**	P		**PKiKP**	04 52 16.7	-0.2
	baz=322,SNR=9.6							
BLA	**Blacksburg**	**149.88**	**5**	P		**PKPbc**	04 52 15.5	-0.5
	baz=354							
BLA	**Blacksburg**	**149.88**	**5**	P		**PKPbc**	04 52 15.6	-0.3
	baz=354							
W45A	**Hickory Valley**	**150.02**	**20**	P		**PKPbc**	04 52 15.7	-0.6
	baz=336,SNR=5.2							
TZTN	**Tazewell**	**150.13**	**10**	P		**PKPbc**	04 52 16.1	-0.5
	baz=348,SNR=14							
TZTN	**Tazewell**	**150.13**	**10**	P		**PKPbc**	04 52 16.3	-0.2
	baz=348							
T57A	**Hurt**	**150.17**	**3**	P		**PKPbc**	04 52 16.1	-0.5
	baz=356,SNR=6.4							
T57A				P		**PKPbc**	04 52 16.1	-0.5
	baz=356,SNR=6.4							
V48A	**Smith Brothers**	**150.19**	**16**	P		**PKPbc**	04 52 16.2	-0.5
	baz=341,SNR=20							
T59A	**Double "B" Far**	**150.24**	**0**	P		**PKPbc**	04 52 17.2	+0.4
	baz=360							
T59A				P		**PKPbc**	04 52 17.2	+0.4
	baz=360							
Z41A	**Richland Creek**	**150.28**	**27**	P		**PKiKP**	04 52 17.7	0.0
	baz=328,SNR=5.2							
Z41A				P		**PKiKP**	04 52 17.7	0.0
	baz=328,SNR=5.2							
Z41A	**Richland Creek**	**150.28**	**27**	P		**PKiKP**	04 52 17.8	0.0
	baz=328,SNR=5.2							
833A	**Chaparral WMA,**	**150.34**	**42**	P		**PKiKP**	04 52 18.5	+0.4
	baz=312							
U54A	**Nelsons Funny**	**150.41**	**7**	P		**PKPbc**	04 52 16.2	-1.0
	baz=351,SNR=6.1							
U54A				P		**PKPbc**	04 52 16.2	-1.0
	baz=351,SNR=6.1							
OXF	**Oxford**	**150.53**	**20**	P		**PKPbc**	04 52 17.4	-0.1
	baz=335,SNR=14							
OXF	**Oxford**	**150.53**	**20**	P		**PKPbc**	04 52 17.4	-0.1
	baz=335,SNR=14							
NATX	**Nacogdoches**	**150.62**	**31**	P		**PKiKP**	04 52 18.9	+0.4
	baz=323,SNR=7.3							
NATX	**Nacogdoches**	**150.62**	**31**	P		**PKiKP**	04 52 18.9	+0.4
	baz=323,SNR=7.3							
V51A	**Loudon**	**150.70**	**12**	P		**PKPbc**	04 52 17.9	-0.1
	baz=346,SNR=15							
U56A	**King**	**150.74**	**5**			**PKPbc**	04 52 16.6	-1.4
U56A	**King**	**150.74**	**5**	P		**PKPbc**	04 52 17.9	-0.1
	baz=354,SNR=5.0							
U56A				P		**PKPbc**	04 52 17.9	-0.1
	baz=354,SNR=5.0							
V52A	**Sevierville**	**150.81**	**10**	P		**PKPbc**	04 52 18.2	0.0
	baz=347,SNR=33							
U59A	**Littleton**	**150.86**	**1**	P		**PKPbc**	04 52 18.3	+0.1
	baz=359							
U59A				P		**PKPbc**	04 52 18.3	+0.1
	baz=359							
TKL	**Tuckaleechee C**	**150.96**	**11**	P		**PKPbc**	04 52 18.4	-0.1
	baz=347,SNR=22							
Y45A	**Yeager Farm, C**	**151.06**	**21**	P		**PKPbc**	04 52 18.9	+0.1
	baz=335,SNR=20							
W50A	**Signal Mountai**	**151.08**	**14**	P		**PKPbc**	04 52 18.3	-0.6
	baz=344,SNR=11							
V53A	**Saluda**	**151.11**	**9**	P		**PKPbc**	04 52 18.7	-0.3
	baz=349,SNR=20							
V53A				P		**PKPbc**	04 52 18.7	-0.3
	baz=349,SNR=20							
V55A	**Taylorsville**	**151.15**	**6**	P		**PKPbc**	04 52 18.4	-0.5
	baz=352,SNR=13							
V55A				P		**PKPbc**	04 52 18.4	-0.5
	baz=352,SNR=13							
X48A	**Hartselle**	**151.34**	**17**	P		**PKPbc**	04 52 18.6	-0.8
	baz=340,SNR=16							
143A	**Socs Landing,**	**151.36**	**25**	P		**PKPbc**	04 52 19.5	0.0
	baz=330,SNR=6.1							
V58A	**Windy Hill, Pi**	**151.38**	**3**	P		**PKPbc**	04 52 18.9	-0.5
	baz=356							
V58A				P		**PKPbc**	04 52 18.9	-0.5
	baz=356							
HKT	**Hockley**	**151.39**	**35**	PKIKP		**PKPdf**	04 52 12.9	-0.6
HKT							04 52 20.0	
HKT	**Hockley**	**151.39**	**35**	PKPdf		**PKPdf**	04 52 12.9	-0.6
HKT						**PKiKP**	04 52 20.0	0.0
HKT				PKPab		**sPKPab**	04 52 37.3	+2.3
HKT	**Hockley**	**151.39**	**35**	P		**PKiKP**	04 52 20.5	+0.4
	baz=319							
W52A	**Murphy**	**151.47**	**11**	P		**PKPbc**	04 52 19.7	-0.1
	baz=346,SNR=13							
CASEE	**Lake Jocassee**	**151.75**	**10**	P		**PKPbc**	04 52 20.3	-0.1
	baz=348,SNR=12							
X51A	**Calhoun**	**151.79**	**13**	P		**PKPbc**	04 52 20.3	-0.2
	baz=344,SNR=5.9							
X51A				P		**PKPbc**	04 52 20.3	-0.2
	baz=344,SNR=5.9							
KMSC	**Kings Mountain**	**151.83**	**7**	P		**PKPbc**	04 52 20.1	-0.5
	baz=352,SNR=10							
KMSC	**Kings Mountain**	**151.83**	**7**	P		**PKPbc**	04 52 20.2	-0.3
	baz=352							
W57A	**Gilead**	**151.96**	**5**	P		**PKPbc**	04 52 20.5	-0.3
	baz=355							
W57A				P		**PKPbc**	04 52 20.5	-0.3
	baz=355							
CNNC	**Cliffs of the**	**151.97**	**1**	P		**PKiKP**	04 52 21.1	-0.1
	baz=359							
Y49A	**Blount Mountai**	**152.07**	**16**	P		**PKPbc**	04 52 20.3	-0.8
	baz=341,SNR=17							
PAULI	**Pauline**	**152.09**	**8**	P		**PKPbc**	04 52 20.3	-0.8
	baz=351,SNR=8.0							
VBMS	**Vicksburg**	**152.15**	**24**	P		**PKiKP**	04 52 21.8	+0.1
	baz=331							
Z47A	**Carrollton**	**152.18**	**19**			**PKPbc**	04 52 20.2	-1.1
Z47A	**Carrollton**	**152.18**	**19**	P		**PKPbc**	04 52 21.3	-0.1
	baz=337,SNR=10.0							
146A	**Union**	**152.34**	**22**	P		**PKPbc**	04 52 21.6	-0.2
	baz=335,SNR=8.9							
BIRD	**Birdtown, Kers**	**152.42**	**5**	P		**PKPbc**	04 52 21.4	-0.5
	baz=354							
HODGE	**Hodges**	**152.60**	**9**	P		**PKPbc**	04 52 22.3	0.0
	baz=350,SNR=6.1							
Y52A	**Lilburn**	**152.64**	**12**	P		**PKPbc**	04 52 22.5	+0.1
	baz=346,SNR=8.4							
Y52A				P		**PKPbc**	04 52 22.5	+0.1
	baz=346,SNR=8.4							
LRAL	**Lakeview Retre**	**152.67**	**18**	P		**PKPbc**	04 52 21.7	-0.8
	baz=339,SNR=6.0							
LRAL	**Lakeview Retre**	**152.67**	**18**	P		**PKPbc**	04 52 21.8	-0.6
	baz=339							
JSC	**Jenkinsville**	**152.69**	**7**	P		**PKPbc**	04 52 22.0	-0.4
	baz=352							
Y57A	**Sumter**	**153.05**	**6**	P		**PKPbc**	04 52 23.0	-0.2
	baz=354							
Y57A				P		**PKPbc**	04 52 23.0	-0.2
	baz=354							
GOGA	**Godfrey**	**153.19**	**11**	P		**PKPbc**	04 52 22.7	-0.9
	baz=347							
152A	**Waverly Hall**	**153.64**	**14**	P		**PKPbc**	04 52 24.7	+0.1
	baz=344							
LPAZ	**La Paz**	**155.04**	**201**	PKPbc		**PKPdf**	04 52 21.1	+1.0
	comp=Z,2.1nm,0.9s,baz=32,slow=4.1,SNR=7.5							
LPAZ				PKPab		**PKPab**	04 52 46.0	+1.8
	comp=Z,1.2nm,0.7s,baz=158,slow=1.6,SNR=3.7							
SC01	**Santiago de lo**	**166.13**	**333**			**PKPdf**	04 52 29.4	-1.8

*WEL **24** 04:46:01.9±1.2,32°S±17°×18°0E±3°6,h33km,M4.7/3, ML4.8/5,MLv4.7/3,Error ellipse: s-maj=0.1km s-min=0.0km az=114.8*

*IDC **24** 04:46:09.5±3.9,32°93S×179°42W,h126km±31km,mb4.3/3, mb1 4.2/6,mb1mx3.6/28,mbtmp4.4/6,Error ellipse: s-maj=36.6km s-min=23.7km az=79.0*

*NEIC **24** 04:46:10.1±2.0,32°9S±0°1×179°6W±0°2,h123km±9km, mb4.4/13,Error ellipse: s-maj=25.1km s-min=15.2km az=95.0*

ISC 24 04:46:05.8±0.7,**32°76S**±0°06×**179°3W**±0°1,**h100**km,**n39,** σ2°69/46,**mb4.5/7,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.67**	**19**	P	**Pn**	**04 46 58.2**	**-2.4**
GLKZ				S	**Sn**	**04 47 38.8**	**-4.2**
RAO	**Raoul Island**	**3.68**	**19**	S	**Sn**	**04 47 41.4**	**-1.8**
	70nm,0.3s,baz=53,slow=20,SNR=2.4						
MXZ	**Matakaoa Point**	**5.19**	**202**	P	**Pn**	**04 47 22.3**	**+1.2**
MXZ				S	**Sn**	**04 48 21.0**	**+1.4**
HAZ	**Te Kaha**	**5.54**	**205**	P	**Pn**	**04 47 26.8**	**+1.0**
HAZ				S	**Sn**	**04 48 32.6**	**+4.5**
URZ	**Urewera**	**6.23**	**207**	P	**Pn**	**04 47 35.6**	**+0.4**
	1.1nm,0.3s,baz=262,slow=4.1,SNR=16						
URZ				S	**Sn**	**04 48 44.6**	**-0.4**
	5.6nm,0.3s,baz=220,slow=12,SNR=7.9						
NMHZ	**Naumai**	**7.08**	**206**	P	**Pn**	**04 47 46.1**	**-0.8**
NMHZ				S	**Sn**	**04 49 05.9**	**+0.2**
MCHZ	**McNeill Hill**	**7.43**	**205**	S	**Sn**	**04 49 15.7**	**+1.6**
KRHZ	**Kereru**	**7.72**	**206**	P	**Pn**	**04 47 52.6**	**-2.8**
KRHZ				S	**Sn**	**04 49 18.9**	**-2.4**
PNHZ	**Pukenui**	**8.02**	**206**	P	**Pn**	**04 47 56.9**	**-2.7**
PNHZ				P	**Sn**	**04 49 27.3**	**-1.3**
WPHZ	**Waipukurau**	**8.07**	**204**	P	**Pn**	**04 48 03.0**	**+2.8**
WPHZ				S	**Sn**	**04 49 25.8**	**-3.9**
DVHZ	**Dannevirke**	**8.37**	**205**	S	**Sn**	**04 49 31.9**	**-5.2**
ANWZ	**Angora Road**	**8.41**	**203**	P	**Sn**	**04 49 30.5**	**-7.5**
PRWZ	**Pori Road**	**8.67**	**205**	P	**Sn**	**04 49 37.1**	**-7.2**
BFZ	**Birch Farm**	**8.69**	**203**	P	Pn	04 48 03.1	-5.5
BFZ				P	**Sn**	**04 49 37.9**	**-6.8**
MSVF	**Nonsavu**	**15.16**	**350**	P	**P**	**04 49 39.5**	**+2.0**
	1.0nm,0.3s,baz=141,slow=23,SNR=1.9						
MSVF	**Nonsavu**	**15.16**	**350**	IAmb	IAmb	04 49 55.0	
	comp=Z,28nm,1.2s						
OUENC	**Ouen Island, N**	**16.05**	**306**		**P**	**04 49 47.3**	**+0.1**
DZM	**Mont Dzumac**	**16.55**	**306**	P	**P**	**04 49 55.2**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=109,slow=13,SNR=6.4						
DZM	**Mont Dzumac**	**16.55**	**306**		**Pn**	**04 49 51.8**	**-0.2**
DZM				IAmb	IAmb	04 49 56.3	
	comp=Z,12nm,1.0s						
KOUNC	**Koumac, New Ca**	**19.05**	**306**	P	**P**	**04 50 20.2**	**-0.1**
KOUNC				IAmb	IAmb	04 50 28.2	
	comp=Z,9.6nm,0.9s						
CTA	**Charters Tower**	**33.21**	**284**	P	**P**	**04 52 34.0**	**+0.7**
	comp=Z,6.0nm,0.8s,baz=120,slow=10,SNR=6.7						
AS31	**Alice Springs**	**41.97**	**270**	P	**P**	**04 53 46.5**	**-0.7**
ASAR	**Alice Springs**	**41.97**	**270**	P	**P**	**04 53 47.0**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=106,slow=7.6,SNR=79						
WB2	**Warramunga Arr**	**43.17**	**275**	P	**P**	**04 53 55.7**	**-1.2**
WB2				IAmb	IAmb	04 53 57.3	
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**43.17**	**275**	P	**P**	**04 53 56.2**	**-0.7**
WRA	**Warramunga Arr**	**43.18**	**275**	P	**P**	**04 53 56.6**	**-0.4**
	comp=Z,9.5nm,0.5s,baz=115,slow=7.7,SNR=139						
WRA	**Warramunga Arr**	**43.18**	**275**	P	**P**		
FORT	**Forrest**	**44.45**	**258**	P	**P**	**04 53 56.8**	**-0.1**
MTN	**Manton Dam**	**49.35**	**282**	P	**P**	**04 54 06.0**	**-1.0**
MTN				IAmb	IAmb	**04 54 45.5**	**+0.2**
	comp=Z,9.0nm,0.6s					04 54 45.9	
QSPA	**South Pole Qui**	**57.35**	**180**	P	**P**	**04 55 44.8**	**+1.4**
BELA	**Belgrano 2**	**67.59**	**172**	P	**P**	**04 56 51.6**	**+0.5**
BELA				IAmb	IAmb	04 56 56.8	
	comp=Z,3.0nm,0.9s						
TROLL	**Troll, Antarti**	**75.51**	**181**	P	**P**	**04 57 39.8**	**+0.9**
SNAA	**Sanae**	**75.83**	**179**	P	**P**	**04 57 41.2**	**+0.6**
SNAA	**Sanae**	**75.83**	**179**	P	**P**	**04 57 42.3**	**+1.7**
SNAA				IAmb	IAmb	04 57 46.2	
	comp=Z,7.7nm,1.0s						
VNA3	**Neumayer Olymp**	**76.02**	**177**	P	**P**	**04 57 42.9**	**+1.3**
VNA2	**Neumayer--Watz**	**76.44**	**177**	P	**P**	**04 57 45.7**	**+1.6**
	baz=193,slow=4.0						
VNA1	**Neumayer--Stat**	**76.68**	**177**	P	**P**	**04 57 46.8**	**+1.4**
FINES	**FINESS Array B**	**146.96**	**338**	PKPbc	**PKPdf**	**05 05 35.5**	**+1.7**
	comp=Z,2.3nm,0.6s,baz=36,slow=4.4,SNR=26						
TORD	**Torodi Ar. Bea**	**160.46**	**183**	PKPab	**PKPab**	**05 06 35.7**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=159,slow=3.1,SNR=5.1						

*IDC **24** 04:56:26.9±6.8,21°53S×148°40E,h0km,mb1 3.4/3, mb1mx3.3/23,mbtmp3.2/3,ML3.2/3,Error ellipse: s-maj=62.6km s-min=45.4km az=133.0*

*AUST **24** 04:56:30.5±2.3,21°81S×147°92E,h0km,Error ellipse: s-maj=218.4km s-min=20.3km az=49.0*

ISC 24 04:56:31.7±2.0,**21°7S**±0°2×**148°0E**±0°2,**h10**km,**n8,** σ0°94/9,**Queensland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.29**	**313**	Pn	**Pn**	**04 57 09.4**	**-0.2**
	5.3nm,0.3s,baz=120,slow=16,SNR=76						
CTA				Sn	**Sb**	**04 57 40.3**	**-1.4**
	13nm,0.3s,baz=7.3,slow=23,SNR=6.3						
CTA	**Charters Tower**	**2.29**	**313**	P	**Pn**	**04 57 09.5**	**-0.2**
	baz=2.3						
CTA				S	**Sb**	**04 57 40.8**	**-0.9**
	baz=2.3						
EIDS	**Eidsvold**	**4.62**	**143**	P	**Pn**	**04 57 41.2**	**-0.4**
	baz=4.6						
MTSU	**Mount Surprise**	**4.96**	**315**	P	**Pn**	**04 57 46.9**	**+0.5**
	baz=5.0						
COEN	**Coen**	**8.96**	**328**	P	**Pn**	**04 58 42.6**	**+1.3**
	baz=9.1						
WRA	**Warramunga Arr**	**12.92**	**275**	Pn	**Pn**	**04 59 35.9**	**+0.3**
	0.1nm,0.3s,baz=95,slow=12,SNR=9.2						
WRA				Lg	Lg	05 03 29.6	
	0.1nm,0.3s,baz=112,slow=30,SNR=2.8						
ASAR	**Alice Springs**	**13.19**	**259**	Pn	**Pn**	**04 59 39.8**	**+0.5**
	0.1nm,0.3s,baz=78,slow=13,SNR=5.8						
ASAR				Sn	Sn	05 02 18.2	+12
	0.0nm,0.3s,baz=84,slow=23,SNR=2.0						
ASAR				Lg	Lg	05 03 35.4	
	0.1nm,0.3s,baz=83,slow=23,SNR=1.7						
I22FR	**PORTLAGUERRE I17.47**	**95**	*i*			06 43 20.0	
	baz=268,slow=307,SNR=2.3						

*IDC **24** 05:08:34.9±1.0,27°58N×141°48E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.4/53,mbtmp3.8/5,ML2.5/1,Error ellipse: s-maj=37.8km s-min=18.1km az=59.0*

ISC 24 05:08:39.8±1.0,**27°6N**±0°2×**141°7E**±0°2,**h35**km,**n7,** σ1°07/8,**mb3.7**/4,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.69**	**137**	Pn	**Pn**	**05 08 53.6**	**+0.6**
	192nm,0.3s,baz=5.5,slow=18,SNR=189						
JCJ				Sn	**Sn**	**05 09 01.4**	**-1.1**
	709nm,0.3s,baz=295,slow=21,SNR=31						
MJAR	**Matsushiro Arr**	**9.38**	**343**	Pn	**Pn**	**05 10 51.1**	**-1.4**
	0.0nm,0.3s,baz=282,slow=40,SNR=2.1						
WRA	**Warramunga Arr**	**47.79**	**189**	P	**P**	**05 17 13.4**	**-0.4**
	0.5nm,0.5s,baz=12,slow=8.6,SNR=10						
YKA	**Yellowknife Ar**	**71.92**	**28**	P	**P**	**05 19 59.7**	**+0.6**
	0.2nm,0.5s,baz=298,slow=6.3,SNR=7.2						
ARCES	**ARCESS Array B**	**72.91**	**341**	P	**P**	**05 20 06.1**	**+1.2**
	3.4nm,0.9s,baz=49,slow=9.7,SNR=1.9						
FINES	**FINESS Array B**	**77.28**	**334**	P	**P**	**05 20 30.9**	**+0.6**
	0.3nm,0.4s,baz=65,slow=5.0,SNR=4.8						
LPAZ	**La Paz**	**150.25**	**74**	PKPbc	**PKiKP**	**05 28 29.4**	**-0.1**
	0.4nm,0.4s,baz=0.0,slow=8.1,SNR=2.6						

*AEIC **24** 05:28:03.4±1.0,57°08N±0°03×157°77W±0°07,h16km±5km, ML3.5,ML3.7/32(NEIC),Error ellipse: s-maj=5.7km s-min=4.1km az=128.0*

*NEIC **24** 05:28:03.8±1.2,57°08N±0°04×157°71W±0°07,h17km±6km, Error ellipse: s-maj=7.7km s-min=3.7km az=138.0*

*IDC **24** 05:28:11.3±3.2,57°48N×157°37W,h66km±31km,mb3.4/8, mb1 3.6/11,mb1mx3.3/38,mbtmp3.6/11,ML3.2/3,MS3.0/2, Ms1 3.1/2,ms1mx2.5/58,Error ellipse: s-maj=33.7km s-min=15.1km az=21.0*

ISC 24 05:28:03.4±1.0,**57°10N**±0°05×**157°72W**±0°04,**h12**km±8km, **n65,** σ1°18/73,**mb3.8**/8,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANNW	**Aniakchak Nort**	**0.30**	**243**		**Pg**	**05 28 09.7**	**+0.1**
ANNW					**Sg**	**05 28 13.2**	**-0.4**
ANPB	**Aniakchak Plen**	**0.43**	**226**		**Pg**	**05 28 11.0**	**-0.9**
ANPB					**Sg**	**05 28 17.6**	**0.0**
PLBL	**Peulik Blue Cr**	**0.77**	**39**		**Pg**	**05 28 19.6**	**+1.3**
PLK1	**Peulik 1**	**0.92**	**40**		**Pb**	**05 28 20.9**	**-0.5**
PLK3	**Peulik 3**	**0.98**	**53**		**Pn**	**05 28 22.8**	**-0.2**
PLK3					**Sn**	**05 28 36.4**	**-0.5**
PLK5	**Peulik 5**	**1.01**	**27**		**Pb**	**05 28 22.7**	**-0.1**
VNHG	**Veniaminof 1**	**1.19**	**223**		**Pn**	**05 28 23.9**	**-2.0**
VNHG					**Sg**	**05 28 41.7**	**0.0**
VNFG	**Fog Glacier, M**	**1.30**	**232**		**Pn**	**05 28 26.9**	**-0.6**
VNFG	**Fog Glacier, M**	**1.30**	**232**	P	**Pn**	**05 28 26.9**	**-0.6**
	baz=50						
CAHL	**Cahill**	**1.61**	**53**		**Pn**

L19K				IAML		05 31 10.2		
	comp=N,53nm,0.8s							
TTA	**Tatalina**	**5.91**	**8**	Pn	**Pn**	**05 29 30.1**	**-0.6**	
PPLA	**Purkeypile**	**6.44**	**23**	Pn	**Pn**	**05 29 38.2**	**+0.2**	
K20K	**Telida**	**6.53**	**15**		**Pn**	**05 29 38.3**	**-0.9**	
FID	**Port Fidalgo**	**6.87**	**53**	Pn	**Pn**	**05 29 42.1**	**-1.8**	
CAST	**Castle Rocks**	**6.93**	**22**	Pn	**Pn**	**05 29 45.2**	**+0.6**	
J20K	**Nowinta River**	**7.31**	**12**	Pn	**Pn**	**05 29 49.5**	**-0.4**	
SNH	**Sunshine Point**	**8.35**	**62**	Pn	**Pn**	**05 30 05.3**	**+1.1**	
ANM	**Nome**	**8.36**	**337**	Pn	**Pn**	**05 30 05.2**	**+0.9**	
WAX	**Waxell Ridge**	**8.42**	**60**	Pn	**Pn**	**05 30 05.1**	**0.0**	
I21K	**Tanana**	**8.56**	**16**	Pn	**Pn**	**05 30 06.9**	**-0.1**	
ISLE	**Juniper Island**	**8.71**	**60**	Pn	**Pn**	**05 30 09.2**	**+0.1**	
H21K	**Melozitna Rive**	**8.90**	**13**	Pn	**Pn**	**05 30 10.7**	**-0.9**	
GRNC	**Granite Creek**	**9.02**	**60**	Pn	**Pn**	**05 30 13.9**	**+0.4**	
TABL	**Table Mountain**	**9.23**	**62**	Pn	**Pn**	**05 30 16.7**	**+0.3**	
ILAR	**Eielson Array**	**9.31**	**30**	P	**Pn**	**05 30 16.9**	**-0.4**	
	comp=N,0.1nm,0.3s,baz=223,slow=13,SNR=3.9							
ILAR				S	**Sn**	**05 31 54.7**	**-7.1**	
	baz=205,slow=21,SNR=1.9							
ILAR				LR	LR	05 33 34.3		
	comp=N,69nm,20.1s,baz=268,slow=36							
INK	**Inuvik**	**15.64**	**34**	P	**Pn**	**05 31 42.5**	**-0.7**	
	comp=N,0.1nm,0.3s,baz=172,slow=32,SNR=2.4							
INK				LR	LR	05 37 47.0		
	comp=N,91nm,18.3s,baz=294,slow=38							
YKA	**Yellowknife Ar**	**22.01**	**58**	P	**P**	**05 32 56.6**	**-0.6**	
	comp=N,0.9nm,0.7s,baz=271,slow=11,SNR=5.5							
YKA	**Yellowknife Ar**	**22.01**	**58**	P	**P**	**05 32 56.0**	**-1.1**	
SEY	**Seymchan**	**25.05**	**304**	P	**P**	**05 33 28.8**	**+1.8**	
	comp=N,1.7nm,0.6s,baz=104,slow=7.9,SNR=8.4							
PETK	**Petropavlovsk-**	**25.46**	**280**	P	**P**	**05 33 34.6**	**+3.7**	
	comp=N,0.9nm,0.5s,baz=82,slow=14,SNR=5.2							
NVAR	**Mina Array Bea**	**31.81**	**106**	P	**P**	**05 34 29.5**	**+1.6**	
	comp=N,1.0nm,0.8s,baz=294,slow=7.4,SNR=5.4							
PDAR	**Pinedale Array**	**33.39**	**94**	P	**P**	**05 34 41.6**	**0.0**	
	comp=N,0.4nm,0.6s,baz=207,slow=0.3,SNR=3.7							
TXAR	**Lajitas Array**	**46.52**	**103**	P	**P**	**05 36 30.6**	**0.0**	
	comp=N,0.3nm,0.7s,baz=328,slow=6.4,SNR=5.3							
SONM	**Songino Array**	**54.44**	**305**	P	**P**	**05 37 30.0**	**-0.3**	
	comp=N,0.6nm,0.7s,baz=57,slow=5.5,SNR=3.8							
CMAR	**Chiang Mai Arr**	**81.71**	**291**	P	**P**	**05 40 22.8**	**+1.1**	
	comp=N,0.8nm,0.3s,baz=45,slow=4.0,SNR=1.1							

KRSC 24 05:35:10.9±1.4, 51°.78N×158°.02E, h138^{km}±10^{km}, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.04**	**51**	*eP*	Pn	05 35 31.3	+1.8
KDTR				*eS*	Sn	05 35 45.3	+1.7
ASAK	**Asacha**	**0.61**	**353**	*eP*	Pn	05 35 33.4	+1.8
ASAK				*eS*	Sn	05 35 49.1	+1.7
MTVR	**Mutnovka**	**0.71**	**8**	*eP*	Pn	05 35 33.9	+1.5
MTVR				*eS*	Sn	05 35 50.7	+2.0
RUS	**Russkaya**	**0.72**	**25**	*eP*	Pn	05 35 34.0	+1.8
RUS				*eS*	Sn	05 35 50.2	+1.8
GRL	**Gorelyy**	**0.77**	**2**	*eP*	Pn	05 35 34.7	+1.9
PAU	**Pauzhetka**	**0.82**	**248**	*eP*	Pn	05 35 34.4	+1.4
MIPR	**Malaya Ipel'ka**	**0.93**	**303**	*eP*	Pn	05 35 34.2	+0.3
MIPR				*eS*	Sn	05 35 51.0	-0.4
KRMR	**Karymshinskiy**	**1.05**	**4**	*eP*	Pn	05 35 36.2	+1.2
KRMR				*eS*	Sn	05 35 54.5	+1.2
APC	**Apacha**	**1.26**	**335**	*eP*	Pn	05 35 37.5	+0.5
APC				*eS*	Sn	05 35 56.5	-0.4
PET	**Petropavlovsk**	**1.30**	**17**	*eP*	Pn	05 35 38.7	+1.3
DALK	**Dalny**	**1.33**	**19**	*eP*	Pn	05 35 39.3	+1.6
DALK				*eS*	Sn	05 35 59.0	+0.8
UGLR	**Uglovaya**	**1.51**	**19**	*eP*	Pn	05 35 41.9	+2.1
AVH	**Avacha**	**1.55**	**16**	*eP*	Pn	05 35 42.2	+2.0
KOK	**Koryaka**	**1.56**	**14**	*eP*	Pn	05 35 42.4	+2.1
SMAR	**Somma**	**1.56**	**17**	*eP*	Pn	05 35 42.2	+1.8
KRER	**Koryakskii**	**1.59**	**16**	*eP*	Pn	05 35 42.6	+1.9
SDLR	**Sedlovina**	**1.59**	**19**	*eP*	Pn	05 35 42.3	+1.7
KRX	**Arik**	**1.62**	**13**	*eP*	Pn	05 35 42.6	+1.5
SKR	**Severo-Kuril's**	**1.63**	**228**	*eP*	Pn	05 35 42.4	+1.4
SKR				*eS*	Sn	05 36 05.1	+1.2
SPN	**Mys Shipunski**	**1.80**	**42**	*eP*	Pn	05 35 44.6	+1.7
SPN				*eS*	Sn	05 36 08.2	+0.8
GNL	**Ganaly**	**1.92**	**359**	*eP*	Pn	05 35 44.7	+0.3
KII	**Karymskiy**	**2.42**	**20**	*eP*	Pn	05 35 51.8	+1.4
MKZ	**Mys Kozlova**	**3.56**	**37**	*eP*	Pn	05 36 06.0	+1.0
MKZ				*eS*	Sn	05 36 45.8	-1.1
TUMD	**Tumrok D**	**3.71**	**22**	*eP*	Pn	05 36 08.4	+1.4
TUMR	**Tumrok**	**3.73**	**19**	*eP*	Pn	05 36 09.5	+2.2
BKI	**Bering**	**5.85**	**51**	*eP*	Pn	05 36 37.0	+1.6
BKI				*eS*	Sn	05 37 37.7	-3.6

IDC 24 05:43:20.5±1.1, 33°.71N×141°.87E, h0^{km}, mb3.5/5, mb1 3.7/7, mb1mx3.5/36, mbtmp3.6/7, ML3.4/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/62, Error ellipse: s-maj=25.9km s-min=21.7km az=107.0

JMA 24 05:43:27.8±0.3, 33.91N×141.24E, h24km±4km, M2.9

ISC 24 05:43:24.8±0.9, 33°.73N±0°.06×141°.83E±0°.09, h35^{km}, n17, σ1^{s}93/20, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.16**	**323**	P	**Pn**	**05 43 42.3**	**-1.7**
BSO1				X		05 43 51.5	
BSO3	**Boso 3**	**1.53**	**315**	P	**Pn**	**05 43 47.4**	**-1.9**
BSO4	**Boso 4**	**1.76**	**316**	P	**Pn**	**05 43 51.6**	**-1.1**
JHJ2	**Mitsune**	**1.79**	**250**	P	**Pn**	**05 43 52.7**	**-0.5**
JHJ	**Hachijo jima 2**	**1.81**	**251**	Pn	**Pn**	**05 43 52.9**	**-0.6**
	53nm,0.3s,baz=229,slow=22,SNR=20						
JHJ				Sn	**Sn**	**05 44 14.6**	**-0.6**
	70nm,0.3s,baz=62,slow=23,SNR=11						
JHCJ	**Hachijojimakas**	**1.82**	**249**	P	**Pn**	**05 43 53.0**	**-0.6**
JAOM	**Aogashimamukai**	**2.14**	**235**	*eS*	**Sn**	**05 44 23.1**	**-0.3**
JIM2	**Oshima 3**	**2.22**	**297**	P	**Pn**	**05 43 56.7**	**-2.4**
KTJ3	**Kamata3**	**2.58**	**299**	P	**Pn**	**05 44 01.4**	**-2.6**
JOD2	**Odawara 2**	**2.73**	**305**	P	**Pn**	**05 44 04.2**	**-2.0**
MJAR	**Matsushiro Arr**	**4.08**	**314**	Pn	**Pn**	**05 44 24.0**	**-0.7**
	0.4nm,0.3s,baz=147,slow=12,SNR=8.1						
MJAR				Sn	**Sn**	**05 45 09.6**	**-1.7**
	0.4nm,0.3s,baz=233,slow=26,SNR=3.9						
MJAR				LR	LR	05 46 12.6	
	comp=Z,58nm,18.8s,baz=276,slow=42						
JCJ	**Chichijima**	**6.62**	**177**	Pn	**Pn**	**05 44 59.8**	**+0.2**
	5.5nm,0.3s,baz=86,slow=21,SNR=6.7						
JCJ				Sn	**Sn**	**05 46 08.8**	**-5.0**
	4.4nm,0.3s,baz=268,slow=21,SNR=1.6						
SONM	**Songino Array**	**30.01**	**309**	P	**P**	**05 49 33.0**	**+2.7**
	0.3nm,0.4s,baz=116,slow=9.6,SNR=2.3						
MKAR	**Makanchi Array**	**46.22**	**305**	P	**P**	**05 51 46.6**	**+0.2**
	0.5nm,0.6s,baz=94,slow=10,SNR=7.6						
ILAR	**Eielson Array**	**52.12**	**31**	P	**P**	**05 52 31.9**	**+0.7**
	0.4nm,0.6s,baz=262,slow=6.1,SNR=8.2						
WRA	**Warramunga Arr**	**53.85**	**189**	P	**P**	**05 52 44.9**	**+0.5**
	0.2nm,0.3s,baz=2.9,slow=7.6,SNR=6.6						
YKA	**Yellowknife Ar**	**66.50**	**29**	P	**P**	**05 54 11.7**	**+1.1**
	0.1nm,0.7s,baz=189,slow=27,SNR=3.4						

IDC 24 05:54:40.0±1.6, 2°.04N×127°.69E, h0^{km}, mb3.8/5, mb1 4.0/5, mb1mx3.6/41, mbtmp3.9/5, Error ellipse: s-maj=95.7km s-min=22.2km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.11**	**186**	P	P	05 59 15.8	+0.3
	1.4nm,0.7s,baz=13,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**22.79**	**164**	P	P	05 59 45.0	+0.5
	5.3nm,0.7s,baz=343,slow=11,SNR=43						
ASAR	**Alice Springs**	**26.25**	**167**	P	P	06 00 16.6	-0.5
	0.5nm,0.3s,baz=343,slow=6.9,SNR=7.7						
STKA	**Stephens Creek**	**36.22**	**160**	P	P	06 01 44.4	-0.3
	1.4nm,0.4s,baz=336,slow=7.9,SNR=7.3						
MKAR	**Makanchi Array**	**59.49**	**325**	P	P	06 04 45.1	+0.1
	0.7nm,0.6s,baz=118,slow=8.5,SNR=9.3						

MOS 24 06:03:04.8±0.9, 53°.75N×171°.10E, h18^{km}, mb3.9/1, Error ellipse: s-maj=17.8km s-min=7.7km az=5.3

IDC 24 06:03:04.3±1.4, 53°.71N×170°.99E, h0^{km}, mb3.3/6, mb1 3.7/8, mb1mx3.4/55, mbtmp3.4/8, ML3.4/2, MS2.9/2, Ms1 3.0/2, ms1mx2.3/45, Error ellipse: s-maj=40.0km s-min=18.4km az=10.0

NEIC 24 06:03:07.5±1.2, 53°.7N±0°.2×171°.2E±0°.1, h24^{km}±4^{km}, mb3.6/9, Error ellipse: s-maj=23.1km s-min=8.0km az=190.0

KRSC 24 06:03:10.2±1.3, 53°.68N×170°.16E, h17^{km}±31^{km}, ML4.3

ISC 24 06:03:08.3±0.7, 53°.7N±0°.1×170°.99E±0°.05, h35^{km}, n77, σ2^{s}04/85, mb3.5/9, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**2.09**	**115**	Pn	**Pn**	**06 03 40.6**	**-0.1**
	29nm,0.3s,baz=290,slow=3.5,SNR=20						
SHEM				Sn	**Sn**	**06 04 07.3**	**+1.9**
	47nm,0.3s,baz=202,slow=11,SNR=13						
SMY	**Shemya**	**2.09**	**115**	P	**Pn**	**06 03 40.2**	**-0.5**
SMY						06 04 04.5	
SMY	**Shemya**	**2.09**	**115**		**Pn**	**06 03 40.1**	**-0.5**
SMY				Sn	**Sn**	**06 04 04.5**	**-1.0**
BKI	**Bering**	**3.32**	**300**	P	**Pn**	**06 03 56.9**	**-0.7**
BKI				S	**Sn**	**06 04 33.3**	**-2.4**
BKI	**Bering**	**3.32**	**300**	*eP*	**Pn**	**06 03 56.9**	**-0.7**
BKI				*eS*	**Sn**	**06 04 33.3**	**-2.4**
MKZ	**Mys Kozlova**	**5.52**	**283**	P	**Pn**	**06 04 28.8**	**+0.9**
MKZ				S	**Sn**	**06 05 27.7**	**-2.3**
MKZ	**Mys Kozlova**	**5.52**	**283**	*eP*	**Pn**	**06 04 28.8**	**+0.9**
MKZ				*eS*	**Sn**	**06 05 27.7**	**-2.3**
TUMD	**Tumrok D**	**6.37**	**288**	*eP*	**Pn**	**06 04 41.3**	**+1.7**
TUMD				*eS*	**Sn**	**06 05 48.9**	**-2.1**
TUMR	**Tumrok**	**6.53**	**289**	P	**Pn**	**06 04 41.3**	**-0.5**
TUMR				S	**Sn**	**06 05 48.9**	**-6.1**
TUMR	**Tumrok**	**6.53**	**289**	*eP*	**Pn**	**06 04 44.4**	**+2.6**
KMNR	**Kamenistaya**	**6.58**	**293**	P	**Pn**	**06 04 44.1**	**+1.6**
KMNR	**Kamenistaya**	**6.58**	**293**	*eP*	**Pn**	**06 04 44.1**	**+1.6**
SPN	**Mys Shipunski**	**6.58**	**270**	P	**Pn**	**06 04 43.6**	**+1.1**
SPN				S	**Sn**	**06 05 53.3**	**-2.9**
SPN	**Mys Shipunski**	**6.58**	**270**	*eP*	**Pn**	**06 04 43.6**	**+1.1**
SPN				*eS*	**Sn**	**06 05 53.3**	**-2.9**
KII	**Karymskiy**	**6.84**	**278**	P	**Pn**	**06 04 47.9**	**+1.8**
KII	**Karymskiy**	**6.84**	**278**	*eP*	**Pn**	**06 04 47.9**	**+1.8**
SDLR	**Sedlovina**	**7.24**	**272**	P	**Pn**	**06 04 53.4**	**+1.9**
SDLR	**Sedlovina**	**7.24**	**272**	*eP*	**Pn**	**06 04 53.4**	**+1.9**
UGLR	**Uglovaya**	**7.28**	**271**	P	**Pn**	**06 04 54.2**	**+2.1**
UGLR	**Uglovaya**	**7.28**	**271**	*eP*	**Pn**	**06 04 54.2**	**+2.1**
KRER	**Koryakskii**	**7.31**	**272**	P	**Pn**	**06 04 54.7**	**+2.0**
KRER	**Koryakskii**	**7.31**	**272**	*eP*	**Pn**	**06 04 54.7**	**+2.0**
AVH	**Avacha**	**7.33**	**272**	P	**Pn**	**06 04 54.6**	**+1.9**
AVH	**Avacha**	**7.33**	**272**	*eP*	**Pn**	**06 04 54.6**	**+1.9**
KRX	**Arik**	**7.37**	**273**	P	**Pn**	**06 04 55.1**	**+1.8**
KRX	**Arik**	**7.37**	**273**	*eP*	**Pn**	**06 04 55.1**	**+1.8**
KOK	**Koryaka**	**7.38**	**272**	P	**Pn**	**06 04 55.2**	**+1.7**
KOK	**Koryaka**	**7.38**	**272**	*eP*	**Pn**	**06 04 55.2**	**+1.7**
PET	**Petropavlovsk**	**7.41**	**270**	Pn	**Pn**	**06 04 55.9**	**+2.1**
PET				Sn	**Sn**	**06 06 19.1**	**+2.6**
KIWB	**Kanaga Island**	**7.42**	**99**	Pn	**Pn**	**06 04 51.3**	**-2.7**
RUS	**Russkaya**	**7.62**	**266**	P	**Pn**	**06 04 58.5**	**+1.9**
RUS	**Russkaya**	**7.62**	**266**	*eP*	**Pn**	**06 04 58.5**	**+1.9**
ADK	**Adak**	**7.69**	**98**	P	**Pn**	**06 04 56.1**	**-1.5**
ADK	**Adak**	**7.69**	**98**	Pn	**Pn**	**06 04 56.1**	**-1.5**
GNL	**Ganaly**	**7.75**	**276**	P	**Pn**	**06 05 01.2**	**+2.6**
GNL	**Ganaly**	**7.75**	**276**	*eP*	**Pn**	**06 05 01.2**	**+2.6**
KRMR	**Karymshinskiy**	**7.76**	**269**	*eS*	**Sn**	**06 06 22.8**	**-2.3**
MTVR	**Mutnovka**	**7.80**	**267**	P	**Pn**	**06 05 01.3**	**+2.0**
MTVR				S	**Sn**	**06 06 23.9**	**-2.5**
MTVR	**Mutnovka**	**7.80**	**267**	*eP*	**Pn**	**06 05 01.3**	**+2.0**
MTVR				*eS*	**Sn**	**06 06 23.9**	**-2.5**
GRL	**Gorelyy**	**7.85**	**267**	P	**Pn**	**06 05 02.7**	**+2.7**
GRL	**Gorelyy**	**7.85**	**267**	*eP*	**Pn**	**06 05 02.7**	**+2.7**
PEA0B	**Petropavlovsk-**	**7.97**	**271**	P	**Pn**	**06 05 03.7**	**+2.2**
PEA0B	**Petropavlovsk-**	**7.97**	**271**	Pn	**Pn**	**06 05 03.7**	**+2.2**
PETK	**Petropavlovsk-**	**7.97**	**271**	Pn	**Pn**	**06 05 03.1**	**+1.7**
	1.2nm,0.3s,baz=96,slow=16,SNR=33						
PETK				Sn	**Sn**	**06 06 31.1**	**+0.8**
	0.9nm,0.3s,baz=67,slow=11,SNR=6.5						
PETK	**Petropavlovsk-**	**7.97**	**271**		**Pn**	**06 05 03.0**	**+1.5**
ASAK	**Asacha**	**7.99**	**266**	P	**Pn**	**06 05 04.4**	**+2.5**
ASAK	**Asacha**	**7.99**	**266**	*eP*	**Pn**	**06 05 04.4**	**+2.5**
KDTR	**Khodutka, Kamc**	**8.05**	**262**	P	**Pn**	**06 05 04.6**	**+2.0**
KDTR				S	**Sn**	**06 06 29.0**	**-3.3**
KDTR	**Khodutka, Kamc**	**8.05**	**262**	*eP*	**Pn**	**06 05 04.6**	**+2.0**
KDTR				*eS*	**Sn**	**06 06 29.0**	**-3.3**
MIPR	**Malaya Ipel'ka**	**8.70**	**267**	P	**Pn**	**06 05 15.1**	**+3.6**
MIPR	**Malaya Ipel'ka**	**8.70**	**267**	*eP*	**Pn**	**06 05 15.1**	**+3.6**
TTA	**Tatalina**	**19.46**	**48**	P	**P**	**06 07 30.9**	**-0.8**
TTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TTA	**Tatalina**	**19.46**	**48**	P	**P**	**06 07 30.9**	**-0.8**
N19K	**Bonanza Creek**	**19.82**	**55**	P	**P**	**06 07 33.7**	**-2.0**
N19K				IAmb	IAmb	06 07 48.1	
	comp=Z,5.4nm,1.1s						
K20K	**Telida**	**20.41**	**48**	P	**P**	**06 07 41.9**	**-0.1**
J20K	**Nowinta River**	**20.57**	**45**	P	**P**	**06 07 42.6**	**-1.1**
J20K				IAmb	IAmb	06 07 53.9	
	comp=Z,2.8nm,1.1s						
KDAK	**Kodiak Island**	**20.76**	**64**	LR	LR	06 15 55.4	
	comp=Z,41nm,18.1s,baz=36,slow=37						
IMAR	**Indian Mountai**	**21.25**	**41**	P	**P**	**06 07 50.7**	**-0.2**
CAST	**Castle Rocks**	**21.30**	**48**	P	**P**	**06 07 51.8**	**+0.3**
CAST				IAmb	IAmb	06 08 08.5	
	comp=Z,2.2nm,1.0s						
DHY	**Denali Highway**	**23.37**	**50**	P	**P**	**06 08 12.4**	**-1.2**
DHY				IAmb	IAmb	06 08 16.5	
	comp=Z,3.1nm,1.1s						
TOLK	**Toolik Lake Re**	**23.65**	**35**	P	**P**	**06 08 15.1**	**-0.9**
TOLK				IAmb	IAmb	06 08 17.4	
	comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**23.77**	**46**	P	**P**	**06 08 17.0**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=260,slow=7.9,SNR=5.4						
DOT	**Dot Lake**	**24.90**	**48**	P	**P**	**06 08 27.1**	**-0.4**
BMAR	**Burnt Mountain**	**25.14**	**40**	P	**P**	**06 08 29.7**	**+0.1**
C36M	**Paulatuk**	**32.79**	**36**	P	**P**	**06 09 36.7**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**34.00**	**187**	T	T	06 45 33.5	
	baz=4.9,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**34.01**	**187**	T	T	06 45 34.5	
	baz=4.9,slow=76,SNR=47						
H11N1	**WAKE ISLAND Hy**	**34.02**	**187**	T	T	06 45 35.0	
	baz=4.9,slow=76,SNR=49						
H11S1	**WAKE ISLAND Hy**	**35.23**	**187**	T	T	06 46 53.6	
	baz=4.9,slow=76,SNR=71						
H11S3	**WAKE ISLAND Hy**	**35.24**	**187**	T	T	06 46 55.1	
	baz=4.9,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**35.24**	**187**	T	T	06 46 55.0	
	baz=4.9,slow=76,SNR=34						
YKA	**Yellowknife Ar**	**38.20**	**46**	P	**P**	**06 10 24.9**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=293,slow=8.3,SNR=4.3						
NVAR	**Mina Array Bea**	**49.32**	**78**	P	**P**	**06 11 55.5**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=297,slow=8.7,SNR=3.3						
PDAR	**Pinedale Array**	**51.41**	**68**	P	**P**	**06 12 11.1**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=298,slow=3.2,SNR=3.6						
MKAR	**Makanchi Array**	**53.62**	**301**	P	**P**	**06 12 25.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=60,slow=4.6,SNR=4.1						
TXAR	**Lajitas Array**	**64.29**	**75**	P	**P**	**06 13 41.6**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=308,slow=5.8,SNR=6.5						
NOA	**NORSAR Array B**	**64.53**	**349**	LR	LR	06 44 15.1	
	comp=Z,7.2nm,20.0s,baz=220,slow=38						

INET 24 06:09:07.6±2.6, 9.°95N×83.°86W, h2^{km}±24^{km}, MW3.0

UCR 24 06:09:07.7±1.4, 9.°97N×83.°81W, h2^{km}±1^{km}, MW3.6

UPA 24 06:09:08.5±1.3, 9.°96N×83.°80W, h0^{km}±234^{km}, MW3.4

ISC 24 06:09:07.6±0.9, 10°.00N±0°.03×83°.80W±0°.03, h5^{km}±5^{km}, n28, σ1^{s}00/35, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VTRT	**Volcan Turrial**	**0.01**	**53**	*eP*	**Pg**	**06 09 09.0**	**0.0**
RAFA	**San Farael, Vo**	**0.04**	**198**	*eP*	**Pg**	**06 09 09.1**	**0.0**
RAFA				*eS*	**Sg**	**06 09 09.8**	**-0.4**
VTUN	**Crater Central**	**0.04**	**54**	*eP*	**Pg**	**06 09 09.7**	**+0.5**
CVTR	**Volcan Turrial**	**0.04**	**60**	*eP*	**Pg**	**06 09 09.7**	**+0.5**
VTUC	**Crater, Volcan**	**0.04**	**54**	*eP*	**Pg**	**06 09 09.7**	**+0.5**
VTCV	**VTCV, Calle Va**	**0.07**	**102**	*eP*	**Pg**	**06 09 10.1**	**+0.7**
OCM	**Ochomogo**	**0.19**	**237**	*eP*	**Pg**	**06 09 12.1**	**+0.6**
RIMA	**Rio Macho**	**0.24**	**196**	*eP*	**Pg**	**06 09 12.9**	**+0.6**
RIMA	**Rio Macho**	**0.24**	**196**	*eP*	**Pg**	**06 09 12.9**	**+0.6**
RIMA				*eS*	**Sg**	**06 09 16.4**	**+0.9**
HDC3	**Heredia 3**	**0.31**	**271**	*eP*	**Pb**	**06 09 14.9**	**-0.8**
HDC3	**Heredia 3**	**0.31**	**271**	*eP*	**Pg**	**06 09 14.7**	**+1.0**
HDC	**Heredia**	**0.31**	**271**	*eP*	**Pb**	**06 09 14.9**	**-0.9**
RIFO	**Rio Frio, Sara**	**0.34**	**339**	*eP*	**Pg**	**06 09 15.6**	**+1.4**
PEZE	**Perez Zeledon,**	**0.62**	**169**	*eP*	**Pg**	**06 09 19.5**	**-0.1**
PEZE	**Perez Zeledon,**	**0.62**	**169**	*eP*	**Pg**	**06 09 19.4**	**-0.1**
EDDO	**Dominical**	**0.74**	**185**	*eS*	**Sb**	**06 09 33.8**	**+0.3**
SRBA	**San Rafael, Bu**	**0.88**	**150**	*eP*	**Pg**	**06 09 23.9**	**-0.5**
DRK0	**Durika**	**0.91**	**143**	*eP*	**Pg**	**06 09 24.7**	**-0.5**
EDBA	**Buenos Aires**	**0.98**	**148**	*eP*	**Pg**	**06 09 25.6**	**-0.8**
EDPN	**Palmar Norte**	**1.08**	**162**	*eP*	**Pb**	**06 09 28.8**	**-0.1**
LAFE	**Finca La Fe, P**	**1.11**	**260**	*eP*	**Pb**	**06 09 29.6**	**+0.2**
RIOS	**Rincon, Osa**	**1.32**	**168**	*eP*	**Pg**	**06 09 31.5**	**-1.4**
CNI2	**El Empalme, Bo**	**1.43**	**113**	*eP*	**Pn**	**06 09 33.3**	**-0.9**
CNI2				*eS*	**Sg**	**06 09 53.0**	**-0.5**
BRU2	**Volcan**	**1.62**	**138**	*eP*	**Pn**	**06 09 36.9**	**-0.1**
BRU2				*eS*	**Sn**	**06 09 58.9**	**+0.6**
BCO2	**Palmira**	**1.79**	**135**	*eP*	**Pb**	**06 09 40.7**	**-0.3**
BCO2				*eS*	**Sb**	**06 10 03.6**	**0.0**
DVD	**David**	**2.04**	**139**	*eP*	**Pn**	**06 09 43.8**	**+1.1**
DVD				*eS*	**Sn**	**06 10 09.8**	**+1.2**
ACON	**Acoyapa**	**2.38**	**326**	*eP*	**Pn**	**06 09 44.7**	**-2.5**
GMAL	**Guarumal, Vera**	**3.37**	**131**	*eP*	**Pn**	**06 10 03.7**	**+2.8**
GMAL				*eS*	**Sb**	**06 10 48.0**	**-1.2**

KRSC 24 06:10:37.7±2.5, 50°.34N×157°.13E, h130^{km}±24^{km}, ML4.0

NEIC 24 06:10:37.7±1.3, 50°.8N±0°.1×156°.1E±0°.2, h136^{km}±8^{km}, mb4.3/41, Error ellipse: s-maj=19.8km s-min=12.6km az=136.0

MOS 24 06:10:38.1±0.9, 50°.71N×156°.11E, h162^{km}, mb4.3/19, Error ellipse: s-maj=11.2km s-min=4.7km az=76.5

IDC 24 06:10:40.5±1.4, 50°.86N×156°.09E, h165^{km}±10^{km}, mb3.6/27, mb1 3.7/31, mb1mx3.6/64, mbtmp4.0/31, MS3.3/2, Ms1 3.3/2, ms1mx2.3/93, Error ellipse: s-maj=16.3km s-min=9.9km az=152.0

ISC 24 06:10:38.9±0.6, 50°.77N±0°.06×156°.25E±0°.06, h156^{km}±4^{km}, n176, σ1^{s}65/193, mb4.1/56, 4C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.12**	**226**	*c iP*	N	**Pn**	**06 10 59.0**	**-0.6**
SKR				*i S*		**Sn**	**06 11 14.2**	**-1.2**
SKR	**Severo-Kuril's**	**0.12**	**226**	*i P*		**Pn**	**06 10 59.1**	**-0.6**
SKR				*eS*		**Sn**	**06 11 14.1**	**-1.4**
PAU	**Pauzhetka**	**0.79**	**26**	PN		**Pn**	**06 11 03.6**	**+1.1**
PAU				S		**Sn**	**06 11 21.8**	**+1.2**
PAU	**Pauzhetka**	**0.79**	**26**	*eP*		**Pn**	**06 11 03.6**	**+1.1**
PAU				*eS*		**Sn**	**06 11 21.8**	**+1.2**
MIPR	**Malaya Ipel'ka**	**1.54**	**12**	PN		**Pn**	**06 11 10.8**	**+1.5**
MIPR	**Malaya Ipel'ka**	**1.54**	**12

comp=Z,7.4nm,1.4s
TOLK Toolik Lake Re 31.25 35 P P 06 16 44.3 +1.0
TOLK IAmb IAmb 06 16 45.6
comp=Z,2.2nm,0.6s
COLA College 31.73 42 P P 06 16 48.8 +1.3
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 31.73 42 P P 06 16 48.8 +1.3
COLA IAmb IAmb 06 16 49.4
comp=Z,7.3nm,0.8s
ULN Ulaanbaatar 31.73 284 eP P 06 16 48.8 +0.8
ULN pmax pmax
comp=Z,1.0nm,0.4s
IL31 32.14 42 P P 06 16 52.1 +1.0
IL31 IAmb IAmb 06 16 52.5
comp=Z,3.0nm,0.8s
ILAR Eielson Array 32.14 42 P P 06 16 51.6 +0.5
comp=Z,1.4nm,0.7s,baz=260,slow=7.2,SNR=21
ILAR Eielson Array 32.14 42 eP P 06 16 51.6 +0.5
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 32.14 42 P P 06 16 52.5 +1.3
SONM Songino Array 32.15 285 P P 06 16 51.3 -0.3
comp=Z,0.4nm,0.5s,baz=75,slow=8.0,SNR=4.7
HHC Hu-ho-hao-te 32.24 270 eP P 06 16 51.6 -0.9
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.0s
J25K Salcha River, 32.80 43 P P 06 16 56.7 -0.3
J25K IAmb IAmb 06 16 57.5
comp=Z,2.4nm,0.7s
H11S1 WAKE ISLAND Hy 33.24 162 T T 06 51 38.1
H11S3 WAKE ISLAND Hy 33.25 162 T T 06 51 41.9
baz=355,slow=74,SNR=9.2
H11S2 WAKE ISLAND Hy 33.26 162 T T 06 51 50.1
baz=214,slow=74,SNR=2.7
L27K Beaver Creek, 34.53 45 P P 06 17 14.0 +2.1
L27K IAmb IAmb 06 17 14.4
comp=Z,6.8nm,0.8s
BCAR Beaver Creek A 34.55 45 P P 06 17 13.6 +1.5
DAWY Dawson 35.45 43 P P 06 17 21.4 +1.6
INK Inuvik 37.16 35 P P 06 17 35.2 +1.1
comp=Z,1.3nm,0.5s,baz=284,slow=7.3,SNR=18
INK Inuvik 37.16 35 P P 06 17 35.4 +1.3
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 37.16 35 P P 06 17 35.4 +1.3
INK IAmb IAmb 06 17 35.8
comp=Z,2.1nm,0.6s
XAN Xi'an 38.02 262 P P 06 17 41.4 -0.4
XAN pmax pmax
comp=Z,4.0nm,1.1s
LZH Lanzhou 39.94 269 ↓P P 06 18 00.3 +2.4
LZH pP pP 06 18 34.4 +3.0
LZH pmax pmax
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 42.05 303 P P 06 18 14.1 -0.6
comp=Z,0.6nm,0.4s,baz=52,slow=8.7,SNR=5.0
ZALV Zalesovo Beam 42.05 303 P P 06 18 13.3 -1.4
EUNU Eureka 44.76 13 P P 06 18 37.5 +1.3
EUNU IAmb IAmb 06 18 38.0
comp=Z,5.8nm,0.7s
WMQ Urumqi 45.49 289 eP P 06 18 44.0 +1.6
RES Resolute Bay 46.35 20 P P 06 18 49.7 +1.1
comp=Z,1.2nm,0.6s,baz=309,slow=10.0,SNR=4.4
RES Resolute Bay 46.35 20 P P 06 18 49.9 +1.3
RES pmax pmax
comp=Z,2.0nm,1.4s
RES Resolute Bay 46.35 20 P P 06 18 49.9 +1.3
YKA Yellowknife Ar 46.48 40 P P 06 18 50.8 +1.1
comp=Z,2.0nm,0.6s,baz=298,slow=7.4,SNR=32
YKA PcP **PcP 06 20 21.9 +0.3**
comp=Z,0.4nm,0.8s,baz=293,slow=2.8,SNR=4.8
YKA Yellowknife Ar 46.48 40 P P 06 18 50.7 +0.9
KURK Kurchatov 46.94 302 P P 06 18 53.4 -0.1
KURK pmax pmax
comp=Z,6.0nm,0.5s
KURK Kurchatov 46.94 302 P P 06 18 53.4 -0.1
KURK IAmb IAmb 06 18 53.8
comp=Z,5.5nm,0.5s
MK31 Makanchi Array 47.02 295 P P 06 18 54.0 -0.2
MK31 pmax pmax
comp=Z,6.0nm,1.3s
MK31 Makanchi Array 47.02 295 P P 06 18 54.0 -0.2
MK31 IAmb IAmb 06 18 55.0
comp=Z,5.8nm,1.3s
MKAR Makanchi Array 47.02 295 P P 06 18 53.9 -0.3
comp=Z,1.4nm,0.3s,baz=63,slow=7.2,SNR=39
MAKZ Makanchi 47.19 296 P P 06 18 55.5 0.0
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 47.19 296 P P 06 18 55.5 0.0
PZH PanZhiHua 47.68 261 P P 06 19 00.6 +0.9
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
SPITS Spitsbergen Ar 49.02 350 P P 06 19 07.6 -1.5
comp=Z,12nm,1.1s,baz=51,slow=6.6,SNR=5.2
BRVK Borovoye 50.00 308 ↓eP P 06 19 16.7 -0.1
KDJ Kajisay 52.71 293 P P 06 19 37.8 +0.4
KDJ pmax pmax
comp=Z,2.0nm,0.5s
KDJ Kajisay 52.71 293 P P 06 19 37.8 +0.4
KDJ IAmb IAmb 06 19 38.4
comp=Z,2.2nm,0.5s
BOOM Boomskoye usch 53.21 294 P P 06 19 41.7 +0.7
BOOM pmax pmax
comp=Z,2.0nm,0.6s
BOOM Boomskoye usch 53.21 294 P P 06 19 41.7 +0.7
BOOM IAmb IAmb 06 19 43.0
comp=Z,1.6nm,0.6s
ARU Arti 53.48 317 d iP P 06 19 42.0 -0.6
ARU 06 20 46.7
ARU S **S 06 27 02.0 -0.8**
ARU SS **SS 06 30 37.2 -7.1**
ARU pmax pmax
comp=Z,7.0nm,1.3s
WALA Waterton Lakes 54.34 54 P P 06 19 49.9 +0.9
ARCES ARCESS Array B 54.74 341 P P 06 19 50.3 -1.2
comp=Z,2.5nm,0.8s,baz=45,slow=6.8,SNR=6.3
ARCES ARCESS Array B 54.74 341 P P 06 19 50.9 -0.6
ARCES pmax pmax
comp=Z,23nm,1.5s
ARCES ARCESS Array B 54.74 341 P P 06 19 50.9 -0.6
CHTO Chiang Mai 55.08 256 P P 06 19 55.3 +0.7
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 55.08 256 P P 06 19 55.3 +0.7
KSH Kashi 55.08 292 P P 06 19 59.0 +4.5
KSH pmax pmax
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 55.34 256 P P 06 19 57.3 +0.8
comp=Z,2.5nm,0.4s,baz=29,slow=7.2,SNR=11
CMAR Chiang Mai Arr 55.34 256 eP P 06 19 57.8 +1.3
CMAR pmax pmax
comp=Z,2.0nm,0.4s
FCC Fort Churchill 56.77 36 P P 06 20 06.7 +0.6
FCC pmax pmax
comp=Z,3.0nm,0.7s
FCC Fort Churchill 56.77 36 P P 06 20 06.7 +0.6
FCC IAmb IAmb 06 20 07.1
comp=Z,2.9nm,0.7s
ABKAR Akbulak array 57.46 309 P P 06 20 10.7 -0.5
GAR Garm 58.72 295 P P 06 20 19.5 -0.7
CHGR Chuyangaron 59.62 295 P P 06 20 25.9 -0.4
CHGR pmax pmax
comp=Z,9.0nm,0.7s
CHGR Chuyangaron 59.62 295 P P 06 20 25.9 -0.4
FRB Frobisher Bay 60.56 21 P P 06 20 31.5 -0.7
comp=Z,1.0nm,0.5s,baz=339,slow=5.9,SNR=6.7
PDAR Pinedale Array 60.76 57 P P 06 20 34.6 +0.4
comp=Z,0.4nm,0.8s,baz=90,slow=1.5,SNR=3.8
FINES FINESS Array B 61.27 335 P P 06 20 36.2 -0.8
comp=Z,0.4nm,0.4s,baz=28,slow=8.6,SNR=6.4
FINES PcP **PcP 06 21 20.1 +2.2**
comp=Z,0.6nm,0.6s,baz=46,slow=5.5,SNR=3.8
FINES FINESS Array B 61.27 335 P P 06 20 36.9 -0.1
OBN Obninsk 63.16 326 ↓eP P 06 20 52.0 +2.4
OBN e 06 21 26.9
OBN e 06 23 09.3
OBN eS **PnS 06 29 40.0 -9.2**
OBN pmax pmax
comp=Z,6.0nm,0.5s

NC303 NORSAR Array S 64.87 342 P P 06 21 01.1 +0.4
NB201 NORSAR Array S 65.05 342 P P 06 21 02.4 +0.5
NB2 NORSAR Subarra 65.07 342 P P 06 21 02.4 +0.3
comp=Z,0.4nm,0.5s,baz=24,slow=6.5
NOA NORSAR Array B 65.07 342 P P 06 21 01.2 -0.9
comp=Z,0.4nm,0.5s,baz=25,slow=6.5,SNR=4.1
GEYT Alibeck 66.31 301 P P 06 21 10.7 +0.3
comp=Z,1.9nm,0.6s,baz=132,slow=2.2,SNR=3.6
GEYT Alibeck 66.31 301 P P 06 21 09.4 -1.1
GEYT IAmb IAmb 06 21 11.9
comp=Z,2.7nm,0.8s
SCHQ Schefferville 68.79 25 P P 06 21 25.7 0.0
comp=Z,1.9nm,0.8s,baz=318,slow=5.8,SNR=6.7
SCHQ Schefferville 68.79 25 P P 06 21 26.0 +0.4
SCHQ IAmb IAmb 06 21 33.3
comp=Z,9.9nm,1.3s
AKASG Malin Array Be 69.33 327 P P 06 21 28.5 -0.5
comp=Z,1.4nm,0.6s,baz=30,slow=6.3,SNR=8.1
AKASG Malin Array Be 69.33 327 eP P 06 21 28.9 -0.1
AKASG pmax pmax
comp=Z,1.0nm,0.5s
KBZ Khabaz 69.54 315 P P 06 21 30.5 +0.1
comp=Z,1.9nm,0.7s,baz=29,slow=5.8,SNR=4.6
KBZ Khabaz 69.54 315 eP P 06 21 31.0 +0.6
KBZ pmax pmax
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 72.89 348 P P 06 21 50.4 +0.1
comp=Z,1.1nm,0.4s,baz=19,slow=5.2,SNR=14
ESK Eskdalemuir 72.91 348 P P 06 21 50.8 +0.3
ESK pmax pmax
comp=Z,40nm,1.4s
ESK Eskdalemuir 72.91 348 P P 06 21 50.8 +0.3
DZM Mont Dzumac 73.07 170 LR LR 06 46 46.0
comp=Z,84nm,20.9s,baz=41,slow=30
BUR08 Bucovina Ar. S 73.32 328 P P 06 21 53.1 0.0
TX31 Lajitas Ar. Si 73.77 64 P P 06 21 57.1 +1.0
TXAR Lajitas Array 73.77 64 P P 06 21 57.0 +0.9
comp=Z,0.5nm,0.5s,baz=304,slow=5.1,SNR=14
TXAR Lajitas Array 73.77 64 P P 06 21 57.0 +0.9
GERES GERESS Array B 75.71 336 P P 06 22 06.7 -0.2
comp=Z,0.4nm,0.4s,baz=32,slow=5.3,SNR=5.7
ASAR Alice Springs 76.69 201 P P 06 22 13.1 +0.5
comp=Z,0.3nm,0.6s,baz=6.7,slow=4.6,SNR=7.1
ASAR pP **pP 06 22 49.0 -1.6**
comp=Z,0.2nm,0.4s,baz=15,slow=6.6,SNR=2.2
BRTR Keskin Array B 76.83 318 P P 06 22 13.1 -0.4
comp=Z,0.8nm,0.7s,baz=29,slow=2.8,SNR=4.9
BRTR Keskin Array B 76.83 318 eP P 06 22 13.3 -0.2
BRTR pmax pmax
comp=Z,1.0nm,0.6s
UOSS Minaxif 77.09 294 P P 06 22 14.7 -0.3
DAVOX Davos/Dischmat 78.59 337 P P 06 22 23.0 -0.1
comp=Z,1.6nm,0.5s,baz=360,slow=6.7,SNR=6.1
CSS Mathiatis 80.96 316 P P 06 22 35.7 -0.2
CSS IAmb IAmb 06 22 36.2
comp=Z,4.0nm,0.6s
BNI Bardonecchia 80.98 339 P P 06 22 37.0 +1.0
BNI pmax pmax
comp=Z,12nm,1.4s
BNI Bardonecchia 80.98 339 P P 06 22 37.0 +1.0
BNI IAmb IAmb 06 22 54.7
comp=Z,12nm,1.4s
NRCA Norcia 81.40 333 P P 06 22 38.8 +0.7
NRCA IAmb IAmb 06 22 39.4
comp=Z,9.7nm,1.1s
ESDC Sonseca Array 88.28 345 P P 06 23 11.4 -1.1
comp=Z,0.1nm,0.4s,baz=9.0,slow=3.5,SNR=4.1
H03N2 Juan Fernandez 136.62 88 T T 09 01 13.7
baz=333,slow=77,SNR=113
H03N1 Juan Fernandez 136.64 88 T T 09 01 14.9
baz=333,slow=77,SNR=124
H03N3 Juan Fernandez 136.64 88 T T 09 01 13.9
baz=333,slow=77,SNR=140
CPUP Villa Florida 144.64 59 PKP PKPab 06 29 55.5 -0.3
comp=Z,1.4nm,0.9s,baz=268,slow=4.0,SNR=3.8

*MOS **24** 06:15:37.7±0.9, 48.°94N×154.°72E, h103km, mb4.0/7, Error ellipse: s-maj=13.3km s-min=4.5km az=73.2*
*KRSC **24** 06:15:37.4±1.3, 48.°70N×156.°48E, h31km±22km, ML4.1*
*SKHL **24** 06:15:38.9±0.1, 49.°00N×154.°80E, h116km±5km, mb4.9/4, msha5.2/3*
*IDC **24** 06:15:42.2±3.5, 49.°06N×154.°67E, h120km±20km, mb3.3/7, mb1 3.4/10, mb1mx3.1/58, mbtmp3.7/10, Error ellipse: s-maj=54.3km s-min=18.9km az=137.0*

ISC 24 06:15:37.8±1.1, 48.82N±0.10×155.08E±0.09, h103km±6km, n83, σ1967/110, mb3.6/11, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.98**	**20**	**↓iP**	**Pn**		**Pn**	**06 16 10.7**	**+0.6**
SKR				eS	**Sn**		**Sn**	**06 16 34.9**	**+0.1**
SKR				pmax	pmax				
	comp=Z,160nm,0.4s								
SKR				smax	smax				
	comp=E,129nm,0.2s								
SKR				smax	smax				
	comp=N,192nm,0.3s								
SKR	**Severo-Kuril's**	**1.98**	**20**	**eP**	**Pn**		**Pn**	**06 16 10.9**	**+0.8**
SKR				eS	**Sn**		**Sn**	**06 16 34.4**	**-0.4**
SKR	**Severo-Kuril's**	**1.98**	**20**	**i P**	**Pn**		**Pn**	**06 16 10.9**	**+0.8**
SKR				AMB	AMB			06 16 12.1	
	comp=N,260nm,0.3s								
SKR				eS	**Sn**		**Sn**	**06 16 34.8**	**0.0**
SKR				A	A			06 16 37.7	
	comp=N,400nm,0.2s								
SKR				A	A			06 16 37.7	
	comp=N,340nm,0.2s								
PAU	**Pauzhetka**	**2.87**	**22**	PN	**Pn**		**Pn**	**06 16 22.9**	**+1.1**
PAU				S	**Sn**		**Sn**	**06 16 55.6**	**-0.1**
PAU	**Pauzhetka**	**2.87**	**22**	**eP**	**Pn**		**Pn**	**06 16 22.9**	**+1.1**
PAU				eS	**Sn**		**Sn**	**06 16 55.6**	**-0.1**
PAU	**Pauzhetka**	**2.87**	**22**	**eP**	**Pn**		**Pn**	**06 16 22.9**	**+1.1**
PAU				AMB	AMB			06 16 23.2	
	comp=N,190nm,0.4s								
PAU				eS	**Sn**		**Sn**	**06 16 56.0**	**+0.3**
PAU				A	A			06 16 56.5	
	comp=N,90nm,0.4s								
PAU				A	A			06 16 56.5	
	comp=N,230nm,0.4s								
KDTR	**Khodutka, Kamc**	**3.55**	**32**	PN	**Pn**		**Pn**	**06 16 30.8**	**-0.1**
KDTR				S	**Sn**		**Sn**	**06 17 09.7**	**-2.3**
KDTR	**Khodutka, Kamc**	**3.55**	**32**	**eP**	**Pn**		**Pn**	**06 16 30.8**	**-0.1**
KDTR				eS	**Sn**		**Sn**	**06 17 09.7**	**-2.3**
ASAK	**Asacha**	**3.99**	**26**	PN	**Pn**		**Pn**	**06 16 38.3**	**+1.4**
ASAK	**Asacha**	**3.99**	**26**	**eP**	**Pn**		**Pn**	**06 16 38.3**	**+1.4**
MTVR	**Mutnovka**	**4.16**	**27**	PN	**Pn**		**Pn**	**06 16 40.3**	**+1.0**
MTVR				S	**Sn**		**Sn**	**06 17 26.1**	**-0.8**
MTVR	**Mutnovka**	**4.16**	**27**	**eP**	**Pn**		**Pn**	**06 16 40.3**	**+1.0**
MTVR				eS	**Sn**		**Sn**	**06 17 26.1**	**-0.8**
GRL	**Gorelyy**	**4.19**	**26**	PN	**Pn**		**Pn**	**06 16 41.1**	**+1.5**
GRL				S	**Sn**		**Sn**	**06 17 27.6**	**0.0**
GRL	**Gorelyy**	**4.19**	**26**	**eP**	**Pn**		**Pn**	**06 16 41.1**	**+1.5**
GRL				eS	**Sn**		**Sn**	**06 17 27.6**	**0.0**
RUS	**Russkaya**	**4.22**	**30**	PN	**Pn**		**Pn**	**06 16 39.7**	**-0.2**
RUS				S	**Sn**		**Sn**	**06 17 25.7**	**-2.5**
RUS	**Russkaya**	**4.22**	**30**	**eP**	**Pn**		**Pn**	**06 16 39.7**	**-0.2**
RUS				eS	**Sn**		**Sn**	**06 17 25.7**	**-2.5**
RUS	**Russkaya**	**4.22**	**30**	**eP**	**Pn**		**Pn**	**06 16 39.7**	**-0.2**
APC	**Apacha**	**4.31**	**17**	PN	**Pn**		**Pn**	**06 16 43.8**	**+2.7**
APC	**Apacha**	**4.31**	**17**	**eP**	**Pn**		**Pn**	**06 16 43.8**	**+2.7**
KRMR	**Karymshinskiy**	**4.45**	**25**	PN	**Pn**		**Pn**	**06 16 45.0**	**+2.0**
KRMR	**Karymshinskiy**	**4.45**	**25**	**eP**	**Pn**		**Pn**	**06 16 45.0**	**+2.0**
PEA0B	**Petropavlovsk-**	**4.60**	**20**	**d iPN**	**Pn**		**Pn**	**06 16 47.0**	**+2.0**
PETK	**Petropavlovsk-**	**4.60**	**20**	**P**	**Pn**		**Pn**	**06 16 46.3**	**+1.3**
	comp=N,2.6nm,0.3s,baz=189,slow=15,SNR=27								
PETK				S	**Sn**		**Sn**	**06 17 40.7**	**+3.4**
	comp=N,1.8nm,0.3s,baz=304,slow=24,SNR=5.4								
PET	**Petropavlovsk**	**4.78**	**27**	**ePN**	**Pn**		**Pn**	**06 16 49.3**	**+1.9**
PET				eS	**Sn**		**Sn**	**06 17 41.8**	**+0.3**
PET				smax	smax				
	comp=E,41nm,0.6s								
PET				smax	smax				
	comp=N,45nm,0.7s								
PET	**Petropavlovsk**	**4.78**	**27**	**eP**	**Pn**		**Pn**	**06 16 49.3**	**+1.9**
PET				eS	**Sn**		**Sn**	**06 17 41.8**	**+0.3**
PET				A	A			06 17 42.8	
	comp=N,40nm,0.6s								
PET				A	A			06 17 42.8	
	comp=N,40nm,0.6s								
DALK	**Dalny**	**4.81**	**28**	PN	**Pn**		**Pn**	**06 16 48.3**	**+0.4**
DALK				S	**Sn**		**Sn**	**06 17 41.8**	**-0.6**
DALK	**Dalny**	**4.81**	**28**	**eP**	**Pn**		**Pn**	**06 16 48.3**	**+0.4**
DALK				eS	**Sn**		**Sn**	**06 17 41.8**	**-0.6**

UGLR Uglovaya 4.99 27 PN Pn 06 16 51.9 +1.5
UGLR Uglovaya 4.99 27 eP Pn 06 16 51.9 +1.5
KOK Koryaka 5.01 25 PN Pn 06 16 52.7 +2.1
KOK Koryaka 5.01 25 eP Pn 06 16 52.7 +2.1
KOK Koryaka 5.01 25 eP Pn 06 16 52.7 +2.1
AVH Avacha 5.01 26 PN Pn 06 16 52.9 +2.2
AVH Avacha 5.01 26 eP Pn 06 16 52.9 +2.2
SMAR Somma 5.03 26 PN Pn 06 16 53.0 +2.0
SMAR Somma 5.03 26 eP Pn 06 16 53.0 +2.0
KRER Koryakskii 5.05 26 PN Pn 06 16 53.3 +2.0
KRER Koryakskii 5.05 26 eP Pn 06 16 53.3 +2.0
SDLR Sedlovina 5.07 27 PN Pn 06 16 52.6 +1.2
SDLR Sedlovina 5.07 27 eP Pn 06 16 52.6 +1.2
KRX Arik 5.07 25 PN Pn 06 16 53.3 +1.8
KRX Arik 5.07 25 eP Pn 06 16 53.3 +1.8
GNL Ganaly 5.20 19 PN Pn 06 16 55.8 +2.6
GNL Ganaly 5.20 19 eP Pn 06 16 55.8 +2.6
SPN Mys Shipunski 5.30 34 PN Pn 06 16 54.7 +0.2
SPN S **Sn 06 17 51.4 -2.8**
SPN Mys Shipunski 5.30 34 eP Pn 06 16 54.7 +0.2
SPN eS **Sn 06 17 51.4 -2.8**
SPN Mys Shipunski 5.30 34 eP Pn 06 16 54.7 +0.2
KUR Kuril'sk 6.10 237 eP Pn 06 17 06.4 +1.1
KUR AMB AMB 06 17 09.1
comp=N,40nm,0.5s
MKZ Mys Kozlova 7.07 33 PN Pn 06 17 17.8 -0.7
MKZ Mys Kozlova 7.07 33 eP Pn 06 17 17.8 -0.7
SHO Shikotan 7.55 232 eP Pn 06 17 26.4 +1.3
SHO AMB AMB 06 17 30.4
comp=N,50nm,0.7s
YUK Yuzh-Kuril'sk 7.96 236 i PN Pn 06 17 31.4 +0.7
YUK Yuzh-Kuril'sk 7.96 236 eP Pn 06 17 31.4 +0.7
YSS Yuzh-Sakhalins 8.49 262 i PN Pn 06 17 35.8 -2.0
YSS pmax pmax
comp=Z,4.0nm,0.2s
YSS Yuzh-Sakhalins 8.49 262 eP Pn 06 17 35.8 -2.0
ASAJ Asahikawa 9.81 246 P Pn 06 17 58.8 +3.0
comp=Z,0.7nm,0.3s,baz=71,slow=18,SNR=7.8
ERM Erimo 10.79 235 i PN Pn 06 18 09.0 0.0
MA2 Magadan 11.06 349 P Pn 06 18 13.3 +0.7
comp=Z,0.2nm,0.3s,baz=142,slow=17,SNR=3.7
MA2 Magadan 11.06 349 i PN Pn 06 18 12.2 -0.4
MA2 pmax pmax
comp=Z,2.0nm,0.9s
MA2 Magadan 11.06 349 eP Pn 06 18 12.2 -0.4
KLR Kul'dur 15.30 280 i P Pn 06 19 05.9 -2.0
KLR pmax pmax
comp=Z,1.0nm,1.1s
KLR Kul'dur 15.30 280 eP Pn 06 19 05.1 -2.8
ZEA Zeya 18.02 296 i P P 06 19 38.7 -1.8
ZEA Zeya 18.02 296 eP P 06 19 38.7 -1.8
YAK Yakutsk 19.38 322 i P Pn 06 19 54.8 -2.5
YAK pmax pmax
comp=Z,6.0nm,0.8s
YAK Yakutsk 19.38 322 eP Pn 06 19 54.8 -2.5
BILL Bilibino 20.08 12 ↑eP Pn 06 20 03.7 -1.7
BILL e*PP **pP 06 20 24.0 +2.0**
BILL pmax pmax
comp=Z,6.0nm,2.3s
BILL Bilibino 20.08 12 eP Pn 06 20 03.7 -1.7
TIXI Tiksi 25.89 341 i P P 06 20 57.6 -1.9
TIXI pmax pmax
comp=Z,1.0nm,1.1s
TIXI Tiksi 25.89 341 eP P 06 20 57.6 -1.9
NRIK Noril'sk 37.69 328 i P P 06 22 42.2 -0.5
NRIK pmax pmax
comp=Z,1.0nm,0.8s
MK31 Makanchi Array 47.18 297 i P P 06 23 59.8 0.0
MKAR Makanchi Array 47.18 297 P P 06 23 59.6 -0.2
comp=Z,0.6nm,0.6s,baz=69,slow=8.5,SNR=8.4
YKA Yellowknife Ar 48.47 38 P P 06 24 11.9 +2.4
comp=Z,0.1nm,0.7s,baz=302,slow=6.8,SNR=2.4
ARU Arti 54.38 317 c iP P 06 24 53.1 -0.5
ARU *PP **pP 06 25 16.7 -1.6**
ARU S **S 06 32 25.2 +1.6**
ARU SS **SS 06 36 02.3 -4.1**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 54.38 317 eP P 06 24 53.1 -0.5
FINES FINESS Array B 62.72 335 P P 06 25 51.0 -0.3
comp=Z,0.5nm,0.3s,baz=32,slow=7.4,SNR=12
OBN Obninsk 64.34 326 ↑eP P 06 26 05.9 +3.9
OBN e*PP **pP 06 26 28.9 +1.5**
OBN e 06 28 23.8
OBN i S **S 06 34 32.2 +0.5**
OBN pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 66.68 342 P P 06 26 16.9 -0.1
comp=Z,0.6nm,0.9s,baz=11,slow=7.1,SNR=1.6
NOA NORSAR Array B 66.68 342 P P 06 26 17.0 -0.1
EKA Eskdalemuir Ar 74.62 347 P P 06 27 06.6 +1.3
comp=Z,0.4nm,0.4s,baz=17,slow=5.3,SNR=4.6
GERES GERESS Array B 77.15 335 P P 06 27 20.9 +1.0
comp=Z,0.4nm,0.5s,baz=38,slow=9.0,SNR=4.5
DAVOX Davos/Dischmat 80.08 337 P P 06 27 38.2 +2.1
comp=Z,2.0nm,1.0s,baz=360,slow=15,SNR=1.7

*SSNC **24** 06:39:28.5±2.6, 19.°28N×72.°88W, h5km±999km, MD2.9, ML0.9*

OSPL 24 06:39:30.6±0.8, 18.°96N×72.°91W, h53km±15km, ML1.5, Haiti region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LGNH	**Logne**	**0.53**	**148**	**i P**	Pn			06 39 41.2	-1.2
LGNH				eS	Sn			06 39 50.2	-0.7
LGNH				IAML				06 39 51.2	
	comp=Z,20nm,1.7s								
JAKH	**Jacmel**	**0.81**	**153**	**i P**	Pn			06 39 44.9	-0.9
JAKH				eS	Sn			06 39 55.7	-1.3
LONE2	**Loma La Sidra**	**1.42**	**106**	**i P**	Pn			06 39 53.7	-0.4
SDDR	**Presa de Saban**	**1.53**	**89**	**i P**	Pn			06 39 54.3	-1.3
SDDR				eS	Sn			06 40 12.5	-1.9
SDDR				IAML				06 40 16.5	
	comp=Z,7.8nm,2.7s								
MASC	**Masc**	**1.74**	**314**	**eP**	Pn			06 39 53.9	-4.5
MASC				eS	Sn			06 40 12.9	-6.5
MASC				IAML				06 40 16.4	
	comp=N,0.8nm,0.1s								
MASC				IAML				06 40 16.5	
	comp=E,0.6nm,0.1s								
GTBY	**Guantanamo Bay**	**2.29**	**295**	**eP**	Pn			06 40 04.5	-1.4
GTBY				eS	Sn			06 40 30.3	-2.7
GTBY	**Guantanamo Bay**	**2.29**	**295**	**i P**	Pn			06 40 05.0	-0.9
RCC	**Rio Carpintero**	**2.83**	**292**	**eP**	Pn			06 40 09.8	-3.5
RCC				eS	Sn			06 40 40.9	-5.3
RCC				IAML				06 40 50.0	
	comp=E,0.5nm,0.1s								
RCC				IAML				06 40 50.1	
	comp=N,0.9nm,0.2s								

*IDC **24** 06:41:49.0±0.9, 14.°28S×166.°45E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/28, mbtmp4.0/11, ML3.8/1, MS3.5/11, Ms1 3.5/11, ms1mx3.1/60, Error ellipse: s-maj=31.4km s-min=21.1km az=107.0*
*NOU **24** 06:41:51.7, 14.°23S×166.°54E, h1km, MLv4.7/11, Vanuatu Islands*
*NEIC **24** 06:41:52.7±1.0, 14.°31S±0.°09×166.°6E±0.°1, h26km±6km, mb4.7/14, Error ellipse: s-maj=18.6km s-min=10.6km az=65.0*

ISC 24 06:41:52.9±0.6, 14.29S±0.°07×166.57E±0.°10, h28km, n56, σ1926/52, mb4.2/17, MS3.5/9, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.30**	**152**		**Pn**			**06 42 14.3**	**-0.9**
SANVU					Sn		**Sn**	**06 42 30.4**	**-1.2**
SANVU	**Saraoutou**	**1.30**	**152**	P	**Pb**			**06 42 17.0**	**+0.3**
DVP	**Devils Point**	**3.75**	**156**	P	**Pn**			**06 42 52.2**	**+3.3**
KOUNC	**Koumac, New Ca**	**6.59**	**199**		**Pn**			**06 43 27.8**	**-0.2**
KOUNC	**Koumac, New Ca**	**6.59**	**199**	P	**Pn**			**06 43 30.9**	**+2.9**
MARNC	**Mare, Loyalty**	**7.28**	**169**	Pn	**Pn**			**06 43 36.7**	**-0.8**
YATNC	**Mamie plateau,**	**7.73**	**178**	P	**Pn**			**06 43 45.8**	**+2.2**
DZM	**Mont Dzumac**	**7.74**	**181**	Pn	**Pn**			**06 43 43.5**	**-0.3**
	1.4nm,0.3s,baz=232,slow=9.2,SNR=22								
DZM					Sn		**Sn**	**06 45 08.5**	**-2.1**
	baz=122,slow=23,SNR=0.7								
DZM	**Mont Dzumac**	**7.74**	**181**	**ePn**	**Pn**			**06 43 44.8**	**+1.0**
	8.6nm,0.3s								
DZM				eSn	**Sn**		**Sn**	**06 45 12.2**	**+1.6**

	24nm,0.8s							
DZM				*e*LR	LR	06 45 36.6		
	comp=Z,230nm,23.9s							
DZM	**Mont Dzumac**	**7.74**	**181**		**Pn**	**06 43 41.9**	**-1.9**
DZM	**Mont Dzumac**	**7.74**	**181**	P	**Pn**	**06 43 45.3**	**+1.5**
NOUC	**Port Laguerre**	**7.77**	**182**	P	**Pn**	**06 43 47.2**	**+3.0**
ONTNC	**Ouen Toro**	**7.97**	**181**	Pn	**Pn**	**06 43 46.4**	**-0.5**
HNR	**Honiara**	**8.09**	**306**	LR	LR	06 46 56.4		
	comp=Z,201nm,20.0s,baz=166,slow=38							
OUENC	**Ouen Island, N**	**8.09**	**178**	P	**Pn**	**06 43 47.4**	**-1.1**
OUENC	**Ouen Island, N**	**8.09**	**178**	P	**Pn**	**06 43 51.2**	**+2.7**
PINNC	**Pines Island,**	**8.32**	**174**	Pn	**Pn**	**06 43 51.2**	**-0.4**
PMG	**Port Moresby**	**19.61**	**282**	LR	LR	06 52 50.0		
	comp=Z,163nm,19.6s,baz=352,slow=34							
CTA	**Charters Tower**	**20.24**	**251**	LR	LR	06 54 12.5		
	comp=Z,71nm,18.7s,baz=73,slow=37							
STKA	**Stephens Creek**	**28.77**	**228**	P	**P**	**06 47 46.0**	**-2.3**
	0.5nm,0.2s,baz=25,slow=12,SNR=1.8							
STKA				LR	LR	06 59 10.8		
	comp=Z,116nm,18.5s,baz=26,slow=36							
WB0	**Warramunga Arr**	**31.21**	**255**	P	**P**	**06 48 10.1**	**-0.1**
WB0				IAmb	IAmb	06 48 21.8		
	comp=Z,15nm,1.4s							
WRAB	**Tennant Creek**	**31.27**	**255**	P	**P**	**06 48 09.8**	**-0.8**
WRA	**Warramunga Arr**	**31.28**	**255**	P	**P**	**06 48 09.5**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=84,slow=9.3,SNR=6.5							
WRA				LR	LR	07 00 36.8		
	comp=Z,72nm,18.3s,baz=150,slow=36							
WRA	**Warramunga Arr**	**31.28**	**255**	P	**P**	**06 48 10.3**	**-0.5**
ASAR	**Alice Springs**	**32.20**	**248**	P	**P**	**06 48 18.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=75,slow=9.2,SNR=8.5							
ASAR				LR	LR	07 00 52.4		
	comp=Z,80nm,18.4s,baz=150,slow=36							
BBOO	**Buckleboo**	**33.32**	**231**	P	**P**	**06 48 28.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**39.43**	**259**	LR	LR	07 05 20.6		
	comp=Z,80nm,18.0s,baz=112,slow=36							
MORW	**Morawa**	**48.85**	**244**	P	**P**	**06 50 36.3**	**0.0**
MORW				IAmb	IAmb	06 51 00.7		
	comp=Z,11nm,1.4s							
KSRS	**Korea Array**	**63.00**	**326**	P	**P**	**06 52 18.1**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=127,slow=7.7,SNR=2.1							
KSAR	**Wonju Array Be**	**63.01**	**326**	P	**P**	**06 52 17.3**	**-0.1**
VNDA	**Vanda**	**63.28**	**181**	P	**P**	**06 52 19.9**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=357,slow=6.1,SNR=8.1							
VNDA	**Vanda**	**63.28**	**181**	P	**P**	**06 52 19.1**	**+0.5**
SBA	**Scott Base**	**63.57**	**180**	P	**P**	**06 52 21.8**	**+1.3**
SBA				IAmb	IAmb	06 52 24.3		
	comp=Z,5.5nm,0.9s							
USRK	**Ussuriysk Ar.**	**66.20**	**334**	P	**P**	**06 52 38.0**	**0.0**
SHEM	**Shemya Is, Ala**	**67.06**	**5**	LR	LR	07 17 47.2		
	comp=Z,31nm,21.0s,baz=342,slow=32							
CMAR	**Chiang Mai Arr**	**74.16**	**294**	P	**P**	**06 53 28.3**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=135,slow=3.9,SNR=6.0							
MA2	**Magadan**	**74.72**	**352**	LR	LR	07 22 11.1		
	comp=Z,24nm,18.6s,baz=334,slow=32							
SONM	**Songino Array**	**81.75**	**324**	P	**P**	**06 54 08.3**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=139,slow=7.3,SNR=2.1							
RND	**Reindeer**	**84.74**	**18**	P	**P**	**06 54 24.6**	**+0.5**
RND				IAmb	IAmb	06 54 25.9		
	comp=Z,9.4nm,1.2s							
MCK	**McKinley**	**84.95**	**18**	P	**P**	**06 54 25.5**	**+0.4**
MCK				IAmb	IAmb	06 54 27.0		
	comp=Z,6.6nm,1.0s							
BWN	**Browne**	**85.12**	**18**	P	**P**	**06 54 25.6**	**-0.3**
I21K	**Tanana**	**85.16**	**16**	P	**P**	**06 54 27.0**	**+0.9**
H21K	**Melozitna Rive**	**85.31**	**16**	P	**P**	**06 54 26.9**	**0.0**
H21K				IAmb	IAmb	06 54 29.8		
	comp=Z,4.6nm,1.1s							
IMAR	**Indian Mountai**	**85.32**	**15**	P	**P**	**06 54 27.1**	**+0.2**
MDM	**Murphy Dome**	**86.06**	**18**	P	**P**	**06 54 30.3**	**-0.3**
MDM				IAmb	IAmb	06 54 31.6		
	comp=Z,4.8nm,1.0s							
IL31		**86.32**	**18**	P	**P**	**06 54 31.6**	**-0.3**
ILAR	**Eielson Array**	**86.32**	**18**	P	**P**	**06 54 31.8**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=236,slow=5.3,SNR=20							
ILAR				LR	LR	07 28 34.8		
	comp=Z,39nm,18.9s,baz=152,slow=32							
ILAR	**Eielson Array**	**86.32**	**18**	P	**P**	**06 54 32.5**	**+0.6**
SYO	**Syowa Base**	**88.93**	**197**⇑	*e*P	**P**	**06 54 44.0**	**-0.5**
ANMO	**Albuquerque**	**95.61**	**56**	LR	LR	07 31 32.9		
	comp=Z,38nm,19.4s,baz=60,slow=31							
MKAR	**Makanchi Array**	**96.42**	**317**	P	**P**	**06 55 20.6**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=100,slow=6.3,SNR=7.3							
MKAR	**Makanchi Array**	**96.42**	**317**	P	**P**	**06 55 19.1**	**-0.4**
YKA	**Yellowknife Ar**	**97.47**	**27**	P	**P**	**06 55 23.6**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=260,slow=4.5,SNR=4.7							
YKA	**Yellowknife Ar**	**97.47**	**27**	P	**P**	**06 55 23.2**	**-0.6**
ARCES	**ARCESS Array B**	**119.66**	**345**	PKP	**PKiKP**	**07 00 40.0**	**+0.3**
	comp=Z,3.2nm,1.0s,baz=86,slow=4.1,SNR=1.6							
KEST	**Kesra**	**150.45**	**320**	PKPbc	**PKiKP**	**07 01 43.0**	**-0.1**
	comp=Z,2.8nm,1.0s,baz=97,slow=8.1,SNR=1.8							

*HEL **24** 06:45:32.5±0.1, 67.67N×33.74E, h0km, ML2.0, Explosion*
*IDC **24** 06:45:34.4±2.5, 67.76N×33.61E, h0km, mb1 3.2/3, mb1mx2.9/43, mbtmp3.0/3, ML2.3/3, Error ellipse: s-maj=26.3km s-min=10.2km az=73.0*

ISC 24 06:45:31.6±0.9, 67.63N±0.04×33.64E±0.04, h0km, n14, σ1§12/26, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.47**	**55**	*e*P	**Pg**	**06 45 39.8**	**-0.8**
LVZ				*e*S	**Sg**	**06 45 45.8**	**-0.9**
VRF	**Varrio**	**1.54**	**276**	*e*P	**Pn**	**06 46 00.3**	**0.0**
VRF				*e*S	**Sg**	**06 46 21.0**	**-0.1**
VRF				MSG		06 46 26.4	
	comp=Z,13nm,0.1s						
OLKF	**Oulanka, Finla**	**2.12**	**234**	*e*PB	**Pb**	**06 46 10.6**	**-0.3**
OLKF				*e*SG	**Sg**	**06 46 40.5**	**+0.7**
KU6	**Riekki**	**2.19**	**224**	*e*PB	**Pb**	**06 46 11.9**	**-0.2**
KU6				*e*SG	**Sg**	**06 46 42.0**	**+0.1**
KU6				MSG		06 46 48.5	
	comp=Z,6.2nm,0.2s						
MSF	**Maaselka**	**2.51**	**229**	*e*PB	**Pb**	**06 46 16.7**	**-0.8**
MSF				*e*SG	**Sg**	**06 46 51.1**	**-1.1**
SGF	**Sodankyl**	**2.74**	**269**	*e*PB	**Pb**	**06 46 20.8**	**-0.5**
SGF				*e*SB	**Sb**	**06 46 56.0**	**+0.5**
RNF	**Rovaniemi**	**3.15**	**255**	*e*P	**Pn**	**06 46 23.5**	**+1.1**
KEV	**Kevo**	**3.23**	**314**	*e*P	**Pn**	**06 46 24.2**	**+0.8**
KEV				*e*S	**Sn**	**06 47 02.8**	**+0.4**
ARA0	**ARCESS Array S**	**3.54**	**306**	*e*P	**Pn**	**06 46 28.3**	**+0.5**
ARCES	**ARCESS Array B**	**3.54**	**306**	Pn	**Pn**	**06 46 28.5**	**+0.7**
	baz=122,slow=14,SNR=111						
ARCES				Pg	**Pb**	**06 46 36.5**	**+1.5**
	baz=113,slow=15,SNR=13						
ARCES				Sn	**Sn**	**06 47 09.1**	**-1.3**
	baz=119,slow=25,SNR=6.3						
ARCES				Lg	Lg	06 47 23.1	
	baz=109,slow=28,SNR=9.9						
RMF	**Romuvaara**	**3.75**	**206**	*e*P	**Pn**	**06 46 31.0**	**+0.4**
RMF				*e*S	**Sn**	**06 47 15.7**	**+0.3**
TOF	**Tornio**	**3.99**	**251**	*e*P	**Pn**	**06 46 34.5**	**+0.6**
TOF				*e*SG	**Sg**	**06 47 37.1**	**-2.6**
FINES	**FINESS Array B**	**7.01**	**211**	Pn	**Pn**	**06 47 17.7**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=5.7						
FINES				Sn	**Sn**	**06 48 37.0**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=26,slow=21,SNR=3.9						
FINES				Lg	Lg	06 49 09.3	
	comp=Z,0.5nm,0.3s,baz=38,slow=25,SNR=7.4						
NOA	**NORSAR Array B**	**11.69**	**246**	Pn	**Pn**	**06 48 17.7**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=45,slow=11,SNR=2.2						
NOA				Lg	Lg	06 51 43.4	
	comp=Z,0.0nm,0.3s,baz=41,slow=25,SNR=5.1						

JMA 24 06:58:06.2±0.1, 25.75N×129.96E, h43km, M3.7, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.14**	**86**	P	Pn	06 58 26.1	+0.4
JMZ				S	Sn	06 58 39.9	-0.2
JKDJ	**Kitadaitoujima**	**1.22**	**80**	P	Pn	06 58 27.5	+0.7
JKDJ				S	Sn	06 58 42.0	-0.1
JYRO	**Yoronjima**	**1.86**	**313**	P	Pn	06 58 36.7	+1.2
JYRO				S	Sn	06 58 58.3	+0.5
JOW	**Kunigami**	**1.86**	**306**	P	Pn	06 58 36.7	+1.1
JOW				S	Sn	06 58 57.7	-0.1
JNTH	**Nagotoyohara**	**1.90**	**294**	P	Pn	06 58 37.0	+0.8
JNTH				*e*S	Sn	06 58 59.4	+0.5
JJT3	**Tamagusuku3**	**2.00**	**282**	P	Pn	06 58 38.7	+1.2
JJT3				*e*S	Sn	06 59 02.1	+0.8
JOKE	**Okinoerabujima**	**2.03**	**323**	P	Pn	06 58 39.3	+1.4
JIH	**Iheya**	**2.20**	**306**	S	Sn	06 59 06.0	-0.2
JTK	**Tokunoshima**	**2.22**	**336**	P	Pn	06 58 42.0	+1.5
JZK	**Kikaishima**	**2.55**	**0**	P	Pn	06 58 47.1	+2.0
JZK				*e*S	Sn	06 59 15.8	+0.8
JAMN	**Amaminishikomi**	**2.58**	**344**	P	Pn	06 58 47.0	+1.5
JAMN				S	Sn	06 59 16.4	+0.8
JAGN	**Aguni-jima**	**2.58**	**289**	P	Pn	06 58 46.8	+1.3
JAGN				S	Sn	06 59 16.2	+0.6
JAM	**Amami Oshima**	**2.67**	**353**	P	Pn	06 58 48.2	+1.5
JAM				*e*S	Sn	06 59 17.6	-0.2
JKE	**Kume jima 2**	**2.91**	**282**	P	Pn	06 58 50.4	+0.4
JKE				S	Sn	06 59 22.3	-1.5
JTAJ	**Takarajima**	**3.46**	**349**	P	Pn	06 58 59.2	+1.7

*NNC **24** 07:15:50.5±1.0, 50.00N×78.73E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=19.6km s-min=5.1km az=75.0, Suspected Mining explosion.*
*IDC **24** 07:15:51.7±0.8, 50.05N×78.71E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/56, mbtmp3.5/4, ML2.5/3, Error ellipse: s-maj=10.8km s-min=6.5km az=70.0*

ISC 24 07:15:51.6±0.8, 50.03N±0.06×78.75E±0.09, h0km, n12, σ0§83/15, 4C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.61**	**347**	Pg	**Pg**	**07 16 02.9**	**-0.6**
	1.8nm,0.3s,baz=165,slow=17,SNR=222						
KURBB				Lg	Lg	07 16 11.9	
	2.1nm,0.3s,baz=169,slow=33,SNR=11						
KURBB	**Kurchatov Arra**	**0.61**	**347**	⇑P	**Pg**	**07 16 03.0**	**-0.4**
	18nm,0.4s						
KURBB				⇓S	**Sg**	**07 16 11.8**	**+0.5**
	41nm,0.6s						
KURK	**Kurchatov**	**0.69**	**353**	⇓P	**Pg**	**07 16 04.1**	**-0.8**
	7.4nm,0.4s						
KURK				⇑S	**Sb**	**07 16 15.7**	**-1.0**
	14nm,0.5s						
MAKZ	**Makanchi**	**3.87**	**145**	⇑Pg	**Pb**	**07 16 59.7**	**-1.1**
	2.2nm,1.1s						
MAKZ				⇓Lg	Lg	07 17 50.0	
	3.7nm,0.6s						
MK31	**Makanchi Array**	**4.00**	**143**	⇓Pn	**Pn**	**07 16 54.9**	**+0.6**
	0.1nm,0.1s,baz=11,slow=3.3,SNR=34						
MK31				⇓Pg	**Pb**	**07 17 03.6**	**+0.6**
	0.3nm,0.2s,baz=324,slow=14,SNR=19						
MK31				⇓Lg	Lg	07 17 57.2	
	4.8nm,0.6s,baz=321,slow=28,SNR=13						
MKAR	**Makanchi Array**	**4.00**	**143**	Pn	**Pn**	**07 16 54.8**	**+0.5**
	0.2nm,0.3s,baz=322,slow=10,SNR=43						
MKAR				Pg	**Pb**	**07 17 02.5**	**-0.5**
	0.6nm,0.3s,baz=323,slow=14,SNR=15						
MKAR				Lg	Lg	07 17 56.4	
	0.7nm,0.3s,baz=329,slow=32,SNR=9.6						
OTUK	**Ortayu**	**4.57**	**249**	⇓Pn	**Pn**	**07 17 02.3**	**+0.2**
	0.5nm,0.2s						
OTUK				⇑Lg	Lg	07 18 14.6	
	2.2nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.43**	**41**	*i*		07 47 50.0	
	baz=226,slow=322,SNR=1.3						
ZALV	**Zalesovo Beam**	**5.43**	**41**	Pn	**Pn**	**07 17 15.2**	**+1.5**
	0.3nm,0.3s,baz=232,slow=14,SNR=10						
ZALV				Lg	Lg	07 18 44.7	
	0.2nm,0.3s,baz=230,slow=24,SNR=2.0						
AAK	**Ala-Archa**	**7.96**	**203**	Pn	**Pn**	**07 17 49.2**	**+0.6**
	0.2nm,0.3s,baz=335,slow=16,SNR=2.0						
ARCES	**ARCESS Array B**	**31.67**	**328**	P	**P**	**07 22 15.5**	**-0.7**
	1.4nm,0.7s,baz=94,slow=12,SNR=1.2						
NOA	**NORSAR Array B**	**38.05**	**313**	P	**P**	**07 23 11.5**	**+0.2**
	0.4nm,0.6s,baz=57,slow=5.6,SNR=3.3						

*NEIC **24** 07:22:00.3±2.3, 0.60N±0.05×79.57W±0.05, h10km±1km, mb4.3/25, Error ellipse: s-maj=9.3km s-min=8.3km az=350.0*
*IGQ **24** 07:22:00±0.3, 1.1N±2.2×8.0W±1.1, h6km*
*IDC **24** 07:22:05.3±3.1, 0.63N×79.87W, h75km±27km, mb3.7/9, mb1 3.8/11, mb1mx3.5/33, mbtmp4.0/11, MS3.4/12, Ms1 3.5/12, ms1mx3.1/62, Error ellipse: s-maj=24.5km s-min=15.5km az=59.0*

ISC 24 07:21:59.1±1.1, 0.58N±0.03×79.73W±0.03, h12km±7km, n156, σ1§50/156, mb4.2/16, MS3.4/9, 7C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AV21	**Acelerografo,**	**0.19**	**67**	P	**Pb**	**07 22 05.0**	**+0.4**
AMA1	**Acelerografo,**	**0.35**	**0**	P	**Pg**	**07 22 05.0**	**-1.1**
AMA1				S	**Sg**	**07 22 10.0**	**-0.8**
AV18	**Acelerografo,**	**0.36**	**137**	P	**Pn**	**07 22 10.0**	**-0.2**
MAG1	**Magdalena**	**0.65**	**184**	P	**Pn**	**07 22 14.0**	**-0.2**
BV15	**Puerto Quito-O**	**0.66**	**130**	P	**Pb**	**07 22 13.0**	**+0.5**
BV15				S	**Sn**	**07 22 26.0**	**+1.5**
APR2	**Miler**	**0.91**	**124**	P	**Pb**	**07 22 17.0**	**+0.1**
FLF1	**Flavio Alfaro-**	**0.94**	**187**	P	**Pn**	**07 22 19.0**	**+0.8**
JAMA	**Jama**	**0.97**	**210**	P	**Pn**	**07 22 18.0**	**+0.1**
PAC1	**Pacto, Paraso**	**0.98**	**109**	*e*P	**Pb**	**07 22 18.2**	**0.0**
PAC1	**Pacto, Paraso**	**0.98**	**109**	P	**Pg**	**07 22 18.0**	**-0.1**
APR1	**Acelerografo,**	**1.27**	**119**	P	**Pn**	**07 22 23.0**	**-0.1**
OTAV	**Otavalo**	**1.32**	**105**			**07 22 24.2**	**+0.1**
OTAV					Sn	**Sb**	**07 22 39.3**	**-1.8**
HPAL	**Hacienda Las P**	**1.34**	**127**	P	**Pn**	**07 22 24.0**	**+0.1**
PINO	**Pino**	**1.34**	**123**	P	**Pn**	**07 22 24.0**	**-0.2**
YANA	**Yana**	**1.35**	**121**	P	**Pn**	**07 22 24.0**	**-0.2**
TERV	**Terraza Guagua**	**1.35**	**124**	P	**Pg**	**07 22 25.0**	**-0.1**
CUSE	**Cuicocha Este**	**1.35**	**102**	*e*P	**Pb**	**07 22 24.5**	**-0.1**
CUSE				*e*S	**Sg**	**07 22 44.7**	**+1.9**
CUSE	**Cuicocha Este**	**1.35**	**102**	P	**Pn**	**07 22 24.0**	**-0.2**
GGPT	**Toaza - Volcan**	**1.36**	**126**	P	**Pn**	**07 22 24.0**	**-0.4**
JUA2	**San Juan 2**	**1.37**	**125**	P	**Pb**	**07 22 25.0**	**0.0**
ALIT	**Ecuador-Imbabu**	**1.38**	**81**	P	**Pn**	**07 22 23.0**	**-1.3**
CUIC	**Cuicocha-Domo**	**1.39**	**102**	P	**Pb**	**07 22 25.0**	**-0.3**
CUSW	**Cuicocha Oeste**	**1.41**	**102**	P	**Pn**	**07 22 25.0**	**+0.1**
COTA	**Cotacachi**	**1.41**	**100**	P	**Pn**	**07 22 25.0**	**-0.1**
URCU	**Urcuqui**	**1.48**	**96**	P	**Pn**	**07 22 25.0**	**-0.9**
AV11	**Acelerografo,**	**1.50**	**116**	P	**Pg**	**07 22 28.0**	**0.0**
ILLI	**Illinizas Sur**	**1.63**	**142**	P	**Pb**	**07 22 29.0**	**-0.4**
AIB2	**Ibarra (Univer**	**1.64**	**98**	P	**Pb**	**07 22 29.0**	**-0.4**
YAHU	**Yahuarcocha**	**1.67**	**97**	P	**Pn**	**07 22 29.0**	**+0.5**
PAST	**Pastocalle**	**1.67**	**140**	P	**Pb**	**07 22 30.0**	**-0.1**
CHMA	**Chilma**	**1.69**	**81**	P	**Pn**	**07 22 26.0**	**-2.7**
PITA	**Cotopaxi Volc**	**1.72**	**131**	P	**Pb**	**07 22 31.0**	**+0.1**
LNGL	**El Angel-Carch**	**1.73**	**85**	P	**Pn**	**07 22 29.0**	**-0.5**
CAMI	**Rancho Maria**	**1.75**	**136**	P	**Pg**	**07 22 32.0**	**-0.7**
NAS2	**Nasa**	**1.75**	**134**	P	**Pb**	**07 22 32.0**	**+0.5**
BNAS	**Cotopaxi Volca**	**1.76**	**135**	P	**Pb**	**07 22 32.0**	**+0.3**
ECEN	**Cerro Negro**	**1.77**	**82**	P	**Pn**	**07 22 29.0**	**-1.1**
BREF	**Cotopaxi Volca**	**1.79**	**134**	P	**Pb**	**07 22 32.0**	**-0.2**
CHL1	**Volcan Chiles**	**1.79**	**83**	P	**Pn**	**07 22 30.0**	**-0.3**
ANGU	**Angureal**	**1.80**	**107**	P	**Pg**	**07 22 33.0**	**-0.7**
VC1	**Cotopaxi 1**	**1.80**	**133**	P	**Pb**	**07 22 32.0**	**-0.3**
BVC2	**Cotopaxi Volca**	**1.80**	**133**	P	**Pb**	**07 22 32.0**	**-0.4**
CAYA	**Cayambe**	**1.81**	**106**	P	**Pb**	**07 22 33.0**	**+0.5**
CAYR	**Refugio Cayamb**	**1.81**	**108**	P	**Pb**	**07 22 33.0**	**+0.5**
BMOR	**Cotopaxi Volca**	**1.82**	**136**	P	**Pb**	**07 22 32.0**	**-0.7**
CHL2	**Volcan Chiles**	**1.82**	**83**	P	**Pn**	**07 22 30.0**	**-0.7**
ANTG	**Antisana-Guama**	**1.82**	**126**	P	**Pb**	**07 22 33.0**	**+0.2**
BTAM	**Cotopaxi Volca**	**1.82**	**133**	P	**Pb**	**07 22 33.0**	**+0.2**
TAMB	**Tambo**	**1.86**	**133**	P	**Pb**	**07 22 33.0**	**-0.3**
ANTM	**Antisana-La Mi**	**1.87**	**127**	P	**Pb**	**07 22 33.0**	**-0.5**
ANTI	**Antisana**	**1.87**	**123**	P	**Pb**	**07 22 34.0**	**+0.4**
ANTS	**Antisana-Sarah**	**1.89**	**125**	P	**Pn**	**07 22 32.0**	**+0.2**
VCES	**Cotopaxi**	**1.91**	**136**	P	**Pb**	**07 22 34.0**	**-0.3**
CMBC	**Cumbal**	**1.93**	**79**	*e*P	**Pn**	**07 22 33.0**	**+0.7**
CMBC				*e*S	**Sg**	**07 23 00.7**	**-0.7**
TULM	**Tulcn-Chalpat**	**1.94**	**86**		**Pn**	**07 22 33.5**	**+1.1**
TULM	**Tulcn-Chalpat**	**1.94**	**86**⇑	*e*P	**Pb**	**07 22 34.5**	**-0.2**
TULM	**Tulcn-Chalpat**	**1.94**	**86**	P	**Pn**	**07 22 33.0**	**+0.6**
PIAT	**Ana Tenorio**	**2.15**	**137**	P	**Pb**	**07 22 37.0**	**-1.2**
CONE	**Cono NE Rev Vo**	**2.18**	**107**	P	**Pb**	**07 22 39.0**	**+0.3**
BONI	**La Bonita**	**2.20**	**93**	P	**Pn**	**07 22 37.0**	**+1.3**
CHSH	**Refugio Sur-Vo**	**2.23**	**157**	P	**Pn**	**07 22 38.0**	**+1.5**
PORT	**Chimborazo Vol**	**2.25**	**155**	Pn	**Pb**	**07 22 38.9**	**-1.1**
PORT	**Chimborazo Vol**	**2.25**	**155**	P	**Pb**	**07 22 39.0**	**-1.0**
TAMH	**Tambohuasha Ch**	**2.31**	**156**	P	**Pn**	**07 22 39.0**	**+1.5**
IGUA	**Igualata**	**2.33**	**152**	P	**Pb**	**07 22 42.0**	**+0.6**
JUI6	**Juive**	**2.36**	**148**	P	**Pb**	**07 22 41.0**	**-0.7**
POND	**Pondoa**	**2.36**	**147**	P	**Pb**	**07 22 41.0**	**-0.9**
BRUN	**Tungurahua Vol**	**2.38**	**147**	P	**Pb**	**07 22 41.0**	**-1.2**
RETU	**Refugio**	**2.39**	**148**	P	**Pb**	**07 22 42.0**	**-0.4**
BMAS	**Trigal station**	**2.42**	**149**	P	**Pb**	**07 22 42.0**	**-0.8**
CASC	**Dorado de Casc**	**2.43**	**101**	P	**Pb**	**07 22 42.0**	**-0.8**
ARRY	**Arrayan**	**2.43**	**149**	P	**Pb**	**07 22 42.0**	**-1.1**
BPAT	**Tungurahua Vol**	**2.44**	**148**	P	**Pb**	**07 22 42.0**	**-1.3**
CCUFI	**Cufio, Nario**	**2.46**	**75**	*e*P	**Pn**	**07 22 41.2**	**+1.6**
GCUF	**Volcan Galeras**	**2.46**	**75**	*e*P	**Pn**	**07 22 40.2**	**+0.7**
CPAS1	**Pasto**	**2.48**	**76**	*e*P	**Pn**	**07 22 41.2**	**+1.5**
ARDO	**Archidona, Ten**	**2.48**	**129**	P	**Pb**	**07 22 43.0**	**-0.7**
CPAS2	**Pasto**	**2.55**	**76**	*e*P	**Pn**	**07 22 42.2**	**+1.5**
GR1C	**Gorgona, Isla**	**2.86**	**33**	*e*P	**Pn**	07 22 39.3	-5.3
CRUC	**La Cruz**	**2.94**	**71**	*e*P	**Pn**	**07 22 47.9**	**+1.9**
COHC	**Cochancay**	**3.07**	**171**		**Pn**	**07 22 48.7**	**+1.3**
SOTA	**Rioblanco**	**3.48**	**64**	*e*P	**Pn**	**07 22 55.6**	**+2.1**
POPC	**Popayan, Colom**	**3.61**	**57**	*e*P	**Pn**	**07 22 55.6**	**+0.4**
PCON	**Cinco Dias**	**3.75**	**62**	*e*P	**Pn**	**07 22 58.5**	**+1.1**
BOSC	**San Juan Bosco**	**3.91**	**162**	Pn	**Pn**	**07 23 03.5**	**+4.3**
ARNL	**Arenillas**	**4.12**	**185**		**Pn**	**07 23 04.7**	**+2.8**
ARNL				Sn	**Sn**	**07 23 52.6**	**+2.6**
MARP	**Paez Belalcaza**	**4.38**	**59**⇑	*e*P	**Pn**	**07 23 06.2**	**+0.3**
MARP				⇑*e*P	**Pn**	**07 23 07.1**	**+1.3**
GARC	**Garzon, Huila**	**4.52**	**69**	*e*P	**Pn**	**07 23 10.0**	**+2.3**
YOTC	**Yotoco, Valle**	**4.78**	**45**	*e*P	**Pn**	**07 23 10.0**	**-1.1**
MCRA	**Macar, Loja**	**4.93**	**183**	Pn	**Pn**	**07 23 15.9**	**+2.9**
PLMC	**San Jos del P**	**5.50**	**39**⇑	*e*P	**Pn**	**07 23 19.6**	**-1.4**
ORTC	**Ortega, Tolima**	**5.56**	**53**	*e*P	**Pn**	**07 23 23.4**	**+1.6**
ANIL	**Santa Ana**	**5.80**	**48**⇑	*e*P	**Pn**	**07 23 28.2**	**+2.9**
MACC	**Macarena, Meta**	**6.08**	**75**⇑	*e*P	**Pn**	**07 23 29.2**	**+0.3**
GUY2C	**Guyana, Caldas**	**6.34**	**43**	*e*P	**Pn**	**07 23 35.0**	**+2.1**
CBOC	**Ciudad Bolivar**	**6.42**	**35**	*e*P	**Pn**	**07 23 36.9**	**+3.1**
ROSC	**El Rosal**	**6.86**	**52**	P	**Pn**	**07 23 43.2**	**+3.3**
	2.6nm,0.3s,baz=117,slow=9.2,SNR=10						
ROSC				S	**Sn**	**07 25 06.2**	**+8.1**
	0.5nm,0.3s,baz=133,slow=20,SNR=1.6						
ROSC				LR	LR	07 26 38.2	
	comp=Z,320nm,18.2s,baz=219,slow=39						
ROSC	**El Rosal**	**6.86**	**52**	Pn	**Pn**	**07 23 39.3**	**-0.6**
ROSC	**El Rosal**	**6.86**	**52**⇑	*e*P	**Pn**	**07 23 42.6**	**+2.7**
HELC	**Santa Helena**	**6.97**	**37**	*e*P	**Pn**	**07 23 44.5**	**+3.1**
VILC	**Villavicencio,**	**6.97**	**60**	*e*P	**Pn**	**07 23 43.6**	**+2.3**
CHIC	**Chingaza**	**7.21**	**56**	*e*P	**Pn**	**07 23 46.5**	**+1.7**
GUVC	**San Jose del G**	**7.36**	**75**	*e*P	**Pn**	**07 23 46.5**	**0.0**
SPBC	**San Pablo de B**	**7.56**	**48**	*e*P	**Pn**	**07 23 48.4**	**-1.0**
PTBC	**PUERTO BERRIO,**	**7.91**	**41**	*e*P	**Pn**	**07 23 55.1**	**+1.0**
ZARC	**Zaragoza, Cauc

DZM	**Mont Dzumac**	**13.83**	**261**	P		**P**		**07 30 27.6**	**-0.5**
	2.0nm,0.3s,baz=106,slow=22,SNR=28								
DZM	**Mont Dzumac**	**13.83**	**261**	P		**P**		**07 30 27.9**	**-0.2**
KOUNC	**Koumac, New Ca**	**15.84**	**267**	P		**P**		**07 30 48.3**	**+1.7**
KOUNC				IAmb		IAmb		07 30 49.8	
	comp=Z,17nm,0.9s								
KNTN	**Kanton**	**19.00**	**22**	P		**P**		**07 31 14.6**	**-1.0**
CTA	**Charters Tower**	**32.73**	**265**	P		**P**		**07 33 16.4**	**+0.5**
	comp=Z,4.4nm,0.4s,baz=89,slow=11,SNR=19								
BBOO	**Buckleboo**	**41.84**	**244**	P		**P**		**07 34 29.8**	**0.0**
BBOO				IAmb		IAmb		07 34 43.7	
	comp=Z,15nm,1.5s								
WR0	**Warramunga Arr**	**43.66**	**262**	P		**P**		**07 34 44.3**	**+0.2**
WR0				IAmb		IAmb		07 35 07.5	
	comp=Z,14nm,1.4s								
AS31	**Alice Springs**	**43.77**	**257**	P		**P**		**07 34 45.3**	**+0.4**
ASAR	**Alice Springs**	**43.77**	**257**	P		**P**		**07 34 44.8**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=99,slow=7.8,SNR=52								
ASAR				PcP		**PcP**		**07 36 17.5**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=104,slow=4.1,SNR=8.7								
ASAR				S		**S**		**07 40 30.5**	**-2.7**
	comp=Z,0.7nm,0.6s,baz=92,slow=16,SNR=5.3								
ASAR	**Alice Springs**	**43.77**	**257**	P		**P**		**07 34 44.5**	**-0.4**
WB0	**Warramunga Arr**	**43.82**	**263**	P		**P**		**07 34 45.1**	**-0.3**
WB2	**Warramunga Arr**	**43.83**	**262**	P		**P**		**07 34 44.8**	**-0.7**
WB2				IAmb		IAmb		07 34 51.6	
	comp=Z,7.7nm,1.1s								
WRA	**Warramunga Arr**	**43.85**	**262**	P		**P**		**07 34 44.8**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=96,slow=7.6,SNR=51								
WRA				S		**S**		**07 40 30.4**	**-4.0**
	comp=Z,0.2nm,0.6s,baz=97,slow=15,SNR=1.6								
WRA	**Warramunga Arr**	**43.85**	**262**	P		**P**		**07 34 44.9**	**-0.7**
KNRA	**Kununurra**	**49.91**	**267**	P		**P**		**07 35 30.4**	**-0.6**
KNRA				IAmb		IAmb		07 35 52.5	
	comp=Z,16nm,1.1s								
SIJI	**Sorong**	**52.54**	**285**	P		**P**		**07 35 49.8**	**-0.2**
	comp=Z,11nm,0.6s,baz=73,slow=4.0,SNR=6.2								
VNDA	**Vanda**	**57.76**	**185**	P		**P**		**07 36 26.5**	**+1.4**
	comp=Z,0.6nm,1.0s,baz=7.9,slow=2.9,SNR=2.5								
VNDA	**Vanda**	**57.76**	**185**	P		**P**		**07 36 26.2**	**+1.1**
QSPA	**South Pole Qui**	**69.48**	**180**	P		**P**		**07 37 40.5**	**+0.6**
JOW	**Kunigami**	**69.65**	**311**	P		**P**		**07 37 41.2**	**-0.3**
MJAR	**Matsushiro Arr**	**69.84**	**324**	P		**P**		**07 37 41.2**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=143,slow=11,SNR=2.6								
MJAR	**Matsushiro Arr**	**69.84**	**324**	P		**P**		**07 37 41.7**	**-0.6**
JSD	**Sado**	**70.91**	**325**	P		**P**		**07 37 49.8**	**+1.3**
JHS	**Saijyo**	**71.69**	**320**	P		**P**		**07 37 53.8**	**+0.6**
JHS				IAmb		IAmb		07 37 54.3	
	comp=Z,17nm,1.1s								
KIWB	**Kanaga Island**	**72.14**	**1**	P		**P**		**07 37 55.2**	**-0.2**
ADK	**Adak**	**72.18**	**1**	P		**P**		**07 37 55.0**	**-0.6**
PEA0B	**Petropavlovsk-**	**76.17**	**346**	P		**P**		**07 38 17.7**	**-0.3**
PEA0B				IAmb		IAmb		07 38 18.4	
	comp=Z,7.5nm,0.8s								
PETK	**Petropavlovsk-**	**76.17**	**346**	P		**P**		**07 38 17.6**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=152,slow=9.6,SNR=6.6								
PETK	**Petropavlovsk-**	**76.17**	**346**	P		**P**		**07 38 18.2**	**+0.2**
KSRS	**Korea Array**	**76.46**	**319**	P		**P**		**07 38 20.6**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=256,slow=41,SNR=2.5								
USRK	**Ussuriysk Ar.**	**78.62**	**326**	P		**P**		**07 38 31.6**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=183,slow=3.8,SNR=4.2								
KMRM	**Mail Ridge**	**79.30**	**40**	P		**P**		**07 38 36.8**	**+1.6**
O02D	**Mt. Diablo Mer**	**79.83**	**40**	P		**P**		**07 38 39.7**	**+1.6**
O02D				IAmb		IAmb		07 38 39.9	
	comp=Z,7.3nm,0.8s								
ORV	**Oroville**	**80.24**	**41**	P		**P**		**07 38 41.0**	**+0.9**
M02C	**Callahan**	**80.53**	**39**	P		**P**		**07 38 43.1**	**+1.4**
M02C				IAmb		IAmb		07 38 43.9	
	comp=Z,6.9nm,0.9s								
YBH	**Yreka Blue Hor**	**80.83**	**39**	P		**P**		**07 38 44.3**	**+1.1**
MPK	**Martis Peak**	**81.00**	**42**	P		**P**		**07 38 45.4**	**+1.0**
MPK				IAmb		IAmb		07 38 45.9	
	comp=Z,19nm,1.3s								
BEKR	**Beckworth**	**81.13**	**42**	P		**P**		**07 38 45.5**	**+0.6**
PNTR	**Pine Nut**	**81.15**	**43**	P		**P**		**07 38 46.0**	**+0.9**
PNTR				IAmb		IAmb		07 38 46.6	
	comp=Z,14nm,0.9s								
HUMO	**Hull Mountain**	**81.22**	**38**	P		**P**		**07 38 46.2**	**+1.1**
YERR	**Yerington**	**81.32**	**43**	P		**P**		**07 38 46.5**	**+0.6**
L04D	**Klamath Falls**	**81.36**	**39**	P		**P**		**07 38 46.9**	**+0.9**
PMSA	**Palmer Station**	**81.50**	**157**	P		**P**		**07 38 46.4**	**+0.2**
NVAR	**Mina Array Bea**	**81.61**	**44**	P		**P**		**07 38 47.7**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=224,slow=9.1,SNR=22								
NVAR	**Mina Array Bea**	**81.61**	**44**	P		**P**		**07 38 48.1**	**+0.7**
PAHR	**Pah Rah Range**	**81.65**	**42**	P		**P**		**07 38 48.2**	**+0.7**
PAHR				IAmb		IAmb		07 38 49.3	
	comp=Z,8.6nm,1.3s								
NV11	**Mina Array Sit**	**81.70**	**44**	P		**P**		**07 38 48.4**	**+0.5**
KVN	**Kaiserville**	**82.09**	**43**	P		**P**		**07 38 50.2**	**+0.3**
TPNV	**Topopah Spring**	**82.14**	**46**	P		**P**		**07 38 50.6**	**+0.5**
MOD	**Modoc Plateau**	**82.36**	**40**	P		**P**		**07 38 51.7**	**+0.6**
MOD				IAmb		IAmb		07 38 52.4	
	comp=Z,5.4nm,0.7s								
K05A	**Summer Lake**	**82.50**	**39**	P		**P**		**07 38 53.0**	**+1.1**
K05A				IAmb		IAmb		07 38 53.6	
	comp=Z,11nm,0.9s								
CNPM	**China Poot**	**82.96**	**14**	P		**P**		**07 38 53.3**	**-0.2**
N18K	**Kilae Creek**	**83.08**	**11**	P		**P**		**07 38 53.3**	**-0.7**
N18K				IAmb		IAmb		07 39 11.8	
	comp=Z,10nm,1.3s								
PINE	**Pine Mountain**	**83.12**	**38**	P		**P**		**07 38 55.7**	**+0.8**
PINE				IAmb		IAmb		07 38 56.6	
	comp=Z,9.0nm,0.8s								
N19K	**Bonanza Creek**	**83.47**	**12**	P		**P**		**07 38 55.0**	**-1.1**
N19K				IAmb		IAmb		07 38 56.4	
	comp=Z,5.3nm,0.9s								
SVW2	**Sparrevohn**	**83.53**	**11**	P		**P**		**07 38 55.6**	**-0.7**
SVW2				IAmb		IAmb		07 39 18.4	
	comp=Z,12nm,1.4s								
I07A	**Izee**	**84.12**	**39**	P		**P**		**07 39 00.3**	**+0.6**
I07A				IAmb		IAmb		07 39 01.3	
	comp=Z,6.7nm,1.0s								
J08A	**Circle Bar Ran**	**84.31**	**40**	P		**P**		**07 39 00.8**	**+0.1**
J08A				IAmb		IAmb		07 39 02.2	
	comp=Z,7.9nm,1.3s								
U15A	**North Rim**	**84.58**	**48**	P		**P**		**07 39 02.6**	**+0.3**
U15A				IAmb		IAmb		07 39 03.9	
	comp=Z,4.6nm,0.7s								
G08A	**Pilot Rock**	**85.14**	**38**	P		**P**		**07 39 05.2**	**+0.6**
G08A				IAmb		IAmb		07 39 06.0	
	comp=Z,6.9nm,1.1s								
PMR	**Palmer**	**85.28**	**14**	P		**P**		**07 39 04.0**	**-0.8**
F10A	**Beach Ranch, E**	**86.53**	**38**	P		**P**		**07 39 11.4**	**+0.2**
J20K	**Nowinta River**	**86.64**	**11**	P		**P**		**07 39 10.8**	**-0.3**
TRF	**Thorofare Moun**	**86.69**	**12**	P		**P**		**07 39 10.5**	**-1.1**
PLID	**Pearl Lake**	**86.75**	**39**	P		**P**		**07 39 12.7**	**+0.3**
HLID	**Hailey**	**86.88**	**41**	P		**P**		**07 39 13.5**	**+0.5**
HLID				IAmb		IAmb		07 39 14.6	
	comp=Z,4.7nm,0.9s								
SRU	**San Rafael Swe**	**87.12**	**46**	IAmb		IAmb		07 39 15.4	
	comp=Z,3.3nm,0.8s								
MCK	**McKinley**	**87.22**	**13**	IAmb		IAmb		07 39 15.0	
	comp=Z,7.0nm,1.0s								
HYT	**Haines Junctio**	**87.70**	**19**	P		**P**		**07 39 16.6**	**+0.2**
HYT				IAmb		IAmb		07 39 16.8	
	comp=Z,4.0nm,0.9s								
M27K	**Edge Creek, AK**	**87.70**	**16**	IAmb		IAmb		07 39 21.2	
	comp=Z,9.3nm,1.2s								
TXAR	**Lajitas Array**	**87.74**	**58**	P		**P**		**07 39 18.2**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=221,slow=6.1,SNR=29								
TXAR	**Lajitas Array**	**87.74**	**58**	P		**P**		**07 39 18.4**	**+1.2**
I21K	**Tanana**	**87.94**	**11**	P		**P**		**07 39 16.6**	**-0.6**
I21K				IAmb		IAmb		07 39 17.1	
	comp=Z,7.2nm,0.9s								
ANMO	**Albuquerque**	**88.05**	**52**	P		**P**		**07 39 18.8**	**+0.1**
ANMO				IAmb		IAmb		07 39 20.3	
	comp=Z,5.8nm,1.3s								
H21K	**Melozitna Rive**	**88.23**	**10**	IAmb		IAmb		07 39 20.1	
	comp=Z,2.4nm,0.8s								
BCAR	**Beaver Creek A**	**88.31**	**16**	P		**P**		**07 39 19.0**	**0.0**
IMAR	**Indian Mountai**	**88.37**	**10**	P		**P**		**07 39 18.8**	**-0.5**
MDM	**Murphy Dome**	**88.45**	**13**	IAmb		IAmb		07 39 19.4	
	comp=Z,6.8nm,1.0s								
COLA	**College**	**88.46**	**13**	P		**P**		**07 39 18.1**	**-1.4**
AHID	**Auburn Hatcher**	**88.55**	**43**	IAmb		IAmb		07 39 22.2	
	comp=Z,4.6nm,1.0s								
IL31		**88.57**	**13**	IAmb		IAmb		07 39 19.3	
	comp=Z,2.7nm,0.8s								
ILAR	**Eielson Array**	**88.57**	**13**	P		**P**		**07 39 18.7**	**-1.4**
	comp=Z,3.4nm,1.0s,baz=222,slow=5.5,SNR=21								
J25K	**Salcha River,**	**88.76**	**14**	IAmb		IAmb		07 39 21.0	
	comp=Z,3.5nm,0.8s								
HHC	**Hu-ho-hao-te**	**88.88**	**315**	*e*P		**P**		**07 39 23.3**	**+1.0**
HHC				pmax		pmax			
	comp=Z,17nm,0.9s								
HHC				pmax		pmax			
	comp=Z,110nm,5.6s								
O20A	**White River Ci**	**89.16**	**46**	IAmb		IAmb		07 39 24.6	
	comp=Z,4.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**89.44**	**290**	P		**P**		**07 39 25.6**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=124,slow=2.7,SNR=7.7								
YHL	**Hebgen Lake**	**89.54**	**41**	IAmb		IAmb		07 39 27.4	
	comp=Z,2.8nm,0.9s								
BW06	**Boulder Array**	**89.54**	**44**	IAmb		IAmb		07 39 26.0	
	comp=Z,2.5nm,0.8s								
PD31	**Pinedale Array**	**89.54**	**44**	IAmb		IAmb		07 39 26.0	
	comp=Z,2.2nm,0.8s								
PDAR	**Pinedale Array**	**89.54**	**44**	P		**P**		**07 39 25.4**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=218,slow=3.6,SNR=22								
DAWY	**Dawson**	**89.75**	**16**	IAmb		IAmb		07 39 26.2	
	comp=Z,3.6nm,0.9s								
EGAK	**Eagle**	**89.89**	**15**	IAmb		IAmb		07 39 26.5	
	comp=Z,3.7nm,0.8s								
PZH	**PanZhiHua**	**90.09**	**298**	P		**P**		**07 39 30.8**	**+2.5**
PZH				pmax		pmax			
	comp=Z,8.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,90nm,4.7s								
YKA	**Yellowknife Ar**	**96.91**	**25**	P		**P**		**07 39 57.3**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=246,slow=4.5,SNR=8.7								
ARCES	**ARCESS Array B**	**128.87**	**349**	PKP		**PKPdf**		**07 45 29.4**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=2.3,slow=2.0,SNR=11								
FINES	**FINESS Array B**	**135.64**	**343**	PKP		**PKPdf**		**07 45 41.7**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=75,slow=2.2,SNR=6.8								
FINES				SKP		**SKPbc**		**07 48 19.6**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=122,slow=2.9,SNR=3.6								
AKASG	**Malin Array Be**	**142.72**	**330**	PKhKP		PKPpre		07 45 52.4	
	comp=Z,3.5nm,0.4s,baz=43,slow=4.5,SNR=28								
BNN	**Bunyan**	**145.11**	**309**			**PKPdf**		**07 46 00.4**	**-0.8**
BR131	**Keskin Array S**	**146.34**	**312**	PKPdf		**PKPdf**		**07 46 03.0**	**-0.2**
BR131				PKPbc		**PKPbc**		**07 46 04.8**	**-0.8**
BRTR	**Keskin Array B**	**146.34**	**312**	PKPbc		**PKPdf**		**07 46 04.3**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=129,slow=3.3,SNR=10								
BRTR	**Keskin Array B**	**146.34**	**312**			**PKPdf**		**07 46 02.4**	**-0.9**
BRTR				PKPbc		**PKPbc**		**07 46 04.7**	**-1.0**
BUR08	**Bucovina Ar. S**	**146.75**	**330**			**PKPbc**		**07 46 07.3**	**+0.8**
BURAR	**Bucovina Array**	**146.77**	**330**			**PKPbc**		**07 46 06.5**	**0.0**
OJC	**Ojcow**	**146.97**	**338**	*e*PKPbc		**PKPbc**		**07 46 05.4**	**-1.4**
NIE	**Niedzica**	**147.45**	**337**	*e*PKPbc		**PKPbc**		**07 46 08.6**	**+0.5**
NIE				*e*PKPab		**PKPab**		**07 46 12.7**	**+0.4**
KSP	**Ksiaz**	**147.55**	**342**	*e*PKPbc		**PKPbc**		**07 46 08.1**	**-0.2**
OSTC	**Ostas**	**147.83**	**342**	*e*PKP		**PKPbc**		**07 46 09.1**	**0.0**
CLL	**Collm**	**147.97**	**346**			**PKPbc**		**07 46 08.5**	**-0.9**
CLL	**Collm**	**147.97**	**346**	*i* PKPbc		**PKPbc**		**07 46 08.4**	**-0.9**
	comp=Z,10.0nm,0.8s								
CLL				*i* PKPab		**PKPab**		**07 46 13.4**	**-0.9**
	comp=Z,5.0nm,0.8s								
DPC	**Dobruska-Polom**	**147.98**	**342**	*e*PKP		**PKPbc**		**07 46 09.0**	**-0.5**
KRLC	**Kraliky**	**148.09**	**341**	*e*PKP		**PKPbc**		**07 46 09.3**	**-0.4**
BRG	**Berggiesshubel**	**148.15**	**345**	*i* PKP		**PKPbc**		**07 46 09.3**	**-0.5**
BRG				Amp				07 46 10.3	
	comp=Z,7.2nm,1.0s								
PRU	**Pruhonice**	**148.81**	**343**	*e*PKP		**PKPbc**		**07 46 10.9**	**-0.6**
KHC	**Kasperske Hory**	**149.85**	**344**			**PKPbc**		**07 46 13.6**	**-0.4**
KHC				PKPab		**PKPab**		**07 46 22.7**	**+0.5**
KHC	**Kasperske Hory**	**149.85**	**344**	*e*PKP		**PKPbc**		**07 46 12.8**	**-1.2**
KHC				*e*PKPab		**PKPab**		**07 46 21.7**	**-0.5**
CKRC	**Cesky Krumlov**	**149.93**	**343**	*e*PKP		**PKPbc**		**07 46 13.6**	**-0.6**
GEC2	**GERESS Array S**	**150.08**	**343**			**PKPbc**		**07 46 14.2**	**-0.5**
GERES	**GERESS Array B**	**150.08**	**343**	PKPbc		**PKPbc**		**07 46 13.8**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=31,slow=3.1,SNR=15								
GERES	**GERESS Array B**	**150.08**	**343**			**PKPbc**		**07 46 14.0**	**-0.6**
CONA	**Conrad Observa**	**150.26**	**340**	*e*P		**PKPbc**		**07 46 14.7**	**-0.4**
	comp=Z,7.8nm,1.3s								
RONA	**Rosalia, Austr**	**150.32**	**339**	*e*P		**PKPbc**		**07 46 14.7**	**-0.5**
	comp=Z,4.3nm,0.7s								
MOA	**Molln**	**150.82**	**342**	*e*P		**PKPbc**		**07 46 15.3**	**-1.0**
	comp=Z,1.6nm,0.6s								
WATA	**Walderalm**	**152.02**	**345**	*e*P		**PKPbc**		**07 46 17.9**	**-1.3**
	comp=Z,2.2nm,0.6s								
WTTA	**Wattenberg**	**152.07**	**345**	*e*P		**PKPbc**		**07 46 18.3**	**-1.0**
	comp=Z,1.9nm,0.5s								
MOTA	**Moosalm**	**152.12**	**346**	*e*P		**PKPbc**		**07 46 18.1**	**-1.2**
	comp=Z,4.5nm,1.1s								
SQTA	**Sankt Quirin**	**152.22**	**345**	*e*P		**PKPbc**		**07 46 18.5**	**-1.0**
	comp=Z,0.9nm,0.4s								
ABTA	**Abfaltersbach**	**152.32**	**343**	*e*P		**PKPbc**		**07 46 18.3**	**-1.5**
	comp=Z,2.2nm,0.5s								
FETA	**Feichten**	**152.51**	**346**	*e*P		**PKPbc**		**07 46 19.4**	**-0.9**
	comp=Z,1.5nm,0.7s								
ESDC	**Sonseca Array**	**160.47**	**12**	PKPab		**PKPab**		**07 47 06.7**	**-1.4**
	comp=Z,1.4nm,1.1s,baz=342,slow=3.9,SNR=5.4								
ESDC	**Sonseca Array**	**160.47**	**12**	PKPdf		**PKPdf**		**07 46 23.2**	**+0.3**
ESDC						**PKPab**		**07 47 07.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**172.59**	**184**	PKP		**PKPdf**		**07 46 30.8**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=355,slow=3.2,SNR=3.8								
TORD	**Torodi Ar. Bea**	**172.59**	**184**			**PKPdf**		**07 46 31.1**	**-1.5**

*ATH **24** 07:41:56.9,38˚.47N×20˚.49E,h18km±1km, ML3.5/8, Error ellipse: s-maj=1.8km s-min=0.7km az=281.0*
*THE **24** 07:41:57.2,38˚.47N×20˚.47E,h14km±1km, ML3.5/5, Error ellipse: s-maj=1.3km s-min=0.2km az=107.0*
ISC 24 07:41:56.6±0.8,38˚.48N±0˚.02×20˚.45E±0˚.04,h17km±5km, n52,σ0°62/74,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.09**	**100**	P		P	**Pg**	**07 42 00.2**	**+0.1**
FSK				S		S	**Sg**	**07 42 02.0**	**-0.4**
FSK				AML		AML		07 42 02.2	
FSK				AML		AML		07 42 02.5	
FSK	**Fiskardo**	**0.09**	**100**	P		P	**Pg**	**07 42 00.3**	**+0.2**
FSK				S		S	**Sg**	**07 42 02.0**	**-0.4**
KEF4	**Livadi, Kephal**	**0.22**	**184**	P		P	**Pg**	**07 42 01.9**	**+0.2**
KEF4				S		S	**Sb**	**07 42 05.7**	**-0.1**
KEF4	**Livadi, Kephal**	**0.22**	**184**	P		P	**Pg**	**07 42 01.9**	**+0.2**
KEF4				S		S	**Sb**	**07 42 05.8**	**-0.1**
EVGI	**Lefkada island**	**0.22**	**49**	P		P	**Pg**	**07 42 01.9**	**+0.1**
EVGI				S		S	**Sg**	**07 42 05.6**	**+0.3**
EVGI	**Lefkada island**	**0.22**	**49**	P		P	**Pg**	**07 42 01.9**	**+0.1**
EVGI				S		S	**Sg**	**07 42 05.4**	**+0.1**
	24µm,0.1s								
DRAG	**Dragano-Lefkad**	**0.23**	**26**	P		P	**Pg**	**07 42 01.9**	**-0.1**
DRAG				S		S	**Sg**	**07 42 06.0**	**+0.4**
DRAG	**Dragano-Lefkad**	**0.23**	**26**	P		P	**Pg**	**07 42 01.9**	**-0.1**
DRAG				S		S	**Sg**	**07 42 06.1**	**+0.4**
	31µm,0.2s								
DMLN	**Damoulianata-K**	**0.24**	**193**	P		P	**Pg**	**07 42 02.3**	**+0.1**
DMLN				S		S	**Sb**	**07 42 06.8**	**+0.2**
DMLN	**Damoulianata-K**	**0.24**	**193**	P		P	**Pg**	**07 42 02.4**	**+0.3**
DMLN				S		S	**Sb**	**07 42 06.7**	**+0.1**
	14µm,0.4s								
KEF3	**Kipouria, Keph**	**0.28**	**196**	P		P	**Pg**	**07 42 02.5**	**-0.2**
KEF3				S		S	**Sg**	**07 42 06.9**	**-0.1**
KEF3	**Kipouria, Keph**	**0.28**	**196**	P		P	**Pg**	**07 42 02.6**	**-0.2**
KEF3				S		S	**Sg**	**07 42 07.3**	**+0.3**
ARGA	**Argostoli. Kep**	**0.30**	**175**	P		P	**Pb**	**07 42 03.9**	**+0.4**
NYDR	**Nydri-Lefkada**	**0.31**	**40**	P		P	**Pg**	**07 42 03.1**	**-0.2**
NYDR				S		S	**Sg**	**07 42 07.9**	**+0.1**
NYDR	**Nydri-Lefkada**	**0.31**	**40**	P		P	**Pg**	**07 42 03.4**	**+0.2**
NYDR				S		S	**Sg**	**07 42 08.1**	**+0.3**
VLS	**Valsamata**	**0.32**	**159**	P		P	**Pg**	**07 42 03.3**	**-0.1**
VLS				S		S	**Sb**	**07 42 08.4**	**-0.4**
VLS				AML		AML		07 42 09.1	
	comp=E,18750µm,0.2s								
VLS				AML		AML		07 42 09.8	
	comp=N,15372µm,0.1s								
VLS	**Valsamata**	**0.32**	**159**	P		P	**Pg**	**07 42 03.4**	**-0.1**
VLS				S		S	**Sg**	**07 42 08.3**	**+0.3**
	comp=N,8µm,0.2s								
LKD2	**Lefkada island**	**0.35**	**28**	P		P	**Pg**	**07 42 04.2**	**+0.1**
LKD2				S		S	**Sb**	**07 42 10.0**	**+0.1**
LKD2				AML		AML		07 42 10.4	
	comp=N,20617µm,0.2s								
LKD2				AML		AML		07 42 10.6	
	comp=E,19196µm,0.2s								
LKD2	**Lefkada island**	**0.35**	**28**	P		P	**Pg**	**07 42 04.3**	**+0.2**
LKD2				S		S	**Sb**	**07 42 10.0**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.38**	**163**	P		P	**Pg**	**07 42 04.3**	**-0.1**
PSDA				S		S	**Sb**	**07 42 10.3**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.38**	**163**	P		P	**Pg**	**07 42 04.5**	**+0.1**
PSDA				S		S	**Sb**	**07 42 10.3**	**-0.1**
TSLK	**Tsoukalades, L**	**0.39**	**25**	P		P	**Pg**	**07 42 04.8**	**+0.3**
TSLK				S		S	**Sg**	**07 42 10.6**	**+0.6**
TSLK				AML		AML		07 42 11.8	
	comp=N,21267µm,0.3s								
TSLK				AML		AML		07 42 12.0	
	comp=E,28461µm,0.2s								
TSLK	**Tsoukalades, L**	**0.39**	**25**	P		P	**Pg**	**07 42 04.9**	**+0.3**
TSLK				S		S	**Sb**	**07 42 11.0**	**+0.3**
	comp=E,13µm,0.2s								
PVO	**Paravola**	**0.86**	**80**	P		P	**Pg**	**07 42 13.5**	**+0.1**
RLS	**Riolos of Patr**	**0.91**	**117**	P		P	**Pb**	**07 42 13.7**	**-0.2**
RLS				AML		AML		07 42 31.8	
	comp=N,1666µm,0.3s								
RLS				AML		AML		07 42 32.5	
	comp=E,1518µm,0.5s								
DRO	**Drossia**	**1.12**	**117**	P		P	**Pb**	**07 42 17.7**	**0.0**
DRO				AML		AML		07 42 37.6	
	comp=E,1924µm,0.3s								
DRO				AML		AML		07 42 40.6	
	comp=N,3879µm,0.5s								
EFP	**Efpalio**	**1.15**	**92**	P		P	**Pb**	**07 42 17.6**	**-0.4**
EFP				AML		AML		07 42 41.3	
	comp=E,6287µm,0.5s								
EFP				AML		AML		07 42 42.3	
	comp=N,1906µm,0.4s								
EVR	**Evrytania**	**1.15**	**67**	P		P	**Pb**	**07 42 18.2**	**0.0**
ANX	**Ano Chora**	**1.16**	**84**	P		P	**Pn**	**07 42 18.2**	**0.0**
JAN	**Janina**	**1.22**	**15**	P		P	**Pb**	**07 42 20.0**	**+0.7**
LAKA	**Lakka**	**1.23**	**101**	P		P	**Pn**	**07 42 19.1**	**0.0**
LAKA				AML		AML		07 42 42.1	
	comp=N,5317µm,0.7s								
LAKA				AML		AML		07 42 43.4	
	comp=E,7198µm,0.9s								
KEK	**Kerkira**	**1.33**	**338**	P		P	**Pb**	**07 42 21.9**	**+0.7**
KLV	**Kalavryta, Ach**	**1.41**	**107**	P		P	**Pn**	**07 42 22.0**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.42**	**67**	P		P	**Pb**	**07 42 23.4**	**+0.6**
OHR	**Ohrid**	**2.65**	**6**	*i* Pn		P	**Pb**	**07 42 42.5**	**-1.2**
STIP	**Stip**	**3.48**	**22**	*i* Pn		P	**Pb**	**07 42 54.7**	**-3.1**
DRME	**Dracevica, Mon**	**3.83**	**346**	*e*Pn		P	**Pn**	**07 42 55.4**	**+0.6**
PDG	**Podgorica**	**4.05**	**347**	*e*Pn		P	**Pn**	**07 42 57.6**	**-0.3**
HCY	**Herceg Novi**	**4.24**	**340**	*e*Pn		P	**Pn**	**07 43 00.4**	**0.0**
TREB	**Trebinje**	**4.53**	**340**	*e*Pn		P	**Pn**	**07 43 03.8**	**-0.6**
BRY	**Bratogost**	**4.65**	**342**	*e*Pn		P	**Pn**	**07 43 06.4**	**+0.2**
STON	**Ston**	**4.86**	**335**	*e*Pn		P	**Pn**	**07 43 08.6**	**-0.4**
UPM	**

JUS	**Usuki**	**0.54**	**85**	‖P		**Pg**	07 52 09.8	**-1.6**
JSU	**Suzuyama**	**1.61**	**200**			**Pn**	07 52 29.4	**-0.5**
JTU	**Tsushima**	**2.06**	**317**			**Pn**	07 52 34.7	**-1.5**
JMN	**Monobe**	**2.43**	**72**			**Pn**	07 52 42.2	**+1.0**
JHS	**Saijyo**	**2.58**	**40**	Pn		**Pn**	07 52 43.0	**-0.3**
TJN	**Taejon**	**4.55**	**318**			**Pn**	07 53 09.6	**-0.7**
KSRS	**Korea Array**	**5.13**	**330**	Pn		**Pn**	07 53 19.4	**+1.0**
	0.9nm,0.3s,baz=144,slow=14,SNR=21							
KSRS				Pg		**Pg**	07 53 35.6	**-3.6**
	3.0nm,0.3s,baz=148,slow=17,SNR=9.7							
KSRS				Lg		Lg	07 54 37.6	
	5.3nm,0.3s,baz=150,slow=30,SNR=9.9							
KSRS				LR		LR	07 55 23.1	
	comp=Z,260nm,21.0s,baz=150,slow=39							
KSAR	**Wonju Array Be**	**5.14**	**330**	Pn		**Pn**	07 53 20.9	**+2.4**
KS19	**Wonju Array Si**	**5.20**	**330**			**Pn**	07 53 19.6	**+0.4**
INU	**Inuyama**	**5.42**	**63**			**Pn**	07 53 22.7	**+0.4**
JGF	**Kuroka**	**5.78**	**62**			**Pn**	07 53 27.6	**+0.4**
JOW	**Kunigami**	**6.64**	**202**	Pn		**Pn**	07 53 40.8	**+1.7**
	2.7nm,0.3s,baz=95,slow=22,SNR=7.7							
JOW	**Kunigami**	**6.64**	**202**	Pn		**Pn**	07 53 40.9	**+1.8**
MJB9	**Matsu-Tunnel**	**6.82**	**57**	Pn		**Pn**	07 53 42.2	**+0.7**
MAJO	**Matsushiro**	**6.82**	**57**	Pn		**Pn**	07 53 43.2	**+1.6**
MJAR	**Matsushiro Arr**	**6.82**	**57**	Pn		**Pn**	07 53 42.8	**+1.3**
	0.5nm,0.3s,baz=235,slow=13,SNR=22							
MJAR				LR		LR	07 56 07.9	
	comp=Z,130nm,19.9s,baz=233,slow=36							
MJAR	**Matsushiro Arr**	**6.82**	**57**	Pn		**Pn**	07 53 42.5	**+1.0**
JHJ	**Hachijo jima 2**	**7.29**	**87**	LR		LR	07 56 24.1	
	comp=Z,75nm,21.6s,baz=241,slow=36							
JHJ2	**Mitsune**	**7.31**	**87**	Pn		**Pn**	07 53 49.4	**+1.1**
JSD	**Sado**	**7.68**	**47**	Pn		**Pn**	07 53 52.5	**-0.9**
USRK	**Ussuriysk Ar.**	**11.18**	**3**	LR		LR	07 58 47.2	
	comp=Z,152nm,18.3s,baz=186,slow=36							
ASAJ	**Asahikawa**	**14.25**	**36**	LR		LR	08 00 27.1	
	comp=Z,58nm,19.9s,baz=130,slow=35							
KLR	**Kul'dur**	**16.20**	**2**	Pn		**P**	07 55 54.8	**+2.5**
	0.3nm,0.3s,baz=154,slow=7.0,SNR=15							
KLR				LR		LR	08 01 15.6	
	comp=Z,58nm,21.4s,baz=184,slow=34							
HHC	**Hu-ho-hao-te**	**17.44**	**302**	*e*P		**Pn**	07 56 04.5	**-0.5**
HHC				S		**Sn**	07 59 16.0	**-3.5**
HHC				pmax		pmax		
	comp=Z,21nm,0.9s							
HHC				pmax		pmax		
	comp=Z,80nm,6.6s							
HHC				LR		LR		
	comp=N,180nm,11.9s							
HHC				LR		LR		
	comp=E,220nm,12.8s							
HHC				LR		LR		
	comp=Z,300nm,12.4s							
LZH	**Lanzhou**	**22.63**	**285**	*e*P		**P**	07 57 03.8	**+0.9**
LZH				pP		sP	07 57 08.8	+3.2
LZH				pmax		pmax		
	comp=Z,17nm,1.2s							
ULN	**Ulaanbaatar**	**23.42**	**316**	P		**P**	07 57 11.2	**+0.2**
ULN				IAmb		IAmb	07 57 15.5	
	comp=Z,6.8nm,0.8s							
SONM	**Songino Array**	**23.79**	**316**	P		**P**	07 57 15.4	**+0.9**
	comp=Z,3.4nm,0.7s,baz=129,slow=9.1,SNR=22							
SONM				LR		LR	08 05 42.0	
	comp=Z,53nm,19.4s,baz=78,slow=34							
SONM	**Songino Array**	**23.79**	**316**	P		**P**	07 57 13.4	**-1.2**
PZH	**PanZhiHua**	**26.25**	**263**	P		**P**	07 57 40.1	**+3.0**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,100nm,4.3s							
DAV	**Davao City (W)**	**26.33**	**192**	LR		LR	08 09 40.2	
	comp=Z,37nm,18.1s,baz=338,slow=40							
PETK	**Petropavlovsk-**	**27.67**	**36**	LR		LR	08 09 29.7	
	comp=Z,55nm,18.2s,baz=114,slow=38							
YAK	**Yakutsk**	**29.04**	**359**	LR		LR	08 09 42.5	
	comp=Z,38nm,18.8s,baz=262,slow=36							
MA2	**Magadan**	**29.60**	**20**	LR		LR	08 10 31.1	
	comp=Z,32nm,19.6s,baz=206,slow=37							
CMAR	**Chiang Mai Arr**	**32.25**	**251**	LR		LR	08 10 54.7	
	comp=Z,20nm,18.3s,baz=95,slow=35							
SEY	**Seymchan**	**32.81**	**18**	LR		LR	08 13 03.6	
	comp=Z,14nm,18.4s,baz=316,slow=38							
SIJI	**Sorong**	**33.71**	**180**	LR		LR	08 11 37.3	
	comp=Z,19nm,21.6s,baz=228,slow=35							
WMQ	**Urumqi**	**35.31**	**301**	*e*P		**P**	07 58 58.3	**+1.4**
MKAR	**Makanchi Array**	**39.27**	**305**	P		**P**	07 59 31.7	**+1.3**
	comp=Z,0.4nm,0.6s,baz=94,slow=9.0,SNR=5.1							
NRIK	**Noril'sk**	**43.68**	**339**	P		**P**	08 00 08.2	**+2.0**
	comp=Z,1.5nm,0.6s,baz=107,slow=13,SNR=4.2							
NRIK	**Noril'sk**	**43.68**	**339**	P		**P**	08 00 06.2	**0.0**
PMG	**Port Moresby**	**44.88**	**157**	LR		LR	08 16 55.6	
	comp=Z,38nm,21.4s,baz=246,slow=33							
AAK	**Ala-Archa**	**44.99**	**299**	LR		LR	08 19 51.2	
	comp=Z,84nm,18.4s,baz=346,slow=37							
MTN	**Manton Dam**	**45.61**	**180**	P		**P**	08 00 20.3	**-1.8**
KK31	**Karatay Array**	**47.82**	**301**	P		**P**	08 00 38.1	**-1.3**
KK31				IAmb		IAmb	08 00 46.4	
	comp=Z,1.9nm,0.8s							
KKAR	**Karatay Array**	**47.82**	**301**	P		**P**	08 00 39.0	**-0.4**
KKAR	**Karatay Array**	**47.82**	**301**	P		**P**	08 00 38.0	**-1.4**
KKAR				IAmb		IAmb	08 00 46.4	
	comp=Z,1.9nm,0.8s							
KNRA	**Kununurra**	**48.48**	**183**	P		**P**	08 00 43.0	**-1.5**
WB0	**Warramunga Arr**	**52.59**	**176**	P		**P**	08 01 14.1	**-1.5**
WB0				IAmb		IAmb	08 01 21.7	
	comp=Z,7.9nm,1.4s							
WRA	**Warramunga Arr**	**52.76**	**176**	P		**P**	08 01 14.8	**-2.0**
	comp=Z,0.9nm,0.8s,baz=355,slow=7.8,SNR=4.8							
WB2	**Warramunga Arr**	**52.76**	**176**	P		**P**	08 01 15.6	**-1.2**
ABKAR	**Akbulak array**	**54.02**	**310**	P		**P**	08 01 25.5	**-0.4**
ABKAR				IAmb		IAmb	08 01 33.2	
	comp=Z,2.3nm,0.9s							
K20K	**Telida**	**54.32**	**32**	P		**P**	08 01 29.1	**+1.2**
K20K				IAmb		IAmb	08 01 34.1	
	comp=Z,5.6nm,1.3s							
IMAR	**Indian Mountai**	**54.34**	**29**	P		**P**	08 01 28.8	**+0.8**
AKTO	**Aktyubinsk**	**55.02**	**312**	P		**P**	08 01 34.8	**+1.6**
	comp=Z,0.6nm,0.6s,baz=47,slow=2.8,SNR=4.4							
KDAK	**Kodiak Island**	**55.63**	**39**	LR		LR	08 27 43.3	
	comp=Z,36nm,18.6s,baz=235,slow=38							
BRLK	**Bradley Lake**	**56.21**	**37**	P		**P**	08 01 41.9	**+0.3**
ASAR	**Alice Springs**	**56.44**	**177**	P		**P**	08 01 41.2	**-2.3**
	comp=Z,2.0nm,1.0s,baz=358,slow=4.8,SNR=11							
ASAR	**Alice Springs**	**56.44**	**177**	P		**P**	08 01 42.1	**-1.5**
ILAR	**Eielson Array**	**57.31**	**30**	P		**P**	08 01 49.9	**+0.6**
	comp=Z,0.3nm,0.7s,baz=279,slow=7.0,SNR=2.9							
ILAR	**Eielson Array**	**57.31**	**30**	P		**P**	08 01 49.0	**-0.3**
EPYK	**Eagle Plains**	**61.09**	**27**	P		**P**	08 02 16.3	**+0.8**
EPYK				IAmb		IAmb	08 02 43.2	
	comp=Z,3.5nm,1.1s							
FORT	**Forrest**	**63.52**	**183**	P		**P**	08 02 30.1	**-2.0**
C36M	**Paulatuk**	**64.48**	**22**	P		**P**	08 02 38.4	**+0.4**
KBZ	**Khabaz**	**66.88**	**308**	P		P	08 02 58.6	+4.8
	comp=Z,1.2nm,0.7s,baz=340,slow=3.2,SNR=3.6							
GNI	**Garni**	**67.10**	**304**	LR		LR	08 33 53.2	
	comp=Z,36nm,18.5s,baz=262,slow=37							
FINES	**FINESS Array B**	**68.22**	**330**	P		**P**	08 03 02.2	**+0.2**
	comp=Z,1.6nm,1.0s,baz=93,slow=14,SNR=2.0							
YKA	**Yellowknife Ar**	**71.34**	**27**	P		**P**	08 03 20.9	**-0.3**
	comp=Z,0.4nm,0.6s,baz=304,slow=6.2,SNR=9.7							
NOA	**NORSAR Array B**	**74.33**	**334**	LR		LR	08 39 09.1	
	comp=Z,28nm,20.6s,baz=215,slow=38							

*LDG **24** 08:02:08.3±0.1,43.41N×0.67W,h5km,Md2.2/3,Ml2.4/10,*
Error ellipse: s-maj=1.9km s-min=1.4km az=118.0
*MDD **24** 08:02:09.6±0.3,43.41N×0.68W,h0km±4km,mb_Lg2.5/7,*
Error ellipse: s-maj=2.6km s-min=1.7km az=179.0
*STR **24** 08:02:09.2±0.3,43.N±2.,h0km, MLv1.5/7,preliminary*
ISC 24 08:02:06.6±1.1,43.40N±0.02×0.71W±0.02,h13km±10km,
n31,σ1.972/56,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.31**	**179**	Pg	**Pb**	**08 02 14.5**	**+0.5**
TERF	**Tercis-les-Bai**	**0.41**	**314**	Pg	**Pn**	**08 02 17.6**	**-0.6**
TERF				Sg	**Sn**	**08 02 25.3**	**-0.3**
OSSF	**Osses**	**0.43**	**251**	Pg	**Pb**	**08 02 17.1**	**+1.1**
OSSF				Sg	**Sb**	**08 02 23.9**	**+1.5**
SJPF	**Ste Jean**	**0.47**	**233**	*e*Pg	**Pb**	**08 02 17.4**	**+0.6**
SJPF				*e*Sg	**Sb**	**08 02 24.4**	**+0.7**
	7.7nm,0.2s						
ETSF	**Etsaut**	**0.51**	**168**	*e*Pg	**Pn**	**08 02 17.8**	**-1.8**
ETSF	**Etsaut**	**0.51**	**168**	*e*Pn	**Pn**	**08 02 20.9**	**+1.3**
ETSF				*e*Sg	**Sn**	**08 02 25.2**	**-3.0**
	13nm,0.2s						
EALK	**Alkurruntz**	**0.61**	**254**	Pg	**Pn**	**08 02 20.4**	**-0.7**
EALK				Sg	**Sn**	**08 02 30.4**	**-0.4**
EALK	**Alkurruntz**	**0.61**	**254**	Pg	**Pn**	**08 02 20.1**	**-0.9**
EALK				Sg	**Sn**	**08 02 30.4**	**-0.4**
EALK				*i* Vmb_Lg		08 02 37.9	
CANF	**Canfranc**	**0.65**	**168**	Pg	**Pn**	**08 02 20.6**	**-0.9**
EORO	**Oroz-Betelu**	**0.67**	**221**	Pg	**Pn**	**08 02 22.0**	**+0.2**
EORO				Sg	**Sn**	**08 02 32.2**	**0.0**
EORO				*i* Vmb_Lg		08 02 32.7	
VIEF	**Viey**	**0.74**	**134**	Pg	**Pn**	**08 02 22.1**	**-0.7**
VIEF				Sg	**Sn**	**08 02 32.8**	**-1.2**
EPF	**Esparros**	**0.85**	**115**	*e*Pg	**Pn**	**08 02 24.1**	**-0.2**
EPF				*e*Sg	**Sn**	**08 02 34.9**	**-1.7**
	12nm,0.3s						
ESAC	**San Caprasio**	**1.68**	**174**	Pg	**Pg**	**08 02 40.6**	**+1.7**
ESAC				*i* Vmb_Lg		08 02 57.1	
MONQ	**Montcuq**	**1.68**	**54**	Pn	**Pg**	**08 02 39.8**	**+0.9**
MONQ				Sn	**Sg**	**08 03 02.5**	**+1.7**
LFF	**La Frestale**	**1.86**	**33**	*e*Pn	**Pn**	**08 02 38.0**	**-0.1**
LFF	**La Frestale**	**1.86**	**33**	*e*Pg	**Pg**	**08 02 42.7**	**+0.4**
LFF				*e*Sn	**Sn**	**08 03 01.8**	**+0.3**
LFF				*e*Sg	**Sg**	**08 03 06.1**	**-0.4**
	6.2nm,0.3s						
ELAN	**Lanestosa**	**2.00**	**266**	Sg	**Sg**	**08 03 12.0**	**+1.2**
MTLF	**Montolieu**	**2.13**	**90**	*e*Pn	**Pn**	**08 02 42.7**	**+0.8**
MTLF				*e*Sn	**Sn**	**08 03 08.0**	**-0.2**
MTLF				*e*Sg	**Sg**	**08 03 14.4**	**-0.8**
	3.6nm,0.3s						
EPOB	**Poblet**	**2.43**	**146**	Pg	**Pg**	**08 02 53.5**	**+0.2**
EPOB				Sn	**Sg**	**08 03 23.0**	**-1.8**
EPOB				Sg	**Sb**	**08 03 26.3**	**+6.2**
EPOB				*i* Vmb_Lg		08 04 15.2	
RJF	**Les Rejaudoux**	**2.49**	**39**	*e*Pn	**Pn**	**08 02 46.2**	**-0.6**
RJF				*e*Sn	**Sn**	**08 03 15.7**	**-1.2**
	2.4nm,0.2s						
CAF	**Calviac**	**2.51**	**52**	*e*Pn	**Pn**	**08 02 48.0**	**+0.9**
CAF	**Calviac**	**2.51**	**52**	*e*Pg	**Pg**	**08 02 54.0**	**-0.8**
CAF				*e*Sn	**Sn**	**08 03 17.7**	**+0.1**
	1.2nm,0.2s						
CAF				*e*Sg	**Sg**	**08 03 24.7**	**-2.6**
	2.9nm,0.2s						
ERTA	**Horta de San J**	**2.56**	**162**	Pg	**Pg**	**08 02 54.5**	**-1.1**
ERTA				*i* Vmb_Lg		08 04 36.3	
ETOR	**Torete**	**2.76**	**202**	Pn	**Pb**	**08 02 54.0**	**-1.9**
ETOR				Sn	**Sb**	**08 03 29.0**	**-0.6**
ETOR				*i* Vmb_Lg		08 04 23.5	
MFF	**Saint Martin d**	**3.23**	**7**	*e*Pn	**Pn**	**08 02 57.6**	**+0.6**
MFF	**Saint Martin d**	**3.23**	**7**	*e*Pg	**Pg**	**08 03 07.6**	**-0.9**
MFF				*e*Sn	**Sn**	**08 03 34.0**	**-1.3**
MFF				*e*Sg	**Sg**	**08 03 48.5**	**-1.8**
	1.2nm,0.3s						
TCF	**Toulx Ste Croi**	**3.56**	**35**	*e*Pn	**Pn**	**08 03 02.0**	**+0.5**
TCF	**Toulx Ste Croi**	**3.56**	**35**	*e*Pg	**Pg**	**08 03 13.7**	**-1.1**
TCF				*e*Sn	**Sn**	**08 03 41.4**	**-2.0**
TCF				*e*Sg	**Sg**	**08 03 58.5**	**-2.4**
	3.3nm,0.5s						
BGF	**Bois d'Agland**	**4.04**	**37**	*e*P	**Pn**	**08 03 12.6**	**+4.5**
HYF	**Humbligny**	**4.53**	**30**	*e*P	**Pn**	**08 03 18.7**	**+3.8**
HYF				*e*Sn	**Sn**	**08 04 04.2**	**-3.2**
	29nm,0.3s						
SSF	**Saint Saulge**	**4.72**	**38**	*e*Pn	**Pn**	**08 03 17.7**	**+0.3**

IDC 24 08:03:44.5±0.9,1.92N×127.03E,h65km±87km,mb3.2/3,
mb1 3.5/4,mb1mx3.2/60,mbtmp3.5/4,ML3.5/1,MS2.4/1,
Ms1 2.4/1,ms1mx2.1/25,Error ellipse: s-maj=124.1km
s-min=27.6km az=65.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.93**	**184**	P	P	08 08 11.3	+0.1
	0.1nm,0.3s,baz=354,slow=9.2,SNR=1.8						
WRA	**Warramunga Arr**	**22.88**	**162**	P	P	08 08 42.8	0.0
	1.1nm,0.4s,baz=341,slow=11,SNR=22						
WRA				PcP	PcP	08 12 31.6	-0.1
	0.2nm,0.7s,baz=320,slow=2.9,SNR=1.3						
ASAR	**Alice Springs**	**26.29**	**166**	P	P	08 09 14.2	0.0
	0.2nm,0.4s,baz=339,slow=9.0,SNR=6.2						
ASAR				PcP	PcP	08 12 38.5	-0.6
	0.2nm,0.5s,baz=346,slow=3.0,SNR=2.1						
KSRS	**Korea Array**	**35.38**	**1**	LR	LR	08 24 57.1	
	comp=Z,6.7nm,21.9s,baz=225,slow=36						
MKAR	**Makanchi Array**	**59.21**	**326**	P	P	08 13 38.9	-0.1
	0.2nm,0.3s,baz=126,slow=8.2,SNR=5.2						

*IDC **24** 08:17:32.8±1.4,37.16N×30.74E,h101km±15km,mb3.4/7,*
mb1 3.3/14,mb1mx3.2/46,mbtmp3.6/14,MS3.2/3,
Ms1 3.2/3,ms1mx2.6/48,Error ellipse: s-maj=18.5km
s-min=12.4km az=121.0
*ISK **24** 08:17:33.8,37.22N×30.80E,h110km,ML3.1/28*
*DDA **24** 08:17:34.3±0.0,37.20N×30.81E,h102km,ML3.1*
*HLW **24** 08:17:36.6,36.62N×30.67E,h10km±20km,Md4.3,Ml4.3*
*NIC **24** 08:17:37.1±0.0,36.78N×30.81E,h103km±2km,Ml3.8/4*
ISC 24 08:17:33.5±0.7,37.11N±0.03×30.80E±0.03,h114km±5km,
n90,σ1.836/125,mb3.6/7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.24**	**209**	PG	**Pn**	**08 17 49.9**	**+0.5**
ANTB				SG	**Sn**	**08 18 01.8**	**+0.4**
BUCA	**Burdur, Bucak-**	**0.29**	**318**	P	**Pn**	**08 17 49.9**	**+0.1**
BUCA				S	**Sn**	**08 18 00.6**	**-1.4**
BUCA				*i* AML	AML	08 18 01.0	
	comp=N,722nm,0.5s						
BUCA				*i* AML	AML	08 18 03.0	
	comp=E,650nm,0.5s						
KORT	**Korkueli**	**0.38**	**253**	PG	**Pn**	**08 17 50.7**	**+0.5**
KORT				SG	**Sn**	**08 18 03.4**	**+0.6**
KORT	**Korkueli**	**0.38**	**253**	P	**Pn**	**08 17 50.5**	**+0.3**
KORT				S	**Sn**	**08 18 02.7**	**0.0**
KORT				*i* AML	AML	08 18 05.0	
	comp=E,964nm,0.6s						
BCK	**Bucak**	**0.39**	**334**	PG	**Pn**	**08 17 50.0**	**-0.2**
BCK				SG	**Sn**	**08 18 01.7**	**-1.1**
SUTC	**Sutluce-Ispart**	**0.40**	**23**	PG	**Pn**	**08 17 49.8**	**-0.5**
SUTC				SG	**Sn**	**08 18 01.9**	**-1.1**
KEMT	**Kemer-ANTALYA**	**0.55**	**201**	PG	**Pn**	**08 17 52.0**	**+1.0**
KEPZ	**Antalya-Kepez**	**0.68**	**108**	P	**Pn**	**08 17 52.5**	**+0.5**
KEPZ				S	**Sn**	**08 18 05.5**	**-0.6**
KEPZ				*i* AML	AML	08 18 06.0	
	comp=N,521nm,0.4s						
KEPZ				*i* AML	AML	08 18 06.0	
	comp=E,777nm,0.6s						
ISP	**Isparta**	**0.74**	**343**	PG	**Pn**	**08 17 52.5**	**-0.2**
ELL	**Elmali**	**0.80**	**243**	PG	**Pn**	**08 17 54.9**	**+1.7**
ELL	**Elmali**	**0.80**	**243**	P	**Pn**	**08 17 55.4**	**+2.2**
ELL				S	**Sn**	**08 18 09.4**	**+1.2**
BRDR	**BURDUR-Merkez**	**0.83**	**315**	P	**Pn**	**08 17 53.2**	**-0.2**
BRDR				S	**Sn**	**08 18 06.1**	**-2.4**
BRDR				*i* AML	AML	08 18 07.0	
	comp=N,126nm,1.0s						
BRDR				*i* AML	AML	08 18 08.0	
	comp=E,106nm,0.7s						
SEDI	**Konya, Seydise**	**0.83**	**66**	P	**Pn**	**08 17 53.8**	**+0.3**
SEDI				S	**Sn**	**08 18 07.8**	**-0.8**
SEDI				*i* AML	AML	08 18 10.0	
	comp=N,324nm,0.4s						
SEDI				*i* AML	AML	08 18 10.0	
	comp=E,430nm,0.6s						
AKUM	**Antalya-Kumluc**	**0.87**	**205**	P	**Pn**	**08 17 55.5**	**+1.8**
AKUM				S	**Sn**	**08 18 10.8**	**+1.8**
AKUM				*i* AML	AML	08 18 17.0	
	comp=N,287nm,0.3s						
AKUM				*i* AML	AML	08 18 18.0	
	comp=E,641nm,0.4s						
BAGO	**Egridir - ISPA**	**0.88**	**359**	P	**Pn**	**08 17 53.5**	**-0.3**
BAGO				S	**Sn**	**08 18 08.0**	**-1.3**
BAGO				*i* AML	AML	08 18 09.0	
	comp=E,233nm,0.7s						
SEYD	**Seydisehir-KON**	**0.88**	**70**	PG	**Pn**	**08 17 54.6**	**+0.7**
GOLH	**Golhisar**	**1.00**	**277**	P	**Pn**	**08 17 55.6**	**+0.5**
GOLH				S	**Sn**	**08 18 11.6**	**+0.2**
GOLH				*i* AML	AML	08 18 14.0	
	comp=E,223nm,0.3s						
GOLH				*i* AML	AML	08 18 20.0	
	comp=N,150nm,0.4s						
BASM	**Basmaki-Afyon**	**1.00**	**324**	PG	**Pn**	**08 17 54.9**	**-0.2**
CAEL	**Denizli, Camel**	**1.19**	**271**	P	**Pn**	**08 17 57.7**	**+0.6**
CAEL				S	**Sn**	**08 18 15.7**	**+0.8**
CAEL				*i* AML	AML	08 18 17.0	
	comp=N,323nm,0.6s						
CAEL				*i* AML	AML	08 18 20.0	
	comp=E,621nm,0.4s						
DOGA	**KONYA_Doganhis**	**1.21**	**35**	P	**Pn**	**08 17 57.6**	**+0.3**
DOGA				S	**Sn**	**08 18 13.8**	**-1.5**
DOGA				*i* AML	AML	08 18 15.0	
	comp=N,305nm,0.3s						
DOGA				*i* AML	AML	08 18 15.0	
	comp=E,265nm,0.3s						
YVAC	**Isparta, Yalva**	**1.21**	**17**	P	**Pn**	**08 17 56.9**	**-0.4**
CAME	**Cameli-Denizli**	**1.21**	**262**	PN	**Pn**	**08 17 58.6**	**+1.3**
AKAS	**Kas**	**1.30**	**228**	PN	**Pn**	**08 17 59.7**	**+1.3**
AKAS	**Kas**	**1.30**	**228**	P	**Pn**	**08 17 59.4**	**+1.1**
AKAS				S	**Sn**	**08 18 17.7**	**+0.5**
AKAS				*i* AML	AML	08 18 20.0	
	comp=N,768nm,0.3s						
AKAS				*i* AML	AML	08 18 20.0	
	comp=E,775nm,0.4s						
HDMB	**Hadim**	**1.36**	**96**	PN	**Pn**	**08 18 00.2**	**+1.2**
KMER	**Konya-Meram**	**1.41**	**62**	P	**Pn**	**08 18 00.1**	**+0.6**
KMER				S	**Sn**	**08 18 18.1**	**-1.2**
KMER				*i* AML	AML	08 18 21.0	
	comp=E,171nm,0.5s						
KMER				*i* AML	AML	08 18 23.0	
	comp=N,223nm,0.3s						
SHUT	**Suhut-Afyon**	**1.45**	**352**	PN	**Pn**	**08 17 59.0**	**-1.0**
FETY	**Fethiye**	**1.46**	**251**	PN	**Pn**	**08 18 01.1**	**+1.1**
FETY	**Fethiye**	**1.46**	**251**	P	**Pn**	**08 18 01.7**	**+1.7**
FETY				S	**Sn**	**08 18 22.8**	**+2.6**
KONT	**Konya--Tatoy**	**1.49**	**56**	PN	**Pn**	**08 18 00.3**	**-0.1**
KONT	**Konya--Tatoy**	**1.49**	**56**	P	**Pn**	**08 18 01.0**	**+0.6**
KONT				S	**Sn**	**08 18 20.0**	**-0.9**
KONT				*i* AML	AML	08 18 27.0	
	comp=E,101nm,0.2s						
GAZI	**Gazipasa**	**1.50**	**125**	PN	**Pn**	**08 18 01.8**	**+1.3**
GAZI	**Gazipasa**	**1.50**	**125**	P	**Pn**	**08 18 02.1**	**+1.6**
GAZI				S	**Sn**	**08 18 22.9**	**+1.8**
GAZI				*i* AML	AML	08 18 28.0	
	comp=E,800nm,0.3s						
GAZI				*i* AML	AML	08 18 28.0	
	comp=N,447nm,0.3s						
TAVA	**DENIZLI_Tavas**	**1.55**	**284**	P	**Pn**	**08 18 01.8**	**+0.7**
TAVA				S	**Sn**	**08 18 20.5**	**-1.6**
TAVA				*i* AML	AML	08 18 26.0	
	comp=N,244nm,0.4s						
TAVA				*i* AML	AML	08 18 26.0	
	comp=E,169nm,0.4s						
PASA	**Karahalli, USA**	**1.61**	**320**	P	**Pn**	**08 18 01.1**	**-0.8**
LADK	**Ladik-KONYA**	**1.65**	**48**	PN	**Pn**	**08 18 02.8**	**+0.4**
KKBE	**Karaman, Kazim**	**1.71**	**86**	P	**Pn**	**08 18 04.2**	**+1.1**
KKBE				S	**Sn**	**08 18 25.7**	**0.0**
KKBE				*i* AML	AML	08 18 28.0	
	comp=N,104nm,0.3s						
DALY	**Dalyan (Mula)**	**1.75**	**261**	PN	**Pn**	**08 18 04.3**	**+0.9**
KDHN	**Kadinhani**	**1.75**	**36**	P	**Pn**	**08 18 03.1**	**-0.4**
ERMK	**Ermenek**	**1.76**	**105**	P	**Pn**	**08 18 06.1**	**+2.3**
ERMK				S	**Sn**	**08 18 27.3**	**+0.4**
ERMK				*i* AML	AML	08 18 30.0	
	comp=E,411nm,0.5s						
KIZT	**Kizilcal**	**1.96**	**25**	PN	**Pn**	**08 18 05.8**	**-0.4**
KRMN	**Karaman**	**1.97**	**88**	PN	**Pn**	**08 18 07.6**	**+1.3**
MULA	**Mugla, Merkez-**	**1.99**	**275**	P	**Pn**	**08 18 07.5**	**+1.0**
MULA				S	**Sn**	**08 18 29.7**	**-2.0**
MULA				*i* AML	AML	08 18 32.0	
	comp=E,198nm,0.6s						
MULA				*i* AML	AML	08 18 36.0	
	comp=N,64nm,0.4s						
YER	**Yerkesik**	**2.01**	**271**	PN	**Pn**	**08 18 07.8**	**+1.0**
TURN	**Turunc**	**2.08**	**261**	PN	**Pn**	**08 18 08.4**	**+0.9**
KULA	**Kula-Manisa**	**2.20**	**310**	PN	**Pn**	**08 18 09.1**	**-0.1**
CHBY	**Cihanbeyli**	**2.21**	**48**	PN	**Pn**	**08 18 09.5**	**+0.2**
MANT	**Manisa**	**2.25**	**308**	P	**Pn**	**08 18 09.5**	**-0.5**
MANT				S	**Sn**	**08 18 36.3**	**-1.6**
CIFT	**Cifteler, Eski**	**2.25**	**5**	PN	**Pn**	**08 18 09.7**	**-0.2**
AYDN	**Tasoluk**	**2.39**	**284**	P	**Pn**	**08 18 10.1**	**+0.3**
AYDN				S	**Sn**	**08 18 38.0**	**-2.9**
SVRH	**Sivrihisar-ESK**	**2.40**	**13**	PN	**

1.0nm,0.3s,baz=322,slow=12,SNR=2.0
BELG LR LR 08 31 12.6
comp=Z,49nm,19.1s,baz=56,slow=42
FINES FINESS Array B 24.53 355 P **P** **08 22 41.5 -0.5**
0.6nm,0.4s,baz=160,slow=11,SNR=13
NOA NORSAR Array B 26.95 339 P **P** **08 23 03.1 -0.8**
0.6nm,0.9s,baz=151,slow=11,SNR=1.5
ARCES ARCESS Array B 32.61 357 P **P** **08 23 54.4 +0.6**
6.5nm,1.2s,baz=172,slow=8.7,SNR=7.3
TORD Torodi Ar. Bea 35.30 235 P **P** **08 24 18.5 +0.9**
0.3nm,0.6s,baz=45,slow=10.0,SNR=2.6
MKAR Makanchi Array 38.87 59 P **P** **08 24 49.0 +1.4**
0.5nm,0.4s,baz=286,slow=6.5,SNR=10
JMIC Jan Mayen 39.61 341 LR LR 08 42 54.0
comp=Z,111nm,20.7s,baz=312,slow=38
ZALV Zalesovo Beam 40.34 48 P **P** **08 24 59.9 +0.4**
0.4nm,0.3s,baz=270,slow=7.9,SNR=2.2
SONM Songino Array 54.69 53 P **P** **08 26 51.4 +0.6**
0.3nm,0.4s,baz=285,slow=9.1,SNR=1.5

*IDC **24** 08:37:57.5±0.4,59.°34S×27.°11W,h0km,mb4.9/20, mb1 4.9/21,mb1mx4.8/34,mbtmp4.9/21,ML5.0/1,MS5.2/42, Ms1 5.2/42,ms1mx5.2/45,Error ellipse: s-maj=17.3km s-min=12.1km az=44.0*

*NEIC **24** 08:37:59.9±1.6,59.°31S±0.°08×27.°0W±0.°2,h10km±1km, mb5.5/120,Ms_20 5.4/250,Mwb5.5/35,Mww5.5,Error ellipse: s-maj=13.8km s-min=12.6km az=220.0*

*NEIC **24** 08:37:59.9,59.°31S×26.°97W,h7km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.20; Mθθ-1.80; Mϕϕ-0.40; Mrθ-0.59; Mθϕ-0.75; Mϕr-0.26; Fault plane solution: Mo2.26000×10¹⁷ NP1:ϕs246.26000°, δ53.30000°,λ,89.85000°. NP2:ϕs66.51000°,δ36.70000°, λ,90.20000°. Principal axes: T 2.2928, Plg82.0000°, Azm156.0000°; N -0.0732, Plg0.0000°, Azm246.0000°; P -2.2195, Plg8.0000°, Azm336.0000°;*

*MOS **24** 08:38:00.9±1.5,59.°33S×27.°30W,h21km,mb5.6/23, MS5.2/13 Error ellipse: s-maj=22.0km s-min=10.2km az=110.9*

*GCMT **24** 08:38:06.8±0.1,59.°53S±0.°01×26.°75W±0.°01,h12km, MW5.5/158,Moment Tensor Solution. s127,c202; s158,c287; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr2.87±.02; Mθθ-1.54±.03; Mϕϕ-1.33±.03; Mrθ-1.15±.07; Mθϕ-0.21±.02; Mϕr-0.17±.08; Best double couple: Mo2.54000×10¹⁷ NP1:ϕs61.00000°,δ32.00000°, λ,83.00000°. NP2:ϕs250.00000°,δ58.00000°,λ,95.00000°. Principal axes: T 3.1550, Plg76.0000°, Azm174.0000°; N -1.2300, Plg4.0000°, Azm68.0000°; P -1.9250, Plg13.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **24** 08:38:07,59.°44S×27.°01W,h16km,Moment Tensor Solution. Duration: 14s0 Moment tensor: Scale 10¹⁷Nm; Mrr2.27; Mθθ-1.07; Mϕϕ-1.20; Mrθ-1.10; Mθϕ-0.38; Mϕr0.22; Fault plane solution: Mo2.30000×10¹⁷ NP1:ϕs35.00000°, δ36.00000°,λ,66.00000°. NP2:ϕs244.00000°,δ57.00000°, λ,107.00000°. Principal axes: T 2.6270, Plg72.0000°, Azm196.0000°; N -0.9993, Plg14.0000°, Azm55.0000°; P -1.6277, Plg11.0000°, Azm322.0000°;*

ISC 24 08:38:00.0±0.5,59.°34S±0.°05×27.°10W±0.°05,h13km±2km, h14km:pP-P,n731,σ1s55/651,mb5.4/88,MS5.4/187,9C-8D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.22**	**310**	P	**Pn**	**08 39 45.1**	**0.0**
HOPE	**Hope Point**	**7.22**	**310**		**Pn**	**08 39 45.0**	**0.0**
ORCD	**Orcadas**	**8.94**	**253**	Pn	**Pn**	**08 40 10.4**	**+1.9**
VNA1	**Neumayer--Stat**	**13.77**	**153**	P	**Pn**	**08 41 14.2**	**-0.3**
I27DE	**GEORG VON NEUM**	**13.80**	**153**	*i*		10 02 50.0	
	baz=321,slow=331,SNR=1.7						
VNA3	**Neumayer Olymp**	**13.90**	**156**	P	**Pn**	**08 41 16.3**	**-0.1**
VNA2	**Neumayer--Watz**	**14.17**	**153**	P	**Pn**	**08 41 19.3**	**-0.7**
	baz=307,slow=15						
SNAA	**Sanae**	**15.76**	**151**	P	**Pn**	**08 41 41.4**	**+0.1**
SNAA	**Sanae**	**15.76**	**151**	Pn	**Pn**	**08 41 41.4**	**+0.1**
	5.3nm,0.3s,baz=308,slow=15,SNR=52						
SNAA				Sn	**Sn**	**08 44 28.0**	**-7.6**
	0.2nm,0.3s,baz=8.5,slow=20,SNR=3.7						
SNAA				LR	LR	08 46 41.6	
	comp=Z,6μm,21.4s,baz=314,slow=33						
SNAA	**Sanae**	**15.76**	**151**	*eP*	**Pn**	**08 41 40.4**	**-0.9**
SNAA				IAmb	IAmb	08 42 00.6	
	comp=Z,7μm,1.2s						
SNAA	**Sanae**	**15.76**	**151**	*d iP*	**Pn**	**08 41 41.7**	**+0.4**
SNAA	**Sanae**	**15.76**	**151**	Pn	**Pn**	**08 41 42.0**	**+0.6**
TROLL	**Troll, Antarti**	**17.33**	**149**	P	**P**	**08 42 02.3**	**-0.3**
PMSA	**Palmer Station**	**17.95**	**237**	LR	LR	08 48 08.4	
	comp=Z,14μm,18.8s,baz=80,slow=34						
PMSA	**Palmer Station**	**17.95**	**237**	P	**Pn**	**08 42 08.8**	**+0.1**
BELA	**Belgrano 2**	**18.79**	**185**		**P**	**08 42 18.5**	**-0.1**
EFI	**East Falkland**	**19.00**	**280**	*c iP*	**Pn**	**08 42 22.1**	**+0.4**
EFI				pmax	pmax		
	comp=Z,278nm,2.4s						
EFI	**East Falkland**	**19.00**	**280**	P	**P**	**08 42 20.3**	**-0.7**
SMAI	**San Martin Ant**	**19.40**	**226**	P	**Pn**	**08 42 26.4**	**-0.1**
USHA	**Ushuaia**	**22.63**	**263**	P	**P**	**08 42 59.0**	**-1.2**
	comp=Z,19nm,1.0s,baz=126,slow=13,SNR=6.4						
USHA				LR	LR	08 49 50.1	
	comp=Z,11μm,19.0s,baz=104,slow=32						
DSPA	**Despedida**	**22.98**	**265**	P	**P**	**08 43 04.2**	**+0.4**
MG02	**Cerro Sombrero**	**24.08**	**267**	P	**P**	**08 43 15.2**	**+0.5**
MG03	**Isla Dawson**	**24.15**	**264**	P	**P**	**08 43 15.9**	**+0.5**
MG03				IAmb	IAmb	08 43 34.3	
	comp=Z,278nm,2.0s						
GO09	**Cerro Castillo**	**26.52**	**268**	P	**P**	**08 43 37.0**	**+0.2**
GO08	**Villa O'Higgin**	**28.34**	**272**	P	**P**	**08 43 53.3**	**+0.1**
GO08				IAmb	IAmb	08 44 15.8	
	comp=Z,129nm,1.9s						
COYC	**Coyhaique**	**30.02**	**277**	P	**P**	**08 44 07.4**	**-0.8**
COYC	**Coyhaique**	**30.02**	**277**	IAMs_20	IAMs_20	08 54 46.3	
	comp=Z,8μm,19.0s						
QSPA	**South Pole Qui**	**30.90**	**180**	P	**P**	**08 44 15.7**	**-0.3**
QSPA				IAmb	IAmb	08 44 21.9	
	comp=Z,59nm,1.1s						
AY01	**Puyuhuapi**	**31.12**	**278**	P	**P**	**08 44 17.4**	**-0.4**
AY01				IAmb	IAmb	08 44 29.8	
	comp=Z,168nm,1.9s						
LL02	**Futaleuf**	**31.59**	**281**	P	**P**	**08 44 21.2**	**-0.8**
LL02				IAmb	IAmb	08 44 28.3	
	comp=Z,77nm,1.6s						
LPA	**La Plata**	**31.70**	**307**	*de*P	**P**	**08 44 20.8**	**-2.2**
LPA				PP	**PnPn**	**08 45 20.8**	**-6.0**
LPA				S	**S**	**08 49 32.5**	**+0.6**
LPA				SS	**SnSn**	**08 51 24.1**	**+5.8**
LL01	**San Ignacio de**	**32.47**	**281**	P	**P**	**08 44 29.6**	**-0.1**
PLCA	**Paso Flores**	**32.77**	**285**	P	**P**	**08 44 31.3**	**-1.2**
	comp=Z,27nm,1.2s,baz=152,slow=8.1,SNR=13						
PLCA				LR	LR	08 56 34.5	
	comp=Z,4μm,19.9s,baz=146,slow=34						
PLCA	**Paso Flores**	**32.77**	**285**	*eP*	**P**	**08 44 32.0**	**-0.4**
PLCA	**Paso Flores**	**32.77**	**285**	P	**P**	**08 44 32.0**	**-0.4**
PLCA				IAmb	IAmb	08 44 34.3	
	comp=Z,59nm,1.3s						
PLCA	**Paso Flores**	**32.77**	**285**	*eP*	**P**	**08 44 31.8**	**-0.6**
PLTB	**Pedras Altas**	**32.81**	**315**	P	**P**	**08 44 32.9**	**+0.1**
PLTB	**Pedras Altas**	**32.81**	**315**	*eP*	**P**	**08 44 32.7**	**-0.1**
TER01	**Tubaro-SC**	**34.31**	**324**	*eP*	**P**	**08 44 45.9**	**0.0**
LR03	**Panguipulli**	**34.49**	**284**	P	**P**	**08 44 47.4**	**0.0**
LR03				IAmb	IAmb	08 44 48.9	
	comp=Z,96nm,1.5s						
LC01	**Cunco**	**34.83**	**286**	P	**P**	**08 44 50.1**	**-0.2**
LC01				IAmb	IAmb	08 44 59.9	
	comp=Z,57nm,1.1s						
ITQB	**Itaqui**	**35.80**	**313**	P	**P**	**08 44 59.1**	**+0.3**
ITQB				IAmb	IAmb	08 45 08.5	
	comp=Z,113nm,1.1s						
ITQB	**Itaqui**	**35.80**	**313**	*eP*	**P**	**08 44 59.0**	**+0.3**
ITAB	**Concordia**	**36.45**	**321**	P	**P**	**08 45 03.3**	**-1.0**
ITAB				IAmb	IAmb	08 45 07.6	
	comp=Z,96nm,1.6s						
ITAB	**Concordia**	**36.45**	**321**	*eP*	**P**	**08 45 06.3**	**+2.0**
MRA	**San Martin**	**37.17**	**299**	*i P*	**P**	**08 45 11.2**	**+0.6**
MAW	**Mawson**	**37.51**	**141**	P	**P**	**08 45 12.8**	**-0.1**
	comp=Z,13nm,1.1s,baz=224,slow=6.3,SNR=9.2						
MAW				LR	LR	08 59 08.4	
	comp=Z,3μm,20.1s,baz=241,slow=34						
MAW	**Mawson**	**37.51**	**141**	P	**P**	**08 45 13.1**	**+0.3**
MAW	**Mawson**	**37.51**	**141**	P	**P**	**08 45 13.1**	**+0.3**
TCA	**Tanti**	**37.60**	**301**	*i* P	**P**	**08 45 13.9**	**-0.2**
PET01	**Itanhaem-SP**	**37.79**	**329**	*e*P	**P**	**08 45 17.0**	**+1.3**
FRBT	**Francisco Belt**	**37.93**	**320**	*e*P	**P**	**08 45 17.3**	**+0.4**
BO01	**Tunca**	**38.03**	**291**	P	**P**	**08 45 17.0**	**-0.6**
BO04	**La Punta**	**38.13**	**292**	P	**P**	**08 45 17.9**	**-0.6**
BO04				IAmb	IAmb	08 45 26.6	
	comp=Z,89nm,1.4s						
MT09	**Talagante**	**38.48**	**292**	P	**P**	**08 45 21.2**	**-0.4**
MT09				IAmb	IAmb	08 45 23.7	
	comp=Z,139nm,1.4s						
MT03	**Universidad Ad**	**38.49**	**293**	P	**P**	**08 45 21.9**	**+0.3**
MT03				IAmb	IAmb	08 45 28.2	
	comp=Z,203nm,1.6s						
MT05	**Renca**	**38.68**	**292**	P	**P**	**08 45 23.1**	**-0.1**
MT05				IAmb	IAmb	08 45 29.5	
	comp=Z,198nm,1.4s						
PTGB	**Pitanga**	**38.78**	**322**	*e*P	**P**	**08 45 23.5**	**-0.6**
PEL	**Peldehue**	**38.86**	**293**	P	**P**	**08 45 24.7**	**0.0**
PEL				pmax	pmax		
	comp=Z,91nm,0.9s						
PEL				MLR	MLR		
	comp=Z,2μm,19.0s						
PEL	**Peldehue**	**38.86**	**293**	P	**P**	**08 45 24.7**	**0.0**
PEL				IAmb	IAmb	08 45 27.6	
	comp=Z,91nm,0.9s						
VA05	**Santo Domingo**	**38.88**	**291**	P	**P**	**08 45 24.4**	**-0.4**
VAO	**Valinhos**	**38.94**	**330**	*e*P	**P**	**08 45 27.2**	**+1.7**
MT02	**Curacav**	**38.98**	**292**	P	**P**	**08 45 25.8**	**+0.1**
MT02				IAmb	IAmb	08 45 28.0	
	comp=Z,123nm,1.1s						
CPUP	**Villa Florida**	**39.09**	**314**	P	**P**	**08 45 26.3**	**-0.2**
	comp=Z,21nm,1.0s,baz=158,slow=7.8,SNR=36						
CPUP				PcP	**PcP**	**08 47 34.1**	**-2.1**
	comp=Z,3.8nm,0.8s,baz=121,slow=5.9,SNR=2.4						
CPUP				LR	LR	08 59 44.7	
	comp=Z,3μm,22.0s,baz=167,slow=33						
CPUP	**Villa Florida**	**39.09**	**314**	P	**P**	**08 45 26.5**	**0.0**
CPUP				pmax	pmax		
	comp=Z,61nm,1.3s						
CPUP	**Villa Florida**	**39.09**	**314**	P	**P**	**08 45 26.5**	**0.0**
VA03	**San Esteban**	**39.11**	**293**	P	**P**	**08 45 28.0**	**+1.1**
VA03				IAmb	IAmb	08 45 30.0	
	comp=Z,176nm,1.2s						
ROC1	**El Roble**	**39.15**	**293**	P	**P**	**08 45 25.6**	**-1.8**
ELIM	**Elim**	**39.24**	**72**	*e*P	**P**	**08 45 27.9**	**+0.1**
ELIM				IAmb	IAmb	08 45 37.2	
	comp=Z,378nm,2.2s						
ZON	**Zonda**	**39.25**	**296**	P	**P**	**08 45 28.0**	**0.0**
ZON				pmax	pmax		
	comp=Z,161nm,1.7s						
ZON	**Zonda**	**39.25**	**296**	P	**P**	**08 45 28.0**	**0.0**
ZON				IAmb	IAmb	08 45 33.4	
	comp=Z,161nm,1.7s						
APLL	**PUNTA DE LOS L**	**39.26**	**300**	*i* P	**P**	**08 45 27.2**	**-0.9**
FRTB	**Fartura**	**39.32**	**326**	*e*P	**P**	**08 45 29.1**	**+0.5**
AVFE	**Valle Fertil**	**39.45**	**299**	*i* P	**P**	**08 45 29.8**	**+0.1**
VA06	**Catapilco**	**39.63**	**293**	P	**P**	**08 45 31.2**	**+0.2**
VA06				IAmb	IAmb	08 45 33.7	
	comp=Z,167nm,1.7s						
CER	**Ceres**	**40.02**	**70**	*e*P	**P**	**08 45 35.2**	**+0.8**
CER				IAmb	IAmb	08 45 40.4	
	comp=Z,162nm,2.6s						
ACLC	**CERRO LA CRUZ**	**40.28**	**300**	*i* P	**P**	**08 45 37.2**	**+0.6**
CO02	**Combarbal**	**40.62**	**294**	P	**P**	**08 45 39.5**	**+0.1**
MATJ	**Matjiesfontein**	**40.72**	**72**	*e*P	**P**	**08 45 39.9**	**-0.3**
MATJ				IAmb	IAmb	08 45 50.8	
	comp=Z,338nm,2.4s						
TRCB	**Terra Rica**	**40.75**	**322**	P	**P**	**08 45 40.3**	**-0.1**
TRCB				IAmb	IAmb	08 45 43.1	
	comp=Z,70nm,1.1s						
TRCB	**Terra Rica**	**40.75**	**322**	*e*P	**P**	**08 45 40.6**	**+0.2**
CO03	**El Pedregal**	**40.78**	**295**	P	**P**	**08 45 41.2**	**+0.6**
BB19B	**Bebedouro**	**41.20**	**329**	*e*P	**P**	**08 45 45.0**	**+0.8**
CO01	**Juntas del Tor**	**41.23**	**296**	P	**P**	**08 45 45.2**	**+0.6**
CO01				IAmb	IAmb	08 45 48.6	
	comp=Z,75nm,1.0s						
CO06	**Fray Jorge**	**41.36**	**294**	P	**P**	**08 45 45.9**	**+0.5**
GO04	**Tololo Observa**	**41.39**	**295**	P	**P**	**08 45 46.0**	**+0.1**
PCMB	**Pacaembu**	**41.45**	**325**	*e*P	**P**	**08 45 46.5**	**+0.3**
SUR	**Sutherland**	**41.55**	**71**	LR	LR	08 59 00.5	
	comp=Z,3μm,21.8s,baz=214,slow=30						
SUR	**Sutherland**	**41.55**	**71**	IAMs_20	IAMs_20	08 58 20.9	
	comp=Z,5μm,22.0s						
CVNA	**Calvinia**	**41.78**	**69**	*e*P	**P**	**08 45 48.6**	**-0.3**
CVNA				IAmb	IAmb	08 45 52.1	
	comp=Z,5.7nm,0.7s						
CO05	**La Serena**	**41.80**	**295**	P	**P**	**08 45 48.9**	**-0.1**
CO05				IAmb	IAmb	08 45 59.0	
	comp=Z,88nm,0.9s						
GRAN	**Grantham**	**42.28**	**73**	*e*P	**P**	**08 45 54.0**	**+1.0**
GRAN				IAmb	IAmb	08 45 59.5	
	comp=Z,13nm,0.8s						
LCO	**Las Campanas**	**42.32**	**296**	P	**P**	**08 45 53.1**	**-0.5**
LCO				pmax	pmax		
	comp=Z,92nm,1.4s						
LCO				MLR	MLR		
	comp=Z,4μm,19.0s						
LCO	**Las Campanas**	**42.32**	**296**	P	**P**	**08 45 53.1**	**-0.5**
LCO				IAmb	IAmb	08 45 56.1	
	comp=Z,92nm,1.4s						
LCO	**Las Campanas**	**42.32**	**296**	IAMs_20	IAMs_20	09 05 39.9	
	comp=Z,4μm,19.0s						
DIAM	**Diamantina, MG**	**42.72**	**336**	*e*P	**P**	**08 45 59.0**	**+2.2**
SBA	**Scott Base**	**42.80**	**184**	P	**P**	**08 45 57.6**	**+1.1**
SBA				pmax	pmax		
	comp=Z,151nm,2.0s						
SBA	**Scott Base**	**42.80**	**184**	P	**P**	**08 45 57.6**	**+1.1**
SBA				IAmb	IAmb	08 46 08.4	
	comp=Z,152nm,1.9s						
ITRB	**Iturama**	**43.00**	**327**	*e*P	**P**	**08 46 00.0**	**+1.2**
AC04	**Llanos de Chal**	**43.18**	**296**	P	**P**	**08 46 00.7**	**+0.5**
VNDA	**Vanda**	**43.28**	**183**	P	**P**	**08 46 01.7**	**+1.2**
	comp=Z,5.8nm,0.6s,baz=188,slow=7.0,SNR=53						
VNDA				PcP	**PcP**	**08 47 48.1**	**-1.0**
	comp=Z,3.3nm,1.0s,baz=231,slow=5.2,SNR=1.8						
VNDA				LR	LR	09 03 36.8	
	comp=Z,1μm,18.8s,baz=161,slow=36						
VNDA	**Vanda**	**43.28**	**183**	P	**P**	**08 46 00.9**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,19nm,1.0s						
VNDA	**Vanda**	**43.28**	**183**	P	**P**	**08 46 00.9**	**+0.4**
GO03	**Copiap**	**43.32**	**298**	P	**P**	**08 46 01.4**	**0.0**
AC02	**Maricunga**	**43.47**	**300**	P	**P**	**08 46 04.0**	**+0.8**
AC02				IAmb	IAmb	08 46 06.9	
	comp=Z,76nm,1.1s						
AC06	**Mina Casimiro**	**43.58**	**298**	P	**P**	**08 46 03.2**	**-0.2**
AC06				IAmb	IAmb	08 46 06.0	
	comp=Z,100nm,1.4s						
AQDB	**Aquidauana**	**43.91**	**320**	P	**P**	**08 46 05.0**	**-1.2**
AQDB				IAmb	IAmb	08 46 07.8	
	comp=Z,82nm,1.6s						
AQDB	**Aquidauana**	**43.91**	**320**	*e*P	**P**	**08 46 05.2**	**-0.9**
IPMB	**Ipameri, GO**	**44.07**	**330**	*e*P	**P**	**08 46 08.3**	**+0.8**
KEIM	**Keimoes**	**44.67**	**68**	*e*P	**P**	**08 46 11.2**	**-1.1**
KEIM				IAmb	IAmb	08 46 17.1	
	comp=Z,10nm,0.8s						
AC01	**Pan de Azucar**	**44.73**	**298**	P	**P**	**08 46 13.0**	**+0.3**
AC01				IAmb	IAmb	08 46 15.3	
	comp=Z,94nm,1.4s						
UPI	**Upington**	**45.09**	**68**	*e*P	**P**	**08 46 15.3**	**-0.3**
GO02	**Mina Guanaco**	**45.13**	**300**	P	**P**	**08 46 17.0**	**+0.8**
GO02				IAmb	IAmb	08 46 19.1	
	comp=Z,58nm,0.9s						
HVD	**Gariep Dam**	**45.30**	**74**	*e*P	**P**	**08 46 17.6**	**+0.2**
HVD				IAmb	IAmb	08 46 27.6	
	comp=Z,451nm,3.1s						
PB14	**IPOC Station P**	**45.95**	**300**	P	**P**	**08 46 23.0**	**+0.2**
JANB	**Januaria**	**46.00**	**337**	*e*P	**P**	**08 46 24.9**	**+2.0**
BDFB	**Brasilia**	**46.27**	**332**	P	**P**	**08 46 24.8**	**-0.3**
	comp=Z,17nm,1.2s,baz=103,slow=5.3,SNR=8.9						
BDFB				LR	LR	09 02 57.4	
	comp=Z,3μm,21.3s,baz=159,slow=32						
BDFB	**Brasilia**	**46.27**	**332**	P	**P**	**08 46 24.8**	**-0.3**
BDFB				IAmb	IAmb	08 46 28.6	
	comp=Z,78nm,1.8s						
PP1B	**Ponte de Pedra**	**46.33**	**322**	*e*P	**P**	**08 46 25.3**	**-0.1**
BOSA	**Boshof**	**46.82**	**73**	P	**P**	**08 46 29.3**	**0.0**
	comp=Z,14nm,0.8s,baz=206,slow=7.5,SNR=15						
BOSA				PcP	**PcP**	**08 48 02.5**	**+0.3**
	comp=Z,5.9nm,0.8s,baz=190,slow=5.0,SNR=4.1						
BOSA				LR	LR	09 01 52.8	
	comp=Z,2μm,21.6s,baz=224,slow=31						
BOSA	**Boshof**	**46.82**	**73**	*e*P	**P**	**08 46 28.7**	**-0.6**
BOSA				IAmb	IAmb	08 46 33.2	
	comp=Z,19nm,0.9s						
BOSA	**Boshof**	**46.82**	**73**	P	**P**	**08 46 29.0**	**-0.3**
BOSA				pmax	pmax		
	comp=Z,18nm,0.9s						
BOSA	**Boshof**	**46.82**	**73**	P	**P**	**08 46 28.9**	**-0.3**
LVC	**Limon Verde**	**47.06**	**303**	LR	LR	09 08 15.0	
	comp=Z,3μm,18.4s,baz=180,slow=39						
LVC	**Limon Verde**	**47.06**	**303**	P	**P**	**08 46 31.7**	**+0.1**
LVC				pmax	pmax		
	comp=Z,139nm,1.3s						
LVC				MLR	MLR		
	comp=Z,4μm,18.0s						
LVC	**Limon Verde**	**47.06**	**303**	P	**P**	**08 46 31.7**	**+0.1**
LVC	**Limon Verde**	**47.06**	**303**	IAMs_20	IAMs_20	09 09 51.1	
	comp=Z,4μm,18.0s						
LVC	**Limon Verde**	**47.06**	**303**	*e*P	**P**	**08 46 31.6**	**+0.1**
PB06	**IPOC Station P**	**47.27**	**302**	P	**P**	**08 46 32.5**	**-0.4**
PB06				IAmb	IAmb	08 46 38.5	
	comp=Z,57nm,1.2s						
PB09	**IPOC Station P**	**47.92**	**303**	P	**P**	**08 46 37.8**	**-0.2**
SWZ	**Schweizer**	**48.04**	**72**	*e*P	**P**	**08 46 37.7**	**-1.1**
SWZ				IAmb	IAmb	08 46 45.8	
	comp=Z,23nm,0.8s						
SALV	**Santo Antonio**	**48.18**	**322**	*e*P	**P**	**08 46 39.8**	**0.0**
PB07	**IPOC Station P**	**48.26**	**302**	P	**P**	**08 46 40.3**	**-0.3**
PB07				IAmb	IAmb	08 46 50.1	
	comp=Z,57nm,0.9s						
PB02	**IPOC Station P**	**48.62**	**302**	P	**P**	**08 46 44.0**	**+0.6**
SDBA	**SAO DESIDERIO**	**48.70**	**337**	*e*P	**P**	**08 46 46.1**	**+2.3**
NBLA	**Lagarto - SE**	**48.92**	**346**	*e*P	**P**	**08 46 44.9**	**-0.6**
PATCX	**Punta Patache**	**49.18**	**302**	P	**P**	**08 46 47.4**	**-0.2**
PATCX				IAmb	IAmb	08 46 57.7	
	comp=Z,53nm,1.0s						
PRYS	**Parys**	**49.25**	**74**	*e*P	**P**	**08 46 46.6**	**-1.6**
PRYS				IAmb	IAmb	08 46 55.0	
	comp=Z,34nm,1.0s						
PB08	**IPOC Station P**	**49.35**	**304**	P	**P**	**08 46 49.2**	**0.0**
PB08				IAmb	IAmb	08 47 00.4	
	comp=Z,52nm,0.9s						
NBPN	**Ponto Novo - B**	**49.39**	**343**	*e*P	**P**	**08 46 49.5**	**+0.4**
TA01	**Diego Aracena**	**49.41**	**303**	P	**P**	**08 46 50.2**	**+1.0**
TA01				IAmb	IAmb	08 46 59.2	
	comp=Z,46nm,1.1s						
TA02	**Huaiquique**	**49.65**	**303**	P	**P**	**08 46 54.5**	**+3.4**
PEXB	**Peixe**	**49.74**	**332**	*e*P	**P**	**08 46 53.7**	**+1.9**
PTLB	**Pontes e Lacer**	**49.74**	**318**	*e*P	**P**	**08 46 51.3**	**-0.5**
GO01	**Chusmiza**	**49.78**	**304**	P	**P**	**08 46 52.6**	**-0.1**
GO01				IAmb	IAmb	08 47 02.8	
	comp=Z,77nm,1.1s						
NWCL	**Newcastle**	**49.83**	**77**	*e*P	**P**	**08 46 52.1**	**-0.5**
NWCL				IAmb	IAmb	08 46 56.6	
	comp=Z,20nm,0.9s						
PB11	**IPOC Station P**	**49.90**	**304**	P	**P**	**08 46 53.6**	**+0.4**
KSR	**Koster**	**49.92**	**72**	*e*P	**P**	**08 46 52.5**	**-0.8**
KSR				IAmb	IAmb	08 47 00.4	
	comp=Z,27nm,1.0s						
SIV	**San Ignacio**	**49.92**	**315**	P	**P**	**08 46 53.1**	**-0.1**
	comp=Z,38nm,1.0s,baz=161,slow=7.6,SNR=30						
SIV				LR	LR	09 06 57.6	
	comp=Z,2μm,21.1s,baz=198,slow=35						
LBTB	**Lobatse**	**49.99**	**70**	LR	LR	09 03 48.2	
	comp=Z,4μm,21.9s,baz=210,slow=31						
LBTB	**Lobatse**	**49.99**	**70**	*e*P	**P**	**08 46 52.7**	**-1.0**
LBTB				IAmb	IAmb	08 47 00.9	
	comp=Z,36nm,1.1s						
LBTB	**Lobatse**	**49.99**	**70**	P	**P**	**08 46 53.3**	**-0.5**
LBTB				pmax	pmax		
	comp=Z,31nm,1.0s						
LBTB	**Lobatse**	**49.99**	**70**	P	**P**	**08 46 53.3**	**-0.5**
SNDB	**Serra Nova Dou**	**50.62**	**329**	*e*P	**P**	**08 46 59.2**	**+0.7**
CASY	**Casey**	**50.80**	**159**	P	**P**	**08 46 59.8**	**+0.6**
CASY				IAmb	IAmb	08 47 06.8	
	comp=Z,82nm,1.8s						
CASY	**Casey**	**50.80**	**159**	IAMs_20	IAMs_20	09 07 49.6	
	comp=Z,5μm,20.0s						
PB16	**IPOC Station P**	**51.10**	**305**	P	**P**	**08 47 02.8**	**0.0**
PB12	**IPOC Station P**	**51.20**	**304**	P	**P**	**08 47 02.9**	**-0.1**
PB12				IAmb	IAmb	08 47 17.4	
	comp=Z,86nm,1.4s						
TSUM	**Tsumeb**	**51.31**	**58**	LR	LR	09 04 15.7	
	comp=Z,2μm,21.7s,baz=216,slow=31						
TSUM	**Tsumeb**	**51.31**	**58**	*e*P	**P**	**08 47 03.0**	**-0.8**
TSUM				IAmb	IAmb	08 47 07.3	
	comp=Z,2μm,2.3s						
TSUM	**Tsumeb**	**51.31**	**58**	P	**P**	**08 47 04.0**	**+0.2**
ASCN	**Ascension**	**52.20**	**16**	P	**P**	**08 47 10.6**	**+0.3**
H10N1	**ASCENSION HYDR**	**52.27**	**16**	T	T	09 43 54.6	
	baz=188,slow=76,SNR=3151						
H10N3	**ASCENSION HYDR**	**52.27**	**16**	T	T	09 43 54.3	
	baz=188,slow=76,SNR=8916						
H10N2	**ASCENSION HYDR**	**52.28**	**16**	T	T	09 43 49.4	
	baz=188,slow=76,SNR=5573						
LPAZ	**La Paz**	**52.37**	**307**	P	**P**	**08 47 12.9**	**+0.7**
	comp=Z,40nm,1.0s,baz=132,slow=7.4,SNR=60						
LPAZ				P

COHC IAmb IAmb 08 49 16.0
comp=Z,43nm,1.8s
PORT Chimborazo Vol 70.16 304 P P 08 49 12.9 +0.2
PORT IAmb IAmb 08 49 36.6
comp=Z,32nm,1.0s
MACC Macarena, Meta 71.40 310 *e*P **P 08 49 18.7 -0.9**
OTAV Otavalo 71.55 305 P **P 08 49 22.2 +1.1**
OTAV pmax pmax
comp=Z,119nm,1.5s
OTAV MLR MLR
comp=Z,1µm,20.0s
OTAV Otavalo 71.55 305 P **P 08 49 22.2 +1.1**
TULM Tulcn-Chalpat 71.70 305 P **P 08 49 21.9 -0.1**
TULM Tulcn-Chalpat 71.70 305 *e*P **P 08 49 23.8 +1.7**
CMBC Cumbal 71.92 305⇑ *e*P **P 08 49 23.8 +0.5**
GARC Garzon, Huila 72.09 308⇑ *e*P **P 08 49 23.8 -0.3**
CRUC La Cruz 72.12 307 *e*P **P 08 49 20.4 -4.0**
SOTA Rioblanco 72.50 307 *e*P **P 08 49 27.1 +0.3**
PCON Cinco Dias 72.59 307 *e*P **P 08 49 25.4 -2.0**
MARP Paez Belalcaza 72.87 308⇑ *e*P **P 08 49 25.4 -3.3**
POPC Popayan, Colom 72.89 307 *e*P **P 08 49 28.8 0.0**
ORTC Ortega, Tolima 73.56 309 *e*P **P 08 49 32.2 -0.3**
CHIC Chingaza 73.62 311 *e*P **P 08 49 32.2 -1.1**
MBAR Mbarara 73.63 62 LR LR 09 19 38.7
comp=Z,2µm,18.6s,baz=187,slow=34
MBAR Mbarara 73.63 62 P **P 08 49 33.1 -0.1**
MBAR pmax pmax
comp=Z,33nm,1.4s
MBAR Mbarara 73.63 62 P **P 08 49 33.1 -0.1**
MBAR Mbarara 73.63 62 IAMs_20 IAMs_20 09 20 58.6
comp=Z,2µm,19.0s
MBAR Mbarara 73.63 62 *e*P P 08 49 22.4 -11
MBAR Mbarara 73.63 62 *e*P P 08 49 22.4 -11
MBO M'Bour 73.93 10 P **P 08 49 34.6 +0.1**
ROSC El Rosal 74.05 310 P **P 08 49 37.0 +1.3**
comp=Z,7.0nm,0.7s,baz=180,slow=5.5,SNR=11
ROSC LR LR 09 22 24.6
comp=Z,2µm,21.8s,baz=184,slow=36
ROSC El Rosal 74.05 310 P **P 08 49 35.6 -0.2**
ROSC pmax pmax
comp=Z,18nm,1.0s
ROSC El Rosal 74.05 310 P **P 08 49 35.6 -0.2**
ROSC El Rosal 74.05 310 *e*P **P 08 49 32.2 -3.6**
ANIL Santa Ana 74.15 309 *e*P **P 08 49 35.6 -0.7**
RUSC La Rusia 74.53 312 *e*P **P 08 49 35.6 -3.2**
SPBC San Pablo de B 74.69 311 *e*P **P 08 49 35.6 -3.6**
GUY2C Guyana, Caldas 74.81 310⇓ *e*P **P 08 49 37.3 -3.0**
PLMC San Jos del P 74.88 309 *e*P **P 08 49 39.0 -1.3**
NORC Norcasia 74.92 310⇓ *e*P **P 08 49 37.3 -3.2**
KIBK Kibwezi 75.52 69 IAMs_20 IAMs_20 09 18 31.9
comp=Z,3µm,22.0s
BAUV El Baul 75.53 318 P **P 08 49 43.7 -0.2**
BAUV IAmb IAmb 08 49 54.9
comp=Z,48nm,1.4s
CBOC Ciudad Bolivar 75.65 309 *e*P **P 08 49 44.0 -0.7**
PTBC PUERTO BERRIO, 75.65 311⇑ *e*P **P 08 49 40.7 -4.0**
TOA0 Torodi Ar. Sit 75.91 29 P **P 08 49 46.0 0.0**
TORD Torodi Ar. Bea 75.91 29 P **P 08 49 46.0 0.0**
comp=Z,37nm,0.8s,baz=196,slow=6.2,SNR=113
TORD LR LR 09 16 39.2
comp=Z,1µm,21.7s,baz=196,slow=31
TORD Torodi Ar. Bea 75.91 29 P **P 08 49 46.0 0.0**
TORD IAmb IAmb 08 49 49.0
comp=Z,60nm,1.0s
KOWA Kowa 75.93 23 P **P 08 49 46.3 +0.2**
KOWA IAmb IAmb 08 49 51.3
comp=Z,35nm,1.0s
PAYG Puerto Ayora 76.04 293 P **P 08 49 46.5 -0.4**
PAYG IAmb IAmb 08 49 50.3
comp=Z,90nm,1.5s
KMBO Kilima Mbogo 76.20 68 P **P 08 49 48.4 +0.4**
comp=Z,0.4nm,0.3s,baz=203,slow=11,SNR=1.9
KMBO LR LR 09 19 26.5
comp=Z,3µm,21.8s,baz=233,slow=33
KMBO Kilima Mbogo 76.20 68 P **P 08 49 46.1 -2.0**
KMBO pmax pmax
comp=Z,27nm,1.8s
KMBO Kilima Mbogo 76.20 68 P **P 08 49 46.1 -2.0**
KMBO Kilima Mbogo 76.20 68 IAMs_20 IAMs_20 09 19 02.7
comp=Z,2µm,22.0s
KMBO Kilima Mbogo 76.20 68 *e*P P 08 49 52.8 +4.7
KMBO *e*S S 08 59 48.4 +16
KMBO Kilima Mbogo 76.20 68 *e*P P 08 49 52.8 +4.7
KMBO *e*S S 08 59 48.4 +16
KMBO IAML 08 59 59.9
comp=Z,26nm,0.2s
RPZ Rata Peaks 76.22 193 LR LR 09 22 56.9
comp=Z,1µm,18.0s,baz=178,slow=35
SDV Santo Domingo 76.39 316 P **P 08 49 48.6 -0.4**
comp=Z,9.9nm,1.0s,baz=225,slow=10,SNR=8.5
SDV LR LR 09 25 14.4
comp=Z,5µm,19.4s,baz=147,slow=37
SDV Santo Domingo 76.39 316 P **P 08 49 48.6 -0.4**
SDV IAmb IAmb 08 49 56.0
comp=Z,66nm,1.9s
SDV Santo Domingo 76.39 316 *e*P **P 08 49 47.4 -1.6**
SDV Santo Domingo 76.39 316 *e*P **P 08 49 48.4 -0.6**
GRGR Grenville 76.50 325 IAMs_20 IAMs_20 09 23 36.3
comp=Z,2µm,20.0s
ZARC Zaragoza, Cauc 76.68 311 P **P 08 49 49.7 -0.7**
ZARC IAmb IAmb 08 49 56.0
comp=Z,43nm,1.5s
ZARC Zaragoza, Cauc 76.68 311 *e*P P 08 49 44.0 -6.4
UREC San Jos de Ur 77.18 310 *e*P **P 08 49 50.8 -2.5**
THZ Tophouse 77.91 195 IAMs_20 IAMs_20 09 23 04.2
comp=Z,2µm,19.0s
NNZ Nelson 78.38 196 IAMs_20 IAMs_20 09 26 01.7
comp=Z,2µm,20.0s
QRZ Quartz Range 78.88 195 IAMs_20 IAMs_20 09 25 08.9
comp=Z,2µm,18.0s
SJCC San Jacinto, C 79.00 312 P **P 08 50 02.5 -0.9**
SJCC IAmb IAmb 08 50 05.8
comp=Z,57nm,1.5s
LODK Lodwar 79.30 64⇓ *e*P **P 08 50 08.7 +3.5**
LODK ⇓*e*S **S 09 00 08.7 +3.5**
LODK Lodwar 79.30 64⇓ *e*P **P 08 50 08.7 +3.5**
LODK ⇓*e*S **S 09 00 08.7 +3.5**
LODK IAML 09 02 52.7
comp=E,0.7nm,0.3s
BKZ Black Stump Fm 79.92 198 IAMs_20 IAMs_20 09 19 54.7
comp=Z,2µm,20.0s
URZ Urewera 80.70 199 P **P 08 50 12.1 -0.3**
comp=Z,16nm,1.0s,baz=161,slow=4.0,SNR=2.6
URZ LR LR 09 24 29.2
comp=Z,677nm,18.1s,baz=211,slow=35
HIZ Hauiti 80.82 197 IAMs_20 IAMs_20 09 20 50.3
comp=Z,2µm,21.0s
RIOS Rincon, Osa 81.30 304 P **P 08 50 15.8 0.0**
RIOS IAmb IAmb 08 50 23.4
comp=Z,97nm,1.4s
SRBA San Rafael, Bu 81.71 304 P **P 08 50 18.4 +0.3**
SRBA IAmb IAmb 08 50 20.9
comp=Z,45nm,1.4s
PEZE Perez Zeledon, 81.98 304 P **P 08 50 19.9 +0.5**
PEZE IAmb IAmb 08 50 22.4
comp=Z,97nm,1.5s
MSEY Mahe Island 82.21 86 IAMs_20 IAMs_20 09 19 38.0
comp=Z,2µm,20.0s
RIMA Rio Macho 82.41 304 P **P 08 50 21.2 -0.6**
RIMA IAmb IAmb 08 50 34.9
comp=Z,70nm,1.6s
SMRT St. Maarten 82.52 326 IAMs_20 IAMs_20 09 30 22.9
comp=Z,1µm,20.0s
CVTR Volcan Turrial 82.59 304 P **P 08 50 22.0 -1.0**
JTS Las Juntas de 83.34 303 P **P 08 50 26.1 -0.4**
comp=Z,12nm,1.0s,baz=65,slow=8.8,SNR=6.6
JTS LR LR 09 27 43.8
comp=Z,396nm,20.8s,baz=208,slow=36
JTS Las Juntas de 83.34 303 P **P 08 50 26.9 +0.4**
JTS pmax pmax
comp=Z,82nm,1.6s
JTS MLR MLR
comp=Z,700nm,20.0s
JTS Las Juntas de 83.34 303 P **P 08 50 26.9 +0.4**
PDPR Patillas Dam, 83.37 323 P **P 08 50 25.6 -0.8**
SJG San Juan 83.50 323 LR LR 09 28 37.8
comp=Z,1µm,19.6s,baz=162,slow=36
SJG San Juan 83.50 323 IAMs_20 IAMs_20 09 28 16.6
comp=Z,1µm,20.0s
ORTG Ortega, Santa 83.62 303 P **P 08 50 29.4 +1.4**
ORTG IAmb IAmb 08 50 36.6
comp=Z,28nm,1.2s
ESPN Las Esperanzas 84.77 304 P **P 08 50 33.3 -0.3**
ESPN IAmb IAmb 08 50 35.2
comp=Z,48nm,1.5s

ACON Acoyapa 84.94 304 P **P 08 50 33.9 -0.6**
ACON IAmb IAmb 08 50 36.1
comp=Z,63nm,1.4s
TBI Tubuai 85.05 231 *e*S **S 09 01 01.5 -2.5**
comp=Z,531nm,24.0s
TBI Tubuai 85.05 231 *e*LR LR 09 17 29.4
comp=Z,3µm,24.0s,baz=157
BOAB BOACO BROADBAN 85.58 303 P **P 08 50 36.3 -1.4**
CAN Canberra 85.64 177 IAMs_20 IAMs_20 09 28 34.2
comp=Z,1µm,19.0s
FURI Furi 85.65 65 IAMs_20 IAMs_20 09 24 30.0
comp=Z,2µm,22.0s
FURI Furi 85.65 65 *e*P **P 08 50 42.3 +3.8**
FURI *e*S **S 09 01 13.0 +2.5**
FURI Furi 85.65 65 *e*P **P 08 50 42.3 +3.8**
FURI *e*S **S 09 01 13.0 +2.5**
FURI IAML 09 02 05.7
comp=Z,14nm,0.4s
AAE Adis Abeba 85.81 65 *e*P **P 08 50 43.4 +4.1**
AAE *e*S **S 09 01 15.8 +3.8**
AAE Adis Abeba 85.81 65 *e*P **P 08 50 43.4 +4.1**
AAE *e*S **S 09 01 15.8 +3.8**
AAE IAMs_20 IAMs_20 09 02 51.0
comp=E,7µm,98.1s
SDDR Presa de Saban 85.98 319 IAMs_20 IAMs_20 09 28 39.4
comp=Z,2µm,22.0s
MATN Matagalpa 86.12 303 P **P 08 50 40.3 -0.2**
MTDJ Mount Denham 87.52 313 IAMs_20 IAMs_20 09 29 24.2
comp=Z,2µm,22.0s
TGUH Tegucigalpa,Un 87.70 303 P **P 08 50 48.1 -0.2**
GRTK Grand Turk 88.28 320 IAMs_20 IAMs_20 09 30 56.2
comp=Z,1µm,20.0s
RAO Raoul Island 88.49 205 LR LR 09 24 54.1
comp=Z,556nm,21.3s,baz=153,slow=32
STKA Stephens Creek 88.64 170 P **P 08 50 52.0 -0.5**
comp=Z,5.6nm,0.8s,baz=164,slow=5.3,SNR=13
STKA LR LR 09 29 52.2
comp=Z,2µm,18.1s,baz=173,slow=35
STKA Stephens Creek 88.64 170 P **P 08 50 52.4 -0.1**
STKA pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 88.64 170 P **P 08 50 52.4 -0.1**
MTO3 Montecristo 88.92 301 P **P 08 50 53.3 -0.9**
MTO3 IAmb IAmb 08 51 00.3
comp=Z,48nm,1.8s
ESQI Esquipulas 89.05 301 P **P 08 50 54.9 +0.3**
ATD Arta Tunnel 89.90 67 LR LR 09 30 41.1
comp=Z,1µm,18.2s,baz=189,slow=35
ATD Arta Tunnel 89.90 67 IAMs_20 IAMs_20 09 30 39.7
comp=Z,2µm,18.0s
ATD Arta Tunnel 89.90 67 *e*P **P 08 50 56.7 -1.9**
ATD *e*S **S 09 01 45.1 -5.4**
ATD Arta Tunnel 89.90 67 *e*P **P 08 50 56.7 -1.9**
ATD *e*S **S 09 01 45.1 -5.4**
ATD IAMs_20 IAMs_20 09 02 13.8
comp=E,9µm,5.7s
PPT2 Papeete2 90.26 234 *e*PS PS 09 02 59.3 -2.1
comp=E,263nm,28.0s
PPT2 Papeete2 90.26 234 *e*LR LR 09 19 49.5
comp=E,2µm,20.5s,baz=157
PPT Papeete 90.28 234 LR LR 09 23 40.0
comp=E,2µm,19.5s,baz=176,slow=30
RAR Rarotonga 90.88 223 LR LR 09 28 29.1
comp=E,534nm,18.8s,baz=188,slow=33
MDT Midelt 93.69 19 LR LR 09 28 46.1
comp=E,2µm,19.4s,baz=214,slow=32
TAOE Nuku Hiva Isla 93.84 246 *e*PS PS 09 03 38.6 -2.7
comp=E,219nm,25.3s
TAOE Nuku Hiva Isla 93.84 246 *e*LR LR 09 21 23.6
comp=E,4µm,27.6s,baz=168
ASAR Alice Springs 95.83 163 P **P 08 51 24.9 -1.1**
comp=E,2.9nm,0.7s,baz=182,slow=3.9,SNR=25
ASAR LR LR 09 31 17.9
comp=E,3µm,21.5s,baz=190,slow=33
ASAR Alice Springs 95.83 163 P **P 08 51 25.8 -0.2**
ASAR Alice Springs 95.83 163 P **P 08 51 25.8 -0.2**
AS31 Alice Springs 95.83 163 P **P 08 51 25.8 -0.2**
DWPF Disney Wildern 97.96 314 IAMs_20 IAMs_20 09 37 21.8
comp=Z,1µm,20.0s
DZM Mont Dzumac 98.13 193 LR LR 09 34 18.1
comp=Z,596nm,19.0s,baz=204,slow=34
DZM Mont Dzumac 98.13 193 *e*LR LR 09 23 36.2
comp=Z,1µm,25.6s
KEST Kesra 99.43 29 LR LR 09 33 08.5
comp=Z,1µm,18.4s,baz=171,slow=33
WRA Warramunga Arr 99.55 162 P **Pdif 08 51 42.7 0.0**
comp=Z,0.8nm,0.8s,baz=201,slow=5.1,SNR=5.2
WRA LR LR 09 33 33.0
comp=Z,3µm,21.9s,baz=215,slow=34
FITZ Fitzroy Crossi 99.68 154 LR LR 09 34 16.2
comp=Z,331nm,20.4s,baz=196,slow=34
PAB San Pablo 100.32 18 IAMs_20 IAMs_20 09 31 24.5
comp=Z,1µm,20.0s
ESDC Sonseca Array 100.50 18 P **Pdif 08 51 47.3 +1.0**
comp=Z,1.0nm,1.0s,baz=180,slow=3.8,SNR=2.7
CTAO Charters Tower 100.68 174 IAMs_20 IAMs_20 09 35 59.7
comp=Z,2µm,21.0s
NHSC New Hope 102.03 317 IAMs_20 IAMs_20 09 39 50.5
comp=Z,1µm,21.0s
BRAL Brewton 102.84 310 IAMs_20 IAMs_20 09 41 05.1
comp=Z,1µm,21.0s
VSL Vasalto 103.01 28 IAMs_20 IAMs_20 09 34 35.6
comp=Z,1µm,20.0s
CNNC Cliffs of the 103.18 319 IAMs_20 IAMs_20 09 37 30.0
comp=Z,906nm,20.0s
GOGA Godfrey 103.49 314 IAMs_20 IAMs_20 09 42 47.1
comp=Z,1µm,19.0s
GHAJ Ghor Haditha 104.03 52 IAMs_20 IAMs_20 09 36 16.4
comp=Z,1µm,19.0s
CBN Corbin Frederi 105.71 321 IAMs_20 IAMs_20 09 40 25.0
comp=Z,1µm,22.0s
BLA Blacksburg 105.83 318 IAMs_20 IAMs_20 09 40 02.9
comp=Z,1µm,20.0s
TZTN Tazewell 106.32 316 IAMs_20 IAMs_20 09 40 20.1
comp=Z,1µm,22.0s
AQU L'Aquila 106.71 30 IAMs_20 IAMs_20 09 35 12.5
comp=Z,1µm,21.0s
OXF Oxford 106.72 310 IAMs_20 IAMs_20 09 43 11.7
comp=Z,992nm,20.0s
PAL Palisades 107.20 325 IAMs_20 IAMs_20 09 33 49.5
comp=Z,907nm,20.0s
SSB Saint Sauveur 107.46 23 IAMs_20 IAMs_20 09 37 57.5
comp=Z,888nm,19.0s
WVT Waverly 107.53 312 IAMs_20 IAMs_20 09 45 52.3
comp=Z,924nm,19.0s
UOSS Minazif 107.81 71 IAMs_20 IAMs_20 09 42 33.5
comp=Z,1µm,18.0s
SSPA Standing Stone 108.09 322 IAMs_20 IAMs_20 09 39 52.8
comp=Z,1µm,22.0s
P49A Miami Univ. Ec 109.40 316 IAMs_20 IAMs_20 09 44 05.6
comp=Z,911nm,20.0s
ACSO Alum Creek Sta 109.41 318 IAMs_20 IAMs_20 09 40 42.0
comp=Z,949nm,22.0s
TUE Stuetta 109.61 26 IAMs_20 IAMs_20 09 37 48.4
comp=Z,1µm,19.0s
M53A WI Miller and 109.72 320 IAMs_20 IAMs_20 09 44 40.9
comp=Z,1µm,18.0s
ERPA Erie 110.10 321 IAMs_20 IAMs_20 09 41 51.1
comp=Z,879nm,21.0s
BFO Black Forest 111.15 25 IAMs_20 IAMs_20 09 41 04.1
comp=Z,1µm,18.0s
HNR Honiara 111.23 187 IAMs_20 IAMs_20 09 41 33.2
comp=Z,898nm,20.0s
PMG Port Moresby 111.33 174 IAMs_20 IAMs_20 09 41 22.8
comp=Z,1µm,20.0s
AAM Ann Arbor 111.49 318 IAMs_20 IAMs_20 09 46 48.8
comp=Z,817nm,20.0s
EPT El Paso 111.70 296 IAMs_20 IAMs_20 09 41 23.8
comp=Z,1µm,20.0s
STU Stuttgart 111.75 25 IAMs_20 IAMs_20 09 41 25.1
comp=Z,816nm,19.0s
HDIL Hopedale 111.96 313 IAMs_20 IAMs_20 09 44 16.5
comp=Z,1µm,21.0s
WLF Walferdange 111.97 23 IAMs_20 IAMs_20 09 35 60.0
comp=Z,971nm,22.0s
L44A Lake County Fo 112.87 315 IAMs_20 IAMs_20 09 44 09.8
comp=Z,1µm,18.0s
CKRC Cesky Krumlov 112.97 28 *e*PS PS 09 07 04.3 +5.0
TIRR Tirgusor 113.05 40 IAMs_20 IAMs_20 09 44 39.2
comp=Z,981nm,19.0s
GRFO Grafenberg 113.07 26 IAMs_20 IAMs_20 09 39 54.8
comp=Z,837nm,20.0s
GRA1 Grafenberg Arr 113.07 26 IAMs_20 IAMs_20 09 39 55.8
comp=Z,837nm,20.0s
KHC Kasperske Hory 113.09 28 *e*PS PS 09 07 04.3 +3.9
KHC AMS AMS 09 36 30.0
comp=Z,1µm,25.6s

MLR Muntele Rosu 113.18 38 IAMs_20 IAMs_20 09 43 09.6
comp=Z,762nm,20.0s
TREC Trest 113.70 29 AMS AMS 09 39 00.0
comp=Z,1µm,23.6s
NKC Novy Kostel 113.85 27 *e*PS PS 09 07 12.5 +5.2
NKC AMS AMS 09 39 50.0
comp=Z,1µm,19.9s
GLMI Grayling 114.04 319 IAMs_20 IAMs_20 09 44 07.4
comp=Z,1µm,20.0s
PRU Pruhonice 114.12 28 *e*PS PS 09 07 15.1 +5.4
PRU AMS AMS 09 40 00.0
comp=Z,800nm,20.6s
JFWS Jewell Farm 114.36 314 IAMs_20 IAMs_20 09 49 08.1
comp=Z,845nm,20.0s
SCIA State Center 114.61 311 IAMs_20 IAMs_20 09 47 40.8
comp=Z,1µm,19.0s
CBKS Cedar Bluff 114.62 305 IAMs_20 IAMs_20 09 50 51.0
comp=Z,966nm,19.0s
PVCC Panska Ves 114.62 28 AMS AMS 09 39 50.0
comp=Z,900nm,22.9s
KRLC Kraliky 114.75 29 *e*PS PS 09 07 18.5 +2.9
KRLC AMS AMS 09 40 40.0
comp=Z,1µm,18.9s
OKC Ostrava-Krasne 114.88 30 *e*PS PS 09 07 32.5 +16
OKC AMS AMS 09 45 00.0
comp=Z,600nm,13.8s
DPC Dobruska-Polom 114.89 29 *e*PS PS 09 07 23.0 +6.2
DPC AMS AMS 09 41 20.0
comp=Z,900nm,20.1s
UPC Upice 114.96 29 AMS AMS 09 41 10.0
comp=Z,900nm,20.2s
CLL Collm 114.98 26 IAMs_20 IAMs_20 09 41 15.5
comp=Z,725nm,20.0s
CLL Collm 114.98 26 *e*PS PS 09 07 22.0 +4.5
CLL *e*SS SS 09 14 00.0 +25
CHVC Chvalec 115.04 29 AMS AMS 09 41 10.0
comp=Z,1µm,24.5s
OSTC Ostas 115.05 29 AMS AMS 09 41 30.0
comp=Z,700nm,19.2s
SBUM Sibu 115.14 134 IAMs_20 IAMs_20 09 37 00.4
comp=Z,813nm,22.0s
GNI Garni 115.41 54 IAMs_20 IAMs_20 09 45 15.4
comp=Z,713nm,20.0s
ESK Eskdalemuir 115.89 15 IAMs_20 IAMs_20 09 37 17.8
comp=Z,1µm,22.0s
X16A Lo Mia Camp, P 116.19 294 **PKiKP 08 56 43.2 +0.8**
SDCO Great Sand Dun 116.22 300 IAMs_20 IAMs_20 09 44 43.4
comp=Z,971nm,19.0s
SOC Sochi 116.31 48 *i* PKIKP **PKiKP 08 56 43.4 +1.4**
SOC *e* 08 57 47.8
SOC *e* 09 03 28.6
SOC *e*PS **PS 09 07 30.7 +0.9**
SOC *e*SS SS 09 13 54.6 +2.3
SOC *e*SSS SSS 09 18 13.4
ANN Anapa 116.49 46 *i* PKIKP **PKPdf 08 56 37.1 -5.2**
ANN *e*PPP PPP 09 00 18.0
ANN *e* 09 03 27.2
ANN *e*SS SS 09 13 58.3 +3.7
ANN pmax pmax
comp=Z,19nm,1.5s
ECSD EROS Data Cent 117.49 310 IAMs_20 IAMs_20 09 44 56.8
comp=Z,988nm,22.0s
KBZ Khabaz 117.67 50 *i* PKIKP **PKiKP 08 56 47.8 +3.2**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 117.78 50 *i* PKIKP **PKiKP 08 56 46.6 +1.6**
KIV *e* 08 57 59.7
KIV *e*PS **PS 09 07 44.7 +1.3**
KIV *e*SS SS 09 14 14.1 +2.5
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,363nm,22.0s
SCHQ Schefferville 118.19 335 PKP **PKPdf 08 56 43.1 -2.2**
comp=Z,3.2nm,0.9s,baz=117,slow=4.5,SNR=2.0
AKASG Malin Array Be 118.81 37 PKIKP **PKiKP 08 56 47.1 +0.5**
AKASG Malin Array Be 118.81 37 **PKiKP 08 56 47.1 +0.5**
MAK Makhachkala 118.89 54 *e*P **Pdif 08 53 01.1 -6.8**
MAK *i* 08 56 45.7
MAK *e* 09 03 41.6
MAK *e*SSS SSS 09 18 45.9
MAK pmax pmax
comp=Z,131nm,1.0s
PHWY Pilot Hill 119.12 302 IAMs_20 IAMs_20 09 53 44.3
comp=Z,910nm,18.0s
EYMN Ely 119.13 316 IAMs_20 IAMs_20 09 52 34.1
comp=Z,792nm,20.0s
O20A White River Ci 119.40 300 **PKiKP 08 56 49.0 +0.5**
O20A White River Ci 119.40 300 P **PKiKP 08 56 50.5 +2.0**
baz=144
MTPU Mount Pierson 119.49 295 **PKPdf 08 56 48.5 -0.3**
SZCU Shurtz Canyon 119.55 294 **PKPdf 08 56 48.5 -0.3**
CCUT Cedar City 119.64 294 **PKiKP 08 56 49.1 0.0**
MSU Marysvale 119.87 296 PKIKP **PKiKP 08 56 49.4 -0.1**
MSU Marysvale 119.87 296 **PKiKP 08 56 49.4 -0.1**
TCRU Three Creeks R 120.07 296 **PKiKP 08 56 50.2 +0.3**
RWWY Rawlins 120.20 301 IAMs_20 IAMs_20 09 51 06.9
comp=Z,771nm,19.0s
PRN Pahroc Range 120.32 293 **PKiKP 08 56 51.1 +0.8**
TPNV Topopah Spring 120.52 292 PKIKP **PKiKP 08 56 51.5 +0.8**
TPNV Topopah Spring 120.52 292 **PKiKP 08 56 51.5 +0.8**
TPNV Topopah Spring 120.52 292 P **PKiKP 08 56 51.9 +1.2**
baz=144
PSUT Pine Spring 120.67 294 **PKiKP 08 56 50.8 -0.2**
RSSD Black Hills 120.82 305 PKIKP **PKPdf 08 56 50.5 -0.5**
RSSD MLR MLR
comp=Z,1µm,19.0s
RSSD Black Hills 120.82 305 **PKPdf 08 56 50.5 -0.5**
NLU North Lily Min 120.98 297 **PKiKP 08 56 52.2 +0.6**
AGMN Agassiz Nation 121.01 313 IAMs_20 IAMs_20 09 52 44.0
comp=Z,1µm,19.0s
JLU Jordanelle 121.22 298 **PKiKP 08 56 52.2 +0.2**
R11A Troy Canyon, C 121.33 293 P **PKPdf 08 56 51.9 -0.2**
baz=143
DUG Dugway, Tooele 121.51 296 PKIKP **PKiKP 08 56 52.5 0.0**
DUG Dugway, Tooele 121.51 296 PKPdf **PKiKP 08 56 52.5 0.0**
DUG Dugway, Tooele 121.51 296 P **PKiKP 08 56 54.5 +1.9**
baz=143
PABE Paberze 121.53 31 IAMs_20 IAMs_20 09 45 44.6
comp=Z,1µm,21.0s
MNK Minsk 121.73 34 *i* PKIKP **PKiKP 08 56 54.5 +2.3**
MNK *i* 08 58 28.2
MNK *i* PPP PPP 09 01 02.0
MNK *i* 09 04 06.5
MNK *i* PS **PS 09 08 20.5 +2.1**
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=N,14nm,0.9s
MNK MLR MLR
comp=Z,367nm,18.0s
MNK MLR MLR
comp=E,61nm,19.0s
MNK MLR MLR
comp=N,541nm,21.0s
MNK Minsk 121.73 34 *i* PKP **PKiKP 08 56 54.5 +2.3**
comp=E,3.0nm,0.9s
MNK *i* PKP **PKiKP 08 56 54.5 +2.3**
comp=N,14nm,0.8s
MNK *i* PKP **PKiKP 08 56 54.5 +2.3**
comp=Z,11nm,0.8s,baz=29
MNK *i* PP **PP 08 58 28.2 +2.1**
MNK *i* PPP PPP 09 01 02.1
MNK *i* SKS **SKSdf 09 04 06.5 +3.6**
MNK *i* PS **PS 09 08 20.6 +2.1**
MNK *i* SS **SS 09 14 52.2 -10**
MNK *i* SSS SSS 09 19 44.2
MNK *i* LQ LQ 09 42 26.6
MNK *i* LR LR 09 45 24.5
MNK *i* LRM MLR 09 49 46.5
comp=Z,367nm,17.9s
MNK *i* LRM MLR 09 49 48.4
comp=E,61nm,18.5s
MNK *i* LRM MLR 09 50 00.5
comp=N,541nm,21.1s
HWUT Hardware Ranch 122.07 298 PKPdf **PKPdf 08 56 52.1 -1.4**
HWUT IAMs_20 IAMs_20 09 45 07.4
comp=Z,896nm,20.0s
KONO Kongsberg 122.08 21 IAMs_20 IAMs_20 09 44 23.1
comp=Z,1µm,22.0s
BW06 Boulder Array 122.10 300 IAMs_20 IAMs_20 09 56 11.2
comp=Z,956nm,20.0s
PDAR Pinedale Array 122.10 300 PKP **PKPdf 08 56 51.5 -2.0**

comp=Z,0.7nm,0.7s,baz=144,slow=4.3,SNR=8.7
BGU Big Grassy Mou 122.20 297 PKPdf PKiKP 08 56 54.5 +0.6
VSR Storozhevoye 122.54 43 *e*PKIKP **PKiKP 08 56 54.7 +0.8**
VSR pmax pmax
comp=Z,7.0nm,0.7s
NVAR Mina Array Bea 122.68 291 PKP PKPdf 08 56 54.6 -0.2
comp=Z,1.1nm,0.7s,baz=129,slow=3.1,SNR=9.8
NVAR Mina Array Bea 122.68 291 PKiKP 08 56 54.9 -0.1
HVU Hansel Valley 122.76 298 PKiKP 08 56 55.9 +0.9
HVU Hansel Valley 122.76 298 PKiKP 08 56 55.9 +0.9
AHID Auburn Hatcher 122.79 299 PKiKP 08 56 56.1 +1.0
AHID IAMs_20 IAMs_20 09 48 06.3
comp=Z,1µm,20.0s
REDW Red Top Meadow 123.15 300 PKiKP 08 56 56.4 +0.6
SNOW Snow King Moun 123.19 300 PKiKP 08 56 56.4 +0.5
LOHW Long Hollow 123.24 300 PKPdf 08 56 54.6 -1.1
TPAW Teton Pass 123.30 300 PKPdf 08 56 55.3 -0.6
MOOW Moose Ponds 123.41 300 PKPdf PKPdf 08 56 55.2 -0.8
VRH Novokhopyorsk 123.43 45 *e*PKIKP **PKPdf 08 56 54.7 -0.8**
VRH pmax pmax
comp=Z,30nm,1.8s
YERR Yerington 123.57 291 PKiKP 08 56 56.5 -0.2
FLWY Flagg Ranch 123.65 301 PKPdf PKiKP 08 56 56.8 +0.1
NB2 NORSAR Subarra 123.67 21 PKPdf PKiKP 08 56 55.9 0.0
comp=Z,19nm,2.0s,baz=202,slow=1.9
NB2 NORSAR Subarra 123.67 21 PKPdf PKiKP 08 56 55.9 0.0
baz=202,slow=1.9
NOA NORSAR Array B 123.67 21 PKP PKPdf 08 56 54.2 -1.5
comp=Z,2.7nm,0.9s,baz=195,slow=1.7,SNR=7.5
CMAR Chiang Mai Arr 123.81 113 PKP PKPdf 08 56 56.8 -0.5
comp=Z,3.2nm,0.7s,baz=230,slow=3.9,SNR=15
RLMT Red Lodge 123.85 302 P PKPdf 08 56 55.7 -1.1
baz=142
MPK Martis Peak 124.19 290 PKiKP 08 56 58.8 +0.8
YMR Madison River 124.23 301 PKPdf 08 56 57.3 -0.2
YHH Holmes Hill 124.28 301 PKiKP 08 56 57.8 -0.2
YHL Hebgen Lake 124.47 301 PKiKP 08 56 58.5 +0.1
BEKR Beckworth 124.80 291 PKiKP 08 56 58.8 -0.2
OBN Obninsk 124.90 39↑ *e*PKIKP **PKiKP 08 56 59.9 +1.4**
OBN *e* 08 58 47.0
OBN *e* 09 04 08.1
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,414nm,21.0s
BOZ Bozeman (W) 125.25 301 PKIKP PKiKP 08 56 59.6 -0.2
BOZ MLR MLR
comp=Z,1µm,20.0s
BOZ Bozeman (W) 125.25 301 PKiKP 08 56 59.6 -0.2
BOZ Bozeman (W) 125.25 301 P PKiKP 08 56 59.8 +0.1
baz=141
MFID Camas Ranch 125.44 297 PKPdf PKiKP 08 57 00.7 +0.6
DLMT Dillon 125.50 300 PKiKP 08 57 00.0 -0.2
DLMT IAMs_20 IAMs_20 09 51 46.4
comp=Z,910nm,19.0s
MOS Moscow 125.76 39 *e*PKIKP **PKPdf 08 56 59.1 -0.7**
MOS *e* 08 57 09.6
O03E Paynes Creek 125.83 290 P PKPdf 08 57 00.3 -0.2
baz=141
EGMT Eagleton 126.33 304 PKPdf PKPdf 08 57 00.9 -0.3
EGMT IAMs_20 IAMs_20 09 53 08.0
comp=Z,1µm,21.0s
EGMT Eagleton 126.33 304 P PKPdf 08 57 00.7 -0.6
baz=141
MOD Modoc Plateau 126.35 292 PKPdf PKiKP 08 57 02.6 +0.6
BELG Belogornoye 126.57 47 *i* PKIKP **PKiKP 08 57 02.4 +0.5**
J08A Circle Bar Ran 126.61 295 PKPdf PKiKP 08 57 02.3 -0.2
N02D Trinity Center 126.79 290 PKiKP 08 57 03.2 +0.4
N02D Trinity Center 126.79 290 P PKiKP 08 57 03.3 +0.4
baz=140
PLID Pearl Lake 126.81 298 PKPdf PKPdf 08 57 02.3 -0.2
M04C Macdoel 126.99 291 P PKPdf 08 57 02.7 -0.2
baz=140
M02C Callahan 127.18 290 P PKiKP 08 57 04.1 +0.5
baz=140
BMO Blue Mountains 127.22 297 PKIKP PKPdf 08 57 02.1 -1.0
BMO Blue Mountains 127.22 297 PKPdf 08 57 02.1 -1.0
MSO Missoula 127.22 301 PKPdf 08 57 02.5 -0.6
MSO Missoula 127.22 301 P PKPdf 08 57 02.7 -0.4
baz=140
FINES FINESS Array B 127.26 29 PKP PKPdf 08 57 01.6 -0.8
comp=Z,3.2nm,0.8s,baz=180,slow=1.9,SNR=9.0
I07A Izee 127.65 295 PKPdf PKiKP 08 57 04.0 -0.5
PINE Pine Mountain 128.10 293 PKiKP 08 57 05.8 +0.3
HUMO Hull Mountain 128.16 291 PKPdf PKiKP 08 57 06.1 +0.6
G08A Pilot Rock 128.31 296 PKPdf PKiKP 08 57 06.1 +0.3
VALR Valaam 128.43 31 *i* PKIKP **PKiKP 08 57 06.6 +1.3**
VALR pmax pmax
comp=Z,23nm,1.0s
ICESG Greenland Ices 128.45 354 *i* P **PKPdf 08 57 03.5 -1.6**
WALA Waterton Lakes 128.91 302 PKPdf PKiKP 08 57 06.7 -0.2
FCC Fort Churchill 128.94 322 PKiKP PKPdf 08 57 05.7 0.0
FCC Fort Churchill 128.94 322 PKPdf PKPdf 08 57 05.7 0.0
ABKAR Akbulak array 129.15 58 PKPdf PKPdf 08 57 05.3 -1.2
ABKAR Akbulak array 129.15 58 PKPdf PKPdf 08 57 05.6 -0.9
QIZ Qiongzhong 129.24 123 PKP PKiKP 08 57 09.4 +1.1
QIZ PP PP **08 59 17.4 +1.3**
QIZ LR LR
comp=Z,370nm,26.5s
QIZ LR LR
comp=Z,380nm,22.1s
QIZ LR LR
comp=Z,570nm,33.4s
KSH Kashi 129.33 77 PKP PKiKP 08 57 09.3 +1.2
KSH PKS **PKSdf 09 00 38.4 -5.5**
KSH LR LR
comp=Z,400nm,21.6s
KSH LR LR
comp=Z,270nm,21.3s
KSH LR LR
comp=Z,750nm,24.7s
KK31 Karatay Array 129.37 70 PKIKP PKiKP 08 57 07.5 -0.4
KK31 Karatay Array 129.37 70 PKiKP 08 57 07.5 -0.4
KKAR Karatay Array 129.37 70 PKIKP PKiKP 08 57 08.2 +0.3
KKAR Karatay Array 129.37 70 PKiKP 08 57 08.2 +0.3
KKAR Karatay Array 129.37 70 PKPdf PKiKP 08 57 07.5 -0.4
NEW Newport 129.72 300 PKIKP PKiKP 08 57 08.1 -0.4
NEW Newport 129.72 300 PKPdf PKiKP 08 57 08.1 -0.4
KLMR Klimovskoe 130.48 36 *e*PKIKP **PKiKP 08 57 09.2 -0.2**
KLMR *e*SS SS 09 16 49.4 -2.0
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR Klimovskoe 130.48 36 *e*PKPdf **PKiKP 08 57 09.3 -0.2**
KLMR AMP 08 57 12.9
comp=Z,19nm,1.2s
KLMR *e*PP **PP 08 59 21.2 -3.0**
KLMR *e*SS **SS 09 16 49.5 -1.9**
KLMR *e*SS **SS 09 16 49.5 -1.9**
KLMR LQ LQ 09 44 50.6
KLMR LQ LQ 09 44 50.6
KLMR LR LR 09 45 36.7
B08A Colville Reser 130.78 298 PKPdf PKiKP 08 57 10.4 -0.2
AAK Ala-Archa 130.96 73 PKIKP PKPdf 08 57 10.4 0.0
AAK MLR MLR
comp=Z,800nm,22.0s
AAK Ala-Archa 130.96 73 PKPdf PKPdf 08 57 10.4 0.0
AAK Ala-Archa 130.96 73 IAMs_20 IAMs_20 09 54 16.2
comp=Z,806nm,22.0s
KMI Kunming 131.31 112↓ PKP **PKiKP 08 57 16.5 +3.9**
KMI PP **PP 08 59 32.8 +2.8**
KMI SKKS 09 06 26.8
KMI SS SS 09 17 07.6 +5.3
KMI AMB AMB
comp=Z,210nm,7.5s
KMI LR LR
comp=Z,350nm,22.6s
KMI LR LR
comp=Z,280nm,25.2s
KMI LR LR
comp=Z,580nm,26.0s
EDM Edmonton 131.76 306 PKIKP PKPdf 08 57 10.6 -0.8
EDM Edmonton 131.76 306 PKPdf PKPdf 08 57 10.6 -0.8
KDJ Kajisay 131.91 76 PKIKP PKPdf 08 57 12.1 -0.1
KDJ Kajisay 131.91 76 PKPdf PKPdf 08 57 12.1 -0.1
PZH PanZhiHua 132.00 110 PKP PKiKP 08 57 14.0 +0.1
PZH PP **PP 08 59 34.5 +0.2**
PZH SKS **SKSdf 09 04 23.4 -0.4**
PZH SKKS **SKKSac 09 06 31.1 +1.1**
PZH AMB AMB
comp=Z,350nm,9.4s
PZH LR LR
comp=Z,850nm,20.4s
PZH LR LR
comp=Z,790nm,20.6s
PZH LR LR
comp=Z,810nm,21.1s
NLWA Neilton Lookou 132.15 294 IAMs_20 IAMs_20 10 05 04.3
comp=Z,770nm,18.0s
DBG Daneborg 133.46 3 *i* P **PKPdf 08 57 13.6 -0.3**
ARU Arti 133.82 50 *i* PKIKP **PiKiKP 08 57 17.1 +0.7**
ARU 08 59 43.6
ARCES ARCESS Array B 133.97 23 PKP PKPdf 08 57 12.5 -2.6
comp=Z,7.0nm,0.9s,baz=245,slow=1.7,SNR=8.4
DAG Danmarks Havn 135.96 3 *i* P **PKPdf 08 57 17.0 -1.5**
GOMU GeErMu 136.39 95 PKP PKPdf 08 57 20.1 -1.0
GOMU PP **PP 09 00 05.8 +3.2**
GOMU SKKS 09 06 56.1
GOMU SS SS 09 18 05.6 +1.5
GOMU AMB AMB
comp=Z,230nm,6.9s
GOMU LR LR
comp=Z,280nm,19.2s
GOMU LR LR
comp=Z,250nm,19.4s
GOMU LR LR
comp=Z,260nm,19.6s
BRVK Borovoye 136.41 60 PKIKP PKiKP 08 57 21.5 -0.3
BRVK MLR MLR
comp=Z,700nm,20.0s
BRVK Borovoye 136.41 60 PKiKP 08 57 21.5 -0.3
BRVK Borovoye 136.41 60 IAMs_20 IAMs_20 09 57 38.5
comp=Z,715nm,20.0s
MK31 Makanchi Array 137.80 75 *i* PKIKP **PiKiKP 08 57 24.0 -0.8**
MKAR Makanchi Array 137.80 75 PKhKP PKPpre 08 57 13.7
comp=Z,1.0nm,0.8s,baz=235,slow=3.1,SNR=8.1
MKAR PKP **PiKiKP 08 57 23.9 -1.0**
comp=Z,2.1nm,0.9s,baz=218,slow=1.8,SNR=8.5
MKAR PP **PP 09 00 12.7 +1.6**
comp=Z,0.5nm,0.8s,baz=186,slow=2.4,SNR=4.1
TULEG Thule 138.17 346 PKPdf PiKiKP 08 57 23.3 -1.4
TULEG IAMs_20 IAMs_20 09 48 27.6
comp=Z,681nm,20.0s
WMQ Urumqi 138.42 82 *e*PKP **PiKiKP 08 57 26.0 -0.3**
WMQ LR LR
comp=Z,470nm,20.3s
WMQ LR LR
comp=Z,540nm,18.1s
WMQ LR LR
comp=Z,450nm,20.3s
YKA Yellowknife Ar 138.61 315 PKhKP PKPpre 08 57 16.1
comp=Z,0.7nm,0.7s,baz=125,slow=3.5,SNR=7.9
YKA PKP **PKPdf 08 57 23.0 -0.8**
comp=Z,9.4nm,0.9s,baz=127,slow=2.5,SNR=37
KURK Kurchatov 138.68 68 *i* PKIKP **PKPdf 08 57 24.8 +0.5**
LZH Lanzhou 140.86 104 *e*PKP **PKPdf 08 57 26.0 -3.0**
LZH PKS **PKSdf 09 01 08.1 +3.1**
LZH LR LR
comp=Z,300nm,18.0s
LZH LR LR
comp=Z,410nm,18.5s
LZH LR LR
comp=Z,500nm,20.1s
WHN Wuhan 141.26 121 PKP PKPdf 08 57 28.5 -1.1
WHN PP **PP 09 00 34.9 +2.9**
WHN PKS **PKSdf 09 01 07.8 +2.3**
WHN AMB AMB
comp=Z,750nm,8.6s
WHN LR LR
comp=Z,1µm,25.4s
GTA Gaotai 141.39 97 PKP PiKiKP 08 57 36.3 +3.7
GTA LR LR
comp=Z,400nm,23.5s
GTA LR LR
comp=Z,430nm,24.3s
GTA LR LR
comp=Z,530nm,21.9s
XAN Xi'an 141.69 112 PKP PKPdf 08 57 25.1 -5.3
XAN sPKP 08 57 36.3
XAN SKKS 09 07 24.4
XAN SS SS 09 19 07.8 +2.1
XAN AMB AMB
comp=Z,550nm,7.6s
XAN LR LR
comp=Z,310nm,21.3s
XAN LR LR
comp=Z,380nm,17.9s
ALE Alert 142.78 353 IAMs_20 IAMs_20 09 58 02.0
comp=Z,760nm,19.0s
TGTN Hyland Airport 143.25 308 P PKPbc 08 57 28.7 -0.7
baz=123
ZALV Zalesovo Beam 143.68 68 PKP PKPbc 08 57 29.9 -0.8
comp=Z,8.5nm,0.6s,baz=246,slow=3.1,SNR=20
LYN LuoYang 143.78 115↑↑ PKP PKPbc 08 57 31.1 -0.6
LYN PP **PP 09 00 48.4 +1.0**
LYN SKKS 09 07 36.4
LYN AMB AMB
comp=Z,700nm,8.9s
LYN LR LR
comp=Z,500nm,17.6s
LYN LR LR
comp=Z,410nm,23.3s
LYN LR LR
comp=Z,690nm,21.0s
JIS Juneau Island 144.05 301 PKPbc 08 57 32.2 +0.5
BESE Bessie Mountai 144.42 301 PKPdf PKPbc 08 57 33.2 +0.2
NJ2 Nanjing 144.50 125 *e*PKP **PKPdf 08 57 34.5 -0.8**
SSE Sheshan 144.62 129 PKP PKPdf 08 57 34.8 -0.8
SSE PP **PP 09 00 53.8 +1.6**
SSE AMB AMB
comp=Z,270nm,6.8s
SSE LR LR
comp=Z,150nm,19.0s
SSE LR LR
comp=Z,110nm,18.7s
SSE LR LR
comp=Z,220nm,19.9s
MMPY Sheldon Lake, 145.02 309 P PKPbc 08 57 34.1 -0.8
baz=120,SNR=23
SKAG Skagway 145.10 302 PKPdf 08 57 35.5 +0.1
SKAG Skagway 145.10 302 P PKPdf 08 57 35.5 +0.1
baz=122
WHY Whitehorse 145.53 304 PKPdf 08 57 36.0 -0.4
WHY Whitehorse 145.53 304 P PKPdf 08 57 35.4 -1.0
baz=120,SNR=8.6
C36M Paulatuk 145.58 321 P PKPdf 08 57 34.2 -1.8
baz=116
FARO Faro, Yukon 145.68 307 P PKPbc 08 57 36.7 -0.2
baz=119,SNR=14
M31M Drury Creek, Y 146.09 307 PKPdf 08 57 37.3 +0.2
M31M Drury Creek, Y 146.09 307 P PKPdf 08 57 37.3 +0.2
baz=119,SNR=37
N31M Braeburn, Yuko 146.32 305 PKPdf PKPbc 08 57 38.2 -0.6
N31M Braeburn, Yuko 146.32 305 P PKPbc 08 57 38.0 -0.9
baz=119,SNR=14
TIY Taiyuan 146.33 112 PKPbc PiKiKP 08 57 44.3 +1.6
TIY PP **PP 09 01 08.9 +6.2**
TIY AMB AMB
comp=Z,480nm,6.7s
HYT Haines Junctio 146.73 303 PKPdf PKPdf 08 57 38.4 0.0
HYT Haines Junctio 146.73 303 P PKPbc 08 57 39.8 -0.4
baz=119,SNR=7.0
PNL Peninsula 146.99 300 P PKPbc 08 57 40.4 -0.4
baz=120
A36M Sachs Harbour 147.00 326 PKPdf PKPdf 08 57 38.7 +0.4
A36M IAMs_20 IAMs_20 10 05 36.7
comp=Z,760nm,20.0s
A36M Sachs Harbour 147.00 326 P PKPbc 08 57 39.1 -1.3
baz=111
HNS HongShan 147.15 115↓↓ PKPbc **PiKiKP 08 57 43.5 -0.8**
HNS PKPab **sPKPab 08 57 48.3 -1.2**
HNS PP **PP 09 01 09.9 +2.5**
HNS AMB AMB
comp=Z,830nm,7.8s
HNS LR LR
comp=Z,150nm,16.6s
HNS LR LR
comp=Z,230nm,19.9s
HNS LR LR
comp=Z,390nm,19.8s
YUK6 Outpost Mounta 147.16 303 P PKPbc 08 57 41.4 -0.1
baz=118
M30M Minto, Yukon 147.25 306 PKPdf PKPdf 08 57 38.1 -1.0
M30M PKPbc **pPKPdf 08 57 42.3 -1.3**
M30M Minto, Yukon 147.25 306 P PKPdf 08 57 40.0 +0.8
baz=117
TIA Tai'an 147.28 119 PKPbc PKPbc 08 57 41.4 -0.9
TIA pPKP **sPKPbc 08 57 47.4 -0.8**
TIA PP **PP 09 01 09.8 +1.7**
TIA SKKS 09 08 00.6
TIA AMB AMB
comp=Z,640nm,8.4s
TIA LR LR
comp=Z,220nm,14.3s
TIA LR LR
comp=Z,310nm,18.8s
TIA LR LR
comp=Z,310nm,18.8s
BTO Baotou 147.42 106 *e*PKPbc **PKPbc 08 57 42.0 -0.7**
BTO LR LR
comp=Z,750nm,21.6s
BTO LR LR
comp=Z,980nm,20.1s
YUK4 Talbot Arm 147.47 304 P PKPbc 08 57 41.8 -0.5
baz=118,SNR=14
PINM Pinnacle 147.57 301 P PKPbc 08 57 42.2 -0.3
baz=118
KNGR Kungurtug, Tuv 147.92 81 *i* PKIKP **PKPdf 08 57 41.6 +0.9**
TABL Table Mountain 148.13 301 PKPbc 08 57 42.5 -1.6
LOGN Logan Glacier 148.25 302 PKPbc 08 57 43.4 -1.0
LOGN IAMs_20 IAMs_20 09 54 36.6
comp=Z,767nm,19.0s
INK Inuvik 148.32 317 PKHKP PKPpre 08 57 39.5
INK Inuvik 148.32 317 PKPdf PKPdf 08 57 39.5 -1.1
INK Inuvik 148.32 317 P PKPbc 08 57 42.7 -1.4
baz=110,SNR=27
HHC Hu-ho-hao-te 148.36 107 *e*PKPbc **PKPdf 08 57 41.5 -0.2**
YUK3 Moose Creek 148.44 304 P PKPbc 08 57 43.6 -1.3
baz=116,SNR=9.1
CTGM Chitina Glacie 148.45 302 PKPab 08 57 50.7 +2.4
CTG Chitna Glacier 148.46 302 P PKPbc 08 57 44.1 -0.8
baz=117,SNR=7.6
GRNC Granite Creek 148.53 301 PKiKP 08 57 45.8 -0.9
J29M Klondike Camp 148.63 309 P PKPbc 08 57 44.4 -0.7
baz=113,SNR=5.6
BARN Barnard Glacie 148.64 302 PKiKP 08 57 46.4 -0.5
BARN IAMs_20 IAMs_20 10 03 08.0
comp=Z,694nm,21.0s
ISLE Juniper Island 148.73 301 PKPdf 08 57 43.2 +1.5
ISLE IAMs_20 IAMs_20 10 10 46.4
comp=Z,804nm,20.0s
EPYK Eagle Plains 148.78 313 P PKPbc 08 57 43.9 -1.6
baz=111
BVCY Beaver Creek 148.88 304 P PKPbc 08 57 45.0 -0.8
baz=115,SNR=8.9
DAWY Dawson 148.95 308 P PKPbc 08 57 44.7 -1.2
baz=113,SNR=20
TGL Tana Glacier 149.01 301 PKPdf 08 57 43.8 +1.7
I29M Ogilvie Camp, 149.02 311 PKPdf 08 57 42.9 +0.9
I29M Ogilvie Camp, 149.02 311 P PKPbc 08 57 44.2 -1.8
baz=112
M27K Edge Creek, AK 149.29 304 PKPdf PKPbc 08 57 44.7 -2.3
M27K IAMs_20 IAMs_20 10 06 07.1
comp=Z,712nm,20.0s
M27K Edge Creek, AK 149.29 304 P PKPbc 08 57 46.1 -0.8
baz=114,SNR=9.1
MCARA McCarthy VSAT 149.37 302 PKPdf PKPdf 08 57 44.0 +1.4
MCARA McCarthy VSAT 149.37 302 P PKPbc 08 57 46.3 -0.7
baz=115
HMT Hamilton 149.46 299 PKPdf 08 57 44.0 +1.2
VRDI Verde Repeater 149.49 301 PKPbc 08 57 46.9 -0.6
BCAR Beaver Creek A 149.54 305 PKPdf 08 57 41.2 -1.6
BCAR PKPbc **PKPbc 08 57 47.4 0.0**
L27K Beaver Creek, 149.55 305 PKPdf 08 57 41.5 -1.3
L27K PKPbc **PKPbc 08 57 47.0 -0.4**
L27K Beaver Creek, 149.55 305 P PKPbc 08 57 46.5 -0.9
baz=113,SNR=20
GLB Gilahina Butte 149.74 302 PKiKP 08 57 49.0 0.0
GLB IAMs_20 IAMs_20 10 06 48.2
comp=Z,711nm,21.0s
M26K Nabesna, AK 149.78 304 P PKiKP 08 57 49.1 +0.1
baz=114,SNR=9.5
BMRM Bremner River 149.89 300 PKPdf 08 57 45.5 +2.0
BMRM PKPbc **PKiKP 08 57 50.1 +0.9**
BMRM Bremner River 149.89 300 P PKPbc 08 57 48.1 -0.2
baz=115,SNR=13
EGAK Eagle 149.93 309 PKPdf PKPdf 08 57 45.4 +2.1
EGAK Eagle 149.93 309 P PKPbc 08 57 47.3 -1.0
baz=111,SNR=15
BJI Beijing 149.95 114 PKPbc PKiKP 08 57 49.1 -0.8
N25K Chitina, Valde 150.15 302 P PKPbc 08 57 48.8 -0.2
baz=114,SNR=12
L26K Log Cabin Wild 150.18 305 P PKPbc 08 57 48.3 -0.6
baz=112
EYAK Cordova Ski Ar 150.22 299 PKPbc 08 57 46.7 -2.3
EYAK Cordova Ski Ar 150.22 299 P PKPbc 08 57 47.4 -1.6
baz=115
MENT Mentasta 150.30 304 PKiKP 08 57 50.2 +0.2
MOY Mondy 150.31 82 *e*PKIKP **PiKiKP 08 57 50.9 +0.4**
MOY pmax pmax
comp=Z,83nm,3.1s
DIV Divide 150.47 300 PKiKP 08 57 50.8 +0.3
FID Port Fidalgo 150.63 299 PKPdf 08 57 46.6 +2.0
FID **pPKPab 08 58 00.4 -0.7**
KLU Klutina 150.69 301 PKPdf 08 57 47.0 +2.3
KLU PKPbc **PiKiKP 08 57 51.8 +0.9**
KLU IAMs_20 IAMs_20 10 01 40.2
comp=Z,756nm,20.0s
KLU Klutina 150.69 301 P PKPbc 08 57 50.2 0.0
baz=113,SNR=11
HARP HAARP 150.71 303 P PiKiKP 08 57 51.5 +0.6
baz=112
SONM Songino Array 150.71 92 PKPbc PKPbc 08 57 50.0 -0.8
comp=Z,14nm,0.9s,baz=230,slow=2.8,SNR=11
SONM Songino Array 150.71 92 PKIKP PKPdf 08 57 46.8 +1.5
SONM Songino Array 150.71 92 PKPdf 08 57 46.8 +1.5
ZAK Zakamensk 150.71 86 *e*PKIKP **PKPbc 08 57 49.4 -1.3**
ZAK pmax pmax
comp=Z,45nm,1.4s
SCRK Sand Creek 150.79 306 PKPdf PKPdf 08 57 46.5 +1.6
SCRK **pPKPab 08 58 00.4 -1.4**
SCRK Sand Creek 150.79 306 P PKPbc 08 57 49.9 -0.6
baz=110,SNR=34
J26L Joseph Creek 150.80 307 P PKPbc 08 57 49.8 -0.7
baz=110,SNR=44
M24K Tolsona, Glenn 151.04 302 P PiKiKP 08 57 51.1 -0.6
baz=112,SNR=12
PAX Paxson 151.06 304 PKIKP PiKiKP 08 57 51.4 -0.3
PAX Paxson 151.06 304 PiKiKP 08 57 51.4 -0.3
PAX Paxson 151.06 304 P PKPbc 08 57 50.1 -1.0
baz=111,SNR=11
RIDG Independent Ri 151.07 306 PKPab 08 58 00.3 +1.4
RIDG Independent Ri 151.07 306 P PKPbc 08 57 50.8 -0.3
baz=110,SNR=36
SCM Sheep Creek Mo 151.44 301 PKIKP PKPdf 08 57 47.5 +1.6
SCM Sheep Creek Mo 151.44 301 PKPdf 08 57 47.5 +1.6
SCM Sheep Creek Mo 151.44 301 P PKPbc 08 57 51.7 -0.3
baz=112,SNR=10
K24K Donnelly Dome 151.48 305 P PKPbc 08 57 51.1 -0.9
baz=110,SNR=9.6
NRIK Noril'sk 151.48 42 PKPbc PKPbc 08 57 51.1 -0.6
comp=Z,4.5nm,0.7s,baz=14,slow=1.8,SNR=9.4
NRIK Noril'sk 151.48 42 PKIKP PKPdf 08 57 48.2 +2.6
NRIK 08 57 54.1
NRIK Noril'sk 151.48 42 PKPdf PKPdf 08 57 48.2 +2.6
NRIK **pPKPbc 08 57 54.1 -1.8**
NRIK PKPab **pPKPab 08 58 03.9 -0.5**
PWL Port Wells 151.51 299 P PKPbc 08 57 51.0 -1.1
baz=113,SNR=7.2
J25K Salcha River, 151.58 307 PKPbc 08 57 51.3 -0.9
J25K IAMs_20 IAMs_20 10 12 56.4
comp=Z,818nm,21.0s
J25K Salcha River, 151.58 307 P PKPbc 08 57 51.3 -0.9
baz=108,SNR=22
M23K Glacier View 151.60 301 P PKPbc 08 57 51.5 -0.8
baz=112,SNR=9.0
SEW Seward 151.71 297 P PKPbc 08 57 51.6 -0.9
baz=114
KNK Knik Glacier 151.78 300 PKPbc 08 57 52.1 -0.6
KNK Knik Glacier 151.78 300 P PKPbc 08 57 51.6 -1.1
baz=112
SML Sawmill 151.87 301 IAMs_20 IAMs_20 10 05 52.5
comp=Z,794nm,21.0s
SML Sawmill 151.87 301 P PKPbc 08 57 52.1 -0.9
baz=112,SNR=13
WAT6 Susitna Watana 151.89 302 P PKPbc 08 57 52.5 -0.7
baz=111,SNR=15
DHY Denali Highway 151.91 303 PKPbc 08 57 52.9 -0.3
DHY IAMs_20 IAMs_20 10 08 50.3
comp=Z,579nm,19.0s
DHY Denali Highway 151.91 303 P PKPbc 08 57 52.7 -0.4
baz=110,SNR=13
GHO Glory Hole Cre 152.12 300 PiKiKP 08 57 54.8 +0.9
PMR Palmer 152.15 300 PKIKP PKPbc 08 57 52.8 -0.7
PMR Palmer 152.15 300 PKPbc 08 57 52.8 -0.7
PMR Palmer 152.15 300 P PKPbc 08 57 52.7 -0.8

baz=112
BRSE Bradley Lake S 152.16 295 P **PKPbc 08 57 52.3 -1.3**
baz=114
RC01 Rabbit Creek A 152.23 299 P **PKPbc 08 57 51.7 -2.0**
baz=112
BRLK Bradley Lake 152.23 295 PKiKP 08 57 56.3 +2.2
IL31 152.25 307 PKPbc 08 57 52.4 -1.2
ILAR Eielson Array 152.25 307 PKPbc **PKPbc 08 57 52.4 -1.3**
comp=Z,24nm,0.9s,baz=152,slow=2.4,SNR=23
ILAR Eielson Array 152.25 307 PKPbc 08 57 52.2 -1.5
IRK Irkutsk 152.31 83 *e*PKIKP **PKiKP 08 57 54.3 -0.2**
IRK pmax pmax
comp=Z,73nm,3.6s
WAT1 Susitna Watana 152.33 303 P **PKPbc 08 57 53.1 -0.9**
baz=110
INCN Inchon 152.36 131 IAMs_20 IAMs_20 09 59 35.6
comp=Z,494nm,22.0s
POKR Poker Plat Res 152.57 308 PKiKP 08 57 56.6 +2.0
POKR Poker Plat Res 152.57 308 P **PKiKP 08 57 55.6 +1.0**
baz=106
M22K Willow 152.64 300 PKPbc 08 57 54.1 -0.5
M22K IAMs_20 IAMs_20 10 11 32.0
comp=Z,700nm,20.0s
M22K Willow 152.64 300 P **PKPbc 08 57 54.0 -0.6**
baz=111
RND Reindeer 152.65 304 PKIKP **PKPdf 08 57 48.9 +1.3**
RND 08 57 53.9
RND Reindeer 152.65 304 PKPdf **PKPdf 08 57 48.9 +1.3**
RND **PKPbc 08 57 53.9 -0.8**
RND PKPab **pPKPab 08 58 07.5 -2.1**
WRH Wood River Hil 152.65 306 IAMs_20 IAMs_20 10 02 00.9
comp=Z,690nm,20.0s
COLA College 152.67 307 PKIKP **PKPbc 08 57 53.5 -1.1**
COLA College 152.67 307 PKPbc 08 57 53.5 -1.1
COLA College 152.67 307 IAMs_20 IAMs_20 10 12 30.4
comp=Z,512nm,20.0s
COLA College 152.67 307 P **PKPbc 08 57 53.4 -1.1**
baz=106
TCOL CIGO, UAF Yank 152.68 307 PKPbc 08 57 53.5 -1.1
TCOL IAMs_20 IAMs_20 10 12 30.4
comp=Z,540nm,19.0s
MCK McKinley 152.78 304 PKIKP **PKPdf 08 57 49.8 +2.0**
MCK McKinley 152.78 304 PKPdf **PKPdf 08 57 49.8 +2.0**
MCK McKinley 152.78 304 P **PKPbc 08 57 54.0 -0.9**
baz=108,SNR=15
KSRS Korea Array 152.83 133 PKPbc **PKPbc 08 57 54.0 -1.8**
comp=Z,2.2nm,0.9s,baz=254,slow=1.0,SNR=3.6
KSRS PKPab **PKPab 08 58 05.8 -1.0**
comp=Z,4.8nm,0.9s,baz=209,slow=3.7,SNR=8.8
MDM Murphy Dome 152.85 307 IAMs_20 IAMs_20 10 14 05.1
comp=Z,709nm,19.0s
XLT XiLinHaoTe 152.86 108 *e*PKIKP **PKPdf 08 57 46.3 -2.3**
XLT pPKP PKiKP 08 57 56.5 +0.5
XLT sPKP 08 57 59.4
XLT PKPab **pPKPab 08 58 09.8 -1.5**
XLT PP **PP 09 01 46.4 +5.9**
XLT SKKS 09 08 30.6
XLT LR LR
comp=Z,370nm,21.9s
XLT LR LR
comp=Z,630nm,20.2s
CUT Chulitna 152.94 301 IAMs_20 IAMs_20 10 02 46.5
comp=Z,773nm,22.0s
CUT Chulitna 152.94 301 P **PKPbc 08 57 54.5 -0.7**
baz=109
H24K Noodor Dome 152.94 309 IAMs_20 IAMs_20 10 08 40.3
comp=Z,601nm,20.0s
H24K Noodor Dome 152.94 309 P **PKPbc 08 57 53.7 -1.5**
baz=104,SNR=9.4
NEA2 Nenana 153.09 306 PKPbc 08 57 54.4 -1.2
NEA2 IAMs_20 IAMs_20 10 06 18.5
comp=Z,761nm,21.0s
NEA2 Nenana 153.09 306 P **PKPbc 08 57 54.4 -1.2**
baz=106,SNR=12
BWN Browne 153.14 305 PKPdf 08 57 50.8 +2.5
TRF Thorofare Moun 153.28 303 PKPbc 08 57 54.5 -0.8
TRF Thorofare Moun 153.28 303 P **PKPbc 08 57 55.2 -1.0**
baz=107
I23K Minto, Yukon-K 153.36 307 IAMs_20 IAMs_20 10 05 08.6
comp=Z,629nm,20.0s
I23K Minto, Yukon-K 153.36 307 P **PKPbc 08 57 54.7 -1.4**
baz=105
RSO Redoubt South 153.37 296 PKPab 08 58 10.1 +1.3
KTH Kantishna Hill 153.58 303 PKPbc 08 57 56.2 -0.5
KTH IAMs_20 IAMs_20 10 10 53.5
comp=Z,723nm,20.0s
H23K Yukon River 153.60 309 PKPbc 08 57 56.2 -0.5
H23K Yukon River 153.60 309 P **PKiKP 08 57 57.5 +0.7**
baz=103,SNR=5.6
BPAW Bear Paw Mtn. 153.76 304 PKPdf 08 57 47.1 -2.1
BPAW IAMs_20 IAMs_20 10 04 42.2
comp=Z,505nm,20.0s
BPAW Bear Paw Mtn. 153.76 304 P **PKPbc 08 57 55.9 -1.1**
baz=106,SNR=6.0
PPLA Purkeypile 153.93 301 PKPbc 08 57 56.8 -0.8
PPLA Purkeypile 153.93 301 P **PKPbc 08 57 55.2 -2.4**
baz=107
O19K Port Alsworth 153.99 295 PKPbc 08 57 56.5 -1.1
O19K Port Alsworth 153.99 295 P **PKPbc 08 57 55.5 -2.0**
baz=111
CAST Castle Rocks 154.04 303 PKPbc 08 57 56.4 -1.2
CAST Castle Rocks 154.04 303 P **PKPbc 08 57 56.2 -1.4**
baz=106
TOLK Toolik Lake Re 154.13 315 PKPdf 08 57 49.3 -0.3
TOLK Toolik Lake Re 154.13 315 P **PKPbc 08 57 57.2 -0.6**
baz=98,SNR=11
COLD Coldfoot 154.15 312 PKPdf 08 57 49.2 -0.4
COLD PKPbc **PKiKP 08 57 58.9 +1.1**
COLD PKPab **pPKPab 08 58 13.1 +1.5**
COLD Coldfoot 154.15 312 P **PKiKP 08 57 57.6 -0.2**
baz=100
CHUM Lake Minchumin 154.27 304 P **PKPbc 08 57 56.9 -1.2**
baz=105
O18K Koktuh Hills 154.28 294 PKiKP 08 57 59.3 +0.9
O18K **PKPab 08 58 13.3 +0.9**
O18K Koktuh Hills 154.28 294 P **PKPbc 08 57 56.8 -1.5**
baz=112
N19K Bonanza Creek 154.29 296 IAMs_20 IAMs_20 10 13 20.6
comp=Z,715nm,20.0s
N19K Bonanza Creek 154.29 296 P **PKPbc 08 57 56.7 -1.7**
baz=110
I21K Tanana 154.44 307 PKPdf 08 57 49.8 -0.3
I21K IAMs_20 IAMs_20 10 04 13.2
comp=Z,636nm,22.0s
H21K Melozitna Rive 154.88 308 IAMs_20 IAMs_20 10 20 40.7
comp=Z,621nm,20.0s
H21K Melozitna Rive 154.88 308 P **PKPbc 08 57 58.4 -1.0**
baz=101
K20K Telida 154.88 302 PKiKP 08 57 59.4 0.0
K20K PKPab **PKPab 08 58 15.8 +0.9**
K20K Telida 154.88 302 P **PKPab 08 58 14.0 -0.9**
baz=105
SVW2 Sparrevohn 154.89 296 PKPdf **PKPdf 08 57 50.4 -0.4**
SVW2 **PKPab 08 58 15.6 +0.6**
N18K Kilae Creek 154.89 295 PKPab **PKPab 08 58 15.9 +0.8**
N18K Kilae Creek 154.89 295 P **PKPab 08 58 14.4 -0.7**
baz=110
L19K White Mountain 154.90 299 PKPab 08 58 16.0 +0.9
L19K White Mountain 154.90 299 P **PKPab 08 58 14.3 -0.7**
baz=107
J20K Nowinta River 155.12 304 PKPdf **PKPdf 08 57 51.6 +0.6**
J20K **sPKPdf 08 58 00.0 +3.1**
J20K PKPab **PKPab 08 58 17.3 +1.4**
J20K IAMs_20 IAMs_20 10 10 10.2
comp=Z,610nm,20.0s
IMAR Indian Mountai 155.32 308 PKPdf **PKPdf 08 57 50.6 -0.7**
IMAR **sPKPdf 08 58 00.3 +3.1**
GCSA Galena City Sc 156.40 305 P **PKPab 08 58 21.7 +0.3**
baz=100
A21K Barrow 156.63 321 IAMs_20 IAMs_20 10 10 12.3
comp=Z,679nm,22.0s
HIA Hailar 158.41 103 IAMs_20 IAMs_20 10 20 21.2
comp=Z,575nm,20.0s
RDOG Red Dog Mine 159.04 313 IAMs_20 IAMs_20 10 21 19.4
comp=Z,555nm,22.0s
MDJ Mudanjiang 159.58 126 IAMs_20 IAMs_20 10 08 49.0
comp=Z,521nm,20.0s
MDJ Mudanjiang 159.58 126 PKP **PKPdf 08 57 56.6 -0.6**
MDJ PP **PP 09 02 17.3 -0.2**
MDJ SKS **SKSdf 09 04 58.1 -3.7**
MDJ AMB AMB
comp=Z,220nm,7.3s
MDJ LR LR
comp=Z,350nm,20.1s
MDJ LR LR
comp=Z,260nm,20.6s
MDJ LR LR
comp=Z,900nm,20.5s
USRK Ussuriysk Ar. 160.20 131 PKPab **PKPab 08 58 39.0 +0.6**
comp=Z,1.4nm,0.7s,baz=216,slow=1.2,SNR=5.8
TIXI Tiksi 164.31 28 PKP2 **PKPab 08 58 56.8 +1.2**
TIXI Tiksi 164.31 28 PKPab **PKPab 08 58 56.8 +1.2**
ZEA Zeya 164.84 100 *i* PKIKP **PKPdf 08 58 08.6 +6.4**
ZEA pmax pmax
comp=Z,200nm,6.2s
YSS Yuzh-Sakhalins 166.20 150 *i* PKIKP **PKPdf 08 58 08.2 +4.6**
YSS *e* 09 02 57.3
YSS *e* 09 06 48.0
YSS pmax pmax
comp=Z,300nm,6.7s
NKL Nikolayevsk 170.80 127 *e*PKIKP **PKPdf 08 58 10.3 +3.9**
NKL *e* 09 03 16.1
NKL *e*PPP PPP 09 07 22.5
PET Petropavlovsk 172.91 209 *i* PKIKP **PKPdf 08 58 08.8 +1.4**
PET *e* 09 03 26.2
PET *e*SS SS 09 24 32.6 -5.8
PET pmax pmax
comp=Z,300nm,21.7s
PEA0B Petropavlovsk- 173.21 205 PKP2 **PKPab 08 59 37.1 +1.6**
PEA0B Petropavlovsk- 173.21 205 PKPab **PKPab 08 59 37.1 +1.6**
PETK Petropavlovsk- 173.21 205 PKPab **PKPab 08 59 35.5 0.0**
comp=Z,3.9nm,0.8s,baz=122,slow=7.2,SNR=6.1
PETK Petropavlovsk- 173.21 205 PKPab **PKPab 08 59 35.9 +0.4**

*IDC **24** 08:39:17.3±10.0, 18°.82N×145°.49E, h265km±104km, mb3.2/8, mb1 3.4/8, mb1mx2.9/67, mbtmp3.9/8, Error ellipse: s-maj=54.6km s-min=16.9km az=90.0*
ISC 24 08:39:12.1±1.2, 18°.76N±0°.09×145°.6E±0°.4, h214km, n9, σ1$00/9, mb3.7/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.19**	**187**	S	**S**	**08 41 28.7**	**-1.4**
	9.8nm,0.3s,baz=195,slow=20,SNR=1.8						
KLR	**Kul'dur**	**32.37**	**343**	P	**P**	**08 45 21.4**	**+0.1**
	0.9nm,0.3s,baz=160,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**40.01**	**197**	P	**P**	**08 46 27.0**	**+0.7**
	0.8nm,0.3s,baz=15,slow=8.4,SNR=24						
FITZ	**Fitzroy Crossi**	**41.53**	**209**	P	**P**	**08 46 39.5**	**+0.8**
	0.8nm,0.3s,baz=38,slow=8.5,SNR=16						
ASAR	**Alice Springs**	**43.68**	**196**	P	**P**	**08 46 56.7**	**+0.7**
	0.2nm,0.4s,baz=16,slow=6.6,SNR=7.3						
MKAR	**Makanchi Array**	**58.32**	**314**	P	**P**	**08 48 44.4**	**-0.3**
	0.3nm,0.6s,baz=92,slow=9.6,SNR=4.0						
YKA	**Yellowknife Ar**	**78.00**	**28**	P	**P**	**08 50 46.3**	**-0.1**
	0.1nm,0.7s,baz=292,slow=6.5,SNR=2.5						
ARCES	**ARCESS Array B**	**82.39**	**342**	P	**P**	**08 51 10.1**	**+0.3**
	3.8nm,0.9s,baz=76,slow=7.5,SNR=2.2						
FINES	**FINESS Array B**	**86.77**	**335**	P	**P**	**08 51 30.3**	**-1.5**
	0.6nm,0.3s,baz=62,slow=4.3,SNR=9.8						

*JMA **24** 08:39:56.5±0.6, 46°.02N×153°.20E, h154km, M3.6*
*IDC **24** 08:39:58.4±2.6, 47°.57N×152°.36E, h138km±24km, mb2.9/9, mb1 3.2/13, mb1mx3.0/75, mbtmp3.5/13, MS3.5/2, Ms1 3.5/2, ms1mx2.4/16, Error ellipse: s-maj=28.2km s-min=14.5km az=138.0*
ISC 24 08:39:57.5±0.8, 47°.2N±0°.1×152°.4E±0°.1, h150km, n30, σ2$37/26, mb3.0/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**6.06**	**240**	P	**Pn**	**08 41 25.6**	**+0.7**
NEM2	**Nemuro 2**	**6.06**	**233**	P	**Pn**	**08 41 23.2**	**-1.7**
NEM2				*e*S	**Sn**	**08 42 30.2**	**-3.1**
JNK	**Nakash**	**6.50**	**239**	*e*S	**Sn**	**08 42 43.9**	**0.0**
PETK	**Petropavlovsk-**	**6.83**	**28**	P	**Pn**	**08 41 31.4**	**-3.7**
	0.5nm,0.3s,baz=200,slow=12,SNR=5.6						
JAK	**Akkeshi**	**6.88**	**235**	P	**Pn**	**08 41 34.2**	**-1.7**
JAK				*e*S	**Sn**	**08 42 49.8**	**-3.1**
JAR	**Ashorobuto**	**7.23**	**241**	P	**Pn**	**08 41 41.4**	**+0.8**
JAR				*e*S	**Sn**	**08 43 02.7**	**+1.3**
JOB	**Onbets**	**7.43**	**238**	P	**Pn**	**08 41 42.7**	**-0.5**
ASAJ	**Asahikawa**	**7.53**	**249**	P	**Pn**	**08 41 47.2**	**+2.7**
	0.7nm,0.3s,baz=76,slow=18,SNR=7.3						
JKK2	**Kamakawa 2**	**7.55**	**247**	P	**Pn**	**08 41 46.6**	**+1.8**
JCH	**Churui**	**7.88**	**238**	P	**Pn**	**08 41 48.0**	**-1.2**
JCH				*e*S	**Sn**	**08 43 13.3**	**-3.7**
JNBK	**Urakawa-nobuka**	**8.44**	**238**	P	**Pn**	**08 41 55.5**	**-1.2**
JANG	**Nango**	**10.40**	**233**	P	**Pn**	**08 42 18.9**	**-3.9**
KLR	**Kul'dur**	**13.91**	**286**	P	**Pn**	**08 43 08.7**	**+0.6**
	0.1nm,0.3s,baz=85,slow=12,SNR=1.5						
KLR				LR	LR	08 48 02.9	
	comp=Z,126nm,21.0s,baz=274,slow=35						
USRK	**Ussuriysk Ar.**	**14.57**	**266**	P	**P**	**08 43 18.5**	**-0.3**
	baz=69,slow=12,SNR=7.8						
KSRS	**Korea Array**	**20.47**	**250**	P	Pn	08 44 26.8	-0.4
	0.9nm,0.5s,baz=50,slow=8,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**29.84**	**152**	T	T	09 17 35.2	
	baz=340,slow=76,SNR=62						
H11N1	**WAKE ISLAND Hy**	**29.86**	**152**	T	T	09 17 28.9	
	baz=340,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**29.86**	**152**	T	T	09 17 36.4	
	baz=340,slow=76,SNR=35						
H11S1	**WAKE ISLAND Hy**	**30.93**	**153**	T	T	09 18 59.5	
	baz=341,slow=76,SNR=65						
H11S3	**WAKE ISLAND Hy**	**30.93**	**153**	T	T	09 18 53.1	
	baz=341,slow=76,SNR=59						
H11S2	**WAKE ISLAND Hy**	**30.94**	**153**	T	T	09 19 01.4	
	baz=341,slow=76,SNR=20						
KDAK	**Kodiak Island**	**34.20**	**51**	LR	LR	09 01 53.4	
	comp=Z,103nm,18.6s,baz=268,slow=39						
ILAR	**Eielson Array**	**36.51**	**39**	P	**P**	**08 46 45.8**	**-2.1**
	0.1nm,0.4s,baz=263,slow=7.2,SNR=1.7						
INK	**Inuvik**	**41.54**	**33**	P	**P**	**08 47 29.9**	**+0.3**
	0.4nm,0.5s,baz=280,slow=7.5,SNR=5.8						
MKAR	**Makanchi Array**	**46.30**	**297**	P	**P**	**08 48 07.8**	**-0.1**
	0.1nm,0.3s,baz=54,slow=7.4,SNR=2.6						
YKA	**Yellowknife Ar**	**50.86**	**37**	P	**P**	**08 48 43.0**	**+0.7**
	0.1nm,0.5s,baz=299,slow=6.8,SNR=4.4						
FINES	**FINESS Array B**	**63.43**	**334**	P	**P**	**08 50 10.5**	**-0.1**
	0.4nm,0.3s,baz=40,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**68.78**	**198**	P	**P**	**08 50 49.3**	**+4.1**
	0.5nm,0.9s,baz=22,slow=6.7,SNR=1.6						
ASAR	**Alice Springs**	**72.48**	**198**	P	**P**	**08 51 11.9**	**+4.3**
	0.2nm,0.5s,baz=16,slow=4.8,SNR=6.6						
TXAR	**Lajitas Array**	**77.70**	**60**	P	**P**	**08 51 39.5**	**+1.8**
	0.1nm,0.6s,baz=296,slow=2.9,SNR=2.1						

IDC 24 08:40:52.6±2.0, 0°.97N×125°.39E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.1/60, mbtmp3.4/4, Error ellipse: s-maj=196.5km s-min=27.2km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.56**	**158**	P	P	08 45 54.7	+0.1
	0.7nm,0.6s,baz=336,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.85**	**162**	P	P	08 46 25.8	-0.3
	0.1nm,0.3s,baz=349,slow=8.5,SNR=1.3						
STKA	**Stephens Creek**	**36.10**	**156**	P	P	08 47 56.4	0.0
	0.6nm,0.4s,baz=310,slow=7.9,SNR=2.2						
MKAR	**Makanchi Array**	**59.08**	**327**	P	P	08 50 54.7	0.0
	0.4nm,0.9s,baz=107,slow=7.7,SNR=2.5						

*IDC **24** 08:44:35.5±0.7, 59°.43S×27°.04W, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.0/37, mbtmp4.3/9, ML4.4/1, Error ellipse: s-maj=26.7km s-min=21.7km az=55.0*
*NEIC **24** 08:44:38.0±1.1, 59°.4S±0°.1×27°.1W±0°.1, h10km±1km, mb4.5/24, Error ellipse: s-maj=23.0km s-min=7.5km az=27.0*
ISC 24 08:44:37.3±0.6, 59°.4S±0°.1×27°.0W±0°.1, h10km, n48, σ0$77/44, mb4.5/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.72**	**153**	P	**Pn**	**08 47 51.5**	**-0.1**
VNA3	**Neumayer Olymp**	**13.86**	**156**	P	**Pn**	**08 47 52.7**	**-0.8**
VNA2	**Neumayer--Watz**	**14.12**	**153**	P	**Pn**	**08 47 56.8**	**-0.2**
	baz=302,slow=15						
SNAA	**Sanae**	**15.71**	**151**	P	**Pn**	**08 48 19.1**	**+0.6**
SNAA	**Sanae**	**15.71**	**151**	Pn	**Pn**	**08 48 18.4**	**-0.1**
	1.5nm,0.3s,baz=315,slow=17,SNR=21						
SNAA	**Sanae**	**15.71**	**151**		**Pn**	**08 48 19.2**	**+0.8**
TROLL	**Troll, Antarti**	**17.28**	**149**	P	**P**	**08 48 40.4**	**+0.5**
QSPA	**South Pole Qui**	**30.87**	**180**	P	**P**	**08 50 54.6**	**+1.1**
QSPA				IAmb	IAmb	08 50 55.5	
	comp=Z,4.3nm,0.9s						
LC01	**Cunco**	**34.87**	**286**	P	**P**	**08 51 28.2**	**-0.2**
LC01				IAmb	IAmb	08 51 31.0	
	comp=Z,12nm,1.4s						
MT09	**Talagante**	**38.52**	**292**	P	**P**	**08 51 59.2**	**-0.6**
MT09				IAmb	IAmb	08 52 10.7	
	comp=Z,21nm,1.4s						
MT02	**Curacav**	**39.02**	**292**	P	**P**	**08 52 03.9**	**+0.1**
VA03	**San Esteban**	**39.15**	**293**	P	**P**	**08 52 05.2**	**+0.2**
VA03				IAmb	IAmb	08 52 29.8	
	comp=Z,14nm,1.2s						
ZON	**Zonda**	**39.30**	**296**	P	**P**	**08 52 06.3**	**+0.1**
CO02	**Combarbal**	**40.66**	**294**	P	**P**	**08 52 17.5**	**0.0**
CO03	**El Pedregal**	**40.82**	**295**	P	**P**	**08 52 18.3**	**-0.5**
CO03				IAmb	IAmb	08 52 39.1	
	comp=Z,9.1nm,1.3s						
CO01	**Juntas del Tor**	**41.27**	**296**	P	**P**	**08 52 22.8**	**+0.1**
CO01				IAmb	IAmb	08 52 30.2	
	comp=Z,15nm,1.5s						
AC04	**Llanos de Chal**	**43.22**	**296**	P	**P**	**08 52 39.0**	**+0.6**
VNDA	**Vanda**	**43.25**	**183**	P	**P**	**08 52 38.5**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=185,slow=6.0,SNR=7.9						
VNDA	**Vanda**	**43.25**	**183**	P	**P**	**08 52 38.4**	**+0.4**
BOSA	**Boshof**	**46.80**	**73**	P	**P**	**08 53 07.7**	**+0.7**
	comp=Z,3.5nm,0.9s,baz=256,slow=3.5,SNR=3.9						
BOSA	**Boshof**	**46.80**	**73**	P	**P**	**08 53 07.9**	**+1.0**
BOSA				IAmb	IAmb	08 53 09.4	
	comp=Z,9.7nm,1.3s						
PB07	**IPOC Station P**	**48.31**	**302**	P	**P**	**08 53 19.2**	**+0.4**
GO01	**Chusmiza**	**49.83**	**304**	P	**P**	**08 53 31.5**	**+0.7**
GO01				IAmb	IAmb	08 53 35.4	
	comp=Z,6.2nm,1.1s						
SIV	**San Ignacio**	**49.97**	**315**	P	**P**	**08 53 31.4**	**0.0**
	comp=Z,3.1nm,0.7s,baz=154,slow=6.6,SNR=11						
LBTB	**Lobatse**	**49.97**	**70**	P	**P**	**08 53 31.2**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=198,slow=9.8,SNR=3.7						
LBTB	**Lobatse**	**49.97**	**70**	P	**P**	**08 53 31.5**	**+0.1**
LBTB				IAmb	IAmb	08 53 49.6	
	comp=Z,5.8nm,1.1s						
H10N1	**ASCENSION HYDR**	**52.29**	**16**	T	T	09 50 27.9	
	baz=193						
H10N3	**ASCENSION HYDR**	**52.30**	**16**	T	T	09 50 27.8	
	baz=193						
H10N2	**ASCENSION HYDR**	**52.31**	**16**	T	T	09 50 28.7	
	baz=193						
LPAZ	**La Paz**	**52.41**	**307**	P	**P**	**08 53 51.5**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=84,slow=6.1,SNR=10						
LPAZ	**La Paz**	**52.41**	**307**	P	**P**	**08 53 51.7**	**+1.3**
MCRA	**Macar, Loja**	**68.11**	**301**	P	**P**	**08 55 37.7**	**+0.5**
MCRA				IAmb	IAmb	08 56 00.2	
	comp=Z,4.7nm,1.2s						
COHC	**Cochancay**	**69.51**	**303**	P	**P**	**08 55 47.1**	**+1.2**
LBZ	**Lake Benmore**	**75.63**	**193**	P	**P**	**08 56 21.4**	**-0.7**
TOA0	**Torodi Ar. Sit**	**75.92**	**29**	P	**P**	**08 56 24.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**75.92**	**29**	P	**P**	**08 56 24.7**	**+0.8**
	comp=Z,5.9nm,0.6s,baz=195,slow=6.6,SNR=49						
TORD	**Torodi Ar. Bea**	**75.92**	**29**	P	**P**	**08 56 24.1**	**+0.2**
TORD				IAmb	IAmb	08 56 25.6	
	comp=Z,4.3nm,0.7s						
LTZ	**Lake Taylor**	**76.96**	**194**	P	**P**	**08 56 29.7**	**+0.1**
ASAR	**Alice Springs**	**95.79**	**162**	P	**P**	**08 58 02.8**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=185,slow=4.0,SNR=8.7						
ASAR	**Alice Springs**	**95.79**	**162**	P	**P**	**08 58 03.1**	**-0.5**
WRA	**Warramunga Arr**	**99.51**	**162**	P	**Pdif**	**08 58 18.9**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=189,slow=4.5,SNR=1.5						
ARCES	**ARCESS Array B**	**134.00**	**23**	PKP	**PKPdf**	**09 03 51.6**	**-1.3**
	comp=Z,6.0nm,1.2s,baz=224,slow=2.5,SNR=3.5						
YKA	**Yellowknife Ar**	**138.65**	**315**	PKP	**PKPdf**	**09 03 59.7**	**-2.0**
	comp=Z,1.0nm,0.9s,baz=126,slow=2.4,SNR=8.8						
ZALV	**Zalesovo Beam**	**143.66**	**68**	PKP	PKPab	09 04 08.0	+0.2
	comp=Z,1.5nm,0.5s,baz=257,slow=3.0,SNR=8.9						
SONM	**Songino Array**	**150.68**	**92**	PKPbc	**PKPbc**	**09 04 28.1**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=218,slow=2.8,SNR=11						
SONM	**Songino Array**	**150.68**	**92**		**PKPbc**	**09 04 28.7**	**+0.1**
ILAR	**Eielson Array**	**152.29**	**307**	PKPbc	**PKPbc**	**09 04 30.2**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=332,slow=1.8,SNR=12						
ILAR	**Eielson Array**	**152.29**	**307**		**PKPbc**	**09 04 31.0**	**-0.6**

NOU 24 08:57:15.6, 15°.65S×167°.57E, h27km, mb3.5/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.41**	**300**	P	Pn	08 57 25.6	-0.1
DVP	**Devils Point**	**2.15**	**164**	P	Pn	08 57 49.6	-0.1
YATNC	**Mamie plateau,**	**6.41**	**186**	P	Pn	08 58 47.7	-0.6
DZM	**Mont Dzumac**	**6.47**	**189**	P	Pn	08 58 48.6	-0.7
NOUC	**Port Laguerre**	**6.53**	**190**	P	Pn	08 58 50.9	+1.0

*IDC **24** 09:02:47.1±1.7, 0°.10S×124°.91E, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.4/38, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=41.6km s-min=26.0km az=72.0*
*DJA **24** 09:02:50.9±0.2, 0°.S±3°×12°.5E±°, h10km, M4.0/14, mb4.2/7, mB5.1/1, MLv3.9/14, Mw(mB)4.4/1, MwMwp5.4/1, Mwp5.6/1*
ISC 24 09:02:49.1±0.8, 0°.17S±0°.06×125°.05E±0°.04, h10km, n19, σ1$38/24, mb3.2/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.30**	**305**	P	**Pb**	**09 03 13.3**	**-0.3**
KMSI				S	**Sb**	**09 03 29.3**	**-1.0**
SANI	**Sanana**	**2.09**	**153**	P	**Pn**	**09 03 25.4**	**+1.2**
SANI				S	**Sn**	**09 03 51.4**	**+1.1**
GTOI	**Gorontalo**	**2.19**	**291**	P	**Pb**	**09 03 28.7**	**-0.1**
GTOI				S	**Sb**	**09 03 56.1**	**+0.1**
LUWI	**Luwuk**	**2.44**	**249**	P	**Pb**	**09 03 32.6**	**-0.5**
LBMI	**Labuha**	**2.50**	**101**	P	**Pb**	**09 03 34.0**	**0.0**
LBMI				S	**Sb**	**09 04 04.8**	**0.0**
TNTI	**Ternate**	**2.50**	**68**	P	**Pb**	**09 03 33.0**	**-1.1**
MRSI	**Marisa**	**3.17**	**282**	P	**Pn**	**09 03 39.7**	**+0.6**
APSI	**Ampana**	**3.48**	**258**	P	**Pn**	**09 03 45.5**	**+2.2**
MSAI	**Masohi**	**5.00**	**129**	P	**Pn**	**09 04 05.4**	**+1.1**
	0.1nm12nm,0.7s						
MPSI	**Mapaga**	**5.18**	**276**	P	**Pn**	**09 04 10.3**	**+3.6**
	0.1nm16nm,0.8s						
TTSI	**Tana Toraja**	**5.96**	**241**	P	**Pn**	**09 04 19.0**	**+1.6**
	0.1nm1μm23nm,0.5s						
BNSI	**Bone**	**6.49**	**230**	P	**Pn**	**09 04 26.3**	**+1.6**
	0.1nm20μm18nm,0.7s						
SPSI	**Sidrap Palu**	**6.49**	**234**	P	**Pn**	**09 04 26.1**	**+1.4**
	0.1nm26nm,0.7s						
BKSI	**Bulukumba**	**7.10**	**224**	P	**Pn**	**09 04 32.2**	**-0.9**
KAPI	**Kappang**	**7.15**	**228**	Pn	**Pn**	**09 04 33.3**	**-0.6**
	0.8nm,0.3s,baz=54,slow=16,SNR=1.4						
KAPI				Sn	**Sn**	**09 05 53.2**	**-2.1**
	0.4nm,0.3s,baz=301,slow=23,SNR=1.8						
FITZ	**Fitzroy Crossi**	**17.83**	**178**	P	**P**	**09 06 58.1**	**-0.1**
	0.1nm,0.3s,baz=18,slow=9.6,SNR=2.1						
WRA	**Warramunga Arr**	**21.66**	**156**	P	**P**	**09 07 40.0**	**0.0**
	0.3nm,0.4s,baz=333,slow=10,SNR=2.0						
ASAR	**Alice Springs**	**24.89**	**160**	P	**P**	**09 08 13.0**	**+0.7**
	0.4nm,0.7

CGP				*e*S		**Sn**	**09 11 02.5**	**+1.5**
PAGZ	**Pagadian**	**3.64**	**320**	⇓*e*P		**Pn**	**09 10 21.2**	**+0.5**
TNTI	**Ternate**	**4.55**	**159**	Pn		**Pn**	**09 10 33.6**	**+0.7**
GLSP	**General Luna,**	**4.71**	**5**	⇓*e*P		**Pn**	**09 10 35.0**	**-0.1**
TOLI2	**Tolitoli**	**6.32**	**232**	Pn		**Pn**	**09 10 56.8**	**+0.1**
MTN	**Manton Dam**	**18.57**	**163**	P		**P**	**09 13 31.6**	**-1.2**
MTN				IAmb	IAmb		09 13 42.2	
	comp=Z,17nm,1.1s							
KNRA	**Kununurra**	**20.81**	**172**	P		**P**	**09 13 56.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**23.01**	**180**	P		**P**	**09 14 19.2**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=356,slow=7.5,SNR=18							
FITZ	**Fitzroy Crossi**	**23.01**	**180**	P		**P**	**09 14 19.5**	**0.0**
FITZ				IAmb	IAmb		09 14 44.1	
	comp=Z,11nm,1.4s							
WB0	**Warramunga Arr**	**26.09**	**161**	P		**P**	**09 14 47.4**	**-0.1**
WB0				IAmb	IAmb		09 14 58.6	
	comp=Z,8.9nm,1.4s							
WRA	**Warramunga Arr**	**26.24**	**161**	P		**P**	**09 14 48.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=331,slow=11,SNR=30							
WRA	**Warramunga Arr**	**26.24**	**161**	P		**P**	**09 14 47.9**	**-1.0**
WB2	**Warramunga Arr**	**26.24**	**161**	P		**P**	**09 14 48.1**	**-0.8**
WB2				IAmb	IAmb		09 15 12.8	
	comp=Z,5.3nm,1.1s							
WR0	**Warramunga Arr**	**26.32**	**161**	P		**P**	**09 14 48.4**	**-1.2**
WR0				IAmb	IAmb		09 15 10.5	
	comp=Z,12nm,1.4s							
AS31	**Alice Springs**	**29.63**	**165**	P		**P**	**09 15 18.6**	**-0.5**
ASAR	**Alice Springs**	**29.63**	**165**	P		**P**	**09 15 18.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=341,slow=7.3,SNR=21							
KSRS	**Korea Array**	**32.31**	**3**	P		**P**	**09 15 41.6**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=182,slow=9.9,SNR=4.5							
MORW	**Morawa**	**35.19**	**195**	P		**P**	**09 16 08.0**	**+0.6**
MORW				IAmb	IAmb		09 16 30.1	
	comp=Z,15nm,1.4s							
JMM	**Marumori**	**35.42**	**21**	P		**P**	**09 16 09.8**	**+0.4**
FORT	**Forrest**	**35.70**	**177**	P		**P**	**09 16 12.1**	**+0.3**
NWAO	**Narrogin (SRO)**	**38.63**	**192**	P		**P**	**09 16 36.9**	**+0.4**
BBOO	**Buckleboo**	**38.91**	**166**	P		**P**	**09 16 38.9**	**+0.1**
BBOO				IAmb	IAmb		09 16 39.8	
	comp=Z,5.4nm,0.8s							
USRK	**Ussuriysk Ar.**	**39.37**	**7**	P		**P**	**09 16 41.4**	**-1.1**
STKA	**Stephens Creek**	**39.71**	**159**	P		**P**	**09 16 45.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=336,slow=9.9,SNR=6.4							
STKA	**Stephens Creek**	**39.71**	**159**	P		**P**	**09 16 45.6**	**+0.1**
MKAR	**Makanchi Array**	**55.92**	**325**	P		**P**	**09 18 49.4**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=118,slow=8.1,SNR=4.2							
MKAR	**Makanchi Array**	**55.92**	**325**	P		**P**	**09 18 49.9**	**-0.4**
TIXI	**Tiksi**	**66.54**	**1**	P		**P**	**09 20 00.4**	**-0.9**
TIXI				IAmb	IAmb		09 20 01.1	
	comp=Z,2.1nm,0.5s							
IMAR	**Indian Mountai**	**81.54**	**24**	P		**P**	**09 21 29.4**	**+0.8**
COLD	**Coldfoot**	**83.06**	**23**	P		**P**	**09 21 37.6**	**+1.1**
COLD				IAmb	IAmb		09 21 39.5	
	comp=Z,5.2nm,1.5s							
TOLK	**Toolik Lake Re**	**83.38**	**22**	P		**P**	**09 21 39.4**	**+1.2**
TOLK				IAmb	IAmb		09 21 53.7	
	comp=Z,2.9nm,1.2s							
VNDA	**Vanda**	**84.86**	**173**	P		**P**	**09 21 46.1**	**+0.8**
BMAR	**Burnt Mountain**	**85.24**	**23**	P		**P**	**09 21 48.8**	**+1.2**
QSPA	**South Pole Qui**	**94.95**	**180**			**P**	**09 22 34.1**	**+0.8**
QSPA				IAmb	IAmb		09 22 42.4	
	comp=Z,0.6nm,0.9s							

*IDC **24** 09:30:43.6±1.1,32.°91N×131.°00E,h0km,mb3.5/5, mb1 3.6/9,mb1mx3.4/63,mbtmp3.5/9,ML3.0/4,MS3.1/1, Ms1 3.1/1,ms1mx2.6/62,Error ellipse: s-maj=29.8km s-min=6.7km az=66.0*

*NIED **24** 09:30:43.6,32.°99N×131.°11E,h8km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.10; $M_{\theta\theta}$=0.90; $M_{\phi\phi}$=-0.79; $M_{r\theta}$=-0.61; $M_{r\phi}$=0.55; $M_{\theta\phi}$=0.42; Fault plane solution: M_0=1.25000×10^{15} NP1: ϕ_s=210.00000°,δ54.00000°,λ=-174.00000°. NP2: ϕ_s=117.00000°,δ85.00000°,λ=-36.00000°.*

*JMA **24** 09:30:43.6,32.°99N×131.°10E,h8km±1km,M3.7*

JMA Felt III J1.

ISC 24 09:30:45.3±0.7,**32.°97N**±0.°05×**131.°09E**±0.°04,**h12**km,**n14,** σ1=**76**/17,**mb3.5/5,Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.24**	**311**	Pg		**Pg**	**09 30 47.7**	**-2.7**
	822nm,0.3s,baz=185,slow=23,SNR=2210							
JNU				Lg		Lg	09 30 51.5	
	2μm,0.3s,baz=98,slow=3.3,SNR=138							
JNU				LR		LR	09 31 09.6	
	comp=Z,594nm,19.0s,baz=104,slow=112							
JNU	**Nakatsue**	**0.24**	**311**	P		**Pg**	**09 30 48.6**	**-1.7**
JNU				*e*S		**Sg**	**09 30 51.9**	**-1.8**
JTA	**Tamana**	**0.47**	**270**	P		**Pg**	**09 30 53.1**	**-1.4**
JIU3	**Izumi3**	**0.48**	**210**	P		**Pg**	**09 30 53.5**	**-1.2**
JUS	**Usuki**	**0.56**	**80**	P		**Pg**	**09 30 54.0**	**-2.3**
JUS				S		**Sg**	**09 31 02.4**	**-1.4**
KSRS	**Korea Array**	**5.17**	**331**	Pn		**Pn**	**09 32 04.2**	**+1.6**
	0.3nm,0.3s,baz=149,slow=15,SNR=3.7							
KSRS				Pg		**Pb**	**09 32 17.9**	**+2.2**
	0.6nm,0.3s,baz=145,slow=17,SNR=13							
KSRS				Lg		Lg	09 33 26.8	
	1.6nm,0.3s,baz=151,slow=28,SNR=5.5							
KSRS				LR		LR	09 34 09.6	
	comp=Z,169nm,18.2s,baz=245,slow=40							
JOW	**Kunigami**	**6.58**	**203**	Pn		**Pn**	**09 32 20.6**	**-1.4**
	1.0nm,0.3s,baz=175,slow=3.4,SNR=1.4							
MJAR	**Matsushiro Arr**	**6.86**	**57**	Pn		**Pn**	**09 32 28.0**	**+2.3**
	0.2nm,0.3s,baz=214,slow=14,SNR=8.0							
KLR	**Kul'dur**	**16.26**	**2**	Pn		**Pn**	**09 34 33.0**	**-0.4**
	0.1nm,0.3s,baz=184,slow=14,SNR=2.3							
SONM	**Songino Array**	**23.82**	**316**	P		**P**	**09 35 57.0**	**-1.3**
	0.9nm,0.7s,baz=133,slow=9.7,SNR=7.6							
KURBB	**Kurchatov Arra**	**42.01**	**311**	P		**P**	**09 38 35.7**	**-0.6**
	0.5nm,0.6s,baz=95,slow=8.7,SNR=5.3							
WRA	**Warramunga Arr**	**52.70**	**176**	P		**P**	**09 40 00.2**	**+0.4**
	0.5nm,0.8s,baz=360,slow=7.9,SNR=2.2							
YKA	**Yellowknife Ar**	**71.40**	**27**	P		**P**	**09 42 05.3**	**+0.4**
	0.2nm,0.8s,baz=310,slow=6.1,SNR=3.5							
BRTR	**Keskin Array B**	**74.89**	**308**	P		**P**	**09 42 27.8**	**+1.5**
	0.5nm,0.6s,baz=91,slow=8.6,SNR=4.8							

*IDC **24** 09:36:18.1±1.6,40.°46N×63.°12E,h0km,mb1 3.5/5, mb1mx3.2/50,mbtmp3.5/5,ML3.2/5,Error ellipse: s-maj=18.8km s-min=15.8km az=5.0*

*ISU **24** 09:36:19.8,40.°37N×63.°43E,h4km,Hypocentre not reviewed by the ISC*

*NNC **24** 09:36:24.5±3.9,41.°00N×63.°23E,h0km,mb3.6,mpv3.0, Error ellipse: s-maj=41.8km s-min=13.6km az=33.0*

ISC 24 09:36:15.0±1.0,**40.°27N**±0.°08×**62.70E**±0.°07,**h10**km,**n9,** σ2=**71**/13,**6C-4D,Northwestern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZN	**Dzhankel'dy**	**0.76**	**40**	P			09 36 29.0	
DZN				S			09 36 36.6	
BUXR	**Bukhara**	**1.37**	**112**	P			09 36 35.9	
BUXR				S			09 36 49.4	
TMD	**Tamdy-Bulak**	**2.08**	**44**	P			09 36 50.9	
TMD				S			09 37 12.9	
NUT	**Nurota**	**2.29**	**82**	P			09 36 50.9	
NUT				S			09 37 13.8	
PKMR	**Pachkamar**	**3.33**	**120**	P			09 37 11.2	
GEYT	**Alibeck**	**4.26**	**238**	Pn		**Pb**	**09 37 29.7**	**-0.4**
	2.5nm,0.3s,baz=86,slow=10.0,SNR=31							
GEYT				Sn		**Sb**	**09 38 21.6**	**0.0**
	0.8nm,0.3s,baz=195,slow=4.5,SNR=1.1							
GEYT				Lg		Lg	09 38 44.8	
	2.2nm,0.3s,baz=58,slow=14,SNR=1.8							
KK31	**Karatay Array**	**6.49**	**62**	⇑Pn		**Pn**	**09 37 50.5**	**-0.1**
	0.9nm,0.6s,baz=284,slow=7.3,SNR=6.8							
KK31				Pg		**Pb**	**09 38 11.0**	**+3.0**
	1.3nm,0.5s,baz=249,slow=15,SNR=4.6							
KK31				⇑Lg		Lg	09 39 27.3	
	6.8nm,0.6s,baz=241,slow=29,SNR=6.6							
AAK	**Ala-Archa**	**9.16**	**71**	Pn		**Pn**	**09 38 25.7**	**-1.7**
	0.4nm,0.3s,baz=308,slow=2.6,SNR=4.6							
AAK				Lg		Lg	09 40 52.5	
	baz=184,slow=24,SNR=1.2							
AB31	**Akbulak array**	**9.20**	**349**	⇓Pn		**Pn**	**09 38 29.2**	**+1.6**
	0.1nm,0.2s,baz=162,slow=14,SNR=8.0							
AB31				⇑Sn		**Sn**	**09 40 09.8**	**-1.4**
	0.6nm,0.4s,baz=81,slow=14,SNR=3.8							
AB31				⇑Lg		Lg	09 40 56.6	
	3.6nm,0.6s,baz=81,slow=14,SNR=3.8							
TKM2	**Tokmak 2**	**10.02**	**70**	⇓Pn		Pn	09 38 44.7	+5.6
	1.9nm,0.8s							
TKM2				⇑Lg		Lg	09 41 22.2	
	5.2nm,0.8s							
AKTO	**Aktyubinsk**	**10.69**	**344**	Pn		**Pn**	**09 38 51.7**	**+3.7**
	0.2nm,0.3s,baz=159,slow=12,SNR=2.6							
AKTO				Sn		**Sn**	**09 40 45.8**	**-1.9**
	0.4nm,0.3s,baz=163,slow=15,SNR=2.2							
AKTO				Lg		Lg	09 41 56.2	
	baz=278,slow=19,SNR=1.6							
AKTO	**Aktyubinsk**	**10.69**	**344**	⇓Pn		**Pn**	**09 38 50.6**	**+2.6**
	3.2nm,1.1s							
AKTO				⇓Sn		**Sn**	**09 40 45.4**	**-2.3**
	0.7nm,0.5s							
AKTO				⇑Lg		Lg	09 41 45.8	
	2.0nm,0.7s							
MKAR	**Makanchi Array**	**15.61**	**59**	Pn		**Pn**	**09 39 49.8**	**-5.3**
	0.1nm,0.3s,baz=257,slow=16,SNR=4.1							
ZALV	**Zalesovo Beam**	**20.23**	**40**	P		**P**	**09 40 49.1**	**-0.9**
	0.2nm,0.3s,baz=242,slow=11,SNR=2.1							

*JMA **24** 09:50:15.9,32.°70N×130.°72E,h11km±1km,M3.6 Broadband fault plane solution: P waves. NP1: ϕ_s=57.00000°,δ72.00000°,λ=-113.00000°. NP2: ϕ_s=291.00000°,δ29.00000°,λ=-40.00000°. Principal axes: T Plg24.0000°, Azm165.0000°; N Plg22.0000°, Azm65.0000°; P Plg57.0000°, Azm297.0000°;*

JMA Felt III J1.

*IDC **24** 09:50:18.1±1.2,32.°83N×130.°60E,h0km,mb3.4/3, mb1 3.5/7,mb1mx3.2/45,mbtmp3.4/7,ML2.9/4 Error ellipse: s-maj=21.1km s-min=8.6km az=131.0*

ISC 24 09:50:18.4±0.7,**32.°68N**±0.°04×**130.°66E**±0.°08,**h10**km,**n12,** σ2=**14**/16,**mb3.3**/3,**3C,Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.18**	**137**	⇑P		**Pg**	**09 50 19.8**	**-2.5**
JIU3				*e*S		**Sg**	**09 50 22.5**	**-2.5**
JTA	**Tamana**	**0.30**	**339**	⇑P		**Pg**	**09 50 22.4**	**-2.1**
JTA				S		**Sg**	**09 50 26.7**	**-1.8**
JNU	**Nakatsue**	**0.47**	**22**	Pg		**Pg**	**09 50 24.6**	**-3.0**
	158nm,0.3s,baz=184,slow=6.9,SNR=662							
JNU				Lg		Lg	09 50 30.7	
	879nm,0.3s,baz=30,slow=9.8,SNR=56							
JTZ	**Takazaki**	**0.86**	**155**	⇑P		**Pg**	**09 50 32.7**	**-2.2**
JTZ				S		**Sg**	**09 50 44.1**	**-2.0**
KSRS	**Korea Array**	**5.26**	**335**	Pn		**Pn**	**09 51 34.6**	**-2.5**
	0.2nm,0.3s,baz=154,slow=14,SNR=2.9							
KSRS				Pg		**Pb**	**09 51 51.2**	**+0.8**
	0.4nm,0.3s,baz=145,slow=15,SNR=5.0							
KSRS				Lg		Lg	09 52 59.4	
	1.5nm,0.3s,baz=156,slow=30,SNR=5.9							
JOW	**Kunigami**	**6.19**	**200**	Pn		**Pn**	**09 51 50.5**	**+0.6**
	1.3nm,0.3s,baz=109,slow=22,SNR=8.1							
MJAR	**Matsushiro Arr**	**7.31**	**56**	Pn		**Pn**	**09 52 06.4**	**+1.1**
	0.1nm,0.3s,baz=234,slow=12,SNR=2.2							
KLR	**Kul'dur**	**16.55**	**3**	Pn		**Pn**	**09 54 10.3**	**-0.2**
	0.1nm,0.3s,baz=207,slow=11,SNR=2.7							
SONM	**Songino Array**	**23.78**	**317**	P		**P**	**09 55 31.8**	**+0.6**
	0.3nm,0.4s,baz=107,slow=9.2,SNR=1.3							
DAV	**Davao City (W)**	**25.92**	**192**	P		**P**	**09 55 53.2**	**+2.3**
	153nm,0.4s,baz=15,slow=12,SNR=2.3							
PETK	**Petropavlovsk-**	**28.16**	**35**	P		**P**	**09 56 13.1**	**+2.3**
	0.9nm,0.7s,baz=221,slow=11,SNR=2.1							
ILAR	**Eielson Array**	**57.79**	**30**	P		**P**	**10 00 10.5**	**+1.1**
	0.1nm,0.5s,baz=272,slow=5.9,SNR=1.8							

IDC 24 09:54:34.6±1.6,**0.°65N**×**125.°48E**,**h0**km,**mb3.1**/3, **mb1 3.3**/3,**mb1mx3.0**/34,**mbtmp3.2**/3,**MS3.9**/2,**Ms1 3.9**/2, **ms1mx3.1**/48,**Error ellipse: s-maj=103.2km s-min=27.2km az=59.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.23**	**157**	P		P	09 59 33.0	-0.1
	0.4nm,0.5s,baz=334,slow=11,SNR=5.7							
ASAR	**Alice Springs**	**25.52**	**162**	P		P	10 00 06.0	+0.9
	0.2nm,0.6s,baz=336,slow=10,SNR=2.2							
PSI	**Prapat**	**26.63**	**275**	LR		LR	10 12 07.0	
	comp=Z,188nm,18.1s,baz=101,slow=40							
CTA	**Charters Tower**	**28.96**	**136**	P		P	10 00 35.5	-0.6
	6.2nm,1.0s,baz=331,slow=9.2,SNR=12							
MKAR	**Makanchi Array**	**59.40**	**327**	P		P	10 04 39.0	0.0
	0.2nm,0.4s,baz=136,slow=7.5,SNR=2.7							
MKAR				LR		LR	10 32 45.0	
	comp=Z,120nm,21.7s,baz=18,slow=39							

*NEIC **24** 10:27:04.6±1.3,20.°0S±0.°2×177.°8W±0.°2,h448km±7km, mb4.2/19,Error ellipse: s-maj=21.8km s-min=21.4km az=131.0*

*IDC **24** 10:27:05.2±1.8,20.°01S×177.°89W,h462km±18km,mb3.1/6, mb1 3.3/8,mb1mx3.1/26,mbtmp3.9/8,Error ellipse: s-maj=19.1km s-min=15.0km az=128.0*

ISC 24 10:27:04.0±0.6,**20.°0S**±0.°1×**177.°8W**±0.°1,**h450**km,**n42,** σ0=**80**/45,**mb4.1**/15,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.51**	**299**	P		**P**	**10 28 24.8**	**+0.8**
	2.0nm,0.3s,baz=293,slow=20,SNR=7.0							
MSVF	**Nonsavu**	**4.51**	**299**	P		**P**	**10 28 24.2**	**+0.3**
KOUNC	**Koumac, New Ca**	**16.79**	**265**	P		**P**	**10 30 35.1**	**+0.9**
KOUNC				IAmb	IAmb		10 30 46.6	
	comp=Z,8.4nm,1.1s							
URZ	**Urewera**	**18.72**	**192**	P		**P**	**10 30 52.3**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=188,slow=10,SNR=1.8							
URZ				S		**S**	**10 33 59.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=98,slow=6.0,SNR=1.3							
URZ	**Urewera**	**18.72**	**192**	P		**P**	**10 30 52.9**	**-0.6**
BKZ	**Black Stump Fm**	**19.72**	**193**	P		**P**	**10 31 03.0**	**+0.1**
BKZ				IAmb	IAmb		10 31 24.4	
	comp=Z,18nm,1.4s							
ARMA	**Armidale**	**29.43**	**243**	P		**P**	**10 32 30.4**	**+0.6**
CTA	**Charters Tower**	**33.70**	**264**	P		**P**	**10 33 05.6**	**-0.9**
	comp=Z,9.3nm,1.1s,baz=93,slow=10,SNR=2.7							
CTAO	**Charters Tower**	**33.70**	**264**	P		**P**	**10 33 06.8**	**+0.3**
BBOO	**Buckleboo**	**42.92**	**243**	P		**P**	**10 34 21.7**	**0.0**
BBOO				IAmb	IAmb		10 34 30.1	
	comp=Z,9.2nm,1.2s							
WR0	**Warramunga Arr**	**44.64**	**262**	P		**P**	**10 34 34.7**	**-0.7**
AS31	**Alice Springs**	**44.79**	**256**	P		**P**	**10 34 36.5**	**-0.1**
ASAR	**Alice Springs**	**44.79**	**256**	P		**P**	**10 34 36.9**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=98,slow=8.0,SNR=47							
ASAR				PcP		**PcP**	**10 36 08.8**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=96,slow=4.5,SNR=1.9							
ASAR				S		**S**	**10 40 39.1**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=94,slow=15,SNR=6.5							
ASAR	**Alice Springs**	**44.79**	**256**	P		**P**	**10 34 36.2**	**-0.3**
WB0	**Warramunga Arr**	**44.81**	**262**	P		**P**	**10 34 36.8**	**0.0**
WB0				IAmb	IAmb		10 35 01.2	
	comp=Z,7.1nm,1.4s							
WB2	**Warramunga Arr**	**44.82**	**262**	P		**P**	**10 34 36.9**	**0.0**
WB2				IAmb	IAmb		10 35 04.3	
	comp=Z,15nm,1.4s							
WRA	**Warramunga Arr**	**44.83**	**262**	P		**P**	**10 34 36.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=96,slow=7.7,SNR=21							
WRA	**Warramunga Arr**	**44.83**	**262**	P		**P**	**10 34 36.7**	**-0.2**
MTN	**Manton Dam**	**49.32**	**270**	P		**P**	**10 35 11.6**	**+0.6**
MTN				IAmb	IAmb		10 35 15.0	
	comp=Z,21nm,1.4s							
FORT	**Forrest**	**49.64**	**246**	P		**P**	**10 35 12.8**	**-0.3**
FORT				IAmb	IAmb		10 35 40.3	
	comp=Z,12nm,0.9s							
KNRA	**Kununurra**	**50.86**	**266**	P		**P**	**10 35 22.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**53.26**	**262**	P		**P**	**10 35 40.3**	**+0.6**
FITZ				IAmb	IAmb		10 35 46.8	
	comp=Z,11nm,1.4s							
VNDA	**Vanda**	**58.42**	**185**	P		**P**	**10 36 16.3**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=354,slow=7.2,SNR=5.5							
VNDA	**Vanda**	**58.42**	**185**	P		**P**	**10 36 15.7**	**+1.0**
QSPA	**South Pole Qui**	**70.07**	**180**	P		**P**	**10 37 30.9**	**+1.4**
QSPA				IAmb	IAmb		10 37 31.4	
	comp=Z,4.9nm,0.8s							
BELA	**Belgrano 2**	**80.03**	**173**	P		**P**	**10 38 25.1**	**-0.1**
BELA				IAmb	IAmb		10 38 26.3	
	comp=Z,4.2nm,0.9s							
TXAR	**Lajitas Array**	**86.65**	**57**	P		**P**	**10 38 59.9**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=208,slow=5.1,SNR=3.7							
TXAR	**Lajitas Array**	**86.65**	**57**	P		**P**	**10 38 59.6**	**+0.4**
IMAR	**Indian Mountai**	**87.64**	**10**	P		**P**	**10 39 02.8**	**-0.1**
ILAR	**Eielson Array**	**87.79**	**13**	P		**P**	**10 39 02.6**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=224,slow=5.4,SNR=7.6							
ILAR	**Eielson Array**	**87.79**	**13**	P		**P**	**10 39 03.9**	**+0.3**
SNAA	**Sanae**	**88.51**	**178**	P		**P**	**10 39 07.0**	**-0.2**
SNAA				IAmb	IAmb		10 39 11.2	
	comp=Z,7.8nm,1.3s							
VNA3	**Neumayer Olymp**	**88.63**	**176**	P		**P**	**10 39 07.4**	**-0.3**
VNA2	**Neumayer--Watz**	**89.07**	**177**	P		**P**	**10 39 09.6**	**-0.1**
	baz=195,slow=4.0							
ARCES	**ARCESS Array B**	**128.46**	**350**	PKP		**PKPdf**	**10 45 17.7**	**-0.4**
	comp=Z,4.2nm,1.0s,baz=5.7,slow=4.9,SNR=3.7							
ARCES	**ARCESS Array B**	**128.46**	**350**			**PKPdf**	**10 45 18.3**	**+0.3**
BRTR	**Keskin Array B**	**146.62**	**313**	PKPbc		**PKPdf**	**10 45 52.8**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=101,slow=1.5,SNR=2.0							
BRTR	**Keskin Array B**	**146.62**	**313**			**PKPbc**	**10 45 53.6**	**-1.0**
GERES	**GERESS Array B**	**149.76**	**345**	PKPbc		**PKPbc**	**10 46 02.2**	**0.0**
	comp=Z,1.3nm,0.7s,baz=60,slow=3.2,SNR=9.8							
GERES	**GERESS Array B**	**149.76**	**345**			**PKPbc**	**10 46 02.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**173.17**	**176**	PKP		**PKPdf**	**10 46 20.2**	**-1.4**
	comp=Z,0.5nm,1.0s,baz=231,slow=0.9,SNR=2.0							
TORD	**Torodi Ar. Bea**	**173.17**	**176**			**PKPdf**	**10 46 19.1**	**-2.5**

*VAO **24** 10:56:56.9±1.0,23.°54S×67.°48W,h284km±19km,mb3.9*

*IDC **24** 10:56:57.6±1.0,23.°33S×66.°70W,h201km±10km,mb2.9/4, mb1 3.3/10,mb1mx3.2/21,mbtmp3.6/10,Error ellipse: s-maj=16.0km s-min=13.8km az=164.0*

*NEIC **24** 10:56:59.0±1.2,23.°44S±0.°08×67.°0W±0.°2,h219km±9km, mb4.1/11,Md3.7(SJA),Error ellipse: s-maj=20.3km s-min=11.5km az=92.0*

*GUC **24** 10:56:58.7±0.5,23.°19S×66.°77W,h202km±7km,ML4.0*

ISC 24 10:56:57.7±0.6,**23.°39S**±0.°04×**66.°83W**±0.°05,**h213**km±6km, **n63,**σ1=**50**/83,**mb3.9**/8,**4C-4D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.32**	**289**	*i*P		**Pn**	**10 57 31.6**	**+0.2**
AF01				*i*S		**S**	**10 57 59.2**	**+1.8**
SLA	**San Lorenzo**	**1.79**	**138**	⇓*i*P		**Pn**	**10 57 36.2**	**+1.0**
SLA				*i*S		**S**	**10 58 05.2**	**+0.8**
LVC	**Limon Verde**	**2.07**	**292**	P		**Pn**	**10 57 39.2**	**+0.9**
	25nm,0.3s,baz=102,slow=5.3,SNR=393							
LVC				S		**S**	**10 58 09.6**	**+0.1**
	13nm,0.3s,baz=197,slow=23,SNR=4.6							
LVC	**Limon Verde**	**2.07**	**292**			**Pn**	**10 57 39.1**	**+0.9**
LVC	**Limon Verde**	**2.07**	**292**	⇑*i*P		**Pn**	**10 57 39.1**	**+0.9**
LVC				*i*S		**S**	**10 58 07.9**	**-1.6**
LVC	**Limon Verde**	**2.07**	**292**	*e*P		**Pn**	**10 57 39.1**	**+0.9**
PB15	**IPOC Station P**	**2.44**	**274**			**Pn**	**10 57 42.6**	**+0.7**
PB15	**IPOC Station P**	**2.44**	**274**	⇑*i*P		**Pn**	**10 57 42.7**	**+0.7**
PB15				*i*S		**S**	**10 58 16.2**	**+0.1**
PB06	**IPOC Station P**	**2.62**	**285**	*e*P		**Pn**	**10 57 44.7**	**+0.8**
PB06				*i*S		**S**	**10 58 19.1**	**-0.4**
PB06				IAML			10 58 19.9	
	comp=N,436nm,0.1s							
PB09	**IPOC Station P**	**2.74**	**305**	⇑*i*P		**Pn**	**10 57 46.5**	**+1.3**
PB09				*i*S		**S**	**10 58 22.8**	**+0.8**
PB09				IAML			10 58 25.0	
	comp=N,203nm,0.2s							
GO02	**Mina Guanaco**	**3.08**	**235**	Pn		**Pn**	**10 57 49.2**	**+0.1**
GO02	**Mina Guanaco**	**3.08**	**235**	⇓*i*P		**Pn**	**10 57 49.2**	**+0.1**
GO02				*i*S		**S**	**10 58 28.6**	**-0.6**
PB07	**IPOC Station P**	**3.28**	**300**	⇑*i*P		**Pn**	**10 57 51.8**	**+0.3**
PB07				*i*S		**S**	**10 58 31.7**	**-1.5**
PB10	**IPOC Station P**	**3.43**	**267**	⇓*i*P		**Pn**	**10 57 53.1**	**+0.1**
PB10				*i*S		**S**	**10 58 33.6**	**-2.4**
PB14	**IPOC Station P**	**3.50**	**249**	*e*P		**Pn**	**10 57 53.9**	**-0.2**
PB14				*i*S		**S**	**10 58 36.0**	**-2.0**
PB02	**IPOC Station P**	**3.51**	**305**	*e*P		**Pn**	**10 57 54.4**	**+0.2**
PB02				*i*S		**S**	**10 58 36.3**	**-1.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.70**	**321**	Pn	**Pn**	**11 01 10.7**	**+0.6**
VNA1	**Neumayer--Stat**	**13.98**	**150**	P	**Pn**	**11 02 50.7**	**+1.1**
VNA3	**Neumayer Olymp**	**14.05**	**153**	P	**Pn**	**11 02 51.1**	**+0.5**
VNA2	**Neumayer--Watz** baz=311,slow=14	**14.38**	**150**	P	**Pn**	**11 02 57.1**	**+2.0**
SNAA	**Sanae**	**16.00**	**149**	P	**P**	**11 03 19.1**	**-1.1**
SNAA	**Sanae**	**16.00**	**149**	P	**Pn**	**11 03 18.2**	**+1.5**
BELA	**Belgrano 2**	**18.35**	**184**	P	**Pn**	**11 03 45.1**	**-0.8**
QSPA	**South Pole Qui**	**30.54**	**180**	P	**P**	**11 05 44.0**	**-1.0**
QSPA	comp=Z,6.2nm,1.4s			IAmb	IAmb	11 05 51.3	
VNDA	**Vanda**	**42.85**	**184**	P	**P**	**11 07 29.7**	**+0.3**
BDFB	**Brasilia**	**46.08**	**335**	P	**P**	**11 07 56.0**	**0.0**
BDFB	comp=Z,9.6nm,1.5s			IAmb	IAmb	11 08 00.2	
LPAZ	**La Paz** comp=Z,0.7nm,0.7s,baz=151,slow=10,SNR=2.4	**51.72**	**310**	P	P	11 08 49.9	+10
LPAZ	**La Paz**	**51.72**	**310**	P	**P**	**11 08 39.2**	**-0.5**
LPAZ	comp=Z,3.0nm,1.2s			IAmb	IAmb	11 09 01.7	
H10S2	**ASCENSION HYDR** baz=32,slow=74,SNR=39	**51.83**	**19**	T	T	12 04 04.4	
H10S3	**ASCENSION HYDR** baz=188,slow=74,SNR=81	**51.84**	**19**	T	T	12 04 01.8	
H10N1	**ASCENSION HYDR** baz=188,slow=75,SNR=35	**52.95**	**19**	T	T	12 05 27.4	
H10N3	**ASCENSION HYDR** baz=188,slow=75,SNR=99	**52.95**	**18**	T	T	12 05 28.0	
H10N2	**ASCENSION HYDR** baz=188,slow=75,SNR=54	**52.97**	**19**	T	T	12 05 29.7	
DBIC	**Dimbokro**	**68.96**	**26**	P	**P**	**11 10 35.7**	**-1.3**
LTZ	**Lake Taylor**	**76.34**	**196**	P	**P**	**11 11 20.4**	**-0.3**
TOA0	**Torodi Ar. Sit**	**76.79**	**31**	P	**P**	**11 11 21.9**	**-1.4**
TOA0	comp=Z,6.5nm,1.4s			IAmb	IAmb	11 11 44.8	
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.6s,baz=192,slow=6.2,SNR=11	**76.79**	**31**	P	**P**	**11 11 24.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**76.79**	**31**	P	**P**	**11 11 23.2**	**-0.1**
TORD	comp=Z,3.4nm,1.5s			IAmb	IAmb	11 11 24.5	
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.8s,baz=128,slow=2.4,SNR=4.0	**138.08**	**316**	PKP	**PKiKP**	**11 19 00.1**	**+2.9**

*NOU **24** 11:05:48.5,40˚.57S×174˚.15E,h79km,MLv4.1/9,Cook Strait, New Zealand*
*WEL **24** 11:05:49.3,41 ˚S±4˚×17 ˚4E±˚,h61km±13km,M3.8/27, ML4.1/27,MLv3.8/27,Error ellipse: s-maj=0.0km s-min=0.0km az=67.2*
ISC 24 11:05:46.6±1.1,**40˚.62S**±0˚.03×**174˚.15E**±0˚.04,**h96**km,**n139,** σ1§68/142,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.25**	**224**	P	**Pn**	**11 06 00.1**	**-0.4**
TCW	**Tory Channel**	**0.59**	**171**	P	**Pn**	**11 06 03.6**	**+0.8**
KIW	**Kapiti Island**	**0.63**	**112**	P	**Pn**	**11 06 03.6**	**+0.6**
KIW				S	**Sn**	**11 06 15.0**	**-0.3**
OGWZ	**Otaki Gorge**	**0.80**	**104**	P	**Pn**	**11 06 05.5**	**+0.9**
SNZO	**South Karori**	**0.81**	**149**	P	**Pn**	**11 06 06.9**	**+2.3**
WEL	**Wellington**	**0.81**	**145**	P	**Pn**	**11 06 05.9**	**+1.2**
TUWZ	**Tuamarina**	**0.82**	**191**	P	**Pn**	**11 06 05.7**	**+0.9**
NNZ	**Nelson**	**0.83**	**224**	P	**Pn**	**11 06 05.7**	**+0.8**
NNZ				S	**Sn**	**11 06 19.2**	**+0.6**
CAW	**Cannon Point**	**0.85**	**125**	P	**Pn**	**11 06 06.4**	**+1.2**
BHW	**Baring Head**	**0.96**	**145**	P	**Pn**	**11 06 07.3**	**+1.1**
OHWZ	**Ohakea**	**0.98**	**65**	P	**Pn**	**11 06 08.3**	**+1.7**
TKNZ	**Takaka Hill**	**0.99**	**245**	P	**Pn**	**11 06 07.2**	**+0.6**
TKNZ				S	**Sn**	**11 06 21.2**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.07**	**105**	P	**Pn**	**11 06 08.4**	**+0.9**
WAZ	**Wanganui**	**1.08**	**37**	P	**Pn**	**11 06 09.2**	**+1.6**
MRZ	**Mangatainoka R**	**1.09**	**92**	P	**Pn**	**11 06 08.6**	**+0.8**
BSWZ	**Blackbirch Sta**	**1.11**	**191**	P	**Pn**	**11 06 09.9**	**+2.0**
BSWZ				S	**Sn**	**11 06 25.8**	**+1.8**
CMWZ	**Cape Campbell**	**1.12**	**177**	P	**Pn**	**11 06 11.2**	**+3.1**
MSWZ	**Moikau Station**	**1.15**	**134**	P	**Pn**	**11 06 10.3**	**+1.8**
MTW	**Mount Morrison**	**1.16**	**118**	P	**Pn**	**11 06 09.5**	**+1.0**
LREZ	**Lake Rotokare**	**1.18**	**10**	P	**Pn**	**11 06 10.4**	**+1.6**
NMEZ	**Namu Road**	**1.23**	**350**	P	**Pn**	**11 06 10.2**	**+0.8**
PAWZ	**Paruwai Farm**	**1.23**	**128**	P	**Pn**	**11 06 11.2**	**+1.9**
QRZ	**Quartz Range**	**1.25**	**260**	P	**Pn**	**11 06 09.8**	**+0.3**
QRZ	**Quartz Range**	**1.25**	**260**	P	**Pn**	**11 06 09.9**	**+0.3**
POWZ	**Post Office Ro**	**1.26**	**80**	P	**Pn**	**11 06 10.9**	**+1.2**
PLWZ	**Palliser**	**1.26**	**139**	P	**Pn**	**11 06 10.9**	**+1.1**
PREZ	**Palmer Road**	**1.28**	**0**	P	**Pn**	**11 06 11.3**	**+1.3**
MRNZ	**Matariki Terra**	**1.30**	**233**	P	**Pn**	**11 06 11.8**	**+1.5**
TIWZ	**Tintock**	**1.33**	**97**	P	**Pn**	**11 06 11.5**	**+0.9**
KHEZ	**Kahui Hut**	**1.33**	**356**	P	**Pn**	**11 06 11.6**	**+0.9**
NEZ	**North Egmont**	**1.35**	**358**	P	**Pn**	**11 06 11.8**	**+0.9**
NBEZ	**Newall Road No**	**1.37**	**351**	P	**Pn**	**11 06 12.0**	**+1.0**
PRWZ	**Pori Road**	**1.39**	**88**	P	**Pn**	**11 06 12.4**	**+1.1**
TRWZ	**Traveller**	**1.40**	**124**	P	**Pn**	**11 06 13.2**	**+1.8**
TMWZ	**Te Maipa**	**1.41**	**111**	P	**Pn**	**11 06 12.9**	**+1.4**
DREZ	**Durham Road**	**1.43**	**2**	P	**Pn**	**11 06 13.1**	**+1.2**
PKE	**Pukeiti**	**1.43**	**355**	P	**Pn**	**11 06 13.0**	**+1.1**
THZ	**Tophouse**	**1.47**	**219**	P	**Pn**	**11 06 14.5**	**+2.1**
TSZ	**Takapari Road**	**1.50**	**68**	P	**Pn**	**11 06 13.7**	**+1.1**
MHEZ	**Mangahewa**	**1.55**	**5**	P	**Pn**	**11 06 14.8**	**+1.5**
VRZ	**Vera Road**	**1.57**	**18**	P	**Pn**	**11 06 15.0**	**+1.4**
DVHZ	**Dannevirke**	**1.57**	**79**	P	**Pn**	**11 06 14.4**	**+0.8**
CPWZ	**Castlepoint**	**1.59**	**101**	P	**Pn**	**11 06 15.4**	**+1.7**
BFZ	**Birch Farm**	**1.60**	**93**	P	**Pn**	**11 06 14.6**	**+0.7**
BFZ	**Birch Farm**	**1.60**	**93**	P	**Pn**	**11 06 14.5**	**+0.6**
MTVZ	**Mangateitei**	**1.60**	**40**	P	**Pn**	**11 06 16.1**	**+2.0**
PKVZ	**Pokaka**	**1.62**	**35**	P	**Pn**	**11 06 15.7**	**+1.5**
TRVZ	**Turoa**	**1.71**	**40**	P	**Pn**	**11 06 17.4**	**+1.9**
WNVZ	**Wahianoa**	**1.71**	**41**	P	**Pn**	**11 06 17.4**	**+2.0**
PNHZ	**Pukenui**	**1.72**	**66**	P	**Pn**	**11 06 16.4**	**+0.9**
MOVZ	**Moawhango**	**1.73**	**46**	P	**Pn**	**11 06 16.9**	**+1.3**
WHVZ	**Whangaehu Hut**	**1.74**	**40**	P	**Pn**	**11 06 18.0**	**+2.1**
FWVZ	**Far West T-bar**	**1.74**	**39**	P	**Pn**	**11 06 17.9**	**+1.9**
ANWZ	**Angora Road**	**1.78**	**85**	P	**Pn**	**11 06 17.2**	**+1.0**
TUVZ	**Tukino**	**1.78**	**41**	P	**Pn**	**11 06 18.4**	**+2.0**
NGZ	**Ngauruhoe**	**1.83**	**38**	P	**Pn**	**11 06 18.6**	**+1.6**
SNVZ	**South Ngauruho**	**1.84**	**39**	P	**Pn**	**11 06 20.0**	**+2.8**
WPHZ	**Waipukurau**	**1.84**	**73**	P	**Pn**	**11 06 17.8**	**+0.8**
KHZ	**Kahutara**	**1.85**	**194**	P	**Pn**	**11 06 19.3**	**+2.3**
KHZ	**Kahutara**	**1.85**	**194**	P	**Pn**	**11 06 19.5**	**+2.5**
BHHZ	**Black Hill Sta**	**1.86**	**53**	P	**Pn**	**11 06 18.4**	**+1.2**
OTVZ	**Oturere**	**1.87**	**39**	P	**Pn**	**11 06 19.7**	**+2.2**
NNVZ	**North Ngauruho**	**1.87**	**38**	P	**Pn**	**11 06 19.2**	**+1.7**
WTVZ	**West Tongariro**	**1.87**	**37**	P	**Pn**	**11 06 19.2**	**+1.7**
ETVZ	**East Tongariro**	**1.91**	**39**	P	**Pn**	**11 06 19.6**	**+1.6**
NTVZ	**North Tongarir**	**1.93**	**38**	P	**Pn**	**11 06 20.5**	**+2.3**
TMVZ	**Te Maari**	**1.93**	**39**	P	**Pn**	**11 06 19.8**	**+1.6**
PRHZ	**Porangahau**	**1.93**	**80**	P	**Pn**	**11 06 19.1**	**+0.9**
DSZ	**Denniston Nort**	**2.09**	**237**	P	**Pn**	**11 06 21.7**	**+1.4**
RITZ	**Rihia Road**	**2.11**	**39**	P	**Pn**	**11 06 23.6**	**+3.2**
KWHZ	**Kaweka Forest**	**2.12**	**56**	P	**Pn**	**11 06 23.1**	**+2.5**
RATZ	**Rangitukua**	**2.16**	**36**	P	**Pn**	**11 06 23.5**	**+2.3**
PXZ	**Pawanui**	**2.16**	**75**	P	**Pn**	**11 06 21.5**	**+0.4**
HIZ	**Hauiti**	**2.18**	**15**	P	**Pn**	**11 06 22.5**	**+1.1**
HIZ	**Hauiti**	**2.18**	**15**	P	**Pn**	**11 06 22.8**	**+1.4**
KAHZ	**Kahuranaki**	**2.25**	**69**	P	**Pn**	**11 06 22.9**	**+0.6**
WATZ	**Wairara**	**2.27**	**33**	P	**Pn**	**11 06 24.8**	**+2.2**
MCHZ	**McNeill Hill**	**2.29**	**60**	P	**Pn**	**11 06 24.8**	**+2.0**
BKZ	**Black Stump Fm**	**2.32**	**52**	P	**Pn**	**11 06 24.0**	**+0.7**
BKZ	**Black Stump Fm**	**2.32**	**52**	P	**Pn**	**11 06 23.9**	**+0.7**
CKHZ	**Cape Kidnapper**	**2.44**	**68**	P	**Pn**	**11 06 25.3**	**+0.4**
GVZ	**Greta Valley S**	**2.48**	**199**	P	**Pn**	**11 06 27.1**	**+1.7**
KUTZ	**Kaahu Road**	**2.50**	**32**	P	**Pn**	**11 06 28.1**	**+2.6**
MRHZ	**Matea Rd**	**2.50**	**45**	P	**Pn**	**11 06 26.3**	**+0.6**
TLZ	**Tolley Road**	**2.53**	**26**	P	**Pn**	**11 06 27.6**	**+1.5**
NMHZ	**Naumai**	**2.55**	**54**	P	**Pn**	**11 06 27.2**	**+0.9**
LTZ	**Lake Taylor**	**2.57**	**212**	P	**Pn**	**11 06 28.4**	**+1.8**
ARHZ	**Aropaoanui**	**2.58**	**59**	P	**Pn**	**11 06 26.9**	**+0.3**
WPRZ	**Whakapapatarin**	**2.62**	**37**	P	**Pn**	**11 06 31.3**	**+4.1**
ALRZ	**Allen Road**	**2.67**	**40**	P	**Pn**	**11 06 30.9**	**+3.1**
MTHZ	**Maungataniwha**	**2.73**	**50**	P	**Pn**	**11 06 28.8**	**+0.1**
PRRZ	**Plateau Road**	**2.74**	**40**	P	**Pn**	**11 06 31.9**	**+3.1**
AMCZ	**Amberley**	**2.78**	**203**	P	**Pn**	**11 06 30.9**	**+1.6**
HSRZ	**Hossack Road**	**2.82**	**36**	P	**Pn**	**11 06 31.6**	**+1.6**
INZ	**Inchbonnie**	**2.92**	**223**	P	**Pn**	**11 06 33.0**	**+1.9**
MUGZ	**Murupara**	**2.95**	**44**	P	**Pn**	**11 06 35.9**	**+4.2**
RTZ	**Ruatahuna**	**2.97**	**48**	P	**Pn**	**11 06 36.1**	**+4.2**
SNGZ	**Shannon Statio**	**3.08**	**54**	P	**Pn**	**11 06 34.7**	**+1.5**
TOZ	**Tahuroa Road**	**3.08**	**20**	P	**Pn**	**11 06 34.7**	**+1.5**
OXZ	**Oxford**	**3.12**	**210**	P	**Pn**	**11 06 34.4**	**+0.5**
OKCZ	**Okains Bay**	**3.20**	**194**	P	**Pn**	**11 06 35.9**	**+0.9**
MHGZ	**Mahia Peninsul**	**3.25**	**64**	P	**Pn**	**11 06 35.3**	**-0.3**
MQZ	**McQueen's Vall**	**3.27**	**199**	P	**Pn**	**11 06 36.2**	**+0.3**
URZ	**Urewera**	**3.29**	**45**	P	**Pn**	**11 06 37.4**	**+1.2**
TGRZ	**Tauranga**	**3.33**	**30**	P	**Pn**	**11 06 38.3**	**+1.7**
AKCZ	**Akaroa Harbour**	**3.37**	**195**	P	**Pn**	**11 06 38.0**	**+0.8**
RIGZ	**Rimuhau**	**3.38**	**57**	P	**Pn**	**11 06 37.2**	**-0.3**
RACZ	**Rakaia**	**3.44**	**205**	P	**Pn**	**11 06 38.5**	**+0.3**
MWZ	**Matawai**	**3.48**	**50**	P	**Pn**	**11 06 39.8**	**+1.1**
WVZ	**Waitaha Valley**	**3.53**	**225**	P	**Pn**	**11 06 41.6**	**+2.2**
AWAZ	**Awhitu Peninsu**	**3.58**	**6**	P	**Pn**	**11 06 41.6**	**+1.6**
TKGZ	**Te Karaka**	**3.60**	**54**	P	**Pn**	**11 06 40.1**	**-0.2**
MKAZ	**Moumakai**	**3.60**	**13**	P	**Pn**	**11 06 41.8**	**+1.5**
WTAZ	**Waiatarua**	**3.70**	**5**	P	**Pn**	**11 06 43.5**	**+1.8**
ETAZ	**East Tamaki Re**	**3.72**	**10**	P	**Pn**	**11 06 43.5**	**+1.6**
WACZ	**Wakanui South**	**3.73**	**207**	P	**Pn**	**11 06 42.2**	**+0.2**
EPAZ	**Eden Park BICE**	**3.77**	**7**	P	**Pn**	**11 06 44.5**	**+1.9**
RUGZ	**Raukumara Rang**	**3.81**	**47**	P	**Pn**	**11 06 42.9**	**-0.4**
RPZ	**Rata Peaks**	**3.85**	**216**	P	**Pn**	**11 06 46.6**	**+2.9**
RPZ	**Rata Peaks**	**3.85**	**216**	P	**Pn**	**11 06 46.5**	**+2.9**
RVAZ	**Riverhead Bore**	**3.86**	**5**	P	**Pn**	**11 06 45.3**	**+1.4**
MBAZ	**Motutapu North**	**3.89**	**9**	P	**Pn**	**11 06 45.9**	**+1.7**
WIAZ	**Waiheke Island**	**3.90**	**12**	P	**Pn**	**11 06 46.2**	**+1.7**
GCSZ	**Gaunt Creek Bo**	**3.92**	**225**	P	**Pn**	**11 06 46.2**	**+1.6**
ARCZ	**Arundel**	**3.98**	**213**	P	**Pn**	**11 06 46.6**	**+1.1**
HAZ	**Te Kaha**	**4.02**	**46**	P	**Pn**	**11 06 46.1**	**+0.1**
ABAZ	**Army Bay**	**4.05**	**8**	P	**Pn**	**11 06 48.2**	**+1.8**
KUZ	**Kuaotunu**	**4.06**	**18**	P	**Pn**	**11 06 47.8**	**+1.2**
FOZ	**Fox Glacier**	**4.34**	**227**	P	**Pn**	**11 06 52.0**	**+1.8**
TMZ	**Timaru**	**4.42**	**211**	P	**Pn**	**11 06 51.9**	**+0.5**
MXZ	**Matakaoa Point**	**4.45**	**48**	P	**Pn**	**11 06 55.2**	**+3.3**
WCZ	**Waipu Caves**	**4.68**	**2**	P	**Pn**	**11 06 56.1**	**+1.2**
ODZ	**Otahua Downs**	**5.11**	**209**	P	**Pn**	**11 07 01.6**	**+0.9**
ODZ	**Otahua Downs**	**5.11**	**209**	P	**Pn**	**11 07 02.6**	**+1.9**
JCZ	**Jackson Bay**	**5.26**	**227**	P	**Pn**	**11 07 04.5**	**+1.7**
CTZ	**Chatham Island**	**7.53**	**117**	P	**Pn**	**11 07 34.9**	**+1.3**
VNA3	**Neumayer Olymp**	**68.41**	**179**	P	**P**	**11 16 35.8**	**-1.7**
VNA2	**Neumayer--Watz** baz=295,slow=16	**68.75**	**179**	P	**P**	**11 16 36.6**	**-3.0**
VNA1	**Neumayer--Stat**	**69.02**	**179**	P	P	11 16 36.0	-5.2

*JMA **24** 11:06:59.4±0.1,24˚.72N×121˚.99E,h69km±2km,M2.8*
*TAP **24** 11:06:60.0,24˚.77N×121˚.99E,h63km,ML3.9,B*
ISC 24 11:07:00.1±1.2,**24.78N**±0˚.02×**122˚.01E**±0˚.02,**h65**km±4km, **n140,** σ0§62/264,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS	baz=328	**0.09**	**312**	*e*P	**Pn**	**11 07 09.7**	**-0.1**
EGS	baz=328			*e*S	**Sn**	**11 07 17.0**	**+0.3**
NTC	**Toucheng** baz=299	**0.18**	**294**	*i* P	**Pn**	**11 07 09.9**	**-0.1**
NTC	baz=299			*e*S	**Sn**	**11 07 16.5**	**-0.7**
TWB1	**Santiao Chiao** baz=1.0	**0.22**	**356**	*i* P	**Pn**	**11 07 10.4**	**+0.1**
TWB1	baz=1.0			S	**Sn**	**11 07 17.6**	**0.0**
TWC	**Suao** baz=216	**0.23**	**220**	*i* P	**Pn**	**11 07 09.9**	**-0.3**
TWC	baz=216			S	**Sn**	**11 07 16.9**	**-0.8**
ILA	**Ilan** baz=268	**0.24**	**266**	*i* P	**Pn**	**11 07 10.6**	**+0.3**
ILA	baz=268			*i* S	**Sn**	**11 07 17.4**	**-0.3**
TIPB	**Shuangxi** baz=322	**0.25**	**319**	*i* P	**Pn**	**11 07 10.5**	**+0.1**
TIPB	baz=322			S	**Sn**	**11 07 17.6**	**-0.4**
NDS	**Dongshan** baz=241	**0.30**	**241**	*i* P	**Pn**	**11 07 10.7**	**0.0**
NDS	baz=241			S	**Sn**	**11 07 18.3**	**-0.3**
TWE	**Neicheng** baz=259	**0.32**	**259**	*i* P	**Pn**	**11 07 10.9**	**0.0**
TWE	baz=259			*i* S	**Sn**	**11 07 18.6**	**-0.1**
SXI1	**Grass Mountain** baz=341	**0.33**	**339**	*i* P	**Pn**	**11 07 11.2**	**+0.1**
SXI1	baz=341			S	**Sn**	**11 07 19.6**	**+0.5**
NWF	**Wu-fen Shan** baz=327	**0.35**	**324**	*i* P	**Pn**	**11 07 11.4**	**+0.1**
NWF	baz=327			S	**Sn**	**11 07 19.8**	**+0.4**
FUSB	**Fushanzhiwuyua** baz=268	**0.38**	**266**	*i* P	**Pn**	**11 07 11.4**	**0.0**
FUSB	baz=268			*e*S	**Sn**	**11 07 20.0**	**+0.2**
EWUT	**Wuta** baz=211	**0.40**	**212**	*i* P	**Pn**	**11 07 11.5**	**0.0**
EWUT	baz=211			*i* S	**Sn**	**11 07 19.4**	**-0.4**
TNOU	**National Taiwa** baz=332	**0.42**	**330**	*i* P	**Pn**	**11 07 11.8**	**+0.1**
TNOU	baz=332			*i* S	**Sn**	**11 07 20.0**	**-0.2**
ENTT	**Nioudou** baz=250	**0.43**	**250**	*i* P	**Pn**	**11 07 12.0**	**+0.2**
ENTT	baz=250			*e*S	**Sn**	**11 07 21.6**	**+1.2**
ENA	**Nanau** baz=212	**0.43**	**214**	*i* P	**Pn**	**11 07 11.9**	**+0.1**
ENA	baz=212			*i* S	**Sn**	**11 07 20.9**	**+0.5**
TWA	**Mucha** baz=299	**0.43**	**297**	*i* P	**Pn**	**11 07 11.8**	**0.0**
TWA	baz=299			*i* S	**Sn**	**11 07 20.2**	**-0.2**
NWLT	**Wulai** baz=270	**0.46**	**269**	*i* P	**Pn**	**11 07 12.0**	**-0.1**
NWLT	baz=270			*i* S	**Sn**	**11 07 20.9**	**0.0**
NHDH	**Xindian Distri** baz=294	**0.47**	**292**	*i* P	**Pn**	**11 07 12.3**	**+0.1**
NHDH	baz=294			S	**Sn**	**11 07 20.8**	**-0.3**
NDT	**Datong Townshi** baz=249	**0.48**	**248**	*i* P	**Pn**	**11 07 12.6**	**+0.3**
NDT	baz=249			*i* S	**Sn**	**11 07 21.6**	**+0.3**
LATG	**Datong** baz=241	**0.50**	**241**	*i* P	**Pn**	**11 07 12.8**	**+0.2**
LATG	baz=241			S	**Sn**	**11 07 22.2**	**+0.4**
TAP	**Taipei** baz=301	**0.52**	**299**	*e*P	**Pn**	**11 07 11.5**	**-1.2**
TAP	baz=301			*e*S	**Sn**	**11 07 22.2**	**+0.3**
YM01	**YM01** baz=314	**0.54**	**312**	*i* P	**Pn**	**11 07 12.9**	**0.0**
YM01	baz=314			*i* S	**Sn**	**11 07 22.3**	**+0.1**
YM08	**YM08** baz=318	**0.55**	**317**	P	**Pn**	**11 07 12.9**	**-0.1**
YM08	baz=318			*i* S	**Sn**	**11 07 22.1**	**-0.5**
YHNB	**Yeheng** baz=259	**0.58**	**259**	*i* P	**Pn**	**11 07 13.4**	**0.0**
YHNB	baz=259			*i* S	**Sn**	**11 07 23.0**	**-0.3**
ANP	**Anpu** baz=314	**0.60**	**312**	P	**Pn**	**11 07 13.3**	**-0.2**
ANP	baz=314			*e*S	**Sn**	**11 07 23.2**	**-0.3**
NSK	**Sanguang** baz=260	**0.60**	**260**	*i* P	**Pn**	**11 07 13.5**	**-0.1**
NSK	baz=260			*i* S	**Sn**	**11 07 23.1**	**-0.4**
TWY	**Chenhua** baz=325	**0.61**	**323**	P	**Pn**	**11 07 14.2**	**+0.6**
TWY	baz=325			*e*S	**Sn**	**11 07 24.6**	**+1.0**
TWS1	**Kuangyinshan** baz=302	**0.62**	**301**	*i* P	**Pn**	**11 07 14.0**	**+0.3**
TWS1	baz=302			*i* S	**Sn**	**11 07 24.3**	**+0.5**
NTST	**Danshui** baz=308	**0.63**	**307**	P	**Pn**	**11 07 14.3**	**+0.5**
NTST	baz=308			S	**Sn**	**11 07 24.4**	**+0.5**
NNSB	**Datong** baz=238	**0.67**	**238**	*i* P	**Pn**	**11 07 14.5**	**+0.1**
NNSB	baz=238			*i* S	**Sn**	**11 07 24.8**	**-0.1**
NNS	**Nan Shan** baz=239	**0.67**	**239**	*i* P	**Pn**	**11 07 14.5**	**+0.1**
NNS	baz=239			*i* S	**Sn**	**11 07 25.0**	**0.0**
ETL	**Fush Village** baz=208	**0.71**	**209**	P	**Pn**	**11 07 15.1**	**+0.2**
ETL	baz=208			*e*S	**Sn**	**11 07 25.7**	**0.0**
NACB	**Ninganchiao** baz=211	**0.71**	**212**	*i* P	**Pn**	**11 07 14.6**	**-0.2**
NACB	baz=211			*e*S	**Sn**	**11 07 24.7**	**-1.0**
ETLH	**Xiulin Townshi** baz=219	**0.75**	**220**	*i* P	**Pn**	**11 07 14.8**	**-0.5**
ETLH	baz=219			S	**Sn**	**11 07 25.9**	**-0.6**
NCU	**National Centr** baz=285	**0.77**	**284**	P	**Pn**	**11 07 15.6**	**+0.2**
NCU	baz=285			S	**Sn**	**11 07 27.8**	**+1.0**
NCUH	**Zhongli** baz=284	**0.77**	**284**	*i* P	**Pn**	**11 07 15.9**	**+0.4**
NCUH	baz=284			S	**Sn**	**11 07 27.2**	**+0.4**
TWD	**Chiawan** baz=207	**0.80**	**208**	*i* P	**Pn**	**11 07 15.1**	**-0.6**
TWD	baz=207			*e*S	**Sn**	**11 07 26.4**	**-0.9**
NFF	**Wufeng Townshi** baz=260	**0.82**	**260**	P	**Pn**	**11 07 15.9**	**-0.2**
NFF	baz=260			S	**Sn**	**11 07 27.8**	**-0.3**
PCYT	**Pengchaiyu** baz=5.0	**0.84**	**4**	*i* P	**Pn**	**11 07 17.2**	**+0.8**
PCYT	baz=5.0			*e*S	**Sn**	**11 07 29.5**	**+1.1**
HWA	**Hwalien** baz=203	**0.88**	**205**	*e*P	**Pn**	**11 07 16.5**	**-0.3**
HWA	baz=203			*e*S	**Sn**	**11 07 30.9**	**+1.7**
HSN1	**Hsinchu** baz=270	**0.90**	**270**	P	**Pn**	**11 07 17.5**	**+0.4**
HSN1	baz=270			*i* S	**Sn**	**11 07 30.3**	**+0.7**
NHW	**Xinwu Township** baz=285	**0.90**	**284**	*i* P	**Pn**	**11 07 17.4**	**+0.3**
LIOB	**Emei** baz=262	**0.91**	**262**	P	**Pn**	**11 07 17.1**	**-0.2**
LIOB	baz=262			S	**Sn**	**11 07 30.1**	**+0.1**
JYNG	**Yonagunijimaku**	**0.92**	**111**	P	**Pn**	**11 07 17.0**	**-0.2**
JYNG				S	**Sn**	**11 07 29.6**	**-0.4**
TWT	**Tachien** baz=235	**0.92**	**235**	*i* P	**Pn**	**11 07 18.0**	**+0.5**
TWT	baz=235			*i* S	**Sn**	**11 07 30.8**	**+0.4**
NSTT	**Nanjuang** baz=261	**0.93**	**261**	*i* P	**Pn**	**11 07 17.3**	**-0.1**
NSTT	baz=261			*i* S	**Sn**	**11 07 29.9**	**-0.3**
WHF	**Hehuan Shan** baz=226	**0.93**	**227**	*i* P	**Pn**	**11 07 17.6**	**-0.2**
WHF	baz=226			*e*S	**Sn**	**11 07 31.1**	**+0.1**
SBCB	**Hsinchu** baz=271	**0.93**	**271**	P	**Pn**	**11 07 17.2**	**-0.2**
SBCB	baz=271			S	**Sn**	**11 07 30.6**	**+0.3**
ETM	**Tongmen** baz=209	**0.94**	**210**	P	**Pn**	**11 07 16.5**	**-1.1**
HSN	**Hsinchu** baz=273	**0.94**	**271**	P	**Pn**	**11 07 17.4**	**-0.2**
HSN	baz=273			S	**Sn**	**11 07 30.0**	**-0.6**
YOJ	**Yonaguni jima**	**0.97**	**109**	P	**Pn**	**11 07 17.7**	**-0.2**
YOJ				S	**Sn**	**11 07 30.7**	**-0.4**
YOJ	**Yonaguni jima** baz=108	**0.97**	**109**	P	**Pn**	**11 07 17.6**	**-0.2**
YOJ	baz=108			S	**Sn**	**11 07 30.1**	**-1.0**
TEYL	**Yanliau Villag** baz=202	**0.98**	**202**	*i* P	**Pn**	**11 07 17.5**	**-0.7**
CHGB	**Renai** baz=226	**1.05**	**227**	*i* P	**Pn**	**11 07 19.2**	**0.0**
CHGB	baz=226			S	**Sn**	**11 07 33.4**	**+0.1**
WHP	**Taichung City** baz=242	**1.09**	**243**	*i* P	**Pn**	**11 07 20.3**	**+0.7**
WHP	baz=242			*i* S	**Sn**	**11 07 34.7**	**+0.7**
ESL	**Shilin** baz=207	**1.10**	**209**	*e*P	**Pn**	**11 07 18.1**	**-1.6**
ESL	baz=207			*e*S	**Sn**	**11 07 34.6**	**+0.4**
OWD	**Renai** baz=222	**1.12**	**223**	*i* P	**Pn**	**11 07 19.9**	**-0.1**
OWD	baz=222			*e*S	**Sn**	**11 07 34.1**	**-0.8**
WUSB	**Renai** baz=225	**1.13**	**226**	*i* P	**Pn**	**11 07 20.1**	**-0.1**
WUSB	baz=225			*i* S	**Sn**	**11 07 35.1**	**0.0**
NMLH	**Miaoli** baz=257	**1.13**	**258**	P	**Pn**	**11 07 20.0**	**-0.1**
NMLH	baz=257			S	**Sn**	**11 07 35.9**	**+0.9**
NSY	**Sanyi** baz=252	**1.19**	**252**	*i* P	**Pn**	**11 07 21.2**	**+0.3**
NSY	baz=252			*i* S	**Sn**	**11 07 37.1**	**+0.7**
TWQ1	**Liyutan** baz=249	**1.21**	**249**	*i* P	**Pn**	**11 07 21.2**	**+0.2**
TWQ1	baz=249			*e*S	**Sn**	**11 07 37.4**	**+0.8**
WPL	**Puli Township** baz=231	**1.23**	**231**	*i* P	**Pn**	**11 07 22.1**	**+0.9**
EGFH	**Guangfu** baz=205	**1.23**	**206**	*e*P	**Pn**	**11 07 21.8**	**+0.5**
EGFH	baz=205			*e*S	**S

YULB				*e*S	**Sn**	**11 07 44.7**	**+0.3**
	baz=204						
EYUL	**Yuli**	**1.56**	**204**	*e*P	**Pn**	**11 07 25.3**	**-0.5**
	baz=203						
EYUL				*e*S	**Sn**	**11 07 45.7**	**+0.6**
	baz=203						
TWF1	**Yuli**	**1.57**	**205**	*e*P	**Pn**	**11 07 25.6**	**-0.3**
	baz=203						
IRIF	**Iriomote-Funau**	**1.63**	**106**	P	**Pn**	**11 07 26.4**	**-0.2**
IRIF				*e*S	**Sn**	**11 07 45.8**	**-0.9**
ALS	**Alishan**	**1.68**	**221**	*i* P	**Pn**	**11 07 28.5**	**+0.9**
	baz=220						
ALS				*e*S	**Sn**	**11 07 49.3**	**+1.1**
	baz=220						
CHN5	**Tsauling**	**1.69**	**226**	*e*P	**Pn**	**11 07 28.1**	**+0.5**
	baz=225						
CHN5				*e*S	**Sn**	**11 07 48.8**	**+0.4**
	baz=225						
FULB	**Fuli**	**1.71**	**203**	*e*P	**Pn**	**11 07 26.7**	**-1.0**
	baz=202						
FULB				*e*S	**Sn**	**11 07 48.9**	**+0.3**
	baz=202						
WGK	**Gukeng**	**1.71**	**231**	*i* P	**Pn**	**11 07 28.2**	**+0.5**
	baz=230						
WRL	**Guolierlin Hig**	**1.73**	**240**	*e*P	**Pn**	**11 07 27.4**	**-0.6**
	baz=239						
WRL				*e*S	**Sn**	**11 07 47.6**	**-1.4**
	baz=239						
WDLH	**Douliu**	**1.73**	**231**	*e*P	**Pn**	**11 07 28.0**	**+0.1**
	baz=230						
WDLH				*e*S	**Sn**	**11 07 49.2**	**+0.1**
	baz=230						
CHKT	**Chengkung**	**1.78**	**199**	*e*P	**Pn**	**11 07 29.3**	**+0.7**
	baz=198						
CHKT				*e*S	**Sn**	**11 07 50.8**	**+0.5**
	baz=198						
HATJ	**Hateruma jima**	**1.79**	**113**	S	**Sn**	**11 07 51.5**	**+0.9**
ELDTW	**Lidau**	**1.83**	**210**	*e*P	**Pn**	**11 07 29.1**	**-0.4**
	baz=209						
ELDTW				*e*S	**Sn**	**11 07 50.0**	**-1.7**
	baz=209						
WTK	**Tuku**	**1.84**	**234**	*e*S	**Sn**	**11 07 51.8**	**+0.1**
	baz=233						
CHN2	**Minshiung**	**1.87**	**229**	*e*S	**Sn**	**11 07 52.9**	**+0.3**
	baz=228						
JKRS	**Kuro-shima**	**1.90**	**106**	P	**Pn**	**11 07 30.6**	**+0.3**
JKRS				S	**Sn**	**11 07 53.7**	**+0.4**
EDH	**Donghe**	**1.92**	**200**	*e*P	**Pn**	**11 07 30.6**	**+0.2**
	baz=199						
EDH				*e*S	**Sn**	**11 07 53.9**	**+0.3**
	baz=199						
CHN4	**Tsaushan**	**1.93**	**222**	*e*P	**Pn**	**11 07 31.4**	**+0.7**
	baz=222						
CHN4				*e*S	**Sn**	**11 07 54.3**	**+0.5**
	baz=222						
CHY	**Chiayi**	**1.93**	**229**	*e*P	**Pn**	**11 07 30.5**	**-0.1**
	baz=228						
CHY				*e*S	**Sn**	**11 07 54.6**	**+0.6**
	baz=228						
TPUB	**Ta-pu**	**1.94**	**221**	*e*P	**Pn**	**11 07 31.2**	**+0.4**
	baz=220						
TPUB				*e*S	**Sn**	**11 07 55.8**	**+1.5**
	baz=220						
STYH	**Taoyuan**	**1.96**	**215**	*e*P	**Pn**	**11 07 31.8**	**+0.7**
	baz=214						
STYH				*e*S	**Sn**	**11 07 54.7**	**0.0**
	baz=214						
STYT	**Tauyuan**	**1.98**	**216**	*e*P	**Pn**	**11 07 32.6**	**+1.2**
	baz=215						
STYT				*e*S	**Sn**	**11 07 56.0**	**+0.8**
	baz=215						
JIJ	**Ishigaki jima**	**1.99**	**102**	P	**Pn**	**11 07 31.2**	**-0.3**
JIJ				S	**Sn**	**11 07 55.1**	**-0.3**
WSF	**Szhu**	**1.99**	**235**	*e*P	**Pn**	**11 07 31.3**	**-0.1**
	baz=234						
WSF				*e*S	**Sn**	**11 07 54.5**	**-0.8**
	baz=234						
WTP	**Ta-pu**	**1.99**	**220**	*e*P	**Pn**	**11 07 31.9**	**+0.4**
	baz=219						
WTP				*e*S	**Sn**	**11 07 57.4**	**+1.9**
	baz=219						
LONT	**Longtian**	**2.03**	**203**	*e*P	**Pn**	**11 07 32.6**	**+0.5**
	baz=203						
TWK	**Hsinying**	**2.05**	**223**	*e*P	**Pn**	**11 07 32.8**	**+0.4**
	baz=222						
TWK				*e*S	**Sn**	**11 07 58.5**	**+1.5**
	baz=222						
WSL	**Shuilin Townsh**	**2.05**	**233**	*e*P	**Pn**	**11 07 31.8**	**-0.5**
	baz=232						
WSL				*e*S	**Sn**	**11 07 56.5**	**-0.4**
	baz=232						
SNST	**Tainan City**	**2.08**	**222**	*e*P	**Pn**	**11 07 33.4**	**+0.7**
	baz=221						
SNST				*e*S	**Sn**	**11 07 57.9**	**+0.3**
	baz=221						
CHN1	**Nanshi**	**2.09**	**221**	*e*P	**Pn**	**11 07 33.3**	**+0.5**
	baz=220						
CHN1				*e*S	**Sn**	**11 07 58.0**	**+0.2**
	baz=220						
JISG	**Ishigakijimahi**	**2.10**	**95**	P	**Pn**	**11 07 33.2**	**+0.2**
JISG				*e*S	**Sn**	**11 07 58.3**	**+0.1**
ICHU	**Yijhu**	**2.12**	**228**	*e*P	**Pn**	**11 07 33.1**	**-0.1**
	baz=228						
ICHU				*e*S	**Sn**	**11 07 58.6**	**+0.1**
	baz=228						
TWG	**Pinlang**	**2.13**	**204**	*e*P	**Pn**	**11 07 33.9**	**+0.4**
	baz=203						
TWG				*e*S	**Sn**	**11 07 57.2**	**-1.7**
	baz=203						
TWGBT	**Beinan**	**2.13**	**204**	*e*P	**Pn**	**11 07 33.8**	**+0.3**
	baz=203						
TWGBT				*e*S	**Sn**	**11 07 59.1**	**+0.2**
	baz=203						
SGST	**Jiashian**	**2.14**	**218**	*e*P	**Pn**	**11 07 33.4**	**-0.1**
	baz=217						
SGST				*e*S	**Sn**	**11 07 59.9**	**+0.9**
	baz=217						
LDUT	**Ludao**	**2.16**	**193**	*e*S	**Sn**	**11 07 59.7**	**+0.2**
	baz=192						
SCLT	**Jiali**	**2.31**	**226**	*e*S	**Sn**	**11 08 02.8**	**-0.2**
	baz=225						
MATB	**Ma-tsu**	**2.31**	**307**	*e*P	**Pn**	**11 07 35.9**	**+0.1**
	baz=306						
MATB				*e*S	**Sn**	**11 08 02.7**	**-0.4**
	baz=306						
VWUC	**VWUC**	**2.33**	**276**	*e*P	**Pn**	**11 07 36.7**	**+0.6**
	baz=275						
VWUC				*e*S	**Sn**	**11 08 03.5**	**-0.1**
	baz=275						
ECL	**Taimali**	**2.38**	**204**	*e*P	**Pn**	**11 07 37.3**	**+0.5**
	baz=203						
ECL				*e*S	**Sn**	**11 08 04.8**	**-0.1**
	baz=203						
SSD	**Sandimen**	**2.39**	**212**	*e*P	**Pn**	**11 07 37.6**	**+0.7**
	baz=211						
SSD				*e*S	**Sn**	**11 08 05.2**	**+0.2**
	baz=211						
TSMG	**Majia**	**2.42**	**211**	*e*P	**Pn**	**11 07 37.7**	**+0.4**
	baz=210						
TSMG				*e*S	**Sn**	**11 08 05.7**	**-0.1**
	baz=210						
JTJ	**Tarama**	**2.46**	**93**	P	**Pn**	**11 07 39.1**	**+1.3**
MASBT	**Mashibuluo**	**2.50**	**210**	*e*P	**Pn**	**11 07 38.7**	**+0.2**
	baz=210						
MASBT				*e*S	**Sn**	**11 08 08.6**	**+0.7**
	baz=210						
PNG	**Penghu**	**2.55**	**242**	*e*P	**Pn**	**11 07 37.9**	**-1.1**
	baz=241						
PNG				*e*S	**Sn**	**11 08 08.2**	**-0.7**
	baz=241						
PHUB	**P'eng-hu**	**2.56**	**241**	*e*P	**Pn**	**11 07 39.6**	**+0.4**
	baz=240						
PHUB				*e*S	**Sn**	**11 08 08.7**	**-0.6**
	baz=240						
EAST	**Anshuo**	**2.62**	**204**	*e*P	**Pn**	**11 07 40.7**	**+0.7**
	baz=203						
WDGT	**Dungji**	**2.63**	**235**	*e*P	**Pn**	**11 07 40.4**	**+0.3**
	baz=234						
WDGT				*e*S	**Sn**	**11 08 10.1**	**-0.8**
	baz=234						
PTMZ	**Houxiangcun**	**2.63**	**276**	*e*P	**Pn**	**11 07 40.9**	**+0.7**
	baz=275						
PTMZ				*e*S	**Sn**	**11 08 10.6**	**-0.4**
	baz=275						
TAWH	**Dawu Township**	**2.64**	**203**	*e*P	**Pn**	**11 07 40.9**	**+0.6**
	baz=202						
TAWH				*e*S	**Sn**	**11 08 10.8**	**-0.4**
	baz=202						
SSPT	**Xinbi**	**2.64**	**210**	*e*P	**Pn**	**11 07 41.1**	**+0.8**
	baz=209						
SSPT				*e*S	**Sn**	**11 08 10.8**	**-0.5**
	baz=209						
LYJJ	**Jianjiangzhen**	**2.68**	**311**	*e*P	**Pn**	**11 07 40.7**	**-0.2**
	baz=311						
LYJJ				*e*S	**Sn**	**11 08 11.1**	**-1.2**
	baz=311						
XPSS	**Dashiqiu**	**2.69**	**323**	*e*P	**Pn**	**11 07 40.1**	**-0.9**
	baz=322						
SCZT	**Fangliau**	**2.72**	**208**	*e*P	**Pn**	**11 07 42.2**	**+0.8**
	baz=207						
SCZT				*e*S	**Sn**	**11 08 14.2**	**+1.1**
	baz=207						
LAY	**Lan-yu**	**2.77**	**189**	*e*P	**Pn**	**11 07 42.5**	**+0.5**
	baz=188						
LAY				*e*S	**Sn**	**11 08 13.8**	**-0.6**
	baz=188						
SLIU	**Shizi**	**2.79**	**204**	*e*P	**Pn**	**11 07 42.3**	**-0.1**
	baz=203						
LYUB	**Lan-yu**	**2.80**	**188**	*e*P	**Pn**	**11 07 42.8**	**+0.4**
	baz=187						
LYUB				*e*S	**Sn**	**11 08 14.6**	**-0.4**
	baz=187						
VCHM	**Qimei**	**2.83**	**237**	*e*P	**Pn**	**11 07 43.3**	**+0.3**
	baz=236						
VCHM				*e*S	**Sn**	**11 08 14.9**	**-1.0**
	baz=236						
MHZQ	**Yeshan**	**2.99**	**297**	*e*P	**Pn**	**11 07 45.2**	**+0.1**
	baz=296						
MHZQ				*e*S	**Sn**	**11 08 19.1**	**-0.7**
	baz=296						
TWKBT	**Hengchun**	**3.04**	**201**	*e*P	**Pn**	**11 07 46.2**	**+0.5**
	baz=201						
TWKBT				*e*S	**Sn**	**11 08 20.4**	**-0.5**
	baz=201						
KNM	**Kinmen**	**3.27**	**264**	*e*P	**Pn**	**11 07 49.9**	**+1.0**
	baz=263						
KNM				*e*S	**Sn**	**11 08 27.7**	**+1.0**
	baz=263						
KNMB	**Chin-men Tao**	**3.31**	**265**	*e*P	**Pn**	**11 07 48.8**	**-0.6**
	baz=264						
KNMB				*e*S	**Sn**	**11 08 26.2**	**-1.3**
	baz=264						
AXDP	**Jialang**	**3.67**	**273**	*e*P	**Pn**	**11 07 54.8**	**+0.4**
	baz=271						
AXDP				*e*S	**Sn**	**11 08 35.3**	**-1.1**
	baz=271						
ZPLA	**Ao Xicun**	**3.97**	**259**	*e*P	**Pn**	**11 07 58.7**	**+0.2**
	baz=257						
ZPLA				*e*S	**Sn**	**11 08 42.3**	**-1.6**
	baz=257						
SXFK	**Yanhouchang**	**4.25**	**293**	*e*P	**Pn**	**11 08 02.3**	**-0.1**
	baz=292						
SXFK				*e*S	**Sn**	**11 08 49.6**	**-1.2**
	baz=292						
DSXP	**Dongshan**	**4.32**	**257**	*e*P	**Pn**	**11 08 03.8**	**+0.6**
	baz=255						
DSXP				*e*S	**Sn**	**11 08 50.8**	**-1.5**
	baz=255						

*IDC **24** 11:13:09.6±1.2, 11°.39N×140°.71E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.6/42, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=53.7km s-min=30.9km az=116.0*
ISC 24 11:13:18.8±5.7, 12°N±1°×140°.7E±0°.2, h35km, n6, σ0.61/6, mb3.7/5, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
GUMO	**Guam**	**4.27**	**70**	Pn		**Pn**	**11 14 21.3**	**0.0**
	4.8nm,0.3s,baz=183,slow=23,SNR=1.4							
GUMO				Sn		**Sn**	**11 15 10.0**	**+0.1**
	3.1nm,0.3s,baz=17,slow=21,SNR=1.0							
WRA	**Warramunga Arr**	**32.52**	**191**	P		P	11 19 35.6	-11
	0.9nm,1.1s,baz=4.5,slow=9.7,SNR=2.3							
ILAR	**Eielson Array**	**71.57**	**26**	P		**P**	**11 24 35.6**	**-0.5**
	0.5nm,0.6s,baz=246,slow=5.9,SNR=12							
YKA	**Yellowknife Ar**	**85.95**	**27**	P		**P**	**11 25 55.5**	**+0.3**
	0.3nm,0.6s,baz=289,slow=4.9,SNR=6.5							
ARCES	**ARCESS Array B**	**87.17**	**341**	P		**P**	**11 26 01.8**	**+0.7**
	3.1nm,1.0s,baz=71,slow=3.9,SNR=4.1							
FINES	**FINESS Array B**	**90.71**	**334**	P		**P**	**11 26 17.4**	**-0.4**
	0.4nm,0.4s,baz=69,slow=4.6,SNR=5.7							

*PRE **24** 11:13:38.0±0.6, 24°.54S×27°.90E, h5km, ML2.2*
*BUL **24** 11:13:50.8±0.9, 26°.00S×29°.61E, h10km, MD3.3*
*EAF **24** 11:13:50.6±2.1, 25°.97S×29°.64E, h10km, MD3.3*
ISC 24 11:13:48.9±1.2, 25°.98S±0°.04×29°.59E±0°.04, h10km, n17, σ2.10/28, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
SLR	**Silverton**	**1.20**	**281**	*e*P		Pn	11 14 02.1	-10
SLR				*e*S		Sb	11 14 19.0	-8.5
SLR				IAML			11 14 30.4	
	comp=Z,65nm,0.8s							
PRYS	**Parys**	**2.21**	**244**	*e*P		Pn	11 14 19.2	-6.5
PRYS				*e*S		**Sn**	**11 14 48.8**	**-4.5**
PRYS				IAML			11 14 49.5	
	comp=Z,18nm,0.7s							
CNG	**Changalane**	**2.36**	**98**	*i* P		**Pn**	**11 14 28.5**	**+0.9**
CNG				*i* S		**Sn**	**11 14 57.0**	**+0.3**
CNG	**Changalane**	**2.36**	**98**	*i* P		**Pn**	**11 14 28.5**	**+0.9**
CNG				*i* S		**Sn**	**11 14 57.0**	**+0.3**
MOPA	**Mopani**	**2.95**	**34**	*e*P		Pn	11 14 32.1	-3.8
MOPA				*e*S		**Sn**	**11 15 10.8**	**-0.6**
MOPA				IAML			11 15 26.9	
	comp=Z,13nm,2.1s							
MOPA	**Mopani**	**2.95**	**34**	*i* P		**Pn**	**11 14 35.5**	**-0.4**
MOPA				*i* S		**Sn**	**11 15 08.2**	**-3.2**
MOPA	**Mopani**	**2.95**	**34**	*i* P		**Pn**	**11 14 35.5**	**-0.4**
MOPA				*i* S		**Sn**	**11 15 08.2**	**-3.2**
MSNA	**Messina**	**3.64**	**6**	*i* P		**Pn**	**11 14 47.8**	**+2.5**
MSNA				*i* S		**Sn**	**11 15 28.6**	**+0.2**
MSNA	**Messina**	**3.64**	**6**	*i* P		**Pn**	**11 14 47.8**	**+2.5**
MSNA				*i* S		**Sn**	**11 15 28.6**	**+0.2**
LBTB	**Lobatse**	**3.73**	**284**	*i* P		**Pn**	**11 14 48.1**	**+1.4**
LBTB				*i* S		**Sn**	**11 15 30.7**	**-0.1**
LBTB	**Lobatse**	**3.73**	**284**	*i* P		**Pn**	**11 14 48.1**	**+1.4**
LBTB				*i* S		**Sn**	**11 15 30.7**	**-0.1**
BOSA	**Boshof**	**4.66**	**235**	*i* P		**Pn**	**11 15 00.7**	**+1.2**
BOSA				*i* S		**Sn**	**11 15 52.5**	**-1.3**
BOSA	**Boshof**	**4.66**	**235**	*i* P		**Pn**	**11 15 00.7**	**+1.2**
BOSA				*i* S		**Sn**	**11 15 52.5**	**-1.3**
MATP	**Matopo**	**5.62**	**350**	*i* P		**Pn**	**11 15 14.6**	**+1.9**
MATP	**Matopo**	**5.62**	**350**	*i* P		**Pn**	**11 15 14.6**	**+1.9**
BLWY	**Bulawayo**	**5.88**	**351**	*i* P		**Pn**	**11 15 18.4**	**+2.1**
BLWY				*i* S		**Sn**	**11 16 20.1**	**-3.7**
BLWY	**Bulawayo**	**5.88**	**351**	*i* P		**Pn**	**11 15 18.4**	**+2.1**
BLWY				*i* S		**Sn**	**11 16 20.1**	**-3.7**

*GUC **24** 11:27:43.1±0.7, 36°.16S×73°.51W, h10km±4km, ML3.9*
*NEIC **24** 11:27:44.4±1.3, 36°.16S±0°.05×73°.4W±0°.2, h21km±8km, Error ellipse: s-maj=18.7km s-min=6.8km az=100.0*
ISC 24 11:27:40.8±2.2, 36°.09S±0°.05×73°.6W±0°.1, h1km±13km, n32, σ1.28/46, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
BI05	**Punta Hualpn**	**0.72**	**155**	Pg		**Pg**	**11 27 55.3**	**+0.6**
BI05	**Punta Hualpn**	**0.72**	**155**	*e*P		**Pg**	**11 27 54.7**	**0.0**
BI05				*e*S		**Sg**	**11 28 03.7**	**-0.4**
BI05				IAML			11 28 04.4	
	comp=N,24μm,0.2s							
CCSP	**San Pedro de C**	**0.84**	**154**	*i* P		**Pg**	**11 27 56.9**	**0.0**
CCSP				*e*S		**Sg**	**11 28 06.6**	**-1.2**
CCSP				IAML			11 28 08.4	
	comp=N,24μm,0.4s							
GO05	**Huala**	**1.71**	**52**	Pn		**Pn**	**11 28 12.4**	**+0.5**
GO05	**Huala**	**1.71**	**52**	*e*P		**Pn**	**11 28 11.6**	**-0.2**
GO05				*e*S		**Sn**	**11 28 34.5**	**+0.1**
ML02	**Panimavida**	**1.77**	**80**	Pn		**Pn**	**11 28 12.7**	**+0.1**
ML02	**Panimavida**	**1.77**	**80**	*e*P		**Pn**	**11 28 11.9**	**-0.7**
ML02				*e*S		**Sn**	**11 28 34.3**	**-1.5**
ML02				IAML			11 28 42.4	
	comp=E,2μm,0.5s							
BO03	**Pichilemu**	**2.06**	**40**	*i* P		**Pn**	**11 28 16.6**	**+0.1**
BO03				*e*S		**Sn**	**11 28 40.4**	**-2.5**
BO01	**Tunca**	**2.64**	**51**	Pn		**Pn**	**11 28 25.6**	**+1.1**
BO01	**Tunca**	**2.64**	**51**	*e*P		**Pn**	**11 28 25.9**	**+1.3**
BO01				*e*S		**Sn**	**11 28 59.1**	**+1.9**
VA05	**Santo Domingo**	**2.91**	**34**	Pn		**Pn**	**11 28 28.8**	**+0.5**
VA05	**Santo Domingo**	**2.91**	**34**	*e*P		**Pn**	**11 28 28.5**	**+0.3**
VA05				*e*S		**Sn**	**11 29 00.6**	**-3.2**
LC01	**Cunco**	**3.11**	**155**	Pn		**Pn**	**11 28 30.2**	**-0.9**
MT09	**Talagante**	**3.13**	**43**	Pn		**Pn**	**11 28 32.1**	**+0.6**
MT09	**Talagante**	**3.13**	**43**	*e*P		**Pn**	**11 28 32.0**	**+0.6**
MT09				*e*S		**Sn**	**11 29 09.9**	**+0.3**
MT09				IAML			11 29 30.3	
	comp=N,230nm,0.6s							
BO04	**La Punta**	**3.20**	**50**	Pn		**Pn**	**11 28 32.7**	**+0.4**
MT02	**Curacav**	**3.46**	**36**	Pn		**Pn**	**11 28 35.7**	**-0.2**
MT05	**Renca**	**3.56**	**42**	*e*P		**Pn**	**11 28 38.1**	**+0.8**
MT05				*e*S		**Sn**	**11 29 19.5**	**-0.5**
MT05				IAML			11 29 47.9	
	comp=N,144nm,0.4s							
MT03	**Universidad Ad**	**3.61**	**45**	Pn		**Pn**	**11 28 38.4**	**+0.4**
MT03	**Universidad Ad**	**3.61**	**45**	*i* P		**Pn**	**11 28 38.7**	**+0.7**
MT03				*e*S		**Sn**	**11 29 21.8**	**+0.5**
ROC1	**El Roble**	**3.75**	**35**			**Pn**	**11 28 38.2**	**-1.9**
ROCH	**El Roble**	**3.76**	**35**	*e*P		Pb	11 28 40.3	-7.8
ROCH				*i* P		**Pn**	**11 28 38.0**	**-2.1**
ROCH				*e*S		**Sn**	**11 29 21.8**	**-3.3**
ROCH				IAML			11 29 26.3	
	comp=N,58nm,0.5s							
PEL	**Peldehue**	**3.78**	**40**			**Pn**	**11 28 41.2**	**+0.9**
FCH	**Farellones**	**3.85**	**45**	*e*P		**Pn**	**11 28 42.0**	**+0.4**
FCH				*e*S		**Sn**	**11 29 26.9**	**-0.8**
VA06	**Catapilco**	**3.99**	**29**	*e*P		**Pn**	**11 28 43.3**	**+0.2**
VA06				*i* S		**Sn**	**11 29 28.3**	**-2.1**
VA06				IAML			11 29 31.7	
	comp=N,85nm,0.6s							
VA03	**San Esteban**	**4.15**	**38**	*i* P		**Pn**	**11 28 46.1**	**+0.7**
VA03				*e*S		**Sn**	**11 29 32.6**	**-2.0**
VA03				IAML			11 29 36.0	
	comp=E,80nm,0.3s							
PLCA	**Paso Flores**	**5.21**	**154**			**Pn**	**11 29 00.5**	**+0.6**
CO02	**Combarbal**	**5.32**	**24**			**Pn**	**11 29 01.9**	**+0.3**
AQDB	**Aquidauana**	**22.07**	**50**	P		**P**	**11 32 38.4**	**+1.2**
AQDB				IAmb		IAmb	11 32 40.3	
	comp=Z,11nm,1.3s							
SNAA	**Sanae**	**50.14**	**157**	P		**P**	**11 36 36.6**	**-0.7**
QSPA	**South Pole Qui**	**54.15**	**180**	P		**P**	**11 37 07.0**	**-0.4**
QSPA				IAmb		IAmb	11 37 19.4	
	comp=Z,2.1nm,1.1s							
VNDA	**Vanda**	**61.81**	**192**	P		**P**	**11 38 03.0**	**+2.2**

IDC 24 11:37:01.4±2.1, 0°.98N×126°.01E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.4/3, Error ellipse: s-maj=176.8km s-min=28.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**22.34**	**159**	P		P	11 42 01.4	+0.3
	1.5nm,0.5s,baz=338,slow=11,SNR=28							
ASAR	**Alice Springs**	**25.68**	**163**	P		P	11 42 33.0	-0.3
	0.3nm,0.5s,baz=347,slow=7.0,SNR=5.7							
MKAR	**Makanchi Array**	**59.41**	**327**	P		P	11 47 05.8	0.0
	0.1nm,0.4s,baz=134,slow=6.7,SNR=2.7							

IDC 24 12:04:09.0±1.5, 25°.02N×142°.95E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.3/37, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=68.6km s-min=25.2km az=83.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JCJ	**Chichijima**	**2.18**	**342**	Pn		Pn	12 04 46.8	+0.2
	16nm,0.3s,baz=105,slow=21,SNR=32							
JCJ				Sn		Sn	12 05 14.6	+0.3
	58nm,0.3s,baz=289,slow=23,SNR=20							
H11S3	**WAKE ISLAND Hy**	**22.97**	**102**	T		T	12 33 04.5	
	baz=292							
H11S1	**WAKE ISLAND Hy**	**22.97**	**102**	T		T	12 33 10.1	
	baz=292							
H11S2	**WAKE ISLAND Hy**	**22.98**	**102**	T		T	12 33 03.7	
	baz=292							
WRA	**Warramunga Arr**	**45.47**	**191**	P		P	12 12 30.0	-0.1
	0.9nm,1.0s,baz=8.6,slow=8.8,SNR=2.9							
YKA	**Yellowknife Ar**	**73.64**	**28**	P		P	12 15 43.8	-0.3
	0.4nm,0.9s,baz=289,slow=5.7,SNR=4.0							
FINES	**FINESS Array B**	**80.11**	**334**	P		P	12 16 20.9	+0.3
	0.7nm,0.7s,baz=73,slow=4.8,SNR=5.8							

*NOU **24** 12:29:02.5, 38°.75S×175°.06E, h242km, MLv3.9/8, North Island, New Zealand*
*WEL **24** 12:29:07.0±1.0, 39°.3S±7°×17°.5E±°, h204km±7km, M2.7/21, MLv2.7/21, Error ellipse: s-maj=0.0km s-min=0.0km az=146.2*
ISC 24 12:29:00.7±1.8, 38°.77S±0°.06×175°.09E±0°.06, h249km±10km, n106, σ1.61/112, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
HIZ	**Hauiti**	**0.32**	**324**	P		**Pn**	**12 29 34.6**	**+1.5**
HIZ				S		**S**	**12 29 57.5**	**-1.1**
HIZ	**Hauiti**	**0.32**	**324**	P		**Pn**	**12 29 34.8**	**+1.7**
VRZ	**Vera Road**	**0.44**	**216**	P		**Pn**	**12 29 34.8**	**+1.5**
PKVZ	**Pokaka**	**0.55**	**159**	P		**Pn**	**12 29 35.4**	**+1.6**
PKVZ				S		**S**	**12 29 58.0**	**-1.8**
TMVZ	**Te Maari**	**0.59**	**126**	P		**Pn**	**12 29 35.8**	**+1.9**
KUTZ	**Kaahu Road**	**0.64**	**64**	P		**Pn**	**12 29 35.5**	**+1.5**
MTVZ	**Mangateitei**	**0.68**	**154**	P		**Pn**	**12 29 35.9**	**+1.7**
MTVZ				S		**S**	**12 29 58.6**	**-2.0**
DREZ	**Durham Road**	**0.81**	**239**	P		**Pn**	**12 29 36.5**	**+1.8**
MOVZ	**Moawhango**	**0.82**	**141**	P		**Pn**	**12 29 36.2**	**+1.4**
MOVZ				S		**S**	**12 29 58.6**	**-3.0**
LREZ	**Lake Rotokare**	**0.87**	**218**	P		**Pn**	**12 29 37.1**	**+2.1**
WPRZ	**Whakapapatarin**	**0.88**	**74**	P		**Pn**	**12 29 36.1**	**+1.0**
NEZ	**North Egmont**	**0.92**	**237**	P		**Pn**	**12 29 37.4**	**+2.1**
NEZ				S		**S**	**12 30 02.1**	**-0.5**
WAZ	**Wanganui**	**0.99**	**185**	P		**Pn**	**12 29 37.6**	**+2.1**
ALRZ	**Allen Road**	**1.00**	**78**	P		**Pn**	**12 29 36.9**	**+1.2**
HRRZ	**Handcock Road**	**1.01**	**68**	P		**Pn**	**12 29 37.1**	**+1.3**
MRHZ	**Matea Rd**	**1.04**	**94**	P		**Pn**	**12 29 37.0**	**+1.0**
MRHZ				S		**S**	**12 30 00.0**	**-3.5**
BHHZ	**Black Hill Sta**	**1.04**	**134**	P		**Pn**	**12 29 37.4**	**+1.5**
NBEZ	**Newall Road No**	**1.07**	**242**	P		**Pn**	**12 29 38.2**	**+2.2**
TOZ	**Tahuroa Road**	**1.09**	**17**	P		**Pn**	**12 29 37.5**	**+1.3**
BKZ	**Black St

CAW	Cannon Point	2.33	180	P	Pn	12 29 47.8 +1.6
TWGZ	Tauwhareparae	2.34	76	P	Pn	12 29 48.3 +1.9
HAZ	Te Kaha	2.35	65	P	Pn	12 29 46.7 +0.3
MTW	Mount Morrison	2.41	173	P	Pn	12 29 48.2 +1.4
TMWZ	Te Maipa	2.41	166	P	Pn	12 29 48.5 +1.5
CNGZ	Carnagh Statio	2.46	84	P	Pn	12 29 49.5 +2.1
PKGZ	Pakihiroa	2.51	70	P	Pn	12 29 49.2 +1.1
TCW	Tory Channel	2.52	194	P	Pn	12 29 49.8 +1.8
WEL	Wellington	2.52	186	P	Pn	12 29 49.6 +1.6
SNZO	South Karori	2.55	187	P	Pn	12 29 49.8 +1.5
PUZ	Puketiti	2.58	75	P	Pn	12 29 49.7 +1.0
PAWZ	Paruwai Farm	2.62	174	P	Pn	12 29 50.5 +1.4
BHW	Baring Head	2.64	184	P	Pn	12 29 50.7 +1.5
MSWZ	Moikau Station	2.65	177	P	Pn	12 29 50.7 +1.3
TRWZ	Traveller	2.66	170	P	Pn	12 29 51.0 +1.4
NNZ	Nelson	2.77	208	P	Pn	12 29 51.9 +1.3
WMGZ	Waiomatatini S	2.78	71	P	Pn	12 29 51.9 +1.1
TKNZ	Takaka Hill	2.79	215	P	Pn	12 29 51.7 +0.8
PLWZ	Palliser	2.80	177	P	Pn	12 29 52.2 +1.3
TUWZ	Tuamarina	2.80	198	P	Pn	12 29 52.6 +1.7
MXZ	Matakaoa Point	2.81	66	P	Pn	12 29 52.4 +1.3
QRZ	Quartz Range	2.85	223	P	Pn	12 29 52.2 +0.8
QRZ	Quartz Range	2.85	223	P	Pn	12 29 52.3 +0.8
CMWZ	Cape Campbell	3.05	192	P	Pn	12 29 55.8 +2.1
BSWZ	Blackbirch Sta	3.08	197	P	Pn	12 29 55.9 +1.9
MRNZ	Matariki Terra	3.18	214	P	Pn	12 29 55.8 +0.8
THZ	Tophouse	3.42	209	P	Pn	12 29 58.9 +1.0
KHZ	Kahutara	3.83	197	P	Pn	12 30 03.9 +1.6
KHZ	Kahutara	3.83	197	P	Pn	12 30 04.0 +1.6
DSZ	Denniston Nort	3.89	219	P	Pn	12 30 03.7 +0.6
GVZ	Greta Valley S	4.47	200	P	Pn	12 30 11.2 +1.2
LTZ	Lake Taylor	4.54	227	P	Pn	12 30 12.1 +1.2
AMCZ	Amberley	4.77	202	P	Pn	12 30 14.1 +0.5
INZ	Inchbonnie	4.82	214	P	Pn	12 30 15.1 +0.9
OXZ	Oxford	5.10	206	P	Pn	12 30 18.0 +0.4
OKCZ	Okains Bay	5.18	197	P	Pn	12 30 19.5 +0.9
MQZ	McQueen's Vall	5.26	200	P	Pn	12 30 19.7 +0.1
AKCZ	Akaroa Harbour	5.36	197	P	Pn	12 30 21.5 +0.8
RACZ	Rakaia	5.43	203	P	Pn	12 30 22.1 +0.5
WACZ	Wakanui South	5.72	204	P	Pn	12 30 25.9 +0.7
RPZ	Rata Peaks	5.80	210	P	Pn	12 30 26.5 +0.3
RPZ	Rata Peaks	5.80	210	P	Pn	12 30 27.7 +1.4
ARCZ	Arundel	5.95	208	P	Pn	12 30 28.5 +0.4
TMZ	Timaru	6.39	207	P	Pn	12 30 34.5 +0.9
ODZ	Otahua Downs	7.09	206	P	Pn	12 30 43.9 +1.5
ODZ	Otahua Downs	7.09	206	P	Pn	12 30 44.7 +2.3

*IDC **24** 13:08:24.4±1.0,23.61N×64.80E,h0km,mb3.6/9, mb1 3.8/10,mb1mx3.5/46,mbtmp3.7/10,ML3.5/1,MS3.2/6, Ms1 3.2/6,ms1mx2.7/87,Error ellipse: s-maj=26.3km s-min=22.6km az=9.0*

ISC 24 13:08:29.6±1.1,23.6N±0.2×64.6E±0.1,h35km,n14, σ1§36/11,mb3.6/8,MS3.0/6,Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	Wadi Sarin	5.52	267	Pn	Pn	13 09 50.5	+1.0
	1.4nm,0.3s,baz=97,slow=11,SNR=4.5						
WSAR				Sn	Sn	13 10 48.9	-2.8
	2.6nm,0.3s,baz=315,slow=20,SNR=4.8						
AAK	Ala-Archa	20.64	21	P	P	13 13 05.4	-0.9
	1.9nm,0.6s,baz=207,slow=13,SNR=5.2						
AAK				LR	LR	13 22 13.6	
	comp=Z,66nm,21.8s,baz=215,slow=40						
GNI	Garni	23.50	319	LR	LR	13 23 12.3	
	comp=Z,25nm,20.4s,baz=236,slow=38						
MKAR	Makanchi Array	27.11	27	P	P	13 14 08.4	-0.9
	0.9nm,0.8s,baz=205,slow=8.5,SNR=4.7						
ARU	Arti	33.05	354	LR	LR	13 29 12.8	
	comp=Z,34nm,19.4s,baz=217,slow=38						
ZALV	Zalesovo Beam	33.86	21	P	P	13 15 08.0	-0.7
	0.7nm,0.6s,baz=235,slow=10,SNR=4.1						
ZALV				LR	LR	13 30 03.3	
	comp=Z,21nm,20.2s,baz=317,slow=38						
KMBO	Kilima Mbogo	36.25	231	LR	LR	13 30 21.6	
	comp=Z,40nm,18.1s,baz=82,slow=36						
FINES	FINESS Array B	46.03	335	P	P	13 16 50.7	+1.2
	1.5nm,0.9s,baz=145,slow=15,SNR=3.3						
NOA	NORSAR Array B	52.10	330	P	P	13 17 36.3	+0.3
	0.4nm,0.8s,baz=124,slow=7.8,SNR=1.6						
ESDC	Sonseca Array	59.21	303	P	P	13 18 28.6	+1.1
	0.4nm,0.8s,baz=81,slow=8.1,SNR=2.3						
TORD	Torodi Ar. Bea	60.22	272	P	P	13 18 35.4	+0.7
	1.0nm,0.8s,baz=69,slow=7.0,SNR=5.8						
TSUM	Tsumeb	62.60	231	LR	LR	13 44 30.5	
	comp=Z,80nm,18.0s,baz=330,slow=34						
WRA	Warramunga Arr	80.56	117	P	P	13 20 38.3	-0.6
	0.5nm,0.9s,baz=316,slow=4.7,SNR=9.5						
ASAR	Alice Springs	82.15	120	P	P	13 20 46.4	-0.4
	0.5nm,0.9s,baz=308,slow=5.0,SNR=4.7						

*IDC **24** 13:27:37.7±0.7,29.66N×129.76E,h0km,mb3.8/11, mb1 3.9/18,mb1mx3.8/38,mbtmp3.8/18,ML3.2/6,MS3.4/27, Ms1 3.4/27,ms1mx3.1/94,Error ellipse: s-maj=20.6km s-min=13.6km az=91.0*

*JMA **24** 13:27:39.6±0.1,29.62N×129.76E,h8km±2km,M4.2*

JMA Felt IV J1.

*NIED **24** 13:27:39.7,29.62N×129.76E,h8km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.48; Mθθ2.08; Mφφ-0.61; Mrθ1.00; Mθφ-0.76; Mφr0.07; Fault plane solution: Mo2.16000×10¹⁵ NP1: φs125.00000°,δ35.00000°,λ-60.00000°. NP2: φs269.00000°,δ61.00000°,λ-109.00000°.*

*NEIC **24** 13:27:44.6±1.4,29.68N±0.06×129.82E±0.09,h48km±7km, mb4.5/38 Error ellipse: s-maj=11.5km s-min=9.1km az=93.0*

ISC 24 13:27:39.5±1.0,29.59N±0.03×129.79E±0.04,h13km±6km, n110,σ0§92/103,mb4.3/29,MS3.4/22,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	Nakanoshima	0.26	17	P	Pg	13 27 44.8	-0.3
JNN				S	Sg	13 27 48.5	-0.3
JTAJ	Takarajima	0.67	229	P	Pb	13 27 52.8	-0.3
JYAK	Yakushimahirau	0.90	44	P	Pg	13 27 56.4	-0.6
JYAK				S	Sg	13 28 08.2	-0.6
JKC	Kuchinoerabu	0.94	22	P	Pg	13 27 57.0	-0.7
JKC				S	Sb	13 28 09.6	-0.4
JAM	Amami Oshima	1.19	188	P	Pn	13 28 01.1	-0.7
JAM				S	Sb	13 28 17.2	+0.1
JMTN	Minamitane	1.26	50	P	Pn	13 28 02.3	-0.5
JMTN				eS	Sb	13 28 18.8	-0.4
JZK	Kikaishima	1.28	173	P	Pg	13 28 04.9	+0.7
JAMN	Amaminishikomi	1.45	202	P	Pn	13 28 04.5	-0.9
JTN	Tanegashima 3	1.48	44	P	Pn	13 28 05.5	-0.4
JTN				eS	Sn	13 28 25.0	-0.1
JTK	Tokunoshima	1.94	202	P	Pn	13 28 11.7	-0.5
JTK				eS	Sn	13 28 35.5	-1.0
JSU	Suzuyama	1.99	17		Pn	13 28 12.3	-0.7
JOKE	Okinoerabujima	2.47	206	P	Pn	13 28 19.4	0.0
JYRO	Yoronjima	2.81	205	P	Pn	13 28 24.2	0.0
JYRO				eS	Sn	13 28 57.3	-0.7
JIH	Iheya	3.01	213	P	Pn	13 28 27.1	+0.2
JIH				S	Sn	13 29 01.3	-1.5
JOW	Kunigami	3.06	206	Pn	Pn	13 28 28.4	+0.8
	11nm,0.3s,baz=88,slow=22,SNR=16						
JOW				Sn	Sb	13 29 08.1	-2.9
	20nm,0.3s,baz=194,slow=28,SNR=4.0						
JOW	Kunigami	3.06	206	P	Pn	13 28 27.9	+0.3
JOW	Kunigami	3.06	206	Pn	Pn	13 28 27.8	+0.3
JNTH	Nagotoyohara	3.44	207	P	Pn	13 28 34.1	+1.4
JNU	Nakatsue	3.64	15	Pn	Pn	13 28 36.1	+0.5
	3.9nm,0.3s,baz=197,slow=10,SNR=20						
JNU				Sn	Sn	13 29 20.0	+1.6
	3.1nm,0.3s,baz=135,slow=20,SNR=1.1						
JNU	Nakatsue	3.64	15		Pn	13 28 36.7	+1.1
JAGN	Aguni-jima	3.74	218	P	Pn	13 28 38.2	+1.3
JAGN				S	Sn	13 29 21.3	+0.5
JJT3	Tamagusuku3	3.87	208	eS	Sn	13 29 26.1	+2.2
JKDJ	Kitadaitoujima	3.87	159	P	Pn	13 28 39.2	+0.5
JKDJ				eS	Sn	13 29 23.2	-0.8
JMZ	Minamidaito 2	3.97	161	eS	Sn	13 29 25.3	-1.1
JKE	Kume jima 2	4.20	220	P	Pn	13 28 44.8	+1.6
JKE				eS	Sn	13 29 32.5	+0.4
JHS	Saijyo	6.08	27	Pn	Pn	13 29 10.6	+1.4
KSRS	Korea Array	7.99	349	Pn	Pn	13 29 35.7	+0.4
	0.1nm,0.3s,baz=176,slow=13,SNR=18						
KSRS				LR	LR	13 32 56.5	
	comp=Z,96nm,19.0s,baz=160,slow=40						
KS19	Wonju Array Si	8.05	349		Pn	13 29 38.2	+2.1
INU	Inuyama	8.38	45		Pn	13 29 42.8	+2.2
JGF	Kuroka	8.76	45	Pn	Pn	13 29 46.5	+0.7
JHJ	Hachijo jima 2	9.24	65	LR	LR	13 32 52.2	
	comp=Z,72nm,19.7s,baz=244,slow=34						
MAJO	Matsushiro	9.89	43	Pn	Pn	13 30 03.3	+1.9
MJB9	Matsu-Tunnel	9.89	43	Pn	Pn	13 30 03.2	+1.8
MJAR	Matsushiro Arr	9.89	43	Pn	Pn	13 30 03.0	+1.6
	0.1nm,0.3s,baz=219,slow=9.9,SNR=2.1						
JCJ	Chichijima	11.20	100	Pn	Pn	13 30 21.2	+1.8
	5.2nm,0.3s,baz=296,slow=19,SNR=6.0						
JMM	Marumori	12.32	45	Pn	Pn	13 30 36.2	+1.5
USRK	Ussuriysk Ar.	14.69	6	LR	LR	13 36 53.0	
	comp=Z,116nm,18.4s,baz=172,slow=38						
HKPS	Hong Kong Po S	15.84	246	P	P	13 31 26.9	+0.9
HKPS				IAmb	IAmb	13 31 34.9	
	comp=Z,88nm,1.4s						
ASAJ	Asahikawa	17.72	32	P	Pn	13 31 44.6	-1.3
	comp=Z,0.2nm,0.3s,baz=222,slow=12,SNR=3.3						
ASAJ				LR	LR	13 38 43.9	
	comp=Z,60nm,20.8s,baz=253,slow=38						
JKA	Kamikawa-asahi	17.72	32	P	Pn	13 31 44.6	-1.3
KLR	Kul'dur	19.67	4	P	P	13 32 07.7	-0.4
	comp=Z,0.1nm,0.3s,baz=180,slow=14,SNR=2.7						
KLR				LR	LR	13 39 47.5	
	comp=Z,59nm,18.2s,baz=188,slow=37						
GUMO	Guam	21.18	136	LR	LR	13 39 16.0	
	comp=Z,20nm,20.1s,baz=80,slow=33						
DAV	Davao City (W)	22.75	191	LR	LR	13 43 20.7	
	comp=Z,56nm,18.1s,baz=360,slow=41						
ULN	Ulaanbaatar	25.29	322	P	P	13 33 05.2	-0.5
SONM	Songino Array	25.62	322	P	P	13 33 08.8	+0.1
	comp=Z,1.8nm,0.8s,baz=138,slow=10,SNR=11						
SONM				LR	LR	13 43 32.7	
	comp=Z,83nm,19.5s,baz=320,slow=37						
SONM	Songino Array	25.62	322	IAmb	IAmb	13 33 11.8	
	comp=Z,1.7nm,1.0s						
CMAR	Chiang Mai Arr	30.18	255	LR	LR	13 46 42.2	
	comp=Z,96nm,18.5s,baz=65,slow=38						
SIJI	Sorong	30.32	177	LR	LR	13 45 23.3	
	comp=Z,55nm,19.6s,baz=52,slow=35						
PETK	Petropavlovsk-	31.13	33	LR	LR	13 47 27.4	
	comp=Z,63nm,18.4s,baz=231,slow=38						
MA2	Magadan	33.20	19	LR	LR	13 48 58.5	
	comp=Z,49nm,18.2s,baz=246,slow=39						
KAPI	Kappang	35.73	197	LR	LR	13 51 05.7	
	comp=Z,38nm,18.1s,baz=358,slow=39						
SEY	Seymchan	36.41	17	LR	LR	13 51 01.2	
	comp=Z,25nm,19.7s,baz=344,slow=39						
SMY	Shemya	39.73	42	P	P	13 35 11.6	0.0
RABL	Rabaul	39.86	144	P	P	13 35 13.1	+0.1
MK31	Makanchi Array	40.42	309	P	P	13 35 17.1	-0.3
MKAR	Makanchi Array	40.42	309	P	P	13 35 17.1	-0.3
	comp=Z,0.7nm,0.8s,baz=94,slow=11,SNR=5.7						
MKAR				LR	LR	13 55 20.6	
	comp=Z,53nm,19.5s,baz=218,slow=41						
ZAA0	Zalesovo Array	40.49	320	P	P	13 35 17.5	-0.3
ZALV	Zalesovo Beam	40.49	320	P	P	13 35 17.2	-0.6
	comp=Z,1.7nm,0.6s,baz=111,slow=8.3,SNR=10						
ZALV				LR	LR	13 54 01.6	
	comp=Z,39nm,19.9s,baz=96,slow=39						
TIXI	Tiksi	42.11	360	LR	LR	13 53 36.1	
	comp=Z,76nm,18.8s,baz=181,slow=37						
PMG	Port Moresby	42.23	154	LR	LR	13 50 37.2	
	comp=Z,50nm,19.2s,baz=264,slow=33						
KURK	Kurchatov	43.41	314	P	P	13 35 41.5	-0.2
KURBB	Kurchatov Arra	43.45	314	P	P	13 35 41.4	-0.7
	comp=Z,1.0nm,0.5s,baz=98,slow=8.5,SNR=5.9						
AAK	Ala-Archa	45.77	302	LR	LR	13 58 32.9	
	comp=Z,52nm,19.6s,baz=256,slow=41						
FITZ	Fitzroy Crossi	47.58	185	LR	LR	14 01 02.2	
	comp=Z,15nm,18.9s,baz=16,slow=42						
KK31	Karatay Array	48.67	303	P	P	13 36 23.5	+0.2
KKAR	Karatay Array	48.67	303	P	P	13 36 23.5	+0.2
BRVK	Borovoye	48.81	316	P	P	13 36 23.5	-0.8
BRVK				IAmb	IAmb	13 36 25.6	
	comp=Z,6.1nm,0.8s						
WB0	Warramunga Arr	49.27	174	P	P	13 36 28.6	+0.5
WRAB	Tennant Creek	49.43	174	P	P	13 36 29.4	+0.1
WRAB				IAmb	IAmb	13 36 40.7	
	comp=Z,7.6nm,1.1s						
WRA	Warramunga Arr	49.44	174	P	P	13 36 29.9	+0.5
	comp=Z,1.3nm,0.7s,baz=356,slow=8.2,SNR=21						
WB2	Warramunga Arr	49.44	174	P	P	13 36 30.2	+0.9
WR0	Warramunga Arr	49.48	174	P	P	13 36 30.4	+0.8
WR0				IAmb	IAmb	13 36 31.5	
	comp=Z,9.7nm,1.3s						
AS31	Alice Springs	53.10	175	P	P	13 36 57.9	+1.1
ASAR	Alice Springs	53.10	175	P	P	13 36 57.9	+1.1
	comp=Z,0.6nm,0.6s,baz=10.0,slow=13,SNR=20						
ABKAR	Akbulak array	55.40	312	P	P	13 37 13.2	-0.1
AKTO	Aktyubinsk	56.50	313	LR	LR	14 02 03.9	
	comp=Z,55nm,18.4s,baz=89,slow=37						
TTA	Tatalina	56.95	32	P	P	13 37 24.1	-0.2
L19K	White Mountain	57.51	33	P	P	13 37 28.5	+0.3
L19K				IAmb	IAmb	13 37 29.8	
	comp=Z,8.2nm,1.5s						
M19K	Big River Lodg	57.74	33	P	P	13 37 29.5	-0.4
M19K				IAmb	IAmb	13 37 32.9	
	comp=Z,10nm,1.4s						
J20K	Nowinta River	57.76	30	P	P	13 37 29.3	-0.5
J20K				IAmb	IAmb	13 37 56.1	
	comp=Z,4.5nm,1.4s						
K20K	Telida	57.82	31	P	P	13 37 30.3	-0.1
K20K				IAmb	IAmb	13 37 32.1	
	comp=Z,2.4nm,0.8s						
IMAR	Indian Mountai	57.88	28	P	P	13 37 30.1	-0.6
I21K	Tanana	58.64	29	P	P	13 37 36.3	+0.3
I21K				IAmb	IAmb	13 38 02.2	
	comp=Z,6.2nm,1.4s						
PPLA	Purkeypile	58.70	32	P	P	13 37 36.9	+0.3
CAST	Castle Rocks	58.71	31	P	P	13 37 36.4	-0.2
CAST				IAmb	IAmb	13 37 38.1	
	comp=Z,2.2nm,1.0s						
H23K	Yukon River	59.61	28	P	P	13 37 43.2	+0.4
H23K				IAmb	IAmb	13 37 46.9	
	comp=Z,4.7nm,1.2s						
RND	Reindeer	60.16	31	P	P	13 37 45.7	-0.9
RND				IAmb	IAmb	13 37 52.7	
	comp=Z,3.6nm,1.0s						
MDM	Murphy Dome	60.25	29	P	P	13 37 47.1	0.0
MDM				IAmb	IAmb	13 37 56.5	
	comp=Z,2.5nm,0.9s						
H24K	Noodor Dome	60.29	28	P	P	13 37 48.2	+0.6
H24K				IAmb	IAmb	13 38 01.9	
	comp=Z,2.7nm,1.1s						
SEW	Seward	60.31	35	P	P	13 37 47.2	-0.4
ILAR	Eielson Array	60.84	29	P	P	13 37 49.8	-1.4
	comp=Z,0.5nm,0.9s,baz=292,slow=7.8,SNR=5.8						
BMAR	Burnt Mountain	61.39	26	P	P	13 37 55.9	+1.0
DOT	Dot Lake	62.24	30	P	P	13 37 59.9	-0.9
DOT				IAmb	IAmb	13 38 01.2	
	comp=Z,1.8nm,0.9s						
M26K	Nabesna, AK	62.97	31	P	P	13 38 05.8	+0.2
M26K				IAmb	IAmb	13 38 06.6	
	comp=Z,4.1nm,1.1s						
VRDI	Verde Repeater	63.01	33	P	P	13 38 06.2	+0.1
BCAR	Beaver Creek A	63.37	31	P	P	13 38 08.2	-0.1
M27K	Edge Creek, AK	63.49	31	P	P	13 38 07.9	-1.3
M27K				IAmb	IAmb	13 38 26.0	
	comp=Z,6.2nm,1.4s						
A36M	Sachs Harbour	66.61	19	P	P	13 38 29.1	0.0
C36M	Paulatuk	68.07	22	P	P	13 38 37.1	-1.2
C36M				IAmb	IAmb	13 38 37.7	
	comp=Z,11nm,1.4s						
KBZ	Khabaz	68.12	309	LR	LR	14 12 39.3	
	comp=Z,42nm,18.3s,baz=154,slow=40						
FINES	FINESS Array B	70.63	330	LR	LR	14 12 45.6	
	comp=Z,55nm,18.5s,baz=218,slow=38						
RES	Resolute Bay	72.00	11	P	P	13 39 01.6	-0.9
RES				IAmb	IAmb	13 39 01.9	
	comp=Z,5.2nm,1.5s						
YKA	Yellowknife Ar	74.91	26	P	P	13 39 19.6	-0.2
	comp=Z,1.0nm,0.8s,baz=305,slow=5.5,SNR=24						
HFS	Hagfors	76.49	332	LR	LR	14 18 19.9	
	comp=Z,41nm,20.8s,baz=182,slow=40						
NOA	NORSAR Array B	76.91	334	P	P	13 39 31.8	+0.5
	comp=Z,0.5nm,0.8s,baz=28,slow=7.6,SNR=3.4						
NOA				LR	LR	14 16 54.0	
	comp=Z,21nm,18.2s,baz=195,slow=38						
BORG	Borgarnes	83.30	348	LR	LR	14 21 21.2	
	comp=Z,31nm,18.1s,baz=184,slow=39						
GERES	GERESS Array B	83.35	323	P	P	13 40 05.8	-0.6
	comp=Z,0.2nm,0.4s,baz=90,slow=2.9,SNR=2.7						
FCC	Fort Churchill	84.72	21	P	P	13 40 12.1	-0.8
FRB	Frobisher Bay	85.85	8	LR	LR	14 20 51.7	
	comp=Z,52nm,19.8s,baz=308,slow=37						
PDAR	Pinedale Array	89.69	39	P	P	13 40 37.1	-0.6
	comp=Z,0.2nm,0.3s,baz=318,slow=1.2,SNR=2.2						

*NEIC **24** 13:46:27.2±0.7,30.05±0.1×177.6W±0.3,h46km±12km, mb4.3/8, Error ellipse: s-maj=39.7km s-min=11.6km az=63.0*

*IDC **24** 13:46:28.9±3.9,29.90S×177.76W,h52km±29km,mb3.9/4, mb1 4.0/4,mb1mx3.6/23,mbtmp4.1/4,Error ellipse: s-maj=54.0km s-min=35.4km az=147.0*

ISC 24 13:46:25.9±1.4,30.21S±0.07×177.7W±0.2,h35km,n28, σ1§64/22,mb4.3/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.97	350	LR	LR	13 46 35.0	
	comp=Z,132nm,20.6s,baz=118,slow=9.2						
RAO				P	Pn	13 46 43.1	+0.1
	323nm,0.3s,baz=82,slow=11,SNR=20						
RAO				S	Sn	13 46 53.6	-1.9
	960nm,0.3s,baz=267,slow=23,SNR=12						
RAO	Raoul Island	0.97	350		Pn	13 46 42.8	-0.2
RAO				Sn	Sn	13 46 52.4	-3.2
URZ	Urewera	9.09	207	P	Pn	13 48 31.7	-2.9
	0.3nm,0.3s,baz=154,slow=21,SNR=1.6						
URZ				S	Sn	13 50 14.0	-1.7
	1.4nm,0.3s,baz=38,slow=23,SNR=6.6						
URZ	Urewera	9.09	207	Pn	Pn	13 48 32.2	-2.4
BKZ	Black Stump Fm	10.12	206	Pn	Pn	13 48 46.5	-2.2
CTA	Charters Tower	34.00	279	P	P	13 53 08.7	+2.2
	3.0nm,0.7s,baz=90,slow=13,SNR=1.5						
STKA	Stephens Creek	34.75	257	P	P	13 53 14.6	+1.7
	1.5nm,0.4s,baz=99,slow=12,SNR=9.7						
STKA	Stephens Creek	34.75	257	IAmb	IAmb	13 53 15.0	
	comp=Z,0.9nm,1.1s						
BBOO	Buckleboo	39.25	254	P	P	13 53 52.0	+0.8
AS31	Alice Springs	43.35	267	P	P	13 54 25.3	+0.3
ASAR	Alice Springs	43.35	267	P	P	13 54 25.1	+0.1
	comp=Z,0.9nm,0.5s,baz=105,slow=7.4,SNR=31						
ASAR				PcP	PcP	13 56 15.1	+1.8
	comp=Z,0.2nm,0.8s,baz=128,slow=4.0,SNR=1.7						
WR0	Warramunga Arr	44.14	272	P	P	13 54 31.6	+0.3
WR0				IAmb	IAmb	13 54 49.5	
	comp=Z,5.8nm,1.2s						
WB2	Warramunga Arr	44.31	272	P	P	13 54 32.8	+0.1
WB2				IAmb	IAmb	13 54 35.2	
	comp=Z,4.4nm,0.8s						
WRAB	Tennant Creek	44.32	272	P	P	13 54 32.7	0.0
WRAB				IAmb	IAmb	13 54 34.6	
	comp=Z,5.3nm,1.0s						
WRA	Warramunga Arr	44.32	272	P	P	13 54 33.3	+0.5
	comp=Z,1.5nm,0.3s,baz=110,slow=8.1,SNR=60						
WB0	Warramunga Arr	44.35	272	P	P	13 54 33.5	+0.5
WB0				IAmb	IAmb	13 54 35.2	
	comp=Z,4.0nm,0.7s						
QSPA	South Pole Qui	59.90	180	P	P	13 56 29.6	+1.5
H03S2	Juan Fernandez	80.38	123	T	T	15 27 50.5	
	baz=238,SNR=15						
H03S1	Juan Fernandez	80.39	123	T	T	15 27 53.8	
	baz=238,SNR=12						
H03S3	Juan Fernandez	80.39	123	T	T	15 27 53.8	
	baz=238,SNR=14						
H03N3	Juan Fernandez	80.57	123	T	T	15 28 03.3	
	baz=242						
H03N2	Juan Fernandez	80.57	123	T	T	15 28 01.1	
	baz=242						
H03N1	Juan Fernandez	80.58	123	T	T	15 28 01.7	
	baz=242						
H10N3	ASCENSION HYDR	88.88	154	T	T	16 41 38.9	
	baz=203,slow=76,SNR=4.2						
H10N1	ASCENSION HYDR	88.88	154	T	T	16 41 41.9	
	baz=203,slow=76,SNR=7.3						
H10N2	ASCENSION HYDR	88.90	154	T	T	16 41 43.0	
	baz=203,slow=76,SNR=5.8						
FINES	FINESS Array B	145.05	340	PKP	PKPbc	14 05 57.3	-0.9
	comp=Z,1.6nm,0.5s,baz=49,slow=3.2,SNR=16						
AKASG	Malin Array Be	151.29	323	PKPbc	PKPbc	14 06 15.5	+0.1
	comp=Z,0.8nm,0.3s,baz=56,slow=2.7,SNR=3.6						

*IDC **24** 14:07:01.6±3.5,20.71N×144.74E,h150km±30km, mb3.2/10,mb1 3.4/11,mb1mx3.2/37,mbtmp3.7/11,Error ellipse: s-maj=27.3km s-min=18.4km az=94.0*

ISC 24 14:07:01.5±0.9,20.7N±0.1×144.8E±0.2,h150km,n11, σ1§02/12,mb3.5/10,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	6.78	340	P	Pn	14 08 39.4	+0.8
	1.1nm,0.3s,baz=273,slow=21,SNR=1.6						
JCJ				S	Sn	14 09 53.6	-1.2
	3.2nm,0.3s,baz=286,slow=22,SNR=1.2						
KSRS	Korea

ISC 24 14:24:01.2±2.2, 14°85N±0°10×87°50W±0°08, h0km±15km, n25, σ1922/34, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**0.81**	**164**	*eP*	**Pg**	**14 24 17.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**0.81**	**164**	*eP*	**Pg**	**14 24 17.0**	**+0.1**
LCND	**La Caada**	**1.57**	**194**	*eP*	**Pn**	**14 24 29.2**	**-1.2**
LCND				*eS*	**Sn**	**14 24 51.5**	**0.0**
LCND				IAML		14 24 57.3	
	comp=Z,805nm,0.3s						
LCND	**La Caada**	**1.57**	**194**	*eP*	**Pn**	**14 24 29.2**	**-1.2**
LCND				*eS*	**Sn**	**14 24 51.5**	**0.0**
LCND				IAML		14 24 57.3	
	comp=Z,805nm,0.3s						
PACA	**Pacayal**	**1.58**	**210**	*eP*	**Pn**	**14 24 29.6**	**-1.1**
PACA	**Pacayal**	**1.58**	**210**	*eP*	**Pn**	**14 24 29.6**	**-1.1**
PQSS	**Presa 15 de Se**	**1.59**	**220**	*eP*	**Pn**	**14 24 29.1**	**-1.5**
PQSS	**Presa 15 de Se**	**1.59**	**220**	*eP*	**Pn**	**14 24 29.1**	**-1.5**
SCLA	**Alcaldia de Sa**	**1.65**	**227**	*eP*	**Pn**	**14 24 30.5**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.65**	**227**	*eP*	**Pn**	**14 24 30.5**	**-0.9**
COEB	**Comit de Eme**	**1.67**	**217**	*eP*	**Pn**	**14 24 31.1**	**-0.7**
COEB				IAML		14 24 56.5	
	comp=Z,764nm,0.3s						
COEB	**Comit de Eme**	**1.67**	**217**	*eP*	**Pn**	**14 24 31.1**	**-0.7**
COEB				IAML		14 24 56.5	
	comp=Z,764nm,0.3s						
COEG	**Centro de Oper**	**1.81**	**228**	*eP*	**Pn**	**14 24 32.9**	**-0.9**
COEG				IAML		14 25 02.3	
	comp=Z,865nm,0.5s						
COEG	**Centro de Oper**	**1.81**	**228**	*eP*	**Pn**	**14 24 32.9**	**-0.9**
COEG				IAML		14 25 02.3	
	comp=Z,865nm,0.5s						
MTO3	**Montecristo**	**1.86**	**256**	*eP*	**Pn**	**14 24 32.6**	**-1.9**
MTO3				*eS*	**Sn**	**14 24 58.0**	**-0.7**
MTO3				*eS*	**Sn**	**14 24 58.1**	**-0.7**
LFRS	**El Faro**	**1.94**	**231**	*eP*	**Pn**	**14 24 35.0**	**-0.6**
LFRS	**El Faro**	**1.94**	**231**	*eP*	**Pn**	**14 24 35.0**	**-0.6**
MRL	**Marmol**	**2.12**	**277**	*eP*	**Pn**	**14 24 35.2**	**-3.0**
MRL				*eS*	**Sn**	**14 25 06.5**	**+1.0**
CRIN	**San Cristobal**	**2.18**	**168**	*eP*	**Pb**	**14 24 40.3**	**-1.2**
CRIN				*eS*	**Sb**	**14 25 11.2**	**+2.1**
CEVE	**Cerro Verde**	**2.29**	**244**	*eP*	**Pn**	**14 24 40.5**	**0.0**
CEVE				IAML		14 25 17.6	
	comp=Z,365nm,0.3s						
CEVE	**Cerro Verde**	**2.29**	**244**	*eP*	**Pn**	**14 24 40.5**	**0.0**
CEVE				IAML		14 25 17.6	
	comp=Z,365nm,0.3s						
CNGN	**Cerro Negro**	**2.46**	**161**	*eP*	**Pn**	**14 24 43.7**	**+1.0**
CNGN				*eS*	**Sb**	**14 25 18.0**	**+0.8**
NBG	**Las Nubes**	**2.77**	**265**	*eP*	**Pn**	**14 24 49.4**	**+2.3**
NBG				*eS*	**Sb**	**14 25 27.1**	**+0.7**
BOAB	**BOACO BROADBAN**	**2.97**	**143**	*eP*	**Pn**	**14 24 49.0**	**-0.7**
FUG	**Fuego 3**	**3.26**	**263**	*eP*	**Pb**	**14 25 00.9**	**+0.8**
FUG				*eS*	**Sb**	**14 25 41.3**	**+0.9**

*NOU **24** 14:32:20.8, 39°99S×174°60E, h118km, MLv4.3/10, North Island, New Zealand*
*WEL **24** 14:32:21.9±0.5, 40°S±2°×17°5E±°, h98km±5km, M3.7/60, ML4.0/53, MLv3.7/60, Error ellipse: s-maj=0.0km s-min=0.0km az=96.7*

ISC 24 14:32:19.3±1.5, 39°96S±0°03×174°55E±0°04, h126km±8km, n160, σ0997/170, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.39**	**59**	P	**Pn**	**14 32 38.1**	**+0.7**
WAZ				S	**Sn**	**14 32 50.8**	**-0.3**
LREZ	**Lake Rotokare**	**0.51**	**347**	P	**Pn**	**14 32 38.5**	**+0.5**
OHWZ	**Ohakea**	**0.64**	**113**	P	**Pn**	**14 32 40.1**	**+1.3**
OHWZ				S	**Sn**	**14 32 53.3**	**-0.2**
PREZ	**Palmer Road**	**0.69**	**334**	P	**Pn**	**14 32 39.8**	**+0.5**
NMEZ	**Namu Road**	**0.75**	**316**	P	**Pn**	**14 32 40.1**	**+0.4**
NMEZ				S	**Sn**	**14 32 54.6**	**-0.5**
NEZ	**North Egmont**	**0.77**	**333**	P	**Pn**	**14 32 40.4**	**+0.4**
KHEZ	**Kahui Hut**	**0.78**	**328**	P	**Pn**	**14 32 40.5**	**+0.4**
KHEZ				S	**Sn**	**14 32 54.7**	**-1.1**
DREZ	**Durham Road**	**0.81**	**340**	P	**Pn**	**14 32 40.7**	**+0.4**
DREZ				S	**Sn**	**14 32 55.2**	**-0.9**
VRZ	**Vera Road**	**0.85**	**11**	P	**Pn**	**14 32 40.9**	**+0.4**
VRZ				S	**Sn**	**14 32 56.0**	**-0.6**
NBEZ	**Newall Road No**	**0.87**	**322**	P	**Pn**	**14 32 41.2**	**+0.5**
PKE	**Pukeiti**	**0.88**	**330**	P	**Pn**	**14 32 41.4**	**+0.5**
MHEZ	**Mangahewa**	**0.90**	**349**	P	**Pn**	**14 32 41.7**	**+0.7**
PKVZ	**Pokaka**	**0.91**	**43**	P	**Pn**	**14 32 41.5**	**+0.4**
MTVZ	**Mangateitei**	**0.91**	**51**	P	**Pn**	**14 32 41.5**	**+0.3**
KIW	**Kapiti Island**	**0.94**	**163**	P	**Pn**	**14 32 42.3**	**+0.9**
KIW				S	**Sn**	**14 32 56.6**	**-1.5**
DUWZ	**D'Urville Isla**	**0.97**	**210**	P	**Pn**	**14 32 42.4**	**+0.8**
DUWZ				S	**Sn**	**14 32 57.7**	**-0.9**
OGWZ	**Otaki Gorge**	**0.98**	**151**	P	**Pn**	**14 32 42.8**	**+1.1**
OGWZ				S	**Sn**	**14 32 57.7**	**-0.9**
TRVZ	**Turoa**	**1.01**	**50**	P	**Pn**	**14 32 42.5**	**+0.3**
WNVZ	**Wahianoa**	**1.02**	**52**	P	**Pn**	**14 32 42.7**	**+0.4**
POWZ	**Post Office Ro**	**1.03**	**115**	P	**Pn**	**14 32 43.2**	**+1.1**
DRZ	**Dome Shelter**	**1.04**	**49**	P	**Pn**	**14 32 43.2**	**+0.6**
FWVZ	**Far West T-bar**	**1.04**	**48**	P	**Pn**	**14 32 42.8**	**+0.2**
WHVZ	**Whangaehu Hut**	**1.05**	**50**	P	**Pn**	**14 32 42.9**	**+0.3**
MRZ	**Mangatainoka R**	**1.05**	**132**	P	**Pn**	**14 32 43.4**	**+1.0**
MRZ				S	**Sn**	**14 32 58.7**	**-1.2**
MOVZ	**Moawhango**	**1.08**	**60**	P	**Pn**	**14 32 42.9**	**+0.1**
TSZ	**Takapari Road**	**1.09**	**96**	P	**Pn**	**14 32 43.5**	**+0.7**
TUVZ	**Tukino**	**1.10**	**51**	P	**Pn**	**14 32 43.5**	**+0.5**
NGZ	**Ngauruhoe**	**1.13**	**46**	P	**Pn**	**14 32 43.6**	**+0.3**
SNVZ	**South Ngauruho**	**1.14**	**48**	P	**Pn**	**14 32 43.9**	**+0.4**
WTVZ	**West Tongariro**	**1.16**	**44**	P	**Pn**	**14 32 44.0**	**+0.3**
NNVZ	**North Ngauruho**	**1.17**	**45**	P	**Pn**	**14 32 44.0**	**+0.3**
OTVZ	**Oturere**	**1.17**	**48**	P	**Pn**	**14 32 44.3**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.19**	**142**	P	**Pn**	**14 32 44.9**	**+1.1**
KRVZ	**Karewarewa**	**1.21**	**45**	P	**Pn**	**14 32 44.5**	**+0.4**
CAW	**Cannon Point**	**1.21**	**161**	P	**Pn**	**14 32 45.3**	**+1.3**
ETVZ	**East Tongariro**	**1.22**	**48**	P	**Pn**	**14 32 44.8**	**+0.6**
NTVZ	**North Tongarir**	**1.22**	**46**	P	**Pn**	**14 32 44.6**	**+0.4**
TMVZ	**Te Maari**	**1.23**	**47**	P	**Pn**	**14 32 44.8**	**+0.5**
PRWZ	**Pori Road**	**1.24**	**119**	P	**Pn**	**14 32 45.7**	**+1.5**
BHHZ	**Black Hill Sta**	**1.26**	**69**	P	**Pn**	**14 32 44.7**	**+0.2**
PNHZ	**Pukenui**	**1.27**	**88**	P	**Pn**	**14 32 45.5**	**+0.9**
TCW	**Tory Channel**	**1.27**	**189**	P	**Pn**	**14 32 45.8**	**+1.2**
DVHZ	**Dannevirke**	**1.28**	**106**	P	**Pn**	**14 32 45.7**	**+1.0**
TIWZ	**Tintock**	**1.31**	**129**	P	**Pn**	**14 32 46.4**	**+1.4**
KATZ	**Kakaramea**	**1.32**	**42**	P	**Pn**	**14 32 45.9**	**+0.6**
WEL	**Wellington**	**1.33**	**173**	P	**Pn**	**14 32 46.6**	**+1.3**
SNZO	**South Karori**	**1.35**	**175**	P	**Pn**	**14 32 46.9**	**+1.4**
MTW	**Mount Morrison**	**1.40**	**149**	P	**Pn**	**14 32 47.2**	**+1.1**
RITZ	**Rihia Road**	**1.41**	**46**	P	**Pn**	**14 32 46.9**	**+0.7**
KRHZ	**Kereru**	**1.44**	**78**	P	**Pn**	**14 32 47.1**	**+0.7**
RATZ	**Rangitukua**	**1.44**	**41**	P	**Pn**	**14 32 47.7**	**+1.1**
WPHZ	**Waipukurau**	**1.46**	**95**	P	**Pn**	**14 32 47.7**	**+1.1**
HIZ	**Hauiti**	**1.46**	**9**	P	**Pn**	**14 32 47.3**	**+0.5**
HIZ	**Hauiti**	**1.46**	**9**	P	**Pn**	**14 32 47.6**	**+0.8**
BHW	**Baring Head**	**1.47**	**171**	P	**Pn**	**14 32 48.0**	**+1.2**
BFZ	**Birch Farm**	**1.48**	**120**	P	**Pn**	**14 32 48.1**	**+1.1**
BFZ	**Birch Farm**	**1.48**	**120**	P	**Pn**	**14 32 48.2**	**+1.3**
TMWZ	**Te Maipa**	**1.54**	**139**	P	**Pn**	**14 32 49.0**	**+1.4**
KWHZ	**Kaweka Forest**	**1.54**	**70**	P	**Pn**	**14 32 48.8**	**+1.1**
TUWZ	**Tuamarina**	**1.54**	**197**	P	**Pn**	**14 32 48.5**	**+0.9**
NNZ	**Nelson**	**1.54**	**215**	P	**Pn**	**14 32 48.6**	**+1.0**
WATZ	**Wairara**	**1.55**	**37**	P	**Pn**	**14 32 48.6**	**+0.9**
MSWZ	**Moikau Station**	**1.55**	**160**	P	**Pn**	**14 32 49.0**	**+1.3**
ANWZ	**Angora Road**	**1.56**	**109**	P	**Pn**	**14 32 49.3**	**+1.6**
PAWZ	**Paruwai Farm**	**1.57**	**155**	P	**Pn**	**14 32 49.2**	**+1.3**
CPWZ	**Castlepoint**	**1.58**	**128**	P	**Pn**	**14 32 49.8**	**+1.8**
HATZ	**Hinemaiaia**	**1.60**	**49**	P	**Pn**	**14 32 48.4**	**+0.1**
TKNZ	**Takaka Hill**	**1.62**	**228**	P	**Pn**	**14 32 49.3**	**+0.8**
PRHZ	**Porangahau**	**1.63**	**102**	P	**Pn**	**14 32 49.9**	**+1.3**
TRWZ	**Traveller**	**1.68**	**149**	P	**Pn**	**14 32 50.5**	**+1.3**
WHTZ	**Whakaora**	**1.69**	**41**	P	**Pn**	**14 32 50.7**	**+1.3**
PLWZ	**Palliser**	**1.69**	**162**	P	**Pn**	**14 32 50.6**	**+1.1**
BKZ	**Black Stump Fm**	**1.70**	**63**	P	**Pn**	**14 32 49.8**	**+0.3**
BKZ	**Black Stump Fm**	**1.70**	**63**	P	**Pn**	**14 32 50.0**	**+0.5**
MCHZ	**McNeill Hill**	**1.73**	**73**	P	**Pn**	**14 32 51.1**	**+1.2**
KUTZ	**Kaahu Road**	**1.77**	**34**	P	**Pn**	**14 32 51.4**	**+1.1**
QRZ	**Quartz Range**	**1.77**	**240**	P	**Pn**	**14 32 50.7**	**+0.4**
QRZ	**Quartz Range**	**1.77**	**240**	P	**Pn**	**14 32 51.0**	**+0.7**
PXZ	**Pawanui**	**1.78**	**93**	P	**Pn**	**14 32 51.5**	**+1.1**
KAHZ	**Kahuranaki**	**1.80**	**86**	P	**Pn**	**14 32 51.5**	**+0.8**
TLZ	**Tolley Road**	**1.80**	**26**	P	**Pn**	**14 32 51.3**	**+0.6**
CMWZ	**Cape Campbell**	**1.81**	**188**	P	**Pn**	**14 32 52.6**	**+1.9**
BSWZ	**Blackbirch Sta**	**1.83**	**196**	P	**Pn**	**14 32 52.3**	**+1.4**
MRHZ	**Matea Rd**	**1.83**	**53**	P	**Pn**	**14 32 51.0**	**-0.1**
WPRZ	**Whakapapataran**	**1.91**	**42**	P	**Pn**	**14 32 52.6**	**+0.7**
NMHZ	**Naumai**	**1.94**	**64**	P	**Pn**	**14 32 53.7**	**+1.2**
CKHZ	**Cape Kidnapper**	**1.97**	**82**	P	**Pn**	**14 32 53.8**	**+1.1**
ALRZ	**Allen Road**	**1.97**	**45**	P	**Pn**	**14 32 53.2**	**+0.5**
MRNZ	**Matariki Terra**	**1.98**	**223**	P	**Pn**	**14 32 53.9**	**+1.1**
ARHZ	**Aropaoanui**	**2.01**	**71**	P	**Pn**	**14 32 54.0**	**+0.7**
GRRZ	**Galatos Road**	**2.01**	**38**	P	**Pn**	**14 32 54.6**	**+1.3**
PRRZ	**Plateau Road**	**2.04**	**45**	P	**Pn**	**14 32 54.0**	**+0.4**
HRRZ	**Handcock Road**	**2.06**	**41**	P	**Pn**	**14 32 54.9**	**+0.9**
MTHZ	**Maungataniwha**	**2.09**	**59**	P	**Pn**	**14 32 54.4**	**+0.2**
HSRZ	**Hossack Road**	**2.11**	**39**	P	**Pn**	**14 32 55.5**	**+1.0**
THZ	**Tophouse**	**2.19**	**214**	P	**Pn**	**14 32 56.5**	**+1.0**
HLRZ	**Highlands Stat**	**2.21**	**40**	P	**Pn**	**14 32 57.1**	**+1.4**
RAHZ	**Arahi**	**2.22**	**63**	P	**Pn**	**14 32 56.4**	**+0.6**
RRRZ	**Republican Roa**	**2.22**	**44**	P	**Pn**	**14 32 56.4**	**+0.5**
MUGZ	**Murupara**	**2.27**	**50**	P	**Pn**	**14 32 56.6**	**+0.1**
RTZ	**Ruatahuna**	**2.31**	**55**	P	**Pn**	**14 32 56.9**	**-0.2**
OMRZ	**Omania**	**2.33**	**38**	P	**Pn**	**14 32 58.3**	**+1.1**
KARZ	**Kaharoa**	**2.34**	**35**	P	**Pn**	**14 32 58.9**	**+1.5**
TOZ	**Tahuroa Road**	**2.34**	**19**	P	**Pn**	**14 32 57.9**	**+0.5**
SNGZ	**Shannon Statio**	**2.46**	**62**	P	**Pn**	**14 32 59.1**	**+0.3**
KHZ	**Kahutara**	**2.57**	**197**	P	**Pn**	**14 33 01.5**	**+1.3**
KHZ	**Kahutara**	**2.57**	**197**	P	**Pn**	**14 33 01.8**	**+1.6**
MARZ	**Manawahe**	**2.57**	**41**	P	**Pn**	**14 33 01.1**	**+0.7**
KNZ	**Kokohu**	**2.59**	**70**	P	**Pn**	**14 33 00.5**	**+0.1**
TGRZ	**Tauranga**	**2.60**	**31**	P	**Pn**	**14 33 02.0**	**+1.5**
URZ	**Urewera**	**2.62**	**50**	P	**Pn**	**14 33 00.5**	**-0.4**
URZ	**Urewera**	**2.62**	**50**	P	**Pn**	**14 33 00.9**	**+0.1**
OPRZ	**Ohinepanea**	**2.63**	**37**	P	**Pn**	**14 33 01.9**	**+0.9**
RAGZ	**Rawiri**	**2.66**	**58**	P	**Pn**	**14 33 01.8**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.72**	**74**	P	**Pn**	**14 33 02.3**	**+0.2**
DSZ	**Dennistoun Nort**	**2.74**	**229**	P	**Pn**	**14 33 03.2**	**+0.8**
PRGZ	**Paritu Road**	**2.78**	**69**	P	**Pn**	**14 33 02.9**	**-0.1**
RIGZ	**Rimuhau**	**2.79**	**64**	P	**Pn**	**14 33 03.1**	**0.0**
MWZ	**Matawai**	**2.83**	**56**	P	**Pn**	**14 33 03.2**	**-0.4**
MKAZ	**Moumakai**	**2.89**	**10**	P	**Pn**	**14 33 05.1**	**+0.7**
AWAZ	**Awhitu Peninsu**	**2.89**	**1**	P	**Pn**	**14 33 05.9**	**+1.5**
TKGZ	**Te Karaka**	**2.98**	**60**	P	**Pn**	**14 33 05.3**	**-0.1**
ETAZ	**East Tamaki Re**	**3.02**	**6**	P	**Pn**	**14 33 07.4**	**+1.4**
RUGZ	**Raukumara Rang**	**3.15**	**52**	P	**Pn**	**14 33 07.0**	**-0.8**
RVAZ	**Riverhead Bore**	**3.18**	**0**	P	**Pn**	**14 33 09.9**	**+1.7**
WIAZ	**Waiheke Island**	**3.19**	**8**	P	**Pn**	**14 33 09.4**	**+1.0**
MBAZ	**Motutapu North**	**3.20**	**5**	P	**Pn**	**14 33 10.5**	**+2.1**
CNGZ	**Carnagh Statio**	**3.20**	**64**	P	**Pn**	**14 33 08.4**	**0.0**
TWGZ	**Tauwhareparae**	**3.21**	**57**	P	**Pn**	**14 33 08.5**	**-0.1**
GVZ	**Greta Valley S**	**3.21**	**200**	P	**Pn**	**14 33 09.5**	**+0.9**
LTZ	**Lake Taylor**	**3.30**	**211**	P	**Pn**	**14 33 09.8**	**+0.1**
KUZ	**Kuaotunu**	**3.34**	**16**	P	**Pn**	**14 33 10.7**	**+0.5**
HAZ	**Te Kaha**	**3.35**	**50**	P	**Pn**	**14 33 09.0**	**-1.3**
PKGZ	**Pakihiroa**	**3.44**	**54**	P	**Pn**	**14 33 11.3**	**-0.3**
PUZ	**Puketiti**	**3.45**	**58**	P	**Pn**	**14 33 10.8**	**-0.9**
AMCZ	**Amberley**	**3.52**	**203**	P	**Pn**	**14 33 12.9**	**+0.3**
INZ	**Inchbonnie**	**3.62**	**219**	P	**Pn**	**14 33 14.6**	**+0.8**
WMGZ	**Waiomatatini S**	**3.69**	**56**	P	**Pn**	**14 33 14.0**	**-0.9**
MXZ	**Matakaoa Point**	**3.79**	**52**	P	**Pn**	**14 33 15.9**	**-0.3**
OXZ	**Oxford**	**3.86**	**208**	P	**Pn**	**14 33 16.5**	**-0.5**
OKCZ	**Okains Bay**	**3.92**	**196**	P	**Pn**	**14 33 18.1**	**+0.2**
MQZ	**McQueen's Vall**	**4.00**	**200**	P	**Pn**	**14 33 18.0**	**-0.9**
WCZ	**Waipu Caves**	**4.02**	**358**	P	**Pn**	**14 33 22.1**	**+2.9**
AKCZ	**Akaroa Harbour**	**4.10**	**197**	P	**Pn**	**14 33 19.9**	**-0.3**
RACZ	**Rakaia**	**4.17**	**205**	P	**Pn**	**14 33 20.6**	**-0.6**
WVZ	**Waitaha Valley**	**4.23**	**221**	P	**Pn**	**14 33 22.1**	**+0.2**
WACZ	**Wakanui South**	**4.46**	**206**	P	**Pn**	**14 33 25.1**	**0.0**
RPZ	**Rata Peaks**	**4.57**	**214**	P	**Pn**	**14 33 27.4**	**+0.8**
RPZ	**Rata Peaks**	**4.57**	**214**	P	**Pn**	**14 33 27.7**	**+1.1**
GCSZ	**Gaunt Creek Bo**	**4.61**	**222**	P	**Pn**	**14 33 27.3**	**+0.2**
ARCZ	**Arundel**	**4.71**	**211**	P	**Pn**	**14 33 28.0**	**+0.3**
OUZ	**Omahuta**	**4.79**	**351**	P	**Pn**	**14 33 32.5**	**+3.0**
OUZ	**Omahuta**	**4.79**	**351**	P	**Pn**	**14 33 32.8**	**+3.3**
FOZ	**Fox Glacier**	**5.03**	**223**	P	**Pn**	**14 33 32.2**	**-0.5**
TMZ	**Timaru**	**5.15**	**210**	P	**Pn**	**14 33 33.9**	**-0.4**
LBZ	**Lake Benmore**	**5.49**	**215**	P	**Pn**	**14 33 38.8**	**0.0**
ODZ	**Otahua Downs**	**5.84**	**208**	P	**Pn**	**14 33 43.7**	**+0.1**
ODZ	**Otahua Downs**	**5.84**	**208**	P	**Pn**	**14 33 44.2**	**+0.6**
WKZ	**Wanaka**	**6.36**	**218**	P	**Pn**	**14 33 50.2**	**-0.3**
CTZ	**Chatham Island**	**7.59**	**123**	P	**Pn**	**14 34 08.8**	**+1.6**

*IDC **24** 14:35:54.6±2.3, 6°07S×130°69E, h126km±24km, mb3.6/4, mb1 3.7/9, mb1mx3.3/33, mbtmp4.0/9, Error ellipse: s-maj=40.2km s-min=19.2km az=90.0*
*DJA **24** 14:35:55.5±0.3, 6°S±3°×13°1E±°, h153km±7km, M4.3/7, mb4.4/6, mB5.1/3, MLv4.3/7, Mw(mB)4.5/3*
*NEIC **24** 14:35:57.4±1.0, 6°2S±0°1×130°7E±0°1, h158km±7km, mb4.0/8, Error ellipse: s-maj=27.2km s-min=5.9km az=222.0*

ISC 24 14:35:56.0±0.6, 6°14S±0°06×130°60E±0°07, h150km, n35, σ1964/38, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.96**	**159**	Pn	**Pn**	**14 36 31.9**	**+1.2**
SAUI	**Saumlaki**	**1.96**	**159**	P	**Pn**	**14 36 32.1**	**+1.4**
SAUI				S	**Sn**	**14 36 59.0**	**+1.6**
AAI	**Ambon**	**3.41**	**315**	P	**Pn**	**14 36 48.8**	**+0.1**
SIJI	**Sorong**	**5.27**	**7**	P	**Pn**	**14 37 10.3**	**-2.8**
	8.4nm,0.3s,baz=35,slow=21,SNR=78						
SIJI				S	Sn	14 38 04.7	-8.6
	17nm,0.3s,baz=233,slow=24,SNR=18						
SWI	**Sorong**	**5.28**	**7**	P	**Pn**	**14 37 10.4**	**-2.8**
SANI	**Sanana**	**6.13**	**311**	P	**Pn**	**14 37 23.6**	**-0.9**
	0.1nm28nm,0.8s						
LBMI	**Labuha**	**6.27**	**330**	P	**Pn**	**14 37 25.3**	**-1.1**
	0.1nm16nm,0.6s						
MTN	**Manton Dam**	**6.69**	**176**	P	**Pn**	**14 37 32.6**	**+0.7**
BAKI	**Biak**	**7.37**	**48**	P	**Pn**	**14 37 41.1**	**0.0**
	156nm,0.8s						
BATI	**Baumata**	**7.97**	**239**	P	**Pn**	**14 37 50.5**	**+1.5**
	2.1nm,0.3s,baz=286,slow=16,SNR=1.6						
BATI				S	**Sn**	**14 39 16.1**	**-1.8**
	7.1nm,0.3s,baz=337,slow=23,SNR=7.1						
KNRA	**Kununurra**	**9.65**	**191**		**Pn**	**14 38 10.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**12.84**	**202**	P	**Pn**	**14 38 52.0**	**-1.2**
	1.5nm,0.3s,baz=39,slow=11,SNR=113						
FITZ				S	Sn	14 41 07.0	-8.2
	2.3nm,0.3s,baz=180,slow=9.5,SNR=10.0						
FITZ	**Fitzroy Crossi**	**12.84**	**202**	Pn	**Pn**	**14 38 50.9**	**-2.3**
WB0	**Warramunga Arr**	**14.04**	**165**	Pn	**Pn**	**14 39 07.2**	**-1.3**
WRAB	**Tennant Creek**	**14.19**	**165**	Pn	**Pn**	**14 39 09.2**	**-1.2**
WRA	**Warramunga Arr**	**14.20**	**166**	P	**Pn**	**14 39 09.0**	**-1.5**
	0.6nm,0.3s,baz=351,slow=13,SNR=36						
WRA				S	Sn	14 41 35.9	-12
	0.7nm,0.3s,baz=351,slow=24,SNR=4.2						
WB2	**Warramunga Arr**	**14.20**	**165**	Pn	**Pn**	**14 39 09.3**	**-1.3**
WR0	**Warramunga Arr**	**14.27**	**165**	Pn	**Pn**	**14 39 10.7**	**-0.7**
COEN	**Coen**	**14.61**	**123**	P	**Pn**	**14 39 15.6**	**-0.2**
AS31	**Alice Springs**	**17.72**	**170**	Pn	**P**	**14 39 53.2**	**+0.9**
ASAR	**Alice Springs**	**17.72**	**170**	P	**Pn**	**14 39 54.8**	**+1.2**
	0.3nm,0.3s,baz=343,slow=9.6,SNR=21						
ASAR				S	**S**	**14 43 03.0**	**-5.8**
	0.4nm,0.3s,baz=352,slow=27,SNR=7.7						
ASAR	**Alice Springs**	**17.72**	**170**	Pn	**P**	**14 39 53.5**	**+1.2**
SBUM	**Sibu**	**20.24**	**294**	P	**P**	**14 40 20.7**	**+1.0**
SBUM				IAmb	IAmb	14 40 21.5	
	comp=Z,6.1nm,1.3s						
CTAO	**Charters Tower**	**20.58**	**134**	P	**P**	**14 40 22.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**39.65**	**309**	P	**P**	**14 43 13.9**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=140,slow=7.3,SNR=4.1						
SONM	**Songino Array**	**57.82**	**341**	P	**P**	**14 45 33.3**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=168,slow=7.2,SNR=3.9						
SONM	**Songino Array**	**57.82**	**341**	P	**P**	**14 45 33.1**	**+1.3**
SONM				IAmb	IAmb	14 45 48.0	
	comp=Z,1.8nm,1.5s						
MK31	**Makanchi Array**	**67.83**	**326**	P	**P**	**14 46 39.1**	**+1.1**
MK31				IAmb	IAmb	14 46 40.0	
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**67.83**	**326**	P	**P**	**14 46 39.4**	**+1.4**
	comp=Z,2.7nm,0.4s,baz=114,slow=8.5,SNR=58						
MKAR	**Makanchi Array**	**67.83**	**326**	P	**P**	**14 46 39.1**	**+1.1**
MAKZ	**Makanchi**	**68.02**	**326**	P	**P**	**14 46 40.1**	**+1.0**
ZALV	**Zalesovo Beam**	**71.08**	**333**	P	**P**	**14 46 58.0**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=126,slow=6.2,SNR=2.6						
KURK	**Kurchatov**	**72.10**	**328**	P	**P**	**14 47 04.7**	**+0.8**
CHGR	**Chuyangaron**	**72.17**	**314**	P	**P**	**14 47 05.5**	**+0.7**
CHGR				IAmb	IAmb	14 47 11.5	
	comp=Z,5.5nm,0.8s						
ABKAR	**Akbulak array**	**82.21**	**321**	P	**P**	**14 48 00.1**	**-0.3**

*IDC **24** 14:36:18.6±0.9, 0°02N×80°92W, h0km, mb3.7/10, mb1 4.0/11, mb1mx3.9/29, mbtmp3.8/11, ML3.7/1, MS3.5/22, Ms1 3.5/22, ms1mx3.3/68, Error ellipse: s-maj=45.9km s-min=16.0km az=56.0*
*IGQ **24** 14:36:19.3±3.1, 0°N±10°×8°1W±1°9, h5km*
*NEIC **24** 14:36:21.2±1.8, 0°17S±0°04×80°9W±0°1, h10km±1km, mb4.4/9, Error ellipse: s-maj=17.3km s-min=6.2km az=275.0*
*VAO **24** 14:36:28.9±1.9, 0°03S×79°92W, h10km, mb4.3*

ISC 24 14:36:20.1±0.6, 0°09S±0°05×80°83W±0°06, h10km, n98, σ1978/68, mb3.9/12, MS3.5/18, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.65**	**106**	S	**Sn**	**14 36 44.0**	**-1.8**
JAMA				P	**Pb**	**14 36 33.0**	**-0.6**
FLF1	**Flavio Alfaro-**	**1.03**	**105**	P	**Pn**	**14 36 40.0**	**-0.6**
MAG1	**Magdalena**	**1.06**	**89**	P	**Pg**	**14 36 39.0**	**-1.5**
PAC1	**Pacto, Paraso**	**2.07**	**80**	*eP*	**Pn**	**14 36 53.8**	**-1.3**
PAC1	**Pacto, Paraso**	**2.07**	**80**	P	**Pn**	**14 36 53.0**	**-2.1**
HPAL	**Hacienda Las P**	**2.19**	**93**	P	**Pn**	**14 36 55.0**	**-1.8**
GGPT	**Toaza - Volcan**	**2.22**	**94**	P	**Pn**	**14 36 55.0**	**-2.3**
PINO	**Pino**	**2.23**	**92**	P	**Pn**	**14 36 56.0**	**-1.6**
JUA2	**San Juan 2**	**2.23**	**93**	P	**Pn**	**14 36 57.0**	**-0.6**
YANA	**Yana**	**2.26**	**91**	P	**Pn**	**14 36 56.0**	**-2.0**
PAST	**Pastocalle**	**2.27**	**105**	P	**Pn**	**14 36 57.0**	**-1.1**
CAMI	**Rancho Maria**	**2.40**	**104**	P	**Pn**	**14 37 00.0**	**+0.1**
PITA	**Cotopaxi Volc**	**2.45**	**101**	P	**Pn

WRA	Warramunga Arr	140.22	238	PKP		PKPdf	14 55 48.9	-1.4
	comp=Z,0.8nm,0.9s,baz=136,slow=2.4,SNR=3.6							

MAN ***24*** *14:54:52.9,20.˝94N×121.˝88E,h4km,mb4.9,ML3.8,MS3.8, Hypocentre not reviewed by the ISC*
JMA ***24*** *14:54:55.9±0.5,21.˝17N×121.˝94E,h46km,M3.8*
IDC ***24*** *14:55:05.6±9.4,20.˝87N×122.˝19E,h131km±93km,mb2.9/7, mb1 3.1/8,mb1mx2.9/34,mbtmp3.3/8,ML3.2/1,Error ellipse: s-maj=38.9km s-min=17.7km az=68.0*

ISC 24 14:54:56.3±0.8,20.˝92N±0.˝07×122.˝3E±0.˝1,h35km,n27, σ1℘06/27,mb3.3/7,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APYP	Conner	3.19	198	⇓eP		Pn		14 55 43.0	-0.9
APYP				eS		Sn		14 56 21.6	+0.8
HATJ	Hateruma jima	3.44	24	S		Sn		14 56 26.0	-0.9
IRIF	Iriomote-Funau	3.66	22	P		Pn		14 55 50.5	0.0
IRIF				S		Sn		14 56 31.2	-1.3
JKRS	Kuro-shima	3.68	26	P		Pn		14 55 51.0	+0.3
JKRS				eS		Sn		14 56 32.3	-0.6
JIJ	Ishigaki jima	3.85	27	P		Pn		14 55 53.1	+0.1
JIJ				eS		Sn		14 56 35.6	-1.4
SAMP	Sagada Mountai	4.03	199	eP		Pn		14 55 55.7	+0.2
JISG	Ishigakijimahi	4.12	27	P		Pn		14 55 56.7	0.0
JISG				eS		Sn		14 56 42.9	-0.7
JTJ	Tarama	4.34	31	eS		Sn		14 56 49.2	+0.1
JIRB	Irabujima	4.73	34	P		Pn		14 56 06.6	+1.4
JIRB				eS		Sn		14 56 59.2	+0.4
JMJ2	Miyako jima3	4.74	36	eS		Sn		14 56 59.5	+0.3
JOGS	Gusukube	4.80	37	eS		Sn		14 57 01.7	+1.1
SMPP	San Manuel, Pa	4.97	198	eP		Pn		14 56 09.1	+0.5
BALP	Baler	5.19	187	eP		Pn		14 56 12.3	+0.8
KSRS	Korea Array	17.20	15	P		P		14 58 57.9	+2.8
	0.1nm,0.3s,baz=203,slow=11,SNR=2.6								
CMAR	Chiang Mai Arr	22.08	268	P		P		14 59 50.0	+1.5
	0.4nm,0.6s,baz=82,slow=9.4,SNR=1.9								
MKAR	Makanchi Array	41.39	318	P		P		15 02 38.6	-0.6
	0.2nm,0.5s,baz=114,slow=9.3,SNR=2.6								
H11N1	WAKE ISLAND Hy	41.78	83	T		T		15 47 44.0	
	baz=280,slow=74,SNR=36								
H11N2	WAKE ISLAND Hy	41.78	83	T		T		15 47 39.3	
	baz=280,slow=74,SNR=29								
H11N3	WAKE ISLAND Hy	41.80	83	T		T		15 47 45.2	
	baz=280,slow=74,SNR=32								
H11S3	WAKE ISLAND Hy	41.80	85	T		T		15 47 41.1	
	baz=282,slow=74,SNR=34								
H11S1	WAKE ISLAND Hy	41.81	85	T		T		15 47 41.6	
	baz=282,slow=74,SNR=58								
H11S2	WAKE ISLAND Hy	41.82	85	T		T		15 47 41.7	
	baz=282,slow=74,SNR=32								
WRA	Warramunga Arr	42.30	163	P		P		15 02 45.5	-1.3
	0.7nm,1.1s,baz=344,slow=9.1,SNR=4.5								
ZALV	Zalesovo Beam	43.52	329	P		P		15 02 56.5	+0.2
	0.3nm,0.4s,baz=126,slow=9.7,SNR=1.8								
KURBB	Kurchatov Arra	45.25	322	P		P		15 03 09.0	-1.2
	0.2nm,0.4s,baz=112,slow=7.7,SNR=4.8								
ASAR	Alice Springs	45.75	165	P		P		15 03 14.1	-0.4
	0.2nm,0.4s,baz=344,slow=7.3,SNR=7.1								
YKA	Yellowknife Ar	85.58	23	P		P		15 07 29.5	-1.3
	0.1nm,0.5s,baz=309,slow=4.7,SNR=2.3								

IDC ***24*** *14:55:44.9±1.7,1.˝45N×125.˝95E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/32,mbtmp3.5/4,Error ellipse: s-maj=175.0km s-min=21.5km az=65.0*
DJA ***24*** *14:55:48.1±0.3,2.˝N±3.˝3×12.˝7E±1.˝,h10km,M3.4/6,MLv3.4/6*

ISC 24 14:55:44.6±1.6,2.˝1N±0.˝1×127.˝4E±0.˝5,h10km,n6,σ0℘65/8, mb3.6/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.27	181	P		Pg		14 56 09.8	+0.7
TNTI				S		Sg		14 56 25.1	-0.6
LBMI	Labuha	2.68	177	P		Pn		14 56 28.0	+0.2
LBMI				Pg		Pb		14 56 32.3	-0.4
WRA	Warramunga Arr	22.90	163	P		P		15 00 48.3	-0.5
	1.2nm,0.6s,baz=337,slow=11,SNR=21								
ASAR	Alice Springs	26.34	166	P		P		15 01 21.8	+0.7
	0.6nm,0.4s,baz=345,slow=12,SNR=34								
MKAR	Makanchi Array	59.29	326	P		P		15 05 47.0	+0.2
	0.2nm,0.4s,baz=127,slow=7.2,SNR=6.1								
KURBB	Kurchatov Arra	63.49	328	P		P		15 06 14.4	-0.6
	0.1nm,0.5s,baz=122,slow=6.7,SNR=1.8								

IDC ***24*** *15:05:08.3±1.7,37.˝89N×142.˝73E,h0km,mb3.6/5, mb1 3.6/9,mb1mx3.4/68,mbtmp3.6/9,ML3.2/3,MS2.7/5, Ms1 2.7/5,ms1mx2.4/88,Error ellipse: s-maj=36.5km s-min=20.9km az=79.0*
JMA ***24*** *15:05:11.8±0.2,37.˝93N×142.˝48E,h39km±2km,M3.7*
NIED ***24*** *15:05:11.9,37.˝93N×142.˝48E,h39km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr1.85; Mθθ-0.40; Mφφ-1.46; Mrθ-1.31; Mθφ-0.38; Mφr-1.86; Fault plane solution: M0.84000×10^14^ NP1: φs11.00000°,δ19.00000°,λ71.00000°. NP2:φs211.00000°, δ72.00000°,λ97.00000°.*

ISC 24 15:05:10.0±2.2,37.93N±0.˝05×142.˝50E±0.˝08,h8km±12km, n33,σ1℘70/33,mb3.6/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.90	295	P		Pg		15 05 28.0	+0.6
JIO	Ouri	1.05	300	P		Pg		15 05 30.3	+0.1
JIO				S		Sg		15 05 43.0	-0.8
JKMT	Kesennumamotoy	1.20	318	P		Pb		15 05 32.4	-0.5
JMST	Minamisoumatoc	1.29	261	P		Pn		15 05 33.5	-0.8
JMST				eS		Sb		15 05 49.7	-1.6
JMM	Marumori	1.35	268	P		Pn		15 05 34.6	-0.6
JMM				eS		Sb		15 05 50.8	-2.2
JFK	Kawauchi	1.41	247	P		Pn		15 05 35.2	-0.8
JFK				eS		Sn		15 05 51.7	-3.0
JMK	Ichinoseki	1.43	316	P		Pn		15 05 35.9	-0.4
JMK				eS		Sn		15 05 53.4	-1.9
JOU	Okura	1.51	287	P		Pn		15 05 37.5	+0.1
JFT	Otama	1.77	257	P		Pn		15 05 41.2	+0.4
JOM	Ohasama	1.81	329	P		Pn		15 05 41.7	+0.3
JYS	Shirataka	1.94	279	P		Pn		15 05 44.0	+0.7
JYK	Kaneyama	1.95	301	P		Pn		15 05 43.9	+0.5
JYK				eS		Sn		15 06 07.7	-0.4
JRG	Rokugo	2.07	316	P		Pn		15 05 45.7	+0.7
JNS	Sasagawa	2.52	268	P		Pn		15 05 52.9	+1.7
JANG	Nango	2.56	343	P		Pn		15 05 52.0	+0.2
JANG				S		Sn		15 06 22.0	-1.1
MJAR	Matsushiro Arr	3.69	249	Pn		Pn		15 06 08.5	+1.1
	0.5nm,0.3s,baz=35,slow=12,SNR=18								
MJAR				Sn		Sn		15 06 57.0	+5.9
	0.4nm,0.3s,baz=358,slow=3.4,SNR=3.0								
MJAR				LR		LR		15 07 51.0	
	comp=Z,118nm,18.1s,baz=135,slow=42								
JHJ	Hachijo jima 2	5.29	206	Pn		Pn		15 06 29.5	+0.2
	6.4nm,0.3s,baz=338,slow=22,SNR=9.3								
JHJ				Sn		Sn		15 07 26.9	-3.4
	15nm,0.3s,baz=65,slow=23,SNR=1.3								
ASAJ	Asahikawa	6.18	1	Pn		Pn		15 06 42.7	+1.1
	0.5nm,0.3s,baz=215,slow=13,SNR=9.5								
ASAJ				LR		LR		15 08 51.9	
	comp=Z,8.5nm,19.9s,baz=164,slow=36								
USRK	Ussuriysk Ar.	10.11	312	Pn		Pn		15 07 35.9	+0.5
	baz=126,slow=16,SNR=1.4								
KSRS	Korea Array	11.56	272	LR		LR		15 12 32.3	
	comp=Z,30nm,18.7s,baz=80,slow=38								
KLR	Kul'dur	13.71	329	LR		LR		15 13 36.8	
	comp=Z,50nm,18.6s,baz=176,slow=37								
H11N2	WAKE ISLAND Hy	27.89	124	T		T		15 40 12.5	
	baz=316,slow=75,SNR=58								
H11N1	WAKE ISLAND Hy	27.90	124	T		T		15 40 18.4	
	baz=316,slow=75,SNR=41								
H11N3	WAKE ISLAND Hy	27.91	124	T		T		15 40 14.0	
	baz=316,slow=75,SNR=32								
SONM	Songino Array	28.02	302	P		P		15 11 03.6	+2.1
	0.3nm,0.5s,baz=100,slow=9.7,SNR=2.3								
H11S1	WAKE ISLAND Hy	28.65	126	T		T		15 41 07.9	
	baz=317,slow=76,SNR=16								
H11S3	WAKE ISLAND Hy	28.65	126	T		T		15 41 08.8	
	baz=317,slow=76,SNR=19								
H11S2	WAKE ISLAND Hy	28.66	126	T		T		15 41 12.2	
	baz=317,slow=76,SNR=11								
MKAR	Makanchi Array	44.38	302	P		P		15 13 21.5	+0.6
	0.4nm,0.7s,baz=89,slow=7.8,SNR=4.2								
KURBB	Kurchatov Arra	46.14	307	P		P		15 13 34.7	0.0
	0.7nm,0.5s,baz=81,slow=7.8,SNR=6.4								
WRA	Warramunga Arr	58.07	189	P		P		15 15 03.2	-0.5
	0.6nm,0.6s,baz=5.9,slow=7.5,SNR=2.2								
ASAR	Alice Springs	61.80	189	P		P		15 15 28.8	-0.5
	0.3nm,0.7s,baz=6.2,slow=6.6,SNR=4.5								
STKA	Stephens Creek	69.45	181	LR		LR		15 46 05.0	
	comp=Z,26nm,21.4s,baz=208,slow=35								

IDC ***24*** *15:05:28.6±0.9,25.˝07N×142.˝91E,h0km,mb3.6/13, mb1 3.7/15,mb1mx3.6/66,mbtmp3.6/15,ML3.6/2,MS3.7/2, Ms1 3.7/2,ms1mx2.5/71,Error ellipse: s-maj=27.8km s-min=17.8km az=86.0*
JMA ***24*** *15:05:30.3±0.1,25.˝17N×143.˝26E,h11km±3km,M4.6*

ISC 24 15:05:29.9±0.9,25.˝02N±0.˝09×142.˝9E±0.˝2,h10km,n19, σ0℘83/21,mb3.6/13,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	1.75	337	P		Pn		15 06 01.0	+0.7
JHH2				eS		Sn		15 06 23.6	+0.9
CBIJ	Chichi jima	2.17	342	P		Pn		15 06 06.9	+0.7
CBIJ				eS		Sn		15 06 33.6	+0.4
JCJ	Chichijima	2.17	342	Pn		Pn		15 06 06.8	+0.6
	39nm,0.3s,baz=60,slow=8.7,SNR=83								
JCJ				Sn		Sn		15 06 33.7	+0.5
	47nm,0.3s,baz=301,slow=22,SNR=7.2								
JAG	Ashikaga	11.76	346	P		Pn		15 08 17.5	-0.2
KSRS	Korea Array	17.82	318	P		P		15 09 39.2	+0.5
	0.1nm,0.3s,baz=131,slow=12,SNR=5.0								
KLR	Kul'dur	25.70	343	P		P		15 11 00.7	+0.5
	1.2nm,0.6s,baz=144,slow=11,SNR=5.1								
SONM	Songino Array	36.69	318	P		P		15 12 35.1	-2.1
	0.2nm,0.4s,baz=120,slow=7.3,SNR=2.2								
CMAR	Chiang Mai Arr	41.25	270	P		P		15 13 15.8	+0.3
	0.3nm,0.6s,baz=54,slow=9.1,SNR=2.4								
WRA	Warramunga Arr	45.47	191	P		P		15 13 49.9	+0.4
	0.4nm,0.5s,baz=8.5,slow=8.1,SNR=7.3								
ASAR	Alice Springs	49.19	191	P		P		15 14 19.5	+1.1
	0.2nm,0.6s,baz=17,slow=13,SNR=1.7								
ZALV	Zalesovo Beam	51.50	320	P		P		15 14 34.3	-1.3
	0.4nm,0.4s,baz=74,slow=6.2,SNR=1.6								
DZM	Mont Dzumac	52.08	152	LR		LR		15 32 48.2	
	comp=Z,210nm,21.8s,baz=62,slow=31								
MKAR	Makanchi Array	52.33	311	P		P		15 14 41.4	-0.6
	0.2nm,0.5s,baz=110,slow=7.8,SNR=2.3								
MKAR				LR		LR		15 35 49.1	
	comp=Z,32nm,21.6s,baz=262,slow=35								
KURBB	Kurchatov Arra	54.98	315	P		P		15 15 00.3	-0.9
	1.1nm,0.8s,baz=92,slow=8.0,SNR=7.1								
ILAR	Eielson Array	59.21	28	P		P		15 15 30.3	-0.7
	0.2nm,0.8s,baz=280,slow=5.4,SNR=2.2								
INK	Inuvik	64.63	24	P		P		15 16 07.4	+0.1
	1.0nm,0.9s,baz=323,slow=5.2,SNR=2.1								
YKA	Yellowknife Ar	73.64	28	P		P		15 17 03.5	+0.1
	0.4nm,0.7s,baz=292,slow=5.7,SNR=7.5								
FINES	FINESS Array B	80.10	334	P		P		15 17 40.1	+0.3
	0.8nm,0.6s,baz=64,slow=4.4,SNR=7.5								
NOA	NORSAR Array B	85.78	339	P		P		15 18 09.6	+0.3
	0.5nm,0.7s,baz=45,slow=4.9,SNR=2.3								

DSN ***24*** *15:18:04.6±1.4,28.˝54N×55.˝09E,h10km,ML4.1/10,Error ellipse: s-maj=26.4km s-min=8.8km az=50.0*
IDC ***24*** *15:18:11.0±0.6,27.˝73N×55.˝16E,h0km,mb4.2/30, mb1 4.3/35,mb1mx4.3/49,mbtmp4.2/35,ML3.9/4,MS3.2/9, Ms1 3.2/9,ms1mx2.9/84,Error ellipse: s-maj=15.0km s-min=11.4km az=0.0*
MOS ***24*** *15:18:12.7±1.0,27.˝76N×55.˝16E,h23km,mb4.7/43,Error ellipse: s-maj=6.6km s-min=4.6km az=98.6*
NEIC ***24*** *15:18:13.6±1.1,27.˝83N±0.˝07×55.˝11E±0.˝09,h10km±1km, mb4.6/86,Error ellipse: s-maj=12.8km s-min=11.9km az=253.0*
OMAN ***24*** *15:18:13.2±0.9,27.˝88N×55.˝13E,h5km,mb4.8/6,ml4.2/16, Error ellipse: s-maj=9.8km s-min=3.3km az=22.0*
TEH ***24*** *15:18:14.2,27.˝77N×55.˝12E,h19km,ML4.2*

ISC 24 15:18:14.8±1.2,27.˝86N±0.˝04×55.˝14E±0.˝03,h16km±8km, n372,σ1℘35/263,mb4.5/105,MS3.1/11,14C-9D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.71	254	ePg		Pg		15 18 26.9	-1.8
LAR1				e				15 18 56.0	
	comp=Z,1μm,0.5s								
GENO	Geno	1.02	117	ePg		Pg		15 18 33.1	-1.6
GENO				eSg		Sg		15 18 48.9	+0.7
GENO				e				15 18 53.0	
	comp=Z,64μm,0.7s								
IBND	Bandar-abas	1.31	108	ePg		Pn		15 18 38.5	+0.1
IBND				e				15 19 05.3	
	comp=Z,93μm,0.6s								
JHRM	Jahrom	1.52	295	ePg		Pn		15 18 43.6	+2.2
LMD1	Lamerd	1.83	254	ePg		Pn		15 18 47.0	+1.4
LMD1				e				15 19 36.2	
	comp=Z,38μm,0.6s								
QIR1	Qir	1.95	289	ePn		Pn		15 18 47.7	+0.4
QIR1				e				15 19 32.7	
	comp=Z,33μm,0.6s								
SHME	Shamm	2.02	153	ePn		Pn		15 18 46.9	-1.2
SHME	Shamm	2.02	153	P		Pn		15 18 47.3	-0.9
	SNR=10.0								
SHME				S		Sn		15 19 15.4	+2.5
SHME	Shamm	2.02	153	eP		Pn		15 18 47.0	-1.1
	SNR=9.9								
BANOM	Banah	2.19	152	ePn		Pn		15 18 49.7	-0.9
BANOM	Banah	2.19	152	P		Pn		15 18 49.8	-0.8
	SNR=67								
BANOM				S		Sn		15 19 20.2	+2.8
BANOM	Banah	2.19	152	eP		Pn		15 18 49.8	-0.8
	SNR=70								
BANOM				S		Sb		15 19 25.0	+3.9
NGRK	Negar Kerman	2.26	38	ePn		Pn		15 18 52.7	+0.9
NGRK				e				15 19 38.8	
	comp=Z,13μm,0.7s								
TVBK	TV Kerman	2.55	34	ePn		Pn		15 18 57.7	+1.9
TVBK				e				15 19 44.4	
	comp=Z,11μm,0.5s								
MASF	Masafi	2.64	160	P		Pn		15 18 57.3	+0.4
MASF				S		Sn		15 19 31.3	+2.7
MSFE	Esma-Masafi	2.66	160	ePn		Pn		15 18 56.9	-0.1
MSFE	Esma-Masafi	2.66	160	iP		Pn		15 18 56.9	-0.1
	SNR=12								
KHGB	Koh Gabri	2.76	25	ePn		Pn		15 19 01.0	+2.4
KHGB				e				15 19 49.6	
	comp=Z,7μm,0.6s								
CHMN	Cheshme madani	2.90	46	ePn		Pn		15 19 03.1	+2.5
CHMN				e				15 20 02.5	
	comp=Z,4μm,0.8s								
NAZ	Nazwa, Dubai	2.90	171	ePn		Pn		15 19 01.1	+0.8
NAZ	Nazwa, Dubai	2.90	171	P		Pn		15 19 01.0	+0.7
NAZ	Nazwa, Dubai	2.90	171	P		Pn		15 19 01.0	+0.7
SHI	Shiraz	2.91	308	ePn		Pn		15 19 01.2	+0.6
UOSS	Minazif	3.06	162			Pn		15 19 01.8	-0.7
UOSS	Minazif	3.06	162	ePn		Pn		15 19 01.9	-0.6
UOSS	Minazif	3.06	162	P		Pn		15 19 02.2	-0.3
UOSS	Minazif	3.06	162	iP		Pn		15 19 02.1	-0.4
	SNR=24								
FAQ	Al Faqa, Dubai	3.13	172	ePn		Pn		15 19 04.0	+0.5
FAQ	Al Faqa, Dubai	3.13	172	P		Pn		15 19 03.6	+0.1
	SNR=11								
FAQ	Al Faqa, Dubai	3.13	172	iP		Pn		15 19 03.8	+0.3
	SNR=11								
HATD	Hatta, Dubai	3.15	163	ePn		Pn		15 19 03.9	+0.1
HATD	Hatta, Dubai	3.15	163	P		Pn		15 19 03.7	-0.1
KBAM	BAM	3.18	66	e				15 19 18.5	
	comp=Z,4μm,0.7s								
KBAM				ePn		Pn		15 19 05.9	+1.7
ASUD	Al Ashush, Dub	3.23	177	ePn		Pn		15 19 06.4	+1.6
ASUD	Al Ashush, Dub	3.23	177	P		Pn		15 19 05.6	+0.8
ASUD	Al Ashush, Dub	3.23	177	iP		Pn		15 19 05.7	+0.9
	SNR=11								
ASHO	Ashiyiah	3.27	165	ePn		Pn		15 19 05.5	0.0
ASHO	Ashiyiah	3.27	165	P		Pn		15 19 05.6	+0.2
ASHO	Ashiyiah	3.27	165	iP		Pn		15 19 05.3	-0.2
	SNR=42								
KAZ1	Kazerun	3.54	301	ePn		Pn		15 19 10.1	+0.9
IMEH	Mehriz	3.54	353	ePn		Pn		15 19 11.8	+2.4
IMEH				e				15 19 16.0	
	comp=Z,3μm,0.3s								
JRN	Qarnain Island	3.56	216	P		Pn		15 19 10.2	+0.8
IBAF	Bafgh	3.73	6	ePn		Pn		15 19 14.1	+2.2
IBAF				e				15 19 28.1	
	comp=Z,2μm,0.5s								
ALNE	Al Ain	3.83	172	ePn		Pn		15 19 13.4	+0.3
ALNE	Al Ain	3.83	172	P		Pn		15 19 13.2	0.0
ALNE	Al Ain	3.83	172	iP		Pn		15 19 13.1	0.0
	SNR=10								
KHOR	Al-Khor Airpor	3.94	236	P		Pn		15 19 15.0	+0.4
ISAD	Sadrabad	4.23	343	ePn		Pn		15 19 21.8	+3.0
ISAD				e				15 19 23.6	
	comp=Z,2μm,0.5s								
SHMA	Al-Shehemyia	4.23	243	P		Pn		15 19 19.7	+1.1
SHMA				S		Sn		15 20 09.6	+1.9
MZWR	Madinat Zayed	4.24	196	ePn		Pn		15 19 19.4	+0.7
MZWR	Madinat Zayed	4.24	196	P		Pn		15 19 19.4	+0.7
GHWR	Ruwais	4.39	208	ePn		Pn		15 19 20.5	-0.2
GHWR	Ruwais	4.39	208	P		Pn		15 19 20.3	-0.5
KLNJ	Kolanjah	4.40	316	ePn		Pn		15 19 21.9	+0.6
ICHK	Chekchek	4.41	352	ePn		Pn		15 19 23.8	+2.5
SAKB	Bahrain	4.52	246	P		Pn		15 19 23.7	+1.1
IRAM	Rameshеh	4.61	329	ePn		Pn		15 19 26.1	+2.2
ARQ	Araqi	4.68	164	P		Pn		15 19 25.5	+0.7
	SNR=17								
HOQ	Hoqain	4.69	155	P		Pn		15 19 24.9	-0.1
TRNA	Turayna	4.70	229	P		Pn		15 19 24.9	-0.2
TRNA				S		Sn		15 20 19.9	+0.5
SLWR	Sila	4.89	220	ePn		Pn		15 19 28.6	+1.0
SMRA	Abu-Samra	4.96	232	P		Pn		15 19 28.7	0.0
MZR	Muzera	5.07	198	ePn		Pn		15 19 29.3	-0.8
MZR	Muzera	5.07	198	P		Pn		15 19 28.9	-1.2
BIDO	Bidbid	5.09	147	P		Pn		15 19 30.7	+0.2
UMZA	Um Al Zommool	5.13	180	ePn		Pn		15 19 30.4	-0.5
UMZA	Um Al Zommool	5.13	180	P		Pn		15 19 30.3	-0.7
ZHDN	Zahedan	5.21	72	ePn		Pn		15 19 33.2	+0.9
IBRJ	Brojen	5.25	321	ePn		Pn		15 19 34.9	+2.0
IGAR	Gharneh	5.26	330	ePn		Pn		15 19 34.5	+1.5
TPRV	Parvadeh(Tabas	5.32	14	ePn		Pn		15 19 35.6	+2.0
BSY	Bisya	5.43	159	P		Pn		15 19 35.5	+0.4
BSY				S		Sn		15 20 37.8	+0.5
ANAR	Anarak	5.45	347	ePn		Pn		15 19 36.7	+1.3
SMDO	Samad	5.46	151	P		Pn		15 19 36.7	+1.1
	SNR=12								
NHDN	Nehbandan	5.53	49	ePn		Pn		15 19 37.7	+1.1
IZEF	Zefreh	5.57	335	ePn		Pn		15 19 38.2	+0.9
WSAR	Wadi Sarin	5.58	145	Pn		Pn		15 19 36.5	-0.7
	comp=Z,4.0nm,0.3s,baz=336,slow=9.0,SNR=29								
WSAR				Sn		Sn		15 20 38.0	-2.9
	comp=Z,2.6nm,0.3s,baz=248,slow=14,SNR=1.7								
WSAR	Wadi Sarin	5.58	145	P		Pn		15 19 36.7	-0.5
	SNR=48								
IKOO	Kooshah	5.64	35	ePn		Pn		15 19 40.4	+2.1
NGCH	Negor - Chabah	5.92	114	ePn		Pn		15 19 41.5	-0.3
TKDS	Koohdasht(Taba	5.98	16	ePn		Pn		15 19 44.7	+2.0
IPIR	Pirpir	6.05	324	ePn		Pn		15 19 45.2	+1.3
JMDO	Jabal Madar	6.09	153	P		Pn		15 19 45.2	+0.9
JMDO				S		Sn		15 20 54.4	+0.8
TNSJ	Nastanj	6.21	11	ePn		Pn		15 19 47.7	+1.8
KLH	Kolahrood	6.24	331	ePn		Pn		15 19 49.1	+2.6
WBK	Wadi Bani Khal	6.28	146	P		Pn		15 19 45.4	-1.3
	SNR=38								
AMIS	Naft Sefid	6.34	308	ePn		Pn		15 19 47.3	-0.4
IDAH	Dahanechah	6.35	39	ePn		Pn		15 19 49.4	+1.5
SRVN	Saravan	6.45	92	ePn		Pn		15 19 50.5	+1.2
AFRZ	Afriz	6.47	30	ePn		Pn		15 19 51.4	+1.9
IMON	Monand	6.59	35	ePn		Pn		15 19 54.1	+2.8
KRSH	Karshahi	6.61	338	ePn		Pn		15 19 52.5	+1.0
QAMS	Qamsar	6.68	332	ePn		Pn		15 19 53.5	+1.0
JLN	Jalan Bani Buh	6.88	145	P		Pn		15 19 53.5	-1.5
	SNR=22								
ISFB	Sefidab	6.93	340	ePn		Pn		15 19 57.7	+2.0
MHTO	MHTO	7.32	159	P		Pn		15 20 00.3	-0.7
IANJ	Anjilo	7.65	352	ePn		Pn		15 20 07.3	+1.5
IVRN	Varamin	7.68	339	ePn		Pn		15 20 07.3	+1.2
IFIR	Firoozkooh	8.02	346	ePn		Pn		15 20 12.2	+1.4
ISHM	Shahmirzad	8.07	349	ePn		Pn		15 20 14.2	+2.6
IDMV	Damavand	8.13	342	ePn		Pn		15 20 14.6	+2.1
HSAM	Samen	8

KSH sP pP 15 23 16.9 +16
KSH pmax pmax
comp=Z,3.0nm,0.6s
EKS2 Erkin-Say 21.14 41 P **P** **15 22 59.8 +0.7**
SNR=30
BRTR Keskin Array B 21.37 309 P **P**
comp=Z,7.7nm,0.7s,baz=132,slow=13,SNR=38
BRTR Keskin Array B 21.37 309 P **P** **15 23 01.4 -0.3**
BR131 Keskin Array S 21.37 309 P **P** **15 23 00.9 -0.7**
BR131 pmax pmax
comp=Z,15nm,0.8s
BR131 Keskin Array S 21.37 309 P **P** **15 23 00.9 -0.7**
BR131 IAmb IAmb 15 23 05.9
comp=Z,15nm,0.8s
AAK Ala-Archa 21.54 42 P **P** **15 23 03.9 +0.5**
SNR=8.9
AAK Ala-Archa 21.54 42 P **P** **15 23 03.9 +0.5**
comp=Z,6.6nm,0.8s,baz=224,slow=4.7,SNR=17
AAK LR LR 15 32 48.4
comp=Z,58nm,18.6s,baz=244,slow=41
AAK Ala-Archa 21.54 42 P **P** **15 23 03.0 -0.4**
AAK pmax pmax
comp=Z,14nm,1.0s
AAK Ala-Archa 21.54 42 P **P** **15 23 03.0 -0.4**
AAK IAmb IAmb 15 23 08.8
comp=Z,14nm,1.0s
AB31 Akbulak array 21.68 9 *i* P **P** **15 23 04.4 -0.3**
ABKAR Akbulak array 21.68 9 P **P** **15 23 04.2 -0.5**
ABKAR Akbulak array 21.68 9 P **P** **15 23 04.1 -0.6**
ABKAR IAmb IAmb 15 23 08.0
comp=Z,8.2nm,0.9s
KBK Karagaybulak 21.82 42 P **P** **15 23 06.9 +0.4**
SNR=7.9
USP Ospenovka 21.93 40 P **P** **15 23 10.1 +2.6**
SNR=8.8
ANTO Ankara 22.02 309 P **P** **15 23 07.0 -1.5**
ANTO pmax pmax
comp=Z,47nm,1.3s
ANTO Ankara 22.02 309 P **P** **15 23 07.0 -1.5**
ANTO IAmb IAmb 15 23 14.9
comp=Z,47nm,1.3s
BOOM Boomskoye usch 22.32 44 P **P** **15 23 11.4 -0.5**
BOOM pmax pmax
comp=Z,14nm,1.0s
BOOM Boomskoye usch 22.32 44 P **P** **15 23 11.4 -0.5**
BOOM IAmb IAmb 15 23 15.3
comp=Z,14nm,0.9s
AKTO Aktyubinsk 22.65 5 P **P** **15 23 15.2 +0.1**
comp=Z,6.2nm,1.0s,baz=191,slow=10,SNR=12
AKTO LR LR 15 33 43.9
comp=Z,75nm,19.8s,baz=170,slow=41
KDJ Kajisay 22.90 46 P **P** **15 23 17.7 -0.3**
KDJ pmax pmax
comp=Z,13nm,1.2s
KDJ Kajisay 22.90 46 P **P** **15 23 17.7 -0.3**
KDJ IAmb IAmb 15 23 25.5
comp=Z,12nm,1.2s
TARG Taragay, Kyrgy 23.10 47 P **P** **15 23 19.3 -1.0**
PYUN Piuthan 24.58 83 *e*P **P** **15 23 34.5 +0.1**
KARP Karpathos 24.95 295 P **P** **15 23 37.4 0.0**
PDGK Podgornoye 24.98 45 P **P** **15 23 37.0 -0.8**
BELG Belogornoye 25.14 349 P **P** **15 23 38.8 -0.1**
comp=Z,22nm,1.0s,baz=315,slow=7,SNR=7.0
BELG Belogornoye 25.14 349 *i* P **P** **15 23 38.9 0.0**
BELG pmax pmax
comp=Z,5.0nm,1.3s
KOLN Koldanda 25.15 83 *e*P **P** **15 23 40.0 +0.4**
DANN Dangsing 25.23 82 *e*P **P** **15 23 40.8 +0.4**
comp=Z,120nm,0.9s
VRH Novokhopyorsk 25.42 340 *e*P **P** **15 23 40.7 -0.8**
VRH pmax pmax
comp=Z,20nm,0.7s
GKN Gorkha 26.04 83 *e*P **P** **15 23 47.0 -0.5**
comp=Z,29nm,1.1s
VSR Storozhevoye 26.26 337 *e*P **P** **15 23 49.6 +0.5**
VSR pmax pmax
comp=Z,10.0nm,1.3s
KKN Kakani 26.62 83 *e*P **P** **15 23 52.5 -0.4**
VORR Voronezh 26.63 338 *e*P P 15 23 49.8 -2.6
VORR pmax pmax
comp=Z,30nm,0.4s
IDI Anoyia 26.74 294 LR LR 15 36 48.3
comp=Z,39nm,20.2s,baz=236,slow=42
IDI Anoyia 26.74 294 P **P** **15 23 53.7 0.0**
PKI Pulchoki 26.77 83 *e*P **P** **15 23 53.9 -0.5**
comp=Z,29nm,0.8s
TIRR Tirgusor 27.03 315 ⇑P **P** **15 23 57.3 +1.2**
GUN Gumba 27.14 83 *e*P **P** **15 23 57.1 -0.6**
comp=Z,34nm,0.9s
JIRN Jiri 27.44 83 *e*P **P** **15 24 00.6 +0.1**
comp=Z,5.1nm,1.1s
LPSR Galich'ya Gora 27.51 338 *e*P **P** **15 23 59.4 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 27.56 20 *ce*P **P** **15 24 00.8 0.0**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 27.56 20 P **P** **15 24 00.6 -0.2**
BVAR Borovoye Array 27.57 20 P **P** **15 24 00.6 -0.3**
comp=Z,5.3nm,0.8s,baz=209,slow=30,SNR=20
BVAR PcP **PcP** **15 27 17.5 -0.9**
comp=Z,1.4nm,0.5s,baz=215,slow=19,SNR=6.5
RAMN Ramite 27.91 84 *e*P **P** **15 24 04.5 0.0**
MAKZ Makanchi 28.29 41 P P 15 24 07.2 -0.3
MAKZ pmax pmax
comp=Z,16nm,1.5s
MAKZ Makanchi 28.29 41 P P 15 24 07.2 -0.3
MAKZ IAmb IAmb 15 24 08.5
comp=Z,16nm,1.5s
MK31 Makanchi Array 28.47 41 *i* P P 15 24 08.5 -0.5
MK31 Makanchi Array 28.47 41 P P 15 24 08.5 -0.5
MKAR Makanchi Array 28.47 41 P P 15 24 08.6 -0.4
comp=Z,1.1nm,0.7s,baz=229,slow=8.7,SNR=14
ARU Arti 28.65 4 LR LR 15 36 43.8
comp=Z,54nm,20.0s,baz=190,slow=39
ARU Arti 28.65 4 *c i* P P 15 24 10.4 -0.1
ARU 15 24 59.8
ARU S **S** **15 28 55.4 -3.0**
ARU SS **SnSn** **15 30 18.0 -0.8**
ARU pmax pmax
comp=Z,5.0nm,1.0s
VRI Vrincioaia 28.75 316 ⇓P **P** **15 24 11.4 -0.2**
VRI Vrincioaia 28.75 316 P **P** **15 24 11.4 -0.2**
KURBB Kurchatov Arra 28.84 32 P **P** **15 24 12.5 +0.3**
comp=Z,2.3nm,0.7s,baz=232,slow=8.8,SNR=29
KURBB PcP **PcP** **15 27 20.8 -0.8**
comp=Z,0.3nm,0.6s,baz=235,slow=3.3,SNR=4.8
KURK Kurchatov 28.94 32 P P 15 24 13.1 0.0
KURK pmax pmax
comp=Z,7.0nm,1.2s
KURK Kurchatov 28.94 32 P P 15 24 13.1 -0.1
KURK IAmb IAmb 15 24 14.0
comp=Z,6.8nm,1.2s
MLR Muntele Rosu 29.06 315 ⇑P **P** **15 24 14.5 +0.1**
MLR Muntele Rosu 29.06 315 P **P** **15 24 15.0 +0.6**
comp=Z,1.8nm,0.7s,baz=228,slow=18,SNR=4.1
MLR Muntele Rosu 29.06 315 P **P** **15 24 15.0 +0.6**
COVR Voineasa-Covas 29.06 316 ⇓P **P** **15 24 14.8 +0.4**
TESR Tescani 29.12 317 ⇑P **P** **15 24 14.5 -0.3**
AGG Agios Georgios 29.41 301 P P 15 24 16.5 -1.0
AGG pmax pmax
comp=Z,22nm,1.3s
AGG Agios Georgios 29.41 301 P P 15 24 16.5 -0.9
AGG IAmb IAmb 15 24 19.6
comp=Z,22nm,1.3s
VOIR 29.60 314 ⇓P **P** **15 24 19.6 +0.5**
VOIR 29.60 314 P **P** **15 24 19.7 +0.5**
VOIR pmax pmax
comp=Z,4.0nm,1.1s
DOPR Dopca 29.62 316 ⇓P **P** **15 24 19.5 +0.2**
ARR Arges 29.83 314 ⇓P **P** **15 24 21.3 +0.1**
AKASG Malin Array Be 30.09 326 P P 15 24 22.1 -1.3
comp=Z,1.6nm,0.7s,baz=117,slow=8.1,SNR=8.8
AKASG Malin Array Be 30.09 326 IAmb IAmb 15 24 30.0
comp=Z,1.4nm,1.1s
AKBB Malin Array Si 30.09 326 P P 15 24 22.8 -0.6
AKBB pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 30.09 326 P P 15 24 22.8 -0.6
AKBB IAmb IAmb 15 24 24.8
comp=Z,6.0nm,0.9s
OBN Obninsk 30.38 339 ⇑ *e*P **P** **15 24 25.8 0.0**
OBN *e* 15 25 32.8
OBN *e*SS SS 15 31 24.8 -10
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN MLR MLR
comp=Z,27nm,16.0s
BURAR Bucovina Array 30.51 318 ⇓P **P** **15 24 27.4 +0.1**
BURAR Bucovina Array 30.51 318 P P **15 24 27.3 +0.1**
BURAR Bucovina Array 30.51 318 P P 15 24 26.8 -0.4
FNA Florina 30.52 304 P **P** **15 24 27.3 -0.1**
FNA pmax pmax
comp=Z,13nm,1.1s
FNA Florina 30.52 304 P **P** **15 24 27.3 -0.1**
FNA IAmb IAmb 15 24 28.6
comp=Z,13nm,1.1s
KIRV Kirov 30.97 354 *ce*P **P** **15 24 31.7 +0.8**
DRGR 31.65 315 ⇓P **P** **15 24 37.0 -0.2**
DRGR 31.65 315 P **P** **15 24 37.2 -0.1**
DRGR pmax pmax
comp=Z,4.0nm,1.1s
BZS Buzias 31.88 313 ⇓P P 15 24 38.6 -0.5
MNK Minsk 33.21 331 *i* P **P** **15 24 50.6 -0.1**
MNK *i* 15 26 02.4
MNK *i* 15 27 32.2
MNK *i* S S 15 30 05.2 -4.5
MNK *i* SS **SnSn** **15 32 11.3 +1.7**
MNK *i* 15 35 06.4
MNK pmax pmax
comp=N,13nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,9.0nm,0.9s
MNK MLR MLR
comp=Z,150nm,23.0s
MNK MLR MLR
comp=N,24nm,17.0s
MNK MLR MLR
comp=E,9.0nm,21.0s
MNK Minsk 33.21 331 *i* P **P** **15 24 50.6 -0.1**
comp=E,2.0nm,0.8s
MNK *i* P **P** **15 24 50.6 -0.1**
comp=N,13nm,0.7s
MNK *i* P **P** **15 24 50.6 -0.1**
comp=Z,9.0nm,0.9s,baz=313
MNK *i* pP sP 15 25 07.4 +9.4
MNK *i* PP **PnPn** **15 26 02.5 +1.7**
MNK *i* S S 15 30 05.2 -4.5
MNK *i* sS sS 15 30 34.7 +16
MNK *i* SS **SnSn** **15 32 11.3 +1.7**
MNK *i* LQ LQ 15 36 20.2
MNK *i* LR LR 15 38 14.6
MNK *i* LRM MLR 15 39 51.9
comp=Z,150nm,23.1s
MNK *i* LRM MLR 15 39 52.6
comp=N,24nm,16.6s
MNK *i* LRM MLR 15 40 12.2
comp=E,9.0nm,21.0s
ZAA0 Zalesovo Array 33.93 32 P P 15 24 56.2 -0.9
ZALV Zalesovo Beam 33.93 32 P P 15 24 56.3 -0.7
comp=E,8.9nm,0.6s,baz=240,slow=9.5,SNR=49
ZALV PcP **PcP** **15 27 32.6 -2.5**
comp=E,0.7nm,0.6s,baz=216,slow=7.1,SNR=2.4
GOMU GeErMu 34.45 66 P **P** **15 25 02.5 +0.3**
GOMU pP pP 15 25 06.5 -1.0
GOMU sP sP 15 25 09.8 +0.2
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU pmax pmax
comp=Z,75nm,4.7s
KLMR Klimovskoe 34.63 347 *e*P P 15 25 01.2 -1.8
KLMR pmax pmax
comp=Z,21nm,1.1s
KLMR Klimovskoe 34.63 347 *e*P P 15 25 01.3 -1.7
KLMR AMP 15 25 04.0
comp=Z,21nm,1.1s
MORC Moravsky Berou 36.03 318 ⇑P P 15 25 14.5 -0.7
MORC Moravsky Berou 36.03 318 P P 15 25 14.2 -1.0
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 36.03 318 P P 15 25 14.2 -1.0
VRAC Vranov 36.42 317 LR LR 15 41 20.7
comp=Z,56nm,19.1s,baz=196,slow=38
VRAC Vranov 36.42 317 P **P** **15 25 18.5 0.0**
VRAC pmax pmax
comp=Z,9.0nm,2.0s
KRLC Kraliky 36.60 318 *e*P P 15 25 19.4 -0.7
KRLC Kraliky 36.60 318 *e*P P 15 25 19.4 -0.7
DPC Dobruska-Polom 36.98 318 *e*P P 15 25 22.3 -1.0
DPC Dobruska-Polom 36.98 318 *e*P P 15 25 22.3 -1.0
NRCA Norcia 36.99 305 P **P** **15 25 23.3 -0.3**
NRCA IAmb IAmb 15 25 28.1
comp=Z,7.0nm,0.8s
OSTC Ostas 37.12 318 *e*P P 15 25 23.6 -0.9
CHVC Chvalec 37.22 318 *e*P P 15 25 24.6 -0.8
MOA Molln 37.39 313 *e*P **P** **15 25 26.5 -0.3**
comp=Z,2.2nm,0.8s
KBA Koelnbreinsper 37.77 312 *e*P **P** **15 25 30.0 -0.2**
comp=Z,1.8nm,0.6s
GERES GERESS Array B 38.05 315 P P 15 25 31.4 -1.1
comp=Z,0.4nm,0.5s,baz=117,slow=7.9,SNR=4.3
GERES PcP **PcP** **15 27 45.3 -2.3**
comp=Z,0.6nm,0.6s,baz=111,slow=5.9,SNR=5.5
GERES GERESS Array B 38.05 315 P P 15 25 30.9 -1.5
KHC Kasperske Hory 38.22 315 *i* P P 15 25 32.9 -0.9
KHC pmax pmax
comp=Z,10.0nm,1.1s
KHC Kasperske Hory 38.22 315 P P 15 25 32.3 -1.5
KHC Kasperske Hory 38.22 315 *e*P P 15 25 32.5 -1.3
BRG Berggiesshubel 38.58 318 *e*P **P** **15 25 36.5 -0.2**
BRG Amp 15 25 37.5
comp=Z,5.8nm,1.3s
BRG Berggiesshubel 38.58 318 *e*P **P** **15 25 36.5 -0.2**
BRG pmax pmax
comp=Z,6.0nm,1.3s
GTA Gaotai 38.58 61 ⇑P **P** **15 25 37.3 +0.2**
GTA pP sP 15 25 46.5 +1.9
GTA sP pP 15 25 50.9 +8.5
GTA pmax pmax
comp=Z,16nm,0.8s
FIA1 FINESS Array S 38.78 338 P P 15 25 37.9 -0.3
FIA1 IAmb IAmb 15 25 38.8
comp=Z,12nm,1.0s
FINES FINESS Array B 38.78 338 P P 15 25 38.0 -0.3
comp=Z,3.8nm,0.6s,baz=153,slow=8.0,SNR=26
FINES FINESS Array B 38.78 338 P P 15 25 37.7 -0.5
WTTA Wattenberg 38.94 312 *e*P P 15 25 38.7 -1.4
comp=Z,7.0nm,1.1s
WATA Walderalm 39.00 312 *e*P P 15 25 39.4 -1.2
comp=Z,2.4nm,0.7s
SQTA Sankt Quirin 39.21 312 *e*P P 15 25 40.7 -1.7
comp=Z,3.9nm,0.6s
CLL Collm 39.28 318 *i* P P 15 25 41.8 -0.9
CLL pmax pmax
comp=Z,12nm,1.5s
CLL Collm 39.28 318 *i* P P 15 25 41.8 -0.9
comp=Z,12nm,1.5s
MOTA Moosalm 39.31 312 *e*P P 15 25 41.1 -2.0
comp=Z,4.3nm,0.8s
KEST Kesra 39.42 293 P **P** **15 25 45.2 +1.1**
comp=Z,7.4nm,0.8s,baz=206,slow=4.6,SNR=7.2
KEST Kesra 39.42 293 P P 15 25 43.0 -1.1
KEST IAmb IAmb 15 25 46.1
comp=Z,9.0nm,0.9s
FETA Feichten 39.49 311 *e*P P 15 25 43.8 -0.9
comp=Z,2.6nm,0.7s
DAVA Damuels 40.11 311 *e*P P 15 25 48.2 -1.6
comp=Z,7.3nm,0.6s
CHTO Chiang Mai 41.04 93 P P 15 25 56.9 -0.7
CHTO pmax pmax
comp=Z,13nm,1.5s
CHTO Chiang Mai 41.04 93 P P 15 25 56.9 -0.7
CHTO IAmb IAmb 15 25 59.4
comp=Z,13nm,1.4s
CMAR Chiang Mai Arr 41.16 93 P **P** **15 25 58.6 0.0**
comp=Z,1.2nm,0.7s,baz=285,slow=8.5,SNR=12
CMAR PcP **PcP** **15 27 57.5 -0.4**
comp=Z,1.3nm,0.7s,baz=291,slow=5.2,SNR=8.5
CMAR LR LR 15 47 58.5
comp=Z,32nm,18.3s,baz=290,slow=44
CMAR Chiang Mai Arr 41.16 93 P **P** **15 25 58.5 -0.2**
SENIN Lac Senin/Sane 41.68 309 P P 15 26 01.2 -1.6
LZH Lanzhou 41.76 66 *e*P P 15 26 02.8 -0.8
LZH pP pP 15 26 08.0 -0.9
LZH pmax pmax
comp=Z,18nm,1.3s
LVZ Lovozero 41.91 349 *i* P P 15 26 02.4 -1.8
LVZ pmax pmax
comp=Z,58nm,1.6s
BNI Bardonecchia 41.92 307 P P 15 26 03.2 -1.5
BNI pmax pmax
comp=Z,15nm,1.4s
BNI Bardonecchia 41.92 307 P P 15 26 03.2 -1.5
BNI IAmb IAmb 15 26 13.8
comp=Z,15nm,1.4s
NC405 NORSAR Array S 44.06 331 P P 15 26 20.7 -1.0
NC405 IAmb IAmb 15 26 21.2
comp=Z,8.3nm,0.8s
SONM Songino Array 44.20 49 P **P** **15 26 23.2 0.0**
comp=Z,2.8nm,0.9s,baz=254,slow=8.7,SNR=16
SONM Songino Array 44.20 49 IAmb IAmb 15 26 24.1
comp=Z,2.9nm,1.0s
NB2 NORSAR Subarra 44.23 331 P P 15 26 21.7 -1.4
comp=Z,7.6nm,1.0s,baz=119,slow=7.9
NOA NORSAR Array B 44.23 331 P P 15 26 21.9 -1.2
comp=Z,2.6nm,0.8s,baz=118,slow=8.0,SNR=9.5
NOA LR LR 15 45 13.2
comp=Z,20nm,20.4s,baz=165,slow=37
ULN Ulaanbaatar 44.65 49 *ce*P P 15 26 25.9 -0.8
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 44.65 49 P P 15 26 26.2 -0.5
ULN IAmb IAmb 15 26 27.3
comp=Z,3.9nm,0.8s
ARCES ARCESS Array B 45.10 346 P **P** **15 26 30.2 +0.4**
comp=Z,2.9nm,1.0s,baz=96,slow=2.4,SNR=5.2
NRIK Noril'sk 45.58 15 P **P** **15 26 33.8 +0.1**
comp=Z,6.0nm,0.8s,baz=223,slow=3.7,SNR=7.2
NRIK Noril'sk 45.58 15 *ce*P **P** **15 26 33.7 +0.1**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
NRIK Noril'sk 45.58 15 P P 15 26 33.0 -0.6
NRIK IAmb IAmb 15 26 34.7
comp=Z,6.8nm,0.8s
XAN Xi'an 46.10 68 P P 15 26 36.9 -1.4
XAN pP sP 15 26 49.5 +3.7
XAN pmax pmax
comp=Z,10.0nm,1.1s
ESDC Sonseca Array 49.72 300 P P 15 27 05.2 -1.2
comp=Z,1.4nm,0.7s,baz=69,slow=7.5,SNR=12
ESDC Sonseca Array 49.72 300 P P 15 27 04.9 -1.4
PAB San Pablo 50.03 300 P P 15 27 07.9 -0.8
PAB pmax pmax
comp=Z,4.0nm,0.9s
PAB San Pablo 50.03 300 P P 15 27 07.9 -0.8
PAB IAmb IAmb 15 27 08.7
comp=Z,4.0nm,0.8s
BOD Bodaibo 50.38 36 *e*P P 15 27 10.1 -0.8
BOD pmax pmax
comp=Z,18nm,1.2s
TOA0 Torodi Ar. Sit 51.78 265 P P 15 27 20.5 -1.5
TOA0 IAmb IAmb 15 27 21.9
comp=Z,12nm,1.1s
TORD Torodi Ar. Bea 51.78 265 P P 15 27 20.3 -1.7
comp=Z,7.0nm,0.9s,baz=61,slow=7.3,SNR=35
TORD Torodi Ar. Bea 51.78 265 P P 15 27 20.3 -1.7
TORD IAmb IAmb 15 27 21.9
comp=Z,10nm,1.1s
KOWA Kowa 56.27 269 P P 15 27 53.3 -1.5
ZEA Zeya 57.62 42 *e*P P 15 28 03.7 -0.2
ZEA MLR MLR
comp=Z,100nm,12.0s
YAK Yakutsk 58.58 32 *e*P P 15 28 08.5 -2.0
YAK *e**PP sP 15 28 21.6 +3.6
YAK *e* 15 28 58.7
YAK *e* 15 30 20.6
YAK *e*S S 15 36 09.2 -4.4
YAK *e**SS sS 15 36 36.7 +14
YAK *e* 15 37 53.4
YAK *e*SS **SS** **15 40 04.8 -1.0**
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,88nm,5.2s
YAK pmax pmax
comp=E,30nm,4.2s
YAK smax smax
comp=N,46nm,4.3s
YAK smax smax
comp=E,10.0nm,2.3s
YAK Yakutsk 58.58 32 P P 15 28 08.5 -2.0
TIXI Tiksi 58.70 21 *ce*P P 15 28 10.5 -0.6
TIXI pmax pmax
comp=Z,9.0nm,2.5s
TIXI Tiksi 58.70 21 P P 15 28 10.2 -0.9
TIXI IAmb IAmb 15 28 27.2
comp=Z,2.3nm,0.8s
YHNB Yeheng 58.83 77 P **P** **15 28 13.4 +0.5**
DBIC Dimbokro 60.44 261 P P 15 28 22.5 -1.5
comp=Z,5.3nm,0.7s,baz=91,slow=6.4,SNR=4.0
DBIC Dimbokro 60.44 261 P P 15 28 22.7 -1.3
DBIC pmax pmax
comp=Z,21nm,1.4s
DBIC Dimbokro 60.44 261 P P 15 28 22.7 -1.3
TJN Taejon 60.48 62 P P 15 28 22.3 -1.7
TJN pmax pmax
comp=Z,28nm,0.7s
TJN Taejon 60.48 62 P P 15 28 22.3 -1.7
KS19 Wonju Array Si 60.60 61 P P 15 28 23.8 -1.1
KSAR Wonju Array Be 60.63 61 P P 15 28 24.0 -1.0
KSAR Wonju Array Be 60.63 61 P P 15 28 24.0 -1.0
KSRS Korea Array 60.65 61 P P 15 28 23.6 -1.5
comp=Z,5.7nm,0.7s,baz=279,slow=6.7,SNR=38
KLR Kul'dur 60.95 47 *ce*P P 15 28 24.4 -2.6
KLR pmax pmax
comp=Z,5.0nm,1.3s
BOSA Boshof 63.04 209 P P 15 28 40.1 -1.2
comp=Z,2.5nm,0.6s,baz=22,slow=7.2,SNR=6.9
MYLDM Lahad Datu 64.08 98 P P 15 28 47.3 -1.1
YSS Yuzh-Sakhalins 68.66 47 *e*P P 15 29 15.9 -1.4
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS Yuzh-Sakhalins 68.66 47 P P 15 29 15.4 -1.9
SEY Seymchan 68.75 29 *ce*P P 15 29 16.2 -1.4
SEY pmax pmax
comp=Z,14nm,1.3s
MJAR Matsushiro Arr 68.80 59 P P 15 29 16.1 -2.3
comp=Z,2.0nm,0.8s,baz=330,slow=11,SNR=6.2
JTM Tenmabayashi 69.50 54 P P 15 29 21.1 -1.5
EUNU Eureka 70.29 353 P **P** **15 29 27.9 +0.9**
EUNU IAmb IAmb 15 29 28.2
comp=Z,5.1nm,0.9s
TULEG Thule 70.36 348 P P 15 29 26.7 -0.6
BILL Bilibino 71.90 22 *de*P P 15 29 36.4 -0.3
BILL *e* 15 29 55.9
BILL *e* 15 32 17.2
BILL pmax pmax
comp=Z,8.0nm,1.3s
BILL Bilibino 71.90 22 P **P** **15 29 37.1 +0.4**
BILL IAmb IAmb 15 29 37.9
comp=Z,8.5nm,1.0s
RES Resolute Bay 75.86 352 P P 15 29 59.3 -0.5
comp=Z,1.5nm,0.9s,baz=57,slow=7.9,SNR=5.1
RES Resolute Bay 75.86 352 P P 15 29 59.2 -0.6
RES pmax pmax
comp=Z,2.0nm,1.1s
RES Resolute Bay 75.86 352 P P 15 29 59.2 -0.6
A36M Sachs Harbour 80.42 0 P P 15 30 24.8 -0.3
TOLK Toolik Lake Re 82.07 9 P **P** **15 30 34.3 +0.2**
TOLK IAmb IAmb 15 30 35.1
comp=Z,5.3nm,1.0s
FITZ Fitzroy Crossi 82.09 115 P P 15 30 33.9 -1.0
FITZ IAmb IAmb 15 30 34.7
comp=Z,4.4nm,0.8s
C36M Paulatuk 83.07 360 P P 15 30 38.6 -0.6
C36M IAmb IAmb 15 30 38.9
comp=Z,6.0nm,0.8s
COLD Coldfoot 83.30 10 P **P** **15 30 41.0 +0.6**
COLD IAmb IAmb 15 30 41.5
comp=Z,3.6nm,1.0s
BMAR Burnt Mountain 83.85 8 P **P** **15 30 43.7 +0.4**
IMAR Indian Mountai 83.86 11 P P 15 30 42.6 -0.8
INK Inuvik 83.91 3 P **P** **15 30 43.4 0.0**
comp=Z,1.5nm,0.9s,baz=4.0,slow=13,SNR=4.6
INK Inuvik 83.91 3 P P 15 30 43.0 -0.4
INK pmax pmax
comp=Z,7.0nm,1.5s
INK Inuvik 83.91 3 P P 15 30 43.0 -0.4
INK IAmb IAmb 15 31 09.0

comp=Z,6.5nm,1.4s
H21K **Melozitna Rive** **84.32** **11** P P 15 30 45.4 -0.3
H21K IAmb IAmb 15 30 55.0
comp=Z,8.9nm,1.5s
H23K **Yukon River** **84.70** **10** P **P** **15 30 47.8 +0.2**
H23K IAmb IAmb 15 30 49.0
comp=Z,4.2nm,1.0s
J20K **Nowinta River** **85.42** **12** P P 15 30 50.8 -0.4
J20K IAmb IAmb 15 30 52.7
comp=Z,5.1nm,1.1s
BPAW **Bear Paw Mtn.** **86.07** **11** P P 15 30 54.0 -0.5
ILAR **Eielson Array** **86.08** **9** P P 15 30 53.3 -1.2
comp=Z,0.7nm,0.6s,baz=321,slow=4.3,SNR=13
ILAR **Eielson Array** **86.08** **9** P P 15 30 53.4 -1.1
TTA **Tatalina** **86.17** **14** P P 15 30 54.9 -0.2
TTA pmax pmax
comp=Z,3.0nm,1.0s
TTA **Tatalina** **86.17** **14** P P 15 30 54.9 -0.2
TTA IAmb IAmb 15 30 57.4
comp=Z,2.7nm,1.0s
K20K **Telida** **86.18** **13** P P 15 30 54.7 -0.3
K20K IAmb IAmb 15 30 55.4
comp=Z,4.9nm,0.9s
J25K **Salcha River,** **86.44** **9** P P 15 30 55.8 -0.6
J25K IAmb IAmb 15 31 02.1
comp=Z,6.4nm,1.5s
CAST **Castle Rocks** **86.50** **12** P P 15 30 56.3 -0.3
MCK **McKinley** **86.75** **10** P P 15 30 57.6 -0.2
MCK pmax pmax
comp=Z,14nm,1.5s
MCK **McKinley** **86.75** **10** P P 15 30 57.6 -0.2
TRF **Thorofare Moun** **86.79** **11** P **P** **15 30 58.2 0.0**
EGAK **Eagle** **86.79** **7** P P 15 30 57.7 -0.3
EGAK IAmb IAmb 15 30 58.0
comp=Z,5.9nm,1.1s
PPLA **Purkeypile** **86.96** **12** P P 15 30 58.6 -0.5
SCRK **Sand Creek** **87.23** **8** P **P** **15 31 00.4 +0.1**
SCRK IAmb IAmb 15 31 01.2
comp=Z,6.6nm,1.0s
M19K **Big River Lodg** **87.43** **14** P **P** **15 31 01.2 0.0**
M19K IAmb IAmb 15 31 25.3
comp=Z,8.5nm,1.4s
DAWY **Dawson** **87.67** **6** P P 15 31 01.7 -0.6
DAWY IAmb IAmb 15 31 02.8
comp=Z,3.2nm,0.9s
BCAR **Beaver Creek A** **88.38** **8** P **P** **15 31 05.8 0.0**
N19K **Bonanza Creek** **88.40** **14** P **P** **15 31 05.9 0.0**
N19K IAmb IAmb 15 31 18.0
comp=Z,6.2nm,1.4s
SCM **Sheep Creek Mo** **88.80** **10** P P 15 31 06.4 -1.3
SCM pmax pmax
comp=Z,12nm,1.2s
SCM **Sheep Creek Mo** **88.80** **10** P P 15 31 06.4 -1.3
YKA **Yellowknife Ar** **89.58** **355** P **P** **15 31 11.2 -0.1**
comp=Z,2.5nm,0.7s,baz=6.9,slow=5.1,SNR=59
WRA **Warramunga Arr** **90.09** **112** P P 15 31 12.8 -1.6
comp=Z,0.3nm,0.5s,baz=316,slow=4.0,SNR=6.1
ASAR **Alice Springs** **91.57** **116** P P 15 31 19.6 -1.7
comp=Z,1.0nm,0.8s,baz=302,slow=4.8,SNR=12
NVAR **Mina Array Bea** **113.77** **354** PKiKP **PKiKP** **15 36 53.7 +0.6**
comp=Z,0.2nm,0.6s,baz=222,slow=2.0,SNR=3.8
NVAR **Mina Array Bea** **113.77** **354** **PKiKP** **15 36 51.3 -1.9**
TXAR **Lajitas Array** **119.62** **339** PKP **PKPdf** **15 37 01.8 -2.7**
comp=Z,0.3nm,0.6s,baz=50,slow=1.3,SNR=4.3

IDC 24 15:18:17.8±20.0, 22.01N×143.12E, h386km±231km, mb2.8/5, mb1 3.0/5, mb1mx2.5/65, mbtmp3.5/5, Error ellipse: s-maj=44.8km s-min=38.3km az=94.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.28**	**192**	P	P	15 26 06.5	-0.1
	0.2nm,0.9s,baz=21,slow=13,SNR=1.4						
KURBB	**Kurchatov Arra**	**57.26**	**317**	P	P	15 27 26.6	+0.2
	0.3nm,0.4s,baz=93,slow=7.5,SNR=2.1						
ILAR	**Eielson Array**	**61.79**	**27**	P	P	15 27 56.3	-0.4
	0.2nm,0.8s,baz=261,slow=4.7,SNR=1.3						
YKA	**Yellowknife Ar**	**76.20**	**28**	P	P	15 29 24.9	+0.5
	0.2nm,0.5s,baz=291,slow=5.8,SNR=6.5						
FINES	**FINESS Array B**	**82.87**	**334**	P	P	15 29 59.3	-0.6
	1.2nm,0.8s,baz=76,slow=7.3,SNR=3.6						

*NEIC **24** 15:26:13.7±2.4, 17.73S±0.09×178.40W±0.09, h517km±5km, mb4.6/282, Error ellipse: s-maj=13.4km s-min=12.3km az=159.0*
*IDC **24** 15:26:13.9±0.6, 17.80S×178.45W, h520km±6km, mb4.1/32, mb1 4.1/34, mb1mx4.1/43, mbtmp4.9/34, Error ellipse: s-maj=11.5km s-min=8.0km az=129.0*
*NOU **24** 15:26:14.4, 17.67S×178.33W, h533km, mb5.0/81, Fiji Islands Region*
ISC 24 15:26:15.5±0.3, 17.72S±0.05×178.37W±0.05, h547km, n809, σ1s23/828, mb4.7/215, 54C-75D, Fault plane solution: NP1:ϕs285.73331°, δ69.75651°, λ9.26393°. NP2:ϕs192.50310°, δ81.31287°, λ159.51109°. Principal axes: T Plg20.5771°, Azm147.5361°; N Plg67.8187°, Azm350.4940°; P Plg7.9244°, Azm240.5316°; **Fault plane solution: NP1:ϕs40.78898°, δ68.91580°, λ-95.64356°. NP2:ϕs236.14897°, δ21.79315°, λ-75.69109°. Principal axes:** T Plg23.7155°, Azm135.1448°; N Plg5.2646°, Azm42.8249°; P Plg65.6362°, Azm301.0848°; **Fault plane solution: NP1:ϕs191.68982°, δ25.23747°, λ-73.82061°. NP2: ϕs353.90601°, δ65.82757°, λ-97.48259°. Principal axes:** T Plg20.4912°, Azm89.5475°; N Plg6.8232°, Azm356.9846°; P Plg68.3045°, Azm249.4822°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**269**	P	**P**	**15 27 32.5**	**-0.6**
	45nm,0.3s,baz=130,slow=12,SNR=502						
MSVF				S	**S**	**15 28 35.7**	**-0.6**
	baz=116,slow=23,SNR=0.7						
MSVF	**Nonsavu**	**3.41**	**269**	P	**P**	**15 27 31.9**	**-1.2**
MSVF	**Nonsavu**	**3.41**	**269**	P	**P**	**15 27 32.1**	**-1.0**
AFI	**Afiamalu**	**7.39**	**60**	P	**P**	**15 28 04.2**	**-3.2**
	22nm,0.3s,baz=316,slow=0.3,SNR=34						
AFI				S	**S**	**15 29 33.8**	**-5.0**
	11nm,0.3s,baz=32,slow=19,SNR=2.0						
AFI	**Afiamalu**	**7.39**	**60**	P	**P**	**15 28 03.5**	**-3.9**
AFI	**Afiamalu**	**7.39**	**60**	P	**P**	**15 28 04.4**	**-2.9**
NIUE	**Niue**	**8.13**	**101**	P	P	15 28 06.9	-7.5
	baz=8.1,SNR=17						
NIUE	**Niue**	**8.13**	**101**	P	**P**	**15 28 13.7**	**-0.8**
NIUE	**Niue**	**8.13**	**101**	P	**P**	**15 28 13.5**	**-0.9**
FUNA	**Funafuti**	**9.44**	**345**	P	**P**	**15 28 26.3**	**-1.5**
MARNC	**Mare, Loyalty**	**13.35**	**252**	P	**P**	**15 29 05.2**	**-2.9**
MARNC	**Mare, Loyalty**	**13.35**	**252**	P	**P**	**15 29 07.7**	**-0.3**
LIFNC	**LIFOU**	**13.93**	**255**	P	**P**	**15 29 10.6**	**-3.4**
SANVU	**Saraoutou**	**14.02**	**277**	P	**P**	**15 29 12.3**	**-2.7**
SANVU	**Saraoutou**	**14.02**	**277**	P	**P**	**15 29 14.4**	**-0.6**
PINNC	**Pines Island,**	**14.18**	**248**	P	**P**	**15 29 14.6**	**-1.9**
PINNC	**Pines Island,**	**14.18**	**248**	P	**P**	**15 29 16.5**	**-0.1**
OUENC	**Ouen Island, N**	**14.66**	**249**	P	**P**	**15 29 19.1**	**-2.4**
OUENC	**Ouen Island, N**	**14.66**	**249**	P	**P**	**15 29 20.9**	**-0.6**
DZM	**Mont Dzumac**	**14.92**	**251**	P	**P**	**15 29 21.7**	**-2.7**
	0.9nm,0.3s,baz=76,slow=13,SNR=23						
DZM	**Mont Dzumac**	**14.92**	**251**	eP	**P**	**15 29 21.6**	**-2.8**
	96nm,1.1s						
DZM	**Mont Dzumac**	**14.92**	**251**	P	**P**	**15 29 21.5**	**-2.9**
DZM	**Mont Dzumac**	**14.92**	**251**	P	**P**	**15 29 23.9**	**-0.5**
ONTNC	**Ouen Toro**	**14.97**	**250**	P	**P**	**15 29 22.0**	**-2.8**
ONTNC	**Ouen Toro**	**14.97**	**250**	P	**P**	**15 29 24.0**	**-0.8**
NOUC	**Port Laguerre**	**15.06**	**251**	P	**P**	**15 29 25.4**	**-0.3**
KNTN	**Kanton**	**16.22**	**24**	P	**P**	**15 29 35.7**	**-1.7**
KOUNC	**Koumac, New Ca**	**16.63**	**257**	P	**P**	**15 29 39.6**	**-1.5**
KOUNC	**Koumac, New Ca**	**16.63**	**257**	P	**P**	**15 29 40.3**	**-0.8**
NFK	**Norfolk Island**	**16.86**	**226**	P	**P**	**15 29 42.6**	**-0.6**
	baz=17,SNR=3.4						
MXZ	**Matakaoa Point**	**19.98**	**188**	P	**P**	**15 30 09.7**	**-1.7**
TARA	**Tarawa**	**20.81**	**335**	P	**P**	**15 30 18.0**	**-1.2**
URZ	**Urewera**	**20.84**	**190**	P	**P**	**15 30 16.2**	**-2.9**
	30nm,0.5s,baz=236,slow=0.6,SNR=26						
URZ	**Urewera**	**20.84**	**190**	P	**P**	**15 30 16.1**	**-3.1**
BKZ	**Black Stump Fm**	**21.83**	**191**	P	**P**	**15 30 25.1**	**-3.1**
BKZ				IAmb	IAmb	15 30 39.6	
	comp=Z,17nm,0.7s						
HNR	**Honiara**	**22.61**	**289**	P	**P**	**15 30 35.5**	**+0.1**
	comp=Z,48nm,0.8s,baz=251,slow=5.6,SNR=3.9						

SNZO	**South Karori**	**24.25**	**193**	P	**P**	**15 30 48.0 -1.6**
QRZ	**Quartz Range**	**24.32**	**197**	P	**P**	**15 30 50.2 -0.1**
TUWZ	**Tuamarina**	**24.53**	**194**	P	**P**	**15 30 50.1 -2.0**
THZ	**Tophouse**	**25.10**	**196**	P	**P**	**15 30 55.8 -1.4**
THZ				IAmb	IAmb	15 31 18.0
	comp=Z,26nm,0.9s					
LTZ	**Lake Taylor**	**26.22**	**196**	P	**P**	**15 31 04.7 -2.4**
OXZ	**Oxford**	**26.79**	**196**	P	**P**	**15 31 09.7 -2.3**
RPZ	**Rata Peaks**	**27.41**	**197**	P	**P**	**15 31 16.6 -0.9**
	comp=Z,11nm,0.5s,baz=202,slow=3.9,SNR=11					
RPZ	**Rata Peaks**	**27.41**	**197**	P	**P**	**15 31 16.7 -0.8**
FOZ	**Fox Glacier**	**27.61**	**199**	P	**P**	**15 31 18.3 -0.8**
LBZ	**Lake Benmore**	**28.27**	**197**	P	**P**	**15 31 22.9 -2.1**
WKZ	**Wanaka**	**29.02**	**199**	P	**P**	**15 31 29.8 -1.7**
EIDS	**Eidsvold**	**29.37**	**250**	P	**P**	**15 31 33.5 -1.3**
	baz=30,SNR=16					
EIDS	**Eidsvold**	**29.37**	**250**	P	**P**	**15 31 33.8 -1.0**
EIDS	**Eidsvold**	**29.37**	**250**	P	**P**	**15 31 34.2 -0.6**
RK1H	**Rockhampton Ha**	**29.66**	**254**	P	**P**	**15 31 36.6 -0.7**
	comp=Z,54nm,0.8s					
ARMA	**Armidale**	**30.07**	**240**	P	**P**	**15 31 41.0 +0.1**
	baz=30,SNR=42					
ARMA	**Armidale**	**30.07**	**240**	P	**P**	**15 31 40.9 +0.1**
ARMA	**Armidale**	**30.07**	**240**	P	**P**	**15 31 40.8 -0.1**
WHZ	**Wether Hill Ro**	**30.31**	**199**	P	**P**	**15 31 42.1 -0.5**
MGCD	**Mangrove Creek**	**31.43**	**235**	P	**P**	**15 31 52.6 +0.2**
	baz=32,SNR=14					
MGCD	**Mangrove Creek**	**31.43**	**235**	P	**P**	**15 31 52.9 +0.5**
RMQ	**Roma**	**31.61**	**248**	P	**P**	**15 31 53.8 -0.3**
	baz=32,SNR=102					
RMQ	**Roma**	**31.61**	**248**	P	**P**	**15 31 54.0 -0.1**
RABL	**Rabaul**	**31.83**	**292**	P	**P**	**15 31 54.0 -2.1**
RABL	**Rabaul**	**31.83**	**292**	P	**P**	**15 31 55.9 -0.2**
KRVT	**Keravat (AS076**	**31.90**	**291**	P	**P**	**15 31 55.4 -1.3**
	comp=Z,60nm,0.8s,baz=179,slow=2.7,SNR=4.9					
SYDH	**Sydney Hard Ro**	**31.92**	**234**	P	**P**	**15 31 57.5 +0.9**
	comp=Z,59nm,0.9s					
CTA	**Charters Tower**	**33.52**	**260**	P	**P**	**15 32 09.2 -1.1**
	comp=Z,43nm,0.8s,baz=88,slow=9.3,SNR=24					
CTA	**Charters Tower**	**33.52**	**260**	P	**P**	**15 32 09.8 -0.5**
CTAO	**Charters Tower**	**33.52**	**260**	P	**P**	**15 32 09.0 -1.3**
CNB	**Canberra Magne**	**33.57**	**232**	P	**P**	**15 32 10.8 +0.2**
	baz=34,SNR=79					
CNB	**Canberra Magne**	**33.57**	**232**	P	**P**	**15 32 11.0 +0.4**
CAN	**Canberra**	**33.85**	**232**	P	**P**	**15 32 12.4 -0.5**
CAN	**Canberra**	**33.85**	**232**	P	**P**	**15 32 13.0 +0.1**
PMG	**Port Moresby**	**34.47**	**279**	P	**P**	**15 32 17.6 -0.6**
PMG	**Port Moresby**	**34.47**	**279**	P	**P**	**15 32 18.2 -0.1**
CMSA	**Cobar Meteorol**	**35.27**	**240**	P	**P**	**15 32 24.4 -0.4**
	baz=35,SNR=99					
CMSA	**Cobar Meteorol**	**35.27**	**240**	P	**P**	**15 32 24.6 -0.2**
JOHN	**Johnston Islan**	**35.33**	**15**	P	**P**	**15 32 25.2 -0.2**
MTSU	**Mount Surprise**	**35.47**	**263**	P	**P**	**15 32 25.6 -1.0**
	baz=36,SNR=16					
MTSU	**Mount Surprise**	**35.47**	**263**	P	**P**	**15 32 26.8 +0.2**
QLP	**Quilpie**	**35.64**	**249**	P	**P**	**15 32 27.0 -0.9**
	baz=36,SNR=37					
QLP	**Quilpie**	**35.64**	**249**	P	**P**	**15 32 27.9 0.0**
GLAD	**Gladstone**	**37.01**	**224**	P	**P**	**15 32 39.4 +0.4**
	comp=Z,36nm,0.8s					
MANU	**Manus Island**	**37.07**	**291**	P	**P**	**15 32 39.3 -0.5**
COEN	**Coen**	**37.14**	**270**	P	**P**	**15 32 40.1 -0.4**
COEN	**Coen**	**37.14**	**270**	P	**P**	**15 32 40.4 -0.1**
TOO	**Toolangi**	**37.32**	**231**	P	**P**	**15 32 41.7 +0.1**
	baz=38,SNR=90					
TOO	**Toolangi**	**37.32**	**231**	P	**P**	**15 32 41.2 -0.4**
TOO	**Toolangi**	**37.32**	**231**	P	**P**	**15 32 41.9 +0.3**
CORO	**Coronation Par**	**37.81**	**224**	P	**P**	**15 32 46.1 +0.6**
	comp=Z,55nm,0.9s					
MLBS	**Spotswood, Mel**	**37.85**	**231**	P	**P**	**15 32 46.3 +0.4**
	comp=Z,106nm,0.8s					
MOO	**Moorlands**	**38.25**	**223**	P	**P**	**15 32 49.0 -0.1**
	baz=38,SNR=3.6					
GEXS	**Deakin Univers**	**38.43**	**230**	P	**P**	**15 32 51.4 +0.8**
	comp=Z,108nm,1.1s					
BRAT	**Ballarat**	**38.47**	**231**	P	**P**	**15 32 51.5 +0.6**
	comp=Z,91nm,0.9s					
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**15 32 53.4 +0.1**
	comp=Z,76nm,0.9s,baz=83,slow=9.0,SNR=130					
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**15 32 53.4 +0.1**
	baz=39,SNR=48					
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**15 32 53.2 -0.1**
STKA				IAmb	IAmb	15 32 54.5
	comp=Z,21nm,1.0s					
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**15 32 53.6 +0.3**
INKA	**Innaminka**	**38.85**	**248**	P	**P**	**15 32 54.4 +0.2**
WAKE	**Wake Island**	**39.61**	**337**	P	**P**	**15 33 00.1 -0.2**
QIS	**Mount Isa**	**39.73**	**259**	P	**P**	**15 32 60.0 -1.4**
	baz=40,SNR=6.8					
QIS	**Mount Isa**	**39.73**	**259**	P	**P**	**15 33 00.6 -0.8**
ARPS	**Mount Arapiles**	**39.79**	**233**	P	**P**	**15 33 01.3 -0.3**
	baz=40,SNR=16					
ARPS	**Mount Arapiles**	**39.79**	**233**	P	**P**	**15 33 01.3 -0.3**
HTT	**Hallett**	**41.27**	**239**	P	**P**	**15 33 13.4 -0.1**
	baz=41,SNR=40					
HTT	**Hallett**	**41.27**	**239**	P	**P**	**15 33 14.1 +0.5**
LCRK	**Leigh Creek**	**41.37**	**244**	P	**P**	**15 33 14.3 0.0**
NAPP	**Napperby**	**41.86**	**240**	P	**P**	**15 33 18.4 +0.3**
	comp=Z,136nm,0.9s					
TWOA	**Tennyson Woods**	**41.89**	**237**	P	**P**	**15 33 18.1 -0.2**
	comp=Z,74nm,0.8s					
WHYH	**Whyalla**	**42.31**	**240**	P	**P**	**15 33 21.5 -0.1**
	comp=Z,23nm,0.8s					
KHLU	**Kahalu`u**	**43.15**	**32**	P	**P**	**15 33 29.0 +0.5**
AIN	**Ainahou**	**43.19**	**32**	P	**P**	**15 33 29.6 +0.7**
HUH	**Hualalai**	**43.26**	**32**	P	**P**	**15 33 30.1 +0.6**
OOD	**Oodnadatta**	**43.32**	**248**	P	**P**	**15 33 30.8 +1.2**
MLH	**Mauna Loa**	**43.33**	**32**	P	**P**	**15 33 31.3 +1.3**
HMH	**Humu'ula Sheep**	**43.37**	**32**	P	**P**	**15 33 31.8 +1.4**
POHA	**Pohakuloa**	**43.47**	**32**	P	**P**	**15 33 32.0 +0.9**
BBOO	**Buckleboo**	**43.53**	**241**	P	**P**	**15 33 30.8 -0.3**
	baz=44,SNR=91					
BBOO	**Buckleboo**	**43.53**	**241**	P	**P**	**15 33 30.7 -0.5**
BBOO	**Buckleboo**	**43.53**	**241**	P	**P**	**15 33 30.9 -0.3**
HPAH	**Hawaii Prepara**	**43.62**	**32**	P	**P**	**15 33 33.3 +1.2**
MHA	**Mahukona**	**43.65**	**31**	P	**P**	**15 33 33.8 +1.6**
HLK	**Hakalau**	**43.97**	**31**	P	**P**	**15 33 36.1 +1.2**
KHLH	**Kahului Airpor**	**44.00**	**30**	P	**P**	**15 33 36.3 +1.5**
WR0	**Warramunga Arr**	**44.51**	**259**	P	**P**	**15 33 37.1 -1.9**
WR0				IAmb	IAmb	15 33 38.5
	comp=Z,38nm,1.3s					
WB0	**Warramunga Arr**	**44.67**	**260**	P	**P**	**15 33 38.4 -1.8**
WB2	**Warramunga Arr**	**44.69**	**259**	P	**P**	**15 33 38.6 -1.7**
WRAB	**Tennant Creek**	**44.69**	**259**	P	**P**	**15 33 38.5 -1.9**
WRAB	**Tennant Creek**	**44.69**	**259**	P	**P**	**15 33 39.9 -0.5**
WRA	**Warramunga Arr**	**44.70**	**259**	P	**P**	**15 33 38.7 -1.8**
	comp=Z,25nm,0.8s,baz=94,slow=6.9,SNR=189					
WRA				PcP	**PcP**	**15 35 11.6 +0.4**
	comp=Z,6.0nm,0.8s,baz=87,slow=3.5,SNR=6.4					
WRA				ScP	**ScP**	**15 38 14.6 +3.1**
	comp=Z,1.6nm,0.9s,baz=96,slow=4.0,SNR=4.9					
AS31	**Alice Springs**	**44.88**	**254**	P	**P**	**15 33 41.0 -0.8**
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**15 33 41.0 -0.8**
	comp=Z,229nm,0.7s,baz=88,slow=8.2,SNR=2235					
ASAR				PcP	**PcP**	**15 35 12.3 +0.6**
	comp=Z,6.4nm,0.9s,baz=97,slow=2.5,SNR=5.0					
ASAR				ScP	**ScP**	**15 38 16.2 +4.0**
	comp=Z,1.2nm,0.7s,baz=102,slow=3.8,SNR=3.5					
ASAR				S	**S**	**15 39 38.0 -2.2**
	comp=Z,1.5nm,0.9s,baz=87,slow=16,SNR=6.5					
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**15 33 41.0 -0.8**
MULG	**Mulgathing**	**44.92**	**245**	P	**P**	**15 33 41.6 -0.4**
SMPI	**Sarmi**	**44.93**	**285**	P	**P**	**15 33 42.0 -0.2**
	comp=Z,55nm,1.3s					
SRPI	**Serui, Papua**	**47.25**	**284**	P	**P**	**15 33 59.7 -0.2**
	comp=Z,57nm,0.8s					
KDU	**Kakadu**	**47.60**	**269**	P	**P**	**15 34 01.6 -0.9**
	baz=48,SNR=17					
KDU	**Kakadu**	**47.60**	**269**	P	**P**	**15 34 02.1 -0.3**
GUMO	**Guam**	**47.79**	**308**	P	**P**	**15 34 04.4 +0.6**
MTN	**Manton Dam**	**48.84**	**268**	P	**P**	**15 34 10.7 -1.1**
	baz=49,SNR=12					
MTN	**Manton Dam**	**48.84**	**268**	P	**P**	**15 34 10.6 -1.1**
MTN	**Manton Dam**	**48.84**	**268**	P	**P**	**15 34 10.9 -0.8**
WRKA	**Warakurna**	**49.94**	**252**	P	**P**	**15 34 19.1 -0.6**
	baz=50,SNR=357					
WRKA	**Warakurna**	**49.94**	**252**	P	**P**	**15 34 19.4 -0.3**
FORT	**Forrest**	**50.12**	**244**	P	**P**	**15 34 19.9 -1.0**
	baz=50,SNR=47					
FORT	**Forrest**	**50.12**	**244**	P	**P**	**15 34 20.0 -1.0**
FORT	**Forrest**	**50.12**	**244**	P	**P**	**15 34 20.8 -0.1**
KNRA	**Kununurra**	**50.55**	**264**	P	**P**	**15 34 23.6 -0.6**
	baz=51,SNR=28					
KNRA	**Kununurra**	**50.55**	**264**	P	**P**	**15 34 23.3 -0.9**

KNRA	**Kununurra**	**50.55**	**264**	P	**P**	**15 34 23.7 -0.5**
SWI	**Sorong**	**52.24**	**283**	P	**P**	**15 34 36.3 -0.2**
	comp=Z,2μm comp=Z,246nm,0.9s					
FITZ	**Fitzroy Crossi**	**53.10**	**260**	P	**P**	**15 34 42.2 -0.4**
	baz=53,SNR=8.9					
FITZ	**Fitzroy Crossi**	**53.10**	**260**	P	**P**	**15 34 42.0 -0.5**
AAI	**Ambon**	**54.13**	**278**	P	**P**	**15 34 50.0 +0.1**
	comp=Z,77nm,1.3s					
LBMI	**Labuha**	**55.82**	**282**	P	**P**	**15 35 01.9 +0.2**
	comp=Z,586nm comp=Z,64nm,1.0s					
TNTI	**Ternate**	**56.46**	**283**	P	**P**	**15 35 05.9 -0.2**
TNTI	**Ternate**	**56.46**	**283**	P	**P**	**15 35 06.3 +0.2**
	comp=Z,860nm comp=Z,81nm,0.9s					
TNTI	**Ternate**	**56.46**	**283**	P	**P**	**15 35 06.4 +0.3**
SANI	**Sanana**	**56.75**	**279**	P	**P**	**15 35 07.6 -0.5**
	comp=Z,720nm comp=Z,88nm,0.9s					
SANI	**Sanana**	**56.75**	**279**	P	**P**	**15 35 08.3 +0.2**
MBWA	**Marble Bar**	**58.16**	**256**	P	**P**	**15 35 16.4 -1.2**
MBWA				IAmb	IAmb	15 35 17.2
	comp=Z,24nm,0.8s					
MMRI	**Maumere**	**58.33**	**271**	P	**P**	**15 35 17.6 -1.3**
MMRI				IAmb	IAmb	15 35 18.6
	comp=Z,45nm,0.8s					
MEEK	**Meekatharra**	**58.53**	**249**	P	**P**	**15 35 19.0 -1.1**
	baz=59,SNR=14					
MEEK	**Meekatharra**	**58.53**	**249**	P	**P**	**15 35 20.0 -0.2**
KLBR	**Kellerberrin**	**58.95**	**243**	P	**P**	**15 35 22.1 -0.6**
	baz=59,SNR=26					
KLBR	**Kellerberrin**	**58.95**	**243**	P	**P**	**15 35 22.2 -0.6**
NWAO	**Narrogin (SRO)**	**59.33**	**242**	P	**P**	**15 35 24.6 -0.7**
NWAO				IAmb	IAmb	15 35 40.6
	comp=Z,50nm,1.4s					
KMSI	**Cibinong**	**59.54**	**281**	P	**P**	**15 35 26.9 -0.1**
	comp=Z,75nm,0.8s					
BLDU	**Ballidu**	**59.90**	**244**	P	**P**	**15 35 28.3 -0.8**
	baz=60,SNR=14					
BLDU	**Ballidu**	**59.90**	**244**	P	**P**	**15 35 28.8 -0.3**
	comp=Z,34nm,1.2s					
LUWI	**Luwuk**	**60.11**	**279**	P	**P**	**15 35 31.1 +0.3**
	comp=Z,3μm comp=Z,101nm,1.1s					
LUWI	**Luwuk**	**60.11**	**279**	P	**P**	**15 35 30.4 -0.4**
MUN	**Mundaring**	**60.24**	**243**	P	**P**	**15 35 30.9 -0.5**
	baz=60,SNR=3.9					
MORW	**Morawa**	**60.59**	**246**	P	**P**	**15 35 32.8 -1.0**
	baz=61,SNR=10					
MORW	**Morawa**	**60.59**	**246**	P	**P**	**15 35 32.6 -1.1**
MORW				IAmb	IAmb	15 35 35.3
	comp=Z,16nm,0.8s					
MORW	**Morawa**	**60.59**	**246**	P	**P**	**15 35 33.3 -0.5**
SBA	**Scott Base**	**60.61**	**184**	P	**P**	**15 35 34.5 +1.5**
VNDA	**Vanda**	**60.63**	**185**	P	**P**	**15 35 34.1 +0.9**
	comp=Z,1.6nm,0.8s,baz=351,slow=6.9,SNR=9.5					
VNDA	**Vanda**	**60.63**	**185**	P	**P**	**15 35 34.3 +1.1**
APSI	**Ampana**	**61.21**	**279**	P	**P**	**15 35 38.4 +0.3**
	comp=Z,888nm comp=Z,85nm,1.1s					
MRSI	**Marisa**	**61.41**	**281**	P	**P**	**15 35 39.3 -0.1**
	comp=Z,41nm,1.0s					
BNSI	**Bone**	**61.56**	**275**	P	**P**	**15 35 40.7 +0.3**
	comp=Z,2μm comp=Z,63nm,1.1s					
KAPI	**Kappang**	**61.72**	**274**	P	**P**	**15 35 40.2 -1.2**
KAPI				IAmb	IAmb	15 35 41.5
	comp=Z,18nm,0.8s					
KAPI	**Kappang**	**61.72**	**274**	P	**P**	**15 35 41.3 -0.1**
SPSI	**Sidrap Palu**	**62.02**	**275**	P	**P**	**15 35 42.3 -1.0**
	comp=Z,41nm,0.9s					
PLAI	**Plampang**	**62.53**	**269**	P	**P**	**15 35 46.5 -0.2**
	comp=Z,96nm,1.0s					
PLAI	**Plampang**	**62.53**	**269**	P	**P**	**15 35 46.7 0.0**
TOLI2	**Tolitoli**	**62.72**	**281**	P	**P**	**15 35 46.6 -1.3**
TOLI2				IAmb	IAmb	15 35 51.5
	comp=Z,20nm,0.8s					
TOLI2	**Tolitoli**	**62.72**	**281**	P	**P**	**15 35 47.6 -0.3**
GIRL	**Giralia**	**62.98**	**253**	P	**P**	**15 35 50.1 +0.7**
	baz=63,SNR=5.3					
GIRL	**Giralia**	**62.98**	**253**	P	**P**	**15 35 49.1 -0.3**
MPSI	**Mapaga**	**63.28**	**280**	P	**P**	**15 35 51.0 -0.5**
	comp=Z,453nm comp=Z,53nm,1.0s					
JAGI	**Jajag, Banyuwa**	**66.08**	**268**	P	**P**	**15 36 07.6 -1.6**
JAGI	**Jajag, Banyuwa**	**66.08**	**268**	P	**P**	**15 36 08.3 -0.9**
	comp=Z,88nm,0.8s					
JAGI	**Jajag, Banyuwa**	**66.08**	**268**	P	**P**	**15 36 09.3 +0.1**
CASY	**Casey**	**66.32**	**205**	P	**P**	**15 36 09.5 -0.2**
CASY				IAmb	IAmb	15 36 11.2
	comp=Z,17nm,0.9s					
JYT	**Yasato**	**66.44**	**324**	P	**P**	**15 36 11.2 +0.4**
BBKI	**Banjar Baru**	**66.85**	**274**	P	**P**	**15 36 14.4 +0.5**
	comp=Z,39nm,1.2s					
MTKI	**Muara Teweh, K**	**67.58**	**276**	P	**P**	**15 36 18.9 +0.5**
	comp=Z,22nm,0.5s					
JGF	**Kuroka**	**67.61**	**322**	P	**P**	**15 36 18.3 +0.1**
JGF				IAm

KSRS Korea Array 74.59 318 P P 15 37 00.2 +1.3
comp=Z,4.6nm,0.8s,baz=129,slow=6.3,SNR=33
KSAR Wonju Array Be 74.61 318 P P 15 36 58.9 -0.1
BLSI Bandar Lampung 75.43 269 P P 15 37 03.6 -0.7
PPBI Pangkal Pinang 75.53 272 P P 15 37 05.5 +0.7
KASI Kota Agung 76.10 269 P P 15 37 07.4 -0.5
comp=Z,124nm,0.9s
SAO San Andreas Ge 76.26 44 P P 15 37 10.3 +2.0
SAO IAmb IAmb 15 37 11.2
comp=Z,22nm,0.8s
USA0B Ussuriysk Arra 76.48 326 P P 15 37 10.1 +0.8
USRK Ussuriysk Ar. 76.48 326 P P 15 37 11.3 +2.0
comp=Z,4.7nm,0.8s,baz=93,slow=7.6,SNR=6.7
BCW Bitter Crk WRg 76.62 46 P P 15 37 12.9 +2.4
BCW IAmb IAmb 15 37 13.2
comp=Z,14nm,0.8s
LWLI Liwa 76.67 269 P P 15 37 11.8 +0.6
comp=Z,89nm,0.9s
SII Sitkinak Islan 76.73 13 P P 15 37 11.8 +1.4
KMRM Mail Ridge 76.85 40 P P 15 37 13.9 +2.4
KMRM IAmb IAmb 15 37 14.8
comp=Z,38nm,0.9s
VES Vestal, Richgr 77.34 46 P P 15 37 15.9 +1.7
baz=237,SNR=8.0
O02D Mt. Diablo Mer 77.39 40 P P 15 37 16.8 +2.3
baz=234
MURC Murrieta 77.47 49 P P 15 37 17.0 +2.0
baz=239
BFSC Mount Baldy Ra 77.47 48 P P 15 37 16.6 +1.5
baz=238,SNR=5.7
DSRI Dabo 77.52 274 P P 15 37 16.5 +0.8
comp=Z,15nm,1.2s
OHAK Old Harbor 77.54 14 P P 15 37 15.5 +0.8
OHAK IAmb IAmb 15 37 16.3
comp=Z,22nm,0.8s
OHAK Old Harbor 77.54 14 P P 15 37 15.4 +0.6
baz=204
EDW2 Edwards Air Fo 77.58 47 P P 15 37 17.6 +2.0
baz=238,SNR=9.1
ISA Isabella, Lake 77.66 46 P P 15 37 17.6 +1.5
ISA IAmb IAmb 15 37 18.9
comp=Z,22nm,1.0s
ISA Isabella, Lake 77.66 46 P P 15 37 18.2 +2.1
baz=238,SNR=11
MONP2 Monument Peak 77.67 49 P P 15 37 18.5 +2.2
baz=239,SNR=9.5
CMB Columbia Colle 77.68 43 P P 15 37 17.3 +1.3
RMX La Rumorosa 77.77 50 P P 15 37 17.6 +0.9
RMX IAmb IAmb 15 37 19.9
comp=Z,26nm,0.9s
IKP In-Ko-Pah, Jac 77.77 50 P P 15 37 19.2 +2.5
baz=240,SNR=5.7
ORV Oroville 77.83 41 P P 15 37 17.6 +0.9
YUH Yuha Desert 77.91 50 P P 15 37 19.1 +1.7
N02D Trinity Center 77.91 40 P P 15 37 19.2 +2.0
baz=234
PFO Pinyon Flats O 78.00 49 P P 15 37 19.4 +1.3
MDJ Mudanjiang 78.06 325 P P 15 37 19.3 +1.4
MDJ IAmb IAmb 15 37 21.0
comp=Z,22nm,0.8s
O03E Paynes Creek 78.07 41 P P 15 37 19.6 +1.5
baz=234
M02C Callahan 78.07 39 P P 15 37 20.5 +2.4
M02C Callahan 78.07 39 P P 15 37 20.4 +2.4
baz=233
L02E Cave Junction 78.08 38 P P 15 37 20.3 +2.2
LRMC Laurel Mtn Rad 78.11 47 P P 15 37 20.3 +1.7
baz=238
SWSC Sam W. Stewart 78.14 50 P P 15 37 20.9 +2.3
baz=240
KDAK Kodiak Island 78.21 14 P P 15 37 18.7 +0.4
comp=Z,12nm,0.8s,baz=207,slow=6.4,SNR=6.8
KDAK Kodiak Island 78.21 14 P P 15 37 19.1 +0.7
KDAK IAmb IAmb 15 37 25.6
comp=Z,68nm,1.5s
MDPB Devils Postpil 78.32 44 P P 15 37 21.6 +1.8
MDPB IAmb IAmb 15 37 22.5
comp=Z,20nm,0.8s
CWC Cottonwood Cre 78.34 46 P P 15 37 21.6 +1.8
baz=238
YBH Yreka Blue Hor 78.36 39 P P 15 37 21.9 +2.3
comp=Z,7.6nm,0.8s,baz=148,slow=2.6,SNR=17
YBH Yreka Blue Hor 78.36 39 P P 15 37 21.8 +2.1
OMMB Old Mammoth Mi 78.36 44 P P 15 37 22.0 +1.9
EMB Emerald Bay 78.39 43 P P 15 37 21.3 +1.2
SLBS Sierra La Lagu 78.44 60 P P 15 37 21.9 +1.5
SLBS IAmb IAmb 15 37 24.1
comp=Z,25nm,1.2s
J01E Myrtle Point 78.50 37 P P 15 37 21.8 +1.5
J01E IAmb IAmb 15 37 48.5
comp=Z,52nm,1.4s
BELC Belle Mtn. Jos 78.53 49 P P 15 37 22.6 +1.7
baz=239
MPMC Manual Prospec 78.55 46 P P 15 37 22.7 +1.8
baz=238,SNR=6.4
TIN Tinemaha, Big 78.57 45 P P 15 37 23.0 +2.0
baz=237
MPK Martis Peak 78.62 42 P P 15 37 22.9 +1.5
MPK IAmb IAmb 15 37 24.1
comp=Z,25nm,0.7s
GSC Goldstone, Bar 78.63 47 P P 15 37 23.0 +1.8
GSC Goldstone, Bar 78.63 47 P P 15 37 23.1 +1.8
baz=239
HEC Hector,Ludlow 78.72 48 P P 15 37 23.2 +1.5
baz=239,SNR=6.9
BEKR Beckworth 78.73 42 P P 15 37 23.4 +1.6
HUMO Hull Mountain 78.73 38 P P 15 37 22.9 +1.4
BC3 Big Chuckawall 78.75 49 P P 15 37 24.2 +2.2
baz=240
PNTR Pine Nut 78.78 43 P P 15 37 23.3 +1.1
PNTR IAmb IAmb 15 37 25.0
comp=Z,31nm,0.8s
VCNR Virginia City 78.86 43 P P 15 37 24.3 +1.8
L04D Klamath Falls 78.89 39 P P 15 37 23.6 +1.0
L04D IAmb IAmb 15 37 25.1
comp=Z,17nm,0.8s
L04D Klamath Falls 78.89 39 P P 15 37 24.3 +1.7
baz=234
GLA Glamis 78.91 50 P P 15 37 25.5 +2.7
baz=240
M04C Macdoel 78.91 39 P P 15 37 24.5 +1.8
M04C IAmb IAmb 15 37 25.4
comp=Z,20nm,1.1s
M04C Macdoel 78.91 39 P P 15 37 24.8 +2.1
baz=234
MYKOM Kota Tinggi 78.92 275 P P 15 37 23.1 0.0
MYKOM IAmb IAmb 15 37 24.2
comp=Z,16nm,0.9s
QSM Queen of Sheba 78.93 47 P P 15 37 24.6 +1.8
YERR Yerington 78.95 43 P P 15 37 24.9 +1.8
YERR IAmb IAmb 15 37 25.7
comp=Z,21nm,0.8s
LHV Little Huntoon 79.03 44 P P 15 37 25.1 +1.9
LHV IAmb IAmb 15 37 26.4
comp=Z,21nm,0.9s
LCH Last Change Ra 79.06 45 P P 15 37 25.0 +1.4
I02E Swisshome, OR 79.12 37 P P 15 37 25.6 +2.1
GRAC Grapevine Rang 79.13 45 P P 15 37 26.0 +2.2
GRAC IAmb IAmb 15 37 26.4
comp=Z,17nm,0.8s
GRAC Grapevine Rang 79.13 45 P P 15 37 25.8 +2.0
baz=238,SNR=10.0
P18K Big Mountain, 79.13 12 P P 15 37 23.4 +0.1
P18K IAmb IAmb 15 37 24.2
comp=Z,30nm,0.7s
P18K Big Mountain, 79.13 12 P P 15 37 23.4 +0.1
baz=202,SNR=11
GMRC Granite Mounta 79.17 48 P P 15 37 26.0 +1.8
baz=240
GWY Greenwater Val 79.18 46 P P 15 37 25.8 +1.6
FURC Furnace Creek, 79.19 46 P P 15 37 26.2 +2.2
baz=238
IRM Iron Mountain 79.22 49 P P 15 37 26.3 +1.9
baz=240
RYN Ryan 79.23 44 P P 15 37 26.2 +1.7
PAHR Pah Rah Range 79.26 42 P P 15 37 26.4 +1.8
NVAR Mina Array Bea 79.26 44 P P 15 37 26.4 +1.7
comp=Z,9.7nm,0.7s,baz=224,slow=8.9,SNR=89
NVAR pP pP 15 39 19.9 -0.6
comp=Z,1.9nm,1.0s,baz=229,slow=9.5,SNR=4.7
SHOC Shoshone, Teco 79.31 47 P P 15 37 26.6 +1.8
baz=239
TUQ Turquoise Moun 79.31 47 P P 15 37 27.0 +2.0
baz=239,SNR=5.9
NV11 Mina Array Sit 79.36 44 P P 15 37 26.4 +1.2
NV11 IAmb IAmb 15 37 27.9
comp=Z,18nm,1.1s
113A Mohawk Valley, 79.55 51 P P 15 37 26.4 +0.3
O18K Koktuh Hills 79.56 12 P P 15 37 25.6 +0.1
O18K Koktuh Hills 79.56 12 P P 15 37 26.1 +0.5
baz=202,SNR=16
J04D Umpqua Nationa 79.61 38 P P 15 37 27.6 +1.2
J04D Umpqua Nationa 79.61 38 P P 15 37 28.5 +2.1
baz=234
BUCK Buck Mountain 79.67 37 P P 15 37 27.2 +0.6
BUCK IAmb IAmb 15 37 34.5
comp=Z,48nm,1.4s
KVN Kaiserville 79.73 43 P P 15 37 28.4 +1.2
I04A Tendick Farm, 79.76 38 P P 15 37 28.2 +1.2
baz=233
P19K Oil Pt 79.78 13 P P 15 37 27.5 +0.8
P19K IAmb IAmb 15 37 28.7
comp=Z,16nm,0.8s
TPH Tonopah 79.79 45 P P 15 37 29.3 +1.8
TPNV Topopah Spring 79.86 46 P P 15 37 29.5 +1.7
TPNV Topopah Spring 79.86 46 P P 15 37 29.8 +1.9
baz=239,SNR=9.4
214A Organ Pipe Nat 79.87 52 P P 15 37 30.4 +2.6
baz=242
CN2 Changchun 79.90 322 eP P 15 37 29.1 +1.5
CN2 S S 15 46 53.6 +7.2
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,100nm,3.0s
MOD Modoc Plateau 79.92 40 P P 15 37 29.5 +1.4
MOD IAmb IAmb 15 37 30.6
comp=Z,14nm,0.7s
KLR Kul'dur 79.97 329 P P 15 37 29.5 +1.6
comp=Z,2.2nm,0.8s,baz=125,slow=3.6,SNR=7.2
PDMCI Parker Dam,Lak 80.02 49 P P 15 37 30.7 +2.2
baz=240,SNR=5.1
K05A Summer Lake 80.03 39 P P 15 37 30.3 +1.6
K05A IAmb IAmb 15 37 31.6
comp=Z,26nm,0.9s
O19K Port Alsworth 80.05 12 P P 15 37 28.5 +0.5
O19K Port Alsworth 80.05 12 P P 15 37 28.2 +0.2
baz=203,SNR=17
CNPM China Poot 80.09 14 P P 15 37 29.5 +1.2
CNPM IAmb IAmb 15 37 29.8
comp=Z,28nm,1.0s
HOM Homer 80.12 13 P P 15 37 28.6 +0.2
HOM Homer 80.12 13 P P 15 37 29.7 +1.3
baz=206
J05D Fort Rock, OR 80.15 39 P P 15 37 31.2 +2.0
baz=234
N18K Kilae Creek 80.20 11 P P 15 37 29.1 +0.2
N18K Kilae Creek 80.20 11 P P 15 37 29.3 +0.4
baz=202
O20K Slope Mountain 80.29 13 P P 15 37 29.7 +0.3
baz=205
BRLK Bradley Lake 80.39 14 P P 15 37 30.4 +0.5
BRLK IAmb IAmb 15 37 31.1
comp=Z,20nm,0.8s
SHPR Sheep Range 80.39 47 P P 15 37 31.7 +1.1
BRSE Bradley Lake S 80.40 14 P P 15 37 30.6 +0.7
baz=207
H04A Detroit Lake 80.42 37 P P 15 37 31.7 +1.3
H04A IAmb IAmb 15 37 32.4
comp=Z,13nm,0.7s
WHN Wuhan 80.53 306 ⇑P P 15 37 32.8 +1.6
N19K Bonanza Creek 80.59 12 P P 15 37 30.6 -0.3
N19K Bonanza Creek 80.59 12 P P 15 37 30.8 -0.2
baz=203
RSO Redoubt South 80.61 13 P P 15 37 31.5 +0.3
PINE Pine Mountain 80.62 38 P P 15 37 33.4 +1.7
PINE IAmb IAmb 15 37 34.7
comp=Z,25nm,0.9s
SVW2 Sparrevohn 80.65 11 P P 15 37 31.3 +0.1
I05D Terrebonne, OR 80.71 38 P P 15 37 33.8 +1.9
baz=234
PRN Pahroc Range 80.92 46 P P 15 37 35.7 +2.4
PRN IAmb IAmb 15 37 36.5
comp=Z,19nm,0.9s
SEW Seward 81.02 14 P P 15 37 33.7 +0.7
SEW IAmb IAmb 15 37 47.1
comp=Z,58nm,1.4s
MA2 Magadan 81.03 345 P P 15 37 32.9 -0.2
comp=Z,5.7nm,0.7s,baz=141,slow=6.9,SNR=5.7
R11A Troy Canyon, C 81.04 45 P P 15 37 35.5 +1.6
R11A Troy Canyon, C 81.04 45 P P 15 37 35.3 +1.3
baz=239,SNR=8.5
BMN Battle Mountai 81.05 43 P P 15 37 36.1 +2.1
BMN IAmb IAmb 15 37 36.6
comp=Z,18nm,1.0s
NLWA Neilton Lookou 81.14 34 P P 15 37 36.2 +2.1
NLWA IAmb IAmb 15 37 51.6
comp=Z,28nm,1.4s
WVOR Wild Horse Val 81.24 40 P P 15 37 36.7 +1.8
WVOR IAmb IAmb 15 37 37.6
comp=Z,25nm,1.0s
O22K Cooper Landing 81.29 14 P P 15 37 34.8 +0.3
O22K IAmb IAmb 15 37 41.3
comp=Z,28nm,0.9s
O22K Cooper Landing 81.29 14 P P 15 37 34.5 0.0
baz=208
E04D Cinebar 81.33 35 P P 15 37 37.1 +2.1
baz=233
GAMB Gambell 81.40 3 P P 15 37 36.2 +1.3
GAMB IAmb IAmb 15 37 53.7
comp=Z,34nm,1.2s
TUC Tucson 81.56 52 P P 15 37 38.9 +2.2
TUC IAmb IAmb 15 37 40.4
comp=Z,16nm,0.9s
TUC Tucson 81.56 52 P P 15 37 39.4 +2.8
baz=243
M19K Big River Lodg 81.62 11 P P 15 37 36.4 +0.3
M19K Big River Lodg 81.62 11 P P 15 37 36.2 +0.1
baz=203,SNR=6.6
I07A Izee 81.64 39 P P 15 37 38.7 +1.9
I07A IAmb IAmb 15 37 39.6
comp=Z,19nm,0.9s
D03D Eldon 81.64 34 P P 15 37 38.4 +1.9
baz=232
L19K White Mountain 81.79 11 P P 15 37 37.8 +0.8
L19K White Mountain 81.79 11 P P 15 37 37.9 +0.9
baz=203
RC01 Rabbit Creek A 81.83 14 P P 15 37 37.7 +0.5
baz=208
J08A Circle Bar Ran 81.85 40 P P 15 37 40.0 +2.1
J08A IAmb IAmb 15 37 40.6
comp=Z,20nm,0.9s
CLRS Cowichan Lake 81.89 33 P P 15 37 39.3 +1.5
UBPT Khong Chiam 81.91 289 P P 15 37 39.7 +1.1
UBPT IAmb IAmb 15 37 40.4
comp=Z,22nm,1.0s
PWL Port Wells 81.95 14 P P 15 37 38.0 +0.1
PWL IAmb IAmb 15 37 38.8
comp=Z,22nm,0.8s
PWL Port Wells 81.95 14 P P 15 37 38.2 +0.3
baz=209,SNR=5.0
LCMT Little Creek M 81.98 47 P P 15 37 40.0 +1.3
LCMT IAmb IAmb 15 37 41.7
comp=Z,12nm,0.9s
CBB Campbell River 82.03 31 P P 15 37 40.0 +1.5
CBB IAmb IAmb 15 37 40.8
comp=Z,22nm,1.1s
X16A Lo Mia Camp, P 82.03 50 P P 15 37 41.2 +2.1
X16A IAmb IAmb 15 37 42.6
comp=Z,16nm,0.9s
CCUT Cedar City 82.16 47 P P 15 37 42.0 +2.2
CCUT IAmb IAmb 15 37 43.0
comp=Z,12nm,0.9s
L20K Farewell, AK 82.24 11 P P 15 37 39.9 +0.5
baz=204,SNR=6.8
GLI Glacier Island 82.26 15 P P 15 37 39.6 +0.2
GLI IAmb IAmb 15 37 40.3
comp=Z,29nm,0.8s
GLI Glacier Island 82.26 15 P P 15 37 39.7 +0.2
baz=210,SNR=6.5
TTA Tatalina 82.28 10 P P 15 37 40.0 +0.4
TTA IAmb IAmb 15 37 41.4
comp=Z,17nm,1.2s
TTA Tatalina 82.28 10 P P 15 37 40.7 +1.1
baz=202,SNR=10
PSUT Pine Spring 82.30 46 P P 15 37 42.1 +1.7
PSUT IAmb IAmb 15 37 43.1
comp=Z,10.0nm,0.7s
FID Port Fidalgo 82.30 15 P P 15 37 39.5 -0.2
FID IAmb IAmb 15 38 03.2
comp=Z,18nm,1.3s
EYAK Cordova Ski Ar 82.31 16 P P 15 37 40.6 +0.9
EYAK IAmb IAmb 15 38 09.4
comp=Z,36nm,1.4s
M22K Willow 82.34 13 P P 15 37 39.8 0.0
M22K Willow 82.34 13 P P 15 37 40.0 +0.3
baz=207,SNR=9.2
BELA Belgrano 2 82.34 173 P P 15 37 40.3 +0.5
BELA IAmb IAmb 15 37 41.2
comp=Z,10.0nm,0.7s
U15A North Rim 82.37 48 P P 15 37 43.5 +2.6
U15A IAmb IAmb 15 37 44.2
comp=Z,26nm,0.8s
KNK Knik Glacier 82.41 14 P P 15 37 40.8 +0.6
KNK IAmb IAmb 15 37 41.3
comp=Z,13nm,0.8s
KNK Knik Glacier 82.41 14 P P 15 37 40.6 +0.4
baz=209
PMR Palmer 82.41 14 P P 15 37 40.1 0.0
PMR IAmb IAmb 15 37 41.4
comp=Z,41nm,1.5s
PMR Palmer 82.41 14 P P 15 37 40.4 +0.3
baz=208
IPM Ipoh 82.44 277 P P 15 37 42.3 +0.9
IPM Ipoh 82.44 277 P P 15 37 42.0 +0.6
comp=Z,48nm,0.9s
ELK Elko 82.50 43 P P 15 37 42.5 +1.1
WUAZ Wupatki 82.59 49 P P 15 37 43.7 +1.8
WUAZ IAmb IAmb 15 37 45.2
comp=Z,20nm,1.1s
WUAZ Wupatki 82.59 49 P P 15 37 44.4 +2.4
baz=242
B05A Bryant 82.61 34 P P 15 37 43.1 +1.6
baz=233
GHO Glory Hole Cre 82.62 14 P P 15 37 41.3 0.0
GHO IAmb IAmb 15 37 42.5
comp=Z,30nm,0.7s
G08A Pilot Rock 82.64 38 P P 15 37 43.1 +1.3
G08A IAmb IAmb 15 37 44.4
comp=Z,14nm,1.0s
SML Sawmill 82.78 14 P P 15 37 42.6 +0.5
SML Sawmill 82.78 14 P P 15 37 42.2 +0.1
baz=209
DIV Divide 82.81 15 P P 15 37 42.3 0.0
DIV IAmb IAmb 15 37 43.5
comp=Z,20nm,0.8s
PKCU Pink Cliffs 82.84 47 P P 15 37 45.5 +2.2
PKCU IAmb IAmb 15 37 47.2
comp=Z,31nm,1.1s
CUT Chulitna 82.89 13 P P 15 37 42.4 -0.2
CUT Chulitna 82.89 13 P P 15 37 42.8 +0.3
baz=207,SNR=7.6
M23K Glacier View 82.91 14 P P 15 37 42.8 +0.1
baz=209
HAWA Hanford 82.93 37 P P 15 37 44.1 +0.9
HAWA IAmb IAmb 15 37 45.7
comp=Z,16nm,0.8s
PPLA Purkeypile 82.94 12 P P 15 37 43.0 0.0
PPLA Purkeypile 82.94 12 P P 15 37 41.7 -1.3
baz=205
BMRM Bremner River 82.97 16 P P 15 37 42.7 -0.3
BMRM IAmb IAmb 15 37 44.4
comp=Z,18nm,0.8s
BMRM Bremner River 82.97 16 P P 15 37 41.5 -1.6
baz=212
WAX Waxell Ridge 83.00 17 P P 15 37 43.8 +0.5
WAX IAmb IAmb 15 37 45.0
comp=Z,23nm,0.7s
K20K Telida 83.02 11 P P 15 37 43.7 +0.5
K20K IAmb IAmb 15 37 44.7
comp=Z,18nm,0.8s
K20K Telida 83.02 11 P P 15 37 43.8 +0.5
baz=203,SNR=13
SCM Sheep Creek Mo 83.04 14 P P 15 37 43.9 +0.5
SCM IAmb IAmb 15 37 45.0
comp=Z,30nm,0.8s
SCM Sheep Creek Mo 83.04 14 P P 15 37 44.0 +0.6
baz=210,SNR=8.2
KULM Kulim 83.05 278 P P 15 37 45.1 +0.7
KULM IAmb IAmb 15 37 46.3
comp=Z,20nm,1.0s
KLU Klutina 83.08 15 P P 15 37 44.0 +0.3
baz=211
X18A Snowflake 83.18 51 P P 15 37 47.2 +2.3
MTPU Mount Pierson 83.21 47 P P 15 37 47.8 +2.6
MTPU IAmb IAmb 15 37 48.9
comp=Z,14nm,0.9s
TGL Tana Glacier 83.26 17 P P 15 37 45.5 +0.9
TGL IAmb IAmb 15 37 46.1
comp=Z,20nm,1.0s
ISLE Juniper Island 83.27 17 P P 15 37 45.5 +0.8
ISLE IAmb IAmb 15 37 46.2
comp=Z,20nm,1.0s
BMO Blue Mountains 83.38 39 P P 15 37 46.8 +1.3
HNS HongShan 83.42 312 ⇑P P 15 37 47.6 +1.8
HNS pmax pmax
comp=Z,17nm,1.1s
CAST Castle Rocks 83.44 12 P P 15 37 44.6 -0.7
CAST IAmb IAmb 15 37 45.8
comp=Z,21nm,0.8s
CAST Castle Rocks 83.44 12 P P 15 37 44.5 -0.8
baz=205,SNR=23
MSU Marysvale 83.44 46 P P 15 37 46.7 +0.6
TABL Table Mountain 83.48 18 P P 15 37 46.7 +0.9
TABL IAmb IAmb 15 37 47.4
comp=Z,19nm,0.7s
VRDI Verde Repeater 83.49 16 P P 15 37 46.8 +1.0
MFID Camas Ranch 83.51 41 P P 15 37 47.1 +0.9
MFID IAmb IAmb 15 37 48.8
comp=Z,15nm,1.0s
N25K Chitina, Valde 83.51 16 P P 15 37 46.4 +0.7
N25K IAmb IAmb 15 37 47.2
comp=Z,21nm,0.7s
N25K Chitina, Valde 83.51 16 P P 15 37 46.6 +0.8
baz=212,SNR=9.3
GRNC Granite Creek 83.54 17 P P 15 37 46.9 +0.7
GRNC IAmb IAmb 15 37 47.6
comp=Z,16nm,0.9s
M24K Tolsona, Glenn 83.55 15 P P 15 37 46.7 +0.7
M24K Tolsona, Glenn 83.55 15 P P 15 37 46.6 +0.7
baz=211
GLB Gilahina Butte 83.58 16 P P 15 37 46.7 +0.7
GLB IAmb IAmb 15 37 47.4
comp=Z,16nm,0.6s
WAT6 Susitna Watana 83.60 14 P P 15 37 46.7 +0.4
baz=209,SNR=9.0
SEY Seymchan 83.60 347 P P 15 37 46.8 +0.7
comp=Z,11nm,0.6s,baz=150,slow=6.2,SNR=80
WAT1 Susitna Watana 83.64 13 P P 15 37 46.2 -0.1
baz=208
LYN LuoYang 83.74 309 ⇓iP P 15 37 48.8 +1.4
LYN S S 15 47 25.8 +0.5
LYN pmax pmax
comp=Z,40nm,0.9s
LYN pmax pmax
comp=Z,150nm,6.0s
J20K Nowinta River 83.76 10 P P 15 37 47.2 +0.4
J20K IAmb IAmb 15 37 48.4
comp=Z,10nm,0.8s
J20K Nowinta River 83.76 10 P P 15 37 47.7 +0.8
baz=203,SNR=10
KTH Kantishna Hill 83.79 12 P P 15 37 46.4 -0.7
KTH IAmb IAmb 15 37 47.3
comp=Z,16nm,0.9s
CHUM Lake Minchumin 83.82 11 P P 15 37 47.0 -0.1
baz=205,SNR=7.2
DUG Dugway, Tooele 83.82 45 P P 15 37 49.1 +1.2
baz=241
TRF Thorofare Moun 83.82 12 P P 15 37 46.9 -0.4
TRF IAmb IAmb 15 37 48.0
comp=Z,26nm,0.8s
TRF Thorofare Moun 83.82 12 P P 15 37 47.3 -0.1
baz=207,SNR=16
LOGN Logan Glacier 83.83 17 P P 15 37 48.2 +0.7
LOGN IAmb IAmb 15 37 50.7
comp=Z,22nm,1.2s
BARN Barnard Glacie 83.84 17 P P 15 37 48.3 +0.7
BARN IAmb IAmb 15 37 49.3
comp=Z,19nm,0.9s
GCSA Galena City Sc 83.85 9 P P 15 37 49.1 +1.9
baz=201
CTG Chitna Glacier 83.85 17 P P 15 37 48.4 +0.9
baz=215
CTGM Chitina Glacie 83.85 17 P P 15 37 48.3 +0.8
CTGM IAmb IAmb 15 37 48.8
comp=Z,13nm,0.8s
121A Cookes Peak, D 83.93 53 P P 15 37 51.2 +2.6
baz=245

F10A Beach Ranch, E 84.03 38 P P 15 37 49.7 +1.0
F10A IAmb IAmb 15 37 50.8
comp=Z,22nm,0.9s
MAW Mawson 84.05 200 P P 15 37 48.7 +0.4
comp=Z,5.5nm,0.6s,baz=133,slow=3.2,SNR=6.6
MAW Mawson 84.05 200 IAmb IAmb 15 37 50.1
comp=Z,2.0nm,0.9s
HARP HAARP 84.05 15 P P 15 37 48.3 -0.1
baz=212
RND Reindeer 84.08 13 P P 15 37 48.6 +0.1
DHY Denali Highway 84.11 14 P P 15 37 48.7 -0.1
DHY Denali Highway 84.11 14 P P 15 37 49.1 +0.3
baz=210,SNR=5.1
B08A Colville Reser 84.17 35 P P 15 37 49.6 +0.3
B08A IAmb IAmb 15 37 50.9
comp=Z,10nm,0.8s
ENH Enshi 84.20 304 P P 15 37 49.5 -0.3
BPAW Bear Paw Mtn. 84.27 12 P P 15 37 48.8 -0.5
BPAW Bear Paw Mtn. 84.27 12 P P 15 37 48.9 -0.4
baz=206
PLID Pearl Lake 84.28 39 P P 15 37 50.9 +0.7
Q16A Castle Valley 84.33 46 P P 15 37 52.4 +1.9
MCK McKinley 84.35 13 P P 15 37 49.5 -0.3
MCK IAmb IAmb 15 37 50.7
comp=Z,14nm,0.9s
MCK McKinley 84.35 13 P P 15 37 50.0 +0.1
baz=208,SNR=10.0
PAX Paxson 84.46 14 P P 15 37 50.7 +0.3
PAX Paxson 84.46 14 P P 15 37 50.5 0.0
baz=211,SNR=6.4
HLID Hailey 84.46 41 P P 15 37 52.6 +1.6
HLID IAmb IAmb 15 37 54.0
comp=Z,10nm,0.8s
HLID Hailey 84.46 41 P P 15 37 53.0 +2.0
baz=239,SNR=19
TMUT Trail Mountain 84.48 46 P P 15 37 53.0 +1.7
TMUT IAmb IAmb 15 37 54.5
comp=Z,16nm,1.3s
M26K Nabesna, AK 84.59 16 P P 15 37 51.8 +0.7
M26K IAmb IAmb 15 37 53.2
comp=Z,21nm,1.0s
M26K Nabesna, AK 84.59 16 P P 15 37 51.9 +0.8
baz=214,SNR=9.8
HVU Hansel Valley 84.62 43 P P 15 37 53.1 +1.3
GSI Gunungsitoli 84.73 273 P P 15 37 53.3 +0.5
YUK3 Moose Creek 84.76 17 P P 15 37 52.8 +0.7
baz=216
M27K Edge Creek, AK 84.85 16 P P 15 37 52.8 +0.4
M27K IAmb IAmb 15 37 54.4
comp=Z,19nm,1.1s
M27K Edge Creek, AK 84.85 16 P P 15 37 53.2 +0.8
baz=215,SNR=6.4
SRU San Rafael Swe 84.86 46 P P 15 37 54.0 +0.9
L26K Log Cabin Wild 85.03 15 P P 15 37 53.7 +0.5
baz=213,SNR=5.2
I21K Tanana 85.06 11 P P 15 37 53.7 +0.5
I21K IAmb IAmb 15 37 54.9
comp=Z,9.2nm,0.8s
I21K Tanana 85.06 11 P P 15 37 53.4 +0.3
baz=205,SNR=8.0
NEA2 Nenana 85.09 12 P P 15 37 52.6 -0.7
baz=208
K24K Donnelly Dome 85.11 14 P P 15 37 54.3 +0.8
baz=211,SNR=12
BVCY Beaver Creek 85.17 17 P P 15 37 54.9 +1.0
baz=216
WRH Wood River Hil 85.18 13 P P 15 37 53.4 -0.4
WRH IAmb IAmb 15 37 55.3
comp=Z,16nm,0.9s
LENM Lemitar 85.24 52 P P 15 37 55.2 +0.2
RIDG Independent Ri 85.27 14 P P 15 37 54.1 -0.2
RIDG IAmb IAmb 15 37 55.6
comp=Z,9.0nm,0.8s
RIDG Independent Ri 85.27 14 P P 15 37 54.8 +0.5
baz=212,SNR=5.9
HWUT Hardware Ranch 85.33 44 P P 15 37 56.1 +0.7
NEW Newport 85.34 36 P P 15 37 56.1 +1.1
comp=Z,5.2nm,0.7s,baz=237,slow=4.0,SNR=9.9
NEW Newport 85.34 36 P P 15 37 55.5 +0.5
NEW Newport 85.34 36 P P 15 37 55.9 +0.9
baz=237,SNR=5.1
H21K Melozitna Rive 85.35 10 P P 15 37 55.2 +0.6
baz=204
DOT Dot Lake 85.38 15 P P 15 37 54.5 -0.3
DOT IAmb IAmb 15 37 56.1
comp=Z,9.6nm,0.7s
MNTX Cornudas Mount 85.44 55 P P 15 37 57.8 +2.0
baz=246
L27K Beaver Creek, 85.44 16 P P 15 37 55.7 +0.6
L27K Beaver Creek, 85.44 16 P P 15 37 56.0 +0.9
baz=215
BCAR Beaver Creek A 85.46 16 P P 15 37 55.6 +0.4
BNM Barren Site 85.49 52 P P 15 37 56.3 0.0
IMAR Indian Mountai 85.49 10 P P 15 37 55.2 0.0
I23K Minto, Yukon-K 85.52 12 P P 15 37 55.7 +0.3
baz=208
WHY Whitehorse 85.57 20 P P 15 37 57.0 +1.1
WHY Whitehorse 85.57 20 P P 15 37 56.9 +1.0
baz=221
MDM Murphy Dome 85.58 12 P P 15 37 54.9 -0.8
MDM IAmb IAmb 15 37 56.4
comp=Z,12nm,1.1s
TCOL CIGO, UAF Yank 85.58 13 P P 15 37 55.1 -0.5
TCOL IAmb IAmb 15 37 56.4
comp=Z,18nm,1.1s
TCOL CIGO, UAF Yank 85.58 13 P P 15 37 55.8 +0.1
baz=209,SNR=5.5
COLA College 85.58 13 P P 15 37 55.4 -0.3
COLA IAmb IAmb 15 37 56.3
comp=Z,18nm,1.1s
PV23 Carpenter Ridg 85.61 47 P P 15 37 57.3 +0.4
PV23 IAmb IAmb 15 37 59.4
comp=Z,7.6nm,0.7s
PV13 Radium Mtn., P 85.62 48 P P 15 37 57.5 +0.7
DLBC Dease Lake 85.65 23 P P 15 37 57.1 +0.9
comp=Z,5.7nm,0.9s,baz=233,slow=5.4,SNR=10
DLBC Dease Lake 85.65 23 P P 15 37 56.9 +0.7
SCRK Sand Creek 85.67 14 P P 15 37 56.3 -0.1
SCRK Sand Creek 85.67 14 P P 15 37 56.7 +0.3
baz=213,SNR=7.6
IL31 85.70 13 P P 15 37 55.7 -0.5
ILAR Eielson Array 85.70 13 P P 15 37 55.8 -0.5
comp=Z,4.2nm,0.8s,baz=222,slow=5.1,SNR=58
ILAR pP **pP 15 39 53.5 -1.0**
comp=Z,1.2nm,0.9s,baz=224,slow=6.2,SNR=4.0
ILAR Eielson Array 85.70 13 P P 15 37 55.5 -0.8
TXAR Lajitas Array 85.86 58 P P 15 38 00.7 +2.7
comp=Z,10nm,0.8s,baz=220,slow=6.2,SNR=110
TXAR pP **pP 15 39 53.8 -2.2**
comp=Z,0.1nm,0.5s,baz=207,slow=38,SNR=1.5
TXAR Lajitas Array 85.86 58 P 15 38 00.4 +2.3
POKR Poker Plat Res 85.88 13 P P 15 37 56.7 -0.4
POKR IAmb IAmb 15 37 57.7
comp=Z,6.3nm,0.7s
POKR Poker Plat Res 85.88 13 P P 15 37 57.1 -0.1
baz=209
J25K Salcha River, 85.89 14 P P 15 37 57.0 -0.3
J25K IAmb IAmb 15 37 58.4
comp=Z,16nm,1.4s
J25K Salcha River, 85.89 14 P P 15 37 57.6 +0.3
baz=211,SNR=6.7
N31M Braeburn, Yuko 85.91 19 P P 15 37 58.4 +1.0
N31M IAmb IAmb 15 37 59.4
comp=Z,16nm,1.1s
N31M Braeburn, Yuko 85.91 19 P P 15 37 58.4 +1.0
baz=220
PV15 Paradox Valley 85.94 48 P P 15 37 59.1 +0.7
ANMO Albuquerque 85.95 52 P P 15 37 59.2 +0.7
ANMO Albuquerque 85.95 52 P P 15 38 00.2 +1.8
baz=245
MCMT McKenzie Canyo 86.07 40 P P 15 37 59.9 +1.1
XAN Xi'an 86.18 307 ⇓P P 15 38 00.6 +1.3
XAN pmax pmax
comp=Z,52nm,1.1s
AHID Auburn Hatcher 86.18 43 P P 15 38 00.3 +0.9
AHID IAmb IAmb 15 38 02.1
comp=Z,16nm,1.4s
J26L Joseph Creek 86.21 14 P P 15 37 59.7 +0.8
baz=213,SNR=9.6
BILL Bilibino 86.25 354 P P 15 37 59.1 +0.3
BILL IAmb IAmb 15 38 00.7
comp=Z,8.9nm,1.0s
MSO Missoula 86.42 38 P P 15 38 00.6 +0.4
MSO Missoula 86.42 38 P P 15 38 01.0 +0.8
baz=239
M30M Minto, Yukon 86.45 18 P P 15 38 00.4 +0.4
M30M IAmb IAmb 15 38 01.6
comp=Z,10.0nm,0.8s
M30M Minto, Yukon 86.45 18 P P 15 38 00.6 +0.6
baz=219,SNR=9.1
DLMT Dillon 86.49 40 P P 15 38 01.1 +0.4
DLMT IAmb IAmb 15 38 03.4
comp=Z,11nm,0.9s
REDW Red Top Meadow 86.63 42 P P 15 38 02.6 +1.2
REDW IAmb IAmb 15 38 04.3
comp=Z,16nm,1.0s
JTMT Jette 86.68 37 P P 15 38 01.9 +0.4
S22A 4UR Ranch, Cre 86.86 49 P P 15 38 04.8 +2.0
baz=245
MOOW Moose Ponds 86.88 42 P P 15 38 03.5 +0.8
M31M Drury Creek, Y 86.89 19 P P 15 38 02.4 +0.4
baz=222
O20A White River Ci 86.90 46 P P 15 38 03.7 +0.9
O20A White River Ci 86.90 46 P P 15 38 04.6 +1.8
baz=244
DAWY Dawson 86.90 16 P P 15 38 03.0 +0.9
baz=217,SNR=5.3
LOHW Long Hollow 86.90 42 P P 15 38 03.9 +1.1
QLMT Earthquake Lak 86.96 41 P P 15 38 04.6 +1.6
EGAK Eagle 87.03 15 P P 15 38 02.7 +0.2
EGAK Eagle 87.03 15 P P 15 38 03.2 +0.7
baz=215
FLWY Flagg Ranch 87.06 42 P P 15 38 04.2 +0.7
FLWY IAmb IAmb 15 38 06.6
comp=Z,16nm,0.9s
PD31 Pinedale Array 87.19 43 P P 15 38 04.8 +0.7
PD31 IAmb IAmb 15 38 06.2
comp=Z,14nm,1.3s
PDAR Pinedale Array 87.19 43 P P 15 38 05.2 +1.1
comp=Z,4.9nm,0.8s,baz=214,slow=3.6,SNR=44
PDAR pP **pP 15 40 02.1 -0.9**
comp=Z,1.5nm,0.9s,baz=233,slow=6.7,SNR=6.2
PDAR PP **PP 15 41 37.2 -1.2**
comp=Z,2.0nm,1.1s,baz=243,slow=6.5,SNR=6.0
PDAR Pinedale Array 87.19 43 P P 15 38 04.9 +0.7
PDAR **PP 15 41 35.9 -2.6**
BOZ Bozeman (W) 87.20 40 P P 15 38 05.3 +1.3
BOZ IAmb IAmb 15 38 06.8
comp=Z,9.3nm,1.1s
BOZ Bozeman (W) 87.20 40 P P 15 38 05.6 +1.6
baz=241,SNR=11
COLD Coldfoot 87.22 11 P P 15 38 04.0 +0.5
COLD IAmb IAmb 15 38 05.2
comp=Z,6.5nm,0.8s
COLD Coldfoot 87.22 11 P P 15 38 04.4 +1.0
baz=207
H17A Grant Village 87.29 42 P P 15 38 07.9 +3.3
baz=242,SNR=15
WALA Waterton Lakes 87.57 36 P P 15 38 06.5 +0.8
WALA IAmb IAmb 15 38 07.7
comp=Z,6.5nm,0.8s
HRY Holter Researc 87.61 39 P P 15 38 06.8 +0.9
KMI Kunming 87.78 297 ⇓P P 15 38 09.3 +2.0
KMI pmax pmax
comp=Z,26nm,0.9s
SDCO Great Sand Dun 87.81 49 P P 15 38 08.9 +1.6
baz=246
MMPY Sheldon Lake, 88.18 20 P P 15 38 09.6 +1.5
baz=224,SNR=9.1
T25A Trinidad 88.36 50 P P 15 38 10.3 +0.6
T25A Trinidad 88.36 50 P P 15 38 11.0 +1.2
baz=246
TGTN Hyland Airport 88.42 22 P P 15 38 11.0 +1.7
baz=227,SNR=7.4
RLMT Red Lodge 88.45 41 P P 15 38 11.4 +1.5
RLMT IAmb IAmb 15 38 12.9
comp=Z,8.6nm,0.9s
RLMT Red Lodge 88.45 41 P P 15 38 12.2 +2.2
baz=243,SNR=8.2
BMAR Burnt Mountain 88.47 12 P P 15 38 10.2 +0.8
GCMT Greycliff 88.51 41 P P 15 38 11.5 +1.4
TOLK Toolik Lake Re 88.60 10 P P 15 38 10.2 +0.3
baz=207
N23A Red Feather La 88.80 46 P P 15 38 13.1 +1.4
N23A IAmb IAmb 15 38 14.7
comp=Z,17nm,1.2s
N23A Red Feather La 88.80 46 P P 15 38 13.4 +1.7
baz=245
CM31 Chiang Mai Arr 88.86 290 P P 15 38 12.6 +0.4
CMAR Chiang Mai Arr 88.86 290 P P 15 38 13.8 +1.6
comp=Z,12nm,0.9s,baz=109,slow=2.9,SNR=75
CMAR PP **PP 15 41 51.1 -0.7**
comp=Z,0.5nm,0.7s,baz=96,slow=5.5,SNR=2.8
CMAR Chiang Mai Arr 88.86 290 P P 15 38 13.0 +0.8
CHTO Chiang Mai 88.97 290 P P 15 38 13.3 +0.6
CHTO IAmb IAmb 15 38 14.9
comp=Z,15nm,0.8s
CHTO Chiang Mai 88.97 290 P P 15 38 14.2 +1.5
CD2 Chengdu 89.00 303 P P 15 38 14.4 +1.8
CD2 pmax pmax
comp=Z,10.0nm,0.9s
PZH PanZhiHua 89.10 298 ⇑P P 15 38 14.9 +1.6
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,100nm,5.6s
K22A Casper 89.15 45 P P 15 38 14.4 +1.2
K22A IAmb IAmb 15 38 15.7
comp=Z,18nm,1.4s
K22A Casper 89.15 45 P P 15 38 14.8 +1.5
baz=245
JCT Junction City 89.40 58 P P 15 38 16.6 +2.0
baz=249
YAK Yakutsk 89.42 338 P P 15 38 13.5 -0.2
comp=Z,1.9nm,0.4s,baz=65,slow=1.0,SNR=4.5
EDM Edmonton 89.98 33 P P 15 38 16.6 -0.1
EDM IAmb IAmb 15 38 18.2
comp=Z,14nm,1.3s
ABTX Abilene, Hawle 90.29 56 P P 15 38 18.8 +0.3
ABTX Abilene, Hawle 90.29 56 P P 15 38 19.9 +1.3
baz=245
TROLL Troll, Antarti 90.49 180 PcP PcP 15 38 19.5 -0.1
SNAA Sanae 90.78 179 PcP P 15 38 20.3 +0.1
LZH Lanzhou 90.81 308 eP P 15 38 22.8 +1.8
LZH pmax pmax
comp=Z,36nm,1.3s
VNA3 Neumayer Olymp 90.92 176 PcP PcP 15 38 21.4 0.0
VNA2 Neumayer--Watz 91.36 177 PcP PcP 15 38 23.4 +0.1
baz=172,slow=4.0
RSSD Black Hills 91.41 44 P P 15 38 24.2 +0.5
RSSD IAmb IAmb 15 38 25.6
comp=Z,7.3nm,0.8s
RSSD Black Hills 91.41 44 P P 15 38 24.8 +1.1
baz=247
VNA1 Neumayer--Stat 91.59 177 PcP PcP 15 38 24.7 +0.4
INK Inuvik 91.70 15 P P 15 38 24.1 -0.1
comp=Z,6.2nm,1.0s,baz=218,slow=4.2,SNR=16
INK Inuvik 91.70 15 P P 15 38 24.0 -0.1
INK IAmb IAmb 15 38 25.1
comp=Z,6.6nm,0.9s
INK Inuvik 91.70 15 P P 15 38 24.4 +0.3
baz=222
DGMT Dagmar 93.03 40 P P 15 38 32.7 +1.9
baz=247
R32A Long Quarter, 93.03 51 P P 15 38 31.7 +0.7
ULN Ulaanbaatar 93.04 319 P P 15 38 30.9 -0.1
ULN IAmb IAmb 15 38 32.5
comp=Z,6.5nm,0.9s
SONM Songino Array 93.44 319 P P 15 38 33.8 +1.0
comp=Z,1.4nm,0.7s,baz=120,slow=3.7,SNR=10
YKA Yellowknife Ar 94.15 25 P P 15 38 36.1 +0.6
comp=Z,4.0nm,0.8s,baz=245,slow=4.4,SNR=53
YKA PP **PP 15 42 25.9 -5.9**
comp=Z,0.6nm,0.9s,baz=245,slow=7.6,SNR=4.4
KSU1 Kansas State U 94.80 51 P P 15 38 41.1 +2.0
baz=251
GTA Gaotai 94.94 310 ⇑P P 15 38 40.8 +0.9
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,100nm,6.0s
TIXI Tiksi 95.99 345 P P 15 38 43.0 -0.6
comp=Z,1.4nm,0.7s,baz=93,slow=23,SNR=10
ZALV Zalesovo Beam 108.11 322 PKiKP PKiKP 15 43 41.1 -0.1
comp=Z,1.9nm,0.6s,baz=88,slow=0.5,SNR=11
MKAR Makanchi Array 109.03 314 Pdiff Pdif 15 39 44.7 +2.4
comp=Z,0.2nm,0.5s,baz=90,slow=4.9,SNR=3.7
MKAR PKiKP **PKiKP 15 43 42.9 -0.3**
comp=Z,2.3nm,0.5s,baz=158,slow=0.7,SNR=45
MKAR Makanchi Array 109.03 314 PKiKP PKiKP 15 43 42.6 -0.6
BRVK Borovoye 116.78 321 PKPdf PKiKP 15 43 57.8 0.0
KKAR Karatay Array 117.23 310 PKPdf PKPdf 15 43 58.5 -0.5
KKAR Karatay Array 117.23 310 PKPdf PKPdf 15 43 58.8 -0.2
GAR Garm 117.36 305 PKPdf PKPdf 15 43 59.1 -0.4
SPITS Spitsbergen Ar 119.08 357 PKP PKiKP 15 44 01.8 +0.2
comp=Z,8.3nm,0.8s,baz=56,slow=5.1,SNR=11
SFJD Kangerlussuaq 120.50 21 PKP PKPdf 15 44 04.3 -0.1
comp=Z,6.3nm,0.7s,baz=276,slow=20,SNR=4.2
ABKAR Akbulak array 123.82 318 PKPdf PKPdf 15 44 11.0 -0.4
ABKAR Akbulak array 123.82 318 PKPdf PKPdf 15 44 11.4 0.0
ARCES ARCESS Array B 126.14 350 PKP PKPdf 15 44 14.4 -0.9
comp=Z,4.6nm,0.7s,baz=60,slow=1.9,SNR=23
GEYT Alibeck 126.97 304 PKP PKiKP 15 44 18.8 +0.4
comp=Z,5.5nm,0.8s,baz=197,slow=4.5,SNR=12
GEYT Alibeck 126.97 304 PKPdf PKPdf 15 44 18.1 +0.2
GYA0B ALIBECK ARRAY 126.97 304 PKPdf PKiKP 15 44 18.2 -0.2
BOSA Boshof 128.58 207 PKP PKiKP 15 44 22.3 +0.2
comp=Z,1.8nm,0.8s,baz=11,slow=5.2,SNR=3.5
KLMR Klimovskoe 129.20 337 *e*PKPdf **PKPdf 15 44 21.5 +0.2**
KLMR AMP 15 44 32.5
comp=Z,11nm,1.4s
FINES FINESS Array B 133.02 344 PKhKP PKPpre 15 44 15.8
comp=Z,2.1nm,0.9s,baz=23,slow=4.5,SNR=3.8
FINES PKP **PKPdf 15 44 28.8 +0.3**
comp=Z,1.2nm,0.3s,baz=86,slow=1.8,SNR=6.6
FINES SKPbc **SKPab 15 47 09.7 +1.8**
comp=Z,4.2nm,0.7s,baz=48,slow=2.6,SNR=14
NB2 NORSAR Subarra 136.19 353 PKP PKPdf 15 44 27.5 -7.0
comp=Z,0.7nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 136.19 353 PKP PKiKP 15 44 36.1 -0.3
comp=Z,0.7nm,0.5s,baz=19,slow=4.0,SNR=7.0
NOA SKPbc **SKiKP 15 47 20.2 -0.5**
comp=Z,1.6nm,0.8s,baz=15,slow=4.5,SNR=5.2
KBZ Khabaz 136.70 316 PKP PKiKP 15 44 38.2 +0.4
comp=Z,1.8nm,0.8s,baz=171,slow=3.1,SNR=4.5
KBZ SKPbc **SKiKP 15 47 21.6 -0.5**
comp=Z,1.6nm,0.7s,baz=298,slow=4.4,SNR=3.9
GEVA Gevas 138.50 308 PKPdf 15 44 40.2 +0.6
KMBO Kilima Mbogo 140.24 246 PKP PKiKP 15 44 46.7 +0.4
comp=Z,1.1nm,0.4s,baz=29,slow=6.9,SNR=5.5
AKASG Malin Array Be 140.41 332 PKhKP PKPpre 15 44 36.2
comp=Z,1.4nm,0.4s,baz=38,slow=4.0,SNR=14
AKASG PKP **PKiKP 15 44 44.5 -0.7**
comp=Z,0.9nm,0.4s,baz=34,slow=4.2,SNR=8.6
AKASG SKPbc **SKiKP 15 47 31.0 +1.4**
comp=Z,1.2nm,0.6s,baz=29,slow=4.6,SNR=5.5
SORM Soroca 142.65 330 ⇓P PKPdf 15 44 44.6 -1.9
BSEG Bad Segeberg 143.24 351 *e*PKPbc PKPbc 15 44 46.3 +0.6
baz=15,slow=2.9
BZK Bozkurt 143.31 318 ⇑P PKPdf 15 44 47.4 -0.5
BZK Bozkurt 143.31 318 PKPdf 15 44 47.2 -0.7
BNN Bunyan 143.56 312 PKPdf PKPbc 15 44 48.0 +0.6
KWP Kalwaria Pacla 143.91 337 *e*PKPbc **PKPdf 15 44 49.0 +0.3**
KWP Kalwaria Pacla 143.91 337 PKPdf 15 44 48.7 0.0
OJC Ojcow 144.45 340 *e*PKPbc **PKPab 15 44 50.5 +0.4**
OJC Ojcow 144.45 340 PKPab 15 44 50.4 +0.3
BURAR Bucovina Array 144.47 332 ⇑P PKPab 15 44 51.5 +1.1
BURAR Bucovina Array 144.47 332 PKPab 15 44 50.6 +0.2
RETH Rethem/Aller, 144.53 352 *e*PKPbc **PKPab 15 44 50.9 +0.6**
baz=15,slow=2.9
GHRR 144.57 329 ⇑P PKiKP 15 44 52.5 -1.4
TESR Tescani 144.62 330 ⇓P PKPab 15 44 51.1 +0.2
FLTG Flechtingen 144.65 350 *e*PKPbc **PKPab 15 44 50.6 -0.1**
baz=15,slow=2.9
KOLS Kolonicke sedl 144.65 336 *e*PKP **PKPab 15 44 51.8 +0.9**
NRDL Niedersach Rie 144.67 351 *e*PKPbc **PKPab 15 44 51.2 +0.5**
baz=15,slow=2.9
BR131 Keskin Array S 144.68 315 PKPdf PKPbc 15 44 51.0 +0.2
BRTR Keskin Array B 144.68 315 PKP PKPab 15 44 51.3 -0.2
comp=Z,23nm,0.8s,baz=138,slow=4.0,SNR=100
BRTR Keskin Array B 144.68 315 PKPdf PKPdf 15 44 50.6 +0.1
CFR Carcaliu 144.80 327 ⇑P PKPab 15 44 52.1 +0.5
TPGR Topolog 144.87 326 ⇑P PKPab 15 44 52.7 +0.7
KSP Ksiaz 144.94 344 *e*PKPbc **PKPab 15 44 52.6 +0.6**
NIE Niedzica 144.97 339 *e*PKPbc **PKPab 15 44 53.3 +1.2**
CRVS Cervenica-Dubn 144.98 337 *e*PKP **PKPab 15 44 52.6 +0.4**
VRI Vrincioaia 145.04 329 ⇑P PKPab 15 44 52.3 -0.3
PLOR Plostina 145.09 329 ⇑P PKPab 15 44 53.6 +0.8
IBBN Ibbenburen 145.15 353 *e*PKPbc **PKPab 15 44 52.7 +0.1**
baz=15,slow=2.9
BMR Baia Mare 145.16 334 ⇑P PKPab 15 44 53.5 +0.6
TRPA Tarpa 145.19 335 ⇑P PKPab 15 44 53.3 +0.3
TRPA Tarpa 145.19 335 PKP PKPbc 15 44 52.4 +0.5
TRPA Tarpa 145.19 335 PKP PKPab 15 44 53.2 +0.3
OSTC Ostas 145.22 344 *e*PKP **PKPab 15 44 53.1 0.0**
HARR Harsova 145.24 326 ⇓P PKPbc 15 44 52.5 +0.3
CLZ Clausthal 145.26 350 *e*PKPbc **PKPab 15 44 53.2 0.0**
baz=15,slow=2.9
CLL Collm 145.29 347 PKPdf PKPbc 15 44 52.2 0.0
CLL Collm 145.29 347 *i* PKPbc **PKPab 15 44 53.3 0.0**
comp=Z,0.0nm,0.7s
CLL Collm 145.29 347 *e*PKPbc **PKPab 15 44 53.0 -0.3**
baz=15,slow=2.9
OKC Ostrava-Krasne 145.31 341 *e*PKP **PKPab 15 44 53.5 +0.1**
COVR Voineasa-Covas 145.31 329 ⇓P PKPab 15 44 53.7 +0.1
UPC Upice 145.32 344 *e*PKP **PKPab 15 44 53.0 -0.5**
OZUR 145.33 330 ⇓P PKPab 15 44 53.9 +0.2
DPC Dobruska-Polom 145.38 343 *e*PKP **PKPbc 15 44 52.9 +0.4**
LANS Liptovska Anna 145.48 339 *e*PKP **PKiKP 15 44 55.0 -0.7**
BRG Berggiesshubel 145.49 346 *e*PKP **PKPab 15 44 53.7 -0.4**
BRG Amp 15 44 54.9
comp=Z,21nm,1.0s
BRG Berggiesshubel 145.49 346 *e*PKPbc **PKPab 15 44 53.9 -0.2**
baz=15,slow=2.9
KRLC Kraliky 145.50 343 *e*PKP **PKPab 15 44 53.7 -0.5**
MORC Moravsky Berou 145.55 342 ⇑P PKPbc 15 44 53.6 +0.6
MORC Moravsky Berou 145.55 342 PKPbc PKPab 15 44 53.8 -0.7
MORC Moravsky Berou 145.55 342 *e*PKP **PKPbc 15 44 52.5 -0.5**
NEHR Nehoiu 145.56 329 ⇓P PKPab 15 44 54.8 +0.1
FBE Freiberg 145.58 347 *e*PKPbc **PKPab 15 44 54.5 +0.1**
baz=15,slow=2.9
BHL Bhannes 145.59 305 *e*P **PKPbc 15 44 54.2 +0.5**
GTTG Gottingen 145.61 351 *e*PKPbc **PKPab 15 44 54.3 -0.3**
baz=15,slow=2.9
DOPR Dopca 145.61 330 ⇑P PKPbc 15 44 53.6 +0.3
NEUB Neuenburg 145.63 349 *e*PKPbc **PKPab 15 44 54.0 -0.6**
baz=15,slow=2.9
PVCC Panska Ves 145.67 345 *e*PKP **PKPbc 15 44 53.9 +0.7**
MLR Muntele Rosu 145.69 329 ⇑P PKPab 15 44 54.7 -0.5
MLR Muntele Rosu 145.69 329 PKPbc 15 44 54.2 +0.5
SHBL Chebaa 145.70 304 *e*P **PKPbc 15 44 54.8 +0.7**
CJR Cluj-Napoca 145.87 333 ⇑P PKPab 15 44 55.8 0.0
MDUB Mudurnu 145.90 318 PKPbc PKPbc 15 44 54.5 +0.1
KASTN Kahler Asten 146.16 352 *e*PKPbc **PKPbc 15 44 55.5 +0.9**
baz=15,slow=2.9
PRU Pruhonice 146.18 345 *e*PKP **PKPbc 15 44 55.1 +0.4**
DRGR 146.19 334 ⇑P PKPab 15 44 56.2 -0.9
MOX Moxa 146.20 349 *e*PKPbc **PKPbc 15 44 55.7 +0.9**
baz=15,slow=2.9
PLN Plauen 146.24 348 *e*PKPbc **PKPab 15 44 56.0 -1.1**
baz=15,slow=2.9
VRAC Vranov 146.25 342 ⇑P PKPab 15 44 56.4 -0.8
VRAC Vranov 146.25 342 *e*PKP **PKPdf 15 44 53.5 +0.8**
TANN Tannenbergstha 146.25 348 *e*PKPbc **PKPbc 15 44 56.0 +1.1**
baz=15,slow=2.9
VYHS Vyhne 146.26 339 *e*PKP **PKPab 15 44 56.4 -0.8**
JAVC Velka Javorina 146.32 341 *e*PKP **PKPbc 15 44 55.1 -0.1**
GUNZ Gunzen 146.32 348 *e*PKPbc **PKiKP 15 44 56.5 -1.0**
baz=15,slow=2.9
PSZ Piszkesteto 146.38 338 ⇓P PKPbc 15 44 56.5 +1.0
PSZ Piszkesteto 146.38 338 PKPbc PKPbc 15 44 56.1 +0.7
PSZ Piszkesteto 146.38 338 PKP PKiKP 15 44 56.8 -0.9
WERN Wernitzgruen 146.39 348 *e*PKPbc **PKiKP 15 44 56.7 -0.9**
baz=15,slow=2.9
ARR Arges 146.41 330 ⇓P PKPbc 15 44 55.0 -0.7
NKC Novy Kostel 146.42 347 *e*PKP **PKPbc 15 44 56.0 +0.6**
GHAJ Ghor Haditha 146.44 300 PKPbc PKPbc 15 44 56.2 +0.2
KRUC Moravsky 146.52 342 *e*PKP **PKPdf 15 44 54.3 +1.1**
BORA Eskisehir 146.70 317 PKPbc 15 44 57.1 +0.5
MANZ Manzenberg 146.73 348 *e*PKPbc **PKiKP 15 44 57.4 -0.9**
baz=15,slow=2.9
RAZG Razgrad 146.75 326 ⇑P PKiKP 15 44 57.6 -0.9
MODS Modra-Piesok 146.87 341 *e*PKP **PKiKP 15 44 58.7 +0.1**
ROTZ Rotzenmuhle 146.91 347 *e*PKPbc **PKiKP 15 44 58.0 -0.6**
baz=15,slow=2.9
CSS Mathiatis 147.00 308 PKPbc 15 44 57.5 +0.1
SRO Srobarova 147.02 339 *e*PKP **PKiKP 15 44 59.1 +0.2**
SRO *e* 15 44 59.7
BUD Budapest 147.06 338 PKP PKiKP 15 44 58.8 -0.2
ZST Bratislava 147.08 341 *e*PKP **PKiKP 15 44 59.1 +0.1**
TNS Taunus Mts 147.12 352 *e*PKPbc **PKiKP 15 44 58.5 -0.6**
baz=15,slow=2.9
GRA1 Grafenberg Arr 147.18 348 PKPbc PKiKP 15 44 58.6 -0.6
GRF Grafenberg Arr 147.18 348 *e*PKPbc **PKiKP 15 44 58.6 -0.6**
baz=15,slow=2.9
GRFO Grafenberg 147.18 348 PKPbc PKiKP 15 44 58.5 -0.6

KHC	Kasperske Hory	147.21	345		PKPbc	15 44 58.4	+0.8
KHC	Kasperske Hory	147.21	345	*e*PKP	PKPbc	15 44 58.0	+0.4
GZR	Gura Zlata	147.25	332	⇑P	PKiKP	15 44 58.8	-0.7
CKRC	Cesky Krumlov	147.31	344	*e*PKP	PKiKP	15 44 59.0	-0.5
GEC2	GERESS Array S	147.44	345	PKPbc	PKPbc	15 44 58.9	+0.6
GEC2	GERESS Array S	147.44	345	*e*PKPbc	PKiKP	15 44 59.3	-0.6
	baz=15,slow=2.9						
GERES	GERESS Array B	147.44	345	PKPbc	PKiKP	15 44 59.3	-0.6
	comp=Z,12nm,0.5s,baz=34,slow=3.2,SNR=121						
GERES	GERESS Array B	147.44	345		PKPbc	15 44 58.7	+0.5
BZS	Buzias	147.58	333	⇑P	PKiKP	15 44 59.7	-0.4
SRE	Strehaia	147.61	331	⇑P	PKiKP	15 45 00.4	+0.1
EGYH	Egyhazaskeszo	147.69	340	PKP	PKiKP	15 45 00.7	+0.4
CONA	Conrad Observa	147.70	342	*i* P	PKiKP	15 45 00.3	-0.1
	comp=Z,18nm,0.6s,SNR=10						
ISP	Isparta	147.74	314		PKPbc	15 44 59.0	-0.3
RONA	Rosalia, Austr	147.77	341	*i* P	PKiKP	15 45 00.4	-0.1
	comp=Z,18nm,0.6s,SNR=7.6						
HERR	Herculane	147.81	332	⇑P	PKiKP	15 45 00.1	-0.5
MPLH	Magyarpolny	147.84	339	PKP	PKiKP	15 45 00.5	-0.1
WLF	Walferdange	147.93	354	*e*PKPbc	PKiKP	15 45 01.1	+0.3
	baz=15,slow=2.9						
MDVR	Moldovita	148.20	332	⇑P	PKPbc	15 45 00.6	+0.3
MOA	Molln	148.22	344	*i* P	PKiKP	15 45 01.2	-0.3
	comp=Z,3.8nm,0.5s						
MORH	Mrgy, Hungar	148.28	337	⇑P	PKiKP	15 45 01.3	-0.2
MORH	Mrgy, Hungar	148.28	337	PKP	PKiKP	15 45 01.0	-0.5
ARSA	Arzberg	148.41	342	*i* P	PKiKP	15 45 01.4	-0.4
	comp=Z,3.0nm,0.5s						
BIOA	Bad Ischl, Aus	148.53	344	*i* P	PKiKP	15 45 01.7	-0.4
	comp=Z,2.8nm,0.4s						
KOVH	Kovagotottos	148.58	338	PKP	PKiKP	15 45 01.8	-0.3
BLKB	Belogradchik	148.65	330	⇑P	PKiKP	15 45 02.5	0.0
RJOB	Jochberg	148.69	345	*e*PKPbc	PKiKP	15 45 02.2	-0.2
	baz=15,slow=2.9						
FRGS	Fruska Gora	148.71	335	⇑P	PKPbc	15 45 02.0	+0.5
BFO	Black Forest	148.99	351		PKiKP	15 45 02.9	-0.1
BFO	Black Forest	148.99	351	*e*PKPbc	PKiKP	15 45 02.8	-0.2
	baz=15,slow=2.9						
SOKA	Soboth	149.07	342	*i* P	PKiKP	15 45 02.9	-0.3
	comp=Z,3.9nm,0.5s						
PERS	Pernice	149.08	342	*i* PKPbc	PKiKP	15 45 02.9	-0.4
BOVS	Bovan	149.10	331	⇓P	PKiKP	15 45 02.9	-0.4
VTS	Vitosha	149.12	328	⇑P	PKiKP	15 45 03.7	+0.1
KBA	Koelnbreinsper	149.17	344	*i* P	PKPbc	15 45 02.9	+0.2
	comp=Z,9.9nm,0.4s,SNR=6.8						
WATA	Walderalm	149.35	347	*i* P	PKiKP	15 45 03.8	-0.1
	comp=Z,13nm,0.5s,SNR=7.4						
OBKA	Obir	149.37	342	*i* P	PKiKP	15 45 03.5	-0.4
	comp=Z,3.6nm,0.9s						
RETA	Reutte	149.38	348	*i* P	PKiKP	15 45 04.0	+0.1
	comp=Z,8.5nm,0.5s						
WTTA	Wattenberg	149.41	347	*i* P	PKiKP	15 45 04.1	0.0
	comp=Z,14nm,0.4s,SNR=13						
MOTA	Moosalm	149.45	347	*i* P	PKiKP	15 45 04.1	0.0
	comp=Z,24nm,1.1s,SNR=5.6						
DIVS	Divibare	149.49	333		PKiKP	15 45 04.0	-0.3
MYKA	Terra Mystica	149.51	344	*i* P	PKPbc	15 45 03.6	+0.2
	comp=Z,14nm,0.5s						
SQTA	Sankt Quirin	149.54	347	*i* P	PKiKP	15 45 04.3	+0.1
	comp=Z,20nm,0.5s,SNR=8.5						
MMB	Musomiste	149.60	326	*i* P	PKPbc	15 45 04.1	+0.3
ABTA	Abfaltersbach	149.69	345	*i* P	PKPbc	15 45 04.1	+0.2
	comp=Z,21nm,0.6s,SNR=5.7						
DAVA	Damuels	149.74	349	*i* P	PKiKP	15 45 05.3	+0.5
	comp=Z,18nm,0.8s,SNR=6.2						
LJU	Ljubljana	149.79	342	*i* PKPbc	PKiKP	15 45 05.0	+0.3
FETA	Feichten	149.83	348	*e*P	PKiKP	15 45 05.4	+0.4
	comp=Z,20nm,1.0s,SNR=6.1						
CRNS	Crni Vrh	149.84	342	*i* PKPbc	PKiKP	15 45 04.8	0.0
GBAS	Gorenja Brezov	149.92	342	*i* PKPbc	PKiKP	15 45 05.2	+0.2
STAL	STALIGIAL	150.09	344		PKPbc	15 45 04.9	+0.2
STIP	Stip	150.33	328	*i* P	PKPbc	15 45 05.5	+0.2
VAY	Valandovo	150.40	327	*i* P	PKPbc	15 45 05.6	+0.1
SKO	Skopje	150.49	329	*i* P	PKiKP	15 45 06.6	+0.4
CTI	Castel Tesino	150.55	346		PKiKP	15 45 06.2	-0.2
TUE	Stuetta	150.63	349	PKPbc	PKiKP	15 45 06.5	-0.1
SENIN	Lac Senin/Sane	151.05	352		PKiKP	15 45 08.1	+0.6
PDG	Podgorica	151.15	332	⇓P	PKiKP	15 45 07.6	0.0
PDG	Podgorica	151.15	332	*e*P	PKPbc	15 45 06.7	-0.5
TEOL	Teolo	151.19	345		PKiKP	15 45 07.9	+0.3
KARP	Karpathos	151.22	313		PKPbc	15 45 07.8	+0.2
TREB	Trebinje	151.31	334	⇑*i*P	PKPbc	15 45 07.5	-0.1
LIT	Litokhoron	151.32	325		PKPbc	15 45 07.5	-0.2
DRME	Dracevica, Mon	151.38	332	*e*P	PKiKP	15 45 08.0	-0.1
FNA	Florina	151.41	328		PKPbc	15 45 07.9	-0.1
OHR	Ohrid	151.46	329	*i* P	PKPdf	15 44 54.4	-6.9
MATE	Matera	153.71	333	⇑P	PKPdf	15 45 08.3	+3.8
ESDC	Sonseca Array	157.59	11	PKP	PKPdf	15 45 10.8	+1.0
	comp=Z,1.0nm,0.9s,baz=349,slow=5.1,SNR=6.3						
ESDC				PKPab	PKPab	15 45 44.9	-0.4
	comp=Z,1.5nm,0.9s,baz=331,slow=4.5,SNR=6.6						
TORD	Torodi Ar. Bea	175.45	181	PKP	PKPdf	15 45 22.9	-0.9
	comp=Z,2.6nm,0.8s,baz=329,slow=1.8,SNR=11						
TORD				PKPab	PKPab	15 47 03.9	-0.6
	comp=Z,0.4nm,0.8s,baz=194,slow=3.0,SNR=1.4						

*KRSC **24** 15:32:51.3±1.8,52.89N×162.44E,h42km±25km,ML3.7*
*IDC **24** 15:32:55.2±8.2,53.66N×162.30E,h63km±60km,mb2.9/2, mb1 3.1/3,mb1mx2.8/60,mbtmp3.2/3,ML2.6/1,MS2.7/1, Ms1 2.8/1,ms1mx2.1/16,Error ellipse: s-maj=60.6km s-min=49.1km az=56.0*

ISC 24 15:32:51.9±1.6,52°80N±0.08×162°58E±0.07,h65km±20km, n31,σ1§44/45,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	1.58	282	*e*P	Pn	15 33 17.7	0.0
SPN				*e*S	Sn	15 33 35.0	-2.2
NLC	Nalytchevo	1.99	282	*e*P	Pn	15 33 23.6	+0.3
NLC				*e*S	Sn	15 33 45.3	-1.9
KII	Karymskiy	2.25	305	*e*P	Pn	15 33 27.2	+0.3
KII				*e*S	Sn	15 33 51.1	-2.4
SDLR	Sedlovina	2.28	284	*e*P	Pn	15 33 28.3	+0.9
SDLR				*e*S	Sn	15 33 53.4	-1.1
UGLR	Uglovaya	2.31	282	*e*P	Pn	15 33 28.9	+1.2
DALK	Dalny	2.33	277	*e*P	Pn	15 33 28.6	+0.7
DALK				*e*S	Sn	15 33 54.4	-1.0
SMAR	Somma	2.33	283	*e*P	Pn	15 33 28.8	+0.7
AVH	Avacha	2.37	283	*e*P	Pn	15 33 29.9	+1.4
KRER	Koryakskii	2.37	284	*e*P	Pn	15 33 29.8	+1.2
KOK	Koryaka	2.43	283	*e*P	Pn	15 33 30.4	+1.0
KRX	Arik	2.44	285	*e*P	Pn	15 33 30.4	+0.9
KRX				*e*S	Sn	15 33 57.1	-1.2
RUS	Russkaya	2.51	263	*e*P	Pn	15 33 31.4	+1.1
RUS				*e*S	Sn	15 33 59.2	-0.5
MTVR	Mutnovka	2.70	265	*e*P	Pn	15 33 34.3	+1.2
MTVR				*e*S	Sn	15 34 04.3	-0.3
KRMR	Karymshinskiy	2.70	272	*e*P	Pn	15 33 34.0	+1.1
KRMR				*e*S	Sn	15 34 04.5	0.0
TUMD	Tumrok D	2.73	333	*e*P	Pn	15 33 34.5	+1.1
TUMD				*e*S	Sn	15 34 03.8	-1.4
GRL	Gorelyy	2.75	267	*e*P	Pn	15 33 35.5	+1.7
GRL				*e*S	Sn	15 34 06.5	+0.5
TUMR	Tumrok	2.87	331	*e*P	Pn	15 33 37.3	+1.9
ASAK	Asacha	2.88	264	*e*P	Pn	15 33 37.4	+1.9
ASAK				*e*S	Sn	15 34 09.2	+0.1
GNL	Ganaly	2.93	290	*e*P	Pn	15 33 38.1	+1.9
GNL				*e*S	Sn	15 34 11.8	+1.6
KDTR	Khodutka, Kamc	2.94	252	*e*P	Pn	15 33 37.1	+0.9
KDTR				*e*S	Sn	15 34 08.5	-1.7
PETK	Petropavlovsk-	2.97	278	P	Pn	15 33 37.6	+1.0
	5.1nm,0.3s,baz=94,slow=18,SNR=87						
PETK				S	Sn	15 34 11.2	+0.2
	3.6nm,0.3s,baz=182,slow=39,SNR=7.0						
BKI	Bering	3.13	38	*e*P	Pn	15 33 40.0	+1.2
BKI				*e*S	Sn	15 34 13.8	-1.1
KMNR	Kamenistaya	3.27	336	*e*P	Pn	15 33 43.2	+2.5
KMNR				*e*S	Sn	15 34 19.9	+1.5
APC	Apacha	3.29	274	*e*P	Pn	15 33 43.3	+2.3
APC				*e*S	Sn	15 34 20.7	+1.9
KBTR	Krutoberegovo	3.42	2	*e*P	Pn	15 33 43.5	+0.8
MIPR	Malaya Ipel'ka	3.59	264	*e*P	Pn	15 33 47.7	+2.6
ESO	Esso	3.87	326	*e*P	Pn	15 33 52.0	+3.1
SRKR	Sorokina	3.95	349	*e*P	Pn	15 33 52.4	+2.4
ILAR	Eielson Array	27.96	45	LR	LR	15 48 55.4	
	comp=Z,14nm,19.0s,baz=186,slow=35						
MKAR	Makanchi Array	49.63	297	P	P	15 41 34.9	-1.6
	0.1nm,0.6s,baz=66,slow=7.1,SNR=1.5						
ASAR	Alice Springs	80.14	207	P	P	15 45 02.5	+7.8
	0.3nm,0.7s,baz=15,slow=4.6,SNR=6.0						

*IDC **24** 15:44:05.8±0.8,32.66N×130.56E,h0km,mb3.9/15, mb1 4.1/19,mb1mx3.9/51,mbtmp3.9/19,ML3.4/4,MS3.6/42, Ms1 3.6/42,ms1mx3.5/92,Error ellipse: s-maj=18.1km s-min=7.9km az=132.0*
*NIED **24** 15:44:07.4,32.66N×130.68E,h11km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.70; Mθθ5.23; Mφφ-3.53; Mrθ0.27; Mθφ1.39; Mφr-0.35; Fault plane solution: Mo4.64000×10¹⁵ NP1:φs37.00000°, δ81.00000°,λ-174.00000°. NP2:φs306.00000°, δ84.00000°,λ-9.00000°.*
*JMA **24** 15:44:07.4,32.66N×130.68E,h11km±1km,M4.5 Broadband fault plane solution: P waves. NP1: φs305.00000°,δ75.00000°,λ-47.00000°. NP2:φs50.00000°, δ45.00000°,λ-158.00000°. Principal axes: T Plg18.0000°, Azm4.0000°; N Plg41.0000°, Azm111.0000°; P Plg43.0000°, Azm256.0000°;*
JMA Felt IV J1.
*NEIC **24** 15:44:08.0±1.2,32.74N±0.03×130.53E±0.01,h4km±4km, mb4.4/25 Error ellipse: s-maj=4.4km s-min=1.5km az=184.0*

ISC 24 15:44:07.5±1.1,32°67N±0.03×130°62E±0.04,h5km±7km, n126,σ1§46/101,mb4.3/35,MS3.7/39,4C-2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	Izumi3	0.20	127	⇑P	Pg	15 44 11.1	-0.4
JIU3				*e*S	Sg	15 44 13.6	-0.5
JTA	Tamana	0.30	346	⇑P	Pg	15 44 14.1	+0.7
JTA				S	Sg	15 44 18.5	+1.1
JNU	Nakatsue	0.50	25	Pg	Pg	15 44 16.7	-0.4
	564nm,0.3s,baz=181,slow=23,SNR=3893						
JNU				Lg	Lg	15 44 23.0	
	3μm,0.3s,baz=291,slow=22,SNR=28						
JNU	Nakatsue	0.50	25	Pg	Pg	15 44 17.1	-0.1
JNU				Sg	Sg	15 44 23.6	-0.1
JZO	Okuchi	0.53	182	⇑P	Pg	15 44 17.6	-0.1
JZO				S	Sg	15 44 24.8	+0.3
JTZ	Takazaki	0.86	153	P	Pg	15 44 23.8	-0.2
JTZ				S	Sg	15 44 34.9	-0.3
JSU	Suzuyama	1.17	187	Pn	Pg	15 44 29.2	-0.8
JTU	Tsushima	2.11	331	Pn	Pn	15 44 42.5	-1.0
JMN	Monobe	2.93	68	Pn	Pn	15 44 56.6	+1.9
JHS	Saijyo	3.12	41	Pn	Pn	15 44 57.1	-0.3
TJN	Taejon	4.57	325	Pn	Pn	15 45 17.1	-0.2
KSRS	Korea Array	5.26	336	Pn	Pn	15 45 26.9	+0.1
	1.7nm,0.3s,baz=153,slow=14,SNR=27						
KSRS				Pg	Pb	15 45 40.3	+0.3
	2.7nm,0.3s,baz=154,slow=15,SNR=14						
KSRS				Lg	Lg	15 46 46.1	
	7.7nm,0.3s,baz=158,slow=28,SNR=4.9						
KSAR	Wonju Array Be	5.26	336	Pn	Pn	15 45 27.7	+0.9
KS19	Wonju Array Si	5.32	336		Pn	15 45 27.0	-0.7
INCN	Inchon	5.81	327	Pn	Pn	15 45 33.7	-0.7
INU	Inuyama	5.95	62	Pn	Pn	15 45 36.7	+0.5
JOW	Kunigami	6.16	200	Pn	Pn	15 45 41.5	+2.3
	3.9nm,0.3s,baz=87,slow=18,SNR=21						
JOW	Kunigami	6.16	200	Pn	Pn	15 45 41.8	+2.6
JGF	Kuroka	6.30	61	Pn	Pn	15 45 42.8	+1.7
MJB9	Matsu-Tunnel	7.35	56		Pn	15 45 56.5	+1.0
MAJO	Matsushiro	7.35	56		Pn	15 45 56.2	+0.7
MJAR	Matsushiro Arr	7.35	56	Pn	Pn	15 45 56.4	+0.8
	0.3nm,0.3s,baz=235,slow=12,SNR=15						
MJAR				Lg	Lg	15 48 00.9	
	0.0nm,0.3s,baz=264,slow=24,SNR=5.0						
MJAR				LR	LR	15 48 52.3	
	comp=Z,742nm,19.1s,baz=229,slow=39						
MJAR	Matsushiro Arr	7.35	56	Pn	Pn	15 45 56.2	+0.7
JHJ	Hachijo jima 2	7.72	84	Pn	Pn	15 46 00.2	-0.3
	12nm,0.3s,baz=93,slow=20,SNR=5.4						
JHJ				LR	LR	15 49 12.0	
	comp=Z,252nm,18.5s,baz=270,slow=39						
JHJ2	Mitsune	7.75	84	Pn	Pn	15 46 02.4	+1.5
JSD	Sado	8.22	47	Pn	Pn	15 46 08.3	+0.8
NJ2	Nanjing	9.97	270	*e*P	Pn	15 46 35.0	+3.5
NJ2				pmax	pmax		
	comp=Z,23nm,0.8s						
NJ2				LR	LR		
	comp=N,900nm,9.0s						
NJ2				LR	LR		
	comp=E,480nm,8.5s						
NJ2				LR	LR		
	comp=Z,920nm,11.8s						
JCJ	Chichijima	11.46	116	LR	LR	15 50 10.4	
	comp=Z,96nm,19.4s,baz=152,slow=32						
USRK	Ussuriysk Ar.	11.56	5	Pn	Pn	15 46 56.2	+3.0
	baz=189,slow=14,SNR=15						
USRK				LR	LR	15 51 02.7	
	comp=Z,221nm,18.7s,baz=167,slow=36						
HNS	HongShan	13.87	294	*e*P	P	15 47 34.0	+0.9
HNS				S	S	15 50 11.8	-10
HNS				LR	LR		
	comp=N,1μm,16.1s						
HNS				LR	LR		
	comp=E,730nm,15.0s						
HNS				LR	LR		
	comp=Z,520nm,14.7s						
ASAJ	Asahikawa	14.77	36	Pn	Pn	15 47 38.5	+1.5
	comp=Z,0.1nm,0.3s,baz=230,slow=20,SNR=3.8						
JKA	Kamikawa-asahi	14.77	36		Pn	15 47 38.5	+1.5
LYN	LuoYang	15.24	282	⇓P	Pn	15 47 45.3	+1.9
LYN				pmax	pmax		
	comp=Z,170nm,6.7s						
LYN				LR	LR		
	comp=N,520nm,11.7s						
LYN				LR	LR		
	comp=E,980nm,12.0s						
LYN				LR	LR		
	comp=Z,970nm,11.9s						
KLR	Kul'dur	16.57	3	Pn	P	15 48 01.9	-1.1
	comp=Z,0.5nm,0.3s,baz=161,slow=8.7,SNR=19						
KLR				LR	LR	15 54 01.0	
	comp=Z,111nm,20.0s,baz=188,slow=36						
XAN	Xi'an	18.18	280	P	P	15 48 21.3	+0.2
XAN				pP	sP	15 48 28.0	+4.9
XAN				pmax	pmax		
	comp=Z,11nm,1.2s						
XAN				LR	LR		
	comp=N,660nm,13.7s						
XAN				LR	LR		
	comp=E,630nm,12.4s						
XAN				LR	LR		
	comp=Z,620nm,11.7s						
ENH	Enshi	18.19	268	P	P	15 48 21.4	+0.3
CD2	Chengdu	22.88	273	P	P	15 49 11.5	-0.6
CD2				S	S	15 53 23.6	+1.2
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				LR	LR		
	comp=E,920nm,11.6s						
CD2				LR	LR		
	comp=Z,1μm,12.0s						
GUMO	Guam	23.02	142	LR	LR	15 57 47.7	
	comp=Z,37nm,18.7s,baz=32,slow=36						
ULN	Ulaanbaatar	23.40	317	P	P	15 49 17.2	-0.2
ULN				IAmb	IAmb	15 49 29.3	
	comp=Z,9.9nm,1.1s						
SONM	Songino Array	23.77	317	P	P	15 49 20.4	-0.6
	comp=Z,1.0nm,0.7s,baz=126,slow=8.9,SNR=7.3						
SONM				LR	LR	15 58 48.0	
	comp=Z,103nm,19.0s,baz=106,slow=37						
SONM	Songino Array	23.77	317	P	P	15 49 20.0	-1.0
GTA	Gaotai	25.72	294	⇓P	P	15 49 39.3	+0.4
GTA				pP	sP	15 49 43.6	+2.5
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PZH	PanZhiHua	25.81	264	⇑P	P	15 49 39.4	-0.4
PZH				S	S	15 54 18.5	+8.6
PZH				pmax	pmax		
	comp=Z,20nm,1.2s						
PZH				pmax	pmax		
	comp=Z,120nm,5.3s						
PZH				LR	LR		
	comp=N,370nm,17.8s						
PZH				LR	LR		
	comp=E,420nm,18.2s						
PZH				LR	LR		
	comp=Z,460nm,18.7s						
PETK	Petropavlovsk-	28.19	36	LR	LR	16 01 04.7	
	comp=Z,80nm,19.3s,baz=232,slow=36						
YAK	Yakutsk	29.38	359	LR	LR	16 01 42.7	
	comp=Z,106nm,18.3s,baz=254,slow=36						
GOMU	GeErMu	29.64	287	P	P	15 50 14.5	+0.1
GOMU				pP	sP	15 50 18.5	+2.0
GOMU				sP	pP	15 50 22.0	+6.1
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,71nm,7.3s						
GOMU				LR	LR		
	comp=N,82nm,9.8s						
GOMU				LR	LR		
	comp=E,170nm,9.7s						
GOMU				LR	LR		
	comp=Z,130nm,9.4s						
CHTO	Chiang Mai	31.56	252	P	P	15 50 30.5	-0.5
CHTO				IAmb	IAmb	15 50 32.8	
	comp=Z,8.0nm,0.9s						
CMAR	Chiang Mai Arr	31.75	251	P	P	15 50 32.7	0.0
	comp=Z,6.1nm,1.1s,baz=48,slow=6.2,SNR=18						
CMAR				LR	LR	16 05 21.9	
	comp=Z,159nm,18.3s,baz=50,slow=40						
CMAR	Chiang Mai Arr	31.75	251	P	P	15 50 32.4	-0.3
SIJI	Sorong	33.36	179	LR	LR	16 05 55.3	
	comp=Z,34nm,18.1s,baz=48,slow=39						
H11N2	WAKE ISLAND Hy	34.83	103	T	T	16 27 10.0	
	baz=297,SNR=5.6						
H11N1	WAKE ISLAND Hy	34.84	103	T	T	16 27 07.2	
	baz=297						
H11N3	WAKE ISLAND Hy	34.85	103	T	T	16 27 08.8	
	baz=297						
KSM	Kuching	36.44	216	P	P	15 51 12.9	-0.5
KSM				IAmb	IAmb	15 51 13.9	
	comp=Z,3.8nm,0.9s						
ZALV	Zalesovo Beam	38.66	317	P	P	15 51 31.5	-0.3
	comp=Z,0.3nm,0.4s,baz=106,slow=7.9,SNR=1.5						
ZALV				LR	LR	16 08 39.6	
	comp=Z,73nm,18.4s,baz=96,slow=38						
GUN	Gumba	38.71	275	*e*P	P	15 51 32.7	-0.3
KAPI	Kappang	38.87	197	LR	LR	16 08 00.1	
	comp=Z,62nm,20.3s,baz=2.0,slow=37						
KULM	Kulim	39.03	232	P	P	15 51 35.0	-0.3
TIXI	Tiksi	39.05	359	LR	LR	16 07 57.4	
	comp=Z,101nm,18.9s,baz=181,slow=37						
MK31	Makanchi Array	39.14	306	P	P	15 51 34.3	-1.7
MKAR	Makanchi Array	39.14	306	P	P	15 51 35.1	-0.9
	comp=Z,2.2nm,1.0s,baz=93,slow=9.7,SNR=13						
MKAR	Makanchi Array	39.14	306	P	P	15 51 34.7	-1.3
PKI	Pulchoki	39.21	275	*e*P	P	15 51 36.3	-0.9
KKN	Kakani	39.25	275	*e*P	P	15 51 36.6	-0.8
MAKZ	Makanchi	39.36	306	P	P	15 51 36.3	-1.5
MYKOM	Kota Tinggi	39.71	225	P	P	15 51 40.9	-0.1
MYKOM				IAmb	IAmb	15 51 42.1	
	comp=Z,7.4nm,1.0s						
GKN	Gorkha	39.73	276	*e*P	P	15 51 40.3	-1.0
DANN	Dangsing	40.35	277	*e*P	P	15 51 46.3	-0.3
	comp=Z,22nm,0.8s						
KOLN	Koldanda	40.67	276	*e*P	P	15 51 48.6	-0.6
BILL	Bilibino	40.92	20	P	P	15 51 52.1	+1.6
PYUN	Piuthan	41.08	277	*e*P	P	15 51 52.4	-0.1
	comp=Z,30nm,1.0s						
KURBB	Kurchatov Arra	41.91	311	LR	LR	16 10 14.3	
	comp=Z,212nm,18.1s,baz=81,slow=38						
PSI	Prapat	42.02	232	LR	LR	16 10 21.4	
	comp=Z,82nm,20.0s,baz=36,slow=38						
NRIK	Noril'sk	43.87	340	LR	LR	16 10 02.6	
	comp=Z,85nm,18.8s,baz=114,slow=36						
PMG	Port Moresby	44.72	156	LR	LR	16 08 28.9	
	comp=Z,61nm,20.7s,baz=268,slow=33						
AAK	Ala-Archa	44.81	300	LR	LR	16 12 10.6	
	comp=Z,168nm,18.5s,baz=60,slow=38						
LEM	Lembang	44.97	213	LR	LR	16 12 38.8	
	comp=Z,53nm,18.1s,baz=354,slow=38						
KK31	Karatay Array	47.65	301	P	P	15 52 44.0	-0.8
KKAR	Karatay Array	47.65	301	P	P	15 52 44.0	-0.8
CHGR	Chuyangaron	49.48	295	P	P	15 52 58.1	-0.9
FITZ	Fitzroy Crossi	50.70	186	LR	LR	16 15 03.8	
	comp=Z,19nm,20.7s,baz=272,slow=37						
PALK	Pallekele	52.68	253	LR	LR	16 16 31.9	
	comp=Z,68nm,19.4s,baz=139,slow=37						
ARU	Arti	53.77	319	LR	LR	16 16 10.7	
	comp=Z,68nm,20.0s,baz=180,slow=36						
ABKAR	Akbulak array	53.94	310	P	P	15 53 31.3	-0.7
ABKAR				IAmb	IAmb	15 53 32.3	
	comp=Z,2.6nm,0.8s						
ABKAR	Akbulak array	53.94	310	P	P	15 53 31.1	-0.9
CTA	Charters Tower	54.55	162	LR	LR	16 15 25.9	
	comp=Z,39nm,19.0s,baz=21,slow=34						
K20K	Telida	54.83	32	P	P	15 53 38.5	+0.2
K20K				IAmb	IAmb	15 53 51.8	
	comp=Z,5.2nm,1.3s						
AKTO	Aktyubinsk	54.95	312	LR	LR	16 16 24.0	
	comp=Z,107nm,18.6s,baz=83,slow=35						
CAST	Castle Rocks	55.72	32	P	P	15 53 44.8	+0.1
CAST				IAmb	IAmb	15 54 08.4	
	comp=Z,3.0nm,1.0s						
PPLA	Purkeypile	55.72	33	P	P	15 53 45.1	+0.2
PPLA				IAmb	IAmb	15 54 01.4	
	comp=Z,9.7nm,1.3s						
ASAR	Alice Springs	56.11	176	P	P	15 53 45.5	-2.4
	comp=Z,0.6nm,0.9s,baz=356,slow=6.6,SNR=6.1						
ASAR				LR	LR	16 16 18.7	
	comp=Z,27nm,21.7s,baz=347,slow=34						
KDAK	Kodiak Island	56.16	39	LR	LR	16 17

comp=Z,6.0nm,1.1s
BORG Borgarnes 80.45 348 LR LR 16 32 36.5
comp=Z,27nm,18.1s,baz=344,slow=36
FRB Frobisher Bay 82.71 8 LR LR 16 35 11.4
comp=Z,52nm,19.8s,baz=10,slow=37
NVAR Mina Array Bea 84.59 47 P **P** **15 56 43.1 +0.8**
comp=Z,0.5nm,0.6s,baz=313,slow=6.1,SNR=4.4
PDAR Pinedale Array 86.87 40 P **P** **15 56 54.9 +1.2**
comp=Z,0.3nm,0.7s,baz=270,slow=3.6,SNR=2.5
SCHQ Schefferville 91.57 10 LR LR 16 41 06.8
comp=Z,34nm,18.4s,baz=92,slow=37

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*IDC **24** 15:53:58.7±0.8,33°.57N×11°.42W,h0km,mb4.0/21, mb1 4.2/23,mb1mx4.1/48,mbtmp4.1/23,ML4.7/2,MS3.6/21, Ms1 3.6/21,ms1mx3.2/95,Error ellipse: s-maj=20.5km s-min=15.1km az=6.0*
*LDG **24** 15:53:58.4±0.3,33°.52N×11°.39W,h15km,Ml3.9/26,Error ellipse: s-maj=13.5km s-min=6.8km az=134.0*
*MOS **24** 15:53:59.3±0.9,33°.63N×11°.37W,h11km,mb4.6/36,Error ellipse: s-maj=14.8km s-min=4.9km az=55.6*
*NEIC **24** 15:54:01.0±1.3,33°.53N±0°.07×11°.43W±0°.08,h14km±4km, mb4.6/75,Error ellipse: s-maj=11.9km s-min=8.2km az=143.0*
*SVSA **24** 15:54:00.0,33°.57N×11°.42W,h5km*
*MDD **24** 15:54:01.7±0.2,33°.53N×11°.49W,h39km,Mb5.1/48, M_mb4.7/51,Error ellipse: s-maj=3.1km s-min=1.3km az=132.0*
*CNRM **24** 15:54:02.5,33°.58N×11°.51W,h48km,ml5.2*
*IGIL **24** 15:54:03.3,33°.53N×11°.49W,h31km,ML4.7*
*INMG **24** 15:54:05.2±2.4,33°.54N×11°.50W,h38km±10km,MD3.9, ML4.4,Error ellipse: s-maj=5.9km s-min=2.6km az=116.0*
ISC 24 15:53:59.6±0.4,33°.52N±0°.04×11°.49W±0°.04,h10km,n393, σ**1**§**90**/395**,mb4.5**/93**,MS3.7**/23**,53C-3D,Madeira Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EAH	**EAH**	**2.46**	**139**	P		**Pn**	**15 54 40.4**	**+0.7**
CGR	**Cap Guir**	**3.18**	**154**	S		**Sn**	**15 55 25.0**	**-2.7**
CGR	**Cap Guir**	**3.18**	**154**	P		**Pn**	**15 54 49.5**	**-0.2**
AVE	**Averroes**	**3.42**	**93**	P		**Pn**	**15 54 54.3**	**+1.4**
AVE				S		**Sn**	**15 55 31.4**	**-2.0**
TTIG	**Tnine Tigouga,**	**3.93**	**138**	P		**Pn**	**15 54 58.2**	**-1.9**
ZHG	**ZHG**	**4.05**	**90**	P		**Pn**	**15 55 02.0**	**+0.3**
PMPST	**Porto Santo, M**	**4.08**	**265**	*e*P		**Pn**	**15 55 03.4**	**+1.4**
PMPST				*e*S		**Sn**	**15 55 47.6**	**-2.3**
PMPST				A		A	15 55 51.1	
	1µm,0.3s							
PFVI	**Vila Bisbo**	**4.21**	**30**	*e*P		**Pn**	**15 55 03.3**	**-0.5**
PFVI				*e*S		Sn	15 55 46.0	-7.1
PFVI				A		A	15 55 55.8	
	311nm,0.4s							
PFVI	**Vila Bisbo**	**4.21**	**30**	Pn		**Pn**	**15 55 03.2**	**-0.7**
PFVI	**Vila Bisbo**	**4.21**	**30**	P		**Pn**	**15 55 03.3**	**-0.5**
MORF	**Marmelete**	**4.43**	**31**	*e*P		**Pn**	**15 55 06.2**	**-0.7**
MORF				*e*S		**Sn**	**15 55 51.6**	**-7.0**
MORF				IAML			15 55 54.0	
	comp=E,1µm,0.5s							
MORF	**Marmelete**	**4.43**	**31**	*e*P		**Pn**	**15 55 06.4**	**-0.5**
MORF				*e*S		**Sn**	**15 55 51.7**	**-6.9**
MORF				A		A	15 55 55.5	
	comp=E,287nm,0.2s							
MORF	**Marmelete**	**4.43**	**31**	*e*P		**Pn**	**15 55 06.2**	**-0.7**
MORF				*e*S		**Sn**	**15 55 51.6**	**-7.0**
PTEO	**Sao Teotonio**	**4.61**	**28**	*e*P		**Pn**	**15 55 08.8**	**-0.5**
PTEO				*e*S		**Sn**	**15 55 57.0**	**-5.8**
PTEO				A		A	15 56 04.1	
	comp=E,339nm,0.5s							
FUL	**Funchal**	**4.62**	**261**	*e*P		**Pn**	**15 55 10.8**	**+1.4**
FUL				*e*S		**Sn**	**15 56 00.0**	**-3.1**
FUL				A		A	15 56 04.4	
	comp=E,2µm,0.2s							
PMAR	**Madeira**	**4.62**	**262**	*e*P		**Pn**	**15 55 11.2**	**+1.6**
PMAR				*e*S		**Sn**	**15 56 01.1**	**-2.3**
PMAR				A		A	15 56 06.9	
	comp=E,3µm,0.2s							
PMAR	**Madeira**	**4.62**	**262**	P		**Pn**	**15 55 10.4**	**+0.7**
EFAM	**Famara**	**4.71**	**202**	P		**Pn**	**15 55 08.7**	**-2.0**
EFAM					*i*Vmb_V		15 55 12.3	
	comp=E,1µm,SNR=2.7							
EFAM				S		**Sn**	**15 55 60.0**	**-5.5**
PBDV	**Barranco-do-Ve**	**4.72**	**37**	*e*P		**Pn**	**15 55 10.8**	**0.0**
PBDV				*e*S		**Sn**	**15 55 58.7**	**-6.9**
PBDV				A		A	15 56 06.4	
	comp=E,213nm,0.3s							
OUZM	**OUZ**	**4.78**	**122**	P		**Pn**	**15 55 12.3**	**+0.5**
PMOZ	**Porto Moniz, M**	**4.84**	**263**	*e*P		**Pn**	**15 55 13.9**	**+1.4**
PMOZ				*e*S		**Sn**	**15 56 07.5**	**-1.2**
PMOZ				A		A	15 56 22.3	
	comp=E,2µm,0.5s							
PMOZ	**Porto Moniz, M**	**4.84**	**263**	Pn		**Pn**	**15 55 13.6**	**+1.0**
PVAQ	**Vaqueiros**	**4.95**	**37**	*e*P		**Pn**	**15 55 13.8**	**-0.2**
PVAQ				*e*S		**Sn**	**15 56 04.5**	**-6.8**
PVAQ				A		A	15 56 10.1	
	comp=E,378nm,0.3s							
PVAQ	**Vaqueiros**	**4.95**	**37**			**Pn**	**15 55 13.4**	**-0.6**
PVAQ	**Vaqueiros**	**4.95**	**37**	P		**Pn**	**15 55 13.7**	**-0.3**
PCVE	**Castro Verde**	**4.98**	**33**	*e*P		**Pn**	**15 55 13.3**	**0.0**
PCVE				*e*S		**Sn**	**15 56 05.1**	**-6.8**
PCVE				A		A	15 56 09.9	
	comp=E,385nm,0.5s							
CLOB	**Isla de Lobos,**	**5.14**	**203**	P		**Pn**	**15 55 16.6**	**0.0**
CLOB					*i*Vmb_V		15 55 18.0	
	comp=E,3µm,SNR=2.5							
CLOB				S		**Sn**	**15 56 11.2**	**-4.8**
EGRO	**El Granado**	**5.17**	**38**	P		**Pn**	**15 55 16.6**	**-0.4**
EGRO					*i*Vmb_V		15 55 18.2	
	comp=E,5µm,SNR=100							
EGRO				S		Sn	15 56 09.0	-7.7
SICH	**Sidi Chahed**	**5.17**	**82**	P		**Pn**	**15 55 16.0**	**+0.9**
PNCL	**Nicolau / Gran**	**5.18**	**27**	*e*P		**Pn**	**15 55 16.3**	**-0.8**
PNCL				*e*S		**Sn**	**15 56 10.2**	**-6.7**
PNCL				A		A	15 56 17.4	
	comp=E,158nm,0.8s							
SFS	**San Fernando**	**5.24**	**54**	P		**Pn**	**15 55 18.8**	**+0.9**
SFS				S		**Sn**	**15 56 14.7**	**-3.7**
SFS	**San Fernando**	**5.24**	**54**	P		**Pn**	**15 55 18.5**	**+0.6**
SFS	**San Fernando**	**5.24**	**54**	Pn		**Pn**	**15 55 18.5**	**+0.6**
CFUE	**Fuerteventura**	**5.29**	**204**	P		**Pn**	**15 55 17.0**	**-1.7**
CFUE					*i*Vmb_V		15 55 19.9	
	comp=E,1µm,SNR=6.0							
CFUE				S		**Sn**	**15 56 13.5**	**-6.2**
IFR	**Ifrane**	**5.31**	**88**	P		**Pn**	**15 55 19.2**	**+0.1**
IFR				S		Sn	15 56 13.6	-7.0
CHEFC	**Chefchaouen**	**5.33**	**71**	P		**Pn**	**15 55 19.8**	**+0.5**
PBEJ	**Beja**	**5.38**	**32**	*e*P		**Pn**	**15 55 19.4**	**-0.4**
PBEJ				*e*S		Sn	15 56 14.6	-7.2
PBEJ				A		A	15 56 18.5	
	comp=E,92nm,0.2s							
SMIR	**Smir Dam**	**5.48**	**65**	P		**Pn**	**15 55 21.6**	**+0.3**
LIS	**Lisbon**	**5.52**	**19**	*e*S		Sn	15 56 17.6	-7.7
LIS				IAML			15 56 26.2	
	comp=N,1µm,0.2s							
LIS	**Lisbon**	**5.52**	**19**	*e*P		**Pn**	**15 55 23.6**	**+1.8**
LIS				*e*S		**Sn**	**15 56 19.3**	**-6.1**
LIS				A		A	15 56 23.4	
	comp=N,701nm,0.3s							
PMST	**Lisbon--Monsan**	**5.53**	**19**	*e*P		**Pn**	**15 55 23.0**	**+1.0**
PMST				*e*S		**Sn**	**15 56 18.8**	**-6.8**
PMST				A		A	15 56 32.6	
	comp=N,416nm,0.6s							
LCRM	**LCR**	**5.54**	**86**	P		**Pn**	**15 55 22.0**	**-0.2**
ECEU	**Ceuta**	**5.57**	**63**	P		**Pn**	**15 55 22.8**	**+0.4**
ECEU					*i*Vmb_V		15 55 24.2	
	comp=N,2µm,SNR=14							
ECEU				S		Sn	15 56 19.1	-7.4
CEU	**Ceuta**	**5.57**	**63**	P		**Pn**	**15 55 23.3**	**+0.8**
CEU				S		**Sn**	**15 56 20.6**	**-5.9**
MD31	**MD31**	**5.68**	**95**	P		**Pn**	**15 55 24.6**	**+0.5**
ESPR	**Espera**	**5.70**	**52**	P		**Pn**	**15 55 23.4**	**-0.8**
ESPR				S		Sn	15 56 21.3	-8.3
TZRR	**Tazzarine**	**5.71**	**117**	P		**Pn**	**15 55 25.2**	**+0.7**
PMAFR	**Mafra**	**5.71**	**18**	*e*P		**Pn**	**15 55 23.1**	**-1.4**
PMAFR				*e*S		**Sn**	**15 56 23.4**	**-6.7**
PMAFR				A		A	15 56 30.5	
	comp=N,677nm,0.3s							
EVO	**Evora**	**5.74**	**28**	P		**Pn**	**15 55 23.8**	**-1.0**
EVO				S		Sn	15 56 23.3	-7.5
EJIF	**Jimena Fronter**	**5.74**	**58**	P		**Pn**	**15 55 22.8**	**-2.1**
EJIF				S		Sn	15 56 23.5	-7.3
CGIN	**Giniginamar, F**	**5.75**	**204**	P		**Pn**	**15 55 23.4**	**-1.5**
CGIN					*i*Vmb_V		15 55 26.4	
	comp=N,726nm,SNR=2.0							
CGIN				S		**Sn**	**15 56 25.3**	**-5.6**
EMIN	**Mina Concepcio**	**5.78**	**41**	P		**Pn**	**15 55 24.5**	**-0.8**
EMIN					*i*Vmb_V		15 55 26.7	
	comp=N,802nm,SNR=21							
EMIN				S		Sn	15 56 23.5	-8.2
GOLM	**Goulmima**	**5.80**	**106**	P		**Pn**	**15 55 26.8**	**+1.0**
MDT	**Midelt**	**5.81**	**95**	Pn		**Pn**	**15 55 26.7**	**+0.8**
	comp=N,46nm,0.3s,baz=272,slow=23,SNR=622							
MDT				Sn		**Sn**	**15 56 26.2**	**-6.6**
	comp=N,286nm,0.3s,baz=138,slow=23,SNR=28							
MDT				LR		LR	15 57 49.1	
	comp=N,464nm,19.5s,baz=295,slow=40							
PBAR	**Barrancos**	**5.89**	**37**	*e*P		**Pn**	**15 55 26.5**	**-0.3**
PBAR				*e*S		**Sn**	**15 56 28.5**	**-5.9**
ZGR	**Zagora**	**6.03**	**123**	P		**Pn**	**15 55 29.1**	**+0.1**
PMTG	**Montargil**	**6.13**	**24**	*e*P		**Pn**	**15 55 29.5**	**-0.7**
PMTG				*e*S		Sn	15 56 32.7	-7.8
PMTG				A		A	15 56 37.0	
	comp=N,259nm,0.3s							
PVLZ	**Peæn de**	**6.17**	**72**	P		**Pn**	**15 55 31.1**	**+0.3**
PVLZ				S		Sn	15 56 30.9	-10
PESTR	**Estremoz**	**6.20**	**29**	*e*P		**Pn**	**15 55 30.3**	**-0.9**
PESTR				*e*S		Sn	15 56 34.2	-7.9
PESTR				A		A	15 56 40.2	
	comp=N,92nm,0.5s							
PESTR	**Estremoz**	**6.20**	**29**	Pn		**Pn**	**15 55 30.1**	**-1.1**
PESTR	**Estremoz**	**6.20**	**29**	P		**Pn**	**15 55 32.4**	**+1.2**
PESTR	**Estremoz**	**6.20**	**29**	P		**Pn**	**15 55 30.2**	**-1.0**
EMIJ	**Mijas**	**6.29**	**59**	P		**Pn**	**15 55 31.5**	**-0.9**
EMIJ					*i*Vmb_V		15 55 34.9	
	comp=N,2µm,SNR=20							
EMIJ				S		Sn	15 56 36.5	-7.9
PSBE	**So Bento**	**6.37**	**19**	*e*P		**Pn**	**15 55 32.4**	**-1.0**
PSBE				*e*S		**Sn**	**15 56 39.5**	**-6.7**
PSBE				A		A	15 56 43.1	
	comp=N,221nm,0.4s							
AKLM	**AKL**	**6.41**	**79**	P		**Pn**	**15 55 34.2**	**+0.1**
PALE	**Palemas**	**6.47**	**73**	P		**Pn**	**15 55 34.3**	**-0.6**
ECAB	**El Cabril**	**6.71**	**46**	P		**Pn**	**15 55 36.9**	**-1.3**
ECAB					*i*Vmb_V		15 55 39.4	
	comp=N,1µm,SNR=26							
ECAB				S		Sn	15 56 45.5	-9.1
PMRV	**Marv??o**	**6.76**	**28**	*e*P		**Pn**	**15 55 38.1**	**-0.7**
PMRV				*e*S		Sn	15 56 47.7	-8.2
PMRV				A		A	15 56 50.5	
	comp=N,136nm,0.4s							
MACI	**Morro de la Ar**	**6.79**	**221**	Pn		**Pn**	**15 55 38.1**	**-1.4**
MACI	**Morro de la Ar**	**6.79**	**221**	P		**Pn**	**15 55 37.9**	**-1.7**
MACI					*i*Vmb_V		15 55 43.6	
	comp=N,442nm,SNR=0.7							
MACI				S		Sn	15 56 47.8	-9.2
CRAJ	**Montana Rajada**	**6.83**	**221**	P		**Pn**	15 55 37.3	-2.9
CRAJ				S		Sn	15 56 49.5	-8.6
PCAS	**Casmilo, Conde**	**6.95**	**19**	*e*P		**Pn**	**15 55 40.4**	**-1.0**
PCAS				*e*S		Sn	15 56 53.2	-7.4
PCAS				A		A	15 56 55.7	
	comp=N,125nm,0.4s							
EGOR	**Sierra Gorda,**	**7.02**	**57**	P		**Pn**	**15 55 42.2**	**-0.3**
EGOR					*i*Vmb_V		15 55 43.7	
	comp=N,1µm,SNR=16							
EGOR				S		Sn	15 56 55.4	-7.0
PCBR	**Castelo Branco**	**7.08**	**26**	*e*P		**Pn**	**15 55 42.5**	**-0.8**
PCBR				*e*S		Sn	15 56 55.0	-8.9
PCBR				A		A	15 57 01.4	
	comp=N,104nm,0.5s							
COI	**Coimbra**	**7.12**	**19**	*e*P		**Pn**	**15 55 44.4**	**+0.7**
COI				*e*S		Sn	15 56 57.3	-7.4
COI				A		A	15 56 59.4	
	comp=N,228nm,0.3s							
COI	**Coimbra**	**7.12**	**19**	P		**Pn**	**15 55 42.3**	**-1.4**
COI	**Coimbra**	**7.12**	**19**	Pn		**Pn**	**15 55 42.3**	**-1.4**
GOG	**Mont Gurugu**	**7.22**	**74**	P		**Pn**	**15 55 44.0**	**-1.3**
GOG	**Mont Gurugu**	**7.22**	**74**	P		**Pn**	**15 55 43.8**	**-1.6**
ELGU	**Los Guajares,**	**7.25**	**60**	P		**Pn**	**15 55 45.3**	**-0.3**
ELGU					*i*Vmb_V		15 55 49.6	
	comp=N,2µm,SNR=20							
ELGU				S		Sn	15 56 58.6	-10
EGOM	**La Gomera**	**7.26**	**224**	P		**Pn**	15 55 42.3	-3.4
EGOM					*i*Vmb_V		15 55 46.4	
	comp=N,436nm,SNR=1.4							
EGOM				S		Sn	15 57 00.2	-8.0
EMEL	**Melilla**	**7.27**	**73**	P		**Pn**	**15 55 44.3**	**-1.6**
EMEL				S		Sn	15 56 60.0	-8.5
EADA	**Adamuz**	**7.28**	**48**	P		**Pn**	**15 55 45.3**	**-0.7**
EADA					*i*Vmb_V		15 55 48.9	
	comp=N,2µm,SNR=52							
EADA				S		Sn	15 56 59.6	-9.2
EHIG	**Higuera**	**7.34**	**229**	P		**Pn**	**15 55 45.7**	**-1.1**
EHIG					*i*Vmb_V		15 55 53.3	
	comp=N,2µm,SNR=1.9							
EHIG				S		Sn	15 57 01.6	-8.7
EALB	**Alboran**	**7.37**	**68**	P		**Pn**	**15 55 45.9**	**-1.3**
EALB					*i*Vmb_V		15 55 46.4	
	comp=N,1µm,SNR=5.5							
EALB				S		Sn	15 57 01.3	-10
JBK	**JBK**	**7.46**	**81**	S		Sn	15 57 06.0	-7.5
JBK	**JBK**	**7.46**	**81**	P		**Pn**	**15 55 47.5**	**-1.1**
EQUE	**Quentar**	**7.53**	**58**	P		**Pn**	**15 55 49.1**	**-0.5**
EQUE					*i*Vmb_V		15 55 52.3	
	comp=N,2µm,SNR=24							
EQUE				S		Sn	15 57 07.0	-8.1
MTE	**Manteigas**	**7.56**	**24**	*e*P		**Pn**	**15 55 48.7**	**-1.2**
MTE				*e*S		Sn	15 57 07.1	-8.5
MTE				A		A	15 57 13.7	
	comp=N,103nm,0.4s							
MTE	**Manteigas**	**7.56**	**24**			**Pn**	**15 55 48.4**	**-1.5**
TAF	**Taforalt**	**7.63**	**78**	P		**Pn**	**15 55 50.0**	**-0.9**
PVIS	**Viseu**	**7.74**	**21**	*e*P		**Pn**	**15 55 50.7**	**-1.6**
PVIS				*e*S		Sn	15 57 10.9	-9.1
PVIS				A		A	15 57 31.6	
	comp=N,66nm,0.4s							
EBER	**Berja**	**7.80**	**62**	P		**Pn**	**15 55 51.5**	**-1.8**
EBER					*i*Vmb_V		15 55 54.9	
	comp=N,943nm,SNR=12							
EBER				S		Sn	15 57 12.0	-10
EPLA	**Plasencia**	**7.84**	**32**	P		**Pn**	**15 55 52.6**	**-1.1**
EPLA					*i*Vmb_V		15 55 55.1	
	comp=N,186nm,SNR=3.9							
EPLA				S		Sn	15 57 13.7	-8.9
TDRA	**Tendrara**	**7.94**	**91**	P		**Pn**	**15 55 55.7**	**+0.5**
PTO	**Porto**	**7.95**	**16**	*e*P		**Pn**	**15 55 54.5**	**-0.6**
PTO				*e*S		Sn	15 57 16.1	-8.9
PTO				A		A	15 57 21.9	
	comp=N,201nm,0.6s							
CHIE	**El Hierro**	**8.02**	**226**	P		**Pn**	**15 55 54.1**	**-2.1**
CHIE				S		Sn	15 57 18.7	-8.3
CMCL	**Mercadel, El H**	**8.07**	**226**	P		**Pn**	**15 55 54.9**	**-2.1**
CMCL					*i*Vmb_V		15 55 57.3	
	comp=N,621nm,SNR=2.9							
CMCL				S		Sn	15 57 20.4	-7.9
PVRL	**Vila Real**	**8.30**	**20**	*e*P		**Pn**	**15 55 59.3**	**-0.8**
PVRL				*e*S		Sn	15 57 25.4	-8.5
PVRL				A		A	15 57 30.9	
	comp=N,126nm,0.6s							
PAB	**San Pablo**	**8.32**	**42**	P		**Pn**	**15 55 58.9**	**-1.4**
PAB	**San Pablo**	**8.32**	**42**	Pn		**Pn**	**15 55 58.9**	**-1.4**
PAB	**San Pablo**	**8.32**	**42**	P		**Pn**	**15 55 58.3**	**-2.0**
PAB					*i*Vmb_V		15 56 01.0	
	comp=N,437nm,SNR=13							
PAB				S		Sn	15 57 24.0	-10
ENIJ	**Nijar**	**8.34**	**63**	P		**Pn**	**15 55 58.8**	**-1.7**
ENIJ					*i*Vmb_V		15 56 03.2	
	comp=N,761nm,SNR=10							
ENIJ				S		Sn	15 57 24.4	-10
POLO	**Lamas de Olo**	**8.37**	**19**	*e*P		**Pn**	**15 56 00.5**	**-0.6**
POLO				*e*S		Sn	15 57 24.9	-11
POLO				A		A	15 57 30.6	
	comp=N,34nm,0.4s							
MVO	**Moncorvo**	**8.42**	**24**	*e*P		**Pn**	**15 56 00.2**	**-1.4**
MVO				*e*S		Sn	15 57 29.3	-7.5
MVO				A		A	15 57 46.0	
	comp=N,111nm,0.5s							
ESDC	**Sonseca Array**	**8.62**	**42**	Pn		**Pn**	**15 56 03.2**	**-1.3**
	comp=N,2.2nm,0.3s,baz=233,slow=13,SNR=98							
ESDC				Sn		Sn	15 57 33.0	-8.7
	comp=N,5.6nm,0.3s,baz=235,slow=25,SNR=15							
ESDC				LR		LR	15 59 28.5	
	comp=N,46nm,21.5s,baz=218,slow=39							
ESDC	**Sonseca Array**	**8.62**	**42**	Pn		**Pn**	**15 56 02.6**	**-1.8**
ESDC	**Sonseca Array**	**8.62**	**42**	P		**Pn**	**15 56 02.8**	**-1.7**
ESDC					*i*Vmb_V		15 56 04.5	
	comp=N,424nm,SNR=8.6							
ESDC				S		Sn	15 57 31.7	-10
ESBB	**Sonseca Array**	**8.62**	**42**			**Pn**	**15 56 03.0**	**-1.5**
PCAB	**Cabril**	**8.63**	**18**	*e*P		**Pn**	**15 56 04.0**	**-0.5**
PCAB				*e*S		Sn	15 57 31.7	-10
PCAB				A		A	15 57 47.2	
	comp=N,73nm,0.6s							
FIGM	**Figuig**	**8.72**	**96**	P		**Pn**	**15 56 06.5**	**+0.7**
ELOB	**Lobios**	**8.77**	**17**	P		**Pn**	**15 56 04.5**	**-2.0**
ELOB					*i*Vmb_V		15 56 07.6	
	comp=N,401nm,SNR=4.6							
ELOB				S		Sn	15 57 35.1	-10
PGAV	**Gavieira, Arco**	**8.81**	**16**	*e*P		**Pn**	**15 56 05.9**	**-1.1**
PGAV				*e*S		Sn	15 57 35.5	-11
PGAV				A		A	15 57 44.7	
	comp=N,65nm,0.5s							
EZAM	**Zamans**	**8.89**	**14**	P		**Pn**	**15 56 05.6**	**-2.6**
EZAM					*i*Vmb_V		15 56 08.5	
	comp=N,714nm,SNR=5.9							
EZAM				S		Sn	15 57 37.7	-11
EZAR	**Zarzadilla de**	**9.07**	**59**	P		**Pn**	**15 56 09.5**	**-1.2**
EZAR				S		Sn	15 57 43.2	-10
PBRG	**Braganca**	**9.09**	**23**	*e*P		**Pn**	**15 56 09.5**	**-1.3**
PBRG				*e*S		Sn	15 57 44.2	-9.0
PBRG				A		A	15 57 50.6	
	comp=N,48nm,0.6s							
GUD	**Guadarrama**	**9.21**	**37**	P		**Pn**	**15 56 10.1**	**-2.5**
GUD					*i*Vmb_V		15 56 14.7	
	comp=N,253nm,SNR=6.5							
GUD				S		Sn	15 57 45.2	-11
EMUR	**La Murta**	**9.39**	**60**	P		**Pn**	**15 56 13.5**	**-1.4**
EMUR					*i*Vmb_V		15 56 15.5	
	comp=N,644nm,SNR=7.6							
EMUR				S		Sn	15 57 51.4	-9.1
UCM	**Universidad Co**	**9.46**	**42**	P		**Pn**	**15 56 16.1**	**+0.2**
UCM				S		Sn	15 57 52.8	-10
CART	**Cartagena**	**9.46**	**62**	P		**Pn**	**15 56 15.3**	**-0.6**
CART				S		Sn	15 57 51.5	-11
CART	**Cartagena**	**9.46**	**62**	P		**Pn**	**15 56 14.3**	**-1.6**
CART	**Cartagena**	**9.46**	**62**	P		**Pn**	**15 56 14.9**	**-0.9**
ETOB	**Tobarra**	**9.53**	**55**	P		**Pn**	**15 56 15.1**	**-1.8**
ETOB					*i*Vmb_V		15 56 17.0	
	comp=N,2µm,SNR=19							
ETOB				S		Sn	15 57 53.6	-11
EMAZ	**Mazaricos**	**9.62**	**11**	P		**Pn**	**15 56 16.3**	**-1.8**
EMAZ					*i*Vmb_V		15 56 18.4	
	comp=N,1µm,SNR=7.5							
EMAZ				S		Sn	15 57 53.4	-13
EVIV	**Cofrentes, Val**	**10.13**	**53**	P		**Pn**	**15 56 23.7**	**-1.5**
EVIV				S		Sn	15 58 08.5	-10
AFON	**Font Roja**	**10.24**	**57**	P		**Pn**	**15 56 24.7**	**-1.9**
AFON					*i*Vmb_V		15 56 26.5	
	comp=N,2µm,SNR=10							
AFON				S		Sn	15 58 09.8	-12
ECHE	**Chera**	**10.40**	**51**	P		**Pn**	**15 56 27.0**	**-1.9**
ECHE					*i*Vmb_V		15 56 30.5	
	comp=N,422nm,SNR=3.2							
ECHE				S		Sn	15 58 15.3	-10
ETOR	**Torete**	**10.47**	**43**	P		**Pn**	**15 56 29.2**	**-0.6**
ETOR					*i*Vmb_V		15 56 31.4	
	comp=N,402nm,SNR=3.7							
ETOR				S		Sn	15 58 16.7	-11
EBEN2	**Beniarda presa**	**10.49**	**57**	P		**Pn**	**15 56 28.7**	**-1.2**
EBEN2					*i*Vmb_V		15 56 29.8	
	comp=N,626nm,SNR=2.4							
EBEN2				S		Sn	15 58 15.4	-12
EARI	**Arriondas**	**10.94**	**25**	P		**Pn**	**15 56 34.8**	**-1.3**
EARI					*i*Vmb_V		15 56 39.8	
	comp=N,137nm,SNR=0.8							
EARI				S		Sn	15 58 28.0	-11
EMOS	**Mosqueruela**	**11.15**	**49**	P		**Pn**	**15 56 38.3**	**-0.8**
EMOS					*i*Vmb_V		15 56 41.9	
	comp=N,187nm,SNR=0.9							
EMOS				S		Sn	15 58 31.9	-12
ELAN	**Lanestosa**	**11.57**	**31**	P		**Pn**	**15 56 43.5**	**-1.3**
ELAN					*i*Vmb_V		15 56 46.9	
	comp=N,210nm,SNR=1.2							
ELAN				S		Sn	15 58 42.6	-11
PSMN	**Pico do Norte,**	**11.63**	**291**	*e*P		**Pn**	**15 56 44.2**	**-1.4**
PSMN				*e*S		Sn	15 58 41.4	-14
ECOL	**Islas Columbre**	**11.66**	**53**	P		**Pn**	**15 56 43.7**	**-2.3**
ECOL				S		Sn	15 58 43.5	-13
PSMA	**Santa Maria**	**11.68**	**291**	*e*P		**Pn**	**15 56 44.2**	**-2.0**
PSMA				*e*S		Sn	15 58 42.7	-14
EIBI	**Ibiza**	**11.72**	**58**	P		**Pn**	**15 56 45.0**	**-1.9**
EIBI					*i*Vmb_V		15 56 47.1	
	comp=N,229nm,SNR=0.9							
EIBI				S		Sn	15 58 43.7	-14
BART	**Pico Bartolome**	**11.91**	**295**	*e*P		**Pn**	**15 56 50.5**	**+1.0**
ESAC	**San Caprasio**	**11.97**	**44**	P		**Pn**	**15 56 48.7**	**-1.5**
ESAC					*i*Vmb_V		15 56 51.1	
	comp

SMRF eSn Sn 16 00 48.1 -16
comp=N,2.0nm,0.3s
BGF Bois d'Agland 17.00 36 ePn **Pn 15 57 53.7 -3.6**
BGF eSn Sn 16 00 52.1 -14
comp=N,5.9nm,0.4s
LMR La Mourre 17.14 50 eP **Pn 15 57 58.0 -1.2**
CCA1 Carnmenellis 17.29 14 P **Pn 15 57 59.9 -1.0**
CCA1 S Sn 16 00 56.8 -16
KEST Kesra 17.29 77 P **Pn 15 58 03.1 +1.9**
comp=N,0.3nm,0.3s,baz=360,slow=1.4,SNR=6.1
KEST Kesra 17.29 77 P **Pn 15 58 02.1 +0.9**
LDF La Druitiere 17.30 26 eP **Pn 15 58 00.2 -0.9**
LDF eSn Sn 16 00 59.1 -14
comp=N,1.2nm,0.4s
FLN La Foliniere 17.31 25 eP **Pn 15 58 00.8 -0.4**
baz=205
FLN eSn Sn 16 00 58.9 -15
comp=N,0.8nm,0.3s
AVF Avril sur Loir 17.41 36 eP **Pn 15 58 02.0 -0.5**
AVF eSn Sn 16 01 01.7 -14
comp=N,1.6nm,0.4s
HYF Humbligny 17.41 34 ePn **Pn 15 58 01.4 -1.1**
HYF eSn Sn 16 01 02.1 -14
SMF Signal de Mont 17.55 37 eP **Pn 15 58 03.3 -1.0**
ORIF Oris-en-Rattie 17.59 45 ePn **Pn 15 58 01.7 -3.1**
SSF Saint Saulge 17.67 36 eP **Pn 15 58 05.5 -0.3**
SSF eSn Sn 16 01 00.7 -22
comp=N,4.6nm,0.7s
SSF Saint Saulge 17.67 36 eP **P 15 58 09.2 +2.5**
VSL Villasalto 17.79 64 Pn **Pn 15 58 06.2 -1.1**
VSL IAmb IAmb 15 58 32.4
comp=Z,57nm,1.4s
DYA Yadsworthy 17.80 16 P **Pn 15 58 06.7 -0.6**
DYA S Sn 16 01 10.1 -15
CLF Chambon-Foret 17.80 31 P **Pn 15 58 09.0 +1.7**
CLF IAmb IAmb 15 58 31.6
comp=Z,47nm,1.5s
SBF Sospel 17.99 49 ePn **Pn 15 58 06.6 -3.1**
LOR Lormes 17.99 36 eP **Pn 15 58 08.8 -0.9**
baz=235
LOR eSn Sn 16 01 14.5 -16
comp=Z,1.1nm,0.4s
MBDF Montbardon 18.01 46 eP **Pn 15 58 10.3 +0.2**
LPL La Plagne 18.42 44 ePn **P 15 58 14.6 -0.6**
LPG La Plagne 18.42 44 ePn **P 15 58 10.2 -5.1**
PGF Pioggiola 18.45 55 ePn **P 15 58 14.2 -1.2**
IWEX Carrickbyrne, 19.15 9 P **P 15 58 21.3 -1.6**
IWEX S Sn 16 01 42.2 -16
MSSA Maissana 19.53 50 P **P 15 58 25.4 -1.8**
MSSA IAmb IAmb 15 58 27.3
comp=Z,69nm,1.3s
HAU Haudompre 19.73 38 ePn **P 15 58 29.9 +0.6**
PAGF Fort de Pagny 19.79 36 ePn **P 15 58 28.2 -1.7**
HINF Hinteralfeld 19.87 39 ePn **P 15 58 31.5 +0.7**
KOWA Kowa 20.11 159 P **P 15 58 34.4 +0.7**
KOWA IAmb IAmb 15 58 47.8
comp=Z,22nm,0.8s
KOWA Kowa 20.11 159 P **P 15 58 34.9 +1.3**
BAIF Baives 20.18 30 eP **P 15 58 35.5 +1.3**
ECH Echery 20.28 38 P **P 15 58 36.2 +0.9**
ECH pmax pmax
comp=Z,13nm,1.0s
ECH Echery 20.28 38 P **P 15 58 36.2 +0.9**
OSSC Osservatorio P 20.34 54 P **P 15 58 36.1 +0.1**
OSSC IAmb IAmb 15 58 37.5
comp=Z,28nm,1.4s
CDF Champ du Feu 20.47 38 ePn **P 15 58 38.3 +0.9**
CDF Champ du Feu 20.47 38 eP **P 15 58 37.8 +0.4**
CDF pmax pmax
comp=Z,11nm,0.8s
TUE Stuetta 20.47 45 **P 15 58 37.5 -0.1**
GIVF Givet 20.48 31 ePn **P 15 58 38.1 +0.7**
SALO Salr 20.76 48 Pn **P 15 58 42.1 +1.6**
SALO IAmb IAmb 15 58 43.0
comp=Z,35nm,0.9s
DAVOX Davos/Dischmat 20.95 44 P **P 15 58 42.7 0.0**
comp=Z,6.7nm,0.6s,baz=220,slow=10,SNR=12
DAVOX LR LR 16 07 02.7
comp=Z,78nm,20.4s,baz=265,slow=38
BFO Black Forest 20.96 39 P **P 15 58 43.4 +0.7**
BFO pmax pmax
comp=Z,9.0nm,1.0s
BFO Black Forest 20.96 39 **P 15 58 43.4 +0.7**
MURB Monte Urbino 21.12 56 P **P 15 58 44.5 0.0**
MURB IAmb IAmb 15 58 56.4
comp=Z,58nm,1.5s
DAVA Damuels 21.22 43 eP **P 15 58 46.4 +0.8**
comp=Z,11nm,0.6s,SNR=7.8
TEOL Teolo 21.36 50 P **P 15 58 47.7 +0.7**
TEOL IAmb IAmb 15 58 50.5
comp=Z,18nm,0.7s
NRCA Norcia 21.40 57 P **P 15 58 47.3 -0.2**
VAE Valguarnera 21.43 72 P **P 15 58 47.5 -0.3**
comp=Z,3.8nm,0.3s,baz=200,slow=4.2,SNR=12
FETA Feichten 21.57 45 eP **P 15 58 50.0 +0.6**
comp=Z,11nm,0.5s
CTI Castel Tesino 21.65 48 P **P 15 58 50.4 +0.2**
CTI pmax pmax
comp=Z,13nm,0.7s
CTI Castel Tesino 21.65 48 P **P 15 58 50.4 +0.2**
CTI IAmb IAmb 15 58 56.6
comp=Z,13nm,0.7s
RETA Reutte 21.83 44 eP **P 15 58 52.4 +0.4**
comp=Z,5.0nm,0.4s,SNR=8.8
SQTA Sankt Quirin 21.95 45 eP **P 15 58 53.0 -0.4**
comp=Z,6.8nm,0.5s,SNR=6.7
MOTA Moosalm 21.95 44 eP **P 15 58 52.9 -0.6**
comp=Z,16nm,1.0s,SNR=13
WATA Walderalm 22.23 45 *i* P **P 15 58 55.2 -1.2**
comp=Z,2.9nm,0.6s
WTTA Wattenberg 22.23 45 eP **P 15 58 55.3 -1.1**
comp=Z,6.2nm,0.6s,SNR=11
STAL STALIGIAL 22.41 48 P **P 15 58 57.5 -0.7**
STAL IAmb IAmb 15 59 07.0
comp=Z,16nm,1.1s
ABTA Abfaltersbach 22.50 47 eP **P 15 58 59.1 -0.2**
comp=Z,3.2nm,0.6s
EKA Eskdalemuir Ar 22.58 12 P **P 15 59 01.4 +1.5**
comp=Z,1.0nm,0.5s,baz=186,slow=8.7,SNR=6.9
GRFO Grafenberg 23.30 39 P **P 15 59 08.5 +1.0**
GRFO pmax pmax
comp=Z,10.0nm,0.8s
GRFO Grafenberg 23.30 39 P **P 15 59 08.4 +1.0**
GRFO IAmb IAmb 15 59 09.2
comp=Z,10nm,0.8s
GRA1 Grafenberg Arr 23.30 39 P **P 15 59 08.4 +0.9**
GRA1 IAmb IAmb 15 59 09.2
comp=Z,11nm,0.8s
GRF Grafenberg Arr 23.30 39 P **P 15 59 08.4 +0.9**
GRF pmax pmax
comp=Z,11nm,0.8s
TOA0 Torodi Ar. Sit 23.57 146 P **P 15 59 10.8 +0.4**
TORD Torodi Ar. Bea 23.57 146 P **P 15 59 10.9 +0.6**
comp=Z,8.0nm,0.8s,baz=322,slow=11,SNR=45
TORD S **S 16 03 23.6 -1.1**
comp=Z,3.0nm,0.8s,baz=327,slow=19,SNR=3.5
TORD LR LR 16 08 37.5
comp=Z,168nm,20.7s,baz=223,slow=37
TORD Torodi Ar. Bea 23.57 146 P **P 15 59 10.8 +0.4**
TORD IAmb IAmb 15 59 26.3
comp=Z,26nm,1.0s
BIOA Bad Ischl, Aus 23.62 46 eP **P 15 59 09.2 -1.5**
comp=Z,4.2nm,0.6s
MOA Molln 24.07 46 eP **P 15 59 12.6 -2.4**
comp=Z,6.2nm,0.6s,SNR=10
GEC2 GERESS Array S 24.22 43 P **P 15 59 16.0 -0.4**
GEC2 IAmb IAmb 15 59 17.6
comp=Z,20nm,1.5s
GERES GERESS Array B 24.22 43 P **P 15 59 15.8 -0.6**
comp=Z,1.9nm,0.5s,baz=236,slow=7.2,SNR=19
GERES GERESS Array B 24.22 43 P **P 15 59 15.7 -0.8**
KHC Kasperske Hory 24.29 43 *i* P **P 15 59 16.1 -0.9**
KHC pmax pmax
comp=Z,18nm,1.0s
KHC Kasperske Hory 24.29 43 P **P 15 59 16.3 -0.8**
KHC Kasperske Hory 24.29 43 eP **P 15 59 14.8 -2.2**
KHC epP **sP 15 59 23.0 +3.5**
CKRC Cesky Krumlov 24.55 44 eP **P 15 59 18.6 -0.8**
CONA Conrad Observa 25.07 47 eP **P 15 59 23.0 -1.2**
comp=Z,2.8nm,0.5s
CLL Collm 25.17 38 eP **P 15 59 24.0 -0.9**
KRUC Moravsky 25.88 45 eP **P 15 59 30.8 -0.6**
VRAC Vranov 26.11 44 P **P 15 59 32.7 -0.8**
comp=Z,6.2nm,0.8s,baz=243,slow=8.0,SNR=8.9
VRAC Vranov 26.11 44 eP **P 15 59 32.2 -1.3**

MODS Modra-Piesok 26.12 47 eP **P 15 59 33.1 -0.5**
MODS Modra-Piesok 26.12 47 eP **P 15 59 33.1 -0.5**
CHVC Chvalec 26.41 42 eP **P 15 59 37.2 +1.0**
DPC Dobruska-Polom 26.44 42 eP **P 15 59 36.2 -0.3**
DPC Dobruska-Polom 26.44 42 eP **P 15 59 36.2 -0.3**
OSTC Ostas 26.48 42 eP **P 15 59 37.7 +0.8**
KRLC Kraliky 26.57 43 eP **P 15 59 37.7 0.0**
KRLC Kraliky 26.57 43 eP **P 15 59 37.7 0.0**
MORC Moravsky Berou 26.87 44 P **P 15 59 39.7 -0.7**
MORC pmax pmax
comp=Z,4.0nm,0.7s
MORC Moravsky Berou 26.87 44 P **P 15 59 39.7 -0.7**
MORC Moravsky Berou 26.87 44 eP **P 15 59 39.5 -0.9**
TIC Toumodi 27.40 166 ePKP2 P 16 00 03.2 +18
KIC Kosan Boka 27.74 165 ePKP2 P 16 00 02.8 +14
comp=Z,20nm,0.9s
LIC Lamto 27.81 166 ePKP2 P 16 00 03.9 +15
comp=Z,31nm,1.0s
CRVS Cervenica-Dubn 28.89 48 eP P 15 59 51.4 -7.0
CRVS Cervenica-Dubn 28.89 48 eP P 15 59 51.4 -7.0
KONO Kongsberg 29.62 22 *i* P **P 16 00 04.6 -0.2**
KONO pmax pmax
comp=Z,7.0nm,1.1s
IDI Anoyia 29.96 76 P **P 16 00 09.3 +1.2**
APE Apeiranthos 30.30 73 *i* P **P 16 00 11.4 +0.3**
APE pmax pmax
comp=Z,20nm,1.1s
NOA NORSAR Array B 31.22 21 P **P 16 00 18.7 -0.2**
comp=Z,0.6nm,0.8s,baz=218,slow=9.5,SNR=3.4
NB201 NORSAR Array S 31.25 21 P **P 16 00 19.9 +0.8**
NB201 IAmb IAmb 16 00 40.6
comp=Z,15nm,1.2s
KARP Karpathos 31.77 75 P **P 16 00 24.0 0.0**
BORG Borgarnes 31.84 352 LR LR 16 10 55.4
comp=Z,28nm,20.1s,baz=153,slow=32
PABE Paberze 32.95 37 P **P 16 00 34.5 +0.4**
AKAS Kas 33.65 74 P **P 16 00 40.6 0.0**
NACGM Naroch 34.16 40 eP **P 16 00 44.6 0.0**
AKASG Malin Array Be 34.22 48 P **P 16 00 43.4 -1.9**
comp=Z,0.6nm,0.5s,baz=248,slow=8.4,SNR=2.3
AKASG Malin Array Be 34.22 48 IAmb IAmb 16 00 51.4
comp=Z,1.7nm,1.3s
BR131 Keskin Array S 36.45 67 P **P 16 01 04.5 -0.2**
BR131 pmax pmax
comp=Z,3.0nm,1.0s
BR131 Keskin Array S 36.45 67 P **P 16 01 04.5 -0.2**
BRTR Keskin Array B 36.45 67 P **P 16 01 04.9 +0.2**
comp=Z,1.2nm,0.8s,baz=253,slow=5.0,SNR=7.5
BRTR Keskin Array B 36.45 67 P **P 16 01 04.5 -0.2**
CSS Mathiatis 36.85 75 P **P 16 01 07.9 -0.1**
CSS IAmb IAmb 16 01 11.9
comp=Z,5.7nm,0.7s
FINES FINESS Array B 36.85 29 P **P 16 01 07.8 +0.1**
comp=Z,1.5nm,0.4s,baz=245,slow=7.2,SNR=20
FIA1 FINESS Array S 36.85 29 P **P 16 01 07.7 0.0**
FIA1 IAmb IAmb 16 01 24.0
comp=Z,11nm,1.2s
OBN Obninsk 39.59 42⇑ eP **P 16 01 31.0 +0.2**
OBN *e* 16 03 06.0
OBN pmax pmax
comp=Z,9.0nm,0.4s
OBN MLR MLR
comp=Z,29nm,13.0s
VORR Voronezh 40.57 48 eP **P 16 01 37.1 -2.0**
ARCES ARCESS Array B 41.48 19 P **P 16 01 46.9 +0.5**
comp=Z,0.8nm,0.5s,baz=229,slow=9.4,SNR=19
ARCES ARCESS Array B 41.48 19 P **P 16 01 46.3 0.0**
ARCES pmax pmax
comp=Z,12nm,1.5s
ARCES ARCESS Array B 41.48 19 P **P 16 01 46.3 0.0**
ARCES IAmb IAmb 16 02 00.5
comp=Z,12nm,1.4s
KIV Kislovodsk 42.84 59 eP **P 16 01 58.1 +0.3**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,52nm,16.0s
KBZ Khabaz 43.01 60 P **P 16 01 59.9 +0.8**
comp=Z,3.4nm,0.8s,baz=279,slow=6.5,SNR=7.4
KBZ Khabaz 43.01 60 *ce*P **P 16 01 58.2 -0.9**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
ONI Oni 43.53 61 P **P 16 02 03.6 +0.1**
ONI pmax pmax
comp=Z,5.0nm,0.7s
ONI Oni 43.53 61 P **P 16 02 03.5 +0.1**
SCHQ Schefferville 43.69 316 P **P 16 02 04.6 +0.1**
comp=Z,2.2nm,0.5s,baz=91,slow=4.7,SNR=5.7
SCHQ LR LR 16 16 22.3
comp=Z,116nm,18.0s,baz=102,slow=31
SCHQ Schefferville 43.69 316 P **P 16 02 04.8 +0.3**
SCHQ IAmb IAmb 16 02 17.0
comp=Z,9.2nm,1.2s
ZEI Tsey 43.84 61 eP **P 16 02 06.2 +0.1**
ZEI pmax pmax
comp=Z,6.0nm,0.8s
GNI Garni 44.85 65 *ce*P **P 16 02 14.2 0.0**
GNI pmax pmax
comp=Z,15nm,2.5s
BELG Belogornoye 45.80 47 *i* P **P 16 02 21.9 +0.6**
BELG pmax pmax
comp=Z,2.0nm,0.9s
MAK Makhachkala 46.44 60 eP P 16 02 20.4 -6.1
MAK eS S 16 09 05.9 -8.4
MAK MLR MLR
comp=Z,75nm,12.0s
MDP Montagnes des 47.54 243 LR LR 16 19 02.8
comp=Z,42nm,18.7s,baz=194,slow=32
K57A Scipio Center 50.84 301 P **P 16 02 59.6 -0.8**
K57A IAmb IAmb 16 03 23.0
comp=Z,16nm,1.4s
SJG San Juan 50.99 267 LR LR 16 20 40.7
comp=Z,26nm,21.2s,baz=120,slow=31
L56A Greenwood 51.73 300 P **P 16 03 07.2 +0.1**
L56A IAmb IAmb 16 03 23.4
comp=Z,8.1nm,1.1s
ARU Arti 52.02 41 *d i*P **P 16 03 09.2 +0.2**
ARU 16 05 05.4
ARU S **S 16 10 33.3 +1.0**
ARU SS SS 16 13 59.9 -9.0
ARU pmax pmax
comp=Z,6.0nm,1.0s
SADO Sadowa 52.27 304 LR LR 16 22 12.9
comp=Z,64nm,20.8s,baz=87,slow=32
ABKAR Akbulak array 53.88 50 P **P 16 03 23.1 +0.3**
ABKAR Akbulak array 53.88 50 P **P 16 03 23.2 +0.4**
ABKAR IAmb IAmb 16 03 23.8
comp=Z,1.7nm,0.8s
ATD Arta Tunnel 54.09 101 LR LR 16 28 28.9
comp=Z,75nm,19.0s,baz=44,slow=38
EUNU Eureka 54.62 348 P **P 16 03 28.1 +0.2**
RES Resolute Bay 56.27 341 P **P 16 03 40.1 +0.4**
comp=Z,0.6nm,0.5s,baz=152,slow=6.2,SNR=7.0
RES Resolute Bay 56.27 341 P **P 16 03 40.4 +0.8**
RES pmax pmax
comp=Z,4.0nm,1.4s
RES Resolute Bay 56.27 341 P **P 16 03 40.4 +0.8**
TZTN Tazewell 57.79 295 P **P 16 03 52.6 +1.5**
TKL Tuckaleechee C 58.27 294 LR LR 16 24 03.7
comp=Z,30nm,20.4s,baz=60,slow=31
V51A Loudon 58.65 295 P **P 16 03 57.4 +0.2**
V51A IAmb IAmb 16 04 04.0
comp=Z,7.1nm,1.1s
UOSS Minazif 58.78 79 P **P 16 03 57.6 -0.6**
BRVK Borovoye 59.31 44 P **P 16 04 02.0 +0.6**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 59.31 44 P **P 16 04 02.0 +0.6**
BRVK IAmb IAmb 16 04 02.7
comp=Z,5.5nm,0.7s
TSUM Tsumeb 59.31 148 LR LR 16 30 10.7
comp=Z,62nm,18.7s,baz=338,slow=37
T47A Sharon Grove 60.30 297 P **P 16 04 09.9 +1.4**
WSAR Wadi Sarin 61.51 80 LR LR 16 35 45.0
comp=Z,65nm,18.8s,baz=273,slow=41
LSZ Lusaka 61.53 135 LR LR 16 30 47.7
comp=Z,129nm,20.7s,baz=316,slow=36
ULM Lac du Bonnet 61.72 313 LR LR 16 29 09.0
comp=Z,96nm,18.5s,baz=111,slow=34
LRAL Lakeview Retre 61.72 293 P **P 16 04 19.6 +1.4**
LRAL IAmb IAmb 16 04 29.8
comp=Z,8.6nm,1.5s
PLAL Pickwick Lake 61.78 295 P **P 16 04 19.6 +1.1**
NRIK Noril'sk 62.15 23 *i* P **P 16 04 21.6 +1.2**
NRIK pmax pmax

comp=Z,2.0nm,1.4s
KK31 Karatay Array 62.65 55 P **P 16 04 24.3 0.0**
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KK31 Karatay Array 62.65 55 P **P 16 04 24.3 0.0**
KK31 IAmb IAmb 16 04 24.9
comp=Z,2.0nm,0.7s
KKAR Karatay Array 62.65 55 P **P 16 04 24.1 -0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 62.65 55 P **P 16 04 24.1 -0.3**
KKAR Karatay Array 62.65 55 P **P 16 04 24.3 -0.1**
KKAR IAmb IAmb 16 04 24.9
comp=Z,2.0nm,0.7s
CHGR Chuyangaron 63.37 60 P **P 16 04 29.4 +0.1**
GAR Garm 64.07 59 P **P 16 04 35.0 +1.1**
U40A Yellville 64.81 298 P **P 16 04 38.8 +0.2**
U40A IAmb IAmb 16 04 39.6
comp=Z,3.0nm,0.6s
KURK Kurchatov 64.96 45 *ce*P **P 16 04 39.5 +0.2**
KURK pmax pmax
comp=Z,10.0nm,1.3s
KURK Kurchatov 64.96 45 P **P 16 04 39.4 0.0**
AAK Ala-Archa 65.54 54 *ce*P **P 16 04 44.5 +1.0**
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 65.54 54 P **P 16 04 43.3 -0.1**
AAK IAmb IAmb 16 04 44.4
comp=Z,2.3nm,0.7s
YKA Yellowknife Ar 66.50 330 P **P 16 04 48.7 -0.4**
comp=Z,0.4nm,0.6s,baz=65,slow=7.2,SNR=4.8
ZAA0 Zalesovo Array 67.10 40 P **P 16 04 52.9 -0.1**
ZAA0 IAmb IAmb 16 04 54.4
comp=Z,4.1nm,1.0s
ZALV Zalesovo Beam 67.10 40 P **P 16 04 53.5 +0.4**
comp=Z,2.3nm,0.7s,baz=282,slow=7.4,SNR=13
ZALV Zalesovo Beam 67.10 40 P **P 16 04 53.0 -0.1**
KDJ Kajisay 67.56 54 P **P 16 04 56.9 +0.5**
KDJ pmax pmax
comp=Z,5.0nm,0.6s
KDJ Kajisay 67.56 54 P **P 16 04 56.9 +0.5**
KDJ IAmb IAmb 16 04 58.0
comp=Z,4.8nm,0.6s
KSH Kashi 67.86 57 P **P 16 04 58.8 +0.5**
KSH pmax pmax
comp=Z,9.0nm,0.9s
TARG Taragay, Kyrgy 68.15 54 P **P 16 05 01.0 +0.5**
TARG IAmb IAmb 16 05 03.0
comp=Z,4.8nm,0.7s
NIL Nilore 68.47 63 P **P 16 05 02.1 0.0**
NIL pmax pmax
comp=Z,16nm,0.9s
NIL Nilore 68.47 63 P **P 16 05 02.1 0.0**
MAKZ Makanchi 68.61 47 P **P 16 05 02.4 -0.3**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 68.61 47 P **P 16 05 02.4 -0.3**
MAKZ IAmb IAmb 16 05 03.7
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 68.81 47 P **P 16 05 03.8 -0.2**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 68.81 47 P **P 16 05 03.8 -0.2**
MK31 IAmb IAmb 16 05 04.8
comp=Z,2.8nm,1.0s
MKAR Makanchi Array 68.81 47 P **P 16 05 03.9 -0.1**
comp=Z,3.3nm,0.8s,baz=292,slow=5.7,SNR=23
MKAR Makanchi Array 68.81 47 P **P 16 05 03.6 -0.3**
Z35A Perchaven, San 69.38 297 P **P 16 05 08.3 +0.6**
TIXI Tiksi 71.48 12 *i* P **P 16 05 21.3 +1.4**
TIXI pmax pmax
comp=Z,3.0nm,1.8s
PDAR Pinedale Array 73.41 310 P **P 16 05 32.4 +0.2**
comp=Z,0.6nm,0.5s,baz=73,slow=7.2,SNR=6.7
RDMU Red Mountain 74.54 309 P **P 16 05 39.9 +1.0**
RDMU IAmb IAmb 16 05 55.7
comp=Z,7.3nm,0.8s
DLBC Dease Lake 75.08 331 LR LR 16 35 00.7
comp=Z,48nm,18.3s,baz=295,slow=33
CMIG Matias Romero 75.38 281 LR LR 16 33 49.0
comp=Z,45nm,19.2s,baz=38,slow=32
SRU San Rafael Swe 75.92 308 P **P 16 05 47.6 +0.8**
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 75.92 308 P **P 16 05 47.5 +0.8**
SRU IAmb IAmb 16 06 03.3
comp=Z,3.0nm,0.7s
ILAR Eielson Array 76.02 342 P **P 16 05 47.5 +0.9**
comp=Z,0.3nm,0.6s,baz=35,slow=5.1,SNR=6.4
TX31 Lajitas Ar. Si 76.11 296 P **P 16 05 49.1 +1.2**
TX31 IAmb IAmb 16 06 05.5
comp=Z,6.5nm,0.7s
TX32 Lajitas Array 76.11 296 P **P 16 05 49.0 +1.1**
TXAR Lajitas Array 76.11 296 P **P 16 05 49.8 +1.9**
comp=Z,1.8nm,0.7s,baz=73,slow=5.8,SNR=28
TXAR LR LR 16 38 33.1
comp=Z,17nm,19.0s,baz=28,slow=35
TXAR Lajitas Array 76.11 296 P **P 16 05 49.3 +1.4**
RIDG Independent Ri 76.28 341 P **P 16 05 50.2 +1.9**
RIDG IAmb IAmb 16 06 09.7
comp=Z,6.9nm,1.2s
IMAR Indian Mountai 76.64 345 P **P 16 05 51.4 +1.2**
MSU Marysvale 77.33 308 P **P 16 05 54.9 0.0**
MSU Marysvale 77.33 308 P **P 16 05 54.9 0.0**
RND Reindeer 77.63 342 P **P 16 05 56.6 +0.7**
RND pmax pmax
comp=Z,11nm,1.5s
RND Reindeer 77.63 342 P **P 16 05 56.6 +0.7**
RND IAmb IAmb 16 05 57.4
comp=Z,10nm,1.5s
KTH Kantishna Hill 78.04 343 P **P 16 05 58.5 +0.3**
KTH IAmb IAmb 16 06 15.4
comp=Z,7.6nm,1.2s
ELK Elko 78.08 311 LR LR 16 37 55.5
comp=Z,91nm,18.7s,baz=52,slow=34
PYUN Piuthan 78.47 64 eP **P 16 06 01.2 -0.1**
comp=Z,18nm,0.8s
BILL Bilibino 78.74 1⇑ eP **P 16 06 00.1 -1.7**
BILL *e* 16 06 10.9
BILL *e* 16 08 57.4
BILL eS **PnS 16 16 49.2 +9.0**
BILL pmax pmax
comp=Z,6.0nm,1.9s
BILL MLR MLR
comp=Z,18nm,13.0s
DANN Dangsing 78.92 63 eP **P 16 06 03.8 -0.1**
comp=Z,43nm,0.7s
K20K Telida 78.96 344 P **P 16 06 04.0 +0.8**
GKN Gorkha 79.75 63 eP **P 16 06 08.0 -0.3**
comp=Z,20nm,0.7s
YAK Yakutsk 79.75 17 *ce*P **P 16 06 07.0 -0.4**
YAK pmax pmax
comp=Z,2.0nm,0.6s
TTA Tatalina 79.78 344 P **P 16 06 08.5 +0.8**
TTA pmax pmax
comp=Z,3.0nm,1.3s
TTA Tatalina 79.78 344 P **P 16 06 08.5 +0.8**
DMN Daman 80.31 63 eP **P 16 06 11.7 +0.2**
comp=Z,19nm,0.7s
KKN Kakani 80.35 63 eP **P 16 06 11.5 -0.1**
comp=Z,16nm,0.6s
PKIN Phulchoki 80.55 63 eP **P 16 06 12.5 -0.2**
comp=Z,13nm,0.5s
PKI Pulchoki 80.56 63 eP **P 16 06 12.6 -0.3**
comp=Z,11nm,0.6s
GUN Gumba 80.73 63 eP **P 16 06 13.8 0.0**
KVN Kaiserville 80.86 311 P **P 16 06 14.5 +0.4**
KVN pmax pmax
comp=Z,3.0nm,1.1s
KVN Kaiserville 80.86 311 P **P 16 06 14.5 +0.4**
PNTR Pine Nut 81.78 312 P **P 16 06 20.8 +1.7**
PNTR IAmb IAmb 16 06 41.9
comp=Z,4.3nm,0.9s
SONM Songino Array 81.78 37 P **P 16 06 19.4 +0.6**
comp=Z,1.2nm,1.0s,baz=298,slow=8.2,SNR=4.4
SONM LR LR 16 45 20.3
comp=Z,34nm,19.0s,baz=344,slow=38
YBH Yreka Blue Hor 82.06 315 LR LR 16 39 49.9
comp=Z,33nm,18.4s,baz=42,slow=34
ULN Ulaanbaatar 82.09 37 *ce*P **P 16 06 20.3 -0.1**
ULN pmax pmax
comp=Z,5.0nm,1.7s
GOMU GeErMu 82.33 52 P P 16 06 31.0 +8.8
GOMU pP pwP 16 06 34.4 +4.6
GOMU sP PcP 16 06 38.8 +11

GOMU					pmax	pmax			
	comp=Z,2.0nm,0.6s								
GOMU					pmax	pmax			
	comp=Z,150nm,6.7s								
GTA	**Gaotai**	**83.55**	**47**	*eP*	**P**		**16 06 28.8**	**+0.7**	
GTA				pP	PcP		16 06 33.9	+1.5	
GTA				sP	pwP		16 06 38.8	+3.0	
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
MA2	**Magadan**	**86.09**	**9**	*i* P	**P**		**16 06 42.5**	**+2.1**	
MA2				pmax	pmax				
	comp=Z,8.0nm,1.0s								
WRA	**Warramunga Arr**	**146.78**	**75**	PKPbc	**PKPdf**		**16 13 42.1**	**+1.4**	
	comp=Z,3.3nm,0.5s,baz=324,slow=2.3,SNR=38								
ASAR	**Alice Springs**	**148.19**	**81**	PKPbc	**PKPdf**		**16 13 46.0**	**+3.1**	
	comp=Z,2.2nm,0.6s,baz=311,slow=2.2,SNR=26								

*IDC **24** 16:08:03.0±1.0,55°.34S×1°.57W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/22, mbtmp4.0/5, Error ellipse: s-maj=42.9km s-min=29.1km az=73.0*
*NEIC **24** 16:08:05.1±1.1,55°.4S±0°.1×1°.6W±0°.3, h10km±1km, mb4.3/13, Error ellipse: s-maj=24.9km s-min=17.3km az=74.0*
ISC 24 16:08:05.7±0.6,**55°.30S**±0°.09×**1°.6W**±0°.1,**h16**km,**n25,**
σ0§**83**/24,**mb4.3**/10,**Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.69**	**188**	P	**Pn**	**16 11 47.2**	**+1.5**
VNA2	**Neumayer--Watz**	**15.89**	**187**	P	**Pn**	**16 11 49.0**	**+0.7**
	baz=358,slow=16						
VNA3	**Neumayer Olymp**	**16.39**	**189**	P	**Pn**	**16 11 55.7**	**+1.0**
SNAA	**Sanae**	**16.45**	**181**	P	**Pn**	**16 11 56.6**	**+1.1**
SNAA	**Sanae**	**16.45**	**181**	P	**Pn**	**16 11 56.4**	**+0.9**
TROLL	**Troll, Antarti**	**16.87**	**176**	P	**Pn**	**16 12 02.0**	**+1.1**
BELA	**Belgrano 2**	**25.43**	**196**	P	**P**	**16 13 32.6**	**+0.5**
BELA				IAmb	IAmb	16 13 35.5	
	comp=Z,15nm,1.4s						
MAW	**Mawson**	**31.54**	**139**	P	**P**	**16 14 26.5**	**-0.1**
QSPA	**South Pole Qui**	**34.94**	**180**	P	**P**	**16 14 55.2**	**-1.4**
QSPA				IAmb	IAmb	16 15 04.7	
	comp=Z,3.5nm,0.8s						
LBTB	**Lobatse**	**36.24**	**44**	P	**P**	**16 15 08.2**	**+0.3**
LBTB				IAmb	IAmb	16 15 14.0	
	comp=Z,14nm,1.4s						
VNDA	**Vanda**	**47.04**	**175**	P	**P**	**16 16 35.9**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=200,slow=7.1,SNR=4.2						
VNDA	**Vanda**	**47.04**	**175**	IAmb	IAmb	16 16 49.0	
	comp=Z,1.6nm,0.9s						
MT09	**Talagante**	**51.58**	**264**	P	**P**	**16 17 11.5**	**+0.4**
DBIC	**Dimbokro**	**61.80**	**356**	P	**P**	**16 18 24.2**	**+0.7**
	comp=Z,5.7nm,1.0s,baz=187,slow=8.1,SNR=2.7						
PB16	**IPOC Station P**	**62.58**	**277**	P	**P**	**16 18 28.1**	**-1.5**
PB16				IAmb	IAmb	16 18 33.5	
	comp=Z,2.9nm,1.4s						
LPAZ	**La Paz**	**63.44**	**280**	P	**P**	**16 18 35.1**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=135,slow=4.9,SNR=8.3						
LPAZ	**La Paz**	**63.44**	**280**	P	**P**	**16 18 35.4**	**+0.1**
LPAZ				IAmb	IAmb	16 18 36.3	
	comp=Z,2.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**68.24**	**3**	P	**P**	**16 19 06.0**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=183,slow=9.3,SNR=2.2						
MSWZ	**Moikau Station**	**83.62**	**178**	P	**P**	**16 20 32.6**	**-0.3**
STKA	**Stephens Creek**	**87.61**	**149**	P	**P**	**16 20 52.9**	**-0.1**
STKA				IAmb	IAmb	16 20 55.5	
	comp=Z,1.2nm,1.3s						
URIC	**Uribia, Colomb**	**88.72**	**293**	P	**P**	**16 20 57.9**	**-0.4**
ASAR	**Alice Springs**	**92.66**	**140**	P	**P**	**16 21 16.2**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=210,slow=5.4,SNR=3.5						
YKA	**Yellowknife Ar**	**146.14**	**310**	PKPbc	**PKPdf**	**16 27 42.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=109,slow=3.1,SNR=11						
YKA	**Yellowknife Ar**	**146.14**	**310**		**PKPab**	**16 27 44.2**	**0.0**
KLR	**Kul'dur**	**151.25**	**82**	PKPbc	**PKPbc**	**16 27 56.3**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=204,slow=3.5,SNR=5.1						

*NEIC **24** 16:09:06.5±1.1,12°.0S±0°.1×166°.7E±0°.2, h111km±10km, mb4.3/22, Error ellipse: s-maj=23.4km s-min=18.2km az=83.0*
*IDC **24** 16:09:10.1±3.5,12°.23S×166°.75E, h158km±32km, mb3.5/4, mb1 3.6/6, mb1mx3.3/36, mbtmp3.9/6, Error ellipse: s-maj=34.6km s-min=30.0km az=90.0*
ISC 24 16:09:09.4±0.8,**12°.17S**±0°.08×**166°.6E**±0°.1,**h150**km,**n39,**
σ1§**36**/42,**mb4.2**/15,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.31**	**170**		**Pn**	**16 10 03.0**	**+2.1**
HNR	**Honiara**	**7.08**	**292**	P	**Pn**	**16 10 52.7**	**+2.1**
	4.6nm,0.3s,baz=162,slow=9.0,SNR=4.5						
HNR				S	**Sn**	16 12 08.6	**-1.4**
	4.0nm,0.3s,baz=154,slow=12,SNR=1.8						
HNR	**Honiara**	**7.08**	**292**		**Pn**	**16 10 46.4**	**-4.2**
LIFNC	**LIFOU**	**8.58**	**176**	Pn	**Pn**	**16 11 08.8**	**-1.8**
MARNC	**Mare, Loyalty**	**9.36**	**172**	Pn	**Pn**	**16 11 19.1**	**-1.9**
DZM	**Mont Dzumac**	**9.85**	**181**	P	**Pn**	**16 11 28.0**	**+0.5**
	0.5nm,0.3s,baz=312,slow=23,SNR=2.1						
DZM				S	**Sn**	**16 13 14.2**	**-2.5**
	0.1nm,0.3s,baz=177,slow=22,SNR=1.6						
ONTNC	**Ouen Toro**	**10.08**	**181**	Pn	**Pn**	**16 11 31.8**	**+1.2**
OUENC	**Ouen Island, N**	**10.20**	**179**	Pn	**Pn**	**16 11 33.0**	**+0.9**
PINNC	**Pines Island,**	**10.42**	**176**	Pn	**Pn**	**16 11 36.9**	**+1.9**
EIDS	**Eidsvold**	**19.68**	**226**	P	**P**	**16 13 28.1**	**+1.2**
EIDS				IAmb	IAmb	16 13 45.0	
	comp=Z,21nm,1.2s						
CTAO	**Charters Tower**	**21.05**	**245**	P	**P**	**16 13 44.6**	**+2.7**
AS31	**Alice Springs**	**33.06**	**245**	P	**P**	**16 15 31.5**	**+0.4**
ASAR	**Alice Springs**	**33.06**	**245**	P	**P**	**16 15 31.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=74,slow=10,SNR=5.6						
CAST	**Castle Rocks**	**81.76**	**17**	P	**P**	**16 21 11.0**	**-0.1**
CAST				IAmb	IAmb	16 21 37.5	
	comp=Z,4.7nm,1.3s						
J20K	**Nowinta River**	**81.76**	**16**	P	**P**	**16 21 11.3**	**+0.3**
SCM	**Sheep Creek Mo**	**82.09**	**20**	P	**P**	**16 21 13.6**	**+0.6**
TRF	**Thorofare Moun**	**82.32**	**18**	P	**P**	**16 21 14.3**	**+0.1**
BERG	**Berg Lake**	**82.40**	**22**	P	**P**	**16 21 13.8**	**-0.7**
RND	**Reindeer**	**82.73**	**19**	P	**P**	**16 21 16.6**	**+0.4**
RND				IAmb	IAmb	16 21 42.9	
	comp=Z,5.4nm,1.2s						
N25K	**Chitina, Valde**	**82.88**	**21**	P	**P**	**16 21 17.6**	**+0.5**
N25K				IAmb	IAmb	16 21 18.4	
	comp=Z,6.0nm,1.0s						
DHY	**Denali Highway**	**82.96**	**19**	P	**P**	**16 21 18.0**	**+0.5**
DHY				IAmb	IAmb	16 21 25.5	
	comp=Z,5.8nm,1.3s						
I21K	**Tanana**	**83.13**	**16**	P	**P**	**16 21 18.9**	**+0.8**
I21K				IAmb	IAmb	16 21 32.5	
	comp=Z,4.8nm,1.5s						
IMAR	**Indian Mountai**	**83.28**	**15**	P	**P**	**16 21 20.0**	**+1.1**
CTGM	**Chitina Glacie**	**83.66**	**23**	P	**P**	**16 21 21.5**	**+0.4**
WRH	**Wood River Hil**	**83.73**	**18**	P	**P**	**16 21 21.1**	**-0.1**
WRH				IAmb	IAmb	16 21 21.5	
	comp=Z,2.0nm,0.5s						
I23K	**Minto, Yukon-K**	**83.84**	**17**	P	**P**	**16 21 22.5**	**+0.8**
I23K				IAmb	IAmb	16 21 27.8	
	comp=Z,5.3nm,1.5s						
M26K	**Nabesna, AK**	**83.98**	**21**	P	**P**	**16 21 23.0**	**+0.4**
M26K				IAmb	IAmb	16 21 33.2	
	comp=Z,6.2nm,1.3s						
RIDG	**Independent Ri**	**84.24**	**20**	P	**P**	**16 21 24.1**	**+0.2**
RIDG				IAmb	IAmb	16 21 49.8	
	comp=Z,3.5nm,1.2s						
IL31		**84.31**	**18**	P	**P**	**16 21 24.2**	**+0.1**
IL31				IAmb	IAmb	16 21 36.7	
	comp=Z,7.0nm,1.5s						
ILAR	**Eielson Array**	**84.31**	**18**	P	**P**	**16 21 24.1**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=243,slow=5.1,SNR=26						
J25K	**Salcha River,**	**84.67**	**19**	P	**P**	**16 21 26.4**	**+0.3**
J25K				IAmb	IAmb	16 21 42.2	
	comp=Z,6.7nm,1.5s						
SCRK	**Sand Creek**	**84.68**	**20**	P	**P**	**16 21 26.9**	**+0.7**
L27K	**Beaver Creek,**	**84.82**	**21**	P	**P**	**16 21 27.4**	**+0.6**
BCAR	**Beaver Creek A**	**84.83**	**21**	P	**P**	**16 21 27.6**	**+0.7**
EGAK	**Eagle**	**86.14**	**20**	P	**P**	**16 21 33.1**	**-0.1**
MKAR	**Makanchi Array**	**94.91**	**317**	P	**P**	**16 22 16.2**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=85,slow=5.8,SNR=5.0						
YKA	**Yellowknife Ar**	**95.58**	**27**	P	**P**	**16 22 15.9**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=259,slow=4.5,SNR=5.1						
ARCES	**ARCESS Array B**	**117.62**	**346**	PKP	**PKPdf**	**16 27 35.9**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=22,slow=1.4,SNR=6.5						
ESDC	**Sonseca Array**	**151.36**	**345**	PKPbc	**PKPbc**	**16 28 44.4**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=50,slow=2.0,SNR=1.7						
ESDC				PKPab	**PKPab**	**16 28 55.5**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=1.5,slow=3.9,SNR=4.2						

*IDC **24** 16:31:26.9±2.0,0°.99N×125°.53E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/27, mbtmp3.1/3, Error ellipse: s-maj=176.3km s-min=27.2km az=64.0*
*DJA **24** 16:31:41.9±0.5,0°.5S×12°.4E±°, h93km±10km, M3.7/9, MLv3.7/9*
ISC 24 16:31:41.4±1.0,**0°.25S**±0°.07×**123°.93E**±0°.06,**h100**km,**n12,**
σ1§**55**/14,**mb2.8**/3,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.82**	**4**	P	**Pn**	**16 32 00.3**	**+0.3**
KMSI				S	**Sn**	**16 32 14.8**	**+0.9**
GTOI	**Gorontalo**	**1.27**	**314**	P	**Pn**	**16 32 06.6**	**+1.7**
GTOI				S	**Sn**	**16 32 25.4**	**+2.7**
LUWI	**Luwuk**	**1.40**	**236**	P	**Pn**	**16 32 07.1**	**+0.6**
MRSI	**Marisa**	**2.11**	**290**	P	**Pn**	**16 32 14.2**	**-1.3**
APSI	**Ampana**	**2.37**	**254**	P	**Pn**	**16 32 19.4**	**+0.5**
SANI	**Sanana**	**2.73**	**131**	P	**Pn**	**16 32 23.6**	**0.0**
LBMI	**Labuha**	**3.59**	**96**	P	**Pn**	**16 32 35.9**	**+0.7**
MPSI	**Mapaga**	**4.07**	**278**	P	**Pn**	**16 32 42.1**	**+0.5**
TTSI	**Tana Toraja**	**4.96**	**236**	P	**Pn**	**16 32 54.2**	**+0.6**
WRA	**Warramunga Arr**	**22.07**	**153**	P	**P**	**16 36 29.6**	**+1.1**
	0.4nm,0.9s,baz=336,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**25.21**	**158**	P	**P**	**16 36 58.8**	**+0.7**
	0.2nm,0.8s,baz=348,slow=11,SNR=2.0						
MKAR	**Makanchi Array**	**59.31**	**328**	P	**P**	**16 41 29.7**	**-3.2**
	0.2nm,0.3s,baz=125,slow=8.0,SNR=4.9						

*IDC **24** 16:39:41.8±2.2,1°.18N×126°.03E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/25, mbtmp3.1/3, Error ellipse: s-maj=182.7km s-min=28.5km az=65.0*
*DJA **24** 16:39:50.6±0.8,1°.N±6°×12°.5E±°, h25km±11km, M3.6/8, mb4.2/1, mB5.0/1, MLv3.3/8, Mw(mB)4.4/1*
ISC 24 16:39:51.7±1.4,**0.7N**±0°.1×**125°.40E**±0°.05,**h35**km,**n9,**
σ2§**08**/10,**mb2.9**/3,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.42**	**266**	P	**Pn**	**16 40 15.5**	**+0.5**
KMSI				S	**Sn**	**16 40 34.1**	**+1.6**
TNTI	**Ternate**	**1.97**	**87**	P	**Pn**	**16 40 22.7**	**+0.1**
GTOI	**Gorontalo**	**2.39**	**269**	P	**Pn**	**16 40 29.3**	**+1.0**
LBMI	**Labuha**	**2.48**	**122**	P	**Pn**	**16 40 30.8**	**+1.2**
LBMI				S	**Sn**	**16 41 01.2**	**+2.6**
SANI	**Sanana**	**2.77**	**168**	P	**Pn**	**16 40 34.4**	**+0.7**
LUWI	**Luwuk**	**3.13**	**237**	P	**Pn**	**16 40 38.8**	**+0.2**
WRA	**Warramunga Arr**	**22.29**	**157**	P	**P**	**16 44 42.2**	**-3.9**
	0.2nm,0.4s,baz=337,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**25.57**	**162**	P	**P**	**16 45 16.1**	**-1.5**
	0.1nm,0.5s,baz=349,slow=14,SNR=5.9						
MKAR	**Makanchi Array**	**59.33**	**327**	P	P	16 49 45.1	-5.1
	0.1nm,0.4s,baz=116,slow=6.6,SNR=1.9						

IDC 24 16:49:41.4±5.6,**5°.33S×143°.03E,h233**km±66km,**mb2.8**/4,
mb1 3.0/6,**mb1mx2.8**/26,**mbtmp3.4**/6,**Error ellipse:**
s-maj=58.2km s-min=22.9km az=144.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.76**	**135**	P	Pn	16 51 04.5	-1.6
	0.7nm,0.3s,baz=319,slow=11,SNR=2.2						
PMG				S	S	16 52 15.7	+2.0
	0.3nm,0.3s,baz=330,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**16.81**	**209**	P	P	16 53 20.5	-1.8
	0.1nm,0.3s,baz=33,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**20.25**	**205**	P	P	16 54 00.2	+0.9
	0.2nm,0.7s,baz=38,slow=11,SNR=1.3						
FITZ	**Fitzroy Crossi**	**21.21**	**232**	P	P	16 54 09.2	-0.3
	1.7nm,0.7s,baz=27,slow=14,SNR=2.1						
MKAR	**Makanchi Array**	**74.49**	**322**	P	P	17 00 54.4	-0.1
	0.2nm,0.6s,baz=100,slow=5.9,SNR=1.8						
ILAR	**Eielson Array**	**86.44**	**24**	P	P	17 01 57.6	+0.2
	0.4nm,0.6s,baz=261,slow=5.6,SNR=6.6						

*KNET **24** 16:59:55.4±0.6,42°.16N×73°.79E, h11km±4km, ml2.5, Error ellipse: s-maj=5.1km s-min=3.7km az=36.0*
*KRNET **24** 16:59:55.9±0.1,42°.15N×73°.78E, h18km, mb3.3*
*MOS **24** 16:59:56.2±1.0,42°.15N×73°.80E, h9km, mb3.9/5, Error ellipse: s-maj=8.8km s-min=5.6km az=135.1*
*SOME **24** 16:59:57.9,42°.20N×73°.82E, h15km*
*NNC **24** 16:59:57.9±0.8,42°.22N×73°.81E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=7.0km s-min=3.4km az=176.0*
ISC 24 16:59:57.1±0.8,**42°.16N**±0°.02×**73°.72E**±0°.01,**h6**km±5km,
n129,σ1§**42**/205,**mb3.8**/3,**48C-22D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.03**	**216**	⇓P	**Pg**	**16 59 58.3**	**-0.5**
	2μm,0.1s,SNR=7259						
AML				⇓S	**Sg**	**17 00 00.0**	**+0.1**
	6μm,0.2s						
AML	**Almayashu**	**0.03**	**216**	*i* PG	**Pg**	**16 59 58.4**	**-0.4**
EKS2	**Erkin-Say**	**0.51**	**5**	⇑P	**Pg**	**17 00 06.5**	**-0.4**
	15nm,0.1s,SNR=147						
EKS2				⇓S	**Sg**	**17 00 13.7**	**+0.1**
	122nm,0.1s						
EKS2	**Erkin-Say**	**0.51**	**5**	*i* PG	**Pg**	**17 00 06.3**	**-0.6**
EKS2				*i* S	**Sg**	**17 00 13.4**	**-0.1**
EKS2	**Erkin-Say**	**0.51**	**5**	⇑*i*P	**Pg**	**17 00 06.3**	**-0.6**
	baz=0.0						
EKS2				⇑*i*S	**Sg**	**17 00 13.4**	**-0.1**
	baz=0.0						
UCH	**Uchtor**	**0.59**	**83**	⇓P	**Pg**	**17 00 06.8**	**-1.8**
	15nm,0.1s,SNR=49						
UCH				⇑S	**Sg**	**17 00 14.7**	**-1.8**
	148nm,0.1s						
UCH	**Uchtor**	**0.59**	**83**	*i* PG	**Pg**	**17 00 06.6**	**-2.0**
UCH				*i* S	**Sg**	**17 00 14.6**	**-1.8**
UCH	**Uchtor**	**0.59**	**83**	⇓*i*P	**Pg**	**17 00 06.7**	**-1.9**
	baz=81						
UCH				⇓*e*S	**Sg**	**17 00 14.6**	**-1.8**
	baz=81						
MRKS	**Merke**	**0.69**	**328**	*e*P	**Pn**	**17 00 12.5**	**-1.0**
	29nm,0.1s						
MRKS				*e*S	**Sn**	**17 00 22.1**	**-2.5**
	256nm,0.1s						
MRKS	**Merke**	**0.69**	**328**	P	**Pn**	**17 00 12.6**	**-0.9**
	29nm,0.1s						
MRKS				S	**Sn**	**17 00 22.5**	**-2.2**
	345nm,0.3s						
AAK	**Ala-Archa**	**0.75**	**50**	⇑P	**Pg**	**17 00 10.1**	**-1.4**
	27nm,0.1s,SNR=60						
AAK				⇑S	**Sg**	**17 00 19.8**	**-1.5**
	62nm,0.1s						
AAK	**Ala-Archa**	**0.75**	**50**	*i* PG	**Pg**	**17 00 10.0**	**-1.5**
AAK				*i* S	**Sg**	**17 00 19.8**	**-1.5**
AAK	**Ala-Archa**	**0.75**	**50**	⇑*i*P	**Pg**	**17 00 10.0**	**-1.5**
	baz=47						
AAK				⇑*i*S	**Sg**	**17 00 19.8**	**-1.5**
	baz=47						
FRU1	**Bishkek**	**0.94**	**46**	*i* PG	**Pg**	**17 00 13.5**	**-1.6**
FRU1				*i* S	**Sg**	**17 00 26.0**	**-1.3**
FRU1	**Bishkek**	**0.94**	**46**	⇑*i*P	**Pg**	**17 00 13.5**	**-1.6**
	baz=42						
FRU1				⇑*i*S	**Sg**	**17 00 26.0**	**-1.3**
	baz=42						
KBK	**Karagaybulak**	**1.04**	**61**	⇑P	**Pg**	**17 00 15.3**	**-1.7**
	33nm,0.2s,SNR=20						
KBK				⇑S	**Sg**	**17 00 28.9**	**-1.7**
	49nm,0.1s						
KBK	**Karagaybulak**	**1.04**	**61**	*i* PG	**Pg**	**17 00 14.7**	**-2.3**
KBK				*i* S	**Sg**	**17 00 28.5**	**-2.0**
KBK	**Karagaybulak**	**1.04**	**61**	⇑*i*P	**Pg**	**17 00 14.7**	**-2.3**
	baz=59						
KBK				⇑*i*S	**Sg**	**17 00 28.5**	**-2.0**
	baz=59						
CHMS	**Chumysh**	**1.14**	**42**	⇑P	**Pg**	**17 00 17.2**	**-1.7**
	13nm,0.1s,SNR=10						
CHMS				⇑S	**Sg**	**17 00 32.1**	**-1.6**
	61nm,0.2s						
CHMS	**Chumysh**	**1.14**	**42**	*i* PG	**Pg**	**17 00 16.7**	**-2.2**
CHMS				*i* S	**Sg**	**17 00 31.7**	**-1.9**
CHMS	**Chumysh**	**1.14**	**42**	⇑*i*P	**Pg**	**17 00 16.7**	**-2.2**
	baz=40						
CHMS				⇑*i*S	**Sg**	**17 00 31.7**	**-1.9**
	baz=40						
CHMS	**Chumysh**	**1.14**	**42**	⇑P	**Pg**	**17 00 17.1**	**-1.8**
	5.9nm,0.3s						
CHMS				⇑S	**Sg**	**17 00 31.8**	**-1.8**
	13nm,0.3s						
USP	**Ospenovka**	**1.25**	**27**	⇑P	**Pg**	**17 00 19.5**	**-1.6**
	48nm,0.2s,SNR=128						
USP				⇑S	**Sg**	**17 00 36.0**	**-1.3**
	24nm,0.1s						
USP	**Ospenovka**	**1.25**	**27**	*e*PG	**Pg**	**17 00 19.0**	**-2.1**
USP				*i* S	**Sg**	**17 00 35.6**	**-1.7**
USP	**Ospenovka**	**1.25**	**27**	⇑*e*P	**Pg**	**17 00 19.0**	**-2.1**
	baz=25						
USP				⇑*i*S	**Sg**	**17 00 35.6**	**-1.7**
	baz=25						
ARK	**Arkit**	**1.36**	**255**	*i* PG	**Pg**	**17 00 21.8**	**-1.3**
ARK				*i* S	**Sn**	**17 00 40.4**	**-0.7**
ARK	**Arkit**	**1.36**	**255**	⇓*i*P	**Pg**	**17 00 21.8**	**-1.3**
	baz=56						
ARK				⇓*i*S	**Sn**	**17 00 40.4**	**-0.7**
	baz=56						
SGDS	**Sogindy**	**1.46**	**27**	*c i*PG	**Pn**	**17 00 23.0**	**-1.0**
SGDS				*e*		17 00 42.8	
SGDS	**Sogindy**	**1.46**	**27**	*e*P	**Pn**	**17 00 23.1**	**-1.0**
	20nm,0.1s						
SGDS				*e*S	**Sg**	**17 00 40.7**	**-3.3**
	58nm,0.1s						
SGDS	**Sogindy**	**1.46**	**27**	⇑*i*Pn	**Pn**	**17 00 23.1**	**-1.0**
	baz=27						
SGDS				*e*Sn	**Sg**	**17 00 42.9**	**-1.1**
	baz=27						
SGDS	**Sogindy**	**1.46**	**27**	P	**Pn**	**17 00 23.1**	**-1.0**
	20nm,0.1s						
SGDS				S	**Sg**	**17 00 42.7**	**-1.3**
	58nm,0.1s						
TKM2	**Tokmak 2**	**1.58**	**61**	⇓P	**Pn**	**17 00 25.0**	**-0.9**
	42nm,0.3s,SNR=40						
TKM2				⇑S	**Sn**	**17 00 45.8**	**-1.0**
	65nm,0.1s						
TKM2	**Tokmak 2**	**1.58**	**61**	P*	**Pn**	**17 00 25.0**	**-0.9**
TKM2				S	**Sn**	**17 00 45.8**	**-1.0**
TKM2	**Tokmak 2**	**1.58**	**61**	⇑*i*P	**Pn**	**17 00 24.6**	**-1.3**
	baz=59						
TKM2				⇑*e*S	**Sn**	**17 00 45.2**	**-1.7**
	baz=59						
TKM2	**Tokmak 2**	**1.58**	**61**	⇑P	**Pn**	**17 00 25.1**	**-0.9**
	7.9nm,0.2s						
TKM2				⇓S	**Sn**	**17 00 45.8**	**-1.0**
	16nm,0.2s						
BOOM	**Boomskoye usch**	**1.68**	**78**	*i* PN	**Pn**	**17 00 26.1**	**-1.1**
BOOM				*i* S	**Sn**	**17 00 48.1**	**-1.1**
BOOM	**Boomskoye usch**	**1.68**	**78**	⇑*i*P	**Pn**	**17 00 26.1**	**-1.1**
	baz=77						
BOOM				⇑*i*S	**Sn**	**17 00 48.1**	**-1.1**
	baz=77						
OHH	**Osh**	**1.77**	**204**	*i* PN	**Pn**	**17 00 28.6**	**+0.2**
OHH				*i* S	**Sb**	**17 00 52.1**	**-0.5**
OHH	**Osh**	**1.77**	**204**	⇑*e*P	**Pn**	**17 00 28.6**	**+0.2**
	baz=5.0						
OHH				⇑*i*S	**Sb**	**17 00 52.1**	**-0.5**
	baz=5.0						
DGS	**Degeres**	**1.86**	**54**	*e*P	**Pb**	**17 00 31.2**	**-0.5**
	60nm,0.1s						
DGS				*e*S	**Sn**	**17 00 54.3**	**+0.7**
	35nm,0.5s						
DGS	**Degeres**	**1.86**	**54**	P	**Pb**	**17 00 31.2**	**-0.5**
	60nm,0.5s						
DGS				S	**Sn**	**17 00 54.3**	**+0.7**
	35nm,0.5s						
ULHL	**Ulahol**	**1.88**	**86**	⇓P	**Pn**	**17 00 29.7**	**-0.3**
	12nm,0.2s,SNR=70						
ULHL				⇑S	**Sn**	**17 00 54.7**	**+0.7**
	18nm,0.1s						
ULHL	**Ulahol**	**1.88**	**86**	*i* PN	**Pn**	**17 00 29.3**	**-0.6**
ULHL				*i* S	**Sn**	**17 00 53.9**	**-0.2**
ULHL	**Ulahol**	**1.88**	**86**	⇑*i*P	**Pn**	**17 00 29.3**	**-0.6**
	baz=86						
ULHL				⇑*i*S	**Sn**	**17 00 53.9**	**-0.2**
	baz=86						
KST	**Kastek**	**1.88**	**61**	*e*P	**Pb**	**17 00 31.6**	**-0.3**
	21nm,0.2s						
KST				*e*S	**Sn**	**17 00 55.1**	**+1.1**
	37nm,0.1s						
KST	**Kastek**	**1.88**	**61**	P	**Pb**	**17 00 32.0**	**+0.1**
	21nm,0.2s						
KST				S	**Sb**	**17 00 55.7**	**-0.1**
	45nm,0.3s						
DZA	**Taraz**	**1.91**	**293**	*e*PN	**Pb**	**17 00 31.1**	**-1.2**
DZA				*i*		17 00 59.7	
DZA	**Taraz**	**1.91**	**293**	*e*P	**Pg**	**17 00 34.3**	**+0.6**
	51nm,0.1s						
DZA				*e*S	**Sg**	**17 00 59.3**	**+0.8**
	173nm,0.1s						
DZA	**Taraz**	**1.91**	**293**	*e*Pg	**Pb**	**17 00 31.2**	**-1.2**
	baz=292						
DZA				*i* Sg	**Sg**	**17 00 59.8**	**+1.3**
	baz=292						
DZA				*i* Sg	**Sg**	**17 00 59.8**	**+1.3**
	baz=292						
TRKS	**Terek-Say**	**2.

MDOK	**Medeo**	**2.66**	**67**	PN	**Pb**	**17 00 42.9**	**-2.2**
MDOK						17 01 18.9	
MDOK	**Medeo**	**2.66**	**67**	*e*P	**Pb**	**17 00 45.1**	**0.0**
	12nm,0.4s						
MDOK				*e*S	**Sb**	**17 01 18.1**	**0.0**
	76nm,0.6s						
MDOK	**Medeo**	**2.66**	**67**	*i* Pg	**Pb**	**17 00 44.4**	**-0.8**
	baz=68						
MDOK				*e*Sb	**Sb**	**17 01 18.7**	**+0.6**
	baz=68						
MDOK				*e*Lg	Lg	17 01 19.9	
	baz=68						
MDOK	**Medeo**	**2.66**	**67**	⇓Pn	**Pb**	**17 00 42.9**	**-2.2**
	9.8nm,0.4s						
MDOK				⇑Sn	**Sn**	**17 01 15.0**	**+1.9**
	25nm,0.5s						
MDOK	**Medeo**	**2.66**	**67**	Pg	**Pb**	**17 00 45.7**	**+0.6**
	12nm,0.4s						
MDOK				Lg	Lg	17 01 19.0	
	76nm,0.6s						
KTBS	**Karatobe**	**2.67**	**53**	*e*P	**Pb**	**17 00 45.1**	**-0.3**
	3.4nm,0.3s						
KTBS				*e*S	**Sb**	**17 01 18.6**	**+0.1**
	106nm,0.5s						
KTBS	**Karatobe**	**2.67**	**53**	Pg	**Pb**	**17 00 45.8**	**+0.4**
	3.4nm,0.3s						
KTBS				Lg	Lg	17 01 19.2	
	106nm,0.5s						
KOTS	**Kotyrbulak**	**2.72**	**66**	*e*P	**Pb**	**17 00 45.5**	**-0.8**
	5.3nm,0.0s						
KOTS				*e*S	**Sb**	**17 01 19.3**	**-0.8**
	89nm,0.3s						
IUG	**Iuzhnay**	**2.74**	**271**	*e*PN	**Pg**	**17 00 47.4**	**-2.2**
IUG	**Iuzhnay**	**2.74**	**271**	*e*P	**Pg**	**17 00 48.5**	**-1.1**
	7.4nm,0.5s						
IUG				*e*S	**Sg**	**17 01 24.2**	**-0.9**
	47nm,0.5s						
IUG	**Iuzhnay**	**2.74**	**271**	*e*Pg	**Pg**	**17 00 47.5**	**-2.2**
	baz=270						
IUG				*e*Lg	Lg	17 01 25.3	
	baz=270						
IUG	**Iuzhnay**	**2.74**	**271**	Pg	**Pg**	**17 00 48.1**	**-1.5**
	456nm,0.5s						
IUG				Lg	Lg	17 01 23.4	
	108nm,0.4s						
CHKK	**Chushkaly**	**2.94**	**54**	*e*PN	**Pb**	**17 00 49.1**	**-0.8**
CHKK				*e*		17 01 26.8	
CHKK	**Chushkaly**	**2.94**	**54**	*e*P	**Pb**	**17 00 49.5**	**-0.4**
	2.0nm,0.3s						
CHKK				*e*S	**Sb**	**17 01 25.2**	**-0.9**
	75nm,0.3s						
CHKK	**Chushkaly**	**2.94**	**54**	*e*Pg	**Pb**	**17 00 49.1**	**-0.8**
	baz=54						
CHKK				*e*Sb	**Sb**	**17 01 26.9**	**+0.8**
	baz=54						
CHKK	**Chushkaly**	**2.94**	**54**	Pg	**Pb**	**17 00 49.4**	**-0.4**
	2.0nm,0.3s						
CHKK				Lg	Lg	17 01 25.2	
	75nm,0.3s						
ANVS	**Anan'yevo**	**2.99**	**77**	⇑*i*P	**Pn**	**17 00 45.2**	**0.0**
	baz=76						
ANVS				⇑*i*S	**Sn**	**17 01 20.8**	**-0.6**
	baz=76						
BRLS	**Borolday**	**3.00**	**288**	*e*P	**Pg**	**17 00 54.3**	**-0.2**
	2.0nm,0.1s						
BRLS				*e*S	**Sg**	**17 01 34.0**	**+0.7**
	8.6nm,0.3s						
BRLS	**Borolday**	**3.00**	**288**	Pg	**Pg**	**17 00 54.3**	**-0.2**
	2.2nm,0.3s						
BRLS				Lg	Lg	17 01 34.0	
	8.6nm,0.3s						
BTK	**Batken**	**3.03**	**227**	*i* PN	**Pn**	**17 00 46.4**	**+0.7**
BTK				*i* S	**Sn**	**17 01 22.8**	**+0.4**
BTK	**Batken**	**3.03**	**227**	⇓*i*P	**Pn**	**17 00 46.4**	**+0.7**
	baz=28						
BTK				⇓*i*S	**Sn**	**17 01 23.2**	**+0.8**
	baz=28						
DRK	**Karamyk**	**3.04**	**209**	⇓*i*P	**Pn**	**17 00 46.3**	**+0.3**
	baz=10.0						
DRK				⇓*i*S	**Sn**	**17 01 23.0**	**+0.1**
	baz=10.0						
KURS	**Kuram**	**3.54**	**66**	*e*P	**Pb**	**17 01 00.5**	**+0.4**
	2.9nm,0.3s						
KURS				*e*S	**Sb**	**17 01 44.9**	**+1.6**
	12nm,0.2s						
KURS	**Kuram**	**3.54**	**66**	Pg	**Pb**	**17 01 01.4**	**+1.4**
	2.9nm,0.6s						
KURS				Lg	Lg	17 01 46.0	
	12nm,0.7s						
SATY	**Saty**	**3.58**	**74**	*e*PN	**Pb**	**17 01 01.4**	**+0.6**
SATY	**Saty**	**3.58**	**74**	*e*P	**Pb**	**17 01 01.4**	**+0.6**
	3.2nm,0.2s						
SATY				*e*S	**Sb**	**17 01 46.0**	**+1.5**
	17nm,0.1s						
SATY	**Saty**	**3.58**	**74**	*e*Pg	**Pb**	**17 01 01.5**	**+0.6**
	baz=75						
SATY				*e*Lg	Lg	17 01 49.6	
	baz=75						
SATY	**Saty**	**3.58**	**74**	Pg	**Pb**	**17 01 01.4**	**+0.6**
	3.2nm,0.2s						
SATY				Lg	Lg	17 01 46.0	
	30nm,0.3s						
ZHN	**Zhinishke**	**3.62**	**72**	*e*PN	**Pb**	**17 01 01.7**	**+0.1**
ZHN				*e*		17 01 47.0	
ZHN	**Zhinishke**	**3.62**	**72**	*e*Pg	**Pb**	**17 01 01.7**	**+0.1**
	baz=73						
ZHN				*e*Sb	**Sb**	**17 01 47.0**	**+1.2**
	baz=73						
ARXS	**Arharly**	**3.64**	**54**	*e*P	**Pb**	**17 01 02.3**	**+0.4**
	12nm,0.2s						
ARXS				*e*S	**Sb**	**17 01 47.6**	**+1.3**
	30nm,0.5s						
ARXS	**Arharly**	**3.64**	**54**	Pg	**Pb**	**17 01 02.3**	**+0.4**
	13nm,0.7s						
ARXS				Lg	Lg	17 01 47.6	
	30nm,0.5s						
KPKS	**Kokpek**	**3.88**	**69**	*e*PN	**Pb**	**17 01 06.2**	**+0.3**
KPKS	**Kokpek**	**3.88**	**69**	*e*P	**Pb**	**17 01 06.9**	**+0.9**
	5.4nm,0.3s						
KPKS				*e*S	**Sb**	**17 01 55.2**	**+2.0**
	27nm,0.4s						
KPKS	**Kokpek**	**3.88**	**69**	*e*Pg	**Pb**	**17 01 06.3**	**+0.3**
	baz=69						
BLB	**Baldybastay**	**3.99**	**59**	*e*P	**Pb**	**17 01 08.3**	**+0.5**
	20nm,0.5s						
BLB				*e*S	**Sb**	**17 01 57.8**	**+1.4**
	8.5nm,0.4s						
BLB	**Baldybastay**	**3.99**	**59**	Pg	**Pb**	**17 01 08.3**	**+0.5**
	20nm,0.5s						
BLB				Lg	Lg	17 01 57.8	
	8.5nm,0.4s						
UZB	**Uzynbulak**	**4.04**	**74**	*e*PN	**Pb**	**17 01 09.2**	**+0.5**
UZB				*e*		17 01 59.0	
UZB	**Uzynbulak**	**4.04**	**74**	*e*Pg	**Pb**	**17 01 09.2**	**+0.5**
	baz=75						
UZB				*e*Sb	**Sb**	**17 01 59.0**	**+1.3**
	baz=75						
SHLS	**Shalkode**	**4.35**	**75**	*e*PN	**Pg**	**17 01 17.9**	**-2.6**
SHLS				*e*		17 02 17.4	
SHLS	**Shalkode**	**4.35**	**75**	*e*P	**Pg**	**17 01 21.1**	**+0.7**
	1.7nm,0.3s						
SHLS				*e*S	**Sg**	**17 02 19.6**	**+2.7**
	7.0nm,0.2s						
SHLS	**Shalkode**	**4.35**	**75**	*e*Pb	**Pg**	**17 01 17.9**	**-2.6**
	baz=76						
SHLS				*e*Sb	**Sg**	**17 02 17.5**	**+0.6**
	baz=76						
SHLS	**Shalkode**	**4.35**	**75**	Pg	**Pg**	**17 01 22.0**	**+1.5**
	2.4nm,0.3s						
SHLS				Lg	Lg	17 02 21.3	
	7.1nm,0.8s						
PDGK	**Podgornoye**	**4.41**	**73**	PN	**Pb**	**17 01 17.1**	**+2.1**
PDGK						17 02 10.6	
PDGK	**Podgornoye**	**4.41**	**73**	Pg	**Pb**	**17 01 15.7**	**+0.6**
	1.0nm,0.6s						
PDGK				Lg	Lg	17 02 10.5	
	5.0nm,0.7s						
PDGK	**Podgornoye**	**4.41**	**73**	⇑Pg	**Pb**	**17 01 17.2**	**+2.1**
	2.8nm,0.9s						
PDGK				⇓Lg	Lg	17 02 16.8	
	14nm,0.8s						
DJR	**Jarkent**	**4.94**	**62**	*e*P	**Pb**	**17 01 26.8**	**+2.7**
	0.9nm,0.1s						
DJR				*e*S	**Sb**	**17 02 29.3**	**+5.6**
	3.4nm,0.3s						
KAPS	**Kapalarasan**	**5.15**	**51**	*e*P	**Pb**	**17 01 30.6**	**+3.1**
	0.6nm,0.0s						
KAPS				*e*S	**Sb**	**17 02 35.7**	**+6.1**
	7.0nm,0.3s						
OTUK	**Ortayu**	**6.17**	**351**	⇑Lg	Lg	17 03 08.2	
	2.8nm,0.5s						
MAKZ	**Makanchi**	**7.52**	**49**	⇓Lg	Lg	17 03 52.1	
	1.1nm,0.7s						
MK31	**Makanchi Array**	**7.69**	**50**	*d* P	**Pn**	**17 01 50.9**	**+1.4**
MK31	**Makanchi Array**	**7.69**	**50**	Pn	**Pn**	**17 01 50.9**	**+1.4**
	0.4nm,0.4s,baz=228,slow=14,SNR=10						
MK31				⇑Lg	Lg	17 03 58.9	
	0.6nm,0.6s,baz=228,slow=27,SNR=3.7						
ARU	**Arti**	**17.31**	**331**	*i* P	**Pn**	**17 03 59.1**	**-0.1**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BELG	**Belogornoye**	**20.34**	**309**	*i* P	Pn	17 04 35.1	-0.8
BELG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GNI	**Garni**	**21.87**	**274**	*i* P	**P**	**17 04 50.4**	**-0.3**
GNI				pmax	pmax		
	comp=Z,11nm,1.9s						
KBZ	**Khabaz**	**22.56**	**284**	*i* P	**P**	**17 04 59.2**	**+1.4**
KBZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KIV	**Kislovodsk**	**22.68**	**285**	*e*P	**P**	**17 05 01.5**	**+2.2**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN	**Obninsk**	**27.40**	**311**	⇑*e*P	**P**	**17 05 45.8**	**+2.7**
OBN				*e*		17 06 28.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						

IDC 24 17:14:43.1±10.0, 29°99'N×71°26'E, h0km, mb3.3/2, mb1 3.3/3, mb1mx2.9/33, mbtmp3.2/3, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/61, Error ellipse: s-maj=365.1km s-min=39.1km az=86.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.84**	**24**	P	P	17 19 04.5	0.0
	0.1nm,0.3s,baz=198,slow=11,SNR=3.1						
ZALV	**Zalesovo Beam**	**25.88**	**19**	P	P	17 20 16.4	0.0
	0.3nm,0.4s,baz=220,slow=8.8,SNR=2.2						
BELG	**Belogornoye**	**28.35**	**329**	LR	LR	17 34 29.5	
	comp=Z,30nm,18.1s,baz=132,slow=42						
ASAR	**Alice Springs**	**80.39**	**124**	P	P	17 26 56.8	+0.1
	0.1nm,0.5s,baz=305,slow=5.1,SNR=4.2						

IDC 24 17:27:36.1±1.9, 2°48N×126°30E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.3/31, mbtmp3.5/4, Error ellipse: s-maj=119.9km s-min=25.0km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.46**	**182**	P	P	17 32 15.9	+0.5
	3.1nm,1.2s,baz=0.0,slow=9.1,SNR=1.3						
WRA	**Warramunga Arr**	**23.64**	**161**	P	P	17 32 49.2	-0.1
	0.8nm,0.5s,baz=339,slow=11,SNR=14						
ASAR	**Alice Springs**	**27.02**	**165**	P	P	17 33 20.3	+0.1
	0.3nm,0.4s,baz=347,slow=13,SNR=12						
MKAR	**Makanchi Array**	**58.34**	**326**	P	P	17 37 32.7	-0.4
	0.2nm,0.5s,baz=123,slow=8.8,SNR=4.5						

*IDC **24** 18:28:12.5±2.2, 2°46N×125°70E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/35, mbtmp3.2/3, MS3.2/1, Ms1 3.1/1, ms1mx2.2/25, Error ellipse: s-maj=186.1km s-min=28.1km az=65.0*

*DJA **24** 18:28:17.2±0.3, 3°N±2°×12°6E±°, h10km, M3.5/8, mb3.8/1, MLv3.4/8*

ISC 24 18:28:13.7±1.0, 2°56N±0°06×126°13E±0°07, h10km, n9, σ0°96/9, mb3.2/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.27**	**332**	P	**Pb**	**18 28 38.0**	**+0.2**
SGSI				S	**Sg**	**18 28 55.3**	**+0.6**
TNTI	**Ternate**	**2.16**	**145**	P	**Pg**	**18 28 55.4**	**+0.2**
KMSI	**Cibinong**	**2.92**	**228**	P	**Pg**	**18 29 09.0**	**-0.7**
LBMI	**Labuha**	**3.46**	**157**	P	**Pb**	**18 29 14.9**	**-0.2**
GTOI	**Gorontalo**	**3.66**	**239**	P	**Pb**	**18 29 19.4**	**+0.9**
WRA	**Warramunga Arr**	**23.77**	**161**	P	**P**	**18 33 26.4**	**-0.3**
	0.5nm,0.5s,baz=338,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**27.14**	**164**	P	**P**	**18 33 59.0**	**+1.6**
	0.4nm,0.8s,baz=345,slow=12,SNR=5.7						
STKA	**Stephens Creek**	**37.26**	**158**	LR	LR	18 50 29.8	
	comp=Z,34nm,18.1s,baz=203,slow=36						
MKAR	**Makanchi Array**	**58.18**	**326**	P	**P**	**18 38 07.0**	**-1.1**
	0.1nm,0.4s,baz=116,slow=8.4,SNR=1.7						

IDC 24 18:28:16.6±4.7, 17°68S×178°65W, h605km±23km, mb3.1/3, mb1 3.2/4, mb1mx2.8/27, mbtmp4.0/4, Error ellipse: s-maj=127.3km s-min=80.3km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.15**	**268**	P	P	18 29 37.1	-0.1
	1.7nm,0.3s,baz=37,slow=23,SNR=6.1						
STKA	**Stephens Creek**	**38.54**	**241**	P	P	18 34 48.7	-0.4
	2.4nm,0.9s,baz=74,slow=7.4,SNR=3.3						
WRA	**Warramunga Arr**	**44.45**	**259**	P	P	18 35 35.4	-0.3
	0.7nm,0.4s,baz=94,slow=7.2,SNR=20						
ASAR	**Alice Springs**	**44.63**	**254**	P	P	18 35 37.4	+0.3
	4.4nm,0.5s,baz=87,slow=9.0,SNR=112						
ASAR				PcP	PcP	18 37 06.0	-0.5
	0.3nm,0.8s,baz=101,slow=3.8,SNR=1.5						

*MEX **24** 18:44:25.4±1.4, 14°21N×93°04W, h20km±680km, MD3.8*
*GCG **24** 18:44:29.4±0.6, 14°64N×92°64W, h87km±16km, MD3.7*

ISC 24 18:44:25.0±2.2, 14°48N±0°09×92°81W±0°07, h6km±12km, n10, σ1°31/20, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.67**	**51**	*e*P	**Pn**	**18 44 40.1**	**-1.1**
THIG				*e*S	**Sn**	**18 44 53.7**	**+1.6**
PATR	**El Naranjo**	**0.84**	**41**	*e*P	**Pn**	**18 44 44.2**	**+0.5**
PATR				*e*S	**Sn**	**18 44 57.6**	**+1.1**
CHUJ	**Union Juarez**	**0.91**	**48**	*e*P	**Pn**	**18 44 45.0**	**+0.3**
CHUJ				*e*S	**Sn**	**18 44 59.9**	**+1.7**
PAVE	**Pavencul**	**0.93**	**41**	*e*P	**Pn**	**18 44 45.6**	**+0.7**
PAVE				*e*S	**Sn**	**18 45 00.0**	**+1.2**
STG3	**Santiaguito 3,**	**1.22**	**79**	*e*P	**Pg**	**18 44 49.8**	**+1.3**
STG3				*e*S	**Sn**	**18 45 06.3**	**+0.6**
PCIG		**1.28**	**342**	*i* P	**Pb**	**18 44 48.6**	**-1.0**
PCIG				*e*S	**Sg**	**18 45 05.8**	**-0.5**
CCIG	**Comitan**	**1.90**	**20**	*e*P	**Pb**	**18 44 59.5**	**-0.8**
CCIG				*e*S	**Sg**	**18 45 26.1**	**-0.2**
FUG	**Fuego 3**	**1.90**	**91**	*e*P	**Pb**	**18 44 59.3**	**-1.0**
FUG				*e*S	**Sn**	**18 45 21.9**	**-0.8**
TGIG		**2.30**	**352**	*e*P	**Pn**	**18 45 03.4**	**-0.3**
TGIG				*e*S	**Sb**	**18 45 33.2**	**-2.7**
UXUV	**UXUV**	**3.10**	**336**	*e*P	**Pn**	**18 45 15.9**	**+1.3**
UXUV				*e*S	**Sn**	**18 45 53.6**	**+1.6**

*IDC **24** 18:56:33.9±10.0, 19°59S×176°44W, h261km±96km, mb3.4/5, mb1 3.7/5, mb1mx3.3/26, mbtmp4.0/5, Error ellipse: s-maj=143.0km s-min=30.0km az=157.0*

ISC 24 18:56:32.5±2.3, 20°S±1°×176°3W±0°4, h250km, n9, σ1°04/10, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.30**	**258**	P	**Pn**	**19 00 10.3**	**+1.9**
	0.8nm,0.3s,baz=82,slow=19,SNR=21						
CTA	**Charters Tower**	**35.16**	**263**	P	**P**	**19 03 03.1**	**0.0**
	7.0nm,0.8s,baz=96,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**46.27**	**256**	P	**P**	**19 04 33.2**	**-0.4**
	4.1nm,0.7s,baz=94,slow=8.4,SNR=73						
ASAR				PcP	**PcP**	**19 06 04.2**	**-0.5**
	0.3nm,0.6s,baz=106,slow=4.6,SNR=1.6						
WRA	**Warramunga Arr**	**46.30**	**261**	P	**P**	**19 04 32.5**	**-1.3**
	0.9nm,0.5s,baz=97,slow=8.5,SNR=30						
NVAR	**Mina Array Bea**	**79.30**	**43**	P	**P**	**19 08 11.3**	**+0.6**
	0.5nm,0.7s,baz=229,slow=10,SNR=3.8						
TXAR	**Lajitas Array**	**85.24**	**57**	P	**P**	**19 08 42.0**	**+0.4**
	0.3nm,0.7s,baz=207,slow=7.0,SNR=4.2						
ARCES	**ARCESS Array B**	**128.33**	**350**	PKP	**PKPdf**	**19 15 08.8**	**+0.2**
	3.0nm,1.0s,baz=11,slow=2.6,SNR=4.2						
BRTR	**Keskin Array B**	**147.39**	**314**	PKPbc	**PKPbc**	**19 15 46.2**	**-1.0**
	0.6nm,0.7s,baz=132,slow=4.2,SNR=4.6						
GERES	**GERESS Array B**	**149.74**	**347**	PKPbc	**PKPbc**	**19 15 52.3**	**-0.5**
	0.4nm,0.6s,baz=29,slow=3.0,SNR=3.8						

IDC 24 18:58:17.8±3.4, 24°19S×176°44W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/25, mbtmp3.7/3, Error ellipse: s-maj=184.5km s-min=49.4km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.73**	**269**	P	P	19 05 10.4	+0.5
	5.7nm,0.9s,baz=104,slow=9.7,SNR=2.3						
ASAR	**Alice Springs**	**45.19**	**260**	P	P	19 06 37.0	+0.1
	0.3nm,0.8s,baz=92,slow=7.7,SNR=4.3						
ASAR				PcP	PcP	19 08 17.1	-0.2
	0.4nm,1.1s,baz=114,slow=4.1,SNR=4.1						
WRA	**Warramunga Arr**	**45.63**	**265**	P	P	19 06 39.7	-0.6
	0.2nm,0.4s,baz=106,slow=7.8,SNR=15						
AKASG	**Malin Array Be**	**146.92**	**330**	PKPbc	PKPdf	19 18 01.0	+0.9
	0.9nm,0.3s,baz=31,slow=4.2,SNR=1.3						
BRTR	**Keskin Array B**	**150.32**	**309**	PKPbc	PKPbc	19 18 11.2	-0.2
	0.2nm,0.3s,baz=318,slow=1.9,SNR=2.9						

IDC 24 19:07:05.5±6.2, 19°18S×175°98W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/21, mbtmp4.0/3, Error ellipse: s-maj=187.3km s-min=101.0km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.08**	**243**	P	P	19 14 42.8	0.0
	0.7nm,0.5s,baz=99,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**46.68**	**260**	P	P	19 15 36.4	0.0
	1.2nm,0.4s,baz=97,slow=7.8,SNR=42						
ASAR	**Alice Springs**	**46.68**	**255**	P	P	19 15 36.1	-0.3
	1.7nm,0.4s,baz=98,slow=7.5,SNR=13						
AKASG	**Malin Array Be**	**142.73**	**333**	PKP	PKPdf	19 26 39.7	-1.0
	0.6nm,0.4s,baz=44,slow=3.6,SNR=6.3						

*ANF **24** 19:07:21.0±0.6, 36°54N×113°94W, h5km±5km, ML2.9/12, ML2.9/12, Error ellipse: s-maj=3.3km s-min=2.8km az=44.0*
*REN **24** 19:07:21.1±1.3, 36°48N±0°03×113°99W±0°05, h0km±7km, Error ellipse: s-maj=5.6km s-min=4.4km az=104.0*
*NEIC **24** 19:07:21.4±1.5, 36°48N±0°01×114°00W±0°04, h2km±9km, ML2.7/60, ML2.6/7(REN), Error ellipse: s-maj=4.5km s-min=1.4km az=108.0*

ISC 24 19:07:21.0±1.3, 36°48N±0°02×114°00W±0°03, h2km±14km, n42, σ0°60/53, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.67**	**5**		**Pg**	**19 07 34.3**	**+0.4**
ICU					**Sg**	**19 07 43.5**	**+0.9**
LCMT	**Little Creek M**	**0.80**	**49**		**Pg**	**19 07 36.5**	**+0.1**
LCMT	**Little Creek M**	**0.80**	**49**	IAML		19 07 47.2	
	comp=N,296nm,0.2s						
LCMT				IAML		19 07 47.9	
	comp=E,276nm,0.1s						
SHPR	**Sheep Range**	**0.94**	**272**		**Pg**	**19 07 38.9**	**-0.2**
CCUT	**Cedar City**	**1.18**	**25**		**Pb**	**19 07 43.6**	**-0.7**
CCUT					**Sb**	**19 07 58.7**	**-1.5**
PRN	**Pahroc Range**	**1.25**	**318**		**Pb**	**19 07 45.1**	**-0.4**
SZCU	**Shurtz Canyon**	**1.33**	**33**		**Pn**	**19 07 46.2**	**-0.7**
U15A	**North Rim**	**1.37**	**92**	Pn	**Pb**	**19 07 47.4**	**-0.2**
U15A				IAML		19 08 05.5	
	comp=N,163nm,0.7s						
U15A				IAML		19 08 08.3	
	comp=E,172nm,0.9s						
W13A	**Hualapai Mount**	**1.38**	**176**	Pn	**Pb**	**19 07 47.3**	**-0.4**
PKCU	**Pink Cliffs**	**1.66**	**54**		**Pb**	**19 07 52.4**	**-0.1**
PKCU				IAML		19 08 23.2	
	comp=N,139nm,0.4s						
NEE2	**Needles Airpor**	**1.78**	**197**	S	**Sg**	**19 08 18.8**	**+0.5**
	baz=16						
S11A	**Rachel**	**1.82**	**310**	Pn	**Pn**	**19 07 53.7**	**+0.2**
TPNV	**Topopah Spring**	**1.87**	**285**		**Pn**	**19 07 54.4**	**+0.1**
TPNV				IAML		19 08 24.2	
	comp=N,38nm,0.4s						
TPNV	**Topopah Spring**	**1.87**	**285**	P	**Pn**	**19 07 54.4**	**+0.1**
	baz=104,SNR=100						
TPNV				Sb	**Sg**	**19 08 21.7**	**+0.5**
	baz=104						
TUQ	**Turquoise Moun**	**1.88**	**237**	Pb	**Pb**	**19 07 56.3**	**+0.1**
	baz=56,SNR=16						
TUQ				S	**Sg**	**19 08 21.1**	**-0.4**
	baz=56						
SHOC	**Shoshone, Teco**	**1.93**	**253**	Pb	**Pg**	**19 07 57.7**	**-0.4**
	baz=72						
SHOC				S	**Sg**	**19 08 22.4**	**-0.8**
	baz=72						
PSUT	**Pine Spring**	**2.05**	**3**		**Pb**	**19 07 59.0**	**-0.2**
PSUT				IAML		19 08 28.6	
	comp=N,33nm,0.7s						
PSUT				IAML		19 08 30.3	
	comp=E,39nm,0.6s						
MTPU	**Mount Pierson**	**2.12**	**42**		**Pb**	**19 08 00.6**	**+0.1**
MTPU				IAML		19 08 28.7	
	comp=E,51nm,0.4s						
MTPU				IAML		19 08 29.4	
	comp=N,64nm,0.5s						
GMRC	**Granite Mounta**	**2.17**	**219**	P	**Pn**	**19 07 57.8**	**-0.5**
	baz=38						
GWY	**Greenwater Val**	**2.18**	**263**		**Pb**	**19 08 00.6**	**-0.7**
GWY				IAML		19 08 10.4	
	comp=N,40nm,0.6s						
GWY				IAML		19 08 12.9	
	comp=E,43nm,0.7s						
R11A	**Troy Canyon, C**	**2.25**	**326**	Pn	**Pn**	**19 07 59.4**	**-0.1**
R11A				IAML		19 08 33.6	
	comp=E,28nm,0.4s						
R11A				IAML		19 08 35.4	
	comp=N,29nm,0.4s						
R11A	**Troy Canyon, C**	**2.25**	**326**	Pn	**Pn**	**19 07 59.1**	**-0.4**
	baz=145,SNR=29						
R11A				Pb	**Pb**	**19 08 02.7**	**+0.1**
	baz=145						
R11A				Pg	**Pg**	**19 08 03.9**	**-0.3**
	baz=145						
R11A				Sb	**Sb**	**19 08 31.8**	**+0.8**
	baz=145						
WUAZ	**Wupatki**	**2.33**	**114**	Pn	**Pn**	**19 08 00.9**	**+0.3**
WUAZ	**Wupatki**	**2.33**	**114**	Pb	**Pb**	**19 08 04.2**	**+0.2**
	baz=295,SNR=34						
WUAZ				Sb	**Sb**	**19 08 33.8**	**+0.6**
	baz=295						
QSM	**Queen of Sheba**	**2.38**	**258**		**Pn**	**19 08 01.8**	**+0.7**
QSM				IAML		19 08 44.7	
	comp=N,27nm,0.8s						
IRM	**Iron Mountain**	**2.50**	**202**	P	**Pn**	**19 08 03.1**	**+0.3**
	baz=22						
IRM				Sb	**Sg**	**19 08 41.8**	**+0.4**
	baz=22						
**

113A					IAML		19 09 30.6	
	comp=E,11nm,1.3s							
NV11	**Mina Array Sit**	**3.84**	**302**			**Pn**	**19 08 22.3**	**+1.0**
NV11					IAML		19 09 24.5	
	comp=N,7.9nm,3.0s							
NV11					IAML		19 09 29.8	
	comp=E,8.8nm,4.0s							
NVAR	**Mina Array Bea**	**3.94**	**301**			**Pn**	**19 08 23.4**	**+0.6**
ELS	**Elsinore Mount**	**3.99**	**226**	Pn		**Pn**	**19 08 23.9**	**+0.6**
LHV	**Little Huntoon**	**4.00**	**298**			**Pn**	**19 08 24.3**	**+0.9**
LHV					IAML		19 09 34.0	
	comp=E,17nm,2.2s							
LHV					IAML		19 09 34.4	
	comp=N,17nm,1.1s							
RYN	**Ryan**	**4.19**	**302**	Pn		**Pn**	**19 08 24.9**	**-1.2**
RYN					IAML		19 09 37.4	
	comp=E,10nm,1.3s							
RYN					IAML		19 09 41.9	
	comp=N,9.3nm,3.0s							
ELK	**Elko**	**4.37**	**347**	Pn		**Pn**	**19 08 28.8**	**+0.2**
BAR	**Barrett**	**4.39**	**211**	Pn		**Pn**	**19 08 28.4**	**-0.4**

*IDC **24** 19:11:05.5±1.3,36°.25N×26°.33E,h0km,mb3.3/3,*
mb1 3.3/3,mb1mx3.1/38,mbtmp3.3/3,MS2.8/1,Ms1 2.8/1,
ms1mx2.2/44,Error ellipse: s-maj=64.6km s-min=17.9km
az=143.0
*ISK **24** 19:11:07.9,35°.55N×26°.45E,h9km,ML2.6/11*
*DDA **24** 19:11:07.5±0.0,35°.38N×26°.95E,h7km±1km,ML2.3*
ISC 24 19:11:07.5±1.1,**35°.52N**±0°.05×**26°.61E**±0°.04,**h14**km±9km,
n26,σ1§**40**/36,**mb3.3**/3,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KARP	**Karpathos**	**0.46**	**86**	PG		**Pn**	**19 11 19.6**	**0.0**
KARP				SG		**Sn**	**19 11 28.3**	**+0.7**
ZKR	**Zakros**	**0.51**	**218**	PG		**Pg**	**19 11 17.4**	**-0.2**
ZKR				SG		**Sg**	**19 11 24.7**	**+0.3**
HRKL	**Herakleio**	**1.25**	**261**	PN		**Pn**	**19 11 29.9**	**-0.6**
KOSK	**Kos Island**	**1.27**	**14**	PN		**Pg**	**19 11 32.6**	**+0.6**
ARG	**Arkhangelos**	**1.42**	**60**	PN		**Pg**	**19 11 35.6**	**+0.8**
IDI	**Anoyia**	**1.42**	**261**	Pn		**Pb**	**19 11 33.5**	**-0.3**
	6.6nm,0.3s,baz=50,slow=18,SNR=36							
IDI				Sn		**Sg**	**19 11 53.4**	**+0.1**
	4.9nm,0.3s,baz=347,slow=19,SNR=7.3							
IDI	**Anoyia**	**1.42**	**261**	PN		**Pn**	**19 11 32.8**	**-0.1**
DAT	**Datca**	**1.44**	**33**	PN		**Pg**	**19 11 35.5**	**+0.2**
DAT	**Datca**	**1.44**	**33**	P		**Pb**	**19 11 34.8**	**+0.5**
DAT				S		**Sg**	**19 11 54.3**	**+0.2**
BODT	**Bodrum**	**1.65**	**20**	PN		**Pb**	**19 11 37.9**	**+0.3**
BDRM	**Kayabasi**	**1.69**	**23**	P		**Pb**	**19 11 38.3**	**0.0**
BDRM				S		**Sb**	**19 11 59.3**	**-0.2**
BDRM				*i* AML		AML	19 12 40.0	
	comp=N,27nm,1.3s							
TURN	**Turunc**	**1.83**	**46**	PN		**Pb**	**19 11 40.6**	**-0.1**
TURN	**Turunc**	**1.83**	**46**	P		**Pb**	**19 11 39.3**	**-1.4**
TURN				S		**Sg**	**19 12 05.1**	**-1.3**
TURN				*i* AML		AML	19 12 12.0	
	comp=Z,24nm,0.9s							
YER	**Yerkesik**	**2.11**	**40**	PN		**Pb**	**19 11 45.0**	**-0.5**
IMMV	**Iera Moni Meta**	**2.14**	**269**	PN		**Pn**	**19 11 43.0**	**+0.2**
MULA	**Mugla, Merkez-**	**2.22**	**38**	P		**Pb**	**19 11 46.9**	**-0.5**
MULA				S		**Sb**	**19 12 12.9**	**-2.0**
MULA				*i* AML		AML	19 12 26.0	
	comp=E,18nm,0.5s							
FETY	**Fethiye**	**2.30**	**60**	P		**Pb**	**19 11 47.2**	**-1.5**
AKAS	**Kas**	**2.54**	**73**	P		**Pn**	**19 11 48.5**	**0.0**
AKAS				S		**Sn**	**19 12 19.3**	**+0.1**
AKAS				*i* AML		AML	19 12 26.0	
	comp=N,19nm,0.8s							
AKAS				*i* AML		AML	19 12 27.0	
	comp=E,16nm,1.0s							
AYDB	**Zeytinkoy-Aydi**	**2.64**	**23**	PN		**Pb**	**19 11 52.2**	**-2.4**
TAVA	**DENIZLI_Tavas**	**2.69**	**43**	P		**Pb**	**19 11 52.7**	**-2.8**
TAVA				S		**Sb**	**19 12 27.3**	**-1.2**
CAEL	**Denizli, Camel**	**2.72**	**53**	P		**Pn**	**19 11 53.0**	**+2.2**
CAEL				S		**Sg**	**19 12 36.0**	**+1.2**
CAEL				*i* AML		AML	19 12 50.0	
	comp=N,25nm,0.9s							
CAEL				*i* AML		AML	19 12 55.0	
	comp=Z,20nm,0.6s							
CAEL				*i* AML		AML	19 13 00.0	
	comp=E,21nm,0.8s							
GOLH	**Golhisar**	**2.94**	**53**	P		**Pn**	**19 11 55.8**	**+1.9**
GOLH				S		**Sb**	**19 12 37.3**	**+1.8**
GOLH				*i* AML		AML	19 12 46.0	
	comp=E,12nm,0.9s							
GOLH				*i* AML		AML	19 12 47.0	
	comp=N,13nm,0.9s							
GOLH				*i* AML		AML	19 12 51.0	
	comp=Z,12nm,2.2s							
ARU	**Arti**	**30.07**	**36**	LR		LR	19 31 03.5	
	comp=Z,18nm,19.1s,baz=224,slow=40							
TORD	**Torodi Ar. Bea**	**31.63**	**231**	P		**P**	**19 17 34.0**	**+3.8**
	0.2nm,0.5s,baz=48,slow=9.2,SNR=2.4							
MKAR	**Makanchi Array**	**42.59**	**57**	P		**P**	**19 19 01.2**	**-1.8**
	0.2nm,0.3s,baz=264,slow=9.0,SNR=7.4							
SONM	**Songino Array**	**58.34**	**51**	P		**P**	**19 21 00.2**	**-2.0**
	0.2nm,0.7s,baz=290,slow=8.6,SNR=1.7							

*LDG **24** 19:24:42.2±0.4,43°.89N×13°.37E,h9km,Ml2.9/27,Error*
ellipse: s-maj=9.8km s-min=5.2km az=66.0
*PRU **24** 19:24:43.0±0.0,43°.96N×13°.43E,h1km*
*ROM **24** 19:24:43.0±0.2,43°.885N±0°.010×13°.228E±0°.009,h10km,*
ML2.8/4,Error ellipse: s-maj=1.2km s-min=0.6km az=24.0
ISC 24 19:24:42.6±1.1,**43°.89N**±0°.02×**13°.21E**±0°.02,**h17**km±3km,
n131,σ1§**76**/189,**9D**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SENI	**Senigallia**	**0.19**	**174**	AML		AML		
	comp=E,29200μm,0.4s							
SENI				AML		AML		
	comp=N,19900μm,0.4s							
PESA	**Pesaro**	**0.27**	**281**	P		**Pg**	**19 24 49.2**	**+0.7**
PESA				S		**Sb**	**19 24 54.5**	**+1.3**
PESA				AML		AML		
	comp=E,4060μm,0.3s							
PESA				AML		AML		
	comp=N,4105μm,0.6s							
COR1	**Corinaldo**	**0.30**	**210**	⇓P		**Pb**	**19 24 50.1**	**+0.7**
COR1				S		**Sb**	**19 24 54.5**	**+0.4**
FSSB	**Fossombrone**	**0.37**	**238**	⇓P		**Pg**	**19 24 50.7**	**+0.5**
PCRO	**Pietralacroce**	**0.37**	**140**	⇓P		**Pg**	**19 24 50.1**	**-0.1**
PCRO				S		**Sb**	**19 24 56.3**	**+0.2**
PCRO				AML		AML		
	comp=E,6895μm,0.3s							
PCRO				AML		AML		
	comp=N,5770μm,1.1s							
PCRO				AML		AML		
	comp=E,6895μm,0.3s							
PCRO				AML		AML		
	comp=N,5765μm,1.1s							
MPAG	**Monte Paganucc**	**0.41**	**231**	⇓P		**Pg**	**19 24 51.5**	**+0.4**
MPAG				S		**Sb**	**19 24 58.1**	**+0.6**
ARVD	**Arcevia**	**0.44**	**206**	⇓P		**Pg**	**19 24 51.8**	**+0.4**
AOI	**Ancona**	**0.45**	**140**	P		**Pg**	**19 24 51.4**	**-0.2**
AOI				S		**Sb**	**19 24 58.7**	**+0.4**
AOI				AML		AML		
	comp=E,1315μm,0.4s							
AOI				AML		AML		
	comp=N,1225μm,0.7s							
AOI				AML		AML		
	comp=E,1310μm,0.4s							
MMUR	**Monte Murano**	**0.47**	**199**	P		**Pg**	**19 24 52.9**	**+0.8**
FRON	**Frontone**	**0.51**	**223**	P		**Pg**	**19 24 53.3**	**+0.5**
CING	**Cingoli**	**0.51**	**181**	⇓P		**Pg**	**19 24 53.1**	**+0.3**
NARO	**Abbazia di Nar**	**0.53**	**239**	⇓P		**Pg**	**19 24 53.6**	**+0.5**
NARO				AML		AML		
	comp=N,584μm,0.4s							
NARO				AML		AML		
	comp=E,588μm,0.3s							
RSM	**Repubblica di**	**0.55**	**274**	P		**Pb**	**19 24 54.8**	**+1.1**
SSFR	**Montelago di S**	**0.55**	**214**	P		**Pg**	**19 24 53.8**	**+0.3**
PE3	**Peglio**	**0.55**	**250**	P		**Pg**	**19 24 54.4**	**+0.9**
EL6	**Elcito**	**0.56**	**188**	⇓P		**Pg**	**19 24 54.1**	**+0.3**
PP3	**Marolino**	**0.59**	**150**	P		**Pb**	**19 24 55.1**	**+0.7**
ATSC	**Scheggia e Pas**	**0.60**	**219**	P		**Pg**	**19 24 54.8**	**+0.4**
PIEI	**Pieia**	**0.60**	**234**	P		**Pg**	**19 24 54.7**	**+0.2**
ATBU	**Serra di Buran**	**0.63**	**229**	P		**Pg**	**19 24 55.6**	**+0.6**
CPGN	**Carpegna, Ital**	**0.65**	**262**	P		**Pb**	**19 24 57.5**	**+2.1**
APEC	**Apecchio**	**0.66**	**240**	P		**Pg**	**19 24 56.1**	**+0.6**
SNTG	**Esanatoglia**	**0.66**	**197**	⇓P		**Pg**	**19 24 55.8**	**+0.2**
FOSV	**Fossato di Vic**	**0.68**	**209**	P		**Pg**	**19 24 56.0**	**+0.2**
ATPC	**Poggio Castell**	**0.68**	**233**	P		**Pg**	**19 24 56.4**	**+0.5**
ATFO	**Monte Foce - G**	**0.70**	**222**	P		**Pg**	**19 24 56.9**	**+0.6**
MDAR	**Monte D'Aria**	**0.70**	**184**	P		**Pb**	**19 24 57.1**	**+0.8**
ATPI	**Pietralunga -**	**0.73**	**233**	P		**Pg**	**19 24 57.4**	**+0.5**
PARC	**Parchiule**	**0.74**	**251**	P		**Pg**	**19 24 57.4**	**+0.4**
TB01	**Gubbio**	**0.76**	**228**	P		**Pg**	**19 24 57.8**	**+0.4**
ATVO	**AVT- Monte Val**	**0.77**	**229**	P		**Pg**	**19 24 58.3**	**+0.7**
MNTP	**Montappone**	**0.78**	**166**	P		**Pb**	**19 24 58.9**	**+1.3**
TB02	**Pietralunga**	**0.78**	**228**	P		**Pg**	**19 24 58.3**	**+0.6**
BADI	**Badiali**	**0.79**	**242**	P		**Pg**	**19 24 58.5**	**+0.4**
MURB	**Monte Urbino**	**0.80**	**218**	P		**Pb**	**19 24 58.9**	**+0.9**
CADA	**Capodarco di F**	**0.81**	**150**	P		**Pn**	**19 24 59.9**	**+0.7**
ATCC	**AVT- Casa Cast**	**0.82**	**210**	P		**Pg**	**19 24 58.9**	**+0.4**
SSP9	**Sansepolcro**	**0.84**	**248**	P		**Pb**	**19 24 59.9**	**+1.2**
FDMO	**Fiordimonte**	**0.86**	**186**	P		**Pg**	**19 24 59.2**	**-0.1**
ATMC	**Monte Cedrone**	**0.86**	**239**	P		**Pb**	**19 25 00.1**	**+1.1**
GUMA	**Gualdo di Mace**	**0.98**	**147**	P		**Pg**	**19 24 59.5**	**-2.2**
BRJN	**Brijuni**	**1.09**	**21**	*e*Pg		**Pg**	**19 25 03.2**	**-0.4**
BRJN				Sg		**Sb**	**19 25 18.8**	**+1.9**
BRJN	**Brijuni**	**1.09**	**21**	P		**Pg**	**19 25 03.2**	**-0.4**
SMRN	**Sveta Marina**	**1.33**	**30**	*e*Pg		**Pn**	**19 25 06.4**	**+0.1**
SMRN				Sg		**Sb**	**19 25 24.3**	**+0.4**
DUGI	**Dugi Otok**	**1.34**	**85**	*e*Pg		**Pn**	**19 25 06.1**	**-0.5**
DUGI				Sg		**Sb**	**19 25 23.8**	**-0.4**
NVLJ	**Novalja**	**1.37**	**60**	*i* Pg		**Pn**	**19 25 07.0**	**+0.1**
NVLJ				Sg		**Sb**	**19 25 25.2**	**+0.2**
VIRC	**Vir**	**1.39**	**73**	*e*Pg		**Pn**	**19 25 07.2**	**+0.1**
VIRC				Sg		**Sb**	**19 25 25.6**	**+0.1**
RABC	**Rab**	**1.42**	**52**	*e*Pg		**Pn**	**19 25 07.8**	**+0.2**
RABC				Sg		**Sn**	**19 25 26.1**	**+0.2**
AQU	**L'Aquila**	**1.54**	**175**	*e*Pn		**Pb**	**19 25 11.8**	**+1.1**
RIY	**Rijeka**	**1.70**	**32**	*e*Pn		**Pn**	**19 25 11.8**	**+0.4**
RIY	**Rijeka**	**1.70**	**32**	*e*Pn		**Pn**	**19 25 11.8**	**+0.4**
RIY				Sn		**Sn**	**19 25 34.8**	**+2.0**
A250A	**Rusevo Krmpots**	**1.71**	**45**	*e*Pn		**Pn**	**19 25 12.7**	**+1.1**
A250A				Sn		**Sb**	**19 25 35.6**	**+0.9**
SKDS	**Skadanscina**	**1.75**	**19**	*e*Pn		**Pn**	**19 25 11.8**	**-0.4**
SKDS	**Skadanscina**	**1.75**	**19**	*i* Pn		**Pn**	**19 25 12.3**	**0.0**
SKDS				*i* Sn		**Sn**	**19 25 34.9**	**+0.7**
SKDS				IAML			19 25 38.8	
	comp=Z,80nm,0.3s							
ZIRJ	**Zirje**	**1.78**	**97**	*e*Pn		**Pn**	**19 25 12.2**	**-0.4**
ZIRJ				Sn		**Sn**	**19 25 34.9**	**+0.1**
MORI	**Morici**	**1.81**	**90**	*e*Pn		**Pn**	**19 25 13.7**	**+0.7**
MORI				Sn		**Sn**	**19 25 36.5**	**+1.0**
TEOL	**Teolo**	**1.83**	**324**	⇓*e*Pg		**Pn**	**19 25 14.2**	**+0.9**
TEOL				*e*Sg		**Sn**	**19 25 38.9**	**+2.8**
KNDS	**Knezji Dol**	**1.84**	**27**	*e*Pn		**Pn**	**19 25 12.8**	**-0.6**
KNDS				*e*Sn		**Sn**	**19 25 38.5**	**+2.1**
KNDS				IAML			19 25 39.9	
	comp=Z,268nm,0.6s							
UDBI	**Udbina**	**1.95**	**70**	*e*Pn		**Pn**	**19 25 16.0**	**+1.1**
UDBI				Sn		**Sn**	**19 25 40.9**	**+1.9**
PLIT	**Plitvice**	**2.00**	**59**	*e*Pn		**Pn**	**19 25 16.8**	**+1.2**
PLIT				Sn		**Sn**	**19 25 41.5**	**+1.4**
CEY	**Cerknica**	**2.04**	**25**	*e*Pn		**Pn**	**19 25 16.6**	**+0.4**
CEY	**Cerknica**	**2.04**	**25**	*e*Pn		**Pn**	**19 25 16.8**	**+0.7**
CEY				*i* Sn		**Sn**	**19 25 43.3**	**+2.0**
CEY				IAML			19 25 44.0	
	comp=Z,47nm,0.3s							
VARN	**Col Varnada, M**	**2.24**	**340**	*e*Pn		**Pn**	**19 25 19.3**	**+0.3**
COLI	**Coloredo**	**2.25**	**3**	*e*Pn		**Pn**	**19 25 19.3**	**+0.3**
COLI				*e*Sn		**Sn**	**19 25 46.6**	**+0.3**
KIJV	**Kijevo**	**2.31**	**86**	*e*Pn		**Pn**	**19 25 20.1**	**+0.2**
KIJV				Sn		**Sn**	**19 25 49.1**	**+1.2**
LJU	**Ljubljana**	**2.35**	**23**	*e*Pn		**Pn**	**19 25 21.9**	**+1.5**
OZLJ	**Ozalj**	**2.36**	**42**	*e*Pn		**Pn**	**19 25 22.1**	**+1.6**
OZLJ				Sn		**Sn**	**19 25 51.8**	**+2.7**
STAL	**STALIGIAL**	**2.40**	**352**	AML		AML		
	comp=N,118μm,1.5s							
STAL				AML		AML		
	comp=E,195μm,0.6s							
HVAR	**Hvar**	**2.46**	**106**	*e*Pn		**Pn**	**19 25 22.2**	**+0.3**
HVAR				Sn		**Sn**	**19 25 51.4**	**-0.2**
CRES	**Cresnjev**	**2.51**	**39**	*e*Pn		**Pb**	**19 25 27.3**	**+0.1**
A251A	**Rujevac**	**2.52**	**59**	*e*Pn		**Pn**	**19 25 23.3**	**+0.6**
A251A				Sn		**Sn**	**19 25 53.6**	**+0.7**
MYKA	**Terra Mystica**	**2.76**	**6**	Pn		**Pn**	**19 25 27.0**	**+1.0**
	comp=E,1.4nm,0.2s							
OBKA	**Obir**	**2.79**	**19**	Pn		**Pn**	**19 25 27.4**	**+0.9**
	comp=E,0.7nm,0.3s							
PTJ	**Puntijarka**	**2.81**	**43**	*e*Pn		**Pn**	**19 25 28.7**	**+1.9**
PTJ				Sn		**Sn**	**19 26 01.9**	**+1.4**
MAKA	**Makarska**	**2.84**	**101**	*e*Pn		**Pn**	**19 25 27.9**	**+0.9**
MAKA				Sn		**Sn**	**19 26 01.5**	**+0.7**
MGRS	**Mrkonjic Grad**	**2.84**	**78**	*e*Pn		**Pn**	**19 25 28.4**	**+1.2**
RICI	**Ricice**	**2.88**	**97**	*e*Pn		**Pn**	**19 25 28.4**	**+0.8**
RICI				Sn		**Sn**	**19 26 02.4**	**+0.6**
ABTA	**Abfaltersbach**	**2.90**	**351**	Pn		**Pn**	**19 25 29.7**	**+1.7**
	comp=E,1.2nm,0.4s							
LSTV	**Lastovo**	**2.91**	**111**	*e*Pn		**Pn**	**19 25 27.9**	**-0.2**
LSTV				Sn		**Sn**	**19 26 01.6**	**-1.1**
BLY	**Banja Luka**	**2.98**	**72**	*e*Pn		**Pg**	**19 25 38.9**	**-0.8**
LOBO	**Lobor**	**3.04**	**41**	*e*Pn		**Pn**	**19 25 30.6**	**+0.7**
LOBO				Sn		**Sn**	**19 26 06.8**	**+0.9**
SOKA	**Soboth**	**3.07**	**24**	*e*Pn		**Pn**	**19 25 31.6**	**+1.2**
	comp=E,0.2nm,0.2s							
SOKA				Pg		**Pg**	**19 25 40.3**	**-1.1**
	comp=E,4.0nm,0.5s							
KBA	**Koelnbreinsper**	**3.19**	**2**	*e*Pn		**Pn**	**19 25 33.7**	**+1.6**
	comp=E,2.4nm,0.4s							
KBA				*e*Sn		**Sn**	**19 26 11.7**	**+1.9**
	comp=E,5.3nm,0.3s							
PGF	**Pioggiola**	**3.35**	**248**	*e*Pn		**Pn**	**19 25 37.2**	**+2.9**
PGF				*e*Sn		**Sn**	**19 26 16.2**	**+2.5**
	comp=E,1.3nm,0.3s							
STON	**Ston**	**3.43**	**106**	*e*Pn		**Pn**	**19 25 35.4**	**+0.2**
STON	**Ston**	**3.43**	**106**	*e*Pn		**Pn**	**19 25 35.9**	**+0.7**
STON				Sn		**Sn**	**19 26 14.9**	**-0.5**
WTTA	**Wattenberg**	**3.55**	**342**	*e*Pn		**Pn**	**19 25 40.0**	**+3.0**
	comp=E,1.3nm,0.4s							
FETA	**Feichten**	**3.58**	**332**	*e*Pn		**Pn**	**19 25 40.5**	**+3.0**
	comp=E,1.5nm,0.4s							
SQTA	**Sankt Quirin**	**3.61**	**338**	*e*Pn		**Pn**	**19 25 40.7**	**+2.9**
	comp=E,3.2nm,0.5s							
WATA	**Walderalm**	**3.63**	**342**	*e*Pn		**Pn**	**19 25 41.3**	**+3.2**
	comp=E,2.8nm,0.3s							
ARSA	**Arzberg**	**3.73**	**25**	*i* Pn		**Pn**	**19 25 40.2**	**+0.7**
	comp=E,0.5nm,0.2s							
ARSA				*e*Sn		**Sn**	**19 26 23.7**	**+0.7**
	comp=E,6.4nm,0.4s							
MOTA	**Moosalm**	**3.76**	**338**	*e*Pn		**Pn**	**19 25 42.9**	**+3.1**
	comp=E,1.5nm,0.5s							
DBRK	**Dubrovnik**	**3.81**	**107**	*e*Pn		**Pn**	**19 25 40.9**	**+0.5**
DBRK				Sn		**Sn**	**19 26 24.4**	**-0.4**
BIOA	**Bad Ischl, Aus**	**3.81**	**4**	*e*Pn		**Pn**	**19 25 42.8**	**+2.2**
	comp=E,3.1nm,0.3s							
BIOA				*e*Sn		**Sn**	**19 26 28.9**	**+4.0**
	comp=E,11nm,0.6s							
TREB	**Trebinje**	**3.93**	**106**	*e*Pn		**Pn**	**19 25 41.7**	**-0.4**
BRY	**Bratogost**	**4.01**	**102**	*e*Pn		**Pn**	**19 25 44.5**	**+1.2**
MOA	**Molln**	**4.03**	**10**	*e*Pn		**Pn**	**19 25 44.8**	**+1.3**
	comp=E,2.0nm,0.6s							
MOA				*e*Sn		**Sn**	**19 26 31.6**	**+1.3**
	comp=E,6.0nm,0.4s							
DAVA	**Damuels**	**4.12**	**327**	*e*Pn		**Pn**	**19 25 48.0**	**+3.2**
	comp=E,2.8nm,0.3s							
SBF	**Sospel**	**4.17**	**272**	*e*Pn		**Pn**	**19 25 46.5**	**+1.0**
SBF				*e*Sn		**Sn**	**19 26 33.1**	**-0.7**
	comp=E,8.0nm,0.4s							
CONA	**Conrad Observa**	**4.44**	**24**	*e*Pn		**Pn**	**19 25 49.9**	**+0.7**
	comp=E,0.4nm,0.2s							
CONA				*e*Sn		**Sn**	**19 26 41.7**	**+1.1**
	comp=E,5.0nm,0.3s							
MORH	**Mrgy, Hungar**	**4.50**	**57**	*e*Pn		**Pb**	**19 26 04.4**	**+3.3**
MBDF	**Montbardon**	**4.69**	**282**	*e*Pn		**Pn**	**19 25 54.0**	**+1.3**
MBDF				*e*Sn		**Sn**	**19 26 45.1**	**-1.7**
	comp=E,1.2nm,0.3s							
DRME	**Dracevica, Mon**	**4.70**	**109**	*e*Pn		**Pn**	**19 25 53.3**	**+0.6**
LPG	**La Plagne**	**4.87**	**291**	*e*Pn		**Pn**	**19 25 55.5**	**+0.2**
LPG	**La Plagne**	**4.87**	**291**	*e*P		**Pn**	**19 25 58.8**	**+3.5**
LPG				*e*Sn		**Sn**	**19 26 50.1**	**-1.4**
	comp=E,6.7nm,0.6s							
LPL	**La Plagne**	**4.89**	**292**	*e*Pn		**Pn**	**19 25 56.1**	**+0.6**
LPL	**La Plagne**	**4.89**	**292**	*e*P		**Pn**	**19 25 59.0**	**+3.5**
LPL				*e*Sn		**Sn**	**19 26 49.4**	**-2.4**
	comp=E,5.2nm,0.6s							
LPL				*e*Sg		**Sg**	**19 27 15.9**	**-3.7**
	comp=E,1.3nm,0.2s							
LMR	**La Mourre**	**4.89**	**266**	*e*Pn		**Pn**	**19 25 56.9**	**+1.6**
LMR				*e*Sn		**Sn**	**19 26 50.5**	**-1.0**
	comp=E,0.7nm,0.2s							
CKRC	**Cesky Krumlov**	**4.99**	**8**	*e*PN		**Pn**	**19 25 58.3**	**+1.6**
CKRC				*e*SN		**Sn**	**19 26 52.9**	**-1.0**
KHC	**Kasperske Hory**	**5.25**	**3**	*e*PN		**Pn**	**19 26 00.4**	**+0.2**
KHC				*e*SN		**Sn**	**19 26 59.8**	**-0.5**
ORIF	**Oris-en-Rattie**	**5.35**	**284**	*e*Pn		**Pn**	**19 26 02.8**	**+1.1**
ORIF				*e*Sn		**Sn**	**19 27 01.3**	**-1.6**
	comp=E,2.8nm,0.5s							
SMRF	**Simiane la Rot**	**5.51**	**274**	*e*Pn		**Pn**	**19 26 05.1**	**+1.3**
SMRF				*e*Sn		**Sn**	**19 27 05.9**	**-0.9**
	comp=E,7.1nm,0.3s							
CABF	**La Chapelle**	**5.71**	**301**	*e*Pn		**Pn**	**19 26 07.2**	**+0.5**
CABF				*e*Sn		**Sn**	**19 27 07.7**	**-4.2**
	comp=E,1.2nm,0.2s							
HINF	**Hinteralfeld**	**5.92**	**314**	*e*Pn		**Pn**	**19 26 09.2**	**-0.3**
HINF				*e*Sn		**Sn**	**19 27 13.2**	**-3.8**
	comp=E,2.9nm,0.3s							
CDF	**Champ du Feu**	**6.12**	**320**	*e*Pn		**Pn**	**19 26 11.8**	**-0.4**
CDF	**Champ du Feu**	**6.12**	**320**	*e*P		**Pn**	**19 26 14.9**	**+2.7**
CDF				*e*Sn		**Sn**	**19 27 16.7**	**-5.1**
	comp=E,0.7nm,0.3s							
VIVF	**Saint-Julien-l**	**6.19**	**282**	*e*Pn		**Pn**	**19 26 14.4**	**+1.2**
VIVF				*e*Sn		**Sn**	**19 27 20.4**	**-3.2**
	comp=E,0.9nm,0.3s							
HAU	**Haudompre**	**6.31**	**313**	*e*Pn		**Pn**	**19 26 14.5**	**-0.3**
HAU	**Haudompre**	**6.31**	**313**	*e*P		**Pn**	**19 26 18.1**	**+3.3**
HAU				*e*Sn		**Sn**	**19 27 22.0**	**-4.4**
	comp=E,6.3nm,0.5s							
PAGF	**Fort de Pagny**	**6.98**	**315**	*e*Pn		**Pn**	**19 26 23.6**	**-0.3**
PAGF				*e*Sn		**Sn**	**19 27 36.7**	**-6.1**
	comp=E,1.2nm,0.4s							
SFTF	**Sexfontaines**	**7.13**	**310**	*e*Pn		**Pn**	**19 26 25.9**	**-0.2**
	comp=E,33nm,1.3s,baz=128							
SFTF				*e*Sn		Sn	19 27 39.7	-7.0
	comp=E,2.4nm,0.4s							
SMF	**Signal de Mont**	**7.16**	**296**	*e*Pn		**Pn**	**19 26 26.5**	**+0.1**
SMF				*e*Sn		**Sn**	**19 27 43.1**	**-4.2**
	comp=E,1.3nm,0.3s							
MEZF	**Maizieres J'vi**	**7.30**	**312**	*e*Pn		**Pn**	**19 26 28.2**	**-0.1**
MEZF				*e*Sn		Sn	19 27 43.3	-7.4
	comp=E,4.6nm,0.5s							
SAVF	**Savonnieres en**	**7.33**	**313**	*e*P		**Pn**	**19 26 31.8**	**+3.1**
LOR	**Lormes**	**7.38**	**301**	*e*Pn		**Pn**	**19 26 29.6**	**+0.2**
	baz=119							
LOR				*e*Sn		**Sn**	**19 27 47.9**	**-4.8**
	comp=E,2.5nm,0.3s							
SSF	**Saint Saulge**	**7.52**	**298**	*e*Pn		**Pn**	**19 26 32.2**	**+0.8**
SSF				*e*Sn		**Sn**	**19 27 50.4**	**-5.8**
	comp=E,1.5nm,0.3s							
AVF	**Avril sur Loir**	**7.52**	**296**	*e*Pn		**Pn**	**19 26 31.8**	**+0.4**
AVF				*e*Sn		**Sn**	**19 27 52.1**	**-4.1**
	comp=E,0.4nm,0.3s							
BGF	**Bois d'Agland**	**7.78**	**294**	*e*Pn		**Pn**	**19 26 35.3**	**+0.3**
BGF				*e*Sn		**Sn**	**19 27 58.6**	**-4.1**
	comp=E,2.5nm,0.3s							
MTLF	**Montolieu**	**7.99**	**270**	*e*P		Pn	19 26 43.2	+5.3
TCF	**Toulx Ste Croi**	**8.14**	**291**	*e*Pn		**Pn**	**19 26 39.6**	**-0.3**
TCF				*e*Sn		**Sn**	**19 28 06.3**

24nm,0.3s,baz=336,slow=21,SNR=5.0
HNR S **Sn** **20 25 58.8 -0.7**
14nm,0.3s,baz=343,slow=22,SNR=3.9
DZM **Mont Dzumac** **10.47 180** P **Pn** **20 25 38.6 +0.8**
2.8nm,0.3s,baz=310,slow=13,SNR=32
DZM S **Sn** **20 27 30.8 -3.0**
0.2nm,0.3s,baz=305,slow=23,SNR=1.4
DZM LR LR 20 28 53.0
comp=Z,88nm,21.4s,baz=294,slow=32
DZM **Mont Dzumac** **10.47 180** P **Pn** **20 25 39.2 +1.4**
YATNC **Mamie plateau,** **10.48 177** P **Pn** **20 25 38.7 +1.0**
NOUC **Port Laguerre** **10.51 180** P **Pn** **20 25 40.2 +2.1**
ONTNC **Ouen Toro** **10.71 179** P **Pn** **20 25 42.9 +2.0**
OUENC **Ouen Island, N** **10.83 178** P **Pn** **20 25 44.5 +1.9**
MSVF **Nonsavu** **12.88 120** LR LR 20 30 10.7
comp=Z,96nm,19.6s,baz=20,slow=32
PMG **Port Moresby** **18.99 275** LR LR 20 34 11.6
comp=Z,54nm,19.9s,baz=71,slow=35
CTA **Charters Tower** **21.11 244** P **P** **20 27 50.4 +0.3**
9.0nm,0.9s,baz=67,slow=15,SNR=2.6
CTA LR LR 20 34 22.6
comp=Z,58nm,19.5s,baz=81,slow=32
STKA **Stephens Creek** **30.50 225** P **P** **20 29 18.8 +0.9**
3.3nm,0.7s,baz=52,slow=8.2,SNR=11
WRA **Warramunga Arr** **31.88 251** P **P** **20 29 29.5 -0.6**
4.6nm,0.8s,baz=85,slow=8.8,SNR=23
RPZ **Rata Peaks** **32.32 174** LR LR 20 40 23.6
comp=Z,57nm,19.6s,baz=206,slow=32
ASAR **Alice Springs** **33.11 244** P **P** **20 29 40.1 -0.8**
4.3nm,0.7s,baz=69,slow=9.8,SNR=55
CMAR **Chiang Mai Arr** **72.85 293** P **P** **20 34 32.6 -0.7**
1.3nm,0.9s,baz=114,slow=4.8,SNR=6.9
MKAR **Makanchi Array** **94.28 317** P **P** **20 36 22.2 -1.0**
0.7nm,0.8s,baz=91,slow=4.9,SNR=6.2

*IDC **24** 20:27:35.2±2.3,6°.945×130°.02E,h130km±25km,mb3.4/2, mb1 3.6/6,mb1mx3.2/41,mbtmp3.9/6, Error ellipse: s-maj=36.8km s-min=22.3km az=88.0*
ISC 24 20:27:32.4±0.9,**7°.02S**±0°.06×**130°.2E**±0°.1,**h104**km,**n6,** σ**3**§**32**/10,**Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.21**	**10**	P	**Pn**	**20 29 03.9**	**+2.3**
	2.5nm,0.3s,baz=216,slow=8.7,SNR=15						
SIJI				S	**Sn**	**20 30 07.9**	**-3.3**
	1.5nm,0.3s,baz=245,slow=23,SNR=2.6						
BATI	**Baumata**	**7.15**	**243**	P	**Pn**	**20 29 17.1**	**+2.8**
	2.5nm,0.3s,baz=139,slow=3.6,SNR=4.3						
BATI				S	**Sn**	**20 30 31.8**	**-2.4**
	7.7nm,0.3s,baz=269,slow=22,SNR=8.3						
WRA	**Warramunga Arr**	**13.48**	**163**	P	**Pn**	**20 30 41.0**	**+1.6**
	1.3nm,0.3s,baz=344,slow=13,SNR=26						
WRA				S	**Sn**	**20 33 04.0**	**-3.9**
	1.0nm,0.3s,baz=337,slow=22,SNR=6.9						
ASAR	**Alice Springs**	**16.94**	**168**	P	**P**	**20 31 26.4**	**+3.0**
	0.7nm,0.3s,baz=346,slow=9.6,SNR=28						
ASAR				S	**Sn**	**20 34 27.6**	**-4.0**
	0.1nm,0.3s,baz=341,slow=22,SNR=3.8						
CMAR	**Chiang Mai Arr**	**39.85**	**310**	P	**P**	**20 34 53.8**	**-2.2**
	0.4nm,0.9s,baz=132,slow=6.5,SNR=2.3						
MKAR	**Makanchi Array**	**68.32**	**327**	P	**P**	**20 38 22.1**	**-0.4**
	0.9nm,0.4s,baz=116,slow=8.1,SNR=25						

*REN **24** 20:31:24.8±1.5,40°.62N±0°.02×119°.49W±0°.01,h3km±7km, ML3.1/5,ML3.1/80(NEIC), Error ellipse: s-maj=2.9km s-min=1.3km az=179.0*
*NEIC **24** 20:31:24.9±1.8,40°.63N±0°.02×119°.51W±0°.04,h7km±6km, Error ellipse: s-maj=4.6km s-min=3.4km az=87.0*
*ANF **24** 20:31:26.3±0.4,40°.63N×119°.54W,h3km,ML3.5/10, Error ellipse: s-maj=7.8km s-min=3.4km az=31.0*
ISC 24 20:31:23.9±1.3,**40°.63N**±0°.02×**119°.50W**±0°.03,**h2**km±16km, **n59,** σ**1**§**04**/69,**Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAHR	**Pah Rah Range**	**0.92**	**174**		**Pg**	**20 31 42.3**	**+0.7**
PAHR				Sg	**Sg**	**20 31 54.3**	**+0.7**
PAHR				IAML		20 31 58.0	
	comp=E,815nm,0.6s						
PAHR				IAML		20 31 58.4	
	comp=N,522nm,0.6s						
BEKR	**Beckworth**	**1.00**	**221**	Pg	**Pg**	**20 31 43.8**	**+0.7**
BEKR				Sg	**Sg**	**20 31 56.7**	**+0.6**
BEKR				IAML		20 32 01.1	
	comp=N,503nm,0.3s						
BEKR				IAML		20 32 01.7	
	comp=E,449nm,0.5s						
VCNR	**Virginia City**	**1.33**	**185**		**Pg**	**20 31 50.2**	**+0.7**
MPK	**Martis Peak**	**1.39**	**197**		**Pb**	**20 31 50.4**	**-0.4**
MPK				IAML		20 32 12.9	
	comp=N,391nm,0.7s						
MPK				IAML		20 32 15.5	
	comp=E,419nm,0.7s						
MOD	**Modoc Plateau**	**1.41**	**335**		**Pn**	**20 31 49.7**	**-1.0**
PNTR	**Pine Nut**	**1.54**	**183**		**Pg**	**20 31 53.5**	**+0.1**
LCMM	**Colby Mountain**	**1.61**	**253**		**Pb**	**20 31 53.9**	**-0.6**
RUBR	**Rubicon Trail**	**1.65**	**198**		**Pb**	**20 31 54.4**	**-0.8**
RUBR				IAML		20 32 21.9	
	comp=E,170nm,0.5s						
RUBR				IAML		20 32 23.0	
	comp=N,230nm,0.9s						
YERR	**Yerington**	**1.65**	**173**		**Pn**	**20 31 53.7**	**-0.4**
YERR				IAML		20 32 19.3	
	comp=N,401nm,0.8s						
EMB	**Emerald Bay**	**1.71**	**196**		**Pb**	**20 31 55.4**	**-0.9**
EMB				IAML		20 32 22.6	
	comp=E,178nm,0.8s						
EMB				IAML		20 32 27.2	
	comp=N,209nm,0.6s						
BMN	**Battle Mountai**	**1.75**	**96**		**Pb**	**20 31 55.9**	**-0.9**
BMN				IAML		20 32 19.6	
	comp=N,194nm,1.1s						
BMN				IAML		20 32 21.2	
	comp=E,145nm,0.8s						
O03E	**Paynes Creek**	**1.79**	**260**		**Pb**	**20 31 57.1**	**-0.3**
O03E				IAML		20 32 33.3	
	comp=E,148nm,1.2s						
O03E	**Paynes Creek**	**1.79**	**260**	P	**Pb**	**20 31 57.4**	**+0.1**
	baz=79,SNR=12						
O03E				S	**Sg**	**20 32 21.6**	**+0.3**
	baz=79						
ORV	**Oroville**	**1.87**	**236**		**Pn**	**20 31 56.8**	**-0.2**
ORV	**Oroville**	**1.87**	**236**		**Pb**	**20 31 57.6**	**-1.2**
ORV				IAML		20 32 24.9	
	comp=E,57nm,0.7s						
ORV				IAML		20 32 33.9	
	comp=N,48nm,0.8s						
KVN	**Kaiserville**	**1.91**	**145**		**Pb**	**20 31 59.1**	**-0.5**
KVN				IAML		20 32 25.9	
	comp=E,141nm,1.1s						
KVN				IAML		20 32 27.1	
	comp=N,118nm,0.7s						
WVOR	**Wild Horse Val**	**1.92**	**20**		**Pn**	**20 31 56.6**	**-1.1**
WVOR				IAML		20 32 27.6	
	comp=N,119nm,0.8s						
M04C	**Macdoel**	**2.11**	**304**		**Pb**	**20 32 02.0**	**-0.9**
M04C				IAML		20 32 38.4	
	comp=E,188nm,0.6s						
M04C	**Macdoel**	**2.11**	**304**	P	**Pb**	**20 32 02.5**	**-0.4**
	baz=123,SNR=17						
M04C				Sb	**Sg**	**20 32 32.0**	**+0.5**
	baz=123						
RYN	**Ryan**	**2.13**	**159**		**Pn**	**20 32 01.3**	**+0.5**
RYN				IAML		20 32 35.3	
	comp=N,156nm,0.6s						
K05A	**Summer Lake**	**2.34**	**334**		**Pb**	**20 32 06.6**	**-0.4**
NVAR	**Mina Array Bea**	**2.38**	**157**		**Pn**	**20 32 04.5**	**+0.3**
NV11	**Mina Array Sit**	**2.43**	**154**		**Pn**	**20 32 05.3**	**+0.5**
NV11				IAML		20 32 41.8	
	comp=E,61nm,0.7s						
NV11				IAML		20 32 43.9	
	comp=N,59nm,0.6s						
N02D	**Trinity Center**	**2.46**	**279**		**Pn**	**20 32 06.0**	**+1.0**
N02D				IAML		20 32 45.4	
	comp=N,138nm,0.5s						
N02D	**Trinity Center**	**2.46**	**279**	P	**Pb**	**20 32 07.6**	**-1.2**
	baz=97,SNR=25						
N02D				Sb	**Sg**	**20 32 42.2**	**-0.5**
	baz=97						
LHV	**Little Huntoon**	**2.50**	**162**		**Pn**	**20 32 06.7**	**+1.2**
O02D	**Mt. Diablo Mer**	**2.55**	**261**	Pn	**Pn**	**20 32 07.2**	**+0.9**
O02D	**Mt. Diablo Mer**	**2.55**	**261**	P	**Pb**	**20 32 09.8**	**-0.6**
	baz=79						
K04D	**Chiloquin, OR**	**2.61**	**321**	P	**Pb**	**20 32 10.9**	**-0.6**
	baz=139						
K04D				Sb	**Sg**	**20 32 47.7**	**-0.2**
	baz=139						
L04D	**Klamath Falls**	**2.64**	**308**		**Pn**	**20 32 08.9**	**+1.2**
L04D				IAML		20 32 59.9	
	comp=E,138nm,0.8s						
L04D				IAML		20 33 01.9	
	comp=N,99nm,1.5s						
L04D	**Klamath Falls**	**2.64**	**308**	P	**Pb**	**20 32 11.0**	**-1.0**
	baz=126,SNR=18						
L04D				Sb	**Sg**	**20 32 47.9**	**-0.7**
	baz=126						
M02C	**Callahan**	**2.65**	**288**		**Pb**	**20 32 09.9**	**-2.2**
M02C	**Callahan**	**2.65**	**288**	P	**Pb**	**20 32 10.4**	**-1.7**
	baz=106,SNR=9.8						
M02C				Sb	**Sg**	**20 32 47.6**	**-1.3**
	baz=106						
YBH	**Yreka Blue Hor**	**2.66**	**296**		**Pn**	**20 32 08.4**	**+0.5**
CMB	**Columbia Colle**	**2.68**	**195**		**Pb**	**20 32 10.1**	**-2.5**
CMB				IAML		20 32 51.0	
	comp=E,50nm,0.6s						
CMB				IAML		20 32 52.3	
	comp=N,47nm,0.5s						
J08A	**Circle Bar Ran**	**2.83**	**15**		**Pn**	**20 32 09.7**	**-0.7**
J08A				IAML		20 32 54.8	
	comp=E,63nm,0.6s						
J08A				IAML		20 32 56.8	
	comp=N,97nm,0.7s						
J05D	**Fort Rock, OR**	**2.95**	**335**	Pb	**Pb**	**20 32 18.6**	**+1.3**
	baz=154,SNR=35						
J05D				Sb	**Sg**	**20 32 57.5**	**-1.3**
	baz=154						
MDPB	**Devils Postpil**	**3.01**	**174**		**Pn**	**20 32 12.1**	**-0.8**
TPH	**Tonopah**	**3.10**	**145**		**Pn**	**20 32 14.9**	**+0.9**
KMRM	**Mail Ridge**	**3.23**	**264**	Pn	**Pn**	**20 32 14.9**	**-0.9**
KMRM				IAML		20 32 41.4	
	comp=N,48nm,2.8s						
KMRM				IAML		20 33 16.7	
	comp=E,62nm,3.1s						
ELK	**Elko**	**3.25**	**87**		**Pn**	**20 32 15.6**	**-0.5**
J04D	**Umpqua Nationa**	**3.25**	**324**	Pb	**Pg**	**20 32 26.1**	**-0.2**
	baz=142,SNR=9.4						
HUMO	**Hull Mountain**	**3.26**	**309**	Pn	**Pn**	**20 32 16.8**	**+0.8**
HUMO				IAML		20 33 06.5	
	comp=N,33nm,0.6s						
L02E	**Cave Junction**	**3.44**	**298**	Pb	**Pb**	**20 32 27.6**	**+2.0**
	baz=115						
I07A	**Izee**	**3.45**	**360**		**Pn**	**20 32 20.9**	**+2.0**
I07A				IAML		20 33 23.7	
	comp=N,28nm,1.0s						
LCH	**Last Change Ra**	**3.69**	**156**		**Pn**	**20 32 23.6**	**+1.5**
R11A	**Troy Canyon, C**	**3.79**	**126**		**Pn**	**20 32 24.8**	**+1.2**
R11A	**Troy Canyon, C**	**3.79**	**126**	P	**Pn**	**20 32 24.7**	**+1.2**
	baz=308						
R11A				Sb	**Sg**	**20 33 24.8**	**-0.9**
	baz=308						
MFID	**Camas Ranch**	**3.91**	**43**	Pn	**Pn**	**20 32 24.8**	**-0.2**
MFID				IAML		20 33 31.9	
	comp=N,55nm,0.9s						
MFID				IAML		20 33 32.3	
	comp=N,48nm,0.7s						
BMO	**Blue Mountains**	**4.52**	**20**	Pn	**Pn**	**20 32 35.0**	**+1.5**
HLID	**Hailey**	**4.79**	**51**	Pn	**Pn**	**20 32 39.2**	**+2.0**
HLID				IAML		20 33 55.6	
	comp=N,14nm,0.9s						
HLID				IAML		20 33 57.1	
	comp=N,20nm,1.1s						
PSUT	**Pine Spring**	**4.84**	**114**	Pn	**Pn**	**20 32 37.0**	**-0.9**
BGU	**Big Grassy Mou**	**4.92**	**84**	Pn	**Pn**	**20 32 38.8**	**-0.3**
SHPR	**Sheep Range**	**5.34**	**139**	Pn	**Pn**	**20 32 45.1**	**+0.3**
CCUT	**Cedar City**	**5.68**	**121**		**Pn**	**20 32 49.7**	**+0.2**
TCRU	**Three Creeks R**	**5.81**	**108**	Pn	**Pn**	**20 32 51.5**	**+0.1**
MSU	**Marysvale**	**6.04**	**108**	Pn	**Pn**	**20 32 56.2**	**+1.7**
MTPU	**Mount Pierson**	**6.23**	**112**	Pn	**Pn**	**20 32 57.8**	**+0.6**
PKCU	**Pink Cliffs**	**6.44**	**117**	Pn	**Pn**	**20 33 01.6**	**+1.5**

IDC 24 20:58:49.1±2.3,**8°.39S**×**129°.63E,h0**km,**mb3.2**/1, **mb1 3.3**/3,**mb1mx3.1**/28,**mbtmp3.1**/3,**ML3.0**/2,**Error ellipse: s-maj=129.6km s-min=34.3km az=67.0,Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.36**	**159**	Pn	Pn	21 01 46.0	-0.5
	0.1nm,0.3s,baz=341,slow=13,SNR=1.6						
WRA				Sn	Sn	21 03 58.4	-6.6
	0.1nm,0.3s,baz=350,slow=21,SNR=1.8						
ASAR	**Alice Springs**	**15.73**	**165**	Pn	Pn	21 02 32.9	+0.6
	0.1nm,0.3s,baz=342,slow=8.5,SNR=6.1						
MKAR	**Makanchi Array**	**69.18**	**327**	P	P	21 09 57.6	0.0
	0.1nm,0.5s,baz=131,slow=7.9,SNR=2.0						

*IDC **24** 21:17:20.4±1.4,23°.77N×121°.72E,h0km,mb3.4/6, mb1 3.6/8,mb1mx3.3/49,mbtmp3.5/8,ML3.5/2,Error ellipse: s-maj=36.6km s-min=26.4km az=52.0*
*JMA **24** 21:17:23.0±0.1,23°.84N×121°.53E,h8km±1km,M3.1*
*TAP **24** 21:17:24.1,23°.89N×121°.46E,h17km,ML3.9,B*
ISC 24 21:17:23.8±0.8,**23°.87N**±0°.01×**121°.50E**±0°.01,**h19**km±2km, **n141,** σ**0**§**71**/237,**mb3.4**/6,**17C-25D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.08**	**229**	⇑*i*P	**Pg**	**21 17 27.4**	**-0.1**
	baz=191						
ESL				*i* S	**Sg**	**21 17 29.4**	**-0.6**
	baz=191						
TEYL	**Yanliau Villag**	**0.09**	**89**	⇓*i*P	**Pg**	**21 17 28.3**	**+0.8**
	baz=84						
TEYL				*i* S	**Sg**	**21 17 31.3**	**+1.3**
	baz=84						
ETM	**Tongmen**	**0.10**	**357**	*i* P	**Pg**	**21 17 27.4**	**-0.2**
	baz=23						
ETM				*i* S	**Sg**	**21 17 29.9**	**-0.3**
	baz=23						
HWA	**Hwalien**	**0.15**	**42**	⇓*i*P	**Pg**	**21 17 28.8**	**+0.7**
	baz=59						
HWA				*i* S	**Sg**	**21 17 32.3**	**+1.2**
	baz=59						
TEGC	**Jichi Village**	**0.16**	**167**	*i* P	**Pg**	**21 17 29.2**	**+0.8**
	baz=156						
TEGC				*i* S	**Sg**	**21 17 33.6**	**+2.3**
	baz=156						
EGFH	**Guangfu**	**0.21**	**198**	⇓*i*P	**Pg**	**21 17 28.9**	**-0.1**
	baz=187						
EGFH				*i* S	**Sg**	**21 17 32.7**	**+0.2**
	baz=187						
TWD	**Chiawan**	**0.23**	**23**	⇑*i*P	**Pg**	**21 17 29.4**	**+0.1**
	baz=35						
TWD				*i* S	**Sg**	**21 17 33.0**	**-0.1**
	baz=35						
OWD	**Renai**	**0.31**	**286**	⇑*i*P	**Pg**	**21 17 30.3**	**-0.4**
	baz=284						
OWD				*i* S	**Sg**	**21 17 34.3**	**-1.1**
	baz=284						
ETL	**Fush Village**	**0.31**	**21**	P	**Pg**	**21 17 30.7**	**0.0**
	baz=29						
ETL				S	**Sg**	**21 17 35.0**	**-0.3**
	baz=29						
NACB	**Ninganchiao**	**0.32**	**16**	⇑*i*P	**Pg**	**21 17 30.5**	**-0.3**
	baz=24						
NACB				S	**Sg**	**21 17 34.9**	**-0.6**
	baz=24						
ETLH	**Xiulin Townshi**	**0.34**	**357**	⇓*i*P	**Pg**	**21 17 30.8**	**-0.4**
	baz=4.0						
ETLH				S	**Sg**	**21 17 35.3**	**-0.9**
	baz=4.0						
VWDT	**VWDT**	**0.35**	**251**	⇑*i*P	**Pg**	**21 17 31.4**	**+0.1**
	baz=245						
VWDT				*i* S	**Sg**	**21 17 36.0**	**-0.3**
	baz=245						
WHF	**Hehuan Shan**	**0.35**	**322**	⇓*i*P	**Pg**	**21 17 31.0**	**-0.6**
	baz=326						
WHF				S	**Sg**	**21 17 35.7**	**-1.1**
	baz=326						
CHGB	**Renai**	**0.35**	**303**	⇓*i*P	**Pg**	**21 17 31.2**	**-0.3**
	baz=303						
CHGB				S	**Sg**	**21 17 36.0**	**-0.7**
	baz=303						
WUSB	**Renai**	**0.37**	**290**	⇓*i*P	**Pg**	**21 17 31.6**	**-0.2**
	baz=288						
WUSB				*i* S	**Sg**	**21 17 36.4**	**-0.7**
	baz=288						
HGSD	**Ruisui**	**0.38**	**190**	⇓*i*P	**Pb**	**21 17 32.0**	**0.0**
	baz=185						
HGSD				*e*S	**Sb**	**21 17 38.5**	**+0.9**
	baz=185						
EHY	**Hungye**	**0.39**	**204**	P	**Pg**	**21 17 31.5**	**-0.6**
	baz=197						
EHY				*e*S	**Sg**	**21 17 37.2**	**-0.4**
	baz=197						
FUSS	**Fushou**	**0.45**	**328**	⇓*i*P	**Pg**	**21 17 31.8**	**-1.3**
	baz=331						
FUSS				S	**Sg**	**21 17 37.5**	**-1.8**
	baz=331						
TWT	**Tachien**	**0.48**	**323**	⇓*i*P	**Pg**	**21 17 33.8**	**0.0**
	baz=323						
TWT				S	**Sg**	**21 17 39.7**	**-0.8**
	baz=323						
EHP	**Heping Village**	**0.49**	**27**	*e*P	**Pg**	**21 17 33.8**	**0.0**
	baz=33						
EHP				*e*S	**Sb**	**21 17 40.7**	**-0.1**
	baz=33						
SSLB	**Suanglung**	**0.51**	**261**	P	**Pg**	**21 17 33.7**	**-0.4**
	baz=257						
SSLB				*e*S	**Sg**	**21 17 39.7**	**-1.2**
	baz=257						
YULB	**Yu-li**	**0.51**	**201**	⇓P	**Pg**	**21 17 33.0**	**-1.1**
	baz=197						
YULB				*e*S	**Sg**	**21 17 41.2**	**+0.2**
	baz=197						
WPL	**Puli Township**	**0.52**	**286**	⇓*i*P	**Pg**	**21 17 34.0**	**-0.2**
	baz=285						
WPL				*e*S	**Sg**	**21 17 40.6**	**-0.7**
	baz=285						
EYUL	**Yuli**	**0.54**	**198**	*e*P	**Pg**	**21 17 33.7**	**-1.0**
	baz=193						
EYUL				*e*S	**Sg**	**21 17 41.6**	**-0.5**
	baz=193						
TWF1	**Yuli**	**0.55**	**200**	⇓*e*P	**Pg**	**21 17 33.4**	**-1.4**
	baz=195						
TWF1				*e*S	**Sb**	**21 17 42.4**	**+0.3**
	baz=195						
DPDB	**Guoxing**	**0.55**	**288**	⇓*i*P	**Pg**	**21 17 34.7**	**-0.2**
	baz=286						
DPDB				*e*S	**Sg**	**21 17 41.8**	**-0.5**
	baz=286						
SMLT	**Sun Moon Lake**	**0.55**	**272**	⇓*i*P	**Pg**	**21 17 34.6**	**-0.2**
	baz=269						
SMLT				*e*S	**Sg**	**21 17 41.9**	**-0.4**
	baz=269						
ECBN	**Changbin**	**0.55**	**185**	*e*P	**Pb**	**21 17 35.4**	**+0.6**
	baz=181						
ECBN				*e*S	**Sn**	**21 17 45.1**	**-0.2**
	baz=181						
NNSB	**Datong**	**0.57**	**349**	⇓*i*P	**Pb**	**21 17 35.1**	**-0.1**
	baz=353						
NNSB				*e*S	**Sg**	**21 17 42.2**	**-0.8**
	baz=353						
WCS	**Beigang Elemen**	**0.57**	**290**	⇓*i*P	**Pb**	**21 17 35.0**	**-0.1**
	baz=288						
WCS				*e*S	**Sg**	**21 17 42.4**	**-0.6**
	baz=288						
NNS	**Nan Shan**	**0.58**	**349**	⇓*i*P	**Pb**	**21 17 35.4**	**0.0**
	baz=353						
NNS				*e*S	**Sg**	**21 17 42.6**	**-0.8**
	baz=353						
TYC	**Yuchr**	**0.59**	**274**	⇓*i*P	**Pb**	**21 17 35.2**	**-0.2**
	baz=272						
TYC				*e*S	**Sb**	**21 17 42.6**	**-0.7**
	baz=272						
ENA	**Nanau**	**0.60**	**22**	⇑*e*P	**Pb**	**21 17 35.2**	**-0.4**
	baz=26						
ENA				*e*S	**Sb**	**21 17 43.5**	**-0.2**
	baz=26						
EWUT	**Wuta**	**0.63**	**24**	⇑P	**Pb**	**21 17 35.7**	**-0.5**
	baz=28						
EWUT				*e*S	**Sb**	**21 17 44.4**	**-0.1**
	baz=28						
WHP	**Taichung City**	**0.65**	**309**	⇓P	**Pb**	**21 17 36.4**	**-0.1**
	baz=309						
WHP				*e*S	**Sb**	**21 17 44.9**	**-0.3**
	baz=309						
LATG	**Datong**	**0.67**	**2**	⇑P	**Pb**	**21 17 36.5**	**-0.3**
	baz=6.0						
LATG				*e*S	**Sb**	**21 17 45.4**	**-0.3**
	baz=6.0						
FULB	**Fuli**	**0.69**	**196**	*e*P	**Pb**	**21 17 37.0**	**-0.2**
	baz=192						
FULB				*e*S	**Sn**	**21 17 50.3**	**+1.4**
	baz=192						
WJS	**Zhushan**	**0.71**	**267**	*e*P	**Pg**	**21 17 38.4**	**+0.6**
	baz=264						
WJS				*e*S	**Sg**	**21 17 48.4**	**+1.2**
	baz=264						
ALS	**Alishan**	**0.73**	**241**	⇑P	**Pb**	**21 17 38.4**	**+0.3**
	baz=237						
ALS				*e*S	**Sb**	**21 17 47.6**	**-0.1**
	baz=237						
NDT	**Datong Townshi**	**0.73**	**1**	*e*P	**Pb**	**21 17 37.7**	**-0.3**
	baz=4.0						
NDT				*e*S	**Sb**	**21 17 47.1**	**-0.5**
	baz=4.0						
WNT1	**Nantou City**	**0.75**	**273**	*e*P	**Pn**	**21 17 39.5**	**+0.1**
	baz=271						
WNT1				*e*S	**Sn**	**21 17 50.4**	**+0.1**
	baz=271						
WWF	**Wufeng**	**0.75**	**284**	*e*P	**Pn**	**21 17 39.5**	**0.0**
	baz=282						
WWF				*e*S	**Sn**	**21 17 51.4**	**+1.0**
	baz=282						
ENTT	**Nioudou**	**0.77**	**5**	⇑*e*P	**Pb**	**21 17 38.3**	**-0.4**
	baz=8.0						
ENTT				*e*S	**Sb**	**21 17 48.9**	**+0.1**
	baz=8.0						
CHKT	**Chengkung**	**0.77**	**189**	*e*P	**Pb**	**21 17 38.3**	**-0.4**
	baz=186						
CHKT				*e*S	**Sg**	**21 17 49.7**	**+0.4**
	baz=186						
NDS	**Dongshan**	**0.79**	**14**	*e*P	**Pb**	**21 17 38.1**	**-0.8**
	baz=18						
NDS				*e*S	**Sb**	**21 17 48.8**	**-0.5**
	baz=18						
CHN5	**Tsauling**	**0.80**	**251**	⇑*e*P	**Pg**	**21 17 40.0**	**+0.5**
	baz=248						
CHN5				*e*S	**Sn**	**21 17 51.6**	**+0.1**
	baz=248						
TCU	**Taichung**	**0.80**	**291**	⇓*e*P	**Pn**	**21 17 40.3**	**+0.2**
	baz=290						
TCU				*e*S	**Sn**	**21 17 52.4**	**+0.9**
	baz=290						
TWC	**Suao**	**0.81**	**23**	⇑*e*P	**Pb**	**21 17 38.7**	**-0.5**
	baz=27						
TWC				*e*S	**Sb**	**21 17 49.8**	**+0.1**
	baz=27						
ELDTW	**Lidau**	**0.81**	**213**	*e*P	**Pb**	**21 17 38.1**	**-1.2**
	baz=210						
ELDTW				*e*S	**Sb**	**21 17 49.7**	**-0.1**
	baz=210						
YHNB	**Yeheng**	**0.81**	**352**	*e*P	**Pb**	**21 17 39.2**	**-0.1**
	baz=354						
YHNB				*e*S	**Sb**	**21 17 49.6**	**-0.3**
	baz=354						
ECS	**Chishang**	**0.81**	**199**	*e*P	**Pg**	**21 17 39.7**	**0.0**
	baz=196						
ECS				*e*S	**Sn**	**21 17 51.9**	**+0.1**
	baz=196						
NSK	**Sanguang**	**0.82**	**351**	*e*P	**Pb**	**21 17 39.0**	**-0.4**
	baz=354						
NSK				*e*S	**Sb**	**21 17 49.6**	**-0.5**
	baz=354						
TWQ1	**Liyutan**	**0.82**	**306**	*e*P	**Pg**	**21 17 40.2**	**+0.4**
	baz=306						
TWQ1				*e*S	**Sn**	**21 17 53.7**	**+1.8**
	baz=306						
NFF	**Wufeng Townshi**	**0.84**	**336**	⇓*e*P	**Pb**	**21 17 39.9**	**+0.1**
	baz=337						
NFF				*e*S	**Sb**	**21 17 50.1**	**-0.6**
	baz=337						
WYL	**Yuanlin Townsh**	**0.85**	**277**	*e*P	**Pn**	**21 17 41.0**	**+0.3**
	baz=275						
WYL				*e*S	**Sn**	**21

NSTT	**Nanjuang**	**0.89**	**329**	⇓	*e*P	**Pg**	**21 17 41.0**	**-0.1**
	baz=331							
NSTT					*e*S	**Sb**	**21 17 51.9**	**-0.1**
	baz=331							
WCHH	**Zhanghua**	**0.89**	**284**		*e*P	**Pn**	**21 17 41.5**	**+0.2**
	baz=283							
WCHH					*e*S	**Sn**	**21 17 53.9**	**+0.4**
	baz=283							
FUSB	**Fushanzhiwuyua**	**0.89**	**5**	⇑	*e*P	**Pb**	**21 17 40.3**	**-0.5**
	baz=8.0							
FUSB					*e*S	**Sb**	**21 17 51.5**	**-0.8**
	baz=8.0							
LIOB	**Emei**	**0.89**	**330**	⇓	*e*P	**Pg**	**21 17 41.3**	**+0.1**
	baz=332							
LIOB					*e*S	**Sb**	**21 17 52.2**	**-0.1**
	baz=332							
WDLH	**Douliu**	**0.90**	**259**	⇓	*e*P	**Pn**	**21 17 41.8**	**+0.3**
	baz=257							
WDLH					*e*S	**Sn**	**21 17 54.4**	**+0.5**
	baz=257							
NWLT	**Wulai**	**0.91**	**0**		*e*P	**Pb**	**21 17 40.7**	**-0.3**
	baz=3.0							
NWLT					*e*S	**Sb**	**21 17 51.9**	**-0.8**
	baz=3.0							
EDH	**Donghe**	**0.91**	**191**		*e*P	**Pb**	**21 17 40.0**	**-0.9**
	baz=189							
EDH					*e*S	**Sg**	**21 17 53.6**	**+0.1**
	baz=189							
WDJ	**Dajia District**	**0.92**	**302**	⇑	*e*P	**Pn**	**21 17 42.6**	**+0.9**
	baz=301							
WDJ					*e*S	**Sn**	**21 17 55.3**	**+0.9**
	baz=301							
ILA	**Ilan**	**0.92**	**14**		*e*P	**Pb**	**21 17 40.3**	**-0.9**
	baz=17							
NMLH	**Miaoli**	**0.93**	**316**		*e*P	**Pg**	**21 17 42.6**	**+0.7**
	baz=317							
NMLH					*e*S	**Sn**	**21 17 55.6**	**+0.9**
	baz=317							
NJD	**Zhudong**	**0.94**	**337**		*e*P	**Pg**	**21 17 42.7**	**+0.5**
	baz=338							
STYH	**Taoyuan**	**0.96**	**224**		*e*P	**Pb**	**21 17 41.8**	**-0.1**
	baz=221							
STYH					*e*S	**Sb**	**21 17 54.6**	**+0.5**
	baz=221							
CHN4	**Tsaushan**	**0.98**	**238**		*e*P	**Pg**	**21 17 43.1**	**+0.3**
	baz=236							
CHN4					*e*S	**Sn**	**21 17 57.5**	**+1.6**
	baz=236							
STYT	**Tauyuan**	**0.98**	**224**		*e*P	**Pb**	**21 17 42.3**	**+0.1**
	baz=221							
STYT					*e*S	**Sg**	**21 17 55.7**	**-0.1**
	baz=221							
TPUB	**Ta-pu**	**0.98**	**235**	⇑	*e*P	**Pg**	**21 17 43.0**	**+0.2**
	baz=232							
TPUB					*e*S	**Sg**	**21 17 56.1**	**+0.4**
	baz=232							
NJN	**Zhunan**	**0.99**	**325**		*e*P	**Pg**	**21 17 43.8**	**+0.6**
	baz=326							
CHN2	**Minshiung**	**1.00**	**251**		*e*P	**Pg**	**21 17 43.9**	**+0.7**
	baz=248							
HSN1	**Hsinchu**	**1.01**	**334**		*e*P	**Pg**	**21 17 44.0**	**+0.6**
	baz=336							
LONT	**Longtian**	**1.01**	**200**		*e*P	**Pb**	**21 17 42.3**	**-0.5**
	baz=197							
WTP	**Ta-pu**	**1.02**	**233**		*e*P	**Pg**	**21 17 43.7**	**0.0**
	baz=230							
WTP					*e*S	**Sg**	**21 17 57.4**	**+0.3**
	baz=230							
WRL	**Guolierlin Hig**	**1.03**	**272**		*e*P	**Pn**	**21 17 43.4**	**+0.2**
	baz=271							
WRL					*e*S	**Sn**	**21 17 57.2**	**+0.1**
	baz=271							
NTC	**Toucheng**	**1.03**	**17**		*e*P	**Pb**	**21 17 42.4**	**-0.6**
	baz=19							
NTC					*e*S	**Sb**	**21 17 56.4**	**+0.3**
	baz=19							
WTK	**Tuku**	**1.03**	**260**		*e*P	**Pn**	**21 17 43.6**	**+0.3**
	baz=258							
WTK					*e*S	**Sg**	**21 17 57.9**	**+0.4**
	baz=258							
SBCB	**Hsinchu**	**1.03**	**333**		*e*P	**Pg**	**21 17 44.3**	**+0.4**
	baz=334							
HSN	**Hsinchu**	**1.05**	**333**		*e*P	**Pg**	**21 17 45.2**	**+1.0**
	baz=337							
HSN					*e*S	**Sg**	**21 18 00.9**	**+2.9**
	baz=337							
EGS		**1.05**	**22**		*e*P	**Pb**	**21 17 42.9**	**-0.5**
	baz=25							
CHY	**Chiayi**	**1.05**	**250**		*e*P	**Pg**	**21 17 44.4**	**+0.1**
	baz=247							
CHY					*e*S	**Sg**	**21 17 58.4**	**+0.3**
	baz=247							
NHDH	**Xindian Distri**	**1.09**	**1**		*e*P	**Pb**	**21 17 44.1**	**0.0**
	baz=3.0							
NHDH					*e*S	**Sn**	**21 17 58.7**	**0.0**
	baz=3.0							
TATO	**Taipei**	**1.10**	**359**		*e*P	**Pn**	**21 17 44.3**	**0.0**
	baz=2.0							
TATO					*e*S	**Sb**	**21 17 58.8**	**+0.4**
	baz=2.0							
TWK	**Hsinying**	**1.10**	**237**		*e*P	**Pg**	**21 17 45.2**	**0.0**
	baz=235							
TWK					*e*S	**Sg**	**21 18 00.3**	**+0.6**
	baz=235							
TWA	**Mucha**	**1.11**	**4**		*e*P	**Pn**	**21 17 44.3**	**-0.1**
	baz=6.0							
TWA					*e*S	**Sb**	**21 17 58.9**	**+0.4**
	baz=6.0							
TWG	**Pinlang**	**1.11**	**201**		*e*P	**Pn**	**21 17 42.0**	**-2.4**
	baz=198							
TWGBT	**Beinan**	**1.11**	**200**		*e*P	**Pn**	**21 17 41.9**	**-2.5**
	baz=198							
WTCT	**Ta-ch'eng**	**1.11**	**270**		*e*P	**Pg**	**21 17 45.2**	**-0.2**
	baz=268							
CHN1	**Nanshi**	**1.12**	**233**		*e*P	**Pg**	**21 17 45.6**	**+0.1**
	baz=231							
CHN1					*e*S	**Sg**	**21 18 00.9**	**+0.6**
	baz=231							
SNST	**Tainan City**	**1.12**	**235**		*e*P	**Pg**	**21 17 45.6**	**0.0**
	baz=233							
NCUH	**Zhongli**	**1.13**	**345**	⇑	*e*P	**Pg**	**21 17 45.8**	**0.0**
	baz=347							
NCUH					*e*S	**Sg**	**21 18 02.0**	**+1.3**
	baz=347							
NCU	**National Centr**	**1.13**	**346**		*e*P	**Pg**	**21 17 45.9**	**+0.1**
	baz=347							
TIPB	**Shuangxi**	**1.14**	**15**		*e*P	**Pn**	**21 17 44.0**	**-0.8**
	baz=17							
TIPB					*e*S	**Sb**	**21 17 59.6**	**+0.2**
	baz=17							
SGST	**Jiashian**	**1.15**	**227**		*e*P	**Pn**	**21 17 45.0**	**+0.1**
	baz=225							
SGST					*e*S	**Sg**	**21 18 01.4**	**+0.2**
	baz=225							
SLGT	**Liugui**	**1.17**	**222**		*e*P	**Pg**	**21 17 46.2**	**-0.3**
	baz=220							
LDUT	**Ludao**	**1.19**	**181**		*e*P	**Pn**	**21 17 43.7**	**-1.7**
	baz=180							
LDUT					*e*S	**Sb**	**21 17 59.5**	**-1.2**
	baz=180							
WSF	**Szhu**	**1.19**	**259**		*e*P	**Pb**	**21 17 46.4**	**+0.6**
	baz=257							
NHW	**Xinwu Township**	**1.21**	**340**		*e*P	**Pg**	**21 17 47.1**	**-0.1**
	baz=341							
WSL	**Shuilin Townsh**	**1.22**	**254**		*e*P	**Pb**	**21 17 46.8**	**+0.6**
	baz=252							
WSL					*e*S	**Sg**	**21 18 03.2**	**0.0**
	baz=252							
TWB1	**Santiao Chiao**	**1.22**	**21**		*e*P	**Pn**	**21 17 45.8**	**-0.1**
	baz=24							
NWF	**Wu-fen Shan**	**1.23**	**12**		*e*P	**Pn**	**21 17 45.9**	**-0.2**
	baz=14							
NWF					*e*S	**Sb**	**21 18 02.1**	**+0.2**
	baz=14							
WFSB	**Wu-fen Shan**	**1.23**	**12**		*e*P	**Pn**	**21 17 45.9**	**-0.1**
	baz=14							
WFSB					*e*S	**Sb**	**21 18 02.0**	**+0.2**
	baz=14							
ICHU	**Yijhu**	**1.23**	**246**		*e*P	**Pb**	**21 17 47.1**	**+0.7**
	baz=244							
ICHU					*e*S	**Sg**	**21 18 03.9**	**+0.2**
	baz=244							
TWS1	**Kuangyinshan**	**1.23**	**357**		*e*P	**Pb**	**21 17 46.5**	**0.0**
	baz=358							
TWS1					*e*S	**Sg**	**21 18 04.2**	**+0.4**
	baz=358							
SXI1	**Grass Mountain**	**1.27**	**16**		*e*P	**Pn**	**21 17 46.4**	**-0.2**
	baz=18							
SXI1					*e*S	**Sn**	**21 18 03.8**	**+0.6**
	baz=18							
YM01	**YM01**	**1.27**	**3**		*e*P	**Pn**	**21 17 46.2**	**-0.4**
	baz=5.0							
YM01					*e*S	**Sg**	**21 18 05.1**	**-0.2**
	baz=5.0							
CHN8	**Yiju**	**1.29**	**247**		*e*P	**Pb**	**21 17 48.4**	**+0.9**
	baz=244							
NTST	**Danshui**	**1.29**	**358**		*e*P	**Pb**	**21 17 47.3**	**-0.2**
	baz=360							
ANP	**Anpu**	**1.31**	**1**		*e*P	**Pn**	**21 17 46.9**	**-0.3**
	baz=3.0							
ANP					*e*S	**Sg**	**21 18 06.3**	**-0.2**
	baz=3.0							
YM08	**YM08**	**1.32**	**4**		*e*P	**Pn**	**21 17 46.6**	**-0.7**
	baz=5.0							
ECL	**Taimali**	**1.36**	**202**		*e*P	**Pn**	**21 17 48.1**	**+0.4**
	baz=200							
SSD	**Sandimen**	**1.37**	**216**		*e*P	**Pb**	**21 17 49.0**	**+0.2**
	baz=213							
TSMG	**Majia**	**1.40**	**214**		*e*P	**Pb**	**21 17 49.5**	**+0.2**
	baz=212							
JYNG	**Yonagunijimaku**	**1.44**	**66**		P	**Pn**	**21 17 49.4**	**+0.5**
JYNG					*e*S	**Sb**	**21 18 08.7**	**+0.6**
MASBT	**Mashibuluo**	**1.48**	**213**		*e*P	**Pn**	**21 17 49.3**	**-0.2**
	baz=211							
YOJ	**Yonaguni jima**	**1.50**	**66**		P	**Pn**	**21 17 50.2**	**+0.5**
YOJ					S	**Sb**	**21 18 09.5**	**-0.3**
YOJ	**Yonaguni jima**	**1.50**	**66**		*e*P	**Pn**	**21 17 50.1**	**+0.4**
	baz=68							
YOJ					*e*S	**Sb**	**21 18 09.8**	**0.0**
	baz=68							
PHUB	**P'eng-hu**	**1.80**	**259**		*e*P	**Pn**	**21 17 54.7**	**+0.9**
	baz=258							
PHUB					*e*S	**Sb**	**21 18 17.7**	**-0.6**
	baz=258							
IRIF	**Iriomote-Funau**	**2.09**	**77**		P	**Pn**	**21 17 58.5**	**+0.7**
IRIF					S	**Sn**	**21 18 24.1**	**+0.8**
HATJ	**Hateruma jima**	**2.12**	**84**		*e*S	**Sn**	**21 18 24.7**	**+0.7**
JKRS	**Kuro-shima**	**2.32**	**80**		P	**Pn**	**21 18 02.3**	**+1.3**
JKRS					*e*S	**Sn**	**21 18 30.5**	**+1.4**
JIJ	**Ishigaki jima**	**2.47**	**78**		P	**Pn**	**21 18 03.4**	**+0.4**
JIJ					*e*S	**Sn**	**21 18 32.4**	**-0.2**
JISG	**Ishigakijimahi**	**2.67**	**74**		P	**Pn**	**21 18 06.1**	**+0.4**
JISG					S	**Sn**	**21 18 37.0**	**-0.5**
JTJ	**Tarama**	**3.02**	**75**		P	**Pn**	**21 18 11.3**	**+0.6**
JTJ					*e*S	**Sn**	**21 18 47.4**	**+1.1**
JOW	**Kunigami**	**6.80**	**63**		Pn	**Pn**	**21 19 01.3**	**-1.3**
	1.9nm,0.3s,baz=171,slow=22,SNR=7.2							
JOW					Sn	Sn	21 20 04.0	-16
	0.4nm,0.3s,baz=99,slow=26,SNR=1.2							
KSRS	**Korea Array**	**14.62**	**21**		Pn	**Pn**	**21 20 49.2**	**-0.4**
	0.2nm,0.3s,baz=200,slow=11,SNR=2.5							
SONM	**Songino Array**	**26.77**	**337**		P	**P**	**21 23 03.6**	**+1.1**
	0.4nm,0.8s,baz=161,slow=9.2,SNR=2.9							
MKAR	**Makanchi Array**	**38.77**	**316**		P	**P**	**21 24 49.3**	**+2.2**
	0.7nm,0.7s,baz=107,slow=9.7,SNR=9.4							
ZALV	**Zalesovo Beam**	**40.67**	**327**		P	**P**	**21 25 03.0**	**+0.3**
	0.3nm,0.5s,baz=111,slow=7.9,SNR=1.9							
H11N1	**WAKE ISLAND Hy**	**42.22**	**87**		T	T	22 10 18.6	
	baz=286							
H11N2	**WAKE ISLAND Hy**	**42.22**	**86**		T	T	22 10 19.7	
	baz=286							
H11N3	**WAKE ISLAND Hy**	**42.23**	**87**		T	T	22 10 20.8	
	baz=286							
H11S3	**WAKE ISLAND Hy**	**42.34**	**88**		T	T	22 10 23.9	
	baz=284,slow=74,SNR=7.7							
H11S1	**WAKE ISLAND Hy**	**42.35**	**88**		T	T	22 10 25.0	
	baz=284,slow=74,SNR=6.6							
H11S2	**WAKE ISLAND Hy**	**42.36**	**88**		T	T	22 10 24.8	
	baz=284,slow=74,SNR=5.3							
KURBB	**Kurchatov Arra**	**42.53**	**320**		P	**P**	**21 25 19.2**	**+1.1**
	0.2nm,0.6s,baz=101,slow=8.9,SNR=2.4							
WRA	**Warramunga Arr**	**45.31**	**163**		P	**P**	**21 25 39.1**	**-1.6**
	1.0nm,1.2s,baz=344,slow=8.0,SNR=2.1							
YKA	**Yellowknife Ar**	**83.15**	**23**		P	**P**	**21 29 46.9**	**-1.4**
	0.2nm,0.6s,baz=312,slow=5.1,SNR=5.0							

IDC 24 21:26:08.1±1.4,5°.12S×150°.80E,h0km,mb3.0/2, mb1 3.3/2,mb1mx3.1/30,mbtmp3.1/2,Error ellipse: s-maj=60.7km s-min=18.8km az=142.0,New Britain region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.47**	**57**		Pn	Pn	21 26 35.9	+0.1
	91nm,0.3s,baz=237,slow=1.2,SNR=14							
KRVT					Sn	Sn	21 26 57.2	+1.4
	109nm,0.3s,baz=241,slow=19,SNR=20							
WRA	**Warramunga Arr**	**21.77**	**226**		P	P	21 31 01.8	+0.1
	0.2nm,0.4s,baz=53,slow=10,SNR=2.2							
ASAR	**Alice Springs**	**24.60**	**220**		P	P	21 31 30.6	+0.3
	0.2nm,0.5s,baz=61,slow=9.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**148.50**	**287**		PKPbc	PKPbc	21 45 56.8	-1.2
	0.3nm,0.7s,baz=101,slow=4.6,SNR=1.8							

*ISK **24** 21:30:57.9,39°.14N×23°.30E,h13km,ML3.3/14*
*IDC **24** 21:30:58.7±2.2,39°.17N×23°.36E,h0km,mb3.3/2, mb1 3.3/4,mb1mx3.1/43,mbtmp3.3/4,ML2.8/2,Error ellipse: s-maj=58.2km s-min=28.4km az=141.0*
*ATH **24** 21:30:58.4,39°.11N×23°.29E,h26km,ML3.1/30,Error ellipse: s-maj=1.0km s-min=0.7km az=260.0*
*THE **24** 21:30:59.3,39°.09N×23°.27E,h12km,ML3.6/4,Error ellipse: s-maj=0.7km s-min=0.4km az=93.0*
ISC 24 21:30:59.4±0.9,39°.09N±0°.02×23°.27E±0°.02,h12km±6km, n97,σ0°.84/118,6C-4D,Aegean Sea

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.22**	**350**		P	**Pg**	**21 31 04.3**	**0.0**
NEO					S	**Sg**	**21 31 07.9**	**+0.4**
NEO					AML	AML	21 31 08.1	
	comp=E,30970μm,0.3s							
NEO					AML	AML	21 31 10.7	
	comp=N,44154μm,0.4s							
NEO	**Neokhori**	**0.22**	**350**		P	**Pg**	**21 31 04.2**	**0.0**
NEO					S	**Sg**	**21 31 07.7**	**+0.2**
	comp=N,19μm,0.3s							
ATAL	**Atalanti**	**0.44**	**206**		P	**Pg**	**21 31 08.1**	**-0.1**
ATAL					S	**Sg**	**21 31 14.6**	**+0.5**
ATAL					AML	AML	21 31 15.8	
	comp=N,5666μm,0.5s							
ATAL					AML	AML	21 31 22.1	
	comp=E,3608μm,0.5s							
ATAL	**Atalanti**	**0.44**	**206**		P	**Pg**	**21 31 07.9**	**-0.3**
ATAL					S	**Sg**	**21 31 14.5**	**+0.4**
ALNA	**Alonissos**	**0.47**	**83**		P	**Pg**	**21 31 08.3**	**-0.3**
ALNA					S	**Sg**	**21 31 14.3**	**-0.5**
ALNA					AML	AML	21 31 15.8	
	comp=E,13345μm,0.6s							
ALNA					AML	AML	21 31 16.7	
	comp=N,12315μm,0.4s							
LKR	**Lokris**	**0.49**	**206**		P	**Pg**	**21 31 08.8**	**-0.2**
LKR					S	**Sb**	**21 31 16.2**	**-0.8**
LKR					AML	AML	21 31 18.9	
	comp=N,3940μm,0.1s							
LKR					AML	AML	21 31 19.3	
	comp=E,4520μm,0.2s							
LKR	**Lokris**	**0.49**	**206**		P	**Pg**	**21 31 08.8**	**-0.2**
LKR					S	**Sb**	**21 31 16.2**	**-0.8**
AGG	**Agios Georgios**	**0.74**	**265**		P	**Pg**	**21 31 12.8**	**-0.9**
AGG					S	**Sb**	**21 31 24.6**	**+0.4**
AGG					AML	AML	21 31 24.9	
	comp=E,2145μm,0.7s							
AGG					AML	AML	21 31 27.2	
	comp=N,2858μm,0.4s							
AGG	**Agios Georgios**	**0.74**	**265**		P	**Pg**	**21 31 13.0**	**-0.7**
AGG					S	**Sb**	**21 31 24.0**	**-0.2**
AGG	**Agios Georgios**	**0.74**	**265**		PG	**Pg**	**21 31 12.6**	**-1.1**
AGG					SG	**Sb**	**21 31 24.5**	**+0.3**
KYMI	**Kymi, Euboea I**	**0.79**	**125**		P	**Pg**	**21 31 14.3**	**-0.5**
KYMI					S	**Sg**	**21 31 25.1**	**-0.1**
KYMI					AML	AML	21 31 29.3	
	comp=E,11251μm,0.4s							
KYMI					AML	AML	21 31 29.7	
	comp=N,4898μm,0.4s							
KYMI	**Kymi, Euboea I**	**0.79**	**125**		P	**Pg**	**21 31 14.4**	**-0.4**
KYMI					S	**Sb**	**21 31 25.6**	**-0.2**
	comp=N,4μm,0.4s							
DLFA	**Delphi**	**0.86**	**225**		P	**Pg**	**21 31 15.4**	**-0.7**
DLFA					AML	AML	21 31 31.6	
	comp=N,1904μm,0.5s							
DLFA					AML	AML	21 31 31.7	
	comp=E,1676μm,0.5s							
VIL2	**Platees**	**0.88**	**180**		P	**Pg**	**21 31 16.3**	**-0.1**
VIL2					S	**Sn**	**21 31 29.9**	**-0.3**
VIL2					AML	AML	21 31 33.4	
	comp=E,8728μm,0.8s							
VIL2					AML	AML	21 31 36.8	
	comp=N,4994μm,0.6s							
MAKR	**Makrakomi, Fth**	**0.89**	**265**		P	**Pg**	**21 31 16.0**	**-0.7**
MAKR					AML	AML	21 31 36.0	
	comp=N,1250μm,0.7s							
MAKR					AML	AML	21 31 38.2	
	comp=E,799μm,0.7s							
MAKR	**Makrakomi, Fth**	**0.89**	**265**		P	**Pg**	**21 31 16.0**	**-0.7**
MAKR					S	**Sb**	**21 31 29.0**	**+0.3**
PAIG	**Paliouri**	**0.89**	**21**		P	**Pg**	**21 31 16.2**	**-0.5**
PAIG					AML	AML	21 31 30.2	
	comp=E,2900μm,0.7s							
PAIG					AML	AML	21 31 31.4	
	comp=N,2378μm,0.5s							
PAIG	**Paliouri**	**0.89**	**21**		P	**Pg**	**21 31 16.2**	**-0.5**
PAIG					S	**Sb**	**21 31 29.2**	**+0.5**
LRSO	**Larissa Observ**	**0.90**	**311**		P	**Pg**	**21 31 16.5**	**-0.2**
VILL	**Villia**	**0.93**	**178**		P	**Pg**	**21 31 16.3**	**-1.0**
VILL					S	**Sb**	**21 31 29.9**	**+0.2**
	comp=N,4μm,0.7s							
TYRN	**Tyrnavos**	**1.02**	**308**		P	**Pb**	**21 31 18.7**	**-0.2**
TYRN					AML	AML	21 31 37.2	
	comp=E,1146μm,0.6s							
TYRN					AML	AML	21 31 40.0	
	comp=N,871μm,0.8s							
THL	**Klokotos Trika**	**1.08**	**296**		P	**Pb**	**21 31 18.9**	**-1.1**
THL					AML	AML	21 31 40.2	
	comp=E,544μm,0.6s							
THL					AML	AML	21 31 43.0	
	comp=N,773μm,0.6s							
THL	**Klokotos Trika**	**1.08**	**296**		P	**Pb**	**21 31 19.0**	**-1.1**
THL					S	**Sn**	**21 31 35.1**	**-0.2**
LTK	**Loutraki**	**1.09**	**193**		P	**Pb**	**21 31 19.4**	**-0.8**
LTK					AML	AML	21 31 39.0	
	comp=E,11871μm,0.6s							
LTK					AML	AML	21 31 39.3	
	comp=N,7670μm,0.7s							
DION	**Dionisos Attik**	**1.14**	**153**		P	**Pb**	**21 31 20.6**	**-0.5**
DION					AML	AML	21 31 39.1	
	comp=N,8116μm,0.4s							
DION					AML	AML	21 31 39.8	
	comp=E,9010μm,0.5s							
PTL	**Penteli**	**1.14**	**156**		P	**Pb**	**21 31 20.7**	**-0.4**
EVR	**Evrytania**	**1.15**	**262**		P	**Pb**	**21 31 20.9**	**-0.4**
EVR					AML	AML	21 31 46.4	
	comp=N,831μm,1.3s							
EVR					AML	AML	21 31 49.9	
	comp=E,818μm,0.8s							
EVR	**Evrytania**	**1.15**	**262**		P	**Pb**	**21 31 20.8**	**-0.5**
THAL	**Thalero**	**1.16**	**205**		P	**Pb**	**21 31 20.8**	**-0.5**
THAL					AML	AML	21 31 38.5	
	comp=E,2583μm,0.6s							
THAL					AML	AML	21 31 40.4	
	comp=N,2679μm,0.5s							
ANX	**Ano Chora**	**1.17**	**245**		P	**Pb**	**21 31 20.5**	**-1.1**
ANX					AML	AML	21 31 45.4	
	comp=E,915μm,1.1s							
ANX					AML	AML	21 31 46.6	
	comp=N,824μm,0.6s							
ANX	**Ano Chora**	**1.17**	**245**		P	**Pb**	**21 31 20.7**	**-0.9**
ANX					S	**Sg**	**21 31 37.0**	**-0.1**
ATH	**Athens Observa**	**1.17**	**163**		P	**Pn**	**21 31 21.4**	**-0.1**
ATH					AML	AML	21 31 40.2	
	comp=E,5470μm,0.3s							
ATH					AML	AML	21 31 43.3	
	comp=N,4510μm,0.4s							
LIT	**Litokhoron**	**1.18**	**329**		P	**Pb**	**21 31 20.8**	**-1.0**
LIT					AML	AML	21 31 40.5	
	comp=E,815μm,0.3s							
LIT					AML	AML	21 31 41.5	
	comp=N,1287μm,0.6s							
LIT	**Litokhoron**	**1.18**	**329**		P	**Pb**	**21 31 20.7**	**-1.0**
LIT					S	**Sn**	**21 31 37.5**	**-0.1**
ATHU	**Athens Univers**	**1.19**	**160**		P	**Pn**	**21 31 21.4**	**-0.5**
ATHU					AML	AML	21 31 39.5	
	comp=E,1267μm,0.5s							
ATHU					AML	AML	21 31 42.0	
	comp=N,2189μm,0.5s							
EFP	**Efpalio**	**1.26**	**239**		P	**Pn**	**21 31 21.9**	**-0.9**
EFP					AML	AML	21 31 43.7	
	comp=N,650μm,0.5s							
EFP					AML	AML	21 31 47.5	
	comp=E,564μm,0.8s							
PLG	**Polygyros**	**1.29**	**6**		P	**Pn**	**21 31 22.0**	**-1.2**
PLG					AML	AML	21 31 39.3	
	comp=E,644μm,0.3s							
PLG					AML	AML	21 31 41.0	
	comp=N,525μm,0.3s							
VLY	**Voula,Athens**	**1.30**	**161**		P	**Pn**	**21 31 23.2**	**-0.2**
VLY					AML	AML	21 31 42.1	
	comp=E,4201μm,0.6s							
VLY					AML	AML	21 31 45.7	
	comp=N,4427μm,0.4s							
VLY	**Voula,Athens**	**1.30**	**161**		P	**Pn**	**21 31 23.2**	**-0.2**
VLY					S	**Sb**	**21 31 40.2**	**-0.3**
	comp=N,2μm,0.5s							
LAKA	**Lakka**	**1.32**	**230**		P	**Pb**	**21 31 24.1**	**0.0**
LAKA					AML	AML	21 31 48.8	
	comp=E,1204μm,0.7s							
LAKA					AML	AML	21 31 52.3	
	comp=N,987μm,0.9s							
OUR	**Ouranopolis**	**1.36**	**24**		P	**Pn**	**21 31 23.2**	**-0.9**
OUR	**Ouranopolis**	**1.36**	**24**		PN	**Pn**	**21 31 23.1**	**-1.1**
OUR					SN	**Sb**	**21 31 40.1**	**-2.0**
GUR	**Goura**	**1.36**	**213**		P	**Pn**	**21 31 23.7**	**-0.7**
GUR					AML	AML	21 31 48.0	
	comp=N,1745μm,0.6s							
GUR					AML	AML	21 31 48.1	
	comp=E,1408μm,0.5s							
GUR	**Goura**	**1.36**	**213**		P	**Pn**	**21 31 23.7**	**-0.7**
KLV	**Kalavryta, Ach**	**1.37**	**220**		P	**Pn**	**21 31 24.1**	**-0.3**
KLV					AML	AML	21 31 50.5	
	comp=N,542μm,0.8s							
KLV					AML	AML	21 31 50.9	
	comp=E,478μm,0.8s							
EFSA	**Agios Efstrati**	**1.41**	**71**		P	**Pn**	**21 31 24.4**	**-0.4**
PVO	**Paravola**	**1.44**	**251**		P	**Pb**	**21 31 26.2**	**0.0**
THE	**Thessaloniki**	**1.56**	**351**		P	**Pn**	**21 31 25.8**	**-1.1**
DRO	**Drossia**	**1.67**	**228**		P	**Pn**	**21 31 28.3**	**-0.2**
KZN	**Kozani**	**1.68**	**317**		P	**Pn**	**21 31 28.5**	**-0.1**
KZN					AML	AML	21 31 59.4	
	comp=E,536μm,0.8s							
KZN					AML	AML	21 32

ENEZ	**Enez**	**2.76**	**53**	PN	**Pn**	**21 31 42.6**	**-0.8**
KKB	**Krupnik**	**2.78**	**357**	*i* P	**Pn**	**21 31 43.3**	**-0.4**
ALN	**Alexandroupoli**	**2.79**	**49**	PN	**Pn**	**21 31 43.0**	**-0.9**
GELI	**Tayfur-Gelibol**	**2.79**	**61**	PN	**Pn**	**21 31 43.2**	**-0.7**
RZN	**Rozhen**	**2.82**	**23**	*i* P	**Pn**	**21 31 44.2**	**-0.2**
LPK	**Lapseki**	**2.98**	**63**	PN	**Pn**	**21 31 45.7**	**-0.8**
KDZ	**Kurdzhali**	**3.04**	**32**	*i* P	**Pn**	**21 31 45.7**	**-1.6**
KRBG	**Karabiga-Canak**	**3.37**	**66**	PN	**Pn**	**21 31 51.2**	**-0.6**
MAR3	**Marsite Statio**	**3.51**	**61**	PN	**Pn**	**21 31 53.3**	**-0.4**
VTS	**Vitosha**	**3.52**	**360**	⇓P	**Pb**	**21 32 02.9**	**+1.1**
VTS	**Vitosha**	**3.52**	**360**	*i* P	**Pn**	**21 31 54.4**	**+0.3**
IDI	**Anoyia**	**4.01**	**161**	Pn	**Pn**	**21 32 02.4**	**+1.7**
	comp=N,0.5nm,0.3s,baz=340,slow=15,SNR=2.2						
IDI				Sn	**Sn**	**21 32 46.3**	**-1.3**
	comp=N,1.2nm,0.3s,baz=31,slow=16,SNR=1.4						
BLKB	**Belogradchik**	**4.55**	**355**	⇑P	**Pn**	**21 32 08.7**	**+0.6**
HERR	**Herculane**	**5.82**	**354**	⇑P	**Pn**	**21 32 25.0**	**-0.5**
ARR	**Arges**	**6.35**	**9**	⇓P	**Pn**	**21 32 32.7**	**-0.2**
VOIR		**6.48**	**11**	⇑P	**Pn**	**21 32 35.1**	**+0.5**
MLR	**Muntele Rosu**	**6.70**	**16**	⇓P	**Pn**	**21 32 39.4**	**+1.7**
PLOR	**Plostina**	**7.20**	**19**	⇓P	**Pn**	**21 32 46.7**	**+2.2**
VRI	**Vrincioaia**	**7.24**	**20**	⇑P	**Pn**	**21 32 46.9**	**+2.0**
OZUR		**7.24**	**14**	⇑P	**Pn**	**21 32 46.0**	**+0.9**
BRTR	**Keskin Array B**	**8.05**	**82**	Pn	**Pn**	**21 32 57.5**	**+1.3**
	comp=N,0.1nm,0.3s,baz=262,slow=13,SNR=6.3						
TORD	**Torodi Ar. Bea**	**32.12**	**222**	P	**P**	**21 37 28.6**	**+1.9**
	comp=N,0.4nm,0.7s,baz=20,slow=8.6,SNR=2.6						
MKAR	**Makanchi Array**	**42.98**	**60**	P	**P**	**21 38 58.7**	**+0.3**
	comp=N,0.2nm,0.6s,baz=266,slow=7.3,SNR=3.7						

*DDA **24** 21:36:17.1±0.0,35°.47N×27°.29E,h15km±1km,MW3.6*
*IDC **24** 21:36:17.6±1.1,35°.56N×27°.47E,h0km,mb3.6/5,*
mb1 3.5/11,mb1mx3.4/56,mbtmp3.4/11,ML3.5/6,Error
ellipse: s-maj=23.2km s-min=14.9km az=161.0
*THE **24** 21:36:19.8,35°.60N×27°.46E,h1km,ML3.2/6,Error ellipse:*
s-maj=1.5km s-min=0.4km az=135.0
*NIC **24** 21:36:19.6±0.0,35°.55N×27°.46E,h16km±1km,Ml4.0/4*
*ISK **24** 21:36:20.1,35°.63N×27°.39E,h1†km,ML3.4/23*
*ATH **24** 21:36:20.1,35°.63N×27°.37E,h23km±1km,ML3.3/9,Error*
ellipse: s-maj=2.3km s-min=1.0km az=127.0

ISC 24 21:36:19.7±0.9,35°.55N±0'.03×27°.47E±0'.02,h16km±6km,
n96,σ1§27/133,mb3.3/5,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.25**	**269**	P		**Pg**		**21 36 25.3**	**0.0**
KARP				S		**Sg**		**21 36 29.0**	**0.0**
KARP				AML	AML			21 36 31.8	
	comp=E,22675μm,0.2s								
KARP				AML	AML			21 36 32.4	
	comp=N,17410μm,0.1s								
KARP	**Karpathos**	**0.25**	**269**	P		**Pg**		**21 36 25.2**	**0.0**
KARP				S		**Sb**		**21 36 29.6**	**-0.4**
	comp=N,10μm,0.2s								
KARP	**Karpathos**	**0.25**	**269**	PG		**Pg**		**21 36 25.3**	**0.0**
KARP				SG		**Sg**		**21 36 28.9**	**-0.1**
KARP	**Karpathos**	**0.25**	**269**	P		**Pg**		**21 36 25.3**	**0.0**
KARP				S		**Sg**		**21 36 29.2**	**+0.2**
KARP				AML	AML			21 36 29.9	
	comp=N,22nm,0.4s								
KARP				AML	AML			21 36 29.9	
	comp=N,22nm,0.4s								
KARP				AML	AML			21 36 31.4	
	comp=N,23nm,0.2s								
KARP				AML	AML			21 36 31.4	
	comp=N,23nm,0.2s								
ARG	**Arkhangelos**	**0.85**	**39**	P		**Pn**		**21 36 36.4**	**-0.6**
ARG				S		**Sn**		**21 36 48.8**	**-0.4**
ARG				AML	AML			21 36 50.8	
	comp=N,3188μm,0.2s								
ARG				AML	AML			21 36 52.8	
	comp=E,5198μm,0.2s								
ARG	**Arkhangelos**	**0.85**	**39**	P		**Pg**		**21 36 36.2**	**0.0**
ARG				S		**Sn**		**21 36 48.5**	**-0.6**
	comp=E,2μm,0.2s								
ARG	**Arkhangelos**	**0.85**	**39**	PG		**Pn**		**21 36 36.5**	**-0.5**
ARG				SG		**Sn**		**21 36 48.5**	**-0.6**
ARG	**Arkhangelos**	**0.85**	**39**	P		**Pn**		**21 36 36.3**	**-0.6**
ARG				S		**Sn**		**21 36 48.3**	**-0.8**
NISR	**Nisiros**	**1.09**	**345**	P		**Pn**		**21 36 40.0**	**-0.4**
NISR				S		**Sg**		**21 36 53.5**	**-1.6**
NISR				AML	AML			21 37 00.5	
	comp=N,2049μm,0.3s								
NISR				AML	AML			21 37 01.0	
	comp=E,3919μm,0.2s								
NISR	**Nisiros**	**1.09**	**345**	P		**Pn**		**21 36 39.9**	**-0.4**
NISR				S		**Sn**		**21 36 55.5**	**+0.4**
	comp=E,2μm,0.2s								
ZKR	**Zakros**	**1.11**	**247**	P		**Pb**		**21 36 40.4**	**-0.1**
ZKR				AML	AML			21 37 04.2	
	comp=E,3445μm,0.5s								
ZKR				AML	AML			21 37 07.3	
	comp=N,1526μm,0.7s								
ZKR	**Zakros**	**1.11**	**247**	P		**Pb**		**21 36 40.4**	**-0.1**
ZKR				S		**Sn**		**21 36 57.8**	**+2.2**
	comp=N,1μm,0.6s								
ZKR	**Zakros**	**1.11**	**247**	PN		**Pb**		**21 36 40.6**	**+0.1**
ZKR				SN		**Sn**		**21 36 57.1**	**+1.5**
ZKR	**Zakros**	**1.11**	**247**	P		**Pb**		**21 36 40.4**	**-0.1**
ZKR				S		**Sg**		**21 36 55.8**	**+0.1**
DAT	**Datca**	**1.18**	**4**	P		**Pn**		**21 36 41.4**	**-0.2**
DAT				S		**Sn**		**21 36 57.7**	**+0.4**
DAT	**Datca**	**1.18**	**4**	PN		**Pg**		**21 36 41.7**	**-0.7**
DAT				SN		**Sn**		**21 36 57.8**	**+0.4**
DAT	**Datca**	**1.18**	**4**	P		**Pg**		**21 36 41.8**	**-0.7**
DAT				S		**Sn**		**21 36 58.9**	**+1.6**
DAT				*i* AML	AML			21 37 01.0	
	comp=N,572nm,0.2s								
DAT				*i* AML	AML			21 37 01.0	
	comp=N,393nm,0.2s								
DAT				*i* AML	AML			21 37 03.0	
	comp=N,287nm,0.2s								
KOSK	**Kos Island**	**1.26**	**342**	P		**Pb**		**21 36 42.3**	**-0.7**
KOSK				AML	AML			21 37 05.1	
	comp=E,4732μm,0.6s								
KOSK				AML	AML			21 37 08.9	
	comp=N,3267μm,0.6s								
KOSK	**Kos Island**	**1.26**	**342**	P		**Pb**		**21 36 42.4**	**-0.7**
KOSK				S		**Sg**		**21 36 59.6**	**-0.8**
	comp=N,680nm,0.6s								
KOSK	**Kos Island**	**1.26**	**342**	PN		**Pg**		**21 36 42.9**	**-1.0**
TURN	**Turunc**	**1.37**	**27**	PN		**Pg**		**21 36 45.1**	**-1.0**
TURN	**Turunc**	**1.37**	**27**	P		**Pg**		**21 36 45.2**	**-0.9**
TURN				S		**Sg**		**21 37 06.5**	**+2.6**
TURN				*i* AML	AML			21 37 08.0	
	comp=N,299nm,0.3s								
TURN				*i* AML	AML			21 37 09.0	
	comp=N,322nm,0.3s								
TURN				*i* AML	AML			21 37 11.0	
	comp=N,376nm,0.3s								
BDRM	**Kayabasi**	**1.51**	**359**	P		**Pn**		**21 36 46.0**	**-0.1**
BDRM				S		**Sg**		**21 37 08.8**	**+0.5**
BDRM				*i* AML	AML			21 37 10.0	
	comp=N,158nm,0.8s								
BDRM				*i* AML	AML			21 37 13.0	
	comp=N,96nm,0.5s								
BDRM				*i* AML	AML			21 37 47.0	
	comp=N,136nm,1.9s								
BODT	**Bodrum**	**1.51**	**355**	PN		**Pn**		**21 36 46.1**	**0.0**
FRMA	**Ierapetra Chan**	**1.52**	**250**	P		**Pn**		**21 36 46.1**	**-0.1**
FRMA				AML	AML			21 37 12.5	
	comp=N,1680μm,0.3s								
FRMA				AML	AML			21 37 12.8	
	comp=E,2414μm,0.6s								
FRMA	**Ierapetra Chan**	**1.52**	**250**	P		**Pn**		**21 36 45.6**	**-0.6**
FRMA				S		**Sn**		**21 37 05.5**	**-0.1**
	comp=E,348nm,0.4s								
DALY	**Dalyan (Mula)**	**1.58**	**37**	PN		**Pg**		**21 36 49.2**	**-0.9**
FETY	**Fethiye**	**1.69**	**50**	PN		**Pb**		**21 36 50.6**	**+0.1**
FETY	**Fethiye**	**1.69**	**50**	P		**Pg**		**21 36 51.8**	**-0.5**
FETY				S		**Sg**		**21 37 16.7**	**+2.4**
YER	**Yerkesik**	**1.71**	**22**	PN		**Pb**		**21 36 50.4**	**-0.3**
MLSB	**Milas**	**1.75**	**8**	PN		**Pn**		**21 36 50.0**	**+0.5**
THR8	**Santorini-Mono**	**1.82**	**298**	P		**Pn**		**21 36 50.5**	**+0.1**
MULA	**Mugla, Merkez-**	**1.83**	**22**	P		**Pb**		**21 36 53.0**	**+0.2**
MULA				S		**Sg**		**21 37 19.1**	**+0.4**
MULA				*i* AML	AML			21 37 24.0	
	comp=E,79nm,0.4s								
MULA				*i* AML	AML			21 37 26.0	
	comp=E,85nm,0.5s								
MULA				*i* AML	AML			21 37 29.0	
	comp=E,174nm,0.4s								
THR6	**Thira Island,**	**1.86**	**296**	P		**Pn**		**21 36 51.5**	**+0.6**
AKAS	**Kas**	**1.86**	**68**	PN		**Pb**		**21 36 52.8**	**-0.6**
AKAS	**Kas**	**1.86**	**68**	P		**Pb**		**21 36 52.9**	**-0.6**
AKAS				S		**Sb**		**21 37 18.0**	**+1.5**
AKAS				*i* AML	AML			21 37 23.0	
	comp=E,174nm,0.5s								
AKAS				*i* AML	AML			21 37 25.0	
	comp=E,171nm,0.5s								
AKAS				*i* AML	AML			21 37 38.0	
	comp=E,87nm,0.7s								
THR3	**Thira Island,**	**1.88**	**298**	P		**Pn**		**21 36 51.6**	**+0.4**
SNT5	**Nea Kammeni, S**	**1.88**	**297**	P		**Pn**		**21 36 51.8**	**+0.6**
DDIM	**Aydin, Didim**	**1.91**	**355**	P		**Pb**		**21 36 53.4**	**-0.7**
DDIM				S		**Sg**		**21 37 22.7**	**+1.6**
DDIM				*i* AML	AML			21 37 24.0	
	comp=E,184nm,1.3s								
DDIM				*i* AML	AML			21 37 34.0	
	comp=E,138nm,1.4s								
DDIM				*i* AML	AML			21 37 47.0	
	comp=E,179nm,1.5s								
HRKL	**Herakleio**	**1.95**	**264**	P		**Pn**		**21 36 53.1**	**+1.0**
HRKL				AML	AML			21 37 29.3	
	comp=N,4795μm,0.6s								
HRKL				AML	AML			21 37 31.8	
	comp=E,5126μm,0.5s								
HRKL	**Herakleio**	**1.95**	**264**	PN		**Pn**		**21 36 52.9**	**+0.8**
IACM	**Heraklion**	**1.97**	**263**	P		**Pn**		**21 36 53.4**	**+1.0**
KSTL	**Kastelli Herak**	**1.97**	**263**	P		**Pn**		**21 36 51.4**	**-1.0**
KSTL				AML	AML			21 37 21.4	
	comp=N,948μm,0.3s								
KSTL				AML	AML			21 37 24.6	
	comp=E,650μm,0.8s								
CAME	**Cameli-Denizli**	**2.03**	**46**	PN		**Pb**		**21 36 55.8**	**-0.5**
IDI	**Anoyia**	**2.12**	**264**	Pn		**Pn**		**21 36 55.5**	**+0.9**
	comp=E,13nm,0.3s,baz=47,slow=14,SNR=58								
IDI				Sn		**Sn**		**21 37 21.6**	**+1.0**
	comp=E,27nm,0.3s,baz=67,slow=7.7,SNR=6.1								
IDI	**Anoyia**	**2.12**	**264**	P		**Pn**		**21 36 55.2**	**+0.6**
IDI				AML	AML			21 37 30.6	
	comp=N,592μm,0.7s								
IDI				AML	AML			21 37 32.2	
	comp=E,576μm,0.4s								
IDI	**Anoyia**	**2.12**	**264**	PN		**Pn**		**21 36 55.5**	**+0.9**
AYDN	**Tasoluk**	**2.13**	**9**	P		**Pn**		**21 36 55.6**	**+1.0**
AYDN				S		**Sn**		**21 37 21.3**	**+0.5**
AYDN				*i* AML	AML			21 37 33.0	
	comp=E,44nm,0.7s								
AYDN				*i* AML	AML			21 37 34.0	
	comp=E,98nm,0.5s								
AYDN				*i* AML	AML			21 37 36.0	
	comp=E,59nm,0.3s								
GCAM	**G?zelcami?**	**2.15**	**355**	PN		**Pb**		**21 36 56.3**	**-1.9**
GCAM	**G?zelcami?**	**2.15**	**355**	P		**Pb**		**21 36 56.3**	**-1.9**
GCAM				*i* AML	AML			21 37 25.0	
	comp=E,48nm,1.1s								
GCAM				*i* AML	AML			21 37 43.0	
	comp=E,42nm,0.6s								
GCAM				*i* AML	AML			21 37 46.0	
	comp=E,50nm,0.4s								
CAEL	**Denizli, Camel**	**2.17**	**43**	P		**Pb**		**21 36 57.9**	**-0.7**
CAEL				S		**Sg**		**21 37 31.1**	**+1.8**
CAEL				*i* AML	AML			21 37 49.0	
	comp=E,248nm,0.7s								
CAEL				*i* AML	AML			21 37 51.0	
	comp=E,323nm,0.8s								
CAEL				*i* AML	AML			21 37 53.0	
	comp=E,206nm,0.8s								
APE	**Apeiranthos**	**2.18**	**315**	P		**Pn**		**21 36 55.3**	**+0.1**
APE	**Apeiranthos**	**2.18**	**315**	PN		**Pn**		**21 36 55.5**	**+0.2**
SMG	**Samos**	**2.21**	**347**	P		**Pn**		**21 36 56.1**	**+0.4**
TAVA	**DENIZLI_Tavas**	**2.23**	**31**	P		**Pb**		**21 36 59.1**	**-0.6**
TAVA				S		**Sg**		**21 37 30.9**	**-0.7**
TAVA				*i* AML	AML			21 37 37.0	
	comp=E,126nm,0.5s								
TAVA				*i* AML	AML			21 37 38.0	
	comp=E,136nm,0.5s								
TAVA				*i* AML	AML			21 37 41.0	
	comp=E,94nm,0.6s								
TMBK	**Timbaki Herakl**	**2.26**	**259**	P		**Pn**		**21 36 57.5**	**+1.2**
ELL	**Elmali**	**2.31**	**58**	PN		**Pb**		**21 36 59.6**	**-1.4**
GOLH	**Golhisar**	**2.38**	**45**	P		**Pb**		**21 37 01.5**	**-0.7**
GOLH				S		**Sg**		**21 37 34.3**	**-1.9**
GOLH				*i* AML	AML			21 37 45.0	
	comp=E,133nm,0.6s								
GOLH				*i* AML	AML			21 37 50.0	
	comp=E,110nm,0.5s								
GOLH				*i* AML	AML			21 37 54.0	
	comp=E,74nm,0.8s								
AYDB	**Zeytinkoy-Aydi**	**2.41**	**8**	PN		**Pn**		**21 36 59.6**	**+1.0**
AKUM	**Antalya-Kumluc**	**2.46**	**71**	P		**Pn**		**21 37 01.1**	**+2.0**
AKUM				S		**Sn**		**21 37 30.5**	**+1.8**
AKUM				*i* AML	AML			21 37 35.0	
	comp=E,36nm,0.4s								
AKUM				*i* AML	AML			21 37 35.0	
	comp=E,47nm,0.4s								
AKUM				*i* AML	AML			21 37 35.0	
	comp=E,60nm,0.3s								
DGB	**zmir**	**2.54**	**349**	P		**Pn**		**21 37 00.4**	**+0.2**
DGB				*i* AML	AML			21 37 52.0	
	comp=E,37nm,1.8s								
DGB				*i* AML	AML			21 38 08.0	
	comp=E,30nm,0.9s								
DGB				*i* AML	AML			21 38 10.0	
	comp=E,45nm,2.2s								
KORT	**Korkueli**	**2.74**	**57**	PN		**Pb**		**21 37 05.9**	**-2.5**
KORT	**Korkueli**	**2.74**	**57**	P		**Pb**		**21 37 06.2**	**-2.2**
KORT				S		**Sb**		**21 37 42.0**	**+0.2**
KORT				*i* AML	AML			21 37 55.0	
	comp=E,40nm,0.9s								
KORT				*i* AML	AML			21 37 59.0	
	comp=E,21nm,1.0s								
KORT				*i* AML	AML			21 38 06.0	
	comp=E,59nm,0.9s								
BLCB	**Balcova**	**2.85**	**353**	PN		**Pn**		**21 37 05.6**	**+1.2**
IMMV	**Iera Moni Meta**	**2.85**	**269**	P		**Pn**		**21 37 05.4**	**+1.0**
IMMV	**Iera Moni Meta**	**2.85**	**269**	PN		**Pn**		**21 37 06.0**	**+1.5**
GVD	**Gavdhos**	**2.86**	**257**	PN		**Pn**		**21 37 06.6**	**+2.0**
URLA	**Izmir**	**2.89**	**346**	PN		**Pn**		**21 37 06.6**	**+1.6**
RODP	**Rodopos**	**3.03**	**271**	PN		**Pn**		**21 37 08.7**	**+1.8**
BUCA	**Burdur, Bucak-**	**3.06**	**54**	P		**Pb**		**21 37 11.5**	**-2.2**
BUCA				S		**Sb**		**21 37 50.4**	**-0.4**
BUCA				*i* AML	AML			21 38 06.0	
	comp=E,30nm,0.5s								
BUCA				*i* AML	AML			21 38 14.0	
	comp=E,28nm,0.6s								
BUCA				*i* AML	AML			21 38 17.0	
	comp=E,27nm,1.0s								
KNDR	**Palaiochora Ch**	**3.11**	**265**	PN		**Pn**		**21 37 10.6**	**+2.6**
PASA	**Karahalli, USA**	**3.22**	**30**	P		**Pn**		**21 37 11.8**	**+2.0**
PASA				*i* AML	AML			21 38 09.0	
	comp=E,20nm,0.6s								
PASA				*i* AML	AML			21 38 14.0	
	comp=E,9.8nm,0.7s								
PASA				*i* AML	AML			21 38 16.0	
	comp=E,15nm,1.0s								
AKHS	**Akhisar**	**3.33**	**5**	P		**Pn**		**21 37 12.3**	**+1.2**
AKHS				*i* AML	AML			21 37 59.0	
	comp=E,5.3nm,0.5s								
AKHS				*i* AML	AML			21 38 33.0	
	comp=E,20nm,1.0s								
AKHS				*i* AML	AML			21 39 12.0	
	comp=E,0.5nm,1.8s								
USAK	**Uak-Merkez**	**3.39**	**21**	P		**Pn**		**21 37 13.7**	**+1.8**
USAK				S		**Sn**		**21 37 54.9**	**+3.0**
USAK				*i* AML	AML			21 37 55.0	
	comp=E,36nm,1.1s								
USAK				*i* AML	AML			21 38 14.0	
	comp=E,10nm,0.6s								
USAK				*i* AML	AML			21 39 15.0	
	comp=E,47nm,3.9s								
ZEDA	**zmir-Bergama**	**3.42**	**355**	P		**Pn**		**21 37 13.9**	**+1.6**
ZEDA				*i* AML	AML			21 38 16.0	
	comp=E,24nm,1.9s								
ZEDA				*i* AML	AML			21 38 27.0	
	comp=E,24nm,1.3s								
ZEDA				*i* AML	AML			21 38 34.0	
	comp=E,20nm,1.7s								
KEPZ	**Antalya-Kepez**	**3.60**	**67**	P		**Pn**		**21 37 17.3**	**+2.4**
KEPZ				S		**Sn**		**21 37 59.9**	**+2.8**
KEPZ				*i* AML	AML			21 38 05.0	
	comp=E,14nm,0.6s								
KEPZ				*i* AML	AML			21 38 05.0	
	comp=E,23nm,0.7s								
KEPZ				*i* AML	AML			21 38 06.0	
	comp=E,33nm,1.2s								
OSC1	**CSNet OBS 1**	**3.75**	**122**	P		**Pn**		**21 37 16.9**	**0.0**
AKMS	**Akamas**	**4.02**	**96**	P		**Pn**		**21 37 20.9**	**+0.3**
AKMS				AML	AML			21 38 09.2	
	comp=E,0.7nm,0.3s								
AKMS				AML	AML			21 38 09.3	
	comp=E,0.4nm,0.3s								
ALFC	**Alefka**	**4.21**	**94**	P		**Pn**		**21 37 24.0**	**+0.8**
ALFC				AML	AML			21 38 13.8	
	comp=E,0.5nm,0.3s								
ALFC				AML	AML			21 38 14.0	
	comp=E,0.5nm,0.3s								
BAYC	**CANAKKALE_Bayr**	**4.24**	**350**	P		**Pn**		**21 37 24.5**	**+0.8**
BAYC				*i* AML	AML			21 38 50.0	
	comp=E,7.5nm,1.1s								
BAYC				*i* AML	AML			21 39 09.0	
	comp=E,8.8nm,2.3s								
BAYC				*i* AML	AML			21 39 47.0	
	comp=E,7.5nm,1.3s								
NATA	**Nata**	**4.25**	**99**	P		**Pn**		**21 37 24.4**	**+0.7**
SZAC	**Souni**	**4.51**	**99**	P		**Pn**		**21 37 27.9**	**+0.6**
SZAC				AML	AML			21 38 21.4	
	comp=E,0.4nm,0.7s								
ASGA	**Asgata**	**4.80**	**98**	P		**Pn**		**21 37 31.6**	**+0.4**
CSS	**Mathiatis**	**4.83**	**95**	P		**Pn**		**21 37 33.0**	**+1.2**
MVOU	**Mavrovouni**	**5.07**	**94**	P		**Pn**		**21 37 35.5**	**+0.5**
BRTR	**Keskin Array B**	**6.43**	**48**	Pn		**Pn**		**21 37 55.4**	**+1.6**
	comp=E,0.1nm,0.3s,baz=227,slow=15,SNR=7.1								
BRTR				Sn		**Sn**		**21 39 09.3**	**+2.4**
	comp=E,0.1nm,0.3s,baz=211,slow=26,SNR=4.1								
MMAI	**Mount Meron Ar**	**7.04**	**109**	Pn		**Pn**		**21 38 00.2**	**-1.9**
	comp=E,3.5nm,0.3s,baz=284,slow=18,SNR=7.4								
MMAI				Sn		**Sn**		**21 39 19.6**	**-2.2**
	comp=E,3.4nm,0.3s,baz=288,slow=36,SNR=13								
ASF	**Jabal al Asfar**	**8.54**	**111**	Sn		**Sn**		**21 39 57.0**	**-1.7**
	comp=E,0.2nm,0.3s,baz=258,slow=5.4,SNR=1.3								
EIL	**Elat**	**8.62**	**131**	Pn		**Pn**		**21 38 24.1**	**+0.3**
	comp=E,0.6nm,0.3s,baz=262,slow=1.1,SNR=8.5								
EIL				Sn		**Sn**		**21 39 55.0**	**-5.6**
	comp=E,1.0nm,0.3s,baz=228,slow=21,SNR=6.3								
AKASG	**Malin Array Be**	**15.19**	**4**	Pn		**Pn**		**21 39 53.0**	**-0.4**
	comp=E,0.3nm,0.3s,baz=194,slow=12,SNR=1.3								
GERES	**GERESS Array B**	**16.71**	**327**	Pn		**Pn**		**21 40 13.0**	**-0.1**
	comp=E,0.1nm,0.3s,baz=135,slow=15,SNR=1.5								
ESDC	**Sonseca Array**	**25.17**	**289**	P		**P**		**21 41 45.5**	**+1.2**
	comp=E,0.4nm,0.6s,baz=81,slow=11,SNR=6.0								
FINES	**FINESS Array B**	**25.93**	**358**	P		**P**		**21 41 49.3**	**-1.5**
	comp=E,3.3nm,0.9s,baz=182,slow=18,SNR=2.1								
TORD	**Torodi Ar. Bea**	**32.21**	**233**	P		**P**		**21 42 47.0**	**-0.2**
	comp=E,0.4nm,0.3s,baz=34,slow=8.5,SNR=13								
KURBB	**Kurchatov Arra**	**39.40**	**51**	P		**P**		**21 43 49.2**	**+0.7**
	comp=E,0.3nm,0.5s,baz=274,slow=8.4,SNR=3.9								
MKAR	**Makanchi Array**	**41.98**	**57**	P		**P**		**21 44 11.0**	**+1.1**
	comp=E,0.2nm,0.5s,baz=275,slow=7.0,SNR=3.6								

*NNC **24** 21:38:57.3±4.0,37°.69N×71°.85E,h0km,mb3.9,mpv3.5,*
Error ellipse: s-maj=30.5km s-min=26.7km az=175.0
*IDC **24** 21:38:57.6±4.6,37°.50N×71°.82E,h180km±34km,mb3.0/2,*
mb1 3.2/7,mb1mx2.8/55,mbtmp3.7/7,Error ellipse:
s-maj=59.9km s-min=24.2km az=151.0
*SOME **24** 21:38:59.8,38°.48N×71°.93E,h10km*

ISC 24 21:38:53.0±1.4,36°.96N±0°.08×72°.4E±0°.1,h150km,n32,
σ28§30/42,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.27**	**11**	P		**Pn**		**21 40 10.5**	**+0.3**
	SNR=38								
IUG	**Iuzhnay**	**5.48**	**342**	*e*P		**Pn**		**21 40 13.4**	**+0.5**
	105nm,0.1s								
IUG				*e*S		Sn		21 41 05.9	-9.4
	17nm,0.1s								
UCH	**Uchtor**	**5.52**	**17**	P		**Pn**		**21 40 14.3**	**+0.7**
	SNR=17								
EKS2	**Erkin-Say**	**5.80**	**10**	P		**Pn**		**21 40 18.4**	**+1.3**
	SNR=12								
MRKS	**Merke**	**5.82**	**6**	*e*P		**Pn**		**21 40 21.6**	**+4.3**
	2.7nm,0.1s								
MRKS				*e*S		**Sn**		**21 41 20.4**	**-2.8**
	21nm,0.3s								
AAK	**Ala-Archa**	**5.90**	**16**	P		**Pn**		**21 40 19.7**	**+1.2**
	SNR=13								
AAK	**Ala-Archa**	**5.90**	**16**	P		**Pn**		**21 40 19.6**	**+1.1**
	2.8nm,0.3s,baz=205,slow=2.8,SNR=21								
AAK				S		**Sn**		**21 41 21.8**	**-3.6**
	1.8nm,0.3s,baz=146,slow=11,SNR=14								
ULHL	**Ulahol**	**6.07**	**28**	P		**Pn**		**21 40 21.6**	**+0.8**
	SNR=6.6								
KK31	**Karatay Array**	**6.30**	**348**	⇓P		**Pn**		**21 40 21.9**	**-1.7**
	1.4nm,0.3

MOS ***24*** *21:43:08.6±0.9, 36.97N×71.63E, h117km, mb4.8/39, MS4.0/9, Error ellipse: s-maj=4.7km s-min=3.1km az=89.6*
BJI ***24*** *21:43:09.3±0.0, 36.97N×71.71E, h114km, mb5.1/76, mB4.9/40*
IDC ***24*** *21:43:10.0±0.5, 36.85N×71.65E, h120km±3km, mb4.4/47, mb1 4.4/50, mb1mx4.3/60, mbtmp4.8/50, MS3.7/22, Ms1 3.7/22, ms1mx3.3/95, Error ellipse: s-maj=9.6km s-min=6.7km az=179.0*
NEIC ***24*** *21:43:10.4±2.0, 37.00N±0.05×71.48E±0.08, h115km±4km, mb4.9/162, Mwr5.1/21, Error ellipse: s-maj=9.7km s-min=7.8km az=109.0*
NEIC ***24*** *21:43:10.3, 36.99N×71.52E, h111km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr4.69; Mθθ-2.67; Mφφ-2.01; Mrθ0.32; Mθφ-2.32; Mφr-2.47; Fault plane solution: M₀5.31000×10¹⁶ NP1:φs208.83000°, δ56.75000°, λ66.79000°. NP2:φs66.85000°, δ39.77000°, λ121.00000°. Principal axes: T 5.6316, Plg69.0000°, Azm69.0000°; N -0.7255, Plg19.0000°, Azm222.0000°; P -4.9061, Plg9.0000°, Azm315.0000°;*
GCMT ***24*** *21:43:11.4±0.3, 37.04N±0.02×71.57E±0.02, h129km±3km, MW4.9/103, Moment Tensor Solution. s31,c36; s103,c155; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.82±.08; Mθθ-2.89±.10; Mφφ 1.07±.09; Mrθ-0.83±.08; Mθφ 0.01±.10; Mφr-1.28±.06; Best double couple: M₀2.95100×10¹⁶ NP1:φs121.00000°, δ46.00000°, λ142.00000°. NP2:φs240.00000°, δ64.00000°, λ51.00000°. Principal axes: T 2.8590, Plg54.0000°, Azm102.0000°; N 0.1850, Plg34.0000°, Azm260.0000°; P -3.0440, Plg10.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 21:43:09.3±0.2, 36.93N±0.03×71.59E±0.03, h114km±2km, h114km: pP-P, n877, σ1s74/970, mb4.9/243, 80C-110D, Fault plane solution: NP1:φs80.51909°, δ87.63889°, λ-52.84752°. **NP2:**φs173.63117°, δ37.21663°, λ-176.09432°. **Principal axes:** T Plg32.2745°, Azm140.1821°; N Plg37.1156°, Azm258.7311°; P Plg36.3160°, Azm22.5241°; **Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.30**	**335**			**Pn**	**21 43 46.4**	**0.0**
CHGR	**Chuyangaron**	**2.59**	**313**	PN		**Pn**	**21 43 49.0**	**-1.0**
CHGR	**Chuyangaron**	**2.59**	**313**			**Pn**	**21 43 49.0**	**-1.0**
CEP	**Cherat**	**3.11**	**175**	⇓P		**Pn**	**21 43 58.4**	**+1.5**
CEP				S		**Sn**	**21 44 36.0**	**+2.4**
KBL	**Kabul**	**3.15**	**222**	PN		**Pn**	**21 43 58.9**	**+1.3**
KBL	**Kabul**	**3.15**	**222**	Pn		**Pn**	**21 43 58.9**	**+1.3**
KBL	**Kabul**	**3.15**	**222**	P		**Pn**	**21 43 59.3**	**+1.7**
	SNR=182							
KBL				S		**Sn**	**21 44 36.5**	**+1.7**
BTK	**Batken**	**3.19**	**349**	PN		**Pn**	**21 43 59.3**	**+1.4**
BTK	**Batken**	**3.19**	**349**	Pn		**Pn**	**21 43 59.3**	**+1.4**
CHCP	**Chirah Chowk**	**3.54**	**157**	⇓P		**Pn**	**21 44 04.7**	**+2.2**
NIL	**Nilore**	**3.54**	**157**	PN		**Pn**	**21 44 04.6**	**+2.0**
NIL	**Nilore**	**3.54**	**157**	P		**Pn**	**21 44 04.8**	**+2.2**
THW	**Thamme Wali**	**4.12**	**178**	⇓P		**Pn**	**21 44 11.0**	**+0.6**
KSH	**Kashi**	**4.32**	**52**	P		**Pn**	**21 44 09.8**	**-3.2**
KSH				sP			21 44 34.8	
KSH				S		**Sn**	**21 44 54.0**	**-8.4**
KSH				smax		smax		
	comp=N,5μm,0.8s							
KSH				smax		smax		
	comp=E,4μm,1.0s							
TAS	**Tashkent**	**4.74**	**339**	PN		**Pn**	**21 44 18.4**	**-0.2**
TAS	**Tashkent**	**4.74**	**339**	Pn		**Pn**	**21 44 18.4**	**-0.2**
SARP	**Sargodha**	**5.07**	**170**	⇓P		**Pn**	**21 44 22.7**	**-0.4**
IUG	**Iuzhnay**	**5.35**	**347**	*d* PN		**Pn**	**21 44 27.0**	**+0.1**
IUG	**Iuzhnay**	**5.35**	**347**	*e*P		**Pn**	**21 44 27.1**	**+0.1**
	670nm,0.5s							
IUG				*e*S		Sn	21 45 51.0	+24
	5μm,0.9s							
IUG	**Iuzhnay**	**5.35**	**347**	⇓ *i* P		**Pn**	**21 44 27.0**	**+0.1**
	baz=347							
AML	**Almayashu**	**5.45**	**17**	P		**Pn**	**21 44 28.9**	**+0.4**
	SNR=1778							
AML	**Almayashu**	**5.45**	**17**	P		**Pn**	**21 44 29.5**	**+1.0**
AML	**Almayashu**	**5.45**	**17**	*i* P		**Pn**	**21 44 28.9**	**+0.4**
	SNR=1996							
CHM	**Chimkent**	**5.60**	**345**	*e*PN		**Pn**	**21 44 30.2**	**0.0**
CHM				*e*S		**Sn**	**21 45 33.7**	**+0.4**
CHM	**Chimkent**	**5.60**	**345**	*e*P		**Pn**	**21 44 30.3**	**0.0**
	baz=344							
CHM				*e*S		**Sn**	**21 45 33.8**	**+0.4**
	baz=344							
UCH	**Uchtor**	**5.76**	**22**	P		**Pn**	**21 44 33.5**	**+0.8**
	SNR=120							
MRKS	**Merke**	**5.95**	**12**	*e*P		**Pn**	**21 44 38.2**	**+3.2**
	1μm,0.9s							
MRKS				*e*S		Sn	21 46 09.7	+28
	365nm,1.0s							
DZA	**Taraz**	**5.96**	**358**	*d* PN		**Pn**	**21 44 35.4**	**+0.3**
DZA				*e*S		**Sn**	**21 45 42.2**	**+0.2**
DZA	**Taraz**	**5.96**	**358**	⇓ *i* P		**Pn**	**21 44 35.4**	**+0.3**
	baz=358							
DZA				*e*S		**Sn**	**21 45 42.3**	**+0.2**
	baz=358							
EKS2	**Erkin-Say**	**5.97**	**16**	P		**Pn**	**21 44 36.2**	**+0.9**
	SNR=282							
AAK	**Ala-Archa**	**6.13**	**21**	P		**Pn**	**21 44 38.6**	**+1.2**
	SNR=367							
AAK	**Ala-Archa**	**6.13**	**21**	P		**Pn**	**21 44 38.6**	**+1.2**
	148nm,0.3s,baz=197,slow=6.7,SNR=1496							
AAK				LR		LR	21 46 40.8	
	comp=Z,342nm,20.2s,baz=202,slow=34							
AAK	**Ala-Archa**	**6.13**	**21**	PN		**Pn**	**21 44 39.0**	**+1.5**
AAK	**Ala-Archa**	**6.13**	**21**	Pn		**Pn**	**21 44 39.0**	**+1.5**
AAK	**Ala-Archa**	**6.13**	**21**	P		**Pn**	**21 44 38.9**	**+1.5**
AAK				S		**Sn**	**21 45 46.4**	**+0.1**
AAK	**Ala-Archa**	**6.13**	**21**	*i* P		**Pn**	**21 44 38.4**	**+1.0**
	SNR=384							
KK31	**Karatay Array**	**6.23**	**353**	PN		**Pn**	**21 44 38.4**	**-0.2**
KK31	**Karatay Array**	**6.23**	**353**	Pn		**Pn**	**21 44 38.9**	**+0.2**
KK31	**Karatay Array**	**6.23**	**353**	P		**Pn**	**21 44 38.4**	**-0.2**
	1μm,0.7s,baz=180,slow=13,SNR=5874							
KK31				⇑S		Sn	21 46 10.6	+22
	2μm,1.1s,baz=185,slow=29,SNR=6.5							
KKAR	**Karatay Array**	**6.23**	**353**	PN		**Pn**	**21 44 38.9**	**+0.3**
KKAR	**Karatay Array**	**6.23**	**353**	Pn		**Pn**	**21 44 38.9**	**+0.3**
KKAR	**Karatay Array**	**6.23**	**353**			**Pn**	**21 44 39.0**	**+0.3**
BRLS	**Boroldaу**	**6.24**	**348**	*i* PN		**Pn**	**21 44 35.2**	**-3.7**
BRLS	**Boroldaу**	**6.24**	**348**	*e*P		**Pn**	**21 44 35.3**	**-3.6**
	150nm,0.5s							
BRLS				*e*S		Sn	21 46 04.6	+16
	299nm,1.0s							
BRLS	**Boroldaу**	**6.24**	**348**	*i* P		**Pn**	**21 44 35.2**	**-3.7**
	baz=346							
KBK	**Karagaybulak**	**6.28**	**23**	P		**Pn**	**21 44 40.8**	**+1.2**
	SNR=77							
FRU1	**Bishkek**	**6.33**	**21**	PN		**Pn**	**21 44 41.7**	**+1.6**
FRU1	**Bishkek**	**6.33**	**21**			**Pn**	**21 44 41.6**	**+1.6**
ULHL	**Ulahol**	**6.41**	**33**	P		**Pn**	**21 44 42.8**	**+1.4**
	SNR=65							
BOOM	**Boomskoye usch**	**6.49**	**30**	PN		**Pn**	**21 44 43.3**	**+0.9**
BOOM	**Boomskoye usch**	**6.49**	**30**	Pn		**Pn**	**21 44 43.3**	**+0.9**
CHMS	**Chumysh**	**6.53**	**21**	P		**Pn**	**21 44 43.6**	**+0.8**
	SNR=170							
CHMS	**Chumysh**	**6.53**	**21**	PN		**Pn**	**21 44 43.4**	**+0.6**
CHMS	**Chumysh**	**6.53**	**21**	⇑P		**Pn**	**21 44 43.4**	**+0.6**
	2μm,0.8s							
CHMS				⇑S		Sn	21 46 18.3	+22
	624nm,0.7s							
USP	**Ospenovka**	**6.71**	**18**	P		**Pn**	**21 44 45.4**	**+0.1**
	SNR=750							
TKM2	**Tokmak 2**	**6.73**	**26**	P		**Pn**	**21 44 46.5**	**+0.8**
	SNR=1534							
TKM2	**Tokmak 2**	**6.73**	**26**	PN		**Pn**	**21 44 46.3**	**+0.6**
TKM2	**Tokmak 2**	**6.73**	**26**	⇓P		**Pn**	**21 44 46.3**	**+0.6**
	1μm,0.9s							
TKM2				⇑S		Sn	21 46 21.6	+21
	203nm,0.9s							
KDJ	**Kajisay**	**6.76**	**38**	PN		**Pn**	**21 44 46.2**	**+0.2**
KDJ	**Kajisay**	**6.76**	**38**	Pn		**Pn**	**21 44 46.2**	**+0.2**
BHK	**Bhakra**	**6.80**	**143**	*e*PN		**Pn**	**21 44 47.0**	**+0.5**
BHK				*e*SN		**Sn**	**21 45 57.9**	**-4.5**
SGDS	**Sogindy**	**6.92**	**19**	*i* PN		**Pn**	**21 44 48.1**	**0.0**
SGDS	**Sogindy**	**6.92**	**19**	*i* P		**Pn**	**21 44 48.1**	**0.0**
	baz=18							
SGDS				*e*S		**Sn**	**21 46 05.3**	**-0.1**
TNSS	**Tian-Shan**	**7.36**	**32**	*i* PN		**Pn**	**21 44 54.6**	**+0.3**
TNSS	**Tian-Shan**	**7.36**	**32**	*i* P		**Pn**	**21 44 54.7**	**+0.3**
	baz=32							
SMLA	**Simla**	**7.41**	**140**	*e*P		**Pn**	**21 44 53.0**	**-1.6**
SMLA				*e*S		**Sn**	**21 46 09.9**	**-7.3**
AAA	**Alma-Ata**	**7.49**	**31**	*d i* PN		**Pn**	**21 44 57.0**	**+1.3**
AAA	**Alma-Ata**	**7.49**	**31**	⇓ *i* P		**Pn**	**21 44 57.1**	**+1.3**
	baz=31							
MDOK	**Medeo**	**7.50**	**32**	PN		**Pn**	**21 44 56.5**	**+0.4**
MDOK	**Medeo**	**7.50**	**32**	*i* P		**Pn**	**21 44 56.7**	**+0.6**
	baz=32							
MDOK	**Medeo**	**7.50**	**32**	⇑P		**Pn**	**21 44 56.5**	**+0.4**
	260nm,0.7s							
MDOK				S		Sn	21 46 40.3	+21
	371nm,1.3s							
KNDC	**Almaty**	**7.51**	**32**	⇑P		**Pn**	**21 44 57.3**	**+1.2**
	1μm,0.8s							
KNDC				⇑S		Sn	21 46 40.0	+20
	859nm,0.8s							
KUU	**Kurty**	**7.85**	**26**	*d* PN		**Pn**	**21 45 00.0**	**-0.5**
KUU	**Kurty**	**7.85**	**26**	⇓ *i* P		**Pn**	**21 45 00.1**	**-0.5**
	baz=26							
HRA	**Herat**	**8.02**	**254**	Pn		**Pn**	**21 45 03.1**	**0.0**
CHKK	**Chushkaly**	**8.05**	**29**	⇓PN		**Pn**	**21 45 02.9**	**-0.5**
CHKK	**Chushkaly**	**8.05**	**29**	⇓ *i* P		**Pn**	**21 45 02.9**	**-0.5**
	baz=29							
SATY	**Saty**	**8.05**	**38**	*d* PN		**Pn**	**21 45 03.4**	**-0.1**
SATY				pmax		pmax		
	comp=Z,43nm,0.8s							
SATY	**Saty**	**8.05**	**38**	⇓ *i* P		**Pn**	**21 45 03.4**	**-0.1**
	comp=Z,43nm,0.8s,baz=38							
ZHN	**Zhinishke**	**8.15**	**38**	*e*PN		**Pn**	**21 45 04.8**	**0.0**
ZHN	**Zhinishke**	**8.15**	**38**	*e*P		**Pn**	**21 45 04.8**	**0.0**
	baz=38							
UZB	**Uzynbulak**	**8.43**	**40**	*d* PN		**Pn**	**21 45 08.6**	**0.0**
UZB				pmax		pmax		
	comp=Z,48nm,1.0s							
UZB	**Uzynbulak**	**8.43**	**40**	⇓ *i* P		**Pn**	**21 45 08.6**	**0.0**
	comp=Z,48nm,1.0s,baz=40							
KPKS	**Kokpek**	**8.49**	**38**	*d* PN		**Pn**	**21 45 09.5**	**+0.1**
KPKS	**Kokpek**	**8.49**	**38**	⇓ *i* P		**Pn**	**21 45 09.6**	**+0.1**
	baz=37							
DDI	**Dehra Dun**	**8.51**	**139**	*e*P		**Pn**	**21 45 08.7**	**-1.0**
DDI				*e*S		**Sn**	**21 46 35.6**	**-8.4**
SHLS	**Shalkode**	**8.67**	**42**	*d* PN		**Pn**	**21 45 14.9**	**+3.1**
SHLS				pmax		pmax		
	comp=Z,27nm,0.7s							
SHLS	**Shalkode**	**8.67**	**42**	⇓ *i* P		**Pn**	**21 45 15.0**	**+3.1**
	comp=Z,27nm,0.7s,baz=43							
SHLS				*e*S		**Sn**	**21 46 53.1**	**+5.2**
	baz=43							
ARXS	**Arharly**	**8.69**	**31**	*i* PN		**Pn**	**21 45 11.2**	**-0.8**
PDGK	**Podgornoye**	**8.80**	**41**	PN		**Pn**	**21 45 12.8**	**-0.9**
PDGK	**Podgornoye**	**8.80**	**41**	⇓P		**Pn**	**21 45 12.8**	**-0.9**
	comp=Z,152nm,0.8s							
PDGK				⇑S		Sn	21 47 09.3	+18
	comp=Z,403nm,1.3s							
NDI	**New Delhi**	**9.48**	**148**	*e*P		**Pn**	**21 45 21.0**	**-1.8**
NDI				*e*S		**Sn**	**21 47 00.0**	**-7.6**
TDK	**Taldyqorghan**	**9.57**	**30**	*d i* P		**Pn**	**21 45 23.3**	**-0.6**
TDK	**Taldyqorghan**	**9.57**	**30**	⇓ *i* P		**Pn**	**21 45 23.3**	**-0.6**
	baz=30							
GEYT	**Alibeck**	**10.76**	**279**	P		**Pn**	**21 45 36.3**	**-3.8**
	comp=Z,40nm,0.3s,baz=110,slow=13,SNR=155							
GEYT				LR		LR	21 51 21.2	
	comp=Z,191nm,20.7s,baz=111,slow=45							
GEYT	**Alibeck**	**10.76**	**279**	Pn		**Pn**	**21 45 35.8**	**-4.3**
GYA0B	**ALIBECK ARRAY**	**10.76**	**279**	Pn		**Pn**	**21 45 35.8**	**-4.3**
OTUK	**Ortayu**	**11.33**	**3**	P		**Pn**	**21 45 47.8**	**+0.2**
OTUK	**Ortayu**	**11.33**	**3**	⇓P		**Pn**	**21 45 47.8**	**+0.2**
	comp=Z,218nm,0.9s							
MAKZ	**Makanchi**	**12.54**	**35**	P		**Pn**	**21 46 02.0**	**-1.5**
MAKZ	**Makanchi**	**12.54**	**35**	Pn		**Pn**	**21 46 02.0**	**-1.5**
MK31	**Makanchi Array**	**12.67**	**36**	P		**Pn**	**21 46 04.6**	**-0.7**
MK31	**Makanchi Array**	**12.67**	**36**	Pn		**Pn**	**21 46 04.6**	**-0.7**
MK31	**Makanchi Array**	**12.67**	**36**	P		**Pn**	**21 46 04.0**	**-1.2**
	comp=Z,110nm,0.9s,baz=206,slow=11,SNR=549							
MKAR	**Makanchi Array**	**12.67**	**36**	P		**Pn**	**21 46 04.3**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=220,slow=10,SNR=232							
MKAR	**Makanchi Array**	**12.67**	**36**	P		**Pn**	**21 46 04.7**	**-0.6**
MKAR	**Makanchi Array**	**12.67**	**36**	Pn		**Pn**	**21 46 04.7**	**-0.6**
PYUN	**Piuthan**	**13.03**	**129**	*e*P		**Pn**	**21 46 06.4**	**-3.9**
	comp=Z,398nm,0.4s							
BRZS	**Berezniki**	**13.08**	**3**	*d i* P		**Pn**	**21 46 08.1**	**-2.4**
BRZS	**Berezniki**	**13.08**	**3**	⇓ *i* P		**Pn**	**21 46 08.2**	**-2.4**
	baz=2.9							
DANN	**Dangsing**	**13.34**	**126**	*e*P		**Pn**	**21 46 10.4**	**-4.0**
	comp=Z,154nm,0.3s							
KOLN	**Koldanda**	**13.64**	**129**	*e*P		**Pn**	**21 46 15.0**	**-3.2**
	comp=Z,208nm,0.4s							
WMQ	**Urumqi**	**14.07**	**56**	*e*P		**Pn**	**21 46 23.3**	**-0.1**
WMQ				S		**Sn**	**21 48 59.1**	**+0.6**
WMQ				pmax		pmax		
	comp=Z,45nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,140nm,4.7s							
WMQ				LR		LR		
	comp=Z,440nm,7.5s							
WMQ				LR		LR		
	comp=Z,110nm,16.5s							
GKN	**Gorkha**	**14.15**	**125**	*e*P		**Pn**	**21 46 20.8**	**-3.9**
	comp=Z,181nm,0.5s							
ZSN	**Zaisan**	**14.38**	**39**	*i* P		**Pn**	**21 46 25.2**	**-2.2**
ZSN				*e*S		**Sn**	**21 49 03.6**	**-2.4**
ZSN	**Zaisan**	**14.38**	**39**	*i* P		**Pn**	**21 46 25.2**	**-2.2**
	baz=39							
ZSN				*e*S		**Sn**	**21 49 03.6**	**-2.4**
	baz=39							
BHPL	**Bhopal**	**14.54**	**158**	⇑*e*P		**Pn**	**21 46 27.3**	**-2.2**
BHPL				IAmb		IAmb	21 46 35.0	
	comp=Z,262nm,0.6s							
BHPL				*e*S		Sn	21 48 57.0	-13
KURBB	**Kurchatov Arra**	**14.57**	**18**	P		**Pn**	**21 46 26.1**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=213,slow=12,SNR=74							
KURBB				LR		LR	21 53 03.8	
	comp=Z,70nm,19.1s,baz=182,slow=41							
KURBB	**Kurchatov Arra**	**14.57**	**18**	P		**P**	**21 46 32.1**	**-0.9**
KURBB	**Kurchatov Arra**	**14.57**	**18**	⇑P		**P**	**21 46 32.1**	**-0.9**
	comp=Z,97nm,0.7s							
KURK	**Kurchatov**	**14.68**	**18**	P		**Pn**	**21 46 29.2**	**-1.9**
KURK	**Kurchatov**	**14.68**	**18**	Pn		**Pn**	**21 46 29.2**	**-1.9**
KURK	**Kurchatov**	**14.68**	**18**	P		**Pn**	**21 46 27.9**	**-3.2**
KKN	**Kakani**	**14.71**	**124**	*e*P		**Pn**	**21 46 27.6**	**-4.3**
	comp=Z,50nm,0.4s							
DMN	**Daman**	**14.72**	**125**	*e*P		**Pn**	**21 46 28.3**	**-3.8**
	comp=Z,50nm,0.3s							
SEM	**Semipalatinsk**	**14.85**	**22**	*i* P		**Pn**	**21 46 30.2**	**-3.2**
SEM				pmax		pmax		
	comp=Z,76nm,0.8s							
SEM	**Semipalatinsk**	**14.85**	**22**	*i* P		**Pn**	**21 46 30.2**	**-3.2**
	comp=Z,76nm,0.8s,baz=22							
PKIN	**Phulchoki**	**14.93**	**125**	*e*P		**Pn**	**21 46 30.9**	**-3.8**
	comp=Z,79nm,0.5s							
PKI	**Pulchoki**	**14.94**	**125**	*e*P		**Pn**	**21 46 31.0**	**-4.0**
	comp=Z,86nm,0.6s							
AB31	**Akbulak array**	**14.95**	**329**	P		**Pn**	**21 46 31.4**	**-3.1**
AB31	**Akbulak array**	**14.95**	**329**	⇓P		**Pn**	**21 46 31.4**	**-3.1**
	comp=Z,35nm,0.5s,baz=139,slow=12,SNR=898							
ABKAR	**Akbulak array**	**14.95**	**329**			**Pn**	**21 46 32.2**	**-2.4**
ABKAR	**Akbulak array**	**14.95**	**329**			**Pn**	**21 46 32.3**	**-2.2**
GUN	**Gumba**	**15.03**	**123**	*e*P		**Pn**	**21 46 31.9**	**-4.2**
	comp=Z,59nm,0.4s							
JIRN	**Jiri**	**15.40**	**123**	*e*P		**Pn**	**21 46 37.3**	**-3.5**
JBP	**Jabalpur**	**15.51**	**150**	*ex*		x	21 46 38.5	
JBP				*e*P		**P**	**21 46 38.5**	**-5.1**
JBP				IAmb		IAmb	21 46 44.8	
	comp=Z,80nm,0.6s							
JBP				*e*S		Sn	21 49 17.8	-16
BVAR	**Borovoye Array**	**16.12**	**357**	P		**Pn**	**21 46 47.4**	**-1.7**
RAMN	**Ramite**	**16.14**	**124**	*e*P		**Pn**	**21 46 46.1**	**-3.8**
	comp=Z,74nm,0.5s							
BRVK	**Borovoye**	**16.16**	**357**	*d i* P		**Pn**	**21 46 47.5**	**-2.1**
BRVK				pmax		pmax		
	comp=Z,92nm,0.7s							
BRVK	**Borovoye**	**16.16**	**357**			**Pn**	**21 46 48.3**	**-1.3**
BRVK	**Borovoye**	**16.16**	**357**	P		**Pn**	**21 46 48.0**	**-1.5**
BRVK	**Borovoye**	**16.16**	**357**	⇑P		**Pn**	**21 46 47.3**	**-2.3**
	comp=Z,218nm,1.4s							
TAPN	**Taplejung**	**16.64**	**120**	*e*P		**Pn**	**21 46 52.2**	**-3.8**
	comp=Z,41nm,0.4s							
AKTO	**Aktyubinsk**	**16.66**	**328**	P		**Pn**	**21 46 54.4**	**-1.4**
	comp=Z,14nm,0.3s,baz=133,slow=12,SNR=139							
AKTO				LR		LR	21 53 40.3	
	comp=Z,234nm,21.6s,baz=146,slow=38							
AKTO	**Aktyubinsk**	**16.66**	**328**	⇓P		**Pn**	**21 46 54.3**	**-1.4**
	comp=Z,274nm,0.8s							
ODAN	**Odare**	**16.73**	**122**	*e*P		**Pn**	**21 46 54.1**	**-3.0**
	comp=Z,204nm,0.5s							
BANOM	**Banah**	**17.02**	**234**	P		**P**	**21 47 01.5**	**+1.1**
	SNR=7.3							
BANOM	**Banah**	**17.02**	**234**	*i* P		**Pn**	**21 46 59.7**	**-0.7**
	SNR=9.2							
SHME	**Shamm**	**17.04**	**235**	P		**P**	**21 47 01.4**	**+0.8**
SHME	**Shamm**	**17.04**	**235**	P		**P**	**21 47 01.0**	**+0.4**
MASF	**Masafi**	**17.50**	**233**	P		**Pn**	**21 47 07.5**	**+1.3**
MSFE	**Esma-Masafi**	**17.50**	**233**	P		**Pn**	**21 47 07.0**	**+0.8**
WSAR	**Wadi Sarin**	**17.63**	**223**	P		**P**	**21 47 06.3**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=74,slow=8.5,SNR=12							
WSAR	**Wadi Sarin**	**17.63**	**223**	P		**Pn**	**21 47 11.1**	**+3.4**
BIDO	**Bidbid**	**17.69**	**225**	P		**Pn**	**21 47 11.3**	**+2.9**
UOSS	**Minazif**	**17.77**	**232**	P		**Pn**	**21 47 09.0**	**-0.4**
UOSS	**Minazif**	**17.77**	**232**	P		**Pn**	**21 47 09.8**	**+0.4**
UOSS	**Minazif**	**17.77**	**232**	*i* P		**Pn**	**21 47 09.4**	**0.0**
	SNR=6.5							
LSA	**Lhasa**	**17.85**	**108**	P		**Pn**	**21 47 11.4**	**+0.6**
LSA				pmax		pmax		
	comp=Z,83nm,0.9s							
LSA	**Lhasa**	**17.85**	**108**	P		**Pn**	**21 47 11.5**	**+0.7**
HATD	**Hatta, Dubai**	**17.90**	**232**	P		**Pn**	**21 47 13.1**	**+2.1**
	SNR=7.2							
HATD	**Hatta, Dubai**	**17.90**	**232**	P		**Pn**	**21 47 11.2**	**+0.2**
BOK	**Bokaro**	**17.96**	**133**	*e*P		**P**	**21 47 09.7**	**-1.0**
BOK				IAmb		IAmb	21 47 14.0	
	comp=Z,91nm,0.8s							
BOK				*e*S		S	21 50 11.8	-19
WBK	**Wadi Bani Khal**	**17.96**	**221**	P		**Pn**	**21 47 13.4**	**+1.6**
	SNR=6.7							
ASHO	**Ashiyiah**	**18.05**	**232**	P		**Pn**	**21 47 13.5**	**+0.7**
	SNR=14							
ASHO	**Ashiyiah**	**18.05**	**232**	*i* P		**Pn**	**21 47 12.5**	**-0.3**
	SNR=21							
NAZ	**Nazwa, Dubai**	**18.09**	**233**	P		**Pn**	**21 47 14.7**	**+1.6**
	SNR=7.7							
NAZ	**Nazwa, Dubai**	**18.09**	**233**	P		**Pn**	**21 47 14.0**	**+0.8**
SMDO	**Samad**	**18.09**	**224**	P		**Pn**	**21 47 15.9**	**+2.5**
HOQ	**Hoqain**	**18.11**	**227**	P		**Pn**	**21 47 16.0**	**+2.5**
JLN	**Jalan Bani Buh**	**18.11**	**219**	P		**Pn**	**21 47 15.4**	**+1.9**
	SNR=8.1							
FAQ	**Al Faqa, Dubai**	**18.30**	**233**	P		**Pn**	**21 47 16.1**	**+0.3**
FAQ	**Al Faqa, Dubai**	**18.30**	**233**	P		**Pn**	**21 47 15.0**	**-0.7**
POO	**Poona**	**18.43**	**173**	*e*P		**Pn**	**21 47 22.8**	**+5.4**
POO				IAmb		IAmb	21 47 24.9	
	comp=Z,31nm,1.0s							
POO				*i* S		S	21 50 27.0	-14
ASUD	**Al Ashush, Dub**	**18.55**	**233**	P		**Pn**	**21 47 19.6**	**+0.9**
JMDO	**Jabal Madar**	**18.62**	**223**	P		**Pn**	**21 47 22.2**	**+2.7**
	SNR=6.8							
GOMU	**GeErMu**	**18.67**	**85**	P		**Pn**	**21 47 20.3**	**-0.1**
GOMU				S		**S**	**21 50 45.0**	**-0.7**
GOMU				pmax		pmax		
	comp=Z,7.0nm,0.6s							
GOMU				pmax		pmax		
	comp=Z,120nm,5.0s							
GOMU				LR		LR		
	comp=Z,110nm,5.6s							
GOMU				LR		LR		
	comp=Z,88nm,5.2s							
GOMU				LR		LR		
	comp=Z,36nm,5.6s							
ALNE	**Al Ain**	**18.70**	**231**	P		**Pn**	**21 47 20.3**	**-0.2**
	SNR=9.5							
ALNE	**Al Ain**	**18.70**	**231**	*i* P		**Pn**	**21 47 20.2**	**-0.2**
	SNR=15							
ARQ	**Araqi**	**18.76**	**228**	P		**Pn**	**21 47 21.8**	**+0.5**
	SNR=7.2							
AJN	**Ajban**	**18.82**	**234**	P		**Pn**	**21 47 21.4**	**-0.5**
	SNR=5.4							
AJN	**Ajban**	**18.82**	**234**	*i* P		**Pn**	**21 47 21.6**	**-0.2**
	SNR=7.2							
BSY	**Bisya**	**18.82**	**225**	P		**Pn**	**21 47 23.8**	**+1.9**
ZAA0	**Zalesov

comp=Z,200nm,1.0s
ONI Oni 22.30 293 P **P** **21 47 59.8 +2.5**
ONI Oni 22.30 293 IAmb IAmb 21 48 25.5
comp=Z,28nm,0.7s
KARS Kars 22.49 288 IAmb IAmb 21 48 28.4
comp=Z,114nm,1.0s
KBZ Khabaz 22.83 296 P **P** **21 48 02.4 0.0**
comp=Z,8.7nm,0.8s,baz=121,slow=7.8,SNR=22
KBZ Khabaz 22.83 296*ce*P **P** **21 48 02.9 +0.4**
KBZ pmax pmax
comp=Z,11nm,0.9s
BELG Belogornoye 22.86 320 P **P** **21 48 02.5 -0.1**
comp=Z,310nm,1.0s,baz=134,slow=1.2,SNR=58
BELG Belogornoye 22.86 320*d i*P **P** **21 48 02.6 -0.1**
BELG pmax pmax
comp=Z,40nm,0.9s
BELG MLR MLR
comp=Z,21nm,7.0s
GOF Gofitskoye 22.94 300⇑*e*P **P** **21 48 03.9 +0.4**
GOF pmax pmax
comp=Z,54nm,1.3s
KVAR Kislovodsk Arr 23.01 297 P **P** **21 48 06.3 +1.9**
comp=Z,4.6nm,0.6s,baz=131,slow=19,SNR=5.6
KIV Kislovodsk 23.01 297 *e*P **P** **21 48 05.8 +1.4**
KIV *e*S **S** **21 52 09.0 +2.9**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,106nm,14.0s
KIV Kislovodsk 23.01 297 P **P** **21 48 04.3 -0.1**
KIV IAmb IAmb 21 48 32.9
comp=Z,28nm,0.6s
KIV Kislovodsk 23.01 297 P **P** **21 48 05.9 +1.6**
KIV Kislovodsk 23.01 297 *i* P **P** **21 48 06.0 +1.6**
SNR=9.7
KNGR Kungurtug, Tuv 23.04 45 *i* P **P** **21 48 06.1 +1.5**
DOK Doka 23.83 225 P **P** **21 48 12.8 +0.9**
DMTO DMTO 24.11 222 P **P** **21 48 15.5 +1.1**
WHFO Wadi Hawf 24.59 224 P **P** **21 48 19.2 +0.3**
RBK Rabkut 24.69 223 P **P** **21 48 20.5 +0.7**
SOC Sochi 25.11 295 *e*P **P** **21 48 20.6 -2.7**
SOC *e*PP **pP** **21 48 46.7 -2.2**
SOC *e* 21 49 03.6
SOC *e*S **S** **21 52 36.5 -3.1**
SOC pmax pmax
comp=Z,11nm,0.7s
ABTO Aybut 25.31 225 P **P** **21 48 26.2 +0.8**
MOY Mondy 25.47 45 *e*P **P** **21 48 28.9 +2.2**
MOY pmax pmax
comp=Z,35nm,1.9s
VRH Novokhopyorsk 25.55 313 *e*P **P** **21 48 27.5 +0.3**
VRH *e*PP **pP** **21 48 48.7 -4.1**
VRH pmax pmax
comp=Z,30nm,0.8s
LZH Lanzhou 25.88 82 ⇑P **P** **21 48 32.8 +2.2**
LZH pP pP 21 48 58.6 +2.2
LZH sP sP 21 49 08.1 -2.0
LZH pmax pmax
comp=Z,76nm,1.1s
LZH pmax pmax
comp=Z,240nm,4.7s
KIRV Kirov 26.07 333 P **P** **21 48 32.8 +1.0**
comp=Z,45nm,0.7s,baz=142,slow=2.6,SNR=25
ZAK Zakamensk 26.36 49 *e*P **P** **21 48 35.5 +0.9**
ZAK pmax pmax
comp=Z,31nm,1.2s
ANN Anapa 26.85 298 *e*P **P** **21 48 39.7 +0.7**
ANN *e*PP **pP** **21 49 04.3 -0.3**
ANN *e* 21 49 28.8
ANN *e*S **S** **21 53 06.8 -0.1**
ANN pmax pmax
comp=Z,24nm,0.7s
VSR Storozhevoye 27.06 312 *e*P **P** **21 48 41.0 +0.2**
VSR *e*PP **pP** **21 49 03.4 -3.1**
VSR pmax pmax
comp=Z,20nm,0.8s
VORR Voronezh 27.19 313 *e*P **P** **21 48 41.5 -0.5**
VORR pmax pmax
comp=Z,10.0nm,0.4s
CD2 Chengdu 27.28 93 P **P** **21 48 44.9 +1.8**
CD2 pmax pmax
comp=Z,20nm,0.6s
IRK Irkutsk 27.57 46 *e*P **P** **21 48 46.1 +0.8**
IRK pmax pmax
comp=Z,40nm,1.7s
PZH PanZhiHua 27.57 103 ⇑P **P** **21 48 47.3 +1.5**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,100nm,6.1s
LPSR Galich'ya Gora 27.68 315 *e*P **P** **21 48 46.8 +0.5**
LPSR *e*PP **pP** **21 49 08.7 -3.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 27.70 56 P **P** **21 48 48.1 +1.4**
comp=Z,24nm,0.8s,baz=255,slow=10,SNR=133
SONM LR LR 22 02 04.2
comp=Z,73nm,19.8s,baz=147,slow=41
SONM Songino Array 27.70 56 P **P** **21 48 48.7 +1.9**
SONM pmax pmax
comp=Z,23nm,0.8s
SONM Songino Array 27.70 56 P **P** **21 48 48.6 +1.9**
SONM IAmb IAmb 21 48 49.5
comp=Z,23nm,0.8s
ULN Ulaanbaatar 28.15 56 P **P** **21 48 52.4 +1.7**
ULN pmax pmax
comp=Z,23nm,0.8s
ULN Ulaanbaatar 28.15 56 P **P** **21 48 52.4 +1.7**
ULN IAmb IAmb 21 48 53.2
comp=Z,22nm,0.8s
ULN Ulaanbaatar 28.15 56 P **P** **21 48 52.1 +1.4**
ULN pP **sP** **21 49 28.0 -2.6**
ULN sP PP 21 49 43.0 -13
KMI Kunming 29.05 105 ⇓P **P** **21 48 59.8 +0.8**
KMI sP sP 21 49 40.9 +1.9
KMI pmax pmax
comp=Z,19nm,0.7s
KMI Kunming 29.05 105 P **P** **21 48 59.4 +0.4**
SOCY Socotra 29.27 217 P **P** **21 48 59.8 -1.0**
PRGR Permogore 29.58 335 *e*P **P** **21 49 01.5 -1.5**
PRGR *e*PP **pP** **21 49 28.1 -0.9**
PRGR pmax pmax
comp=Z,49nm,0.8s
MOS Moscow 29.63 320 *e*P **P** **21 49 01.0 -2.5**
MOS *e*PP **pP** **21 49 29.6 +0.1**
MOS *e*S **S** **21 53 42.7 -7.7**
MOS pmax pmax
comp=Z,68nm,0.9s
BR131 Keskin Array S 29.76 287 IAmb IAmb 21 49 34.2
comp=Z,12nm,0.8s
BR131 Keskin Array S 29.76 287 P **P** **21 49 07.2 +2.1**
BRTR Keskin Array B 29.76 287 P **P** **21 49 06.7 +1.6**
comp=Z,4.2nm,0.7s,baz=101,slow=8.8,SNR=33
BRTR Keskin Array B 29.76 287*ce*P **P** **21 49 07.0 +1.9**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
OBN Obninsk 29.93 319 P **P** **21 49 07.2 +1.0**
comp=Z,7.5nm,0.6s,baz=97,slow=4.4,SNR=14
OBN Obninsk 29.93 319*d i*P **P** **21 49 07.1 +1.0**
OBN *e*PP **pP** **21 49 32.9 +0.8**
OBN *e* 21 50 08.2
OBN pmax pmax
comp=Z,72nm,1.3s
OBN MLR MLR
comp=Z,90nm,5.0s
OBN Obninsk 29.93 319 P **P** **21 49 06.8 +0.7**
OBN Obninsk 29.93 319 P **P** **21 49 07.3 +1.1**
OBN X 21 49 12.5
OBN pP **pP** **21 49 33.9 +1.7**
CHTO Chiang Mai 30.01 120 P **P** **21 49 09.5 +2.2**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 30.01 120 P **P** **21 49 09.5 +2.2**
CHTO Chiang Mai 30.01 120 P **P** **21 49 09.1 +1.8**
CHTO Chiang Mai 30.01 120 P **P** **21 49 08.9 +1.6**
CHTO Chiang Mai 30.01 120 P **P** **21 49 09.1 +1.8**
CHTO pP **sP** **21 49 52.2 +5.4**
CHTO sP **PP** **21 50 11.7 -5.4**
CM31 Chiang Mai Arr 30.25 120 P **P** **21 49 10.2 +0.8**
CM31 IAmb IAmb 21 49 11.9
comp=Z,17nm,0.9s
CM31 Chiang Mai Arr 30.25 120 P **P** **21 49 10.5 +1.1**
SNR=7.5
CMAR Chiang Mai Arr 30.25 120 P **P** **21 49 10.2 +0.8**
comp=Z,11nm,0.8s,baz=306,slow=8.7,SNR=67
CMAR Chiang Mai Arr 30.25 120 P **P** **21 49 10.8 +1.4**
XAN Xi'an 30.41 84 P **P** **21 49 11.5 +0.7**
XAN pmax pmax
comp=Z,57nm,1.0s
XAN Xi'an 30.41 84 P **P** **21 49 11.7 +0.9**
PALK Pallekele 30.66 162 LR LR 22 01 54.2
comp=Z,120nm,19.4s,baz=133,slow=37
PALK Pallekele 30.66 162 P **P** **21 49 13.5 +0.4**
HHC Hu-ho-hao-te 31.17 70 *e*P **P** **21 49 19.5 +2.0**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,87nm,5.1s
EIL Elat 31.32 267 P **P** **21 49 19.1 +0.3**
comp=Z,5.8nm,1.0s,baz=76,slow=12,SNR=4.6
KLMR Klimovskoe 31.35 330 *e*P **P** **21 49 17.9 -0.7**
KLMR *e*PP **pP** **21 49 45.2 +0.4**
KLMR pmax pmax
comp=Z,27nm,0.8s
KLMR Klimovskoe 31.35 330 *e*P **P** **21 49 17.9 -0.7**
KLMR AMP 21 49 19.7
comp=Z,27nm,0.8s
KLMR *e*pP **pP** **21 49 45.3 +0.4**
GYA Guiyang 31.46 99 ⇓P **P** **21 49 21.9 +1.7**
GYA pmax pmax
comp=Z,57nm,0.8s
ENH Enshi 32.10 91 P **P** **21 49 27.2 +1.5**
TIY Taiyuan 32.31 76 ⇓P **P** **21 49 29.6 +2.1**
TIY pmax pmax
comp=Z,42nm,0.8s
AKASG Malin Array Be 33.05 308 P **P** **21 49 34.2 +0.6**
comp=Z,7.8nm,0.6s,baz=81,slow=6.8,SNR=49
AKASG pP **pP** **21 50 00.7 +0.9**
comp=Z,16nm,0.6s,baz=74,slow=7.6,SNR=13
AKASG LR LR 22 04 55.3
comp=Z,74nm,20.7s,baz=168,slow=39
AKASG Malin Array Be 33.05 308 P **P** **21 49 33.9 +0.3**
AKASG **pP** **21 49 59.5 -0.3**
AKBB Malin Array Si 33.05 308*ce*P **P** **21 49 34.2 +0.6**
LYN LuoYang 33.09 82*i*P **P** **21 49 36.6 +2.4**
LYN S **S** **21 54 50.0 +5.1**
LYN pmax pmax
comp=Z,40nm,1.1s
LYN pmax pmax
comp=Z,240nm,7.4s
TPGR Topolog 33.26 297 ⇑P **P** **21 49 37.3 +1.7**
SORM Soroca 33.36 303 ⇓P **P** **21 49 36.9 +0.6**
NRIK Noril'sk 33.62 10 P **P** **21 49 39.7 +1.3**
comp=Z,16nm,0.7s,baz=199,slow=5.8,SNR=21
NRIK LR LR 22 05 26.5
comp=Z,93nm,18.4s,baz=206,slow=40
NRIK Noril'sk 33.62 10*de*P **P** **21 49 39.6 +1.2**
NRIK pmax pmax
comp=Z,27nm,0.9s
NRIK MLR MLR
comp=Z,114nm,8.0s
NRIK Noril'sk 33.62 10 P **P** **21 49 39.3 +0.9**
NRIK IAmb IAmb 21 49 40.7
comp=Z,22nm,0.8s
VARL Varlezi 33.65 299 ⇓P **P** **21 49 41.3 +2.5**
GHRR 33.95 300 ⇓P **P** **21 49 44.4 +2.9**
HNS HongShan 34.15 76 ⇓P **P** **21 49 45.5 +2.2**
HNS pmax pmax
comp=Z,34nm,1.0s
XLT XiLinHaoTe 34.25 64 *e*P **P** **21 49 45.9 +1.6**
XLT pP pP 21 50 07.9 -2.8
XLT sP sP 21 50 24.1 -0.3
XLT S **S** **21 55 07.3 +4.5**
XLT sS sS 21 55 46.4 -2.7
XLT ScP **ScP** **21 55 49.8 -2.9**
XLT PcS **PcS** **21 56 08.3 +3.7**
XLT SS **SnSn** **21 57 15.3 -8.8**
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,160nm,6.8s
VRI Vrincioaia 34.43 299 ⇑P **P** **21 49 48.2 +2.5**
VRI Vrincioaia 34.43 299 P **P** **21 49 48.4 +2.7**
VRI pmax pmax
comp=Z,13nm,1.3s
TESR Tescani 34.48 300 ⇓P **P** **21 49 47.7 +1.6**
PLOR Plostina 34.48 299 ⇑P **P** **21 49 47.7 +1.5**
PLOR Plostina 34.48 299 P **P** **21 49 47.8 +1.6**
MNK Minsk 34.53 315 *i* P **P** **21 49 42.6 -3.8**
MNK *i* *PP **pP** **21 50 07.2 -5.4**
MNK *i* 21 51 01.8
MNK *i* 21 52 14.8
MNK *i* S **S** **21 55 03.3 -3.3**
MNK *i* *SS **sS** **21 55 47.5 -5.5**
MNK *i* SS **SnSn** **21 57 28.7 -1.7**
MNK *i* 21 59 52.9
MNK pmax pmax
comp=N,6.0nm,0.7s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,15nm,0.6s
MNK MLR MLR
comp=Z,229nm,21.0s
MNK MLR MLR
comp=N,85nm,19.0s
MNK MLR MLR
comp=E,18nm,21.0s
MNK Minsk 34.53 315 *i* P **P** **21 49 42.7 -3.8**
comp=E,2.0nm,1.0s
MNK *i* P **P** **21 49 42.7 -3.8**
comp=N,6.0nm,0.7s
MNK *i* P **P** **21 49 42.7 -3.8**
comp=Z,15nm,0.6s,baz=102
MNK *i* pP **pP** **21 50 07.3 -5.4**
MNK *i* PP **PnPn** **21 51 01.9 -3.7**
MNK *i* S **S** **21 55 03.3 -3.3**
MNK *i* sS **sS** **21 55 47.5 -5.5**
MNK *i* SS **SnSn** **21 57 28.7 -1.7**
MNK *i* LRM MLR 22 05 17.6
comp=Z,229nm,21.1s
MNK *i* LRM MLR 22 05 24.9
comp=N,85nm,18.5s
MNK *i* LRM MLR 22 05 30.7
comp=E,18nm,21.1s
BOD Bodaibo 34.72 39 *e*P **P** **21 49 48.7 +0.7**
BOD pmax pmax
comp=Z,97nm,1.0s
BJI Beijing 34.77 71 P **P** **21 49 50.5 +1.9**
BJI pmax pmax
comp=Z,11nm,0.7s
BJI pmax pmax
comp=Z,81nm,4.4s
COVR Voineasa-Covas 34.80 299 ⇑P **P** **21 49 51.4 +2.6**
GULI GuiLin 34.95 98 ⇑P **P** **21 49 51.4 +1.1**
MLR Muntele Rosu 34.99 299 ⇑P **P** **21 49 53.8 +3.1**
MLR Muntele Rosu 34.99 299 P **P** **21 49 53.2 +2.5**
comp=Z,21nm,0.9s,baz=96,slow=19
MLR pP **pP** **21 50 19.6 +2.7**
comp=Z,23nm,0.9s,baz=69,slow=6.4,SNR=6.1
MLR LR LR 22 08 20.2
comp=Z,111nm,19.3s,baz=86,slow=43
MLR Muntele Rosu 34.99 299 P **P** **21 49 52.2 +1.6**
MLR **pP** **21 50 19.9 +2.9**
MLR IAmb IAmb 21 50 20.6
comp=Z,29nm,0.9s
VALR Valaam 35.23 327*c i*P **P** **21 49 53.2 +0.9**
VALR pmax pmax
comp=Z,55nm,0.8s
NACGM Naroch 35.24 315 *e*P **P** **21 49 53.6 +1.1**
DOPR Dopca 35.36 300 ⇓P **P** **21 49 55.8 +2.1**
BURAR Bucovina Array 35.45 302 ⇓P **P** **21 49 56.0 +1.4**
BURAR Bucovina Array 35.45 302 P **P** **21 49 56.0 +1.4**
BURAR Bucovina Array 35.45 302 IAmb IAmb 21 50 23.6
comp=Z,20nm,1.1s
BUR08 Bucovina Ar. S 35.47 302 IAmb IAmb 21 50 24.0
comp=Z,13nm,0.9s
VOIR 35.62 299 P **P** **21 49 58.0 +2.0**
VOIR pmax pmax
comp=Z,10.0nm,0.9s
CNSH ChangSha 35.70 92 ⇑P **P** **21 49 56.6 -0.1**
CNSH S **S** **21 55 27.3 +2.3**
CNSH LR LR
comp=Z,310nm,21.8s
CNSH LR LR
comp=Z,600nm,20.5s
CNSH LR LR
comp=Z,310nm,14.7s
ISAL Salakas 35.75 316 *e*P **P** **21 49 58.3 +1.5**
WHN Wuhan 35.90 87 ⇑P **P** **21 49 59.8 +1.4**
WHN pmax pmax
comp=Z,84nm,0.9s
ARR Arges 35.92 299 ⇑P **P** **21 50 00.7 +2.2**
ARCR ARCALIA 36.05 302 ⇓P **P** **21 50 02.4 +2.9**
VSU Vasula 36.15 321*d i*P **P** **21 50 00.8 +0.6**
VSU Vasula 36.15 321 *e*P **P** **21 50 00.5 +0.3**
ATD Arta Tunnel 36.15 233 P **P** **21 50 02.1 +1.3**
comp=Z,5.5nm,0.4s,baz=333,slow=14,SNR=3.8
LVV L'vov 36.29 306 *e*P **P** **21 50 02.5 +1.0**
LVV *e*PP **pP** **21 50 29.0 +1.1**
LVV *e* 21 51 36.2
LVV *e*PPP PPP 21 51 51.9
LVV *e*S **S** **21 55 30.9 -2.8**
LVV *e*SS **SnSn** **21 58 07.2 -5.7**
LVV pmax pmax
comp=Z,30nm,1.4s
TIA Tai'an 36.31 77 ⇑P **P** **21 50 03.6 +1.7**
TIA pmax pmax
comp=Z,44nm,0.9s
LOT Lotru 36.52 299 ⇑P **P** **21 50 05.7 +2.0**
PABE Paberze 36.94 316 P **P** **21 50 07.8 +0.8**
PABE pP **pP** **21 50 35.0 +1.6**
PABE Paberze 36.94 316 *e*P **P** **21 50 07.6 +0.6**
UBPT Khong Chiam 36.99 117 P **P** **21 50 08.3 +0.4**
KWP Kalwaria Pacla 37.14 306 *e*P **P** **21 50 11.0 +2.2**
KWP *e*pP **pP** **21 50 36.8 +1.5**
KWP Kalwaria Pacla 37.14 306 P **P** **21 50 09.1 +0.3**
KWP Kalwaria Pacla 37.14 306 P **P** **21 50 09.1 +0.3**
SUW Suwalki 37.17 313 *e*P **P** **21 50 09.4 +0.6**
SUW *e*pP **pP** **21 50 35.8 +0.5**
SUW *e*PP **PP** **21 51 29.9 -5.8**
SUW Suwalki 37.17 313 P **P** **21 50 08.7 -0.2**
SUW **pP** **21 50 35.4 0.0**
SUW Suwalki 37.17 313 *e*P **P** **21 50 08.5 -0.4**
DRGR 37.18 301 ⇑P **P** **21 50 11.5 +2.3**
DRGR 37.18 301 P **P** **21 50 11.5 +2.3**
DRGR pmax pmax
comp=Z,6.0nm,1.1s
VTS Vitosha 37.19 294 ⇓P **P** **21 50 11.6 +2.1**
VTS Vitosha 37.19 294 P **P** **21 50 09.8 +0.3**
VTS P **pP** **21 50 35.0 -0.7**
VTS pmax pmax
comp=Z,6.0nm,0.8s
VTS Vitosha 37.19 294 P **P** **21 50 09.8 +0.3**
VTS **pP** **21 50 36.0 +0.3**
LVZ Lovozero 37.24 338*d i*P **P** **21 50 10.1 +0.7**
LVZ pmax pmax
comp=Z,30nm,0.7s
LVZ MLR MLR
comp=Z,644nm,14.0s
LVZ Lovozero 37.24 338 P **P** **21 50 10.0 +0.7**
LVZ Lovozero 37.24 338 P **P** **21 50 10.1 +0.7**
LVZ pP **pP** **21 50 38.4 +2.2**
FINES FINESS Array B 37.40 326 P **P** **21 50 11.8 +1.1**
comp=Z,27nm,0.6s,baz=118,slow=9.5,SNR=160
FINES pP **pP** **21 50 38.7 +1.4**
comp=Z,32nm,0.7s,baz=108,slow=12,SNR=11
FINES LR LR 22 06 23.1
comp=Z,181nm,19.3s,baz=94,slow=37
UZH Uzhgorod 37.41 304 *e*P **P** **21 50 12.0 +1.0**
UZH *i* 21 50 39.1
KOLS Kolonicke sedl 37.42 305 *e*P **P** **21 50 12.9 +1.8**
KOLS *e* 21 50 39.6
KOLS *e* 21 52 27.8
KOLS Kolonicke sedl 37.42 305 *e*P **P** **21 50 12.9 +1.8**
KOLS *e*pP **pP** **21 50 39.6 +2.0**
KOLS *e*PCP **PcP** **21 52 27.8 +0.4**
APA Apatity 37.43 337⇓*i*P **P** **21 50 10.6 -0.3**
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,600nm,17.0s
BLKB Belogradchik 37.47 296 ⇑P **P** **21 50 13.8 +2.2**
IDI Anoyia 37.47 282 P **P** **21 50 11.9 +0.1**
comp=Z,3.9nm,0.5s,baz=25,slow=14,SNR=1.8
MTSE Matsula 37.59 321 *e*P **P** **21 50 13.1 -0.1**
LTVH Ltavrtes, Hu 37.71 302 P **P** **21 50 16.3 +2.8**
QIZ Qiongzhong 37.89 107 P **P** **21 50 14.8 -0.6**
QIZ S **S** **21 55 56.0 -2.6**
QIZ sS **sS** **21 56 47.8 +2.5**
QIZ pmax pmax
comp=Z,27nm,2.0s
QIZ LR LR
comp=Z,160nm,11.2s
QIZ LR LR
comp=Z,140nm,13.5s
QIZ LR LR
comp=Z,150nm,21.0s
QIZ Qiongzhong 37.89 107 P **P** **21 50 17.6 +2.2**
CRVS Cervenica-Dubn 37.96 305 *ep*P pP 21 50 42.0 -0.2
MDVR Moldovita 38.03 298 ⇓P **P** **21 50 18.8 +2.4**
PBUR Paburge 38.16 316 *e*P **P** **21 50 19.0 +1.8**
SLIT Slitere, Latvi 38.24 319 *e*P **P** **21 50 18.1 +0.2**
FNA Florina 38.86 292 P **P** **21 50 24.3 +0.9**
FNA *PP **pP** **21 50 49.7 -0.1**
FNA Florina 38.86 292 P **P** **21 50 24.3 +0.9**
FNA **pP** **21 50 49.7 -0.1**
FNA IAmb IAmb 21 50 52.1
comp=Z,11nm,0.6s
NJ2 Nanjing 38.95 83 ⇑P **P** **21 50 25.6 +1.5**
NJ2 pmax pmax
comp=Z,64nm,0.6s
OJC Ojcow 39.03 307 *e*P **P** **21 50 25.8 +1.2**
OJC *ep*P **pP** **21 50 52.0 +0.8**
PSZ Piszkesteto 39.03 303 P **P** **21 50 24.9 +0.1**
PSZ *PP **pP** **21 50 51.7 +0.4**
PSZ Piszkesteto 39.03 303 P **P** **21 50 24.9 +0.1**
PSZ pP **pP** **21 50 51.7 +0.4**
PSZ IAmb IAmb 21 50 54.2
comp=Z,15nm,1.1s
PSZ Piszkesteto 39.03 303 P **P** **21 50 23.9 -0.8**
DL2 Dalian 39.13 71 P **P** **21 50 27.4 +1.9**
DL2 pmax pmax
comp=Z,31nm,0.6s
LANS Liptovska Anna 39.26 305 *e*P **P** **21 50 26.6 0.0**
LANS Liptovska Anna 39.26 305 *e*P **P** **21 50 26.6 0.0**
RAF Rauma 39.27 324 *e*P **P** **21 50 27.3 +1.0**
DIVS Divibare 39.33 297 IAmb IAmb 21 50 56.9
comp=Z,26nm,1.2s
BUD Budapest 39.65 302 P **P** **21 50 28.8 -0.9**
VYHS Vyhne 39.71 304 *ep*P pP 21 50 57.4 +0.4
KOLL Kolacno 39.99 304 *e*P **P** **21 50 33.9 +1.3**
KOLL *ep*P **pP** **21 51 01.7 +2.4**
MORH Mrgy, Hungar 40.02 300 ⇓P **P** **21 50 35.2 +2.3**
MORH Mrgy, Hungar 40.02 300 P **P** **21 50 33.2 +0.4**
SRO Srobarova 40.10 303 *ep*P pP 21 51 02.8 +2.6
KOVH Kovagotottos 40.41 300 P **P** **21 50 36.5 +0.4**
JAVC Velka Javorina 40.46 305 *e*P **P** **21 50 38.4 +1.9**
JAVC *e* 21 51 04.7
MORC Moravsky Berou 40.49 306 ⇑P **P** **21 50 38.8 +2.0**
MORC Moravsky Berou 40.49 306 P **P** **21 50 38.0 +1.2**
MORC pmax pmax
comp=Z,22nm,1.0s
MORC Moravsky Berou 40.49 306 P **P** **21 50 38.0 +1.2**
MORC IAmb IAmb 21 51 06.1
comp=Z,22nm,1.0s
MORC Moravsky Berou 40.49 306 *e*P **P** **21 50 38.3 +1.5**
MORC *e* 21 51 05.0
KEV Kevo 40.58 338 P **P** **21 50 38.1 +1.0**
GKP Gorka Klasztor 40.64 311 *e*P **P** **21 50 39.1 +1.3**
GKP *ep*P **pP** **21 51 05.7 +1.0**
GKP Gorka Klasztor 40.64 311 *e*P **P** **21 50 38.1 +0.3**
MODS Modra-Piesok 40.75 304 *ep*P pP 21 51 07.1 +1.4
EGYH Egyhazaskeszo 40.80 302 P **P** **21 50 37.2 -2.0**
ZST Bratislava 40.88 304 *ep*P pP 21 51 07.1 +0.4
ARA0 ARCESS Array S 40.93 337 *e*P **P** **21 50 41.2 +1.2**
ARCES ARCESS Array B 40.93 337 P **P** **21 50 41.2 +1.2**
comp=Z,20nm,0.7s,baz=115,slow=8.6,SNR=54
ARCES pP **pP** **21 51 08.9 +1.9**
comp=Z,6.3nm,0.6s,baz=111,slow=7.6,SNR=3.7
ARCES LR LR 22 08 40.8
comp=Z,464nm,18.2s,baz=104,slow=37
ARCES ARCESS Array B 40.93 337 P **P** **21 50 40.9 +0.8**
ARCES pmax pmax
comp=Z,20nm,0.8s
ARCES ARCESS Array B 40.93 337 P **P** **21 50 40.9 +0.8**
ARCES IAmb IAmb 21 50 42.3
comp=Z,20nm,0.8s
KRLC Kraliky 40.97 307 *e*P **P** **21 50 41.5 +0.8**
KRLC *e* 21 51 08.6
KRLC Kraliky 40.97 307 *e*P **P** **21 50 41.5 +0.8**

KRLC epP **pP** **21 51 08.6 +1.1**
CN2 Changchun 40.99 63 eP **P** **21 50 41.8 +0.9**
CN2 S **S** **21 56 43.4 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
UPP Uppsala 41.03 322 eP **P** **21 50 40.0 -0.9**
KCSI Kotacane, Aceh 41.04 138 P **P** **21 50 41.7 +0.2**
comp=Z,22nm,0.8s
VRAC Vranov 41.14 305 P **P** **21 50 42.9 +0.9**
comp=Z,7.5nm,0.7s,baz=90,slow=8.7,SNR=12
VRAC LR LR 22 09 35.5
comp=Z,41nm,19.1s,baz=60,slow=38
VRAC Vranov 41.14 305 eP **P** **21 50 43.8 +1.8**
VRAC e 21 51 10.4
KULM Kulim 41.21 133 P **P** **21 50 42.6 -0.4**
KULM IAmb IAmb 21 50 45.1
comp=Z,43nm,1.3s
KSP Ksiaz 41.25 308 eP **P** **21 50 44.5 +1.6**
KSP epP **pP** **21 51 10.9 +1.1**
DPC Dobruska-Polom 41.25 307 eP **P** **21 50 44.6 +1.6**
DPC e 21 51 11.5
DPC Dobruska-Polom 41.25 307 eP **P** **21 50 44.6 +1.6**
DPC epP **pP** **21 51 11.5 +1.7**
KRUC Moravsky 41.28 305 eP **P** **21 50 44.7 +1.5**
KRUC e 21 51 11.4
SOP Sopron 41.30 303 P **P** **21 50 42.8 -0.5**
OSTC Ostas 41.31 307 eP **P** **21 50 45.0 +1.6**
OSTC epP **pP** **21 51 11.3 +1.0**
VIKU Vikbolandet 41.31 319 eP **P** **21 50 43.7 +0.4**
CHVC Chvalec 41.41 307 eP **P** **21 50 45.8 +1.5**
CHVC epP **pP** **21 51 12.6 +1.5**
KTK1 Kautokeino 41.42 336 ||iP **P** **21 50 44.8 +0.8**
ZEA Zeya 41.43 48 eP **P** **21 50 46.4 +2.1**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.0s
UPC Upice 41.44 307 eP **P** **21 50 46.2 +1.7**
UPC e 21 51 12.7
UPC Upice 41.44 307 eP **P** **21 50 46.2 +1.7**
UPC epP **pP** **21 51 12.7 +1.3**
RONA Rosalia, Austr 41.47 303 iP pP 21 51 13.1 +1.5
comp=Z,10nm,1.0s
BLEU Blekinge 41.59 316 iP **P** **21 50 44.5 -1.1**
BLEU IAmb IAmb 21 51 13.1
comp=Z,4.4nm,0.7s
CONA Conrad Observa 41.74 303 eP **P** **21 50 49.0 +2.0**
comp=Z,9.3nm,1.1s
CONA eP **pP** **21 51 15.6 +1.7**
comp=Z,20nm,1.0s,SNR=5.3
HAMF Hammerfest 42.01 338 eP **P** **21 50 49.5 +0.7**
ARSA Arzberg 42.04 302 eP pP 21 51 18.0 +1.6
comp=Z,9.6nm,1.1s
BNX BinXian 42.07 60 ⇑P **P** **21 50 50.4 +0.8**
BNX pmax pmax
comp=Z,24nm,0.9s
BNX pmax pmax
comp=Z,170nm,6.7s
IPM Ipoh 42.08 133 P **P** **21 50 50.9 +0.8**
PRU Pruhonice 42.42 307 eP **P** **21 50 53.9 +1.5**
PRU e 21 51 21.0
PRU Pruhonice 42.42 307 eP **P** **21 50 53.9 +1.5**
PRU epP **pP** **21 51 21.0 +1.6**
SOKA Soboth 42.45 302 eP **P** **21 50 54.7 +1.9**
comp=Z,5.6nm,0.7s,SNR=10.0
SOKA eP **pP** **21 51 21.3 +1.6**
comp=Z,8.1nm,0.7s
JETT Jettan, Norway 42.56 336 eP **P** **21 50 53.5 +0.2**
CKRC Cesky Krumlov 42.67 305 eP **P** **21 50 56.0 +1.5**
CKRC epP **pP** **21 51 22.7 +1.2**
DEL Delary 42.68 316 eP **P** **21 50 54.5 +0.1**
DEL Delary 42.68 316 iP **P** **21 50 54.0 -0.4**
DEL IAmb IAmb 21 51 22.6
comp=Z,19nm,0.8s
BRG Berggiesshubel 42.73 308 iP **P** **21 50 56.7 +1.8**
BRG Amp 21 50 58.9
comp=Z,8.0nm,0.8s
BRG epP **pP** **21 51 23.2 +1.2**
BRG Amp 21 51 25.1
comp=Z,45nm,1.2s
BRG ex x 21 51 41.4
BRG Amp 21 51 43.2
comp=Z,14nm,0.8s
BRG ex x 21 52 43.5
BRG Amp 21 52 45.3
comp=Z,16nm,1.3s
BRG ex x 21 53 17.3
BRG Amp 21 53 18.1
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 42.73 308 iP **P** **21 50 56.7 +1.8**
BRG e 21 51 23.1
BRG e 21 51 41.3
BRG e 21 52 43.4
BRG e 21 53 17.2
BRG pmax pmax
comp=Z,8.0nm,0.8s
GSI Gunungsitoli 42.80 140 P **P** **21 50 57.8 +1.9**
GSI Gunungsitoli 42.80 140 P **P** **21 50 57.4 +1.6**
comp=Z,126nm,0.8s
GSI Gunungsitoli 42.80 140 P **P** **21 50 57.5 +1.6**
MOA Molln 42.81 303 eP **P** **21 51 00.1 +4.4**
comp=Z,2.8nm,0.6s
MOA eP **pP** **21 51 23.7 +1.1**
comp=Z,13nm,1.0s
LUNU Lund 42.90 315 iP **P** **21 50 56.0 -0.2**
HFS Hagfors 43.03 322 P **P** **21 50 57.7 +0.5**
comp=Z,10nm,0.6s,baz=74,slow=15,SNR=25
HFS LR LR 22 09 50.3
comp=Z,128nm,18.8s,baz=90,slow=37
GEC2 GERESS Array S 43.07 305 P **P** **21 50 57.2 -0.6**
GEC2 pP **pP** **21 51 26.1 +1.2**
GERES GERESS Array B 43.07 305 P **P** **21 50 59.2 +1.3**
comp=Z,0.6nm,0.5s,baz=82,slow=9.6,SNR=7.0
GERES pP **pP** **21 51 26.2 +1.4**
comp=Z,2.0nm,0.6s,baz=91,slow=8.0,SNR=8.6
GERES PcP **PcP** **21 52 45.9 +0.2**
comp=Z,1.9nm,0.6s,baz=83,slow=4.6,SNR=5.6
GERES GERESS Array B 43.07 305 P **P** **21 50 58.5 +0.6**
GERES **pP** **21 51 24.5 -0.4**
TRO Tromso 43.07 336 eP **P** **21 50 58.2 +0.8**
KHC Kasperske Hory 43.12 305 eP **P** **21 50 59.8 +1.6**
KHC e 21 51 26.0
KHC Kasperske Hory 43.12 305 P **P** **21 50 59.6 +1.4**
KHC pP **pP** **21 51 26.4 +1.2**
KHC IAmb IAmb 21 51 27.6
comp=Z,13nm,1.1s
KHC Kasperske Hory 43.12 305 eP **P** **21 50 59.8 +1.6**
KHC epP **pP** **21 51 26.0 +0.8**
BJUU Bjuv 43.14 316 iP **P** **21 50 59.9 +1.7**
BIOA Bad Ischl, Aus 43.25 303 eP **P** **21 51 00.7 +1.5**
comp=Z,1.7nm,0.4s
BIOA eP **pP** **21 51 27.4 +1.1**
comp=Z,7.1nm,0.7s
CLL Collm 43.29 309 iP **P** **21 51 00.6 +1.2**
CLL i*PP **pP** **21 51 27.2 +0.7**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 43.29 309 P **P** **21 50 59.7 +0.3**
CLL pP **pP** **21 51 27.4 +0.9**
CLL IAmb IAmb 21 51 28.4
comp=Z,12nm,0.8s
CLL Collm 43.29 309 iP **P** **21 51 00.6 +1.2**
comp=Z,7.0nm,0.9s
CLL ipP **pP** **21 51 27.2 +0.7**
comp=Z,32nm,1.4s
BORU Boraas 43.33 318 iP **P** **21 50 58.8 -0.8**
FABU Falkenberg 43.33 317 iP **P** **21 50 58.8 -0.8**
YAK Yakutsk 43.35 36 P **P** **21 51 00.4 +0.7**
comp=Z,13nm,0.5s,baz=242,slow=2.5
YAK Yakutsk 43.35 36 eP **P** **21 51 00.4 +0.7**
YAK e*PP **pP** **21 51 23.5 -3.7**
YAK e 21 52 41.5
YAK e 21 52 52.3
YAK eS **S** **21 57 17.9 -0.6**
YAK e*SS **sS** **21 58 06.6 +0.5**
YAK e 22 00 48.6

YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=Z,277nm,6.2s
YAK pmax pmax
comp=E,155nm,6.2s
YAK pmax pmax
comp=N,73nm,5.7s
YAK smax smax
comp=E,73nm,2.0s
YAK smax smax
comp=N,72nm,2.0s
YAK Yakutsk 43.35 36 P **P** **21 51 00.5 +0.9**
YAK pP **pP** **21 51 27.1 -0.1**
YAK Yakutsk 43.35 36 P **P** **21 51 00.2 +0.5**
YAK pP **pP** **21 51 32.3 +5.1**
COP Copenhagen 43.47 315 iP **P** **21 51 01.0 +0.2**
COP IAmb IAmb 21 51 29.8
comp=Z,315nm,0.7s
KBA Koelnbreinsper 43.54 302 eP pP 21 51 30.0 +1.2
comp=Z,12nm,0.8s
FAUS Fauske 43.65 332 eP **P** **21 51 02.2 +0.2**
MOR8 Moi Rana 43.68 330 ||iP **P** **21 51 02.7 +0.3**
NKC Novy Kostel 43.74 307 eP P 21 51 10.7 +7.6
NKC Novy Kostel 43.74 307 epP pP 21 51 31.4 +1.2
ONAU Onsala 43.78 318 iP **P** **21 51 01.8 -1.4**
STEI Steigen 43.81 333 eP **P** **21 51 04.3 +1.0**
TJOU Tjoern 43.95 318 iP **P** **21 51 05.1 +0.5**
MSEY Mahe Island 44.03 203 P **P** **21 51 06.4 +0.6**
SSLB Suanglung 44.11 93 P **P** **21 51 07.8 +1.5**
SSLB Suanglung 44.11 93 P **P** **21 51 09.2 +2.8**
NC602 NORSAR Array S 44.14 322 ||iP **P** **21 51 06.1 0.0**
ABTA Abfaltersbach 44.15 302 eP pP 21 51 34.2 +0.6
comp=Z,4.5nm,0.7s
STRU Stroemstad 44.22 320 iP **P** **21 51 06.6 -0.1**
KONS Konsvik 44.27 331 eP **P** **21 51 08.0 +1.0**
STOK Stokkvaagen 44.28 330 eP **P** **21 51 06.2 -0.9**
NB201 NORSAR Array S 44.29 323 P **P** **21 51 08.2 +0.9**
MNSI Mandailing Nat 44.29 138 P **P** **21 51 08.3 +0.5**
comp=Z,708nmcomp=Z,73nm,0.8s
KSRS Korea Array 44.30 72 P **P** **21 51 08.1 +0.5**
comp=Z,6.2nm,0.8s,baz=282,slow=7.2,SNR=28
NB2 NORSAR Subarra 44.33 323 P **P** **21 51 07.9 +0.3**
comp=Z,14nm,0.5s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.33 323 P **P** **21 51 07.9 +0.3**
baz=95,slow=7.9
NOA NORSAR Array B 44.33 323 P **P** **21 51 08.0 +0.4**
comp=Z,15nm,0.6s,baz=95,slow=7.8,SNR=119
NOA pP **pP** **21 51 35.7 +0.8**
comp=Z,22nm,0.8s,baz=96,slow=8.0,SNR=8.1
NOA LR LR 22 10 49.8
comp=Z,103nm,18.4s,baz=105,slow=37
NSS Namsos 44.39 328 eP **P** **21 51 08.7 +0.7**
LOF Lofoten 44.48 333 eP **P** **21 51 09.2 +0.6**
OSL Oslo 44.50 321 eP **P** **21 51 09.9 +1.0**
KLR Kul'dur 44.51 54 P **P** **21 51 09.8 +0.6**
comp=Z,7.5nm,0.8s,baz=279,slow=9.0,SNR=20
KLR LR LR 22 12 29.2
comp=Z,43nm,20.2s,baz=211,slow=40
KLR Kul'dur 44.51 54 *ce*P **P** **21 51 10.0 +0.8**
KLR pmax pmax
comp=Z,15nm,1.3s
KLR MLR MLR
comp=Z,45nm,6.0s
YULB Yu-li 44.58 93 IAmb IAmb 21 51 13.7
comp=Z,28nm,0.9s
WTTA Wattenberg 44.66 303 eP **P** **21 51 11.5 +0.9**
comp=Z,4.4nm,0.8s
WTTA eP **pP** **21 51 38.3 +0.5**
comp=Z,10.0nm,0.7s
WATA Walderalm 44.69 303 eP **P** **21 51 12.6 +1.8**
comp=Z,3.3nm,0.6s
WATA eP **pP** **21 51 38.4 +0.3**
comp=Z,14nm,0.9s
OVD Ostervraa, Den 44.70 317 iP **P** **21 51 10.7 +0.1**
OVD IAmb IAmb 21 51 39.5
comp=Z,145nm,0.7s
CTI Castel Tesino 44.86 301 P **P** **21 51 11.6 -0.6**
CTI pmax pmax
comp=Z,14nm,0.7s
CTI Castel Tesino 44.86 301 P **P** **21 51 11.6 -0.6**
CTI IAmb IAmb 21 51 41.3
comp=Z,14nm,0.7s
SQTA Sankt Quirin 44.95 303 eP **P** **21 51 13.7 +0.8**
comp=Z,12nm,1.5s
SQTA eP **pP** **21 51 39.8 -0.3**
comp=Z,9.7nm,1.0s
TBLU Trondheim 44.97 326 eP **P** **21 51 13.1 +0.5**
BJO1 Bjornoya 45.00 342 eP **P** **21 51 13.3 +0.5**
MOTA Moosalm 45.00 303 iP **P** **21 51 13.8 +0.5**
comp=Z,2.1nm,0.7s
MOTA eP **pP** **21 51 40.2 -0.4**
comp=Z,18nm,0.8s
KONO Kongsberg 45.05 321 *d*iP **P** **21 51 14.0 +0.7**
KONO pmax pmax
comp=Z,10.0nm,0.6s
KONO Kongsberg 45.05 321 P **P** **21 51 13.6 +0.2**
KONO pP **pP** **21 51 40.7 0.0**
KONO Kongsberg 45.05 321 ||iP **P** **21 51 14.0 +0.7**
KONO Kongsberg 45.05 321 P **P** **21 51 13.9 +0.6**
KONO pP **pP** **21 51 41.6 +1.0**
KONO sP **sP** **21 51 54.9 +0.9**
TIXI Tiksi 45.20 22 *ce*P **P** **21 51 14.7 +0.4**
TIXI pmax pmax
comp=Z,18nm,0.7s
TIXI MLR MLR
comp=Z,78nm,7.0s
TIXI Tiksi 45.20 22 P **P** **21 51 14.9 +0.6**
TIXI IAmb IAmb 21 51 16.6
comp=Z,20nm,0.8s
TIXI Tiksi 45.20 22 P **P** **21 51 14.9 +0.6**
RETA Reutte 45.21 303 eP pP 21 51 42.7 +0.5
comp=Z,9.9nm,1.0s
MUD Monsted U'grnd 45.29 316 iP P 21 51 21.0 +5.8
MUD IAmb IAmb 21 51 59.1
comp=Z,21nm,0.7s
FETA Feichten 45.31 303 eP **P** **21 51 17.8 +2.0**
comp=Z,8.7nm,1.1s
DOMB Dombas 45.42 324 eP **P** **21 51 16.6 +0.3**
BKNI Bangkinang 45.48 136 P **P** **21 51 17.5 +0.3**
BKNI Bangkinang 45.48 136 P **P** **21 51 17.7 +0.5**
comp=Z,173nm,0.8s
BKNI Bangkinang 45.48 136 P **P** **21 51 17.9 +0.7**
USRK Ussuriysk Ar. 45.55 61 P **P** **21 51 17.5 0.0**
comp=Z,4.2nm,0.8s,baz=289,slow=7.0,SNR=5.2
USRK Ussuriysk Ar. 45.55 61 P **P** **21 51 17.8 +0.3**
USRK Ussuriysk Ar. 45.55 61 P **P** **21 51 17.8 +0.3**
HOMB Homborsund 45.61 319 iP **P** **21 51 17.6 -0.1**
HOMB Homborsund 45.61 319 eP **P** **21 51 18.7 +1.0**
OSSC Osservatorio P 45.66 298 P **P** **21 51 19.1 +0.7**
SALO Salr 45.72 301 P **P** **21 51 18.8 0.0**
SALO **pP** **21 51 45.5 -0.6**
SALO IAmb IAmb 21 51 48.3
comp=Z,35nm,0.9s
SKAR Skarslia 45.73 322 eP **P** **21 51 19.9 +1.1**
DAVA Damuels 45.83 303 eP **P** **21 51 20.9 +1.0**
comp=Z,7.2nm,0.5s,SNR=15
DAVA eP **pP** **21 51 47.8 +0.6**
comp=Z,40nm,0.9s,SNR=6.2
DAVOX Davos/Dischmat 45.93 303 P **P** **21 51 21.5 +0.8**
comp=Z,7.1nm,0.7s,baz=86,slow=10,SNR=22
DAVOX pP **pP** **21 51 48.3 +0.3**
comp=Z,23nm,0.7s,baz=106,slow=8.5,SNR=14
MOL Molde 46.16 325 eP **P** **21 51 22.4 +0.4**
SNART Snartemo 46.29 319 iP **P** **21 51 22.6 -0.4**
SNART IAmb IAmb 21 51 52.0
comp=Z,37nm,0.6s
SNART Snartemo 46.29 319 eP **P** **21 51 23.8 +0.8**
TUE Stuetta 46.35 302 P **P** **21 51 24.4 +0.4**
TUE pP **pP** **21 51 50.9 -0.4**
AKN Aaknes 46.40 324 eP **P** **21 51 24.4 +0.5**
ODD1 Odda 46.56 321 eP **P** **21 51 26.1 +0.8**
BLS5 Blasjo 46.66 320 eP **P** **21 51 27.1 +1.1**
BFO Black Forest 46.67 305 P **P** **21 51 26.1 -0.2**
BFO *PP **pP** **21 51 52.6 -1.1**
BFO Black Forest 46.67 305 P **P** **21 51 26.1 -0.2**
BFO pP **pP** **21 51 52.6 -1.1**
BFO IAmb IAmb 21 51 55.3
comp=Z,11nm,0.8s
BFO Black Forest 46.67 305 X 21 51 54.5
HYA Hoyanger 46.77 323 eP **P** **21 51 27.2 +0.5**

TPRI Tanjung Pinang 47.00 132 P **P** **21 51 30.5 +1.4**
comp=Z,3µmcomp=Z,92nm,1.3s
LODK Lodwar 47.10 234 P **P** **21 51 30.0 +0.1**
SPA0 Spitsbergen Ar 47.19 347 eP **P** **21 51 30.6 +0.7**
SPITS Spitsbergen Ar 47.19 347 LR LR 22 15 08.4
comp=Z,90nm,18.0s,baz=169,slow=41
BER Bergen 47.20 322 eP **P** **21 51 31.1 +1.0**
ASK Askoy 47.27 322 eP **P** **21 51 31.8 +1.2**
GRNR Gornyy 47.27 51 ||iP **P** **21 51 32.4 +1.5**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR MLR MLR
comp=E,270nm,15.0s
KMY Karmoy 47.28 320 eP **P** **21 51 31.5 +0.7**
FOO Floro 47.32 323 eP **P** **21 51 31.3 +0.3**
ECH Echery 47.47 305 P **P** **21 51 30.3 -2.2**
ECH pP **pP** **21 52 00.1 +0.3**
SUE Sulen 47.47 323 eP **P** **21 51 33.0 +0.9**
BTNL Ternell 47.70 308 *d*pP pP 21 52 03.2 +1.6
KRJI Kerinci 47.72 138 P **P** **21 51 36.2 +1.4**
comp=E,5µmcomp=E,204nm,0.8s
SENIN Lac Senin/Sane 47.76 303 P **P** **21 51 34.7 -0.2**
SENIN IAmb IAmb 21 52 04.0
comp=Z,18nm,0.8s
MEM Membach 47.77 308 *d*pP **pP** **21 52 03.1 +1.0**
MEM *d*sP sP 21 52 13.7 -1.6
WLF Walferdange 47.84 307 P **P** **21 51 36.7 +1.4**
WLF pP **pP** **21 52 03.2 +0.4**
WLF Walferdange 47.84 307 *d*P **P** **21 51 39.8 +4.6**
WLF *d*pP **pP** **21 52 04.2 +1.5**
JNU Nakatsue 48.03 76 P **P** **21 51 37.6 +0.6**
comp=Z,16nm,0.9s,baz=294,slow=20,SNR=1.6
DSRI Dabo 48.15 133 P **P** **21 51 39.1 +1.1**
comp=Z,631nmcomp=Z,71nm,1.0s
BCLA Clavier 48.24 308 *d*PcP **PcP** **21 53 04.2 +0.6**
KBS Kingsbay 48.30 347 eP **P** **21 51 40.0 +1.6**
KBS Kingsbay 48.30 347 P **P** **21 51 40.3 +1.9**
KBS pP **pP** **21 52 06.8 +0.6**
RCHB Rochefort 48.34 308 *d*pP pP 21 52 07.7 +1.1
BGES Gesves 48.39 308 *d*PcP **PcP** **21 53 04.5 +0.4**
BNI Bardonecchia 48.48 301 P **P** **21 51 40.9 +0.4**
BNI pmax pmax
comp=Z,32nm,1.3s
BNI Bardonecchia 48.48 301 P **P** **21 51 40.9 +0.4**
BNI IAmb IAmb 21 52 10.2
comp=Z,32nm,1.3s
JOW Kunigami 48.56 85 P **P** **21 51 41.6 +0.5**
comp=Z,21nm,0.8s,baz=280,slow=5.8,SNR=5.3
BMRD Maredsous 48.60 308 *d*pP **pP** **21 52 10.3 +1.7**
BMRD *d*PcP **PcP** **21 53 05.6 +0.7**
DOU Dourbes 48.75 308 *d*PcP **PcP** **21 53 06.2 +0.7**
SNF Seneffe 48.87 309 *d*pP pP 21 52 12.0 +1.3
KEST Kesra 49.35 288 P **P** **21 51 48.9 +1.8**
comp=Z,5.6nm,0.5s,baz=42,slow=2.9,SNR=21
KEST Kesra 49.35 288 P **P** **21 51 48.6 +1.5**
KEST IAmb IAmb 21 52 18.4
comp=Z,23nm,1.1s
KMBO Kilima Mbogo 49.47 228 P **P** **21 51 49.5 +1.1**
comp=Z,3.8nm,0.7s,baz=39,slow=14,SNR=10
KMBO Kilima Mbogo 49.47 228 P **P** **21 51 48.8 +0.4**
KMBO pmax pmax
comp=Z,14nm,1.5s
KMBO Kilima Mbogo 49.47 228 P **P** **21 51 48.8 +0.4**
KMBO IAmb IAmb 21 51 50.8
comp=Z,14nm,1.4s
KMBO Kilima Mbogo 49.47 228 P **P** **21 51 49.7 +1.4**
KMBO Kilima Mbogo 49.47 228 P **P** **21 51 49.3 +0.9**
KMBO Kilima Mbogo 49.47 228 P **P** **21 51 49.5 +1.1**
SSB Saint Sauveur 49.89 302 P **P** **21 51 50.8 -0.2**
SSB *PP **pP** **21 52 17.3 -1.5**
SSB Saint Sauveur 49.89 302 P **P** **21 51 50.8 -0.2**
SSB pP **pP** **21 52 17.3 -1.5**
SSB IAmb IAmb 21 52 20.6
comp=Z,14nm,0.9s
SSB Saint Sauveur 49.89 302 P **P** **21 51 52.2 +1.2**
SSB pP **pP** **21 52 19.3 +0.6**
KIBK Kibwezi 49.98 226 P **P** **21 51 53.1 +1.1**
KIBK IAmb IAmb 21 51 55.0
comp=Z,13nm,0.8s
KIBK Kibwezi 49.98 226 P **P** **21 51 53.5 +1.5**
KSM Kuching 50.19 126 P **P** **21 51 54.6 +1.0**
KSM Kuching 50.19 126 P **P** **21 51 55.2 +1.7**
PPBI Pangkal Pinang 50.42 133 P **P** **21 51 56.1 +0.8**
comp=Z,78nm,1.1s
LRW Lerwick 50.45 322 eP **pP** **21 52 23.6 +0.8**
LRW IAmb IAmb 21 52 25.1
comp=Z,76nm,1.0s
ELMS Elmsett, Ipswi 50.58 311 ⇑eP **pP** **21 52 24.8 +1.1**
ELMS IAmb IAmb 21 52 25.3
comp=Z,83nm,0.8s
WACR West Acre 50.67 312 eP **pP** **21 52 25.3 +0.7**
WACR IAmb IAmb 21 52 26.2
comp=Z,256nm,1.0s
ELSH Elham, Standar 50.69 310 eP **pP** **21 52 25.7 +1.1**
ELSH IAmb IAmb 21 52 26.3
comp=Z,180nm,0.9s
CLF Chambon-Foret 50.71 306 X 21 52 25.4
SBUM Sibu 50.73 123 P **P** **21 51 58.3 +0.7**
SBUM IAmb IAmb 21 52 00.5
comp=Z,25nm,0.9s
LWLI Liwa 51.57 137 P **P** **21 52 03.4 -0.6**
comp=Z,16µmcomp=Z,3µmcomp=Z,70nm,0.7s
DRUM Mains of Drumt 51.63 318 ||eP **pP** **21 52 32.2 +0.6**
DRUM IAmb IAmb 21 52 34.1
comp=Z,103nm,1.4s
HPK Haverah Park 51.73 314 ||eP **pP** **21 52 33.2 +0.6**
HPK IAmb IAmb 21 52 33.8
comp=Z,55nm,0.8s
EDMD Edmundbyers 51.74 315 eP **pP** **21 52 33.3 +0.6**
EDMD IAmb IAmb 21 52 33.9
comp=Z,59nm,0.9s
TPI Tanjungpandan 51.80 132 P **P** **21 52 06.4 +0.8**
comp=Z,250nmcomp=Z,19nm,1.1s
MLA1 Latheron 51.84 320 eP pP 21 52 34.1 +0.8
JSD Sado 51.86 67 P **P** **21 52 06.4 +0.6**
ESY Stoneypath 51.89 316 ||eP pP 21 52 34.1 +0.4
INU Inuyama 51.91 71 P **P** **21 52 07.4 +1.2**
INU pP **sP** **21 52 43.9 -4.0**
MCD Coleburn Disti 51.91 319 eP pP 21 52 34.8 +0.9
STKI Sintang 52.01 126 P **P** **21 52 08.5 +1.3**
BIGH Upper Bighouse 52.09 320 ⇑eP pP 21 52 36.0 +0.8
YSS Yuzh-Sakhalins 52.19 55 eP **P** **21 52 09.0 +0.9**
YSS e 21 52 47.8
YSS pmax pmax
comp=Z,20nm,0.9s
YSS Yuzh-Sakhalins 52.19 55 P **P** **21 52 08.2 +0.1**
YSS IAmb IAmb 21 52 10.2
comp=Z,26nm,0.9s
YSS Yuzh-Sakhalins 52.19 55 P **P** **21 52 09.0 +0.9**
EDI Edinburgh 52.20 317 ||eP **pP** **21 52 36.7 +0.7**
EDI IAmb IAmb 21 52 37.2
comp=Z,42nm,0.8s
KASI Kota Agung 52.23 137 P **P** **21 52 08.3 -0.4**
comp=Z,45nm,0.9s
EKA Eskdalemuir Ar 52.31 316 P **P** **21 52 09.7 +0.8**
comp=Z,5.9nm,0.9s,baz=90,slow=7.3,SNR=11
EKA pP **pP** **21 52 37.0 +0.1**
comp=Z,32nm,0.8s,baz=85,slow=8.4,SNR=25
EKA LR LR 22 17 39.4
comp=Z,92nm,18.8s,baz=147,slow=40
ESK Eskdalemuir 52.34 316 ||eP **pP** **21 52 37.6 +0.5**
ESK IAmb IAmb 21 52 38.2
comp=Z,35nm,0.9s
ESK Eskdalemuir 52.34 316 P **P** **21 52 07.5 -1.6**
ESK IAmb IAmb 21 52 13.1
comp=Z,23nm,1.2s
ESK pP **pP** **21 52 36.4 -0.7**
ESK Eskdalemuir 52.34 316 X 21 52 37.6
MAJO Matsushiro 52.36 69 P **P** **21 52 10.4 +0.8**
MAJO pmax pmax
comp=Z,23nm,0.7s
MAJO Matsushiro 52.36 69 P **P** **21 52 10.4 +0.8**
MAJO Matsushiro 52.36 69 P **P** **21 52 10.0 +0.4**
MAJO Matsushiro 52.36 69 X 21 52 09.9
MAJO P P 21 52 21.7 +12
MAJO pP pP 21 52 41.8 +3.7
MJAR Matsushiro Arr 52.36 69 P **P** **21 52 09.1 -0.5**
comp=Z,9.7nm,1.0s,baz=256,slow=9.0,SNR=13
MJAR Matsushiro Arr 52.36 69 IAmb IAmb 21 52 24.6
comp=Z,26nm,1.2s
JMIC Jan Mayen 52.39 336 LR LR 22 14 53.0
comp=Z,150nm,20.1s,baz=314,slow=36
KESW Keswick, Cumbr 52.44 315 eP **pP** **21 52 38.5 +0.6**
KESW IAmb IAmb 21 52 39.3

comp=Z,40nm,0.9s
STRD Stroud 52.55 311 *e*P **pP** **21 52 38.5 -0.2**
STRD IAmb IAmb 21 52 39.8
comp=Z,44nm,0.8s
INVG Invergeldie, C 52.57 317⇑ *e*P **pP** **21 52 39.2 +0.4**
INVG IAmb IAmb 21 52 40.3
comp=Z,33nm,0.9s
EAB Aberfoyle 52.78 317⇑ *e*P pP 21 52 40.9 +0.5
ASAJ Asahikawa 52.93 59 P **P** **21 52 12.5 -1.1**
comp=Z,4.7nm,0.9s,baz=277,slow=8.1,SNR=2.3
PGBU Glenifferbraes 52.94 317 *e*P **pP** **21 52 42.3 +0.7**
PGBU IAmb IAmb 21 52 43.3
comp=Z,60nm,0.8s
NEWG New Galloway 52.96 316 *e*P **pP** **21 52 42.5 +0.8**
NEWG IAmb IAmb 21 52 43.5
comp=Z,55nm,0.9s
MCH1 Michaelchurch 53.00 312 *e*P **pP** **21 52 42.2 +0.2**
MCH1 IAmb IAmb 21 52 43.4
comp=Z,62nm,0.9s
KAC Achnashellach 53.01 319⇑ *e*P pP 21 52 42.8 +0.6
MBAR Mbarara 53.14 235 P **P** **21 52 16.3 +0.6**
MBAR pmax pmax
comp=Z,20nm,0.7s
MBAR Mbarara 53.14 235 P **P** **21 52 16.3 +0.6**
MBAR Mbarara 53.14 235 P **P** **21 52 16.0 +0.3**
MBAR Mbarara 53.14 235 P **P** **21 52 16.1 +0.4**
MBAR X 21 52 28.4
MBAR pP **pP** **21 52 45.4 +1.6**
MYLDM Lahad Datu 53.21 115 P **P** **21 52 17.0 +1.0**
KPL Plockton 53.23 319 *e*P **pP** **21 52 44.4 +0.7**
KPL IAmb IAmb 21 52 45.4
comp=Z,49nm,0.8s
LAWE Loch Awe, Argy 53.34 317 *e*P **pP** **21 52 45.1 +0.6**
LAWE IAmb IAmb 21 52 45.9
comp=Z,50nm,0.9s
WIM Isle of Man 53.44 315 *e*P pP 21 52 46.0 +0.6
SEY Seymchan 53.80 34 P **P** **21 52 19.9 +0.3**
comp=Z,4.5nm,0.9s,baz=286,slow=8.8,SNR=7.0
SEY Seymchan 53.80 34 *ce*P **P** **21 52 18.4 -1.3**
SEY pmax pmax
comp=Z,12nm,1.3s
CLGH Cloghs, Cushen 54.01 316 *e*P pP 21 52 50.5 +1.0
PBKI Pangkalan Bun 54.24 128 P **P** **21 52 24.9 +1.4**
comp=Z,132nm,1.0s
DAG Danmarks Havn 54.46 344 *i*P **P** **21 52 24.3 +0.1**
DAG IAmb IAmb 21 52 55.6
comp=Z,12nm,0.6s
MTKI Muara Teweh, K 55.02 123 P **P** **21 52 30.5 +1.3**
DBG Daneborg 55.34 341 *i*P **P** **21 52 31.8 +1.2**
DBG IAmb IAmb 21 53 35.3
comp=Z,3.5nm,0.8s
BBKI Banjar Baru 56.86 125 P **P** **21 52 43.6 +1.4**
comp=Z,82nm,1.0s
MPSI Mapaga 57.56 118 P **P** **21 52 48.9 +1.7**
TOLI2 Tolitoli 57.65 116 P **P** **21 52 48.8 +0.9**
TOLI2 IAmb IAmb 21 52 49.4
comp=Z,15nm,0.8s
TOLI2 Tolitoli 57.65 116 P **P** **21 52 48.9 +1.1**
ESBB Sonseca Array 57.67 298 IAmb IAmb 21 53 17.5
comp=Z,22nm,0.9s
ESDC Sonseca Array 57.68 298 P **P** **21 52 48.6 +0.8**
comp=Z,5.1nm,0.7s,baz=56,slow=7.0,SNR=53
ESDC pP **pP** **21 53 16.8 +0.6**
comp=Z,14nm,0.8s,baz=60,slow=7.3,SNR=16
ESDC Sonseca Array 57.68 298 P **P** **21 52 48.6 +0.8**
ESDC pP **pP** **21 53 16.1 -0.1**
ESDC IAmb IAmb 21 53 17.4
comp=Z,15nm,1.1s
PAB San Pablo 58.00 298 P **P** **21 52 50.7 +0.6**
PAB pmax pmax
comp=Z,16nm,1.1s
PAB San Pablo 58.00 298 P **P** **21 52 50.7 +0.6**
PAB IAmb IAmb 21 53 19.9
comp=Z,16nm,1.1s
PAB San Pablo 58.00 298 P **P** **21 52 50.5 +0.3**
PAB pP **pP** **21 53 18.9 +0.3**
BILL Bilibino 58.02 26 *c*P **P** **21 52 50.8 +1.1**
BILL *e*PP **pP** **21 53 18.9 +0.4**
BILL e 21 54 59.8
BILL *e*S **pS** **22 01 07.0 -5.3**
BILL pmax pmax
comp=Z,12nm,0.9s
BILL MLR MLR
comp=Z,106nm,13.0s
BILL Bilibino 58.02 26 P **P** **21 52 50.2 +0.5**
BILL IAmb IAmb 21 52 52.5
comp=Z,9.5nm,0.8s
BILL Bilibino 58.02 26 P **P** **21 52 51.1 +1.5**
BILL pP **pP** **21 53 23.0 +4.5**
BORG Borgarnes 58.47 330 LR LR 22 18 33.7
comp=Z,55nm,19.1s,baz=73,slow=36
MRSI Marisa 58.92 116 P **P** **21 52 58.0 +1.3**
comp=Z,2µmcomp=Z,192nm,0.9s
PETK Petropavlovsk- 59.34 44 P **P** **21 52 58.3 -0.7**
comp=Z,1.1nm,0.7s,baz=348,slow=5.0,SNR=4.2
GTOI Gorontalo 59.59 115 P **P** **21 53 00.7 -0.5**
comp=Z,278nmcomp=Z,33nm,0.8s
POLO Lamas de Olo 59.67 301 *e*P pP 21 53 31.1 +0.9
comp=Z,18nm,1.9s
APSI Ampana 59.67 117 P **P** **21 53 03.0 +1.2**
PGAV Gavieira, Arco 59.75 302 *e*P pP 21 53 32.1 +1.4
comp=Z,35nm,1.7s
MTE Manteigas 59.90 300 *e*P pP 21 53 32.1 +0.4
comp=Z,37nm,1.0s
TTSI Tana Toraja 59.90 121 P **P** **21 53 04.2 +0.8**
comp=Z,53nm,0.9s
PMRV Marv??o 60.20 299 *e*P pP 21 53 34.7 +0.9
comp=Z,22nm,1.8s
ABPO Ambohimpanom 60.20 207 P **P** **21 53 06.1 +0.6**
ABPO X 21 53 34.1
ABPO pP **sP** **21 53 45.4 -1.8**
KMSI Cibinong 60.33 114 P **P** **21 53 08.4 +2.0**
SPSI Sidrap Palu 60.53 121 P **P** **21 53 09.1 +1.4**
comp=Z,22nm,0.8s
PESTR Estremoz 60.57 298 *e*P pP 21 53 36.7 +0.3
comp=Z,24nm,1.1s
COI Coimbra 60.58 300 *e*P pP 21 53 37.3 +1.0
comp=Z,66nm,1.1s
PMTG Montargil 60.93 299 *e*P pP 21 53 38.5 -0.3
comp=Z,17nm,1.4s
MDT Midelt 61.08 291 P **P** **21 53 11.9 +0.5**
comp=Z,2.2nm,0.8s,baz=74,slow=8.9,SNR=3.6
PSBE So Bento 61.14 299 *e*P pP 21 53 41.1 +0.8
comp=Z,60nm,1.6s
PVAQ Vaqueiros 61.30 297 *e*P pP 21 53 41.9 +0.6
comp=Z,50nm,1.3s
PBDV Barranco-do-Ve 61.52 297 *e*P pP 21 53 43.7 +0.8
comp=Z,52nm,1.1s
EUNU Eureka 62.62 356 P **P** **21 53 21.7 +0.8**
TNTI Ternate 62.70 111 P **P** **21 53 22.5 +0.2**
TNTI Ternate 62.70 111 P **P** **21 53 23.5 +1.2**
comp=Z,1µmcomp=Z,80nm,1.5s
TNTI Ternate 62.70 111 P **P** **21 53 23.0 +0.7**
ICESG Greenland Ices 62.99 338 *i*P **P** **21 53 24.2 +0.4**
ICESG IAmb IAmb 21 54 13.4
comp=Z,7.9nm,0.8s
VOI Vohitsoka 63.02 206 P **P** **21 53 24.6 +0.3**
VOI IAmb IAmb 21 53 25.7
comp=Z,17nm,1.0s
SANI Sanana 63.58 115 P **P** **21 53 29.4 +1.3**
SANI Sanana 63.58 115 P **P** **21 53 28.3 +0.2**
LBMI Labuha 63.74 113 P **P** **21 53 30.2 +1.1**
comp=Z,31nm,1.3s
ILULI Ilulissat 66.16 341 *i*P **P** **21 53 44.2 +0.3**
ILULI IAmb IAmb 21 54 15.6
comp=Z,18nm,0.7s
TOA0 Torodi Ar. Sit 66.20 269 P **P** **21 53 44.1 -1.0**
TOA0 IAmb IAmb 21 53 44.7
comp=Z,18nm,1.2s
TORD Torodi Ar. Bea 66.20 269 P **P** **21 53 43.8 -1.3**
comp=Z,6.1nm,0.5s,baz=48,slow=5.8,SNR=70
TORD Torodi Ar. Bea 66.20 269 P **P** **21 53 44.4 -0.7**
TORD IAmb IAmb 21 53 44.7
comp=Z,14nm,1.1s
DY2G Dye2 66.57 337 *i*P **P** **21 53 46.7 -0.3**
DY2G IAmb IAmb 21 54 18.1
comp=Z,18nm,0.8s
SWI Sorong 66.69 110 P **P** **21 53 48.5 +0.3**
SFJD Kangerlussuaq 67.53 339 LR LR 22 23 57.7
comp=Z,76nm,18.5s,baz=70,slow=36
SFJD Kangerlussuaq 67.53 339 X 21 54 22.9
BATI Baumata 67.69 123 P **P** **21 53 55.0 +0.5**
RES Resolute Bay 68.31 356 LR LR 22 26 51.7
comp=Z,44nm,18.7s,baz=100,slow=38
KOWA Kowa 70.02 273 P **P** **21 54 07.2 -1.7**
KOWA IAmb IAmb 21 54 09.1
comp=Z,15nm,1.1s
KOWA Kowa 70.02 273 P **P** **21 54 08.5 -0.5**
KOWA X 21 54 38.5
KOWA sP **sP** **21 54 57.4 +6.9**
MATP Matopo 70.04 223 *i*P **P** **21 54 09.0 0.0**
MATP Matopo 70.04 223 *i*P **P** **21 54 09.0 0.0**
TOLK Toolik Lake Re 70.39 15 IAmb IAmb 21 54 13.0
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 70.39 15 P **P** **21 54 11.0 +0.5**
baz=326
A36M Sachs Harbour 70.74 5 IAmb IAmb 21 54 15.7
comp=Z,17nm,0.8s
A36M Sachs Harbour 70.74 5 P **P** **21 54 13.3 +0.9**
baz=346,SNR=5.7
MSNA Messina 70.79 221 *i*P **P** **21 54 14.2 +0.7**
MSNA Messina 70.79 221 *i*P **P** **21 54 14.2 +0.7**
MOPA Mopani 71.06 219 *i*P **P** **21 54 14.9 -0.1**
MOPA Mopani 71.06 219 *i*P **P** **21 54 14.9 -0.1**
COLD Coldfoot 71.43 16 P **P** **21 54 17.6 +0.9**
baz=326
H21K Melozitna Rive 72.12 18 P **P** **21 54 21.4 +0.5**
baz=324
I21K Tanana 72.71 18 P **P** **21 54 24.8 +0.5**
baz=325,SNR=5.2
H23K Yukon River 72.75 16 P **P** **21 54 25.8 +1.1**
baz=327
J20K Nowinta River 72.97 19 IAmb IAmb 21 54 28.9
comp=Z,8.5nm,0.8s
J20K Nowinta River 72.97 19 P **P** **21 54 26.8 +0.8**
baz=323,SNR=11
SMPI Sarmi 73.10 106 P **P** **21 54 28.8 +1.4**
comp=Z,29nm,1.4s
H24K Noodor Dome 73.11 16 P **P** **21 54 27.7 +0.9**
baz=328,SNR=5.9
I23K Minto, Yukon-K 73.36 17 P **P** **21 54 29.1 +0.9**
baz=327,SNR=7.2
INK Inuvik 73.41 9 P **P** **21 54 29.0 +0.7**
comp=Z,6.2nm,0.6s,baz=1.6,slow=5.2,SNR=39
INK Inuvik 73.41 9 IAmb IAmb 21 54 30.1
comp=Z,13nm,1.1s
INK Inuvik 73.41 9 P **P** **21 54 29.1 +0.7**
baz=339,SNR=11
C36M Paulatuk 73.41 6 IAmb IAmb 21 54 30.5
comp=Z,13nm,0.7s
C36M Paulatuk 73.41 6 P **P** **21 54 28.4 +0.1**
baz=347,SNR=6.8
TTA Tatalina 73.46 21 P **P** **21 54 29.4 +0.5**
TTA pmax pmax
comp=Z,5.0nm,0.9s
TTA Tatalina 73.46 21 P **P** **21 54 29.4 +0.5**
TTA Tatalina 73.46 21 P **P** **21 54 29.6 +0.7**
baz=322,SNR=5.6
K20K Telida 73.65 20 IAmb IAmb 21 54 32.9
comp=Z,10.0nm,0.8s
K20K Telida 73.65 20 P **P** **21 54 30.7 +0.7**
baz=323,SNR=9.1
CHUM Lake Minchumin 73.69 19 P **P** **21 54 30.7 +0.6**
baz=325,SNR=9.4
MDM Murphy Dome 73.78 16 IAmb IAmb 21 54 32.7
comp=Z,15nm,1.3s
POKR Poker Plat Res 73.82 16 IAmb IAmb 21 54 32.7
comp=Z,12nm,0.9s
POKR Poker Plat Res 73.82 16 P **P** **21 54 32.0 +1.0**
baz=328
BPAW Bear Paw Mtn. 73.84 18 P **P** **21 54 31.2 +0.1**
baz=326,SNR=5.8
NEA2 Nenana 73.89 17 IAmb IAmb 21 54 32.4
comp=Z,13nm,1.0s
NEA2 Nenana 73.89 17 P **P** **21 54 31.6 +0.2**
baz=327,SNR=11
TCOL CIGO, UAF Yank 73.94 16 IAmb IAmb 21 54 32.9
comp=Z,24nm,1.2s
TCOL CIGO, UAF Yank 73.94 16 P **P** **21 54 31.7 +0.2**
baz=328
COLA College 73.94 16 *d i*P **P** **21 54 32.2 +0.7**
COLA pmax pmax
comp=Z,14nm,0.9s
COLA College 73.94 16 P **P** **21 54 31.9 +0.4**
COLA IAmb IAmb 21 54 32.9
comp=Z,29nm,1.2s
CAST Castle Rocks 74.13 19 IAmb IAmb 21 54 34.2
comp=Z,20nm,1.0s
CAST Castle Rocks 74.13 19 P **P** **21 54 33.2 +0.5**
baz=325,SNR=18
ILAR Eielson Array 74.24 16 P **P** **21 54 33.1 -0.2**
comp=Z,2.9nm,0.8s,baz=323,slow=4.6,SNR=29
ILAR pP **pP** **21 55 02.3 -0.8**
comp=Z,7.2nm,1.0s,baz=314,slow=4.7,SNR=8.4
KTH Kantishna Hill 74.31 18 IAmb IAmb 21 54 34.9
comp=Z,13nm,0.9s
L19K White Mountain 74.38 21 P **P** **21 54 34.7 +0.5**
baz=323
L20K Farewell, AK 74.42 20 P **P** **21 54 34.9 +0.4**
baz=324
PPLA Purkeypile 74.53 19 IAmb IAmb 21 54 37.1
comp=Z,12nm,0.7s
PPLA Purkeypile 74.53 19 P **P** **21 54 35.4 +0.1**
baz=325,SNR=6.1
TRF Thorofare Moun 74.56 18 P **P** **21 54 36.9 +1.5**
baz=326
GENI Genyem 74.60 105 P **P** **21 54 36.9 +0.7**
MCK McKinley 74.65 17 P **P** **21 54 36.2 +0.4**
baz=327
J25K Salcha River, 74.71 16 P **P** **21 54 36.0 -0.2**
baz=330,SNR=5.9
M19K Big River Lodg 74.74 21 P **P** **21 54 36.4 +0.2**
M19K Big River Lodg 74.74 21 P **P** **21 54 36.8 +0.6**
baz=323
FITZ Fitzroy Crossi 74.77 127 P **P** **21 54 37.2 +0.2**
FITZ IAmb IAmb 21 54 38.1
comp=Z,22nm,1.1s
FITZ Fitzroy Crossi 74.77 127 P **P** **21 54 37.1 +0.1**
RND Reindeer 74.95 18 IAmb IAmb 21 54 38.7
comp=Z,8.7nm,0.7s
KNRA Kununurra 75.06 123 P **P** **21 54 39.2 +0.5**
KNRA Kununurra 75.06 123 P **P** **21 54 38.9 +0.2**
J26L Joseph Creek 75.19 15 P **P** **21 54 39.2 +0.3**
baz=32,SNR=7.1
DBIC Dimbokro 75.19 267 P **P** **21 54 38.6 -1.0**
comp=Z,5.6nm,0.6s,baz=42,slow=5.6,SNR=9.0
DBIC Dimbokro 75.19 267 P **P** **21 54 38.8 -0.8**
DBIC pmax pmax
comp=Z,43nm,1.5s
DBIC Dimbokro 75.19 267 P **P** **21 54 38.8 -0.8**
DBIC IAmb IAmb 21 54 49.2
comp=Z,43nm,1.5s
KIC Kosan Boka 75.28 267 *e*P **P** **21 54 39.2 -1.0**
comp=Z,12nm,0.5s
LBTB Lobatse 75.31 222 P **P** **21 54 40.2 +0.1**
LBTB pmax pmax
comp=Z,20nm,1.3s
LBTB Lobatse 75.31 222 P **P** **21 54 40.1 +0.1**
LBTB IAmb IAmb 21 54 42.0
comp=Z,20nm,1.2s
K24K Donnelly Dome 75.32 16 P **P** **21 54 39.1 -0.5**
baz=330,SNR=10
TIC Toumodi 75.34 267 *e*P **P** **21 54 39.4 -1.1**
I29M Ogilvie Camp, 75.41 12 P **P** **21 54 40.0 -0.1**
baz=336,SNR=7.6
EGAK Eagle 75.42 14 P **P** **21 54 40.3 +0.2**
baz=334
WAT1 Susitna Watana 75.51 18 P **P** **21 54 39.8 -0.9**
baz=328
TSUM Tsumeb 75.55 232 P **P** **21 54 41.7 +0.1**
SCRK Sand Creek 75.56 15 P **P** **21 54 41.2 +0.1**
baz=331,SNR=9.9
DHY Denali Highway 75.58 17 IAmb IAmb 21 54 43.4
comp=Z,15nm,0.6s
DHY Denali Highway 75.58 17 P **P** **21 54 41.6 +0.4**
baz=329,SNR=12
RIDG Independent Ri 75.58 16 P **P** **21 54 41.1 -0.1**
baz=331
N19K Bonanza Creek 75.59 21 P **P** **21 54 41.7 +0.4**
baz=324
LIC Lamto 75.59 267 *e*P **P** **21 54 41.2 -0.7**
comp=Z,32nm,1.2s
WAT6 Susitna Watana 75.92 18 P **P** **21 54 42.7 -0.5**
baz=328,SNR=5.7
M22K Willow 76.02 19 P **P** **21 54 43.4 -0.1**
baz=327
PAX Paxson 76.12 16 P **P** **21 54 44.3 +0.1**
baz=330,SNR=8.3
O18K Koktuh Hills 76.14 22 IAmb IAmb 21 54 47.7
comp=Z,14nm,0.8s
O18K Koktuh Hills 76.14 22 P **P** **21 54 45.3 +0.9**
baz=323,SNR=7.2
GHO Glory Hole Cre 76.31 19 IAmb IAmb 21 54 47.3
comp=Z,11nm,0.7s
DAWY Dawson 76.40 13 P **P** **21 54 46.2 +0.4**
baz=335,SNR=8.4
PMR Palmer 76.41 19 P **P** **21 54 45.7 -0.1**
baz=328
SML Sawmill 76.44 18 P **P** **21 54 46.0 0.0**
SML IAmb IAmb 21 54 46.8
comp=Z,18nm,0.9s
SML Sawmill 76.44 18 P **P** **21 54 46.1 0.0**
baz=328,SNR=7.5
P18K Big Mountain, 76.51 23 P **P** **21 54 46.6 +0.2**
baz=323
M23K Glacier View 76.60 18 P **P** **21 54 46.8 0.0**
baz=329,SNR=11
SCM Sheep Creek Mo 76.66 18 P **P** **21 54 47.7 +0.4**
SCM *PP **pP** **21 55 19.0 +1.4**
SCM pmax pmax
comp=Z,11nm,0.6s
SCM Sheep Creek Mo 76.66 18 P **P** **21 54 47.7 +0.4**
SCM IAmb IAmb 21 54 49.2
comp=Z,11nm,0.6s
SCM **pP** **21 55 19.0 +1.4**
SCM Sheep Creek Mo 76.66 18 P **P** **21 54 47.5 +0.2**
baz=329,SNR=5.5
RC01 Rabbit Creek A 76.68 19 P **P** **21 54 47.7 +0.3**
RC01 Rabbit Creek A 76.68 19 P **P** **21 54 47.5 +0.2**
baz=327
HARP HAARP 76.69 17 P **P** **21 54 48.4 +1.1**
baz=331,SNR=8.6
M24K Tolsona, Glenn 76.70 17 P **P** **21 54 48.6 +1.1**
M24K IAmb IAmb 21 54 49.4
comp=Z,25nm,0.9s
M24K Tolsona, Glenn 76.70 17 P **P** **21 54 48.6 +1.1**
baz=330,SNR=6.0
KNK Knik Glacier 76.74 19 P **P** **21 54 48.2 +0.6**
baz=328
L27K Beaver Creek, 76.83 15 P **P** **21 54 49.0 +0.8**
L27K Beaver Creek, 76.83 15 P **P** **21 54 49.2 +1.0**
baz=333,SNR=5.8
BCAR Beaver Creek A 76.83 15 P **P** **21 54 49.3 +1.1**
MEEK Meekatharra 77.16 138 P **P** **21 54 50.4 -0.1**
M26K Nabesna, AK 77.17 16 P **P** **21 54 51.2 +1.1**
M26K **pP** **21 55 19.0 -1.1**
M26K Nabesna, AK 77.17 16 P **P** **21 54 51.0 +0.8**
baz=332
PWL Port Wells 77.24 19 P **P** **21 54 50.6 +0.1**
baz=328
KLU Klutina 77.30 17 P **P** **21 54 51.8 +1.0**
KLU IAmb IAmb 21 54 55.7
comp=Z,28nm,1.5s
KLU Klutina 77.30 17 P **P** **21 54 51.3 +0.5**
baz=330
M27K Edge Creek, AK 77.45 15 P **P** **21 54 52.3 +0.6**
M27K IAmb IAmb 21 54 53.8
comp=Z,13nm,1.0s
M27K Edge Creek, AK 77.45 15 P **P** **21 54 52.9 +1.1**
baz=333,SNR=6.9
N25K Chitina, Valde 77.51 17 P **P** **21 54 53.9 +1.8**
baz=331
GLI Glacier Island 77.54 18 P **P** **21 54 52.3 +0.2**
GLI Glacier Island 77.54 18 P **P** **21 54 52.2 +0.1**
baz=329
BVCY Beaver Creek 77.61 15 P **P** **21 54 53.5 +1.0**
baz=334,SNR=6.0
MORW Morawa 77.78 141 P **P** **21 54 53.3 -0.5**
MORW IAmb IAmb 21 54 54.8
comp=Z,30nm,1.0s
MORW Morawa 77.78 141 P **P** **21 54 53.5 -0.3**
MCARA McCarthy VSAT 78.06 16 P **P** **21 54 56.3 +1.2**
baz=332
BMRM Bremner River 78.07 17 P **P** **21 54 55.7 +0.5**
BMRM IAmb IAmb 21 55 18.7
comp=Z,15nm,1.2s
YUK3 Moose Creek 78.27 15 P **P** **21 54 57.2 +0.8**
baz=334
BOSA Boshof 78.38 220 P **P** **21 54 56.4 -0.9**
comp=Z,8.8nm,1.0s,baz=20,slow=4.9,SNR=10
BOSA Boshof 78.38 220 P **P** **21 54 56.4 -0.9**
KDAK Kodiak Island 78.63 22 P **P** **21 54 58.4 +0.2**
comp=Z,9.5nm,0.7s,baz=323,slow=8.1,SNR=5.3
KDAK Kodiak Island 78.63 22 P **P** **21 54 58.4 +0.2**
BARN Barnard Glacie 78.66 16 P **P** **21 54 59.4 +0.9**
TGL Tana Glacier 78.67 16 P **P** **21 54 58.9 +0.3**
TGL IAmb IAmb 21 54 59.4
comp=Z,18nm,1.1s
CTG Chitna Glacier 78.81 16 P **P** **21 55 00.2 +0.8**
baz=334
CTGM Chitina Glacie 78.81 16 P **P** **21 55 00.3 +1.0**
CTGM IAmb IAmb 21 55 02.3
comp=Z,8.0nm,0.6s
M31M Drury Creek, Y 79.01 12 P **P** **21 55 00.6 +0.4**
M31M **pP** **21 55 29.0 -1.4**
M31M Drury Creek, Y 79.01 12 P **P** **21 55 00.7 +0.4**
baz=339
YUK4 Talbot Arm 79.03 14 P **P** **21 55 00.9 +0.3**
baz=336,SNR=7.4
MMPY Sheldon Lake, 79.11 11 P **P** **21 55 01.7 +0.9**
baz=342
FARO Faro, Yukon 79.15 12 P **P** **21 55 01.7 +0.7**
baz=340
BLDU Ballidu 79.38 142 P **P** **21 55 01.6 -0.9**
N31M Braeburn, Yuko 79.44 13 P **P** **21 55 02.9 +0.3**
N31M IAmb IAmb 21 55 06.0
comp=Z,13nm,1.1s
N31M pP **pP** **21 55 31.4 -1.5**
N31M Braeburn, Yuko 79.44 13 P **P** **21 55 03.3 +0.7**
baz=338
YUK6 Outpost Mounta 79.45 14 P **P** **21 55 03.2 +0.3**
baz=336
HYT Haines Junctio 79.73 14 P **P** **21 55 04.1 -0.2**
HYT IAmb IAmb 21 55 06.1
comp=Z,10nm,0.9s
HYT **pP** **21 55 33.9 -0.7**
HYT Haines Junctio 79.73 14 P **P** **21 55 05.3 +1.0**
baz=337
KLBR Kellerberrin 80.69 141 P **P** **21 55 08.7 -0.9**
YKA Yellowknife Ar 80.80 3 P **P** **21 55 09.8 0.0**
comp=Z,8.3nm,0.7s,baz=349,slow=5.3,SNR=115
YKA pP **pP** **21 55 41.5 +1.3**
comp=Z,4.8nm,0.4s,baz=353,slow=5.4,SNR=5.9
YKA Yellowknife Ar 80.80 3 *i*P **P** **21 55 10.0 +0.2**
YKA pmax pmax
comp=Z,9.0nm,0.6s
YKA Yellowknife Ar 80.80 3 P **P** **21 55 09.7 -0.1**
YKA pP **pP** **21 55 41.1 +0.9**
WRKA Warakurna 81.53 130 P **P** **21 55 13.9 -0.3**
WRA Warramunga Arr 81.82 122 P **P** **21 55 14.7 -1.1**
comp=Z,21nm,0.8s,baz=326,slow=4.9,SNR=128
WRAB Tennant Creek 81.82 122 P **P** **21 55 15.4 -0.4**
WRAB pmax pmax
comp=Z,31nm,0.9s
WRAB Tennant Creek 81.82 122 P **P** **21 55 15.4 -0.4**
WRAB IAmb IAmb 21 55 15.8
comp=Z,31nm,0.8s
WRAB Tennant Creek 81.82 122 P **P** **21 55 15.2 -0.6**
SCHQ Schefferville 81.89 337 P **P** **21 55 16.7 +0.9**
comp=Z,2.9nm,0.8s,baz=10,slow=7.1,SNR=4.0
SCHQ Schefferville 81.89 337 P **P** **21 55 15.7 0.0**
SCHQ pP **pP** **21 55 45.0 -1.2**
FCC Fort Churchill 83.92 353 P **P** **21 55 25.2 -0.9**
FCC *PP **pP** **21 55 55.7 -0.8**
FCC pmax pmax
comp=Z,5.0nm,0.9s
FCC Fort Churchill 83.92 353 P **P** **21 55 25.2 -0.9**
FCC **pP** **21 55 55.6 -0.8**
AS31 Alice Springs 84.11 125 P **P** **21 55 26.7 -0.9**
AS31 IAmb IAmb 21 55 27.3
comp=Z,6.8nm,0.7s
ASAR Alice Springs 84.11 125 P **P** **21 55 26.7 -0.9**
comp=Z,22nm,0.7s,baz=311,slow=5.0,SNR=295
ASAR Alice Springs 84.11 125 P **P** **21 55 26.3 -1.3**
FORT Forrest 85.62 134 P **P** **21 55 34.1 -0.8**
FORT Forrest 85.62 134 P **P** **21 55 34.5 -0.4**
QIS Mount Isa 85.86 119 P **P** **21 55 35.5 -0.9**
OOD Oodnadatta 88.13 127 P **P** **21 55 46.1 -1.0**
MULG Mulgathing 88.84 130 P **P** **21 55 49.4 -1.0**
EDM Edmonton 90.12 3 P **P** **21 55 56.6 +0.3**
EDM *PP **pP** **21 56 26.2 -0.9**
EDM pmax pmax
comp=Z,10.0nm,0.8s
EDM Edmonton 90.12 3 P **P** **21 55 56.6 +0.3**
EDM IAmb IAmb 21 55 58.4
comp=Z,9.6nm,0.8s
EDM pP **pP** **21 56 26.2 -0.9**

LCRK	Leigh Creek	91.55	128	P		P	21 56 01.7	-1.4
WHYH	Whyalla	92.90	130	P		P	21 56 07.9	-1.3
HTT	Hallett	94.00	129	P		P	21 56 13.6	-0.8
STKA	Stephens Creek	94.66	127	P		P	21 56 17.1	-0.3
	comp=Z,3.4nm,0.6s,baz=312,slow=5.3,SNR=14							
PDAR	Pinedale Array	100.68	1	P		Pdif	21 56 44.6	-0.2
	comp=Z,0.1nm,0.6s,baz=24,slow=3.4,SNR=1.8							
PDAR	Pinedale Array	100.68	1			Pdif	21 56 43.3	-1.5
NVAR	Mina Array Bea	100.46	8	PKKPbc	PKKPbc		22 12 45.7	-1.1
	comp=Z,0.4nm,0.7s,baz=194,slow=6.9,SNR=4.4							
TXAR	Lajitas Array	113.94	355	PKKPbc	PKKPbc		22 12 20.9	+4.5
	comp=Z,0.5nm,0.7s,baz=192,slow=7.9,SNR=4.6							
TROLL	Troll, Antarti	118.66	199	PKPdf		PKPdf	22 01 41.9	-0.9
SNAA	Sanae	119.96	201	PKPdf		PKPdf	22 01 43.7	-1.5
VNA2	Neumayer--Watz	120.97	202	PKPdf		PKPdf	22 01 46.0	-1.0
	baz=29,slow=3.0							
VNA3	Neumayer Olymp	121.78	202	PKPdf		PKPdf	22 01 47.3	-1.3
VNDA	Vanda	125.78	164	PKP		PKPdf	22 01 54.2	-2.0
	comp=Z,0.6nm,0.8s,baz=299,slow=5.8,SNR=5.1							
QSPA	South Pole Qui	126.72	180	PKP		PKPdf	22 01 56.7	-1.6
	comp=Z,4.4nm,1.0s,baz=277,slow=2.5,SNR=6.7							
QSPA	South Pole Qui	126.72	180			PKPdf	22 01 57.0	-1.3
ROSC	El Rosal	127.67	315	PKP		PKPdf	22 02 01.8	-0.4
	comp=Z,11nm,0.8s,baz=115,slow=4.3,SNR=5.3							
CPUP	Villa Florida	135.70	269	PKP		PKPdf	22 02 16.1	-0.3
	comp=Z,2.2nm,0.7s,baz=35,slow=4.4,SNR=6.1							
LPAZ	La Paz	138.92	289	SKPbc		SKPbc	22 05 47.4	-0.6
	comp=Z,0.9nm,0.3s,baz=61,slow=8.0,SNR=7.7							
PLCA	Paso Flores	150.41	251	PKPbc		PKPbc	22 02 47.2	0.0
	comp=Z,12nm,1.0s,baz=38,slow=1.4,SNR=17							

IDC ***24*** *21:46:48.0±3.1, 15.°09N×093.°58W, h0km, mb3.6/5, mb1 4.0/7, mb1mx3.7/41, mbtmp3.6/7, ML3.3/2, MS2.4/1, Ms1 2.4/1, ms1mx2.3/51 Error ellipse: s-maj=106.2km s-min=30.7km az=41.0*

MEX ***24*** *21:46:54.6±0.7, 14.°79N×094.°00W, h7km±67km, MD4.2*

ISC 24 21:46:49.3±2.4, 14.°99N±0.°08×94.°00W±0.°06, h1km±13km, n23, σ1°75/31, mb3.6/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCIG		1.04	46	*eP*		Pn	21 47 13.7	+2.7
PCIG				*eS*		Sn	21 47 28.7	+2.6
THIG		1.68	92	*eP*		Pn	21 47 21.0	+1.3
THIG				*eS*		Sn	21 47 40.3	-1.6
PATR	El Naranjo	1.71	85	*eP*		Pn	21 47 21.3	+0.9
PATR				*i* S		Sb	21 47 43.3	-0.4
PAVE	Pavencul	1.77	83	*eP*		Pb	21 47 22.9	+0.2
PAVE				*i* S		Sg	21 47 45.7	-0.6
CHUJ	Union Juarez	1.83	86	*eP*		Pb	21 47 23.6	-0.1
CHUJ				*i* S		Sb	21 47 46.8	-0.4
TGIG		1.97	25	*eP*		Pg	21 47 28.1	+1.0
TGIG				*eS*		Sg	21 47 52.9	+0.2
HUIG	Huatulco	2.18	291	*eP*		Pn	21 47 21.1	-5.6
HUIG				*eS*		Sn	21 47 41.4	-13
CCIG	Comitan	2.21	54	*eP*		Pg	21 47 32.3	+0.7
CCIG				*eS*		Sg	21 47 55.5	-4.8
CMIG	Matias Romero	2.26	338	*eP*		Pn	21 47 28.4	+0.6
	11nm,0.3s,baz=171,slow=10,SNR=80							
CMIG					Sn	Sb	21 47 57.1	-2.3
	24nm,0.3s,baz=169,slow=15,SNR=12							
CMIG					LR	LR	21 48 00.4	
	comp=Z,86nm,19.6s,baz=291,slow=31							
UXUV	UXUV	2.32	356	*eP*		Pb	21 47 32.0	0.0
UXUV				*eS*		Sg	21 48 03.3	-0.8
NEUV	Arroyo Zacate	3.22	328	*eP*		Pn	21 47 41.8	+0.8
NEUV				*i* S		Sn	21 48 21.8	+1.8
TXAR	Lajitas Array	16.84	330	Pn		Pn	21 50 47.3	+0.8
	0.0nm,0.3s,baz=143,slow=12,SNR=4.4							
GUY2C	Guyana, Caldas	20.73	116	*eP*		P	21 51 34.0	+2.1
NORC	Norcasia	21.00	114	*eP*		P	21 51 36.1	+1.7
ORTC	Ortega, Tolima	21.50	119	*eP*		P	21 51 41.7	+1.9
PAMC	Pamplona, Colo	22.22	108	*eP*		P	21 51 39.6	-8.4
RUSC	La Rusia	22.44	112	*eP*		P	21 51 51.4	+1.0
ANMO	Albuquerque	22.82	333	P		P	21 51 52.2	-1.7
	1.0nm,0.6s,baz=148,slow=12,SNR=5.2							
PDAR	Pinedale Array	30.75	337	P		P	21 53 06.7	+0.3
	0.4nm,0.7s,baz=148,slow=9.9,SNR=4.2							
NVAR	Mina Array Bea	31.70	322	P		P	21 53 15.8	+0.9
	0.5nm,0.6s,baz=148,slow=8.7,SNR=5.3							
ILAR	Eielson Array	61.18	337	P		P	21 57 05.1	-0.2
	0.6nm,0.7s,baz=176,slow=2.5,SNR=4.4							
ESDC	Sonseca Array	80.62	51	P		P	21 59 00.9	-3.1
	0.6nm,0.8s,baz=305,slow=4.5,SNR=3.1							
CMAR	Chiang Mai Arr	144.41	339	PKP		PKPab	22 06 25.0	-1.4
	0.4nm,0.5s,baz=357,slow=3.5,SNR=4.1							

NEIC ***24*** *21:51:23.1±1.1, 38.°91N±0.°06×142.°04E±0.°09, h41km±8km, mb4.5/8, Error ellipse: s-maj=10.8km s-min=7.9km az=112.0*

IDC ***24*** *21:51:23.9±2.4, 38.°93N×142.°11E, h55km±20km, mb3.6/12, mb1 3.7/16, mb1mx3.5/52, mbtmp3.8/16, ML3.3/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/88, Error ellipse: s-maj=24.2km s-min=14.1km az=104.0*

JMA ***24*** *21:51:24.3±0.1, 38.°89N×141.°97E, h49km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs24.00000°, δ74.00000°, λ93.00000°. NP2:φs195.00000°, δ16.00000°, λ81.00000°. Principal axes: T Plg61.0000°, Azm298.0000°; N Plg3.0000°, Azm203.0000°; P Plg29.0000°, Azm112.0000°;*

JMA Felt II J1.

NIED ***24*** *21:51:24.3, 38.°89N×141.°97E, h49km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.20; Mθθ-0.84; Mφφ-3.36; Mrθ2.48; Mθφ-1.26; Mφr3.84; Fault plane solution: Mo6.10000×10¹⁴ NP1: φs197.00000°, δ21.00000°, λ77.00000°. NP2:φs30.00000°, δ69.00000°, λ95.00000°.*

ISC 24 21:51:22.5±1.3, 38.°83N±0.°05×142.°14E±0.°08, h45km±10km, n57, σ0°94/62, mb4.0/16, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.45	304	||P	Pn	21 51 33.5	+0.6
OFUJ				*i* S		Sn	21 51 39.8	-0.4
JKMT	Kesennumamotoy	0.52	268	||P	Pn	21 51 34.3	+0.5
JKMT				*i* S		Sn	21 51 41.1	-0.7
JIO	Ouri	0.73	239	||P	Pn	21 51 37.2	+0.8
JIO				*i* S		Sn	21 51 45.9	-0.6
JMK	Ichinoseki	0.73	280	||P	Pn	21 51 36.6	+0.1
JMK				S		Sn	21 51 45.4	-1.2
JOM	Ohasama	0.92	314	||P	Pn	21 51 39.3	+0.2
JOM				S		Sn	21 51 50.1	-1.2
JTH	Tanohata	1.13	349	||P	Pn	21 51 42.5	+0.6
JOU	Okura	1.25	249	||P	Pn	21 51 43.9	+0.3
JRG	Rokugo	1.30	296	||P	Pn	21 51 44.1	-0.2
JYK	Kaneyama	1.40	274	||P	Pn	21 51 45.6	0.0
JMM	Marumori	1.43	228	||P	Pn	21 51 46.5	+0.5
JMM				S		Sn	21 52 03.0	-0.7
JMM	Marumori	1.43	228			Pn	21 51 46.5	+0.5
JMM					Sn	Sn	21 52 03.2	-0.5
JTM	Tenmabayashi	2.12	337			Pn	21 51 56.3	+0.7
JSD	Sado	3.15	257	Pn		Pn	21 52 09.7	+0.1
ERM	Erimo	3.27	13	Pn		Pn	21 52 10.7	-0.7
MJAR	Matsushiro Arr	3.87	235	P		Pn	21 52 21.5	+2.0
	1.4nm,0.3s,baz=37,slow=12,SNR=30							
MJAR					LR	LR	21 54 01.6	
	comp=Z,59nm,21.1s,baz=100,slow=40							
MJAR	Matsushiro Arr	3.87	235			Pn	21 52 19.5	0.0
MAJO	Matsushiro	3.87	235			Pn	21 52 20.5	+1.0
MJB9	Matsu-Tunnel	3.87	235			Pn	21 52 20.1	+0.5
JGF	Kuroka	5.00	231	Pn		Pn	21 52 37.8	+2.7
JKA	Kamikawa-asahi	5.29	4			Pn	21 52 38.9	-0.2
ASAJ	Asahikawa	5.29	4	P		Pn	21 52 39.6	+0.6
	1.2nm,0.3s,baz=222,slow=12,SNR=14							
ASAJ				S		Sn	21 53 38.2	-0.5
	baz=89,slow=13,SNR=1.7							
INU	Inuyama	5.37	231			Pn	21 52 40.3	+0.1
JHJ	Hachijo jima 2	6.01	199	S		Sn	21 53 52.6	-3.8
	11nm,0.3s,baz=236,slow=13,SNR=1.4							
USRK	Ussuriysk Ar.	9.31	308	P		Pn	21 53 33.6	-0.5
	baz=121,slow=14,SNR=1.7							
USRK	Ussuriysk Ar.	9.31	308			Pn	21 53 33.3	-0.8
KSRS	Korea Array	11.29	267	P		Pn	21 54 02.1	+1.0
	0.2nm,0.3s,baz=83,slow=14,SNR=1.2							
SEY	Seymchan	24.92	11	P		P	21 56 39.9	-1.1
	1.6nm,0.8s,baz=152,slow=4.6,SNR=1.5							
SONM	Songino Array	27.31	301	P		P	21 57 01.8	-1.1
	0.5nm,0.6s,baz=101,slow=9.0,SNR=2.7							
H11N2	WAKE ISLAND Hy	28.63	125	T		T	22 27 40.5	
	baz=317,slow=75,SNR=268							
H11N1	WAKE ISLAND Hy	28.64	125	T		T	22 27 42.0	
	baz=317,slow=75,SNR=328							
H11N3	WAKE ISLAND Hy	28.65	125	T		T	22 27 41.4	
	baz=317,slow=75,SNR=355							
H11S1	WAKE ISLAND Hy	29.41	127	T		T	22 28 38.5	
	baz=318,slow=76,SNR=118							
H11S3	WAKE ISLAND Hy	29.41	127	T		T	22 28 38.7	
	baz=318,slow=76,SNR=100							
H11S2	WAKE ISLAND Hy	29.42	127	T		T	22 28 34.5	
	baz=318,slow=76,SNR=66							
ZALV	Zalesovo Beam	41.16	311	P		P	21 59 02.2	+0.1
	1.8nm,0.6s,baz=92,slow=7.0,SNR=7.6							
ZALV					PcP	PcP	22 01 00.1	-0.5
	0.5nm,0.3s,baz=70,slow=2.2,SNR=2.5							
ZALV	Zalesovo Beam	41.16	311	P		P	21 59 01.6	-0.6
ZALV						PcP	22 01 01.2	+0.6
MKAR	Makanchi Array	43.68	301	P		P	21 59 22.7	-0.1
	2.1nm,0.6s,baz=81,slow=9.5,SNR=16							
KURK	Kurchatov	45.30	307	P		P	21 59 35.8	+0.2
KURK					IAmb	IAmb	21 59 36.2	
	comp=Z,6.0nm,0.8s							
KURBB	Kurchatov Arra	45.37	307	P		P	21 59 36.0	-0.2
	comp=Z,5.7nm,0.6s,baz=80,slow=8.0,SNR=29							
KURBB					PcP	PcP	22 01 13.5	-1.4
	comp=Z,0.3nm,0.7s,baz=94,slow=4.7,SNR=1.8							
ILAR	Eielson Array	47.67	33	P		P	21 59 54.1	0.0
	comp=Z,0.4nm,0.6s,baz=267,slow=6.1,SNR=4.6							
ILAR	Eielson Array	47.67	33	P		P	21 59 55.5	+1.5
C36M	Paulatuk	55.56	25	P		P	22 00 53.3	+0.5
C36M					IAmb	IAmb	22 01 03.6	
	comp=Z,6.9nm,1.2s							
ABKAR	Akbulak array	57.24	309	P		P	22 01 05.1	+0.1
ABKAR					IAmb	IAmb	22 01 05.3	
	comp=Z,2.6nm,0.7s							
EUNU	Eureka	58.33	9	P		P	22 01 13.2	+0.9
WB0	Warramunga Arr	58.74	189	P		P	22 01 16.8	+1.0
WR0	Warramunga Arr	58.91	188	P		P	22 01 17.5	+0.5
WB2	Warramunga Arr	58.92	189	P		P	22 01 17.7	+0.7
WB2					IAmb	IAmb	22 01 56.0	
	comp=Z,5.2nm,1.1s							
WRA	Warramunga Arr	58.92	189	P		P	22 01 17.7	+0.6
	comp=Z,0.8nm,0.5s,baz=6.0,slow=7.1,SNR=7.0							
ASAR	Alice Springs	62.64	189	P		P	22 01 43.6	+1.3
	comp=Z,0.2nm,0.6s,baz=15,slow=5.9,SNR=5.4							
ASAR	Alice Springs	62.64	189	P		P	22 01 43.4	+1.1
FINES	FINESS Array B	67.50	332	P		P	22 02 13.0	-0.4
	comp=Z,2.4nm,0.9s,baz=40,slow=10.0,SNR=7.0							
FINES	FINESS Array B	67.50	332	P		P	22 02 13.7	+0.3
NOA	NORSAR Array B	72.75	337	P		P	22 02 45.3	-0.4
	comp=Z,0.5nm,0.8s,baz=52,slow=5.1,SNR=2.1							
BR131	Keskin Array S	78.09	312	P		P	22 03 16.4	-0.5
BRTR	Keskin Array B	78.09	312	P		P	22 03 17.1	+0.3
	comp=Z,0.3nm,0.4s,baz=131,slow=3.0,SNR=6.5							
BRTR	Keskin Array B	78.09	312	P		P	22 03 17.0	+0.1
GERES	GERESS Array B	81.49	328	P		P	22 03 35.0	0.0
	comp=Z,0.1nm,0.4s,baz=68,slow=8.5,SNR=1.5							

IDC ***24*** *21:55:38.3±0.7, 10.°14N×091.°50E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/39, mbtmp3.9/12, Error ellipse: s-maj=28.7km s-min=15.4km az=58.0*

NDI ***24*** *21:55:41.5±3.4, 10.°57N×091.°43E, h10km±235km, mb4.8, mb4.3(NEIC)*

NEIC ***24*** *21:55:42.8±1.8, 10.°21N±0.°05×091.°59E±0.°07, h23km±5km, mb4.3/14, Error ellipse: s-maj=11.7km s-min=5.7km az=61.0*

ISC 24 21:55:39.9±0.5, 10.°25N±0.°07×091.°56E±0.°08, h10km, n52, σ1°12/53, mb4.2/17, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.82	40			Pn	21 56 12.6	+1.3
PBA	Port Blair	1.82	40	*eP*		Pn	21 56 12.8	+1.5
DGPR	DIGLIPUR	3.21	25	*eP*		Pn	21 56 30.0	-0.4
LHMI	Lhok Sumawe	7.31	133	Pn		Pn	21 57 26.5	-0.3
SRIT	Nakonsritamara	8.11	101	Pn		Pn	21 57 38.4	+0.6
KULM	Kulim	10.27	118	Pn		Pn	21 58 08.2	+0.8
CMAR	Chiang Mai Arr	10.85	40	Pn		Pn	21 58 17.2	+1.8
	baz=232,slow=13,SNR=6.3							
CMAR	Chiang Mai Arr	10.85	40			Pn	21 58 15.7	+0.2
IPM	Ipoh	11.00	121			Pn	21 58 16.8	-0.7
CHTO	Chiang Mai	11.12	39	Pn		Pn	21 58 20.8	+1.8
PALK	Pallekele	11.13	255	Sn		Sn	22 00 11.9	-12
	1.3nm,0.3s,baz=76,slow=19,SNR=7.1							
PALK	Pallekele	11.13	255	Pn		Pn	21 58 19.6	+0.4
SALM	Salem	13.19	277	*eP*		Pn	21 58 50.0	+2.6
SALM				*eS*		Sn	22 01 00.2	-14
HYBB	Hyderabad (bro	14.49	301	*eP*		P	21 59 22.4	+10
BOK	Bokaro	14.52	339	*eP*		Pn	21 59 03.4	-2.2
BOK					IAmb	IAmb	21 59 08.6	
	comp=Z,11nm,0.6s							
BOK				*eS*		Sn	22 01 42.8	-4.0
LSA	Lhasa	19.36	359	P		P	22 00 07.4	+1.1
LSA					IAmb	IAmb	22 00 11.3	
	comp=Z,13nm,0.6s							
H08S3	Diego Garcia H	26.00	228	T		T	22 28 08.6	
	baz=47,slow=75,SNR=308							
ENH	Enshi	26.00	37	P		P	22 01 11.9	-1.3
H08S2	Diego Garcia H	26.00	228	T		T	22 28 10.5	
	baz=47,slow=75,SNR=284							
H08S1	Diego Carcia H	26.02	228	T		T	22 28 12.0	
	baz=47,slow=75,SNR=145							
MYLDM	Lahad Datu	27.16	99	P		P	22 01 23.1	-0.6
MYLDM					IAmb	IAmb	22 01 55.4	
	comp=Z,15nm,1.3s							
KDJ	Kajisay	34.17	341	P		P	22 02 25.5	-0.1
BTK	Batken	34.94	332	P		P	22 02 33.4	+1.2
AAK	Ala-Archa	35.55	338	P		P	22 02 37.5	+0.1
AAK					IAmb	IAmb	22 02 41.1	
	comp=Z,4.0nm,1.2s							
MKAR	Makanchi Array	37.27	349	P		P	22 02 52.7	+0.8
	comp=Z,1.8nm,0.8s,baz=168,slow=7.7,SNR=11							
MKAR					PcP	PcP	22 05 11.9	+0.5
	comp=Z,0.6nm,0.8s,baz=174,slow=3.7,SNR=3.5							
MKAR	Makanchi Array	37.27	349	P		P	22 02 52.0	+0.1
MKAR						PcP	22 05 12.0	+0.5
SONM	Songino Array	39.50	16	P		P	22 03 11.6	+0.7
	comp=Z,1.9nm,0.8s,baz=199,slow=8.1,SNR=13							
SONM					PcP	PcP	22 05 19.1	+0.6
	comp=Z,0.6nm,0.8s,baz=170,slow=4.1,SNR=2.4							
SONM	Songino Array	39.50	16	P		P	22 03 11.6	+0.7
GEYT	Alibeck	40.74	318	P		P	22 03 20.4	-0.8
	comp=Z,1.1nm,0.6s,baz=133,slow=11,SNR=2.7							
GEYT	Alibeck	40.74	318	P		P	22 03 21.3	+0.1
KURBB	Kurchatov Arra	41.66	348	P		P	22 03 29.5	+1.0
	comp=Z,1.2nm,0.9s,baz=164,slow=7.7,SNR=9.0							
KURBB					PcP	PcP	22 05 25.6	+0.3
	comp=Z,0.6nm,0.8s,baz=156,slow=3.0,SNR=5.8							
KURK	Kurchatov	41.73	348	P		P	22 03 30.5	+1.5
KURK					IAmb	IAmb	22 03 31.2	
	comp=Z,8.3nm,1.5s							
ZALV	Zalesovo Beam	43.92	354	P		P	22 03 47.4	+0.7
	comp=Z,0.5nm,0.5s,baz=172,slow=12,SNR=5.3							
ZALV	Zalesovo Beam	43.92	354	P		P	22 03 46.9	+0.2
ABKAR	Akbulak array	46.94	332	P		P	22 04 12.2	+1.4
ABKAR	Akbulak array	46.94	332	P		P	22 04 12.2	+1.4
ABKAR					IAmb	IAmb	22 04 16.2	
	comp=Z,2.0nm,0.8s							
WB0	Warramunga Arr	51.66	125	P		P	22 04 46.6	-0.7
WB0					IAmb	IAmb	22 04 47.7	
	comp=Z,5.1nm,0.8s							
WRA	Warramunga Arr	51.71	125	P		P	22 04 47.2	-0.5
	comp=Z,4.3nm,0.9s,baz=306,slow=8.4,SNR=21							
WB2	Warramunga Arr	51.72	125	P		P	22 04 47.2	-0.6
WB2					IAmb	IAmb	22 04 48.3	
	comp=Z,6.9nm,0.9s							
WR0	Warramunga Arr	51.88	125	P		P	22 04 48.9	-0.1
ASAR	Alice Springs	53.39	130	P		P	22 04 59.8	-0.4
	comp=Z,2.1nm,0.8s,baz=304,slow=7.0,SNR=22							
ASAR					PcP	PcP	22 06 06.5	-1.0
	comp=Z,0.6nm,0.8s,baz=316,slow=2.6,SNR=2.2							
BRTR	Keskin Array B	58.96	310	P		P	22 05 38.6	-1.3
	comp=Z,0.7nm,0.8s,baz=128,slow=8.0,SNR=5.6							
STKA	Stephens Creek	63.58	133	P		P	22 06 10.8	-0.4
	comp=Z,2.2nm,0.6s,baz=321,slow=9.1,SNR=4.6							
STKA	Stephens Creek	63.58	133	P		P	22 06 11.1	-0.1
STKA					IAmb	IAmb	22 06 33.1	
	comp=Z,1.7nm,1.2s							
GERES	GERESS Array B	74.37	318	P		P	22 07 18.9	+0.8
	comp=Z,0.2nm,0.3s,baz=93,slow=8.9,SNR=2.5							
TORD	Torodi Ar. Bea	87.58	283	P		P	22 08 29.2	+0.1
	comp=Z,0.5nm,0.7s,baz=87,slow=3.9,SNR=3.2							
PDAR	Pinedale Array	123.82	19	PKP		PKPdf	22 14 38.6	-0.3
	comp=Z,0.3nm,0.5s,baz=90,slow=1.5,SNR=4.2							
PDAR	Pinedale Array	123.82	19			PKPdf	22 14 37.6	-1.2
PLCA	Paso Flores	145.76	205	PKPbc		PKPab	22 15 19.2	-0.8
	comp=Z,2.2nm,0.9s,baz=191,slow=2.7,SNR=4.5							
PLCA	Paso Flores	145.76	205			PKPab	22 15 19.8	-0.2
CPUP	Villa Florida	146.53	237	PKPbc		PKPab	22 15 22.9	-0.3
	comp=Z,2.0nm,1.0s,baz=55,slow=5.3,SNR=3.6							
CPUP	Villa Florida	146.53	237			PKPab	22 15 22.4	-0.9

IDC 24 22:17:40.8±2.1, 9.°92S×116.°95E, h0km, mb3.0/2, mb1 3.5/5, mb1mx3.1/44, mbtmp3.4/5, ML3.2/3, Error ellipse: s-maj=86.9km s-min=24.9km az=45.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.62	93	Pn		Pn	22 19 20.3	+0.9
	3.1nm,0.3s,baz=255,slow=16,SNR=1.6							
BATI				S		Sn	22 20 31.1	-4.5
	3.0nm,0.3s,baz=288,slow=9.6,SNR=1.6							
FITZ	Fitzroy Crossi	11.71	135	Pn		Pn	22 20 27.3	-2.0
	0.1nm,0.3s,baz=318,slow=14,SNR=1.7							
FITZ				S		Sn	22 22 23.1	-18
	0.1nm,0.3s,baz=343,slow=20,SNR=2.5							
WRA	Warramunga Arr	19.52	123	P		P	22 22 10.0	+0.1
	0.0nm,0.3s,baz=305,slow=14,SNR=1.5							
WRA				S		Sn	22 25 34.2	-17
	0.0nm,0.3s,baz=308,slow=35,SNR=1.7							
ASAR	Alice Springs	21.19	132	P		P	22 22 28.5	+0.5
	0.3nm,0.7s,baz=314,slow=9.3,SNR=5.3							
MKAR	Makanchi Array	64.38	334	P		P	22 28 18.5	-0.1
	0.1nm,0.3s,baz=149,slow=5.6,SNR=5.4							

BJI ***24*** *22:24:32.0±0.0, 17.°23S×172.°89W, h8km, mb5.1/58, mB5.7/61, Ms5.3/70, Ms7 5.2/65*

IDC ***24*** *22:24:32.1±0.4, 17.°53S×173.°44W, h0km, mb5.0/36, mb1 5.1/37, mb1mx5.1/43, mbtmp5.0/37, ML3.8/1, MS5.2/69, Ms1 5.2/69, ms1mx5.2/71, Error ellipse: s-maj=14.5km s-min=10.9km az=143.0*

NEIC ***24*** *22:24:33.3, 17.°59S×173.°01W, h15km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.46; Mθθ0.55; Mφφ-3.01; Mrθ0.25; Mθφ-0.51; Mφr1.27; Fault plane solution: Mo3.10000×10¹⁷ NP1:φs185.69000°, δ32.52000°, λ86.53000°. NP2:φs9.80000°, δ57.54000°, λ92.21000°. Principal axes: T 2.7467, Plg77.0000°, Azm287.0000°; N 0.6205, Plg2.0000°, Azm189.0000°; P -3.3672, Plg13.0000°, Azm98.0000°;*

NEIC ***24*** *22:24:36.5±1.7, 17.°70S±0.°07×173.°20W±0.°09, h27km±3km, mb5.3/346, Ms_20 5.4/340, Mwb5.6/73, Mww5.7 Error ellipse: s-maj=13.0km s-min=10.0km az=60.0*

MOS ***24*** *22:24:36.6±1.3, 17.°45S×173.°16W, h33km, mb5.4/25, MS5.2/40, Error ellipse: s-maj=10.2km s-min=7.3km az=76.0*

GCMT ***24*** *22:24:40.5±0.1, 17.°62S±0.°01×172.°95W±0.°01, h32km, MW5.7/155, Moment Tensor Solution. s144,c289; s155,c302; Duration: 1s7 Moment tensor: Scale 10¹⁷ Nm; Mrr3.30±.04; Mθθ0.18±.03; Mφφ-3.49±.03; Mrθ0.42±.05; Mθφ-0.86±.02; Mφr2.01±.04; Best double couple: Mo4.04900×10¹⁷ NP1:φs193.00000°, δ30.00000°, λ91.00000°. NP2:φs12.00000°, δ60.00000°, λ90.00000°. Principal axes: T 3.8590, Plg75.0000°, Azm281.0000°; N 0.3750, Plg0.0000°, Azm12.0000°; P -4.2390, Plg15.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***24*** *22:24:40.9, 17.°13S×172.°64W, h124km, mb5.1/52, Tonga Islands Region*

NEIC ***24*** *22:24:41, 17.°35S×172.°92W, h24km, Moment Tensor Solution. Duration: 14s0 Moment tensor: Scale 10¹⁷Nm; Mrr3.30; Mθθ0.34; Mφφ-3.64; Mrθ1.38; Mθφ-0.62; Mφr1.81; Fault plane solution: Mo4.21000×10¹⁷ NP1: φs172.00000°, δ32.00000°, λ62.00000°. NP2:φs24.00000°, δ62.00000°, λ106.00000°. Principal axes: T 4.1311, Plg69.0000°, Azm328.0000°; N 0.1488, Plg14.0000°, Azm196.0000°; P -4.2799, Plg15.0000°, Azm102.0000°;*

ISC 24 22:24:35.0±0.5, 17.°70S±0.°04×173.°05W±0.°04, h25km±3km, n1184, σ1°78/1015, mb5.3/255, MS5.3/262, 71C-48D, Tonga Islands

| Code | Station Name | Δ° | AZ° | Phase ID | Op |

URZ	Urewera	22.22	201	P	P	22 29 30.4	+0.8		
URZ				IAmb	IAmb	22 29 45.1			
	comp=Z,92nm,0.6s								
URZ	Urewera	22.22	201	P	P	22 29 30.4	+0.8		
KMRZ	Kaimai	22.27	204	P	P	22 29 34.0	+3.6		
KARZ	Kaharoa	22.31	203	P	P	22 29 33.8	+3.1		
RAGZ	Rawiri	22.33	200	P	P	22 29 33.4	+2.4		
OMRZ	Omania	22.34	202	P	P	22 29 34.2	+3.1		
TOZ	Tahuroa Road	22.34	204	P	P	22 29 33.6	+2.6		
PAE	Paea	22.36	93 *eP*	P		22 29 29.2	-2.2		
	comp=Z,44nm,1.4s								
PAE	Paea	22.36	93 *eT*	T		22 52 31.8			
	comp=Z,15nm,0.3s								
PPT2	Papeete2	22.37	93 *eP*	P	P	22 29 29.5	-2.1		
	comp=Z,143nm,1.4s								
PPT2				*eS*	S	22 33 29.5	-6.9		
	comp=Z,4µm,23.4s								
PPT2				*e*LQ	LQ	22 33 56.3			
	comp=Z,5µm,27.0s								
PPT2				*e*LR	LR	22 34 56.4			
	comp=Z,16µm,25.0s,baz=260								
PPT	Papeete	22.37	93	P	P	22 29 34.5	+2.9		
	comp=Z,26nm,0.3s,baz=90,slow=15,SNR=1.7								
PPT				LR	LR	22 35 53.0			
	comp=Z,6µm,21.0s,baz=270,slow=30								
NGRZ	Ngongotaha	22.40	203	P	P	22 29 34.1	+2.3		
TARZ	Mount Tarawera	22.41	202	P	P	22 29 35.8	+4.0		
RIGZ	Rimuhau	22.41	199	P	P	22 29 34.8	+3.0		
UTU	Utuhina	22.47	203	P	P	22 29 36.7	+4.2		
HLRZ	Highlands Stat	22.48	202	P	P	22 29 31.3	-1.2		
RRRZ	Republican Roa	22.50	202	P	P	22 29 35.4	+2.7		
HSRZ	Hossack Road	22.57	202	P	P	22 29 39.0	+5.5		
PRGZ	Paritu Road	22.57	199	P	P	22 29 39.6	+6.1		
RTZ	Ruatahuna	22.58	201	P	P	22 29 35.4	+1.7		
SNGZ	Shannon Statio	22.61	200	P	P	22 29 37.5	+3.5		
HRRZ	Handcock Road	22.62	202	P	P	22 29 37.7	+3.6		
GRRZ	Galatos Road	22.65	203	P	P	22 29 37.8	+3.4		
KNZ	Kokohu	22.73	199	P	P	22 29 38.9	+3.8		
ALRZ	Allen Road	22.76	202	P	P	22 29 38.6	+3.1		
MHGZ	Mahia Peninsul	22.78	198	P	P	22 29 39.7	+4.1		
TBI	Tubuai	22.78	108 *eS*		S	22 33 37.7	-5.8		
	comp=Z,5µm,24.5s								
TBI				*e*LQ	LQ	22 34 06.5			
	comp=Z,5µm,27.8s								
TBI				*e*LR	LR	22 35 09.2			
	comp=Z,17µm,26.0s								
TBI	Tubuai	22.78	108 *eT*	T		22 53 08.2			
	comp=Z,29nm,0.4s								
RAHZ	Arahi	22.82	200	P	P	22 29 38.3	+2.1		
MTHZ	Maungataniwha	22.84	201	P	P	22 29 37.1	+0.7		
WHHZ	Waihua	22.92	200	P	P	22 29 35.7	-1.4		
MRHZ	Matea Rd	22.97	201	P	P	22 29 38.9	+1.1		
NMHZ	Naumai	23.08	200	P	P	22 29 41.7	+2.9		
ARHZ	Aropaoanui	23.16	200	P	P	22 29 42.2	+2.6		
RATZ	Rangitukua	23.23	203	P	P	22 29 41.4	+1.0		
BKZ	Black Stump Fm	23.24	201	P	P	22 29 40.4	-0.1		
BKZ				IAmb	IAmb	22 30 06.3			
	comp=Z,62nm,0.8s								
BKZ	Black Stump Fm	23.24	201	P	P	22 29 41.5	+1.0		
BKZ	Black Stump Fm	23.24	201	P	P	22 29 42.5	+2.0		
HIZ	Hauiti	23.27	205	P	P	22 29 39.5	-1.2		
HIZ	Hauiti	23.27	205	P	P	22 29 43.1	+2.4		
HIZ	Hauiti	23.27	205	P	P	22 29 43.7	+3.0		
MCHZ	McNeill Hill	23.43	200	P	P	22 29 44.2	+1.9		
NTVZ	North Tongarir	23.47	202	P	P	22 29 43.6	+0.8		
TMVZ	Te Maari	23.48	202	P	P	22 29 43.6	+0.8		
KWHZ	Kaweka Forest	23.50	201	P	P	22 29 45.9	+2.9		
WTVZ	West Tongariro	23.52	203	P	P	22 29 44.0	+0.7		
NNVZ	North Ngauruho	23.52	203	P	P	22 29 44.2	+0.8		
OTVZ	Oturere	23.53	202	P	P	22 29 43.3	-0.2		
SNVZ	South Ngauruho	23.56	202	P	P	22 29 44.5	+0.8		
NGZ	Ngauruhoe	23.57	202	P	P	22 29 44.7	+0.9		
BHHZ	Black Hill Sta	23.68	201	P	P	22 29 45.1	+0.3		
KAHZ	Kahuranaki	23.68	200	P	P	22 29 47.6	+2.8		
TRVZ	Turoa	23.70	202	P	P	22 29 46.0	+0.9		
WNVZ	Wahianoa	23.70	202	P	P	22 29 45.3	+0.1		
KRHZ	Kereru	23.71	201	P	P	22 29 46.7	+1.6		
MOVZ	Moawhango	23.72	202	P	P	22 29 46.3	+1.2		
PKVZ	Pokaka	23.76	203	P	P	22 29 46.4	+0.9		
MTVZ	Mangateitei	23.80	202	P	P	22 29 48.2	+2.2		
VRZ	Vera Road	23.84	204	P	P	22 29 49.1	+2.9		
PXZ	Pawanui	23.90	199	P	P	22 29 47.7	+0.9		
PNHZ	Pukenui	24.01	201	P	P	22 29 49.2	+1.2		
WPHZ	Waipukurau	24.07	200	P	P	22 29 52.7	+4.3		
PRHZ	Porangahau	24.19	200	P	P	22 29 55.0	+5.5		
NEZ	North Egmont	24.23	205	P	P	22 29 53.9	+3.9		
LREZ	Lake Rotokare	24.27	204	P	P	22 29 54.3	+4.1		
KHEZ	Kahui Hut	24.28	205	P	P	22 29 53.6	+3.2		
PMOR	Pomariorio Ree	24.28	87 *eT*	T		22 54 53.1			
	comp=Z,11nm,0.3s								
DVHZ	Dannevirke	24.37	200	P	P	22 29 55.6	+4.4		
ANWZ	Angora Road	24.42	200	P	P	22 29 54.8	+3.2		
VAH	Vaihoa	24.50	88 *eP*	P	P	22 29 49.9	-2.6		
	comp=Z,67nm,1.0s								
VAH	Vaihoa	24.50	88 *eT*	T		22 55 10.1			
	comp=Z,22nm,0.3s								
PRWZ	Pori Road	24.67	200	P	P	22 29 56.9	+3.0		
BFZ	Birch Farm	24.69	200	P	P	22 29 55.1	+1.1		
BFZ				IAmb	IAmb	22 29 59.3			
	comp=Z,58nm,0.7s								
BFZ	Birch Farm	24.69	200	P	P	22 29 56.3	+2.2		
BFZ	Birch Farm	24.69	200	P	P	22 29 56.6	+2.5		
MRZ	Mangatainoka R	24.89	201	P	P	22 29 56.8	+0.9		
SNZO	South Karori	25.77	202	P	P	22 30 05.9	+2.1		
BHW	Baring Head	25.80	201	P	P	22 30 05.6	+1.5		
TUWZ	Tuamarina	26.15	203	P	P	22 30 08.4	+1.1		
QRZ	Quartz Range	26.18	205	P	P	22 30 09.1	+1.5		
QRZ				IAmb	IAmb	22 30 20.5			
	comp=Z,123nm,1.1s								
QRZ	Quartz Range	26.18	205	P	P	22 30 10.9	+3.4		
THZ	Tophouse	26.83	204	P	P	22 30 13.5	+0.1		
THZ				IAmb	IAmb	22 30 25.9			
	comp=Z,51nm,0.5s								
KHZ	Kahutara	27.16	202	P	P	22 30 17.2	+0.9		
KHZ				IAmb	IAmb	22 30 26.2			
	comp=Z,46nm,0.9s								
KHZ	Kahutara	27.16	202	P	P	22 30 19.1	+2.8		
HNR	Honiara	27.48	284	P	P	22 30 18.0	-1.5		
	comp=Z,76nm,0.5s,baz=200,slow=18,SNR=1.2								
HNR				LR	LR	22 39 21.0			
	comp=Z,12µm,21.2s,baz=141,slow=33								
HNR	Honiara	27.48	284	IAMs_20	IAMs_20	22 39 09.8			
	comp=Z,11µm,19.0s								
LTZ	Lake Taylor	27.94	203	P	P	22 30 24.4	+0.9		
OXZ	Oxford	28.50	203	P	P	22 30 27.8	-0.5		
RPZ	Rata Peaks	29.20	204	P	P	22 30 36.5	+1.8		
	comp=Z,74nm,0.6s,baz=50,slow=1.8,SNR=41								
RPZ				LR	LR	22 41 44.6			
	comp=Z,4µm,21.4s,baz=28,slow=35								
RPZ	Rata Peaks	29.20	204	P	P	22 30 36.0	+1.4		
RPZ	Rata Peaks	29.20	204	P	P	22 30 36.4	+1.8		
FOZ	Fox Glacier	29.55	206	P	P	22 30 38.8	+1.1		
ODZ	Otahua Downs	30.49	203	P	P	22 30 47.3	+1.4		
TAOE	Nuku Hiva Isla	33.16	79 *eS*		S	22 36 25.3	-3.0		
	comp=Z,1µm,26.0s								
TAOE				*e*LR	LR	22 39 53.5			
	comp=Z,9µm,25.6s,baz=256								
TAOE	Nuku Hiva Isla	33.16	79 *eT*	T		23 05 57.2			
	comp=Z,124nm,0.2s								
EIDS	Eidsvold	34.14	251	P	P	22 31 17.1	-1.1		
	baz=34,SNR=3.6								
ARMA	Armidale	34.50	242	P	P	22 31 23.2	+1.8		
MGCD	Mangrove Creek	35.65	237	P	P	22 31 32.2	+1.0		
	baz=36,SNR=5.8								
MGCD	Mangrove Creek	35.65	237	P	P	22 31 33.2	+2.0		
SYDH	Sydney Hard Ro	36.10	237	P	P	22 31 36.1	+1.1		
RMQ	Roma	36.34	249	P	P	22 31 36.3	-0.9		
	baz=36,SNR=4.9								
RMQ	Roma	36.34	249	P	P	22 31 38.3	+1.1		
KRVT	Keravat (AS076	36.68	287	P	P	22 31 38.5	-1.7		
	comp=Z,45nm,0.4s,baz=37,slow=10,SNR=2.6								
KRVT				LR	LR	22 44 51.1			
	comp=Z,8µm,21.4s,baz=262,slow=34								
CNB	Canberra Magne	37.66	235	P	P	22 31 47.3	-1.0		
	baz=38,SNR=25								
CNB	Canberra Magne	37.66	235	P	P	22 31 50.1	+1.8		
CAN	Canberra	37.94	235	IAMs_20	IAMs_20	22 45 21.5			
	comp=Z,5µm,18.0s								
CAN	Canberra	37.94	235	P	P	22 31 52.0	+1.3		
CTA	Charters Tower	38.51	260	P	P	22 31 52.9	-2.8		
	comp=Z,8.7nm,0.4s,baz=79,slow=9.4,SNR=11								
CTA				LR	LR	22 45 38.5			
	comp=Z,8µm,21.7s,baz=92,slow=33								
CTA	Charters Tower	38.51	260	P	P	22 31 54.5	-1.1		
CTAO	Charters Tower	38.51	260	P	P	22 31 53.0	-2.7		
CTAO				pmax	pmax				
	comp=Z,23nm,0.9s								
CTAO				MLR	MLR				
	comp=Z,7µm,20.0s								
CTAO	Charters Tower	38.51	260	P	P	22 31 53.0	-2.7		
CTAO	Charters Tower	38.51	260	IAMs_20	IAMs_20	22 45 35.8			
	comp=Z,7µm,20.0s								
PMG	Port Moresby	39.48	277	P	P	22 32 01.5	-2.3		
	comp=Z,7.8nm,0.5s,baz=36,slow=19,SNR=2.4								
PMG				LR	LR	22 47 27.0			
	comp=Z,3µm,18.0s,baz=141,slow=35								
PMG	Port Moresby	39.48	277 *ce*	P	P	22 32 04.3	+0.5		
PMG				pmax	pmax				
	comp=Z,34nm,1.0s								
CMSA	Cobar Meteorol	39.72	242	P	P	22 32 03.4	-2.2		
	baz=40,SNR=12								
CMSA	Cobar Meteorol	39.72	242	P	P	22 32 05.7	+0.1		
QLP	Quilpie	40.38	250	P	P	22 32 08.6	-2.6		
	baz=40,SNR=11								
QLP	Quilpie	40.38	250	P	P	22 32 11.1	-0.1		
H11S2	WAKE ISLAND Hy	41.10	330	T	T	23 16 04.0			
	baz=150,slow=75,SNR=24								
H11S3	WAKE ISLAND Hy	41.12	330	T	T	23 15 35.6			
	baz=150,slow=75,SNR=16								
H11S1	WAKE ISLAND Hy	41.12	330	T	T	23 15 54.9			
	baz=150,slow=75,SNR=15								
TOO	Toolangi	41.31	233	P	P	22 32 18.0	-0.7		
	baz=41,SNR=15								
TOO	Toolangi	41.31	233	P	P	22 32 17.8	-1.0		
TOO				pmax	pmax				
	comp=Z,22nm,1.0s								
TOO	Toolangi	41.31	233	P	P	22 32 17.8	-1.0		
TOO	Toolangi	41.31	233	P	P	22 32 20.4	+1.7		
KIP	Kipapa	41.58	21	P	P	22 32 21.0	+0.1		
KIP				pmax	pmax				
	comp=Z,174nm,1.2s								
KIP	Kipapa	41.58	21	P	P	22 32 21.0	+0.1		
MOO	Moorlands	41.79	225	P	P	22 32 23.5	+1.0		
MANU	Manus Island	41.85	287	P	P	22 32 21.3	-2.1		
TAU	Tasmania Unive	41.89	225	IAMs_20	IAMs_20	22 46 27.5			
	comp=Z,4µm,20.0s								
TAU	Tasmania Unive	41.89	225	P	P	22 32 24.1	+0.8		
H11N3	WAKE ISLAND Hy	42.07	331	T	T	23 17 14.2			
	baz=157,slow=74								
H11N1	WAKE ISLAND Hy	42.08	331	T	T	23 17 14.8			
	baz=157								
H11N2	WAKE ISLAND Hy	42.09	331	T	T	23 16 37.4			
	baz=157,slow=74								
COEN	Coen	42.21	269	P	P	22 32 24.1	-2.3		
BRAT	Ballarat	42.49	233	P	P	22 32 29.5	+1.2		
STKA	Stephens Creek	43.22	242	P	P	22 32 32.4	-2.0		
	comp=Z,9.0nm,0.7s,baz=88,slow=10,SNR=18								
STKA				LR	LR	22 49 24.8			
	comp=Z,5µm,18.4s,baz=75,slow=35								
STKA	Stephens Creek	43.22	242	P	P	22 32 32.6	-1.8		
	baz=43,SNR=9.3								
STKA	Stephens Creek	43.22	242	P	P	22 32 32.8	-1.5		
STKA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
STKA	Stephens Creek	43.22	242	P	P	22 32 32.8	-1.5		
STKA	Stephens Creek	43.22	242	P	P	22 32 33.5	-0.8		
INKA	Innaminka	43.56	248	P	P	22 32 35.7	-1.4		
ARPS	Mount Arapiles	43.92	235	P	P	22 32 40.1	+0.2		
	baz=44,SNR=5.9								
ARPS	Mount Arapiles	43.92	235	P	P	22 32 40.6	+0.7		
QIS	Mount Isa	44.70	258	P	P	22 32 45.2	-1.2		
	baz=45,SNR=3.3								
QIS	Mount Isa	44.70	258	P	P	22 32 44.8	-1.6		
HTT	Hallett	45.66	240	P	P	22 32 52.8	-1.1		
	baz=46,SNR=13								
HTT	Hallett	45.66	240	P	P	22 32 53.7	-0.2		
LCRK	Leigh Creek	45.94	245	P	P	22 32 55.3	-0.8		
NAPP	Nappamerry	46.28	241	P	P	22 32 58.2	-0.5		
BBOO	Buckleboo	47.98	242	P	P	22 33 09.9	-2.1		
	baz=48,SNR=5.4								
BBOO	Buckleboo	47.98	242	P	P	22 33 10.2	-1.9		
BBOO				IAmb	IAmb	22 33 35.0			
	comp=Z,26nm,0.8s								
BBOO	Buckleboo	47.98	242	P	P	22 33 10.7	-1.3		
OOD	Oodnadatta	48.04	248	P	P	22 33 12.5	0.0		
MULG	Mulgathing	49.52	245	P	P	22 33 23.2	-0.7		
WRAB	Tennant Creek	49.67	259 *i*	P	P	22 33 21.7	-3.5		
WRAB				pmax	pmax				
	comp=Z,30nm,1.2s								
WRAB	Tennant Creek	49.67	259	P	P	22 33 25.1	-0.1		
WRA	Warramunga Arr	49.68	259	P	P	22 33 21.9	-3.4		
	comp=Z,8.6nm,0.5s,baz=93,slow=7.5,SNR=54								
WRA				PcP	PcP	22 34 45.6	-0.8		
	comp=Z,2.2nm,0.8s,baz=91,slow=3.9,SNR=1.2								
WRA				S	S	22 40 20.1	-13		
	comp=Z,0.3nm,0.7s,baz=231,slow=13,SNR=2.3								
WRA				LR	LR	22 52 47.8			
	comp=Z,7µm,20.9s,baz=112,slow=34								
AS31	Alice Springs	49.75	254	P	P	22 33 22.7	-3.1		
AS31				IAmb	IAmb	22 33 37.9			
	comp=Z,21nm,0.8s								
ASAR	Alice Springs	49.75	254	P	P	22 33 22.8	-3.0		
	comp=Z,43nm,0.8s,baz=89,slow=8.6,SNR=192								
ASAR				PcP	PcP	22 34 47.7	+1.0		
	comp=Z,5.9nm,0.7s,baz=93,slow=4.1,SNR=0.4								
ASAR				S	S	22 40 22.6	-11		
	comp=Z,1.9nm,1.0s,baz=88,slow=15,SNR=7.1								
ASAR				LR	LR	22 53 29.4			
	comp=Z,3µm,19.3s,baz=102,slow=35								
ASAR	Alice Springs	49.75	254	P	P	22 33 22.4	-3.4		
ASAR	Alice Springs	49.75	254	P	P	22 33 22.4	-3.4		
SMPI	Sarmi	49.84	283	P	P	22 33 25.5	-1.0		
	comp=Z,2µmcomp=Z,19nm,1.0s								
GUMO	Guam	51.87	304	LR	LR	22 53 13.1			
	comp=Z,2µm,19.6s,baz=108,slow=33								
FORT	Forrest	54.70	245	P	P	22 34 00.7	-1.7		
	baz=55,SNR=12								
FORT	Forrest	54.70	245	P	P	22 34 01.3	-1.1		
FORT				IAmb	IAmb	22 34 07.6			
	comp=Z,40nm,0.9s								
FORT	Forrest	54.70	245	P	P	22 34 02.6	+0.2		
WRKA	Warakurna	54.76	252	P	P	22 34 00.9	-2.0		
	baz=55,SNR=31								
WRKA	Warakurna	54.76	252	P	P	22 34 01.9	-1.1		
KNRA	Kununurra	55.58	263	P	P	22 34 07.4	-1.5		
	baz=56,SNR=3.6								
SIJI	Sorong	57.19	281	P	P	22 34 18.4	-2.1		
	baz=68,slow=11								
SIJI				LR	LR	22 57 18.2			
	comp=Z,3µm,21.6s,baz=106,slow=35								
SWI	Sorong	57.19	281	P	P	22 34 19.2	-1.3		
	comp=Z,3µmcomp=Z,2µmcomp=Z,79nm,0.8s								
FITZ	Fitzroy Crossi	58.09	259	LR	LR	22 57 25.6			
	comp=Z,4µm,21.8s,baz=102,slow=34								
FITZ	Fitzroy Crossi	58.09	259	P	P	22 34 25.8	-0.9		
	baz=58,SNR=5.2								
FITZ	Fitzroy Crossi	58.09	259	P	P	22 34 25.7	-1.0		
RPN	Rapa Nui	59.12	111	LR	LR	22 53 20.1			
	comp=Z,2µm,21.1s,baz=257,slow=29								
LBMI	Labuha	60.80	279	P	P	22 34 44.6	-0.9		
	comp=Z,2µmcomp=Z,690nmcomp=Z,31nm,0.9s								
SBA	Scott Base	61.00	185	P	P	22 34 47.9	+2.1		
SBA				pmax	pmax				
	comp=Z,47nm,1.1s								
SBA	Scott Base	61.00	185	P	P	22 34 47.9	+2.1		
VNDA	Vanda	61.13	186	P	P	22 34 50.1	+3.3		
	comp=Z,10nm,0.9s,baz=360,slow=6.5,SNR=38								
VNDA				S	S	22 43 07.3	+3.1		
	comp=Z,0.7nm,1.1s,baz=229,slow=5.1,SNR=3.3								
VNDA				LR	LR	22 55 34.6			
	comp=Z,367nm,21.2s,baz=14,slow=30								
VNDA	Vanda	61.13	186	P	P	22 34 48.8	+2.0		
VNDA				pmax	pmax				
	comp=Z,34nm,1.3s								
VNDA	Vanda	61.13	186	P	P	22 34 48.8	+2.0		
VNDA				IAmb	IAmb	22 34 51.1			
	comp=Z,34nm,1.3s								
TNTI	Ternate	61.41	281	P	P	22 34 48.2	-1.5		
TNTI	Ternate	61.41	281	P	P	22 34 48.7	-1.0		
	comp=Z,2µmcomp=Z,982nmcomp=Z,48nm,0.8s								
BATI	Baunata	61.64	268	LR	LR	23 00 14.0			
	comp=Z,2µm,21.1s,baz=112,slow=35								
JCJ	Chichijima	62.20	315	LR	LR	22 57 26.3			
	comp=Z,2µm,20.1s,baz=123,slow=32								
MBWA	Marble Bar	63.06	255	P	P	22 34 58.9	-1.7		
MEEK	Meekatharra	63.27	249	P	P	22 35 00.3	-1.7		
	baz=63,SNR=8.3								
MEEK	Meekatharra	63.27	249	P	P	22 35 00.1	-1.9		
KLBR	Kellerberrin	63.48	243	P	P	22 35 02.2	-1.2		
	baz=64,SNR=13								
KLBR	Kellerberrin	63.48	243	P	P	22 35 02.3	-1.0		
	comp=Z,73nm,1.0s								
RKGY	Rocky Gully	63.88	240	P	P	22 35 05.6	-0.3		
	baz=64,SNR=5.1								
BLDU	Ballidu	64.47	244	P	P	22 35 08.7	-1.1		
	baz=64,SNR=17								
BLDU	Ballidu	64.47	244	P	P	22 35 09.5	-0.3		
MUN	Mundaring	64.75	242	P	P	22 35 10.4	-1.2		
	baz=65,SNR=12								
MUN	Mundaring	64.75	242	P	P	22 35 10.9	-0.8		
MORW	Morawa	65.23	246	P	P	22 35 14.1	-0.7		
	baz=65,SNR=7.3								
MORW	Morawa	65.23	246	P	P	22 35 14.3	-0.4		
MORW				IAmb	IAmb	22 35 15.1			
	comp=Z,26nm,1.2s								
DAV	Davao City (W)	65.39	287	LR	LR	23 04 17.3			
	comp=Z,1µm,18.1s,baz=118,slow=37								
DAV	Davao City (W)	65.39	287	IAMs_20	IAMs_20	23 04 23.9			
	comp=Z,2µm,18.0s								
MRSI	Marisa	66.41	279	P	P	22 35 21.7	-0.9		
	comp=Z,2µmcomp=Z,584nmcomp=Z,20nm,0.5s								
BNSI	Bone	66.62	273	P	P	22 35 23.0	-0.9		
	comp=Z,28nm,1.2s								
KAPI	Kappang	66.78	272	LR	LR	23 02 32.1			
	comp=Z,565nm,20.2s,baz=80,slow=34								
PLAI	Plampang	67.60	268	P	P	22 35 26.9	-3.3		
JHJ	Hachijo jima 2	67.69	318	LR	LR	23 04 49.2			
	comp=Z,746nm,18.2s,baz=114,slow=36								
TOLI2	Tolitoli	67.71	279	P	P	22 35 30.3	-0.6		
TOLI2				IAmb	IAmb	22 35 47.4			
	comp=Z,22nm,0.8s								
MPSI	Mapaga	68.29	278	P	P	22 35 33.6	-0.9		
	comp=Z,2µmcomp=Z,2µmcomp=Z,36nm,0.8s								
CASY	Casey	68.47	205	P	P	22 35 36.1	+1.4		
CASY				IAmb	IAmb	22 35 37.5			
	comp=Z,28nm,1.1s								
ADK	Adak	69.36	358	IAMs_20	IAMs_20	22 59 22.7			
	comp=Z,2µm,19.0s								
JGF	Kuroka	70.83	319	P	P	22 35 48.7	-1.1		
JGF				IAmb	IAmb	22 36 02.9			
	comp=Z,20nm,1.1s								
MJAR	Matsushiro Arr	70.91	320	P	P	22 35 48.7	-1.5		
	comp=Z,6.7nm,0.7s,baz=146,slow=9.0,SNR=18								
MJAR				LR	LR	23 01 32.6			
	comp=Z,2µm,21.4s,baz=121,slow=32								
MJAR	Matsushiro Arr	70.91	320	P	P	22 35 48.8	-1.4		
MJAR				pmax	pmax				
	comp=Z,6.0nm,0.9s								
MJAR	Matsushiro Arr	70.91	320	P	P	22 35 48.8	-1.4		
MAJO	Matsushiro	70.91	320	P	P	22 35 49.4	-0.8		
MAJO				pmax	pmax				
	comp=Z,15nm,0.8s								
MAJO				MLR	MLR				
	comp=Z,2µm,22.0s								
MAJO	Matsushiro	70.91	320	P	P	22 35 49.4	-0.8		
MAJO				IAmb	IAmb	22 35 50.9			
	comp=Z,15nm,0.8s								
MAJO	Matsushiro	70.91	320	IAMs_20	IAMs_20	23 00 47.8			
	comp=Z,2µm,22.0s								
MJB9	Matsu-Tunnel	70.91	320	P	P	22 35 49.3	-0.9		
MJB9				IAmb	IAmb	22 35 50.9			
	comp=Z,15nm,0.8s								
SHEM	Shemya Is, Ala	71.02	352	LR	LR	23 01 37.4			
	comp=Z,2µm,20.0s,baz=150,slow=31								
JSD	Sado	71.85	321	P	P	22 35 55.5	-0.3		
ERM	Erimo	71.86	327	IAMs_20	IAMs_20	23 03 13.2			
	comp=Z,2µm,20.0s								
JOW	Kunigami	72.11	307	LR	LR	23 01 42.0			
	comp=Z,2µm,21.9s,baz=121,slow=31								
QSPA	South Pole Qui	72.36	180	LR	LR	23 06 42.4			
	comp=Z,475nm,18.4s,baz=40,slow=35								
QSPA	South Pole Qui	72.36	180	P	P	22 35 59.9	+1.3		
TGY	Tagaytay City	72.37	292	LR	LR	23 04 11.3			
	comp=Z,3µm,19.9s,baz=103,slow=33								
MCCM	Marconi Confer	72.81	39	IAMs_20	IAMs_20	23 00 02.6			
	comp=Z,2µm,21.0s								
SAO	San Andreas Ge	72.82	41	IA

comp=Z,500nm,14.7s
N02D Trinity Center 74.74 37 P **P** **22 36 14.6 +1.6**
N02D IAmb IAmb 22 36 38.0
comp=Z,39nm,1.4s
N02D Trinity Center 74.74 37 P **P** **22 36 15.7 +2.8**
baz=229,SNR=6.1
CWC Cottonwood Cre 74.78 43 P **P** **22 36 15.6 +2.2**
baz=234
BELC Belle Mtn. Jos 74.78 46 P **P** **22 36 15.6 +2.2**
baz=236
O03E Paynes Creek 74.83 38 P **P** **22 36 14.6 +1.1**
O03E IAmb IAmb 22 36 39.6
comp=Z,43nm,1.3s
O03E IAMs_20 IAMs_20 23 00 47.5
comp=Z,2µm,22.0s
O03E Paynes Creek 74.83 38 P **P** **22 36 15.0 +1.6**
baz=230
MDPB Devils Postpil 74.85 42 P **P** **22 36 14.7 +0.9**
OMMB Old Mammoth Mi 74.89 42 P **P** **22 36 14.6 +0.4**
PEA0B Petropavlovsk- 74.91 342 P **P** **22 36 13.5 0.0**
PEA0B pmax pmax
comp=Z,92nm,1.4s
PEA0B Petropavlovsk- 74.91 342 P **P** **22 36 13.5 0.0**
PETK Petropavlovsk- 74.91 342 P **P** **22 36 13.1 -0.4**
comp=Z,12nm,0.7s,baz=96,slow=8.8,SNR=13
PETK LR LR 23 05 08.6
comp=Z,485nm,20.5s,baz=159,slow=33
PETK Petropavlovsk- 74.91 342 P **P** **22 36 13.8 +0.3**
PETK Petropavlovsk- 74.91 342 P **P** **22 36 13.8 +0.3**
M02C Callahan 74.93 37 P **P** **22 36 16.2 +2.2**
M02C IAmb IAmb 22 36 40.2
comp=Z,35nm,1.4s
M02C IAMs_20 IAMs_20 23 01 24.0
comp=Z,2µm,21.0s
M02C Callahan 74.93 37 P **P** **22 36 16.6 +2.6**
baz=229
MPMC Manual Prospec 74.95 44 P **P** **22 36 16.8 +2.4**
baz=234,SNR=21
GSC Goldstone, Bar 74.97 45 P **P** **22 36 15.7 +1.3**
GSC pmax pmax
comp=Z,16nm,1.0s
GSC Goldstone, Bar 74.97 45 P **P** **22 36 15.7 +1.3**
GSC Goldstone, Bar 74.97 45 P **P** **22 36 16.4 +2.0**
baz=235,SNR=6.6
HEC Hector,Ludlow 75.02 45 P **P** **22 36 17.0 +2.4**
baz=236
GLA Glamis 75.08 48 P **P** **22 36 17.0 +2.0**
GLA pmax pmax
comp=Z,24nm,1.1s
GLA Glamis 75.08 48 P **P** **22 36 17.0 +2.0**
GLA IAmb IAmb 22 36 33.7
comp=Z,24nm,1.1s
GLA Glamis 75.08 48 P **P** **22 36 18.1 +3.1**
baz=237
YBH Yreka Blue Hor 75.23 37 P **P** **22 36 18.1 +2.3**
comp=Z,13nm,0.9s,baz=142,slow=2.5,SNR=20
YBH LR LR 23 01 54.4
comp=Z,2µm,21.3s,baz=232,slow=30
YBH Yreka Blue Hor 75.23 37 P **P** **22 36 17.5 +1.8**
YBH pmax pmax
comp=Z,18nm,1.0s
YBH MLR MLR
comp=Z,2µm,21.0s
YBH Yreka Blue Hor 75.23 37 P **P** **22 36 17.5 +1.8**
YBH IAMs_20 IAMs_20 23 01 54.0
comp=Z,2µm,21.0s
QSM Queen of Sheba 75.31 44 P **P** **22 36 18.1 +1.9**
QSM IAmb IAmb 22 36 19.3
comp=Z,22nm,0.9s
PNTR Pine Nut 75.41 40 P **P** **22 36 19.0 +2.0**
PNTR IAmb IAmb 22 36 21.6
comp=Z,24nm,0.9s
GMRC Granite Mounta 75.45 46 P **P** **22 36 19.3 +2.0**
baz=236,SNR=6.3
IRM Iron Mountain 75.46 47 P **P** **22 36 19.8 +2.7**
baz=236
VCNR Virginia City 75.50 40 P **P** **22 36 19.2 +1.7**
LCH Last Change Ra 75.53 43 P **P** **22 36 18.7 +1.1**
GWY Greenwater Val 75.56 44 P **P** **22 36 19.3 +1.4**
GRAC Grapevine Rang 75.57 43 P **P** **22 36 19.5 +1.7**
GRAC IAmb IAmb 22 36 31.0
comp=Z,50nm,1.2s
GRAC Grapevine Rang 75.57 43 P **P** **22 36 20.5 +2.7**
baz=234,SNR=6.0
LHV Little Huntoon 75.58 41 P **P** **22 36 19.6 +1.9**
LHV IAmb IAmb 22 36 34.0
comp=Z,62nm,1.4s
FURC Furnace Creek, 75.60 44 P **P** **22 36 20.2 +2.4**
baz=235,SNR=6.7
YSS Yuzh-Sakhalins 75.64 330 ⇑*i*P **P** **22 36 17.5 -0.3**
YSS *e* 22 39 05.0
YSS *e*S **S** **22 45 51.5 -5.9**
YSS *e*SS **SS** **22 50 43.2 -6.3**
YSS *e*SSS SSS 22 54 06.2
YSS pmax pmax
comp=Z,400nm,5.8s
YSS pmax pmax
comp=Z,30nm,1.0s
HUMO Hull Mountain 75.66 36 P **P** **22 36 19.7 +1.5**
HUMO IAmb IAmb 22 36 46.8
comp=Z,45nm,1.4s
HUMO IAMs_20 IAMs_20 23 02 06.4
comp=Z,2µm,21.0s
SHOC Shoshone, Teco 75.66 45 P **P** **22 36 20.7 +2.4**
baz=235
BLYC Blythe 75.67 47 P **P** **22 36 19.6 +1.3**
113A Mohawk Valley, 75.68 48 P **P** **22 36 20.0 +1.7**
M04C Macdoel 75.76 37 P **P** **22 36 20.2 +1.3**
M04C IAmb IAmb 22 36 47.9
comp=Z,68nm,1.4s
M04C IAMs_20 IAMs_20 23 03 02.0
comp=Z,2µm,20.0s
M04C Macdoel 75.76 37 P **P** **22 36 21.2 +2.4**
baz=230,SNR=5.0
L04D Klamath Falls 75.78 36 P **P** **22 36 20.1 +1.2**
L04D IAmb IAmb 22 36 36.1
comp=Z,58nm,1.3s
L04D IAMs_20 IAMs_20 23 01 04.4
comp=Z,2µm,21.0s
L04D Klamath Falls 75.78 36 P **P** **22 36 20.9 +2.0**
baz=230
RYN Ryan 75.80 41 P **P** **22 36 21.1 +1.9**
RYN IAmb IAmb 22 36 48.2
comp=Z,37nm,1.4s
NVAR Mina Array Bea 75.82 41 P **P** **22 36 21.5 +2.1**
comp=Z,14nm,0.8s,baz=226,slow=9.9,SNR=70
NVAR LR LR 23 02 46.5
comp=Z,2µm,20.5s,baz=244,slow=30
NVAR Mina Array Bea 75.82 41 P **P** **22 36 21.2 +1.8**
HSIG 75.83 53 P **P** **22 36 19.8 +0.4**
NV11 Mina Array Sit 75.91 41 P **P** **22 36 21.5 +1.7**
NV11 IAmb IAmb 22 36 23.1
comp=Z,31nm,1.1s
PAHR Pah Rah Range 75.92 40 P **P** **22 36 21.6 +1.8**
PAHR IAmb IAmb 22 36 35.0
comp=Z,31nm,1.4s
214A Organ Pipe Nat 75.94 50 P **P** **22 36 21.6 +1.6**
214A IAmb IAmb 22 36 47.6
comp=Z,38nm,1.4s
214A Organ Pipe Nat 75.94 50 P **P** **22 36 22.4 +2.4**
baz=238
PDMCI Parker Dam,Lak 76.23 47 P **P** **22 36 23.8 +2.2**
baz=237
TPNV Topopah Spring 76.28 44 P **P** **22 36 23.7 +1.7**
TPNV pmax pmax
comp=Z,15nm,1.3s
TPNV MLR MLR
comp=Z,2µm,21.0s
TPNV Topopah Spring 76.28 44 P **P** **22 36 23.7 +1.7**
TPNV IAMs_20 IAMs_20 23 02 25.0
comp=Z,2µm,21.0s
TPNV Topopah Spring 76.28 44 P **P** **22 36 24.5 +2.5**
baz=235,SNR=6.8
TPH Tonopah 76.29 42 P **P** **22 36 23.8 +1.7**
TPH pmax pmax
comp=Z,139nm,1.0s
TPH Tonopah 76.29 42 P **P** **22 36 23.8 +1.7**
KVN Kaiserville 76.31 41 P **P** **22 36 23.7 +1.6**
KVN pmax pmax
comp=Z,14nm,0.9s
KVN Kaiserville 76.31 41 P **P** **22 36 23.7 +1.6**
YHNB Yeheng 76.51 302 IAMs_20 IAMs_20 23 08 40.9
comp=Z,2µm,19.0s
J04D Umpqua Nationa 76.55 36 P **P** **22 36 24.3 +0.9**
J04D IAmb IAmb 22 36 26.7
comp=Z,38nm,1.0s
J04D Umpqua Nationa 76.55 36 P **P** **22 36 25.4 +2.0**
baz=230
TATO Taipei 76.56 302 IAMs_20 IAMs_20 23 08 12.9
comp=Z,2µm,19.0s
MOD Modoc Plateau 76.72 38 P **P** **22 36 25.9 +1.5**
MOD IAMs_20 IAMs_20 23 03 04.6
comp=Z,2µm,20.0s
I04A Tendick Farm, 76.74 35 P **P** **22 36 25.8 +1.5**
baz=229
SHPR Sheep Range 76.75 45 P **P** **22 36 26.3 +1.7**
SHPR IAmb IAmb 22 36 37.7
comp=Z,24nm,1.1s
Q09A Carvers 76.76 42 P **P** **22 36 26.0 +1.4**
Q09A IAmb IAmb 22 36 53.0
comp=Z,30nm,0.9s
Y14A Wickenburg 76.84 48 P **P** **22 36 26.8 +1.7**
W13A Hualapai Mount 76.84 46 P **P** **22 36 26.9 +1.6**
K05A Summer Lake 76.90 37 P **P** **22 36 27.1 +1.7**
K05A IAmb IAmb 22 36 28.9
comp=Z,36nm,1.0s
S11A Rachel 77.00 43 P **P** **22 36 27.5 +1.5**
S11A IAmb IAmb 22 36 33.5
comp=Z,19nm,0.9s
J05D Fort Rock, OR 77.06 36 P **P** **22 36 28.8 +2.6**
baz=230,SNR=12
KDAK Kodiak Island 77.10 11 P **P** **22 36 26.7 +0.9**
comp=Z,12nm,0.8s,baz=271,slow=8.5,SNR=4.1
KDAK LR LR 23 03 19.1
comp=Z,2µm,21.9s,baz=229,slow=30
KDAK Kodiak Island 77.10 11 P **P** **22 36 26.7 +0.9**
KDAK pmax pmax
comp=Z,50nm,1.3s
KDAK MLR MLR
comp=Z,2µm,21.0s
KDAK Kodiak Island 77.10 11 P **P** **22 36 26.7 +0.9**
KDAK IAmb IAmb 22 36 39.1
comp=Z,50nm,1.3s
KDAK Kodiak Island 77.10 11 IAMs_20 IAMs_20 23 02 55.6
comp=Z,2µm,21.0s
G03D McMinnville, O 77.22 34 IAMs_20 IAMs_20 23 01 21.3
comp=Z,2µm,22.0s
PRN Pahroc Range 77.33 44 P **P** **22 36 29.3 +1.5**
PRN IAmb IAmb 22 36 50.2
comp=Z,20nm,0.9s
TEY Ternei 77.40 326 *e*P **P** **22 36 25.4 -2.4**
TEY *e* 22 46 18.1
H04A Detroit Lake 77.44 35 P **P** **22 36 29.6 +1.4**
H04A IAmb IAmb 22 36 30.3
comp=Z,34nm,1.2s
R11A Troy Canyon, C 77.51 43 P **P** **22 36 30.4 +1.5**
R11A Troy Canyon, C 77.51 43 P **P** **22 36 31.1 +2.2**
baz=235,SNR=18
PINE Pine Mountain 77.55 36 P **P** **22 36 30.4 +1.3**
PINE IAmb IAmb 22 36 54.0
comp=Z,46nm,1.1s
TUC Tucson 77.59 50 P **P** **22 36 30.6 +1.2**
TUC pmax pmax
comp=Z,30nm,1.3s
TUC MLR MLR
comp=Z,2µm,20.0s
TUC Tucson 77.59 50 P **P** **22 36 30.6 +1.2**
TUC IAmb IAmb 22 36 46.1
comp=Z,30nm,1.3s
TUC Tucson 77.59 50 IAMs_20 IAMs_20 23 02 58.5
comp=Z,2µm,20.0s
TUC Tucson 77.59 50 P **P** **22 36 32.2 +2.9**
baz=240
BMN Battle Mountai 77.68 40 P **P** **22 36 31.1 +1.3**
BMN pmax pmax
comp=Z,23nm,1.0s
BMN Battle Mountai 77.68 40 P **P** **22 36 31.1 +1.3**
BMN IAmb IAmb 22 36 32.9
comp=Z,22nm,1.0s
I05D Terrebonne, OR 77.68 35 P **P** **22 36 31.9 +2.3**
baz=230
KSM Kuching 77.73 276 P **P** **22 36 30.0 -0.4**
LEM Lembang 77.82 267 LR LR 23 11 01.2
comp=Z,953nm,20.2s,baz=128,slow=36
Q19K Cape Douglas, 78.00 10 P **P** **22 36 31.4 +0.5**
Q19K IAmb IAmb 22 36 32.6
comp=Z,37nm,0.9s
Q19K Cape Douglas, 78.00 10 P **P** **22 36 32.0 +1.1**
baz=199
WVOR Wild Horse Val 78.03 38 P **P** **22 36 31.9 +0.3**
WVOR pmax pmax
comp=Z,23nm,1.1s
WVOR MLR MLR
comp=Z,3µm,22.0s
WVOR Wild Horse Val 78.03 38 P **P** **22 36 31.9 +0.3**
WVOR IAmb IAmb 22 36 34.8
comp=Z,23nm,1.1s
KSRS Korea Array 78.03 316 P **P** **22 36 32.1 +0.6**
comp=Z,10nm,1.0s,baz=130,slow=6.4,SNR=36
KSRS LR LR 23 07 59.8
comp=Z,714nm,19.4s,baz=115,slow=34
KSAR Wonju Array Be 78.05 316 P **P** **22 36 31.8 +0.1**
KSAR Wonju Array Be 78.05 316 P **P** **22 36 31.8 +0.1**
KS19 Wonju Array Si 78.09 316 P **P** **22 36 31.3 -0.7**
KS19 IAmb IAmb 22 36 34.8
comp=Z,41nm,1.4s
F04A Amboy 78.14 33 P **P** **22 36 33.3 +1.4**
F04A IAmb IAmb 22 36 48.1
comp=Z,30nm,1.0s
P18K Big Mountain, 78.19 9 P **P** **22 36 31.4 -0.6**
P18K IAmb IAmb 22 36 33.2
comp=Z,47nm,1.1s
P18K IAMs_20 IAMs_20 23 05 11.2
comp=Z,2µm,20.0s
P18K Big Mountain, 78.19 9 P **P** **22 36 32.1 +0.1**
baz=197
X16A Lo Mia Camp, P 78.19 48 P **P** **22 36 34.4 +1.6**
X16A IAmb IAmb 22 36 48.7
comp=Z,24nm,1.2s
319A Douglas 78.24 52 P **P** **22 36 34.7 +1.7**
319A IAmb IAmb 22 36 37.0
comp=Z,34nm,0.9s
LCMT Little Creek M 78.31 45 P **P** **22 36 34.9 +1.5**
NLWA Neilton Lookou 78.37 32 IAMs_20 IAMs_20 23 03 53.8
comp=Z,2µm,21.0s
E04D Cinebar 78.47 33 P **P** **22 36 35.6 +1.8**
E04D Cinebar 78.47 33 P **P** **22 36 35.7 +1.9**
baz=229
CCUT Cedar City 78.53 44 P **P** **22 36 35.5 +0.9**
I07A Izee 78.54 36 P **P** **22 36 36.0 +1.6**
F05D White Salmon 78.62 34 IAMs_20 IAMs_20 23 03 29.3
comp=Z,2µm,22.0s
O18K Koktuh Hills 78.63 9 P **P** **22 36 35.3 +0.9**
O18K IAmb IAmb 22 36 36.1
comp=Z,52nm,1.2s
O18K IAMs_20 IAMs_20 23 05 45.9
comp=Z,2µm,20.0s
O18K Koktuh Hills 78.63 9 P **P** **22 36 35.1 +0.7**
baz=197,SNR=9.4
U15A North Rim 78.65 46 P **P** **22 36 36.4 +1.0**
J08A Circle Bar Ran 78.68 37 P **P** **22 36 36.8 +1.6**
SZCU Shurtz Canyon 78.73 45 P **P** **22 36 37.5 +1.8**
PSUT Pine Spring 78.74 43 P **P** **22 36 36.7 +1.0**
PSUT IAmb IAmb 22 37 01.1
comp=Z,26nm,0.9s
P19K Oil Pt 78.75 10 P **P** **22 36 35.1 +0.1**
P19K IAmb IAmb 22 36 37.8
comp=Z,28nm,0.9s
P19K IAMs_20 IAMs_20 23 04 47.2
comp=Z,2µm,21.0s
P19K Oil Pt 78.75 10 P **P** **22 36 36.0 +0.9**
baz=199
WUAZ Wupatki 78.81 47 P **P** **22 36 37.5 +1.4**
WUAZ Wupatki 78.81 47 P **P** **22 36 37.5 +1.4**
baz=239
D03D Eldon 78.86 32 P **P** **22 36 37.4 +1.5**
baz=228
QZH Quanzhou 78.91 301 ⇑*i*P **P** **22 36 36.8 +0.2**
QZH S **S** **22 46 34.8 +1.0**
QZH LR LR
comp=Z,330nm,21.3s
QZH LR LR
comp=Z,670nm,21.8s
QZH LR LR
comp=Z,860nm,25.6s
INCN Inchon 78.91 315 P **P** **22 36 36.8 +0.3**
INCN pmax pmax
comp=Z,47nm,1.1s
INCN MLR MLR
comp=Z,1µm,20.0s
INCN Inchon 78.91 315 P **P** **22 36 36.8 +0.3**
INCN IAmb IAmb 22 36 38.1
comp=Z,47nm,1.1s
CNPM China Poot 78.99 11 P **P** **22 36 37.5 +1.2**
HOM Homer 79.04 11 IAMs_20 IAMs_20 23 05 23.7
comp=Z,2µm,20.0s
ELK Elko 79.09 41 LR LR 23 04 07.1
comp=Z,2µm,21.9s,baz=229,slow=30
ELK Elko 79.09 41 P **P** **22 36 38.8 +1.2**
ELK pmax pmax
comp=Z,14nm,0.9s
ELK MLR MLR
comp=Z,2µm,21.0s
ELK Elko 79.09 41 P **P** **22 36 38.8 +1.2**
ELK IAMs_20 IAMs_20 23 04 06.0
comp=Z,2µm,21.0s
O19K Port Alsworth 79.09 9 P **P** **22 36 37.2 +0.4**
O19K IAMs_20 IAMs_20 23 05 18.2
comp=Z,2µm,21.0s
O19K Port Alsworth 79.09 9 P **P** **22 36 37.5 +0.6**
baz=198,SNR=6.1
PKCU Pink Cliffs 79.17 45 P **P** **22 36 38.8 +0.5**
PKCU IAmb IAmb 22 36 45.6
comp=Z,54nm,1.2s
D05A Enumclaw 79.19 33 P **P** **22 36 38.4 +0.7**
O20K Slope Mountain 79.26 10 P **P** **22 36 38.3 +0.3**
baz=200
BRLK Bradley Lake 79.27 11 P **P** **22 36 38.0 0.0**
BRLK IAmb IAmb 22 36 39.7
comp=Z,31nm,1.0s
BRLK IAMs_20 IAMs_20 23 04 03.6
comp=Z,2µm,22.0s
BRSE Bradley Lake S 79.28 11 P **P** **22 36 38.6 +0.7**
baz=202
X18A Snowflake 79.31 49 P **P** **22 36 39.8 +0.9**
N18K Kilae Creek 79.33 8 P **P** **22 36 38.5 +0.3**
N18K IAMs_20 IAMs_20 23 04 10.2
comp=Z,2µm,22.0s
N18K Kilae Creek 79.33 8 P **P** **22 36 38.3 +0.1**
baz=197
USA0B Ussuriysk Arra 79.42 323 P **P** **22 36 39.4 +0.4**
USA0B pmax pmax
comp=Z,11nm,1.1s
USA0B Ussuriysk Arra 79.42 323 P **P** **22 36 39.4 +0.4**
USRK Ussuriysk Ar. 79.42 323 P **P** **22 36 39.2 +0.2**
comp=Z,3.8nm,1.0s,baz=98,slow=5.8,SNR=9.3
USRK S S 22 46 29.2 -9.3
comp=Z,0.4nm,0.4s,baz=7.0,slow=18,SNR=1.8
USRK LR LR 23 06 06.3
comp=Z,2µm,21.0s,baz=120,slow=32
USRK Ussuriysk Ar. 79.42 323 P **P** **22 36 39.4 +0.4**
USRK Ussuriysk Ar. 79.42 323 P **P** **22 36 39.4 +0.4**
PGC Sidney 79.43 31 P **P** **22 36 40.9 +1.9**
PGC IAmb IAmb 22 36 43.2
comp=Z,25nm,0.8s
CBB Campbell River 79.47 29 P **P** **22 36 40.1 +1.0**
CBB IAmb IAmb 22 36 52.7
comp=Z,53nm,1.2s
SMAI San Martin Ant 79.51 159 P **P** **22 36 40.5 +1.3**
SMAI IAmb IAmb 22 36 43.9
comp=Z,58nm,1.3s
MTPU Mount Pierson 79.58 45 P **P** **22 36 41.4 +0.8**
MTPU IAmb IAmb 22 37 00.6
comp=Z,23nm,1.0s
G08A Pilot Rock 79.60 36 P **P** **22 36 41.7 +1.5**
G08A IAmb IAmb 22 36 43.1
comp=Z,25nm,1.0s
RSO Redoubt South 79.60 10 P **P** **22 36 40.1 +0.2**
SSE Sheshan 79.61 307 P **P** **22 36 38.9 -1.5**
SSE S **S** **22 46 41.6 +0.6**
SSE pmax pmax
comp=Z,7.0nm,1.4s
SSE pmax pmax
comp=Z,200nm,9.2s
SSE LR LR
comp=Z,210nm,22.2s
HHU Hamhung 79.65 318 P **P** **22 36 39.6 -0.7**
N19K Bonanza Creek 79.66 9 P **P** **22 36 40.0 -0.1**
N19K IAmb IAmb 22 36 51.9
comp=Z,41nm,1.2s
N19K IAMs_20 IAMs_20 23 05 15.1
comp=Z,2µm,20.0s
N19K Bonanza Creek 79.66 9 P **P** **22 36 40.2 +0.1**
baz=198,SNR=8.2
TCRU Three Creeks R 79.70 44 P **P** **22 36 42.2 +1.2**
TCRU IAmb IAmb 22 36 45.0
comp=Z,26nm,1.0s
ZAIG Zacatecas 79.77 62 P **P** **22 36 43.1 +1.3**
BBB Bella Bella 79.79 26 LR LR 23 03 49.1
comp=Z,646nm,21.3s,baz=218,slow=30
HJU Haeju 79.81 315 P **P** **22 36 40.4 -0.9**
HJU pP **PcP** **22 36 44.6 -4.3**
HJU S **S** **22 46 41.1 -1.8**
HJU AmB
comp=Z,47nm,0.9s
HJU AMS AMS
comp=N,58nm,1.3s
HJU AMS AMS
comp=E,73nm,1.7s
HJU AMS AMS
comp=Z,66nm,1.5s
MSU Marysvale 79.83 44 P **P** **22 36 43.1 +1.3**
MSU Marysvale 79.83 44 P **P** **22 36 43.1 +1.3**
B05A Bryant 79.84 32 P **P** **22 36 43.5 +2.2**
baz=229
SEW Seward 79.86 12 P **P** **22 36 41.5 +0.5**
baz=203
121A Cookes Peak, D 79.91 51 P **P** **22 36 42.9 +0.6**
121A IAmb IAmb 22 36 58.2
comp=Z,41nm,1.3s
121A Cookes Peak, D 79.91 51 P **P** **22 36 45.6 +3.3**
baz=242
121A Cookes Peak, D 79.91 51 P **P** **22 36 45.6 +3.3**
baz=242
LTY Liberty 79.92 33 P **P** **22 36 41.8 0.0**
LTY IAmb IAmb 22 37 02.7
comp=Z,30nm,1.4s
HAWA Hanford 79.97 34 P **P** **22 36 43.0 +1.0**
O22K Cooper Landing 80.16 11 IAMs_20 IAMs_20 23 04 39.4
comp=Z,2µm,21.0s
CAPN Captain Cook N 80.16 11 P **P** **22 36 44.2 +1.5**
BMO Blue Mountains 80.26 37 P **P** **22 36 45.1 +1.4**
BMO pmax pmax
comp=Z,13nm,1.0s
BMO MLR MLR
comp=Z,2µm,20.0s
BMO Blue Mountains 80.26 37 P **P** **22 36 45.1 +1.4**
BMO IAMs_20 IAMs_20 23 05 20.0
comp=Z,2µm,20.0s
MFID Camas Ranch 80.27 38 P **P** **22 36 44.4 +0.6**
GRNB Grenville Isla 80.27 24 P **P** **22 36 45.0 +1.6**
GRNB IAmb IAmb 22 36 56.8
comp=Z,36nm,1.1s
DUG Dugway, Tooele 80.32 42 P **P** **22 36 45.4 +1.2**
DUG pmax pmax
comp=Z,32nm,1.5s
DUG MLR MLR
comp=Z,1µm,22.0s
DUG Dugway, Tooele 80.32 42 P **P** **22 36 45.4 +1.2**
DUG IAMs_20 IAMs_20 23 03 50.8
comp=Z,1µm,22.0s
DUG Dugway, Tooele 80.32 42 P **P** **22 36 46.6 +2.3**
baz=237,SNR=12
PYAG Pyongyang 80.32 316 P **P** **22 36 43.2 -0.8**
EPT El Paso 80.52 52 IAMs_20 IAMs_20 23 04 20.1
comp=Z,2µm,22.0s
BGU Big Grassy Mou 80.58 42 P **P** **22 36 46.7 +1.1**
PPBI Pangkal Pinang 80.59 271 P **P** **22 36 45.2 -0.9**
NLU North Lily Min 80.67 43 P **P** **22 36 46.6 +0.4**
FIS Fire Island 80.68 11 P **P** **22 36 45.7 +0.3**
Q16A Castle Valley 80.71 44 P **P** **22 36 48.9 +2.4**
Q16A IAmb IAmb 22 36 58.2
comp=Z,34nm,1.3s
M19K Big River Lodg 80.71 9 IAMs_20 IAMs_20 23 04 53.9
comp=Z,2µm,22.0s
M19K Big River Lodg 80.71 9 P **P** **22 36 45.7 0.0**
baz=198
D08A Wollman Farm, 80.72 34 P **P** **22 36 46.9 +0.9**
D08A IAmb IAmb 22 37 02.3
comp=Z,37nm,1.2s
RC01 Rabbit Creek A 80.72 11 P **P** **22 36 45.7 0.0**
RC01 IAmb IAmb 22 36 56.7
comp=Z,27nm,1.0s
RC01 IAMs_20 IAMs_20 23 06 15.2
comp=Z,1µm,20.0s
RC01 Rabbit Creek A 80.72 11 P **P** **22 36 46.2 +0.5**
baz=202,SNR=7.6
KAIM Kayak Island 80.78 14 P **P** **22 36 47.5 +1.5**

baz=208
PWL Port Wells 80.78 12 P **P** **22 36 46.5 +0.5**
PWL IAmb IAmb 22 36 47.4
comp=Z,34nm,0.9s
PWL IAMs_20 IAMs_20 23 06 49.8
comp=Z,2μm,20.0s
PWL Port Wells 80.78 12 P **P** **22 36 46.6 +0.5**
baz=204,SNR=9.7
E09A Wood Farm, Sta 80.80 35 P **P** **22 36 48.3 +1.8**
E09A IAmb IAmb 22 37 10.6
comp=Z,28nm,1.2s
TMUT Trail Mountain 80.89 44 P **P** **22 36 48.8 +1.3**
TMUT IAmb IAmb 22 36 51.4
comp=Z,30nm,0.9s
L19K White Mountain 80.91 9 P **P** **22 36 47.7 +0.9**
L19K White Mountain 80.91 9 P **P** **22 36 47.4 +0.6**
baz=198
F10A Beach Ranch, E 80.98 36 P **P** **22 36 48.2 +0.7**
F10A IAmb IAmb 22 36 53.4
comp=Z,21nm,0.8s
MPU Maple Canyon 80.99 43 P **P** **22 36 49.4 +1.5**
EYAK Cordova Ski Ar 81.03 13 P **P** **22 36 48.2 +0.9**
baz=206
MDJ Mudanjiang 81.04 322 IAMs_20 IAMs_20 23 06 02.0
comp=Z,2μm,22.0s
MDJ Mudanjiang 81.04 322 P **P** **22 36 48.4 +0.6**
MDJ pP sP 22 36 59.8 +1.9
MDJ S **S** **22 47 00.3 +4.7**
MDJ pmax pmax
comp=Z,21nm,2.3s
MDJ pmax pmax
comp=Z,380nm,3.7s
MDJ LR LR
comp=Z,650nm,22.8s
MDJ LR LR
comp=Z,980nm,22.4s
MDJ LR LR
comp=Z,2μm,21.8s
GLI Glacier Island 81.05 13 P **P** **22 36 48.0 +0.5**
GLI IAMs_20 IAMs_20 23 05 00.9
comp=Z,2μm,21.0s
GLI Glacier Island 81.05 13 P **P** **22 36 47.7 +0.3**
baz=205,SNR=14
NKL Nikolayevsk 81.05 334 *e*P **P** **22 36 45.7 -1.8**
NKL pmax pmax
comp=E,4.0nm,0.6s
NKL pmax pmax
comp=N,1.0nm,0.8s
NKL pmax pmax
comp=Z,37nm,1.3s
NKL MLR MLR
comp=N,2.0nm,12.0s
NKL MLR MLR
comp=E,24nm,15.0s
NKL MLR MLR
comp=Z,415nm,15.0s
PLID Pearl Lake 81.14 37 P **P** **22 36 49.4 +0.8**
Y22A Socorro 81.18 50 P **P** **22 36 51.7 +2.6**
baz=242
HLID Hailey 81.19 39 P **P** **22 36 49.9 +1.0**
HLID IAMs_20 IAMs_20 23 04 40.0
comp=Z,1μm,22.0s
HLID Hailey 81.19 39 P **P** **22 36 51.3 +2.4**
baz=235,SNR=33
HVU Hansel Valley 81.21 41 P **P** **22 36 49.2 +0.2**
HVU pmax pmax
comp=Z,11nm,0.9s
HVU Hansel Valley 81.21 41 P **P** **22 36 49.1 +0.2**
SRU San Rafael Swe 81.24 44 P **P** **22 36 50.4 +1.2**
SRU pmax pmax
comp=Z,17nm,1.0s
SRU San Rafael Swe 81.24 44 P **P** **22 36 50.4 +1.2**
KNK Knik Glacier 81.26 12 P **P** **22 36 49.6 +1.0**
KNK IAmb IAmb 22 36 50.2
comp=Z,23nm,0.8s
KNK IAMs_20 IAMs_20 23 05 54.6
comp=Z,1μm,21.0s
KNK Knik Glacier 81.26 12 P **P** **22 36 49.1 +0.5**
baz=204,SNR=8.2
M22K Willow 81.27 11 P **P** **22 36 49.1 +0.6**
M22K IAMs_20 IAMs_20 23 06 05.7
comp=Z,2μm,21.0s
M22K Willow 81.27 11 P **P** **22 36 49.1 +0.6**
baz=202,SNR=6.7
CTU Camp Tracy 81.27 42 P **P** **22 36 50.0 +0.7**
Y22D IRIS PASSCAL I 81.28 50 IAMs_20 IAMs_20 23 05 39.1
comp=Z,1μm,19.0s
P17A Butcher Ranch, 81.29 44 P **P** **22 36 50.5 +1.1**
PMR Palmer 81.30 11 P **P** **22 36 49.3 +0.6**
PMR pmax pmax
comp=Z,23nm,1.0s
PMR Palmer 81.30 11 P **P** **22 36 49.3 +0.6**
PMR IAmb IAmb 22 37 01.5
comp=Z,23nm,1.0s
PMR Palmer 81.30 11 P **P** **22 36 49.4 +0.6**
baz=203,SNR=7.3
B08A Colville Reser 81.31 33 P **P** **22 36 50.0 +0.8**
B08A IAmb IAmb 22 36 59.1
comp=Z,31nm,1.4s
MNTX Cornudas Mount 81.33 53 P **P** **22 36 51.1 +1.5**
MNTX IAmb IAmb 22 37 01.1
comp=Z,51nm,1.5s
MNTX IAMs_20 IAMs_20 23 04 55.8
comp=Z,2μm,21.0s
MNTX Cornudas Mount 81.33 53 P **P** **22 36 52.4 +2.7**
baz=243
MNTX Cornudas Mount 81.33 53 P **P** **22 36 52.5 +2.8**
baz=243
L20K Farewell, AK 81.34 9 P **P** **22 36 49.3 +0.3**
baz=198,SNR=6.5
UNM Universidad Na 81.34 67 IAMs_20 IAMs_20 23 03 44.8
comp=Z,2μm,22.0s
JLU Jordanelle 81.42 43 P **P** **22 36 50.7 +0.5**
TTA Tatalina 81.47 8 P **P** **22 36 51.1 +1.3**
TTA pmax pmax
comp=Z,53nm,1.4s
TTA Tatalina 81.47 8 P **P** **22 36 51.1 +1.3**
TTA IAmb IAmb 22 37 02.9
comp=Z,53nm,1.4s
TTA Tatalina 81.47 8 P **P** **22 36 51.0 +1.2**
baz=196,SNR=11
LLLB Lillooet 81.50 30 P **P** **22 36 51.2 +1.1**
LLLB IAmb IAmb 22 37 03.1
comp=Z,37nm,1.2s
GHO Glory Hole Cre 81.50 11 P **P** **22 36 49.0 -1.0**
GHO IAmb IAmb 22 36 51.5
comp=Z,33nm,0.8s
C09A Chrisman Ranch 81.52 34 P **P** **22 36 50.5 +0.2**
C09A IAmb IAmb 22 36 55.8
comp=Z,32nm,1.2s
BNM Barren Site 81.53 50 P **P** **22 36 51.7 +0.8**
DIV Divide 81.55 13 P **P** **22 36 49.8 -0.4**
DIV IAmb IAmb 22 36 51.8
comp=Z,44nm,0.9s
WAX Waxell Ridge 81.61 15 P **P** **22 36 51.2 +0.7**
WAX IAmb IAmb 22 37 03.3
comp=Z,32nm,1.0s
TX31 Lajitas Ar. Si 81.62 56 P **P** **22 36 54.3 +3.0**
baz=244
TX32 Lajitas Array 81.62 56 IAmb IAmb 22 37 09.1
comp=Z,56nm,1.4s
TXAR Lajitas Array 81.62 56 P **P** **22 36 53.4 +2.0**
comp=Z,12nm,1.1s,baz=220,slow=5.7,SNR=42
TXAR LR LR 23 05 17.9
comp=Z,1μm,21.2s,baz=246,slow=30
TXAR Lajitas Array 81.62 56 P **P** **22 36 52.8 +1.5**
TXAR Lajitas Array 81.62 56 P **P** **22 36 52.8 +1.5**
SML Sawmill 81.65 12 IAMs_20 IAMs_20 23 06 07.8
comp=Z,1μm,21.0s
SML Sawmill 81.65 12 P **P** **22 36 51.2 +0.5**
baz=204
BMRM Bremner River 81.66 14 IAMs_20 IAMs_20 23 06 21.3
comp=Z,2μm,20.0s
BMRM Bremner River 81.66 14 P **P** **22 36 51.8 +1.1**
baz=207,SNR=8.7
MVCO Mesa Verde 81.66 47 P **P** **22 36 51.7 +0.1**
MVCO IAMs_20 IAMs_20 23 04 37.3
comp=Z,1μm,22.0s
MVCO Mesa Verde 81.66 47 P **P** **22 36 53.9 +2.3**
baz=240
BELA Belgrano 2 81.68 172 P **P** **22 36 50.1 -0.6**
BELA IAmb IAmb 22 36 53.2
comp=Z,28nm,1.2s
SUJ Sinuiju 81.71 317 P **P** **22 36 50.6 -0.8**
SUJ sP **PcP** **22 36 57.4 +0.2**
SUJ S **S** **22 46 59.6 -3.0**
SUJ AmB
comp=Z,50nm,1.1s
SUJ AMS AMS
comp=N,24nm,2.1s
SUJ AMS AMS
comp=E,22nm,1.9s
SUJ AMS AMS
comp=Z,13nm,1.1s
M23K Glacier View 81.75 12 P **P** **22 36 51.6 +0.4**
baz=204
NJ2 Nanjing 81.81 307 *e*P **P** **22 36 54.3 +2.2**
NJ2 pmax pmax
comp=Z,15nm,1.2s
NJ2 pmax pmax
comp=Z,760nm,11.3s
NJ2 LR LR
comp=Z,530nm,19.4s
NJ2 LR LR
comp=Z,730nm,18.5s
NJ2 LR LR
comp=Z,1μm,19.9s
PNL Peninsula 81.82 17 P **P** **22 36 53.0 +1.4**
baz=212
KLU Klutina 81.85 13 IAmb IAmb 22 37 13.2
comp=Z,26nm,1.1s
KLU IAMs_20 IAMs_20 23 06 30.1
comp=Z,2μm,20.0s
KLU Klutina 81.85 13 P **P** **22 36 53.1 +1.3**
baz=206,SNR=6.0
CUT Chulitna 81.85 10 P **P** **22 36 52.2 +0.6**
baz=202,SNR=5.4
SCM Sheep Creek Mo 81.87 12 IAmb IAmb 22 36 53.5
comp=Z,41nm,0.9s
SCM IAMs_20 IAMs_20 23 06 31.6
comp=Z,1μm,20.0s
SCM Sheep Creek Mo 81.87 12 P **P** **22 36 52.4 +0.5**
baz=205,SNR=14
PV10 Paradox Valley 81.87 46 IAmb IAmb 22 36 58.5
comp=Z,21nm,0.9s
HWUT Hardware Ranch 81.88 42 IAMs_20 IAMs_20 23 05 23.9
comp=Z,2μm,22.0s
TGL Tana Glacier 81.88 14 IAmb IAmb 22 36 54.0
comp=Z,44nm,1.1s
PV13 Radium Mtn., P 81.91 46 IAmb IAmb 22 37 08.2
comp=Z,30nm,1.2s
PV23 Carpenter Ridg 81.93 45 IAmb IAmb 22 36 56.5
comp=Z,33nm,0.9s
PMSA Palmer Station 81.95 156 LR LR 23 04 56.5
comp=Z,1μm,21.3s,baz=244,slow=30
TABL Table Mountain 82.02 15 IAmb IAmb 22 37 05.4
comp=Z,35nm,1.0s
ANMO Albuquerque 82.03 50 LR LR 23 05 53.3
comp=Z,2μm,21.2s,baz=241,slow=30
ANMO Albuquerque 82.03 50 P **P** **22 36 54.5 +1.0**
ANMO pmax pmax
comp=Z,35nm,1.4s
ANMO MLR MLR
comp=Z,2μm,20.0s
ANMO Albuquerque 82.03 50 P **P** **22 36 54.5 +1.0**
ANMO IAmb IAmb 22 37 06.9
comp=Z,35nm,1.4s
ANMO Albuquerque 82.03 50 IAMs_20 IAMs_20 23 06 02.9
comp=Z,2μm,20.0s
ANMO Albuquerque 82.03 50 P **P** **22 36 56.0 +2.5**
baz=242
ANMO Albuquerque 82.03 50 P **P** **22 36 56.2 +2.7**
baz=242
GRNC Granite Creek 82.12 15 IAmb IAmb 22 37 05.9
comp=Z,36nm,1.0s
K20K Telida 82.15 9 IAmb IAmb 22 37 06.5
comp=Z,34nm,1.2s
K20K Telida 82.15 9 P **P** **22 36 54.8 +1.5**
baz=198,SNR=7.9
VRDI Verde Repeater 82.15 14 IAmb IAmb 22 37 13.5
comp=Z,42nm,1.3s
VRDI IAMs_20 IAMs_20 23 06 56.3
comp=Z,1μm,20.0s
ANM Nome 82.22 3 P **P** **22 36 55.1 +1.6**
baz=187
N25K Chitina, Valde 82.23 13 IAmb IAmb 22 36 55.7
comp=Z,21nm,0.9s
N25K IAMs_20 IAMs_20 23 05 38.4
comp=Z,2μm,22.0s
N25K Chitina, Valde 82.23 13 P **P** **22 36 54.6 +0.8**
baz=207,SNR=8.8
GLB Gilahina Butte 82.26 14 IAMs_20 IAMs_20 23 06 59.1
comp=Z,1μm,20.0s
M24K Tolsona, Glenn 82.35 12 IAMs_20 IAMs_20 23 06 36.4
comp=Z,2μm,19.0s
M24K Tolsona, Glenn 82.35 12 P **P** **22 36 55.9 +1.5**
baz=206,SNR=6.6
LOGN Logan Glacier 82.39 15 IAmb IAmb 22 37 07.2
comp=Z,42nm,1.1s
MCARA McCarthy VSAT 82.39 14 IAmb IAmb 22 37 06.9
comp=Z,34nm,1.1s
MCARA IAMs_20 IAMs_20 23 04 54.6
comp=Z,1μm,20.0s
MCARA McCarthy VSAT 82.39 14 P **P** **22 36 55.6 +1.1**
baz=209,SNR=5.1
NEW Newport 82.42 34 LR LR 23 06 17.1
comp=Z,2μm,20.9s,baz=222,slow=30
NEW Newport 82.42 34 IAMs_20 IAMs_20 23 06 57.9
comp=Z,2μm,20.0s
NEW Newport 82.42 34 P **P** **22 36 56.1 +1.1**
baz=233
CTG Chitna Glacier 82.43 15 P **P** **22 36 56.1 +1.2**
baz=210,SNR=6.4
CTGM Chitina Glacie 82.43 15 IAmb IAmb 22 37 07.4
comp=Z,33nm,1.0s
CTGM IAMs_20 IAMs_20 23 05 39.6
comp=Z,2μm,22.0s
BARN Barnard Glacie 82.43 15 IAmb IAmb 22 37 07.6
comp=Z,39nm,1.0s
BARN IAMs_20 IAMs_20 23 05 28.7
comp=Z,2μm,22.0s
MA2 Magadan 82.45 342 P **P** **22 36 54.3 -0.5**
comp=Z,6.1nm,0.3s,baz=165,slow=9.4,SNR=7.3
MA2 LR LR 23 10 48.5
comp=Z,688nm,19.4s,baz=149,slow=34
MA2 Magadan 82.45 342 *ce*P **P** **22 36 54.2 -0.6**
MA2 pmax pmax
comp=Z,21nm,1.0s
MA2 Magadan 82.45 342 P **P** **22 36 54.3 -0.5**
WAT6 Susitna Watana 82.47 12 P **P** **22 36 55.8 +0.6**
baz=204,SNR=11
CAST Castle Rocks 82.50 9 IAMs_20 IAMs_20 23 08 07.2
comp=Z,2μm,20.0s
CAST Castle Rocks 82.50 9 P **P** **22 36 54.3 -0.7**
baz=200,SNR=9.0
WAT1 Susitna Watana 82.55 11 P **P** **22 36 55.6 +0.3**
baz=203
DSRI Dabo 82.58 272 P **P** **22 36 55.8 -0.8**
comp=Z,18nm,1.1s
KLR Kul'dur 82.62 327 P **P** **22 36 55.4 -0.6**
comp=Z,4.0nm,1.0s,baz=123,slow=4.6,SNR=8.0
KLR S **S** **22 47 14.2 +2.5**
comp=Z,0.2nm,0.3s,baz=164,slow=23,SNR=1.2
KLR LR LR 23 08 23.5
comp=Z,1μm,21.6s,baz=136,slow=32
KLR Kul'dur 82.62 327 *ce*P **P** **22 36 55.6 -0.4**
KLR pmax pmax
comp=Z,17nm,1.7s
RDMU Red Mountain 82.62 43 IAmb IAmb 22 37 12.2
comp=Z,26nm,1.4s
AHID Auburn Hatcher 82.78 41 IAmb IAmb 22 37 13.1
comp=Z,44nm,1.4s
AHID IAMs_20 IAMs_20 23 06 23.8
comp=Z,1μm,20.0s
SKAG Skagway 82.81 18 P **P** **22 36 57.9 +1.2**
baz=216
KTH Kantishna Hill 82.81 10 IAmb IAmb 22 37 08.3
comp=Z,30nm,1.2s
TRF Thorofare Moun 82.82 10 IAmb IAmb 22 36 59.2
comp=Z,24nm,0.8s
TRF Thorofare Moun 82.82 10 P **P** **22 36 57.2 +0.2**
baz=202,SNR=19
CHUM Lake Minchumin 82.90 9 P **P** **22 36 57.2 +0.1**
baz=200,SNR=11
J20K Nowinta River 82.92 8 IAMs_20 IAMs_20 23 06 56.2
comp=Z,1μm,21.0s
J20K Nowinta River 82.92 8 P **P** **22 36 58.5 +1.3**
baz=198,SNR=15
BNX BinXian 82.95 323 ⇓P **P** **22 36 57.8 0.0**
BNX pP **PcP** **22 37 02.3 -0.2**
BNX sP **pP** **22 37 04.9 -0.4**
BNX PP **PP** **22 40 11.8 +2.9**
BNX S **S** **22 47 15.8 +0.6**
BNX sS **pS** **22 47 24.0 -0.6**
BNX pmax pmax
comp=Z,36nm,0.8s
BNX pmax pmax
comp=Z,820nm,5.9s
BNX LR LR
comp=Z,1μm,20.5s
BNX LR LR
comp=Z,2μm,19.7s
BNX LR LR
comp=Z,4μm,20.7s
DHY Denali Highway 82.99 11 IAmb IAmb 22 37 09.3
comp=Z,18nm,1.0s
DHY Denali Highway 82.99 11 P **P** **22 36 58.4 +0.6**
baz=205,SNR=6.8
DL2 Dalian 83.02 314 P **P** **22 36 58.0 -0.3**
DL2 sP **sP** **22 37 11.3 +2.9**
DL2 S **S** **22 47 17.0 +0.8**
DL2 pmax pmax
comp=Z,290nm,5.1s
DL2 LR LR
comp=Z,510nm,18.8s
DL2 LR LR
comp=Z,590nm,18.3s
DL2 LR LR
comp=Z,740nm,19.4s
CN2 Changchun 83.06 320 *e*P **P** **22 36 58.3 -0.1**
CN2 S **S** **22 47 16.8 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,400nm,11.0s
CN2 LR LR
comp=Z,500nm,24.0s
CN2 LR LR
comp=Z,500nm,24.0s
CN2 LR LR
comp=Z,800nm,23.4s
S22A 4UR Ranch, Cre 83.08 47 P **P** **22 37 02.0 +3.0**
baz=241
TNA Tin City 83.10 2 P **P** **22 36 59.5 +1.4**
baz=185
GCSA Galena City Sc 83.12 7 P **P** **22 36 59.8 +1.6**
baz=196
YUK6 Outpost Mounta 83.17 16 P **P** **22 37 00.0 +1.1**
baz=213
SNY Shenyang 83.19 318 ⇓P **P** **22 36 59.8 +0.7**
SNY PP **PP** **22 40 16.6 +5.7**
SNY S **S** **22 47 20.9 +3.1**
SNY SS **SS** **22 52 47.8 +4.8**
SNY pmax pmax
comp=Z,26nm,1.0s
SNY LR LR
comp=Z,240nm,14.9s
SNY LR LR
comp=Z,500nm,20.1s
SNY LR LR
comp=Z,870nm,20.1s
REDW Red Top Meadow 83.25 41 IAmb IAmb 22 37 06.3
comp=Z,40nm,1.2s
REDW IAMs_20 IAMs_20 23 06 49.1
comp=Z,2μm,21.0s
TPAW Teton Pass 83.26 40 IAmb IAmb 22 37 06.4
comp=Z,23nm,0.9s
TPAW IAMs_20 IAMs_20 23 06 38.3
comp=Z,1μm,22.0s
PAX Paxson 83.27 12 P **P** **22 36 59.5 +0.4**
baz=206,SNR=7.5
DLMT Dillon 83.28 38 IAmb IAmb 22 37 10.6
comp=Z,51nm,1.4s
O20A White River Ci 83.28 44 IAmb IAmb 22 37 06.0
comp=Z,36nm,1.3s
O20A White River Ci 83.28 44 P **P** **22 37 01.9 +2.0**
baz=240
M26K Nabesna, AK 83.29 14 IAMs_20 IAMs_20 23 06 56.4
comp=Z,1μm,20.0s
M26K Nabesna, AK 83.29 14 P **P** **22 37 00.5 +1.2**
baz=209,SNR=19
HYT Haines Junctio 83.31 17 P **P** **22 37 00.9 +1.5**
baz=214,SNR=8.4
BPAW Bear Paw Mtn. 83.31 10 P **P** **22 36 58.2 -1.1**
BPAW IAMs_20 IAMs_20 23 07 31.6
comp=Z,2μm,21.0s
BPAW Bear Paw Mtn. 83.31 10 P **P** **22 36 58.9 -0.4**
baz=201,SNR=6.1
MCK McKinley 83.31 11 P **P** **22 36 59.8 +0.5**
baz=203,SNR=31
MSO Missoula 83.32 36 IAmb IAmb 22 37 09.8
comp=Z,41nm,1.4s
MSO Missoula 83.32 36 P **P** **22 37 01.1 +1.2**
baz=235,SNR=9.6
YUK3 Moose Creek 83.34 15 P **P** **22 37 00.8 +1.0**
baz=211,SNR=13
SNOW Snow King Moun 83.37 40 IAmb IAmb 22 37 03.6
comp=Z,25nm,0.9s
SNOW IAMs_20 IAMs_20 23 07 15.1
comp=Z,1μm,20.0s
YUK4 Talbot Arm 83.44 16 P **P** **22 37 01.8 +1.5**
baz=213
M27K Edge Creek, AK 83.51 14 IAMs_20 IAMs_20 23 07 10.2
comp=Z,1μm,20.0s
M27K Edge Creek, AK 83.51 14 P **P** **22 37 02.1 +1.6**
baz=210,SNR=19
MOOW Moose Ponds 83.52 40 IAmb IAmb 22 37 21.0
comp=Z,25nm,1.4s
MOOW IAMs_20 IAMs_20 23 05 31.2
comp=Z,1μm,22.0s
LOHW Long Hollow 83.54 40 IAmb IAmb 22 37 16.9
comp=Z,44nm,1.4s
MENT Mentasta 83.61 13 IAmb IAmb 22 37 13.7
comp=Z,34nm,1.4s
H03S2 Juan Fernandez 83.66 123 T T 00 10 12.0
baz=250
SMCO Snowmass 83.67 46 IAmb IAmb 22 37 09.2
comp=Z,27nm,1.2s
SMCO IAMs_20 IAMs_20 23 07 35.4
comp=Z,2μm,21.0s
H03S1 Juan Fernandez 83.68 123 T T 00 09 54.5
baz=250
H03S3 Juan Fernandez 83.68 123 T T 00 09 30.8
baz=250
GO08 Villa O'Higgin 83.69 139 IAmb IAmb 22 37 21.8
comp=Z,25nm,1.4s
DLBC Dease Lake 83.71 21 P **P** **22 37 01.7 +0.2**
comp=Z,6.2nm,0.7s,baz=246,slow=4.4,SNR=9.4
DLBC LR LR 23 07 19.5
comp=Z,912nm,20.8s,baz=241,slow=31
DLBC Dease Lake 83.71 21 IAmb IAmb 22 37 14.8
comp=Z,23nm,1.1s
BW06 Boulder Array 83.75 42 IAmb IAmb 22 37 04.8
comp=Z,18nm,1.0s
BW06 IAMs_20 IAMs_20 23 06 33.5
comp=Z,2μm,22.0s
BW06 Boulder Array 83.75 42 P **P** **22 37 03.6 +1.3**
baz=239
PD31 Pinedale Array 83.75 42 IAmb IAmb 22 37 04.8
comp=Z,16nm,0.9s
PDAR Pinedale Array 83.75 42 P **P** **22 37 03.7 +1.4**
comp=Z,11nm,0.8s,baz=215,slow=3.4,SNR=89
PDAR PP **PP** **22 40 12.9 -2.9**
comp=Z,1.3nm,1.1s,baz=234,slow=5.0,SNR=4.0
PDAR PKKPbc **PKKPbc** **22 55 19.1 -1.6**
comp=Z,0.4nm,0.8s,baz=48,slow=2.2,SNR=3.8
PDAR LR LR 23 06 45.7
comp=Z,1μm,22.0s,baz=247,slow=30
PDAR Pinedale Array 83.75 42 P **P** **22 37 03.6 +1.3**
YPP Pitchstone Pla 83.76 40 IAmb IAmb 22 37 08.9
comp=Z,22nm,1.4s
L26K Log Cabin Wild 83.77 13 IAmb IAmb 22 37 22.7
comp=Z,26nm,1.1s
L26K IAMs_20 IAMs_20 23 07 40.9
comp=Z,2μm,20.0s
L26K Log Cabin Wild 83.77 13 P **P** **22 37 03.0 +1.4**
baz=208,SNR=8.5
H03N2 Juan Fernandez 83.77 123 T T 00 09 55.7
baz=257,slow=72,SNR=8.6
H03N3 Juan Fernandez 83.77 123 T T 00 10 23.0
baz=257,slow=72,SNR=8.6
H03N1 Juan Fernandez 83.79 123 T T 00 10 06.7
baz=257,slow=72,SNR=7.5
BVCY Beaver Creek 83.80 14 P **P** **22 37 03.0 +1.2**
baz=211,SNR=11
YFT Old Faithful 83.84 40 IAmb IAmb 22 37 21.0
comp=Z,46nm,1.5s
USHA Ushuaia 83.84 146 LR LR 23 05 24.1
comp=Z,2μm,21.9s,baz=244,slow=29
WHY Whitehorse 83.91 18 IAmb IAmb 22 37 15.6
comp=Z,27nm,1.1s
WHY Whitehorse 83.91 18 P **P** **22 37 03.8 +1.2**

baz=216,SNR=8.1
K24K Donnelly Dome 83.96 12 P **P** **22 37 03.9 +1.3**
baz=206,SNR=11
H17A Grant Village 83.97 40 P **P** **22 37 06.9 +3.5**
baz=238,SNR=12
BOZ Bozeman (W) 83.98 38 IAmb IAmb 22 37 19.0
comp=Z,24nm,1.1s
BOZ IAMs_20 IAMs_20 23 08 17.6
comp=Z,2µm,20.0s
BOZ Bozeman (W) 83.98 38 P **P** **22 37 05.2 +1.9**
baz=237,SNR=28
SDCO Great Sand Dun 84.01 47 P **P** **22 37 04.4 +0.5**
baz=242
QIZ Qiongzhong 84.07 292 P **P** **22 37 03.6 -0.6**
QIZ PP **PP** **22 40 19.3 +0.7**
QIZ S **S** **22 47 33.3 +5.7**
QIZ SS **SS** **22 53 01.4 +4.5**
QIZ pmax pmax
comp=Z,490nm,13.1s
QIZ LR LR
comp=Z,490nm,20.7s
QIZ LR LR
comp=Z,780nm,20.7s
QIZ LR LR
comp=Z,970nm,19.1s
NEA2 Nenana 84.08 10 IAmb IAmb 22 37 05.1
comp=Z,20nm,1.0s
NEA2 Nenana 84.08 10 P **P** **22 37 03.2 0.0**
baz=203,SNR=17
RIDG Independent Ri 84.09 12 IAMs_20 IAMs_20 23 07 53.3
comp=Z,2µm,20.0s
RIDG Independent Ri 84.09 12 P **P** **22 37 04.2 +0.9**
baz=207,SNR=12
L27K Beaver Creek, 84.13 14 IAMs_20 IAMs_20 23 06 37.6
comp=Z,2µm,22.0s
L27K Beaver Creek, 84.13 14 P **P** **22 37 04.9 +1.3**
baz=210,SNR=12
WRH Wood River Hil 84.14 11 IAMs_20 IAMs_20 23 07 02.6
comp=Z,2µm,22.0s
DOT Dot Lake 84.17 13 IAmb IAmb 22 37 05.5
comp=Z,26nm,0.9s
I21K Tanana 84.17 9 P **P** **22 37 04.4 +0.8**
baz=200,SNR=11
MSTX Muleshoe 84.31 52 P **P** **22 37 07.6 +2.5**
baz=244
MSTX Muleshoe 84.31 52 P **P** **22 37 07.7 +2.5**
baz=244
N31M Braeburn, Yuko 84.33 17 P **P** **22 37 06.2 +1.7**
baz=215,SNR=5.8
CMIG Matias Romero 84.34 70 LR LR 23 06 10.4
comp=Z,2µm,20.3s,baz=244,slow=30
SCRK Sand Creek 84.47 12 IAmb IAmb 22 37 08.1
comp=Z,15nm,0.8s
SCRK IAMs_20 IAMs_20 23 07 43.5
comp=Z,2µm,19.0s
SCRK Sand Creek 84.47 12 P **P** **22 37 06.2 +0.8**
baz=206,SNR=16
T25A Trinidad 84.51 48 P **P** **22 37 08.4 +2.1**
baz=243
H21K Melozitna Rive 84.51 8 IAMs_20 IAMs_20 23 07 00.2
comp=Z,2µm,22.0s
H21K Melozitna Rive 84.51 8 P **P** **22 37 06.7 +1.4**
baz=199,SNR=22
TCOL CIGO, UAF Yank 84.55 11 P **P** **22 37 06.4 +0.9**
baz=204,SNR=22
I23K Minto, Yukon-K 84.55 10 P **P** **22 37 06.2 +0.7**
baz=203,SNR=20
COLA College 84.55 11 *c i* P **P** **22 37 06.0 +0.5**
COLA pmax pmax
comp=Z,89nm,1.0s
COLA College 84.55 11 P **P** **22 37 06.0 +0.5**
WALA Waterton Lakes 84.61 35 IAmb IAmb 22 37 21.5
comp=Z,20nm,1.1s
833A Chaparral WMA, 84.62 58 IAmb IAmb 22 37 27.6
comp=Z,23nm,1.1s
833A Chaparral WMA, 84.62 58 P **P** **22 37 09.5 +2.7**
baz=247
ILAR Eielson Array 84.63 11 P **P** **22 37 06.2 +0.2**
comp=Z,7.8nm,0.8s,baz=233,slow=5.8,SNR=50
ILAR PP **PP** **22 40 19.2 -2.9**
comp=Z,1.2nm,0.9s,baz=224,slow=6.8,SNR=4.7
ILAR LR LR 23 10 34.2
comp=Z,264nm,18.1s,baz=208,slow=33
ILAR Eielson Array 84.63 11 P **P** **22 37 06.3 +0.3**
ILAR Eielson Array 84.63 11 P **P** **22 37 06.3 +0.3**
WHN Wuhan 84.66 304 ⇑P **P** **22 37 06.6 -0.3**
WHN S **S** **22 47 33.6 +0.6**
WHN pmax pmax
comp=Z,830nm,5.6s
WHN LR LR
comp=Z,2µm,16.8s
WHN LR LR
comp=Z,630nm,11.1s
WHN LR LR
comp=Z,2µm,20.1s
J25K Salcha River, 84.77 12 P **P** **22 37 07.8 +1.1**
baz=206,SNR=24
SEY Seymchan 84.82 345 P **P** **22 37 06.5 -0.4**
comp=Z,23nm,0.8s,baz=142,slow=5.5,SNR=75
SEY LR LR 23 11 02.7
comp=Z,1µm,20.0s,baz=152,slow=33
SEY Seymchan 84.82 345 *c e* P **P** **22 37 06.8 -0.1**
SEY pmax pmax
comp=Z,34nm,0.8s
Q24A Divide 84.82 46 IAmb IAmb 22 37 24.1
comp=Z,21nm,1.1s
Q24A Divide 84.82 46 P **P** **22 37 10.8 +2.9**
baz=242
POKR Poker Plat Res 84.85 11 IAMs_20 IAMs_20 23 08 29.3
comp=Z,2µm,21.0s
POKR Poker Plat Res 84.85 11 P **P** **22 37 07.4 +0.3**
baz=204,SNR=19
CNSH ChangSha 84.85 302 ⇑P **P** **22 37 06.0 -1.9**
CNSH S **S** **22 47 32.0 -3.0**
CNSH LR LR
comp=Z,580nm,20.3s
CNSH LR LR
comp=Z,490nm,17.2s
CNSH LR LR
comp=Z,800nm,21.2s
ISCO Idaho Springs 84.89 46 P **P** **22 37 08.5 +0.2**
ISCO pmax pmax
comp=Z,6.0nm,1.2s
ISCO MLR MLR
comp=Z,1µm,19.0s
ISCO Idaho Springs 84.89 46 P **P** **22 37 08.4 +0.2**
ISCO Idaho Springs 84.89 46 P **P** **22 37 10.9 +2.6**
baz=242
ISCO Idaho Springs 84.89 46 P **P** **22 37 10.3 +2.0**
baz=242
TIA Tai'an 84.94 310 *e* P **P** **22 37 07.0 -1.2**
TIA SKS **S** **22 47 33.5 -2.2**
TIA pmax pmax
comp=Z,5.0nm,0.4s
TIA pmax pmax
comp=Z,520nm,6.5s
TIA LR LR
comp=Z,450nm,21.0s
TIA LR LR
comp=Z,760nm,18.0s
TIA LR LR
comp=Z,930nm,18.5s
M30M Minto, Yukon 84.95 16 IAmb IAmb 22 37 20.3
comp=Z,22nm,1.0s
M30M IAMs_20 IAMs_20 23 08 35.4
comp=Z,2µm,20.0s
M30M Minto, Yukon 84.95 16 P **P** **22 37 08.8 +1.1**
baz=214,SNR=11
COYC Coyhaique 84.97 136 IAmb IAmb 22 37 38.9
comp=Z,38nm,1.4s
J26L Joseph Creek 85.03 12 P **P** **22 37 09.9 +1.9**
baz=208,SNR=35
RLMT Red Lodge 85.14 40 IAmb IAmb 22 37 19.4
comp=Z,20nm,1.2s
RLMT IAMs_20 IAMs_20 23 06 39.9
comp=Z,2µm,21.0s
RLMT Red Lodge 85.14 40 P **P** **22 37 11.5 +2.2**
baz=239
H23K Yukon River 85.15 9 IAMs_20 IAMs_20 23 08 51.2
comp=Z,2µm,21.0s
H23K Yukon River 85.15 9 P **P** **22 37 09.0 +0.5**
baz=202,SNR=7.6
N23A Red Feather La 85.18 44 IAmb IAmb 22 37 20.4
comp=Z,18nm,1.1s
N23A Red Feather La 85.18 44 P **P** **22 37 11.7 +2.1**
baz=242
M31M Drury Creek, Y 85.30 17 IAmb IAmb 22 37 21.7
comp=Z,14nm,0.9s
M31M IAMs_20 IAMs_20 23 06 35.6
comp=Z,2µm,21.0s
M31M Drury Creek, Y 85.30 17 P **P** **22 37 10.2 +0.8**
baz=217,SNR=8.2
H24K Noodor Dome 85.43 10 P **P** **22 37 09.3 -0.7**
H24K Noodor Dome 85.43 10 P **P** **22 37 09.7 -0.4**
baz=204,SNR=6.8
AMTX Amarillo 85.51 51 IAMs_20 IAMs_20 23 06 58.3
comp=Z,2µm,22.0s
AMTX Amarillo 85.51 51 P **P** **22 37 13.6 +2.4**
baz=245
AMTX Amarillo 85.51 51 P **P** **22 37 13.6 +2.4**
baz=245
DAWY Dawson 85.56 14 P **P** **22 37 12.0 +1.3**
baz=212,SNR=32
FARO Faro, Yukon 85.61 17 P **P** **22 37 11.8 +0.8**
baz=218,SNR=6.8
K22A Casper 85.64 43 P **P** **22 37 13.3 +1.5**
baz=241
K22A Casper 85.64 43 P **P** **22 37 13.5 +1.8**
baz=241
MAW Mawson 85.73 199 P **P** **22 37 13.2 +1.5**
comp=Z,16nm,0.8s,baz=140,slow=9.1,SNR=14
MAW LR LR 23 12 22.5
comp=Z,2µm,21.2s,baz=118,slow=34
MAW Mawson 85.73 199 P **P** **22 37 13.1 +1.5**
baz=86,SNR=11
MAW Mawson 85.73 199 P **P** **22 37 12.2 +0.6**
MAW pmax pmax
comp=Z,7.0nm,1.1s
MAW Mawson 85.73 199 P **P** **22 37 12.2 +0.6**
EGAK Eagle 85.77 13 IAMs_20 IAMs_20 23 07 50.9
comp=Z,2µm,21.0s
EGAK Eagle 85.77 13 P **P** **22 37 13.0 +1.3**
baz=210,SNR=20
RDOG Red Dog Mine 85.83 4 IAmb IAmb 22 37 13.3
comp=Z,24nm,0.8s
RDOG Red Dog Mine 85.83 4 P **P** **22 37 12.4 +0.5**
baz=190
GULI GuiLin 85.88 298 ⇓P **P** **22 37 14.4 +1.3**
GULI pmax pmax
comp=Z,20nm,1.1s
GULI LR LR
comp=Z,320nm,27.1s
GULI LR LR
comp=Z,640nm,26.0s
GULI LR LR
comp=Z,940nm,23.9s
LL02 Futaleuf 85.95 134 IAmb IAmb 22 37 18.2
comp=Z,17nm,1.1s
ABTX Abilene, Hawle 86.13 54 P **P** **22 37 16.4 +2.2**
baz=246
ABTX Abilene, Hawle 86.13 54 P **P** **22 37 16.8 +2.5**
baz=246
J29M Klondike Camp 86.16 14 P **P** **22 37 15.5 +1.8**
baz=213,SNR=5.8
LL04 Puerto Octay 86.35 132 IAmb IAmb 22 37 19.2
comp=Z,40nm,1.4s
COLD Coldfoot 86.35 9 IAmb IAmb 22 37 27.9
comp=Z,33nm,1.2s
COLD Coldfoot 86.35 9 P **P** **22 37 16.1 +1.6**
baz=202,SNR=20
EGMT Eagleton 86.36 37 IAmb IAmb 22 37 25.5
comp=Z,37nm,1.5s
EGMT Eagleton 86.36 37 P **P** **22 37 17.0 +1.9**
baz=236
MMPY Sheldon Lake, 86.52 18 P **P** **22 37 17.3 +1.8**
baz=220,SNR=10
CCIG Comitan 86.54 72 IAmb IAmb 22 37 30.1
comp=Z,28nm,1.3s
TGTN Hyland Airport 86.62 20 P **P** **22 37 17.9 +1.9**
baz=222,SNR=5.9
BILL Bilibino 86.82 352 *d i* P **P** **22 37 16.3 -0.5**
BILL *e* 22 40 37.7
BILL *i* S **S** **22 47 48.6 -4.1**
BILL *i* SS **SS** **22 53 39.7 +4.2**
BILL pmax pmax
comp=Z,58nm,1.3s
BILL Bilibino 86.82 352 P **P** **22 37 17.4 +0.6**
I29M Ogilvie Camp, 86.91 14 IAMs_20 IAMs_20 23 09 05.9
comp=Z,2µm,21.0s
I29M Ogilvie Camp, 86.91 14 P **P** **22 37 18.1 +0.8**
baz=213,SNR=16
435B Jarrell 87.02 57 IAMs_20 IAMs_20 23 07 43.7
comp=Z,2µm,22.0s
435B Jarl 87.02 57 P **P** **22 37 21.5 +2.9**
baz=247
HNS HongShan 87.20 311 ⇑P **P** **22 37 19.3 0.0**
HNS SKS **SKSac** **22 47 47.1 +1.9**
HNS S **S** **22 47 56.8 -0.8**
HNS pmax pmax
comp=Z,16nm,1.0s
HNS pmax pmax
comp=Z,400nm,5.7s
HNS LR LR
comp=Z,550nm,21.0s
HNS LR LR
comp=Z,890nm,20.4s
HNS LR LR
comp=Z,1µm,22.0s
BJT Baijiatuau 87.28 313 IAmb IAmb 22 37 31.5
comp=Z,34nm,1.4s
BJI Beijing 87.29 313 P **P** **22 37 20.4 +0.8**
BJI S **S** **22 48 02.1 +3.8**
BJI pmax pmax
comp=Z,20nm,2.2s
BJI LR LR
comp=Z,490nm,19.2s
BJI LR LR
comp=Z,430nm,19.3s
BJI LR LR
comp=Z,850nm,19.2s
LC01 Cunco 87.43 130 P **P** **22 37 21.1 +0.5**
IPM Ipoh 87.47 275 P **P** **22 37 20.4 -0.8**
IPM IAmb IAmb 22 37 34.2
comp=Z,26nm,1.3s
ZEA Zeya 87.56 329 *e* P **P** **22 37 21.4 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,2.0s
ZEA pmax pmax
comp=Z,300nm,5.5s
WMOK Wichita Mounta 87.63 53 IAMs_20 IAMs_20 23 09 40.4
comp=Z,2µm,21.0s
LYN LuoYang 87.71 307 ⇑ *i* P **P** **22 37 22.1 +0.2**
LYN SKS **SKSac** **22 47 48.9 +0.4**
LYN S **ScS** **22 48 06.0 -3.3**
LYN pmax pmax
comp=Z,20nm,0.9s
LYN pmax pmax
comp=Z,590nm,5.4s
LYN LR LR
comp=Z,880nm,18.8s
LYN LR LR
comp=Z,950nm,19.0s
LYN LR LR
comp=Z,2µm,19.4s
PLCA Paso Flores 87.73 132 P **P** **22 37 25.1 +3.0**
comp=Z,6.4nm,1.1s,baz=218,slow=2.5,SNR=5.0
PLCA LR LR 23 08 54.6
comp=Z,1µm,20.7s,baz=276,slow=30
TOLK Toolik Lake Re 87.76 8 IAmb IAmb 22 37 34.3
comp=Z,21nm,1.3s
TOLK Toolik Lake Re 87.76 8 P **P** **22 37 21.9 +0.5**
baz=202
LAO LASA Array 87.77 39 IAMs_20 IAMs_20 23 08 55.3
comp=Z,2µm,22.0s
RSSD Black Hills 87.93 42 P **P** **22 37 23.5 +0.5**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD MLR MLR
comp=Z,1µm,21.0s
RSSD Black Hills 87.93 42 P **P** **22 37 23.5 +0.5**
RSSD IAmb IAmb 22 37 44.0
comp=Z,9.9nm,0.9s
RSSD Black Hills 87.93 42 IAMs_20 IAMs_20 23 10 07.1
comp=Z,1µm,21.0s
RSSD Black Hills 87.93 42 P **P** **22 37 24.1 +1.1**
baz=243
RSSD Black Hills 87.93 42 P **P** **22 37 24.1 +1.1**
baz=243
HKT Hockley 88.11 58 P **P** **22 37 25.1 +1.3**
HKT pmax pmax
comp=Z,26nm,1.5s
HKT MLR MLR
comp=Z,1µm,20.0s
HKT Hockley 88.11 58 P **P** **22 37 25.1 +1.3**
HKT IAmb IAmb 22 37 42.0
comp=Z,26nm,1.5s
SNET Serv Nac Est T 88.36 75 IAMs_20 IAMs_20 23 07 59.6
comp=Z,2µm,20.0s
ENH Enshi 88.43 302 IAmb IAmb 22 37 34.0
comp=Z,20nm,0.9s
ENH IAMs_20 IAMs_20 23 15 28.3
comp=Z,1µm,20.0s
MTO3 Montecristo 88.46 74 IAmb IAmb 22 37 46.6
comp=Z,14nm,1.1s
CBKS Cedar Bluff 88.56 48 IAMs_20 IAMs_20 23 10 17.1
comp=Z,1µm,20.0s
PSI Prapat 88.96 273 P **P** **22 37 27.4 -1.0**
comp=Z,14nm,1.0s,baz=159,slow=4.8,SNR=11
PSI LR LR 23 19 03.4
comp=Z,773nm,19.1s,baz=134,slow=37
TIY Taiyuan 88.98 310 ⇑P **P** **22 37 28.3 +0.4**
TIY S **S** **22 48 15.3 +0.5**
TIY pmax pmax
comp=Z,460nm,6.1s
TIY LR LR
comp=Z,500nm,20.6s
TIY LR LR
comp=Z,470nm,16.5s
XLT XiLinHaoTe 89.02 317 *e* P **P** **22 37 27.3 -0.7**
XLT pP PcP 22 37 32.3 +2.9
XLT sP pP 22 37 34.3 -1.2
XLT SKS **SKSac** **22 47 53.8 -2.4**
XLT S **SKSac** **22 48 09.8 +1.9**
XLT pmax pmax
comp=Z,18nm,1.1s
XLT pmax pmax
comp=Z,600nm,5.6s
XLT LR LR
comp=Z,740nm,19.8s
XLT LR LR
comp=Z,860nm,20.6s
HIA Hailar 89.22 323 *i* P **P** **22 37 28.8 +0.1**
HIA pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 89.22 323 IAMs_20 IAMs_20 23 12 10.5
comp=Z,1µm,21.0s
GYA Guiyang 89.41 298 ⇓P **P** **22 37 31.4 +1.2**
GYA PP **PP** **22 41 04.1 +2.4**
GYA SKS **SKSac** **22 47 57.6 -1.7**
GYA S **S** **22 48 19.1 -0.3**
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,310nm,3.5s
GYA LR LR
comp=Z,330nm,18.9s
GYA LR LR
comp=Z,400nm,16.4s
GYA LR LR
comp=Z,400nm,15.7s
A21K Barrow 89.52 5 IAMs_20 IAMs_20 23 11 25.3
comp=Z,1µm,22.0s
NATX Nacogdoches 89.71 57 IAMs_20 IAMs_20 23 10 31.8
comp=Z,1µm,20.0s
GSI Gunungsitoli 89.79 271 P **P** **22 37 31.9 -0.2**
DGMT Dagmar 89.81 38 IAMs_20 IAMs_20 23 11 06.0
comp=Z,2µm,21.0s
DGMT Dagmar 89.81 38 IAmb IAmb 22 37 53.1
comp=Z,28nm,1.1s
DGMT Dagmar 89.81 38 P **P** **22 37 34.0 +2.5**
baz=243
MT09 Talagante 89.93 125 P **P** **22 37 33.4 +0.7**
SRIT Nakonsritamara 90.07 279 IAmb IAmb 22 37 45.4
comp=Z,22nm,1.0s
BO04 La Punta 90.14 126 IAmb IAmb 22 37 54.4
comp=Z,31nm,1.2s
XAN Xi'an 90.24 306 P **P** **22 37 33.9 +0.1**
XAN S **S** **22 48 19.1 -7.5**
XAN SS **SS** **22 54 24.3 -2.5**
XAN pmax pmax
comp=Z,13nm,1.7s
XAN pmax pmax
comp=Z,430nm,6.7s
XAN LR LR
comp=Z,280nm,22.0s
XAN LR LR
comp=Z,880nm,22.0s
XAN LR LR
comp=Z,1µm,23.4s
TGUH Tegucigalpa,Un 90.28 75 IAMs_20 IAMs_20 23 08 48.5
comp=Z,1µm,20.0s
TUL1 Leonard 90.33 52 IAMs_20 IAMs_20 23 10 12.0
comp=Z,1µm,21.0s
INK Inuvik 90.41 14 P **P** **22 37 34.4 +0.7**
comp=Z,8.3nm,0.8s,baz=208,slow=6.5,SNR=27
INK LR LR 23 10 56.8
comp=Z,1µm,21.7s,baz=198,slow=31
INK Inuvik 90.41 14 IAmb IAmb 22 37 53.8
comp=Z,23nm,1.2s
INK Inuvik 90.41 14 P **P** **22 37 34.7 +1.0**
baz=217,SNR=14
SYO Syowa Base 90.42 191 ⇑ *e* sP sP 22 37 48.3 +4.6
TROLL Troll, Antarti 90.46 179 PcP **PcP** **22 37 36.1 +0.6**
VNA3 Neumayer Olymp 90.55 175 PcP **PcP** **22 37 36.7 +1.0**
SNAA Sanae 90.60 177 PcP **PcP** **22 37 36.9 +0.9**
SNAA Sanae 90.60 177 LR LR 23 14 20.8
comp=Z,563nm,20.0s,baz=196,slow=33
SNAA Sanae 90.60 177 P **P** **22 37 35.6 +0.7**
SNAA pmax pmax
comp=Z,31nm,1.4s
SNAA Sanae 90.60 177 P **P** **22 37 35.6 +0.7**
SNAA IAmb IAmb 22 37 37.4
comp=Z,31nm,1.4s
HHC Hu-ho-hao-te 90.83 313 *e* P **P** **22 37 36.0 -0.5**
HHC S **S** **22 48 25.8 -6.0**
HHC sS pS 22 48 39.9 -1.4
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,370nm,6.2s
HHC LR LR
comp=Z,490nm,17.6s
HHC LR LR
comp=Z,340nm,18.3s
HHC LR LR
comp=Z,710nm,20.4s
VNA2 Neumayer--Watz 91.04 175 PcP **PcP** **22 37 38.8 +0.9**
baz=185,slow=4.0
VNA1 Neumayer--Stat 91.24 175 PcP **PcP** **22 37 39.7 +1.0**
JTS Las Juntas de 91.29 80 LR LR 23 10 13.3
comp=Z,1µm,19.0s,baz=311,slow=30
JTS Las Juntas de 91.29 80 P **P** **22 37 39.7 +0.6**
JTS pmax pmax
comp=Z,81nm,1.4s
JTS MLR MLR
comp=Z,1µm,20.0s
JTS Las Juntas de 91.29 80 P **P** **22 37 39.7 +0.6**
JTS Las Juntas de 91.29 80 IAMs_20 IAMs_20 23 10 01.4
comp=Z,1µm,20.0s
YAK Yakutsk 91.35 337 LR LR 23 14 27.3
comp=Z,501nm,20.6s,baz=92,slow=33
YAK Yakutsk 91.35 337 *i* P **P** **22 37 37.4 -0.8**
YAK pmax pmax
comp=Z,7.0nm,0.9s
MIAR Mount Ida 91.54 54 IAmb IAmb 22 37 53.4
comp=Z,16nm,1.4s
MIAR Mount Ida 91.54 54 P **P** **22 37 42.5 +2.7**
baz=250
W39A Magazine 91.61 54 IAmb IAmb 22 37 57.5
comp=Z,24nm,1.4s
W39A Magazine 91.61 54 P **P** **22 37 43.0 +3.0**
baz=250
W39A Magazine 91.61 54 P **P** **22 37 43.1 +3.0**
baz=250
BTO Baotou 91.82 312 *e* P **P** **22 37 41.1 0.0**
BTO S **S** **22 48 43.3 +2.4**
BTO LR LR
comp=Z,1µm,19.2s
BTO LR LR
comp=Z,890nm,18.2s
HDC Heredia 91.99 80 IAMs_20 IAMs_20 23 09 18.1
comp=Z,2µm,20.0s
YKA Yellowknife Ar 92.07 23 P **P** **22 37 42.2 +0.6**
comp=Z,3.6nm,1.0s,baz=232,slow=4.1,SNR=31
YKA PP **PP** **22 41 19.9 -1.8**
comp=Z,2.0nm,1.1s,baz=236,slow=7.6,SNR=6.8
YKA PKKPbc **PKKPdf** **22 54 58.6 +0.1**
comp=Z,0.1nm,0.6s,baz=40,slow=2.3,SNR=3.6
YKA LR LR 23 11 53.6
comp=Z,945nm,21.5s,baz=242,slow=31
YKA Yellowknife Ar 92.07 23 P **P** **22 37 41.5 0.0**
YKA Yellowknife Ar 92.07 23 P **P** **22 37 41.5 0.0**

NNA	**Nana**	**92.21**	**103**		LR	LR	23 10 44.1			
	comp=Z,758nm,19.4s,baz=242,slow=30									
KMI	**Kunming**	**92.31**	**295**	⇑	P	**P**	**22 37 45.0**	**+1.1**		
KMI					sP	sP	22 37 54.9	+1.0		
KMI					PP	**PP**	**22 41 22.3**	**-2.6**		
KMI					SKS	**SKSac**	**22 48 18.9**	**+2.7**		
KMI					S	**S**	**22 48 44.8**	**-1.4**		
KMI					SS	**SS**	**22 54 57.5**	**+0.1**		
KMI					pmax	pmax				
	comp=Z,23nm,0.9s									
KMI					pmax	pmax				
	comp=Z,260nm,3.5s									
KMI					LR	LR				
	comp=Z,270nm,20.0s									
KMI					LR	LR				
	comp=Z,660nm,18.8s									
KMI					LR	LR				
	comp=Z,940nm,19.4s									
ESPN	**Las Esperanzas**	**92.47**	**78**		IAMs_20	IAMs_20	23 09 27.7			
	comp=Z,1μm,21.0s									
ECSD	**EROS Data Cent**	**92.65**	**45**		IAmb	IAmb	22 37 55.8			
	comp=Z,22nm,1.4s									
ECSD	**EROS Data Cent**	**92.65**	**45**		P	**P**	**22 37 46.8**	**+2.0**		
	baz=248									
U40A	**Yellville**	**92.72**	**53**		IAmb	IAmb	22 37 56.7			
	comp=Z,26nm,1.4s									
U40A					IAMs_20	IAMs_20	23 12 39.1			
	comp=Z,1μm,21.0s									
U40A	**Yellville**	**92.72**	**53**		P	**P**	**22 37 46.0**	**+0.7**		
	baz=250									
W41B	**Gary Mavity, V**	**92.78**	**54**		IAmb	IAmb	22 38 03.7			
	comp=Z,23nm,1.2s									
W41B	**Gary Mavity, V**	**92.78**	**54**		P	**P**	**22 37 48.3**	**+2.8**		
	baz=250									
S39A	**Bolivar**	**92.82**	**51**		IAmb	IAmb	22 38 02.0			
	comp=Z,10nm,1.1s									
CD2	**Chengdu**	**93.29**	**301**		P	**P**	**22 37 47.4**	**-0.6**		
CD2					S	**S**	**22 48 56.8**	**+2.6**		
CD2					SS	**SS**	**22 55 12.5**	**+1.7**		
CD2					pmax	pmax				
	comp=Z,420nm,7.1s									
CD2					LR	LR				
	comp=Z,970nm,19.1s									
CD2					LR	LR				
	comp=Z,930nm,18.2s									
PZH	**PanZhiHua**	**93.60**	**297**	⇓	P	**P**	**22 37 50.5**	**+0.8**		
PZH					pP	**pP**	**22 37 55.3**	**-1.8**		
PZH					sP	**sP**	**22 37 57.3**	**-2.4**		
PZH					PP	**PP**	**22 41 36.1**	**+1.2**		
PZH					S	**S**	**22 48 56.5**	**-0.8**		
PZH					pmax	pmax				
	comp=Z,10.0nm,1.0s									
PZH					pmax	pmax				
	comp=Z,130nm,5.6s									
PZH					LR	LR				
	comp=Z,350nm,16.5s									
PZH					LR	LR				
	comp=Z,300nm,16.8s									
PZH					LR	LR				
	comp=Z,380nm,16.6s									
CMAR	**Chiang Mai Arr**	**93.65**	**288**		P	**P**	**22 37 49.9**	**0.0**		
	comp=Z,6.1nm,0.9s,baz=89,slow=2.6,SNR=37									
CMAR					LR	LR	23 16 19.8			
	comp=Z,956nm,20.5s,baz=110,slow=33									
CMAR	**Chiang Mai Arr**	**93.65**	**288**	*ce*	P	**P**	**22 37 51.0**	**+1.1**		
CMAR					pmax	pmax				
	comp=Z,6.0nm,0.9s									
CHTO	**Chiang Mai**	**93.75**	**288**		P	**P**	**22 37 49.6**	**-0.8**		
CHTO					pmax	pmax				
	comp=Z,10.0nm,1.0s									
CHTO					MLR	MLR				
	comp=Z,1μm,20.0s									
CHTO	**Chiang Mai**	**93.75**	**288**		P	**P**	**22 37 49.6**	**-0.8**		
CHTO					IAmb	IAmb	22 37 52.0			
	comp=Z,9.7nm,0.9s									
CHTO	**Chiang Mai**	**93.75**	**288**		IAMs_20	IAMs_20	23 16 12.4			
	comp=Z,1μm,20.0s									
LCAR	**Lake Charles**	**93.92**	**54**		IAmb	IAmb	22 38 08.0			
	comp=Z,20nm,1.2s									
SCIA	**State Center**	**94.33**	**47**		IAMs_20	IAMs_20	23 13 29.8			
	comp=Z,2μm,20.0s									
P40A	**Paris**	**94.38**	**50**		IAmb	IAmb	22 38 08.8			
	comp=Z,16nm,1.2s									
CCM	**Cathedral Cave**	**94.49**	**52**		P	**P**	**22 37 53.9**	**+0.5**		
CCM					pmax	pmax				
	comp=Z,10.0nm,1.2s									
CCM					MLR	MLR				
	comp=Z,2μm,21.0s									
CCM	**Cathedral Cave**	**94.49**	**52**		P	**P**	**22 37 53.9**	**+0.5**		
CCM	**Cathedral Cave**	**94.49**	**52**		IAMs_20	IAMs_20	23 13 34.0			
	comp=Z,2μm,21.0s									
CCM	**Cathedral Cave**	**94.49**	**52**		P	**P**	**22 37 54.6**	**+1.3**		
	baz=251									
OXF	**Oxford**	**94.78**	**55**		IAMs_20	IAMs_20	23 13 08.9			
	comp=Z,1μm,21.0s									
LZH	**Lanzhou**	**94.85**	**306**	⇑	P	**P**	**22 37 54.3**	**-0.9**		
LZH					S	S	22 48 56.8	-11		
LZH					sS	pS	22 49 13.8	-3.7		
LZH					SS	**SS**	**22 55 33.0**	**-0.2**		
LZH					pmax	pmax				
	comp=Z,25nm,1.4s									
LZH					pmax	pmax				
	comp=Z,320nm,9.2s									
LZH					LR	LR				
	comp=Z,500nm,17.0s									
LZH					LR	LR				
	comp=Z,490nm,17.3s									
LZH					LR	LR				
	comp=Z,830nm,19.5s									
A36M	**Sachs Harbour**	**95.05**	**13**		IAMs_20	IAMs_20	23 14 47.1			
	comp=Z,1μm,21.0s									
A36M	**Sachs Harbour**	**95.05**	**13**		P	**P**	**22 37 56.5**	**+1.4**		
	baz=225									
FVM	**French Village**	**95.08**	**52**		IAmb	IAmb	22 38 10.8			
	comp=Z,12nm,1.1s									
ULM	**Lac du Bonnet**	**95.50**	**39**		P	**P**	**22 37 57.6**	**0.0**		
	comp=Z,2.8nm,0.6s,baz=225,slow=5.7,SNR=2.9									
ULM					LR	LR	23 14 31.5			
	comp=Z,3μm,21.4s,baz=260,slow=31									
ULM	**Lac du Bonnet**	**95.50**	**39**		IAmb	IAmb	22 38 06.8			
	comp=Z,23nm,1.5s									
LVC	**Limon Verde**	**95.72**	**116**		LR	LR	23 11 05.5			
	comp=Z,2μm,21.1s,baz=235,slow=29									
ULN	**Ulaanbaatar**	**96.36**	**318**		P	**P**	**22 38 00.9**	**-1.0**		
ULN					pmax	pmax				
	comp=Z,7.0nm,1.3s									
ULN					MLR	MLR				
	comp=Z,700nm,22.0s									
ULN	**Ulaanbaatar**	**96.36**	**318**		P	**P**	**22 38 00.9**	**-1.0**		
JFWS	**Jewell Farm**	**96.74**	**47**		IAMs_20	IAMs_20	23 15 33.4			
	comp=Z,2μm,21.0s									
SONM	**Songino Array**	**96.77**	**318**		P	**P**	**22 38 03.1**	**-0.5**		
	comp=Z,1.2nm,0.8s,baz=132,slow=3.5,SNR=9.9									
SONM					PP	**PP**	**22 41 60.0**	**+0.9**		
	comp=Z,2.0nm,1.1s,baz=128,slow=6.6,SNR=6.2									
SONM					LR	LR	23 20 13.2			
	comp=Z,308nm,18.9s,baz=106,slow=35									
TIXI	**Tiksi**	**97.30**	**344**		P	**P**	**22 38 04.7**	**-0.6**		
	comp=Z,2.7nm,0.8s,baz=271,slow=23,SNR=15									
TIXI					LR	LR	23 18 31.5			
	comp=Z,945nm,20.5s,baz=179,slow=33									
TIXI	**Tiksi**	**97.30**	**344**	*ce*	P	**P**	**22 38 04.2**	**-1.1**		
TIXI					pmax	pmax				
	comp=Z,4.0nm,1.0s									
TIXI	**Tiksi**	**97.30**	**344**		P	**P**	**22 38 05.1**	**-0.2**		
TIXI					IAMs_20	IAMs_20	23 18 20.8			
	comp=Z,1μm,21.0s									
EYMN	**Ely**	**97.45**	**42**		IAMs_20	IAMs_20	23 15 18.0			
	comp=Z,1μm,21.0s									
U49A	**Red Boiling Sp**	**98.19**	**54**		IAmb	IAmb	22 38 25.3			
	comp=Z,10nm,1.1s									
LPAZ	**La Paz**	**98.71**	**110**		P	Pdif	22 38 16.4	+2.6		
	comp=Z,0.4nm,0.4s,baz=324,slow=4.5,SNR=2.1									
LPAZ					LR	LR	23 13 02.8			
	comp=Z,2μm,21.9s,baz=262,slow=29									
LPAZ	**La Paz**	**98.71**	**110**		P	**P**	**22 38 13.2**	**-0.6**		
LPAZ					pmax	pmax				
	comp=Z,7.0nm,1.5s									
LPAZ	**La Paz**	**98.71**	**110**		P	**P**	**22 38 13.2**	**-0.6**		
GTA	**Gaotai**	**98.87**	**308**	*e*	P	Pdif	22 38 14.9	+1.6		
GTA					pP	pP	22 38 18.4	-2.3		
GTA					sP	pwP	22 38 21.8	-2.4		
GTA					pmax	pmax				
	comp=Z,3.0nm,1.0s									
GTA					pmax	pmax				
	comp=Z,83nm,6.4s									
GTA					LR	LR				
	comp=Z,450nm,21.9s									
GTA					LR	LR				
	comp=Z,870nm,23.1s									
GTA					LR	LR				
	comp=Z,1μm,23.1s									
ZAK	**Zakamensk**	**99.49**	**320**	*e*	P	**Pdif**	**22 38 21.0**	**+5.2**		
ZAK					pmax	pmax				
	comp=Z,4.0nm,1.6s									
TKL	**Tuckaleechee C**	**99.53**	**56**		LR	LR	23 16 51.4			
	comp=Z,636nm,21.5s,baz=253,slow=32									
P49A	**Miami Univ. Ec**	**99.80**	**52**		IAMs_20	IAMs_20	23 16 18.5			
	comp=Z,1μm,20.0s									
TZTN	**Tazewell**	**99.93**	**55**		IAMs_20	IAMs_20	23 16 34.4			
	comp=Z,2μm,22.0s									
MTDJ	**Mount Denham**	**100.43**	**74**		IAMs_20	IAMs_20	23 15 42.5			
	comp=Z,884nm,19.0s									
AAM	**Ann Arbor**	**101.26**	**49**		IAMs_20	IAMs_20	23 18 23.2			
	comp=Z,1μm,19.0s									
ACSO	**Alum Creek Sta**	**101.26**	**51**		IAMs_20	IAMs_20	23 17 17.3			
	comp=Z,1μm,21.0s									
P52A	**Corning**	**101.76**	**52**		IAMs_20	IAMs_20	23 16 59.5			
	comp=Z,2μm,22.0s									
BLA	**Blacksburg**	**102.53**	**55**		IAMs_20	IAMs_20	23 17 53.1			
	comp=Z,2μm,22.0s									
O53A	**New Philadelph**	**102.59**	**52**		IAMs_20	IAMs_20	23 17 46.3			
	comp=Z,2μm,22.0s									
M53A	**WI Miller and**	**103.24**	**51**		IAMs_20	IAMs_20	23 18 56.4			
	comp=Z,1μm,20.0s									
MCWV	**Mont Chateau**	**103.49**	**52**		IAMs_20	IAMs_20	23 18 15.3			
	comp=Z,1μm,21.0s									
RES	**Resolute Bay**	**103.85**	**16**		Pdiff	**Pdif**	**22 38 35.3**	**+0.9**		
	comp=Z,0.9nm,0.8s,baz=215,slow=9.6,SNR=3.8									
CNNC	**Cliffs of the**	**104.11**	**57**		IAMs_20	IAMs_20	23 18 48.2			
	comp=Z,1μm,22.0s									
CBN	**Corbin Frederi**	**105.10**	**54**		IAMs_20	IAMs_20	23 19 45.0			
	comp=Z,1μm,21.0s									
SSPA	**Standing Stone**	**105.15**	**52**		IAMs_20	IAMs_20	23 19 37.2			
	comp=Z,1μm,22.0s									
PALK	**Pallekele**	**107.61**	**272**		IAMs_20	IAMs_20	23 28 48.5			
	comp=Z,1μm,19.0s									
YLE	**Yale**	**108.96**	**52**		IAMs_20	IAMs_20	23 22 24.3			
	comp=Z,1μm,21.0s									
HNH	**Hanover**	**109.71**	**49**		IAMs_20	IAMs_20	23 22 35.5			
	comp=Z,1μm,19.0s									
BRYW	**Bryant College**	**110.07**	**51**		IAMs_20	IAMs_20	23 23 09.3			
	comp=Z,1μm,20.0s									
ALE	**Alert**	**110.11**	**8**		IAMs_20	IAMs_20	23 27 04.6			
	comp=Z,844nm,20.0s									
FFD	**Franklin Falls**	**110.14**	**49**		IAMs_20	IAMs_20	23 24 14.0			
	comp=Z,1μm,20.0s									
ZALV	**Zalesovo Beam**	**111.23**	**322**		PKiKP	**PKiKP**	**22 43 06.7**	**+0.3**		
	comp=Z,2.3nm,0.8s,baz=129,slow=2.1,SNR=12									
PCHI	**Peechi**	**112.63**	**274**	*ex*		PKiKP	22 43 00.9	-9.3		
PCHI				*ex*		**SP**	**22 53 29.4**	**+0.1**		
MKAR	**Makanchi Array**	**112.66**	**314**		Pdiff	**Pdif**	**22 39 14.4**	**0.0**		
	comp=Z,0.3nm,0.8s,baz=56,slow=13,SNR=3.4									
MKAR					PKiKP	**PKiKP**	**22 43 09.6**	**+0.1**		
	comp=Z,2.8nm,0.8s,baz=64,slow=2.8,SNR=23									
SMRT	**St. Maarten**	**113.76**	**78**		IAMs_20	IAMs_20	23 23 26.8			
	comp=Z,703nm,20.0s									
KURK	**Kurchatov**	**115.08**	**318**	*i*	PKiKP	PKPdf	22 43 15.1	+1.3		
KURK	**Kurchatov**	**115.08**	**318**		IAMs_20	IAMs_20	23 28 22.4			
	comp=Z,810nm,20.0s									
KSH	**Kashi**	**117.09**	**306**		PKP	**PKiKP**	**22 43 20.8**	**+2.5**		
KSH					PP	PP	22 44 36.8	+8.3		
KSH					AMB	AMB				
	comp=Z,180nm,8.7s									
KSH					LR	LR				
	comp=Z,320nm,19.0s									
KSH					LR	LR				
	comp=Z,510nm,19.7s									
KSH					LR	LR				
	comp=Z,760nm,21.6s									
ILULI	**Ilulissat**	**117.54**	**20**		IAMs_20	IAMs_20	23 38 53.0			
	comp=Z,708nm,19.0s									
AAK	**Ala-Archa**	**118.20**	**309**		PKiKP	**PKPdf**	**22 43 19.7**	**-0.7**		
AAK					MLR	MLR				
	comp=Z,600nm,21.0s									
AAK	**Ala-Archa**	**118.20**	**309**		PKPdf	**PKPdf**	**22 43 19.7**	**-0.7**		
SFJD	**Kangerlussuaq**	**118.61**	**22**		IAMs_20	IAMs_20	23 28 14.4			
	comp=Z,911nm,21.0s									
SPITS	**Spitsbergen Ar**	**119.32**	**358**		PKP	**PKiKP**	**22 43 23.3**	**+1.9**		
	comp=Z,4.3nm,0.8s,baz=76,slow=6.1,SNR=1.6									
BRVK	**Borovoye**	**119.94**	**322**		PKiKP	**PKPdf**	**22 43 23.6**	**+0.4**		
BRVK					MLR	MLR				
	comp=Z,700nm,20.0s									
BRVK	**Borovoye**	**119.94**	**322**		PKPdf	**PKPdf**	**22 43 23.6**	**+0.4**		
BRVK	**Borovoye**	**119.94**	**322**		IAMs_20	IAMs_20	23 35 16.0			
	comp=Z,736nm,20.0s									
KBL	**Kabul**	**122.60**	**300**		PKiKP	**PKPdf**	**22 43 28.8**	**-0.3**		
KBL	**Kabul**	**122.60**	**300**		PKPdf	**PKPdf**	**22 43 28.8**	**-0.3**		
ANGG	**Ammassalik, Gr**	**123.83**	**21**		IAMs_20	IAMs_20	23 33 28.4			
	comp=Z,1μm,21.0s									
SVE	**Sverdlovsk**	**124.25**	**328**	*i*	PKiKP	**PKPdf**	**22 43 32.2**	**+0.9**		
SVE					pmax	pmax				
	comp=Z,13nm,0.9s									
SVE					MLR	MLR				
	comp=Z,688nm,21.0s									
ARU	**Arti**	**125.46**	**328**	*i*	PKiKP	**PKPdf**	**22 43 34.2**	**+0.6**		
ARU							22 45 25.7			
ARU					PPP	PPP	22 48 08.5			
ARU							22 50 45.6			
ARU	**Arti**	**125.46**	**328**		IAMs_20	IAMs_20	23 42 28.6			
	comp=Z,810nm,18.0s									
ARCES	**ARCESS Array B**	**126.92**	**352**		PKP	**PKPdf**	**22 43 36.7**	**+0.6**		
	comp=Z,6.5nm,0.7s,baz=20,slow=1.4,SNR=12									
ARCES	**ARCESS Array B**	**126.92**	**352**		PKiKP	**PKPdf**	**22 43 34.4**	**-1.7**		
ARCES	**ARCESS Array B**	**126.92**	**352**			**PKPdf**	**22 43 34.4**	**-1.7**		
ABKAR	**Akbulak array**	**127.17**	**319**		PKPdf	**PKPdf**	**22 43 36.0**	**-1.1**		
MSEY	**Mahe Island**	**127.21**	**250**		IAMs_20	IAMs_20	23 32 58.7			
	comp=Z,876nm,20.0s									
PRGR	**Permogore**	**128.38**	**338**	*e*	PKiKP	**PKPdf**	**22 43 38.1**	**-0.9**		
KIRV	**Kirov**	**128.74**	**333**	*c*	PKiKP	**PKPdf**	**22 43 40.8**	**+1.0**		
BOSA	**Boshof**	**130.67**	**201**		PKP	**PKiKP**	**22 43 46.4**	**+0.8**		
	comp=Z,3.2nm,1.0s,baz=178,slow=3.9,SNR=2.5									
BOSA	**Boshof**	**130.67**	**201**		PKiKP	**PKPdf**	**22 43 43.4**	**-1.3**		
BOSA	**Boshof**	**130.67**	**201**		PKPdf	**PKPdf**	**22 43 43.4**	**-1.3**		
KLMR	**Klimovskoe**	**131.05**	**340**	*e*	PKiKP	**PKPdf**	**22 43 42.3**	**-1.8**		
KLMR					pmax	pmax				
	comp=Z,14nm,1.3s									
KLMR	**Klimovskoe**	**131.05**	**340**	*e*	PKPdf	**PKPdf**	**22 43 42.4**	**-1.7**		
KLMR					AMP		22 43 45.8			
	comp=Z,14nm,1.3s									
KLMR					LQ	LQ	23 29 24.0			
KLMR					LQ	LQ	23 29 24.0			
KLMR					LR	LR	23 33 43.0			
GEYT	**Alibeck**	**131.12**	**305**		PKP	**PKPdf**	**22 43 46.3**	**+1.2**		
	comp=Z,3.2nm,0.7s,baz=39,slow=9.6,SNR=6.4									
VALR	**Valaam**	**133.20**	**344**	*i*	PKiKP	**PKPdf**	**22 43 49.5**	**+1.3**		
VALR					pmax	pmax				
	comp=Z,45nm,0.8s									
FINES	**FINESS Array B**	**134.25**	**347**		PKP	**PKPdf**	**22 43 50.8**	**+0.7**		
	comp=Z,6.3nm,0.8s,baz=103,slow=3.8,SNR=9.5									
FINES	**FINESS Array B**	**134.25**	**347**	*c*	PKiKP	**PKPdf**	**22 43 51.5**	**+1.3**		
FINES					pmax	pmax				
	comp=Z,6.0nm,0.9s									
SOCY	**Socotra**	**134.31**	**270**		IAMs_20	IAMs_20	23 39 36.0			
	comp=Z,908nm,20.0s									
OBN	**Obninsk**	**136.34**	**336**	⇑	PKiKP	**PKPdf**	**22 43 55.6**	**+1.4**		
OBN					*e*		22 46 35.8			
OBN					*i* SS	SS	23 04 34.1	0.0		
OBN					pmax	pmax				
	comp=Z,10.0nm,1.0s									
OBN					MLR	MLR				
	comp=Z,386nm,21.0s									
NB2	**NORSAR Subarra**	**136.61**	**357**		PKPdf	PKPpre	22 43 46.2			
	comp=Z,9.8nm,1.7s,baz=6.4,slow=1.9									
NB2	**NORSAR Subarra**	**136.61**	**357**		PKPdf	PKPpre	22 43 46.2			
	baz=6.4,slow=1.9									
NOA	**NORSAR Array B**	**136.61**	**357**		PKhKP	PKPpre	22 43 46.8			
	comp=Z,0.9nm,0.9s,baz=32,slow=2.0,SNR=4.5									
VRH	**Novokhopyorsk**	**136.68**	**328**	*e*	PKiKP	**PKPdf**	**22 43 55.1**	**+0.1**		
VRH					pmax	pmax				
	comp=Z,10.0nm,0.8s									
LPSR	**Galich'ya Gora**	**137.11**	**332**	*e*	PKiKP	**PKPdf**	**22 43 54.7**	**-1.1**		
LPSR					pmax	pmax				
	comp=Z,10.0nm,1.4s									
MAK	**Makhachkala**	**137.47**	**315**	*e*	P	**Pdif**	**22 40 59.9**	**-4.8**		
MAK					*i*		22 43 54.5			
MAK					*e*SSS	SSS	23 09 48.6			
VORR	**Voronezh**	**137.60**	**330**	*e*	PKiKP	**PKPdf**	**22 43 57.3**	**+0.6**		
VORR					pmax	pmax				
	comp=Z,30nm,0.4s									
VSR	**Storozhevoye**	**137.92**	**330**	*e*	PKiKP	**PKPdf**	**22 43 56.5**	**-0.8**		
VSR					pmax	pmax				
	comp=Z,9.0nm,0.9s									
VORD	**Divnogorie**	**138.02**	**330**	*e*	PKiKP	**PKPdf**	**22 43 57.6**	**+0.1**		
VORD					pmax	pmax				
	comp=Z,8.0nm,0.7s									
GOF	**Gofitskoye**	**139.39**	**320**	⇑	*e*PKiKP	**PKPdf**	**22 44 01.2**	**+1.0**		
NACGM	**Naroch**	**139.87**	**342**		*e*PKP	**PKPdf**	**22 43 54.1**	**-6.7**		
MNK	**Minsk**	**139.89**	**341**		*i* PKHKP	PKPpre	22 43 55.6			
MNK					*i*		22 51 05.9			
MNK					*i* SS	SS	23 05 16.9	+1.1		
MNK					*i* SSS	SSS	23 10 29.8			
MNK					pmax	pmax				
	comp=Z,12nm,0.9s									
MNK					pmax	pmax				
	comp=E,1.0nm,0.9s									
MNK					pmax	pmax				
	comp=N,2.0nm,0.7s									
MNK					MLR	MLR				
	comp=E,80nm,23.0s									
MNK					MLR	MLR				
	comp=Z,424nm,21.0s									
MNK					MLR	MLR				
	comp=N,127nm,25.0s									
MNK	**Minsk**	**139.89**	**341**	*i*	PKP	**PKPdf**	**22 43 55.6**	**-5.2**		
	comp=E,1.0nm,0.9s									
MNK				*i*	PKP	**PKPdf**	**22 43 55.6**	**-5.2**		
	comp=N,2.0nm,0.7s									
MNK				*i*	PKP	**PKPdf**	**22 43 55.6**	**-5.2**		
	comp=Z,12nm,0.9s,baz=212									
MNK				*i*	PP	**PP**	**22 46 51.4**	**-5.2**		
MNK				*i*	PPP	PPP	22 49 54.8			
MNK				*i*	SKS	**SKSdf**	**22 51 06.0**	**-3.5**		
MNK				*i*	SS	**SS**	**23 05 17.0**	**+1.2**		
MNK				*i*	SSS	SSS	23 10 29.9			
MNK				*i*	LR	LR	23 37 33.4			
MNK				*i*	LRM	MLR	23 45 17.2			
	comp=E,80nm,23.2s									
MNK				*i*	LRM	MLR	23 45 17.2			
	comp=N,127nm,24.5s									
MNK				*i*	LRM	MLR	23 45 17.2			
	comp=Z,424nm,20.6s									
ZEI	**Tsey**	**139.93**	**317**	*i*	PKIKP	**PKPdf**	**22 44 03.2**	**+1.6**		
ZEI					pmax	pmax				
	comp=Z,3.0nm,0.9s									
PABE	**Paberze**	**140.09**	**345**		IAMs_20	IAMs_20	23 45 01.1			
	comp=Z,756nm,21.0s									
KBZ	**Khabaz**	**140.14**	**318**		PKhKP	PKPpre	22 43 58.7			
	comp=Z,1.5nm,0.9s,baz=248,slow=6.2,SNR=2.6									
KBZ	**Khabaz**	**140.14**	**318**	*c*	PKiKP	**PKPdf**	**22 44 03.5**	**+1.9**		
KIV	**Kislovodsk**	**140.16**	**319**	*i*	PKIKP	**PKPdf**	**22 44 01.0**	**-0.8**		
KIV				*e*			22 46 55.6			
KIV				*e*SS		SS	23 05 17.4	-3.2		
KIV				pmax		pmax				
	comp=Z,3.0nm,1.1s									
KIV				MLR		MLR				
	comp=Z,596nm,24.0s									
KIV	**Kislovodsk**	**140.16**	**319**	IAMs_20		IAMs_20	23 51 42.9			
	comp=Z,538nm,20.0s									
GNI	**Garni**	**140.49**	**312**	*c*	PKIKP	**PKPdf**	**22 44 03.3**	**+0.7**		
GNI				pmax		pmax				
	comp=Z,14nm,1.7s									
GNI	**Garni**	**140.49**	**312**			**PKPdf**	**22 44 02.2**	**-0.4**		
SUW	**Suwalki**	**141.64**	**345**	*e*	PKPbc	**PKPdf**	**22 43 59.7**	**-4.3**		
SUW	**Suwalki**	**141.64**	**345**	IAMs_20		IAMs_20	23 47 09.0			
	comp=Z,695nm,21.0s									
SOC	**Sochi**	**142.19**	**320**	*i*	PKIKP	**PKPdf**	**22 44 07.3**	**+2.0**		
SOC				*e*			22 47 09.7			
SOC				*e*PPP		PPP	22 50 16.4			
SOC				*e*SS		SS	23 05 44.9	+0.9		
SOC				*e*SSS		SSS	23 11 08.0			
SOC				MLR		MLR				
	comp=Z,759nm,22.0s									
AKASG	**Malin Array Be**	**142.58**	**337**	PKhKP		PKPpre	22 44 01.6			
	comp=Z,3.9nm,0.8s,baz=31,slow=2.8,SNR=8.0									
AKBB	**Malin Array Si**	**142.58**	**337**	*i*	PKIKP	**PKPdf**	**22 44 06.1**	**+0.3**		
KIBK	**Kibwezi**	**143.45**	**240**		PKPdf	PKPbc	22 44 06.2	+0.5		
SIM	**Simferopol'**	**144.59**	**326**	*e*	PKIKP	**PKPab**	**22 44 07.2**	**-0.8**		
SIM				*e*SS		SS	23 06 14.0	+2.8		
SIM				pmax		pmax				
	comp=Z,119nm,0.8s									
SIM				MLR		MLR				
	comp=Z,400nm,21.0s						

UPC Upice 146.47 350 *e*PKP PKPbc 22 44 15.3 +1.4
DPC Dobruska-Polom 146.57 349 *e*PKP2 PKPbc 22 44 15.0 +0.7
DPC Dobruska-Polom 146.57 349 *e*PKP PKPbc 22 44 15.0 +0.7
BURAR Bucovina Array 146.61 337 ⇑P PKPbc 22 44 15.1 +0.5
BURAR Bucovina Array 146.61 337 ⇑PKP2 PKPbc 22 44 15.1 +0.5
PVCC Panska Ves 146.69 351 *e*PKP2 PKPbc 22 44 15.6 +1.1
PVCC Panska Ves 146.69 351 *e*PKP PKPbc 22 44 15.6 +1.1
OKC Ostrava-Krasne 146.69 347 *e*PKP2 PKPbc 22 44 15.5 +0.9
OKC Ostrava-Krasne 146.69 347 *e*PKP PKPbc 22 44 15.5 +0.9
UZH Uzhgorod 146.72 341 ⇑*i*PKP2 PKPdf 22 44 14.0 +1.0
CRVS Cervenica-Dubn 146.72 342 *e*PKP2 PKPbc 22 44 16.0 +1.3
CRVS Cervenica-Dubn 146.72 342 *e*PKP PKPbc 22 44 16.0 +1.3
KRLC Kraliky 146.75 348 *e*PKP2 PKPdf 22 44 14.6 +1.5
KRLC Kraliky 146.75 348 *e*PKP PKPdf 22 44 14.6 +1.5
MORC Moravsky Berou 146.88 347 ⇓P PKPbc 22 44 16.1 +0.9
MORC Moravsky Berou 146.88 347 ⇓PKP2 PKPbc 22 44 16.1 +0.9
MORC Moravsky Berou 146.88 347 *e*PKP PKPdf 22 44 15.0 +1.7
VLDR Vladesti 146.89 333 ⇓P PKPab 22 44 17.6 +1.0
UCC Uccle 146.92 3 *d*PKP PKPbc 22 44 16.4 +1.3
VARL Varlezi 146.95 333 ⇑P PKPab 22 44 17.4 +0.6
BEBN Eben Emael 146.97 1 *d*PKP PKPbc 22 44 16.2 +0.9
TESR Tescani 146.97 335 ⇓P PKPbc 22 44 16.8 +1.3
GHRR 147.01 333 ⇑P PKPab 22 44 17.5 +0.4
SCTR Scanteiesti 147.06 332 ⇑P PKPbc 22 44 17.2 +1.5
TLCR 147.06 331 ⇑P PKPdf 22 44 14.6 +0.9
TLCR 147.06 331 ⇑PKIKP PKPdf 22 44 14.6 +0.9
TRPA Tarpa 147.08 341 ⇑P PKPbc 22 44 16.7 +0.9
TRPA Tarpa 147.08 341 PKP PKPbc 22 44 16.6 +0.9
MEM Membach 147.16 1 *d*PKP PKPbc 22 44 17.1 +1.2
BMR Baia Mare 147.17 339 ⇑P PKPbc 22 44 17.1 +1.1
BMR Baia Mare 147.17 339 ⇑PKP2 PKPbc 22 44 17.1 +1.1
BSTI Sart Tilman 147.18 2 *d*PKP PKPbc 22 44 16.7 +0.8
BTNL Ternell 147.19 1 *d*PKP PKPbc 22 44 17.4 +1.4
SNF Seneffe 147.20 3 *d*PKP PKPbc 22 44 17.3 +1.3
PRU Pruhonice 147.22 351 *e*PKP2 PKPbc 22 44 16.2 +0.1
PRU Pruhonice 147.22 351 *e*PKP PKPbc 22 44 16.2 +0.1
NKC Novy Kostel 147.25 353 *e*PKP2 PKPbc 22 44 17.1 +0.9
NKC Novy Kostel 147.25 353 *e*PKP PKPbc 22 44 17.1 +0.9
IZVR Izvoarele 147.26 332 ⇓P PKPbc 22 44 17.9 +1.6
SCHL Schela 147.27 332 ⇓P PKPbc 22 44 18.0 +1.6
PANC Panciu 147.27 333 ⇓P PKPbc 22 44 17.4 +1.1
BCLA Clavier 147.33 2 *d*PKP PKPbc 22 44 17.6 +1.2
JURR Jurilovca 147.35 330 ⇑P PKPbc 22 44 18.2 +1.6
BGES Gesves 147.36 2 *d*PKP PKPbc 22 44 17.5 +1.1
CFR Carcaliu 147.38 332 ⇑P PKPbc 22 44 17.6 +1.0
CFR Carcaliu 147.38 332 ⇑PKP2 PKPbc 22 44 17.6 +1.0
ODBI Odobesti 147.40 333 ⇑P PKiKP 22 44 19.8 +0.9
BHOU Houvegnez 147.42 1 *d*PKP PKPbc 22 44 18.3 +1.6
BMRD Maredsous 147.43 3 *d*PKP PKPbc 22 44 17.7 +1.0
VRI Vrincioaia 147.45 334 ⇓P PKPbc 22 44 18.1 +1.2
VRI Vrincioaia 147.45 334 ⇓PKP2 PKPbc 22 44 18.1 +1.2
TPGR Topolog 147.50 331 ⇑P PKiKP 22 44 20.2 +1.0
PLOR Plostina 147.50 334 ⇓P PKPab 22 44 19.1 0.0
PLOR Plostina 147.50 334 ⇓PKP2 PKPab 22 44 19.1 0.0
VRAC Vranov 147.52 348 *e*PKP PKPbc 22 44 17.7 +0.8
RCHB Rochefort 147.59 2 *d*PKP PKPbc 22 44 17.9 +0.8
DOU Dourbes 147.63 3 *d*PKP PKPbc 22 44 18.3 +1.1
OZUR 147.65 335 ⇓P PKiKP 22 44 19.5 -0.1
COVR Voineasa-Covas 147.69 334 ⇑P PKPbc 22 44 18.4 +0.9
JAVC Velka Javorina 147.72 347 *e*PKP PKPbc 22 44 19.3 +1.7
TREC Trest 147.74 350 *e*PKP2 PKPbc 22 44 19.0 +1.4
TREC Trest 147.74 350 *e*PKP PKPbc 22 44 19.0 +1.4
KRUC Moravsky 147.79 348 *e*PKP PKPbc 22 44 18.2 +0.5
VYHS Vyhne 147.79 345 *e*PKP2 PKPbc 22 44 19.5 +1.8
VYHS Vyhne 147.79 345 *e*PKP PKPbc 22 44 19.5 +1.8
TIRR Tirgusor 147.80 331 ⇑P PKiKP 22 44 19.8 0.0
TIRR Tirgusor 147.80 331 ⇑PKP2 PKiKP 22 44 19.8 0.0
MESR Meseseni 147.81 339 ⇑P PKiKP 22 44 19.9 +0.1
KOLL Kolacno 147.82 346 *e*PKP PKPbc 22 44 19.6 +1.8
HARR Harsova 147.85 331 ⇓P PKPbc 22 44 19.5 +1.6
HARR Harsova 147.85 331 ⇓PKP2 PKPbc 22 44 19.5 +1.6
GRFO Grafenberg 147.90 355 PKIKP PKPdf 22 44 15.9 +0.9
GRFO Grafenberg 147.90 355 PKPdf 22 44 15.9 +0.9
TLBR Topalu 147.91 331 ⇑P PKPbc 22 44 18.0 -0.1
DOPR Dopca 147.92 335 ⇑P PKPbc 22 44 19.8 +1.7
CBBR Cluj-Babes-Bol 147.93 338 ⇑P PKPbc 22 44 19.2 +1.0
LTVH Ltavrtes, Hu 147.94 341 ⇓P PKPbc 22 44 20.0 +1.9
LTVH Ltavrtes, Hu 147.94 341 PKP PKPbc 22 44 20.0 +1.9
CJR Cluj-Napoca 147.96 338 ⇑P PKPbc 22 44 19.6 +1.3
CJR Cluj-Napoca 147.96 338 ⇑PKP2 PKPbc 22 44 19.6 +1.3
NEHR Nehoiu 147.99 334 ⇑P PKPbc 22 44 19.9 +1.6
PSZ Piszkesteto 148.05 343 ⇑P PKPbc 22 44 18.9 +0.4
PSZ Piszkesteto 148.05 343 ⇑PKP2 PKPbc 22 44 18.9 +0.4
PSZ Piszkesteto 148.05 343 PKP PKPbc 22 44 19.6 +1.1
MLR Muntele Rosu 148.08 334 ⇑P PKPbc 22 44 20.3 +1.6
MLR Muntele Rosu 148.08 334 PKIKP PKPdf 22 44 15.9 +0.3
MLR MLR MLR
comp=Z,800nm,22.0s
MLR Muntele Rosu 148.08 334 PKPdf PKPdf 22 44 15.9 +0.3
MLR IAMs_20 IAMs_20 23 47 37.7
comp=Z,768nm,22.0s
SMOL Smolenice 148.10 347 *e*PKP2 PKiKP 22 44 20.7 +0.4
SMOL Smolenice 148.10 347 *e*PKP PKiKP 22 44 20.7 +0.4
WLF Walferdange 148.11 1 PKIKP PKPdf 22 44 17.0 +1.7
WLF Walferdange 148.11 1 PKPdf 22 44 17.0 +1.7
WLF Walferdange 148.11 1 *d*PKP PKiKP 22 44 20.6 +0.3
BRTR Keskin Array B 148.12 319 PKPbc PKPdf 22 44 17.0 +1.1
comp=Z,22nm,0.9s,baz=126,slow=2.1,SNR=60
BRTR Keskin Array B 148.12 319*c* *i*PKP2 PKPbc 22 44 20.1 +1.0
BRTR pmax pmax
comp=Z,22nm,0.9s
BRTR Keskin Array B 148.12 319 PKPdf PKPdf 22 44 16.3 +0.5
ISR Istrita 148.13 333 ⇓P PKPbc 22 44 20.3 +1.5
ISR Istrita 148.13 333 ⇓PKP2 PKPbc 22 44 20.3 +1.5
KHC Kasperske Hory 148.19 352 *e*PKIKP PKPdf 22 44 17.1 +1.6
KHC *e* 22 44 19.2
KHC Kasperske Hory 148.19 352 *e*PKP PKPdf 22 44 17.1 +1.6
KHC *e*x x 22 44 19.2
KHC *e*x x 22 44 37.0
DRGR 148.20 339 ⇑P PKPbc 22 44 19.8 +0.9
BORR Bors 148.24 341 ⇑P PKPbc 22 44 20.6 +1.7
MODS Modra-Piesok 148.27 347 *e*PKP2 PKiKP 22 44 21.3 +0.6
MODS Modra-Piesok 148.27 347 *e*PKP PKiKP 22 44 21.3 +0.6
CKRC Cesky Krumlov 148.39 351 *e*PKP PKPdf 22 44 17.3 +1.5
CKRC *e*x x 22 44 20.5
SECR 148.40 334 ⇑P PKPbc 22 44 21.2 +1.8
GERES GERESS Array B 148.45 351 PKPbc PKPbc 22 44 20.8 +1.2
comp=Z,18nm,0.7s,baz=46,slow=3.9,SNR=137
VOIR 148.49 335 ⇓P PKiKP 22 44 21.7 +0.4
VOIR 148.49 335 ⇓PKP2 PKiKP 22 44 21.7 +0.4
BSZH Besenyszg 148.51 343 ⇑P PKiKP 22 44 22.1 +1.0
SRO Srobarova 148.56 345 *e*PKP2 PKiKP 22 44 21.6 +0.4
SRO Srobarova 148.56 345 *e*PKP PKiKP 22 44 21.6 +0.4
ANTO Ankara 148.56 320 PKIKP PKPdf 22 44 17.3 +0.8
ANTO Ankara 148.56 320 PKPdf 22 44 17.3 +0.8
BUD Budapest 148.68 344 PKP PKPbc 22 44 21.6 +1.5
ARR Arges 148.71 336 ⇑P PKPdf 22 44 18.6 +2.1
LODK Lodwar 148.74 246 PKPdf PKPdf 22 44 15.9 -1.6
LODK IAMs_20 IAMs_20 23 49 05.6
comp=Z,586nm,20.0s
DEV Deva 148.92 338 ⇑P PKiKP 22 44 22.7 +0.7
STU Stuttgart 148.96 357 IAMs_20 IAMs_20 23 55 18.5
comp=Z,852nm,21.0s
LOT Lotru 148.98 337 ⇓P PKiKP 22 44 22.9 +0.5
CONA Conrad Observa 148.98 348 *i* P PKPbc 22 44 22.4 +1.5
comp=Z,54nm,0.9s,SNR=18
CSKK Cskako 148.99 345 PKP PKPbc 22 44 22.3 +1.4
SIRR Siria 149.01 340 ⇑P PKPbc 22 44 22.3 +1.3
SOP Sopron 149.08 347 PKP PKiKP 22 44 23.1 +0.8
RONA Rosalia, Austr 149.11 348 *e*P PKPbc 22 44 22.6 +1.4
comp=Z,48nm,0.9s,SNR=17
EGYH Egyhazaskeszo 149.16 346 PKP PKiKP 22 44 23.0 +0.5
PRD Provadia 149.23 330 *i* P PKPbc 22 44 22.3 +0.7
MOA Molln 149.34 350 *i* P PKPbc 22 44 22.9 +1.2
comp=Z,29nm,1.2s
MPLH Magyarpolny 149.34 346 PKP PKPbc 22 44 23.1 +1.4
RAZG Razgrad 149.37 331 ⇓P PKPbc 22 44 23.2 +1.3
GZR Gura Zlata 149.39 338 ⇓P PKPbc 22 44 23.1 +1.1
BFO Black Forest 149.43 358 PKHKP PKPpre 22 44 18.7
BFO Black Forest 149.43 358 PKPdf 22 44 18.7 +1.2
CLF Chambon-Foret 149.51 6 PKPdf PKPdf 22 44 18.4 +0.8
ECH Echery 149.56 360 IAMs_20 IAMs_20 23 43 32.9
comp=Z,732nm,21.0s
BIOA Bad Ischl, Aus 149.59 351 *i* P PKPbc 22 44 23.2 +0.8
comp=Z,21nm,1.0s,SNR=10
BZS Buzias 149.60 339 ⇑P PKPdf 22 44 19.4 +1.6
BZS Buzias 149.60 339 ⇑PKHKP PKPpre 22 44 19.4
BHL Bhannes 149.67 308 *e*P PKPdf 22 44 18.9 +0.5
ARSA Arzberg 149.70 348 *e*P PKPbc 22 44 23.4 +0.7
comp=Z,21nm,1.4s,SNR=6.6
SHBL Chebaa 149.84 307 *e*P PKPdf 22 44 19.1 +0.3
BANR Banloc 149.96 340 ⇓P PKPbc 22 44 24.7 +1.4
RETA Reutte 150.13 355 *i* P PKPbc 22 44 25.0 +1.2
comp=Z,26nm,0.9s,SNR=9.2
WATA Walderalm 150.20 354 *i* P PKPbc 22 44 24.9 +0.9
comp=Z,34nm,1.0s,SNR=11
KOVH Kovagotottos 150.22 344 PKP PKPbc 22 44 24.8 +0.9
KBA Koelnbreinsper 150.23 351 *e*P PKPbc 22 44 24.5 +0.3
comp=Z,18nm,0.9s,SNR=6.1
MOTA Moosalm 150.24 354 *i* P PKPbc 22 44 25.1 +0.9
comp=Z,33nm,0.9s,SNR=13
WTTA Wattenberg 150.27 354 *e*P PKPbc 22 44 25.3 +1.1
comp=Z,52nm,0.9s,SNR=12
SOKA Soboth 150.34 349 *e*P PKPbc 22 44 24.8 +0.4
comp=Z,31nm,1.0s,SNR=9.0
SQTA Sankt Quirin 150.35 354 *e*P PKPbc 22 44 25.4 +1.0
comp=Z,33nm,0.9s,SNR=11
PERS Pernice 150.37 349 *i* P PKPbc 22 44 24.8 +0.4
DAVA Damuels 150.40 356 *e*P PKPbc 22 44 25.9 +1.4
comp=Z,36nm,0.9s,SNR=10
FRGS Fruska Gora 150.59 341 ⇑P PKPbc 22 44 25.1 +0.2
FRGS Fruska Gora 150.59 341 *e*P PKPbc 22 44 25.1 +0.2
FETA Feichten 150.59 355 *i* P PKPbc 22 44 26.3 +1.3
comp=Z,35nm,0.9s,SNR=12
MYKA Terra Mystica 150.62 351 *e*P PKPbc 22 44 25.2 +0.2
comp=Z,19nm,0.8s,SNR=5.0
ABTA Abfaltersbach 150.67 352 *e*P PKPbc 22 44 25.6 +0.5
comp=Z,49nm,0.9s,SNR=23
CSS Mathiatis 150.90 311 IAMs_20 IAMs_20 23 59 05.8
comp=Z,501nm,20.0s
ZAG Zagreb 150.96 347 *e*P PKPbc 22 44 26.9 +1.2
GCIS Gornji Cirnik 151.00 347 *i* P PKPbc 22 44 26.2 +0.4
LJU Ljubljana 151.04 349 *e*P PKPbc 22 44 26.8 +0.9
CRES Cresnjev 151.07 348 *e*P PKPbc 22 44 26.8 +0.8
CRES Cresnjev 151.07 348 *i* P PKPbc 22 44 26.0 +0.1
ISP Isparta 151.21 319 PKIKP PKPdf 22 44 20.4 -0.4
ISP MLR MLR
comp=Z,600nm,22.0s
ISP Isparta 151.21 319 PKPdf PKPdf 22 44 20.4 -0.4
ISP IAMs_20 IAMs_20 23 54 11.3
comp=Z,610nm,22.0s
PLD Plovdiv 151.34 332 *i* P PKPbc 22 44 27.5 +0.8
CEY Cerknica 151.36 349 *e*P PKPbc 22 44 27.6 +0.9
KDZ Kurdzhali 151.36 330 *i* P PKPbc 22 44 27.7 +0.9
DIVS Divibare 151.48 340 IAMs_20 IAMs_20 23 49 30.4
comp=Z,658nm,21.0s
VTS Vitosha 151.56 334 ⇑P PKPbc 22 44 28.3 +0.9
VTS Vitosha 151.56 334 *i* P PKiKP 22 44 29.5 +1.7
SKDS Skadanscina 151.62 350 *e*P PKPbc 22 44 27.5 +0.2
RZN Rozhen 151.66 331 *i* P PKPbc 22 44 28.2 +0.5
BLY Banja Luka 151.70 345 *e*P PKPbc 22 44 28.6 +1.2
BBLS Lazići 151.88 341 *e*P PKPbc 22 44 29.0 +1.0
RUDO Rudo 152.11 340 *e*P PKPbc 22 44 28.9 +0.5
MMB Musomiste 152.19 332 *i* P PKPbc 22 44 29.0 +0.3
KKB Krupnik 152.24 334 *i* P PKiKP 22 44 30.1 +1.0
SSB Saint Sauveur 152.43 4 PKIKP PKPdf 22 44 22.4 +0.1
SSB Saint Sauveur 152.43 4 PKPdf PKPdf 22 44 22.4 +0.1
PGAV Gavieira, Arco 152.54 25 *e*LR LR 23 38 21.7
comp=Z,924nm,20.0s
PDG Podgorica 153.21 340 IAMs_20 IAMs_20 23 50 26.1
comp=Z,740nm,22.0s
POLO Lamas de Olo 153.23 25 *e*PKPdf PKPbc 22 44 32.0 +0.9
PMOZ Porto Moniz, M 153.57 51 *e*LR LR 23 37 26.7
comp=Z,640nm,20.0s
MVO Moncorvo 153.71 24 *e*PKPdf PKiKP 22 44 34.0 +1.8
MVO Moncorvo 153.71 24 *e*LR LR 23 40 48.4
comp=Z,691nm,20.0s
TIR Tirane 153.95 337 IAMs_20 IAMs_20 23 53 24.9
comp=Z,830nm,22.0s
PCAS Casmilo, Conde 154.02 28 *e*PKPdf PKPbc 22 44 34.0 +1.3
MTE Manteigas 154.15 26 *e*PKPdf PKiKP 22 44 34.7 +1.6
MTE Manteigas 154.15 26 *e*LR LR 23 38 58.4
comp=Z,476nm,20.0s
PSBE So Bento 154.32 29 *e*PKPdf PKiKP 22 44 36.1 +2.6
PMRV Marv??o 155.02 27 *e*PKPdf PKPdf 22 44 36.3 +10
PMRV Marv??o 155.02 27 *e*LR LR 23 38 46.2
comp=Z,751nm,22.0s
ESDC Sonseca Array 156.15 21 PKP PKPdf 22 44 29.2 +1.5
comp=Z,0.4nm,1.0s,baz=300,slow=0.9,SNR=4.2
PBAR Barrancos 156.21 28 *e*PKPdf PKPab 22 44 43.1 -12
PVAQ Vaqueiros 156.51 30 *e*LR LR 23 38 09.5
comp=Z,602nm,22.0s
KEST Kesra 161.91 354 PKPab PKPab 22 45 20.5 +0.2
comp=Z,5.1nm,0.8s,baz=292,slow=10,SNR=4.7
TOA0 Torodi Ar. Sit 173.21 131 PKPdf 22 44 41.2 -1.9
TORD Torodi Ar. Bea 173.21 131 PKP PKPdf 22 44 43.0 0.0
comp=Z,2.1nm,0.8s,baz=233,slow=5.4,SNR=10
TORD PKPab PKPab 22 46 13.0 +2.3
comp=Z,5.5nm,0.7s,baz=266,slow=3.0,SNR=13
TORD PP PP 22 50 01.8 -0.2
comp=Z,0.4nm,0.8s,baz=196,slow=10,SNR=3.5
TORD Torodi Ar. Bea 173.21 131 PKPdf 22 44 41.7 -1.4

NNC 24 22:54:57.4±3.9**,36°.86N**×**70°.87E,h0**km**,mb3.9,mpv3.5, 2C-3D,Error ellipse: s-maj=30.9km s-min=29.0km az=123.0,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.24**	**358**	P	Pn	22 56 31.1	+0.3
	1.4nm,0.3s,baz=188,slow=14,SNR=31						
KK31				⇓S	Sn	22 57 44.1	+1.3
	1.3nm,0.3s,baz=192,slow=24,SNR=6.4						
CHMS	**Chumysh**	**6.81**	**25**	⇓P	Pn	22 56 38.2	-0.5
	2.6nm,0.6s						
CHMS				⇑S	Sn	22 57 57.9	+0.9
	4.7nm,0.7s						
TKM2	**Tokmak 2**	**7.06**	**30**	⇓P	Pn	22 56 42.4	+0.2
	3.0nm,1.1s						
TKM2				⇑S	Sn	22 58 04.6	+1.4
	3.2nm,0.8s						

IDC ***24*** *23:39:43.0±0.7,35°.04S×107°.63W,h0km,mb3.9/9, mb1 4.2/9,mb1mx3.9/39,mbtmp3.9/9,MS3.9/8,Ms1 3.9/8, ms1mx3.5/55,Error ellipse: s-maj=23.3km s-min=21.8km az=22.0*

NEIC ***24*** *23:39:45.1±2.0,35°.12S±0°.10×107°.6W±0°.1,h10km±1km, mb4.8/29,Error ellipse: s-maj=20.6km s-min=16.3km az=268.0*

ISC 24 23:39:44.4±0.5**,35°.09S**±0°.09×**107°.6W**±0°.1**,h10**km**,n56,** σ**1**§**14**/43**,mb4.7**/21**,MS3.9**/7**,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**8.06**	**348**	Pn	**Pn**	**23 41 43.0**	**+1.5**
RPN	**Rapa Nui**	**8.08**	**349**	LR	LR	23 44 02.2	
	comp=Z,339nm,20.2s,baz=176,slow=32						
PLCA	**Paso Flores**	**29.62**	**112**	P	**P**	**23 45 50.1**	**+0.3**
	7.1nm,1.2s,baz=288,slow=7.5,SNR=4.4						
PLCA	**Paso Flores**	**29.62**	**112**	IAmb	IAmb	23 46 00.1	
	comp=Z,10nm,1.1s						
MG02	**Cerro Sombrero**	**32.31**	**135**	P	**P**	**23 46 13.7**	**+0.3**
USHA	**Ushuaia**	**33.42**	**138**	LR	LR	23 56 55.7	
	comp=Z,272nm,19.2s,baz=167,slow=31						
PB10	**IPOC Station P**	**34.12**	**80**	P	**P**	**23 46 29.4**	**-0.1**
TA01	**Diego Aracena**	**35.89**	**76**	P	**P**	**23 46 43.3**	**-1.4**
TA01				IAmb	IAmb	23 47 08.4	
	comp=Z,14nm,0.9s						
PB09	**IPOC Station P**	**36.02**	**79**	P	**P**	**23 46 46.9**	**+0.8**
PB09				IAmb	IAmb	23 47 38.3	
	comp=Z,15nm,1.3s						
NNA	**Nana**	**36.14**	**58**	LR	LR	23 57 32.8	
	comp=Z,189nm,21.4s,baz=238,slow=30						
LPAZ	**La Paz**	**39.88**	**72**	P	**P**	**23 47 19.1**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=231,slow=3.7,SNR=10						
LPAZ				LR	LR	00 00 03.9	
	comp=Z,130nm,18.9s,baz=240,slow=31						
LPAZ	**La Paz**	**39.88**	**72**	P	**P**	**23 47 19.4**	**+0.2**
SMAI	**San Martin Ant**	**40.16**	**158**	P	**P**	**23 47 20.6**	**+0.4**
SMAI				IAmb	IAmb	23 47 35.0	
	comp=Z,66nm,1.9s						
PPT	**Papeete**	**41.12**	**284**	P	**P**	**23 47 29.0**	**+0.2**
	comp=Z,29nm,0.6s,baz=154,slow=5.0,SNR=3.8						
SIV	**San Ignacio**	**45.63**	**78**	P	**P**	**23 48 05.9**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=239,slow=3.6,SNR=9.2						
JTS	**Las Juntas de**	**49.97**	**30**	LR	LR	00 04 28.7	
	comp=Z,125nm,20.3s,baz=282,slow=30						
ROSC	**El Rosal**	**50.57**	**45**	LR	LR	00 06 21.3	
	comp=Z,131nm,18.0s,baz=98,slow=32						
QSPA	**South Pole Qui**	**55.11**	**180**	P	**P**	**23 49 16.0**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=144,slow=2.3,SNR=2.6						
QSPA	**South Pole Qui**	**55.11**	**180**	IAmb	IAmb	23 49 29.4	
	comp=Z,26nm,1.9s						
VNDA	**Vanda**	**56.16**	**195**	P	**P**	**23 49 24.2**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=94,slow=14,SNR=2.1						
VNDA	**Vanda**	**56.16**	**195**	IAmb	IAmb	23 49 38.1	
	comp=Z,11nm,1.8s						
BAUV	**El Baul**	**57.57**	**48**	P	**P**	**23 49 33.3**	**-1.1**
BAUV				IAmb	IAmb	23 49 34.0	
	comp=Z,17nm,0.9s						
RPZ	**Rata Peaks**	**61.08**	**235**	LR	LR	00 09 00.4	
	comp=Z,60nm,20.2s,baz=145,slow=29						
PYZ	**Puysegur Point**	**62.99**	**231**	P	**P**	**23 50 10.7**	**-0.6**
TXAR	**Lajitas Array**	**64.19**	**4**	P	**P**	**23 50 17.3**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=143,slow=3.3,SNR=1.9						
SFX	**San Felipe**	**66.13**	**353**	P	**P**	**23 50 30.7**	**-1.0**
319A	**Douglas**	**66.14**	**358**	P	**P**	**23 50 30.4**	**-1.5**
319A				IAmb	IAmb	23 52 36.5	
	comp=Z,6.2nm,0.8s						
113A	**Mohawk Valley,**	**67.75**	**354**	P	**P**	**23 50 41.6**	**-0.5**
113A				IAmb	IAmb	23 50 48.3	
	comp=Z,7.5nm,1.4s						
BNM	**Barren Site**	**68.89**	**1**	P	**P**	**23 50 47.9**	**-1.6**
SNCC	**San Nicolas Is**	**68.90**	**349**	P	**P**	**23 50 45.9**	**-3.3**
PLAL	**Pickwick Lake**	**72.06**	**17**	P	**P**	**23 51 10.0**	**+1.5**
PLAL				IAmb	IAmb	23 52 37.4	
	comp=Z,11nm,1.5s						
NV11	**Mina Array Sit**	**73.81**	**351**	P	**P**	**23 51 19.8**	**+0.8**
NVAR	**Mina Array Bea**	**73.83**	**351**	P	**P**	**23 51 20.0**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=188,slow=7.6,SNR=8.2						
NVAR	**Mina Array Bea**	**73.83**	**351**	P	**P**	**23 51 19.1**	**-0.1**
S44A	**Carbondale**	**74.40**	**15**	P	**P**	**23 51 24.2**	**+2.0**
S44A				IAmb	IAmb	23 51 34.2	
	comp=Z,5.6nm,0.8s						
KVN	**Kaiserville**	**74.41**	**352**	P	**P**	**23 51 23.8**	**+1.2**
KVN				IAmb	IAmb	23 51 42.9	
	comp=Z,10nm,1.6s						
DZM	**Mont Dzumac**	**74.48**	**254**	LR	LR	00 17 19.7	
	comp=Z,89nm,18.8s,baz=87,slow=30						
RDMU	**Red Mountain**	**75.32**	**358**	P	**P**	**23 51 29.8**	**+2.0**
PD31	**Pinedale Array**	**77.51**	**359**		**P**	**23 51 41.0**	**+0.8**
PDAR	**Pinedale Array**	**77.51**	**359**	P	**P**	**23 51 39.9**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=181,slow=6.7,SNR=10						
PDAR	**Pinedale Array**	**77.51**	**359**		**P**	**23 51 41.3**	**+1.1**
BBSR	**BB Station**	**78.27**	**36**	P	**P**	**23 51 44.0**	**-0.3**
TPAW	**Teton Pass**	**78.27**	**358**	P	**P**	**23 51 44.8**	**+0.4**
ACSO	**Alum Creek Sta**	**78.32**	**19**	P	**P**	**23 51 43.1**	**-1.3**
ACSO				IAmb	IAmb	23 51 45.2	
	comp=Z,13nm,1.2s						
HLID	**Hailey**	**78.53**	**355**	P	**P**	**23 51 46.5**	**+0.7**
I07A	**Izee**	**79.54**	**351**	P	**P**	**23 51 52.5**	**+1.3**
I07A				IAmb	IAmb	23 53 55.2	
	comp=Z,18nm,1.7s						
BMO	**Blue Mountains**	**80.06**	**353**	P	**P**	**23 51 54.4**	**+0.4**
YKA	**Yellowknife Ar**	**97.41**	**357**	P	**P**	**23 53 16.9**	**-0.5**
	comp=Z,0.1nm,0.7s,baz=169,slow=5.6,SNR=4.0						
H01W1	**Cape Leeuwin H**	**100.19**	**214**	T	T	01 45 52.7	
	baz=144,slow=75,SNR=16						
H01W2	**Cape Leeuwin H**	**100.19**	**214**	T	T	01 45 53.1	
	baz=144,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**100.21**	**214**	T	T	01 45 54.0	
	baz=144,slow=75,SNR=16						
NRIK	**Noril'sk**	**144.69**	**351**	PKP	**PKPdf**	**23 59 21.0**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=40,slow=4.5,SNR=4.5						
AKASG	**Malin Array Be**	**145.29**	**50**	PKPbc	**PKPbc**	**23 59 21.7**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=298,slow=3.1,SNR=6.0						
BRTR	**Keskin Array B**	**149.04**	**70**	PKPbc	**PKPbc**	**23 59 33.6**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=192,slow=3.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**151.21**	**242**	PKPbc	**PKiKP**	**23 59 39.2**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=196,slow=1.9,SNR=4.8						
SONM	**Songino Array**	**151.76**	**307**	PKPbc	**PKPbc**	**23 59 37.7**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=59,slow=1.5,SNR=3.0						

IDC ***24*** *23:45:28.3±1.2,0°.31S×80°.98W,h0km,mb3.7/10, mb1 4.0/10,mb1mx3.7/36,mbtmp3.7/10,MS3.5/1, Ms1 3.5/1,ms1mx2.8/65,Error ellipse: s-maj=72.3km s-min=19.8km az=50.0*

IGQ ***24*** *23:45:36±1.7,0°S±4°×8°1W±1°2,h10km*

ISC 24 23:45:30.6±0.7**,0°.09S**±0°.06×**80°.81W**±0°.06**,h10**km**,n72,** σ**1**§**77**/75**,mb3.6**/9**,Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.62**	**106**	P	**Pb**	**23 45 44.0**	**+0.3**
FLF1	**Flavio Alfaro-**	**1.00**	**105**	P	**Pb**	**23 45 51.0**	**+0.9**
PAC1	**Pacto, Paraso**	**2.05**	**80**	*e*P	**Pn**	**23 46 05.0**	**-0.3**
PAC1				*e*S	**Sb**	**23 46 33.9**	**+0.3**
PAC1				*i*		23 46 40.8	
	comp=Z,813nm,0.8s						
PAC1	**Pacto, Paraso**	**2.05**	**80**	P	**Pn**	**23 46 04.0**	**-1.2**
HPAL	**Hacienda Las P**	**2.16**	**93**	P	**Pn**	**23 46 06.0**	**-1.0**
ILLI	**Illinizas Sur**	**2.17**	**107**	P	**Pn**	**23 46 07.0**	**-0.3**
GGPT	**Toaza - Volcan**	**2.19**	**93**	P	**Pn**	**23 46 07.0**	**-0.5**
PINO	**Pino**	**2.20**	**92**	P	**Pn**	**23 46 08.0**	**+0.2**
JUA2	**San Juan 2**	**2.21**	**93**	P	**Pn**	**23 46 08.0**	**+0.3**
YANA	**Yana**	**2.24**	**91**	P	**Pn**	**23 46 08.0**	**-0.2**
PAST	**Pastocalle**	**2.25**	**105**	P	**Pn**	**23 46 08.0**	**-0.3**
CAMI	**Rancho Maria**	**2.37**	**104**	P	**Pn**	**23 46 08.0**	**-2.1**
BNAS	**Cotopaxi Volca**	**2.40**	**104**	P	**Pn**	**23 46 11.0**	**+0.6**
NAS2	**Nasa**	**2.40**	**103**	P	**Pn**	**23 46 12.0**	**+1.5**
PITA	**Cotopaxi Volc**	**2.42**	**101**	P	**Pn**	**23 46 12.0**	**+1.3**
BMOR	**Cotopaxi Volca**	**2.43**	**105**	P	**Pn**	**23 46 12.0**	**+1.1**
BREF	**Cotopaxi Volca**	**2.44**	**104**	P	**Pn**	**23 46 12.0**	**+1.0**
CUSE	**Cuicocha Este**	**2.44**	**81**	*e*P	**Pn**	**23 46 11.1**	**+0.2**
CUSE				*e*S	**Sn**	**23 46 43.1**	**+2.0**
CUSE				*i*		23 47 02.3	
	comp=Z,617nm,0.3s						
CUSE	**Cuicocha Este**	**2.44**	**81**	P	**Pn**	**23 46 12.0**	**+1.1**
PORT	**Chimborazo Vol**	**2.45**	**124**	P	**Pn**	**23 46 11.0**	**-0.2**
BVC2	**Cotopaxi Volca**	**2.46**	**103**	P	**Pn**	**23 46 13.0**	**+1.7**
CUIC	**Cuicocha-Domo**	**2.48**	**81**	P	**Pn**	**23 46 12.0**	**+0.6**
BTAM	**Cotopaxi Volca**	**2.48**	**104**	P	**Pn**	**23 46 13.0**	**+1.4**
TAMH	**Tambohuasha Ch**	**2.49**	**125**	P	**Pn**	**23 46 12.0**	**+0.4**
VCES	**Cotopaxi**	**2.51**	**106**	P	**Pn**	**23 46 13.0**	**+1.0**
IGUA	**Igualata**	**2.58**	**123**	P	**Pn**	**23 46 14.0**	**+1.1**
ANTG	**Antisana-Guama**	**2.58**	**99**	P	**Pn**	**23 46 14.0**	**+1.0**
URCU	**Urcuqui**	**2.60**	**78**	P	**Pn**	**23 46 14.0**	**+0.8**
ANTS	**Antisana-Sarah**	**2.67**	**99**	P	**Pn**	**23 46 16.0**	**+1.8**
ANTI	**Antisana**	**2.67**	**98**	P	**Pn**	**23 46 15.0**	**+0.8**
JUI6	**Juive**	**2.69**	**120**	P	**Pn**	**23 46 15.0**	**+0.8**
POND	**Pondoa**	**2.70**	**119**	P	**Pn**	**23 46 16.0**	**+1.6**
BMAS	**Trigal station**	**2.72**	**121**	P	**Pn**	**23 46 17.0**	**+2.3**
RETU	**Refugio**	**2.72**	**120**	P	**Pn**	**23 46 18.0**	**+3.1**
ARRY	**Arrayan**	**2.74**	**121**	P	**Pn**	**23 46 16.0**	**+1.0**
BPAT	**Tungurahua Vol**	**2.76**	**121**	P	**Pn**	**23 46 18.0**	**+2.7**
CAYR	**Refugio Cayamb**	**2.80**	**88**	P	**Pn**	**23 46 18.0**	**+1.9**
CHMA	**Chilma**	**2.90**	**71**	P	**Pn**	**23 46 16.0**	**-1.2**
ECEN	**Cerro Negro**	**2.98**	**72**	P	**Pn**	**23 46 19.0**	**+0.6**
CHL1	**Volc¡n Chiles**	**2.99**	**73**	P	**Pn**	**23 46 19.0**	**+0.4**
CHL2	**Volc¡n Chiles**	**3.02**	**73**	P	**Pn**	**23 46 20.0**	**+1.0**
TULM	**Tulcn-Chalpat**	**3.12**	**75**	*e*P	**Pn**	**23 46 23.9**	**+3.5**
TULM				*i*		23 47 32.2	
	comp=Z,56nm,0.6s						
GCUF	**Volcan Galeras**	**3.70**	**69**	*e*P	**Pn**	**23 46 30.1**	**+1.8**
GCUF				*e*S	**Sb**	**23 47 17.8**	**-3.8**
GCUF				*i*		23 47 39.1	
	comp=Z,20nm,0.6s						
BOSC	**San Juan Bosco**	**3.82**	**143**	P	**Pn**	**23 46 32.0**	**+2.3**
GR1C	**Gorgona, Isla**	**4.05**	**41**	*e*P	**Pg**	**23 46 47.0**	**-1.2**
SOTA	**Rioblanco**	**4.74**	**62**	*e*P	**Pn**	**23 46 43.8**	**+1.1**
SOTA				*e*S	**Sn**	**23 47 39.7**	**+1.7**
SOTA				*i*		23 47 59.9	
	comp=Z,38nm,0.5s						
POPC	**Popayan, Colom**	**4.89**	**58**	*e*P	**Pn**	**23 46 45.5**	**+1.1**
POPC				*e*S	**Sn**	**23 47 41.4**	**+0.2**
POPC				*i*		23 48 03.7	
	comp=Z,9.3nm,0.5s						
PCON	**Cinco Dias**	**5.02**	**61**	*e*P	**Pn**	**23 46 49.4**	**+2.8**
PCON				*e*S	**Sn**	**23 47 48.0**	**+3.1**
PCON				*i*		23 47 56.4	
	comp=Z,24nm,0.6s						
MARP	**Paez Belalcaza**	**5.66**	**59**	*e*P	**Pn**	**23 46 58.9**	**+3.8**
GARC	**Garzon, Huila**	**5.77**	**67**	*e*P	Pn	23 47 03.8	+7.2
YOTC	**Yotoco, Valle**	**6.02**	**48**	*e*P	Pn	23 47 05.8	+5.9
YOTC				*e*S	**Sn**	**23 48 07.4**	**-1.7**
YOTC				*i*		23 48 19.8	
	comp=Z,9.8nm,0.5s						
PLMC	**San Jos del P**	**6.71**	**42**	*e*P	Pb	23 47 22.0	-5.5
PLMC				*e*S	**Sn**	**23 48 25.5**	**-0.5**
PLMC				*i*		23 48 46.6	
	comp=Z,9.7nm,0.5s						
ORTC	**Ortega, Tolima**	**6.83**	**54**	*e*P	**Pn**	**23 47 13.4**	**+2.5**
ORTC				*e*S	**Sn**	**23 48 30.7**	**+1.8**
ORTC				*i*		23 48 44.0	
	comp=Z,6.5nm,0.6s						
ANIL	**Santa Ana**	**7.06**	**50**	*e*P	Pb	23 47 27.8	-5.8

ANIL eS **Sn** **23 48 39.4 +4.5**
MACC Macarena, Meta 7.30 72 eP Pn 23 47 22.9 +5.5
MACC eS **Sb** **23 49 01.3 -3.6**
MACC *i* 23 49 38.4
comp=Z,6.2nm,0.8s
GUY2C Guyana, Caldas 7.58 46 eP Pn 23 47 28.2 +6.6
GUY2C eS **Sn** **23 48 50.2 +2.3**
GUY2C *i* 23 48 56.2
comp=Z,6.8nm,0.6s
CBOC Ciudad Bolivar 7.61 39 eP Pb 23 47 34.8 -8.1
CBOC eS **Sn** **23 48 52.0 +3.8**
CBOC *i* 23 49 12.7
comp=Z,4.1nm,0.6s
ROSC El Rosal 8.12 53 Pn Pn 23 47 36.9 +7.8
comp=Z,2.0nm,0.3s,baz=283,slow=20,SNR=2.5
CHIC Chingaza 8.48 56 eP Pn 23 47 46.7 +13
LPAZ La Paz 20.38 143 P **P** **23 50 07.8 -0.6**
comp=Z,1.2nm,0.8s,baz=323,slow=11,SNR=5.7
SIV San Ignacio 25.08 130 P **P** **23 50 54.1 -1.5**
comp=Z,0.5nm,0.4s,baz=276,slow=9.2,SNR=2.9
TKL Tuckaleechee C 35.67 356 LR LR 00 06 48.1
comp=Z,70nm,19.0s,baz=263,slow=36
TXAR Lajitas Array 36.50 325 P **P** **23 52 35.7 -0.7**
comp=Z,0.2nm,0.4s,baz=138,slow=9.6,SNR=2.8
ANMO Albuquerque 42.30 328 P **P** **23 53 26.2 +1.4**
comp=Z,4.0nm,0.8s,baz=144,slow=10,SNR=17
PDAR Pinedale Array 49.87 332 P **P** **23 54 24.2 -0.3**
comp=Z,0.1nm,0.4s,baz=125,slow=7.8,SNR=2.0
NVAR Mina Array Bea 51.53 322 P **P** **23 54 36.8 -0.3**
comp=Z,1.6nm,0.8s,baz=144,slow=6.8,SNR=12
YKA Yellowknife Ar 67.39 344 P **P** **23 56 25.5 -0.4**
comp=Z,0.4nm,0.5s,baz=138,slow=6.1,SNR=11
INK Inuvik 77.07 342 P **P** **23 57 24.1 +0.4**
comp=Z,1.4nm,1.0s,baz=134,slow=7.4,SNR=3.9
ESDC Sonseca Array 79.94 50 P **P** **23 57 41.6 +1.4**
comp=Z,0.4nm,0.7s,baz=255,slow=9.2,SNR=2.7
ILAR Eielson Array 80.08 337 P **P** **23 57 39.8 -0.5**
comp=Z,0.7nm,1.0s,baz=162,slow=4.1,SNR=5.0
ASAR Alice Springs 138.86 233 PKP **PKPdf** **00 04 56.3 -2.0**
comp=Z,0.3nm,0.6s,baz=90,slow=2.4,SNR=2.8
WRA Warramunga Arr 140.24 238 PKP **PKPdf** **00 04 58.1 -2.7**
comp=Z,0.7nm,0.6s,baz=104,slow=1.8,SNR=3.1

NEIC ***24*** *23:50:53.2s±1.9, 15°.42N±0°.05×93°.33W±0°.05, h91km±6km, mb4.4/274, Md4.7/55(MEX), Error ellipse: s-maj=8.1km s-min=5.8km az=218.0*
MEX ***24*** *23:50:53.0s±1.3, 15°.40N×93°.35W, h94km±9km, MD4.6*
IDC ***24*** *23:50:53.5s±0.8, 15°.64N×93°.03W, h88km±6km, mb3.9/16, mb1 4.1/19, mb1mx3.9/43, mbtmp4.3/19, MS3.6/2, Ms1 3.6/2, ms1mx2.9/72, Error ellipse: s-maj=34.1km s-min=9.4km az=52.0*
GCG ***24*** *23:50:56.8±0.4, 15°.53N×92°.85W, h12km±8km, MD4.7*
ISC 24 23:50:52.6±0.4, 15°.44N±0°.04×93°.37W±0°.03, h92km±4km, h92km:pP-P, n498, σ1$43/531, mb4.4/98, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.30**	**28**				**Pn**	**23 51 05.4**	**-0.9**
PCIG							Sn	23 51 15.5	-1.0
PCIG		**0.30**	**28**	*i*	P		**Pn**	**23 51 05.4**	**-0.9**
PCIG					eS		Sn	23 51 15.5	-1.0
CARR	**Arriaga**	**0.96**	**327**	*e*	P		**Pn**	**23 51 12.2**	**+0.1**
CARR					eS		Sn	23 51 26.5	-0.1
PATR	**El Naranjo**	**1.14**	**106**	*e*	P		**Pn**	**23 51 12.8**	**-1.5**
PATR					eS		Sn	23 51 28.9	-1.7
PAVE	**Pavencul**	**1.17**	**102**	*i*	P		**Pn**	**23 51 13.8**	**-0.9**
PAVE					eS		Sn	23 51 30.6	-0.8
THIG		**1.19**	**116**				**Pn**	**23 51 13.1**	**-1.5**
THIG							Sn	23 51 29.4	-1.8
THIG		**1.19**	**116**	*i*	P		**Pn**	**23 51 13.1**	**-1.5**
THIG					eS		Sn	23 51 29.4	-1.8
CHUJ	**Union Juarez**	**1.26**	**106**	*i*	P		**Pn**	**23 51 14.4**	**-1.4**
CHUJ					eP			23 51 14.7	
CHUJ					eS		Sn	23 51 31.4	-1.8
TGIG		**1.35**	**10**				**Pn**	**23 51 16.7**	**0.0**
TGIG							Sn	23 51 34.3	-0.7
TGIG		**1.35**	**10**	*i*	P		**Pn**	**23 51 16.7**	**0.0**
TGIG					eS		Sn	23 51 34.3	-0.7
CCIG	**Comitan**	**1.45**	**54**				**Pn**	**23 51 18.0**	**0.0**
CCIG						Sn	Sn	23 51 36.9	-0.3
CCIG	**Comitan**	**1.45**	**54**	*e*	P		**Pn**	**23 51 18.1**	**0.0**
CCIG					eS		Sn	23 51 36.2	-1.0
HUEH	**Huehuetenango**	**1.80**	**93**				**Pn**	**23 51 22.7**	**+0.1**
HUEH						Sn	Sn	23 51 45.8	+0.5
HUEH	**Huehuetenango**	**1.80**	**93**	*e*	P		**Pn**	**23 51 22.8**	**+0.3**
HUEH					eS		Sn	23 51 43.0	-2.2
HUEH	**Huehuetenango**	**1.80**	**93**	*e*	P		**Pn**	**23 51 22.8**	**+0.3**
HUEH					eS		Sn	23 51 43.0	-2.2
RTAL	**Retalhuleu**	**1.85**	**119**				**Pn**	**23 51 22.3**	**-0.7**
RTAL						Sn	Sn	23 51 43.3	-2.8
RTAL	**Retalhuleu**	**1.85**	**119**	*e*	P		**Pn**	**23 51 22.4**	**-0.6**
RTAL					eS		Sn	23 51 44.0	-2.1
STG3	**Santiaguito 3,**	**1.88**	**112**	*e*	P		**Pn**	**23 51 23.2**	**-0.3**
STG3					eS		Sn	23 51 43.0	-4.0
UXUV	**UXUV**	**2.02**	**338**	*e*	P		**Pn**	**23 51 25.9**	**+0.8**
UXUV					eS		Sn	23 51 45.6	-4.3
CMIG	**Matias Romero**	**2.20**	**319**		P		**Pn**	**23 51 28.5**	**+1.0**
	69nm,0.3s,baz=136,slow=12,SNR=263								
CMIG					S		Sn	23 51 54.6	+0.3
	217nm,0.3s,baz=352,slow=14,SNR=12								
CMIG	**Matias Romero**	**2.20**	**319**				**Pn**	**23 51 27.7**	**+0.2**
CMIG							Sn	23 51 53.4	-0.9
CMIG	**Matias Romero**	**2.20**	**319**	*e*	P		**Pn**	**23 51 27.7**	**+0.2**
CMIG					eS		Sn	23 51 53.4	-0.9
HUIG	**Huatulco**	**2.66**	**277**				Pn	23 51 31.6	-2.1
HUIG							Sn	23 51 58.4	-6.8
HUIG	**Huatulco**	**2.66**	**277**	*e*	P		Pn	23 51 31.6	-2.1
HUIG					eS		Sn	23 51 58.4	-6.8
TUIG	**Tuzandepetl**	**2.77**	**339**				**Pn**	**23 51 34.6**	**-0.6**
TUIG							Sn	23 52 06.9	-1.0
TUIG	**Tuzandepetl**	**2.77**	**339**	*e*	P		**Pn**	**23 51 34.6**	**-0.6**
TUIG				*i*	S		**Sn**	**23 52 06.9**	**-1.0**
PCG	**Pacaya**	**2.86**	**111**	*e*	S		**Sn**	**23 52 04.9**	**-5.5**
NEUV	**Arroyo Zacate**	**3.25**	**314**	*e*	P		**Pn**	**23 51 42.2**	**+0.6**
NEUV				*i*	S		**Sn**	**23 52 15.8**	**-3.6**
MRL	**Marmol**	**3.57**	**95**	*e*	P		**Pn**	**23 51 46.1**	**-0.1**
MRL					eS		**Sn**	**23 52 26.8**	**-0.7**
VHO	**Vista Hermosa**	**3.62**	**297**	*e*	P		**Pn**	**23 51 47.6**	**+0.9**
VHO					eS		**Sn**	**23 52 21.5**	**-7.1**
PETF	**Flores**	**3.67**	**66**		Pn		**Pn**	**23 51 47.0**	**-0.3**
PEIG	**Puerto Escondi**	**3.69**	**279**	*e*	P		**Pn**	**23 51 45.8**	**-1.7**
PEIG					eS		Sn	23 52 21.6	-8.3
NUBE	**Las Nubes**	**3.79**	**113**	*e*	P		**Pn**	**23 51 49.3**	**+0.2**
NUBE	**Las Nubes**	**3.79**	**113**	*e*	P		**Pn**	**23 51 49.3**	**+0.2**
RTR	**El Retiro**	**3.91**	**113**	*e*	P		**Pn**	**23 51 52.1**	**+1.5**
RTR	**El Retiro**	**3.91**	**113**	*e*	P		**Pn**	**23 51 52.1**	**+1.5**
CEVE	**Cerro Verde**	**3.96**	**113**	*e*	P		**Pn**	**23 51 52.8**	**+1.4**
CEVE					eS		**Sn**	**23 52 37.4**	**+0.5**
CEVE	**Cerro Verde**	**3.96**	**113**	*e*	P		**Pn**	**23 51 52.8**	**+1.4**
CEVE					eS		**Sn**	**23 52 37.4**	**+0.5**
ESQI	**Esquipulas**	**3.98**	**102**				**Pn**	**23 51 51.4**	**-0.2**
ESQI	**Esquipulas**	**3.98**	**102**	*e*	P		**Pn**	**23 51 51.6**	**0.0**
MTO3	**Montecristo**	**4.01**	**104**				**Pn**	**23 51 51.3**	**-0.7**
MTO3	**Montecristo**	**4.01**	**104**	*e*	P		**Pn**	**23 51 51.9**	**-0.1**
MTO3	**Montecristo**	**4.01**	**104**	*e*	P		**Pn**	**23 51 51.9**	**-0.1**
SCIG	**Sabancuy**	**4.08**	**30**				**Pn**	**23 51 52.0**	**-0.8**
SCIG							**Sn**	**23 52 38.1**	**-1.4**
SCIG	**Sabancuy**	**4.08**	**30**	*e*	P		**Pn**	**23 51 52.0**	**-0.8**
SCIG				*i*	S		**Sn**	**23 52 38.1**	**-1.4**
YOIG	**Yosondua**	**4.26**	**290**	*e*	P		**Pn**	**23 51 55.7**	**+0.3**
YOIG					eS		Sn	23 52 37.0	-7.2
BOQS	**Boqueron**	**4.30**	**113**	*e*	P		**Pn**	**23 51 56.6**	**+0.5**
BOQS	**Boqueron**	**4.30**	**113**	*e*	P		**Pn**	**23 51 56.6**	**+0.5**
SNET	**Serv Nac Est T**	**4.36**	**113**		Pn		**Pn**	**23 51 56.7**	**-0.1**
TOXG	**Toxpalan**	**4.42**	**307**	*e*	P		**Pn**	**23 51 59.4**	**+1.9**
LFRS	**El Faro**	**4.54**	**113**	*e*	P		**Pn**	**23 52 00.4**	**+1.2**
LFRS	**El Faro**	**4.54**	**113**	*e*	P		**Pn**	**23 52 00.4**	**+1.2**
TXIG	**Tlaxiaco**	**4.60**	**294**	*e*	P		**Pn**	**23 52 01.0**	**+0.9**
TXIG					eS		Sn	23 52 43.5	-9.0
PNIG	**Pinotepa**	**4.68**	**282**				**Pn**	**23 51 60.0**	**-1.0**
PNIG							Sn	23 52 47.8	-6.3
PNIG	**Pinotepa**	**4.68**	**282**	*e*	P		**Pn**	**23 51 60.0**	**-1.0**
PNIG					eS		Sn	23 52 47.8	-6.3
COEG	**Centro de Oper**	**4.70**	**112**	*e*	P		**Pn**	**23 52 01.7**	**+0.4**
COEG	**Centro de Oper**	**4.70**	**112**	*e*	P		**Pn**	**23 52 01.7**	**+0.4**
COEB	**Comit de Eme**	**5.06**	**112**	*e*	P		**Pn**	**23 52 06.2**	**-0.1**
COEB	**Comit de Eme**	**5.06**	**112**	*e*	P		**Pn**	**23 52 06.2**	**-0.1**
JAUV	**Jalcomulco**	**5.10**	**320**	*e*	P		**Pn**	**23 52 05.6**	**-1.2**
JAUV				*i*	S		**Sn**	**23 53 01.7**	**-2.7**
LVIG	**Laguna Verde**	**5.16**	**326**				**Pn**	**23 52 05.5**	**-1.9**
LVIG							**Sn**	**23 53 00.4**	**-5.4**
LVIG	**Laguna Verde**	**5.16**	**326**	*e*	P		**Pn**	**23 52 05.5**	**-1.9**
LVIG					eS		**Sn**	**23 53 00.4**	**-5.4**
MGIG	**Malinaltepec**	**5.36**	**290**	*e*	P		**Pn**	**23 52 11.6**	**+1.2**
MGIG					eS		**Sn**	**23 53 05.3**	**-5.7**
TLIG	**Tlapa**	**5.42**	**294**		Pn		**Pn**	**23 52 12.0**	**+0.9**
CRIG	**Cruz Grande**	**5.69**	**284**				Pn	23 52 10.1	-4.6
CRIG							Sn	23 53 10.5	-8.2
CRIG	**Cruz Grande**	**5.69**	**284**	*e*	P		Pn	23 52 10.1	-4.6
CRIG					eS		Sn	23 53 10.5	-8.2
TGUH	**Tegucigalpa,Un**	**6.05**	**102**		Pn		**Pn**	**23 52 19.2**	**-0.6**
PPM	**Popocatepetl**	**6.19**	**306**	*e*	P		**Pn**	**23 52 25.4**	**+3.5**
YAIG	**Yautepec**	**6.43**	**303**				**Pn**	**23 52 26.7**	**+1.8**
YAIG							**Sn**	**23 53 32.1**	**-4.8**
YAIG	**Yautepec**	**6.43**	**303**	*e*	P		**Pn**	**23 52 26.7**	**+1.8**
YAIG					eS		**Sn**	**23 53 32.1**	**-4.8**
MYIG	**Mrida**	**6.48**	**32**				**Pn**	**23 52 26.9**	**+1.4**
MYIG	**Mrida**	**6.48**	**32**	*e*	P		**Pn**	**23 52 26.9**	**+1.4**
MYIG					eS		**Sn**	**23 53 33.2**	**-4.7**
CRIN	**San Cristobal**	**6.70**	**113**				**Pn**	**23 52 28.7**	**+0.1**
CNGN	**Cerro Negro**	**7.10**	**113**				**Pn**	**23 52 33.5**	**-0.5**
MATN	**Matagalpa**	**7.63**	**108**				**Pn**	**23 52 40.7**	**-0.6**
BOAB	**BOACO BROADBAN**	**8.04**	**111**		Pn		**Pn**	**23 52 46.7**	**-0.1**
ACON	**Acoyapa**	**8.67**	**112**		Pn		**Pn**	**23 52 53.3**	**-2.1**
HZTE	**Horizontes, Gu**	**8.91**	**121**				**Pn**	**23 52 58.9**	**+0.4**
ORTG	**Ortega, Santa**	**9.21**	**122**		Pn		**Pn**	**23 53 02.9**	**+0.1**
DUNO	**Dulce Nombre,**	**9.34**	**124**				**Pn**	**23 53 03.6**	**-0.9**
ESPN	**Las Esperanzas**	**9.38**	**109**				**Pn**	**23 53 04.7**	**-0.2**
JTS	**Las Juntas de**	**9.66**	**121**		P		**Pn**	**23 53 08.2**	**-0.7**
	3.9nm,0.3s,baz=24,slow=17,SNR=13								
JTS	**Las Juntas de**	**9.66**	**121**		Pn		**Pn**	**23 53 08.9**	**0.0**
CAO2	**Cobano, Puntar**	**9.88**	**124**		Pn		**Pn**	**23 53 10.8**	**-1.0**
RIMA	**Rio Macho**	**10.85**	**120**				**Pn**	**23 53 24.5**	**-0.7**
ZAIG	**Zacatecas**	**11.35**	**311**		Pn		**Pn**	**23 53 33.9**	**+1.9**
SRBA	**San Rafael, Bu**	**11.55**	**121**				**Pn**	**23 53 33.7**	**-1.0**
SOR	**Soroa**	**12.22**	**52**		Pn		**Pn**	**23 53 41.3**	**-2.1**
SOR	**Soroa**	**12.22**	**52**	*e*	P		**Pn**	**23 53 41.7**	**-1.7**
SOR					eS		Sn	23 55 48.0	-10
SOR					IVmB_BB			23 55 56.7	
	comp=E,532nm,0.8s								
SOR					IVmB_BB			23 55 57.2	
	comp=N,398nm,0.6s								
735A	**Kenedy**	**13.97**	**344**		Pn		**Pn**	**23 54 06.2**	**-0.3**
833A	**Chaparral WMA,**	**13.99**	**337**		Pn		**Pn**	**23 54 08.2**	**+1.5**
833A	**Chaparral WMA,**	**13.99**	**337**		P		**Pn**	**23 54 08.9**	**+2.2**
	baz=154								
MGV	**Manicaragua**	**14.30**	**60**	*e*	P		**Pn**	**23 54 06.4**	**-4.5**
BCIP	**Isla Barro Col**	**14.61**	**114**		Pn		**Pn**	**23 54 13.8**	**-1.0**
HKT	**Hockley**	**14.62**	**351**		Pn		**Pn**	**23 54 14.8**	**0.0**
441A	**DeRidder**	**15.24**	**1**		Pn		**Pn**	**23 54 22.4**	**-0.3**
MTDJ	**Mount Denham**	**15.41**	**77**				**Pn**	**23 54 23.0**	**-2.0**
MTDJ							IAmb	IAmb	23 54 30.8
	comp=Z,37nm,0.9s								
061Z	**Ochoppi**	**15.60**	**46**		Pn		**Pn**	**23 54 25.6**	**-1.7**
435B	**Jarrell**	**15.76**	**347**				**Pn**	**23 54 30.0**	**+0.8**
435B							IAmb	IAmb	23 54 35.0
	comp=Z,21nm,0.7s								
435B	**Jarrell**	**15.76**	**347**		P		**P**	**23 54 31.0**	**-0.3**
	baz=164								
342A	**Flagon Creek P**	**15.89**	**3**		Pn		**Pn**	**23 54 29.9**	**-1.0**
342A							IAmb	IAmb	23 54 32.3
	comp=Z,16nm,0.8s								
JCT	**Junction City**	**16.10**	**340**				**Pn**	**23 54 34.2**	**+0.6**
JCT	**Junction City**	**16.10**	**340**		P		**P**	**23 54 36.1**	**+1.0**
	baz=156								
344A	**Westbrook Farm**	**16.12**	**8**				**Pn**	**23 54 34.0**	**+0.2**
344A							IAmb	IAmb	23 54 36.7
	comp=Z,41nm,1.2s								
HPIG		**16.19**	**317**				**Pn**	**23 54 35.6**	**+0.8**
346A	**Big Creek Wild**	**16.27**	**12**		Pn		**Pn**	**23 54 34.0**	**-1.6**
346A							IAmb	IAmb	23 54 53.2
	comp=Z,20nm,0.8s								
NATX	**Nacogdoches**	**16.29**	**356**		Pn		**Pn**	**23 54 34.8**	**-1.1**
NATX	**Nacogdoches**	**16.29**	**356**		P		**P**	**23 54 37.2**	**-0.1**
	baz=175								
PAYG	**Puerto Ayora**	**16.29**	**169**				**Pn**	**23 54 34.6**	**-1.5**
PAYG							IAmb	IAmb	23 54 51.2
	comp=Z,38nm,1.1s								
237A	**Washetta, Mont**	**16.64**	**353**		Pn		**Pn**	**23 54 39.8**	**-0.4**
237A							IAmb	IAmb	23 54 53.1
	comp=Z,21nm,0.8s								
451A	**Vernon**	**16.65**	**24**				**Pn**	**23 54 39.3**	**-1.0**
DWPF	**Disney Wildern**	**16.77**	**39**		Pn		**Pn**	**23 54 40.6**	**-1.3**
DWPF	**Disney Wildern**	**16.77**	**39**		P		**Pn**	**23 54 41.2**	**-0.7**
	baz=223								
TX31	**Lajitas Ar. Si**	**16.78**	**327**		P		**Pn**	**23 54 43.2**	**+1.1**
TX31							IAmb	IAmb	23 54 47.6
	comp=Z,43nm,1.1s								
TX32	**Lajitas Array**	**16.78**	**327**		P		**P**	**23 54 43.7**	**+0.9**
TXAR	**Lajitas Array**	**16.78**	**327**		P		**P**	**23 54 44.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=32								
TXAR	**Lajitas Array**	**16.78**	**327**		P		**P**	**23 54 43.9**	**+1.1**
553A	**Crawfordville**	**16.82**	**28**				**Pn**	**23 54 40.1**	**-2.4**
WHTX	**Lake Whitney,**	**16.90**	**348**		Pn		**Pn**	**23 54 42.7**	**-0.7**
WHTX							IAmb	IAmb	23 54 50.2
	comp=Z,16nm,0.7s								
WHTX	**Lake Whitney,**	**16.90**	**348**		P		**P**	**23 54 44.9**	**+0.9**
	baz=166								
VBMS	**Vicksburg**	**16.91**	**8**				**Pn**	**23 54 42.8**	**-0.7**
VBMS							IAmb	IAmb	23 54 46.7
	comp=Z,34nm,0.8s								
656A	**Willston**	**17.09**	**34**		Pn		**Pn**	**23 54 44.1**	**-1.6**
146A	**Union**	**17.57**	**12**		P		**Pn**	**23 54 49.7**	**-1.9**
146A							IAmb	IAmb	23 54 56.5
	comp=Z,28nm,1.1s								
250A	**Grady**	**17.69**	**20**		P		**Pn**	**23 54 52.2**	**-0.9**
250A							IAmb	IAmb	23 54 57.8
	comp=Z,22nm,0.9s								
352A	**Blakely**	**17.73**	**24**		P		**Pn**	**23 54 52.5**	**-1.1**
352A							IAmb	IAmb	23 54 57.3
	comp=Z,43nm,1.0s								
Z41A	**Richland Creek**	**17.75**	**2**		P		**P**	**23 54 53.6**	**+0.3**
Z41A							IAmb	IAmb	23 55 04.4
	comp=Z,15nm,0.8s								
Z41A	**Richland Creek**	**17.75**	**2**		P		**P**	**23 54 53.8**	**+0.5**
	baz=181								
Z38A	**Mt. Pleasant**	**17.81**	**356**		P		**Pn**	**23 54 55.2**	**+0.8**
Z38A							IAmb	IAmb	23 55 02.6
	comp=Z,23nm,1.0s								
GTBY	**Guantanamo Bay**	**17.95**	**73**		P		**P**	**23 54 54.1**	**-1.6**
GTBY							IAmb	IAmb	23 54 58.9
	comp=Z,22nm,1.0s								
ABTX	**Abilene, Hawle**	**18.04**	**343**		P		**Pn**	**23 54 57.3**	**0.0**
ABTX							IAmb	IAmb	23 54 59.3
	comp=Z,13nm,0.8s								
ABTX	**Abilene, Hawle**	**18.04**	**343**		P		**Pn**	**23 54 57.7**	**+0.5**
	baz=159,SNR=5.1								
Z35A	**Perchaven, San**	**18.16**	**350**		P		**Pn**	**23 54 59.6**	**+0.8**
WLAR	**White Oak Lake**	**18.17**	**1**				**Pn**	**23 54 58.5**	**-0.3**
TIGA	**Tifton**	**18.26**	**28**		P		**P**	**23 54 57.8**	**-1.2**
TIGA							IAmb	IAmb	23 55 04.6
	comp=Z,25nm,0.8s								
TIGA	**Tifton**	**18.26**	**28**		P		**P**	**23 54 58.2**	**-0.8**
	baz=211								
Z47A	**Carrollton**	**18.32**	**14**		P		**P**	**23 54 59.5**	**-0.2**
Z47A							IAmb	IAmb	23 55 07.8
	comp=Z,23nm,0.7s								
456A	**Hilliard**	**18.43**	**32**		P		**P**	**23 55 00.2**	**-0.6**
456A							IAmb	IAmb	23 55 09.6
	comp=Z,34nm,0.8s								
LRAL	**Lakeview Retre**	**18.45**	**17**				**P**	**23 55 00.9**	**-0.1**
LRAL	**Lakeview Retre**	**18.45**	**17**		P		**P**	**23 55 00.5**	**-0.5**
	baz=199,SNR=6.3								
CCAR	**Cane Creek**	**18.46**	**4**		P		**Pn**	**23 55 01.5**	**-0.8**
CCAR							IAmb	IAmb	23 55 03.7
	comp=Z,24nm,0.7s								
SJCC	**San Jacinto, C**	**18.57**	**105**		P		**P**	**23 55 01.0**	**-1.6**
SJCC							IAmb	IAmb	23 55 02.3
	comp=Z,14nm,0.9s								
Y45A	**Yeager Farm, C**	**18.67**	**10**				**P**	**23 55 03.6**	**+0.1**
DBBC	**Dabeiba**	**18.78**	**115**	*e*	P		**P**	**23 55 05.2**	**+0.3**
152A	**Waverly Hall**	**18.87**	**23**		P		**P**	**23 55 05.4**	**-0.2**
X40A	**Basin Creek Fa**	**18.98**	**1**		P		**P**	**23 55 06.7**	**-0.1**
X40A	**Basin Creek Fa**	**18.98**	**1**		P		**P**	**23 55 06.5**	**-0.2**
	baz=181								
MIAR	**Mount Ida**	**19.03**	**359**		P		**P**	**23 55 07.1**	**-0.2**
MIAR							IAmb	IAmb	23 55 16.2
	comp=Z,18nm,0.9s								
MIAR	**Mount Ida**	**19.03**	**359**		P		**P**	**23 55 07.2**	**-0.2**
	baz=179,SNR=15								
X37A	**Clayton**	**19.16**	**355**				**Pn**	**23 55 09.9**	**-0.7**
X37A							IAmb	IAmb	23 55 16.7
	comp=Z,18nm,0.8s								
255A	**Hazlehurst**	**19.18**	**29**		P		**P**	**23 55 07.6**	**-1.4**
UALR	**University of**	**19.28**	**3**		P		**P**	**23 55 10.6**	**+0.6**
UALR							IAmb	IAmb	23 55 11.3
	comp=Z,18nm,0.7s								
Z51A	**Franklin**	**19.29**	**21**		P		**Pn**	**23 55 10.8**	**-1.3**
OXF	**Oxford**	**19.33**	**10**		P		**P**	**23 55 11.0**	**+0.4**
OXF	**Oxford**	**19.33**	**10**		P		**P**	**23 55 10.4**	**-0.2**
	baz=191								
Y49A	**Blount Mountai**	**19.39**	**18**		P		**P**	**23 55 11.6**	**+0.4**
Y49A							IAmb	IAmb	23 55 18.8
	comp=Z,24nm,1.5s								
154A	**Montrose**	**19.48**	**27**		P		**P**	**23 55 11.2**	**-1.0**
154A							IAmb	IAmb	23 55 16.0
	comp=Z,26nm,0.8s								
X34A	**Smith Ranch, M**	**19.50**	**349**				**P**	**23 55 13.5**	**+1.0**
X34A							IAmb	IAmb	23 55 23.3
	comp=Z,15nm,0.7s								
CBOC	**Ciudad Bolivar**	**19.51**	**117**	*e*	P		**P**	**23 55 12.7**	**-0.2**
MNTX	**Cornudas Mount**	**19.55**	**328**		P		**P**	**23 55 12.5**	**-0.6**
MNTX	**Cornudas Mount**	**19.55**	**328**		P		**P**	**23 55 14.9**	**+1.8**
	baz=143								
W41B	**Gary Mavity, V**	**19.68**	**3**		P		**P**	**23 55 14.0**	**-0.4**
W41B							IAmb	IAmb	23 55 20.9
	comp=Z,16nm,1.0s								
W41B	**Gary Mavity, V**	**19.68**	**3**		P		**P**	**23 55 14.3**	**-0.1**
	baz=183,SNR=9.0								
W39A	**Magazine**	**19.68**	**359**		IAmb		IAmb	IAmb	23 55 23.4
	comp=Z,22nm,1.4s								
W39A	**Magazine**	**19.68**	**359**		P		**P**	**23 55 15.0**	**+0.5**
	baz=178								
ZARC	**Zaragoza, Cauc**	**19.77**	**111**		P		**P**	**23 55 11.7**	**-3.9**
X48A	**Hartselle**	**19.77**	**16**		IAmb		IAmb	IAmb	23 55 20.0
	comp=Z,14nm,0.8s								
WHAR	**Wooly Hollow**	**19.80**	**3**		P		**P**	**23 55 15.7**	**0.0**
WHAR							IAmb	IAmb	23 55 22.8
	comp=Z,16nm,0.9s								
W45A	**Hickory Valley**	**19.99**	**10**		P		**Pn**	**23 55 18.8**	**-1.6**
W45A							IAmb	IAmb	23 55 21.8
	comp=Z,24nm,0.9s								
GOGA	**Godfrey**	**20.02**	**25**		P		**P**	**23 55 17.1**	**-1.0**
GOGA							IAmb	IAmb	23 55 21.7
	comp=Z,14nm,0.8s								
GOGA	**Godfrey**	**20.02**	**25**		P		**P**	**23 55 16.8**	**-1.2**
	baz=208								
PLAL	**Pickwick Lake**	**20.04**	**13**		P		**P**	**23 55 18.9**	**+0.7**
PLAL							IAmb	IAmb	23 55 38.2
	comp=Z,13nm,0.8s								
FNO	**Franklin**	**20.07**	**350**				**P**	**23 55 18.8**	**+0.1**
JAKH	**Jacmel**	**20.15**	**79**		P		**P**	**23 55 18.5**	**-1.1**
JAKH							IAmb	IAmb	23 55 29.3
	comp=Z,33nm,1.1s								
FPAL	**Fort Paine**	**20.26**	**19**		P		**P**	**23 55 19.7**	**-1.1**
MSTX	**Muleshoe**	**20.31**	**337**		P		**P**	**23 55 22.2**	**+0.8**
MSTX							IAmb	IAmb	23 55 29.2
	comp=Z,20nm,0.9s								
MSTX	**Muleshoe**	**20.31**

TZTN Tazewell 22.77 21 P P 23 55 46.4 -0.9
TZTN pP pP 23 56 04.8 -1.2
R40A Maddies Statio 22.79 2 IAmb IAmb 23 55 47.0
comp=Z,17nm,1.1s
T50A Nancy 22.80 18 P P 23 55 45.7 -1.9
X58A Rowland 22.84 31 P P 23 55 46.1 -2.0
X58A IAmb IAmb 23 55 48.4
comp=Z,12nm,0.7s
V55A Taylorsville 23.05 26 P P 23 55 49.5 -0.7
V55A IAmb IAmb 23 56 03.2
comp=Z,15nm,1.1s
TUC Tucson 23.09 320 P P 23 55 51.8 +1.1
TUC pP 23 56 11.0 +1.6
TUC Tucson 23.09 320 P P 23 55 52.3 +1.6
baz=132
SDV Santo Domingo 23.14 104 P P 23 55 50.4 -1.0
comp=Z,4.4nm,0.6s,baz=274,slow=7.7,SNR=7.4
SDV Santo Domingo 23.14 104 P P 23 55 49.9 -1.6
SDV Santo Domingo 23.14 104 eP P 23 55 47.7 -3.8
DR12 Loma Pena Alta 23.16 78 P P 23 55 51.3 -0.1
SLM Saint Louis 23.27 6 P P 23 55 50.2 -2.0
SLM IAmb IAmb 23 55 51.2
comp=Z,34nm,1.1s
SLM pP 23 56 12.3 +0.9
MACC Macarena, Meta 23.34 123 eP P 23 55 52.5 -0.5
R32A Long Quarter, 23.38 349 P P 23 55 52.8 -0.4
R32A IAmb IAmb 23 55 54.7
comp=Z,29nm,1.0s
U54A Nelsons Funny 23.38 24 P P 23 55 52.2 -1.1
U54A IAmb IAmb 23 55 54.0
comp=Z,17nm,1.3s
BOSC San Juan Bosco 23.62 140 P P 23 55 56.7 +1.0
BOSC pP pP 23 56 16.1 +0.9
OLIL Olney 23.67 10 IAmb IAmb 23 55 55.1
comp=Z,15nm,0.8s
OLIL pP 23 56 15.7 +0.1
Q44A Meyer Farm, Va 23.69 8 P P 23 55 53.9 -2.1
Q44A IAmb IAmb 23 56 07.9
comp=Z,14nm,1.0s
T25A Trinidad 23.74 338 P P 23 55 58.3 +1.6
T25A Trinidad 23.74 338 P P 23 55 58.0 +1.3
baz=152,SNR=23
KSU1 Kansas State U 23.75 354 IAmb IAmb 23 55 56.5
comp=Z,21nm,1.1s
KSU1 Kansas State U 23.75 354 P P 23 55 55.9 -0.6
baz=172
V58A Windy Hill, Pi 23.95 30 P P 23 55 58.0 -0.3
V58A IAmb IAmb 23 56 14.8
comp=Z,14nm,1.1s
CBKS Cedar Bluff 23.95 348 P P 23 55 57.6 -0.8
CBKS IAmb IAmb 23 55 59.4
comp=Z,17nm,0.6s
P40A Paris 24.03 3 IAmb IAmb 23 55 58.4
comp=Z,13nm,0.6s
P40A pP 23 56 18.0 -1.3
P38A Dawn 24.10 360 IAmb IAmb 23 56 00.5
comp=Z,9.5nm,0.7s
R50A Paris 24.11 18 P P 23 55 58.9 -0.9
214A Organ Pipe Nat 24.17 316 P P 23 56 00.7 +0.3
214A Organ Pipe Nat 24.17 316 P P 23 56 02.2 +1.8
baz=128
X18A Snowflake 24.17 325 P P 23 56 02.0 +1.4
P43A Skaggs, Pawnee 24.35 7 IAmb IAmb 23 56 01.7
comp=Z,13nm,0.7s
P43A pP 23 56 22.8 +0.3
BLO Bloomington 24.40 13 P P 23 56 01.7 -0.7
BLO pP pP 23 56 22.4 -0.6
BLA Blacksburg 24.54 26 P P 23 56 03.8 0.0
baz=211
SDCO Great Sand Dun 24.68 336 P P 23 56 06.0 +0.7
SDCO IAmb IAmb 23 56 09.3
comp=Z,12nm,1.1s
SDCO Great Sand Dun 24.68 336 P P 23 56 07.2 +1.9
baz=150,SNR=17
P46A Rosedale 24.69 11 IAmb IAmb 23 56 05.5
comp=Z,16nm,0.8s
P46A pP 23 56 25.4 -0.4
KSCO Kaye Shedlock' 24.86 343 P P 23 56 07.3 +0.6
KSCO Kaye Shedlock' 24.86 343 P P 23 56 08.5 +1.8
baz=158
X16A Lo Mia Camp, P 24.94 323 P P 23 56 08.5 +0.9
X16A pP 23 56 31.7 +3.5
Q51A Peebles 25.10 19 P P 23 56 07.7 -1.1
Q51A pP 23 56 28.4 -1.3
S22A 4UR Ranch, Cre 25.21 334 P P 23 56 11.1 +0.9
S22A 4UR Ranch, Cre 25.21 334 P P 23 56 12.2 +2.0
baz=148,SNR=12
N41A Harden Midland 25.27 4 P P 23 56 09.2 -1.1
N41A IAmb IAmb 23 56 09.3
comp=Z,15nm,1.0s
113A Mohawk Valley, 25.31 317 P P 23 56 11.7 +1.0
Q52A Bidwell 25.39 20 P P 23 56 11.2 -0.2
Q52A IAmb IAmb 23 56 14.2
comp=Z,15nm,1.2s
Q52A pP 23 56 32.8 +0.5
MVCO Mesa Verde 25.51 331 P P 23 56 13.7 +0.9
MVCO IAmb IAmb 23 56 16.4
comp=Z,18nm,1.1s
MVCO Mesa Verde 25.51 331 P P 23 56 15.1 +2.3
baz=144,SNR=11
Y14A Wickenburg 25.56 320 P P 23 56 14.9 +1.9
Y14A pP 23 56 36.5 +2.8
AOPR Arecibo Observ 25.62 80 P P 23 56 13.4 -0.3
Q24A Divide 25.62 338 P P 23 56 16.2 +2.3
baz=152
WUAZ Wupatki 25.69 324 P P 23 56 15.0 +0.6
WUAZ Wupatki 25.69 324 P P 23 56 17.6 +3.3
baz=136
P52A Corning 26.04 20 P P 23 56 19.3 +2.0
baz=205
PV15 Paradox Valley 26.43 333 P P 23 56 22.0 +0.9
PV15 IAmb IAmb 23 56 25.8
comp=Z,13nm,1.0s
PV13 Radium Mtn., P 26.43 332 P P 23 56 22.5 +1.4
PV13 IAmb IAmb 23 56 24.8
comp=Z,17nm,1.1s
SMCO Snowmass 26.50 336 P P 23 56 22.1 +0.3
SMCO IAmb IAmb 23 56 28.8
comp=Z,15nm,1.2s
OGNE Ogallala 26.51 345 P P 23 56 21.5 -0.1
PDMC Parker Dam,Lak 26.52 319 P P 23 56 24.4 +2.8
baz=130
ISCO Idaho Springs 26.53 339 P P 23 56 22.8 +0.7
ISCO Idaho Springs 26.53 339 P P 23 56 23.4 +1.4
baz=152,SNR=5.1
PV11 David Mesa, Pa 26.57 332 P P 23 56 23.6 +1.3
PV11 IAmb IAmb 23 56 27.3
comp=Z,24nm,1.1s
PV07 Paradox Valley 26.58 332 P P 23 56 23.7 +1.3
PV07 IAmb IAmb 23 56 26.2
comp=Z,18nm,0.9s
L40A Anamosa 26.60 4 P P 23 56 20.7 -1.5
PV20 West Nyswonger 26.64 332 P P 23 56 23.9 +0.9
PV20 IAmb IAmb 23 56 26.5
comp=Z,15nm,1.0s
L42A Oliver, Polo 26.67 6 IAmb IAmb 23 56 21.7
comp=Z,18nm,1.1s
PV10 Paradox Valley 26.70 332 P P 23 56 22.9 -0.7
MTP Monte Pirata 26.75 80 P P 23 56 22.1 -1.8
MTP IAmb IAmb 23 56 39.2
comp=Z,22nm,1.1s
PV23 Carpenter Ridg 26.75 332 P P 23 56 25.0 +0.9
SWSC Sam W. Stewart 26.79 315 P P 23 56 27.5 +3.5
baz=125
CCX Cicese 26.80 312 P P 23 56 24.6 +0.5
W13A Hualapai Mount 26.88 321 P P 23 56 26.7 +1.6
TPFO Pinon Flats 27.61 315 P P 23 56 33.9 +2.3
baz=125
GMRC Granite Mounta 27.79 318 P P 23 56 35.9 +2.7
baz=128
O20A White River Ci 27.82 335 P P 23 56 34.7 +1.2
O20A IAmb IAmb 23 56 36.9
comp=Z,7.6nm,0.9s
O20A White River Ci 27.82 335 P P 23 56 36.4 +2.9
baz=148
SRU San Rafael Swe 27.98 331 P P 23 56 35.9 +0.9
MTPU Mount Pierson 27.99 327 P P 23 56 35.7 +0.5
M52A Chesterland 28.01 19 P P 23 56 34.3 -0.6
Q16A Castle Valley 28.14 330 P P 23 56 36.6 +0.2
CCUT Cedar City 28.26 325 P P 23 56 38.5 +1.1
P18A Preston Nutter 28.27 332 P P 23 56 38.1 +0.5
ECSD EROS Data Cent 28.34 355 IAmb IAmb 23 56 37.7
comp=Z,9.0nm,0.8s
ECSD EROS Data Cent 28.34 355 P P 23 56 37.1 -0.8
baz=173,SNR=7.3
P17A Butcher Ranch, 28.37 331 P P 23 56 38.9 +0.5
RDMU Red Mountain 28.74 334 P P 23 56 42.3 +0.7
RDMU IAmb IAmb 23 56 44.7
comp=Z,8.8nm,1.0s
RWWY Rawlins 28.77 338 P P 23 56 43.0 +1.0
RWWY IAmb IAmb 23 56 45.6
comp=Z,12nm,0.8s
MPU Maple Canyon 29.22 330 P P 23 56 46.6 +0.6
K22A Casper 29.38 340 P P 23 56 48.1 +0.8
K22A IAmb IAmb 23 56 49.7
comp=Z,7.9nm,0.8s
K22A Casper 29.38 340 P P 23 56 48.6 +1.4
baz=153
SPMN Marine on St. 29.70 1 P P 23 56 48.4 -1.4
SPMN Marine on St. 29.70 1 P P 23 56 49.0 -0.8
baz=181
MPMC Manual Prospec 29.75 318 P P 23 56 52.3 +1.7
baz=127
CTU Camp Tracy 29.81 331 P P 23 56 51.9 +0.8
CTU IAmb IAmb 23 56 54.7
comp=Z,9.7nm,1.5s
RSSD Black Hills 30.00 345 P P 23 56 52.5 -0.2
RSSD IAmb IAmb 23 56 54.6
comp=Z,6.9nm,0.7s
RSSD Black Hills 30.00 345 P P 23 56 54.1 +1.3
baz=159
R11A Troy Canyon, C 30.07 324 P P 23 56 56.4 +3.0
baz=133
HWUT Hardware Ranch 30.46 332 P P 23 56 57.7 +0.9
BW06 Boulder Array 30.58 336 P P 23 56 58.3 +0.4
PD31 Pinedale Array 30.58 336 P P 23 56 58.3 +0.4
PDAR Pinedale Array 30.58 336 P P 23 56 58.8 +0.9
comp=Z,2.2nm,0.9s,baz=135,slow=10,SNR=12
PDAR pP pP 23 57 19.9 +0.7
comp=Z,0.9nm,0.7s,baz=166,slow=7.6,SNR=3.6
PDAR Pinedale Array 30.58 336 P P 23 56 58.2 +0.3
BGU Big Grassy Mou 30.60 330 P P 23 56 59.0 +0.9
HVU Hansel Valley 31.14 331 P P 23 57 04.0 +1.2
HVU IAmb IAmb 23 57 06.4
comp=Z,12nm,1.2s
AHID Auburn Hatcher 31.20 334 P P 23 57 04.1 +0.8
AHID IAmb IAmb 23 57 06.2
comp=Z,8.5nm,0.9s
ECR Eagle Creek 31.55 334 P P 23 57 08.5 +2.0
ELK Elko 31.57 327 P P 23 57 07.5 +0.8
SNOW Snow King Moun 31.64 335 P P 23 57 08.6 +1.4
NV11 Mina Array Sit 31.64 321 P P 23 57 07.3 +0.1
NV11 IAmb IAmb 23 57 15.0
comp=Z,6.1nm,1.1s
E28A Huff 31.64 350 P P 23 57 06.3 -0.6
LOHW Long Hollow 31.70 336 P P 23 57 08.5 +0.8
NVAR Mina Array Bea 31.73 321 P P 23 57 11.1 +3.0
comp=Z,3.2nm,1.0s,baz=137,slow=8.3,SNR=12
NVAR pP pP 23 57 30.8 +1.7
comp=Z,3.8nm,0.9s,baz=133,slow=8.8,SNR=7.4
NVAR Mina Array Bea 31.73 321 P P 23 57 09.6 +1.6
NVAR pP 23 57 29.3 +0.2
MOOW Moose Ponds 31.87 336 P P 23 57 10.4 +1.1
MOOW IAmb IAmb 23 57 12.1
comp=Z,10nm,0.8s
KVN Kaiserville 32.01 322 P P 23 57 12.0 +1.5
FLWY Flagg Ranch 32.13 336 P P 23 57 12.0 +0.4
FLWY IAmb IAmb 23 57 14.6
comp=Z,9.6nm,0.8s
YPP Pitchstone Pla 32.33 336 P P 23 57 14.4 +1.1
H17A Grant Village 32.35 337 P P 23 57 14.4 +1.0
H17A IAmb IAmb 23 57 17.2
comp=Z,6.6nm,0.8s
H17A Grant Village 32.35 337 P P 23 57 14.5 +1.1
baz=147,SNR=6.7
LKWY Lake 32.43 337 P P 23 57 14.7 +0.5
YMP Mirror Lake Pl 32.48 337 P P 23 57 16.4 +1.7
YMP IAmb IAmb 23 57 30.8
comp=Z,8.8nm,0.9s
RLMT Red Lodge 32.49 339 P P 23 57 14.9 +0.2
RLMT IAmb IAmb 23 57 16.9
comp=Z,6.7nm,0.8s
RLMT Red Lodge 32.49 339 P P 23 57 16.4 +1.8
baz=150
YFT Old Faithful 32.50 336 P P 23 57 16.6 +1.8
YFT IAmb IAmb 23 57 18.9
comp=Z,9.9nm,0.9s
YERR Yerington 32.65 321 IAmb IAmb 23 57 16.7
comp=Z,7.2nm,0.7s
YERR pP 23 57 37.1 0.0
YNR Norris Junctio 32.66 337 P P 23 57 17.1 +1.0
YNR IAmb IAmb 23 57 19.4
comp=Z,6.1nm,0.8s
MDND Maddock 32.73 352 P P 23 57 15.5 -1.0
MDND Maddock 32.73 352 P P 23 57 16.3 -0.1
baz=168
YMR Madison River 32.73 336 P P 23 57 17.8 +1.0
YHH Holmes Hill 32.79 337 P P 23 57 17.8 +0.5
YHH IAmb IAmb 23 57 20.6
comp=Z,8.1nm,1.1s
AGMN Agassiz Nation 32.83 357 P P 23 57 16.7 -0.6
baz=175
LAO LASA Array 32.96 344 P P 23 57 18.3 -0.2
LAO LASA Array 32.96 344 P P 23 57 19.5 +1.0
baz=156
YHL Hebgen Lake 32.97 336 P P 23 57 19.6 +0.7
YHL IAmb IAmb 23 57 23.3
comp=Z,9.6nm,1.1s
QLMT Earthquake Lak 33.05 336 P P 23 57 20.7 +1.2
GCMT Greycliff 33.22 339 P P 23 57 21.2 +0.4
HLID Hailey 33.29 332 P P 23 57 22.9 +1.3
HLID IAmb IAmb 23 57 25.0
comp=Z,4.5nm,1.0s
HLID Hailey 33.29 332 P P 23 57 23.4 +1.8
baz=141,SNR=7.1
MCMT McKenzie Canyo 33.61 335 P P 23 57 26.8 +2.3
BOZ Bozeman (W) 33.76 337 P P 23 57 27.3 +1.7
BOZ IAmb IAmb 23 57 31.4
comp=Z,7.7nm,0.9s
BOZ Bozeman (W) 33.76 337 P P 23 57 26.7 +1.0
baz=147,SNR=12
MFID Camas Ranch 33.84 330 P P 23 57 27.9 +1.6
DLMT Dillon 33.95 335 P P 23 57 29.2 +2.0
DLMT pP 23 57 51.0 +2.6
DGMT Dagmar 34.13 347 P P 23 57 28.8 +0.2
baz=161,SNR=5.0
LRM Limekiln Ridge 34.27 336 P P 23 57 31.4 +1.3
WVOR Wild Horse Val 34.57 326 P P 23 57 34.0 +1.4
WVOR IAmb IAmb 23 57 36.1
comp=Z,4.1nm,1.1s
HRY Holter Researc 34.78 338 P P 23 57 34.9 +0.6
J08A Circle Bar Ran 35.13 327 P P 23 57 38.8 +1.4
PLID Pearl Lake 35.19 332 P P 23 57 38.6 +0.6
EGMT Eagleton 35.20 341 P P 23 57 38.6 +0.7
EGMT Eagleton 35.20 341 P P 23 57 39.2 +1.2
baz=152,SNR=12
BMO Blue Mountains 35.62 330 P P 23 57 42.0 +0.3
BMO IAmb IAmb 23 57 59.3
comp=Z,3.9nm,1.0s
MSO Missoula 35.69 336 P P 23 57 43.8 +1.6
baz=144
F10A Beach Ranch, E 36.42 332 P P 23 57 49.0 +0.6
YBH Yreka Blue Hor 36.43 322 LR LR 00 12 45.4
comp=Z,99nm,19.0s,baz=42,slow=36
JTMT Jette 36.57 336 P P 23 57 50.8 +1.1
D08A Wollman Farm, 38.01 331 P P 23 58 02.2 +0.4
D08A IAmb IAmb 23 58 03.5
comp=Z,6.7nm,1.1s
NEW Newport 38.13 334 P P 23 58 04.2 +1.4
baz=141
C09A Chrisman Ranch 38.27 333 P P 23 58 04.5 +0.5
C09A IAmb IAmb 23 58 08.0
comp=Z,8.0nm,0.8s
I02E Swisshome, OR 38.54 324 P P 23 58 07.6 +1.4
baz=128
LPAZ La Paz 40.18 141 P P 23 58 23.4 +2.6
comp=Z,1.3nm,0.6s,baz=296,slow=5.2,SNR=6.1
LPAZ pP pP 23 58 41.9 -0.5
comp=Z,1.2nm,0.7s,baz=360,slow=7.1,SNR=3.6
EDM Edmonton 40.86 342 P P 23 58 25.7 +0.3
SIV San Ignacio 44.63 133 P P 23 58 56.8 +0.5
comp=Z,2.7nm,0.7s,baz=307,slow=8.0,SNR=13
RUBB Prince Rupert 48.23 332 P P 23 59 26.4 +2.6
YKA Yellowknife Ar 49.34 347 P P 23 59 32.2 0.0
comp=Z,6.6nm,0.7s,baz=153,slow=7.4,SNR=110
YKA pP pP 23 59 53.2 -1.6
comp=Z,2.1nm,0.6s,baz=153,slow=7.4,SNR=8.0
DLBC Dease Lake 50.81 336 P P 23 59 44.5 +1.0
TGTN Hyland Airport 52.33 340 P P 23 59 56.7 +2.0
baz=136,SNR=6.1
MMPY Sheldon Lake, 54.10 339 P P 00 00 09.8 +2.0
baz=133,SNR=10.0
CPUP Villa Florida 54.33 139 P P 00 00 10.8 +1.0
comp=Z,2.3nm,0.9s,baz=283,slow=4.1,SNR=3.4
BDFB Brasilia 54.40 123 P P 00 00 09.4 -1.3
comp=Z,2.1nm,0.6s,baz=247,slow=2.8,SNR=3.0
BDFB Brasilia 54.40 123 IAmb IAmb 00 00 11.1
comp=Z,6.7nm,1.1s
FARO Faro, Yukon 54.56 338 P P 00 00 13.1 +1.9
baz=130
M31M Drury Creek, Y 54.92 338 P P 00 00 15.7 +2.1
baz=129
N31M Braeburn, Yuko 54.99 337 P P 00 00 15.8 +1.6
baz=127
M30M Minto, Yukon 56.03 337 P P 00 00 22.8 +1.1
M30M Minto, Yukon 56.03 337 P P 00 00 23.2 +1.6
baz=127,SNR=5.7
BVCY Beaver Creek 57.49 336 P P 00 00 34.0 +2.0
baz=122
DAWY Dawson 57.86 338 P P 00 00 35.8 +1.3
baz=125
BCAR Beaver Creek A 58.20 336 P P 00 00 37.7 +0.7
L27K Beaver Creek, 58.21 336 P P 00 00 38.7 +1.6
baz=122
I29M Ogilvie Camp, 58.24 340 P P 00 00 37.0 -0.1
I29M Ogilvie Camp, 58.24 340 P P 00 00 38.4 +1.2
baz=126
M26K Nabesna, AK 58.33 335 P P 00 00 39.5 +1.6
baz=120
Q23K Middleton Isla 58.39 331 P P 00 00 39.9 +1.6
baz=115
N25K Chitina, Valde 58.60 334 P P 00 00 41.0 +1.1
baz=118
INK Inuvik 58.70 344 P P 00 00 40.5 +0.3
comp=Z,20nm,0.9s,baz=115,slow=6.1,SNR=30
INK Inuvik 58.70 344 P P 00 00 40.4 +0.2
INK Inuvik 58.70 344 P P 00 00 40.8 +0.6
baz=133,SNR=18
EGAK Eagle 58.90 338 P P 00 00 41.7 +0.1
EGAK Eagle 58.90 338 P P 00 00 42.8 +1.1
baz=123
KLU Klutina 59.11 334 P P 00 00 44.1 +0.8
baz=117
SCRK Sand Creek 59.52 337 P P 00 00 47.4 +1.3
baz=120
PAX Paxson 59.61 335 P P 00 00 47.5 +0.8
PAX IAmb IAmb 00 00 49.9
comp=Z,5.5nm,1.0s
PAX Paxson 59.61 335 P P 00 00 48.3 +1.6
baz=118
J26L Joseph Creek 59.62 337 P P 00 00 48.6 +1.8
baz=121,SNR=5.1
RIDG Independent Ri 59.73 336 P P 00 00 49.1 +1.6
baz=119
PLCA Paso Flores 59.76 160 P P 00 00 48.2 +0.2
comp=Z,2.4nm,0.9s,baz=327,slow=15,SNR=2.9
K24K Donnelly Dome 60.12 336 P P 00 00 50.9 +0.7
baz=118
J25K Salcha River, 60.36 337 P P 00 00 52.6 +0.8
baz=119
WAT6 Susitna Watana 60.36 334 P P 00 00 52.4 +0.4
baz=115
RC01 Rabbit Creek A 60.61 332 P P 00 00 54.6 +1.1
baz=113
IL31 61.01 337 IAmb IAmb 00 00 59.0
comp=Z,5.9nm,0.9s
ILAR Eielson Array 61.01 337 P P 00 00 57.1 +1.0
comp=Z,2.5nm,0.9s,baz=124,slow=4.0,SNR=18
ILAR pP pP 00 01 18.8 -0.4
comp=Z,1.3nm,0.7s,baz=134,slow=4.3,SNR=5.1
ILAR Eielson Array 61.01 337 P P 00 00 56.7 +0.5
M22K Willow 61.04 333 P P 00 00 57.2 +0.9
RND Reindeer 61.18 335 P P 00 00 58.1 +0.7
MCK McKinley 61.35 335 P P 00 00 59.8 +1.3
baz=115
CUT Chulitna 61.36 334 P P 00 00 59.6 +1.1
baz=113
POKR Poker Plat Res 61.37 337 P P 00 00 59.8 +1.2
baz=117
BMAR Burnt Mountain 61.50 340 P P 00 01 00.7 +1.2
MDM Murphy Dome 61.60 337 P P 00 01 00.5 +0.3
BWN Browne 61.74 336 P P 00 01 01.6 +0.5
RSO Redoubt South 61.77 331 P P 00 01 02.3 +0.7
NEA2 Nenana 61.77 336 P P 00 01 01.6 +0.4
baz=115
TRF Thorofare Moun 61.78 335 P P 00 01 02.2 +0.6
baz=113
H24K Noodor Dome 61.87 338 P P 00 01 03.3 +1.4
H24K Noodor Dome 61.87 338 P P 00 01 02.7 +0.7
baz=117,SNR=6.7
KTH Kantishna Hill 62.08 335 P P 00 01 04.3 +0.8
KTH IAmb IAmb 00 01 06.0
comp=Z,5.4nm,0.9s
I23K Minto, Yukon-K 62.12 337 P P 00 01 04.5 +1.0
I23K Minto, Yukon-K 62.12 337 P P 00 01 04.4 +0.9
baz=115
BPAW Bear Paw Mtn. 62.33 335 P P 00 01 05.5 +0.5
BPAW IAmb IAmb 00 01 07.5
comp=Z,2.7nm,0.8s
BPAW Bear Paw Mtn. 62.33 335 P P 00 01 05.7 +0.7
baz=113
PPLA Purkeypile 62.37 334 P P 00 01 05.6 +0.1
baz=111
H23K Yukon River 62.48 337 P P 00 01 06.8 +0.8
H23K IAmb IAmb 00 01 26.1
comp=Z,4.9nm,1.3s
H23K Yukon River 62.48 337 P P 00 01 06.3 +0.3
baz=115
CAST Castle Rocks 62.52 334 P P 00 01 07.2 +0.9
CAST IAmb IAmb 00 01 07.6
comp=Z,2.9nm,0.8s
CAST Castle Rocks 62.52 334 P P 00 01 06.4 +0.1
baz=112
P18K Big Mountain, 62.62 329 P P 00 01 07.1 0.0
baz=106
N19K Bonanza Creek 62.69 331 P P 00 01 08.7 +1.1
N19K IAmb IAmb 00 01 16.7
comp=Z,8.0nm,1.2s
N19K Bonanza Creek 62.69 331 P P 00 01 08.4 +0.8
baz=108
O18K Koktuh Hills 62.74 330 P P 00 01 08.6 +0.7
baz=107
CHUM Lake Minchumin 62.78 335 P P 00 01 08.6 +0.6
baz=112
L20K Farewell, AK 62.95 333 P P 00 01 09.6 +0.3
baz=109
M19K Big River Lodg 62.99 332 P P 00 01 10.1 +0.6
baz=108
I21K Tanana 63.14 336 P P 00 01 10.8 +0.4
baz=112
L19K White Mountain 63.28 333 P P 00 01 11.8 +0.3
baz=108
N18K Kilae Creek 63.30 331 P P 00 01 12.5 +0.9
baz=106
COLD Coldfoot 63.32 339 P P 00 01 12.8 +1.3
COLD IAmb IAmb 00 01 15.2
comp=Z,3.1nm,0.9s
COLD Coldfoot 63.32 339 P P 00 01 12.1 +0.5
baz=115
K20K Telida 63.33 334 IAmb IAmb 00 01 13.3
comp=Z,3.9nm,0.8s
K20K Telida 63.33 334 P P 00 01 12.5 +0.8
baz=110
H21K Melozitna Rive 63.64 337 P P 00 01 14.7 +0.9
H21K IAmb IAmb 00 01 16.1
comp=Z,4.5nm,1.1s
H21K Melozitna Rive 63.64 337 P P 00 01 14.4 +0.6
baz=112
J20K Nowinta River 63.64 335 P P 00 01 14.5 +0.8
baz=110
TOLK Toolik Lake Re 63.73 340 P P 00 01 15.0 +0.7
TOLK IAmb IAmb 00 01 16.8
comp=Z,5.3nm,0.8s
TOLK Toolik Lake Re 63.73 340 P P 00 01 15.0 +0.7
baz=116,SNR=5.7
TTA Tatalina 64.03 333 P P 00 01 16.7 +0.3
TTA Tatalina 64.03 333 P P 00 01 17.0 +0.6
baz=108
IMAR Indian Mountai 64.13 337 P P 00 01 16.7 -0.2
EUNU Eureka 64.73 1 P P 00 01 20.6 -0.1
EUNU IAmb IAmb 00 01 21.9
comp=Z,5.8nm,0.8s
A21K Barrow 67.03 342 P P 00 01 35.9 +0.5
A21K Barrow 67.03 342 P P 00 01 36.1 +0.7
baz=110
BILL Bilibino 79.64 338 P P 00 02 49.6 0.0
BILL IAmb IAmb 00 02 53.2

comp=Z,4.3nm,0.9s
NB2 NORSAR Subarra 83.52 28 P **P** **00 03 11.1 +0.9**
comp=Z,0.6nm,0.8s,baz=290,slow=5.1
NOA NORSAR Array B 83.52 28 P **P** **00 03 10.5 +0.3**
comp=Z,1.2nm,0.8s,baz=290,slow=5.0,SNR=5.1
NOA LR LR 00 40 30.3
comp=Z,25nm,18.1s,baz=190,slow=36
ARCES ARCESS Array B 85.19 18 P **P** **00 03 18.0 -0.5**
comp=Z,2.4nm,0.8s,baz=306,slow=2.3,SNR=2.7
FINES FINESS Array B 89.76 25 P **P** **00 03 39.0 -1.6**
comp=Z,2.4nm,0.9s,baz=238,slow=18,SNR=1.6
MKAR Makanchi Array 117.94 3 PKP **PKPdf** **00 09 27.8 -1.0**
comp=Z,0.4nm,0.8s,baz=56,slow=2.2,SNR=4.1
GEYT Alibeck 120.54 26 PKP **PKPdf** **00 09 34.8 +0.8**
comp=Z,0.4nm,0.3s,baz=66,slow=18,SNR=2.5
BOSA Boshof 122.15 114 PKP **PKPdf** **00 09 37.7 +0.3**
comp=Z,3.2nm,1.0s,baz=236,slow=17,SNR=2.0
WRA Warramunga Arr 134.44 257 PKP **PKPdf** **00 10 04.6 +3.7**
comp=Z,1.0nm,1.1s,baz=88,slow=2.2,SNR=1.1
PZH PanZhiHua 135.80 340 PKP **PKPdf** **00 10 02.6 -0.9**
CMAR Chiang Mai Arr 144.20 340 PKP **PKPab** **00 10 17.6 +1.0**
comp=Z,1.4nm,0.4s,baz=355,slow=2.2,SNR=2.0

*ISK **25** 00:39:52.7, 38.71N×22.88E, h7km, ML2.7/7*
*THE **25** 00:39:53.4, 38.66N×22.83E, h5km±2km, ML3.1/12, Error ellipse: s-maj=2.8km s-min=0.4km az=25.0*
*ATH **25** 00:39:53.4, 38.65N×22.83E, h11km±4km, ML3.2/2, Error ellipse: s-maj=4.0km s-min=1.0km az=84.0*
ISC 25 00:39:53.4±0.9, **38.66N**±0.02×**22.82E**±0.02, **h11**km±7km, **n35**, σ0=**0.61**/53, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LKR	**Lokris**	**0.14**	**93**	P		**Pg**	**00 39 56.3**	**-0.3**
LKR				S		**Sg**	**00 39 59.0**	**+0.1**
LKR				AML		AML	00 39 59.0	
	comp=N,75206μm,0.2s							
LKR				AML		AML	00 39 59.5	
	comp=E,75204μm,0.2s							
LKR	**Lokris**	**0.14**	**93**	P		**Pg**	**00 39 56.4**	**-0.3**
LKR				S		**Sg**	**00 39 58.8**	**-0.1**
	comp=E,38μm,0.2s							
DLFA	**Delphi**	**0.31**	**235**	P		**Pg**	**00 39 59.4**	**-0.3**
DLFA				S		**Sg**	**00 40 04.6**	**+0.7**
AGG	**Agios Georgios**	**0.53**	**314**	P		**Pg**	**00 40 03.5**	**-0.3**
AGG				S		**Sg**	**00 40 11.1**	**+0.3**
AGG				AML		AML	00 40 12.0	
	comp=N,2154μm,0.5s							
AGG				AML		AML	00 40 13.8	
	comp=E,2077μm,0.5s							
AGG	**Agios Georgios**	**0.53**	**314**	P		**Pg**	**00 40 03.5**	**-0.3**
AGG				S		**Sg**	**00 40 11.5**	**+0.7**
	comp=E,1μm,0.5s							
AGG	**Agios Georgios**	**0.53**	**314**	PG		**Pg**	**00 40 03.5**	**-0.3**
AGG				SG		**Sg**	**00 40 11.3**	**+0.5**
VIL2	**Platees**	**0.57**	**142**	P		**Pb**	**00 40 05.1**	**-0.3**
VILL	**Villia**	**0.62**	**142**	P		**Pg**	**00 40 05.2**	**-0.4**
VILL				S		**Sb**	**00 40 15.0**	**-0.3**
	comp=E,3μm,0.6s							
THAL	**Thalero**	**0.63**	**191**	P		**Pg**	**00 40 05.6**	**-0.1**
THAL	**Thalero**	**0.63**	**191**	P		**Pg**	**00 40 05.5**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.65**	**304**	P		**Pg**	**00 40 05.7**	**-0.3**
ALIK	**Aliki, Aigiali**	**0.68**	**235**	P		**Pb**	**00 40 07.2**	**-0.2**
ALIK				S		**Sb**	**00 40 17.2**	**+0.3**
ANX	**Ano Chora**	**0.71**	**265**	P		**Pg**	**00 40 06.3**	**-0.9**
ANX				S		**Sb**	**00 40 17.4**	**-0.3**
	comp=E,2μm,0.7s							
EFP	**Efpalio**	**0.75**	**252**	P		**Pg**	**00 40 07.1**	**-0.9**
EFP				S		**Sb**	**00 40 18.7**	**-0.2**
	comp=E,1μm,0.5s							
LAKA	**Lakka**	**0.78**	**238**	P		**Pg**	**00 40 07.7**	**-0.8**
LAKA				S		**Sb**	**00 40 20.0**	**+0.2**
	comp=E,1μm,0.8s							
KLV	**Kalavryta, Ach**	**0.81**	**221**	P		**Pg**	**00 40 08.3**	**-0.7**
KLV				S		**Sb**	**00 40 20.6**	**0.0**
	comp=E,820nm,0.6s							
GUR	**Goura**	**0.81**	**208**	P		**Pg**	**00 40 08.4**	**-0.7**
GUR				S		**Sg**	**00 40 20.4**	**+0.6**
	comp=E,3μm,0.5s							
EVR	**Evrytania**	**0.83**	**288**	P		**Pg**	**00 40 08.8**	**-0.7**
ALNA	**Alonissos**	**0.95**	**59**	P		**Pb**	**00 40 11.8**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.00**	**91**	P		**Pg**	**00 40 11.3**	**-1.4**
KYMI				S		**Sb**	**00 40 27.1**	**+1.1**
	comp=E,452nm,0.5s							
ATHU	**Athens Univers**	**1.02**	**132**	P		**Pg**	**00 40 12.4**	**-0.7**
ATHU	**Athens Univers**	**1.02**	**132**	P		**Pg**	**00 40 12.4**	**-0.7**
ATHU				S		**Sb**	**00 40 27.4**	**+0.7**
	comp=E,925nm,0.6s							
DION	**Dionisos Attik**	**1.05**	**123**	P		**Pg**	**00 40 12.4**	**-1.2**
DION				S		**Sb**	**00 40 28.4**	**+1.0**
	comp=E,5μm,0.4s							
THL	**Klokotos Trika**	**1.10**	**326**	P		**Pg**	**00 40 13.8**	**-0.8**
VLY	**Voula,Athens**	**1.11**	**136**	P		**Pg**	**00 40 14.1**	**-0.7**
VLY				S		**Sb**	**00 40 29.8**	**+0.6**
	comp=E,960nm,0.6s							
DRO	**Drossia**	**1.12**	**231**	P		**Pg**	**00 40 13.9**	**-1.1**
KRND	**KRANIDI**	**1.30**	**168**	P		**Pn**	**00 40 17.4**	**-0.2**
ITM	**Ithomi**	**1.64**	**206**	P		**Pn**	**00 40 23.0**	**+0.8**
ITM	**Ithomi**	**1.64**	**206**	PN		**Pb**	**00 40 23.6**	**-0.1**
ITM				SN		**Sg**	**00 40 46.1**	**0.0**
OUR	**Ouranopolis**	**1.90**	**28**	PN		**Pn**	**00 40 25.5**	**-0.3**
GRG	**Griva**	**2.32**	**352**	PN		**Pn**	**00 40 31.9**	**+0.3**
FNA	**Florina**	**2.40**	**333**	PN		**Pn**	**00 40 33.0**	**+0.2**
APE	**Apeiranthos**	**2.67**	**126**	PN		**Pn**	**00 40 37.0**	**+0.6**
EZN	**Ezine**	**2.96**	**66**	PN		**Pn**	**00 40 40.7**	**+0.3**
RDO	**Rodhopi**	**3.25**	**39**	PN		**Pn**	**00 40 44.6**	**+0.3**

*KRSC **25** 00:44:22.5±3.2, 56.85N×155.03E, h36km±46km, ML3.9*
*NERS **25** 00:44:32.7±0.0, 57.18N×154.50E, h32km*
ISC 25 00:44:20.9±1.2, **56.47N**±0.07×**155.27E**±0.07, **h10**km, **n11**, σ1=**61**/16, **Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ESO	**Esso**	**1.99**	**104**	*eP*		**Pb**	**00 44 57.7**	**+0.4**
ESO				*eS*		**Sg**	**00 45 25.5**	**+0.6**
KMNR	**Kamenistaya**	**2.87**	**102**	P		**Pg**	**00 45 15.3**	**-0.6**
TUMR	**Tumrok**	**2.99**	**111**	P		**Pg**	**00 45 18.1**	**-0.1**
GNL	**Ganaly**	**3.17**	**150**	P		**Pb**	**00 45 17.1**	**-0.3**
BDR	**Baidarnaya**	**3.29**	**86**	P		**Pb**	**00 45 19.3**	**-0.1**
PALN	**Palana**	**3.64**	**42**	*eP*		**Pn**	**00 45 17.4**	**+0.2**
GADL	**Gadlja**	**3.83**	**328**	*eS*		**Sb**	**00 46 17.4**	**+2.4**
GADL				Sgmax			00 46 28.2	
	20nm,0.5s							
MA2	**Magadan**	**3.93**	**324**	*eP*		**Pn**	**00 45 21.0**	**-0.3**
MA2				*ePg*		**Pb**	**00 45 29.0**	**-1.2**
MA2				Pgmax			00 45 30.8	
	10.0nm,0.4s							
MA2				*eSg*		**Sn**	**00 46 09.5**	**+2.1**
MA2				Sgmax			00 46 27.4	
	40nm,0.7s							
MA2				Sgmax			00 46 27.4	
	50nm,0.7s							
TLAR	**Talaya**	**4.91**	**344**	*eP*		**Pn**	**00 45 34.4**	**-0.4**
TLAR				*ePg*		**Pb**	**00 45 48.0**	**+1.1**
TLAR				Pgmax			00 45 51.6	
	10.0nm,0.4s							
TLAR				*eSg*		**Sb**	**00 46 41.7**	**-4.3**
TLAR				Sgmax			00 47 04.5	
	30nm,0.4s							
TLAR				Sgmax			00 47 04.5	
	40nm,0.6s							
SEY	**Seymchan**	**6.65**	**349**	*eSg*		**Sb**	**00 47 35.0**	**-0.9**
SEY				Sgmax			00 47 54.6	
	10.0nm,0.4s							
SUUS	**Susuman**	**7.28**	**333**	*eSg*		**Sb**	**00 47 54.6**	**+0.5**
SUUS				Sgmax			00 48 14.8	
	30nm,0.9s							

*ATH **25** 00:56:38.6, 39.61N×27.93E, h29km±15km, ML3.5/4, Error ellipse: s-maj=17.7km s-min=2.4km az=87.0*
*ISK **25** 00:56:39.1, 39.66N×27.86E, h9km, ML3.6/42*
*DDA **25** 00:56:39.1±0.0, 39.65N×27.86E, h12km±1km, MW3.6*
*IASPEI **25** 00:56:39.4±0.8, 39.65N±0.02×27.87E±0.02, h12km±5km, Error ellipse: s-maj=2.6km s-min=2.4km az=20.6, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*THE **25** 00:56:41.0, 39.62N×27.87E, h14km±2km, ML3.3/6, Error ellipse: s-maj=2.6km s-min=0.9km az=84.0*
*SOF **25** 00:56:45.4, 40.15N×27.43E, h5km, MD3.3*
ISC 25 00:56:39.4±0.8, **39.65N**±0.01×**27.86E**±0.01, **h13**km±5km, **n158**, σ0=**95**/214, **11C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BALB	**Balikesir**	**0.01**	**115**	PG		**Pg**	**00 56 41.5**	**-0.1**
BALB				SG		**Sg**	**00 56 42.7**	**-0.5**
BALY	**Balya**	**0.21**	**297**	P		**Pg**	**00 56 44.0**	**0.0**
BALY				*i* AML		AML	00 56 47.0	
	comp=N,4μm,0.4s							
BALY				S		**Sg**	**00 56 47.2**	**+0.1**
BALY				*i* AML		AML	00 56 48.0	
	comp=E,4μm,0.4s							
BALY				*i* AML		AML	00 56 50.0	
	comp=Z,2μm,0.5s							
STEP	**BALIKESIR_Sava**	**0.29**	**203**	P		**Pg**	**00 56 45.5**	**+0.1**
STEP				*i* AML		AML	00 56 50.0	
	comp=E,3μm,0.6s							
STEP				S		**Sb**	**00 56 50.2**	**-1.0**
STEP				*i* AML		AML	00 56 51.0	
	comp=Z,3μm,0.5s							
STEP				*i* AML		AML	00 56 53.0	
	comp=N,3μm,0.4s							
GONE	**Gonen-Balikesi**	**0.42**	**341**	PG		**Pb**	**00 56 48.0**	**-0.7**
GONE				SG		**Sg**	**00 56 53.9**	**+0.4**
DURS	**Dursunbey**	**0.47**	**95**	P		**Pg**	**00 56 48.5**	**-0.2**
DURS				S		**Sg**	**00 56 55.5**	**+0.4**
DURS				*i* AML		AML	00 56 56.0	
	comp=Z,4μm,0.2s							
DURS				*i* AML		AML	00 56 56.0	
	comp=N,5μm,0.3s							
DURS				*i* AML		AML	00 56 56.0	
	comp=E,5μm,0.2s							
DST	**Dursunbey**	**0.58**	**94**	PG		**Pg**	**00 56 50.5**	**-0.3**
BUHA	**Balikesir, Bur**	**0.62**	**257**	P		**Pg**	**00 56 51.5**	**0.0**
BUHA				S		**Sg**	**00 56 59.4**	**-0.4**
BUHA				*i* AML		AML	00 57 04.0	
	comp=Z,878nm,0.2s							
BUHA				*i* AML		AML	00 57 04.0	
	comp=N,1μm,0.6s							
BUHA				*i* AML		AML	00 57 06.0	
	comp=E,2μm,0.6s							
KNL	**Balıkesir**	**0.68**	**338**	P		**Pb**	**00 56 52.5**	**-0.5**
KNL				S		**Sb**	**00 57 01.6**	**-0.6**
KNL				*i* AML		AML	00 57 03.0	
	comp=Z,630nm,0.2s							
KNL				*i* AML		AML	00 57 03.0	
	comp=N,2μm,0.3s							
KNL				*i* AML		AML	00 57 04.0	
	comp=E,1μm,0.3s							
EDC	**Edincik**	**0.70**	**0**	PG		**Pg**	**00 56 52.9**	**-0.1**
EDC				SG		**Sg**	**00 57 02.3**	**+0.1**
AKHS	**Akhisar**	**0.77**	**183**	P		**Pb**	**00 56 54.2**	**-0.4**
AKHS				S		**Sb**	**00 57 05.6**	**+0.7**
AKHS				*i* AML		AML	00 57 08.0	
	comp=Z,310nm,0.6s							
AKHS				*i* AML		AML	00 57 08.0	
	comp=E,921nm,0.4s							
AKHS				*i* AML		AML	00 57 25.0	
	comp=N,1.2nm,1.2s							
AKS	**Akhisar**	**0.77**	**183**	PG		**Pb**	**00 56 54.4**	**-0.2**
AKS				SG		**Sb**	**00 57 05.8**	**+0.9**
KRBG	**Karabiga-Canak**	**0.86**	**330**	PG		**Pg**	**00 56 55.8**	**-0.3**
ORLT	**Orhaneli**	**0.89**	**63**	PG		**Pb**	**00 56 56.6**	**-0.1**
DEMI	**Demirci**	**0.90**	**132**	P		**Pb**	**00 56 56.6**	**-0.1**
DEMI				S		**Sb**	**00 57 08.7**	**0.0**
DEMI				*i* AML		AML	00 57 12.0	
	comp=Z,2μm,0.8s							
DEMI				*i* AML		AML	00 57 12.0	
	comp=N,2μm,0.2s							
DEMI				*i* AML		AML	00 57 13.0	
	comp=E,3μm,0.3s							
ZEDA	**zmir-Bergama**	**0.91**	**222**	P		**Pg**	**00 56 56.8**	**-0.2**
ZEDA				S		**Sb**	**00 57 09.2**	**+0.1**
ZEDA				*i* AML		AML	00 57 12.0	
	comp=E,1μm,0.8s							
ZEDA				*i* AML		AML	00 57 13.0	
	comp=Z,525nm,0.7s							
ZEDA				*i* AML		AML	00 57 13.0	
	comp=N,803nm,0.4s							
GOMA	**Golmarmara-Man**	**0.94**	**177**	PG		**Pb**	**00 56 57.7**	**+0.2**
GOMA				SG		**Sn**	**00 57 11.4**	**-0.1**
DKL	**Dikili**	**0.94**	**233**	PG		**Pb**	**00 56 57.5**	**0.0**
AYVA	**Ayvalik**	**0.97**	**250**	P		**Pb**	**00 56 58.0**	**+0.1**
AYVA				S		**Sb**	**00 57 11.1**	**+0.4**
AYVA				*i* AML		AML	00 57 13.0	
	comp=N,3μm,0.3s							
AYVA				*i* AML		AML	00 57 15.0	
	comp=Z,1μm,0.3s							
AYVA				*i* AML		AML	00 57 15.0	
	comp=E,2μm,0.7s							
MRMT	**Marmara Adasi**	**0.98**	**348**	PG		**Pb**	**00 56 58.3**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.02**	**276**	P		**Pb**	**00 56 58.4**	**-0.5**
BAYC				S		**Sb**	**00 57 12.1**	**-0.2**
BAYC				*i* AML		AML	00 57 14.0	
	comp=Z,864nm,0.6s							
BAYC				*i* AML		AML	00 57 14.0	
	comp=E,1μm,0.6s							
BAYC				*i* AML		AML	00 57 15.0	
	comp=N,1μm,0.3s							
SMAA	**Simav-Kutahya**	**1.02**	**122**	PG		**Pn**	**00 56 59.6**	**+0.1**
SIMA	**Simav-Kutahya**	**1.03**	**123**	PG		**Pn**	**00 56 59.6**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.07**	**47**	PG		**Pb**	**00 56 59.5**	**-0.2**
ULDT	**Uludag**	**1.10**	**63**	P		**Pn**	**00 57 00.7**	**0.0**
ULDT				S		**Sg**	**00 57 14.6**	**-0.2**
ULDT				*i* AML		AML	00 57 17.0	
	comp=N,1μm,0.3s							
ULDT				*i* AML		AML	00 57 17.0	
	comp=E,781nm,0.4s							
ULDT				*i* AML		AML	00 57 19.0	
	comp=Z,392nm,0.5s							
LPK	**Lapseki**	**1.11**	**311**	PN		**Pb**	**00 57 00.3**	**-0.2**
MAR6	**Marsite Statio**	**1.15**	**337**	PN		**Pg**	**00 57 01.7**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.17**	**333**	PN		**Pg**	**00 57 01.5**	**-0.3**
SART	**Tekirdag**	**1.17**	**334**	P		**Pn**	**00 57 01.4**	**-0.1**
SART				S		**Sg**	**00 57 16.9**	**-0.1**
SART				*i* AML		AML	00 57 19.0	
	comp=N,901nm,0.3s							
SART				*i* AML		AML	00 57 19.0	
	comp=E,1μm,0.5s							
SART				*i* AML		AML	00 57 20.0	
	comp=Z,468nm,0.4s							
STBT	**Saitabat**	**1.17**	**64**	P		**Pg**	**00 57 01.9**	**0.0**
STBT				S		**Sb**	**00 57 15.9**	**-0.7**
STBT				*i* AML		AML	00 57 19.0	
	comp=E,2μm,0.3s							
STBT				*i* AML		AML	00 57 21.0	
	comp=N,2μm,0.6s							
STBT				*i* AML		AML	00 57 23.0	
	comp=Z,716nm,0.2s							
GZKV	**Gazikoy-Tekird**	**1.17**	**340**	PN		**Pg**	**00 57 02.1**	**+0.1**
MAR3	**Marsite Statio**	**1.18**	**339**	PN		**Pg**	**00 57 01.9**	**-0.2**
EZN	**Ezine**	**1.20**	**279**	P		**Pb**	**00 57 01.8**	**-0.1**
EZN				S		**Sn**	**00 57 17.8**	**-0.2**
	725nm,0.5s							
EZN	**Ezine**	**1.20**	**279**	PN		**Pb**	**00 57 01.9**	**0.0**
IGD	**Bursa**	**1.20**	**59**	P		**Pg**	**00 57 02.0**	**-0.4**
IGD				S		**Sn**	**00 57 18.3**	**+0.3**
IGD				*i* AML		AML	00 57 20.0	
	comp=E,461nm,0.5s							
IGD				*i* AML		AML	00 57 21.0	
	comp=N,402nm,0.5s							
IGD				*i* AML		AML	00 57 22.0	
	comp=Z,178nm,0.5s							
SHAP	**Saphane-Kutahy**	**1.22**	**120**	PN		**Pg**	**00 57 03.1**	**+0.2**
TVSB	**Tavsanli**	**1.25**	**99**	PN		**Pg**	**00 57 03.1**	**-0.3**
MANT	**Manisa**	**1.27**	**155**	P		**Pg**	**00 57 03.8**	**-0.1**
MANT				S		**Sb**	**00 57 19.6**	**-0.2**
MANT				*i* AML		AML	00 57 23.0	
	comp=Z,514nm,0.5s							
MANT				*i* AML		AML	00 57 23.0	
	comp=N,437nm,0.6s							
MANT				*i* AML		AML	00 57 23.0	
	comp=E,702nm,0.3s							
KULA	**Kula-Manisa**	**1.29**	**151**	P		**Pb**	**00 57 03.6**	**+0.1**
KULA				S		**Sb**	**00 57 19.5**	**-0.5**
KULA	**Kula-Manisa**	**1.29**	**151**	PN		**Pg**	**00 57 03.9**	**-0.3**
USAK	**Uak-Merkez**	**1.29**	**136**	P		**Pg**	**00 57 04.0**	**-0.2**
USAK				S		**Sg**	**00 57 21.0**	**0.0**
USAK				*i* AML		AML	00 57 24.0	
	comp=Z,274nm,0.3s							
USAK				*i* AML		AML	00 57 24.0	
	comp=N,378nm,0.4s							
USAK				*i* AML		AML	00 57 24.0	
	comp=E,391nm,0.5s							
PRK	**Paraskevi**	**1.29**	**253**	P		**Pg**	**00 57 04.0**	**-0.3**
PRK				S		**Sg**	**00 57 21.4**	**+0.3**
PRK				AML		AML	00 57 25.9	
	comp=E,4803μm,0.5s							
PRK				AML		AML	00 57 30.4	
	comp=N,3829μm,0.5s							
PRK	**Paraskevi**	**1.29**	**253**	P		**Pg**	**00 57 04.6**	**+0.3**
PRK				S		**Sg**	**00 57 21.4**	**+0.3**
	comp=N,2μm,0.5s							
GELI	**Tayfur-Gelibol**	**1.30**	**306**	PN		**Pg**	**00 57 03.9**	**-0.5**
KOCA	**Canakkale, Ayv**	**1.34**	**264**	P		**Pb**	**00 57 04.2**	**-0.2**
KOCA				S		**Sg**	**00 57 22.0**	**-0.5**
KOCA				*i* AML		AML	00 57 24.0	
	comp=N,541nm,0.4s							
KOCA				*i* AML		AML	00 57 25.0	
	comp=N,722nm,0.4s							
KOCA				*i* AML		AML	00 57 26.0	
	comp=N,908nm,0.6s							
GEDZ	**Gediz**	**1.34**	**116**	PN		**Pg**	**00 57 05.1**	**-0.1**
GPNR	**Gulpinar-Canak**	**1.35**	**262**	PN		**Pg**	**00 57 04.7**	**-0.6**
ECEA	**Canakkale, Ece**	**1.36**	**288**	P		**Pb**	**00 57 04.8**	**+0.1**
ECEA				S		**Sg**	**00 57 23.2**	**0.0**
ECEA				*i* AML		AML	00 57 24.0	
	comp=N,569nm,0.3s							
ECEA				*i* AML		AML	00 57 29.0	
	comp=N,965nm,0.5s							
ECEA				*i* AML		AML	00 57 30.0	
	comp=N,291nm,0.8s							
TKR	**Tekirdag**	**1.37**	**350**	PN		**Pb**	**00 57 04.9**	**+0.1**
GDZ	**Gediz**	**1.37**	**113**	P		**Pg**	**00 57 05.4**	**-0.3**
GDZ				S		**Sg**	**00 57 23.8**	**+0.2**
GDZ				*i* AML		AML	00 57 26.0	
	comp=N,490nm,0.4s							
GDZ				*i* AML		AML	00 57 26.0	
	comp=N,668nm,0.4s							
GDZ				*i* AML		AML	00 57 26.0	
	comp=N,629nm,0.3s							
TRML	**Termal-Yalova**	**1.39**	**46**	PN		**Pn**	**00 57 04.6**	**+0.1**
KURT	**Yalova, Merkez**	**1.40**	**47**	P		**Pb**	**00 57 05.0**	**-0.3**
KURT				S		**Sg**	**00 57 23.7**	**-0.7**
KURT				*i* AML		AML	00 57 26.0	
	comp=N,227nm,0.4s							
KURT				*i* AML		AML	00 57 26.0	
	comp=N,387nm,0.3s							
KURT				*i* AML		AML	00 57 27.0	
	comp=N,360nm,0.4s							
BOZC	**Bozcaada**	**1.41**	**279**	PN		**Pb**	**00 57 05.0**	**-0.5**
BOZC	**Bozcaada**	**1.41**	**279**	P		**Pn**	**00 57 04.9**	**+0.2**
BOZC				S		**Sb**	**00 57 23.6**	**+0.3**
BOZC				*i* AML		AML	00 57 25.0	
	comp=N,402nm,0.4s							
BOZC				*i* AML		AML	00 57 26.0	
	comp=N,386nm,0.4s							
BOZC				*i* AML		AML	00 57 27.0	
	comp=N,155nm,0.5s							
BLCB	**Balcova**	**1.41**	**207**	P		**Pn**	**00 57 04.9**	**+0.2**
BLCB				S		**Sb**	**00 57 23.6**	**+0.1**
BLCB	**Balcova**	**1.41**	**207**	PN		**Pn**	**00 57 05.0**	**+0.2**
IZI	**Iznik**	**1.42**	**60**	PN		**Pb**	**00 57 05.7**	**0.0**
ERIK	**Erikli-Kesan**	**1.46**	**315**	PN		**Pb**	**00 57 05.9**	**-0.4**
KRBN	**Karaburun**	**1.46**	**225**	PN		**Pb**	**00 57 06.2**	**-0.3**
YLV	**Yalova**	**1.48**	**51**	PN		**Pn**	**00 57 05.9**	**+0.1**
CRLT	**Corlu**	**1.48**	**356**	PN		**Pb**	**00 57 06.5**	**-0.3**
KESN	**Edirne-Kesan**	**1.49**	**323**	P		**Pb**	**00 57 06.6**	**-0.5**
KESN				S		**Sn**	**00 57 25.2**	**-0.4**
KESN				*i* AML		AML	00 57 29.0	
	comp=N,766nm,0.3s							
KESN				*i* AML		AML	00 57 30.0	
	comp=N,798nm,0.5s							
KESN				*i* AML		AML	00 57 31.0	
	comp=N,354nm,0.6s							
CFTB	**Yalova**	**1.50**	**47**	PN		**Pb**	**00 57 06.8**	**-0.2**
AVCI	**Avcilar-stanb**	**1.50**	**26**	PN		**Pb**	**00 57 06.8**	**-0.3**
ELBA	**Catalca**	**1.56**	**16**	P		**Pg**	**00 57 08.5**	**-0.8**
ELBA				S		**Sb**	**00 57 27.7**	**-0.1**
ELBA				*i* AML		AML	00 57 30.0	
	comp=N,153nm,0.2s							
ELBA				*i* AML		AML	00 57 30.0	
	comp=N,254nm,0.2s							
ELBA				*i* AML		AML	00 57 34.0	
	comp=N,234nm,0.6s							
ANDZ	**Kutahya, Merke**	**1.58**	**94**	P		**Pg**	**00 57 09.2**	**-0.5**
ANDZ				S		**Sb**	**00 57 29.0**	**+0.6**
ANDZ				*i* AML		AML	00 57 33.0	
	comp=N,253nm,0.3s							
ANDZ				*i* AML		AML	00 57 34.0	
	comp=N,276nm,0.3s							
ANDZ				*i* AML		AML	00 57 35.0	
	comp=N,136nm,0.5s							
TUZL	**Tuzla-Istanbul**	**1.58**	**42**	P		**Pg**	**00 57 09.1**	**-0.7**
GOKA	**anakkale-Gk**	**1.60**	**291**	P		**Pb**	**00 57 08.2**	**-0.6**
GOKA				S		**Sg**	**00 57 29.8**	**-1.1**
GOKA				*i* AML		AML	00 57 36.0	
	comp=N,365nm,0.6s							
GOKA				*i* AML		AML	00 57 39.0	
	comp=N,1μm,0.4s							
GOKA				*i* AML		AML	00 58 09.0	
	comp=N,0.2nm,0.8s							
SLVT	**Silivri**	**1.60**	**9**	PN		**Pb**	**00 57 08.2**	**-0.6**
GADA	**Gvkgeada**	**1.61**	**290**	PN		**Pb**	**00 57 08.1**	**-0.8**
SIGR	**SIGRI**	**1.61**	**255**	P		**Pn**	**00 57 07.7**	**+0.1**
SIGR				AML		AML	00 57 32.9	
	comp=N,2284μm,0.7s							
SIGR				AML		AML	00 57 33.2	
	comp=E,2007μm,0.6s							
SIGR	**SIGRI**	**1.61**	**255**	P		**Pn**	**00 57 07.8**	**+0.3**
SIGR				S		**Sn**	**00 57 28.5**	**+0.3**
	comp=E,1μm,0.6s							
URLA	**Izmir**	**1.62**	**218**	PN		**Pn**	**00 57 07.4**	**-0.3**
URLA	**Izmir**	**1.62**	**218**	P		**Pn**	**00 57 07.1**	**-0.5**
URLA				S		**Sg**	**00 57 30.4**	**-1.1**
URLA				*i* AML		AML	00 57 37.0	
	comp=E,207nm,0.6s							
UR

ZEYE				*i* AML	AML	00 57 45.0		
	comp=E,233nm,0.4s							
DGB	**zmir**	**1.77**	**206**	P	**Pb**	**00 57 12.2**	**+0.6**	
DGB				S	**Sg**	**00 57 35.4**	**-0.8**	
DGB				*i* AML	AML	00 57 37.0		
	comp=E,123nm,0.3s							
DGB				*i* AML	AML	00 57 38.0		
	comp=E,75nm,0.3s							
DGB				*i* AML	AML	00 57 39.0		
	comp=E,132nm,0.3s							
PASA	**Karahalli, USA**	**1.81**	**135**	P	**Pb**	**00 57 11.4**	**-1.0**	
PASA				S	**Sb**	**00 57 34.9**	**-0.2**	
PASA				*i* AML	AML	00 57 39.0		
	comp=E,98nm,0.4s							
PASA				*i* AML	AML	00 57 44.0		
	comp=E,114nm,0.6s							
PASA				*i* AML	AML	00 57 45.0		
	comp=E,87nm,0.6s							
ALN	**Alexandroupoli**	**1.87**	**313**	P	**Pn**	**00 57 11.7**	**+0.6**	
ALN				AML	AML	00 57 39.1		
	comp=E,1375µm,0.7s							
ALN				AML	AML	00 57 39.2		
	comp=N,1081µm,0.4s							
ALN	**Alexandroupoli**	**1.87**	**313**	P	**Pn**	**00 57 11.6**	**+0.6**	
ALN				S	**Sb**	**00 57 35.7**	**-0.9**	
	comp=N,618nm,0.9s							
ALN	**Alexandroupoli**	**1.87**	**313**	PN	**Pn**	**00 57 11.8**	**+0.8**	
CHOS	**Chios island**	**1.89**	**229**	P	**Pn**	**00 57 11.3**	**0.0**	
CHOS				AML	AML	00 57 45.5		
	comp=E,1240µm,0.4s							
CHOS				AML	AML	00 57 46.0		
	comp=N,1046µm,0.5s							
CHOS	**Chios island**	**1.89**	**229**	P	**Pn**	**00 57 11.4**	**0.0**	
VIZE	**Kirklareli, Vi**	**1.93**	**359**	P	**Pn**	**00 57 12.1**	**+0.2**	
VIZE				S	**Sn**	**00 57 36.2**	**+0.1**	
VIZE				*i* AML	AML	00 57 42.0		
	comp=N,140nm,0.3s							
VIZE				*i* AML	AML	00 57 43.0		
	comp=N,203nm,0.5s							
VIZE				*i* AML	AML	00 57 43.0		
	comp=N,231nm,0.3s							
SMTH	**Samothraki Isl**	**1.97**	**295**	P	**Pn**	**00 57 12.9**	**+0.5**	
SMTH	**Samothraki Isl**	**1.97**	**295**	P	**Pn**	**00 57 12.9**	**+0.5**	
AYDN	**Tasoluk**	**1.98**	**180**	P	**Pn**	**00 57 12.4**	**-0.2**	
AYDN				*i* AML	AML	00 57 46.0		
	comp=N,130nm,0.3s							
AYDN				*i* AML	AML	00 57 46.0		
	comp=N,162nm,0.7s							
AYDN				*i* AML	AML	00 57 51.0		
	comp=N,52nm,0.6s							
GCAM	**G?zelcaml?**	**2.00**	**194**	P	**Pn**	**00 57 12.9**	**0.0**	
GCAM				*i* AML	AML	00 57 50.0		
	comp=N,62nm,0.3s							
GCAM				*i* AML	AML	00 57 54.0		
	comp=N,100nm,0.4s							
GCAM				*i* AML	AML	00 57 58.0		
	comp=N,43nm,0.8s							
BORA	**Eskisehir**	**2.01**	**83**	P	**Pg**	**00 57 17.0**	**-0.9**	
BORA				S	**Sg**	**00 57 43.6**	**-0.4**	
BORA				*i* AML	AML	00 57 46.0		
	comp=N,293nm,0.4s							
BORA				*i* AML	AML	00 57 47.0		
	comp=N,169nm,0.4s							
BORA				*i* AML	AML	00 57 47.0		
	comp=N,174nm,0.2s							
AFYO	**Afyonkarahisar**	**2.08**	**114**	P	**Pg**	**00 57 19.1**	**-0.1**	
AFYO				S	**Sg**	**00 57 46.8**	**+0.7**	
AFYO				*i* AML	AML	00 57 57.0		
	comp=N,210nm,0.7s							
AFYO				*i* AML	AML	00 58 01.0		
	comp=N,211nm,0.7s							
AFYO				*i* AML	AML	00 58 04.0		
	comp=N,151nm,1.0s							
LIA	**Limnos Island**	**2.08**	**278**	P	**Pn**	**00 57 14.8**	**+0.9**	
LIA	**Limnos Island**	**2.08**	**278**	P	**Pn**	**00 57 14.8**	**+0.9**	
SMG	**Samos**	**2.10**	**203**	P	**Pn**	**00 57 13.7**	**-0.5**	
SMG	**Samos**	**2.10**	**203**	P	**Pn**	**00 57 13.8**	**-0.4**	
AUKIR	**Kirka- Seyitga**	**2.10**	**99**	P	**Pb**	**00 57 17.9**	**+0.6**	
AUKIR				S	**Sg**	**00 57 47.3**	**+0.5**	
AUKIR				*i* AML	AML	00 57 53.0		
	comp=N,182nm,0.3s							
AUKIR				*i* AML	AML	00 57 57.0		
	comp=N,218nm,0.9s							
AUKIR				*i* AML	AML	00 57 59.0		
	comp=N,137nm,0.7s							
KIRK	**Kırklareli**	**2.21**	**345**	P	**Pn**	**00 57 16.1**	**+0.4**	
KIRK				S	**Sn**	**00 57 42.6**	**-0.3**	
KIRK				*i* AML	AML	00 57 48.0		
	comp=N,91nm,0.7s							
KIRK				*i* AML	AML	00 57 49.0		
	comp=N,60nm,0.7s							
KIRK				*i* AML	AML	00 57 51.0		
	comp=N,95nm,0.6s							
DDIM	**Aydin, Didim**	**2.24**	**193**	P	**Pg**	**00 57 22.3**	**0.0**	
DDIM				*i* AML	AML	00 58 06.0		
	comp=N,112nm,1.3s							
DDIM				*i* AML	AML	00 58 20.0		
	comp=N,81nm,0.7s							
DDIM				*i* AML	AML	00 58 26.0		
	comp=N,192nm,2.0s							
KAND	**Kocaeli-Kandir**	**2.29**	**50**	P	**Pb**	**00 57 21.3**	**+0.7**	
KAND				S	**Sg**	**00 57 50.9**	**-2.2**	
KAND				*i* AML	AML	00 57 55.0		
	comp=N,93nm,0.7s							
KAND				*i* AML	AML	00 57 55.0		
	comp=N,134nm,0.6s							
KAND				*i* AML	AML	00 57 55.0		
	comp=N,101nm,0.3s							
SGAZ	**Eskisehir, Sey**	**2.30**	**92**	P	**Pb**	**00 57 20.5**	**-0.2**	
SGAZ				S	**Sg**	**00 57 52.6**	**-0.7**	
SGAZ				*i* AML	AML	00 57 57.0		
	comp=N,134nm,0.2s							
SGAZ				*i* AML	AML	00 57 57.0		
	comp=N,177nm,0.3s							
SGAZ				*i* AML	AML	00 58 03.0		
	comp=N,128nm,0.5s							
KAYN	**Sakarya, Kayna**	**2.31**	**54**	P	**Pb**	**00 57 21.4**	**+0.6**	
KAYN				S	**Sg**	**00 57 51.5**	**-2.1**	
KAYN				*i* AML	AML	00 57 54.0		
	comp=N,81nm,0.6s							
KAYN				*i* AML	AML	00 57 56.0		
	comp=N,87nm,0.5s							
KAYN				*i* AML	AML	00 58 00.0		
	comp=N,43nm,0.5s							
RDO	**Rodhopi**	**2.32**	**311**	P	**Pn**	**00 57 18.3**	**+1.0**	
RDO	**Rodhopi**	**2.32**	**311**	P	**Pn**	**00 57 18.3**	**+1.0**	
TAVA	**DENIZLI_Tavas**	**2.33**	**159**	P	**Pn**	**00 57 17.6**	**+0.2**	
TAVA				*i* AML	AML	00 57 57.0		
	comp=N,32nm,1.0s							
TAVA				*i* AML	AML	00 58 01.0		
	comp=N,19nm,0.9s							
TAVA				*i* AML	AML	00 58 01.0		
	comp=N,34nm,0.9s							
EDRB	**Edirne**	**2.36**	**339**	P	**Pn**	**00 57 18.1**	**+0.3**	
MULA	**Mugla, Merkez-**	**2.41**	**171**	P	**Pn**	**00 57 18.6**	**-0.1**	
MULA				*i* AML	AML	00 58 05.0		
	comp=N,44nm,0.8s							
MULA				*i* AML	AML	00 58 06.0		
	comp=N,35nm,0.6s							
MULA				*i* AML	AML	00 58 06.0		
	comp=N,45nm,0.5s							
YER	**Yerkesik**	**2.53**	**172**	P	**Pn**	**00 57 20.3**	**+0.1**	
BTAS	**Taskesti**	**2.58**	**68**	P	**Pg**	**00 57 27.8**	**-0.9**	
BTAS				S	**Sg**	**00 58 03.2**	**+1.1**	
SAHE	**Sakarya_HENDEK**	**2.59**	**61**	P	**Pg**	**00 57 27.1**	**-1.9**	
SAHE				S	**Sg**	**00 58 01.6**	**-0.9**	
SAHE				*i* AML	AML	00 58 06.0		
	comp=N,89nm,0.4s							
SAHE				*i* AML	AML	00 58 06.0		
	comp=N,145nm,0.8s							
SAHE				*i* AML	AML	00 58 07.0		
	comp=N,142nm,0.6s							
THAS	**Thassos island**	**2.59**	**293**	P	**Pn**	**00 57 20.9**	**-0.1**	
BDRM	**Kayabasi**	**2.60**	**187**	P	**Pn**	**00 57 20.6**	**-0.5**	
BDRM				*i* AML	AML	00 58 13.0		
	comp=N,20nm,1.2s							
BDRM				*i* AML	AML	00 58 14.0		
	comp=N,26nm,1.0s							
BDRM				*i* AML	AML	00 58 50.0		
	comp=N,59nm,2.9s							
BRDR	**BURDUR-Merkez**	**2.60**	**138**	P	**Pn**	**00 57 21.9**	**+0.7**	
BRDR				*i* AML	AML	00 58 10.0		
	comp=N,60nm,0.5s							
BRDR				*i* AML	AML	00 58 12.0		
	comp=N,78nm,0.7s							
BRDR				*i* AML	AML	00 58 14.0		
	comp=N,52nm,0.7s							
KDZ	**Kurdzhali**	**2.73**	**318**	*i* P	**Pn**	**00 57 24.0**	**+1.0**	
GOLH	**Golhisar**	**2.75**	**150**	P	**Pn**	**00 57 24.7**	**+1.4**	
GOLH				*i* AML	AML	00 58 21.0		
	comp=N,32nm,0.7s							
GOLH				*i* AML	AML	00 58 25.0		
	comp=N,48nm,1.3s							
GOLH				*i* AML	AML	00 58 33.0		
	comp=N,36nm,1.3s							
AUSIV	**SIVRIHISAR**	**2.85**	**93**	P	**Pg**	**00 57 33.3**	**-0.7**	
TURN	**Turunc**	**2.88**	**174**	P	**Pn**	**00 57 25.1**	**+0.2**	
TURN				*i* AML	AML	00 58 19.0		
	comp=N,30nm,0.5s							
TURN				*i* AML	AML	00 58 19.0		
	comp=N,29nm,0.5s							
TURN				*i* AML	AML	00 58 23.0		
	comp=N,24nm,1.7s							
YVAC	**Isparta, Yalva**	**2.97**	**116**	P	**Pn**	**00 57 27.5**	**+1.2**	
YVAC				*i* AML	AML	00 58 24.0		
	comp=N,8.4nm,0.9s							
YVAC				*i* AML	AML	00 58 24.0		
	comp=N,13nm,0.9s							
YVAC				*i* AML	AML	00 58 25.0		
	comp=N,11nm,1.7s							
DIM	**Dimitrovgrad**	**2.98**	**324**	*i* P	**Pn**	**00 57 26.9**	**+0.6**	
YIGI	**Dzce**	**3.04**	**63**	P	**Pn**	**00 57 27.7**	**+0.5**	
YIGI				*i* AML	AML	00 58 03.0		
	comp=N,27nm,0.9s							
YIGI				*i* AML	AML	00 58 23.0		
	comp=N,46nm,0.5s							
YIGI				*i* AML	AML	00 58 25.0		
	comp=N,43nm,0.6s							
OUR	**Ouranopolis**	**3.06**	**284**	P	**Pn**	**00 57 27.8**	**+0.4**	
RZN	**Rozhen**	**3.15**	**311**	*i* P	**Pn**	**00 57 29.7**	**+0.9**	
FETY	**Fethiye**	**3.16**	**162**	P	**Pb**	**00 57 32.8**	**-2.5**	
KIBS	**BOLU**	**3.16**	**75**	P	**Pg**	**00 57 39.4**	**-0.5**	
PLD	**Plovdiv**	**3.43**	**317**	*i* P	**Pn**	**00 57 32.3**	**-0.2**	
NVR	**Nevrokopi**	**3.49**	**300**	P	**Pn**	**00 57 34.4**	**+1.0**	
SRS	**Serrai**	**3.58**	**296**	P	**Pn**	**00 57 35.2**	**+0.6**	
KALB	**Balgarevo**	**3.78**	**6**	⇓P	**Pn**	**00 57 41.1**	**+3.8**	
ICOR	**Ion Corvin**	**4.47**	**359**	⇑P	**Pn**	**00 57 50.5**	**+3.8**	
VTS	**Vitosha**	**4.58**	**312**	⇓P	**Pn**	**00 57 49.4**	**+0.9**	
STIP	**Stip**	**4.78**	**297**	/ Pn	**Pn**	**00 57 50.4**	**-0.7**	
MPEP	**Malo Peshtene**	**4.83**	**321**	*i* P	**Pn**	**00 57 52.9**	**+1.2**	
TPGR	**Topolog**	**5.22**	**4**	P	**Pn**	**00 57 59.8**	**+2.6**	
CFR	**Carcaliu**	**5.53**	**2**	⇑P	**Pn**	**00 58 03.8**	**+2.4**	
BLKB	**Belogradchik**	**5.56**	**317**	⇓P	**Pn**	**00 58 02.5**	**+0.8**	
MLR	**Muntele Rosu**	**6.01**	**347**	⇑P	**Pn**	**00 58 10.8**	**+2.7**	
ODBI	**Odobesti**	**6.14**	**355**	⇓P	**Pn**	**00 58 12.6**	**+2.8**	
VLDR	**Vladesti**	**6.20**	**1**	⇑P	**Pn**	**00 58 12.9**	**+2.4**	
VARL	**Varlezi**	**6.25**	**360**	⇓P	**Pn**	**00 58 13.9**	**+2.6**	
PLOR	**Plostina**	**6.26**	**352**	⇓P	**Pn**	**00 58 15.2**	**+3.7**	
VRI	**Vrincioaia**	**6.27**	**353**	⇑P	**Pn**	**00 58 14.1**	**+2.5**	
COVR	**Voineasa-Covas**	**6.32**	**349**	⇑P	**Pn**	**00 58 15.3**	**+3.1**	
DOPR	**Dopca**	**6.57**	**345**	⇓P	**Pn**	**00 58 18.1**	**+2.4**	
HERR	**Herculane**	**6.61**	**324**	⇑P	**Pn**	**00 58 16.6**	**+0.5**	
MDVR	**Moldovita**	**6.87**	**320**	⇑P	**Pn**	**00 58 20.3**	**+0.5**	
TESR	**Tescani**	**6.92**	**353**	⇑P	**Pn**	**00 58 22.3**	**+1.8**	
BZS	**Buzias**	**7.54**	**324**	⇑P	**Pn**	**00 58 29.4**	**+0.5**	
BURAR	**Bucovina Array**	**8.19**	**347**	⇑P	**Pn**	**00 58 40.7**	**+2.7**	
SORM	**Soroca**	**8.49**	**2**	⇓P	**Pn**	**00 58 43.2**	**+1.2**	

IDC ***25*** *01:00:24.5±0.8, 35°.05N×137°.54E, h41km±7km, mb3.3/4, mb1 3.6/6, mb1mx3.2/58, mbtmp3.5/6, ML3.4/2, MS3.1/6, Ms1 3.1/6, ms1mx2.7/94, Error ellipse: s-maj=11.7km s-min=6.7km az=94.0*

NIED ***25*** *01:00:25.0, 35°.09N×137°.58E, h44km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.75; Mθθ=0.49; Mϕϕ=1.24; Mrθ=0.87; Mθϕ=0.16; Mϕr=-0.36; Fault plane solution: M₀1.42000×10¹⁵ NP1: ϕs217.00000°, δ49.00000°, λ-33.00000°. NP2: ϕs330.00000°, δ65.00000°, λ-134.00000°.*

JMA ***25*** *01:00:25.0, 35°.09N×137°.58E, h44km, M4.2 Broadband fault plane solution: P waves. NP1:ϕs315.00000°, δ83.00000°, λ-142.00000°. NP2:ϕs219.00000°, δ53.00000°, λ-9.00000°. Principal axes: T Plg20.0000°, Azm81.0000°; N Plg52.0000°, Azm324.0000°; P Plg31.0000°, Azm184.0000°;*

JMA Felt II J1.

NEIC ***25*** *01:00:26.2±2.5, 35°.17N±0°.05×137°.52E±0°.06, h46km±8km, mb4.4/12 Error ellipse: s-maj=10.0km s-min=2.9km az=132.0*

ISC 25 01:00:25.0±0.6, **35°.09N**±0°.03×**137°.59E**±0°.03, **h35**km, **n57**, σ1s**31**/61, **mb4.4**/17, **5C-4D**, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JYZW	**Yoshizawa**	**0.15**	**129**	P	P	**Pn**	**01 00 32.0**	**+0.6**
JSSY	**Shinshiroyabe**	**0.19**	**201**	⇑P	P	**Pn**	**01 00 32.5**	**+0.8**
JSSY				*e*S	S	**Sn**	**01 00 37.8**	**+1.5**
HMMJ	**Hamamatsu 2**	**0.26**	**155**	⇓P	P	**Pn**	**01 00 33.1**	**+0.7**
HMMJ				S	S	**Sn**	**01 00 38.9**	**+1.4**
SHZ3	**Shizuoka 3**	**0.51**	**93**	P	P	**Pn**	**01 00 36.0**	**+0.2**
SHZ3				*e*S	S	**Sn**	**01 00 44.5**	**+1.1**
INU	**Inuyama**	**0.54**	**299**	Pn	P	**Pn**	**01 00 36.4**	**+0.3**
INU				Sn	S	**Sn**	**01 00 44.2**	**+0.3**
JGF	**Kuroka**	**0.54**	**340**	Pn	P	**Pn**	**01 00 36.5**	**+0.1**
JGF				Sn	S	**Sn**	**01 00 44.4**	**+0.2**
TK04	**Tokai 4**	**0.74**	**162**	⇓P	P	**Pn**	**01 00 39.4**	**+0.5**
JYTA	**Yamagatataniai**	**0.86**	**306**	⇑P	P	**Pn**	**01 00 40.9**	**+0.3**
JYTA				S	S	**Sn**	**01 00 52.4**	**+0.4**
JYN	**Shimob**	**0.88**	**62**	⇑P	P	**Pn**	**01 00 41.3**	**+0.4**
JFNN	**Fujinakano**	**0.90**	**83**	P	P	**Pn**	**01 00 41.8**	**+0.6**
JIE	**Ise**	**1.01**	**227**	⇓P	P	**Pn**	**01 00 42.3**	**-0.3**
TSUJ	**Tsu 2**	**1.03**	**249**	P	P	**Pn**	**01 00 42.8**	**-0.2**
JIZS	**Izushimoda**	**1.12**	**109**	⇑P	P	**Pn**	**01 00 44.1**	**-0.1**
JIZS				S	S	**Sn**	**01 00 58.5**	**+0.1**
TK02	**Tokai 2**	**1.15**	**173**	⇓P	P	**Pn**	**01 00 43.8**	**-0.6**
MAJO	**Matsushiro**	**1.53**	**19**	Pn	P	**Pn**	**01 00 51.5**	**+1.6**
MJAR	**Matsushiro Arr**	**1.53**	**19**	P	P	**Pn**	**01 00 50.5**	**+0.6**
	27nm,0.3s,baz=204,slow=12,SNR=342							
MJAR				S	S	**Sn**	**01 01 09.3**	**+0.7**
	68nm,0.3s,baz=214,slow=20,SNR=13							
MJAR	**Matsushiro Arr**	**1.53**	**19**	Pn	P	**Pn**	**01 00 50.1**	**+0.2**
MJB9	**Matsu-Tunnel**	**1.54**	**19**		P	**Pn**	**01 00 51.3**	**+1.4**
JYT	**Yasato**	**2.40**	**61**	Pn	P	**Pn**	**01 01 04.2**	**+2.4**
JHJ	**Hachijo jima 2**	**2.68**	**137**	P	P	**Pn**	**01 01 06.0**	**+0.4**
	17nm,0.3s,baz=20,slow=20,SNR=1.3							
JHJ				S	S	**Sn**	**01 01 37.4**	**+0.5**
	29nm,0.3s,baz=81,slow=22,SNR=6.4							
JSD	**Sado**	**2.99**	**10**	Pn	P	**Pn**	**01 01 10.2**	**+0.3**
JMN	**Monobe**	**3.36**	**247**	Pn	P	**Pn**	**01 01 15.8**	**+0.9**
JHS	**Saijyo**	**3.67**	**270**	Pn	P	**Pn**	**01 01 20.0**	**+0.7**
JMM	**Marumori**	**3.79**	**42**	Pn	P	**Pn**	**01 01 22.6**	**+1.8**
JTU	**Tsushima**	**6.76**	**268**	Pn	P	**Pn**	**01 02 04.3**	**+2.6**
JSU	**Suzuyama**	**6.96**	**241**	Pn	P	**Pn**	**01 02 08.1**	**+3.6**
KSRS	**Korea Array**	**8.16**	**290**	P	P	**Pn**	**01 02 19.2**	**-1.6**
	0.5nm,0.3s,baz=98,slow=15,SNR=2.2							
KSRS				LR	LR		01 05 26.8	
	comp=Z,75nm,19.8s,baz=335,slow=37							
ASAJ	**Asahikawa**	**9.80**	**22**	LR	LR		01 06 49.6	
	comp=Z,88nm,20.6s,baz=29,slow=39							
JOW	**Kunigami**	**11.47**	**227**	LR	LR		01 07 28.2	
	comp=Z,70nm,20.3s,baz=288,slow=37							
KLR	**Kul'dur**	**14.77**	**345**	LR	LR		01 08 15.4	
	comp=Z,84nm,21.2s,baz=252,slow=32							
YOJ	**Yonaguni jima**	**16.48**	**234**	P	**P**		**01 04 16.8**	**+0.9**
HNS	**HongShan**	**18.60**	**284**	⇑P	**Pn**		**01 04 41.3**	**+1.7**
HNS				pmax	pmax			
	comp=Z,11nm,0.8s							
HHC	**Hu-ho-hao-te**	**21.27**	**293**	*e*P	**P**		**01 05 10.1**	**+1.7**
HHC				pmax	pmax			
	comp=Z,16nm,1.0s							
HHC				pmax	pmax			
	comp=Z,170nm,7.4s							
SONM	**Songino Array**	**26.43**	**308**	P	**P**		**01 05 58.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=99,slow=8.9,SNR=2.0							
SONM				sP	**sP**		**01 06 13.8**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=126,slow=7.5,SNR=4.7							
YAK	**Yakutsk**	**27.42**	**352**	LR	LR		01 17 06.7	
	comp=Z,81nm,18.9s,baz=244,slow=36							
DAV	**Davao City (W)**	**30.00**	**204**	LR	LR		01 17 59.3	
	comp=Z,58nm,20.6s,baz=114,slow=35							
PZH	**PanZhiHua**	**31.83**	**264**	P	**P**		**01 06 47.8**	**+1.2**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,100nm,5.0s							
WMQ	**Urumqi**	**38.99**	**298**	*e*P	**P**		**01 07 46.3**	**-1.7**
WMQ				pP	sP		01 08 00.8	-1.8
WMQ				pmax	pmax			
	comp=Z,12nm,0.7s							
MKAR	**Makanchi Array**	**42.56**	**303**	P	**P**		**01 08 15.5**	**-1.8**
	comp=Z,0.1nm,0.5s,baz=80,slow=11,SNR=1.8							
MKAR				pP	**pP**		**01 08 28.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=95,slow=8.8,SNR=3.1							
MAKZ	**Makanchi**	**42.77**	**303**	P	**P**		**01 08 17.6**	**-1.4**
IMAR	**Indian Mountai**	**49.89**	**30**	P	**P**		**01 09 15.1**	**+0.5**
KK31	**Karatay Array**	**51.42**	**300**	P	**P**		**01 09 27.8**	**+1.3**
KK31				IAmb	IAmb		01 09 38.4	
	comp=Z,6.4nm,1.5s							
KKAR	**Karatay Array**	**51.42**	**300**	P	**P**		**01 09 28.2**	**+1.7**
KKAR				IAmb	IAmb		01 09 38.5	
	comp=Z,6.4nm,1.5s							
ILAR	**Eielson Array**	**52.78**	**31**	P	**P**		**01 09 35.5**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=268,slow=6.3,SNR=2.4							
ILAR				pP	**pP**		**01 09 46.3**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=270,slow=6.6,SNR=3.4							
FITZ	**Fitzroy Crossi**	**54.10**	**194**	P	**P**		**01 09 46.0**	**-0.3**
FITZ				IAmb	IAmb		01 10 11.4	
	comp=Z,8.2nm,1.3s							
WB0	**Warramunga Arr**	**54.64**	**184**	P	**P**		**01 09 48.2**	**-2.1**
WB0				IAmb	IAmb		01 09 48.6	
	comp=Z,4.9nm,0.8s							
WB2	**Warramunga Arr**	**54.82**	**184**	P	**P**		**01 09 49.7**	**-1.8**
WRA	**Warramunga Arr**	**54.82**	**184**	P	**P**		**01 09 49.4**	**-2.2**
	comp=Z,3.2nm,0.7s,baz=356,slow=7.6,SNR=32							
WRA	**Warramunga Arr**	**54.82**	**184**	P	**P**		**01 09 49.6**	**-2.0**
WR0	**Warramunga Arr**	**54.82**	**184**	P	**P**		**01 09 49.2**	**-2.4**
ABKAR	**Akbulak array**	**56.82**	**310**	P	**P**		**01 10 04.1**	**-1.6**
ABKAR				IAmb	IAmb		01 10 28.4	
	comp=Z,1.3nm,0.8s							
AS31	**Alice Springs**	**58.54**	**184**	P	**P**		**01 10 16.5**	**-1.5**
AS31				IAmb	IAmb		01 10 18.2	
	comp=Z,1.5nm,0.6s							
ASAR	**Alice Springs**	**58.54**	**184**	P	**P**		**01 10 16.8**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=19,slow=12,SNR=16							
STKA	**Stephens Creek**	**66.72**	**176**	P	**P**		**01 11 11.8**	**-0.5**
FINES	**FINESS Array B**	**69.06**	**331**	pP	pP		01 11 37.2	-0.7
	comp=Z,2.2nm,1.0s,baz=129,slow=7.6,SNR=1.2							
NOA	**NORSAR Array B**	**74.74**	**336**	pP	pP		01 12 11.3	-0.8
	comp=Z,0.3nm,0.6s,baz=43,slow=5.6,SNR=2.2							
PDAR	**Pinedale Array**	**81.22**	**43**	pP	pP		01 12 49.4	+0.7
	comp=Z,0.3nm,0.5s,baz=321,slow=3.8,SNR=3.0							

ATH ***25*** *01:02:04.7, 34°.30N×26°.06E, h10km±6km, ML3.3/4, Error ellipse: s-maj=6.4km s-min=1.9km az=355.0*

DDA ***25*** *01:02:05.1±0.0, 34°.78N×25°.66E, h8km±6km, ML3.0*

THE ***25*** *01:02:06.8, 34°.43N×26°.04E, h0km±3km, ML2.7/4, Error ellipse: s-maj=5.3km s-min=1.4km az=149.0*

ISK ***25*** *01:02:06.4, 34°.46N×26°.00E, h5km, ML3.1/8*

IDC ***25*** *01:02:11.2±3.1, 34°.53N×25°.91E, h48km±29km, mb3.4/7, mb1 3.5/7, mb1mx3.2/51, mbtmp3.7/7, Error ellipse: s-maj=30.4km s-min=20.3km az=159.0*

ISC 25 01:02:06.7±1.5, **34°.48N**±0°.06×**25°.96E**±0°.03, **h10**km±9km, **n54**, σ1s**65**/72, **mb3.7**/7, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.57**	**341**	P	P	**Pb**	**01 02 18.7**	**0.0**
FRMA				S	S	**Sn**	**01 02 29.2**	**-1.0**
FRMA				*i* AML	AML		01 02 31.5	
	comp=E,3328µm,0.3s							
FRMA				AML	AML		01 02 34.2	
	comp=N,6396µm,0.4s							
FRMA	**Ierapetra Chan**	**0.57**	**341**	P	P	**Pb**	**01 02 18.7**	**0.0**
FRMA				S	S	**Sn**	**01 02 29.6**	**-0.6**
	comp=N,820nm,0.4s							
ZKR	**Zakros**	**0.67**	**18**	P	P	**Pg**	**01 02 19.9**	**+0.2**
ZKR				S	S	**Sn**	**01 02 31.7**	**-1.2**
ZKR				*i* AML	AML		01 02 32.4	
	comp=E,4991µm,0.3s							
ZKR				AML	AML		01 02 32.4	
	comp=N,4231µm,0.3s							
ZKR	**Zakros**	**0.67**	**18**	P	P	**Pg**	**01 02 19.8**	**+0.2**
ZKR				S	S	**Sn**	**01 02 31.7**	**-1.2**
	comp=N,2µm,0.3s							
ZKR	**Zakros**	**0.67**	**18**	PG	P	**Pg**	**01 02 19.9**	**+0.2**
ZKR				SG	S	**Sb**	**01 02 31.1**	**+1.2**
SIVA	**Sivas**	**1.09**	**300**	P	P	**Pn**	**01 02 28.4**	**+0.4**
SIVA	**Sivas**	**1.09**	**300**	P	P	**Pn**	**01 02 28.6**	**+0.6**
HRKL	**Herakleio**	**1.09**	**320**	P	P	**Pn**	**01 02 29.1**	**+1.1**
HRKL	**Herakleio**	**1.09**	**320**	P	P	**Pn**	**01 02 29.1**	**+1.1**
HRKL	**Herakleio**	**1.09**	**320**	PN	P	**Pn**	**01 02 29.1**	**+1.1**
HRKL				SN	S	**Sn**	**01 02 45.5**	**+2.3**
KSTL	**Kastelli Herak**	**1.10**	**319**	P	P	**Pg**	**01 02 24.6**	**-3.2**
KSTL				S	S	**Sg**	**01 02 39.9**	**-2.2**
**KS

PASA	**Karahalli, USA**	**4.80**	**35**	P		**Pn**	**01 03 19.0**	**-0.1**	
USAK	**Uak-Merkez**	**4.89**	**29**	P		**Pn**	**01 03 20.9**	**+0.6**	
USAK				*i* AML		AML	01 04 17.0		
	comp=N,14nm,1.2s								
KEPZ	**Antalya-Kepez**	**5.19**	**61**	P		**Pn**	**01 03 23.1**	**-1.4**	
ESDC	**Sonseca Array**	**24.37**	**291**	P		**P**	**01 07 24.3**	**-0.7**	
	comp=N,0.5nm,1.0s,baz=84,slow=9.4,SNR=1.8								
GEYT	**Alibeck**	**26.11**	**73**	P		**P**	**01 07 42.6**	**+1.9**	
	comp=N,0.9nm,0.4s,baz=59,slow=14,SNR=1.9								
FINES	**FINESS Array B**	**26.98**	**0**	P		**P**	**01 07 46.3**	**-2.0**	
	comp=N,4.3nm,1.0s,baz=171,slow=9.8,SNR=2.4								
TORD	**Torodi Ar. Bea**	**30.57**	**232**	P		**P**	**01 08 20.1**	**-0.6**	
	comp=N,0.4nm,0.5s,baz=32,slow=8.3,SNR=7.7								
MKAR	**Makanchi Array**	**43.61**	**56**	P		**P**	**01 10 10.3**	**-0.8**	
	comp=N,0.7nm,0.6s,baz=280,slow=6.1,SNR=12								
ZALV	**Zalesovo Beam**	**45.01**	**46**	P		**P**	**01 10 20.9**	**-1.2**	
	comp=N,0.9nm,0.4s,baz=268,slow=8.3,SNR=6.4								
YKA	**Yellowknife Ar**	**78.30**	**342**	P		**P**	**01 14 06.2**	**-0.3**	
	comp=N,0.1nm,0.6s,baz=28,slow=5.7,SNR=2.3								

IDC 25 01:07:28.3±2.4,**6°38S**×**129°60E**,**h0**km,**mb3.5**/1,
mb1 4.2/3,**mb1mx3.6**/48,**mbtmp3.9**/3,**ML3.3**/2,**Error ellipse: s-maj=153.2km s-min=33.0km az=69.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.24**	**162**	Pn	Pn	01 10 51.0	-0.4
	0.2nm,0.3s,baz=344,slow=13,SNR=8.4						
WRA				Sn	Sn	01 13 15.9	-14
	0.3nm,0.3s,baz=332,slow=24,SNR=7.3						
ASAR	**Alice Springs**	**17.68**	**167**	P	Pn	01 11 36.4	+0.2
	0.1nm,0.3s,baz=347,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**67.50**	**327**	P	P	01 18 26.3	0.0
	0.3nm,0.5s,baz=124,slow=8.0,SNR=4.2						

NEIC ***25*** *01:12:02.9*±*2.0,23°.81S*±*0°.07*×*180°.0W*±*0°.1,h514*km±*6*km*, mb4.4/46, Error ellipse: s-maj=15.8km s-min=8.3km az=67.0*

IDC ***25*** *01:12:02.6*±*1.3,23°.80S*×*179°.97W,h515*km±*17*km*, mb3.7/6, mb1 4.0/9, mb1mx3.5/35, mbtmp4.6/9, Error ellipse: s-maj=22.2km s-min=16.7km az=161.0*

NOU ***25*** *01:12:07.3,23°.69S*×*179°.66W,h638*km*, mb4.2/27, South of Fiji Islands*

ISC 25 01:12:03.0±0.4,**23°.88S**±0°.06×**179°.97W**±0°.07,**h518**km,
n129,σ1°**40**/138,**mb4.5**/48,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**5.64**	**162**	P	**P**	**01 13 37.5**	**+0.8**
RAO	**Raoul Island**	**5.65**	**161**	P	**P**	**01 13 38.0**	**+1.2**
	96nm,0.3s,baz=271,slow=22,SNR=2.1						
RAO				S	**S**	**01 14 54.3**	**+0.9**
	72nm,0.3s,baz=132,slow=23,SNR=1.9						
RAO	**Raoul Island**	**5.65**	**161**	P	**P**	**01 13 37.1**	**+0.3**
GLKZ	**Green Lake**	**5.66**	**162**	P	**P**	**01 13 38.3**	**+1.5**
GLKZ				S	**S**	**01 14 48.1**	**-5.5**
MSVF	**Nonsavu**	**6.39**	**343**	P	**P**	**01 13 42.4**	**-1.6**
	2.4nm,0.3s,baz=160,slow=11,SNR=7.4						
MSVF	**Nonsavu**	**6.39**	**343**	P	**P**	**01 13 43.2**	**-0.9**
NIUE	**Niue**	**10.50**	**65**		**P**	**01 14 26.4**	**+0.6**
NIUE	**Niue**	**10.50**	**65**	P	**P**	**01 14 28.4**	**+2.5**
MARNC	**Mare, Loyalty**	**11.33**	**280**	P	**P**	**01 14 34.6**	**0.0**
PINNC	**Pines Island,**	**11.64**	**274**	P	**P**	**01 14 38.4**	**+0.7**
LIFNC	**LIFOU**	**12.23**	**282**	P	**P**	**01 14 44.4**	**+0.4**
YATNC	**Mamie plateau,**	**12.24**	**276**	P	P	01 14 52.0	+7.9
DZM	**Mont Dzumac**	**12.64**	**276**	P	P	01 14 54.8	+6.4
MKAZ	**Moumakai**	**13.82**	**196**	P	P	01 15 07.7	+7.3
HAZ	**Te Kaha**	**13.96**	**187**	P	**P**	**01 15 03.8**	**+1.9**
HAZ				S	**S**	**01 17 28.0**	**-1.4**
MKRZ	**Makatiti**	**14.53**	**191**	P	**P**	**01 15 05.1**	**-2.9**
URZ	**Urewera**	**14.54**	**189**	P	**P**	**01 15 08.0**	**+0.1**
	2.0nm,0.3s,baz=122,slow=1.1,SNR=14						
URZ				S	**S**	**01 17 39.5**	**-1.1**
	0.7nm,0.3s,baz=242,slow=21,SNR=2.2						
URZ	**Urewera**	**14.54**	**189**	P	**P**	**01 15 08.2**	**+0.2**
URZ	**Urewera**	**14.54**	**189**	P	**P**	**01 15 08.6**	**+0.6**
URZ				S	**S**	**01 17 38.6**	**-2.0**
MWZ	**Matawai**	**14.56**	**188**	P	**P**	**01 15 11.3**	**+3.0**
MWZ				S	**S**	**01 17 40.4**	**-0.6**
SANVU	**Saraoutou**	**14.70**	**302**	P	**P**	**01 15 06.4**	**-3.5**
SANVU	**Saraoutou**	**14.70**	**302**	P	**P**	**01 15 13.4**	**+3.5**
HIZ	**Hauiti**	**15.23**	**196**	P	**P**	**01 15 19.3**	**+4.1**
NMHZ	**Naumai**	**15.41**	**189**	P	**P**	**01 15 16.3**	**-0.8**
BKZ	**Black Stump Fm**	**15.53**	**190**	P	**P**	**01 15 18.2**	**-0.2**
BKZ	**Black Stump Fm**	**15.53**	**190**	P	**P**	**01 15 16.3**	**-2.0**
BKZ				S	**S**	**01 17 56.3**	**-2.9**
NTVZ	**North Tongarir**	**15.61**	**193**	P	**P**	**01 15 21.8**	**+2.5**
TMVZ	**Te Maari**	**15.62**	**193**	P	**P**	**01 15 20.7**	**+1.4**
SNVZ	**South Ngauruho**	**15.70**	**193**	P	**P**	**01 15 21.9**	**+1.6**
BHHZ	**Black Hill Sta**	**15.92**	**191**	P	**P**	**01 15 22.1**	**-0.2**
BHHZ				S	**S**	**01 18 02.9**	**-3.3**
BFZ	**Birch Farm**	**17.05**	**190**	P	**P**	**01 15 35.2**	**+1.7**
QRZ	**Quartz Range**	**18.03**	**199**	P	**P**	**01 15 44.8**	**+2.3**
TUWZ	**Tuamarina**	**18.22**	**195**	P	**P**	**01 15 45.1**	**+0.8**
ARMA	**Armidale**	**26.05**	**249**	P	**P**	**01 16 56.5**	**+1.6**
ARMA	**Armidale**	**26.05**	**249**	P	**P**	**01 16 56.2**	**+1.3**
	21nm,1.4s						
EIDS	**Eidsvold**	**26.34**	**261**	P	**P**	**01 16 57.8**	**+0.5**
EIDS	**Eidsvold**	**26.34**	**261**	P	**P**	**01 16 57.8**	**+0.5**
	22nm,1.1s						
MGCD	**Mangrove Creek**	**26.98**	**243**	P	**P**	**01 17 04.3**	**+1.4**
	26nm,0.9s						
RMQ	**Roma**	**28.38**	**258**	P	**P**	**01 17 16.6**	**+1.3**
	16nm,0.9s						
CNB	**Canberra Magne**	**28.88**	**240**	P	**P**	**01 17 21.6**	**+2.0**
CAN	**Canberra**	**29.17**	**240**	P	**P**	**01 17 23.3**	**+1.2**
CAN	**Canberra**	**29.17**	**240**	P	**P**	**01 17 23.0**	**+0.9**
	28nm,1.6s						
CMSA	**Cobar Meteorol**	**31.25**	**248**	P	**P**	**01 17 40.0**	**0.0**
	12nm,1.1s						
CTA	**Charters Tower**	**31.50**	**270**	P	**P**	**01 17 42.1**	**-0.3**
QLP	**Quilpie**	**32.43**	**258**	P	**P**	**01 17 50.7**	**+0.5**
	24nm,1.2s						
TOO	**Toolangi**	**32.48**	**237**	P	**P**	**01 17 51.6**	**+1.1**
TOO				IAmb	IAmb	01 17 52.5	
	comp=Z,6.3nm,0.7s						
TOO	**Toolangi**	**32.48**	**237**	P	**P**	**01 17 51.2**	**+0.7**
	comp=Z,10nm,1.1s						
TAU	**Tasmania Unive**	**32.97**	**227**	P	**P**	**01 17 55.5**	**+1.0**
TAU	**Tasmania Unive**	**32.97**	**227**	P	**P**	**01 17 55.5**	**+1.0**
	comp=Z,29nm,1.3s						
BRAT	**Ballarat**	**33.68**	**238**	P	**P**	**01 18 01.9**	**+1.3**
	comp=Z,7.8nm,1.1s						
MTSU	**Mount Surprise**	**33.76**	**273**	P	**P**	**01 18 01.8**	**+0.2**
	comp=Z,20nm,1.0s						
PMG	**Port Moresby**	**34.51**	**289**	P	**P**	**01 18 07.2**	**-0.8**
STKA	**Stephens Creek**	**34.75**	**248**	P	**P**	**01 18 10.3**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=98,slow=12,SNR=16						
STKA	**Stephens Creek**	**34.75**	**248**	P	**P**	**01 18 10.3**	**+0.6**
STKA	**Stephens Creek**	**34.75**	**248**	P	**P**	**01 18 10.0**	**+0.3**
	comp=Z,2.5nm,1.4s						
ARPS	**Mount Arapiles**	**35.15**	**240**	P	**P**	**01 18 13.6**	**+0.6**
	comp=Z,14nm,1.1s						
COEN	**Coen**	**36.14**	**279**	P	**P**	**01 18 21.4**	**0.0**
COEN	**Coen**	**36.14**	**279**	P	**P**	**01 18 21.5**	**0.0**
	comp=Z,16nm,1.7s						
HTT	**Hallett**	**37.10**	**246**	P	**P**	**01 18 28.9**	**-0.4**
	comp=Z,11nm,1.1s						
QIS	**Mount Isa**	**37.48**	**267**	P	**P**	**01 18 33.0**	**+0.5**
	comp=Z,6.5nm,1.8s						
LCRK	**Leigh Creek**	**37.61**	**251**	P	**P**	**01 18 32.9**	**-0.5**
	comp=Z,19nm,1.2s						
NAPP	**Napperby**	**37.74**	**246**	P	**P**	**01 18 34.4**	**0.0**
BBOO	**Buckleboo**	**39.48**	**247**	P	**P**	**01 18 48.1**	**-0.4**
BBOO				IAmb	IAmb	01 18 49.0	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**42.06**	**261**	P	**P**	**01 19 09.2**	**-0.1**
AS31				IAmb	IAmb	01 19 10.4	
	comp=Z,5.2nm,0.5s						
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**01 19 09.3**	**0.0**
	comp=Z,6.2nm,0.3s,baz=95,slow=7.9,SNR=58						
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**01 19 08.9**	**-0.4**
WR0	**Warramunga Arr**	**42.25**	**266**	P	**P**	**01 19 09.9**	**-0.9**
WR0				IAmb	IAmb	01 19 10.7	
	comp=Z,20nm,1.2s						
WB2	**Warramunga Arr**	**42.42**	**266**	P	**P**	**01 19 11.4**	**-0.8**
WB2				IAmb	IAmb	01 19 12.7	
	comp=Z,22nm,0.9s						
WB0	**Warramunga Arr**	**42.43**	**266**	P	**P**	**01 19 11.2**	**-0.9**
WRAB	**Tennant Creek**	**42.43**	**266**	P	**P**	**01 19 11.1**	**-1.1**
WRAB				IAmb	IAmb	01 19 12.1	
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**01 19 11.3**	**-1.0**
	comp=Z,14nm,0.4s,baz=92,slow=8.2,SNR=460						
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**01 19 10.1**	**-2.1**
FORT	**Forrest**	**46.34**	**250**	P	**P**	**01 19 41.7**	**-0.6**
MTN	**Manton Dam**	**47.48**	**274**	P	**P**	**01 19 50.5**	**-0.5**
MTN				IAmb	IAmb	01 20 09.5	
	comp=Z,23nm,1.1s						
KNRA	**Kununurra**	**48.71**	**270**	P	**P**	**01 19 59.8**	**-0.5**
KNRA				IAmb	IAmb	01 20 19.5	
	comp=Z,33nm,1.2s						
FAKI	**Fak Fak**	**50.60**	**287**	P	**P**	**01 20 13.2**	**-1.0**
FAKI				IAmb	IAmb	01 20 13.6	
	comp=Z,21nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.86**	**266**	P	**P**	**01 20 15.9**	**-0.1**
FITZ				IAmb	IAmb	01 20 16.8	
	comp=Z,16nm,1.1s						
VNDA	**Vanda**	**54.40**	**185**	P	**P**	**01 20 43.0**	**+2.6**
VNDA				PcP	**PcP**	**01 21 37.0**	**+0.9**
NWAO	**Narrogin (SRO)**	**55.27**	**246**	P	**P**	**01 20 46.4**	**-0.9**
MBWA	**Marble Bar**	**55.40**	**260**	P	**P**	**01 20 47.4**	**-0.9**
MBWA				IAmb	IAmb	01 20 47.8	
	comp=Z,20nm,1.2s						
MORW	**Morawa**	**56.91**	**250**	P	**P**	**01 20 58.3**	**-0.4**
CASY	**Casey**	**60.14**	**206**	P	**P**	**01 21 19.7**	**0.0**
QSPA	**South Pole Qui**	**66.20**	**180**	P	**P**	**01 22 00.1**	**+1.1**
SMAI	**San Martin Ant**	**76.11**	**159**	P	**P**	**01 22 58.0**	**+1.1**
SMAI				IAmb	IAmb	01 22 58.6	
	comp=Z,18nm,1.5s						
BELA	**Belgrano 2**	**76.45**	**173**	P	**P**	**01 22 58.5**	**-0.1**
NJ2	**Nanjing**	**80.67**	**311**	*eP*	**P**	**01 23 24.4**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BAR	**Barrett**	**82.50**	**49**	P	**P**	**01 23 31.6**	**+0.3**
BAR				IAmb	IAmb	01 23 44.9	
	comp=Z,18nm,1.2s						
CMB	**Columbia Colle**	**83.17**	**43**	P	**P**	**01 23 33.6**	**-1.0**
TROLL	**Troll, Antarti**	**84.35**	**181**	P	**P**	**01 23 39.6**	**-0.4**
HSIG		**84.68**	**55**	P	**P**	**01 23 40.5**	**-1.7**
HSIG				IAmb	IAmb	01 23 42.7	
	comp=Z,9.8nm,1.2s						
SNAA	**Sanae**	**84.68**	**179**	P	**P**	**01 23 40.7**	**-0.9**
NVAR	**Mina Array Bea**	**84.72**	**44**	P	**P**	**01 23 42.0**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=228,slow=7.5,SNR=5.6						
NVAR	**Mina Array Bea**	**84.72**	**44**	P	**P**	**01 23 41.5**	**-1.0**
VNA3	**Neumayer Olymp**	**84.89**	**177**	P	**P**	**01 23 41.8**	**-0.7**
TPH	**Tonopah**	**85.21**	**45**	P	**P**	**01 23 43.9**	**-0.9**
TUC	**Tucson**	**86.49**	**52**	P	**P**	**01 23 50.7**	**-0.3**
319A	**Douglas**	**87.12**	**54**	P	**P**	**01 23 53.1**	**-0.9**
319A				IAmb	IAmb	01 23 55.4	
	comp=Z,7.7nm,1.0s						
I07A	**Izee**	**87.36**	**39**	P	**P**	**01 23 54.3**	**-0.5**
J08A	**Circle Bar Ran**	**87.53**	**40**	P	**P**	**01 23 54.2**	**-1.3**
J08A				IAmb	IAmb	01 23 56.5	
	comp=Z,5.0nm,1.0s						
U15A	**North Rim**	**87.57**	**48**	P	**P**	**01 23 55.4**	**-0.8**
U15A				IAmb	IAmb	01 23 57.0	
	comp=Z,6.2nm,1.0s						
G08A	**Pilot Rock**	**88.40**	**38**	P	**P**	**01 23 59.5**	**-0.1**
G08A				IAmb	IAmb	01 23 59.9	
	comp=Z,6.1nm,1.0s						
MFID	**Camas Ranch**	**89.13**	**41**	P	**P**	**01 24 01.6**	**-1.5**
MFID				IAmb	IAmb	01 24 03.8	
	comp=Z,5.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P	**P**	**01 24 06.0**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=142,slow=3.7,SNR=7.6						
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P	**P**	**01 24 05.6**	**+0.2**
TMUT	**Trail Mountain**	**89.81**	**46**	P	**P**	**01 24 06.2**	**-0.4**
TMUT				IAmb	IAmb	01 24 07.3	
	comp=Z,8.6nm,1.1s						
HVU	**Hansel Valley**	**90.11**	**44**	P	**P**	**01 24 06.8**	**-0.9**
HVU				IAmb	IAmb	01 24 08.6	
	comp=Z,9.6nm,1.4s						
SRU	**San Rafael Swe**	**90.17**	**47**	P	**P**	**01 24 07.3**	**-0.8**
SRU				IAmb	IAmb	01 24 08.3	
	comp=Z,5.9nm,1.0s						
P17A	**Butcher Ranch,**	**90.21**	**46**	P	**P**	**01 24 07.2**	**-1.0**
P17A				IAmb	IAmb	01 24 08.7	
	comp=Z,5.2nm,1.3s						
TX31	**Lajitas Ar. Si**	**90.40**	**58**	P	**P**	**01 24 08.7**	**-0.6**
TX31				IAmb	IAmb	01 24 09.8	
	comp=Z,8.7nm,1.1s						
TX32	**Lajitas Array**	**90.40**	**58**	P	**P**	**01 24 08.6**	**-0.7**
TXAR	**Lajitas Array**	**90.40**	**58**	P	**P**	**01 24 09.1**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=215,slow=6.2,SNR=17						
TXAR	**Lajitas Array**	**90.40**	**58**	P	**P**	**01 24 08.9**	**-0.4**
HHC	**Hu-ho-hao-te**	**90.43**	**315**	*eP*	**P**	**01 24 10.8**	**+1.7**
HHC				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,4.8s						
PZH	**PanZhiHua**	**90.70**	**299**	P	**P**	**01 24 12.3**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
G62A	**West of Eustis**	**120.01**	**50**	PKPdf	**PKPdf**	**01 29 52.8**	**-1.7**
PKME	**Peaks-Kenny Pk**	**120.89**	**50**	PKPdf	**PKPdf**	**01 29 54.1**	**-2.0**
AKASG	**Malin Array Be**	**144.97**	**327**	PKP	**PKPdf**	**01 30 39.6**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=48,slow=4.9,SNR=6.2						
AKASG	**Malin Array Be**	**144.97**	**327**		**PKPdf**	**01 30 40.7**	**-0.1**
AKBB	**Malin Array Si**	**144.97**	**327**	PKPdf	**PKPdf**	**01 30 39.9**	**-0.9**
BR131	**Keskin Array S**	**147.59**	**307**	PKPbc	**PKPdf**	**01 30 47.6**	**+1.9**
BR131				PKPab	**PKPab**	**01 30 52.8**	**-0.4**
BRTR	**Keskin Array B**	**147.59**	**307**	PKPbc	**PKPbc**	**01 30 48.1**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=141,slow=4.8,SNR=5.0						
BRTR	**Keskin Array B**	**147.59**	**307**	PKPbc	**PKPbc**	**01 30 48.3**	**-1.0**
KWP	**Kalwaria Pacla**	**148.77**	**331**	PKPbc	**PKPbc**	**01 30 51.1**	**-0.6**
KWP				PKPab	**PKPab**	**01 30 57.6**	**+0.1**
BUR08	**Bucovina Ar. S**	**148.96**	**326**	PKPbc	**PKPbc**	**01 30 52.7**	**+0.3**
BURAR	**Bucovina Array**	**148.97**	**326**	PKPbc	**PKPbc**	**01 30 52.0**	**-0.3**
CSS	**Mathiatis**	**149.10**	**299**	PKPbc	**PKPbc**	**01 30 51.9**	**-1.1**
MLR	**Muntele Rosu**	**149.92**	**322**	PKPbc	**PKPbc**	**01 30 53.8**	**-1.0**
ELL	**Elmali**	**151.32**	**304**	PKPbc	**PKPbc**	**01 30 57.2**	**-1.0**
MANT	**Manisa**	**151.72**	**308**	PKPdf	**PKPdf**	**01 30 49.4**	**-2.9**
MANT				PKPbc	**PKPbc**	**01 30 57.9**	**-1.4**

MOS ***25*** *01:12:42.5*±*1.0, 49°.80N*×*156°.31E, h101*km*, mb4.3/20, Error ellipse: s-maj=8.9km s-min=3.8km az=79.2*

KRSC ***25*** *01:12:43.1*±*2.8, 49°.80N*×*157°.28E, h50km*±*26km, ML4.8*

NEIC ***25*** *01:12:43.7*±*1.3, 49°.85N*±*0°.10*×*156°.2E*±*0°.1, h87km*±*6km, mb4.4/46, Error ellipse: s-maj=16.4km s-min=11.2km az=137.0*

IDC ***25*** *01:12:46.3*±*2.3, 49°.93N*×*156°.19E, h112km*±*18km, mb3.6/18, mb1 3.8/22, mb1mx3.6/46, mbtmp4.0/22, MS3.1/4, Ms1 3.1/4, ms1mx2.6/94, Error ellipse: s-maj=21.8km s-min=12.5km az=145.0*

ISC 25 01:12:42.8±0.9,**49°.75N**±0°.07×**156°.46E**±0°.06,**h90**km±7km,
n196,σ1°**37**/207,**mb4.3**/57,**7C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.96**	**347**	PN	**Pn**	**01 13 01.5**	**-0.4**
SKR				S	**Sn**	**01 13 15.5**	**-0.8**
SKR	**Severo-Kuril's**	**0.96**	**347**	*i* P	**Pn**	**01 13 01.5**	**-0.4**
SKR				*eS*	**Sn**	**01 13 15.5**	**-0.8**
PAU	**Pauzhetka**	**1.73**	**7**	PN	**Pn**	**01 13 11.5**	**+0.1**
PAU				S	**Sn**	**01 13 33.1**	**0.0**
PAU	**Pauzhetka**	**1.73**	**7**	*eP*	**Pn**	**01 13 11.5**	**+0.1**
PAU				*eS*	**Sn**	**01 13 33.1**	**0.0**
KDTR	**Khodutka, Kamc**	**2.30**	**26**	PN	**Pn**	**01 13 18.4**	**-0.4**
KDTR				S	**Sn**	**01 13 44.7**	**-1.8**
KDTR	**Khodutka, Kamc**	**2.30**	**26**	*i* P	**Pn**	**01 13 18.4**	**-0.4**
KDTR				*eS*	**Sn**	**01 13 44.7**	**-1.8**
MIPR	**Malaya Ipel'ka**	**2.53**	**4**	PN	**Pn**	**01 13 22.6**	**+0.6**
MIPR				S	**Sn**	**01 13 53.4**	**+1.3**
MIPR	**Malaya Ipel'ka**	**2.53**	**4**	*eP*	**Pn**	**01 13 22.6**	**+0.6**
MIPR				*eS*	**Sn**	**01 13 53.4**	**+1.3**
ASAK	**Asacha**	**2.79**	**18**	PN	**Pn**	**01 13 26.3**	**+0.9**
ASAK	**Asacha**	**2.79**	**18**	*eP*	**Pn**	**01 13 26.3**	**+0.9**
MTVR	**Mutnovka**	**2.94**	**21**	PN	**Pn**	**01 13 28.0**	**+0.4**
MTVR				S	**Sn**	**01 14 01.4**	**-0.6**
MTVR	**Mutnovka**	**2.94**	**21**	*eP*	**Pn**	**01 13 28.0**	**+0.4**
MTVR				*eS*	**Sn**	**01 14 01.4**	**-0.6**
RUS	**Russkaya**	**2.98**	**25**	PN	**Pn**	**01 13 27.4**	**-0.5**
RUS				S	**Sn**	**01 14 00.1**	**-2.6**
RUS	**Russkaya**	**2.98**	**25**	*eP*	**Pn**	**01 13 27.4**	**-0.5**
RUS				*eS*	**Sn**	**01 14 00.1**	**-2.6**
GRL	**Gorelyy**	**2.98**	**19**	PN	**Pn**	**01 13 29.0**	**+0.9**
GRL	**Gorelyy**	**2.98**	**19**	*eP*	**Pn**	**01 13 29.0**	**+0.9**
APC	**Apacha**	**3.21**	**8**	PN	**Pn**	**01 13 32.1**	**+1.1**
APC	**Apacha**	**3.21**	**8**	*eP*	**Pn**	**01 13 32.1**	**+1.1**
KRMR	**Karymshinskiy**	**3.25**	**18**	PN	**Pn**	**01 13 32.9**	**+1.3**
KRMR	**Karymshinskiy**	**3.25**	**18**	*eP*	**Pn**	**01 13 32.9**	**+1.3**
PEA0B	**Petropavlovsk-**	**3.45**	**13**	PN	**Pn**	**01 13 35.8**	**+1.6**
PEA0B	**Petropavlovsk-**	**3.45**	**13**		**Pn**	**01 13 35.8**	**+1.6**
PETK	**Petropavlovsk-**	**3.45**	**13**	P	**Pn**	**01 13 35.0**	**+0.7**
	4.7nm,0.3s,baz=190,slow=12,SNR=77						
PETK				S	**Sn**	**01 14 16.9**	**+2.8**
	4.5nm,0.3s,baz=182,slow=13,SNR=3.8						
PETK	**Petropavlovsk-**	**3.45**	**13**	Pn	**Pn**	**01 13 34.8**	**+0.5**
PET	**Petropavlovsk**	**3.55**	**22**	*e*PN	**Pn**	**01 13 37.0**	**+1.4**
PET				*eS*	**Sn**	**01 14 15.6**	**-0.9**
PET				smax	smax		
	comp=E,179nm,0.4s						
PET				smax	smax		
	comp=N,214nm,0.5s						
PET	**Petropavlovsk**	**3.55**	**22**	Pn	**Pn**	**01 13 35.9**	**+0.3**
DALK	**Dalny**	**3.58**	**23**	PN	**Pn**	**01 13 36.9**	**+0.9**
DALK				S	**Sn**	**01 14 16.6**	**-0.7**
DALK	**Dalny**	**3.58**	**23**	*e*P	**Pn**	**01 13 36.9**	**+0.9**
DALK				*eS*	**Sn**	**01 14 16.6**	**-0.7**
UGLR	**Uglovaya**	**3.76**	**22**	PN	**Pn**	**01 13 39.5**	**+0.9**
UGLR	**Uglovaya**	**3.76**	**22**	*eP*	**Pn**	**01 13 39.5**	**+0.9**
AVH	**Avacha**	**3.79**	**21**	PN	**Pn**	**01 13 41.0**	**+2.0**
AVH	**Avacha**	**3.79**	**21**	*eP*	**Pn**	**01 13 41.0**	**+2.0**
KOK	**Koryaka**	**3.79**	**20**	PN	**Pn**	**01 13 40.7**	**+1.7**
KOK	**Koryaka**	**3.79**	**20**	*eP*	**Pn**	**01 13 40.7**	**+1.7**
SMAR	**Somma**	**3.81**	**22**	PN	**Pn**	**01 13 41.5**	**+2.2**
SMAR	**Somma**	**3.81**	**22**	*e*P	**Pn**	**01 13 41.5**	**+2.2**
KRER	**Koryakskii**	**3.83**	**21**	PN	**Pn**	**01 13 41.3**	**+1.7**
KRER	**Koryakskii**	**3.83**	**21**	*e*P	**Pn**	**01 13 41.3**	**+1.7**
SDLR	**Sedlovina**	**3.84**	**22**	PN	**Pn**	**01 13 40.3**	**+0.6**
SDLR	**Sedlovina**	**3.84**	**22**	*e*P	**Pn**	**01 13 40.3**	**+0.6**
KRX	**Arik**	**3.86**	**20**	PN	**Pn**	**01 13 42.1**	**+2.1**
KRX	**Arik**	**3.86**	**20**	*e*P	**Pn**	**01 13 42.1**	**+2.1**
NLC	**Nalytchevo**	**3.87**	**27**	*e*S	**Sn**	**01 14 21.1**	**-3.1**
SPN	**Mys Shipunski**	**4.02**	**32**	PN	**Pn**	**01 13 42.0**	**0.0**
SPN				S	**Sn**	**01 14 24.8**	**-3.2**
SPN	**Mys Shipunski**	**4.02**	**32**	*e*P	**Pn**	**01 13 42.0**	**0.0**
SPN				*eS*	**Sn**	**01 14 24.8**	**-3.2**
GNL	**Ganaly**	**4.05**	**13**	PN	**Pn**	**01 13 44.3**	**+1.8**
GNL	**Ganaly**	**4.05**	**13**	*e*P	**Pn**	**01 13 44.3**	**+1.8**
KII	**Karymskiy**	**4.67**	**22**	PN	**Pn**	**01 13 53.9**	**+3.0**
KII	**Karymskiy**	**4.67**	**22**	*e*P	**Pn**	**01 13 53.9**	**+3.0**
MKZ	**Mys Kozlova**	**5.80**	**32**	PN	**Pn**	**01 14 05.1**	**-1.0**
MKZ	**Mys Kozlova**	**5.80**	**32**	*e*P	**Pn**	**01 14 05.1**	**-1.0**
MKZ				*e*S	**Sn**	**01 15 06.6**	**-4.5**
TUMD	**Tumrok D**	**5.96**	**22**	*e*P	**Pn**	**01 14 10.4**	**+2.0**
TUMR	**Tumrok**	**5.98**	**21**	PN	**Pn**	**01 14 10.4**	**+1.7**
KUR	**Kuril'sk**	**7.37**	**235**	*i* PN	**Pn**	**01 14 27.7**	**+0.1**
KBTR	**Krutoberegovo**	**7.51**	**28**	PN	**Pn**	**01 14

comp=Z,0.6nm,0.4s,baz=57,slow=7.8,SNR=4.9
SONM Songino Array 32.55 286 P **P** **01 19 04.4 -0.8**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 32.55 286 P **P** **01 19 04.4 -0.8**
ILAR Eielson Array 32.81 41 P **P** **01 19 08.1 +1.0**
comp=Z,0.4nm,0.7s,baz=257,slow=6.3,SNR=5.7
ZAK Zakamensk 33.53 292 *eP* **P** **01 19 12.0 -1.7**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
BMAR Burnt Mountain 33.77 37 P **P** **01 19 18.4 +2.9**
L27K Beaver Creek, 35.16 44 P **P** **01 19 30.2 +2.8**
L27K IAmb IAmb 01 19 31.2
comp=Z,2.8nm,0.8s
BCAR Beaver Creek A 35.17 44 P **P** **01 19 30.0 +2.4**
BARN Barnard Glacie 35.54 48 P **P** **01 19 32.9 +2.0**
BARN IAmb IAmb 01 19 34.4
comp=Z,7.2nm,1.1s
NRIK Noril'sk 37.40 327 *i* P **P** **01 19 47.2 +0.8**
NRIK pmax pmax
comp=Z,1.0nm,0.3s
GTA Gaotai 40.75 278 *e*P **P** **01 20 14.5 -0.4**
GTA pmax pmax
comp=Z,7.0nm,0.9s
ZAA0 Zalesovo Array 42.72 304 P **P** **01 20 28.9 -1.6**
ZALV Zalesovo Beam 42.72 304 P **P** **01 20 29.1 -1.4**
comp=Z,2.0nm,0.4s,baz=61,slow=6.4,SNR=13
ZALV Zalesovo Beam 42.72 304 P **P** **01 20 29.4 -1.1**
EUNU Eureka 45.72 12 P **P** **01 20 55.5 +1.2**
GOMU GeErMu 45.84 277 P **P** **01 20 55.1 -1.0**
GOMU pmax pmax
comp=Z,3.0nm,0.6s
GOMU pmax pmax
comp=Z,160nm,5.1s
RES Resolute Bay 47.26 20 P **P** **01 21 07.3 +1.1**
RES pmax pmax
comp=Z,2.0nm,1.2s
RES Resolute Bay 47.26 20 P **P** **01 21 07.3 +1.1**
MK31 Makanchi Array 47.58 296 P **P** **01 21 08.6 -0.5**
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 47.58 296 P **P** **01 21 08.6 -0.5**
MK31 IAmb IAmb 01 21 09.6
comp=Z,2.6nm,0.5s
MKAR Makanchi Array 47.58 296 P **P** **01 21 08.3 -0.8**
comp=Z,1.6nm,0.4s,baz=53,slow=6.0,SNR=38
KURK Kurchatov 47.59 303 *de*P **P** **01 21 08.8 -0.3**
KURK pmax pmax
comp=Z,12nm,1.3s
KURK Kurchatov 47.59 303 P **P** **01 21 08.3 -0.8**
MAKZ Makanchi 47.75 297 P **P** **01 21 09.3 -1.2**
MAKZ pmax pmax
comp=Z,4.0nm,1.4s
MAKZ Makanchi 47.75 297 P **P** **01 21 09.3 -1.2**
SPITS Spitsbergen Ar 50.05 350 P **P** **01 21 26.4 -1.2**
SPITS pmax pmax
comp=Z,23nm,1.2s
BRVK Borovoye 50.73 309 *ce*P **P** **01 21 32.5 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 50.73 309 P **P** **01 21 32.4 -0.6**
BRVK IAmb IAmb 01 21 33.2
comp=Z,5.1nm,0.7s
KDJ Kajisay 53.24 294 P **P** **01 21 51.5 -0.6**
KDJ pmax pmax
comp=Z,2.0nm,0.5s
KDJ Kajisay 53.24 294 P **P** **01 21 51.5 -0.6**
KDJ IAmb IAmb 01 21 52.3
comp=Z,2.0nm,0.5s
BOOM Boomskoye usch 53.76 295 P **P** **01 21 55.8 0.0**
BOOM pmax pmax
comp=Z,2.0nm,0.7s
BOOM Boomskoye usch 53.76 295 P **P** **01 21 55.8 0.0**
BOOM IAmb IAmb 01 21 57.6
comp=Z,1.7nm,0.7s
ARU Arti 54.31 317 *d i*P **P** **01 21 58.2 -1.2**
ARU 01 23 00.1
ARU 01 23 59.5
ARU S **S** **01 29 29.9 -0.1**
ARU SS **SS** **01 33 11.6 -0.8**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 54.31 317 P **P** **01 21 57.8 -1.5**
ARU IAmb IAmb 01 21 58.8
comp=Z,4.0nm,0.7s
AAK Ala-Archa 54.51 296 *i* P **P** **01 22 00.6 -0.6**
AAK pmax pmax
comp=Z,4.0nm,1.4s
SHL Shillong 54.68 269 P **P** **01 22 03.4 +0.7**
SHL Shillong 54.68 269 P **P** **01 22 03.4 +0.7**
CHTO Chiang Mai 54.98 257 P **P** **01 22 05.9 +1.2**
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CHTO Chiang Mai 54.98 257 P **P** **01 22 05.9 +1.2**
CMAR Chiang Mai Arr 55.24 257 P **P** **01 22 08.2 +1.7**
comp=Z,3.8nm,0.9s,baz=31,slow=6.3,SNR=13
KEV Kevo 55.24 341 P **P** **01 22 05.8 -0.1**
KEV pmax pmax
comp=Z,47nm,1.5s
KEV Kevo 55.24 341 P **P** **01 22 05.8 -0.1**
KSH Kashi 55.58 292 P **P** **01 22 13.1 +4.2**
KSH pP pP 01 22 35.8 +4.7
KSH PP PP 01 24 21.5 +7.9
ARCES ARCESS Array B 55.74 341 P **P** **01 22 07.8 -1.7**
comp=Z,0.7nm,0.4s,baz=38,slow=7.4,SNR=7.6
ARCES ARCESS Array B 55.74 341 P **P** **01 22 07.9 -1.6**
ARCES pmax pmax
comp=Z,17nm,1.5s
ARCES ARCESS Array B 55.74 341 P **P** **01 22 07.9 -1.6**
KKAR Karatay Array 56.51 299 P **P** **01 22 15.0 -0.4**
KKAR Karatay Array 56.51 299 P **P** **01 22 15.0 -0.4**
ABKAR Akbulak array 58.21 310 P **P** **01 22 27.0 -0.2**
NVAR Mina Array Bea 59.11 66 P **P** **01 22 35.9 +2.0**
comp=Z,0.5nm,0.6s,baz=290,slow=8.9,SNR=3.6
NVAR Mina Array Bea 59.11 66 P **P** **01 22 35.5 +1.6**
GAR Garm 59.27 295 P **P** **01 22 34.2 -0.6**
CHGR Chuyangaron 60.17 296 P **P** **01 22 40.6 -0.5**
PDAR Pinedale Array 61.20 57 P **P** **01 22 49.6 +1.5**
comp=Z,0.8nm,0.8s,baz=318,slow=2.0,SNR=5.9
FINES FINESS Array B 62.25 336 P **P** **01 22 53.1 -1.4**
comp=Z,1.3nm,0.7s,baz=35,slow=7.0,SNR=4.7
KAPI Kappang 63.13 222 LR LR 01 47 50.4
comp=Z,18nm,21.5s,baz=102,slow=33
OBN Obninsk 64.07 326 ⇑*i*P **P** **01 23 06.8 +0.2**
OBN *i* *P PP **PcP** **01 23 43.2 +2.1**
OBN pmax pmax
comp=Z,5.0nm,0.8s
NC204 NORSAR Array S 65.95 343 P **P** **01 23 18.9 +0.1**
NOA NORSAR Array B 66.08 342 P **P** **01 23 19.1 -0.6**
comp=Z,0.4nm,0.6s,baz=27,slow=6.5,SNR=1.4
GEYT Alibeck 66.95 302 P **P** **01 23 26.1 +0.5**
comp=Z,3.0nm,0.6s,baz=53,slow=15,SNR=5.1
AKBB Malin Array Si 70.25 327 *ce*P **P** **01 23 46.2 +0.4**
KBZ Khabaz 70.35 315 P **P** **01 23 47.0 +0.5**
comp=Z,2.1nm,0.7s,baz=161,slow=1.8,SNR=7.3
ANN Anapa 71.91 319 *eP* P 01 23 47.5 -8.4
ANN *e**PP **PcP** **01 24 15.3 +1.1**
ANN eS **S** **01 33 05.5 -4.0**
ANN pmax pmax
comp=Z,37nm,0.9s
WRA Warramunga Arr 72.11 202 P **P** **01 23 56.9 -0.4**
WRA Warramunga Arr 72.11 202 P **P** **01 23 56.9 -0.4**
BUR08 Bucovina Ar. S 74.25 328 P **P** **01 24 08.9 -1.0**
BURAR Bucovina Array 74.27 328 P **P** **01 24 09.5 -0.4**
PALK Pallekele 75.28 264 LR LR 02 03 52.4
comp=Z,34nm,18.6s,baz=275,slow=41
ASAR Alice Springs 75.80 201 P **P** **01 24 19.7 +1.0**
comp=Z,0.2nm,0.5s,baz=4.0,slow=4.0,SNR=1.6
MLR Muntele Rosu 75.84 327 P **P** **01 24 19.8 +0.8**
MLR pmax pmax
comp=Z,3.0nm,0.8s
MLR Muntele Rosu 75.84 327 P **P** **01 24 19.8 +0.8**
MLR IAmb IAmb 01 24 20.7
comp=Z,3.3nm,0.8s
GERES GERESS Array B 76.69 336 P **P** **01 24 23.9 +0.2**
comp=Z,0.6nm,0.6s,baz=34,slow=5.0,SNR=6.8
GERES GERESS Array B 76.69 336 P **P** **01 24 24.2 +0.5**
GERES GERESS Array B 76.69 336 P **P** **01 24 24.2 +0.5**
CONA Conrad Observa 76.93 334 *eP* **P** **01 24 26.5 +1.4**
comp=Z,1.6nm,0.6s
BNN Bunyan 77.43 316 P **P** **01 24 29.1 +0.9**
UOSS Minazif 77.62 294 P **P** **01 24 29.2 0.0**
UOSS IAmb IAmb 01 24 29.7
comp=Z,5.6nm,0.8s

BR131 Keskin Array S 77.68 318 P **P** **01 24 30.4 +0.9**
BR131 pmax pmax
comp=Z,6.0nm,1.4s
BR131 Keskin Array S 77.68 318 P **P** **01 24 30.4 +0.9**
BR131 IAmb IAmb 01 24 42.1
comp=Z,6.4nm,1.4s
BRTR Keskin Array B 77.68 318 P **P** **01 24 29.9 +0.3**
comp=Z,1.1nm,0.7s,baz=58,slow=2.9,SNR=7.0
STU Stuttgart 77.89 339 P **P** **01 24 30.7 +0.4**
STU pmax pmax
comp=Z,5.0nm,0.6s
STU Stuttgart 77.89 339 P **P** **01 24 30.7 +0.4**
STU IAmb IAmb 01 24 35.1
comp=Z,4.9nm,0.6s
SOKA Soboth 78.30 334 *i* P **P** **01 24 33.7 +1.0**
comp=Z,1.1nm,0.4s
KBA Koelnbreinsper 78.40 335 *i* P **P** **01 24 35.0 +1.6**
comp=Z,6.5nm,0.7s
OBKA Obir 78.59 334 *i* P **P** **01 24 35.2 +0.9**
comp=Z,2.3nm,0.6s
WATA Walderalm 78.63 336 *i* P **P** **01 24 35.8 +1.2**
comp=Z,1.0nm,0.5s
WTTA Wattenberg 78.68 336 *eP* **P** **01 24 36.4 +1.4**
comp=Z,1.1nm,0.4s
MOTA Moosalm 78.75 337 *eP* **P** **01 24 36.3 +1.0**
comp=Z,2.4nm,0.6s
SQTA Sankt Quirin 78.83 337 *eP* **P** **01 24 37.0 +1.3**
comp=Z,1.5nm,0.5s
DIVS Divibare 79.10 330 P **P** **01 24 37.2 0.0**
DIVS IAmb IAmb 01 24 56.6
comp=Z,13nm,1.5s
VTS Vitosha 79.30 327 P **P** **01 24 38.8 +0.4**
VTS pmax pmax
comp=Z,3.0nm,0.7s
VTS Vitosha 79.30 327 P **P** **01 24 38.8 +0.4**
VTS IAmb IAmb 01 24 39.4
comp=Z,3.0nm,0.7s
TUE Stuetta 80.00 338 P **P** **01 24 43.4 +1.3**
TUE IAmb IAmb 01 24 59.0
comp=Z,16nm,1.3s
ESDC Sonseca Array 89.29 345 P **P** **01 25 28.8 0.0**
comp=Z,0.3nm,0.7s,baz=353,slow=4.4,SNR=1.4

*IDC **25** 01:16:36.1±1.4, 1.°99N×93.°75E, h0km, mb3.5/5, mb1 3.9/8, mb1mx3.6/39, mbtmp3.7/8, ML3.9/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/67, Error ellipse: s-maj=45.1km s-min=22.9km az=41.0*
*DJA **25** 01:16:47.1±1.0, 2.°N×3.°×9.°4E×.°, h22km±9km, M5.1/20, mB6.0/7, mb4.8/20, MLv4.7/12, Mw(mB)5.6/7*
ISC 25 01:16:41.1±0.9, **2.°0N**±0.°1×**93.°80E**±0.°07, **h35**km, **n33,**
σ1°**73.°**/30, **mb3.7**/5, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**2.56**	**81**	P	**Pn**	**01 17 23.1**	**+3.0**
SNSI				S	**Sn**	**01 17 48.3**	**-1.7**
BSI	**Banda Aceh**	**3.79**	**23**	P	Pn	01 17 45.6	+8.5
GSI	**Gunungsitoli**	**3.83**	**100**	P	**Pn**	**01 17 38.7**	**+1.1**
GSI				S	**Sn**	**01 18 19.1**	**-2.4**
KCSI	**Kotacane, Aceh**	**4.25**	**69**	P	**Pn**	**01 17 45.6**	**+2.3**
KCSI				S	**Sn**	**01 18 31.8**	**+0.1**
LHMI	**Lhok Sumawe**	**4.49**	**44**	P	**Pn**	**01 17 50.2**	**+3.5**
TSI	**Tuntungan**	**4.99**	**72**	P	**Pn**	**01 17 55.1**	**+1.6**
PSI	**Prapat**	**5.18**	**81**	Pn	**Pn**	**01 17 56.0**	**-0.3**
	1.8nm,0.3s,baz=273,slow=9.4,SNR=12						
PSI				Sn	**Sn**	**01 18 51.2**	**-3.7**
	4.3nm,0.3s,baz=292,slow=19,SNR=6.2						
PSI				LR	LR	01 19 32.9	
	comp=Z,42nm,18.8s,baz=238,slow=34						
MNSI	**Mandailing Nat**	**5.89**	**102**	P	**Pn**	**01 18 08.1**	**+2.1**
	2.0nm7µm204nm,0.4s						
SISI	**Saibi**	**6.23**	**122**	P	**Pn**	**01 18 11.5**	**+0.9**
	0.2nm32nm,0.5s						
PPI	**Padang Panjang**	**7.03**	**110**	P	**Pn**	**01 18 23.6**	**+2.0**
BKNI	**Bangkinang**	**7.42**	**103**	P	**Pn**	**01 18 28.6**	**+1.6**
	0.4nm57nm,0.5s						
PPSI	**Pulau Pagai**	**7.80**	**127**	P	**Pn**	**01 18 32.9**	**+0.7**
	0.6nm147nm,0.6s						
KRJI	**Kerinci**	**8.66**	**118**	P	**Pn**	**01 18 45.2**	**+1.0**
	40µm317nm,0.5s						
RGRI	**Rengat**	**8.84**	**105**	P	**Pn**	**01 18 47.7**	**+1.2**
MNAI	**Manna**	**11.11**	**125**	P	**Pn**	**01 19 18.9**	**+1.3**
	166nm,0.5s						
MDSI	**Maura Dua**	**12.20**	**122**	P	**Pn**	**01 19 33.8**	**+1.3**
	899nm10nm,0.5s						
PPBI	**Pangkal Pinang**	**13.00**	**108**	P	**Pn**	**01 19 44.9**	**+1.4**
PALK	**Pallekele**	**14.07**	**292**	Pn	**Pn**	**01 19 56.8**	**-1.3**
	0.6nm,0.3s,baz=177,slow=17,SNR=1.1						
PALK				Sn	Sn	01 22 20.7	-12
	1.5nm,0.3s,baz=308,slow=18,SNR=7.9						
TPI	**Tanjungpandan**	**14.63**	**109**	P	**Pn**	**01 20 06.6**	**+0.9**
	4.5nm,1.6s						
TNG	**Tangerang**	**15.17**	**122**	P	**Pn**	**01 20 14.6**	**+1.7**
	422nm,0.5s						
CMAR	**Chiang Mai Arr**	**17.12**	**17**	P	**Pn**	**01 20 36.6**	**-1.3**
	0.2nm,0.3s,baz=213,slow=11,SNR=1.8						
H08S2	**Diego Garcia H**	**23.32**	**246**	T	T	01 47 25.1	
	baz=64,slow=76,SNR=23						
H08S3	**Diego Garcia H**	**23.32**	**246**	T	T	01 47 31.0	
	baz=64,slow=76,SNR=30						
H08S1	**Diego Garcia H**	**23.33**	**246**	T	T	01 47 35.3	
	baz=64,slow=76,SNR=28						
H01W3	**Cape Leeuwin H**	**41.34**	**154**	T	T	02 08 30.5	
	baz=332						
H01W2	**Cape Leeuwin H**	**41.35**	**154**	T	T	02 08 31.7	
	baz=332						
H01W1	**Cape Leeuwin H**	**41.36**	**154**	T	T	02 08 40.5	
	baz=332						
WRA	**Warramunga Arr**	**45.34**	**121**	P	**P**	**01 24 56.9**	**+0.6**
	0.8nm,0.8s,baz=298,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**45.74**	**349**	P	**P**	**01 24 59.8**	**+0.8**
	0.1nm,0.3s,baz=178,slow=7.3,SNR=2.6						
ASAR	**Alice Springs**	**46.59**	**126**	P	**P**	**01 25 06.5**	**+0.4**
	0.2nm,0.5s,baz=305,slow=9.2,SNR=1.3						
ZALV	**Zalesovo Beam**	**52.31**	**353**	P	**P**	**01 25 49.1**	**-0.1**
	0.4nm,0.5s,baz=201,slow=7.6,SNR=1.9						
GERES	**GERESS Array B**	**81.99**	**319**	P	**P**	**01 28 58.0**	**+0.3**
	0.6nm,0.7s,baz=93,slow=9.4,SNR=5.6						
TXAR	**Lajitas Array**	**144.65**	**27**	PKP	**PKPdf**	**01 36 14.4**	**-0.6**
	0.2nm,0.5s,baz=19,slow=1.7,SNR=5.5						

*SSNC **25** 01:38:36.8±2.2, 17.°90N×77.°31W, h37km±30km, MD2.8, ML1.8, MW3.3*
*JSN **25** 01:38:36.2±0.5, 17.°73N×77.°31W, h15km±329km, MD2.7*
ISC 25 01:38:34.8±1.6, **17.°97N**±0.°09×**77.°32W**±0.°05, **h18**km, **n6,**
σ1°**22.°10**, **3C-1D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTDJ	**Mount Denham**	**0.33**	**321**	*eP*	**Pn**	**01 38 45.0**	**+0.1**
MTDJ				*eS*	**Sn**	**01 38 51.4**	**+0.1**
MCJ	**Malvern**	**0.36**	**264**	⇑*iP*	**Pn**	**01 38 44.0**	**-1.2**
MCJ				⇑*iS*	**Sb**	**01 38 49.9**	**+1.9**
STH	**Stony Hill**	**0.49**	**77**	⇑*iP*	**Pn**	**01 38 46.8**	**-0.2**
GWJ	**Greenwich**	**0.57**	**79**	⇑*iP*	**Pn**	**01 38 48.2**	**0.0**
LMGC	**Las Mercedes**	**2.11**	**8**	*eP*	**Pn**	**01 39 09.0**	**-0.2**
LMGC				*eS*	**Sn**	**01 39 33.0**	**-2.1**
LMGC				IAML		01 39 36.9	
	comp=N,6.3nm,0.2s						
LMGC				IAML		01 39 38.5	
	comp=E,5.5nm,0.1s						
RCC	**Rio Carpintero**	**2.54**	**37**	*eP*	**Pn**	**01 39 16.0**	**+0.9**
RCC				*eS*	**Sn**	**01 39 45.0**	**-0.6**
RCC				IAML		01 39 48.5	
	comp=E,1.6nm,0.2s						
RCC				IAML		01 39 48.8	
	comp=N,1.4nm,0.2s						

*IGQ **25** 02:25:43±1.8, 0.°S×7.°×8.°1W×1.°4, h5km*
*NEIC **25** 02:25:44.3±2.1, 0.°10S×0.°08×81.°39W×0.°09, h19km±5km, mb3.9/6, Error ellipse: s-maj=13.8km s-min=11.2km az=76.0*
ISC 25 02:25:42.1±1.0, **0.°11S**±0.°05×**81.°26W**±0.°07, **h10**km, **n69,**
σ2°**41.°67**, **Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**1.06**	**98**	P	**Pn**	**02 26 03.0**	**-0.1**
FLF1	**Flavio Alfaro-**	**1.43**	**100**	P	**Pg**	**02 26 10.0**	**+0.3**
MAG1	**Magdalena**	**1.48**	**88**	P	**Pg**	**02 26 11.0**	**+0.4**
PPLP	**Puerto Lpez**	**1.50**	**161**	P	**Pn**	**02 26 09.0**	**-0.2**
BV15	**Puerto Quito-O**	**2.05**	**82**	P	**Pb**	**02 26 18.0**	**-1.5**

PAC1 Pacto, Paraso 2.49 81 *eP* **Pb** **02 26 24.5 -2.7**
PAC1 *eS* **Sn** **02 26 54.7 +1.1**
PAC1 Pacto, Paraso 2.49 81 P **Pn** **02 26 24.0 +1.1**
ILLI Illinizas Sur 2.60 103 P **Pn** **02 26 25.0 +0.3**
HPAL Hacienda Las P 2.61 92 P **Pn** **02 26 26.0 +1.3**
AMIL Milagro (Trans 2.61 140 P **Pb** **02 26 27.0 -2.0**
GGPT Toaza - Volcan 2.64 92 P **Pn** **02 26 26.0 +0.8**
PINO Pino 2.65 91 P **Pn** **02 26 27.0 +1.5**
JUA2 San Juan 2 2.65 92 P **Pn** **02 26 27.0 +1.6**
TERV Terraza Guagua 2.65 91 P **Pn** **02 26 26.0 +0.5**
PAST Pastocalle 2.68 102 P **Pn** **02 26 27.0 +1.3**
YANA Yana 2.68 90 P **Pn** **02 26 27.0 +1.1**
CHSH Refugio Sur-Vo 2.75 120 P **Pb** **02 26 29.0 -2.8**
CAMI Rancho Maria 2.81 102 P **Pb** **02 26 30.0 -2.7**
PORT Chimborazo Vol 2.82 118 Pn **Pn** **02 26 29.9 +2.0**
PORT Chimborazo Vol 2.82 118 P **Pn** **02 26 29.0 +1.1**
OTAV Otavalo 2.83 83 Pn **Pn** **02 26 28.7 +0.9**
BNAS Cotopaxi Volca 2.83 101 P **Pb** **02 26 30.0 -3.1**
NAS2 Nasa 2.84 101 P **Pn** **02 26 30.0 +2.0**
TAMH Tambohuasha Ch 2.85 120 P **Pn** **02 26 30.0 +1.8**
PITA Cotopaxi Volc 2.86 99 P **Pn** **02 26 30.0 +1.8**
BMOR Cotopaxi Volca 2.86 102 P **Pn** **02 26 30.0 +1.6**
BREF Cotopaxi Volca 2.87 101 P **Pb** **02 26 31.0 -2.8**
CUSE Cuicocha Este 2.89 82 *eP* **Pb** **02 26 30.8 -3.3**
CUSE *eS* **Sn** **02 27 04.7 +1.0**
CUSE Cuicocha Este 2.89 82 P **Pb** **02 26 31.0 -3.0**
BVC2 Cotopaxi Volca 2.90 101 P **Pb** **02 26 31.0 -3.3**
VC1 Cotopaxi 1 2.90 100 P **Pn** **02 26 31.0 +2.1**
BTAM Cotopaxi Volca 2.91 101 P **Pb** **02 26 32.0 -2.5**
CUIC Cuicocha-Domo 2.92 82 P **Pb** **02 26 32.0 -2.6**
VCES Cotopaxi 2.94 103 P **Pb** **02 26 32.0 -3.0**
TAMB Tambo 2.94 101 P **Pb** **02 26 32.0 -3.1**
IGUA Igualata 2.95 118 P **Pb** **02 26 32.0 -3.2**
ANTG Antisana-Guama 3.03 97 P **Pb** **02 26 33.0 -3.5**
URCU Urcuqui 3.05 80 P **Pb** **02 26 34.0 -2.8**
COHC Cochancay 3.08 139 Pn **Pn** **02 26 31.9 +1.0**
POND Pondoa 3.09 115 P **Pb** **02 26 34.0 -3.5**
BMAS Trigal station 3.10 116 P **Pn** **02 26 34.0 +2.5**
RETU Refugio 3.11 115 P **Pb** **02 26 35.0 -2.9**
ANTS Antisana-Sarah 3.11 97 P **Pb** **02 26 35.0 -2.9**
ANTI Antisana 3.11 96 P **Pb** **02 26 35.0 -3.0**
PIAT Ana Tenorio 3.12 106 P **Pn** **02 26 34.0 +2.2**
ARRY Arrayan 3.12 116 P **Pb** **02 26 35.0 -3.0**
YAHU Yahuarcocha 3.22 81 P **Pb** **02 26 38.0 -1.7**
CAYA Cayambe 3.27 87 P **Pb** **02 26 38.0 -2.6**
CHMA Chilma 3.34 73 P **Pn** **02 26 37.0 +2.3**
TULM Tulcn-Chalpat 3.56 77 Pn **Pb** **02 26 42.9 -2.7**
TULM Tulcn-Chalpat 3.56 77 *eP* **Pb** **02 26 41.9 -3.7**
CMBC Cumbal 3.59 73 *eP* **Pb** **02 26 41.9 -4.0**
ARNL Arenillas 3.61 161 Pn **Pn** **02 26 40.7 +2.4**
BOSC San Juan Bosco 4.09 138 Pn **Pb** **02 26 50.0 -4.4**
GCUF Volcan Galeras 4.13 71 *eP* **Pb** **02 26 51.4 -3.9**
MCRA Macar, Loja 4.42 163 Pn **Pn** **02 26 51.3 +1.9**
SOTA Rioblanco 5.16 64 *eP* **Pn** **02 27 03.5 +3.7**
POPC Popayan, Colom 5.28 60 *eP* Pn 02 27 06.2 +4.8
PCON Cinco Dias 5.43 63 *eP* Pn 02 27 09.5 +5.8
MARP Paez Belalcaza 6.06 61 *eP* Pb 02 27 19.8 -8.3
YOTC Yotoco, Valle 6.37 50 *eP* **Pb** **02 27 29.2 -4.1**
ORTC Ortega, Tolima 7.21 56 *eP* Pn 02 27 35.3 +7.5
ACON Acoyapa 12.62 342 Pn **Pn** **02 28 41.2 -0.6**
BOAB BOACO BROADBAND 18.22 341 Pn **Pn** **02 28 48.6 -1.5**
CCIG Comitan 19.51 327 P **Pn** **02 30 12.3 +1.1**
CCIG IAmb IAmb 02 30 32.9
comp=Z,9.4nm,1.3s
LPAZ La Paz 20.64 142 P **P** **02 30 23.4 +0.6**
LPAZ IAmb IAmb 02 30 42.4
comp=Z,4.9nm,1.4s
PB16 IPOC Station P 21.48 148 P **P** **02 30 33.1 +1.4**
PB16 IAmb IAmb 02 30 52.2
comp=Z,4.9nm,1.2s
PB11 IPOC Station P 22.59 150 P **P** **02 30 44.1 +0.9**
PB11 IAmb IAmb 02 31 08.7
comp=Z,13nm,1.2s
CBYP Canovanas 23.73 39 P **P** **02 30 56.2 +1.5**

*UUSS **25** 02:28:22.3±1.4, 37.°92N±0.°01×112.°51W±0.°02, h4km±5km, ML2.6/12, ML2.7/90(NEIC), Error ellipse: s-maj=2.9km s-min=1.1km az=121.0*
NEIC 25 02:28:22.3±1.3, **37.°92N**±0.°01×**112.°51W**±0.°02, **h3**km±5km,
Error ellipse: s-maj=2.2km s-min=1.2km az=129.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTPU	**Mount Pierson**	**0.29**	**65**	Pg	Pg	02 28 27.6	-0.3
MTPU				Sg	Sg	02 28 32.3	+0.5
MTPU				IAML		02 28 32.8	
	comp=N,1µm,0.3s						
MTPU				IAML		02 28 33.1	
	comp=E,1µm,0.5s						
DWU	**Dry Willow Pea**	**0.42**	**296**		Pg	02 28 30.9	+0.3
BHU	**Blowhard Mount**	**0.43**	**220**		Pg	02 28 31.1	+0.5
BHU					Sg	02 28 37.0	+0.8
PKCU	**Pink Cliffs**	**0.50**	**161**		Pg	02 28 32.1	+0.1
PKCU				Sg	Sg	02 28 39.1	+0.6
PKCU				IAML		02 28 45.3	
	comp=N,715nm,0.3s						
BTU	**Barney Top**	**0.53**	**108**		Pg	02 28 32.6	0.0
SZCU	**Shurtz Canyon**	**0.56**	**235**	Pg	Pg	02 28 32.9	-0.2
SZCU				Sg	Sg	02 28 40.6	+0.2
SZCU				IAML		02 28 43.1	
	comp=E,818nm,0.2s						
SZCU				IAML		02 28 44.8	
	comp=N,784nm,0.3s						
MSU	**Marysvale**	**0.65**	**24**	Pg	Pg	02 28 34.8	0.0
NMUT	**North Mineral**	**0.65**	**336**		Pg	02 28 34.9	0.0
TCRU	**Three Creeks R**	**0.69**	**4**		Pg	02 28 35.5	-0.1
TCRU				Sg	Sg	02 28 44.8	+0.2
TCRU				IAML		02 28 48.0	
	comp=E,338nm,0.3s						
TCRU				IAML		02 28 48.0	
	comp=N,275nm,0.3s						
ZNPU	**Zion National**	**0.74**	**221**		Pg	02 28 36.3	-0.3
ARUT	**Antelope Range**	**0.74**	**260**		Pg	02 28 36.7	0.0
CCUT	**Cedar City**	**0.77**	**241**	Pg	Pg	02 28 36.7	-0.4
CCUT				Sg	Sg	02 28 47.1	+0.1
EKU	**East Kanab**	**0.84**	**179**		Pg	02 28 38.1	-0.4
IMU	**Iron Mountain**	**0.87**	**325**		Pg	02 28 38.9	-0.2
KNB	**Kanab**	**0.94**	**195**	Pg	Pg	02 28 39.5	-0.8
KNB				Sg	Sg	02 28 51.6	-0.8
MMU	**Miners Mountai**	**1.00**	**74**		Pg	02 28 40.5	-1.1
LCMT	**Little Creek M**	**1.08**	**213**	Pg	Pg	02 28 42.0	-1.0
LCMT				Sg	Sg	02 28 56.5	-0.4
LCMT				IAML		02 28 57.7	
	comp=E,286nm,0.1s						
LCMT				IAML		02 28 57.9	
	comp=N,235nm,0.1s						
PSUT	**Pine Spring**	**1.22**	**300**		Pg	02 28 45.4	-0.3
PSUT				Sg	Sg	02 29 01.3	-0.3
PSUT				IAML		02 29 05.4	
	comp=E,115nm,0.7s						
PSUT				IAML		02 29 08.9	
	comp=N,161nm,0.8s						
Q16A	**Castle Valley**	**1.45**	**46**		Pn	02 28 49.0	-0.7
Q16A				Sg	Sg	02 29 08.0	-1.0
U15A	**North Rim**	**1.50**	**173**		Pn	02 28 49.7	-0.7
U15A				IAML		02 29 09.6	
	comp=E,64nm,0.3s						
U15A				IAML		02 29 12.4	
	comp=N,79nm,0.6s						
TMUT	**Trail Mountain**	**1.71**	**36**	Pn	Pn	02 28 52.4	-1.0
TMUT				IAML		02 29 18.4	
	comp=N,62nm,0.4s						
SRU	**San Rafael Swe**	**1.96**	**52**	Pn	Pn	02 28 57.6	+0.9
SRU				IAML		02 29 25.8	
	comp=E,46nm,0.4s						
NLU	**North Lily Min**	**2.06**	**9**	Pn	Pn	02 28 57.8	-0.3
PRN	**Pahroc Range**	**2.08**	**256**	Pn	Pn	02 28 58.1	-0.1
PRN				IAML		02 29 30.7	
	comp=N,109nm,0.5s						
P17A	**Butcher Ranch,**	**2.08**	**41**	Pn	Pn	02 28 59.3	+1.0
DUG	**Dugway, Tooele**	**2.28**	**354**	Pn	Pn	02 29 01.2	+0.2
P18A	**Preston Nutter**	**2.46**	**45**	Pn	Pn	02 29 04.2	+0.6
P18A				IAML		02 29 40.2	
	comp=E,42nm,0.5s						
P18A				IAML		02 29 40.2	
	comp=N,22nm,0.6s						
R11A	**Troy Canyon, C**	**2.46

comp=E,57nm,0.5s
PV10 Paradox Valley 2.78 80 Pn Pn 02 29 09.8 +1.8
JLU Jordanelle 2.80 17 Pn Pn 02 29 08.1 -0.2
PV23 Carpenter Ridg 2.81 78 Pn Pn 02 29 09.7 +1.2
PV11 David Mesa, Pa 2.90 81 Pn Pn 02 29 11.0 +1.5
PV13 Radium Mtn., P 2.93 84 Pn Pn 02 29 11.3 +1.3
BGU Big Grassy Mou 3.03 353 Pn Pn 02 29 10.0 -1.3
PV07 Paradox Valley 3.09 79 Pn Pn 02 29 12.6 +0.3
PV07 IAML 02 30 04.1
comp=E,33nm,0.7s
PV07 IAML 02 30 05.9
comp=N,23nm,0.9s
TPNV Topopah Spring 3.13 253 Pn Pn 02 29 12.4 -0.3
TPNV IAML 02 30 06.7
comp=N,18nm,1.4s
TPNV IAML 02 30 11.7
comp=N,18nm,0.7s
PV15 Paradox Valley 3.21 81 Pn Pn 02 29 14.1 +0.3
PV15 IAML 02 30 14.1
comp=E,39nm,1.0s
MVCO Mesa Verde 3.27 101 Pn Pn 02 29 15.8 +1.1
TPH Tonopah 3.72 274 Pn Pn 02 29 20.2 -0.7
GWY Greenwater Val 3.75 244 Pn Pn 02 29 20.8 -0.5
GWY IAML 02 30 24.3
comp=E,19nm,4.9s
GWY IAML 02 30 30.4
comp=N,10.0nm,3.7s
HVU Hansel Valley 3.86 357 Pn Pn 02 29 22.0 -0.8
HVU IAML 02 30 44.2
comp=E,7.2nm,4.8s
X18A Snowflake 3.97 148 Pn 02 29 25.5 +1.3
GRAC Grapevine Rang 3.97 258 Pn Pn 02 29 23.8 -0.3
GRAC IAML 02 30 37.0
comp=N,17nm,0.8s
O20A White River Ci 3.99 55 Pn Pn 02 29 23.4 -1.2
O20A IAML 02 30 38.3
comp=E,18nm,1.1s
O20A IAML 02 30 46.0
comp=N,20nm,4.4s
LCH Last Change Ra 4.13 262 Pn Pn 02 29 26.1 -0.4
LCH IAML 02 30 03.7
comp=E,8.1nm,2.8s
LCH IAML 02 31 49.6
comp=N,8.4nm,4.8s
BMN Battle Mountai 4.43 306 Pn Pn 02 29 31.0 +0.3
BMN IAML 02 30 03.3
comp=E,7.4nm,4.8s
BMN IAML 02 31 04.2
comp=N,9.0nm,5.0s
NV11 Mina Array Sit 4.47 278 Pn Pn 02 29 30.9 -0.3
NV11 IAML 02 30 13.7
comp=E,8.8nm,4.5s
NV11 IAML 02 32 11.3
comp=N,7.2nm,4.2s
S22A 4UR Ranch, Cre 4.50 90 Pn Pn 02 29 32.5 +0.7
S22A IAML 02 30 55.5
comp=E,9.1nm,0.1s
S22A IAML 02 30 56.1
comp=N,9.6nm,0.1s
KVN Kaiserville 4.53 286 Pn Pn 02 29 31.6 -0.4
KVN IAML 02 30 04.5
comp=E,9.0nm,5.0s
KVN IAML 02 30 47.2
comp=N,6.7nm,0.6s
RYN Ryan 4.78 280 Pn Pn 02 29 35.5 +0.1
RYN IAML 02 31 06.6
comp=N,9.8nm,5.0s
RYN IAML 02 32 28.1
comp=E,12nm,4.9s
YERR Yerington 5.39 283 Pn Pn 02 29 43.8 0.0
SDCO Great Sand Dun 5.55 90 Pn Pn 02 29 47.1 +1.0
ANMO Albuquerque 5.71 119 Pn Pn 02 29 48.8 +0.5
VCNR Virginia City 5.75 286 Pn Pn 02 29 51.3 +2.5
LENM Lemitar 5.85 128 Pn Pn 02 29 49.8 -0.2

*IDC **25** 02:50:28.5±2.1, 31.˙84S×71.˙46W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/24, mbtmp3.6/3, ML3.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/49, Error ellipse: s-maj=81.9km s-min=52.1km az=37.0*
*GUC **25** 02:50:35.1±0.8, 31.˙58S×71.˙51W, h44km±2km, ML3.8*
ISC 25 02:50:35.8±1.1, 31.˙58S±0.˙03×71.˙56W±0.˙08, h44km±12km, n30, σ0°92/43, 9C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.60**	**52**	⇓	*i*P		**Pn**	**02 50 47.4**	**-0.8**
CO02					*i*S		**Sn**	**02 50 55.7**	**-1.3**
CO06	**Fray Jorge**	**0.90**	**356**	⇑	*i*P		**Pn**	**02 50 52.0**	**-0.1**
CO06					*i*S		**Sn**	**02 51 04.4**	**+0.4**
CO06					IAML			02 51 06.9	
comp=E,2μm,0.5s									
VA06	**Catapilco**	**1.01**	**167**	⇑	*i*P		**Pn**	**02 50 53.1**	**-0.3**
VA06					*i*S		**Sn**	**02 51 06.1**	**-0.3**
VA06					IAML			02 51 08.5	
comp=N,4μm,0.4s									
VA01	**Torpederas**	**1.44**	**183**		*e*P		**Pn**	**02 50 59.8**	**+0.4**
VA01					IAML			02 51 22.2	
comp=E,4μm,0.9s									
VA03	**San Esteban**	**1.46**	**144**	⇓	*i*P		**Pn**	**02 50 59.7**	**0.0**
VA03					*i*S		**Sn**	**02 51 18.3**	**+0.6**
VA03					IAML			02 51 20.1	
comp=E,3μm,0.2s									
ROCH	**El Roble**	**1.47**	**162**	⇓	*e*P		**Pn**	**02 51 00.3**	**+0.3**
ROCH					*e*P		**Pn**	**02 50 57.7**	**-2.3**
ROCH					*i*S		**Sn**	**02 51 16.9**	**-1.2**
ROCH					*i*S		**Sn**	**02 51 19.6**	**+1.5**
ROCH					IAML			02 51 19.7	
comp=N,1μm,0.5s									
ROCH					IAML			02 51 21.7	
comp=N,2μm,0.6s									
GO04	**Tololo Observa**	**1.54**	**25**	⇓	*i*P		**Pn**	**02 51 01.1**	**+0.1**
GO04					IAML			02 51 24.3	
comp=N,8μm,0.5s									
CO05	**La Serena**	**1.68**	**9**		*e*P		**Pn**	**02 51 03.1**	**+0.5**
CO05					*i*S		**Sn**	**02 51 23.8**	**+1.0**
CO05					IAML			02 51 28.9	
comp=E,2μm,0.8s									
MT02	**Curacav**	**1.71**	**168**		*e*P		**Pn**	**02 51 03.2**	**+0.1**
MT02					*i*S		**Sn**	**02 51 25.3**	**+1.4**
MT02					IAML			02 51 27.9	
comp=E,741nm,0.3s									
MT05	**Renca**	**1.94**	**159**	⇑	*i*P		**Pn**	**02 51 07.0**	**+0.8**
MT05					*i*S		**Sn**	**02 51 30.8**	**+1.3**
MT05					IAML			02 51 38.3	
CO01	**Juntas del Tor**	**2.03**	**39**	⇑	*i*P		**Pn**	**02 51 09.0**	**+1.3**
CO01					*i*S		**Sn**	**02 51 33.5**	**+1.5**
CO01					IAML			02 51 35.4	
comp=N,1μm,0.4s									
FCH	**Farellones**	**2.05**	**149**	⇑	*i*P		**Pn**	**02 51 08.5**	**+0.4**
FCH					IAML			02 51 42.2	
comp=E,690nm,0.2s									
VA05	**Santo Domingo**	**2.08**	**181**		*e*P		**Pn**	**02 51 08.4**	**+0.3**
VA05					IAML			02 51 48.2	
comp=E,1μm,0.4s									
MT09	**Talagante**	**2.25**	**168**	⇑	*i*P		**Pn**	**02 51 11.6**	**+1.0**
MT09					*i*S		**Sn**	**02 51 38.5**	**+1.4**
MT09					IAML			02 51 48.8	
comp=E,885nm,0.4s									
BO04	**La Punta**	**2.54**	**162**	⇑	*i*P		**Pn**	**02 51 15.4**	**+1.0**
BO04					*i*S		**Sn**	**02 51 45.5**	**+1.4**
BO04					IAML			02 51 57.8	
comp=N,499nm,0.4s									
LCO	**Las Campanas**	**2.66**	**16**	⇑	*i*P		**Pn**	**02 51 17.0**	**+0.6**
LCO					*i*S		**Sn**	**02 51 48.5**	**+0.9**
BO01	**Tunca**	**2.83**	**172**		*e*P		**Pn**	**02 51 19.1**	**+0.6**
BO01					IAML			02 52 07.2	
comp=E,181nm,0.6s									
BO03	**Pichilemu**	**2.93**	**187**	⇑	*i*P		**Pn**	**02 51 19.4**	**-0.4**
BO03					IAML			02 52 16.1	
comp=N,109nm,0.1s									
AC04	**Llanos de Chal**	**3.39**	**7**	⇓	*i*P		**Pn**	**02 51 26.1**	**-0.1**
AC04					IAML			02 52 23.9	
comp=E,292nm,0.4s									
GO05	**Huala**	**3.44**	**185**	⇓	*i*P		**Pn**	**02 51 26.2**	**-0.6**
AC06	**Mina Casimiro**	**4.33**	**14**		*e*P		**Pn**	**02 51 39.1**	**-0.1**
AC02	**Maricunga**	**5.18**	**25**		*e*P		**Pn**	**02 51 51.7**	**+0.5**
CPUP	**Villa Florida**	**13.51**	**71**		LR		LR	02 58 45.5	
comp=E,60nm,19.5s,baz=195,slow=37									
LPAZ	**La Paz**	**15.54**	**12**		Pn		**Pn**	**02 54 12.6**	**+0.1**
comp=E,0.1nm,0.3s,baz=197,slow=8.1,SNR=3.8									
MDP	**Montagnes des**	**40.69**	**30**		LR		LR	03 16 31.1	
comp=E,53nm,18.6s,baz=324,slow=38									
TXAR	**Lajitas Array**	**67.83**	**330**		P		**P**	**03 01 30.2**	**+0.7**
comp=E,0.2nm,0.7s,baz=141,slow=7.1,SNR=2.7									
TORD	**Torodi Ar. Bea**	**83.00**	**70**		P		**P**	**03 02 56.0**	**-0.7**
comp=E,1.1nm,0.7s,baz=257,slow=6.1,SNR=6.9									
KURBB	**Kurchatov Arra**	**150.80**	**41**		PKPbc		**PKiKP**	**03 10 22.7**	**-0.9**
comp=E,0.1nm,0.4s,baz=300,slow=3.0,SNR=7.4									
ZALV	**Zalesovo Beam**	**151.95**	**30**		PKPbc		**PKiKP**	**03 10 25.3**	**-0.5**
comp=E,3.0nm,0.5s,baz=308,slow=2.5,SNR=14									
MKAR	**Makanchi Array**	**154.82**	**45**		PKPbc		**PKPbc**	**03 10 31.2**	**-0.9**
comp=E,0.1nm,0.6s,baz=315,slow=2.3,SNR=1.7									
MKAR					PKPab		**PKPab**	**03 10 46.9**	**-0.5**
comp=E,0.4nm,0.7s,baz=297,slow=5.3,SNR=4.7									

*NIED **25** 02:58:22.4, 23.˙03N×120.˙99E, h0km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10^15 Nm; Mrr-1.95; Mθθ1.57; Mφφ0.38; Mrθ1.73; Mθφ-0.27; Mφr2.08; Fault plane solution: M0 3.09000×10^15 NP1:φs99.00000°, δ21.00000°, λ-46.00000°. NP2:φs233.00000°, δ75.00000°, λ-105.00000°.*
*JMA **25** 02:58:22.4±0.5, 23.˙03N×120.˙99E, h0km, M3.8*
*ASIES **25** 02:58:24.9, 23.˙19N×121.˙03E, h15km, MW3.9*
*IASPEI **25** 02:58:26.0±0.9, 23.˙16N±0.˙01×121.˙04E±0.˙01, h4km±7km, mb3.8/14, MS3.2/11, Error ellipse: s-maj=2.0km s-min=1.8km az=107.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*TAP **25** 02:58:25.6, 23.˙17N×121.˙02E, h6km, ML4.2, B*
*IDC **25** 02:58:25.1±0.9, 23.˙12N×121.˙32E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.6/69, mbtmp3.7/10, MS3.2/13, Ms1 3.2/13, ms1mx2.9/89, Error ellipse: s-maj=41.3km s-min=16.7km az=64.0*
*NEIC **25** 02:58:26.2±1.9, 23.˙19N±0.˙01×121.˙06E±0.˙02, h10km±1km, mb4.3/8, ML4.1(TAP), Error ellipse: s-maj=3.0km s-min=2.7km az=111.0*
ISC 25 02:58:26.1±0.9, 23.˙16N±0.˙01×121.˙04E±0.˙01, h5km±6km, n175, σ1°04/250, mb3.8/14, MS3.2/11, 29C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.04**	**326**		P		**Pg**	**02 58 26.7**	**-0.6**
baz=29									
ECS	**Chishang**	**0.18**	**111**	⇑	*i*P		**Pg**	**02 58 30.6**	**+0.9**
baz=111									
ECS					*i*S		**Sg**	**02 58 34.3**	**+2.3**
baz=111									
FULB	**Fuli**	**0.24**	**81**	⇑	*i*P		**Pg**	**02 58 31.9**	**+1.1**
baz=74									
FULB					*i*S		**Sg**	**02 58 36.4**	**+2.5**
baz=74									
STYH	**Taoyuan**	**0.24**	**273**	⇑	*i*P		**Pg**	**02 58 30.5**	**-0.4**
baz=271									
STYH					*i*S		**Sg**	**02 58 33.5**	**-0.5**
baz=271									
STYT	**Tauyuan**	**0.26**	**271**	⇑	*i*P		**Pg**	**02 58 30.8**	**-0.3**
baz=269									
STYT					*i*S		**Sg**	**02 58 34.2**	**-0.4**
baz=269									
LONT	**Longtian**	**0.27**	**162**	⇓	*i*P		**Pg**	**02 58 31.8**	**+0.5**
baz=158									
LONT					*i*S		**Sg**	**02 58 35.7**	**+0.9**
baz=158									
TWF1	**Yuli**	**0.30**	**51**	⇑	*i*P		**Pg**	**02 58 32.2**	**+0.2**
baz=56									
TWF1					*i*S		**Sg**	**02 58 36.1**	**0.0**
baz=56									
CHKT	**Chengkung**	**0.31**	**101**	⇓	*i*P		**Pb**	**02 58 33.7**	**-0.4**
baz=102									
CHKT					*i*S		**Sb**	**02 58 39.7**	**+0.2**
baz=102									
EDH	**Donghe**	**0.31**	**127**	⇓	*i*P		**Pg**	**02 58 33.3**	**+1.2**
baz=135									
EDH					S		**Sb**	**02 58 39.3**	**-0.2**
baz=135									
EYUL	**Yuli**	**0.32**	**54**	⇑	*i*P		**Pg**	**02 58 32.5**	**+0.2**
baz=57									
EYUL					*i*S		**Sg**	**02 58 36.5**	**0.0**
baz=57									
YULB	**Yu-li**	**0.33**	**46**				**Pg**	**02 58 31.8**	**-0.8**
YULB						Sg	**Sg**	**02 58 36.3**	**-0.7**
YULB	**Yu-li**	**0.33**	**46**	⇑	*i*P		**Pg**	**02 58 32.4**	**-0.2**
baz=49									
YULB					*i*S		**Sg**	**02 58 36.5**	**-0.5**
baz=49									
TWG	**Pinlang**	**0.34**	**175**		Pg		**Pg**	**02 58 32.9**	**+0.2**
TWG						Sg	**Sg**	**02 58 37.7**	**+0.5**
TWG	**Pinlang**	**0.34**	**175**	⇓	*i*P		**Pg**	**02 58 33.1**	**+0.4**
baz=162									
TWG					*i*S		**Sg**	**02 58 38.0**	**+0.8**
baz=162									
TWGBT	**Beinan**	**0.34**	**174**	⇓	*i*P		**Pg**	**02 58 33.0**	**+0.3**
baz=162									
TWGBT					*i*S		**Sg**	**02 58 37.8**	**+0.6**
baz=162									
WTP	**Ta-pu**	**0.40**	**282**	⇑	*i*P		**Pg**	**02 58 34.0**	**+0.2**
baz=278									
WTP					*i*S		**Sg**	**02 58 39.8**	**+0.7**
baz=278									
TPUB	**Ta-pu**	**0.40**	**290**		Pg		**Pg**	**02 58 33.9**	**0.0**
TPUB						Sg	**Sg**	**02 58 39.6**	**+0.5**
TPUB	**Ta-pu**	**0.40**	**290**	⇑	*i*P		**Pg**	**02 58 34.1**	**+0.2**
baz=299									
TPUB					*i*S		**Sg**	**02 58 39.7**	**+0.5**
baz=299									
ALS	**Alishan**	**0.41**	**328**	⇓	*i*P		**Pg**	**02 58 33.9**	**-0.2**
baz=332									
ALS					*i*S		**Sg**	**02 58 39.4**	**-0.1**
baz=332									
ECBN	**Changbin**	**0.41**	**68**		P		**Pb**	**02 58 35.5**	**-0.4**
baz=59									
ECBN					*e*S		**Sb**	**02 58 42.9**	**+0.4**
baz=59									
TTN	**Taitung**	**0.42**	**166**		P		**Pb**	**02 58 35.6**	**-0.4**
baz=162									
TTN					S		**Sb**	**02 58 42.5**	**-0.1**
baz=162									
SGST	**Jiashian**	**0.43**	**260**	⇑	*i*P		**Pg**	**02 58 33.7**	**-0.6**
baz=254									
SGST					*i*S		**Sg**	**02 58 39.9**	**0.0**
baz=254									
EHY	**Hungye**	**0.43**	**37**	⇑	*i*P		**Pg**	**02 58 34.2**	**-0.3**
baz=40									
EHY					*i*S		**Sg**	**02 58 39.7**	**-0.4**
baz=40									
CHN1	**Nanshi**	**0.47**	**273**	⇑	*i*P		**Pg**	**02 58 35.8**	**+0.6**
baz=266									
CHN1					*i*S		**Sb**	**02 58 43.7**	**-0.5**
baz=266									
HGSD	**Ruisui**	**0.48**	**47**	⇑	*i*P		**Pg**	**02 58 36.0**	**+0.5**
baz=40									
HGSD					*i*S		**Sb**	**02 58 43.6**	**-1.0**
baz=40									
SNST	**Tainan City**	**0.50**	**277**	⇑	P		**Pg**	**02 58 36.5**	**+0.7**
baz=277									
SNST					S		**Sb**	**02 58 44.7**	**-0.4**
baz=277									
TWK	**Hsinying**	**0.52**	**282**	⇑	*i*P		**Pg**	**02 58 36.6**	**+0.6**
baz=294									
TWK					*i*S		**Sg**	**02 58 44.0**	**+1.2**
baz=294									
CHN5	**Tsauling**	**0.55**	**323**	⇓	*i*P		**Pg**	**02 58 36.9**	**+0.2**
baz=325									
CHN5					S		**Sg**	**02 58 44.3**	**+0.5**
baz=325									
SSD	**Sandimen**	**0.56**	**222**	⇑	*i*P		**Pg**	**02 58 36.2**	**-0.6**
baz=214									
SSD					*i*S		**Sg**	**02 58 43.0**	**-1.1**
baz=214									
ECL	**Taimali**	**0.57**	**188**		P		**Pg**	**02 58 36.7**	**-0.3**
baz=185									
ECL					S		**Sg**	**02 58 43.4**	**-0.9**
baz=185									
SCST	**Cishan**	**0.57**	**242**		*e*P		**Pg**	**02 58 37.7**	**+0.6**
baz=240									
SCST					*e*S		**Sb**	**02 58 48.1**	**+1.0**
baz=240									
TSMG	**Majia**	**0.58**	**219**		P		**Pg**	**02 58 36.5**	**-0.8**
baz=216									
TSMG					S		**Sg**	**02 58 43.6**	**-1.2**
baz=216									
VWDT	**VWDT**	**0.60**	**9**	⇑	*i*P		**Pg**	**02 58 36.6**	**-1.0**
baz=11									
VWDT					S		**Sg**	**02 58 46.5**	**+1.1**
baz=11									
EGFH	**Guangfu**	**0.62**	**35**		P		**Pg**	**02 58 37.4**	**-0.6**
baz=37									
EGFH					S		**Sg**	**02 58 45.7**	**-0.4**
baz=37									
CHN3	**Shinhua**	**0.63**	**262**	⇑	*i*P		**Pb**	**02 58 40.2**	**+0.6**
baz=262									
CHN3					*e*S		**Sn**	**02 58 51.3**	**-0.8**
baz=262									
LDUT	**Ludao**	**0.63**	**141**	⇑	*i*P		**Pg**	**02 58 38.8**	**+0.7**
baz=121									
LDUT					S		**Sb**	**02 58 48.9**	**+0.2**
baz=121									
SSLB	**Suanglung**	**0.63**	**353**		Pg		**Pg**	**02 58 37.4**	**-0.8**
SSLB						Sg	**Sg**	**02 58 44.6**	**-1.9**
SSLB	**Suanglung**	**0.63**	**353**		P		**Pg**	**02 58 37.2**	**-1.0**
baz=355									
SSLB					S		**Sg**	**02 58 45.1**	**-1.3**
baz=355									
SHHT	**Tainan City**	**0.65**	**258**	⇑	P		**Pb**	**02 58 40.9**	**+0.9**
baz=257									
SHHT					*i*S		**Sn**	**02 58 52.6**	**-0.1**
baz=257									
CHY	**Chiayi**	**0.66**	**301**		*e*P		**Pb**	**02 58 39.9**	**-0.2**
baz=302									
CHY					*e*S		**Sb**	**02 58 49.6**	**0.0**
baz=302									
TWM1	**Shoushan**	**0.66**	**240**		P		**Pb**	**02 58 40.2**	**0.0**
baz=237									
MASBT	**Mashibuluo**	**0.66**	**215**	⇑	*i*P		**Pg**	**02 58 38.1**	**-0.7**
baz=212									
MASBT					S		**Sg**	**02 58 46.5**	**-1.0**
baz=212									
SGLT	**Jiouru**	**0.67**	**229**		*e*P		**Pg**	**02 58 39.7**	**+0.8**
baz=222									
SGLT					*e*S		**Sn**	**02 58 51.9**	**-1.2**
baz=222									
WDLH	**Douliu**	**0.70**	**319**		*e*P		**Pb**	**02 58 40.9**	**+0.1**
baz=321									
WDLH					*e*S		**Sb**	**02 58 51.0**	**+0.2**
baz=321									
WJS	**Zhushan**	**0.72**	**337**		*e*P		**Pb**	**02 58 41.3**	**+0.1**
baz=343									
WJS					*e*S		**Sb**	**02 58 51.4**	**0.0**
baz=343									
ICHU	**Yijhu**	**0.73**	**286**		*e*P		**Pb**	**02 58 40.9**	**-0.4**
baz=287									
ICHU					*e*S		**Sb**	**02 58 52.7**	**+1.1**
baz=287									
ESL	**Shilin**	**0.74**	**29**	⇑	P		**Pg**	**02 58 39.6**	**-0.9**
baz=38									
ESL					S		**Sg**	**02 58 50.0**	**-0.1**
baz=38									
TAI1	**Yung-k'ang**	**0.76**	**261**		*e*P		**Pn**	**02 58 43.3**	**-0.1**
baz=273									
TAI1					*e*S		**Sn**	**02 58 56.0**	**+0.7**
baz=273									
TYC	**Yuchr**	**0.76**	**347**		P		**Pg**	**02 58 40.5**	**-0.2**
baz=358									
TYC					*e*S		**Sn**	**02 58 53.7**	**-1.7**
baz=358									
SCLT	**Jiali**	**0.78**	**271**		*e*P		**Pg**	**02 58 41.7**	**+0.7**
baz=271									
SCLT					S		**Sn**	**02 58 55.2**	**-0.6**
baz=271									
CHN8	**Yiju**	**0.78**	**284**		*e*P		**Pg**	**02 58 41.0**	**-0.1**
baz=285									
CHN8					S		**Sn**	**02 58 55.3**	**-0.7**
baz=285									
WNT	**Mingjian**	**0.79**	**336**		P		**Pb**	**02 58 42.4**	**0.0**
baz=338									
WNT					S		**Sb**	**02 58 54.0**	**+0.7**
baz=338									
EAST	**Anshuo**	**0.79**	**193**	⇑	*i*P		**Pg**	**02 58 41.2**	**-0.2**
baz=190									
EAST					S		**Sg**	**02 58 51.4**	**-0.2**
baz=190									
WTK	**Tuku**	**0.80**	**311**		*e*P		**Pb**	**02 58 42.3**	**-0.2**
baz=313									
WTK					*e*S		**Sb**	**02 58 53.7**	**+0.1**
baz=313									
OWD	**Renai**	**0.80**	**9**		*e*P		**Pg**	**02 58 40.1**	**-1.4**
baz=20									
OWD					S		**Sg**	**02 58 51.7**	**-0.2**
baz=20									
SSPT	**Xinbi**	**0.80**	**213**	⇑	P		**Pg**	**02 58 41.4**	**-0.1**
baz=209									
SSPT					S		**Sb**	**02 58 53.1**	**-0.6**
baz=209									
TAW	**Tawu**	**0.81**	**189**		*e*P		**Pg**	**02 58 41.4**	**-0.2**
baz=187									
TAW					*e*S		**Sg**	**02 58 51.9**	**-0.2**
baz=187									
TAWH	**Dawu Township**	**0.83**	**190**		P		**Pg**	**02 58 41.7**	**-0.3**
baz=188									
TAWH					*e*S		**Sg**	**02 58 52.5**	**-0.2**
baz=188									
WSL	**Shuilin Townsh**	**0.83**	**296**		*e*P		**Pg**	**02 58 42.4**	**+0.4**
baz=297									
WSL					*e*S		**Sb**	**02 58 54.8**	**+0.3**
baz=297									
WUSB	**Renai**	**0.83**	**5**	⇑	*e*P		**Pg**	**02 58 40.7**	**-1.4**
baz=358									
SCZT	**Fangliau**	**0.87**	**206**	⇑	*i*P		**Pg**	**02 58 42.2**	**-0.7**
baz=196									
WSF	**Szhu**	**0.89**	**303**		*e*P		**Pg**	**02 58 43.7**	**+0.5**
baz=304									
WSF					*e*S		**Sb**	**02 58 56.5**	**+0.3**
baz=304									
KAU	**Kaohsiung**	**0.90**	**229**		*e*P		**Pn**	**02 58 46.1**	**+0.7**
baz=227									
CHGB	**Renai**	**0.91**	**8**		P		**Pg**	**02 58 41.9**	**-1.6**
baz=18									
CHGB					*e*S		**Sg**	**02 58 56.2**	**+0.9**
baz=18									
WRL	**Guolierlin Hig**	**0.95**	**321**		*e*P		**Pg**	**02 58 44.5**	**0.0**
baz=323									
WRL					*e*S		**Sb**	**02 58 58.4**	**+0.2**
baz=323									
SLIU	**Shizi**	**0.96**	**193**		*e*P		**Pg**	**02 58 44.2**	**-0.4**
baz=192									
WHF	**Hehuan Shan**	**1.00**	**12**		*e*P		**Pg**	**02 58 43.6**	**-1.8**
baz=14									
WHF					*e*S		**Sb**	**02 58 59.5**	**-0.4**
baz=14									
WLCH	**Liuqiu**	**1.01**	**217**		*e*P		**Pn**	**02 58 48.8**	**+1.8**
baz=216									
WCHH	**Zhanghua**	**1.02**	**334**		*e*P		**Pn**	**02 58 47.3**	**+0.3**
baz=336									
WCHH					*e*S		**Sn**	**02 59 00.6**	**-1.2**
baz=336									
TCU	**Taichung**	**1.04**	**341**		*e*P		**Pn**	**02 58 47.6**	**+0.2**
baz=329									
TWD	**Chiawan**	**1.05**	**29**		*e*P		**Pg**	**02 58 45.6**	**-0.6**
baz=21									
TWD					*e*S		**Sg**	**02 58 58.7**	**-1.2**
baz=21									
TWT	**Tachien**	**1.10**	**7**		*e*P		**Pg**	**02 58 47.1**	**0.0**
baz=15									
TWT					*e*S		**Sb**	**02 59 02.7**	**+0.3**
baz=15									
WHP	**Taichung City**	**1.12**	**356**		P		**Pn**	**02 58 48.5**	**-0.1**
baz=357									
WHP					*e*S		**Sn**	**02 59 05.4**	**+1.0**
baz=357									
ETL	**Fush Village**	**1.13**	**28**		*e*P		**Pg**	**02 58 48.0**	**+0.1**
baz=45									
NACB	**Ninganchiao**	**1.13**	**27**				**Pg**	**02 58 46.7**	**-1.1**
NACB	**Ninganchiao**	**1.13**	**27**		P		**Pg**	**02 58 46.8**	**-1.1**
baz=28									
NACB					*e*S		**Sg**	**02 59 01.2**	**-1.3**
baz=28									
SMST	**Manzhou Towns

WDJ	**Dajia District**	**1.24**	**343**	*e*P		**Pg**	**02 58 50.9**	**+1.0**
	baz=334							
WDJ				*e*S		**Sn**	**02 59 08.6**	**+1.4**
	baz=334							
LYUB	**Lan-yu**	**1.26**	**156**	*e*P		**Pn**	**02 58 46.9**	**-3.5**
	baz=157							
TSEB	**Hengchuen, Pin**	**1.26**	**186**	*e*P		**Pn**	**02 58 49.9**	**-0.6**
	baz=174							
TSEB				*e*S		**Sn**	**02 59 10.8**	**+3.0**
	baz=174							
WDGT	**Dungji**	**1.27**	**275**	⇑*i*P		**Pn**	**02 58 49.3**	**-1.3**
	baz=277							
WDGT				*i* S		**Sb**	**02 59 06.0**	**-1.3**
	baz=277							
NSY	**Sanyi**	**1.28**	**349**	P		**Pg**	**02 58 51.6**	**+1.0**
	baz=338							
NSY				S		**Sn**	**02 59 10.4**	**+2.2**
	baz=338							
NNSB	**Datong**	**1.30**	**14**	*e*P		**Pn**	**02 58 49.6**	**-1.5**
	baz=26							
NNS	**Nan Shan**	**1.31**	**13**	*e*P		**Pn**	**02 58 49.7**	**-1.6**
	baz=26							
NMLH	**Miaoli**	**1.39**	**351**	*e*P		**Pg**	**02 58 53.2**	**+0.5**
	baz=353							
NMLH				*e*S		**Sg**	**02 59 14.5**	**+3.7**
	baz=353							
PHUB	**P'eng-hu**	**1.39**	**285**	*e*P		**Pn**	**02 58 50.4**	**-1.8**
	baz=287							
PHUB				*e*S		**Sb**	**02 59 08.7**	**-2.0**
	baz=287							
ENA	**Nanau**	**1.42**	**27**	*e*P		**Pn**	**02 58 52.2**	**-0.4**
	baz=40							
PNG	**Penghu**	**1.42**	**287**	⇑P		**Pn**	**02 58 51.5**	**-1.2**
	baz=289							
PNG				S		**Sn**	**02 59 10.1**	**-1.7**
	baz=289							
LATG	**Datong**	**1.44**	**18**	*e*P		**Pn**	**02 58 52.4**	**-0.7**
	baz=20							
EWUT	**Wuta**	**1.45**	**28**	*e*P		**Pn**	**02 58 52.6**	**-0.4**
	baz=40							
NSTT	**Nanjuang**	**1.47**	**359**	P		**Pb**	**02 58 54.1**	**+0.2**
	baz=345							
NSTT				*e*S		**Sg**	**02 59 14.8**	**+1.6**
	baz=345							
NFF	**Wufeng Townshi**	**1.47**	**3**	*e*P		**Pb**	**02 58 54.1**	**+0.1**
	baz=15							
NFF				*e*S		**Sg**	**02 59 15.5**	**+2.2**
	baz=15							
LIOB	**Emei**	**1.48**	**359**	*e*P		**Pb**	**02 58 54.5**	**+0.3**
	baz=341							
VCHM	**Qimei**	**1.48**	**272**	*e*P		**Pn**	**02 58 51.5**	**-2.0**
	baz=274							
VCHM				*e*S		**Sn**	**02 59 10.9**	**-2.4**
	baz=274							
NDT	**Datong Townshi**	**1.50**	**17**	*e*P		**Pn**	**02 58 54.1**	**+0.3**
	baz=26							
NDT				*e*S		**Sg**	**02 59 15.6**	**+1.2**
	baz=26							
YHNB	**Yeheng**	**1.53**	**12**	Pn		**Pn**	**02 58 53.9**	**-0.4**
YHNB	**Yeheng**	**1.53**	**12**	*e*P		**Pn**	**02 58 54.5**	**+0.2**
	baz=14							
NSK	**Sanguang**	**1.54**	**11**	P		**Pn**	**02 58 54.7**	**+0.3**
	baz=13							
NSK				*e*S		**Sg**	**02 59 16.1**	**+0.6**
	baz=13							
ENTT	**Nioudou**	**1.55**	**18**	P		**Pb**	**02 58 55.0**	**-0.4**
	baz=34							
ENTT				*e*S		**Sg**	**02 59 17.1**	**+1.1**
	baz=34							
NDS	**Dongshan**	**1.59**	**23**	*e*P		**Pn**	**02 58 55.4**	**+0.4**
	baz=41							
TWC	**Suao**	**1.62**	**27**	⇓P		**Pb**	**02 58 56.2**	**-0.4**
	baz=29							
TWC				S		**Sb**	**02 59 17.2**	**-0.1**
	baz=29							
SBCB	**Hsinchu**	**1.63**	**358**	*e*P		**Pg**	**02 58 58.2**	**+0.9**
	baz=360							
TWE	**Neicheng**	**1.66**	**20**	P		**Pn**	**02 58 56.4**	**+0.5**
	baz=39							
NWLT	**Wulai**	**1.67**	**15**	P		**Pb**	**02 58 56.9**	**-0.5**
	baz=28							
NWLT				*e*S		**Sb**	**02 59 18.5**	**-0.2**
	baz=28							
FUSB	**Fushanzhiwuyua**	**1.67**	**17**	⇓P		**Pn**	**02 58 56.0**	**-0.2**
	baz=37							
NTC	**Toucheng**	**1.84**	**23**	*e*P		**Pb**	**02 58 59.7**	**-0.5**
	baz=39							
NTC				*e*S		**Sb**	**02 59 23.3**	**-0.2**
	baz=39							
NHDH	**Xindian Distri**	**1.85**	**14**	*e*P		**Pg**	**02 59 01.6**	**+0.1**
	baz=353							
TWA	**Mucha**	**1.88**	**15**	*e*P		**Pb**	**02 59 01.5**	**+0.5**
	baz=38							
TIPB	**Shuangxi**	**1.94**	**22**	*e*P		**Pb**	**02 59 01.8**	**-0.2**
	baz=38							
TWS1	**Kuangyinshan**	**1.96**	**10**	*e*P		**Pg**	**02 59 04.1**	**+0.4**
	baz=21							
TWS1				*e*S		**Sg**	**02 59 29.8**	**+0.5**
	baz=21							
NWF	**Wu-fen Shan**	**2.02**	**19**	*e*P		**Pb**	**02 59 04.2**	**+0.7**
	baz=38							
TWB1	**Santiao Chiao**	**2.04**	**25**	*e*P		**Pb**	**02 59 04.2**	**+0.6**
	baz=40							
YM01	**YM01**	**2.04**	**14**	*e*P		**Pb**	**02 59 04.4**	**+0.7**
	baz=37							
SXI1	**Grass Mountain**	**2.07**	**21**	*e*P		**Pb**	**02 59 04.6**	**+0.3**
	baz=39							
JYNG	**Yonagunijimaku**	**2.17**	**53**	P		**Pn**	**02 59 03.1**	**+0.2**
JYNG				S		**Sb**	**02 59 31.7**	**-1.4**
YOJ	**Yonaguni jima**	**2.22**	**54**	P		**Pn**	**02 59 03.5**	**-0.1**
YOJ				S		**Sn**	**02 59 32.9**	**+1.3**
YOJ	**Yonaguni jima**	**2.22**	**54**			**Pn**	**02 59 03.6**	**-0.1**
YOJ	**Yonaguni jima**	**2.22**	**54**	*e*P		**Pn**	**02 59 03.3**	**-0.4**
	baz=55							
VWUC	**VWUC**	**2.33**	**322**	*e*P		**Pn**	**02 59 04.2**	**-1.0**
	baz=319							
PTMZ	**Houxiangcun**	**2.56**	**317**	*e*P		**Pn**	**02 59 06.0**	**-2.4**
	baz=315							
HATJ	**Hateruma jima**	**2.69**	**70**	P		**Pn**	**02 59 09.5**	**-0.6**
HATJ				S		**Sn**	**02 59 41.6**	**-1.5**
KNM	**Kinmen**	**2.69**	**298**	*e*P		**Pn**	**02 59 09.8**	**-0.4**
	baz=295							
IRIF	**Iriomote-Funau**	**2.73**	**64**	P		**Pn**	**02 59 08.6**	**-2.1**
IRIF				*e*S		**Sn**	**02 59 44.3**	**+0.2**
KNMB	**Chin-men Tao**	**2.75**	**299**	Pn		**Pn**	**02 59 10.0**	**-1.0**
JKRS	**Kuro-shima**	**2.93**	**68**	P		**Pn**	**02 59 13.3**	**-0.1**
JIJ	**Ishigaki jima**	**3.09**	**67**	P		**Pn**	**02 59 15.3**	**-0.3**
JIJ				S		**Sn**	**02 59 50.6**	**-2.3**
AXDP	**Jialang**	**3.30**	**302**	*e*P		**Pn**	**02 59 17.3**	**-1.2**
	baz=300							
JISG	**Ishigakijimahi**	**3.31**	**64**	P		**Pn**	**02 59 18.1**	**-0.6**
JISG				S		**Sn**	**02 59 57.2**	**-1.3**
JTJ	**Tarama**	**3.66**	**66**	P		**Pn**	**02 59 23.2**	**-0.3**
HNS	**HongShan**	**15.20**	**340**	⇓P		**P**	**03 02 08.1**	**+1.4**
HNS				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KSRS	**Korea Array**	**15.43**	**21**	LR		LR	03 08 18.4	
	comp=Z,37nm,20.7s,baz=185,slow=39							
MJAR	**Matsushiro Arr**	**19.95**	**44**	LR		LR	03 11 09.0	
	comp=Z,41nm,21.7s,baz=194,slow=39							
CMAR	**Chiang Mai Arr**	**21.17**	**261**	P		**P**	**03 03 14.8**	**+2.2**
	1.1nm,0.3s,baz=59,slow=8.5,SNR=5.1							
CMAR				LR		LR	03 13 04.6	
	comp=Z,44nm,19.3s,baz=85,slow=41							
SBUM	**Sibu**	**22.29**	**204**	P		**P**	**03 03 24.5**	**-0.1**
SBUM				IAmb		IAmb	03 03 28.4	
	comp=Z,5.3nm,0.5s							
SONM	**Songino Array**	**27.26**	**338**	P		**P**	**03 04 12.4**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=153,slow=10.0,SNR=4.2							
SONM				LR		LR	03 15 02.7	
	comp=Z,44nm,21.5s,baz=157,slow=36							
KLR	**Kul'dur**	**27.36**	**15**	LR		LR	03 15 42.5	
	comp=Z,59nm,18.4s,baz=222,slow=38							
ASAJ	**Asahikawa**	**27.40**	**35**	LR		LR	03 15 39.3	
	comp=Z,68nm,21.3s,baz=147,slow=38							
PSI	**Prapat**	**29.47**	**230**	LR		LR	03 16 16.0	
	comp=Z,103nm,18.5s,baz=62,slow=36							
MK31	**Makanchi Array**	**38.98**	**317**	P		**P**	**03 05 54.1**	**+0.7**
MKAR	**Makanchi Array**	**38.98**	**317**	P		**P**	**03 05 55.0**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=106,slow=10,SNR=5.6							
MKAR	**Makanchi Array**	**38.98**	**317**	P		**P**	**03 05 52.5**	**-0.9**
PETK	**Petropavlovsk-**	**40.79**	**33**	LR		LR	03 22 53.7	
	comp=Z,28nm,20.4s,baz=245,slow=36							
ZAA0	**Zalesovo Array**	**41.03**	**328**	P		**P**	**03 06 11.1**	**+0.8**
ZAA0				IAmb		IAmb	03 06 13.2	
	comp=Z,2.8nm,1.1s							
ZALV	**Zalesovo Beam**	**41.03**	**328**	P		**P**	**03 06 10.7**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=116,slow=6.8,SNR=6.8							
ZALV	**Zalesovo Beam**	**41.03**	**328**	P		**P**	**03 06 11.3**	**+1.0**
KSH	**Kashi**	**41.35**	**304**	P		**P**	**03 06 16.8**	**+3.5**
PALK	**Pallekele**	**41.83**	**254**	P		**P**	**03 06 18.6**	**+1.3**
PALK				IAmb		IAmb	03 06 32.2	
	comp=Z,12nm,1.1s							
MA2	**Magadan**	**41.98**	**22**	LR		LR	03 26 54.6	
	comp=Z,18nm,18.4s,baz=224,slow=41							
H11N1	**WAKE ISLAND Hy**	**42.69**	**86**	T		T	03 51 37.0	
	baz=283,slow=74,SNR=7.6							
H11N2	**WAKE ISLAND Hy**	**42.69**	**86**	T		T	03 51 39.4	
	baz=283,slow=74,SNR=11							
H11N3	**WAKE ISLAND Hy**	**42.70**	**86**	T		T	03 51 38.3	
	baz=283,slow=74,SNR=10							
COEN	**Coen**	**42.78**	**147**	P		**P**	**03 06 23.6**	**-1.4**
H11S3	**WAKE ISLAND Hy**	**42.79**	**87**	T		T	03 51 45.6	
	baz=284,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**42.80**	**87**	T		T	03 51 46.7	
	baz=284,slow=75,SNR=5.7							
H11S2	**WAKE ISLAND Hy**	**42.81**	**87**	T		T	03 51 47.5	
	baz=284,slow=75,SNR=5.1							
KURBB	**Kurchatov Arra**	**42.81**	**321**	P		**P**	**03 06 26.8**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=116,slow=6.9,SNR=1.7							
WRA	**Warramunga Arr**	**44.76**	**162**	P		**P**	**03 06 38.8**	**-2.1**
	comp=Z,1.1nm,0.8s,baz=342,slow=8.6,SNR=6.2							
WB2	**Warramunga Arr**	**44.77**	**162**	P		**P**	**03 06 39.5**	**-1.4**
WR0	**Warramunga Arr**	**44.84**	**162**	P		**P**	**03 06 40.1**	**-1.3**
WR0				IAmb		IAmb	03 06 51.5	
	comp=Z,10.0nm,1.3s							
SEY	**Seymchan**	**44.98**	**20**	LR		LR	03 26 39.7	
	comp=Z,40nm,18.5s,baz=17,slow=38							
ASAR	**Alice Springs**	**48.20**	**164**	P		**P**	**03 07 07.7**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=353,slow=13,SNR=9.8							
ABKAR	**Akbulak array**	**54.06**	**315**	P		**P**	**03 07 53.2**	**+1.5**
ARU	**Arti**	**55.84**	**323**	LR		LR	03 33 34.7	
	comp=Z,30nm,20.4s,baz=259,slow=38							
STKA	**Stephens Creek**	**58.15**	**159**	P		**P**	**03 08 19.4**	**-1.6**
	comp=Z,1.5nm,0.6s,baz=333,slow=8.4,SNR=4.9							
STKA	**Stephens Creek**	**58.15**	**159**	P		**P**	**03 08 19.4**	**-1.6**
BMAR	**Burnt Mountain**	**70.51**	**24**	P		**P**	**03 09 40.0**	**-1.7**
NB2	**NORSAR Subarra**	**79.06**	**332**	PKP		**P**	**03 10 31.6**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=27,slow=3.8							
NOA	**NORSAR Array B**	**79.06**	**332**	P		**P**	**03 10 32.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=24,slow=2.7,SNR=4.0							
NOA				LR		LR	03 48 04.1	
	comp=Z,14nm,18.5s,baz=205,slow=38							
YKA	**Yellowknife Ar**	**83.96**	**23**	P		**P**	**03 10 56.8**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=321,slow=4.6,SNR=2.9							
FRB	**Frobisher Bay**	**93.06**	**4**	LR		LR	03 56 42.7	
	comp=Z,21nm,18.0s,baz=214,slow=38							

TAP 25 02:58:34.0,23°.16N×121°.01E,h2km,ML4.2,1C,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.03**	**12**	⇑*i*P	Pg	02 58 35.1	+0.4
	baz=29						
ELDTW				*i* S	Sg	02 58 35.7	+0.4
	baz=29						
ECS	**Chishang**	**0.20**	**109**	*i* P	Pg	02 58 39.3	+1.4
	baz=109						
ECS				S	Sg	02 58 42.6	+2.1
	baz=109						
STYH	**Taoyuan**	**0.22**	**272**	*i* P	Pg	02 58 39.0	+0.8
	baz=272						
STYH				S	Sg	02 58 42.1	+1.1
	baz=272						
STYT	**Tauyuan**	**0.23**	**270**	*i* P	Pg	02 58 39.3	+0.8
	baz=269						
STYT				*i* S	Sg	02 58 42.8	+1.3
	baz=269						
FULB	**Fuli**	**0.26**	**82**	P	Pb	02 58 40.5	-1.0
	baz=82						
FULB				S	Sb	02 58 44.9	-1.5
	baz=82						
LONT	**Longtian**	**0.28**	**157**	*i* P	Pg	02 58 40.2	+0.9
	baz=156						
LONT				*i* S	Sg	02 58 44.0	+1.0
	baz=156						
TWF1	**Yuli**	**0.32**	**54**	P	Pg	02 58 40.8	+0.6
	baz=56						
TWF1				S	Sg	02 58 44.7	+0.2
	baz=56						
EDH	**Donghe**	**0.33**	**125**	*e*P	Pb	02 58 42.8	+0.2
	baz=139						
CHKT	**Chengkung**	**0.33**	**101**	*e*S	Sb	02 58 48.6	+0.2
	baz=101						
EYUL	**Yuli**	**0.34**	**57**	P	Pg	02 58 41.1	+0.6
	baz=57						
EYUL				*e*S	Sg	02 58 45.4	+0.5
	baz=57						
TWG	**Pinlang**	**0.34**	**171**	*e*S	Sg	02 58 46.6	+1.5
	baz=168						
YULB	**Yu-li**	**0.35**	**49**	*e*P	Pg	02 58 41.0	+0.3
	baz=49						
YULB				*e*S	Sg	02 58 45.0	-0.2
	baz=49						
TWGBT	**Beinan**	**0.35**	**170**	*e*S	Sg	02 58 46.6	+1.3
	baz=168						
TPUB	**Ta-pu**	**0.38**	**291**	*e*S	Sb	02 58 48.4	-1.4
	baz=303						
ALS	**Alishan**	**0.39**	**331**	*e*S	Sg	02 58 48.4	+1.6
	baz=333						
CHN4	**Tsaushan**	**0.43**	**296**	*e*P	Pb	02 58 43.9	-0.4
	baz=307						
CHN4				*e*S	Sb	02 58 50.5	-0.6
	baz=307						

*NEIC **25** 03:07:46.6±2.3, 10°.51N±0°.06×62°.54W±0°.07, h23km±8km, mb4.1/7, Mwr3.5(CAR), Error ellipse: s-maj=11.5km s-min=7.0km az=121.0*
*IDC **25** 03:07:49.9±3.0, 10°.82N×62°.66W, h109km±23km, mb3.0/4, mb1 3.3/5, mb1mx3.1/42, mbtmp3.4/5, Error ellipse: s-maj=36.4km s-min=18.8km az=148.0*
*FUNV **25** 03:07:49.7, 10°.53N×62°.34W, h26km, MW4.3*
*CAR **25** 03:07:49.8±2.9, 10°.51N±0°.07×62°.33W±0°.07, h28km±7km, Error ellipse: s-maj=11.4km s-min=7.9km az=126.0*
*TRN **25** 03:07:49.5, 10°.68N×62°.44W, h108km, MD4.2*

ISC 25 03:07:48.0±0.7, 10°.64N±0°.05×62°.51W±0°.04, h103km±8km, n93, σ1°77/124, mb3.4/6, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.72**	**273**	*e*S	**Sn**	**03 08 17.6**	**-1.8**
TRN	**Trinidad (W)**	**1.08**	**90**	⇑*i*P	**Pn**	**03 08 11.6**	**+2.0**
TRN				*e*S	**Sn**	**03 08 26.1**	**+0.2**
COAV	**Cumanacoa**	**1.39**	**250**	*e*S	**Sn**	**03 08 33.7**	**+1.4**
GRFF	**Grenada Fort F**	**1.59**	**28**	*e*P	**Pn**	**03 08 16.3**	**+0.7**
GRFF				*e*S	**Sn**	**03 08 36.0**	**-0.6**
CUMV	**Cumana_UDO**	**1.67**	**263**	*e*P	**Pn**	**03 08 19.7**	**+3.1**
CUMV				*e*S	**Sn**	**03 08 40.5**	**+2.2**
GRGR	**Grenville**	**1.70**	**29**	Pn	**Pn**	**03 08 17.7**	**+0.8**
GRGR				Sn	**Sn**	**03 08 39.0**	**0.0**
GRGR	**Grenville**	**1.70**	**29**	*e*P	**Pn**	**03 08 17.8**	**+0.8**
GRGR				*e*S	**Sn**	**03 08 38.6**	**-0.4**
GRHS	**Sauteurs**	**1.79**	**28**	*e*P	**Pn**	**03 08 19.9**	**+1.9**
GRHS				*e*S	**Sn**	**03 08 40.8**	**-0.1**
GRSS	**Sisters**	**1.87**	**28**	*e*P	**Pn**	**03 08 21.3**	**+2.3**
GRSS				*e*S	**Sn**	**03 08 42.6**	**-0.1**
TOSP	**Speyside**	**2.04**	**71**	Pn	**Pn**	**03 08 21.8**	**+0.5**
TOSP	**Speyside**	**2.04**	**71**	*e*P	**Pn**	**03 08 21.8**	**+0.5**
TOSP				*e*S	**Sn**	**03 08 45.8**	**-1.0**
GCMP	**Grenada, Carri**	**2.12**	**30**	*e*P	**Pn**	**03 08 23.1**	**+0.8**
GCMP				*e*S	**Sn**	**03 08 47.5**	**-1.0**
PCRV	**Puerto La Cruz**	**2.15**	**258**	*e*P	**Pn**	**03 08 25.1**	**+2.4**
PCRV				*e*S	**Sn**	**03 08 50.5**	**+1.4**
SVOC	**Richmond Hill,**	**2.80**	**27**	*e*S	**Sn**	**03 09 05.7**	**+1.3**
PRGV	**PARIAGUAN**	**2.82**	**229**	*e*P	**Pn**	**03 08 33.8**	**+2.3**
PRGV				*e*S	**Sn**	**03 09 05.0**	**+0.1**
SVB	**Belmont**	**2.89**	**25**	Pn	**Pn**	**03 08 33.9**	**+1.4**
SVB	**Belmont**	**2.89**	**25**	*e*P	**Pn**	**03 08 34.0**	**+1.6**
SVB				*e*S	**Sn**	**03 09 05.3**	**-1.3**
SVV	**Soufriere Volc**	**2.94**	**25**	*e*P	**Pn**	**03 08 35.1**	**+1.9**
SVV				*e*S	**Sn**	**03 09 06.5**	**-1.5**
SSV	**Crater Summit**	**2.96**	**26**	*e*P	**Pn**	**03 08 35.6**	**+2.2**
SSV				*e*S	**Sn**	**03 09 06.5**	**-2.0**
MCLT	**Moule a Chique**	**3.41**	**26**	Pn	**Pn**	**03 08 39.0**	**-0.4**
MCLT	**Moule a Chique**	**3.41**	**26**	*e*P	**Pn**	**03 08 39.9**	**+0.5**
MCLT				*e*S	**Sn**	**03 09 17.7**	**-1.4**
SLBI	**Saint Lucia, B**	**3.68**	**24**	*e*P	**Pn**	**03 08 43.4**	**+0.4**
SLBI				*e*S	**Sn**	**03 09 24.0**	**-1.5**
BIRV	**Birongo**	**3.70**	**268**	Pn	**Pn**	**03 08 46.2**	**+2.9**
BIRV	**Birongo**	**3.70**	**268**	*e*P	**Pn**	**03 08 46.3**	**+2.9**
BIRV				*e*S	**Sn**	**03 09 28.8**	**+2.7**
BBGH	**Gun Hill**	**3.81**	**49**	*e*P	**Pn**	**03 08 45.5**	**+0.7**
BBGH				*e*S	**Sn**	**03 09 25.2**	**-3.5**
BBSP	**Saint Philip**	**3.86**	**50**	*e*P	**Pn**	**03 08 45.9**	**+0.5**
BBSP				*e*S	**Sn**	**03 09 27.4**	**-2.4**
MERV	**Las Mercedes**	**3.98**	**250**	*e*P	**Pn**	**03 08 48.8**	**+1.7**
MERV				*e*S	**Sn**	**03 09 33.6**	**+0.8**
BIM	**Bigot**	**4.10**	**20**	Pn	**Pn**	**03 08 49.1**	**+0.5**
BIM	**Bigot**	**4.10**	**20**	*e*P	**Pn**	**03 08 49.2**	**+0.5**
BIM				*e*S	**Sn**	**03 09 33.4**	**-2.2**
H05S1	**Guadeloupe/Mar**	**4.10**	**23**	P	**Pn**	**03 08 49.2**	**+0.6**
H05S1				S	**Sn**	**03 09 36.1**	**+0.5**
MPOM	**Morne Pois Mar**	**4.11**	**23**	Pn	**Pn**	**03 08 50.1**	**+1.4**
MPOM	**Morne Pois Mar**	**4.11**	**23**	*e*P	**Pn**	**03 08 49.8**	**+1.0**
MPOM				*e*S	**Sn**	**03 09 34.1**	**-1.7**
FDF	**Fort de France**	**4.28**	**18**	Pn	**Pn**	**03 08 51.4**	**+0.3**
FDF	**Fort de France**	**4.28**	**18**	*e*P	**Pn**	**03 08 52.1**	**+1.0**
FDF	**Fort de France**	**4.28**	**18**	*e*S	**Sn**	**03 09 37.4**	**-2.6**
CARV	**Caracas**	**4.35**	**269**	*e*P	**Pn**	**03 08 54.1**	**+2.0**
CARV				*e*S	**Sn**	**03 09 43.5**	**+1.6**
SVN	**Savane Anatole**	**4.37**	**17**	Pn	**Pn**	**03 08 52.5**	**+0.1**
ILAM	**Ilet Lapin Mar**	**4.41**	**21**	Pn	**Pn**	**03 08 52.3**	**-0.5**
MDN	**Morne-Daniel**	**4.77**	**13**	*e*S	**Sn**	**03 09 49.7**	**-2.3**
DSLB	**Salisbury**	**4.88**	**12**	*e*P	**Pn**	**03 09 00.4**	**+1.1**
DSLB	**Salisbury**	**4.88**	**12**	*e*S	**Sn**	**03 09 51.8**	**-2.9**
CACV	**CAICARA DEL OR**	**5.02**	**233**	*e*P	**Pn**	**03 08 57.8**	**-3.3**
CACV				*e*S	Sn	03 09 47.8	-10
BENV	**Beln**	**5.06**	**263**	*e*S	**Sn**	**03 09 59.4**	**+0.5**
TURV	**Turiamo**	**5.25**	**268**	*e*P	**Pn**	**03 09 06.1**	**+1.9**
TURV				*e*S	**Sn**	**03 10 04.4**	**+0.9**
MAGL	**Barre de l'ile**	**5.41**	**13**	Pn	**Pn**	**03 09 07.6**	**+1.2**
CBE	**Ff, Capester**	**5.47**	**9**	Pn	**Pn**	**03 09 08.3**	**+1.2**
CBE	**Ff, Capester**	**5.47**	**9**	*e*P	**Pn**	**03 09 07.8**	**+0.6**
GDHS	**Morne Mazeau,**	**5.64**	**7**	Pn	**Pn**	**03 09 10.4**	**+0.8**
BAUV	**El Baul**	**5.71**	**253**	Pn	**Pn**	**03 09 11.1**	**+0.6**
BAUV	**El Baul**	**5.71**	**253**	*e*P	**Pn**	**03 09 11.0**	**+0.6**
BAUV	**El Baul**	**5.71**	**253**	*e*S	**Sn**	**03 10 15.1**	**+0.3**
BAUV	**El Baul**	**5.71**	**253**	*e*S	**Sn**	**03 10 14.2**	**-0.6**
GDSD	**La Dsirade Is**	**5.81**	**14**	Pn	**Pn**	**03 09 12.3**	**+0.5**
MAPV	**Macapo**	**5.91**	**263**	*e*S	**Sn**	**03 10 19.7**	**0.0**
ANBD	**Bethesda, Anti**	**6.41**	**6**	*e*	**Pn**	**03 09 22.5**	**+2.6**
ANBD	**Bethesda, Anti**	**6.41**	**6**	*e*S	**Sn**	**03 10 30.1**	**-1.6**
SANV	**Sanarito**	**7.01**	**261**	*e*P	**Pn**	**03 09 29.5**	**+1.2**
SANV				*e*S	**Sn**	**03 10 45.3**	**-1.4**
CURV	**Curarigua**	**7.36**	**266**	*e*P	**Pn**	**03 09 35.9**	**+3.0**
CURV				*e*S	**Sn**	**03 10 53.8**	**-1.2**
CDVI	**St. Croix**	**7.40**	**343**	Pn	**Pn**	**03 09 34.0**	**+0.6**
MTP	**Monte Pirata**	**7.98**	**339**	Pn	**Pn**	**03 09 41.1**	**-0.1**
STVI	**Saint Thomas**	**8.02**	**343**	Pn	**Pn**	**03 09 42.6**	**+0.8**
CUPR	**Culebra, Puert**	**8.08**	**341**	Pn	**Pn**	**03 09 43.0**	**+0.4**
HUMP	**Col San Antoni**	**8.13**	**337**	Pn	**Pn**	**03 09 43.9**	**+0.6**
SDV	**Santo Domingo**	**8.20**	**258**	P	**Pn**	**03 09 44.3**	**-0.1**
	2.0nm,0.3s,baz=127,slow=7.5,SNR=20						
SDV				S	**Sn**	**03 11 11.6**	**-4.0**
	7.4nm,0.3s,baz=61,slow=16,SNR=12						
SDV	**Santo Domingo**	**8.20**	**258**	Pn	**Pn**	**03 09 44.2**	**-0.3**
SDV	**Santo Domingo**	**8.20**	**258**	*e*P	**Pn**	**03 09 43.6**	**-0.8**
SDV				*e*S	**Sn**	**03 11 10.7**	**-4.9**
CBYP	**Canovanas**	**8.25**	**337**	Pn	**Pn**	**03 09 45.7**	**+0.7**
CELP	**Cerrillos**	**8.38**	**332**	Pn	**Pn**	**03 09 45.7**	**-1.0**
MLPR	**Magueyes Islan**	**8.51**	**329**	Pn	**Pn**	**03 09 50.9**	**+2.5**
SOCV	**Socops**	**8.56**	**255**	*e*P	**Pn**	**03 09 49.3**	**0.0**
SOCV				*e*S	**Sn**	**03 11 20.0**	**-4.3**
SOCV	**Socops**	**8.56**	**255**	*e*S	**Sn**	**03 11 21.1**	**-3.1**
CRPR	**Cabo Rojo, PR**	**8.57**	**329**	Pn	**Pn**	**03 09 51.1**	**+1.8**
AOPR	**Arecibo Observ**	**8.69**	**332**	Pn	**Pn**	**03 09 52.7**	**+1.7**
URIC	**Uribia, Colomb**	**9.37**	**277**	Pn	**Pn**	**03 09 59.8**	**-0.4**
DR12	**Loma Pena Alta**	**10.48**	**321**	Pn	**Pn**	**03 10 17.0**	**+1.7**
PAMC	**Pamplona, Colo**	**10.59**	**253**	*e*P	**Pn**	**03

0.6nm,0.3s,baz=206,slow=6.8,SNR=5.7
AAK Sn **Sn** **03 35 38.7 +0.2**
0.1nm,0.3s,baz=176,slow=22,SNR=1.2
MKAR Makanchi Array 15.38 33 Pn **Pn** **03 35 28.3 -0.1**
0.2nm,0.3s,baz=213,slow=12,SNR=3.5
AB31 Akbulak array 16.52 336 ⇓P **Pn** **03 35 42.3 -0.5**
0.5nm,0.5s,baz=155,slow=13,SNR=2.1
AB31 ⇑S **Sn** **03 38 41.9 -3.2**
0.3nm,0.5s,baz=158,slow=22,SNR=2.7
KURBB Kurchatov Arra 17.26 18 P **Pn** **03 35 51.3 -0.5**
0.1nm,0.3s,baz=204,slow=11,SNR=4.7
ZALV Zalesovo Beam 22.05 24 P **P** **03 36 44.0 -0.5**
0.9nm,0.3s,baz=221,slow=10,SNR=5.2
FINES FINESS Array B 38.72 328 P **P** **03 39 13.1 +0.2**
2.8nm,0.8s,baz=120,slow=13,SNR=2.2
NOA NORSAR Array B 45.51 324 P **P** **03 40 09.6 +1.3**
0.2nm,0.5s,baz=101,slow=7.9,SNR=1.8
TORD Torodi Ar. Bea 64.89 269 P **P** **03 42 29.0 +0.7**
0.4nm,0.8s,baz=50,slow=6.9,SNR=2.3
WRA Warramunga Arr 81.63 121 P **P** **03 44 04.4 -2.3**
0.4nm,0.8s,baz=328,slow=5.0,SNR=1.5
YKA Yellowknife Ar 83.26 2 P **P** **03 44 15.3 +0.7**
0.4nm,0.6s,baz=352,slow=5.3,SNR=12
ASAR Alice Springs 83.78 124 P **P** **03 44 18.1 +0.2**
0.1nm,0.4s,baz=312,slow=4.8,SNR=1.8

OSPL 25 04:27:40.8±3.8, 22°34N×65°26W, h25km±348km, ML3.8, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**4.21**	**200**	*e*P	Pn	04 28 42.3	-1.2
AOPR				*e*S	Sn	04 29 26.4	-5.5
CDVI	**St. Croix**	**4.59**	**174**	*e*P	Pn	04 28 49.1	+0.5
CDVI	**St. Croix**	**4.59**	**174**	*e*S	Sn	04 29 39.4	-1.7
CRPR	**Cabo Rojo, PR**	**4.64**	**202**	*i* P	Pn	04 28 48.3	-1.1
CRPR				*e*S	Sn	04 29 37.0	-5.6
CRPR				IAML		04 29 40.7	
	comp=Z,71nm,0.4s						
SMRT	**St. Maarten**	**4.73**	**154**	*e*P	Pn	04 28 49.7	-0.9
SMRT	**St. Maarten**	**4.73**	**154**	*e*S	Sn	04 29 39.6	-5.2
BPA	**Boggy Peak**	**6.16**	**148**	*e*P	Pn	04 29 08.5	-1.8
BPA	**Boggy Peak**	**6.16**	**148**	*e*S	Sn	04 30 13.5	-6.6
BANI	**BANI**	**6.18**	**232**	*i* P	Pn	04 29 08.6	-2.0
BANI				IAML		04 30 24.7	
	comp=Z,40nm,0.6s						
ANBD	**Bethesda, Anti**	**6.21**	**147**	*e*P	Pn	04 29 08.5	-2.4
ANBD	**Bethesda, Anti**	**6.21**	**147**	*e*S	Sn	04 30 15.6	-5.5
MBFL	**Flemmings, Mon**	**6.26**	**152**	*e*P	Pn	04 29 11.3	-0.4
MBFL	**Flemmings, Mon**	**6.26**	**152**	*e*S	Sn	04 30 17.5	-4.9
SDDR	**Presa de Saban**	**6.55**	**240**	*i* P	Pn	04 29 12.7	-3.0
SDDR				IAML		04 30 31.4	
	comp=Z,19nm,0.6s						
LOBA2	**Hotel Casa Bon**	**6.92**	**233**	*i* P	Pn	04 29 18.3	-2.4
LOBA2				*e*S	Sn	04 30 31.9	-6.8
LOBA2				IAML		04 30 36.5	
	comp=Z,19nm,0.3s						
LONE2	**Loma La Sidra**	**6.93**	**238**	*i* P	Pn	04 29 18.4	-2.5
LONE2				*e*S	Sn	04 30 29.3	-10
LONE2				IAML		04 30 34.3	
	comp=Z,27nm,0.4s						
DSLB	**Salisbury**	**7.77**	**151**	*e*P	Pn	04 29 31.2	-1.1
LGNH	**Logne**	**7.87**	**242**	*e*P	Pn	04 29 30.2	-3.5
LGNH				*e*S	Sn	04 30 52.4	-10
LGNH				IVmB_BB		04 31 00.6	
	comp=N,298nm,1.4s						
LGNH				IVmB_BB		04 31 14.6	
	comp=E,172nm,0.9s						
MASC	**Masc**	**8.64**	**257**	*e*P	Pn	04 29 37.6	-6.6
MASC				*e*S	Sn	04 31 06.2	-15
MASC				IAML		04 31 14.2	
	comp=E,7.1nm,0.3s						
MASC				IAML		04 31 16.6	
	comp=N,7.6nm,0.5s						
MOAC	**Moa**	**9.18**	**261**	*e*P	Pn	04 29 43.0	-8.8
MOAC				*e*S	Sn	04 31 16.4	-18
MOAC				IAML		04 31 23.2	
	comp=N,6.4nm,0.5s						
MOAC				IAML		04 31 28.9	
	comp=E,2.5nm,0.3s						
GTBY	**Guantanamo Bay**	**9.50**	**257**	*e*P	Pn	04 29 49.0	-7.0
GTBY				*e*S	Sn	04 31 26.0	-16
GTBY				IVmB_BB		04 31 33.2	
	comp=E,213nm,0.7s						
GTBY				IVmB_BB		04 31 39.6	
	comp=E,290nm,0.8s						

*IDC **25** 04:44:08.5±0.8, 43°45N×0°55W, h0km, mb3.6/11, mb1 3.8/17, mb1mx3.8/42, mbtmp3.6/17, ML3.6/6, MS3.0/10, Ms1 3.1/10, ms1mx2.7/97, Error ellipse: s-maj=19.4km s-min=14.4km az=126.0*
*LDG **25** 04:44:09.5±0.1, 43°46N×0°62W, h12km, Md4.1/5, Ml4.2/76, Error ellipse: s-maj=1.6km s-min=1.1km az=118.0*
*NEIC **25** 04:44:10.0±1.4, 43°37N±0°10×0°53W±0°08, h10km±10km, Error ellipse: s-maj=14.9km s-min=6.1km az=157.0*
*STR **25** 04:44:10.3±0.2, 43°N±°×±°, h5km, MLv4.0/14, preliminary*
*MDD **25** 04:44:10.7±0.1, 43°49N×0°64W, h0km, mb_Lg3.7/37, Error ellipse: s-maj=1.3km s-min=1.5km az=157.0*
*INMG **25** 04:44:11.6±1.6, 43°49N×0°65W, h12km±5km, ML3.3, Error ellipse: s-maj=5.1km s-min=3.4km az=24.0*
*BGS **25** 04:44:12.5±0.7, 43°65N×0°51W, h10km, ML4.1, ML4.1*
*IGIL **25** 04:44:12.2, 43°49N×0°64W, h1km, ML3.6*

ISC 25 04:44:09.1±0.9, 43°52N±0°01×0°55W±0°01, h12km±6km, n256, σ2s25/391, mb3.7/11, MS3.3/4, 20D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERF	**Tercis-les-Bai**	**0.44**	**292**	Pg	**Pn**	**04 44 20.2**	**-1.0**
TERF				Sg	**Sb**	**04 44 26.6**	**+1.3**
TERF	**Tercis-les-Bai**	**0.44**	**292**		**Pn**	**04 44 20.3**	**-1.0**
ATE	**Arette**	**0.44**	**194**	Pg	**Pg**	**04 44 17.0**	**-0.9**
ATE				Sg	**Sg**	**04 44 22.5**	**-1.2**
PYLO	**Lourdes**	**0.56**	**138**	Pg	**Pg**	**04 44 20.3**	**+0.3**
PYLO				Sg	**Sg**	**04 44 27.3**	**-0.1**
PYLO	**Lourdes**	**0.56**	**138**		**Pb**	**04 44 20.4**	**-0.4**
OSSF	**Osses**	**0.58**	**244**	Pg	**Pg**	**04 44 20.0**	**-0.3**
OSSF				Sg	**Sg**	**04 44 27.3**	**-0.7**
OSSF	**Osses**	**0.58**	**244**		**Pg**	**04 44 20.1**	**-0.3**
ETSF	**Etsaut**	**0.62**	**180**	*e*Pg	**Pg**	**04 44 20.2**	**-1.0**
ETSF	**Etsaut**	**0.62**	**180**	*e*P	**Pb**	**04 44 21.7**	**-0.2**
ETSF				*e*Sg	**Sg**	**04 44 27.8**	**-1.5**
	7μm,0.7s						
ETSF	**Etsaut**	**0.62**	**180**	Pg	**Pg**	**04 44 18.7**	**-2.5**
SJPF	**Ste Jean**	**0.64**	**231**	*e*Pg	**Pg**	**04 44 21.0**	**-0.5**
SJPF	**Ste Jean**	**0.64**	**231**	*e*P	**Pb**	**04 44 22.0**	**-0.2**
SJPF				*e*Sg	**Sg**	**04 44 28.5**	**-1.3**
	1μm,0.2s						
CANF	**Canfranc**	**0.75**	**178**	Pg	**Pg**	**04 44 22.5**	**-1.2**
CANF				Sg	**Sg**	**04 44 32.3**	**-1.3**
EALK	**Alkurruntz**	**0.76**	**247**	Pg	**Pg**	**04 44 23.4**	**-0.4**
EALK	**Alkurruntz**	**0.76**	**247**	Pg	**Pg**	**04 44 23.6**	**-0.2**
EALK				Sg	**Sg**	**04 44 33.6**	**-0.1**
EALK	**Alkurruntz**	**0.76**	**247**	Pg	**Pg**	**04 44 23.6**	**-0.2**
EALK				Sg	**Sg**	**04 44 33.7**	**-0.1**
EALK				*i* Vmb_Lg		04 44 35.8	
VIEF	**Viey**	**0.76**	**146**	Pg	**Pg**	**04 44 23.3**	**-0.6**
VIEF				Sg	**Sg**	**04 44 33.6**	**-0.2**
EPF	**Esparros**	**0.81**	**126**	*e*Pg	**Pb**	**04 44 25.3**	**+0.1**
EPF	**Esparros**	**0.81**	**126**	*e*P	**Pn**	**04 44 26.7**	**+0.2**
EPF				*e*Sg	**Sg**	**04 44 35.4**	**-0.1**
	137nm,0.2s						
EPF				*e*Sn	**Sn**	**04 44 37.6**	**-0.9**
	2μm,0.3s						
EORO	**Oroz-Betelu**	**0.83**	**222**	Pg	**Pg**	**04 44 24.7**	**-0.5**
EORO				Sg	**Sg**	**04 44 33.3**	**-2.9**
EORO				*i* Vmb_Lg		04 44 39.2	
ECHI	**Chisagues Biel**	**1.01**	**147**	Pg	**Pg**	**04 44 27.7**	**-0.9**
ECHI	**Chisagues Biel**	**1.01**	**147**	Pg	**Pg**	**04 44 28.1**	**-0.5**
ECHI				Sg	**Sg**	**04 44 41.7**	**-0.1**
ECHI				*i* Vmb_Lg		04 44 45.6	
EARA	**Aranguren**	**1.06**	**226**	Sg	**Sg**	**04 44 42.8**	**-0.5**
EARA	**Aranguren**	**1.06**	**226**	Pg	**Pb**	**04 44 28.7**	**-0.7**
EARA	**Aranguren**	**1.06**	**226**	Pg	**Pb**	**04 44 29.3**	**-0.1**
EARA				Sg	**Sb**	**04 44 43.3**	**+0.1**
EARA				*i* Vmb_Lg		04 44 48.5	
MLS	**Moulis**	**1.33**	**114**	Pg	**Pb**	**04 44 33.8**	**-0.2**
LRVF	**chteau la Riv**	**1.44**	**7**	Pn	**Pg**	**04 44 37.9**	**+1.1**
LRVF				Sn	**Sg**	**04 44 58.7**	**+3.2**
MONQ	**Montcuq**	**1.52**	**55**	Pn	**Pg**	**04 44 38.6**	**+0.2**
LFF	**La Frestale**	**1.70**	**33**	*e*P	**Pb**	**04 44 40.8**	**+0.5**
LFF	**La Frestale**	**1.70**	**33**	*e*Pg	**Pg**	**04 44 42.5**	**+0.8**
LFF				*e*Sn	**Sn**	**04 45 00.1**	**-0.2**
LFF				*e*Sg	**Sg**	**04 45 04.9**	**+1.1**
	2μm,0.5s						
ESAC	**San Caprasio**	**1.79**	**178**	Pn	**Pb**	**04 44 42.0**	**0.0**
ESAC				Sg	**Sg**	**04 45 06.9**	**+0.1**
ESAC				*i* Vmb_Lg		04 45 08.6	
PAND	**Andorre**	**1.83**	**122**	Pn	**Pb**	**04 44 42.0**	**-0.7**
PAND				Sn	**Sb**	**04 45 06.0**	**+0.3**
MTLF	**Montolieu**	**2.02**	**94**	*e*P	**Pb**	**04 44 44.6**	**-1.3**
MTLF	**Montolieu**	**2.02**	**94**	*e*Pg	**Pg**	**04 44 48.0**	**0.0**
MTLF				*e*Sn	**Sn**	**04 45 07.0**	**-1.3**
	148nm,0.3s						
MTLF				*e*Sg	**Sg**	**04 45 14.4**	**+0.2**
	498nm,0.3s						
MTLF	**Montolieu**	**2.02**	**94**	Pn	**Pb**	**04 44 44.5**	**-1.3**
FNEB	**Nbias**	**2.04**	**107**	Pn	**Pb**	**04 44 45.5**	**-0.7**
FNEB				Sn	**Sb**	**04 45 11.3**	**-0.1**
ELAN	**Lanestosa**	**2.12**	**263**	Pn	**Pn**	**04 44 45.4**	**+0.9**
ELAN				Sg	**Sg**	**04 45 18.4**	**+1.1**
ELAN				*i* Vmb_Lg		04 45 19.1	
EMIR	**Miracle**	**2.22**	**136**	Pn	**Pb**	**04 44 47.9**	**-1.3**
EMIR				Pg	**Pg**	**04 44 50.8**	**-0.8**
EMIR				Sn	**Sb**	**04 45 16.5**	**0.0**
EMIR				*i* Vmb_Lg		04 45 24.6	
RJF	**Les Rejaudoux**	**2.32**	**39**	*e*Pn	**Pn**	**04 44 48.1**	**+0.9**
RJF	**Les Rejaudoux**	**2.32**	**39**	*e*P	**Pb**	**04 44 49.7**	**-1.2**
RJF	**Les Rejaudoux**	**2.32**	**39**	*e*Pg	**Pg**	**04 44 54.2**	**+0.6**
RJF				*e*Sn	**Sn**	**04 45 14.8**	**-0.9**
	222nm,0.4s						
RJF				*e*Sg	**Sg**	**04 45 25.2**	**+1.5**
	267nm,0.2s						
CAF	**Calviac**	**2.35**	**52**	*e*P	**Pn**	**04 44 49.4**	**+1.8**
CAF	**Calviac**	**2.35**	**52**	*e*Pg	**Pg**	**04 44 54.5**	**+0.3**
CAF				*e*Sn	**Sn**	**04 45 15.6**	**-0.8**
	190nm,0.4s						
CAF				*e*Sg	**Sg**	**04 45 25.3**	**+0.7**
	336nm,0.3s						
EPOB	**Poblet**	**2.48**	**150**	Pn	**Pn**	**04 44 51.3**	**+1.9**
EPOB				Sn	**Sb**	**04 45 22.4**	**-1.7**
EPOB				*i* Vmb_Lg		04 45 27.4	
CHIF	**Chize**	**2.62**	**2**	Pn	**Pn**	**04 44 53.5**	**+2.3**
CHIF				Sn	**Sb**	**04 45 26.1**	**-2.0**
ERTA	**Horta de San J**	**2.64**	**165**	Pn	**Pn**	**04 44 53.9**	**+2.3**
ERTA				Pg	**Pg**	**04 44 58.1**	**-1.7**
ERTA				Sn	**Sb**	**04 45 26.5**	**-2.3**
ERTA				*i* Vmb_Lg		04 45 35.9	
SJAF	**Saint Jean de**	**2.72**	**111**	Pn	**Pn**	**04 44 54.6**	**+1.9**
SJAF				Sn	**Sn**	**04 45 26.9**	**+1.4**
EJON	**La Jonquera**	**2.74**	**112**	Pn	**Pn**	**04 44 55.0**	**+2.0**
EJON				Sn	**Sn**	**04 45 27.8**	**+1.8**
EJON				*i* Vmb_Lg		04 45 41.9	
ETOR	**Torete**	**2.92**	**203**	Pn	**Pn**	**04 44 56.9**	**+1.5**
ETOR				Sn	**Sn**	**04 45 32.5**	**+2.0**
ETOR				*i* Vmb_Lg		04 45 45.6	
MFF	**Saint Martin d**	**3.10**	**5**	*e*P	**Pn**	**04 44 59.9**	**+2.0**
MFF	**Saint Martin d**	**3.10**	**5**	*e*Pg	**Pg**	**04 45 08.6**	**+0.1**
MFF				*e*Sn	**Sn**	**04 45 33.3**	**-1.5**
	139nm,0.4s						
MFF				*e*Sg	**Sg**	**04 45 48.4**	**-0.2**
	724nm,0.7s						
MFF	**Saint Martin d**	**3.10**	**5**	Sn	**Sn**	**04 45 37.7**	**+2.8**
MFF	**Saint Martin d**	**3.10**	**5**	Pn	**Pn**	**04 44 59.8**	**+1.9**
EMOS	**Mosqueruela**	**3.15**	**179**	Pn	**Pn**	**04 44 60.0**	**+1.2**
EMOS				Sn	**Sn**	**04 45 37.6**	**+1.2**
EMOS				*i* Vmb_Lg		04 45 56.3	
LASF	**Ste Croix**	**3.24**	**79**	*e*Pn	**Pn**	**04 45 00.8**	**+1.0**
LASF	**Ste Croix**	**3.24**	**79**	*e*P	**Pn**	**04 45 02.9**	**+3.1**
LASF	**Ste Croix**	**3.24**	**79**	*e*Pg	**Pg**	**04 45 10.8**	**-0.4**
LASF				*e*Sn	**Sn**	**04 45 36.4**	**-2.0**
	64nm,0.2s						
LASF				*e*Sg	**Sg**	**04 45 53.1**	**-0.1**
	177nm,0.4s						
TCF	**Toulx Ste Croi**	**3.40**	**34**	*e*Pn	**Pn**	**04 45 02.7**	**+0.7**
TCF	**Toulx Ste Croi**	**3.40**	**34**	*e*Pg	**Pg**	**04 45 14.4**	**+0.2**
TCF				*e*Sn	**Sn**	**04 45 39.5**	**-2.7**
	86nm,0.4s						
TCF				*e*Sg	**Sg**	**04 45 57.9**	**-0.3**
	655nm,0.6s						
EARI	**Arriondas**	**3.40**	**268**	Pn	**Pn**	**04 45 03.1**	**+1.0**
EARI				Sn	**Sn**	**04 45 40.8**	**-1.5**
EARI				*i* Vmb_Lg		04 46 01.2	
AGO	**Saint Agoulin**	**3.65**	**45**	Pn	**Pn**	**04 45 06.3**	**+0.9**
UCM	**Universidad Co**	**3.78**	**213**	P	**Pn**	**04 45 07.8**	**+0.5**
UCM				S	**Sn**	**04 45 47.9**	**-3.8**
BGF	**Bois d'Agland**	**3.88**	**37**	*e*Pn	**Pn**	**04 45 09.0**	**+0.4**
BGF	**Bois d'Agland**	**3.88**	**37**	*e*Pg	**Pg**	**04 45 22.4**	**-1.0**
BGF				*e*Sn	**Sn**	**04 45 52.0**	**-2.1**
BGF				*e*Sg	**Sg**	**04 46 13.1**	**-0.6**
	742nm,0.4s						
GUD	**Guadarrama**	**3.93**	**224**	Pn	**Pn**	**04 45 10.6**	**+1.2**
GUD				Sn	**Sn**	**04 45 54.5**	**-1.0**
GUD				*i* Vmb_Lg		04 45 56.0	
ECHE	**Chera**	**3.94**	**185**	Pn	**Pn**	**04 45 10.0**	**+0.6**
ECHE				Sn	**Sn**	**04 45 54.5**	**-1.0**
ECHE				*i* Vmb_Lg		04 46 13.3	
VIVF	**Saint-Julien-l**	**3.99**	**69**	*e*Pn	**Pn**	**04 45 11.9**	**+1.8**
VIVF	**Saint-Julien-l**	**3.99**	**69**	*e*Pg	**Pg**	**04 45 24.6**	**-0.9**
VIVF				*e*Sn	**Sn**	**04 45 54.5**	**-2.3**
	44nm,0.4s						
VIVF				*e*Sg	**Sg**	**04 46 15.8**	**-1.4**
	92nm,0.4s						
SSB	**Saint Sauveur**	**4.05**	**62**		**Pn**	**04 45 11.8**	**+0.8**
AVF	**Avril sur Loir**	**4.28**	**39**	*e*Pn	**Pn**	**04 45 15.0**	**+0.9**
AVF	**Avril sur Loir**	**4.28**	**39**	*e*P	**Pn**	**04 45 17.4**	**+3.3**
AVF	**Avril sur Loir**	**4.28**	**39**	*e*Pg	**Pg**	**04 45 29.9**	**-1.2**
AVF				*e*Sn	**Sn**	**04 46 01.2**	**-2.8**
	54nm,0.5s						
AVF				*e*Sg	**Sg**	**04 46 25.7**	**-0.9**
	373nm,0.7s						
HYF	**Humbligny**	**4.37**	**30**	*e*Pn	**Pn**	**04 45 15.0**	**-0.4**
HYF	**Humbligny**	**4.37**	**30**	*e*P	**Pn**	**04 45 18.6**	**+3.2**
HYF	**Humbligny**	**4.37**	**30**	*e*Pg	**Pg**	**04 45 31.4**	**-1.5**
HYF				*e*Sn	**Sn**	**04 46 04.1**	**-2.2**
HYF				*e*Sg	**Sg**	**04 46 28.6**	**-0.9**
SMF	**Signal de Mont**	**4.41**	**43**	*e*Pn	**Pn**	**04 45 16.0**	**+0.1**
SMF	**Signal de Mont**	**4.41**	**43**	*e*P	**Pn**	**04 45 19.4**	**+3.5**
SMF	**Signal de Mont**	**4.41**	**43**	*e*Pg	**Pg**	**04 45 32.3**	**-1.3**
SMF				*e*Sn	**Sn**	**04 46 05.0**	**-2.2**
SMF				*e*Sg	**Sg**	**04 46 29.7**	**-1.0**
	550nm,0.9s						
SMRF	**Simiane la Rot**	**4.46**	**82**	*e*P	**Pn**	**04 45 18.8**	**+2.2**
SMRF	**Simiane la Rot**	**4.46**	**82**	*e*Pg	**Pg**	**04 45 33.2**	**-1.4**
SMRF				*e*Sn	**Sn**	**04 46 05.6**	**-2.9**
	18nm,0.3s						
SMRF				*e*Sg	**Sg**	**04 46 30.8**	**-1.6**
	193nm,0.8s						
ETOS	**Mallorca**	**4.51**	**145**	Pn	**Pn**	**04 45 18.7**	**+1.3**
ETOS				*i* Vmb_Lg		04 46 10.3	
SSF	**Saint Saulge**	**4.56**	**38**	*e*Pn	**Pn**	**04 45 18.0**	**+0.1**
SSF	**Saint Saulge**	**4.56**	**38**	*e*Pg	**Pg**	**04 45 34.9**	**-1.5**
SSF				*e*Sn	**Sn**	**04 46 07.5**	**-3.3**
	26nm,0.2s						
SSF				*e*Sg	**Sg**	**04 46 34.4**	**-1.0**
	412nm,0.8s						
ESBB	**Sonseca Array**	**4.61**	**215**		**Pn**	**04 45 18.6**	**-0.1**
ESDC	**Sonseca Array**	**4.61**	**215**	Pn	**Pn**	**04 45 18.2**	**-0.5**
	1.9nm,0.3s,baz=40,slow=13,SNR=59						
ESDC				Sn	**Sn**	**04 46 10.6**	**-1.6**
	3.9nm,0.3s,baz=39,slow=24,SNR=6.7						
ESDC				Lg	Lg	04 46 34.0	
	4.4nm,0.3s,baz=36,slow=27,SNR=7.6						
ESDC				LR	LR	04 47 27.5	
	comp=Z,113nm,19.2s,baz=83,slow=44						
ESDC	**Sonseca Array**	**4.61**	**215**		**Pn**	**04 45 18.5**	**-0.2**
ESDC	**Sonseca Array**	**4.61**	**215**	Pn	**Pn**	**04 45 18.9**	**+0.2**
ESDC				Sn	**Sn**	**04 46 10.2**	**-2.1**
ESDC				*i* Vmb_Lg		04 46 15.5	
EIBI	**Ibiza**	**4.71**	**162**	Pn	**Pn**	**04 45 21.3**	**+1.4**
EIBI				Sn	**Sn**	**04 46 10.9**	**-3.6**
EIBI				*i* Vmb_Lg		04 46 15.3	
QUIF	**Quistinic**	**4.77**	**338**	*e*P	**Pn**	**04 45 22.8**	**+2.1**
QUIF	**Quistinic**	**4.77**	**338**	*e*Pg	**Pg**	**04 45 38.3**	**-2.1**
QUIF				*e*Sn	**Sn**	**04 46 12.4**	**-3.5**
	197nm,0.4s						
QUIF				*e*Sg	**Sg**	**04 46 39.8**	**-2.3**
	215nm,0.6s						
ORIF	**Oris-en-Rattie**	**4.83**	**71**	*e*P	**Pn**	**04 45 24.3**	**+2.5**
ORIF	**Oris-en-Rattie**	**4.83**	**71**	*e*Pg	**Pg**	**04 45 40.1**	**-1.5**
ORIF				*e*Sn	**Sn**	**04 46 14.4**	**-3.3**
	32nm,0.5s						
ORIF				*e*Sg	**Sg**	**04 46 42.5**	**-1.7**
	167nm,0.9s						
ORIF	**Oris-en-Rattie**	**4.83**	**71**	Pn	**Pn**	**04 45 24.3**	**+2.5**
LOR	**Lormes**	**4.87**	**38**	*e*Pn	**Pn**	**04 45 22.2**	**0.0**
	baz=218						
LOR	**Lormes**	**4.87**	**38**	*e*Pg	**Pg**	**04 45 41.0**	**-1.4**
	baz=218						
LOR				*e*Sn	**Sn**	**04 46 15.5**	**-3.0**
	24nm,0.3s,baz=218						
LOR				*e*Sg	**Sg**	**04 46 43.1**	**-2.3**
	640nm,0.9s,baz=218						
PBRG	**Braganca**	**4.87**	**252**	*e*Pn	**Pn**	**04 45 23.3**	**+1.0**
PBRG				*e*Sn	**Sn**	**04 46 15.6**	**-3.1**
PBRG				A	A	04 46 59.5	
	30nm,0.7s						
GRR	**Gorron**	**4.88**	**358**	*e*Pn	**Pn**	**04 45 23.1**	**+0.8**
GRR	**Gorron**	**4.88**	**358**	*e*Pg	**Pg**	**04 45 40.6**	**-1.9**
GRR				*e*Sn	**Sn**	**04 46 15.6**	**-3.0**
	185nm,0.5s						
GRR				*e*Sg	**Sg**	**04 46 43.6**	**-2.0**
	184nm,0.4s						
PAB	**San Pablo**	**4.88**	**217**		**Pn**	**04 45 22.3**	**-0.1**
PAB	**San Pablo**	**4.88**	**217**	Pn	**Pn**	**04 45 22.9**	**+0.4**
PAB				Sn	**Sn**	**04 46 16.9**	**-2.0**
PAB				*i* Vmb_Lg		04 46 19.9	
CLF	**Chambon-Foret**	**4.92**	**23**		**Pn**	**04 45 25.2**	**+2.4**
ETOB	**Tobarra**	**4.92**	**189**	Pn	**Pn**	**04 45 25.1**	**+2.0**
ETOB				*i* Vmb_Lg		04 46 59.1	
SGMF	**Saint Gilles**	**4.94**	**344**	*e*Pn	**Pn**	**04 45 24.5**	**+1.4**
SGMF	**Saint Gilles**	**4.94**	**344**	*e*Pg	**Pg**	**04 45 41.8**	**-1.9**
SGMF				*e*Sn	**Sn**	**04 46 17.0**	**-3.2**
	114nm,0.4s						
SGMF				*e*Sg	**Sg**	**04 46 45.7**	**-2.0**
	256nm,0.6s						
OGDI	**Digne**	**5.00**	**81**	Pn	**Pn**	**04 45 25.1**	**+1.1**
TRIGF	**Trigance**	**5.06**	**85**	Pn	**Pn**	**04 45 26.7**	**+1.9**
GDM	**Grand'Maison**	**5.07**	**68**	Pn	**Pn**	**04 45 27.8**	**+2.7**
LDF	**La Druitiere**	**5.09**	**3**	*e*Pn	**Pn**	**04 45 26.5**	**+1.3**
LDF	**La Druitiere**	**5.09**	**3**	*e*Pg	**Pg**	**04 45 46.3**	**-0.2**
LDF				*e*Sn	**Sn**	**04 46 20.6**	**-3.2**
	24nm,0.3s						
LDF				*e*Sg	**Sg**	**04 46 50.5**	**-1.9**
	312nm,0.7s						
LMR	**La Mourre**	**5.15**	**90**	*e*Pn	**Pn**	**04 45 24.9**	**-1.1**
LMR	**La Mourre**	**5.15**	**90**	*e*P	**Pn**	**04 45 28.9**	**+2.9**
LMR	**La Mourre**	**5.15**	**90**	*e*Pg	**Pg**	**04 45 45.5**	**-2.2**
LMR				*e*Sn	**Sn**	**04 46 22.2**	**-3.1**
	17nm,0.3s						
LMR				*e*Sg	**Sg**	**04 46 52.1**	**-2.2**
	15nm,0.3s						
ROSF	**Rostrenen**	**5.18**	**339**	*e*P	**Pn**	**04 45 28.4**	**+1.9**
ROSF	**Rostrenen**	**5.18**	**339**	*e*Pg	**Pg**	**04 45 45.8**	**-2.5**
ROSF				*e*Sn	**Sn**	**04 46 22.9**	**-3.2**
	219nm,0.7s						
ROSF				*e*Sg	**Sg**	**04 46 52.4**	**-3.0**
	157nm,0.5s						
ROSF	**Rostrenen**	**5.18**	**339**	*e*P	**Pn**	**04 45 28.3**	**+1.9**
ROSF				*e*S	**Sn**	**04 46 23.2**	**-2.9**
ROSF				IAML		04 47 04.3	
	comp=E,95nm,0.6s						
ROSF				IAML		04 47 05.4	
	comp=N,66nm,0.6s						
FLN	**La Foliniere**	**5.25**	**1**	*e*Pn	**Pn**	**04 45 28.0**	**+0.6**
	baz=181						
FLN	**La Foliniere**	**5.25**	**1**	*e*Pg	**Pg**	**04 45 47.7**	**-1.9**
	baz=181						
FLN				*e*Sn	**Sn**	**04 46 23.9**	**-3.9**
	comp=N,106nm,0.6s						
FLN				*e*Sg	**Sg**	**04 46 57.1**	**-0.4**
	comp=N,266nm,0.6s						
MVO	**Moncorvo**	**5.34**	**246**	*e*Pn	**Pn**	**04 45 29.4**	**+0.6**
MVO				*e*Sn	**Sn**	**04 46 27.4**	**-2.9**
MVO				A	A	04 46 59.4	
	comp=N,75nm,0.6s						
EPLA	**Plasencia**	**5.38**	**232**	Pn	**Pn**	**04 45 29.7**	**+0.4**
EPLA				Sn	**Sn**	**04 46 28.4**	**-2.8**
EPLA				*i* Vmb_Lg		04 46 28.8	
MBDF	**Montbardon**	**5.41**	**75**	*e*P	**Pn**	**04 45 33.9**	**+4.2**
MBDF	**Montbardon**	**5.41**	**75**	*e*Pg	**Pg**	**04 45 49.9**	**-2.8**
MBDF				*e*Sn	**Sn**	**04 46 28.9**	**-3.1**
	comp=N,23nm,0.5s						
MBDF	

MEZF	**Maizieres J'vi**	**6.33**	**36**	*e*Pg		**Pg**	**04 46 07.5**	**-2.8**
	baz=217								
MEZF				*e*Sn		**Sn**	**04 46 50.6**	**-3.8**
	comp=N,40nm,0.6s								
MEZF				*e*Sg		**Sg**	**04 47 29.3**	**-2.9**
	comp=N,416nm,0.9s								
PCBR	**Castelo Branco**	**6.35**	**237**	*e*Pn		**Pn**	**04 45 42.6**	**0.0**
PCBR				*e*Sn		**Sn**	**04 46 51.4**	**-3.6**
PCBR				A		A	04 46 52.5		
	comp=N,22nm,0.6s								
SAVF	**Savonnieres en**	**6.45**	**36**	*e*P		**Pn**	**04 45 48.1**	**+4.3**
	baz=212								
SAVF	**Savonnieres en**	**6.45**	**36**	*e*Pg		**Pg**	**04 46 09.8**	**-2.7**
	baz=216								
SAVF				*e*Sn		**Sn**	**04 46 53.6**	**-3.7**
	comp=N,16nm,0.3s								
SAVF				*e*Sg		**Sg**	**04 47 32.8**	**-3.2**
	comp=N,516nm,1.2s								
PMRV	**Marv??o**	**6.56**	**234**	*e*Pn		**Pn**	**04 45 45.4**	**0.0**
PMRV				*e*Sn		**Sn**	**04 46 56.3**	**-3.9**
PMRV				A		A	04 46 56.7		
	comp=N,88nm,0.5s								
ECAB	**El Cabril**	**6.57**	**216**	Pn		**Pn**	**04 45 46.2**	**+0.6**
ECAB				Sn		**Sn**	**04 46 54.3**	**-6.1**
ECAB				*i* Vmb_Lg			04 46 57.4		
HAU	**Haudompre**	**6.59**	**45**	*e*Pn		**Pn**	**04 45 45.3**	**-0.5**
HAU	**Haudompre**	**6.59**	**45**	*e*Pg		**Pg**	**04 46 11.9**	**-3.3**
HAU				*e*Sn		**Sn**	**04 46 57.2**	**-3.7**
	comp=N,9.1nm,0.4s								
HAU				*e*Sg		**Sg**	**04 47 37.5**	**-3.0**
	comp=N,165nm,0.8s								
PAGF	**Fort de Pagny**	**6.67**	**39**	*e*P		**Pn**	**04 45 51.0**	**+4.1**
PAGF	**Fort de Pagny**	**6.67**	**39**	*e*Pg		**Pg**	**04 46 13.5**	**-3.2**
PAGF				*e*Sn		**Sn**	**04 46 58.5**	**-4.2**
	comp=N,35nm,0.7s								
PAGF				*e*Sg		**Sg**	**04 47 41.1**	**-1.9**
	comp=N,388nm,1.0s								
COI	**Coimbra**	**6.73**	**243**	Pn		**Pn**	**04 45 50.0**	**+2.2**
HINF	**Hinteralfeld**	**6.74**	**48**	*e*Pn		**Pn**	**04 45 46.9**	**-1.0**
HINF	**Hinteralfeld**	**6.74**	**48**	*e*P		**Pn**	**04 45 52.4**	**+4.5**
HINF	**Hinteralfeld**	**6.74**	**48**	*e*Pg		**Pg**	**04 46 14.8**	**-3.3**
HINF				*e*Sn		**Sn**	**04 47 00.0**	**-4.5**
	comp=N,15nm,0.6s								
HINF				*e*Sg		**Sg**	**04 47 42.3**	**-3.0**
	comp=N,179nm,1.0s								
EBAD	**Badajoz**	**6.81**	**228**	Pn		**Pn**	**04 45 49.0**	**+0.1**
EBAD				Sn		**Sn**	**04 47 01.2**	**-5.1**
EBAD				*i* Vmb_Lg			04 47 05.2		
EBER	**Berja**	**6.85**	**196**	Pn		**Pn**	**04 45 52.7**	**+3.2**
EBER				*i* Vmb_Lg			04 48 05.1		
PCAS	**Casmilo, Conde**	**6.87**	**242**	*e*Sn		**Sn**	**04 47 05.6**	**-2.2**
PCAS				A		A	04 47 05.8		
	comp=N,7.7nm,0.7s								
EGOR	**Sierra Gorda,**	**6.95**	**204**	Pn		**Pn**	**04 45 52.7**	**+1.8**
EGOR				*i* Vmb_Lg			04 47 10.6		
ELGU	**Los Guajares,**	**7.04**	**201**	Pn		**Pn**	**04 45 55.0**	**+2.8**
ELGU				*i* Vmb_Lg			04 47 15.8		
PESTR	**Estremoz**	**7.05**	**231**	*e*Pn		**Pn**	**04 45 52.0**	**-0.2**
PESTR				*e*Sn		**Sn**	**04 47 07.5**	**-4.8**
PESTR				A		A	04 47 11.1		
	comp=N,20nm,0.5s								
PESTR	**Estremoz**	**7.05**	**231**			**Pn**	**04 45 52.0**	**-0.2**
PGF	**Pioggiola**	**7.07**	**95**	*e*Pn		**Pn**	**04 45 52.5**	**0.0**
PGF	**Pioggiola**	**7.07**	**95**	*e*P		**Pn**	**04 45 56.6**	**+4.1**
PGF				*e*Sn		**Sn**	**04 47 07.9**	**-4.8**
	comp=N,25nm,0.4s								
PMTG	**Montargil**	**7.29**	**235**	*e*Pn		**Pn**	**04 45 56.5**	**+1.1**
PMTG				A		A	04 47 14.4		
	comp=N,19nm,0.7s								
DYA	**Yadsworthy**	**7.30**	**343**	*e*P		**Pn**	**04 45 56.6**	**+1.1**
DYA				*e*S		**Sn**	**04 47 13.5**	**-4.7**
DYA				IAML			04 48 14.5		
	comp=N,31nm,0.6s								
DYA				IAML			04 48 19.3		
	comp=E,42nm,0.6s								
DYA	**Yadsworthy**	**7.30**	**343**	Pn		**Pn**	**04 45 56.4**	**+1.0**
DYA				Sn		**Sn**	**04 47 13.5**	**-4.7**
BAIF	**Baives**	**7.31**	**25**	*e*Pn		**Pn**	**04 45 57.0**	**+1.3**
BAIF	**Baives**	**7.31**	**25**	*e*P		Pn	04 46 00.7	+5.0
BAIF	**Baives**	**7.31**	**25**	*e*Pg		**Pg**	**04 46 25.4**	**-3.7**
BAIF				*e*Sn		**Sn**	**04 47 14.1**	**-4.5**
	comp=E,16nm,0.4s								
BAIF				*e*Sg		**Sg**	**04 47 59.1**	**-4.6**
	comp=E,410nm,1.3s								
CDF	**Champ du Feu**	**7.33**	**45**	*e*Pn		**Pn**	**04 45 55.4**	**-0.6**
CDF	**Champ du Feu**	**7.33**	**45**	*e*Pg		**Pg**	**04 46 25.6**	**-3.7**
CDF				*e*Sn		**Sn**	**04 47 14.2**	**-4.9**
	comp=E,11nm,0.6s								
CDF				*e*Sg		**Sg**	**04 47 59.8**	**-4.4**
	comp=E,148nm,0.9s								
PSBE	**So Bento**	**7.36**	**240**	*e*Pn		**Pn**	**04 45 58.2**	**+1.7**
HMNX	**Herstmonceux**	**7.38**	**4**	*e*P		**Pn**	**04 45 58.2**	**+1.6**
HMNX	**Herstmonceux**	**7.38**	**4**	Pn		**Pn**	**04 45 58.4**	**+1.8**
EMIN	**Mina Concepcio**	**7.39**	**221**	Pn		**Pn**	**04 45 56.9**	**+0.1**
EMIN				Sn		**Sn**	**04 47 14.7**	**-5.8**
EMIN				*i* Vmb_Lg			04 47 17.4		
CCA1	**Carnmenellis**	**7.40**	**336**	*e*P		**Pn**	**04 45 59.0**	**+2.1**
CCA1				IAML			04 48 18.3		
	comp=E,31nm,0.6s								
CCA1				IAML			04 48 27.2		
	comp=N,25nm,0.6s								
CCA1	**Carnmenellis**	**7.40**	**336**	Pn		**Pn**	**04 45 58.6**	**+1.7**
CCA1				Sn		**Sn**	**04 47 16.3**	**-4.5**
DOU	**Dourbes**	**7.47**	**26**	*d*P		**Pn**	**04 45 59.3**	**+1.5**
DOU				*d*S		**Sn**	**04 47 21.9**	**-0.5**
EVO	**Evora**	**7.52**	**231**	P		**Pn**	**04 45 58.6**	**0.0**
EVO				S		**Sn**	**04 47 18.4**	**-5.4**
GIVF	**Givet**	**7.55**	**27**	*e*Pn		**Pn**	**04 45 57.9**	**-1.0**
GIVF	**Givet**	**7.55**	**27**	*e*P		**Pn**	**04 46 03.6**	**+4.7**
GIVF	**Givet**	**7.55**	**27**	*e*Pg		**Pg**	**04 46 29.5**	**-4.0**
GIVF				*e*Sn		**Sn**	**04 47 19.7**	**-4.7**
	comp=N,63nm,0.7s								
GIVF				*e*Sg		**Sg**	**04 48 06.1**	**-5.1**
	comp=N,85nm,0.7s								
TUE	**Stuetta**	**7.61**	**64**	Pn		**Pn**	**04 46 01.3**	**+1.2**
EMIJ	**Mijas**	**7.66**	**206**	Pn		**Pn**	**04 46 03.1**	**+2.5**
EMIJ				*i* Vmb_Lg			04 47 27.8		
WLF	**Walferdange**	**7.69**	**35**	*d*S		**Sn**	**04 47 30.6**	**+2.7**
BMRD	**Maredsous**	**7.70**	**26**	*d*P		**Pn**	**04 46 03.1**	**+2.1**
BMRD				*d*S		**Sn**	**04 47 26.3**	**-1.9**
ELSH	**Elham, Standar**	**7.72**	**8**	Pn		**Pn**	**04 46 02.8**	**+1.6**
ELSH				Sn		**Sn**	**04 47 27.1**	**-1.4**
RCHB	**Rochefort**	**7.73**	**29**	*d*S		**Sn**	**04 47 27.3**	**-1.6**
SNF	**Seneffe**	**7.73**	**24**	*d*P		**Pn**	**04 46 02.5**	**+1.0**
SNF				*d*S		**Sn**	**04 47 31.9**	**+3.0**
WOL	**Wolverton**	**7.81**	**357**	*e*P		**Pn**	**04 46 03.8**	**+1.3**
BGES	**Gesves**	**7.88**	**27**	*d*P		**Pn**	**04 46 04.8**	**+1.4**
BGES				*d*S		**Sn**	**04 47 32.2**	**-0.2**
HTL	**Hartland**	**7.94**	**342**	*e*P		**Pn**	**04 46 06.3**	**+1.9**
HTL				IAML			04 48 38.1		
	comp=E,43nm,0.7s								
HTL				IAML			04 48 49.0		
	comp=N,51nm,0.6s								
HTL	**Hartland**	**7.94**	**342**	Pn		**Pn**	**04 46 05.8**	**+1.5**
HTL				Sn		**Sn**	**04 47 28.5**	**-5.6**
EGRO	**El Granado**	**7.97**	**224**	Pn		**Pn**	**04 46 04.8**	**0.0**
EGRO				Sn		**Sn**	**04 47 29.7**	**-5.2**
EGRO				*i* Vmb_Lg			04 47 33.1		
BCLA	**Clavier**	**7.98**	**28**	*d*P		**Pn**	**04 46 06.4**	**+1.5**
BCLA				*d*S		**Sn**	**04 47 35.5**	**+0.6**
EJIF	**Jimena Fronter**	**8.00**	**210**	Pn		**Pn**	**04 46 07.5**	**+2.3**
PMAFR	**Mafra**	**8.00**	**238**	*e*Pn		**Pn**	**04 46 06.9**	**+1.7**
DAVOX	**Davos/Dischmat**	**8.06**	**63**	Pn		**Pn**	**04 46 08.0**	**+1.8**
	comp=N,0.2nm,0.3s,baz=254,slow=20,SNR=2.4								
DAVOX				Lg		Lg	04 48 28.6		
	comp=N,0.5nm,0.3s,baz=258,slow=20,SNR=3.2								
DAVOX				LR		LR	04 49 33.7		
	comp=N,68nm,20.2s,baz=256,slow=40								
BHOU	**Houvegnez**	**8.18**	**31**	*d*P		**Pn**	**04 46 10.2**	**+2.6**
BHOU				*d*S		**Sn**	**04 47 40.0**	**+0.1**
PVAQ	**Vaqueiros**	**8.19**	**224**	Pn		**Pn**	**04 46 07.3**	**-0.4**
BSTI	**Sart Tilman**	**8.21**	**28**	*d*P		**Pn**	**04 46 09.9**	**+1.9**
BSTI				*d*S		**Sn**	**04 47 37.4**	**-3.2**
MEM	**Membach**	**8.39**	**30**	*d*P		**Pn**	**04 46 12.6**	**+2.2**
MEM				*d*S		**Sn**	**04 47 43.0**	**-2.0**
BTNL	**Ternell**	**8.41**	**30**	*d*P		**Pn**	**04 46 13.1**	**+2.3**
BTNL				*d*S		**Sn**	**04 47 43.2**	**-2.5**
OSSC	**Osservatorio P**	**8.57**	**86**	Pn		**Pn**	**04 46 15.4**	**+2.4**
MCH1	**Michaelchurch**	**8.64**	**350**	Pn		**Pn**	**04 46 15.3**	**+1.3**
FETA	**Feichten**	**8.69**	**62**	*i* Pn		Pn	04 46 20.8	+6.0
	comp=N,0.5nm,0.3s								
MORF	**Marmelete**	**8.75**	**228**	*e*P		**Pn**	**04 46 15.0**	**-0.5**
MORF				*e*S		Sn	04 47 44.6	-9.5
MORF				IAML			04 47 50.5		
	comp=N,34nm,0.5s								
PVLZ	**Peæn de**	**8.82**	**200**	S		**Pn**	**04 46 19.6**	**+3.2**
PVLZ	**Peæn de**	**8.82**	**200**	P		Pn	04 46 08.0	-8.4
PFVI	**Vila Bisbo**	**8.97**	**228**	Pn		**Pn**	**04 46 18.1**	**-0.4**
MOTA	**Moosalm**	**9.04**	**61**	*i* Pn		**Pn**	**04 46 24.4**	**+4.8**
	comp=N,0.5nm,0.2s								
CWF	**Charnwood Fore**	**9.24**	**357**	Pn		**Pn**	**04 46 23.2**	**+1.1**
WACR	**West Acre**	**9.25**	**4**	Pn		**Pn**	**04 46 22.5**	**+0.3**
WTTA	**Wattenberg**	**9.36**	**62**	*e*Pn		Pn	04 46 29.3	+5.4
	comp=N,1.0nm,0.3s								
FOEL	**Foel Wylfa**	**9.54**	**350**	Pn		**Pn**	**04 46 27.9**	**+1.6**
KEST	**Kesra**	**10.89**	**132**	Pn		**Pn**	**04 46 45.0**	**+0.1**
	comp=N,0.3nm,0.3s,baz=248,slow=16,SNR=2.1								
MDT	**Midelt**	**11.15**	**198**	Pn		**Pn**	**04 46 48.4**	**-0.1**
	comp=N,0.2nm,0.3s,baz=356,slow=19,SNR=6.8								
MDT				Sn		**Sn**	**04 48 48.5**	**-4.6**
	comp=N,0.1nm,0.3s,baz=318,slow=19,SNR=2.0								
MDT				LR		LR	04 51 36.9		
	comp=N,53nm,18.7s,baz=258,slow=40								
GERES	**GERESS Array B**	**11.22**	**57**	Pn		**Pn**	**04 46 50.8**	**+1.4**
	comp=N,0.1nm,0.3s,baz=246,slow=12,SNR=1.8								
GERES				Lg		Lg	04 50 13.6		
	baz=267,slow=21,SNR=1.6								
KHC	**Kasperske Hory**	**11.26**	**55**	*e*SN		**Sn**	**04 48 57.5**	**+1.9**
KHC				*ex*		x	04 50 19.0		
ESK	**Eskdalemuir**	**11.94**	**353**	Pn		**Pn**	**04 46 58.1**	**-0.9**
EKA	**Eskdalemuir Ar**	**11.95**	**353**	Pn		**Pn**	**04 46 58.9**	**-0.3**
	baz=145,slow=12,SNR=13								
EKA				Sn		**Sn**	**04 49 04.7**	**-7.5**
	baz=172,slow=25,SNR=6.4								
EKA				LR		LR	04 52 17.7		
	comp=N,107nm,18.4s,baz=182,slow=41								
HFS	**Hagfors**	**18.75**	**23**	LR		LR	04 57 29.8		
	comp=N,24nm,18.7s,baz=241,slow=43								
NOA	**NORSAR Array B**	**18.91**	**18**	LR		LR	04 57 12.4		
	comp=N,40nm,19.8s,baz=210,slow=41								
AKASG	**Malin Array Be**	**21.40**	**60**	P		**P**	**04 48 57.1**	**+0.6**
	comp=N,0.7nm,0.6s,baz=253,slow=9.6,SNR=4.8								
BORG	**Borgarnes**	**24.28**	**338**	LR		LR	04 57 55.1		
	comp=N,26nm,19.4s,baz=179,slow=34								
BRTR	**Keskin Array B**	**25.73**	**87**	P		**P**	**04 49 40.6**	**+1.1**
	comp=N,0.8nm,0.8s,baz=260,slow=8.5,SNR=3.7								
ARCES	**ARCESS Array B**	**29.29**	**18**	P		**P**	**04 50 13.5**	**+2.5**
	comp=N,4.9nm,1.2s,baz=186,slow=17,SNR=2.0								
ARCES				LR		LR	05 03 40.9		
	comp=N,60nm,18.7s,baz=294,slow=40								
TORD	**Torodi Ar. Bea**	**30.32**	**176**	P		**P**	**04 50 21.2**	**+0.6**
	comp=N,1.1nm,0.8s,baz=343,slow=9.3,SNR=5.0								
ZALV	**Zalesovo Beam**	**53.98**	**47**	P		**P**	**04 53 33.1**	**+0.5**
	comp=N,0.2nm,0.4s,baz=292,slow=8.9,SNR=2.3								
MKAR	**Makanchi Array**	**55.89**	**55**	P		**P**	**04 53 47.9**	**+1.3**
	comp=N,0.7nm,0.8s,baz=298,slow=5.2,SNR=7.2								
YKA	**Yellowknife Ar**	**61.96**	**331**	P		**P**	**04 54 30.4**	**+2.0**
	comp=N,0.8nm,0.7s,baz=52,slow=6.9,SNR=18								
YKA				LR		LR	05 19 41.8		
	comp=N,36nm,18.1s,baz=319,slow=34								
YAK	**Yakutsk**	**67.44**	**23**	LR		LR	05 31 52.5		
	comp=N,17nm,19.2s,baz=121,slow=42								
SONM	**Songino Array**	**68.64**	**44**	P		**P**	**04 55 14.1**	**+2.0**
	comp=N,0.2nm,0.3s,baz=345,slow=2.2,SNR=1.6								
ILAR	**Eielson Array**	**68.87**	**345**	P		**P**	**04 55 15.2**	**+2.0**
	comp=N,1.3nm,1.1s,baz=8.9,slow=6.3,SNR=6.3								
PDAR	**Pinedale Array**	**73.16**	**313**	P		**P**	**04 55 40.7**	**+0.8**
	comp=N,0.1nm,0.3s,baz=45,slow=10,SNR=1.3								
TXAR	**Lajitas Array**	**79.03**	**300**	P		**P**	**04 56 15.2**	**+1.9**
	comp=N,0.2nm,0.5s,baz=75,slow=6.7,SNR=3.8								

*IDC **25** 04:45:41.2±1.5, 14.˚48S×166.˚39E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/37, mbtmp3.6/4, ML3.8/1, MS3.3/1, Ms1 3.2/1, ms1mx2.5/39, Error ellipse: s-maj=44.3km s-min=28.6km az=113.0*

*NOU **25** 04:45:43.6, 14.˚47S×166.˚62E, h0km, mb4.0/9, Vanuatu Islands*

*NEIC **25** 04:45:46.9±1.1, 14.˚48S±0.˚07×166.˚7E±0.˚1, h33km±6km, mb4.5/6, Error ellipse: s-maj=17.7km s-min=10.1km az=90.0*

ISC 25 04:45:45.4±1.0, 14.˚5S±0.˚1×166.˚7E±0.˚1, h28km, n24, σ1§24/24, mb4.2/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.10**	**152**	Pn	**Pn**	**04 46 03.1**	**-1.8**
SANVU	**Saraoutou**	**1.10**	**152**	P	**Pn**	**04 46 04.4**	**-0.5**
KOUNC	**Koumac, New Ca**	**6.46**	**200**	Pn	**Pn**	**04 47 19.6**	**+1.0**
YATNC	**Mamie plateau,**	**7.55**	**178**	P	**Pn**	**04 47 35.0**	**+1.4**
DZM	**Mont Dzumac**	**7.56**	**182**	Pn	**Pn**	**04 47 33.2**	**-0.7**
	1.3nm,0.3s,baz=15,slow=20,SNR=16						
DZM				Sn	**Sn**	**04 48 58.1**	**-0.6**
	0.7nm,0.3s,baz=307,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**7.56**	**182**	Pn	**Pn**	**04 47 32.5**	**-1.4**
DZM	**Mont Dzumac**	**7.56**	**182**	P	**Pn**	**04 47 33.7**	**-0.2**
NOUC	**Port Laguerre**	**7.60**	**183**	P	**Pn**	**04 47 35.5**	**+1.2**
ONTNC	**Ouen Toro**	**7.80**	**181**	Pn	**Pn**	**04 47 36.8**	**-0.2**
OUENC	**Ouen Island, N**	**7.91**	**179**	Pn	**Pn**	**04 47 39.4**	**+0.8**
OUENC	**Ouen Island, N**	**7.91**	**179**	P	**Pn**	**04 47 40.3**	**+1.8**
PINNC	**Pines Island,**	**8.13**	**175**	Pn	**Pn**	**04 47 43.1**	**+1.6**
EIDS	**Eidsvold**	**18.21**	**231**	P	**Pn**	**04 49 56.7**	**+0.5**
CTAO	**Charters Tower**	**20.27**	**251**	P	**P**	**04 50 18.6**	**-0.3**
CTAO				IAmb	IAmb	04 50 26.0	
	comp=Z,13nm,1.1s						
BKZ	**Black Stump Fm**	**26.08**	**162**	P	**P**	**04 51 17.2**	**+0.6**
BKZ				IAmb	IAmb	04 51 17.4	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**28.72**	**229**	LR	LR	05 02 13.1	
	comp=Z,52nm,18.4s,baz=30,slow=35						
WRA	**Warramunga Arr**	**31.32**	**255**	P	**P**	**04 52 01.2**	**-2.4**
	comp=Z,0.4nm,0.8s,baz=88,slow=8.4,SNR=2.1						
ASAR	**Alice Springs**	**32.22**	**249**	P	**P**	**04 52 09.1**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=74,slow=9.7,SNR=5.8						
BBOO	**Buckleboo**	**33.28**	**231**	P	**P**	**04 52 20.9**	**+0.3**
BBOO				IAmb	IAmb	04 52 34.4	
	comp=Z,13nm,1.2s						
FORT	**Forrest**	**38.93**	**239**	P	**P**	**04 53 08.9**	**-0.1**
QSPA	**South Pole Qui**	**75.55**	**180**	P	**P**	**04 57 28.1**	**+0.8**
QSPA				IAmb	IAmb	04 57 29.6	
	comp=Z,4.0nm,1.4s						
ILAR	**Eielson Array**	**86.46**	**18**	P	**P**	**04 58 25.2**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=234,slow=5.4,SNR=7.1						
ILAR	**Eielson Array**	**86.46**	**18**	P	**P**	**04 58 25.9**	**+0.9**
ARCES	**ARCESS Array B**	**119.86**	**345**	PKP	**PKiKP**	**05 04 33.9**	**+1.3**
	comp=Z,2.1nm,1.1s,baz=72,slow=2.9,SNR=1.4						

*SSNC **25** 04:48:07.1±1.6, 19.˚14N×76.˚86W, h5km±13km, MD2.4, ML1.2, MWW2.1*

*JSN **25** 04:48:07.0±0.5, 17.˚23N×76.˚55W, h0km±209km, MD2.6*

ISC 25 04:48:03.3±1.1, 19.˚07N±0.˚04×76.˚77W±0.˚07, h10km, n6, σ0§51/10, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STH	**Stony Hill**	**0.99**	**182**	*i* P	**Pn**	**04 48 23.1**	**-0.2**
GWJ	**Greenwich**	**0.99**	**178**	*i* P	**Pn**	**04 48 23.4**	**-0.1**
GWJ				*i* S	**Sg**	**04 48 35.3**	**-0.2**
LMGC	**Las Mercedes**	**1.01**	**347**	*e*P	**Pn**	**04 48 23.4**	**-0.2**
LMGC				*e*S	**Sg**	**04 48 35.5**	**-0.5**
LMGC				IAML		04 48 38.4	
	comp=E,18nm,0.1s						
LMGC				IAML		04 48 39.4	
	comp=N,22nm,0.1s						
RCC	**Rio Carpintero**	**1.37**	**48**	*e*P	**Pg**	**04 48 30.6**	**+1.0**
RCC				*e*S	**Sg**	**04 48 47.4**	**0.0**
RCC				IAML		04 48 48.3	
	comp=E,1.8nm,0.2s						
RCC				IAML		04 48 49.1	
	comp=N,1.9nm,0.1s						
MCJ	**Malvern**	**1.43**	**217**	*i* P	**Pb**	**04 48 30.4**	**+0.1**
GTBY	**Guantanamo Bay**	**1.78**	**61**	*e*P	**Pg**	**04 48 37.3**	**-0.3**
GTBY				*e*S	**Sg**	**04 49 00.1**	**-0.6**

*JMA **25** 04:52:30.6±0.2, 23.˚45N×121.˚52E, h18km±3km, M3.2*

*NEIC **25** 04:52:30.2±1.5, 23.˚38N±0.˚02×121.˚55E±0.˚04, h33km±6km, mb4.3/3, ML4.1(TAP), Error ellipse: s-maj=6.5km s-min=1.0km az=117.0*

*TAP **25** 04:52:31.7, 23.˚43N×121.˚44E, h35km, ML3.7, C*

ISC 25 04:52:30.4±0.8, 23.˚42N±0.˚02×121.˚53E±0.˚02, h34km±2km, n142, σ1§07/225, mb4.4/3, 27C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.12**	**309**	*i* P	**Pb**	**04 52 37.8**	**+1.4**
	baz=329						
HGSD				S	**Sb**	**04 52 43.0**	**+2.5**
	baz=329						
ECBN	**Changbin**	**0.12**	**214**	⇓ *i* P	**Pb**	**04 52 38.0**	**+1.6**
	baz=176						
ECBN				S	**Sb**	**04 52 42.9**	**+2.4**
	baz=176						
EYUL	**Yuli**	**0.20**	**250**	P	**Pb**	**04 52 38.0**	**+0.9**
	baz=245						
EHY	**Hungye**	**0.21**	**295**	⇓ *i* P	**Pb**	**04 52 37.6**	**+0.5**
	baz=305						
EHY				*i* S	**Sb**	**04 52 41.6**	**-0.2**
	baz=305						
YULB	**Yu-li**	**0.21**	**263**	Pg	**Pn**	**04 52 36.6**	**+0.2**
YULB				Sg	**Sb**	**04 52 41.7**	**-0.1**
YULB	**Yu-li**	**0.21**	**263**	⇓ *i* P	**Pb**	**04 52 37.8**	**+0.6**
	baz=265						
YULB				S	**Sb**	**04 52 41.8**	**-0.1**
	baz=265						
TWF1	**Yuli**	**0.22**	**253**	⇓ *i* P	**Pb**	**04 52 37.9**	**+0.6**
	baz=249						
TWF1				*i* S	**Sb**	**04 52 42.1**	**+0.1**
	baz=249						
EGFH	**Guangfu**	**0.27**	**340**	⇑ *i* P	**Pb**	**04 52 38.6**	**+0.8**
	baz=347						
EGFH				S	**Sb**	**04 52 43.1**	**+0.3**
	baz=347						
FULB	**Fuli**	**0.30**	**224**	⇑ *i* P	**Pb**	**04 52 39.5**	**+1.1**
	baz=221						
FULB				S	**Sb**	**04 52 45.7**	**+2.0**
	baz=221						
CHKT	**Chengkung**	**0.35**	**205**	⇑ *i* P	**Pn**	**04 52 40.0**	**+0.8**
	baz=182						
CHKT				*i* S	**Sn**	**04 52 46.4**	**+1.8**
	baz=182						
ESL	**Shilin**	**0.40**	**348**	⇑ *i* P	**Pn**	**04 52 39.8**	**-0.2**
	baz=360						
ESL				S	**Sb**	**04 52 45.4**	**-0.5**
	baz=360						
ECS	**Chishang**	**0.43**	**221**	⇑ P	**Pn**	**04 52 40.6**	**+0.3**
	baz=220						
ECS				S	**Sn**	**04 52 47.4**	**+0.5**
	baz=220						
TEYL	**Yanliau Villag**	**0.45**	**8**	P	**Pn**	**04 52 42.1**	**+1.5**
	baz=11						
TEYL				*e*S	**Sn**	**04 52 51.2**	**+3.7**
	baz=11						
EDH	**Donghe**	**0.49**	**205**	P	**Pn**	**04 52 41.5**	**+0.4**
	baz=205						
EDH				S	**Sn**	**04 52 49.0**	**+0.7**
	baz=205						
VWDT	**VWDT**	**0.49**	**314**	⇓ *i* P	**Pn**	**04 52 41.5**	**+0.5**
	baz=319						
VWDT				S	**Sb**	**04 52 47.9**	**-0.1**
	baz=319						
ELDTW	**Lidau**	**0.52**	**244**	*e*P	**Pb**	**04 52 40.2**	**-1.2**
	baz=235						
ELDTW				*e*S	**Sb**	**04 52 47.3**	**-1.7**
	baz=235						
ETM	**Tongmen**	**0.55**	**357**	P	**Pn**	**04 52 41.9**	**0.0**
	baz=357						
HWA	**Hwalien**	**0.56**	**7**	*e*P	**Pn**	**04 52 43.0**	**+1.0**
	baz=9.0						
OWD	**Renai**	**0.62**	**329**	⇑ *i* P	**Pb**	**04 52 43.3**	**+0.2**
	baz=342						
OWD				S	**Sb**	**04 52 50.6**	**-1.3**
	baz=342						
LONT	**Longtian**	**0.63**	**216**	P	**Pn**	**04 52 42.5**	**-0.3**
	baz=202						
LONT				S	**Sb**	**04 52 50.6**	**-1.1**
	baz=202						
SSLB	**Suanglung**	**0.64**	**305**		**Pb**	**04 52 43.5**	**+0.2**
SSLB				Sn	**Sb**	**04 52 51.1**	**-1.1**
SSLB	**Suanglung**	**0.64**	**305**	⇑ *i* P	**Pb**	**04 52 43.6**	**+0.2**
	baz=308						
SSLB				S	**Sb**	**04 52 51

baz=258
CHN4 *i* S **Sb** 04 52 59.7 +1.5
baz=258
TWT **Tachien** 0.89 339 ⇑P **Pb** 04 52 48.0 +0.3
baz=342
TWT *e*S **Sn** 04 52 58.2 -0.4
baz=342
WNT **Mingjian** 0.90 301 ⇑*i*P **Pb** 04 52 48.5 +0.9
baz=290
WNT S **Sb** 04 53 00.4 +1.1
baz=290
WGK **Gukeng** 0.92 287 *e*P **Pb** 04 52 48.6 +0.5
baz=287
WGK *e*S **Sb** 04 53 01.1 +1.0
baz=287
SGST **Jiashian** 0.93 249 *e*P **Pb** 04 52 47.9 -0.3
baz=237
SGST *e*S **Sb** 04 53 00.3 +0.2
baz=237
CHN1 **Nanshi** 0.95 256 ⇓P **Pb** 04 52 49.1 +0.7
baz=253
CHN1 *e*S **Sb** 04 53 02.8 +2.1
baz=253
WDLH **Douliu** 0.95 287 *e*P **Pb** 04 52 49.3 +0.9
baz=286
WDLH *e*S **Sb** 04 53 01.8 +1.2
baz=286
SNST **Tainan City** 0.97 258 P **Pb** 04 52 49.3 +0.6
baz=256
SNST S **Sb** 04 53 02.4 +1.2
baz=256
TWK **Hsinying** 0.97 261 ⇓*i*P **Pb** 04 52 49.2 +0.5
baz=259
TWK S **Sb** 04 53 02.1 +0.8
baz=259
CHN2 **Minshiung** 0.97 277 S **Sb** 04 53 03.4 +2.1
baz=287
ECL **Taimali** 0.97 213 ⇓P **Pn** 04 52 47.0 -0.7
baz=201
ECL *e*S **Sn** 04 52 58.1 -2.2
baz=201
WWF **Wufeng** 0.98 310 *e*P **Pb** 04 52 50.1 +1.2
baz=312
WHP **Taichung City** 1.01 328 P **Pb** 04 52 50.0 +0.5
baz=335
CHY **Chiayi** 1.01 275 *e*P **Pb** 04 52 50.4 +0.9
baz=273
CHY *e*S **Sb** 04 53 03.4 +0.8
baz=273
NNSB **Datong** 1.01 353 ⇑P **Pb** 04 52 49.1 -0.6
baz=7.0
NNSB *e*S **Sn** 04 53 01.2 -0.4
baz=7.0
ENA **Nanau** 1.02 11 ⇓*i*P **Pn** 04 52 49.0 +0.5
baz=5.0
NNS **Nan Shan** 1.03 352 P **Pb** 04 52 49.3 -0.5
baz=6.0
EWUT **Wuta** 1.05 13 *e*P **Pn** 04 52 49.4 +0.6
baz=6.0
SSD **Sandimen** 1.06 231 *e*P **Pn** 04 52 49.6 +0.6
baz=225
TCU **Taichung** 1.06 313 *e*P **Pb** 04 52 51.3 +0.9
baz=316
TSMG **Majia** 1.08 229 *e*P **Pn** 04 52 49.6 +0.5
baz=223
WTK **Tuku** 1.08 285 *e*P **Pb** 04 52 51.6 +1.1
baz=284
SCST **Cishan** 1.09 241 *e*P **Pb** 04 52 51.5 +0.8
baz=238
SCST *e*S **Sb** 04 53 06.5 +1.9
baz=238
WCHH **Zhanghua** 1.10 307 *e*P **Pb** 04 52 51.7 +0.7
baz=308
WCHH *e*S **Sb** 04 53 05.9 +0.8
baz=308
LATG **Datong** 1.11 0 ⇑P **Pn** 04 52 50.2 +0.5
baz=14
ICHU **Yijhu** 1.15 267 *e*P **Pb** 04 52 52.0 +0.3
baz=265
ICHU *e*S **Sb** 04 53 06.9 +0.5
baz=265
MASBT **Mashibuluo** 1.15 226 P **Pn** 04 52 50.8 +0.7
baz=223
MASBT *e*S **Sn** 04 53 05.8 +1.1
baz=223
SHHT **Tainan City** 1.15 250 *e*P **Pb** 04 52 53.7 +1.8
baz=262
TWQ1 **Liyutan** 1.16 324 ⇑P **Pb** 04 52 52.7 +0.8
baz=326
TWQ1 S **Sb** 04 53 08.2 +1.6
baz=326
WRL **Guolierlin Hig** 1.16 295 *e*P **Pb** 04 52 52.0 +0.1
baz=295
TWM1 **Shoushan** 1.18 240 *e*P **Pb** 04 52 54.0 +1.8
baz=236
NDT **Datong Townshi** 1.18 359 *e*P **Pb** 04 52 51.5 -0.8
baz=12
WSL **Shuilin Townsh** 1.20 275 *e*P **Pb** 04 52 52.5 -0.1
baz=274
WSL *e*S **Sb** 04 53 07.6 -0.2
baz=274
EAST **Anshuo** 1.20 211 ⇑*i*P **Pn** 04 52 50.6 -0.3
baz=200
TAW **Tawu** 1.20 209 *e*P **Pn** 04 52 50.6 -0.3
baz=197
CHN8 **Yiju** 1.21 267 *e*P **Pb** 04 52 52.5 -0.2
baz=265
CHN8 *e*S **Sb** 04 53 08.6 +0.5
baz=265
ENTT **Nioudou** 1.22 2 ⇓*i*P **Pb** 04 52 52.0 -0.9
baz=15
NDS **Dongshan** 1.22 8 *e*P **Pn** 04 52 51.7 +0.5
baz=12
TAWH **Dawu Township** 1.22 209 *e*P **Pn** 04 52 50.9 -0.3
baz=198
TWC **Suao** 1.22 14 *e*P **Pb** 04 52 52.2 -0.8
baz=8.0
WDJ **Dajia District** 1.23 319 *e*P **Pb** 04 52 53.5 +0.4
baz=333
WDJ *e*S **Sb** 04 53 10.0 +1.2
baz=333
YHNB **Yeheng** 1.25 354 Pn **Pb** 04 52 53.0 -0.6
YHNB Sn **Sn** 04 53 08.2 +0.7
YHNB **Yeheng** 1.25 354 P **Pb** 04 52 53.0 -0.6
baz=9.0
YHNB *e*S **Sn** 04 53 07.7 +0.3
baz=9.0
NSK **Sanguang** 1.26 353 ⇑P **Pb** 04 52 53.2 -0.6
baz=8.0
NSK S **Sn** 04 53 07.9 +0.3
baz=8.0
NFF **Wufeng Townshi** 1.27 343 *e*P **Pb** 04 52 54.4 +0.6
baz=352
SSPT **Xinbi** 1.28 224 *e*P **Pb** 04 52 54.0 0.0
baz=219
NSTT **Nanjuang** 1.30 338 ⇑P **Pb** 04 52 54.6 +0.3
baz=341
NSTT S **Sb** 04 53 10.8 +0.1
baz=341
NMLH **Miaoli** 1.30 329 *e*P **Pb** 04 52 54.7 +0.4
baz=332
TWE **Neicheng** 1.30 6 *e*P **Pn** 04 52 53.2 +0.9
baz=10.0
LIOB **Emei** 1.31 339 *e*P **Pb** 04 52 54.7 +0.2
baz=342
LIOB *e*S **Sb** 04 53 11.7 +0.7
baz=342
SCZT **Fangliau** 1.33 219 P **Pn** 04 52 53.7 +1.0
baz=203
SCZT S **Sb** 04 53 12.8 +1.1
baz=203
FUSB **Fushanzhiwuyua** 1.34 2 *e*P **Pb** 04 52 54.0 -1.0
baz=6.0
FUSB *e*S **Sn** 04 53 10.5 +1.0
baz=6.0
NWLT **Wulai** 1.35 359 *e*P **Pb** 04 52 54.4 -0.9
baz=10.0
NWLT *e*S **Sn** 04 53 10.2 +0.4
baz=10.0
SLIU **Shizi** 1.37 209 *e*P **Pn** 04 52 53.5 +0.3
baz=196
LAY **Lan-yu** 1.37 179 P **Pn** 04 52 53.2 0.0
baz=175
LYUB **Lan-yu** 1.41 178 *e*P **Pn** 04 52 53.2 -0.5
baz=174
NTC **Toucheng** 1.46 11 *e*P **Pb** 04 52 56.2 -0.7
baz=4.0
NTC *e*S **Sb** 04 53 15.6 +0.5
baz=4.0
TATO **Taipei** 1.55 359 Pn **Pb** 04 52 57.3 -1.3
TWA **Mucha** 1.56 2 *e*P **Pb** 04 52 57.4 -1.3
baz=14
TIPB **Shuangxi** 1.57 10 *e*P **Pb** 04 52 57.5 -1.4
baz=13
HEN **Hengchun** 1.58 208 *e*P **Pb** 04 52 59.4 +0.4
baz=191
TWK1 **Hengchun** 1.61 205 *e*P **Pn** 04 52 57.3 +0.8
baz=194
TWKBT **Hengchun** 1.61 204 *e*P **Pn** 04 52 57.6 +1.1
baz=194
TSEB **Hengchuen, Pin** 1.62 201 *e*P **Pb** 04 52 58.7 -1.0
baz=189
TWB1 **Santiao Chiao** 1.64 15 *e*P **Pb** 04 52 59.3 -0.7
baz=8.0
TWB1 *e*S **Sb** 04 53 20.2 -0.2
baz=8.0
JYNG **Yonagunijimaku** 1.66 51 P **Pb** 04 52 59.5 -0.8
JYNG *e*S **Sb** 04 53 20.1 -0.8
NWF **Wu-fen Shan** 1.66 8 P **Pb** 04 52 59.2 -1.3
baz=11
NWF *e*S **Sn** 04 53 19.1 +1.6
baz=11
TWS1 **Kuangyinshan** 1.68 357 *e*P **Pb** 04 52 59.6 -1.1
baz=15
SXI1 **Grass Mountain** 1.70 11 *e*P **Pb** 04 53 00.0 -1.1
baz=14
YOJ **Yonaguni jima** 1.71 52 P **Pb** 04 53 00.6 -0.7
YOJ *e*S **Sb** 04 53 21.6 -0.8
YOJ **Yonaguni jima** 1.71 52 Pn **Pn** 04 52 59.6 +1.8
YOJ **Yonaguni jima** 1.71 52 *e*P **Pb** 04 53 00.6 -0.7
baz=55
WDGT **Dungji** 1.72 265 *e*P **Pn** 04 52 58.9 +0.9
baz=262
YM01 **YM01** 1.72 1 *e*P **Pn** 04 52 59.4 +1.3
baz=4.0
PHUB **P'eng-hu** 1.80 273 *e*P **Pn** 04 52 59.8 +0.8
baz=272
PHUB *e*S **Sn** 04 53 20.8 +0.1
baz=272
PNG **Penghu** 1.82 275 *e*P **Pn** 04 53 00.6 +1.3
baz=273
VCHM **Qimei** 1.94 264 *e*P **Pn** 04 53 02.0 +1.0
baz=262
VCHM *e*S **Sn** 04 53 23.4 -0.8
baz=262
HATJ **Hateruma jima** 2.18 73 P **Pn** 04 53 06.5 +2.1
HATJ *e*S **Sn** 04 53 32.6 +2.4
IRIF **Iriomote-Funau** 2.21 65 P **Pb** 04 53 07.5 -2.3
IRIF *e*S **Sn** 04 53 33.6 +2.6
JKRS **Kuro-shima** 2.42 70 P **Pn** 04 53 10.5 +2.9
JKRS *e*S **Sn** 04 53 38.4 +2.4
VWUC **VWUC** 2.46 310 *e*P **Pn** 04 53 09.1 +1.0
baz=311
JIJ **Ishigaki jima** 2.57 68 P **Pn** 04 53 11.9 +2.2
JIJ *e*S **Sn** 04 53 41.3 +1.4
JISG **Ishigakijimahi** 2.80 65 P **Pn** 04 53 14.8 +2.0
JISG S **Sn** 04 53 46.9 +1.4
KNMB **Chin-men Tao** 3.05 291 Pn **Pn** 04 53 16.9 +0.6
MATB **Ma-tsu** 3.08 333 *e*P **Pn** 04 53 17.0 +0.4
baz=335
JTJ **Tarama** 3.15 67 P **Pn** 04 53 19.8 +2.2
JTJ S **Sn** 04 53 56.6 +2.5
LYJJ **Jianjiangzhen** 3.51 333 *e*P **Pn** 04 53 22.7 +0.1
baz=336
XPSS **Dashiqiu** 3.70 341 *e*P **Pn** 04 53 25.4 +0.2
baz=345
JOW **Kunigami** 7.00 60 Pn **Pn** 04 54 10.2 -0.3
MKAR **Makanchi Array** 39.10 316 P **P** 04 59 54.9 +0.4
PETK **Petropavlovsk-** 40.33 33 P **P** 05 00 04.2 -0.4
MBWA **Marble Bar** 44.34 182 P **P** 05 00 37.6 +0.2
MBWA IAmb IAmb 05 00 39.7
comp=Z,12nm,1.2s
WR0 **Warramunga Arr** 44.94 163 P **P** 05 00 40.6 -1.8
WR0 IAmb IAmb 05 00 43.5
comp=Z,8.7nm,1.4s
AS31 **Alice Springs** 48.32 165 P **P** 05 01 05.8 -3.0
AS31 IAmb IAmb 05 01 06.0
comp=Z,0.9nm,1.1s
ASAR **Alice Springs** 48.32 165 P **P** 05 01 07.2 -1.6

IDC 25 04:54:42.4±8.9, 4°08S×126°55E, h75km±98km, mb3.0/2, mb1 3.2/4, mb1mx3.0/36, mbtmp3.4/4, ML3.1/2, MS3.4/1, Ms1 3.3/1, ms1mx2.4/18, Error ellipse: s-maj=75.2km s-min=24.3km az=89.0, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SIJI **Sorong** 5.69 56 P Pn 04 56 02.7 -1.7
4.2nm,0.3s,baz=225,slow=19,SNR=6.4
SIJI S Sn 04 57 09.8 +1.5
2.1nm,0.3s,baz=195,slow=20,SNR=1.9
WRA **Warramunga Arr** 17.50 155 P Pn 04 58 40.9 -0.7
0.0nm,0.3s,baz=333,slow=11,SNR=0.9
ASAR **Alice Springs** 20.73 161 P P 04 59 17.0 0.0
0.2nm,0.5s,baz=343,slow=13,SNR=2.3
STKA **Stephens Creek** 31.05 155 LR LR 05 15 22.1
comp=Z,66nm,18.1s,baz=70,slow=40
MKAR **Makanchi Array** 63.93 328 P P 05 05 07.8 +0.3
0.4nm,0.4s,baz=125,slow=7.6,SNR=6.3

*IDC **25** 04:58:41.1±1.2, 14°55S×166°40E, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/34, mbtmp3.9/12, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/62, Error ellipse: s-maj=35.4km s-min=21.2km az=123.0*
*NOU **25** 04:58:46.0, 14°65S×166°72E, h0km, MLv4.6/10, Vanuatu Islands*
*NEIC **25** 04:58:46.2±1.2, 14°48S±0°08×166°7E±0°1, h35km±2km, mb4.4/11, Error ellipse: s-maj=18.7km s-min=11.4km az=54.0*

ISC 25 04:58:45.3±0.7, 14°49S±0°08×166°63E±0°09, h28km, n37, σ1s59/39, mb4.1/14, Vanuatu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SANVU **Saraoutou** 1.10 150 Pn **Pn** 04 59 02.9 -2.0
SANVU Sn **Sn** 04 59 17.9 -1.2
SANVU **Saraoutou** 1.10 150 P **Pn** 04 59 03.7 -1.1
DVP **Devils Point** 3.55 155 P **Pn** 04 59 40.4 +1.9
KOUNC **Koumac, New Ca** 6.43 200 Pn **Pn** 05 00 19.0 +0.9
KOUNC **Koumac, New Ca** 6.43 200 P **Pn** 05 00 21.3 +3.2
37nm,1.0s
YATNC **Mamie plateau,** 7.53 178 P **Pn** 05 00 33.6 +0.3
DZM **Mont Dzumac** 7.54 181 Pn **Pn** 05 00 33.1 -0.4
1.4nm,0.3s,baz=184,slow=22,SNR=18
DZM Sn **Sn** 05 01 56.0 -2.2
baz=141,slow=23,SNR=1.4
DZM LR LR 05 02 42.7
comp=Z,102nm,18.6s,baz=311,slow=32
DZM **Mont Dzumac** 7.54 181 P **Pn** 05 00 33.2 -0.3
NOUC **Port Laguerre** 7.58 182 P **Pn** 05 00 35.8 +1.9
ONTNC **Ouen Toro** 7.78 181 Pn **Pn** 05 00 37.3 +0.6
OUENC **Ouen Island, N** 7.89 179 Pn **Pn** 05 00 37.6 -0.6
OUENC **Ouen Island, N** 7.89 179 P **Pn** 05 00 40.1 +1.9
PINNC **Pines Island,** 8.12 175 Pn **Pn** 05 00 43.3 +2.0
EIDS **Eidsvold** 18.17 231 **P** 05 02 56.3 +0.6
EIDS IAmb IAmb 05 03 00.2
comp=Z,9.1nm,0.9s
CTA **Charters Tower** 20.23 251 P **P** 05 03 14.9 -3.5
comp=Z,5.4nm,0.8s,baz=37,slow=21,SNR=1.8
CTAO **Charters Tower** 20.23 251 P **P** 05 03 18.8 +0.4
CTAO IAmb IAmb 05 03 20.3
comp=Z,9.6nm,0.8s
URZ **Urewera** 25.43 161 P **P** 05 04 12.0 +1.4
URZ IAmb IAmb 05 04 36.5
comp=Z,22nm,1.3s
STKA **Stephens Creek** 28.68 229 P **P** 05 04 38.5 -1.4
comp=Z,2.0nm,1.0s,baz=56,slow=6.6,SNR=3.0
STKA **Stephens Creek** 28.68 229 P **P** 05 04 40.4 +0.4
WB0 **Warramunga Arr** 31.22 256 P **P** 05 05 01.1 -1.6
WB0 IAmb IAmb 05 05 24.1
comp=Z,9.9nm,1.3s
WRA **Warramunga Arr** 31.28 255 P **P** 05 04 59.9 -3.3
comp=Z,1.1nm,1.0s,baz=84,slow=8.8,SNR=4.0
ASAR **Alice Springs** 32.18 249 P **P** 05 05 09.0 -2.1
comp=Z,0.8nm,0.7s,baz=73,slow=9.5,SNR=9.1
BBOO **Buckleboo** 33.24 231 P **P** 05 05 20.8 +0.6
FORT **Forrest** 38.89 239 P **P** 05 06 08.2 -0.3
FITZ **Fitzroy Crossi** 39.45 259 P **P** 05 06 10.8 -2.6
comp=Z,3.1nm,0.9s,baz=55,slow=8.8,SNR=2.9
FITZ **Fitzroy Crossi** 39.45 259 P **P** 05 06 12.9 -0.5
FITZ IAmb IAmb 05 06 34.6
comp=Z,8.2nm,1.3s
MORW **Morawa** 48.81 244 P **P** 05 07 28.3 -0.1
MORW IAmb IAmb 05 07 52.1
comp=Z,8.5nm,1.1s
SBA **Scott Base** 63.37 180 P **P** 05 09 13.9 +2.3
CMAR **Chiang Mai Arr** 74.29 294 P **P** 05 10 20.7 +0.1
comp=Z,0.7nm,0.3s,baz=134,slow=5.2,SNR=1.1
QSPA **South Pole Qui** 75.53 180 P **P** 05 10 28.2 +1.1
QSPA IAmb IAmb 05 10 44.9
comp=Z,3.9nm,1.3s
SONM **Songino Array** 81.94 324 P **P** 05 11 01.6 -0.9
comp=Z,0.2nm,0.5s,baz=133,slow=6.1,SNR=1.5
ILAR **Eielson Array** 86.49 18 P **P** 05 11 25.1 0.0
comp=Z,1.1nm,0.7s,baz=250,slow=5.2,SNR=7.9
ILAR **Eielson Array** 86.49 18 P **P** 05 11 24.8 -0.4
MKAR **Makanchi Array** 96.61 317 P **P** 05 12 13.5 +0.8
comp=Z,0.2nm,0.6s,baz=124,slow=9.7,SNR=2.1
ZALV **Zalesovo Beam** 96.84 324 P **P** 05 12 15.1 +1.6
comp=Z,0.2nm,0.3s,baz=84,slow=13,SNR=1.4
YKA **Yellowknife Ar** 97.62 27 P **P** 05 12 17.1 +0.3
comp=Z,0.2nm,0.7s,baz=258,slow=4.5,SNR=5.3
ARCES **ARCESS Array B** 119.87 345 PKP **PKPdf** 05 17 32.7 +0.3
comp=Z,2.6nm,0.9s,baz=357,slow=6.1,SNR=2.1

*IDC **25** 05:18:13.0±2.7, 18°32S×176°57W, h360km±24km, mb3.4/11, mb1 3.6/12, mb1mx3.4/32, mbtmp4.1/12, Error ellipse: s-maj=31.1km s-min=17.2km az=133.0*
*NEIC **25** 05:18:13.4±1.6, 18°1S±0°1×176°5W±0°1, h359km±8km, mb4.1/14, Error ellipse: s-maj=18.0km s-min=13.7km az=162.0*

ISC 25 05:18:12.4±0.6, 18°2S±0°1×176°58W±0°09, h350km, n32, σ1s01/34, mb3.9/17, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSVF **Nonsavu** 5.12 274 P **Pn** 05 19 36.1 +2.5
2.3nm,0.3s,baz=115,slow=16,SNR=25
MSVF **Nonsavu** 5.12 274 **Pn** 05 19 36.4 +2.8
AFI **Afiamalu** 6.26 48 Pn **Pn** 05 19 46.4 -0.1
NIUE **Niue** 6.38 99 Pn **Pn** 05 19 48.1 +0.5
MARNC **Mare, Loyalty** 14.85 255 P **Pn** 05 21 27.1 -0.5
URZ **Urewera** 20.77 194 P **P** 05 22 25.4 -2.0
5.1nm,0.9s,baz=50,slow=22,SNR=2.1
URZ **Urewera** 20.77 194 P **P** 05 22 27.1 -0.3
BKZ **Black Stump Fm** 21.78 195 P **P** 05 22 37.4 +0.7
BKZ IAmb IAmb 05 22 39.8
comp=Z,22nm,1.3s
CTA **Charters Tower** 35.12 261 P **P** 05 24 33.1 -1.1
comp=Z,8.8nm,0.8s,baz=74,slow=11,SNR=5.2
CTAO **Charters Tower** 35.12 261 P **P** 05 24 33.4 -0.9
STKA **Stephens Creek** 40.04 242 P **P** 05 25 14.2 -0.8
comp=Z,1.6nm,0.7s,baz=130,slow=13,SNR=3.8
BBOO **Buckleboo** 44.81 242 P **P** 05 25 53.3 +0.3
BBOO IAmb IAmb 05 26 10.8
comp=Z,21nm,1.4s
WR0 **Warramunga Arr** 46.10 260 P **P** 05 26 03.5 +0.3
WR0 IAmb IAmb 05 26 31.0
comp=Z,7.6nm,1.3s
WB0 **Warramunga Arr** 46.26 260 P **P** 05 26 04.2 -0.3
WB0 IAmb IAmb 05 26 11.3
comp=Z,11nm,1.3s
WB2 **Warramunga Arr** 46.28 260 P **P** 05 26 04.0 -0.6
WB2 IAmb IAmb 05 26 10.8
comp=Z,9.6nm,1.3s
WRA **Warramunga Arr** 46.29 260 P **P** 05 26 03.4 -1.3
comp=Z,0.7nm,0.3s,baz=97,slow=7.8,SNR=22
WRA PcP **PcP** 05 27 33.9 +0.3
comp=Z,0.2nm,0.3s,baz=92,slow=3.6,SNR=2.1
WRA **Warramunga Arr** 46.29 260 P **P** 05 26 03.9 -0.9
AS31 **Alice Springs** 46.39 254 P **P** 05 26 05.2 -0.3
ASAR **Alice Springs** 46.40 254 P **P** 05 26 05.0 -0.5
comp=Z,3.3nm,0.4s,baz=90,slow=8.9,SNR=102
ASAR PcP **PcP** 05 27 34.0 0.0
comp=Z,0.4nm,0.4s,baz=103,slow=3.9,SNR=5.2
ASAR **Alice Springs** 46.40 254 P **P** 05 26 04.6 -0.9
KNRA **Kununurra** 52.19 264 P **P** 05 26 47.9 -1.0
KNRA IAmb IAmb 05 26 50.8
comp=Z,21nm,1.1s
FITZ **Fitzroy Crossi** 54.70 260 P **P** 05 27 06.5 -0.5
comp=Z,0.9nm,0.4s,baz=104,slow=4.2,SNR=1.6
FITZ **Fitzroy Crossi** 54.70 260 P **P** 05 27 06.4 -0.5
FITZ IAmb IAmb 05 27 11.5
comp=Z,8.3nm,1.3s
MBWA **Marble Bar** 59.70 256 P **P** 05 27 40.9 -0.7
QSPA **South Pole Qui** 71.90 180 P **P** 05 28 59.7 +1.5
QSPA IAmb IAmb 05 29 01.3
comp=Z,2.8nm,0.8s
PETK **Petropavlovsk-** 74.37 344 P **P** 05 29 12.2 -0.1
comp=Z,2.7nm,0.8s,baz=116,slow=8.2,SNR=2.9
KSRS **Korea Array** 76.05 317 P **P** 05 29 22.6 +0.5
comp=Z,1.4nm,0.6s,baz=138,slow=7.2,SNR=6.1
NVAR **Mina Array Bea** 78.41 43 P **P** 05 29 34.7 -0.7
comp=Z,0.2nm,0.5s,baz=236,slow=6.4,SNR=2.0
ILAR **Eielson Array** 85.75 12 P **P** 05 30 12.2 -0.1
comp=Z,0.7nm,0.4s,baz=227,slow=5.4,SNR=25
YKA **Yellowknife Ar** 93.84 24 P **P** 05 30 50.0 -0.1
comp=Z,0.3nm,0.7s,baz=239,slow=4.5,SNR=6.5
BRTR **Keskin Array B** 146.18 316 PKPbc **PKPbc** 05 37 12.7 +0.2
comp=Z,1.0nm,0.4s,baz=117,slow=3.1,SNR=1.5
GERES **GERESS Array B** 148.27 347 PKPbc **PKPbc** 05 37 18.2 +0.5
comp=Z,0.4nm,0.3s,baz=63,slow=3.3,SNR=4.5

*ISU **25** 05:19:52.4, 40°.83N×69°.04E, h2km, Hypocentre not reviewed by the ISC*
*SOME **25** 05:19:53.8, 40°.93N×69°.07E, h5km*
*KRNET **25** 05:19:53.4±0.1, 40°.88N×69°.17E, h12km, mb3.6*
*NNC **25** 05:19:54.5±1.6, 40°.93N×69°.26E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=11.2km s-min=7.8km az=34.0*

ISC 25 05:19:51.1±1.5, 40°.83N±0°.03×68°.69E±0°.08, h8km±11km, n28, σ2s02/46, 16C-4D, Southeastern Uzbekistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YNGY **Yangiyul** 0.38 44 P 05 19 57.5
YNGY S 05 20 01.6
NZBK **Nazarbek** 0.51 40 P 05 20 01.3
NZBK S 05 20 07.6
TAS **Tashkent** 0.67 43 ⇑*i*P **Pg** 05 20 02.5 -1.6
baz=12
TAS ⇑*i*S **Sg** 05 20 09.3 -3.6
baz=12
DZI **Dzhizak** 0.97 223 P 05 20 14.7
CHRV **Charvak** 1.25 49 P 05 20 11.5
CHRV S 05 20 25.8
CHM **Chimkent** 1.64 25 *e*P **Pg** 05 20 23.7 +1.2
118nm,0.2s
CHM *e*S **Sg** 05 20 45.5 +1.9
286nm,0.2s
IUG **Iuzhnay** 1.66 37 *e*P **Pn** 05 20 20.6 0.0
baz=27
IUG *e*S **Sn** 05 20 40.0 -2.2
baz=27
IUG **Iuzhnay** 1.66 37 *e*P **Pn** 05 20 20.6 0.0
325nm,0.2s
IUG *e*S **Sn** 05 20 39.9 -2.2
274nm,0.5s
BTK **Batken** 1.80 115 ⇑*i*P **Pn** 05 20 21.5 -1.1
baz=22
BTK ⇑*i*S **Sn** 05 20 42.3 -3.4
baz=22
TRKS **Terek-Say** 1.98 69 ⇑*i*P **Pn** 05 20 23.8 -1.3
baz=68
TRKS ⇑*i*S **Sn** 05 20 46.1 -4.0
baz=68
CHGR **Chuyangaron** 2.20 170 ⇑*i*P **Pg** 05 20 33.5 +0.2
baz=80
CHGR ⇑*i*S **Sg** 05 21 02.6 +0.7
baz=80
GAR **Garm** 2.22 145 ⇑*i*P **Pb** 05 20 31.4 -0.1
baz=54
GAR ⇑*i*S **Sb** 05 20 59.0 -0.2
baz=54
CHMI **Chimion** 2.23 104 P 05 20 29.9
BRLS **Borolday** 2.36 21 *e*P **Pn** 05 20 29.3 -0.8
2.3nm,0.3s
BRLS *e*S **Sn** 05 20 55.5 -3.8
54nm,0.2s
SHAK **Shakhimardan** 2.49 110 P 05 20 33.8
KK31 **Karatay Array** 2.65 30 ⇓Pg **Pb** 05 20 37.8 -0.9
5.0nm,0.5s,baz=207,slow=17,SNR=42
KK31 Lg Lg 05 21 09.9
23nm,0.3s,baz=212,slow=28,SNR=21

KKAR	**Karatay Array**	**2.65**	**30**	⇓*i*	P	**Pn**	**05 20 36.6**	**+2.5**
	baz=24								
KKAR				⇓*i*	S	**Sn**	**05 21 08.0**	**+1.6**
	baz=24								
ARK	**Arkit**	**2.65**	**68**	⇑*i*	P	**Pn**	**05 20 34.5**	**+0.3**
	baz=65								
ARK				⇑*i*	S	**Sn**	**05 21 04.6**	**-2.0**
	baz=65								
DRK	**Karamyk**	**2.74**	**119**	⇑*i*	P	**Pn**	**05 20 36.9**	**+1.2**
	baz=24								
DRK				⇑*i*	S	**Sn**	**05 21 08.7**	**-0.5**
	baz=24								
DZA	**Taraz**	**2.85**	**43**	*e*P		**Pb**	**05 20 40.9**	**-1.4**
	97nm,0.1s								
DZA				*e*S		**Sb**	**05 21 15.8**	**-1.6**
	201nm,0.3s								
MRKS	**Merke**	**3.89**	**59**	*e*P		**Pb**	**05 21 01.3**	**+1.2**
	4.1nm,0.2s								
MRKS				*e*S		**Sb**	**05 21 49.7**	**+2.3**
	24nm,0.4s								
CHMS	**Chumysh**	**5.01**	**62**	⇑Lg		Lg	05 22 21.1		
	9.6nm,0.6s								
SGDS	**Sogindy**	**5.13**	**57**	*e*P		**Pb**	**05 21 21.7**	**+0.5**
	2.8nm,0.1s								
SGDS				*e*S		**Sb**	**05 22 25.2**	**+2.1**
	16nm,0.3s								
TKM2	**Tokmak 2**	**5.56**	**66**	⇓Pg		**Pb**	**05 21 28.3**	**-0.3**
	1.7nm,0.6s								
TKM2				⇑Lg		Lg	05 22 38.1		
	6.2nm,0.7s								
DGS	**Degeres**	**5.80**	**63**	*e*P		**Pb**	**05 21 33.3**	**+0.8**
	8.3nm,0.4s								
DGS				*e*S		**Sb**	**05 22 46.0**	**+3.8**
	13nm,0.6s								
DGS	**Degeres**	**5.80**	**63**	Pg		**Pb**	**05 21 33.3**	**+0.8**
	8.3nm,0.4s								
DGS				Lg		Lg	05 22 46.0		
	13nm,0.6s								
KST	**Kastek**	**5.86**	**65**	*e*P		**Pb**	**05 21 34.0**	**+0.5**
	1.6nm,0.4s								
KST				*e*S		**Sb**	**05 22 47.4**	**+3.5**
	11nm,0.5s								
KST	**Kastek**	**5.86**	**65**	Pg		**Pb**	**05 21 33.6**	**+0.1**
	2.4nm,0.5s								
KST				Lg		Lg	05 22 47.3		
	10nm,0.5s								
KRBS	**Karabastau**	**5.92**	**59**	*e*P		**Pb**	**05 21 33.9**	**-0.7**
	2.0nm,0.2s								
KRBS				*e*S		**Sb**	**05 22 48.0**	**+2.3**
	5.1nm,0.5s								
KRBS	**Karabastau**	**5.92**	**59**	Pg		**Pb**	**05 21 33.5**	**-1.1**
	2.0nm,0.2s								
KRBS				Lg		Lg	05 22 47.7		
	5.1nm,0.5s								
KRBS	**Karabastau**	**5.92**	**59**	*e*S		**Pb**	**05 21 33.4**	**-1.2**
	3.7nm,0.5s								
KTBS	**Karatobe**	**6.59**	**61**	*e*P		**Pb**	**05 21 47.6**	**+1.6**
	2.5nm,0.5s								
KTBS				*e*S		**Sb**	**05 23 09.9**	**+5.0**
	9.2nm,0.6s								
KTBS	**Karatobe**	**6.59**	**61**	Pg		**Pb**	**05 21 46.6**	**+0.6**
	2.5nm,0.5s								
KTBS				Lg		Lg	05 23 08.8		
	9.2nm,0.6s								
ARXS	**Arharly**	**7.55**	**60**	Pg		**Pb**	**05 22 03.4**	**+1.1**
	3.4nm,0.8s								
ARXS				Lg		Lg	05 23 37.9		
	5.1nm,0.3s								

*KRNET **25** 05:20:16.9±0.1,41°.71N×77°.62E,h17km,mb2.4*
*SOME **25** 05:20:17.7,41°.83N×77°.58E,h0km*
ISC 25 05:20:17.0±1.2,41°.75N±0°.05×77°.60E±0°.03,h6km±11km, n24,σ0°61/47,10C-2D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.15**	**96**	⇑*i*	P	**Pg**	**05 20 20.3**	**-0.1**
	baz=83							
TARG				⇑*i*	S	**Sg**	**05 20 22.6**	**-0.1**
	baz=83							
KDJ	**Kajisay**	**0.49**	**321**	⇑*i*	P	**Pg**	**05 20 27.2**	**+0.6**
	baz=23							
KDJ				⇑*i*	S	**Sb**	**05 20 34.7**	**-1.1**
	baz=23							
ANVS	**Anan'yevo**	**1.04**	**3**	⇑*i*	P	**Pg**	**05 20 36.8**	**-0.2**
	baz=2.0							
ANVS				⇑*i*	S	**Sb**	**05 20 51.3**	**-0.1**
	baz=2.0							
ULHL	**Ulahol**	**1.13**	**297**	⇑*i*	P	**Pg**	**05 20 38.3**	**-0.4**
	baz=98							
ULHL				⇑*i*	S	**Sb**	**05 20 54.0**	**0.0**
	baz=98							
TNSS	**Tian-Shan**	**1.38**	**340**	*e*P		**Pg**	**05 20 43.4**	**-0.1**
	baz=40							
TNSS				*e*S		**Sn**	**05 21 02.1**	**+0.3**
	baz=40							
TNSS	**Tian-Shan**	**1.38**	**340**	*e*P		**Pg**	**05 20 43.4**	**-0.1**
	2.6nm,0.1s							
TNSS				*e*S		**Sn**	**05 21 02.1**	**+0.3**
	2.4nm,0.2s							
BOOM	**Boomskoye usch**	**1.44**	**302**	⇑*i*	P	**Pn**	**05 20 43.9**	**+0.1**
	baz=3.0							
BOOM				⇑*i*	S	**Sg**	**05 21 03.6**	**+0.3**
	baz=3.0							
SATY	**Saty**	**1.44**	**24**	*e*P		**Pg**	**05 20 44.4**	**-0.3**
	baz=23							
SATY				*e*S		**Sg**	**05 21 03.5**	**+0.1**
	baz=23							
SATY	**Saty**	**1.44**	**24**	*e*P		**Pg**	**05 20 44.4**	**-0.3**
	0.7nm,0.1s							
SATY				*e*S		**Sg**	**05 21 03.4**	**+0.1**
	5.6nm,0.1s							
MDOK	**Medeo**	**1.47**	**344**	*e*P		**Pg**	**05 20 45.1**	**-0.2**
	baz=44							
MDOK				*e*S		**Sg**	**05 21 04.8**	**+0.4**
	baz=44							
MDOK	**Medeo**	**1.47**	**344**	*e*P		**Pg**	**05 20 45.0**	**-0.2**
	2.4nm,0.1s							
MDOK				*e*S		**Sg**	**05 21 04.8**	**+0.4**
	2.8nm,0.0s							
KOTS	**Kotyrbulak**	**1.53**	**347**	*e*P		**Pg**	**05 20 46.3**	**-0.1**
	baz=46							
KOTS				*e*S		**Sg**	**05 21 06.9**	**+0.7**
	baz=46							
KOTS	**Kotyrbulak**	**1.53**	**347**	*e*P		**Pg**	**05 20 46.3**	**-0.1**
	3.4nm,0.2s							
KOTS				*e*S		**Sg**	**05 21 06.9**	**+0.7**
	9.3nm,0.2s							
UZB	**Uzynbulak**	**1.75**	**36**	*e*P		**Pg**	**05 20 50.2**	**-0.4**
	baz=35							
UZB				*e*S		**Sg**	**05 21 13.6**	**+0.2**
	baz=35							
UZB	**Uzynbulak**	**1.75**	**36**	*e*P		**Pg**	**05 20 50.2**	**-0.4**
	1.5nm,0.2s							
UZB				*e*S		**Sg**	**05 21 13.6**	**+0.2**
	3.3nm,0.2s							
KST	**Kastek**	**1.77**	**317**	*e*P		**Pg**	**05 20 50.8**	**-0.2**
	baz=18							
KST				*e*S		**Sg**	**05 21 14.6**	**+0.6**
	baz=18							
KST	**Kastek**	**1.77**	**317**	*e*P		**Pg**	**05 20 50.8**	**-0.2**
	1.0nm,0.2s							
KST				*e*S		**Sg**	**05 21 14.6**	**+0.6**
	7.5nm,0.3s							
TKM2	**Tokmak 2**	**1.89**	**309**	⇓*i*	P	**Pb**	**05 20 51.5**	**-0.6**
	baz=10.0							
TKM2				⇓*i*	S	**Sg**	**05 21 16.7**	**-1.1**
	baz=10.0							
KPKS	**Kokpek**	**1.90**	**25**	*e*P		**Pg**	**05 20 52.6**	**-0.8**
	2.1nm,0.2s							
KPKS				*e*S		**Sg**	**05 21 17.7**	**-0.3**
	5.8nm,0.3s							
DGS	**Degeres**	**2.02**	**319**	*e*P		**Pg**	**05 20 55.0**	**-0.6**
	1.9nm,0.3s							
DGS				*e*S		**Sg**	**05 21 21.8**	**+0.1**
	3.0nm,0.2s							
KTBS	**Karatobe**	**2.08**	**341**	*e*P		**Pg**	**05 20 56.1**	**-0.7**
	1.1nm,0.1s							
KTBS				*e*S		**Sg**	**05 21 24.0**	**+0.2**
	7.4nm,0.2s							
KUU	**Kurty**	**2.34**	**337**	*e*P		**Pb**	**05 21 00.0**	**+0.5**
	0.4nm,0.1s							
KUU				*e*S		**Sg**	**05 21 30.1**	**-2.0**
	2.6nm,0.3s							
KRBS	**Karabastau**	**2.41**	**325**	*e*P		**Pb**	**05 21 01.8**	**+1.0**
	0.8nm,0.2s							
BLB	**Baldybastay**	**2.44**	**15**	*e*P		**Pb**	**05 21 02.1**	**+0.8**
	4.0nm,0.1s							
BLB				*e*S		**Sg**	**05 21 33.9**	**-1.4**
	10nm,0.2s							

*IDC **25** 05:31:57.5±1.2,5°.77S×150°.89E,h64km±14km,mb3.5/8, mb1 3.7/10,mb1mx3.5/43,mbtmp3.8/10,Error ellipse: s-maj=28.5km s-min=9.0km az=129.0*
*NEIC **25** 05:31:58.8±1.2,5°.7S±0°.1×150°.9E±0°.1,h74km±15km, mb4.0/9,Error ellipse: s-maj=20.6km s-min=12.5km az=148.0*
ISC 25 05:31:55.4±0.7,5°.8S±0°.1×150°.9E±0°.1,h35km,n23, σ1s60/24,mb3.9/11,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.82**	**38**	P		**Pn**	**05 32 25.9**	**+1.6**
	56nm,0.3s,baz=270,slow=1.0,SNR=8.6							
KRVT				S		**Sn**	**05 32 49.9**	**+3.7**
	60nm,0.3s,baz=221,slow=20,SNR=3.8							
RABL	**Rabaul**	**2.00**	**39**	Pn		**Pn**	**05 32 28.8**	**+2.1**
PMG	**Port Moresby**	**5.19**	**225**	P		**Pn**	**05 33 13.5**	**+2.9**
	2.9nm,0.3s,baz=72,slow=6.4,SNR=2.3							
PMG				S		**Sn**	**05 34 11.6**	**+2.3**
	15nm,0.3s,baz=0.0,slow=20,SNR=12							
PMG	**Port Moresby**	**5.19**	**225**	Pn		**Pn**	**05 33 12.6**	**+2.0**
CTA	**Charters Tower**	**14.95**	**197**	P		**Pn**	**05 35 24.9**	**+0.5**
	0.2nm,0.3s,baz=352,slow=7.1,SNR=2.4							
WB0	**Warramunga Arr**	**21.26**	**228**	P		**P**	**05 36 39.3**	**+0.5**
WB0				IAmb		IAmb	05 36 58.9	
	comp=Z,4.4nm,0.8s							
WR0	**Warramunga Arr**	**21.27**	**227**	P		**P**	**05 36 39.1**	**+0.2**
WR0				IAmb		IAmb	05 36 59.1	
	comp=Z,6.2nm,0.9s							
WRAB	**Tennant Creek**	**21.39**	**227**	P		**P**	**05 36 40.4**	**+0.2**
WB2	**Warramunga Arr**	**21.40**	**227**	P		**P**	**05 36 40.4**	**+0.1**
WB2				IAmb		IAmb	05 37 00.3	
	comp=Z,7.5nm,1.1s							
WRA	**Warramunga Arr**	**21.41**	**227**	P		**P**	**05 36 39.6**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=53,slow=10,SNR=32							
WRA	**Warramunga Arr**	**21.41**	**227**	P		**P**	**05 36 39.2**	**-1.2**
DZM	**Mont Dzumac**	**22.12**	**139**	P		**P**	**05 36 47.1**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=312,slow=16,SNR=1.8							
DZM	**Mont Dzumac**	**22.12**	**139**	P		**P**	**05 36 47.6**	**-0.6**
DZM				IAmb		IAmb	05 36 47.7	
	comp=Z,12nm,1.5s							
AS31	**Alice Springs**	**24.18**	**221**	P		**P**	**05 37 08.9**	**+0.1**
ASAR	**Alice Springs**	**24.19**	**221**	P		**P**	**05 37 08.2**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=55,slow=8.5,SNR=40							
ASAR	**Alice Springs**	**24.19**	**221**	P		**P**	**05 37 08.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.54**	**241**	P		**P**	**05 37 38.1**	**-1.0**
	comp=Z,3.0nm,0.9s,baz=63,slow=12,SNR=1.9							
SONM	**Songino Array**	**66.13**	**329**	P		**P**	**05 42 37.7**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=64,slow=6.6,SNR=2.1							
VNDA	**Vanda**	**71.96**	**178**	P		**P**	**05 43 13.8**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=326,slow=5.1,SNR=3.5							
VNDA	**Vanda**	**71.96**	**178**	IAmb		IAmb	05 43 32.3	
	comp=Z,2.7nm,1.4s							
ILAR	**Eielson Array**	**83.75**	**22**	P		**P**	**05 44 20.0**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=216,slow=4.5,SNR=1.6							
YKA	**Yellowknife Ar**	**97.14**	**28**	P		**P**	**05 45 23.3**	**-0.6**
	comp=Z,0.8nm,1.3s,baz=258,slow=3.1,SNR=2.0							
TORD	**Torodi Ar. Bea**	**148.77**	**286**	PKPbc		**PKPbc**	**05 51 38.1**	**-2.1**
	comp=Z,0.3nm,0.7s,baz=86,slow=1.3,SNR=1.9							

*MOS **25** 05:38:25.9±0.0,43°.21N×41°.83E,h6km,MPVA3.8*
*TIF **25** 05:38:26.1,43°.20N×41°.80E,h15km±2km*
ISC 25 05:38:26.2±0.9,43°.22N±0°.02×41°.82E±0°.02,h9km±8km, n24,σ0°60/47,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DOMR	**Dombai**	**0.16**	**298**	*i* Pg		**Pg**	**05 38 29.8**	**0.0**
DOMR				*i* Sg		**Sg**	**05 38 32.5**	**0.0**
ARXR	**Arkhyz**	**0.53**	**311**	*i* Pg		**Pg**	**05 38 36.5**	**-0.1**
ARXR				*i* Sg		**Sg**	**05 38 44.1**	**+0.6**
CHVG	**Ch'k'valeri**	**0.53**	**159**	P		**Pg**	**05 38 36.1**	**-0.5**
CHVG				S		**Sg**	**05 38 43.4**	**-0.1**
NEY	**Neytrino**	**0.66**	**87**	*i* Pg		**Pg**	**05 38 38.8**	**-0.2**
NEY				*i* Sg		**Sg**	**05 38 47.3**	**-0.3**
SHA1	**Shidzhatmaz**	**0.80**	**49**	*i* Pg		**Pb**	**05 38 42.4**	**-0.1**
SHA1				*i* Sg		**Sb**	**05 38 53.6**	**+0.1**
KBZ	**Khabaz**	**0.94**	**56**	*i* Pg		**Pb**	**05 38 44.7**	**+0.1**
KBZ				*i* Sg		**Sb**	**05 38 57.3**	**+0.2**
KIV	**Kislovodsk**	**0.97**	**40**	*e*Pg		**Pn**	**05 38 45.5**	**-0.6**
KIV				*i* Sg		**Sn**	**05 38 59.1**	**-1.0**
KIV0	**Kislovodsk Arr**	**0.97**	**40**	*i* Pg		**Pb**	**05 38 45.4**	**0.0**
KIV0				*i* Sg		**Sb**	**05 38 59.0**	**+0.6**
AHMR	**Akhmetovskaya**	**1.10**	**329**	*i* Pg		**Pn**	**05 38 47.5**	**-0.3**
AHMR				*i* Sg		**Sn**	**05 39 03.4**	**+0.2**
TKB	**Tkibuli**	**1.22**	**135**	P		**Pg**	**05 38 49.4**	**-0.2**
TKB				S		**Sn**	**05 39 06.5**	**+0.4**
TKB	**Tkibuli**	**1.22**	**135**	*e*Pg		**Pg**	**05 38 49.4**	**-0.2**
TKB				*e*Sg		**Sn**	**05 39 06.5**	**+0.4**
RPOR	**Krasnaya Polya**	**1.23**	**294**	*i* Pg		**Pg**	**05 38 50.3**	**+0.4**
RPOR				*e*Sg		**Sn**	**05 39 07.2**	**+0.7**
VSLR	**Vesyoloye**	**1.33**	**281**	*i* Pg		**Pg**	**05 38 51.4**	**-0.3**
VSLR				*e*Sg		**Sg**	**05 39 10.5**	**+1.6**
ONI	**Oni**	**1.35**	**117**	P		**Pg**	**05 38 52.4**	**+0.2**
ONI				S		**Sg**	**05 39 10.7**	**+1.0**
ONI	**Oni**	**1.35**	**117**	*i* Pg		**Pg**	**05 38 52.0**	**-0.2**
ONI				*e*Sg		**Sg**	**05 39 10.6**	**+0.9**
GUZR	**Guzeripl'**	**1.46**	**303**	*i* Pg		**Pb**	**05 38 53.5**	**-0.1**
GUZR				*e*Sg		**Sg**	**05 39 13.0**	**-0.3**
SOC	**Sochi**	**1.58**	**284**	*i* Pg		**Pb**	**05 38 55.1**	**-0.4**
SOC				*i* Sg		**Sg**	**05 39 17.3**	**+0.4**
BATM	**Batumi**	**1.61**	**183**	P		**Pn**	**05 38 54.9**	**+0.1**
BATM				S		**Sn**	**05 39 14.1**	**-1.7**
BATM	**Batumi**	**1.61**	**183**	*e*Pg		**Pn**	**05 38 54.9**	**+0.1**
ABS	**Abastumani**	**1.63**	**153**	P		**Pb**	**05 38 56.0**	**-0.5**
ABS				S		**Sg**	**05 39 18.7**	**0.0**
LZRR	**Lazarevskoye**	**1.92**	**293**	*i* Pg		**Pb**	**05 39 01.5**	**+0.2**
LZRR				*e*Sg		**Sg**	**05 39 26.3**	**-1.4**
AKH	**Akhalkalaki**	**2.19**	**145**	P		**Pb**	**05 39 05.9**	**-0.2**
AKH				S		**Sb**	**05 39 33.8**	**+0.4**
AKH	**Akhalkalaki**	**2.19**	**145**	*e*Pg		**Pb**	**05 39 05.9**	**-0.2**
AKH				*e*Sg		**Sb**	**05 39 33.8**	**+0.4**
TRLG	**Trialeti**	**2.38**	**134**	P		**Pg**	**05 39 12.2**	**+0.3**
TRLG				S		**Sb**	**05 39 39.9**	**+1.1**

*IDC **25** 05:40:16.7±0.9,17°.51N×94°.39W,h113km±15km,mb3.2/7, mb1 3.5/9,mb1mx3.3/35,mbtmp3.6/9,MS3.1/1,Ms1 3.1/1, ms1mx2.3/27,Error ellipse: s-maj=42.0km s-min=18.2km az=51.0*
*NEIC **25** 05:40:17.2±2.1,17°.20N±0°.09×94°.76W±0°.06, h134km±10km,Error ellipse: s-maj=13.5km s-min=7.7km az=180.0*
*MEX **25** 05:40:18.6±1.3,17°.29N×94°.69W,h137km±8km,MD4.3*
ISC 25 05:40:17.1±0.6,17°.21N±0°.06×94°.73W±0°.03,h138km±6km, n59,σ1s22/76,mb3.5/7,Chiapas

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**0.19**	**231**	P		**Pn**	**05 40 35.8**	**-0.1**
	147nm,0.3s,baz=139,slow=2.1,SNR=4269							
CMIG				S		**Sn**	**05 40 49.8**	**-0.3**
	382nm,0.3s,baz=302,slow=23,SNR=27							
CMIG	**Matias Romero**	**0.19**	**231**			**Pn**	**05 40 36.2**	**+0.3**
CMIG						**Sn**	**05 40 49.7**	**-0.4**
CMIG	**Matias Romero**	**0.19**	**231**	*i* P		**Pn**	**05 40 36.2**	**+0.3**
CMIG				*i* S		**Sn**	**05 40 49.7**	**-0.4**
UXUV	**UXUV**	**0.56**	**79**	*i* P		**Pn**	**05 40 37.5**	**+0.1**
UXUV				*e*S		**Sn**	**05 40 51.4**	**-1.4**
TGIG		**1.59**	**105**			**Pn**	**05 40 47.1**	**+0.3**
TGIG						**Sn**	**05 41 08.5**	**-1.1**
TGIG		**1.59**	**105**	*e*P		**Pn**	**05 40 47.1**	**+0.3**
TGIG				*e*S		**Sn**	**05 41 08.5**	**-1.1**
VHO	**Vista Hermosa**	**1.92**	**266**	*e*P		**Pn**	**05 40 51.9**	**+1.1**
VHO				*i* S		**Sn**	**05 41 17.4**	**+0.8**
HUIG	**Huatulco**	**1.96**	**223**			**Pn**	**05 40 49.8**	**-1.3**
HUIG	**Huatulco**	**1.96**	**223**	*e*P		**Pn**	**05 40 49.8**	**-1.3**
PCIG		**2.08**	**136**			**Pn**	**05 40 53.1**	**+0.6**
PCIG						**Sn**	**05 41 18.4**	**-1.3**
PCIG		**2.08**	**136**	*e*P		**Pn**	**05 40 53.1**	**+0.6**
PCIG				*e*S		**Sn**	**05 41 18.4**	**-1.3**
TOIG	**Toxpalan**	**2.40**	**292**	*i* P		**Pn**	**05 40 57.1**	**+0.6**
PEIG	**Puerto Escondi**	**2.62**	**243**	*e*P		**Pn**	**05 40 57.8**	**-1.4**
PEIG				*e*S		**Sn**	**05 41 29.3**	**-2.3**
CCIG	**Comitan**	**2.65**	**110**			**Pn**	**05 41 00.2**	**+0.5**
CCIG						**Sn**	**05 41 30.0**	**-2.5**
CCIG	**Comitan**	**2.65**	**110**	*i* P		**Pn**	**05 41 00.2**	**+0.5**
CCIG				*e*S		**Sn**	**05 41 30.0**	**-2.5**
YOIG	**Yosondua**	**2.72**	**263**	*e*P		**Pn**	**05 41 00.8**	**+0.1**
YOIG				*e*S		**Sn**	**05 41 33.7**	**-0.5**
PAVE	**Pavencul**	**3.17**	**129**	*e*P		**Pn**	**05 41 07.1**	**+0.7**
PAVE				*e*S		**Sn**	**05 41 43.5**	**-0.9**
PATR	**El Naranjo**	**3.17**	**131**	*e*P		**Pn**	**05 41 06.3**	**-0.2**
PATR				*e*S		**Sn**	**05 41 43.5**	**-1.1**
THIG		**3.29**	**134**	*i* P		**Pn**	**05 41 09.3**	**+1.5**
THIG				*i* S		**Sn**	**05 41 48.5**	**+1.5**
PNIG	**Pinotepa**	**3.36**	**256**			**Pn**	**05 41 07.5**	**-1.2**
PNIG						**Sn**	**05 41 46.0**	**-2.5**
PNIG	**Pinotepa**	**3.36**	**256**	*i* P		**Pn**	**05 41 07.5**	**-1.2**
PNIG				*e*S		**Sn**	**05 41 46.0**	**-2.5**
HUEH	**Huehuetenango**	**3.62**	**121**			**Pn**	**05 41 12.3**	**0.0**
TLIG	**Tlapa**	**3.68**	**276**			**Pn**	**05 41 13.5**	**+0.4**
SCIG	**Sabancuy**	**3.79**	**62**	*i* P		**Pn**	**05 41 13.1**	**-1.2**
RTAL	**Retalhuleu**	**3.96**	**132**			**Pn**	**05 41 17.7**	**+1.1**
MTO3	**Montecristo**	**5.87**	**118**			**Pn**	**05 41 41.1**	**-1.1**
HZTE	**Horizontes, Gu**	**10.96**	**125**	Pn		**Pn**	**05 42 52.1**	**+1.8**
ORTG	**Ortega, Santa**	**11.28**	**126**	Pn		**Pn**	**05 42 55.7**	**+1.1**
DUNO	**Dulce Nombre,**	**11.43**	**127**	Pn		**Pn**	**05 42 57.4**	**+0.9**
JTS	**Las Juntas de**	**11.72**	**125**	P		**Pn**	**05 43 00.0**	**-0.2**
	0.7nm,0.3s,baz=20,slow=19,SNR=6.9							
JTS	**Las Juntas de**	**11.72**	**125**	Pn		**Pn**	**05 43 00.1**	**-0.1**
DRK0	**Durika**	**13.68**	**124**	Pn		**Pn**	**05 43 26.6**	**+0.8**
TXAR	**Lajitas Array**	**14.59**	**327**	P		**P**	**05 43 38.3**	**-1.4**
	0.1nm,0.3s,baz=146,slow=13,SNR=24							
TXAR	**Lajitas Array**	**14.59**	**327**	Pn		**Pn**	**05 43 37.7**	**+0.6**
TX31	**Lajitas Ar. Si**	**14.59**	**327**			**Pn**	**05 43 37.4**	**+0.4**
TX32	**Lajitas Array**	**14.59**	**327**			**Pn**	**05 43 37.4**	**+0.4**
ABTX	**Abilene, Hawle**	**15.97**	**345**			**P**	**05 43 54.4**	**-0.6**
ABTX					IAmb	IAmb	05 43 57.6	
	comp=Z,8.1nm,0.8s							
Z38A	**Mt. Pleasant**	**15.98**	**359**			**P**	**05 43 54.5**	**-0.5**
Z38A					IAmb	IAmb	05 43 56.5	
	comp=Z,17nm,1.2s							
250A	**Grady**	**16.58**	**26**	Pn		**Pn**	**05 43 59.6**	**-1.9**
MIAR	**Mount Ida**	**17.29**	**3**	P		**P**	**05 44 08.8**	**-0.7**
MIAR					IAmb	IAmb	05 44 31.2	
	comp=Z,8.1nm,1.3s							
X37A	**Clayton**	**17.32**	**358**	P		**Pn**	**05 44 10.1**	**-0.4**
X37A					IAmb	IAmb	05 44 33.2	
	comp=Z,6.3nm,1.1s							
AMTX	**Amarillo**	**18.66**	**342**	P		**P**	**05 44 24.8**	**+0.2**
FCAR	**Ozark Folk Cen**	**18.75**	**7**	P		**P**	**05 44 25.2**	**-0.2**
U40A	**Yellville**	**19.14**	**5**	P		**P**	**05 44 29.8**	**+0.1**
Y52A	**Lilburn**	**19.15**	**28**	P		**P**	**05 44 29.2**	**-0.5**
Y52A					IAmb	IAmb	05 44 55.0	
	comp=Z,8.0nm,1.4s							
ANMO	**Albuquerque**	**20.53**	**332**	P		**P**	**05 44 45.7**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=162,slow=9.7,SNR=7.9							
ANMO	**Albuquerque**	**20.53**	**332**	P		**P**	**05 44 44.6**	**-0.3**
U49A	**Red Boiling Sp**	**20.79**	**21**	P		**P**	**05 44 45.6**	**-1.8**
U49A					IAmb	IAmb	05 44 53.9	
	comp=Z,6.8nm,1.3s							
TKL	**Tuckaleechee C**	**20.80**	**26**	P		**P**	**05 44 45.0**	**-2.5**
	comp=Z,1.9nm,0.7s,baz=160,slow=12,SNR=2.3							
TKL	**Tuckaleechee C**	**20.80**	**26**	P		**P**	**05 44 46.6**	**-0.9**
TKL					IAmb	IAmb	05 45 06.3	
	comp=Z,11nm,1.4s							
X16A	**Lo Mia Camp, P**	**22.75**	**322**	P		**P**	**05 45 08.8**	**+1.0**
U56A	**King**	**22.91**	**31**	P		**P**	**05 45 07.7**	**-1.5**
U56A					IAmb	IAmb	05 45 25.4	
	comp=Z,11nm,1.1s							
PV13	**Radium Mtn., P**	**24.25**	**332**	P		**P**	**05 45 23.9**	**+2.2**
PV13					IAmb	IAmb	05 45 25.4	
	comp=Z,2.9nm,0.7s							
ELK	**Elko**	**29.38**	**327**	LR		LR	05 59 28.5	
	comp=Z,43nm,21.4s,baz=334,slow=39							
NVAR	**Mina Array Bea**	**29.54**	**320**	P		**P**	**05 46 11.3**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=130,slow=7.5,SNR=5.1							
LPAZ	**La Paz**	**42.37**	**140**	P		**P**	**05 48 00.9**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=317,slow=7.9,SNR=3.9							
YKA	**Yellowknife Ar**	**47.33**	**348**	P		**P**	**05 48 35.9**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=150,slow=7.5,SNR=6.8							
ILAR	**Eielson Array**	**58.87**	**337**	P		**P**	**05 50 02.5**	**+1.4**
	comp=Z,0.2nm,0.6s,baz

	1.5nm,0.3s,baz=104,slow=10,SNR=39							
ZALV					Lg	Lg	05 56 13.9	
	3.1nm,0.3s,baz=107,slow=26,SNR=18							
KURK	**Kurchatov**	**6.44**	**246**	⇑Lg	Lg		05 58 35.1	
	2.0nm,0.6s							
KURBB	**Kurchatov Arra**	**6.53**	**246**	Pn	**Pn**		**05 56 52.3**	**+2.1**
	0.1nm,0.3s,baz=62,slow=14,SNR=4.1							
KURBB				Sn	**Sn**		**05 58 05.1**	**-0.3**
	0.0nm,0.3s,baz=58,slow=22,SNR=2.1							
KURBB				Lg	Lg		05 58 40.0	
	0.1nm,0.3s,baz=63,slow=31,SNR=5.0							
KURBB	**Kurchatov Arra**	**6.53**	**246**	⇓Pn	**Pn**		**05 56 50.5**	**+0.2**
	1.4nm,0.5s							
KURBB				⇓Sn	**Sn**		**05 58 05.4**	**0.0**
	2.9nm,0.6s							
KURBB				⇓Lg	Lg		05 58 39.5	
	3.3nm,0.6s							
MK31	**Makanchi Array**	**7.79**	**210**	⇑Pn	**Pn**		**05 57 08.8**	**+1.2**
	0.2nm,0.5s,baz=28,slow=12,SNR=5.3							
MK31				⇑Sn	**Sn**		**05 58 36.0**	**-0.4**
	0.6nm,0.6s							
MK31				⇓Lg	Lg		05 59 20.0	
	1.4nm,0.8s,baz=23,slow=28							
MKAR	**Makanchi Array**	**7.79**	**210**	Pn	**Pn**		**05 57 09.8**	**+2.2**
	0.1nm,0.3s,baz=28,slow=13,SNR=4.7							
MKAR				Sn	**Sn**		**05 58 35.9**	**-0.5**
	0.1nm,0.3s,baz=31,slow=24,SNR=5.1							
MKAR				Lg	Lg		05 59 15.1	
	0.1nm,0.3s,baz=30,slow=27,SNR=3.4							
TKM2	**Tokmak 2**	**13.52**	**222**	P	**P**		**05 58 34.2**	**-1.3**
	SNR=6.7							
TKM2	**Tokmak 2**	**13.52**	**222**	⇑Pn	**P**		**05 58 33.6**	**-1.9**
	2.8nm,0.5s							

IDC ***25*** *06:13:55.9±0.7, 11°.29N×141°.21E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.1/52, mbtmp4.1/18, ML3.8/1, MS3.5/25, Ms1 3.5/25, ms1mx3.3/82, Error ellipse: s-maj=22.7km s-min=15.1km az=93.0*

NEIC ***25*** *06:13:58.6±1.2, 11°.2N±0°.1×141°.08E±0°.09, h10km±1km, mb4.7/11, Error ellipse: s-maj=28.1km s-min=5.3km az=147.0*

ISC 25 06:13:57.6±0.7, 11°.3N±0°.1×141°.1E±0°.1, h10km, n56, σ1§01/32, mb4.2/24, MS3.5/20, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.36**	**57**	Pn	**Pn**	**06 15 03.6**	**-0.4**
	4.8nm,0.3s,baz=217,slow=20,SNR=2.1						
GUMO				LR	LR	06 16 44.1	
	comp=Z,431nm,19.1s,baz=194,slow=40						
GUMO	**Guam**	**4.36**	**57**		**Pn**	**06 15 05.8**	**+1.7**
SIJI	**Sorong**	**15.50**	**220**	LR	LR	06 22 30.7	
	comp=Z,124nm,20.9s,baz=146,slow=33						
JCJ	**Chichijima**	**15.79**	**4**	LR	LR	06 23 04.5	
	comp=Z,169nm,18.1s,baz=115,slow=35						
KRVT	**Keravat (AS076**	**18.91**	**144**	LR	LR	06 25 34.9	
	comp=Z,261nm,18.1s,baz=136,slow=37						
JOW	**Kunigami**	**19.64**	**324**	LR	LR	06 24 35.9	
	comp=Z,132nm,20.5s,baz=304,slow=32						
JHJ	**Hachijo jima 2**	**21.80**	**357**	LR	LR	06 26 18.8	
	comp=Z,256nm,18.1s,baz=302,slow=34						
MJAR	**Matsushiro Arr**	**25.31**	**355**	LR	LR	06 28 03.3	
	comp=Z,54nm,18.1s,baz=165,slow=34						
H11S3	**WAKE ISLAND Hy**	**25.75**	**71**	T	T	06 47 13.5	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**25.76**	**71**	T	T	06 46 37.6	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**25.76**	**71**	T	T	06 47 01.9	
	baz=252						
H11N1	**WAKE ISLAND Hy**	**26.22**	**68**	T	T	06 46 58.6	
	baz=258						
H11N2	**WAKE ISLAND Hy**	**26.23**	**68**	T	T	06 47 03.0	
	baz=258						
H11N3	**WAKE ISLAND Hy**	**26.24**	**68**	T	T	06 47 01.4	
	baz=258						
KSRS	**Korea Array**	**28.64**	**338**	LR	LR	06 29 28.1	
	comp=Z,94nm,21.6s,baz=155,slow=32						
CTA	**Charters Tower**	**31.56**	**171**	LR	LR	06 33 18.9	
	comp=Z,64nm,18.6s,baz=274,slow=37						
WRA	**Warramunga Arr**	**31.70**	**192**	P	**P**	**06 20 21.4**	**-0.3**
	1.5nm,0.9s,baz=9.0,slow=9.6,SNR=7.2						
WRA				LR	LR	06 33 33.3	
	comp=Z,184nm,18.4s,baz=356,slow=37						
WRA	**Warramunga Arr**	**31.70**	**192**	IAmb	IAmb	06 20 26.2	
	comp=Z,0.2nm,0.9s						
ASAJ	**Asahikawa**	**32.77**	**2**	LR	LR	06 36 27.3	
	comp=Z,45nm,18.7s,baz=141,slow=41						
USRK	**Ussuriysk Ar.**	**33.75**	**348**	P	**P**	**06 20 37.3**	**-2.1**
	comp=Z,1.6nm,0.6s,baz=205,slow=6.5,SNR=3.0						
USRK				LR	LR	06 32 58.5	
	comp=Z,119nm,19.1s,baz=162,slow=34						
ASAR	**Alice Springs**	**35.41**	**191**	P	**P**	**06 20 54.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=17,slow=13,SNR=3.4						
ASAR				LR	LR	06 35 07.2	
	comp=Z,111nm,21.1s,baz=352,slow=36						
KLR	**Kul'dur**	**38.65**	**350**	P	**P**	**06 21 22.3**	**+1.1**
	comp=Z,4.2nm,0.9s,baz=149,slow=7.5,SNR=11						
KLR				LR	LR	06 34 48.9	
	comp=Z,86nm,21.3s,baz=148,slow=32						
CMAR	**Chiang Mai Arr**	**41.28**	**285**	P	**P**	**06 21 44.3**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=91,slow=6.5,SNR=10.0						
CMAR				LR	LR	06 37 20.0	
	comp=Z,20nm,20.8s,baz=95,slow=34						
DZM	**Mont Dzumac**	**41.42**	**143**	LR	LR	06 37 39.9	
	comp=Z,110nm,20.7s,baz=302,slow=34						
STKA	**Stephens Creek**	**42.89**	**179**	P	**P**	**06 21 56.6**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=340,slow=11,SNR=2.8						
STKA				LR	LR	06 40 15.6	
	comp=Z,61nm,18.3s,baz=4.2,slow=37						
PETK	**Petropavlovsk-**	**43.83**	**14**	LR	LR	06 41 35.3	
	comp=Z,13nm,18.8s,baz=195,slow=38						
MSVF	**Nonsavu**	**46.50**	**128**	LR	LR	06 40 07.0	
	comp=Z,94nm,19.9s,baz=138,slow=34						
SONM	**Songino Array**	**46.63**	**328**	P	**P**	**06 22 26.8**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=3.2						
MA2	**Magadan**	**48.77**	**7**	LR	LR	06 44 09.9	
	comp=Z,34nm,18.7s,baz=129,slow=37						
SHEM	**Shemya Is, Ala**	**49.14**	**26**	LR	LR	06 41 00.1	
	comp=Z,41nm,20.6s,baz=332,slow=33						
YAK	**Yakutsk**	**51.37**	**353**	LR	LR	06 42 34.1	
	comp=Z,52nm,21.9s,baz=267,slow=34						
SEY	**Seymchan**	**52.23**	**7**	P	**P**	**06 23 08.3**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=197,slow=20,SNR=4.6						
MK31	**Makanchi Array**	**60.65**	**318**	P	**P**	**06 24 09.8**	**+0.7**
MKAR	**Makanchi Array**	**60.65**	**318**	P	**P**	**06 24 09.8**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=112,slow=9.3,SNR=6.1						
MKAR	**Makanchi Array**	**60.65**	**318**	P	**P**	**06 24 10.0**	**+1.0**
RPZ	**Rata Peaks**	**61.14**	**156**	LR	LR	06 49 25.4	
	comp=Z,32nm,19.0s,baz=276,slow=35						
ZAA0	**Zalesovo Array**	**61.42**	**326**	P	**P**	**06 24 14.6**	**+0.6**
ZAA0				IAmb	IAmb	06 24 22.7	
	comp=Z,1.6nm,1.1s						
ZALV	**Zalesovo Beam**	**61.42**	**326**	P	**P**	**06 24 14.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=111,slow=6.9,SNR=3.9						
ZALV				LR	LR	06 52 15.5	
	comp=Z,53nm,18.1s,baz=86,slow=37						
KURK	**Kurchatov**	**64.03**	**321**	P	**P**	**06 24 32.3**	**+0.8**
KURK				IAmb	IAmb	06 24 44.5	
	comp=Z,6.9nm,1.1s						
KURBB	**Kurchatov Arra**	**64.06**	**321**	P	**P**	**06 24 31.8**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=103,slow=7.0,SNR=21						
AAK	**Ala-Archa**	**65.26**	**312**	LR	LR	06 55 48.9	
	comp=Z,30nm,18.1s,baz=124,slow=38						
BVAR	**Borovoye Array**	**69.49**	**323**	P	**P**	**06 25 06.9**	**+0.6**
	comp=Z,1.4nm,0.8s						
I21K	**Tanana**	**70.24**	**24**	P	**P**	**06 25 11.9**	**+1.2**
I21K				IAmb	IAmb	06 25 12.9	
	comp=Z,4.9nm,0.9s						
BPAW	**Bear Paw Mtn.**	**70.36**	**26**	P	**P**	**06 25 12.1**	**+0.6**
A21K	**Barrow**	**70.70**	**18**	P	**P**	**06 25 14.4**	**+1.0**
A21K				IAmb	IAmb	06 25 17.8	
	comp=Z,5.7nm,0.8s						
IL31		**72.25**	**25**	P	**P**	**06 25 22.0**	**-0.8**
IL31				IAmb	IAmb	06 25 33.1	
	comp=Z,2.1nm,1.0s						
ILAR	**Eielson Array**	**72.25**	**25**	P	**P**	**06 25 21.6**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=251,slow=6.0,SNR=18						
RAGM	**Ragged Mountai**	**72.50**	**30**	P	**P**	**06 25 24.1**	**-0.5**
RAGM				IAmb	IAmb	06 25 34.0	
	comp=Z,50nm,1.1s						
BMRM	**Bremner River**	**72.62**	**29**	P	**P**	**06 25 25.8**	**+0.6**
DOT	**Dot Lake**	**73.27**	**27**	P	**P**	**06 25 29.5**	**+0.5**
DOT				IAmb	IAmb	06 25 43.2	
	comp=Z,9.0nm,0.5s						
BMAR	**Burnt Mountain**	**73.67**	**23**	P	**P**	**06 25 32.8**	**+1.5**
INK	**Inuvik**	**77.92**	**22**	P	**P**	**06 25 54.5**	**-1.0**
	comp=Z,4.3nm,1.1s,baz=217,slow=6.8,SNR=5.0						
YKA	**Yellowknife Ar**	**86.61**	**27**	P	**P**	**06 26 41.4**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=290,slow=5.1,SNR=35						
NVAR	**Mina Array Bea**	**91.25**	**51**	P	**P**	**06 27 03.2**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=263,slow=5.6,SNR=4.8						
FINES	**FINESS Array B**	**91.68**	**334**	P	**P**	**06 27 03.1**	**-2.0**
	comp=Z,3.2nm,1.0s,baz=35,slow=7.0,SNR=5.4						
GO01	**Chusmiza**	**149.68**	**110**	PKPdf	**PKPdf**	**06 33 43.1**	**-1.4**

IDC 25 06:15:13.5±2.6, 54°.18N×86°.52E, h0km, mb1 2.9/2, mb1mx2.8/59, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=20.7km s-min=12.2km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**258**	*i*		06 21 30.0	
	baz=81,slow=328,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.03**	**258**	Pg	Pg	06 15 31.6	-1.6
	1.4nm,0.3s,baz=77,slow=18,SNR=18						
ZALV				Lg	Lg	06 15 48.0	
	2.1nm,0.3s,baz=76,slow=30,SNR=15						
KURBB	**Kurchatov Arra**	**6.04**	**237**	Pn	Pn	06 16 44.6	+0.5
	0.2nm,0.3s,baz=54,slow=13,SNR=14						
KURBB				Sn	Sn	06 17 56.2	+2.4
	0.0nm,0.3s,baz=53,slow=4.8,SNR=1.8						
KURBB				Lg	Lg	06 18 26.4	
	0.0nm,0.3s,baz=55,slow=8.0,SNR=2.8						
MKAR	**Makanchi Array**	**7.87**	**202**	Pn	Pn	06 17 10.1	+1.0
	0.2nm,0.3s,baz=24,slow=14,SNR=9.4						
MKAR				Sn	Sn	06 18 40.0	+1.2
	0.1nm,0.3s,baz=19,slow=27,SNR=2.8						
MKAR				Lg	Lg	06 19 23.0	
	0.0nm,0.3s,baz=19,slow=31,SNR=2.6						

IDC ***25*** *06:16:17.2±1.3, 52°.15N×168°.85W, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.6/62, mbtmp3.5/10, ML2.7/1, Error ellipse: s-maj=34.2km s-min=20.4km az=171.0*

AEIC ***25*** *06:16:21.9±2.0, 52°.20N±0°.07×168°.60W±0°.07, h39km±6km, Error ellipse: s-maj=10.8km s-min=6.5km az=180.0*

NEIC ***25*** *06:16:22.1±1.8, 52°.18N±0°.05×168°.58W±0°.05, h35km±5km, mb3.7/24, ML3.7/6, ML3.2/14(AEIC), Error ellipse: s-maj=7.3km s-min=4.6km az=189.0*

ISC 25 06:16:21.4±0.8, 52°.21N±0°.08×168°.64W±0°.07, h26km, n61, σ1§14/56, mb3.5/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.78**	**350**		**Pn**	**06 16 36.6**	**-0.1**
NIKH	**Nikolski High**	**0.78**	**350**		**Sn**	**06 16 48.8**	**+1.2**
OKFG	**Magazine Ridge**	**1.29**	**20**		**Pn**	**06 16 44.1**	**+0.4**
OKFG					**Sb**	**06 17 01.7**	**+0.7**
MNAT	**Makushin Natee**	**2.06**	**34**		**Pn**	**06 16 55.0**	**+0.7**
UNV	**Unalaska Valle**	**2.09**	**37**		**Pn**	**06 16 54.7**	**0.0**
UNV	**Unalaska Valle**	**2.09**	**37**		**Sn**	**06 17 20.5**	**+0.8**
AKMO	**Akutan Morgan**	**2.46**	**39**		**Pn**	**06 17 00.5**	**+0.6**
AKUT	**Akutan**	**2.59**	**41**	Pn	**Pn**	**06 17 01.7**	**+0.2**
AKUT				IAML		06 17 21.6	
	comp=E,173nm,3.2s						
ADK	**Adak**	**4.98**	**269**	Pn	**Pn**	**06 17 36.2**	**+1.9**
ADK				IAML		06 18 20.2	
	comp=E,67nm,3.0s						
OHAK	**Old Harbor**	**10.20**	**54**	Pn	**Pn**	**06 18 46.1**	**+0.3**
KDAK	**Kodiak Island**	**10.77**	**52**	Pn	**Pn**	**06 18 52.6**	**-1.1**
	comp=E,0.6nm,0.3s,baz=179,slow=3.8,SNR=20						
KDAK	**Kodiak Island**	**10.77**	**52**		**Pn**	**06 18 53.8**	**+0.1**
SEW	**Seward**	**13.26**	**46**	Pn	**Pn**	**06 19 27.9**	**+0.2**
PPLA	**Purkeypile**	**13.83**	**33**	Pn	**Pn**	**06 19 34.8**	**-0.8**
PWL	**Port Wells**	**14.11**	**44**	Pn	**Pn**	**06 19 38.1**	**-1.2**
PMR	**Palmer**	**14.15**	**41**	Pn	**Pn**	**06 19 40.0**	**+0.1**
J20K	**Nowinta River**	**14.18**	**27**	Pn	**Pn**	**06 19 40.8**	**+0.6**
CAST	**Castle Rocks**	**14.23**	**31**	Pn	**Pn**	**06 19 40.0**	**-1.0**
KNK	**Knik Glacier**	**14.33**	**42**	Pn	**Pn**	**06 19 42.2**	**-0.2**
GHO	**Glory Hole Cre**	**14.34**	**40**	Pn	**Pn**	**06 19 41.5**	**-1.0**
FID	**Port Fidalgo**	**14.87**	**46**	Pn	**Pn**	**06 19 48.7**	**-1.0**
SCM	**Sheep Creek Mo**	**15.01**	**42**	Pn	**Pn**	**06 19 50.6**	**-1.0**
BPAW	**Bear Paw Mtn.**	**15.05**	**31**	Pn	**Pn**	**06 19 52.4**	**+0.2**
BPAW				IAmb	IAmb	06 20 20.5	
	comp=Z,4.9nm,1.2s						
KLU	**Klutina**	**15.44**	**44**	Pn	**Pn**	**06 19 55.8**	**-1.4**
KLU				IAmb	IAmb	06 19 56.2	
	comp=Z,6.6nm,1.0s						
M24K	**Tolsona, Glenn**	**15.62**	**42**	Pn	**Pn**	**06 19 59.0**	**-0.5**
H21K	**Melozitna Rive**	**15.70**	**25**	Pn	**Pn**	**06 20 00.2**	**-0.3**
IMAR	**Indian Mountai**	**15.72**	**23**	Pn	**Pn**	**06 19 58.3**	**-2.5**
BERG	**Berg Lake**	**16.00**	**49**	Pn	**Pn**	**06 20 02.6**	**-1.8**
N25K	**Chitina, Valde**	**16.06**	**45**	Pn	**Pn**	**06 20 04.0**	**-1.3**
N25K				IAmb	IAmb	06 20 33.0	
	comp=Z,7.5nm,1.1s						
GLB	**Gilahina Butte**	**16.34**	**46**	Pn	**Pn**	**06 20 07.8**	**-0.9**
GLB				IAmb	IAmb	06 20 14.3	
	comp=Z,8.3nm,1.2s						
PAX	**Paxson**	**16.34**	**40**	Pn	**Pn**	**06 20 07.2**	**-1.6**
PAX				IAmb	IAmb	06 20 28.1	
	comp=Z,5.8nm,1.4s						
VRDI	**Verde Repeater**	**16.41**	**47**	Pn	**Pn**	**06 20 09.1**	**-0.7**
VRDI				IAmb	IAmb	06 20 27.3	
	comp=Z,9.5nm,1.2s						
ILAR	**Eielson Array**	**16.84**	**33**	Pn	**Pn**	**06 20 14.1**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=238,slow=10,SNR=2.1						
RIDG	**Independent Ri**	**16.98**	**38**		**P**	**06 20 18.3**	**-0.3**
RIDG				IAmb	IAmb	06 20 29.7	
	comp=Z,8.5nm,1.4s						
GRNC	**Granite Creek**	**17.02**	**49**		**P**	**06 20 18.5**	**-0.7**
M26K	**Nabesna, AK**	**17.08**	**43**	Pn	**Pn**	**06 20 17.3**	**-0.8**
M26K				IAmb	IAmb	06 20 37.0	
	comp=Z,7.8nm,1.1s						
L26K	**Log Cabin Wild**	**17.21**	**41**		**Pn**	**06 20 19.6**	**-0.2**
L26K				IAmb	IAmb	06 20 40.4	
	comp=Z,3.7nm,1.0s						
H24K	**Noodor Dome**	**17.21**	**30**		**Pn**	**06 20 19.6**	**-0.2**
H24K				IAmb	IAmb	06 20 37.3	
	comp=Z,4.2nm,1.1s						
DOT	**Dot Lake**	**17.23**	**39**		**P**	**06 20 20.8**	**-0.5**
J25K	**Salcha River,**	**17.27**	**35**		**Pn**	**06 20 20.5**	**+0.1**
SCRK	**Sand Creek**	**17.43**	**38**	Pn	**Pn**	**06 20 20.7**	**-1.7**
M27K	**Edge Creek, AK**	**17.54**	**44**	Pn	**Pn**	**06 20 20.5**	**-3.4**
M27K				IAmb	IAmb	06 20 43.1	
	comp=Z,8.2nm,1.1s						
BCAR	**Bear Creek A**	**17.87**	**42**		**Pn**	**06 20 27.2**	**-0.7**
TOLK	**Toolik Lake Re**	**18.83**	**22**	P	**P**	**06 20 37.4**	**-1.4**
TOLK				IAmb	IAmb	06 20 50.2	
	comp=Z,7.0nm,1.4s						
EGAK	**Eagle**	**18.89**	**38**	P	**P**	**06 20 37.4**	**-2.1**
BMAR	**Burnt Mountain**	**19.26**	**28**	P	**Pn**	**06 20 44.1**	**-0.6**
PETK	**Petropavlovsk-**	**20.34**	**286**	P	**P**	**06 20 53.4**	**-2.0**
	comp=Z,2.4nm,0.5s,baz=86,slow=15,SNR=6.2						
INK	**Inuvik**	**23.24**	**33**	P	**P**	**06 21 25.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=223,slow=11,SNR=7.3						
YKA	**Yellowknife Ar**	**30.01**	**49**	P	**P**	**06 22 28.9**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=276,slow=8.7,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**37.61**	**220**	T	T	07 04 23.0	
	baz=24,slow=76,SNR=9.2						
H11N3	**WAKE ISLAND Hy**	**37.62**	**220**	T	T	07 04 16.7	
	baz=24,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**37.63**	**220**	T	T	07 04 23.4	
	baz=24,slow=76,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**38.79**	**219**	T	T	07 05 44.1	
	baz=23,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**38.81**	**219**	T	T	07 05 46.7	
	baz=23,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**38.81**	**219**	T	T	07 05 42.0	
	baz=23,slow=76,SNR=14						
PDAR	**Pinedale Array**	**39.99**	**79**	P	**P**	**06 23 55.5**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=271,slow=4.0,SNR=4.9						
TXAR	**Lajitas Array**	**52.30**	**89**	P	**P**	**06 25 31.3**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=286,slow=3.7,SNR=3.1						
ARCES	**ARCESS Array B**	**58.13**	**354**	P	**P**	**06 26 11.9**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=27,slow=8.3,SNR=1.8						
KURBB	**Kurchatov Arra**	**62.90**	**319**	P	**P**	**06 26 45.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=41,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**64.24**	**314**	P	**P**	**06 26 53.7**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=58,slow=9.3,SNR=3.6						
ASAR	**Alice Springs**	**90.64**	**231**	P	**P**	**06 29 19.7**	**-1.6**
	comp=Z,0.3nm,0.9s,baz=28,slow=4.2,SNR=4.1						

IDC 25 06:19:24.6±3.6, 54°.53N×87°.14E, h0km, mb1 2.7/2, mb1mx2.6/58, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=31.6km s-min=21.1km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**248**	*i*		06 27 50.0	
	baz=69,slow=324,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.48**	**248**	Pg	Pn	06 19 49.8	-2.7
	0.7nm,0.3s,baz=63,slow=16,SNR=8.1						
ZALV				Lg	Lg	06 20 12.3	
	1.0nm,0.3s,baz=66,slow=27,SNR=7.3						
KURBB	**Kurchatov Arra**	**6.54**	**237**	Pn	Pn	06 21 02.5	+0.5
	0.1nm,0.3s,baz=54,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**8.34**	**204**	Pn	Pn	06 21 28.5	+1.8
	0.1nm,0.3s,baz=23,slow=14,SNR=2.4						

IDC ***25*** *06:24:25.1±1.3, 59°.90N×151°.15W, h60km±27km, mb4.0/1, mb1 3.7/5, mb1mx3.2/53, mbtmp3.7/5, ML3.5/5, MS2.1/1, Ms1 2.1/1, ms1mx1.9/96, Error ellipse: s-maj=29.5km s-min=10.1km az=116.0*

ANF ***25*** *06:24:25.7±0.2, 59°.86N×151°.18W, h51km±4km, ML3.8/58, Error ellipse: s-maj=2.7km s-min=1.9km az=168.0*

NEIC ***25*** *06:24:26.0±1.4, 59°.91N±0°.03×151°.24W±0°.06, h49km±5km, Error ellipse: s-maj=5.0km s-min=3.8km az=144.0*

AEIC ***25*** *06:24:26.6±1.2, 59°.91N±0°.03×151°.22W±0°.06, h44km±5km, ML3.5/149, ML3.7/144(NEIC), Error ellipse: s-maj=4.7km s-min=3.7km az=145.0*

ISC 25 06:24:25.2±0.8, 59°.87N±0°.03×151°.17W±0°.03, h54km±6km, n239, σ0§86/260, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**0.18**	**127**		**Pn**	**06 24 34.0**	**+0.1**
BRLK					Sn	**06 24 40.6**	**+0.4**
BRSE	**Bradley Lake S**	**0.26**	**121**		**Pn**	**06 24 34.6**	**+0.1**
BRSE					**Sn**	**06 24 40.9**	**0.0**
BRSE	**Bradley Lake S**	**0.26**	**121**	P	**Pn**	**06 24 34.5**	**+0.1**
	baz=306,SNR=96						
BRSE				S	**Sn**	**06 24 41.1**	**+0.1**
	baz=306						
HOM	**Homer**	**0.32**	**228**		**Pn**	**06 24 35.4**	**+0.5**
HOM				Sn	**Sn**	**06 24 43.0**	**+1.3**
HOM	**Homer**	**0.32**	**228**	P	**Pn**	**06 24 35.2**	**+0.4**
	baz=40,SNR=70						
HOM				S	**Sn**	**06 24 42.9**	**+1.2**
	baz=40						
CNPM	**China Poot**	**0.35**	**185**		**Pn**	**06 24 35.4**	**+0.3**
CNPM				Sn	**Sn**	**06 24 42.8**	**+0.5**
CNPM				IAML		06 24 43.5	
	comp=E,12μm,0.3s						
O20K	**Slope Mountain**	**0.76**	**287**		**Pn**	**06 24 40.0**	**+0.1**
O20K	**Slope Mountain**	**0.76**	**287**	P	**Pn**	**06 24 40.0**	**+0.1**
	baz=103,SNR=164						
SLKM	**Skilak Lake**	**0.80**	**36**		**Pn**	**06 24 40.1**	**-0.3**
SLKM					**Sn**	**06 24 51.0**	**-0.4**
SEW	**Seward**	**0.90**	**74**		**Pn**	**06 24 41.6**	**0.0**
SEW	**Seward**	**0.90**	**74**	P	**Pn**	**06 24 42.0**	**+0.4**
	baz=259,SNR=41						
CAPN	**Captain Cook N**	**0.90**	**1**		**Pn**	**06 24 43.0**	**+1.4**
CAPN				Sn	**Sn**	**06 24 57.3**	**+3.6**
CAPN	**Captain Cook N**	**0.90**	**1**	P	**Pn**	**06 24 43.1**	**+1.4**
	baz=182,SNR=52						
O22K	**Cooper Landing**	**0.95**	**49**		**Pn**	**06 24 42.9**	**+0.6**
O22K				Sn	**Sn**	**06 24 55.5**	**+0.6**
O22K	**Cooper Landing**	**0.95**	**49**	P	**Pn**	**06 24 42.6**	**+0.3**
	baz=233,SNR=28						
O22K				S	**Sn**	**06 24 55.2**	**+0.3**
	baz=233						
RED	**Redoubt Volcan**	**0.97**	**305**		**Pn**	**06 24 42.1**	**-0.6**
RED					**Sn**	**06 24 54.9**	**-0.7**
RSO	**Redoubt South**	**0.99**	**307**		**Pn**	**06 24 42.5**	**-0.5**
RDWB	**Redoubt West**	**1.04**	**307**		**Pn**	**06 24 43.0**	**-0.7**
RDWB					**Sn**	**06 24 56.2**	**-1.0**
DFR	**Drift River**	**1.04**	**314**		**Pn**	**06 24 43.0**	**-0.7**
DFR					**Sn**	**06 24 56.7**	**-0.7**
OPT	**Oil Point**	**1.06**	**259**		**Pn**	**06 24 44.2**	**+0.4**
P19K	**Oil Pt**	**1.06**	**259**		**Pn**	**06 24 44.3**	**+0.4**
P19K				Sn	**Sn**	**06 24 58.1**	**+0.4**
P19K	**Oil Pt**	**1.06**	**259**	P	**Pn**	**06 24 44.3**	**+0.4**
	baz=75,SNR=154						
P19K				S	**Sn**	**

GHO					IAML			06 25 34.0	
	comp=E,443nm,0.8s								
GHO					IAML			06 25 36.3	
	comp=N,454nm,0.9s								
KDAK	**Kodiak Island**	**2.22**	**200**	P		**Pn**		**06 24 59.3**	**-0.2**
	comp=N,9.5nm,0.3s,baz=37,slow=13,SNR=131								
KDAK				S		**Sn**		**06 25 27.2**	**+1.5**
	comp=N,27nm,0.3s,baz=27,slow=13,SNR=6.0								
KDAK				LR		LR		06 25 31.1	
	comp=N,39nm,19.8s,baz=52,slow=29								
KDAK	**Kodiak Island**	**2.22**	**200**	Pn		**Pn**		**06 25 00.0**	**+0.5**
KDAK				IAML				06 25 39.2	
	comp=N,318nm,0.6s								
KDAK				IAML				06 25 43.2	
	comp=N,298nm,0.9s								
KDAK	**Kodiak Island**	**2.22**	**200**	P		**Pn**		**06 24 59.6**	**+0.1**
	baz=18								
GLI	**Glacier Island**	**2.26**	**62**			**Pn**		**06 24 59.2**	**-0.9**
GLI				IAML				06 25 36.3	
	comp=N,682nm,0.8s								
GLI	**Glacier Island**	**2.26**	**62**	P		**Pn**		**06 24 59.2**	**-0.9**
	baz=246								
SML	**Sawmill**	**2.39**	**34**			**Pn**		**06 25 02.1**	**+0.2**
SML				IAML				06 25 40.5	
	comp=N,368nm,0.9s								
SML				IAML				06 25 43.5	
	comp=E,351nm,0.6s								
SML	**Sawmill**	**2.39**	**34**	P		**Pn**		**06 25 02.1**	**+0.2**
	baz=218,SNR=42								
N18K	**Kilae Creek**	**2.49**	**291**			**Pn**		**06 25 03.2**	**0.0**
N18K	**Kilae Creek**	**2.49**	**291**	P		**Pn**		**06 25 03.2**	**0.0**
	baz=106,SNR=34								
N18K				S		**Sn**		**06 25 32.2**	**-0.1**
	baz=106								
Q23K	**Middleton Isla**	**2.49**	**98**			**Pn**		**06 25 04.9**	**+1.8**
Q23K	**Middleton Isla**	**2.49**	**98**	IAML				06 25 57.0	
	comp=N,223nm,1.4s								
Q23K				IAML				06 26 23.6	
	comp=E,255nm,2.0s								
Q23K	**Middleton Isla**	**2.49**	**98**	P		**Pn**		**06 25 04.8**	**+1.7**
	baz=283								
MID	**Middleton Isla**	**2.49**	**98**	Pn		**Pn**		**06 25 04.7**	**+1.5**
MID				IAML				06 25 33.5	
	comp=N,208nm,1.7s								
MID				IAML				06 26 41.4	
	comp=E,271nm,2.4s								
FID	**Port Fidalgo**	**2.50**	**67**			**Pn**		**06 25 02.1**	**-1.2**
SVW2	**Sparrevohn**	**2.50**	**301**			**Pn**		**06 25 03.4**	**-0.1**
JPK	**Jack Peak**	**2.56**	**60**			**Pn**		**06 25 03.8**	**-0.4**
M23K	**Glacier View**	**2.56**	**40**	P		**Pn**		**06 25 04.6**	**+0.4**
	baz=224,SNR=99								
M19K	**Big River Lodg**	**2.58**	**324**			**Pn**		**06 25 05.0**	**+0.7**
M19K	**Big River Lodg**	**2.58**	**324**	IAML				06 25 35.9	
	comp=E,263nm,0.7s								
M19K	**Big River Lodg**	**2.58**	**324**	P		**Pn**		**06 25 05.1**	**+0.7**
	baz=141								
M19K				S		**Sn**		**06 25 34.9**	**+0.4**
	baz=141								
CUT	**Chulitna**	**2.58**	**9**			**Pn**		**06 25 05.0**	**+0.6**
CUT				IAML				06 25 45.2	
	comp=E,503nm,0.5s								
CUT	**Chulitna**	**2.58**	**9**	P		**Pn**		**06 25 04.7**	**+0.3**
	baz=191,SNR=8.9								
SCM	**Sheep Creek Mo**	**2.72**	**42**			**Pn**		**06 25 07.0**	**+0.5**
SCM				IAML				06 25 55.8	
	comp=N,368nm,1.0s								
SCM				IAML				06 25 56.1	
	comp=E,343nm,0.8s								
SCM	**Sheep Creek Mo**	**2.72**	**42**	P		**Pn**		**06 25 07.3**	**+0.8**
	baz=226,SNR=41								
KELA	**Mount Kelaz**	**2.76**	**241**			**Pn**		**06 25 08.2**	**+1.3**
EYAK	**Cordova Ski Ar**	**2.79**	**74**			**Pn**		**06 25 07.2**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.79**	**74**	P		**Pn**		**06 25 06.9**	**-0.4**
	baz=259								
OHAK	**Old Harbor**	**2.88**	**204**			**Pn**		**06 25 08.5**	**0.0**
OHAK				IAML				06 25 58.3	
	comp=N,250nm,0.8s								
OHAK				IAML				06 26 00.7	
	comp=E,185nm,0.7s								
OHAK	**Old Harbor**	**2.88**	**204**	P		**Pn**		**06 25 08.3**	**-0.2**
	baz=21								
L20K	**Farewell, AK**	**2.92**	**335**			**Pn**		**06 25 09.8**	**+0.7**
L20K	**Farewell, AK**	**2.92**	**335**	P		**Pn**		**06 25 09.6**	**+0.4**
	baz=152,SNR=18								
L19K	**White Mountain**	**2.93**	**324**			**Pn**		**06 25 10.0**	**+0.7**
L19K				IAML				06 25 44.4	
	comp=E,179nm,0.8s								
L19K	**White Mountain**	**2.93**	**324**	P		**Pn**		**06 25 09.9**	**+0.7**
	baz=141,SNR=25								
L19K				S		**Sn**		**06 25 43.0**	**-0.2**
	baz=141								
DIV	**Divide**	**2.96**	**62**			**Pn**		**06 25 09.3**	**-0.3**
KLU	**Klutina**	**3.05**	**56**			**Pn**		**06 25 11.4**	**+0.4**
KLU				IAML				06 26 00.1	
	comp=E,221nm,0.7s								
KLU	**Klutina**	**3.05**	**56**	P		**Pn**		**06 25 11.1**	**+0.2**
	baz=241,SNR=21								
KLU				S		**Sn**		**06 25 46.9**	**+0.6**
	baz=241								
PPLA	**Purkeypile**	**3.07**	**351**	Pn		**Pn**		**06 25 12.3**	**+1.0**
PPLA	**Purkeypile**	**3.07**	**351**	P		**Pn**		**06 25 12.1**	**+0.7**
	baz=171,SNR=12								
WAT6	**Susitna Watana**	**3.18**	**30**			**Pn**		**06 25 13.6**	**+0.7**
WAT6	**Susitna Watana**	**3.18**	**30**	P		**Pn**		**06 25 13.8**	**+0.9**
	baz=214,SNR=94								
WAT1	**Susitna Watana**	**3.23**	**22**			**Pn**		**06 25 14.7**	**+1.5**
WAT1	**Susitna Watana**	**3.23**	**22**	P		**Pn**		**06 25 14.8**	**+1.5**
	baz=205								
RAGM	**Ragged Mountai**	**3.29**	**78**	Pn		**Pn**		**06 25 14.7**	**+0.5**
RAGM				IAML				06 26 26.4	
	comp=E,215nm,0.8s								
GOAT	**Goat Mountain**	**3.29**	**75**			**Pn**		**06 25 13.4**	**-0.8**
M24K	**Tolsona, Glenn**	**3.31**	**45**			**Pn**		**06 25 15.6**	**+1.1**
M24K	**Tolsona, Glenn**	**3.31**	**45**	P		**Pn**		**06 25 15.3**	**+0.9**
	baz=230,SNR=23								
BMRM	**Bremner River**	**3.44**	**69**	Pn		**Pn**		**06 25 15.6**	**-0.5**
BMRM				IAML				06 26 11.0	
	comp=E,246nm,0.7s								
BMRM	**Bremner River**	**3.44**	**69**	P		**Pn**		**06 25 15.7**	**-0.5**
	baz=255								
HMT	**Hamilton**	**3.49**	**79**	Pn		**Pn**		**06 25 16.3**	**-0.6**
PS11	**TAPS Pump St11**	**3.55**	**49**			**Pn**		**06 25 18.8**	**+1.0**
CAST	**Castle Rocks**	**3.59**	**353**	Pn		**Pn**		**06 25 19.3**	**+1.1**
CAST	**Castle Rocks**	**3.59**	**353**	P		**Pn**		**06 25 20.9**	**+2.7**
	baz=173,SNR=35								
TRF	**Thorofare Moun**	**3.62**	**6**			**Pn**		**06 25 19.0**	**+0.3**
TRF				IAML				06 26 11.6	
	comp=E,154nm,0.7s								
TRF	**Thorofare Moun**	**3.62**	**6**	P		**Pn**		**06 25 20.6**	**+1.9**
	baz=188,SNR=76								
N25K	**Chitina, Valde**	**3.67**	**59**			**Pn**		**06 25 19.5**	**+0.1**
N25K				IAML				06 26 18.6	
	comp=E,143nm,0.5s								
N25K				IAML				06 26 23.3	
	comp=N,142nm,0.7s								
N25K	**Chitina, Valde**	**3.67**	**59**	P		**Pn**		**06 25 19.3**	**-0.1**
	baz=245,SNR=5.8								
DHY	**Denali Highway**	**3.69**	**28**			**Pn**		**06 25 20.9**	**+1.1**
DHY				IAML				06 26 23.3	
	comp=E,78nm,0.8s								
DHY				IAML				06 26 25.8	
	comp=N,76nm,0.7s								
DHY	**Denali Highway**	**3.69**	**28**	P		**Pn**		**06 25 21.1**	**+1.3**
	baz=212,SNR=107								
KTH	**Kantishna Hill**	**3.70**	**2**	Pn		**Pn**		**06 25 21.5**	**+1.8**
KTH				IAML				06 26 12.0	
	comp=E,164nm,1.0s								
RND	**Reindeer**	**3.71**	**16**			**Pn**		**06 25 20.1**	**+0.1**
RND				IAML				06 26 25.9	
	comp=E,86nm,0.9s								
K20K	**Telida**	**3.76**	**340**			**Pn**		**06 25 21.0**	**+0.4**
K20K	**Telida**	**3.76**	**340**	P		**Pn**		**06 25 20.1**	**-0.5**
	baz=157,SNR=13								
TT01	**Tatalina**	**3.83**	**325**			**Pn**		**06 25 22.1**	**+0.5**
TTA	**Tatalina**	**3.85**	**325**	Pn		**Pn**		**06 25 22.1**	**+0.3**
TTA	**Tatalina**	**3.85**	**325**	P		**Pn**		**06 25 21.9**	**0.0**
	baz=141,SNR=10.0								
HARP	**HAARP**	**3.86**	**46**			**Pn**		**06 25 22.7**	**+0.7**
HARP	**HAARP**	**3.86**	**46**	P		**Pn**		**06 25 22.5**	**+0.5**
	baz=232,SNR=7.8								
GLB	**Gilahina Butte**	**3.95**	**63**			**Pn**		**06 25 23.1**	**-0.1**
GLB				IAML				06 26 23.6	
	comp=E,73nm,0.8s								
GLB				IAML				06 26 28.1	
	comp=N,124nm,0.7s								
MCK	**McKinley**	**4.02**	**14**			**Pn**		**06 25 25.7**	**+1.6**
	baz=197,SNR=29								
VRDI	**Verde Repeater**	**4.05**	**67**			**Pn**		**06 25 24.1**	**-0.6**
VRDI	**Verde Repeater**	**4.05**	**67**	IAML				06 26 27.0	
	comp=N,92nm,0.7s								
CHUM	**Lake Minchumin**	**4.06**	**353**			**Pn**		**06 25 25.2**	**+0.6**
CHUM	**Lake Minchumin**	**4.06**	**353**	P		**Pn**		**06 25 26.1**	**+1.4**
	baz=172,SNR=34								
PAX	**Paxson**	**4.14**	**39**			**Pn**		**06 25 25.4**	**-0.5**
PAX	**Paxson**	**4.14**	**39**	P		**Pn**		**06 25 26.5**	**+0.6**
	baz=224,SNR=117								
WAX	**Waxell Ridge**	**4.20**	**78**			**Pn**		**06 25 26.1**	**-0.6**
WAX	**Waxell Ridge**	**4.20**	**78**	IAML				06 26 17.6	
	comp=E,92nm,0.3s								
WAX				IAML				06 26 54.1	
	comp=N,133nm,1.0s								
TGL	**Tana Glacier**	**4.24**	**74**	Pn		**Pn**		**06 25 26.9**	**-0.5**
TGL				IAML				06 26 37.3	
	comp=N,78nm,0.8s								
TGL				IAML				06 26 51.5	
	comp=E,66nm,0.9s								
BPAW	**Bear Paw Mtn.**	**4.24**	**1**	Pn		**Pn**		**06 25 27.8**	**+0.6**
BPAW				IAML				06 26 23.7	
	comp=E,60nm,0.5s								
BPAW	**Bear Paw Mtn.**	**4.24**	**1**	P		**Pn**		**06 25 28.3**	**+1.1**
	baz=182,SNR=25								
MCARA	**McCarthy VSAT**	**4.29**	**66**			**Pn**		**06 25 27.7**	**-0.1**
BWN	**Browne**	**4.39**	**10**			**Pn**		**06 25 30.2**	**+1.0**
BWN				IAML				06 26 56.1	
	comp=N,114nm,1.3s								
BWN				IAML				06 27 05.8	
	comp=E,103nm,1.2s								
PS10	**TAPS Pump St10**	**4.40**	**34**			**Pn**		**06 25 30.8**	**+1.5**
ISLE	**Juniper Island**	**4.46**	**77**			**Pn**		**06 25 31.6**	**+1.2**
ISLE				IAML				06 26 55.1	
	comp=E,58nm,1.4s								
ISLE				IAML				06 26 56.5	
	comp=N,89nm,1.0s								
KIAG	**Kiagna River**	**4.50**	**73**			**Pn**		**06 25 30.9**	**0.0**
PTPK	**Patty Peak**	**4.50**	**69**			**Pn**		**06 25 30.8**	**-0.1**
BALM	**Baldy**	**4.53**	**71**			**Pn**		**06 25 30.7**	**-0.5**
J20K	**Nowinta River**	**4.54**	**343**			**Pn**		**06 25 31.5**	**+0.2**
J20K				IAML				06 26 26.1	
	comp=N,48nm,0.7s								
J20K	**Nowinta River**	**4.54**	**343**	P		**Pn**		**06 25 32.7**	**+1.4**
	baz=161,SNR=18								
BAGL	**Bagley Icefiel**	**4.58**	**78**			**Pn**		**06 25 32.0**	**+0.3**
K24K	**Donnelly Dome**	**4.70**	**31**	P		**Pn**		**06 25 35.3**	**+1.8**
	baz=216,SNR=66								
M26K	**Nabesna, AK**	**4.71**	**54**			**Pn**		**06 25 34.0**	**+0.5**
M26K				IAML				06 26 59.6	
	comp=E,36nm,0.9s								
M26K	**Nabesna, AK**	**4.71**	**54**	P		**Pn**		**06 25 34.1**	**+0.6**
	baz=242,SNR=12								
MENT	**Mentasta**	**4.72**	**46**			**Pn**		**06 25 33.8**	**0.0**
MENT				IAML				06 26 59.4	
	comp=E,86nm,1.0s								
MENT				IAML				06 27 02.2	
	comp=N,79nm,1.1s								
GRNC	**Granite Creek**	**4.76**	**76**			**Pn**		**06 25 35.3**	**+0.7**
GRNC	**Granite Creek**	**4.76**	**76**	IAML				06 27 06.7	
	comp=N,36nm,0.8s								
WRH	**Wood River Hil**	**4.84**	**16**			**Pn**		**06 25 35.9**	**+0.6**
NEA2	**Nenana**	**4.84**	**11**			**Pn**		**06 25 35.1**	**-0.3**
NEA2	**Nenana**	**4.84**	**11**	P		**Pn**		**06 25 35.4**	**+0.1**
	baz=193,SNR=20								
BARN	**Barnard Glacie**	**4.86**	**72**			**Pn**		**06 25 36.6**	**+0.9**
BARN				IAML				06 26 58.4	
	comp=E,47nm,1.1s								
BARN				IAML				06 27 05.6	
	comp=N,31nm,0.9s								
RIDG	**Independent Ri**	**4.90**	**35**			**Pn**		**06 25 37.5**	**+1.2**
RIDG	**Independent Ri**	**4.90**	**35**	IAML				06 27 00.1	
	comp=E,56nm,0.7s								
RIDG				IAML				06 27 02.7	
	comp=N,61nm,1.0s								
RIDG	**Independent Ri**	**4.90**	**35**	P		**Pn**		**06 25 37.1**	**+0.8**
	baz=221,SNR=31								
L26K	**Log Cabin Wild**	**4.91**	**47**	P		**Pn**		**06 25 37.7**	**+1.3**
	baz=234								
CTG	**Chitna Glacier**	**5.00**	**73**	P		**Pn**		**06 25 38.8**	**+1.2**
	baz=262								
CTGM	**Chitina Glacie**	**5.00**	**73**			**Pn**		**06 25 37.8**	**+0.2**
TABL	**Table Mountain**	**5.04**	**79**			**Pn**		**06 25 38.0**	**-0.4**
TABL	**Table Mountain**	**5.04**	**79**	IAML				06 27 12.6	
	comp=N,44nm,1.0s								
TABL				IAML				06 27 15.4	
	comp=E,41nm,1.1s								
DOT	**Dot Lake**	**5.07**	**39**	Pn		**Pn**		**06 25 39.3**	**+0.7**
PS08	**TAPS Pump Stn8**	**5.11**	**22**			**Pn**		**06 25 39.9**	**+0.9**
LOGN	**Logan Glacier**	**5.14**	**75**			**Pn**		**06 25 40.4**	**+0.7**
LOGN	**Logan Glacier**	**5.14**	**75**	IAML				06 27 09.5	
	comp=E,37nm,1.3s								
LOGN				IAML				06 27 16.0	
	comp=N,27nm,1.5s								
M27K	**Edge Creek, AK**	**5.15**	**57**			**Pn**		**06 25 39.8**	**0.0**
M27K				IAML				06 26 58.9	
	comp=N,27nm,0.9s								
M27K	**Edge Creek, AK**	**5.15**	**57**	P		**Pn**		**06 25 40.2**	**+0.5**
	baz=246								
TCOL	**CIGO, UAF Yank**	**5.25**	**16**			**Pn**		**06 25 41.4**	**+0.5**
TCOL	**CIGO, UAF Yank**	**5.25**	**16**	P		**Pn**		**06 25 41.5**	**+0.6**
	baz=199,SNR=29								
COLA	**College**	**5.25**	**16**			**Pn**		**06 25 41.7**	**+0.8**
COLA	**College**	**5.25**	**16**	P		**Pn**		**06 25 41.8**	**+0.8**
	baz=159								
MDM	**Murphy Dome**	**5.29**	**14**			**Pn**		**06 25 42.0**	**+0.5**
IL31		**5.31**	**20**			**Pn**		**06 25 42.3**	**+0.6**
ILAR	**Eielson Array**	**5.31**	**20**	P		**Pn**		**06 25 41.8**	**+0.1**
	comp=N,8.4nm,0.3s,baz=202,slow=14,SNR=366								
ILAR				S		**Sn**		**06 26 40.7**	**-0.8**
	comp=N,1.2nm,0.3s,baz=208,slow=19,SNR=4.7								
ILAR	**Eielson Array**	**5.31**	**20**			**Pn**		**06 25 42.5**	**+0.7**
SCRK	**Sand Creek**	**5.33**	**36**			**Pn**		**06 25 42.1**	**-0.2**
SCRK				IAML				06 27 10.4	
	comp=E,30nm,0.8s								
SCRK				IAML				06 27 14.7	
	comp=N,35nm,0.8s								
SCRK	**Sand Creek**	**5.33**	**36**	P		**Pn**		**06 25 42.2**	**-0.1**
	baz=223,SNR=7.8								
I21K	**Tanana**	**5.34**	**356**			**Pn**		**06 25 42.9**	**+0.7**
I21K				IAML				06 27 06.9	
	comp=N,23nm,0.7s								
I21K	**Tanana**	**5.34**	**356**	P		**Pn**		**06 25 43.3**	**+1.1**
	baz=176,SNR=23								
I23K	**Minto, Yukon-K**	**5.36**	**8**	Pn		**Pn**		**06 25 43.3**	**+0.8**
I23K				IAML				06 27 30.7	
	comp=N,22nm,1.4s								
I23K	**Minto, Yukon-K**	**5.36**	**8**	P		**Pn**		**06 25 43.1**	**+0.7**
	baz=190								
J25K	**Salcha River,**	**5.47**	**27**			**Pn**		**06 25 44.8**	**+0.7**
J25K	**Salcha River,**	**5.47**	**27**	P		**Pn**		**06 25 44.9**	**+0.7**
	baz=213,SNR=55								
L27K	**Beaver Creek,**	**5.50**	**50**			**Pn**		**06 25 45.2**	**+0.8**
L27K	**Beaver Creek,**	**5.50**	**50**	P		**Pn**		**06 25 44.6**	**+0.1**
	baz=239,SNR=5.9								
BC03		**5.52**	**51**			**Pn**		**06 25 45.3**	**+0.6**
BCAR	**Beaver Creek A**	**5.52**	**51**			**Pn**		**06 25 44.4**	**-0.3**
POKR	**Poker Plat Res**	**5.54**	**17**			**Pn**		**06 25 45.3**	**+0.4**
POKR	**Poker Plat Res**	**5.54**	**17**	P		**Pn**		**06 25 45.4**	**+0.4**
	baz=200,SNR=10								
GCSA	**Galena City Sc**	**5.57**	**334**			**Pn**		**06 25 46.3**	**+1.1**
GCSA	**Galena City Sc**	**5.57**	**334**	P		**Pn**		**06 25 46.4**	**+1.1**
	baz=149,SNR=5.5								
PS07	**TAPS Pump Stn7**	**5.62**	**13**			**Pn**		**06 25 46.9**	**+0.9**
J26L	**Joseph Creek**	**5.85**	**34**	P		**Pn**		**06 25 49.5**	**+0.2**
	baz=221,SNR=23								
H21K	**Melozitna Rive**	**5.86**	**353**			**Pn**		**06 25 50.7**	**+1.5**
H21K	**Melozitna Rive**	**5.86**	**353**	P		**Pn**		**06 25 50.4**	**+1.2**
	baz=172,SNR=43								
PNL	**Peninsula**	**5.95**	**87**			**Pn**		**06 25 51.1**	**+0.4**
PNL	**Peninsula**	**5.95**	**87**	P		**Pn**		**06 25 51.2**	**+0.6**
	baz=278								
H23K	**Yukon River**	**6.02**	**6**			**Pn**		**06 25 52.1**	**+0.5**
H23K	**Yukon River**	**6.02**	**6**	P		**Pn**		**06 25 51.7**	**+0.1**
	baz=188,SNR=10.0								
PS06	**TAPS Pump Stn6**	**6.04**	**6**			**Pn**		**06 25 52.4**	**+0.6**
H24K	**Noodor Dome**	**6.17**	**13**			**Pn**		**06 25 54.2**	**+0.6**
H24K	**Noodor Dome**	**6.17**	**13**	P		**Pn**		**06 25 54.4**	**+0.7**
	baz=196,SNR=17								
IM03		**6.25**	**350**			**Pn**		**06 25 55.3**	**+0.8**
IMAR	**Indian Mountai**	**6.25**	**350**	Pn		**Pn**		**06 25 55.2**	**+0.6**
YUK4	**Talbot Arm**	**6.34**	**71**	P		**Pn**		**06 25 57.9**	**+1.8**
	baz=262								
YUK6	**Outpost Mounta**	**6.44**	**75**	P		**Pn**		**06 25 58.0**	**+0.5**
	baz=266								
EGAK	**Eagle**	**6.78**	**39**			**Pn**		**06 26 02.3**	**+0.5**
EGAK	**Eagle**	**6.78**	**39**	P		**Pn**		**06 26 01.9**	**+0.1**
	baz=228,SNR=8.0								
HYT	**Haines Junctio**	**6.85**	**76**	Pn		**Pn**		**06 26 04.5**	**+1.5**
HYT	**Haines Junctio**	**6.85**	**76**	P		**Pn**		**06 26 04.1**	**+1.1**
	baz=268								
DAWY	**Dawson**	**6.96**	**48**			**Pn**		**06 26 04.2**	**-0.2**
DAWY	**Dawson**	**6.96**	**48**	P		**Pn**		**06 26 05.5**	**+1.0**
	baz=239								
COLD	**Coldfoot**	**7.40**	**3**			**Pn**		**06 26 10.7**	**+0.4**
COLD	**Coldfoot**	**7.40**	**3**	P		**Pn**		**06 26 10.6**	**+0.2**
	baz=184,SNR=7.8								
J29M	**Klondike Camp**	**7.60**	**47**	P		**Pn**		**06 26 13.7**	**+0.4**
	baz=239								
SKAG	**Skagway**	**8.03**	**86**	Pn		**Pn**		**06 26 19.9**	**+0.9**
I29M	**Ogilvie Camp,**	**8.08**	**42**			**Pn**		**06 26 20.4**	**+0.7**
I29M	**Ogilvie Camp,**	**8.08**	**42**	P		**Pn**		**06 26 20.4**	**+0.7**
	baz=233								
BM03	**Burnt Mountain**	**8.11**	**18**			**Pn**		**06 26 20.4**	**+0.2**
BMAR	**Burnt Mountain**	**8.13**	**18**			**Pn**		**06 26 20.3**	**-0.1**
BESE	**Bessie Mountai**	**8.47**	**92**	Pn		**Pn**		**06 26 26.7**	**+1.6**
TOLK	**Toolik Lake Re**	**8.83**	**4**			**Pn**		**06 26 31.2**	**+1.3**
TOLK	**Toolik Lake Re**	**8.83**	**4**	P		**Pn**		**06 26 31.3**	**+1.3**
	baz=185								
GAMB	**Gambell**	**10.45**	**301**	Pn		**Pn**		**06 26 54.6**	**+2.6**
DLBC	**Dease Lake**	**10.94**	**88**	P		**Pn**		**06 27 00.3**	**+1.4**
	comp=N,0.3nm,0.3s,baz=226,slow=13,SNR=6.3								
DLBC				S		**Sn**		**06 28 57.2**	**-2.5**
	comp=N,0.2nm,0.3s,baz=8.9,slow=16,SNR=1.3								
INK	**Inuvik**	**11.40**	**35**	P		**Pn**		**06 27 04.6**	**-0.4**
	comp=N,0.2nm,0.3s,baz=238,slow=14,SNR=7.8								
INK	**Inuvik**	**11.40**	**35**	Pn		**Pn**		**06 27 03.7**	**-1.3**
A21K	**Barrow**	**11.71**	**351**	Pn		**Pn**		**06 27 07.5**	**-1.7**
A21K	**Barrow**	**11.71**	**351**	P		**Pn**		**06 27 07.3**	**-1.9**
	baz=166								
A36M	**Sachs Harbour**	**15.90**	**30**	P		**Pn**		**06 28 04.6**	**-0.4**
	baz=234								
YKA	**Yellowknife Ar**	**17.67**	**66**	P		**Pn**		**06 28 26.6**	**-0.4**
	comp=N,0.1nm,0.3s,baz=278,slow=12,SNR=8.3								
ARCES	**ARCESS Array B**	**50.86**	**2**	P		**P**		**06 33 18.7**	**-1.1**
	comp=N,3.6nm,1.0s,baz=358,slow=7.3,SNR=3.9								

IDC 25 06:26:04.4±2.7, 53°.91N×86°.62E, h0km, mb1 2.7/2, mb1mx2.6/51, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=22.6km s-min=13.3km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.06**	**273**	*i*		06 33 00.0	
	baz=90,slow=328,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.06**	**273**	Pg	Pg	06 26 23.5	-1.3
	0.5nm,0.3s,baz=88,slow=16,SNR=6.1						
ZALV				Lg	Lg	06 26 40.2	
	1.0nm,0.3s,baz=96,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**5.96**	**240**	Pn	Pn	06 27 34.2	+0.5
	0.1nm,0.3s,baz=55,slow=13,SNR=5.5						
MKAR	**Makanchi Array**	**7.64**	**203**	Pn	Pn	06 27 58.3	+1.4
	0.1nm,0.3s,baz=24,slow=9.9,SNR=6.0						

IDC 25 06:30:53.9±2.8, 53°.53N×87°.54E, h0km, mb1 3.0/2, mb1mx2.8/48, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.0km s-min=13.6km az=64.0
NNC 25 06:30:55.7±2.2, 53°.46N×87°.51E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=17.5km s-min=7.8km az=59.0, Suspected Mining explosion.
ISC 25 06:30:53.2±3.7, 53°.6N±0°.1×87°.6E±0°.2, h0km, n9, σ1^{9}48/12, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**283**	*i*		06 42 10.0	
	baz=102,slow=331,SNR=17						
ZAA0	**Zalesovo Array**	**1.70**	**283**	⇓P	**Pg**	**06 31 25.3**	**-0.4**
	0.5nm,0.7s						
ZAA0				⇑S	**Sb**	**06 31 48.8**	**+1.6**
	2.5nm,0.5s						
ZALV	**Zalesovo Beam**	**1.70**	**283**	Pg	**Pb**	**06 31 24.0**	**-1.3**
	1.4nm,0.3s,baz=107,slow=15,SNR=12						
ZALV				Lg

YANA	Yana	1.59	91	P		Pn	07 06 49.0	+0.1
PAST	Pastocalle	1.64	112	P		Pn	07 06 50.0	+0.5
OTAV	Otavalo	1.74	80	Pn		Pn	07 06 51.3	+0.5
CAMI	Rancho Maria	1.76	110	P		Pb	07 06 53.0	-0.1
BNAS	Cotopaxi Volca	1.78	109	P		Pb	07 06 53.0	-0.5
NAS2	Nasa	1.78	108	P		Pb	07 06 54.0	+0.5
PITA	Cotopaxi Volc	1.79	105	P		Pb	07 06 53.0	-0.7
CUSE	Cuicocha Este	1.80	78	eP		Pn	07 06 52.6	+0.8
CUSE	Cuicocha Este	1.80	78	P		Pn	07 06 52.0	+0.3
BREF	Cotopaxi Volca	1.81	109	P		Pb	07 06 54.0	-0.2
BMOR	Cotopaxi Volca	1.82	111	P		Pb	07 06 54.0	-0.2
CUIC	Cuicocha-Domo	1.84	78	P		Pn	07 06 53.0	+0.8
BVC2	Cotopaxi Volca	1.84	108	P		Pb	07 06 54.0	-0.6
VC1	Cotopaxi 1	1.84	108	P		Pb	07 06 55.0	+0.4
CUSW	Cuicocha Oeste	1.84	79	P		Pn	07 06 53.0	+0.7
BTAM	Cotopaxi Volca	1.86	109	P		Pb	07 06 55.0	+0.1
TAMB	Tambo	1.89	109	P		Pb	07 06 55.0	-0.4
VCES	Cotopaxi	1.90	112	P		Pb	07 06 55.0	-0.6
CHSH	Refugio Sur-Vo	1.91	137	P		Pn	07 06 54.0	+0.7
ANTG	Antisana-Guama	1.95	102	P		Pb	07 06 56.0	-0.4
PORT	Chimborazo Vol	1.95	135	Pn		Pn	07 06 54.7	+0.7
PORT				Sn		Sn	07 07 18.0	-0.4
URCU	Urcuqui	1.97	75	P		Pn	07 06 55.0	+0.9
ANTM	Antisana-La Mi	1.99	103	P		Pb	07 06 56.0	-1.1
TAMH	Tambohuasha Ch	2.00	137	P		Pb	07 06 56.0	-1.3
ANTI	Antisana	2.03	100	P		Pb	07 06 57.0	-0.8
ANTS	Antisana-Sarah	2.03	102	P		Pb	07 06 57.0	-0.8
IGUA	Igualata	2.07	133	P		Pg	07 07 00.0	-0.7
YAHU	Yahuarcocha	2.13	78	P		Pb	07 06 59.0	-0.5
ANGU	Angureal	2.15	87	P		Pb	07 07 00.0	0.0
CAYR	Refugio Cayamb	2.15	87	P		Pb	07 07 00.0	0.0
JUI6	Juive	2.15	129	P		Pb	07 06 59.0	-0.8
POND	Pondoa	2.17	128	P		Pb	07 06 59.0	-1.0
CAYA	Cayambe	2.17	86	P		Pb	07 06 59.0	-1.2
RETU	Refugio	2.19	129	P		Pb	07 07 00.0	-0.5
BMAS	Trigal station	2.19	130	P		Pb	07 06 59.0	-1.5
ARRY	Arrayan	2.21	130	P		Pn	07 06 59.0	+1.6
LNGL	El Angel-Carch	2.30	69	P		Pb	07 07 01.0	-1.5
ECEN	Cerro Negro	2.36	68	P		Pn	07 07 01.0	+1.4
CHL1	Volcɲn Chiles	2.38	69	P		Pb	07 07 02.0	-1.7
CHL2	Volcɲn Chiles	2.41	69	P		Pn	07 07 02.0	+1.9
TULM	Tulcn-Chalpat	2.50	72	Pn		Pn	07 07 03.1	+1.7
TULM	Tulcn-Chalpat	2.50	72	eP		Pb	07 07 05.7	-0.1
ARDO	Archidona, Ten	2.53	111	P		Pb	07 07 05.0	-1.0
COHC	Cochancay	2.54	159	Pn		Pn	07 07 01.4	-0.1
CMBC	Cumbal	2.54	67	eP		Pb	07 07 04.7	-1.8
GCUF	Volcan Galeras	3.10	65	eP		Pb	07 07 13.0	-3.0
CPAS1	Pasto	3.10	66	eP		Pb	07 07 13.9	-2.2
ARNL	Arenillas	3.45	178	Pn		Pn	07 07 14.4	+0.4
BOSC	San Juan Bosco	3.47	151			Pn	07 07 18.3	+3.8
CRUC	La Cruz	3.60	63	eP		Pn	07 07 19.6	+3.2
GR1C	Gorgona, Isla	3.65	33	eP		Pn	07 07 15.9	-0.9
SOTA	Rioblanco	4.18	58	eP		Pn	07 07 27.6	+3.1
MCRA	Macar, Loja	4.27	177	Pn		Pn	07 07 27.6	+2.3
PCON	Cinco Dias	4.46	58	eP		Pn	07 07 31.2	+2.8
ROSC	El Rosal	7.61	50	Pn		Pn	07 08 14.3	+2.7
	4.9nm,0.3s,baz=237,slow=14,SNR=10.0							
ROSC				Sn		Sn	07 09 42.7	+5.0
	baz=75,slow=20,SNR=0.9							
ROSC	El Rosal	7.61	50			Pn	07 08 13.1	+1.5
BCIP	Isla Barro Col	9.19	2	Pn		Pn	07 08 32.6	-0.3
ZARC	Zaragoza, Cauc	9.19	35			Pn	07 08 36.6	+3.6
SRBA	San Rafael, Bu	9.79	341			Pn	07 08 39.3	-1.9
PAYG	Puerto Ayora	10.14	267	Pn		Pn	07 08 44.8	-1.2
RIMA	Rio Macho	10.45	339	Pn		Pn	07 08 52.6	+2.1
CZSB	Cruzeiro do Su	10.63	136	eP		Pn	07 08 54.3	+1.6
OCAC	Ocana	10.71	39	Pn		Pn	07 08 55.3	+1.3
TBTG	Tabatinga, AM	11.02	112	eP		Pn	07 09 00.2	+2.1
JTS	Las Juntas de	11.35	335	Pn		Pn	07 09 03.4	+0.8
	0.1nm,0.3s,baz=68,slow=5.4,SNR=5.7							
NNA	Nana	12.28	165	Pn		Pn	07 09 17.5	+2.2
	3.3nm,0.3s,baz=330,slow=13,SNR=11							
NNA				Sn		Sn	07 11 31.0	-1.0
	0.8nm,0.3s,baz=207,slow=18,SNR=2.1							
NNA	Nana	12.28	165	Pn		Pn	07 09 16.7	+1.4
SDV	Santo Domingo	13.01	47	Pn		Pn	07 09 30.5	+5.0
	0.6nm,0.3s,baz=240,slow=8.3,SNR=3.7							
CNGN	Cerro Negro	14.08	333	Pn		Pn	07 09 40.1	+0.1
URIC	Uribia, Colomb	14.24	34	Pn		Pn	07 09 43.4	+1.3
CRIN	San Cristobal	14.42	332	Pn		Pn	07 09 45.6	+1.0
ETMB	Extrema	16.91	125	eP		Pn	07 10 16.0	-1.2
MACA	Manacapuru-AM	19.70	99	eP		P	07 10 50.2	+0.4
BOAV	Boa Vista	19.78	83	eP		Pn	07 10 53.7	+1.4
LPAZ	La Paz	20.00	144	P		Pn	07 10 56.4	+0.9
	11nm,0.8s,baz=332,slow=12,SNR=40							
LPAZ	La Paz	20.00	144	eP		Pn	07 10 56.1	+0.6
PB16	IPOC Station P	20.94	151	P		P	07 11 02.6	-1.3
PB16				IAmb		IAmb	07 11 08.7	
	comp=Z,20nm,0.8s							
CRPR	Cabo Rojo, PR	22.09	35	P		P	07 11 16.1	+0.6
PB11	IPOC Station P	22.10	153	P		P	07 11 14.6	-1.3
GO01	Chusmiza	22.24	152	P		P	07 11 15.9	-1.8
GO01				IAmb		IAmb	07 11 26.8	
	comp=Z,16nm,0.9s							
TOSP	Speyside	22.54	59	P		P	07 11 20.0	-0.4
SJG	San Juan	22.73	37	P		P	07 11 22.2	-0.2
SJG				IAmb		IAmb	07 11 49.0	
	comp=Z,15nm,1.1s							
PATCX	Punta Patache	22.82	155	P		P	07 11 23.3	-0.1
GCPR	Guaynabo City	22.92	36	P		P	07 11 23.5	-0.9
GCPR				IAmb		IAmb	07 11 27.8	
	comp=Z,25nm,1.2s							
PB01	IPOC Station P	23.30	154	P		P	07 11 28.8	+0.4
PB01				IAmb		IAmb	07 11 31.1	
	comp=Z,10nm,0.7s							
PB02	IPOC Station P	23.37	155	P		P	07 11 30.2	+1.1
VILB	Vilhena	23.56	124	eP		P	07 11 31.0	0.0
SIV	San Ignacio	24.59	131	P		P	07 11 41.3	+0.7
	comp=Z,1.8nm,0.5s,baz=294,slow=9.2,SNR=15							
ITTB	Itaituba	24.77	100	eP		P	07 11 43.6	+1.4
GDSD	La Dsirade Is	24.90	48	P		P	07 11 42.0	-1.4
LVC	Limon Verde	24.93	155	P		P	07 11 45.7	+1.7
	comp=Z,4.6nm,0.7s,baz=16,slow=6.5,SNR=6.2							
LVC	Limon Verde	24.93	155	P		P	07 11 41.5	-2.4
LVC				IAmb		IAmb	07 11 56.2	
	comp=Z,22nm,1.4s							
LVC	Limon Verde	24.93	155	eP		P	07 11 46.0	+2.0
NPGB	Novo Progresso	25.69	106	eP		P	07 11 49.7	-0.9
PTLB	Pontes e Lacer	25.77	127	eP		P	07 11 51.8	+0.5
PDRB	Porto dos Gac	25.93	117	eP		P	07 11 54.4	+1.5
MALB	Monte Alegre	25.95	94	eP		P	07 11 55.1	+2.2
CLDB	Colider	26.48	115	eP		P	07 11 58.3	+0.6
NBRS	Nobres	27.97	121	eP		P	07 12 11.9	+0.7
MCPB	Macapa, AP	28.10	91	eP		P	07 12 15.3	+3.0
SALV	Santo Antonio	28.81	124	eP		P	07 12 18.2	-0.4
SNDB	Serra Nova Dou	30.99	113	eP		P	07 12 38.3	+0.3
DVLD	Doverlandia	32.12	122	eP		P	07 12 48.3	+0.6
SMTB	Santa Maria do	33.59	106	eP		P	07 13 01.3	+1.5
PEXB	Peixe	33.80	112	eP		P	07 13 03.9	+1.3
CPUP	Villa Florida	34.13	142	eP		P	07 13 06.0	+0.7
BDFB	Brasilia	35.30	117	P		P	07 13 16.1	+0.3
	comp=Z,3.1nm,0.7s,baz=310,slow=5.0,SNR=6.3							
BDFB	Brasilia	35.30	117	P		P	07 13 15.4	-0.3
BDFB				IAmb		IAmb	07 13 18.6	
	comp=Z,4.2nm,0.8s							
IPMB	Ipameri, GO	36.10	121	eP		P	07 13 22.2	-0.2
PTGB	Pitanga	36.59	134	eP		P	07 13 26.2	-0.4
FRBT	Francisco Belt	36.68	137	eP		P	07 13 26.8	-0.6
ITQB	Itaqui	37.00	145	eP		P	07 13 30.5	+0.5
SDBA	SAO DESIDERIO	37.05	111	eP		P	07 13 30.6	-0.1
ITAB	Concordia	38.13	137	eP		P	07 13 39.1	-0.4
JANB	Januaria	38.42	114	eP		P	07 13 41.8	+0.5
MC01	Montes Claros	39.33	117	eP		P	07 13 49.3	-0.5
LC01	Cunco	39.37	170	P		P	07 13 50.0	+0.2
LC01				IAmb		IAmb	07 13 51.5	
	comp=Z,10.0nm,1.1s							
CPSB	Cacapava Do Su	39.43	142	eP		P	07 13 50.0	-0.4
DIAM	Diamantina, MG	40.16	119	eP		P	07 13 56.5	-0.3
NBPN	Ponto Novo - B	41.13	106	eP		P	07 14 04.9	+0.1
LL04	Puerto Octay	41.24	171	P		P	07 14 04.5	-0.8
LL04				IAmb		IAmb	07 14 06.4	
	comp=Z,10nm,0.8s							
N62A	Caumsett State	41.27	8	P		P	07 14 04.4	-1.0
PLCA	Paso Flores	41.40	169	P		P	07 14 07.3	+0.7
	comp=Z,8.2nm,0.7s,baz=344,slow=9.4,SNR=24							
PLCA	Paso Flores	41.40	169	P		P	07 14 07.3	+0.7
PLCA				IAmb		IAmb	07 14 08.3	
	comp=Z,9.8nm,0.8s							
NBLA	Lagarto - SE	43.47	106	eP		P	07 14 23.3	-0.5
ESDC	Sonseca Array	79.44	50	P		P	07 18 26.8	0.0
	comp=Z,2.1nm,1.0s,baz=265,slow=5.8,SNR=9.1							
ESDC	Sonseca Array	79.44	50	IAmb		IAmb	07 18 28.5	
	comp=Z,2.5nm,1.1s							
TORD	Torodi Ar. Bea	82.08	77	P		P	07 18 40.6	-0.8
	comp=Z,1.5nm,0.7s,baz=281,slow=5.9,SNR=9.0							
TORD	Torodi Ar. Bea	82.08	77	IAmb		IAmb	07 18 44.5	
	comp=Z,4.6nm,1.5s							
VNA3	Neumayer Olymp	83.72	162	P		P	07 18 48.6	-0.2
SNAA	Sanae	85.94	162	P		P	07 18 59.5	-0.5
TROLL	Troll, Antarti	87.66	162	P		P	07 19 09.0	+0.5
ZALV	Zalesovo Beam	124.89	11	PKP		PKPdf	07 25 19.1	-1.1
	comp=Z,1.0nm,0.6s,baz=0.0,slow=0.6,SNR=3.9							
STKA	Stephens Creek	129.34	227	PKP		PKPdf	07 25 29.0	-0.4
	comp=Z,1.5nm,0.6s,baz=188,slow=5.7,SNR=4.4							
MKAR	Makanchi Array	131.00	16	PKP		PKPdf	07 25 30.7	-1.4
	comp=Z,0.7nm,0.9s,baz=29,slow=3.3,SNR=4.6							
KSRS	Korea Array	134.66	328	PKP		PKPdf	07 25 38.5	-0.8
	comp=Z,0.7nm,0.6s,baz=21,slow=2.3,SNR=4.5							
KSRS	Korea Array	134.66	328	PKIKP		PKPdf	07 25 38.5	-0.8
ASAR	Alice Springs	139.38	232	PKiKP		PKPpre	07 25 40.5	
	comp=Z,0.3nm,0.6s,baz=123,slow=3.7,SNR=6.1							
ASAR				PKP		PKPdf	07 25 46.8	-1.7
	comp=Z,1.0nm,0.7s,baz=116,slow=2.3,SNR=9.1							
WRA	Warramunga Arr	140.79	237	PKhKP		PKPpre	07 25 44.6	
	comp=Z,0.9nm,0.6s,baz=116,slow=2.1,SNR=7.9							
WRA				PKP		PKPdf	07 25 49.3	-1.7
	comp=Z,0.9nm,0.6s,baz=138,slow=1.4,SNR=6.0							
XAN	Xi'an	145.16	347	⇑PKPbc		PKPbc	07 25 56.3	-1.6
XAN				sPKP			07 26 12.0	
CNSH	ChangSha	149.37	337	⇓PKPbc		PKPdf	07 25 55.3	-10
PZH	PanZhiHua	153.67	356	PKPbc		PKPdf	07 26 11.5	-0.8

IDC ***25*** *07:07:04.9±0.4, 14°.44N×92°.81W, h0km, mb4.9/33, mb1 5.1/36, mb1mx5.1/43, mbtmp5.0/36, ML4.9/3, MS5.5/55, Ms1 5.5/55, ms1mx5.5/63, Error ellipse: s-maj=14.6km s-min=8.7km az=46.0*

NEIC ***25*** *07:07:08.6±2.8, 14°.48N±0°.03×93°.15W±0°.04, h16km±1km, mb5.6/670, Ms_20 5.7/364, Mwb5.7/60, Mww6.0, Md6.0/90(MEX), Error ellipse: s-maj=5.8km s-min=4.8km az=261.0*

MOS ***25*** *07:07:08.0±1.1, 14°.51N×92°.95W, h27km, mb5.7/48, MS5.7/29, Error ellipse: s-maj=7.3km s-min=4.3km az=105.0*

GCG ***25*** *07:07:08.4±1.4, 14°.48N×93°.17W, h9km±24km, MD5.9*

NEIC ***25*** *07:07:08.5, 14°.41N×93°.09W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.25; Mθθ-3.95; Mθφ-0.30; Mrφ2.58; Mθr1.62; Mφr-0.97; Fault plane solution: Mo5.21000×10¹⁷ NP1:φ110.67000°, δ60.98000°, λ89.91000°. NP2:φ290.85000°, δ29.02000°, λ90.16000°. Principal axes: T 5.0417, Plg74.0000°, Azm20.0000°; N 0.3138, Plg0.0000°, Azm111.0000°; P -5.3555, Plg16.0000°, Azm201.0000°;*

GCMT ***25*** *07:07:11.6±0.1, 14°.45N×93°.38W, h17km, MW6.0/154, Moment Tensor Solution. s154,c327; s152,c502; Duration: 2s4 Moment tensor: Scale 10¹⁸Nm; Mrr0.75±.01; Mθθ-0.57±.01; Mφφ-0.18±.01; Mrθ0.64±.02; Mθφ0.29±.00; Mφr-0.60±.02; Best double couple: Mo1.14100×10¹⁸ NP1:φ289.00000°, δ21.00000°, λ71.00000°. NP2:φ129.00000°, δ70.00000°, λ97.00000°. Principal axes: T 1.1680, Plg64.0000°, Azm51.0000°; N -0.0550, Plg7.0000°, Azm307.0000°; P -1.1140, Plg25.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

MEX ***25*** *07:07:12.1±2.8, 14°.54N×93°.21W, h10km±76km, MD6.0*

NEIC ***25*** *07:07:14, 14°.51N×93°.21W, h18km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10¹⁸Nm; Mrr0.76; Mθθ-0.55; Mφφ-0.20; Mrθ0.80; Mθφ0.30; Mφr-0.25; Fault plane solution: Mo1.12000×10¹⁸ NP1: φ308.00000°, δ22.00000°, λ106.00000°. NP2: φ111.00000°, δ69.00000°, λ84.00000°. Principal axes: T 1.1414, Plg65.0000°, Azm11.0000°; N -0.0470, Plg6.0000°, Azm113.0000°; P -1.0943, Plg24.0000°, Azm206.0000°;*

INET ***25*** *07:07:18.3±1.9, 14°.35N×92°.48W, h18km, MW5.3*

ISC 25 07:07:08.8±0.5, 14°.31N±0°.03×93°.16W±0°.03, h27km±3km, n1874, σ1°99/1960, mb5.5/358, MS5.7/274, 126C-34D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		1.04	55				Pn	07 07 27.6	-0.1
THIG							Sb	07 07 40.0	-1.6
THIG		1.04	55	⇓	*iP*		Pn	07 07 27.6	-0.1
THIG					*eS*		Sb	07 07 40.0	-1.6
PATR	El Naranjo	1.20	48	*eP*			Pn	07 07 29.3	-0.7
PATR					*eS*		Sb	07 07 44.3	-1.9
CHUJ	Union Juarez	1.28	52	*eP*			Pn	07 07 30.9	-0.3
CHUJ					*eS*		Sn	07 07 45.6	-1.9
PAVE	Pavencul	1.29	47	*eP*			Pn	07 07 30.9	-0.4
PAVE					*eS*		Sn	07 07 46.3	-1.5
PCIG		1.39	357				Pn	07 07 30.9	-1.6
PCIG							Sn	07 07 44.7	-5.1
PCIG		1.39	357	⇓	*eP*		Pn	07 07 30.8	-1.6
PCIG					*eP*		Pn	07 07 30.9	-1.6
PCIG					*eS*		Sn	07 07 44.7	-5.1
RTAL	Retalhuleu	1.43	81				Pn	07 07 33.5	+0.4
RTAL						Sn	Sn	07 07 50.7	-0.3
RTAL	Retalhuleu	1.43	81	*eS*			Sn	07 07 52.4	+1.4
STG3	Santiaguito 3,	1.58	75	*eP*			Pn	07 07 36.0	+0.6
HUEH	Huehuetenango	1.89	58				Pn	07 07 41.0	+1.5
HUEH	Huehuetenango	1.89	58	*eP*			Pn	07 07 41.0	+1.5
HUEH	Huehuetenango	1.89	58	*eP*			Pn	07 07 41.0	+1.5
HUEH					*eS*		Sb	07 08 08.9	+2.9
HUEH	Huehuetenango	1.89	58	*eP*			Pn	07 07 41.3	+1.8
CARR	Arriaga	2.06	339	*eP*			Pn	07 07 40.5	-1.1
CARR					*eS*		Sn	07 08 02.2	-4.3
CCIG	Comitan	2.19	27				Pn	07 07 45.6	+1.9
CCIG	Comitan	2.19	27				Sn	07 08 11.2	+1.2
CCIG	Comitan	2.19	27	⇓	*eP*		Pn	07 07 45.6	+1.9
CCIG					*iS*		Sn	07 08 11.2	+1.2
FUG	Fuego 3	2.25	86	*eP*			Pn	07 07 45.3	+0.9
FUG					*eS*		Sn	07 08 15.5	+4.1
TGBT	Tuxtla Gutierr	2.45	1				Pn	07 07 48.1	+1.0
TGBT							Sn	07 08 16.5	+0.3
TGBT	Tuxtla Gutierr	2.45	1	*eP*			Pn	07 07 48.1	+1.0
TGBT					*eS*		Sn	07 08 16.5	+0.3
TGIG		2.45	1				Pn	07 07 48.1	+1.0
TGIG		2.45	1	⇓	*iP*		Pn	07 07 48.1	+1.0
PCG	Pacaya	2.47	88	*eP*			Pn	07 07 49.3	+1.3
NBG	Las Nubes	2.73	84	*eP*			Pn	07 07 53.9	+2.7
UXUV	UXUV	3.14	342	⇓	*eP*		Pn	07 07 57.2	+0.6
HUIG	Huatulco	3.20	297				Pn	07 07 54.8	-2.6
HUIG	Huatulco	3.20	297	⇑	*eP*		Pn	07 07 54.8	-2.6
CMIG	Matias Romero	3.23	329	Pn			Pn	07 07 56.6	-1.1
	181nm,0.3s,baz=156,slow=9.2,SNR=661								
CMIG						Sn	Sn	07 08 34.8	-0.5
	1µm,0.3s,baz=207,slow=18,SNR=14								
CMIG						LR	LR	07 08 52.4	
	comp=Z,23µm,20.6s,baz=352,slow=32								
CMIG	Matias Romero	3.23	329				Pn	07 07 56.4	-1.4
CMIG	Matias Romero	3.23	329	⇓	*eP*		Pn	07 07 56.4	-1.4
SLOZ	Alcaldia de Sa	3.28	95	*eP*			Pn	07 07 58.9	+0.3
SLOZ					IAML			07 08 57.8	
	comp=Z,11µm,0.6s								
NUBE	Las Nubes	3.30	97	*eP*			Pn	07 07 59.5	+0.6
NUBE	Las Nubes	3.30	97	*eP*			Pn	07 07 59.5	+0.6
MRL	Marmol	3.44	77	*eP*			Pn	07 08 03.1	+2.1
SBLS	San Blas	3.46	97	*eP*			Pn	07 08 01.4	+0.2
SBLS	San Blas	3.46	97	*eP*			Pn	07 08 01.4	+0.2
CEVE	Cerro Verde	3.46	98	*eP*			Pn	07 08 01.8	+0.6
CEVE					*eS*		Sn	07 08 45.0	+3.5
CEVE					IAML			07 08 57.6	
	comp=Z,71µm,0.5s								
CEVE	Cerro Verde	3.46	98	*eP*			Pn	07 08 01.8	+0.6
CEVE					*eS*		Sn	07 08 45.0	+3.5
CEVE					IAML			07 08 57.6	
	comp=Z,71µm,0.5s								
SNJE	San Jose	3.47	97	*eP*			Pn	07 08 01.8	+0.4
SNJE	San Jose	3.47	97	*eP*			Pn	07 08 01.8	+0.4
MTO3	Montecristo	3.68	88				Pn	07 08 04.5	+0.3
MTO3	Montecristo	3.68	88	*eP*			Pn	07 08 04.6	+0.4
MTO3	Montecristo	3.68	88	*eP*			Pn	07 08 04.6	+0.4
ESQI	Esquipulas	3.70	86				Pn	07 08 05.3	+0.9
ESQI	Esquipulas	3.70	86	*eP*			Pn	07 08 05.0	+0.6
BOQS	Boqueron	3.81	98	*eP*			Pn	07 08 06.6	+0.7
BOQS	Boqueron	3.81	98	*eP*			Pn	07 08 06.6	+0.7
LALI	Alcalda de L	3.81	102	*eP*			Pn	07 08 06.0	+0.2
LALI	Alcalda de L	3.81	102	*eP*			Pn	07 08 06.6	+0.7
SNET	Serv Nac Est T	3.86	99				Pn	07 08 07.0	+0.4
SNET	Serv Nac Est T	3.86	99	*eP*			Pn	07 08 05.8	-0.7
SNET					IAML			07 09 21.2	
	comp=Z,13µm,0.8s								
SNET	Serv Nac Est T	3.86	99	*eP*			Pn	07 08 07.0	+0.4
TUIG	Tuzandepetl	3.90	342				Pn	07 08 07.9	+1.0
TUIG	Tuzandepetl	3.90	342	⇑	*eP*		Pn	07 08 07.9	+1.0
LFRS	El Faro	4.03	99	*eP*			Pn	07 08 09.1	+0.1
LFRS	El Faro	4.03	99	*eP*			Pn	07 08 09.1	+0.1
SJTE	Alcalda de S	4.09	99	*eP*			Pn	07 08 10.5	+0.8
SJTE	Alcalda de S	4.09	99	*eP*			Pn	07 08 10.5	+0.8
PETF	Flores	4.09	50				Pn	07 08 11.2	+1.5
PETF	Flores	4.09	50	*eP*			Pn	07 08 11.4	+1.7
PAVA	Las Pavas	4.14	98	*eP*			Pn	07 08 10.1	-0.3
PAVA	Las Pavas	4.14	98	*eP*			Pn	07 08 10.7	+0.3
PEIG	Puerto Escondi	4.20	294	⇑	*eP*		Pn	07 08 09.4	-1.8
COEG	Centro de Oper	4.21	99	*eP*			Pn	07 08 12.5	+1.2
COEG	Centro de Oper	4.21	99	*eP*			Pn	07 08 12.5	+1.2
COEG	Centro de Oper	4.21	99	*eP*			Pn	07 08 12.3	+1.0
NEUV	Arroyo Zacate	4.23	323	⇑	*eP*		Pn	07 08 09.7	-1.8
NEUV					*eS*		Sn	07 08 51.9	-8.2
VHO	Vista Hermosa	4.40	309	⇑	*eP*		Pn	07 08 14.6	+0.5
COEB	Comit de Eme	4.56	100	*eP*			Pn	07 08 16.7	+0.4
PACA	Pacayal	4.77	100	*eP*			Pn	07 08 21.1	+2.1
YOIG	Yosondua	4.93	301	⇑	*eP*		Pn	07 08 21.5	+0.1
SCIG	Sabancuy	5.00	22				Pn	07 08 23.0	+0.9
SCIG	Sabancuy	5.00	22	⇓	*eP*		Pn	07 08 23.0	+0.9
LCND	La Caada	5.21	100	*eP*			Pn	07 08 26.0	+0.9
LCND	La Caada	5.21	100	*eP*			Pn	07 08 26.0	+0.9
PNIG	Pinotepa	5.22	294				Pn	07 08 24.5	-0.8
PNIG	Pinotepa	5.22	294	⇓	*eP*		Pn	07 08 24.5	-0.8
TOIG	Toxpalan	5.32	316	⇓	*eP*		Pn	07 08 27.1	+0.5
TXIG	Tlaxiaco	5.32	304	⇑	*eP*		Pn	07 08 27.0	+0.2
CSGN	Cosiguina Volc	5.60	103	*eP*			Pn	07 08 30.5	0.0
HLIG	Huajuapan de L	5.67	309	⇑	*eP*		Pn	07 08 26.1	-5.5
TGUH	Tegucigalpa,Un	5.71	92	Pn			Pn	07 08 31.6	-0.5
TGUH	Tegucigalpa,Un	5.71	92	⇑	P		Pn	07 08 32.0	-0.1
TGUH	Tegucigalpa,Un	5.71	92	*eP*			Pn	07 08 32.1	+0.1
TPIG	Tehuac#an	5.74	316				Pn	07 08 33.3	+0.7
TPIG	Tehuac#an	5.74	316	⇓	*eP*		Pn	07 08 33.3	+0.7
FTIG	Fresnillo de T	5.97	307	⇓	*eP*		Pn	07 08 34.6	-1.0
MGIG	Malinaltepec	6.02	300	⇓	*eP*		Pn	07 08 36.7	+0.3
JAUV	Jalcomulco	6.12	326	⇑	*eP*		Pn	07 08 35.1	-2.5
TLIG	Tlapa	6.13	303	Pn			Pn	07 08 38.9	+1.2
TLIG						

AAIG Aguscalientes 11.61 312⇑*e* Pn 07 09 55.6 +2.5
BRU2 Volcan 11.62 117 Pn Pn 07 09 52.9 -0.4
LNIG Linares 12.09 332⇑*e* Pn 07 10 00.1 +0.7
ZAIG Zacatecas 12.26 315 Pn 07 10 04.9 +2.9
ZAIG Zacatecas 12.26 315⇑*e* Pn 07 10 03.9 +1.9
ANIG Ahuacatlan 12.73 303⇑*e* Pn 07 10 08.5 +0.1
SOR Soroa 12.79 47 P Pn 07 10 07.8 -1.2
SOR Soroa 12.79 47 Pn Pn 07 10 07.8 -1.2
MNIG Monterrey 13.08 330 *e* Pn 07 10 14.3 +1.2
MNIG *e* 07 12 38.8
LCCY Blossom Villag 13.59 65 Pn Pn 07 10 18.6 -1.4
BCIP Isla Barro Col 14.01 110 P Pn 07 10 24.4 -1.2
BCIP Isla Barro Col 14.01 110 Pn Pn 07 10 24.4 -1.2
BCIP Isla Barro Col 14.01 110 *e*P Pn 07 10 24.1 -1.5
BCIP Isla Barro Col 14.01 110 ⇑P Pn 07 10 24.8 -0.8
833A Chaparral WMA, 15.10 338 Pn 07 10 40.4 -0.1
833A Chaparral WMA, 15.10 338 P Pn 07 10 40.3 -0.1
baz=156,SNR=91
833A Chaparral WMA, 15.10 338 P Pn 07 10 40.2 -0.2
baz=156,SNR=91
735A Kenedy 15.10 344 Pn 07 10 39.3 -1.1
735A Kenedy 15.10 344 P Pn 07 10 40.4 0.0
baz=162,SNR=39
PAYG Puerto Ayora 15.16 169 Pn 07 10 45.0 +3.7
PAYG IAmb IAmb 07 10 58.5
comp=Z,764nm,1.9s
MCJ Malvern 15.29 74 *i* P P 07 10 47.5 -0.2
MTDJ Mount Denham 15.49 73 Pn Pn 07 10 42.9 -2.8
MTDJ IAmb IAmb 07 11 10.0
comp=Z,318nm,0.9s
MTDJ Mount Denham 15.49 73 ⇑P Pn 07 10 42.9 -2.8
HKT Hockley 15.76 351*ce*P Pn 07 10 48.7 -0.2
HKT pmax pmax
comp=Z,45nm,1.4s
HKT Hockley 15.76 351 Pn 07 10 48.3 -0.6
HKT IAmb IAmb 07 10 55.9
comp=Z,518nm,1.5s
HKT Hockley 15.76 351 ⇑P Pn 07 10 48.5 -0.4
HKT Hockley 15.76 351 P Pn 07 10 49.6 +0.7
baz=170
STH Stony Hill 16.14 74 *i* P P 07 10 58.2 +1.2
HOJ Hope 16.18 75 *i* P Pn 07 10 56.0 +1.5
061Z Ochoppi 16.25 43 Pn 07 10 53.9 -1.4
061Z Ochoppi 16.25 43 P Pn 07 10 54.0 -1.2
baz=227,SNR=16
441A DeRidder 16.36 360 Pn 07 10 54.7 -1.9
441A IAmb IAmb 07 11 03.0
comp=Z,481nm,1.1s
441A DeRidder 16.36 360 P Pn 07 10 55.2 -1.5
baz=180,SNR=21
435B Jarrell 16.89 347 Pn 07 11 01.9 -1.5
435B IAmb IAmb 07 11 26.1
comp=Z,317nm,0.9s
435B Jarrell 16.89 347 P Pn 07 11 02.6 -0.8
baz=165,SNR=63
435B Jarrell 16.89 347 P Pn 07 11 03.2 -0.2
baz=165
342A Flagon Creek P 17.00 2 Pn 07 11 04.8 +0.1
342A IAmb IAmb 07 11 41.3
comp=Z,734nm,1.6s
342B Flagon Creek P 17.00 2 P Pn 07 11 04.6 -0.2
baz=183,SNR=43
HPIG 17.15 319 P 07 11 07.8 -0.6
HPIG 17.15 319⇑*e* P 07 11 07.5 -0.9
344A Westbrook Farm 17.20 7 Pn 07 11 06.3 -1.0
344A IAmb IAmb 07 11 37.8
comp=Z,482nm,1.1s
344A Westbrook Farm 17.20 7 P Pn 07 11 07.0 -0.3
baz=188,SNR=66
JCT Junction City 17.21 340 P Pn 07 11 06.3 -1.2
JCT pmax pmax
comp=Z,188nm,0.9s
JCT Junction City 17.21 340 Pn Pn 07 11 06.3 -1.2
JCT Junction City 17.21 340 ⇑P Pn 07 11 07.9 +0.4
JCT Junction City 17.21 340 P P 07 11 08.4 -0.4
baz=158,SNR=169
JCT Junction City 17.21 340 P Pn 07 11 06.6 -0.9
baz=158,SNR=169
346A Big Creek Wild 17.33 11 Pn 07 11 07.6 -1.3
346A IAmb IAmb 07 11 43.0
comp=Z,513nm,1.1s
346A Big Creek Wild 17.33 11 P Pn 07 11 08.2 -0.7
baz=192,SNR=33
060A Indiantown 17.40 41 Pn Pn 07 11 06.5 -3.3
060A Indiantown 17.40 41 P Pn 07 11 10.4 +0.6
baz=226,SNR=8.3
NATX Nacogdoches 17.42 356 Pn Pn 07 11 08.2 -1.8
NATX Nacogdoches 17.42 356 P Pn 07 11 08.5 -1.5
baz=175,SNR=25
NATX Nacogdoches 17.42 356 P Pn 07 11 09.1 -0.9
baz=175,SNR=25
DWPF Disney Wildern 17.53 37 Pn 07 11 10.5 -0.9
DWPF IAmb IAmb 07 11 21.1
comp=Z,840nm,1.1s
DWPF Disney Wildern 17.53 37 ⇑P Pn 07 11 09.6 -1.7
DWPF Disney Wildern 17.53 37 P Pn 07 11 11.2 -0.1
baz=221,SNR=12
DWPF Disney Wildern 17.53 37 P Pn 07 11 10.1 -1.3
baz=221
451A Vernon 17.60 22 Pn 07 11 11.4 -0.8
451A IAmb IAmb 07 11 39.4
comp=Z,702nm,1.2s
451A Vernon 17.60 22 P Pn 07 11 11.5 -0.7
baz=204,SNR=22
BRAL Brewton 17.69 17 Pn 07 11 12.6 -0.8
BRAL Brewton 17.69 17 ⇑P Pn 07 11 13.2 -0.1
BRAL Brewton 17.69 17 P P 07 11 15.8 +1.8
baz=200,SNR=66
BRAL Brewton 17.69 17 P Pn 07 11 13.6 +0.3
baz=200,SNR=66
553A Crawfordville 17.73 26 Pn Pn 07 11 11.9 -1.9
553A IAmb IAmb 07 11 21.6
comp=Z,512nm,1.1s
553A Crawfordville 17.73 26 P Pn 07 11 13.3 -0.5
baz=209,SNR=28
237A Washetta, Mont 17.77 353 Pn 07 11 13.5 -0.9
TXAR Lajitas Array 17.83 329 P P 07 11 16.9 +1.1
comp=Z,1.4nm,0.3s,baz=151,slow=10,SNR=93
TXAR LR LR 07 18 41.7
comp=Z,9μm,19.1s,baz=132,slow=39
TXAR Lajitas Array 17.83 329 P P 07 11 16.8 +1.0
TX31 Lajitas Ar. Si 17.83 329 P P 07 11 16.9 +1.1
TX31 Lajitas Ar. Si 17.83 329 ⇑P P 07 11 16.2 +0.4
TX31 Lajitas Ar. Si 17.83 329 P P 07 11 17.3 +1.5
baz=145,SNR=288
TX31 S S 07 14 45.1 +5.4
baz=145
TX32 Lajitas Array 17.83 329 Pn 07 11 14.8 -0.5
TX32 IAmb IAmb 07 11 25.9
comp=Z,460nm,1.2s
656A Willston 17.92 32 Pn 07 11 14.6 -1.5
656A Willston 17.92 32 P Pn 07 11 16.1 0.0
baz=215
VBMS Vicksburg 17.99 7 P Pn 07 11 16.7 -0.3
VBMS IAmb IAmb 07 11 23.6
comp=Z,468nm,1.0s
VBMS Vicksburg 17.99 7 P Pn 07 11 16.4 -0.6
baz=188,SNR=53
VBMS Vicksburg 17.99 7 P Pn 07 11 16.0 -1.0
baz=188,SNR=53
WHTX Lake Whitney, 18.03 348 P P 07 11 18.0 +0.2
WHTX IAmb IAmb 07 11 44.4
comp=Z,564nm,1.4s
WHTX Lake Whitney, 18.03 348 P P 07 11 18.5 +0.7
baz=166,SNR=28
WHTX Lake Whitney, 18.03 348 P Pn 07 11 17.4 -0.1
baz=166,SNR=28
SJCC San Jacinto, C 18.11 102 P Pn 07 11 17.7 -1.0
PIZC Pizarro, Choco 18.12 119 *e*P P 07 11 21.4 +2.5
GTBY Guantanamo Bay 18.12 70 P Pn 07 11 18.3 -0.4
GTBY Guantanamo Bay 18.12 70 ⇑P Pn 07 11 17.3 -1.4
143A Socs Landing, 18.38 5 P P 07 11 21.2 -0.4
143A IAmb IAmb 07 11 28.3
comp=Z,300nm,0.8s
143A Socs Landing, 18.38 5 P P 07 11 21.3 -0.3
baz=185,SNR=57
SLBS Sierra La Lagu 18.39 303 P P 07 11 23.1 +1.1
SLBS Sierra La Lagu 18.39 303 ⇑P P 07 11 25.4 +3.4
UREC San Jos de Ur 18.48 109 *e*P P 07 11 20.6 -2.3
GR1C Gorgona, Isla 18.58 126 *e*P Pn 07 11 30.1 +5.7
146A Union 18.62 11 P P 07 11 24.2 -0.1
146A IAmb IAmb 07 11 43.2
comp=Z,645nm,1.2s
146A Union 18.62 11 P Pn 07 11 25.4 +0.7
baz=192
352A Blakely 18.68 22 P P 07 11 24.0 -0.9
352A Blakely 18.68 22 P P 07 11 24.9 0.0
baz=206,SNR=208
250A Grady 18.68 19 P P 07 11 24.8 -0.2
250A Grady 18.68 19 P P 07 11 24.9 -0.1
baz=201,SNR=58
250A S Sn 07 14 53.1 -0.5
baz=201
CBOC Ciudad Bolivar 18.84 115 *e*P P 07 11 28.7 +1.6
Z41A Richland Creek 18.86 1 P P 07 11 26.6 -0.4
Z41A IAmb IAmb 07 11 34.3
comp=Z,574nm,1.1s
Z41A Richland Creek 18.86 1 P P 07 11 27.0 0.0
baz=181,SNR=68
Z41A P P 07 11 27.0 0.0
baz=181,SNR=68
Z41A Richland Creek 18.86 1 P P 07 11 26.8 -0.1
baz=181,SNR=68
LPIG La Paz 18.88 304 P Pn 07 11 31.2 +3.2
comp=Z,1.9nm,0.3s,baz=147,slow=9.8,SNR=7.5
LPIG LR LR 07 18 57.2
comp=Z,11μm,18.2s,baz=124,slow=37
Z38A Mt. Pleasant 18.94 355 P P 07 11 27.7 -0.1
Z38A IAmb IAmb 07 12 08.2
comp=Z,583nm,1.5s
Z38A Mt. Pleasant 18.94 355 P P 07 11 27.9 +0.2
baz=174,SNR=28
Z38A S S 07 15 02.4 +1.1
baz=174
PLMC San Jos del P 19.07 118 *e*P P 07 11 30.3 +0.8
ABTX Abilene, Hawle 19.16 343 P Pn 07 11 30.8 -0.6
ABTX IAmb IAmb 07 12 25.3
comp=Z,423nm,1.4s
ABTX Abilene, Hawle 19.16 343 P Pn 07 11 31.3 0.0
baz=160,SNR=39
ABTX Abilene, Hawle 19.16 343 P Pn 07 11 31.1 -0.2
baz=160,SNR=39
TIGA Tifton 19.17 26 P P 07 11 29.7 -0.6
TIGA Tifton 19.17 26 P P 07 11 30.3 0.0
baz=209,SNR=106
TIGA S S 07 15 07.4 +1.4
baz=209
TIGA Tifton 19.17 26 P P 07 11 30.0 -0.3
baz=209,SNR=106
ZARC Zaragoza, Cauc 19.19 109 P P 07 11 30.6 -0.2
ZARC Zaragoza, Cauc 19.19 109 *e*P P 07 11 28.4 -2.4
456A Hilliard 19.28 30 P P 07 11 29.2 -2.3
456A IAmb IAmb 07 12 00.4
comp=Z,546nm,1.2s
456A Hilliard 19.28 30 P P 07 11 32.2 +0.6
baz=214
WLAR White Oak Lake 19.29 0 P P 07 11 31.8 +0.2
WLAR IAmb IAmb 07 11 50.8
comp=Z,432nm,1.1s
Z35A Perchaven, San 19.30 350 IAmb IAmb 07 11 41.3
comp=Z,356nm,0.8s
Z35A Perchaven, San 19.30 350 P Pn 07 11 33.7 +0.9
baz=168,SNR=45
Z47A Carrollton 19.36 13 P P 07 11 31.9 -0.5
Z47A IAmb IAmb 07 12 00.8
comp=Z,478nm,1.1s
Z47A Carrollton 19.36 13 P P 07 11 32.8 +0.3
baz=195,SNR=61
LRAL Lakeview Retre 19.46 16 P P 07 11 33.5 0.0
LRAL Lakeview Retre 19.46 16 P P 07 11 33.3 -0.2
baz=198,SNR=92
LRAL S Sn 07 15 14.1 +1.5
baz=198
LRAL Lakeview Retre 19.46 16 P P 07 11 32.6 -1.0
baz=198,SNR=92
YOTC Yotoco, Valle 19.50 120 *e*P P 07 11 35.7 +1.5
CCAR Cane Creek 19.56 3 P P 07 11 33.6 -0.9
CCAR IAmb IAmb 07 11 43.9
comp=Z,469nm,1.0s
GUY2C Guyana, Caldas 19.71 116 *e*P P 07 11 38.6 +1.7
Y45A Yeager Farm, C 19.74 9 IAmb IAmb 07 11 54.7
comp=Z,411nm,0.8s
Y45A Yeager Farm, C 19.74 9 P Pn 07 11 38.0 -0.1
baz=190,SNR=57
LL1C La Loma 1 Cana 19.75 102 *e*P P 07 11 37.3 +0.5
152A Waverly Hall 19.83 21 P P 07 11 36.4 -1.1
152A IAmb IAmb 07 11 47.6
comp=Z,316nm,1.1s
152A Waverly Hall 19.83 21 P P 07 11 37.6 +0.1
baz=205,SNR=49
PTBC PUERTO BERRIO, 19.93 111 *e*P P 07 11 39.5 +0.7
LL6C La Loma 6 Bece 19.97 101 *e*P P 07 11 38.9 -0.4
NORC Norcasia 19.98 114 *e*P P 07 11 41.4 +2.0
POPC Popayan, Colom 20.04 124 *e*P P 07 11 42.1 +1.8
CRJC Cerrejon, Guaj 20.05 97 *e*P P 07 11 38.9 -1.3
255A Hazlehurst 20.07 27 P P 07 11 39.0 -1.2
255A Hazlehurst 20.07 27 P P 07 11 39.2 -1.0
baz=211,SNR=17
X40A Basin Creek Fa 20.09 1 IAmb IAmb 07 12 07.8
comp=Z,862nm,1.9s
X40A Basin Creek Fa 20.09 1 P P 07 11 41.1 +0.7
baz=181,SNR=8.2
X40A P P 07 11 41.1 +0.7
baz=181,SNR=8.2
X40A Basin Creek Fa 20.09 1 P P 07 11 39.5 -0.8
baz=181,SNR=8.2
MIAR Mount Ida 20.15 359 P P 07 11 39.9 -1.1
MIAR pmax pmax
comp=Z,779nm,1.1s
MIAR Mount Ida 20.15 359 P P 07 11 39.9 -1.1
MIAR Mount Ida 20.15 359 ⇑P P 07 11 39.7 -1.3
MIAR Mount Ida 20.15 359 P P 07 11 40.1 -0.9
baz=179,SNR=158
MIAR Mount Ida 20.15 359 P P 07 11 39.6 -1.4
baz=179,SNR=158
JAKH Jacmel 20.19 76 P P 07 11 40.7 -0.9
JAKH IAmb IAmb 07 12 14.1
comp=Z,810nm,1.8s
Z51A Franklin 20.26 20 IAmb IAmb 07 12 10.6
comp=Z,180nm,0.8s
Z51A Franklin 20.26 20 P P 07 11 42.9 +0.6
baz=203,SNR=16
X37A Clayton 20.29 355 P 07 11 42.7 +0.2
X37A Clayton 20.29 355 P P 07 11 42.2 -0.4
baz=174,SNR=32
GCUF Volcan Galeras 20.33 128 *e*P P 07 11 45.7 +2.0
TULM Tulcn-Chalpat 20.34 130 IAmb IAmb 07 12 00.6
comp=Z,293nm,1.1s
TULM Tulcn-Chalpat 20.34 130 *e*P P 07 11 46.4 +2.7
SOTA Rioblanco 20.34 125 *e*P P 07 11 46.0 +2.2
OCAC Ocana 20.36 105 *e*P P 07 11 41.4 -2.2
UALR University of 20.39 2 P P 07 11 43.5 -0.1
UALR IAmb IAmb 07 12 12.4
comp=Z,516nm,1.2s
PCON Cinco Dias 20.39 124 *e*P P 07 11 46.1 +1.7
154A Montrose 20.39 25 P P 07 11 42.7 -1.0
154A Montrose 20.39 25 P P 07 11 42.3 -1.4
baz=209,SNR=54
OXF Oxford 20.39 9 P P 07 11 42.7 -1.0
OXF pmax pmax
comp=Z,624nm,1.2s
OXF Oxford 20.39 9 P P 07 11 42.7 -1.0
OXF Oxford 20.39 9 P P 07 11 43.3 -0.3
baz=190,SNR=11
OXF Oxford 20.39 9 P P 07 11 41.6 -2.0
baz=190
Y49A Blount Mountai 20.40 16 IAmb IAmb 07 12 13.3
comp=Z,708nm,1.8s
Y49A Blount Mountai 20.40 16 P P 07 11 43.3 -0.4
baz=199,SNR=25
Y49A S S 07 15 31.7 +0.8
baz=199
MARP Paez Belalcaza 20.45 122 *e*P P 07 11 47.4 +2.7
ORTC Ortega, Tolima 20.46 119 *e*P P 07 11 46.9 +2.3
MNTX Cornudas Mount 20.61 329 P P 07 11 47.1 +1.0
MNTX Cornudas Mount 20.61 329 P Pn 07 11 47.2 -1.3
baz=144,SNR=185
MNTX Cornudas Mount 20.61 329 P P 07 11 47.1 +1.0
baz=144,SNR=185
X34A Smith Ranch, M 20.64 349 IAmb IAmb 07 12 18.1
comp=Z,258nm,0.8s
SPBC San Pablo de B 20.66 113 *e*P P 07 11 47.9 +1.1
URIC Uribia, Colomb 20.78 95 P P 07 11 46.5 -1.6
URIC Uribia, Colomb 20.78 95 *e*P P 07 11 49.9 +1.8
257A Skidaway Islan 20.79 30 P P 07 11 46.4 -1.6
257A Skidaway Islan 20.79 30 P P 07 11 46.8 -1.1
baz=215
257A S Sn 07 15 44.8 +0.4
baz=215
W41B Gary Mavity, V 20.79 2 P P 07 11 47.4 -0.6
W41B Gary Mavity, V 20.79 2 P P 07 11 48.1 +0.2
baz=182,SNR=29
W41B S S 07 15 37.7 -0.9
baz=182
W41B Gary Mavity, V 20.79 2 P P 07 11 46.8 -1.1
baz=182,SNR=29
X48A Hartselle 20.80 14 IAmb IAmb 07 11 56.9
comp=Z,247nm,1.0s
X48A Hartselle 20.80 14 P P 07 11 48.0 0.0
baz=197,SNR=30
X48A S Sn 07 15 42.4 -2.3
baz=197
W39A Magazine 20.80 359 IAmb IAmb 07 11 58.9
comp=Z,207nm,1.0s
W39A Magazine 20.80 359 P P 07 11 47.3 -0.7
baz=178,SNR=63
W39A S S 07 15 40.5 +1.6
baz=178
W39A Magazine 20.80 359 P P 07 11 47.6 -0.5
baz=178,SNR=63
ROSC El Rosal 20.80 115 P P 07 11 50.7 +2.0
comp=Z,333nm,1.1s,baz=320,slow=6.5,SNR=38
ROSC S S 07 15 44.9 +4.9
comp=Z,4.0nm,0.5s,baz=62,slow=21,SNR=0.9
ROSC El Rosal 20.80 115 P P 07 11 51.0 +2.3
ROSC pmax pmax
comp=Z,2μm,1.6s
ROSC El Rosal 20.80 115 P P 07 11 51.0 +2.3
ROSC El Rosal 20.80 115 *e*P Pn 07 11 52.1 +0.9
WHAR Wooly Hollow 20.90 2 P P 07 11 48.7 -0.4
WHAR IAmb IAmb 07 12 20.9
comp=Z,391nm,1.3s
GOGA Godfrey 20.95 23 P P 07 11 48.1 -1.6
GOGA pmax pmax
comp=Z,444nm,1.1s
GOGA MLR MLR
comp=Z,21μm,21.0s
GOGA Godfrey 20.95 23 P P 07 11 48.1 -1.6
GOGA Godfrey 20.95 23 P P 07 11 49.1 -0.6
baz=207,SNR=75
GOGA S S 07 15 42.4 +0.5
baz=207
GOGA Godfrey 20.95 23 P P 07 11 48.3 -1.4
baz=207,SNR=75
WMOK Wichita Mounta 20.96 347 ⇑P P 07 11 49.1 -0.8
WMOK Wichita Mounta 20.96 347 S S 07 15 41.4 -0.8
baz=164
WMOK Wichita Mounta 20.96 347 P P 07 11 49.1 -0.8
baz=164,SNR=31
CGIG 21.01 322 *e* P 07 11 51.4 +0.8
W45A Hickory Valley 21.06 9 P P 07 11 49.5 -1.5
W45A Hickory Valley 21.06 9 P P 07 11 49.4 -1.5
baz=191,SNR=146
BARC Barichara 21.07 109 *e*P P 07 11 53.5 +2.0
PLAL Pickwick Lake 21.08 12 P P 07 11 50.3 -0.8
PLAL IAmb IAmb 07 11 59.6
comp=Z,211nm,0.8s
Y52A Lilburn 21.14 21 P P 07 11 51.2 -0.6
Y52A Lilburn 21.14 21 P P 07 11 52.0 +0.2
baz=205,SNR=80
Y52A P P 07 11 52.0 +0.2
baz=205,SNR=80
Y52A S S 07 15 48.6 +2.9
baz=205
Y52A S S 07 15 48.6 +2.9
baz=205
FNO Franklin 21.20 350 P 07 11 51.6 -0.8
GARC Garzon, Huila 21.20 123 *e*P P 07 11 52.8 -0.1
PAMC Pamplona, Colo 21.24 107 *e*P P 07 11 54.2 +0.6
KIDD KIDD Seismic O 21.25 327 P P 07 11 53.9 +0.8
baz=142,SNR=11
FPAL Fort Paine 21.26 17 P P 07 11 52.4 -0.7
HBAR Harrisburg 21.27 6 P P 07 11 52.4 -0.8
CHIC Chingaza 21.42 115 *e*P P 07 11 57.6 +2.2
MSTX Muleshoe 21.42 338 IAmb IAmb 07 12 05.6
comp=Z,346nm,0.9s
MSTX Muleshoe 21.42 338 P P 07 11 55.3 +0.4
baz=154,SNR=185
MSTX S S 07 15 54.1 +2.6
baz=154
MSTX Muleshoe 21.42 338 P P 07 11 54.4 -0.5
baz=154,SNR=185
RUSC La Rusia 21.44 111 *e*P P 07 11 55.7 0.0
SDDR Presa de Saban 21.45 75 P P 07 11 54.0 -1.3
SDDR IAmb IAmb 07 12 34.6
comp=Z,275nm,1.1s
SDDR Presa de Saban 21.45 75 ⇑P P 07 11 54.3 -1.0
FCAR Ozark Folk Cen 21.51 2 P P 07 11 54.3 -1.4
X51A Calhoun 21.51 19 P P 07 11 55.4 -0.4
baz=202,SNR=51
X51A P P 07 11 55.4 -0.4
baz=202,SNR=51
X51A S Sn 07 15 59.3 -2.6
baz=202
X51A S Sn 07 15 59.3 -2.6
baz=202
COHC Cochancay 21.63 139 P P 07 11 57.2 +0.1
TUL1 Leonard 21.64 354 P P 07 11 56.2 -0.8
TUL1 IAmb IAmb 07 12 14.4
comp=Z,309nm,1.0s
TUL1 Leonard 21.64 354 P P 07 11 58.2 +1.1
baz=173,SNR=33
TUL1 S S 07 15 57.1 +1.7
baz=173
TUL1 Leonard 21.64 354 P P 07 11 55.6 -1.5
baz=173,SNR=33
HAW Hawthorne Fire 21.67 27 P P 07 11 56.1 -1.3
baz=212,SNR=16
HAW S S 07 15 55.2 -0.9
baz=212
LCAR Lake Charles 21.74 4 P P 07 11 56.2 -1.9
LCAR IAmb IAmb 07 12 08.9
comp=Z,269nm,1.1s
LCAR Lake Charles 21.74 4 P P 07 11 56.2 -1.9
baz=185,SNR=34
LCAR S S 07 15 54.3 -3.0
baz=185
GNAR Gosnell 21.74 7 P P 07 11 57.3 -0.9
HALT Halls 21.78 8 IAmb IAmb 07 12 26.9
comp=Z,289nm,0.9s
SWET Sewanee 21.81 16 P P 07 11 57.5 -1.5
AMTX Amarillo 21.88 341 P P 07 12 00.1 +0.3
AMTX Amarillo 21.88 341 P P 07 12 00.2 +0.3
baz=157,SNR=132
AMTX S S 07 16 02.0 +1.7
baz=157
AMTX Amarillo 21.88 341 P P 07 12 00.0 +0.3
baz=157
AMTX S S 07 16 03.6 +3.3
baz=157
HHAR Hobbs 21.89 358 P P 07 11 58.0 -1.8
HHAR IAmb IAmb 07 12 31.9
comp=Z,524nm,1.6s
HHAR Hobbs 21.89 358 P P 07 11 59.4 -0.4
baz=178
HHAR S S 07 15 58.1 -2.3
baz=178
LNXT Lenox 21.95 8 P P 07 11 59.4 -1.0
LNXT Lenox 21.95 8 P P 07 11 59.8 -0.6
baz=189
U40A Yellville 21.95 1 P P 07 11 59.6 -0.8
U40A IAmb IAmb 07 12 45.8
comp=Z,548nm,1.6s
U40A Yellville 21.95 1 P P 07 11 59.6 -0.8
baz=181,SNR=77
U40A P P 07 11 59.6 -0.8
baz=181,SNR=77
U40A S S 07 16 00.1 -1.5
baz=181
U40A S S 07 16 00.1 -1.5
baz=181
U40A Yellville 21.95 1 P P 07 11 59.1 -1.4
baz=181,SNR=77
W50A Signal Mountai 21.96 17 P P 07 11 59.2 -1.5
W50A Signal Mountai 21.96 17 P P 07 11 59.6 -1.0
baz=201,SNR=15
W50A S S 07 15 58.5 -3.4
baz=201
ARNL Arenillas 21.98 143 IAmb IAmb 07 12 10.8
comp=Z,297nm,1.7s
SRIG Santa Rosalia 22.00 309 P P 07 12 01.8 +0.8
HSIG 22.04 314 P P 07 12 03.2 +1.7
HSIG 22.04 314⇑*e* P 07 12 02.9 +1.5
SC01 Santiago de Io 22.05 74 P P 07 12 00.5 -1.1
V48A Smith Brothers 22.08 14 IAmb IAmb 07 12 53.5
comp=Z,299nm,1.4s
V48A Smith Brothers 22.08 14 P P 07 12 00.3 -1.6

baz=196,SNR=27
V48A S S 07 16 01.5 -2.5
baz=196
NHSC New Hope 22.12 30 P P 07 12 00.8 -1.5
NHSC New Hope 22.12 30 P P 07 12 03.1 +0.8
baz=215,SNR=30
NHSC New Hope 22.12 30 P P 07 12 01.4 -0.9
baz=215,SNR=30
GRTK Grand Turk 22.13 68 P P 07 12 01.4 -1.0
GRTK Grand Turk 22.13 68 ⇑P P 07 12 01.7 -0.8
GLAT Glass 22.14 8 P P 07 12 01.4 -1.0
HODGE Hodges 22.15 25 P P 07 12 00.9 -1.7
HODGE Hodges 22.15 25 P P 07 12 01.1 -1.5
baz=209,SNR=24
HODGE S S 07 16 03.9 -1.3
baz=209
BANI BANI 22.24 76 P P 07 12 03.3 -0.6
WVT Waverly 22.24 11 P P 07 12 01.7 -1.9
WVT pmax pmax
comp=Z,166nm,0.9s
WVT Waverly 22.24 11 P P 07 12 01.7 -1.9
WVT IAmb IAmb 07 12 13.1
comp=Z,166nm,0.8s
WVT Waverly 22.24 11 ⇑P P 07 12 00.7 -2.9
WVT Waverly 22.24 11 P P 07 12 01.1 -2.5
baz=194,SNR=52
WVT S S 07 16 07.4 +0.4
baz=194
WVT Waverly 22.24 11 P P 07 12 00.5 -3.1
baz=194
UTMT University of 22.27 9 P P 07 12 02.7 -1.1
W52A Murphy 22.30 20 P P 07 12 03.7 -0.6
W52A IAmb IAmb 07 12 48.8
comp=Z,222nm,1.1s
W52A Murphy 22.30 20 P P 07 12 03.6 -0.7
baz=204
W52A S S 07 16 07.7 -0.5
baz=204
TAMC Tame, Arauca 22.41 108 *e*P P 07 12 05.0 -0.7
CPCT Cooper Cave 22.43 19 P P 07 12 03.8 -1.9
CPCT IAmb IAmb 07 12 29.8
comp=Z,464nm,1.6s
PARMO Parma 22.46 7 P P 07 12 03.5 -2.5
PBMO Poplar Bluff 22.50 6 P P 07 12 03.9 -2.5
PBMO IAmb IAmb 07 12 32.8
comp=Z,278nm,1.2s
PBMO Poplar Bluff 22.50 6 P P 07 12 03.4 -3.0
baz=187,SNR=55
PBMO S S 07 16 12.9 +1.1
baz=187
121A Cookes Peak, D 22.52 326 P P 07 12 08.3 +1.6
121A Cookes Peak, D 22.52 326 P P 07 12 08.7 +2.0
baz=140,SNR=120
121A S S 07 16 15.0 +2.6
baz=140
121A Cookes Peak, D 22.52 326 P P 07 12 08.5 +1.8
baz=140,SNR=120
121A S S 07 16 17.6 +5.2
baz=140
CLTN Cedars of Leba 22.53 15 P P 07 12 04.8 -1.9
CLTN IAmb IAmb 07 12 35.0
comp=Z,287nm,1.4s
CASEE Lake Jocassee 22.56 22 P P 07 12 05.6 -1.5
baz=206,SNR=23
CASEE S S 07 16 12.5 -0.4
baz=206
U32A Winter Ranch, 22.59 348 P P 07 12 06.4 -0.9
U32A IAmb IAmb 07 12 19.4
comp=Z,391nm,1.1s
U32A Winter Ranch, 22.59 348 P P 07 12 07.7 +0.4
baz=165,SNR=22
U32A S S 07 16 17.3 +3.9
baz=165
JSC Jenkinsville 22.61 26 P P 07 12 05.8 -1.7
JSC pmax pmax
comp=Z,347nm,1.3s
JSC Jenkinsville 22.61 26 P P 07 12 05.8 -1.7
JSC IAmb IAmb 07 12 22.0
comp=Z,347nm,1.3s
JSC Jenkinsville 22.61 26 P P 07 12 05.6 -1.9
baz=211,SNR=14
BOSC San Juan Bosco 22.63 139 IAmb IAmb 07 12 18.0
comp=Z,210nm,1.2s
SDV Santo Domingo 22.70 101 P P 07 12 06.7 -2.2
comp=Z,46nm,0.6s,baz=307,slow=8.6,SNR=38
SDV S S 07 16 13.8 -2.3
comp=Z,10nm,0.8s,baz=317,slow=17,SNR=1.9
SDV LR LR 07 21 42.7
comp=Z,10μm,20.4s,baz=284,slow=39
SDV Santo Domingo 22.70 101 P P 07 12 06.8 -2.2
SDV Santo Domingo 22.70 101 *e*P P 07 12 06.7 -2.2
SDV Santo Domingo 22.70 101 *e*P P 07 12 06.7 -2.2
T35A Sooner Cattle 22.71 353 P P 07 12 06.3 -2.2
T35B Sooner Cattle 22.71 353 P P 07 12 05.9 -2.7
baz=171,SNR=51
T35B S S 07 16 13.5 -2.0
baz=171
MGMO Mountain Grove 22.76 2 P P 07 12 08.0 -1.1
MGMO IAmb IAmb 07 12 43.3
comp=Z,444nm,1.4s
Y57A Sumter 22.77 28 P P 07 12 07.4 -1.8
Y57A Sumter 22.77 28 P P 07 12 07.5 -1.8
baz=214,SNR=16
Y57A P P 07 12 07.5 -1.8
baz=214,SNR=16
Y57A S S 07 16 20.3 +3.7
baz=214
Y57A S S 07 16 20.3 +3.7
baz=214
V51A Loudon 22.81 19 IAmb IAmb 07 12 21.6
comp=Z,294nm,1.3s
V51A Loudon 22.81 19 P P 07 12 07.8 -1.9
baz=202,SNR=12
V51A S S 07 16 13.7 -3.6
baz=202
PAULI Pauline 22.84 25 P P 07 12 09.1 -0.8
PAULI IAmb IAmb 07 12 21.8
comp=Z,229nm,1.0s
PAULI Pauline 22.84 25 P P 07 12 08.3 -1.7
baz=209,SNR=22
PAULI S S 07 16 16.9 -0.8
baz=209
TKL Tuckaleechee C 22.87 20 P P 07 12 08.4 -1.8
comp=Z,14nm,0.5s,baz=188,slow=12,SNR=28
TKL S S 07 16 17.6 -0.6
comp=Z,18nm,0.8s,baz=75,slow=8.9,SNR=2.4
TKL LR LR 07 22 26.2
comp=Z,12μm,19.6s,baz=200,slow=41
TKL Tuckaleechee C 22.87 20 IAmb IAmb 07 12 31.3
comp=Z,321nm,1.1s
TKL Tuckaleechee C 22.87 20 P P 07 12 08.7 -1.5
baz=204,SNR=16
TKL S S 07 16 15.6 -2.7
baz=204
T45B Paducah 22.96 9 P P 07 12 09.5 -1.7
baz=191,SNR=29
Y58A Scranton 23.02 30 P P 07 12 09.7 -2.1
baz=215,SNR=12
Y58A P P 07 12 09.7 -2.1
baz=215,SNR=12
Y58A S S 07 16 26.1 +5.3
baz=215
Y58A S S 07 16 26.1 +5.3
baz=215
PTGC Puerto Gaitan, 23.03 114 *e*P P 07 12 12.8 +0.7
U49A Red Boiling Sp 23.07 15 P P 07 12 10.0 -2.3
U49A IAmb IAmb 07 12 44.2
comp=Z,194nm,1.0s
U49A Red Boiling Sp 23.07 15 P P 07 12 09.4 -2.9
baz=198,SNR=27
U49A S S 07 16 17.3 -4.4
baz=198
V52A Sevierville 23.09 20 P P 07 12 12.1 -0.5
baz=204,SNR=15
V52A S S 07 16 19.7 -2.4
baz=204
Y22A Socorro 23.20 330 P P 07 12 15.4 +1.6
baz=144,SNR=151
Y22A S S 07 16 28.1 +3.9
baz=144
V53A Saluda 23.21 22 IAmb IAmb 07 12 49.8
comp=Z,261nm,1.0s
V53A Saluda 23.21 22 P P 07 12 12.4 -1.3
baz=206,SNR=26
V53A P P 07 12 12.4 -1.3
baz=206,SNR=26
BNM Barren Site 23.21 331 P P 07 12 15.4 +1.4
baz=134
TUC S S 07 16 48.6 +10
baz=134
SLM Saint Louis 24.36 6 IAmb IAmb 07 13 03.0
comp=Z,144nm,1.0s
SLM Saint Louis 24.36 6 P P 07 12 24.1 -0.6
baz=187,SNR=12
SLM S S 07 16 44.3 +1.8
baz=187
R32A Long Quarter, 24.51 349 P P 07 12 24.9 -1.2
R32A Long Quarter, 24.51 349 P P 07 12 25.6 -0.5
baz=167,SNR=75
R32A S S 07 16 47.6 +2.6
baz=167
OLIL Olney 24.73 9 P P 07 12 26.0 -2.0
OLIL IAmb IAmb 07 13 03.7
comp=Z,184nm,0.9s
OLIL Olney 24.73 9 P P 07 12 26.2 -1.8
baz=192,SNR=32
S51A Beattyville 24.74 18 IAmb IAmb 07 12 44.8
comp=Z,190nm,1.0s
S51A Beattyville 24.74 18 P P 07 12 26.2 -1.9
baz=202,SNR=7.7
S51A P P 07 12 26.2 -1.9
baz=202,SNR=7.7
S51A S S 07 16 49.4 +0.8
baz=202
S51A S S 07 16 49.4 +0.8
baz=202
U56A King 24.74 25 P P 07 12 26.7 -1.5
baz=211,SNR=24
U56A P P 07 12 26.7 -1.5
baz=211,SNR=24
U56A S S 07 16 46.2 -2.6
baz=211
U56A S S 07 16 46.2 -2.6
baz=211
Q44A Meyer Farm, Va 24.77 8 P P 07 12 25.9 -2.4
Q44A IAmb IAmb 07 13 04.0
comp=Z,279nm,1.2s
Q44A Meyer Farm, Va 24.77 8 P P 07 12 26.2 -2.1
baz=190,SNR=17
Q44A S S 07 16 51.1 +2.1
baz=190
V58A Windy Hill, Pi 24.83 28 IAmb IAmb 07 13 12.7
comp=Z,188nm,1.1s
V58A Windy Hill, Pi 24.83 28 P P 07 12 27.1 -1.9
baz=214,SNR=30
V58A P P 07 12 27.1 -1.9
baz=214,SNR=30
V58A S S 07 16 47.6 -2.4
baz=214
V58A S S 07 16 47.6 -2.4
baz=214
T25A Trinidad 24.85 338 P P 07 12 31.1 +1.8
T25A Trinidad 24.85 338 P P 07 12 31.2 +1.8
baz=153,SNR=203
T25A S S 07 16 59.4 +8.6
baz=153
KSU1 Kansas State U 24.88 354 P P 07 12 28.2 -1.1
KSU1 IAmb IAmb 07 12 31.4
comp=Z,135nm,0.7s
KSU1 Kansas State U 24.88 354 ⇑P P 07 12 27.5 -1.9
KSU1 Kansas State U 24.88 354 P P 07 12 28.3 -1.1
baz=172,SNR=40
KSU1 S S 07 16 51.5 +0.7
baz=172
KSU1 Kansas State U 24.88 354 P P 07 12 27.7 -1.7
baz=172,SNR=40
KSU1 S S 07 16 57.5 +6.7
baz=172
R49A Shelbyville 24.91 15 P P 07 12 27.1 -2.5
R49A IAmb IAmb 07 12 54.0
comp=Z,96nm,0.8s
R49A Shelbyville 24.91 15 P P 07 12 27.1 -2.5
baz=198,SNR=15
R49A P P 07 12 27.1 -2.5
baz=198,SNR=15
R49A S S 07 16 50.8 -0.5
baz=198
R49A S S 07 16 50.8 -0.5
baz=198
CNNC Cliffs of the 24.96 31 P P 07 12 28.3 -1.8
CNNC IAmb IAmb 07 13 13.7
comp=Z,182nm,1.1s
CNNC Cliffs of the 24.96 31 ⇑P P 07 12 27.9 -2.2
CNNC Cliffs of the 24.96 31 P P 07 12 28.1 -2.0
baz=217,SNR=16
CNNC S S 07 16 52.8 +0.6
baz=217
CNNC Cliffs of the 24.96 31 P P 07 12 28.0 -2.2
baz=217,SNR=16
CBKS Cedar Bluff 25.09 348 IAmb IAmb 07 12 33.2
comp=Z,149nm,0.8s
CBKS Cedar Bluff 25.09 348 ⇑P P 07 12 30.8 -0.5
CBKS Cedar Bluff 25.09 348 P P 07 12 31.2 -0.1
baz=165,SNR=49
CBKS S S 07 16 54.0 -0.3
baz=165
CBKS Cedar Bluff 25.09 348 P P 07 12 30.6 -0.7
baz=165,SNR=49
R50A Paris 25.12 17 P P 07 12 29.9 -1.6
R50A IAmb IAmb 07 12 55.7
comp=Z,164nm,1.1s
214A Organ Pipe Nat 25.13 318 IAmb IAmb 07 12 46.4
comp=Z,321nm,1.8s
214A Organ Pipe Nat 25.13 318 P P 07 12 32.6 +0.9
baz=130,SNR=13
P40A Paris 25.14 2 P P 07 12 29.0 -2.7
P40A Paris 25.14 2 P P 07 12 30.1 -1.6
baz=182,SNR=107
P40A S S 07 16 57.0 +2.1
baz=182
BAUV El Baul 25.16 99 P P 07 12 29.9 -2.2
P38A Dawn 25.22 359 P P 07 12 30.8 -1.6
P38A IAmb IAmb 07 13 01.3
comp=Z,309nm,1.5s
P38A Dawn 25.22 359 P P 07 12 30.8 -1.6
baz=179,SNR=57
P38A S S 07 16 53.4 -2.8
baz=179
P43A Skaggs, Pawnee 25.43 7 P P 07 12 32.8 -1.5
P43A IAmb IAmb 07 13 28.9
comp=Z,264nm,1.4s
P43A Skaggs, Pawnee 25.43 7 P P 07 12 32.8 -1.5
baz=188,SNR=14
P43A S S 07 17 01.0 +1.4
baz=188
BLO Bloomington 25.44 12 IAmb IAmb 07 13 27.4
comp=Z,183nm,1.3s
BLA Blacksburg 25.47 24 P P 07 12 32.9 -1.9
BLA pmax pmax
comp=Z,160nm,0.9s
BLA MLR MLR
comp=Z,25μm,18.0s
BLA Blacksburg 25.47 24 P P 07 12 32.9 -1.9
BLA IAmb IAmb 07 13 23.1
comp=Z,160nm,0.9s
BLA IAMs_20 IAMs_20 07 23 48.1
comp=Z,25μm,18.0s
BLA Blacksburg 25.47 24 P P 07 12 33.6 -1.2
baz=210
BLA Blacksburg 25.47 24 P P 07 12 33.0 -1.9
baz=210
BLA S S 07 17 12.4 +12
baz=210
W18A Petrified Fore 25.54 327 IAmb IAmb 07 13 27.0
comp=Z,114nm,1.1s
W18A Petrified Fore 25.54 327 P P 07 12 37.7 +2.1
baz=140,SNR=6.7
S54A Dingess, Beckl 25.65 22 P P 07 12 34.4 -2.1
S54A Dingess, Beckl 25.65 22 P P 07 12 34.3 -2.1
baz=207,SNR=14
S54A P P 07 12 34.3 -2.1
baz=207,SNR=14
P46A Rosedale 25.75 11 P P 07 12 35.2 -1.9
P46A IAmb IAmb 07 13 32.1
comp=Z,173nm,0.9s
P46A Rosedale 25.75 11 P P 07 12 35.5 -1.6
baz=193,SNR=21
P46A S S 07 17 06.0 +1.5
baz=193
T57A Hurt 25.77 26 IAmb IAmb 07 13 30.7
comp=Z,103nm,0.9s
T57A Hurt 25.77 26 P P 07 12 36.0 -1.5
baz=212,SNR=9.2
T57A P P 07 12 36.0 -1.5

DR12 Loma Pena Alta 23.21 76 P P 07 12 12.4 -1.6
T47A Sharon Grove 23.22 12 IAmb IAmb 07 13 02.5
comp=Z,149nm,0.9s
T47A Sharon Grove 23.22 12 P P 07 12 12.3 -1.4
baz=195,SNR=42
T47A S S 07 16 31.7 +7.6
baz=195
BIRD Birdtown, Kers 23.26 27 P P 07 12 12.6 -1.6
BIRD IAmb IAmb 07 12 45.2
comp=Z,256nm,1.2s
BIRD Birdtown, Kers 23.26 27 P P 07 12 12.7 -1.6
baz=212,SNR=15
S39A Bolivar 23.28 360 P P 07 12 12.4 -2.1
S39A IAmb IAmb 07 12 15.5
comp=Z,148nm,0.6s
S39A Bolivar 23.28 360 P P 07 12 12.4 -2.1
baz=180,SNR=267
Y22D IRIS PASSCAL I 23.29 330 P P 07 12 16.1 +1.4
baz=144,SNR=14
Y22D IRIS PASSCAL I 23.29 330 P P 07 12 16.6 +1.9
baz=144,SNR=14
Y22D S S 07 16 33.5 +7.8
baz=144
KMSC Kings Mountain 23.31 25 P P 07 12 13.1 -1.7
KMSC IAmb IAmb 07 12 47.5
comp=Z,178nm,1.1s
KMSC Kings Mountain 23.31 25 P P 07 12 13.1 -1.7
baz=210,SNR=33
KMSC S S 07 16 26.6 +0.9
baz=210
KMSC Kings Mountain 23.31 25 P P 07 12 13.2 -1.6
baz=210,SNR=33
GUVC San Jose del G 23.40 118 *e*P P 07 12 18.1 +2.2
Y59A Loris 23.48 31 P P 07 12 14.3 -2.1
Y59A IAmb IAmb 07 12 37.2
comp=Z,197nm,1.0s
Y59A Loris 23.48 31 P P 07 12 14.4 -1.9
baz=217,SNR=14
Y59A P P 07 12 14.4 -1.9
baz=217,SNR=14
Y59A S S 07 16 32.8 +4.4
baz=217
Y59A S S 07 16 32.8 +4.4
baz=217
S44A Carbondale 23.54 8 P P 07 12 15.1 -1.9
S44A IAmb IAmb 07 12 48.7
comp=Z,230nm,0.9s
S44A Carbondale 23.54 8 P P 07 12 14.9 -2.1
baz=189,SNR=19
SIUC Southern Illin 23.57 8 P P 07 12 15.2 -2.1
SIUC IAmb IAmb 07 12 48.9
comp=Z,219nm,0.8s
FVM French Village 23.70 5 P P 07 12 16.6 -1.9
FVM pmax pmax
comp=Z,68nm,0.9s
FVM French Village 23.70 5 P P 07 12 16.6 -1.9
FVM French Village 23.70 5 P P 07 12 16.6 -1.9
baz=186,SNR=18
FVM S S 07 16 32.1 +0.2
baz=186
X58A Rowland 23.71 29 P P 07 12 16.6 -1.9
X58A IAmb IAmb 07 12 40.8
comp=Z,230nm,1.1s
X58A Rowland 23.71 29 P P 07 12 16.9 -1.6
baz=215,SNR=5.3
X58A P P 07 12 16.9 -1.6
baz=215,SNR=5.3
X58A S S 07 16 35.9 +3.8
baz=215
X58A S S 07 16 35.9 +3.8
baz=215
CCM Cathedral Cave 23.71 4 P P 07 12 16.3 -2.3
CCM pmax pmax
comp=Z,474nm,1.5s
CCM Cathedral Cave 23.71 4 P P 07 12 16.3 -2.3
CCM Cathedral Cave 23.71 4 ⇑P P 07 12 15.4 -3.1
CCM Cathedral Cave 23.71 4 P P 07 12 16.2 -2.4
baz=184,SNR=95
CCM S S 07 16 31.7 -0.3
baz=184
CCM Cathedral Cave 23.71 4 P P 07 12 15.9 -2.7
baz=184
CCM S S 07 16 32.7 +0.7
baz=184
TZTN Tazewell 23.75 19 P P 07 12 17.4 -1.6
TZTN Tazewell 23.75 19 P P 07 12 18.2 -0.8
baz=204,SNR=15
TZTN S S 07 16 29.2 -3.5
baz=204
TZTN Tazewell 23.75 19 P P 07 12 16.8 -2.2
baz=204,SNR=15
ANMO Albuquerque 23.79 332 P P 07 12 20.7 +1.1
comp=Z,30nm,0.7s,baz=141,slow=11,SNR=149
ANMO S S 07 16 36.0 +2.3
comp=Z,3.1nm,0.7s,baz=135,slow=17,SNR=1.1
ANMO LR LR 07 22 38.4
comp=Z,7μm,18.4s,baz=138,slow=39
ANMO Albuquerque 23.79 332 P P 07 12 20.3 +0.7
ANMO pmax pmax
comp=Z,197nm,1.2s
ANMO MLR MLR
comp=Z,9μm,18.0s
ANMO Albuquerque 23.79 332 P P 07 12 20.3 +0.7
ANMO IAmb IAmb 07 12 30.8
comp=Z,198nm,1.2s
ANMO Albuquerque 23.79 332 ⇑P P 07 12 20.6 +1.1
ANMO Albuquerque 23.79 332 P P 07 12 20.8 +1.1
baz=146,SNR=88
ANMO S S 07 16 38.4 +4.6
baz=146
ANMO Albuquerque 23.79 332 P P 07 12 20.8 +1.2
baz=146
ANMO S S 07 16 39.5 +5.7
baz=146
T50A Nancy 23.80 17 P P 07 12 16.9 -2.5
T50A IAmb IAmb 07 12 46.9
comp=Z,269nm,1.6s
T50A Nancy 23.80 17 P P 07 12 17.1 -2.5
baz=200
T50A P P 07 12 17.1 -2.5
baz=200
T50A S S 07 16 29.7 -3.8
baz=200
T50A S S 07 16 29.7 -3.8
baz=200
Y60A Bolivia 23.82 32 IAmb IAmb 07 12 52.2
comp=Z,199nm,1.1s
Y60A Bolivia 23.82 32 P P 07 12 17.6 -2.0
baz=218
Y60A P P 07 12 17.6 -2.0
baz=218
R40A Maddies Statio 23.90 2 IAmb IAmb 07 13 00.3
comp=Z,154nm,1.0s
R40A Maddies Statio 23.90 2 P P 07 12 18.0 -2.3
baz=182,SNR=32
R40A S S 07 16 34.2 -0.8
baz=182
W57A Gilead 23.90 27 P P 07 12 18.4 -2.0
W57A Gilead 23.90 27 P P 07 12 18.4 -2.0
baz=213,SNR=14
W57A P P 07 12 18.4 -2.0
baz=213,SNR=14
W57A S S 07 16 34.1 -1.0
baz=213
W57A S S 07 16 34.1 -1.0
baz=213
V55A Taylorsville 23.98 24 P P 07 12 19.3 -1.8
V55A IAmb IAmb 07 12 53.0
comp=Z,266nm,1.2s
V55A Taylorsville 23.98 24 P P 07 12 19.0 -2.1
baz=210,SNR=28
V55A P P 07 12 19.0 -2.1
baz=210,SNR=28
USIN University of 24.06 11 IAmb IAmb 07 12 50.8
comp=Z,198nm,1.0s
TUC Tucson 24.08 321 P P 07 12 23.7 +1.4
TUC pmax pmax
comp=Z,138nm,1.0s
TUC MLR MLR
comp=Z,26μm,18.0s
TUC Tucson 24.08 321 P P 07 12 23.7 +1.4
TUC IAmb IAmb 07 12 37.7
comp=Z,138nm,1.0s
TUC Tucson 24.08 321 IAMs_20 IAMs_20 07 22 59.2
comp=Z,26μm,18.0s
TUC Tucson 24.08 321 ⇑P P 07 12 23.8 +1.4
TUC Tucson 24.08 321 P P 07 12 24.0 +1.8

baz=212,SNR=9.2
SDCO Great Sand Dun 25.79 337 IAmb IAmb 07 12 48.7
comp=Z,173nm,1.3s
SDCO Great Sand Dun 25.79 337 P **P** **07 12 39.4 +1.5**
baz=152,SNR=212
SDCO Great Sand Dun 25.79 337 P **P** **07 12 39.3 +1.3**
baz=152,SNR=212
SDCO S **S** **07 17 12.6 +6.7**
baz=152
ICMP Isla Caja de M 25.82 79 P **P** **07 12 36.8 -1.3**
ICMP IAmb IAmb 07 13 27.1
comp=Z,119nm,1.2s
R53A Hurricane 25.90 20 P **P** **07 12 37.1 -1.5**
R53A Hurricane 25.90 20 P **P** **07 12 37.1 -1.5**
baz=205
R53A P **P** **07 12 37.1 -1.5**
baz=205
U59A Littleton 25.90 29 P **P** **07 12 36.5 -2.1**
U59A IAmb IAmb 07 13 14.5
comp=Z,119nm,1.1s
U59A Littleton 25.90 29 P **P** **07 12 36.5 -2.1**
baz=216
U59A P **P** **07 12 36.5 -2.1**
baz=216
P48A Milroy 25.96 14 IAmb IAmb 07 13 22.2
comp=Z,124nm,0.9s
P48A Milroy 25.96 14 P **P** **07 12 36.5 -2.6**
baz=197,SNR=16
P48A P **P** **07 12 36.5 -2.6**
baz=197,SNR=16
P48A S **S** **07 17 08.1 +0.2**
baz=197
P48A S **S** **07 17 08.1 +0.2**
baz=197
KSCO Kaye Shedlock' 25.98 343 P **P** **07 12 39.0 -0.5**
KSCO Kaye Shedlock' 25.98 343 P **P** **07 12 39.9 +0.4**
baz=159,SNR=42
KSCO S **S** **07 17 11.6 +2.9**
baz=159
KSCO Kaye Shedlock' 25.98 343 P **P** **07 12 40.0 +0.5**
baz=159,SNR=42
V61A Roper 26.05 32 P **P** **07 12 38.0 -2.0**
O44A Mansfield 26.07 8 P **P** **07 12 37.4 -2.7**
O44A IAmb IAmb 07 13 22.8
comp=Z,120nm,1.0s
O44A Mansfield 26.07 8 P **P** **07 12 37.6 -2.4**
baz=190,SNR=7.5
O44A S **S** **07 17 12.6 +2.9**
baz=190
Q51A Peebles 26.09 18 IAmb IAmb 07 13 09.8
comp=Z,162nm,0.9s
Q51A Peebles 26.09 18 P **P** **07 12 38.5 -1.9**
baz=202,SNR=8.2
Q51A P **P** **07 12 38.5 -1.9**
baz=202,SNR=8.2
SJG San Juan 26.19 78 P **P** **07 12 40.0 -1.5**
comp=Z,6.4nm,0.3s,baz=281,slow=2.9,SNR=1.5
SJG LR LR 07 23 00.6
comp=Z,13µm,21.8s,baz=252,slow=37
P49A Miami Univ. Ec 26.20 15 P **P** **07 12 38.5 -2.8**
P49A IAmb IAmb 07 13 28.6
comp=Z,81nm,0.8s
P49A IAMs_20 IAMs_20 07 24 46.3
comp=Z,21µm,19.0s
P49A Miami Univ. Ec 26.20 15 P **P** **07 12 38.6 -2.7**
baz=199
113A Mohawk Valley, 26.27 318 P **P** **07 12 42.0 0.0**
S22A 4UR Ranch, Cre 26.31 335 IAmb IAmb 07 12 59.3
comp=Z,107nm,1.1s
S22A 4UR Ranch, Cre 26.31 335 P **P** **07 12 44.4 +1.7**
baz=149,SNR=46
HDIL Hopedale 26.36 7 P **P** **07 12 41.1 -1.7**
baz=188,SNR=14
HDIL Hopedale 26.36 7 P **P** **07 12 39.6 -3.2**
baz=188,SNR=14
Q52A Bidwell 26.37 19 P **P** **07 12 41.2 -1.6**
Q52A IAmb IAmb 07 13 27.7
comp=Z,169nm,1.0s
Q52A Bidwell 26.37 19 P **P** **07 12 41.1 -1.7**
baz=204,SNR=14
Q52A P **P** **07 12 41.1 -1.7**
baz=204,SNR=14
N41A Harden Midland 26.37 4 P **P** **07 12 40.4 -2.5**
N41A IAmb IAmb 07 13 15.8
comp=Z,113nm,0.9s
N41A Harden Midland 26.37 4 P **P** **07 12 40.6 -2.2**
baz=185,SNR=16
N38A Joes South For 26.38 360 P **P** **07 12 41.2 -1.7**
N38A Joes South For 26.38 360 P **P** **07 12 42.0 -0.9**
baz=180,SNR=63
HUMP Col San Antoni 26.48 78 P **P** **07 12 41.8 -2.3**
CBYP Canovanas 26.48 78 P **P** **07 12 42.8 -1.4**
SFIN Lafayette 26.50 10 IAmb IAmb 07 13 33.8
comp=Z,271nm,1.3s
SFIN Lafayette 26.50 10 P **P** **07 12 41.6 -2.4**
baz=193
SFIN Lafayette 26.50 10 P **P** **07 12 40.8 -3.2**
baz=193
T59A Double "B" Far 26.51 29 P **P** **07 12 42.2 -1.9**
T59A IAmb IAmb 07 13 25.9
comp=Z,129nm,1.1s
T59A Double "B" Far 26.51 29 P **P** **07 12 42.2 -1.9**
baz=216,SNR=15
T59A P **P** **07 12 42.2 -1.9**
baz=216,SNR=15
T59A S **S** **07 17 18.6 +1.8**
baz=216
T59A S **S** **07 17 18.6 +1.8**
baz=216
R55A Marlinton 26.52 23 IAmb IAmb 07 13 27.0
comp=Z,136nm,1.0s
R55A Marlinton 26.52 23 P **P** **07 12 43.3 -1.0**
baz=209,SNR=14
R55A P **P** **07 12 43.3 -1.0**
baz=209,SNR=14
BIRV Birongo 26.53 95 P **P** **07 12 43.5 -1.1**
N35A Tabor 26.54 356 P **P** **07 12 43.2 -1.1**
N35A IAmb IAmb 07 13 26.9
comp=Z,163nm,0.9s
N35A Tabor 26.54 356 P **P** **07 12 43.2 -1.1**
baz=174,SNR=18
S57A Dark Hollow, R 26.54 26 P **P** **07 12 41.8 -2.6**
S57A Dark Hollow, R 26.54 26 P **P** **07 12 42.8 -1.6**
baz=212
S57A P **P** **07 12 42.8 -1.6**
baz=212
S57A S **S** **07 17 14.6 -2.7**
baz=212
S57A S **S** **07 17 14.6 -2.7**
baz=212
Y14A Wickenburg 26.55 321 P **P** **07 12 45.8 +1.2**
MVCO Mesa Verde 26.59 332 P **P** **07 12 46.2 +1.0**
MVCO IAmb IAmb 07 13 13.7
comp=Z,176nm,0.9s
MVCO Mesa Verde 26.59 332 P **P** **07 12 46.8 +1.7**
baz=145,SNR=84
N33B J Bar K, Exete 26.59 353 P **P** **07 12 44.7 -0.2**
baz=171,SNR=8.0
N33A J Bar K, Exete 26.59 353 IAmb IAmb 07 13 34.2
comp=Z,228nm,1.1s
P51A Williamsport 26.60 18 P **P** **07 12 43.7 -1.2**
baz=202,SNR=7.2
P51A P **P** **07 12 43.7 -1.2**
baz=202,SNR=7.2
WUAZ Wupatki 26.72 325 IAmb IAmb 07 13 45.7
comp=Z,110nm,1.1s
WUAZ IAMs_20 IAMs_20 07 25 00.8
comp=Z,18µm,18.0s
WUAZ Wupatki 26.72 325 ⇑P **P** **07 12 48.2 +1.9**
WUAZ Wupatki 26.72 325 P **P** **07 12 48.0 +1.7**
baz=138,SNR=20
Q24A Divide 26.74 339 P **P** **07 12 47.1 +0.5**
Q24A Divide 26.74 339 P **P** **07 12 47.6 +1.0**
baz=153,SNR=13
MTP Monte Pirata 26.76 78 P **P** **07 12 44.2 -2.4**
MTP IAmb IAmb 07 13 31.3
comp=Z,120nm,1.1s
O48B Farmland 26.78 14 P **P** **07 12 43.8 -2.7**
baz=197,SNR=12
O48B Farmland 26.78 14 P **P** **07 12 43.1 -3.4**
baz=197,SNR=12
Q54A Coxs Mills 26.87 22 P **P** **07 12 45.8 -1.6**
Q54A Coxs Mills 26.87 22 P **P** **07 12 45.2 -2.2**
baz=207,SNR=17
Q54A P **P** **07 12 45.2 -2.2**
baz=207,SNR=17
O49A Covington 26.91 15 P **P** **07 12 44.8 -2.9**
O49A IAmb IAmb 07 13 39.7
comp=Z,72nm,0.8s
JSRW J. Sargeant Re 26.95 27 P **P** **07 12 46.3 -1.8**
P52A Corning 27.02 19 IAmb IAmb 07 13 38.9
comp=Z,158nm,1.1s
P52A IAMs_20 IAMs_20 07 25 06.1
comp=Z,16µm,19.0s
P52A Corning 27.02 19 P **P** **07 12 45.9 -2.8**
T60A Surry 27.04 30 P **P** **07 12 47.5 -1.4**
T60A IAmb IAmb 07 13 19.9
comp=Z,135nm,0.9s
P53A Whipple 27.13 20 P **P** **07 12 48.8 -0.9**
GLA Glamis 27.14 317 IAmb IAmb 07 13 46.0
comp=Z,152nm,1.4s
GLA Glamis 27.14 317 P **P** **07 12 51.8 +1.9**
baz=128,SNR=7.7
GLA S **S** **07 17 32.8 +6.0**
baz=128
R58B Mineral 27.18 27 P **P** **07 12 48.6 -1.6**
baz=214,SNR=8.3
R58B P **P** **07 12 48.6 -1.6**
baz=214,SNR=8.3
N47A Urbana 27.26 12 P **P** **07 12 48.2 -2.6**
N47A IAmb IAmb 07 13 44.7
comp=Z,172nm,1.2s
ACSO Alum Creek Sta 27.32 17 P **P** **07 12 49.5 -1.9**
ACSO IAmb IAmb 07 13 31.5
comp=Z,232nm,1.2s
ACSO IAMs_20 IAMs_20 07 25 28.9
comp=Z,14µm,18.0s
ACSO Alum Creek Sta 27.32 17 P **P** **07 12 48.1 -3.2**
baz=202
BGNE Belgrade 27.34 352 P **P** **07 12 50.9 -0.8**
BGNE IAmb IAmb 07 13 26.8
comp=Z,108nm,0.8s
BGNE Belgrade 27.34 352 P **P** **07 12 51.2 -0.4**
baz=169
BGNE Belgrade 27.34 352 P **P** **07 12 50.7 -1.0**
baz=169
CDVI St. Croix 27.49 79 *e*P **P** **07 12 49.2 -3.9**
SCIA State Center 27.50 360 IAmb IAmb 07 13 26.7
comp=Z,137nm,1.1s
SCIA State Center 27.50 360 P **P** **07 12 52.3 -0.6**
baz=180,SNR=8.9
SCIA State Center 27.50 360 P **P** **07 12 51.0 -2.0**
baz=180,SNR=8.9
PDMCI Parker Dam,Lak 27.50 320 P **P** **07 12 54.5 +1.4**
baz=131,SNR=12
PDMCI S **S** **07 17 38.6 +6.3**
baz=131
PV13 Radium Mtn., P 27.51 333 IAmb IAmb 07 13 26.4
comp=Z,113nm,0.9s
PV15 Paradox Valley 27.51 333 P **P** **07 12 54.7 +1.2**
PV15 IAmb IAmb 07 13 05.2
comp=Z,135nm,1.1s
Q56A Snyder Ridge, 27.54 24 P **P** **07 12 52.4 -1.0**
Q56A Snyder Ridge, 27.54 24 S **S** **07 17 33.2 +0.2**
baz=210
Q56A S **S** **07 17 33.2 +0.2**
baz=210
O52A Adamsville 27.55 19 IAmb IAmb 07 13 35.6
comp=Z,305nm,1.6s
O52A Adamsville 27.55 19 P **P** **07 12 51.8 -1.7**
baz=204,SNR=9.2
O52A P **P** **07 12 51.8 -1.7**
baz=204,SNR=9.2
SMCO Snowmass 27.60 336 IAmb IAmb 07 13 07.5
comp=Z,140nm,1.2s
SMCO Snowmass 27.60 336 ⇑P **P** **07 12 55.9 +1.5**
CBN Corbin Frederi 27.60 28 P **P** **07 12 52.7 -1.2**
CBN IAmb IAmb 07 13 13.4
comp=Z,100nm,1.0s
CBN Corbin Frederi 27.60 28 P **P** **07 12 52.7 -1.2**
baz=215
CBN Corbin Frederi 27.60 28 P **P** **07 12 51.8 -2.1**
baz=215
YUH Yuha Desert 27.63 315 P **P** **07 12 54.3 0.0**
YUH IAmb IAmb 07 12 58.7
comp=Z,239nm,2.0s
OGNE Ogallala 27.64 345 P **P** **07 12 54.7 +0.4**
OGNE Ogallala 27.64 345 P **P** **07 12 55.1 +0.8**
baz=161,SNR=13
OGNE Ogallala 27.64 345 P **P** **07 12 54.4 0.0**
baz=161,SNR=13
N49A Columbus Grove 27.64 15 P **P** **07 12 52.1 -2.2**
N49A IAmb IAmb 07 13 37.9
comp=Z,101nm,1.1s
ISCO Idaho Springs 27.65 339 P **P** **07 12 55.9 +1.2**
baz=153,SNR=40
ISCO S **S** **07 17 33.7 -1.5**
baz=153
ISCO Idaho Springs 27.65 339 P **P** **07 12 56.0 +1.3**
baz=153,SNR=40
ISCO S **S** **07 17 40.0 +4.8**
baz=153
PV11 David Mesa, Pa 27.65 333 P **P** **07 12 56.1 +1.5**
PV11 IAmb IAmb 07 13 28.1
comp=Z,128nm,0.8s
PV07 Paradox Valley 27.66 333 IAmb IAmb 07 13 12.4
comp=Z,142nm,1.0s
L34A Svendsen Farm, 27.70 355 P **P** **07 12 53.7 -1.1**
L34A IAmb IAmb 07 13 25.6
comp=Z,160nm,1.0s
L34A Svendsen Farm, 27.70 355 P **P** **07 12 53.7 -1.1**
baz=173,SNR=12
L40A Anamosa 27.70 3 P **P** **07 12 53.4 -1.4**
L40A IAmb IAmb 07 13 42.4
comp=Z,111nm,0.9s
L40A Anamosa 27.70 3 P **P** **07 12 53.9 -0.9**
baz=184,SNR=25
SWSC Sam W. Stewart 27.72 316 P **P** **07 12 54.2 -0.9**
baz=127
L42A Oliver, Polo 27.76 6 P **P** **07 12 53.2 -2.0**
L42A IAmb IAmb 07 13 37.5
comp=Z,210nm,1.4s
L42A Oliver, Polo 27.76 6 P **P** **07 12 53.4 -1.9**
baz=187,SNR=9.5
IKP In-Ko-Pah, Jac 27.76 315 P **P** **07 12 53.9 -1.7**
baz=126
PV10 Paradox Valley 27.79 333 P **P** **07 12 56.3 +0.3**
PV10 IAmb IAmb 07 13 23.7
comp=Z,151nm,1.0s
MCWV Mont Chateau 27.83 22 IAmb IAmb 07 13 54.6
comp=Z,213nm,1.4s
MCWV IAMs_20 IAMs_20 07 24 57.4
comp=Z,22µm,20.0s
MCWV Mont Chateau 27.83 22 P **P** **07 12 54.0 -2.0**
baz=208
PV23 Carpenter Ridg 27.84 333 IAmb IAmb 07 13 28.9
comp=Z,119nm,0.9s
W13A Hualapai Mount 27.87 322 P **P** **07 12 57.5 +0.8**
O53A New Philadelph 27.88 20 P **P** **07 12 54.8 -1.6**
O53A IAmb IAmb 07 13 36.8
comp=Z,148nm,0.8s
O53A IAMs_20 IAMs_20 07 25 12.7
comp=Z,17µm,21.0s
O53A New Philadelph 27.88 20 P **P** **07 12 54.1 -2.3**
baz=205
BC3 Big Chuckawall 27.92 317 P **P** **07 12 58.7 +1.7**
baz=128,SNR=18
BC3 S **S** **07 17 45.0 +5.6**
baz=128
IRM Iron Mountain 28.04 319 P **P** **07 12 59.7 +1.8**
baz=129,SNR=17
IRM S **S** **07 17 45.6 +4.6**
baz=129
NEE2 Needles Airpor 28.10 320 P **P** **07 13 00.4 +2.0**
baz=131
NEE2 S **S** **07 17 50.0 +8.1**
baz=131
O54A Avella 28.10 21 P **P** **07 12 56.1 -2.3**
O54A IAmb IAmb 07 13 46.4
comp=Z,197nm,1.4s
MONP2 Monument Peak 28.11 315 P **P** **07 13 00.3 +1.5**
baz=126
L44A Lake County Fo 28.13 8 P **P** **07 12 58.5 -0.2**
L44A IAmb IAmb 07 13 31.0
comp=Z,107nm,0.9s
L46A Eue Claire 28.23 11 P **P** **07 12 57.7 -1.9**
L46A IAmb IAmb 07 13 51.9
comp=Z,137nm,1.1s
K38A Parkersburg 28.24 1 IAmb IAmb 07 14 01.0
comp=Z,287nm,1.6s
K38A Parkersburg 28.24 1 P **P** **07 12 58.0 -1.5**
baz=181,SNR=12
P57A Homestead Farm 28.39 25 P **P** **07 13 00.2 -0.7**
P57A Homestead Farm 28.39 25 P **P** **07 13 00.3 -0.7**
baz=212,SNR=9.1
P57A P **P** **07 13 00.3 -0.7**
baz=212,SNR=9.1
BELC Belle Mtn. Jos 28.49 317 P **P** **07 13 02.8 +0.7**
baz=128
BELC S **S** **07 17 55.1 +6.8**
baz=128
N53A Lisbon 28.50 20 P **P** **07 12 59.8 -2.2**
L48A N Adams 28.55 14 IAmb IAmb 07 13 44.3
comp=Z,88nm,0.7s
TPFO Pinon Flats 28.55 316 P **P** **07 13 04.4 +1.7**
baz=127
TPFO S **S** **07 17 56.6 +7.2**
baz=127
PFO Pinyon Flats O 28.56 316 P **P** **07 13 04.4 +1.7**
comp=Z,9.4nm,0.8s,baz=142,slow=6.8,SNR=8.8
PFO LR LR 07 25 22.2
comp=Z,5µm,18.8s,baz=130,slow=38
PFO Pinyon Flats O 28.56 316 P **P** **07 13 02.5 -0.2**
PFO pmax pmax
comp=Z,71nm,1.6s
PFO MLR MLR
comp=Z,5µm,21.0s
PFO Pinyon Flats O 28.56 316 P **P** **07 13 02.5 -0.2**
PFO Pinyon Flats O 28.56 316 P **P** **07 13 04.8 +2.0**
baz=127
109C Camp Elliot, M 28.58 314 P **P** **07 13 00.7 -2.0**
baz=125
109C S **S** **07 17 56.8 +7.3**
baz=125
K43A Burlington 28.60 7 P **P** **07 13 01.4 -1.4**
JFWS Jewell Farm 28.61 4 P **P** **07 13 01.4 -1.5**
JFWS pmax pmax
comp=Z,95nm,0.8s
JFWS Jewell Farm 28.61 4 P **P** **07 13 01.4 -1.5**
JFWS IAmb IAmb 07 13 50.2
comp=Z,95nm,0.8s
JFWS Jewell Farm 28.61 4 P **P** **07 13 00.8 -2.1**
baz=186,SNR=20
JFWS Jewell Farm 28.61 4 P **P** **07 13 00.6 -2.3**
baz=186,SNR=20
KNB Kanab 28.61 326 P **P** **07 13 05.5 +2.3**
KNB pmax pmax
comp=Z,360nm,2.0s
KNB Kanab 28.61 326 P **P** **07 13 05.5 +2.3**
K31A O'Neill 28.62 351 P **P** **07 13 02.5 -0.5**
K31A IAmb IAmb 07 13 60.0
comp=Z,166nm,1.1s
K31A O'Neill 28.62 351 P **P** **07 13 02.9 -0.1**
baz=168
PKCU Pink Cliffs 28.65 327 P **P** **07 13 04.9 +1.2**
PKCU IAmb IAmb 07 13 23.4
comp=Z,230nm,1.6s
N23A Red Feather La 28.74 340 P **P** **07 13 05.2 +0.8**
N23A IAmb IAmb 07 14 03.6
comp=Z,122nm,1.6s
N23A Red Feather La 28.74 340 P **P** **07 13 05.2 +0.8**
baz=153,SNR=18
N23A S **S** **07 17 57.0 +4.7**
baz=153
GMRC Granite Mounta 28.76 319 P **P** **07 13 06.2 +1.7**
baz=130,SNR=6.1
GMRC S **S** **07 17 58.4 +5.8**
baz=130
SDMD Soldier's Deli 28.83 27 P **P** **07 13 03.3 -1.6**
SDMD Soldier's Deli 28.83 27 P **P** **07 13 03.3 -1.6**
baz=214
O20A White River Ci 28.92 336 P **P** **07 13 07.6 +1.6**
O20A IAmb IAmb 07 13 16.3
comp=Z,81nm,1.1s
O20A White River Ci 28.92 336 P **P** **07 13 07.4 +1.4**
baz=148,SNR=30
O20A S **S** **07 17 59.9 +4.8**
baz=148
PHWY Pilot Hill 28.94 341 IAmb IAmb 07 13 09.4
comp=Z,103nm,1.4s
M52A Chesterland 29.00 18 IAmb IAmb 07 13 58.2
comp=Z,131nm,1.1s
MURC Murrieta 29.05 316 P **P** **07 13 08.6 +1.6**
baz=126
MURC S **S** **07 18 05.2 +8.3**
baz=126
SRU San Rafael Swe 29.06 331 P **P** **07 13 07.4 +0.2**
SRU pmax pmax
comp=Z,65nm,1.2s
SRU San Rafael Swe 29.06 331 P **P** **07 13 07.4 +0.2**
AAM Ann Arbor 29.07 15 P **P** **07 13 05.9 -1.1**
AAM pmax pmax
comp=Z,152nm,1.5s
AAM MLR MLR
comp=Z,13µm,20.0s
AAM Ann Arbor 29.07 15 P **P** **07 13 05.9 -1.1**
AAM IAmb IAmb 07 13 37.6
comp=Z,152nm,1.4s
AAM Ann Arbor 29.07 15 P **P** **07 13 03.8 -3.2**
baz=199
M53A WI Miller and 29.12 20 P **P** **07 13 05.8 -1.7**
M53A IAmb IAmb 07 13 53.9
comp=Z,128nm,1.0s
M53A IAMs_20 IAMs_20 07 25 51.7
comp=Z,15µm,20.0s
M53A WI Miller and 29.12 20 P **P** **07 13 05.1 -2.4**
baz=205
SEUS St. Eustatius 29.18 80 IAMs_20 IAMs_20 07 23 35.6
comp=Z,17µm,22.0s
SEUS St. Eustatius 29.18 80 *e*P **P** **07 13 10.9 +2.7**
SZCU Shurtz Canyon 29.18 326 IAmb IAmb 07 13 13.8
comp=Z,262nm,1.9s
Q16A Castle Valley 29.21 330 P **P** **07 13 09.8 +1.2**
HEC Hector,Ludlow 29.22 318 P **P** **07 13 10.4 +1.9**
baz=128
BBRC Big Bear Solar 29.26 317 P **P** **07 13 10.8 +1.8**
baz=127
CCUT Cedar City 29.30 326 P **P** **07 13 10.5 +1.2**
CCUT IAmb IAmb 07 13 14.2
comp=Z,103nm,1.4s
TUQ Turquoise Moun 29.34 320 P **P** **07 13 11.4 +1.7**
baz=130
P18A Preston Nutter 29.35 332 P **P** **07 13 09.6 -0.3**
MSU Marysvale 29.39 329 P **P** **07 13 10.2 0.0**
MSU Marysvale 29.39 329 P **P** **07 13 10.2 0.0**
SSPA Standing Stone 29.42 24 P **P** **07 13 09.2 -0.9**
SSPA Standing Stone 29.42 24 ⇑P **P** **07 13 08.5 -1.7**
SSPA Standing Stone 29.42 24 P **P** **07 13 07.7 -2.4**
baz=211
P17A Butcher Ranch, 29.45 332 IAmb IAmb 07 13 14.6
comp=Z,164nm,1.6s
ECSD EROS Data Cent 29.47 355 P **P** **07 13 08.7 -1.9**
ECSD IAmb IAmb 07 13 11.9
comp=Z,154nm,1.4s
ECSD EROS Data Cent 29.47 355 P **P** **07 13 09.0 -1.6**
baz=173,SNR=57
ECSD EROS Data Cent 29.47 355 P **P** **07 13 08.2 -2.4**
baz=173,SNR=57
TBTG Tabatinga, AM 29.48 127 *e*P **P** **07 13 11.0 +0.1**
I40A Norwalk 29.56 4 P **P** **07 13 10.6 -0.7**
SHPR Sheep Range 29.58 322 P **P** **07 13 13.2 +1.4**
I37A Lemond, Waseca 29.60 360 IAmb IAmb 07 14 02.4
comp=Z,108nm,1.4s
TCRU Three Creeks R 29.60 328 P **P** **07 13 13.8 +1.8**
RRX Edison Barstow 29.68 318 P **P** **07 13 13.9 +1.4**
baz=128
I42A Draeger Farm, 29.70 6 P **P** **07 13 10.8 -1.8**
BFSC Mount Baldy Ra 29.73 316 P **P** **07 13 14.7 +1.6**
baz=126
BFSC S **S** **07 18 11.7 +3.8**
baz=126
WUPA West Chester U 29.80 28 P **P** **07 13 11.7 -1.8**
M55A Ridgway 29.81 22 P **P** **07 13 11.0 -2.6**
M55A IAmb IAmb 07 14 07.1
comp=Z,144nm,1.5s
GSC Goldstone, Bar 29.82 319 IAmb IAmb 07 13 18.3
comp=Z,148nm,2.0s
GSC Goldstone, Bar 29.82 319 P **P** **07 13 15.8 +2.0**
baz=128
RDMU Red Mountain 29.83 334 P **P** **07 13 14.9 +0.9**
CZSB Cruzeiro do Su 29.86 136 *e*P **P** **07 13 13.7 -0.5**
SHOC Shoshone, Teco 29.86 320 P **P** **07 13 16.1 +2.0**
baz=130
FMP Fort Macarthur 29.87 315 P **P** **07 13 15.8 +1.6**
baz=124
RWWY Rawlins 29.88 339 P **P** **07 13 15.4 +0.9**
MLYT Lee's Yard 29.92 81 *e*P P 07 13 07.8 -7.0
ERPA Erie 29.96 20 IAmb IAmb 07 14 03.6
comp=Z,84nm,1.0s

ERPA IAMs_20 IAMs_20 07 26 26.8
comp=Z,19µm,20.0s
ERPA Erie 29.96 20 P **P** **07 13 11.8 -3.0**
baz=206
PRN Pahroc Range 30.14 324 ⇑P **P** **07 13 18.8 +2.1**
DECC Green Verdugo 30.20 316 P **P** **07 13 19.1 +1.9**
baz=125
BPA Boggy Peak 30.24 81 *eP* **P** **07 13 17.8 +0.1**
PSUT Pine Spring 30.28 327 P **P** **07 13 19.6 +1.6**
PSUT IAmb IAmb 07 13 22.4
comp=Z,224nm,1.9s
GWY Greenwater Val 30.29 320 P **P** **07 13 19.4 +1.4**
GWY IAmb IAmb 07 13 36.1
comp=Z,157nm,1.9s
M57A Sunshine Farm, 30.32 24 P **P** **07 13 15.9 -2.2**
ANWB Willy Bob 30.32 79 *eP* **P** **07 13 20.5 +2.2**
ANBD Bethesda, Anti 30.33 81 *eP* **P** **07 13 20.5 +2.1**
EDW2 Edwards Air Fo 30.34 317 P **P** **07 13 19.8 +1.4**
baz=126
SUSD Miller 30.43 352 P **P** **07 13 18.2 -0.9**
SUSD IAmb IAmb 07 14 16.5
comp=Z,141nm,1.1s
SUSD Miller 30.43 352 P **P** **07 13 18.3 -0.7**
baz=169,SNR=8.1
SUSD Miller 30.43 352 P **P** **07 13 17.7 -1.3**
baz=169,SNR=8.1
LUPA Lehigh Univers 30.45 27 P **P** **07 13 17.3 -1.9**
NLU North Lily Min 30.46 331 P **P** **07 13 20.7 +1.1**
NLU IAmb IAmb 07 13 23.9
comp=Z,198nm,2.0s
TDBA Terre de Bas, 30.46 83 *eP* P 07 13 13.3 -6.3
CBE Ff, Capester 30.48 83 *eP* P 07 13 12.1 -7.7
LRMC Laurel Mtn Rad 30.49 318 P **P** **07 13 21.2 +1.4**
baz=128
K22A Casper 30.50 340 IAmb IAmb 07 13 23.1
comp=Z,188nm,1.4s
K22A Casper 30.50 340 P **P** **07 13 20.6 +0.7**
baz=154
TPNV Topopah Spring 30.53 322 ⇑P **P** **07 13 22.4 +2.2**
TPNV Topopah Spring 30.53 322 P **P** **07 13 22.6 +2.4**
baz=132,SNR=15
FURC Furnace Creek, 30.59 320 P **P** **07 13 22.4 +1.9**
baz=130
ABD La Joyeuse, An 30.59 82 *eP* **P** **07 13 23.0 +2.3**
OSI Osito Audit: C 30.67 316 P **P** **07 13 22.6 +1.3**
baz=125
DSLB Salisbury 30.68 84 *eP* P 07 13 28.6 +7.1
JLU Jordanelle 30.68 332 P **P** **07 13 22.6 +1.0**
WVNY West Valley, N 30.69 21 P **P** **07 13 20.4 -0.9**
WVNY IAmb IAmb 07 14 26.8
comp=Z,71nm,1.1s
MPMC Manual Prospec 30.72 319 P **P** **07 13 23.8 +1.9**
baz=128,SNR=16
NNA Nana 30.73 147 LR LR 07 23 33.4
comp=Z,9µm,19.6s,baz=326,slow=32
NNA Nana 30.73 147⇓ *eP* **P** **07 13 23.9 +1.9**
NNA pmax pmax
comp=Z,47nm,1.3s
GRGR Grenville 30.73 90 *eP* P 07 13 15.3 -6.7
MAGL Barre de l'ile 30.80 83 IAMs_20 IAMs_20 07 24 42.8
comp=Z,22µm,21.0s
MAGL Barre de l'ile 30.80 83 *eP* P 07 13 14.0 -8.6
SPMN Marine on St. 30.81 0 IAmb IAmb 07 13 23.8
comp=Z,59nm,0.6s
SPMN Marine on St. 30.81 0 P **P** **07 13 20.9 -1.5**
baz=181,SNR=31
SPMN Marine on St. 30.81 0 P **P** **07 13 19.7 -2.6**
baz=181,SNR=31
L56A Greenwood 30.83 23 P **P** **07 13 21.3 -1.3**
L56A IAmb IAmb 07 14 28.1
comp=Z,162nm,1.8s
BRNJ Basking Ridge 30.88 28 P **P** **07 13 21.5 -1.5**
BRNJ Basking Ridge 30.88 28 P **P** **07 13 21.4 -1.6**
baz=217,SNR=5.5
CTU Camp Tracy 30.89 332 P **P** **07 13 25.1 +1.8**
GCMP Grenada, Carri 30.91 90 *eP* P 07 13 20.0 -3.5
SVN Savane Anatole 30.95 85 IAMs_20 IAMs_20 07 24 57.0
comp=Z,25µm,21.0s
FDF Fort de France 30.97 85 IAMs_20 IAMs_20 07 24 57.7
comp=Z,24µm,21.0s
FDF Fort de France 30.97 85 *eP* P 07 13 20.0 -4.2
SVB Belmont 30.99 88 *eP* **P** **07 13 24.6 +0.3**
DUG Dugway, Tooele 31.00 330 IAmb IAmb 07 13 28.7
comp=Z,164nm,1.9s
DUG IAMs_20 IAMs_20 07 27 46.6
comp=Z,15µm,18.0s
DUG Dugway, Tooele 31.00 330 P **P** **07 13 26.5 +2.2**
baz=141,SNR=19
DUG S **S** **07 18 30.6 +3.0**
baz=141
ARVC Arvin 31.04 316 P **P** **07 13 25.6 +1.2**
baz=125
BIM Bigot 31.06 86 IAMs_20 IAMs_20 07 25 00.1
comp=Z,20µm,21.0s
BIM Bigot 31.06 86 *eP* **P** **07 13 27.3 +2.4**
KSPA Keystone Colle 31.06 26 P **P** **07 13 23.5 -1.1**
R11A Troy Canyon, C 31.10 324 P **P** **07 13 27.3 +2.1**
baz=134,SNR=34
R11A S **S** **07 18 33.1 +3.9**
baz=134
ISA Isabella, Lake 31.12 318 P **P** **07 13 26.8 +1.5**
baz=127
RSSD Black Hills 31.13 345 P **P** **07 13 25.4 -0.1**
RSSD pmax pmax
comp=Z,247nm,2.0s
RSSD MLR MLR
comp=Z,2µm,19.0s
RSSD Black Hills 31.13 345 P **P** **07 13 25.4 -0.1**
RSSD IAmb IAmb 07 13 28.2
comp=Z,246nm,2.0s
RSSD Black Hills 31.13 345 ⇑P **P** **07 13 25.8 +0.4**
RSSD Black Hills 31.13 345 P **P** **07 13 26.0 +0.6**
baz=159,SNR=51
RSSD Black Hills 31.13 345 P **P** **07 13 26.1 +0.6**
baz=159
RSSD S **S** **07 18 34.7 +5.1**
baz=159
ODNJ Ogdensburg 31.18 28 P **P** **07 13 23.9 -1.8**
ODNJ Ogdensburg 31.18 28 P **P** **07 13 24.2 -1.5**
baz=216
TRN Trinidad (W) 31.20 93 *e* P 07 13 32.6 +6.4
GRAC Grapevine Rang 31.24 321 P **P** **07 13 28.8 +2.5**
baz=130
GLMI Grayling 31.27 12 P **P** **07 13 24.9 -1.4**
GLMI IAmb IAmb 07 14 19.9
comp=Z,100nm,0.9s
GLMI IAMs_20 IAMs_20 07 28 16.4
comp=Z,19µm,19.0s
GLMI Grayling 31.27 12 P **P** **07 13 23.2 -3.1**
baz=196
MPOM Morne Pois Mar 31.27 86 IAMs_20 IAMs_20 07 25 07.6
comp=Z,19µm,21.0s
MPOM Morne Pois Mar 31.27 86 *eP* **P** **07 13 25.9 -0.9**
CWC Cottonwood Cre 31.33 319 P **P** **07 13 29.0 +1.7**
baz=128
TRNY Table Rock, Ra 31.40 28 P **P** **07 13 25.8 -1.9**
MEDO Medina 31.41 21 P **P** **07 13 25.9 -1.7**
PAL Palisades 31.44 29 P **P** **07 13 25.8 -2.1**
baz=218
PAL Palisades 31.44 29 P **P** **07 13 25.2 -2.7**
baz=218
F36A Milaca 31.45 360 P **P** **07 13 26.2 -1.8**
F36A Milaca 31.45 360 P **P** **07 13 26.1 -1.8**
baz=179,SNR=12
BINY Binghamton 31.50 25 P **P** **07 13 27.1 -1.5**
BINY IAMs_20 IAMs_20 07 27 02.8
comp=Z,18µm,18.0s
BINY Binghamton 31.50 25 P **P** **07 13 26.7 -1.9**
baz=213,SNR=7.3
BINY Binghamton 31.50 25 P **P** **07 13 26.4 -2.2**
baz=213,SNR=7.3
F33A 5 Mile Ranch, 31.54 356 IAmb IAmb 07 13 28.6
comp=Z,112nm,1.8s
F33A 5 Mile Ranch, 31.54 356 P **P** **07 13 26.8 -1.9**
baz=174
HWUT Hardware Ranch 31.54 333 IAmb IAmb 07 13 40.3
comp=Z,154nm,1.6s
LCH Last Change Ra 31.56 321 IAmb IAmb 07 13 34.8
comp=Z,139nm,2.0s
BBSR BB Station 31.56 50 IAMs_20 IAMs_20 07 25 12.1
comp=Z,12µm,19.0s
PKM Mcpherson Peak 31.57 315 P **P** **07 13 31.1 +1.7**
baz=124
N62A Caumsett State 31.59 29 P **P** **07 13 27.4 -1.8**
N62A IAmb IAmb 07 13 36.4
comp=Z,99nm,1.4s

VES Vestal, Richgr 31.62 317 P **P** **07 13 31.3 +1.7**
baz=126,SNR=14
VES S **S** **07 18 40.7 +3.6**
baz=126
F42A Maple Grove Fa 31.63 7 P **P** **07 13 29.3 -0.3**
F42A Maple Grove Fa 31.63 7 P **P** **07 13 29.8 +0.2**
baz=189
BGU Big Grassy Mou 31.67 331 P **P** **07 13 31.6 +1.4**
BGU IAmb IAmb 07 13 34.4
comp=Z,198nm,2.0s
BW06 Boulder Array 31.68 337 P **P** **07 13 30.5 +0.1**
BW06 IAmb IAmb 07 13 34.9
comp=Z,243nm,1.9s
BW06 IAMs_20 IAMs_20 07 27 53.5
comp=Z,11µm,18.0s
BW06 Boulder Array 31.68 337 P **P** **07 13 31.0 +0.7**
baz=148,SNR=36
BW06 S **S** **07 18 41.3 +2.9**
baz=148
PD31 Pinedale Array 31.68 337 P **P** **07 13 30.4 0.0**
PD31 IAmb IAmb 07 13 34.9
comp=Z,219nm,1.9s
PD31 Pinedale Array 31.68 337 ⇑P **P** **07 13 30.8 +0.5**
PDAR Pinedale Array 31.68 337 P **P** **07 13 30.8 +0.5**
comp=Z,8.6nm,0.6s,baz=138,slow=8.3,SNR=56
PDAR PcP **PcP** **07 16 21.6 -0.3**
comp=Z,2.5nm,0.6s,baz=168,slow=4.9,SNR=4.9
PDAR LR LR 07 28 59.9
comp=Z,3µm,18.8s,baz=154,slow=42
PDAR Pinedale Array 31.68 337 P **P** **07 13 30.1 -0.3**
BRNY Black Rk. Fore 31.71 28 P **P** **07 13 28.4 -1.9**
baz=217,SNR=7.9
K57A Scipio Center 31.74 24 P **P** **07 13 28.8 -1.9**
K57A IAmb IAmb 07 14 34.4
comp=Z,133nm,1.4s
K57A Scipio Center 31.74 24 P **P** **07 13 28.7 -1.9**
baz=212
TIN Tinemaha, Big 31.81 320 P **P** **07 13 33.5 +2.1**
baz=129
TPH Tonopah 31.86 322 P **P** **07 13 31.8 -0.1**
TPH pmax pmax
comp=Z,165nm,1.2s
TPH Tonopah 31.86 322 P **P** **07 13 31.8 -0.1**
COWI Conover 31.87 5 P **P** **07 13 29.9 -1.8**
COWI IAmb IAmb 07 14 31.9
comp=Z,68nm,1.2s
L59A Walton 31.89 26 P **P** **07 13 30.1 -1.8**
L59A Walton 31.89 26 P **P** **07 13 30.3 -1.6**
baz=215
L59A P **P** **07 13 30.3 -1.6**
baz=215
SMMC Simmler 31.93 316 P **P** **07 13 34.4 +2.0**
baz=124
J56A Wolcott 32.08 23 IAmb IAmb 07 14 01.2
comp=Z,86nm,1.1s
J56A Wolcott 32.08 23 P **P** **07 13 30.9 -2.6**
baz=211,SNR=20
J56A P **P** **07 13 30.9 -2.6**
baz=211,SNR=20
VOG Valley Oaks Go 32.10 318 P **P** **07 13 35.3 +1.5**
baz=126
KSCT Kent School, K 32.20 28 P **P** **07 13 32.3 -2.3**
KSCT IAmb IAmb 07 13 37.3
comp=Z,68nm,1.1s
HVU Hansel Valley 32.22 332 P **P** **07 13 36.7 +1.7**
HVU pmax pmax
comp=Z,78nm,1.1s
HVU Hansel Valley 32.22 332 P **P** **07 13 36.7 +1.7**
HVU IAmb IAmb 07 14 02.2
comp=Z,78nm,1.1s
AHID Auburn Hatcher 32.29 335 P **P** **07 13 36.5 +0.7**
AHID IAmb IAmb 07 13 57.7
comp=Z,121nm,1.1s
Q09A Carvers 32.34 324 IAmb IAmb 07 13 43.7
comp=Z,146nm,1.3s
E43A Lone Tree Farm 32.38 8 IAmb IAmb 07 14 39.2
comp=Z,44nm,0.8s
MLAC Mammoth, Mammo 32.55 320 P **P** **07 13 39.9 +1.9**
baz=129
PECO Prince Edward 32.59 22 P **P** **07 13 36.2 -1.8**
SADO Sadowa 32.61 19 PcP **PcP** **07 16 24.1 +0.1**
comp=Z,9.1nm,0.6s,baz=182,slow=3.6,SNR=1.9
SADO LR LR 07 28 20.4
comp=Z,13µm,20.0s,baz=195,slow=39
SADO Sadowa 32.61 19 IAmb IAmb 07 14 17.8
comp=Z,93nm,1.6s
ELK Elko 32.63 328 P **P** **07 13 40.5 +1.8**
comp=Z,17nm,0.8s,baz=140,slow=6.7,SNR=89
ELK PcP **PcP** **07 16 25.4 +0.9**
comp=Z,3.1nm,0.5s,baz=157,slow=3.9,SNR=5.9
ELK LR LR 07 28 24.3
comp=Z,13µm,18.4s,baz=154,slow=39
ELK Elko 32.63 328 IAMs_20 IAMs_20 07 28 22.1
comp=Z,15µm,18.0s
M63A Gales Ferry 32.63 30 P **P** **07 13 36.6 -1.8**
M63A Gales Ferry 32.63 30 P **P** **07 13 36.5 -1.9**
baz=220,SNR=6.2
M63A P **P** **07 13 36.5 -1.9**
baz=220,SNR=6.2
BBGH Gun Hill 32.64 88 IAMs_20 IAMs_20 07 27 35.1
comp=Z,15µm,20.0s
BBGH Gun Hill 32.64 88 *eP* **P** **07 13 40.6 +1.8**
NV11 Mina Array Sit 32.64 322 IAmb IAmb 07 13 44.5
comp=Z,112nm,1.3s
NVAR Mina Array Bea 32.73 322 P **P** **07 13 42.1 +2.5**
comp=Z,38nm,0.7s,baz=135,slow=8.6,SNR=209
NVAR PcP **PcP** **07 16 25.9 +1.0**
comp=Z,8.4nm,0.8s,baz=131,slow=3.5,SNR=3.8
NVAR ScP **ScP** **07 20 12.8 +5.7**
comp=Z,0.4nm,0.6s,baz=107,slow=4.8,SNR=1.7
NVAR LR LR 07 28 43.2
comp=Z,24µm,18.1s,baz=135,slow=40
LHV Little Huntoon 32.74 321 IAmb IAmb 07 13 50.5
comp=Z,101nm,1.2s
SNOW Snow King Moun 32.74 336 P **P** **07 13 40.6 +0.9**
J58A Remsen 32.76 24 P **P** **07 13 37.9 -1.6**
J58A Remsen 32.76 24 P **P** **07 13 37.7 -1.8**
baz=213
J58A P **P** **07 13 37.7 -1.8**
baz=213
E28A Huff 32.78 350 P **P** **07 13 38.3 -1.4**
E28A Huff 32.78 350 P **P** **07 13 39.0 -0.7**
baz=166,SNR=23
UCCT U. Connecticut 32.85 30 P **P** **07 13 38.0 -2.3**
UCCT IAmb IAmb 07 13 55.9
comp=Z,61nm,0.8s
D41A Chassel 32.87 6 P **P** **07 13 38.9 -1.6**
DELO Deloro Mine 32.88 21 IAmb IAmb 07 14 07.5
comp=Z,51nm,1.0s
TRY Troy 32.92 27 IAMs_20 IAMs_20 07 28 02.3
comp=Z,20µm,19.0s
MOOW Moose Ponds 32.97 336 P **P** **07 13 42.2 +0.6**
MOOW IAmb IAmb 07 13 46.2
comp=Z,53nm,0.8s
KVN Kaiserville 33.02 323 IAmb IAmb 07 13 46.5
comp=Z,58nm,1.1s
L61B Northampton 33.14 28 P **P** **07 13 40.1 -2.8**
baz=218
J59A Piesco 33.16 25 P **P** **07 13 41.0 -2.0**
J59A Piesco 33.16 25 P **P** **07 13 40.8 -2.3**
baz=214
J59A P **P** **07 13 40.8 -2.3**
baz=214
FLWY Flagg Ranch 33.24 337 IAmb IAmb 07 13 55.2
comp=Z,100nm,1.1s
YPP Pitchstone Pla 33.44 337 IAmb IAmb 07 13 49.8
comp=Z,196nm,1.9s
M65A Busby, Falmout 33.45 31 P **P** **07 13 43.0 -2.5**
baz=222
ACCN Adirondack Com 33.45 26 P **P** **07 13 44.8 -0.7**
BMN Battle Mountai 33.45 326 P **P** **07 13 47.1 +1.3**
BMN pmax pmax
comp=Z,316nm,1.9s
BMN Battle Mountai 33.45 326 P **P** **07 13 47.1 +1.3**
H17A Grant Village 33.46 337 IAmb IAmb 07 14 02.6
comp=Z,117nm,1.5s
H17A Grant Village 33.46 337 P **P** **07 13 47.3 +1.3**
baz=148,SNR=26
H17A S **S** **07 19 11.2 +5.2**
baz=148
EYMN Ely 33.56 2 P **P** **07 13 43.4 -3.1**
baz=183
YMP Mirror Lake Pl 33.59 338 P **P** **07 13 46.8 -0.4**
YMP IAmb IAmb 07 14 07.6
comp=Z,68nm,0.9s
RLMT Red Lodge 33.61 339 P **P** **07 13 47.7 +0.5**
baz=151,SNR=68

RLMT S **S** **07 19 13.0 +4.7**
baz=151
L64A Middleborough 33.63 31 P **P** **07 13 45.6 -1.5**
L64A IAmb IAmb 07 13 47.8
comp=Z,70nm,0.8s
L64A Middleborough 33.63 31 P **P** **07 13 45.4 -1.7**
baz=222,SNR=10
L64A P **P** **07 13 45.4 -1.7**
baz=222,SNR=10
YERR Yerington 33.65 322 IAmb IAmb 07 13 52.1
comp=Z,124nm,1.5s
NCB Newcomb 33.70 25 P **P** **07 13 45.7 -2.0**
NCB Newcomb 33.70 25 P **P** **07 13 45.2 -2.6**
baz=214,SNR=7.7
HRV Adam Dziewonsk 33.71 29 P **P** **07 13 45.1 -2.7**
baz=220
CMB Columbia Colle 33.76 319 P **P** **07 13 48.9 +0.4**
CMB pmax pmax
comp=Z,128nm,2.0s
CMB MLR MLR
comp=Z,10µm,18.0s
CMB Columbia Colle 33.76 319 P **P** **07 13 48.9 +0.4**
CMB IAmb IAmb 07 13 52.3
comp=Z,128nm,1.9s
CMB IAMs_20 IAMs_20 07 28 10.6
comp=Z,10µm,18.0s
BCX Boston College 33.77 30 P **P** **07 13 47.1 -1.2**
YNR Norris Junctio 33.77 337 IAmb IAmb 07 13 52.7
comp=Z,161nm,1.7s
MDND Maddock 33.86 352 P **P** **07 13 48.5 -0.5**
MDND Maddock 33.86 352 P **P** **07 13 48.6 -0.5**
baz=169,SNR=10
MDND Maddock 33.86 352 P **P** **07 13 47.4 -1.7**
baz=169,SNR=10
MDND S **S** **07 19 14.3 +2.6**
baz=169
YHH Holmes Hill 33.89 337 P **P** **07 13 50.7 +0.9**
PNTR Pine Nut 33.93 322 IAmb IAmb 07 13 54.9
comp=Z,59nm,0.9s
B35A Bob, Littlefor 33.95 359 P **P** **07 13 47.8 -2.0**
baz=179,SNR=21
AGMN Agassiz Nation 33.96 357 IAmb IAmb 07 13 51.0
comp=Z,55nm,0.9s
AGMN Agassiz Nation 33.96 357 P **P** **07 13 48.4 -1.5**
baz=175,SNR=24
AGMN Agassiz Nation 33.96 357 P **P** **07 13 47.4 -2.5**
baz=175,SNR=24
LAO LASA Array 34.09 344 P **P** **07 13 51.1 0.0**
baz=157,SNR=30
LAO LASA Array 34.09 344 P **P** **07 13 51.3 +0.2**
baz=157,SNR=30
LONY Lake Ozonia 34.09 24 P **P** **07 13 49.7 -1.4**
LONY IAmb IAmb 07 14 14.4
comp=Z,72nm,1.2s
LONY Lake Ozonia 34.09 24 P **P** **07 13 48.3 -2.8**
baz=213,SNR=13
VCNR Virginia City 34.09 322 IAmb IAmb 07 13 56.1
comp=Z,173nm,2.0s
EMB Emerald Bay 34.16 321 IAmb IAmb 07 13 57.0
comp=Z,93nm,1.1s
PAHR Pah Rah Range 34.20 323 P **P** **07 13 54.1 +1.8**
PAHR IAmb IAmb 07 13 56.8
comp=Z,140nm,1.6s
MCVT Middlebury Col 34.20 26 P **P** **07 13 50.4 -1.6**
baz=216
RUBR Rubicon Trail 34.24 321 IAmb IAmb 07 14 41.5
comp=Z,120nm,1.2s
BMNY Brushton-Moira 34.30 24 P **P** **07 13 51.1 -1.8**
baz=213
MPK Martis Peak 34.32 322 IAmb IAmb 07 14 10.8
comp=Z,64nm,1.0s
BOAV Boa Vista 34.33 107 *eP* **P** **07 13 52.6 -0.9**
GCMT Greycliff 34.33 339 P **P** **07 13 54.1 +0.8**
HLID Hailey 34.37 332 IAmb IAmb 07 14 10.4
comp=Z,51nm,1.0s
HLID IAMs_20 IAMs_20 07 30 29.7
comp=Z,14µm,19.0s
HLID Hailey 34.37 332 P **P** **07 13 55.3 +1.5**
baz=141,SNR=53
HLID S **S** **07 19 25.5 +5.5**
baz=141
FRNY Flat Rock 34.66 25 P **P** **07 13 54.1 -2.0**
FRNY IAmb IAmb 07 14 38.5
comp=Z,104nm,1.7s
FRNY Flat Rock 34.66 25 P **P** **07 13 53.8 -2.3**
baz=215
MCMT McKenzie Canyo 34.71 335 P **P** **07 13 59.1 +2.4**
BOZ Bozeman (W) 34.87 337 P **P** **07 13 59.3 +1.3**
baz=147,SNR=100
BOZ S **S** **07 19 33.3 +5.6**
baz=147
BEKR Beckworth 34.88 322 IAmb IAmb 07 14 02.7
comp=Z,147nm,1.7s
MFID Camas Ranch 34.91 331 P **P** **07 13 59.4 +1.0**
MFID IAMs_20 IAMs_20 07 30 08.1
comp=Z,12µm,18.0s
MNTQ Montreal, Queb 35.20 24 IAmb IAmb 07 14 24.2
comp=Z,94nm,1.4s
DGMT Dagmar 35.26 347 P **P** **07 14 01.1 -0.2**
DGMT Dagmar 35.26 347 P **P** **07 14 01.3 +0.1**
baz=161,SNR=22
DGMT Dagmar 35.26 347 P **P** **07 14 01.3 +0.1**
baz=161,SNR=22
I63A Otisfield 35.35 29 P **P** **07 13 59.8 -2.2**
baz=220
I63A P **P** **07 13 59.8 -2.2**
baz=220
ORV Oroville 35.37 321 IAmb IAmb 07 14 06.9
comp=Z,225nm,2.0s
WVOR Wild Horse Val 35.61 327 P **P** **07 14 05.5 +1.0**
WVOR pmax pmax
comp=Z,64nm,1.1s
WVOR MLR MLR
comp=Z,7µm,19.0s
WVOR Wild Horse Val 35.61 327 P **P** **07 14 05.5 +1.0**
WVOR IAmb IAmb 07 14 16.7
comp=Z,64nm,1.1s
HRY Holter Researc 35.89 338 P **P** **07 14 07.2 +0.5**
ETMB Extrema 35.90 130 *eP* **P** **07 14 06.5 -0.6**
ULM Lac du Bonnet 35.91 357 P **P** **07 14 03.5 -3.2**
comp=Z,33nm,0.6s,baz=177,slow=9.4,SNR=33
ULM S **S** **07 19 41.9 -1.2**
comp=Z,3.1nm,0.5s,baz=310,slow=18,SNR=4.2
ULM LR LR 07 32 36.2
comp=Z,6µm,18.1s,baz=175,slow=43
ULM Lac du Bonnet 35.91 357 *eP* **P** **07 14 04.3 -2.4**
ULM Lac du Bonnet 35.91 357 IAmb IAmb 07 14 08.4
comp=Z,69nm,1.1s
ULM Lac du Bonnet 35.91 357 ⇑P **P** **07 14 04.3 -2.4**
O03E Paynes Creek 36.01 321 P **P** **07 14 08.9 +1.1**
O03E Paynes Creek 36.01 321 P **P** **07 14 07.4 -0.4**
baz=128,SNR=8.2
O03E S **S** **07 19 48.9 +3.8**
baz=128
HOPS Hopland Field 36.03 319 IAMs_20 IAMs_20 07 28 22.6
comp=Z,13µm,18.0s
MOD Modoc Plateau 36.16 325 P **P** **07 14 10.5 +1.3**
MOD IAMs_20 IAMs_20 07 30 39.7
comp=Z,12µm,19.0s
J08A Circle Bar Ran 36.18 328 P **P** **07 14 10.3 +1.1**
J08A IAmb IAmb 07 14 21.3
comp=Z,123nm,0.9s
PLID Pearl Lake 36.27 332 P **P** **07 14 11.1 +0.9**
PLID IAmb IAmb 07 14 13.5
comp=Z,82nm,0.9s
PLID IAMs_20 IAMs_20 07 31 08.0
comp=Z,12µm,19.0s
G62A West of Eustis 36.27 27 P **P** **07 14 07.7 -2.3**
G62A West of Eustis 36.27 27 P **P** **07 14 07.8 -2.2**
baz=219
G62A P **P** **07 14 07.8 -2.2**
baz=219
EGMT Eagleton 36.32 341 P **P** **07 14 11.3 +1.0**
baz=152,SNR=74
EGMT S **S** **07 19 52.9 +3.2**
baz=152
O02D Mt. Diablo Mer 36.54 320 IAMs_20 IAMs_20 07 29 19.0
comp=Z,10µm,18.0s
O02D Mt. Diablo Mer 36.54 320 P **P** **07 14 13.3 +1.0**
baz=126
MACA Manacapuru-AM 36.57 116 *eP* **P** **07 14 12.4 -0.4**
BMO Blue Mountains 36.70 331 P **P** **07 14 13.9 +0.3**
BMO pmax pmax
comp=Z,112nm,1.7s
BMO MLR MLR
comp=Z,12µm,21.0s
BMO Blue Mountains 36.70 331 P **P** **07 14 13.9 +0.3**

BMO IAmb IAmb 07 14 16.4
comp=Z,112nm,1.7s
BMO IAMs_20 IAMs_20 07 30 42.3
comp=Z,12µm,21.0s
MSO Missoula 36.79 336 IAmb IAmb 07 14 30.1
comp=Z,66nm,1.0s
MSO Missoula 36.79 336 P **P** **07 14 15.3 +0.9**
baz=145,SNR=32
MSO S **S** **07 19 57.3 +0.4**
baz=145
PKME Peaks-Kenny Pk 36.87 28 P **P** **07 14 13.2 -1.8**
PKME Peaks-Kenny Pk 36.87 28 P **P** **07 14 14.6 -0.4**
baz=221
M04C Macdoel 36.96 323 P **P** **07 14 16.5 +0.6**
M04C IAMs_20 IAMs_20 07 30 41.9
comp=Z,10µm,20.0s
M04C Macdoel 36.96 323 P **P** **07 14 17.3 +1.3**
baz=129,SNR=9.2
N02D Trinity Center 36.97 322 IAMs_20 IAMs_20 07 31 11.3
comp=Z,12µm,18.0s
N02D Trinity Center 36.97 322 P **P** **07 14 15.3 -0.7**
baz=127
I07A Izee 37.22 328 P **P** **07 14 18.9 +0.8**
I07A IAmb IAmb 07 14 21.3
comp=Z,197nm,2.0s
M02C Callahan 37.31 322 IAMs_20 IAMs_20 07 31 33.4
comp=Z,14µm,18.0s
M02C Callahan 37.31 322 P **P** **07 14 19.2 +0.3**
baz=128
YBH Yreka Blue Hor 37.43 323 P **P** **07 14 19.7 -0.3**
comp=Z,11nm,0.6s,baz=130,slow=3.2,SNR=56
YBH LR LR 07 31 31.5
comp=Z,14µm,18.6s,baz=149,slow=39
YBH Yreka Blue Hor 37.43 323 IAMs_20 IAMs_20 07 29 05.6
comp=Z,15µm,21.0s
K04D Chiloquin, OR 37.45 324 P **P** **07 14 20.8 +0.7**
baz=130,SNR=6.6
L04D Klamath Falls 37.50 324 IAMs_20 IAMs_20 07 31 56.3
comp=Z,16µm,18.0s
L04D Klamath Falls 37.50 324 P **P** **07 14 21.4 +0.9**
baz=129,SNR=6.1
F10A Beach Ranch, E 37.51 332 P **P** **07 14 21.0 +0.5**
F10A Beach Ranch, E 37.51 332 ⇑P **P** **07 14 21.2 +0.7**
KHMM Horse Mountain 37.53 321 P **P** **07 14 21.9 +1.0**
J05D Fort Rock, OR 37.59 326 P **P** **07 14 22.1 +0.8**
baz=132
J05D S **S** **07 20 13.4 +4.1**
baz=132
G65A Princeton 37.64 30 P **P** **07 14 19.7 -1.8**
G65A Princeton 37.64 30 P **P** **07 14 19.3 -2.2**
baz=223,SNR=7.0
G65A P **P** **07 14 19.3 -2.2**
baz=223,SNR=7.0
JTMT Jette 37.67 337 P **P** **07 14 22.6 +0.6**
JTMT IAmb IAmb 07 14 37.5
comp=Z,200nm,1.6s
JCC Jacoby Creek, 37.68 320 IAMs_20 IAMs_20 07 28 54.2
comp=Z,10µm,19.0s
F64A Sherman 37.76 29 P **P** **07 14 19.1 -3.4**
baz=222
F64A P **P** **07 14 19.1 -3.4**
baz=222
G08A Pilot Rock 37.81 330 P **P** **07 14 23.5 +0.3**
J04D Umpqua Nationa 38.04 325 P **P** **07 14 26.2 +1.0**
J04D IAmb IAmb 07 14 29.7
comp=Z,111nm,1.1s
J04D IAMs_20 IAMs_20 07 31 12.6
comp=Z,11µm,19.0s
J04D Umpqua Nationa 38.04 325 P **P** **07 14 25.7 +0.5**
baz=130,SNR=11
HUMO Hull Mountain 38.12 324 ⇑P **P** **07 14 26.4 +0.8**
E63A Oxbow 38.15 28 P **P** **07 14 23.5 -2.2**
baz=221
E63A P **P** **07 14 23.5 -2.2**
baz=221
L02E Cave Junction 38.22 322 P **P** **07 14 27.2 +0.7**
baz=127
E09A Wood Farm, Sta 38.33 332 P **P** **07 14 27.4 +0.1**
E09A IAmb IAmb 07 14 29.8
comp=Z,165nm,1.8s
I05D Terrebonne, OR 38.35 327 P **P** **07 14 28.6 +1.0**
baz=132,SNR=7.2
D62A Allapoint, All 38.37 27 P **P** **07 14 25.2 -2.4**
baz=220,SNR=5.5
D62A P **P** **07 14 25.2 -2.4**
baz=220,SNR=5.5
PQI Presque Isle 38.52 28 IAMs_20 IAMs_20 07 31 29.4
comp=Z,9µm,18.0s
I04A Tendick Farm, 38.57 325 P **P** **07 14 29.6 +0.1**
baz=130
K02D Willamette Mer 38.59 323 P **P** **07 14 30.1 +0.4**
baz=128
K02D S **S** **07 20 23.5 -0.8**
baz=128
WALA Waterton Lakes 38.62 338 P **P** **07 14 30.7 +0.8**
WALA IAmb IAmb 07 14 33.4
comp=Z,304nm,1.9s
WALA Waterton Lakes 38.62 338 ⇑P **P** **07 14 30.8 +0.9**
HAWA Hanford 38.89 331 P **P** **07 14 32.5 +0.5**
HAWA IAMs_20 IAMs_20 07 32 59.2
comp=Z,12µm,18.0s
G05D Wamic, OR 38.96 328 P **P** **07 14 33.5 +0.9**
baz=133,SNR=7.8
J01E Myrtle Point 39.03 324 IAmb IAmb 07 14 38.0
comp=Z,130nm,1.1s
J01E Myrtle Point 39.03 324 P **P** **07 14 34.5 +1.3**
baz=128
I03D Drain, OR 39.03 325 P **P** **07 14 34.0 +0.8**
baz=129
H04A Detroit Lake 39.03 327 P **P** **07 14 34.3 +1.0**
H04A IAmb IAmb 07 14 44.9
comp=Z,133nm,1.0s
D08A Wollman Farm, 39.09 332 P **P** **07 14 33.9 +0.2**
BUCK Buck Mountain 39.15 325 P **P** **07 14 35.0 +0.6**
BUCK IAmb IAmb 07 15 03.7
comp=Z,140nm,1.2s
LPAZ La Paz 39.19 140 P P 07 14 31.6 -4.0
comp=Z,4.6nm,0.6s,baz=322,slow=7.0,SNR=13
LPAZ LR LR 07 29 18.6
comp=Z,6µm,22.0s,baz=323,slow=34
LPAZ La Paz 39.19 140 ⇑P **P** **07 14 33.4 -2.1**
LPAZ La Paz 39.19 140 eP **P** **07 14 35.4 -0.1**
H04D Lebanon 39.22 326 P **P** **07 14 35.2 +0.3**
baz=131,SNR=7.6
NEW Newport 39.23 335 P **P** **07 14 35.2 +0.3**
comp=Z,12nm,0.7s,baz=148,slow=7.9,SNR=23
NEW LR LR 07 33 56.8
comp=Z,10µm,18.1s,baz=137,slow=41
NEW Newport 39.23 335 P **P** **07 14 35.2 +0.3**
NEW IAmb IAmb 07 14 37.5
comp=Z,171nm,1.9s
NEW Newport 39.23 335 IAMs_20 IAMs_20 07 32 53.3
comp=Z,11µm,18.0s
NEW Newport 39.23 335 P **P** **07 14 35.1 +0.3**
baz=141,SNR=19
C09A Chrisman Ranch 39.36 333 P **P** **07 14 36.6 +0.6**
C09A IAmb IAmb 07 14 52.0
comp=Z,158nm,1.4s
F05D White Salmon 39.47 329 P **P** **07 14 38.1 +1.2**
F05D IAMs_20 IAMs_20 07 33 10.2
comp=Z,8µm,18.0s
F05D White Salmon 39.47 329 P **P** **07 14 38.7 +1.8**
baz=134,SNR=9.9
F05D S **S** **07 20 39.0 +1.6**
baz=134
I02E Swisshome, OR 39.57 325 IAMs_20 IAMs_20 07 33 00.9
comp=Z,12µm,18.0s
I02E Swisshome, OR 39.57 325 P **P** **07 14 38.3 +0.5**
baz=129
COR Corvallis 39.57 326 P **P** **07 14 39.0 +1.3**
COR pmax pmax
comp=Z,261nm,1.5s
COR MLR MLR
comp=Z,10µm,18.0s
COR Corvallis 39.57 326 P **P** **07 14 39.0 +1.3**
COR IAmb IAmb 07 14 41.4
comp=Z,261nm,1.5s
COR Corvallis 39.57 326 IAMs_20 IAMs_20 07 31 29.0
comp=Z,10µm,18.0s
COR Corvallis 39.57 326 ⇑P **P** **07 14 39.6 +1.8**
BATG Bathurst New B 39.87 29 P **P** **07 14 38.3 -1.9**
G03D McMinnville, O 39.96 326 IAMs_20 IAMs_20 07 32 11.1
comp=Z,12µm,18.0s
G03D McMinnville, O 39.96 326 P **P** **07 14 41.8 +0.9**
baz=131
F04A Amboy 39.99 328 P **P** **07 14 41.4 +0.2**
F04A IAmb IAmb 07 15 05.6
comp=Z,198nm,2.0s
LTY Liberty 40.05 331 P **P** **07 14 42.5 +0.7**
LTY IAmb IAmb 07 14 45.2
comp=Z,249nm,1.8s
B08A Colville Reser 40.25 333 P **P** **07 14 43.4 0.0**
F04D Rainier, OR 40.40 328 P **P** **07 14 45.7 +1.1**
baz=132
F04D S **S** **07 20 55.6 +4.4**
baz=132
E04D Cinebar 40.49 329 IAMs_20 IAMs_20 07 32 33.1
comp=Z,10µm,20.0s
E04D Cinebar 40.49 329 P **P** **07 14 45.8 +0.5**
baz=133
E04D S **S** **07 20 57.2 +4.7**
baz=133
C06D Leavenworth 40.64 331 P **P** **07 14 47.6 +1.0**
baz=136
D05A Enumclaw 40.64 330 P **P** **07 14 47.2 +0.7**
MDP Montagnes des 40.91 99 LR LR 07 33 37.2
comp=Z,6µm,21.9s,baz=292,slow=39
E03A Lebam 40.99 328 P **P** **07 14 50.5 +1.0**
D04E Lakebay 41.02 329 P **P** **07 14 50.8 +1.2**
baz=133
PNT Penticton 41.09 334 ⇑P **P** **07 14 51.5 +1.2**
GO01 Chusmiza 41.19 144 P **P** **07 14 53.1 +1.2**
TA01 Diego Aracena 41.37 146 P **P** **07 14 53.0 +0.2**
TA01 IAmb IAmb 07 15 15.3
comp=Z,166nm,1.8s
D03D Eldon 41.42 329 P **P** **07 14 54.1 +1.1**
baz=133
D03D S **S** **07 21 07.4 +1.1**
baz=133
B05A Bryant 41.44 331 P **P** **07 14 53.0 -0.2**
baz=135
ITTB Itaituba 41.49 114 eP **P** **07 14 52.5 -1.5**
PB08 IPOC Station P 41.59 145 P **P** **07 14 56.0 +0.9**
NLWA Neilton Lookou 41.71 329 ⇓P **P** **07 14 57.7 +2.3**
MALB Monte Alegre 41.74 110 eP **P** **07 14 55.3 -0.8**
EDM Edmonton 41.98 342 P **P** **07 14 57.8 +0.2**
EDM pmax pmax
comp=Z,229nm,1.0s
EDM Edmonton 41.98 342 P **P** **07 14 57.8 +0.2**
A04D Lummi Island 42.05 331 P **P** **07 14 58.7 +0.6**
baz=134
PB01 IPOC Station P 42.13 146 P **P** **07 15 00.7 +1.5**
PGC Sidney 42.36 330 P **P** **07 15 02.1 +1.5**
PGC IAmb IAmb 07 15 04.0
comp=Z,132nm,1.4s
VILB Vilhena 42.42 128 eP **P** **07 15 01.2 -0.4**
PB09 IPOC Station P 42.87 146 P **P** **07 15 06.2 +0.9**
PB09 IAmb IAmb 07 15 12.0
comp=Z,136nm,1.7s
LLLB Lillooet 43.03 333 P **P** **07 15 06.6 +0.5**
LLLB IAmb IAmb 07 15 09.6
comp=Z,120nm,1.4s
NPGB Novo Progresso 43.09 117 eP **P** **07 15 05.2 -1.8**
MCPB Macapa, AP 43.20 106 eP **P** **07 15 07.0 -1.0**
PB06 IPOC Station P 43.44 148 P **P** **07 15 09.1 -0.8**
PB06 IAmb IAmb 07 15 16.1
comp=Z,158nm,1.9s
LVC Limon Verde 43.71 147 P **P** **07 15 12.8 +0.5**
comp=Z,3.8nm,0.7s,baz=292,slow=4.9,SNR=4.1
LVC LR LR 07 32 35.0
comp=Z,5µm,19.7s,baz=322,slow=35
LVC Limon Verde 43.71 147 P **P** **07 15 12.8 +0.5**
LVC Limon Verde 43.71 147 ⇑P P 07 15 18.7 +6.4
LVC Limon Verde 43.71 147 eP **P** **07 15 11.9 -0.4**
SIV San Ignacio 43.73 132 P **P** **07 15 11.7 -0.4**
comp=Z,24nm,0.8s,baz=305,slow=8.0,SNR=21
SIV LR LR 07 32 43.0
comp=Z,10µm,18.6s,baz=324,slow=35
RPN Rapa Nui 44.09 201 LR LR 07 29 19.0
comp=Z,6µm,18.0s,baz=42,slow=30
PDRB Porto dos Gac 44.35 124 eP **P** **07 15 15.1 -2.1**
FCC Fort Churchill 44.38 359 P **P** **07 15 15.4 -1.3**
FCC pmax pmax
comp=Z,33nm,0.7s
FCC Fort Churchill 44.38 359 P **P** **07 15 15.4 -1.3**
AF01 San Pedro de A 44.38 146 P **P** **07 15 18.6 +1.0**
AF01 IAmb IAmb 07 15 33.6
comp=Z,113nm,1.1s
CLDB Colider 44.70 122 eP **P** **07 15 18.1 -1.9**
PTLB Pontes e Lacer 44.78 130 eP **P** **07 15 19.9 -0.7**
SCHQ Schefferville 45.33 21 P **P** **07 15 22.1 -2.4**
comp=Z,9.3nm,0.7s,baz=236,slow=4.0,SNR=14
SCHQ PcP **PcP** **07 17 03.6 -0.1**
comp=Z,13nm,0.5s,baz=232,slow=4.5,SNR=14
SCHQ LR LR 07 35 33.6
comp=Z,17µm,19.1s,baz=213,slow=38
SCHQ Schefferville 45.33 21 P **P** **07 15 21.8 -2.6**
GO02 Mina Guanaco 45.47 149 P **P** **07 15 26.4 +0.2**
BBB Bella Bella 46.94 331 P **P** **07 15 40.4 +3.2**
comp=Z,18nm,0.9s,baz=102,slow=5.8,SNR=4.9
BBB LR LR 07 35 12.2
comp=Z,3µm,18.8s,baz=156,slow=36
AC06 Mina Casimiro 46.96 152 P **P** **07 15 38.1 +0.5**
AC06 IAmb IAmb 07 15 45.2
comp=Z,110nm,1.8s
AC02 Maricunga 47.09 150 P **P** **07 15 40.5 +1.2**
AC02 IAmb IAmb 07 15 46.8
comp=Z,72nm,1.2s
PRPB Parauapebas 47.57 112 eP **P** **07 15 43.1 +0.5**
TMAB Tom-Au,PA,Br 47.62 107 eP **P** **07 15 43.3 +0.3**
SALV Santo Antonio 47.66 128 eP **P** **07 15 42.4 -0.9**
GRNB Grenville Isla 48.87 332 P **P** **07 15 54.1 +2.0**
GRNB IAmb IAmb 07 15 56.5
comp=Z,58nm,1.2s
SNDB Serra Nova Dou 49.02 120 eP **P** **07 15 53.0 -0.8**
CO02 Combarbal 50.01 155 P **P** **07 16 01.6 +0.4**
CO02 IAmb IAmb 07 16 18.2
comp=Z,56nm,1.0s
YKA Yellowknife Ar 50.47 347 P **P** **07 16 04.0 -0.1**
comp=Z,84nm,0.6s,baz=153,slow=7.3,SNR=1658
YKA PcP **PcP** **07 17 22.0 +0.1**
comp=Z,7.7nm,0.7s,baz=150,slow=3.8,SNR=5.7
YKA ScP **ScP** **07 21 19.6 +3.3**
comp=Z,2.5nm,1.1s,baz=133,slow=2.7,SNR=3.5
YKA LR LR 07 43 10.5
comp=Z,3µm,18.1s,baz=159,slow=43
YKA PKPPKP **P'P'df** **07 46 50.3 -5.0**
comp=Z,0.6nm,1.0s,baz=3.9,slow=2.6,SNR=5.0
AQDB Aquidauana 50.50 132 P **P** **07 16 03.8 -1.1**
AQDB IAmb IAmb 07 16 26.6
comp=Z,116nm,1.9s
AQDB Aquidauana 50.50 132 eP **P** **07 16 03.7 -1.2**
SMTB Santa Maria do 50.73 114 eP **P** **07 16 06.0 -0.8**
VA06 Catapilco 51.09 156 P **P** **07 16 10.2 +1.1**
VA06 IAmb IAmb 07 16 56.1
comp=Z,91nm,1.5s
ZON Zonda 51.29 153 P **P** **07 16 11.4 +0.6**
ZON pmax pmax
comp=Z,55nm,1.3s
ZON Zonda 51.29 153 P **P** **07 16 11.4 +0.6**
CRAG Craig 51.32 332 P **P** **07 16 12.1 +1.5**
baz=127
ROSB Rosrio 51.51 106 eP **P** **07 16 11.9 -0.7**
WRAK Wrangell Islan 51.56 333 P **P** **07 16 14.0 +1.7**
baz=128
WRAK S **S** **07 23 36.1 +4.9**
baz=128
VA03 San Esteban 51.56 156 IAmb IAmb 07 16 19.6
comp=Z,60nm,1.1s
ROC1 El Roble 51.56 156 P **P** **07 16 12.2 -0.8**
PEXB Peixe 51.62 118 eP **P** **07 16 12.6 -0.8**
PEL Peldehue 51.84 156 IAMs_20 IAMs_20 07 32 55.4
comp=Z,6µm,21.0s
DLBC Dease Lake 51.92 336 LR LR 07 41 15.4
comp=Z,5µm,19.0s,baz=136,slow=40
DLBC Dease Lake 51.92 336 IAmb IAmb 07 16 19.8
comp=Z,124nm,1.1s
TAOE Nuku Hiva Isla 51.99 247 eS **S** **07 23 30.8 -7.7**
comp=Z,4µm,24.9s
TAOE eLR LR 07 31 09.9
comp=Z,7µm,25.6s,baz=60
TAOE Nuku Hiva Isla 51.99 247 eT T 08 12 02.9
comp=Z,93nm,0.2s
MT05 Renca 52.04 156 IAmb IAmb 07 16 23.1
comp=Z,104nm,1.2s
MT03 Universidad Ad 52.22 156 P **P** **07 16 18.3 +0.6**
MT03 IAmb IAmb 07 16 38.9
comp=Z,50nm,1.0s
MT01 Popeta 52.26 157 P **P** **07 16 18.4 +0.6**
FRB Frobisher Bay 52.27 14 LR LR 07 40 02.2
comp=Z,5µm,18.3s,baz=197,slow=38
FRB Frobisher Bay 52.27 14 ⇑P **P** **07 16 15.2 -2.3**
WTLY Watson Lake, Y 52.62 338 P **P** **07 16 21.6 +1.4**
baz=135
WTLY S **S** **07 23 49.0 +3.3**
baz=135
BO04 La Punta 52.62 156 P **P** **07 16 21.2 +0.7**
GO05 Huala 53.03 158 P **P** **07 16 24.9 +1.3**
SIT Sitka 53.25 333 P **P** **07 16 27.1 +2.2**
baz=126
WRGLY Wrigley 53.27 343 S **S** **07 23 56.4 +2.0**
baz=142
CPUP Villa Florida 53.35 139 P **P** **07 16 24.5 -1.5**
comp=Z,6.0nm,1.0s,baz=317,slow=7.8,SNR=7.4
CPUP LR LR 07 39 07.4
comp=Z,4µm,21.7s,baz=331,slow=36
CPUP Villa Florida 53.35 139 P **P** **07 16 24.5 -1.5**
CPUP Villa Florida 53.35 139 ⇓P **P** **07 16 24.9 -1.1**
TGTN Hyland Airport 53.45 340 P **P** **07 16 27.7 +1.4**
baz=136,SNR=29
TGTN S **S** **07 23 59.4 +2.3**
baz=136
JIS Juneau Island 53.57 334 P **P** **07 16 27.3 +0.1**
JIS IAmb IAmb 07 16 31.5
comp=Z,172nm,2.0s
JIS IAMs_20 IAMs_20 07 40 09.5
comp=Z,6µm,20.0s
BDFB Brasilia 53.63 122 P **P** **07 16 27.8 -0.7**
comp=Z,24nm,0.8s,baz=290,slow=9.1,SNR=13
BDFB LR LR 07 41 43.9
comp=Z,4µm,18.1s,baz=311,slow=39
BDFB Brasilia 53.63 122 P **P** **07 16 28.1 -0.4**
BDFB Brasilia 53.63 122 P **P** **07 16 28.1 -0.4**
ML02 Panimavida 53.89 158 P **P** **07 16 30.3 +0.5**
ML02 IAmb IAmb 07 16 53.4
comp=Z,68nm,1.1s
BESE Bessie Mountai 53.95 334 P **P** **07 16 31.5 +1.3**
BESE IAmb IAmb 07 16 34.2
comp=Z,108nm,1.6s
ITRB Iturama 54.00 128 eP **P** **07 16 30.1 -0.9**
BI05 Punta Hualpn 54.16 160 P **P** **07 16 32.4 +0.6**
BI05 IAmb IAmb 07 17 21.8
comp=Z,47nm,1.1s
PCMB Pacaembu 54.44 130 eP **P** **07 16 32.6 -1.5**
NBPS Pedro II - PI 54.53 106 eP **P** **07 16 34.3 -0.8**
SDBA SAO DESIDERIO 54.68 117 eP **P** **07 16 35.3 -0.8**
SKAG Skagway 54.68 335 P **P** **07 16 36.5 +1.2**
SKAG IAmb IAmb 07 17 06.6
comp=Z,79nm,1.7s
SKAG Skagway 54.68 335 P **P** **07 16 36.6 +1.3**
baz=127
IPMB Ipameri, GO 54.72 125 eP **P** **07 16 35.3 -1.0**
MMPY Sheldon Lake, 55.22 340 P **P** **07 16 40.6 +1.3**
baz=133,SNR=59
MMPY S **S** **07 24 25.4 +4.5**
baz=133
WHY Whitehorse 55.24 336 P **P** **07 16 40.1 +0.6**
WHY Whitehorse 55.24 336 P **P** **07 16 40.8 +1.3**
baz=128,SNR=8.4
WHY S **S** **07 24 25.6 +4.2**
baz=128
NBMO Morrinhos-CE 55.47 104 eP **P** **07 16 41.7 -0.1**
FARO Faro, Yukon 55.68 339 P **P** **07 16 43.3 +0.8**
baz=131,SNR=18
PTGB Pitanga 55.79 134 eP P 07 16 40.6 -3.3
M31M Drury Creek, Y 56.03 338 P **P** **07 16 46.4 +1.3**
M31M IAmb IAmb 07 16 48.7
comp=Z,151nm,1.8s
M31M IAMs_20 IAMs_20 07 43 28.2
comp=Z,6µm,19.0s
M31M Drury Creek, Y 56.03 338 P **P** **07 16 46.3 +1.3**
baz=130,SNR=15
N31M Braeburn, Yuko 56.10 337 P **P** **07 16 46.9 +1.3**
N31M IAmb IAmb 07 16 49.2
comp=Z,62nm,1.0s
N31M IAMs_20 IAMs_20 07 44 08.0
comp=Z,7µm,19.0s
N31M Braeburn, Yuko 56.10 337 P **P** **07 16 46.5 +0.9**
baz=128,SNR=16
ITQB Itaqui 56.16 141 P **P** **07 16 46.1 -0.3**
ITQB IAmb IAmb 07 16 51.1
comp=Z,63nm,1.1s
ITQB Itaqui 56.16 141 eP **P** **07 16 46.2 -0.1**
BB19B Bebedouro 56.18 128 eP **P** **07 16 46.0 -0.7**
HYT Haines Junctio 56.37 336 P **P** **07 16 48.9 +1.2**
HYT Haines Junctio 56.37 336 P **P** **07 16 49.3 +1.6**
baz=126,SNR=10
JANB Januaria 56.44 119 eP **P** **07 16 48.0 -0.7**
PNL Peninsula 56.50 334 P **P** **07 16 49.9 +1.4**
baz=123
LC01 Cunco 56.55 160 P **P** **07 16 49.0 0.0**
NBPB Pedra_Branca-C 56.67 107 eP **P** **07 16 50.3 -0.1**
FRTB Fartura 56.74 131 eP **P** **07 16 52.3 +1.6**
BCPM Bancas Point 56.76 334 IAMs_20 IAMs_20 07 44 41.6
comp=Z,7µm,18.0s
YUK6 Outpost Mounta 56.78 336 P **P** **07 16 52.6 +1.9**
baz=125,SNR=14
PCA Pinnacle 57.10 334 P **P** **07 16 53.4 +0.6**
PCA IAmb IAmb 07 17 02.6
comp=Z,80nm,1.0s
YUK4 Talbot Arm 57.13 336 P **P** **07 16 54.3 +1.2**
baz=125,SNR=10.0
M30M Minto, Yukon 57.14 338 P **P** **07 16 53.9 +0.9**
M30M IAmb IAmb 07 16 56.3
comp=Z,116nm,1.6s
M30M IAMs_20 IAMs_20 07 45 02.6
comp=Z,7µm,18.0s
M30M Minto, Yukon 57.14 338 P **P** **07 16 53.9 +0.9**
baz=127,SNR=28
M30M S **S** **07 24 50.2 +3.7**
baz=127
ITAB Concordia 57.36 136 eP **P** **07 16 55.2 +0.3**
NBCL Cascavel-CE 57.42 105 eP **P** **07 16 56.4 +0.8**
TABL Table Mountain 57.65 334 P **P** **07 16 58.3 +1.4**
TABL IAMs_20 IAMs_20 07 44 02.4
comp=Z,6µm,18.0s
RCLB Rio Claro- Sao 57.71 129 eP **P** **07 17 00.3 +2.7**
LOGN Logan Glacier 57.80 335 IAMs_20 IAMs_20 07 43 28.1
comp=Z,6µm,19.0s
CTGM Chitina Glacie 58.01 335 P **P** **07 17 00.4 +1.1**
CTGM IAMs_20 IAMs_20 07 45 07.8
comp=Z,5µm,18.0s
CTG Chitna Glacier 58.01 335 P **P** **07 17 00.8 +1.6**
baz=122,SNR=5.4
GRNC Granite Creek 58.06 334 P **P** **07 17 00.8 +1.0**
GRNC IAmb IAmb 07 17 04.3
comp=Z,80nm,1.0s
GRNC IAMs_20 IAMs_20 07 45 16.2
comp=Z,7µm,18.0s
YUK3 Moose Creek 58.09 336 P **P** **07 17 00.8 +0.9**
baz=123,SNR=14
YUK3 S **S** **07 25 02.4 +3.1**
baz=123
NBMA Muriti-CE 58.09 108 eP **P** **07 17 01.4 +1.0**
NBPN Ponto Novo - B 58.15 113 eP **P** **07 17 00.4 -0.4**
BARN Barnard Glacie 58.20 335 P **P** **07 17 00.4 -0.2**
BARN IAMs_20 IAMs_20 07 45 40.6
comp=Z,6µm,18.0s
LL04 Puerto Octay 58.21 162 P **P** **07 17 01.2 +0.5**
ISLE Juniper Island 58.24 334 P **P** **07 17 01.3 +0.5**
ISLE IAMs_20 IAMs_20 07 45 20.0
comp=Z,7µm,18.0s
SNH Sunshine Point 58.25 333 IAMs_20 IAMs_20 07 42 18.1
comp=Z,5µm,20.0s
TIJ01 Guaruva-PR 58.34 132 eP **P** **07 17 01.1 -0.9**
C36M Paulatuk 58.35 348 P **P** **07 17 00.9 -0.4**
C36M Paulatuk 58.35 348 P **P** **07 17 00.6 -0.7**
baz=144,SNR=11
C36M S **S** **07 25 04.6 +2.7**
baz=144
WAX Waxell Ridge 58.39 334 IAMs_20 IAMs_20 07 41 08.8
comp=Z,5µm,21.0s
VAO Valinhos 58.47 129 eP **P** **07 17 02.5 -0.5**
TGL Tana Glacier 58.53 334 P **P** **07 17 02.9 +0.1**
TGL IAmb IAmb 07 17 07.4
comp=Z,81nm,1.2s
TGL IAMs_20 IAMs_20 07 45 38.5
comp=Z,5µm,18.0s
DIAM Diamantina, MG 58.56 122 eP **P** **07 17 03.5 -0.2**
BVCY Beaver Creek 58.59 336 P **P** **07 17 04.2 +1.0**
baz=123,SNR=11
BVCY S **S** **07 25 06.7 +1.3**
baz=123
SUCK Suckling Hills 58.61 333 IAMs_20 IAMs_20 07 40 47.6
comp=Z,5µm,19.0s
CPSB Cacapava Do Su 58.63 140 eP **P** **07 17 03.0 -0.8**
PLCA Paso Flores 58.64 160 P **P** **07 17 03.4 -0.4**
comp=Z,4.6nm,0.7s,baz=318,slow=6.9,SNR=11

PLCA LR LR 07 37 35.3
comp=Z,5µm,18.1s,baz=1.5,slow=31
PLCA Paso Flores 58.64 160 *e*P **P 07 17 03.7 -0.1**
PLCA Paso Flores 58.64 160 P **P 07 17 03.7 -0.1**
PLCA Paso Flores 58.64 160 ⇓P **P 07 17 04.3 +0.5**
PLCA Paso Flores 58.64 160 *e*P **P 07 17 04.0 +0.2**
BERG Berg Lake 58.73 333 IAMs_20 IAMs_20 07 43 31.8
comp=Z,5µm,18.0s
J29M Klondike Camp 58.78 339 P **P 07 17 04.9 +0.4**
baz=127,SNR=7.9
KAIM Kayak Island 58.82 333 P **P 07 17 04.1 -0.6**
baz=118
MCARA McCarthy VSAT 58.93 335 P **P 07 17 06.2 +0.7**
MCARA McCarthy VSAT 58.93 335 P **P 07 17 07.2 +1.8**
baz=120,SNR=15
HMT Hamilton 58.95 333 IAMs_20 IAMs_20 07 43 26.5
comp=Z,5µm,18.0s
M27K Edge Creek, AK 58.97 336 P **P 07 17 07.2 +1.3**
M27K Edge Creek, AK 58.97 336 P **P 07 17 07.3 +1.4**
baz=122,SNR=13
M27K S **S 07 25 14.8 +4.4**
baz=122
DAWY Dawson 58.97 338 P **P 07 17 05.8 0.0**
DAWY IAmb IAmb 07 17 26.1
comp=Z,69nm,1.7s
DAWY Dawson 58.97 338 ⇑P **P 07 17 05.7 0.0**
DAWY Dawson 58.97 338 P **P 07 17 05.9 +0.1**
baz=125,SNR=16
PET01 Itanhaem-SP 58.98 130 *e*P **P 07 17 06.8 +0.4**
VRDI Verde Repeater 59.03 334 P **P 07 17 07.3 +0.9**
VRDI IAmb IAmb 07 17 10.1
comp=Z,64nm,1.2s
VRDI IAMs_20 IAMs_20 07 47 11.7
comp=Z,6µm,18.0s
BSCB Bom Sucesso 59.06 125 *e*P **P 07 17 07.5 +0.4**
RAGM Ragged Mountai 59.15 333 P **P 07 17 09.3 +2.2**
RAGM IAMs_20 IAMs_20 07 42 29.0
comp=Z,5µm,20.0s
GLB Gilahina Butte 59.29 334 P **P 07 17 09.6 +1.6**
GLB IAmb IAmb 07 17 21.6
comp=Z,114nm,1.5s
GLB IAMs_20 IAMs_20 07 47 29.5
comp=Z,6µm,18.0s
BCAR Beaver Creek A 59.30 337 P **P 07 17 09.1 +1.0**
L27K Beaver Creek, 59.32 337 P **P 07 17 08.1 -0.1**
L27K IAMs_20 IAMs_20 07 45 04.5
comp=Z,7µm,19.0s
L27K Beaver Creek, 59.32 337 P **P 07 17 08.5 +0.3**
baz=122,SNR=32
L27K S **S 07 25 19.0 +4.1**
baz=122
I29M Ogilvie Camp, 59.36 340 P **P 07 17 08.3 -0.1**
I29M IAmb IAmb 07 17 10.8
comp=Z,58nm,1.2s
I29M IAMs_20 IAMs_20 07 46 31.1
comp=Z,5µm,18.0s
I29M Ogilvie Camp, 59.36 340 P **P 07 17 08.5 0.0**
baz=127,SNR=21
I29M S **S 07 25 19.3 +4.0**
baz=127
BMRM Bremner River 59.39 334 P **P 07 17 10.5 +1.8**
BMRM IAMs_20 IAMs_20 07 44 55.4
comp=Z,4µm,19.0s
BMRM Bremner River 59.39 334 P **P 07 17 10.0 +1.2**
baz=118,SNR=8.8
BMRM S **S 07 25 21.6 +5.7**
baz=118
M26K Nabesna, AK 59.43 336 P **P 07 17 10.2 +1.2**
M26K IAMs_20 IAMs_20 07 46 40.3
comp=Z,5µm,19.0s
M26K Nabesna, AK 59.43 336 P **P 07 17 09.8 +0.8**
baz=121,SNR=17
M26K S **S 07 25 21.9 +5.5**
baz=121
Q23K Middleton Isla 59.47 332 P **P 07 17 10.6 +1.4**
baz=116
PLTB Pedras Altas 59.47 141 *e*P **P 07 17 10.4 +0.7**
SFJD Kangerlussuaq 59.56 18 LR LR 07 44 29.3
comp=Z,17µm,18.5s,baz=223,slow=38
PARB Paraibuna 59.68 128 *e*P **P 07 17 12.9 +1.6**
N25K Chitina, Valde 59.70 334 P **P 07 17 12.5 +1.6**
N25K IAmb IAmb 07 17 22.4
comp=Z,76nm,1.1s
N25K IAMs_20 IAMs_20 07 47 33.3
comp=Z,5µm,18.0s
N25K Chitina, Valde 59.70 334 P **P 07 17 12.4 +1.5**
baz=118,SNR=20
N25K S **S 07 25 24.1 +4.3**
baz=118
EYAK Cordova Ski Ar 59.70 333 P **P 07 17 12.1 +1.4**
EYAK Cordova Ski Ar 59.70 333 P **P 07 17 12.6 +1.9**
baz=117
INK Inuvik 59.83 344 LR LR 07 47 23.1
comp=Z,5µm,18.5s,baz=134,slow=40
INK Inuvik 59.83 344 P **P 07 17 12.0 +0.5**
INK pmax pmax
comp=Z,100nm,1.2s
INK Inuvik 59.83 344 P **P 07 17 12.0 +0.5**
INK Inuvik 59.83 344 ⇑P **P 07 17 11.9 +0.4**
INK Inuvik 59.83 344 P **P 07 17 11.6 +0.1**
baz=133,SNR=71
INK S **S 07 25 21.2 +0.1**
baz=133
L26K Log Cabin Wild 59.89 336 P **P 07 17 13.1 +0.9**
L26K IAmb IAmb 07 17 15.6
comp=Z,81nm,1.4s
L26K Log Cabin Wild 59.89 336 P **P 07 17 12.8 +0.7**
baz=120
L26K S **S 07 25 24.2 +2.0**
baz=120
GDU01 Guandu, BA 59.91 115 *e*P **P 07 17 12.5 -0.4**
DIV Divide 59.97 334 P **P 07 17 14.2 +1.4**
MENT Mentasta 59.99 336 P **P 07 17 13.9 +1.0**
MENT IAmb IAmb 07 17 16.1
comp=Z,93nm,1.5s
EGAK Eagle 60.01 338 P **P 07 17 12.9 +0.1**
EGAK IAmb IAmb 07 17 15.2
comp=Z,42nm,1.0s
EGAK IAMs_20 IAMs_20 07 45 53.3
comp=Z,5µm,18.0s
EGAK Eagle 60.01 338 P **P 07 17 12.5 -0.4**
baz=124,SNR=27
FID Port Fidalgo 60.11 333 P **P 07 17 15.4 +1.8**
FID IAMs_20 IAMs_20 07 47 05.5
comp=Z,5µm,18.0s
KLU Klutina 60.20 334 P **P 07 17 14.3 0.0**
KLU IAMs_20 IAMs_20 07 45 21.1
comp=Z,4µm,20.0s
KLU Klutina 60.20 334 P **P 07 17 15.6 +1.2**
baz=117,SNR=16
KLU S **S 07 25 28.0 +1.7**
baz=117
RCBR Riachuelo 60.21 105 LR LR 07 44 12.6
comp=Z,6µm,21.2s,baz=86,slow=37
RCBR Riachuelo 60.21 105 P **P 07 17 15.5 +0.4**
RCBR pmax pmax
comp=Z,69nm,0.8s
RCBR MLR MLR
comp=Z,6µm,21.0s
RCBR Riachuelo 60.21 105 P **P 07 17 15.5 +0.4**
RCBR Riachuelo 60.21 105 IAMs_20 IAMs_20 07 43 51.3
comp=Z,6µm,21.0s
RCBR Riachuelo 60.21 105 ⇑P **P 07 17 15.4 +0.4**
RCBR Riachuelo 60.21 105 *e*P **P 07 17 15.5 +0.4**
TER01 Tubaro-SC 60.23 135 *e*P **P 07 17 16.2 +1.3**
HARP HAARP 60.31 335 P **P 07 17 16.0 +1.0**
baz=118,SNR=14
NBLA Lagarto - SE 60.37 112 *e*P **P 07 17 15.9 -0.2**
RES Resolute Bay 60.38 359 P **P 07 17 14.5 -0.7**
comp=Z,40nm,0.7s,baz=179,slow=8.8,SNR=139
RES LR LR 07 46 18.2
comp=Z,5µm,20.9s,baz=174,slow=39
RES Resolute Bay 60.38 359 P **P 07 17 14.7 -0.5**
RES pmax pmax
comp=Z,242nm,1.6s
RES Resolute Bay 60.38 359 P **P 07 17 14.7 -0.5**
RES Resolute Bay 60.38 359 ⇑P **P 07 17 14.2 -0.9**
ESAR Angra dos Reis 60.41 127 *e*P **P 07 17 17.1 +0.8**
GLI Glacier Island 60.44 333 IAMs_20 IAMs_20 07 42 52.0
comp=Z,4µm,20.0s
GLI Glacier Island 60.44 333 P **P 07 17 16.3 +0.5**
baz=116
GLI S **S 07 25 33.5 +4.3**
baz=116
DOT Dot Lake 60.49 337 P **P 07 17 16.5 +0.4**
DOT IAmb IAmb 07 17 19.5
comp=Z,65nm,0.9s
M24K Tolsona, Glenn 60.59 334 P **P 07 17 18.5 +1.5**
M24K IAMs_20 IAMs_20 07 47 53.3
comp=Z,4µm,19.0s
M24K Tolsona, Glenn 60.59 334 P **P 07 17 18.3 +1.4**
baz=117,SNR=13
M24K S **S 07 25 35.4 +4.1**
baz=117
DY2G Dye2 60.60 20 *i* P P 07 17 11.4 -5.7
DY2G IAmb IAmb 07 17 15.7
comp=Z,6.6nm,0.6s
SCRK Sand Creek 60.62 337 P **P 07 17 18.1 +0.8**
SCRK IAMs_20 IAMs_20 07 45 55.7
comp=Z,7µm,20.0s
SCRK Sand Creek 60.62 337 P **P 07 17 17.8 +0.6**
baz=120,SNR=25
SCRK S **S 07 25 36.9 +5.1**
baz=120
CMC01 Camacan, BA 60.67 117 *e*P **P 07 17 18.3 +0.1**
MAN01 Angra dos Reis 60.70 127 *e*P **P 07 17 19.4 +1.1**
PAX Paxson 60.71 336 IAmb IAmb 07 17 28.2
comp=Z,95nm,1.3s
PAX Paxson 60.71 336 P **P 07 17 18.3 +0.5**
baz=118,SNR=39
PAX S **S 07 25 32.8 0.0**
baz=118
A36M Sachs Harbour 60.73 349 P **P 07 17 17.4 -0.2**
A36M IAMs_20 IAMs_20 07 48 16.7
comp=Z,5µm,18.0s
A36M Sachs Harbour 60.73 349 P **P 07 17 17.5 -0.2**
baz=144,SNR=30
A36M S **S 07 25 35.8 +3.3**
baz=144
J26L Joseph Creek 60.73 338 P **P 07 17 19.3 +1.4**
baz=121,SNR=54
J26L S **S 07 25 35.1 +2.0**
baz=121
SJMB Sao Joao De Ma 60.81 121 *e*P **P 07 17 18.9 -0.1**
RIDG Independent Ri 60.84 336 P **P 07 17 19.4 +0.8**
RIDG Independent Ri 60.84 336 P **P 07 17 19.7 +1.1**
baz=119,SNR=41
RIDG S **S 07 25 37.9 +3.5**
baz=119
SCM Sheep Creek Mo 60.96 334 P **P 07 17 20.2 +0.7**
SCM pmax pmax
comp=Z,50nm,0.8s
SCM MLR MLR
comp=Z,4µm,18.0s
SCM Sheep Creek Mo 60.96 334 P **P 07 17 20.2 +0.7**
SCM IAmb IAmb 07 17 24.5
comp=Z,50nm,0.8s
SCM IAMs_20 IAMs_20 07 45 43.7
comp=Z,4µm,18.0s
SCM Sheep Creek Mo 60.96 334 P **P 07 17 20.2 +0.7**
baz=116,SNR=5.5
GUA01 Guaratinga, BA 60.98 118 *e*P **P 07 17 20.4 +0.2**
NBPV Pedro Velho 60.98 106 *e*P **P 07 17 20.4 +0.1**
PWL Port Wells 60.98 333 IAMs_20 IAMs_20 07 47 41.3
comp=Z,4µm,18.0s
PWL Port Wells 60.98 333 P **P 07 17 19.7 +0.1**
baz=114
M23K Glacier View 61.11 334 P **P 07 17 21.0 +0.5**
baz=116,SNR=17
M23K S **S 07 25 41.4 +3.6**
baz=116
SEW Seward 61.18 332 P **P 07 17 21.4 +0.5**
baz=113
K24K Donnelly Dome 61.23 336 P **P 07 17 21.9 +0.7**
baz=118,SNR=33
K24K S **S 07 25 43.1 +3.8**
baz=118
KNK Knik Glacier 61.26 333 P **P 07 17 22.9 +1.4**
KNK Knik Glacier 61.26 333 P **P 07 17 22.0 +0.5**
baz=115,SNR=8.7
KNK S **S 07 25 43.8 +4.0**
baz=115
NAN01 Guarapari, ES 61.28 120 *e*P **P 07 17 22.2 -0.1**
AY01 Puyuhuapi 61.37 163 P **P 07 17 23.0 +0.8**
AY01 IAmb IAmb 07 17 27.6
comp=Z,124nm,1.9s
SML Sawmill 61.38 334 P **P 07 17 22.8 +0.5**
baz=115,SNR=14
SML S **S 07 25 43.7 +2.4**
baz=115
O22K Cooper Landing 61.45 332 IAMs_20 IAMs_20 07 43 09.9
comp=Z,4µm,19.0s
O22K Cooper Landing 61.45 332 P **P 07 17 23.0 +0.3**
baz=113
WAT6 Susitna Watana 61.46 335 P **P 07 17 23.5 +0.5**
baz=116,SNR=40
WAT6 S **S 07 25 42.9 +0.4**
baz=116
J25K Salcha River, 61.47 337 P **P 07 17 23.6 +0.7**
J25K IAMs_20 IAMs_20 07 47 01.9
comp=Z,6µm,18.0s
J25K Salcha River, 61.47 337 P **P 07 17 23.5 +0.7**
baz=119,SNR=24
J25K S **S 07 25 46.0 +3.6**
baz=119
PMOR Pomariorio Ree 61.47 244 *e*T T 08 23 54.7
comp=Z,8.4nm,0.2s
DHY Denali Highway 61.53 335 P **P 07 17 23.6 +0.2**
DHY IAMs_20 IAMs_20 07 47 29.7
comp=Z,4µm,18.0s
DHY Denali Highway 61.53 335 P **P 07 17 23.5 +0.1**
baz=116,SNR=9.1
DUB01 Friburgo-RJ 61.53 125 *e*P **P 07 17 24.6 +0.7**
GHO Glory Hole Cre 61.62 333 P **P 07 17 24.9 +0.9**
GHO IAMs_20 IAMs_20 07 47 30.2
comp=Z,4µm,18.0s
PMR Palmer 61.63 333 P **P 07 17 24.7 +0.8**
PMR pmax pmax
comp=Z,90nm,1.3s
PMR Palmer 61.63 333 P **P 07 17 24.7 +0.8**
PMR IAmb IAmb 07 17 26.9
comp=Z,90nm,1.3s
PMR Palmer 61.63 333 P **P 07 17 24.4 +0.5**
baz=114,SNR=12
PMR S **S 07 25 45.8 +1.5**
baz=114
BRSE Bradley Lake S 61.64 331 P **P 07 17 24.8 +0.8**
baz=112
RC01 Rabbit Creek A 61.70 333 P **P 07 17 24.9 +0.6**
RC01 IAMs_20 IAMs_20 07 44 17.4
comp=Z,4µm,18.0s
RC01 Rabbit Creek A 61.70 333 P **P 07 17 25.0 +0.6**
baz=113,SNR=9.0
BRLK Bradley Lake 61.72 331 P **P 07 17 25.7 +1.1**
BRLK IAMs_20 IAMs_20 07 44 10.2
comp=Z,4µm,18.0s
RIB01 Linhares ES 61.76 121 *e*P **P 07 17 25.3 -0.1**
CNPM China Poot 61.80 331 IAmb IAmb 07 17 29.2
comp=Z,77nm,1.2s
CNPM IAMs_20 IAMs_20 07 44 12.2
comp=Z,4µm,18.0s
KDAK Kodiak Island 61.87 328 P **P 07 17 26.3 +0.8**
comp=Z,24nm,0.9s,baz=156,slow=3.8,SNR=11
KDAK Kodiak Island 61.87 328‖ *e*P **P 07 17 27.1 +1.6**
KDAK pmax pmax
comp=Z,103nm,1.5s
KDAK Kodiak Island 61.87 328 IAMs_20 IAMs_20 07 46 36.1
comp=Z,4µm,18.0s
KDAK Kodiak Island 61.87 328 IAmb IAmb 07 17 45.9
comp=Z,71nm,1.2s
KDAK Kodiak Island 61.87 328 P **P 07 17 26.3 +0.8**
baz=109
WAT1 Susitna Watana 61.90 335 P **P 07 17 26.2 +0.4**
baz=115
WAT1 S **S 07 25 50.6 +2.7**
baz=115
NBRF Rio Formoso - 61.92 108 *e*P **P 07 17 27.0 +0.3**
FIS Fire Island 61.93 333 IAMs_20 IAMs_20 07 44 23.6
comp=Z,5µm,20.0s
CAM01 Campos-RJ 61.97 125 *e*P **P 07 17 27.4 +0.6**
NUUG Nuugaatsiaq 61.99 13 *i* P P 07 17 21.3 -4.8
NUUG IAmb IAmb 07 17 28.8
comp=Z,12nm,0.9s
NUUG IVmB_BB 07 17 29.1
comp=Z,864nm,7.7s
HOM Homer 62.04 331 P **P 07 17 28.0 +1.3**
baz=111
OHAK Old Harbor 62.05 328 P **P 07 17 27.5 +0.7**
baz=108
IL31 62.11 337 P **P 07 17 27.2 +0.2**
ILAR Eielson Array 62.11 337 P **P 07 17 27.2 +0.1**
comp=Z,19nm,0.8s,baz=165,slow=4.5,SNR=205
ILAR LR LR 07 46 50.8
comp=Z,6µm,18.6s,baz=158,slow=38
ILAR Eielson Array 62.11 337 P **P 07 17 27.5 +0.4**
ILAR Eielson Array 62.11 337 P **P 07 17 27.5 +0.4**
ALF01 Guarapari-ES 62.12 123 *e*P **P 07 17 28.1 +0.3**
M22K Willow 62.13 333 P **P 07 17 27.9 +0.6**
M22K Willow 62.13 333 P **P 07 17 27.8 +0.6**
baz=113,SNR=9.6
M22K S **S 07 25 52.6 +2.0**
baz=113
CAPN Captain Cook N 62.21 332 P **P 07 17 29.9 +2.1**
baz=112
RND Reindeer 62.27 335 P **P 07 17 29.1 +0.8**
RND pmax pmax
comp=Z,192nm,1.0s
RND MLR MLR
comp=Z,5µm,19.0s
RND Reindeer 62.27 335 P **P 07 17 29.1 +0.8**
RND IAMs_20 IAMs_20 07 46 46.5
comp=Z,5µm,19.0s
SII Sitkinak Islan 62.32 327 IAMs_20 IAMs_20 07 40 59.6
comp=Z,4µm,22.0s
SII Sitkinak Islan 62.32 327 P **P 07 17 28.6 -0.1**
baz=107
WRH Wood River Hil 62.44 336 P **P 07 17 28.9 -0.4**
WRH IAMs_20 IAMs_20 07 49 17.6
comp=Z,6µm,18.0s
MCK McKinley 62.45 335 P **P 07 17 29.9 +0.5**
MCK pmax pmax
comp=Z,110nm,1.2s
MCK MLR MLR
comp=Z,6µm,18.0s
MCK McKinley 62.45 335 P **P 07 17 29.9 +0.5**
MCK IAMs_20 IAMs_20 07 49 15.0
comp=Z,6µm,18.0s
MCK McKinley 62.45 335 P **P 07 17 30.1 +0.7**
baz=115,SNR=33
MCK S **S 07 25 56.4 +1.7**
baz=115
CUT Chulitna 62.45 334 P **P 07 17 29.7 +0.3**
CUT IAMs_20 IAMs_20 07 46 17.1
comp=Z,4µm,21.0s
CUT Chulitna 62.45 334 P **P 07 17 30.0 +0.6**
baz=113,SNR=11
POKR Poker Plat Res 62.48 337 P **P 07 17 30.1 +0.4**
POKR IAmb IAmb 07 17 32.4
comp=Z,63nm,1.1s
POKR IAMs_20 IAMs_20 07 46 42.7
comp=Z,5µm,20.0s
POKR Poker Plat Res 62.48 337 P **P 07 17 30.3 +0.7**
baz=117,SNR=15
POKR S **S 07 25 54.9 -0.2**
baz=117
COLA College 62.53 337 *ce*P **P 07 17 29.9 +0.1**
COLA pmax pmax
comp=Z,26nm,1.0s
COLA College 62.53 337 P **P 07 17 29.9 +0.1**
COLA IAmb IAmb 07 17 39.6
comp=Z,51nm,1.0s
COLA College 62.53 337 IAMs_20 IAMs_20 07 47 00.1
comp=Z,5µm,19.0s
COLA College 62.53 337 ⇑P **P 07 17 29.8 +0.1**
COLA College 62.53 337 P **P 07 17 30.0 +0.1**
baz=117
COLA S **S 07 25 56.5 +1.0**
baz=117
TCOL CIGO, UAF Yank 62.53 337 P **P 07 17 29.9 +0.1**
TCOL IAmb IAmb 07 17 39.6
comp=Z,47nm,0.9s
TCOL IAMs_20 IAMs_20 07 47 01.1
comp=Z,5µm,19.0s
TCOL CIGO, UAF Yank 62.53 337 P **P 07 17 30.1 +0.2**
baz=117,SNR=14
TCOL S **S 07 25 57.4 +1.8**
baz=117
COYC Coyhaique 62.58 163 P **P 07 17 30.4 0.0**
COYC IAmb IAmb 07 17 40.0
comp=Z,53nm,1.2s
COYC Coyhaique 62.58 163 IAMs_20 IAMs_20 07 38 18.9
comp=Z,6µm,20.0s
COYC Coyhaique 62.58 163 ⇓P **P 07 17 30.9 +0.4**
BMAR Burnt Mountain 62.62 340 P **P 07 17 31.5 +1.0**
O20K Slope Mountain 62.65 331 P **P 07 17 31.6 +0.7**
baz=110
O20K S **S 07 26 01.1 +3.7**
baz=110
MDM Murphy Dome 62.71 337 P **P 07 17 31.2 0.0**
MDM IAmb IAmb 07 18 38.4
comp=Z,59nm,1.4s
MDM IAMs_20 IAMs_20 07 48 29.1
comp=Z,5µm,18.0s
Q19K Cape Douglas, 62.76 329 P **P 07 17 32.3 +0.7**
baz=108
P19K Oil Pt 62.80 330 P **P 07 17 32.4 +0.5**
P19K Oil Pt 62.80 330 P **P 07 17 32.1 +0.3**
baz=109
RSO Redoubt South 62.84 331 P **P 07 17 32.9 +0.6**
BWN Browne 62.85 336 P **P 07 17 32.4 +0.4**
BWN IAMs_20 IAMs_20 07 47 11.8
comp=Z,4µm,19.0s
NEA2 Nenana 62.87 336 IAmb IAmb 07 17 34.7
comp=Z,92nm,1.6s
NEA2 IAMs_20 IAMs_20 07 48 22.1
comp=Z,5µm,18.0s
NEA2 Nenana 62.87 336 P **P 07 17 32.3 +0.1**
baz=116
NEA2 S **S 07 26 00.5 +0.5**
baz=116
TRF Thorofare Moun 62.88 335 P **P 07 17 33.0 +0.5**
TRF IAMs_20 IAMs_20 07 43 40.4
comp=Z,4µm,21.0s
TRF Thorofare Moun 62.88 335 P **P 07 17 33.0 +0.5**
baz=114,SNR=31
TRF S **S 07 26 02.7 +2.2**
baz=114
CHIR Chirikof Islan 62.89 326 P **P 07 17 32.9 +0.4**
baz=105
H24K Noodor Dome 62.98 338 P **P 07 17 33.5 +0.5**
H24K IAmb IAmb 07 17 36.6
comp=Z,83nm,1.2s
H24K Noodor Dome 62.98 338 P **P 07 17 33.6 +0.7**
baz=117,SNR=45
H24K S **S 07 26 04.6 +3.2**
baz=117
ANGG Ammassalik, Gr 63.17 23 *i* P **P 07 17 30.8 -3.3**
ANGG IAmb IAmb 07 17 32.6
comp=Z,10nm,0.6s
ANGG IVmB_BB 07 18 12.6
comp=Z,794nm,3.4s
KTH Kantishna Hill 63.18 335 P **P 07 17 34.7 +0.3**
KTH IAMs_20 IAMs_20 07 43 59.4
comp=Z,4µm,21.0s
I23K Minto, Yukon-K 63.22 337 P **P 07 17 35.2 +0.7**
I23K IAMs_20 IAMs_20 07 48 44.7
comp=Z,4µm,19.0s
I23K Minto, Yukon-K 63.22 337 P **P 07 17 35.1 +0.7**
baz=116
I23K S **S 07 26 06.2 +1.9**
baz=116
BPAW Bear Paw Mtn. 63.42 335 P **P 07 17 36.2 +0.3**
BPAW IAMs_20 IAMs_20 07 47 31.8
comp=Z,6µm,18.0s
BPAW Bear Paw Mtn. 63.42 335 P **P 07 17 36.2 +0.3**
baz=113,SNR=34
BPAW S **S 07 26 08.4 +1.5**
baz=113
PPLA Purkeypile 63.46 334 P **P 07 17 36.7 +0.4**
PPLA Purkeypile 63.46 334 P **P 07 17 36.4 +0.1**
baz=112,SNR=13
PPLA S **S 07 26 10.3 +2.7**
baz=112
O19K Port Alsworth 63.49 331 P **P 07 17 36.5 +0.2**
O19K IAmb IAmb 07 17 38.8
comp=Z,100nm,1.4s
O19K Port Alsworth 63.49 331 P **P 07 17 36.3 0.0**
baz=108
O19K S **S 07 26 11.0 +3.2**
baz=108
TULEG Thule 63.53 6 P **P 07 17 36.3 0.0**
TULEG IAmb IAmb 07 17 38.4
comp=Z,40nm,1.0s
TULEG Thule 63.53 6 *i* P **P 07 17 33.8 -2.6**
TULEG IVmB_BB 07 17 36.6
comp=Z,2µm,3.6s
TULEG IAmb IAmb 07 17 46.2
comp=Z,13nm,0.7s
TULEG Thule 63.53 6 ⇑P **P 07 17 36.2 -0.1**
H23K Yukon River 63.59 337 P **P 07 17 37.2 +0.2**

H23K IAmb IAmb 07 17 39.7
comp=Z,117nm,1.7s
H23K IAMs_20 IAMs_20 07 47 27.9
comp=Z,5μm,20.0s
H23K Yukon River 63.59 337 P **P** **07 17 37.4 +0.4**
baz=116,SNR=16
H23K S **S** **07 26 12.0 +3.1**
baz=116
CAST Castle Rocks 63.61 335 P **P** **07 17 37.1 -0.1**
CAST Castle Rocks 63.61 335 P **P** **07 17 37.1 -0.1**
baz=112,SNR=52
CAST S **S** **07 26 10.0 +0.8**
baz=112
P18K Big Mountain, 63.68 330 P **P** **07 17 38.0 +0.3**
P18K IAmb IAmb 07 17 41.1
comp=Z,85nm,1.4s
P18K Big Mountain, 63.68 330 P **P** **07 17 37.7 0.0**
baz=107
P18K S **S** **07 26 11.8 +1.5**
baz=107
N19K Bonanza Creek 63.76 331 P **P** **07 17 38.3 0.0**
baz=108,SNR=16
N19K S **S** **07 26 14.5 +3.1**
baz=108
O18K Koktuh Hills 63.81 330 P **P** **07 17 38.9 +0.4**
O18K IAMs_20 IAMs_20 07 45 41.7
comp=Z,3μm,18.0s
O18K Koktuh Hills 63.81 330 P **P** **07 17 38.8 +0.3**
baz=107
O18K S **S** **07 26 13.9 +2.1**
baz=107
CHUM Lake Minchumin 63.88 335 P **P** **07 17 39.0 +0.1**
baz=112,SNR=18
CHUM S **S** **07 26 13.1 +0.6**
baz=112
L20K Farewell, AK 64.04 333 P **P** **07 17 40.1 +0.1**
baz=110,SNR=39
L20K S **S** **07 26 13.3 -1.3**
baz=110
PPT Papeete 64.04 242 LR LR 07 38 38.4
comp=Z,3μm,18.6s,baz=69,slow=29
PPT2 Papeete2 64.05 242 *e*S **S** **07 26 08.9 -7.2**
comp=Z,7μm,31.5s
PPT2 *e*LQ LQ 07 34 10.5
comp=Z,4μm,31.5s
PPT2 *e*LR LR 07 36 34.0
comp=Z,7μm,27.0s,baz=60
M19K Big River Lodg 64.07 333 P **P** **07 17 40.8 +0.6**
M19K IAMs_20 IAMs_20 07 49 10.5
comp=Z,3μm,18.0s
M19K Big River Lodg 64.07 333 P **P** **07 17 40.8 +0.6**
baz=109
M19K S **S** **07 26 16.5 +1.5**
baz=109
ICESG Greenland Ices 64.14 19 *i*P P 07 17 36.4 -4.5
ICESG IAmb IAmb 07 17 40.3
comp=Z,25nm,0.8s
I21K Tanana 64.25 336 IAMs_20 IAMs_20 07 49 21.5
comp=Z,4μm,20.0s
I21K Tanana 64.25 336 P **P** **07 17 41.5 +0.3**
baz=113,SNR=17
I21K S **S** **07 26 19.7 +2.7**
baz=113
SVW2 Sparrevohn 64.36 331 P **P** **07 17 42.0 -0.1**
SVW2 IAmb IAmb 07 17 44.3
comp=Z,78nm,1.4s
L19K White Mountain 64.37 333 P **P** **07 17 42.2 0.0**
L19K IAmb IAmb 07 17 44.6
comp=Z,99nm,1.6s
L19K IAMs_20 IAMs_20 07 49 29.3
comp=Z,4μm,18.0s
L19K White Mountain 64.37 333 P **P** **07 17 42.2 0.0**
baz=109,SNR=10
L19K S **S** **07 26 21.0 +2.3**
baz=109
N18K Kilae Creek 64.38 331 P **P** **07 17 42.3 0.0**
baz=107,SNR=10
N18K S **S** **07 26 21.1 +2.2**
baz=107
K20K Telida 64.42 334 P **P** **07 17 42.5 0.0**
K20K Telida 64.42 334 P **P** **07 17 42.6 0.0**
baz=110,SNR=49
K20K S **S** **07 26 20.0 +0.7**
baz=110
COLD Coldfoot 64.43 339 P **P** **07 17 42.6 +0.2**
COLD Coldfoot 64.43 339 P **P** **07 17 43.8 +1.3**
baz=116,SNR=33
COLD S **S** **07 26 22.2 +2.9**
baz=116
J20K Nowinta River 64.74 335 IAMs_20 IAMs_20 07 50 46.6
comp=Z,3μm,19.0s
J20K Nowinta River 64.74 335 P **P** **07 17 44.8 +0.3**
baz=110,SNR=25
J20K S **S** **07 26 23.0 -0.2**
baz=110
H21K Melozitna Rive 64.75 337 IAMs_20 IAMs_20 07 50 55.7
comp=Z,5μm,18.0s
H21K Melozitna Rive 64.75 337 P **P** **07 17 44.8 +0.2**
baz=112,SNR=18
H21K S **S** **07 26 23.9 +0.6**
baz=112
TOLK Toolik Lake Re 64.85 340 P **P** **07 17 46.0 +0.8**
TOLK Toolik Lake Re 64.85 340 P **P** **07 17 46.0 +0.8**
baz=117,SNR=65
TOLK S **S** **07 26 28.3 +3.8**
baz=117
TTA Tatalina 65.12 333 ⇑P P **07 17 46.8 -0.3**
TTA ⇑P **P** **07 17 46.8 -0.3**
TTA Tatalina 65.12 333 P **P** **07 17 46.6 -0.4**
baz=108,SNR=17
GO08 Villa O'Higgin 65.13 165 IAmb IAmb 07 17 59.5
comp=Z,91nm,1.9s
IMAR Indian Mountai 65.23 337 P **P** **07 17 46.8 -0.9**
SDPT Sand Point 65.47 325 P **P** **07 17 50.0 +0.6**
baz=100
EUNU Eureka 65.84 1 P **P** **07 17 51.7 +0.2**
EUNU Eureka 65.84 1 ⇑P **P** **07 17 51.4 -0.1**
EUNU ⇑P **P** **07 17 51.4 -0.1**
GCSA Galena City Sc 66.05 335 P **P** **07 17 52.6 -0.3**
baz=108,SNR=6.6
SOEG Soedalen 66.48 21 *i*P **P** **07 17 51.8 -3.8**
SOEG IAmb IAmb 07 18 00.3
comp=Z,7.9nm,0.5s
TBI Tubuai 66.58 236 *e*S **S** **07 26 41.8 -5.0**
comp=Z,3μm,30.8s
TBI Tubuai 66.58 236 *e*LR LR 07 38 08.7
comp=Z,5μm,27.0s,baz=59
TBI Tubuai 66.58 236 *e*T T 08 30 20.5
comp=Z,9.5nm,0.3s
SACV Santiago Islan 67.02 80 IAMs_20 IAMs_20 07 42 44.3
comp=Z,4μm,19.0s
FALS False Pass 67.06 324 P **P** **07 17 58.8 -0.8**
baz=98
A21K Barrow 68.16 342 P **P** **07 18 06.2 0.0**
A21K IAMs_20 IAMs_20 07 52 11.4
comp=Z,3μm,20.0s
A21K Barrow 68.16 342 P **P** **07 18 06.6 +0.5**
baz=111,SNR=39
A21K S **S** **07 27 08.1 +3.8**
baz=111
UNV Unalaska Valle 68.75 322 P **P** **07 18 09.9 -0.3**
baz=95
RDOG Red Dog Mine 69.28 338 P **P** **07 18 12.9 -0.5**
RDOG IAmb IAmb 07 18 24.7
comp=Z,66nm,1.2s
RDOG IAMs_20 IAMs_20 07 52 57.7
comp=Z,5μm,18.0s
RDOG Red Dog Mine 69.28 338 P **P** **07 18 12.8 -0.5**
baz=103
ANM Nome 69.55 334 IAMs_20 IAMs_20 07 50 15.8
comp=Z,4μm,20.0s
ANM Nome 69.55 334 P **P** **07 18 15.7 +0.7**
baz=100
ANM S **S** **07 27 25.3 +4.2**
baz=100
SCO Scoresbysund 70.35 20 *i*P **P** **07 18 17.2 -2.5**
SCO IAmb IAmb 07 19 26.9
comp=Z,3.7nm,0.9s
PMOZ Porto Moniz, M 70.70 60 *e*S **S** **07 27 36.4 +0.6**
PMOZ Porto Moniz, M 70.70 60 *e*LR LR 07 40 03.1
comp=Z,3μm,18.0s
TNA Tin City 70.77 335 P **P** **07 18 23.3 +0.8**
baz=98
TNA S **S** **07 27 40.0 +4.7**
baz=98
SPIA Saint Paul Isl 71.10 326 P **P** **07 18 25.6 +1.0**
baz=93

DBG Daneborg 71.71 16 *i*P **P** **07 18 25.9 -2.1**
DBG IVmB_BB 07 18 27.6
comp=Z,682nm,6.0s
DBG IAmb IAmb 07 18 40.7
comp=Z,4.7nm,0.8s
USHA Ushuaia 72.00 165 LR LR 07 44 25.7
comp=Z,6μm,18.9s,baz=320,slow=31
GAMB Gambell 72.21 333 IAMs_20 IAMs_20 07 55 39.1
comp=Z,3μm,18.0s
GAMB Gambell 72.21 333 P **P** **07 18 31.9 +0.8**
baz=94
GAMB S **S** **07 27 58.8 +7.0**
baz=94
EFI East Falkland 72.44 158 IAMs_20 IAMs_20 07 46 29.6
comp=Z,4μm,19.0s
DAG Danmarks Havn 72.62 13 *i*P **P** **07 18 29.6 -3.8**
DAG IVmB_BB 07 18 32.7
comp=Z,1μm,5.3s
DAG IAmb IAmb 07 18 45.6
comp=Z,11nm,0.7s
DAG Danmarks Havn 72.62 13 *i*P **P** **07 18 31.0 -2.4**
DAG Danmarks Havn 72.62 13 ⇑P **P** **07 18 30.8 -2.7**
DAG ⇑P pP 07 18 31.0 -11
MBO M'Bour 73.46 79 IAMs_20 IAMs_20 07 45 35.9
comp=Z,5μm,20.0s
NOR Nord 73.96 9 *i*P **P** **07 18 40.8 -0.5**
NOR IVmB_BB 07 18 43.6
comp=Z,2μm,3.5s
NOR IAmb IAmb 07 18 54.6
comp=Z,11nm,0.8s
RAR Rarotonga 74.30 243 LR LR 07 42 52.8
comp=Z,1μm,19.1s,baz=58,slow=29
JMIC Jan Mayen 74.83 20 LR LR 07 52 01.1
comp=Z,8μm,20.2s,baz=260,slow=36
JMIC Jan Mayen 74.83 20 *e*P **P** **07 18 46.4 -0.1**
ADK Adak 74.90 320 P **P** **07 18 47.1 -0.1**
ADK pmax pmax
comp=Z,60nm,0.8s
ADK Adak 74.90 320 P **P** **07 18 47.1 -0.1**
ADK IAmb IAmb 07 18 47.7
comp=Z,60nm,0.8s
ADK Adak 74.90 320 ⇓P **P** **07 18 47.3 0.0**
PMAFR Mafra 76.44 53 *e*P **P** **07 18 54.4 -1.9**
LIS Lisbon 76.57 53 *e*P **P** **07 18 54.8 -2.3**
LIS IAMs_20 IAMs_20 07 50 49.4
comp=Z,5μm,22.2s
LIS Lisbon 76.57 53 *e*P **P** **07 18 54.8 -2.3**
PTO Porto 76.67 51 *e*P **P** **07 18 54.5 -3.1**
PSBE So Bento 76.74 52 *e*P **P** **07 18 58.8 +0.7**
PGAV Gavieira, Arco 76.81 50 *e*P **P** **07 18 55.9 -2.6**
comp=Z,43nm,1.4s
PGAV Gavieira, Arco 76.81 50 *e*S **PnS** **07 29 28.6 +3.6**
PGAV Gavieira, Arco 76.81 50 *e*LR LR 07 42 39.2
comp=Z,4μm,20.0s
PCAS Casmilo, Conde 76.89 52 *e*P **P** **07 18 56.9 -2.0**
comp=Z,53nm,1.7s
COI Coimbra 76.94 52 *e*P **P** **07 18 57.3 -1.8**
comp=Z,47nm,1.3s
PFVI Vila Bisbo 77.04 55 *e*P **P** **07 18 59.6 -0.2**
PNCL Nicolau / Gran 77.14 54 *e*P **P** **07 19 00.2 -0.1**
comp=Z,27nm,1.9s
MORF Marmelete 77.16 54 *e*P **P** **07 18 58.2 -2.4**
MORF *e*S **S** **07 28 46.3 -2.1**
MORF IAMs_20 IAMs_20 07 48 20.0
comp=Z,4μm,19.3s
MORF IAMs_20 IAMs_20 07 48 24.1
comp=Z,5μm,7.8s
MORF Marmelete 77.16 54 *e*P **P** **07 18 58.1 -2.4**
comp=Z,45nm,1.5s
MORF Marmelete 77.16 54 *e*P **P** **07 18 58.1 -2.4**
MORF *e*S **S** **07 28 46.2 -2.1**
PMTG Montargil 77.24 53 *e*P **P** **07 18 58.3 -2.5**
comp=Z,40nm,1.6s
POLO Lamas de Olo 77.25 50 *e*P **P** **07 18 58.3 -2.7**
comp=Z,17nm,1.5s
PVIS Viseu 77.26 51 *e*P **P** **07 18 58.3 -2.7**
comp=Z,30nm,1.2s
MTE Manteigas 77.57 51 *e*P **P** **07 19 00.4 -2.4**
comp=Z,28nm,0.9s
MTE Manteigas 77.57 51 *e*S **SKSac** **07 29 24.0 +9.3**
MTE Manteigas 77.57 51 *e*LR LR 07 42 51.8
comp=Z,4μm,20.0s
MTE Manteigas 77.57 51 IAMs_20 IAMs_20 07 49 26.9
comp=Z,4μm,20.0s
PCVE Castro Verde 77.59 54 *e*P **P** **07 19 01.8 -1.0**
comp=Z,28nm,2.8s
PCBR Castelo Branco 77.70 52 *e*P **P** **07 19 01.1 -2.3**
comp=Z,27nm,1.5s
PBDV Barranco-do-Ve 77.73 54 *e*P **P** **07 19 01.9 -1.8**
comp=Z,46nm,1.6s
PESTR Estremoz 77.76 53 *e*P **P** **07 19 01.1 -2.7**
comp=Z,20nm,1.6s
PMRV Marv??o 77.83 52 *e*P **P** **07 19 01.2 -3.0**
comp=Z,24nm,2.0s
PMRV Marv??o 77.83 52 *e*LR LR 07 43 17.1
comp=Z,4μm,20.0s
MVO Moncorvo 77.85 50 *e*P **P** **07 19 01.9 -2.4**
comp=Z,33nm,0.8s
MVO Moncorvo 77.85 50 *e*S **SKSac** **07 29 22.5 +5.8**
MVO Moncorvo 77.85 50 *e*LR LR 07 42 56.2
comp=Z,3μm,20.0s
PVAQ Vaqueiros 77.88 54 *e*P **P** **07 19 02.3 -2.1**
comp=Z,32nm,1.4s
PVAQ Vaqueiros 77.88 54 *e*LR LR 07 41 56.0
comp=Z,3μm,22.0s
PBRG Braganca 77.97 50 *e*P **P** **07 19 02.2 -2.7**
comp=Z,32nm,1.5s
PBAR Barrancos 78.29 53 *e*P P 07 19 01.4 -5.3
EKA Eskdalemuir Ar 78.37 36 LR LR 07 54 37.6
comp=Z,6μm,18.1s,baz=272,slow=36
KBS Kingsbay 78.92 11 ⇑*e*P **P** **07 19 11.0 +1.6**
KBS pmax pmax
comp=Z,50nm,1.3s
KBS Kingsbay 78.92 11 *e*P **P** **07 19 10.4 +1.0**
SPA0 Spitsbergen Ar 80.00 11 *e*P **P** **07 19 16.0 +0.7**
SPA0 *e*S **S** **07 29 17.3 -0.1**
SPITS Spitsbergen Ar 80.00 11 LR LR 07 55 57.2
comp=Z,8μm,21.1s,baz=37,slow=37
SPITS Spitsbergen Ar 80.00 11 P **P** **07 19 15.4 0.0**
SPITS pmax pmax
comp=Z,55nm,1.3s
SPB2 Spitsbergen Ar 80.01 11 IAmb IAmb 07 20 34.3
comp=Z,69nm,1.3s
PAB San Pablo 80.13 52 P **P** **07 19 14.7 -2.2**
PAB pmax pmax
comp=Z,47nm,1.6s
PAB San Pablo 80.13 52 P **P** **07 19 14.7 -2.2**
HSPB Hornsund (broa 80.27 13 *e*P **P** **07 19 18.8 +2.0**
HSPB Hornsund (broa 80.27 13 *e*P **P** **07 19 15.8 -0.9**
HSPB IVmB_BB 07 19 21.0
comp=Z,2μm,5.2s
HSPB *e*S **S** **07 29 20.0 -0.1**
HSPB IVMs_BB IVMs_BB 07 59 25.2
comp=Z,3μm,17.4s
SHEM Shemya Is, Ala 80.40 322 LR LR 07 52 36.3
comp=Z,798nm,20.8s,baz=92,slow=34
ESBB Sonseca Array 80.40 52 P **P** **07 19 16.0 -2.3**
ESDC Sonseca Array 80.40 52 P **P** **07 19 16.0 -2.3**
comp=Z,8.8nm,0.7s,baz=289,slow=6.1,SNR=37
BILL Bilibino 80.75 338 *d*/*i*P **P** **07 19 20.2 +0.7**
BILL *e* 07 19 25.0
BILL *e* 07 22 24.0
BILL *i*S **S** **07 29 21.0 -4.4**
BILL pmax pmax
comp=Z,81nm,1.0s
BILL Bilibino 80.75 338 P **P** **07 19 19.0 -0.5**
BILL IAmb IAmb 07 19 27.0
comp=Z,78nm,0.9s
FOO Floro 81.39 29 ⇑*i*P **P** **07 19 23.8 +0.8**
FOO *e*S **S** **07 29 32.6 +0.4**
FOO IVMs_BB IVMs_BB 07 53 49.9
comp=Z,2μm,13.5s
LDF La Druitiere 81.39 42 *e*P **P** **07 19 20.7 -2.6**
LDF pmax pmax
comp=Z,21nm,0.9s
MFF Saint Martin d 81.79 44 *e*P **P** **07 19 24.5 -0.9**
MFF pmax pmax
comp=Z,10.0nm,0.9s
BER Bergen 81.83 30 ⇑*i*P **P** **07 19 26.0 +0.6**
BER *e*S **S** **07 29 33.6 -3.2**
BER IVMs_BB IVMs_BB 07 51 46.8
comp=Z,2μm,24.7s
PMSA Palmer Station 81.90 168 LR LR 07 49 16.1
comp=Z,2μm,18.2s,baz=330,slow=31
BJO1 Bjornoya 82.05 15 *e*P **P** **07 19 27.2 +0.9**
BJO1 IVmB_BB 07 19 28.1
comp=Z,3μm,2.8s
BJO1 *e*S **S** **07 29 38.5 -0.1**
BJO1 IVMs_BB IVMs_BB 07 57 17.1
comp=Z,4μm,21.5s
AKN Aaknes 82.14 28 ⇑*i*P **P** **07 19 27.4 +0.4**
AKN IVmBBB 07 19 29.0
comp=Z,925nm,2.6s
AKN *e*S **S** **07 29 38.7 -1.4**
AKN IVMs_BB IVMs_BB 07 54 05.7
comp=Z,2μm,17.0s
HOPEN Hopen 82.45 12 *e*P **P** **07 19 28.5 +0.1**
HOPEN *e*SKSac **S** **07 29 44.8 +2.1**
BLS5 Blasjo 82.62 31 ⇑*i*P **P** **07 19 29.9 +0.4**
BLS5 *e*S **S** **07 29 44.5 -0.6**
BLS5 IVMs_BB IVMs_BB 07 52 50.2
comp=Z,2μm,22.9s
AFI Afiamalu 82.70 254 LR LR 07 46 52.8
comp=Z,1μm,21.7s,baz=94,slow=29
LFF La Frestale 82.75 46 *e*P **P** **07 19 27.8 -2.7**
LFF pmax pmax
comp=Z,10.0nm,0.6s
LOF Lofoten 82.91 21 *e*P **P** **07 19 31.1 +0.3**
LOF *e*S **S** **07 29 46.7 -0.9**
LOF IVMs_BB IVMs_BB 07 55 11.8
comp=Z,2μm,16.6s
CLF Chambon-Foret 83.07 42 IAMs_20 IAMs_20 07 56 00.6
comp=Z,5μm,21.0s
CART Cartagena 83.09 53 IAMs_20 IAMs_20 07 57 35.3
comp=Z,3μm,18.0s
DOMB Dombas 83.11 28 ⇑*i*P **P** **07 19 32.1 0.0**
DOMB IVmBBB 07 19 35.6
comp=Z,1μm,3.1s
DOMB *e*S **S** **07 29 48.0 -2.0**
DOMB IVMs_BB IVMs_BB 07 54 43.3
comp=Z,1μm,24.8s
SKAR Skarslia 83.16 29 ⇑*i*P **P** **07 19 32.4 0.0**
SKAR *e*S **S** **07 29 49.9 -0.8**
SKAR IVMs_BB IVMs_BB 07 53 25.4
comp=Z,2μm,21.3s
KONS Konsvik 83.33 23 *e*P **P** **07 19 33.0 0.0**
NSS Namsos 83.56 25 *e*P **P** **07 19 33.9 -0.4**
NSS *e*SKSac **S** **07 29 52.5 -1.8**
NSS IVMs_BB IVMs_BB 07 56 44.0
comp=Z,2μm,22.0s
STEI Steigen 83.58 21 *e*P **P** **07 19 34.1 -0.2**
STEI *e*S **S** **07 29 54.2 -0.2**
CAF Calviac 83.67 45 *e*P **P** **07 19 32.4 -2.9**
CAF pmax pmax
comp=Z,78nm,2.1s
FAUS Fauske 83.80 22 *e*P **P** **07 19 35.2 -0.3**
FAUS *e*SKSac **SKSac** **07 29 54.9 -1.5**
FAUS IVMs_BB IVMs_BB 07 57 08.4
comp=Z,2μm,15.9s
MOR8 Moi Rana 83.95 23 *e*P **P** **07 19 36.4 +0.2**
MOR8 *e*SKSac **SKSac** **07 29 56.4 -1.1**
MOR8 IVMs_BB IVMs_BB 07 58 13.2
comp=Z,3μm,16.3s
HOMB Homborsund 83.97 31 ⇑*i*P **P** **07 19 36.2 -0.3**
HOMB *e*SKSac **SKSac** **07 29 56.0 -1.8**
HOMB IVMs_BB IVMs_BB 07 53 28.4
comp=Z,2μm,19.1s
KONO Kongsberg 84.09 30 ⇓*e*P **P** **07 19 38.7 +1.6**
KONO pmax pmax
comp=Z,68nm,2.5s
KONO Kongsberg 84.09 30 IAMs_20 IAMs_20 07 54 33.5
comp=Z,4μm,22.0s
BMRD Maredsous 84.10 40 *d*P **P** **07 19 37.1 -0.2**
TRO Tromso 84.11 19 *e*P **P** **07 19 36.8 -0.2**
TRO *e*SKSac **SKSac** **07 29 57.4 -0.9**
NC204 NORSAR Array S 84.12 28 P **P** **07 19 36.5 -0.8**
NBO00 NORSAR Array S 84.21 28 P **P** **07 19 37.3 -0.4**
BGES Gesves 84.27 40 *d*P **P** **07 19 36.6 -1.6**
BCLA Clavier 84.40 39 *d*P **P** **07 19 37.3 -1.6**
NB2 NORSAR Subarra 84.40 28 P **P** **07 19 38.0 -0.7**
comp=Z,10nm,0.8s,baz=290,slow=5.1
NB2 NORSAR Subarra 84.40 28 P **P** **07 19 38.0 -0.7**
baz=290,slow=5.1
NOA NORSAR Array B 84.40 28 P **P** **07 19 38.1 -0.7**
comp=Z,6.0nm,0.7s,baz=292,slow=5.0,SNR=25
NC303 NORSAR Array S 84.41 28 P **P** **07 19 37.6 -1.1**
NC303 IAmb IAmb 07 20 05.0
comp=Z,61nm,1.8s
RCHB Rochefort 84.42 40 *d*P **P** **07 19 37.2 -1.8**
NB201 NORSAR Array S 84.44 28 P **P** **07 19 38.0 -0.9**
BSTI Sart Tilman 84.52 39 *d*P **P** **07 19 38.3 -1.2**
NC405 NORSAR Array S 84.61 28 P **P** **07 19 39.3 -0.4**
JETT Jettan, Norway 84.62 19 *e*P **P** **07 19 39.9 +0.2**
JETT IVmB_BB 07 19 40.3
comp=Z,4μm,3.4s
JETT *e*SKSac **SKSac** **07 30 00.2 -1.5**
JETT IVMs_BB IVMs_BB 07 56 39.4
comp=Z,3μm,25.4s
NC602 NORSAR Array S 84.66 29 P **P** **07 19 39.7 -0.3**
NC602 IAmb IAmb 07 19 56.2
comp=Z,65nm,1.4s
MEM Membach 84.78 39 *d*P **P** **07 19 39.7 -1.1**
BHOU Houvegnez 84.85 39 *d*P **P** **07 19 41.0 -0.2**
BTNL Terneli 84.86 39 *d*P **P** **07 19 40.9 -0.4**
HAMF Hammerfest 85.09 17 ⇑*i*P **P** **07 19 42.3 +0.4**
HAMF IVmBBB 07 19 42.6
comp=Z,1μm,2.9s
HAMF *e*SKSac **SKSac** **07 30 02.9 -1.6**
HAMF IVMs_BB IVMs_BB 07 58 18.4
comp=Z,2μm,4.3s
WLF Walferdange 85.13 40 *d*P **P** **07 19 41.5 -1.1**
SSB Saint Sauveur 85.28 45 IAMs_20 IAMs_20 07 51 09.3
comp=Z,3μm,21.0s
KOWA Kowa 85.69 76 P **P** **07 19 44.6 -1.4**
KOWA IAmb IAmb 07 19 46.8
comp=Z,29nm,0.9s
KOWA IAMs_20 IAMs_20 07 55 12.7
comp=Z,3μm,19.0s
KTK1 Kautokeino 85.76 19 *e*P **P** **07 19 44.6 -0.7**
KTK1 *e*SKSac **SKSac** **07 30 08.1 -0.8**
KTK1 IVMs_BB IVMs_BB 07 57 26.0
comp=Z,2μm,18.6s
HFS Hagfors 85.87 29 LR LR 07 55 54.9
comp=Z,5μm,21.5s,baz=279,slow=34
ECH Echery 86.18 41 P **P** **07 19 47.3 -0.6**
ECH pmax pmax
comp=Z,23nm,1.3s
ECH MLR MLR
comp=Z,4μm,20.0s
ECH Echery 86.18 41 P **P** **07 19 47.3 -0.6**
ECH IAMs_20 IAMs_20 07 58 45.9
comp=Z,4μm,20.0s
ARA0 ARCESS Array S 86.19 18 *e*P **P** **07 19 47.0 -0.5**
ARA0 *e*SKSac **SKSac** **07 30 10.4 -1.1**
ARA0 IVMs_BB IVMs_BB 07 59 15.3
comp=Z,2μm,21.5s
ARCES ARCESS Array B 86.19 18 P **P** **07 19 46.7 -0.8**
comp=Z,6.6nm,0.6s,baz=288,slow=4.8,SNR=47
ARCES ARCESS Array B 86.19 18 P **P** **07 19 47.2 -0.3**
ARCES pmax pmax
comp=Z,87nm,1.6s
ARCES ARCESS Array B 86.19 18 P **P** **07 19 47.2 -0.3**
ARCES IAmb IAmb 07 19 49.3
comp=Z,87nm,1.6s
TIC Toumodi 86.58 84 *e*P **P** **07 19 50.0 -0.5**
LIC Lamto 86.68 84 *e*P **P** **07 19 50.9 0.0**
comp=Z,165nm,2.0s
DBIC Dimbokro 86.74 84 P **P** **07 19 50.9 -0.3**
comp=Z,13nm,0.5s,baz=297,slow=5.4,SNR=20
DBIC LR LR 07 55 34.4
comp=Z,2μm,20.9s,baz=292,slow=34
DBIC Dimbokro 86.74 84 P **P** **07 19 50.4 -0.8**
DBIC pmax pmax
comp=Z,134nm,1.7s
DBIC Dimbokro 86.74 84 P **P** **07 19 50.4 -0.8**
BNI Bardonecchia 86.79 44 IAMs_20 IAMs_20 07 59 48.3
comp=Z,4μm,21.0s
SENIN Lac Senin/Sane 86.82 43 P **P** **07 19 50.3 -1.0**
SENIN IAmb IAmb 07 19 56.6
comp=Z,110nm,2.0s
SENIN IAMs_20 IAMs_20 07 56 44.0
comp=Z,4μm,19.0s
KIC Kosan Boka 86.92 84 *e*P **P** **07 19 52.0 -0.1**
comp=Z,31nm,0.6s
RGN Rugen 87.74 34 IAMs_20 IAMs_20 07 59 25.3
comp=Z,4μm,20.0s
SEY Seymchan 88.00 335 P **P** **07 19 57.1 +0.7**
comp=Z,5.9nm,0.5s,baz=70,slow=6.3,SNR=20
SEY LR LR 08 02 18.7
comp=Z,2μm,20.0s,baz=66,slow=38
SEY Seymchan 88.00 335 ⇑*e*P **P** **07 19 57.0 +0.7**

SEY pmax pmax
comp=Z,90nm,2.5s
TUE Stuetta 88.14 42 P **P 07 19 56.9 -0.7**
TUE IAmb IAmb 07 20 02.0
comp=Z,26nm,1.1s
TUE IAMs_20 IAMs_20 07 57 04.7
comp=Z,4μm,21.0s
DAVA Damuels 88.22 42 *e*P **P 07 19 56.7 -1.3**
comp=Z,15nm,0.8s
GRA1 Grafenberg Arr 88.25 39 IAMs_20 IAMs_20 08 01 08.4
comp=Z,3μm,18.0s
RETA Reutte 88.72 41 *e*P **P 07 19 59.0 -1.1**
comp=Z,4.5nm,0.6s
CLL Collm 88.74 37 *i* P **P 07 20 00.5 +0.4**
CLL *e*S **SKKSac 07 30 43.0 +4.0**
CLL *e*PS **PS 07 31 54.0 +1.6**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL MLR MLR
comp=Z,4μm,20.9s
CLL Collm 88.74 37 IAMs_20 IAMs_20 08 00 11.2
comp=Z,4μm,20.0s
CLL Collm 88.74 37 *e*Plp 07 19 59.0
comp=Z,1μm,17.8s
CLL *i* P **P 07 20 00.5 +0.4**
comp=Z,6.0nm,0.8s
CLL *e*x x 07 21 01.0
CLL *e*PP **PP 07 23 25.0 -3.7**
CLL *e*PPIp 07 23 26.0
CLL *e*SKsac **SKSac 07 30 28.0 +0.3**
CLL *e*S **SKKSac 07 30 43.0 +4.0**
CLL *e*PS **PS 07 31 54.0 +1.6**
CLL *e*x x 07 33 08.0
CLL *e*SS **SS 07 36 42.0 +5.3**
CLL *e*SSS SSS 07 40 36.0
CLL LmV 08 00 00.0
comp=Z,4μm,20.9s
NKC Novy Kostel 88.80 38 *e*P **P 07 19 59.7 -0.7**
NKC *e* 07 30 31.2
NKC MLR MLR
comp=Z,5μm,17.3s
NKC Novy Kostel 88.80 38 *e*P **P 07 19 59.7 -0.7**
NKC *e*SKS **SKSac 07 30 31.2 +3.0**
NKC AMS AMS 08 03 30.0
comp=Z,5μm,17.3s
FETA Feichten 88.85 42 *e*P **P 07 19 59.9 -1.1**
comp=Z,5.3nm,0.8s
PET Petropavlovsk 89.26 325 *e*P **P 07 20 03.0 +0.6**
PET *e* 07 23 37.4
PET *e*S **S 07 30 47.1 -3.1**
PET *e*PS **PnS 07 31 54.8 -2.3**
PET *e*PPS PPS 07 32 19.0
PET *e*SS **SS 07 36 45.9 +1.9**
PET pmax pmax
comp=Z,37nm,1.2s
PET pmax pmax
comp=Z,1μm,13.8s
PET pmax pmax
comp=Z,1μm,15.1s
PET pmax pmax
comp=Z,500nm,14.9s
PET MLR MLR
comp=Z,1μm,20.0s
PET MLR MLR
comp=Z,1μm,18.0s
BRG Berggiesshubel 89.46 37 *e*P **P 07 20 04.0 +0.6**
BRG Amp 07 20 06.0
comp=Z,6.8nm,0.9s
BRG *e*x x 07 20 12.1
BRG Amp 07 20 16.4
comp=Z,4.9nm,1.1s
BRG *e*x x 07 21 05.3
BRG Amp 07 21 07.1
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 89.46 37 PP PP 07 23 35.0 +0.6
BRG Berggiesshubel 89.46 37 SP SP 07 32 10.0 +14
BRG Berggiesshubel 89.46 37 SS SS 07 37 00.0 +13
BRG Berggiesshubel 89.46 37 *e*P **P 07 20 04.0 +0.6**
BRG *e* 07 20 12.1
BRG 07 23 35.0
BRG S **S 07 30 45.0 -7.2**
BRG pmax pmax
comp=Z,7.0nm,0.9s
APA Apatity 89.70 18 ||| *i*P **P 07 20 08.5 +4.3**
APA pmax pmax
comp=Z,6.0nm,0.9s
PEA0B Petropavlovsk- 89.75 325 *ce*P **P 07 20 07.5 +2.7**
PETK Petropavlovsk- 89.75 325 P **P 07 20 05.2 +0.4**
comp=Z,2.7nm,0.7s,baz=95,slow=4.6,SNR=4.6
KHC Kasperske Hory 89.89 39 *e*P **P 07 20 03.0 -2.6**
KHC *e* 07 30 35.4
KHC MLR MLR
comp=Z,4μm,19.3s
KHC Kasperske Hory 89.89 39 *e*P **P 07 20 03.0 -2.6**
KHC *ex* x 07 20 53.0
KHC *e*SKS **SKSac 07 30 35.4 +0.7**
KHC AMS AMS 07 59 40.0
comp=Z,4μm,19.3s
ZCCA Zocca 89.92 44 P **P 07 20 04.8 -1.0**
PVCC Panska Ves 89.96 37 *e*P **P 07 20 04.6 -1.2**
PVCC MLR MLR
comp=Z,4μm,20.2s
PVCC Panska Ves 89.96 37 *e*P **P 07 20 04.6 -1.2**
PVCC AMS AMS 08 00 10.0
comp=Z,4μm,20.2s
GEC2 GERESS Array S 90.07 39 P **P 07 20 05.2 -1.3**
GERES GERESS Array B 90.07 39 P **P 07 20 04.9 -1.6**
comp=Z,2.7nm,0.8s,baz=294,slow=4.2,SNR=13
GERES GERESS Array B 90.07 39 P **P 07 20 05.2 -1.3**
GERES GERESS Array B 90.07 39 P **P 07 20 05.2 -1.3**
ABTA Abfaltersbach 90.09 41 *e*P **P 07 20 06.6 -0.1**
comp=Z,2.9nm,0.7s
PRU Pruhonice 90.15 38 *e*P **P 07 20 03.4 -3.3**
PRU MLR MLR
comp=Z,5μm,18.2s
PRU Pruhonice 90.15 38 *e*P **P 07 20 03.4 -3.3**
PRU AMS AMS 08 01 50.0
comp=Z,5μm,18.2s
MA2 Magadan 90.31 333 P **P 07 20 08.0 +0.7**
comp=Z,12nm,0.7s,baz=49,slow=3.6,SNR=9.4
MA2 Magadan 90.31 333 *ce*P **P 07 20 07.5 +0.3**
MA2 pmax pmax
comp=Z,8.0nm,0.8s
MA2 Magadan 90.31 333 P **P 07 20 07.1 -0.2**
CKRC Cesky Krumlov 90.45 39 *e*P **P 07 20 06.9 -1.3**
CKRC AMS AMS 07 59 50.0
comp=Z,3μm,18.9s
FINES FINESS Array B 90.69 25 P **P 07 20 07.8 -1.1**
comp=Z,7.1nm,0.7s,baz=281,slow=1.0,SNR=14
CHVC Chvalec 90.80 37 *e*P **P 07 20 09.7 -0.1**
CHVC AMS AMS 08 00 50.0
comp=Z,4μm,21.5s
UPC Upice 90.81 37 *e*P **P 07 20 09.5 -0.3**
UPC MLR MLR
comp=Z,4μm,20.7s
UPC Upice 90.81 37 *e*P **P 07 20 09.5 -0.3**
UPC AMS AMS 08 00 00.0
comp=Z,4μm,20.7s
KSP Ksiaz 90.84 37 *e*P **P 07 20 09.8 -0.1**
MYKA Terra Mystica 90.86 41 *e*P **P 07 20 09.3 -0.9**
comp=Z,7.1nm,0.9s
OSTC Ostas 90.91 37 *e*P **P 07 20 08.0 -2.3**
OSTC AMS AMS 08 04 10.0
comp=Z,4μm,17.5s
TREC Trest 90.98 38 *e*P **P 07 20 10.4 -0.3**
TREC Trest 90.98 38 *e*P **P 07 20 10.4 -0.3**
DPC Dobruska-Polom 91.06 37 *e*P **P 07 20 11.2 +0.2**
DPC MLR MLR
comp=Z,4μm,20.7s
DPC Dobruska-Polom 91.06 37 *e*P **P 07 20 11.2 +0.2**
DPC AMS AMS 08 00 00.0
comp=Z,4μm,20.7s
TORD Torodi Ar. Bea 91.39 76 P **P 07 20 11.3 -1.9**
comp=Z,2.6nm,0.5s,baz=292,slow=5.4,SNR=21
TORD LR LR 07 58 38.5
comp=Z,3μm,20.3s,baz=272,slow=34
TORD Torodi Ar. Bea 91.39 76 P **P 07 20 11.7 -1.4**
JAVS Javornik 91.41 42 *e*P **P 07 20 12.8 0.0**
KRLC Kraliky 91.44 37 *e*P **P 07 20 13.0 +0.2**
KRLC MLR MLR
comp=Z,3μm,17.4s
KRLC Kraliky 91.44 37 *e*P **P 07 20 13.0 +0.2**
KRLC AMS AMS 08 04 50.0
comp=Z,3μm,17.4s
KEST Kesra 91.60 53 P **P 07 20 13.0 -0.9**
comp=Z,7.1nm,0.7s,baz=242,slow=3.0,SNR=9.7
KRUC Moravsky 91.62 38 *e*P **P 07 20 12.1 -1.5**
VRAC Vranov 91.64 38 LR LR 08 03 13.4
comp=Z,4μm,18.6s,baz=296,slow=37
VRAC Vranov 91.64 38 *e*P **P 07 20 13.1 -0.6**
SKR Severo-Kuril's 91.64 323 *e*P **P 07 20 12.5 -1.1**
SKR *e*S **PnS 07 32 33.6 +8.4**
SKR pmax pmax
comp=Z,400nm,9.3s
SKR pmax pmax
comp=Z,31nm,0.8s
SKR pmax pmax
comp=Z,300nm,10.9s
SKR MLR MLR
comp=Z,300nm,19.0s
LJU Ljubljana 91.65 42 *e*P **P 07 20 13.6 -0.2**
CEY Cerknica 91.70 42 *e*P **P 07 20 14.6 +0.5**
CONA Conrad Observa 91.75 40 *e*P **P 07 20 13.4 -1.0**
comp=Z,3.1nm,0.6s
MORC Moravsky Berou 92.01 37 *e*P **P 07 20 14.9 -0.5**
RONA Rosalia, Austr 92.11 40 *e*P **P 07 20 14.9 -1.1**
comp=Z,5.0nm,0.6s
OKC Ostrava-Krasne 92.34 37 AMS AMS 08 02 00.0
comp=Z,4μm,19.9s
VALR Valaam 92.64 24 *de*P **P 07 20 19.0 +1.0**
VALR pmax pmax
comp=Z,54nm,0.9s
PABE Paberze 92.83 30 IAMs_20 IAMs_20 07 59 06.7
comp=Z,4μm,22.0s
OJC Ojcow 93.13 36 *e*P **P 07 20 21.1 +0.5**
MSVF Nonsavu 93.15 253 P **P 07 20 24.2 +3.0**
comp=Z,4.9nm,0.6s,baz=69,slow=4.4,SNR=2.1
MSVF LR LR 07 54 26.0
comp=Z,2μm,18.5s,baz=110,slow=30
MSVF Nonsavu 93.15 253 P **P 07 20 20.9 -0.4**
MSVF pmax pmax
comp=Z,45nm,1.6s
MSVF Nonsavu 93.15 253 P **P 07 20 20.9 -0.4**
MSVF IAmb IAmb 07 20 50.3
comp=Z,45nm,1.6s
MSVF IAMs_20 IAMs_20 07 53 57.2
comp=Z,3μm,19.0s
TARA Tarawa 93.47 272 IAMs_20 IAMs_20 07 54 17.9
comp=Z,3μm,19.0s
NACGM Naroch 94.52 30 *e*P **P 07 20 26.8 0.0**
VAE Valguarnera 94.81 50 LR LR 07 59 57.5
comp=Z,6μm,19.9s,baz=346,slow=34
MNK Minsk 95.28 30 *i* P **P 07 20 27.9 -2.3**
MNK *i* S **SKSac 07 31 01.6 -2.7**
MNK pmax pmax
comp=N,18nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=N,2μm,19.0s
MNK Minsk 95.28 30 *i* P **P 07 20 27.9 -2.3**
comp=E,2.0nm,1.0s
MNK *i* P **P 07 20 27.9 -2.3**
comp=N,18nm,1.0s
MNK *i* P **P 07 20 27.9 -2.3**
comp=Z,13nm,0.9s,baz=303
MNK *i* PP PP 07 24 02.6 -17
MNK *i* PPP PPP 07 27 27.3
MNK *i* SKS SKiKP 07 29 24.0 +40
MNK *i* S **SKSac 07 31 01.7 -2.7**
MNK *i* PS PS 07 32 44.7 -20
MNK *i* SS SS 07 37 51.6 -19
MNK *i* SSS SSS 07 42 08.7
MNK *i* LQ LQ 07 54 59.6
MNK *i* LR LR 08 02 15.8
MNK *i* LRM MLR 08 04 11.1
comp=N,2μm,19.4s
MNK *i* LRM MLR 08 06 59.1
comp=E,233nm,19.1s
MNK *i* LRM MLR 08 07 11.6
comp=Z,3μm,19.6s
UZH Uzhgorod 95.31 37 *e*P **P 07 20 30.5 0.0**
UZH *e**PP **sP 07 20 44.2 +1.9**
UZH *e* 07 24 21.0
UZH *e* 07 31 08.0
UZH *e*S **S 07 31 37.0 -7.7**
UZH MLR MLR
CEL Celeste 95.60 48 IAMs_20 IAMs_20 07 59 14.8
comp=Z,3μm,21.0s
LVV L'vov 95.72 35 *e*P **P 07 20 32.5 +0.1**
LVV *e*PPP PPP 07 26 29.4
LVV *e*S **S 07 31 40.9 -7.4**
LVV *e*PS **PS 07 33 04.5 -5.0**
TIP Timpagrande 95.86 47 IAMs_20 IAMs_20 08 06 03.5
comp=Z,3μm,20.0s
DIVS Divibare 95.98 42 IAMs_20 IAMs_20 07 59 54.1
comp=Z,2μm,21.0s
KLMR Klimovskoe 96.17 21 *e*P **P 07 20 32.1 -2.1**
KLMR *e*S **SKSac 07 31 06.1 -2.7**
KLMR *e*SS **SS 07 38 17.5 -4.8**
KLMR pmax pmax
comp=Z,24nm,1.5s
KLMR MLR MLR
comp=Z,4μm,18.0s
KLMR Klimovskoe 96.17 21 *e*P **P 07 20 32.2 -2.0**
KLMR AMP 07 20 36.2
comp=Z,24nm,1.5s
KLMR *e*S **SKSac 07 31 06.1 -2.7**
KLMR *e*S **SKSac 07 31 06.1 -2.7**
KLMR *e*SS **SS 07 38 17.6 -4.8**
KLMR *e*SS **SS 07 38 17.6 -4.8**
KLMR *e*SSS SSS 07 41 57.3
KLMR *e*SSS SSS 07 41 57.3
KLMR LQ LQ 07 56 01.2
KLMR LQ LQ 07 56 01.2
KLMR LR LR 07 57 27.5
KLMR AMP 08 04 41.1
comp=Z,4μm,17.9s
PDG Podgorica 96.23 44 IAMs_20 IAMs_20 08 00 23.0
comp=Z,3μm,22.0s
NRIK Noril'sk 96.56 360 P **P 07 20 35.0 -0.8**
comp=Z,3.4nm,0.7s,baz=4.4,slow=4.0,SNR=8.4
NRIK PP **PP 07 24 28.5 -0.9**
comp=Z,1.8nm,0.6s,baz=356,slow=7.0,SNR=4.3
NRIK LR LR 08 08 58.1
comp=Z,3μm,18.2s,baz=6.0,slow=38
NRIK Noril'sk 96.56 360 *ce*P **P 07 20 35.4 -0.4**
NRIK Noril'sk 96.56 360 P **P 07 20 35.0 -0.8**
YAK Yakutsk 96.80 341 LR LR 08 13 30.4
comp=Z,2μm,18.0s,baz=39,slow=41
YAK Yakutsk 96.80 341 *e*P **P 07 20 38.8 +1.8**
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.7s
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK Yakutsk 96.80 341 IAMs_20 IAMs_20 08 09 30.5
comp=Z,2μm,19.0s
MXZ Matakaoa Point 97.44 233 IAMs_20 IAMs_20 08 00 39.8
comp=Z,3μm,18.0s
PRGR Permogore 97.61 19 *e*P **P 07 20 38.5 -2.1**
BELA Belgrano 2 97.65 170 P Pdif 07 20 42.0 +1.5
BELA IAmb IAmb 07 24 00.9
comp=Z,7.9nm,0.7s
AKASG Malin Array Be 98.08 33 P **P 07 20 40.5 -2.5**
comp=Z,1.5nm,0.5s,baz=298,slow=3.9,SNR=9.9
AKASG LR LR 08 07 57.9
comp=Z,2μm,18.1s,baz=306,slow=37
AKASG Malin Array Be 98.08 33 P Pdif 07 20 43.9 +0.8
AKASG pmax pmax
comp=Z,8.0nm,1.9s
AKASG Malin Array Be 98.08 33 P Pdif 07 20 43.9 +0.8
AKBB Malin Array Si 98.08 33 ||| *i*P **P 07 20 43.0 0.0**
URZ Urewera 98.51 233 IAMs_20 IAMs_20 08 03 29.1
comp=Z,2μm,18.0s
NKL Nikolayevsk 98.54 331 *e*P **P 07 20 45.1 +0.1**
NKL *e* 07 24 50.9
NKL *e*S **SKSac 07 31 15.4 -5.8**
NKL pmax pmax
comp=E,3.0nm,1.3s
NKL pmax pmax
comp=N,1.0nm,0.7s
NKL pmax pmax
comp=Z,22nm,1.7s
NKL smax smax
comp=E,3.0nm,1.8s
NKL smax smax
comp=N,2.0nm,3.2s
OBN Obninsk 98.91 27 LR LR 08 04 25.3
comp=N,896nm,20.7s,baz=308,slow=35
OBN Obninsk 98.91 27 *i* P **P 07 20 46.5 -0.1**
OBN *i* 07 24 45.6
OBN *i* S **SKSac 07 31 22.4 -0.6**
OBN *e*SS **SS 07 38 55.3 -5.9**
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,2μm,16.0s
MOS Moscow 98.94 26 *e*P **P 07 20 44.2 -2.6**
MOS MLR MLR
comp=Z,3μm,18.0s
MLR Muntele Rosu 99.03 38 LR LR 08 09 09.9
comp=Z,3μm,18.1s,baz=310,slow=38
AGG Agios Georgios 99.84 46 P **Pdif 07 20 46.3 -4.9**
MILM Milestii Mici 99.96 36 *e*P **Pdif 07 20 50.0 -1.5**
comp=Z,280nm,5.6s
MILM Milestii Mici 99.96 36 *e*PP **PP 07 24 58.0 +1.9**
MILM Milestii Mici 99.96 36 *e*PS PS 07 33 46.0 -9.5
MILM *e*LR LR 07 57 54.0
comp=Z,2μm,19.0s
MILM Milestii Mici 99.96 36 *e*P **Pdif 07 20 50.0 -1.5**
MILM *e* 07 24 58.0
MILM *e* 07 31 32.0
MILM *e*PS **PS 07 33 46.0 -9.5**
MILM pmax pmax
comp=Z,280nm,5.6s
YSS Yuzh-Sakhalins 101.14 325 *e*P **Pdif 07 20 54.8 -2.0**
YSS *e* 07 25 04.9
YSS *e*S **Sdif 07 32 26.1 -8.2**
YSS *e*PPS PPS 07 34 54.2
YSS *e*SS **SS 07 39 32.3 -0.5**
YSS pmax pmax
comp=Z,100nm,4.1s
GRNR Gornyy 102.08 330 *e*P **Pdif 07 21 00.2 -0.7**
SANVU Saraoutou 102.80 257 IAMs_20 IAMs_20 07 56 59.6
comp=Z,3μm,21.0s
IDI Anoyia 103.39 48 IAMs_20 IAMs_20 08 09 45.0
comp=Z,2μm,21.0s
ZEA Zeya 103.94 337 *e*P **Pdif 07 21 09.8 +0.7**
ZEA *e* 07 25 30.6
ZEA pmax pmax
comp=Z,100nm,8.0s
SIM Simferopol' 104.12 36 *e*P **Pdif 07 20 56.5 -14**
SIM pmax pmax
comp=Z,100nm,18.7s
SIM MLR MLR
comp=Z,3μm,18.6s
QSPA South Pole Qui 104.26 180 IAMs_20 IAMs_20 07 59 31.8
comp=Z,2μm,19.0s
DZM Mont Dzumac 104.72 251 *e*PP PKiKP 07 25 21.7 -7.2
comp=Z,175nm,24.5s
DZM *e*SKSac SKSac 07 31 37.4 -15
comp=Z,1μm,28.4s
DZM Mont Dzumac 104.72 251 *e*PS PS 07 34 33.6 -14
comp=Z,965nm,26.9s
DZM *e*SS SS 07 40 14.5 -10
comp=Z,4μm,29.1s
DZM Mont Dzumac 104.72 251 *e*LQ LQ 07 51 12.0
comp=Z,3μm,35.9s
DZM *e*LR LR 07 55 38.0
comp=Z,3μm,23.4s
KARP Karpathos 104.88 47 IAMs_20 IAMs_20 08 10 57.4
comp=Z,2μm,20.0s
ISP Isparta 106.00 43 IAMs_20 IAMs_20 08 13 41.0
comp=Z,2μm,19.0s
ANTO Ankara 106.33 40 IAMs_20 IAMs_20 08 10 23.8
comp=Z,2μm,20.0s
KOUNC Koumac, New Ca 106.45 253 IAMs_20 IAMs_20 07 59 30.7
comp=Z,2μm,20.0s
BRTR Keskin Array B 106.94 40 PKiKP **PKiKP 07 25 32.2 -0.5**
comp=Z,0.5nm,0.6s,baz=215,slow=1.8,SNR=3.6
HNR Honiara 108.54 265 IAMs_20 IAMs_20 08 09 06.2
comp=Z,2μm,18.0s
KIV Kislovodsk 109.41 32 IAMs_20 IAMs_20 08 15 24.4
comp=Z,2μm,18.0s
MDJ Mudanjiang 109.66 329 IAMs_20 IAMs_20 08 20 35.3
comp=Z,2μm,22.0s
HIA Hailar 110.34 338 IAMs_20 IAMs_20 08 20 58.1
comp=Z,3μm,19.0s
ZALV Zalesovo Beam 111.99 1 PKiKP **PKiKP 07 25 41.1 -0.4**
comp=Z,1.8nm,0.5s,baz=310,slow=1.3,SNR=7.7
ZALV PP **PP 07 26 24.6 +0.5**
comp=Z,4.4nm,0.7s,baz=347,slow=9.0,SNR=9.7
ZALV Zalesovo Beam 111.99 1 **PKiKP 07 25 40.6 -0.9**
MAK Makhachkala 112.55 30 *e*P **Pdif 07 21 38.7 -8.9**
MAK *i* 07 25 41.0
MAK *e* 07 26 25.6
MAK *e*PPP PPP 07 28 46.7
MAK *e* 07 32 22.5
MAK *e*SS SS 07 42 02.1 -5.4
MAK *e*SSS SSS 07 46 14.7
MAK pmax pmax
comp=Z,189nm,1.1s
GNI Garni 113.17 34 IAMs_20 IAMs_20 08 17 12.2
comp=Z,2μm,20.0s
TSUM Tsumeb 113.87 105 IAMs_20 IAMs_20 08 11 26.4
comp=Z,2μm,19.0s
KURK Kurchatov 114.85 6 ||| *i*PKIKP **PKiKP 07 25 47.2 +0.1**
KURK pmax pmax
comp=Z,7.0nm,1.7s
ULN Ulaanbaatar 115.53 345 *i* PKiKP **PKiKP 07 25 48.9 +0.2**
ULN Ulaanbaatar 115.53 345 IAMs_20 IAMs_20 08 24 11.3
comp=Z,2μm,19.0s
SONM Songino Array 115.72 346 PKP **PKiKP 07 25 48.6 -0.4**
comp=Z,1.3nm,0.7s,baz=337,slow=1.4,SNR=5.8
SONM PP **PP 07 26 52.7 +1.8**
comp=Z,3.9nm,0.9s,baz=6.0,slow=8.2,SNR=11
SONM Songino Array 115.72 346 **PKiKP 07 25 47.9 -1.2**
XLT XiLinHaoTe 116.21 337 *e*PKP **PKiKP 07 25 49.0 -1.1**
XLT PP **PP 07 26 57.3 +2.8**
XLT AMB AMB
comp=Z,690nm,7.7s
XLT LR LR
comp=Z,2μm,19.8s
XLT LR LR
comp=Z,2μm,20.6s
GUMO Guam 116.22 293 IAMs_20 IAMs_20 08 00 56.2
comp=Z,1μm,18.0s
INCN Inchon 116.34 325 IAMs_20 IAMs_20 08 25 05.8
comp=Z,1μm,20.0s
SYO Syowa Base 117.79 163 ||| *i*PKPdf **PKPdf 07 25 51.0 -1.1**
SYO Syowa Base 117.79 163 ||| *ep*PKPdf **PKiKP 07 25 58.2 +6.1**
DL2 Dalian 117.87 330 *e*PKP **PKPdf 07 25 50.5 -2.8**
DL2 SS SS 07 43 17.0 -0.4
DL2 AMB AMB
comp=Z,280nm,5.8s
DL2 LR LR
comp=Z,800nm,17.5s
DL2 LR LR
comp=Z,1μm,18.2s
DL2 LR LR
comp=Z,2μm,19.9s
MAKZ Makanchi 119.01 4 PKiKP **PKPdf 07 25 54.1 -1.2**
MAKZ Makanchi 119.01 4 PKPdf **PKPdf 07 25 54.1 -1.2**
MK31 Makanchi Array 119.04 4 PKiKP **PKPdf 07 25 54.5 -0.9**
MK31 Makanchi Array 119.04 4 PKPdf **PKPdf 07 25 54.5 -0.9**
MKAR Makanchi Array 119.04 4 PKP **PKPdf 07 25 54.5 -0.8**
comp=Z,2.5nm,0.7s,baz=5.2,slow=1.9,SNR=20
MKAR PP **PP 07 27 13.3 -0.5**
comp=Z,3.5nm,0.9s,baz=15,slow=6.0,SNR=5.6
MKAR Makanchi Array 119.04 4 **PKPdf 07 25 54.2 -1.2**
BJI Beijing 119.43 334 PKP PKPdf 07 25 47.0 -9.2
BJI PP **PP 07 27 19.0 +2.2**
BJI SKS SKSdf 07 33 18.8 +12
BJI Beijing 119.43 334 SS SS 07 43 44.8 +7.5
BJI AMB AMB
comp=Z,650nm,12.2s
BJI LR LR
comp=N,1μm,18.4s
BJI LR LR
comp=E,2μm,18.0s
BJI LR LR
comp=Z,2μm,18.0s
BJT Baijiatuau 119.45 334 IAMs_20 IAMs_20 08 28 41.8
comp=Z,2μm,18.0s
HHC Hu-ho-hao-te 120.52 338 *e*PKP **PKPdf 07 25 56.3 -2.2**
HHC sPKP 07 26 08.8
HHC PP **PP 07 27 24.0 -0.4**
HHC LR LR
comp=Z,3μm,17.2s
HHC LR LR
comp=Z,930nm,17.1s
HHC LR LR

comp=Z,5μm,17.8s
CAN Canberra 120.77 237 IAMs_20 IAMs_20 08 13 15.6
comp=Z,2μm,18.0s
PMG Port Moresby 120.90 268 IAMs_20 IAMs_20 08 17 37.5
comp=Z,2μm,18.0s
KKAR Karatay Array 120.93 14 PKIKP **PKPdf 07 25 58.9 -0.2**
KKAR Karatay Array 120.93 14 **PKPdf 07 25 58.9 -0.2**
GEYT Alibeck 121.45 26 PKP **PKPdf 07 26 00.2 -0.1**
comp=Z,4.4nm,0.7s,baz=318,slow=4.2,SNR=4.6
BOSA Boshof 121.50 115 PKP **PKPdf 07 26 00.4 -0.3**
comp=Z,11nm,0.6s,baz=257,slow=2.8,SNR=7.7
WMQ Urumqi 122.14 359 *e*PKP **PKiKP 07 26 02.5 +0.8**
WMQ sPKP 07 26 14.0
WMQ PP **PP 07 27 36.3 +1.2**
WMQ AMB AMB
comp=Z,990nm,5.1s
WMQ LR LR
comp=Z,4μm,19.5s
WMQ LR LR
comp=Z,2μm,17.9s
WMQ LR LR
comp=Z,4μm,19.5s
AAK Ala-Archa 122.20 11 PKIKP **PKPdf 07 26 01.5 -0.3**
AAK Ala-Archa 122.20 11 PKPdf **PKPdf 07 26 01.5 -0.3**
AAK Ala-Archa 122.20 11 PKiKP **PKPdf 07 26 02.1 +0.4**
HNS HongShan 122.27 334 ⇑PKP **PKPdf 07 26 02.0 +0.2**
HNS PP **PP 07 27 39.5 +3.3**
HNS AMB AMB
comp=Z,790nm,11.0s
HNS LR LR
comp=Z,1μm,18.6s
HNS LR LR
comp=Z,1μm,18.0s
HNS LR LR
comp=Z,2μm,19.4s
AML Almayashu 122.54 12 PKiKP **PKPdf 07 26 03.4 +0.7**
BOOM Boomskoye usch 122.60 10 PKIKP **PKPdf 07 26 02.5 0.0**
BOOM Boomskoye usch 122.60 10 PKPdf **PKPdf 07 26 02.5 0.0**
KDJ Kajisay 123.14 9 PKIKP **PKPdf 07 26 03.7 +0.1**
KDJ Kajisay 123.14 9 PKPdf **PKPdf 07 26 03.7 +0.1**
CTAO Charters Tower 123.20 255 IAMs_20 IAMs_20 08 08 59.1
comp=Z,2μm,20.0s
TARG Taragay, Kyrgy 123.62 8 PKPdf **PKPdf 07 26 05.3 +0.5**
BTK Batken 123.89 15 PKIKP **PKPdf 07 26 05.3 +0.3**
BTK Batken 123.89 15 PKPdf **PKPdf 07 26 05.3 +0.3**
SSE Sheshan 124.08 324 PKP **PKPdf 07 26 01.3 -4.1**
SSE PP **PP 07 27 48.8 0.0**
SSE AMB AMB
comp=Z,150nm,7.9s
SSE LR LR
comp=Z,750nm,18.2s
SSE LR LR
comp=Z,220nm,18.0s
MAW Mawson 124.49 169 PKP **PKPdf 07 26 05.1 +0.1**
comp=Z,3.2nm,0.6s,baz=128,slow=5.7,SNR=6.3
NJ2 Nanjing 124.63 327 *e*P PKPdf 07 25 56.0 -10
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 Nanjing 124.63 327 *e*PKP **PKiKP 07 26 07.8 +1.0**
NJ2 PP **PP 07 27 58.3 +5.9**
NJ2 SS SS 07 44 49.8 +5.8
NJ2 LR LR
comp=Z,710nm,21.1s
NJ2 LR LR
comp=Z,740nm,18.1s
NJ2 LR LR
comp=Z,830nm,20.6s
GAR Garm 124.76 16 **PKPdf 07 26 07.2 +0.5**
GTA Gaotai 125.20 348 PKP **PKPdf 07 26 07.8 +0.2**
GTA PP PP 07 28 05.3 +9.5
GTA AMB AMB
comp=Z,560nm,12.3s
GTA LR LR
comp=Z,2μm,21.9s
GTA LR LR
comp=Z,1μm,22.7s
GTA LR LR
comp=Z,2μm,20.3s
KSH Kashi 125.50 10 PKP **PKiKP 07 26 09.5 +1.0**
KSH sPKP 07 26 23.0
KSH PP **PP 07 27 59.0 +1.2**
KSH PKS **PKSdf 07 29 47.5 +2.6**
KSH SKKS 07 34 52.0
KSH AMB AMB
comp=Z,480nm,7.6s
KSH LR LR
comp=Z,2μm,22.4s
KSH LR LR
comp=Z,2μm,20.6s
KSH LR LR
comp=Z,5μm,22.2s
LYN LuoYang 125.64 334 ⇑PKP **PKPdf 07 26 05.8 -2.6**
LYN PP **PP 07 27 58.8 -0.1**
LYN SS SS 07 45 01.3 +4.9
LYN AMB AMB
comp=Z,1μm,9.0s
LYN LR LR
comp=Z,3μm,19.6s
LYN LR LR
comp=Z,830nm,24.1s
LYN LR LR
comp=Z,3μm,19.8s
CASY Casey 125.72 192 IAMs_20 IAMs_20 08 11 51.1
comp=Z,2μm,19.0s
FURI Furi 126.95 67 IAMs_20 IAMs_20 08 19 39.0
comp=Z,2μm,20.0s
STKA Stephens Creek 127.23 241 PKP **PKPdf 07 26 11.2 -0.2**
comp=Z,4.5nm,0.6s,baz=55,slow=2.2,SNR=14
STKA Stephens Creek 127.23 241 *d* iPKIKP **PKPdf 07 26 11.7 +0.3**
STKA Stephens Creek 127.23 241 PKPdf **PKPdf 07 26 11.5 +0.1**
LZH Lanzhou 127.36 343 ⇑PKP **PKPdf 07 26 12.3 +0.5**
LZH sPKP 07 26 26.0
LZH AMB AMB
comp=Z,300nm,6.0s
LZH LR LR
comp=Z,1μm,19.0s
LZH LR LR
comp=Z,2μm,17.9s
LZH LR LR
comp=Z,1μm,17.3s
XAN Xi'an 127.52 337 SS SS 07 45 27.8 +8.0
XAN AMB AMB
comp=Z,820nm,8.1s
XAN LR LR
comp=N,2μm,19.0s
XAN LR LR
comp=E,2μm,18.4s
XAN LR LR
comp=Z,4μm,18.4s
XAN Xi'an 127.52 337 PP PP 07 28 12.0 +0.6
WHN Wuhan 128.14 330 PKP **PKPdf 07 26 12.8 -0.4**
WHN PP **PP 07 28 17.3 +1.7**
WHN SS SS 07 45 34.8 +7.1
WHN AMB AMB
comp=Z,1μm,6.0s
WHN LR LR
comp=Z,4μm,18.3s
WHN LR LR
comp=Z,800nm,14.8s
WHN LR LR
comp=Z,4μm,19.9s
GOMU GeErMu 129.20 352 PKP **PKiKP 07 26 17.0 +0.7**
GOMU SS SS 07 45 41.0 +0.3
GOMU LR LR
comp=Z,1μm,22.4s
GOMU LR LR
comp=Z,730nm,22.0s
GOMU LR LR
comp=Z,1μm,22.4s
KMBO Kilima Mbogo 129.28 80 PKP **PKPdf 07 26 15.7 -0.5**
comp=Z,0.7nm,0.3s,baz=251,slow=5.8,SNR=1.5
KMBO Kilima Mbogo 129.28 80 ⇑ *i* PKIKP **PKPdf 07 26 16.9 +0.8**
KMBO Kilima Mbogo 129.28 80 IAMs_20 IAMs_20 08 18 48.2
comp=Z,2μm,22.0s
KMBO Kilima Mbogo 129.28 80 *i* PKiKP **PKPdf 07 26 16.5 +0.4**
SNR=6.0
ATD Arta Tunnel 129.39 62 IAMs_20 IAMs_20 08 19 44.9
comp=Z,2μm,20.0s
SSLB Suanglung 129.54 318 IAMs_20 IAMs_20 08 34 09.4
comp=Z,1μm,20.0s
SHME Shamm 129.98 37 PKiKP **PKPdf 07 26 17.8 +0.9**
BANOM **Banah 130.16 37** PKiKP **PKiKP 07 26 18.7 +0.6**
KIBK Kibwezi 130.39 81 IAMs_20 IAMs_20 08 28 16.0
comp=Z,1μm,19.0s
AJN Ajban 130.40 39 *i* PKiKP **PKPdf 07 26 17.1 -0.6**
SNR=5.4
NAZ Nazwa, Dubai 130.49 38 PKiKP **PKPdf 07 26 17.7 -0.2**
ASUD Al Ashush, Dub 130.56 39 PKiKP **PKPdf 07 26 17.4 -0.6**
MZR Muzera 130.58 42 *i* PKiKP **PKPdf 07 26 18.2 +0.1**
SNR=5.7
ENH Enshi 130.60 334 **PKPdf 07 26 17.7 -0.3**
FAQ Al Faqa, Dubai 130.63 38 PKPdf **PKPdf 07 26 16.1 -2.0**
CNSH ChangSha 130.78 329 SS SS 07 45 56.3 -4.0
CNSH AMB AMB
comp=Z,830nm,7.4s
CNSH LR LR
comp=N,1μm,21.1s
CNSH LR LR
comp=E,860nm,18.4s
CNSH LR LR
comp=Z,2μm,18.6s
CNSH ChangSha 130.78 329 PP PP 07 28 28.5 -4.3
UOSS Minazif 130.85 38 *i* PKPdf **PKPdf 07 26 17.1 -1.5**
SNR=5.9
ASHO Ashiyiah 130.96 38 PKiKP **PKPdf 07 26 18.2 -0.6**
ALNE Al Ain 131.24 39 PKiKP **PKPdf 07 26 18.9 -0.4**
SOHO SOHO 131.66 38 PKiKP **PKPdf 07 26 19.5 -0.6**
CD2 Chengdu 132.19 340 PKP **PKPdf 07 26 22.0 +1.0**
CD2 PP **PP 07 28 43.8 +2.1**
CD2 AMB AMB
comp=Z,670nm,6.5s
CD2 LR LR
comp=Z,950nm,21.1s
CD2 LR LR
comp=Z,1μm,21.3s
WB2 Warramunga Arr 134.37 256 PKPdf **PKPdf 07 26 25.0 -0.3**
WRAB Tennant Creek 134.37 256 ⇑ PKiKP **PKPdf 07 26 24.8 -0.5**
WRAB pmax pmax
comp=Z,40nm,2.5s
WRAB Tennant Creek 134.37 256 IAMs_20 IAMs_20 08 16 21.9
comp=Z,2μm,21.0s
WRA Warramunga Arr 134.38 256 PKhKP PKPpre 07 26 17.1
comp=Z,0.9nm,1.0s,baz=87,slow=3.4,SNR=4.7
WRA PKP **PKPdf 07 26 25.1 -0.2**
comp=Z,4.3nm,0.7s,baz=81,slow=1.5,SNR=30
WRA Warramunga Arr 134.38 256 **PKPdf 07 26 24.9 -0.4**
ASAR Alice Springs 134.71 251 PKhKP PKPpre 07 26 14.1
comp=Z,0.9nm,0.7s,baz=108,slow=3.7,SNR=5.6
ASAR PKKP **PKKPdf 07 36 10.2 -0.6**
comp=Z,0.3nm,0.6s,baz=273,slow=1.6,SNR=5.5
ASAR Alice Springs 134.71 251 PKIKP **PKPdf 07 26 24.7 -1.2**
ASAR Alice Springs 134.71 251 PKPdf **PKPdf 07 26 24.7 -1.2**
GYA Guiyang 135.12 334 ⇑PKP **PKPdf 07 26 27.5 +0.8**
GYA PP **PP 07 29 01.3 +0.6**
GYA AMB AMB
comp=Z,1μm,14.0s
GYA LR LR
comp=Z,2μm,24.0s
GYA LR LR
comp=Z,1μm,18.0s
GYA LR LR
comp=Z,3μm,20.4s
LSA Lhasa 136.05 355 IAMs_20 IAMs_20 08 37 20.4
comp=Z,1μm,20.0s
LSA Lhasa 136.05 355 PKiKP **PKPdf 07 26 30.1 +1.3**
PZH PanZhiHua 136.92 340 PKP **PKPdf 07 26 30.5 +0.4**
PZH PP **PP 07 29 13.3 +1.5**
PZH PKS **PKSdf 07 30 02.5 -4.1**
PZH SS SS 07 47 15.8 +1.6
PZH AMB AMB
comp=Z,730nm,9.3s
PZH LR LR
comp=Z,1μm,22.2s
PZH LR LR
comp=Z,1μm,21.0s
PZH LR LR
comp=Z,2μm,23.0s
KMI Kunming 137.85 338 PKP **PKPdf 07 26 33.3 +1.4**
KMI PP **PP 07 29 19.0 +1.2**
KMI PKS **PKSdf 07 30 07.3 -1.2**
KMI SS SS 07 47 29.3 +3.7
KMI AMB AMB
comp=Z,640nm,6.9s
KMI LR LR
comp=Z,2μm,20.3s
KMI LR LR
comp=Z,2μm,21.2s
KMI LR LR
comp=Z,3μm,22.1s
SOCY Socotra 138.13 53 IAMs_20 IAMs_20 08 30 22.4
comp=Z,1μm,22.0s
QIZ Qiongzhong 139.86 325 IAMs_20 IAMs_20 08 42 33.7
comp=Z,1μm,20.0s
QIZ Qiongzhong 139.86 325 PKP **PKPdf 07 26 32.0 -3.5**
QIZ PP **PP 07 29 36.8 +6.4**
QIZ SS SS 07 47 51.0 +1.3
QIZ LR LR
comp=Z,1μm,17.1s
QIZ LR LR
comp=Z,950nm,19.0s
QIZ LR LR
comp=Z,2μm,16.8s
ABPO Ambohimpanom 141.82 103 IAMs_20 IAMs_20 08 30 37.7
comp=Z,1μm,20.0s
MYLDM Lahad Datu 143.11 299 PKPdf PKPbc 07 26 40.0 +1.7
MYLDM IAMs_20 IAMs_20 08 18 46.9
comp=Z,2μm,22.0s
POO Poona 144.94 22 *e*P **PKPab 07 26 38.0 -5.7**
CHTO Chiang Mai 144.99 340 PKIKP **PKPab 07 26 43.3 -0.5**
CHTO Chiang Mai 144.99 340 PKPdf **PKPab 07 26 43.3 -0.5**
CMAR Chiang Mai Arr 145.32 340 PKPbc **PKPbc 07 26 45.0 +0.1**
comp=Z,34nm,0.7s,baz=341,slow=3.7,SNR=116
CMAR Chiang Mai Arr 145.32 340 **PKPbc 07 26 44.9 0.0**
KAPI Kappang 146.31 283 PKPbc **PKPbc 07 26 48.4 +0.3**
comp=Z,6.3nm,0.3s,baz=68,slow=4.1,SNR=8.3
HYBB Hyderabad (bro 147.43 15 *e*P **PKPbc 07 26 51.0 -0.2**
HYBB *e*PP **PP 07 30 19.2 +4.0**
HYBB *e*SKPdf **SKPdf 07 30 23.8 +2.7**
MSEY Mahe Island 147.66 76 IAMs_20 IAMs_20 08 35 49.0
comp=Z,1μm,20.0s
MSEY Mahe Island 147.66 76 *i* PKPab **PKPbc 07 26 52.2 +0.1**
SNR=10
MBWA Marble Bar 147.99 253 **PKPbc 07 26 52.6 0.0**
MORW Morawa 149.26 237 **PKPbc 07 26 55.9 +0.2**
SBUM Sibu 149.84 302 IAMs_20 IAMs_20 08 49 43.9
comp=Z,1μm,21.0s
KSM Kuching 151.96 302 **PKPbc 07 27 03.0 +0.5**
KSM PKPab **pPKPbc 07 27 10.7 -0.2**
PCHI Peechi 153.21 23 ⇑ *e*P **PKPdf 07 26 58.4 +0.6**
PBA Port Blair 153.54 347 **PKPbc 07 27 06.3 +0.3**
PBA PKPab **sPKPbc 07 27 17.6 +0.2**
KULM Kulim 156.19 324 IAMs_20 IAMs_20 08 51 22.5
comp=Z,1μm,20.0s
PSI Prapat 159.20 324 PKP **PKPdf 07 27 05.3 -0.6**
comp=Z,2.5nm,0.7s,baz=101,slow=0.3,SNR=12
PSI PKPab **PKPab 07 27 43.0 +0.2**
comp=Z,23nm,0.7s,baz=12,slow=4.4,SNR=14
BKNI Bangkinang 159.78 315 IAMs_20 IAMs_20 08 55 22.0
comp=Z,1μm,20.0s

*IDC **25** 07:19:19.9±1.4, 59°.29S×27°.18W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.8/25, mbtmp3.9/2, MS4.2/1, Ms1 4.1/1, ms1mx3.4/44, Error ellipse: s-maj=118.6km s-min=37.6km az=103.0*

ISC 25 07:19:21.2±1.2, 59°.4S×0°.2×26°.8W×0°.4, h10km, n15, σ0.8s 7.4/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.69**	**153**	P	**Pn**	**07 22 34.8**	**-0.2**
VNA3	**Neumayer Olymp**	**13.83**	**156**	P	**Pn**	**07 22 36.9**	**-0.1**
VNA2	**Neumayer--Watz**	**14.08**	**153**	P	**Pn**	**07 22 39.7**	**-0.8**
	baz=306,slow=14						
SNAA	**Sanae**	**15.67**	**152**	P	**Pn**	**07 23 02.1**	**+0.2**
TROLL	**Troll, Antarti**	**17.24**	**149**	P	**P**	**07 23 23.4**	**+0.1**
MAW	**Mawson**	**37.40**	**141**	LR	LR	07 40 59.2	
	comp=Z,348nm,21.0s,baz=100,slow=35						
VNDA	**Vanda**	**43.26**	**183**	P	**P**	**07 27 22.8**	**+0.7**
	1.5nm,1.2s,baz=180,slow=6.7,SNR=2.5						
H10S2	**ASCENSION HYDR**	**51.14**	**16**	T	T	08 23 46.6	
	baz=188,slow=74,SNR=180						
H10S3	**ASCENSION HYDR**	**51.14**	**16**	T	T	08 23 47.8	
	baz=32,slow=74,SNR=477						
H10N1	**ASCENSION HYDR**	**52.26**	**16**	T	T	08 25 11.4	
	baz=188,slow=76,SNR=83						
H10N3	**ASCENSION HYDR**	**52.26**	**16**	T	T	08 25 11.8	
	baz=188,slow=76,SNR=728						
H10N2	**ASCENSION HYDR**	**52.27**	**16**	T	T	08 25 12.5	
	baz=188,slow=76,SNR=337						
TORD	**Torodi Ar. Bea**	**75.87**	**29**	P	**P**	**07 31 08.0**	**+0.5**
	1.4nm,0.7s,baz=198,slow=5.6,SNR=6.2						
YKA	**Yellowknife Ar**	**138.72**	**315**	PKP	**PKPdf**	**07 38 44.5**	**-1.3**
	0.5nm,0.9s,baz=123,slow=2.3,SNR=2.0						
ILAR	**Eielson Array**	**152.37**	**307**	PKPbc	**PKPbc**	**07 39 15.7**	**0.0**
	1.0nm,0.8s,baz=112,slow=1.0,SNR=2.9						

IDC 25 07:21:42.1±1.3, 13°.09N×143°.71E, h221km±18km, mb3.1/4, mb1 3.4/4, mb1mx3.1/47, mbtmp3.7/4, Error ellipse: s-maj=56.6km s-min=19.2km az=99.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.24**	**66**	P	Pn	07 22 16.5	+0.9
	37nm,0.3s,baz=296,slow=8.0,SNR=32						
GUMO				S	S	07 22 41.9	+0.2
	92nm,0.3s,baz=163,slow=19,SNR=16						
WRA	**Warramunga Arr**	**34.09**	**196**	P	P	07 28 05.6	-0.5
	2.2nm,0.6s,baz=16,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**37.77**	**195**	P	P	07 28 37.4	+0.2
	1.1nm,0.7s,baz=10,slow=11,SNR=10						
MKAR	**Makanchi Array**	**61.07**	**316**	P	P	07 31 33.0	+0.2
	0.3nm,0.5s,baz=101,slow=8.5,SNR=3.3						
ILAR	**Eielson Array**	**69.50**	**25**	P	P	07 32 26.2	-0.3
	0.2nm,0.8s,baz=248,slow=4.6,SNR=1.3						

*IDC **25** 07:23:47.4±1.6, 17°.59S×178°.61W, h617km±16km, mb3.3/8, mb1 3.5/11, mb1mx3.2/44, mbtmp4.2/11, Error ellipse: s-maj=71.7km s-min=14.3km az=151.0*

ISC 25 07:23:46.5±1.2, 17°.6S±0°.5×178°.6W±0°.2, h600km, n12, σ1s 30/12, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.23**	**266**	P	**P**	**07 25 10.4**	**+3.4**
	8.2nm,0.3s,baz=133,slow=4.9,SNR=20						
AFI	**Afiamalu**	**7.47**	**62**	P	P	**07 25 41.2**	**+0.2**
	2.1nm,0.3s,baz=24,slow=22,SNR=2.9						
DZM	**Mont Dzumac**	**14.80**	**250**	P	**P**	**07 26 52.4**	**-0.6**
	0.4nm,0.3s,baz=204,slow=15,SNR=6.1						
CTA	**Charters Tower**	**33.36**	**260**	P	**P**	**07 29 36.8**	**-0.1**
	3.6nm,0.7s,baz=98,slow=10,SNR=6.3						
STKA	**Stephens Creek**	**38.67**	**241**	P	**P**	**07 30 19.8**	**-0.6**
	2.9nm,0.5s,baz=88,slow=10,SNR=7.7						
WRA	**Warramunga Arr**	**44.55**	**259**	P	**P**	**07 31 05.6**	**-1.1**
	2.3nm,0.3s,baz=94,slow=7.5,SNR=60						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**07 31 07.5**	**-0.7**
	11nm,0.5s,baz=89,slow=8.3,SNR=165						
ILAR	**Eielson Array**	**85.58**	**13**	P	**P**	**07 35 21.3**	**-0.6**
	0.4nm,0.4s,baz=223,slow=4.9,SNR=12						
TXAR	**Lajitas Array**	**85.93**	**58**	P	**P**	**07 35 25.1**	**+0.5**
	1.1nm,0.8s,baz=216,slow=5.6,SNR=4.3						
PDAR	**Pinedale Array**	**87.20**	**44**	P	**P**	**07 35 30.5**	**+0.1**
	0.4nm,0.5s,baz=221,slow=3.4,SNR=3.8						
YKA	**Yellowknife Ar**	**94.07**	**25**	P	**P**	**07 36 00.4**	**-0.9**
	0.1nm,0.5s,baz=235,slow=4.5,SNR=6.7						
GERES	**GERESS Array B**	**147.23**	**345**	PKPbc	**PKPbc**	**07 42 23.2**	**-0.3**
	0.5nm,0.5s,baz=20,slow=3.1,SNR=2.4						

KRSC 25 07:24:37.5±2.0, 51°.28N×160°.85E, h51km±37km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.81**	**288**	*e*P	Pn	07 25 07.4	+1.2
KDTR				*e*S	Sn	07 25 28.5	+0.5
RUS	**Russkaya**	**1.85**	**310**	*e*P	Pn	07 25 08.3	+1.5
RUS				*e*S	Sn	07 25 30.6	+1.5
SPN	**Mys Shipunski**	**1.89**	**345**	*e*P	Pn	07 25 09.8	+2.4
SPN				*e*S	Sn	07 25 32.6	+2.5
MTVR	**Mutnovka**	**2.04**	**307**	*e*P	Pn	07 25 11.7	+2.1
MTVR				*e*S	Sn	07 25 36.4	+2.4
NLC	**Nalytchevo**	**2.11**	**335**	*e*P	Pn	07 25 13.7	+3.4
NLC				*e*S	Sn	07 25 39.9	+4.5
ASAK	**Asacha**	**2.14**	**302**	*e*P	Pn	07 25 13.0	+2.2
GRL	**Gorelyy**	**2.14**	**308**	*e*P	Pn	07 25 13.5	+2.6
DALK	**Dalny**	**2.18**	**325**	*e*P	Pn	07 25 13.6	+2.3
DALK				*e*S	Sn	07 25 40.2	+3.1
PET	**Petropavlovsk**	**2.21**	**323**	*e*P	Pn	07 25 14.1	+2.4
PET				*e*S	Sn	07 25 40.9	+3.1
KRMR	**Karymshinskiy**	**2.29**	**314**	*e*P	Pn	07 25 15.0	+2.2
KRMR				*e*S	Sn	07 25 42.2	+2.5
UGLR	**Uglovaya**	**2.30**	**328**	*e*P	Pn	07 25 15.9	+2.8
SDLR	**Sedlovina**	**2.34**	**330**	*e*P	Pn	07 25 16.5	+2.9
SMAR	**Somma**	**2.35**	**329**	*e*P	Pn	07 25 17.9	+4.0
AVH	**Avacha**	**2.38**	**328**	*e*P	Pn	07 25 17.3	+3.2
KRER	**Koryakskii**	**2.41**	**328**	*e*P	Pn	07 25 18.4	+3.8
KOK	**Koryaka**	**2.43**	**327**	*e*P	Pn	07 25 18.4	+3.5
KRX	**Arik**	**2.48**	**328**	*e*P	Pn	07 25 20.1	+4.5
MIPR	**Malaya Ipel'ka**	**2.73**	**293**	*e*P	Pn	07 25 21.3	+2.5
APC	**Apacha**	**2.81**	**307**	*e*P	Pn	07 25 23.2	+3.3
KII	**Karymskiy**	**2.89**	**343**	*e*P	Pn	07 25 25.3	+4.1
KII				*e*S	Sn	07 25 59.2	+4.5
GNL	**Ganaly**	**3.00**	**325**	*e*P	Pn	07 25 26.3	+3.6
MKZ	**Mys Kozlova**	**3.33**	**9**	*e*P	Pn	07 25 30.1	+3.1
MKZ				*e*S	Sn	07 26 07.8	+2.5
TUMD	**Tumrok D**	**3.94**	**356**	*e*P	Pn	07 25 39.3	+3.8
TUMD				*e*S	Sn	07 26 23.9	+3.4
TUMR	**Tumrok**	**4.04**	**354**	*e*P	Pn	07 25 41.6	+4.7
BKI	**Bering**	**5.00**	**36**	*e*S	Sn	07 26 46.6	+0.4
KBTR	**Krutoberegovo**	**5.08**	**13**	P	Pn	07 25 55.2	+4.2

*IDC **25** 07:27:22.4±0.8, 14°.42N×92°.79W, h0km, mb4.3/16, mb1 4.6/18, mb1mx4.4/36, mbtmp4.3/18, ML4.0/2, Error ellipse: s-maj=29.7km s-min=15.7km az=52.0*
*NEIC **25** 07:27:24.8±2.2, 14°.32N±0°.03×93°.13W±0°.04, h10km±1km, mb4.7/261, Md4.7/13(MEX), Error ellipse: s-maj=7.9km s-min=2.7km az=304.0*
*MEX **25** 07:27:26.5±1.1, 14°.22N×93°.26W, h18km±111km, MD4.7*
*GCG **25** 07:27:28.1±1.1, 14°.48N×93°.08W, h23km±999km, MD4.8*

ISC 25 07:27:24.8±1.9, 14°.32N±0°.06×93°.18W±0°.05, h14km±10km, n520, σ1s 16/501, mb4.7/112, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.06**	**57**		**Pg**	**07 27 44.9**	**-0.3**
THIG					**Sg**	**07 27 58.8**	**-0.3**
THIG		**1.06**	**57**	*e*P	**Pg**	**07 27 45.0**	**-0.3**
THIG				*e*S	**Sg**	**07 27 58.8**	**-0.3**
PATR	**El Naranjo**	**1.21**	**49**	*e*P	**Pb**	**07 27 46.9**	**-0.7**
PATR				*i* S	**Sg**	**07 28 02.8**	**-1.1**
CHUJ	**Union Juarez**	**1.29**	**53**	*e*P	**Pn**	**07 27 48.0**	**-0.6**
PAVE	**Pavencul**	**1.30**	**48**	*e*P	**Pn**	**07 27 48.2**	**-0.5**
PCIG		**1.37**	**358**		**Pn**	**07 27 48.4**	**-1.2**
PCIG		**1.37**	**358**	*e*P	**Pn**	**07 27 48.4**	**-1.2**
RTAL	**Retalhuleu**	**1.45**	**82**		**Pn**	**07 27 50.9**	**+0.2**
RTAL	**Retalhuleu**	**1.45**	**82**	*e*P	**Pn**	**07 27 50.5**	**-0.2**
RTAL				*e*S	**Sn**	**07 28 12.4**	**+2.8**
STG3	**Santiaguito 3,**	**1.60**	**76**	*e*P	**Pn**	**07 27 53.6**	**+0.7**
HUEH	**Huehuetenango**	**1.90**	**58**	Pn	**Pn**	**07 27 58.7**	**+1.6**
HUEH	**Huehuetenango**	**1.90**	**58**	*e*P	**Pn**	**07 27 58.8**	**+1.8**
HUEH	**Huehuetenango**	**1.90**	**58**	*e*P	**Pn**	**07 27 58.8**	**+1.8**
CARR	**Arriaga**	**2.04**	**340**	*e*P	**Pn**	**07 27 58.4**	**-0.4**
CARR				*e*S	**Sn**	**07 28 23.3**	**-0.8**
CCIG	**Comitan**	**2.19**	**27**	Pn	**Pn**	**07 28 03.2**	**+2.2**
CCIG	**Comitan**	**2.19**	**27**	*e*P	**Pn**	**07 28 03.3**	**+2.2**
FUG	**Fuego 3**	**2.27**	**87**	*e*P	**Pn**	**07 28 02.7**	**+0.7**
FUG				*e*S	**Sn**	**07 28 30.9**	**+0.9**
TGIG		**2.44**	**1**		**Pn**	**07 28 05.6**	**+1.2**
TGIG		**2.44**	**1**	*e*P	**Pn**	**07 28 05.6**	**+1.2**
PCG	**Pacaya**	**2.49**	**88**	*e*P	**Pn**	**07 28 06.6**	**+1.4**
NBG	**Las Nubes**	**2.75**	**84**	*e*P	**Pn**	**07 28 11.5**	**+2.6**
CMIG	**Matias Romero**	**3.21**	**329**	Pn	**Pn**	**07 28 14.2**	**-0.6**
	3.5nm,0.3s,baz=141,slow=11,SNR=6.6						
CMIG				Sn	**Sn**	**07 28 50.3**	**-2.6**
	93nm,0.3s,baz=132,slow=16,SNR=7.1						
CMIG	**Matias Romero**	**3.21**	**329**		**Sn**	**07 28 52.7**	**-0.2**
CMIG	**Matias Romero**	**3.21**	**329**	*e*P	**Pn**	**07 28 15.0**	**+0.2**
CMIG				*e*S	**Sn**	**07 28 52.7**	**-0.2**
NUBE	**Las Nubes**	**3.32**	**97**	*e*P	**Pn**	**07 28 16.9**	**+0.3**
NUBE				IAML		07 29 12.6	
	comp=Z,1μm,0.5s						
NUBE	**Las Nubes**	**3.32**	**97**	*e*P	**Pn**	**07 28 16.9**	**+0.3**
NUBE				IAML		07 29 12.6	
	comp=Z,1μm,0.5s						
RTR	**El Retiro**	**3.45**	**97**	*e*P	**Pn**	**07 28 18.9**	**+0.5**
RTR	**El Retiro**	**3.45**	**97**	*e*P	**Pn**	**07 28 18.9**	**+0.5**
MRL	**Marmol**	**3.46**	**77**	*e*P	**Pn**	**07 28 20.3**	**+1.8**
CEVE	**Cerro Verde**	**3.48**	**98**	*e*P	**Pn**	**07 28 18.5**	**-0.3**

CEVE eS Sn 07 29 03.6 +3.5
CEVE IAML 07 29 14.3
comp=Z,4µm,0.5s
CEVE Cerro Verde 3.48 98 eP Pn 07 28 18.5 -0.3
CEVE eS Sn 07 29 03.6 +3.5
CEVE IAML 07 29 14.3
comp=Z,4µm,0.5s
SBLS San Blas 3.48 98 eP Pn 07 28 18.9 +0.1
SBLS San Blas 3.48 98 eP Pn 07 28 18.9 +0.1
MTO3 Montecristo 3.70 88 Pn 07 28 22.0 +0.2
ESQI Esquipulas 3.72 86 Pn 07 28 22.9 +0.8
BOQS Boqueron 3.83 98 eP Pn 07 28 23.9 +0.3
BOQS Boqueron 3.83 98 eP Pn 07 28 23.9 +0.3
UEES Universidad Ev 3.87 98 IAML 07 29 19.1
comp=Z,791nm,0.5s
UEES Universidad Ev 3.87 98 IAML 07 29 19.1
comp=Z,791nm,0.5s
SNET Serv Nac Est T 3.88 99 Pn 07 28 24.8 +0.6
LFRS El Faro 4.06 99 eP Pn 07 28 26.8 +0.1
LFRS El Faro 4.06 99 eP Pn 07 28 26.8 +0.1
PETF Flores 4.10 51 Pn Pn 07 28 28.3 +1.1
PETF Flores 4.10 51 eP Pn 07 28 29.4 +2.3
PETF Flores 4.10 51 eP Pn 07 28 29.4 +2.3
SJTE Alcalda de S 4.11 99 eSn Sn 07 29 18.6 +3.2
SJTE Alcalda de S 4.11 99 eS Sn 07 29 18.6 +3.2
PAVA Las Pavas 4.16 98 eP Pn 07 28 28.4 +0.3
PAVA Las Pavas 4.16 98 eP Pn 07 28 28.4 +0.3
COEG Centro de Oper 4.23 99 eP Pn 07 28 29.3 +0.3
COEG Centro de Oper 4.23 99 eP Pn 07 28 29.3 +0.3
COEB Comit de Eme 4.59 100 eP Pn 07 28 34.4 +0.5
COEB Comit de Eme 4.59 100 eP Pn 07 28 34.4 +0.5
TGUH Tegucigalpa,Un 5.73 92 Pn Pn 07 28 49.4 -0.3
TLIG Tlapa 6.10 303 Pn Pn 07 28 55.8 +1.0
CRIN San Cristobal 6.17 104 Pn 07 28 54.9 -0.8
CNGN Cerro Negro 6.56 105 Pn 07 28 59.2 -1.8
MATN Matagalpa 7.18 100 Pn Pn 07 29 09.8 +0.2
BOAB BOACO BROADBAN 7.54 103 Pn Pn 07 29 14.7 +0.3
ACON Acoyapa 8.14 106 Pn Pn 07 29 22.8 +0.2
HZTE Horizontes, Gu 8.23 115 Pn Pn 07 29 22.3 -1.5
ORTG Ortega, Santa 8.51 117 Pn Pn 07 29 28.1 +0.3
DUNO Dulce Nombre, 8.61 118 Pn 07 29 30.9 +1.7
ESPN Las Esperanzas 8.90 103 Pn Pn 07 29 31.4 -1.6
JTS Las Juntas de 8.98 116 Pn Pn 07 29 35.1 +0.8
comp=Z,1.1nm,0.3s,baz=6.3,slow=20,SNR=9.3
JTS Sn Sn 07 31 10.5 -4.8
baz=263,slow=18,SNR=0.6
JTS Las Juntas de 8.98 116 Pn Pn 07 29 34.6 +0.4
CAO2 Cobano, Puntar 9.14 119 Pn Pn 07 29 37.4 +1.0
JACO JACO, Garabito 9.53 118 Pn Pn 07 29 41.1 -0.7
CVTR Volcan Turrial 10.15 114 Pn Pn 07 29 49.4 -1.3
RIMA Rio Macho 10.17 115 Pn 07 29 53.0 +2.3
PEZE Perez Zeledon, 10.51 117 Pn Pn 07 29 55.6 +0.3
SRBA San Rafael, Bu 10.86 117 Pn 07 30 01.6 +1.5
RIOS Rincon, Osa 10.99 120 Pn Pn 07 30 02.9 +1.1
PRVC Isla de Provid 11.51 93 Pn 07 30 10.3 +1.4
CDTO Canoas 11.60 113 Pn Pn 07 30 10.1 0.0
BRU2 Volcan 11.65 117 Pn Pn 07 30 10.2 -0.7
ZAIG Zacatecas 12.24 315 Pn Pn 07 30 21.2 +2.1
SOR Soroa 12.80 47 Pn Pn 07 30 25.5 -1.0
833A Chaparral WMA, 15.08 338 Pn Pn 07 30 58.2 +0.6
833A Chaparral WMA, 15.08 338 P Pn 07 30 59.3 +1.7
baz=156,SNR=6.9
735A Kenedy 15.09 344 Pn Pn 07 30 57.9 +0.3
735A IAmb IAmb 07 31 11.2
comp=Z,53nm,1.2s
MTDJ Mount Denham 15.51 73 Pn Pn 07 31 04.2 +0.8
MTDJ IAmb IAmb 07 31 16.9
comp=Z,51nm,1.0s
HKT Hockley 15.74 351 Pn Pn 07 31 05.2 -1.0
061Z Ochoppi 16.25 43 Pn Pn 07 31 12.2 -0.7
435B Jarrell 16.88 347 Pn Pn 07 31 21.4 +0.6
435B Jarrell 16.88 347 P Pn 07 31 21.3 +0.6
baz=165
342A Flagon Creek P 16.99 2 Pn 07 31 23.4 +1.3
344A Westbrook Farm 17.20 7 Pn Pn 07 31 24.9 +0.2
344A IAmb IAmb 07 31 29.8
comp=Z,47nm,0.9s
JCT Junction City 17.20 340 Pn Pn 07 31 24.9 +0.1
JCT Junction City 17.20 340 P Pn 07 31 26.3 +1.4
baz=158,SNR=7.0
346A Big Creek Wild 17.32 11 Pn Pn 07 31 25.6 -0.7
346A IAmb IAmb 07 31 50.7
comp=Z,37nm,0.8s
NATX Nacogdoches 17.41 356 Pn Pn 07 31 26.8 -0.6
451A Vernon 17.60 22 Pn 07 31 29.7 0.0
451A IAmb IAmb 07 31 35.9
comp=Z,55nm,0.9s
BRAL Brewton 17.69 18 Pn 07 31 31.1 +0.3
BRAL Brewton 17.69 18 P Pn 07 31 32.8 +2.0
baz=200,SNR=7.2
553A Crawfordville 17.73 26 P Pn 07 31 33.7 +2.3
553A IAmb IAmb 07 31 53.5
comp=Z,68nm,1.1s
237A Washetta, Mont 17.76 353 Pn 07 31 31.2 -0.5
TXAR Lajitas Array 17.81 329 P Pn 07 31 34.3 +1.7
comp=Z,0.3nm,0.3s,baz=149,slow=15,SNR=32
TXAR Lajitas Array 17.81 329 Pn 07 31 32.7 +0.2
TX31 Lajitas Ar. Si 17.81 329 Pn 07 31 32.9 +0.3
TX31 IAmb IAmb 07 31 39.4
comp=Z,72nm,1.0s
TX32 Lajitas Array 17.81 329 Pn Pn 07 31 31.6 -0.9
656A Willston 17.92 32 Pn 07 31 33.6 -0.1
656A IAmb IAmb 07 31 56.4
comp=Z,53nm,1.0s
VBMS Vicksburg 17.98 7 Pn 07 31 34.0 -0.4
VBMS IAmb IAmb 07 31 39.2
comp=Z,55nm,1.1s
VBMS Vicksburg 17.98 7 P Pn 07 31 34.8 +0.3
baz=188
SJCC San Jacinto, C 18.14 102 P Pn 07 31 36.2 -0.4
146A Union 18.61 11 IAmb IAmb 07 31 48.3
comp=Z,32nm,0.8s
250A Grady 18.68 19 P P 07 31 41.2 -1.4
Z41A Richland Creek 18.85 1 P P 07 31 43.7 -0.8
Z41A IAmb IAmb 07 31 51.9
comp=Z,33nm,0.7s
Z41A Richland Creek 18.85 1 P P 07 31 45.7 +1.2
baz=181
CBOC Ciudad Bolivar 18.86 115 eP P 07 31 47.9 +2.9
PLMC San Jos del P 19.09 118 eP P 07 31 48.8 +1.4
ABTX Abilene, Hawle 19.15 343 P P 07 31 47.6 -0.2
ABTX Abilene, Hawle 19.15 343 P P 07 31 49.2 +1.4
baz=160
TIGA Tifton 19.17 26 IAmb IAmb 07 31 54.2
comp=Z,65nm,1.1s
TIGA Tifton 19.17 26 P P 07 31 47.9 -0.2
baz=209
ZARC Zaragoza, Cauc 19.22 109 eP P 07 31 52.0 +3.3
Z35A Perchaven, San 19.28 350 P P 07 31 50.0 +0.8
Z47A Carrollton 19.36 13 P P 07 31 49.9 -0.2
Z47A IAmb IAmb 07 32 12.9
comp=Z,42nm,0.8s
LRAL Lakeview Retre 19.46 16 P P 07 31 50.8 -0.4
LRAL Lakeview Retre 19.46 16 P P 07 31 51.9 +0.7
baz=198,SNR=7.0
YOTC Yotoco, Valle 19.52 120 eP P 07 31 55.1 +3.0
CCAR Cane Creek 19.55 3 P P 07 31 51.6 -0.5
CCAR IAmb IAmb 07 32 20.7
comp=Z,43nm,0.8s
GUY2C Guyana, Caldas 19.73 116 eP P 07 31 57.6 +2.8
152A Waverly Hall 19.82 21 P P 07 31 55.2 0.0
PTBC PUERTO BERRIO, 19.96 111 eP P 07 31 57.0 +0.1
NORC Norcasia 20.01 114 eP P 07 31 59.5 +2.1
POPC Popayan, Colom 20.06 124 eP P 07 32 00.4 +2.2
255A Hazlehurst 20.07 27 P P 07 31 58.0 +0.1
255A IAmb IAmb 07 32 05.1
comp=Z,73nm,1.4s
MIAR Mount Ida 20.14 359 P P 07 31 58.8 +0.2
MIAR IAmb IAmb 07 32 04.1
comp=Z,41nm,0.9s
MIAR Mount Ida 20.14 359 P P 07 31 58.5 -0.1
baz=179,SNR=29
X37A Clayton 20.28 355 P P 07 31 60.0 -0.1
X37A IAmb IAmb 07 32 05.8
comp=Z,22nm,0.8s
GCUF Volcan Galeras 20.36 128 eP P 07 32 03.6 +2.0
SOTA Rioblanco 20.36 125 eP P 07 32 04.8 +3.1
UALR University of 20.38 2 P P 07 32 00.7 -0.5
Y49A Blount Mountai 20.39 16 P P 07 32 01.9 +0.5
PCON Cinco Dias 20.41 124 eP P 07 32 04.8 +2.4
ORTC Ortega, Tolima 20.49 119 eP P 07 32 05.4 +2.8
MNTX Cornudas Mount 20.59 329 P P 07 32 04.0 +0.5
MNTX Cornudas Mount 20.59 329 P P 07 32 04.8 +1.2
baz=144,SNR=26
X34A Smith Ranch, M 20.62 349 P P 07 32 04.0 +0.1
X34A IAmb IAmb 07 32 26.8
comp=Z,47nm,1.0s
SPBC San Pablo de B 20.68 113 eP P 07 32 05.4 +0.7
W41B Gary Mavity, V 20.78 2 P P 07 32 05.9 +0.4
W41B Gary Mavity, V 20.78 2 P P 07 32 05.7 +0.2
baz=182
W39A Magazine 20.79 359 P P 07 32 06.0 +0.4
W39A Magazine 20.79 359 P P 07 32 05.8 +0.1
baz=178,SNR=10
X48A Hartselle 20.79 14 P P 07 32 06.4 +0.7
ROSC El Rosal 20.83 115 P P 07 32 09.6 +2.9
comp=Z,25nm,0.7s,baz=5.2,slow=11,SNR=21
ROSC El Rosal 20.83 115 P P 07 32 07.5 +0.9
ROSC IAmb IAmb 07 32 10.8
comp=Z,36nm,0.8s
ROSC El Rosal 20.83 115 eP P 07 32 10.1 +3.5
WHAR Wooly Hollow 20.89 2 P P 07 32 06.5 -0.3
WHAR IAmb IAmb 07 32 16.5
comp=Z,34nm,1.3s
WMOK Wichita Mounta 20.95 347 P P 07 32 07.8 +0.4
baz=164
GOGA Godfrey 20.95 23 P P 07 32 06.8 -0.6
GOGA IAmb IAmb 07 32 13.2
comp=Z,38nm,1.1s
GOGA Godfrey 20.95 23 P P 07 32 07.6 +0.1
baz=207,SNR=7.3
W45A Hickory Valley 21.05 9 P P 07 32 07.6 -0.9
PLAL Pickwick Lake 21.08 12 P P 07 32 08.8 0.0
BARC Barichara 21.10 109 eP P 07 32 12.0 +2.6
Y52A Lilburn 21.14 21 P P 07 32 09.0 -0.4
Y52A IAmb IAmb 07 32 24.3
comp=Z,47nm,0.8s
FNO Franklin 21.19 350 P 07 32 09.4 -0.6
FPAL Fort Paine 21.26 17 P P 07 32 09.4 -1.3
FPAL IAmb IAmb 07 32 19.4
comp=Z,26nm,0.9s
HBAR Harrisburg 21.26 6 P P 07 32 09.9 -0.8
PAMC Pamplona, Colo 21.27 107 eP P 07 32 13.6 +2.1
MSTX Muleshoe 21.41 338 P P 07 32 12.5 +0.1
MSTX IAmb IAmb 07 32 18.4
comp=Z,40nm,0.8s
MSTX Muleshoe 21.41 338 P P 07 32 12.0 -0.4
baz=154,SNR=26
CHIC Chingaza 21.44 115 eP P 07 32 15.3 +2.0
RUSC La Rusia 21.47 111 eP P 07 32 15.4 +1.8
SDDR Presa de Saban 21.47 75 P P 07 32 11.8 -1.4
FCAR Ozark Folk Cen 21.50 2 P P 07 32 12.7 -0.5
FCAR IAmb IAmb 07 32 16.9
comp=Z,26nm,0.8s
TUL1 Leonard 21.62 354 P 07 32 15.1 +0.4
TUL1 IAmb IAmb 07 32 44.0
comp=Z,27nm,0.8s
TUL1 Leonard 21.62 354 P P 07 32 15.4 +0.8
baz=173,SNR=9.6
COHC Cochancay 21.65 139 P P 07 32 15.4 +0.4
LCAR Lake Charles 21.73 4 P P 07 32 15.1 -0.6
SWET Sewanee 21.80 16 P P 07 32 15.8 -0.9
AMTX Amarillo 21.86 341 P P 07 32 17.8 +0.5
AMTX Amarillo 21.86 341 P P 07 32 18.1 +0.8
baz=157
HHAR Hobbs 21.88 358 P P 07 32 16.7 -0.6
HHAR IAmb IAmb 07 32 20.1
comp=Z,21nm,0.8s
U40A Yellville 21.94 1 P P 07 32 17.7 -0.4
U40A IAmb IAmb 07 32 38.5
comp=Z,17nm,0.8s
U40A Yellville 21.94 1 P P 07 32 18.0 0.0
baz=181,SNR=13
W50A Signal Mountai 21.96 17 P P 07 32 19.6 +1.3
W50A IAmb IAmb 07 32 27.5
comp=Z,25nm,1.1s
HSIG 22.02 315 P P 07 32 20.4 +1.5
V48A Smith Brothers 22.08 14 P P 07 32 19.4 -0.2
NHSC New Hope 22.13 30 P P 07 32 21.2 +1.2
NHSC New Hope 22.13 30 P P 07 32 20.1 +0.1
baz=215,SNR=8.9
HODGE Hodges 22.15 25 P P 07 32 20.9 +0.6
HODGE IAmb IAmb 07 32 40.3
comp=Z,30nm,1.2s
WVT Waverly 22.24 12 P P 07 32 21.5 +0.3
WVT Waverly 22.24 12 P P 07 32 21.2 0.0
baz=194
CPCT Cooper Cave 22.43 19 P P 07 32 22.9 -0.4
319A Douglas 22.50 322 P P 07 32 25.1 +0.9
319A IAmb IAmb 07 32 30.4
comp=Z,24nm,0.9s
121A Cookes Peak, D 22.50 326 P P 07 32 26.0 +1.8
121A Cookes Peak, D 22.50 326 P P 07 32 26.3 +2.1
baz=140,SNR=24
PBMO Poplar Bluff 22.50 6 P P 07 32 22.9 -1.1
PBMO IAmb IAmb 07 32 25.7
comp=Z,16nm,0.8s
CLTN Cedars of Leba 22.53 15 P P 07 32 23.2 -1.1
BG3 Lake Jocassee 22.56 22 P P 07 32 24.7 0.0
BG3 IAmb IAmb 07 32 45.1
comp=Z,17nm,0.7s
MACC Macarena, Meta 22.61 121 eP P 07 32 26.4 +1.0
JSC Jenkinsville 22.61 26 P P 07 32 24.3 -0.9
JSC IAmb IAmb 07 32 34.5
comp=Z,25nm,1.1s
SOCV Socops 22.69 103 eP P 07 32 26.7 +0.5
T35A Sooner Cattle 22.70 353 P P 07 32 25.9 -0.3
T35A IAmb IAmb 07 32 46.7
comp=Z,18nm,0.8s
SDV Santo Domingo 22.73 101 P P 07 32 26.6 -0.2
comp=Z,18nm,0.8s,baz=295,slow=5.4,SNR=18
SDV Santo Domingo 22.73 101 P P 07 32 25.5 -1.4
SDV IAmb IAmb 07 32 28.9
comp=Z,16nm,0.7s
SDV Santo Domingo 22.73 101 eP P 07 32 27.0 +0.2
MGMO Mountain Grove 22.75 2 P P 07 32 26.3 -0.4
MGMO IAmb IAmb 07 32 35.9
comp=Z,20nm,0.9s
Y57A Sumter 22.77 28 P P 07 32 25.8 -1.1
Y57A IAmb IAmb 07 32 36.7
comp=Z,29nm,1.1s
PAULI Pauline 22.84 25 P P 07 32 27.7 +0.1
PAULI IAmb IAmb 07 32 35.8
comp=Z,26nm,1.0s
TKL Tuckaleechee C 22.86 20 P P 07 32 26.5 -1.4
comp=Z,5.9nm,0.7s,baz=192,slow=12,SNR=5.6
PTGC Puerto Gaitan, 23.05 114 eP P 07 32 30.8 +0.7
U49A Red Boiling Sp 23.07 15 P P 07 32 28.8 -1.2
U49A IAmb IAmb 07 32 52.9
comp=Z,20nm,1.0s
V52A Sevierville 23.09 20 P P 07 32 28.3 -1.9
V52A IAmb IAmb 07 32 55.3
comp=Z,25nm,1.3s
BNM Barren Site 23.19 331 P P 07 32 33.7 +2.1
V53A Saluda 23.21 22 P P 07 32 31.2 -0.3
V53A IAmb IAmb 07 32 59.4
comp=Z,24nm,0.9s
T47A Sharon Grove 23.21 12 P P 07 32 29.4 -2.1
T47A IAmb IAmb 07 32 54.8
comp=Z,14nm,0.8s
BIRD Birdtown, Kers 23.27 27 P P 07 32 29.7 -2.3
BIRD IAmb IAmb 07 32 52.7
comp=Z,22nm,1.0s
Y22D IRIS PASSCAL I 23.27 330 P P 07 32 34.6 +2.3
baz=144
S39A Bolivar 23.27 360 P P 07 32 30.4 -1.6
KMSC Kings Mountain 23.32 25 P P 07 32 31.5 -1.1
KMSC Kings Mountain 23.32 25 P P 07 32 31.9 -0.6
baz=210
Y59A Loris 23.48 31 P P 07 32 32.6 -1.6
Y59A IAmb IAmb 07 32 35.3
comp=Z,24nm,0.8s
S44A Carbondale 23.54 8 P P 07 32 32.6 -2.1
S44A IAmb IAmb 07 32 57.2
comp=Z,27nm,1.0s
SIUC Southern Illin 23.56 8 P P 07 32 33.3 -1.6
SIUC IAmb IAmb 07 32 58.0
comp=Z,19nm,0.8s
FVM French Village 23.69 5 P P 07 32 35.6 -0.6
CCM Cathedral Cave 23.70 4 P P 07 32 34.0 -2.2
CCM IAmb IAmb 07 32 36.9
comp=Z,47nm,1.4s
CCM Cathedral Cave 23.70 4 P P 07 32 35.0 -1.3
baz=184
X58A Rowland 23.71 29 P P 07 32 34.4 -2.0
X58A IAmb IAmb 07 32 52.3
comp=Z,14nm,0.9s
TZTN Tazewell 23.75 20 P P 07 32 34.8 -1.9
ANMO Albuquerque 23.77 332 P P 07 32 38.5 +1.2
comp=Z,6.4nm,0.7s,baz=140,slow=11,SNR=32
ANMO Albuquerque 23.77 332 P P 07 32 38.5 +1.2
ANMO Albuquerque 23.77 332 P P 07 32 38.4 +1.1
baz=146
V55A Taylorsville 23.98 24 P P 07 32 37.7 -1.3
V55A IAmb IAmb 07 33 05.2
comp=Z,18nm,1.1s
TUC Tucson 24.06 321 P P 07 32 40.7 +0.8
TUC IAmb IAmb 07 32 43.7
comp=Z,23nm,1.0s
TUC Tucson 24.06 321 P P 07 32 42.0 +2.1
baz=134
U54A Nelsons Funny 24.33 23 P P 07 32 42.2 -0.1
U54A IAmb IAmb 07 33 06.4
comp=Z,24nm,0.8s
R32A Long Quarter, 24.50 349 P P 07 32 43.4 -0.3
OLIL Olney 24.73 10 P P 07 32 44.4 -1.4
S51A Beattyville 24.74 18 P P 07 32 45.4 -0.5
S51A IAmb IAmb 07 33 11.8
comp=Z,18nm,0.8s
U56A King 24.74 25 P P 07 32 44.4 -1.6
U56A IAmb IAmb 07 33 08.8
comp=Z,13nm,0.9s
V58A Windy Hill, Pi 24.83 28 P P 07 32 45.1 -1.6
V58A IAmb IAmb 07 32 48.5
comp=Z,17nm,1.0s
T25A Trinidad 24.83 338 P P 07 32 47.5 +0.5
T25A Trinidad 24.83 338 P P 07 32 48.3 +1.2
baz=153,SNR=36
KSU1 Kansas State U 24.87 354 P P 07 32 46.1 -1.0
KSU1 Kansas State U 24.87 354 P P 07 32 45.8 -1.2
baz=172,SNR=10
R49A Shelbyville 24.91 15 P P 07 32 45.9 -1.5
R49A IAmb IAmb 07 33 13.5
comp=Z,22nm,1.1s
CNNC Cliffs of the 24.96 31 P P 07 32 45.9 -2.1
CBKS Cedar Bluff 25.07 348 P P 07 32 48.8 -0.2
CBKS Cedar Bluff 25.07 348 P P 07 32 48.7 -0.3
baz=165,SNR=7.8
214A Organ Pipe Nat 25.10 318 P P 07 32 51.3 +1.9
baz=130
P40A Paris 25.13 2 P P 07 32 47.6 -1.8
BAUV El Baul 25.18 99 P P 07 32 48.0 -2.2
P38A Dawn 25.21 359 P P 07 32 48.8 -1.3
P38A IAmb IAmb 07 32 52.2
comp=Z,13nm,0.8s
P43A Skaggs, Pawnee 25.43 7 P P 07 32 50.2 -1.9
P43A IAmb IAmb 07 33 16.9
comp=Z,13nm,0.8s
BLO Bloomington 25.44 12 P P 07 32 51.4 -0.8
BLO IAmb IAmb 07 32 54.4
comp=Z,9.8nm,0.8s
BLA Blacksburg 25.47 24 P P 07 32 53.1 +0.5
BLA IAmb IAmb 07 33 07.8
comp=Z,14nm,0.9s
BLA Blacksburg 25.47 24 P P 07 32 52.9 +0.3
baz=210
W18A Petrified Fore 25.52 327 P P 07 32 53.2 0.0
W18A Petrified Fore 25.52 327 P P 07 32 54.0 +0.7
baz=140
SDCO Great Sand Dun 25.77 337 P P 07 32 57.0 +1.5
SDCO IAmb IAmb 07 32 58.5
comp=Z,30nm,1.4s
SDCO Great Sand Dun 25.77 337 P P 07 32 57.1 +1.5
baz=151,SNR=28
X16A Lo Mia Camp, P 25.94 324 P P 07 32 56.9 -0.1
P48A Milroy 25.95 14 P P 07 32 55.1 -1.8
KSCO Kaye Shedlock' 25.97 343 P P 07 32 57.8 +0.6
KSCO Kaye Shedlock' 25.97 343 P P 07 32 57.6 +0.4
baz=158,SNR=6.5
S22A 4UR Ranch, Cre 26.29 335 P P 07 33 02.2 +1.8
S22A 4UR Ranch, Cre 26.29 335 P P 07 33 01.5 +1.2
baz=149,SNR=18
N41A Harden Midland 26.36 4 P P 07 32 59.0 -1.6
N41A IAmb IAmb 07 33 22.1
comp=Z,17nm,1.1s
Q52A Bidwell 26.36 19 P P 07 32 58.5 -2.2
Q52A IAmb IAmb 07 33 23.9
comp=Z,13nm,1.0s
N38A Joes South For 26.37 360 P P 07 32 59.2 -1.5
T59A Double "B" Far 26.51 29 P P 07 32 59.8 -2.2
T59A IAmb IAmb 07 33 00.8
comp=Z,18nm,0.9s
N35A Tabor 26.53 356 P P 07 33 01.8 -0.3
N35A IAmb IAmb 07 33 05.0
comp=Z,18nm,0.9s
Y14A Wickenburg 26.53 321 P P 07 33 04.1 +1.8
MVCO Mesa Verde 26.57 332 P P 07 33 03.0 +0.2
MVCO IAmb IAmb 07 33 06.6
comp=Z,11nm,0.8s
MVCO Mesa Verde 26.57 332 P P 07 33 04.0 +1.2
baz=145,SNR=8.3
N33A J Bar K, Exete 26.58 353 P P 07 33 02.4 -0.2
P51A Williamsport 26.60 18 P P 07 33 02.8 +0.1
P51A IAmb IAmb 07 33 26.5
comp=Z,11nm,0.8s
WUAZ Wupatki 26.70 325 P P 07 33 05.2 +1.3
baz=138
Q24A Divide 26.72 339 P P 07 33 05.2 +0.9
baz=153
PDMCI Parker Dam,Lak 27.48 320 P P 07 33 13.0 +2.3
baz=131
PV13 Radium Mtn., P 27.49 333 P P 07 33 12.9 +1.8
PV13 IAmb IAmb 07 33 19.5
comp=Z,15nm,1.2s
PV15 Paradox Valley 27.49 333 P P 07 33 11.3 +0.2
PV15 IAmb IAmb 07 33 14.7
comp=Z,16nm,1.1s
O52A Adamsville 27.55 19 P P 07 33 11.2 -0.1
SMCO Snowmass 27.58 336 P P 07 33 13.5 +1.4
OGNE Ogallala 27.63 345 P P 07 33 12.8 +0.7
baz=161
ISCO Idaho Springs 27.63 339 P P 07 33 12.9 +0.5
ISCO Idaho Springs 27.63 339 P P 07 33 13.2 +0.8
baz=153,SNR=5.6
PV11 David Mesa, Pa 27.63 333 P P 07 33 13.8 +1.5
PV11 IAmb IAmb 07 33 22.4
comp=Z,34nm,1.5s
L34A Svendsen Farm, 27.68 355 P P 07 33 12.3 -0.2
L40A Anamosa 27.69 3 P P 07 33 11.2 -1.4
L40A IAmb IAmb 07 33 38.6
comp=Z,24nm,1.2s
W13A Hualapai Mount 27.85 322 P P 07 33 13.9 -0.4
BC3 Big Chuckawall 27.90 317 P P 07 33 16.3 +1.7
baz=128
IRM Iron Mountain 28.01 319 P P 07 33 17.1 +1.5
baz=129
JFWS Jewell Farm 28.60 4 P P 07 33 19.2 -1.4
JFWS IAmb IAmb 07 33 21.8
comp=Z,13nm,0.8s
JFWS Jewell Farm 28.60 4 P P 07 33 20.2 -0.4
baz=186
GMRC Granite Mounta 28.74 319 P P 07 33 22.8 +0.6
baz=129
LCMT Little Creek M 28.82 325 P P 07 33 22.8 -0.1
O20A White River Ci 28.90 336 P P 07 33 24.3 +0.7
O20A White River Ci 28.90 336 P P 07 33 24.8 +1.2
baz=148
MTPU Mount Pierson 29.02 328 P P 07 33 24.8 -0.1
SRU San Rafael Swe 29.04 331 P P 07 33 26.0 +1.2
Q16A Castle Valley 29.19 330 P P 07 33 27.8 +1.6
CCUT Cedar City 29.28 326 P P 07 33 28.8 +1.8
CCUT IAmb IAmb 07 33 30.8
comp=Z,9.9nm,1.0s
MSU Marysvale 29.37 329 P P 07 33 28.3 +0.4
P17A Butcher Ranch, 29.43 332 P P 07 33 30.0 +1.8
ECSD EROS Data Cent 29.46 355 P P 07 33 27.3 -1.0
ECSD IAmb IAmb 07 33 30.5
comp=Z,8.8nm,0.8s
ECSD EROS Data Cent 29.46 355 P P 07 33 26.4 -1.9
baz=173,SNR=10.0
TMUT Trail Mountain 29.51 331 P P 07 33 30.9 +1.7
RDMU Red Mountain 29.82 334 P P 07 33 31.3 -0.4
RDMU IAmb IAmb 07 33 37.0
comp=Z,8.6nm,1.0s
PSUT Pine Spring 30.26 327 P P 07 33 37.4 +1.7
K22A Casper 30.48 340 P P 07 33 38.1 +0.6
K22A IAmb IAmb 07 33 41.3
comp=Z,9.1nm,0.8s
K22A Casper 30.48 340 P P 07 33 38.3 +0.7
baz=154
MPMC Manual Prospec 30.70 319 P P 07 33 41.4 +1.8
baz=128
SPMN Marine on St. 30.80 1 P P 07 33 38.1 -2.0

SPMN				IAmb	IAmb	07 33 43.0		
	comp=Z,9.1nm,0.8s							
SPMN	**Marine on St.**	**30.80**	**1**	P	**P**	**07 33 39.2**	**-0.9**
	baz=180							
CTU	**Camp Tracy**	**30.87**	**332**	P	**P**	**07 33 42.0**	**+1.0**
R11A	**Troy Canyon, C**	**31.07**	**325**	P	**P**	**07 33 44.2**	**+1.4**
	baz=134,SNR=5.6							
RSSD	**Black Hills**	**31.11**	**345**	P	**P**	**07 33 43.8**	**+0.6**
RSSD				IAmb	IAmb	07 33 44.6		
	comp=Z,6.7nm,0.7s							
RSSD	**Black Hills**	**31.11**	**345**	P	**P**	**07 33 43.8**	**+0.6**
	baz=159							
CWC	**Cottonwood Cre**	**31.31**	**319**	P	**P**	**07 33 44.1**	**-0.8**
	baz=128							
BINY	**Binghamton**	**31.51**	**25**	P	P	07 33 44.9	-1.5	
	baz=213							
HWUT	**Hardware Ranch**	**31.52**	**333**	P	**P**	**07 33 46.5**	**-0.2**
HWUT				IAmb	IAmb	07 33 50.7		
	comp=Z,11nm,1.5s							
VES	**Vestal, Richgr**	**31.60**	**317**	P	**P**	**07 33 49.1**	**+1.8**
	baz=126							
BGU	**Big Grassy Mou**	**31.65**	**331**	P	**P**	**07 33 47.6**	**-0.3**
BW06	**Boulder Array**	**31.66**	**337**	P	**P**	**07 33 48.4**	**+0.4**
BW06	**Boulder Array**	**31.66**	**337**	P	**P**	**07 33 48.5**	**+0.4**
	baz=148							
PD31	**Pinedale Array**	**31.66**	**337**	P	**P**	**07 33 47.2**	**-0.9**
PDAR	**Pinedale Array**	**31.66**	**337**	P	**P**	**07 33 48.6**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=138,slow=8.8,SNR=16							
PDAR				PcP	**PcP**	**07 36 39.6**	**-0.3**	
	comp=Z,0.4nm,0.5s,baz=152,slow=4.1,SNR=3.2							
HVU	**Hansel Valley**	**32.20**	**332**	P	**P**	**07 33 53.5**	**+0.8**
HVU				IAmb	IAmb	07 33 55.6		
	comp=Z,8.1nm,0.9s							
AHID	**Auburn Hatcher**	**32.28**	**335**	P	**P**	**07 33 54.0**	**+0.6**
AHID				IAmb	IAmb	07 33 57.9		
	comp=Z,8.7nm,0.8s							
ELK	**Elko**	**32.61**	**328**	P	**P**	**07 33 57.4**	**+1.0**
OMMB	**Old Mammoth Mi**	**32.62**	**320**	P	**P**	**07 33 58.2**	**+1.6**
OMMB				IAmb	IAmb	07 34 01.7		
	comp=Z,21nm,1.5s							
NV11	**Mina Array Sit**	**32.62**	**322**	P	**P**	**07 33 58.5**	**+2.1**
NV11				IAmb	IAmb	07 34 00.1		
	comp=Z,11nm,0.9s							
ECR	**Eagle Creek**	**32.63**	**335**	P	**P**	**07 33 57.7**	**+1.2**
REDW	**Red Top Meadow**	**32.67**	**336**	P	**P**	**07 33 58.2**	**+1.3**
NVAR	**Mina Array Bea**	**32.71**	**322**	P	**P**	**07 33 59.6**	**+2.4**
	comp=Z,8.1nm,0.8s,baz=140,slow=8.6,SNR=35							
NVAR				PcP	**PcP**	**07 36 43.6**	**+0.7**	
	comp=Z,1.3nm,0.6s,baz=148,slow=3.5,SNR=5.0							
NVAR	**Mina Array Bea**	**32.71**	**322**	P	**P**	**07 33 57.9**	**+0.7**
SNOW	**Snow King Moun**	**32.72**	**336**	P	**P**	**07 33 58.7**	**+1.3**
E28A	**Huff**	**32.77**	**350**	P	P	07 33 56.2	-1.2
LOHW	**Long Hollow**	**32.79**	**336**	P	**P**	**07 33 58.8**	**+1.0**
TPAW	**Teton Pass**	**32.82**	**336**	P	**P**	**07 34 00.1**	**+1.9**
MOOW	**Moose Ponds**	**32.96**	**336**	P	**P**	**07 34 00.5**	**+1.2**
MOOW				IAmb	IAmb	07 34 04.3		
	comp=Z,12nm,0.8s							
KVN	**Kaiserville**	**32.99**	**323**	P	**P**	**07 34 02.0**	**+2.3**
KVN				IAmb	IAmb	07 34 02.5		
	comp=Z,6.7nm,0.9s							
FLWY	**Flagg Ranch**	**33.22**	**337**	P	**P**	**07 34 03.0**	**+1.4**
FLWY				IAmb	IAmb	07 34 06.7		
	comp=Z,11nm,0.8s							
BMN	**Battle Mountai**	**33.44**	**326**	P	**P**	**07 34 05.6**	**+2.1**
BMN				IAmb	IAmb	07 34 06.7		
	comp=Z,9.8nm,1.0s							
H17A	**Grant Village**	**33.44**	**337**	P	**P**	**07 34 05.7**	**+2.1**
H17A				IAmb	IAmb	07 34 08.5		
	comp=Z,8.4nm,0.9s							
H17A	**Grant Village**	**33.44**	**337**	P	**P**	**07 34 04.5**	**+0.9**
	baz=148,SNR=6.7							
LKWY	**Lake**	**33.52**	**337**	P	**P**	**07 34 06.3**	**+2.0**
LKWY				IAmb	IAmb	07 34 21.5		
	comp=Z,12nm,1.1s							
RLMT	**Red Lodge**	**33.59**	**339**	P	**P**	**07 34 06.0**	**+1.1**
RLMT				IAmb	IAmb	07 34 06.5		
	comp=Z,7.5nm,1.1s							
RLMT	**Red Lodge**	**33.59**	**339**	P	**P**	**07 34 05.4**	**+0.5**
	baz=151,SNR=6.7							
YMR	**Madison River**	**33.82**	**337**	P	**P**	**07 34 08.8**	**+1.9**
MDND	**Maddock**	**33.85**	**352**	P	**P**	**07 34 06.2**	**-0.7**
	baz=169							
YHH	**Holmes Hill**	**33.88**	**337**	P	**P**	**07 34 07.5**	**0.0**
YHH				IAmb	IAmb	07 34 12.9		
	comp=Z,11nm,1.1s							
AGMN	**Agassiz Nation**	**33.95**	**357**	P	**P**	**07 34 06.9**	**-0.7**
AGMN				IAmb	IAmb	07 34 09.3		
	comp=Z,13nm,0.9s							
AGMN	**Agassiz Nation**	**33.95**	**357**	P	**P**	**07 34 07.0**	**-0.7**
	baz=175							
YHL	**Hebgen Lake**	**34.05**	**337**	P	**P**	**07 34 09.7**	**+0.7**
YHL				IAmb	IAmb	07 34 13.7		
	comp=Z,10nm,0.9s							
LAO	**LASA Array**	**34.07**	**344**	P	**P**	**07 34 09.5**	**+0.7**
LAO				IAmb	IAmb	07 34 10.1		
	comp=Z,10.0nm,1.0s							
LAO	**LASA Array**	**34.07**	**344**	P	**P**	**07 34 09.8**	**+1.0**
	baz=157							
LONY	**Lake Ozonia**	**34.09**	**24**	P	P	07 34 06.9	-2.1	
	baz=213							
QLMT	**Earthquake Lak**	**34.13**	**337**	P	**P**	**07 34 11.8**	**+2.2**
GCMT	**Greycliff**	**34.31**	**339**	P	**P**	**07 34 12.0**	**+0.9**
HLID	**Hailey**	**34.35**	**332**	P	**P**	**07 34 13.1**	**+1.6**
HLID				IAmb	IAmb	07 34 14.1		
	comp=Z,7.2nm,0.9s							
HLID	**Hailey**	**34.35**	**332**	P	**P**	**07 34 12.5**	**+1.1**
	baz=141,SNR=12							
MCMT	**McKenzie Canyo**	**34.69**	**335**	P	**P**	**07 34 16.1**	**+1.6**
BOZ	**Bozeman (W)**	**34.85**	**337**	P	**P**	**07 34 16.8**	**+1.0**
BOZ				IAmb	IAmb	07 34 20.8		
	comp=Z,7.0nm,0.8s							
BOZ	**Bozeman (W)**	**34.85**	**337**	P	**P**	**07 34 15.7**	**0.0**
	baz=147,SNR=16							
MFID	**Camas Ranch**	**34.89**	**331**	P	**P**	**07 34 17.6**	**+1.5**
DLMT	**Dillon**	**35.03**	**336**	P	**P**	**07 34 19.2**	**+1.9**
DLMT				IAmb	IAmb	07 34 20.3		
	comp=Z,12nm,0.8s							
DGMT	**Dagmar**	**35.25**	**347**	P	**P**	**07 34 19.2**	**+0.3**
DGMT				IAmb	IAmb	07 34 19.9		
	comp=Z,9.0nm,0.8s							
DGMT	**Dagmar**	**35.25**	**347**	P	**P**	**07 34 19.7**	**+0.8**
	baz=161							
LRM	**Limekiln Ridge**	**35.36**	**336**	P	**P**	**07 34 21.3**	**+1.1**
HRY	**Holter Researc**	**35.87**	**338**	P	**P**	**07 34 25.5**	**+1.1**
ULM	**Lac du Bonnet**	**35.90**	**357**	P	P	07 34 22.6	-1.8
	comp=Z,6.6nm,0.6s,baz=182,slow=9.3,SNR=8.2							
O03E	**Paynes Creek**	**35.99**	**321**	P	**P**	**07 34 26.5**	**+1.0**
	baz=128							
J08A	**Circle Bar Ran**	**36.16**	**328**	P	**P**	**07 34 28.5**	**+1.6**
PLID	**Pearl Lake**	**36.25**	**332**	P	**P**	**07 34 28.4**	**+0.6**
PLID				IAmb	IAmb	07 34 30.0		
	comp=Z,12nm,0.9s							
EGMT	**Eagleton**	**36.31**	**341**	P	**P**	**07 34 28.8**	**+0.7**
EGMT	**Eagleton**	**36.31**	**341**	P	**P**	**07 34 27.7**	**-0.4**
	baz=152,SNR=12							
BMO	**Blue Mountains**	**36.68**	**331**	P	**P**	**07 34 32.2**	**+0.8**
MSO	**Missoula**	**36.77**	**336**	IAmb	IAmb	07 34 34.1		
	comp=Z,8.9nm,0.8s							
MSO	**Missoula**	**36.77**	**336**	P	**P**	**07 34 31.9**	**-0.2**
	baz=145,SNR=5.5							
YBH	**Yreka Blue Hor**	**37.41**	**323**	P	**P**	**07 34 37.6**	**0.0**
	comp=Z,1.1nm,0.6s,baz=162,slow=4.0,SNR=7.1							
F10A	**Beach Ranch, E**	**37.49**	**332**	IAmb	IAmb	07 34 40.0		
	comp=Z,16nm,0.8s							
J05D	**Fort Rock, OR**	**37.57**	**326**	P	**P**	**07 34 39.2**	**+0.2**
	baz=132							
JTMT	**Jette**	**37.66**	**337**	IAmb	IAmb	07 34 41.6		
	comp=Z,10.0nm,0.9s							
I05D	**Terrebonne, OR**	**38.33**	**327**	P	**P**	**07 34 46.8**	**+1.4**
	baz=132							
I04A	**Tendick Farm,**	**38.55**	**325**	P	**P**	**07 34 47.4**	**+0.2**
	baz=130							
I03D	**Drain, OR**	**39.01**	**325**	P	**P**	**07 34 51.6**	**+0.7**
	baz=129							
H04A	**Detroit Lake**	**39.01**	**327**	IAmb	IAmb	07 34 52.6		
	comp=Z,15nm,1.0s							
H04D	**Lebanon**	**39.20**	**326**	P	**P**	**07 34 53.0**	**+0.5**
	baz=131							
NEW	**Newport**	**39.21**	**335**	P	**P**	**07 34 53.2**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=167,slow=5.5,SNR=5.8							
NEW	**Newport**	**39.21**	**335**	IAmb	IAmb	07 34 58.8		
	comp=Z,4.2nm,1.1s							
NEW	**Newport**	**39.21**	**335**	P	**P**	**07 34 53.3**	**+0.6**
	baz=141							
D04E	**Lakebay**	**41.00**	**329**	P	**P**	**07 35 07.6**	**+0.3**
	baz=133							
A04D	**Lummi Island**	**42.03**	**331**	P	**P**	**07 35 16.1**	**+0.3**
	baz=134							
FCC	**Fort Churchill**	**44.37**	**359**	P	**P**	**07 35 33.6**	**-0.9**
SCHQ	**Schefferville**	**45.33**	**21**	PcP	**PcP**	**07 37 21.5**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=247,slow=2.2,SNR=7.7							
YKA	**Yellowknife Ar**	**50.46**	**347**	P	**P**	**07 36 21.8**	**-0.1**
	comp=Z,19nm,0.7s,baz=154,slow=7.4,SNR=358							
YKA				PcP	**PcP**	**07 37 39.7**	**-0.2**	
	comp=Z,1.7nm,0.7s,baz=152,slow=3.5,SNR=6.8							
DLBC	**Dease Lake**	**51.90**	**336**	P	**P**	**07 36 33.3**	**+0.4**
TGTN	**Hyland Airport**	**53.43**	**340**	P	**P**	**07 36 44.6**	**+0.4**
	baz=136,SNR=6.0							
BDFB	**Brasilia**	**53.66**	**122**	P	**P**	**07 36 45.8**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=288,slow=9.7,SNR=3.6							
BDFB	**Brasilia**	**53.66**	**122**	P	P	07 36 45.3	-1.3	
BDFB				IAmb	IAmb	07 37 06.0		
	comp=Z,6.2nm,1.0s							
MMPY	**Sheldon Lake,**	**55.20**	**340**	P	**P**	**07 36 58.1**	**+1.0**
	baz=133,SNR=8.4							
WHY	**Whitehorse**	**55.22**	**336**	P	**P**	**07 36 57.8**	**+0.5**
	baz=128							
FARO	**Faro, Yukon**	**55.66**	**339**	P	**P**	**07 37 01.1**	**+0.7**
	baz=131							
M31M	**Drury Creek, Y**	**56.01**	**338**	P	**P**	**07 37 02.8**	**-0.1**
	baz=130							
N31M	**Braeburn, Yuko**	**56.08**	**337**	P	**P**	**07 37 04.6**	**+1.3**
	baz=128							
HYT	**Haines Junctio**	**56.35**	**336**	P	**P**	**07 37 06.8**	**+1.4**
	baz=126							
YUK4	**Talbot Arm**	**57.11**	**336**	P	**P**	**07 37 11.9**	**+1.0**
	baz=125							
M30M	**Minto, Yukon**	**57.12**	**338**	P	**P**	**07 37 11.4**	**+0.5**
	baz=127							
CTG	**Chitna Glacier**	**57.99**	**335**	P	**P**	**07 37 17.6**	**+0.5**
	baz=122							
YUK3	**Moose Creek**	**58.07**	**336**	P	**P**	**07 37 18.3**	**+0.6**
	baz=123							
C36M	**Paulatuk**	**58.34**	**348**	P	**P**	**07 37 20.0**	**+0.9**
	baz=144							
BVCY	**Beaver Creek**	**58.58**	**336**	P	**P**	**07 37 22.1**	**+1.1**
	baz=123							
PLCA	**Paso Flores**	**58.66**	**160**	P	**P**	**07 37 21.5**	**-0.3**
	comp=Z,2.0nm,1.0s,baz=300,slow=14,SNR=2.1							
PLCA	**Paso Flores**	**58.66**	**160**	IAmb	IAmb	07 37 25.3		
	comp=Z,5.7nm,1.5s							
M27K	**Edge Creek, AK**	**58.95**	**336**	P	**P**	**07 37 24.2**	**+0.5**
	baz=122							
DAWY	**Dawson**	**58.95**	**338**	P	**P**	**07 37 23.9**	**+0.3**
	baz=125							
BCAR	**Beaver Creek A**	**59.29**	**337**	P	**P**	**07 37 27.0**	**+1.0**
L27K	**Beaver Creek,**	**59.30**	**337**	P	**P**	**07 37 27.4**	**+1.3**
L27K				IAmb	IAmb	07 37 27.6		
	comp=Z,5.1nm,0.8s							
L27K	**Beaver Creek,**	**59.30**	**337**	P	**P**	**07 37 26.8**	**+0.7**
	baz=122							
I29M	**Ogilvie Camp,**	**59.34**	**340**	P	**P**	**07 37 26.6**	**+0.3**
I29M				IAmb	IAmb	07 37 29.7		
	comp=Z,4.5nm,0.9s							
I29M	**Ogilvie Camp,**	**59.34**	**340**	P	**P**	**07 37 26.6**	**+0.3**
	baz=127							
BMRM	**Bremner River**	**59.38**	**334**	P	**P**	**07 37 27.3**	**+0.7**
	baz=118							
M26K	**Nabesna, AK**	**59.41**	**336**	P	**P**	**07 37 27.9**	**+1.0**
	baz=120							
N25K	**Chitina, Valde**	**59.68**	**334**	P	**P**	**07 37 30.0**	**+1.3**
	baz=118							
INK	**Inuvik**	**59.81**	**344**	P	**P**	**07 37 29.7**	**+0.4**
INK	**Inuvik**	**59.81**	**344**	P	**P**	**07 37 29.4**	**+0.1**
	baz=133,SNR=15							
L26K	**Log Cabin Wild**	**59.87**	**336**	P	**P**	**07 37 30.8**	**+0.8**
	baz=120							
EGAK	**Eagle**	**59.99**	**338**	IAmb	IAmb	07 37 31.6		
	comp=Z,4.9nm,0.9s							
EGAK	**Eagle**	**59.99**	**338**	P	**P**	**07 37 30.8**	**+0.1**
	baz=124							
KLU	**Klutina**	**60.19**	**334**	P	**P**	**07 37 32.9**	**+0.8**
	baz=117							
HARP	**HAARP**	**60.29**	**335**	P	**P**	**07 37 33.8**	**+1.0**
	baz=118							
RES	**Resolute Bay**	**60.37**	**359**	P	**P**	**07 37 32.5**	**-0.6**
DOT	**Dot Lake**	**60.47**	**337**	P	**P**	**07 37 33.9**	**-0.1**
SCRK	**Sand Creek**	**60.61**	**337**	P	**P**	**07 37 36.0**	**+0.9**
SCRK				IAmb	IAmb	07 37 43.3		
	comp=Z,8.1nm,1.3s							
SCRK	**Sand Creek**	**60.61**	**337**	P	**P**	**07 37 35.1**	**0.0**
	baz=120							
PAX	**Paxson**	**60.69**	**336**	P	**P**	**07 37 35.7**	**+0.1**
PAX	**Paxson**	**60.69**	**336**	P	**P**	**07 37 35.8**	**+0.1**
	baz=118,SNR=5.9							
A36M	**Sachs Harbour**	**60.71**	**349**	P	**P**	**07 37 35.0**	**-0.4**
A36M	**Sachs Harbour**	**60.71**	**349**	P	**P**	**07 37 35.7**	**+0.3**
	baz=144							
J26L	**Joseph Creek**	**60.72**	**338**	P	**P**	**07 37 36.2**	**+0.4**
	baz=121,SNR=7.8							
RIDG	**Independent Ri**	**60.82**	**336**	P	**P**	**07 37 36.8**	**+0.3**
	baz=119							
M23K	**Glacier View**	**61.09**	**334**	P	**P**	**07 37 38.2**	**-0.1**
	baz=116							
K24K	**Donnelly Dome**	**61.21**	**336**	P	**P**	**07 37 39.7**	**+0.6**
	baz=118,SNR=6.3							
KNK	**Knik Glacier**	**61.24**	**333**	P	**P**	**07 37 40.3**	**+0.9**
	baz=114							
SML	**Sawmill**	**61.36**	**334**	P	**P**	**07 37 40.3**	**+0.2**
	baz=115							
O22K	**Cooper Landing**	**61.43**	**332**	P	**P**	**07 37 41.5**	**+1.0**
	baz=113							
WAT6	**Susitna Watana**	**61.44**	**335**	P	**P**	**07 37 41.1**	**+0.3**
	baz=116,SNR=6.9							
J25K	**Salcha River,**	**61.45**	**337**	IAmb	IAmb	07 37 42.5		
	comp=Z,5.8nm,1.1s							
J25K	**Salcha River,**	**61.45**	**337**	P	**P**	**07 37 41.5**	**+0.8**
	baz=119							
DHY	**Denali Highway**	**61.51**	**335**	P	**P**	**07 37 41.6**	**+0.3**
	baz=116							
PMR	**Palmer**	**61.61**	**333**	P	**P**	**07 37 42.4**	**+0.7**
	baz=114							
BRSE	**Bradley Lake S**	**61.62**	**331**	P	**P**	**07 37 42.5**	**+0.6**
	baz=112							
RC01	**Rabbit Creek A**	**61.68**	**333**	P	**P**	**07 37 42.7**	**+0.5**
	baz=113							
WAT1	**Susitna Watana**	**61.88**	**335**	P	**P**	**07 37 44.1**	**+0.4**
	baz=115							
IL31		**62.10**	**337**	P	**P**	**07 37 45.1**	**+0.2**
ILAR	**Eielson Array**	**62.10**	**337**	P	**P**	**07 37 45.1**	**+0.1**
	comp=Z,5.8nm,0.9s,baz=142,slow=4.4,SNR=41							
ILAR	**Eielson Array**	**62.10**	**337**	P	**P**	**07 37 44.9**	**-0.1**
RND	**Reindeer**	**62.26**	**335**	P	**P**	**07 37 47.3**	**+1.1**
MCK	**McKinley**	**62.43**	**335**	P	**P**	**07 37 47.4**	**+0.1**
	baz=115,SNR=7.7							
CUT	**Chulitna**	**62.43**	**334**	P	**P**	**07 37 47.7**	**+0.5**
	baz=113							
POKR	**Poker Plat Res**	**62.46**	**337**	P	**P**	**07 37 47.4**	**-0.1**
	baz=117							
COLA	**College**	**62.51**	**337**	P	**P**	**07 37 47.5**	**-0.2**
COLA				IAmb	IAmb	07 37 48.7		
	comp=Z,6.6nm,0.9s							
COLA	**College**	**62.51**	**337**	P	**P**	**07 37 47.6**	**-0.2**
	baz=117							
TCOL	**CIGO, UAF Yank**	**62.51**	**337**	P	**P**	**07 37 48.2**	**+0.5**
TCOL				IAmb	IAmb	07 37 48.7		
	comp=Z,7.0nm,0.9s							
TCOL	**CIGO, UAF Yank**	**62.51**	**337**	P	**P**	**07 37 47.8**	**+0.1**
	baz=117							
BMAR	**Burnt Mountain**	**62.60**	**340**	P	**P**	**07 37 49.0**	**+0.6**
BWN	**Browne**	**62.83**	**336**	P	**P**	**07 37 49.9**	**0.0**
NEA2	**Nenana**	**62.85**	**336**	IAmb	IAmb	07 37 54.0		
	comp=Z,3.7nm,0.8s							
NEA2	**Nenana**	**62.85**	**336**	P	**P**	**07 37 49.7**	**-0.3**
	baz=116							
TRF	**Thorofare Moun**	**62.86**	**335**	P	**P**	**07 37 50.4**	**0.0**
TRF	**Thorofare Moun**	**62.86**	**335**	P	**P**	**07 37 50.4**	**0.0**
	baz=114,SNR=6.1							
H24K	**Noodor Dome**	**62.96**	**338**	P	**P**	**07 37 51.0**	**+0.2**
H24K	**Noodor Dome**	**62.96**	**338**	P	**P**	**07 37 50.9**	**+0.1**
	baz=117,SNR=9.6							
I23K	**Minto, Yukon-K**	**63.21**	**337**	P	**P**	**07 37 53.0**	**+0.6**
	baz=115							
BPAW	**Bear Paw Mtn.**	**63.41**	**335**	P	**P**	**07 37 54.2**	**+0.4**
BPAW	**Bear Paw Mtn.**	**63.41**	**335**	P	**P**	**07 37 53.6**	**-0.1**
	baz=113							
PPLA	**Purkeypile**	**63.44**	**334**	P	**P**	**07 37 54.3**	**+0.2**
	baz=112							
O19K	**Port Alsworth**	**63.47**	**331**	P	**P**	**07 37 54.1**	**-0.1**
	baz=108							
H23K	**Yukon River**	**63.57**	**337**	P	**P**	**07 37 55.1**	**+0.3**
	baz=116							
CAST	**Castle Rocks**	**63.59**	**335**	P	**P**	**07 37 54.5**	**-0.5**
	baz=112,SNR=6.9							
N19K	**Bonanza Creek**	**63.74**	**331**	P	**P**	**07 37 56.1**	**0.0**
	baz=108							
O18K	**Koktuh Hills**	**63.79**	**330**	P	**P**	**07 37 56.7**	**+0.3**
	baz=107							
CHUM	**Lake Minchumin**	**63.86**	**335**	P	**P**	**07 37 56.8**	**0.0**
	baz=112							
L20K	**Farewell, AK**	**64.02**	**333**	P	**P**	**07 37 57.6**	**-0.3**
	baz=110,SNR=5.7							
M19K	**Big River Lodg**	**64.06**	**333**	P	**P**	**07 37 58.0**	**0.0**
	baz=109							
I21K	**Tanana**	**64.23**	**336**	P	**P**	**07 37 59.1**	**0.0**
	baz=113							
K20K	**Telida**	**64.41**	**334**	P	**P**	**07 37 59.9**	**-0.4**
K20K	**Telida**	**64.41**	**334**	P	P	07 37 59.1	-1.3	
	baz=110,SNR=8.0							
COLD	**Coldfoot**	**64.42**	**339**	P	**P**	**07 38 01.3**	**+0.9**
	baz=116							
J20K	**Nowinta River**	**64.72**	**335**	IAmb	IAmb	07 38 02.7		
	comp=Z,5.7nm,0.9s							
J20K	**Nowinta River**	**64.72**	**335**	P	**P**	**07 38 02.5**	**+0.1**
	baz=110							
H21K	**Melozitna River**	**64.73**	**337**	P	**P**	**07 38 02.0**	**-0.4**
H21K				IAmb	IAmb	07 38 05.5		
	comp=Z,4.8nm,1.0s							
H21K	**Melozitna River**	**64.73**	**337**	P	**P**	**07 38 02.2**	**-0.3**
	baz=112							
TOLK	**Toolik Lake Re**	**64.83**	**340**	P	**P**	**07 38 03.5**	**+0.4**
TOLK	**Toolik Lake Re**	**64.83**	**340**	P	**P**	**07 38 02.9**	**-0.2**
	baz=117,SNR=7.8							
TTA	**Tatalina**	**65.10**	**333**	P	**P**	**07 38 04.9**	**-0.1**
TTA				IAmb	IAmb	07 38 14.4		
	comp=Z,11nm,1.4s							
TTA	**Tatalina**	**65.10**	**333**	P	**P**	**07 38 04.8**	**-0.1**
	baz=108							
IMAR	**Indian Mountai**	**65.21**	**337**	P	**P**	**07 38 05.2**	**-0.4**
EUNU	**Eureka**	**65.83**	**1**	P	**P**	**07 38 09.7**	**+0.3**
A21K	**Barrow**	**68.14**	**342**	P	**P**	**07 38 24.2**	**+0.1**
A21K	**Barrow**	**68.14**	**342**	P	**P**	**07 38 23.8**	**-0.2**
	baz=111,SNR=6.7							
DAG	**Danmarks Havn**	**72.61**	**13**	*i* P	P	07 38 49.0	-2.4	
ESDC	**Sonseca Array**	**80.41**	**52**	P	P	07 39 33.5	-2.9	
	comp=Z,2.2nm,0.8s,baz=284,slow=6.1,SNR=15							
ESDC	**Sonseca Array**	**80.41**	**52**	P	P	07 39 34.1	-2.3	
BILL	**Bilibino**	**80.73**	**338**	P	**P**	**07 39 37.7**	**+0.3**
BILL				IAmb	IAmb	07 39 39.1		
	comp=Z,8.6nm,0.8s							
NB2	**NORSAR Subarra**	**84.41**	**28**	P	**P**	**07 39 56.0**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=291,slow=5.3							
NOA	**NORSAR Array B**	**84.41**	**28**	P	**P**	**07 39 56.1**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=291,slow=5.1,SNR=6.8							
ARCES	**ARCESS Array B**	**86.19**	**18**	P	P	07 40 02.5	-3.0	
	comp=Z,1.6nm,0.6s,baz=298,slow=5.2,SNR=6.6							
TIC	**Toumodi**	**86.61**	**84**	*e*PKP2	**P**	**07 40 08.3**	**-0.3**
LIC	**Lamto**	**86.70**	**84**	*e*PKP2	**P**	**07 40 09.4**	**+0.3**
	comp=Z,62nm,1.8s							
KIC	**Kosan Boka**	**86.94**	**84**	*e*PKP2	**P**	**07 40 09.9**	**-0.4**
	comp=Z,9.3nm,0.7s							
GERES	**CERESS Array B**	**90.08**	**39**	P	P	07 40 23.7	-0.9	
	comp=Z,0.2nm,0.2s,baz=307,slow=3.6,SNR=3.8							
TORD	**Torodi Ar. Bea**	**91.41**	**76**	P	P	07 40 29.3	-2.0	
	comp=Z,0.6nm,0.6s,baz=294,slow=5.2,SNR=5.9							
TORD	**Torodi Ar. Bea**	**91.41**	**76**	IAmb	IAmb	07 40 36.6		
	comp=Z,4.3nm,1.5s							
MKAR	**Makanchi Array**	**119.03**	**4**	PKP	**PKPdf**	**07 46 12.1**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=354,slow=2.4,SNR=7.9							
HHC	**Hu-ho-hao-te**	**120.51**	**338**	*e*P	**PKPdf**	**07 46 15.5**	**-1.1**
WMQ	**Urumqi**	**122.14**	**359**	*e*P	**PKPdf**	**07 46 20.0**	**+0.4**
NJ2	**Nanjing**	**124.61**	**327**	*e*P	**PKPdf**	**07 46 25.3**	**+0.8**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
KSH	**Kashi**	**125.49**	**10**	PKP	**PKPdf**	**07 46 24.0**	**-2.2**
KSH				sPKP		07 46 41.5		
STKA	**Stephens Creek**	**127.22**	**241**	PKP	**PKPdf**	**07 46 29.4**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=156,slow=4.2,SNR=2.9							
WRA	**Warramunga Arr**	**134.37**	**256**	PKP	**PKPdf**	**07 46 42.7**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=88,slow=2.1,SNR=6.3							
ASAR	**Alice Springs**	**134.69**	**251**	PKP	**PKPdf**	**07 46 43.4**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=108,slow=2.1,SNR=2.7							
PZH	**PanZhiHua**	**136.90**	**340**	PKP	**PKPdf**	**07 46 48

MMPI	**Merauke**	**27.30**	**281**	P	**P**	07 42 38.9	+3.7
	comp=Z,476nm,0.6s						
KHZ	**Kahutara**	**27.89**	**170**	P	**P**	07 42 40.5	+0.5
	comp=Z,30nm,1.9s						
LTZ	**Lake Taylor**	**28.07**	**173**	P	**P**	07 42 42.6	+1.0
RPZ	**Rata Peaks**	**28.86**	**175**	P	**P**	07 42 49.4	+0.7
	comp=Z,21nm,0.9s,baz=356,slow=6.8,SNR=7.6						
RPZ	**Rata Peaks**	**28.86**	**175**	IAmb	IAmb	07 42 51.5	
	comp=Z,24nm,0.9s						
RPZ	**Rata Peaks**	**28.86**	**175**	P	**P**	07 42 51.4	+2.7
	comp=Z,134nm,1.1s						
STKA	**Stephens Creek**	**29.04**	**230**	P	**P**	07 42 50.9	+0.4
	comp=Z,15nm,0.6s,baz=46,slow=8.2,SNR=49						
STKA				PcP	**PcP**	07 45 54.6	-1.1
	comp=Z,2.4nm,0.7s,baz=45,slow=2.9,SNR=3.4						
STKA	**Stephens Creek**	**29.04**	**230**	P	**P**	07 42 51.0	+0.6
STKA	**Stephens Creek**	**29.04**	**230**	P	**P**	07 42 51.3	+0.8
GENI	**Genyem**	**29.61**	**292**	P	P	07 43 00.1	+4.4
TOO	**Toolangi**	**29.83**	**217**	P	**P**	07 42 57.9	+0.5
TOO				IAmb	IAmb	07 42 58.7	
	comp=Z,16nm,1.1s						
LCRK	**Leigh Creek**	**31.00**	**235**	P	**P**	07 43 06.8	-1.0
HTT	**Hallett**	**31.76**	**229**	P	**P**	07 43 14.4	-0.1
	comp=Z,20nm,0.9s						
WR0	**Warramunga Arr**	**31.81**	**256**	P	**P**	07 43 14.6	-0.4
WB0	**Warramunga Arr**	**31.94**	**257**	P	**P**	07 43 14.5	-1.6
WB2	**Warramunga Arr**	**31.99**	**256**	P	**P**	07 43 14.6	-1.9
WB2				IAmb	IAmb	07 43 42.0	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**32.00**	**256**	P	**P**	07 43 14.4	-2.3
	comp=Z,0.7nm,0.6s,baz=85,slow=8.8,SNR=9.1						
WRA				PcP	**PcP**	07 46 03.3	-0.4
	comp=Z,0.5nm,0.8s,baz=76,slow=3.5,SNR=5.6						
WRA				ScP	**ScP**	07 49 36.9	+1.4
	comp=Z,0.4nm,0.8s,baz=93,slow=3.8,SNR=2.3						
AS31	**Alice Springs**	**32.81**	**249**	P	**P**	07 43 22.4	-1.4
ASAR	**Alice Springs**	**32.81**	**249**	P	**P**	07 43 21.9	-2.0
	comp=Z,2.5nm,0.7s,baz=79,slow=8.9,SNR=46						
ASAR				PcP	**PcP**	07 46 05.5	-0.5
	comp=Z,1.0nm,0.7s,baz=79,slow=2.3,SNR=5.4						
ASAR				ScP	**ScP**	07 49 39.5	+1.2
	comp=Z,0.9nm,0.9s,baz=93,slow=3.8,SNR=4.7						
ASAR	**Alice Springs**	**32.81**	**249**	P	**P**	07 43 22.8	-1.0
BBOO	**Buckleboo**	**33.64**	**232**	P	**P**	07 43 30.9	+0.1
BBOO				IAmb	IAmb	07 43 31.7	
	comp=Z,14nm,0.7s						
BBOO	**Buckleboo**	**33.64**	**232**	P	**P**	07 43 31.1	+0.3
MULG	**Mulgathing**	**34.29**	**238**	P	**P**	07 43 36.6	+0.1
FAKI	**Fak Fak**	**36.74**	**285**	P	**P**	07 44 01.7	+4.1
	comp=Z,13nm,1.6s						
WRKA	**Warakurna**	**38.08**	**248**	P	**P**	07 44 08.8	0.0
SWI	**Sorong**	**38.43**	**288**	P	**P**	07 44 15.7	+3.9
	comp=Z,11nm,0.5s						
FORT	**Forrest**	**39.39**	**239**	P	**P**	07 44 19.1	-0.6
FORT				IAmb	IAmb	07 44 23.0	
	comp=Z,40nm,1.4s						
FORT	**Forrest**	**39.39**	**239**	P	**P**	07 44 18.6	-1.0
	comp=Z,24nm,0.7s						
AAI	**Ambon**	**40.29**	**282**	P	**P**	07 44 31.3	+4.1
	comp=Z,53nm,0.4s						
MEEK	**Meekatharra**	**46.92**	**247**	P	**P**	07 45 19.1	-1.2
	comp=Z,16nm,2.0s						
JCJ	**Chichijima**	**48.46**	**329**	LR	LR	08 04 08.4	
	comp=Z,873nm,22.0s,baz=85,slow=34						
JCJ	**Chichijima**	**48.46**	**329**	P	**P**	07 45 30.6	-1.4
MORW	**Morawa**	**49.39**	**244**	P	**P**	07 45 38.7	-0.5
MORW				IAmb	IAmb	07 45 54.1	
	comp=Z,16nm,1.3s						
JOW	**Kunigami**	**56.34**	**317**	P	**P**	07 46 30.9	+0.8
JOW				IAmb	IAmb	07 46 43.8	
	comp=Z,20nm,1.1s						
MJAR	**Matsushiro Arr**	**58.18**	**332**	P	**P**	07 46 42.0	-1.0
	comp=Z,13nm,0.5s,baz=133,slow=8.7,SNR=1.8						
MJAR	**Matsushiro Arr**	**58.18**	**332**	IAmb	IAmb	07 46 42.4	
	comp=Z,3.8nm,1.3s						
VNDA	**Vanda**	**62.67**	**181**	P	**P**	07 47 13.3	+0.5
	comp=Z,5.6nm,0.7s,baz=355,slow=7.6,SNR=48						
VNDA	**Vanda**	**62.67**	**181**	P	**P**	07 47 13.5	+0.6
VNDA				IAmb	IAmb	07 47 15.1	
	comp=Z,6.6nm,0.8s						
SBA	**Scott Base**	**62.95**	**180**	P	**P**	07 47 16.2	+1.5
CASY	**Casey**	**63.44**	**202**	P	**P**	07 47 18.0	0.0
CASY				IAmb	IAmb	07 47 18.6	
	comp=Z,8.8nm,0.7s						
NJ2	**Nanjing**	**65.97**	**316**	*e*P	**P**	07 47 36.5	+1.5
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
PETK	**Petropavlovsk-**	**68.28**	**354**	P	**P**	07 47 49.7	+0.6
	comp=Z,2.2nm,0.4s,baz=156,slow=7.4,SNR=1.6						
QSPA	**South Pole Qui**	**75.11**	**180**	P	**P**	07 48 30.3	+0.2
QSPA				IAmb	IAmb	07 48 31.2	
	comp=Z,19nm,0.8s						
CMAR	**Chiang Mai Arr**	**75.23**	**294**	P	**P**	07 48 32.9	+1.4
	comp=Z,1.4nm,0.5s,baz=140,slow=5.3,SNR=4.6						
CMAR				pP	**pP**	07 49 02.7	-0.7
	comp=Z,2.3nm,0.8s,baz=126,slow=4.9,SNR=1.9						
CMAR	**Chiang Mai Arr**	**75.23**	**294**	P	**P**	07 48 30.9	-0.6
HHC	**Hu-ho-hao-te**	**75.88**	**320**	*e*P	**P**	07 48 36.0	+1.2
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,200nm,7.9s						
HHC				LR	LR		
	comp=N,3μm,17.8s						
HHC				LR	LR		
	comp=E,930nm,18.4s						
HHC				LR	LR		
	comp=Z,5μm,18.4s						
PZH	**PanZhiHua**	**75.99**	**303**	P	**P**	07 48 37.3	+1.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
SONM	**Songino Array**	**82.78**	**324**	P	**P**	07 49 12.3	+0.1
	comp=Z,1.2nm,0.6s,baz=142,slow=5.1,SNR=5.6						
SONM				pP	**pP**	07 49 43.0	-1.3
	comp=Z,0.8nm,0.9s,baz=144,slow=11,SNR=1.9						
SONM	**Songino Array**	**82.78**	**324**	IAmb	IAmb	07 49 13.0	
	comp=Z,2.1nm,1.1s						
ILAR	**Eielson Array**	**86.64**	**18**	P	**P**	07 49 29.6	-1.4
	comp=Z,0.8nm,0.7s,baz=242,slow=4.9,SNR=8.8						
TROLL	**Troll, Antarti**	**92.69**	**185**	P	**P**	07 49 59.2	-0.3
WMQ	**Urumqi**	**93.02**	**314**	*e*P	**P**	07 50 03.3	+1.8
SNAA	**Sanae**	**93.37**	**183**	P	**P**	07 50 00.5	-2.1
SNAA	**Sanae**	**93.37**	**183**	pP	pP	07 50 32.7	-2.4
VNA3	**Neumayer Olymp**	**94.03**	**181**	P	**P**	07 50 04.3	-1.3
VNA2	**Neumayer--Watz**	**94.30**	**182**	P	**P**	07 50 06.0	-0.8
VNA2	**Neumayer--Watz**	**94.30**	**182**	S	**S**	08 01 07.0	-0.1
VNA1	**Neumayer--Stat**	**94.59**	**181**	pP	pP	07 50 37.2	-3.5
MKAR	**Makanchi Array**	**97.50**	**316**	P	Pdif	07 50 21.7	-0.1
	comp=Z,1.2nm,0.7s,baz=88,slow=6.1,SNR=11						
MKAR				pP	pP	07 50 51.9	-2.6
	comp=Z,0.6nm,0.7s,baz=111,slow=6.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**97.68**	**324**	P	**P**	07 50 21.1	-1.2
	comp=Z,1.7nm,0.8s,baz=123,slow=5.3,SNR=6.1						
ARCES	**ARCESS Array B**	**120.49**	**345**	PKP	**PKPdf**	07 55 37.5	-0.6
	comp=Z,1.4nm,0.6s,baz=5.7,slow=1.2,SNR=9.3						
TORD	**Torodi Ar. Bea**	**166.12**	**264**	PKP	**PKPdf**	07 56 52.7	-0.4
	comp=Z,0.6nm,0.7s,baz=107,slow=1.5,SNR=3.8						
TORD				PKPab	**PKPab**	07 57 53.6	-0.8
	comp=Z,0.6nm,0.8s,baz=101,slow=4.6,SNR=3.2						

IGQ ***25*** *07:46:45±0.8, 1°N±4°×8°1W±°, h5km*
IDC ***25*** *07:46:46.3±1.1, 0.°59N×80.°22W, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.7/30, mbtmp3.6/6, Error ellipse: s-maj=64.2km s-min=22.5km az=59.0*

ISC 25 07:46:47.3±0.8, 0.°33N±0.°04×80.°35W±0.°05, h11km, n68, σ1§40/71, mb3.7/5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.61**	**166**	P	**Pn**	07 47 02.0	0.0
MAG1	**Magdalena**	**0.70**	**125**	P	**Pn**	07 47 04.0	+0.8
FLF1	**Flavio Alfaro-**	**0.85**	**143**	P	**Pn**	07 47 07.0	+1.7
AMA1	**Acelerografo,**	**0.87**	**46**	P	**Pg**	07 47 02.0	-2.0
AMA1				S	**Sg**	07 47 15.0	-0.4
AV21	**Acelerografo,**	**0.87**	**68**	P	**Pg**	07 47 03.0	-1.1
AV18	**Acelerografo,**	**0.88**	**91**	P	**Pn**	07 47 05.0	-0.6
BV15	**Puerto Quito-O**	**1.14**	**99**	P	**Pg**	07 47 09.0	-0.3
BV15				S	**Sn**	07 47 28.0	+3.1
HPAL	**Hacienda Las P**	**1.79**	**108**	P	**Pb**	07 47 19.0	-1.3
PINO	**Pino**	**1.81**	**106**	P	**Pn**	07 47 19.0	0.0
GGPT	**Toaza - Volcan**	**1.82**	**108**	P	**Pn**	07 47 19.0	+0.1
TERV	**Terraza Guagua**	**1.82**	**106**	P	**Pb**	07 47 20.0	-1.0
JUA2	**San Juan 2**	**1.83**	**107**	P	**Pb**	07 47 20.0	-1.1
YANA	**Yana**	**1.84**	**104**	P	**Pn**	07 47 19.0	-0.2
ILLI	**Illinizas Sur**	**1.93**	**123**	P	**Pb**	07 47 21.0	-1.8
CUSE	**Cuicocha Este**	**1.95**	**91**	*e*P	**Pb**	07 47 22.2	-1.0
CUSE				*e*S	**Sg**	07 47 51.0	+0.7
CUSE	**Cuicocha Este**	**1.95**	**91**	P	**Pn**	07 47 21.0	+0.2
PAST	**Pastocalle**	**1.99**	**121**	P	**Pg**	07 47 24.0	-1.6
CUSW	**Cuicocha Oeste**	**2.00**	**91**	P	**Pn**	07 47 22.0	+0.6
COTA	**Cotacachi**	**2.02**	**90**	P	**Pb**	07 47 23.0	-1.3
ALIT	**Ecuador-Imbabu**	**2.04**	**77**	P	**Pn**	07 47 21.0	-0.8
URCU	**Urcuqui**	**2.10**	**87**	P	**Pn**	07 47 23.0	+0.2
URCU				S	**Sb**	07 47 53.0	+1.1
CAMI	**Rancho Maria**	**2.10**	**118**	P	**Pb**	07 47 25.0	-0.7
PITA	**Cotopaxi Volc**	**2.11**	**115**	P	**Pb**	07 47 24.0	-1.9
BNAS	**Cotopaxi Volca**	**2.12**	**118**	P	**Pb**	07 47 25.0	-1.1
BREF	**Cotopaxi Volca**	**2.16**	**118**	P	**Pb**	07 47 26.0	-0.7
BMOR	**Cotopaxi Volca**	**2.17**	**119**	P	**Pb**	07 47 26.0	-0.9
BVC2	**Cotopaxi Volca**	**2.18**	**117**	P	**Pb**	07 47 26.0	-1.0
BTAM	**Cotopaxi Volca**	**2.20**	**117**	P	**Pb**	07 47 26.0	-1.4
TAMB	**Tambo**	**2.23**	**117**	P	**Pb**	07 47 27.0	-1.0
AIB2	**Ibarra (Univer**	**2.25**	**90**	P	**Pb**	07 47 27.0	-1.1
ANTG	**Antisana-Guama**	**2.26**	**112**	P	**Pb**	07 47 27.0	-1.4
VCES	**Cotopaxi**	**2.26**	**120**	P	**Pb**	07 47 27.0	-1.4
YAHU	**Yahuarcocha**	**2.28**	**89**	P	**Pb**	07 47 27.0	-1.7
ANTM	**Antisana-La Mi**	**2.30**	**112**	P	**Pb**	07 47 28.0	-1.1
ANTI	**Antisana**	**2.33**	**110**	P	**Pb**	07 47 28.0	-1.6
ANTS	**Antisana-Sarah**	**2.33**	**111**	P	**Pb**	07 47 28.0	-1.7
CHSH	**Refugio Sur-Vo**	**2.34**	**141**	P	**Pb**	07 47 29.0	-0.9
CHMA	**Chilma**	**2.35**	**77**	P	**Pn**	07 47 24.0	-2.1
ANGU	**Angureal**	**2.36**	**97**	P	**Pb**	07 47 29.0	-1.2
CAYR	**Refugio Cayamb**	**2.37**	**98**	P	**Pb**	07 47 29.0	-1.3
PORT	**Chimborazo Vol**	**2.38**	**138**	P	**Pb**	07 47 29.0	-1.6
LNGL	**El Angel-Carch**	**2.38**	**80**	P	**Pn**	07 47 26.0	-0.8
ECEN	**Cerro Negro**	**2.43**	**78**	P	**Pn**	07 47 26.0	-1.5
TAMH	**Tambohuasha Ch**	**2.44**	**140**	P	**Pb**	07 47 30.0	-1.5
CHL1	**Volcɲn Chiles**	**2.45**	**79**	P	**Pn**	07 47 27.0	-0.7
CHL2	**Volcɲn Chiles**	**2.48**	**79**	P	**Pn**	07 47 27.0	-1.1
TULM	**Tulcn-Chalpat**	**2.59**	**82**	*e*P	**Pb**	07 47 32.3	-1.9
TULM	**Tulcn-Chalpat**	**2.59**	**82**	P	**Pn**	07 47 31.0	+1.4
BMAS	**Trigal station**	**2.61**	**134**	P	**Pb**	07 47 32.0	-2.4
ARRY	**Arrayan**	**2.63**	**134**	P	**Pb**	07 47 33.0	-1.7
CONE	**Cono NE Rev Vo**	**2.74**	**98**	P	**Pn**	07 47 32.0	+0.5
BONI	**La Bonita**	**2.83**	**88**	P	**Pn**	07 47 34.0	+1.4
ARDO	**Archidona, Ten**	**2.87**	**117**	P	**Pb**	07 47 36.0	-2.6
CASC	**Dorado de Casc**	**3.02**	**94**	P	**Pn**	07 47 37.0	+1.8
GCUF	**Volcan Galeras**	**3.14**	**74**	*e*P	**Pn**	07 47 36.9	-0.2
GR1C	**Gorgona, Isla**	**3.44**	**39**	*e*P	**Pn**	07 47 44.2	+3.4
GR1C				*e*S	**Sg**	07 48 40.6	+2.8
CRUC	**La Cruz**	**3.62**	**70**	*e*P	**Pn**	07 47 44.5	+0.9
SOTA	**Rioblanco**	**4.15**	**64**	*e*P	**Pn**	07 47 52.6	+1.6
POPC	**Popayan, Colom**	**4.28**	**59**	*e*P	**Pn**	07 47 51.1	-1.5
PCON	**Cinco Dias**	**4.42**	**63**	*e*P	**Pn**	07 47 55.6	+0.7
MARP	**Paez Belalcaza**	**5.05**	**60**	*e*P	Pn	07 48 09.0	+5.7
GARC	**Garzon, Huila**	**5.20**	**69**	*e*P	**Pn**	07 48 04.6	-0.6
LPAZ	**La Paz**	**20.45**	**144**	P	Pn	07 51 29.4	+1.6
	1.4nm,0.8s,baz=322,slow=6.3,SNR=6.0						
TXAR	**Lajitas Array**	**36.42**	**324**	P	**P**	07 53 52.7	+0.5
	0.4nm,0.9s,baz=130,slow=8.4,SNR=3.0						
PLCA	**Paso Flores**	**41.84**	**169**	P	**P**	07 54 38.9	+1.5
	1.2nm,0.8s,baz=358,slow=8.3,SNR=2.0						
NVAR	**Mina Array Bea**	**51.47**	**322**	P	**P**	07 55 52.8	-0.4
	0.3nm,0.3s,baz=125,slow=7.8,SNR=3.9						
YKA	**Yellowknife Ar**	**67.11**	**344**	P	**P**	07 57 40.0	-0.7
	0.5nm,1.0s,baz=141,slow=5.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**82.18**	**77**	P	**P**	07 59 08.6	-0.5
	0.4nm,0.6s,baz=256,slow=4.2,SNR=1.5						

ROM 25 07:47:43.8±0.1, 44.°063N±0.°006×11.°409E±0.°006, h5km±1km, Md1.4/5, 5C-1D, Error ellipse: s-maj=0.7km s-min=0.2km az=176.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRIS	**BRISIGHELLA**	**0.11**	**40**	P	Pg	07 47 50.5	+4.3
BRIS				S	Sg	07 47 55.8	+8.1
BRIS				AML	AML		
	comp=E,11250μm,0.6s						
BRIS				AML	AML		
	comp=N,18200μm,0.4s						
LMD	**Lutirano**	**0.21**	**86**	⇑P	Pg	07 47 48.6	+0.6
LMD				S	Sg	07 47 52.4	+1.6
LMD				AML	AML		
	comp=N,14050μm,0.6s						
LMD				AML	AML		
	comp=E,11775μm,0.3s						
LMD				END			
LMD	**Lutirano**	**0.21**	**86**	P	Pg	07 47 48.6	+0.5
FNVD	**Fontana Vidola**	**0.23**	**297**	⇑P	Pg	07 47 48.8	+0.5
FNVD				S	Sg	07 47 52.8	+1.3
FNVD				END			
RUFI	**Rufina**	**0.23**	**162**	P	Pg	07 47 49.4	+1.0
RUFI				S	Sg	07 47 53.5	+2.1
RUFI				END			
RUFI	**Rufina**	**0.23**	**162**	P	Pg	07 47 49.4	+1.0
MPPT	**Montemurlo**	**0.25**	**246**	P	Pg	07 47 49.5	+0.8
MPPT				S	Sg	07 47 53.7	+1.6
MPPT				END			
MTCR	**Monte La Croce**	**0.30**	**263**	⇑P	Pg	07 47 50.2	+0.6
MTCR				S	Sg	07 47 54.8	+1.2
MTCR				END			
FIR	**Firenze**	**0.31**	**201**	P	Pb	07 47 50.9	-0.9
MTRZ	**Monterenzio**	**0.32**	**7**	P	Pg	07 47 49.7	-0.3
MTRZ	**Monterenzio**	**0.32**	**7**	P	Pg	07 47 49.7	-0.3
SFI	**Santa Sofia**	**0.35**	**116**	P	Pg	07 47 51.3	+0.7
ASQU	**Asqua**	**0.38**	**134**	P	Pg	07 47 51.9	+0.7
IMOL	**Imola, Italy**	**0.38**	**39**	P	Pb	07 47 52.2	-0.9
IMOL				AML	AML		
	comp=E,17300μm,0.7s						
IMOL				AML	AML		
	comp=N,19200μm,0.9s						
IMOL				AML	AML		
	comp=E,17250μm,0.7s						
IMOL				AML	AML		
	comp=N,19150μm,0.9s						
CRMI	**Carmignano**	**0.42**	**230**	P	Pb	07 47 54.3	+0.6
ZCCA	**Zocca**	**0.42**	**313**	P	Pb	07 47 53.7	-0.1
BRSN	**Barisano**	**0.53**	**65**	AML	AML		
	comp=E,11150μm,1.2s						
BRSN				AML	AML		
	comp=E,11235μm,1.2s						
BRSN				AML	AML		
	comp=N,11550μm,1.4s						
BRSN				AML	AML		
	comp=N,11565μm,1.4s						
OSSC	**Osservatorio P**	**0.55**	**192**	⇓P	Pg	07 47 55.1	+0.8
BDI	**Bagni Di Lucca**	**0.59**	**270**	P	Pg	07 47 55.4	+0.3
CRE	**Caprese Michel**	**0.59**	**138**	P	Pb	07 47 56.4	-0.3
CSNT	**Castellina Chi**	**0.60**	**188**	P	Pg	07 47 55.8	+0.6
CSNT				AML	AML		
	comp=N,7135μm,0.4s						
CSNT				AML	AML		
	comp=E,9505μm,0.6s						
GSCL	**Gusciola**	**0.66**	**296**	AML	AML		
	comp=E,4090μm,0.4s						
GSCL				AML	AML		
	comp=N,3335μm,1.0s						
CARD	**Cardoso**	**0.67**	**267**	P	Pb	07 47 58.1	+0.1
MAIM	**Mastiano**	**0.68**	**258**	⇑P	Pb	07 47 57.7	-0.4
SSP9	**Sansepolcro**	**0.71**	**133**	AML	AML		
	comp=N,2991μm,0.9s						
SSP9				AML	AML		
	comp=E,2830μm,0.6s						
SSP9				AML	AML		
	comp=N,2990μm,0.9s						
PII	**Pisa**	**0.72**	**242**	P	Pg	07 47 58.2	+0.5
PII	**Pisa**	**0.72**	**242**	P	Pg	07 47 58.0	+0.3
RAVA	**Ravarino**	**0.72**	**343**	AML	AML		
	comp=N,6505μm,0.7s						
RAVA				AML	AML		
	comp=E,5045μm,1.1s						
PARC	**Parchiule**	**0.73**	**124**	AML	AML		
	comp=E,1990μm,0.4s						
PARC				AML	AML		
	comp=N,2090μm,0.6s						
BADI	**Badiali**	**0.82**	**132**	AML	AML		
	comp=N,2200μm,1.5s						
BADI				AML	AML		
	comp=E,2640μm,0.9s						
BADI				AML	AML		
	comp=E,2635μm,0.9s						
BADI				AML	AML		
	comp=N,2205μm,1.5s						

CAFI	**Castiglion Fio**	**0.84**	**151**	AML	AML		
	comp=E,4305μm,0.6s						
CAFI				AML	AML		
	comp=N,2610μm,1.1s						
FROS	**Frosini**	**0.87**	**192**	AML	AML		
	comp=E,5845μm,0.6s						
FROS				AML	AML		
	comp=N,4450μm,0.6s						
FROS				AML	AML		
	comp=E,5850μm,0.6s						
FROS				AML	AML		
	comp=N,4450μm,0.6s						
APEC	**Apecchio**	**0.89**	**124**	AML	AML		
	comp=E,3160μm,0.8s						
APEC				AML	AML		
	comp=N,2220μm,0.5s						
EQUI	**Equi**	**0.91**	**277**	⇑P	Pn	07 48 02.9	-0.4
NARO	**Abbazia di Nar**	**0.96**	**118**	AML	AML		
	comp=N,830μm,0.6s						
NARO				AML	AML		
	comp=E,1140μm,1.4s						
NARO				AML	AML		
	comp=E,1136μm,1.4s						
NARO				AML	AML		
	comp=N,830μm,0.6s						
NARO				AML	AML		
	comp=E,1137μm,1.4s						
PIEI	**Pieia**	**0.97**	**122**	AML	AML		
	comp=E,1180μm,0.6s						
PIEI				AML	AML		
	comp=N,816μm,1.2s						
ATVO	**AVT- Monte Val**	**0.99**	**133**	AML	AML		
	comp=E,3080μm,0.6s						
ATVO				AML	AML		
	comp=N,2155μm,0.7s						
TRIF	**Trifonti**	**1.02**	**201**	AML	AML		
	comp=E,1240μm,1.0s						
TRIF				AML	AML		
	comp=E,1240μm,1.0s						
TRIF				AML	AML		
	comp=N,1265μm,0.4s						
FSSB	**Fossombrone**	**1.06**	**110**	AML	AML		
	comp=N,3895μm,0.8s						
FSSB				AML	AML		
	comp=E,3225μm,0.5s						
GRAM	**Graiana**	**1.06**	**294**	AML	AML		
	comp=E,5130μm,0.4s						
GRAM				AML	AML		
	comp=N,3055μm,0.9s						
MPAG	**Monte Paganucc**	**1.07**	**113**	AML	AML		
	comp=E,1565μm,1.0s						
MPAG				AML	AML		
	comp=N,1540μm,0.8s						
ATFO	**Monte Foce - G**	**1.09**	**129**	AML	AML		
	comp=E,1725μm,0.5s						
ATFO				AML	AML		
	comp=N,1095μm,1.6s						
MGAB	**Montegabbione**	**1.26**	**156**	AML	AML		
	comp=E,1430μm,0.5s						
MGAB				AML	AML		
	comp=E,1415μm,0.5s						
MGAB				AML	AML		
	comp=N,2385μm,0.7s						
MGAB				AML	AML		
	comp=N,2245μm,0.7s						
MGAB				AML	AML		
	comp=E,1410μm,0.5s						
MGAB				AML	AML		
	comp=N,2390μm,0.7s						
MGAB				AML	AML		
	comp=N,2250μm,0.7s						
GROG	**Isola di Gorgo**	**1.27**	**240**	AML	AML		
	comp=E,1235μm,1.0s						
GROG				AML	AML		
	comp=N,1083μm,0.7s						
MCIV	**Monte Civitell**	**1.30**	**171**	AML	AML		
	comp=E,384μm,0.7s						
MCIV				AML	AML		
	comp=E,384μm,0.7s						
MCIV				AML	AML		
	comp=N,506μm,1.2s						
CASP	**Castiglione de**	**1.33**	**198**	AML	AML		
	comp=N,486μm,1.2s						
CASP				AML	AML		
	comp=E,471μm,0.9s						
MSSA	**Maissana**	**1.38**	**281**	AML	AML		
	comp=E,908μm,0.5s						
MSSA				AML	AML		
	comp=N,899μm,0.6s						
VENL	**Venezia Lido**	**1.52**	**27**	AML	AML		
	comp=N,1930μm,0.8s						
VENL				AML	AML		
	comp=E,1880μm,0.8s						
BOB	**Bobbio (Coli)**	**1.57**	**297**	AML	AML		
	comp=N,1355μm,0.7s						
BOB				AML	AML		
	comp=E,1370μm,1.2s						
ROVR	**Rover Verones**	**1.60**	**352**	AML	AML		
	comp=E,384μm,1.1s						
ROVR				AML	AML		
	comp=N,504μm,0.6s						
GORR	**Gorreto**	**1.61**	**290**	AML	AML		
	comp=E,1145μm,1.6s						
GORR				AML	AML		
	comp=N,1720μm,0.7s						
MAGA	**Magasa**	**1.80**	**342**	AML	AML		
	comp=N,1655μm,0.5s						
MAGA				AML	AML		
	comp=E,2870μm,0.6s						
DOSS	**Dosso del Somm**	**1.82**	**355**	AML	AML		
	comp=N,1087μm,0.6s						
DOSS				AML	AML		
	comp=E,1430μm,0.6s						
DOSS				AML	AML		
	comp=E,1120μm,0.7s						
DOSS				AML	AML		
	comp=N,1455μm,0.6s						
CTI	**Castel Tesino**	**1.99**	**5**	AML	AML		
	comp=N,956μm,0.5s						
CTI				AML	AML		
	comp=E,756μm,0.5s						
VARN	**Col Varnada, M**	**1.99**	**14**	AML	AML		
	comp=N,672μm,0

comp=E,662µm,0.8s
ABSI Aberstueckl 2.67 359 AML AML
comp=N,414µm,0.7s
ABSI AML AML
comp=E,848µm,0.6s
ZOU Zoufplan 2.73 23 AML AML
comp=E,238µm,0.6s
ZOU AML AML
comp=N,226µm,1.1s
TUE Stuetta 2.81 330 AML AML
comp=E,150µm,0.5s
TUE AML AML
comp=N,234µm,0.6s
TUE AML AML
comp=E,203µm,0.5s
TUE AML AML
comp=N,292µm,0.6s
LPEL Lama dei Pelig 2.86 134 AML AML
comp=N,168µm,1.6s
LPEL AML AML
comp=E,190µm,1.0s
RISI Rein 2.92 9 AML AML
comp=E,536µm,0.5s
RISI AML AML
comp=N,874µm,0.6s
LJU Ljubljana 2.97 47 AML AML
comp=E,2555µm,0.6s
LJU AML AML
comp=N,3625µm,0.6s
BOJS Bojanci 3.09 61 AML AML
comp=E,578µm,0.7s
BOJS AML AML
comp=N,541µm,0.8s
ARSA Arzberg 4.30 41 AML AML
comp=E,30µm,0.8s
ARSA AML AML
comp=N,29µm,0.9s

STR ***25*** *07:47:47.3±1.2,44°N±8°×1°2E±°, h12km,MLv3.7/11, preliminary*
PRU ***25*** *07:47:49.8±0.0,44°.07N×11°.33E, h0km*
IDC ***25*** *07:47:49.7±1.6,44°.00N×11°.80E, h0km,mb3.5/3, mb1 3.7/7,mb1mx3.4/55,mbtmp3.4/7,ML3.5/4,Error ellipse: s-maj=40.7km s-min=15.9km az=108.0*
LDG ***25*** *07:47:50.4±0.1,44°.10N×11°.44E,h5km,Md3.5/2,Ml3.5/30, Error ellipse: s-maj=3.3km s-min=2.4km az=45.0*
GEN ***25*** *07:47:50.0,44°.07N×11°.42E,h15km,Ml3.5*
ROM ***25*** *07:47:50.9±0.1,44°.056N±0°.004×11°.385E±0°.004, h4km,ML3.5/27,Error ellipse: s-maj=0.4km s-min=0.1km az=189.0*

ISC 25 07:47:51.6±0.8,44°.06N±0°.01×11°.33E±0°.01,h14km±5km, n213,σ1§75/306,mb3.5/3,7C-2D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BRIS	**BRISIGHELLA**	**0.16**	**54**	P		**Pb**	**07 47 58.1**	**+1.8**
BRIS				S		**Sb**	**07 48 02.8**	**+3.3**
BRIS				AML		AML		
	comp=N,18200µm,0.4s							
BRIS				AML		AML		
	comp=E,11250µm,0.6s							
FNVD	**Fontana Vidola**	**0.19**	**306**	⇑P		**Pg**	**07 47 55.9**	**-0.1**
FNVD				S		**Sg**	**07 47 59.6**	**+0.6**
FNVD	**Fontana Vidola**	**0.19**	**306**	P		**Pg**	**07 47 55.9**	**-0.1**
FNVD				S		**Sg**	**07 47 59.6**	**+0.6**
MPPT	**Montemurlo**	**0.20**	**240**	P		**Pg**	**07 47 56.6**	**+0.4**
MPPT				S		**Sb**	**07 48 00.4**	**-0.3**
MPPT				AML		AML		
	comp=E,28400µm,0.6s							
MPPT				AML		AML		
	comp=E,28350µm,0.6s							
MPPT				AML		AML		
	comp=N,26000µm,0.6s							
MTCR	**Monte La Croce**	**0.24**	**263**	⇑P		**Pg**	**07 47 57.3**	**+0.4**
MTCR				S		**Sb**	**07 48 01.8**	**-0.2**
MTCR				AML		AML		
	comp=E,24600µm,0.5s							
MTCR				AML		AML		
	comp=N,18500µm,0.4s							
MTCR	**Monte La Croce**	**0.24**	**263**	P		**Pg**	**07 47 57.3**	**+0.4**
MTCR				S		**Sb**	**07 48 01.8**	**-0.2**
RUFI	**Rufina**	**0.25**	**149**	⇑P		**Pg**	**07 47 56.4**	**-0.6**
RUFI				S		**Sg**	**07 48 00.4**	**-0.3**
RUFI				AML		AML		
	comp=E,28650µm,0.4s							
RUFI				AML		AML		
	comp=E,28600µm,0.4s							
RUFI				AML		AML		
	comp=N,26100µm,0.4s							
RUFI	**Rufina**	**0.25**	**149**	S		**Sg**	**07 48 00.7**	**0.0**
LMD	**Lutirano**	**0.27**	**86**	P		**Pg**	**07 47 56.0**	**-1.4**
LMD				S		**Sg**	**07 47 59.6**	**-1.6**
LMD				AML		AML		
	comp=N,14050µm,0.6s							
LMD				AML		AML		
	comp=E,11775µm,0.3s							
LMD	**Lutirano**	**0.27**	**86**	S		**Sg**	**07 47 59.0**	**-2.2**
FIR	**Firenze**	**0.29**	**191**	P		**Pg**	**07 47 57.8**	**+0.2**
FIR				S		**Sg**	**07 48 01.9**	**+0.2**
MTRZ	**Monterenzio**	**0.33**	**17**	⇑P		**Pg**	**07 47 56.7**	**-1.7**
MTRZ				AML		AML		
	comp=E,38550µm,0.6s							
MTRZ				AML		AML		
	comp=N,33450µm,0.5s							
MTRZ				AML		AML		
	comp=E,40100µm,0.6s							
MTRZ				AML		AML		
	comp=N,33900µm,0.5s							
MTRZ				AML		AML		
	comp=N,33500µm,0.5s							
MTRZ				AML		AML		
	comp=E,38600µm,0.6s							
MTRZ	**Monterenzio**	**0.33**	**17**	S		**Pg**	**07 47 56.8**	**-1.7**
CRMI	**Carmignano**	**0.37**	**224**	P		**Pg**	**07 47 59.3**	**+0.2**
CRMI				S		**Sb**	**07 48 05.4**	**-0.2**
CRMI	**Carmignano**	**0.37**	**224**	P		**Pg**	**07 47 59.5**	**+0.4**
CRMI				S		**Sb**	**07 48 06.1**	**+0.5**
ZCCA	**Zocca**	**0.39**	**319**	P		**Pg**	**07 47 59.8**	**+0.4**
ZCCA				AML		AML		
	comp=E,3885µm,0.4s							
ZCCA				AML		AML		
	comp=N,5230µm,1.6s							
ZCCA				AML		AML		
	comp=N,5230µm,1.6s							
ZCCA				AML		AML		
	comp=E,3920µm,0.4s							
ZCCA				AML		AML		
	comp=E,3890µm,0.4s							
ZCCA				AML		AML		
	comp=N,5220µm,1.6s							
ZCCA	**Zocca**	**0.39**	**319**	P		**Pb**	**07 48 00.5**	**+0.2**
SFI	**Santa Sofia**	**0.40**	**112**	P		**Pg**	**07 47 58.8**	**-0.8**
SFI				S		**Sg**	**07 48 04.4**	**-0.7**
SFI				AML		AML		
	comp=N,10350µm,0.6s							
SFI				AML		AML		
	comp=E,9215µm,0.3s							
SFI				AML		AML		
	comp=E,9215µm,0.3s							
SFI				AML		AML		
	comp=N,10465µm,0.6s							
ASQU	**Asqua**	**0.42**	**128**	P		**Pg**	**07 47 59.3**	**-0.7**
ASQU				S		**Sg**	**07 48 05.6**	**-0.1**
ASQU				AML		AML		
	comp=N,10380µm,0.5s							
ASQU				AML		AML		
	comp=E,8095µm,0.6s							
ASQU	**Asqua**	**0.42**	**128**	P		**Pg**	**07 47 58.7**	**-1.4**
ASQU				S		**Sg**	**07 48 05.3**	**-0.5**
IMOL	**Imola, Italy**	**0.42**	**44**	⇑P		**Pg**	**07 47 59.5**	**-0.5**
IMOL				AML		AML		
	comp=N,19150µm,0.9s							
IMOL				AML		AML		
	comp=E,17300µm,0.7s							
IMOL				AML		AML		
	comp=E,17250µm,0.7s							
IMOL				AML		AML		
	comp=N,19200µm,0.9s							
IMOL	**Imola, Italy**	**0.42**	**44**	P		**Pg**	**07 47 60.0**	**-0.1**
FAEN	**Faenza**	**0.46**	**59**	P		**Pg**	**07 48 00.7**	**+0.1**
BDI	**Bagni Di Lucca**	**0.53**	**271**	P		**Pb**	**07 48 02.6**	**-0.1**
OSSC	**Osservatorio P**	**0.54**	**187**	P		**Pg**	**07 48 02.1**	**-0.1**
OSSC				S		**Sb**	**07 48 10.6**	**+0.3**
OSSC				AML		AML		
	comp=E,6015µm,1.2s							
OSSC				AML		AML		
	comp=E,6015µm,1.2s							
OSSC				AML		AML		
	comp=E,11050µm,0.7s							
OSSC				AML		AML		
	comp=N,11100µm,0.7s							
OSSC				AML		AML		
	comp=N,5985µm,1.2s							
OSSC	**Osservatorio P**	**0.54**	**187**	P		**Pg**	**07 48 02.2**	**0.0**
OSSC				S		**Sb**	**07 48 10.7**	**+0.3**
BRSN	**Barisano**	**0.58**	**67**	P		**Pg**	**07 48 03.0**	**0.0**
BRSN				AML		AML		
	comp=E,11150µm,1.2s							
BRSN				AML		AML		
	comp=N,11565µm,1.4s							
CSNT	**Castellina Chi**	**0.59**	**183**	P		**Pg**	**07 48 02.8**	**-0.3**
CSNT				S		**Sb**	**07 48 11.8**	**+0.1**
CSNT				AML		AML		
	comp=E,9505µm,0.6s							
CSNT				AML		AML		
	comp=N,7135µm,0.4s							
CSNT	**Castellina Chi**	**0.59**	**183**	P		**Pg**	**07 48 02.9**	**-0.2**
CSNT				S		**Sb**	**07 48 11.3**	**-0.4**
FIU	**Minerbio Fiu**	**0.59**	**11**	P		**Pb**	**07 48 04.2**	**+0.5**
GSCL	**Gusciola**	**0.61**	**299**	P		**Pb**	**07 48 04.1**	**0.0**
GSCL				AML		AML		
	comp=N,3335µm,1.0s							
GSCL				AML		AML		
	comp=E,4090µm,0.4s							
GSCL	**Gusciola**	**0.61**	**299**	P		**Pb**	**07 48 04.1**	**0.0**
GSCL				S		**Sn**	**07 48 14.9**	**-0.6**
CARD	**Cardoso**	**0.61**	**267**	P		**Pb**	**07 48 04.4**	**+0.3**
CARD				S		**Sb**	**07 48 13.6**	**+1.0**
CARD				AML		AML		
	comp=E,4695µm,0.6s							
CARD				AML		AML		
	comp=N,6325µm,1.0s							
CARD	**Cardoso**	**0.61**	**267**	P		**Pb**	**07 48 04.7**	**+0.6**
CARD				S		**Sb**	**07 48 14.0**	**+1.4**
MAIM	**Mastiano**	**0.62**	**257**	P		**Pg**	**07 48 03.8**	**0.0**
MAIM	**Mastiano**	**0.62**	**257**	P		**Pg**	**07 48 03.9**	**+0.2**
MAIM				S		**Sb**	**07 48 14.0**	**+1.2**
CRE	**Caprese Michel**	**0.63**	**134**	P		**Pg**	**07 48 03.3**	**-0.5**
CRE				AML		AML		
	comp=N,5670µm,0.4s							
CRE				AML		AML		
	comp=E,3510µm,0.8s							
PII	**Pisa**	**0.67**	**240**	P		**Pb**	**07 48 04.9**	**-0.1**
PII				AML		AML		
	comp=N,9460µm,0.4s							
PII				AML		AML		
	comp=E,7125µm,1.5s							
PII	**Pisa**	**0.67**	**240**	S		**Sg**	**07 48 08.1**	**-5.5**
SARO	**Sassorosso**	**0.68**	**281**	P		**Pb**	**07 48 05.1**	**-0.2**
SARO				S		**Sn**	**07 48 16.4**	**-0.9**
RAVA	**Ravarino**	**0.71**	**348**	P		**Pn**	**07 48 06.9**	**-0.3**
RAVA	**Ravarino**	**0.71**	**348**	P		**Pn**	**07 48 07.8**	**+0.5**
SSP9	**Sansepolcro**	**0.75**	**130**	P		**Pg**	**07 48 05.7**	**-0.5**
SSP9				AML		AML		
	comp=N,2990µm,0.9s							
SSP9				AML		AML		
	comp=E,2830µm,0.6s							
PARC	**Parchiule**	**0.77**	**122**	P		**Pg**	**07 48 06.2**	**-0.4**
PARC				AML		AML		
	comp=E,1990µm,0.4s							
PARC				AML		AML		
	comp=N,2090µm,0.6s							
RSM	**Repubblica di**	**0.82**	**99**	P		**Pg**	**07 48 07.1**	**-0.3**
CAVE	**Cavezzo**	**0.84**	**344**	P		**Pn**	**07 48 09.5**	**+0.5**
EQUI	**Equi**	**0.86**	**278**	P		**Pn**	**07 48 08.8**	**-0.4**
EQUI				S		**Sn**	**07 48 20.9**	**-0.6**
EQUI				AML		AML		
	comp=N,2020µm,0.5s							
EQUI				AML		AML		
	comp=E,2270µm,0.7s							
FROS	**Frosini**	**0.86**	**189**	P		**Pg**	**07 48 08.1**	**0.0**
FROS				S		**Sn**	**07 48 20.6**	**-1.0**
FROS				AML		AML		
	comp=E,5850µm,0.6s							
FROS				AML		AML		
	comp=N,4450µm,0.6s							
BADI	**Badiali**	**0.86**	**129**	P		**Pg**	**07 48 08.1**	**-0.1**
BADI				AML		AML		
	comp=N,2205µm,1.5s							
BADI				AML		AML		
	comp=E,2635µm,0.9s							
CAFI	**Castiglion Fio**	**0.86**	**147**	P		**Pb**	**07 48 07.5**	**-0.8**
CAFI				S		**Sg**	**07 48 19.1**	**-0.5**
ATMC	**Monte Cedrone**	**0.87**	**134**	P		**Pb**	**07 48 07.6**	**-0.9**
APEC	**Apecchio**	**0.93**	**122**	P		**Pg**	**07 48 09.4**	**-0.2**
APEC				AML		AML		
	comp=N,2220µm,0.5s							
APEC				AML		AML		
	comp=E,3160µm,0.8s							
SERM	**Sermide**	**0.95**	**358**	P		**Pn**	**07 48 11.2**	**+0.7**
ATPI	**Pietralunga -**	**0.98**	**128**	P		**Pb**	**07 48 09.6**	**-0.9**
TRIF	**Trifonti**	**0.99**	**198**	P		**Pg**	**07 48 10.7**	**0.0**
TRIF				AML		AML		
	comp=N,1265µm,0.4s							
TRIF				AML		AML		
	comp=E,1240µm,1.0s							
ATPC	**Poggio Castell**	**1.00**	**125**	P		**Pb**	**07 48 09.6**	**-1.1**
GRAM	**Graiana**	**1.01**	**296**	P		**Pn**	**07 48 11.6**	**+0.2**
GRAM				AML		AML		
	comp=E,5130µm,0.4s							
GRAM				AML		AML		
	comp=N,3055µm,0.9s							
NARO	**Abbazia di Nar**	**1.01**	**116**	P		**Pb**	**07 48 10.3**	**-0.5**
NARO				AML		AML		
	comp=N,830µm,0.6s							
NARO				AML		AML		
	comp=E,1137µm,1.4s							
PIEI	**Pieia**	**1.01**	**120**	P		**Pb**	**07 48 10.8**	**-0.2**
PIEI				AML		AML		
	comp=N,816µm,1.2s							
PIEI				AML		AML		
	comp=E,1180µm,0.6s							
ATVO	**AVT- Monte Val**	**1.03**	**131**	P		**Pb**	**07 48 10.7**	**-0.5**
ATVO				AML		AML		
	comp=E,3080µm,0.6s							
ATVO				AML		AML		
	comp=N,2155µm,0.7s							
TB01	**Gubbio**	**1.05**	**130**	P		**Pb**	**07 48 10.7**	**-0.8**
ATBU	**Serra di Buran**	**1.06**	**123**	P		**Pb**	**07 48 11.4**	**-0.2**
FSSB	**Fossombrone**	**1.11**	**109**	P		**Pb**	**07 48 12.2**	**-0.3**
FSSB				AML		AML		
	comp=N,3895µm,0.8s							
FSSB				AML		AML		
	comp=E,3225µm,0.5s							
MPAG	**Monte Paganucc**	**1.12**	**112**	P		**Pn**	**07 48 12.6**	**-0.2**
MPAG				AML		AML		
	comp=N,1540µm,0.8s							
MPAG				AML		AML		
	comp=E,1565µm,1.0s							
ATFO	**Monte Foce - G**	**1.13**	**127**	P		**Pb**	**07 48 12.5**	**-0.5**
ATFO				AML		AML		
	comp=E,1725µm,0.5s							
ATFO				AML		AML		
	comp=N,1095µm,1.6s							
GROG	**Isola di Gorgo**	**1.22**	**239**	P		**Pn**	**07 48 13.8**	**-0.3**
GROG				AML		AML		
	comp=N,1083µm,0.7s							
GROG				AML		AML		
	comp=E,1235µm,1.0s							
MGAB	**Montegabbione**	**1.28**	**153**	P		**Pb**	**07 48 15.3**	**-0.1**
MGAB				AML		AML		
	comp=E,1430µm,0.5s							
MGAB				AML		AML		
	comp=E,1410µm,0.5s							
MGAB				AML		AML		
	comp=N,2390µm,0.7s							
MGAB				AML		AML		
	comp=N,2250µm,0.7s							
MCIV	**Monte Civitell**	**1.30**	**169**	P		**Pb**	**07 48 15.8**	**0.0**
MCIV				AML		AML		
	comp=E,384µm,0.7s							
MCIV				AML		AML		
	comp=N,506µm,1.2s							
CASP	**Castiglione de**	**1.31**	**195**	P		**Pg**	**07 48 16.5**	**-0.3**
TEOL	**Teolo**	**1.32**	**10**	P		**Pn**	**07 48 15.4**	**-0.2**
MSSA	**Maissana**	**1.33**	**282**	P		**Pb**	**07 48 16.0**	**-0.3**
MSSA				AML		AML		
	comp=E,908µm,0.5s							
MSSA				AML		AML		
	comp=N,899µm,0.6s							
BOB	**Bobbio (Coli)**	**1.52**	**298**	P		**Pg**	**07 48 21.0**	**+0.1**
BOB				AML		AML		
	comp=N,1355µm,0.7s							
BOB				AML		AML		
	comp=E,1370µm,1.2s							
VENL	**Venezia Lido**	**1.55**	**28**	AML		AML		
	comp=N,1930µm,0.8s							
VENL				AML		AML		
	comp=E,1880µm,0.8s							
GORR	**Gorreto**	**1.56**	**291**	P		**Pg**	**07 48 21.0**	**-0.6**
GORR				AML		AML		
	comp=E,1150µm,1.6s							
GORR				AML		AML		
	comp=N,1720µm,0.7s							
ROVR	**Rover Verones**	**1.60**	**353**	P		**Pb**	**07 48 20.3**	**-0.7**
ROVR				AML		AML		
	comp=N,504µm,0.6s							
ROVR				AML		AML		
	comp=E,384µm,1.1s							
MAGA	**Magasa**	**1.79**	**344**	P		**Pn**	**07 48 22.8**	**+0.7**
MAGA				AML		AML		
	comp=E,2870µm,0.6s							
MAGA				AML		AML		
	comp=N,1655µm,0.5s							
DOSS	**Dosso del Somm**	**1.83**	**357**	P		**Pn**	**07 48 23.2**	**+0.5**
DOSS				AML		AML		
	comp=N,1087µm,0.6s							
DOSS				AML		AML		
	comp=E,1120µm,0.7s							
DOSS				AML		AML		
	comp=E,1430µm,0.6s							
DOSS				AML		AML		
	comp=N,1455µm,0.6s							
BRJN	**Brijuni**	**1.93**	**63**	*e*Pn		**Pn**	**07 48 23.2**	**-0.7**
BRJN				Sn		**Sn**	**07 48 47.1**	**-0.8**
BRJN	**Brijuni**	**1.93**	**63**	P		**Pn**	**07 48 23.7**	**-0.2**
CTI	**Castel Tesino**	**2.00**	**6**	P		**Pn**	**07 48 25.7**	**+0.6**
CTI				AML		AML		
	comp=E,756µm,0.5s							
CTI				AML		AML		
	comp=N,956µm,0.5s							
VARN	**Col Varnada, M**	**2.01**	**16**	P		**Pn**	**07 48 24.6**	**-0.6**
VARN				AML		AML		
	comp=E,974µm,0.5s							
VARN				AML		AML		
	comp=N,672µm,0.5s							
GAGG	**Gaggia**	**2.04**	**353**	P		**Pn**	**07 48 26.1**	**+0.4**
GAGG				AML		AML		
	comp=E,686µm,0.9s							
GAGG				AML		AML		
	comp=N,912µm,0.7s							
MDI	**Monti di Nese**	**2.07**	**327**	P		**Pb**	**07 48 27.8**	**-1.2**
MDI				AML		AML		
	comp=N,416µm,0.5s							
MDI				AML		AML		
	comp=E,480µm,0.6s							
POLC	**Polcenigo**	**2.14**	**22**	P		**Pn**	**07 48 27.1**	**+0.3**
POLC				AML		AML		
	comp=E,656µm,0.6s							
POLC				AML		AML		
	comp=N,796µm,0.5s							
CANO	**Canova, Maglio**	**2.23**	**275**	P		**Pn**	**07 48 27.7**	**-0.5**
SMRN	**Sveta Marina**	**2.24**	**63**	*e*Pn		**Pn**	**07 48 27.7**	**-0.5**
SMRN				Sn		**Sn**	**07 48 53.7**	**-1.9**
PGF	**Pioggiola**	**2.27**	**229**	*e*Pn		**Pn**	**07 48 28.2**	**-0.6**
PGF				*e*Sn		**Sn**	**07 48 55.1**	**-1.6**
	comp=N,74nm,0.5s							
PGF	**Pioggiola**	**2.27**	**229**	P		Pn	07 48 23.4	-5.4
PGF				S		**Sn**	**07 48 50.6**	**-6.0**
PGF				Sg		**Sb**	**07 48 56.1**	**-4.4**
CIMO	**Cimolais**	**2.38**	**19**	P		**Pn**	**07 48 30.0**	**-0.2**
CIMO				AML		AML		
CIMO				AML		AML		
TRI	**Trieste**	**2.39**	**45**	P		**Pn**	**07 48 28.9**	**-1.4**
TRI				AML		AML		
	comp=E,196µm,0.8s							
TRI				AML		AML		
	comp=N,204µm,0.7s							
KOSI	**Kohlern**	**2.41**	**1**	P		**Pn**	**07 48 31.4**	**+0.7**
KOSI				AML		AML		
	comp=N,404µm,0.6s							
KOSI				AML		AML		
	comp=E,478µm,0.5s							
STAL	**STALIGIAL**	**2.41**	**23**	P		**Pn**	**07 48 30.0**	**-0.6**
STAL				AML		AML		
	comp=N,505µm,0.3s							
STAL				AML		AML		
	comp=E,609µm,0.5s							
SABO	**M.te Sabotino**	**2.51**	**39**	P		**Pn**	**07 48 31.2**	**-0.7**
SABO				AML		AML		
	comp=N,588µm,0.6s							
SABO				AML		AML		
	comp=E,1845µm,0.9s							
SABO				AML		AML		
	comp=E,460µm,0.9s							
SABO				AML		AML		
	comp=N,2255µm,0.8s							
RABC	**Rab**	**2.57**	**73**	*e*Pn		**Pn**	**07 48 33.2**	**+0.5**
RABC				Sn		**Sn**	**07 49 03.4**	**-0.2**
RIY	**Rijeka**	**2.58**	**59**	*e*Pn		**Pn**	**07 48 32.5**	**-0.3**
RIY				Sn		**Sn**	**07 49 02.5**	**-1.5**
NVLJ	**Novalja**	**2.59**	**78**	*e*Pn		**Pn**	**07 48 32.8**	**-0.2**
NVLJ				Sn		**Sn**	**07 49 03.9**	**-0.4**
MOSI	**Grossmontoni**	**2.62**	**348**	P		**Pn**	**07 48 35.7**	**+2.1**
MOSI				AML		AML		
	comp=E,662µm,0.8s							
MOSI				AML		AML		
	comp=N,974µm,0.7s							
CLUD	**Cludinico**	**2.64**	**24**	P		**Pn**	**07 48 33.5**	**-0.2**
CLUD				AML		AML		
	comp=E,262µm,0.8s							
CLUD				AML		AML		
	comp=N,237µm,0.7s							
ABSI	**Aberstueckl**	**2.67**	**360**	P		**Pn**	**07 48 35.2**	**+0.9**
ABSI				AML		AML		
	comp=E,848µm,0.6s							
ABSI				AML		AML		
	comp=N,414µm,0.7s							
VIRC	**Vir**	**2.69**	**84**	*e*Pn		**Pn**	**07 48 34.2**	**-0.1**
VIRC				Sn		**Sn**	**07 49 06.0**	**-0.6**
DUGI	**Dugi Otok**	**2.69**	**90**	*e*Pn		**Pn**	**07 48 34.6**	**+0.3**
DUGI				Sn		**Sn**	**07 49 06.7**	**0.0**
SAOF	**Saorge**	**2.73**	**270**	P		**Pn**	**07 48 35.4**	**+0.5**
SAOF				S		**Sn**	**07 49 08.0**	**+0.3**
ZOU	**Zoufplan**	**2.75**	**24**	P		**Pn**	**07 48 35.1**	**-0.4**
ZOU				AML		AML		
	comp=N,226µm,1.1s							
ZOU				AML		AML		
	comp=E,238µm,0.6s							
A250A	**Rusevo Krmpots**	**2.76**	**67**	*e*Pn		**Pn**	**07 48 35.3**	**0.0**
A250A				Sn		**Sn**	**07 49 07.6**	**-0.9**
TUE	**Stuetta**	**2.79**	**331**	P		**Pn**	**07 48 37.4**	**+1.4**
TUE				AML		AML		
	comp=E,150µm,0.5s							
TUE				AML		AML		
	comp=N,292µm,0.6s							
TUE				AML		AML		
	comp=N,234µm,0.6s							
TUE				AML		AML		
	comp=E,203µm,0.5s							
ABTA	**Abfaltersbach**	**2.82**	**17**	*e*Pn		**Pn**	**07 48 36.6**	**+0.4**
	comp=E,9.9nm,0.5s							
SBF	**Sospel**	**2.82**	**267**	*e*Pn		**Pn**	**07 48 36.0**	**-0.3**
SBF				*e*Sn		**Sn**	**07 49 08.4**	**-1.7**
	comp=E,100nm,0.4s							
TURF	**col de Turini**	**2.84**	**270**	P		**Pn**	**07 48 37.0**	**+0.3**
TURF				S		**Sn**	**07 49 11.7**	**+0.9**
LPEL	**Lama dei Pelig**	**2.90**	**133**	P		**Pn**	**07 48 32.5**	**-4.8**
LPEL				AML		AML		
	comp=N,168µm,1.6s							
LPEL				AML		AML		
	comp=E,190µm,1.0s							
DAVOX	**Davos/Dischmat**	**2.91**	**340**	Pn		**Pn**	**07 48 40.1**	**+2.5**
	comp=E,7.4nm,0.3s,baz=165,slow=12,SNR=42							
DAVOX				Sn		**Sb**	**07 49 17.1**	**-1.6**
	comp=E,6.7nm,0.3s,baz=315,slow=20,SNR=8.5							
DAVOX	**Davos/Dischmat**	**2.91**	**340**	P		**Pn**	**07 48 39.8**	**+2.2**
RISI	**Rein**	**2.94**	**10**	P		**Pn**	**07 48 39.9**	**+1.9**
RISI				AML		AML		
	comp=N,874µm,0.6s							
RISI				AML		AML		
	comp=E,536µm,0.5s							
SPIF	**crte de Spivo**	**2.95**	**271**	P		**Pn**	**07 48 38.9**	**+0.7**

SPIF					S	Sn	07 49 15.8	+2.4
FETA	**Feichten**	**2.99**	**352**	*e*Pn	Pn		07 48 41.0	+2.2
	comp=E,22nm,0.4s,SNR=16							
LJU	**Ljubljana**	**3.01**	**48**	⇓P	Pn		07 48 39.0	+0.1
LJU				AML	AML			
	comp=E,2555µm,0.6s							
LJU				AML	AML			
	comp=N,3625µm,0.6s							
MYKA	**Terra Mystica**	**3.04**	**32**	*e*Pn	Pn		07 48 39.6	+0.2
	comp=N,5.2nm,0.5s							
ISO	**Isola**	**3.09**	**274**	P	Pn		07 48 40.9	+1.0
BOJS	**Bojanci**	**3.14**	**61**	⇑P	Pn		07 48 41.0	+0.3
BOJS				AML	AML			
	comp=N,541µm,0.8s							
BOJS				AML	AML			
	comp=E,578µm,0.7s							
ZIRJ	**Zirje**	**3.15**	**96**	*e*Pn	Pn		07 48 41.2	+0.5
ZIRJ				Sn	Sn		07 49 17.4	-0.5
MORI	**Morici**	**3.17**	**92**	*e*Pn	Pn		07 48 42.6	+1.7
MORI				Sn	Sn		07 49 18.9	+0.4
SQTA	**Sankt Quirin**	**3.17**	**358**	*e*Pn	Pn		07 48 44.1	+3.0
	comp=E,29nm,0.3s,SNR=24							
PLIT	**Plitvice**	**3.18**	**74**	*e*Pn	Pn		07 48 41.4	+0.2
PLIT				Sn	Sn		07 49 17.4	-1.4
WTTA	**Wattenberg**	**3.21**	**4**	*i* Pn	Pn		07 48 44.6	+2.8
	comp=E,13nm,0.4s,SNR=9.0							
UDBI	**Udbina**	**3.22**	**80**	*e*Pn	Pn		07 48 43.0	+1.3
UDBI				Sn	Sn		07 49 19.9	0.0
SURF	**Saint Ours**	**3.27**	**279**	P	Pn		07 48 43.1	+0.5
SURF				S	Sb		07 49 28.6	-0.7
WATA	**Walderalm**	**3.28**	**3**	*i* Pn	Pn		07 48 45.9	+3.2
	comp=E,9.9nm,0.2s,SNR=17							
WATA				*e*Sn	Sb		07 49 26.1	-3.4
	comp=E,103nm,0.7s							
MOTA	**Moosalm**	**3.29**	**357**	*e*Pn	Pn		07 48 45.9	+3.1
	comp=E,14nm,0.5s,SNR=18							
MOTA				*e*Sn	Sb		07 49 27.6	-2.2
	comp=E,53nm,0.7s							
KBA	**Koelnbreinsper**	**3.33**	**24**	*e*Pn	Pn		07 48 44.2	+0.7
	comp=E,13nm,0.4s,SNR=10.0							
MBDF	**Montbardon**	**3.34**	**283**	*e*Pn	Pn		07 48 42.8	-0.6
MBDF				*e*Sn	Sn		07 49 20.7	-2.2
	comp=E,91nm,0.8s							
OBKA	**Obir**	**3.34**	**42**	*i* Pn	Pn		07 48 43.8	+0.3
	comp=E,5.0nm,0.4s							
DAVA	**Damuels**	**3.39**	**343**	*e*Pn	Pn		07 48 47.0	+2.9
	comp=E,34nm,0.5s,SNR=17							
DAVA				*e*Sn	Sb		07 49 30.3	-2.2
	comp=E,140nm,0.6s							
RETA	**Reutte**	**3.45**	**354**	*e*Pn	Pn		07 48 47.5	+2.5
	comp=E,21nm,0.3s,SNR=16							
RETA				*e*Sn	Sb		07 49 31.0	-3.4
	comp=E,66nm,0.6s							
BNALP	**Bannalp**	**3.48**	**325**	P	Pn		07 48 47.9	+2.6
LPG	**La Plagne**	**3.56**	**295**	*e*P	Pn		07 48 49.4	+2.7
LPG				*e*Sn	Sn		07 49 26.1	-2.7
	comp=E,51nm,0.7s							
LMR	**La Mourre**	**3.57**	**260**	*e*Pn	Pn		07 48 45.7	-0.8
LMR				*e*Sn	Sn		07 49 26.4	-2.1
	comp=E,12nm,0.3s							
TRIGF	**Trigance**	**3.57**	**267**	P	Pn		07 48 47.5	+0.9
TRIGF				S	Sn		07 49 29.2	+0.5
LPL	**La Plagne**	**3.58**	**296**	*e*P	Pn		07 48 49.5	+2.6
LPL				*e*Sn	Sn		07 49 26.7	-2.4
	comp=E,39nm,0.5s							
KIJV	**Kijevo**	**3.66**	**89**	*e*Pn	Pn		07 48 49.4	+1.6
KIJV				Sn	Sn		07 49 30.1	-0.6
SOKA	**Soboth**	**3.70**	**44**	*e*Pn	Pn		07 48 48.4	+0.1
	comp=E,3.4nm,0.5s							
RSL	**Roselend**	**3.72**	**298**	P	Pb		07 48 53.0	-4.2
UBR	**Ueberruh**	**3.72**	**347**	*e*Pn	Pn		07 48 50.6	+1.9
UBR				*e*Sn	Sn		07 49 36.0	+3.6
BIOA	**Bad Ischl, Aus**	**3.98**	**23**	*e*Pn	Pn		07 48 53.9	+1.8
	comp=E,8.0nm,0.3s							
ORIF	**Oris-en-Rattie**	**4.00**	**284**	*e*P	Pn		07 48 54.9	+2.5
ORIF				*e*Sn	Sn		07 49 36.4	-2.7
	comp=E,53nm,0.7s							
WALHA	**Wallhausen, DE**	**4.00**	**338**	*e*Sn	Sn		07 49 40.8	+1.7
BSTF	**la Bastide-des**	**4.11**	**269**	P	Pn		07 48 55.1	+1.1
SMRF	**Simiane la Rot**	**4.15**	**271**	*e*Pn	Pn		07 48 54.1	-0.5
SMRF				*e*Sn	Sn		07 49 40.0	-2.9
	comp=E,18nm,0.5s							
MAKA	**Makarska**	**4.20**	**99**	*e*Pn	Pn		07 48 56.8	+1.7
MAKA				Sn	Sn		07 49 43.9	0.0
EMING	**Emmingen-Lipti**	**4.21**	**337**	*e*Sn	Sn		07 49 44.9	+0.6
RICI	**Ricice**	**4.24**	**96**	*e*Pn	Pn		07 48 57.2	+1.5
RICI				Sn	Sn		07 49 44.8	-0.2
MOA	**Molln**	**4.31**	**27**	*i* Pn	Pn		07 48 57.5	+0.9
	comp=E,7.2nm,0.6s							
MOA				*e*Sn	Sn		07 49 48.8	+2.1
	comp=E,9.8nm,0.4s							
ARSA	**Arzberg**	**4.34**	**41**	*e*Pn	Pn		07 48 57.1	0.0
	comp=E,5.5nm,0.3s							
ARSA				*e*Sn	Sn		07 49 48.6	+1.1
	comp=E,7.9nm,0.7s							
ARSA	**Arzberg**	**4.34**	**41**	⇑P	Pn		07 48 58.8	+1.7
ARSA				AML	AML			
	comp=E,30µm,0.8s							
ARSA				AML	AML			
	comp=N,29µm,0.9s							
BERGE	**Lenzkirch (DE)**	**4.40**	**331**	*e*Pn	Pn		07 48 58.4	+0.3
BERGE				*e*Sn	Sn		07 49 47.4	-1.7
BRANT	**Les Verrieres**	**4.47**	**312**	P	Pn		07 49 01.6	+2.6
CABF	**La Chapelle**	**4.49**	**306**	*e*P	Pn		07 49 01.7	+2.4
CABF				*e*Sn	Sn		07 49 48.4	-3.0
	comp=N,28nm,0.7s							
KIZ	**Kirchzarten**	**4.57**	**330**	P	Pn		07 49 01.1	+0.9
CHMF	**Charmoille**	**4.58**	**316**	P	Pn		07 49 02.5	+2.1
BFO	**Black Forest**	**4.75**	**335**	*e*Pn	Pn		07 49 03.5	+0.7
BFO				*e*Sn	Sn		07 49 57.2	-0.5
VOGT	**Vogtsburg - To**	**4.76**	**329**	P	Pn		07 49 04.1	+1.2
STON	**Ston**	**4.78**	**102**	*e*Pn	Pn		07 49 05.2	+2.0
STON				Sn	Sn		07 49 59.6	+1.2
STON	**Ston**	**4.78**	**102**	⇓P	Pn		07 49 03.6	+0.4
VIVF	**Saint-Julien-l**	**4.83**	**282**	*e*Pn	Pn		07 49 04.5	+0.6
VIVF				*e*Sn	Sn		07 49 56.5	-3.2
	comp=N,19nm,0.8s							
A252A	**Venje**	**4.84**	**71**	*e*Pn	Pn		07 49 04.7	+0.7
A252A				Sn	Sn		07 49 58.1	-1.7
HINF	**Hinteralfeld**	**4.89**	**322**	*e*P	Pn		07 49 05.8	+1.2
HINF				*e*Sn	Sn		07 49 58.2	-2.8
	comp=N,39nm,0.5s							
CONA	**Conrad Observa**	**4.99**	**38**	*i* Pn	Pn		07 49 06.5	+0.3
	comp=N,0.9nm,0.2s							
CONA				*e*Sn	Sn		07 50 04.2	+0.6
	comp=N,9.6nm,0.5s							
RONA	**Rosalia, Austr**	**5.03**	**42**	*e*Pn	Pn		07 49 07.2	+0.6
	comp=N,6.8nm,0.4s							
RONA				*e*Sn	Sn		07 50 04.7	+0.3
	comp=N,7.6nm,0.5s							
GEC2	**GERESS Array S**	**5.06**	**18**	*e*Pn	Pn		07 49 06.5	-0.6
GERES	**GERESS Array B**	**5.06**	**18**	Pn	Pn		07 49 06.8	-0.2
	comp=N,2.4nm,0.3s,baz=193,slow=13,SNR=29							
GERES				Sn	Sn		07 50 04.7	-0.7
	comp=N,1.7nm,0.3s,baz=194,slow=20,SNR=6.9							
ECH	**Echery**	**5.07**	**327**	P	Pn		07 49 08.4	+1.3
ECH	**Echery**	**5.07**	**327**	*e*Sn	Sn		07 50 05.5	0.0
CDF	**Champ du Feu**	**5.18**	**329**	*e*P	Pn		07 49 10.0	+1.2
CDF				*e*Sn	Sn		07 50 05.1	-3.3
	comp=N,50nm,0.6s							
CKRC	**Cesky Krumlov**	**5.19**	**22**	*e*PN	Pn		07 49 08.8	0.0
CKRC				*e*SN	Sn		07 50 06.2	-2.2
KOVH	**Kovagotottos**	**5.21**	**65**	P	Pn		07 49 09.4	+0.5
KOVH				S	Sn		07 50 06.4	-2.3
HAU	**Haudompre**	**5.26**	**320**	*e*P	Pn		07 49 10.7	+1.0
HAU				*e*Sn	Sn		07 50 06.7	-3.3
	comp=N,49nm,0.4s							
KHC	**Kasperske Hory**	**5.31**	**16**	*e*PN	Pn		07 49 10.4	0.0
KHC				*ex*	x		07 49 37.0	
KHC				*e*SN	Sn		07 50 08.9	-2.4
KHC				*ex*	x		07 50 44.5	
MPLH	**Magyarpolny**	**5.35**	**52**	S	Sn		07 50 10.1	-2.3
LASF	**Ste Croix**	**5.39**	**273**	*e*Pn	Pn		07 49 10.5	-1.0
LASF				*e*Sn	Sn		07 50 10.0	-3.3
	comp=N,3.4nm,0.4s							
ROTZ	**Rotzenmuhle**	**5.74**	**6**	*e*Pn	Pn		07 49 15.5	-0.8
ROTZ				*e*Sn	Sn		07 50 18.4	-3.6
SMF	**Signal de Mont**	**5.88**	**299**	*e*P	Pn		07 49 20.5	+2.3
SMF				*e*Sn	Sn		07 50 21.4	-4.0
	comp=N,16nm,0.6s							
PAGF	**Fort de Pagny**	**5.94**	**321**	*e*P	Pn		07 49 21.1	+2.0
PAGF				*e*Sn	Sn		07 50 22.5	-4.4
	comp=N,40nm,0.7s							
MODS	**Modra-Piesok**	**5.97**	**42**	*e*PN	Pn		07 49 19.2	-0.3
MODS				*e*PG	Pg		07 49 51.3	+5.5
MODS				*e*SN	Sn		07 50 25.8	-1.8
SFTF	**Sexfontaines**	**6.03**	**316**	*e*P	Pn		07 49 22.4	+2.2
SFTF				*e*Sn	Sn		07 50 24.4	-4.6
	comp=N,11nm,0.5s							
SPS2	**Spezzano della**	**6.06**	**140**	P	Pn		07 49 24.5	+3.7
KRUC	**Moravsky**	**6.10**	**33**	*e*PN	Pn		07 49 20.7	-0.6
LOR	**Lormes**	**6.14**	**304**	*e*P	Pn		07 49 24.1	+2.3
LOR				*e*Sn	Sn		07 50 27.7	-4.2
	comp=N,32nm,0.5s							
LOR	**Lormes**	**6.14**	**304**	P	Pn		07 49 24.0	+2.1
MEZF	**Maizieres J'vi**	**6.22**	**318**	*e*P	Pn		07 49 25.5	+2.6
NKC	**Novy Kostel**	**6.22**	**7**	*e*PN	Pn		07 49 23.1	+0.1
AVF	**Avril sur Loir**	**6.25**	**299**	*e*P	Pn		07 49 25.8	+2.6
AVF				*e*Sn	Sn		07 50 29.9	-4.4
	comp=N,25nm,1.1s							
SSF	**Saint Saulge**	**6.26**	**301**	*e*P	Pn		07 49 25.4	+1.9
SSF				*e*Sn	Sn		07 50 30.5	-4.3
	comp=N,17nm,0.6s							
SAVF	**Savonnieres en**	**6.26**	**319**	*e*P	Pn		07 49 26.2	+2.7
SAVF				*e*Sn	Sn		07 50 31.1	-3.7
	comp=N,14nm,0.4s							
ABH	**Alteburg**	**6.38**	**337**	P	Pn		07 49 26.9	+1.9
ABH	**Alteburg**	**6.38**	**337**	*e*Pn	Pn		07 49 25.9	+0.8
TNS	**Taunus Mts**	**6.47**	**343**	*e*Pn	Pn		07 49 28.3	+1.9
BGF	**Bois d'Agland**	**6.49**	**296**	*e*P	Pn		07 49 30.1	+3.6
BGF				*e*Sn	Sn		07 50 36.0	-4.3
	comp=N,23nm,0.7s							
JAVC	**Velka Javorina**	**6.50**	**40**	*e*PN	Pn		07 49 26.8	+0.1
MOX	**Moxa**	**6.59**	**2**	*e*Pn	Pn		07 49 27.4	-0.6
MOX				*e*Sn	Sn		07 50 40.9	-2.0
MTLF	**Montolieu**	**6.65**	**267**	*e*Pn	Pn		07 49 28.7	-0.1
MTLF				*e*Sn	Sn		07 50 40.9	-3.4
	comp=N,210nm,2.2s							
MTLF	**Montolieu**	**6.65**	**267**	P	Pn		07 49 29.5	+0.7
KOLL	**Kolacno**	**6.66**	**45**	*e*PN	Pn		07 49 30.0	+1.0
CAF	**Calviac**	**6.69**	**281**	*e*P	Pn		07 49 30.7	+1.4
TCF	**Toulx Ste Croi**	**6.82**	**292**	*e*P	Pn		07 49 35.0	+3.8
TCF				*e*Sn	Sn		07 50 44.9	-3.7
	comp=N,4.6nm,0.3s							
BRG	**Berggiesshubel**	**7.04**	**14**	Pn	Pn		07 49 34.9	+0.7
BRG				Sn	Sn		07 50 50.5	-3.5
BRG				*ex*	x		07 51 50.9	
BRG				Amp			07 51 55.4	
	comp=Z,8.2nm,1.2s							
BRG				Amp			08 03 51.0	
	comp=E,2.4nm,17.1s							
BRG				Amp			08 03 51.0	
	comp=N,0.9nm,18.8s							
BRG				Amp			08 03 55.0	
	comp=Z,3.4nm,18.0s							
CLTA	**Licata**	**7.18**	**163**	P	Pn		07 49 40.8	+4.7
CLTA				P	Pb		07 49 53.5	-2.4
CLL	**Collm**	**7.34**	**8**	*i* Pn	Pn		07 49 38.1	-0.1
	comp=Z,8.0nm,0.9s							
CLL				*i* Sg	Sg		07 51 43.7	-3.3
	comp=Z,20nm,1.4s							
HAGA	**Augusta**	**7.36**	**155**	P	Pn		07 49 37.3	-1.3
GIVF	**Givet**	**7.50**	**326**	*e*Sn	Sn		07 51 00.9	-4.3
	comp=Z,35nm,1.0s							
ETSF	**Etsaut**	**8.72**	**266**	*e*P	Pn		07 50 01.4	+4.1
EKA	**Eskdalemuir Ar**	**14.64**	**326**	Pn	Pn		07 51 19.5	+1.5
	baz=142,slow=13,SNR=1.7							
NOA	**NORSAR Array B**	**17.01**	**360**	P	P		07 51 50.9	+0.2
	comp=Z,0.0nm,0.3s,baz=176,slow=13,SNR=2.2							
TORD	**Torodi Ar. Bea**	**31.89**	**198**	P	P		07 54 16.9	+0.4
	comp=Z,0.7nm,0.7s,baz=16,slow=8.8,SNR=3.1							
YKA	**Yellowknife Ar**	**65.34**	**336**	P	P		07 58 34.3	+1.6
	comp=Z,0.2nm,0.6s,baz=41,slow=5.9,SNR=3.8							
TXAR	**Lajitas Array**	**85.89**	**307**	P	P		08 00 33.7	+2.5
	comp=Z,0.1nm,0.5s,baz=59,slow=5.4,SNR=2.2							

IDC ***25*** *07:54:19.9±3.2,* **54°.23N×87°.70E,h0km,mb1 2.7/2, mb1mx2.6/74,mbtmp2.7/2,ML2.2/1,Error ellipse: s-maj=25.9km s-min=18.7km az=55.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**262**	*i*		08 03 28.1	
	baz=82,slow=325,SNR=5.4						
ZALV	**Zalesovo Beam**	**1.72**	**262**	Pn	Pn	07 54 49.5	-1.6
	1.2nm,0.3s,baz=80,slow=14,SNR=17						
ZALV				Lg	Lg	07 55 14.2	
	4.9nm,0.3s,baz=82,slow=32,SNR=16						
KURBB	**Kurchatov Arra**	**6.67**	**241**	Pn	Pn	07 55 59.9	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=1.8						
KURBB				Lg	Lg	07 57 52.0	
	0.0nm,0.3s,baz=57,slow=30,SNR=2.8						
MKAR	**Makanchi Array**	**8.20**	**207**	Pn	Pn	07 56 21.4	+1.3
	baz=26,slow=14,SNR=1.2						
MKAR				Sn	Sn	07 57 53.4	0.0
	0.1nm,0.3s,baz=30,slow=27,SNR=2.4						
MKAR				Lg	Lg	07 58 41.1	
	0.0nm,0.3s,baz=29,slow=27,SNR=1.9						

IDC ***25*** *07:55:34.1±1.7,* **6°.99S×127°.66E,h321km±19km,mb3.2/4, mb1 3.4/8,mb1mx3.0/59,mbtmp4.1/8,Error ellipse: s-maj=29.8km s-min=15.1km az=74.0**

DJA ***25*** *07:55:34.1±0.3,* **7°.5±4°×12°.8E±°,h308km±6km,M4.3/9, mb3.9/8,mB4.7/2,MLv4.5/9,Mw(mB)4.0/2**

ISC 25 07:55:32.6±0.7,6°.98S±0°.07×127°.66E±0°.08,h315km,n26,σ1§84/31,mb3.6/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.74**	**106**	P	Pn	07 56 37.6	+0.7
BATI	**Baumata**	**5.09**	**231**	P	Pn	07 56 53.0	+1.1
	74nm,0.3s,baz=83,slow=5.1,SNR=18						
BATI				S	S	07 57 54.1	-1.5
	11nm,0.3s,baz=43,slow=19,SNR=7.6						
BATI	**Baumata**	**5.09**	**231**	P	Pn	07 56 52.8	+0.9
BATI				S	S	07 57 54.2	-1.5
MMRI	**Maumere**	**5.62**	**253**	P	Pn	07 57 00.4	+2.4
	0.4nm3µm50nm,0.5s						
FAKI	**Fak Fak**	**6.09**	**49**	P	Pn	07 57 04.9	+1.4
	0.6nm17nm,1.1s						
SIJI	**Sorong**	**7.05**	**31**	P	Pn	07 57 16.1	+1.1
	1.5nm,0.3s,baz=244,slow=23,SNR=1.5						
SIJI				S	S	07 58 33.3	-4.6
	2.4nm,0.3s,baz=239,slow=19,SNR=2.8						
BASI	**Baing, Sumba**	**7.71**	**245**	P	Pn	07 57 22.4	-0.5
	0.4nm63nm,1.1s						
KNRA	**Kunumurra**	**8.71**	**173**	P	Pn	07 57 35.9	+0.9
PLAI	**Plampang**	**9.96**	**259**	P	Pn	07 57 49.0	-1.3
	16nm,0.8s						
PLAI	**Plampang**	**9.96**	**259**	P	Pn	07 57 49.7	-0.6
FITZ	**Fitzroy Crossi**	**11.23**	**190**	P	P	07 58 08.3	+1.0
	1.2nm,0.3s,baz=22,slow=11,SNR=38						
WRAB	**Tennant Creek**	**14.42**	**154**	P	P	07 58 43.4	+0.8
WRA	**Warramunga Arr**	**14.42**	**154**	P	P	07 58 43.3	+0.6
	0.7nm,0.3s,baz=329,slow=12,SNR=32						
WRA				S	S	08 01 15.7	-4.9
	0.2nm,0.3s,baz=326,slow=23,SNR=5.6						
COEN	**Coen**	**16.75**	**116**	P	P	07 59 10.2	+2.1
ASAR	**Alice Springs**	**17.64**	**161**	P	P	07 59 19.1	+1.3
	1.8nm,0.3s,baz=344,slow=12,SNR=191						
ASAR				S	S	08 02 21.2	-3.3
	0.1nm,0.3s,baz=347,slow=20,SNR=6.1						
QIS	**Mount Isa**	**17.78**	**141**	P	P	07 59 21.2	+2.0
WRKA	**Warakurna**	**17.97**	**178**	P	P	07 59 22.6	+1.4
MEEK	**Meekatharra**	**21.36**	**203**	P	P	07 59 55.9	+0.1
OOD	**Oodnadatta**	**22.06**	**161**	P	P	08 00 03.0	+1.0
MULG	**Mulgathing**	**23.95**	**166**	P	P	08 00 20.0	+0.8
LCRK	**Leigh Creek**	**25.36**	**158**	P	P	08 00 32.7	+0.8
KLBR	**Kellerberrin**	**26.18**	**199**	P	P	08 00 39.2	0.0
	18nm,1.7s						
STKA	**Stephens Creek**	**27.98**	**154**	P	P	08 00 56.1	+1.0
	1.2nm,0.4s,baz=331,slow=11,SNR=6.7						
MKAR	**Makanchi Array**	**66.96**	**328**	P	P	08 05 53.3	+1.4
	0.3nm,0.5s,baz=124,slow=7.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**71.30**	**329**	P	P	08 06 19.2	+0.9
	0.7nm,0.5s,baz=134,slow=5.2,SNR=9.5						
QSPA	**South Pole Qui**	**83.00**	**180**	P	P	08 07 22.5	-0.4
	1.0nm,0.9s,baz=252,slow=2.9,SNR=1.9						

IDC ***25*** *07:58:05.6±1.8,24°.09S×175°.39W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.5/53,mbtmp3.9/4,Error ellipse: s-maj=53.9km s-min=42.1km az=21.0*

ISC 25 07:58:07.9±0.8,23°.85S±0°.1×174°.9W±0°.1,h35km,n9,σ1§63/10,mb3.9/4,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.25**	**17**	Pn	Pn	08 00 34.6	+1.9
	2.3nm,0.3s,baz=22,slow=23,SNR=2.2						
AFI				Sn	Sn	08 02 24.8	-1.6
	1.8nm,0.3s,baz=252,slow=20,SNR=1.6						
RAR	**Rarotonga**	**14.21**	**83**	Pn	Pn	08 01 25.3	-1.4
	1.9nm,0.3s,baz=245,slow=8.3,SNR=2.7						
RAR				Sn	Sn	08 03 51.1	-12
	2.3nm,0.3s,baz=95,slow=17,SNR=1.5						
URZ	**Urewera**	**15.97**	**203**	Pn	Pn	08 01 49.7	-0.2
	0.5nm,0.3s,baz=294,slow=19,SNR=1.5						
URZ				Sn	Sn	08 04 22.5	-23
	0.5nm,0.3s,baz=112,slow=21,SNR=1.7						
CTA	**Charters Tower**	**36.15**	**268**	P	P	08 05 06.2	-0.9
	3.1nm,0.8s,baz=83,slow=8.1,SNR=1.4						
ASAR	**Alice Springs**	**46.66**	**259**	P	P	08 06 32.5	-0.9
	0.4nm,0.4s,baz=91,slow=7.0,SNR=4.6						
WRA	**Warramunga Arr**	**47.07**	**264**	P	P	08 06 35.4	-1.2
	0.4nm,0.4s,baz=106,slow=8.4,SNR=5.8						
QSPA	**South Pole Qui**	**66.31**	**180**	P	P	08 08 54.0	+1.2
	1.3nm,0.8s,baz=34,slow=5.3,SNR=2.5						
AKASG	**Malin Array Be**	**147.25**	**331**	PKPbc	**PKiKP**	08 17 49.9	+0.2
	0.9nm,0.4s,baz=38,slow=3.1,SNR=5.3						
BRTR	**Keskin Array B**	**151.15**	**310**	PKPbc	**PKiKP**	08 18 00.7	+2.4
	0.8nm,0.6s,baz=52,slow=2.6,SNR=3.6						

NEIC ***25*** *07:58:12.1±2.1,11°.2N±0°.1×141°.1E±0°.1,h10km±1km, mb4.7/22,Error ellipse: s-maj=19.1km s-min=17.2km az=274.0*

IDC ***25*** *07:58:19.4±2.9,11°.24N×141°.04E,h70km±27km,mb4.0/20, mb1 4.2/22,mb1mx3.9/65,mbtmp4.3/22,MS4.3/2, Ms1 4.3/2,ms1mx3.5/81,Error ellipse: s-maj=17.3km s-min=12.6km az=92.0*

ISC 25 07:58:15.7±0.5,11°.19N±0°.07×141°.05E±0°.08,h34km,n53,σ1§36/45,mb4.5/29,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.43**	**57**	P	Pn	07 59 24.4	+3.8
	11nm,0.3s,baz=205,slow=14,SNR=8.5						
GUMO				S	Sn	08 00 10.4	-0.7
	6.3nm,0.3s,baz=307,slow=20,SNR=1.5						
GUMO	**Guam**	**4.43**	**57**		Pn	07 59 21.6	+1.0
JCJ	**Chichijima**	**15.86**	**4**	P	P	08 02 01.2	+1.3
	2.2nm,0.3s,baz=170,slow=13,SNR=4.1						
JCJ	**Chichijima**	**15.86**	**4**		Pn	08 01 54.7	-1.8
JCJ				IAmb	IAmb	08 02 14.2	
	comp=Z,42nm,0.8s						
FAKI	**Fak Fak**	**16.52**	**212**	P	Pn	08 02 04.3	-0.7
RABL	**Rabaul**	**18.86**	**144**	P	P	08 02 33.1	-0.1
JOW	**Kunigami**	**19.67**	**324**	P	Pn	08 02 43.1	-0.4
	comp=Z,0.6nm,0.3s,baz=129,slow=9.2,SNR=6.7						
JOW	**Kunigami**	**19.67**	**324**	IAmb	IAmb	08 02 44.5	
	comp=Z,24nm,0.8s						
PMG	**Port Moresby**	**21.34**	**163**	P	P	08 03 02.6	+2.5
	comp=Z,25nm,1.0s,baz=299,slow=13,SNR=4.5						
PMG	**Port Moresby**	**21.34**	**163**	IAmb	IAmb	08 03 03.6	
	comp=Z,20nm,0.8s						
SSLB	**Suanglung**	**22.86**	**306**	P	P	08 03 17.7	+1.4
SSLB				IAmb	IAmb	08 03 32.8	
	comp=Z,24nm,1.0s						
YHNB	**Yeheng**	**22.98**	**308**	P	P	08 03 18.8	+1.2
MYLDM	**Lahad Datu**	**23.09**	**257**	P	P	08 03 19.8	+1.0
KSRS	**Korea Array**	**28.69**	**338**	P	P	08 04 13.6	+3.9
	comp=Z,0.5nm,0.3s,baz=167,slow=7.6,SNR=4.1						
WRA	**Warramunga Arr**	**31.63**	**192**	P	P	08 04 35.3	-0.5
	comp=Z,1.1nm,0.6s,baz=8.5,slow=9.7,SNR=6.8						
FITZ	**Fitzroy Crossi**	**32.83**	**208**	LR	LR	08 19 56.6	
	comp=Z,739nm,20.5s,baz=97,slow=40						
ASAR	**Alice Springs**	**35.34**	**191**	P	P	08 05 08.8	+0.8
	comp=Z,1.0nm,0.6s,baz=19,slow=12,SNR=13						
KLR	**Kul'dur**	**38.71**	**350**	P	P	08 05 35.7	-0.7
	comp=Z,4.2nm,0.7s,baz=149,slow=8.8,SNR=9.9						

0.0nm,0.3s,baz=53,slow=29,SNR=5.2
MKAR Makanchi Array 7.64 202 Pn Pn 08 01 59.6 +0.9
0.4nm,0.3s,baz=26,slow=14,SNR=23
MKAR Sn Sn 08 03 26.6 +0.7
0.1nm,0.3s,baz=24,slow=27,SNR=3.1
MKAR Lg Lg 08 04 06.3
0.0nm,0.3s,baz=22,slow=33,SNR=3.1

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*BJI **25** 08:02:44.0±0.0, 17°.56S×178°.12W, h591km, mb5.3/71, mB5.2/30*
*IDC **25** 08:02:45.0±0.7, 17°.97S×178°.39W, h592km±8km, mb4.7/44, mb1 4.7/47, mb1mx4.6/54, mbtmp5.7/47, Error ellipse: s-maj=8.6km s-min=6.7km az=164.0*
*NEIC **25** 08:02:45.5±1.5, 17°.98S±0°.09×178°.43W±0°.09, h592km±5km, mb5.3/479, Error ellipse: s-maj=12.9km s-min=11.4km az=145.0*
*MOS **25** 08:02:45.3±0.9, 17°.92S×178°.44W, h605km, mb5.4/63, Error ellipse: s-maj=7.2km s-min=6.6km az=61.5*
*NOU **25** 08:02:46.0, 17°.96S×178°.39W, h602km, ML5.3/128, Fiji Islands Region*
*GCMT **25** 08:02:50.5±0.4, 17°.91S±0°.04×178°.33W±0°.04, h602km±3km, MW5.7/64, Moment Tensor Solution. s64,c83; Duration: 1s7 Moment tensor: Scale 10^17^Nm; Mrr-0.69±.12; Mθθ1.63±.19; Mϕϕ-0.94±.20; Mrθ0.28±.20; Mθϕ-1.72±.18; Mϕr-4.11±.18; Best double couple: Mo4.60700×10^17^ NP1:ϕs83.00000°, δ28.00000°, λ-172.00000°. NP2:ϕs346.00000°, δ86.00000°, λ-62.00000°. Principal axes: T 4.1160, Plg35.0000°, Azm52.0000°; N 0.9760, Plg28.0000°, Azm164.0000°; P -5.0970, Plg42.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 25 08:02:45.0±0.3, 18°.07S±0°.03×178°.37W±0°.04, h598km±3km, h599km; pP-P, n1608, σ1°.16/1640, mb5.3/401, 309C-168D, Fault plane solution: NP1:ϕs184.06805°, δ80.97622°, λ41.61320°. **NP2:**ϕs86.13680°, δ49.01365°, λ168.00784°. **Principal axes:** T Plg35.0774°, Azm53.8279°; N Plg47.5946°, Azm194.0819°; P Plg20.6630°, Azm308.4711°; **Fault plane solution: NP1:**ϕs333.15225°, δ85.63046°, λ-89.52199°. **NP2:** ϕs146.90299°, δ4.39556°, λ-96.23104°. **Principal axes:** T Plg40.6286°, Azm62.7069°; N Plg0.4766°, Azm153.1158°; P Plg49.3674°, Azm243.6713°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.42**	**275**	P	**P**	**08 04 09.4**	**+2.7**
	88nm,0.3s,baz=127,slow=11,SNR=851						
MSVF				S	**S**	**08 05 17.6**	**+4.5**
	baz=24,slow=21,SNR=9.5						
MSVF	**Nonsavu**	**3.42**	**275**	*c i*P	**P**	**08 04 09.2**	**+2.6**
MSVF				pmax	pmax		
	comp=Z,3μm,0.9s						
MSVF	**Nonsavu**	**3.42**	**275**	P	**P**	**08 04 09.1**	**+2.5**
AFI	**Afiamalu**	**7.57**	**58**	P	**P**	**08 04 39.0**	**-1.3**
	comp=Z,31nm,0.3s,baz=244,slow=5.5,SNR=33						
AFI				S	**S**	**08 06 10.5**	**-4.2**
	comp=Z,5.8nm,0.3s,baz=23,slow=20,SNR=1.3						
AFI	**Afiamalu**	**7.57**	**58**	P	**P**	**08 04 39.7**	**-0.6**
AFI	**Afiamalu**	**7.57**	**58**	P	**P**	**08 04 39.7**	**-0.6**
AFI	**Afiamalu**	**7.57**	**58**	P	**P**	**08 04 39.8**	**-0.6**
NIUE	**Niue**	**8.07**	**98**	P	**P**	**08 04 45.9**	**+1.0**
	baz=8.1,SNR=17						
NIUE	**Niue**	**8.07**	**98**	P	**P**	**08 04 45.6**	**+0.7**
NIUE	**Niue**	**8.07**	**98**	P	**P**	**08 04 46.5**	**+1.6**
FUNA	**Funafuti**	**9.78**	**346**	P	**P**	**08 05 00.5**	**-1.1**
RAO	**Raoul Island**	**11.14**	**178**	S	**S**	**08 07 14.7**	**-3.5**
	comp=Z,43nm,0.3s,baz=268,slow=23,SNR=1.1						
GLKZ	**Green Lake**	**11.15**	**178**	P	**P**	**08 05 13.4**	**-1.6**
GLKZ				S	**S**	**08 07 18.0**	**-0.4**
DVP	**Devils Point**	**12.80**	**269**	P	**P**	**08 05 32.6**	**+0.8**
MARNC	**Mare, Loyalty**	**13.24**	**253**	P	**P**	**08 05 35.2**	**-1.0**
MARNC	**Mare, Loyalty**	**13.24**	**253**	P	**P**	**08 05 36.4**	**+0.1**
LIFNC	**LIFOU**	**13.84**	**256**	P	**P**	**08 05 41.2**	**-1.2**
LIFNC	**LIFOU**	**13.84**	**256**	P	**P**	**08 05 41.9**	**-0.4**
PINNC	**Pines Island,**	**14.05**	**249**	P	**P**	**08 05 44.6**	**+0.2**
PINNC	**Pines Island,**	**14.05**	**249**	P	**P**	**08 05 44.9**	**+0.6**
SANVU	**Saraoutou**	**14.06**	**279**	P	**P**	**08 05 43.7**	**-0.8**
SANVU	**Saraoutou**	**14.06**	**279**	P	**P**	**08 05 45.5**	**+1.0**
OUENC	**Ouen Island, N**	**14.54**	**250**	P	**P**	**08 05 49.2**	**+0.3**
DZM	**Mont Dzumac**	**14.81**	**252**	P	**P**	**08 05 51.7**	**+0.1**
	comp=Z,6.3nm,0.3s,baz=77,slow=15,SNR=49						
DZM				S	**S**	**08 08 23.7**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=170,slow=19,SNR=3.8						
DZM	**Mont Dzumac**	**14.81**	**252**	*e*P	**P**	**08 05 51.8**	**+0.2**
	comp=Z,392nm,1.6s						
DZM	**Mont Dzumac**	**14.81**	**252**	P	**P**	**08 05 51.5**	**-0.1**
ONTNC	**Ouen Toro**	**14.86**	**251**	P	**P**	**08 05 52.0**	**+0.1**
KNTN	**Kanton**	**16.54**	**24**	P	**P**	**08 06 06.2**	**-1.2**
KNTN	**Kanton**	**16.54**	**24**	P	**P**	**08 06 06.4**	**-1.1**
KOUNC	**Koumac, New Ca**	**16.56**	**259**	P	**P**	**08 06 08.6**	**+1.0**
RAR	**Rarotonga**	**17.80**	**103**	P	**P**	**08 06 19.6**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=260,slow=8.2,SNR=8.0						
RAR	**Rarotonga**	**17.80**	**103**	P	**P**	**08 06 19.8**	**+1.0**
RAR				pmax	pmax		
	comp=Z,139nm,1.0s						
RAR	**Rarotonga**	**17.80**	**103**	P	**P**	**08 06 19.8**	**+1.0**
RAR				IAmb	IAmb	08 06 21.1	
	comp=Z,139nm,1.0s						
RAR	**Rarotonga**	**17.80**	**103**	P	**P**	**08 06 20.6**	**+1.8**
OUZ	**Omahuta**	**18.52**	**201**	P	**P**	**08 06 28.8**	**+3.6**
OUZ	**Omahuta**	**18.52**	**201**	P	**P**	**08 06 28.5**	**+3.3**
OUZ	**Omahuta**	**18.52**	**201**	P	**P**	**08 06 28.5**	**+3.3**
WCZ	**Waipu Caves**	**18.93**	**198**	P	**P**	**08 06 31.9**	**+2.9**
KUZ	**Kuaotunu**	**19.32**	**194**	P	**P**	**08 06 34.9**	**+2.4**
HAZ	**Te Kaha**	**19.90**	**189**	P	**P**	**08 06 37.7**	**0.0**
HAZ				S	**S**	**08 09 41.0**	**-4.8**
PKGZ	**Pakihiroa**	**19.99**	**188**	P	**P**	**08 06 42.2**	**+3.6**
PKGZ				S	**S**	**08 09 43.7**	**-3.7**
RUGZ	**Raukumara Rang**	**20.12**	**189**	P	**P**	**08 06 40.1**	**+0.3**
RUGZ				S	**S**	**08 09 48.5**	**-1.1**
PUZ	**Puketiti**	**20.15**	**188**	P	**P**	**08 06 40.0**	**0.0**
PUZ				S	**S**	**08 09 43.7**	**-6.1**
TWGZ	**Tauwhareparae**	**20.29**	**188**	P	**P**	**08 06 42.3**	**+1.0**
TWGZ				S	**S**	**08 09 49.3**	**-2.7**
TOZ	**Tahuroa Road**	**20.31**	**194**	P	**P**	**08 06 44.0**	**+2.5**
URZ	**Urewera**	**20.50**	**190**	P	**P**	**08 06 41.3**	**-1.8**
	comp=Z,33nm,0.6s,baz=315,slow=2.3,SNR=26						
URZ				S	**S**	**08 09 47.3**	**-8.0**
	comp=Z,41nm,0.8s,baz=137,slow=19,SNR=7.8						
URZ	**Urewera**	**20.50**	**190**	P	**P**	**08 06 42.0**	**-1.1**
URZ				IAmb	IAmb	08 06 51.8	
	comp=Z,62nm,0.8s						
URZ	**Urewera**	**20.50**	**190**	P	**P**	**08 06 41.6**	**-1.5**
URZ				S	**S**	**08 09 48.9**	**-6.4**
URZ	**Urewera**	**20.50**	**190**	P	**P**	**08 06 43.3**	**+0.2**
MWZ	**Matawai**	**20.51**	**189**	P	**P**	**08 06 42.0**	**-1.2**
MWZ				S	**S**	**08 09 49.5**	**-6.0**
CNGZ	**Carnagh Statio**	**20.56**	**188**	P	**P**	**08 06 45.4**	**+1.8**
CNGZ				S	**S**	**08 09 53.8**	**-2.5**
TKGZ	**Te Karaka**	**20.57**	**188**	P	**P**	**08 06 40.6**	**-3.0**
RAGZ	**Rawiri**	**20.68**	**189**	P	**P**	**08 06 45.4**	**+0.6**
RAGZ				S	**S**	**08 09 52.1**	**-6.3**
RIGZ	**Rimuhau**	**20.84**	**189**	P	**P**	**08 06 46.1**	**-0.1**
RIGZ				S	**S**	**08 09 56.6**	**-4.2**
RTZ	**Ruatahuna**	**20.87**	**190**	P	**P**	**08 06 43.5**	**-3.0**
RTZ				S	**S**	**08 09 54.4**	**-6.9**
TLZ	**Tolley Road**	**20.88**	**194**	P	**P**	**08 06 49.2**	**+2.7**
SNGZ	**Shannon Statio**	**20.98**	**189**	P	**P**	**08 06 47.2**	**-0.2**
TARA	**Tarawa**	**21.12**	**335**	P	**P**	**08 06 48.5**	**-0.5**
MTHZ	**Maungataniwha**	**21.13**	**190**	P	**P**	**08 06 48.5**	**-0.3**
RAHZ	**Arahi**	**21.15**	**190**	P	**P**	**08 06 48.2**	**-0.8**
MRHZ	**Matea Rd**	**21.18**	**191**	P	**P**	**08 06 48.8**	**-0.5**
MRHZ				S	**S**	**08 10 01.4**	**-4.9**
HIZ	**Hauiti**	**21.21**	**195**	P	**P**	**08 06 53.0**	**+3.5**
NMHZ	**Naumai**	**21.37**	**190**	P	**P**	**08 06 50.7**	**-0.3**
NMHZ				S	**S**	**08 10 08.8**	**-0.4**
BKZ	**Black Stump Fm**	**21.49**	**191**	P	**P**	**08 06 54.4**	**+2.4**
BKZ	**Black Stump Fm**	**21.49**	**191**	P	**P**	**08 06 50.5**	**-1.5**
BKZ				S	**S**	**08 10 03.1**	**-8.0**
TMZ	**Te Maari**	**21.60**	**193**	P	**P**	**08 06 52.0**	**-0.3**
ETVZ	**East Tongariro**	**21.61**	**193**	P	**P**	**08 06 52.7**	**-0.6**
NNVZ	**North Ngauruho**	**21.63**	**193**	P	**P**	**08 06 54.8**	**+1.4**
OTVZ	**Oturere**	**21.65**	**193**	P	**P**	**08 06 53.6**	**-0.1**
NGZ	**Ngauruhoe**	**21.68**	**193**	P	**P**	**08 06 54.1**	**+0.2**
SNVZ	**South Ngauruho**	**21.68**	**193**	P	**P**	**08 06 53.8**	**-0.1**
TUVZ	**Tukino**	**21.75**	**193**	P	**P**	**08 06 54.0**	**-0.5**
KWHZ	**Kaweka Forest**	**21.76**	**191**	P	**P**	**08 06 53.5**	**-0.9**
KWHZ				S	**S**	**08 10 08.6**	**-6.7**
WNVZ	**Wahianoa**	**21.82**	**193**	P	**P**	**08 06 54.5**	**-0.6**
PKVZ	**Pokaka**	**21.84**	**193**	P	**P**	**08 06 55.5**	**+0.3**
MOVZ	**Moawhango**	**21.87**	**192**	P	**P**	**08 06 55.2**	**-0.2**
CKHZ	**Cape Kidnapper**	**21.87**	**189**	P	**P**	**08 06 53.8**	**-1.6**
BHHZ	**Black Hill Sta**	**21.89**	**192**	P	**P**	**08 06 54.3**	**-1.3**
BHHZ				S	**S**	**08 10 12.4**	**-4.9**
KRHZ	**Kereru**	**21.98**	**191**	P	**P**	**08 06 55.7**	**-0.7**
KRHZ				S	**S**	**08 10 15.9**	**-2.8**
KAHZ	**Kahuranaki**	**22.04**	**190**	P	**P**	**08 06 56.3**	**-0.6**
KAHZ				S	**S**	**08 10 16.0**	**-3.6**
NEZ	**North Egmont**	**22.12**	**196**	P	**P**	**08 07 01.9**	**+4.2**
PNHZ	**Pukenui**	**22.27**	**191**	P	**P**	**08 06 58.2**	**-0.8**
PNHZ				S	**S**	**08 10 18.8**	**-4.6**
PXZ	**Pawanui**	**22.27**	**190**	P	**P**	**08 06 57.2**	**-1.7**
PXZ				S	**S**	**08 10 19.9**	**-3.3**
TSZ	**Takapari Road**	**22.46**	**191**	P	**P**	**08 07 00.4**	**-0.3**
TSZ				S	**S**	**08 10 18.8**	**-7.4**
PRHZ	**Porangahau**	**22.54**	**190**	P	**P**	**08 07 01.0**	**-0.3**
DVHZ	**Dannevirke**	**22.65**	**191**	P	**P**	**08 07 02.2**	**-0.2**
DVHZ				S	**S**	**08 10 24.0**	**-5.2**
HNR	**Honiara**	**22.72**	**289**	P	**P**	**08 07 02.4**	**-0.9**
	comp=Z,133nm,0.7s,baz=192,slow=2.3,SNR=10.0						
HNR	**Honiara**	**22.72**	**289**	P	**P**	**08 07 02.8**	**-0.5**
HNR				pmax	pmax		
	comp=Z,191nm,0.8s						
HNR	**Honiara**	**22.72**	**289**	P	**P**	**08 07 02.8**	**-0.5**
HNR	**Honiara**	**22.72**	**289**	P	**P**	**08 07 04.9**	**+1.6**
BFZ	**Birch Farm**	**23.01**	**191**	P	**P**	**08 07 05.1**	**-0.4**
BFZ				IAmb	IAmb	08 07 08.1	
	comp=Z,64nm,1.1s						
SNZO	**South Karori**	**23.91**	**193**	P	**P**	**08 07 13.5**	**0.0**
BHW	**Baring Head**	**23.97**	**193**	P	**P**	**08 07 13.6**	**-0.4**
QRZ	**Quartz Range**	**24.00**	**197**	P	**P**	**08 07 15.5**	**+1.3**
QRZ				IAmb	IAmb	08 07 47.9	
	comp=Z,157nm,1.5s						
QRZ	**Quartz Range**	**24.00**	**197**	P	**P**	**08 07 16.2**	**+2.0**
TUWZ	**Tuamarina**	**24.20**	**194**	P	**P**	**08 07 15.1**	**-0.8**
THZ	**Tophouse**	**24.77**	**196**	P	**P**	**08 07 21.4**	**+0.3**
THZ				IAmb	IAmb	08 07 50.2	
	comp=Z,72nm,1.3s						
KHZ	**Kahutara**	**25.23**	**194**	P	**P**	**08 07 26.3**	**+1.3**
OXZ	**Oxford**	**26.46**	**196**	P	**P**	**08 07 35.4**	**-0.5**
OXZ				IAmb	IAmb	08 07 36.5	
	comp=Z,73nm,0.8s						
RPZ	**Rata Peaks**	**27.08**	**197**	P	**P**	**08 07 39.8**	**-1.5**
	comp=Z,5.3nm,0.4s,baz=43,slow=22,SNR=1.9						
RPZ	**Rata Peaks**	**27.08**	**197**	IAmb	IAmb	08 07 58.1	
	comp=Z,231nm,1.9s						
PAE	**Paea**	**27.39**	**94**	*e*P	**P**	**08 07 45.0**	**+0.6**
	comp=Z,68nm,1.2s						
PPT2	**Papeete2**	**27.41**	**93**	*e*P	**P**	**08 07 45.6**	**+1.0**
	comp=Z,144nm,0.9s						
PPT	**Papeete**	**27.41**	**93**	P	**P**	**08 07 45.4**	**+0.9**
	comp=Z,135nm,0.7s,baz=342,slow=20,SNR=14						
PPTF	**Pamatai, Papee**	**27.42**	**93**	P	**P**	**08 07 46.3**	**+1.6**
	comp=Z,288nm,1.1s						
TBI	**Tubuai**	**27.52**	**106**	*e*P	**P**	**08 07 46.8**	**+1.4**
	comp=Z,157nm,0.8s						
ODZ	**Otahua Downs**	**28.42**	**196**	P	**P**	**08 07 53.0**	**0.0**
WKZ	**Wanaka**	**28.70**	**199**	P	**P**	**08 07 55.4**	**0.0**
WKZ				IAmb	IAmb	08 08 07.2	
	comp=Z,71nm,0.8s						
XMAS	**Kiritimati**	**28.71**	**48**	P	**P**	**08 07 56.0**	**+0.1**
XMAS	**Kiritimati**	**28.71**	**48**	P	**P**	**08 07 56.4**	**+0.5**
	comp=Z,427nm,0.9s						
XMAS	**Kiritimati**	**28.71**	**48**	P	**P**	**08 07 56.3**	**+0.5**
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**08 08 00.7**	**+0.3**
	baz=29,SNR=39						
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**08 08 00.9**	**+0.4**
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**08 08 00.8**	**+0.4**
PMOR	**Pomariorio Ree**	**29.36**	**89**	*e*P	**P**	**08 08 02.3**	**+0.9**
	comp=Z,580nm,1.2s						
MLZ	**Mavora Lakes**	**29.46**	**200**	P	**P**	**08 08 03.4**	**+1.4**
MLZ				IAmb	IAmb	08 08 04.4	
	comp=Z,56nm,0.9s						
RK1H	**Rockhampton Ha**	**29.56**	**254**	P	**P**	**08 08 03.7**	**+0.6**
VAH	**Vaihoa**	**29.57**	**89**	*e*P	**P**	**08 08 03.7**	**+0.4**
	comp=Z,248nm,1.0s						
DCZ	**Deep Cove**	**29.86**	**201**	P	**P**	**08 08 06.5**	**+1.2**
DCZ				IAmb	IAmb	08 08 08.9	
	comp=Z,46nm,0.9s						
ARMA	**Armidale**	**29.89**	**240**	P	**P**	**08 08 07.0**	**+1.0**
	baz=30,SNR=29						
ARMA	**Armidale**	**29.89**	**240**	P	**P**	**08 08 07.5**	**+1.5**
ARMA				IAmb	IAmb	08 08 08.7	
	comp=Z,114nm,0.9s						
ARMA	**Armidale**	**29.89**	**240**	P	**P**	**08 08 07.5**	**+1.5**
	comp=Z,138nm,0.9s						
KWAJ	**Kwajalein Atol**	**30.07**	**331**	P	**P**	**08 08 07.8**	**+0.2**
KWAJ				pmax	pmax		
	comp=Z,285nm,0.8s						
KWAJ	**Kwajalein Atol**	**30.07**	**331**	P	**P**	**08 08 07.8**	**+0.2**
NTLH	**Newcastle Hard**	**30.66**	**235**	P	**P**	**08 08 14.7**	**+2.3**
	comp=Z,141nm,0.9s						
MGCD	**Mangrove Creek**	**31.23**	**235**	P	**P**	**08 08 19.0**	**+1.7**
	baz=31,SNR=19						
MGCD	**Mangrove Creek**	**31.23**	**235**	P	**P**	**08 08 19.5**	**+2.2**
RIV	**Riverview**	**31.42**	**234**	P	**P**	**08 08 19.9**	**+1.0**
	baz=32,SNR=4.3						
RMQ	**Roma**	**31.48**	**249**	P	**P**	**08 08 20.8**	**+1.3**
	baz=32,SNR=69						
RMQ	**Roma**	**31.48**	**249**	P	**P**	**08 08 20.8**	**+1.3**
SYDH	**Sydney Hard Ro**	**31.72**	**234**	P	**P**	**08 08 23.1**	**+1.7**
	comp=Z,129nm,0.9s						
RABL	**Rabaul**	**31.96**	**292**	P	**P**	**08 08 23.0**	**-0.7**
RABL	**Rabaul**	**31.96**	**292**	P	**P**	**08 08 22.7**	**-1.0**
	comp=Z,256nm,0.7s						
KRVT	**Keravat (AS076**	**32.02**	**292**	P	**P**	**08 08 22.6**	**-1.7**
	comp=Z,173nm,0.7s,baz=174,slow=5.4,SNR=12						
CNB	**Canberra Magne**	**33.36**	**233**	P	**P**	**08 08 37.0**	**+1.7**
	baz=34,SNR=166						
CNB	**Canberra Magne**	**33.36**	**233**	P	**P**	**08 08 37.2**	**+1.9**
CTA	**Charters Tower**	**33.46**	**261**	P	**P**	**08 08 36.6**	**+0.3**
	comp=Z,192nm,0.7s,baz=90,slow=9.7,SNR=156						
CTA				PcP	**PcP**	**08 11 00.0**	**+0.6**
	comp=Z,18nm,0.6s,baz=104,slow=4.9,SNR=3.3						
CTA				ScP	**ScP**	**08 13 50.1**	**+2.2**
	comp=Z,34nm,1.0s,baz=45,slow=4.0,SNR=5.9						
CTA	**Charters Tower**	**33.46**	**261**	P	**P**	**08 08 36.8**	**+0.5**
CTAO	**Charters Tower**	**33.46**	**261**	P	**P**	**08 08 36.2**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,245nm,0.8s						
CTAO	**Charters Tower**	**33.46**	**261**	P	**P**	**08 08 36.2**	**-0.1**
CTAO	**Charters Tower**	**33.46**	**261**	P	**P**	**08 08 36.7**	**+0.5**
CTAO				pP	pP	08 08 54.9	-78
CAN	**Canberra**	**33.64**	**233**	P	**P**	**08 08 39.1**	**+1.5**
CAN				pmax	pmax		
	comp=Z,161nm,0.9s						
CAN	**Canberra**	**33.64**	**233**	P	**P**	**08 08 39.1**	**+1.5**
CAN	**Canberra**	**33.64**	**233**	P	**P**	**08 08 38.9**	**+1.3**
CAN	**Canberra**	**33.64**	**233**	P	**P**	**08 08 39.0**	**+1.3**
PATS	**Pohnpei**	**33.80**	**315**	P	**P**	**08 08 39.4**	**+0.3**
	baz=34,SNR=5.3						
PATS	**Pohnpei**	**33.80**	**315**	P	**P**	**08 08 39.6**	**+0.5**
PATS	**Pohnpei**	**33.80**	**315**	P	**P**	**08 08 39.0**	**-0.1**
PMG	**Port Moresby**	**34.52**	**280**	P	**P**	**08 08 46.2**	**+1.1**
	comp=Z,839nm,0.9s,baz=84,slow=6.1,SNR=140						
PMG				ScP	**ScP**	**08 13 53.2**	**+1.4**
	comp=Z,25nm,0.8s,baz=164,slow=4.7,SNR=3.0						
PMG	**Port Moresby**	**34.52**	**280**	P	**P**	**08 08 46.3**	**+1.1**
PMG	**Port Moresby**	**34.52**	**280**	P	**P**	**08 08 46.3**	**+1.1**
PMG	**Port Moresby**	**34.52**	**280**	⇓P	**P**	**08 08 46.5**	**+1.3**
PMG				pP	pP	08 09 05.1	-78
CMSA	**Cobar Meteorol**	**35.10**	**241**	P	**P**	**08 08 50.9**	**+1.1**
	baz=35,SNR=188						
CMSA	**Cobar Meteorol**	**35.10**	**241**	P	**P**	**08 08 50.9**	**+1.1**
MTSU	**Mount Surprise**	**35.43**	**264**	P	**P**	**08 08 53.1**	**+0.4**
	baz=35,SNR=98						
MTSU	**Mount Surprise**	**35.43**	**264**	P	**P**	**08 08 53.2**	**+0.5**
QLP	**Quilpie**	**35.51**	**249**	P	**P**	**08 08 53.9**	**+0.7**
	baz=36,SNR=80						
QLP	**Quilpie**	**35.51**	**249**	P	**P**	**08 08 53.9**	**+0.7**
JOHN	**Johnston Islan**	**35.66**	**15**	P	**P**	**08 08 54.6**	**+0.1**
JOHN	**Johnston Islan**	**35.66**	**15**	P	**P**	**08 08 55.3**	**+0.8**
	comp=Z,556nm,1.0s						
JOHN	**Johnston Islan**	**35.66**	**15**	P	**P**	**08 08 54.9**	**+0.4**
JOHN				pP	pP	08 09 22.6	-70
GLAD	**Gladstone**	**36.76**	**224**	P	**P**	**08 09 04.7**	**+1.4**
TOO	**Toolangi**	**37.10**	**231**	P	**P**	**08 09 07.6**	**+1.4**
	baz=37,SNR=113						
TOO	**Toolangi**	**37.10**	**231**	P	**P**	**08 09 07.4**	**+1.3**
TOO				pmax	pmax		
	comp=Z,305nm,1.0s						
TOO	**Toolangi**	**37.10**	**231**	P	**P**	**08 09 07.4**	**+1.3**
TOO	**Toolangi**	**37.10**	**231**	P	**P**	**08 09 07.4**	**+1.3**
COEN	**Coen**	**37.14**	**271**	P	**P**	**08 09 07.3**	**+0.5**
COEN	**Coen**	**37.14**	**271**	P	**P**	**08 09 07.8**	**+1.0**
MANU	**Manus Island**	**37.19**	**291**	P	**P**	**08 09 08.0**	**+0.8**
CORO	**Coronation Par**	**37.56**	**224**	P	**P**	**08 09 11.5**	**+1.8**
	comp=Z,161nm,0.9s						
MLBS	**Spotswood, Mel**	**37.63**	**231**	P	**P**	**08 09 12.1**	**+1.7**
MOO	**Moorlands**	**38.00**	**223**	P	**P**	**08 09 14.1**	**+0.8**
	baz=38,SNR=12						
MOO	**Moorlands**	**38.00**	**223**	P	**P**	**08 09 14.7**	**+1.4**
TAU	**Tasmania Unive**	**38.15**	**222**	P	**P**	**08 09 16.1**	**+1.6**
TAU				pmax	pmax		
	comp=Z,74nm,1.0s						
TAU	**Tasmania Unive**	**38.15**	**222**	P	**P**	**08 09 16.1**	**+1.6**
TAU				IAmb	IAmb	08 09 16.7	
	comp=Z,74nm,0.9s						
TAU	**Tasmania Unive**	**38.15**	**222**	P	**P**	**08 09 15.7**	**+1.2**
TAU	**Tasmania Unive**	**38.15**	**222**	P	**P**	**08 09 15.6**	**+1.1**
TAU				sP	pP	08 09 55.5	-58
GEXS	**Deakin Univers**	**38.21**	**231**	P	**P**	**08 09 16.4**	**+1.3**
TAOE	**Nuku Hiva Isla**	**38.21**	**81**	*e*P	**P**	**08 09 15.8**	**+0.2**
	comp=Z,922nm,0.9s						
TAOE	**Nuku Hiva Isla**	**38.21**	**81**	P	**P**	**08 09 16.5**	**+0.9**
TAOE	**Nuku Hiva Isla**	**38.21**	**81**	P	**P**	**08 09 16.8**	**+1.2**
	comp=Z,591nm,0.8s						
TAOE	**Nuku Hiva Isla**	**38.21**	**81**	P	**P**	**08 09 16.8**	**+1.2**
TAOE				pP	pP	08 09 36.8	-78
BRAT	**Ballarat**	**38.25**	**232**	P	**P**	**08 09 17.6**	**+2.2**
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**08 09 19.6**	**+1.4**
	comp=Z,300nm,0.9s,baz=88,slow=9.2,SNR=389						
STKA				PcP	**PcP**	**08 11 16.1**	**+1.2**
	comp=Z,17nm,0.6s,baz=52,slow=4.8,SNR=2.8						
STKA				ScP	**ScP**	**08 14 09.3**	**+2.4**
	comp=Z,10nm,0.9s,baz=27,slow=4.2,SNR=3.7						
STKA				S	**S**	**08 14 31.9**	**-0.9**
	comp=Z,5.0nm,0.9s,baz=160,slow=23,SNR=5.6						
STKA				P3KPbc		08 39 10.9	
	comp=Z,1.1nm,0.6s,baz=300,slow=7.4,SNR=3.5						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**08 09 19.6**	**+1.4**
	baz=39,SNR=248						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**08 09 19.8**	**+1.6**
STKA				pmax	pmax		
	comp=Z,85nm,1.0s						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**08 09 19.8**	**+1.6**
STKA				IAmb	IAmb	08 09 20.8	
	comp=Z,85nm,1.0s						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**08 09 20.0**	**+1.7**
INKA	**Innaminka**	**38.72**	**248**	P	**P**	**08 09 21.1**	**+1.7**
ARPS	**Mount Arapiles**	**39.59**	**234**	P	**P**	**08 09 27.0**	**+0.9**
	baz=40,SNR=31						
ARPS	**Mount Arapiles**	**39.59**	**234**	P	**P**	**08 09 27.2**	**+1.0**
QIS	**Mount Isa**	**39.66**	**259**	P	**P**	**08 09 26.9**	**-0.2**
	baz=40,SNR=40						
QIS	**Mount Isa**	**39.66**	**259**	P	**P**	**08 09 26.9**	**-0.2**
WAKE	**Wake Island**	**39.93**	**338**	P	**P**	**08 09 28.9**	**-0.2**
HTT	**Hallett**	**41.10**	**240**	P	**P**	**08 09 39.5**	**+1.1**
	baz=41,SNR=169						
HTT	**Hallett**	**41.10**	**240**	P	**P**	**08 09 39.4**	**+1.1**
LCRK	**Leigh Creek**	**41.22**	**244**	P	**P**	**08 09 40.3**	**+1.1**
NAPP	**Napperby**	**41.69**	**240**	P	**P**	**08 09 44.4**	**+1.5**
TWOA	**Tennyson Woods**	**41.70**	**237**	P	**P**	**08 09 43.9**	**+0.9**
WHYH	**Whyalla**	**42.14**	**241**	P	**P**	**08 09 47.5**	**+1.1**
OOD	**Oodnadatta**	**43.19**	**248**	P	**P**	**08 09 56.0**	**+1.3**
KHU	**Kahuku**	**43.30**	**32**	P	**P**	**08 09 55.9**	**+0.1**
KHU	**Kahuku**	**43.30**	**32**	P	**P**	**08 09 55.9**	**+0.1**
BBOO	**Buckleboo**	**43.36**	**241**	P	**P**	**08 09 56.6**	**+0.7**
	baz=43,SNR=394			

MTN **Manton Dam** 48.83 269 P P 08 10 37.2 -0.3
MTN **Manton Dam** 48.83 269 P P 08 10 37.2 -0.3
WRKA **Warakurna** 49.83 252 P P 08 10 45.1 +0.3
baz=50,SNR=574
WRKA **Warakurna** 49.83 252 P P 08 10 45.0 +0.2
SAUI **Saumlaki** 49.91 275 P P 08 10 46.0 +0.5
FORT **Forrest** 49.97 245 P P 08 10 45.5 -0.2
baz=50,SNR=17
FORT **Forrest** 49.97 245 P P 08 10 45.6 -0.2
FORT **Forrest** 49.97 245 P P 08 10 45.4 -0.2
KNRA **Kununurra** 50.51 264 P P 08 10 49.7 -0.1
baz=50,SNR=53
KNRA **Kununurra** 50.51 264 P P 08 10 49.7 -0.1
KNRA **Kununurra** 50.51 264 P P 08 10 49.6 -0.1
FAKI **Fak Fak** 50.64 281 P P 08 10 50.7 -0.2
FAKI **Fak Fak** 50.64 281 P P 08 10 50.6 -0.2
comp=Z,156nm,1.5s
FAKI **Fak Fak** 50.64 281 P P 08 10 51.2 +0.4
SWI **Sorong** 52.31 283 P P 08 11 03.1 +0.3
comp=Z,10µmcomp=Z,1µm,0.9s
FITZ **Fitzroy Crossi** 53.04 261 P P 08 11 08.1 +0.2
comp=Z,50nm,0.7s,baz=104,slow=4.8,SNR=106
FITZ S S 08 17 53.6 -0.6
comp=Z,5.3nm,1.0s,baz=283,slow=16,SNR=2.3
FITZ **Fitzroy Crossi** 53.04 261 IAmb IAmb 08 11 09.5
comp=Z,204nm,1.4s
MSAI **Masohi** 53.60 279 P P 08 11 11.9 0.0
comp=Z,1µmcomp=Z,39nm,0.6s
AAI **Ambon** 54.18 279 P P 08 11 15.6 -0.4
comp=Z,5µmcomp=Z,327nm,0.9s
DRV **Dumont d'Urvil** 55.53 199 P P 08 11 25.6 +1.2
LBMI **Labuha** 55.89 282 P P 08 11 28.3 +0.5
comp=Z,3µmcomp=Z,302nm,1.0s
TNTI **Ternate** 56.53 283 P P 08 11 32.5 +0.2
TNTI **Ternate** 56.53 283 P P 08 11 32.4 +0.2
comp=Z,4µmcomp=Z,435nm,1.1s
TNTI **Ternate** 56.53 283 P P 08 11 32.5 +0.2
comp=Z,440nm,1.1s
BATI **Baumata** 56.57 270 P P 08 11 34.1 +1.6
comp=Z,247nm,0.7s,baz=172,slow=1.1,SNR=21
BATI **Baumata** 56.57 270 P P 08 11 34.1 +1.6
comp=Z,2µmcomp=Z,209nm,1.0s
SANI **Sanana** 56.80 280 P P 08 11 33.6 -0.5
comp=Z,4µmcomp=Z,487nm,0.9s
SANI **Sanana** 56.80 280 P P 08 11 33.7 -0.4
comp=Z,489nm,1.0s
MBWA **Marble Bar** 58.07 256 P P 08 11 42.4 -0.2
MBWA **Marble Bar** 58.07 256 ⇓P P 08 11 42.4 -0.2
MBWA sP PcP 08 12 25.2 -1.0
MMRI **Maumere** 58.34 271 P P 08 11 44.0 -0.4
MMRI **Maumere** 58.34 271 P P 08 11 44.1 -0.4
comp=Z,4µmcomp=Z,308nm,0.8s
MMRI **Maumere** 58.34 271 P P 08 11 44.1 -0.4
comp=Z,404nm,0.9s
MEEK **Meekatharra** 58.41 249 P P 08 11 44.5 -0.4
baz=58,SNR=81
MEEK **Meekatharra** 58.41 249 P P 08 11 44.6 -0.3
KLBR **Kellerberrin** 58.79 244 P P 08 11 47.1 -0.2
baz=59,SNR=45
KLBR **Kellerberrin** 58.79 244 P P 08 11 47.4 +0.1
JCJ **Chichijima** 58.98 319 P P 08 11 47.9 -0.6
comp=Z,120nm,0.8s,baz=73,slow=19,SNR=12
JCJ **Chichijima** 58.98 319 P P 08 11 47.6 -0.9
JCJ IAmb IAmb 08 11 49.0
comp=Z,122nm,0.8s
JCJ **Chichijima** 58.98 319 P P 08 11 48.2 -0.3
comp=Z,184nm,1.0s
NWAO **Narrogin (SRO)** 59.17 242 P P 08 11 49.8 0.0
NWAO pmax pmax
comp=Z,121nm,0.9s
NWAO **Narrogin (SRO)** 59.17 242 P P 08 11 49.8 0.0
NWAO IAmb IAmb 08 11 51.0
comp=Z,120nm,0.9s
NWAO **Narrogin (SRO)** 59.17 242 P P 08 11 49.8 0.0
NWAO X 08 12 03.2
NWAO pP PcP 08 12 18.3 -12
RKGY **Rocky Gully** 59.32 240 P P 08 11 51.7 +0.9
baz=59,SNR=11
RKGY **Rocky Gully** 59.32 240 P P 08 11 51.9 +1.1
BASI **Baing, Sumba** 59.50 269 P P 08 11 52.7 +0.5
comp=Z,3µmcomp=Z,350nm,1.2s
KMSI **Cibinong** 59.60 282 P P 08 11 53.2 +0.3
comp=Z,576nm,0.5s
BLDU **Ballidu** 59.75 245 P P 08 11 53.4 -0.2
baz=60,SNR=75
BLDU **Ballidu** 59.75 245 P P 08 11 53.6 -0.1
MUN **Mundaring** 60.08 243 P P 08 11 55.8 -0.1
baz=60,SNR=36
MUN **Mundaring** 60.08 243 P P 08 11 56.2 +0.3
LUWI **Luwuk** 60.17 279 P P 08 11 57.3 +0.7
LUWI **Luwuk** 60.17 279 P P 08 11 57.5 +0.8
comp=Z,6µmcomp=Z,548nm,1.1s
LUWI **Luwuk** 60.17 279 P P 08 11 57.7 +1.0
comp=Z,548nm,1.1s
SBA **Scott Base** 60.26 184 P P 08 11 59.0 +2.8
SBA pmax pmax
comp=Z,53nm,0.9s
SBA **Scott Base** 60.26 184 P P 08 11 59.0 +2.8
SBA **Scott Base** 60.26 184 ⇓P P 08 11 59.0 +2.8
VNDA **Vanda** 60.29 185 P P 08 11 58.0 +1.7
comp=Z,16nm,0.8s,baz=355,slow=7.6,SNR=98
VNDA **Vanda** 60.29 185 P P 08 11 58.5 +2.1
VNDA pmax pmax
comp=Z,79nm,1.6s
VNDA **Vanda** 60.29 185 P P 08 11 58.5 +2.1
MORW **Morawa** 60.45 246 P P 08 11 58.1 -0.2
baz=60,SNR=36
MORW **Morawa** 60.45 246 P P 08 11 58.3 -0.1
MORW **Morawa** 60.45 246 P P 08 11 58.2 -0.1
MTKN **Mount Kenneth** 60.45 243 P P 08 12 00.7 +2.4
comp=Z,578nm,0.8s
BSSI **Bau Bau, Buton** 60.70 273 P P 08 12 00.1 -0.1
comp=Z,140nm,0.9s
WBSI **Waikabubak, Su** 60.78 269 P P 08 12 00.6 -0.1
comp=Z,3µmcomp=Z,217nm,0.9s
APSI **Ampana** 61.27 279 P P 08 12 05.1 +1.2
comp=Z,4µmcomp=Z,209nm,1.2s
BKSI **Bulukumba** 61.30 274 P P 08 12 03.6 -0.5
comp=Z,1µmcomp=Z,95nm,1.8s
MRSI **Marisa** 61.47 281 P P 08 12 04.7 -0.5
comp=Z,2µmcomp=Z,194nm,1.1s
BNSI **Bone** 61.59 275 P P 08 12 06.3 +0.3
comp=Z,3µmcomp=Z,308nm,1.1s
KAPI **Kappang** 61.74 274 P P 08 12 06.7 -0.2
KAPI pmax pmax
comp=Z,224nm,1.5s
KAPI **Kappang** 61.74 274 P P 08 12 06.7 -0.2
KAPI IAmb IAmb 08 12 08.2
comp=Z,224nm,1.4s
KAPI **Kappang** 61.74 274 P P 08 12 06.8 -0.2
KAPI **Kappang** 61.74 274 P P 08 12 07.7 +0.7
KAPI **Kappang** 61.74 274 P P 08 12 07.0 0.0
KAPI pP PcP 08 12 42.8 +1.6
SPSI **Sidrap Palu** 62.05 275 P P 08 12 08.0 -0.9
comp=Z,182nm,1.0s
TTSI **Tana Toraja** 62.29 276 P P 08 12 10.7 +0.2
comp=Z,9µmcomp=Z,73nm,1.2s
PLAI **Plampang** 62.53 269 P P 08 12 11.7 -0.3
comp=Z,5µmcomp=Z,609nm,1.0s
PLAI **Plampang** 62.53 269 P P 08 12 12.0 0.0
TOLI2 **Tolitoli** 62.78 281 P P 08 12 13.2 -0.5
TOLI2 IAmb IAmb 08 12 14.6
comp=Z,136nm,0.9s
TOLI2 **Tolitoli** 62.78 281 P P 08 12 14.0 +0.3
GIRL **Giralia** 62.88 253 P P 08 12 15.4 +1.1
baz=63,SNR=45
GIRL **Giralia** 62.88 253 P P 08 12 15.5 +1.3
GIRL **Giralia** 62.88 253 P P 08 12 15.3 +1.1
comp=Z,770nm,1.1s
MPSI **Mapaga** 63.34 280 P P 08 12 17.2 0.0
comp=Z,2µmcomp=Z,262nm,1.0s
JHJ **Hachijo jima 2** 64.72 322 P P 08 12 25.7 +0.2
comp=Z,146nm,0.4s,baz=68,slow=19,SNR=10
CCD **Concordia, Ant** 64.72 194 P P 08 12 26.5 +1.1
CCD pP PcP 08 12 52.8 -0.1
DNP **Denpasar** 65.01 269 P P 08 12 28.2 +0.4
comp=Z,877nm,1.0s
IGBI **Denpasar** 65.03 269 P P 08 12 27.8 -0.1
comp=Z,6µmcomp=Z,619nm,0.8s
SRBI **Singaraja** 65.17 269 P P 08 12 28.8 0.0
comp=Z,4µmcomp=Z,306nm,1.2s
SMKI **Samarinda** 65.60 278 P P 08 12 33.9 +2.4
comp=Z,199nm,0.8s
CASY **Casey** 66.01 205 P P 08 12 34.0 +0.9
CASY IAmb IAmb 08 12 35.0
comp=Z,136nm,1.1s
CASY **Casey** 66.01 205 P P 08 12 33.8 +0.7
JAGI **Jajag, Banyuwa** 66.07 269 P P 08 12 33.2 -1.2
JAGI **Jajag, Banyuwa** 66.07 269 P P 08 12 33.2 -1.2
comp=Z,4µmcomp=Z,620nm,0.8s
JAGI **Jajag, Banyuwa** 66.07 269 P P 08 12 33.7 -0.7
ABJI **Asem Bagus** 66.18 269 P P 08 12 35.1 0.0
comp=Z,290nm,1.1s
MYLDM **Lahad Datu** 66.39 284 P P 08 12 38.0 +1.7
KMMI **Kalianget** 66.64 270 P P 08 12 37.7 -0.2
comp=Z,4µmcomp=Z,270nm,1.1s
JYT **Yasato** 66.72 324 P P 08 12 37.8 -0.1
GMJI **Gumukmas** 66.80 269 P P 08 12 38.2 -0.7
comp=Z,2µmcomp=Z,289nm,0.8s
BLJI **Banyuglugur** 66.80 269 P P 08 12 38.6 -0.3
comp=Z,3µmcomp=Z,297nm,0.8s
BBKI **Banjar Baru** 66.87 274 P P 08 12 40.4 +1.0
comp=Z,246nm,1.7s
JMM **Marumori** 67.59 326 P P 08 12 42.8 -0.3
JMM IAmb IAmb 08 12 44.1
comp=Z,74nm,1.0s
MTKI **Muara Teweh, K** 67.62 277 P P 08 12 44.2 +0.3
comp=Z,9µmcomp=Z,93nm,0.8s
TGY **Tagaytay City** 67.84 294 P P 08 12 45.8 +0.5
comp=Z,232nm,0.3s,baz=208,slow=2.2,SNR=6.5
JGF **Kuroka** 67.89 322 P P 08 12 44.8 -0.3
INU **Inuyama** 67.91 322 P P 08 12 45.5 +0.3
INU **Inuyama** 67.91 322 P P 08 12 45.5 +0.3
comp=Z,41nm,1.2s
INU **Inuyama** 67.91 322 P P 08 12 45.2 0.0
MJAR **Matsushiro Arr** 68.06 323 P P 08 12 45.2 -0.9
comp=Z,45nm,0.7s,baz=146,slow=7.7,SNR=88
MJAR **Matsushiro Arr** 68.06 323 P P 08 12 45.3 -0.8
MJAR pmax pmax
comp=Z,43nm,0.8s
MJAR **Matsushiro Arr** 68.06 323 P P 08 12 45.3 -0.8
MAJO **Matsushiro** 68.06 323 P P 08 12 45.9 -0.2
MAJO pmax pmax
comp=Z,65nm,0.8s
MAJO **Matsushiro** 68.06 323 P P 08 12 45.9 -0.2
MAJO IAmb IAmb 08 12 46.8
comp=Z,65nm,0.8s
MAJO **Matsushiro** 68.06 323 P P 08 12 46.0 -0.2
MAJO **Matsushiro** 68.06 323 ⇓P P 08 12 45.8 -0.3
MJB9 **Matsu-Tunnel** 68.06 323 P P 08 12 45.7 -0.4
MJB9 IAmb IAmb 08 12 46.7
comp=Z,64nm,0.8s
GRJI **Gresik** 68.10 270 P P 08 12 47.9 +1.1
comp=Z,2µmcomp=Z,200nm,0.8s
JOW **Kunigami** 68.35 310 P P 08 12 48.8 +0.7
comp=Z,86nm,0.8s,baz=136,slow=5.5,SNR=18
JOW **Kunigami** 68.35 310 P P 08 12 48.7 +0.7
JOW IAmb IAmb 08 12 50.1
comp=Z,132nm,1.0s
JOW **Kunigami** 68.35 310 P P 08 12 49.1 +1.1
PWJI **Pagerwojo** 68.43 268 P P 08 12 48.7 -0.1
comp=Z,3µmcomp=Z,299nm,0.9s
TBJI **Tambak Boyo** 68.73 270 P P 08 12 51.4 +0.8
comp=Z,338nm,1.1s
PCJI **Pacitan** 68.98 268 P P 08 12 52.2 +0.1
comp=Z,14µmcomp=Z,1µm,0.7s
JSD **Sado** 69.09 325 P P 08 12 51.9 -0.3
JSD IAmb IAmb 08 12 53.4
comp=Z,87nm,0.7s
ERM **Erimo** 69.55 330 P P 08 12 55.6 +0.8
ERM pmax pmax
comp=Z,79nm,1.7s
ERM **Erimo** 69.55 330 P P 08 12 55.6 +0.8
ERM **Erimo** 69.55 330 P P 08 12 54.8 0.0
JSU **Suzuyama** 69.57 315 P P 08 12 55.5 +0.2
JSU IAmb IAmb 08 12 56.6
comp=Z,110nm,1.2s
JTM **Tenmabayashi** 69.62 328 P P 08 12 55.6 +0.3
JTM IAmb IAmb 08 12 56.5
comp=Z,61nm,1.0s
KIWB **Kanaga Island** 69.63 1 P P 08 12 55.1 0.0
ADK **Adak** 69.67 1 P P 08 12 54.7 -0.6
ADK X 08 12 58.7
ADK pP PcP 08 13 31.7 +18
UGM **Wanagama** 69.68 268 P P 08 12 56.2 -0.2
UGM **Wanagama** 69.68 268 P P 08 12 56.1 -0.2
comp=Z,6µmcomp=Z,825nm,0.7s
UGM **Wanagama** 69.68 268 P P 08 12 56.3 0.0
YOGI **Yogyakarta** 69.92 268 P P 08 12 57.7 0.0
comp=Z,4µmcomp=Z,446nm,0.9s
SMRI **Semarang** 70.00 269 P P 08 12 58.4 +0.2
SMRI **Semarang** 70.00 269 P P 08 12 58.8 +0.6
comp=Z,5µmcomp=Z,519nm,0.9s
SMRI **Semarang** 70.00 269 P P 08 12 59.0 +0.8
comp=Z,519nm,0.8s
JHS **Saijyo** 70.04 319 P P 08 12 58.6 +0.6
ATKA **Atka Island** 70.06 3 P P 08 12 58.0 +0.3
comp=Z,186nm,1.3s
PBKI **Pangkalan Bun** 70.12 274 P P 08 13 00.2 +1.3
comp=Z,8µmcomp=Z,812nm,1.1s
JNU **Nakatsue** 70.28 316 P P 08 12 59.0 -0.4
comp=Z,33nm,0.9s,baz=93,slow=4.5,SNR=14
JNU **Nakatsue** 70.28 316 P P 08 12 59.4 -0.1
JNU IAmb IAmb 08 13 00.5
comp=Z,60nm,1.0s
JNU **Nakatsue** 70.28 316 P P 08 12 59.6 +0.1
comp=Z,68nm,1.2s
JEW **Eniwo** 70.99 330 P P 08 13 01.7 -1.7
YOJ **Yonaguni jima** 71.06 305 P P 08 13 03.1 -1.1
YOJ pmax pmax
comp=Z,300nm,0.9s
YOJ **Yonaguni jima** 71.06 305 P P 08 13 03.1 -1.1
YOJ **Yonaguni jima** 71.06 305 P P 08 13 04.4 +0.2
comp=Z,382nm,0.9s
STKI **Sintang** 71.18 276 P P 08 13 06.3 +1.2
comp=Z,252nm,0.9s
SBUM **Sibu** 71.27 279 P P 08 13 05.8 +0.2
SBUM IAmb IAmb 08 13 07.5
comp=Z,91nm,0.9s
JKA **Kamikawa-asahi** 71.43 331 P P 08 13 07.0 +1.1
ASAJ **Asahikawa** 71.43 331 P P 08 13 07.1 +1.2
comp=Z,32nm,0.6s,baz=211,slow=7.4,SNR=24
ASAJ **Asahikawa** 71.43 331 P P 08 13 07.0 +1.1
ASAJ pmax pmax
comp=Z,364nm,2.0s
TWG **Pinlang** 71.79 302 P P 08 13 06.8 -1.6
TWG IAmb IAmb 08 13 07.6
comp=Z,78nm,0.6s
YULB **Yu-li** 71.89 303 P P 08 13 07.6 -1.5
YULB IAmb IAmb 08 13 09.0
comp=Z,55nm,0.6s
QSPA **South Pole Qui** 71.99 180 P P 08 13 10.4 +1.4
comp=Z,104nm,0.8s,baz=25,slow=1.1,SNR=351
QSPA pP pP 08 15 10.9 +0.5
comp=Z,6.1nm,1.0s,baz=46,slow=9.7,SNR=1.5
QSPA **South Pole Qui** 71.99 180 P P 08 13 10.6 +1.6
QSPA IAmb IAmb 08 13 11.5
comp=Z,120nm,0.8s
NACB **Ninganchiao** 72.03 304 P P 08 13 09.5 -0.4
JCJI **Jatiwangi** 72.22 269 P P 08 13 11.1 -0.1
comp=Z,639nm,0.9s
SSLB **Suanglung** 72.35 303 P P 08 13 11.0 -0.8
SSLB **Suanglung** 72.35 303 P P 08 13 11.1 -0.6
TPUB **Ta-pu** 72.38 302 P P 08 13 10.8 -1.1
TPUB **Ta-pu** 72.38 302 P P 08 13 11.2 -0.7
YHNB **Yeheng** 72.45 304 P P 08 13 12.1 -0.2
YHNB IAmb IAmb 08 13 13.2
comp=Z,134nm,0.9s
YHNB **Yeheng** 72.45 304 P P 08 13 12.4 +0.1
comp=Z,162nm,1.3s
TATO **Taipei** 72.52 304 P P 08 13 12.4 -0.2
TATO **Taipei** 72.52 304 P P 08 13 13.1 +0.5
KSM **Kuching** 72.74 277 P P 08 13 14.9 +0.7
KSM **Kuching** 72.74 277 P P 08 13 14.6 +0.4
comp=Z,593nm,1.1s
LEM **Lembang** 72.75 268 P P 08 13 14.9 +0.5
comp=Z,4µmcomp=Z,411nm,0.8s
CNJI **Cibinong** 73.07 268 P P 08 13 15.5 -0.5
comp=Z,5µmcomp=Z,444nm,1.0s
PET **Petropavlovsk** 73.54 346 eP P 08 13 17.4 -0.3
PET pmax pmax
comp=Z,44nm,0.8s
XMI **Christmas Isla** 73.57 264 P P 08 13 19.6 +0.7
YSS **Yuzh-Sakhalins** 73.57 333 eP P 08 13 18.9 +0.8
YSS pmax pmax
comp=Z,60nm,0.8s
YSS **Yuzh-Sakhalins** 73.57 333 P P 08 13 18.9 +0.8
YSS IAmb IAmb 08 13 20.0
comp=Z,49nm,0.8s
YSS **Yuzh-Sakhalins** 73.57 333 P P 08 13 18.9 +0.8
CBJI **Citeko** 73.59 268 P P 08 13 18.1 -0.9
comp=Z,486nm,0.8s
XMIS **Christmas Isla** 73.59 264 IAmb IAmb 08 13 20.3
comp=Z,107nm,0.9s
DBJI **Dramaga** 73.65 268 P P 08 13 19.3 -0.1
comp=Z,21µmcomp=Z,328nm,1.0s
SKJI **Sukabumi** 73.70 268 P P 08 13 19.4 -0.2
comp=Z,4µmcomp=Z,504nm,0.7s
PEA0B **Petropavlovsk-** 73.84 345 P P 08 13 19.5 0.0
PEA0B pmax pmax
comp=Z,34nm,0.8s
PEA0B **Petropavlovsk-** 73.84 345 P P 08 13 19.4 0.0
PETK **Petropavlovsk-** 73.84 345 P P 08 13 19.1 -0.4
comp=Z,21nm,0.6s,baz=134,slow=8.5,SNR=30
TPI **Tanjungpandan** 73.92 272 P P 08 13 21.3 +0.5
comp=Z,768nmcomp=Z,78nm,1.1s
TJN **Taejon** 74.55 317‖ eP P 08 13 24.2 +0.3
TJN **Taejon** 74.55 317 IAmb IAmb 08 13 26.1
comp=Z,91nm,0.9s
TJN **Taejon** 74.55 317 P P 08 13 24.2 +0.3
KNMB **Chin-men Tao** 74.73 302 IAmb IAmb 08 13 26.1
comp=Z,106nm,0.9s
QZH **Quanzhou** 74.79 303⇓ iP P 08 13 26.0 +0.5
QZH pmax pmax
comp=Z,120nm,0.7s
KSRS **Korea Array** 74.84 318 P P 08 13 26.4 +0.9
comp=Z,16nm,0.7s,baz=130,slow=6.4,SNR=70
KSRS PP PP 08 16 23.1 -1.3
comp=Z,0.9nm,0.6s,baz=131,slow=8.6,SNR=2.2
KSAR **Wonju Array Be** 74.86 318 P P 08 13 26.2 +0.6
KSAR **Wonju Array Be** 74.86 318 P P 08 13 26.2 +0.6
KS19 **Wonju Array Si** 74.91 318 P P 08 13 26.2 +0.4
BLSI **Bandar Lampung** 75.43 269 P P 08 13 28.2 -1.1
comp=Z,405nm,0.8s
PPBI **Pangkal Pinang** 75.54 272 P P 08 13 30.6 +0.7
comp=Z,14µmcomp=Z,230nm,0.9s
INCN **Inchon** 75.68 318 P P 08 13 30.9 +0.7
INCN pmax pmax
comp=Z,175nm,1.7s
INCN **Inchon** 75.68 318 P P 08 13 30.9 +0.7
INCN IAmb IAmb 08 13 32.1
comp=Z,175nm,1.6s
INCN **Inchon** 75.68 318 P P 08 13 30.9 +0.7
KASI **Kota Agung** 76.09 269 P P 08 13 32.1 -0.8
comp=Z,4µmcomp=Z,516nm,1.0s
MSHR **Mys Shultsa** 76.15 324 diP P 08 13 33.7 +1.1
MSHR pmax pmax
comp=Z,85nm,2.5s
SCI2 **San Clemente I** 76.41 48 P P 08 13 35.2 +0.9
baz=238
SAO **San Andreas Ge** 76.51 44 P P 08 13 35.8 +1.1
SAO pmax pmax
comp=Z,121nm,0.9s
SAO **San Andreas Ge** 76.51 44 P P 08 13 35.8 +1.1
SAO IAmb IAmb 08 13 37.0
comp=Z,121nm,0.8s
PKM **Mcpherson Peak** 76.56 46 P P 08 13 36.5 +1.2
baz=237,SNR=7.9
PMBI **Palembang** 76.61 271 P P 08 13 36.9 +1.1
PMBI **Palembang** 76.61 271 P P 08 13 36.9 +1.1
PMPB **Monarch Peak** 76.63 45 IAmb IAmb 08 13 37.5
comp=Z,85nm,0.8s
LWLI **Liwa** 76.66 269 P P 08 13 35.4 -0.8
comp=Z,333nm,0.7s
SMMC **Simmler** 76.67 46 P P 08 13 36.9 +1.2
baz=236,SNR=7.5
BBGB **Big Mountain B** 76.68 44 IAmb IAmb 08 13 39.4
comp=Z,253nm,1.5s
TYV **Tymovskoe** 76.69 336 eP P 08 13 36.0 +0.7
TYV eS S 08 22 27.6 -6.6
TYV pmax pmax
comp=Z,900nm,8.3s
TYV pmax pmax
comp=Z,46nm,1.6s
TYV smax smax
comp=N,600nm,8.3s
TYV smax smax
comp=E,900nm,8.3s
MDSI **Maura Dua** 76.70 270 P P 08 13 35.0 -1.3
comp=E,1µmcomp=E,103nm,1.0s
CIS **Catalina Islan** 76.73 48 P P 08 13 36.7 +0.7
baz=238
USA0B **Ussuriysk Arra** 76.77 326 P P 08 13 36.5 +0.6
USA0B pmax pmax
comp=Z,125nm,1.6s
USA0B **Ussuriysk Arra** 76.77 326 P P 08 13 36.5 +0.6
USA0B IAmb IAmb 08 13 38.1
comp=Z,125nm,1.6s
USRK **Ussuriysk Ar.** 76.77 326 P P 08 13 36.8 +0.9
comp=Z,18nm,0.8s,baz=116,slow=4.4,SNR=25
USRK **Ussuriysk Ar.** 76.77 326 P P 08 13 36.6 +0.7
HOPS **Hopland Field** 76.77 41 P P 08 13 37.0 +0.9
HOPS IAmb IAmb 08 13 38.4
comp=Z,99nm,1.1s
BCW **Bitter Crk WRg** 76.86 46 P P 08 13 38.7 +1.9
BCW IAmb IAmb 08 13 39.4
comp=Z,132nm,0.9s
FMP **Fort Macarthur** 76.98 48 P P 08 13 38.2 +0.8
baz=238
KMPM **Mount Pierce** 76.98 39 P P 08 13 38.6 +1.3
KMPM IAmb IAmb 08 13 39.9
comp=Z,132nm,1.0s
KMRM **Mail Ridge** 77.11 40 P P 08 13 39.6 +1.6
HKPS **Hong Kong Po S** 77.22 299 P P 08 13 40.0 +1.1
HKPS IAmb IAmb 08 13 41.2
comp=Z,187nm,1.2s
DECC **Green Verdugo** 77.24 47 P P 08 13 39.5 +0.7
baz=238,SNR=9.5
PASC **Pasadena Art C** 77.30 48 P P 08 13 40.0 +0.9
PASC IAmb IAmb 08 13 40.8
comp=Z,82nm,0.8s
ARVC **Arvin** 77.37 46 P P 08 13 40.4 +1.0
baz=237,SNR=14
109C **Camp Elliot, M** 77.40 49 P P 08 13 40.2 +0.6
baz=239,SNR=7.0
CBX **Cerro Bola** 77.42 50 P P 08 13 40.8 +0.9
KRPM **Rodgers** 77.49 39 IAmb IAmb 08 13 42.9
comp=Z,125nm,1.1s
KHMM **Horse Mountain** 77.50 39 P P 08 13 41.6 +1.4
KHMM IAmb IAmb 08 13 42.8
comp=Z,116nm,1.2s
DSRI **Dabo** 77.54 274 P P 08 13 41.4 +0.6
comp=Z,1µmcomp=Z,99nm,1.2s
ELS **Elsinore Mount** 77.56 48 P P 08 13 41.5 +0.9
VES **Vestal, Richgr** 77.58 46 P P 08 13 41.3 +0.7
baz=237,SNR=38
TKX **Tecate** 77.59 50 P P 08 13 41.7 +1.0
TKX IAmb IAmb 08 13 42.7
comp=Z,203nm,1.7s
BAR **Barrett** 77.60 49 P P 08 13 41.7 +0.9
VOG **Valley Oaks Go** 77.64 45 P P 08 13 41.5 +0.7
baz=237,SNR=5.9
O02D **Mt. Diablo Mer** 77.65 40 P P 08 13 42.5 +1.6
O02D IAmb IAmb 08 13 43.7
comp=Z,153nm,1.3s
O02D **Mt. Diablo Mer** 77.65 40 P P 08 13 42.6 +1.6
baz=234
MURC **Murrieta** 77.70 48 P P 08 13 42.3 +1.0
baz=239,SNR=14
BFSC **Mount Baldy Ra** 77.71 48 P P 08 13 42.0 +0.6
baz=238,SNR=13
EDW2 **Edwards Air Fo** 77.81 47 P P 08 13 43.0 +1.1
baz=238,SNR=40
OHAK **Old Harbor** 77.88 14 P P 08 13 41.7 +0.1
baz=204
MONP2 **Monument Peak** 77.89 49 P P 08 13 43.8 +1.3
baz=239,SNR=19
ISA **Isabella, Lake** 77.90 46 P P 08 13 43.1 +0.7
ISA pmax pmax
comp=Z,114nm,0.9s
ISA **Isabella, Lake** 77.90 46 P P 08 13 43.0 +0.7
ISA IAmb IAmb 08 13 44.6
comp=Z,114nm,0.9s
ISA **Isabella, Lake** 77.90 46 P P 08 13 43.5 +1.2
baz=237,SNR=51
MNAI **Manna** 77.90 269 P P 08 13 42.5 -0.2
MNAI **Manna** 77.90 269 P P 08 13 42.7 -0.1
comp=Z,5µmcomp=Z,464nm,0.8s
CMB **Columbia Colle** 77.93 43 P P 08 13 43.3 +0.9
CMB pmax pmax
comp=Z,94nm,1.0s
CMB **Columbia Colle** 77.93 43 P P 08 13 43.3 +0.9
CMB IAmb IAmb 08 13 44.4
comp=Z,94nm,1.0s
CCAC **Calif City Air** 77.94 47 P P 08 13 43.7 +1.2
IKP **In-Ko-Pah, Jac** 77.99 50 P P 08 13 44.3 +1.3
baz=239,SNR=14

TPRI	Tanjung Pinang	78.03	275	P		P		08 13 43.5	0.0	
	comp=Z,6µmcomp=Z,184nm,0.9s									
NJ2	Nanjing	78.07	309	⇓*i*P		P		08 14 44.0	+0.8	
NJ2				pmax		pmax				
	comp=Z,94nm,0.8s									
JMBI	JAMBI	78.08	272	P		P		08 13 45.5	+1.8	
	comp=Z,138nm,0.9s									
ORV	Oroville	78.09	41	P		P		08 13 43.8	+0.6	
ORV				pmax		pmax				
	comp=Z,65nm,1.0s									
ORV	Oroville	78.09	41	P		P		08 13 43.8	+0.6	
YUH	Yuha Desert	78.13	50	P		P		08 13 44.7	+1.1	
YUH				IAmb		IAmb		08 13 45.9		
	comp=Z,69nm,0.9s									
N02D	Trinity Center	78.17	40	P		P		08 13 44.3	+0.6	
N02D				IAmb		IAmb		08 13 46.4		
	comp=Z,194nm,1.6s									
N02D	Trinity Center	78.17	40	P		P		08 13 45.2	+1.4	
	baz=233,SNR=25									
PFO	Pinyon Flats O	78.23	49	P		P		08 13 45.0	+0.8	
	comp=Z,26nm,0.9s,baz=271,slow=3.5,SNR=16									
PFO	Pinyon Flats O	78.23	49	*ce*P		P		08 13 45.1	+0.8	
PFO				pmax		pmax				
	comp=Z,53nm,1.0s									
PFO	Pinyon Flats O	78.23	49	P		P		08 13 45.0	+0.8	
PFO	Pinyon Flats O	78.23	49	P		P		08 13 45.5	+1.2	
	baz=239									
TPFO	Pinon Flats	78.23	49	P		P		08 13 45.2	+1.0	
	baz=239,SNR=9.6									
O03E	Paynes Creek	78.33	41	P		P		08 13 45.1	+0.5	
O03E				IAmb		IAmb		08 13 46.5		
	comp=Z,104nm,1.1s									
O03E	Paynes Creek	78.33	41	P		P		08 13 45.2	+0.7	
	baz=234,SNR=20									
M02C	Callahan	78.33	39	P		P		08 13 45.9	+1.3	
M02C				IAmb		IAmb		08 13 47.3		
	comp=Z,96nm,1.1s									
M02C	Callahan	78.33	39	P		P		08 13 45.9	+1.3	
	baz=233,SNR=23									
MDJ	Mudanjiang	78.34	325	P		P		08 13 45.2	+0.9	
MDJ				IAmb		IAmb		08 13 46.6		
	comp=Z,121nm,0.9s									
MDJ	Mudanjiang	78.34	325	P		P		08 13 45.5	+1.1	
MDJ				S		S		08 22 55.5	+3.7	
MDJ				pmax		pmax				
	comp=Z,160nm,0.9s									
MDJ				pmax		pmax				
	comp=Z,300nm,10.0s									
MDJ	Mudanjiang	78.34	325	P		P		08 13 45.3	+0.9	
	comp=Z,146nm,1.0s									
LRMC	Laurel Mtn Rad	78.35	47	P		P		08 13 45.8	+0.9	
	baz=238,SNR=6.8									
L02E	Cave Junction	78.35	38	P		P		08 13 45.8	+1.2	
L02E	Cave Junction	78.35	38	P		P		08 13 45.7	+1.2	
	baz=233,SNR=5.9									
SRIG	Santa Rosalia	78.36	56	P		P		08 13 46.2	+1.3	
SRIG				IAmb		IAmb		08 13 47.4		
	comp=Z,83nm,1.0s									
SWSC	Sam W. Stewart	78.37	50	P		P		08 13 45.8	+1.0	
	baz=240,SNR=11									
KSI	Kapahiang	78.46	270	P		P		08 13 44.2	-1.6	
	comp=Z,202nm,1.0s									
LPIG	La Paz	78.49	60	P		P		08 13 46.6	+1.0	
	comp=Z,52nm,0.8s,baz=284,slow=1.6,SNR=5.8									
RRX	Edison Barstow	78.51	47	P		P		08 13 46.4	+0.8	
	baz=238									
KDAK	Kodiak Island	78.55	14	P		P		08 13 45.1	0.0	
	comp=Z,44nm,0.8s,baz=200,slow=4.6,SNR=8.3									
KDAK	Kodiak Island	78.55	14	*de*P		P		08 13 45.4	+0.3	
KDAK				pmax		pmax				
	comp=Z,106nm,1.1s									
KDAK	Kodiak Island	78.55	14	P		P		08 13 45.6	+0.5	
KDAK				IAmb		IAmb		08 13 47.1		
	comp=Z,77nm,1.0s									
KDAK	Kodiak Island	78.55	14	P		P		08 13 45.2	+0.1	
	baz=205									
MDPB	Devils Postpil	78.56	44	IAmb		IAmb		08 13 48.2		
	comp=Z,114nm,0.9s									
CWC	Cottonwood Cre	78.59	46	P		P		08 13 46.9	+0.8	
	baz=238									
OMMB	Old Mammoth Mi	78.61	44	P		P		08 13 47.4	+1.0	
OMMB				IAmb		IAmb		08 13 48.5		
	comp=Z,94nm,1.2s									
SLBS	Sierra La Lagu	78.61	60	P		P		08 13 48.4	+2.0	
SLBS				IAmb		IAmb		08 13 49.4		
	comp=Z,92nm,0.9s									
YBH	Yreka Blue Hor	78.62	39	P		P		08 13 47.1	+1.0	
	comp=Z,67nm,0.8s,baz=202,slow=1.8,SNR=143									
YBH	Yreka Blue Hor	78.62	39	IAmb		IAmb		08 13 48.5		
	comp=Z,79nm,0.8s									
K02D	Willamette Mer	78.64	38	P		P		08 13 47.2	+1.1	
	baz=232,SNR=14									
EMB	Emerald Bay	78.64	43	P		P		08 13 47.4	+0.9	
RUBR	Rubicon Trail	78.65	42	IAmb		IAmb		08 13 48.7		
	comp=Z,84nm,1.1s									
MLAC	Mammoth, Mammo	78.72	44	P		P		08 13 48.1	+1.2	
	baz=237,SNR=12									
BELC	Belle Mtn. Jos	78.76	49	P		P		08 13 48.2	+1.1	
	baz=239,SNR=11									
J01E	Myrtle Point	78.77	37	P		P		08 13 47.2	+0.5	
J01E				IAmb		IAmb		08 13 48.9		
	comp=Z,111nm,1.0s									
J01E	Myrtle Point	78.77	37	P		P		08 13 47.5	+0.8	
	baz=232									
MPMC	Manual Prospec	78.79	46	P		P		08 13 48.3	+1.0	
	baz=238,SNR=31									
TIN	Tinemaha, Big	78.82	45	P		P		08 13 48.3	+1.0	
	baz=237,SNR=8.8									
GSC	Goldstone, Bar	78.86	47	P		P		08 13 48.1	+0.6	
GSC				pmax		pmax				
	comp=Z,64nm,1.3s									
GSC	Goldstone, Bar	78.86	47	P		P		08 13 48.1	+0.6	
GSC	Goldstone, Bar	78.86	47	P		P		08 13 48.3	+0.8	
	baz=238,SNR=14									
MPK	Martis Peak	78.87	42	P		P		08 13 48.7	+1.0	
MPK				IAmb		IAmb		08 13 49.9		
	comp=Z,187nm,1.0s									
HEC	Hector,Ludlow	78.95	48	P		P		08 13 48.6	+0.6	
	baz=239,SNR=6.4									
MYKOM	Kota Tinggi	78.95	276	IAmb		IAmb		08 13 50.0		
	comp=Z,109nm,0.9s									
BC3	Big Chuckawall	78.98	49	P		P		08 13 49.6	+1.4	
	baz=240,SNR=15									
BEKR	Beckworth	78.98	42	P		P		08 13 49.0	+0.8	
BEKR				IAmb		IAmb		08 13 49.6		
	comp=Z,52nm,0.7s									
HUMO	Hull Mountain	79.00	38	IAmb		IAmb		08 13 50.5		
	comp=Z,97nm,1.1s									
PNTR	Pine Nut	79.03	43	P		P		08 13 49.6	+1.1	
PNTR				IAmb		IAmb		08 13 50.8		
	comp=Z,177nm,0.9s									
VCNR	Virginia City	79.11	42	P		P		08 13 50.0	+1.1	
GLA	Glamis	79.13	50	IAmb		IAmb		08 13 51.7		
	comp=Z,109nm,1.1s									
GLA	Glamis	79.13	50	P		P		08 13 50.4	+1.4	
	baz=240,SNR=11									
L04D	Klamath Falls	79.16	39	P		P		08 13 50.0	+1.0	
L04D				IAmb		IAmb		08 13 51.0		
	comp=Z,117nm,0.8s									
L04D	Klamath Falls	79.16	39	P		P		08 13 49.9	+1.0	
	baz=234,SNR=21									
QSM	Queen of Sheba	79.17	47	P		P		08 13 49.5	+0.5	
M04C	Macdoel	79.18	39	P		P		08 13 50.2	+1.1	
M04C				IAmb		IAmb		08 13 51.3		
	comp=Z,76nm,0.9s									
M04C	Macdoel	79.18	39	P		P		08 13 50.1	+1.1	
	baz=234,SNR=24									
GRNR	Gornyy	79.19	333	⇓*i*P		P		08 13 49.6	+0.8	
GRNR				pmax		pmax				
	comp=Z,30nm,0.1s									
YERR	Yerington	79.21	43	IAmb		IAmb		08 13 51.4		
	comp=Z,152nm,1.1s									
LHV	Little Huntoon	79.28	44	IAmb		IAmb		08 13 52.1		
	comp=Z,133nm,1.0s									
LCH	Last Change Ra	79.31	45	P		P		08 13 50.7	+0.8	
GRAC	Grapevine Rang	79.37	45	IAmb		IAmb		08 13 52.6		
	comp=Z,238nm,1.4s									
GRAC	Grapevine Rang	79.37	45	P		P		08 13 51.5	+1.4	
	baz=238,SNR=27									
GMRC	Granite Mounta	79.40	48	P		P		08 13 51.3	+0.9	
	baz=239,SNR=13									
I02E	Swisshome, OR	79.40	37	P		P		08 13 51.2	+1.2	
	baz=232									
FURC	Furnace Creek,	79.43	46	P		P		08 13 51.4	+1.0	
	baz=238,SNR=12									
I03D	Drain, OR	79.44	37	P		P		08 13 51.2	+1.0	
	baz=232									
IRM	Iron Mountain	79.45	49	P		P		08 13 51.8	+1.2	
	baz=240,SNR=22									
P18K	Big Mountain,	79.47	12	IAmb		IAmb		08 13 50.5		
	comp=Z,88nm,0.8s									
P18K	Big Mountain,	79.47	12	P		P		08 13 49.5	-0.6	
	baz=202									
RYN	Ryan	79.48	44	P		P		08 13 51.8	+1.1	
NVAR	Mina Array Bea	79.51	44	P		P		08 13 52.0	+0.9	
	comp=Z,55nm,0.8s,baz=225,slow=8.8,SNR=214									
NVAR				PP		PP		08 17 03.8	+0.6	
	comp=Z,4.6nm,1.1s,baz=233,slow=9.7,SNR=3.7									
NVAR				PKPPKP		P'P'df		08 40 37.8	+0.8	
	comp=Z,0.2nm,0.3s,baz=142,slow=4.6,SNR=4.1									
PAHR	Pah Rah Range	79.52	42	P		P		08 13 51.6	+0.7	
PAHR				IAmb		IAmb		08 13 53.1		
	comp=Z,113nm,1.2s									
SHOC	Shoshone, Teco	79.54	47	P		P		08 13 51.8	+0.8	
	baz=239,SNR=11									
TUQ	Turquoise Moun	79.55	47	P		P		08 13 52.1	+0.9	
	baz=239									
QIZ	Qiongzhong	79.55	294	P		P		08 13 52.0	+0.6	
QIZ				pP		pP		08 15 55.5	-1.3	
QIZ				sP		sP		08 16 54.0	-3.4	
QIZ				S		S		08 23 08.0	+2.6	
QIZ				sS		sS		08 26 46.5	-2.1	
QIZ				pmax		pmax				
	comp=Z,28nm,1.4s									
NV11	Mina Array Sit	79.61	44	P		P		08 13 52.4	+0.9	
NV11				IAmb		IAmb		08 13 53.6		
	comp=Z,107nm,1.1s									
BLYC	Blythe	79.69	49	P		P		08 13 53.2	+1.4	
BLYC				IAmb		IAmb		08 13 54.3		
	comp=Z,68nm,0.9s									
K04D	Chiloquin, OR	79.73	39	P		P		08 13 52.9	+1.0	
	baz=234,SNR=6.9									
DL2	Dalian	79.73	317	P		P		08 13 52.5	+0.7	
DL2				pmax		pmax				
	comp=Z,52nm,0.8s									
J04D	Umpqua Nationa	79.88	38	P		P		08 13 54.0	+1.1	
J04D	Umpqua Nationa	79.88	38	P		P		08 13 54.0	+1.1	
	baz=234,SNR=31									
O18K	Koktuh Hills	79.90	12	IAmb		IAmb		08 13 53.0		
	comp=Z,120nm,0.9s									
O18K	Koktuh Hills	79.90	12	P		P		08 13 52.0	-0.3	
	baz=202									
BUCK	Buck Mountain	79.95	37	IAmb		IAmb		08 13 55.2		
	comp=Z,124nm,1.1s									
KVN	Kaiserville	79.98	43	P		P		08 13 54.3	+0.8	
KVN				pmax		pmax				
	comp=Z,84nm,1.0s									
KVN	Kaiserville	79.98	43	P		P		08 13 54.3	+0.8	
KVN				IAmb		IAmb		08 13 55.4		
	comp=Z,84nm,1.0s									
COR	Corvallis	80.00	37	P		P		08 13 54.6	+1.5	
COR				pmax		pmax				
	comp=Z,78nm,1.0s									
COR	Corvallis	80.00	37	P		P		08 13 54.6	+1.5	
COR				IAmb		IAmb		08 13 55.4		
	comp=Z,78nm,0.9s									
KRJI	Kerinci	80.01	271	P		P		08 13 53.5	-0.5	
	comp=Z,15µmcomp=Z,248nm,0.7s									
I04A	Tendick Farm,	80.04	38	P		P		08 13 53.9	+0.4	
	baz=233,SNR=15									
TPH	Tonopah	80.04	45	P		P		08 13 54.2	+0.4	
TPH				pmax		pmax				
	comp=Z,434nm,1.1s									
TPH	Tonopah	80.04	45	P		P		08 13 54.2	+0.4	
214A	Organ Pipe Nat	80.08	52	P		P		08 13 54.9	+1.0	
214A				IAmb		IAmb		08 13 56.8		
	comp=Z,77nm,1.0s									
214A	Organ Pipe Nat	80.08	52	P		P		08 13 55.3	+1.4	
	baz=242,SNR=17									
TPNV	Topopah Spring	80.10	46	P		P		08 13 55.2	+1.1	
	baz=239,SNR=24									
P19K	Oil Pt	80.11	13	P		P		08 13 53.1	-0.3	
	baz=204									
NEE2	Needles Airpor	80.13	49	P		P		08 13 55.2	+1.1	
	baz=240									
CN2	Changchun	80.17	322	*e*P		P		08 13 54.3	+0.3	
CN2				*es*P		sP		08 17 01.3	+1.7	
CN2				*eS*		S		08 23 10.8	+0.1	
CN2				pmax		pmax				
	comp=Z,100nm,1.1s									
MOD	Modoc Plateau	80.18	40	P		P		08 13 55.2	+0.9	
MOD				IAmb		IAmb		08 13 56.4		
	comp=Z,101nm,0.8s									
PDMCI	Parker Dam,Lak	80.24	49	P		P		08 13 55.9	+1.3	
	baz=240,SNR=18									
KLR	Kul'dur	80.27	329	P		P		08 13 54.6	+0.2	
	comp=Z,10nm,0.8s,baz=97,slow=3.6,SNR=20									
KLR	Kul'dur	80.27	329	*de*P		P		08 13 54.9	+0.5	
KLR				pmax		pmax				
	comp=Z,27nm,1.3s									
H04D	Lebanon	80.29	37	P		P		08 13 54.7	+0.1	
H04D				IAmb		IAmb		08 13 56.8		
	comp=Z,96nm,1.1s									
H04D	Lebanon	80.29	37	P		P		08 13 55.7	+1.0	
	baz=233,SNR=6.1									
K05A	Summer Lake	80.30	39	P		P		08 13 56.3	+1.3	
O19K	Port Alsworth	80.39	12	IAmb		IAmb		08 13 55.3		
	comp=Z,121nm,0.9s									
O19K	Port Alsworth	80.39	12	P		P		08 13 54.3	-0.4	
	baz=203,SNR=25									
G03D	McMinnville, O	80.41	36	IAmb		IAmb		08 13 57.4		
	comp=Z,270nm,1.5s									
G03D	McMinnville, O	80.41	36	P		P		08 13 56.2	+1.0	
	baz=232,SNR=7.4									
J05D	Fort Rock, OR	80.42	38	P		P		08 13 56.8	+1.2	
	baz=234,SNR=104									
Q09A	Carvers	80.47	44	P		P		08 13 56.8	+0.9	
Q09A				IAmb		IAmb		08 13 58.0		
	comp=Z,132nm,0.9s									
N18K	Kilae Creek	80.54	11	P		P		08 13 55.4	-0.2	
N18K	Kilae Creek	80.54	11	P		P		08 13 55.2	-0.4	
	baz=202,SNR=5.9									
O20K	Slope Mountain	80.63	13	P		P		08 13 55.6	-0.6	
	baz=205									
H04A	Detroit Lake	80.70	37	P		P		08 13 57.1	+0.3	
WHN	Wuhan	80.73	306	⇓P		P		08 13 58.0	+0.8	
WHN				pmax		pmax				
	comp=Z,110nm,0.9s									
BRSE	Bradley Lake S	80.73	14	P		P		08 13 56.5	-0.1	
	baz=207,SNR=7.6									
CNSH	ChangSha	80.78	304	⇓P		P		08 13 58.0	+0.5	
CNSH				pmax		pmax				
	comp=Z,74nm,1.2s									
S11A	Rachel	80.81	46	P		P		08 13 58.6	+0.9	
S11A				IAmb		IAmb		08 13 59.8		
	comp=Z,116nm,1.0s									
N19K	Bonanza Creek	80.93	12	P		P		08 13 57.3	-0.4	
N19K	Bonanza Creek	80.93	12	P		P		08 13 56.8	-0.9	
	baz=203,SNR=11									
RSO	Redoubt South	80.95	13	P		P		08 13 57.4	-0.5	
I05D	Terrebonne, OR	80.98	38	P		P		08 13 59.1	+0.8	
	baz=234,SNR=29									
SMAI	San Martin Ant	80.99	159	P		P		08 13 59.8	+1.9	
E03A	Lebam	81.06	35	IAmb		IAmb		08 14 00.6		
	comp=Z,136nm,1.0s									
F04D	Rainier, OR	81.08	35	P		P		08 14 00.0	+1.3	
	baz=232									
HG4B	Hotspring	81.15	27	IAmb		IAmb		08 14 00.6		
	comp=Z,70nm,1.1s									
BKNI	Bangkinang	81.15	273	P		P		08 14 00.5	+0.7	
BKNI	Bangkinang	81.15	273	P		P		08 14 00.5	+0.7	
	comp=Z,4µmcomp=Z,321nm,1.3s									
BKNI	Bangkinang	81.15	273	P		P		08 14 00.6	+0.8	
PRN	Pahroc Range	81.16	46	IAmb		IAmb		08 14 02.1		
	comp=Z,120nm,0.9s									
PPSI	Pulau Pagai	81.19	270	P		P		08 14 00.2	+0.2	
	comp=Z,288nm,1.0s									
DIB	Dawson Inlet,	81.25	26	IAmb		IAmb		08 14 00.8		
	comp=Z,80nm,1.0s									
R11A	Troy Canyon, C	81.28	45	P		P		08 14 00.7	+0.5	
R11A	Troy Canyon, C	81.28	45	P		P		08 14 01.0	+0.8	
	baz=239,SNR=41									
BMN	Battle Mountai	81.30	43	P		P		08 14 01.1	+0.9	
BMN				pmax		pmax				
	comp=Z,121nm,1.0s									
BMN	Battle Mountai	81.30	43	P		P		08 14 01.1	+0.9	
BMN				IAmb		IAmb		08 14 02.3		
	comp=Z,121nm,1.0s									
F04A	Amboy	81.32	36	IAmb		IAmb		08 14 01.6		
	comp=Z,150nm,1.3s									
SEW	Seward	81.35	14	P		P		08 13 59.2	-0.5	
	baz=208									
MA2	Magadan	81.36	345	P		P		08 13 59.0	-0.7	
	comp=Z,15nm,0.7s,baz=113,slow=6.0,SNR=10.0									
MA2	Magadan	81.36	345	*de*P		P		08 13 58.6	-1.2	
MA2				pmax		pmax				
	comp=Z,13nm,1.0s									
MA2	Magadan	81.36	345	P		P		08 13 58.8	-1.0	
MA2	Magadan	81.36	345	P		P		08 13 59.3	-0.5	
	comp=Z,36nm,0.9s									
TIA	Tai'an	81.38	312	⇓P		P		08 14 00.8	+0.3	
TIA				pmax		pmax				
	comp=Z,36nm,0.9s									
NLWA	Neilton Lookou	81.42	34	P		P		08 14 01.5	+1.0	
NLWA				IAmb		IAmb		08 14 02.6		
	comp=Z,104nm,1.1s									
WVOR	Wild Horse Val	81.50	40	IAmb		IAmb		08 14 03.3		
	comp=Z,128nm,0.9s									
PPI	Padang Panjang	81.52	272	P		P		08 14 02.0	+0.3	
	comp=Z,46nm,0.8s									
G05D	Wamic, OR	81.53	37	P		P		08 14 01.8	+0.8	
	baz=234,SNR=9.6									
CAPN	Captain Cook N	81.57	13	P		P		08 14 01.6	+0.8	
	baz=206									
E04D	Cinebar	81.61	35	P		P		08 14 02.1	+0.7	
E04D				IAmb		IAmb		08 14 03.7		
	comp=Z,172nm,1.2s									
E04D	Cinebar	81.61	35	P		P		08 14 02.5	+1.1	
	baz=233,SNR=16									
GULI	GuiLin	81.62	300	⇑P		P		08 14 03.3	+1.3	
GAMB	Gambell	81.74	3	P		P		08 14 03.7	+2.1	
	baz=186									
TUC	Tucson	81.77	52	P		P		08 14 03.7	+1.1	
TUC				pmax		pmax				
	comp=Z,108nm,1.1s									
TUC	Tucson	81.77	52	P		P		08 14 03.7	+1.1	
TUC				IAmb		IAmb		08 14 05.7		
	comp=Z,108nm,1.1s									
TUC	Tucson	81.77	52	P		P		08 14 04.6	+1.9	
	baz=243									
F05D	White Salmon	81.83	36	P		P		08 14 03.4	+0.8	
F05D				IAmb		IAmb		08 14 04.3		
	comp=Z,62nm,0.8s									
F05D	White Salmon	81.83	36	P		P		08 14 03.3	+0.8	
	baz=234,SNR=11									
D04E	Lakebay	81.88	35	P		P		08 14 04.2	+1.5	
	baz=232,SNR=9.6									
I07A	Izee	81.91	39	IAmb		IAmb		08 14 05.3		
	comp=Z,107nm,0.9s									
D03D	Eldon	81.93	34	P		P		08 14 04.1	+1.1	
	baz=232,SNR=16									
M19K	Big River Lodg	81.95	11	P		P		08 14 02.4	-0.5	
M19K	Big River Lodg	81.95	11	P		P		08 14 02.3	-0.5	
	baz=203									
BELA	Belgrano 2	82.00	173	IAmb		IAmb		08 14 04.4		
	comp=Z,117nm,0.8s									
UBPT	Khong Chiam	82.02	289	IAmb		IAmb		08 14 05.8		
	comp=Z,101nm,1.2s									
J08A	Circle Bar Ran	82.12	40	P		P		08 14 05.2	+1.0	
J08A				IAmb		IAmb		08 14 06.3		
	comp=Z,134nm,1.1s									
L19K	White Mountain	82.13	11	P		P		08 14 03.7	0.0	
L19K	White Mountain	82.13	11	P		P		08 14 03.7	0.0	
	baz=203,SNR=18									
RC01	Rabbit Creek A	82.17	14	P		P		08 14 03.5	-0.3	
	baz=208									
LCMT	Little Creek M	82.21	47	P		P		08 14 05.9	+1.0	
LCMT				IAmb		IAmb		08 14 07.1		
	comp=Z,74nm,0.9s									
X16A	Lo Mia Camp, P	82.26	50	P		P		08 14 06.6	+1.4	
X16A				IAmb		IAmb		08 14 08.0		
	comp=Z,97nm,1.0s									
PWL	Port Wells	82.28	14	P		P		08 14 03.9	-0.6	
	baz=209,SNR=10									
D05A	Enumclaw	82.31	35	P		P		08 14 05.9	+1.0	
CBB	Campbell River	82.33	31	P		P		08 14 04.8	-0.1	
CBB				IAmb		IAmb		08 14 06.8		
	comp=Z,74nm,1.1s									
CCUT	Cedar City	82.39	47	P		P		08 14 07.2	+1.3	
CCUT				IAmb		IAmb		08 14 08.5		
	comp=Z,71nm,1.0s									
PGC	Sidney	82.42	33	P		P		08 14 06.2	+0.8	
PGC				IAmb		IAmb		08 14 07.1		
	comp=Z,64nm,1.0s									
BBB	Bella Bella	82.44	29	P		P		08 14 05.9	+0.5	
	comp=Z,27nm,0.7s,baz=285,slow=5.7,SNR=11									
BBB	Bella Bella	82.44	29	IAmb		IAmb		08 14 54.2		
	comp=Z,120nm,1.6s									
IPM	Ipoh	82.48	277	P		P		08 14 06.5	-0.1	
IPM	Ipoh	82.48	277	P		P		08 14 07.3	+0.7	
SISI	Saibi	82.50	271	P		P		08 14 07.5	+0.9	
	comp=Z,84nm,0.9s									
PSUT	Pine Spring	82.54	46	IAmb		IAmb		08 14 08.5		
	comp=Z,55nm,0.8s									
L20K	Farewell, AK	82.58	11	P		P		08 14 05.5	-0.5	
	baz=204,SNR=17									
GLI	Glacier Island	82.60	15	P		P		08 14 05.6	-0.5	
	baz=210,SNR=5.6									
U15A	North Rim	82.60	48	P		P		08 14 08.3	+1.3	
SZCU	Shurtz Canyon	82.61	47	P		P		08 14 08.0	+1.1	
SZCU				IAmb		IAmb		08 14 09.4		
	comp=Z,70nm,1.0s									
TTA	Tatalina	82.62	10	P		P		08 14 06.5	+0.3	
TTA				pmax		pmax				
	comp=Z,40nm,1.0s									
TTA	Tatalina	82.62	10	P		P	

baz=209,SNR=8.0
BMRM Bremner River 83.30 16 P P 08 14 10.0 +0.4
BMRM IAmb IAmb 08 14 10.5
comp=Z,79nm,1.2s
BMRM Bremner River 83.30 16 P P 08 14 09.2 -0.5
baz=212,SNR=9.7
WAX Waxell Ridge 83.33 17 P P 08 14 10.0 +0.2
WAX IAmb IAmb 08 14 11.1
comp=Z,104nm,1.0s
C06D Leavenworth 83.34 35 P P 08 14 10.3 +0.2
baz=234
K20K Telida 83.35 11 P P 08 14 09.7 -0.1
K20K IAmb IAmb 08 14 10.8
comp=Z,50nm,0.8s
K20K Telida 83.35 11 P P 08 14 09.7 -0.1
baz=203,SNR=31
SCM Sheep Creek Mo 83.37 14 IAmb IAmb 08 14 10.7
comp=Z,79nm,0.7s
SCM Sheep Creek Mo 83.37 14 P P 08 14 09.7 -0.3
baz=210,SNR=17
KLU Klutina 83.42 15 P P 08 14 10.1 -0.1
KLU Klutina 83.42 15 P P 08 14 09.9 -0.3
baz=211,SNR=7.0
MTPU Mount Pierson 83.45 47 P P 08 14 11.9 +0.6
MTPU IAmb IAmb 08 14 14.2
comp=Z,66nm,1.0s
HPIG 83.48 59 IAmb IAmb 08 14 14.0
comp=Z,61nm,1.2s
E08A Dider Farm, El 83.53 37 P P 08 14 12.0 +1.0
E08A IAmb IAmb 08 14 12.9
comp=Z,55nm,0.8s
TGL Tana Glacier 83.59 17 P P 08 14 10.7 -0.4
TGL IAmb IAmb 08 14 12.2
comp=Z,78nm,1.1s
ISLE Juniper Island 83.60 17 P P 08 14 11.2 0.0
ISLE IAmb IAmb 08 14 12.2
comp=Z,79nm,1.0s
WRAK Wrangell Islan 83.64 24 IAmb IAmb 08 14 13.0
comp=Z,50nm,0.8s
WRAK Wrangell Islan 83.64 24 P P 08 14 12.0 +0.8
baz=224,SNR=9.1
BMO Blue Mountains 83.64 39 P P 08 14 12.2 +0.4
BMO pmax pmax
comp=Z,30nm,1.0s
BMO Blue Mountains 83.64 39 P P 08 14 12.2 +0.4
HNS HongShan 83.65 313 ⇓P P 08 14 12.5 +0.7
HNS pmax pmax
comp=Z,74nm,1.2s
PNL Peninsula 83.70 19 P P 08 14 11.5 -0.1
baz=217
MAW Mawson 83.72 200 P P 08 14 12.7 +1.0
comp=Z,45nm,0.7s,baz=126,slow=6.7,SNR=23
MAW Mawson 83.72 200 P P 08 14 12.7 +1.0
baz=84,SNR=13
TNA Tin City 83.75 4 P P 08 14 11.8 +0.2
baz=190
MFID Camas Ranch 83.77 41 P P 08 14 13.1 +0.6
MFID IAmb IAmb 08 14 14.4
comp=Z,78nm,1.1s
CAST Castle Rocks 83.78 12 IAmb IAmb 08 14 11.8
comp=Z,54nm,0.8s
CAST Castle Rocks 83.78 12 P P 08 14 10.3 -1.6
baz=205,SNR=50
TABL Table Mountain 83.81 18 P P 08 14 12.3 0.0
TABL IAmb IAmb 08 14 13.4
comp=Z,80nm,0.8s
VRDI Verde Repeater 83.82 16 P P 08 14 12.3 -0.1
VRDI IAmb IAmb 08 14 13.3
comp=Z,64nm,1.2s
W18A Petrified Fore 83.82 50 P P 08 14 13.9 +0.9
baz=243
N25K Chitina, Valde 83.84 16 IAmb IAmb 08 14 13.3
comp=Z,58nm,0.8s
N25K Chitina, Valde 83.84 16 P P 08 14 12.2 -0.2
baz=212,SNR=25
GRNC Granite Creek 83.87 17 P P 08 14 13.1 +0.4
GRNC IAmb IAmb 08 14 13.7
comp=Z,59nm,1.0s
M24K Tolsona, Glenn 83.88 15 IAmb IAmb 08 14 13.9
comp=Z,79nm,0.8s
M24K Tolsona, Glenn 83.88 15 P P 08 14 12.7 +0.2
baz=211,SNR=12
GLB Gilahina Butte 83.91 16 P P 08 14 12.4 -0.2
GLB IAmb IAmb 08 14 13.4
comp=Z,41nm,0.8s
BJT Baijiatuau 83.92 315 IAmb IAmb 08 14 14.9
comp=Z,116nm,1.3s
BJI Beijing 83.92 315 P P 08 14 13.8 +0.7
BJI pmax pmax
comp=Z,60nm,1.1s
WAT6 Susitna Watana 83.93 14 P P 08 14 12.3 -0.5
baz=209,SNR=29
PSI Prapat 83.93 275 P P 08 14 13.4 -0.6
comp=Z,183nm,0.9s,baz=146,slow=4.7,SNR=129
PSI PP PP 08 17 38.2 -0.9
comp=Z,18nm,1.0s,baz=163,slow=8.2,SNR=6.3
D08A Wollman Farm, 83.94 36 IAmb IAmb 08 14 14.9
comp=Z,76nm,0.9s
SEY Seymchan 83.94 347 P P 08 14 12.3 -0.3
comp=Z,28nm,0.6s,baz=150,slow=5.6,SNR=47
SEY Seymchan 83.94 347⇓*e*P P 08 14 12.3 -0.3
SEY pmax pmax
comp=Z,55nm,1.3s
LYN LuoYang 83.96 309⇓*i*P P 08 14 14.5 +1.1
LYN S S 08 23 50.8 +2.1
LYN pmax pmax
comp=Z,150nm,0.8s
WAT1 Susitna Watana 83.97 13 P P 08 14 12.4 -0.5
baz=208
MCARA McCarthy VSAT 84.07 16 P P 08 14 13.2 0.0
MCARA IAmb IAmb 08 14 14.4
comp=Z,57nm,1.1s
MCARA McCarthy VSAT 84.07 16 P P 08 14 13.3 0.0
baz=214,SNR=8.1
DUG Dugway, Tooele 84.07 45 P P 08 14 14.7 +0.6
baz=241,SNR=14
E09A Wood Farm, Sta 84.07 37 IAmb IAmb 08 14 15.4
comp=Z,98nm,1.4s
J20K Nowinta River 84.10 10 P P 08 14 13.3 -0.1
J20K Nowinta River 84.10 10 P P 08 14 13.3 -0.1
baz=203,SNR=18
KTH Kantishna Hill 84.12 12 P P 08 14 12.7 -1.0
KTH IAmb IAmb 08 14 14.6
comp=Z,43nm,0.9s
121A Cookes Peak, D 84.14 53 IAmb IAmb 08 14 17.4
comp=Z,49nm,0.9s
121A Cookes Peak, D 84.14 53 P P 08 14 16.0 +1.4
baz=244
121A Cookes Peak, D 84.14 53 P P 08 14 16.3 +1.7
baz=244,SNR=26
CHUM Lake Minchumin 84.16 11 P P 08 14 12.8 -0.9
baz=205,SNR=16
TRF Thorofare Moun 84.16 12 P P 08 14 12.9 -1.0
TRF IAmb IAmb 08 14 14.7
comp=Z,82nm,0.8s
TRF Thorofare Moun 84.16 12 P P 08 14 13.0 -1.0
baz=207,SNR=42
LOGN Logan Glacier 84.16 17 IAmb IAmb 08 14 15.1
comp=Z,47nm,1.0s
BARN Barnard Glacie 84.17 17 P P 08 14 14.3 +0.2
BARN IAmb IAmb 08 14 15.2
comp=Z,64nm,0.9s
CTG Chitna Glacier 84.18 17 P P 08 14 14.0 0.0
baz=215,SNR=15
CTGM Chitina Glacie 84.18 17 IAmb IAmb 08 14 15.1
comp=Z,47nm,0.9s
GCSA Galena City Sc 84.19 9 P P 08 14 13.8 +0.1
baz=201,SNR=11
JIS Juneau Island 84.26 22 P P 08 14 14.6 +0.3
F10A Beach Ranch, E 84.30 38 IAmb IAmb 08 14 16.4
comp=Z,123nm,1.0s
BESE Bessie Mountai 84.33 21 P P 08 14 15.3 +0.6
BESE IAmb IAmb 08 14 16.5
comp=Z,55nm,1.0s
HARP HAARP 84.38 15 P P 08 14 14.7 -0.2
baz=212,SNR=11
RND Reindeer 84.42 13 P P 08 14 14.5 -0.6
RND pmax pmax
comp=Z,78nm,0.8s
RND Reindeer 84.42 13 P P 08 14 14.5 -0.6
RND IAmb IAmb 08 14 15.7
comp=Z,78nm,0.8s
LLLB Lillooet 84.43 32 P P 08 14 15.7 +0.3
NLU North Lily Min 84.44 45 P P 08 14 16.4 +0.4
DHY Denali Highway 84.45 14 IAmb IAmb 08 14 16.0
comp=Z,103nm,1.8s
DHY Denali Highway 84.45 14 P P 08 14 14.7 -0.6
baz=210,SNR=9.5
B08A Colville Reser 84.45 35 IAmb IAmb 08 14 16.6
comp=Z,65nm,0.9s
TSI Tuntungan 84.49 275 P P 08 14 16.6 +0.1
comp=Z,23µmcomp=Z,330nm,0.9s
PLID Pearl Lake 84.55 39 P P 08 14 16.7 +0.3
PLID IAmb IAmb 08 14 17.9
comp=Z,162nm,1.8s
Q16A Castle Valley 84.56 46 P P 08 14 17.7 +1.1
BPAW Bear Paw Mtn. 84.60 12 P P 08 14 14.3 -1.6
baz=206
MCK McKinley 84.69 13 IAmb IAmb 08 14 16.8
comp=Z,49nm,1.0s
MCK McKinley 84.69 13 P P 08 14 15.6 -0.8
baz=208,SNR=22
C09A Chrisman Ranch 84.72 36 P P 08 14 17.3 +0.5
C09A IAmb IAmb 08 14 18.4
comp=Z,58nm,0.9s
TMUT Trail Mountain 84.72 46 IAmb IAmb 08 14 19.8
comp=Z,42nm,0.9s
HLID Hailey 84.72 41 P P 08 14 18.2 +1.0
HLID IAmb IAmb 08 14 19.4
comp=Z,48nm,0.8s
HLID Hailey 84.72 41 P P 08 14 18.3 +1.1
baz=239,SNR=102
GSI Gunungsitoli 84.75 273 P P 08 14 18.8 +1.0
comp=Z,3µmcomp=Z,389nm,1.0s
GSI Gunungsitoli 84.75 273 P P 08 14 19.1 +1.3
PAX Paxson 84.80 14 P P 08 14 16.1 -0.9
baz=211,SNR=11
KIDD KIDD Seismic O 84.80 54 P P 08 14 18.8 +1.0
baz=245,SNR=18
SKAG Skagway 84.83 20 P P 08 14 18.4 +1.3
SKAG IAmb IAmb 08 14 19.3
comp=Z,67nm,1.3s
SKAG Skagway 84.83 20 P P 08 14 18.1 +1.0
baz=221,SNR=8.9
HVU Hansel Valley 84.87 43 P P 08 14 18.7 +0.7
HVU pmax pmax
comp=Z,24nm,0.8s
HVU Hansel Valley 84.87 43 P P 08 14 18.7 +0.7
M26K Nabesna, AK 84.92 16 IAmb IAmb 08 14 19.3
comp=Z,60nm,1.1s
M26K Nabesna, AK 84.92 16 P P 08 14 17.5 0.0
baz=214,SNR=46
BWN Browne 84.97 12 P P 08 14 17.3 -0.3
BWN IAmb IAmb 08 14 18.0
comp=Z,90nm,1.2s
YUK6 Outpost Mounta 85.03 18 P P 08 14 18.5 +0.2
baz=218
YUK3 Moose Creek 85.09 17 P P 08 14 18.7 +0.1
baz=216,SNR=26
SRU San Rafael Swe 85.10 46 P P 08 14 19.9 +0.8
SRU pmax pmax
comp=Z,43nm,0.8s
SRU San Rafael Swe 85.10 46 P P 08 14 19.9 +0.8
SRU IAmb IAmb 08 14 20.9
comp=Z,42nm,0.8s
P17A Butcher Ranch, 85.12 46 P P 08 14 20.1 +0.9
GYA Guiyang 85.15 300⇑*i*P P 08 14 20.5 +1.0
GYA pmax pmax
comp=Z,79nm,0.8s
GYA pmax pmax
comp=Z,370nm,3.5s
JLU Jordanelle 85.18 45 P P 08 14 20.2 +0.7
M27K Edge Creek, AK 85.18 16 IAmb IAmb 08 14 20.4
comp=Z,78nm,1.1s
M27K Edge Creek, AK 85.18 16 P P 08 14 19.0 +0.1
baz=215,SNR=26
MENT Mentasta 85.19 15 P P 08 14 19.2 +0.4
HYT Haines Junctio 85.19 19 P P 08 14 19.3 +0.3
baz=219,SNR=12
KCSI Kotacane, Aceh 85.25 275 P P 08 14 19.9 -0.3
comp=Z,1µmcomp=Z,140nm,0.9s
YUK4 Talbot Arm 85.26 18 P P 08 14 20.0 +0.6
baz=218,SNR=6.3
ZEA Zeya 85.34 331 *e*P P 08 14 20.3 +0.6
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,50nm,0.7s
L26K Log Cabin Wild 85.36 15 P P 08 14 19.6 0.0
baz=213
Y22A Socorro 85.36 52 P P 08 14 21.5 +1.0
baz=245
I21K Tanana 85.40 11 P P 08 14 19.1 -0.6
I21K Tanana 85.40 11 P P 08 14 19.2 -0.4
baz=205,SNR=20
TIY Taiyuan 85.40 312 P P 08 14 21.5 +1.1
TIY pmax pmax
comp=Z,79nm,0.9s
NEA2 Nenana 85.42 12 P P 08 14 18.6 -1.3
baz=208
K24K Donnelly Dome 85.44 14 P P 08 14 19.8 -0.2
baz=211,SNR=26
BVCY Beaver Creek 85.50 17 P P 08 14 20.5 +0.2
baz=216,SNR=21
WRH Wood River Hil 85.52 13 P P 08 14 19.5 -0.7
WRH IAmb IAmb 08 14 20.7
comp=Z,69nm,1.2s
P18A Preston Nutter 85.53 46 P P 08 14 22.1 +0.8
SLVN Son La 85.58 294 IAmb IAmb 08 14 24.0
comp=Z,52nm,1.2s
HWUT Hardware Ranch 85.58 44 P P 08 14 21.6 +0.3
HWUT IAmb IAmb 08 17 52.1
comp=Z,75nm,1.4s
RIDG Independent Ri 85.60 14 P P 08 14 20.4 -0.4
RIDG Independent Ri 85.60 14 P P 08 14 20.4 -0.4
baz=212,SNR=12
NEW Newport 85.62 36 P P 08 14 21.0 -0.1
comp=Z,22nm,0.8s,baz=237,slow=4.5,SNR=35
NEW PP PP 08 17 50.4 -1.4
comp=Z,3.5nm,0.8s,baz=246,slow=18,SNR=3.1
NEW Newport 85.62 36 P P 08 14 21.3 +0.1
baz=237,SNR=23
MNTX Cornudas Mount 85.64 55 P P 08 14 22.1 +0.5
MNTX IAmb IAmb 08 14 24.1
comp=Z,70nm,1.4s
MNTX Cornudas Mount 85.64 55 P P 08 14 23.0 +1.3
baz=246,SNR=44
MNTX Cornudas Mount 85.64 55 P P 08 14 22.9 +1.2
baz=246,SNR=44
MVCO Mesa Verde 85.66 49 P P 08 14 22.3 +0.4
baz=244,SNR=10.0
H21K Melozitna Rive 85.69 10 P P 08 14 21.1 0.0
baz=204,SNR=7.6
DOT Dot Lake 85.71 15 P P 08 14 21.0 -0.2
L27K Beaver Creek, 85.78 16 P P 08 14 21.3 -0.2
L27K Beaver Creek, 85.78 16 P P 08 14 21.6 0.0
baz=215,SNR=8.9
PV10 Paradox Valley 85.80 48 P P 08 14 22.9 +0.3
PV10 IAmb IAmb 08 14 25.8
comp=Z,41nm,0.9s
IMAR Indian Mountai 85.83 10 P P 08 14 21.6 -0.2
PV23 Carpenter Ridg 85.85 47 P P 08 14 23.6 +0.8
PV23 IAmb IAmb 08 14 24.7
comp=Z,41nm,0.8s
PV13 Radium Mtn., P 85.85 48 P P 08 14 23.1 +0.3
I23K Minto, Yukon-K 85.86 12 P P 08 14 21.0 -0.9
I23K Minto, Yukon-K 85.86 12 P P 08 14 20.8 -1.0
baz=208
PV11 David Mesa, Pa 85.88 48 P P 08 14 23.6 +0.7
XLT XiLinHaoTe 85.89 319⇓*i*P P 08 14 23.0 +0.3
XLT pP pP 08 16 31.3 +1.0
XLT pmax pmax
comp=Z,78nm,1.0s
WHY Whitehorse 85.89 20 P P 08 14 22.7 +0.4
baz=221,SNR=12
MDM Murphy Dome 85.92 12 P P 08 14 21.6 -0.6
TCOL CIGO, UAF Yank 85.92 13 IAmb IAmb 08 14 22.3
comp=Z,35nm,0.8s
TCOL CIGO, UAF Yank 85.92 13 P P 08 14 21.2 -0.9
baz=209,SNR=9.0
COLA College 85.92 13*c i*P P 08 14 21.0 -1.1
COLA *i* *PP **pwP** 08 16 31.6 -0.6
COLA pmax pmax
comp=Z,37nm,1.1s
COLA College 85.92 13 P P 08 14 21.3 -0.9
COLA IAmb IAmb 08 14 22.3
comp=Z,36nm,0.8s
COLA College 85.92 13 P P 08 14 21.2 -0.9
baz=209
DLBC Dease Lake 85.96 23 P P 08 14 23.1 +0.5
comp=Z,13nm,0.8s,baz=219,slow=6.8,SNR=25
SCRK Sand Creek 86.00 14 P P 08 14 22.9 +0.1
SCRK Sand Creek 86.00 14 P P 08 14 22.4 -0.3
baz=213,SNR=10
IL31 86.03 13 P P 08 14 22.1 -0.5
ILAR Eielson Airfay 86.03 13 P P 08 14 21.7 -1.0
comp=Z,13nm,0.7s,baz=220,slow=4.9,SNR=91
ILAR pP **pwP** 08 16 32.7 -0.1
comp=Z,6.6nm,1.2s,baz=221,slow=5.5,SNR=5.0
ILAR PP PP 08 17 55.5 +0.8
comp=Z,6.0nm,1.0s,baz=217,slow=7.2,SNR=5.2
ILAR S **SKSac** 08 23 51.2 -0.5
comp=Z,0.7nm,0.9s,baz=231,slow=5.7,SNR=5.0
ILAR PKKP **PKKPdf** 08 32 17.6 +3.4
comp=Z,0.7nm,0.6s,baz=335,slow=2.1,SNR=7.2
TX31 Lajitas Ar. Si 86.05 58 P P 08 14 25.8 +2.0
TX31 Lajitas Ar. Si 86.05 58 P P 08 14 25.7 +2.0
baz=247
TX32 Lajitas Array 86.05 58 P P 08 14 25.6 +1.9
TXAR Lajitas Array 86.05 58 P P 08 14 25.6 +1.8
comp=Z,75nm,0.8s,baz=222,slow=5.9,SNR=746
TXAR PKKPbc **PKKPbc** 08 32 20.1 +0.3
comp=Z,0.3nm,0.5s,baz=134,slow=3.9,SNR=7.2
TXAR PKPPKP 08 40 28.9
comp=Z,0.7nm,1.1s,baz=90,slow=3.8,SNR=5.2
TXAR Lajitas Array 86.05 58 P P 08 14 25.8 +2.0
TXAR Lajitas Array 86.05 58 P P 08 14 25.8 +2.0
PV07 Paradox Valley 86.10 48 P P 08 14 24.4 +0.5
ANMO Albuquerque 86.17 52 P P 08 14 25.1 +0.7
comp=Z,34nm,1.0s,baz=216,slow=5.3,SNR=119
ANMO pP **pP** 08 16 33.0 +1.6
comp=Z,2.1nm,1.1s,baz=193,slow=2.1,SNR=1.6
ANMO PP PP 08 17 57.1 +0.5
comp=Z,2.5nm,1.0s,baz=220,slow=12,SNR=3.3
ANMO Albuquerque 86.17 52*c i*P P 08 14 25.0 +0.7
ANMO pmax pmax
comp=Z,58nm,1.3s
ANMO Albuquerque 86.17 52 P P 08 14 24.2 -0.1
ANMO IAmb IAmb 08 14 26.3
comp=Z,41nm,1.0s
ANMO Albuquerque 86.17 52 P P 08 14 25.0 +0.7
baz=245
ANMO Albuquerque 86.17 52 P P 08 14 25.1 +0.7
baz=245
PV15 Paradox Valley 86.17 48 P P 08 14 24.6 +0.3
POKR Poker Plat Res 86.22 13 P P 08 14 22.8 -0.9
POKR Poker Plat Res 86.22 13 P P 08 14 22.5 -1.1
baz=209,SNR=8.3
J25K Salcha River, 86.23 14 P P 08 14 23.2 -0.5
J25K Salcha River, 86.23 14 P P 08 14 23.2 -0.5
baz=211,SNR=22
N31M Braeburn, Yuko 86.24 19 P P 08 14 24.6 +0.8
N31M IAmb IAmb 08 14 25.4
comp=Z,47nm,1.0s
N31M Braeburn, Yuko 86.24 19 P P 08 14 24.0 +0.2
baz=220,SNR=15
MCMT McKenzie Canyo 86.34 40 P P 08 14 25.7 +0.8
XAN Xi'an 86.39 307 ⇓P P 08 14 26.0 +0.8
XAN pP pP 08 16 30.0 -3.5
XAN PP PP 08 18 02.5 +4.3
XAN pmax pmax
comp=Z,220nm,1.1s
H23K Yukon River 86.43 11 P P 08 14 24.0 -0.6
baz=207
AHID Auburn Hatcher 86.44 43 P P 08 14 26.2 +0.8
AHID IAmb IAmb 08 14 27.5
comp=Z,84nm,1.4s
HIA Hailar 86.52 325 P P 08 14 26.0 +0.6
HIA pmax pmax
comp=Z,34nm,1.1s
HIA Hailar 86.52 325 P P 08 14 26.0 +0.6
J26L Joseph Creek 86.55 14 P P 08 14 25.5 +0.2
baz=213,SNR=30
LHMI Lhok Sumawe 86.57 277 P P 08 14 27.1 +0.7
comp=Z,4µmcomp=Z,313nm,1.1s
LHMI Lhok Sumawe 86.57 277 P P 08 14 27.5 +1.1
BILL Bilibino 86.59 354 *i* P P 08 14 24.3 -1.0
BILL *i* *PP **pP** 08 16 33.9 +0.9
BILL pmax pmax
comp=Z,4.0nm,0.6s
BILL Bilibino 86.59 354 P P 08 14 25.5 +0.3
RDOG Red Dog Mine 86.62 6 P P 08 14 24.7 -0.7
baz=195
MSO Missoula 86.69 38 P P 08 14 26.1 -0.3
MSO Missoula 86.69 38 P P 08 14 26.2 -0.1
baz=239,SNR=20
DLMT Dillon 86.76 40 P P 08 14 27.7 +0.9
DLMT IAmb IAmb 08 14 28.8
comp=Z,50nm,0.9s
H24K Noodor Dome 86.76 12 P P 08 14 25.0 -1.2
baz=209
M30M Minto, Yukon 86.77 18 P P 08 14 26.2 -0.1
M30M IAmb IAmb 08 14 27.5
comp=Z,51nm,0.9s
M30M Minto, Yukon 86.77 18 P P 08 14 26.3 0.0
baz=219,SNR=18
TPAW Teton Pass 86.88 42 IAmb IAmb 08 14 29.8
comp=Z,63nm,1.1s
REDW Red Top Meadow 86.88 42 P P 08 14 28.5 +0.9
REDW IAmb IAmb 08 14 29.7
comp=Z,98nm,1.1s
SNOW Snow King Moun 86.99 42 P P 08 14 28.8 +0.7
LRM Limekiln Ridge 87.07 40 P P 08 14 28.9 +0.5
S22A 4UR Ranch, Cre 87.08 49 IAmb IAmb 08 14 30.9
comp=Z,44nm,1.1s
S22A 4UR Ranch, Cre 87.08 49 P P 08 14 29.6 +1.0
baz=245,SNR=40
MOOW Moose Ponds 87.13 42 P P 08 14 28.8 +0.1
O20A White River Ci 87.14 46 IAmb IAmb 08 14 30.7
comp=Z,47nm,1.0s
O20A White River Ci 87.14 46 P P 08 14 29.3 +0.6
baz=244,SNR=44
LOHW Long Hollow 87.16 42 P P 08 14 29.6 +0.8
LOHW IAmb IAmb 08 14 30.8
comp=Z,32nm,0.9s
M31M Drury Creek, Y 87.21 19 P P 08 14 28.0 -0.4
M31M Drury Creek, Y 87.21 19 P P 08 14 28.0 -0.4
baz=222,SNR=12
DAWY Dawson 87.23 16 P P 08 14 28.5 +0.1
baz=217,SNR=14
FLWY Flagg Ranch 87.32 42 P P 08 14 30.6 +1.1
FLWY IAmb IAmb 08 14 32.1
comp=Z,84nm,0.9s
EGAK Eagle 87.36 15 P P 08 14 29.3 +0.4
EGAK Eagle 87.36 15 P P 08 14 28.8 -0.1
baz=215,SNR=17
YHL Hebgen Lake 87.38 41 P P 08 14 31.4 +1.5
HHC Hu-ho-hao-te 87.41 314 *e*P P 08 14 30.8 +0.9
HHC pmax pmax
comp=Z,62nm,1.0s
YMR Madison River 87.43 41 IAmb IAmb 08 14 32.8
comp=Z,80nm,1.0s
BW06 Boulder Array 87.44 43 P P 08 14 30.4 +0.2
BW06 IAmb IAmb 08 14 31.6
comp=Z,47nm,0.9s
BW06 Boulder Array 87.44 43 P P 08 14 30.5 +0.3
baz=243,SNR=78
PD31 Pinedale Array 87.44 43 P P 08 14 30.3 +0.2
PD31 IAmb IAmb 08 14 31.6
comp=Z,42nm,0.9s
PDAR Pinedale Array 87.44 43 P P 08 14 30.4 +0.2
comp=Z,30nm,0.7s,baz=219,slow=3.0,SNR=268
PDAR PP PP 08 18 04.2 -2.4
comp=Z,6.8nm,1.0s,baz=244,slow=6.4,SNR=13
PDAR PKKPbc **PKKPbc** 08 32 16.4 -0.8
comp=Z,1.2nm,0.8s,baz=82,slow=4.4,SNR=6.4
PDAR PKPPKP **P'P'df** 08 40 20.3 -2.2
comp=Z,0.5nm,0.8s,baz=96,slow=6.0,SNR=4.2
PDAR Pinedale Array 87.44 43 P P 08 14 30.5 +0.3
BOZ Bozeman (W) 87.46 40 P P 08 14 30.6 +0.5
BOZ pmax pmax
comp=Z,62nm,1.3s
BOZ Bozeman (W) 87.46 40 P P 08 14 30.6 +0.5
BOZ IAmb IAmb 08 14 32.3
comp=Z,62nm,1.2s
BOZ Bozeman (W) 87.46 40 P P 08 14 30.9 +0.8
baz=241,SNR=61
H17A Grant Village 87.55 42 IAmb IAmb 08 14 33.9
comp=Z,56nm,0.8s
H17A Grant Village 87.55 42 P P 08 14 32.7 +2.0
baz=242,SNR=55
FARO Faro, Yukon 87.56 19 P P 08 14 29.9 0.0
baz=222,SNR=9.5
YHH Holmes Hill 87.56 41 P P 08 14 31.9 +1.1
YHH IAmb IAmb 08 14 34.4
comp=Z,37nm,1.1s
COLD Coldfoot 87.56 11 P P 08 14 30.1 +0.2

COLD	Coldfoot	87.56	11	P	P	08 14 30.1	+0.2		
	baz=207,SNR=24								
WTLY	Watson Lake, Y	87.59	22	P	P	08 14 30.6	+0.4		
	baz=226								
SMCO	Snowmass	87.60	48	P	P	08 14 31.9	+0.7		
SMCO				IAmb	IAmb	08 14 33.1			
	comp=Z,66nm,1.6s								
YNR	Norris Junctio	87.63	41	IAmb	IAmb	08 14 35.0			
	comp=Z,45nm,1.2s								
LKWY	Lake	87.74	42	IAmb	IAmb	08 14 35.0			
	comp=Z,60nm,1.0s								
WALA	Waterton Lakes	87.84	36	P	P	08 14 32.1	+0.4		
WALA				IAmb	IAmb	08 14 33.3			
	comp=Z,29nm,0.8s								
J29M	Klondike Camp	87.85	16	P	P	08 14 31.9	+0.5		
	baz=218,SNR=6.7								
KMI	Kunming	87.94	297	⇓P	P	08 14 34.3	+1.4		
KMI				pmax	pmax				
	comp=Z,73nm,1.3s								
YMP	Mirror Lake Pl	87.97	41	IAmb	IAmb	08 14 49.6			
	comp=Z,42nm,1.2s								
SDCO	Great Sand Dun	88.04	49	P	P	08 14 33.6	+0.4		
	baz=246								
SDCO	Great Sand Dun	88.04	49	P	P	08 14 33.6	+0.4		
	baz=246,SNR=12								
COYC	Coyhaique	88.17	138	P	P	08 14 34.1	+0.8		
COYC				IAmb	IAmb	08 15 57.4			
	comp=Z,72nm,1.8s								
MMPY	Sheldon Lake,	88.51	20	P	P	08 14 34.9	+0.5		
	baz=224,SNR=33								
RWWY	Rawlins	88.52	45	P	P	08 14 35.6	+0.4		
I29M	Ogilvie Camp,	88.55	16	P	P	08 14 34.4	-0.1		
I29M	Ogilvie Camp,	88.55	16	P	P	08 14 34.1	-0.4		
	baz=218,SNR=21								
MSTX	Muleshoe	88.56	54	P	P	08 14 36.1	+0.7		
MSTX	Muleshoe	88.56	54	P	P	08 14 36.1	+0.7		
	baz=247,SNR=46								
MSTX	Muleshoe	88.56	54	P	P	08 14 35.6	+0.2		
	baz=247								
T25A	Trinidad	88.58	50	P	P	08 14 35.8	+0.2		
	baz=246,SNR=5.5								
RLMT	Red Lodge	88.71	41	P	P	08 14 36.9	+0.9		
RLMT				IAmb	IAmb	08 14 38.3			
	comp=Z,46nm,1.0s								
RLMT	Red Lodge	88.71	41	P	P	08 14 37.1	+1.1		
	baz=243,SNR=48								
TGTN	Hyland Airport	88.75	22	P	P	08 14 36.3	+0.7		
	baz=227,SNR=21								
Q24A	Divide	88.80	48	IAmb	IAmb	08 14 38.8			
	comp=Z,44nm,1.2s								
Q24A	Divide	88.80	48	P	P	08 14 37.4	+0.8		
	baz=246,SNR=7.8								
BMAR	Burnt Mountain	88.81	12	P	P	08 14 35.9	+0.2		
ISCO	Idaho Springs	88.81	47	P	P	08 14 37.4	+0.7		
ISCO				pmax	pmax				
	comp=Z,51nm,1.7s								
ISCO	Idaho Springs	88.81	47	P	P	08 14 37.4	+0.7		
ISCO				IAmb	IAmb	08 14 38.8			
	comp=Z,51nm,1.7s								
ISCO	Idaho Springs	88.81	47	P	P	08 14 37.4	+0.7		
	baz=245								
ISCO	Idaho Springs	88.81	47	P	P	08 14 37.6	+0.8		
	baz=245,SNR=16								
TOLK	Toolik Lake Re	88.94	10	P	P	08 14 36.1	-0.1		
	baz=207,SNR=7.8								
CM31	Chiang Mai Arr	88.97	290	P	P	08 14 38.8	+1.3		
CMAR	Chiang Mai Arr	88.97	290	P	P	08 14 38.8	+1.2		
	comp=Z,50nm,0.9s,baz=109,slow=2.8,SNR=198								
CMAR				PP	PP	08 18 15.6	-3.3		
	comp=Z,1.6nm,0.3s,baz=119,slow=5.6,SNR=5.4								
CMAR	Chiang Mai Arr	88.97	290	*i* P	P	08 14 38.7	+1.2		
CMAR				pmax	pmax				
	comp=Z,52nm,0.9s								
CMAR	Chiang Mai Arr	88.97	290	P	P	08 14 38.4	+0.9		
SYO	Syowa Base	89.01	193	⇓*e*P	P	08 14 36.6	-0.1		
SYO	Syowa Base	89.01	193	⇑*e*PcP	PcP	08 14 38.5	+0.8		
N23A	Red Feather La	89.04	46	P	P	08 14 38.8	+1.1		
N23A				IAmb	IAmb	08 14 39.9			
	comp=Z,63nm,1.1s								
N23A	Red Feather La	89.04	46	P	P	08 14 38.6	+0.9		
	baz=245,SNR=42								
CHTO	Chiang Mai	89.09	290	P	P	08 14 38.8	+0.8		
CHTO				pmax	pmax				
	comp=Z,68nm,0.9s								
CHTO	Chiang Mai	89.09	290	P	P	08 14 38.8	+0.8		
CHTO	Chiang Mai	89.09	290	P	P	08 14 39.2	+1.1		
CHTO	Chiang Mai	89.09	290	P	P	08 14 39.0	+0.9		
833A	Chaparral WMA,	89.15	60	P	P	08 14 39.2	+1.0		
833A				IAmb	IAmb	08 14 40.5			
	comp=Z,48nm,0.9s								
833A	Chaparral WMA,	89.15	60	P	P	08 14 39.6	+1.5		
	baz=249								
833A	Chaparral WMA,	89.15	60	P	P	08 14 39.1	+1.0		
	baz=249								
CD2	Chengdu	89.19	303	P	P	08 14 39.3	+1.0		
CD2				pmax	pmax				
	comp=Z,40nm,1.1s								
PZH	PanZhiHua	89.26	298	P	P	08 14 39.5	+0.6		
PZH				pmax	pmax				
	comp=Z,60nm,1.2s								
PZH				pmax	pmax				
	comp=Z,260nm,5.2s								
K22A	Casper	89.39	45	P	P	08 14 39.6	+0.5		
K22A				IAmb	IAmb	08 14 40.9			
	comp=Z,67nm,1.3s								
K22A	Casper	89.39	45	P	P	08 14 39.8	+0.6		
	baz=245								
K22A	Casper	89.39	45	P	P	08 14 39.7	+0.5		
	baz=245,SNR=23								
PHWY	Pilot Hill	89.55	46	P	P	08 14 40.4	+0.3		
PHWY				IAmb	IAmb	08 14 41.6			
	comp=Z,29nm,0.9s								
JCT	Junction City	89.59	58	P	P	08 14 40.6	+0.4		
JCT				pmax	pmax				
	comp=Z,35nm,0.8s								
JCT	Junction City	89.59	58	P	P	08 14 40.6	+0.4		
JCT				IAmb	IAmb	08 14 41.8			
	comp=Z,35nm,0.8s								
JCT	Junction City	89.59	58	P	P	08 14 41.1	+0.9		
	baz=249								
JCT	Junction City	89.59	58	P	P	08 14 40.7	+0.4		
	baz=249								
YAK	Yakutsk	89.74	338	⇑*e*P	P	08 14 39.4	-0.6		
YAK				pmax	pmax				
	comp=Z,24nm,0.8s								
AMTX	Amarillo	89.74	53	P	P	08 14 41.3	+0.4		
AMTX				IAmb	IAmb	08 14 42.4			
	comp=Z,50nm,0.9s								
AMTX	Amarillo	89.74	53	P	P	08 14 41.4	+0.6		
	baz=248,SNR=15								
AMTX	Amarillo	89.74	53	P	P	08 14 41.1	+0.2		
	baz=248								
EPYK	Eagle Plains	89.75	16	P	P	08 14 39.8	-0.3		
EPYK				IAmb	IAmb	08 14 41.0			
	comp=Z,31nm,0.9s								
EPYK	Eagle Plains	89.75	16	P	P	08 14 39.8	-0.3		
	baz=219								
EGMT	Eagleton	89.75	39	P	P	08 14 40.9	+0.4		
EGMT	Eagleton	89.75	39	P	P	08 14 41.0	+0.4		
	baz=242								
TROLL	Troll, Antarti	90.15	180	P	P	08 14 42.2	+0.1		
EDM	Edmonton	90.27	33	P	P	08 14 42.5	-0.3		
EDM				pmax	pmax				
	comp=Z,81nm,1.4s								
EDM	Edmonton	90.27	33	P	P	08 14 42.5	-0.3		
A21K	Barrow	90.41	7	P	P	08 14 43.3	+0.4		
A21K	Barrow	90.41	7	P	P	08 14 42.7	-0.2		
	baz=201								
SNAA	Sanae	90.44	179	P	P	08 14 43.2	-0.2		
SNAA	Sanae	90.44	179	P	P	08 14 43.7	+0.3		
SNAA				pmax	pmax				
	comp=Z,72nm,1.3s								
SNAA	Sanae	90.44	179	P	P	08 14 43.7	+0.3		
SNAA				IAmb	IAmb	08 14 44.5			
	comp=Z,72nm,1.3s								
ABTX	Abilene, Hawle	90.49	56	P	P	08 14 44.8	+0.5		
ABTX	Abilene, Hawle	90.49	56	P	P	08 14 44.9	+0.5		
	baz=249								
ABTX	Abilene, Hawle	90.49	56	P	P	08 14 44.8	+0.5		
	baz=249								
VNA3	Neumayer Olymp	90.58	176	P	P	08 14 44.8	+0.8		
KSCO	Kaye Shedlock'	90.61	49	IAmb	IAmb	08 14 47.8			
	comp=Z,53nm,1.1s								
KSCO	Kaye Shedlock'	90.61	49	P	P	08 14 45.7	+0.8		
	baz=247								
KSCO	Kaye Shedlock'	90.61	49	P	P	08 14 45.5	+0.7		
	baz=247								
735A	Kenedy	90.64	60	P	P	08 14 46.7	+1.7		
	baz=250								
LZH	Lanzhou	91.02	308	⇓P	P	08 14 48.0	+1.2		
LZH				pP	pP	08 16 57.0	+0.7		
LZH				sP	sP	08 17 57.5	+1.6		
LZH				pmax	pmax				
	comp=Z,110nm,1.4s								
VNA2	Neumayer--Watz	91.02	177	P	P	08 14 46.7	+0.7		
	baz=189,slow=4.0								
PLCA	Paso Flores	91.19	134	P	P	08 14 47.5	-0.1		
	comp=Z,2.1nm,0.9s,baz=241,slow=10,SNR=3.4								
PLCA				PKKPbc	PKKPbc	08 32 07.2	-0.4		
	comp=Z,2.6nm,0.9s,baz=122,slow=5.4,SNR=4.4								
VNA1	Neumayer--Stat	91.25	177	P	P	08 14 47.8	+0.8		
LAO	LASA Array	91.31	41	P	P	08 14 49.2	+1.4		
LAO	LASA Array	91.31	41	P	P	08 14 49.1	+1.4		
	baz=245								
LAO	LASA Array	91.31	41	P	P	08 14 49.2	+1.4		
	baz=245								
435B	Jarrell	91.48	58	IAmb	IAmb	08 14 50.8			
	comp=Z,25nm,0.7s								
435B	Jarrell	91.48	58	P	P	08 14 49.6	+0.7		
	baz=250								
435B	Jarrell	91.48	58	P	P	08 14 49.8	+0.9		
	baz=250								
RSSD	Black Hills	91.65	44	P	P	08 14 49.8	+0.2		
RSSD				pmax	pmax				
	comp=Z,36nm,0.9s								
RSSD	Black Hills	91.65	44	P	P	08 14 49.8	+0.2		
RSSD				IAmb	IAmb	08 14 50.9			
	comp=Z,36nm,0.9s								
RSSD	Black Hills	91.65	44	P	P	08 14 49.9	+0.2		
	baz=246								
RSSD	Black Hills	91.65	44	P	P	08 14 49.9	+0.2		
	baz=246								
OGNE	Ogallala	91.78	47	P	P	08 14 50.4	+0.3		
	baz=248								
WMOK	Wichita Mounta	91.91	54	P	P	08 14 50.5	-0.3		
	baz=250								
WHTX	Lake Whitney,	92.00	57	P	P	08 14 52.1	+0.9		
WHTX				IAmb	IAmb	08 14 52.8			
	comp=Z,22nm,0.8s								
WHTX	Lake Whitney,	92.00	57	P	P	08 14 52.1	+0.9		
	baz=250								
WHTX	Lake Whitney,	92.00	57	P	P	08 14 51.5	+0.3		
	baz=250								
INK	Inuvik	92.03	15	P	P	08 14 49.5	-0.9		
	comp=Z,20nm,0.9s,baz=215,slow=4.1,SNR=13								
INK				PP	PP	08 18 38.9	-2.5		
	comp=Z,4.0nm,0.9s,baz=228,slow=7.8,SNR=4.4								
INK	Inuvik	92.03	15	P	P	08 14 50.0	-0.4		
INK				pmax	pmax				
	comp=Z,22nm,0.9s								
INK	Inuvik	92.03	15	P	P	08 14 50.0	-0.4		
INK				IAmb	IAmb	08 14 50.9			
	comp=Z,22nm,0.9s								
INK	Inuvik	92.03	15	P	P	08 14 49.6	-0.9		
	baz=222								
U32A	Winter Ranch,	92.32	53	P	P	08 14 53.6	+1.0		
	baz=249,SNR=12								
X34A	Smith Ranch, M	92.59	55		P	08 14 55.0	+1.1		
X34A				IAmb	IAmb	08 14 56.1			
	comp=Z,57nm,1.3s								
Z35A	Perchaven, San	92.61	56	P	P	08 14 54.7	+0.7		
	baz=250								
HKT	Hockley	92.63	59	P	P	08 14 55.6	+1.5		
HKT				pmax	pmax				
	comp=Z,31nm,1.6s								
HKT	Hockley	92.63	59	P	P	08 14 55.6	+1.5		
HKT				IAmb	IAmb	08 14 56.8			
	comp=Z,31nm,1.6s								
HKT	Hockley	92.63	59	P	P	08 14 55.3	+1.3		
	baz=251								
CBKS	Cedar Bluff	92.63	50	P	P	08 14 54.4	+0.4		
CBKS				pmax	pmax				
	comp=Z,59nm,1.1s								
CBKS	Cedar Bluff	92.63	50	P	P	08 14 54.4	+0.4		
CBKS	Cedar Bluff	92.63	50	P	P	08 14 54.5	+0.4		
	baz=249								
CBKS	Cedar Bluff	92.63	50	P	P	08 14 54.6	+0.6		
	baz=249								
FNO	Franklin	93.15	54		P	08 14 57.1	+0.7		
R32A	Long Quarter,	93.25	51	P	P	08 14 57.5	+0.7		
R32A	Long Quarter,	93.25	51	P	P	08 14 57.9	+1.1		
	baz=250,SNR=68								
DGMT	Dagmar	93.29	40	P	P	08 14 57.4	+0.6		
DGMT	Dagmar	93.29	40	P	P	08 14 57.5	+0.8		
	baz=246								
ULN	Ulaanbaatar	93.30	319	*d* P	P	08 14 56.6	-0.4		
ULN				pmax	pmax				
	comp=Z,45nm,1.7s								
ULN	Ulaanbaatar	93.30	319	P	P	08 14 56.4	-0.6		
ULN				IAmb	IAmb	08 14 58.0			
	comp=Z,22nm,0.9s								
ULN	Ulaanbaatar	93.30	319	P	P	08 14 57.4	+0.4		
MTO3	Montecristo	93.45	76	IAmb	IAmb	08 15 00.3			
	comp=Z,18nm,1.2s								
SONM	Songino Array	93.69	319	P	P	08 14 58.3	-0.5		
	comp=Z,4.0nm,0.6s,baz=113,slow=3.7,SNR=34								
SONM				PP	PP	08 14 51.8	-3.1		
	comp=Z,1.5nm,0.7s,baz=118,slow=6.5,SNR=4.6								
SONM	Songino Array	93.69	319	P	P	08 14 58.2	-0.5		
SONM				pmax	pmax				
	comp=Z,14nm,1.2s								
SONM	Songino Array	93.69	319	P	P	08 14 58.2	-0.5		
BOD	Bodaibo	93.82	330	*e*P	P	08 14 57.7	-1.2		
BOD				pmax	pmax				
	comp=Z,12nm,1.6s								
NATX	Nacogdoches	94.17	58	P	P	08 15 02.3	+1.1		
	baz=252								
T35A	Sooner Cattle	94.38	53	IAmb	IAmb	08 15 04.4			
	comp=Z,27nm,0.9s								
YKA	Yellowknife Ar	94.46	25	P	P	08 15 01.2	-0.5		
	comp=Z,7.1nm,0.8s,baz=241,slow=4.4,SNR=118								
YKA				PP	PP	08 19 01.2	+1.0		
	comp=Z,3.1nm,0.9s,baz=238,slow=7.7,SNR=6.1								
YKA				PKiKP	PKiKP	08 19 39.8	-0.7		
	comp=Z,0.2nm,0.5s,baz=259,slow=1.7,SNR=7.0								
YKA				S	SKSac	08 24 39.0	-0.4		
	comp=Z,0.4nm,1.1s,baz=240,slow=4.9,SNR=4.1								
YKA				PKKPbc	PKKPdf	08 31 57.0	-2.0		
	comp=Z,0.8nm,0.5s,baz=39,slow=2.2,SNR=22								
YKA				PKPPKP		08 40 11.2			
	comp=Z,1.0nm,0.9s,baz=53,slow=2.5,SNR=8.4								
TUL1	Leonard	94.60	54	IAmb	IAmb	08 19 00.6			
	comp=Z,13nm,0.4s								
K31A	O'Neill	94.67	47	P	P	08 15 03.7	+0.5		
BGNE	Belgrade	94.68	48	P	P	08 15 04.0	+0.8		
BGNE	Belgrade	94.68	48	P	P	08 15 04.0	+0.8		
	baz=250								
KSU1	Kansas State U	95.02	51	P	P	08 15 06.0	+1.2		
KSU1	Kansas State U	95.02	51	P	P	08 15 06.2	+1.3		
	baz=251,SNR=27								
KSU1	Kansas State U	95.02	51	P	P	08 15 05.8	+0.9		
	baz=251								
SUSD	Miller	95.16	45	P	P	08 15 05.6	+0.3		
	baz=250								
GTA	Gaotai	95.16	310	⇓P	P	08 15 06.0	+0.4		
GTA				pmax	pmax				
	comp=Z,16nm,0.9s								
C36M	Paulatuk	95.24	17	P	P	08 15 05.5	+0.5		
	baz=231								
W39A	Magazine	95.93	55	P	P	08 15 09.0	0.0		
	baz=252								
HHAR	Hobbs	96.14	54	IAmb	IAmb	08 15 11.2			
	comp=Z,19nm,1.7s								
N35A	Tabor	96.29	49	P	P	08 15 12.1	+1.6		
	baz=252,SNR=5.9								
JTS	Las Juntas de	96.35	81	P	P	08 15 12.4	+1.0		
JTS				pmax	pmax				
	comp=Z,22nm,1.5s								
JTS	Las Juntas de	96.35	81	P	P	08 15 12.4	+1.0		
JTS				IAmb	IAmb	08 15 13.0			
	comp=Z,22nm,1.4s								
ECSD	EROS Data Cent	96.52	46	P	P	08 15 11.3	-0.1		
ECSD				IAmb	IAmb	08 15 12.4			
	comp=Z,12nm,0.9s								
ECSD	EROS Data Cent	96.52	46	P	P	08 15 11.3	-0.1		
	baz=252,SNR=12								
ECSD	EROS Data Cent	96.52	46	P	P	08 15 11.3	-0.1		
	baz=252								
ZAK	Zakamensk	96.53	321	*e*P	P	08 15 10.0	-1.5		
ZAK				pmax	pmax				
	comp=Z,10.0nm,1.2s								
A36M	Sachs Harbour	96.62	15	P	P	08 15 11.0	-0.3		
	baz=230								
U40A	Yellville	97.00	54	P	Pdif	08 15 13.8	0.0		
	baz=253								
U40A				P	Pdif	08 15 13.8	0.0		
	baz=253								
U40A	Yellville	97.00	54	P	Pdif	08 15 14.0	+0.2		
	baz=253								
S39A	Bolivar	97.04	53	IAmb	IAmb	08 15 16.0			
	comp=Z,9.5nm,0.8s								
S39A	Bolivar	97.04	53	P	Pdif	08 15 13.8	-0.1		
	baz=253								
W41B	Gary Mavity, V	97.13	55	P	P	08 15 15.4	+1.0		
W41B	Gary Mavity, V	97.13	55	P	P	08 15 14.8	+0.4		
	baz=253								
WHAR	Wooly Hollow	97.13	55	IAmb	IAmb	08 15 15.3			
	comp=Z,14nm,1.3s								
344A	Westbrook Farm	97.27	59	IAmb	IAmb	08 15 20.2			
	comp=Z,16nm,0.8s								
SHL	Shillong	97.38	294	P	P	08 15 16.1	+0.1		
SHL				pmax	pmax				
	comp=Z,20nm,1.2s								
SHL	Shillong	97.38	294	P	P	08 15 16.1	+0.1		
SHL				IAmb	IAmb	08 15 17.8			
	comp=Z,20nm,1.2s								
F33A	5 Mile Ranch,	97.40	44	IAmb	IAmb	08 15 17.9			
	comp=Z,13nm,1.1s								
FCAR	Ozark Folk Cen	97.43	55	P	P	08 15 16.3	+0.6		
GOMU	GeErMu	97.96	305	P	P	08 15 20.0	+1.4		
GOMU				pmax	pmax				
	comp=Z,8.0nm,1.2s								
GOMU				pmax	pmax				
	comp=Z,140nm,9.0s								
CCM	Cathedral Cave	98.72	53	P	Pdif	08 15 20.9	-0.4		
	baz=254								
ULM	Lac du Bonnet	99.01	40	PP	PP	08 19 32.7	-2.2		
	comp=Z,4.6nm,0.9s,baz=273,slow=5.7,SNR=5.2								
ULM	Lac du Bonnet	99.01	40	⇑*e*P	Pdif	08 15 22.4	0.0		
SPMN	Marine on St.	99.56	46	P	Pdif	08 15 25.2	+0.2		
	baz=254								
LVC	Limon Verde	100.08	118	PKKPbc	PKKPbc	08 31 43.8	-0.1		
	comp=Z,2.8nm,0.5s,baz=19,slow=1.1,SNR=5.3								
KNGR	Kungurtug, Tuv	100.10	320	⇑*e*P	Pdif	08 15 26.2	-1.2		
JFWS	Jewell Farm	100.73	48	P	Pdif	08 15 30.8	+0.5		
	baz=256								
LPAZ	La Paz	103.31	112	PKKPbc	PKKPbc	08 31 34.9	-0.1		
	comp=Z,1.3nm,0.5s,baz=8.3,slow=3.9,SNR=6.0								
NRIK	Noril'sk	108.19	338	PKiKP	PKiKP	08 20 04.6	-0.7		
	comp=Z,2.8nm,0.6s,baz=79,slow=5.2,SNR=5.1								
ZALV	Zalesovo Beam	108.38	322	Pdiff	Pdif	08 16 03.0	-0.9		
	comp=Z,1.1nm,0.8s,baz=108,slow=4.7,SNR=5.6								
ZALV				PKiKP	PKiKP	08 20 04.9	-1.1		
	comp=Z,5.2nm,0.6s,baz=172,slow=1.0,SNR=22								
ZALV				PP	PP	08 20 42.7	-0.5		
	comp=Z,0.7nm,0.4s,baz=99,slow=9.5,SNR=4.3								
MKAR	Makanchi Array	109.27	314	Pdiff	Pdif	08 16 07.5	-0.6		
	comp=Z,1.1nm,0.7s,baz=97,slow=5.4,SNR=8.1								
MKAR				PKiKP	PKiKP	08 20 07.0	-0.9		
	comp=Z,6.3nm,0.5s,baz=182,slow=0.5,SNR=80								
MKAR				PP	PP	08 20 50.4	+0.5		
	comp=Z,2.0nm,1.0s,baz=108,slow=9.3,SNR=3.7								
MKAR				PKKPbc	PKKPbc	08 31 15.4	-1.3		
	comp=Z,0.7nm,0.7s,baz=273,slow=3.5,SNR=5.7								
MKAR	Makanchi Array	109.27	314	P	Pdif	08 16 07.8	-0.3		
MKAR	Makanchi Array	109.27	314	Pdif	Pdif	08 16 07.8	-0.3		
SIV	San Ignacio	109.59	115	PKKPbc	PKKPbc	08 31 15.0	-0.2		
	comp=Z,5.1nm,0.8s,baz=93,slow=4.5,SNR=22								
SIV				PKKP	PKKPdf	08 31 28.9	-0.3		
	comp=Z,0.5nm,0.6s,baz=84,slow=6.9,SNR=7.8								
PDGK	Podgornoye	110.90	310	PKiKP	PKiKP	08 20 09.8	-1.5		
KURK	Kurchatov	111.97	318	*c i* PKiKP	PKiKP	08 20 12.2	-0.7		
KURK	Kurchatov	111.97	318	P	PKiKP	08 20 12.3	-0.7		
KURBB	Kurchatov Arra	112.02	318	PKiKP	PKiKP	08 20 11.7	-1.3		
MDOK	Medeo	112.67	310	PKiKP	PKiKP	08 20 12.9	-1.8		
ULHL	Ulahol	113.20	309	P	PKiKP	08 20 15.6	-0.3		
	SNR=11								
KSH	Kashi	113.20	306	PKP	PKiKP	08 20 17.0	+1.2		
KSH				PP	PP	08 21 19.5	+1.6		
KSH				PKS		08 23 53.5			
TKM2	Tokmak 2	113.71	310	P	PKiKP	08 20 15.9	-0.9		
	SNR=13								
KBK	Karagaybulak	114.18	309	P	PKPdf	08 20 17.4	-0.3		
	SNR=6.6								
CHMS	Chumysh	114.34	310	P	PKPdf	08 20 17.3	-0.5		
	SNR=6.0								
UCH	Uchtor	114.48	309	P	PKPdf	08 20 18.4	-0.2		
	SNR=16								
AAK	Ala-Archa	114.51	309	P	PKPdf	08 20 17.6	-0.7		
	SNR=6.5								
AAK	Ala-Archa	114.51	309	PKP	PKPdf	08 20 17.2	-1.1		
	comp=Z,6.4nm,0.9s,baz=177,slow=3.7,SNR=14								
AAK				PP	PP	08 21 25.7	-1.2		
	comp=Z,0.7nm,0.3s,baz=136,slow=6.2,SNR=3.7								
AAK	Ala-Archa	114.51	309	⇓*i* PKiKP	PKPdf	08 20 17.4	-0.9		
AAK	Ala-Archa	114.51	309	P	PKiKP	08 20 18.5	+0.2		
AAK	Ala-Archa	114.51	309	PKPdf	PKPdf	08 20 17.7	-0.6		
USP	Ospenovka	114.53	310	P	PKPdf	08 20 17.7	-0.5		
	SNR=7.0								
AML	Almayashu	115.08	309	P	PKPdf	08 20 19.4	-0.3		
	SNR=21								
AML	Almayashu	115.08	309	PKiKP	PKiKP	08 20 19.7	0.0		
OTUK	Ortayu	116.06	315	PKiKP	PKiKP	08 20 19.5	-1.4		
SCHQ	Schefferville	116.97	37	PKP	PKPdf	08 20 21.4	-1.1		
	comp=Z,1.3nm,0.5s,baz=298,slow=6.4,SNR=5.0								
SCHQ				SKP	SKPdf	08 23 00.9	-0.9		
	comp=

GEYT Alibeck 127.16 304 PKP PKPdf 08 20 42.6 0.0
comp=Z,20nm,0.8s,baz=122,slow=1.9,SNR=18
GEYT Alibeck 127.16 304 PKPdf PKPdf 08 20 42.7 +0.1
GYA0B ALIBECK ARRAY 127.16 304 PKPdf PKPdf 08 20 42.6 0.0
SMDO Samad 127.20 286 P PKiKP 08 20 44.0 +0.2
SNR=5.6
JETT Jettan, Norway 127.23 352 *e*PKPdf PKPdf 08 20 41.6 -0.1
DQM DQM 127.31 282 P PKiKP 08 20 43.6 -0.3
KTK1 Kautokeino 127.32 350 *e*PKPdf PKPdf 08 20 41.3 -0.6
TRO Tromso 127.35 352 *e*PKPdf PKPdf 08 20 41.8 -0.1
HOQ Hoqain 127.93 286 P PKPdf 08 20 44.5 +0.1
BSY Bisya 127.95 285 P PKPdf 08 20 44.2 -0.3
BOSA Boshof 128.27 207 PKP PKPdf 08 20 45.2 +0.1
comp=Z,13nm,0.8s,baz=113,slow=2.8,SNR=13
BOSA PP pPKPdf 08 23 01.3 -1.9
comp=Z,5.5nm,1.1s,baz=112,slow=8.2,SNR=4.1
ARQ Araqi 128.63 286 P PKPdf 08 20 45.2 -0.6
SOHO SOHO 128.68 287 P PKPdf 08 20 45.2 -0.6
SOHO SOHO 128.68 287 *i* PKPdf PKPdf 08 20 45.1 -0.7
SNR=30
SHAO Shalim 128.82 279 P PKPdf 08 20 45.8 -0.4
BANOM Banah 129.01 289 P PKPdf 08 20 46.4 0.0
BANOM Banah 129.01 289 PKPdf PKPdf 08 20 46.6 +0.1
UOSS Minazif 129.04 288 PKPdf PKPdf 08 20 46.3 -0.2
UOSS Minazif 129.04 288 P PKPdf 08 20 46.1 -0.4
UOSS Minazif 129.04 288 *i* PKPdf PKPdf 08 20 46.0 -0.4
SNR=7.7
HATD Hatta, Dubai 129.10 288 P PKiKP 08 20 47.3 -0.1
SNR=5.9
HATD Hatta, Dubai 129.10 288 *i* PKPdf PKPdf 08 20 45.9 -0.7
SNR=12
MSFE Esma-Masafi 129.10 288 *i* PKiKP PKiKP 08 20 47.1 -0.3
SNR=8.5
ASHO Ashiyiah 129.16 287 P PKiKP 08 20 47.2 -0.3
SNR=6.4
ASHO Ashiyiah 129.16 287 *i* PKPdf PKPdf 08 20 46.1 -0.7
SNR=9.4
SHME Shamm 129.16 289 P PKPdf 08 20 46.5 -0.1
SOCY Socotra 129.25 271 PKPdf PKPdf 08 20 47.0 -0.2
SOCY Socotra 129.25 271 P PKPdf 08 20 47.3 +0.1
ALNE Al Ain 129.39 287 P PKPdf 08 20 47.1 -0.1
SNR=9.0
ALNE Al Ain 129.39 287 *i* PKPdf PKPdf 08 20 47.3 +0.1
SNR=8.5
STEI Steigen 129.41 353 *e*PKPdf PKiKP 08 20 46.2 -0.5
DMTO DMTO 129.41 278 P PKPdf 08 20 47.1 -0.2
KLMR Klimovskoe 129.52 337 *e*PKIKP PKPdf 08 20 44.3 -1.9
KLMR *e* 08 23 08.7
KLMR pmax pmax
comp=Z,22nm,0.9s
KLMR Klimovskoe 129.52 337 *e*PKPdf PKPdf 08 20 44.4 -1.8
KLMR AMP 08 20 46.8
comp=Z,22nm,0.9s
KLMR *e*PP PP 08 23 08.7 +3.1
KLMR *e*SKKPbc SKKPbc 08 32 55.2 -5.8
NAZ Nazwa, Dubai 129.53 288 P PKiKP 08 20 47.8 -0.4
NAZ Nazwa, Dubai 129.53 288 PKPdf PKPdf 08 20 47.2 -0.2
FAQ Al Faqa, Dubai 129.58 287 P PKiKP 08 20 48.1 -0.2
FAQ Al Faqa, Dubai 129.58 287 PKiKP PKiKP 08 20 48.1 -0.2
ASUD Al Ashush, Dub 129.81 287 P PKPdf 08 20 47.9 0.0
ASUD Al Ashush, Dub 129.81 287 PKPdf PKPdf 08 20 48.0 0.0
FAUS Fauske 129.93 353 *e*PKPdf PKPdf 08 20 46.1 -0.8
RBK Rabkut 130.08 278 P PKPdf 08 20 49.0 +0.4
AJN Ajban 130.12 287 P PKPdf 08 20 48.5 0.0
DOK Doka 130.32 279 P PKPdf 08 20 48.9 -0.1
WHFO Wadi Hawf 130.55 278 P PKPdf 08 20 49.4 -0.1
ABTO Aybut 130.91 278 P PKPdf 08 20 50.6 +0.4
KONS Konsvik 131.01 354 *e*PKPdf PKPdf 08 20 49.2 +0.3
MOR8 Moi Rana 131.19 353 *e*PKPdf PKPdf 08 20 49.6 +0.3
MZR Muzera 131.39 285 P PKiKP 08 20 52.4 +0.3
SNR=7.4
MZR Muzera 131.39 285 *i* PKiKP PKiKP 08 20 51.5 -0.6
SNR=8.0
JRN Qarnain Island 132.08 288 P PKiKP 08 20 53.0 -0.3
SNR=5.2
FINES FINESS Array B 133.35 344 PKhKP PKPpre 08 20 38.1
comp=Z,2.8nm,0.8s,baz=338,slow=1.5,SNR=5.3
FINES PKP PKPdf 08 20 52.6 -0.9
comp=Z,10nm,0.7s,baz=48,slow=2.8,SNR=12
FINES SKPbc SKPbc 08 23 27.5 +0.9
comp=Z,4.7nm,0.6s,baz=46,slow=4.0,SNR=7.2
FINES FINESS Array B 133.35 344 PKPdf PKPdf 08 20 53.0 -0.4
MOS Moscow 133.59 333 *e*PKIKP PKPdf 08 20 54.3 +0.2
SHMA Al-Shehemyia 133.81 289 P PKPdf 08 20 55.9 +0.5
MAK Makhachkala 134.07 313 *i* PKIKP PKiKP 08 20 56.6 -0.2
MAK *e* 08 23 14.0
MAK *e* 08 23 36.7
MAK *e*PPP PPP 08 26 34.5
MAK *e* 08 27 10.4
MAK *e*SS SS 08 40 37.2 -0.7
MAK *e*SSS SSS 08 45 45.6
MAK pmax pmax
comp=Z,258nm,1.1s
VRH Novokhopyorsk 134.22 326 *e*PKIKP PKPdf 08 20 55.4 0.0
VRH pmax pmax
comp=Z,20nm,0.6s
OBN Obninsk 134.46 333 ⇑*i* PKIKP PKPdf 08 20 55.3 -0.4
OBN *e* 08 23 12.9
OBN pmax pmax
comp=Z,21nm,0.9s
LPSR Galich'ya Gora 134.90 329 *e*PKIKP PKPdf 08 20 56.0 -0.6
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VORR Voronezh 135.29 327 *e*PKIKP PKPdf 08 20 57.4 0.0
VORR pmax pmax
comp=Z,80nm,0.4s
VSR Storozhevoye 135.57 327 *e*PKHKP PKPpre 08 20 50.2
VSR pmax pmax
comp=Z,30nm,1.6s
VORD Divnogorie 135.64 326 *e*PKIKP PKPdf 08 20 55.2 -2.8
VORD pmax pmax
comp=Z,7.0nm,0.5s
DOMB Dombas 135.76 355 *e*PKPdf PKPdf 08 20 58.4 +0.4
NB2 NORSAR Subarra 136.54 353 PKP PKPpre 08 20 48.6
comp=Z,3.2nm,1.0s,baz=16,slow=3.2
NOA NORSAR Array B 136.54 353 PKhKP PKPpre 08 20 49.8
comp=Z,3.6nm,0.7s,baz=22,slow=3.8,SNR=18
NOA PKP PKPdf 08 20 59.5 0.0
comp=Z,3.8nm,0.8s,baz=14,slow=4.1,SNR=9.8
NOA SKPbc SKPbc 08 23 36.9 +0.4
comp=Z,7.5nm,1.1s,baz=14,slow=4.4,SNR=7.9
ZEI Tsey 136.62 314 *i* PKIKP PKPdf 08 21 00.8 +0.4
ZEI pmax pmax
comp=Z,12nm,1.3s
GNI Garni 136.91 310 ⇑*e*PKIKP PKPdf 08 21 00.6 -0.4
KBZ Khabaz 136.94 316 PKhKP PKPpre 08 20 51.4
comp=Z,3.5nm,0.8s,baz=154,slow=6.3,SNR=5.5
KBZ PKP PKiKP 08 21 02.2 -0.4
comp=Z,9.1nm,0.9s,baz=145,slow=1.3,SNR=9.3
KBZ SKPbc SKPbc 08 23 38.9 +0.7
comp=Z,2.4nm,0.7s,baz=90,slow=4.0,SNR=2.9
KBZ SKPab SKPab 08 23 46.9 +0.8
comp=Z,5.3nm,0.9s,baz=76,slow=3.3,SNR=4.5
KIV Kislovodsk 136.99 316 *e*PKIKP PKPdf 08 21 00.6 -0.3
KIV pmax pmax
comp=Z,16nm,1.0s
ONI Oni 137.00 314 PKIKP PKPdf 08 21 01.6 +0.6
ONI Oni 137.00 314 PKPdf PKPdf 08 21 01.6 +0.3
SUE Sulen 137.00 358 *e*PKPdf PKPdf 08 21 00.6 +0.3
AKH Akhalkalaki 137.39 312 ⇑P PKiKP 08 21 03.0 -0.9
BER Bergen 137.65 357 *e*PKPdf PKPdf 08 21 01.8 +0.4
ANN Anapa 139.97 320 *i* PKIKP PKiKP 08 21 08.3 -0.5
ANN *e* 08 23 26.4
ANN pmax pmax
comp=Z,74nm,1.2s
KMBO Kilima Mbogo 140.09 245 PKhKP PKPpre 08 21 02.2
comp=Z,5.5nm,0.7s,baz=61,slow=4.3,SNR=11
KMBO SKPbc SKiKP 08 23 50.0 -0.5
comp=Z,8.0nm,0.9s,baz=97,slow=0.5,SNR=8.8
KMBO Kilima Mbogo 140.09 245 P PKPdf 08 21 03.0 -4.7
KMBO Kilima Mbogo 140.09 245 PKPdf PKPdf 08 21 03.1 -4.6
DEL Delary 140.57 349 *i* P PKPdf 08 20 59.0 -7.9
AKASG Malin Array Be 140.72 332 PKhKP PKPpre 08 21 00.8
comp=Z,9.7nm,0.6s,baz=44,slow=4.4,SNR=44
AKASG PKP PKiKP 08 21 09.5 -0.6
comp=Z,4.7nm,0.5s,baz=45,slow=4.6,SNR=6.1
AKASG SKPbc SKPbc 08 23 48.1 -0.1
comp=Z,0.6nm,0.3s,baz=47,slow=3.3,SNR=1.8
AKASG SKPab SKPab 08 24 01.9 -0.6
comp=Z,0.5nm,0.3s,baz=25,slow=4.3,SNR=6.9
AKASG SKKPbc SKKPbc 08 32 17.7 -1.3
comp=Z,0.5nm,0.4s,baz=239,slow=4.3,SNR=6.9
SIM Simferopol' 141.89 322 *e*PKHKP PKPpre 08 21 05.4
SIM *e* 08 21 12.0
SIM pmax pmax
comp=Z,73nm,0.9s
DIKM Dikmen 142.91 317 ⇑P PKPdf 08 21 10.3 -1.2
SORM Soroca 142.94 330 ⇑P PKPdf 08 21 08.9 -2.5
SORM Soroca 142.94 330 ⇑PKIKP PKPdf 08 21 08.9 -2.5
KIS Kishinev 143.51 328 *e*PKP PKPab 08 21 11.0 -0.2
comp=Z,400nm,0.5s
KIS Kishinev 143.51 328 *e*PKIKP PKPab 08 21 11.0 -0.2
KIS pmax pmax
comp=Z,400nm,0.5s
MILM Milestii Mici 143.56 328 ⇑P PKPab 08 21 11.2 -0.3
MILM Milestii Mici 143.56 328 ⇓*i* PKPab 08 21 11.0 -0.4
comp=Z,400nm,1.2s
MILM Milestii Mici 143.56 328 ⇑PKIKP PKPab 08 21 11.2 -0.2
LVV L'vov 143.57 335 *e*PKIKP PKPab 08 21 11.0 -0.4
BZK Bozkurt 143.57 318 ⇑P PKPbc 08 21 11.8 +0.2
BZK Bozkurt 143.57 318 PKPbc 08 21 11.8 +0.1
BNN Bunyan 143.79 312 PKPab 08 21 12.9 +0.1
LODK Lodwar 143.90 250 P PKPbc 08 21 13.6 -0.1
SNR=34
IAS Iasi 143.99 330 ⇑P PKPab 08 21 13.0 0.0
IAS Iasi 143.99 330 ⇑PKIKP PKPab 08 21 13.0 -0.1
KWP Kalwaria Pacla 144.23 336 *e*PKPbc PKPdf 08 21 13.7 +0.1
KWP Kalwaria Pacla 144.23 336 PKIKP PKPbc 08 21 13.3 -0.2
KWP Kalwaria Pacla 144.23 336 PKPbc 08 21 13.3 -0.2
VASR Vaslui 144.26 329 ⇑P PKPab 08 21 14.0 -0.2
VLDR Vladesti 144.67 327 ⇑P PKPab 08 21 15.6 -0.1
TLCR 144.72 326 ⇑P PKPab 08 21 15.5 -0.4
TLCR 144.72 326 ⇑PKIKP PKPab 08 21 15.5 -0.4
VARL Varlezi 144.75 328 ⇑P PKPab 08 21 16.2 +0.2
BUR08 Bucovina Ar. S 144.76 332 PKPbc 08 21 15.3 0.0
BURAR Bucovina Array 144.77 332 ⇑P PKPab 08 21 16.0 -0.2
BURAR Bucovina Array 144.77 332 ⇑PKIKP PKPab 08 21 16.0 -0.2
BURAR Bucovina Array 144.77 332 PKPbc 08 21 15.4 0.0
OJC Ojcow 144.77 340 *e*PKPbc PKPbc 08 21 14.8 -0.3
OJC Ojcow 144.77 340 PKIKP PKPbc 08 21 14.8 -0.3
OJC Ojcow 144.77 340 PKPbc 08 21 14.8 -0.3
SCTR Scanteiesti 144.83 327 ⇑P PKPab 08 21 16.4 0.0
GHRR 144.86 328 ⇑P PKPab 08 21 16.6 +0.2
TESR Tescani 144.91 329 ⇑P PKPbc 08 21 15.6 -0.1
BR131 Keskin Array S 144.92 315 PKIKP PKPdf 08 21 14.7 -0.6
BR131 Keskin Array S 144.92 315 PKPdf 08 21 14.7 -0.6
BR131 Keskin Array S 144.92 315 P PKPdf 08 21 14.7 -0.6
SNR=43
BRTR Keskin Array B 144.92 315 PKP PKPdf 08 21 14.8 -0.6
comp=Z,58nm,0.8s,baz=138,slow=4.3,SNR=178
BRTR SKKPbc SKKPbc 08 32 01.1 -0.7
comp=Z,3.1nm,0.8s,baz=229,slow=6.0,SNR=12
BRTR Keskin Array B 144.92 315 PKIKP PKPdf 08 21 15.1 -0.2
BRTR Keskin Array B 144.92 315 PKPdf 08 21 15.1 -0.2
KOLS Kolonicke sedl 144.96 336 *e*PKIKP PKPab 08 21 16.4 -0.4
KOLS Kolonicke sedl 144.96 336 *e*PKP PKPab 08 21 16.4 -0.4
JURR Jurilovca 144.97 325 ⇑P PKPab 08 21 16.3 -0.5
SLCR Slobozia Conac 145.00 327 ⇑P PKPab 08 21 16.6 -0.4
IZVR Izvoarele 145.03 327 ⇑P PKPab 08 21 16.9 -0.2
CFR Carcaliu 145.09 327 ⇑P PKPbc 08 21 16.2 0.0
CFR Carcaliu 145.09 327 ⇑PKIKP PKPbc 08 21 16.2 0.0
PANC Panciu 145.12 328 ⇑P PKPab 08 21 16.9 -0.6
TPGR Topolog 145.15 326 ⇑P PKPbc 08 21 16.6 +0.1
UZH Uzhgorod 145.20 336 *e*PKHKP PKPpre 08 21 12.6
UZH *e* 08 21 14.7
UZH *i* 08 21 17.0
KSP Ksiaz 145.27 344 *e*PKPbc PKPdf 08 21 15.6 +0.2
CRVS Cervenica-Dubn 145.30 337 *e*PKP2 PKPbc 08 21 17.1 +0.4
CRVS Cervenica-Dubn 145.30 337 *e*PKP PKPbc 08 21 17.1 +0.4
VRI Vrincioaia 145.33 329 ⇑P PKPbc 08 21 17.1 +0.2
VRI Vrincioaia 145.33 329 ⇑PKP2 PKPbc 08 21 17.1 +0.2
PLOR Plostina 145.38 329 ⇑P PKPdf 08 21 15.9 +0.1
PLOR Plostina 145.38 329 ⇑PKIKP PKPdf 08 21 15.9 +0.1
ANTO Ankara 145.42 315 PKIKP PKPdf 08 21 16.3 +0.3
ANTO Ankara 145.42 315 PKPbc PKPdf 08 21 16.3 +0.3
TIRR Tirgusor 145.42 325 PKP2 PKPbc 08 21 17.2 0.0
TIRR Tirgusor 145.42 325 PKPbc 08 21 17.1 0.0
BR231 Keskin MP Arra 145.44 315 PKPdf 08 21 16.8 +0.6
BMR Baia Mare 145.47 334 ⇑P PKPbc 08 21 17.6 +0.3
BMR Baia Mare 145.47 334 ⇑PKP2 PKPbc 08 21 17.6 +0.3
TRPA Tarpa 145.51 335 ⇑P PKPbc 08 21 17.5 +0.2
TRPA Tarpa 145.51 335 PKP PKPbc 08 21 16.8 -0.5
TRPA Tarpa 145.51 335 PKP PKPbc 08 21 17.5 +0.2
HARR Harsova 145.52 326 ⇑P PKPbc 08 21 17.4 -0.1
HARR Harsova 145.52 326 ⇑PKP2 PKPbc 08 21 17.4 -0.1
EFOR EFORIE 145.54 325 ⇑P PKPbc 08 21 18.2 +0.7
OSTC Ostas 145.55 344 ⇑*e*PKP PKPdf 08 21 16.4 +0.5
ARCR ARCALIA 145.56 332 ⇑P PKPbc 08 21 18.2 +0.7
TLBR Topalu 145.56 326 ⇑P PKPbc 08 21 18.1 +0.5
BISRR Bisoca 145.56 328 ⇑P PKPab 08 21 18.7 -0.6
CHVC Chvalec 145.57 344 ⇑*e*PKP PKPbc 08 21 18.1 +0.6
COVR Voineasa-Covas 145.60 329 ⇑P PKPbc 08 21 17.7 0.0
CLL Collm 145.63 347 *e*PKIKP PKPdf 08 21 16.0 +0.1
CLL *i* 08 21 17.6
CLL *e* 08 23 35.0
CLL pmax pmax
comp=Z,11nm,1.1s
CLL pmax pmax
comp=Z,120nm,0.9s
CLL Collm 145.63 347 *e*PKPdf PKPdf 08 21 16.0 +0.1
comp=Z,11nm,1.1s
CLL *i* PKPbc PKPbc 08 21 17.6 +0.1
comp=Z,120nm,0.9s
CLL *ep*PKPdf pPKPdf 08 23 35.0 +0.7
CLL *e*SKPdf SKPdf 08 23 53.0 -1.1
CLL *e*SKPbc SKiKP 08 24 01.0 +0.6
OZUR 145.63 330 ⇑P PKPbc 08 21 17.9 0.0
OKC Ostrava-Krasne 145.63 341 *e*PKP2 PKPbc 08 21 18.1 +0.5
OKC Ostrava-Krasne 145.63 341 ⇑*e*PKP PKPbc 08 21 18.1 +0.5
UPC Upice 145.65 344 *e*PKP2 PKPbc 08 21 18.4 +0.7
UPC Upice 145.65 344 ⇑*e*PKP PKPbc 08 21 18.4 +0.7
DPC Dobruska-Polom 145.71 343 *e*PKIKP PKPbc 08 21 17.1 -0.8
DPC *e* 08 21 18.8
DPC Dobruska-Polom 145.71 343 *e*PKPDF PKPbc 08 21 17.1 -0.8
DPC ⇑*e*PKP PKPab 08 21 18.8 -0.9
MANR Mangalia 145.74 324 ⇑P PKPbc 08 21 18.9 +0.8
BHL Bhannes 145.78 304 *e*P PKPdf 08 21 15.7 -1.2
LANS Liptovska Anna 145.80 339 *e*PKP2 PKPab 08 21 19.3 -0.8
LANS Liptovska Anna 145.80 339 *e*PKP PKPab 08 21 19.3 -0.8
BRG Berggiesshubel 145.83 346 *e*PKP PKPdf 08 21 16.7 +0.4
BRG Amp 08 21 17.6
comp=Z,13nm,1.0s
BRG *i* x x 08 21 18.7
BRG Amp 08 21 19.5
comp=Z,70nm,1.1s
BRG pPKP pPKPdf 08 23 49.8 +15
BRG Amp 08 23 54.3
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 145.83 346 *e*PKIKP PKPdf 08 21 16.7 +0.4
BRG *i* 08 21 18.7
BRG pmax pmax
comp=Z,13nm,1.0s
BRG pmax pmax
comp=Z,70nm,1.1s
KRLC Kraliky 145.83 343 *e*PKIKP PKPdf 08 21 16.8 +0.4
KRLC *e* 08 21 18.6
KRLC Kraliky 145.83 343 *e*PKPDF PKPdf 08 21 16.8 +0.4
KRLC ⇑*e*PKP PKPbc 08 21 18.6 +0.3
NEHR Nehoiu 145.86 328 ⇑P PKPbc 08 21 17.9 -0.5
MORC Moravsky Berou 145.87 342 ⇑P PKPdf 08 21 16.9 +0.4
MORC Moravsky Berou 145.87 342 ⇑PKIKP PKPdf 08 21 16.9 +0.4
MORC Moravsky Berou 145.87 342 *e*PKP PKPdf 08 21 16.6 +0.1
MORC *e* 08 21 18.5
MORC *e* 08 23 40.2
MBAR Mbarara 145.88 240 PKIKP PKPdf 08 21 18.1 +0.4
MBAR Mbarara 145.88 240 PKPdf 08 21 18.1 +0.4
MBAR Mbarara 145.88 240 P PKPdf 08 21 17.9 +0.1
SHBL Chebaa 145.88 303 *e*P PKPdf 08 21 15.8 -1.3
AMRR Amara 145.89 326 ⇑P PKPbc 08 21 18.6 +0.1
AMRR Amara 145.89 326 ⇑PKP2 PKPbc 08 21 18.6 +0.1
DOPR Dopca 145.91 330 ⇑P PKPbc 08 21 19.1 +0.5
ISR Istrita 145.95 328 ⇑P PKPbc 08 21 18.9 +0.2
ISR Istrita 145.95 328 ⇑PKP2 PKPbc 08 21 18.9 +0.2
ICOR Ion Corvin 145.97 325 ⇑P PKPbc 08 21 19.1 +0.3
MLR Muntele Rosu 145.99 329 ⇑P PKPbc 08 21 18.7 -0.3
MLR Muntele Rosu 145.99 329 ⇑PKP2 PKPbc 08 21 18.7 -0.3
PVCC Panska Ves 146.00 345 *e*PKP2 PKPbc 08 21 19.5 +0.9
PVCC Panska Ves 146.00 345 ⇑*e*PKP PKPbc 08 21 19.5 +0.9
MDUB Mudurnu 146.15 317 PKPbc PKPbc 08 21 19.2 -0.3
CJR Cluj-Napoca 146.17 332 ⇑P PKPbc 08 21 19.5 +0.2
CJR Cluj-Napoca 146.17 332 ⇑PKP2 PKPbc 08 21 19.5 +0.2
LEHL Lehliu 146.25 327 ⇑P PKPbc 08 21 20.0 +0.5
LTVH Ltavrtes, Hu 146.36 335 ⇑P PKPbc 08 21 20.6 +0.9
SULR 146.40 328 ⇑P PKPbc 08 21 20.1 +0.2
DRGR 146.50 333 ⇑P PKPbc 08 21 20.3 +0.1
DRGR 146.50 333 ⇑PKP2 PKPbc 08 21 20.3 +0.1
PRU Pruhonice 146.51 345 *e*PKP2 PKPbc 08 21 20.3 +0.3
PRU Pruhonice 146.51 345 ⇑*e*PKP PKPbc 08 21 20.3 +0.3
VRAC Vranov 146.57 342 ⇑P PKPbc 08 21 20.6 +0.3
VRAC Vranov 146.57 342 ⇑PKP2 PKPbc 08 21 20.6 +0.3
VRAC Vranov 146.57 342 *e*PKP PKPdf 08 21 17.8 +0.2
VRAC *e* 08 21 20.6
VRAC *e* 08 23 39.6
VYHS Vyhne 146.58 339 *e*PKP2 PKPbc 08 21 20.8 +0.5
VYHS Vyhne 146.58 339 *e*PKP PKPbc 08 21 20.8 +0.5
JAVC Velka Javorina 146.64 341 *e*PKP PKPdf 08 21 18.5 +0.7
JAVC *e* 08 21 21.9
PSZ Piszkesteto 146.69 337 ⇑P PKPdf 08 21 18.9 +0.9
PSZ Piszkesteto 146.69 337 PKP2 PKPbc 08 21 20.5 -0.2
PSZ Piszkesteto 146.69 337 PKPbc 08 21 20.5 -0.2
PSZ Piszkesteto 146.69 337 PKP PKPbc 08 21 20.7 0.0
ARR Arges 146.71 330 ⇑P PKPdf 08 21 18.8 +0.8
NKC Novy Kostel 146.76 347 *e*PKP2 PKPbc 08 21 21.1 +0.4
NKC Novy Kostel 146.76 347 ⇑*e*PKP PKPbc 08 21 21.1 +0.4
PRD Provadia 146.80 325 *i* P PKPbc 08 21 21.6 +0.6
KRUC Moravsky 146.85 342 *e*PKP PKPdf 08 21 17.9 -0.2
KRUC *e* 08 21 21.1
KRUC *e* 08 23 38.7
RAZG Razgrad 147.04 326 ⇑P PKPbc 08 21 20.7 -1.0
DEV Deva 147.12 332 ⇑P PKPdf 08 21 18.8 +0.2
DEV Deva 147.12 332 ⇑PKIKP PKPdf 08 21 18.8 +0.2
HUMR Humele 147.15 328 ⇑P PKPbc 08 21 21.3 -0.7
BEBN Eben Emael 147.19 355 *d*PKPdf PKPdf 08 21 18.8 +0.3
BEBN *d*PKPbc PKPbc 08 21 22.1 +0.4
CSS Mathiatis 147.20 307 PKPbc 08 21 21.4 -1.0
MEM Membach 147.35 355 *d*PKPdf PKPdf 08 21 19.2 +0.4
MEM *d*PKPbc PKPbc 08 21 22.2 0.0
SIRR Siria 147.36 334 ⇓P PKPbc 08 21 22.8 +0.4
BTNL Ternell 147.36 355 *d*PKPdf PKPdf 08 21 19.4 +0.5
BTNL *d*PKPbc PKPbc 08 21 22.2 -0.1
BUD Budapest 147.38 338 PKP PKPbc 08 21 22.8 +0.4
BSTI Sart Tilman 147.41 355 *d*PKPdf PKPdf 08 21 19.3 +0.4
BSTI *d*PKPbc PKPbc 08 21 22.7 +0.4
ZST Bratislava 147.41 341 *e*PKP2 PKPbc 08 21 23.1 +0.6
ZST Bratislava 147.41 341 *e*PKP PKPbc 08 21 23.1 +0.6
GRA1 Grafenberg Arr 147.52 348 PKPbc 08 21 22.5 -0.3
GRF Grafenberg Arr 147.52 348 PKP2 PKPbc 08 21 22.5 -0.3
GRFO Grafenberg 147.52 348 PKP2 PKPbc 08 21 22.6 -0.1
GRFO Grafenberg 147.52 348 PKPbc 08 21 22.6 -0.1
KHC Kasperske Hory 147.54 345 *e*PKIKP PKPdf 08 21 19.6 +0.3
KHC *e* 08 24 40.0
KHC Kasperske Hory 147.54 345 PKPbc PKPbc 08 21 22.8 -0.1
KHC Kasperske Hory 147.54 345 *e*PKPDF PKPdf 08 21 19.6 +0.3
KHC ⇑*e*PKP PKPbc 08 21 23.2 +0.4
KHC *ex* x 08 21 36.0
KHC *ex* x 08 24 40.0
SZH Strazhica 147.55 326 *i* P PKPbc 08 21 22.9 -0.1
GZR Gura Zlata 147.55 332 ⇑P PKPbc 08 21 22.7 -0.3
GZR Gura Zlata 147.55 332 ⇑PKHKP PKPbc 08 21 22.7 -0.3
SNF Seneffe 147.56 357 *d*PKPbc PKPbc 08 21 23.1 +0.3
SNF *d*PKPab PKPab 08 21 26.8 -0.3
BCLA Clavier 147.59 356 *d*PKPbc PKPbc 08 21 22.7 -0.1
BCLA *d*PKPab PKPab 08 21 26.4 -0.7
BHOU Houvegnez 147.60 355 *d*PKPbc PKPbc 08 21 23.3 +0.4
BHOU *d*PKPab PKPab 08 21 26.9 -0.3
BGES Gesves 147.64 356 *d*PKPbc PKPbc 08 21 22.9 -0.1
BGES *d*PKiKP PKiKP 08 21 24.4 -0.1
CKRC Cesky Krumlov 147.64 344 *e*PKPDF PKPdf 08 21 20.0 +0.6
CKRC ⇑*e*PKP PKPbc 08 21 23.7 +0.6
JMB Yambol 147.73 324 *i* P PKPbc 08 21 23.9 +0.4
BMRD Maredsous 147.74 356 *d*PKPdf PKPdf 08 21 20.0 +0.6
BMRD *d*PKPbc PKPbc 08 21 23.3 +0.3
CSKK Cskako 147.75 339 PKP PKPbc 08 21 23.6 +0.2
GEC2 GERESS Array S 147.77 345 PKPbc PKPbc 08 21 23.8 +0.3
GERES GERESS Array B 147.77 345 PKP PKPdf 08 21 19.3 -0.4
comp=Z,29nm,0.7s,baz=110,slow=1.6,SNR=67
GERES PKPbc PKPbc 08 21 23.4 -0.2
comp=Z,28nm,0.7s,baz=35,slow=3.6,SNR=79
GERES GERESS Array B 147.77 345 PKPbc PKPbc 08 21 23.6 0.0
VLAD Vladila 147.82 328 ⇑P PKPbc 08 21 23.8 +0.2
RCHB Rochefort 147.86 356 *d*PKPbc PKPbc 08 21 23.3 -0.2
RCHB *d*PKPab PKPab 08 21 27.6 -0.7
BZS Buzias 147.89 333 ⇑P PKPdf 08 21 19.9 0.0
BZS Buzias 147.89 333 ⇑PKIKP PKPdf 08 21 19.9 0.0
SRE Strehaia 147.91 330 ⇓P PKPbc 08 21 24.2 +0.3
SRE Strehaia 147.91 330 ⇓PKP2 PKPbc 08 21 24.2 +0.3
DOU Dourbes 147.96 356 *d*PKPdf PKPdf 08 21 20.1 +0.3
DOU *d*PKPbc PKPbc 08 21 23.7 -0.1
DOU *d*PKPab PKPab 08 21 28.3 -0.4
EGYH Egyhazaskeszo 148.02 340 PKP PKiKP 08 21 24.9 -0.4
CONA Conrad Observa 148.03 342 *e*P PKPbc 08 21 24.5 +0.4
comp=Z,22nm,0.6s,SNR=24
SOP Sopron 148.03 341 PKP PKiKP 08 21 24.8 -0.5
EDRB Edirne 148.04 323 P PKPbc 08 21 24.0 -0.3
RONA Rosalia, Austr 148.10 341 *i* P PKPbc 08 21 24.7 +0.4
comp=Z,23nm,0.6s,SNR=16
HERR Herculane 148.11 331 ⇑P PKPbc 08 21 24.0 -0.3
DJES Djerdap 148.23 331 ⇑P PKPbc 08 21 24.5 -0.2
WLF Walferdange 148.27 354 *d*PKPdf PKPdf 08 21 21.6 +1.3
WLF *d*PKPbc PKiKP 08 21 25.3 -0.5
MDVR Moldovita 148.50 332 ⇑P PKPbc 08 21 25.3 -0.1
MOA Molln 148.55 344 *e*P PKPbc 08 21 25.4 0.0
comp=Z,15nm,0.9s,SNR=8.5
DIM Dimitrovgrad 148.59 325 *i* P PKiKP 08 21 26.1 -0.6
MORH Mrgy, Hungar 148.59 337 ⇓*i* P PKPbc 08 21 24.8 -0.7
BALB Balikesir 148.72 319 PKPbc 08 21 25.5 -0.5
ARSA Arzberg 148.74 342 *e*P PKPbc 08 21 25.6 -0.3
comp=Z,9.0nm,0.8s,SNR=9.2
BIOA Bad Ischl, Aus 148.86 344 *e*P PKPbc 08 21 25.8 -0.4
comp=Z,9.8nm,0.6s,SNR=7.9
KOVH Kovagotottos 148.90 338 PKP PKPdf 08 21 22.2 +0.7
KDZ Kurdzhali 148.92 324 *i* P PKPbc 08 21 26.5 0.0
MANT Manisa 148.94 316 PKPbc 08 21 26.8 -0.1
PLD Plovdiv 149.00 326 *i* P PKPbc 08 21 26.4 -0.2
FRGS Fruska Gora 149.02 335 ⇑P PKPbc 08 21 25.4 -1.2
FRGS Fruska Gora 149.02 335 ⇓*i* P PKPbc 08 21 25.6 -1.0
ALN Alexandroupoli 149.06 322 P PKPbc 08 21 25.4 -1.4
RDO Rodhopi 149.19 323 P PKPbc 08 21 26.6 -0.5
RZN Rozhen 149.28 325 *i* P PKPbc 08 21 27.0 -0.6
BFO Black Forest 149.32 351 PKHKP PKPbc 08 21 26.6 -0.7
BFO Black Forest 149.32 351 PKPbc 08 21 26.6 -0.7
BOVS Bovan 149.40 331 ⇑P PKPbc 08 21 26.7 -0.8
SOKA Soboth 149.40 342 *i* P PKPbc 08 21 27.0 -0.6
comp=Z,44nm,1.0s,SNR=16
PERS Pernice 149.41 342 *i* PKPbc PKPbc 08 21 26.9 -0.7
VTS Vitosha 149.41 328 ⇑P PKPbc 08 21 27.5 -0.3
VTS Vitosha 149.41 328 ⇑PKHKP PKPbc 08 21 27.5 -0.3
VTS Vitosha 149.41 328 *i* P PKPbc 08 21 27.8 0.0
KBA Koelnbreinsper 149.50 344 *i* P PKPbc 08 21 27.2 -0.7
comp=Z,46nm,1.0s,SNR=12
EZN Ezine 149.57 321 P PKPbc 08 21 27.7 -0.3
TEKS Tekeris 149.63 334 ⇓*i* P PKPbc 08 21 27.2 -0.9
SMTH Samothraki Isl 149.63 322 P PKPbc 08 21 26.7 -1.5
WATA Walderalm 149.69 347 *e*P PKPbc 08 21 28.0 -0.3
comp=Z,37nm,0.7s,SNR=9.9
OBKA Obir 149.69 342 *i* P PKPbc 08 21 27.4 -0.8
comp=Z,19nm,0.8s
RETA Reutte 149.72 348 *i* P PKPbc 08 21 28.1 -0.2
comp=Z,9.7nm,0.5s,SNR=8.1
WTTA Wattenberg 149.74 346 *i* P PKPbc 08 21 28.4 -0.1
comp=Z,78nm,0.6s,SNR=15
MOTA Moosalm 149.78 347 *i* P PKPbc 08 21 28.3 -0.2
comp=Z,52nm,0.9s,SNR=9.8
DIVS Divibare 149.80 333 PKPdf 08 21 22.9 -0.2
DIVS PKPbc PKiKP 08 21 29.0 -0.3
DIVS PKPab PKPab 08 21 36.8 +0.1
DIVS Divibare 149.80 333 ⇓*i* P PKPbc 08 21 28.5 -0.1
MYKA Terra Mystica 149.84 343 *i* P PKPbc 08 21 27.6 -1.0
comp=Z,39nm,0.6s,SNR=11
YER Yerkesik 149.85 314 P PKPbc 08 21 28.7 -0.2
KAVA Kavala 149.86 324 P PKPbc 08 21 28.2 -0.5
SQTA Sankt Quirin 149.88 347 *e*P PKPbc 08 21 28.6 -0.1
comp=Z,55nm,0.7s,SNR=11
MMB Musomiste 149.89 326 *i* P PKPbc 08 21 28.4 -0.4
PRK Paraskevi 149.96 320 P PKiKP 08 21 29.5 -0.1
NVR Nevrokopi 149.98 325 P PKPbc 08 21 28.4 -0.6
THAS Thassos island 150.01 323 P PKPbc 08 21 28.2 -0.8
ABTA Abfaltersbach 150.02 345 *i* P PKPbc 08 21 28.

	comp=Z,49nm,0.8s,SNR=19						
LIA	Limnos Island	150.21	322	P	PKPbc	08 21 28.8	-0.7
SIGR	SIGRI	150.23	320	P	PKPbc	08 21 28.7	-0.9
BBLS	Lazići	150.24	334	ǁ iP	PKPbc	08 21 29.8	+0.2
SRS	Serrai	150.29	325	P	PKPbc	08 21 28.4	-1.3
BLY	Banja Luka	150.38	337	ǁ iP	PKPbc	08 21 29.1	-0.7
STAL	STALIGIAL	150.43	344		PKPdf	08 21 27.2	-1.2
STAL				PKPbc	PKPbc	08 21 29.4	-0.5
CEY	Cerknica	150.43	342	ǁ iP	PKPbc	08 21 29.3	-0.6
CEY	Cerknica	150.43	342	i PKPbc	PKPbc	08 21 29.6	-0.3
RUDO	Rudo	150.45	333	eP	PKPbc	08 21 29.3	-0.7
SMG	Samos	150.50	317	P	PKPbc	08 21 28.6	-1.7
DAT	Datca	150.55	314	P	PKPbc	08 21 29.3	-1.3
BODT	Bodrum	150.55	315	P	PKPbc	08 21 29.6	-0.9
OUR	Ouranopolis	150.61	324	P	PKPbc	08 21 29.2	-1.2
CHOS	Chios island	150.61	319	P	PKPbc	08 21 29.8	-0.8
STIP	Stip	150.62	328	i P	PKPbc	08 21 29.4	-1.0
TRI	Trieste	150.65	343	PKIKP	PKPdf	08 21 21.8	-2.4
TRI						08 21 38.2	
TRI	Trieste	150.65	343	PKPdf	PKPdf	08 21 21.8	-2.4
TRI					PKPbc	08 21 29.2	-1.2
TRI				PKPab	PKPab	08 21 38.2	-1.8
VAY	Valandovo	150.69	327	i P	PKPbc	08 21 29.1	-1.5
MGRS	Mrkonjic Grad	150.70	337	⇑ iP	PKiKP	08 21 30.8	-0.2
SKDS	Skadanscina	150.72	342	eP	PKPbc	08 21 29.4	-1.2
RIY	Rijeka	150.78	341	eP	PKPbc	08 21 27.7	-3.0
SKO	Skopje	150.78	329	i P	PKPbc	08 21 30.7	-0.1
PLG	Polygyros	150.88	324	P	PKPbc	08 21 29.5	-1.7
CTI	Castel Tesino	150.88	346	PKIKP	PKPdf	08 21 24.4	-0.3
CTI						08 21 40.2	
CTI	Castel Tesino	150.88	346	PKPdf	PKPdf	08 21 24.4	-0.3
CTI				PKPbc	PKPbc	08 21 30.8	-0.3
CTI				PKPab	PKPab	08 21 40.2	-0.9
HORT	Hortiatis	150.92	325	P	PKPbc	08 21 29.7	-1.6
UPM	Unac-Piva	150.99	333	eP	PKPbc	08 21 30.8	-0.7
PAIG	Paliouri	151.06	323	P	PKPbc	08 21 29.5	-2.0
BRY	Bratogost	151.39	333	eP	PKPbc	08 21 31.8	-0.5
PDG	Podgorica	151.46	332	⇑ P	PKPbc	08 21 29.5	-2.7
PDG	Podgorica	151.46	332	eP	PKPbc	08 21 30.6	-1.7
TEOL	Teolo	151.53	345	PKPdf	PKPdf	08 21 24.8	-0.8
TEOL				PKPbc	PKiKP	08 21 32.7	+0.1
TEOL				PKPab	PKPab	08 21 43.9	+0.2
SALO	Salr	151.55	347	PKPdf	PKPdf	08 21 24.8	-0.8
SALO				PKPbc	PKPbc	08 21 31.2	-1.2
SALO				PKPab	PKPab	08 21 43.2	-0.7
LIT	Litokhoron	151.60	325	P	PKPbc	08 21 31.3	-1.5
TREB	Trebinje	151.62	334	eP	PKPbc	08 21 31.8	-0.9
DRME	Dracevica, Mon	151.64	332	⇑ iP	PKPbc	08 21 32.7	-0.1
FNA	Florina	151.70	327	P	PKPbc	08 21 32.2	-0.8
FNA	Florina	151.70	327	PKIKP	PKPdf	08 21 25.0	-1.0
FNA	Florina	151.70	327		PKPdf	08 21 25.0	-1.0
FNA				PKPbc	PKPbc	08 21 32.4	-0.6
APE	Apeiranthos	151.72	317	⇑ P	PKPbc	08 21 30.7	-2.5
APE	Apeiranthos	151.72	317	⇑ PKIKP	PKPbc	08 21 30.7	-2.5
OHR	Ohrid	151.75	328	i P	PKPbc	08 21 32.9	-0.2
STON	Ston	151.76	335	ǁ iP	PKiKP	08 21 35.0	+1.8
TIR	Tirane	152.02	330	⇑ P	PKPbc	08 21 31.1	-2.5
TIR	Tirane	152.02	330	⇑ PKIKP	PKPbc	08 21 31.1	-2.5
DION	Dionisos Attik	152.12	320	P	PKPbc	08 21 32.6	-1.4
PTL	Penteli	152.18	320	P	PKPbc	08 21 32.8	-1.3
ATHU	Athens Univers	152.28	320	P	PKPbc	08 21 32.8	-1.5
VLY	Voula,Athens	152.34	320	P	PKPbc	08 21 32.9	-1.5
AGG	Agios Georgios	152.44	323	P	PKPbc	08 21 33.3	-1.3
AGG	Agios Georgios	152.44	323	PKIKP	PKPdf	08 21 26.4	-0.8
AGG						08 21 33.8	
AGG						08 21 46.9	
AGG	Agios Georgios	152.44	323	PKPdf	PKPdf	08 21 26.4	-0.8
AGG				PKPbc	PKPbc	08 21 33.8	-0.9
AGG				PKPab	PKPab	08 21 46.9	-1.0
VILL	Villia	152.44	321	P	PKPbc	08 21 33.1	-1.6
DID	Didima	152.91	320	P	PKPbc	08 21 33.8	-1.9
ANX	Ano Chora	152.96	323	P	PKiKP	08 21 36.5	+0.5
IDI	Anoyia	153.16	314	⇑ P	PKPbc	08 21 33.4	-3.0
IDI	Anoyia	153.16	314	PKPdf	PKPdf	08 21 28.1	-0.2
IDI					PKiKP	08 21 36.7	+0.3
IDI				PKPab	PKPab	08 21 50.4	-0.8
GUR	Goura	153.16	322	P	PKPbc	08 21 35.2	-1.1
LAKA	Lakka	153.17	323	P	PKPbc	08 21 36.1	-0.1
NRCA	Norcia	153.46	341	PKPbc	PKPbc	08 21 36.6	-0.2
NRCA				PKPab	PKPab	08 21 52.4	+0.2
DRO	Drossia	153.52	323	P	PKPbc	08 21 36.5	-0.5
ITM	Ithomi	153.91	321	PKPdf	PKPdf	08 21 27.3	-2.0
ITM					PKPbc	08 21 37.4	-0.4
ITM				PKPab	PKPab	08 21 54.2	0.0
PGAV	Gavieira, Arco	154.72	17	ePKPdf	PKPdf	08 21 30.8	+0.4
PGAV	Gavieira, Arco	154.72	17	ePKPab	PKPab	08 21 57.3	-0.3
PCAB	Cabril	155.03	17	ePKPdf	PKPdf	08 21 29.7	-1.0
PCAB	Cabril	155.03	17	ePKPab	PKPab	08 21 59.3	+0.4
PBRG	Braganca	155.28	15	ePKPab	PKPab	08 22 00.4	+0.4
POLO	Lamas de Olo	155.41	17	ePKPab	PKPab	08 22 01.0	+0.4
PVRL	Vila Real	155.52	17	ePKPab	PKPab	08 22 02.0	+1.0
MVO	Moncorvo	155.81	16	ePKPab	PKPab	08 22 02.9	+0.6
PVIS	Viseu	155.99	18	ePKPab	PKPab	08 22 03.2	+0.2
MTE	Manteigas	156.38	18	ePKPdf	PKPdf	08 21 33.3	+0.8
MTE	Manteigas	156.38	18	ePKPab	PKPab	08 22 05.0	+0.2
PCAS	Casmilo, Conde	156.41	20	ePKPab	PKPab	08 22 04.8	0.0
PCBR	Castelo Branco	156.91	18	ePKPdf	PKPdf	08 21 34.2	+1.1
PCBR	Castelo Branco	156.91	18	ePKPab	PKPab	08 22 07.2	+0.2
PMAFR	Mafra	157.12	22	ePKPab	PKPab	08 22 07.7	-0.3
PMRV	Marv??o	157.32	18	ePKPdf	PKPdf	08 21 34.5	+0.8
PMRV	Marv??o	157.32	18	ePKPab	PKPab	08 22 08.8	0.0
PMST	Lisbon--Monsan	157.35	22	ePKPdf	PKPdf	08 21 30.4	-0.3
PMTG	Montargil	157.38	20	ePKPab	PKPab	08 22 08.9	-0.2
PESTR	Estremoz	157.77	19	ePKPdf	PKPdf	08 21 34.4	+0.1
PESTR	Estremoz	157.77	19	ePKPab	PKPab	08 22 10.8	0.0
ESDC	Sonseca Array	157.93	12	PKP	PKPdf	08 21 34.8	+0.3
	comp=Z,1.6nm,0.9s,baz=4.1,slow=2.6,SNR=6.2						
ESDC				PKPab	PKPab	08 22 11.1	-0.4
	comp=Z,2.2nm,1.0s,baz=343,slow=3.7,SNR=11						
ESDC	Sonseca Array	157.93	12	PKPab	PKPab	08 22 11.7	+0.2
PNCL	Nicolau / Gran	158.14	22	ePKPdf	PKPdf	08 21 35.2	+0.5
PNCL	Nicolau / Gran	158.14	22	ePKPab	PKPab	08 22 12.6	+0.2
PTEO	Sao Teotonio	158.57	23	ePKPab	PKPab	08 22 14.4	+0.1
PCVE	Castro Verde	158.74	22	ePKPab	PKPab	08 22 15.4	+0.4
PVAQ	Vaqueiros	159.06	21	ePKPdf	PKPdf	08 21 36.2	+0.3
PVAQ	Vaqueiros	159.06	21	ePKPab	PKPab	08 22 16.8	+0.4
KEST	Kesra	161.12	340	PKPab	PKPab	08 22 25.4	-0.2
	comp=Z,8.4nm,0.7s,baz=350,slow=1.8,SNR=5.8						
LIC	Lamto	166.56	150	ePKIKP	PKPdf	08 21 42.9	-0.7
	comp=Z,23nm,0.9s						
KIC	Kosan Boka	166.81	151	eP	PKPdf	08 21 42.8	-1.0
	comp=Z,18nm,0.7s						
TIC	Toumodi	166.93	149	ePKIKP	PKPdf	08 21 42.7	-1.2
DBIC	Dimbokro	167.03	150	PKP	PKPdf	08 21 43.2	-0.8
	comp=Z,10.0nm,0.9s,baz=124,slow=4.3,SNR=5.4						
KOWA	Kowa	173.52	122		PKPdf	08 21 46.5	-0.9
KOWA				PKPab	PKPab	08 23 21.8	+0.8
TOA0	Torodi Ar. Sit	175.11	181		PKPdf	08 21 46.9	-1.1
TOA0				PKPab	PKPab	08 23 27.4	-0.3
TORD	Torodi Ar. Bea	175.11	181	PKP	PKPdf	08 21 46.6	-1.3
	comp=Z,9.2nm,1.0s,baz=246,slow=1.4,SNR=28						
TORD				PKPab	PKPab	08 23 27.3	-0.4
	comp=Z,2.2nm,0.6s,baz=176,slow=4.0,SNR=15						
TORD				pPKPab	pPKPab	08 25 39.2	+1.6
	comp=Z,1.9nm,1.0s,baz=190,slow=2.8,SNR=4.1						
TORD				PP	PP	08 27 19.8	+0.5
	comp=Z,4.0nm,0.8s,baz=173,slow=3.6,SNR=8.2						
TORD	Torodi Ar. Bea	175.11	181		PKPdf	08 21 46.8	-1.1
TORD				PKPab	PKPab	08 23 28.0	+0.3

*VAO **25** 08:06:32.3±0.8,24°.49S×67°.50W,h180km,mb3.9*
*NEIC **25** 08:06:33.9±2.9,24°.25S±0°.07×67°.24W±0°.06,*
h182km±11km, Error ellipse: s-maj=10.1km s-min=8.3km
az=177.0
*GUC **25** 08:06:35.8±0.7,24°.25S×67°.48W,h201km±6km,ML4.0*
*IDC **25** 08:06:39.1±1.0,23°.65S×67°.28W,h201km±13km,mb3.4/1,*
mb1 3.6/5,mb1mx3.4/30,mbtmp4.1/5, Error ellipse:
s-maj=22.5km s-min=16.6km az=160.0

ISC 25 08:06:34.1±0.7,24°.27S±0°.04×67°.31W±0°.07,h183km±9km, n98,σ1§32/112,mb4.2/3,11C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	San Pedro de A	1.54	328	Pn	Pn	08 07 08.6	+1.6
AF01	San Pedro de A	1.54	328	ǁ iP	Pn	08 07 08.7	+1.7
AF01				i S	Sn	08 07 34.6	+2.2
AF01				IAML		08 07 36.5	
	comp=E,1μm,0.6s						

LVC	Limon Verde	2.21	318	P	Pn	08 07 15.5	+1.4
	comp=E,23nm,0.3s,baz=153,slow=6.4,SNR=234						
LVC				S	Sn	08 07 45.3	+0.2
	comp=E,63nm,0.3s,baz=324,slow=23,SNR=82						
LVC	Limon Verde	2.21	318	eP	Pn	08 07 15.7	+1.6
LVC				i S	Sn	08 07 45.8	+0.7
LVC	Limon Verde	2.21	318	eP	Pn	08 07 12.5	-1.6
PB15	IPOC Station P	2.25	298	Pn	Pn	08 07 15.5	+1.2
PB15	IPOC Station P	2.25	298	⇑ iP	Pn	08 07 16.1	+1.8
PB15				i S	Sn	08 07 46.0	+0.5
GO02	Mina Guanaco	2.26	246	P	Pn	08 07 16.1	+1.6
GO02	Mina Guanaco	2.26	246	⇑ iP	Pn	08 07 16.1	+1.6
GO02				i S	Sn	08 07 47.1	+1.2
GO02				IAML		08 07 50.3	
	comp=N,1μm,0.3s						
PB06	IPOC Station P	2.60	306		Pn	08 07 19.2	+0.9
PB06	IPOC Station P	2.60	306	⇑ iP	Pn	08 07 19.9	+1.6
PB06				i S	Sn	08 07 52.7	+0.1
PB14	IPOC Station P	2.84	262	Pn	Pn	08 07 22.4	+1.1
PB14	IPOC Station P	2.84	262	eP	Pn	08 07 22.6	+1.3
PB14				i S	Sn	08 07 57.4	-0.7
PB14				IAML		08 07 59.6	
	comp=E,182nm,0.4s						
AC02	Maricunga	3.04	212		Pn	08 07 25.4	+1.7
AC02	Maricunga	3.04	212	⇑ iP	Pn	08 07 25.5	+1.7
AC02				IAML		08 08 10.3	
	comp=E,75nm,0.3s						
PB09	IPOC Station P	3.04	324		Pn	08 07 25.6	+2.0
PB09	IPOC Station P	3.04	324	eP	Pn	08 07 25.7	+2.1
PB09				i S	Sn	08 08 02.5	+0.4
PB09				IAML		08 08 05.8	
	comp=N,326nm,0.4s						
PB10	IPOC Station P	3.07	284	Pn	Pn	08 07 25.0	+1.3
PB10	IPOC Station P	3.07	284	⇑ iP	Pn	08 07 25.2	+1.5
PB10				i S	Sn	08 08 01.3	-1.0
PB10				IAML		08 08 04.1	
	comp=N,271nm,0.3s						
PB07	IPOC Station P	3.47	316		Pn	08 07 29.8	+0.9
PB07	IPOC Station P	3.47	316	⇑ iP	Pn	08 07 29.8	+0.9
PB07				i S	Sn	08 08 10.0	-1.7
AC01	Pan de Azucar	3.52	237		Pn	08 07 29.4	+0.2
AC01	Pan de Azucar	3.52	237	⇑ iP	Pn	08 07 29.5	+0.3
AC01				i S	Sn	08 08 10.5	-1.8
PB02	IPOC Station P	3.79	320		Pn	08 07 33.3	+0.6
PB02	IPOC Station P	3.79	320	ǁ iP	Pn	08 07 33.4	+0.7
PB01	IPOC Station P	3.79	327	Pn	Pn	08 07 33.7	+0.9
AC06	Mina Casimiro	4.12	221	Pn	Pn	08 07 37.0	+0.2
AC06	Mina Casimiro	4.12	221	⇑ iP	Pn	08 07 36.8	0.0
GO03	Copiap	4.23	218		Pn	08 07 38.2	0.0
GO03	Copiap	4.23	218	ǁ iP	Pn	08 07 38.4	+0.2
GO03				i S	Sn	08 08 26.8	-1.8
PATCX	Punta Patache	4.33	322		Pn	08 07 40.3	+0.8
PATCX	Punta Patache	4.33	322	eP	Pn	08 07 40.4	+0.8
PATCX				i S	Sn	08 08 28.6	-2.2
PB08	IPOC Station P	4.45	337		Pn	08 07 42.6	+1.2
PB08	IPOC Station P	4.45	337	⇑ iP	Pn	08 07 42.8	+1.4
PB08				i S	Sn	08 08 34.4	+0.1
TA01	Diego Aracena	4.55	324	Pn	Pn	08 07 42.3	+0.1
TA01	Diego Aracena	4.55	324	eP	Pn	08 07 42.4	+0.1
TA02	Huaiquique	4.76	326	Pn	Pn	08 07 44.6	-0.5
TA02	Huaiquique	4.76	326	eP	Pn	08 07 44.8	-0.3
GO01	Chusmiza	4.90	339		Pn	08 07 47.9	+0.6
GO01	Chusmiza	4.90	339	eP	Pn	08 07 49.2	+1.8
PB11	IPOC Station P	4.99	334	Pn	Pn	08 07 47.6	-0.6
PB11	IPOC Station P	4.99	334	⇑ iP	Pn	08 07 47.8	-0.4
PB11				i S	Sn	08 08 43.4	-3.0
AC04	Llanos de Chal	5.17	220	Pn	Pn	08 07 49.7	-0.6
AC04	Llanos de Chal	5.17	220	⇑ iP	Pn	08 07 49.5	-0.8
LCO	Las Campanas	5.61	212	Pn	Pn	08 07 55.8	-0.5
LCO	Las Campanas	5.61	212	eP	Pn	08 07 55.1	-1.2
CO01	Juntas del Tor	6.20	203	Pn	Pn	08 08 01.7	-2.2
PB16	IPOC Station P	6.29	343	Pn	Pn	08 08 05.5	+0.5
PB12	IPOC Station P	6.29	333	Pn	Pn	08 08 04.5	-0.6
CO05	La Serena	6.63	211	Pn	Pn	08 08 08.8	-0.4
GO04	Tololo Observa	6.65	207	Pn	Pn	08 08 09.0	-0.8
CO06	Fray Jorge	7.45	210	Pn	Pn	08 08 18.0	-2.0
CO02	Combarbal	7.64	205	Pn	Pn	08 08 21.7	-1.0
LPAZ	La Paz	7.98	354	P	Pn	08 08 29.1	+1.3
	comp=N,0.9nm,0.3s,baz=168,slow=9.3,SNR=18						
LPAZ				S	Sn	08 09 53.6	-4.1
	comp=N,0.1nm,0.3s,baz=15,slow=22,SNR=1.2						
LPAZ	La Paz	7.98	354	eP	Pn	08 08 28.0	+0.3
VA03	San Esteban	8.93	198	Pn	Pn	08 08 38.7	-0.9
VA06	Catapilco	8.97	202	Pn	Pn	08 08 38.9	-1.1
CPUP	Villa Florida	9.26	105	P	Pn	08 08 52.2	+8.3
	comp=N,0.3nm,0.3s,baz=279,slow=11,SNR=9.8						
CPUP	Villa Florida	9.26	105	Pn	Pn	08 08 42.7	-1.1
ROC1	El Roble	9.26	200	Pn	Pn	08 08 43.5	-0.7
VA01	Torpederas	9.52	203	Pn	Pn	08 08 44.6	-2.6
MT02	Curacav	9.56	200	Pn	Pn	08 08 45.9	-2.0
SIV	San Ignacio	10.10	37	P	Pn	08 08 53.4	-1.6
	comp=N,1.4nm,0.3s,baz=211,slow=11,SNR=31						
SIV				S	Sn	08 10 34.9	-13
	baz=225,slow=16,SNR=2.4						
AQDB	Aquidauana	11.38	73	eP	Pn	08 09 11.8	+0.2
PTLB	Pontes e Lacer	11.66	43	eP	Pn	08 09 14.4	-0.8
VILB	Vilhena	13.11	32	eP	Pn	08 09 34.9	+1.2
PP1B	Ponte de Pedra	13.37	62	eP	Pn	08 09 37.8	+0.9
TRCB	Terra Rica	13.54	87	eP	Pn	08 09 39.9	+0.9
SALV	Santo Antonio	13.72	55	eP	P	08 09 42.8	-1.2
CPSB	Cacapava Do Su	13.75	119	eP	Pn	08 09 38.4	-3.2
PTGB	Pitanga	13.89	95	eP	Pn	08 09 43.6	+0.2
ETMB	Extrema	14.41	4	eP	Pn	08 09 49.7	-0.2
PCMB	Pacaembu	15.02	83	eP	Pn	08 09 55.2	-2.1
PDRB	Porto dos Gac	16.10	40	eP	Pn	08 10 10.3	-0.3
PLCA	Paso Flores	16.64	189	P	Pn	08 10 26.6	+10
	comp=N,0.5nm,0.3s,baz=7.0,slow=11,SNR=14						
CLDB	Colider	17.24	41	eP	P	08 10 23.2	+0.3
VAO	Valinhos	18.68	90	eP	P	08 10 39.1	+0.5
IPMB	Ipameri, GO	18.87	74	eP	P	08 10 41.5	+0.8
LL02	Futaleuf	19.24	190	P	Pn	08 10 47.2	-0.3
LL02				IAmb	IAmb	08 10 51.3	
	comp=Z,16nm,0.8s						
SNDB	Serra Nova Dou	19.50	54	eP	P	08 10 47.5	+0.1
GO07	Milladeo Hill,	19.51	194	P	P	08 10 46.5	-0.7
BDFB	Brasilia	20.05	68	P	P	08 10 54.0	+0.6
	comp=Z,1.2nm,0.3s,baz=245,slow=11,SNR=17						
BDFB	Brasilia	20.05	68	P	P	08 10 51.6	-1.8
BDFB				IAmb	IAmb	08 10 54.8	
	comp=Z,11nm,0.7s						
AY01	Puyuhuapi	20.57	191	P	P	08 10 56.5	-2.0
COYC	Coyhaique	21.60	189	P	P	08 11 08.1	-1.4
COYC				IAmb	IAmb	08 11 17.0	
	comp=Z,8.6nm,1.1s						
PEXB	Peixe	21.70	59	eP	P	08 11 10.6	-0.2
ITTB	Itaituba	22.71	31	eP	P	08 11 20.4	-0.1
JANB	Januaria	23.48	71	eP	P	08 11 27.8	+0.3
SDBA	SAO DESIDERIO	24.28	65	eP	P	08 11 35.3	+0.5
SMTB	Santa Maria do	24.28	54	eP	P	08 11 34.3	-0.4
NAN01	Guarapari, ES	26.13	81	eP	P	08 11 51.3	-0.2
GDU01	Guandu, BA	28.19	73	eP	P	08 12 09.9	+0.1
QSPA	South Pole Qui	65.93	180	P	P	08 17 02.4	+2.1
QSPA				IAmb	IAmb	08 17 20.3	
	comp=Z,5.0nm,1.1s						
TORD	Torodi Ar. Bea	76.93	69	P	P	08 18 08.0	+1.3
	comp=Z,0.9nm,0.8s,baz=257,slow=5.7,SNR=6.0						
TORD	Torodi Ar. Bea	76.93	69	P	P	08 18 07.3	+0.6
ASAR	Alice Springs	128.09	205	PKP	PKiKP	08 25 22.1	+2.4
	comp=Z,0.3nm,0.6s,baz=139,slow=1.7,SNR=4.7						
WRA	Warramunga Arr	131.26	207	PKP	PKiKP	08 25 28.1	+2.0
	comp=Z,0.3nm,0.5s,baz=157,slow=1.7,SNR=6.2						
MKAR	Makanchi Array	146.91	40	PKPbc	PKiKP	08 25 57.7	+0.5
	comp=Z,0.3nm,0.5s,baz=307,slow=1.7,SNR=1.9						

*IDC **25** 08:08:53.6±2.5, 17°.53S×178°.76W,h620km±24km,mb3.0/7,*
mb1 3.3/9,mb1mx2.9/51,mbtmp3.9/9, Error ellipse:
s-maj=113.1km s-min=21.0km az=154.0

ISC 25 08:08:52.2±1.8,17°.5S±0°.7×178°.7W±0°.4,h600km,n10, σ1§19/10,mb3.3/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.14	265	P	P	08 10 14.9	+2.6
	1.2nm,0.3s,baz=144,slow=18,SNR=2.8						
DZM	Mont Dzumac	14.73	250	P	P	08 11 57.3	-0.7
	0.3nm,0.3s,baz=107,slow=19,SNR=1.5						
CTA	Charters Tower	33.27	260	P	P	08 14 42.0	+0.1
	3.6nm,0.7s,baz=104,slow=8.3,SNR=1.1						
WRA	Warramunga Arr	44.47	259	P	P	08 16 10.7	-1.1
	3.5nm,1.0s,baz=93,slow=7.5,SNR=1.7						
ASAR	Alice Springs	44.67	254	P	P	08 16 12.5	-0.8

	20nm,1.0s,baz=92,slow=7.8,SNR=4.9						
NVAR	Mina Array Bea	79.30	44	P	P	08 19 57.1	+0.1
	0.5nm,0.6s,baz=231,slow=5.7,SNR=1.6						
ILAR	Eielson Array	85.55	13	P	P	08 20 27.0	-0.5
	0.3nm,0.4s,baz=221,slow=4.9,SNR=6.8						
TXAR	Lajitas Array	85.98	58	P	P	08 20 30.8	+0.2
	0.4nm,0.7s,baz=206,slow=5.9,SNR=4.1						
PDAR	Pinedale Array	87.23	44	P	P	08 20 36.0	-0.2
	0.2nm,0.5s,baz=243,slow=4.0,SNR=1.8						
GERES	GERESS Array B	147.16	345	PKPbc	PKPbc	08 27 28.4	-0.6
	0.4nm,0.3s,baz=18,slow=4.4,SNR=2.2						

*GCG **25** 08:24:40.9±1.7, 14°.29N×93°.57W, h17km±999km, MD4.6*
*UCR **25** 08:24:41.4±1.3, 14°.24N×93°.52W, h25km, ML3.8,*
mb4.5(NEIC)
*SNET **25** 08:24:41.6±1.1, 14°.23N×93°.51W, h25km, ML4.1*
*IDC **25** 08:24:43.0±1.0, 14°.46N×92°.69W, h0km, mb4.1/11,*
mb1 4.4/13,mb1mx4.2/33,mbtmp4.1/13, ML3.9/2, Error
ellipse: s-maj=44.6km s-min=16.5km az=48.0
*MEX **25** 08:24:46.8±1.2, 14°.32N×93°.30W, h20km±831km, MD4.4*
*NEIC **25** 08:24:46.9±1.8, 14°.44N±0°.06×93°.08W±0°.05, h10km±1km,*
mb4.5/44, Md4.3/12(MEX), Error ellipse: s-maj=10.4km
s-min=8.6km az=169.0

ISC 25 08:24:45.0±1.8,14°.38N±0°.06×93°.20W±0°.05,h12km±10km, n142,σ1§50/156,mb4.4/22,2C,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		1.05	60		Pg	08 25 04.4	-0.7
THIG		1.05	60	eP	Pg	08 25 04.4	-0.7
THIG				eS	Sg	08 25 17.4	-1.4
PATR	El Naranjo	1.19	52	eP	Pg	08 25 06.5	-1.3
PATR				i S	Sb	08 25 23.2	+0.2
CHUJ	Union Juarez	1.27	56	eP	Pn	08 25 08.0	-0.8
PAVE	Pavencul	1.28	51	eP	Pn	08 25 08.1	-0.7
PAVE				i S	Sb	08 25 25.1	-0.5
PCIG		1.31	359		Pn	08 25 07.3	-1.8
PCIG		1.31	359	eP	Pn	08 25 07.3	-1.8
RTAL	Retalhuleu	1.47	84	Pn	Pn	08 25 10.6	-0.7
RTAL	Retalhuleu	1.47	84	eP	Pn	08 25 10.7	-0.6
RTAL				eS	Sg	08 25 33.2	+0.9
STG3	Santiaguito 3,	1.61	78	eP	Pn	08 25 13.3	-0.2
HUEH	Huehuetenango	1.89	60	Pn	Pn	08 25 18.5	+1.3
HUEH	Huehuetenango	1.89	60	eP	Pn	08 25 18.6	+1.4
HUEH				eS	Sg	08 25 45.7	-0.1
HUEH	Huehuetenango	1.89	60	eP	Pn	08 25 18.6	+1.4
HUEH				eS	Sg	08 25 45.7	-0.1
CARR	Arriaga	1.98	340	eP	Pn	08 25 18.1	-0.2
CARR				eS	Sn	08 25 43.5	+0.5
CCIG	Comitan	2.15	28		Pb	08 25 23.1	-0.9
CCIG	Comitan	2.15	28	eP	Pb	08 25 23.1	-0.9
FUG	Fuego 3	2.29	88	eP	Pn	08 25 22.7	0.0
TGIG		2.38	2		Pn	08 25 25.8	+1.8
TGIG		2.38	2	eP	Pn

ROSC **El Rosal** 20.87 115 P P 08 29 28.3 +0.7
ROSC IAmb IAmb 08 29 36.0
comp=Z,16nm,0.9s
WMOK Wichita Mounta 20.88 347 P P 08 29 28.2 +1.1
WMOK IAmb IAmb 08 29 34.3
comp=Z,26nm,0.9s
GOGA Godfrey 20.91 23 P P 08 29 27.4 +0.1
PLAL Pickwick Lake 21.03 12 P P 08 29 29.0 +0.3
Y52A Lilburn 21.09 22 P P 08 29 29.6 +0.2
Y52A IAmb IAmb 08 29 44.3
comp=Z,12nm,0.8s
FNO Franklin 21.13 350 P 08 29 31.3 +1.6
MSTX Muleshoe 21.34 338 P P 08 29 33.0 +0.8
MSTX IAmb IAmb 08 29 38.1
comp=Z,13nm,0.7s
FCAR Ozark Folk Cen 21.44 2 P P 08 29 34.1 +1.1
CHIC Chingaza 21.49 115 eP P 08 29 35.8 +1.6
RUSC La Rusia 21.51 111 eP P 08 29 35.0 +0.5
TUL1 Leonard 21.56 354 P 08 29 34.7 +0.3
AMTX Amarillo 21.80 341 P P 08 29 37.9 +0.8
319A Douglas 22.43 322 P P 08 29 44.7 +0.7
319A IAmb IAmb 08 29 50.6
comp=Z,10nm,0.9s
SOCV Socops 22.72 103 eP P 08 29 46.5 -0.6
SDV Santo Domingo 22.76 101 P P 08 29 46.7 -0.9
comp=Z,7.3nm,0.6s,baz=302,slow=5.7,SNR=8.4
TKL Tuckaleechee C 22.82 20 P P 08 29 49.5 +1.6
comp=Z,2.3nm,0.7s,baz=191,slow=18,SNR=1.9
PTGC Puerto Gaitan, 23.10 114 eP P 08 29 50.4 -0.6
BNM Barren Site 23.13 331 P P 08 29 54.8 +3.4
ANMO Albuquerque 23.71 332 P P 08 29 58.6 +1.6
comp=Z,5.2nm,0.9s,baz=152,slow=12,SNR=12
ANMO Albuquerque 23.71 332 P P 08 29 58.4 +1.3
KSU1 Kansas State U 24.80 354 P P 08 30 06.1 -0.8
PV23 Carpenter Ridg 27.75 333 P P 08 30 36.4 +2.5
PV23 IAmb IAmb 08 30 40.0
comp=Z,11nm,0.9s
RWWY Rawlins 29.80 339 P P 08 30 53.8 +1.7
RWWY IAmb IAmb 08 30 57.3
comp=Z,8.5nm,0.8s
PDAR Pinedale Array 31.60 337 P P 08 31 10.1 +2.2
comp=Z,0.7nm,0.8s,baz=131,slow=8.8,SNR=6.3
PDAR PcP PcP 08 33 59.6 -0.7
comp=Z,0.2nm,0.5s,baz=92,slow=4.5,SNR=1.8
ELK Elko 32.55 328 P P 08 31 17.2 +0.9
REDW Red Top Meadow 32.61 336 P P 08 31 17.9 +1.1
NVAR Mina Array Bea 32.65 322 P P 08 31 20.0 +2.8
comp=Z,3.8nm,0.8s,baz=133,slow=7.9,SNR=19
NVAR PcP PcP 08 34 03.9 +0.8
comp=Z,0.8nm,0.7s,baz=116,slow=4.1,SNR=3.3
SNOW Snow King Moun 32.66 336 P P 08 31 18.9 +1.7
RLMT Red Lodge 33.53 339 P P 08 31 25.7 +0.9
RLMT IAmb IAmb 08 31 28.6
comp=Z,3.1nm,0.7s
YMR Madison River 33.75 337 P P 08 31 28.7 +2.0
YMR IAmb IAmb 08 31 32.4
comp=Z,6.9nm,0.8s
GCMT Greycliff 34.25 339 P P 08 31 32.0 +1.0
MCMT McKenzie Canyo 34.63 335 P P 08 31 36.9 +2.6
ULM Lac du Bonnet 35.84 357 P P 08 31 43.3 -1.1
comp=Z,4.3nm,0.7s,baz=164,slow=11,SNR=4.4
F10A Beach Ranch, E 37.42 332 P P 08 31 59.2 +1.1
F10A IAmb IAmb 08 32 06.0
comp=Z,6.8nm,0.8s
SIV San Ignacio 43.80 132 P P 08 32 48.9 -2.2
comp=Z,1.0nm,0.6s,baz=306,slow=8.4,SNR=5.3
SCHQ Schefferville 45.28 21 PcP PcP 08 34 41.5 -0.6
comp=Z,1.4nm,0.6s,baz=216,slow=1.7,SNR=4.1
YKA Yellowknife Ar 50.39 347 P P 08 33 42.0 +0.2
comp=Z,7.3nm,0.7s,baz=151,slow=7.4,SNR=121
YKA PcP PcP 08 34 59.8 -0.4
comp=Z,0.7nm,0.7s,baz=151,slow=3.6,SNR=5.8
BDFB Brasilia 53.71 122 P P 08 34 04.9 -2.5
comp=Z,0.8nm,0.3s,baz=236,slow=12,SNR=3.0
RES Resolute Bay 60.30 359 P P 08 34 53.0 -0.1
RES IAmb IAmb 08 34 53.5
comp=Z,4.2nm,0.8s
ILAR Eielson Array 62.03 337 P P 08 35 05.4 +0.4
comp=Z,2.1nm,0.8s,baz=141,slow=4.6,SNR=19
RND Reindeer 62.19 335 P P 08 35 07.1 +0.9
BMAR Burnt Mountain 62.54 340 P P 08 35 09.3 +0.9
H24K Noodor Dome 62.90 338 P P 08 35 11.9 +1.1
TOLK Toolik Lake Re 64.77 340 P P 08 35 24.1 +1.0
ESDC Sonseca Array 80.39 52 P P 08 36 54.0 -2.7
comp=Z,1.2nm,0.8s,baz=285,slow=5.5,SNR=8.0
NOA NORSAR Array B 84.36 28 P P 08 37 16.0 -1.0
comp=Z,0.5nm,0.8s,baz=291,slow=4.8,SNR=3.7
TORD Torodi Ar. Bea 91.42 76 P P 08 37 49.0 -2.9
comp=Z,0.5nm,0.8s,baz=287,slow=6.3,SNR=2.1
MKAR Makanchi Array 118.97 4 PKP PKPdf 08 43 32.7 -1.2
comp=Z,0.3nm,0.6s,baz=28,slow=1.7,SNR=3.6
WRA Warramunga Arr 134.36 256 PKP PKPdf 08 44 03.8 0.0
comp=Z,0.3nm,0.7s,baz=78,slow=1.3,SNR=6.5
ASAR Alice Springs 134.69 251 PKP PKPdf 08 44 04.3 0.0
comp=Z,0.2nm,0.7s,baz=115,slow=2.6,SNR=1.4
CMAR Chiang Mai Arr 145.24 339 PKPbc PKPbc 08 44 23.1 0.0
comp=Z,3.0nm,0.5s,baz=340,slow=4.0,SNR=14
PSI Prapat 159.12 324 PKPab PKPab 08 45 21.2 +0.3
comp=Z,2.6nm,0.5s,baz=86,slow=1.2,SNR=4.8
RPSI Rantau Prapat 159.21 324 PKPab 08 45 21.2 +0.1

*NEIC **25** 08:34:24.5±1.8, 58.92S±0.08×26.4W±0.2, h122km±5km, mb4.9/60, Error ellipse: s-maj=16.4km s-min=8.2km az=51.0*

*IDC **25** 08:34:24.9±1.7, 58.86S×26.29W, h128km±13km, mb4.3/12, mb1 4.4/14, mb1mx4.1/31, mbtmp4.7/14, Error ellipse: s-maj=16.1km s-min=13.4km az=50.0*

ISC 25 08:34:23.1±0.4, 58.87S±0.07×26.40W±0.08, h116km, n118, σ1§09/117, mb4.9/34, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**7.22**	**305**	Pn		**Pn**	**08 36 05.1**	**-0.7**
ORCD	**Orcadas**	**9.42**	**251**	Pn		**Pn**	**08 36 34.1**	**-1.4**
VNA1	**Neumayer--Stat**	**14.04**	**155**	P		**Pn**	**08 37 35.9**	**-0.5**
VNA3	**Neumayer Olymp**	**14.20**	**158**	P		**Pn**	**08 37 37.4**	**-1.1**
VNA2	**Neumayer--Watz**	**14.43**	**155**	P		**Pn**	**08 37 40.3**	**-1.2**
baz=313,slow=14								
VNA2	**Neumayer--Watz**	**14.43**	**155**	PcP		**PcP**	**08 42 48.9**	**+1.0**
ESPZ	**Base Esperanza**	**15.36**	**240**	Pn		**Pn**	**08 37 50.4**	**-2.8**
SNAA	**Sanae**	**16.01**	**153**	P		**P**	**08 38 01.9**	**-0.6**
SNAA	**Sanae**	**16.01**	**153**	S		Sn	08 40 45.2	-13
SNAA	**Sanae**	**16.01**	**153**	PcP		**PcP**	**08 42 50.2**	**0.0**
SNAA	**Sanae**	**16.01**	**153**	P		**Pn**	**08 38 01.4**	**+0.2**
2.6nm,0.3s,baz=296,slow=10,SNR=100								
SNAA				S		Sn	08 40 45.2	-13
0.4nm,0.3s,baz=186,slow=23,SNR=1.8								
SNAA	**Sanae**	**16.01**	**153**			**Pn**	**08 37 59.5**	**-1.8**
SNAA				IAmb	IAmb		08 38 04.9	
comp=Z,58nm,0.9s								
TROLL	**Troll, Antarti**	**17.55**	**150**	P		**P**	**08 38 19.6**	**0.0**
TROLL	**Troll, Antarti**	**17.55**	**150**	S		Sn	08 41 23.9	-12
PMSA	**Palmer Station**	**18.51**	**236**	P		**Pn**	**08 38 32.4**	**+1.0**
comp=Z,2.4nm,0.3s,baz=40,slow=7.9,SNR=7.5								
EFI	**East Falkland**	**19.28**	**278**	P		**Pn**	**08 38 39.7**	**-0.8**
EFI				IAmb	IAmb		08 38 43.6	
comp=Z,122nm,1.2s								
BELA	**Belgrano 2**	**19.30**	**185**	P		**P**	**08 38 38.4**	**0.0**
MG01	**Puerto William**	**22.59**	**262**	P		**P**	**08 39 12.4**	**-1.1**
USHA	**Ushuaia**	**23.05**	**262**	P		**P**	**08 39 19.6**	**+1.6**
comp=Z,11nm,0.8s,baz=33,slow=4.7,SNR=3.9								
DSPA	**Despedida**	**23.38**	**264**	P		**P**	**08 39 21.6**	**+0.6**
MG02	**Cerro Sombrero**	**24.47**	**266**	P		**P**	**08 39 30.5**	**-0.3**
MG03	**Isla Dawson**	**24.56**	**262**	P		**P**	**08 39 33.6**	**+1.9**
MG03				IAmb	IAmb		08 39 33.8	
comp=Z,59nm,1.2s								
MG05	**Puerto Natales**	**26.76**	**265**	P		**P**	**08 39 50.7**	**-0.8**
MG05				IAmb	IAmb		08 40 25.7	
comp=Z,105nm,1.8s								
GO09	**Cerro Castillo**	**26.90**	**266**	P		**P**	**08 39 51.8**	**-1.1**
GO09				IAmb	IAmb		08 40 41.7	
comp=Z,63nm,1.6s								
GO08	**Villa O'Higgin**	**28.69**	**271**	P		**P**	**08 40 08.1**	**-0.7**
GO08				IAmb	IAmb		08 41 13.4	
comp=Z,34nm,1.6s								
SYO	**Syowa Base**	**29.17**	**138**	*ep*P		pP	08 40 37.4	+0.3
QSPA	**South Pole Qui**	**31.38**	**180**	P		**P**	**08 40 33.4**	**+0.9**
comp=Z,18nm,0.5s,baz=208,slow=2.0,SNR=206								
QSPA				PcP		**PcP**	**08 43 22.9**	**-0.1**
comp=Z,2.2nm,0.5s,baz=131,slow=3.2,SNR=2.7								
QSPA				ScP		**ScP**	**08 46 53.4**	**-1.7**
comp=Z,2.3nm,0.9s,baz=280,slow=3.3,SNR=7.8								
QSPA	**South Pole Qui**	**31.38**	**180**	P		**P**	**08 40 33.6**	**+1.0**
QSPA				IAmb	IAmb		08 40 34.0	
comp=Z,21nm,0.6s								
QSPA	**South Pole Qui**	**31.38**	**180**	P		**P**	**08 40 33.5**	**+1.0**
AY01	**Puyuhuapi**	**31.41**	**277**	P		**P**	**08 40 33.8**	**+1.0**
AY01				IAmb	IAmb		08 40 37.0	
comp=Z,55nm,1.9s								
PLCA	**Paso Flores**	**33.00**	**284**	P		**P**	**08 40 47.8**	**+0.9**
comp=Z,2.5nm,1.0s,baz=135,slow=7.0,SNR=5.7								
PLCA	**Paso Flores**	**33.00**	**284**	P		**P**	**08 40 47.2**	**+0.3**
PLCA				IAmb	IAmb		08 40 52.7	
comp=Z,29nm,1.6s								
LL03	**Petrohue**	**33.64**	**281**	P		**P**	**08 40 53.4**	**+1.1**
LC01	**Cunco**	**35.05**	**284**	P		**P**	**08 41 05.3**	**+0.8**
ML02	**Panimavida**	**37.26**	**288**	P		**P**	**08 41 23.0**	**-0.3**
BI05	**Punta Hualpn**	**37.37**	**285**	P		**P**	**08 41 25.1**	**+0.9**
MAW	**Mawson**	**37.65**	**141**	P		**P**	**08 41 26.5**	**+0.3**
comp=Z,14nm,0.8s,baz=222,slow=8.5,SNR=9.0								
MAW	**Mawson**	**37.65**	**141**	P		**P**	**08 41 26.5**	**+0.3**
GO05	**Huala**	**38.12**	**288**	P		**P**	**08 41 29.9**	**-0.6**
GO05				IAmb	IAmb		08 42 25.5	
comp=Z,32nm,1.4s								
BO01	**Tunca**	**38.20**	**290**	P		**P**	**08 41 32.2**	**+1.1**
BO01				IAmb	IAmb		08 41 38.5	
comp=Z,23nm,1.4s								
BO04	**La Punta**	**38.29**	**291**	P		**P**	**08 41 32.8**	**+0.7**
MT03	**Universidad Ad**	**38.64**	**291**	P		**P**	**08 41 35.4**	**+0.4**
MT09	**Talagante**	**38.65**	**291**	P		**P**	**08 41 35.7**	**+0.6**
MT09				IAmb	IAmb		08 42 39.1	
comp=Z,56nm,1.6s								
MT01	**Popeta**	**38.70**	**290**	P		**P**	**08 41 35.9**	**+0.5**
MT01				IAmb	IAmb		08 42 37.1	
comp=Z,54nm,1.8s								
MT05	**Renca**	**38.84**	**291**	P		**P**	**08 41 37.5**	**+0.8**
PEL	**Peldehue**	**39.01**	**291**	P		**P**	**08 41 39.6**	**+1.5**
PEL	**Peldehue**	**39.01**	**291**	P		**P**	**08 41 39.8**	**+1.7**
MT02	**Curacav**	**39.14**	**291**	P		**P**	**08 41 40.1**	**+1.0**
VA03	**San Esteban**	**39.26**	**292**	P		**P**	**08 41 42.4**	**+2.3**
VA03				IAmb	IAmb		08 42 12.6	
comp=Z,15nm,0.9s								
ROC1	**El Roble**	**39.31**	**291**	P		**P**	**08 41 40.5**	**-0.3**
ROC1				IAmb	IAmb		08 42 11.8	
comp=Z,14nm,0.8s								
VA06	**Catapilco**	**39.78**	**291**	P		**P**	**08 41 46.5**	**+2.1**
CO02	**Combarbal**	**40.76**	**293**	P		**P**	**08 41 53.7**	**+1.1**
CO01	**Juntas del Tor**	**41.35**	**295**	P		**P**	**08 41 59.6**	**+2.0**
CO01				IAmb	IAmb		08 42 31.4	
comp=Z,40nm,1.6s								
GO04	**Tololo Observa**	**41.52**	**294**	P		**P**	**08 41 58.7**	**-0.3**
LCO	**Las Campanas**	**42.44**	**295**	P		**P**	**08 42 07.9**	**+1.4**
LCO				IAmb	IAmb		08 42 38.5	
comp=Z,18nm,0.9s								
SBA	**Scott Base**	**43.29**	**184**	P		**P**	**08 42 14.3**	**+1.8**
SBA	**Scott Base**	**43.29**	**184**	P		**P**	**08 42 14.6**	**+2.2**
AC04	**Llanos de Chal**	**43.30**	**295**	P		**P**	**08 42 14.2**	**+1.1**
AC04				IAmb	IAmb		08 42 45.7	
comp=Z,33nm,0.8s								
AC02	**Maricunga**	**43.56**	**298**	P		**P**	**08 42 16.3**	**+0.5**
AC02				IAmb	IAmb		08 42 49.3	
comp=Z,20nm,1.0s								
VNDA	**Vanda**	**43.77**	**183**	P		**P**	**08 42 17.8**	**+1.6**
comp=Z,13nm,0.6s,baz=186,slow=7.1,SNR=139								
VNDA	**Vanda**	**43.77**	**183**	P		**P**	**08 42 17.9**	**+1.6**
VNDA				IAmb	IAmb		08 42 18.7	
comp=Z,14nm,0.7s								
CCD	**Concordia, Ant**	**44.82**	**169**	P		**P**	**08 42 25.4**	**+0.3**
GO02	**Mina Guanaco**	**45.20**	**299**	P		**P**	**08 42 29.5**	**+0.9**
BOSA	**Boshof**	**46.33**	**72**	P		**P**	**08 42 37.3**	**0.0**
comp=Z,5.2nm,0.6s,baz=220,slow=8.1,SNR=13								
BOSA	**Boshof**	**46.33**	**72**	P		**P**	**08 42 37.5**	**+0.2**
LVC	**Limon Verde**	**47.12**	**302**	P		**P**	**08 42 45.1**	**+1.4**
comp=Z,3.2nm,0.6s,baz=110,slow=12,SNR=1.9								
LVC	**Limon Verde**	**47.12**	**302**	P		**P**	**08 42 45.6**	**+1.9**
PB06	**IPOC Station P**	**47.33**	**301**	P		**P**	**08 42 47.8**	**+2.6**
PB06				IAmb	IAmb		08 43 03.0	
comp=Z,57nm,1.9s								
PB09	**IPOC Station P**	**47.97**	**302**	P		**P**	**08 42 51.3**	**+1.2**
PB09				IAmb	IAmb		08 43 09.0	
comp=Z,49nm,1.6s								
PB07	**IPOC Station P**	**48.32**	**301**	P		**P**	**08 42 53.9**	**+1.1**
PB07				IAmb	IAmb		08 43 01.5	
comp=Z,59nm,1.8s								
PB01	**IPOC Station P**	**48.74**	**302**	P		**P**	**08 42 57.5**	**+1.5**
PB08	**IPOC Station P**	**49.39**	**303**	P		**P**	**08 43 02.7**	**+1.5**
LBTB	**Lobatse**	**49.49**	**70**	P		**P**	**08 43 01.5**	**-0.1**
LBTB				IAmb	IAmb		08 43 07.8	
comp=Z,52nm,1.9s								
GO01	**Chusmiza**	**49.82**	**303**	P		**P**	**08 43 05.6**	**+1.0**
PB11	**IPOC Station P**	**49.94**	**303**	P		**P**	**08 43 05.5**	**+0.4**
PB11				IAmb	IAmb		08 43 34.0	
comp=Z,18nm,1.3s								
H10S2	**ASCENSION HYDR**	**50.60**	**15**	T		T	09 37 44.0	
baz=187,slow=74,SNR=12								
H10S3	**ASCENSION HYDR**	**50.60**	**15**	T		T	09 37 44.3	
baz=33,slow=74,SNR=16								
CASY	**Casey**	**51.11**	**159**	P		**P**	**08 43 14.0**	**+0.9**
CASY				IAmb	IAmb		08 43 14.9	
comp=Z,12nm,0.8s								
CASY	**Casey**	**51.11**	**159**	P		**P**	**08 43 13.9**	**+0.9**
PB16	**IPOC Station P**	**51.14**	**304**	P		**P**	**08 43 14.8**	**+0.2**
H10N1	**ASCENSION HYDR**	**51.72**	**15**	T		T	09 39 08.3	
baz=186,slow=72								
H10N3	**ASCENSION HYDR**	**51.72**	**15**	T		T	09 39 08.2	
baz=186,slow=72								
H10N2	**ASCENSION HYDR**	**51.73**	**15**	T		T	09 39 09.7	
baz=186,slow=72								
LPAZ	**La Paz**	**52.37**	**306**	P		**P**	**08 43 24.2**	**+0.4**
comp=Z,0.8nm,0.5s,baz=175,slow=8.5,SNR=5.1								
LPAZ				pP		**pwP**	**08 43 54.8**	**+0.7**
comp=Z,1.9nm,0.7s,baz=134,slow=8.3,SNR=3.6								
LPAZ	**La Paz**	**52.37**	**306**	P		**P**	**08 43 23.1**	**-0.8**
DRV	**Dumont d'Urvil**	**54.37**	**173**	P		**P**	**08 43 37.2**	**+0.2**
SAML	**Samuel**	**57.10**	**315**	P		**P**	**08 43 56.3**	**-0.9**
TOA0	**Torodi Ar. Sit**	**75.32**	**28**	P		**P**	**08 45 54.3**	**+0.9**
TOA0				IAmb	IAmb		08 46 24.4	
comp=Z,39nm,1.9s								
TORD	**Torodi Ar. Bea**	**75.32**	**28**	P		**P**	**08 45 54.2**	**+0.9**
comp=Z,3.1nm,0.7s,baz=199,slow=6.2,SNR=18								
TORD				pP		**pwP**	**08 46 24.4**	**+0.3**
comp=Z,2.9nm,0.6s,baz=196,slow=6.6,SNR=5.4								
TORD	**Torodi Ar. Bea**	**75.32**	**28**	P		**P**	**08 45 54.3**	**+0.9**
FORT	**Forrest**	**88.19**	**158**	P		**P**	**08 47 01.3**	**+0.5**
STKA	**Stephens Creek**	**89.05**	**170**	P		**P**	**08 47 04.7**	**-0.1**
comp=Z,5.7nm,0.8s,baz=161,slow=6.1,SNR=17								
STKA	**Stephens Creek**	**89.05**	**170**	P		**P**	**08 47 05.0**	**+0.2**
ASAR	**Alice Springs**	**96.17**	**162**	P		**P**	**08 47 37.1**	**-0.7**
comp=Z,5.9nm,0.6s,baz=184,slow=4.1,SNR=100								
ASAR				PP		**PP**	**08 51 29.6**	**-1.7**
comp=Z,1.5nm,1.1s,baz=197,slow=6.5,SNR=4.1								
ASAR	**Alice Springs**	**96.17**	**162**	P		**P**	**08 47 37.3**	**-0.5**
AS31	**Alice Springs**	**96.17**	**162**	P		**P**	**08 47 37.3**	**-0.5**
AS31				IAmb	IAmb		08 47 37.7	
comp=Z,2.3nm,0.6s								
WRA	**Warramunga Arr**	**99.89**	**162**	P		**Pdif**	**08 47 53.0**	**-1.5**
comp=Z,0.7nm,0.6s,baz=198,slow=4.3,SNR=5.8								
PDAR	**Pinedale Array**	**122.17**	**300**	PKP		**PKPdf**	**08 53 02.3**	**-1.1**
comp=Z,0.1nm,0.5s,baz=110,slow=5.0,SNR=2.1								
NOA	**NORSAR Array B**	**123.10**	**21**	PKP		**PKiKP**	**08 53 04.5**	**-0.1**
comp=Z,1.1nm,0.9s,baz=202,slow=1.8,SNR=3.4								
CMAR	**Chiang Mai Arr**	**123.65**	**112**	PKP		**PKiKP**	**08 53 06.8**	**-0.1**
comp=Z,1.5nm,0.3s,baz=236,slow=3.3,SNR=11								
FINES	**FINESS Array B**	**126.67**	**28**	PKP		**PKPdf**	**08 53 10.8**	**-0.3**
comp=Z,1.6nm,0.7s,baz=178,slow=5.3,SNR=6.6								
AKTO	**Aktyubinsk**	**128.65**	**55**	PKP		**PKPdf**	**08 53 14.9**	**-0.3**
comp=Z,1.7nm,0.5s,baz=221,slow=4.6,SNR=5.4								
KSH	**Kashi**	**128.88**	**76**	PKP		PKiKP	08 53 25.5	+8.6
PZH	**PanZhiHua**	**131.82**	**109**	PKP		**PKiKP**	**08 53 23.5**	**+0.3**
ARCES	**ARCESS Array B**	**133.40**	**22**	PKP		**PKPdf**	**08 53 23.0**	**-0.7**
comp=Z,1.6nm,0.7s,baz=191,slow=0.6,SNR=7.4								
ARCES				SKPbc		**SKPbc**	**08 56 40.2**	**-0.8**
comp=Z,1.0nm,0.5s,baz=224,slow=2.5,SNR=15								
MKAR	**Makanchi Array**	**137.33**	**74**	PKHKP		PKPpre	08 53 20.4	
comp=Z,0.2nm,0.6s,baz=235,slow=5.1,SNR=3.6								
MKAR				PKP		**PKPdf**	**08 53 32.3**	**+0.6**
comp=Z,0.5nm,0.6s,baz=240,slow=2.2,SNR=5.9								
MKAR				SKPbc		**SKPbc**	**08 56 51.1**	**-2.9**
comp=Z,0.4nm,0.6s,baz=209,slow=2.6,SNR=4.1								
KURBB	**Kurchatov Arra**	**138.07**	**67**	PKHKP		PKPpre	08 53 23.2	
comp=Z,0.3nm,0.5s,baz=233,slow=3.0,SNR=5.1								
KURBB				PKP		**PKiKP**	**08 53 34.8**	**-0.2**
comp=Z,1.2nm,0.7s,baz=230,slow=2.5,SNR=7.9								
YKA	**Yellowknife Ar**	**138.52**	**316**	PKP		**PKPdf**	**08 53 32.9**	**-0.4**
comp=Z,0.9nm,0.7s,baz=128,slow=2.4,SNR=30								
YKA				SKPbc		**SKPbc**	**08 56 55.1**	**-1.7**
comp=Z,0.4nm,0.6s,baz=126,slow=3.1,SNR=5.9								
RES	**Resolute Bay**	**140.63**	**337**	PKHKP		PKPpre	08 53 33.9	
comp=Z,1.3nm,0.8s,baz=76,slow=4.2,SNR=3.4								
RES				SKPbc		**SKPbc**	**08 57 01.0**	**-1.3**
comp=Z,2.7nm,1.0s,baz=120,slow=3.3,SNR=7.1								
ZALV	**Zalesovo Beam**	**143.16**	**67**	PKPbc		PKPpre	08 53 38.1	
comp=Z,2.2nm,0.4s,baz=246,slow=4.3,SNR=8.6								
JCJ	**Chichijima**	**147.26**	**161**	PKPbc		**PKPdf**	**08 53 50.6**	**+0.7**
comp=Z,17nm,0.4s,baz=274,slow=19,SNR=8.2								
INK	**Inuvik**	**148.22**	**318**	PKPbc		**PKPbc**	**08 53 52.6**	**-1.0**
comp=Z,2.7nm,0.7s,baz=36,slow=1.5,SNR=19								
JNU	**Nakatsue**	**150.09**	**139**	PKPbc		**PKPbc**	**08 53 59.0**	**-0.5**
comp=Z,10nm,0.9s,baz=173,slow=2.6,SNR=4.9								
SONM	**Songino Array**	**150.37**	**91**	PKPbc		**PKPbc**	**08 53 59.8**	**0.0**
comp=Z,7.7nm,0.6s,baz=219,slow=2.5,SNR=19								
ILAR	**Eielson Array**	**152.25**	**308**	PKPbc		**PKPbc**	**08 54 02.7**	**-0.7**
comp=Z,0.9nm,0.4s,baz=159,slow=1.3,SNR=16								
KSRS	**Korea Array**	**152.88**	**131**	PKP		**PKPdf**	**08 53 58.2**	**-0.2**
comp=Z,0.6nm,0.5s,baz=222,slow=1.6,SNR=2.3								
KSRS				PKPbc		**PKPbc**	**08 54 05.3**	**-0.4**
comp=Z,1.2nm,0.6s,baz=222,slow=2.3,SNR=6.3								
KSRS				PKPab		**PKPab**	**08 54 17.8**	**+0.6**
comp=Z,3.0nm,0.8s,baz=207,slow=4.4,SNR=10								
MJAR	**Matsushiro Arr**	**155.50**	**149**	PKPab		**PKPab**	**08 54 28.6**	**+0.1**
comp=Z,2.3nm,0.6s,baz=180,slow=5.5,SNR=5.5								
MDJ	**Mudanjiang**	**159.56**	**124**	PKP		PKPab	08 54 54.0	+8.2

IDC 25 08:49:28.0±5.5, 18.82S×177.94W, h596km±30km, mb2.9/3, mb1 3.0/4, mb1mx2.6/40, mbtmp3.8/4, Error ellipse: s-maj=126.6km s-min=79.2km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**3.96**	**285**	P		P	08 50 53.0	0.0
2.6nm,0.3s,baz=145,slow=12,SNR=9.9								
STKA	**Stephens Creek**	**38.59**	**242**	P		P	08 56 01.1	-0.4
2.3nm,1.0s,baz=101,slow=10,SNR=3.9								
WRA	**Warramunga Arr**	**44.91**	**260**	P		P	08 56 51.0	-0.3
0.5nm,0.3s,baz=98,slow=7.6,SNR=22								
ASAR	**Alice Springs**	**44.98**	**255**	P		P	08 56 52.0	+0.2
0.7nm,0.4s,baz=86,slow=8.2,SNR=32								
ASAR				PcP		PcP	08 58 19.5	-0.4
0.1nm,0.5s,baz=90,slow=4.7,SNR=1.4								

*JMA **25** 08:50:57.3±1.3, 46.65N×153.62E, h30km, M4.8*

*MOS **25** 08:50:58.6±1.3, 46.69N×153.37E, h39km, mb4.4/13, Error ellipse: s-maj=8.1km s-min=5.9km az=56.6*

*SKHL **25** 08:50:59.7±0.2, 46.50N×153.50E, h63km±7km, mb4.9/9*

*IDC **25** 08:51:05.1±2.3, 46.84N×153.03E, h70km±20km, mb3.7/21, mb1 4.0/26, mb1mx3.8/56, mbtmp4.1/26, MS3.6/3, Ms1 3.6/3, ms1mx3.1/99, Error ellipse: s-maj=18.2km s-min=10.6km az=144.0*

*NEIC **25** 08:51:07.0±1.3, 47.0N±0.1×152.9E±0.2, h82km±7km, mb4.3/11, Error ellipse: s-maj=19.5km s-min=12.1km az=143.0*

ISC 25 08:50:59.4±0.5, 46.51N±0.06×153.43E±0.06, h35km, n137, σ1§96/139, mb4.2/32, 11C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**4.09**	**254**	*e*PN		**Pn**	**08 52 00.7**	**+1.4**
KUR				*i* S		**Sn**	**08 52 46.7**	**+0.7**
KUR				pmax	pmax			
comp=Z,199nm,0.4s								
KUR				pmax	pmax			
comp=N,56nm,0.3s								
KUR				pmax	pmax			
comp=E,40nm,0.2s								
KUR				smax	smax			
comp=N,366nm,0.4s								
KUR	**Kuril'sk**	**4.09**	**254**	*e*P		**Pn**	**08 52 00.8**	**+1.4**
KUR				AMB	AMB		08 52 03.5	
comp=N,200nm,0.3s								
KUR				*i* S		**Sn**	**08 52 46.9**	**+0.9**
KUR				A	A		08 52 53.8	
comp=N,370nm,0.4s								
KUR				A	A		08 52 53.8	
comp=N,40nm,0.4s								
SKR	**Severo-Kuril's**	**4.54**	**22**	*e*PN		**Pn**	**08 52 04.4**	**-1.2**
SKR				*e*S		**Sn**	**08 52 55.4**	**-1.7**
SKR			

PET pmax pmax
comp=Z,34nm,1.2s
PET Petropavlovsk 7.35 25 *e*P **Pn 08 52 41.6 -2.4**
PET AMB AMB 08 52 46.1
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 7.35 277 *e*PN **Pn 08 52 46.3 +2.1**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 7.35 277 Pn **Pn 08 52 46.1 +1.9**
YSS Yuzh-Sakhalins 7.35 277 *e*P **Pn 08 52 46.3 +2.1**
YSS AMB AMB 08 52 51.9
comp=Z,40nm,0.9s
JAR Ashorobuto 7.57 248 P **Pn 08 52 49.1 +1.9**
JAR *e*S **Sn 08 54 12.4 +0.6**
JOB Onbets 7.73 246 P **Pn 08 52 50.4 +1.1**
JOB *e*S **Sn 08 54 12.9 -2.6**
JKK2 Kamakawa 2 7.99 255 P **Pn 08 52 55.9 +2.9**
JKA Kamikawa-asahi 8.00 257 Pn 08 52 56.7 +3.6
JKA Kamikawa-asahi 8.00 257 *e*P **Pn 08 52 56.7 +3.6**
ASAJ Asahikawa 8.00 257 P **Pn 08 52 56.4 +3.2**
comp=Z,1.8nm,0.3s,baz=82,slow=18,SNR=24
ASAJ Asahikawa 8.00 257 PN **Pn 08 52 56.7 +3.6**
UGL Uglegorsk 8.08 293 *e*PN **Pn 08 52 57.8 +3.7**
UGL S **Sn 08 54 29.7 +5.6**
UGL pmax pmax
comp=Z,79nm,1.1s
UGL smax smax
comp=N,75nm,0.8s
UGL smax smax
comp=E,51nm,0.4s
UGL Uglegorsk 8.08 293 *e*P **Pn 08 52 56.3 +2.2**
UGL AMB AMB 08 52 59.0
comp=E,80nm,0.8s
UGL *e*S **Sn 08 54 22.2 -1.9**
UGL A A 08 54 31.5
comp=E,70nm,0.6s
UGL A A 08 54 31.5
comp=E,50nm,0.6s
JWK2 Keihoku 8.13 266 P Pn 08 53 00.2 +5.3
JCH Churui 8.18 245 P **Pn 08 52 56.0 +0.5**
JCH *e*S **Sn 08 54 23.4 -3.2**
TYV Tymovskoe 8.36 305 *e*PN Pn 08 53 08.6 +11
TYV pmax pmax
comp=Z,18nm,0.7s
TYV pmax pmax
comp=Z,200nm,5.3s
TYV Tymovskoe 8.36 305 *e*P **Pn 08 52 59.9 +2.0**
TYV AMB AMB 08 53 09.5
comp=Z,20nm,0.7s
TYV *e*S **Sn 08 54 30.8 -0.2**
JAB Ashibetsu 8.49 253 P **Pn 08 53 03.3 +3.5**
ERM Erimo 8.63 242 PN **Pn 08 53 04.2 +2.5**
ERM Erimo 8.63 242 Pn 08 53 04.2 +2.5
JRBN Rebuntou 8.69 267 P **Pn 08 53 05.9 +3.5**
JNBK Urakawa-nobuka 8.73 245 P **Pn 08 53 03.0 -0.1**
JNBK *e*S **Sn 08 54 37.6 -2.7**
JEW Eniwo 9.29 251 Pn 08 53 15.8 +5.0
JANG Nango 10.61 239 P **Pn 08 53 26.9 -1.9**
JANG *e*S Sn 08 55 16.5 -10
MA2 Magadan 13.19 354 P **Pn 08 54 03.1 -0.9**
comp=Z,1.1nm,0.3s,baz=166,slow=12,SNR=7.3
MA2 Magadan 13.19 354‖ *e*PN **Pn 08 54 02.7 -1.3**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
MA2 Magadan 13.19 354 Pn 08 54 02.5 -1.5
MA2 Magadan 13.19 354 *e*P **Pn 08 54 02.7 -1.3**
KLR Kul'dur 14.80 289 P **P 08 54 32.5 +1.1**
comp=Z,0.2nm,0.3s,baz=88,slow=12,SNR=4.1
KLR LR LR 08 59 38.9
comp=Z,148nm,20.9s,baz=335,slow=36
KLR Kul'dur 14.80 289⇑ *e*P **Pn 08 54 26.9 +1.0**
KLR pmax pmax
comp=Z,7.0nm,1.7s
KLR Kul'dur 14.80 289 *e*P **Pn 08 54 26.9 +1.0**
MAJO Matsushiro 15.11 234‖ *e*P **Pn 08 54 29.6 -0.6**
MAJO pmax pmax
comp=Z,5.0nm,0.8s
MJAR Matsushiro Arr 15.11 234 P **P 08 54 35.1 +0.1**
comp=Z,0.2nm,0.3s,baz=42,slow=10,SNR=13
USA0B Ussuriysk Arra 15.25 269 P **Pn 08 54 32.8 +0.9**
USA0B Ussuriysk Arra 15.25 269 Pn **Pn 08 54 32.8 +0.9**
USRK Ussuriysk Ar. 15.25 269 P **Pn 08 54 33.1 +1.2**
baz=73,slow=13,SNR=4.6
MSHR Mys Shultsa 16.35 264⇑ *e*P **Pn 08 54 45.4 -0.6**
MSHR pmax pmax
comp=Z,21nm,1.5s
SEY Seymchan 16.47 358 P **P 08 54 49.8 -0.1**
comp=Z,0.3nm,0.3s,baz=164,slow=16,SNR=6.7
SEY LR LR 09 00 23.6
comp=Z,330nm,20.8s,baz=338,slow=35
SEY Seymchan 16.47 358⇑ *e*P **Pn 08 54 45.5 -2.0**
SEY pmax pmax
comp=Z,1.0nm,1.1s
SEY Seymchan 16.47 358 *e*P **Pn 08 54 45.5 -2.0**
MDJ Mudanjiang 16.79 272 Pn 08 54 50.3 -1.4
MDJ IAmb IAmb 08 54 56.9
comp=Z,11nm,0.7s
ZEA Zeya 18.21 303 *e*P **Pn 08 55 07.2 -1.9**
ZEA Zeya 18.21 303 *e*P **Pn 08 55 07.2 -1.9**
KSRS Korea Array 20.94 254 P **P 08 55 41.0 +2.0**
comp=Z,4.4nm,0.7s,baz=59,slow=9.0,SNR=11
KSAR Wonju Array Be 20.97 254 P **P 08 55 42.8 +3.5**
KSAR Wonju Array Be 20.97 254 P **P 08 55 42.8 +3.5**
TJN Taejon 21.92 252 *de*P **P 08 55 50.4 +0.9**
BILL Bilibino 22.58 13 *i* P **P 08 55 55.2 -1.2**
BILL *i* 08 56 21.3
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL MLR MLR
comp=Z,181nm,17.0s
BILL Bilibino 22.58 13 *e*P **P 08 55 55.2 -1.2**
H11N2 WAKE ISLAND Hy 28.90 153 T T 09 28 32.0
baz=340,slow=75,SNR=238
H11N1 WAKE ISLAND Hy 28.91 153 T T 09 28 28.0
baz=340,slow=75,SNR=186
H11N3 WAKE ISLAND Hy 28.92 153 T T 09 28 31.0
baz=340,slow=75,SNR=145
H11S1 WAKE ISLAND Hy 29.99 154 T T 09 29 46.7
baz=341,slow=76,SNR=244
H11S3 WAKE ISLAND Hy 30.00 154 T T 09 29 49.5
baz=341,slow=76,SNR=242
H11S2 WAKE ISLAND Hy 30.01 154 T T 09 29 48.1
baz=341,slow=76,SNR=189
SONM Songino Array 31.62 290 P **P 08 57 18.4 -0.6**
comp=Z,0.5nm,0.6s,baz=67,slow=8.0,SNR=2.3
IMAR Indian Mountai 33.84 36 P **P 08 57 39.2 +1.2**
A21K Barrow 34.13 26 P **P 08 57 41.2 +0.8**
COLA College 36.19 38⇑ *e*P **P 08 57 56.0 -2.2**
COLA pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 36.60 38 P **P 08 58 02.8 +1.0**
comp=Z,0.8nm,0.9s,baz=269,slow=8.5,SNR=6.0
NRIK Noril'sk 39.08 329⇑ *e*P **P 08 58 19.7 -2.9**
NRIK pmax pmax
comp=Z,6.0nm,2.0s
INK Inuvik 41.74 32 P **P 08 58 46.4 +1.9**
comp=Z,2.8nm,0.7s,baz=302,slow=6.3,SNR=19
INK Inuvik 41.74 32 IAmb IAmb 08 58 47.2
comp=Z,2.7nm,0.6s
GOMU GeErMu 44.27 278 P **P 08 59 06.0 +0.1**
GOMU pP pP 08 59 09.8 -5.4
GOMU sP sP 08 59 13.5 -5.4
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,170nm,6.4s
MK31 Makanchi Array 47.25 298 P **P 08 59 26.6 -2.3**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 47.25 298 P **P 08 59 26.6 -2.3**
MK31 IAmb IAmb 08 59 30.7
comp=Z,1.7nm,0.7s
MKAR Makanchi Array 47.25 298 P **P 08 59 27.3 -1.6**
comp=Z,1.3nm,0.6s,baz=70,slow=7.1,SNR=10
MKAR PcP **PcP 09 01 00.1 +0.4**
comp=Z,0.5nm,0.5s,baz=49,slow=1.3,SNR=4.8
KURK Kurchatov 47.68 304 P **P 08 59 30.8 -1.3**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURK Kurchatov 47.68 304 P **P 08 59 30.8 -1.3**
KURK Kurchatov 47.68 304 IAmb IAmb 08 59 30.8
comp=Z,2.3nm,0.9s
KURK Kurchatov 47.68 304 *e*P **P 08 59 30.8 -1.3**
KURBB Kurchatov Arra 47.78 304 P **P 08 59 30.8 -2.0**
comp=Z,1.2nm,0.6s,baz=68,slow=8.5,SNR=7.7

YKA Yellowknife Ar 50.99 37 P **P 08 59 58.4 +1.2**
comp=Z,0.7nm,0.5s,baz=299,slow=7.0,SNR=15
YKA Yellowknife Ar 50.99 37 *ce*P **P 08 59 57.2 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.5s
RES Resolute Bay 51.00 19 P **P 08 59 57.5 +0.4**
comp=Z,0.7nm,0.6s,baz=274,slow=6.2,SNR=4.9
RES Resolute Bay 51.00 19 P **P 08 59 57.5 +0.4**
RES pmax pmax
comp=Z,6.0nm,1.5s
RES Resolute Bay 51.00 19 IAmb IAmb 08 59 59.4
comp=Z,6.1nm,1.5s
CHTO Chiang Mai 52.28 257 P **P 09 00 08.5 +1.1**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 52.28 257 P **P 09 00 08.5 +1.1**
CHTO IAmb IAmb 09 00 09.8
comp=Z,5.5nm,0.8s
CMAR Chiang Mai Arr 52.53 257 P **P 09 00 10.7 +1.5**
comp=Z,1.8nm,0.3s,baz=31,slow=8.0,SNR=10.0
CMAR Chiang Mai Arr 52.53 257 *ce*P **P 09 00 11.0 +1.8**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
SHL Shillong 52.59 269 P **P 09 00 09.8 0.0**
SHL pmax pmax
comp=Z,10.0nm,0.7s
SHL Shillong 52.59 269 P **P 09 00 09.8 0.0**
BOOM Boomskoye usch 53.32 296 P **P 09 00 14.9 -0.2**
BOOM pmax pmax
comp=Z,3.0nm,1.0s
BOOM Boomskoye usch 53.32 296 P **P 09 00 14.9 -0.2**
BOOM IAmb IAmb 09 00 36.3
comp=Z,2.5nm,1.0s
AAK Ala-Archa 54.14 297⇑ *e*P **P 09 00 20.0 -1.0**
AAK pmax pmax
comp=Z,1.0nm,1.0s
AAK Ala-Archa 54.14 297 *e*P **P 09 00 20.0 -1.0**
KSH Kashi 54.95 293 P **P 09 00 27.0 +0.1**
KSH pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 58.16 341 P **P 09 00 48.0 -1.1**
comp=Z,2.4nm,0.9s,baz=26,slow=8.5,SNR=3.8
ARCES ARCESS Array B 58.16 341 P **P 09 00 48.0 -1.1**
ARCES pmax pmax
comp=Z,11nm,1.4s
ARCES ARCESS Array B 58.16 341 IAmb IAmb 09 00 51.7
comp=Z,11nm,1.4s
ABKAR Akbulak array 58.75 310 P **P 09 00 51.5 -2.0**
NVAR Mina Array Bea 62.35 62 P **P 09 01 21.4 +2.9**
comp=Z,0.6nm,0.8s,baz=275,slow=7.0,SNR=3.9
FINES FINESS Array B 64.36 335 P **P**
comp=Z,1.8nm,0.5s,baz=25,slow=7.9,SNR=17 **09 01 29.8 -1.3**
PDAR Pinedale Array 64.71 54 P **P 09 01 36.4 +2.3**
comp=Z,0.2nm,0.6s,baz=316,slow=2.5,SNR=6.6
ULM Lac du Bonnet 66.56 41 P **P 09 01 46.8 +1.2**
comp=Z,2.2nm,0.6s,baz=307,slow=6.9,SNR=3.0
WRA Warramunga Arr 68.35 199 P **P 09 01 58.3 +1.2**
comp=Z,0.9nm,1.0s,baz=20,slow=6.9,SNR=3.2
NB2 NORSAR Subarra 68.53 341 P **P 09 01 56.8 -1.1**
comp=Z,6.1nm,0.8s,baz=26,slow=6.5
NOA NORSAR Array B 68.53 341 P **P 09 01 56.8 -1.1**
comp=Z,3.2nm,0.6s,baz=27,slow=6.4,SNR=19
AKASG Malin Array Be 71.87 326 P **P 09 02 17.0 -1.4**
comp=Z,2.9nm,0.6s,baz=33,slow=6.5,SNR=15
AKASG Malin Array Be 71.87 326 P **P 09 02 17.0 -1.4**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 71.87 326 IAmb IAmb 09 02 17.9
comp=Z,1.8nm,0.9s
AKBB Malin Array Si 71.87 326 *ce*P **P 09 02 17.5 -0.9**
ASAR Alice Springs 72.05 199 P **P 09 02 22.6 +3.0**
comp=Z,0.6nm,0.7s,baz=13,slow=5.4,SNR=7.3
SCHQ Schefferville 73.45 23 P **P 09 02 28.0 +0.2**
comp=Z,2.3nm,0.8s,baz=293,slow=7.7,SNR=2.1
CLL Collm 76.78 336 *i* P **P 09 02 46.6 -0.4**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 76.78 336 *i* P **P 09 02 46.6 -0.4**
comp=Z,8.0nm,0.8s
TXAR Lajitas Array 77.42 61 P **P 09 02 53.0 +1.9**
comp=Z,1.6nm,0.7s,baz=302,slow=4.2,SNR=21
BRTR Keskin Array B 78.72 317 P **P 09 02 58.3 +0.1**
comp=Z,2.8nm,0.8s,baz=70,slow=4.5,SNR=13
H03N2 Juan Fernandez 138.53 91 T T 11 45 41.2
baz=308,slow=77,SNR=5.2
H03N1 Juan Fernandez 138.54 91 T T 11 45 43.7
baz=308,slow=77,SNR=5.3
H03N3 Juan Fernandez 138.54 91 T T 11 45 50.1
baz=308,slow=77,SNR=7.7
PLCA Paso Flores 147.96 96 PKPbc **PKiKP 09 10 42.5 +0.1**
comp=Z,1.6nm,0.7s,baz=225,slow=3.9,SNR=5.8

*NOU **25** 09:00:45.1,39˚.40S×173˚.99E,h254km,MLv3.8/5, Off W. Coast of N. Island, N.Z.*
WEL 25 09:00:51.8±0.6,40˚S±3˚×17˚4E±˚,h190km±44km,M3.2/37, ML2.5/7,MLv3.2/37,Error ellipse: s-maj=0.0km s-min=0.0km az=87.6,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.20**	**36**	P	Pn	09 01 37.9	+1.0
LREZ				S	Sn	09 01 39.2	+3.0
PREZ	**Palmer Road**	**0.29**	**346**	P	Pn	09 01 18.2	+1.0
PREZ				S	Sn	09 01 39.5	+2.8
NMEZ	**Namu Road**	**0.36**	**306**	P	Pn	09 01 18.0	+0.7
NMEZ				S	Sn	09 01 39.1	+2.2
NEZ	**North Egmont**	**0.37**	**342**	P	Pn	09 01 18.1	+0.7
NEZ				S	Sn	09 01 39.7	+2.5
KHEZ	**Kahui Hut**	**0.38**	**331**	P	Pn	09 01 18.2	+0.7
DREZ	**Durham Road**	**0.44**	**355**	P	Pn	09 01 18.1	+0.5
DREZ				S	Sn	09 01 38.7	+1.3
NBEZ	**Newall Road No**	**0.46**	**320**	P	Pn	09 01 18.2	+0.6
PKE	**Pukeiti**	**0.48**	**335**	P	Pn	09 01 18.3	+0.6
MHEZ	**Mangahewa**	**0.55**	**6**	P	Pn	09 01 18.7	+0.7
MHEZ				S	Sn	09 01 39.3	+1.1
WAZ	**Wanganui**	**0.58**	**103**	P	Pn	09 01 19.7	+1.6
WAZ				S	Sn	09 01 41.4	+3.0
VRZ	**Vera Road**	**0.64**	**39**	P	Pn	09 01 18.5	+0.1
VRZ				S	Sn	09 01 39.5	+0.7
PKVZ	**Pokaka**	**0.92**	**69**	P	Pn	09 01 20.5	+0.5
PKVZ				S	Sn	09 01 42.7	+0.9
MTVZ	**Mangateitei**	**0.98**	**76**	P	Pn	09 01 21.2	+0.7
MTVZ				S	Sn	09 01 43.4	+0.8
OHWZ	**Ohakea**	**1.00**	**126**	P	Pn	09 01 22.0	+1.5
OHWZ				S	Sn	09 01 45.1	+2.3
TRVZ	**Turoa**	**1.06**	**72**	P	Pn	09 01 21.8	+0.6
FWVZ	**Far West T-bar**	**1.08**	**70**	P	Pn	09 01 21.9	+0.5
FWVZ				S	Sn	09 01 44.1	-0.1
WNVZ	**Wahianoa**	**1.09**	**75**	P	Pn	09 01 22.0	+0.7
WNVZ				S	Sn	09 01 44.5	+0.3
WHVZ	**Whangaehu Hut**	**1.09**	**72**	P	Pn	09 01 22.2	+0.7
NGZ	**Ngauruhoe**	**1.14**	**67**	P	Pn	09 01 22.3	+0.5
NGZ				S	Sn	09 01 46.0	+1.2
TUVZ	**Tukino**	**1.15**	**72**	P	Pn	09 01 22.6	+0.8
TUVZ				S	Sn	09 01 45.4	+0.5
WTVZ	**West Tongariro**	**1.16**	**64**	P	Pn	09 01 22.2	+0.3
WTVZ				S	Sn	09 01 45.3	+0.2
SNVZ	**South Ngauruho**	**1.17**	**68**	P	Pn	09 01 22.6	+0.6
NNVZ	**North Ngauruho**	**1.17**	**65**	P	Pn	09 01 22.4	+0.4
MOVZ	**Moawhango**	**1.19**	**80**	P	Pn	09 01 22.3	+0.3
MOVZ				S	Sn	09 01 44.5	-0.9
OTVZ	**Oturere**	**1.19**	**68**	P	Pn	09 01 22.7	+0.6
DUWZ	**D'Urville Isla**	**1.20**	**192**	P	Pn	09 01 22.5	+0.5
DUWZ				S	Sn	09 01 45.8	+0.1
KRVZ	**Karewarewa**	**1.20**	**64**	P	Pn	09 01 22.7	+0.5
KRVZ				S	Sn	09 01 43.8	-1.9
HIZ	**Hauiti**	**1.21**	**23**	P	Pn	09 01 21.6	-0.6
HIZ				S	Sn	09 01 45.5	0.0
HIZ	**Hauiti**	**1.21**	**23**	P	Pn	09 01 21.5	-0.6
NTVZ	**North Tongarir**	**1.23**	**65**	P	Pn	09 01 23.0	+0.6
ETVZ	**East Tongariro**	**1.23**	**67**	P	Pn	09 01 23.1	+0.6
TMVZ	**Te Maari**	**1.24**	**66**	P	Pn	09 01 23.1	+0.6
KATZ	**Kakaramea**	**1.30**	**60**	P	Pn	09 01 23.6	+0.6
KATZ				S	Sn	09 01 47.5	+0.4
KIW	**Kapiti Island**	**1.33**	**158**	P	Pn	09 01 23.6	+0.5
KIW				S	Sn	09 01 47.2	-0.4
OGWZ	**Otaki Gorge**	**1.38**	**150**	P	Pn	09 01 24.3	+0.8
OGWZ				S	Sn	09 01 48.7	+0.4
TSZ	**Takapari Road**	**1.39**	**109**	P	Pn	09 01 24.3	+0.7
TSZ				S	Sn	09 01 49.2	+0.8
POWZ	**Post Office Ro**	**1.40**	**124**	P	Pn	09 01 24.3	+0.7
POWZ				S	Sn	09 01 47.8	-0.6

RATZ Rangitukua 1.41 58 P Pn 09 01 24.1 +0.3
RITZ Rihia Road 1.41 63 P Pn 09 01 24.4 +0.5
BHHZ Black Hill Sta 1.41 85 P Pn 09 01 23.8 0.0
BHHZ S Sn 09 01 48.0 -0.7
MRZ Mangatainoka R 1.45 136 P Pn 09 01 24.6 +0.5
MRZ S Sn 09 01 49.3 -0.1
WATZ Wairara 1.48 52 P Pn 09 01 24.6 +0.2
PNHZ Pukenui 1.53 101 P Pn 09 01 25.5 +0.6
PNHZ S Sn 09 01 51.1 +0.4
TCW Tory Channel 1.58 179 P Pn 09 01 25.8 +0.5
TCW S Sn 09 01 50.9 -0.7
HOWZ Holdsworth Sta 1.60 143 P Pn 09 01 25.8 +0.3
HOWZ S Sn 09 01 52.0 +0.1
CAW Cannon Point 1.61 157 P Pn 09 01 25.9 +0.3
CAW S Sn 09 01 52.3 +0.3
HATZ Hinemaiaia 1.61 63 P Pn 09 01 25.3 -0.3
HATZ S Sn 09 01 51.1 -0.8
PRWZ Pori Road 1.62 126 P Pn 09 01 26.5 +0.9
PRWZ S Sn 09 01 52.9 +0.9
DVHZ Dannevirke 1.62 115 P Pn 09 01 26.3 +0.5
DVHZ S Sn 09 01 52.5 +0.3
TLZ Tolley Road 1.64 38 P Pn 09 01 25.1 -0.9
KRHZ Kereru 1.64 91 P Pn 09 01 26.4 +0.5
KUTZ Kaahu Road 1.67 48 P Pn 09 01 26.1 -0.1
KWHZ Kaweka Forest 1.69 84 P Pn 09 01 27.1 +0.6
TIWZ Tintock 1.70 133 P Pn 09 01 27.0 +0.5
WEL Wellington 1.70 167 P Pn 09 01 26.7 +0.2
TKNZ Takaka Hill 1.72 215 P Pn 09 01 26.0 -0.7
NNZ Nelson 1.72 202 P Pn 09 01 26.5 -0.1
WPHZ Waipukurau 1.75 105 P Pn 09 01 27.6 +0.7
QRZ Quartz Range 1.78 227 P Pn 09 01 26.1 -1.1
QRZ Quartz Range 1.78 227 P Pn 09 01 26.1 -1.1
BKZ Black Stump Fm 1.80 76 P Pn 09 01 27.3 -0.2
BKZ Black Stump Fm 1.80 76 P Pn 09 01 27.4 -0.1
MTW Mount Morrison 1.81 148 P Pn 09 01 27.6 0.0
TUWZ Tuamarina 1.82 187 P Pn 09 01 27.6 +0.1
BHW Baring Head 1.84 165 P Pn 09 01 26.4 -1.5
WPRZ Whakapapatarin 1.85 54 P Pn 09 01 27.6 -0.5
BFZ Birch Farm 1.86 125 P Pn 09 01 28.3 +0.3
MRHZ Matea Rd 1.86 66 P Pn 09 01 27.3 -0.9
ANWZ Angora Road 1.90 117 P Pn 09 01 29.2 +0.7
TMWZ Te Maipa 1.94 140 P Pn 09 01 29.1 +0.2
PRHZ Porangahau 1.94 110 P Pn 09 01 28.3 -0.6
MSWZ Moikau Station 1.94 157 P Pn 09 01 28.7 -0.2
ALRZ Allen Road 1.95 58 P Pn 09 01 28.3 -0.7
PAWZ Paruwai Farm 1.97 153 P Pn 09 01 29.1 -0.1
HRRZ Handcock Road 2.01 53 P Pn 09 01 29.3 -0.5
KAHZ Kahuranaki 2.04 96 P Pn 09 01 30.7 +0.7
NMHZ Naumai 2.05 76 P Pn 09 01 30.8 +0.6
PXZ Pawanui 2.05 102 P Pn 09 01 30.6 +0.5
TRWZ Traveller 2.08 149 P Pn 09 01 30.4 0.0
PLWZ Palliser 2.09 159 P Pn 09 01 30.1 -0.4
MRNZ Matariki Terra 2.10 212 P Pn 09 01 29.7 -0.9
BSWZ Blackbirch Sta 2.11 188 P Pn 09 01 30.5 -0.2
CMWZ Cape Campbell 2.12 181 P Pn 09 01 31.0 +0.2
TOZ Tahuroa Road 2.13 28 P Pn 09 01 29.8 -1.1
MTHZ Maungataniwha 2.16 70 P Pn 09 01 30.6 -0.7
ARHZ Aropaoanui 2.16 81 P Pn 09 01 31.6 +0.3
RRRZ Republican Roa 2.19 55 P Pn 09 01 30.7 -0.9
TARZ Mount Tarawera 2.24 52 P Pn 09 01 31.4 -0.9
OMRZ Omania 2.25 48 P Pn 09 01 31.3 -1.0
MUGZ Murupara 2.27 61 P Pn 09 01 31.2 -1.4
RAHZ Arahi 2.31 73 P Pn 09 01 32.8 -0.2
RTZ Ruatahuna 2.35 65 P Pn 09 01 32.3 -1.1
THZ Tophouse 2.37 205 P Pn 09 01 32.6 -0.9
TGRZ Tauranga 2.46 40 P Pn 09 01 33.6 -1.0
OPRZ Ohineparua 2.53 46 P Pn 09 01 34.2 -1.3
SNGZ Shannon Statio 2.55 72 P Pn 09 01 34.9 -0.7
AWAZ Awhitu Peninsu 2.58 7 P Pn 09 01 35.0 -0.9
URZ Urewera 2.62 59 P Pn 09 01 34.6 -1.8
URZ Urewera 2.62 59 P Pn 09 01 34.6 -1.8
MKAZ Moumakai 2.62 16 P Pn 09 01 35.4 -1.0
RAGZ Rawiri 2.71 66 P Pn 09 01 36.4 -1.2
ETAZ East Tamaki Re 2.72 12 P Pn 09 01 36.8 -0.9
KNZ Kokohu 2.73 78 P Pn 09 01 37.0 -0.6
DSZ Denniston Nort 2.82 220 P Pn 09 01 37.1 -1.6
KHZ Kahutara 2.84 191 P Pn 09 01 37.8 -1.1
KHZ Kahutara 2.84 191 P Pn 09 01 38.4 -0.5
MWZ Matawai 2.86 64 P Pn 09 01 37.6 -1.7
MHGZ Mahia Peninsul 2.88 82 P Pn 09 01 39.3 -0.1
RIGZ Rimuhau 2.88 73 P Pn 09 01 38.6 -0.9
MBAZ Motutapu North 2.90 10 P Pn 09 01 38.5 -1.2
PRGZ Paritu Road 2.91 77 P Pn 09 01 39.1 -0.7
WIAZ Waiheke Island 2.91 14 P Pn 09 01 38.9 -0.9
TKGZ Te Karaka 3.04 68 P Pn 09 01 40.3 -1.1
KUZ Kuaotuna 3.10 22 P Pn 09 01 40.8 -1.4
RUGZ Raukumara Rang 3.15 59 P Pn 09 01 40.1 -2.7
TWGZ Tauwhareparae 3.25 65 P Pn 09 01 42.6 -1.4
CNGZ Carnagh Statio 3.29 71 P Pn 09 01 43.5 -0.8
HAZ Te Kaha 3.34 57 P Pn 09 01 42.1 -2.8
PKGZ Pakihiroa 3.46 61 P Pn 09 01 44.4 -2.1
GVZ Greta Valley S 3.46 195 P Pn 09 01 44.5 -1.9
LTZ Lake Taylor 3.49 205 P Pn 09 01 45.1 -1.7
PUZ Puketiti 3.49 65 P Pn 09 01 44.9 -2.1
WMGZ Waiomatatini S 3.73 62 P Pn 09 01 47.4 -2.4
AMCZ Amberley 3.75 198 P Pn 09 01 48.3 -1.6
INZ Inchbonnie 3.75 213 P Pn 09 01 47.5 -2.5
MXZ Matakaoa Point 3.79 58 P Pn 09 01 48.3 -2.2
OXZ Oxford 4.05 203 P Pn 09 01 51.3 -2.5
OKCZ Okains Bay 4.19 192 P Pn 09 01 53.3 -2.2
MQZ McQueen's Vall 4.25 196 P Pn 09 01 53.0 -3.2
WVZ Waitaha Valley 4.34 216 P Pn 09 01 55.2 -2.2
AKCZ Akaroa Harbour 4.36 193 P Pn 09 01 55.4 -2.2
RACZ Rakaia 4.39 200 P Pn 09 01 55.3 -2.8
WACZ Wakanui South 4.67 202 P Pn 09 01 58.8 -2.8
GCSZ Gaunt Creek Bo 4.72 217 P Pn 09 01 59.3 -2.9
RPZ Rata Peaks 4.73 209 P Pn 09 01 59.4 -3.1
ARCZ Arundel 4.89 207 P Pn 09 02 01.2 -3.2
FOZ Fox Glacier 5.13 219 P Pn 09 02 04.0 -3.5
TMZ Timaru 5.33 206 P Pn 09 02 07.3 -2.9
JCZ Jackson Bay 6.03 221 P Pn 09 02 15.8 -3.5
ODZ Otahua Downs 6.04 205 P Pn 09 02 16.6 -2.7
WKZ Wanaka 6.49 215 P Pn 09 02 20.3 -4.9

KRSZO 25 09:01:18.7±1.1,46˚.35N×17˚.13E,h5km±9km,ML2.1/8, Error ellipse: s-maj=5.4km s-min=3.7km az=177.0, Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALN	**Kalnik**	**0.52**	**245**	*e*Pg	Pg	09 01 29.4	+0.8
KALN				Sg	Sg	09 01 36.6	+1.3
KOGS	**Kog**	**0.62**	**280**	Pg	Pb	09 01 31.6	-0.3
	comp=Z,0.7nm,SNR=3.8						
KOGS				Lg	Lg	09 01 40.8	
KOVH	**Kovagotottos**	**0.72**	**111**	Pg	Pb	09 01 34.4	+0.6
	comp=Z,0.1nm,SNR=1.9						
KOVH				Lg	Lg	09 01 45.6	
KOVH	**Kovagotottos**	**0.72**	**111**	P	Pb	09 01 34.4	+0.6
KOVH				S	Sn	09 01 45.6	-1.4
LOBO	**Lobor**	**0.76**	**256**	*e*Pg	Pg	09 01 33.1	-0.2
LOBO				Sg	Sg	09 01 43.7	+0.5
MOSL	**Moslavina**	**0.78**	**200**	*e*Pg	Pb	09 01 35.3	+0.5
MOSL				Sg	Sb	09 01 46.5	+0.9
MPLH	**Magyarpolny**	**0.87**	**19**	Pg	Pg	09 01 34.6	-0.8
	comp=Z,0.1nm,SNR=2.7						
MPLH	**Magyarpolny**	**0.87**	**19**	P	Pg	09 01 34.6	-0.8
PTJ	**Puntijarka**	**0.92**	**242**	*e*Pg	Pg	09 01 36.1	-0.2
PTJ				Sg	Sb	09 01 50.2	+0.5
PTJ	**Puntijarka**	**0.92**	**242**	Pg	Pb	09 01 37.4	+0.3
	comp=Z,0.1nm,SNR=1.5						
PTJ				Lg	Lg	09 01 51.4	
ZAG	**Zagreb**	**0.95**	**237**	Pn	Pb	09 01 38.0	+0.3
	comp=Z,0.9nm,SNR=2.9						
A252A	**Venje**	**1.04**	**151**	*e*Pg	Pb	09 01 39.5	+0.3
A252A				Sg	Sn	09 01 54.1	-0.8
MORH	**Mrgy, Hungar**	**1.06**	**97**	Pn	Pg	09 01 39.1	0.0
	SNR=1.7						
MORH				Sn	Sb	09 01 53.3	-0.3
MORH	**Mrgy, Hungar**	**1.06**	**97**	P	Pg	09 01 39.1	0.0
MORH				S	Sb	09 01 53.3	-0.3
CRES	**Cresnjev**	**1.27**	**246**	Pn	Pb	09 01 43.6	+0.4
	comp=Z,0.3nm,SNR=1.4						
CRES				Sn	Sn	09 02 00.3	-0.3
CONA	**Conrad Observa**	**1.80**	**332**	Pn	Pn	09 01 50.9	+0.4
	SNR=1.6						

*MEX **25** 09:05:34.9±0.9, 14˚.26N×93˚.27W, h10km±44km, MD4.0*

GCG ***25*** *09:05:37.3±0.8, 14.˚59N×92.˚78W, h133km±22km, MD3.9*

ISC 25 09:05:30.4±3.7, 14.˚2N±0.˚1×93.˚25W±0.˚07, h4km±25km, n11, σ1§92/22, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.17**	**55**	*i* P	**Pb**	**09 05 53.7**	**+0.5**
THIG				*i* S	**Sb**	**09 06 07.2**	**-1.5**
PATR	**El Naranjo**	**1.32**	**48**	*i* P	**Pn**	**09 05 56.0**	**+0.1**
PATR				*i* S	**Sb**	**09 06 12.3**	**-1.1**
CHUJ	**Union Juarez**	**1.40**	**52**	*i* P	**Pn**	**09 05 57.0**	**0.0**
CHUJ				*i* S	**Sb**	**09 06 14.2**	**-1.4**
PAVE	**Pavencul**	**1.42**	**47**	*i* P	**Pn**	**09 05 57.3**	**+0.1**
PAVE				*i* S	**Sb**	**09 06 14.3**	**-1.7**
PCIG		**1.47**	**1**	*i* P	**Pn**	**09 05 56.9**	**-0.8**
PCIG				*i* P	**Pb**	**09 05 57.1**	**-1.2**
STG3	**Santiaguito 3,**	**1.70**	**73**	*eP*	**Pn**	**09 06 02.5**	**+1.5**
STG3				*eS*	**Sn**	**09 06 23.3**	**+0.1**
CCIG	**Comitan**	**2.31**	**28**	*i* P	**Pn**	**09 06 12.4**	**+3.0**
CCIG				*i* S	**Sn**	**09 06 42.5**	**+4.1**
FUG	**Fuego 3**	**2.34**	**84**	*eP*	**Pn**	**09 06 11.4**	**+1.6**
FUG				*eS*	**Sn**	**09 06 36.9**	**-2.3**
TGIG		**2.54**	**3**	*i* P	**Pn**	**09 06 14.4**	**+1.9**
TGIG				*eS*	**Sn**	**09 06 43.1**	**-0.7**
UXUV	**UXUV**	**3.19**	**344**	*eP*	**Pn**	**09 06 23.9**	**+2.5**
UXUV				*eS*	**Sn**	**09 07 01.1**	**+1.1**
CMIG	**Matias Romero**	**3.25**	**331**	*eP*	**Pn**	**09 06 23.2**	**+0.9**
CMIG				*eS*	**Sn**	**09 06 58.9**	**-2.5**

IDC ***25*** *09:08:24.9±3.2, 53.˚54N×87.˚70E, h0km, mb1 2.8/2, mb1mx2.7/47, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.5km s-min=14.8km az=61.0*

NNC ***25*** *09:08:24.7±2.5, 53.˚48N×87.˚67E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=22.8km s-min=10.3km az=49.0, Suspected Mining explosion.*

ISC 25 09:08:25.7±4.7, 53.5N±0.˚1×87.˚6E±0.˚3, h0km, n8, σ0§83/9, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**285**	*i*		09 19 40.0	
	baz=102,slow=333,SNR=9.3						
ZAA0	**Zalesovo Array**	**1.71**	**285**	⇓P	**Pn**	**09 08 56.1**	**-0.5**
	0.3nm,0.5s						
ZAA0				⇓S	**Sn**	**09 09 19.9**	**+0.8**
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**1.71**	**285**	Pg	**Pn**	**09 08 56.1**	**-0.5**
	1.3nm,0.3s,baz=103,slow=17,SNR=15						
ZALV				Lg	Lg	09 09 20.8	
	1.3nm,0.3s,baz=110,slow=28,SNR=9.3						
KURK	**Kurchatov**	**6.21**	**247**	⇑Lg	Lg	09 11 42.0	
	5.9nm,1.2s						
KURBB	**Kurchatov Arra**	**6.31**	**246**	Pn	**Pn**	**09 10 00.6**	**+0.7**
	0.0nm,0.3s,baz=62,slow=14,SNR=4.2						
KURBB				Lg	Lg	09 11 47.4	
	0.1nm,0.3s,baz=63,slow=32,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.31**	**246**	⇑Pn	**Pn**	**09 09 59.7**	**-0.1**
	0.7nm,0.4s						
KURBB				⇑Lg	Lg	09 11 47.2	
	4.8nm,0.7s						
MK31	**Makanchi Array**	**7.56**	**209**	⇓Pn	**Pn**	**09 10 17.3**	**+0.2**
	0.5nm,0.7s,baz=29,slow=14						
MK31				⇑Sn	**Sn**	**09 11 42.3**	**-1.2**
	0.4nm,0.6s						
MK31				⇓Lg	Lg	09 12 21.6	
	4.9nm,1.3s,baz=28,slow=29						
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	**Pn**	**09 10 18.0**	**+0.9**
	0.1nm,0.3s,baz=28,slow=12,SNR=5.9						
MKAR				Sn	**Sn**	**09 11 43.0**	**-0.5**
	0.0nm,0.3s,baz=26,slow=27,SNR=3.5						
MKAR				Lg	Lg	09 12 24.9	
	0.1nm,0.3s,baz=33,slow=29,SNR=8.3						

IDC ***25*** *09:13:56.7±0.8, 14.˚47N×92.˚64W, h0km, mb4.3/15, mb1 4.6/17, mb1mx4.5/39, mbtmp4.4/17, ML4.1/2, MS4.1/48, Ms1 4.1/48, ms1mx4.0/69, Error ellipse: s-maj=30.1km s-min=15.6km az=52.0*

MEX ***25*** *09:13:58.2±1.8, 14.˚11N×93.˚40W, h20km±999km, MD4.9*

GCG ***25*** *09:13:59.8±1.5, 14.˚40N×93.˚22W, h16km±999km, MD4.9*

NEIC ***25*** *09:13:59.3±3.0, 14.˚38N±0.˚06×93.˚17W±0.˚05, h10km±1km, mb4.8/290, Md4.9/42(MEX), Error ellipse: s-maj=9.6km s-min=8.4km az=175.0*

GCMT ***25*** *09:14:01.3±0.4, 14.˚30N±0.˚02×93.˚25W±0.˚03, h21km±1km, MW5.0/83, Moment Tensor Solution. s28,c33; s83,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.53±.26; $M_{\theta\theta}$-2.87±.16; $M_{\phi\phi}$-0.65±.14; $M_{r\theta}$1.80±.23; $M_{r\phi}$1.03±.09; $M_{\theta\phi}$-0.65±.27; Best double couple: M_o3.90500×10^{16} NP1:ϕ_s292.00000°, δ30.00000°, λ91.00000°. NP2: ϕ_s111.00000°, δ60.00000°, λ89.00000°. Principal axes: T 4.0320, Plg75.0000°, Azm19.0000°; N -0.2520, Plg1.0000°, Azm111.0000°; P -3.7770, Plg15.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 09:14:01.6±0.5, 14.˚29N±0.˚05×93.˚22W±0.˚03, h35km±4km, n522, σ1§59/404, mb4.7/106, MS4.2/45, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.11**	**56**		**Pn**	**09 14 18.9**	**-1.7**
THIG		**1.11**	**56**	*i* P	**Pn**	**09 14 18.9**	**-1.7**
THIG				*i* S	**Sn**	**09 14 34.5**	**-0.3**
PATR	**El Naranjo**	**1.26**	**49**	*eP*	**Pn**	**09 14 20.8**	**-2.1**
PATR				*i* S	**Sn**	**09 14 38.5**	**-0.2**
CHUJ	**Union Juarez**	**1.34**	**53**	*eP*	**Pn**	**09 14 22.1**	**-1.9**
CHUJ				*i* S	**Sn**	**09 14 40.5**	**-0.3**
PAVE	**Pavencul**	**1.35**	**48**	*eP*	**Pn**	**09 14 22.2**	**-1.9**
PAVE				*i* S	**Sn**	**09 14 41.0**	**-0.1**
PCIG		**1.41**	**0**		**Pn**	**09 14 22.7**	**-2.0**
PCIG		**1.41**	**0**	*eP*	**Pn**	**09 14 22.7**	**-2.0**
PCIG				*i* S	**Sn**	**09 14 41.2**	**-0.8**
RTAL	**Retalhuleu**	**1.50**	**81**		**Pn**	**09 14 24.6**	**-1.4**
STG3	**Santiaguito 3,**	**1.65**	**75**	*eP*	**Pn**	**09 14 27.7**	**-0.6**
HUEH	**Huehuetenango**	**1.95**	**58**		**Pn**	**09 14 32.7**	**+0.3**
CARR	**Arriaga**	**2.06**	**341**	*eP*	**Pn**	**09 14 32.7**	**-0.9**
CARR				*eS*	**Sn**	**09 14 58.0**	**-0.1**
CCIG	**Comitan**	**2.24**	**28**		**Pn**	**09 14 37.8**	**+1.4**
CCIG	**Comitan**	**2.24**	**28**	*eP*	**Pn**	**09 14 37.4**	**+1.0**
FUG	**Fuego 3**	**2.31**	**86**	*eP*	**Pn**	**09 14 36.8**	**-0.6**
TGIG		**2.48**	**2**		**Pn**	**09 14 40.0**	**+0.5**
TGIG		**2.48**	**2**	*eP*	**Pn**	**09 14 40.0**	**+0.5**
PCG	**Pacaya**	**2.54**	**87**	*eP*	**Pn**	**09 14 40.5**	**0.0**
NBG	**Las Nubes**	**2.80**	**84**	*eP*	**Pn**	**09 14 45.6**	**+1.4**
NBG				*eS*	**Sn**	**09 15 19.7**	**+2.8**
UXUV	**UXUV**	**3.14**	**344**	*eP*	**Pn**	**09 14 49.2**	**+0.6**
UXUV				*eS*	**Sn**	**09 15 24.6**	**-0.2**
HUIG	**Huatulco**	**3.15**	**298**	*eP*	**Pn**	**09 14 48.0**	**-0.7**
HUIG				*i* S	**Sn**	**09 15 19.6**	**-5.5**
CMIG	**Matias Romero**	**3.21**	**330**	Pn	**Pn**	**09 14 49.2**	**-0.3**
	16nm,0.3s,baz=153,slow=13,SNR=158						
CMIG				Sn	**Sn**	**09 15 29.4**	**+2.7**
	67nm,0.3s,baz=91,slow=21,SNR=6.6						
CMIG				LR	LR	09 15 44.2	
	comp=Z,960nm,18.7s,baz=208,slow=32						
CMIG	**Matias Romero**	**3.21**	**330**		**Sn**	**09 15 25.4**	**-1.2**
CMIG	**Matias Romero**	**3.21**	**330**	*eP*	**Pn**	**09 14 49.1**	**-0.4**
CMIG				*eS*	**Sn**	**09 15 25.4**	**-1.2**
SLOZ	**Alcaldia de Sa**	**3.34**	**94**	*eP*	**Pn**	**09 14 50.5**	**-1.0**
NUBE	**Las Nubes**	**3.36**	**96**	*eP*	**Pn**	**09 14 50.9**	**-0.9**
NUBE	**Las Nubes**	**3.36**	**96**	*eP*	**Pn**	**09 14 50.9**	**-0.9**
MRL	**Marmol**	**3.51**	**77**	*eP*	**Pn**	**09 14 54.7**	**+0.8**
CEVE	**Cerro Verde**	**3.52**	**97**	*eP*	**Pn**	**09 14 53.4**	**-0.6**
CEVE				IAML		09 15 53.6	
	comp=Z,3μm,0.5s						
CEVE	**Cerro Verde**	**3.52**	**97**	*eP*	**Pn**	**09 14 53.4**	**-0.6**
CEVE				IAML		09 15 53.6	
	comp=Z,3μm,0.5s						
MTO3	**Montecristo**	**3.74**	**88**		**Pn**	**09 14 56.2**	**-0.9**
ESQI	**Esquipulas**	**3.77**	**85**		**Pn**	**09 14 56.9**	**-0.4**
LALI	**Alcalda de L**	**3.87**	**101**	*eP*	**Pn**	**09 14 56.9**	**-1.7**
LALI	**Alcalda de L**	**3.87**	**101**	*eP*	**Pn**	**09 14 56.9**	**-1.7**
UEES	**Universidad Ev**	**3.91**	**98**	*eP*	**Pn**	**09 14 57.9**	**-1.3**
UEES	**Universidad Ev**	**3.91**	**98**	*eP*	**Pn**	**09 14 57.9**	**-1.3**
SNET	**Serv Nac Est T**	**3.92**	**98**		**Pn**	**09 14 59.2**	**-0.2**
PEIG	**Puerto Escondi**	**4.15**	**295**	*eP*	**Pn**	**09 15 02.1**	**-0.5**
PEIG				*eS*	**Sn**	**09 15 46.4**	**-3.6**
PETF	**Flores**	**4.16**	**51**		**Pn**	**09 15 03.0**	**+0.4**
PAVA	**Las Pavas**	**4.20**	**97**	*eP*	**Pn**	**09 15 02.5**	**-0.7**
PAVA	**Las Pavas**	**4.20**	**97**	*eP*	**Pn**	**09 15 02.5**	**-0.7**
NEUV	**Arroyo Zacate**	**4.21**	**324**	*eP*	**Pn**	**09 15 00.9**	**-2.4**
NEUV				*eS*	**Sn**	**09 15 54.8**	**+3.5**
COEG	**Centro de Oper**	**4.27**	**98**	*eP*	**Pn**	**09 15 03.3**	**-0.8**
COEG	**Centro de Oper**	**4.27**	**98**	*eP*	**Pn**	**09 15 03.3**	**-0.8**
VHO	**Vista Hermosa**	**4.37**	**310**	*eP*	**Pn**	**09 15 05.6**	**-0.1**
VHO				*eS*	**Sn**	**09 15 56.4**	**+0.9**
SCLA	**Alcaldia de Sa**	**4.40**	**97**	*eP*	**Pn**	**09 15 05.3**	**-0.7**
SCLA	**Alcaldia de Sa**	**4.40**	**97**	*eP*	**Pn**	**09 15 05.3**	**-0.7**
COEB	**Comit de Eme**	**4.62**	**99**	*eP*	**Pn**	**09 15 08.0**	**-1.1**
COEB	**Comit de Eme**	**4.62**	**99**	*eP*	**Pn**	**09 15 08.0**	**-1.1**
YOIG	**Yosondua**	**4.89**	**302**	*eP*	**Pn**	**09 15 14.8**	**+1.9**
YOIG				*eS*	**Sn**	**09 16 03.3**	**-5.1**
SCIG	**Sabancuy**	**5.04**	**22**		**Pn**	**09 15 14.4**	**-0.3**
SCIG	**Sabancuy**	**5.04**	**22**	*eP*	**Pn**	**09 15 14.4**	**-0.3**
SCIG				*i* S	**Sn**	**09 16 10.0**	**-1.8**
PNIG	**Pinotepa**	**5.17**	**294**		**Pn**	**09 15 16.8**	**+0.2**
PNIG	**Pinotepa**	**5.17**	**294**	*eP*	**Pn**	**09 15 16.8**	**+0.2**
PNIG				*eS*	**Sn**	**09 16 08.1**	**-7.0**
TXIG	**Tlaxiaco**	**5.28**	**305**	*eP*	**Pn**	**09 15 20.5**	**+2.3**
TXIG				*eS*	**Sn**	**09 16 20.0**	**+2.0**
TOIG	**Toxpalan**	**5.29**	**316**	*eP*	**Pn**	**09 15 20.0**	**+1.8**
TOIG				*eS*	**Sn**	**09 16 22.9**	**+5.0**
TGUH	**Tegucigalpa,Un**	**5.77**	**92**	Pn	**Pn**	**09 15 23.9**	**-1.0**
TLIG	**Tlapa**	**6.08**	**303**		**Pn**	**09 15 29.9**	**+0.7**
JAUV	**Jalcomulco**	**6.10**	**326**	*eP*	**Pn**	**09 15 28.4**	**-1.0**
JAUV				*eS*	**Sn**	**09 16 31.9**	**-6.1**
CRIG	**Cruz Grande**	**6.19**	**294**		**Pn**	**09 15 31.2**	**+0.7**
CRIG	**Cruz Grande**	**6.19**	**294**	*eP*	**Pn**	**09 15 31.2**	**+0.7**
CRIG				*eS*	**Sn**	**09 16 39.4**	**-0.8**
CRIN	**San Cristobal**	**6.21**	**104**		**Pn**	**09 15 31.0**	**+0.1**
CNGN	**Cerro Negro**	**6.59**	**105**		**Pn**	**09 15 35.4**	**-0.7**
MATN	**Matagalpa**	**7.22**	**100**		**Pn**	**09 15 43.7**	**-1.1**
BOAB	**BOACO BROADBAN**	**7.58**	**103**	Pn	**Pn**	**09 15 48.5**	**-1.1**
ACON	**Acoyapa**	**8.17**	**105**		**Pn**	**09 15 58.7**	**+1.0**
HZTE	**Horizontes, Gu**	**8.25**	**115**		**Pn**	**09 15 59.8**	**+0.9**
ORTG	**Ortega, Santa**	**8.53**	**116**	Pn	**Pn**	**09 16 04.0**	**+1.3**
DUNO	**Dulce Nombre,**	**8.63**	**118**		**Pn**	**09 16 04.6**	**+0.5**
JTS	**Las Juntas de**	**9.00**	**115**	Pn	**Pn**	**09 16 10.5**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=10,slow=16,SNR=4.4						
CAO2	**Cobano, Puntar**	**9.16**	**119**		**Pn**	**09 16 12.6**	**+1.3**
RIMA	**Rio Macho**	**10.20**	**115**		**Pn**	**09 16 27.4**	**+1.7**
PEZE	**Perez Zeledon,**	**10.54**	**117**	Pn	**Pn**	**09 16 31.6**	**+1.4**
RIOS	**Rincon, Osa**	**11.01**	**119**		**Pn**	**09 16 38.6**	**+1.9**
CDITO	**Canoas**	**11.62**	**118**		**Pn**	**09 16 46.2**	**+1.2**
BRU2	**Volcan**	**11.67**	**117**	Pn	**Pn**	**09 16 46.6**	**+0.8**
ZAIG	**Zacatecas**	**12.23**	**315**	Pn	**Pn**	**09 16 55.1**	**+1.5**
SOR	**Soroa**	**12.85**	**47**	Pn	**Pn**	**09 17 00.0**	**-1.8**
833A	**Chaparral WMA,**	**15.10**	**339**	Pn	**Pn**	**09 17 32.2**	**-0.1**
833A				IAmb	IAmb	09 17 44.2	
	comp=Z,60nm,1.1s						
833A	**Chaparral WMA,**	**15.10**	**339**	P	**Pn**	**09 17 33.9**	**+1.6**
	baz=155,SNR=17						
735A	**Kenedy**	**15.11**	**344**	IAmb	IAmb	09 17 52.6	
	comp=Z,51nm,1.2s						
MTDJ	**Mount Denham**	**15.56**	**73**	P	**P**	**09 17 41.2**	**-1.3**
MTDJ				IAmb	IAmb	09 18 03.4	
	comp=Z,72nm,1.1s						
HKT	**Hockley**	**15.77**	**352**		**Pn**	**09 17 42.4**	**+1.4**
435B	**Jarrell**	**16.90**	**347**	P	**Pn**	**09 17 55.7**	**+0.3**
	baz=164						
342A	**Flagon Creek P**	**17.02**	**3**	P	**P**	**09 17 57.9**	**-0.6**
HPIG		**17.13**	**319**	Pn	**Pn**	**09 17 57.6**	**-0.9**
JCT	**Junction City**	**17.21**	**340**		**Pn**	**09 17 59.9**	**+0.5**
JCT	**Junction City**	**17.21**	**340**	P	**Pn**	**09 18 00.0**	**+0.6**
	baz=157,SNR=7.3						
344A	**Westbrook Farm**	**17.23**	**7**	P	**Pn**	**09 17 59.0**	**-0.6**
344A				IAmb	IAmb	09 18 05.2	
	comp=Z,70nm,1.4s						
346A	**Big Creek Wild**	**17.36**	**11**	IAmb	IAmb	09 18 26.6	
	comp=Z,50nm,0.9s						
NATX	**Nacogdoches**	**17.44**	**356**	P	**Pn**	**09 18 02.0**	**-0.1**
	baz=174						
BRAL	**Brewton**	**17.73**	**18**	P	**Pn**	**09 18 05.3**	**-0.3**
BRAL				IAmb	IAmb	09 18 10.1	
	comp=Z,99nm,1.1s						
BRAL	**Brewton**	**17.73**	**18**	P	**Pn**	**09 18 03.9**	**-1.8**
	baz=199						
553A	**Crawfordville**	**17.78**	**26**	IAmb	IAmb	09 18 13.9	
	comp=Z,45nm,0.8s						
TXAR	**Lajitas Array**	**17.82**	**329**	P	**P**	**09 18 09.8**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=156,slow=9.5,SNR=58						
TXAR				LR	LR	09 25 33.2	
	comp=Z,364nm,19.6s,baz=121,slow=39						
TX31	**Lajitas Ar. Si**	**17.82**	**329**	IAmb	IAmb	09 18 30.0	
	comp=Z,148nm,1.3s						
656A	**Willston**	**17.97**	**32**	IAmb	IAmb	09 18 28.6	
	comp=Z,124nm,1.2s						
VBMS	**Vicksburg**	**18.02**	**7**	P	**Pn**	**09 18 08.9**	**-0.3**
	baz=188						
WHTX	**Lake Whitney,**	**18.04**	**348**		**Pn**	**09 18 08.2**	**-1.3**
WHTX	**Lake Whitney,**	**18.04**	**348**	P	**P**	**09 18 10.0**	**+0.3**
	baz=166						
352A	**Blakely**	**18.72**	**23**	IAmb	IAmb	09 18 23.8	
	comp=Z,81nm,1.1s						
LPIG	**La Paz**	**18.84**	**304**	LR	LR	09 25 51.1	
	comp=Z,250nm,20.4s,baz=134,slow=37						
Z41A	**Richland Creek**	**18.89**	**1**	IAmb	IAmb	09 18 26.3	
	comp=Z,36nm,0.8s						
Z41A	**Richland Creek**	**18.89**	**1**	P	**P**	**09 18 17.6**	**-1.4**
	baz=180						
ABTX	**Abilene, Hawle**	**19.17**	**343**	P	**Pn**	**09 18 22.8**	**-0.5**
	baz=160						
TIGA	**Tifton**	**19.22**	**26**	IAmb	IAmb	09 18 25.2	
	comp=Z,47nm,0.9s						
TIGA	**Tifton**	**19.22**	**26**	P	**P**	**09 18 20.2**	**-2.5**
	baz=209						
ZARC	**Zaragoza, Cauc**	**19.25**	**109**	*eP*	**P**	**09 18 23.4**	**+0.3**
Z47A	**Carrollton**	**19.40**	**13**	IAmb	IAmb	09 18 48.5	
	comp=Z,81nm,1.5s						
LRAL	**Lakeview Retre**	**19.50**	**16**	P	**P**	**09 18 24.6**	**-1.1**
	baz=198,SNR=5.1						
YOTC	**Yotoco, Valle**	**19.54**	**120**	*eP*	**Pn**	**09 18 29.1**	**+1.2**
CCAR	**Cane Creek**	**19.59**	**4**	IAmb	IAmb	09 18 54.8	
	comp=Z,49nm,0.9s						
GUY2C	**Guyana, Caldas**	**19.75**	**115**	*eP*	**Pn**	**09 18 30.3**	**-0.5**
PTBC	**PUERTO BERRIO,**	**19.98**	**111**	*eP*	**P**	**09 18 31.1**	**-0.2**
LLSC	**La Loma 6 Bece**	**20.03**	**101**	*eP*	**Pn**	**09 18 32.2**	**+0.7**
NORC	**Norcasia**	**20.03**	**114**	*eP*	**P**	**09 18 32.3**	**+0.5**
POPC	**Popayan, Colom**	**20.08**	**124**	*eP*	**Pn**	**09 18 34.8**	**+0.3**
X40A	**Basin Creek Fa**	**20.11**	**1**	P	**P**	**09 18 31.6**	**-0.8**
	baz=180						
255A	**Hazlehurst**	**20.12**	**27**	IAmb	IAmb	09 18 45.6	
	comp=Z,43nm,1.1s						
MIAR	**Mount Ida**	**20.17**	**359**	P	**P**	**09 18 32.5**	**-0.5**
MIAR				IAmb	IAmb	09 18 41.6	
	comp=Z,44nm,0.9s						
MIAR	**Mount Ida**	**20.17**	**359**	P	**P**	**09 18 33.0**	**0.0**
	baz=178,SNR=34						
OTAV	**Otavalo**	**20.21**	**132**	P	**P**	**09 18 33.4**	**-0.8**
X37A	**Clayton**	**20.30**	**355**		**P**	**09 18 32.5**	**-1.9**
Z51A	**Franklin**	**20.30**	**20**	P	**P**	**09 18 34.2**	**-0.3**
SOTA	**Rioblanco**	**20.38**	**125**	*eP*	Pn	09 18 38.0	-0.2
UALR	**University of**	**20.41**	**2**	P	**P**	**09 18 36.1**	**+0.5**
UALR				IAmb	IAmb	09 18 56.8	
	comp=Z,38nm,1.1s						
OCAC	**Ocana**	**20.41**	**105**	P	**P**	**09 18 34.7**	**-1.4**
OXF	**Oxford**	**20.43**	**9**	P	**P**	**09 18 34.2**	**-1.5**
	baz=190						
PCON	**Cinco Dias**	**20.43**	**124**	*eP*	Pn	09 18 38.5	-0.4
154A	**Montrose**	**20.44**	**25**	IAmb	IAmb	09 18 45.8	
	comp=Z,51nm,0.9s						
ORTC	**Ortega, Tolima**	**20.51**	**118**	*eP*	**P**	**09 18 36.7**	**-0.2**
MNTX	**Cornudas Mount**	**20.60**	**329**	P	**P**	**09 18 38.8**	**+1.0**
	baz=144,SNR=36						
SPBC	**San Pablo de B**	**20.70**	**113**	*eP*	**P**	**09 18 39.0**	**-0.1**
W41B	**Gary Mavity, V**	**20.81**	**2**	IAmb	IAmb	09 18 51.4	
	comp=Z,34nm,1.1s						
W41B	**Gary Mavity, V**	**20.81**	**2**	P	**P**	**09 18 39.7**	**-0.2**
	baz=182						
W39A	**Magazine**	**20.82**	**359**	P	**P**	**09 18 40.0**	**-0.1**
	baz=178,SNR=9.6						
ROSC	**El Rosal**	**20.85**	**115**	P	Pn	09 18 43.1	-0.5
	comp=Z,40nm,0.8s,baz=34,slow=2.3,SNR=18						
ROSC	**El Rosal**	**20.85**	**115**	P	Pn	09 18 42.4	-1.2
ROSC				IAmb	IAmb	09 18 53.3	
	comp=Z,62nm,0.9s						
ROSC	**El Rosal**	**20.85**	**115**	*eP*	Pn	09 18 44.3	+0.7
WHAR	**Wooly Hollow**	**20.93**	**2**	IAmb	IAmb	09 19 10.0	
	comp=Z,56nm,1.2s						
WMOK	**Wichita Mounta**	**20.97**	**347**	P	**P**	**09 18 41.8**	**+0.1**
	baz=164						
GOGA	**Godfrey**	**21.00**	**23**	P	**P**	**09 18 41.2**	**-0.8**
GOGA				IAmb	IAmb	09 18 47.5	
	comp=Z,31nm,1.0s						
GOGA	**Godfrey**	**21.00**	**23**	P	**P**	**09 18 40.5**	**-1.5**
	baz=207,SNR=13						
PLAL	**Pickwick Lake**	**21.12**	**12**	P	**P**	**09 18 44.2**	**+0.9**
Y52A	**Lilburn**	**21.18**	**22**	IAmb	IAmb	09 18 58.6	
	comp=Z,61nm,1.0s						
PORT	**Chimborazo Vol**	**21.21**	**136**	P	**P**	**09 18 46.9**	**+1.9**
PAMC	**Pamplona, Colo**	**21.30**	**107**	*eP*	**P**	**09 18 46.1**	**+0.2**
MSTX	**Muleshoe**	**21.42**	**338**	IAmb	IAmb	09 18 53.0	
	comp=Z,51nm,0.9s						
MSTX	**Muleshoe**	**21.42**	**338**	P	**P**	**09 18 47.3**	**+0.7**
	baz=153,SNR=37						
CHIC	**Chingaza**	**21.47**	**115**	*eP*	**P**	**09 18 48.2**	**+0.6**
RUSC	**La Rusia**	**21.49**	**111**	*eP*	**P**	**09 18 48.9**	**+0.9**
FCAR	**Ozark Folk Cen**	**21.53**	**2**	IAmb	IAmb	09 18 51.4	
	comp=Z,29nm,0.9s						
TUL1	**Leonard**	**21.65**	**354**	IAmb	IAmb	09 19 18.0	
	comp=Z,46nm,1.1s						
TUL1	**Leonard**	**21.65**	**354**	P	**P**	**09 18 48.8**	**-0.2**
	baz=172						
AMTX	**Amarillo**	**21.88**	**341**	P	**P**	**09 18 51.9**	**+0.3**
	baz=157						
U40A	**Yellville**	**21.98**	**1**	P	**P**	**09 18 52.8**	**+0.3**
	baz=180,SNR=14						
HSIG		**22.01**	**315**	P	**P**	**09 18 53.9**	**+1.0**
NHSC	**New Hope**	**22.18**	**30**	P	**P**	**09 18 53.7**	**-0.9**
	baz=215,SNR=6.3						
HODGE	**Hodges**	**22.20**	**25**	IAmb	IAmb	09 19 10.6	
	comp=Z,37nm,1.3s						
WVT	**Waverly**	**22.28**	**12**	P	**P**	**09 18 55.9**	**+0.1**
WVT	**Waverly**	**22.28**	**12**	P	**P**	**09 18 55.1**	**-0.7**
	baz=193						
319A	**Douglas**	**22.50**	**322**	IAmb	IAmb	09 19 05.0	
	comp=Z,28nm,0.9s						
121A	**Cookes Peak, D**	**22.50**	**326**	P	**P**	**09 19 01.1**	**+2.7**
	baz=140,SNR=44						
PBMO	**Poplar Bluff**	**22.53**	**6**	IAmb	IAmb	09 19 17.6	
	comp=Z,29nm,1.1s						
MACC	**Macarena, Meta**	**22.62**	**120**	*eP*	**P**	**09 19 00.8**	**+1.2**
JSC	**Jenkinsville**	**22.66**	**26**	IAmb	IAmb	09 19 13.2	
	comp=Z,52nm,1.5s						
SOCV	**Socops**	**22.72**	**103**	*eP*	**P**	**09 18 59.6**	**-1.0**
T35A	**Sooner Cattle**	**22.72**	**353**	IAmb	IAmb	09 19 21.2	
	comp=Z,23nm,0.9s						
SDV	**Santo Domingo**	**22.76**	**101**	P	**P**	**09 19 00.5**	**-0.8**
	comp=Z,18nm,0.7s,baz=305,slow=4.6,SNR=19						
SDV	**Santo Domingo**	**22.76**	**101**	P	**P**	**09 18 59.1**	**-2.2**
SDV				IAmb	IAmb	09 19 03.0	
	comp=Z,19nm,0.8s						
MGMO	**Mountain Grove**	**22.79**	**2**	IAmb	IAmb	09 19 17.5	
	comp=Z,26nm,1.1s						
Y57A	**Sumter**	**22.82**	**28**	IAmb	IAmb	09 19 01.2	
	comp=Z,29nm,1.0s						
V51A	**Loudon**	**22.86**	**19**	IAmb	IAmb	09 19 09.8	
	comp=Z,22nm,1.1s						
PAULI	**Pauline**	**22.89**	**25**	IAmb	IAmb	09 19 10.1	
	comp=Z,26nm,0.9s						
TKL	**Tuckaleechee C**	**22.91**	**20**	P	**P**	**09 18 58.2**	**-4.2**
	comp=Z,2.3nm,0.7s,baz=156,slow=19,SNR=1.3						
TKL				LR	LR	09 29 07.4	
	comp=Z,423nm,20.4s,baz=222,slow=40						
U49A	**Red Boiling Sp**	**23.11**	**15**	IAmb	IAmb	09 19 24.2	
	comp=Z,40nm,1.4s						
V53A	**Saluda**	**23.25**	**22**	IAm

comp=Z,23nm,1.0s
ISCO Idaho Springs 27.64 339 P P 09 19 47.6 +1.2
baz=153,SNR=11
OGNE Ogallala 27.65 346 P P 09 19 47.0 +0.9
baz=161
CBN Corbin Frederi 27.65 28 P P 09 19 44.9 -1.2
baz=214
PV07 Paradox Valley 27.66 333 IAmb IAmb 09 19 53.1
comp=Z,16nm,0.9s
L40A Anamosa 27.73 3 IAmb IAmb 09 20 13.1
comp=Z,23nm,1.0s
IKP In-Ko-Pah, Jac 27.73 315 P P 09 19 50.1 +3.2
baz=125
W13A Hualapai Mount 27.85 322 IAmb IAmb 09 19 52.4
comp=Z,16nm,1.2s
MCWV Mont Chateau 27.87 22 P P 09 19 46.6 -1.4
baz=208
U15A North Rim 27.88 326 IAmb IAmb 09 20 03.1
comp=Z,21nm,1.5s
BC3 Big Chuckawall 27.89 318 P P 09 19 51.4 +3.0
baz=128
O53A New Philadelph 27.92 20 P P 09 19 47.6 -0.8
baz=205
IRM Iron Mountain 28.01 319 P P 09 19 52.4 +3.0
baz=129
NEE2 Needles Airpor 28.07 320 P P 09 19 52.8 +2.9
baz=131
L44A Lake County Fo 28.17 8 P P 09 19 51.6 +1.0
baz=190
TPFO Pinon Flats 28.53 316 P P 09 19 56.5 +2.4
baz=126
PFO Pinyon Flats O 28.53 316 LR LR 09 33 00.0
comp=Z,264nm,18.1s,baz=115,slow=40
PFO Pinyon Flats O 28.53 316 P P 09 19 56.6 +2.4
baz=126
109C Camp Elliot, M 28.55 315 P P 09 19 56.9 +2.8
baz=124
JFWS Jewell Farm 28.64 5 P P 09 19 55.2 +0.4
baz=185
N23A Red Feather La 28.74 340 P P 09 19 57.4 +1.4
baz=153
GMRC Granite Mounta 28.74 319 P P 09 19 58.3 +2.3
baz=129
O20A White River Ci 28.92 336 P P 09 19 59.1 +1.6
baz=148,SNR=6.0
SZCU Shurtz Canyon 29.16 326 IAmb IAmb 09 20 04.1
comp=Z,23nm,1.3s
Q16A Castle Valley 29.20 330 IAmb IAmb 09 20 04.0
comp=Z,16nm,1.2s
SSPA Standing Stone 29.47 24 P P 09 20 01.2 -1.0
baz=211
ECSD EROS Data Cent 29.49 355 IAmb IAmb 09 20 05.0
comp=Z,9.6nm,0.9s
ECSD EROS Data Cent 29.49 355 P P 09 20 02.7 +0.3
baz=173,SNR=9.1
SHPR Sheep Range 29.56 322 IAmb IAmb 09 20 07.5
comp=Z,16nm,1.4s
CIS Catalina Islan 29.75 314 P P 09 20 07.5 +2.7
baz=123
GSC Goldstone, Bar 29.79 319 P P 09 20 07.1 +1.8
baz=128
RWWY Rawlins 29.88 339 IAmb IAmb 09 20 11.7
comp=Z,20nm,0.9s
DECC Green Verdugo 30.17 316 P P 09 20 10.9 +2.3
baz=125
PSUT Pine Spring 30.26 327 IAmb IAmb 09 20 13.7
comp=Z,11nm,1.0s
SUSD Miller 30.45 352 IAmb IAmb 09 20 16.8
comp=Z,16nm,0.9s
LRMC Laurel Mtn Rad 30.46 318 P P 09 20 12.7 +1.4
baz=127
K22A Casper 30.50 340 IAmb IAmb 09 20 15.8
comp=Z,12nm,0.8s
K22A Casper 30.50 340 P P 09 20 12.7 +1.1
baz=153,SNR=9.0
TPNV Topopah Spring 30.51 322 P P 09 20 11.7 0.0
TPNV IAmb IAmb 09 20 15.6
comp=Z,16nm,1.4s
TPNV Topopah Spring 30.51 322 P P 09 20 14.1 +2.4
baz=131
FURC Furnace Creek, 30.57 321 P P 09 20 14.9 +3.0
baz=130
S11A Rachel 30.68 323 P P 09 20 15.1 +2.0
MPMC Manual Prospec 30.70 319 P P 09 20 15.4 +2.0
baz=128
NNA Nana 30.74 147 LR LR 09 30 12.7
comp=Z,295nm,21.9s,baz=322,slow=32
SPMN Marine on St. 30.84 1 IAmb IAmb 09 20 16.4
comp=Z,26nm,1.4s
SPMN Marine on St. 30.84 1 P P 09 20 14.9 +0.7
baz=180
DUG Dugway, Tooele 30.99 330 P P 09 20 18.0 +2.1
baz=140
ARVC Arvin 31.01 317 P P 09 20 18.2 +2.3
baz=125
R11A Troy Canyon, C 31.08 325 P P 09 20 18.6 +1.9
baz=134,SNR=10
RSSD Black Hills 31.13 345 P P 09 20 17.4 +0.3
RSSD Black Hills 31.13 345 P P 09 20 18.5 +1.4
baz=159
GRAC Grapevine Rang 31.22 321 P P 09 20 17.2 -0.5
GRAC Grapevine Rang 31.22 321 P P 09 20 20.3 +2.5
baz=130
PAL Palisades 31.49 29 P P 09 20 19.9 -0.2
baz=217
PKM Mcpherson Peak 31.54 315 P P 09 20 22.2 +1.4
baz=124
BINY Binghamton 31.55 25 P P 09 20 19.3 -1.3
baz=213
VES Vestal, Richgr 31.59 317 P P 09 20 22.9 +1.8
baz=126
BW06 Boulder Array 31.68 337 P P 09 20 23.0 +1.0
baz=148
PDAR Pinedale Array 31.68 337 P P 09 20 23.1 +1.2
comp=Z,2.5nm,0.9s,baz=138,slow=9.3,SNR=15
PDAR PcP PcP 09 23 13.7 +0.4
comp=Z,1.1nm,0.9s,baz=148,slow=5.3,SNR=3.7
PDAR LR LR 09 36 36.6
comp=Z,129nm,18.9s,baz=154,slow=43
SMMC Simmler 31.90 316 P P 09 20 25.2 +1.5
baz=124
J56A Wolcott 32.12 23 IAmb IAmb 09 20 24.8
comp=Z,12nm,0.8s
HVU Hansel Valley 32.21 332 IAmb IAmb 09 20 30.3
comp=Z,12nm,1.0s
AHID Auburn Hatcher 32.29 335 IAmb IAmb 09 20 39.0
comp=Z,25nm,1.4s
MLAC Mammoth, Mammo 32.52 320 P P 09 20 30.9 +1.4
baz=128
ELK Elko 32.61 328 LR LR 09 35 24.9
comp=Z,328nm,18.7s,baz=149,slow=39
ELK Elko 32.61 328 IAmb IAmb 09 20 33.7
comp=Z,8.8nm,1.1s
OMMB Old Mammoth Mi 32.61 320 P P 09 20 32.0 +1.6
OMMB IAmb IAmb 09 20 37.1
comp=Z,9.9nm,1.2s
NVAR Mina Array Bea 32.71 322 P P 09 20 34.3 +3.3
comp=Z,13nm,0.9s,baz=137,slow=8.5,SNR=59
NVAR PcP PcP 09 23 17.7 +1.5
comp=Z,2.2nm,0.7s,baz=139,slow=3.1,SNR=6.4
NVAR Mina Array Bea 32.71 322 PcP 09 23 17.2 +1.0
MOOW Moose Ponds 32.97 336 IAmb IAmb 09 20 38.8
comp=Z,14nm,0.9s
KVN Kaiserville 32.99 323 IAmb IAmb 09 20 37.7
comp=Z,17nm,1.2s
L61B Northampton 33.19 28 P P 09 20 33.6 -1.3
baz=218
FLWY Flagg Ranch 33.23 337 IAmb IAmb 09 20 44.2
comp=Z,12nm,0.9s
BMN Battle Mountai 33.44 326 IAmb IAmb 09 20 41.4
comp=Z,13nm,1.0s
H17A Grant Village 33.45 337 IAmb IAmb 09 20 47.1
comp=Z,17nm,1.2s
H17A Grant Village 33.45 337 P P 09 20 39.4 +1.9
baz=148,SNR=10
LKWY Lake 33.53 338 IAmb IAmb 09 20 51.0
comp=Z,22nm,1.2s
EYMN Ely 33.59 2 P P 09 20 39.0 +0.7
baz=182
RLMT Red Lodge 33.61 339 IAmb IAmb 09 20 41.6
comp=Z,25nm,1.5s
RLMT Red Lodge 33.61 339 P P 09 20 40.2 +1.4
baz=151,SNR=13
YERR Yerington 33.63 322 P P 09 20 39.0 0.0
YNR Norris Junctio 33.76 337 IAmb IAmb 09 21 07.3
comp=Z,8.1nm,1.0s
MDND Maddock 33.88 352 P P 09 20 40.9 0.0
baz=168
YHH Holmes Hill 33.89 337 IAmb IAmb 09 20 47.4
comp=Z,14nm,1.2s
AGMN Agassiz Nation 33.98 357 IAmb IAmb 09 20 53.4
comp=Z,12nm,0.9s
AGMN Agassiz Nation 33.98 357 P P 09 20 41.4 -0.3
baz=175
YHL Hebgen Lake 34.07 337 IAmb IAmb 09 20 50.0
comp=Z,19nm,1.2s
LAO LASA Array 34.09 344 IAmb IAmb 09 20 44.7
comp=Z,20nm,1.1s
LAO LASA Array 34.09 344 P P 09 20 43.1 +0.3
baz=157,SNR=7.3
LONY Lake Ozonia 34.13 24 P P 09 20 41.8 -1.4
baz=213
EMB Emerald Bay 34.14 321 P P 09 20 41.7 -1.8
PAHR Pah Rah Range 34.18 323 P P 09 20 42.2 -1.6
HLID Hailey 34.36 332 IAmb IAmb 09 20 55.1
comp=Z,8.3nm,0.9s
HLID Hailey 34.36 332 P P 09 20 47.1 +1.7
baz=141,SNR=15
BEKR Beckworth 34.85 322 P P 09 20 48.6 -1.1
BEKR IAmb IAmb 09 20 53.8
comp=Z,13nm,1.1s
BOZ Bozeman (W) 34.87 337 IAmb IAmb 09 20 55.3
comp=Z,9.6nm,0.9s
BOZ Bozeman (W) 34.87 337 P P 09 20 51.5 +1.8
baz=147,SNR=18
LBNH Lisbon 34.94 27 P P 09 20 49.5 -0.6
baz=218
DLMT Dillon 35.04 336 IAmb IAmb 09 20 55.0
comp=Z,22nm,1.1s
DGMT Dagmar 35.27 347 P P 09 20 53.7 +0.7
baz=161
ULM Lac du Bonnet 35.93 357 P P 09 20 56.3 -2.2
comp=Z,7.5nm,0.8s,baz=173,slow=7.9,SNR=7.1
ULM LR LR 09 39 27.9
comp=Z,225nm,18.0s,baz=154,slow=43
ULM Lac du Bonnet 35.93 357 IAmb IAmb 09 20 59.0
comp=Z,13nm,1.2s
O03E Paynes Creek 35.99 321 P P 09 21 00.9 +1.6
baz=128
MOD Modoc Plateau 36.14 325 IAmb IAmb 09 21 03.9
comp=Z,12nm,1.1s
PLID Pearl Lake 36.26 332 IAmb IAmb 09 21 04.6
comp=Z,18nm,1.1s
EGMT Eagleton 36.32 341 P P 09 21 03.0 +1.0
baz=152,SNR=16
MSO Missoula 36.78 336 IAmb IAmb 09 21 08.8
comp=Z,13nm,1.0s
MSO Missoula 36.78 336 P P 09 21 07.2 +1.2
baz=145,SNR=11
M02C Callahan 37.29 322 P P 09 21 11.9 +1.5
baz=127
YBH Yreka Blue Hor 37.41 323 LR LR 09 38 52.7
comp=Z,278nm,18.6s,baz=155,slow=40
L04D Klamath Falls 37.48 324 P P 09 21 14.3 +2.2
baz=129
F10A Beach Ranch, E 37.49 332 IAmb IAmb 09 21 14.6
comp=Z,21nm,0.9s
J05D Fort Rock, OR 37.57 326 P P 09 21 14.9 +2.1
baz=131
JTMT Jette 37.67 337 IAmb IAmb 09 21 15.6
comp=Z,17nm,1.1s
J04D Umpqua Nationa 38.03 325 P P 09 21 18.9 +2.2
baz=130
L02E Cave Junction 38.20 323 P P 09 21 19.7 +1.7
baz=127
I05D Terrebonne, OR 38.34 327 P P 09 21 20.8 +1.7
baz=132
I04A Tendick Farm, 38.55 325 P P 09 21 22.3 +1.4
baz=130
WALA Waterton Lakes 38.62 338 IAmb IAmb 09 21 24.6
comp=Z,24nm,1.4s
G05D Wanic, OR 38.94 328 P P 09 21 26.8 +2.7
baz=133
J01E Myrtle Point 39.01 324 P P 09 21 27.4 +2.7
baz=128
I03D Drain, OR 39.01 325 P P 09 21 27.6 +2.9
baz=129
H04A Detroit Lake 39.02 327 IAmb IAmb 09 21 27.7
comp=Z,35nm,1.1s
H04D Lebanon 39.21 326 P P 09 21 28.6 +2.2
baz=130
LPAZ Laz Paz 39.21 140 P P 09 21 26.1 -1.3
comp=Z,1.0nm,0.6s,baz=314,slow=10,SNR=5.1
LPAZ LR LR 09 36 07.9
comp=Z,249nm,21.4s,baz=326,slow=34
NEW Newport 39.22 335 LR LR 09 40 49.5
comp=Z,269nm,18.9s,baz=100,slow=41
NEW Newport 39.22 335 P P 09 21 28.4 +1.9
baz=141
I02E Swisshome, OR 39.55 325 P P 09 21 32.2 +3.0
baz=129
G03D McMinnville, O 39.94 327 P P 09 21 35.1 +2.6
baz=130
LTY Liberty 40.04 331 P P 09 21 33.7 +0.4
F04D Rainier, OR 40.38 328 P P 09 21 38.3 +2.1
baz=132
E04D Cinebar 40.48 329 P P 09 21 39.1 +2.2
baz=133
MDP Montagnes des 40.97 99 LR LR 09 39 26.2
comp=Z,300nm,21.7s,baz=320,slow=38
D03D Eldon 41.41 329 P P 09 21 46.0 +1.5
baz=133
B05A Bryant 41.43 331 P P 09 21 46.5 +1.8
baz=135
EDM Edmonton 41.99 342 P P 09 21 49.4 +0.2
A04D Lummi Island 42.04 331 P P 09 21 51.4 +1.7
baz=134
LVC Limon Verde 43.73 147 LR LR 09 39 32.8
comp=Z,160nm,18.7s,baz=280,slow=35
SIV San Ignacio 43.76 132 LR LR 09 39 31.8
comp=Z,248nm,18.2s,baz=340,slow=35
RPN Rapa Nui 44.04 201 LR LR 09 36 18.0
comp=Z,206nm,18.6s,baz=214,slow=30
FCC Fort Churchill 44.40 359 P P 09 22 07.8 -0.7
FCC IAmb IAmb 09 22 09.0
comp=Z,7.4nm,0.8s
SCHQ Schefferville 45.37 21 P P 09 22 13.7 -2.8
comp=Z,5.5nm,1.0s,baz=19,slow=1.4,SNR=4.4
SCHQ LR LR 09 42 24.8
comp=Z,511nm,18.8s,baz=242,slow=38
SCHQ Schefferville 45.37 21 IAmb IAmb 09 22 15.1
comp=Z,16nm,1.2s
BBB Bella Bella 46.93 331 LR LR 09 46 03.1
comp=Z,268nm,18.8s,baz=294,slow=41
YKA Yellowknife Ar 50.48 347 P P 09 22 56.2 +0.5
comp=Z,20nm,0.8s,baz=151,slow=7.5,SNR=218
YKA PcP PcP 09 24 13.8 +0.3
comp=Z,1.6nm,0.8s,baz=151,slow=3.4,SNR=5.2
YKA LR LR 09 45 47.0
comp=Z,45nm,21.2s,baz=156,slow=38
WRAK Wrangell Islan 51.55 333 P P 09 23 05.1 +1.2
baz=128
DLBC Dease Lake 51.91 336 IAmb IAmb 09 23 11.5
comp=Z,19nm,1.1s
FRB Frobisher Bay 52.30 14 LR LR 09 47 18.1
comp=Z,159nm,18.3s,baz=238,slow=38
WTLY Watson Lake, Y 52.61 338 P P 09 23 13.7 +1.8
baz=134
CPUP Villa Florida 53.37 139 LR LR 09 47 10.8
comp=Z,95nm,18.9s,baz=100,slow=38
TGTN Hyland Airport 53.44 340 P P 09 23 19.7 +1.7
baz=136,SNR=6.3
BDFB Brasilia 53.68 122 P P 09 23 18.9 -1.5
comp=Z,3.0nm,0.6s,baz=243,slow=5.7,SNR=4.8
BDFB Brasilia 53.68 122 IAmb IAmb 09 23 27.5
comp=Z,8.5nm,1.2s
MMPY Sheldon Lake, 55.22 340 P P 09 23 32.5 +1.7
baz=133,SNR=14
WHY Whitehorse 55.24 337 P P 09 23 32.9 +1.8
baz=128
FARO Faro, Yukon 55.67 339 P P 09 23 36.0 +1.9
baz=130
M31M Drury Creek, Y 56.03 338 P P 09 23 38.5 +1.9
baz=129
N31M Braeburn, Yuko 56.09 337 P P 09 23 39.5 +2.3
baz=128
HYT Haines Junctio 56.37 336 P P 09 23 41.0 +1.8
baz=125
PNL Peninsula 56.49 334 P P 09 23 42.6 +2.7
baz=123
YUK6 Outpost Mounta 56.78 336 P P 09 23 44.4 +2.1
baz=124
YUK4 Talbot Arm 57.12 336 P P 09 23 45.9 +1.3
baz=124
M30M Minto, Yukon 57.14 338 IAmb IAmb 09 23 48.0
comp=Z,13nm,1.2s
M30M Minto, Yukon 57.14 338 P P 09 23 45.4 +0.8
baz=127
YUK3 Moose Creek 58.08 336 P P 09 23 51.5 +0.1
baz=123
C36M Paulatuk 58.36 348 P P 09 23 53.9 +1.0
baz=144
BVCY Beaver Creek 58.59 336 P P 09 23 56.2 +1.5
baz=123
J29M Klondike Camp 58.78 339 P P 09 23 57.1 +1.1
baz=126
MCARA McCarthy VSAT 58.92 335 P P 09 23 59.2 +2.1
baz=120
M27K Edge Creek, AK 58.96 336 P P 09 23 59.7 +2.3
baz=122
DAWY Dawson 58.97 338 P P 09 23 58.1 +0.8
baz=125
L27K Beaver Creek, 59.31 337 P P 09 24 00.8 +1.1
L27K Beaver Creek, 59.31 337 P P 09 24 01.2 +1.5
baz=122,SNR=8.3
I29M Ogilvie Camp, 59.36 340 P P 09 24 00.5 +0.5
baz=127,SNR=7.4
BMRM Bremner River 59.39 334 P P 09 24 02.0 +1.7
baz=118
M26K Nabesna, AK 59.43 336 IAmb IAmb 09 24 03.6
comp=Z,16nm,1.4s
M26K Nabesna, AK 59.43 336 P P 09 24 02.2 +1.6
baz=120
EPYK Eagle Plains 59.47 341 IAmb IAmb 09 24 02.5
comp=Z,13nm,1.2s
EPYK Eagle Plains 59.47 341 P P 09 24 02.1 +1.3
baz=129
SFJD Kangerlussuaq 59.60 18 LR LR 09 51 21.0
comp=Z,523nm,18.6s,baz=212,slow=38
EYAK Cordova Ski Ar 59.69 333 P P 09 24 04.4 +2.1
baz=117
N25K Chitina, Valde 59.69 334 P P 09 24 04.6 +2.1
baz=118
INK Inuvik 59.83 344 LR LR 09 56 45.2
comp=Z,151nm,18.8s,baz=160,slow=43
INK Inuvik 59.83 344 P P 09 24 04.2 +1.1
baz=133,SNR=14
L26K Log Cabin Wild 59.89 336 IAmb IAmb 09 24 06.7
comp=Z,13nm,1.3s
L26K Log Cabin Wild 59.89 336 P P 09 24 05.2 +1.5
baz=120
EGAK Eagle 60.01 338 IAmb IAmb 09 24 06.3
comp=Z,7.1nm,1.0s
EGAK Eagle 60.01 338 P P 09 24 05.7 +1.3
baz=124
KLU Klutina 60.20 334 P P 09 24 07.7 +1.8
baz=117
RCBR Riachuelo 60.26 105 LR LR 09 51 14.9
comp=Z,134nm,21.0s,baz=104,slow=37
HARP HAARP 60.30 335 P P 09 24 08.4 +1.9
baz=118
RES Resolute Bay 60.40 359 LR LR 09 52 34.9
comp=Z,238nm,20.9s,baz=146,slow=38
GLI Glacier Island 60.43 333 P P 09 24 08.2 +0.8
baz=116
M24K Tolsona, Glenn 60.59 334 P P 09 24 09.2 +0.7
baz=117
SCRK Sand Creek 60.62 337 P P 09 24 09.7 +0.9
baz=120,SNR=5.3
PAX Paxson 60.70 336 P P 09 24 10.7 +1.4
baz=118,SNR=7.6
J26L Joseph Creek 60.73 338 P P 09 24 11.0 +1.5
baz=121,SNR=12
A36M Sachs Harbour 60.74 349 P P 09 24 09.5 +0.3
baz=144,SNR=6.4
RIDG Independent Ri 60.83 336 P P 09 24 11.6 +1.4
baz=119,SNR=9.7
SCM Sheep Creek Mo 60.95 334 P P 09 24 12.1 +1.1
baz=116
PWL Port Wells 60.97 333 P P 09 24 12.5 +1.4
baz=114
M23K Glacier View 61.10 334 P P 09 24 13.6 +1.6
baz=115
SEW Seward 61.17 332 P P 09 24 14.0 +1.6
baz=113
K24K Donnelly Dome 61.22 336 P P 09 24 14.2 +1.5
baz=118,SNR=5.9
KNK Knik Glacier 61.26 333 P P 09 24 14.4 +1.4
baz=114
SML Sawmill 61.37 334 P P 09 24 15.5 +1.7
baz=115
WAT6 Susitna Watana 61.45 335 P P 09 24 15.1 +0.6
baz=116,SNR=10
J25K Salcha River, 61.46 337 IAmb IAmb 09 24 17.1
comp=Z,13nm,1.2s
J25K Salcha River, 61.46 337 P P 09 24 15.4 +0.9
baz=119,SNR=6.5
DHY Denali Highway 61.52 335 P P 09 24 16.7 +1.8
baz=116
PMR Palmer 61.62 333 P P 09 24 17.4 +1.9
baz=114
BRSE Bradley Lake S 61.63 331 P P 09 24 17.2 +1.6
baz=111
RC01 Rabbit Creek A 61.69 333 P P 09 24 18.2 +2.3
baz=113
KDAK Kodiak Island 61.85 328 LR LR 09 49 40.3
comp=Z,165nm,20.7s,baz=296,slow=35
WAT1 Susitna Watana 61.90 335 P P 09 24 18.5 +1.1
baz=115
HOM Homer 62.03 331 P P 09 24 20.1 +1.9
baz=110
OHAK Old Harbor 62.03 328 P P 09 24 20.7 +2.5
baz=108
ILAR Eielson Array 62.11 337 P P 09 24 19.4 +0.8
comp=Z,8.9nm,1.0s,baz=137,slow=4.5,SNR=48
ILAR LR LR 09 55 04.2
comp=Z,230nm,18.6s,baz=302,slow=40
CAPN Captain Cook N 62.20 332 P P 09 24 21.2 +1.9
baz=111
MCK McKinley 62.44 336 P P 09 24 22.0 +1.0
baz=115,SNR=9.4
CUT Chulitna 62.44 334 P P 09 24 22.1 +1.2
baz=113,SNR=5.6
POKR Poker Plat Res 62.48 337 P P 09 24 22.3 +1.1
baz=117
COLA College 62.52 337 P P 09 24 21.6 +0.2
COLA College 62.52 337 P P 09 24 22.6 +1.2
baz=117
TCOL CIGO, UAF Yank 62.53 337 P P 09 24 22.6 +1.2
baz=117
MDM Murphy Dome 62.70 337 IAmb IAmb 09 24 27.2
comp=Z,6.1nm,1.1s
P19K Oil Pt 62.78 330 P P 09 24 24.7 +1.4
baz=109
NEA2 Nenana 62.87 336 P P 09 24 24.8 +1.0
baz=115
TRF Thorofare Moun 62.87 335 P P 09 24 25.1 +1.1
baz=114,SNR=7.2
CHIR Chirikof Islan 62.87 326 P P 09 24 25.0 +1.1
baz=105
H24K Noodor Dome 62.98 338 P P 09 24 25.7 +1.2
baz=117,SNR=13
I23K Minto, Yukon-K 63.22 337 P P 09 24 27.4 +1.4
baz=115
BPAW Bear Paw Mtn. 63.42 335 P P 09 24 27.9 +0.4
baz=113,SNR=5.8
PPLA Purkeypile 63.45 334 P P 09 24 28.5 +0.6
baz=112
O19K Port Alsworth 63.48 331 P P 09 24 28.6 +0.8
baz=108
H23K Yukon River 63.58 338 IAmb IAmb 09 24 58.1
comp=Z,8.0nm,1.3s
H23K Yukon River 63.58 338 P P 09 24 29.4 +0.8
baz=115
CAST Castle Rocks 63.60 335 P P 09 24 29.0 +0.3
baz=112,SNR=7.8
P18K Big Mountain, 63.67 330 P P 09 24 29.7 +0.5
baz=107
N19K Bonanza Creek 63.75 331 P P 09 24 30.5 +0.7
baz=108
O18K Koktuh Hills 63.80 330 P P 09 24 30.9 +0.9
baz=107
CHUM Lake Minchumin 63.88 335 P P 09 24 31.0 +0.6
baz=112
L20K Farewell, AK 64.03 333 P P 09 24 32.2 +0.7
baz=110,SNR=7.6
M19K Big River Lodg 64.06 333 P P 09 24 32.3 +0.6
baz=109
I21K Tanana 64.24 336 P P 09 24 33.8 +1.0
baz=113
L19K White Mountain 64.36 333 P P 09 24 34.6 +0.9
baz=108
N18K Kilae Creek 64.37 331 P P 09 24 34.4 +0.6
baz=107

K20K	**Telida**	**64.42**	**334**	P		**P**	**09 24 34.6**	**+0.6**
	baz=110,SNR=8.2							
COLD	**Coldfoot**	**64.43**	**339**	P		**P**	**09 24 35.3**	**+1.3**
	baz=115,SNR=7.2							
J20K	**Nowinta River**	**64.73**	**335**	P		**P**	**09 24 36.6**	**+0.6**
	baz=110,SNR=5.9							
H21K	**Melozitna Rive**	**64.74**	**337**	IAmb		IAmb	09 24 37.2	
	comp=Z,6.7nm,1.1s							
H21K	**Melozitna Rive**	**64.74**	**337**	P		**P**	**09 24 36.5**	**+0.4**
	baz=112							
TOLK	**Toolik Lake Re**	**64.85**	**340**	P		**P**	**09 24 37.9**	**+1.1**
	baz=117,SNR=8.1							
TTA	**Tatalina**	**65.11**	**333**	P		**P**	**09 24 38.6**	**0.0**
TTA	**Tatalina**	**65.11**	**333**	P		**P**	**09 24 39.2**	**+0.6**
	baz=108							
IMAR	**Indian Mountai**	**65.23**	**337**	P		**P**	**09 24 37.9**	**-1.3**
SDPT	**Sand Point**	**65.45**	**325**	P		**P**	**09 24 42.3**	**+1.4**
	baz=100							
EUNU	**Eureka**	**65.86**	**1**	P		**P**	**09 24 43.7**	**+0.5**
GCSA	**Galena City Sc**	**66.04**	**335**	P		**P**	**09 24 45.4**	**+0.9**
	baz=108							
FALS	**False Pass**	**67.04**	**324**	P		**P**	**09 24 51.8**	**+0.7**
	baz=98							
A21K	**Barrow**	**68.16**	**342**	P		**P**	**09 24 58.9**	**+1.1**
	baz=111,SNR=9.1							
BORG	**Borgarnes**	**69.46**	**26**	LR		LR	09 54 18.9	
	comp=Z,179nm,20.6s,baz=266,slow=35							
JMIC	**Jan Mayen**	**74.87**	**20**	LR		LR	09 59 11.3	
	comp=Z,191nm,19.9s,baz=304,slow=36							
EKA	**Eskdalemuir Ar**	**78.42**	**36**	LR		LR	10 01 19.7	
	comp=Z,193nm,18.1s,baz=100,slow=36							
SPITS	**Spitsbergen Ar**	**80.04**	**11**	LR		LR	10 02 58.5	
	comp=Z,195nm,20.7s,baz=45,slow=37							
ESDC	**Sonseca Array**	**80.46**	**51**	P		**P**	**09 26 07.4**	**-2.8**
	comp=Z,2.8nm,0.8s,baz=289,slow=5.9,SNR=17							
BILL	**Bilibino**	**80.75**	**338**	P		**P**	**09 26 12.3**	**+1.3**
MDT	**Midelt**	**81.25**	**58**	LR		LR	09 54 30.5	
	comp=Z,103nm,21.6s,baz=304,slow=30							
NB2	**NORSAR Subarra**	**84.45**	**28**	P		**P**	**09 26 29.8**	**-0.7**
	comp=Z,9.5nm,1.4s,baz=290,slow=5.1							
NOA	**NORSAR Array B**	**84.45**	**28**	P		**P**	**09 26 29.2**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=290,slow=5.1,SNR=5.7							
NOA				LR		LR	10 02 14.6	
	comp=Z,135nm,21.4s,baz=285,slow=34							
KOWA	**Kowa**	**85.75**	**76**	P		**P**	**09 26 37.3**	**-0.5**
HFS	**Hagfors**	**85.92**	**29**	LR		LR	10 02 45.6	
	comp=Z,171nm,21.1s,baz=286,slow=34							
ARCES	**ARCESS Array B**	**86.23**	**18**	P		**P**	**09 26 38.2**	**-0.9**
	comp=Z,3.2nm,0.9s,baz=293,slow=4.7,SNR=5.7							
ARCES				LR		LR	10 06 28.0	
	comp=Z,112nm,18.2s,baz=300,slow=37							
DAVOX	**Davos/Dischmat**	**88.44**	**42**	LR		LR	10 00 17.9	
	comp=Z,120nm,21.4s,baz=265,slow=32							
GERES	**GERESS Array B**	**90.13**	**39**	P		**P**	**09 26 57.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=348,slow=4.2,SNR=4.1							
GERES				LR		LR	10 08 08.3	
	comp=Z,93nm,18.2s,baz=302,slow=36							
MA2	**Magadan**	**90.30**	**333**	LR		LR	10 10 17.7	
	comp=Z,65nm,19.3s,baz=60,slow=37							
FINES	**FINESS Array B**	**90.74**	**25**	LR		LR	10 06 48.3	
	comp=Z,104nm,21.7s,baz=14,slow=35							
TORD	**Torodi Ar. Bea**	**91.46**	**76**	P		**P**	**09 27 02.9**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=292,slow=6.0,SNR=2.6							
VRAC	**Vranov**	**91.70**	**38**	LR		LR	10 10 23.3	
	comp=Z,125nm,18.1s,baz=278,slow=37							
VAE	**Valguarnera**	**94.88**	**50**	LR		LR	10 06 57.9	
	comp=Z,180nm,18.6s,baz=293,slow=34							
NRIK	**Noril'sk**	**96.59**	**360**	LR		LR	10 15 59.1	
	comp=Z,132nm,18.2s,baz=14,slow=39							
YAK	**Yakutsk**	**96.81**	**341**	LR		LR	10 20 11.7	
	comp=Z,45nm,19.2s,baz=88,slow=41							
AKASG	**Malin Array Be**	**98.13**	**33**	LR		LR	10 14 49.3	
	comp=Z,70nm,18.5s,baz=346,slow=37							
URZ	**Urewera**	**98.44**	**233**	LR		LR	10 06 51.7	
	comp=Z,72nm,18.1s,baz=210,slow=32							
OBN	**Obninsk**	**98.96**	**27**	LR		LR	10 12 28.6	
	comp=Z,21nm,19.4s,baz=148,slow=36							
MLR	**Muntele Rosu**	**99.09**	**38**	LR		LR	10 13 11.7	
	comp=Z,38nm,20.3s,baz=336,slow=36							
MKAR	**Makanchi Array**	**119.07**	**4**	PKP		**PKPdf**	**09 32 46.1**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=357,slow=3.2,SNR=5.3							
HHC	**Hu-ho-hao-te**	**120.52**	**338**	*e*P		**PKiKP**	**09 32 52.8**	**+2.7**
WMQ	**Urumqi**	**122.17**	**359**	*e*P		**PKiKP**	**09 32 55.5**	**+2.3**
STKA	**Stephens Creek**	**127.17**	**241**	PKP		**PKiKP**	**09 33 03.4**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=66,slow=4.4,SNR=6.2							
WRA	**Warramunga Arr**	**134.32**	**256**	PKP		**PKiKP**	**09 33 17.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=84,slow=1.9,SNR=5.7							
PZH	**PanZhiHua**	**136.92**	**340**	PKP		**PKPdf**	**09 33 22.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**145.32**	**339**	PKPbc		**PKPdf**	**09 33 36.9**	**+0.2**
	comp=Z,7.6nm,0.7s,baz=343,slow=4.3,SNR=21							
HYBB	**Hyderabad (bro**	**147.46**	**15**	*e*PKiK		**PKPbc**	**09 33 43.3**	**+0.5**
HYBB				*e*SKSdf		**SKSdf**	**09 40 44.8**	**-2.0**
HYBB				*e*SKKSac		**SKKSac**	**09 43 57.9**	**-0.2**
PSI	**Prapat**	**159.19**	**324**	PKPab		**PKPab**	**09 34 34.7**	**+0.5**
	comp=Z,9.6nm,0.8s,baz=6.5,slow=1.0,SNR=6.9							
RPSI	**Rantau Prapat**	**159.27**	**324**			**PKPab**	**09 34 34.7**	**+0.3**

*JMA **25** 09:14:03.2±0.1, 32°.31N×141°.98E, h36km, M3.3*
*IDC **25** 09:14:04.2±4.8, 31°.86N×140°.83E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/51, mbtmp3.5/6, ML2.5/1, Error ellipse: s-maj=186.6km s-min=22.2km az=70.0*
ISC 25 09:14:05.7±1.0, 32°.29N±0°.05×141°.92E±0°.09, h35km, n14, σ0$59/21, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAOM	**Aogashimamukai**	**1.83**	**276**	P		**Pn**	**09 14 34.1**	**-0.6**
JAOM				*e*S		**Sn**	**09 14 56.5**	**-0.2**
JHJ2	**Mitsune**	**1.96**	**295**	P		**Pn**	**09 14 35.4**	**-0.9**
JHJ2				*e*S		**Sn**	**09 14 59.7**	**+0.1**
BSO1	**Boso 1**	**2.49**	**342**	P		**Pn**	**09 14 42.8**	**-0.4**
BSO1				*e*S		**Sn**	**09 15 11.6**	**-0.5**
BSO3	**Boso 3**	**2.77**	**335**	*e*S		**Sn**	**09 15 19.1**	**-0.3**
JRY	**Ryogami san**	**4.48**	**327**	P		**Pn**	**09 15 11.8**	**+0.6**
JRY				*e*S		**Sn**	**09 16 03.0**	**+0.9**
JAG	**Ashikaga**	**4.61**	**334**	P		**Pn**	**09 15 12.7**	**-0.1**
JAG				*e*S		**Sn**	**09 16 05.0**	**0.0**
CBIJ	**Chichi jima**	**5.18**	**177**	P		**Pn**	**09 15 20.6**	**-0.1**
CBIJ				*e*S		**Sn**	**09 16 19.8**	**+0.6**
MJAR	**Matsushiro Arr**	**5.24**	**325**	Pn		**Pn**	**09 15 22.3**	**+0.8**
	0.2nm,0.3s,baz=168,slow=17,SNR=5.7							
JFT	**Otama**	**5.38**	**346**	P		**Pn**	**09 15 23.3**	**-0.1**
JFT				*e*S		**Sn**	**09 16 24.0**	**-0.1**
SONM	**Songino Array**	**30.99**	**311**	P		**P**	**09 20 20.9**	**+1.1**
	0.4nm,0.6s,baz=111,slow=7.9,SNR=1.9							
MKAR	**Makanchi Array**	**47.12**	**306**	P		**P**	**09 22 34.1**	**-0.2**
	0.5nm,0.7s,baz=82,slow=10,SNR=4.1							
KURBB	**Kurchatov Arra**	**49.35**	**311**	P		**P**	**09 22 50.8**	**-0.6**
	0.4nm,0.4s,baz=87,slow=7.6,SNR=4.6							
WRA	**Warramunga Arr**	**52.44**	**189**	P		**P**	**09 23 14.9**	**0.0**
	0.9nm,0.7s,baz=5.0,slow=7.6,SNR=11							
ASAR	**Alice Springs**	**56.16**	**189**	P		**P**	**09 23 41.2**	**-0.7**
	0.2nm,0.8s,baz=4.7,slow=5.6,SNR=2.1							

*IDC **25** 09:16:53.1±1.1, 33°.94N×87°.08E, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.7/49, mbtmp3.7/10, ML3.4/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/91, Error ellipse: s-maj=40.1km s-min=18.6km az=62.0*
ISC 25 09:16:59.2±0.7, 34°.20N±0°.08×87°.4E±0°.1, h35km, n20, σ1$11/19, mb3.7/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUN	**Gumba**	**6.40**	**192**	*e*P		**Pn**	**09 18 33.3**	**+2.0**
	23nm,0.5s							
DANN	**Dangsing**	**6.59**	**209**	*e*P		**Pn**	**09 18 34.7**	**+0.8**
	13nm,0.5s							
PKIN	**Phulchoki**	**6.81**	**195**	*e*P		**Pn**	**09 18 39.2**	**+2.2**
	26nm,0.6s							
TAPN	**Taplejung**	**6.83**	**177**	*e*P		**Pn**	**09 18 36.9**	**-0.4**
	15nm,0.6s							
DMN	**Daman**	**6.85**	**197**	*e*P		**Pn**	**09 18 38.7**	**+1.3**
	16nm,0.4s							
PYUN	**Piuthan**	**7.14**	**213**	*e*P		**Pn**	**09 18 41.0**	**-0.4**
	34nm,0.7s							
KOLN	**Koldanda**	**7.17**	**208**	*e*P		**Pn**	**09 18 41.9**	**+0.1**
	10nm,0.5s							
RAMN	**Ramite**	**7.26**	**185**	*e*P		**Pn**	**09 18 43.4**	**+0.4**
	6.2nm,0.4s							
ODAN	**Odare**	**7.32**	**180**	*e*P		**Pn**	**09 18 43.5**	**-0.3**
	25nm,0.7s							
MKAR	**Makanchi Array**	**13.15**	**345**	Pn		**Pn**	**09 20 02.8**	**-0.7**
	0.0nm,0.3s,baz=159,slow=14,SNR=9.3							
CMAR	**Chiang Mai Arr**	**18.78**	**144**	P		**P**	**09 21 14.7**	**-0.9**
	0.1nm,0.3s,baz=322,slow=12,SNR=12							
SONM	**Songino Array**	**19.73**	**41**	P		**Pn**	**09 21 28.7**	**+1.2**
	0.9nm,0.7s,baz=224,slow=12,SNR=13							
ZALV	**Zalesovo Beam**	**19.82**	**356**	P		**Pn**	**09 21 28.2**	**-0.2**
	1.3nm,0.6s,baz=180,slow=13,SNR=1.4							
GEYT	**Alibeck**	**23.88**	**287**	LR		LR	09 32 58.8	
	comp=Z,175nm,18.8s,baz=115,slow=41							
NOA	**NORSAR Array B**	**54.17**	**324**	P		**P**	**09 26 20.4**	**-0.4**
	1.3nm,0.9s,baz=83,slow=7.3,SNR=3.7							
GERES	**GERESS Array B**	**54.96**	**309**	P		**P**	**09 26 26.2**	**-0.6**
	0.3nm,0.3s,baz=82,slow=7.0,SNR=4.2							
WRA	**Warramunga Arr**	**69.99**	**133**	P		**P**	**09 28 05.8**	**-1.6**
	0.7nm,0.8s,baz=326,slow=6.8,SNR=8.4							
ASAR	**Alice Springs**	**72.59**	**136**	P		**P**	**09 28 22.7**	**-0.3**
	0.5nm,0.7s,baz=321,slow=6.4,SNR=7.0							
ILAR	**Eielson Array**	**72.67**	**21**	P		**P**	**09 28 24.2**	**+1.3**
	0.4nm,0.6s,baz=328,slow=4.9,SNR=5.3							
YKA	**Yellowknife Ar**	**82.03**	**10**	P		**P**	**09 29 16.0**	**+0.6**
	0.6nm,0.8s,baz=336,slow=5.1,SNR=8.4							

IDC 25 09:19:24.7±3.1, 53°.73N×88°.16E, h0km, mb1 3.1/2, mb1mx2.9/50, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=28.0km s-min=18.0km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**278**	*i*			09 32 25.5	
	baz=92,slow=334,SNR=4.8							
ZALV	**Zalesovo Beam**	**1.99**	**278**	Pg		Pb	09 20 01.0	-0.8
	1.4nm,0.3s,baz=94,slow=13,SNR=22							
ZALV				Lg		Lg	09 20 29.0	
	3.6nm,0.3s,baz=98,slow=26,SNR=13							
KURBB	**Kurchatov Arra**	**6.69**	**246**	Pn		Pn	09 21 04.1	0.0
	0.1nm,0.3s,baz=61,slow=14,SNR=10							
KURBB				Sn		Sn	09 22 19.5	-1.5
	baz=45,slow=15,SNR=1.4							
MKAR	**Makanchi Array**	**7.90**	**211**	Pn		Pn	09 21 22.6	+1.8
	0.2nm,0.3s,baz=31,slow=15,SNR=6.2							
MKAR				Lg		Lg	09 23 34.5	
	0.1nm,0.3s,baz=28,slow=30,SNR=2.7							

*GCG **25** 09:20:48.3±0.3, 14°.77N×93°.01W, h131km±12km, MD3.9*
*MEX **25** 09:20:48.2±0.4, 14°.19N×93°.26W, h18km±661km, MD4.0*
ISC 25 09:20:46.2±2.8, 14°.3N±0°.1×93°.21W±0°.07, h7km±12km, n12, σ1$45/24, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**1.08**	**58**	*e*P		**Pg**	**09 21 07.5**	**+0.7**
THIG				*i* S		**Sg**	**09 21 21.9**	**+1.1**
PATR	**El Naranjo**	**1.22**	**51**	*e*P		**Pg**	**09 21 09.0**	**-0.7**
PATR				*e*S		**Sg**	**09 21 25.0**	**-0.6**
CHUJ	**Union Juarez**	**1.30**	**55**	*e*P		**Pn**	**09 21 10.4**	**-0.6**
CHUJ				*i* S		**Sg**	**09 21 27.2**	**-1.1**
PAVE	**Pavencul**	**1.31**	**49**	*e*P		**Pn**	**09 21 10.5**	**-0.6**
PAVE				*e*S		**Sg**	**09 21 27.8**	**-0.7**
PCIG		**1.36**	**360**	*e*P		**Pn**	**09 21 11.0**	**-0.6**
PCIG				*e*S		**Sb**	**09 21 29.0**	**-0.6**
STG3	**Santiaguito 3,**	**1.63**	**77**	*e*P		**Pn**	**09 21 16.2**	**+0.7**
STG3				*e*S		**Sn**	**09 21 38.0**	**+1.1**
CARR	**Arriaga**	**2.02**	**340**	*e*P		**Pn**	**09 21 20.2**	**-0.5**
CARR				*e*S		**Sn**	**09 21 45.1**	**-1.0**
CCIG	**Comitan**	**2.19**	**28**	*e*P		**Pb**	**09 21 26.6**	**+0.2**
CCIG				*i* S		**Sn**	**09 21 52.0**	**+1.3**
FUG	**Fuego 3**	**2.30**	**87**	*e*P		**Pn**	**09 21 24.8**	**+0.1**
FUG				*e*S		**Sn**	**09 21 52.0**	**-1.3**
TGIG		**2.43**	**2**	*e*P		**Pn**	**09 21 28.4**	**+2.0**
TGIG				*e*S		**Sn**	**09 21 56.4**	**0.0**
UXUV	**UXUV**	**3.10**	**343**	*e*P		**Pn**	**09 21 38.1**	**+2.5**
UXUV				*e*S		**Sn**	**09 22 14.5**	**+1.7**
CMIG	**Matias Romero**	**3.18**	**330**	*e*P		**Pn**	**09 21 37.7**	**+1.1**
CMIG				*i* S		**Sn**	**09 22 10.8**	**-4.0**

*IDC **25** 09:22:24.3±1.2, 28°.48S×178°.22W, h180km±6km, mb3.6/6, mb1 3.7/6, mb1mx3.5/33, mbtmp4.1/6, MS3.7/1, Ms1 3.7/1, ms1mx2.9/42, Error ellipse: s-maj=34.4km s-min=21.2km az=32.0*
*NEIC **25** 09:22:27.3±1.3, 29°.1S±0°.2×178°.6W±0°.2, h175km±13km, mb4.3/17, Error ellipse: s-maj=32.7km s-min=22.7km az=68.0*
ISC 25 09:22:27.1±0.9, 29°.0S±0°.1×178°.4W±0°.1, h200km, n39, σ1$65/35, mb4.1/14, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**0.45**	**121**	P		**Pn**	**09 22 51.9**	**-2.1**
	856nm,0.3s,baz=81,slow=7.8,SNR=46							
RAO				S		**Sn**	**09 23 11.7**	**-3.2**
	1µm,0.3s,baz=53,slow=23,SNR=14							
RAO	**Raoul Island**	**0.45**	**121**	Pn		**Pn**	**09 22 52.1**	**-1.9**
URZ	**Urewera**	**9.95**	**201**	P		**Pn**	**09 24 43.9**	**-1.8**
	0.3nm,0.3s,baz=306,slow=19,SNR=1.0							
URZ				S		**Sn**	**09 26 33.8**	**-3.0**
	4.5nm,0.3s,baz=194,slow=20,SNR=11							
URZ	**Urewera**	**9.95**	**201**	Pn		**Pn**	**09 24 44.7**	**-1.0**
BKZ	**Black Stump Fm**	**10.98**	**201**	Pn		**Pn**	**09 24 57.9**	**-1.0**
TUWZ	**Tuamarina**	**13.88**	**205**	Pn		**Pn**	**09 25 34.0**	**-1.4**
HNR	**Honiara**	**28.18**	**309**	LR		LR	09 37 10.5	
	comp=Z,160nm,19.1s,baz=258,slow=32							
CTA	**Charters Tower**	**33.29**	**277**	P		**P**	**09 28 47.1**	**+1.1**
	3.1nm,0.7s,baz=104,slow=10,SNR=6.4							
CTAO	**Charters Tower**	**33.29**	**277**	P		**P**	**09 28 46.1**	**+0.1**
STKA	**Stephens Creek**	**34.51**	**255**	P		**P**	**09 28 57.8**	**+1.4**
	2.4nm,0.7s,baz=110,slow=8.6,SNR=10							
STKA	**Stephens Creek**	**34.51**	**255**	P		**P**	**09 28 56.7**	**+0.3**
BBOO	**Buckleboo**	**39.06**	**253**	P		**P**	**09 29 35.2**	**+0.5**
BBOO				IAmb		IAmb	09 30 00.4	
	comp=Z,7.3nm,1.2s							
AS31	**Alice Springs**	**42.88**	**266**	P		**P**	**09 30 05.9**	**-0.2**
ASAR	**Alice Springs**	**42.89**	**266**	P		**P**	**09 30 05.7**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.1,SNR=29							
ASAR				PcP		**PcP**	**09 31 54.7**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=115,slow=4.2,SNR=1.3							
WR0	**Warramunga Arr**	**43.57**	**271**	P		**P**	**09 30 10.9**	**-0.6**
WB2	**Warramunga Arr**	**43.74**	**271**	P		**P**	**09 30 12.6**	**-0.3**
WB2				IAmb		IAmb	09 30 27.3	
	comp=Z,14nm,1.5s							
WRAB	**Tennant Creek**	**43.74**	**271**	P		**P**	**09 30 12.6**	**-0.4**
WRAB				IAmb		IAmb	09 30 27.1	
	comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**43.75**	**271**	P		**P**	**09 30 12.1**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=110,slow=7.8,SNR=29							
WRA	**Warramunga Arr**	**43.75**	**271**	IAmb		IAmb	09 30 14.7	
	comp=Z,0.5nm,1.2s							
WB0	**Warramunga Arr**	**43.77**	**271**	P		**P**	**09 30 13.3**	**+0.1**
WB0				IAmb		IAmb	09 30 31.5	
	comp=Z,11nm,1.3s							
FORT	**Forrest**	**46.11**	**254**	P		**P**	**09 30 31.6**	**+0.1**
SBA	**Scott Base**	**49.38**	**184**	P		**P**	**09 30 59.7**	**+3.8**
SBA				IAmb		IAmb	09 31 02.2	
	comp=Z,6.1nm,0.8s							
VNDA	**Vanda**	**49.43**	**186**	P		**P**	**09 30 59.8**	**+3.6**
	comp=Z,0.8nm,0.5s,baz=5.9,slow=7.9,SNR=14							
VNDA	**Vanda**	**49.43**	**186**	IAmb		IAmb	09 31 01.1	
	comp=Z,1.7nm,0.8s							
FITZ	**Fitzroy Crossi**	**52.06**	**269**	P		**P**	**09 31 16.7**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=117,slow=6.8,SNR=2.1							
FITZ	**Fitzroy Crossi**	**52.06**	**269**	IAmb		IAmb	09 31 25.7	
	comp=Z,5.0nm,1.1s							
MBWA	**Marble Bar**	**56.07**	**263**	P		**P**	**09 31 44.6**	**-1.1**
MBWA				IAmb		IAmb	09 31 56.5	
	comp=Z,8.0nm,1.1s							
CASY	**Casey**	**56.21**	**207**	P		**P**	**09 31 46.6**	**+0.7**
CASY				IAmb		IAmb	09 31 47.7	
	comp=Z,5.9nm,0.8s							
MORW	**Morawa**	**56.63**	**253**	P		**P**	**09 31 49.3**	**-0.3**
QSPA	**South Pole Qui**	**61.08**	**180**	P		**P**	**09 32 22.4**	**+2.7**
QSPA				IAmb		IAmb	09 32 22.6	
	comp=Z,2.6nm,0.8s							
TROLL	**Troll, Antarti**	**79.24**	**180**	P		**P**	**09 34 10.1**	**+0.3**
VNA3	**Neumayer Olymp**	**79.69**	**176**	P		**P**	**09 34 12.5**	**+0.4**
VNA2	**Neumayer--Watz**	**80.13**	**177**	P		**P**	**09 34 15.2**	**+0.8**
	baz=187,slow=5.0							
H03S2	**Juan Fernandez**	**81.48**	**124**	T		T	11 04 37.9	
	baz=241							
H03S1	**Juan Fernandez**	**81.50**	**124**	T		T	11 04 38.3	
	baz=241							
H03S3	**Juan Fernandez**	**81.50**	**124**	T		T	11 04 37.9	
	baz=241							
AKASG	**Malin Array Be**	**150.01**	**324**	PKPbc		**PKPbc**	**09 41 51.6**	**-1.9**
	comp=Z,2.0nm,0.6s,baz=31,slow=4.6,SNR=8.1							
BRTR	**Keskin Array B**	**151.65**	**301**	PKPbc		**PKPbc**	**09 41 55.7**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=151,slow=5.4,SNR=3.7							
TORD	**Torodi Ar. Bea**	**164.20**	**180**	PKPab		**PKPab**	**09 43 02.1**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=168,slow=3.2,SNR=2.8							

*INMG **25** 09:26:59.7±1.4, 35°.49N×3°.88W, h0km, ML2.2, Error ellipse: s-maj=5.1km s-min=4.0km az=40.0*
*MDD **25** 09:26:59.5±0.4, 35°.47N×3°.87W, h0km, mb_Lg2.4/14, Error ellipse: s-maj=3.8km s-min=2.5km az=177.0*
*SFS **25** 09:26:59.0, 35°.46N×3°.87W, ML2.4, ALBORAN SUR*
*CNRM **25** 09:27:00.2, 35°.42N×3°.84W, h22km, ml2.4*
ISC 25 09:26:59.4±1.1, 35°.48N±0°.02×3°.82W±0°.02, h15km±9km, n39, σ1$39/65, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALE	**Palemas**	**0.28**	**201**	P		**Pb**	**09 27 07.1**	**+1.0**
PALE	**Palemas**	**0.28**	**201**	P		**Pg**	**09 27 04.7**	**-0.7**
PALE				S		**Sb**	**09 27 10.0**	**-0.6**
PVLZ	**Peæn de**	**0.50**	**233**	P		**Pb**	**09 27 09.4**	**-0.5**
PVLZ				S		**Sb**	**09 27 17.1**	**+0.1**
GOG	**Mont Gurugu**	**0.72**	**111**	P		**Pg**	**09 27 13.0**	**-0.4**
GOG	**Mont Gurugu**	**0.72**	**111**	P		**Pg**	**09 27 13.9**	**+0.5**
GOG				S		**Sb**	**09 27 25.0**	**+1.6**
EMEL	**Melilla**	**0.72**	**104**	Pg		**Pb**	**09 27 13.8**	**+0.1**
EMEL				Sg		**Sg**	**09 27 23.1**	**+0.1**
EALB	**Alboran**	**0.79**	**54**	Pg		**Pb**	**09 27 13.9**	**-0.9**
EALB				Sg		**Sb**	**09 27 24.9**	**-0.4**
EALB				*i* Vmb_Lg			09 27 29.0	
CHEFC	**Chefchaouen**	**1.30**	**254**	P		**Pg**	**09 27 28.0**	**+3.6**
CHEFC	**Chefchaouen**	**1.30**	**254**	P		**Pg**	**09 27 23.6**	**-0.8**
CHEFC				S		**Sn**	**09 27 39.7**	**-0.6**
TAF	**Taforalt**	**1.32**	**120**	P		**Pn**	**09 27 23.0**	**-0.5**
TAF	**Taforalt**	**1.32**	**120**	P		**Pn**	**09 27 23.0**	**-0.5**
TAF				S		**Sn**	**09 27 39.9**	**-0.9**
EMIJ	**Mijas**	**1.33**	**325**	Pg		**Pn**	**09 27 23.0**	**-0.5**
EMIJ				Sg		**Sn**	**09 27 39.7**	**-1.4**
EMIJ				*i* Vmb_Lg			09 27 45.7	
CEU	**Ceuta**	**1.34**	**289**	P		**Pn**	**09 27 22.0**	**-1.5**
CEU				S		**Sn**	**09 27 36.9**	**-4.1**
ECEU	**Ceuta**	**1.34**	**289**	Pg		**Pn**	**09 27 22.4**	**-1.1**
ECEU				Sg		**Sn**	**09 27 39.5**	**-1.6**
ECEU				*i* Vmb_Lg			09 27 44.3	
ELGU	**Los Guajares,**	**1.40**	**6**	P		**Pn**	**09 27 23.3**	**-1.1**
ELGU				Sn		**Sg**	**09 27 43.8**	**-0.6**
ELGU				*i* Vmb_Lg			09 27 44.8	
JBK	**JBK**	**1.53**	**138**	P		**Pn**	**09 27 25.0**	**-1.5**
JBK	**JBK**	**1.53**	**138**	P		**Pn**	**09 27 26.3**	**-0.2**
JBK				S		**Sn**	**09 27 45.0**	**-1.2**
EBER	**Berja**	**1.60**	**28**	Pn		**Pn**	**09 27 26.2**	**-1.2**
EBER				Sn		**Sb**	**09 27 48.6**	**-0.4**
EBER				*i* Vmb_Lg			09 28 05.6	
EGOR	**Sierra Gorda,**	**1.65**	**352**	Pn		**Pn**	**09 27 28.0**	**0.0**
EGOR				Sn		**Sb**	**09 27 51.0**	**+0.8**
EGOR				*i* Vmb_Lg			09 27 57.3	
ENIJ	**Nijar**	**1.98**	**41**	*i* Vmb_Lg			09 27 59.6	
ENIJ				Sn		**Sb**	**09 28 00.5**	**+0.9**
EQES	**Quesada**	**2.40**	**14**	Sn		**Sn**

ISC 25 09:55:59.8±0.8,0.78S±0.05×81.14W±0.07,h10km,n76,
σ1§49/78,mb3.4/7,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.50**	**123**	P	**Pg**	**09 56 09.0**	**-0.5**
PPLP	**Puerto Lpez**	**0.85**	**154**	P	**Pg**	**09 56 14.0**	**-2.2**
JAMA	**Jama**	**1.07**	**61**	P	**Pg**	**09 56 20.0**	**-0.3**
FLF1	**Flavio Alfaro-**	**1.36**	**72**	P	**Pn**	**09 56 25.0**	**+0.1**
MAG1	**Magdalena**	**1.54**	**63**	P	**Pn**	**09 56 28.0**	**+0.7**
AMIL	**Milagro (Trans**	**2.05**	**131**	P	**Pn**	**09 56 34.0**	**-0.4**
BV15	**Puerto Quito-O**	**2.13**	**64**	P	**Pn**	**09 56 34.0**	**-1.5**
CHSH	**Refugio Sur-Vo**	**2.38**	**107**	P	**Pn**	**09 56 40.0**	**+0.6**
ISPG	**Isla Puna-Puer**	**2.39**	**156**	P	**Pn**	**09 56 39.0**	**0.0**
ILLI	**Illinizas Sur**	**2.42**	**89**	P	**Pn**	**09 56 40.0**	**+0.2**
PORT	**Chimborazo Vol**	**2.46**	**106**	P	**Pn**	**09 56 41.0**	**+0.4**
TAMH	**Tambohuasha Ch**	**2.48**	**108**	P	**Pn**	**09 56 41.0**	**+0.3**
PAST	**Pastocalle**	**2.50**	**88**	P	**Pn**	**09 56 42.0**	**+1.0**
HPAL	**Hacienda Las P**	**2.55**	**77**	P	**Pn**	**09 56 42.0**	**+0.4**
GGPT	**Toaza - Volcan**	**2.58**	**78**	P	**Pn**	**09 56 42.0**	**0.0**
JUA2	**San Juan 2**	**2.60**	**78**	P	**Pn**	**09 56 43.0**	**+0.7**
IGUA	**Igualata**	**2.60**	**106**	P	**Pn**	**09 56 43.0**	**+0.6**
PINO	**Pino**	**2.61**	**76**	P	**Pn**	**09 56 42.0**	**-0.5**
TERV	**Terraza Guagua**	**2.61**	**77**	P	**Pn**	**09 56 43.0**	**+0.5**
CAMI	**Rancho Maria**	**2.64**	**88**	P	**Pn**	**09 56 44.0**	**+1.1**
YANA	**Yana**	**2.65**	**76**	P	**Pn**	**09 56 43.0**	**-0.1**
BNAS	**Cotopaxi Volca**	**2.66**	**88**	P	**Pn**	**09 56 44.0**	**+0.8**
NAS2	**Nasa**	**2.68**	**87**	P	**Pn**	**09 56 45.0**	**+1.6**
BMOR	**Cotopaxi Volca**	**2.68**	**89**	P	**Pn**	**09 56 44.0**	**+0.4**
PITA	**Cotopaxi Volc**	**2.72**	**85**	P	**Pn**	**09 56 45.0**	**+1.1**
BVC2	**Cotopaxi Volca**	**2.73**	**88**	P	**Pn**	**09 56 46.0**	**+1.8**
VC1	**Cotopaxi 1**	**2.74**	**87**	P	**Pn**	**09 56 46.0**	**+1.7**
VCES	**Cotopaxi**	**2.75**	**91**	P	**Pn**	**09 56 45.0**	**+0.6**
JUI6	**Juive**	**2.75**	**104**	P	**Pn**	**09 56 46.0**	**+1.8**
BMAS	**Trigal station**	**2.76**	**105**	P	**Pn**	**09 56 46.0**	**+1.6**
POND	**Pondoa**	**2.77**	**103**	P	**Pn**	**09 56 46.0**	**+1.5**
RETU	**Refugio**	**2.78**	**104**	P	**Pn**	**09 56 46.0**	**+1.2**
ARRY	**Arrayan**	**2.78**	**105**	P	**Pn**	**09 56 46.0**	**+1.2**
BPAT	**Tungurahua Vol**	**2.80**	**105**	P	**Pn**	**09 56 46.0**	**+0.9**
ANTG	**Antisana-Guama**	**2.90**	**85**	P	**Pn**	**09 56 48.0**	**+1.5**
ANTM	**Antisana-La Mi**	**2.93**	**85**	P	**Pn**	**09 56 48.0**	**+1.1**
CUSE	**Cuicocha Este**	**2.94**	**69**	*e*P	**Pn**	**09 56 48.1**	**+1.1**
CUSE				*e*S	**Sb**	**09 57 25.7**	**-3.2**
CUSE	**Cuicocha Este**	**2.94**	**69**	P	**Pn**	**09 56 47.0**	**-0.1**
ARNL	**Arenillas**	**2.96**	**159**	P	**Pn**	**09 56 46.0**	**-0.8**
CUIC	**Cuicocha-Domo**	**2.98**	**69**	P	**Pn**	**09 56 48.0**	**+0.5**
ANTS	**Antisana-Sarah**	**2.98**	**85**	P	**Pn**	**09 56 49.0**	**+1.3**
CUSW	**Cuicocha Oeste**	**2.98**	**69**	P	**Pn**	**09 56 48.0**	**+0.5**
ANTI	**Antisana**	**3.00**	**84**	P	**Pn**	**09 56 50.0**	**+2.1**
COTA	**Cotacachi**	**3.01**	**69**	P	**Pn**	**09 56 49.0**	**+0.9**
URCU	**Urcuqui**	**3.13**	**67**	P	**Pn**	**09 56 50.0**	**+0.4**
CAYR	**Refugio Cayamb**	**3.23**	**76**	P	**Pn**	**09 56 53.0**	**+1.8**
YAHU	**Yahuarcocha**	**3.27**	**70**	P	**Pn**	**09 56 54.0**	**+2.5**
ECEN	**Cerro Negro**	**3.55**	**63**	P	**Pn**	**09 56 56.0**	**+0.6**
TULM	**Tulcn-Chalpat**	**3.67**	**66**	*e*P	**Pn**	**09 56 59.5**	**+2.5**
GCUF	**Volcan Galeras**	**4.29**	**62**	*e*P	**Pn**	**09 57 07.8**	**+2.2**
GCUF				*e*S	**Sg**	**09 58 16.3**	**-1.3**
GR1C	**Gorgona, Isla**	**4.79**	**38**	*e*P	**Pb**	**09 57 22.1**	**-1.7**
GR1C				*e*S	**Sg**	**09 58 34.9**	**+1.3**
CRUC	**La Cruz**	**4.79**	**61**	*e*P	**Pn**	**09 57 15.8**	**+3.4**
SOTA	**Rioblanco**	**5.38**	**57**	*e*P	**Pn**	**09 57 23.3**	**+2.8**
POPC	**Popayan, Colom**	**5.55**	**54**	*e*P	**Pn**	**09 57 22.9**	**+0.2**
PCON	**Cinco Dias**	**5.66**	**57**	*e*P	**Pn**	**09 57 26.3**	**+1.8**
PCON				*e*S	**Sb**	**09 58 45.3**	**-1.8**
MARP	**Paez Belalcaza**	**6.31**	**55**	*e*P	**Pn**	**09 57 37.2**	**+4.1**
MARP				*e*S	**Sb**	**09 59 06.8**	**+1.1**
ROSC	**El Rosal**	**8.81**	**51**	Pn	**Pn**	**09 58 06.7**	**-0.9**
	1.2nm,0.3s,baz=4.5,slow=20,SNR=1.6						
CZSB	**Cruzeiro do Su**	**10.88**	**130**	*e*P	**Pn**	**09 58 36.2**	**+0.5**
TBTG	**Tabatinga, AM**	**11.72**	**107**	*e*P	**Pn**	**09 58 47.0**	**-0.3**
NNA	**Nana**	**11.93**	**159**	Pn	**Pn**	**09 58 52.0**	**+1.9**
	0.6nm,0.3s,baz=217,slow=12,SNR=1.3						
SDV	**Santo Domingo**	**14.20**	**47**	Pn	**Pn**	**09 59 22.6**	**+1.3**
	0.2nm,0.3s,baz=232,slow=8.2,SNR=1.4						
SDV	**Santo Domingo**	**14.20**	**47**	*e*P	**P**	**09 59 30.5**	**+1.7**
ETMB	**Extrema**	**17.36**	**122**	*e*P	**Pn**	**10 00 03.4**	**+1.1**
LPAZ	**La Paz**	**20.05**	**141**	P	**P**	**10 00 34.8**	**+0.8**
	2.1nm,1.0s,baz=297,slow=9.0,SNR=2.7						
LPAZ	**La Paz**	**20.05**	**141**	*e*P	**Pn**	**10 00 36.2**	**+0.5**
MACA	**Manacapuru-AM**	**20.58**	**97**	*e*P	**P**	**10 00 39.7**	**+0.6**
SIV	**San Ignacio**	**24.91**	**128**	P	**P**	**10 01 24.1**	**+0.9**
	1.6nm,0.9s,baz=282,slow=7.6,SNR=5.8						
ITTB	**Itaituba**	**25.63**	**98**	*e*P	**P**	**10 01 29.9**	**+0.1**
PTLB	**Pontes e Lacer**	**26.16**	**125**	*e*P	**P**	**10 01 35.2**	**+0.6**
MDP	**Montagnes des**	**29.06**	**78**	LR	LR	10 12 57.1	
	comp=Z,88nm,18.1s,baz=337,slow=36						
TXAR	**Lajitas Array**	**36.88**	**326**	P	**P**	**10 03 07.5**	**-1.2**
	0.2nm,0.9s,baz=148,slow=8.6,SNR=2.0						
PLCA	**Paso Flores**	**40.92**	**168**	P	**P**	**10 03 46.0**	**+3.5**
	1.9nm,0.9s,baz=334,slow=9.4,SNR=3.4						
PDAR	**Pinedale Array**	**50.32**	**333**	P	P	10 04 54.2	-2.9
	0.1nm,0.5s,baz=126,slow=4.6,SNR=1.9						
NVAR	**Mina Array Bea**	**51.86**	**323**	P	P	10 05 06.5	-2.2
	0.1nm,0.3s,baz=216,slow=15,SNR=1.3						
YKA	**Yellowknife Ar**	**67.95**	**344**	P	**P**	**10 06 57.2**	**-1.4**
	0.2nm,0.8s,baz=137,slow=5.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.20**	**77**	P	**P**	**10 08 23.8**	**-3.3**
	1.3nm,1.1s,baz=251,slow=4.4,SNR=1.7						

*IDC **25** 10:01:26.5±0.7,6.77S×153.42E,h0km,mb4.3/14,*
mb1 4.5/17,mb1mx4.3/40,mbtmp4.4/17,ML3.5/3,MS3.6/14,
Ms1 3.6/14,ms1mx3.1/65,Error ellipse: s-maj=21.9km
s-min=14.1km az=98.0
*NEIC **25** 10:01:29.6±2.4,6.63S±0.09×153.4E±0.1,h12km±5km,*
mb4.8/35,Error ellipse: s-maj=16.2km s-min=12.0km
az=113.0
*DJA **25** 10:01:32.3±2.1,7.5S×7.15×15.3E±.,h32km±18km,M4.9/12,*
mB4.2/1,mb4.6/12,MLv5.0/1,Mw(mB)3.3/1

ISC 25 10:01:31.5±0.5,6.68S±0.06×153.38E±0.08,h29km,n108,
σ1§06/90,mb4.8/50,MS3.6/13,2C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.71**	**330**	Pn	**Pn**	**10 02 12.6**	**-0.6**
	56nm,0.3s,baz=254,slow=2.2,SNR=68						
KRVT				Sn	**Sn**	**10 02 43.3**	**-1.8**
	129nm,0.3s,baz=216,slow=22,SNR=3.8						
RABL	**Rabaul**	**2.75**	**334**	Pn	**Pn**	**10 02 12.9**	**-0.8**
RABL	**Rabaul**	**2.75**	**334**	P	**Pn**	**10 02 13.2**	**-0.5**
PMG	**Port Moresby**	**6.73**	**246**	Pn	**Pn**	**10 03 08.2**	**-0.2**
	12nm,0.3s,baz=52,slow=11,SNR=31						
PMG				Sn	**Sn**	**10 04 23.5**	**-0.7**
	5.0nm,0.3s,baz=110,slow=17,SNR=1.8						
PMG				LR	LR	10 05 33.9	
	comp=Z,501nm,21.7s,baz=18,slow=37						
PMG	**Port Moresby**	**6.73**	**246**	Pn	**Pn**	**10 03 09.6**	**+1.2**
PMG	**Port Moresby**	**6.73**	**246**	P	**Pn**	**10 03 09.1**	**+0.7**
PMG	**Port Moresby**	**6.73**	**246**	P	**Pn**	**10 03 09.2**	**+0.8**
MANU	**Manus Island**	**7.56**	**307**		**Pn**	**10 03 20.8**	**+1.0**
CTA	**Charters Tower**	**15.02**	**207**	LR	LR	10 10 08.7	
	comp=Z,165nm,19.7s,baz=43,slow=35						
SANVU	**Saraoutou**	**16.11**	**124**	P	**P**	**10 05 18.3**	**-0.8**
SANVU	**Saraoutou**	**16.11**	**124**	P	**P**	**10 05 21.7**	**+2.6**
QIS	**Mount Isa**	**19.20**	**223**	P	**P**	**10 05 53.3**	**+0.1**
DZM	**Mont Dzumac**	**19.83**	**142**	P	**P**	**10 05 58.3**	**-1.9**
	0.2nm,0.3s,baz=337,slow=18,SNR=1.8						
RMQ	**Roma**	**20.18**	**192**	P	Pn	10 06 05.6	-0.3
KDU	**Kakadu**	**21.45**	**252**	P	**P**	**10 06 15.9**	**-1.7**
QLP	**Quilpie**	**21.63**	**203**	P	**P**	**10 06 19.7**	**+0.2**
WR0	**Warramunga Arr**	**22.55**	**232**	P	**P**	**10 06 27.9**	**-1.6**
WR0				IAmb	IAmb	10 06 32.0	
	comp=Z,13nm,0.9s						
WB0	**Warramunga Arr**	**22.57**	**233**	P	**P**	**10 06 30.1**	**+0.5**
WB2	**Warramunga Arr**	**22.70**	**233**	P	**P**	**10 06 29.9**	**-1.1**
WRA	**Warramunga Arr**	**22.70**	**233**	P	**P**	**10 06 29.1**	**-2.0**
	comp=Z,5.1nm,0.8s,baz=58,slow=10,SNR=22						
WRA				PcP	**PcP**	**10 10 22.5**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=53,slow=1.6,SNR=4.8						
WRA				LR	LR	10 15 23.1	
	comp=Z,139nm,18.9s,baz=24,slow=37						
MTN	**Manton Dam**	**22.75**	**253**	P	**P**	**10 06 32.6**	**+1.0**
MTN				IAmb	IAmb	10 06 46.5	
	comp=Z,37nm,1.4s						
SIJI	**Sorong**	**22.80**	**284**	LR	LR	10 16 12.8	
	comp=Z,50nm,20.5s,baz=180,slow=39						
INKA	**Innaminka**	**24.14**	**208**	P	**P**	**10 06 44.3**	**-0.8**
AS31	**Alice Springs**	**25.21**	**226**	P	**P**	**10 06 54.3**	**-0.7**
ASAR	**Alice Springs**	**25.21**	**226**	P	**P**	**10 06 53.9**	**-1.1**
	comp=Z,8.2nm,0.8s,baz=60,slow=8.7,SNR=66						
ASAR				PcP	**PcP**	**10 10 27.2**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=47,slow=1.4,SNR=3.2						
ASAR				LR	LR	10 16 40.8	
	comp=Z,110nm,19.0s,baz=78,slow=36						
ASAR	**Alice Springs**	**25.21**	**226**	P	**P**	**10 06 54.0**	**-1.0**
CMSA	**Cobar Meteorol**	**25.76**	**195**	P	**P**	**10 06 59.9**	**+0.1**
LBMI	**Labuha**	**26.50**	**282**	P	**P**	**10 07 07.1**	**+0.4**
STKA	**Stephens Creek**	**27.38**	**202**	P	**P**	**10 07 12.9**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=8.6,slow=12,SNR=5.9						
STKA				LR	LR	10 17 55.8	
	comp=Z,68nm,19.4s,baz=30,slow=36						
STKA	**Stephens Creek**	**27.38**	**202**	P	**P**	**10 07 15.4**	**+1.0**
SANI	**Sanana**	**27.69**	**278**	P	**P**	**10 07 17.0**	**-0.4**
	comp=Z,25nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**28.25**	**27**	T	T	10 35 51.1	
	baz=206,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.25**	**28**	T	T	10 35 54.5	
	baz=206,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.27**	**27**	T	T	10 35 57.2	
	baz=206,slow=74						
FITZ	**Fitzroy Crossi**	**29.32**	**245**	P	**P**	**10 07 30.6**	**-1.4**
	comp=Z,4.9nm,0.6s,baz=60,slow=8.2,SNR=22						
FITZ				LR	LR	10 19 22.4	
	comp=Z,122nm,19.1s,baz=82,slow=37						
GTOI	**Gorontalo**	**31.17**	**282**	P	**P**	**10 07 48.8**	**+0.5**
	comp=Z,14nm,0.8s						
APSI	**Ampana**	**32.16**	**279**	P	**P**	**10 07 57.0**	**0.0**
	comp=Z,24nm,0.9s						
MPSI	**Mapaga**	**34.13**	**280**	P	**P**	**10 08 13.2**	**-1.0**
SBUM	**Sibu**	**42.08**	**281**	P	**P**	**10 09 20.6**	**-0.7**
KSRS	**Korea Array**	**49.93**	**333**	P	**P**	**10 10 22.8**	**+0.1**
	comp=Z,5.2nm,1.0s,baz=151,slow=8.5,SNR=20						
NJ2	**Nanjing**	**50.66**	**322**	*e*P	**P**	**10 10 28.5**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
HNS	**HongShan**	**56.79**	**324**	↑P	**P**	**10 11 14.3**	**+1.2**
BNX	**BinXian**	**57.12**	**339**	↓P	**P**	**10 11 16.0**	**+0.7**
BNX				pmax	pmax		
	comp=Z,20nm,0.5s						
BNX				pmax	pmax		
	comp=Z,170nm,5.2s						
XAN	**Xi'an**	**58.38**	**317**	↑P	**P**	**10 11 24.8**	**+0.3**
XAN				pP	sP	10 11 34.8	0.0
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KLR	**Kul'dur**	**58.80**	**344**	P	**P**	**10 11 27.5**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=134,slow=9.6,SNR=11						
CMAR	**Chiang Mai Arr**	**59.20**	**296**	P	**P**	**10 11 31.2**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=115,slow=4.9,SNR=14						
CMAR	**Chiang Mai Arr**	**59.20**	**296**	P	**P**	**10 11 30.1**	**-0.4**
PETK	**Petropavlovsk-**	**59.67**	**3**	P	**P**	**10 11 33.6**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=179,slow=8.0,SNR=4.8						
PZH	**PanZhiHua**	**59.92**	**306**	P	**P**	**10 11 38.0**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,5.0s						
CD2	**Chengdu**	**60.40**	**311**	P	**P**	**10 11 39.5**	**+1.0**
HHC	**Hu-ho-hao-te**	**60.90**	**325**	*e*P	**P**	**10 11 45.5**	**+3.7**
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,180nm,5.6s						
HHC				LR	LR		
	comp=N,130nm,15.9s						
HHC				LR	LR		
	comp=E,110nm,15.9s						
HHC				LR	LR		
	comp=Z,210nm,15.2s						
SHEM	**Shemya Is, Ala**	**61.75**	**14**	LR	LR	10 35 57.5	
	comp=Z,31nm,19.5s,baz=0.5,slow=34						
LZH	**Lanzhou**	**62.97**	**316**	*e*P	**P**	**10 11 57.5**	**+1.6**
LZH				pP	pP	10 12 04.0	+0.5
LZH				pmax	pmax		
	comp=Z,14nm,1.5s						
MA2	**Magadan**	**66.07**	**359**	P	**P**	**10 12 15.6**	**+0.1**
SHL	**Shillong**	**67.76**	**301**	P	**P**	**10 12 27.5**	**+0.3**
ULN	**Ulaanbaatar**	**67.89**	**328**	P	**P**	**10 12 28.7**	**+1.2**
SONM	**Songino Array**	**68.21**	**328**	P	**P**	**10 12 30.7**	**+1.2**
	comp=Z,6.2nm,0.9s,baz=133,slow=5.7,SNR=26						
SONM	**Songino Array**	**68.21**	**328**	P	**P**	**10 12 30.7**	**+1.2**
SONM				IAmb	IAmb	10 12 32.0	
	comp=Z,8.9nm,1.1s						
GOMU	**GeErMu**	**69.45**	**313**	P	**P**	**10 12 37.5**	**-0.2**
GOMU				pP	pP	10 12 40.8	-4.5
GOMU				sP	sP	10 12 45.0	-3.2
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,100nm,7.2s						
VNDA	**Vanda**	**70.94**	**178**	P	**P**	**10 12 45.6**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=332,slow=6.3,SNR=8.3						
TAPN	**Taplejung**	**71.87**	**301**	*e*P	**P**	**10 12 52.7**	**+0.1**
ODAN	**Odare**	**71.99**	**301**	*e*P	**P**	**10 12 53.8**	**+0.5**
	comp=Z,16nm,0.4s						
RAMN	**Ramite**	**72.69**	**301**	*e*P	**P**	**10 12 57.8**	**+0.3**
JIRN	**Jiri**	**73.25**	**301**	*e*P	**P**	**10 13 01.6**	**+0.7**
GUN	**Gumba**	**73.59**	**302**	*e*P	**P**	**10 13 03.2**	**+0.4**
	comp=Z,41nm,0.8s						
PKI	**Pulchoki**	**73.89**	**301**	*e*P	**P**	**10 13 05.0**	**+0.4**
PKIN	**Phulchoki**	**73.90**	**301**	*e*P	**P**	**10 13 04.6**	**0.0**
KKN	**Kakani**	**74.06**	**301**	*e*P	**P**	**10 13 05.8**	**+0.3**
DMN	**Daman**	**74.16**	**301**	*e*P	**P**	**10 13 06.6**	**+0.5**
	comp=Z,47nm,0.9s						
GKN	**Gorkha**	**74.67**	**301**	*e*P	**P**	**10 13 09.1**	**+0.2**
BILL	**Bilibino**	**75.10**	**5**	P	**P**	**10 13 10.7**	**+0.3**
BILL				IAmb	IAmb	10 13 12.6	
	comp=Z,9.5nm,1.0s						
KOLN	**Koldanda**	**75.48**	**301**	*e*P	**P**	**10 13 13.8**	**+0.1**
	comp=Z,42nm,0.8s						
DANN	**Dangsing**	**75.50**	**301**	*e*P	**P**	**10 13 13.7**	**-0.2**
	comp=Z,29nm,0.8s						
PYUN	**Piuthan**	**76.09**	**301**	*e*P	**P**	**10 13 16.8**	**-0.4**
	comp=Z,46nm,0.8s						
WMQ	**Urumqi**	**77.51**	**317**	*e*P	**P**	**10 13 25.5**	**+0.8**
WMQ				pP	pP	10 13 31.3	-1.0
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
KDAK	**Kodiak Island**	**77.59**	**26**	LR	LR	10 39 54.0	
	comp=Z,51nm,21.4s,baz=205,slow=30						
N18K	**Kilae Creek**	**77.94**	**23**	P	**P**	**10 13 27.1**	**+0.5**
L19K	**White Mountain**	**79.26**	**22**	P	**P**	**10 13 35.3**	**+1.5**
L19K				IAmb	IAmb	10 13 36.9	
	comp=Z,9.4nm,0.9s						
J20K	**Nowinta River**	**80.73**	**21**	IAmb	IAmb	10 13 44.7	
	comp=Z,7.1nm,0.8s						
I21K	**Tanana**	**82.07**	**20**	IAmb	IAmb	10 13 52.0	
	comp=Z,6.9nm,0.9s						
MKAR	**Makanchi Array**	**82.11**	**319**	P	**P**	**10 13 48.9**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=104,slow=6.1,SNR=19						
MKAR	**Makanchi Array**	**82.11**	**319**	P	**P**	**10 13 48.5**	**-1.0**
MAKZ	**Makanchi**	**82.32**	**319**	P	**P**	**10 13 50.9**	**+0.3**
MAKZ				IAmb	IAmb	10 13 52.2	
	comp=Z,7.8nm,1.1s						
ZAA0	**Zalesovo Array**	**83.03**	**326**	IAmb	IAmb	10 13 54.4	
	comp=Z,4.8nm,0.7s						
ZALV	**Zalesovo Beam**	**83.03**	**326**	P	**P**	**10 13 53.5**	**-0.5**
	comp=Z,5.2nm,0.6s,baz=111,slow=5.0,SNR=24						
COLA	**College**	**83.37**	**22**	P	**P**	**10 13 55.1**	**-0.5**
COLA				IAmb	IAmb	10 13 56.2	
	comp=Z,6.9nm,0.9s						
IL31		**83.67**	**22**	P	**P**	**10 13 56.7**	**-0.4**
IL31				IAmb	IAmb	10 13 57.9	
	comp=Z,3.6nm,0.8s						
ILAR	**Eielson Array**	**83.67**	**22**	P	**P**	**10 13 56.4**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=253,slow=4.8,SNR=32						
ILAR				LR	LR	10 52 33.8	
	comp=Z,26nm,18.4s,baz=177,slow=37						
J25K	**Salcha River,**	**84.16**	**22**	P	**P**	**10 14 00.1**	**+0.4**
DOT	**Dot Lake**	**84.21**	**23**	P	**P**	**10 14 01.1**	**+1.1**
DOT				IAmb	IAmb	10 14 10.7	
	comp=Z,6.3nm,0.9s						
SCRK	**Sand Creek**	**84.39**	**23**	IAmb	IAmb	10 14 11.1	
	comp=Z,3.7nm,1.0s						
A21K	**Barrow**	**84.47**	**14**	IAmb	IAmb	10 14 03.0	
	comp=Z,4.2nm,0.8s						
KSH	**Kashi**	**84.59**	**311**	P	**P**	**10 14 05.0**	**+2.4**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TOLK	**Toolik Lake Re**	**84.81**	**18**	IAmb	IAmb	10 14 14.1	
	comp=Z,5.1nm,0.9s						
BOOM	**Boomskoye usch**	**85.30**	**314**	IAmb	IAmb	10 14 07.7	
	comp=Z,6.3nm,1.0s						
KURK	**Kurchatov**	**85.59**	**322**	P	**P**	**10 14 06.1**	**-1.1**
EGAK	**Eagle**	**85.85**	**23**	IAmb	IAmb	10 14 20.2	
	comp=Z,8.6nm,1.0s						
I29M	**Ogilvie Camp,**	**87.19**	**23**	IAmb	IAmb	10 14 26.1	
	comp=Z,5.0nm,0.8s						
EPYK	**Eagle Plains**	**88.17**	**22**	IAmb	IAmb	10 14 30.1	
	comp=Z,4.1nm,0.8s						
YBH	**Yreka Blue Hor**	**89.87**	**48**	LR	LR	10 46 32.3	
	comp=Z,53nm,22.0s,baz=264,slow=30						
INK	**Inuvik**	**89.99**	**21**	LR	LR	10 49 43.9	
	comp=Z,46nm,21.3s,baz=92,slow=32						
NEW	**Newport**	**94.60**	**42**	LR	LR	10 50 56.0	
	comp=Z,38nm,19.6s,baz=202,slow=31						
YKA	**Yellowknife Ar**	**96.81**	**28**	P	**P**	**10 14 59.0**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=272,slow=4.4,SNR=4.5						
PDAR	**Pinedale Array**	**99.68**	**48**	LR	LR	10 53 25.4	
	comp=Z,36nm,20.4s,baz=237,slow=31						
GERES	**GERESS Array B**	**125.95**	**328**	PKP	**PKiKP**	**10 20 31.4**	**0.0**
	comp=Z,0.2nm,0.4s,baz=90,slow=1.2,SNR=3.5						
BDFB	**Brasilia**	**149.33**	**136**	PKPbc	**PKPbc**	**10 21 18.1**	**-0.6**
	comp=Z,3.2nm,0.4s,baz=317,slow=2.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**151.40**	**285**	PKPbc	**PKPbc**	**10 21 23.1**	**-0.5**
	comp=Z,5.5nm,0.9s,baz=49,slow=2.5,SNR=21						
TORD	**Torodi Ar. Bea**	**151.40**	**285**		**PKPbc**	**10 21 21.2**	**-2.5**

*HEL **25** 10:23:50.1,58.77N×18.47E,h0km,ML2.5,Explosion*
*UPP **25** 10:23:50.4±0.2,58.81N×18.67E,h0km,ML2.9,Explosion*
*DNK **25** 10:23:51.0±0.3,58.81N×18.64E,h0km,ML2.9(UPP),*
Explosion
*BER **25** 10:23:52.5±1.4,58.85N×18.62E,h0km,ML2.1,*
ML2.9(UPP),Suspected explosion

ISC 25 10:23:50.2±0.9,58.84N±0.03×18.68E±0.03,h0km,n88,
σ1§03/98,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.39**	**296**	P	**Pg**	**10 23 58.1**	**+0.5**
NYNU				S	**Sg**	**10 24 03.1**	**+0.5**
NYNU	**Nynaeshamn**	**0.39**	**296**	P	**Pg**	**10 23 58.1**	**+0.5**
NYNU				S	**Sg**	**10 24 03.1**	**+0.5**
NYNU	**Nynaeshamn**	**0.39**	**296**	P	**Pg**	**10 23 58.1**	**+0.5**
NYNU				S	**Sg**	**10 24 03.1**	**+0.5**
NYNU	**Nynaeshamn**	**0.39**	**296**	*i* P	**Pg**	**10 23 58.1**	**+0.5**
NYNU				*i* S	**Sg**	**10 24 03.1**	**+0.5**
NRTU	**Norrtaelje**	**0.84**	**358**	P	**Pg**	**10 24 06.7**	**+0.3**
NRTU	**Norrtaelje**	**0.84**	**358**	P	**Pg**	**10 24 06.7**	**+0.3**
NRTU	**Norrtaelje**	**0.84**	**358**	P	**Pg**	**10 24 06.7**	**+0.3**
NRTU	**Norrtaelje**	**0.84**	**358**	*e*P	**Pg**	**10 24 06.6**	**+0.3**
VIKU	**Vikbolandet**	**1.08**	**253**	*e*P	**Pg**	**10 24 10.7**	**-0.3**
VIKU	**Vikbolandet**	**1.08**	**253**	P	**Pg**	**10 24 10.5**	**-0.5**
VIKU	**Vikbolandet**	**1.08**	**253**	P	**Pg**	**10 24 10.5**	**-0.5**
VIKU	**Vikbolandet**	**1.08**	**253**	P	**Pg**	**10 24 10.5**	**-0.5**
VIKU	**Vikbolandet**	**1.08**	**253**	*e*P	**Pg**	**10 24 10.5**	**-0.5**
GOTU	**Gotland**	**1.16**	**183**	*e*P	**Pg**	**10 24 11.6**	**-0.7**
GOTU				*e*SB	**Sb**	**10 24 28.6**	**+0.2**
UPP	**Uppsala**	**1.16**	**333**	*e*P

UPP	**Uppsala**	**1.23**	**331**	P	**Pg**	**10 24 18.7**	**+0.3**	
UPP				S	**Sg**	**10 24 34.0**	**-0.3**	
FIBU	**Brunna**	**1.34**	**327**	P	**Pg**	**10 24 20.6**	**+0.1**	
FIBU	**Brunna**	**1.34**	**327**	P	**Pg**	**10 24 20.6**	**+0.1**	
BACU	**Backbrunna**	**1.37**	**321**	P	**Pg**	**10 24 21.3**	**+0.1**	
BACU	**Backbrunna**	**1.37**	**321**	P	**Pg**	**10 24 21.3**	**+0.1**	
FLYU	**Flymyra**	**1.42**	**341**	P	**Pg**	**10 24 22.3**	**+0.2**	
FLYU	**Flymyra**	**1.42**	**341**	P	**Pg**	**10 24 22.3**	**+0.2**	
AAL	**Aland**	**1.51**	**23**	P	**Pn**	**10 24 25.0**	**+1.8**	
GRAU	**Graesoe**	**1.55**	**355**	P	**Pn**	**10 24 24.9**	**+1.2**	
GRAU	**Graesoe**	**1.55**	**355**	P	**Pn**	**10 24 24.9**	**+1.2**	
OSTU	**Oestervaala**	**1.67**	**330**	P	**Pn**	**10 24 26.4**	**+1.0**	
OSTU	**Oestervaala**	**1.67**	**330**	P	**Pn**	**10 24 26.4**	**+1.0**	
HFS	**Hagfors**	**2.94**	**299**	Pn	Pn	10 24 38.6	-4.2	
	2.0nm,0.3s,baz=273,slow=27,SNR=23							
HFS				Lg	Lg	10 25 14.6		
	14nm,0.3s,baz=222,slow=22,SNR=24							
NOA	**NORSAR Array B**	**4.43**	**304**	Pn	Pn	10 24 58.5	-5.0	
	0.1nm,0.3s,baz=122,slow=14,SNR=32							
NOA				Lg	Lg	10 26 01.1		
	0.4nm,0.3s,baz=121,slow=17,SNR=9.3							
FINES	**FINESS Array B**	**4.50**	**51**	Pn	Pn	10 25 01.6	-2.7	
	0.8nm,0.3s,baz=239,slow=12,SNR=13							
FINES				Sn	**Sn**	**10 25 53.9**	**-3.4**	
	2.4nm,0.3s,baz=246,slow=21,SNR=11							
FINES				Lg	Lg	10 26 10.4		
	3.5nm,0.3s,baz=246,slow=27,SNR=9.0							
ARCES	**ARCESS Array B**	**11.16**	**12**	Pn	Pn	10 26 27.0	-8.5	
	baz=194,slow=14,SNR=33							

DNK ***25*** *10:24:08.5±2.7,58.92N×17.87E,h0km,ML2.5(UPP), Explosion*
UPP 25 10:24:03.0±0.6,58.88N×18.77E,h0km,ML2.5, Explosion,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.42**	**288**	P	Pg	10 24 11.0	0.0
NYNU	**Nynaeshamn**	**0.42**	**288**	P	Pg	10 24 11.0	0.0
NRTU	**Norrtaelje**	**0.81**	**355**	P	Pg	10 24 18.1	-0.3
NRTU	**Norrtaelje**	**0.81**	**355**	P	Pg	10 24 18.1	-0.3
NRTU	**Norrtaelje**	**0.81**	**355**	*e*S	Pg	10 24 17.8	-0.6
UPP	**Uppsala**	**1.15**	**330**	P	Pg	10 24 24.3	-0.6
UPP				S	Sg	10 24 39.5	-0.2
VIKU	**Vikbolandet**	**1.15**	**252**	P	Pg	10 24 24.2	-0.7
VIKU	**Vikbolandet**	**1.15**	**252**	P	Pg	10 24 24.2	-0.7
FIBU	**Brunna**	**1.26**	**325**	P	Pg	10 24 26.2	-0.9
FIBU				S	Sg	10 24 43.2	-0.1
FIBU	**Brunna**	**1.26**	**325**	P	Pg	10 24 26.2	-0.9
FIBU				S	Sg	10 24 43.2	-0.1
AAL	**Aland**	**1.45**	**25**	S	Sg	10 24 48.7	-0.7
OSTU	**Oestervaala**	**1.59**	**329**	P	Pn	10 24 32.0	-0.4
OSTU	**Oestervaala**	**1.59**	**329**	P	Pn	10 24 32.0	-0.4

BGR ***25*** *10:28:21.9±0.4,48.11N×16.23E,h10km,ML4.5/12,Error ellipse: s-maj=18.9km s-min=7.8km az=1.0*
IDC ***25*** *10:28:21.9±0.8,48.10N×16.09E,h0km,mb3.6/7, mb1 3.9/11,mb1mx3.6/44,mbtmp3.6/11,ML3.4/4,MS2.7/2, Ms1 2.7/2,ms1mx2.3/90,Error ellipse: s-maj=10.8km s-min=7.9km az=5.0*
NEIC ***25*** *10:28:22.8±1.4,48.09N±0.04×16.14E±0.05,h3km±6km, ML4.2/23(VIE),Error ellipse: s-maj=7.3km s-min=1.9km az=139.0*
KRSZO ***25*** *10:28:22.6±0.8,48.09N×16.10E,h7km±5km,ML3.9/43, Error ellipse: s-maj=2.5km s-min=2.1km az=83.0*
IPEC ***25*** *10:28:22.7±0.1,48.09N×16.12E,h9km,ML4.3/6, Error ellipse: s-maj=1.1km s-min=0.9km az=107.0*
PRU ***25*** *10:28:23.2±0.0,48.13N×16.05E,h3km, Sulz Im Wienrwald, Felt In Southern Moravia*
LDG ***25*** *10:28:23.0±0.2,48.11N×16.22E,h9km,Md4.2/2,Ml4.1/50, Error ellipse: s-maj=6.5km s-min=3.7km az=179.0*
MCSM ***25*** *10:28:23.4±0.3,48.N±3.×1.6E±.,h10km±2km,mb4.0*
VIE ***25*** *10:28:23.0±0.1,48.08N×16.07E,h10km±1km,mb3.3/24, ml4.2/24,Error ellipse: s-maj=0.8km s-min=0.7km az=97.0 6 km WSW of Sulz im Wienerwald felt 5 ems98 at Alland / Lower Austria*
BNS ***25*** *10:28:27.3±2.4,48.16N×16.00E,h10km,ML4.1*
ISC 25 10:28:22.7±0.3,48.09N±0.01×16.037E±0.010,h12km±2km, n382,σ1.977/545,mb3.6/7,18C-10D,Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CONA	**Conrad Observa**	**0.20**	**216**	*i* Pg	**Pg**	**10 28 27.5**	**+0.3**
	257nm,0.1s						
CONA				*e*Sg	**Sg**	**10 28 30.4**	**+0.1**
	4μm,0.3s						
CONA	**Conrad Observa**	**0.20**	**216**		**Pg**	**10 28 27.5**	**+0.3**
CONA					**Sg**	**10 28 30.4**	**+0.1**
CONA	**Conrad Observa**	**0.20**	**216**	Pb	**Pg**	**10 28 27.6**	**+0.3**
	comp=Z,51nm,SNR=1000						
RONA	**Rosalia, Austr**	**0.43**	**156**	*e*Pg	**Pg**	**10 28 30.1**	**-1.2**
	comp=Z,27nm,0.0s,SNR=215						
RONA				*e*Sg	**Sg**	**10 28 36.7**	**-0.3**
	comp=Z,1μm,0.2s						
SOP	**Sopron**	**0.54**	**139**	Pb	**Pg**	**10 28 32.9**	**-0.4**
	comp=Z,5.7nm,SNR=198						
SOP				Lg	Lg	10 28 39.7	
SOP	**Sopron**	**0.54**	**139**	*e*Pg	**Pg**	**10 28 33.0**	**-0.4**
SOP				*e*Sg	**Sg**	**10 28 39.7**	**-0.7**
SOP	**Sopron**	**0.54**	**139**	P	**Pg**	**10 28 32.9**	**-0.4**
SOP				S	**Sg**	**10 28 39.7**	**-0.7**
SOP	**Sopron**	**0.54**	**139**	Pg	**Pg**	**10 28 32.9**	**-0.4**
ZST	**Bratislava**	**0.72**	**81**	Pg	**Pg**	**10 28 35.8**	**-0.9**
	comp=Z,58nm,SNR=118						
ZST	**Bratislava**	**0.72**	**81**	*e*PG	**Pg**	**10 28 35.9**	**-0.9**
ZST				*e*SG	**Sg**	**10 28 45.2**	**-1.0**
ZST				*e*LG	Lg	10 28 53.1	
MODS	**Modra-Piesok**	**0.88**	**71**	Pg	**Pg**	**10 28 38.5**	**-1.1**
	comp=Z,9μm,SNR=533						
MODS				Lg	Lg	10 28 50.8	
MODS	**Modra-Piesok**	**0.88**	**71**	*e*PG	**Pg**	**10 28 38.8**	**-0.9**
MODS				*e*SG	**Sg**	**10 28 50.8**	**-0.3**
MODS				*e*LG	Lg	10 28 55.0	
MODS	**Modra-Piesok**	**0.88**	**71**	Pg	**Pg**	**10 28 38.4**	**-1.3**
ARSA	**Arzberg**	**0.91**	**203**	*e*Pg	**Pg**	**10 28 40.0**	**-0.3**
	comp=Z,407nm,0.3s,SNR=288						
ARSA				*e*Sg	**Sb**	**10 28 52.8**	**+0.3**
	comp=Z,286nm,0.2s						
ARSA	**Arzberg**	**0.91**	**203**		**Pg**	**10 28 40.0**	**-0.3**
ARSA					**Sb**	**10 28 52.8**	**+0.3**
ARSA	**Arzberg**	**0.91**	**203**	P	**Pg**	**10 28 40.2**	**-0.2**
ARSA				S	**Sb**	**10 28 53.5**	**+1.0**
ARSA				AML	AML		
	comp=E,2785μm,0.5s						
ARSA				AML	AML		
	comp=N,2570μm,0.4s						
ARSA	**Arzberg**	**0.91**	**203**	Pb	**Pg**	**10 28 40.0**	**-0.3**
	comp=Z,6.7nm,SNR=293						
ARSA	**Arzberg**	**0.91**	**203**	*e*Pg	**Pg**	**10 28 40.0**	**-0.3**
ARSA				*e*Sg	**Sb**	**10 28 52.8**	**+0.3**
A260A	**Vassurany**	**0.93**	**151**	Pg	**Pn**	**10 28 41.3**	**-0.3**
	comp=Z,8.9nm,SNR=40						
A260A				Sn	**Sn**	**10 28 55.5**	**+0.7**
KRUC	**Moravsky**	**1.00**	**14**	*e*Pg	**Pg**	**10 28 41.6**	**-0.4**
	baz=191						
KRUC				*e*Sg	**Sg**	**10 28 54.4**	**-0.6**
	comp=Z,5μm,0.2s,baz=191						
KRUC	**Moravsky**	**1.00**	**14**	Pg	**Pg**	**10 28 41.7**	**-0.4**
	comp=Z,19nm,SNR=680						
SMOL	**Smolenice**	**1.02**	**65**	*e*PG	**Pg**	**10 28 42.3**	**-0.1**
SMOL				*e*SG	**Sn**	**10 28 57.2**	**+0.1**
SMOL				*e*LG	Lg	10 28 59.0	
EGYH	**Egyhazaskeszo**	**1.10**	**127**	Pg	**Pg**	**10 28 43.7**	**-0.3**
	comp=Z,7.8nm,SNR=88						
EGYH				Sn	**Sn**	**10 28 59.2**	**0.0**
EGYH	**Egyhazaskeszo**	**1.10**	**127**	P	**Pg**	**10 28 43.7**	**-0.3**
EGYH				S	**Sn**	**10 28 59.2**	**0.0**
MOA	**Molln**	**1.21**	**259**	*e*Pg	**Pn**	**10 28 46.3**	**+0.7**
	comp=Z,434nm,0.6s,SNR=312						
MOA				*e*Sg	**Sn**	**10 29 03.4**	**+1.5**
	comp=Z,3μm,0.3s						
MOA	**Molln**	**1.21**	**259**		**Pn**	**10 28 46.3**	**+0.7**
MOA					**Sn**	**10 29 03.4**	**+1.5**
MOA	**Molln**	**1.21**	**259**	*e*Pn	**Pn**	**10 28 46.3**	**+0.7**
MOA				*e*Sg	**Sn**	**10 29 03.6**	**+1.7**
TREC	**Trest**	**1.26**	**343**	*e*PN	**Pn**	**10 28 46.7**	**+0.5**
TREC				*e*SG	**Sb**	**10 29 02.2**	**-0.3**
	comp=Z,5μm,0.5s						
TREC	**Trest**	**1.26**	**343**	Pg	**Pn**	**10 28 46.7**	**+0.5**
	comp=Z,21nm,SNR=747						
VRAC	**Vranov**	**1.27**	**17**	⇓P	**Pn**	**10 28 46.5**	**+0.1**
VRAC				⇓S	**Sb**	**10 29 03.4**	**+0.5**
VRAC	**Vranov**	**1.27**	**17**	Pg	**Pn**	**10 28 46.3**	**-0.1**
	comp=Z,214nm,0.3s,baz=199,slow=14,SNR=1056						
VRAC				Lg	Lg	10 29 03.0	
	comp=Z,2μm,0.3s,baz=106,slow=13,SNR=137						
VRAC	**Vranov**	**1.27**	**17**	*e*Pg	**Pn**	**10 28 46.1**	**-0.2**
	baz=194						
VRAC				*e*Sg	**Sb**	**10 29 02.9**	**0.0**
	comp=Z,4μm,0.2s,baz=194						
VRAC	**Vranov**	**1.27**	**17**	x	x	10 28 46.4	
	comp=Z,35nm,SNR=1000						
VRAC				Sg	**Sb**	**10 29 03.5**	**+0.5**
A262A	**Szaknyer**	**1.27**	**165**	Pg	**Pg**	**10 28 47.2**	**0.0**
	comp=Z,7.0nm,SNR=27						
A262A				Lg	Lg	10 29 04.7	
JAVC	**Velka Javorina**	**1.33**	**54**	*e*PG	**Pn**	**10 28 47.4**	**+0.2**
JAVC	**Velka Javorina**	**1.33**	**54**	Pn	**Pn**	**10 28 47.4**	**+0.2**
	comp=Z,4.9nm,SNR=134						
CKRC	**Cesky Krumlov**	**1.36**	**303**	*e*PN	**Pb**	**10 28 49.1**	**+1.0**
CKRC				*e*SG	**Sn**	**10 29 07.0**	**+1.5**
	comp=Z,2μm,0.3s						
CKRC				AMS	AMS	10 29 10.0	
	comp=Z,1μm,5.6s						
CKRC	**Cesky Krumlov**	**1.36**	**303**	Pg	**Pb**	**10 28 49.2**	**+1.0**
	comp=Z,19nm,SNR=456						
CKRC				Lg	Lg	10 29 07.7	
A261A	**Ohid**	**1.37**	**146**	Pn	**Pn**	**10 28 47.9**	**+0.3**
	comp=Z,4.1nm,SNR=31						
MPLH	**Magyarpolny**	**1.37**	**132**	Pg	**Pn**	**10 28 47.1**	**-0.5**
	comp=Z,2.8nm,SNR=132						
MPLH	**Magyarpolny**	**1.37**	**132**	P	**Pn**	**10 28 47.1**	**-0.5**
A268A	**Rede**	**1.44**	**117**	Pn	**Pn**	**10 28 47.8**	**-0.7**
	comp=Z,3.0nm,SNR=73						
SRO	**Srobarova**	**1.56**	**99**	Pn	**Pn**	**10 28 49.5**	**-0.6**
	comp=Z,23nm,SNR=52						
SRO	**Srobarova**	**1.56**	**99**	*e*PG	**Pn**	**10 28 49.6**	**-0.6**
SRO				*e*SG	**Sn**	**10 29 09.0**	**-1.2**
SRO				*e*LG	Lg	10 29 10.9	
SOKA	**Soboth**	**1.57**	**206**	*e*Pn	**Pb**	**10 28 51.6**	**-0.2**
	comp=Z,139nm,0.3s,SNR=116						
SOKA				Sn	**Sb**	**10 29 11.9**	**+0.4**
	comp=Z,121nm,0.3s						
SOKA	**Soboth**	**1.57**	**206**		**Pb**	**10 28 51.5**	**-0.2**
SOKA					**Sb**	**10 29 11.9**	**+0.4**
SRO2	**Moca**	**1.62**	**101**	*e*PG	**Pn**	**10 28 49.3**	**-1.8**
SRO2				*e*SG	**Sn**	**10 29 09.8**	**-2.0**
SRO2				*e*LG	Lg	10 29 10.8	
A269A	**Baj**	**1.64**	**105**	Pn	**Pn**	**10 28 51.0**	**-0.4**
	comp=Z,16nm,SNR=72						
A269A				Sn	**Sn**	**10 29 11.9**	**-0.5**
KOGS	**Kog**	**1.65**	**175**	P	**Pn**	**10 28 51.8**	**+0.3**
KOGS				S	**Sn**	**10 29 12.4**	**-0.3**
KOGS				AML	AML		
	comp=E,15550μm,0.6s						
KOGS				AML	AML		
	comp=N,17650μm,0.8s						
KOGS	**Kog**	**1.65**	**175**	Pn	**Pn**	**10 28 52.1**	**+0.6**
	comp=Z,9.5nm,SNR=47						
KOLL	**Kolacno**	**1.65**	**72**	*e*PN	**Pn**	**10 28 51.0**	**-0.5**
KOLL				*e*SN	**Sn**	**10 29 11.6**	**-1.1**
BIOA	**Bad Ischl, Aus**	**1.66**	**257**	*e*Pn	**Pb**	**10 28 53.4**	**+0.1**
	comp=Z,329nm,0.3s,SNR=245						
BIOA				Sn	**Sb**	**10 29 15.6**	**+1.4**
	comp=Z,2μm,0.4s						
CSKK	**Cskako**	**1.67**	**115**	Pg	**Pn**	**10 28 51.2**	**-0.6**
	comp=Z,21nm,SNR=59						
CSKK				Sn	**Sn**	**10 29 11.9**	**-1.1**
CSKK	**Cskako**	**1.67**	**115**	P	**Pn**	**10 28 51.2**	**-0.6**
CSKK				S	**Sn**	**10 29 11.9**	**-1.1**
GEC2	**GERESS Array S**	**1.73**	**297**	Pn	**Pb**	**10 28 54.5**	**0.0**
GEC2	**GERESS Array S**	**1.73**	**297**	*e*Pn	**Pb**	**10 28 54.6**	**+0.1**
GEC2				*e*Sg	**Sb**	**10 29 17.4**	**+1.2**
GERES	**GERESS Array B**	**1.73**	**297**	Pg	**Pb**	**10 28 54.6**	**+0.1**
	comp=Z,39nm,0.3s,baz=112,slow=16,SNR=304						
GERES				Lg	Lg	10 29 17.2	
	comp=Z,379nm,0.3s,baz=114,slow=36,SNR=30						
GERES	**GERESS Array B**	**1.73**	**297**	Pn	**Pn**	**10 28 54.3**	**+1.6**
OBKA	**Obir**	**1.88**	**213**	*e*Pn	**Pn**	**10 28 56.4**	**+1.6**
	comp=Z,131nm,0.6s,SNR=145						
OBKA	**Obir**	**1.88**	**213**		**Pn**	**10 28 56.4**	**+1.6**
OBKA	**Obir**	**1.88**	**213**	Pn	**Pn**	**10 28 56.3**	**+1.6**
	comp=Z,2.7nm,SNR=65						
OBKA	**Obir**	**1.88**	**213**	*e*Pn	**Pn**	**10 28 56.1**	**+1.4**
VYHS	**Vyhne**	**1.91**	**77**	Pn	**Pn**	**10 28 54.4**	**-0.8**
	comp=Z,0.5nm,SNR=451						
VYHS				Sn	**Sn**	**10 29 17.7**	**-1.4**
VYHS	**Vyhne**	**1.91**	**77**	*e*PN	**Pn**	**10 28 54.5**	**-0.6**
VYHS				*e*SN	**Sn**	**10 29 17.3**	**-1.8**
VYHS				*e*LG	Lg	10 29 19.2	
VYHS	**Vyhne**	**1.91**	**77**	Pn	**Pn**	**10 28 54.3**	**-0.8**
KHC	**Kasperske Hory**	**1.94**	**303**	Pn	**Pn**	**10 28 57.4**	**+1.9**
KHC	**Kasperske Hory**	**1.94**	**303**	*e*PN	**Pn**	**10 28 57.4**	**+1.9**
KHC				*ex*	x	10 29 03.0	
KHC				*e*SG	**Sb**	**10 29 22.6**	**+0.6**
	comp=Z,758nm,0.5s						
KHC				AMS	AMS	10 29 30.0	
	comp=Z,800nm,6.1s						
KHC	**Kasperske Hory**	**1.94**	**303**	Pn	**Pn**	**10 28 57.5**	**+2.0**
LOBO	**Lobor**	**1.94**	**179**	*e*Pn	**Pn**	**10 28 56.1**	**+0.6**
LOBO				Sn	**Sn**	**10 29 19.4**	**-0.3**
MORC	**Moravsky Berou**	**1.96**	**30**	⇑P	**Pn**	**10 28 55.9**	**+0.1**
MORC	**Moravsky Berou**	**1.96**	**30**	Pn	**Pn**	**10 28 55.8**	**+0.1**
MORC	**Moravsky Berou**	**1.96**	**30**	*e*PN	**Pn**	**10 28 55.9**	**+0.1**
MORC				*e*SN	**Sn**	**10 29 19.7**	**-0.6**
MORC	**Moravsky Berou**	**1.96**	**30**	Pn	**Pn**	**10 28 55.8**	**0.0**
KALN	**Kalnik**	**1.98**	**172**	*e*Pn	**Pn**	**10 28 57.3**	**+1.2**
KALN				Sn	**Sn**	**10 29 19.4**	**-1.5**
GOPC	**GO Pecny, Ondr**	**2.00**	**336**	Pn	**Pn**	**10 28 57.6**	**+1.2**
A267A	**Kaloz**	**2.02**	**124**	Pn	**Pn**	**10 28 56.3**	**-0.2**
	comp=Z,1.7nm,SNR=17						
KRLC	**Kraliky**	**2.04**	**14**	*e*PN	**Pn**	**10 28 57.8**	**+0.8**
KRLC				*e*SN	**Sn**	**10 29 23.4**	**+1.0**
KRLC	**Kraliky**	**2.04**	**14**	Pn	**Pn**	**10 28 57.9**	**+0.9**
A265A	**Kaposfured**	**2.05**	**144**	Lg	Lg	10 29 30.2	
KBA	**Koelnbreinsper**	**2.08**	**242**	*e*Pn	**Pb**	**10 29 00.1**	**-0.5**
	comp=Z,141nm,0.3s,SNR=145						
KBA				Sn	**Sb**	**10 29 26.6**	**+0.1**
	comp=Z,276nm,0.3s						
KBA	**Koelnbreinsper**	**2.08**	**242**		**Pb**	**10 29 00.1**	**-0.5**
KBA					**Sb**	**10 29 26.6**	**+0.1**
KBA	**Koelnbreinsper**	**2.08**	**242**	*e*Pn	**Pb**	**10 29 00.1**	**-0.5**
KBA				*e*Sg	**Sb**	**10 29 26.1**	**-0.4**
BUD	**Budapest**	**2.10**	**106**	Pn	**Pn**	**10 28 57.4**	**-0.3**
	comp=Z,1.6nm,SNR=35						
BUD	**Budapest**	**2.10**	**106**	*e*Sg	**Sn**	**10 29 22.3**	**-1.5**
BUD	**Budapest**	**2.10**	**106**	Pn	**Pn**	**10 28 57.2**	**-0.5**
PRU	**Pruhonice**	**2.14**	**333**	*e*PN	**Pn**	**10 28 59.4**	**+1.2**
PRU				*e*SN	**Sn**	**10 29 26.4**	**+1.8**
PRU				AMS	AMS	10 29 40.0	
	comp=Z,800nm,5.1s						
PRU	**Pruhonice**	**2.14**	**333**	Pn	**Pn**	**10 28 59.4**	**+1.2**
A266A	**Gyulaj**	**2.18**	**135**	Pn	**Pn**	**10 28 58.7**	**-0.1**
	comp=Z,1.4nm,SNR=10						
PTJ	**Puntijarka**	**2.19**	**181**	*e*Pn	**Pn**	**10 28 60.0**	**+1.0**
PTJ				Sn	**Sn**	**10 29 24.9**	**-1.1**
PTJ	**Puntijarka**	**2.19**	**181**	Pn	**Pn**	**10 28 59.8**	**+0.9**
	comp=Z,1.6nm,SNR=34						
MYKA	**Terra Mystica**	**2.19**	**229**	*e*Pn	**Pn**	**10 29 00.9**	**+1.9**
	comp=Z,64nm,0.4s,SNR=59						
MYKA				Sn	**Sb**	**10 29 29.6**	**+0.3**
	comp=Z,101nm,0.4s						
MYKA	**Terra Mystica**	**2.19**	**229**		**Pn**	**10 29 00.9**	**+1.9**
MYKA					**Sb**	**10 29 29.6**	**+0.3**
VNDS	**Vrh nad Dolski**	**2.19**	**205**	*i* Pn	**Pn**	**10 29 00.8**	**+1.8**
OKC	**Ostrava-Krasne**	**2.23**	**38**	*e*PN	**Pn**	**10 28 59.9**	**+0.4**
OKC	**Ostrava-Krasne**	**2.23**	**38**	Pn	**Pn**	**10 28 60.0**	**+0.4**
	comp=Z,1.3nm,SNR=60						
OKC	**Ostrava-Krasne**	**2.23**	**38**	Pn	**Pn**	**10 28 59.7**	**+0.2**
ZAG	**Zagreb**	**2.27**	**181**	*e*Pn	**Pn**	**10 29 00.4**	**+0.4**
ZAG	**Zagreb**	**2.27**	**181**	P	**Pn**	**10 28 59.8**	**-0.1**
ZAG				AML	AML		
	comp=E,1460μm,0.9s						
ZAG				AML	AML		
	comp=N,1550μm,0.7s						
ZAG	**Zagreb**	**2.27**	**181**	Pg	**Pg**	**10 29 08.3**	**+2.1**
DPC	**Dobruska-Polom**	**2.27**	**5**	*e*PN	**Pn**	**10 29 00.8**	**+0.8**
DPC				*e*SG	**Sb**	**10 29 32.7**	**+1.1**
	comp=N,1μm,0.6s						
DPC				AMS	AMS	10 29 40.0	
	comp=N,600nm,6.3s						
DPC	**Dobruska-Polom**	**2.27**	**5**	P	**Pn**	**10 29 00.3**	**+0.3**
DPC				S	**Sn**	**10 29 28.3**	**+0.4**
DPC	**Dobruska-Polom**	**2.27**	**5**	Pn	**Pn**	**10 29 00.3**	**+0.3**
LJU	**Ljubljana**	**2.29**	**207**	*e*Pn	**Pb**	**10 29 04.6**	**+0.6**
LJU	**Ljubljana**	**2.29**	**207**	P	**Pn**	**10 29 01.8**	**+1.4**
LJU				AML	AML		
	comp=N,4675μm,0.8s						
LJU				AML	AML		
	comp=E,3470μm,1.2s						
CRES	**Cresnjev**	**2.30**	**190**	*e*Pn	**Pn**	**10 29 01.4**	**+1.0**
CRES	**Cresnjev**	**2.30**	**190**	Pn	**Pn**	**10 29 01.5**	**+1.0**
	comp=Z,2.1nm,SNR=11						
ACOM	**Acomizza, Ital**	**2.31**	**229**	P	**Pn**	**10 29 02.8**	**+2.1**
ACOM				S	**Sb**	**10 29 32.0**	**-0.9**
ACOM				AML	AML		
	comp=E,1208μm,0.5s						
ACOM				AML	AML		
	comp=N,1345μm,0.5s						
WET	**Wettzell**	**2.34**	**298**	*e*Pn	**Pn**	**10 29 02.9**	**+1.8**
WET				*e*Pg	**Pg**	**10 29 08.2**	**+0.5**
UPC	**Upice**	**2.42**	**360**	*e*PN	**Pn**	**10 29 02.8**	**+0.7**
UPC				*e*SG	**Sb**	**10 29 37.7**	**+1.8**
	comp=N,1000nm,0.4s						
UPC	**Upice**	**2.42**	**360**	Pn	**Pn**	**10 29 02.8**	**+0.7**
CADS	**Cadrg**	**2.44**	**221**	*i* Pn	**Pn**	**10 29 04.5**	**+2.1**
CADS				*i* Pg	**Pg**	**10 29 08.8**	**-0.6**
CADS				*e*Sn	**Sn**	**10 29 32.2**	**+0.1**
KOVH	**Kovagotottos**	**2.45**	**144**	Pg	**Pn**	**10 29 02.2**	**-0.3**
	comp=Z,0.5nm,SNR=20						
KOVH	**Kovagotottos**	**2.45**	**144**	P	**Pn**	**10 29 02.2**	**-0.3**
KOVH	**Kovagotottos**	**2.45**	**144**	Pn	**Pn**	**10 29 02.2**	**-0.3**
OSTC	**Ostas**	**2.47**	**3**	*e*PN	**Pn**	**10 29 03.7**	**+0.9**
OSTC				*e*SG	**Sb**	**10 29 40.0**	**+2.6**
	comp=Z,1μm,0.5s						
OSTC	**Ostas**	**2.47**	**3**	Pn	**Pn**	**10 29 03.6**	**+0.8**
PTCC	**Patocco-Chiusa**	**2.49**	**228**	P	**Pn**	**10 29 05.2**	**+2.2**
PTCC				S	**Sn**	**10 29 36.4**	**+3.1**
PTCC				AML	AML		
	comp=N,810μm,0.6s						
PTCC				AML	AML		
	comp=E,626μm,0.5s						
CHVC	**Chvalec**	**2.50**	**0**	*e*PN	**Pn**	**10 29 03.9**	**+0.7**
CHVC				*e*SG	**Sg**	**10 29 41.7**	**-1.3**
	comp=E,1μm,0.5s						
CHVC				AMS	AMS	10 29 50.0	
	comp=E,900nm,4.9s						
OZLJ	**Ozalj**	**2.51**	**189**	*e*Pn	**Pn**	**10 29 04.8**	**+1.5**
OZLJ				Sn	**Sn**	**10 29 33.5**	**-0.3**
LANS	**Liptovska Anna**	**2.51**	**64**	*e*PN	**Pn**	**10 29 03.7**	**+0.3**
MOSL	**Moslavina**	**2.53**	**169**	*i* Pn	**Pn**	**10 29 04.3**	**+0.7**
MOSL				Sn	**Sn**	**10 29 32.9**	**-1.4**
ROBS	**Robic**	**2.53**	**224**	*e*Pn	**Pn**	**10 29 06.1**	**+2.5**
ROBS				*e*Pg	**Pg**	**10 29 11.1**	**-0.1**
ROBS				*e*Sn	**Sn**	**10 29 36.0**	**+1.8**
MORH	**Mrgy, Hungar**	**2.59**	**136**	⇑P	**Pn**	**10 29 03.9**	**-0.4**
MORH	**Mrgy, Hungar**	**2.59**	**136**	*e*Pn	**Pn**	**10 29 03.9**	**-0.4**
MORH	**Mrgy, Hungar**	**2.59**	**136**	Pn	**Pn**	**10 29 03.8**	**-0.6**
	comp=Z,0.6nm,SNR=24						
MORH	**Mrgy, Hungar**	**2.59**	**136**	P	**Pn**	**10 29 03.8**	**-0.6**
MORH	**Mrgy, Hungar**	**2.59**	**136**	Pn	**Pn**	**10 29 03.9**	**-0.4**
ZOU	**Zoufplan**	**2.59**	**235**	P	**Pn**	**10 29 06.8**	**+2.2**
ZOU				AML	AML		
	comp=E,696μm,0.9s						
ZOU				AML	AML		
	comp=N,634μm,0.8s						
PSZ	**Piszkesteto**	**2.60**	**92**	⇑P	**Pn**	**10 29 04.1**	**-0.5**
PSZ	**Piszkesteto**	**2.60**	**92**	Pn	**Pn**	**10 29 03.9**	**-0.7**
PSZ	**Piszkesteto**	**2.60**	**92**	Pn	**Pn**	**10 29 04.0**	**-0.6**
	comp=Z,0.8nm,SNR=33						
PSZ				Sn	**Sn**	**10 29 35.5**	**-0.6**
PSZ	**Piszkesteto**	**2.60**	**92**	*e*Pn	**Pn**	**10 29 04.0**	**-0.6**
PSZ				*e*Sg	**Sn**	**10 29 35.3**	**-0.8**
PSZ	**Piszkesteto**	**2.60**	**92**	P	**Pn**	**10 29 04.0

comp=E,1055µm,0.9s
WTTA AML AML

comp=N,872µm,0.7s
WTTA Wattenberg 3.09 256 *e*Pn **Pn 10 29 13.8 +2.4**
BRG Berggiesshubel 3.10 335 Pn **Pn 10 29 12.2 +0.8**
BRG Pg **Pb 10 29 19.8 +2.0**
BRG Sg **Sb 10 29 58.7 +3.2**
BRG Amp 10 30 03.5

comp=Z,382nm,0.5s
WTTA Walderalm 3.10 258 *i* Pn **Pn 10 29 14.3 +2.6**
comp=Z,14nm,0.2s,SNR=12
WATA *e*Sg **Sg 10 30 00.5 -1.9**

comp=Z,187nm,0.4s
WATA Walderalm 3.10 258 **Pn 10 29 14.3 +2.6**
WATA **Sg 10 30 00.5 -1.9**
A250A Rusevo Krmpots 3.11 195 *e*Pn **Pn 10 29 13.2 +1.6**
A250A Sn **Sn 10 29 48.5 -0.1**
NIE Niedzica 3.12 63 *e*P **Pn 10 29 13.1 +1.4**
NIE *e*S **Sn 10 29 52.0 +3.2**
NKC Novy Kostel 3.18 314 *e*PN **Pn 10 29 14.0 +1.4**
NKC *e*SG **Sg 10 30 04.1 -0.9**

comp=Z,653nm,0.8s
NKC AMS AMS 10 30 20.0

comp=Z,1µm,5.6s
FUR Furstenfeldbru 3.19 273 *e*Pg **Pg 10 29 23.5 -0.4**
FUR *e*Sg **Sg 10 30 05.8 +0.7**
MANZ Manzenberg 3.21 308 *e*Pn **Pn 10 29 14.2 +1.3**
PLIT Plitvice 3.23 185 *e*Pn **Pn 10 29 14.5 +1.3**
PLIT Sn **Sn 10 29 50.5 -1.0**
OJC Ojcow 3.26 48 *e*P **Pn 10 29 13.2 -0.4**
OJC *e*S **Sn 10 29 50.7 -1.7**
OJC Ojcow 3.26 48 Pn **Pn 10 29 12.9 -0.7**
OJC Ojcow 3.26 48 Pb **Pn 10 29 13.2 -0.4**
comp=Z,0.5nm,SNR=28
OJC Ojcow 3.26 48 Pn **Pn 10 29 13.2 -0.4**
FRE8 Fregona 3.26 232 P **Pn 10 29 15.9 +2.2**
SMRN Sveta Marina 3.32 204 *e*Pn **Pn 10 29 16.5 +2.1**
SMRN Sn **Sn 10 29 54.5 +0.7**
ROSI Rosskopf 3.34 251 P **Pn 10 29 17.7 +2.8**
ROSI S **Sn 10 29 57.5 +2.8**
ROSI AML AML

comp=E,1170µm,1.3s
ROSI AML AML

comp=N,1625µm,1.0s
SQTA Sankt Quirin 3.38 257 *i* Pn **Pn 10 29 17.4 +2.1**
comp=N,5.0nm,0.3s,SNR=16
SQTA *e*Sn **Sn 10 29 58.6 +3.2**

comp=N,72nm,0.3s
SQTA Sg **Sg 10 30 12.2 +1.0**

comp=N,47nm,0.2s
SQTA Sankt Quirin 3.38 257 **Pn 10 29 17.4 +2.1**
SQTA **Sn 10 29 58.6 +3.2**
SQTA Lg 10 30 12.2
VARN Col Varnada, M 3.41 233 P **Pn 10 29 17.5 +1.7**
MOTA Moosalm 3.41 259 *i* Pn **Pn 10 29 17.2 +1.3**
comp=N,2.4nm,0.3s,SNR=12
MOTA *e*Pg **Pg 10 29 27.1 -1.1**

comp=N,33nm,0.4s
MOTA Sg **Sg 10 30 12.1 -0.2**

comp=N,60nm,0.3s
MOTA Moosalm 3.41 259 **Pn 10 29 17.2 +1.3**
MOTA **Pg 10 29 27.1 -1.1**
MOTA **Sg 10 30 12.1 -0.2**
BLY Banja Luka 3.44 166 *e*Pn **Pn 10 29 17.0 +1.0**
BLY Banja Luka 3.44 166 P **Pn 10 29 16.1 +0.1**
BLY S **Sn 10 29 54.5 -2.2**
BLY AML AML

comp=N,194µm,1.4s
BLY AML AML

comp=E,246µm,0.4s
BLY AML AML

comp=N,170µm,0.4s
BLY AML AML

comp=E,252µm,0.4s
BLY Banja Luka 3.44 166 Pn **Pn 10 29 17.0 +1.0**
comp=Z,0.4nm,SNR=9.2
RABC Rab 3.45 195 *e*Pn **Pn 10 29 18.5 +2.3**
RABC Sn **Sn 10 29 57.7 +0.6**
ABSI Aberstueckl 3.48 249 P **Pn 10 29 19.3 +2.4**
BRJN Brijuni 3.56 207 *e*Pn **Pn 10 29 19.8 +2.1**
BRJN Sn **Sn 10 30 00.0 +0.4**
BRJN Brijuni 3.56 207 P **Pn 10 29 19.3 +1.6**
GRA1 Grafenberg Arr 3.56 299 Pn **Pn 10 29 19.4 +1.7**
GRF Grafenberg Arr 3.56 299 *e*Pn **Pn 10 29 20.2 +2.5**
GRF *e*Pg **Pg 10 29 30.8 0.0**
GRF *e*Sg **Sg 10 30 14.5 -2.5**
GRFO Grafenberg 3.56 299 Pn **Pn 10 29 20.3 +2.6**
KOSI Kohlern 3.57 245 P **Pn 10 29 20.0 +2.0**
KOSI S **Sn 10 30 03.0 +2.9**
KOSI AML AML

comp=E,724µm,0.7s
KOSI AML AML

comp=N,1080µm,1.5s
UDBI Udbina 3.57 183 *e*Pn **Pn 10 29 19.8 +1.9**
UDBI Sn **Sn 10 29 59.0 -1.1**
RETA Reutte 3.61 262 *e*Pg **Pg 10 29 31.0 -0.8**
comp=N,0.8nm,0.1s,SNR=14
RETA Reutte 3.61 262 **Pg 10 29 31.0 -0.8**
NVLJ Novalja 3.62 193 *e*Pn **Pn 10 29 20.6 +2.1**
NVLJ Sn **Sn 10 30 01.8 +0.6**
CTI Castel Tesino 3.63 237 Pn **Pn 10 29 21.2 +2.4**
CTI Castel Tesino 3.63 237 P **Pn 10 29 20.8 +2.0**
ASOL Asolo 3.64 233 P **Pn 10 29 20.8 +1.9**
APPI Appiano 3.65 246 P **Pn 10 29 21.3 +2.3**
CRVS Cervenica-Dubn 3.70 75 Pb **Pn 10 29 19.9 +0.3**
comp=Z,0.1nm,SNR=10
CRVS Cervenica-Dubn 3.70 75 *e*PN **Pn 10 29 19.8 +0.1**
CRVS *e*SN **Sn 10 30 01.9 -1.2**
CRVS *e*LG Lg 10 30 04.2
MGRS Mrkonjic Grad 3.75 168 *e*Pn **Pn 10 29 22.0 +1.6**
FETA Feichten 3.75 255 *e*Pn **Pn 10 29 23.3 +2.7**
comp=Z,6.8nm,0.2s,SNR=9.0
FETA Feichten 3.75 255 **Pn 10 29 23.3 +2.7**
CLL Collm 3.77 330 Pn **Pn 10 29 21.9 +1.2**
CLL Collm 3.77 330 *i* Pn **Pn 10 29 22.6 +1.9**
comp=Z,35nm,0.4s
CLL *i* Pg **Pg 10 29 36.3 +1.3**
CLL *e*(Sn) **Sn 10 30 07.0 +2.1**
CLL *i* Sg **Sb 10 30 19.1 +4.3**

comp=Z,847nm,0.7s
MOX Moxa 3.86 313 *e*Pn **Pn 10 29 23.6 +1.8**
MOX *e*Sn **Sn 10 30 09.2 +2.1**
MOX *e*Sg **Sb 10 30 22.0 +4.7**
VIRC Vir 3.86 191 *e*Pn **Pn 10 29 23.9 +2.0**
VIRC Sn **Sn 10 30 06.4 -0.7**
FRGS Fruska Gora 3.92 137 ⇑P **Pn 10 29 21.7 -1.0**
FRGS Fruska Gora 3.92 137 *e*Pn **Pn 10 29 21.5 -1.2**
DOSS Dosso del Somm 3.99 238 P **Pn 10 29 26.2 +2.4**
UBR Ueberruh 4.01 266 *e*Pn **Pn 10 29 26.3 +2.3**
UBR *e*Sg **Sg 10 30 30.3 -1.2**
TEOL Teolo 4.06 229 Pn **Pn 10 29 26.2 +1.5**
TEOL Teolo 4.06 229 P **Pn 10 29 26.2 +1.5**
ZOVE Zovencedo 4.09 232 P **Pn 10 29 27.3 +2.2**
KIJV Kijevo 4.10 176 *e*Pn **Pn 10 29 26.6 +1.4**
KIJV Sn **Sn 10 30 12.3 -0.7**
DUGI Dugi Otok 4.16 190 *e*Pn **Pn 10 29 27.9 +1.9**
DUGI Sn **Sn 10 30 13.8 -0.6**
ROVR Rover Verones 4.19 236 P **Pn 10 29 28.4 +1.8**
ROVR AML AML

comp=E,118µm,0.9s
ROVR AML AML

comp=N,122µm,0.5s
TREG Tregnago 4.22 234 P **Pn 10 29 29.5 +2.6**
KOLS Kolonicke sedl 4.23 76 Pg **Pn 10 29 27.0 0.0**
comp=Z,51nm,SNR=17
KOLS Kolonicke sedl 4.23 76 *e*PN **Pn 10 29 27.0 0.0**
KOLS *e*SN **Sn 10 30 15.6 -0.7**
KOLS *e*LG Lg 10 30 18.7
MORI Morici 4.23 183 *e*Pn **Pn 10 29 29.1 +2.1**
MORI Sn **Sn 10 30 15.5 -0.8**
DAVA Damuels 4.24 261 *i* Pn **Pn 10 29 29.3 +2.1**
comp=Z,6.1nm,0.2s
DAVA *e*Sn **Sn 10 30 18.1 +1.5**

comp=Z,43nm,0.3s
DAVA Sg **Sg 10 30 38.7 0.0**

comp=Z,117nm,0.4s
DAVA Damuels 4.24 261 **Pn 10 29 29.3 +2.1**
DAVA **Sn 10 30 18.1 +1.5**
DAVA Lg 10 30 38.7
DAVA Damuels 4.24 261 *e*Pn **Pn 10 29 29.5 +2.3**
DAVA *e*Sg **Sg 10 30 38.2 -0.5**
SIRR Siria 4.25 113 ⇑P **Pn 10 29 26.7 -0.5**
SIRR Siria 4.25 113 Pg **Pn 10 29 26.7 -0.5**

comp=Z,0.1nm,SNR=6.6
TEKS Tekeris 4.29 144 *e*Pn **Pn 10 29 26.9 -0.9**
TRPA Tarpa 4.36 87 ⇑P **Pn 10 29 27.7 -0.9**
TRPA Tarpa 4.36 87 x Pg 10 29 41.7 -4.4
DAVOX Davos/Dischmat 4.38 255 Pn **Pn 10 29 31.6 +2.4**
comp=Z,3.0nm,0.3s,baz=82,slow=12,SNR=25
DAVOX Pg **Pb 10 29 43.7 +4.1**
comp=Z,10nm,0.3s,baz=66,slow=16,SNR=20
DAVOX Sn **Sn 10 30 21.9 +1.7**
comp=Z,14nm,0.3s,baz=176,slow=22,SNR=8.3
DAVOX Lg Lg 10 30 42.2
comp=Z,11nm,0.3s,baz=316,slow=19,SNR=5.6
DAVOX Davos/Dischmat 4.38 255 P **Pn 10 29 31.3 +2.1**
DAVOX AML AML

comp=N,318µm,0.5s
DAVOX AML AML

comp=E,204µm,0.9s
ZIRJ Zirje 4.45 184 *e*Pn **Pn 10 29 32.1 +2.2**
ZIRJ Sn **Sn 10 30 20.9 -0.6**
SALO Salr 4.52 239 Pn **Pn 10 29 32.9 +2.0**
BZS Buzias 4.56 121 ⇑P **Pn 10 29 31.1 -0.4**
BZS Buzias 4.56 121 P **Pn 10 29 29.9 -1.6**
BZS Buzias 4.56 121 x **Pn 10 29 31.8 +0.4**
comp=Z,0.1nm,SNR=4.2
STU Stuttgart 4.61 281 Pn **Pn 10 29 34.2 +2.1**
STU Stuttgart 4.61 281 *e*Pn **Pn 10 29 34.5 +2.4**
STU *e*Sn **Sn 10 30 23.2 -2.3**
STU *e*Sg **Sg 10 30 48.9 -1.6**
RICI Ricice 4.66 170 *e*Pn **Pn 10 29 34.9 +1.9**
RICI Sn **Sn 10 30 25.9 -1.0**
KWP Kalwaria Pacla 4.67 68 *e*P **Pn 10 29 34.1 +1.2**
KWP *e*S **Sn 10 30 28.4 +1.4**
DRGR 4.71 104 ⇑P **Pn 10 29 33.7 0.0**
DRGR 4.71 104 Pn **Pn 10 29 34.1 +0.5**
comp=Z,0.3nm,SNR=12
MESR Meseseni 4.77 99 ⇑P **Pn 10 29 34.7 +0.4**
TUE Stuetta 4.83 253 Pn **Pn 10 29 37.8 +2.3**
TUE Stuetta 4.83 253 Pn **Pn 10 29 37.9 +2.5**
BBLS Lazići 4.83 150 *e*Pn **Pn 10 29 35.4 +0.1**
DIVS Divibare 4.85 144 Pn **Pn 10 29 34.7 -0.9**
DIVS Divibare 4.85 144 *e*Pn **Pn 10 29 34.7 -0.9**
DIVS Divibare 4.85 144 P **Pn 10 29 34.3 -1.3**
DIVS AML AML

comp=E,43µm,1.5s
DIVS AML AML

comp=N,38µm,0.8s
MAKA Makarska 4.85 171 *e*Pn **Pn 10 29 36.8 +1.3**
MAKA Sn **Sn 10 30 30.7 -0.9**
HVAR Hvar 4.92 176 *e*Pn **Pn 10 29 38.5 +2.0**
HVAR Sn **Sn 10 30 32.2 -1.1**
RUDO Rudo 5.04 151 *e*Pn **Pn 10 29 34.9 -3.3**
ZCCA Zocca 5.13 225 Pn **Pn 10 29 41.3 +1.9**
MDVR Moldovita 5.13 128 ⇑P **Pn 10 29 39.2 -0.3**
BFO Black Forest 5.16 276 Pn **Pn 10 29 41.0 +1.3**
BFO Black Forest 5.16 276 *e*Pn **Pn 10 29 41.6 +1.8**
BFO *e*Sn **Sn 10 30 35.8 -3.3**
BFO *e*Sg **Sg 10 31 07.6 -0.7**
DEV Deva 5.19 113 Pg **Pb 10 29 53.0 -0.4**
STON Ston 5.35 167 *e*Pn **Pn 10 29 44.6 +2.3**
STON Ston 5.35 167 *e*Pn **Pn 10 29 44.3 +2.0**
STON Sn **Sn 10 30 42.9 -0.9**
STON Ston 5.35 167 P **Pn 10 29 42.2 -0.1**
STON AML AML

comp=E,94µm,0.8s
STON AML AML

comp=N,114µm,0.8s
LSTV Lastovo 5.36 173 *e*Pn **Pn 10 29 44.0 +1.5**
LSTV Sn **Sn 10 30 43.3 -0.7**
GZR Gura Zlata 5.36 118 ⇓P **Pn 10 29 43.6 +1.1**
GZR Gura Zlata 5.36 118 Pg Pn 10 29 47.3 +4.8
comp=Z,0.1nm,SNR=4.9
TNS Taunus Mts 5.42 296 *e*Pn **Pn 10 29 46.2 +2.9**
MURB Monte Urbino 5.42 208 Pn **Pn 10 29 44.8 +1.4**
HERR Herculane 5.45 124 ⇑P **Pn 10 29 43.6 -0.1**
TREB Trebinje 5.62 162 *e*Pn **Pn 10 29 46.4 +0.4**
DBRK Dubrovnik 5.62 164 *e*Pn **Pn 10 29 48.0 +1.9**
DBRK Sn **Sn 10 30 48.8 -1.8**
NRCA Norcia 5.65 202 Pn **Pn 10 29 47.1 +0.6**
OSSC Osservatorio P 5.66 218 Pn **Pn 10 29 48.5 +1.8**
ARCR ARCALIA 5.72 97 ⇑P **Pn 10 29 46.9 -0.4**
CDF Champ du Feu 5.86 276 *e*Pn **Pn 10 29 50.5 +1.1**
CDF Champ du Feu 5.86 276 *e*Pg **Pg 10 30 14.0 -0.9**
CDF *e*Sn **Sn 10 30 54.6 -1.9**
CDF *e*Sg **Sg 10 31 28.7 -2.1**
comp=Z,232nm,0.8s
MSSA Maissana 5.89 233 Pn **Pn 10 29 52.1 +2.3**
KOE Koeppel 5.92 296 *e*Pn **Pn 10 29 52.9 +2.8**
KOE *e*Sn **Sn 10 30 59.0 +1.2**

comp=Z,68nm,1.4s
ECH Echery 5.94 274 Pn **Pn 10 29 52.6 +2.1**
BGG Burgeitz 6.09 294 *e*Pn **Pn 10 29 56.9 +4.5**
HINF Hinteralfeld 6.18 271 *e*Pn **Pn 10 29 54.0 +0.3**
HINF Hinteralfeld 6.18 271 *e*Pg **Pg 10 30 19.9 -1.0**
HINF *e*Sn **Sn 10 31 02.6 -1.6**

comp=Z,32nm,0.4s
HINF *e*Sg **Sg 10 31 41.0 +0.1**

comp=Z,182nm,0.8s
BUR08 Bucovina Ar. S 6.18 91 Pn **Pn 10 29 54.3 +0.4**
SENIN Lac Senin/Sane 6.20 257 Pn **Pn 10 29 55.7 +1.5**
BURAR Bucovina Array 6.20 91 ⇑P **Pn 10 29 54.4 +0.3**
BURAR Bucovina Array 6.20 91 Pn **Pn 10 29 54.4 +0.3**
DRME Dracevica, Mon 6.31 158 *e*Pn **Pn 10 29 57.0 +1.5**
HOBG Hohbusch 6.36 300 *e*Sn **Sn 10 31 08.7 0.0**
CASP Castiglione de 6.43 216 Pn **Pn 10 29 57.5 +0.3**
HAU Haudompre 6.50 273 *e*Pn **Pn 10 29 59.2 +1.1**
HAU Haudompre 6.50 273 *e*Pg **Pg 10 30 25.8 -1.3**
HAU *e*Sn **Sn 10 31 09.9 -2.2**
HAU *e*Sg **Sg 10 31 49.2 -2.0**
comp=Z,138nm,0.5s
ARR Arges 6.51 112 ⇑P **Pn 10 29 58.4 +0.1**
HILG Hillesheim 6.52 293 *e*Pn **Pn 10 29 58.4 0.0**
WLF Walferdange 6.71 287 *e*Sg **Sg 10 31 55.5 -2.3**
VOIR 6.74 110 ⇑P **Pn 10 30 02.6 +1.1**
LPG La Plagne 6.88 251 *e*Pn **Pn 10 30 05.9 +2.3**
LPG *e*Sn **Sn 10 31 19.0 -3.0**
comp=Z,48nm,0.7s
LPL La Plagne 6.89 251 *e*Pn **Pn 10 30 04.1 +0.5**
LPL *e*Sn **Sn 10 31 18.8 -3.2**
comp=Z,29nm,0.6s
PAGF Fort de Pagny 6.89 278 *e*Pn **Pn 10 30 03.9 +0.4**
PAGF Fort de Pagny 6.89 278 *e*P Pn 10 30 09.3 +5.8
PAGF Fort de Pagny 6.89 278 *e*Pg **Pg 10 30 32.8 -1.8**
PAGF *e*Sn **Sn 10 31 19.3 -2.5**
comp=Z,48nm,0.7s
PAGF *e*Sg **Sg 10 32 03.3 -0.5**
comp=Z,146nm,0.8s
DREG Dreilaegerbach 6.90 296 *e*Pn Pn 10 30 08.6 +5.0
CABF La Chapelle 6.92 261 *e*Pn **Pn 10 30 04.3 +0.3**
CABF La Chapelle 6.92 261 *e*Pg **Pg 10 30 33.7 -1.5**
CABF *e*Sn **Sn 10 31 17.1 -5.5**
CABF *e*Sg **Sg 10 32 04.2 -0.5**
comp=Z,126nm,0.9s
KMPD K-Podol'skiy 6.97 82 Pn **Pn 10 30 04.5 0.0**
KMPD Pn **Pn 10 30 04.5 0.0**
comp=Z,3.4nm,0.8s
MEM Membach 7.02 295 *d*Pb **Pb 10 30 26.5 +2.0**
MEM *d*PbPb **PbPb 10 30 30.0 +2.3**
BNI Bardonecchia 7.13 248 Pn **Pn 10 30 09.4 +2.5**
MBDF Montbardon 7.23 246 *e*Pn **Pn 10 30 10.2 +1.8**
MBDF Montbardon 7.23 246 *e*Pg **Pg 10 30 39.5 -1.7**
MBDF *e*Sn **Sn 10 31 27.3 -3.2**
comp=Z,54nm,0.9s
MLR Muntele Rosu 7.28 107 Pn **Pn 10 30 09.9 +0.9**
comp=Z,0.3nm,0.3s,baz=305,slow=12,SNR=1.7
MLR Sn **Sn 10 31 29.4 -2.2**
comp=Z,0.4nm,0.3s,baz=286,slow=19,SNR=1.6
SAVF Savonnieres en 7.29 278 *e*P **Pn 10 30 13.0 +4.0**
SAVF Savonnieres en 7.29 278 *e*Pg **Pg 10 30 40.5 -1.7**
SAVF *e*Sn **Sn 10 31 29.7 -1.9**
SAVF *e*Sg **Sg 10 32 15.2 -1.4**
comp=Z,99nm,0.8s
SBF Sospel 7.33 238 *e*Pn **Pn 10 30 10.2 +0.6**
SBF *e*Sn **Sn 10 31 29.2 -3.6**
comp=Z,50nm,0.8s
MEZF Maizieres J'vi 7.34 277 *e*P Pn 10 30 14.7 +5.1
MEZF Maizieres J'vi 7.34 277 *e*Pg **Pg 10 30 41.5 -1.7**
MEZF *e*Sn **Sn 10 31 31.9 -0.9**
MEZF *e*Sg **Sg 10 32 17.5 -0.6**
comp=Z,136nm,1.1s
SFTF Sexfontaines 7.36 275 *e*P Pn 10 30 15.1 +5.2
SFTF Sexfontaines 7.36 275 *e*Pg **Pg 10 30 41.2 -2.4**
SFTF *e*Sn **Sn 10 31 31.1 -2.2**
comp=Z,33nm,0.7s
SFTF *e*Sg **Sg 10 32 18.4 -0.4**
comp=Z,76nm,0.6s
BCLA Clavier 7.40 292 *d*PbPb Pb 10 30 36.3 +5.3
BCLA *d*Pg **Pg 10 30 45.1 +0.8**
BCLA *d*Sn **Sn 10 31 32.1 -2.2**
PGF Pioggiola 7.44 224 *e*Pn **Pn 10 30 11.6 +0.5**
PGF *e*Sn **Sn 10 31 31.0 -4.4**
comp=Z,1.1nm,0.3s
VTS Vitosha 7.46 135 Pn **Pn 10 30 12.6 +1.2**
PLOR Plostina 7.60 103 ⇑P **Pn 10 30 13.5 +0.2**
GIVF Givet 7.63 289 *e*Pn **Pn 10 30 14.5 +0.9**
GIVF Givet 7.63 289 *e*Pg **Pg 10 30 47.6 -1.1**
GIVF *e*Sn **Sn 10 31 38.6 -1.4**
comp=Z,65nm,0.9s
GIVF *e*Sg Sg 10 32 26.3 -1.2
comp=Z,97nm,0.9s
VRI Vrincioaia 7.64 103 ⇑P **Pn 10 30 14.3 +0.4**
VRI Vrincioaia 7.64 103 Pn **Pn 10 30 14.2 +0.4**
VRI pP Pb 10 30 15.7 -19
ORIF Oris-en-Rattie 7.69 249 *e*Pn **Pn 10 30 16.7 +2.1**
ORIF Oris-en-Rattie 7.69 249 *e*Pg Pg 10 30 47.4 -2.5
ORIF *e*Sn **Sn 10 31 39.4 -2.2**
comp=Z,47nm,0.6s
DOU Dourbes 7.78 289 *d*x x 10 30 20.8
DOU *d*Sn **Sn 10 31 41.7 -1.8**
LUBAR Lubar, Ukraine 7.92 72 Pn **Pn 10 30 17.3 -0.3**
LUBAR pP Pb 10 30 19.6 -20
BAIF Baives 8.01 289 *e*P Pn 10 30 24.1 +5.2
BAIF *e*Sn **Sn 10 31 46.4 -3.0**
comp=Z,19nm,0.5s
BAIF *e*Sg Sg 10 32 38.3 -1.4
comp=Z,102nm,1.0s
LMR La Mourre 8.19 238 *e*Pn **Pn 10 30 21.1 -0.2**
LMR *e*Sn **Sn 10 31 49.6 -4.1**
comp=Z,2.3nm,0.5s
LOR Lormes 8.26 269 *e*Pn **Pn 10 30 24.9 +2.6**
LOR Lormes 8.26 269 *e*Pg Pg 10 30 58.4 -2.4
baz=83
LOR *e*Sn **Sn 10 31 51.5 -4.0**
comp=Z,7.6nm,0.3s
LOR *e*Sg Sg 10 32 45.8 -1.9
comp=Z,35nm,0.6s,baz=78
SMRF Simiane la Rot 8.36 244 *e*Pn **Pn 10 30 24.5 +0.8**
SMRF *e*Sn **Sn 10 31 54.5 -3.5**
comp=Z,3.5nm,0.3s
SSB Saint Sauveur 8.39 255 Pn **Pn 10 30 24.1 +0.1**
SMF Signal de Mont 8.41 265 *e*Pn **Pn 10 30 25.5 +1.2**
SMF Signal de Mont 8.41 265 *e*Pg Pg 10 31 01.4 -2.2
SMF *e*Sn **Sn 10 31 55.2 -3.8**
SMF *e*Sg Sg 10 32 50.2 -2.1
comp=Z,20nm,0.4s
VIVF Saint-Julien-l 8.48 252 *e*Pn **Pn 10 30 25.5 +0.1**
VIVF *e*Sn **Sn 10 31 56.2 -4.8**
comp=Z,25nm,0.5s
SSF Saint Saulge 8.54 268 *e*Pn **Pn 10 30 26.7 +0.6**
SSF Saint Saulge 8.54 268 *e*Pg Pg 10 31 03.9 -2.2
SSF *e*Sn **Sn 10 31 58.9 -3.3**
SSF *e*Sg Sg 10 32 55.0 -1.5
comp=Z,20nm,0.4s
AVF Avril sur Loir 8.70 266 *e*Pn **Pn 10 30 29.5 +1.2**
AVF Avril sur Loir 8.70 266 *e*Pg Pg 10 31 06.9 -2.2
AVF *e*Sn **Sn 10 32 02.4 -3.8**
AVF *e*Sg Sg 10 33 00.0 -1.6
comp=Z,24nm,0.8s
AKASG Malin Array Be 8.99 68 Sn **Sn 10 32 06.8 -6.5**
comp=Z,1.5nm,0.3s,baz=252,slow=24,SNR=4.6
AKASG LR LR 10 34 14.2
comp=Z,27nm,20.9s,baz=340,slow=39
HYF Humbligny 9.08 270 *e*Pn **Pn 10 30 33.6 +0.1**
HYF *e*Sn **Sn 10 32 12.0 -3.6**
HYF *e*Sg 10 33 11.6
BGF Bois d'Agland 9.09 265 *e*Pn **Pn 10 30 34.6 +0.9**
BGF Bois d'Agland 9.09 265 *e*Pg Pn 10 31 14.9 +41
BGF *e*Sn **Sn 10 32 11.9 -4.0**
comp=Z,18nm,0.2s
BGF *e*Sg 10 33 12.3
LASF Ste Croix 9.37 249 *e*Pn **Pn 10 30 37.3 -0.2**
LASF *e*Sn **Sn 10 32 18.1 -4.6**
comp=Z,48nm,0.6s
NACGM Naroch 9.55 40 *e*P Pn 10 30 35.4 -4.6
TCF Toulx Ste Croi 9.59 264 *e*Pn **Pn 10 30 40.6 +0.1**
TCF *e*Sn **Sn 10 32 23.8 -4.3**
comp=Z,7.9nm,0.3s
TCF *e*Sg 10 33 27.5
comp=Z,20nm,0.7s
CAF Calviac 10.14 257 *e*Pn **Pn 10 30 47.9 -0.2**
CAF Calviac 10.14 257 *e*Pg Pn 10 31 31.7 +44
CAF *e*Sn **Sn 10 32 35.2 -6.5**
comp=Z,25nm,1.0s
CAF *e*Sg 10 33 46.3
comp=Z,1.4nm,0.4s
RJF Les Rejaudoux 10.36 260 *e*Pn **Pn 10 30 51.4 +0.4**
RJF *e*Sn **Sn 10 32 40.2 -6.8**
comp=Z,7.6nm,0.6s
RJF *e*Sg 10 33 51.9
comp=Z,2.8nm,0.5s
LDF La Druitiere 10.77 279 *e*P Pn 10 31 02.7 +6.0
LDF *e*Sn **Sn 10 32 52.2 -4.9**
LDF *e*Sg 10 34 03.6
comp=Z,19nm,0.6s
FLN La Foliniere 11.00 280 *e*Pn **Pn 10 30 59.4 -0.4**
FLN La Foliniere 11.00 280 *e*P Pn 10 31 07.1 +7.3
FLN *e*Sn Sn 10 32 52.2 -10
comp=Z,3.8nm,0.4s
LFF La Frestale 11.00 259 *e*Pn **Pn 10 30 58.4 -1.4**
LFF *e*Sn **Sn 10 32 58.8 -3.9**
comp=Z,6.9nm,0.5s
MFF Saint Martin d 11.08 268 *e*Pn **Pn 10 31 02.5 +1.6**
MFF *e*Sn **Sn 10 32 59.5 -5.2**
comp=Z,2.3nm,0.4s
MFF *e*Sg 10 34 14.4
comp=Z,7.1nm,0.7s
GRR Gorron 11.28 278 *e*P Pn 10 31 08.6 +5.1
SGMF Saint Gilles 12.42 278 *e*P Pn 10 31 25.6 +6.5
ETSF Etsaut 12.74 252 *e*P **P 10 31 31.6 -3.3**
ETSF *e*Sn **Sn 10 33 39.6 -5.8**
comp=Z,1.3nm,0.3s
QUIF Quistinic 12.86 276 *e*P Pn 10 31 30.7 +5.5
QUIF *e*Sn **Sn 10 33 42.1 -6.1**
comp=Z,2.2nm,0.5s
ROSF Rostrenen 12.88 278 *e*P **Pn 10 31 29.5 +4.0**
ROSF *e*Sn **Sn 10 33 44.6 -4.1**
comp=Z,2.6nm,0.4s
ESK Eskdalemuir 13.92 308 Pn **Pn 10 31 41.6 +2.0**
FINES FINESS Array B 14.55 19 Pn **Pn 10 31 44.8 -3.5**
comp=Z,0.2nm,0.3s,baz=182,slow=13,SNR=4.8
FINES FINESS Array B 14.55 19 Pn **Pn 10 31 48.2 0.0**
ESDC Sonseca Array 16.66 247 Pn **P 10 32 18.4 0.0**
comp=Z,0.1nm,0.3s,baz=57,slow=12,SNR=4.4
ARCES ARCESS Array B 22.00 9 P **P 10 33 16.4 0.0**
comp=Z,2.0nm,0.9s,baz=189,slow=11,SNR=3.6
KIRV Kirov 22.29 49 LR LR 10 42 33.2
comp=Z,29nm,20.5s,baz=217,slow=38
TORD Torodi Ar. Bea 36.83 204 P **P 10 35 32.0 +1.4**
comp=Z,0.9nm,0.8s,baz=20,slow=8.3,SNR=4.4
KKAR Karatay Array 37.77 77 P **P 10 35 38.9 +0.5**
MKAR Makanchi Array 43.56 66 P **P 10 36 28.3 +2.0**
comp=Z,0.2nm,0.5s,baz=298,slow=6.1,SNR=2.5
SONM Songino Array 56.94 54 P **P 10 38 09.1 +1.4**
comp=Z,0.5nm,0.6s,baz=287,slow=5.9,SNR=3.9
YKA Yellowknife Ar 62.97 337 P **P 10 38 49.0 +0.3**
comp=Z,0.4nm,0.9s,baz=41,slow=5.9,SNR=5.1
CMAR Chiang Mai Arr 71.81 82 P **P 10 39 46.5 +1.1**
comp=Z,0.9nm,0.4s,baz=312,slow=7.2,SNR=4.8
TXAR Lajitas Array 85.90 311 P **P 10 41 04.6 +2.0**
comp=Z,0.3nm,0.6s,baz=51,slow=7.1,SNR=4.4

IDC 25 10:45:42.3±2.3, 3.72N×125.70E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/50, mbtmpg3.3/3, 1D, Error ellipse: s-maj=205.9km s-min=29.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KCP	**Kidapawan**	**3.32**	**350**	*e*P		Pb	10 46 39.0	-3.1
WRA	**Warramunga Arr**	**25.00**	**160**	P		P	10 51 07.0	-1.0
	0.7nm,0.7s,baz=339,slow=11,SNR=6.1							
ASAR	**Alice Springs**	**28.37**	**164**	P		P	10 51 39.4	+1.0
	0.1nm,0.4s,baz=340,slow=8.0,SNR=1.8							
MKAR	**Makanchi Array**	**56.98**	**326**	P		P	10 55 29.9	+0.1
	0.3nm,0.7s,baz=118,slow=7.5,SNR=2.7							

*IPEC **25** 10:49:36.4±0.2, 48.08N×16.15E, h8km, ML2.4/6, Error*

ellipse: s-maj=3.1km s-min=0.9km az=114.0
*VIE **25** 10:49:36.9±0.2,48°.09N×16°.10E,h8km,2km,mb1.9/6, ml2.5/6,Error ellipse: s-maj=1.0km s-min=0.8km az=64.0*
4 km WSW of Sulz im Wienerwald felt 4 ems98 at Alland / Lower Austria
*PRU **25** 10:49:37.2±0.0,48°.12N×16°.06E,h4km,Sulz Im Wienerwald*

ISC 25 10:49:36.8±1.0,**48°.10N**±0°.03×**16°.10E**±0°.03,**h8**km±9km, **n21**,σ0**°77**/32,**Austria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CONA	**Conrad Observa**	**0.23**	**224**	*e*Pg	**Pg**	**10 49 41.4**	**-0.2**
	23nm,0.1s,SNR=120						
CONA				*e*Sg	**Sg**	**10 49 45.1**	**+0.4**
	30nm,0.1s						
RONA	**Rosalia, Austr**	**0.42**	**161**	*e*Pg	**Pg**	**10 49 45.3**	**+0.3**
	3.2nm,0.1s,SNR=7.8						
RONA				*e*Sg	**Sg**	**10 49 50.8**	**+0.3**
	21nm,0.1s,SNR=16						
ZST	**Bratislava**	**0.68**	**81**	*e*SG	**Sg**	**10 49 59.6**	**+0.8**
ZST				*e*LG	Lg	10 50 06.6	
MODS	**Modra-Piesok**	**0.84**	**70**	*e*PG	**Pg**	**10 49 52.8**	**-0.1**
MODS				*e*SG	**Sb**	**10 50 05.0**	**0.0**
ARSA	**Arzberg**	**0.93**	**205**	*i* Pg	**Pg**	**10 49 54.1**	**-0.7**
	2.6nm,0.1s,SNR=5.7						
ARSA				*e*Sg	**Sg**	**10 50 06.7**	**-0.1**
	5.1nm,0.1s,SNR=4.7						
SMOL	**Smolenice**	**0.98**	**64**	*e*SG	**Sn**	**10 50 11.2**	**+0.3**
SMOL				*e*LG	Lg	10 50 12.8	
KRUC	**Moravsky**	**0.99**	**11**	*e*Pg	**Pg**	**10 49 55.6**	**-0.2**
	baz=190						
KRUC				*e*Sg	**Sg**	**10 50 08.0**	**-0.6**
	78nm,0.2s,baz=190						
MOA	**Molln**	**1.26**	**259**	*e*Pg	**Pn**	**10 50 00.4**	**-0.2**
	2.3nm,0.1s,SNR=11						
MOA				*e*Sg	**Sg**	**10 50 17.4**	**+0.2**
	12nm,0.1s						
VRAC	**Vranov**	**1.26**	**15**	*e*Pg	**Pn**	**10 50 00.2**	**-0.5**
	baz=194						
VRAC				*e*Sg	**Sb**	**10 50 16.5**	**-0.6**
	65nm,0.2s,baz=194						
TREC	**Trest**	**1.27**	**342**	*e*PG	**Pn**	**10 50 00.5**	**-0.3**
TREC				*e*SG	**Sb**	**10 50 17.0**	**-0.4**
	comp=Z,45nm,0.5s						
JAVC	**Velka Javorina**	**1.29**	**53**	*e*PG	**Pg**	**10 50 02.2**	**+0.5**
CKRC	**Cesky Krumlov**	**1.39**	**302**	*e*PG	**Pn**	**10 50 02.9**	**+0.3**
CKRC				*e*SG	**Sb**	**10 50 21.0**	**0.0**
	comp=Z,31nm,0.3s						
SRO	**Srobarova**	**1.52**	**100**	*e*SG	**Sn**	**10 50 23.5**	**-0.5**
BIOA	**Bad Ischl, Aus**	**1.70**	**257**	*e*Pn	**Pb**	**10 50 08.2**	**-0.2**
	4.5nm,0.2s						
BIOA				*e*Sn	**Sb**	**10 50 29.9**	**0.0**
	18nm,0.2s,SNR=5.8						
VYHS	**Vyhne**	**1.87**	**77**	*e*SN	**Sn**	**10 50 31.5**	**-1.4**
VYHS				*e*LG	Lg	10 50 38.9	
KHC	**Kasperske Hory**	**1.97**	**303**	*e*PN	**Pn**	**10 50 11.1**	**+0.7**
KHC				*ex*	x	10 50 15.0	
KHC				*e*SG	**Sn**	**10 50 36.1**	**+0.8**
	comp=Z,9.2nm,0.3s						
KRLC	**Kraliky**	**2.03**	**13**	*e*SN	**Sn**	**10 50 37.3**	**+0.4**
PRU	**Pruhonice**	**2.15**	**332**	*e*SN	**Sn**	**10 50 40.4**	**+0.6**
DPC	**Dobruska-Polom**	**2.26**	**4**	*e*SG	**Sb**	**10 50 47.3**	**+1.3**
	comp=Z,10nm,0.3s						
UPC	**Upice**	**2.42**	**359**	*e*SG	**Sb**	**10 50 52.6**	**+2.2**
	comp=Z,11nm,0.3s						
PVCC	**Panska Ves**	**2.63**	**338**	*e*SG	**Sg**	**10 50 59.6**	**-1.7**

*BER **25** 10:51:26.6±1.3,58°.54N×18°.77E,h0km,ML2.3, ML2.5(UPP),Suspected explosion*
*HEL **25** 10:51:27.7,58°.81N×18°.51E,h0km,ML2.7,Explosion*
*UPP **25** 10:51:27.2±0.2,58°.81N×18°.67E,h0km,ML2.5,Explosion*
*DNK **25** 10:51:27.8±0.3,58°.81N×18°.65E,h0km,ML2.5(UPP), Explosion*
*IDC **25** 10:51:28.5±2.1,58°.73N×18°.77E,h0km,mb1 2.9/4, mb1mx2.8/45,mbtmp2.8/4,ML2.4/4,Error ellipse: s-maj=27.0km s-min=8.4km az=178.0*

ISC 25 10:51:26.4±0.8,**58°.83N**±0°.02×**18°.55E**±0°.02,**h0**km,**n75**, σ1**°27**/93,**Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.33**	**302**	P	**Pb**	**10 51 34.9**	**-0.3**
NYNU				S	**Sb**	**10 51 39.7**	**-1.3**
NYNU	**Nynaeshamn**	**0.33**	**302**	P	**Pb**	**10 51 34.9**	**-0.3**
NYNU				S	**Sb**	**10 51 39.7**	**-1.3**
NYNU	**Nynaeshamn**	**0.33**	**302**	*i* P	**Pb**	**10 51 34.9**	**-0.3**
NYNU				*i* S	**Sb**	**10 51 39.7**	**-1.3**
NRTU	**Norrtaelje**	**0.85**	**3**	P	**Pg**	**10 51 43.4**	**+0.7**
NRTU	**Norrtaelje**	**0.85**	**3**	P	**Pg**	**10 51 43.4**	**+0.7**
NRTU	**Norrtaelje**	**0.85**	**3**	*e*P	**Pg**	**10 51 43.4**	**+0.7**
NRTU				*e*S	**Sg**	**10 51 54.9**	**+1.2**
VIKU	**Vikbolandet**	**1.02**	**252**	*e*P	**Pb**	**10 51 47.4**	**+0.5**
VIKU	**Vikbolandet**	**1.02**	**252**	P	**Pb**	**10 51 47.2**	**+0.4**
VIKU	**Vikbolandet**	**1.02**	**252**	P	**Pb**	**10 51 47.2**	**+0.4**
VIKU	**Vikbolandet**	**1.02**	**252**	*e*P	**Pb**	**10 51 47.2**	**+0.4**
UPP	**Uppsala**	**1.14**	**336**	P	**Pb**	**10 51 49.2**	**+0.4**
UPP	**Uppsala**	**1.14**	**336**	*e*P	**Pb**	**10 51 49.2**	**+0.4**
GOTU	**Gotland**	**1.15**	**179**	P	**Pg**	**10 51 48.3**	**0.0**
GOTU	**Gotland**	**1.15**	**179**	P	**Pg**	**10 51 48.3**	**0.0**
GOTU	**Gotland**	**1.15**	**179**	*e*P	**Pg**	**10 51 48.4**	**0.0**
ESKU	**Eskilstuna**	**1.18**	**291**	P	**Pn**	**10 51 50.3**	**+0.1**
ESKU	**Eskilstuna**	**1.18**	**291**	P	**Pn**	**10 51 50.3**	**+0.1**
ESKU	**Eskilstuna**	**1.18**	**291**	*e*P	**Pn**	**10 51 50.3**	**+0.1**
FIBU	**Brunna**	**1.24**	**331**	P	**Pb**	**10 51 51.1**	**+0.6**
FIBU	**Brunna**	**1.24**	**331**	P	**Pb**	**10 51 51.1**	**+0.6**
BACU	**Backbrunna**	**1.27**	**325**	P	**Pn**	**10 51 51.8**	**+0.5**
BACU	**Backbrunna**	**1.27**	**325**	P	**Pn**	**10 51 51.8**	**+0.5**
BACU	**Backbrunna**	**1.27**	**325**	*e*P	**Pn**	**10 51 51.8**	**+0.5**
FLYU	**Flymyra**	**1.35**	**346**	P	**Pg**	**10 51 52.8**	**+0.6**
FLYU	**Flymyra**	**1.35**	**346**	P	**Pg**	**10 51 52.8**	**+0.6**
FLYU	**Flymyra**	**1.35**	**346**	*e*P	**Pg**	**10 51 52.8**	**+0.6**
GRAU	**Graesoe**	**1.51**	**360**	P	**Pn**	**10 51 55.4**	**+0.7**
GRAU	**Graesoe**	**1.51**	**360**	P	**Pn**	**10 51 55.4**	**+0.7**
GRAU	**Graesoe**	**1.51**	**360**	*e*P	**Pn**	**10 51 55.4**	**+0.7**
AAL	**Aland**	**1.54**	**28**	*e*P	**Pb**	**10 51 56.3**	**+0.5**
AAL	**Aland**	**1.54**	**28**	P	**Pn**	**10 51 55.4**	**+0.3**
AAL	**Aland**	**1.54**	**28**	*e*P	**Pn**	**10 51 55.3**	**+0.3**
AAL				*e*S	**Sn**	**10 52 15.2**	**-0.5**
OSTU	**Oestervaala**	**1.58**	**334**	P	**Pb**	**10 51 57.0**	**+0.6**
OSTU	**Oestervaala**	**1.58**	**334**	P	**Pb**	**10 51 57.0**	**+0.6**
OSTU	**Oestervaala**	**1.58**	**334**	*e*P	**Pb**	**10 51 57.0**	**+0.6**
VSTU	**Vaestervik**	**1.58**	**223**	P	**Pb**	**10 51 56.7**	**+0.2**
VSTU	**Vaestervik**	**1.58**	**223**	P	**Pb**	**10 51 56.7**	**+0.2**
VSTU	**Vaestervik**	**1.58**	**223**	*e*P	**Pb**	**10 51 56.7**	**+0.2**
LNKU	**Linkoeping**	**1.71**	**250**	P	**Pg**	**10 51 59.2**	**+0.2**
LNKU	**Linkoeping**	**1.71**	**250**	P	**Pg**	**10 51 59.2**	**+0.2**
LNKU	**Linkoeping**	**1.71**	**250**	*e*P	**Pg**	**10 51 59.2**	**+0.2**
SLIT	**Slitere, Latvi**	**2.32**	**120**	*e*P	**Pn**	**10 52 05.4**	**-0.3**
SLIT	**Slitere, Latvi**	**2.32**	**120**	*e*P	**Pn**	**10 52 06.1**	**+0.4**
RAF	**Rauma**	**2.73**	**35**	*e*P	**Pn**	**10 52 13.8**	**+2.4**
RAF	**Rauma**	**2.73**	**35**	*e*P	**Pn**	**10 52 12.7**	**+1.3**
RAF				*e*S	**Sn**	**10 52 46.7**	**+1.6**
RAF				MSG		10 53 01.8	
	comp=Z,19nm,0.2s						
MTSE	**Matsula**	**2.75**	**90**	*e*P	**Pn**	**10 52 11.9**	**+0.4**
MTSE	**Matsula**	**2.75**	**90**	*e*P	**Pn**	**10 52 12.5**	**+0.9**
MTSE				*e*S	**Sn**	**10 52 46.6**	**+1.2**
HFS	**Hagfors**	**2.80**	**300**	Pn	**Pb**	**10 52 15.3**	**-1.9**
	comp=Z,1.1nm,0.3s,baz=256,slow=29,SNR=14						
HFS				Pg	**Pg**	**10 52 21.6**	**+1.6**
	comp=Z,3.5nm,0.3s,baz=257,slow=33,SNR=8.9						
HFS				Sn	**Sn**	**10 52 46.7**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=220,slow=25,SNR=4.9						
HFS				Lg	Lg	10 53 00.1	
	comp=Z,23nm,0.3s,baz=213,slow=23,SNR=21						
MEF	**Metsahovi**	**3.29**	**62**	*e*P	**Pn**	**10 52 19.5**	**+0.5**
MEF	**Metsahovi**	**3.29**	**62**	*e*P	**Pb**	**10 52 23.2**	**-2.3**
MEF				*e*S	**Sn**	**10 52 59.9**	**+1.1**
DEL	**Delary**	**3.45**	**229**	*e*P	**Pn**	**10 52 22.1**	**+0.9**
NUR	**Nurmijrvi**	**3.52**	**59**	*e*S	**Sn**	**10 53 06.2**	**+1.5**
NUR				MSG		10 53 22.3	
	comp=Z,15nm,0.3s						
STRU	**Stroemstad**	**3.82**	**276**	*e*P	**Pn**	**10 52 26.3**	**-0.1**
NC602	**NORSAR Array S**	**4.02**	**301**	*e*P	**Pn**	**10 52 31.0**	**+1.9**
NC602				*e*S	**Sn**	**10 52 18.2**	**+1.3**
NC602				IAML		10 53 44.4	
	comp=Z,12nm,0.3s						
PVF	**Pernaja**	**4.09**	**62**	*e*P	**Pn**	**10 52 32.5**	**+2.5**
NB201	**NORSAR Array S**	**4.27**	**304**	*e*P	**Pn**	**10 52 35.5**	**+2.8**
NB201				*e*S	**Sn**	**10 53 25.5**	**+2.4**
NB201				IAML		10 53 49.2	
	comp=Z,13nm,0.3s						
VSU	**Vasula**	**4.29**	**91**	*e*P	**Pn**	**10 52 33.6**	**+0.8**
VSU	**Vasula**	**4.29**	**91**	*e*S	**Sn**	**10 53 24.1**	**+0.5**
NOA	**NORSAR Array B**	**4.30**	**304**	Pn	**Pn**	**10 52 35.2**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=123,slow=14,SNR=5.0						
NOA				Lg	Lg	10 53 41.7	
	comp=Z,0.6nm,0.3s,baz=121,slow=17,SNR=7.5						
NAO01	**NORSAR Array S**	**4.36**	**301**	*e*P	**Pn**	**10 52 35.2**	**+1.4**
KEF	**Keuruu**	**4.58**	**40**	*e*PB	**Pb**	**10 52 45.5**	**-2.0**
KEF				*e*S	**Sn**	**10 53 32.1**	**+1.5**
KEF				MSG		10 54 01.4	
	comp=Z,14nm,0.3s						
FIA0	**FINESS Array S**	**4.59**	**52**	*e*PB	**Pb**	**10 52 46.4**	**-1.2**
FIA0				MSG		10 53 56.7	
	comp=Z,15nm,0.3s						
FINES	**FINESS Array B**	**4.59**	**52**	Pn	**Pn**	**10 52 38.5**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=241,slow=12,SNR=8.8						
FINES				Pg	**Pb**	**10 52 46.4**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=240,slow=12,SNR=17						
FINES				Lg	Lg	10 53 47.4	
	comp=Z,2.8nm,0.3s,baz=243,slow=24,SNR=6.7						
VAF	**Ylistaro**	**4.68**	**24**	*e*PB	**Pb**	**10 52 49.3**	**+0.1**
KAF	**Kangasniemi**	**5.06**	**46**	*e*P	**Pn**	**10 52 44.8**	**+1.5**
KAF				*e*S	**Sn**	**10 53 43.8**	**+1.4**
SUF	**Sumiainen**	**5.39**	**40**	*e*P	**Pn**	**10 52 49.0**	**+1.0**
SKAR	**Skarslia**	**5.50**	**294**	*e*P	**Pn**	**10 52 50.8**	**+1.3**
SKAR				*e*S	**Sn**	**10 53 52.8**	**-0.6**
SKAR				IAML		10 54 39.0	
	comp=Z,9.3nm,0.3s						
DOMB	**Dombas**	**5.69**	**308**	*e*P	**Pn**	**10 52 53.0**	**+0.9**
DOMB				*e*S	**Sn**	**10 53 57.1**	**-1.0**
DOMB				IAML		10 54 40.0	
	comp=Z,12nm,0.3s						
OUF	**Merijarvi**	**6.29**	**25**	*e*P	**Pn**	**10 53 01.7**	**+1.4**
AKN	**Aaknes**	**6.62**	**305**	*e*P	**Pn**	**10 53 06.0**	**+1.3**
AKN				*e*S	**Sn**	**10 54 19.5**	**-1.3**
AKN				IAML		10 54 30.1	
	comp=Z,2.2nm,0.6s						
OBF4	**Vikkela, Lumij**	**6.76**	**25**	*e*P	**Pn**	**10 53 07.5**	**+0.9**
JOF	**Joensuu**	**7.45**	**51**	*e*P	**Pn**	**10 53 16.7**	**+0.5**
SALU	**Saltoluokta**	**8.59**	**360**	*e*P	**Pn**	**10 53 31.7**	**0.0**
VRAC	**Vranov**	**9.61**	**188**	Lg	Lg	10 56 29.0	
	comp=Z,0.4nm,0.3s,baz=64,slow=16,SNR=1.3						
ARCES	**ARCESS Array B**	**11.16**	**13**	Pn	**Pn**	**10 54 05.5**	**-1.3**
	baz=192,slow=14,SNR=18						
ARCES				Sn	**Sn**	**10 56 06.0**	**-6.2**
	baz=192,slow=25,SNR=1.9						

*JMA **25** 11:19:27.0±0.3,44°.00N×148°.00E,h0km,M3.7*
*SKHL **25** 11:19:28.8±0.3,44°.30N×148°.20E,h45km±3km,mb4.1/2*

ISC 25 11:19:25.6±3.2,**44°.3N**±0°.1×**148°.4E**±0°.2,**h30**km±24km,**n10**, σ1**°34**/18,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.00**	**339**	*e*P	**Pb**	**11 19 43.9**	**-0.5**
KUR				AMB	AMB	11 19 44.8	
	30nm,0.2s						
KUR				*e*S	**Sn**	**11 19 55.5**	**-1.1**
KUR				A	A	11 19 56.4	
	80nm,0.3s						
KUR				A	A	11 19 56.4	
	360nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.82**	**263**	*e*P	**Pn**	**11 19 55.5**	**+0.6**
YUK				AMB	AMB	11 19 57.0	
	110nm,0.2s						
YUK				*e*S	**Sn**	**11 20 15.3**	**-1.6**
YUK				A	A	11 20 18.3	
	170nm,0.3s						
YUK				A	A	11 20 18.3	
	200nm,0.3s						
NEM2	**Nemuro 2**	**2.12**	**245**	P	**Pn**	**11 19 59.0**	**+0.1**
NEM2				*e*S	**Sn**	**11 20 21.9**	**-2.2**
JRA	**Rausu**	**2.36**	**262**	P	**Pn**	**11 20 03.8**	**+1.5**
JRA				*e*S	**Sn**	**11 20 30.6**	**+0.3**
JNSB	**Nemuroshibetsu**	**2.48**	**259**	P	**Pn**	**11 20 05.4**	**+1.5**
JKHN	**Kushirohamanak**	**2.62**	**243**	P	**Pn**	**11 20 06.5**	**+0.6**
JKHN				*e*S	**Sn**	**11 20 35.5**	**-1.2**
JNK	**Nakash**	**2.73**	**256**	P	**Pn**	**11 20 08.6**	**+1.2**
JNK				*e*S	**Sn**	**11 20 39.4**	**+0.1**
JAK	**Akkeshi**	**2.96**	**245**	P	**Pn**	**11 20 11.2**	**+0.6**
JAK				*e*S	**Sn**	**11 20 44.4**	**-0.7**
JAR	**Ashorobuto**	**3.48**	**255**	P	**Pn**	**11 20 19.5**	**+1.9**
JOB	**Onbets**	**3.58**	**249**	P	**Pn**	**11 20 20.6**	**+1.6**
JOB				*e*S	**Sn**	**11 20 59.3**	**-0.8**

*IDC **25** 11:27:25.2±5.4,16°.43S×175°.57W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.7/34,mbtmp4.1/3,MS3.1/1,Ms1 3.1/1, ms1mx2.5/62,Error ellipse: s-maj=171.0km s-min=107.5km az=155.0*
*NEIC **25** 11:27:54.1±0.7,16°.45S×175°.1W±0°.4,h297km±38km, mb4.0/14,Error ellipse: s-maj=74.7km s-min=10.3km az=48.0*

ISC 25 11:28:05.2±4.8,**17°.2S**±0°.4×**176°.5W**±0°.6,**h300**km,**n19**, σ0**°63**/18,**mb4.0**/11,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THZ	**Tophouse**	**26.15**	**198**	P	**P**	**11 33 12.4**	**-0.2**
CTAO	**Charters Tower**	**35.34**	**259**	P	**P**	**11 34 32.6**	**-0.4**
COEN	**Coen**	**38.90**	**269**	P	**P**	**11 35 03.7**	**+0.9**
COEN				IAmb	IAmb	11 35 07.2	
	comp=Z,26nm,1.4s						
TOO	**Toolangi**	**39.04**	**231**	P	**P**	**11 35 04.8**	**+1.1**
TOO				IAmb	IAmb	11 35 07.8	
	comp=Z,8.8nm,1.2s						
STKA	**Stephens Creek**	**40.56**	**241**	P	**P**	**11 35 16.6**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=98,slow=15,SNR=3.6						
STKA	**Stephens Creek**	**40.56**	**241**	P	**P**	**11 35 16.8**	**+0.6**
BBOO	**Buckleboo**	**45.34**	**241**	P	**P**	**11 35 53.9**	**-0.3**
BBOO				IAmb	IAmb	11 36 18.4	
	comp=Z,11nm,1.3s						
WR0	**Warramunga Arr**	**46.34**	**259**	P	**P**	**11 36 01.9**	**-0.3**
WR0				IAmb	IAmb	11 36 31.0	
	comp=Z,5.4nm,1.3s						
WB0	**Warramunga Arr**	**46.50**	**259**	P	**P**	**11 36 03.1**	**-0.3**
WB0				IAmb	IAmb	11 36 03.4	
	comp=Z,4.6nm,0.9s						
WB2	**Warramunga Arr**	**46.52**	**259**	P	**P**	**11 36 03.1**	**-0.5**
WB2				IAmb	IAmb	11 36 31.7	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**46.53**	**259**	P	**P**	**11 36 02.8**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=96,slow=7.5,SNR=37						
WRA	**Warramunga Arr**	**46.53**	**259**	P	**P**	**11 36 03.2**	**-0.5**
AS31	**Alice Springs**	**46.72**	**253**	P	**P**	**11 36 05.0**	**-0.1**
AS31				IAmb	IAmb	11 36 05.7	
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**46.72**	**253**	P	**P**	**11 36 04.8**	**-0.4**
	comp=Z,4.9nm,0.6s,baz=87,slow=8.7,SNR=89						
ASAR				PcP	**PcP**	**11 37 33.5**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=95,slow=3.1,SNR=1.7						
ASAR	**Alice Springs**	**46.72**	**253**	P	**P**	**11 36 04.3**	**-0.8**
FORT	**Forrest**	**51.95**	**244**	P	**P**	**11 36 43.8**	**-0.5**
FORT				IAmb	IAmb	11 36 45.4	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**52.35**	**263**	P	**P**	**11 36 46.6**	**-0.8**
SIJI	**Sorong**	**53.82**	**282**	LR	LR	11 57 19.5	
	comp=Z,20nm,21.2s,baz=230,slow=33						
VNDA	**Vanda**	**61.35**	**185**	P	P	11 37 44.1	-5.1

*IDC **25** 11:45:05.6±1.1,21°.72N×143°.12E,h272km±9km,mb3.8/28, mb1 3.9/34,mb1mx3.8/53,mbtmp4.5/34,Error ellipse: s-maj=12.8km s-min=7.0km az=85.0*
*NEIC **25** 11:45:06.4±1.7,21°.73N±0°.09×143°.1E±0°.1,h267km±5km, mb4.4/81,Error ellipse: s-maj=15.3km s-min=12.6km az=90.0*
*JMA **25** 11:45:08.0±0.2,22°.07N×143°.63E,h287km*

ISC 25 11:45:08.7±0.4,**21°.88N**±0°.04×**143°.13E**±0°.08,**h300**km, **n189**,σ1**°59**/199,**mb4.3**/86,**1C-3D,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**4.81**	**350**	P	**Pn**	**11 46 22.2**	**-1.8**
JHH2				S	**S**	**11 47 20.5**	**-4.0**
JCJ	**Chichijima**	**5.26**	**351**	P	**Pn**	**11 46 27.4**	**-1.9**
	30nm,0.3s,baz=113,slow=4.9,SNR=46						
JCJ				S	**S**	**11 47 29.7**	**-4.3**
	24nm,0.3s,baz=287,slow=19,SNR=2.6						
JCJ	**Chichijima**	**5.26**	**351**	Pn	**Pn**	**11 46 27.2**	**-2.1**
CBIJ	**Chichi`jima**	**5.26**	**351**	P	**Pn**	**11 46 27.5**	**-1.8**
CBIJ				S	**S**	**11 47 29.5**	**-4.5**
GUMO	**Guam**	**8.41**	**168**	P	Pn	11 47 02.1	-5.4
	2.3nm,0.3s,baz=349,slow=16,SNR=2.2						
JHJ	**Hachijo jima 2**	**11.58**	**346**	P	**P**	**11 47 46.2**	**-1.7**
	16nm,0.3s,baz=166,slow=23,SNR=5.2						
BSO3	**Boso 3**	**13.08**	**350**	P	**P**	**11 48 03.9**	**-0.3**
JOD2	**Odawara 2**	**13.80**	**346**	P	**Pn**	**11 48 13.2**	**+0.4**
JOD2				S	**S**	**11 50 40.9**	**-3.8**
JNY	**Yasuok**	**14.20**	**342**	P	**Pn**	**11 48 18.0**	**+0.3**
JHU	**Hanno**	**14.32**	**347**	P	**Pn**	**11 48 18.4**	**-0.6**
JHU				*e*S	**S**	**11 50 49.0**	**-6.6**
JOW	**Kunigami**	**14.41**	**293**	P	**P**	**11 48 18.7**	**-0.6**
	0.8nm,0.3s,baz=125,slow=16,SNR=1.5						
JYT	**Yasato**	**14.52**	**350**	P	**Pn**	**11 48 21.6**	**+0.2**
JYT	**Yasato**	**14.52**	**350**		**Pn**	**11 48 22.8**	**+1.4**
JRY	**Ryogami san**	**14.56**	**346**	P	**Pn**	**11 48 21.9**	**0.0**
JRY				S	**S**	**11 50 55.5**	**-5.0**
JGF	**Kuroka**	**14.57**	**341**	P	**Pn**	**11 48 23.4**	**+1.3**
JAG	**Ashikaga**	**14.84**	**348**	P	**Pn**	**11 48 24.2**	**-1.0**
JAG				*e*S	**S**	**11 50 59.0**	**-7.1**
JHO	**Hitachi**	**14.85**	**352**	P	**Pn**	**11 48 25.0**	**-0.2**
MJAR	**Matsushiro Arr**	**15.22**	**345**	P	**Pn**	**11 48 28.5**	**-1.2**
	0.6nm,0.3s,baz=132,slow=10,SNR=19						
MAJO	**Matsushiro**	**15.23**	**345**	P	**Pn**	**11 48 30.0**	**+0.3**
MAJO				IAmb	IAmb	11 48 50.3	
	comp=Z,8.3nm,0.7s						
MJB9	**Matsu-Tunnel**	**15.23**	**345**	P	**Pn**	**11 48 29.4**	**-0.4**
MJB9				IAmb	IAmb	11 48 50.3	
	comp=Z,8.2nm,0.7s						
JNU	**Nakatsue**	**15.59**	**318**	P	**P**	**11 48 33.6**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=127,slow=6.1,SNR=5.7						
JNU	**Nakatsue**	**15.59**	**318**	P	**P**	**11 48 33.0**	**+0.7**
JHS	**Saijyo**	**15.75**	**328**	P	**Pn**	**11 48 36.1**	**+0.3**
JHS				IAmb	IAmb	11 49 02.7	
	comp=Z,9.7nm,0.9s						
JMM	**Marumori**	**16.06**	**353**		**Pn**	**11 48 39.4**	**0.0**
JSD	**Sado**	**16.64**	**346**		**Pn**	**11 48 44.2**	**-2.0**
JSD				IAmb	IAmb	11 48 45.6	
	comp=Z,26nm,1.2s						
JMK	**Ichinoseki**	**17.09**	**355**	P	**Pn**	**11 48 50.6**	**-0.9**
ERM	**Erimo**	**20.08**	**0**	P	**P**	**11 49 22.6**	**+2.4**
KSRS	**Korea Array**	**20.34**	**323**	P	**P**	**11 49 23.2**	**+0.2**
	comp=Z,8.6nm,0.9s,baz=147,slow=9.4,SNR=39						
KSRS				ScP	**ScP**	**11 56 33.3**	**+3.5**
	comp=Z,4.5nm,1.0s,baz=139,slow=2.6,SNR=18						
KSAR	**Wonju Array Be**	**20.35**	**323**	P	**P**	**11 49 24.5**	**+1.3**
KS19	**Wonju Array Si**	**20.41**	**323**	P	**P**	**11 49 24.0**	**+0.3**
KS19				IAmb	IAmb	11 49 25.3	
	comp=Z,11nm,1.0s						
SSLB	**Suanglung**	**20.53**	**280**	P	**P**	**11 49 26.6**	**+1.5**
SSLB				IAmb	IAmb	11 49 28.0	
	comp=Z,18nm,0.9s						
JEW	**Eniwo**	**20.95**	**357**	P	**P**	**11 49 31.1**	**+2.2**
ASAJ	**Asahikawa**	**22.18**	**359**	P	**P**	**11 49 43.0**	**+2.8**
	comp=Z,5.6nm,0.9s,baz=221,slow=7.8,SNR=4.8						
BNX	**BinXian**	**27.05**	**335**	P	**P**	**11 50 25.8**	**+1.8**
BNX				pmax	pmax		
	comp=Z,18nm,0.5s						
BNX				pmax	pmax		
	comp=Z,130nm,4.9s						
LBMI	**Labuha**	**27.09**	**216**	P	**P**	**11 50 23.6**	**-1.1**
	comp=Z,16nm,1.2s						
KLR	**Kul'dur**	**28.75**	**344**	P	**P**	**11 50 39.5**	**+0.5**
	comp=Z,3.8nm,0.5s,baz=157,slow=4.4,SNR=16						
KLR				ScP	**ScP**	**11 56 55.3**	**+2.1**
	comp=Z,1.7nm,1.0s,baz=206,slow=2.7,SNR=6.0						
GTOI	**Gorontalo**	**28.82**	**226**	P	**P**	**11 50 39.2**	**-0.8**
	comp=Z,8.9nm,1.1s						
HNS	**HongShan**	**29.00**	**309**	P	**P**	**11 50 42.3**	**+1.0**
HNS				pmax	pmax		
	comp=Z,19nm,0.9s						
MYLDM	**Lahad Datu**	**29.06**	**239**	P	**P**	**11 50 41.8**	**-0.4**
MRSI	**Marisa**	**29.65**	**227**	P	**P

GOMU				pmax		pmax	
	comp=Z,71nm,4.6s						
KULM	**Kulim**	**44.27**	**254**	P		**P**	**11 52 50.2 +0.6**
KULM				IAmb		IAmb	11 52 51.2
	comp=Z,13nm,0.8s						
IPM	**Ipoh**	**44.30**	**253**	P		**P**	**11 52 50.1 +0.2**
IPM				IAmb		IAmb	11 52 51.1
	comp=Z,16nm,1.1s						
LEM	**Lembang**	**45.01**	**235**	P		**P**	**11 52 55.2 -0.3**
	comp=Z,20nm,0.8s						
AS31	**Alice Springs**	**46.15**	**192**	P		**P**	**11 53 02.5 -1.6**
ASAR	**Alice Springs**	**46.16**	**192**	P		**P**	**11 53 01.7 -2.4**
	comp=Z,3.1nm,0.7s,baz=17,slow=12,SNR=44						
ASAR				PcP		**PcP**	**11 54 33.8 -0.9**
	comp=Z,0.9nm,0.8s,baz=27,slow=4.3,SNR=4.7						
ASAR				ScP		**ScP**	**11 58 02.2 +3.5**
	comp=Z,0.3nm,0.8s,baz=15,slow=4.9,SNR=2.6						
ASAR				S		**S**	**11 59 26.4 -0.7**
	comp=Z,1.3nm,0.9s,baz=17,slow=16,SNR=7.0						
ASAR	**Alice Springs**	**46.16**	**192**	P		**P**	**11 53 02.0 -2.1**
SHL	**Shillong**	**46.83**	**285**	P		**P**	**11 53 09.6 -0.1**
SHL				IAmb		IAmb	11 53 10.0
	comp=Z,11nm,0.7s						
MNSI	**Mandailing Nat**	**47.30**	**250**	P		**P**	**11 53 13.2 +0.1**
KCSI	**Kotacane, Aceh**	**47.62**	**254**	P		**P**	**11 53 14.6 -1.0**
	comp=Z,621nmcomp=Z,15nm,1.2s						
GSI	**Gunungsitoli**	**48.81**	**252**	P		**P**	**11 53 24.2 -0.4**
GSI				IAmb		IAmb	11 53 24.9
	comp=Z,15nm,0.7s						
GSI	**Gunungsitoli**	**48.81**	**252**	P		**P**	**11 53 23.8 -0.8**
	comp=Z,23nm,1.7s						
TAPN	**Taplejung**	**50.34**	**288**	*eP*		**P**	**11 53 36.7 +0.4**
WMQ	**Urumqi**	**50.43**	**309**	*eP*		**P**	**11 53 39.8 +3.4**
ODAN	**Odare**	**50.69**	**287**	*eP*		**P**	**11 53 39.1 +0.3**
RAMN	**Ramite**	**51.37**	**288**	*eP*		**P**	**11 53 44.1 +0.2**
	comp=Z,12nm,0.5s						
JIRN	**Jiri**	**51.65**	**289**	*eP*		**P**	**11 53 46.8 +0.7**
GUN	**Gumba**	**51.89**	**289**	*eP*		**P**	**11 53 48.3 +0.5**
PKI	**Pulchoki**	**52.35**	**289**	*eP*		**P**	**11 53 50.9 -0.3**
	comp=Z,16nm,0.7s						
KKN	**Kakani**	**52.43**	**289**	*eP*		**P**	**11 53 51.6 0.0**
GIRL	**Giralia**	**52.45**	**214**	P		P	**11 53 51.2 -0.2**
DMN	**Daman**	**52.61**	**289**	*eP*		**P**	**11 53 53.0 0.0**
GKN	**Gorkha**	**52.97**	**289**	*eP*		**P**	**11 53 55.6 +0.1**
	comp=Z,27nm,0.7s						
STKA	**Stephens Creek**	**53.47**	**182**	P		**P**	**11 53 56.5 -2.2**
	comp=Z,5.2nm,0.5s,baz=358,slow=8.4,SNR=17						
STKA	**Stephens Creek**	**53.47**	**182**	P		**P**	**11 53 56.6 -2.0**
DANN	**Dangsing**	**53.69**	**290**	*eP*		**P**	**11 54 01.5 +0.6**
KOLN	**Koldanda**	**53.91**	**289**	*eP*		**P**	**11 54 02.7 +0.4**
ZAA0	**Zalesovo Array**	**54.04**	**322**	P		**P**	**11 54 03.0 +0.5**
ZAA0				IAmb		IAmb	11 54 03.8
	comp=Z,12nm,0.8s						
ZALV	**Zalesovo Beam**	**54.04**	**322**	P		**P**	**11 54 02.8 +0.3**
	comp=Z,13nm,0.8s,baz=95,slow=6.3,SNR=37						
ZALV				PcP		**PcP**	**11 55 03.1 -0.2**
	comp=Z,2.2nm,0.4s,baz=108,slow=4.7,SNR=8.1						
ZALV				ScP		**ScP**	**11 58 34.3 +2.1**
	comp=Z,0.4nm,0.5s,baz=108,slow=7.7,SNR=2.0						
ZALV	**Zalesovo Beam**	**54.04**	**322**	P		**P**	**11 54 03.2 +0.7**
FORT	**Forrest**	**54.32**	**196**	P		**P**	**11 54 03.4 -1.4**
OPA	**Opana**	**54.35**	**78**	P		P	**11 54 06.0 +0.7**
PYUN	**Piuthan**	**54.40**	**290**	*eP*		**P**	**11 54 05.9 0.0**
	comp=Z,40nm,0.9s						
MK31	**Makanchi Array**	**54.54**	**313**	P		**P**	**11 54 06.9 +0.6**
MKAR	**Makanchi Array**	**54.54**	**313**	P		**P**	**11 54 07.0 +0.7**
	comp=Z,3.4nm,0.7s,baz=92,slow=9.3,SNR=37						
MKAR				PcP		**PcP**	**11 55 05.7 +0.2**
	comp=Z,2.3nm,0.6s,baz=83,slow=5.7,SNR=12						
MKAR				ScP		**ScP**	**11 58 36.7 +2.1**
	comp=Z,0.2nm,0.5s,baz=92,slow=7.2,SNR=2.4						
MKAR	**Makanchi Array**	**54.54**	**313**	P		**P**	**11 54 06.7 +0.3**
MAKZ	**Makanchi**	**54.76**	**313**	P		**P**	**11 54 08.2 +0.3**
BBOO	**Buckleboo**	**54.80**	**187**	P		**P**	**11 54 06.6 -1.6**
BBOO				IAmb		IAmb	11 54 28.0
	comp=Z,18nm,1.4s						
KURK	**Kurchatov**	**57.31**	**317**	P		**P**	**11 54 26.1 +0.4**
KURK				IAmb		IAmb	11 54 27.1
	comp=Z,10.0nm,0.9s						
NRIK	**Noril'sk**	**57.81**	**340**	P		**P**	**11 54 29.4 +0.6**
	comp=Z,4.0nm,0.8s,baz=113,slow=7.7,SNR=4.2						
KDJ	**Kajisay**	**58.05**	**307**	P		**P**	**11 54 32.5 +1.2**
J20K	**Nowinta River**	**58.70**	**27**	P		P	**11 54 37.2 +2.2**
J20K				IAmb		IAmb	11 54 48.2
	comp=Z,11nm,1.5s						
BOOM	**Boomskoye usch**	**58.96**	**307**	P		**P**	**11 54 38.8 +1.3**
KSH	**Kashi**	**59.09**	**304**	P		**P**	**11 54 42.8 +4.5**
KSH				pmax		pmax	
	comp=Z,5.0nm,0.9s						
IMAR	**Indian Mountai**	**59.34**	**25**	P		P	11 54 41.6 +2.2
AAK	**Ala-Archa**	**60.02**	**307**	P		**P**	**11 54 45.6 +1.0**
	comp=Z,1.0nm,0.5s,baz=98,slow=7.4,SNR=4.4						
GHO	**Glory Hole Cre**	**60.54**	**30**	P		P	11 54 49.2 +1.6
GHO				IAmb		IAmb	11 54 58.1
	comp=Z,16nm,1.1s						
TOLK	**Toolik Lake Re**	**61.57**	**23**	P		P	11 54 56.2 +1.8
H24K	**Noodor Dome**	**61.66**	**26**	P		P	11 54 56.7 +1.7
IL31		**61.90**	**27**	P		**P**	**11 54 56.8 +0.3**
ILAR	**Eielson Array**	**61.90**	**27**	P		**P**	**11 54 56.9 +0.3**
	comp=Z,1.6nm,0.8s,baz=256,slow=5.5,SNR=19						
NIL	**Nilore**	**61.91**	**297**	P		**P**	**11 54 58.2 +0.9**
NIL				IAmb		IAmb	11 54 58.9
	comp=Z,22nm,1.2s						
BRVK	**Borovoye**	**62.57**	**319**	P		**P**	**11 55 01.8 +0.6**
BRVK				IAmb		IAmb	11 55 03.0
	comp=Z,16nm,1.0s						
KK31	**Karatay Array**	**62.91**	**308**	P		**P**	**11 55 04.8 +1.2**
KK31				IAmb		IAmb	11 55 05.5
	comp=Z,8.3nm,0.8s						
KKAR	**Karatay Array**	**62.91**	**308**	P		**P**	**11 55 04.3 +0.7**
KKAR	**Karatay Array**	**62.91**	**308**	P		**P**	**11 55 03.7 0.0**
KKAR				IAmb		IAmb	11 55 05.4
	comp=Z,8.3nm,0.8s						
BMAR	**Burnt Mountain**	**63.20**	**24**	P		P	11 55 08.0 +2.9
GAR	**Garm**	**63.51**	**304**	P		**P**	**11 55 08.2 +0.4**
GAR				IAmb		IAmb	11 55 08.9
	comp=Z,11nm,0.8s						
BCAR	**Beaver Creek A**	**63.98**	**29**	P		P	11 55 12.6 +2.3
CHGR	**Chuyangaron**	**64.45**	**303**	P		**P**	**11 55 14.5 +0.6**
DAWY	**Dawson**	**65.08**	**28**	P		P	11 55 19.2 +1.9
KBL	**Kabul**	**65.21**	**299**	P		**P**	**11 55 19.3 +0.3**
KBL				IAmb		IAmb	11 55 20.2
	comp=Z,11nm,0.8s						
INK	**Inuvik**	**67.42**	**24**	P		**P**	**11 55 31.6 -0.4**
	comp=Z,1.4nm,0.8s,baz=240,slow=6.8,SNR=4.1						
INK	**Inuvik**	**67.42**	**24**	P		**P**	**11 55 33.2 +1.2**
URZ	**Urewera**	**67.80**	**152**	P		**P**	**11 55 33.7 -1.0**
BKZ	**Black Stump Fm**	**68.28**	**153**	P		**P**	**11 55 36.7 -1.1**
BKZ				IAmb		IAmb	11 55 40.6
	comp=Z,13nm,1.1s						
ARU	**Arti**	**69.09**	**324**	P		**P**	**11 55 42.4 -0.1**
	comp=Z,2.4nm,0.3s,baz=83,slow=3.3,SNR=13						
ARU	**Arti**	**69.09**	**324**	P		**P**	**11 55 43.2 +0.7**
SNZO	**South Karori**	**69.36**	**155**	P		**P**	**11 55 43.3 -0.9**
ABKAR	**Akbulak array**	**69.39**	**316**	P		**P**	**11 55 44.9 +0.4**
ABKAR	**Akbulak array**	**69.39**	**316**	P		**P**	**11 55 45.0 +0.5**
ABKAR				IAmb		IAmb	11 55 45.8
	comp=Z,14nm,0.8s						
AKTO	**Aktyubinsk**	**70.40**	**317**	P		**P**	**11 55 50.2 -0.4**
	comp=Z,2.7nm,0.7s,baz=96,slow=6.0,SNR=12						
HRA	**Herat**	**70.73**	**300**	P		**P**	**11 55 53.3 +0.1**
HRA				IAmb		IAmb	11 55 54.9
	comp=Z,5.7nm,0.7s						
GEYT	**Alibeck**	**73.11**	**305**	P		**P**	**11 56 08.2 +1.3**
	comp=Z,2.9nm,0.6s,baz=222,slow=20,SNR=4.4						
KIRV	**Kirov**	**73.50**	**327**	P		**P**	**11 56 09.3 +0.7**
	comp=Z,12nm,0.8s,baz=101,slow=16,SNR=4.3						
EUNU	**Eureka**	**74.92**	**8**	P		**P**	**11 56 17.6 +0.9**
BELG	**Belogornoye**	**76.22**	**321**	P		**P**	**11 56 24.9 +0.7**
	comp=Z,23nm,0.8s,baz=56,slow=4.5,SNR=4.0						
YKA	**Yellowknife Ar**	**76.32**	**28**	P		**P**	**11 56 25.0 +0.3**
	comp=Z,2.6nm,0.7s,baz=291,slow=5.4,SNR=36						
YKA	**Yellowknife Ar**	**76.32**	**28**	P		**P**	**11 56 25.4 +0.7**
RES	**Resolute Bay**	**76.91**	**13**	P		**P**	**11 56 29.3 +1.6**
KEV	**Kevo**	**78.17**	**341**	P		**P**	**11 56 35.6 +0.9**
KEV				IAmb		IAmb	11 56 36.1
	comp=Z,8.3nm,0.8s						
ARCES	**ARCESS Array B**	**78.73**	**341**	P		**P**	**11 56 38.7 +0.8**
	comp=Z,7.4nm,0.6s,baz=74,slow=8.2,SNR=33						
ARCES	**ARCESS Array B**	**78.73**	**341**	P		**P**	**11 56 39.1 +1.2**
ARCES				IAmb		IAmb	11 56 40.1
	comp=Z,7.6nm,0.8s						
EDM	**Edmonton**	**80.47**	**36**	P		**P**	**11 56 48.8 +1.3**
EDM				IAmb		IAmb	11 56 50.7
	comp=Z,11nm,1.3s						
BMO	**Blue Mountains**	**81.33**	**45**	P		**P**	**11 56 53.1 +0.8**
KBZ	**Khabaz**	**82.21**	**314**	P		**P**	**11 56 57.9 +1.2**
	comp=Z,21nm,0.9s,baz=84,slow=2.9,SNR=28						
KIV	**Kislovodsk**	**82.26**	**314**	P		**P**	**11 56 58.5 +1.4**
ONI	**Oni**	**82.27**	**313**	P		**P**	**11 56 59.2 +2.1**
FIA1	**FINESS Array S**	**83.00**	**334**	P		**P**	**11 57 00.4 0.0**
FINES	**FINESS Array B**	**83.00**	**334**	P		**P**	**11 57 00.2 -0.1**
	comp=Z,5.1nm,0.8s,baz=55,slow=4.4,SNR=12						
FINES	**FINESS Array B**	**83.00**	**334**	P		**P**	**11 57 00.8 +0.5**
NVAR	**Mina Array Bea**	**83.07**	**51**	P		**P**	**11 57 02.8 +1.2**
	comp=Z,2.7nm,0.7s,baz=275,slow=5.5,SNR=17						
HLID	**Hailey**	**83.75**	**46**	P		**P**	**11 57 06.2 +1.4**
LRM	**Limekiln Ridge**	**84.08**	**43**	P		**P**	**11 57 08.2 +1.6**
HRY	**Holter Researc**	**84.09**	**42**	P		P	11 57 08.3 +1.9
BOZ	**Bozeman (W)**	**84.69**	**43**	P		**P**	**11 57 11.1 +1.6**
QLMT	**Earthquake Lak**	**85.16**	**43**	P		**P**	**11 57 13.6 +1.7**
YHL	**Hebgen Lake**	**85.31**	**43**	P		**P**	**11 57 14.3 +1.6**
YHL				IAmb		IAmb	11 57 15.7
	comp=Z,5.2nm,0.9s						
FLWY	**Flagg Ranch**	**85.96**	**44**	P		P	11 57 17.9 +2.1
FLWY				IAmb		IAmb	11 57 20.0
	comp=Z,5.6nm,1.1s						
YMP	**Mirror Lake Pl**	**86.01**	**43**	P		**P**	**11 57 18.0 +1.8**
YMP				IAmb		IAmb	11 57 19.6
	comp=Z,6.3nm,1.0s						
DUG	**Dugway, Tooele**	**86.25**	**48**	P		**P**	**11 57 17.9 +0.7**
DUG				IAmb		IAmb	11 57 19.1
	comp=Z,3.4nm,0.9s						
HWUT	**Hardware Ranch**	**86.49**	**46**	P		**P**	**11 57 19.7 +1.3**
HWUT				IAmb		IAmb	11 57 20.2
	comp=Z,3.4nm,0.9s						
FCC	**Fort Churchill**	**86.90**	**26**	P		**P**	**11 57 19.9 +0.2**
FCC				IAmb		IAmb	11 57 25.0
	comp=Z,7.3nm,1.3s						
AKASG	**Malin Array Be**	**87.33**	**324**	P		**P**	**11 57 20.9 -1.0**
	comp=Z,1.1nm,0.5s,baz=48,slow=5.3,SNR=6.7						
NB2	**NORSAR Subarra**	**88.76**	**339**	P		**P**	**11 57 27.8 -0.7**
	comp=Z,1.5nm,0.8s,baz=46,slow=4.6						
NOA	**NORSAR Array B**	**88.76**	**339**	P		**P**	**11 57 27.6 -1.0**
	comp=Z,2.3nm,0.8s,baz=46,slow=4.5,SNR=6.9						
BRTR	**Keskin Array B**	**90.18**	**313**	P		**P**	**11 57 34.5 -1.2**
	comp=Z,1.3nm,0.8s,baz=92,slow=3.7,SNR=5.6						
TXAR	**Lajitas Array**	**97.98**	**54**	P		Pdif	11 58 13.0 +1.5
	comp=Z,0.2nm,0.7s,baz=241,slow=3.0,SNR=2.2						
TROLL	**Troll, Antarti**	**125.12**	**194**	PKPdf		**PKiKP**	**12 03 33.0 -0.3**
SNAA	**Sanae**	**126.52**	**193**	PKPdf		**PKPdf**	**12 03 35.5 0.0**
VNA2	**Neumayer--Watz**	**128.01**	**192**	PKPdf		**PKPdf**	**12 03 38.1 -0.2**
	baz=146,slow=2.0						
VNA3	**Neumayer Olymp**	**128.16**	**191**	PKPdf		**PKiKP**	**12 03 39.2 0.0**
TORD	**Torodi Ar. Bea**	**128.59**	**309**	PKP		**PKiKP**	**12 03 41.2 -0.5**
	comp=Z,0.6nm,0.5s,baz=141,slow=1.3,SNR=7.3						
TORD	**Torodi Ar. Bea**	**128.59**	**309**			**PKiKP**	**12 03 41.9 +0.2**
PLCA	**Paso Flores**	**145.91**	**131**	PKPbc		**PKPab**	**12 04 13.7 -0.7**
	comp=Z,33nm,0.9s,baz=240,slow=3.6,SNR=76						
PLCA	**Paso Flores**	**145.91**	**131**			**PKiKP**	**12 04 14.6 -1.8**
LPAZ	**La Paz**	**149.97**	**85**	PKPbc		**PKiKP**	**12 04 25.9 -0.2**
	comp=Z,8.4nm,0.6s,baz=310,slow=2.2,SNR=32						
LPAZ	**La Paz**	**149.97**	**85**	PKPdf		**PKPdf**	**12 04 19.9 -0.2**
LPAZ						**PKiKP**	**12 04 26.5 +0.4**
LPAZ				PKPab		**PKPab**	**12 04 33.8 +1.7**

*AEIC **25** 11:49:42.7±1.5,54.98N±0.04×159.88W±0.05,h17km±6km, Error ellipse: s-maj=5.9km s-min=4.6km az=186.0*
NEIC 25 11:49:43.1±1.2,**54.97N**±0.06×**159.93W**±0.06,**h19**km±8km, **ML3.7**/10,**ML2.6**/11(AEIC),**Error ellipse: s-maj=10.2km s-min=2.7km az=151.0,South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.49**	**321**		Pb	11 49 53.2	0.0
SDPT					Sb	11 50 01.1	+1.2
PS4A	**Pavlof South-4**	**1.17**	**290**		Pn	11 50 03.6	-0.8
PS4A					Sn	11 50 19.7	-0.1
VNHG	**Veniaminof 1**	**1.33**	**19**		Pn	11 50 05.6	-1.0
VNHG					Sn	11 50 23.9	0.0
BALA	**Baldy Mountain**	**1.66**	**279**		Pb	11 50 12.6	-0.3
FALS	**False Pass**	**2.02**	**268**		Pn	11 50 16.6	+0.6
FALS					Sb	11 50 43.8	+0.1
AZAC	**Aniakchak**	**2.15**	**26**		Pn	11 50 17.7	-0.3
ANNE	**Aniakchak Nort**	**2.21**	**28**		Pn	11 50 18.6	-0.2
AKUT	**Akutan**	**3.50**	**259**	Pn	Pn	11 50 36.0	-0.5
AKUT				IAML		11 51 47.8	
	comp=N,204nm,4.6s						
AKUT				IAML		11 51 56.4	
	comp=E,146nm,5.0s						
SII	**Sitkinak Islan**	**3.62**	**61**	Pn	Pn	11 50 37.7	-0.3
OHAK	**Old Harbor**	**4.35**	**56**	Pn	Pn	11 50 50.2	+2.1
OHAK				IAML		11 51 37.4	
	comp=N,57nm,3.1s						
OHAK				IAML		11 52 53.9	
	comp=E,60nm,3.9s						
KDAK	**Kodiak Island**	**4.96**	**52**	Pn	Pn	11 50 55.6	-0.8
KDAK				IAML		11 52 01.1	
	comp=E,56nm,2.9s						
KDAK				IAML		11 53 14.4	
	comp=E,58nm,2.4s						
O18K	**Koktuh Hills**	**5.52**	**26**	Pn	Pn	11 51 04.0	-0.2
N18K	**Kilae Creek**	**6.12**	**19**	Pn	Pn	11 51 13.3	+0.9
SVW2	**Sparrevohn**	**6.56**	**19**	Pn	Pn	11 51 18.1	-0.3
M19K	**Big River Lodg**	**7.54**	**20**	Pn	Pn	11 51 32.7	+0.9
L19K	**White Mountain**	**7.70**	**18**	Pn	Pn	11 51 34.4	+0.3
TTA	**Tatalina**	**8.24**	**13**	Pn	Pn	11 51 40.9	-0.6

*NIED **25** 12:22:23.2,32.60N×130.71E,h8km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.05; $M_{\theta\theta}$1.23; $M_{\phi\phi}$-1.28; $M_{r\theta}$-1.10; $M_{\theta\phi}$2.14; $M_{\phi r}$-0.23; Fault plane solution: $M_0$2.71000×10^{14} NP1: ϕ_s193.00000°,δ69.00000°,λ171.00000°. NP2: ϕ_s287.00000°,δ81.00000°,λ21.00000°.*
JMA 25 12:22:23.2,32.60N×130.71E,h8km±1km,**M3.5,2C Broadband fault plane solution: P waves. NP1:** ϕ_s107.00000°,δ89.00000°,λ6.00000°. **NP2:**ϕ_s17.00000°, δ84.00000°,λ179.00000°. **Principal axes:** T Plg5.0000°, Azm332.0000°; N Plg84.0000°, Azm121.0000°; P Plg3.0000°, Azm242.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.10**	**120**	P	Pg	12 22 25.6	0.0
JIU3				S	Sg	12 22 27.6	+0.3
JTA	**Tamana**	**0.39**	**338**	↑P	Pg	12 22 31.0	+0.1
JTA				S	Sg	12 22 36.5	+0.4
JZO	**Okuchi**	**0.47**	**192**	↑P	Pg	12 22 32.4	+0.1
JZO				S	Sg	12 22 38.7	+0.3

IDC 25 12:48:48.2±1.5,**12.29N**×**145.05E,h0**km,**mb3.2**/3, **mb1 3.5**/3,**mb1mx3.2**/37,**mbtmp3.2**/3,**MS2.7**/1,**Ms1 2.7**/1, **ms1mx2.3**/26 **Error ellipse: s-maj=86.6km s-min=17.8km az=93.0,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.31**	**352**	Pn	Pn	12 49 14.1	+0.4
	55nm,0.3s,baz=173,slow=17,SNR=48						
GUMO				LR	LR	12 49 29.1	
	comp=Z,52nm,18.9s,baz=200,slow=31						
GUMO				Sn	Sn	12 49 31.9	-0.1
	31nm,0.3s,baz=141,slow=24,SNR=5.4						
JCJ	**Chichijima**	**14.98**	**350**	LR	LR	12 56 28.0	
	comp=Z,28nm,19.4s,baz=130,slow=31						
H11N1	**WAKE ISLAND Hy**	**22.24**	**68**	T	T	13 18 06.7	
	baz=255,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**22.25**	**68**	T	T	13 18 07.0	
	baz=255,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**22.26**	**68**	T	T	13 18 08.0	
	baz=255,slow=75,SNR=15						
WRA	**Warramunga Arr**	**33.72**	**198**	P	P	12 55 30.8	-0.7
	0.8nm,1.0s,baz=22,slow=9.6,SNR=7.5						
ASAR	**Alice Springs**	**37.36**	**197**	P	P	12 56 03.3	+0.5
	0.2nm,0.7s,baz=30,slow=11,SNR=4.4						
YKA	**Yellowknife Ar**	**83.93**	**27**	P	P	13 01 20.0	0.0
	0.0nm,0.4s,baz=291,slow=5.2,SNR=1.4						

*NNC **25** 13:03:22.1±0.4,49.99N×78.72E,h0km,mb2.6,mpv2.4, Error ellipse: s-maj=10.5km s-min=2.0km az=76.0, Suspected Mining explosion.*
*IDC **25** 13:03:25.1±4.2,49.93N×78.92E,h0km,mb1 2.6/2, mb1mx2.5/44,mbtmp2.6/2,ML1.9/2,Error ellipse: s-maj=63.7km s-min=24.6km az=79.0*
ISC 25 13:03:21.5±2.4,**50.01N**±0.08×**78.5E**±0.3,**h0**km,**n15,** σ0**8**78/25,**13C-10D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.57**	**3**	↑P	**Pb**	**13 03 34.0**	**-0.4**
KUR07				↑S	**Sb**	**13 03 43.2**	**+0.1**
KUR06	**Kurchatov Arra**	**0.59**	**4**	↑P	**Pb**	**13 03 34.3**	**-0.5**
KUR06				↓S	**Sb**	**13 03 43.5**	**-0.2**
KUR14	**Kurchatov Arra**	**0.61**	**8**	↑P	**Pb**	**13 03 34.3**	**-0.7**
KUR14				↓S	**Sb**	**13 03 43.5**	**-0.6**
KUR15	**Kurchatov Arra**	**0.61**	**6**	↑P	**Pb**	**13 03 34.4**	**-0.7**
KUR15				↑S	**Sb**	**13 03 43.5**	**-0.7**
KURBB	**Kurchatov Arra**	**0.61**	**4**	↓P	**Pb**	**13 03 34.5**	**-0.6**
	9.7nm,0.4s						
KURBB				↑S	**Sb**	**13 03 43.8**	**-0.5**
	33nm,0.7s						
KUR16	**Kurchatov Arra**	**0.62**	**2**	↑P	**Pb**	**13 03 34.7**	**-0.4**
KUR16				↑S	**Sb**	**13 03 44.0**	**-0.4**
KUR17	**Kurchatov Arra**	**0.62**	**0**	↓P	**Pb**	**13 03 35.0**	**-0.2**
KUR17				↓S	**Sb**	**13 03 44.2**	**-0.3**
KUR05	**Kurchatov Arra**	**0.63**	**4**	↑P	**Pb**	**13 03 34.8**	**-0.6**
KUR05				↓S	**Sb**	**13 03 44.0**	**-0.8**
KUR04	**Kurchatov Arra**	**0.65**	**4**	↓P	**Pb**	**13 03 35.2**	**-0.6**
KUR04				↑S	**Sb**	**13 03 44.6**	**-0.8**
KURK	**Kurchatov**	**0.71**	**8**	↓P	**Pb**	**13 03 36.0**	**-0.7**
	3.6nm,0.4s						
KURK				↑S	**Sb**	**13 03 46.3**	**-0.8**
MAKZ	**Makanchi**	**3.97**	**143**	↓Lg	Lg	13 05 22.7	
	2.3nm,0.6s						
MK31	**Makanchi Array**	**4.11**	**140**	↑Pn	**Pn**	**13 04 26.7**	**+1.2**
	0.1nm,0.3s,baz=318,slow=10,SNR=8.2						
MK31				↓Pg	**Pb**	**13 04 34.6**	**0.0**
	0.2nm,0.2s,baz=322,slow=15,SNR=4.5						
MK31				Lg	Lg	13 05 29.6	
	2.7nm,0.5s,baz=322,slow=28,SNR=13						
MKAR	**Makanchi Array**	**4.11**	**140**	Pn	**Pn**	**13 04 26.3**	**+0.8**
	0.1nm,0.3s,baz=323,slow=10,SNR=11						
MKAR				Pg	**Pb**	**13 04 32.9**	**-1.7**
	0.2nm,0.3s,baz=324,slow=14,SNR=7.8						
MKAR				Lg	Lg	13 05 26.2	
	0.9nm,0.3s,baz=323,slow=26,SNR=14						
I46RU	**ZALESOVO INFRA**	**5.56**	**42**	*i*		13 35 00.0	
	baz=225,slow=325,SNR=1.7						
ZALV	**Zalesovo Beam**	**5.56**	**42**	Pn	**Pn**	**13 04 46.9**	**+1.5**
	0.2nm,0.3s,baz=231,slow=13,SNR=5.6						

*IDC **25** 13:05:01.3±1.4,50.41S×139.37E,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.5/34,mbtmp3.8/4,ML3.4/1,MS3.5/10, Ms1 3.5/10,ms1mx3.1/49,Error ellipse: s-maj=117.6km s-min=24.1km az=84.0*
*NEIC **25** 13:05:03.4±2.9,50.5S±0.1×139.3E±0.5,h10km±2km, mb4.2/9, Error ellipse: s-maj=50.6km s-min=20.8km az=87.0*
ISC 25 13:05:03.3±0.9,**50.50S**±0.10×**139.1E**±0.3,**h10**km,**n33,** σ1**9**13/12,**mb4.1**/6,**MS3.4**/9,**Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**13.71**	**22**	Pn	**Pn**	**13 08 18.4**	**+0.7**
BBOO	**Buckleboo**	**17.82**	**352**	P	**Pn**	**13 09 11.8**	**+0.6**
BBOO				IAmb	IAmb	13 09 24.3	
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	**18.70**	**7**	P	**P**	**13 09 21.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=172,slow=6.6,SNR=5.3						
STKA				LR	LR	13 15 36.5	
	comp=Z,102nm,18.6s,baz=203,slow=34						
STKA	**Stephens Creek**	**18.70**	**7**	IAmb	IAmb	13 09 29.6	
	comp=Z,1.4nm,1.1s						
RPZ	**Rata Peaks**	**22.66**	**85**	LR	LR	13 16 47.0	
	comp=Z,105nm,19.4s,baz=220,slow=31						
H01W1	**Cape Leeuwin H**	**23.90**	**301**	T	T	13 35 13.5	
	baz=134,slow=74,SNR=50						
H01W2	**Cape Leeuwin H**	**23.91**	**301**	T	T	13 35 09.7

comp=Z,186nm,20.3s,baz=103,slow=38
DAV Davao City (W) 3.02 201 Pn 13 15 27.1 -3.9
KCP Kidapawan 3.28 208⇓ eP Pn 13 15 35.9 +1.3
SNPH Sibulan 3.43 261⇑ eP Pn 13 15 36.8 +0.2
SNPH eS Sn 13 16 26.4 +10
CTBH Cotabato--PC H 3.59 222⇑ iP Pn 13 15 39.7 +1.0
PAGZ Pagadian 3.84 238⇑ eP Pn 13 15 42.8 +0.6
PAGZ eS Sn 13 16 31.6 +5.5
CNOP Candoni, Negro 3.97 269⇑ eP Pn 13 15 44.1 +0.2
CNOP eS Sn 13 16 31.0 +1.8
RCP Roxas 4.18 293⇑ eP Pn 13 15 47.2 +0.2
JCNP Jose Panganiba 5.83 319⇓ eP Pn 13 16 07.6 -1.8
JCNP Jose Panganiba 5.83 319 eS Sn 13 16 51.0 -24
TPUB Ta-pu 14.51 337 P P 13 18 12.8 -1.3
SSLB Suanglung 14.83 339 P P **13 18 17.4 -0.2**
JOW Kunigami 16.90 5 LR LR 13 25 11.2
comp=Z,55nm,19.9s,baz=251,slow=36
JOW Kunigami 16.90 5 P P **13 18 41.9 +1.3**
JOW IAmb IAmb 13 19 06.4
comp=Z,22nm,1.1s
GUMO Guam 18.19 77 LR LR 13 25 57.7
comp=Z,58nm,19.5s,baz=124,slow=36
MMRI Maumere 18.95 194 P P **13 19 01.3 -1.9**
MMRI IAmb IAmb 13 19 14.3
comp=Z,66nm,1.4s
SOEI Soe 19.69 187 P P **13 19 09.8 -1.6**
SOEI IAmb IAmb 13 19 38.6
comp=Z,32nm,0.9s
BATI Baumata 20.21 189 P P **13 19 17.3 +0.3**
comp=Z,79nm,0.7s,baz=105,slow=0.6,SNR=14
JCJ Chichijima 22.51 39 LR LR 13 28 40.2
comp=Z,35nm,19.1s,baz=172,slow=36
MTN Manton Dam 23.04 169 P P **13 19 47.3 0.0**
MTN IAmb IAmb 13 20 12.6
comp=Z,27nm,1.4s
KNRA Kununurra 25.51 175 P P **13 20 09.9 -0.3**
KNRA IAmb IAmb 13 20 17.6
comp=Z,15nm,1.2s
KSRS Korea Array 27.44 2 LR LR 13 33 40.3
comp=Z,31nm,18.6s,baz=245,slow=41
FITZ Fitzroy Crossi 27.85 182 P P **13 20 30.6 -0.6**
comp=Z,2.1nm,0.4s,baz=357,slow=3.5,SNR=10.0
FITZ Fitzroy Crossi 27.85 182 IAmb IAmb 13 20 45.7
comp=Z,8.8nm,1.1s
CMAR Chiang Mai Arr 28.15 291 P P **13 20 30.8 -3.2**
comp=Z,0.3nm,0.3s,baz=96,slow=8.5,SNR=4.8
MJAR Matsushiro Arr 28.50 20 LR LR 13 32 35.5
comp=Z,32nm,18.6s,baz=212,slow=37
WB0 Warramunga Arr 30.46 166 P P **13 20 53.4 -1.0**
WB0 IAmb IAmb 13 21 16.8
comp=Z,11nm,1.2s
WRAB Tennant Creek 30.61 166 P P **13 20 55.0 -0.8**
WRAB IAmb IAmb 13 21 17.0
comp=Z,6.0nm,1.4s
WRA Warramunga Arr 30.62 166 P P **13 20 54.8 -1.0**
comp=Z,0.5nm,0.6s,baz=350,slow=9.4,SNR=3.1
WR0 Warramunga Arr 30.68 165 P P **13 20 55.3 -1.0**
WR0 IAmb IAmb 13 21 12.9
comp=Z,6.5nm,1.1s
MBWA Marble Bar 31.62 192 P P **13 21 03.7 -0.9**
MBWA IAmb IAmb 13 21 05.2
comp=Z,8.1nm,1.1s
AS31 Alice Springs 34.12 168 P P **13 21 25.9 -0.6**
ASAR Alice Springs 34.12 168 P P **13 21 25.9 -0.6**
comp=Z,0.5nm,0.5s,baz=352,slow=7.1,SNR=17
ASAR PcP **PcP 13 24 02.0 -1.1**
comp=Z,0.5nm,0.7s,baz=336,slow=3.0,SNR=6.2
CTA Charters Tower 35.51 147 P P **13 21 40.3 +1.8**
comp=Z,3.3nm,0.7s,baz=290,slow=12,SNR=1.5
CTAO Charters Tower 35.51 147 P P **13 21 40.5 +2.0**
KLR Kul'dur 39.42 5 P P **13 22 12.5 +1.3**
comp=Z,0.5nm,0.2s,baz=217,slow=20,SNR=2.9
H11N1 WAKE ISLAND Hy 40.00 71 T T 14 05 49.0
baz=253
H11N2 WAKE ISLAND Hy 40.01 71 T T 14 05 45.4
baz=253
H11N3 WAKE ISLAND Hy 40.02 71 T T 14 05 44.8
baz=253
MORW Morawa 40.09 195 P P **13 22 17.1 +0.1**
MORW IAmb IAmb 13 22 18.0
comp=Z,14nm,0.8s
FORT Forrest 40.48 178 P P **13 22 20.1 -0.1**
FORT IAmb IAmb 13 22 23.9
comp=Z,12nm,0.7s
SONM Songino Array 41.48 339 P P **13 22 29.0 +0.5**
comp=Z,2.3nm,0.9s,baz=162,slow=8.8,SNR=10
SONM Songino Array 41.48 339 IAmb IAmb 13 22 31.9
comp=Z,2.7nm,1.0s
BBOO Buckleboo 43.42 168 P P **13 22 44.6 +0.3**
BBOO IAmb IAmb 13 22 45.8
comp=Z,12nm,0.9s
NWAO Narrogin (SRO) 43.54 192 P P **13 22 44.6 -0.5**
STKA Stephens Creek 43.94 162 P P **13 22 48.5 +0.1**
comp=Z,1.9nm,0.5s,baz=334,slow=9.5,SNR=7.0
STKA Stephens Creek 43.94 162 P P **13 22 49.0 +0.5**
PETK Petropavlovsk- 49.80 24 P P **13 23 35.9 +1.9**
comp=Z,2.2nm,0.8s,baz=257,slow=5.2,SNR=2.0
TOO Toolangi 50.42 161 P P **13 23 39.4 +0.5**
TOO IAmb IAmb 13 24 07.4
comp=Z,2.8nm,1.0s
MK31 Makanchi Array 52.54 323 P P **13 23 53.5 -1.2**
MKAR Makanchi Array 52.54 323 P P **13 23 53.4 -1.2**
comp=Z,1.5nm,0.7s,baz=124,slow=7.8,SNR=11
MKAR Makanchi Array 52.54 323 P P **13 23 53.3 -1.4**
ZALV Zalesovo Beam 55.12 331 P P **13 24 11.7 -1.6**
comp=Z,0.3nm,0.3s,baz=103,slow=6.5,SNR=2.2
KURK Kurchatov 56.58 325 P P **13 24 22.3 -1.5**
KKAR Karatay Array 58.77 315 P P **13 24 37.3 -2.2**
BKZ Black Stump Fm 67.26 140 P P **13 25 37.6 +1.8**
SOCY Socotra 71.17 280 P P **13 25 58.5 -2.1**
IMAR Indian Mountai 76.76 24 P P **13 26 35.6 +3.4**
BMAR Burnt Mountain 80.44 23 P P **13 26 55.0 +2.5**
BCAR Beaver Creek A 81.94 27 P P **13 27 03.5 +2.9**
ARCES ARCESS Array B 84.66 340 P P **13 27 14.7 +0.2**
comp=Z,1.9nm,0.6s,baz=82,slow=6.3,SNR=14
ARCES ARCESS Array B 84.66 340 IAmb IAmb 13 27 20.2
comp=Z,12nm,1.4s
FIA1 FINESS Array S 86.38 332 P P **13 27 22.8 -0.3**
FINES FINESS Array B 86.39 332 P P **13 27 21.8 -1.3**
comp=Z,1.8nm,0.8s,baz=63,slow=5.0,SNR=6.2
FINES FINESS Array B 86.39 332 P P **13 27 22.8 -0.3**
YKA Yellowknife Ar 93.92 24 P P **13 27 59.3 +0.9**
comp=Z,0.2nm,0.6s,baz=302,slow=4.3,SNR=3.6
PLCA Paso Flores 145.73 156 PKPbc **PKPdf 13 34 18.5 -1.3**
comp=Z,1.4nm,0.8s,baz=73,slow=14,SNR=2.0

*IDC **25** 13:20:59.6±1.1,24.°09S×66.°92W,h184km±11km,mb3.3/6, mb1 3.4/12,mb1mx3.4/29,mbtmp3.7/12,Error ellipse: s-maj=19.9km s-min=15.1km az=32.0*
*NEIC **25** 13:21:00.2±1.2,24.°16S±0.°05×67.°2W±0.°1,h213km±7km, mb4.2/4,ML4.2(GUC),Error ellipse: s-maj=17.8km s-min=6.9km az=81.0*
*GUC **25** 13:21:01.4±0.6,24.°14S×67.°17W,h196km±7km,ML4.2*
ISC 25 13:20:59.6±0.7,24.°16S±0.°04×67.°07W±0.°05,h192km±7km, n58,σ1§28/77,mb3.5/6,6C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.54**	**112**	*eP*	**Pn**	**13 21 33.7**	**+0.5**
SLA				*i S*	**Sn**	**13 21 59.0**	**-0.1**
AF01	**San Pedro de A**	**1.57**	**320**		**Pn**	**13 21 35.5**	**+1.8**
AF01				Sn	**Sn**	**13 22 01.0**	**+1.0**
AF01	**San Pedro de A**	**1.57**	**320**	*eP*	**Pn**	**13 21 34.8**	**+1.1**
AF01				*i S*	**Sn**	**13 21 59.7**	**-0.3**
AF01				IAML		13 22 04.9	
	comp=N,529nm,0.5s						
LVC	**Limon Verde**	**2.29**	**312**	P	**Pn**	**13 21 42.3**	**+1.3**
	comp=N,7.8nm,0.3s,baz=181,slow=7.8,SNR=89						
LVC				S	**Sn**	**13 22 13.3**	**+0.1**
	comp=N,76nm,0.3s,baz=260,slow=18,SNR=79						
LVC	**Limon Verde**	**2.29**	**312**	⇓*iP*	**Pn**	**13 21 42.3**	**+1.3**
LVC				*i S*	**Sn**	**13 22 13.0**	**-0.2**
PB15	**IPOC Station P**	**2.39**	**293**		**Pn**	**13 21 43.2**	**+1.1**
PB15	**IPOC Station P**	**2.39**	**293**	⇑*iP*	**Pn**	**13 21 43.2**	**+1.1**
PB15				*i S*	**Sn**	**13 22 15.1**	**0.0**
GO02	**Mina Guanaco**	**2.50**	**246**		**Pn**	**13 21 44.1**	**+0.8**
GO02				Sn	**Sn**	**13 22 17.6**	**+0.2**
GO02	**Mina Guanaco**	**2.50**	**246**	⇑*iP*	**Pn**	**13 21 44.0**	**+0.6**
GO02				*i S*	**Sn**	**13 22 17.9**	**+0.5**
GO02				IAML		13 22 18.9	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	**2.71**	**302**		**Pn**	**13 21 46.7**	**+1.0**
PB06				Sn	**Sn**	**13 22 20.7**	**-0.8**
PB06	**IPOC Station P**	**2.71**	**302**	⇑*iP*	**Pn**	**13 21 46.7**	**+1.0**
PB06				*i S*	**Sn**	**13 22 21.0**	**-0.5**
PB06				IAML		13 22 24.0	
	comp=N,1μm,0.3s						
PB14	**IPOC Station P**	**3.07**	**261**		**Pn**	**13 21 50.2**	**+0.1**
PB09	**IPOC Station P**	**3.09**	**319**		**Pn**	**13 21 51.6**	**+1.5**
PB09	**IPOC Station P**	**3.09**	**319**	*eP*	**Pn**	**13 21 51.8**	**+1.7**
PB09				*i S*	**Sn**	**13 22 29.7**	**+0.2**
PB09				IAML		13 22 33.7	
	comp=E,271nm,0.4s						
AC02	**Maricunga**	**3.25**	**214**		**Pn**	**13 21 53.0**	**+0.7**
PB10	**IPOC Station P**	**3.25**	**281**		**Pn**	**13 21 52.9**	**+1.0**
PB10	**IPOC Station P**	**3.25**	**281**	⇑*iP*	**Pn**	**13 21 52.5**	**+0.6**
PB10				*i S*	**Sn**	**13 22 30.9**	**-1.8**
PB10				IAML		13 22 36.4	
	comp=E,269nm,0.3s						
PB07	**IPOC Station P**	**3.55**	**312**		**Pn**	**13 21 56.3**	**+0.6**
PB07	**IPOC Station P**	**3.55**	**312**	*eP*	**Pn**	**13 21 56.2**	**+0.5**
PB07				*i S*	**Sn**	**13 22 37.7**	**-1.9**
AC01	**Pan de Azucar**	**3.76**	**237**		**Pn**	**13 21 57.4**	**-0.8**
AC01	**Pan de Azucar**	**3.76**	**237**	⇑*iP*	**Pn**	**13 21 57.3**	**-0.8**
AC01				*i S*	**Sn**	**13 22 41.2**	**-2.8**
PB01	**IPOC Station P**	**3.82**	**324**	Pn	**Pn**	**13 21 58.9**	**-0.1**
PB02	**IPOC Station P**	**3.84**	**317**		**Pn**	**13 21 59.6**	**+0.3**
PB02	**IPOC Station P**	**3.84**	**317**	*eP*	**Pn**	**13 21 59.4**	**+0.1**
PB02				*i S*	**Sn**	**13 22 43.5**	**-2.6**
AC06	**Mina Casimiro**	**4.35**	**222**	Pn	**Pn**	**13 22 04.7**	**-0.8**
AC06	**Mina Casimiro**	**4.35**	**222**	*eP*	**Pn**	**13 22 04.3**	**-1.2**
AC06				*i S*	**Sn**	**13 22 55.2**	**-2.1**
PATCX	**Punta Patache**	**4.38**	**319**	Pn	**Pn**	**13 22 05.7**	**-0.3**
PATCX	**Punta Patache**	**4.38**	**319**	*eP*	**Pn**	**13 22 06.2**	**+0.3**
PB08	**IPOC Station P**	**4.44**	**334**		**Pn**	**13 22 08.3**	**+1.2**
PB08	**IPOC Station P**	**4.44**	**334**	*eP*	**Pn**	**13 22 08.1**	**+1.0**
PB08				*i S*	**Sn**	**13 22 59.1**	**-0.9**
GO03	**Copiap**	**4.45**	**219**		**Pn**	**13 22 05.3**	**-1.5**
GO03	**Copiap**	**4.45**	**219**	⇑*iP*	**Pn**	**13 22 05.5**	**-1.4**
GO03				*i S*	**Sn**	**13 22 57.1**	**-2.7**
TA01	**Diego Aracena**	**4.59**	**321**	Pn	**Pn**	**13 22 08.6**	**0.0**
GO01	**Chusmiza**	**4.88**	**336**		**Pn**	**13 22 13.0**	**+0.2**
PB11	**IPOC Station P**	**4.99**	**331**	Pn	**Pn**	**13 22 13.3**	**-0.6**
AC04	**Llanos de Chal**	**5.40**	**221**	Pn	**Pn**	**13 22 17.4**	**-1.6**
LCO	**Las Campanas**	**5.82**	**213**	Pn	**Pn**	**13 22 23.2**	**-1.5**
PB16	**IPOC Station P**	**6.22**	**338**	Pn	**Pn**	**13 22 30.2**	**0.0**
PB12	**IPOC Station P**	**6.29**	**331**	Pn	**Pn**	**13 22 27.8**	**-3.0**
CO01	**Juntas del Tor**	**6.39**	**204**	Pn	**Pn**	**13 22 31.9**	**-0.1**
LPAZ	**La Paz**	**7.89**	**353**	P	**Pn**	**13 22 51.7**	**-0.4**
	comp=E,0.3nm,0.3s,baz=168,slow=11,SNR=7.3						
LPAZ				S	**Sn**	**13 24 16.5**	**-4.8**
	baz=162,slow=4.8,SNR=1.7						
LPAZ	**La Paz**	**7.89**	**353**	Pn	**Pn**	**13 22 52.2**	**+0.1**
CPUP	**Villa Florida**	**9.08**	**106**	P	**Pn**	**13 23 05.9**	**-1.1**
	comp=E,0.1nm,0.3s,baz=264,slow=16,SNR=2.9						
SIV	**San Ignacio**	**9.89**	**36**	P	**Pn**	**13 23 15.6**	**-2.0**
	comp=E,0.9nm,0.3s,baz=234,slow=11,SNR=16						
PLCA	**Paso Flores**	**16.78**	**189**	P	**Pn**	**13 24 44.6**	**+1.0**
	comp=E,0.2nm,0.3s,baz=5.1,slow=10.0,SNR=4.2						
PLCA	**Paso Flores**	**16.78**	**189**	Pn	**P**	**13 24 43.1**	**+0.5**
LL04	**Puerto Octay**	**17.29**	**194**	Pn	**P**	**13 24 48.4**	**+0.3**
LL04				IAmb	IAmb	13 25 09.8	
	comp=Z,16nm,1.5s						
BDFB	**Brasilia**	**19.80**	**68**	P	**P**	**13 25 15.0**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=255,slow=12,SNR=6.0						
BDFB	**Brasilia**	**19.80**	**68**	P	**P**	**13 25 15.5**	**-0.1**
BDFB				IAmb	IAmb	13 25 17.6	
	comp=Z,5.3nm,0.6s						
SNAA	**Sanae**	**59.22**	**161**	P	**P**	**13 30 41.0**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=292,slow=8.9,SNR=7.0						
TXAR	**Lajitas Array**	**63.77**	**325**	P	**P**	**13 31 12.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=134,slow=3.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**76.69**	**69**	P	**P**	**13 32 28.6**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=254,slow=5.1,SNR=2.3						
PDAR	**Pinedale Array**	**77.25**	**329**	P	**P**	**13 32 33.0**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=123,slow=6.6,SNR=1.8						
BOSA	**Boshof**	**80.72**	**117**	P	**P**	**13 32 52.1**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=325,slow=11,SNR=1.8						
YKA	**Yellowknife Ar**	**94.25**	**340**	P	**P**	**13 33 56.8**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=131,slow=4.7,SNR=12						
WRA	**Warramunga Arr**	**131.46**	**207**	PKP	**PKiKP**	**13 39 50.7**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=155,slow=1.7,SNR=10						
ZALV	**Zalesovo Beam**	**143.56**	**28**	PKP	**PKPdf**	**13 40 10.4**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=298,slow=3.2,SNR=4.7						
MKAR	**Makanchi Array**	**146.69**	**40**	PKPbc	**PKPbc**	**13 40 19.8**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=302,slow=3.5,SNR=12						

*JMA **25** 13:45:51.7,33.°05N×131.°13E,h9km±1km,M3.4*
JMA Felt II J1.
*IDC **25** 13:45:52.4±1.4,33.°18N×131.°10E,h0km,mb3.5/1, mb1 3.6/3,mb1mx3.1/70,mbtmp3.3/3,ML2.5/2,Error ellipse: s-maj=21.2km s-min=8.0km az=160.0*
ISC 25 13:45:51.1±1.2,32.°87N±0.°07×131.°06E±0.°05,h12km,n8, σ1§63/10,3D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.30**	**328**	Pg	**Pg**	**13 45 55.8**	**-1.5**
	1μm,0.3s,baz=195,slow=22,SNR=178						
JNU				Lg	Lg	13 45 58.9	
	1μm,0.3s,baz=291,slow=5.2,SNR=88						
JNU	**Nakatsue**	**0.30**	**328**	⇓P	**Pg**	**13 45 56.3**	**-0.9**
JNU				S	**Sg**	**13 45 59.6**	**-1.7**
JIU3	**Izumi3**	**0.38**	**213**	P	**Pn**	**13 46 02.4**	**-0.1**
JTA	**Tamana**	**0.46**	**282**	⇓P	**Pb**	**13 46 01.5**	**+0.4**
JTA				S	**Sb**	**13 46 09.4**	**+1.6**
JUS	**Usuki**	**0.61**	**71**	⇓P	**Pg**	**13 46 01.5**	**-1.5**
KSRS	**Korea Array**	**5.25**	**332**	Pn	**Pn**	**13 47 08.4**	**-0.9**
	0.2nm,0.3s,baz=148,slow=15,SNR=3.3						
KSRS				Pg	**Pb**	**13 47 25.2**	**+2.5**
	0.6nm,0.3s,baz=146,slow=16,SNR=6.6						
KSRS				Lg	Lg	13 48 30.7	
	0.6nm,0.3s,baz=153,slow=30,SNR=5.8						
MJAR	**Matsushiro Arr**	**6.93**	**56**	Pn	**Pn**	**13 47 33.5**	**+0.9**
	0.1nm,0.3s,baz=240,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**52.61**	**176**	P	P	13 55 11.0	+6.1
	0.7nm,1.1s,baz=355,slow=7.8,SNR=2.4						

IDC 25 13:50:52.6±1.2,1.°35S×127.°40E,h0km,mb3.4/3, mb1 3.5/5,mb1mx3.3/47,mbtmp3.4/5,ML3.5/2,Error ellipse: s-maj=36.1km s-min=22.3km az=57.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.89**	**83**	Pn	Pn	13 51 54.4	+0.6
	1.0nm,0.3s,baz=188,slow=23,SNR=2.8						
SIJI				Sn	Sn	13 52 40.5	+0.4
	0.7nm,0.3s,baz=183,slow=23,SNR=1.2						
WRA	**Warramunga Arr**	**19.68**	**160**	P	P	13 55 23.7	+0.2
	0.2nm,0.3s,baz=344,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.06**	**165**	P	P	13 55 59.7	-0.2
	0.5nm,0.4s,baz=344,slow=11,SNR=15						
MKAR	**Makanchi Array**	**62.12**	**327**	P	P	14 01 15.3	-0.1
	0.3nm,0.6s,baz=131,slow=8.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**66.37**	**328**	P	P	14 01 43.2	0.0
	0.3nm,0.5s,baz=127,slow=6.2,SNR=4.5						

*IDC **25** 14:01:43.9±0.9,32.°09S×71.°74W,h0km,mb4.7/6, mb1 4.5/11,mb1mx4.3/33,mbtmp4.5/11,ML4.2/5,MS4.2/23, Ms1 4.2/23,ms1mx3.9/51,Error ellipse: s-maj=31.1km s-min=15.6km az=106.0*
*SJA **25** 14:01:44.9±0.8,32.°16S×71.°88W,h10km±3km,ML4.8, MW4.5*
*VAO **25** 14:01:46.0±0.4,32.°21S×71.°98W,h22km,mb4.5*
*NEIC **25** 14:01:46.5±1.6,32.°15S±0.°04×71.°91W±0.°04,h22km±4km, mb4.6/22,Mwr4.6/52,Mwr4.6(GUC),Error ellipse: s-maj=7.2km s-min=2.4km az=224.0*
*GUC **25** 14:01:47.5±0.7,32.°14S×71.°82W,h28km±2km,ML4.7*
*NEIC **25** 14:01:47,32.°14S×71.°82W,h25km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr2.15; Mθθ-3.13; Mφφ0.98; Mrθ0.32; Mrφ4.08; Mθφ-8.43; Fault plane solution: Mw9.77000×10^15^ NP1:φ1166.74000°, δ83.48000°,λ119.26000°. NP2:φ2268.18000°,δ29.92000°, λ13.15000°. Principal axes: T 10.5113, Plg44.0000°, Azm105.0000°; N -1.7042, Plg29.0000°, Azm343.0000°; P -8.8071, Plg32.0000°, Azm233.0000°;*
ISC 25 14:01:44.4±1.2,32.°12S±0.°02×71.°98W±0.°03,h11km±8km, n207,σ1§66/241,mb4.8/15,MS4.3/23,13C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.72**	**127**		**Pb**	**14 01 59.1**	**+0.2**
VA06				Sn	**Sg**	**14 02 07.4**	**-0.4**
VA06	**Catapilco**	**0.72**	**127**	⇑*iP*	**Pb**	**14 01 59.2**	**+0.2**
VA06				*i S*	**Sg**	**14 02 08.1**	**+0.2**
VA06				IAML		14 02 10.4	
	comp=E,90μm,0.5s						
VA01	**Torpederas**	**0.94**	**163**		**Pg**	**14 02 03.2**	**+0.7**
VA01	**Torpederas**	**0.94**	**163**	*eP*	**Pn**	**14 02 04.0**	**+0.4**
VA01				*i S*	**Sg**	**14 02 15.5**	**+0.8**
VA01				IAML		14 02 18.4	
	comp=E,16μm,0.4s						
VA01	**Torpederas**	**0.94**	**163**	*eP*	**Pb**	**14 02 02.1**	**-0.6**
VA01				*eP*	**Pn**	**14 02 03.9**	**+0.4**
ROCH	**El Roble**	**1.18**	**136**	⇑*iP*	**Pn**	**14 02 06.7**	**-0.3**
ROCH				⇑*iP*	**Pb**	**14 02 04.3**	**-2.5**
ROCH				*i S*	**Sb**	**14 02 18.4**	**-3.8**
ROCH				*i S*	**Sg**	**14 02 21.3**	**-1.0**
ROCH				IAML		14 02 23.5	
	comp=E,36μm,0.5s						
ROC1	**El Roble**	**1.18**	**137**		**Pb**	**14 02 04.3**	**-2.5**
ROC1				Sn	**Sb**	**14 02 19.9**	**-2.3**
ROC1	**El Roble**	**1.18**	**137**	*eP*	Pb	14 02 02.1	-4.8
ROC1				*eP*	**Pn**	**14 02 04.4**	**-2.6**
ROC1				*eS*	**Sb**	**14 02 18.9**	**-3.4**
CO02	**Combarbal**	**1.24**	**43**		**Pn**	**14 02 07.9**	**+0.1**
CO02	**Combarbal**	**1.24**	**43**	⇓*iP*	**Pn**	**14 02 08.0**	**+0.1**
CO02				*i S*	**Sb**	**14 02 23.6**	**-0.3**
CO02				IAML		14 02 27.1	
	comp=E,37μm,0.3s						
CO02	**Combarbal**	**1.24**	**43**	*eP*	Pn	14 02 02.1	-5.6
CO02				*eP*	**Pn**	**14 02 07.9**	**+0.1**
CO02				*eS*	**Sg**	**14 02 25.1**	**+0.8**
CO02				IAML		14 02 28.8	
	comp=Z,12μm,0.3s						
MT02	**Curacav**	**1.33**	**148**		**Pn**	**14 02 09.2**	**+0.2**
MT02	**Curacav**	**1.33**	**148**	⇑*iP*	**Pn**	**14 02 09.2**	**+0.2**
MT02				*i S*	**Sb**	**14 02 25.8**	**-0.8**
MT02				IAML		14 02 28.2	
	comp=E,11μm,0.6s						
MT02	**Curacav**	**1.33**	**148**	*eP*	**Pn**	**14 02 09.4**	**+0.4**
MT02				*eS*	**Sb**	**14 02 26.4**	**-0.2**
MT02				IAML		14 02 27.4	
	comp=Z,16μm,0.6s						
VA03	**San Esteban**	**1.36**	**118**		**Pn**	**14 02 09.2**	**-0.3**
VA03				Sn	**Sn**	**14 02 25.9**	**-1.8**
VA03	**San Esteban**	**1.36**	**118**	⇑*iP*	**Pn**	**14 02 09.2**	**-0.3**
VA03				*i S*	**Sn**	**14 02 25.8**	**-1.8**
VA03				IAML		14 02 29.6	
	comp=E,36μm,0.3s						
VA03	**San Esteban**	**1.36**	**118**	*eP*	**Pn**	**14 02 09.3**	**-0.3**
VA03				*eS*	**Sn**	**14 02 25.8**	**-1.8**
VA03				IAML		14 02 28.7	
	comp=Z,12μm,0.2s						
CO06	**Fray Jorge**	**1.47**	**12**		**Pn**	**14 02 11.6**	**+0.7**
CO06	**Fray Jorge**	**1.47**	**12**	*eP*	**Pb**	**14 02 11.9**	**0.0**
CO06				*i S*	**Sb**	**14 02 31.7**	**+1.1**
CO06				IAML		14 02 40.8	
	comp=N,7μm,0.5s						
PEL	**Peldehue**	**1.49**	**133**		**Pn**	**14 02 11.5**	**+0.3**
PEL	**Peldehue**	**1.49**	**133**	⇑*iP*	**Pn**	**14 02 11.5**	**+0.3**
PEL				*i S*	**Sn**	**14 02 29.6**	**-1.1**
PEL	**Peldehue**	**1.49**	**133**	*eP*	**Pn**	**14 02 11.4**	**+0.2**
PEL				*eS*	**Sb**	**14 02 30.9**	**-0.2**
VA05	**Santo Domingo**	**1.56**	**169**		**Pn**	**14 02 12.7**	**+0.7**
VA05	**Santo Domingo**	**1.56**	**169**	*eP*	**Pn**	**14 02 12.9**	**+0.8**
VA05				*i S*	**Sb**	**14 02 33.7**	**+0.7**
VA05				IAML		14 02 40.0	
	comp=E,35μm,0.6s						
MT05	**Renca**	**1.64**	**141**	⇑*iP*	**Pn**	**14 02 13.8**	**+0.6**
MT05				*i S*	**Sn**	**14 02 34.5**	**+0.1**
MT05				IAML		14 02 39.1	
	comp=E,25μm,0.4s						
MT05	**Renca**	**1.64**	**141**	*eP*	Pn	14 02 08.6	-4.6
MT05				*eP*	**Pb**	**14 02 14.2**	**-0.5**
MT05				*eP*		14 02 14.5	
MT05				*eS*	**Sg**	**14 02 36.6**	**-0.5**
MT05				IAML		14 02 39.0	
	comp=Z,9μm,0.6s						
MT01	**Popeta**	**1.84**	**161**		**Pn**	**14 02 16.0**	**+0.1**
MT03	**Universidad Ad**	**1.84**	**138**		**Pn**	**14 02 16.9**	**+0.9**
MT03	**Universidad Ad**	**1.84**	**138**	⇑*iP*	**Pn**	**14 02 16.9**	**+0.9**
MT03				*i S*	**Sn**	**14 02 39.9**	**+0.4**
MT03				IAML		14 02 43.1	
	comp=E,18μm,0.2s						
MT03	**Universidad Ad**	**1.84**	**138**	*eP*	**Pn**	**14 02 17.2**	**+1.1**
MT03				*eS*	**Sb**	**14 02 42.0**	**+0.7**
MT03				IAML		14 02 50.4	
	comp=Z,12μm,0.3s						
MT09	**Talagante**	**1.85**	**154**		**Pb**	**14 02 17.5**	**-0.7**
MT09	**Talagante**	**1.85**	**154**	⇑*iP*	**Pb**	**14 02 17.9**	**-0.4**
MT09				*i S*	**Sb**	**14 02 40.8**	**-0.6**
MT09				IAML		14 02 50.6	
	comp=N,16μm,0.6s						
FCH	**Farellones**	**1.86**	**131**	⇑*iP*	**Pn**	**14 02 17.0**	**+0.5**
FCH				*i S*	**Sn**	**14 02 40.5**	**+0.3**
FCH				IAML		14 02 41.4	
	comp=E,7μm,0.1s						
BO04	**La Punta**	**2.19**	**149**	Pn	**Pn**	**14 02 21.7**	**+0.9**
BO04	**La Punta**	**2.19**	**149**	⇑*iP*	**Pn**	**14 02 22.4**	**+1.6**
BO04				*i S*	**Sb**	**14 02 49.9**	**-1.2**
BO04				IAML		14 03 00.4	
	comp=N,9μm,0.4s						
GO04	**Tololo Observa**	**2.19**	**28**	Pn	**Pn**	**14 02 22.1**	**+1.1**
GO04	**Tololo Observa**	**2.19**	**28**	*eP*	**Pb**	**14 02 24.0**	**-0.2**
GO04				*i S*	**Sb**	**14 02 51.3**	**-0.2**
GO04				IAML

RTLL	**Cerro Villicun**	**3.09**	**76**	*eP*		**Pn**	**14 02 31.1**	**-2.0**
RTLL				*eP*		**Pb**	**14 02 36.3**	**-3.0**
RTLL				*eS*		**Sn**	**14 03 13.1**	**+3.0**
ACDV	**Cuesta del Vie**	**3.13**	**52**	*eP*		**Pb**	**14 02 37.5**	**-2.6**
ACDV				*eS*		**Sb**	**14 03 16.6**	**-1.8**
ACDV				IAML			14 03 27.9	
	comp=Z,1μm,0.5s							
LCO	**Las Campanas**	**3.29**	**20**	Pn		**Pn**	**14 02 37.2**	**+1.0**
LCO	**Las Campanas**	**3.29**	**20**	*iP*		**Pn**	**14 02 37.3**	**+1.2**
LCO				*eS*		**Sn**	**14 03 18.5**	**+3.1**
LCO	**Las Campanas**	**3.29**	**20**	*eP*		**Pn**	**14 02 37.5**	**+1.4**
COIS	**El Sosneado**	**3.58**	**147**	*eP*		**Pn**	**14 02 42.2**	**+2.3**
COIS				*eS*		**Sb**	**14 03 31.1**	**-0.1**
ML02	**Panimavida**	**3.66**	**173**	Pn		**Pn**	**14 02 41.8**	**+0.9**
ML02	**Panimavida**	**3.66**	**173**	*eP*		**Pn**	**14 02 42.1**	**+1.1**
ML02				*i* S		**Sn**	**14 03 27.0**	**+2.8**
RFA	**San Rafael**	**3.95**	**133**	*eP*		**Pn**	**14 02 47.7**	**+2.7**
RFA				*eS*		**Sb**	**14 03 45.6**	**+3.8**
RFA				IAML			14 03 50.9	
	comp=Z,828nm,1.9s							
AC04	**Llanos de Chal**	**3.98**	**12**	Pn		**Pn**	**14 02 46.0**	**+0.6**
AVFE	**Valle Fertil**	**4.13**	**71**	*eP*		**Pn**	**14 02 50.2**	**+2.7**
AVFE				*eS*		**Sb**	**14 03 42.1**	**-5.1**
AVFE				IAML			14 03 50.8	
	comp=Z,2μm,0.5s							
ACHE	**Chepes**	**4.63**	**79**	*eP*		**Pn**	**14 02 57.0**	**+2.6**
GO03	**Copiap**	**4.76**	**19**			**Pn**	**14 02 57.3**	**+1.1**
GO03	**Copiap**	**4.76**	**19**	*eP*		**Pn**	**14 02 58.7**	**+2.5**
GO03				*eS*		**Sn**	**14 03 55.1**	**+3.7**
APLL	**PUNTA DE LOS L**	**4.97**	**71**	*eP*		**Pn**	**14 03 01.6**	**+2.5**
APLL				*eS*		**Sb**	**14 04 07.7**	**-3.7**
ACLC	**CERRO LA CRUZ**	**5.09**	**59**	*eP*		**Pn**	**14 03 03.4**	**+2.5**
ACLC				*eS*		**Sn**	**14 04 03.1**	**+3.4**
ACLC				IAML			14 04 14.0	
	comp=Z,1μm,0.4s							
MRA	**San Martin**	**5.31**	**95**	*eP*		**Pn**	**14 03 05.7**	**+2.0**
MRA				*eS*		**Sn**	**14 04 10.1**	**+5.1**
MRA				*eS*		**Sb**	**14 04 25.1**	**+4.0**
MRA				IAML			14 04 41.9	
	comp=Z,1μm,0.7s							
AC02	**Maricunga**	**5.83**	**26**	Pn		**Pn**	**14 03 12.1**	**+0.9**
H03N1	**Juan Fernandez**	**5.99**	**255**	Pn		**Pn**	**14 03 15.9**	**+3.2**
	baz=116,slow=19,SNR=21							
H03N1				T		T	14 09 55.5	
	baz=85,slow=73,SNR=988							
H03N3	**Juan Fernandez**	**6.00**	**255**	Pn		**Pn**	**14 03 15.9**	**+3.0**
	baz=116,slow=19,SNR=25							
H03N3				T		T	14 09 56.1	
	baz=85,slow=73,SNR=995							
H03N2	**Juan Fernandez**	**6.00**	**256**	Pn		**Pn**	**14 03 16.3**	**+3.4**
	baz=116,slow=19,SNR=21							
H03N2				T		T	14 09 52.3	
	baz=85,slow=73,SNR=762							
H03S3	**Juan Fernandez**	**6.07**	**252**	Pn		**Pn**	**14 03 16.1**	**+2.3**
	SNR=11							
H03S3				Sn		**Sn**	**14 04 19.7**	**-3.4**
	SNR=3.7							
H03S3				T		T	14 10 02.1	
	SNR=364							
H03S1	**Juan Fernandez**	**6.07**	**252**	Pn		**Pn**	**14 03 15.3**	**+1.5**
	SNR=7.2							
H03S1				Sn		**Sn**	**14 04 15.3**	**-7.8**
	SNR=3.3							
H03S1				T		T	14 10 00.8	
	SNR=413							
AC01	**Pan de Azucar**	**6.08**	**12**	Pn		**Pn**	**14 03 15.0**	**+0.8**
H03S2	**Juan Fernandez**	**6.08**	**252**	Pn		**Pn**	**14 03 15.4**	**+1.4**
	SNR=12							
H03S2				Sn		**Sn**	**14 04 17.2**	**-6.2**
	SNR=3.1							
H03S2				T		T	14 09 55.8	
	SNR=622							
LC02	**Puerto Saavedr**	**6.75**	**189**	Pn		**Pn**	**14 03 23.6**	**+0.2**
LC01	**Cunco**	**6.76**	**179**			**Pn**	**14 03 23.4**	**-0.2**
LC01	**Cunco**	**6.76**	**179**	*eP*		**Pn**	**14 03 23.6**	**0.0**
GO02	**Mina Guanaco**	**7.25**	**17**	Pn		**Pn**	**14 03 30.9**	**+0.4**
PLCA	**Paso Flores**	**8.67**	**173**	Pn		**Pn**	**14 03 51.5**	**+1.7**
	comp=Z,3.2nm,0.3s,baz=336,slow=12,SNR=132							
PLCA				LR		LR	14 07 17.0	
	comp=Z,703nm,18.1s,baz=348,slow=38							
PLCA	**Paso Flores**	**8.67**	**173**	*eP*		**Pn**	**14 03 49.8**	**-0.1**
LL04	**Puerto Octay**	**8.78**	**182**			**Pn**	**14 03 51.0**	**-0.2**
PB15	**IPOC Station P**	**9.15**	**15**	Pn		**Pn**	**14 03 55.9**	**-0.7**
LVC	**Limon Verde**	**9.86**	**17**	Pn		**Pn**	**14 04 06.5**	**0.0**
	comp=Z,0.6nm,0.3s,baz=260,slow=19,SNR=2.1							
LVC				Sn		**Sn**	**14 05 58.3**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=236,slow=10,SNR=3.7							
LVC				LR		LR	14 07 50.2	
	comp=Z,885nm,19.9s,baz=209,slow=38							
LVC	**Limon Verde**	**9.86**	**17**	Pn		**Pn**	**14 04 07.0**	**+0.6**
LVC	**Limon Verde**	**9.86**	**17**	*eP*		**Pn**	**14 04 07.3**	**+0.9**
PB04	**IPOC Station P**	**9.89**	**15**	Pn		**Pn**	**14 04 06.7**	**0.0**
PB07	**IPOC Station P**	**10.52**	**11**	Pn		**Pn**	**14 04 16.5**	**+1.1**
PB09	**IPOC Station P**	**10.57**	**14**	Pn		**Pn**	**14 04 15.6**	**-0.4**
PB02	**IPOC Station P**	**10.92**	**10**	Pn		**Pn**	**14 04 20.9**	**+0.1**
PB01	**IPOC Station P**	**11.26**	**12**	Pn		**Pn**	**14 04 25.6**	**+0.2**
PB08	**IPOC Station P**	**12.20**	**13**	Pn		**Pn**	**14 04 38.8**	**+0.3**
GO01	**Chusmiza**	**12.65**	**12**	Pn		**Pn**	**14 04 45.3**	**+0.5**
ITQB	**Itaqui**	**13.41**	**84**			**Pn**	**14 04 53.7**	**-0.9**
ITQB	**Itaqui**	**13.41**	**84**	*eP*		**Pn**	**14 04 53.4**	**-1.2**
PB16	**IPOC Station P**	**13.91**	**10**	Pn		**Pn**	**14 05 01.0**	**-1.1**
CPUP	**Villa Florida**	**14.03**	**69**	Pn		**Pn**	**14 05 01.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=240,slow=12,SNR=4.5							
CPUP				Sn		**Sn**	**14 07 37.1**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=256,slow=16,SNR=2.1							
CPUP				LR		LR	14 10 42.8	
	comp=Z,946nm,21.9s,baz=252,slow=39							
CPUP	**Villa Florida**	**14.03**	**69**	Pn		**Pn**	**14 05 02.8**	**-0.3**
CPUP	**Villa Florida**	**14.03**	**69**	*eP*		**Pn**	**14 05 03.1**	**0.0**
PLTB	**Pedras Altas**	**15.61**	**94**	*eP*		**Pn**	**14 05 24.1**	**-0.3**
CPSB	**Cacapava Do Su**	**15.95**	**89**	*eP*		**Pn**	**14 05 28.2**	**-0.6**
LPAZ	**La Paz**	**16.15**	**13**	Pn		**Pn**	**14 05 33.4**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=181,slow=8.1,SNR=16							
LPAZ	**La Paz**	**16.15**	**13**			**Pn**	**14 05 32.1**	**+0.2**
LPAZ	**La Paz**	**16.15**	**13**	*eP*		**Pn**	**14 05 32.8**	**+0.8**
GO08	**Villa O'Higgin**	**16.33**	**181**	P		**Pn**	**14 05 35.0**	**+1.4**
ITAB	**Concordia**	**17.91**	**79**	*eP*		**Pn**	**14 05 53.6**	**0.0**
AQDB	**Aquidauana**	**18.61**	**55**	P		**P**	**14 05 59.0**	**-2.9**
AQDB	**Aquidauana**	**18.61**	**55**	*eP*		**P**	**14 06 02.0**	**+0.1**
SIV	**San Ignacio**	**18.87**	**34**	P		**P**	**14 06 04.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=224,slow=13,SNR=9.5							
SIV				LR		LR	14 13 59.7	
	comp=Z,369nm,20.0s,baz=277,slow=39							
PTGB	**Pitanga**	**18.99**	**72**	*eP*		**P**	**14 06 06.2**	**+0.1**
TER01	**Tubaro-SC**	**20.04**	**86**	*eP*		**P**	**14 06 17.0**	**-0.4**
PTLB	**Pontes e Lacer**	**20.30**	**38**	*eP*		**P**	**14 06 20.6**	**+0.2**
PP1B	**Ponte de Pedra**	**21.16**	**51**	*eP*		**P**	**14 06 29.7**	**-0.1**
PCMB	**Pacaembu**	**21.21**	**66**	*eP*		**P**	**14 06 31.7**	**+1.5**
TIJ01	**Guaruva-PR**	**21.23**	**77**	*eP*		**P**	**14 06 29.7**	**-0.9**
SALV	**Santo Antonio**	**21.91**	**46**	*eP*		**P**	**14 06 37.1**	**-0.6**
VILB	**Vilhena**	**21.93**	**32**	*eP*		**P**	**14 06 37.8**	**-0.2**
ETMB	**Extrema**	**22.83**	**15**	*eP*		**P**	**14 06 49.5**	**+1.9**
USHA	**Ushuaia**	**22.84**	**175**	P		**P**	**14 06 48.7**	**+1.4**
	comp=Z,12nm,0.9s,baz=183,slow=7.6,SNR=3.8							
USHA				LR		LR	14 17 23.0	
	comp=Z,553nm,18.2s,baz=305,slow=41							
ITRB	**Iturama**	**22.99**	**63**	*eP*		**P**	**14 06 48.4**	**-0.9**
PET01	**Itanhaem-SP**	**23.09**	**76**	*eP*		**P**	**14 06 50.6**	**+0.4**
BB19B	**Bebedouro**	**23.63**	**68**	*eP*		**P**	**14 06 55.5**	**-0.3**
VAO	**Valinhos**	**23.92**	**74**	*eP*		**P**	**14 06 57.5**	**-1.0**
CZSB	**Cruzeiro do Su**	**24.28**	**358**	*eP*		**P**	**14 07 02.0**	**+0.2**
PDRB	**Porto dos Gac**	**24.78**	**38**	*eP*		**P**	**14 07 06.3**	**-0.1**
IPMB	**Ipameri, GO**	**25.65**	**62**	*eP*		**P**	**14 07 13.2**	**-1.1**
CLDB	**Colider**	**25.89**	**39**	*eP*		**P**	**14 07 16.9**	**+0.5**
ESAR	**Angra dos Reis**	**25.98**	**76**	*eP*		**P**	**14 07 16.6**	**-0.6**
BSCB	**Bom Sucesso**	**26.66**	**72**	*eP*		**P**	**14 07 22.1**	**-1.4**
BDFB	**Brasilia**	**27.28**	**59**	P		**P**	**14 07 28.3**	**-0.8**
	comp=Z,32nm,1.1s,baz=225,slow=8.0,SNR=16							
BDFB				LR		LR	14 19 50.8	
	comp=Z,826nm,18.9s,baz=219,slow=40							
BDFB	**Brasilia**	**27.28**	**59**	P		**P**	**14 07 27.2**	**-1.9**
SNDB	**Serra Nova Dou**	**27.64**	**48**	*eP*		**P**	**14 07 31.7**	**-0.5**
NPGB	**Novo Progresso**	**29.37**	**35**	*eP*		**P**	**14 07 46.5**	**-1.1**
JANB	**Januaria**	**30.39**	**62**	*eP*		**P**	**14 07 56.5**	**-0.2**
SJMB	**Sao Joao De Ma**	**30.73**	**72**	*eP*		**P**	**14 07 59.1**	**-0.6**
SDBA	**SAO DESIDERIO**	**31.67**	**58**	*eP*		**P**	**14 08 07.4**	**-0.7**
SMTB	**Santa Maria do**	**32.36**	**50**	*eP*		**P**	**14 08 14.1**	**0.0**
RPN	**Rapa Nui**	**32.74**	**269**	LR		LR	14 17 43.5	
	comp=Z,426nm,18.6s,baz=122,slow=29							
PMSA	**Palmer Station**	**33.04**	**174**	LR		LR	14 21 47.4	
	comp=Z,389nm,18.5s,baz=332,slow=36							
PMSA	**Palmer Station**	**33.04**	**174**	*eP*		**P**	**14 08 17.5**	**-1.9**
PRPB	**Paraupebas**	**33.09**	**43**	*eP*		**P**	**14 08 19.5**	**-0.9**
MALB	**Monte Alegre**	**34.42**	**33**	*eP*		**P**	**14 08 31.7**	**-0.3**
BOAV	**Boa Vista**	**36.01**	**20**	*eP*		**P**	**14 08 45.8**	**+0.1**
NBPN	**Ponto Novo - B**	**36.15**	**61**	*eP*		**P**	**14 08 46.0**	**-0.9**
MCPB	**Macapa, AP**	**36.77**	**35**	*eP*		**P**	**14 08 51.3**	**-0.9**
NBLA	**Lagarto - SE**	**37.87**	**64**	*eP*		**P**	**14 09 00.6**	**-1.0**
NBMA	**Muriti-CE**	**39.51**	**59**	*eP*		**P**	**14 09 15.1**	**-0.3**
BAUV	**El Baul**	**41.01**	**6**	P		**P**	**14 09 27.8**	**+0.2**
BAUV				IAmb	IAmb		14 09 48.9	
	comp=Z,11nm,0.9s							
MDP	**Montagnes des**	**41.34**	**30**	LR	LR		14 28 38.7	
	comp=Z,415nm,18.1s,baz=228,slow=39							
RCBR	**Riachuelo**	**42.64**	**60**	LR	LR		14 28 03.4	
	comp=Z,620nm,18.3s,baz=1.0,slow=37							
RIMA	**Rio Macho**	**43.18**	**343**	P		**P**	**14 09 43.0**	**-2.6**
RIMA				IAmb	IAmb		14 09 45.6	
	comp=Z,16nm,1.4s							
VNA3	**Neumayer Olymp**	**51.08**	**158**	P		**P**	**14 10 46.8**	**+0.4**
VNA2	**Neumayer--Watz**	**51.72**	**158**	P		**P**	**14 10 50.9**	**-0.3**
	baz=283,slow=9.0							
SNAA	**Sanae**	**53.30**	**158**	P		**P**	**14 11 03.2**	**+0.2**
SNAA	**Sanae**	**53.30**	**158**	P		**P**	**14 11 04.0**	**+0.9**
	comp=Z,5.9nm,1.1s,baz=286,slow=8.3,SNR=10.0							
SNAA				LR	LR		14 32 02.9	
	comp=Z,209nm,19.7s,baz=334,slow=34							
SNAA	**Sanae**	**53.30**	**158**	P		**P**	**14 11 03.5**	**+0.5**
SNAA				IAmb	IAmb		14 11 18.1	
	comp=Z,9.1nm,1.1s							
CMIG	**Matias Romero**	**53.63**	**332**	LR	LR		14 29 17.0	
	comp=Z,69nm,18.8s,baz=184,slow=31							
TROLL	**Troll, Antarti**	**55.01**	**159**	P		**P**	**14 11 14.8**	**-0.7**
QSPA	**South Pole Qui**	**58.11**	**180**	P		**P**	**14 11 39.4**	**+1.7**
	comp=Z,5.8nm,0.9s,baz=134,slow=1.3,SNR=16							
QSPA				LR	LR		14 36 04.5	
	comp=Z,128nm,20.1s,baz=220,slow=35							
QSPA	**South Pole Qui**	**58.11**	**180**	P		**P**	**14 11 38.0**	**+0.3**
257A	**Skidaway Islan**	**64.32**	**351**			**P**	**14 12 18.1**	**-1.8**
TAOE	**Nuku Hiva Isla**	**66.88**	**274**	*e*LR	LR		14 32 56.5	
	comp=Z,180nm,24.2s							
TBI	**Tubuai**	**67.82**	**256**	*e*LR	LR		14 33 20.6	
	comp=Z,486nm,25.8s							
TX31	**Lajitas Ar. Si**	**68.13**	**330**	P		**P**	**14 12 45.6**	**+1.1**
TX31				IAmb	IAmb		14 12 56.4	
	comp=Z,8.7nm,1.1s							
TX32	**Lajitas Array**	**68.13**	**330**	P		**P**	**14 12 45.2**	**+0.7**
TX32				IAmb	IAmb		14 12 56.4	
	comp=Z,3.0nm,1.1s							
TXAR	**Lajitas Array**	**68.13**	**330**	P		**P**	**14 12 46.5**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=148,slow=5.3,SNR=3.0							
TXAR	**Lajitas Array**	**68.13**	**330**	P		**P**	**14 12 46.2**	**+1.7**
WVT	**Waverly**	**69.50**	**346**	P		**P**	**14 12 53.9**	**+1.0**
WVT				IAmb	IAmb		14 13 03.9	
	comp=Z,5.9nm,0.8s							
W39A	**Magazine**	**70.03**	**341**	P		**P**	**14 12 57.9**	**+1.8**
W39A				IAmb	IAmb		14 13 10.8	
	comp=Z,6.9nm,0.8s							
PPT2	**Papeete2**	**70.56**	**261**	*e*LR	LR		14 34 28.6	
	comp=Z,170nm,24.5s							
MNTX	**Cornudas Mount**	**70.91**	**330**	P		**P**	**14 13 03.1**	**+1.5**
LIC	**Lamto**	**74.14**	**72**	*eP*		**P**	**14 13 21.4**	**+0.2**
	comp=Z,32nm,1.5s							
TIC	**Toumodi**	**74.39**	**72**	*eP*		**P**	**14 13 20.7**	**-2.0**
KIC	**Kosan Boka**	**74.45**	**72**	*eP*		**P**	**14 13 22.5**	**-0.6**
	comp=Z,14nm,1.0s							
DBIC	**Dimbokro**	**74.54**	**72**	P		**P**	**14 13 23.6**	**+0.1**
	comp=Z,10.0nm,0.9s,baz=243,slow=5.7,SNR=7.0							
DBIC				LR	LR		14 45 10.2	
	comp=Z,141nm,19.1s,baz=212,slow=35							
DBIC	**Dimbokro**	**74.54**	**72**	P		**P**	**14 13 23.6**	**+0.1**
MAW	**Mawson**	**74.96**	**164**	LR	LR		14 45 10.2	
	comp=Z,178nm,21.9s,baz=238,slow=35							
SUR	**Sutherland**	**75.69**	**119**	LR	LR		14 44 39.5	
	comp=Z,58nm,20.9s,baz=199,slow=34							
TSUM	**Tsumeb**	**79.68**	**106**	LR	LR		14 44 02.9	
	comp=Z,216nm,20.3s,baz=151,slow=32							
BOSA	**Boshof**	**80.90**	**118**	LR	LR		14 46 18.4	
	comp=Z,172nm,18.5s,baz=197,slow=33							
LBTB	**Lobatse**	**83.05**	**115**	LR	LR		14 49 43.8	
	comp=Z,131nm,18.5s,baz=221,slow=35							
TOA0	**Torodi Ar. Sit**	**83.53**	**70**	P		**P**	**14 14 12.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**	**14 14 12.9**	**+0.1**
	comp=Z,6.1nm,0.9s,baz=250,slow=4.4,SNR=25							
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**	**14 14 11.9**	**-0.8**
TORD				IAmb	IAmb		14 14 13.8	
	comp=Z,7.2nm,0.9s							
URZ	**Urewera**	**84.96**	**228**	LR	LR		14 45 09.1	
	comp=Z,115nm,18.1s,baz=212,slow=31							
LSZ	**Lusaka**	**90.34**	**108**	LR	LR		14 52 57.1	
	comp=Z,183nm,19.0s,baz=220,slow=34							
MDT	**Midelt**	**90.60**	**51**	LR	LR		14 54 58.8	
	comp=Z,95nm,19.2s,baz=216,slow=35							
ESDC	**Sonseca Array**	**95.24**	**46**	LR	LR		14 57 03.9	
	comp=Z,105nm,18.6s,baz=250,slow=35							
DZM	**Mont Dzumac**	**102.38**	**234**	*e*LR	LR		14 49 20.6	
	comp=Z,184nm,23.2s							
ASAR	**Alice Springs**	**119.26**	**207**	PKP		**PKiKP**	**14 20 35.5**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=125,slow=1.6,SNR=1.5							
WRA	**Warramunga Arr**	**122.42**	**210**	PKP		**PKPdf**	**14 20 40.6**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=170,slow=1.7,SNR=2.1							
H11S2	**WAKE ISLAND Hyl**	**125.83**	**270**	T		T	16 39 54.4	
	baz=115							
H11S1	**WAKE ISLAND Hyl**	**125.84**	**270**	T		T	16 39 57.3	
	baz=115,slow=74							
H11S3	**WAKE ISLAND Hyl**	**125.85**	**270**	T		T	16 39 53.1	
	baz=115,slow=74							
H11N1	**WAKE ISLAND Hyl**	**126.19**	**272**	T		T	16 40 03.2	
	baz=117,slow=75,SNR=33							
H11N1	**WAKE ISLAND Hyl**	**126.21**	**272**	T		T	16 40 13.9	
	baz=117,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hyl**	**126.21**	**272**	T		T	16 40 16.1	
	baz=117,slow=75,SNR=106							
AAK	**Ala-Archa**	**151.53**	**59**	PKPbc		**PKiKP**	**14 21 39.8**	**+0.7**
	comp=Z,1.9nm,0.4s,baz=209,slow=4.7,SNR=5.6							
ZALV	**Zalesovo Beam**	**152.60**	**30**	PKPbc		**PKiKP**	**14 21 41.3**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=312,slow=5.1,SNR=7.6							
ZALV	**Zalesovo Beam**	**152.60**	**30**			**PKPbc**	**14 21 40.5**	**+0.1**
MKAR	**Makanchi Array**	**155.46**	**46**	PKPbc		PKPdf	14 21 46.6	+8.8
	comp=Z,0.3nm,0.7s,baz=293,slow=2.4,SNR=3.0							

*NEIC **25** 14:10:39.0±2.0,25.°00S±0.°03×179.°9W±0.°2, h482km±11km, mb4.3/24, Error ellipse: s-maj=20.1km s-min=2.6km az=98.0*

*IDC **25** 14:10:40.7±2.2,24.°95S×179.°93E, h499km±28km, mb3.4/8, mb1 3.6/10,mb1mx3.3/48,mbtmp4.3/10, Error ellipse: s-maj=23.0km s-min=21.0km az=35.0*

ISC 25 14:10:40.4±0.8, 25.°01S±0.°08×180.°0E±0.°1, h501km, n40, σ0s89/40, mb4.2/18, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.45**	**346**	P	**P**	**14 12 31.7**	**+0.2**
	3.2nm,0.3s,baz=140,slow=11,SNR=12						
MSVF	**Nonsavu**	**7.45**	**346**	P	**P**	**14 12 30.5**	**-1.0**
MARNC	**Mare, Loyalty**	**11.50**	**285**	P	**P**	**14 13 14.6**	**+0.8**
URZ	**Urewera**	**13.43**	**190**	P	**P**	**14 13 33.2**	**-0.6**
	1.8nm,0.3s,baz=274,slow=4.2,SNR=10						
URZ				S	**S**	**14 15 56.2**	**-0.7**
	0.4nm,0.3s,baz=232,slow=22,SNR=3.0						
BKZ	**Black Stump Fm**	**14.41**	**191**	P	**P**	**14 13 43.4**	**-1.0**
SANVU	**Saraoutou**	**15.27**	**306**	P	**P**	**14 13 54.2**	**+0.6**
SANVU				IAmb	IAmb	14 14 11.6	
	comp=Z,10nm,1.1s						
BFZ	**Birch Farm**	**15.93**	**190**	P	**P**	**14 13 58.2**	**-1.9**
SNZO	**South Karori**	**16.83**	**194**	P	**P**	**14 14 08.9**	**-0.5**
QRZ	**Quartz Range**	**16.95**	**200**	P	**P**	**14 14 09.5**	**-1.1**
KHZ	**Kahutara**	**18.15**	**195**	P	**P**	**14 14 20.7**	**-1.2**
CTA	**Charters Tower**	**31.45**	**272**	P	**P**	**14 16 21.2**	**+0.8**
	comp=Z,9.7nm,0.5s,baz=92,slow=10,SNR=36						
CTAO	**Charters Tower**	**31.45**	**272**	P	**P**	**14 16 21.1**	**+0.8**
TOO	**Toolangi**	**31.82**	**239**	P	**P**	**14 16 25.2**	**+1.8**
RABL	**Rabaul**	**33.78**	**303**	P	**P**	**14 16 40.0**	**-0.3**
RABL				IAmb	IAmb	14 16 47.0	
	comp=Z,8.1nm,0.8s						
STKA	**Stephens Creek**	**34.28**	**250**	P	**P**	**14 16 44.4**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=88,slow=7.7,SNR=4.5						
PMG	**Port Moresby**	**34.82**	**291**	P	**P**	**14 16 47.7**	**-1.3**
PMG				IAmb	IAmb	14 16 51.5	
	comp=Z,19nm,0.9s						
COEN	**Coen**	**36.26**	**281**	P	**P**	**14 17 01.5**	**+0.6**
BBOO	**Buckleboo**	**38.98**	**248**	P	**P**	**14 17 22.2**	**-0.8**
BBOO				IAmb	IAmb	14 17 40.6	
	comp=Z,14nm,1.5s						
ASAR	**Alice Springs**	**41.82**	**262**	P	**P**	**14 17 46.1**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=90,slow=9.2,SNR=13						
WR0	**Warramunga Arr**	**42.11**	**267**	P	**P**	**14 17 47.7**	**-0.6**
WR0				IAmb	IAmb	14 17 49.2	
	comp=Z,8.8nm,1.2s						
WB2	**Warramunga Arr**	**42.28**	**267**	P	**P**	**14 17 49.0**	**-0.7**
WB2				IAmb	IAmb	14 17 50.0	
	comp=Z,11nm,1.3s						
WRAB	**Tennant Creek**	**42.29**	**267**	P	**P**	**14 17 49.0**	**-0.7**
WRAB				IAmb	IAmb	14 17 50.1	
	comp=Z,10nm,1.2s						
WB0	**Warramunga Arr**	**42.29**	**268**	P	**P**	**14 17 49.0**	**-0.7**
WB0				IAmb	IAmb	14 17 50.1	
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**42.30**	**267**	P	**P**	**14 17 49.4**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=104,slow=7.8,SNR=21						
WRA	**Warramunga Arr**	**42.30**	**267**	P	**P**	**14 17 49.1**	**-0.7**
FORT	**Forrest**	**45.89**	**251**	P	**P**	**14 18 16.7**	**-0.7**
FORT				IAmb	IAmb	14 18 29.8	
	comp=Z,18nm,1.0s						
KNRA	**Kununurra**	**48.64**	**271**	P	**P**	**14 18 38.2**	**-0.2**
KNRA				IAmb	IAmb	14 18 51.4	
	comp=Z,24nm,1.5s						
FITZ	**Fitzroy Crossi**	**50.70**	**267**	P	**P**	**14 18 54.2**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=114,slow=8.4,SNR=7.1						
SIJI	**Sorong**	**52.75**	**289**	P	**P**	**14 19 08.2**	**-0.2**
	comp=Z,5.5nm,0.6s,baz=62,slow=15,SNR=5.4						
MBWA	**Marble Bar**	**55.14**	**261**	P	**P**	**14 19 24.5**	**-0.8**
MORW	**Morawa**	**56.45**	**251**	P	**P**	**14 19 33.9**	**-0.4**
QSPA	**South Pole Qui**	**65.08**	**180**	P	**P**	**14 20 32.6**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=331,slow=1.1,SNR=5.2						
QSPA	**South Pole Qui**	**65.08**	**180**	IAmb	IAmb	14 20 33.6	
	comp=Z,6.4nm,1.2s						
TROLL	**Troll, Antarti**	**83.23**	**181**	P	**P**	**14 22 14.2**	**+0.8**
SNAA	**Sanae**	**83.56**	**179**	P	**P**	**14 22 14.0**	**-1.1**
SNAA	**Sanae**	**83.56**	**179**	P	**P**	**14 22 15.2**	**+0.2**
SNAA				IAmb	IAmb	14 22 29.2	
	comp=Z,11nm,1.4s						
VNA3	**Neumayer Olymp**	**83.78**	**177**	P	**P**	**14 22 16.4**	**+0.4**
YUH	**Yuha Desert**	**83.79**	**50**	P	**P**	**14 22 16.7**	**+0.1**
VNA2	**Neumayer--Watz**	**84.19**	**178**	P	**P**	**14 22 19.2**	**+1.1**
	baz=253,slow=2.0						
TXAR	**Lajitas Array**	**91.06**	**58**	P	**P**	**14 22 51.0**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=210,slow=7.2,SNR=6.0						

*IDC **25** 14:12:37.9±3.5,2.°56S×139.°53E, h0

baz=237
ANM Nome 13.96 17 P P 14 20 05.7 -2.2
ANM Nome 13.96 17 P P 14 20 05.7 -2.2
ANM Nome 13.96 17 P Pn 14 20 02.0 +1.5
baz=204
Q19K Cape Douglas, 14.03 50 P Pn 14 20 01.0 -0.6
baz=247
KDAK Kodiak Island 14.16 55 Pn Pn 14 20 01.6 -1.7
1.6nm,0.3s,baz=170,slow=2.3,SNR=13
KDAK Kodiak Island 14.16 55⇑ eP Pn 14 20 03.0 -0.3
KDAK pmax pmax
comp=Z,121nm,2.5s
KDAK Kodiak Island 14.16 55 P Pn 14 20 03.8 +0.5
baz=253
SVW2 Sparrevohn 14.21 40 Pn Pn 14 20 05.4 +1.4
O19K Port Alsworth 14.27 45 P Pn 14 20 03.4 -1.4
baz=241
N19K Bonanza Creek 14.51 42 Pn Pn 14 20 09.0 +0.9
N19K Bonanza Creek 14.51 42 P Pn 14 20 07.7 -0.4
baz=239
TNA Tin City 14.51 11 P Pn 14 20 08.7 +0.7
baz=197
O20K Slope Mountain 14.98 46 P Pn 14 20 13.3 -1.1
baz=245
L19K White Mountain 15.12 37 P Pn 14 20 14.9 -1.3
baz=234,SNR=6.2
M19K Big River Lodg 15.14 39 P Pn 14 20 14.2 -2.2
baz=236
TTA Tatalina 15.16 34 P Pn 14 20 18.8 +2.0
TTA pmax pmax
comp=Z,19nm,1.1s
TTA Tatalina 15.16 34 Pn Pn 14 20 18.8 +2.0
TTA Tatalina 15.16 34 P Pn 14 20 17.7 +0.8
baz=230,SNR=6.4
HOM Homer 15.26 49 P Pn 14 20 17.7 -0.3
baz=248
CNPM China Poot 15.40 49 Pn Pn 14 20 19.1 -0.7
CNPM IAmb IAmb 14 20 34.8
comp=Z,72nm,1.3s
BRLK Bradley Lake 15.65 49 Pn Pn 14 20 24.1 +1.0
BRLK IAmb IAmb 14 20 43.0
comp=Z,52nm,1.1s
L20K Farewell, AK 15.66 37 P Pn 14 20 22.8 -0.5
baz=235
BRSE Bradley Lake S 15.71 49 P Pn 14 20 22.9 -1.0
baz=249
K20K Telida 16.12 35 P 14 20 30.8 -1.2
K20K Telida 16.12 35 P Pn 14 20 28.8 -0.2
baz=232,SNR=11
GCSA Galena City Sc 16.15 28 P Pn 14 20 29.6 +0.2
baz=223
PET Petropavlovsk 16.43 286 eP P 14 20 35.8 +0.4
PET eS Sn 14 23 32.7 -1.4
PET pmax pmax
comp=Z,100nm,11.5s
PET MLR MLR
comp=Z,400nm,16.0s
SEW Seward 16.45 49 Pn Pn 14 20 31.2 -2.0
SEW IAmb IAmb 14 20 46.5
comp=Z,68nm,1.4s
SEW Seward 16.45 49 P Pn 14 20 32.9 -0.3
baz=250
PPLA Purkeypile 16.55 38 P P 14 20 38.1 +1.3
PPLA Purkeypile 16.55 38 P Pn 14 20 34.3 -0.2
baz=237
J20K Nowinta River 16.61 32 P 14 20 36.8 -0.6
J20K Nowinta River 16.61 32 P Pn 14 20 35.3 +0.1
baz=230
RC01 Rabbit Creek A 16.69 45 Pn Pn 14 20 37.0 +0.7
RC01 Rabbit Creek A 16.69 45 P Pn 14 20 36.0 -0.3
baz=246
CAST Castle Rocks 16.88 36 P 14 20 40.4 0.0
CAST Castle Rocks 16.88 36 P Pn 14 20 38.1 -0.5
baz=235
PETK Petropavlovsk- 17.00 286 Pn P 14 20 41.4 -0.3
comp=Z,0.3nm,0.3s,baz=92,slow=14,SNR=9.1
PETK LR LR 14 26 44.8
comp=Z,290nm,21.4s,baz=94,slow=36
PETK Petropavlovsk- 17.00 286 P P 14 20 43.0 +1.3
PETK Petropavlovsk- 17.00 286 P P 14 20 43.0 +1.3
CUT Chulitna 17.05 41 P 14 20 42.2 0.0
CUT IAmb IAmb 14 20 45.7
comp=Z,56nm,1.3s
CUT Chulitna 17.05 41 P Pn 14 20 39.9 -0.9
baz=241
CHUM Lake Minchumin 17.06 35 P Pn 14 20 40.8 -0.1
baz=234,SNR=6.8
PMR Palmer 17.17 44 P Pn 14 20 42.0 -0.2
baz=245
PWL Port Wells 17.24 47 Pn Pn 14 20 42.0 -1.1
PWL IAmb IAmb 14 21 10.0
comp=Z,70nm,1.4s
PWL Port Wells 17.24 47 P Pn 14 20 42.7 -0.4
baz=249
GHO Glory Hole Cre 17.33 44 Pn Pn 14 20 43.6 -0.8
KTH Kantishna Hill 17.39 37 P P 14 20 47.6 +1.7
KTH IAmb IAmb 14 20 54.2
comp=Z,41nm,1.1s
KNK Knik Glacier 17.39 45 Pn Pn 14 20 43.6 -1.4
KNK IAmb IAmb 14 21 01.5
comp=Z,42nm,1.5s
KNK Knik Glacier 17.39 45 P Pn 14 20 44.2 -0.8
baz=247
TRF Thorofare Moun 17.57 38 P 14 20 49.8 +1.7
TRF Thorofare Moun 17.57 38 P Pn 14 20 46.5 -0.9
baz=238
SML Sawmill 17.60 44 Pn 14 20 47.2 -0.5
SML Sawmill 17.60 44 P Pn 14 20 47.1 -0.5
baz=246
BPAW Bear Paw Mtn. 17.67 35 P 14 20 50.3 +1.3
BPAW Bear Paw Mtn. 17.67 35 P Pn 14 20 48.0 -0.4
baz=236
GLI Glacier Island 17.81 48 Pn Pn 14 20 49.1 -1.1
GLI IAmb IAmb 14 21 17.6
comp=Z,94nm,1.4s
GLI Glacier Island 17.81 48 P Pn 14 20 48.6 -1.6
baz=250
M23K Glacier View 17.86 44 P Pn 14 20 49.2 -1.6
baz=247,SNR=6.6
WAT1 Susitna Watana 17.95 41 P Pn 14 20 50.4 -1.5
baz=243
IMAR Indian Mountai 17.95 28 P P 14 20 53.4 +1.2
I21K Tanana 17.97 32 P P 14 20 53.8 +1.4
I21K Tanana 17.97 32 P Pn 14 20 51.5 -0.6
baz=231,SNR=7.4
H21K Melozitna Rive 18.02 30 P 14 20 54.5 +1.6
H21K Melozitna Rive 18.02 30 P Pn 14 20 52.3 -0.4
baz=228,SNR=12
SCM Sheep Creek Mo 18.05 45 P Pn 14 20 52.5 -0.7
SCM pmax pmax
comp=Z,24nm,0.9s
SCM Sheep Creek Mo 18.05 45 P Pn 14 20 52.5 -0.7
SCM Sheep Creek Mo 18.05 45 P Pn 14 20 52.4 -0.7
baz=247
FID Port Fidalgo 18.05 48 P P 14 20 53.6 +0.2
FID IAmb IAmb 14 21 19.1
comp=Z,74nm,1.4s
RND Reindeer 18.11 39 P Pn 14 20 53.6 -0.2
RND pmax pmax
comp=Z,15nm,0.9s
RND Reindeer 18.11 39 Pn 14 20 53.6 -0.2
WAT6 Susitna Watana 18.18 42 P Pn 14 20 53.4 -1.4
baz=245
MCK McKinley 18.24 38 P P 14 20 55.2 -0.1
MCK pmax pmax
comp=Z,14nm,0.9s
MCK McKinley 18.24 38 P P 14 20 55.2 -0.1
MCK McKinley 18.24 38 P P 14 20 54.0 -1.4
baz=240,SNR=6.1
BWN Browne 18.26 36 P Pn 14 20 57.9 +2.2
BWN IAmb IAmb 14 21 22.4
comp=Z,81nm,1.4s
EYAK Cordova Ski Ar 18.34 49 P Pn 14 20 57.2 +0.6
EYAK IAmb IAmb 14 21 24.7
comp=Z,47nm,1.4s
EYAK Cordova Ski Ar 18.34 49 P P 14 20 54.5 -1.9
baz=253
DIV Divide 18.50 47 P P 14 20 57.0 -1.3
DIV IAmb IAmb 14 21 19.2
comp=Z,34nm,1.3s
DHY Denali Highway 18.54 41 P P 14 20 58.9 +0.1
DHY Denali Highway 18.54 41 P P 14 20 58.0 -0.8
baz=244
KLU Klutina 18.55 46 P P 14 20 58.1 -0.8
KLU Klutina 18.55 46 P P 14 20 57.9 -1.0
baz=250
NEA2 Nenana 18.64 36 P P 14 20 59.8 +0.1
NEA2 Nenana 18.64 36 P P 14 20 59.6 -0.1
baz=237
M24K Tolsona, Glenn 18.66 44 P Pn 14 21 00.4 -0.2
M24K IAmb IAmb 14 21 24.0
comp=Z,22nm,0.7s
M24K Tolsona, Glenn 18.66 44 P Pn 14 21 00.6 0.0
baz=248
I23K Minto, Yukon-K 18.84 34 P Pn 14 21 03.2 +0.5
I23K IAmb IAmb 14 21 18.4
comp=Z,22nm,0.8s
I23K Minto, Yukon-K 18.84 34 P P 14 21 01.3 -0.6
baz=236,SNR=20
BMRM Bremner River 19.00 48 P P 14 21 03.6 -0.1
BMRM IAmb IAmb 14 21 18.3
comp=Z,23nm,1.0s
BMRM Bremner River 19.00 48 P P 14 21 03.0 -0.7
baz=254
BILL Bilibino 19.04 338 i P Pn 14 21 05.7 +0.7
BILL i S Sn 14 24 23.9 -13
BILL pmax pmax
comp=Z,43nm,1.3s
BILL MLR MLR
comp=Z,233nm,20.0s
BILL Bilibino 19.04 338 P Pn 14 21 04.9 -0.1
BILL IAmb IAmb 14 21 12.1
comp=Z,60nm,1.4s
MDM Murphy Dome 19.14 35 P P 14 21 05.1 -0.1
H23K Yukon River 19.17 32 P 14 21 06.0 +0.5
H23K Yukon River 19.17 32 P P 14 21 04.7 -0.9
baz=234
N25K Chitina, Valde 19.19 47 P P 14 21 05.5 -0.4
N25K Chitina, Valde 19.19 47 P P 14 21 04.9 -1.0
baz=252
HARP HAARP 19.21 44 P P 14 21 04.6 -1.4
baz=249
COLA College 19.23 36⇑ eP Pn 14 21 07.2 -0.1
COLA pmax pmax
comp=Z,9.0nm,0.9s
BERG Berg Lake 19.28 51 P P 14 21 06.5 -0.2
BERG IAmb IAmb 14 21 26.8
comp=Z,87nm,1.4s
PAX Paxson 19.29 42 P P 14 21 07.4 +0.5
PAX pmax pmax
comp=Z,7.0nm,0.7s
PAX Paxson 19.29 42 P P 14 21 07.4 +0.5
PAX Paxson 19.29 42 P P 14 21 05.5 -1.4
baz=247
GLB Gilahina Butte 19.50 47 P P 14 21 07.9 -1.3
POKR Poker Plat Res 19.51 35 P P 14 21 08.5 -0.7
baz=239
K24K Donnelly Dome 19.51 40 P P 14 21 08.6 -0.7
baz=244
IL31 19.53 37 P P 14 21 08.9 -0.5
ILAR Eielson Array 19.53 37 P P 14 21 09.5 +0.1
comp=Z,1.2nm,0.3s,baz=225,slow=7.7,SNR=70
ILAR LR LR 14 29 21.8
comp=Z,335nm,19.1s,baz=243,slow=39
ILAR Eielson Array 19.53 37 P P 14 21 09.7 +0.3
ILAR Eielson Array 19.53 37 P P 14 21 09.7 +0.3
VRDI Verde Repeater 19.61 48 P P 14 21 10.8 +0.3
WAX Waxell Ridge 19.70 51 P P 14 21 11.6 +0.2
WAX IAmb IAmb 14 21 16.6
comp=Z,32nm,1.1s
H24K Noodor Dome 19.74 33 P P 14 21 12.2 +0.4
H24K IAmb IAmb 14 21 20.3
comp=Z,44nm,1.4s
H24K Noodor Dome 19.74 33 P P 14 21 11.0 -0.8
baz=236,SNR=12
COLD Coldfoot 19.84 28 P 14 21 13.4 +0.6
COLD Coldfoot 19.84 28 P P 14 21 12.4 -0.4
baz=229,SNR=11
MCARA McCarthy VSAT 19.85 48 P P 14 21 13.5 +0.5
MCARA IAmb IAmb 14 21 24.1
comp=Z,27nm,1.1s
MCARA McCarthy VSAT 19.85 48 P P 14 21 12.1 -0.9
baz=254
RIDG Independent Ri 19.86 40 P P 14 21 12.4 -0.7
RIDG Independent Ri 19.86 40 P P 14 21 11.9 -1.2
baz=246
ISLE Juniper Island 19.98 50 P P 14 21 14.5 0.0
ISLE IAmb IAmb 14 21 39.1
comp=Z,58nm,1.3s
MENT Mentasta 20.02 43 P P 14 21 13.3 -1.6
J25K Salcha River, 20.03 38 P P 14 21 13.6 -1.3
J25K IAmb IAmb 14 21 16.2
comp=Z,36nm,0.8s
J25K Salcha River, 20.03 38 P P 14 21 13.8 -1.2
baz=243,SNR=31
DOT Dot Lake 20.14 41 P P 14 21 16.6 +0.5
M26K Nabesna, AK 20.16 45 P Pn 14 21 17.6 -0.8
M26K IAmb IAmb 14 21 19.6
comp=Z,24nm,1.3s
M26K Nabesna, AK 20.16 45 P P 14 21 14.8 -1.5
baz=252,SNR=9.7
SCRK Sand Creek 20.30 40 P P 14 21 17.2 -0.8
SCRK IAmb IAmb 14 21 18.9
comp=Z,32nm,0.7s
SCRK Sand Creek 20.30 40 P P 14 21 16.6 -1.3
baz=246,SNR=30
CTG Chitna Glacier 20.54 50 P P 14 21 18.6 -2.0
baz=258,SNR=7.1
M27K Edge Creek, AK 20.64 46 P Pn 14 21 24.1 -0.1
M27K IAmb IAmb 14 21 25.7
comp=Z,16nm,0.8s
M27K Edge Creek, AK 20.64 46 P P 14 21 20.4 -1.3
baz=253
LOGN Logan Glacier 20.67 50 P P 14 21 19.6 -2.5
LOGN IAmb IAmb 14 21 48.0
comp=Z,34nm,1.2s
J26L Joseph Creek 20.68 39 P P 14 21 20.8 -1.3
baz=246,SNR=39
L27K Beaver Creek, 20.88 44 P P 14 21 25.0 +0.9
L27K Beaver Creek, 20.88 44 P P 14 21 22.7 -1.4
baz=252
BCAR Beaver Creek A 20.90 44 P P 14 21 24.1 -0.3
PINM Pinnacle 20.90 52 P P 14 21 22.7 -1.8
baz=261
TOLK Toolik Lake Re 20.96 26 P P 14 21 25.8 +0.8
TOLK IAmb IAmb 14 21 35.5
comp=Z,29nm,0.9s
TOLK Toolik Lake Re 20.96 26 P P 14 21 24.9 -0.1
baz=228,SNR=23
SEY Seymchan 20.97 316 P P 14 21 25.7 +0.6
comp=Z,14nm,0.9s,baz=113,slow=10.0,SNR=16
SEY LR LR 14 29 51.6
comp=Z,594nm,18.4s,baz=124,slow=38
SEY Seymchan 20.97 316⇓ eP P 14 21 20.7 -4.3
SEY pmax pmax
comp=Z,5.0nm,0.9s
MA2 Magadan 21.00 306 LR LR 14 29 27.6
comp=Z,316nm,19.0s,baz=101,slow=37
MA2 Magadan 21.00 306 P P 14 21 26.2 +0.8
MA2 pmax pmax
comp=Z,12nm,1.1s
MA2 Magadan 21.00 306 P P 14 21 26.2 +0.8
BVCY Beaver Creek 21.11 46 P P 14 21 25.9 -0.8
baz=254
YUK3 Moose Creek 21.13 48 P P 14 21 26.6 -0.5
baz=256
PNL Peninsula 21.27 54 P P 14 21 28.1 -0.2
baz=263
A21K Barrow 21.49 16 P P 14 21 30.5 0.0
A21K IAmb IAmb 14 21 38.0
comp=Z,19nm,0.9s
A21K Barrow 21.49 16 P P 14 21 30.5 0.0
baz=212,SNR=14
BMAR Burnt Mountain 21.71 31 P P 14 21 33.9 +0.9
EGAK Eagle 21.75 40 P P 14 21 32.7 -0.7
EGAK IAmb IAmb 14 21 34.6
comp=Z,30nm,0.7s
EGAK Eagle 21.75 40 P P 14 21 31.4 -2.0
baz=248,SNR=11
YUK6 Outpost Mounta 21.96 50 P P 14 21 34.7 -1.3
baz=261
DAWY Dawson 22.23 42 P P 14 21 38.0 -0.6
DAWY Dawson 22.23 42 P P 14 21 37.6 -1.0
baz=252
HYT Haines Junctio 22.36 51 P P 14 21 39.8 -0.3
HYT Haines Junctio 22.36 51 P P 14 21 38.7 -1.4
baz=262
I29M Ogilvie Camp, 23.08 39 P P 14 21 46.3 -1.3
I29M IAmb IAmb 14 21 54.7
comp=Z,26nm,1.2s
I29M Ogilvie Camp, 23.08 39 P P 14 21 46.6 -0.9
baz=251
N31M Braeburn, Yuko 23.28 50 P P 14 21 49.8 +0.3
baz=262
SIT Sitka 23.33 61 P P 14 21 50.3 +0.4
baz=273
BESE Bessie Mountai 23.54 57 P P 14 21 52.5 +0.4
BESE IAmb IAmb 14 22 17.6
comp=Z,18nm,1.2s
WHY Whitehorse 23.62 52 P P 14 21 52.0 -0.9
baz=265
M31M Drury Creek, Y 24.03 48 P P 14 21 58.0 +1.4
M31M Drury Creek, Y 24.03 48 P P 14 21 55.8 -0.8
baz=262
EPYK Eagle Plains 24.04 37 P P 14 21 56.1 -0.6
EPYK Eagle Plains 24.04 37 P P 14 21 55.4 -1.3
baz=250
WRAK Wrangell Islan 25.02 62 P P 14 22 05.0 -0.6
baz=277
MMPY Sheldon Lake, 25.52 47 P P 14 22 09.5 -0.8
baz=264
INK Inuvik 25.86 34 P P 14 22 13.6 +0.5
comp=Z,4.4nm,0.7s,baz=243,slow=8.9,SNR=19
INK Inuvik 25.86 34 P P 14 22 13.6 +0.5
INK pmax pmax
comp=Z,13nm,1.3s
INK Inuvik 25.86 34 P P 14 22 13.6 +0.5
INK Inuvik 25.86 34 P P 14 22 12.5 -0.6
baz=250,SNR=6.6
DLBC Dease Lake 26.08 57 P P 14 22 17.1 +1.7
comp=Z,6.7nm,0.8s,baz=272,slow=7.1,SNR=9.7
DLBC Dease Lake 26.08 57 P P 14 22 17.2 +1.9
YSS Yuzh-Sakhalins 27.94 278 eP P 14 22 32.7 +0.7
YSS eS S 14 27 11.2 -1.9
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS pmax pmax
comp=Z,200nm,4.8s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS MLR MLR
comp=E,200nm,16.0s
ASAJ Asahikawa 29.35 273 LR LR 14 35 12.5
comp=E,105nm,19.7s,baz=132,slow=38
C36M Paulatuk 29.45 34 P P 14 22 44.6 -0.5
C36M Paulatuk 29.45 34 P P 14 22 44.6 -0.5
baz=259
A36M Sachs Harbour 29.71 28 P P 14 22 47.1 -0.4
baz=253
YAK Yakutsk 31.33 311 LR LR 14 35 59.9
comp=E,368nm,19.0s,baz=91,slow=37
D03D Elon 33.09 76 P P 14 23 17.2 -0.3
baz=296
YKA Yellowknife Ar 33.22 47 P P 14 23 17.4 -1.0
comp=E,0.4nm,0.7s,baz=267,slow=4.6,SNR=7.9
YKA LR LR 14 38 54.3
comp=E,374nm,18.2s,baz=268,slow=40
YKA Yellowknife Ar 33.22 47 P P 14 23 18.8 +0.4
YKA Yellowknife Ar 33.22 47 P P 14 23 18.8 +0.4
KLR Kul'dur 33.68 288 LR LR 14 36 55.5
comp=E,185nm,22.0s,baz=71,slow=36
KLR Kul'dur 33.68 288 deP P 14 23 22.3 -0.3
KLR pmax pmax
comp=Z,10.0nm,1.5s
ZEA Zeya 34.55 297 eP P 14 23 29.4 -0.7
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=Z,100nm,15.0s
H11N2 WAKE ISLAND Hy 34.89 212 T T 15 01 10.2
baz=20,slow=76,SNR=54
H11N3 WAKE ISLAND Hy 34.90 212 T T 15 01 10.9
baz=20,slow=76,SNR=47
H11N1 WAKE ISLAND Hy 34.91 212 T T 15 01 20.5
baz=20,slow=76,SNR=63
B08A Colville Reser 34.98 73 P P 14 23 35.3 +1.3
B08A IAmb IAmb 14 23 50.0
comp=Z,9.2nm,0.8s
H04A Detroit Lake 35.00 80 P P 14 23 35.1 +1.0
H04A IAmb IAmb 14 24 02.3
comp=Z,7.0nm,0.9s
I04A Tendick Farm, 35.31 82 P P 14 23 38.1 +1.3
baz=301
L02E Cave Junction 35.45 85 P P 14 23 39.3 +1.3
baz=303
USA0B Ussuriysk Arra 35.90 280 P P 14 23 41.9 +0.1
USA0B pmax pmax
comp=Z,11nm,1.0s
USA0B Ussuriysk Arra 35.90 280 P P 14 23 41.9 +0.1
USA0B IAmb IAmb 14 23 43.2
comp=Z,11nm,1.0s
USRK Ussuriysk Ar. 35.90 280 P P 14 23 41.6 -0.1
comp=Z,13nm,0.9s,baz=57,slow=8.9,SNR=8.8
H11S1 WAKE ISLAND Hy 36.09 211 T T 15 03 00.3
baz=19,slow=76,SNR=65
H11S2 WAKE ISLAND Hy 36.11 211 T T 15 02 53.1
baz=19,slow=76,SNR=62
H11S3 WAKE ISLAND Hy 36.11 211 T T 15 02 47.7
baz=19,slow=76,SNR=29
YBH Yreka Blue Hor 36.24 85 LR LR 14 35 00.6
comp=Z,125nm,19.8s,baz=318,slow=30
NEW Newport 36.34 72 LR LR 14 36 07.7
comp=Z,103nm,20.9s,baz=280,slow=32
EDM Edmonton 36.42 63 P P 14 23 47.2 +0.9
EDM pmax pmax
comp=Z,27nm,0.6s
EDM Edmonton 36.42 63 P P 14 23 47.2 +0.9
MJAR Matsushiro Arr 36.43 265 P P 14 23 46.5 +0.1
comp=Z,0.6nm,0.5s,baz=262,slow=8.5,SNR=4.1
MJAR LR LR 14 37 25.2
comp=Z,145nm,20.0s,baz=58,slow=34
MJAR Matsushiro Arr 36.43 265 P P 14 23 46.5 +0.1
MJAR pmax pmax
comp=Z,3.0nm,1.1s
MJAR Matsushiro Arr 36.43 265 IAmb IAmb 14 23 54.1
comp=Z,3.4nm,1.1s
MAJO Matsushiro 36.43 265 P P 14 23 46.8 +0.4
MAJO pmax pmax
comp=Z,10.0nm,1.1s
MAJO Matsushiro 36.43 265 P P 14 23 46.8 +0.4
MAJO IAmb IAmb 14 23 54.6
comp=Z,10.0nm,1.1s
MJB9 Matsu-Tunnel 36.43 265 P P 14 23 46.8 +0.4
MJB9 IAmb IAmb 14 23 54.6
comp=Z,10nm,1.1s
VLA Vladivostok 36.53 278 deP P 14 23 47.8 +0.6
VLA pmax pmax
comp=Z,35nm,1.1s
M04C Macdoel 36.75 84 P P 14 23 50.8 +1.5
baz=304
I07A Izee 36.95 79 P P 14 23 52.0 +1.0
I07A IAmb IAmb 14 24 07.9
comp=Z,13nm,1.5s
MDJ Mudanjiang 37.15 282 P P 14 23 52.0 -0.5
MDJ IAmb IAmb 14 23 53.2
comp=Z,7.5nm,0.9s
JGF Kuroka 37.56 264 P P 14 23 56.4 +0.4
JGF IAmb IAmb 14 23 58.0
comp=Z,18nm,1.3s
JHJ Hachijo jima 2 37.70 259 LR LR 14 36 57.9
comp=Z,71nm,21.3s,baz=320,slow=32
WALA Waterton Lakes 37.87 69 P P 14 23 59.4 +0.8
WALA IAmb IAmb 14 24 10.3
comp=Z,8.7nm,1.1s
BNX BinXian 37.91 285 ⇑ P P 14 23 58.3 -0.6
BNX pmax pmax
comp=Z,55nm,1.5s
BNX pmax pmax
comp=Z,260nm,4.8s
JTMT Jette 38.27 71 P P 14 24 03.2 +1.2
JTMT IAmb IAmb 14 24 25.9
comp=Z,4.7nm,0.8s
RES Resolute Bay 38.53 25 LR LR 14 43 15.9
comp=Z,136nm,19.0s,baz=294,slow=41
RES Resolute Bay 38.53 25 PcP 14 26 16.7 +1.0
MSO Missoula 38.92 72 P P 14 24 08.5 +0.9
MSO IAmb IAmb 14 24 22.9
comp=Z,11nm,1.1s
MSO Missoula 38.92 72 P P 14 24 07.3 -0.3
baz=300
HRY Holter Researc 40.24 71 P P 14 24 19.0 +0.5
LRM Limekiln Ridge 40.33 73 P P 14 24 21.2 +1.8
HLID Hailey 40.35 77 P P 14 24 19.4 -0.1
baz=303
DLMT Dillon 40.48 73 P P 14 24 21.6 +1.1
DLMT IAmb IAmb 14 24 46.7
comp=Z,6.1nm,0.9s
JCJ Chichijima 40.58 250 LR LR 14 43 55.7

comp=Z,34nm,18.2s,baz=170,slow=40
MCMT McKenzie Canyo 40.61 74 P **P** **14 24 22.4 +0.7**
EGMT Eagleton 40.79 68 P **P** **14 24 23.4 +0.4**
EGMT IAmb IAmb 14 24 39.1
comp=Z,9.0nm,0.8s
EGMT Eagleton 40.79 68 P **P** **14 24 22.7 -0.3**
baz=300
NVAR Mina Array Bea 40.91 86 P **P** **14 24 24.9 +0.7**
comp=Z,0.3nm,0.3s,baz=321,slow=7.0,SNR=2.0
NVAR LR LR 14 37 36.9
comp=Z,90nm,19.2s,baz=276,slow=31
BOZ Bozeman (W) 40.93 73 P **P** **14 24 24.6 +0.3**
BOZ pmax pmax
comp=Z,12nm,1.2s
BOZ Bozeman (W) 40.93 73 P **P** **14 24 24.6 +0.3**
BOZ IAmb IAmb 14 24 40.1
comp=Z,12nm,1.2s
BOZ Bozeman (W) 40.93 73 P **P** **14 24 23.9 -0.4**
baz=302
ELK Elko 41.43 81 LR LR 14 40 47.9
comp=Z,115nm,18.5s,baz=322,slow=35
ELK Elko 41.43 81 P **P** **14 24 29.2 +0.7**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 41.43 81 P **P** **14 24 29.2 +0.7**
YHL Hebgen Lake 41.60 73 P **P** **14 24 30.0 +0.1**
YHL IAmb IAmb 14 24 46.0
comp=Z,9.9nm,1.1s
YHH Holmes Hill 41.83 73 P **P** **14 24 31.8 0.0**
YHH IAmb IAmb 14 24 47.8
comp=Z,13nm,1.0s
H17A Grant Village 42.21 74 P **P** **14 24 34.8 0.0**
baz=303
LKWY Lake 42.22 73 P **P** **14 24 36.7 +1.7**
LKWY pmax pmax
comp=Z,13nm,1.1s
LKWY Lake 42.22 73 P **P** **14 24 36.7 +1.7**
LKWY IAmb IAmb 14 24 52.2
comp=Z,13nm,1.1s
YMP Mirror Lake Pl 42.27 73 P **P** **14 24 36.7 +1.3**
YMP IAmb IAmb 14 24 51.7
comp=Z,9.7nm,1.0s
KSRS Korea Array 42.28 274 P **P** **14 24 35.9 +0.7**
comp=Z,5.0nm,1.0s,baz=56,slow=7.9,SNR=17
KSRS LR LR 14 41 49.4
comp=Z,77nm,20.4s,baz=60,slow=36
KSAR Wonju Array Be 42.31 274 P **P** **14 24 37.0 +1.6**
KSAR Wonju Array Be 42.31 274 P **P** **14 24 37.0 +1.6**
HVU Hansel Valley 42.35 78 P **P** **14 24 36.6 +0.7**
HVU pmax pmax
comp=Z,3.0nm,0.7s
HVU Hansel Valley 42.35 78 P **P** **14 24 36.6 +0.7**
FXWY Fox Creek 42.36 75 P **P** **14 24 36.1 +0.1**
GRAC Grapevine Rang 42.37 87 P **P** **14 24 37.6 +1.6**
baz=309
RLMT Red Lodge 42.59 72 P **P** **14 24 38.8 +0.9**
RLMT IAmb IAmb 14 24 54.3
comp=Z,16nm,0.9s
RLMT Red Lodge 42.59 72 P **P** **14 24 38.2 +0.3**
baz=303
R11A Troy Canyon, C 42.65 84 P **P** **14 24 38.1 -0.3**
baz=308
MPMC Manual Prospec 42.89 88 P **P** **14 24 40.4 +0.1**
baz=310
TPNV Topopah Spring 43.10 86 P **P** **14 24 42.5 +0.5**
baz=309
DUG Dugway, Tooele 43.25 80 P **P** **14 24 44.1 +0.9**
DUG pmax pmax
comp=Z,16nm,1.3s
DUG Dugway, Tooele 43.25 80 P **P** **14 24 44.1 +0.9**
DUG IAmb IAmb 14 24 59.0
comp=Z,16nm,1.2s
DUG Dugway, Tooele 43.25 80 P **P** **14 24 43.1 -0.1**
baz=307
TJN Taejon 43.30 273⇑*e*P **P** **14 24 44.1 +0.7**
PRN Pahroc Range 43.56 85 P **P** **14 24 46.2 +0.4**
PRN IAmb IAmb 14 25 04.4
comp=Z,12nm,1.2s
PSUT Pine Spring 43.61 83 P **P** **14 24 46.9 +0.7**
BW06 Boulder Array 43.74 75 P **P** **14 24 46.9 -0.3**
BW06 IAmb IAmb 14 25 02.6
comp=Z,8.9nm,1.0s
BW06 Boulder Array 43.74 75 P **P** **14 24 46.8 -0.4**
baz=305,SNR=9.2
PD31 Pinedale Array 43.74 75 P **P** **14 24 47.3 +0.1**
PD31 IAmb IAmb 14 25 02.6
comp=Z,8.0nm,1.0s
PDAR Pinedale Array 43.74 75 P **P** **14 24 47.5 +0.3**
comp=Z,5.8nm,0.9s,baz=316,slow=4.1,SNR=23
PDAR LR LR 14 40 10.7
comp=Z,104nm,18.0s,baz=298,slow=32
PDAR Pinedale Array 43.74 75 P **P** **14 24 47.1 -0.1**
DGMT Dagmar 43.75 65 P **P** **14 24 47.3 +0.3**
DGMT IAmb IAmb 14 24 48.7
comp=Z,9.1nm,1.0s
NLU North Lily Min 43.85 80 P **P** **14 24 49.0 +0.9**
FCC Fort Churchill 43.94 48 P **P** **14 24 48.5 +0.2**
FCC pmax pmax
comp=Z,5.0nm,0.9s
FCC Fort Churchill 43.94 48 P **P** **14 24 48.5 +0.2**
MSU Marysvale 44.66 82 P **P** **14 24 55.2 +0.6**
MSU Marysvale 44.66 82 P **P** **14 24 55.2 +0.6**
TMUT Trail Mountain 44.78 80 P **P** **14 24 56.4 +0.7**
TMUT IAmb IAmb 14 25 14.7
comp=Z,4.4nm,0.7s
Q16A Castle Valley 45.03 80 P **P** **14 24 58.7 +1.1**
Q16A IAmb IAmb 14 25 21.1
comp=Z,9.7nm,1.2s
PFO Pinyon Flats O 45.12 90 LR LR 14 39 38.9
comp=Z,131nm,21.9s,baz=249,slow=30
P18A Preston Nutter 45.17 79 P **P** **14 24 59.0 +0.2**
P18A IAmb IAmb 14 25 14.6
comp=Z,7.9nm,1.0s
SRU San Rafael Swe 45.31 80 P **P** **14 25 00.9 +1.1**
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael Swe 45.31 80 P **P** **14 25 00.9 +1.1**
SRU IAmb IAmb 14 25 17.5
comp=Z,5.8nm,0.9s
NRIK Noril'sk 45.63 331⇑*e*P **P** **14 25 02.4 +0.8**
O20A White River Ci 46.09 77 P **P** **14 25 06.1 +0.2**
O20A White River Ci 46.09 77 P **P** **14 25 05.4 -0.5**
baz=307
PDMCI Parker Dam,Lak 46.11 87 P **P** **14 25 05.6 -0.3**
baz=311
RSSD Black Hills 46.25 70 P **P** **14 25 06.0 -1.2**
baz=305
PV13 Radium Mtn., P 46.95 80 P **P** **14 25 12.8 +0.1**
PV13 IAmb IAmb 14 25 29.2
comp=Z,11nm,0.9s
N23A Red Feather La 47.02 75 P **P** **14 25 14.0 +0.7**
N23A IAmb IAmb 14 25 28.9
comp=Z,10nm,1.1s
N23A Red Feather La 47.02 75 P **P** **14 25 12.3 -0.9**
baz=307
ULM Lac du Bonnet 47.38 59 P **P** **14 25 15.7 +0.1**
comp=Z,5.2nm,0.5s,baz=312,slow=6.9,SNR=5.5
ULM Lac du Bonnet 47.38 59 P **P** **14 25 15.7 +0.1**
ULM pmax pmax
comp=Z,15nm,1.2s
ULM Lac du Bonnet 47.38 59 P **P** **14 25 15.7 +0.1**
ULM IAmb IAmb 14 25 16.6
comp=Z,15nm,1.1s
MVCO Mesa Verde 47.74 80 P **P** **14 25 18.4 -0.6**
baz=310
ISCO Idaho Springs 47.89 76 P **P** **14 25 19.1 -1.0**
baz=308
S22A 4UR Ranch, Cre 48.43 79 P **P** **14 25 23.8 -0.5**
baz=309
AGMN Agassiz Nation 48.49 61 P **P** **14 25 23.5 -0.7**
baz=305
ULN Ulaanbaatar 48.56 298*de*P **P** **14 25 25.1 +0.1**
ULN pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 48.94 299 P **P** **14 25 28.0 +0.2**
comp=Z,1.5nm,0.8s,baz=46,slow=9.4,SNR=6.2
SONM Songino Array 48.94 299 P **P** **14 25 27.7 -0.2**
SONM pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 48.94 299 P **P** **14 25 27.6 -0.2**
ZAK Zakamensk 49.14 303 *e*P **P** **14 25 29.6 +0.3**
ZAK *e* 14 26 52.5
ZAK pmax pmax
comp=Z,8.0nm,1.2s
SDCO Great Sand Dun 49.24 78 P **P** **14 25 31.3 +0.8**
SDCO IAmb IAmb 14 25 47.0
comp=Z,12nm,1.5s
SDCO Great Sand Dun 49.24 78 P **P** **14 25 29.9 -0.6**
baz=310
TIA Tai'an 49.76 280 *e*P **P** **14 25 33.5 -0.6**
TIA pmax pmax
comp=Z,9.0nm,1.7s
T25A Trinidad 50.30 78 P **P** **14 25 37.7 -0.7**
baz=310
SPITS Spitsbergen Ar 50.42 357 P **P** **14 25 38.6 0.0**
comp=Z,4.2nm,0.7s,baz=44,slow=8.5,SNR=4.2
SPITS LR LR 14 47 08.2
comp=Z,154nm,20.1s,baz=301,slow=36
HNS HongShan 50.48 283⇑P **P** **14 25 40.5 +1.0**
HNS pmax pmax
comp=Z,39nm,1.0s
ECSD EROS Data Cent 50.78 66 P **P** **14 25 40.7 -1.1**
baz=308
FRB Frobisher Bay 51.51 33 LR LR 14 50 44.8
comp=Z,216nm,18.1s,baz=360,slow=40
MNTX Cornudas Mount 53.31 84 P **P** **14 26 01.0 +0.3**
baz=313
AMTX Amarillo 53.45 78 P **P** **14 26 00.7 -1.0**
baz=312
LYN LuoYang 53.71 282⇑P **P** **14 26 04.5 +0.9**
LYN pmax pmax
comp=Z,20nm,0.5s
LYN LR LR
comp=E,190nm,14.9s
KSU1 Kansas State U 53.72 71 P **P** **14 26 02.7 -0.9**
baz=311
E43A Lone Tree Farm 54.44 58 P **P** **14 26 09.3 +0.6**
SFJD Kangerlussuaq 54.51 24 LR LR 14 53 45.7
comp=E,100nm,18.3s,baz=314,slow=41
P38A Dawn 55.18 68 P **P** **14 26 13.6 -0.5**
P38A IAmb IAmb 14 26 29.3
comp=Z,9.1nm,0.8s
LPIG La Paz 55.59 94 LR LR 14 47 30.1
comp=Z,49nm,18.2s,baz=354,slow=33
ZALV Zalesovo Beam 55.84 315 LR LR 14 52 00.9
comp=Z,149nm,18.2s,baz=63,slow=38
TX31 Lajitas Ar. Si 56.01 84 P **P** **14 26 20.1 -0.4**
TX31 IAmb IAmb 14 26 48.2
comp=Z,9.7nm,0.9s
TX32 Lajitas Array 56.01 84 P **P** **14 26 20.0 -0.4**
TX32 IAmb IAmb 14 26 48.2
comp=Z,3.3nm,0.9s
TXAR Lajitas Array 56.01 84 P **P** **14 26 20.4 0.0**
comp=Z,0.8nm,0.7s,baz=301,slow=3.9,SNR=11
TXAR Lajitas Array 56.01 84 P **P** **14 26 19.9 -0.5**
P40A Paris 56.10 67 P **P** **14 26 19.9 -0.9**
XAN Xi'an 56.22 284⇑P **P** **14 26 22.0 +0.2**
XAN pP sP 14 26 36.3 -0.4
XAN sP pwP 14 26 43.8 +6.6
XAN pmax pmax
comp=Z,13nm,1.3s
XAN pmax pmax
comp=Z,69nm,7.3s
XAN LR LR
comp=N,170nm,15.9s
XAN LR LR
comp=E,240nm,17.1s
XAN LR LR
comp=Z,240nm,17.8s
JMIC Jan Mayen 57.41 5 LR LR 14 50 22.0
comp=Z,76nm,21.8s,baz=334,slow=35
CCM Cathedral Cave 57.55 68 P **P** **14 26 29.5 -1.6**
baz=313
U40A Yellville 57.77 71 P **P** **14 26 31.4 -1.2**
U40A IAmb IAmb 14 26 47.0
comp=Z,6.2nm,0.8s
U40A Yellville 57.77 71 P **P** **14 26 31.1 -1.6**
baz=313
GTA Gaotai 57.96 294 *e*P **P** **14 26 34.0 -0.1**
GTA pP pP 14 26 38.8 -5.2
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,6.0s
GTA LR LR
comp=N,110nm,12.7s
GTA LR LR
comp=E,180nm,11.5s
GTA LR LR
comp=Z,140nm,13.9s
WHTX Lake Whitney, 57.99 78 P **P** **14 26 33.2 -1.0**
baz=314
W39A Magazine 58.01 72 P **P** **14 26 32.3 -2.0**
baz=313
FVM French Village 58.08 68 P **P** **14 26 34.3 -0.5**
FVM pmax pmax
comp=Z,7.0nm,1.0s
FVM French Village 58.08 68 P **P** **14 26 34.3 -0.5**
FVM IAmb IAmb 14 26 34.8
comp=Z,7.5nm,1.0s
VLDQ Val d'Or 58.17 52 P **P** **14 26 34.0 -1.2**
SCHQ Schefferville 58.23 40 P **P** **14 26 35.4 -0.2**
comp=Z,5.6nm,0.8s,baz=34,slow=19,SNR=4.4
SCHQ Schefferville 58.23 40 P **P** **14 26 35.7 +0.1**
SCHQ IAmb IAmb 14 26 36.7
comp=Z,6.4nm,0.8s
SFIN Lafayette 58.35 64 P **P** **14 26 35.4 -1.2**
baz=313
ARCES ARCESS Array B 58.39 352 P **P** **14 26 36.0 -0.5**
comp=Z,4.1nm,0.8s,baz=15,slow=7.7,SNR=7.4
ARCES LR LR 14 54 22.2
comp=Z,58nm,18.1s,baz=340,slow=39
ARCES ARCESS Array B 58.39 352 P **P** **14 26 35.6 -0.9**
ARCES pmax pmax
comp=Z,18nm,1.5s
ARCES ARCESS Array B 58.39 352 P **P** **14 26 35.6 -0.9**
FCAR Ozark Folk Cen 58.51 71 P **P** **14 26 36.5 -1.4**
MIAR Mount Ida 58.58 73 P **P** **14 26 38.0 -0.3**
MIAR pmax pmax
comp=Z,19nm,1.1s
MIAR Mount Ida 58.58 73 P **P** **14 26 38.0 -0.3**
MIAR Mount Ida 58.58 73 P **P** **14 26 38.0 -0.3**
baz=314
W41B Gary Mavity, V 58.93 71 P **P** **14 26 39.8 -1.0**
W41B IAmb IAmb 14 26 55.5
comp=Z,10nm,1.1s
W41B Gary Mavity, V 58.93 71 P **P** **14 26 39.4 -1.3**
baz=314
X40A Basin Creek Fa 59.06 72 P **P** **14 26 40.8 -0.8**
baz=314
833A Chaparral WMA, 59.38 82 P **P** **14 26 43.1 -0.8**
baz=316
O48B Farmland 59.52 63 P **P** **14 26 43.4 -1.4**
baz=314
SADO Sadowa 59.62 55 LR LR 14 54 08.5
comp=Z,203nm,18.3s,baz=258,slow=38
P49A Miami Univ. Ec 60.26 63 P **P** **14 26 48.3 -1.5**
baz=314
DELO Deloro Mine 60.58 55 P **P** **14 26 52.3 +0.4**
T47A Sharon Grove 60.68 67 P **P** **14 26 52.5 -0.2**
T47A IAmb IAmb 14 27 07.0
comp=Z,7.6nm,0.8s
KURK Kurchatov 60.82 316*ce*P **P** **14 26 53.7 +0.2**
KURK pmax pmax
comp=Z,7.0nm,2.5s
KURK Kurchatov 60.82 316 P **P** **14 26 53.5 0.0**
KURK IAmb IAmb 14 27 08.3
comp=Z,3.6nm,0.6s
WVT Waverly 60.86 68 P **P** **14 26 53.1 -0.9**
baz=314
TRQ Mont Tremblant 60.90 51 P **P** **14 26 53.5 -0.8**
M53A WI Miller and 61.14 59 P **P** **14 26 54.9 -0.9**
baz=315
PECO Prince Edward 61.31 55 P **P** **14 26 57.5 +0.6**
Q51A Peebles 61.37 63 P **P** **14 26 57.6 +0.1**
O53A New Philadelph 61.69 60 P **P** **14 26 57.8 -1.7**
baz=315
J56A Wolcott 61.84 55 P **P** **14 27 00.9 +0.4**
MK31 Makanchi Array 62.00 311 P **P** **14 27 00.9 -0.7**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MK31 Makanchi Array 62.00 311 P **P** **14 27 00.9 -0.7**
MKAR Makanchi Array 62.00 311 P **P** **14 27 01.3 -0.3**
comp=Z,1.3nm,0.4s,baz=48,slow=6.6,SNR=25
MKAR Makanchi Array 62.00 311 P **P** **14 27 00.9 -0.7**
LONY Lake Ozonia 62.03 53 P **P** **14 27 01.4 -0.5**
LONY Lake Ozonia 62.03 53 P **P** **14 27 00.6 -1.2**
baz=316
M55A Ridgway 62.13 58 P **P** **14 27 02.8 +0.2**
MAKZ Makanchi 62.14 311 P **P** **14 27 01.7 -0.8**
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
MAKZ Makanchi 62.14 311 P **P** **14 27 01.7 -0.8**
MAKZ IAmb IAmb 14 27 02.8
comp=Z,2.1nm,0.7s
J57A Williamstown 62.19 55 P **P** **14 27 03.3 +0.4**
L56A Greenwood 62.29 56 P **P** **14 27 04.2 +0.6**
K57A Scipio Center 62.41 55 P **P** **14 27 04.8 +0.5**
BRVK Borovoye 62.49 322 P **P** **14 27 04.9 +0.2**
BRVK 14 27 43.9
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 62.49 322 P **P** **14 27 04.9 +0.2**
BRVK IAmb IAmb 14 27 30.6
comp=Z,2.7nm,0.9s
BRVK PcP **PcP** **14 27 43.9 +0.3**
J58A Remsen 62.59 54 P **P** **14 27 06.2 +0.6**
R53A Hurricane 62.64 62 P **P** **14 27 06.1 +0.2**
NCB Newcomb 62.68 53 P **P** **14 27 05.9 -0.3**
NCB IAmb IAmb 14 27 10.7
comp=Z,6.3nm,0.9s
Q54A Coxs Mills 62.79 61 P **P** **14 27 06.7 -0.2**
Q54A IAmb IAmb 14 27 13.2
comp=Z,8.2nm,0.8s
D62A Allapoint, All 62.90 48 P **P** **14 27 07.8 +0.3**
J59A Piesco 62.90 54 P **P** **14 27 07.5 -0.2**
TZTN Tazewell 63.01 65 P **P** **14 27 07.9 -0.6**
baz=316
GOMU GeErMu 63.03 295 P **P** **14 27 09.5 +0.5**
GOMU pP pP 14 27 13.0 -6.1
GOMU sP sP 14 27 17.3 -7.0
GOMU S S 14 35 24.8 -12
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,38nm,4.7s
GOMU LR LR
comp=N,88nm,13.7s
GOMU LR LR
comp=E,110nm,13.7s
GOMU LR LR
comp=Z,110nm,14.2s
BINY Binghamton 63.06 56 P **P** **14 27 08.9 +0.2**
BINY Binghamton 63.06 56 P **P** **14 27 08.0 -0.7**
baz=316,SNR=7.8
M57A Sunshine Farm, 63.09 57 P **P** **14 27 09.2 +0.3**
SSPA Standing Stone 63.19 58 P **P** **14 27 09.6 0.0**
SSPA Standing Stone 63.19 58 P **P** **14 27 09.1 -0.4**
baz=316
FPAL Fort Paine 63.26 68 P **P** **14 27 09.4 -0.8**
FPAL IAmb IAmb 14 27 24.0
comp=Z,9.2nm,1.0s
S54A Dingess, Beckl 63.37 62 P **P** **14 27 10.6 -0.2**
ACCN Adirondack Com 63.38 53 P **P** **14 27 10.4 -0.4**
LRAL Lakeview Retre 63.53 70 P **P** **14 27 11.6 -0.3**
baz=316
L59A Walton 63.55 55 P **P** **14 27 12.3 +0.3**
G62A West of Eustis 63.58 50 P **P** **14 27 12.0 -0.1**
LBNH Lisbon 63.62 52 P **P** **14 27 12.5 +0.1**
LBNH pmax pmax
comp=Z,8.0nm,0.9s
LBNH Lisbon 63.62 52 P **P** **14 27 12.5 +0.1**
LBNH IAmb IAmb 14 27 13.0
comp=Z,8.4nm,0.9s
LBNH Lisbon 63.62 52 P **P** **14 27 11.2 -1.2**
baz=317
KSPA Keystone Colle 63.64 56 P **P** **14 27 12.7 +0.2**
Q56A Snyder Ridge, 63.64 60 P **P** **14 27 12.7 +0.1**
N58A Sunbury 63.66 57 P **P** **14 27 12.8 +0.1**
N58A IAmb IAmb 14 27 33.6
comp=Z,6.6nm,0.8s
R55A Marlinton 63.68 61 P **P** **14 27 13.9 +1.0**
R55A IAmb IAmb 14 27 28.0
comp=Z,6.9nm,0.8s
H62A Milan 63.75 51 P **P** **14 27 13.2 0.0**
ARU Arti 63.86 330 LR LR 14 58 37.4
comp=Z,117nm,19.3s,baz=35,slow=39
ARU Arti 63.86 330*c i*P **P** **14 27 14.6 +0.9**
ARU 14 27 48.4
ARU 14 29 32.7
ARU S **S** **14 35 47.6 +1.7**
ARU SS **SS** **14 39 50.0 -3.5**
ARU pmax pmax
comp=Z,6.0nm,1.4s
F64A Sherman 64.13 48 P **P** **14 27 15.1 -0.5**
PKME Peaks-Kenny Pk 64.13 49 P **P** **14 27 15.3 -0.4**
PKME Peaks-Kenny Pk 64.13 49 P **P** **14 27 14.5 -1.2**
baz=318
I63A Otisfield 64.42 51 P **P** **14 27 17.5 0.0**
I63A IAmb IAmb 14 27 18.9
comp=Z,8.6nm,0.8s
ODNJ Ogdensburg 64.58 56 P **P** **14 27 19.6 +0.9**
K62A Royalston 64.62 53 P **P** **14 27 19.6 +0.6**
PAL Palisades 65.00 55 P **P** **14 27 20.5 -0.9**
baz=317
HRV Adam Dziewonsk 65.08 53 P **P** **14 27 20.6 -1.3**
baz=318
CPNY Central Park 65.13 55 P **P** **14 27 23.4 +1.2**
KMSC Kings Mountain 65.27 64 P **P** **14 27 22.1 -1.2**
baz=317
GOGA Godfrey 65.31 67 P **P** **14 27 22.1 -1.4**
baz=317
HODGE Hodges 65.41 66 P **P** **14 27 23.8 -0.4**
HODGE IAmb IAmb 14 27 28.8
comp=Z,6.3nm,0.7s
M63A Gales Ferry 65.65 54 P **P** **14 27 25.8 +0.1**
LMN Caledonia Moun 65.76 46 P **P** **14 27 26.2 -0.1**
T59A Double "B" Far 66.03 60 P **P** **14 27 29.2 +1.1**
T59A IAmb IAmb 14 27 50.5
comp=Z,11nm,0.9s
FINES FINESS Array B 66.21 349 P **P** **14 27 28.1 -0.7**
comp=Z,3.7nm,0.8s,baz=347,slow=16,SNR=5.0
NC204 NORSAR Array S 67.50 357 P **P** **14 27 36.9 -0.3**
NC303 NORSAR Array S 67.53 357 P **P** **14 27 37.1 -0.1**
NC405 NORSAR Array S 67.63 357 P **P** **14 27 37.9 0.0**
NB201 NORSAR Array S 67.71 357 P **P** **14 27 38.1 -0.3**
NB2 NORSAR Subarra 67.72 357 P **P** **14 27 38.3 -0.3**
comp=Z,4.1nm,0.9s,baz=7.3,slow=6.9
NOA NORSAR Array B 67.72 357 P **P** **14 27 38.5 -0.1**
comp=Z,3.0nm,0.9s,baz=2.8,slow=6.4,SNR=8.1
NOA LR LR 14 57 46.8
comp=Z,36nm,19.8s,baz=195,slow=36
KDJ Kajisay 67.91 310 P **P** **14 27 40.9 +0.6**
KDJ pmax pmax
comp=Z,4.0nm,1.1s
KDJ Kajisay 67.91 310 P **P** **14 27 40.9 +0.6**
KDJ IAmb IAmb 14 28 07.9
comp=Z,4.4nm,1.1s
TARG Taragay, Kyrgy 67.92 310 P **P** **14 27 41.3 +0.7**
HFS Hagfors 68.53 356 LR LR 14 57 00.2
comp=Z,34nm,21.4s,baz=336,slow=35
AAK Ala-Archa 68.78 312⇓*e*P **P** **14 27 46.6 +0.9**
AAK pmax pmax
comp=Z,6.0nm,2.5s
AAK Ala-Archa 68.78 312 P **P** **14 27 46.1 +0.4**
AAK IAmb IAmb 14 28 04.1
comp=Z,2.6nm,0.7s
VSU Vasula 69.03 348*de*P **P** **14 27 46.4 -0.3**
VSU pmax pmax
comp=Z,31nm,1.0s
AKTO Aktyubinsk 69.07 327 P **P** **14 27 47.6 +0.4**
comp=Z,2.5nm,0.7s,baz=51,slow=9.4,SNR=9.6
AKTO LR LR 15 01 34.7
comp=Z,114nm,18.8s,baz=33,slow=39
ABKAR Akbulak array 69.40 325 P **P** **14 27 49.5 +0.3**
ABKAR Akbulak array 69.40 325 PcP **PcP** **14 28 12.7 +0.4**
KKAR Karatay Array 70.21 315 P **P** **14 27 54.3 0.0**
KKAR Karatay Array 70.21 315 P **P** **14 27 54.3 0.0**
NIUE Niue 70.38 175 P **P** **14 27 56.9 +1.5**
DWPF Disney Wildern 70.39 69 P **P** **14 27 56.4 +0.8**
baz=319
KSH Kashi 70.51 309 P **P** **14 28 01.0 +4.7**
KSH pP sP 14 28 14.5 +2.4
KSH pmax pmax
comp=Z,7.0nm,1.0s
SHL Shillong 72.54 289 P **P** **14 28 08.9 +0.1**
SHL pmax pmax
comp=Z,13nm,0.9s
EKA Eskdalemuir Ar 73.30 5 LR LR 15 00 22.0
comp=Z,107nm,20.2s,baz=182,slow=36
RAR Rarotonga 73.55 166 LR LR 14 56 06.3
comp=Z,114nm,20.1s,baz=341,slow=32
TAPN Taplejung 73.62 293 *e*P **P** **14 28 16.1 +0.8**
CMAR Chiang Mai Arr 73.62 279 P **P** **14 28 15.7 +0.6**
comp=Z,0.9nm,0.6s,baz=28,slow=6.6,SNR=7.8
CMAR LR LR 15 05 32.0
comp=Z,47nm,18.1s,baz=55,slow=40

GUN	Gumba	74.24	295	*e*P	P	14 28 19.9	+0.9
JIRN	Jiri	74.25	295	*e*P	P	14 28 20.6	+1.5
CHGR	Chuyangaron	74.40	313	P	P	14 28 19.1	-0.3
RAMN	Ramite	74.56	294	*e*P	P	14 28 21.3	+0.5
	comp=Z,29nm,0.5s						
KKN	Kakani	74.67	295	*e*P	P	14 28 22.2	+0.9
PKI	Pulchoki	74.77	295	*e*P	P	14 28 22.4	+0.4
	comp=Z,34nm,1.0s						
PKIN	Phulchoki	74.77	295	*e*P	P	14 28 22.5	+0.5
GKN	Gorkha	74.87	296	*e*P	P	14 28 23.0	+0.6
DMN	Daman	74.91	295	*e*P	P	14 28 23.6	+0.8
	comp=Z,21nm,0.6s						
DANN	Dangsing	75.09	297	*e*P	P	14 28 24.6	+0.7
	comp=Z,83nm,0.9s						
KOLN	Koldanda	75.63	296	*e*P	P	14 28 27.1	+0.2
PYUN	Piuthan	75.72	297	*e*P	P	14 28 27.9	+0.5
	comp=Z,72nm,0.9s						
AKASG	Malin Array Be	76.19	345	P	P	14 28 29.4	0.0
	comp=Z,0.4nm,0.3s,baz=10,slow=5.7,SNR=4.7						
AKBB	Malin Array Si	76.19	345	*e*P	P	14 28 28.7	-0.7
NIL	Nilore	76.49	307	P	P	14 28 32.3	+0.8
NIL				pmax	pmax		
	comp=Z,19nm,0.9s						
NIL	Nilore	76.49	307	P	P	14 28 32.3	+0.8
CLL	Collm	77.37	355	*i* P	P	14 28 35.7	-0.3
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	Collm	77.37	355	*i* P	P	14 28 35.7	-0.3
	comp=Z,5.0nm,0.8s						
CLL				L	L	15 06 00.0	
	comp=Z,100nm,18.6s						
SBUM	Sibu	77.67	258	P	P	14 28 38.6	+0.4
SBUM				IAmb	IAmb	14 28 40.0	
	comp=Z,4.3nm,1.0s						
BRG	Berggiesshubel	77.75	354	*e*P	P	14 28 38.1	-0.1
BRG				Amp		14 28 39.8	
	comp=Z,3.8nm,0.8s						
BRG	Berggiesshubel	77.75	354	*e*P	P	14 28 38.0	-0.1
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBL	Kabul	77.81	311	P	P	14 28 38.4	-0.7
KBL				pmax	pmax		
	comp=Z,11nm,1.0s						
KBL	Kabul	77.81	311	P	P	14 28 38.4	-0.7
KBL				IAmb	IAmb	14 28 40.0	
	comp=Z,11nm,0.9s						
VRAC	Vranov	79.12	353	LR	LR	15 08 20.5	
	comp=Z,62nm,18.3s,baz=306,slow=39						
KHC	Kasperske Hory	79.51	355	P	P	14 28 48.6	+0.6
KHC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KHC	Kasperske Hory	79.51	355	P	P	14 28 48.6	+0.6
KHC				IAmb	IAmb	14 28 49.6	
	comp=Z,4.0nm,0.9s						
KSM	Kuching	79.61	259	P	P	14 28 48.9	0.0
KSM				IAmb	IAmb	14 28 50.6	
	comp=Z,8.0nm,1.0s						
GEYT	Alibeck	79.74	320	LR	LR	15 08 41.1	
	comp=Z,123nm,18.7s,baz=30,slow=39						
KBZ	Khabaz	79.75	333	LR	LR	15 10 17.5	
	comp=Z,56nm,18.1s,baz=22,slow=40						
GEC2	GERESS Array S	79.79	354	P	P	14 28 50.0	+0.4
GEC2				IAmb	IAmb	14 28 51.2	
	comp=Z,4.6nm,1.0s						
GERES	GERESS Array B	79.79	354	P	P	14 28 50.5	+1.0
	comp=Z,1.5nm,0.8s,baz=35,slow=5.6,SNR=8.5						
GERES				LR	LR	15 06 52.6	
	comp=Z,44nm,18.1s,baz=281,slow=38						
GERES	GERESS Array B	79.79	354	P	P	14 28 49.5	0.0
BUR08	Bucovina Ar. S	79.79	347	P	P	14 28 49.1	-0.5
BUR08				IAmb	IAmb	14 28 51.0	
	comp=Z,8.4nm,1.2s						
BURAR	Bucovina Array	79.82	347	P	P	14 28 49.1	-0.6
LDF	La Druitiere	80.18	4	*e*P	P	14 28 52.1	+0.6
LDF				pmax	pmax		
	comp=Z,11nm,0.8s						
RAO	Raoul Island	80.45	183	LR	LR	14 57 23.3	
	comp=Z,129nm,20.8s,baz=38,slow=30						
ECH	Echery	80.66	359	P	P	14 28 55.0	+0.8
ECH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ECH	Echery	80.66	359	P	P	14 28 55.0	+0.8
ECH				IAmb	IAmb	14 28 55.7	
	comp=Z,8.4nm,1.0s						
HRA	Herat	81.04	316	P	P	14 28 56.9	+0.2
HRA				IAmb	IAmb	14 28 58.2	
	comp=Z,9.3nm,1.0s						
MLR	Muntele Rosu	81.78	346	LR	LR	15 10 30.3	
	comp=Z,78nm,19.8s,baz=292,slow=40						
MLR	Muntele Rosu	81.78	346	P	P	14 29 00.6	+0.3
MLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MLR	Muntele Rosu	81.78	346	P	P	14 29 00.6	+0.3
MLR				IAmb	IAmb	14 29 02.7	
	comp=Z,4.0nm,0.9s						
SSF	Saint Saulge	81.81	1	*e*P	P	14 29 00.5	+0.3
SSF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DAVOX	Davos/Dischmat	82.03	357	LR	LR	15 02 58.6	
	comp=Z,108nm,21.9s,baz=262,slow=34						
MFF	Saint Martin d	82.16	4	*e*P	P	14 29 02.5	+0.4
MFF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TEOL	Teolo	83.37	356	P	P	14 29 08.3	-0.1
BNI	Bardonecchia	83.83	359	P	P	14 29 13.3	+2.4
BNI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BNI	Bardonecchia	83.83	359	P	P	14 29 13.3	+2.4
BNI				IAmb	IAmb	14 29 15.3	
	comp=Z,7.0nm,1.2s						
VTS	Vitosha	85.00	347	P	P	14 29 16.9	0.0
VTS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VTS	Vitosha	85.00	347	P	P	14 29 16.9	0.0
VTS				IAmb	IAmb	14 29 18.4	
	comp=Z,3.9nm,0.9s						
BRTR	Keskin Array B	85.87	339	P	P	14 29 21.4	0.0
	comp=Z,0.5nm,0.7s,baz=46,slow=3.6,SNR=4.1						
BRTR				LR	LR	15 11 51.3	
	comp=Z,71nm,21.4s,baz=258,slow=39						
BRTR	Keskin Array B	85.87	339	*ce*P	P	14 29 21.0	-0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	85.87	339	P	P	14 29 21.2	-0.1
HYBB	Hyderabad (bro	86.62	294	*e*P	P	14 29 26.9	+1.7
HYBB				*e*pP	pP	14 29 32.8	-2.9
FITZ	Fitzroy Crossi	86.67	235	LR	LR	15 04 24.3	
	comp=Z,70nm,21.1s,baz=196,slow=33						
SJG	San Juan	86.94	65	LR	LR	15 10 22.3	
	comp=Z,49nm,19.3s,baz=279,slow=37						
AS31	Alice Springs	87.42	226	P	P	14 29 27.7	-1.0
ASAR	Alice Springs	87.42	226	P	P	14 29 28.4	-0.4
	comp=Z,1.9nm,0.9s,baz=33,slow=4.5,SNR=14						
ASAR				LR	LR	15 02 56.6	
	comp=Z,55nm,20.8s,baz=182,slow=32						
ASAR	Alice Springs	87.42	226	P	P	14 29 27.6	-1.1
POO	Poona	88.37	298	*ex*	P	14 29 30.0	-3.6
ESDC	Sonseca Array	88.84	7	P	P	14 29 35.7	+0.2
	comp=Z,3.3nm,1.1s,baz=348,slow=4.3,SNR=11						
ESDC	Sonseca Array	88.84	7	P	P	14 29 35.5	0.0
ESDC				IAmb	IAmb	14 29 36.9	
	comp=Z,4.4nm,1.1s						
URZ	Urewera	89.68	187	LR	LR	15 06 57.1	
	comp=Z,84nm,18.3s,baz=31,slow=34						
STKA	Stephens Creek	91.52	216	LR	LR	15 07 59.4	
	comp=Z,103nm,21.5s,baz=48,slow=34						
RPZ	Rata Peaks	95.65	190	LR	LR	15 09 46.4	
	comp=Z,93nm,18.6s,baz=278,slow=33						
H03N2	Juan Fernandez	118.65	109	T	T	16 45 46.3	
	baz=317,slow=77,SNR=10.0						
H03N1	Juan Fernandez	118.66	109	T	T	16 45 47.2	
	baz=317,slow=77,SNR=11						
H03N3	Juan Fernandez	118.67	109	T	T	16 45 44.2	
	baz=317,slow=77,SNR=9.5						
H03S1	Juan Fernandez	118.95	109	T	T	16 45 42.4	
	SNR=10						
BOSA	Boshof	152.74	319	PKPbc	PKPbc	14 36 38.4	+0.3
	comp=Z,4.8nm,1.0s,baz=102,slow=5.7,SNR=4.3						

IDC ***25*** *14:23:09.2±2.9,21°.10S×177°.06W,h365km±27km, mb3.1/4, mb1 3.5/5, mb1mx3.1/39, mbtmp3.9/5, Error ellipse: s-maj=28.0km s-min=26.3km az=123.0*

ISC 25 t 14:23:08.2±1.0, 21°.2S±0'.2×177°.1W±0'.2, h350km, n8, σt§62/8, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.77	306	P	P	Pn	14 24 36.9	+0.4
	5.4nm,0.3s,baz=287,slow=21,SNR=19							
ASAR	Alice Springs	45.22	257	P	P		14 30 52.9	+0.8
	2.4nm,0.6s,baz=92,slow=8.3,SNR=63							
WRA	Warramunga Arr	45.38	263	P	P		14 30 52.6	-0.7
	0.8nm,0.3s,baz=97,slow=6.9,SNR=26							
VNDA	Vanda	57.28	185	P	P		14 32 19.9	0.0
	0.6nm,0.5s,baz=5.1,slow=3.8,SNR=10							
TXAR	Lajitas Array	86.70	57	P	P		14 35 14.6	+1.0
	0.1nm,0.5s,baz=128,slow=42,SNR=2.0							
ARCES	ARCESS Array B	129.77	350	PKP	PKPdf		14 41 33.7	-1.8
	0.5nm,0.5s,baz=344,slow=4.0,SNR=7.3							
BRTR	Keskin Array B	147.97	312	PKPbc	PKPdf		14 42 11.1	+1.7
	0.6nm,0.6s,baz=143,slow=4.1,SNR=2.6							
GERES	GERESS Array B	151.12	345	PKPbc	PKPbc		14 42 18.1	-2.2
	0.2nm,0.2s,baz=94,slow=1.9,SNR=4.0							

IDC ***25*** *14:34:02.0±0.7,51°.50N×174°.56W, h0km, mb4.0/25, mb1 4.2/28, mb1mx4.1/57, mbtmp4.1/28, ML3.9/3, MS3.2/6, Ms1 3.2/6, ms1mx2.8/98, Error ellipse: s-maj=21.0km s-min=12.2km az=163.0*

AEIC ***25*** *14:34:07.2±1.8,51°.44N±0°.06×174°.59W±0°.08, h26km±4km, ML3.9/23, mb4.3/101(NEIC), Error ellipse: s-maj=10.5km s-min=5.3km az=145.0*

NEIC ***25*** *14:34:08.4±1.4,51°.51N±0°.07×174°.60W±0°.08, h44km±6km, Error ellipse: s-maj=11.4km s-min=5.4km az=150.0*

ISC 25 t 14:34:07.6±0.5, 51°.45N±0°.08×174°.54W±0°.04, h38km, n172, σ0§87/167, mb4.2/40, MS3.2/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.78	16			Pn	14 34 21.8	-0.3
ATKA						Sn	14 34 33.5	+0.9
KOFP	Korovin Flat P	0.87	18			Pn	14 34 23.7	+0.3
KOKL	Mount Kliuchef	0.90	14			Pn	14 34 24.0	+0.2
GSTR	Great Sitkin T	1.14	305			Pn	14 34 27.1	+0.1
GSTD	Great Sitkin T	1.17	302			Pn	14 34 27.1	-0.3
ADAG	Mount Adagdak	1.39	293			Pn	14 34 31.0	+0.6
ADK	Adak	1.40	289			Pn	14 34 30.1	-0.5
ADK						Sn	14 34 48.5	+0.7
KIWB	Kanaga Island	1.67	285			Pn	14 34 34.2	-0.1
KIKV	Kanaga Island	1.69	286			Pn	14 34 34.6	0.0
KIMD	Kanaga Island	1.71	282			Pn	14 34 34.4	-0.3
KIMD						Sn	14 34 55.9	+0.5
KICM	Kanaga Island	1.72	287			Pn	14 34 35.3	+0.4
TAPA	Tanaga Point A	2.07	281			Pn	14 34 40.1	+0.2
TAFP	Tanaga Falls P	2.19	283			Pn	14 34 42.0	+0.6
TAFP						Sn	14 35 08.9	+1.7
TASE	Tanaga Southea	2.21	281			Pn	14 34 42.4	+0.6
GAEA	Gareloi East	2.64	279			Pn	14 34 48.3	+0.7
GALAA	Gareloi Lava P	2.66	278			Pn	14 34 48.5	+0.7
NIKH	Nikolski High	3.82	64			Pn	14 35 05.1	+1.3
UNV	Unalaska Valle	5.45	61			Pn	14 35 27.0	+0.9
OHAK	Old Harbor	13.65	57	Pn	Pn	Pn	14 37 17.1	-1.3
KDAK	Kodiak Island	14.18	55	Pn	Pn	Pn	14 37 24.3	-1.2
	1.1nm,0.3s,baz=282,slow=8.2,SNR=7.5							
L19K	White Mountain	15.15	37	P	P		14 37 43.4	+0.2
L19K				IAmb	IAmb		14 37 55.0	
	comp=Z,11nm,1.1s							
M19K	Big River Lodg	15.16	39	P	P		14 37 42.4	-0.9
M19K				IAmb	IAmb		14 38 09.4	
	comp=Z,18nm,1.4s							
TTA	Tatalina	15.19	34	P	P		14 37 42.8	-1.0
CNPM	China Poot	15.42	49	Pn	Pn		14 37 40.8	-1.3
CNPM				IAmb	IAmb		14 37 45.4	
	comp=Z,28nm,1.1s							
BRLK	Bradley Lake	15.67	49	Pn	Pn		14 37 44.5	-0.8
BRLK				IAmb	IAmb		14 37 57.5	
	comp=Z,35nm,1.2s							
K20K	Telida	16.15	35	Pn	Pn		14 37 52.3	+0.9
PET	Petropavlovsk	16.46	286	P	Pn		14 37 58.4	+3.0
PET				IAmb	IAmb		14 38 23.9	
	comp=Z,21nm,1.3s							
SEW	Seward	16.47	49	Pn	Pn		14 37 53.1	-2.3
SEW				IAmb	IAmb		14 38 16.8	
	comp=Z,82nm,1.4s							
J20K	Nowinta River	16.64	32	P	Pn		14 37 59.6	+1.9
CAST	Castle Rocks	16.90	36	P	P		14 38 03.0	+0.4
PEA0B	Petropavlovsk-	17.03	286	P	Pn		14 38 04.2	+1.7
PEA0B				IAmb	IAmb		14 38 22.4	
	comp=Z,18nm,1.1s							
PETK	Petropavlovsk-	17.03	286	Pn	Pn		14 38 01.8	-0.8
	comp=Z,0.4nm,0.3s,baz=113,slow=13,SNR=14							
GHO	Glory Hole Cre	17.35	44	Pn	Pn		14 38 05.6	-1.0
GHO				IAmb	IAmb		14 38 15.6	
	comp=Z,25nm,1.2s							
KNK	Knik Glacier	17.41	45	Pn	Pn		14 38 06.6	-0.7
KNK				IAmb	IAmb		14 38 13.7	
	comp=Z,42nm,1.5s							
KTH	Kantishna Hill	17.41	37	P	P		14 38 09.6	+1.3
SML	Sawmill	17.62	44	Pn	Pn		14 38 08.6	-1.4
BPAW	Bear Paw Mtn.	17.69	35	Pn	Pn		14 38 10.8	+0.1
GLI	Glacier Island	17.83	47		Pn		14 38 13.4	+0.9
GLI				IAmb	IAmb		14 38 32.7	
	comp=Z,43nm,1.4s							
IMAR	Indian Mountai	17.99	28		P		14 38 15.7	+1.2
H21K	Melozitna Rive	18.05	30	P	Pn		14 38 15.6	+0.5
SCM	Sheep Creek Mo	18.07	44	P	Pn		14 38 14.6	-0.8
SCM				IAmb	IAmb		14 38 20.6	
	comp=Z,17nm,1.0s							
FID	Port Fidalgo	18.07	48	Pn	Pn		14 38 12.5	-2.9
FID				IAmb	IAmb		14 38 17.6	
	comp=Z,64nm,1.3s							
RND	Reindeer	18.13	39	P	Pn		14 38 15.4	-0.8
BWN	Browne	18.29	36	P	P		14 38 18.2	+0.4
BWN				IAmb	IAmb		14 38 42.6	
	comp=Z,17nm,0.9s							
DHY	Denali Highway	18.57	41	P	P		14 38 20.0	-1.1
DHY				IAmb	IAmb		14 38 20.2	
	comp=Z,18nm,1.4s							
KLU	Klutina	18.57	46	P	P		14 38 19.8	-1.3
M24K	Tolsona, Glenn	18.68	44	P	P		14 38 22.6	+0.4
M24K				IAmb	IAmb		14 38 31.3	
	comp=Z,70nm,1.5s							
I23K	Minto, Yukon-K	18.87	34	P	P		14 38 24.7	+0.5
BMRM	Bremner River	19.01	48	P	P		14 38 25.8	-0.1
BMRM				IAmb	IAmb		14 38 46.4	
	comp=Z,11nm,1.0s							
BILL	Bilibino	19.08	338		P		14 38 26.3	-0.3
BILL				IAmb	IAmb		14 38 33.5	
	comp=Z,21nm,1.4s							
MDM	Murphy Dome	19.16	35	P	P		14 38 27.7	+0.2
N25K	Chitina, Valde	19.21	46	P	P		14 38 27.9	-0.2
BERG	Berg Lake	19.29	50	P	P		14 38 29.3	+0.5
PAX	Paxson	19.31	42	P	P		14 38 29.3	+0.1
GLB	Gilahina Butte	19.52	47	P	P		14 38 32.1	+0.7
GLB				IAmb	IAmb		14 38 55.6	
	comp=Z,12nm,1.3s							
IL31		19.56	36	P	P		14 38 31.7	0.0
ILAR	Eielson Array	19.56	36	P	P		14 38 31.0	-0.8
	comp=Z,0.8nm,0.3s,baz=222,slow=8.1,SNR=38							
ILAR	Eielson Array	19.56	36	P	P		14 38 31.0	-0.8
VRDI	Verde Repeater	19.62	48	P	P		14 38 33.9	+1.1
VRDI				IAmb	IAmb		14 38 41.5	
	comp=Z,17nm,1.2s							
WAX	Waxell Ridge	19.71	51	P	P		14 38 33.3	-0.3
WAX				IAmb	IAmb		14 38 35.5	
	comp=Z,24nm,1.1s							
H24K	Noodor Dome	19.77	33	P	P		14 38 34.5	+0.4
H24K				IAmb	IAmb		14 38 56.7	
	comp=Z,14nm,1.4s							
MCARA	McCarthy VSAT	19.87	48	P	P		14 38 35.9	+0.8
MCARA				IAmb	IAmb		14 38 36.6	
	comp=Z,18nm,1.2s							
RIDG	Independent Ri	19.88	40	P	P		14 38 35.1	-0.3
RIDG				IAmb	IAmb		14 38 49.0	
	comp=Z,16nm,1.3s							
ISLE	Juniper Island	20.00	50	P	P		14 38 37.0	+0.2
ISLE				IAmb	IAmb		14 38 47.2	
	comp=Z,25nm,1.2s							
J25K	Salcha River,	20.06	38	P	P		14 38 36.2	-1.0
J25K				IAmb	IAmb		14 38 42.0	
	comp=Z,14nm,0.6s							
M26K	Nabesna, AK	20.18	45	P	P		14 38 38.9	+0.3
M26K				IAmb	IAmb		14 38 55.1	
	comp=Z,14nm,1.4s							
L26K	Log Cabin Wild	20.23	43	P	P		14 38 39.9	+0.8
L26K				IAmb	IAmb		14 38 56.8	
	comp=Z,5.2nm,0.6s							
GRNC	Granite Creek	20.31	50	P	P		14 38 41.5	+1.3
GRNC				IAmb	IAmb		14 38 46.7	
	comp=Z,25nm,1.3s							
SCRK	Sand Creek	20.33	40	P	P		14 38 39.0	-1.3
SCRK				IAmb	IAmb		14 38 40.8	
	comp=Z,9.8nm,0.6s							
M27K	Edge Creek, AK	20.66	46	P	P		14 38 43.4	-0.5
M27K				IAmb	IAmb		14 39 10.7	
	comp=Z,6.0nm,0.8s							
LOGN	Logan Glacier	20.69	50	P	P		14 38 44.3	+0.1
LOGN				IAmb	IAmb		14 39 08.8	
	comp=Z,18nm,1.2s							
L27K	Beaver Creek,	20.90	44	P	P		14 38 45.7	-0.6
BCAR	Beaver Creek A	20.92	44	P	P		14 38 46.2	-0.3
TOLK	Toolik Lake Re	21.00	26	P	P		14 38 47.9	+0.5
TOLK				IAmb	IAmb		14 38 57.4	
	comp=Z,7.9nm,0.8s							
SEY	Seymchan	21.01	316	P	P		14 38 47.4	-0.1
	comp=Z,4.8nm,0.8s,baz=124,slow=6.8,SNR=11							
MA2	Magadan	21.04	306	LR	LR		14 47 08.9	
	comp=Z,50nm,18.5s,baz=102,slow=38							
A21K	Barrow	21.53	16	P	P		14 38 53.1	+0.2
BMAR	Burnt Mountain	21.75	31	P	P		14 38 57.0	+1.6
EGAK	Eagle	21.77	39	P	P		14 38 55.7	+0.1
EGAK				IAmb	IAmb		14 38 58.2	
	comp=Z,11nm,0.7s							
DAWY	Dawson	22.25	42	P	P		14 39 00.6	-0.2
DAWY				IAmb	IAmb		14 39 02.7	
	comp=Z,11nm,1.4s							
HYT	Haines Junctio	22.38	51	P	P		14 39 02.9	+0.6
I29M	Ogilvie Camp,	23.11	39	P	P		14 39 09.1	-0.7
I29M				IAmb	IAmb		14 39 32.8	
	comp=Z,5.7nm,0.9s							
DIB	Dawson Inlet,	25.50	69	P	P		14 39 32.1	0.0
INK	Inuvik	25.89	34	P	P		14 39 35.3	-0.1
	comp=Z,1.8nm,0.7s,baz=260,slow=7.3,SNR=8.6							
INK	Inuvik	25.89	34	P	P		14 39 34.9	-0.5
DLBC	Dease Lake	26.09	57	P	P		14 39 40.1	+2.7
	comp=Z,1.0nm,0.5s,baz=239,slow=3.0,SNR=5.1							
DLBC	Dease Lake	26.09	57	P	P		14 39 38.8	+1.3
DLBC				IAmb	IAmb		14 39 43.2	
	comp=Z,3.9nm,0.8s							
YKA	Yellowknife Ar	33.24	47	P	P		14 40 40.2	-0.4
	comp=Z,0.1nm,0.3s,baz=270,slow=8.7,SNR=4.7							
YKA				PcP	PcP		14 43 22.3	+0.1
	comp=Z,0.2nm,0.5s,baz=281,slow=3.2,SNR=6.5							
YKA	Yellowknife Ar	33.24	47	P	P		14 40 39.6	-1.0
KLR	Kul'dur	33.71	288	P	P		14 40 44.4	-0.5
	comp=Z,4.5nm,0.5s,baz=76,slow=6.0,SNR=28							
KLR				LR	LR		14 53 07.4	
	comp=Z,44nm,22.0s,baz=80,slow=34							
H11N2	WAKE ISLAND Hy	34.86	212	T	T		15 18 02.7	
	baz=18,slow=76,SNR=36							
H11N3	WAKE ISLAND Hy	34.87	212	T	T		15 18 03.4	
	baz=18,slow=76,SNR=77							
H11N1	WAKE ISLAND Hy	34.88	212	T	T		15 18 04.2	
	baz=18,slow=76,SNR=78							
USA0B	Ussuriysk Arra	35.92	280	P	P		14 41 03.9	-0.1
USRK	Ussuriysk Ar.	35.92	280	P	P		14 41 03.8	-0.2
	comp=Z,4.9nm,0.6s,baz=49,slow=9.6,SNR=13							
H11S1	WAKE ISLAND Hy	36.06	211	T	T		15 19 32.2	
	baz=16,slow=74							
H11S2	WAKE ISLAND Hy	36.08	211	T	T		15 19 41.3	
	baz=16,slow=74							
H11S3	WAKE ISLAND Hy	36.08	211	T	T		15 19 44.5	
	baz=16,SNR=6.6							
MJAR	Matsushiro Arr	36.44	265	LR	LR		14 54 38.0	
	comp=Z,38nm,19.9s,baz=63,slow=34							
JGF	Kuroka	37.57	264	P	P		14 41 18.9	+0.8
JGF				IAmb	IAmb		14 41 34.2	
	comp=Z,9.5nm,1.1s							
JHJ	Hachijo jima 2	37.71	259	LR	LR		14 54 51.3	
	comp=Z,33nm,21.9s,baz=306,slow=33							
EUNU	Eureka	39.49	16	P	P		14 41 34.7	+0.9
MCMT	McKenzie Canyo	40.61	74	P	P		14 41 43.9	+0.2
YMR	Madison River	41.83	73	P	P		14 41 53.9	+0.2
YMR				IAmb	IAmb		14 42 12.9	
	comp=Z,5.3nm,1.3s							
YHH	Holmes Hill	41.83	73	P	P		14 41 54.1	+0.3
YHH				IAmb	IAmb		14 42 16.9	
	comp=Z,7.7nm,1.3s							
KSRS	Korea Array	42.30	274	P	P		14 41 58.1	+0.8
	comp=Z,1.9nm,0.9s,baz=52,slow=8.4,SNR=7.3							
BW06	Boulder Array	43.73	75	P	P		14 42 08.9	-0.3
BW06				IAmb	IAmb		14 42 11.0	
	comp=Z,8.7nm,1.5s							
PD31	Pinedale Array	43.73	75	P	P		14 42 08.6	-0.5
PDAR	Pinedale Array	43.73	75	P	P		14 42 09.8	+0.7
	comp=Z,1.2nm,0.6s,baz=305,slow=2.7,SNR=14							
PDAR	Pinedale Array	43.73	75	P	P		14 42 09.2	0.0
FCC	Fort Churchill	43.96	48	P	P		14 42 10.5	0.0
FCC				IAmb	IAmb		14 42 38.2	
	comp=Z,3.2nm,1.1s							
ULM	Lac du Bonnet	47.39	59	P	P		14 42 37.6	0.0
	comp=Z,2.7nm,0.5s,baz=330,slow=6.9,SNR=3.4							
ULM	Lac du Bonnet	47.39	59	P	P		14 42 37.7	0.0
ULM				IAmb	IAmb		14 42 38.9	
	comp=Z,9.5nm,1.4s							
SONM	Songino Array	48.97	299	P	P		14 42 49.5	-0.6
	comp=Z,0.9nm,0.8s,baz=43,slow=8.8,SNR=4.1							
SONM				PcP	PcP		14 44 13.4	-0.3
	comp=Z,1.1nm,0.7s,baz=46,slow=3.5,SNR=5.0							
SONM	Songino Array	48.97	299	IAmb	IAmb		14 42 50.9	
	comp=Z,1.1nm,0.9

KK31	**Karatay Array**	**70.26 315**	P	**P**	**14 45 16.3**	**-0.3**
KK31			IAmb	IAmb	14 45 17.2	
	comp=Z,3.1nm,1.1s					
KKAR	**Karatay Array**	**70.26 315**	P	**P**	**14 45 16.2**	**-0.4**
CMIG	**Matias Romero**	**70.41 87**	LR	LR	15 15 41.9	
	comp=Z,16nm,19.1s,baz=236,slow=36					
MYLDM	**Lahad Datu**	**71.71 255**	P	**P**	**14 45 25.8**	**+0.1**
MYLDM			IAmb	IAmb	14 45 48.7	
	comp=Z,6.4nm,0.9s					
PABE	**Paberze**	**72.31 349**	P	**P**	**14 45 28.0**	**-0.7**
GAR	**Garm**	**73.64 313**	P	**P**	**14 45 37.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**73.65 279**	P	**P**	**14 45 37.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=30,slow=7.7,SNR=4.8					
AKASG	**Malin Array Be**	**76.24 345**	P	**P**	**14 45 50.6**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=18,slow=6.4,SNR=4.7					
MTN	**Manton Dam**	**79.42 234**	P	**P**	**14 46 09.4**	**-0.3**
GERES	**GERESS Array B**	**79.83 354**	P	**P**	**14 46 11.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=348,slow=11,SNR=4.0					
WB0	**Warramunga Arr**	**83.79 227**	P	**P**	**14 46 31.7**	**-1.1**
WB2	**Warramunga Arr**	**83.97 227**	P	**P**	**14 46 32.0**	**-1.7**
WRA	**Warramunga Arr**	**83.97 227**	P	**P**	**14 46 32.9**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=32,slow=5.7,SNR=2.4					
WRA	**Warramunga Arr**	**83.97 227**	P	**P**	**14 46 32.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**86.65 235**	P	**P**	**14 46 46.8**	**-0.3**
AS31	**Alice Springs**	**87.40 226**	P	**P**	**14 46 50.4**	**-0.2**
ASAR	**Alice Springs**	**87.40 226**	P	**P**	**14 46 50.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=21,slow=5.1,SNR=16					
ESDC	**Sonseca Array**	**88.88 7**	P	**P**	**14 46 57.7**	**0.0**
	comp=Z,1.2nm,1.0s,baz=340,slow=4.7,SNR=5.3					
H03N2	**Juan Fernandez**	**118.62 109**	T	T	17 03 31.7	
	baz=317,slow=78,SNR=3.9					
H03N1	**Juan Fernandez**	**118.63 109**	T	T	17 03 49.0	
	baz=317,slow=78,SNR=5.4					
H03N3	**Juan Fernandez**	**118.64 109**	T	T	17 03 48.0	
	baz=317,slow=78,SNR=4.2					
BOSA	**Boshof**	**152.78 319**	PKPbc	**PKPbc**	**14 54 00.5**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=28,slow=2.5,SNR=5.4					
BOSA			PKPab	**sPKPdf**	**14 54 11.5**	**+3.8**
	comp=Z,2.5nm,0.5s,baz=18,slow=3.7,SNR=5.3					

*BJI **25** 14:34:54.6±0.0,23.25N×122.35E,h7km,mb3.7/6, mB4.5/5,ML3.9/3,Ms4.1/5,Ms7 4.1/5*
*IDC **25** 14:35:01.2±1.2,23.46N×121.74E,h0km,mb3.6/8, mb1 3.8/9,mb1mx3.6/44,mbtmp3.6/9,ML3.6/1,MS3.3/3, Ms1 3.4/3,ms1mx2.7/74,Error ellipse: s-maj=27.9km s-min=23.6km az=179.0*
*JMA **25** 14:35:04.8±0.4,23.95N×121.61E,h0km,M3.5*
*NIED **25** 14:35:04.8,23.95N×121.61E,h0km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-0.41; Mθθ-0.47; Mϕϕ0.88; Mrθ2.50; Mθϕ-0.11; Mϕr0.08; Fault plane solution: M₀2.50000×10¹⁵ NP1: ϕs189.00000°,δ2.00000°,λ10.00000°. NP2:ϕs89.00000°, δ90.00000°,λ92.00000°.*
*ASIES **25** 14:35:05.3,23.99N×121.60E,h16km,MW3.8*
*TAP **25** 14:35:05.5,23.95N×121.63E,h10km,ML4.2,C*
ISC 25 14:35:04.4±1.0,23.89N±0.01×121.70E±0.02,h4km±7km, n161,σ1ᵖ08/214,mb3.5/8,MS3.3/3,5C-34D,Taiwan

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op		ISC h m s	ISC
HWA	**Hwalien**	**0.12 314**	⇑*i*P	**Pg**	**14 35 07.7**	**+0.7**
HWA	baz=327		*i* S	**Sg**	**14 35 09.7**	**+1.0**
TWD	**Chiawan**	**0.21 333**	⇓*i*P	**Pg**	**14 35 08.8**	**+0.1**
TWD	baz=350		*i* S	**Sg**	**14 35 11.0**	**-0.4**
ESL	**Shilin**	**0.26 253**	⇓*i*P	**Pg**	**14 35 10.4**	**+1.0**
ESL	baz=237		*i* S	**Sg**	**14 35 13.7**	**+0.9**
ETL	**Fush Village**	**0.28 345**	⇓*i*P	**Pg**	**14 35 10.1**	**+0.2**
ETL	baz=358		S	**Sg**	**14 35 13.0**	**-0.5**
NACB	**Ninganchiao**	**0.30 341**	⇓*i*P	**Pg**	**14 35 10.3**	**0.0**
NACB	baz=351		*i* S	**Sg**	**14 35 13.5**	**-0.7**
EGFH	**Guangfu**	**0.34 229**	P	**Pb**	**14 35 13.0**	**0.0**
EGFH	baz=220		S	**Sb**	**14 35 17.8**	**-0.9**
ETLH	**Xiulin Townshi**	**0.37 327**	⇓*i*P	**Pg**	**14 35 11.6**	**-0.1**
ETLH	baz=332		S	**Sg**	**14 35 15.7**	**-1.0**
HGSD	**Ruisui**	**0.47 213**	*e*P	**Pn**	**14 35 16.5**	**-1.4**
WHF	**Hehuan Shan**	**0.47 302**	⇓*i*P	**Pg**	**14 35 13.4**	**-0.3**
WHF	baz=301		*i* S	**Sg**	**14 35 19.3**	**-0.6**
OWD	**Renai**	**0.49 278**	⇓*i*P	**Pg**	**14 35 14.1**	**+0.3**
OWD	baz=281		S	**Sg**	**14 35 19.8**	**-0.4**
CHGB	**Renai**	**0.51 289**	⇓*i*P	**Pg**	**14 35 14.5**	**+0.2**
CHGB	baz=286		S	**Sg**	**14 35 19.9**	**-1.1**
EHY	**Hungye**	**0.52 222**	⇓*i*P	**Pb**	**14 35 16.2**	**+0.1**
EHY	baz=218		S	**Sb**	**14 35 23.0**	**-0.9**
VWDT	**VWDT**	**0.53 255**	⇓*i*P	**Pb**	**14 35 15.8**	**-0.5**
VWDT	baz=248		*i* S	**Sg**	**14 35 22.3**	**+0.7**
ENA	**Nanau**	**0.54 4**	⇓*i*P	**Pg**	**14 35 15.3**	**+0.5**
ENA	baz=12		S	**Sg**	**14 35 21.9**	**+0.1**
WUSB	**Renai**	**0.55 281**	⇓*i*P	**Pg**	**14 35 15.4**	**+0.4**
WUSB	baz=285		S	**Sg**	**14 35 21.8**	**-0.2**
EWUT	**Wuta**	**0.56 7**	⇓P	**Pg**	**14 35 15.7**	**+0.6**
TWT	**Tachien**	**0.60 307**	⇓*i*P	**Pg**	**14 35 16.3**	**+0.3**
TWT	baz=314		S	**Sg**	**14 35 24.2**	**+0.3**
NNSB	**Datong**	**0.61 331**	⇓*i*P	**Pg**	**14 35 16.2**	**0.0**
NNSB	baz=335		*i* S	**Sg**	**14 35 23.1**	**-1.0**
YULB	**Yu-li**	**0.62 217**	P	**Pb**	**14 35 18.1**	**+0.3**
YULB	baz=219		*e*S	**Sb**	**14 35 26.1**	**-0.8**
NNS	**Nan Shan**	**0.62 331**	⇓*i*P	**Pg**	**14 35 16.5**	**0.0**
NNS	baz=335		S	**Sg**	**14 35 23.6**	**-1.0**
EYUL	**Yuli**	**0.65 213**	*e*P	**Pn**	**14 35 19.3**	**-1.0**
TWF1	**Yuli**	**0.65 215**	P	**Pn**	**14 35 19.6**	**-0.8**
LATG	**Datong**	**0.66 346**	⇓*i*P	**Pg**	**14 35 17.2**	**0.0**
LATG	baz=351		S	**Sg**	**14 35 24.9**	**-0.9**
SSLB	**Suanglung**	**0.69 262**	⇓*i*P	**Pb**	**14 35 18.4**	**-0.7**
SSLB	baz=266		*e*S	**Sb**	**14 35 25.9**	**-0.8**
TWC	**Suao**	**0.73 11**	P	**Pg**	**14 35 19.1**	**+0.6**
TWC	baz=9.0		S	**Sg**	**14 35 29.2**	**+1.3**
NDT	**Datong Townshi**	**0.73 346**	⇓*i*P	**Pg**	**14 35 18.7**	**+0.2**
NDT	baz=351		S	**Sg**	**14 35 27.4**	**-0.6**
SMLT	**Sun Moon Lake**	**0.73 270**	⇓*i*P	**Pb**	**14 35 19.3**	**-0.5**
SMLT	baz=274		S	**Sg**	**14 35 28.2**	**+0.1**
NDS	**Dongshan**	**0.74 1**	P	**Pg**	**14 35 19.1**	**+0.5**
NDS	baz=6.0		S	**Sg**	**14 35 28.9**	**+0.6**
WCS	**Beigang Elemen**	**0.74 283**	⇓P	**Pg**	**14 35 19.1**	**+0.4**
ENTT	**Nioudou**	**0.76 351**	⇓*i*P	**Pg**	**14 35 19.3**	**+0.3**
ENTT	baz=356		*e*S	**Sg**	**14 35 29.7**	**+0.8**
FULB	**Fuli**	**0.78 209**	*e*P	**Pn**	**14 35 22.6**	**+0.3**
WHP	**Taichung City**	**0.79 299**	⇓*i*P	**Pg**	**14 35 20.0**	**+0.4**
WHP	baz=290		S	**Sg**	**14 35 30.2**	**+0.3**
TWE	**Neicheng**	**0.83 358**	⇓*i*P	**Pg**	**14 35 20.8**	**+0.5**
TWE	baz=3.0		*i* S	**Sg**	**14 35 31.0**	**-0.1**
YHNB	**Yeheng**	**0.83 339**	⇓*i*P	**Pg**	**14 35 20.6**	**+0.2**
YHNB	baz=342		*i* S	**Sg**	**14 35 30.3**	**-0.9**
NSK	**Sanguang**	**0.84 338**	⇓P	**Pg**	**14 35 20.8**	**+0.1**
NSK	baz=342		S	**Sg**	**14 35 31.1**	**-0.5**
CHKT	**Chengkung**	**0.85 202**	*e*P	**Pn**	**14 35 23.1**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.87 353**	⇓*i*P	**Pg**	**14 35 21.6**	**+0.4**
FUSB	baz=357		S	**Sg**	**14 35 32.2**	**-0.3**
ILA	**Ilan**	**0.87 3**	P	**Pb**	**14 35 22.1**	**0.0**
WJS	**Zhushan**	**0.90 266**	*e*P	**Pn**	**14 35 23.0**	**-0.7**
WJS	baz=268		*e*S	**Sb**	**14 35 35.0**	**+0.3**
NWLT	**Wulai**	**0.90 348**	P	**Pg**	**14 35 22.0**	**+0.3**
NWLT	baz=352		S	**Sg**	**14 35 32.7**	**-0.8**
ALS	**Alishan**	**0.91 245**	⇓*i*P	**Pn**	**14 35 23.2**	**-1.0**
NFF	**Wufeng Townshi**	**0.91 324**	P	**Pg**	**14 35 22.2**	**+0.2**
NFF	baz=326		S	**Sg**	**14 35 33.2**	**-0.6**
WWF	**Wufeng**	**0.93 280**	*e*P	**Pg**	**14 35 22.6**	**+0.2**
WWF	baz=283		*e*S	**Sb**	**14 35 35.8**	**0.0**
WNT	**Mingjian**	**0.93 269**	⇑*i*P	**Pn**	**14 35 24.1**	**-0.2**
WNT	baz=272		S	**Sb**	**14 35 35.5**	**-0.3**
ELDTW	**Lidau**	**0.94 222**	*e*P	**Pb**	**14 35 23.4**	**0.0**
TWQ1	**Liyutan**	**0.96 298**	⇓P	**Pb**	**14 35 23.5**	**-0.2**
TWQ1	baz=298		*e*S	**Sb**	**14 35 37.3**	**+0.5**
NTC	**Toucheng**	**0.97 7**	*e*P	**Pb**	**14 35 23.6**	**-0.2**
EGS	baz=2.0	**0.97 12**	*e*P	**Pn**	**14 35 24.6**	**-0.3**
TCU	baz=18	**0.97 285**	*e*P	**Pn**	**14 35 24.4**	**-0.4**
TCU	**Taichung** baz=279		*e*S	**Sb**	**14 35 37.7**	**+0.7**
NSTT	**Nanjuang**	**0.98 319**	⇓P	**Pg**	**14 35 23.5**	**+0.3**
NSTT	baz=321		S	**Sg**	**14 35 35.2**	**-0.7**
LIOB	**Emei**	**0.98 320**	*e*P	**Pg**	**14 35 22.9**	**-0.4**
CHN5	**Tsauling**	**0.98 253**	⇓*i*P	**Pn**	**14 35 25.0**	**0.0**
CHN5	baz=237		*e*S	**Sn**	**14 35 38.7**	**-0.7**
EDH	**Donghe**	**0.98 202**	*e*P	**Pn**	**14 35 25.7**	**+0.7**
NSY	baz=210 **Sanyi**	**1.01 302**	*e*P	**Pn**	**14 35 25.0**	**-0.4**
NSY	baz=313		*e*S	**Sb**	**14 35 37.6**	**-0.4**
NMLH	**Miaoli**	**1.05 308**	*e*P	**Pn**	**14 35 26.0**	**0.0**
WCHH	**Zhanghua**	**1.06 280**	*e*P	**Pn**	**14 35 26.4**	**+0.3**
WDJ	baz=277 **Dajia District**	**1.07 295**	*e*P	**Pn**	**14 35 27.0**	**+0.7**
WDJ	baz=295		*e*S	**Sn**	**14 35 41.0**	**-0.5**
NHDH	**Xindian Distri**	**1.08 351**	*e*P	**Pb**	**14 35 25.7**	**+0.1**
NHDH	baz=346		*e*S	**Sg**	**14 35 38.6**	**-0.6**
HSN1	**Hsinchu**	**1.08 325**	*e*P	**Pg**	**14 35 24.6**	**-0.6**
HSN1	baz=327		*e*S	**Sg**	**14 35 38.1**	**-1.1**
TIPB	**Shuangxi**	**1.08 6**	P	**Pb**	**14 35 25.8**	**0.0**
WDLH	baz=357 **Douliu**	**1.08 260**	*e*P	**Pn**	**14 35 27.2**	**+0.8**
TWA	baz=255 **Mucha**	**1.09 354**	P	**Pb**	**14 35 26.1**	**+0.2**
TWA	baz=349		S	**Sg**	**14 35 39.2**	**-0.3**
SBCB	**Hsinchu**	**1.11 324**	⇓P	**Pn**	**14 35 27.0**	**+0.2**
SBCB	baz=326		S	**Sb**	**14 35 41.2**	**+0.2**
LONT	**Longtian**	**1.11 208**	*e*P	**Pn**	**14 35 27.4**	**+0.7**
STYH	baz=201 **Taoyuan**	**1.11 230**	*e*P	**Pn**	**14 35 27.2**	**+0.5**
HSN	baz=210 **Hsinchu**	**1.13 324**	*e*P	**Pn**	**14 35 27.3**	**+0.3**
HSN	baz=328		*e*S	**Sn**	**14 35 42.4**	**-0.5**
STYT	baz=328 **Tauyuan**	**1.13 230**	P	**Pn**	**14 35 27.7**	**+0.6**
STYT	baz=224		*e*S	**Sn**	**14 35 43.9**	**+0.9**
TWB1	**Santiao Chiao**	**1.14 13**	*e*P	**Pn**	**14 35 27.1**	**-0.1**
TWB1	baz=10.0		*e*S	**Sg**	**14 35 41.0**	**-0.2**
TPUB	**Ta-pu**	**1.15 239**	⇑P	**Pn**	**14 35 28.0**	**+0.7**
TPUB	baz=235		*e*S	**Sn**	**14 35 43.7**	**+0.3**
CHN4	**Tsaushan**	**1.15 242**	P	**Pn**	**14 35 28.1**	**+0.8**
TAP	baz=237 **Taipei**	**1.16 351**	*e*P	**Pn**	**14 35 27.3**	**-0.1**
NCUH	baz=355 **Zhongli**	**1.17 336**	*e*P	**Pn**	**14 35 28.3**	**+0.7**
NCU	baz=338 **National Centr**	**1.17 337**	*e*P	**Pn**	**14 35 27.6**	**-0.1**
NCU	baz=349		*e*S	**Sn**	**14 35 43.7**	**-0.4**
NWF	**Wu-fen Shan**	**1.18 3**	P	**Pn**	**14 35 27.6**	**-0.1**
CHN2	baz=8.0 **Minshiung**	**1.18 253**	*e*P	**Pn**	**14 35 29.0**	**+1.3**
WTP	baz=248 **Ta-pu**	**1.19 238**	⇑P	**Pn**	**14 35 28.7**	**+0.9**
WTP	baz=233		*e*S	**Sn**	**14 35 45.4**	**+1.0**
SXI1	**Grass Mountain**	**1.21 7**	P	**Pn**	**14 35 28.4**	**+0.3**
SXI1	baz=4.0		*e*S	**Sg**	**14 35 43.0**	**-0.4**
TWGBT	**Beinan**	**1.21 208**	*e*P	**Pn**	**14 35 27.7**	**-0.5**
TWG	baz=201 **Pinlang**	**1.21 209**	*e*P	**Pn**	**14 35 27.9**	**-0.3**
WRL	baz=201 **Guolierlin Hig**	**1.21 271**	*e*P	**Pn**	**14 35 28.8**	**+0.6**
WTK	baz=268 **Tuku**	**1.22 261**	*e*P	**Pn**	**14 35 28.9**	**+0.6**
LDUT	baz=257 **Ludao**	**1.23 190**	*e*P	**Pb**	**14 35 27.6**	**-0.6**
TWS1	baz=171 **Kuangyinshan**	**1.23 348**	*e*P	**Pg**	**14 35 28.9**	**+0.8**
TWS1	baz=351		*e*S	**Sn**	**14 35 45.7**	**+0.2**
CHY	**Chiayi**	**1.23 252**	*e*P	**Pg**	**14 35 29.6**	**+1.4**
CHY	baz=249		*e*S	**Sn**	**14 35 46.6**	**+1.1**
TTN	baz=249 **Taitung**	**1.24 204**	*e*P	**Pg**	**14 35 30.1**	**+1.9**
YM01	baz=197 **YM01**	**1.26 355**	*e*P	**Pg**	**14 35 29.1**	**+0.5**
NHW	baz=347 **Xinwu Township**	**1.26 332**	*e*P	**Pn**	**14 35 27.8**	**-1.1**
NHW	baz=322		*e*S	**Sb**	**14 35 44.9**	**-0.5**
JYNG	baz=322 **Yonagunijimaku**	**1.27 64**	P	**Pg**	**14 35 30.6**	**+1.9**
TWK	**Hsinying**	**1.27 241**	⇓P	**Pg**	**14 35 30.4**	**+1.5**
TWK	baz=238		S	**Sn**	**14 35 47.9**	**+1.2**
CHN1	baz=238 **Nanshi**	**1.29 237**	P	**Pg**	**14 35 30.6**	**+1.5**
CHN1	baz=235		*e*S	**Sn**	**14 35 48.6**	**+1.7**
NTST	baz=235 **Danshui**	**1.29 350**	*e*P	**Pg**	**14 35 29.8**	**+0.6**
SNST	baz=353 **Tainan City**	**1.29 239**	*e*P	**Pg**	**14 35 30.8**	**+1.6**
ANP	baz=234 **Anpu**	**1.30 353**	*e*P	**Pg**	**14 35 29.8**	**+0.4**
WTCT	baz=357 **Ta-ch'eng**	**1.30 269**	*e*P	**Pb**	**14 35 29.3**	**-0.1**
WTCT	baz=269		*e*S	**Sn**	**14 35 46.9**	**-0.2**
SGST	baz=269 **Jiashian**	**1.30 232**	P	**Pg**	**14 35 30.1**	**+0.6**
YOJ	baz=213 **Yonaguni jima**	**1.32 64**	P	**Pg**	**14 35 30.5**	**+0.7**
YOJ	**Yonaguni jima**	**1.32 64**	*e*P	**Pg**	**14 35 30.7**	**+0.9**
WSF	baz=70 **Szhu**	**1.38 260**	*e*P	**Pg**	**14 35 31.3**	**+0.4**
TWY	baz=257 **Chenhua**	**1.38 356**	*e*P	**Pg**	**14 35 31.1**	**+0.1**
WSL	baz=347 **Shuilin Townsh**	**1.40 255**	*e*P	**Pg**	**14 35 32.0**	**+0.7**
ICHU	baz=252 **Yijhu**	**1.41 248**	*e*P	**Pg**	**14 35 32.6**	**+1.2**
ECL	baz=243 **Taimali**	**1.46 208**	*e*P	**Pg**	**14 35 33.2**	**+0.8**
CHN3	baz=185 **Shinhua**	**1.47 237**	*e*P	**Pg**	**14 35 33.9**	**+1.2**
CHN8	baz=231 **Yiju**	**1.47 249**	*e*P	**Pg**	**14 35 32.9**	**+0.3**
SSD	baz=243 **Sandimen**	**1.50 221**	*e*P	**Pg**	**14 35 34.1**	**+0.8**
SHHT	baz=214 **Tainan City**	**1.52 235**	*e*P	**Pg**	**14 35 35.3**	**+1.8**
TSMG	baz=230 **Majia**	**1.53 220**	*e*P	**Pg**	**14 35 34.4**	**+0.6**
SCLT	baz=201 **Jiali**	**1.56 243**	*e*P	**Pb**	**14 35 33.6**	**-0.2**
TWM1	baz=238 **Shoushan**	**1.58 228**	*e*P	**Pg**	**14 35 37.2**	**+2.4**
MASBT	baz=222 **Mashibuluo**	**1.61 218**	*e*P	**Pb**	**14 35 34.5**	**-0.2**
SGLT	baz=199 **Jiouru**	**1.61 224**	*e*P	**Pg**	**14 35 36.8**	**+1.5**
EAST	baz=205 **Anshuo**	**1.69 208**	*e*P	**Pg**	**14 35 36.8**	**-0.1**
SSPT	baz=188 **Xinbi**	**1.75 217**	*e*P	**Pg**	**14 35 38.7**	**+0.7**
PCYT	baz=199 **Pengchaiyu**	**1.76 11**	*e*P	**Pb**	**14 35 37.0**	**-0.3**
SCZT	baz=356 **Fangliau**	**1.81 214**	*e*P	**Pg**	**14 35 39.1**	**-0.1**
SCZT	baz=221		*e*S	**Sg**	**14 36 04.5**	**+1.9**
LAY	**Lan-yu**	**1.85 184**	*e*P	**Pn**	**14 35 37.2**	**+0.2**
SLIU	baz=178 **Shizi**	**1.86 207**	*e*P	**Pb**	**14 35 39.1**	**+0.1**
LYUB	baz=186 **Lan-yu**	**1.88 183**	*e*P	**Pn**	**14 35 36.6**	**-0.8**
IRIF	baz=177 **Iriomote-Funau**	**1.91 76**	P	**Pb**	**14 35 39.0**	**-0.7**
IRIF			*e*S	**Sb**	**14 36 04.1**	**+0.2**
HATJ	**Hateruma jima**	**1.93 85**	*e*S	**Sg**	**14 36 06.2**	**-0.3**
WDGT	**Dungji**	**1.98 252**	*e*P	**Pb**	**14 35 39.6**	**-1.3**
PHUB	baz=249 **P'eng-hu**	**1.99 260**	*e*P	**Pn**	**14 35 39.6**	**+0.8**
PHUB	baz=261		*e*S	**Sb**	**14 36 05.1**	**-1.2**
PNG	baz=261 **Penghu**	**1.99 261**	*e*P	**Pn**	**14 35 38.9**	**+0.1**
TWKBT	baz=258 **Hengchun**	**2.11 203**	*e*P	**Pb**	**14 35 42.5**	**-0.6**
TSEB	baz=196 **Hengchuen, Pin**	**2.12 201**	*e*P	**Pb**	**14 35 43.1**	**-0.2**
JKRS	baz=182 **Kuro-shima**	**2.14 80**	P	**Pb**	**14 35 42.6**	**-1.1**
VCHM	**Qimei**	**2.19 252**	*e*P	**Pb**	**14 35 43.0**	**-1.6**
JIJ	baz=250 **Ishigaki jima**	**2.28 78**	P	**Pn**	**14 35 43.7**	**+0.9**
VWUC	**VWUC**	**2.33 299**	*e*P	**Pn**	**14 35 43.5**	**+0.1**
JISG	baz=296 **Ishigakijimahi**	**2.48 73**	P	**Pn**	**14 35 46.2**	**+0.6**
JISG			S	**Sn**	**14 36 17.3**	**+1.0**
PTMZ	**Houxiangcun**	**2.62 296**	*e*P	**Pn**	**14 35 46.1**	**-1.3**
MATB	baz=294 **Ma-tsu**	**2.76 325**	*e*P	**Pn**	**14 35 49.4**	**-0.1**
QZH	baz=308 **Quanzhou**	**3.02 291**	*e*Pn	**Pn**	**14 35 53.8**	**+0.8**
QZH	comp=N,620nm,6.2s		LR	LR		
QZH	comp=E,1μm,7.7s		LR	LR		
QZH	comp=Z,1μm,8.6s		LR	LR		
KNM	**Kinmen**	**3.03 281**	*e*P	**Pn**	**14 35 55.2**	**+2.0**
KNMB	baz=276 **Chin-men Tao**	**3.08 281**	*e*P	**Pn**	**14 35 54.3**	**+0.4**
LYJJ	baz=277 **Jianjiangzhen**	**3.18 327**	*e*P	**Pn**	**14 35 55.3**	**+0.1**
MHZQ	baz=311 **Yeshan**	**3.27 313**	*e*P	**Pn**	**14 35 56.8**	**+0.3**
XPSS	baz=310 **Dashiqiu**	**3.32 336**	*e*P	**Pn**	**14 35 57.0**	**-0.1**
AXDP	baz=334 **Jialang**	**3.55 287**	*e*P	**Pn**	**14 36 00.6**	**+0.3**
ZPLA	baz=283 **Ao Xicun**	**3.62 271**	*e*P	**Pn**	**14 36 01.8**	**+0.6**
APYP	baz=268 **Conner**	**6.01 184**	⇑*e*P	Pb	14 36 43.2	-6.7
APYP			*e*S	**Sb**	**14 37 54.6**	**-7.6**
JOW	**Kunigami**	**6.63 62**	Pn	**Pn**	**14 36 42.7**	**+0.1**
JOW	2.7nm,0.3s,baz=140,slow=10,SNR=18		Sn	**Sn**	**14 38 00.3**	**+1.7**
WHN	0.5nm,0.3s,baz=274,slow=13,SNR=1.2 **Wuhan**	**9.31 317**	⇓P	Pn	14 37 27.0	+7.6
WHN			S	**Sn**	**14 39 12.5**	**+7.9**
WHN			LR	LR		
WHN	comp=N,750nm,7.4s		LR	LR		
WHN	comp=E,720nm,8.9s		LR	LR		
WHN	comp=Z,1μm,9.0s		LR	LR		
KSRS	**Korea Array**	**14.53 20**	Pn	**P**	**14 38 38.6**	**+1.0**
CMAR	0.4nm,0.3s,baz=200,slow=11,SNR=15 **Chiang Mai Arr**	**21.89 260**	P	**P**	**14 39 55.6**	**-3.0**
GUMO	0.3nm,0.3s,baz=54,slow=9.1,SNR=1.4 **Guam**	**24.18 111**	LR	LR	14 48 52.7	
SONM	comp=Z,57nm,19.3s,baz=54,slow=35 **Songino Array**	**26.82 337**	P	**P**	**14 40 46.9**	**+1.0**
MKAR	0.7nm,0.6s,baz=152,slow=11,SNR=4.0 **Makanchi Array**	**38.88 316**	P	**P**	**14 42 30.9**	**-0.1**
ZALV	0.5nm,0.6s,baz=100,slow=10,SNR=8.9 **Zalesovo Beam**	**40.75 327**	P	**P**	**14 42 46.8**	**+0.5**
H11N1	1.0nm,0.6s,baz=105,slow=11,SNR=5.4 **WAKE ISLAND Hy 42.03**	**87**	T	T	15 28 25.8	
H11N2	baz=275,slow=74,SNR=24 **WAKE ISLAND Hy 42.03**	**87**	T	T	15 28 26.5	
H11N3	baz=275,slow=74,SNR=18 **WAKE ISLAND Hy 42.05**	**87**	T	T	15 28 27.4	
H11S3	baz=275,slow=74,SNR=16 **WAKE ISLAND Hy 42.15**	**88**	T	T	15 28 00.4	
H11S1	baz=283,slow=74,SNR=41 **WAKE ISLAND Hy 42.16**	**88**	T	T	15 28 01.0	
H11S2	baz=283,slow=74,SNR=56 **WAKE ISLAND Hy 42.17**	**88**	T	T	15 28 01.8	
KURBB	baz=283,slow=74,SNR=35 **Kurchatov Arra**	**42.64 320**	P	**P**	**14 43 02.0**	**+0.1**
	0.6nm,0.8s,baz=112,slow=10.0,SNR=2.9					

ASAR	**Alice Springs**	**48.73**	**165**	P		P		14 43 44.2	-6.1
	0.1nm,0.3s,baz=339,slow=7.3,SNR=1.1								
SHEM	**Shemya Is, Ala**	**48.75**	**40**	LR		LR		15 07 12.9	
	comp=Z,33nm,19.0s,baz=62,slow=39								
ILAR	**Eielson Array**	**69.26**	**27**	P		**P**		**14 46 11.8**	**-0.5**
	0.3nm,0.7s,baz=300,slow=8.9,SNR=4.2								
NOA	**NORSAR Array B**	**78.70**	**332**	LR		LR		15 25 03.7	
	comp=Z,26nm,19.6s,baz=195,slow=38								
YKA	**Yellowknife Ar**	**83.05**	**23**	P		**P**		**14 47 30.8**	**-0.1**
	1.5nm,0.8s,baz=315,slow=4.8,SNR=9.8								

*INET **25** 14:53:43.9±0.4, 12.°40N×87.°95W, h24km±8km, ML3.4*
*SNET **25** 14:53:45.0±1.1, 12.°50N×88.°17W, h16km±7km, ML3.1*
ISC 25 14:53:42.9±2.2, 12.°4N±0.°1×87.°95W±0.°07, h30km±15km, n19, σ1°60/27, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CSGN	**Cosiguina Volc**	**0.69**	**34**	*eP*		**Pb**		**14 53 56.9**	**+0.4**
JUCU	**Jucuarįn**	**0.90**	**341**	*eP*		**Pb**		**14 53 59.6**	**-0.4**
JUCU				*eS*		**Sb**		**14 54 10.9**	**-0.7**
JUCU				IAML				14 54 15.5	
	comp=Z,842nm,0.2s								
LCND	**La Caada**	**0.91**	**4**	*eP*		**Pb**		**14 53 59.9**	**-0.2**
LCND				*eS*		**Sb**		**14 54 12.2**	**+0.3**
LCND				IAML				14 54 13.7	
	comp=Z,840nm,0.3s								
CRIN	**San Cristobal**	**0.93**	**71**	*eP*		**Pb**		**14 54 00.9**	**+0.4**
LCY	**Lacayo**	**1.07**	**342**	*eP*		**Pn**		**14 54 02.8**	**+0.8**
RANC	**El Ranchito**	**1.08**	**342**	*eP*		**Pn**		**14 54 02.4**	**+0.2**
RANC				*eS*		**Sb**		**14 54 16.7**	**-0.3**
TEL3	**Telica 3**	**1.09**	**81**	*eP*		**Pn**		**14 54 02.4**	**+0.2**
PACA	**Pacayal**	**1.12**	**341**	*eP*		**Pn**		**14 54 03.2**	**+0.4**
PACA				*eS*		**Sn**		**14 54 17.1**	**-0.2**
CNGN	**Cerro Negro**	**1.23**	**85**	*eP*		**Pn**		**14 54 04.1**	**0.0**
COPN	**Copaltepe**	**1.34**	**99**	*eP*		**Pn**		**14 54 06.0**	**+0.3**
MOMN	**Momotombo**	**1.38**	**90**	*eP*		**Pn**		**14 54 06.3**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.50**	**330**	*eP*		**Pn**		**14 54 08.4**	**+0.5**
SCLA				*eS*		**Sn**		**14 54 27.1**	**+0.6**
COEG	**Centro de Oper**	**1.52**	**323**	*eP*		**Pn**		**14 54 08.5**	**+0.4**
COEG				*eS*		**Sn**		**14 54 26.2**	**-0.7**
COEG				IAML				14 54 30.6	
	comp=Z,270nm,0.3s								
SJTE	**Alcalda de S**	**1.59**	**320**	*eP*		**Pn**		**14 54 08.9**	**-0.2**
SJTE				*eS*		**Sn**		**14 54 28.0**	**-0.7**
LFRS	**El Faro**	**1.63**	**318**	*eP*		**Pn**		**14 54 11.1**	**+1.4**
MATN	**Matagalpa**	**2.04**	**75**	*eP*		**Pn**		**14 54 15.0**	**-0.4**
CEVE	**Cerro Verde**	**2.16**	**311**	*eP*		**Pn**		**14 54 17.8**	**+0.6**
CEVE				IAML				14 54 56.6	
	comp=Z,194nm,0.3s								
NUBE	**Las Nubes**	**2.33**	**310**	*eP*		**Pn**		**14 54 19.7**	**+0.4**
NUBE				*eS*		**Sn**		**14 54 46.1**	**-0.9**
MTO3	**Montecristo**	**2.42**	**325**	*eP*		**Pn**		**14 54 21.5**	**+0.9**

*IDC **25** 15:28:14.3±3.3, 32.°05S×71.°97W, h0km, mb3.8/1,*
mb1 3.8/3, mb1mx3.6/23, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=142.8km s-min=37.6km az=94.0
*GUC **25** 15:28:18.7±0.6, 32.°16S×71.°82W, h25km±3km, ML3.7*
ISC 25 15:28:16.9±1.2, 32.°12S±0.°02×71.°84W±0.°06, h13km±9km, n31, σ1°06/47, 9C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
VA06	**Catapilco**	**0.63**	**134**	⇓*iP*		**Pb**		**15 28 30.4**	**+0.5**
VA06				*i* S		**Sg**		**15 28 38.7**	**+1.1**
VA06				IAML				15 28 40.9	
	comp=N,6μm,0.5s								
VA01	**Torpederas**	**0.91**	**170**	*eP*		**Pg**		**15 28 34.3**	**-0.3**
VA01				*i* S		**Sg**		**15 28 46.2**	**-0.3**
VA01				IAML				15 28 49.2	
	comp=E,3μm,0.5s								
ROCH	**El Roble**	**1.10**	**141**	⇑*iP*		**Pn**		**15 28 37.9**	**-0.4**
ROCH				⇑*iP*		**Pb**		**15 28 35.5**	**-2.5**
ROCH				*i* S		**Sb**		**15 28 50.2**	**-2.1**
ROCH				*i* S		**Sg**		**15 28 52.3**	**-0.2**
ROCH				IAML				15 28 54.2	
	comp=E,7μm,0.4s								
ROCH				IAML				15 28 56.5	
	comp=N,8μm,0.6s								
CO02	**Combarbal**	**1.16**	**38**	⇓*iP*		**Pg**		**15 28 39.3**	**-0.1**
CO02				*i* S		**Sn**		**15 28 55.1**	**+0.3**
CO02				IAML				15 29 04.5	
	comp=E,3μm,0.5s								
VA03	**San Esteban**	**1.26**	**121**	⇑*iP*		**Pn**		**15 28 40.5**	**0.0**
VA03				*i* S		**Sb**		**15 28 56.5**	**-0.5**
VA03				IAML				15 28 59.7	
	comp=N,5μm,0.3s								
MT02	**Curacav**	**1.28**	**153**	⇑*iP*		**Pn**		**15 28 40.3**	**-0.3**
MT02				*i* S		**Sb**		**15 28 56.8**	**-0.4**
MT02				IAML				15 28 58.9	
	comp=E,2μm,0.7s								
PEL	**Peldehue**	**1.41**	**137**	*eP*		**Pn**		**15 28 42.5**	**+0.1**
PEL				*i* S		**Sn**		**15 29 00.3**	**-0.6**
PEL				IAML				15 29 03.8	
	comp=E,2μm,0.4s								
CO06	**Fray Jorge**	**1.45**	**7**	*eP*		**Pb**		**15 28 43.1**	**-0.8**
CO06				*i* S		**Sg**		**15 29 03.6**	**-0.2**
CO06				IAML				15 29 10.7	
	comp=N,522nm,0.5s								
VA05	**Santo Domingo**	**1.54**	**173**	*eP*		**Pn**		**15 28 44.2**	**+0.1**
VA05				*i* S		**Sn**		**15 29 04.3**	**+0.3**
VA05				IAML				15 29 11.5	
	comp=E,4μm,0.5s								
MT05	**Renca**	**1.57**	**144**	⇑*iP*		**Pn**		**15 28 45.2**	**+0.6**
MT05				*i* S		**Sn**		**15 29 05.3**	**+0.4**
MT05				IAML				15 29 07.0	
	comp=E,4μm,0.4s								
MT03	**Universidad Ad**	**1.77**	**141**	⇑*eP*		**Pn**		**15 28 48.2**	**+0.8**
MT03				*i* S		**Sn**		**15 29 10.8**	**+1.0**
MT03				IAML				15 29 13.4	
	comp=N,2μm,0.5s								
FCH	**Farellones**	**1.77**	**133**	⇑*iP*		**Pn**		**15 28 48.4**	**+0.7**
FCH				*i* S		**Sb**		**15 29 12.0**	**+0.1**
FCH				IAML				15 29 14.7	
	comp=N,816nm,0.3s								
MT09	**Talagante**	**1.80**	**157**	⇑*iP*		**Pn**		**15 28 49.0**	**+1.1**
MT09				*i* S		**Sn**		**15 29 11.7**	**+1.1**
MT09				IAML				15 29 17.6	
	comp=E,2μm,0.4s								
BO04	**La Punta**	**2.13**	**151**	⇑*iP*		**Pn**		**15 28 53.5**	**+1.2**
BO04				*i* S		**Sb**		**15 29 21.3**	**-0.5**
BO04				IAML				15 29 29.7	
	comp=E,1μm,0.4s								
GO04	**Tololo Observa**	**2.14**	**25**	*eP*		**Pn**		**15 28 53.7**	**+1.1**
GO04				*i* S		**Sb**		**15 29 22.9**	**+0.6**
LMEL	**Las Melosas**	**2.20**	**142**	*eP*		**Pn**		**15 28 54.9**	**+1.5**
LMEL				*i* S		**Sn**		**15 29 22.6**	**+2.0**
LMEL				IAML				15 29 31.9	
	comp=N,1μm,0.5s								
CO05	**La Serena**	**2.26**	**13**	*eP*		**Pb**		**15 28 58.0**	**+0.5**
CO05				*i* S		**Sb**		**15 29 25.8**	**+0.4**
CO05				IAML				15 29 35.3	
	comp=E,676nm,0.6s								
BO01	**Tunca**	**2.35**	**165**	*eP*		**Pn**		**15 28 56.9**	**+1.6**
BO01				*i* S		**Sn**		**15 29 26.2**	**+2.2**
BO01				IAML				15 29 35.8	
	comp=E,632nm,0.4s								
BO03	**Pichilemu**	**2.37**	**182**	*eP*		**Pn**		**15 28 54.9**	**-0.7**
BO03				*i* S		**Sg**		**15 29 36.0**	**+2.8**
BO03				IAML				15 29 39.6	
	comp=N,459nm,0.5s								
CO01	**Juntas del Tor**	**2.61**	**35**	*eP*		**Pb**		**15 29 03.5**	**-0.3**
CO01				*i* S		**Sb**		**15 29 34.6**	**-1.2**
CO01				IAML				15 29 40.9	
	comp=N,222nm,0.3s								
GO05	**Huala**	**2.88**	**181**	*eP*		**Pn**		**15 29 01.8**	**-0.8**
GO05				IAML				15 30 06.9	
	comp=N,237nm,0.5s								
H03N1	**Juan Fernandez**	**6.10**	**256**	T		T		15 36 22.3	
	baz=84,slow=72,SNR=264								
H03N3	**Juan Fernandez**	**6.11**	**256**	T		T		15 36 18.0	
	baz=84,slow=72,SNR=420								
H03N2	**Juan Fernandez**	**6.12**	**256**	T		T		15 36 20.2	
	baz=84,slow=72,SNR=400								
H03S3	**Juan Fernandez**	**6.18**	**252**	T		T		15 36 26.9	
	baz=81								
H03S1	**Juan Fernandez**	**6.18**	**252**	T		T		15 36 25.5	
	baz=81								
H03S2	**Juan Fernandez**	**6.20**	**252**	T		T		15 36 26.4	
	baz=81								
PLCA	**Paso Flores**	**8.66**	**173**	Pn		**Pn**		**15 30 22.7**	**+0.7**
	comp=N,0.4nm,0.3s,baz=334,slow=13,SNR=16								
LPAZ	**La Paz**	**16.12**	**13**	Pn		**Pn**		**15 32 03.7**	**-0.2**
	comp=N,0.1nm,0.3s,baz=255,slow=10.0,SNR=2.2								
TORD	**Torodi Ar. Bea**	**83.41**	**70**	P		**P**		**15 40 44.2**	**-0.2**
	comp=N,0.5nm,0.8s,baz=236,slow=3.6,SNR=4.1								
ZALV	**Zalesovo Beam**	**152.54**	**31**	PKPbc		**PKPbc**		**15 48 11.7**	**-0.9**
	comp=N,0.2nm,0.3s,baz=315,slow=3.5,SNR=1.5								

*IDC **25** 15:35:46.2±3.0, 32.°08S×71.°54W, h0km, mb4.1/1,*
mb1 3.9/3, mb1mx3.7/22, mbtmp3.7/3, ML3.7/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/52, Error ellipse: s-maj=134.7km s-min=36.8km az=95.0
*NEIC **25** 15:35:48.0±1.8, 32.°17S±0.°04×71.°96W±0.°08, h14km±1km, mb4.3/5, ML3.9(GUC), Error ellipse: s-maj=10.1km s-min=4.9km az=76.0*
*GUC **25** 15:35:49.8±0.9, 32.°17S×71.°72W, h27km±4km, ML3.9*
ISC 25 15:35:47.4±1.4, 32.°14S±0.°03×71.°77W±0.°07, h12km±9km, n71, σ1°04/68, mb4.3/4, MS3.6/4, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
VA06	**Catapilco**	**0.58**	**137**				**Pn**	**15 36 01.2**	**-0.2**
VA06				Sg			**Sn**	**15 36 08.5**	**-2.2**
VA06	**Catapilco**	**0.58**	**137**	⇓*iP*			**Pn**	**15 36 01.3**	**-0.1**
VA06				*i* S			**Sn**	**15 36 08.8**	**-2.0**
VA06				IAML				15 36 13.2	
	comp=E,11μm,0.6s								
VA01	**Torpederas**	**0.88**	**174**				**Pn**	**15 36 05.5**	**-0.1**
VA01				Sg			**Sb**	**15 36 16.6**	**+0.2**
VA01	**Torpederas**	**0.88**	**174**	⇓*iP*			**Pn**	**15 36 06.4**	**+0.8**
VA01				*i* S			**Sn**	**15 36 18.3**	**0.0**
ROCH	**El Roble**	**1.04**	**143**	⇓*iP*			**Pn**	**15 36 08.9**	**+0.9**
ROCH				*i* S			**Sn**	**15 36 23.2**	**+0.6**
ROCH				IAML				15 36 25.2	
	comp=E,7μm,0.4s								
ROCH				IAML				15 36 25.6	
	comp=N,8μm,0.3s								
ROC1	**El Roble**	**1.04**	**143**				**Pb**	**15 36 06.5**	**-1.1**
CO02	**Combarbal**	**1.14**	**35**				**Pg**	**15 36 09.9**	**+0.6**
CO02	**Combarbal**	**1.14**	**35**	IAML				15 36 28.0	
	comp=E,5μm,0.5s								
VA03	**San Esteban**	**1.20**	**121**				**Pg**	**15 36 10.9**	**+0.5**
VA03	**San Esteban**	**1.20**	**121**	⇓*iP*			**Pg**	**15 36 11.4**	**+0.9**
VA03				*i* S			**Sn**	**15 36 27.7**	**+1.4**
VA03				IAML				15 36 30.2	
	comp=N,8μm,0.3s								
MT02	**Curacav**	**1.23**	**155**				**Pg**	**15 36 11.6**	**+0.4**
MT02	**Curacav**	**1.23**	**155**	⇓*iP*			**Pg**	**15 36 11.5**	**+0.4**
MT02				*i* S			**Sg**	**15 36 27.8**	**+0.6**
MT02				IAML				15 36 29.4	
	comp=E,2μm,0.4s								
PEL	**Peldehue**	**1.35**	**138**				**Pg**	**15 36 13.7**	**+0.4**
PEL	**Peldehue**	**1.35**	**138**	⇑*iP*			**Pg**	**15 36 14.2**	**+0.8**
PEL				*i* S			**Sg**	**15 36 32.2**	**+1.2**
CO06	**Fray Jorge**	**1.47**	**4**				**Pn**	**15 36 13.7**	**+0.1**
CO06	**Fray Jorge**	**1.47**	**4**	IAML				15 36 43.9	
	comp=E,22nm,0.8s								
VA05	**Santo Domingo**	**1.52**	**175**				**Pn**	**15 36 14.2**	**-0.1**
VA05	**Santo Domingo**	**1.52**	**175**	IAML				15 36 43.0	
	comp=E,6μm,0.4s								
MT05	**Renca**	**1.52**	**146**				**Pb**	**15 36 15.6**	**+0.1**
MT05	**Renca**	**1.52**	**146**	⇑*iP*			**Pg**	**15 36 16.2**	**-0.3**
MT05				*i* S			**Sg**	**15 36 37.0**	**+0.7**
MT05				IAML				15 36 38.2	
	comp=E,5μm,0.4s								
MT03	**Universidad Ad**	**1.71**	**142**				**Pb**	**15 36 19.1**	**+0.3**
MT03	**Universidad Ad**	**1.71**	**142**	*eP*			**Pb**	**15 36 19.1**	**+0.3**
MT03				*i* S			**Sg**	**15 36 42.3**	**-0.2**
MT03				IAML				15 36 45.6	
	comp=E,3μm,0.4s								
FCH	**Farellones**	**1.71**	**134**	⇑*iP*			**Pg**	**15 36 19.5**	**-0.8**
FCH				*i* S			**Sg**	**15 36 41.8**	**-0.8**
FCH				IAML				15 36 45.9	
	comp=N,1μm,0.5s								
MT09	**Talagante**	**1.75**	**158**				**Pb**	**15 36 19.4**	**-0.2**
MT09	**Talagante**	**1.75**	**158**	⇑*iP*			**Pb**	**15 36 20.1**	**+0.5**
MT09				*i* S			**Sg**	**15 36 42.5**	**-1.4**
MT09				IAML				15 36 49.3	
	comp=E,2μm,0.4s								
MT01	**Popeta**	**1.77**	**166**				**Pb**	**15 36 19.0**	**-0.7**
BO04	**La Punta**	**2.08**	**153**				**Pb**	**15 36 24.3**	**-0.8**
BO04	**La Punta**	**2.08**	**153**	⇑*iP*			**Pb**	**15 36 24.5**	**-0.6**
BO04				*i* S			**Sg**	**15 36 52.2**	**-2.1**
BO04				IAML				15 36 56.6	
	comp=N,2μm,0.5s								
GO04	**Tololo Observa**	**2.13**	**23**				**Pn**	**15 36 24.6**	**+1.6**
LMEL	**Las Melosas**	**2.15**	**143**				**Pb**	**15 36 25.7**	**-0.6**
LMEL	**Las Melosas**	**2.15**	**143**	⇑*iP*			**Pb**	**15 36 25.8**	**-0.5**
LMEL				*i* S			**Sg**	**15 36 54.8**	**-1.7**
LMEL				IAML				15 37 02.9	
	comp=N,991nm,0.4s								
CO05	**La Serena**	**2.26**	**12**				**Pn**	**15 36 26.8**	**+2.2**
CO05	**La Serena**	**2.26**	**12**	IAML				15 37 05.1	
	comp=E,797nm,0.5s								
BO01	**Tunca**	**2.31**	**166**				**Pn**	**15 36 26.6**	**+1.3**
BO01	**Tunca**	**2.31**	**166**	IAML				15 37 03.1	
	comp=E,659nm,0.6s								
CO01	**Juntas del Tor**	**2.59**	**34**				**Pb**	**15 36 32.1**	**-1.8**
CO01	**Juntas del Tor**	**2.59**	**34**	*eP*			**Pb**	**15 36 33.5**	**-0.3**
ZON	**Zonda**	**2.69**	**78**				**Pb**	**15 36 33.8**	**-1.8**
GO05	**Huala**	**2.86**	**183**				**Pn**	**15 36 32.7**	**-0.1**
LCO	**Las Campanas**	**3.25**	**17**				**Pn**	**15 36 39.4**	**+1.0**
ML02	**Panimavida**	**3.62**	**176**	Pn			**Pn**	**15 36 44.1**	**+0.9**
AC04	**Llanos de Chal**	**3.97**	**9**	Pn			**Pn**	**15 36 49.9**	**+1.9**
BI05	**Punta Hualpn**	**4.74**	**194**	Pn			**Pn**	**15 36 57.8**	**-0.9**
AC06	**Mina Casimiro**	**4.92**	**15**	Pn			**Pn**	**15 37 03.0**	**+1.8**
AC02	**Maricunga**	**5.76**	**24**				**Pn**	**15 37 15.1**	**+1.9**
AC01	**Pan de Azucar**	**6.06**	**10**	Pn			**Pn**	**15 37 16.5**	**-0.3**
H03N1	**Juan Fernandez**	**6.16**	**256**	T		T		15 43 49.4	
	baz=85,slow=73,SNR=1038								
H03N3	**Juan Fernandez**	**6.17**	**256**	T		T		15 43 50.7	
	baz=85,slow=73,SNR=933								
H03N2	**Juan Fernandez**	**6.17**	**256**	T		T		15 43 50.8	
	baz=85,slow=73,SNR=963								
H03S3	**Juan Fernandez**	**6.23**	**252**	T		T		15 44 01.6	
	baz=86								
H03S1	**Juan Fernandez**	**6.24**	**252**	T		T		15 43 54.3	
	baz=86								
H03S2	**Juan Fernandez**	**6.25**	**252**	T		T		15 43 53.3	
	baz=86								
LC01	**Cunco**	**6.74**	**181**				**Pn**	**15 37 25.8**	**-0.4**
GO02	**Mina Guanaco**	**7.21**	**16**	Pn			**Pn**	**15 37 34.5**	**+1.6**
PLCA	**Paso Flores**	**8.63**	**174**	Pn			**Pn**	**15 37 53.3**	**+1.2**
	comp=E,0.4nm,0.3s,baz=331,slow=11,SNR=16								
PLCA				LR			LR	15 41 22.8	
	comp=E,161nm,20.4s,baz=11,slow=39								
PLCA	**Paso Flores**	**8.63**	**174**				**Pn**	**15 37 51.5**	**-0.6**
CPUP	**Villa Florida**	**13.87**	**69**	LR			LR	15 44 53.3	
	comp=E,141nm,18.2s,baz=247,slow=40								
LPAZ	**La Paz**	**16.13**	**13**	Pn			**Pn**	**15 39 34.4**	**-0.1**
	comp=E,0.1nm,0.3s,baz=140,slow=9.1,SNR=2.8								
NNA	**Nana**	**20.60**	**346**	LR			LR	15 46 28.9	
	comp=E,36nm,20.1s,baz=202,slow=31								
MDP	**Montagnes des**	**41.27**	**30**	LR			LR	16 02 37.0	
	comp=E,57nm,20.8s,baz=132,slow=39								
RCBR	**Riachuelo**	**42.49**	**60**	LR			LR	16 02 53.2	
	comp=E,97nm,18.4s,baz=330,slow=38								
SNAA	**Sanae**	**53.22**	**158**	P			**P**	**15 45 06.1**	**+0.9**
SNAA				IAmb			IAmb	15 45 07.1	
	comp=Z,4.8nm,1.2s								
QSPA	**South Pole Qui**	**58.09**	**180**	P			**P**	**15 45 41.4**	**+1.1**
QSPA				IAmb			IAmb	15 46 10.5	
	comp=Z,3.9nm,1.3s								
TSUM	**Tsumeb**	**79.50**	**106**	LR			LR	16 18 25.1	
	comp=Z,63nm,20.0s,baz=152,slow=32								
PSUT	**Pine Spring**	**80.49**	**328**	P			**P**	**15 47 58.2**	**-1.1**
PSUT				IAmb			IAmb	15 48 00.5	
	comp=Z,4.6nm,1.1s								
TOA0	**Torodi Ar. Sit**	**83.36**	**70**	P			**P**	**15 48 14.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**83.36**	**70**	P			**P**	**15 48 14.7**	**0.0**
	comp=Z,1.1nm,0.7s,baz=241,slow=5.9,SNR=5.8								
TORD	**Torodi Ar. Bea**	**83.36**	**70**	IAmb			IAmb	15 48 15.9	
	comp=Z,1.4nm,0.8s								
LRM	**Limekiln Ridge**	**85.91**	**333**	P			**P**	**15 48 26.5**	**-0.7**
ZALV	**Zalesovo Beam**	**152.53**	**31**	PKPbc			**PKiKP**	**15 55 43.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=336,slow=3.2,SNR=1.9								
MKAR	**Makanchi Array**	**155.34**	**46**	PKPab			**PKPab**	**15 56 04.8**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=318,slow=4.0,SNR=3.6								

*IDC **25** 15:52:56.8±1.1, 14.°55S×166.°69E, h0km, mb4.1/9,*
mb1 4.2/10, mb1mx4.0/36, mbtmp4.0/10, ML4.0/1, MS3.6/9, Ms1 3.6/9, ms1mx3.1/57, Error ellipse: s-maj=37.9km s-min=20.9km az=119.0
*NEIC **25** 15:53:02.7±2.3, 14.°59S±0.°05×166.°9E±0.°1, h35km±2km, mb4.5/16, Error ellipse: s-maj=22.1km s-min=3.0km az=68.0*
*NOU **25** 15:53:03.0, 14.°74S×166.°65E, h0km, MLv4.7/13, Vanuatu Islands*
ISC 25 15:53:02.3±0.7, 14.°57S±0.°07×166.°8E±0.°1, h35km, n49, σ1°28/44, mb4.2/17, MS3.6/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SANVU	**Saraoutou**	**0.97**	**154**			**Pn**	**Pn**	**15 53 18.5**	**-0.9**
SANVU						Sn	**Sn**	**15 53 31.0**	**-1.0**
SANVU	**Saraoutou**	**0.97**	**154**			P	**Pn**	**15 53 18.7**	**-0.8**
DVP	**Devils Point**	**3.42**	**157**			P	**Pn**	**15 53 56.7**	**+3.5**
LIFNC	**LIFOU**	**6.19**	**176**			Pn	**Pn**	**15 54 31.7**	**+0.5**
KOUNC	**Koumac, New Ca**	**6.40**	**201**				**Pn**	**15 54 34.5**	**+0.5**
KOUNC	**Koumac, New Ca**	**6.40**	**201**			P	**Pn**	**15 54 35.2**	**+1.2**
MARNC	**Mare, Loyalty**	**6.98**	**170**			Pn	**Pn**	**15 54 40.5**	**-1.5**
YATNC	**Mamie plateau,**	**7.45**	**179**			P	**Pn**	**15 54 49.2**	**+0.7**
DZM	**Mont Dzumac**	**7.46**	**182**			Pn	**Pn**	**15 54 48.5**	**-0.4**
	2.2nm,0.3s,baz=319,slow=23,SNR=36								
DZM						Sn	**Sn**	**15 56 13.4**	**+1.1**
	0.5nm,0.3s,baz=138,slow=23,SNR=1.8								
DZM						LR	LR	15 57 25.8	
	comp=Z,326nm,19.2s,baz=40,slow=36								
DZM	**Mont Dzumac**	**7.46**	**182**				**Pn**	**15 54 48.8**	**-0.1**
DZM	**Mont Dzumac**	**7.46**	**182**			P	**Pn**	**15 54 49.6**	**+0.8**
NOUC	**Port Laguerre**	**7.50**	**183**			P	**Pn**	**15 54 51.1**	**+1.9**
ONTNC	**Ouen Toro**	**7.70**	**182**			Pn	**Pn**	**15 54 52.3**	**+0.4**
ONTNC	**Ouen Toro**	**7.70**	**182**			P	**Pn**	**15 54 55.2**	**+3.2**
OUENC	**Ouen Island, N**	**7.80**	**179**			Pn	**Pn**	**15 54 54.3**	**+0.9**
OUENC	**Ouen Island, N**	**7.80**	**179**			P	**Pn**	**15 54 55.7**	**+2.3**
PINNC	**Pines Island,**	**8.03**	**175**			Pn	**Pn**	**15 54 56.4**	**0.0**
PMG	**Port Moresby**	**19.84**	**283**			LR	LR	16 04 09.0	
	comp=Z,138nm,19.6s,baz=67,slow=34								
CTA	**Charters Tower**	**20.32**	**251**			LR	LR	16 03 52.4	
	comp=Z,67nm,20.2s,baz=80,slow=32								
STKA	**Stephens Creek**	**26.72**	**229**			P	**P**	**15 58 56.4**	**0.0**
	1.1nm,0.9s,baz=42,slow=15,SNR=1.9								
STKA						LR	LR	16 10 13.8	
	comp=Z,124nm,18.0s,baz=37,slow=36								
WRAB	**Tennant Creek**	**31.37**	**256**			P	**P**	**15 59 20.1**	**0.0**
WRA	**Warramunga Arr**	**31.38**	**256**			P	**P**	**15 59 18.8**	**-1.3**
	1.3nm,0.8s,baz=88,slow=8.5,SNR=7.7								
AS31	**Alice Springs**	**32.26**	**249**			P	**P**	**15 59 26.1**	**-1.8**
ASAR	**Alice Springs**	**32.27**	**249**			P	**P**	**15 59 25.9**	**-2.0**
	1.9nm,0.8s,baz=73,slow=9.2,SNR=28								
BBOO	**Buckleboo**	**33.28**	**232**			P	**P**	**15 59 35.3**	**-1.4**
BBOO						IAmb	IAmb	15 59 51.9	
	comp=Z,10nm,1.2s								
FITZ	**Fitzroy Crossi**	**39.55**	**259**			LR	LR	16 16 30.7	
	comp=Z,57nm,19.2s,baz=202,slow=36								
FITZ	**Fitzroy Crossi**	**39.55**	**259**			P	**P**	**16 00 29.2**	**-1.2**
FITZ						IAmb	IAmb	16 00 55.2	
	comp=Z,7.7nm,1.2s								
JNU	**Nakatsue**	**58.51**	**325**			LR	LR	16 24 49.2	
	comp=Z,552nm,21.4s,baz=300,slow=33								
CMAR	**Chiang Mai Arr**	**74.43**	**294**			P	**P**	**16 04 37.8**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=118,slow=4.0,SNR=5.8								
SEY	**Seymchan**	**78.07**	**353**			P	**P**	**16 04 57.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=124,slow=11,SNR=4.6								
SONM	**Songino Array**	**82.08**	**324**			P	**P**	**16 05 19.8**	**+0.6**
	comp=Z

PPLA	Purkeypile	16.57	38	P	P	16 02 37.2	+0.7
PPLA				IAmb	IAmb	16 02 54.6	
	comp=Z,24nm,1.4s						
J20K	Nowinta River	16.65	32	P	P	16 02 37.5	+0.4
CAST	Castle Rocks	16.91	36	P	P	16 02 40.9	+0.8
PETK	Petropavlovsk-	17.03	287	Pn	Pn	16 02 38.3	-1.8
	comp=Z,0.1nm,0.3s,baz=59,slow=16,SNR=1.5						
PETK				LR	LR	16 08 35.0	
	comp=Z,40nm,21.2s,baz=81,slow=35						
GHO	Glory Hole Cre	17.36	44	P	P	16 02 45.1	0.0
GHO				IAmb	IAmb	16 03 03.4	
	comp=Z,38nm,1.4s						
KNK	Knik Glacier	17.41	45	P	P	16 02 45.3	-0.4
KNK				IAmb	IAmb	16 02 53.8	
	comp=Z,17nm,1.2s						
SML	Sawmill	17.63	44	Pn	Pn	16 02 46.2	-1.2
SML				IAmb	IAmb	16 02 58.9	
	comp=Z,15nm,1.2s						
H21K	Melozitna Rive	18.05	30		P	16 02 53.0	+0.3
SCM	Sheep Creek Mo	18.07	44		Pn	16 02 52.1	-0.8
SCM				IAmb	IAmb	16 02 59.2	
	comp=Z,24nm,1.4s						
RND	Reindeer	18.13	39		Pn	16 02 52.9	-0.7
MCK	McKinley	18.27	38	P	P	16 02 55.2	+0.1
DHY	Denali Highway	18.57	41	P	P	16 02 58.0	-0.5
KLU	Klutina	18.57	46	P	P	16 02 58.1	-0.4
KLU				IAmb	IAmb	16 03 03.0	
	comp=Z,15nm,1.4s						
I23K	Minto, Yukon-K	18.87	34	P	P	16 03 00.9	-0.8
BMRM	Bremner River	19.02	48	P	P	16 03 03.2	-0.1
BMRM				IAmb	IAmb	16 03 21.6	
	comp=Z,12nm,1.0s						
BILL	Bilibino	19.09	338	P	Pn	16 03 05.1	0.0
MDM	Murphy Dome	19.17	35	P	Pn	16 03 05.9	-0.2
N25K	Chitina, Valde	19.21	46	P	Pn	16 03 06.4	-0.3
N25K				IAmb	IAmb	16 03 25.7	
	comp=Z,21nm,1.4s						
IL31		19.56	36	P	P	16 03 09.3	+0.2
IL31				IAmb	IAmb	16 03 12.6	
	comp=Z,7.8nm,1.4s						
ILAR	Eielson Array	19.56	36	P	P	16 03 09.0	-0.2
	comp=Z,0.4nm,0.3s,baz=223,slow=8.1,SNR=19						
ILAR	Eielson Array	19.56	36	P	P	16 03 09.3	+0.1
H24K	Noodor Dome	19.77	33	P	P	16 03 12.2	+0.6
RIDG	Independent Ri	19.88	40	P	P	16 03 12.8	0.0
RIDG				IAmb	IAmb	16 03 16.2	
	comp=Z,11nm,1.4s						
J25K	Salcha River,	20.06	38	P	P	16 03 13.8	-0.9
J25K				IAmb	IAmb	16 03 19.3	
	comp=Z,7.0nm,0.6s						
M26K	Nabesna, AK	20.18	45	P	Pn	16 03 17.4	-0.7
M26K				IAmb	IAmb	16 03 30.9	
	comp=Z,11nm,1.5s						
SCRK	Sand Creek	20.33	40	P	P	16 03 16.9	-0.8
SCRK				IAmb	IAmb	16 03 18.3	
	comp=Z,5.1nm,0.6s						
M27K	Edge Creek, AK	20.66	45	Pn	Pn	16 03 23.8	0.0
M27K				IAmb	IAmb	16 03 25.2	
	comp=Z,4.6nm,0.8s						
BCAR	Beaver Creek A	20.92	44	P	P	16 03 25.0	+1.0
TOLK	Toolik Lake Re	21.00	26	P	P	16 03 25.0	+0.2
TOLK				IAmb	IAmb	16 03 35.0	
	comp=Z,5.2nm,1.1s						
SEY	Seymchan	21.02	316	P	P	16 03 24.8	-0.3
	comp=Z,1.1nm,0.8s,baz=180,slow=20,SNR=6.6						
MA2	Magadan	21.05	306	LR	LR	16 11 52.2	
	comp=Z,22nm,18.8s,baz=96,slow=38						
BMAR	Burnt Mountain	21.75	31	P	P	16 03 34.0	+1.1
EGAK	Eagle	21.77	39	P	P	16 03 33.5	+0.4
EGAK				IAmb	IAmb	16 03 35.8	
	comp=Z,6.6nm,0.7s						
INK	Inuvik	25.89	34	P	P	16 04 12.6	-0.2
	comp=Z,1.7nm,0.8s,baz=247,slow=7.1,SNR=3.1						
INK	Inuvik	25.89	34	IAmb	IAmb	16 04 33.3	
	comp=Z,6.7nm,1.4s						
YKA	Yellowknife Ar	33.24	47	P	P	16 05 18.4	+0.4
	comp=Z,0.1nm,0.4s,baz=273,slow=8.7,SNR=1.8						
YKA				PcP	PcP	16 08 00.5	+1.0
	comp=Z,0.2nm,0.6s,baz=288,slow=2.7,SNR=3.1						
YKA				LR	LR	16 20 14.2	
	comp=Z,36nm,18.1s,baz=157,slow=39						
KLR	Kul'dur	33.72	288	LR	LR	16 18 00.1	
	comp=Z,26nm,21.3s,baz=122,slow=34						
USRK	Ussuriysk Ar.	35.93	280	P	P	16 05 41.3	-0.2
	comp=Z,1.5nm,0.5s,baz=56,slow=12,SNR=2.1						
EDM	Edmonton	36.43	63	P	P	16 05 46.8	+1.1
EDM				IAmb	IAmb	16 05 47.7	
	comp=Z,5.5nm,0.5s						
EMB	Emerald Bay	39.44	87	P	P	16 06 10.2	-1.2
EMB				IAmb	IAmb	16 06 30.7	
	comp=Z,10nm,0.7s						
PDAR	Pinedale Array	43.73	75	P	P	16 06 47.3	+0.7
	comp=Z,0.5nm,0.6s,baz=320,slow=4.0,SNR=5.2						
SPB2	Spitsbergen Ar	50.47	357	P	P	16 07 38.8	+0.4
TXAR	Lajitas Array	56.00	84	P	P	16 08 20.8	+1.1
	comp=Z,0.1nm,0.4s,baz=324,slow=4.5,SNR=2.1						
KEV	Kevo	58.09	351	P	P	16 08 33.7	-0.1
ARCES	ARCESS Array B	58.44	352	P	P	16 08 35.5	-0.8
	comp=Z,2.0nm,0.9s,baz=10,slow=7.6,SNR=3.6						
ARCES				PcP	PcP	16 09 26.8	+0.2
	comp=Z,0.6nm,0.6s,baz=32,slow=4.8,SNR=3.7						
ARCES	ARCESS Array B	58.44	352	IAmb	IAmb	16 08 44.9	
	comp=Z,11nm,1.4s						
MK31	Makanchi Array	62.05	311	P	P	16 09 00.7	-0.6
MKAR	Makanchi Array	62.05	311	P	P	16 09 00.9	-0.4
	comp=Z,0.5nm,0.3s,baz=48,slow=6.0,SNR=13						
MKAR	Makanchi Array	62.05	311	P	P	16 09 00.7	-0.7
MAKZ	Makanchi	62.19	311	P	P	16 09 02.2	0.0
MAKZ				IAmb	IAmb	16 09 15.7	
	comp=Z,1.2nm,1.0s						
L56A	Greenwood	62.30	56	P	P	16 09 03.3	+0.2
SSPA	Standing Stone	63.20	58	P	P	16 09 08.5	-0.5
G62A	West of Eustis	63.59	50	P	P	16 09 11.8	+0.2
H62A	Milan	63.77	51	P	P	16 09 12.8	+0.1
FINES	FINESS Array B	66.26	349	P	P	16 09 27.7	-0.9
	comp=Z,1.0nm,0.8s,baz=4.6,slow=7.9,SNR=1.2						
NC303	NORSAR Array S	67.58	357	P	P	16 09 36.8	-0.3
NC405	NORSAR Array S	67.68	357	P	P	16 09 37.4	-0.3
NB201	NORSAR Array S	67.76	357	P	P	16 09 37.7	-0.5
NOA	NORSAR Array B	67.77	357	P	P	16 09 37.9	-0.4
	comp=Z,0.3nm,0.7s,baz=7.3,slow=6.7,SNR=1.8						
ABKAR	Akbulak array	69.45	325	P	P	16 09 49.4	+0.5
KKAR	Karatay Array	70.27	315	P	P	16 09 54.0	0.0
CMAR	Chiang Mai Arr	73.65	279	P	P	16 10 13.8	-0.9
AKASG	Malin Array Be	76.25	345	P	P	16 10 28.4	-0.7
	comp=Z,0.4nm,0.3s,baz=15,slow=6.7,SNR=3.7						
ASAR	Alice Springs	87.40	226	P	P	16 11 28.1	0.0
	comp=Z,0.4nm,0.8s,baz=20,slow=4.8,SNR=5.7						
ASF	Jabal al Asfar	92.27	334	LR	LR	16 58 26.4	
	comp=Z,121nm,18.6s,baz=108,slow=39						
H03N2	Juan Fernandez	118.61	109	T	T	18 27 43.9	
	baz=319,slow=76,SNR=4.1						
H03N1	Juan Fernandez	118.62	109	T	T	18 27 43.9	
	baz=319,slow=76,SNR=4.0						
H03N3	Juan Fernandez	118.63	109	T	T	18 27 43.9	
	baz=319						

*IDC **25** 16:08:46.0±2.0, 7.°38S×124.°96E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.3/33, mbtmp3.4/3, ML3.4/2, MS3.4/2, Ms1 3.4/2, ms1mx2.5/31, Error ellipse: s-maj=195.4km s-min=32.1km az=60.0*

*DJA **25** 16:09:00.5±0.6, 9.°S±6.°×12.°4E±.°, h148km±6km, M3.5/6, mb4.0/3, MLv3.2/6*

ISC 25 16:09:00.3±1.4, **8.°38S**±0.°1×**123.°9E**±0.°1, **h150**km, **n11**, σ**3s29**/12, **Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	1.04	158	P	Pn	16 09 26.9	+1.3
SOEI				S	Sn	16 09 46.9	+2.0
BATI	Baumata	1.43	188	P	Pn	16 09 30.5	+1.3
MMRI	Maumere	1.63	275	P	Pn	16 09 31.5	+0.3
BASI	Baing, Sumba	3.55	246	P	Pn	16 09 55.3	+0.5
WBSI	Waikabubak, Su	4.51	259	P	Pn	16 10 06.5	-0.8
PLAI	Plampang	6.03	269	P	Pn	16 10 27.2	-0.2
	0.1nm31nm,1.5s						
WRA	Warramunga Arr	15.02	139	Pn	Pn	16 12 26.1	+1.0
	0.2nm,0.3s,baz=319,slow=13,SNR=8.8						
WRA				Sn	Sn	16 15 04.1	-7.9
	0.2nm,0.3s,baz=300,slow=22,SNR=6.1						
ASAR	Alice Springs	17.64	148	P	Pn	16 13 01.6	+4.6
	0.1nm,0.3s,baz=327,slow=13,SNR=11						
ASAR				S	S	16 16 09.5	-2.1
	0.1nm,0.3s,baz=313,slow=22,SNR=4.4						
PMG	Port Moresby	23.00	93	LR	LR	16 23 22.2	
	comp=Z,45nm,18.3s,baz=186,slow=40						
URZ	Urewera	55.99	130	LR	LR	16 44 12.0	
	comp=Z,69nm,18.3s,baz=211,slow=38						
MKAR	Makanchi Array	66.56	330	P	P	16 19 33.8	-0.5
	0.2nm,0.5s,baz=132,slow=8.0,SNR=2.2						

*MOS **25** 16:15:39.1±1.1, 44.°66N×147.°58E, h166km, mb4.0/10, Error ellipse: s-maj=11.9km s-min=9.1km az=64.1*

*SKHL **25** 16:15:41.0±0.6, 44.°70N×147.°50E, h149km±6km, mb5.0/5, msha5.6/4*

*JMA **25** 16:15:41.8±0.4, 44.°53N×147.°43E, h158km±4km, M3.7*

*NEIC **25** 16:15:42.9±1.6, 45.°01N±0.°10×147.°3E±0.°1, h157km±8km, mb4.1/33, Error ellipse: s-maj=16.6km s-min=10.3km az=135.0*

*IDC **25** 16:15:43.3±2.4, 45.°35N×147.°17E, h148km±21km, mb3.4/12, mb1 3.5/15, mb1mx3.3/55, mbtmp3.9/15, Error ellipse: s-maj=42.5km s-min=14.8km az=165.0*

ISC 25 16:15:40.1±0.6, **44.°65N**±0.°06×**147.°53E**±0.°06, **h157**km±5km, **n124**, σ**1s41**/136, **mb3.9**/32, **5D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	0.63	22	*e*P	Pn	16 16 03.0	+0.2
KUR				*i* S	Sn	16 16 19.7	-0.6
KUR				pmax	pmax		
	comp=Z,127nm,0.3s						
KUR				pmax	pmax		
	comp=N,40nm,0.2s						
KUR				pmax	pmax		
	comp=E,22nm,0.2s						
KUR				smax	smax		
	comp=E,460nm,0.4s						
KUR				smax	smax		
	comp=N,252nm,0.3s						
KUR				smax	smax		
	comp=E,1μm,1.5s						
KUR				smax	smax		
	comp=N,700nm,1.4s						
KUR	Kuril'sk	0.63	22	*e*P	Pn	16 16 03.0	+0.2
KUR				AMB	AMB	16 16 03.5	
	comp=N,130nm,0.2s						
KUR				*e*S	Sn	16 16 18.8	-1.5
KUR				A	A	16 16 20.3	
	comp=N,250nm,0.4s						
KUR				A	A	16 16 20.3	
	comp=N,460nm,0.4s						
SHO	Shikotan	0.93	213	*d i* PN	Pn	16 16 05.3	+0.4
SHO				*e*S	Sn	16 16 22.7	-1.1
SHO				pmax	pmax		
	comp=N,160nm,0.3s						
SHO				pmax	pmax		
	comp=Z,427nm,0.3s						
SHO				pmax	pmax		
	comp=E,74nm,0.2s						
SHO				smax	smax		
	comp=N,1μm,0.2s						
SHO				smax	smax		
	comp=E,3μm,0.2s						
SHO	Shikotan	0.93	213	*e*P	Pn	16 16 05.3	+0.4
SHO				AMB	AMB	16 16 05.7	
	comp=E,430nm,0.3s						
SHO				*e*S	Sn	16 16 22.7	-1.1
SHO				A	A	16 16 23.8	
	comp=E,1μm,0.3s						
SHO				A	A	16 16 23.8	
	comp=E,3μm,0.3s						
YUK	Yuzh-Kuril'sk	1.34	244	*d i* PN	Pn	16 16 09.3	+0.8
YUK				*i* S	Sn	16 16 30.8	+0.4
YUK				pmax	pmax		
	comp=N,64nm,0.2s						
YUK				pmax	pmax		
	comp=E,35nm,0.2s						
YUK				pmax	pmax		
	comp=Z,767nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.5s						
YUK				smax	smax		
	comp=E,968nm,0.3s						
YUK	Yuzh-Kuril'sk	1.34	244	*e*P	Pn	16 16 09.3	+0.8
YUK				AMB	AMB	16 16 09.6	
	comp=E,770nm,0.2s						
YUK				*e*S	Sn	16 16 30.3	-0.1
YUK				A	A	16 16 31.5	
	comp=E,1μm,0.4s						
YUK				A	A	16 16 31.5	
	comp=E,1μm,0.4s						
GLVR	Golovnino	1.71	239	↓ *i* PN	Pn	16 16 13.4	+1.1
GLVR				*e*S	Sn	16 16 38.1	+1.0
GLVR				pmax	pmax		
	comp=Z,840nm,0.3s						
GLVR				smax	smax		
	comp=N,2μm,0.4s						
GLVR				smax	smax		
	comp=E,677nm,0.4s						
GLVR	Golovnino	1.71	239	*e*P	Pn	16 16 13.4	+1.1
GLVR				AMB	AMB	16 16 13.9	
	comp=E,840nm,0.3s						
GLVR				*e*S	Sn	16 16 38.1	+1.0
GLVR				A	A	16 16 39.1	
	comp=E,2μm,0.4s						
GLVR				A	A	16 16 39.1	
	comp=E,680nm,0.4s						
RUSJ	Misakicho	1.73	252	↓ *i* PN	Pn	16 16 13.2	+0.7
RUSJ				*e*S	Sn	16 16 43.4	+6.0
NEM2	Nemuro 2	1.82	226	P	Pn	16 16 13.7	+0.2
NEM2				*e*S	Sn	16 16 37.7	-1.5
NMR	Nemuro--Hokkai	1.82	226	↓ *i* PN	Pn	16 16 13.8	+0.2
NMR				*i* S	Sn	16 16 37.8	-1.5
NMR	Nemuro--Hokkai	1.82	226	*e*P	Pn	16 16 13.8	+0.2
JRA	Rausu	1.87	249	P	Pn	16 16 14.8	+0.7
JNSB	Nemuroshibetsu	2.02	245	P	Pn	16 16 16.8	+1.1
JNK	Nakash	2.29	243	P	Pn	16 16 19.9	+1.0
JNK				*e*S	Sn	16 16 49.5	+0.6
JKHN	Kushirohamanak	2.32	228	P	Pn	16 16 19.7	+0.4
JKHN				*e*S	Sn	16 16 48.7	-0.9
AKK	Akkeshi	2.54	231	*e*P	Pn	16 16 22.2	+0.3
AKK				*e*S	Sn	16 16 53.1	-1.2
JAK	Akkeshi	2.63	232	P	Pn	16 16 23.4	+0.3
JAK				*e*S	Sn	16 16 55.2	-1.1
JTKR	Abashiri--Toko	2.69	257	P	Pn	16 16 24.3	+0.6
JAR	Ashorobuto	3.03	245	P	Pn	16 16 29.3	+1.2
JMP	Maruseppu	3.06	259	P	Pn	16 16 29.0	+0.5
JOB	Onbets	3.19	238	P	Pn	16 16 31.2	+1.1
JOB				*e*S	Sn	16 17 08.6	-0.3
JKK2	Kamakawa 2	3.52	259	P	Pn	16 16 35.4	+1.1
JKK2				*e*S	Sn	16 17 17.4	+1.0
JSE	Soyaes	3.54	277	P	Pn	16 16 34.9	+0.5
JKA	Kamikawa-asahi	3.58	263		Pn	16 16 36.2	+1.3
JKA	Kamikawa-asahi	3.58	263	*e*P	Pn	16 16 36.3	+1.3
ASAJ	Asahikawa	3.58	263	P	Pn	16 16 36.3	+1.3
	comp=E,10nm,0.3s,baz=85,slow=12,SNR=129						
JCH	Churui	3.65	238	P	Pn	16 16 36.3	+0.4
JCH				*e*S	Sn	16 17 17.2	-2.0
JWK2	Keihoku	4.05	281	P	Pn	16 16 42.8	+1.7
YSS	Yuzh-Sakhalins	4.06	306	*e*PN	Pn	16 16 43.8	+2.6
YSS	Yuzh-Sakhalins	4.06	306	Pn	Pn	16 16 40.8	-0.4
YSS	Yuzh-Sakhalins	4.06	306	*e*P	Pn	16 16 40.8	-0.4
ERM	Erimo	4.13	232	PN	Pn	16 16 42.6	+0.4
ERM	Erimo	4.13	232		Pn	16 16 42.6	+0.4
JNBK	Urakawa-nobuka	4.21	237	P	Pn	16 16 42.7	-0.4
JNBK				*e*S	Sn	16 17 29.4	-2.8
JEW	Eniwo	4.76	250	P	Pn	16 16 52.0	+1.6
JEW	Eniwo	4.76	250	Pn	Pn	16 16 49.9	-0.5
JOT	Ohata	5.76	238	P	Pn	16 17 02.7	-0.9
JOT				*e*S	Sn	16 18 03.5	-5.6
JTM	Tenmabayashi	6.13	233		Pn	16 17 07.2	-1.2
TYV	Tymovskoe	7.03	334	*e*P	Pn	16 17 17.4	-3.0
TYV				AMB	AMB	16 17 19.0	
	comp=E,10.0nm,0.3s						
SKR	Severo-Kuril's	8.37	41	*e*P	Pn	16 17 38.4	+0.3
JMM	Marumori	8.46	219	Pn	Pn	16 17 39.1	-0.4
PAU	Pauzhetka	9.22	39	*e*P	Pn	16 17 49.2	-0.3
MJAR	Matsushiro Arr	10.75	224	PN	Pn	16 18 09.6	-0.3
MJAR	Matsushiro Arr	10.75	224	Pn	Pn	16 18 09.6	-0.3
MJB9	Matsu-Tunnel	10.75	224	Pn	Pn	16 18 09.7	-0.2
MAJO	Matsushiro	10.75	224	PN	Pn	16 18 10.0	+0.1
MAJO	Matsushiro	10.75	224	Pn	Pn	16 18 09.9	+0.1
PETK	Petropavlovsk-	10.78	35	P	Pn	16 18 08.3	-1.8
	comp=E,0.2nm,0.3s,baz=191,slow=9.8,SNR=7.1						
PETK	Petropavlovsk-	10.78	35		Pn	16 18 09.0	-1.1
YAK	Yakutsk	20.29	335	P	P	16 19 58.8	-4.4
	comp=E,0.1nm,0.3s,baz=132,slow=5.0,SNR=12						
YAK	Yakutsk	20.29	335	P	P	16 19 59.9	-3.3
YAK				IAmb	IAmb	16 20 01.8	
	comp=Z,12nm,0.7s						
SONM	Songino Array	28.39	291	P	P	16 21 19.5	-0.1
	comp=Z,0.8nm,0.5s,baz=89,slow=10,SNR=8.3						
SONM	Songino Array	28.39	291	IAmb	IAmb	16 21 25.0	
	comp=Z,0.8nm,0.8s						
H11N2	WAKE ISLAND Hy	29.61	141	T	T	16 52 55.7	
	baz=334,slow=76,SNR=49						
H11N1	WAKE ISLAND Hy	29.62	141	T	T	16 52 48.6	
	baz=334,slow=76,SNR=42						
H11N3	WAKE ISLAND Hy	29.63	141	T	T	16 52 57.0	
	baz=334,slow=76,SNR=42						
H11S1	WAKE ISLAND Hy	30.60	142	T	T	16 54 00.1	
	baz=333,slow=76,SNR=114						
H11S3	WAKE ISLAND Hy	30.60	142	T	T	16 53 58.9	
	baz=333,slow=76,SNR=76						
H11S2	WAKE ISLAND Hy	30.62	142	T	T	16 53 60.0	
	baz=333,slow=76,SNR=70						
TTA	Tatalina	36.56	40	P	P	16 22 32.0	+1.6
TTA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TTA	Tatalina	36.56	40	P	P	16 22 31.9	+1.6
TTA				IAmb	IAmb	16 22 50.2	
	comp=Z,8.7nm,1.4s						
J20K	Nowinta River	37.46	38	P	P	16 22 39.6	+1.8
J20K				IAmb	IAmb	16 22 44.6	
	comp=Z,3.4nm,1.2s						
IMAR	Indian Mountai	37.75	35	P	P	16 22 41.1	+0.8
Q19K	Cape Douglas,	37.77	46	P	P	16 22 42.7	+2.1
H21K	Melozitna Rive	38.11	35	P	P	16 22 44.5	+1.2
CAST	Castle Rocks	38.36	39	P	P	16 22 47.2	+1.8
CAST				IAmb	IAmb	16 22 55.1	
	comp=Z,3.8nm,1.3s						
H23K	Yukon River	39.47	35	P	P	16 22 56.3	+1.7
H23K				IAmb	IAmb	16 22 58.6	
	comp=Z,5.6nm,1.4s						
MDM	Murphy Dome	40.02	37	P	P	16 23 00.7	+1.4
MDM				IAmb	IAmb	16 23 06.7	
	comp=Z,4.5nm,1.4s						
SML	Sawmill	40.16	41	P	P	16 23 02.4	+1.9
SML				IAmb	IAmb	16 23 15.2	
	comp=Z,23nm,1.4s						
DHY	Denali Highway	40.50	39	P	P	16 23 04.4	+1.1
DHY				IAmb	IAmb	16 23 29.1	
	comp=Z,9.1nm,1.2s						
ILAR	Eielson Array	40.60	37	P	P	16 23 05.1	+1.1
	comp=Z,0.5nm,0.7s,baz=284,slow=9.3,SNR=6.3						
BMAR	Burnt Mountain	41.43	33	P	P	16 23 11.7	+1.0
SCRK	Sand Creek	41.93	38	P	P	16 23 16.2	+1.4
BCAR	Beaver Creek A	43.03	39	P	P	16 23 24.9	+1.2
M27K	Edge Creek, AK	43.10	40	P	P	16 23 26.6	+2.2
M27K				IAmb	IAmb	16 23 27.5	
	comp=Z,3.6nm,0.9s						
DAWY	Dawson	43.91	37	P	P	16 23 32.7	+1.9
DAWY				IAmb	IAmb	16 23 55.5	
	comp=Z,5.2nm,1.5s						
MK31	Makanchi Array	44.42	297	P	P	16 23 35.4	+0.4
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	Makanchi Array	44.42	297	P	P	16 23 35.4	+0.4
MKAR	Makanchi Array	44.42	297	P	P	16 23 35.3	+0.3
	comp=Z,1.2nm,0.4s,baz=76,slow=8.4,SNR=21						
MKAR	Makanchi Array	44.42	297	P	P	16 23 35.1	+0.1
MAKZ	Makanchi	44.61	297	P	P	16 23 36.7	+0.2
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAKZ	Makanchi	44.61	297		P	16 23 36.7	+0.2
KURK	Kurchatov	45.26	303	P	P	16 23 41.3	-0.2
KURK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KURK	Kurchatov	45.26	303	P	P	16 23 41.2	-0.2
KURK	Kurchatov	45.26	303	IAmb	IAmb	16 23 42.7	
	comp=Z,4.7nm,1.4s						
KURK	Kurchatov	45.26	303	*e*P	P	16 23 41.3	-0.2
KURBB	Kurchatov Arra	45.35	303	P	P	16 23 41.2	-0.9
	comp=Z,0.5nm,0.4s,baz=74,slow=8.3,SNR=12						
INK	Inuvik	45.49	31	P	P	16 23 43.3	+0.2
	comp=Z,0.4nm,0.4s,baz=270,slow=5.1,SNR=5.6						
INK	Inuvik	45.49	31	P	P	16 23 43.3	+0.2
INK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TOLI2	Tolitoli	49.40	216	P	P	16 24 17.5	+3.6
TOLI2				IAmb	IAmb	16 24 29.8	
	comp=Z,4.8nm,1.0s						
KDJ	Kajisay	49.71	293	P	P	16 24 16.9	+0.7
KDJ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KDJ	Kajisay	49.71	293	P	P	16 24 16.9	+0.7
KDJ				IAmb	IAmb	16 24 18.0	
	comp=Z,3.5nm,1.1s						
BOOM	Boomskoye usch	50.35	294	P	P	16 24 22.1	+1.1
BOOM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOOM	Boomskoye usch	50.35	294	P	P	16 24 22.1	+1.1
BOOM				IAmb	IAmb	16 24 23.0	
	comp=Z,2.4nm,0.8s						
KK31	Karatay Array	53.54	297	P	P	16 24 44.7	+0.3
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KK31	Karatay Array	53.54	297	P	P	16 24 44.7	+0.3
KK31				IAmb	IAmb	16 24 45.4	
	comp=Z,2.2nm,0.7s						
KKAR	Karatay Array	53.54	297	P	P	16 24 44.6	+0.2
KKAR	Karatay Array	53.54	297	P	P	16 24 44.6	+0.2
KKAR	Karatay Array	53.54	297	P	P	16 24 44.6	+0.2
KKAR				IAmb	IAmb	16 24 45.4	
	comp=Z,2.2nm,0.7s						
RES	Resolute Bay	54.03	17	P	P	16 24 46.3	-1.1
RES				pmax	pmax		
	comp=Z,1.0nm,1.1s						
RES	Resolute Bay	54.03	17	P	P	16 24 46.3	-1.1
YKA	Yellowknife Ar	54.91	34	P	P	16 24 55.3	+1.4
	comp=Z,0.1nm,0.4s,baz=308,slow=7.3,SNR=5.0						
GAR	Garm	55.80	293	P	P	16 25 01.3	+0.4
GAR				IAmb	IAmb	16 25 02.6	
	comp=Z,10nm,1.3s						
ABKAR	Akbulak array	56.72	308	P	P	16 25 06.0	-

248nm,0.3s,baz=74,slow=14,SNR=27
DAV Lg Lg 16 19 18.7
1μm,0.3s,baz=106,slow=23,SNR=29
DAV LR LR 16 19 27.6
comp=Z,238nm,18.5s,baz=194,slow=51
DAV Davao City (W) 0.40 277 Pg 16 19 10.6 0.0
DAV Sg **Sb** 16 19 18.4 +1.2
KCP Kidapawan 0.88 269 iP Pn 16 19 31.4 +11
BIPH Bislig 1.21 18 eP Pn 16 19 22.9 -2.0
BIPH eS **Sb** 16 19 40.2 -0.3
CTBH Cotabato--PC H 1.73 277 iP Pn 16 19 30.5 -1.5
CTBH *i* S **Sn 16 19 53.1 -0.6**
CGP Cagayan de Oro 1.91 318 eP Pn 16 19 32.6 -1.8
CGP eS **Sn 16 19 54.8 -3.3**
PAGZ Pagadian 2.70 288 eP Pn 16 19 44.3 -1.0
PAGZ eS **Sn 16 20 19.4 +1.6**
TOLI2 Tolitoli 7.83 222 Pn Pn 16 20 53.9 -2.0
GUMO Guam 19.69 69 P Pn 16 23 35.5 +2.8
MYKOM Kota Tinggi 22.66 258 P P 16 24 04.1 +0.7
MYKOM IAmb IAmb 16 24 15.5
comp=Z,8.0nm,1.1s
KNRA Kununurra 22.72 173 P P 16 24 04.1 +0.2
KNRA IAmb IAmb 16 24 04.9
comp=Z,11nm,0.9s
FITZ Fitzroy Crossi 24.96 181 P P 16 24 24.2 -1.3
comp=Z,1.2nm,0.5s,baz=358,slow=9.7,SNR=8.1
WB0 Warramunga Arr 27.88 163 P P 16 24 50.4 -1.5
WB0 IAmb IAmb 16 25 04.4
comp=Z,9.3nm,1.4s
WRAB Tennant Creek 28.03 163 P P 16 24 51.7 -1.5
WRAB IAmb IAmb 16 25 13.4
comp=Z,7.5nm,0.9s
WRA Warramunga Arr 28.03 163 P P 16 24 51.9 -1.3
comp=Z,0.4nm,0.3s,baz=341,slow=9.3,SNR=15
WB2 Warramunga Arr 28.04 163 P P 16 24 52.2 -1.1
WB2 IAmb IAmb 16 25 05.9
comp=Z,12nm,1.5s
WR0 Warramunga Arr 28.11 163 P P 16 24 52.7 -1.2
WR0 IAmb IAmb 16 25 05.3
comp=Z,11nm,1.2s
AS31 Alice Springs 31.47 166 P P 16 25 22.6 -1.1
AS31 IAmb IAmb 16 25 30.9
comp=Z,1.1nm,1.1s
ASAR Alice Springs 31.47 166 P P 16 25 22.5 -1.2
comp=Z,0.7nm,0.3s,baz=346,slow=7.9,SNR=49
ASAR Alice Springs 31.47 166 P P 16 25 22.2 -1.5
ASAJ Asahikawa 39.71 19 LR LR 16 44 17.3
comp=Z,19nm,19.2s,baz=232,slow=38
BBOO Buckleboo 40.76 167 P P 16 26 42.5 -0.5
STKA Stephens Creek 41.46 160 P P 16 26 48.3 -0.4
comp=Z,1.4nm,0.7s,baz=342,slow=8.9,SNR=4.0
STKA Stephens Creek 41.46 160 P P 16 26 48.4 -0.4
ILAR Eielson Array 82.47 26 P P 16 31 27.5 +3.4

IDC ***25*** *16:25:42.2±3.1, 15.˚69S×167.˚28E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/37, mbtmp3.8/4, ML4.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/48, Error ellipse: s-maj=70.6km s-min=38.2km az=96.0*
NOU ***25*** *16:25:47.4, 15.˚855×167.˚57E, h29km, MLv4.6/18, Vanuatu Islands*
ISC 25 16:25:47.1±1.5, 15˚86S±0.˚07×167˚5E±0.˚2, h39km, n16, σ1§21/16, mb3.6/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.50**	**326**	P	**Pn**	**16 25 58.8**	**+1.0**
DVP	**Devils Point**	**1.97**	**160**	P	**Pn**	**16 26 19.1**	**+1.1**
LIFNC	**LIFOU**	**4.90**	**183**	P	**Pn**	**16 26 58.6**	**+0.4**
KOUNC	**Koumac, New Ca**	**5.57**	**213**	P	**Pn**	**16 27 08.9**	**+1.4**
MARNC	**Mare, Loyalty**	**5.61**	**175**	P	**Pn**	**16 27 08.0**	**-0.1**
YATNC	**Mamie plateau,**	**6.19**	**185**	P	**Pn**	**16 27 16.6**	**+0.6**
DZM	**Mont Dzumac**	**6.26**	**189**	Pn	**Pn**	**16 27 17.9**	**+0.9**
	13nm,0.3s,baz=357,slow=10,SNR=125						
DZM				Sn	**Sn**	**16 28 26.2**	**-1.1**
	7.9nm,0.3s,baz=113,slow=22,SNR=8.1						
DZM	**Mont Dzumac**	**6.26**	**189**	P	**Pn**	**16 27 18.0**	**+1.0**
NOUC	**Port Laguerre**	**6.31**	**190**	P	**Pn**	**16 27 19.3**	**+1.7**
ONTNC	**Ouen Toro**	**6.49**	**189**	P	**Pn**	**16 27 21.3**	**+1.2**
OUENC	**Ouen Island, N**	**6.55**	**185**	P	**Pn**	**16 27 22.7**	**+1.7**
PINNC	**Pines Island,**	**6.72**	**180**	P	**Pn**	**16 27 24.7**	**+1.5**
WRA	**Warramunga Arr**	**31.78**	**258**	P	**P**	**16 32 07.1**	**-0.9**
	0.4nm,0.7s,baz=87,slow=8.6,SNR=1.9						
ASAR	**Alice Springs**	**32.49**	**251**	P	**P**	**16 32 13.4**	**-0.8**
	0.8nm,0.9s,baz=83,slow=8.4,SNR=11						
LEM	**Lembang**		**59.22 271**	LR	LR	17 01 35.4	
	comp=Z,25nm,20.8s,baz=242,slow=36						
SONM	**Songino Array**	**83.53**	**324**	P	**P**	**16 38 11.0**	**-0.1**
	0.7nm,0.7s,baz=140,slow=6.1,SNR=6.0						

JMA 25 16:41:56.8±0.4, 33˚32N×142˚24E, h13km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.69**	**322**	P	**Pb**	16 42 26.6	-0.9
JHJ2	**Mitsune**	**2.04**	**265**	P	**Pn**	16 42 31.8	+0.9
JHJ2				eS	Sn	16 42 56.5	+0.3
BSO3	**Boso 3**	**2.06**	**316**	P	**Pn**	16 42 32.3	+1.4
JMKN	**Mikurajimanish**	**2.28**	**285**	P	**Pn**	16 42 35.3	+1.1
JMKN				eS	Sb	16 43 04.1	-1.9
BSO4	**Boso 4**	**2.29**	**317**	P	**Pb**	16 42 36.2	-1.8
BSO4				eS	Sb	16 43 04.5	-1.7
JOD2	**Odawara 2**	**3.25**	**307**	P	**Pn**	16 42 48.2	+0.7
JOD2				eS	Sn	16 43 26.5	+0.4
JRY	**Ryogami san**	**3.85**	**315**	P	**Pn**	16 42 58.0	+2.3
JRY				eS	Sn	16 43 43.1	+2.3
JAG	**Ashikaga**	**3.85**	**324**	P	**Pn**	16 42 56.8	+1.0
JFT	**Otama**	**4.47**	**340**	P	**Pn**	16 43 04.5	+0.3
JFT				S	Sn	16 43 54.3	-1.8
MAT	**Matsushiro**	**4.62**	**315**	P	**Pn**	16 43 08.7	+2.4
CBIJ	**Chichi jima**	**6.20**	**180**	P	**Pn**	16 43 24.9	-3.2
CBIJ				eS	Sn	16 44 28.6	-10

IDC ***25*** *16:51:02.4±2.0, 0.˚26N×126.˚39E, h0km, mb3.1/3, mb1 3.3/3, mb1mx2.9/30, mbtmp3.1/3, Error ellipse: s-maj=162.8km s-min=27.8km az=65.0*
DJA ***25*** *16:51:07.7±4.1, 0.˚S±6.˚4×12.˚5E±.˚, h16km±38km, M3.6/7, MLv3.6/7*
ISC 25 16:51:04.5±1.0, 0.˚2S±0.˚1×125.˚43E±0.˚08, h10km, n10, σ0§68/10, mb3.0/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.62**	**296**	P	**Pg**	**16 51 35.5**	**-0.1**
SANI	**Sanana**	**1.97**	**164**	P	**Pn**	**16 51 38.0**	**+0.1**
LBMI	**Labuha**	**2.13**	**103**	P	**Pg**	**16 51 45.1**	**-0.2**
GTOI	**Gorontalo**	**2.54**	**288**	P	**Pb**	**16 51 49.7**	**-0.5**
LUWI	**Luwuk**	**2.80**	**252**	P	**Pn**	**16 51 49.0**	**-0.4**
MRSI	**Marisa**	**3.54**	**280**	P	**Pn**	**16 51 59.1**	**-0.5**
APSI	**Ampana**	**3.86**	**259**	P	**Pn**	**16 52 04.9**	**+1.0**
WRA	**Warramunga Arr**	**21.52**	**157**	P	**P**	**16 55 53.1**	**-0.8**
	0.7nm,1.1s,baz=338,slow=9.8,SNR=5.2						
ASAR	**Alice Springs**	**24.78**	**161**	P	**P**	**16 56 27.1**	**+0.4**
	0.2nm,0.7s,baz=351,slow=16,SNR=5.9						
MKAR	**Makanchi Array**	**60.04**	**327**	P	**P**	**17 01 12.5**	**+0.8**
	0.2nm,0.5s,baz=138,slow=7.2,SNR=4.1						

RSNC ***25*** *17:10:59.6±1.1, 6.˚81N×73.˚15W, h142km±5km, ML3.0*
IDC ***25*** *17:10:59.2±7.3, 6.˚63N×76.˚17W, h104km±76km, mb2.8/1, mb1 3.1/2, mb1mx3.0/23, mbtmp3.3/2, ML2.3/1, Error ellipse: s-maj=128.0km s-min=40.8km az=74.0*
ISC 25 17:10:58.5±0.9, 6˚87N±0.˚04×73˚15W±0.˚04, h150km, n26, σ1§44/49, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**187**	**iP**	**Pn**	**17 11 19.0**	**-0.4**
BARC				eS	**Sn**	**17 11 33.4**	**-1.7**
BARC				*i*		17 11 34.7	
	comp=Z,453nm,0.2s						
PAMC	**Pamplona, Colo**	**0.65**	**43**	**iP**	**Pn**	**17 11 21.9**	**+0.6**
PAMC				eS	**Sn**	**17 11 38.7**	**+0.1**
PAMC				*i*		17 11 41.1	
	comp=Z,295nm,0.5s						
RUSC	**La Rusia**	**0.97**	**176**	**eP**	**Pn**	**17 11 22.9**	**-0.7**
RUSC				eS	**Sn**	**17 11 41.1**	**-1.7**
RUSC				*i*		17 11 42.8	
	comp=Z,130nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.34**	**256**	**iP**	**Pn**	**17 11 25.5**	**-1.0**
PTBC				eS	**Sn**	**17 11 46.4**	**-1.4**
PTBC				*i*		17 11 50.0	
	comp=Z,185nm,0.2s						
OCAC	**Ocana**	**1.37**	**353**	**eP**	**Pn**	**17 11 26.9**	**0.0**
OCAC				eS	**Sn**	**17 11 48.7**	**0.0**
OCAC				*i*		17 11 52.4	
	comp=Z,331nm,0.4s						
TAMC	**Tame, Arauca**	**1.42**	**108**	**eP**	**Pn**	**17 11 27.4**	**+0.1**
TAMC				eS	**Sn**	**17 11 48.7**	**-0.5**
SPBC	**San Pablo de B**	**1.52**	**217**	**iP**	**Pn**	**17 11 27.9**	**-0.5**
SPBC				eS	**Sn**	**17 11 50.0**	**-1.2**
SPBC				*i*		17 11 54.0	
	comp=Z,136nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.81**	**290**	**eP**	**Pn**	**17 11 32.1**	**+0.6**
ZARC				eS	**Sn**	**17 11 57.7**	**+1.0**
ZARC				*i*		17 11 59.9	
	comp=Z,110nm,0.1s						
NORC	**Norcasia**	**2.15**	**233**	**eP**	**Pn**	**17 11 35.0**	**-0.4**
NORC				eS	**Sn**	**17 12 02.6**	**-1.2**
NORC				*i*		17 12 04.8	
	comp=Z,104nm,0.1s						
CHIC	**Chingaza**	**2.30**	**195**	**eP**	**Pn**	**17 11 37.5**	**-0.1**
CHIC				eS	**Sn**	**17 12 06.0**	**-1.7**
CHIC				*i*		17 12 12.4	
	comp=Z,32nm,0.3s						
ROSC	**El Rosal**	**2.33**	**210**	P	**Pn**	**17 11 39.6**	**+1.6**
	comp=Z,13nm,0.3s,baz=308,slow=17,SNR=13						
ROSC				S	**Sn**	**17 12 11.1**	**+2.8**
	comp=Z,26nm,0.3s,baz=3.8,slow=23,SNR=10						
ROSC	**El Rosal**	**2.33**	**210**	**eP**	**Pn**	**17 11 39.1**	**+1.2**
ROSC				eS	**Sn**	**17 12 11.0**	**+2.8**
ROSC				*i*		17 12 15.3	
	comp=Z,81nm,0.5s						
UREC	**San Jos de Ur**	**2.52**	**291**	**eP**	**Pn**	**17 11 39.4**	**-0.6**
UREC				eS	**Sn**	**17 12 11.2**	**-0.7**
UREC				*i*		17 12 13.1	
	comp=Z,98nm,0.1s						
GUY2C	**Guyana, Caldas**	**2.74**	**234**	**eP**	**Pn**	**17 11 44.1**	**+1.0**
GUY2C				eS	**Sn**	**17 12 17.5**	**0.0**
GUY2C				*i*		17 12 24.4	
	comp=Z,73nm,0.2s						
VILC	**Villavicencio,**	**2.79**	**191**	**eP**	**Pn**	**17 11 43.0**	**-0.4**
VILC				eS	**Sn**	**17 12 16.1**	**-2.0**
CBOC	**Ciudad Bolivar**	**3.02**	**251**	**eP**	**Pn**	**17 11 47.2**	**+0.9**
CBOC				eS	**Sn**	**17 12 23.5**	**+0.4**
CBOC				*i*		17 12 28.1	
	comp=Z,24nm,0.4s						
DBBC	**Dabeiba**	**3.04**	**273**	**eP**	**Pn**	**17 11 47.2**	**+0.7**
DBBC				eS	**Sn**	**17 12 22.7**	**-0.9**
SDV	**Santo Domingo**	**3.20**	**51**	**eP**	**Pn**	**17 11 48.4**	**-0.2**
SDV				eS	**Sn**	**17 12 26.3**	**-1.1**
ANIL	**Santa Ana**	**3.26**	**224**	**eP**	**Pn**	**17 11 50.7**	**+1.3**
ANIL				eS	**Sn**	**17 12 28.8**	**-0.1**
ANIL				*i*		17 12 41.1	
	comp=Z,72nm,0.5s						
ORTC	**Ortega, Tolima**	**3.60**	**216**	**eP**	**Pn**	**17 11 53.6**	**-0.1**
ORTC				eS	**Sn**	**17 12 35.0**	**-1.5**
ORTC				*i*		17 12 40.6	
	comp=Z,21nm,0.6s						
SJCC	**San Jacinto, C**	**3.62**	**326**	**eP**	**Pn**	**17 11 53.8**	**-0.2**
SJCC				eS	**Sn**	**17 12 34.5**	**-2.4**
SJCC				*i*		17 12 38.3	
	comp=Z,23nm,0.5s						
PLMC	**San Jos del P**	**3.68**	**238**	**eP**	**Pn**	**17 11 53.6**	**-1.1**
PLMC				eS	**Sn**	**17 12 33.7**	**-4.5**
PLMC				*i*		17 12 40.0	
	comp=Z,20nm,0.6s						
YOTC	**Yotoco, Valle**	**4.28**	**228**	**eP**	**Pn**	**17 12 03.8**	**+1.2**
YOTC				eS	**Sn**	**17 12 49.7**	**-2.8**
YOTC				*i*		17 13 00.2	
	comp=Z,8.1nm,0.9s						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**17 21 11.0**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=125,slow=8.3,SNR=2.1						
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPdf**	**17 30 28.4**	**+2.7**
	comp=Z,0.2nm,0.6s,baz=122,slow=2.9,SNR=4.6						
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc	**PKPbc**	**17 30 31.8**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=105,slow=2.8,SNR=1.8						

IDC 25 17:49:34.5±2.5, 4.˚44S×150.˚80E, h112km±40km, mb3.2/3, mb1 3.5/3, mb1mx2.8/32, mbtmp3.6/3, Error ellipse: s-maj=68.3km s-min=32.6km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.23**	**84**	P	Pn	17 49 58.8	+0.5
	26nm,0.3s,baz=273,slow=1.2,SNR=87						
KRVT				S	Sn	17 50 16.4	0.0
	83nm,0.3s,baz=192,slow=23,SNR=26						
WRA	**Warramunga Arr**	**22.24**	**225**	P	P	17 54 22.1	-0.2
	0.7nm,0.6s,baz=52,slow=10,SNR=12						
ASAR	**Alice Springs**	**25.12**	**219**	P	P	17 54 48.8	-0.4
	0.7nm,0.6s,baz=52,slow=9.1,SNR=20						
FITZ	**Fitzroy Crossi**	**28.10**	**239**	P	P	17 55 16.4	+0.5
	1.5nm,0.9s,baz=56,slow=9.0,SNR=1.6						
TORD	**Torodi Ar. Bea**	**148.29**	**288**	PKPbc	PKPbc	18 09 08.2	-0.5
	0.4nm,0.8s,baz=89,slow=1.4,SNR=2.6						

IDC 25 17:51:02.2±4.1, 30˚05S×178.˚40W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/27, mbtmp3.5/2, Error ellipse: s-maj=116.0km s-min=19.2km az=135.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.90**	**28**	Pn	Pn	17 51 22.2	+0.1
	69nm,0.3s,baz=135,slow=18,SNR=2.3						
RAO				Sn	Sn	17 51 36.7	+0.8
	378nm,0.3s,baz=93,slow=22,SNR=12						
ASAR	**Alice Springs**	**42.78**	**267**	P	P	17 59 01.7	-0.1
	0.2nm,0.5s,baz=104,slow=7.5,SNR=5.5						
WRA	**Warramunga Arr**	**43.74**	**272**	P	P	17 59 09.4	-0.2
	0.7nm,0.6s,baz=110,slow=8.0,SNR=7.1						
FINES	**FINESS Array B**	**144.70**	**340**	PKP	PKPbc	18 10 39.6	+0.5
	2.1nm,1.0s,baz=46,slow=5.5,SNR=4.5						

IDC ***25*** *18:02:55.8±3.0, 9.˚17S×110.˚28E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/32, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=150.2km s-min=27.8km az=47.0*
DJA ***25*** *18:02:59.4±3.0, 3.˚9S±4.˚4×11.˚0E±.˚, h10km, M4.1/18, mb4.3/7, MLv4.0/18*
ISC 25 18:02:58.2±1.1, 9˚4S±0.˚1×110˚32E±0.˚08, h10km, n25, σ1§37/23, mb3.2/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**1.50**	**35**	P	**Pn**	**18 03 22.7**	**-2.5**
UGM	**Wanagama**	**1.52**	**8**	P	**Pn**	**18 03 23.9**	**-1.7**
YOGI	**Yogyakarta**	**1.61**	**359**	P	**Pn**	**18 03 25.1**	**-1.6**
PWJI	**Pagerwojo**	**2.03**	**47**	P	**Pn**	**18 03 32.2**	**-0.4**
SMRI	**Semarang**	**2.37**	**3**	P	**Pn**	**18 03 37.5**	**+0.3**
SMRI				S	**Sn**	**18 04 06.8**	**+0.4**
CMJI	**Cimerak**	**2.47**	**311**	P	**Pn**	**18 03 38.7**	**+0.2**
TBJI	**Tambak Boyo**	**3.01**	**30**	P	**Pn**	**18 03 46.5**	**+0.5**
UWJI	**Ujung Watu**	**3.06**	**12**	P	**Pn**	**18 03 47.3**	**+0.6**
GMJI	**Gumukmas**	**3.30**	**70**	P	**Pn**	**18 03 50.1**	**+0.1**
BLJI	**Banyuglugur**	**3.65**	**63**	P	**Pn**	**18 03 56.7**	**+1.9**
LEM	**Lembang**	**3.72**	**314**	P	**Pn**	**18 03 57.9**	**+2.0**
CNJI	**Cibinong**	**3.79**	**304**	P	**Pn**	**18 03 57.8**	**+1.0**
JAGI	**Jajag, Banyuwa**	**3.91**	**76**	P	**Pn**	**18 03 58.8**	**+0.4**
ABJI	**Asem Bagus**	**4.20**	**68**	P	**Pn**	**18 04 03.5**	**+1.1**
KASI	**Kota Agung**	**6.95**	**304**	P	**Pn**	**18 04 42.7**	**+2.4**
	0.1nm18nm,0.8s						
PLAI	**Plampang**	**7.39**	**86**	P	**Pn**	**18 04 47.1**	**+0.8**
	0.1nm24nm,0.8s						
TPRI	**Tanjung Pinang**	**11.79**	**330**	P	**Pn**	**18 05 46.7**	**+0.1**
	19nm,0.7s						
BATI	**Baumata**	**13.18**	**94**	P	**Pn**	**18 06 06.1**	**+0.5**
	14nm,1.5s						
FITZ	**Fitzroy Crossi**	**17.19**	**122**	P	**P**	**18 06 59.8**	**-0.4**
	0.0nm,0.3s,baz=299,slow=11,SNR=1.1						
WRA	**Warramunga Arr**	**25.44**	**117**	P	**P**	**18 08 27.5**	**+1.0**
	0.6nm,1.0s,baz=290,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**26.61**	**125**	P	**P**	**18 08 37.5**	**+0.3**
	0.2nm,0.6s,baz=301,slow=9.7,SNR=5.0						
H08S2	**Diego Garcia H**	**37.43**	**270**	T	T	18 50 25.6	
	baz=94,slow=75,SNR=2.0						
H08S3	**Diego Garcia H**	**37.44**	**270**	T	T	18 50 16.7	
	baz=94,slow=75,SNR=2.9						
H08S1	**Diego Garcia H**	**37.45**	**270**	T	T	18 50 21.2	
	baz=94,slow=75,SNR=2.8						
MKAR	**Makanchi Array**	**61.31**	**338**	P	**P**	**18 13 11.3**	**-2.6**
	0.2nm,0.3s,baz=146,slow=7.9,SNR=4.3						

TAP ***25*** *18:13:11.1, 20.˚97N×121.˚18E, h58km±1km, ML5.3, D*
MOS ***25*** *18:13:12.1±0.9, 21.˚14N×121.˚22E, h16km, mb5.3/59, MS4.7/17, Error ellipse: s-maj=6.0km s-min=3.7km az=115.6*
BJI ***25*** *18:13:12.0±0.0, 21.˚04N×121.˚04E, h10km, mb4.7/78, mB4.9/59, ML4.9/6, Ms5.0/89, Ms7 4.8/82*
NIED ***25*** *18:13:12.9, 21.˚30N×121.˚21E, h0km, MW5.1, Moment Tension Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-2.30; Mθθ2.13; Mφφ0.17; Mrθ2.46; Mθφ2.28; Mφr1.92; Fault plane solution: Mo4.31000×10¹⁶ NP1:φs66.00000°, δ22.00000°, λ-77.00000°. NP2:φs232.00000°, δ68.00000°, λ-95.00000°.*
JMA ***25*** *18:13:12.9±0.4, 21.˚30N×121.˚21E, h0km, M5.0*
MAN ***25*** *18:13:13.3, 21.˚17N×121.˚23E, h15km, mb5.8, ML4.8, MS5.2, Hypocentre not reviewed by the ISC*
NEIC ***25*** *18:13:13.7±1.8, 21.˚22N±0.˚06×121.˚13E±0.˚07, h10km±1km, mb5.3/215, Error ellipse: s-maj=11.7km s-min=9.9km az=131.0*
GCMT ***25*** *18:13:15.7±0.2, 21.˚16N±0.˚01×121.˚03E±0.˚01, h17km, MW5.1/110, Moment Tensor Solution. s48,c64; s110,c176; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.44±.17; Mθθ1.29±.09; Mφφ-4.74±.13; Mrθ0.40±.26; Mθφ-1.29±.08; Mφr-4.52±.38; Best double couple: Mo6.25200×10¹⁶ NP1:φs33.00000°, δ25.00000°, λ124.00000°. NP2:φs177.00000°, δ70.00000°, λ75.00000°. Principal axes: T 5.6300, Plg63.0000°, Azm64.4000°; N 1.2340, Plg14.0000°, Azm182.0000°; P -6.8740, Plg23.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***25*** *18:13:17.9±1.5, 21.˚12N×121.˚23E, h46km±14km, mb4.5/27, mb1 4.6/30, mb1mx4.5/37, mbtmp4.7/30, ML4.2/3, MS4.4/69, Ms1 4.4/69, ms1mx4.3/94 Error ellipse: s-maj=13.2km s-min=10.5km az=91.0*
ISC 25 18:13:16.7±0.4, 21˚22N±0.˚02×121˚14E±0.˚03, h33km±2km, h32km:pP-P, n1012, σ1§51/1102, mb5.2/227, MS4.5/102, 108C-97D, Fault plane solution: NP1:φs224.13176°, δ75.14812°, λ-96.86546°. NP2:φs69.29261°, δ16.32947°, λ-65.73503°. Principal axes: T Plg29.8239°, Azm319.7230°; N Plg6.6350°, Azm225.8994°; P Plg59.2974°, Azm124.6026°; Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.71**	**341**	*i* P	**Pn**	**18 13 29.1**	**-1.3**
	baz=342						
TSEB				eS	**Sn**	**18 13 43.5**	**+3.2**
	baz=342						
TWKBT	**Hengchun**	**0.78**	**337**	**iP**	**Pn**	**18 13 29.9**	**-1.6**
	baz=341						
TWKBT				eS	**Sb**	**18 13 44.7**	**+2.5**
	baz=341						
TWK1	**Hengchun**	**0.78**	**336**	**iP**	**Pn**	**18 13 29.9**	**-1.6**
	baz=341						
TWK1				eS	**Sb**	**18 13 45.1**	**+2.8**
	baz=341						
HEN	**Hengchun**	**0.87**	**334**	*i* P	**Pn**	**18 13 31.6**	**-1.0**
	baz=339						
HEN				eS	**Sb**	**18 13 46.5**	**+1.8**
	baz=339						
LYUB	**Lan-yu**	**0.88**	**28**	**iP**	**Pn**	**18 13 30.8**	**-2.0**
	baz=20						
LYUB				eS	**Sn**	**18 13 43.5**	**-0.9**
	baz=20						
LAY	**Lan-yu**	**0.90**	**25**	**iP**	**Pn**	**18 13 31.1**	**-2.0**
	baz=18						
LAY				eS	**Sn**	**18 13 43.7**	**-1.2**
	baz=18						
SLIU	**Shizi**	**1.04**	**342**	**iP**	**Pn**	**18 13 33.0**	**-2.0**
	baz=334						
SLIU				eS	**Sb**	**18 13 50.0**	**+0.5**
	baz=334						
TAW	**Tawu**	**1.15**	**348**	**eP**	**Pn**	**18 13 34.4**	**-2.2**
	baz=358						
TAW				eS	**Sn**	**18 13 50.2**	**-1.0**
	baz=358						
EAST	**Anshuo**	**1.19**	**347**	**iP**	**Pn**	**18 13 34.7**	**-2.4**
	baz=360						
EAST				eS	**Sb**	**18 13 55.0**	**+1.2**
	baz=360						
SCZT	**Fangliau**	**1.24**	**337**	*i* P	**Pn**	**18 13 37.2**	**-0.6**
	baz=340						
SCZT				eS	**Sb**	**18 13 55.0**	**-0.3**
	baz=340						
WLCH	**Liuqiu**	**1.33**	**328**	*i* P	**Pn**	**18 13 39.1**	**+0.1**
	baz=332						
WLCH				eS	**Sb**	**18 13 57.2**	**-0.6**
	baz=332						
TWP	**Hsiaoliuchiu**	**1.33**	**327**	**eP**	**Pn**	**18 13 39.0**	**-0.1**
	baz=331						
TWP				eS	**Sb**	**18 13 59.0**	**+1.1**
	baz=331						
SSPT	**Xinbi**	**1.36**	**337**	**eP**	**Pn**	**18 13 39.1**	**-0.4**
	baz=339						
SSPT				eS	**Sb**	**18 13 57.8**	**-0.9**
	baz=339						
ECL	**Taimali**	**1.38**	**353**	P	**Pn**	**18 13 36.5**	**-3.1**
	baz=2.0						
ECL				eS	**Sn**	**18 13 53.9**	**-2.9**
	baz=2.0						
MASBT	**Mashibuluo**	**1.46**	**341**	**eP**	**Pn**	**18 13 39.9**	**-0.9**
	baz=343						
MASBT				eS	**Sn**	**18 13 60.0**	**+1.1**
	baz=343						
LDUT	**Ludao**	**1.48**	**12**	**eP**	**Pn**	**18 13 38.0**	**-2.9**
	baz=9.0						
LDUT				eS	**Sn**	**18 13 58.3**	**-0.9**
	baz=9.0						
TTN	**Taitung**	**1.52**	**0**	**eP**	**Pn**	**18 13 40.5**	**-1.1**
	baz=359						
TTN				eS	**Sb**	**18 14 02.1**	**-1.3**
	baz=359						
TSMG	**Majia**	**1.55**	**343**	**iP**	**Pn**	**18 13 41.0**	**-1.0**
	baz=354						
TSMG				eS	**Sn**	**18 14 02.3**	**+1.3**
	baz=354						
TSPT	**Pingtung City**	**1.57**	**338**	**eP**	**Pn**	**18 13 42.2**	**-0.1**
	baz=340						
TSPT				eS	**Sb**	**18 14 04.9**	**+0.3**
	baz=340						
TWGBT	**Beinan**	**1.59**	**358**	**eP**	**Pn**	**18 13 39.4**	**-3.1**
	baz=357						
SSD	**Sandimen**	**1.59**	**343**	**eP**	**Pn**	**18 13 41.7**	**-0.

baz=355
SGST Jiashian 1.92 344 *e*P Pn 18 13 46.1 -1.1
baz=334
ELDTW Lidau 1.96 357 *e*P Pn 18 13 45.0 -2.8
baz=3.0
ELDTW *e*S Sn 18 14 11.8 +0.5
baz=3.0
STYT Tauyuan 1.96 350 *e*P Pn 18 13 47.3 -0.5
baz=350
STYT *e*S Sb 18 14 15.4 -0.6
baz=350
FULB Fuli 1.97 4 *e*P Pn 18 13 45.9 -2.0
baz=353
FULB *e*S Sn 18 14 11.5 0.0
baz=353
CHN3 Shinhua 1.98 339 *e*P Pn 18 13 47.4 -0.6
baz=340
CHN1 Nanshi 2.04 344⇑ *e*P Pn 18 13 48.4 -0.4
baz=334
WTP Ta-pu 2.07 346 *e*P Pn 18 13 49.0 -0.3
baz=347
SNST Tainan City 2.08 343 *e*P Pn 18 13 49.1 -0.2
baz=332
ECBN Changbin 2.10 8 *e*P Pn 18 13 48.6 -1.0
baz=15
TPUB Ta-pu 2.12 347 Pn 18 13 49.3 -0.6
TPUB Ta-pu 2.12 347 P Pn 18 13 51.2 +1.3
TPUB Ta-pu 2.12 347 *e*P Pn 18 13 49.6 -0.3
baz=348
TPUB *e*S Sb 18 14 20.4 -0.1
baz=348
TWK Hsinying 2.12 343 *e*P Pn 18 13 49.5 -0.5
baz=357
TWK *e*S Sb 18 14 20.2 -0.4
baz=357
TWF1 Yuli 2.12 4 *e*P Pn 18 13 47.1 -2.8
baz=356
SCLT Jiali 2.13 336 *e*P Pn 18 13 49.9 -0.1
baz=338
SCLT *e*S Sn 18 14 16.8 +1.4
baz=338
YULB Yu-li 2.16 4 Pn 18 13 47.5 -2.9
YULB Yu-li 2.16 4 *e*P Pn 18 13 47.6 -2.9
baz=357
CHN4 Tsaushan 2.18 347 *e*P Pn 18 13 50.2 -0.5
baz=347
CHN4 *e*S Sn 18 14 18.6 +2.1
baz=347
HGSD Ruisui 2.27 6 *e*P Pn 18 13 50.3 -1.6
baz=13
HGSD *e*S Sn 18 14 19.6 +0.7
baz=13
ICHU Yijhu 2.27 340 *e*P Pn 18 13 50.9 -1.1
baz=341
ICHU *e*S Sn 18 14 18.9 +0.1
baz=341
EHY Hungye 2.28 4 *e*P Pn 18 13 49.3 -2.8
baz=358
CHN8 Yiju 2.28 338 *e*P Pn 18 13 51.9 -0.2
baz=329
ALS Alishan 2.30 352 *e*P Pn 18 13 52.4 -0.2
baz=352
ALS *e*S Sn 18 14 22.1 +2.2
baz=352
CHY Chiayi 2.36 344 *e*P Pn 18 13 52.9 -0.2
baz=334
CHN2 Minshiung 2.38 345 *e*P Pn 18 13 53.0 -0.4
baz=335
CHN5 Tsauling 2.40 350 *e*P Pn 18 13 53.6 -0.2
baz=350
CHN5 *e*S Sn 18 14 23.4 +1.2
baz=350
EGFH Guangfu 2.45 6 *e*P Pn 18 13 54.0 -0.4
baz=357
WDGT Dungji 2.45 326 P Pn 18 13 52.1 -2.3
baz=329
WDGT *e*S Sn 18 14 20.9 -2.3
baz=329
TEGC Jichi Village 2.50 8 *e*P Pn 18 13 55.3 +0.2
baz=14
WGK Gukeng 2.51 348 *e*P Pn 18 13 55.1 -0.1
baz=348
WDLH Douliu 2.52 347 *e*P Pn 18 13 54.9 -0.4
baz=348
WDLH *e*S Sn 18 14 24.2 -0.7
baz=348
VWDT VWDT 2.52 360 *e*P Pn 18 13 54.1 -1.2
baz=1.0
VCHM Qimei 2.54 322 P Pn 18 13 53.3 -2.3
baz=333
VCHM S Sn 18 14 22.7 -2.6
baz=333
WSF Szhu 2.55 341 *e*P Pn 18 13 54.8 -1.0
baz=342
WSF *e*S Sn 18 14 26.1 +0.4
baz=342
WTK Tuku 2.55 344 *e*P Pn 18 13 54.9 -0.9
baz=356
WTK *e*S Sn 18 14 26.8 +1.1
baz=356
SSLB Suanglung 2.56 356 Pn 18 13 55.1 -0.9
SSLB Suanglung 2.56 356 *e*P Pn 18 13 55.8 -0.1
baz=356
SSLB *e*S Sn 18 14 29.6 +3.6
baz=356
ESL Shilin 2.59 6 *e*P Pn 18 13 55.9 -0.5
baz=357
ESL *e*S Sn 18 14 29.3 +2.5
baz=357
WJS Zhushan 2.62 352 *e*P Pn 18 13 56.8 +0.1
baz=352
WJS *e*S Sn 18 14 29.5 +2.2
baz=352
SMLT Sun Moon Lake 2.66 355 *e*P Pn 18 13 57.6 +0.2
baz=355
SMLT *e*S Sn 18 14 30.1 +1.6
baz=355
TEYL Yanliau Villag 2.67 9 *e*P Pn 18 13 57.3 -0.1
baz=358
TEYL *e*S Sn 18 14 30.3 +1.8
baz=358
WNT Mingjian 2.68 351 *e*P Pn 18 13 57.8 +0.3
baz=351
WNT *e*S Sn 18 14 30.8 +1.9
baz=351
TYC Yuchr 2.68 354 *e*P Pn 18 13 57.8 +0.2
baz=354
TYC *e*S Sb 18 14 32.9 -3.6
baz=354
PHUB P'eng-hu 2.71 328 *e*P Pn 18 13 55.6 -2.3
baz=330
PHUB *e*S Sn 18 14 27.1 -2.4
baz=330
OWD Renai 2.72 1 *e*P Pn 18 13 57.6 -0.7
baz=349
OWD *e*S Sb 18 14 35.3 -2.4
baz=349
WTCT Ta-ch'eng 2.75 343 *e*P Pn 18 13 58.4 -0.1
baz=344
WTCT *e*S Sn 18 14 30.8 +0.2
baz=344
ETM Tongmen 2.75 7 *e*P Pn 18 13 58.3 -0.3
baz=5.0
PNG Penghu 2.76 328⇑ *e*P Pn 18 13 57.0 -1.6
baz=330
PNG *e*S Sn 18 14 28.8 -2.0
baz=330
HWA Hwalien 2.77 9 *e*P Pn 18 13 59.2 +0.4
baz=15
WYL Yuanlin Townsh 2.77 349 *e*P Pn 18 13 59.2 +0.3
baz=350
WYL *e*S Sn 18 14 31.6 +0.4
baz=350
WPL Puli Township 2.78 356 *e*P Pn 18 13 59.5 +0.6
baz=356
DPDB Guoxing 2.81 356 *e*P Pn 18 14 00.0 +0.6
baz=356
DPDB *e*S Sn 18 14 31.7 -0.4
baz=356
CHGB Renai 2.82 1 *e*P Pn 18 13 59.0 -0.8
baz=349
CHGB *e*S Sn 18 14 33.0 +0.2
baz=349
WWF Wufeng 2.84 352 *e*P Pn 18 14 00.2 +0.5
baz=352
TWD Chiawan 2.87 8 *e*P Pn 18 14 00.2 0.0
baz=359
TWD *e*S Sn 18 14 34.7 +1.0
baz=359
WCHH Zhanghua 2.90 349 *e*P Pn 18 14 01.4 +0.9
baz=350
WHF Hehuan Shan 2.91 2 *e*P Pn 18 14 00.3 -0.9
baz=350
WHF *e*S Sn 18 14 35.2 -0.1
baz=350
TCU Taichung 2.94 352 *e*P Pn 18 14 01.7 +0.5
baz=352
NACB Ninganchiao 2.97 8 Pn Pn 18 14 00.3 -1.2
NACB Ninganchiao 2.97 8 *e*P Pn 18 14 01.0 -0.5
NACB *e*S Sn 18 14 39.0 +3.0
ETLH Xiulin Townshi 2.99 6 *e*P Pn 18 14 00.2 -1.7
baz=5.0
ETLH *e*S Sn 18 14 36.6 0.0
baz=5.0
FUSS Fushou 3.01 2 *e*P Pn 18 14 00.5 -1.8
baz=351
FUSS *e*S Sn 18 14 38.0 +0.5
baz=351
TWT Tachien 3.02 1 *e*P Pn 18 14 03.5 +1.1
baz=349
WHP Taichung City 3.05 357⇑ *e*P Pn 18 14 03.1 +0.4
baz=356
WHP *e*S Sn 18 14 41.4 +3.3
baz=356
SGCP Gonzaga 3.08 164⇑ *e*P Pn 18 14 00.4 -2.7
SGCP *e*S Sn 18 14 38.9 0.0
TWQ1 Liyutan 3.13 354 *e*P Pn 18 14 04.3 +0.5
baz=354
TWQ1 *e*S Sn 18 14 42.6 +2.6
baz=354
WDJ Dajia District 3.15 352 *e*P Pn 18 14 04.4 +0.5
baz=352
NNSB Datong 3.20 4 *e*P Pn 18 14 04.9 +0.1
baz=12
NSY Sanyi 3.20 354 *e*P Pn 18 14 04.1 -0.6
baz=354
NNS Nan Shan 3.21 4 *e*P Pn 18 14 05.7 +0.7
baz=12
ENA Nanau 3.24 10 *e*P Pn 18 14 05.0 -0.2
baz=357
APYP Conner 3.34 178⇓ *i*P Pn 18 14 05.2 -1.5
APYP *i*S Sn 18 14 45.4 +0.1
SIPP Brgy, Tapao 3.35 191⇓ *i*P Pn 18 14 06.2 -0.5
SIPP *i*S Sb 18 14 58.2 +2.5
NDT Datong Townshi 3.38 6 *e*P Pn 18 14 08.7 +1.4
baz=12
NSTT Nanjuang 3.40 358 *e*P Pn 18 14 07.8 +0.4
baz=358
LIOB Emei 3.41 358 *e*P Pn 18 14 08.1 +0.4
baz=358
ENTT Nioudou 3.42 6 *e*P Pn 18 14 07.4 -0.4
baz=6.0
TWC Suao 3.43 11 *e*P Pn 18 14 08.8 +0.9
baz=10.0
YHNB Yeheng 3.44 4 Pn 18 14 07.3 -0.7
YHNB Yeheng 3.44 4 P Pn 18 14 08.9 +0.8
YHNB Yeheng 3.44 4 *e*P Pn 18 14 07.8 -0.3
baz=353
YHNB *e*S Sn 18 14 51.4 +3.6
baz=353
NSK Sanguang 3.44 3 *e*P Pn 18 14 08.7 +0.5
baz=353
NSK *e*S Sn 18 14 48.8 +1.0
baz=353
TWE Neicheng 3.52 8 *e*P Pn 18 14 10.0 +1.0
baz=7.0
NWLT Wulai 3.55 5 *e*P Pn 18 14 09.8 +0.1
baz=11
JYNG Yonagunijimaku 3.62 27 P Pn 18 14 10.5 0.0
JYNG S Sn 18 14 53.3 +1.3
YOJ Yonaguni jima 3.66 28 P Pn 18 14 11.5 +0.5
YOJ S Sn 18 14 55.2 +2.2
YOJ Yonaguni jima 3.66 28 P Pn 18 14 10.8 -0.2
YOJ Yonaguni jima 3.66 28 Pn 18 14 10.8 -0.2
YOJ Yonaguni jima 3.66 28 P Pn 18 14 11.8 +0.8
YOJ Yonaguni jima 3.66 28 *e*P Pn 18 14 11.1 +0.1
baz=25
YOJ *e*S Sn 18 14 54.3 +1.3
baz=25
HATJ Hateruma jima 3.74 41 P Pn 18 14 12.4 +0.2
HATJ *e*S Sn 18 14 56.2 +1.1
TATO Taipei 3.75 5 Pn 18 14 12.1 -0.2
TIPB Shuangxi 3.78 9 *e*P Pn 18 14 14.3 +1.5
baz=358
TIPB *e*S Sn 18 15 00.5 +4.2
baz=358
TWB1 Santiao Chiao 3.85 11 *e*P Pn 18 14 15.0 +1.4
baz=358
IRIF Iriomote-Funau 3.91 37 P Pn 18 14 14.8 +0.3
IRIF *e*S Sn 18 15 00.7 +1.4
JKRS Kuro-shima 4.00 41 P Pn 18 14 16.1 +0.4
JKRS S Sn 18 15 03.4 +1.9
KNMB Chin-men Tao 4.11 322 Pn 18 14 16.0 -1.2
KNMB Chin-men Tao 4.11 322 *e*P Pn 18 14 15.3 -1.9
baz=324
KNMB *e*S Sn 18 15 00.4 -3.7
baz=324
ZPLA Ao Xicun 4.13 311 *e*P Pn 18 14 14.8 -2.7
baz=313
ZPLA *e*S Sn 18 15 00.8 -4.0
baz=313
VDOS Pratas Island 4.16 264⇓ *e*P Pn 18 14 15.1 -2.8
baz=266
VDOS *e*S Sn 18 14 59.9 -5.5
baz=266
JIJ Ishigaki jima 4.17 41 P Pn 18 14 18.0 -0.1
JIJ *e*S Sn 18 15 05.5 -0.3
PTMZ Houxiangcun 4.23 334 *e*P Pn 18 14 15.2 -3.7
baz=335
PTMZ *e*S Sn 18 15 01.7 -5.5
baz=335
QZH Quanzhou 4.39 328⇓ *i*Pn Pn 18 14 20.3 -0.7
QZH Sn Sn 18 15 08.0 -3.0
QZH smax smax
comp=N,420nm,0.6s
QZH smax smax
comp=E,520nm,0.7s
QZH LR LR
comp=N,5μm,12.7s
QZH LR LR
comp=E,6μm,12.5s
QZH LR LR
comp=Z,9μm,12.2s
JISG Ishigakijimahi 4.44 40 P Pn 18 14 21.5 -0.3
AXDP Jialang 4.68 322 *e*P Pn 18 14 23.5 -1.7
baz=323
AXDP *e*S Sn 18 15 15.2 -3.2
baz=323
JTJ Tarama 4.72 43 P Pn 18 14 25.8 +0.1
JTJ *e*S Sn 18 15 18.4 -1.0
MATB Ma-tsu 5.03 348 *e*P Pn 18 14 28.5 -1.4
baz=355
MATB *e*S Sn 18 15 24.6 -2.2
baz=355
JIRB Irabujima 5.16 45 P Pn 18 14 32.0 +0.3
JIRB *e*S Sn 18 15 29.8 -0.3
JMJ2 Miyako jima3 5.21 47 P Pn 18 14 32.9 +0.6
JMJ2 *e*S Sn 18 15 30.8 -0.5
MHZQ Yeshan 5.23 339 *e*P Pn 18 14 32.0 -0.5
baz=339
MHZQ *e*S Sn 18 15 29.2 -2.6
baz=339
JMJ Miyako jima 2 5.23 46 *e*P Pn 18 14 32.4 -0.3
baz=44
JOGS Gusukube 5.27 47 P Pn 18 14 34.7 +1.5
JOGS *e*S Sn 18 15 34.1 +1.2
JIKM Ikemajima 5.28 45 P Pn 18 14 34.1 +0.8
JIKM *e*S Sn 18 15 33.3 +0.3
LYJJ Jianjiangzhen 5.45 347 *e*P Pn 18 14 34.5 -1.1
baz=347
LYJJ *e*S Sn 18 15 33.0 -4.3
baz=347
PCPH Palayan 5.63 180⇑ *e*P Pn 18 14 38.0 -0.1
XPSS Dashiqiu 5.75 351 *e*P Pn 18 14 38.4 -1.4
baz=351
HKPS Hong Kong Po S 6.59 280 Pn 18 14 48.8 -2.6
JCNP Jose Panganiba 7.05 168⇓ *e*P Pn 18 14 58.5 +0.8
JCNP *e*S Sn 18 16 13.0 -3.8
LQP Lukban 7.08 177⇓ *e*P Pn 18 14 58.0 -0.3
TGY Tagaytay City 7.08 182 P Pn 18 15 03.9 +5.7
baz=107,slow=20,SNR=0.7
MCO Taipa Grande 7.11 279 P Pn 18 14 57.0 -1.5
GZH Guangzhou 7.46 286 Pn Pn 18 14 59.5 -3.8
GZH Sn Sn 18 16 21.5 -5.4
GZH smax smax
comp=N,200nm,0.6s
GZH smax smax
comp=E,130nm,0.8s
PGP Puerto Galera 7.68 181⇑ *e*P Pn 18 15 17.4 +11
JOW Kunigami 8.58 48 P Pn 18 15 20.4 +1.8
5.5nm,0.3s,baz=134,slow=19,SNR=16
JOW S Sn 18 16 51.4 -3.0
1.9nm,0.3s,baz=142,slow=28,SNR=9.2
JOW Kunigami 8.58 48 Pn Pn 18 15 18.8 +0.1
JOW Kunigami 8.58 48 P Pn 18 15 22.6 +3.9
SSE Sheshan 9.83 0 P Pn 18 15 36.0 +0.2
SSE S Sn 18 17 28.0 +3.0
SSE pmax pmax
comp=Z,17nm,0.7s
SSE pmax pmax
comp=Z,98nm,7.7s
SSE LR LR
comp=N,1μm,12.1s
SSE LR LR
comp=E,2μm,12.1s
CNSH ChangSha 10.18 314 ⇑P Pn 18 15 34.0 -6.6
CNSH S Sn 18 17 25.5 -8.2
CNSH smax smax
comp=N,250nm,1.0s
CNSH smax smax
comp=E,290nm,1.0s
CNSH LR LR
comp=N,4μm,10.8s
CNSH LR LR
comp=E,3μm,11.3s
QIZ Qiongzhong 10.84 260 Pn Pn 18 15 46.8 -2.9
QIZ Qiongzhong 10.84 260 P Pn 18 15 48.0 -1.7
QIZ S Sn 18 17 51.0 +1.1
QIZ LR LR
comp=E,4μm,13.1s
QIZ LR LR
comp=E,3μm,15.5s
QIZ LR LR
comp=E,3μm,16.3s
NJ2 Nanjing 10.98 350 *e*P Pn 18 15 50.8 -0.7
NJ2 S Sn 18 17 57.8 +4.7
NJ2 pmax pmax
comp=E,27nm,0.5s
NJ2 LR LR
comp=E,5μm,16.2s
NJ2 LR LR
comp=E,4μm,12.0s
NJ2 LR LR
comp=E,5μm,16.3s
WHN Wuhan 11.11 328 ⇓P Pn 18 15 54.5 +1.2
WHN sP 18 16 00.3
WHN S Sn 18 17 55.8 -0.6
WHN pmax pmax
comp=E,36nm,0.9s
WHN LR LR
comp=E,11μm,11.6s
WHN LR LR
comp=E,6μm,9.3s
WHN LR LR
comp=E,11μm,13.1s
CNOP Candoni, Negro 11.42 173⇓ *e*P Pn 18 16 05.2 +7.6
TBP Tagbilaran 11.76 167 *e*P Pn 18 16 04.2 +2.0
PAGZ Pagadian 13.47 170⇓ *e*P P 18 16 35.2 +0.7
ENH Enshi 13.83 313 Pn Pn 18 16 29.8 -0.7
GYA Guiyang 14.23 294⇑ *i*P Pn 18 16 35.0 -1.2
GYA S Sn 18 19 17.8 +4.8
GYA pmax pmax
comp=E,14nm,1.4s
GYA pmax pmax
comp=E,360nm,6.4s
GYA LR LR
comp=E,3μm,14.3s
GYA LR LR
comp=E,4μm,16.1s
GYA LR LR
comp=E,6μm,15.7s
JNU Nakatsue 14.67 34 P Pn 18 16 43.2 +1.3
comp=E,0.5nm,0.3s,baz=191,slow=6.6,SNR=6.4
JNU Nakatsue 14.67 34 Pn 18 16 40.9 -1.0
JNU Nakatsue 14.67 34 P Pn 18 16 44.3 +2.4
DAV Davao City (W) 14.71 162 LR LR 18 23 23.3
comp=E,1μm,18.9s,baz=324,slow=42
JTU Tsushima 15.12 27 Pn 18 16 46.8 -1.1
JTU IAmb IAmb 18 16 51.0
comp=Z,122nm,1.4s
LYN LuoYang 15.32 332 ⇓P Pn 18 16 52.3 +1.7
LYN pP P 18 16 57.5 +2.5
LYN sP pP 18 17 02.3 -0.7
LYN PP sP 18 17 07.3 +0.8
LYN S Sn 18 19 46.8 +7.5
LYN pmax pmax
comp=Z,30nm,1.2s
LYN pmax pmax
comp=Z,310nm,3.5s
LYN LR LR
comp=Z,3μm,12.4s
LYN LR LR
comp=Z,3μm,12.5s
LYN LR LR
comp=Z,4μm,13.3s
TIA Tai'an 15.34 348 ⇑P Pn 18 16 52.5 +1.7
TIA S Sn 18 19 47.5 +7.8
TIA pmax pmax
comp=Z,210nm,0.9s
TIA pmax pmax
comp=Z,520nm,6.8s
TIA LR LR
comp=Z,2μm,16.2s
TIA LR LR
comp=Z,3μm,12.9s
TIA LR LR
comp=Z,4μm,17.7s
UBPT Khong Chiam 16.01 251 Pn 18 16 58.7 -0.9
TJN Taejon 16.05 18 P Pn 18 16 59.2 -0.7
TJN pmax pmax
comp=Z,142nm,1.0s
TJN Taejon 16.05 18 Pn 18 16 59.2 -0.7
TJN Taejon 16.05 18 P Pn 18 17 01.1 +1.2
SLVN Son La 16.07 274 Pn 18 16 58.2 -2.2
MYLDM Lahad Datu 16.15 190 P Pn 18 17 02.3 +0.9
XAN Xi'an 16.72 322 ⇓P P 18 17 12.5 +1.9
XAN pP pP 18 17 18.8 +0.2
XAN sP sP 18 17 22.0 -0.1
XAN S S 18 20 22.5 -1.1
XAN pmax pmax
comp=Z,77nm,1.1s
XAN pmax pmax
comp=Z,370nm,6.5s
XAN LR LR
comp=Z,4μm,10.5s
XAN LR LR
comp=Z,3μm,12.1s
XAN LR LR
comp=Z,4μm,13.0s
INCN Inchon 16.89 15 P Pn 18 17 11.3 +0.7
INCN pmax pmax
comp=Z,67nm,1.1s
INCN Inchon 16.89 15 P Pn 18 17 11.3 +0.7
INCN Inchon 16.89 15 P P 18 17 12.7 +0.3
SPMM Sapulut 17.03 196 P P 18 17 14.0 -0.1
HNS HongShan 17.06 342 ⇑P P 18 17 14.5 +0.3
HNS PP sP 18 17 26.0 +0.2
HNS S S 18 20 29.5 -0.8
HNS SS Sn 18 20 47.8 +26
HNS LR LR
comp=Z,3μm,14.8s
HNS LR LR
comp=Z,5μm,12.9s
HNS LR LR
comp=Z,4μm,16.3s
KSAR Wonju Array Be 17.19 18 P Pn 18 17 14.2 -0.1
KSAR Wonju Array Be 17.19 18 P Pn 18 17 14.2 -0.1
KSRS Korea Array 17.21 19 P P 18 17 15.7 -0.2
comp=Z,3.0nm,0.3s,baz=200,slow=9.6,SNR=160
KSRS LR LR 18 25 21.8
comp=Z,2μm,19.4s,baz=190,slow=42
KS19 Wonju Array Si 17.24 18 P Pn 18 17 14.2 -0.8
JHS Saijyo 17.30 35 Pn 18 17 13.5 -2.2
KMI Kunming 17.36 286 ⇓P Pn 18 17 16.0 -0.8
KMI sP P 18 17 20.5 +2.6
KMI PP sP 18 17 32.0 +2.8
KMI S Sn 18 20 28.0 -1.2
KMI SS SnSn 18 20 44.5 +1.8
KMI pmax pmax

KMI comp=Z,17nm,1.2s pmax pmax
KMI comp=Z,370nm,5.5s LR LR
KMI comp=Z,2μm,12.6s LR LR
KMI comp=Z,3μm,13.7s LR LR
KMI comp=Z,2μm,18.2s LR LR
DL2 Dalian 17.63 1 P **Pn** **18 17 18.0 -1.8**
DL2 S **Sn** **18 20 34.0 -1.2**
DL2 pmax pmax
DL2 comp=Z,29nm,0.9s pmax pmax
DL2 comp=Z,610nm,10.6s LR LR
DL2 comp=Z,2μm,15.8s LR LR
DL2 comp=Z,1μm,13.5s LR LR
DL2 comp=Z,2μm,16.1s LR LR
TIY Taiyuan 18.08 337 *e*P **P** **18 17 28.5 +2.9**
TIY S **S** **18 20 53.5 +2.2**
TIY pmax pmax
comp=Z,300nm,3.7s
TIY LR LR
comp=Z,3μm,17.5s
TIY LR LR
comp=Z,2μm,11.3s
TIY LR LR
comp=Z,4μm,15.4s
CD2 Chengdu 18.34 305 P **Pn** **18 17 29.3 +0.7**
CD2 S **Sn** **18 20 52.0 -0.5**
CD2 pmax pmax
comp=Z,80nm,1.1s
CD2 pmax pmax
comp=Z,480nm,10.0s
CD2 LR LR
comp=Z,4μm,14.7s
CD2 LR LR
comp=Z,5μm,12.7s
PZH PanZhiHua 18.50 290 P **Pn** **18 17 31.3 +0.6**
PZH *e*P **pP** **18 17 40.0 +1.4**
PZH S **Sn** **18 20 57.8 +1.1**
PZH *e*S **S** **18 21 05.3 +5.4**
PZH SS **SnSn** **18 21 16.3 +5.7**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,390nm,5.3s
PZH LR LR
comp=Z,3μm,11.6s
PZH LR LR
comp=Z,2μm,11.0s
PZH LR LR
comp=Z,2μm,13.1s
BJT Baijiatuau 19.21 348 P **Pn** **18 17 39.0 -0.1**
BJT pmax pmax
comp=Z,163nm,0.9s
BJT Baijiatuau 19.21 348 Pn **Pn** **18 17 39.0 -0.1**
BJT IAmb IAmb 18 17 41.4
comp=Z,163nm,0.9s
BJI Beijing 19.23 348 P **Pn** **18 17 40.0 +0.8**
BJI S **S** **18 21 16.3 +2.2**
BJI pmax pmax
comp=Z,180nm,1.2s
BJI LR LR
comp=Z,2μm,13.9s
BJI LR LR
comp=Z,1μm,13.2s
BJI LR LR
comp=Z,2μm,14.9s
INU Inuyama 19.80 41 **Pn** **18 17 46.0 -0.1**
INU IAmb IAmb 18 17 51.2
comp=Z,140nm,0.8s
TOLI2 Tolitoli 19.99 181 P **P** **18 17 46.1 -0.5**
TOLI2 IAmb IAmb 18 17 57.4
comp=Z,137nm,1.3s
TOLI2 Tolitoli 19.99 181 P **Pn** **18 17 47.5 -1.0**
JCJ Chichijima 20.06 69 P **P** **18 17 47.1 -0.2**
comp=Z,44nm,0.7s,baz=213,slow=3.2,SNR=9.7
JCJ LR LR 18 23 53.2
comp=Z,856nm,21.4s,baz=289,slow=32
JCJ Chichijima 20.06 69 P **P** **18 17 46.9 -0.4**
JCJ IAmb IAmb 18 17 59.8
comp=Z,255nm,1.2s
JCJ Chichijima 20.06 69 P Pn 18 17 51.2 +2.0
JGF Kuroka 20.17 41 Pn Pn 18 17 49.8 -0.7
JGF IAmb IAmb 18 17 52.5
comp=Z,153nm,1.2s
JHJ Hachijo jima 2 20.34 50 LR LR 18 24 51.1
comp=Z,1μm,20.5s,baz=258,slow=34
GTOI Gorontalo 20.54 175 P **P** **18 17 51.2 -1.4**
comp=Z,600nmcomp=Z,23nm,1.6s
SBUM Sibu 20.59 206 P **P** **18 17 53.0 -0.1**
SBUM Sibu 20.59 206 P **P** **18 17 53.0 -0.1**
MRSI Marisa 20.63 178 P **P** **18 17 54.6 +1.0**
comp=Z,2μmcomp=Z,126nm,1.8s
SNY Shenyang 20.65 5 ⇑P **P** **18 17 51.8 -1.7**
SNY S Sn 18 21 48.0 +0.1
SNY pmax pmax
comp=Z,28nm,1.3s
SNY pmax pmax
comp=Z,220nm,3.5s
SNY LR LR
comp=Z,2μm,16.9s
SNY LR LR
comp=Z,1μm,11.8s
SNY LR LR
comp=Z,3μm,15.6s
KMSI Cibinong 20.71 172 P Pn 18 17 55.8 -1.1
comp=Z,80nm,0.8s
MPSI Mapaga 20.79 184 P **P** **18 17 55.2 -0.1**
comp=Z,842nmcomp=Z,40nm,1.5s
CHTO Chiang Mai 21.00 267 P **P** **18 17 57.9 +0.4**
CHTO pmax pmax
comp=Z,62nm,1.4s
CHTO Chiang Mai 21.00 267 **P** **18 17 57.9 +0.4**
CHTO Chiang Mai 21.00 267 P **P** **18 17 58.7 +1.2**
CM31 Chiang Mai Arr 21.06 266 P **P** **18 17 58.6 +0.4**
CMAR Chiang Mai Arr 21.06 266 P **P** **18 17 59.2 +1.0**
comp=Z,9.6nm,0.9s,baz=71,slow=9.1,SNR=67
CMAR PcP **PcP** **18 22 04.7 +0.4**
comp=Z,2.8nm,0.9s,baz=25,slow=0.9,SNR=15
CMAR LR LR 18 27 10.4
comp=Z,2μm,18.9s,baz=80,slow=39
CMAR Chiang Mai Arr 21.06 266 P **P** **18 17 59.2 +1.0**
CMAR 18 22 04.2
CMAR Chiang Mai Arr 21.06 266 P **P** **18 17 59.2 +1.0**
CMAR **PcP** **18 22 04.2 -0.1**
LZH Lanzhou 21.16 318 ⇓P **P** **18 18 01.5 +2.2**
LZH sP sP 18 18 13.5 +2.6
LZH S **S** **18 21 54.0 +0.9**
LZH sS pS 18 22 05.0 -1.4
LZH pmax pmax
comp=Z,66nm,1.5s
LZH pmax pmax
comp=Z,430nm,4.9s
LZH LR LR
comp=Z,3μm,12.5s
LZH LR LR
comp=Z,3μm,12.5s
LZH LR LR
comp=Z,3μm,13.0s
HHC Hu-ho-hao-te 21.19 340 *e*P **P** **18 18 01.3 +1.8**
HHC sP pP 18 18 08.0 +0.2
HHC S **S** **18 21 54.5 +1.0**
HHC pmax pmax
comp=Z,160nm,1.3s
HHC LR LR
comp=Z,3μm,14.6s
HHC LR LR
comp=Z,3μm,13.0s
HHC LR LR
comp=Z,4μm,14.3s
MAJO Matsushiro 21.31 41 P **P** **18 18 00.1 -0.6**
MAJO pmax pmax
comp=Z,73nm,1.2s
MAJO Matsushiro 21.31 41 P **P** **18 18 00.1 -0.6**
MAJO Matsushiro 21.31 41 P **P** **18 18 03.4 +2.7**
MJAR Matsushiro Arr 21.31 41 P **P** **18 18 01.7 +1.0**
comp=Z,39nm,0.9s,baz=223,slow=7.2,SNR=66
MJAR Matsushiro Arr 21.31 41 P **P** **18 18 01.3 +0.6**
MJAR pmax pmax
comp=Z,36nm,1.0s
MJAR Matsushiro Arr 21.31 41 P **P** **18 18 01.3 +0.6**

MJB9 Matsu-Tunnel 21.31 41 P **P** **18 18 00.2 -0.5**
BTO Baotou 21.51 336 *e*P **P** **18 18 05.5 +2.5**
BTO S Sn 18 22 08.5 -0.5
BTO LR LR
comp=Z,7μm,12.0s
BTO LR LR
comp=Z,8μm,12.8s
APSI Ampana 22.00 179 P **P** **18 18 10.7 +2.4**
comp=Z,3μmcomp=Z,191nm,2.1s
LUWI Luwuk 22.18 176 P **P** **18 18 09.1 -1.1**
LUWI Luwuk 22.18 176 P **P** **18 18 10.3 +0.1**
comp=Z,6μmcomp=Z,234nm,1.2s
LUWI Luwuk 22.18 176 P **P** **18 18 12.8 +2.6**
KSM Kuching 22.29 210 P **P** **18 18 09.2 -2.2**
KSM Kuching 22.29 210 P **P** **18 18 10.0 -1.4**
KSM Kuching 22.29 210 P **P** **18 18 13.4 +2.0**
comp=Z,26nm,1.3s
JSD Sado 22.35 38 P **P** **18 18 10.2 -1.6**
JYT Yasato 22.36 44 P **P** **18 18 09.6 -2.4**
LBMI Labuha 22.60 163 P **P** **18 18 14.0 -0.7**
comp=Z,800nmcomp=Z,60nm,1.2s
CN2 Changchun 22.80 8 *e*P **P** **18 18 13.0 -3.6**
CN2 *ep*P pP 18 18 22.3 -2.4
CN2 *e*PP **PnPn** **18 18 42.5 +1.1**
CN2 *e*S **S** **18 22 15.5 -8.0**
CN2 *es*S pS 18 22 30.5 -2.4
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 LR LR
comp=N,3μm,13.0s
CN2 LR LR
comp=E,2μm,13.0s
CN2 LR LR
comp=Z,3μm,14.0s
MTKI Muara Teweh, K 22.86 196 P **P** **18 18 18.1 +0.7**
comp=Z,35nm,1.3s
MSHR Mys Shultsa 22.89 19 *de*P **P** **18 18 18.5 +0.9**
MSHR pmax pmax
comp=Z,123nm,1.3s
XLT XiLinHaoTe 23.00 351 ⇑*i*P **P** **18 18 18.0 -0.8**
XLT sP pP 18 18 27.3 +0.1
XLT S **S** **18 22 28.0 +0.8**
XLT pmax pmax
comp=Z,250nm,1.3s
XLT pmax pmax
comp=Z,620nm,4.3s
XLT LR LR
comp=Z,150nm,14.3s
XLT LR LR
comp=Z,1μm,15.2s
XLT LR LR
comp=Z,2μm,14.3s
STKI Sintang 23.05 205 P **P** **18 18 18.1 -1.3**
comp=Z,16nm,1.2s
SANI Sanana 23.61 168 P **P** **18 18 24.6 -0.3**
comp=Z,496nmcomp=Z,48nm,0.7s
SANI Sanana 23.61 168 P **P** **18 18 28.5 +3.6**
comp=Z,49nm,0.7s
VLA Vladivostok 23.61 20 *ce*P **P** **18 18 25.0 +0.3**
VLA pmax pmax
comp=Z,112nm,1.1s
JMM Marumori 23.74 41 P **P** **18 18 24.8 -1.1**
JMM IAmb IAmb 18 18 26.7
comp=Z,49nm,0.7s
GUMO Guam 23.86 105 LR LR 18 27 12.6
comp=Z,628nm,19.3s,baz=268,slow=35
SWI Sorong 24.08 155 P **P** **18 18 29.7 +0.4**
comp=Z,27nm,1.1s
TTSI Tana Toraja 24.15 183 P **P** **18 18 30.2 +0.2**
comp=Z,1μmcomp=Z,83nm,1.7s
MDJ Mudanjiang 24.36 15 P **P** **18 18 30.9 -0.7**
MDJ IAmb IAmb 18 18 33.7
comp=Z,131nm,1.0s
MDJ Mudanjiang 24.36 15 P **P** **18 18 32.0 +0.4**
MDJ S **S** **18 22 55.0 +6.1**
MDJ pmax pmax
comp=Z,140nm,0.9s
MDJ pmax pmax
comp=Z,190nm,4.9s
MDJ LR LR
comp=Z,1μm,12.8s
MDJ LR LR
comp=Z,1μm,13.5s
MDJ LR LR
comp=Z,2μm,12.8s
USA0B Ussuriysk Arra 24.62 19 P **P** **18 18 34.8 +0.8**
USA0B pmax pmax
comp=Z,41nm,1.2s
USA0B Ussuriysk Arra 24.62 19 P **P** **18 18 34.8 +0.8**
USRK Ussuriysk Ar. 24.62 19 P **P** **18 18 34.4 +0.4**
comp=Z,15nm,0.8s,baz=196,slow=10.0,SNR=19
USRK LR LR 18 29 05.1
comp=Z,719nm,18.3s,baz=196,slow=38
USRK Ussuriysk Ar. 24.62 19 P **P** **18 18 34.6 +0.6**
USRK Ussuriysk Ar. 24.62 19 P **P** **18 18 34.5 +0.6**
BNX BinXian 24.99 10 ⇓P **P** **18 18 37.3 0.0**
BNX pP **pP** **18 18 46.5 +0.6**
BNX sP **sP** **18 18 50.8 +1.2**
BNX PP **PnPn** **18 19 15.5 +4.2**
BNX S **S** **18 22 57.3 -1.7**
BNX sS **sS** **18 23 13.3 0.0**
BNX pmax pmax
comp=Z,56nm,0.9s
BNX pmax pmax
comp=Z,460nm,6.7s
BNX LR LR
comp=Z,2μm,17.5s
BNX LR LR
comp=Z,1μm,12.7s
BNX LR LR
comp=Z,3μm,17.2s
JRMM Jerantut 25.02 229 P **P** **18 18 38.0 +0.1**
SPSI Sidrap Palu 25.07 183 P **P** **18 18 38.6 +0.3**
comp=Z,1μmcomp=Z,55nm,1.5s
BBKI Banjar Baru 25.30 195 P **P** **18 18 42.2 +1.8**
comp=Z,1μmcomp=Z,46nm,1.7s
BNSI Bone 25.48 182 P **P** **18 18 41.8 -0.3**
comp=Z,1μmcomp=Z,53nm,1.7s
MYKOM Kota Tinggi 25.64 223 P **P** **18 18 43.8 +0.3**
MYKOM Kota Tinggi 25.64 223 P **P** **18 18 45.0 +1.5**
IPM Ipoh 25.66 232 P **P** **18 18 41.8 -2.0**
IPM Ipoh 25.66 232 P **P** **18 18 43.0 -0.8**
IPM Ipoh 25.66 232 P **P** **18 18 43.6 -0.2**
AAI Ambon 25.70 164 P **P** **18 18 46.4 +2.3**
comp=Z,59nm,1.2s
GTA Gaotai 25.73 320 ⇓P **P** **18 18 45.3 +1.0**
GTA pP pP 18 18 49.8 -3.4
GTA sP pwP 18 18 54.0 -1.3
GTA PcP **PcP** **18 22 14.8 +0.9**
GTA S **S** **18 23 13.0 +1.7**
GTA ScP **ScP** **18 25 53.3 +2.2**
GTA PcS **PcS** **18 25 54.5 -0.2**
GTA pmax pmax
comp=Z,15nm,1.2s
GTA pmax pmax
comp=Z,74nm,7.2s
GTA LR LR
comp=Z,980nm,11.2s
GTA LR LR
comp=Z,1μm,12.7s
GTA LR LR
comp=Z,2μm,13.1s
JTM Tenmabayashi 25.81 36 P **P** **18 18 44.3 -0.6**
TPRI Tanjung Pinang 25.89 221 P **P** **18 18 46.5 +0.7**
comp=Z,33nm,0.9s
KAPI Kappang 26.11 183 P **P** **18 18 47.2 -0.6**
comp=Z,39nm,1.0s,baz=320,slow=3.3,SNR=5.5
KAPI LR LR 18 30 39.9
comp=Z,677nm,18.4s,baz=1.0,slow=40
KAPI Kappang 26.11 183 P **P** **18 18 47.7 -0.1**
KAPI pmax pmax
comp=Z,123nm,1.4s
KAPI Kappang 26.11 183 P **P** **18 18 47.6 -0.1**
KAPI IAmb IAmb 18 19 00.6
comp=Z,123nm,1.4s
KAPI Kappang 26.11 183 P **P** **18 18 50.4 +2.6**
SHL Shillong 27.17 285 P **P** **18 18 57.9 +0.3**
SHL pmax pmax
comp=Z,26nm,1.1s
SHL Shillong 27.17 285 P **P** **18 18 57.9 +0.3**
GOMU GeErMu 27.38 309 P **P** **18 19 00.5 +1.0**
GOMU pP pP 18 19 03.8 -4.3
GOMU sP pwP 18 19 07.8 -3.8
GOMU S **S** **18 23 34.3 -3.5**
GOMU pmax pmax
comp=Z,14nm,1.1s
GOMU LR LR
comp=Z,1μm,14.1s
GOMU LR LR
comp=Z,2μm,14.1s
GOMU LR LR
comp=Z,2μm,14.1s
JEW Eniwo 27.45 34 P **P** **18 18 58.9 -0.7**
ERM Erimo 27.80 37 *de*P **P** **18 19 05.0 +2.2**
ERM pmax pmax
comp=Z,36nm,0.9s
HIA Hailar 28.01 358 P **P** **18 19 03.9 -0.7**
HIA pmax pmax
comp=Z,56nm,0.9s
HIA Hailar 28.01 358 P **P** **18 19 03.9 -0.7**
HIA IAmb IAmb 18 19 07.4
comp=Z,56nm,0.9s
LSA Lhasa 28.30 293 P **P** **18 19 08.9 +0.9**
LSA pmax pmax
comp=Z,18nm,1.1s
LSA Lhasa 28.30 293 P **P** **18 19 08.8 +0.9**
LSA Lhasa 28.30 293 P **P** **18 19 09.5 +1.5**
LSA pmax pmax
comp=Z,15nm,0.9s
PSI Prapat 28.34 233 P **P** **18 19 07.8 -0.2**
comp=Z,4.9nm,0.6s,baz=346,slow=5.1,SNR=14
PSI LR LR 18 30 29.8
comp=Z,846nm,18.5s,baz=58,slow=36
RPSI Rantau Prapat 28.41 233 P **P** **18 19 07.8 -0.7**
BKNI Bangkinang 28.58 226 P **P** **18 19 09.2 -0.7**
BKNI IAmb IAmb 18 19 36.8
comp=Z,27nm,0.5s
BKNI Bangkinang 28.58 226 P **P** **18 19 10.4 +0.4**
comp=Z,37nm,0.5s
ULN Ulaanbaatar 28.91 340 *ce*P **P** **18 19 13.5 +0.7**
ULN pmax pmax
comp=Z,69nm,1.0s
ULN Ulaanbaatar 28.91 340 P **P** **18 19 13.2 +0.4**
ASAJ Asahikawa 28.94 33 P **P** **18 19 14.1 +1.1**
comp=Z,36nm,0.9s,baz=225,slow=11,SNR=25
ASAJ LR LR 18 30 54.8
comp=Z,1μm,20.3s,baz=236,slow=36
ASAJ Asahikawa 28.94 33 P **P** **18 19 13.6 +0.7**
ASAJ pmax pmax
comp=Z,51nm,1.0s
JKA Kamikawa-asahi 28.95 33 P **P** **18 19 13.6 +0.7**
JKA IAmb IAmb 18 19 17.8
comp=Z,51nm,1.0s
SONM Songino Array 29.09 339 P **P** **18 19 15.2 +0.8**
comp=Z,23nm,0.6s,baz=163,slow=8.4,SNR=123
SONM PcP **PcP** **18 22 22.0 +0.2**
comp=Z,2.8nm,0.9s,baz=159,slow=4.1,SNR=4.2
SONM ScP **ScP** **18 26 00.3 -0.8**
comp=Z,1.2nm,1.1s,baz=159,slow=4.3,SNR=4.6
SONM LR LR 18 32 36.7
comp=Z,2μm,18.2s,baz=142,slow=40
SONM Songino Array 29.09 339 P **P** **18 19 14.4 0.0**
SONM IAmb IAmb 18 19 17.0
comp=Z,100nm,1.4s
KLR Kul'dur 29.20 14 P **P** **18 19 15.4 +0.3**
comp=Z,6.1nm,0.8s,baz=227,slow=6.3,SNR=17
KLR PcP **PcP** **18 22 21.1 -0.8**
comp=Z,1.4nm,0.6s,baz=235,slow=4.7,SNR=3.0
KLR LR LR 18 33 07.1
comp=Z,2μm,18.3s,baz=200,slow=41
KLR Kul'dur 29.20 14 ⇓*e*P **P** **18 19 14.8 -0.3**
KLR pmax pmax
comp=Z,20nm,1.3s
MNSI Mandaling Nat 29.24 229 P **P** **18 19 15.1 -0.7**
comp=Z,37nm,0.5s
PPI Padang Panjang 29.59 226 P **P** **18 19 19.8 +0.9**
MMRI Maumere 29.69 178 P **P** **18 19 19.8 0.0**
MMRI Maumere 29.69 178 P **P** **18 19 20.1 +0.3**
comp=Z,2μmcomp=Z,132nm,1.7s
MMRI Maumere 29.69 178 P **P** **18 19 21.3 +1.5**
comp=Z,132nm,1.6s
PWJI Pagerwojo 30.48 198 P **P** **18 19 26.7 0.0**
comp=Z,26nm,0.5s
BLSI Bandar Lampung 30.69 212 P **P** **18 19 28.3 -0.3**
TAPN Taplejung 31.02 288 *e*P **P** **18 19 33.1 +1.2**
comp=Z,43nm,1.1s
YSS Yuzh-Sakhalins 31.09 29 *e*P **P** **18 19 32.1 +0.3**
YSS *e*S **S** **18 24 31.7 -3.3**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS Yuzh-Sakhalins 31.09 29 P **P** **18 19 31.9 +0.1**
YSS IAmb IAmb 18 19 33.6
comp=Z,54nm,0.9s
YSS Yuzh-Sakhalins 31.09 29 P **P** **18 19 32.7 +0.9**
ODAN Odare 31.27 287 *e*P **P** **18 19 35.2 +1.2**
BATI Baumata 31.33 175 LR LR 18 33 11.7
comp=Z,437nm,20.0s,baz=38,slow=38
BATI Baumata 31.33 175 P **P** **18 19 31.7 -2.6**
comp=Z,34nm,0.9s
RAMN Ramite 31.98 287 *e*P **P** **18 19 41.5 +1.2**
comp=Z,9.0nm,0.4s
ZAK Zakamensk 32.33 338 *e*P **P** **18 19 39.2 -3.7**
ZAK pmax pmax
comp=Z,39nm,1.2s
JIRN Jiri 32.38 288 *e*P **P** **18 19 45.6 +1.6**
GUN Gumba 32.68 289 *e*P **P** **18 19 47.7 +1.2**
ZEA Zeya 32.80 7 *e*P **P** **18 19 46.1 -0.7**
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=N,1μm,16.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
PKI Pulchoki 33.07 288 *e*P **P** **18 19 50.5 +0.6**
PKIN Phulchoki 33.08 288 *e*P **P** **18 19 50.4 +0.4**
KKN Kakani 33.20 289 *e*P **P** **18 19 51.7 +0.8**
DMN Daman 33.34 288 *e*P **P** **18 19 52.9 +0.7**
IRK Irkutsk 33.61 341 *e*P **P** **18 19 54.3 +0.3**
IRK pmax pmax
comp=Z,146nm,1.4s
GKN Gorkha 33.78 289 *e*P **P** **18 19 56.3 +0.4**
MOY Mondy 34.20 338 *e*P **P** **18 20 00.1 +0.9**
MOY pmax pmax
comp=Z,93nm,1.8s
DANN Dangsing 34.57 289 *e*P **P** **18 20 03.5 +0.6**
KOLN Koldanda 34.68 288 *e*P **P** **18 20 04.5 +0.7**
comp=Z,41nm,1.0s
PYUN Piuthan 35.24 289 *e*P **P** **18 20 09.4 +0.8**
comp=Z,32nm,0.9s
MTN Manton Dam 35.25 163 P **P** **18 20 06.3 -2.1**
WMQ Urumqi 35.73 317 *e*P **P** **18 20 14.5 +2.1**
WMQ sP pwP 18 20 24.0 -0.4
WMQ PcP **PcP** **18 22 38.0 -2.1**
WMQ S **S** **18 25 52.0 +4.7**
WMQ SS **SnSn** **18 28 12.0 +1.3**
WMQ ScS **ScS** **18 30 31.5 +2.7**
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,200nm,4.3s
WMQ LR LR
comp=Z,1μm,14.1s
WMQ LR LR
comp=Z,1μm,13.3s
WMQ LR LR
comp=Z,560nm,16.5s
BOD Bodaibo 36.92 354 *e*P **P** **18 20 21.6 -0.7**
BOD pmax pmax
comp=Z,18nm,1.2s
KNRA Kununurra 37.42 168 P **P** **18 20 25.1 -1.9**
KNRA IAmb IAmb 18 20 34.7
comp=Z,58nm,1.5s
KNRA Kununurra 37.42 168 P **P** **18 20 29.8 +2.8**
ZSN Zaisan 39.22 321 *ci*P **P** **18 20 42.4 +0.6**
ZSN Zaisan 39.22 321 ⇑*i*P **P** **18 20 42.5 +0.6**
baz=320
KRVT Keravat (AS076 39.50 126 LR LR 18 34 49.7
comp=Z,529nm,18.8s,baz=98,slow=33
RABL Rabaul 39.53 126 P **P** **18 20 43.6 -1.2**
PMG Port Moresby 39.74 137 ⇑*e*P **P** **18 20 47.1 +0.6**
PMG pmax pmax
comp=Z,15nm,1.1s
SKR Severo-Kuril's 40.18 34 *e*P P 18 20 42.8 -6.9
SKR *e*S **S** **18 26 49.4 -4.9**
SKR *e*SSS SSS 18 29 43.4

SKR pmax pmax
comp=Z,39nm,1.2s
SKR pmax pmax
comp=Z,100nm,3.3s
SKR pmax pmax
comp=Z,300nm,2.8s
SKR MLR MLR
comp=Z,400nm,14.0s
SKR MLR MLR
comp=Z,200nm,16.0s
HYBB Hyderabad (bro 40.29 272 *e*P **P 18 20 50.0 -1.2**
HYBB *ep*P **pP 18 20 53.5 -7.0**
HYBB *e*S **S 18 26 58.2 +1.4**
HYBB IVMs_BB IVMs_BB 18 43 20.8
comp=Z,211nm,20.2s
MK31 Makanchi Array 40.48 318 *i* P **P 18 20 53.2 +0.9**
MK31 pmax pmax
comp=Z,25nm,0.8s
MK31 Makanchi Array 40.48 318 P **P 18 20 52.3 -0.1**
MKAR Makanchi Array 40.48 318 P **P 18 20 53.1 +0.7**
comp=Z,24nm,0.9s,baz=112,slow=9.5,SNR=187
MKAR PcP **PcP 18 22 54.5 -0.1**
comp=Z,5.1nm,0.9s,baz=91,slow=5.5,SNR=4.5
MKAR ScP **ScP 18 26 38.4 -3.3**
comp=Z,0.4nm,0.9s,baz=96,slow=5.9,SNR=1.7
MKAR LR LR 18 39 24.8
comp=Z,584nm,19.4s,baz=100,slow=39
MKAR Makanchi Array 40.48 318 P **P 18 20 52.8 +0.5**
MAKZ Makanchi 40.67 318 P **P 18 20 54.5 +0.5**
MAKZ pmax pmax
comp=Z,39nm,1.0s
MAKZ Makanchi 40.67 318 P **P 18 20 54.5 +0.5**
SHLS Shalkode 40.96 312 *e*P **P 18 20 55.1 -1.4**
SHLS Shalkode 40.96 312 *e*P **P 18 20 55.2 -1.4**
baz=312
PDGK Podgornoye 41.00 312 P **P 18 20 57.7 +0.9**
YAK Yakutsk 41.20 6 LR LR 18 41 19.6
comp=Z,870nm,19.1s,baz=186,slow=41
YAK Yakutsk 41.20 6*c* *i*P **P 18 20 56.2 -1.8**
YAK *e**PP **pP 18 21 05.7 -1.4**
YAK *e* 18 22 31.5
YAK *e*S **S 18 27 08.2 -1.1**
YAK *e*SS **SS 18 30 12.3 -0.6**
YAK *e* 18 30 58.1
YAK pmax pmax
comp=Z,43nm,0.8s
YAK pmax pmax
comp=N,29nm,1.2s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,104nm,5.8s
YAK pmax pmax
comp=N,108nm,5.4s
YAK pmax pmax
comp=E,111nm,5.1s
YAK smax smax
comp=E,62nm,3.5s
YAK smax smax
comp=N,11nm,2.0s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=N,1µm,16.0s
YAK MLR MLR
comp=E,193nm,14.0s
YAK Yakutsk 41.20 6 P **P 18 20 56.0 -2.1**
YAK IAmb IAmb 18 20 59.1
comp=Z,57nm,0.8s
UZB Uzynbulak 41.26 312 *e*P **P 18 21 00.1 +1.1**
UZB pmax pmax
comp=Z,17nm,1.0s
UZB Uzynbulak 41.26 312 *e*P **P 18 21 00.2 +1.1**
comp=Z,17nm,1.0s,baz=312
PALK Pallekele 41.44 257 LR LR 18 39 21.4
comp=Z,263nm,18.1s,baz=157,slow=38
KPKS Kokpek 41.60 312 *e*P **P 18 21 02.7 +1.0**
KPKS pmax pmax
comp=Z,15nm,1.0s
KPKS Kokpek 41.60 312 *e*P **P 18 21 02.8 +1.0**
comp=Z,15nm,1.0s,baz=312
SATY Saty 41.66 312 *e*P **P 18 21 03.2 +0.9**
SATY pmax pmax
comp=Z,13nm,0.9s
SATY Saty 41.66 312 *e*P **P 18 21 03.3 +0.9**
comp=Z,13nm,0.9s,baz=312
ZHN Zhinishke 41.68 312 *e*P **P 18 21 03.2 +0.8**
ZHN Zhinishke 41.68 312 *e*P **P 18 21 03.2 +0.8**
baz=312
KDJ Kajisay 42.26 310 P **P 18 21 08.5 +1.2**
KDJ pmax pmax
comp=Z,26nm,1.0s
KDJ Kajisay 42.26 310 P **P 18 21 08.5 +1.2**
TDK Taldyqorghan 42.29 314 *e*P **P 18 21 08.2 +1.0**
TDK pmax pmax
comp=Z,65nm,1.1s
TDK Taldyqorghan 42.29 314 *e*P **P 18 21 08.3 +1.0**
comp=Z,65nm,1.1s,baz=314
PETK Petropavlovsk- 42.36 32 P **P 18 21 07.5 -0.1**
comp=Z,6.4nm,0.8s,baz=205,slow=6.6,SNR=6.5
PETK LR LR 18 38 30.0
comp=Z,533nm,21.8s,baz=235,slow=36
PETK Petropavlovsk- 42.36 32 P **P 18 21 06.7 -0.9**
PETK Petropavlovsk- 42.36 32 P **P 18 21 06.7 -0.9**
ARXS Arharly 42.42 313 *e*P **P 18 21 08.6 +0.2**
KSH Kashi 42.53 306 P **P 18 21 14.0 +4.5**
KSH sP pwP 18 21 21.5 -0.1
KSH S **S 18 27 35.8 +5.9**
KSH pmax pmax
comp=Z,38nm,1.1s
KSH pmax pmax
comp=Z,140nm,4.2s
KSH LR LR
comp=Z,810nm,17.1s
KSH LR LR
comp=Z,740nm,18.4s
KSH LR LR
comp=Z,980nm,18.1s
MDOK Medeo 42.64 311 *i* P **P 18 21 11.8 +1.5**
MDOK Medeo 42.64 311 *i* P **P 18 21 11.9 +1.5**
baz=311
TNSS Tian-Shan 42.68 311 *e*P **P 18 21 12.0 +1.1**
TNSS Tian-Shan 42.68 311 *e*P **P 18 21 12.1 +1.1**
baz=311
ZAA0 Zalesovo Array 42.73 329 P **P 18 21 10.4 -0.2**
ZAA0 IAmb IAmb 18 21 12.8
comp=Z,42nm,0.8s
ZALV Zalesovo Beam 42.73 329 P **P 18 21 11.2 +0.6**
comp=Z,31nm,0.7s,baz=118,slow=7.7,SNR=121
ZALV LR LR 18 40 45.2
comp=Z,799nm,18.2s,baz=124,slow=38
ZALV Zalesovo Beam 42.73 329 *i* P **P 18 21 11.1 +0.5**
ZALV pmax pmax
comp=Z,31nm,0.6s
ZALV Zalesovo Beam 42.73 329 P **P 18 21 10.2 -0.4**
AAA Alma-Ata 42.75 311 *e*P **P 18 21 12.1 +1.0**
AAA pmax pmax
comp=Z,24nm,0.9s
AAA Alma-Ata 42.75 311 *e*P **P 18 21 12.2 +1.0**
comp=Z,24nm,0.9s,baz=311
WB0 Warramunga Arr 42.75 161 P **P 18 21 09.4 -1.8**
H11N1 WAKE ISLAND Hy 42.77 84 T T 19 07 10.7
baz=282,slow=74,SNR=70
H11N2 WAKE ISLAND Hy 42.77 84 T T 19 07 14.3
baz=282,slow=74,SNR=102
PET Petropavlovsk 42.79 33*de*P **P 18 21 10.8 -0.3**
PET pmax pmax
comp=Z,72nm,1.0s
PET Petropavlovsk 42.79 33 P **P 18 21 09.9 -1.2**
PET IAmb IAmb 18 21 11.7
comp=Z,85nm,1.1s
PET Petropavlovsk 42.79 33 P **P 18 21 11.0 -0.1**
comp=Z,336nm,1.1s
H11N3 WAKE ISLAND Hy 42.79 84 T T 19 07 09.3
baz=282,slow=74,SNR=75
H11S3 WAKE ISLAND Hy 42.81 85 T T 19 07 14.2
baz=282,slow=75,SNR=191
H11S1 WAKE ISLAND Hy 42.82 85 T T 19 07 12.0
baz=282,slow=75,SNR=125
H11S2 WAKE ISLAND Hy 42.83 85 T T 19 07 14.9
baz=282,slow=75,SNR=145
CHKK Chushkaly 42.89 312 *e*P **P 18 21 12.9 +0.8**
CHKK Chushkaly 42.89 312 *e*P **P 18 21 13.0 +0.8**
baz=312
WRAB Tennant Creek 42.90 162 P **P 18 21 10.0 -2.3**
WRAB pmax pmax
comp=Z,62nm,1.4s
WRAB Tennant Creek 42.90 162 P **P 18 21 10.0 -2.3**
WRAB IAmb IAmb 18 21 23.1
comp=Z,62nm,1.4s
WRAB Tennant Creek 42.90 162 P **P 18 21 15.2 +2.9**
WRA Warramunga Arr 42.90 162 P **P 18 21 10.5 -1.9**
comp=Z,4.9nm,0.6s,baz=343,slow=8.9,SNR=37
WRA ScP **ScP 18 26 48.4 -3.2**
comp=Z,5.4nm,1.1s,baz=336,slow=3.4,SNR=12
WRA Warramunga Arr 42.90 162 *i* P **P 18 21 10.8 -1.6**
WRA pmax pmax
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 42.90 162 P **P 18 21 10.2 -2.2**
WB2 Warramunga Arr 42.90 162 P **P 18 21 10.2 -2.2**
WB2 IAmb IAmb 18 21 23.2
comp=Z,78nm,1.4s
ULHL Ulahol 42.97 310 P **P 18 21 15.3 +2.3**
SNR=17
WR0 Warramunga Arr 42.98 161 P **P 18 21 11.1 -1.9**
WR0 IAmb IAmb 18 21 23.8
comp=Z,62nm,1.5s
BOOM Boomskoye usch 43.25 310 P **P 18 21 16.4 +1.2**
BOOM pmax pmax
comp=Z,14nm,0.8s
BOOM Boomskoye usch 43.25 310 P **P 18 21 16.4 +1.2**
SEM Semipalatinsk 43.29 322 *e*P **P 18 21 15.5 0.0**
SEM pmax pmax
comp=Z,25nm,0.8s
SEM Semipalatinsk 43.29 322 *e*P **P 18 21 15.6 0.0**
comp=Z,25nm,0.8s,baz=322
KUU Kurty 43.35 312*c* *i*P **P 18 21 16.8 +1.0**
KUU pmax pmax
comp=Z,36nm,0.9s
KUU Kurty 43.35 312⇑ *i*P **P 18 21 16.8 +1.0**
comp=Z,36nm,0.9s,baz=312
TKM2 Tokmak 2 43.60 311 P **P 18 21 20.3 +2.2**
SNR=27
TKM2 Tokmak 2 43.60 311 *i* P **P 18 21 19.6 +1.5**
TKM2 pmax pmax
comp=Z,46nm,1.1s
MA2 Magadan 43.73 21 LR LR 18 40 44.1
comp=Z,848nm,19.9s,baz=219,slow=38
MA2 Magadan 43.73 21⇑ *e*P **P 18 21 18.6 -0.1**
MA2 pmax pmax
comp=Z,10.0nm,1.0s
MA2 Magadan 43.73 21 P **P 18 21 18.3 -0.3**
MA2 Magadan 43.73 21 P **P 18 21 18.5 -0.1**
NIL Nilore 43.92 297 P **P 18 21 20.4 -0.2**
NIL pmax pmax
comp=Z,56nm,1.0s
NIL Nilore 43.92 297 P **P 18 21 20.4 -0.2**
NIL IAmb IAmb 18 21 22.6
comp=Z,56nm,1.0s
KBK Karagaybulak 44.00 310 P **P 18 21 23.8 +2.5**
SNR=35
UCH Uchtor 44.21 309 P **P 18 21 25.5 +2.2**
SNR=65
CHMS Chumysh 44.22 310 P **P 18 21 24.8 +1.8**
SNR=23
CHMS Chumysh 44.22 310 *i* P **P 18 21 24.3 +1.4**
CHMS pmax pmax
comp=Z,44nm,0.9s
FRU1 Bishkek 44.26 310 P **P 18 21 23.0 -0.3**
FRU1 pmax pmax
comp=Z,35nm,1.0s
FRU1 Bishkek 44.26 310 P **P 18 21 23.0 -0.3**
FRU1 IAmb IAmb 18 21 26.0
comp=Z,35nm,0.9s
AAK Ala-Archa 44.32 310 P **P 18 21 26.0 +2.2**
SNR=11
AAK Ala-Archa 44.32 310 LR LR 18 42 47.7
comp=Z,1µm,18.8s,baz=108,slow=40
AAK Ala-Archa 44.32 310*ce*P **P 18 21 25.4 +1.6**
AAK pmax pmax
comp=Z,24nm,1.3s
AAK Ala-Archa 44.32 310 P **P 18 21 24.9 +1.1**
KURK Kurchatov 44.36 322*c* *i*P **P 18 21 24.4 +0.6**
KURK pmax pmax
comp=Z,76nm,1.3s
KURK Kurchatov 44.36 322 P **P 18 21 24.1 +0.2**
KURK IAmb IAmb 18 21 25.8
comp=Z,53nm,1.0s
KURBB Kurchatov Arra 44.37 322 LR LR 18 40 45.7
comp=Z,381nm,19.4s,baz=95,slow=37
KURBB Kurchatov Arra 44.37 322 P **P 18 21 24.6 +0.7**
SGDS Sogindy 44.42 311*c* *i*P **P 18 21 25.4 +0.9**
SGDS Sogindy 44.42 311⇑ *i*P **P 18 21 25.5 +0.9**
baz=311
USP Ospenovka 44.47 311 P **P 18 21 26.4 +1.5**
SNR=17
AML Almayashu 44.78 309 P **P 18 21 30.4 +2.6**
SNR=74
EKS2 Erkin-Say 44.84 310 P **P 18 21 30.1 +2.2**
SNR=24
MTSU Mount Surprise 45.23 148 P **P 18 21 34.2 +3.1**
BTLS Baital 45.24 313*c* *i*P **P 18 21 31.5 +0.6**
BTLS pmax pmax
comp=Z,12nm,1.1s
BTLS Baital 45.24 313⇑ *i*P **P 18 21 31.6 +0.6**
comp=Z,12nm,1.1s,baz=313
QIS Mount Isa 45.28 155 P **P 18 21 34.4 +3.0**
DRK Karamyk 45.71 305 P **P 18 21 35.8 +0.8**
DRK IAmb IAmb 18 21 38.1
comp=Z,51nm,1.1s
AS31 Alice Springs 46.31 164 P **P 18 21 38.7 -0.9**
ASAR Alice Springs 46.32 164 P **P 18 21 38.3 -1.3**
comp=Z,1.3nm,0.3s,baz=344,slow=6.9,SNR=64
ASAR ScP **ScP 18 27 04.1 -1.5**
comp=Z,6.6nm,1.1s,baz=350,slow=3.5,SNR=20
ASAR LR LR 18 41 57.6
comp=Z,132nm,21.3s,baz=338,slow=37
ASAR Alice Springs 46.32 164 P **P 18 21 38.5 -1.1**
ASAR ScP **ScP 18 27 06.2 +0.6**
BTK Batken 46.54 306 P **P 18 21 42.3 +0.9**
BTK pmax pmax
comp=Z,45nm,1.2s
BTK Batken 46.54 306 P **P 18 21 42.3 +0.9**
BTK IAmb IAmb 18 21 58.5
comp=Z,45nm,1.2s
DZA Taraz 46.65 309 *e*P **P 18 21 43.4 +1.3**
DZA pmax pmax
comp=Z,25nm,1.6s
DZA Taraz 46.65 309 *e*P **P 18 21 43.5 +1.3**
comp=Z,24nm,1.6s,baz=309
SEY Seymchan 46.77 19 LR LR 18 43 34.6
comp=Z,397nm,18.8s,baz=174,slow=39
SEY Seymchan 46.77 19*de*P **P 18 21 42.6 -0.1**
SEY pmax pmax
comp=Z,6.0nm,1.3s
GAR Garm 46.78 304 P **P 18 21 44.4 +1.0**
KK31 Karatay Array 47.28 310 P **P 18 21 48.1 +1.1**
KK31 pmax pmax
comp=Z,36nm,1.2s
KK31 Karatay Array 47.28 310 P **P 18 21 48.0 +1.1**
KK31 IAmb IAmb 18 21 49.9
comp=Z,36nm,1.1s
KKAR Karatay Array 47.28 310 P **P 18 21 47.2 +0.2**
KKAR 18 21 48.1
KKAR Karatay Array 47.28 310 P **P 18 21 47.2 +0.2**
KKAR Karatay Array 47.28 310 P **P 18 21 48.0 +1.0**
KKAR IAmb IAmb 18 21 49.9
comp=Z,36nm,1.1s
OTUK Ortayu 47.28 317 P **P 18 21 48.4 +1.4**
KBL Kabul 47.45 298 P **P 18 21 48.8 0.0**
KBL pmax pmax
comp=Z,42nm,1.1s
KBL Kabul 47.45 298 P **P 18 21 48.8 0.0**
KBL IAmb IAmb 18 21 51.6
comp=Z,42nm,1.1s
IUG Iuzhnay 47.45 308*c* *i*P **P 18 21 49.8 +1.3**
IUG Iuzhnay 47.45 308⇑ *i*P **P 18 21 49.9 +1.3**
baz=308
BRZS Berezniki 47.61 319*c* *i*P **P 18 21 50.1 +0.6**
BRZS pmax pmax
comp=Z,14nm,1.3s
BRZS Berezniki 47.61 319⇑ *i*P **P 18 21 50.1 +0.6**
comp=Z,14nm,1.3s,baz=319
CHGR Chuyangaron 47.64 303 P **P 18 21 50.6 +0.6**
CHGR pmax pmax
comp=Z,55nm,0.9s
CHGR Chuyangaron 47.64 303 P **P 18 21 50.6 +0.6**
BRLS Boroldaу 47.75 309 *e*P **P 18 21 52.1 +1.4**
BRLS Boroldaу 47.75 309 *e*P **P 18 21 52.1 +1.4**
baz=309
CTA Charters Tower 47.84 147 LR LR 18 41 45.6
comp=Z,195nm,20.1s,baz=326,slow=36
TAS Tashkent 47.87 307 P **P 18 21 51.8 +0.2**
TAS pmax pmax
comp=Z,76nm,1.2s
TAS Tashkent 47.87 307 P **P 18 21 51.8 +0.2**
HNR Honiara 48.79 125 LR LR 18 42 18.8
comp=Z,248nm,19.2s,baz=244,slow=36
BRVK Borovoye 50.03 322 P **P 18 22 08.6 +0.6**
BRVK pmax pmax
comp=Z,39nm,1.3s
BRVK Borovoye 50.03 322 P **P 18 22 08.6 +0.6**
BRVK IAmb IAmb 18 22 10.1
comp=Z,39nm,1.2s
SHEM Shemya Is, Ala 51.13 39 LR LR 18 42 29.7
comp=Z,147nm,21.6s,baz=271,slow=34
NRIK Noril'sk 52.24 346 P **P 18 22 24.7 +0.3**
comp=Z,165nm,1.1s,baz=131,slow=7.9,SNR=127
NRIK LR LR 18 47 11.3
comp=Z,1µm,18.8s,baz=150,slow=39
NRIK Noril'sk 52.24 346*c* *i*P **P 18 22 24.5 +0.2**
NRIK pmax pmax
comp=Z,281nm,1.5s
NRIK Noril'sk 52.24 346 P **P 18 22 24.3 0.0**
HRA Herat 53.07 298 P **P 18 22 30.4 -0.9**
BILL Bilibino 54.48 19 *i*P **P 18 22 37.3 -3.5**
BILL *i* 18 22 48.0
BILL *i* 18 23 43.5
BILL *i*S **S 18 30 08.7 -8.5**
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,317nm,17.0s
BILL Bilibino 54.48 19 P **P 18 22 39.8 -1.0**
AB31 Akbulak array 55.50 316 P **P 18 22 49.2 +0.7**
ABKAR Akbulak array 55.50 316 P **P 18 22 48.1 -0.4**
BBOO Buckleboo 55.59 165 P **P 18 22 48.0 -1.2**
BBOO IAmb IAmb 18 22 59.1
comp=Z,73nm,1.4s
GEYT Alibeck 56.29 302 P **P 18 22 55.7 +1.3**
comp=Z,13nm,0.9s,baz=114,slow=5.8,SNR=19
GEYT LR LR 18 51 17.0
comp=Z,446nm,18.8s,baz=90,slow=40
GEYT Alibeck 56.29 302 P **P 18 22 55.7 +1.3**
GEYT IAmb IAmb 18 22 57.2
comp=Z,23nm,1.1s
GYA0 ALIBECK ARRAY 56.29 302 P **P 18 22 55.6 +1.2**
GYA0 pmax pmax
comp=Z,28nm,1.1s
GYA0B ALIBECK ARRAY 56.29 302 P **P 18 22 55.6 +1.2**
GYA0B IAmb IAmb 18 22 57.1
comp=Z,28nm,1.1s
STKA Stephens Creek 56.32 159 P **P 18 22 53.1 -1.3**
comp=Z,6.1nm,0.7s,baz=338,slow=7.8,SNR=19
STKA Stephens Creek 56.32 159 P **P 18 22 53.4 -1.0**
STKA pmax pmax
comp=Z,10.0nm,1.5s
STKA Stephens Creek 56.32 159 P **P 18 22 53.4 -1.0**
SVE Sverdlovsk 56.42 325 *e*P **P 18 22 55.9 +1.0**
SVE pmax pmax
comp=Z,41nm,1.1s
AKTO Aktyubinsk 56.88 317 LR LR 18 49 26.8
comp=Z,330nm,19.1s,baz=106,slow=38
ARU Arti 57.46 324 LR LR 18 48 58.0
comp=Z,268nm,20.0s,baz=93,slow=37
ARU Arti 57.46 324*c* *i*P **P 18 23 02.4 +0.1**
ARU 18 23 54.9
ARU S **S 18 30 58.7 +1.5**
ARU SS **SS 18 34 47.5 +0.6**
ARU pmax pmax
comp=Z,32nm,1.0s
ARU MLR MLR
comp=Z,405nm,15.0s
ARU Arti 57.46 324 P **P 18 23 01.7 -0.6**
ARU IAmb IAmb 18 23 03.6
comp=Z,28nm,1.0s
WSAR Wadi Sarin 57.50 285 LR LR 18 49 36.5
comp=Z,152nm,21.1s,baz=105,slow=38
SANVU Saraoutou 58.06 125 P **P 18 23 06.5 -0.5**
SANVU IAmb IAmb 18 23 19.7
comp=Z,35nm,1.2s
GAMB Gambell 61.09 28 P **P 18 23 27.4 +0.2**
baz=259
DZM Mont Dzumac 61.69 132 LR LR 18 47 39.6
comp=Z,209nm,19.1s,baz=304,slow=34
DZM Mont Dzumac 61.69 132 *e*P **P 18 23 32.0 0.0**
comp=Z,80nm,1.4s
DZM *e*S **S 18 31 53.2 +0.5**
comp=Z,434nm,30.3s
DZM *e*LR LR 18 41 46.8
comp=Z,264nm,24.5s
DZM Mont Dzumac 61.69 132 P **P 18 23 31.4 -0.6**
KIRV Kirov 62.63 326 LR LR 18 53 22.3
comp=Z,553nm,19.1s,baz=92,slow=38
KIRV Kirov 62.63 326*ce*P **P 18 23 37.6 0.0**
TNA Tin City 62.99 26 P **P 18 23 40.0 0.0**
baz=262
BELG Belogornoye 63.48 319 LR LR 18 54 25.8
comp=Z,290nm,18.1s,baz=6.4,slow=39
BELG Belogornoye 63.48 319*ce*P **P 18 23 44.3 +0.9**
BELG pmax pmax
comp=Z,4.0nm,1.0s
ANM Nome 63.95 27 P **P 18 23 46.5 +0.2**
baz=265
MAK Makhachkala 64.07 308 *e*P P 18 23 42.3 -5.2
MAK *e*S **S 18 32 15.4 -6.5**
MAK *e*SS **SS 18 36 32.6 +1.7**
MAK *e*SSS SSS 18 39 28.8
MAK MLR MLR
comp=Z,627nm,15.0s
SEKA Sheki 64.48 307 P **P 18 23 51.5 +1.2**
SOCY Socotra 64.56 274 P **P 18 23 49.0 -2.2**
SOCY IAmb IAmb 18 24 04.0
comp=Z,29nm,1.2s
MNGR Mingechevir, A 64.61 306 P **P 18 23 52.7 +1.6**
PRGR Permogore 64.68 329 *e*P **P 18 23 49.5 -1.7**
ZKTA Zakatala 64.86 307 P **P 18 23 54.0 +1.2**
GANJ Ganja 65.20 306 P **P 18 23 56.1 +1.1**
RDOG Red Dog Mine 65.25 24 P **P 18 23 53.7 -1.1**
RDOG Red Dog Mine 65.25 24 P **P 18 23 54.1 -0.7**
baz=265
NAX Nakhchivan 66.04 305 P **P 18 24 01.8 +1.3**
GNI Garni 66.47 306 LR LR 18 58 40.1
comp=Z,124nm,18.5s,baz=84,slow=41
GNI Garni 66.47 306*de*P **P 18 24 05.2 +1.8**
GNI pmax pmax
comp=Z,26nm,1.3s
GNI Garni 66.47 306 P **P 18 24 02.9 -0.5**
GNI IAmb IAmb 18 24 11.9
comp=Z,36nm,1.2s
ZEI Tsey 66.72 309 *e*P **P 18 24 04.2 -0.8**
ZEI pmax pmax
comp=Z,25nm,1.4s
ONI Oni 67.07 308 P **P 18 24 08.4 +1.3**
ONI pmax pmax
comp=Z,27nm,1.1s
ONI Oni 67.07 308 P **P 18 24 08.4 +1.3**
ONI IAmb IAmb 18 24 10.5
comp=Z,27nm,1.1s
VRH Novokhopyorsk 67.20 318 *e*P **P 18 24 07.0 -0.6**
VRH pmax pmax
comp=Z,20nm,0.8s
AKH Akhalkalaki 67.22 307⇑P **P 18 24 10.6 +2.5**
KBZ Khabaz 67.31 310 P **P 18 24 08.8 +0.4**
comp=Z,12nm,1.0s,baz=115,slow=2.6,SNR=10
KBZ LR LR 18 56 56.1
comp=Z,256nm,20.7s,baz=78,slow=39
KBZ Khabaz 67.31 310*ce*P **P 18 24 08.8 +0.4**
KBZ pmax pmax
comp=Z,23nm,1.1s
KIV Kislovodsk 67.43 310⇑P **P 18 24 10.6 +1.3**
KIV Kislovodsk 67.43 310 *e*P **P 18 24 10.1 +0.8**
KIV *e*S **S 18 33 06.4 +3.1**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,278nm,17.0s
KIV Kislovodsk 67.43 310 P **P 18 24 10.3 +0.9**
KIV IAmb IAmb 18 24 11.3
comp=Z,28nm,1.1s
A21K Barrow 67.59 20 P **P 18 24 10.1 +0.5**
A21K Barrow 67.59 20 P **P 18 24 09.9 +0.3**
baz=270,SNR=18
GCSA Galena City Sc 67.61 27 P **P 18 24 10.1 +0.2**
baz=272,SNR=7.5
KLMR Klimovskoe 67.65 328 *e*P **P 18 24 08.7 -1.5**
KLMR pmax pmax

KLMR **Klimovskoe** 67.65 328 *e*P P 18 24 08.7 -1.5
KLMR AMP 18 24 13.2
comp=Z,57nm,1.3s
KLMR LQ LQ 18 49 06.8
KLMR LQ LQ 18 49 06.8
KLMR LR LR 18 53 37.3
KARS Kars 67.65 306 P P **18 24 12.0 +1.2**
KARS pmax pmax
comp=Z,88nm,1.1s
KARS Kars 67.65 306 P P **18 24 12.0 +1.2**
MSVF Nonsavu 67.88 120 LR LR 18 49 31.8
comp=Z,171nm,20.9s,baz=303,slow=32
MSVF Nonsavu 67.88 120 P P **18 24 13.1 +0.7**
MSVF pmax pmax
comp=Z,45nm,1.3s
MSVF Nonsavu 67.88 120 P P **18 24 13.1 +0.7**
MSVF IAmb IAmb 18 24 19.4
comp=Z,45nm,1.3s
GEVA Gevas 68.06 304 P P **18 24 13.5 0.0**
GEVA IAmb IAmb 18 24 15.5
comp=Z,25nm,0.9s
TTA Tatalina 68.09 29 P P **18 24 13.2 +0.1**
TTA pmax pmax
comp=Z,20nm,0.9s
TTA Tatalina 68.09 29 P P **18 24 13.2 +0.1**
TTA IAmb IAmb 18 24 14.6
comp=Z,20nm,0.9s
TTA Tatalina 68.09 29 P P **18 24 13.5 +0.4**
baz=274,SNR=10
N18K Kilae Creek 68.31 32 P P **18 24 15.0 +0.5**
baz=275
SVW2 Sparrevohn 68.43 31 P P **18 24 15.6 +0.4**
SVW2 IAmb IAmb 18 24 17.0
comp=Z,17nm,0.9s
L19K White Mountain 68.68 30 P P **18 24 17.0 +0.3**
L19K White Mountain 68.68 30 P P **18 24 17.4 +0.6**
baz=275,SNR=13
VORR Voronezh 68.71 319 *e*P P **18 24 17.3 +0.3**
VORR pmax pmax
comp=Z,43nm,1.7s
O18K Koktuh Hills 68.73 33 P P **18 24 17.9 +0.8**
O18K Koktuh Hills 68.73 33 P P **18 24 17.6 +0.5**
baz=276,SNR=7.9
VORD Divnogorie 68.75 318 *e*P P **18 24 15.9 -1.4**
VORD pmax pmax
comp=Z,7.0nm,1.0s
LPSR Galich'ya Gora 68.76 320 *e*P P **18 24 16.7 -0.6**
LPSR pmax pmax
comp=Z,20nm,0.8s
P18K Big Mountain, 68.77 33 P P **18 24 17.5 +0.2**
baz=276
VSR Storozhevoye 68.80 318 *e*P P **18 24 16.7 -0.9**
VSR pmax pmax
comp=Z,20nm,1.7s
J20K Nowinta River 68.83 28 P P **18 24 17.9 +0.3**
J20K Nowinta River 68.83 28 P P **18 24 18.3 +0.8**
baz=275,SNR=17
IMAR Indian Mountai 68.84 26 P P **18 24 17.8 +0.2**
M19K Big River Lodg 68.92 30 P P **18 24 19.2 +1.0**
M19K IAmb IAmb 18 24 20.3
comp=Z,30nm,0.9s
M19K Big River Lodg 68.92 30 P P **18 24 19.0 +0.8**
baz=276
K20K Telida 68.93 29 P P **18 24 19.0 +0.7**
K20K IAmb IAmb 18 24 20.4
comp=Z,31nm,0.9s
K20K Telida 68.93 29 P P **18 24 19.1 +0.9**
baz=275,SNR=12
CHIR Chirikof Islan 68.95 37 P P **18 24 19.0 +0.6**
baz=277
N19K Bonanza Creek 68.99 32 P P **18 24 19.1 +0.3**
N19K IAmb IAmb 18 24 22.9
comp=Z,16nm,1.0s
N19K Bonanza Creek 68.99 32 P P **18 24 19.4 +0.6**
baz=276
L20K Farewell, AK 69.11 30 P P **18 24 20.0 +0.6**
baz=276,SNR=7.4
MOS Moscow 69.12 323 *e*P P **18 24 18.1 -1.4**
MOS *e* 18 24 29.4
MOS *e* 18 24 49.8
MOS pmax pmax
comp=Z,27nm,0.8s
O19K Port Alsworth 69.14 32 P P **18 24 19.7 +0.2**
O19K Port Alsworth 69.14 32 P P **18 24 19.8 +0.2**
baz=276
H21K Melozitna Rive 69.26 26 P P **18 24 20.7 +0.4**
H21K Melozitna Rive 69.26 26 P P **18 24 20.9 +0.6**
baz=276,SNR=41
SOC Sochi 69.62 310 *e*P P **18 24 21.5 -1.3**
SOC *e* 18 26 55.7
SOC *e*PPP PPP 18 28 34.1
SOC *e*S **S** **18 33 29.3 +0.3**
SOC *e*SS **SS** **18 38 00.9 +4.0**
SOC MLR MLR
comp=Z,249nm,15.0s
Q19K Cape Douglas, 69.63 33 P P **18 24 23.9 +1.2**
baz=277
I21K Tanana 69.65 27 P P **18 24 23.5 +0.9**
I21K IAmb IAmb 18 24 24.8
comp=Z,36nm,0.9s
I21K Tanana 69.65 27 P P **18 24 23.4 +0.8**
baz=276,SNR=15
SII Sitkinak Islan 69.66 36 P P **18 24 22.7 -0.1**
baz=278
CHUM Lake Minchumin 69.66 28 P P **18 24 23.2 +0.5**
baz=277,SNR=18
APA Apatity 69.73 336⇓ *i*P P **18 24 22.5 -0.6**
APA pmax pmax
comp=Z,15nm,0.9s
APA MLR MLR
comp=Z,500nm,14.0s
P19K Oil Pt 69.75 33 P P **18 24 23.6 +0.2**
baz=277
OBN Obninsk 69.80 322 LR LR 18 57 13.1
comp=Z,59nm,18.0s,baz=144,slow=38
OBN Obninsk 69.80 322 *i*P P **18 24 23.7 0.0**
OBN *i* 18 24 33.9
OBN *i* 18 24 43.0
OBN pmax pmax
comp=Z,16nm,1.4s
OBN MLR MLR
comp=Z,294nm,15.0s
OBN Obninsk 69.80 322 P P **18 24 22.8 -1.0**
OBN IAmb IAmb 18 24 38.7
comp=Z,36nm,1.3s
CAST Castle Rocks 69.81 29 P P **18 24 24.0 +0.3**
CAST Castle Rocks 69.81 29 P P **18 24 24.2 +0.5**
baz=277,SNR=36
PPLA Purkeypile 69.83 29 P P **18 24 24.0 0.0**
PPLA IAmb IAmb 18 24 25.6
comp=Z,37nm,0.9s
PPLA Purkeypile 69.83 29 P P **18 24 24.2 +0.2**
baz=277,SNR=8.6
RSO Redoubt South 69.88 32 P P **18 24 24.3 -0.1**
O20K Slope Mountain 69.99 32 P P **18 24 25.3 +0.4**
baz=278
MARD Mardin 70.02 303 P P **18 24 26.4 +0.8**
OHAK Old Harbor 70.05 35 P P **18 24 24.6 -0.6**
baz=278
COLD Coldfoot 70.12 24 P P **18 24 25.6 +0.1**
COLD IAmb IAmb 18 24 27.4
comp=Z,42nm,1.3s
COLD Coldfoot 70.12 24 P P **18 24 26.1 +0.6**
baz=277,SNR=23
TOLK Toolik Lake Re 70.18 23 P P **18 24 26.2 +0.3**
TOLK IAmb IAmb 18 24 27.6
comp=Z,38nm,0.9s
TOLK Toolik Lake Re 70.18 23 P P **18 24 26.2 +0.3**
baz=277,SNR=33
BPAW Bear Paw Mtn. 70.21 28 P P **18 24 26.4 +0.3**
BPAW Bear Paw Mtn. 70.21 28 P P **18 24 26.3 +0.2**
baz=278,SNR=21
KTH Kantishna Hill 70.31 28 P P **18 24 26.9 +0.1**
KTH IAmb IAmb 18 24 28.1
comp=Z,22nm,0.9s
KDAK Kodiak Island 70.34 35 P P **18 24 27.0 0.0**
baz=279
HOM Homer 70.54 33 P P **18 24 28.0 -0.2**
baz=279
H23K Yukon River 70.58 26 P P **18 24 28.9 +0.6**
H23K Yukon River 70.58 26 P P **18 24 29.3 +0.9**
baz=278,SNR=51
TRF Thorofare Moun 70.61 28 P P **18 24 29.2 +0.4**
TRF IAmb IAmb 18 24 30.7
comp=Z,17nm,1.0s

TRF Thorofare Moun 70.61 28 P P **18 24 29.8 +1.0**
baz=279
I23K Minto, Yukon-K 70.75 27 P P **18 24 29.3 -0.1**
I23K IAmb IAmb 18 24 31.1
comp=Z,40nm,1.2s
I23K Minto, Yukon-K 70.75 27 P P **18 24 29.6 +0.3**
baz=279,SNR=20
CUT Chulitna 70.78 30 P P **18 24 29.7 +0.1**
CUT Chulitna 70.78 30 P P **18 24 28.9 -0.7**
baz=279,SNR=5.5
BRLK Bradley Lake 70.91 32 P P **18 24 30.0 -0.5**
BRLK IAmb IAmb 18 24 32.3
comp=Z,32nm,0.8s
HOPEN Hopen 70.95 346 *e*P P **18 24 31.3 +0.9**
M22K Willow 70.95 30 P P **18 24 30.0 -0.6**
M22K Willow 70.95 30 P P **18 24 29.7 -0.9**
baz=279,SNR=7.5
NEA2 Nenana 70.96 27 P P **18 24 30.9 +0.2**
NEA2 Nenana 70.96 27 P P **18 24 30.6 -0.1**
baz=279,SNR=25
BRSE Bradley Lake S 70.98 32 P P **18 24 30.2 -0.7**
baz=280
MCK McKinley 71.16 28 P P **18 24 31.3 -0.7**
MCK pmax pmax
comp=Z,57nm,1.0s
MCK McKinley 71.16 28 P P **18 24 31.3 -0.7**
MCK McKinley 71.16 28 P P **18 24 31.6 -0.4**
baz=280,SNR=20
RC01 Rabbit Creek A 71.25 31 P P **18 24 32.4 -0.1**
baz=280
H24K Noodor Dome 71.25 26 P P **18 24 32.9 +0.4**
H24K IAmb IAmb 18 24 34.5
comp=Z,39nm,1.1s
H24K Noodor Dome 71.25 26 P P **18 24 32.7 +0.2**
baz=280,SNR=24
RND Reindeer 71.25 28 P P **18 24 32.1 -0.5**
RND pmax pmax
comp=Z,80nm,0.8s
RND Reindeer 71.25 28 P P **18 24 32.1 -0.5**
MDM Murphy Dome 71.26 27 P P **18 24 32.5 0.0**
O22K Cooper Landing 71.36 32 P P **18 24 32.8 -0.3**
O22K Cooper Landing 71.36 32 P P **18 24 32.0 -1.1**
baz=280
WRH Wood River Hil 71.40 27 P P **18 24 33.8 +0.5**
WRH IAmb IAmb 18 24 35.2
comp=Z,27nm,0.8s
TCOL CIGO, UAF Yank 71.43 27 P P **18 24 33.4 -0.1**
TCOL IAmb IAmb 18 24 35.7
comp=Z,19nm,0.8s
TCOL CIGO, UAF Yank 71.43 27 P P **18 24 32.8 -0.7**
baz=280
COLA College 71.43 27⇓ *e*P P **18 24 33.4 -0.1**
COLA pmax pmax
comp=Z,15nm,0.9s
COLA College 71.43 27 P P **18 24 33.3 -0.2**
COLA IAmb IAmb 18 24 35.7
comp=Z,20nm,0.8s
COLA College 71.43 27 P P **18 24 33.1 -0.4**
baz=280
PMR Palmer 71.44 30 P P **18 24 32.9 -0.7**
PMR pmax pmax
comp=Z,32nm,0.9s
PMR Palmer 71.44 30 P P **18 24 32.9 -0.7**
PMR IAmb IAmb 18 24 34.0
comp=Z,32nm,0.9s
PMR Palmer 71.44 30 P P **18 24 32.8 -0.8**
baz=280,SNR=5.1
WAT1 Susitna Watana 71.49 29 P P **18 24 33.0 -1.0**
baz=280
GHO Glory Hole Cre 71.51 30 P P **18 24 33.5 -0.6**
GHO IAmb IAmb 18 24 54.1
comp=Z,50nm,1.2s
SEW Seward 71.56 32 P P **18 24 33.6 -0.8**
baz=280
POKR Poker Plat Res 71.56 26 P P **18 24 35.3 +1.0**
POKR IAmb IAmb 18 24 36.4
comp=Z,37nm,1.0s
POKR Poker Plat Res 71.56 26 P P **18 24 33.9 -0.4**
baz=280,SNR=10
VALR Valaam 71.74 330 *de*P P **18 24 36.6 +1.2**
VALR pmax pmax
comp=Z,20nm,1.0s
SML Sawmill 71.78 30 P P **18 24 35.6 -0.2**
SML Sawmill 71.78 30 P P **18 24 34.9 -0.8**
baz=281,SNR=5.6
KNK Knik Glacier 71.80 30 P P **18 24 34.9 -1.0**
KNK Knik Glacier 71.80 30 P P **18 24 35.1 -0.7**
baz=281,SNR=8.6
IL31 71.86 27 P P **18 24 35.0 -1.0**
ILAR Eielson Array 71.86 27 P P **18 24 35.2 -0.8**
comp=Z,4.5nm,0.8s,baz=276,slow=5.8,SNR=27
ILAR LR LR 18 59 44.6
comp=Z,157nm,18.3s,baz=1.0,slow=39
ILAR Eielson Array 71.86 27 P P **18 24 34.9 -1.2**
ILAR Eielson Array 71.86 27 P P **18 24 34.9 -1.2**
WAT6 Susitna Watana 71.91 29 P P **18 24 36.0 -0.7**
baz=281,SNR=14
PWL Port Wells 71.96 31 P P **18 24 36.5 -0.3**
PWL Port Wells 71.96 31 P P **18 24 36.4 -0.4**
baz=281,SNR=6.2
DHY Denali Highway 71.97 29 P P **18 24 37.3 +0.3**
DHY Denali Highway 71.97 29 P P **18 24 36.1 -1.0**
baz=281
M23K Glacier View 72.07 30 P P **18 24 36.8 -0.7**
baz=281
BMAR Burnt Mountain 72.23 24 P P **18 24 38.5 +0.1**
SCM Sheep Creek Mo 72.24 30 P P **18 24 37.8 -0.8**
SCM pmax pmax
comp=Z,78nm,0.9s
SCM Sheep Creek Mo 72.24 30 P P **18 24 37.8 -0.8**
SCM Sheep Creek Mo 72.24 30 P P **18 24 37.8 -0.8**
baz=282,SNR=8.1
ARA0 ARCESS Array S 72.26 338 *e*P P **18 24 37.7 -0.7**
ARCES ARCESS Array B 72.26 338 P P **18 24 38.5 +0.1**
comp=Z,3.5nm,0.6s,baz=71,slow=7.8,SNR=18
ARCES LR LR 19 01 15.0
comp=Z,234nm,18.9s,baz=36,slow=40
ARCES ARCESS Array B 72.26 338 P P **18 24 38.6 +0.1**
ARCES pmax pmax
comp=Z,24nm,1.4s
ARCES ARCESS Array B 72.26 338 P P **18 24 38.6 +0.1**
ARCES IAmb IAmb 18 24 58.2
comp=Z,24nm,1.4s
SPB2 Spitsbergen Ar 72.36 348 P P **18 24 39.4 +0.5**
SPB2 IAmb IAmb 18 24 40.5
comp=Z,46nm,1.0s
SPA0 Spitsbergen Ar 72.36 348 *e*P P **18 24 39.4 +0.6**
SPITS Spitsbergen Ar 72.36 348 LR LR 19 01 18.3
comp=Z,414nm,18.2s,baz=227,slow=40
SPITS Spitsbergen Ar 72.36 348 P P **18 24 39.5 +0.6**
SPITS pmax pmax
comp=Z,70nm,1.2s
J25K Salcha River, 72.53 27 P P **18 24 39.2 -1.0**
J25K Salcha River, 72.53 27 P P **18 24 38.6 -1.6**
baz=282,SNR=6.4
K24K Donnelly Dome 72.53 28 P P **18 24 39.2 -0.9**
baz=282,SNR=13
GLI Glacier Island 72.55 31 P P **18 24 39.8 -0.5**
GLI Glacier Island 72.55 31 P P **18 24 39.7 -0.5**
baz=282
HAMF Hammerfest 72.61 340 *e*P P **18 24 40.4 0.0**
M24K Tolsona, Glenn 72.72 29 P P **18 24 40.8 -0.6**
M24K Tolsona, Glenn 72.72 29 P P **18 24 41.0 -0.3**
baz=283,SNR=6.7
PAX Paxson 72.84 29 P P **18 24 41.9 -0.2**
PAX pmax pmax
comp=Z,27nm,1.0s
PAX Paxson 72.84 29 P P **18 24 41.9 -0.2**
PAX IAmb IAmb 18 24 43.2
comp=Z,27nm,1.0s
PAX Paxson 72.84 29 P P **18 24 41.7 -0.4**
baz=283,SNR=8.6
FID Port Fidalgo 72.87 31 P P **18 24 41.8 -0.4**
KBS Kingsbay 72.92 349⇑ *e*P P **18 24 43.3 +1.1**
KBS pmax pmax
comp=Z,30nm,1.3s
KBS Kingsbay 72.92 349 *e*P P **18 24 42.6 +0.4**
HSPB Hornsund (broa 72.92 347 *e*P P **18 24 42.6 +0.4**
HSPB *e*PP **PP** **18 27 21.2 -3.1**
HSPB *e*L L 19 02 38.4
comp=Z,1μm,18.4s
HSPB Hornsund (broa 72.92 347 *e*P P **18 24 42.9 +0.7**
RIDG Independent Ri 72.94 28 P P **18 24 42.0 -0.7**
RIDG Independent Ri 72.94 28 P P **18 24 41.8 -0.8**
baz=283,SNR=14

KLU Klutina 72.97 30 P P **18 24 41.7 -1.2**
KLU IAmb IAmb 18 24 44.0
comp=Z,23nm,0.8s
KLU Klutina 72.97 30 P P **18 24 42.4 -0.5**
baz=283,SNR=5.5
HARP HAARP 73.12 29 P P **18 24 43.9 +0.2**
baz=283
DIV Divide 73.12 30 P P **18 24 43.3 -0.5**
KTK1 Kautokeino 73.17 338 *e*P P **18 24 44.3 +0.5**
Q23K Middleton Isla 73.23 32 P P **18 24 45.0 +0.7**
baz=283
SCRK Sand Creek 73.26 27 P P **18 24 43.7 -0.9**
SCRK IAmb IAmb 18 24 45.3
comp=Z,25nm,1.1s
SCRK Sand Creek 73.26 27 P P **18 24 43.8 -0.8**
baz=284,SNR=12
EYAK Cordova Ski Ar 73.27 31 P P **18 24 44.0 -0.5**
baz=283
DOT Dot Lake 73.31 28 P P **18 24 44.2 -0.6**
DOT IAmb IAmb 18 24 45.9
comp=Z,25nm,1.0s
J26L Joseph Creek 73.31 27 P P **18 24 44.3 -0.5**
baz=284,SNR=26
BNN Bunyan 73.47 306 P P **18 24 46.8 +0.4**
BNN IAmb IAmb 18 24 48.6
comp=Z,63nm,1.4s
N25K Chitina, Valde 73.56 30 P P **18 24 46.7 +0.4**
N25K IAmb IAmb 18 24 47.9
comp=Z,29nm,1.1s
N25K Chitina, Valde 73.56 30 P P **18 24 46.4 0.0**
baz=284,SNR=6.2
MENT Mentasta 73.63 28 P P **18 24 46.8 +0.1**
MENT IAmb IAmb 18 24 48.2
comp=Z,33nm,1.0s
BMRM Bremner River 73.71 30 P P **18 24 47.6 +0.4**
BMRM Bremner River 73.71 30 P P **18 24 46.7 -0.5**
baz=284,SNR=8.2
L26K Log Cabin Wild 73.77 28 P P **18 24 47.4 -0.1**
L26K IAmb IAmb 18 24 49.1
comp=Z,30nm,1.1s
L26K Log Cabin Wild 73.77 28 P P **18 24 47.5 -0.1**
baz=285
GLB Gilahina Butte 73.97 30 P P **18 24 49.0 +0.2**
FIA1 FINESS Array S 73.98 330 P P **18 24 48.4 -0.2**
FIA1 IAmb IAmb 18 24 51.6
comp=Z,32nm,1.3s
FINES FINESS Array B 73.98 330 P P **18 24 49.0 +0.3**
comp=Z,8.5nm,0.8s,baz=90,slow=8.4,SNR=16
FINES LR LR 19 01 10.1
comp=Z,528nm,19.0s,baz=70,slow=39
FINES FINESS Array B 73.98 330 P P **18 24 48.7 0.0**
FINES FINESS Array B 73.98 330 P P **18 24 48.7 0.0**
JETT Jettan, Norway 73.99 339 *e*P P **18 24 49.4 +0.7**
KAIM Kayak Island 74.06 31 P P **18 24 49.2 0.0**
baz=285
M26K Nabesna, AK 74.09 29 P P **18 24 49.4 0.0**
M26K Nabesna, AK 74.09 29 P P **18 24 49.1 -0.3**
baz=285,SNR=24
VRDI Verde Repeater 74.19 30 P P **18 24 50.0 -0.2**
VRDI IAmb IAmb 18 24 51.4
comp=Z,32nm,1.0s
EGAK Eagle 74.24 26 P P **18 24 49.8 -0.4**
EGAK IAmb IAmb 18 24 51.6
comp=Z,22nm,0.9s
EGAK Eagle 74.24 26 P P **18 24 49.8 -0.4**
baz=286,SNR=14
BERG Berg Lake 74.29 31 P P **18 24 51.3 +0.7**
MCARA McCarthy VSAT 74.35 30 P P **18 24 51.1 +0.2**
MCARA IAmb IAmb 18 24 52.5
comp=Z,35nm,1.0s
MCARA McCarthy VSAT 74.35 30 P P **18 24 51.0 +0.2**
baz=286,SNR=6.7
VSU Vasula 74.43 327 *de*P P **18 24 51.5 +0.2**
VSU pmax pmax
comp=Z,60nm,1.1s
VSU Vasula 74.43 327 *e*P P **18 24 52.3 +0.9**
L27K Beaver Creek, 74.43 28 P P **18 24 51.8 +0.4**
L27K IAmb IAmb 18 24 53.4
comp=Z,47nm,1.1s
L27K Beaver Creek, 74.43 28 P P **18 24 51.7 +0.4**
baz=286,SNR=19
BCAR Beaver Creek A 74.45 28 P P **18 24 52.2 +0.7**
TRO Tromso 74.45 339 *e*P P **18 24 51.6 +0.3**
AFI Afiamalu 74.52 112 LR LR 18 54 16.3
comp=Z,165nm,19.0s,baz=186,slow=33
M27K Edge Creek, AK 74.60 29 P P **18 24 52.5 0.0**
M27K Edge Creek, AK 74.60 29 P P **18 24 52.8 +0.3**
baz=286,SNR=5.8
BR131 Keskin Array S 74.91 307 P P **18 24 55.2 +0.5**
BR131 pmax pmax
comp=Z,14nm,1.1s
BR131 Keskin Array S 74.91 307 P P **18 24 55.2 +0.5**
BRTR Keskin Array B 74.91 307 P P **18 24 55.1 +0.4**
comp=Z,5.5nm,1.1s,baz=113,slow=5.6,SNR=20
BRTR LR LR 19 02 41.1
comp=Z,163nm,20.4s,baz=76,slow=40
BRTR Keskin Array B 74.91 307 *i* P P **18 24 54.9 +0.2**
BRTR pmax pmax
comp=Z,6.0nm,1.1s
BRTR Keskin Array B 74.91 307 P P **18 24 54.4 -0.4**
BVCY Beaver Creek 75.04 28 P P **18 24 55.1 +0.2**
baz=287,SNR=7.0
AKASG Malin Array Be 75.06 319 P P **18 24 55.5 +0.3**
comp=Z,2.0nm,0.7s,baz=58,slow=6.0,SNR=11
AKASG Malin Array Be 75.06 319 *i* P P **18 24 54.7 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 75.06 319 P P **18 24 54.1 -1.0**
AKBB Malin Array Si 75.06 319 P P **18 24 54.3 -0.9**
AKBB pmax pmax
comp=Z,9.0nm,0.9s
AKBB Malin Array Si 75.06 319 P P **18 24 54.3 -0.9**
BARN Barnard Glacie 75.07 30 P P **18 24 55.5 +0.2**
BARN IAmb IAmb 18 24 56.9
comp=Z,44nm,1.1s
MEF Metsahovi 75.10 329 *e*P P **18 24 55.4 +0.2**
ATD Arta Tunnel 75.11 277 LR LR 18 58 20.3
comp=Z,76nm,20.3s,baz=142,slow=36
DAWY Dawson 75.18 27 P P **18 24 55.6 -0.1**
DAWY IAmb IAmb 18 24 57.6
comp=Z,32nm,1.0s
DAWY Dawson 75.18 27 P P **18 24 55.6 -0.1**
baz=288,SNR=28
I29M Ogilvie Camp, 75.22 25 P P **18 24 55.6 -0.2**
I29M IAmb IAmb 18 24 57.1
comp=Z,40nm,1.4s
I29M Ogilvie Camp, 75.22 25 P P **18 24 55.9 0.0**
baz=288,SNR=15
CTG Chitna Glacier 75.25 30 P P **18 24 56.7 +0.5**
baz=287,SNR=14
CTGM Chitina Glacie 75.25 30 P P **18 24 57.0 +0.7**
IDID Didziasalis 75.27 324 *e*P P **18 24 56.2 -0.1**
NOR Nord 75.27 354 *i* P P **18 24 55.7 -0.2**
NOR IAmb IAmb 18 24 56.6
comp=Z,23nm,1.5s
MMAI Mount Meron Ar 75.32 300 LR LR 19 02 22.0
comp=Z,292nm,19.9s,baz=248,slow=39
NACGM Naroch 75.36 323 *e*P P **18 24 57.7 +1.0**
YUK3 Moose Creek 75.41 29 P P **18 24 57.3 0.0**
baz=288,SNR=6.5
LOGN Logan Glacier 75.45 30 P P **18 24 57.7 +0.3**
LOGN IAmb IAmb 18 25 01.2
comp=Z,42nm,1.1s
ANTO Ankara 75.50 307 P P **18 24 57.5 -0.5**
ANTO pmax pmax
comp=Z,17nm,1.0s
ANTO Ankara 75.50 307 P P **18 24 57.5 -0.5**
ANTO IAmb IAmb 18 24 59.3
comp=Z,17nm,0.9s
EPYK Eagle Plains 75.51 24 P P **18 24 57.0 -0.5**
EPYK IAmb IAmb 18 24 58.2
comp=Z,50nm,1.4s
EPYK Eagle Plains 75.51 24 P P **18 24 56.8 -0.7**
baz=290,SNR=12
J29M Klondike Camp 75.55 26 P P **18 24 58.2 +0.4**
baz=289
MTSE Matsula 75.83 328 *e*P P **18 24 58.8 -0.6**
INK Inuvik 75.97 22 LR LR 19 03 42.4
comp=Z,136nm,18.2s,baz=304,slow=40
INK Inuvik 75.97 22 P P **18 24 59.0 -1.1**
INK pmax pmax
comp=Z,67nm,1.5s
INK Inuvik 75.97 22 P P **18 24 59.0 -1.1**
INK IAmb IAmb 18 25 00.9
comp=Z,67nm,1.4s
INK Inuvik 75.97 22 P P **18 24 59.5 -0.6**

	baz=292,SNR=18						
SORM	Soroca	76.31	316	⇑P	P	18 25 09.6	+7.3
SORM	Soroca	76.31	316	⇑P	P	18 25 09.6	+7.3
STEI	Steigen	76.31	338	eP	P	18 25 01.9	-0.1
YUK4	Talbot Arm	76.37	29	P	P	18 25 03.2	+0.5
	baz=289						
FAUS	Fauske	76.51	338	eP	P	18 25 02.9	-0.2
PNL	Peninsula	76.57	31	P	P	18 25 04.0	+0.3
	baz=289						
EIL	Elat	76.64	297	LR	LR	19 03 06.6	
	comp=Z,254nm,18.2s,baz=84,slow=39						
YUK6	Outpost Mounta	76.64	30	P	P	18 25 05.1	+0.8
	baz=290,SNR=5.9						
PABE	Paberze	76.72	325	P	P	18 25 04.2	-0.3
PABE				IAmb	IAmb	18 25 06.4	
	comp=Z,69nm,1.5s						
PABE	Paberze	76.72	325	eP	P	18 25 04.4	-0.1
M30M	Minto, Yukon	76.78	28	P	P	18 25 05.8	+1.0
M30M	Minto, Yukon	76.78	28	P	P	18 25 05.1	+0.3
	baz=290,SNR=23						
LOF	Lofoten	76.82	338	eP	P	18 25 06.0	+1.1
A36M	Sachs Harbour	76.95	17	P	P	18 25 05.1	-0.4
A36M	Sachs Harbour	76.95	17	P	P	18 25 05.0	-0.5
	baz=299,SNR=20						
HYT	Haines Junctio	77.07	30	P	P	18 25 07.1	+0.4
HYT				IAmb	IAmb	18 25 08.6	
	comp=Z,56nm,1.4s						
HYT	Haines Junctio	77.07	30	P	P	18 25 06.1	-0.5
	baz=290,SNR=11						
MOR8	Moi Rana	77.30	336	eP	P	18 25 06.9	-0.7
CFR	Carcaliu	77.30	314	⇑P	P	18 25 06.9	-1.1
CFR	Carcaliu	77.30	314	⇑P	P	18 25 06.9	-1.1
HARR	Harsova	77.59	313	⇓P	P	18 25 10.5	+0.9
HARR	Harsova	77.59	313	⇓P	P	18 25 10.5	+0.9
N31M	Braeburn, Yuko	77.62	29	P	P	18 25 10.2	+0.7
N31M	Braeburn, Yuko	77.62	29	P	P	18 25 09.5	0.0
	baz=292,SNR=7.2						
SUW	Suwalki	77.63	323	eP	P	18 25 09.9	+0.2
SUW	Suwalki	77.63	323	eP	P	18 25 10.2	+0.5
EUNU	Eureka	77.84	5	P	P	18 25 10.3	-0.3
EUNU				IAmb	IAmb	18 25 11.7	
	comp=Z,34nm,1.4s						
ICOR	Ion Corvin	77.85	313	⇓P	P	18 25 12.3	+1.2
TESR	Tescani	77.89	315	⇑P	P	18 25 18.3	+6.9
M31M	Drury Creek, Y	77.96	28	P	P	18 25 11.3	-0.1
M31M	Drury Creek, Y	77.96	28	P	P	18 25 11.5	+0.1
	baz=292,SNR=8.2						
VRI	Vrincioaia	78.04	315	⇑P	P	18 25 13.6	+1.4
VRI	Vrincioaia	78.04	315	⇑P	P	18 25 13.6	+1.4
PLOR	Plostina	78.09	315	⇑P	P	18 25 22.2	+10
PLOR	Plostina	78.09	315	⇑P	P	18 25 22.2	+10
BISRR	Bisoca	78.15	314	⇓P	P	18 25 18.8	+6.0
WHY	Whitehorse	78.33	29	P	P	18 25 14.1	+0.5
WHY				IAmb	IAmb	18 25 26.3	
	comp=Z,20nm,1.1s						
WHY	Whitehorse	78.33	29	P	P	18 25 14.2	+0.5
	baz=292						
FARO	Faro, Yukon	78.40	27	P	P	18 25 13.8	-0.1
	baz=293,SNR=12						
UPP	Uppsala	78.43	330	eP	P	18 25 14.8	+0.9
BUR01	Bucovina Ar. S	78.47	317	⇑P	P	18 25 23.0	+8.4
BURAR	Bucovina Array	78.47	317	P	P	18 25 14.6	-0.1
BURAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BURAR	Bucovina Array	78.47	317	P	P	18 25 14.6	-0.1
BUR08	Bucovina Ar. S	78.47	317	P	P	18 25 14.7	0.0
ELL	Elmali	78.57	305	P	P	18 25 15.6	+0.2
ELL				pmax	pmax		
	comp=Z,75nm,0.8s						
ELL	Elmali	78.57	305	P	P	18 25 15.6	+0.2
SKAG	Skagway	78.58	30	P	P	18 25 15.5	+0.6
SKAG				IAmb	IAmb	18 25 16.7	
	comp=Z,41nm,1.2s						
SKAG	Skagway	78.58	30	P	P	18 25 15.4	+0.6
	baz=292						
OZUR		78.59	315	⇓P	P	18 25 16.6	+1.3
C36M	Paulatuk	78.60	19	P	P	18 25 13.9	-0.8
C36M				IAmb	IAmb	18 25 14.5	
	comp=Z,15nm,0.7s						
C36M	Paulatuk	78.60	19	P	P	18 25 13.9	-0.8
	baz=300,SNR=12						
MLR	Muntele Rosu	78.68	314	⇑P	P	18 25 19.9	+4.1
MLR	Muntele Rosu	78.68	314	P	P	18 25 15.1	-0.7
MLR				pmax	pmax		
	comp=Z,13nm,1.3s						
MLR	Muntele Rosu	78.68	314	P	P	18 25 15.1	-0.7
DOPR	Dopca	78.89	315	⇓P	P	18 25 17.0	+0.1
MMPY	Sheldon Lake,	79.12	27	P	P	18 25 18.0	+0.1
	baz=295,SNR=5.6						
DAG	Danmarks Havn	79.28	351	i P	P	18 25 17.0	-1.4
DAG	Danmarks Havn	79.28	351	i P	P	18 25 17.7	-0.7
DAG				IAmb	IAmb	18 25 18.8	
	comp=Z,31nm,1.4s						
KWP	Kalwaria Pacla	79.37	319	eP	P	18 25 19.1	-0.3
KWP	Kalwaria Pacla	79.37	319	P	P	18 25 19.1	-0.3
KWP	Kalwaria Pacla	79.37	319	P	P	18 25 19.1	-0.3
SIT	Sitka	79.50	33	P	P	18 25 20.5	+0.5
	baz=293						
ARR	Arges	79.59	315	⇓P	P	18 25 22.5	+1.7
HUMR	Humele	79.64	314	⇓P	P	18 25 22.5	+1.6
UZH	Uzhgorod	79.98	318	eP	P	18 25 20.0	-2.7
UZH				i		18 25 24.8	
UZH				i		18 25 29.0	
HFS	Hagfors	80.12	331	LR	LR	19 04 59.2	
	comp=Z,526nm,19.3s,baz=62,slow=39						
NC405	NORSAR Array S	80.57	332	P	P	18 25 25.2	-0.5
NC405				IAmb	IAmb	18 25 26.1	
	comp=Z,44nm,1.1s						
NB2	NORSAR Subarra	80.82	332	P	P	18 25 26.3	-0.7
	comp=Z,1.8nm,0.6s,baz=61,slow=5.1						
NB2	NORSAR Subarra	80.82	332	P	P	18 25 26.3	-0.7
	baz=61,slow=5.1						
NOA	NORSAR Array B	80.82	332	P	P	18 25 27.0	-0.1
	comp=Z,2.5nm,0.7s,baz=63,slow=5.1,SNR=12						
NOA				PP	PP	18 28 32.1	+1.1
	comp=Z,1.9nm,1.1s,baz=63,slow=8.0,SNR=4.1						
NOA				LR	LR	19 05 27.9	
	comp=Z,616nm,18.5s,baz=60,slow=39						
TGTN	Hyland Airport	80.87	27	P	P	18 25 27.3	-0.1
	baz=298						
NIE	Niedzica	80.92	319	eP	P	18 25 29.4	+1.6
OJC	Ojcow	80.92	320	eP	P	18 25 27.9	+0.1
OJC				eP	PcP	18 25 28.6	-5.6
OJC	Ojcow	80.92	320	P	P	18 25 27.7	0.0
OJC				pmax	pmax		
	comp=Z,11nm,0.8s						
OJC	Ojcow	80.92	320	P	P	18 25 27.7	0.0
DOMB	Dombas	81.25	334	eP	P	18 25 29.1	-0.3
WRAK	Wrangell Islan	81.26	33	P	P	18 25 29.6	+0.2
	baz=295						
VTS	Vitosha	81.49	312	⇓P	P	18 25 32.0	+0.9
VTS	Vitosha	81.49	312	P	P	18 25 31.7	+0.6
VTS				pmax	pmax		
	comp=Z,44nm,1.5s						
VTS	Vitosha	81.49	312	P	P	18 25 31.7	+0.6
VTS				IAmb	IAmb	18 25 32.9	
	comp=Z,44nm,1.5s						
DBG	Daneborg	81.49	350	i P	P	18 25 29.9	-0.4
DBG				IAmb	IAmb	18 25 32.5	
	comp=Z,15nm,1.1s						
DLBC	Dease Lake	81.51	30	LR	LR	19 06 06.4	
	comp=Z,89nm,18.1s,baz=306,slow=39						
DLBC	Dease Lake	81.51	30	P	P	18 25 31.7	+0.9
DLBC				IAmb	IAmb	18 25 32.7	
	comp=Z,27nm,1.4s						
RES	Resolute Bay	81.58	9	LR	LR	19 03 30.7	
	comp=Z,133nm,21.8s,baz=282,slow=37						
RES	Resolute Bay	81.58	9	P	P	18 25 30.2	-0.6
RES				pmax	pmax		
	comp=Z,37nm,1.2s						
RES	Resolute Bay	81.58	9	P	P	18 25 30.2	-0.6
RES				IAmb	IAmb	18 25 31.7	
	comp=Z,37nm,1.1s						
JMIC	Jan Mayen	81.67	345	LR	LR	19 08 06.7	
	comp=Z,236nm,18.4s,baz=354,slow=40						
MDVR	Moldovita	81.73	315	⇑P	P	18 25 32.2	0.0
OKC	Ostrava-Krasne	82.05	320	AMS	AMS	19 09 30.0	
	comp=Z,400nm,15.4s						
TULEG	Thule	82.27	2	P	P	18 25 33.8	-0.6
TULEG				IAmb	IAmb	18 25 36.0	
	comp=Z,19nm,1.0s						
TULEG	Thule	82.27	2	IAmb	IAmb	18 25 34.8	
	comp=Z,79nm,1.8s						
TULEG				i P	P	18 25 35.0	+0.6
MORC	Moravsky Berou	82.43	321	⇑P	P	18 25 36.7	+0.9
MORC	Moravsky Berou	82.43	321	⇑P	P	18 25 36.7	+0.9
MORC	Moravsky Berou	82.43	321	eP	P	18 25 36.0	+0.2
ABPO	Ambohimpanom	82.65	246	P	P	18 25 37.1	-0.4
ABPO				pmax	pmax		
	comp=Z,13nm,1.0s						
ABPO	Ambohimpanom	82.65	246	P	P	18 25 37.1	-0.4
KSP	Ksiaz	82.72	322	eP	P	18 25 38.0	+0.8
JAVC	Velka Javorina	82.72	320	eP	P	18 25 38.7	+1.3
KRLC	Kraliky	82.75	321	eP	P	18 25 37.7	+0.2
KRLC				MLR	MLR		
	comp=Z,300nm,22.0s						
KRLC	Kraliky	82.75	321	eP	P	18 25 37.7	+0.2
KRLC				AMS	AMS	19 06 10.0	
	comp=Z,300nm,22.0s						
OSTC	Ostas	82.89	322	AMS	AMS	19 07 20.0	
	comp=Z,400nm,17.6s						
IDI	Anoyia	82.89	305	LR	LR	19 09 21.7	
	comp=Z,66nm,18.9s,baz=98,slow=40						
DPC	Dobruska-Polom	82.91	321	eP	P	18 25 39.4	+1.1
DPC				MLR	MLR		
	comp=Z,300nm,17.2s						
DPC	Dobruska-Polom	82.91	321	eP	P	18 25 39.4	+1.1
DPC				AMS	AMS	19 07 20.0	
	comp=Z,300nm,17.2s						
CHVC	Chvalec	82.97	322	AMS	AMS	19 09 40.0	
UPC	Upice	83.02	322	AMS	AMS	19 07 30.0	
	comp=Z,400nm,14.8s						
FOO	Floro	83.12	334	eP	P	18 25 39.3	+0.3
MORH	Mrgy, Hungar	83.18	317	⇑P	P	18 25 40.7	+1.0
MORH	Mrgy, Hungar	83.18	317	P	P	18 25 38.7	-1.0
VRAC	Vranov	83.18	320	⇓P	P	18 25 36.8	-2.9
VRAC	Vranov	83.18	320	LR	LR	19 06 32.8	
	comp=Z,200nm,18.3s,baz=66,slow=38						
VRAC	Vranov	83.18	320	⇓P	P	18 25 36.8	-2.9
VRAC	Vranov	83.18	320	eP	P	18 25 40.3	+0.6
KRUC	Moravsky	83.41	320	eP	P	18 25 41.1	+0.3
MPLH	Magyarpolny	83.49	318	P	P	18 25 41.7	+0.5
KOVH	Kovagotottos	83.58	317	P	P	18 25 41.3	-0.4
BER	Bergen	83.65	333	eP	P	18 25 42.5	+0.7
ASK	Askoy	83.66	333	eP	P	18 25 42.8	+1.0
BRG	Berggiesshubel	84.05	323	eP	P	18 25 44.4	+0.3
BRG				Amp		18 25 46.3	
	comp=Z,8.5nm,1.1s						
BRG				Amp		19 09 08.0	
	comp=N,0.2nm,17.1s						
BRG				Amp		19 09 15.0	
	comp=E,0.3nm,15.4s						
BRG				Amp		19 09 19.0	
	comp=Z,0.5nm,14.8s						
BRG	Berggiesshubel	84.05	323	eP	P	18 25 44.4	+0.3
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRG				MLR	MLR		
	comp=N,220nm,17.1s						
BRG				MLR	MLR		
	comp=E,340nm,15.4s						
BRG				MLR	MLR		
	comp=Z,450nm,14.8s						
PRU	Pruhonice	84.10	322	eP	P	18 25 45.1	+0.8
PRU				MLR	MLR		
	comp=Z,300nm,15.1s						
PRU	Pruhonice	84.10	322	eP	P	18 25 45.1	+0.8
PRU				AMS	AMS	19 08 00.0	
	comp=Z,300nm,15.1s						
CONA	Conrad Observa	84.21	319	eP	P	18 25 46.5	+1.5
	comp=Z,2.6nm,0.8s						
CLL	Collm	84.39	323	i P	P	18 25 45.6	-0.1
CLL				e		18 36 12.0	
CLL				pmax	pmax		
	comp=Z,11nm,1.1s						
CLL				MLR	MLR		
	comp=Z,400nm,20.2s						
CLL	Collm	84.39	323	P	P	18 25 45.4	-0.3
CLL				IAmb	IAmb	18 26 03.7	
	comp=Z,18nm,1.4s						
CLL	Collm	84.39	323	i P	P	18 25 45.6	-0.1
	comp=Z,11nm,1.1s						
CLL				ePP	PP	18 29 01.0	+0.5
	comp=Z,23nm,2.1s						
CLL				eSKSac	S	18 36 12.0	+2.5
CLL				eSS	SS	18 42 06.0	+27
CLL				eSSS	SSS	18 45 36.0	
CLL				LmH		19 01 00.0	
	comp=N,300nm,19.8s						
CLL				LmH		19 01 00.0	
	comp=E,200nm,20.6s						
CLL				LmV		19 08 00.0	
	comp=Z,400nm,20.2s						
KMBO	Kilima Mbogo	84.71	267	P	P	18 25 49.0	+0.6
	comp=Z,4.5nm,0.8s,baz=43,slow=7.8,SNR=8.3						
KMBO	Kilima Mbogo	84.71	267	P	P	18 25 49.0	+0.6
KMBO				pmax	pmax		
	comp=Z,16nm,1.2s						
KMBO	Kilima Mbogo	84.71	267	P	P	18 25 49.0	+0.6
KMBO				IAmb	IAmb	18 25 50.5	
	comp=Z,16nm,1.2s						
CKRC	Cesky Krumlov	84.75	321	eP	P	18 25 48.3	+0.6
CKRC				eSKS	S	18 36 14.7	+1.4
CKRC				AMS	AMS	19 07 50.0	
	comp=Z,300nm,15.8s						
SCO	Scoresbysund	84.94	348	P	P	18 25 48.5	+0.3
SCO				pmax	pmax		
	comp=Z,24nm,1.3s						
SCO	Scoresbysund	84.94	348	P	P	18 25 48.5	+0.3
SCO				IAmb	IAmb	18 25 49.7	
	comp=Z,24nm,1.3s						
SCO	Scoresbysund	84.94	348	i P	P	18 25 48.3	+0.2
SCO				IAmb	IAmb	18 25 50.0	
	comp=Z,27nm,1.3s						
KHC	Kasperske Hory	85.04	321	eP	P	18 25 43.0	-6.2
KHC				e		18 25 49.5	
KHC				e		18 36 10.2	
KHC				MLR	MLR		
	comp=Z,400nm,19.8s						
KHC	Kasperske Hory	85.04	321	P	P	18 25 49.4	+0.3
KHC	Kasperske Hory	85.04	321	eP	P	18 25 43.0	-6.2
KHC				ePCP	P	18 25 49.5	+0.3
KHC				ex	x	18 26 04.5	
KHC				eSKS	SKSac	18 36 10.2	-1.3
KHC				AMS	AMS	19 07 40.0	
	comp=Z,400nm,19.8s						
GEC2	GERESS Array S	85.10	321	P	P	18 25 49.7	+0.2
GERES	GERESS Array B	85.10	321	P	P	18 25 49.5	0.0
	comp=Z,1.6nm,0.8s,baz=69,slow=7.3,SNR=14						
GERES				LR	LR	19 08 24.8	
	comp=Z,304nm,19.3s,baz=76,slow=39						
GERES	GERESS Array B	85.10	321	P	P	18 25 49.4	-0.1
NKC	Novy Kostel	85.19	322	AMS	AMS	19 07 20.0	
	comp=Z,400nm,16.0s						
MOA	Molln	85.21	320	eP	P	18 25 51.0	+1.0
	comp=Z,2.6nm,0.9s						
SOKA	Soboth	85.25	318	eP	P	18 25 53.3	+2.9
	comp=Z,1.5nm,0.5s						
YKA	Yellowknife Ar	85.70	23	P	P	18 25 51.6	-0.5
	comp=Z,13nm,0.8s,baz=310,slow=4.7,SNR=158						
YKA				PKKPbc	PKKPdf	18 43 51.2	+4.1
	comp=Z,0.2nm,0.7s,baz=123,slow=2.8,SNR=3.7						
YKA	Yellowknife Ar	85.70	23	P	P	18 25 51.4	-0.7
ABTA	Abfaltersbach	86.77	319	eP	P	18 25 59.2	+1.3
	comp=Z,0.7nm,0.3s						
WTTA	Wattenberg	87.06	320	eP	P	18 26 01.5	+2.1
	comp=Z,1.0nm,0.4s						
CASY	Casey	87.60	184	P	P	18 26 01.9	+0.9
CASY				IAmb	IAmb	18 26 14.4	
	comp=Z,13nm,1.1s						
FETA	Feichten	87.72	320	eP	P	18 26 03.7	+1.1
	comp=Z,1.0nm,0.6s						
RAR	Rarotonga	87.97	114	LR	LR	19 00 04.2	
	comp=Z,43nm,20.5s,baz=286,slow=32						
DAVOX	Davos/Dischmat	88.34	320	LR	LR	19 09 23.9	
	comp=Z,315nm,20.0s,baz=44,slow=38						
SOEG	Soedalen	88.58	350	i P	P	18 26 06.5	+0.5
SOEG				IAmb	IAmb	18 26 06.8	
	comp=Z,16nm,1.0s						
ICESG	Greenland Ices	88.88	353	i P	P	18 26 07.8	+0.1
ICESG				IAmb	IAmb	18 26 08.4	
	comp=Z,13nm,0.8s						
LLLB	Lillooet	89.56	35	P	P	18 26 11.3	+0.3
LLLB				IAmb	IAmb	18 26 15.7	
	comp=Z,23nm,1.1s						
BORG	Borgarnes	89.56	345	LR	LR	19 11 26.2	
	comp=Z,295nm,18.2s,baz=26,slow=39						
VAE	Valguarnera	89.75	310	LR	LR	19 12 14.4	
	comp=Z,60nm,21.7s,baz=192,slow=39						
EKA	Eskdalemuir Ar	90.29	332	LR	LR	19 13 29.0	
	comp=Z,826nm,18.2s,baz=21,slow=40						
D03D	Eldon	90.58	38	P	P	18 26 16.2	+0.4
	baz=303						
MBAR	Mbarara	90.59	270	LR	LR	19 06 58.6	
	comp=Z,76nm,20.8s,baz=62,slow=36						
B05A	Bryant	90.74	37	P	P	18 26 16.9	+0.4
	baz=304						
SFJD	Kangerlussuaq	91.83	357	LR	LR	19 10 47.1	
	comp=Z,152nm,18.6s,baz=360,slow=38						
DY2G	Dye2	92.06	355	i P	P	18 26 22.9	+0.4
DY2G				IAmb	IAmb	18 26 23.4	
	comp=Z,18nm,0.8s						
EDM	Edmonton	92.19	29	P	P	18 26 23.3	+0.2
EDM				pmax	pmax		
	comp=Z,20nm,0.9s						
EDM	Edmonton	92.19	29	P	P	18 26 23.3	+0.2
EDM				IAmb	IAmb	18 26 24.4	
	comp=Z,20nm,0.9s						
B08A	Colville Reser	92.21	36	P	P	18 26 23.3	0.0
J01E	Myrtle Point	92.43	42	P	P	18 26 25.0	+0.6
	baz=302						
I04A	Tendick Farm,	93.02	40	P	P	18 26 27.0	-0.2
	baz=303						
C09A	Chrisman Ranch	93.11	36	P	P	18 26 28.0	+0.6
NEW	Newport	93.45	35	LR	LR	19 11 12.3	
	comp=Z,64nm,19.2s,baz=343,slow=37						
NEW	Newport	93.45	35	P	P	18 26 29.3	+0.2
NEW				pmax	pmax		
	comp=Z,13nm,1.4s						
NEW	Newport	93.45	35	P	P	18 26 29.3	+0.2
NEW				IAmb	IAmb	18 26 31.5	
	comp=Z,13nm,1.4s						
NEW	Newport	93.45	35	P	P	18 26 29.4	+0.4
	baz=307						
J04D	Umpqua Nationa	93.51	41	P	P	18 26 29.5	-0.1
	baz=304						
L04D	Klamath Falls	93.95	42	P	P	18 26 31.6	0.0
	baz=303						
YBH	Yreka Blue Hor	93.96	42	LR	LR	19 01 11.9	
	comp=Z,103nm,21.7s,baz=312,slow=31						
J05D	Fort Rock, OR	94.01	40	P	P	18 26 32.0	+0.1
	baz=304						
KEST	Kesra	94.17	311	LR	LR	19 17 39.7	
	comp=Z,103nm,18.8s,baz=313,slow=41						
M04C	Macdoel	94.48	42	P	P	18 26 34.4	+0.4
	baz=304						
WALA	Waterton Lakes	94.61	33	P	P	18 26 35.4	+0.8
WALA				IAmb	IAmb	18 26 37.9	
	comp=Z,16nm,1.2s						
FRB	Frobisher Bay	94.97	4	LR	LR	19 15 18.5	
	comp=Z,165nm,18.2s,baz=348,slow=39						
FCC	Fort Churchill	95.17	18	P	P	18 26 36.2	-0.4
FCC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FCC	Fort Churchill	95.17	18	P	P	18 26 36.2	-0.4
JTMT	Jette	95.26	34	P	P	18 26 37.5	0.0
PPT2	Papeete2	95.56	107	eS	S	18 37 52.8	-1.5
	comp=Z,138nm,27.8s						
PPT2	Papeete2	95.56	107	eLR	LR	18 57 25.1	
	comp=Z,263nm,30.5s						
MSO	Missoula	96.03	34	P	P	18 26 41.2	+0.2
	baz=310						
BEKR	Beckworth	96.48	43	P	P	18 26 43.0	-0.3
BEKR				IAmb	IAmb	18 26 43.5	
	comp=Z,7.1nm,1.0s						
EGMT	Eagleton	97.37	32	P	P	18 26 46.2	-0.8
	baz=313						
CMB	Columbia Colle	97.49	44	P	P	18 26 47.7	0.0
CMB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMB	Columbia Colle	97.49	44	P	P	18 26 47.7	0.0
CMB				IAmb	IAmb	18 26 47.9	
	comp=Z,5.2nm,0.9s						
TBI	Tubuai	97.63	112	eLR	LR	18 58 27.0	
	comp=Z,164nm,29.5s						
HLID	Hailey	97.84	37	P	P	18 26 49.1	-0.2
	baz=309						
BOZ	Bozeman (W)	98.05	34	P	P	18 26 50.0	-0.2
	baz=312						
LSZ	Lusaka	98.09	257	LR	LR	19 11 10.6	
	comp=Z,90nm,18.3s,baz=105,slow=35						
NVAR	Mina Array Bea	98.61	43	P	P	18 26 52.0	-0.9
	comp=Z,0.8nm,0.7s,baz=280,slow=4.8,SNR=4.2						
VOG	Valley Oaks Go	99.12	45	P	Pdif	18 26 55.1	+0.1
	baz=305						
DGMT	Dagmar	99.66	29	P	Pdif	18 26 57.2	0.0
	baz=318						
CWC	Cottonwood Cre	99.91	45	P	Pdif	18 26 58.7	-0.1
	baz=306						
R11A	Troy Canyon, C	100.37	42	P	Pdif	18 27 00.7	-0.1
	baz=308						
DUG	Dugway, Tooele	100.90	39	P	Pdif	18 27 02.9	-0.2
	baz=310						
BW06	Boulder Array	101.05	35	P	Pdif	18 27 03.4	-0.4
	baz=313						
TAOE	Nuku Hiva Isla	101.22	95	eLR	LR	19 00 00.8	
	comp=Z,253nm,26.3s						
VNDA	Vanda	101.39	172	PKKPbc	PKKPbc	18 43 13.7	-2.0
	comp=Z,0.8nm,0.9s,baz=116,slow=1.4,SNR=4.2						
SYO	Syowa Base	106.64	202	⇓iPdiff	Pdif	18 27 29.0	+1.6
TROLL	Troll, Antarti	118.75	198	PKPdf	PKPdf	18 32 00.6	-0.4
KMSC	Kings Mountain	120.02	21		PKiKP	18 32 04.6	+0.1
SNAA	Sanae	120.42	198	PKPdf	PKPdf	18 32 04.0	0.0
VNA2	Neumayer--Watz	122.07	198	PKPdf	PKPdf	18 32 06.4	-0.8
	baz=72,slow=1.0						
BELA	Belgrano 2	122.11	186	PKPdf	PKPdf	18 32 05.8	-1.4
VNA1	Neumayer--Stat	122.46	198	PKPdf	PKiKP	18 32 09.6	+1.5
URIC	Uribia, Colomb	144.83	23		PKPab	18 32 49.5	-0.6
URIC	Uribia, Colomb	144.83	23	eP	PKPab	18 32 49.8	-0.4
SJCC	San Jacinto, C	145.16	29		PKPbc	18 32 50.0	-1.5
SJCC	San Jacinto, C	145.16	29	eP	PKPbc	18 32 48.8	-2.7
UREC	San Jos de Ur	146.87	31	eP	PKPdf	18 32 47.9	-6.9
DBBC	Dabeiba	147.17	33	eP	PKPbc	18 32 57.8	+0.3
ZARC	Zaragoza, Cauc	147.42	31		PKPdf	18 32 55.9	+0.2
ZARC	Zaragoza, Cauc	147.42	31	eP	PKPdf	18 32 47.5	-8.2
OCAC	Ocana	147.46	27		PKPdf	18 32 55.7	-0.3
SDV	Santo Domingo	147.92	22	PKPdf	PKPdf	18 32 55.9	-0.9
SDV	Santo Domingo	147.92	22	eP	PKPdf	18 32 56.2	-0.5
SDV	Santo Domingo	147.92	22	eP	PKPdf	18 32 57.9	+1.1
GO09	Cerro Castillo	148.21	164		PKPdf	18 32 56.9	+1.0
CBOC	Ciudad Bolivar	148.25	34	eP	PKPdf	18 32 53.8	-3.5
SOCV	Socops	148.40	23	eP	PKPdf	18 32 55.6	-1.8
PTBC	PUERTO BERRIO,	148.44	31	eP	PKPdf	18 32 56.8	-0.6
PAMC	Pamplona, Colo	148.53	27	eP	PKPdf	18 32 59.8	+1.6
BAUV	El Baul	148.69	18	PKPdf	PKPdf	18 32 56.6	-1.2
PLMC	San Jos del P	148.91	35	eP	PKPdf	18 32 56.7	-1.5
GUY2C	Guyana, Caldas	149.13	33	eP	PKPdf	18 33 00.2	+1.1
SPBC	San Pablo de B	149.40	31	eP	PKPbc	18 33 01.5	-2.0
YOTC	Yotoco, Valle	149.65	36	eP	PKPdf	18 32 58.9	-0.6
RUSC	La Rusia	149.65	29	eP	PKPbc	18 33 02.6	-2.0
ORTC	Ortega, Tolima	150.30	35	eP	PKPdf	18 33 02.4	+2.0
POPC	Popayan, Colom	150.64	39	eP	PKPdf	18 32 51.3	-10
MARP	Paez Belalcaza	150.80	37	eP	PKPdf	18 33 03.1	+1.6
VILC	Villavicencio,	150.92	32	eP	PKPdf	18 32 57.8	-3.7
PCON	Cinco Dias	150.97	38	eP	PKPdf	18 32 49.0	-13
SOTA	Rioblanco	151.00	39	eP	PKPbc	18 33 05.4	-2.5
TULM	Tulcn-Chalpat	151.40	43	PKPbc	PKPbc	18 33 08.2	-0.5
COYC	Coyhaique	153.40	159	PKPdf	PKPdf	18 33 04.1	+0.1
PRPB	Parauapebas	162.66	328	eP	PKPdf	18 33 17.7	+1.4
ITTB	Itaituba	162.97	349	eP	PKPdf	18 33 18.8	+2.1
SMTB	Santa Maria do	163.60	317	eP	PKPdf	18 33 19.9	+2.7
NPGB	Novo Progresso	165.50	346	eP	PKPdf	18 33 20.9	+2.1
PB11	IPOC Station P	169.77	84		PKPdf	18 33 21.7	-0.3
LPAZ	La Paz	169.94	62	PKIKP	PKPdf	18 33 22.8	+0.2
LPAZ	La Paz	169.94	62		PKPdf	18 33 22.8	+0.2
LPAZ	La Paz	169.94	62	eP	PKPdf	18 33 22.9	+0.3

IDC 25 18:26:29.1±3.7, 0°.59S×131°.34E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/23, mbtmp3.7/4, ML3.5/1 Error ellipse: s-maj=278.0km s-min=22.6km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.45	172	P	P	18 30 57.6	0.0
	0.1nm,0.3s,baz=352,slow=10,SNR=7.5						
WRA				S	Sn	18 34 19.3	-18
	0.1nm,0.3s,baz=348,slow=23,SNR=4.6						
ASAR	Alice Springs	23.07	174	P	P	18 31 36.5	-0.1
	1.3nm,0.7s,baz=352,slow=11,SNR=19						
MKAR	Makanchi Array	63.72	325	P	P	18 37 02.9	+0.2
	1.2nm,0.7s,baz=116,slow=8.0,SNR=16						
ZALV	Zalesovo Beam	66.52	332	P	P	18 37 20.4	-0.3

0.4nm,0.5s,baz=123,slow=5.3,SNR=2.1

*INMG **25** 18:26:45.5±1.4, 37.°04N×10.°16W, h3km±5km, ML2.1, Error ellipse: s-maj=6.0km s-min=4.1km az=39.0*
*IGIL **25** 18:26:45.7, 37.°04N×10.°16W, h3km, ML2.1*
*CNRM **25** 18:26:46.4, 36.°61N×9.°72W, h30km, ml1.5*
*MDD **25** 18:26:46.5±1.0, 37.°06N×10.°10W, h8km±9km, mb_Lg2.6/6, Error ellipse: s-maj=13.4km s-min=5.6km az=34.0*

ISC 25 18:26:44.5±3.0, 37.°04N±0.°10×10.°2W±0.°1, h17km±10km, n34, σ1°18/55, 2C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.07**	**85**	⇑*i*P	**Pg**	**18 27 05.3**	**+0.1**
PFVI				*e*S	**Sg**	**18 27 19.8**	**+0.5**
PFVI				A	A	18 27 21.4	
	21nm,0.3s						
MORF	**Marmelete**	**1.23**	**77**	*e*P	**Pg**	**18 27 07.7**	**-0.6**
MORF				*e*S	**Sg**	**18 27 23.7**	**-0.7**
MORF				IAML		18 27 25.6	
	comp=E,26nm,0.2s						
MORF	**Marmelete**	**1.23**	**77**	⇑*e*P	**Pg**	**18 27 07.7**	**-0.6**
MORF				*e*S	**Sg**	**18 27 24.5**	**0.0**
MORF				A	A	18 27 25.8	
	comp=E,20nm,0.3s						
PTEO	**Sao Teotonio**	**1.25**	**66**	*e*P	**Pg**	**18 27 08.4**	**-0.2**
PTEO				*e*S	**Sg**	**18 27 25.2**	**+0.2**
PTEO				A	A	18 27 30.1	
	comp=E,8.0nm,0.2s						
PNCL	**Nicolau / Gran**	**1.68**	**50**	*e*Pn	**Pn**	**18 27 14.1**	**+1.0**
PNCL				*e*Sn	**Sn**	**18 27 35.6**	**+1.3**
PNCL				A	A	18 27 38.0	
	comp=E,9.4nm,0.1s						
PCVE	**Castro Verde**	**1.79**	**70**	*e*Pn	**Pn**	**18 27 15.7**	**+1.0**
PCVE				*e*Sn	**Sn**	**18 27 37.5**	**+0.5**
PCVE				A	A	18 27 41.4	
	comp=E,6.3nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.79**	**83**	*e*Pn	**Pn**	**18 27 15.6**	**+0.9**
PBDV				*e*Sn	**Sn**	**18 27 38.2**	**+1.1**
PBDV				A	A	18 27 40.9	
	comp=E,6.1nm,0.2s						
PVAQ	**Vaqueiros**	**1.98**	**79**	*e*Pn	**Pn**	**18 27 18.2**	**+0.9**
PVAQ				*e*Sn	**Sn**	**18 27 42.3**	**+0.5**
PVAQ				A	A	18 27 45.5	
	comp=E,7.5nm,0.1s						
PVAQ	**Vaqueiros**	**1.98**	**79**	P	**Pn**	**18 27 17.6**	**+0.3**
PVAQ				S	**Sn**	**18 27 38.6**	**-3.2**
PACT	**Alcochete**	**2.02**	**31**	*e*Sn	**Sn**	**18 27 45.0**	**+2.4**
PACT				A	A	18 27 50.5	
	comp=E,36nm,0.6s						
PMAFR	**Mafra**	**2.03**	**20**	*e*Pn	**Pn**	**18 27 18.2**	**+0.2**
PMAFR				*e*Sn	**Sn**	**18 27 43.5**	**+0.5**
PMAFR				A	A	18 27 47.3	
	comp=E,16nm,0.5s						
PBEJ	**Beja**	**2.07**	**61**	*e*Sn	**Sn**	**18 27 44.7**	**+0.7**
EGRO	**El Granado**	**2.19**	**76**	P	**Pn**	**18 27 21.6**	**+1.4**
EGRO				S	**Sn**	**18 27 47.4**	**+0.5**
EGRO				*i* Vmb_Lg		18 27 52.0	
PMTG	**Montargil**	**2.53**	**36**	*e*Pn	**Pn**	**18 27 25.6**	**+0.7**
PMTG				*e*Sn	**Sn**	**18 27 55.4**	**0.0**
PMTG				A	A	18 27 57.5	
	comp=E,3.8nm,0.2s						
PSBE	**So Bento**	**2.69**	**23**	*e*Pn	**Pn**	**18 27 27.7**	**+0.6**
PSBE				*e*Sn	**Sn**	**18 28 00.1**	**+0.8**
PSBE				A	A	18 28 02.2	
	comp=E,7.7nm,1.1s						
PBAR	**Barrancos**	**2.72**	**65**	*e*Sn	**Sn**	**18 28 00.7**	**+0.6**
PESTR	**Estremoz**	**2.73**	**47**	*e*Sn	**Sn**	**18 28 00.6**	**+0.4**
PESTR				A	A	18 28 04.1	
	comp=E,1.7nm,0.6s						
PESTR	**Estremoz**	**2.73**	**47**	P	**Pn**	**18 27 28.0**	**+0.4**
PESTR				S	**Sn**	**18 28 00.5**	**+0.4**
EMIN	**Mina Concepcio**	**2.87**	**74**	P	**Pn**	**18 27 29.9**	**+0.4**
EMIN				S	**Sn**	**18 28 02.4**	**-1.3**
EMIN				*i* Vmb_Lg		18 28 05.1	
EBAD	**Badajoz**	**3.02**	**55**	P	**Pn**	**18 27 32.6**	**+1.0**
EBAD				S	**Sn**	**18 28 07.3**	**-0.1**
EBAD				*i* Vmb_Lg		18 28 10.3	
PMRV	**Marv??o**	**3.23**	**42**	*e*Pn	**Pn**	**18 27 34.9**	**+0.4**
PMRV				*e*Sn	**Sn**	**18 28 12.0**	**-0.5**
PMRV				A	A	18 28 13.9	
	comp=E,4.3nm,0.5s						
PCAS	**Casmilo, Conde**	**3.27**	**23**	*e*Pn	**Pn**	**18 27 35.5**	**+0.4**
PCAS				*e*Sn	**Sn**	**18 28 13.9**	**+0.2**
PCAS				A	A	18 28 17.9	
	comp=E,2.4nm,0.6s						
PCBR	**Castelo Branco**	**3.50**	**36**	*e*Sn	**Sn**	**18 28 19.3**	**+0.2**
PCBR				A	A	18 28 24.8	
	comp=E,1.4nm,0.4s						
ECAB	**El Cabril**	**3.91**	**73**	P	**Pn**	**18 27 44.4**	**+0.6**
ECAB				S	**Sn**	**18 28 27.1**	**-2.2**
ECAB				*i* Vmb_Lg		18 28 30.1	
PVIS	**Viseu**	**4.07**	**25**	*e*Sn	**Sn**	**18 28 32.9**	**-0.5**
PVIS				A	A	18 28 37.1	
	comp=E,3.1nm,0.1s						
EPLA	**Plasencia**	**4.39**	**45**	P	**Pn**	**18 27 51.8**	**+1.3**
EPLA				S	**Sn**	**18 28 40.3**	**-1.1**
EPLA				*i* Vmb_Lg		18 31 06.9	
EADA	**Adamuz**	**4.57**	**74**	P	**Pn**	**18 27 53.4**	**+0.4**
EADA				S	**Sn**	**18 28 44.5**	**-1.2**
EADA				*i* Vmb_Lg		18 28 47.6	
POLO	**Lamas de Olo**	**4.70**	**22**	*e*Sn	**Sn**	**18 28 47.5**	**-1.4**
MVO	**Moncorvo**	**4.78**	**30**	A	A	18 28 49.4	
	comp=E,5.2nm,0.4s						
MVO				*e*Sn	**Sn**	**18 28 49.5**	**-1.4**
ELOB	**Lobios**	**5.08**	**18**	P	**Pn**	**18 28 00.8**	**+0.8**
ELOB				S	**Sn**	**18 28 55.4**	**-3.0**
PGAV	**Gavieira, Arco**	**5.13**	**16**	*e*Sn	**Sn**	**18 28 57.5**	**-2.0**
PAB	**San Pablo**	**5.21**	**60**	P	**Pn**	**18 28 03.1**	**+1.4**
PAB				S	**Sn**	**18 28 58.8**	**-2.7**
MD31	**MD31**	**6.08**	**132**	P	Pn	18 28 08.6	-5.2
MD31				S	Sn	18 29 09.7	-13
OUK	**Oukaimeden**	**6.12**	**161**	P	Pn	18 28 10.8	-3.8
OUK				S	Sn	18 29 09.4	-15

*NIED **25** 18:42:03.9, 32.°69N×130.°71E, h17km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.93; Mθθ2.47; Mφφ-3.40; Mrθ-0.56; Mθφ2.51; Mrφ0.31; Fault plane solution: M₀3.92000×10¹⁴ NP1: φs205.00000°, δ80.00000°, λ177.00000°. NP2: φs295.00000°, δ87.00000°, λ10.00000°.*

JMA 25 18:42:03.8, 32.°69N×130.°71E, h17km±1km, M3.9, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.17**	**148**	⇑P	Pg	18 42 08.1	0.0
JIU3				*e*S	Sg	18 42 11.2	+0.2
JTA	**Tamana**	**0.31**	**331**	⇑P	Pg	18 42 10.4	-0.1
JTA				S	Sg	18 42 15.0	0.0

IDC 25 18:51:13.8±60.0, 22.°35S×179.°23W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/36, mbtmp3.9/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/63, Error ellipse: s-maj=1090.0km s-min=166.0km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.97**	**246**	P	P	18 58 15.8	-0.7
	0.9nm,0.6s,baz=66,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**43.01**	**259**	P	P	18 59 15.3	-0.1
	0.5nm,0.5s,baz=103,slow=7.3,SNR=9.1						
ASAR				LR	LR	19 17 01.1	
	comp=Z,75nm,18.0s,baz=146,slow=36						
WRA	**Warramunga Arr**	**43.24**	**264**	P	P	18 59 17.5	+0.2
	1.6nm,0.5s,baz=97,slow=8.4,SNR=76						

KRSC 25 18:58:09.9±0.4, 55.°69N×162.°20E, h54km±12km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.63**	**33**	*e*P	Pn	18 58 24.0	+1.1
KBTR				*e*S	Sn	18 58 33.9	+1.6
KBG	**Krutoberegovo**	**0.64**	**26**	*e*P	Pn	18 58 23.8	+0.8
KBG				*e*S	Sn	18 58 33.5	+1.0
ZLN	**Zelenaya**	**0.85**	**293**	*e*P	Pn	18 58 27.1	+1.2
ZLN				*e*S	Sn	18 58 38.8	+1.2
BZGR	**Bezymyannyi-Gr**	**0.89**	**287**	*e*P	Pn	18 58 27.3	+1.0
BZGR				*e*S	Sn	18 58 39.3	+0.9
SMKR	**Semkarok**	**0.99**	**336**	*i* P	Pn	18 58 28.4	+0.8
SMKR				S	Sn	18 58 41.8	+1.2
BZWR	**Bezymyannyi-We**	**1.00**	**287**	*e*P	Pn	18 58 29.2	+1.3
BDR	**Baidarnaya**	**1.04**	**328**	*e*P	Pn	18 58 29.6	+1.2
KRSR	**Krestovskiy**	**1.06**	**301**	*e*P	Pn	18 58 29.1	+0.5
KRSR				*e*S	Sn	18 58 42.7	+0.2
KLY	**Klyuchi**	**1.07**	**306**	*i* P	Pn	18 58 28.2	-0.5
KLY				*e*S	Sn	18 58 41.0	-1.5
KIRR	**Kirishev**	**1.08**	**285**	*e*P	Pn	18 58 30.2	+1.2
KIRR				*e*S	Sn	18 58 44.6	+1.6
KMNR	**Kamenistaya**	**1.11**	**274**	*e*P	Pn	18 58 31.0	+1.7
KMNR				*e*S	Sn	18 58 45.8	+2.1
SRKR	**Sorokina**	**1.13**	**330**	*e*P	Pn	18 58 30.6	+1.1
TUMD	**Tumrok D**	**1.14**	**245**	*e*P	Pn	18 58 31.3	+1.7
TUMD				*e*S	Sn	18 58 46.0	+1.9
KPT	**Kopyto**	**1.15**	**285**	*e*P	Pn	18 58 31.5	+1.7
KPT				*e*S	Sn	18 58 46.7	+2.1
MKZ	**Mys Kozlova**	**1.17**	**194**	*e*P	Pn	18 58 31.9	+2.0
MKZ				*e*S	Sn	18 58 47.5	+2.7
TUMR	**Tumrok**	**1.24**	**252**	*e*P	Pn	18 58 33.4	+2.4
KOZ	**Kozyrevsk**	**1.36**	**287**	*e*P	Pn	18 58 35.0	+2.4
KOZ				*e*S	Sn	18 58 52.3	+2.7
ESO	**Esso**	**1.99**	**278**	*e*P	Pn	18 58 44.0	+2.9
BKI	**Bering**	**2.20**	**101**	*e*P	Pn	18 58 46.9	+2.9
BKI				*e*S	Sn	18 59 13.4	+3.4
KII	**Karymskiy**	**2.30**	**225**	*e*P	Pn	18 58 48.2	+2.8
SPN	**Mys Shipunski**	**2.89**	**207**	*e*P	Pn	18 58 55.0	+1.6
SPN				*e*S	Sn	18 59 28.9	+2.0
NLC	**Nalytchevo**	**3.02**	**215**	*e*P	Pn	18 58 58.6	+3.4
NLC				*e*S	Sn	18 59 33.4	+3.2
SDLR	**Sedlovina**	**3.09**	**220**	*e*P	Pn	18 58 59.4	+3.1
KRX	**Arik**	**3.12**	**223**	*e*P	Pn	18 59 00.3	+3.6
KRER	**Koryakskii**	**3.12**	**222**	*e*P	Pn	18 59 00.5	+3.7
SMAR	**Somma**	**3.14**	**221**	*e*P	Pn	18 59 00.3	+3.3
AVH	**Avacha**	**3.16**	**221**	*e*P	Pn	18 59 00.7	+3.5
UGLR	**Uglovaya**	**3.17**	**220**	*e*P	Pn	18 59 00.8	+3.4
KOK	**Koryaka**	**3.18**	**222**	*e*P	Pn	18 59 01.0	+3.6
GNL	**Ganaly**	**3.18**	**233**	*e*P	Pn	18 59 00.6	+3.1
DALK	**Dalny**	**3.34**	**219**	*e*P	Pn	18 59 02.5	+2.9
PET	**Petropavlovsk**	**3.38**	**219**	*e*P	Pn	18 59 03.4	+3.3
PET				*e*S	Sn	18 59 42.2	+3.2
OSSR	**Ossora**	**3.60**	**7**	*e*P	Pn	18 59 06.7	+3.6
KRMR	**Karymshinskiy**	**3.73**	**221**	*e*P	Pn	18 59 08.5	+3.6
RUS	**Russkaya**	**3.92**	**215**	*e*P	Pn	18 59 10.3	+2.8
GRL	**Gorelyy**	**3.97**	**219**	*e*P	Pn	18 59 12.3	+3.9
MTVR	**Mutnovka**	**3.99**	**218**	*e*P	Pn	18 59 12.6	+4.0
KDTR	**Khodutka, Kamc**	**4.59**	**214**	*e*P	Pn	18 59 19.6	+2.9

*IDC **25** 18:58:28.7±2.3, 32.°96N×131.°11E, h0km, mb3.0/1, mb1 3.2/3, mb1mx3.0/59, mbtmp3.1/3, ML2.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/17, Error ellipse: s-maj=42.8km s-min=11.4km az=33.0*
*JMA **25** 18:58:29.0, 32.°94N×131.°05E, h8km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs128.00000°, δ57.00000°, λ-45.00000°. NP2: φs246.00000°, δ54.00000°, λ-138.00000°. Principal axes: T Plg2.0000°, Azm188.0000°; N Plg37.0000°, Azm280.0000°; P Plg53.0000°, Azm95.0000°;*
JMA Felt III J1.
*NIED **25** 18:58:29.1, 32.°94N×131.°05E, h8km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.40; Mθθ2.47; Mφφ-1.07; Mrθ0.77; Mθφ-1.78; Mrφ1.05; Fault plane solution: M₀3.06000×10¹⁴ NP1: φs150.00000°, δ59.00000°, λ-28.00000°. NP2: φs256.00000°, δ66.00000°, λ-146.00000°.*

ISC 25 18:58:30.0±1.0, 32.°93N±0.°05×131.°07E±0.°04, h12km, n9, σ1°56/13, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.25**	**320**	Pg	**Pg**	**18 58 33.6**	**-1.7**
	1μm,0.3s,baz=104,slow=6.9,SNR=533						
JNU				Lg	Lg	18 58 37.1	
	2μm,0.3s,baz=215,slow=22,SNR=132						
JNU	**Nakatsue**	**0.25**	**320**	⇑P	**Pg**	**18 58 34.0**	**-1.3**
JNU				S	**Sg**	**18 58 37.4**	**-1.5**
JIU3	**Izumi3**	**0.44**	**210**	⇑P	**Pg**	**18 58 37.5**	**-1.2**
JIU3				S	**Sg**	**18 58 44.3**	**-0.2**
JTA	**Tamana**	**0.45**	**275**	⇓P	**Pg**	**18 58 37.6**	**-1.4**
JTA				S	**Sg**	**18 58 43.8**	**-1.2**
JUS	**Usuki**	**0.59**	**76**	⇓P	**Pg**	**18 58 40.2**	**-1.3**
KSRS	**Korea Array**	**5.20**	**331**	Pn	**Pn**	**18 59 47.0**	**-0.6**
	0.7nm,0.3s,baz=149,slow=15,SNR=7.9						
KSRS				Pg	**Pg**	**19 00 03.4**	**+2.6**
	0.7nm,0.3s,baz=149,slow=17,SNR=4.5						
KSRS				Lg	Lg	19 01 12.6	
	1.5nm,0.3s,baz=155,slow=30,SNR=7.7						
MJAR	**Matsushiro Arr**	**6.89**	**57**	Pn	**Pn**	**19 00 09.8**	**-1.2**
	0.1nm,0.3s,baz=237,slow=14,SNR=2.3						
MJAR				LR	LR	19 03 24.5	
	comp=Z,77nm,18.5s,baz=268,slow=43						
KLR	**Kul'dur**	**16.29**	**2**	Pn	**P**	**19 02 22.8**	**+1.2**
	0.1nm,0.3s,baz=138,slow=6.8,SNR=9.0						
SONM	**Songino Array**	**23.84**	**316**	P	**P**	**19 03 44.3**	**+1.2**
	0.2nm,0.5s,baz=132,slow=8.6,SNR=2.5						

*NOU **25** 19:00:50.6, 19.°23S×169.°54E, h176km, mb3.8/12, Vanuatu Islands*
*NEIC **25** 19:00:52.4±1.7, 19.°3S±0.°1×169.°3E±0.°1, h148km±11km, mb4.1/7, Error ellipse: s-maj=20.7km s-min=16.6km az=145.0*
*IDC **25** 19:00:52.6±4.3, 19.°18S×169.°21E, h160km±40km, mb3.6/5, mb1 3.7/6, mb1mx3.3/48, mbtmp4.0/6, Error ellipse: s-maj=72.8km s-min=34.0km az=151.0*

ISC 25 19:00:51.7±1.3, 19.°30S±0.°08×169.°3E±0.°1, h150km, n29, σ1°52/30, mb4.0/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.91**	**325**	P	**Pn**	**19 01 27.7**	**+1.9**
LIFNC	**LIFOU**	**2.45**	**233**		**Pn**	**19 01 32.1**	**-0.1**
LIFNC				Sn	**Sn**	**19 02 01.1**	**-2.4**
MARNC	**Mare, Loyalty**	**2.49**	**209**		**Pn**	**19 01 33.2**	**+0.6**
MARNC	**Mare, Loyalty**	**2.49**	**209**	P	**Pn**	**19 01 33.8**	**+1.2**
YATNC	**Mamie plateau,**	**3.57**	**219**	P	**Pn**	**19 01 46.9**	**+0.5**
PINNC	**Pines Island,**	**3.73**	**208**	Pn	**Pn**	**19 01 49.8**	**+1.3**
PINNC	**Pines Island,**	**3.73**	**208**	P	**Pn**	**19 01 51.0**	**+2.5**
DZM	**Mont Dzumac**	**3.86**	**224**	P	**Pn**	**19 01 51.4**	**+1.2**
	1.5nm,0.3s,baz=104,slow=14,SNR=30						
DZM				S	**Sn**	**19 02 37.8**	**+2.1**
	1.2nm,0.3s,baz=268,slow=17,SNR=4.0						
DZM	**Mont Dzumac**	**3.86**	**224**		**Pn**	**19 01 50.7**	**+0.5**
DZM	**Mont Dzumac**	**3.86**	**224**	P	**Pn**	**19 01 52.0**	**+1.8**
OUENC	**Ouen Island, N**	**3.88**	**216**		**Pn**	**19 01 50.8**	**+0.4**
OUENC	**Ouen Island, N**	**3.88**	**216**	P	**Pn**	**19 01 52.5**	**+2.2**
NOUC	**Port Laguerre**	**3.97**	**225**	P	**Pn**	**19 01 54.1**	**+2.5**
ONTNC	**Ouen Toro**	**4.02**	**221**	Pn	**Pn**	**19 01 52.5**	**+0.3**
ONTNC	**Ouen Toro**	**4.02**	**221**	P	**Pn**	**19 01 55.0**	**+2.8**
KOUNC	**Koumac, New Ca**	**4.91**	**254**	Pn	**Pn**	**19 02 04.6**	**+0.8**
KOUNC	**Koumac, New Ca**	**4.91**	**254**	P	**Pn**	**19 02 06.2**	**+2.3**
CTA	**Charters Tower**	**21.74**	**264**	P	**P**	**19 05 31.9**	**+0.5**
	7.2nm,1.1s,baz=77,slow=14,SNR=1.5						
STKA	**Stephens Creek**	**27.88**	**238**	P	**P**	**19 06 27.9**	**+0.3**
	1.6nm,0.6s,baz=53,slow=8.6,SNR=7.7						
STKA	**Stephens Creek**	**27.88**	**238**	IAmb	IAmb	19 06 37.2	
	comp=Z,1.1nm,1.4s						
WRAB	**Tennant Creek**	**32.92**	**263**	P	**P**	**19 07 10.5**	**-1.5**
WRAB				IAmb	IAmb	19 07 20.8	
	comp=Z,7.1nm,1.1s						
WRA	**Warramunga Arr**	**32.93**	**263**	P	**P**	**19 07 10.5**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=98,slow=8.3,SNR=19						
AS31	**Alice Springs**	**33.19**	**256**	P	**P**	**19 07 13.6**	**-0.8**
AS31				IAmb	IAmb	19 07 14.1	
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**33.20**	**256**	P	**P**	**19 07 13.5**	**-0.9**
	comp=Z,4.3nm,0.6s,baz=84,slow=8.8,SNR=81						
KNRA	**Kununurra**	**38.80**	**269**	P	**P**	**19 08 01.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**41.32**	**264**	P	**P**	**19 08 23.3**	**+0.4**
FITZ				IAmb	IAmb	19 08 23.4	
	comp=Z,3.9nm,0.7s						
MBWA	**Marble Bar**	**46.43**	**259**	P	**P**	**19 09 03.4**	**-0.3**
MBWA				IAmb	IAmb	19 09 17.7	
	comp=Z,15nm,1.2s						
ILAR	**Eielson Array**	**90.27**	**17**	P	**P**	**19 13 34.4**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=239,slow=5.9,SNR=1.8						
GERES	**GERESS Array B**	**144.59**	**332**	PKP	**PKPab**	**19 20 09.3**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=32,slow=2.8,SNR=3.7						

*IDC **25** 19:10:35.3±1.4, 43.°48N×105.°22W, h0km, mb1 3.5/4, mb1mx3.2/50, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=26.5km s-min=9.1km az=149.0*
*NEIC **25** 19:10:38.7±1.2, 43.°59N±0.°05×105.°38W±0.°04, h0km±2km, ML3.6/66, Error ellipse: s-maj=8.8km s-min=4.8km az=346.0*

ISC 25 19:10:36.0±0.8, 43.°61N±0.°04×105.°20W±0.°05, h0km, n62, σ1°51/58, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
K22A	**Casper**	**1.36**	**226**		**Pg**	**19 11 01.6**	**-0.5**
K22A				IAML		19 11 26.5	
	comp=N,692nm,0.3s						
PHWY	**Pilot Hill**	**2.31**	**185**		**Pn**	**19 11 17.4**	**+1.8**
PHWY				IAML		19 11 52.0	
	comp=N,272nm,0.6s						
RWWY	**Rawlins**	**2.42**	**218**		**Pb**	**19 11 19.4**	**-1.3**
RWWY				IAML		19 11 56.3	
	comp=N,414nm,0.6s						
N23A	**Red Feather La**	**2.77**	**192**		**Pn**	**19 11 23.8**	**+2.0**
N23A				IAML		19 12 08.2	
	comp=N,276nm,0.7s						
N23A				IAML		19 12 11.2	
	comp=E,222nm,0.7s						
LAO	**LASA Array**	**3.17**	**347**		**Pn**	**19 11 28.5**	**+1.4**
LAO				IAML		19 12 35.9	
	comp=E,180nm,1.1s						
RLMT	**Red Lodge**	**3.29**	**299**		**Pn**	**19 11 29.6**	**+0.6**
BW06	**Boulder Array**	**3.30**	**257**		**Pn**	**19 11 29.9**	**+0.8**
BW06				IAML		19 12 23.9	
	comp=E,104nm,0.6s						
PD31	**Pinedale Array**	**3.30**	**257**		**Pn**	**19 11 30.3**	**+1.2**
PDAR	**Pinedale Array**	**3.30**	**257**	Pn	**Pn**	**19 11 30.2**	**+1.2**
	comp=E,3.5nm,0.3s,baz=79,slow=17,SNR=60						
PDAR				Lg	Lg	19 12 16.8	
	comp=E,20nm,0.3s,baz=76,slow=33,SNR=4.7						
PDAR	**Pinedale Array**	**3.30**	**257**		**Pn**	**19 11 29.8**	**+0.7**
OGNE	**Ogallala**	**3.55**	**138**	Pn	**Pn**	**19 11 35.7**	**+3.3**
YMP	**Mirror Lake Pl**	**3.75**	**289**		**Pn**	**19 11 36.4**	**+1.1**
YMP				IAML		19 12 54.9	
	comp=E,132nm,0.9s						
ISCO	**Idaho Springs**	**3.82**	**185**	Pn	**Pn**	**19 11 38.9**	**+2.6**
ISCO				IAML		19 12 39.9	
	comp=E,59nm,0.7s						
ISCO				IAML		19 12 41.1	
	comp=E,69nm,0.8s						
GCMT	**Greycliff**	**3.87**	**306**		**Pn**	**19 11 38.1**	**+1.3**
LKWY	**Lake**	**3.87**	**286**		**Pn**	**19 11 36.6**	**-0.4**
LKWY				IAML		19 12 48.9	
	comp=E,71nm,1.4s						
H17A	**Grant Village**	**3.96**	**283**		**Pn**	**19 11 39.6**	**+1.4**
H17A				IAML		19 12 44.4	
	comp=N,64nm,0.9s						
H17A				IAML		19 12 44.7	
	comp=E,55nm,1.0s						
FLWY	**Flagg Ranch**	**4.01**	**279**	Pg	**Pb**	**19 11 49.7**	**+2.1**
FLWY				IAML		19 12 51.8	
	comp=E,58nm,1.5s						
FLWY				IAML		19 12 52.1	
	comp=E,109nm,1.2s						
MOOW	**Moose Ponds**	**4.03**	**274**		**Pn**	**19 11 40.2**	**+1.1**
SNOW	**Snow King Moun**	**4.04**	**270**		**Pn**	**19 11 40.0**	**+0.7**
SNOW				IAML		19 12 53.7	
	comp=E,104nm,1.2s						
YNR	**Norris Junctio**	**4.10**	**288**		**Pn**	**19 11 38.7**	**-1.4**
YPP	**Pitchstone Pla**	**4.11**	**281**		**Pn**	**19 11 41.5**	**+1.2**
REDW	**Red Top Meadow**	**4.12**	**269**		**Pb**	**19 11 51.6**	**+2.0**
O20A	**White River Ci**	**4.15**	**214**		**Pn**	**19 11 40.9**	**+0.2**
O20A				IAML		19 12 54.9	
	comp=N,99nm,0.8s						
O20A				IAML		19 12 58.0	
	comp=E,96nm,0.7s						
TPAW	**Teton Pass**	**4.19**	**270**		**Pn**	**19 11 40.0**	**-1.3**
TPAW				IAML		19 13 00.8	
	comp=E,77nm,0.7s						
TPAW				IAML		19 13 05.3	
	comp=E,56nm,0.8s						
YHH	**Holmes Hill**	**4.24**	**288**	Pg	**Pb**	**19 11 54.5**	**+3.0**
YMR	**Madison River**	**4.29**	**286**		**Pb**	**19 11 51.0**	**-1.3**
YMR				IAML		19 13 01.6	
	comp=E,58nm,0.9s						
YMR				IAML		19 13 29.0	
	comp=N,55nm,0.9s						
AHID	**Auburn Hatcher**	**4.40**	**261**		**Pn**	**19 11 46.3**	**+2.1**
AHID				IAML		19 13 01.6	
	comp=N,72nm,1.4s						
AHID				IAML		19 13 08.9	
	comp=N,70nm,0.8s						
RDMU	**Red Mountain**	**4.45**	**229**		**Pn**	**19 11 45.3**	**+0.4**
RDMU				IAML		19 13 06.7	
	comp=N,46nm,0.7s						
RDMU				IAML		19 13 08.1	
	comp=E,65nm,0.9s						
YHL	**Hebgen Lake**	**4.48**	**288**		**Pn**	**19 11 45.6**	**+0.2**
YHL				IAML		19 13 03.1	
	comp=N,64nm,1.3s						
YHL				IAML		19 13 27.9	
	comp=E,53nm,1.0s						
ECR	**Eagle Creek**	**4.54**	**265**		**Pn**	**19 11 45.1**	**-1.1**
SMCO	**Snowmass**	**4.62**	**197**	Pn	**Pn**	**19 11 48.6**	**+1.1**
SMCO					**Pb**	**19 12 00.2**	**+2.0**
SMCO		

comp=E,0.1nm,0.3s,baz=153,slow=12,SNR=2.9

*IDC **25** 19:42:04.9±4.9, 17°.38S×178°.43W, h586km±22km, mb3.0/3, mb1 3.2/4, mb1mx2.8/32, mbtmp4.0/4, Error ellipse: s-maj=125.5km s-min=81.6km az=148.0*
*NEIC **25** 19:42:05.4±0.9, 17°.7S±0°.5×178°.4W±0°.2, h583km±13km, mb4.1/11, Error ellipse: s-maj=77.0km s-min=12.8km az=163.0*
ISC 25 19:42:06.3±1.5, **17°.3S**±0°.6×**178°.6W**±0°.3, **h600**km, **n17, σ0s74/17, mb4.0**/10, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.21**	**262**	P	**P**	**19 43 25.3**	**-1.4**
	2.2nm,0.3s,baz=106,slow=8.0,SNR=10						
MSVF	**Nonsavu**	**3.21**	**262**	P	**P**	**19 43 25.5**	**-1.3**
CTAO	**Charters Tower**	**33.35**	**260**	P	**P**	**19 47 57.2**	**+0.6**
STKA	**Stephens Creek**	**38.74**	**240**	P	**P**	**19 48 41.3**	**+0.6**
	0.8nm,0.5s,baz=49,slow=7.5,SNR=4.4						
STKA	**Stephens Creek**	**38.74**	**240**	P	**P**	**19 48 40.1**	**-0.6**
BBOO	**Buckleboo**	**43.52**	**240**	P	**P**	**19 49 18.6**	**+0.2**
BBOO				IAmb	IAmb	19 49 46.9	
	comp=Z,10nm,1.2s						
WR0	**Warramunga Arr**	**44.36**	**259**	P	**P**	**19 49 26.0**	**+1.0**
WR0				IAmb	IAmb	19 49 39.8	
	comp=Z,8.0nm,1.3s						
WB0	**Warramunga Arr**	**44.51**	**259**	P	**P**	**19 49 26.5**	**+0.3**
WB0				IAmb	IAmb	19 49 26.6	
	comp=Z,5.6nm,1.2s						
WRA	**Warramunga Arr**	**44.55**	**259**	P	**P**	**19 49 26.7**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=92,slow=6.8,SNR=5.0						
WRA	**Warramunga Arr**	**44.55**	**259**	IAmb	IAmb	19 49 29.7	
	comp=Z,0.4nm,1.4s						
AS31	**Alice Springs**	**44.76**	**254**	P	**P**	**19 49 28.5**	**+0.4**
AS31				IAmb	IAmb	19 49 29.1	
	comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**19 49 28.6**	**+0.5**
	comp=Z,4.4nm,0.5s,baz=88,slow=8.2,SNR=106						
ASAR				PcP	**PcP**	**19 50 57.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=117,slow=3.2,SNR=1.7						
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**19 49 28.1**	**0.0**
FORT	**Forrest**	**50.08**	**244**	P	**P**	**19 50 07.2**	**-0.5**
FORT				IAmb	IAmb	19 50 36.4	
	comp=Z,11nm,0.9s						
KNRA	**Kununurra**	**50.35**	**264**	P	**P**	**19 50 10.1**	**+0.3**
KNRA				IAmb	IAmb	19 50 13.7	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.93**	**260**	P	**P**	**19 50 29.2**	**+1.0**
FITZ				IAmb	IAmb	19 50 40.4	
	comp=Z,7.9nm,1.2s						
SRIG	**Santa Rosalia**	**78.14**	**56**	P	**P**	**19 53 05.1**	**+0.2**

*IDC **25** 20:10:31.5±0.9, 33°.67S×71°.98W, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.9/39, mbtmp4.0/7, ML4.1/2, MS3.6/8, Ms1 3.6/8, ms1mx3.2/49, Error ellipse: s-maj=47.0km s-min=20.1km az=94.0*
*SJA **25** 20:10:33.2±1.1, 33°.77S×72°.06W, h19km±6km, ML4.1, MW3.9*
*GUC **25** 20:10:34.9±0.7, 33°.77S×71°.97W, h28km±3km, ML4.0*
*NEIC **25** 20:10:34.9, 33°.74S×72°.07W, h28km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=1.09; Mθθ=0.13; Mϕϕ-0.96; Mrθ=0.13; Mθϕ-0.39; Mrϕ=1.38; Fault plane solution: M0 1.77000×10^15^ NP1:ϕs189.10000°, δ71.10000°, λ81.76000°. NP2:ϕs33.20000°, δ20.56000°, λ112.72000°. Principal axes: T 1.7827, Plg63.0000°, Azm86.0000°; N -0.0263, Plg8.0000°, Azm192.0000°; P -1.7564, Plg26.0000°, Azm286.0000°;*
*NEIC **25** 20:10:35.3±1.8, 33°.73S±0°.04×72°.04W±0°.05, h22km±5km, mb4.5/10, Mwr4.1/45, ML4.0(GUC) Error ellipse: s-maj=7.7km s-min=1.3km az=133.0*
ISC 25 20:10:34.9±1.2, **33°.73S**±0°.03×**72°.09W**±0°.05, **h23**km±9km, **n111, σ1s06/114, mb4.5**/6, **MS3.6**/5, **1C-7D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA05	**Santo Domingo**	**0.40**	**80**		**Pb**	**20 10 43.5**	**0.0**
VA05				Sg	**Sb**	**20 10 49.2**	**0.0**
VA05	**Santo Domingo**	**0.40**	**80**	*i* P	**Pb**	**20 10 43.7**	**+0.3**
VA05				*i* S	**Sb**	**20 10 49.7**	**+0.5**
VA05				IAML		20 10 50.3	
	comp=E,69μm,0.3s						
MT01	**Popeta**	**0.71**	**101**		**Pb**	**20 10 47.7**	**-1.0**
BO03	**Pichilemu**	**0.77**	**172**	*i* P	**Pb**	**20 10 49.1**	**-0.7**
BO03				*i* S	**Sb**	**20 10 59.8**	**0.0**
VA01	**Torpederas**	**0.80**	**28**		**Pn**	**20 10 50.5**	**-0.2**
VA01	**Torpederas**	**0.80**	**28**	*e*P	**Pn**	**20 10 50.3**	**-0.4**
VA01				*i* S	**Sn**	**20 11 01.6**	**-0.2**
VA01				IAML		20 11 03.3	
	comp=N,7μm,0.2s						
VA01	**Torpederas**	**0.80**	**28**	*i* P	**Pb**	**20 10 50.0**	**-0.1**
VA01				*e*S	**Sn**	**20 11 01.6**	**-0.2**
VA01				IAML		20 11 02.6	
	comp=Z,4μm,0.6s						
MT09	**Talagante**	**0.92**	**93**		**Pb**	**20 10 51.4**	**-1.0**
MT09	**Talagante**	**0.92**	**93**	*i*P	**Pb**	**20 10 51.3**	**-1.0**
MT09				*i* S	**Sn**	**20 11 03.6**	**-1.6**
MT09				IAML		20 11 06.6	
	comp=N,6μm,0.3s						
MT02	**Curacav**	**0.92**	**60**		**Pb**	**20 10 51.8**	**-0.5**
MT02					**Sb**	**20 11 03.8**	**-0.3**
MT02	**Curacav**	**0.92**	**60**	*i*P	**Pb**	**20 10 51.8**	**-0.5**
MT02				*i* S	**Sb**	**20 11 03.8**	**-0.3**
MT02				IAML		20 11 07.1	
	comp=N,6μm,0.3s						
MT02	**Curacav**	**0.92**	**60**	*i* P	**Pb**	**20 10 51.0**	**-1.3**
MT02				*e*S	**Sn**	**20 11 04.1**	**-1.0**
MT02				IAML		20 11 07.7	
	comp=Z,5μm,0.6s						
BO01	**Tunca**	**1.06**	**129**		**Pn**	**20 10 52.6**	**-1.8**
BO01	**Tunca**	**1.06**	**129**	*i* P	**Pn**	**20 10 52.9**	**-1.6**
BO01	**Tunca**	**1.06**	**129**	*i* P	**Pn**	**20 10 53.0**	**-1.5**
BO01				IAML		20 11 18.5	
	comp=Z,1μm,0.8s						
ROC1	**El Roble**	**1.17**	**50**		**Pn**	**20 10 53.9**	**-2.3**
ROC1				Sg	**Sb**	**20 11 09.9**	**-1.6**
ROC1	**El Roble**	**1.17**	**50**	*i* P	**Pn**	**20 10 53.9**	**-2.3**
ROC1				*e*S	**Sb**	**20 11 10.1**	**-1.4**
ROCH	**El Roble**	**1.18**	**50**	*i*P	**Pb**	**20 10 56.2**	**-0.5**
ROCH				*i* S	**Sn**	**20 11 11.7**	**+0.1**
ROCH				IAML		20 11 17.8	
	comp=N,8μm,0.6s						
MT05	**Renca**	**1.18**	**74**		**Pn**	**20 10 55.3**	**-0.7**
MT05	**Renca**	**1.18**	**74**	*e*P	**Pn**	**20 10 55.6**	**-0.4**
MT05				IAML		20 11 18.4	
	comp=E,7μm,0.4s						
MT05	**Renca**	**1.18**	**74**	*i* P	**Pb**	**20 10 56.0**	**-0.7**
MT05				IAML		20 11 19.9	
	comp=Z,2μm,0.5s						
BO04	**La Punta**	**1.26**	**102**		**Pn**	**20 10 56.7**	**-0.4**
BO04	**La Punta**	**1.26**	**102**	*i* P	**Pn**	**20 10 56.8**	**-0.4**
BO04				*i* S	**Sb**	**20 11 12.7**	**-1.2**
BO04				IAML		20 11 17.2	
	comp=N,3μm,0.5s						
GO05	**Huala**	**1.28**	**174**		**Pn**	**20 10 56.8**	**-0.7**
GO05	**Huala**	**1.28**	**174**	*e*P	**Pn**	**20 10 57.0**	**-0.5**
GO05				*e*S	**Sn**	**20 11 13.4**	**-0.6**
GO05				IAML		20 11 20.0	
	comp=E,3μm,0.4s						
GO05	**Huala**	**1.28**	**174**	*i* P	**Pn**	**20 10 57.0**	**-0.5**
GO05				*e*S	**Sn**	**20 11 13.7**	**-0.3**
PEL	**Peldehue**	**1.31**	**64**		**Pn**	**20 10 57.9**	**0.0**
MT03	**Universidad Ad**	**1.34**	**80**		**Pn**	**20 10 58.2**	**-0.1**
MT03	**Universidad Ad**	**1.34**	**80**	*i* P	**Pn**	**20 10 58.2**	**-0.1**
MT03				IAML		20 11 26.3	
	comp=E,5μm,0.4s						
MT03	**Universidad Ad**	**1.34**	**80**	*i* P	**Pn**	**20 10 58.0**	**-0.3**
MT03				IAML		20 11 21.1	
	comp=Z,3μm,0.5s						
VA06	**Catapilco**	**1.34**	**30**		**Pn**	**20 10 58.3**	**0.0**
VA06	**Catapilco**	**1.34**	**30**	*e*P	**Pn**	**20 10 58.1**	**-0.1**
VA06				IAML		20 11 22.6	
	comp=E,10μm,0.5s						
FCH	**Farellones**	**1.56**	**76**	*i*P	**Pn**	**20 11 01.8**	**+0.3**
FCH				*i* S	**Sb**	**20 11 22.8**	**+0.1**
FCH				IAML		20 11 28.9	
	comp=N,3μm,0.3s						
LMEL	**Las Melosas**	**1.57**	**95**		**Pn**	**20 11 01.6**	**0.0**
LMEL	**Las Melosas**	**1.57**	**95**	*e*P	**Pn**	**20 11 01.7**	**+0.1**
LMEL				*e*S	**Sb**	**20 11 22.7**	**-0.3**
LMEL				IAML		20 11 27.0	
	comp=N,4μm,0.3s						
VA03	**San Esteban**	**1.61**	**54**		**Pb**	**20 11 02.9**	**-1.2**
VA03	**San Esteban**	**1.61**	**54**	*i* P	**Pb**	**20 11 02.9**	**-1.2**
VA03				*i* S	**Sb**	**20 11 24.0**	**0.0**
VA03				IAML		20 11 27.5	
	comp=E,6μm,0.2s						
VA03	**San Esteban**	**1.61**	**54**	*i* P	**Pb**	**20 11 03.0**	**-1.0**
VA03				*e*S	**Sb**	**20 11 24.9**	**+0.9**
VA03				IAML		20 11 26.4	
	comp=Z,3μm,0.3s						
ML02	**Panimavida**	**2.10**	**165**	Pn	**Pn**	**20 11 09.0**	**+0.3**
ML02	**Panimavida**	**2.10**	**165**	*e*P	**Pn**	**20 11 09.2**	**+0.5**
ML02				*e*S	**Sb**	**20 11 36.5**	**-1.5**
ML02				IAML		20 11 48.2	
	comp=N,2μm,0.6s						
CO02	**Combarbal**	**2.68**	**20**		**Pn**	**20 11 17.3**	**+0.5**
CO02	**Combarbal**	**2.68**	**20**	*e*P	**Pn**	**20 11 17.3**	**+0.5**
CO06	**Fray Jorge**	**3.07**	**7**	Pn	**Pn**	**20 11 21.3**	**-0.7**
CO06	**Fray Jorge**	**3.07**	**7**	*e*P	**Pn**	**20 11 21.1**	**-0.9**
CO06				IAML		20 12 27.1	
	comp=N,894nm,0.9s						
BI05	**Punta Hualpn**	**3.14**	**196**	Pn	**Pn**	**20 11 22.1**	**-0.9**
RFA	**San Rafael**	**3.18**	**110**	*i* P	**Pn**	**20 11 26.0**	**+2.4**
RFA				IAML		20 12 18.7	
	comp=Z,253nm,0.9s						
ZON	**Zonda**	**3.61**	**54**		**Pn**	**20 11 30.7**	**+1.2**
GO04	**Tololo Observa**	**3.71**	**18**		**Pn**	**20 11 31.0**	**-0.1**
GO04	**Tololo Observa**	**3.71**	**18**	*i* P	**Pn**	**20 11 31.6**	**+0.5**
RTLL	**Cerro Villicun**	**3.88**	**53**	*i* P	**Pn**	**20 11 36.0**	**+2.8**
ACCO	**Cerro Coronel**	**4.05**	**40**	*i* P	**Pn**	**20 11 39.0**	**+3.2**
ACCO				IAML		20 12 46.7	
	comp=Z,344nm,0.6s						
CO01	**Juntas del Tor**	**4.11**	**25**		**Pn**	**20 11 37.9**	**+1.4**
CO01	**Juntas del Tor**	**4.11**	**25**	*i* P	**Pn**	**20 11 38.0**	**+1.4**
CO01				IAML		20 12 47.6	
	comp=Z,156nm,0.7s						
AROD	**Rodeo**	**4.19**	**33**	*i* P	**Pn**	**20 11 41.0**	**+3.3**
LCO	**Las Campanas**	**4.85**	**15**	Pn	**Pn**	**20 11 46.6**	**-0.1**
LCO	**Las Campanas**	**4.85**	**15**	*i* P	**Pn**	**20 11 47.0**	**+0.2**
LCO				IAML		20 13 11.3	
	comp=Z,635nm,1.2s						
AVFE	**Valle Fertil**	**4.98**	**53**	*i* P	**Pn**	**20 11 50.0**	**+1.6**
AVFE				IAML		20 13 11.5	
	comp=Z,146nm,0.9s						
LC01	**Cunco**	**5.16**	**178**	Pn	**Pn**	**20 11 50.0**	**-0.8**
LC01	**Cunco**	**5.16**	**178**	*i* P	**Pn**	**20 11 51.0**	**+0.2**
LC01				IAML		20 13 22.9	
	comp=Z,42nm,1.1s						
MRA	**San Martin**	**5.51**	**78**	*i* P	**Pn**	**20 11 57.0**	**+1.4**
MRA				IAML		20 13 42.4	
	comp=Z,68nm,0.6s						
AC04	**Llanos de Chal**	**5.58**	**9**	Pn	**Pn**	**20 11 55.3**	**-1.1**
H03S1	**Juan Fernandez**	**5.68**	**267**	T	T	20 17 51.2	
	baz=89						
H03S3	**Juan Fernandez**	**5.68**	**267**	T	T	20 17 52.5	
	baz=89						
H03S2	**Juan Fernandez**	**5.69**	**267**	T	T	20 17 54.8	
	baz=89						
H03N1	**Juan Fernandez**	**5.70**	**271**	T	T	20 17 58.2	
	baz=98,slow=74,SNR=57						
H03N3	**Juan Fernandez**	**5.71**	**271**	T	T	20 18 00.4	
	baz=98,slow=74,SNR=66						
H03N2	**Juan Fernandez**	**5.72**	**271**	T	T	20 18 00.5	
	baz=98,slow=74,SNR=90						
APLL	**PUNTA DE LOS L**	**5.77**	**56**	*i* P	**Pn**	**20 12 00.0**	**+0.7**
APLL				IAML		20 13 19.2	
	comp=Z,127nm,0.6s						
ACLC	**CERRO LA CRUZ**	**6.13**	**47**	*i* P	**Pn**	**20 12 05.0**	**+0.7**
ACLC				IAML		20 13 53.1	
	comp=Z,113nm,0.7s						
GO03	**Copiap**	**6.32**	**15**	Pn	**Pn**	**20 12 06.2**	**-0.6**
GO03	**Copiap**	**6.32**	**15**	*i* P	**Pn**	**20 12 07.0**	**+0.2**
AC06	**Mina Casimiro**	**6.52**	**14**	Pn	**Pn**	**20 12 09.2**	**-0.4**
PLCA	**Paso Flores**	**7.10**	**170**	Pn	**Pn**	**20 12 18.4**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=335,slow=11,SNR=58						
PLCA				LR	LR	20 15 15.7	
	comp=Z,318nm,20.0s,baz=350,slow=40						
PLCA	**Paso Flores**	**7.10**	**170**	Pn	**Pn**	**20 12 18.6**	**+1.2**
AC02	**Maricunga**	**7.33**	**21**	Pn	**Pn**	**20 12 19.4**	**-1.6**
AC01	**Pan de Azucar**	**7.67**	**10**	Pn	**Pn**	**20 12 23.9**	**-1.3**
AC01	**Pan de Azucar**	**7.67**	**10**	*i* P	**Pn**	**20 12 26.0**	**+0.8**
AC01				IAML		20 14 21.4	
	comp=Z,100nm,0.8s						
GO02	**Mina Guanaco**	**8.81**	**15**	Pn	**Pn**	**20 12 40.4**	**-0.8**
PB10	**IPOC Station P**	**10.27**	**8**	*i*P	**Pn**	**20 13 04.3**	**+3.5**
PB10				*e*S		20 13 19.7	
PB10				IAML		20 13 21.0	
	comp=N,50nm,0.5s						
PB15	**IPOC Station P**	**10.73**	**13**	*i*P	Pn	20 12 57.9	-10
PB15				*i* S		20 13 09.4	
PB15				IAML		20 13 16.0	
	comp=N,389nm,0.5s						
LVC	**Limon Verde**	**11.43**	**15**	LR	LR	20 18 06.3	
	comp=N,254nm,18.2s,baz=202,slow=40						
CPUP	**Villa Florida**	**14.75**	**64**	LR	LR	20 20 14.8	
	comp=N,268nm,20.3s,baz=233,slow=40						
LPAZ	**La Paz**	**17.73**	**13**	P	**Pn**	**20 14 40.5**	**-0.4**
	comp=N,0.1nm,0.3s,baz=178,slow=9.2,SNR=4.0						
LPAZ	**La Paz**	**17.73**	**13**	P	**Pn**	**20 14 41.1**	**+0.2**
SIV	**San Ignacio**	**20.27**	**32**	P	**P**	**20 15 07.6**	**-1.3**
	comp=N,2.8nm,0.6s,baz=220,slow=12,SNR=6.1						
SIV				LR	LR	20 24 12.4	
	comp=N,189nm,18.1s,baz=112,slow=41						
USHA	**Ushuaia**	**21.25**	**174**	LR	LR	20 25 05.9	
	comp=N,232nm,18.1s,baz=38,slow=41						
NNA	**Nana**	**22.07**	**348**	LR	LR	20 22 21.1	
	comp=N,82nm,18.1s,baz=186,slow=32						
BDFB	**Brasilia**	**28.22**	**56**	LR	LR	20 28 43.6	
	comp=N,189nm,18.4s,baz=286,slow=39						
VNA3	**Neumayer Olymp**	**49.63**	**158**	P	**P**	**20 19 24.8**	**+0.7**
VNA2	**Neumayer~Watz**	**50.28**	**157**	P	**P**	**20 19 29.3**	**+0.3**
	baz=283,slow=8.0						
SNAA	**Sanae**	**51.85**	**158**	P	**P**	**20 19 41.6**	**+0.7**
SNAA	**Sanae**	**51.85**	**158**	P	**P**	**20 19 41.3**	**+0.4**
	comp=N,4.2nm,1.0s,baz=248,slow=7.6,SNR=6.7						
SNAA	**Sanae**	**51.85**	**158**	P	**P**	**20 19 41.5**	**+0.6**
TROLL	**Troll, Antarti**	**53.56**	**158**	P	**P**	**20 19 53.0**	**-0.6**
QSPA	**South Pole Qui**	**56.51**	**180**	P	**P**	**20 20 16.0**	**+0.9**
	comp=N,3.5nm,0.9s,baz=140,slow=2.1,SNR=9.2						
QSPA	**South Pole Qui**	**56.51**	**180**	IAmb	IAmb	20 20 17.3	
	comp=Z,8.9nm,1.1s						
HPIG		**68.23**	**328**	P	**P**	**20 21 34.8**	**+0.8**
TXAR	**Lajitas Array**	**69.48**	**331**	P	**P**	**20 21 42.5**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=160,slow=8.6,SNR=3.4						
TX31	**Lajitas Ar. Si**	**69.48**	**331**	P	**P**	**20 21 42.1**	**+0.5**
TX31				IAmb	IAmb	20 21 43.3	
	comp=Z,2.4nm,0.8s						
WVT	**Waverly**	**71.04**	**347**	P	**P**	**20 21 50.8**	**0.0**
WVT				IAmb	IAmb	20 21 52.0	
	comp=Z,4.7nm,0.9s						
ANMO	**Albuquerque**	**75.52**	**331**	LR	LR	20 50 55.8	
	comp=Z,43nm,19.9s,baz=183,slow=32						
TORD	**Torodi Ar. Bea**	**84.16**	**70**	P	**P**	**20 23 04.3**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=259,slow=4.7,SNR=10						
TORD	**Torodi Ar. Bea**	**84.16**	**70**	IAmb	IAmb	20 23 05.4	
	comp=Z,2.9nm,0.8s						
WRA	**Warramunga Arr**	**120.98**	**209**	PKP	**PKPdf**	**20 29 25.5**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=158,slow=1.8,SNR=4.7						
H11S2	**WAKE ISLAND Hyl**	**25.73**	**269**	T	T	22 48 33.3	
	baz=118,slow=74,SNR=10						
H11S1	**WAKE ISLAND Hyl**	**25.74**	**269**	T	T	22 48 34.4	
	baz=118,slow=74,SNR=8.0						
H11S3	**WAKE ISLAND Hyl**	**25.75**	**269**	T	T	22 48 34.5	
	baz=118,slow=74,SNR=7.9						
KURBB	**Kurchatov Arra**	**152.70**	**43**	PKPbc	**PKPbc**	**20 30 29.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=290,slow=2.8,SNR=7.8						
KURK	**Kurchatov**	**152.71**	**43**		**PKPbc**	**20 30 29.2**	**-0.1**
ZALV	**Zalesovo Beam**	**154.02**	**32**	PKPbc	**PKPbc**	**20 30 31.3**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=317,slow=2.2,SNR=7.7						
MKAR	**Makanchi Array**	**156.62**	**48**	PKP	**PKPdf**	**20 30 27.6**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=284,slow=7.1,SNR=3.6						
MKAR				PKPab	**PKPab**	**20 30 57.0**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=319,slow=3.4,SNR=5.9						

*ISK **25** 20:17:54.6, 37°.42N×26°.69E, h5km, ML2.9/24*
*DDA **25** 20:17:55.2±0.0, 37°.46N×26°.69E, h1km, ML2.6*
*ATH **25** 20:17:55.2, 37°.53N×26°.73E, h30km±1km, ML3.1/4, Error ellipse: s-maj=3.4km s-min=1.0km az=72.0*
*THE **25** 20:17:56.3, 37°.49N×26°.71E, h11km±1km, ML3.0/3, Error ellipse: s-maj=2.1km s-min=0.6km az=73.0*
ISC 25 20:17:55.7±1.0, **37.48N**±0.02×**26.71E**±0.02, **h13**km±8km,

n61, σ0s84/91, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.26**	**24**	P	**Pb**	**20 18 01.4**	**-0.8**
SMG				S	**Sg**	**20 18 05.6**	**+0.8**
SMG				AML	AML	20 18 05.7	
	comp=E,12830μm,0.3s						
SMG				AML	AML	20 18 06.2	
	comp=N,10607μm,0.3s						
SMG	**Samos**	**0.26**	**24**	P	**Pb**	**20 18 01.4**	**-0.8**
SMG				S	**Sg**	**20 18 05.2**	**+0.4**
	comp=N,6μm,0.2s						
DDIM	**Aydin, Didim**	**0.43**	**92**	P	**Pb**	**20 18 05.2**	**+0.1**
DDIM				S	**Sb**	**20 18 11.3**	**0.0**
DDIM				*i* AML	AML	20 18 13.0	
	comp=N,477nm,0.7s						
DDIM				*i* AML	AML	20 18 13.0	
	comp=N,281nm,0.2s						
GCAM	**G?zelcaml?**	**0.48**	**62**	PG	**Pb**	**20 18 05.6**	**-0.3**
GCAM				SG	**Sb**	**20 18 12.9**	**+0.1**
GCAM	**G?zelcaml?**	**0.48**	**62**	P	**Pb**	**20 18 05.6**	**-0.3**
GCAM				S	**Sb**	**20 18 12.9**	**+0.1**
GCAM				*i* AML	AML	20 18 13.0	
	comp=N,1μm,0.2s						
GCAM				*i* AML	AML	20 18 13.0	
	comp=N,1μm,0.2s						
YKAV	**Yalikavak-Bodr**	**0.58**	**127**	PG	**Pg**	**20 18 06.6**	**-0.4**
YKAV				SG	**Sb**	**20 18 15.2**	**-0.5**
DGB	**zmir**	**0.59**	**14**	P	**Pb**	**20 18 07.3**	**-0.6**
DGB				S	**Sb**	**20 18 17.4**	**+1.2**
DGB				*i* AML	AML	20 18 19.0	
	comp=N,946nm,0.5s						
DGB				*i* AML	AML	20 18 19.0	
	comp=N,396nm,0.3s						
BODT	**Bodrum**	**0.64**	**130**	P	**Pb**	**20 18 08.1**	**-0.5**
BODT				S	**Sb**	**20 18 17.9**	**+0.5**
BODT	**Bodrum**	**0.64**	**130**	PG	**Pg**	**20 18 07.7**	**-0.4**
BODT				SG	**Sb**	**20 18 16.9**	**-0.5**
BDRM	**Kayabasi**	**0.72**	**125**	P	**Pb**	**20 18 09.5**	**-0.5**
BDRM				S	**Sb**	**20 18 20.5**	**+0.8**
BDRM				*i* AML	AML	20 18 23.0	
	comp=N,267nm,0.4s						
BDRM				*i* AML	AML	20 18 24.0	
	comp=N,391nm,0.3s						
KOSK	**Kos Island**	**0.75**	**163**	P	**Pb**	**20 18 11.0**	**+0.4**
KOSK				S	**Sn**	**20 18 22.6**	**-0.6**
KOSK				AML	AML	20 18 24.4	
	comp=E,11088μm,0.5s						
KOSK				AML	AML	20 18 25.4	
	comp=N,8821μm,0.3s						
KOSK	**Kos Island**	**0.75**	**163**	P	**Pn**	**20 18 11.5**	**-0.5**
KOSK				S	**Sb**	**20 18 21.9**	**+1.1**
	comp=N,2μm,0.4s						
KOSK	**Kos Island**	**0.75**	**163**	PG	**Pg**	**20 18 09.4**	**-0.9**
KOSK				SG	**Sb**	**20 18 20.4**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**0.78**	**348**	P	**Pb**	**20 18 10.9**	**-0.2**
ZEYE				S	**Sb**	**20 18 22.4**	**+0.9**
ZEYE				*i* AML	AML	20 18 24.0	
	comp=N,607nm,0.3s						
MLSB	**Milas**	**0.87**	**102**	PG	**Pn**	**20 18 12.9**	**-0.7**
MLSB				SG	**Sn**	**20 18 25.7**	**-0.5**
URLA	**Izmir**	**0.89**	**354**	PG	**Pn**	**20 18 13.1**	**-0.8**
URLA	**Izmir**	**0.89**	**354**	P	**Pb**	**20 18 12.6**	**-0.4**
URLA				S	**Sn**	**20 18 27.2**	**+0.6**
URLA				*i* AML	AML	20 18 28.0	
	comp=N,225nm,0.3s						
URLA				*i* AML	AML	20 18 30.0	
	comp=N,506nm,1.0s						
NISR	**Nisiros**	**0.93**	**158**	P	**Pn**	**20 18 14.2**	**-0.1**
NISR				S	**Sn**	**20 18 27.7**	**+0.3**
NISR				AML	AML	20 18 31.9	
	comp=N,928μm,0.6s						
NISR				AML	AML	20 18 32.5	
	comp=E,1595μm,0.4s						
BLCB	**Balcova**	**0.95**	**16**	P	**Pb**	**20 18 13.9**	**0.0**
BLCB				S	**Sn**	**20 18 27.5**	**-0.5**
BLCB	**Balcova**	**0.95**	**16**	PG	**Pn**	**20 18 14.2**	**-0.4**
AYDN	**Tasoluk**	**0.95**	**78**	P	**Pn**	**20 18 14.7**	**0.0**
AYDN				S	**Sn**	**20 18 27.5**	**-0.6**
AYDN				*i* AML	AML	20 18 31.0	
	comp=E,224nm,0.2s						
AYDN				*i* AML	AML	20 18 32.0	
	comp=E,294nm,0.3s						
DAT	**Datca**	**1.02**	**137**	P	**Pb**	**20 18 15.3**	**+0.1**
DAT				S	**Sn**	**20 18 29.9**	**-0.1**
DAT	**Datca**	**1.02**	**137**	PG	**Pg**	**20 18 14.9**	**-0.5**
DAT				SG	**Sb**	**20 18 29.3**	**+0.7**
DAT	**Datca**	**1.02**	**137**	P	**Pn**	**20 18 15.6**	**-0.1**
DAT				S	**Sn**	**20 18 30.0**	**+0.1**
DAT				*i* AML	AML	20 18 35.0	
	comp=E,128nm,0.5s						
DAT				*i* AML	AML	20 18 35.0	
	comp=E,177nm,0.3s						
APE	**Apeiranthos**	**1.02**	**247**	P	**Pn**	**20 18 15.7**	**0.0**
APE	**Apeiranthos**	**1.02**	**247**	P	**Pn**	**20 18 16.1**	**+0.4**
APE				S	**Sn**	**

SIMA	**Simav-Kutahya**	**2.41**	**47**	PN	**Pb**	**20 18 37.3**	**-1.6**
BOZC	**Bozcaada**	**2.42**	**348**	PN	**Pb**	**20 18 37.8**	**-1.2**
IDI	**Anoyia**	**2.63**	**214**	P	**Pn**	**20 18 37.8**	**0.0**
AKAS	**Kas**	**2.64**	**117**	PN	**Pn**	**20 18 39.8**	**+1.8**
TVSB	**Tavsanli**	**2.93**	**47**	PN	**Pb**	**20 18 45.2**	**-2.6**
KRBG	**Karabiga-Canak**	**2.95**	**9**	PN	**Pb**	**20 18 45.6**	**-2.5**

IDC ***25*** *20:27:52.4±11.0, 12°.55S×167°.22E, h216km±107km, mb3.7/10, mb1 3.9/10, mb1mx3.6/38, mbtmp4.2/10, MS2.8/1, Ms1 2.8/1, ms1mx2.4/57, Error ellipse: s-maj=49.9km s-min=38.4km az=147.0*
NEIC ***25*** *20:27:54.7±1.7, 12°.4S±0°.1×167°.2E±0°.2, h234km±14km, mb4.4/11, Error ellipse: s-maj=35.9km s-min=11.3km az=108.0*

ISC 25 20:27:53.5±0.8, **12°.36S**±0°.09×**167°.1E**±0°.1, **h220**km, **n27, σ0s99/26, mb4.2/17, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.07**	**178**	Pn	**Pn**	**20 28 46.6**	**+1.6**
SANVU				Sn	**S**	**20 29 23.6**	**-1.7**
EIDS	**Eidsvold**	**19.88**	**227**	P	**P**	**20 32 09.8**	**+1.6**
CTA	**Charters Tower**	**21.39**	**246**	P	**P**	**20 32 24.9**	**+0.6**
	13nm,1.0s,baz=96,slow=5.0,SNR=3.3						
STKA	**Stephens Creek**	**30.43**	**226**	P	**P**	**20 33 45.4**	**-0.1**
	0.8nm,0.3s,baz=50,slow=9.9,SNR=10						
STKA	**Stephens Creek**	**30.43**	**226**	IAmb	IAmb	20 33 49.8	
	comp=Z,0.5nm,1.0s						
WB0	**Warramunga Arr**	**32.20**	**253**	P	**P**	**20 34 00.3**	**-1.0**
WB0				IAmb	IAmb	20 34 01.3	
	comp=Z,5.7nm,0.5s						
WRAB	**Tennant Creek**	**32.27**	**252**	P	**P**	**20 34 00.5**	**-1.4**
WRAB				IAmb	IAmb	20 34 21.5	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**32.28**	**252**	P	**P**	**20 34 01.1**	**-0.9**
	comp=Z,2.5nm,0.4s,baz=84,slow=8.8,SNR=15						
AS31	**Alice Springs**	**33.39**	**246**	P	**P**	**20 34 10.8**	**-0.8**
AS31				IAmb	IAmb	20 34 11.6	
	comp=Z,1.7nm,0.4s						
ASAR	**Alice Springs**	**33.40**	**246**	P	**P**	**20 34 10.7**	**-0.9**
	comp=Z,3.3nm,0.6s,baz=69,slow=9.4,SNR=51						
ASAR	**Alice Springs**	**33.40**	**246**	P	**P**	**20 34 10.4**	**-1.2**
BBOO	**Buckleboo**	**34.92**	**229**	P	**P**	**20 34 24.8**	**+0.3**
BBOO				IAmb	IAmb	20 34 49.5	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**37.27**	**260**	P	**P**	**20 34 44.7**	**0.0**
KNRA				IAmb	IAmb	20 34 46.0	
	comp=Z,19nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.31**	**257**	P	**P**	**20 35 09.6**	**-0.2**
	comp=Z,3.0nm,0.3s,baz=65,slow=7.1,SNR=21						
FORT	**Forrest**	**40.38**	**237**	P	**P**	**20 35 09.6**	**-0.7**
FORT				IAmb	IAmb	20 35 16.7	
	comp=Z,17nm,0.8s						
TOLI2	**Tolitoli**	**47.85**	**283**	P	**P**	**20 36 09.2**	**-0.5**
MJAR	**Matsushiro Arr**	**55.73**	**332**	LR	LR	20 59 19.1	
	comp=Z,10.0nm,21.5s,baz=171,slow=34						
UGM	**Wanagama**	**55.75**	**269**	P	**P**	**20 37 08.1**	**0.0**
CMAR	**Chiang Mai Arr**	**73.82**	**293**	P	**P**	**20 39 06.0**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=114,slow=4.5,SNR=6.4						
CMAR	**Chiang Mai Arr**	**73.82**	**293**	P	**P**	**20 39 04.3**	**-0.2**
SONM	**Songino Array**	**80.48**	**323**	P	**P**	**20 39 42.6**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=143,slow=4.6,SNR=2.1						
IL31		**84.35**	**18**	P	**P**	**20 40 01.0**	**+0.6**
IL31				IAmb	IAmb	20 40 01.2	
	comp=Z,3.1nm,0.7s						
ILAR	**Eielson Array**	**84.35**	**18**	P	**P**	**20 40 00.5**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=247,slow=5.0,SNR=32						
MKAR	**Makanchi Array**	**95.36**	**317**	P	**P**	**20 40 52.1**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=95,slow=5.1,SNR=3.9						
YKA	**Yellowknife Ar**	**95.54**	**27**	P	**P**	**20 40 52.2**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=258,slow=4.5,SNR=8.1						
ARCES	**ARCESS Array B**	**117.92**	**346**	PKP	**PKPdf**	**20 46 13.0**	**-0.4**
	comp=Z,3.7nm,1.0s,baz=71,slow=2.2,SNR=14						
FINES	**FINESS Array B**	**123.46**	**339**	PKP	**PKPdf**	**20 46 23.4**	**-0.7**
	comp=Z,2.1nm,1.0s,baz=336,slow=4.2,SNR=1.9						

IDC ***25*** *20:37:31.2±6.7, 23°.15S×178°.82W, h591km±97km, mb3.0/4, mb1 3.2/6, mb1mx3.0/34, mbtmp4.2/6, Error ellipse: s-maj=205.0km s-min=39.1km az=67.0*

ISC 25 20:37:30.8±2.5, **23°.2S**±0°.1×**178°.7W**±0°.4, **h600**km, **n17, σ2s41/20, mb3.6/4, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.23**	**330**	P	**P**	**20 39 13.4**	**-0.7**
	1.0nm,0.3s,baz=72,slow=3.4,SNR=5.1						
URZ	**Urewera**	**15.43**	**192**	P	**P**	**20 40 43.0**	**+0.3**
	3.4nm,0.3s,baz=355,slow=2.5,SNR=11						
URZ				S	**S**	**20 43 15.3**	**-3.9**
	0.4nm,0.3s,baz=127,slow=22,SNR=1.6						
HIZ	**Hauiti**	**16.22**	**198**	P	**P**	**20 40 56.0**	**+6.0**
VRZ	**Vera Road**	**16.82**	**198**	P	**P**	**20 40 59.5**	**+4.0**
BHHZ	**Black Hill Sta**	**16.83**	**194**	P	**P**	**20 40 55.5**	**-0.2**
BHHZ				S	**P**	**20 40 56.7**	**+1.1**
KRHZ	**Kereru**	**16.91**	**193**	P	**P**	**20 40 57.5**	**+1.1**
KRHZ				S	**P**	**20 40 59.0**	**+2.6**
KAHZ	**Kahuranaki**	**16.96**	**192**	P	**P**	**20 40 59.5**	**+2.7**
PREZ	**Palmer Road**	**17.20**	**199**	P	**P**	**20 40 59.9**	**+0.9**
WPHZ	**Waipukurau**	**17.31**	**193**	P	**P**	**20 40 57.4**	**-2.6**
TSZ	**Takapari Road**	**17.40**	**194**	P	**P**	**20 41 01.9**	**+1.1**
BFZ	**Birch Farm**	**17.94**	**193**	P	**P**	**20 41 07.7**	**+2.0**
MRZ	**Mangatainoka R**	**18.06**	**194**	P	**P**	**20 41 06.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**18.30**	**194**	P	**P**	**20 41 10.2**	**+1.2**
CTA	**Charters Tower**	**32.66**	**269**	P	**P**	**20 43 15.2**	**-0.2**
	5.9nm,0.4s,baz=96,slow=10,SNR=13						
STKA	**Stephens Creek**	**36.08**	**247**	P	**P**	**20 43 43.4**	**-0.3**
	0.4nm,0.3s,baz=100,slow=9.5,SNR=3.9						
ASAR	**Alice Springs**	**43.32**	**260**	P	**P**	**20 44 41.9**	**+0.4**
	0.6nm,0.5s,baz=93,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**43.64**	**265**	P	**P**	**20 44 44.1**	**+0.1**
	0.8nm,0.3s,baz=95,slow=8.3,SNR=41						

GUC ***25*** *20:38:38.0±0.7, 31°.96S×72°.34W, h30km, ML3.9*
IDC ***25*** *20:38:38.1±1.3, 31°.87S×72°.25W, h0km, mb4.2/2, mb1 4.0/4, mb1mx3.8/26, mbtmp3.9/4, ML3.7/2, Error ellipse: s-maj=46.8km s-min=28.2km az=137.0*

ISC 25 20:38:41.1±0.9, **31°.90S**±0°.06×**72°.30W**±0°.06, **h21**km±5km, **n24, σ0s91/27, 4C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.07**	**128**	⇑*i*P	**Pn**	**20 38 59.9**	**-0.9**
VA06				*i* S	**Sb**	**20 39 14.0**	**-0.4**
VA06				IAML		20 39 19.3	
	comp=E,5μm,0.6s						
CO02	**Combarbal**	**1.31**	**58**	⇑*i*P	**Pn**	**20 39 03.4**	**-0.8**
CO02				*i* S	**Sb**	**20 39 22.2**	**+0.8**
CO02				IAML		20 39 26.9	
	comp=N,8μm,0.3s						
CO06	**Fray Jorge**	**1.35**	**25**	*e*P	**Pn**	**20 39 03.5**	**-1.2**
ROCH	**El Roble**	**1.52**	**135**	⇑*i*P	**Pn**	**20 39 06.9**	**-0.3**
ROCH				*i* S	**Sn**	**20 39 25.8**	**-0.8**
ROCH				IAML		20 39 34.6	
	comp=N,3μm,0.4s						
MT02	**Curacav**	**1.67**	**144**	*e*P	**Pn**	**20 39 08.6**	**-0.5**
VA03	**San Esteban**	**1.71**	**121**	⇑*i*P	**Pn**	**20 39 09.8**	**+0.1**
VA03				*i* S	**Sn**	**20 39 31.4**	**+0.4**
VA03				IAML		20 39 41.6	
	comp=E,4μm,0.3s						
VA05	**Santo Domingo**	**1.84**	**162**	IAML		20 39 51.4	
	comp=N,1μm,0.6s						
MT05	**Renca**	**1.98**	**139**	*e*P	**Pn**	**20 39 13.6**	**+0.1**
MT05				*i* S	**Sn**	**20 39 35.1**	**-2.6**
MT05				IAML		20 39 52.6	
	comp=E,1μm,0.5s						
GO04	**Tololo Observa**	**2.15**	**37**	*e*P	**Pn**	**20 39 15.6**	**-0.4**
MT09	**Talagante**	**2.17**	**150**	*e*P	**Pn**	**20 39 16.4**	**+0.3**
MT09				*e*S	**Sn**	**20 39 43.0**	**+0.7**
MT09				IAML		20 39 58.9	
	comp=N,761nm,0.4s						
CO05	**La Serena**	**2.18**	**25**	IAML		20 40 00.0	
	comp=E,850nm,0.5s						
MT03	**Universidad Ad**	**2.19**	**137**	IAML		20 39 54.6	
	comp=N,1μm,0.6s						
FCH	**Farellones**	**2.21**	**131**	*e*P	**Pn**	**20 39 17.0**	**+0.2**
FCH				IAML		20 39 56.3	
	comp=E,502nm,0.3s						
BO04	**La Punta**	**2.52**	**146**	*e*P	**Pn**	**20 39 21.6**	**+0.8**
LMEL	**Las Melosas**	**2.62**	**138**	*e*P	**Pn**	**20 39 23.2**	**+0.9**
H03N1	**Juan Fernandez**	**5.79**	**253**	Pn	**Pn**	**20 40 04.8**	**-0.6**
H03N1				T	T	20 46 59.7	
	baz=80,slow=72,SNR=154						
H03N3	**Juan Fernandez**	**5.80**	**253**	Pn	**Pn**	**20 40 04.8**	**-0.8**
H03N3				T	T	20 47 02.9	
	baz=80,slow=72,SNR=126						
H03N2	**Juan Fernandez**	**5.80**	**253**	Pn	**Pn**	**20 40 04.8**	**-0.8**
H03N2				T	T	20 47 06.1	
	baz=80,slow=72,SNR=161						
PLCA	**Paso Flores**	**9.92**	**171**	Pn	**Pn**	**20 40 49.8**	**+1.0**
	comp=E,0.2nm,0.3s,baz=357,slow=17,SNR=1.2						
LPAZ	**La Paz**	**16.00**	**15**	Pn	**Pn**	**20 42 26.5**	**+0.9**
	comp=E,0.1nm,0.3s,baz=188,slow=8.4,SNR=4.8						
BDFB	**Brasilia**	**27.39**	**59**	P	**P**	**20 44 24.5**	**-0.9**
	comp=E,5.7nm,1.1s,baz=255,slow=9.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**83.70**	**70**	P	**P**	**20 51 08.6**	**-0.2**
	comp=E,1.2nm,0.9s,baz=254,slow=4.5,SNR=4.0						
WRA	**Warramunga Arr**	**122.47**	**210**	PKP	**PKiKP**	**20 57 35.9**	**+0.2**
	comp=E,0.5nm,1.0s,baz=158,slow=1.6,SNR=1.8						
ZALV	**Zalesovo Beam**	**152.55**	**30**	PKPbc	**PKiKP**	**20 58 36.7**	**+1.1**
	comp=E,0.7nm,0.6s,baz=300,slow=3.2,SNR=2.0						

RSNC 25 20:40:37.0±1.2, **6°.83N×73°.13W, h146**km±5km, **ML3.0, Mw3.6, 1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**193**	*e*P	Pn	20 40 56.8	-0.4
BARC				*e*S	Sn	20 41 11.9	-0.5
BARC				*i*		20 41 13.1	
	comp=Z,215nm,0.2s						
PAMC	**Pamplona, Colo**	**0.66**	**40**	*e*P	Pn	20 40 59.7	+0.3
PAMC				*e*S	Sn	20 41 16.7	+0.3
PAMC				*i*		20 41 18.9	
	comp=Z,275nm,0.5s						
RUSC	**La Rusia**	**0.93**	**177**	*e*P	Pn	20 41 01.1	-0.3
RUSC				*e*S	Sn	20 41 19.7	-0.2
RUSC				*i*		20 41 20.4	
	comp=Z,139nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*e*P	Pn	20 41 03.4	-1.3
PTBC				*e*S	Sn	20 41 24.4	-1.5
PTBC				*i*		20 41 26.6	
	comp=Z,59nm,0.3s						
TAMC	**Tame, Arauca**	**1.38**	**106**	⇓*i*P	Pn	20 41 05.2	+0.2
OCAC	**Ocana**	**1.42**	**352**	*e*P	Pn	20 41 05.2	-0.3
OCAC				*e*S	Sn	20 41 26.7	-0.6
OCAC				*i*		20 41 30.2	
	comp=Z,189nm,0.2s						
SPBC	**San Pablo de B**	**1.50**	**219**	*e*P	Pn	20 41 05.5	-0.8
SPBC				*e*S	Sn	20 41 28.1	-0.7
SPBC				*i*		20 41 32.6	
	comp=Z,167nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	Pn	20 41 09.4	-0.6
ZARC				*e*S	Sn	20 41 34.6	-0.7
ZARC				*i*		20 41 37.2	
	comp=Z,62nm,0.2s						
NORC	**Norcasia**	**2.14**	**234**	*e*P	Pn	20 41 12.6	-1.0
NORC				*e*S	Sn	20 41 41.2	-0.5
NORC				*i*		20 41 43.3	
	comp=Z,73nm,0.2s						
CHIC	**Chingaza**	**2.27**	**195**	*e*P	Pn	20 41 15.1	-0.4
CHIC				*e*S	Sn	20 41 44.3	-0.7
CHIC				*i*		20 41 47.7	
	comp=Z,61nm,0.6s						
ROSC	**El Rosal**	**2.30**	**211**	*e*P	Pn	20 41 16.7	+0.7
ROSC				*e*S	Sn	20 41 45.9	+0.1
ROSC				*i*		20 41 48.9	
	comp=Z,91nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	Pn	20 41 16.4	-2.2
UREC				*e*S	Sn	20 41 47.6	-3.2
UREC				*i*		20 41 59.5	
	comp=Z,45nm,0.3s						
SOCV	**Socops**	**2.68**	**57**	*e*P	Pn	20 41 19.6	-0.5
SOCV				*e*S	Sn	20 41 51.8	-1.6
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*e*P	Pn	20 41 22.2	+1.4
LL1C				*e*S	Sn	20 41 57.0	+2.4
GUY2C	**Guyana, Caldas**	**2.74**	**235**	*e*P	Pn	20 41 22.0	+0.6
GUY2C				*e*S	Sn	20 41 56.2	+0.7
GUY2C				*i*		20 42 03.1	
	comp=Z,56nm,0.3s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	Pn	20 41 20.5	-0.8
VILC				*e*S	Sn	20 41 54.9	-0.5
PTGC	**Puerto Gaitan,**	**2.79**	**159**	*e*P	Pn	20 41 20.0	-1.6
PTGC				*e*S	Sn	20 41 53.1	-3.0
PTGC				*i*		20 41 58.4	
	comp=Z,58nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*e*P	Pn	20 41 25.2	+0.5
CBOC				*e*S	Sn	20 42 01.4	0.0
CBOC				*i*		20 42 04.8	
	comp=Z,17nm,0.5s						
DBBC	**Dabeiba**	**3.07**	**274**	*e*P	Pn	20 41 25.1	0.0
DBBC				*e*S	Sn	20 42 00.2	-2.1
DBBC				*i*		20 42 09.1	
	comp=Z,101nm,0.4s						
SDV	**Santo Domingo**	**3.21**	**50**	*e*P	Pn	20 41 26.4	-0.7
SDV				*e*S	Sn	20 42 04.1	-1.7
SDV				*i*		20 42 06.7	
	comp=Z,22nm,0.4s						
ANIL	**Santa Ana**	**3.24**	**224**	*e*P	Pn	20 41 28.2	+0.6
ANIL				*e*S	Sn	20 42 07.1	+0.3
ANIL				*i*		20 42 11.2	
	comp=Z,102nm,0.3s						
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P	Pn	20 41 31.1	-0.7
ORTC				*e*S	Sn	20 42 14.6	+0.3
ORTC				*i*		20 42 20.6	
	comp=Z,34nm,0.5s						
PLMC	**San Jos del P**	**3.67**	**239**	*e*P	Pn	20 41 32.4	-0.6
PLMC				*e*S	Sn	20 42 14.9	-1.5
PLMC				*i*		20 42 18.5	
	comp=Z,18nm,0.2s						
YOTC	**Yotoco, Valle**	**4.27**	**229**	*e*P	Pn	20 41 41.4	+0.6
YOTC				*e*S	Sn	20 42 31.0	+0.5
MACC	**Macarena, Meta**	**4.71**	**189**	*e*P	Pn	20 41 43.6	-2.9
MACC				*i*		20 42 25.8	
	comp=Z,14nm,0.3s						
MACC				*e*S	Sn	20 42 35.7	-5.0
GARC	**Garzon, Huila**	**5.18**	**207**	*e*P	Pn	20 41 50.9	-2.1
GARC				*e*S	Sn	20 42 46.3	-6.0
GARC				*i*		20 42 53.2	
	comp=Z,12nm,0.2s						

WEL 25 20:40:52.8, 39°S±49°×**17°6E**±5°.1, **h5**km±49km, **M0.7/2, ML0.9/4, MLv0.7/2, Error ellipse: s-maj=0.1km s-min=0.1km az=53.6, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTVZ	**Oturere**	**0.04**	**317**	P	Pg	20 40 54.6	+0.4
OTVZ				S	Sg	20 40 55.8	+0.6
SNVZ	**South Ngauruho**	**0.05**	**280**	P	Pg	20 40 55.3	+1.0
TMVZ	**Te Maari**	**0.08**	**1**	P	Pg	20 40 55.2	+0.6
NTVZ	**North Tongarir**	**0.10**	**348**	P	Pg	20 40 55.5	+0.5
WNVZ	**Wahianoa**	**0.15**	**212**	P	Pg	20 40 56.6	+0.6

IDC ***25*** *20:49:25.6±0.7, 16°.74S×173°.54W, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.3/38, mbtmp4.2/18, ML4.0/1, MS3.6/17, Ms1 3.6/17, ms1mx3.4/67, Error ellipse: s-maj=25.9km s-min=15.3km az=131.0*
NEIC ***25*** *20:49:27.3±2.2, 16°.71S±0°.02×173°.4W±0°.1, h10km±1km, mb4.6/31, Error ellipse: s-maj=19.1km s-min=2.9km az=261.0*

ISC 25 20:49:26.7±0.4, **16°.75S**±0°.06×**173°.26W**±0°.06, **h10**km, **n116, σ1s49/96, mb4.5/32, MS3.6/16, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.17**	**27**	Pn	**Pn**	**20 50 17.0**	**+0.3**
	16nm,0.3s,baz=217,slow=5.1,SNR=9.7						
AFI				Sn	**Sn**	**20 50 49.1**	**-5.5**
	113nm,0.3s,baz=34,slow=23,SNR=7.3						
AFI				LR	LR	20 51 24.3	
	comp=Z,402nm,21.5s,baz=158,slow=36						
AFI	**Afiamalu**	**3.17**	**27**	Pn	**Pn**	**20 50 16.1**	**-0.6**
NIUE	**Niue**	**3.93**	**127**	Pn	**Pn**	**20 50 27.4**	**+0.3**
NIUE				Sn	**Sn**	**20 51 08.8**	**-4.5**
MSVF	**Nonsavu**	**8.36**	**262**	Pn	**Pn**	**20 51 30.3**	**+2.2**
	0.3nm,0.3s,baz=172,slow=22,SNR=1.0						
MSVF				LR	LR	20 54 20.2	
	comp=Z,684nm,19.8s,baz=100,slow=36						
MSVF	**Nonsavu**	**8.36**	**262**	Pn	Pn	20 51 34.4	+6.2
RAR	**Rarotonga**	**13.51**	**111**	Pn	**Pn**	**20 52 38.0**	**-0.5**
	3.6nm,0.3s,baz=251,slow=5.4,SNR=5.7						
RAR	**Rarotonga**	**13.51**	**111**	Pn	**Pn**	**20 52 38.7**	**+0.2**
MARNC	**Mare, Loyalty**	**18.29**	**252**		**Pn**	**20 53 39.6**	**-1.2**
DZM	**Mont Dzumac**	**19.85**	**251**	LR	LR	21 00 15.7	
	comp=Z,423nm,20.1s,baz=86,slow=33						
DZM	**Mont Dzumac**	**19.85**	**251**	*e*LR	LR	20 58 47.9	
	comp=Z,552nm,25.1s						
OUZ	**Omahuta**	**21.82**	**210**	P	**P**	**20 54 20.5**	**+1.3**
OUZ				IAmb	IAmb	20 54 22.9	
	comp=Z,18nm,1.0s						
PPT2	**Papeete2**	**22.64**	**96**	*e*LR	LR	20 59 58.8	
	comp=Z,242nm,24.2s						
PPT	**Papeete**	**22.64**	**96**	LR	LR	21 01 04.8	
	comp=Z,95nm,20.4s,baz=204,slow=30						
URZ	**Urewera**	**23.04**	**200**	P	**P**	**20 54 31.1**	**-1.0**
	comp=Z,11nm,0.7s,baz=333,slow=4.8,SNR=7.1						
URZ	**Urewera**	**23.04**	**200**	P	**P**	**20 54 32.8**	**+0.7**
URZ				IAmb	IAmb	20 54 55.6	
	comp=Z,16nm,0.9s						
TBI	**Tubuai**	**23.28**	**110**	*e*LR	LR	21 00 13.2	
	comp=Z,375nm,27.2s						
QRZ	**Quartz Range**	**26.96**	**204**	P	**P**	**20 55 10.5**	**+2.1**
LTZ	**Lake Taylor**	**28.74**	**202**	P	**P**	**20 55 25.4**	**+1.0**
KRVT	**Keravat (AS076**	**36.22**	**286**	LR	LR	21 09 36.7	
	comp=Z,98nm,21.5s,baz=244,slow=34						
CTA	**Charters Tower**	**38.49**	**259**	LR	LR	21 09 46.5	
	comp=Z,134nm,21.3s,baz=118,slow=32						
PMG	**Port Moresby**	**39.18**	**276**	LR	LR	21 11 45.2	
	comp=Z,94nm,18.3s,baz=244,slow=34						
H11S2	**WAKE ISLAND Hy**	**40.19**	**330**	T	T	21 39 51.0	
	baz=149,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**40.20**	**330**	T	T	21 39 55.1	
	baz=149,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**40.20**	**330**	T	T	21 39 52.3	
	baz=149,slow=76,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**41.15**	**331**	T	T	21 41 04.7	
	baz=150,slow=76,SNR=3.1						
H11N1	**WAKE ISLAND Hy**	**41.15**	**331**	T	T	21 41 03.0	
	baz=150,slow=76,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**41.16**	**331**	T	T	21 41 00.9	
	baz=150,slow=76,SNR=3.3						
TOO	**Toolangi**	**41.73**	**232**	P	**P**	**20 57 14.6**	**-1.6**
STKA	**Stephens Creek**	**43.49**	**241**	P	**P**	**20 57 28.7**	**-1.8**
	comp=Z,11nm,0.8s,baz=89,slow=11,SNR=26						
STKA				LR	LR	21 12 54.6	
	comp=Z,41nm,19.8s,baz=206,slow=33						
STKA	**Stephens Creek**	**43.49**	**241**	P	**P**	**20 57 29.1**	**-1.4**
BBOO	**Buckleboo**	**48.26**	**241**	P	**P**	**20 58 06.8**	**-1.4**
BBOO				IAmb	IAmb	20 58 06.9	
	comp=Z,7.7nm,0.8s						
WR0	**Warramunga Arr**	**49.49**	**258**	P	**P**	**20 58 15.2**	**-2.6**
WR0				IAmb	IAmb	20 58 25.0	
	comp=Z,7.5nm,1.1s						
WB0	**Warramunga Arr**	**49.65**	**258**	P	**P**	**20 58 16.7**	**-2.2**
WB0				IAmb	IAmb	20 58 41.1	
	comp=Z,6.0nm,1.1s						
WB2	**Warramunga Arr**	**49.67**	**258**	P	**P**	**20 58 16.0**	**-3.1**
WB2				IAmb	IAmb	20 58 34.8	
	comp=Z,14nm,1.5s						
WRAB	**Tennant Creek**	**49.67**	**258**	P	**P**	**20 58 16.6**	**-2.5**
WRA	**Warramunga Arr**	**49.68**	**258**	P	**P**	**20 58 16.3**	**-2.9**
	comp=Z,1.9nm,0.9s,baz=96,slow=7.5,SNR=10						
WRA	**Warramunga Arr**	**49.68**	**258**		**P**	**20 58 16.4**	**-2.9**
AS31	**Alice Springs**	**49.83**	**253**	P	**P**	**20 58 18.0**	**-2.4**
AS31				IAmb	IAmb	20 58 19.1	
	comp=Z,5.6nm,0.8s						
ASAR	**Alice Springs**	**49.83**	**253**	P	**P**	**20 58 18.0**	**-2.4**
	comp=Z,18nm,0.7s,baz=88,slow=8.5,SNR=157						
ASAR				LR	LR	21 18 27.7	
	comp=Z,77nm,18.3s,baz=156,slow=35						
ASAR	**Alice Springs**	**49.83**	**253**	P	**P**	**20 58 18.1**	**-2.2**
SIJI	**Sorong**	**56.82**	**280**	P	**P**	**20 59 11.2**	**-0.6**
	comp=Z,7.3nm,0.6s,baz=97,slow=8.8,SNR=7.1						
SIJI				LR	LR	21 23 13.5	
	comp=Z,24nm,18.2s,baz=238,slow=36						
FITZ	**Fitzroy Crossi**	**58.07**	**259**	LR	LR	21 21 33.4	
	comp=Z,92nm,21.6s,baz=154,slow=33						
SOEI	**Soe**	**61.01**	**268**	P	**P**	**20 59 39.2**	**-1.9**
VNDA	**Vanda**	**62.05**	**186**	P	**P**	**20 59 48.5**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=3.2,slow=8.8,SNR=6.4						
MJAR	**Matsushiro Arr**	**70.05**	**320**	LR	LR	21 25 54.0	
	comp=Z,37nm,21.8s,baz=217,slow=31						
JKA	**Kamikawa-asahi**	**72.75**	**328**	P	**P**	**21 00 56.0**	**+0.8**
ASAJ	**Asahikawa**	**72.75**	**328**	P	**P**	**21 00 56.0**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=347,slow=12,SNR=4.2						
ASAJ				LR	LR	21 26 52.8	
	comp=Z,27nm,21.2s,baz=173,slow=31						
PETK	**Petropavlovsk-**	**73.95**	**342**	P	**P**	**21 01 02.7**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=251,slow=13,SNR=4.7						
**YB

BRG				Amp			21 09 06.8		
	comp=Z,7.2nm,0.9s								
UPC	**Upice**	**145.51**	**350**	*e*PKP	**PKPab**		**21 09 06.6**	**+1.2**	
DPC	**Dobruska-Polom**	**145.60**	**349**	*e*PKP	**PKPab**		**21 09 06.7**	**+0.9**	
DPC				*ex*	x		21 09 21.0		
NIE	**Niedzica**	**145.60**	**344**	*e*P	**PKPab**		**21 09 07.2**	**+1.4**	
PVCC	**Panska Ves**	**145.72**	**351**	*e*PKP	**PKPab**		**21 09 07.1**	**+1.0**	
KRLC	**Kraliky**	**145.78**	**348**	*e*PKP	**PKPab**		**21 09 07.2**	**+0.7**	
KRLC				*ex*	x		21 09 21.7		
MORC	**Moravsky Berou**	**145.91**	**347**	*e*PKP	**PKPab**		**21 09 07.1**	**+0.1**	
MORC				*e*			21 09 21.8		
PRU	**Pruhonice**	**146.25**	**351**	*e*PKP	**PKPab**		**21 09 08.5**	**+0.3**	
VRAC	**Vranov**	**146.55**	**348**	*e*PKP	**PKPab**		**21 09 10.2**	**+0.8**	
KRUC	**Moravsky**	**146.83**	**348**	*e*PKP	**PKPbc**		**21 09 09.8**	**+0.6**	
KRUC				*e*			21 09 24.1		
MLR	**Muntele Rosu**	**147.14**	**335**	PKPbc	**PKPdf**		**21 09 09.5**	**+1.3**	
	baz=101,slow=6.3								
KHC	**Kasperske Hory**	**147.23**	**352**	*e*PKP	**PKPbc**		**21 09 11.3**	**+0.9**	
KHC				*ex*	x		21 09 26.5		
BRTR	**Keskin Array B**	**147.28**	**320**	PKPbc	**PKPbc**		**21 09 10.2**	**-0.7**	
	comp=Z,2.7nm,0.8s,baz=120,slow=1.7,SNR=12								
CKRC	**Cesky Krumlov**	**147.42**	**351**	*e*PKP	**PKPbc**		**21 09 12.0**	**+1.1**	
GERES	**GERESS Array B**	**147.49**	**351**	PKPbc	**PKPbc**		**21 09 11.3**	**+0.2**	
	comp=Z,1.1nm,0.7s,baz=29,slow=3.0,SNR=9.6								
GERES	**GERESS Array B**	**147.49**	**351**		**PKPbc**		**21 09 11.6**	**+0.4**	
CONA	**Conrad Observa**	**148.01**	**348**	*e*P	**PKiKP**		**21 09 14.6**	**+0.2**	
	comp=Z,2.5nm,0.6s								
RONA	**Rosalia, Austr**	**148.15**	**348**	*e*P	**PKPab**		**21 09 15.7**	**-0.1**	
	comp=Z,2.2nm,0.5s								
WATA	**Walderalm**	**149.24**	**354**	*e*P	**PKPbc**		**21 09 16.6**	**+0.8**	
	comp=Z,5.4nm,1.2s								
KBA	**Koelnbreinsper**	**149.27**	**351**	*e*P	**PKPab**		**21 09 20.5**	**+0.1**	
	comp=Z,1.5nm,0.9s								
MOTA	**Moosalm**	**149.28**	**354**	*e*P	**PKPbc**		**21 09 16.8**	**+0.9**	
	comp=Z,6.5nm,1.1s								
WTTA	**Wattenberg**	**149.30**	**353**	*e*P	**PKiKP**		**21 09 17.2**	**0.0**	
	comp=Z,7.4nm,0.8s								
SOKA	**Soboth**	**149.37**	**349**	*e*P	**PKPbc**		**21 09 16.6**	**+0.5**	
	comp=Z,0.3nm,0.3s								
SQTA	**Sankt Quirin**	**149.39**	**354**	*e*P	**PKPbc**		**21 09 17.0**	**+0.8**	
	comp=Z,8.9nm,1.2s								
DAVA	**Damuels**	**149.44**	**356**	*e*P	**PKiKP**		**21 09 17.6**	**+0.1**	
	comp=Z,7.8nm,1.0s								
FETA	**Feichten**	**149.63**	**355**	*e*P	**PKiKP**		**21 09 17.9**	**-0.1**	
	comp=Z,3.2nm,0.8s								
ABTA	**Abfaltersbach**	**149.71**	**352**	*i* P	**PKPbc**		**21 09 17.7**	**+0.7**	
	comp=Z,3.7nm,0.7s								
DAVOX	**Davos/Dischmat**	**149.94**	**356**	PKPbc	**PKPbc**		**21 09 18.1**	**+0.5**	
	comp=Z,6.2nm,0.9s,baz=7.3,slow=2.9,SNR=11								
TORD	**Torodi Ar. Bea**	**173.95**	**126**	PKP	**PKPdf**		**21 09 36.9**	**-0.7**	
	comp=Z,0.5nm,0.7s,baz=222,slow=1.9,SNR=3.2								

BJI ***25*** *20:51:47.9±0.0,23.88N×122.03E,h8km,mb3.5/3, mB4.0/1,ML3.7/4,Ms3.6/2,Ms7 3.6/2*

NIED ***25*** *20:51:50.6,23.93N×121.59E,h0km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.81; $M_{\theta\theta}$-1.52; $M_{\phi\phi}$2.33; $M_{r\theta}$8.67; $M_{\theta\phi}$-1.88; $M_{\phi r}$0.97; Fault plane solution: $M_0$8.88000×10^{14} NP1: ϕ_s184.00000°,δ11.00000°,λ5.00000°. NP2:ϕ_s88.00000°, δ89.00000°,λ101.00000°.*

JMA ***25*** *20:51:50.5±0.1,23.93N×121.59E,h0km,M3.6*

IDC ***25*** *20:51:50.8±0.9,23.99N×121.73E,h0km,mb3.7/10, mb1 3.8/12,mb1mx3.6/44,mbtmp3.7/12,ML3.4/2,MS3.3/3, Ms1 3.3/3,ms1mx2.6/91,Error ellipse: s-maj=30.7km s-min=17.9km az=73.0*

TAP ***25*** *20:51:52.3,23.98N×121.59E,h9km,ML4.2,B*

ISC 25 20:51:52.3±0.7,23.91N±0.01×121.65E±0.02,h10km±4km, n164,σ1s07/270,mb3.6/10,MS3.2/3,3C-43D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEYL	**Yanliau Villag**	**0.07**	**229**	⇑*i*P	**Pg**	**20 51 54.5**	**+0.1**
	baz=168						
TEYL				*i* S	**Sg**	**20 51 56.6**	**+0.7**
	baz=168						
HWA	**Hwalien**	**0.08**	**324**	*i* P	**Pg**	**20 51 54.1**	**-0.5**
	baz=96						
HWA				*i* S	**Sg**	**20 51 56.0**	**-0.2**
	baz=96						
ETM	**Tongmen**	**0.16**	**289**	*i* P	**Pg**	**20 51 54.9**	**-0.8**
	baz=262						
ETM				*i* S	**Sg**	**20 51 56.6**	**-1.5**
	baz=262						
TWD	**Chiawan**	**0.17**	**342**	⇓*i*P	**Pg**	**20 51 55.2**	**-0.8**
	baz=10.0						
TWD				*i* S	**Sg**	**20 51 57.3**	**-1.3**
	baz=10.0						
ESL	**Shilin**	**0.23**	**244**	⇑*i*P	**Pg**	**20 51 56.8**	**-0.1**
	baz=218						
ESL				*i* S	**Sg**	**20 51 60.0**	**-0.1**
	baz=218						
TEGC	**Jichi Village**	**0.23**	**207**	⇓*i*P	**Pg**	**20 51 58.7**	**+1.7**
	baz=187						
TEGC				*i* S	**Sg**	**20 52 03.8**	**+3.7**
	baz=187						
ETL	**Fush Village**	**0.25**	**353**	⇓*i*P	**Pg**	**20 51 56.6**	**-0.8**
	baz=11						
ETL				*i* S	**Sg**	**20 51 59.6**	**-1.1**
	baz=11						
NACB	**Ninganchiao**	**0.27**	**348**	⇓*i*P	**Pg**	**20 51 56.8**	**-0.9**
	baz=3.0						
NACB				*i* S	**Sg**	**20 51 59.9**	**-1.4**
	baz=3.0						
EGFH	**Guangfu**	**0.32**	**221**	⇑*i*P	**Pb**	**20 51 59.1**	**-0.9**
	baz=205						
EGFH				*e*S	**Sb**	**20 52 03.9**	**-1.4**
	baz=205						
ETLH	**Xiulin Townshi**	**0.33**	**332**	⇓*i*P	**Pg**	**20 51 58.0**	**-1.0**
	baz=338						
ETLH				*e*S	**Sg**	**20 52 01.7**	**-1.7**
	baz=338						
WHF	**Hehuan Shan**	**0.42**	**303**	⇓*i*P	**Pg**	**20 51 59.8**	**-0.9**
	baz=300						
WHF				*e*S	**Sg**	**20 52 05.0**	**-1.4**
	baz=300						
OWD	**Renai**	**0.44**	**275**	⇓*i*P	**Pg**	**20 52 00.4**	**-0.5**
	baz=266						
OWD				S	**Sg**	**20 52 05.7**	**-1.0**
	baz=266						
CHGB	**Renai**	**0.46**	**289**	⇓*i*P	**Pg**	**20 52 00.9**	**-0.5**
	baz=282						
CHGB				S	**Sg**	**20 52 06.7**	**-0.8**
	baz=282						
HGSD	**Ruisui**	**0.47**	**207**	⇓*i*P	**Pb**	**20 52 03.0**	**+0.3**
	baz=197						
HGSD				*e*S	**Sb**	**20 52 12.6**	**+2.9**
	baz=197						
VWDT	**VWDT**	**0.50**	**251**	⇓*i*P	**Pb**	**20 52 02.1**	**-1.0**
	baz=241						
VWDT				*e*S	**Sb**	**20 52 08.6**	**-1.8**
	baz=241						
WUSB	**Renai**	**0.50**	**279**	⇓*i*P	**Pb**	**20 52 01.7**	**-1.5**
	baz=272						
WUSB				*e*S	**Sg**	**20 52 07.8**	**-0.7**
	baz=272						
FUSS	**Fushou**	**0.50**	**312**	⇓P	**Pg**	**20 52 00.4**	**-1.7**
	baz=311						
FUSS				*e*S	**Sg**	**20 52 06.6**	**-2.2**
	baz=311						
EHY	**Hungye**	**0.51**	**217**	⇓*i*P	**Pb**	**20 52 02.6**	**-0.7**
	baz=206						
EHY				*e*S	**Sb**	**20 52 09.1**	**-1.6**
	baz=206						
ENA	**Nanau**	**0.52**	**9**	⇓*i*P	**Pg**	**20 52 01.8**	**-0.6**
	baz=19						
ENA				*e*S	**Sg**	**20 52 08.4**	**-0.8**
	baz=19						
EWUT	**Wuta**	**0.54**	**12**	⇓*i*P	**Pg**	**20 52 02.2**	**-0.6**
	baz=21						
EWUT				*e*S	**Sg**	**20 52 09.4**	**-0.5**
	baz=21						
TWT	**Tachien**	**0.55**	**308**	⇓*i*P	**Pg**	**20 52 02.7**	**-0.3**
	baz=305						
TWT				*e*S	**Sg**	**20 52 09.9**	**-0.5**
	baz=305						
NNSB	**Datong**	**0.57**	**334**	⇓*i*P	**Pg**	**20 52 02.7**	**-0.7**
	baz=338						
NNSB				*e*S	**Sg**	**20 52 09.6**	**-1.3**
	baz=338						
NNS	**Nan Shan**	**0.58**	**334**	⇓*i*P	**Pg**	**20 52 02.9**	**-0.7**
	baz=338						
NNS				*e*S	**Sg**	**20 52 10.1**	**-1.2**
	baz=338						
YULB	**Yu-li**	**0.61**	**212**	P	**Pb**	**20 52 04.5**	**-0.6**
	baz=204						
YULB				*e*S	**Sb**	**20 52 12.9**	**-0.9**
	baz=204						
ECBN	**Changbin**	**0.62**	**197**	*e*P	**Pn**	**20 52 05.7**	**-1.5**
	baz=191						
ECBN				*e*S	**Sn**	**20 52 16.7**	**-0.5**
	baz=191						
LATG	**Datong**	**0.63**	**349**	⇓*i*P	**Pg**	**20 52 03.7**	**-0.8**
	baz=355						
LATG				*e*S	**Sg**	**20 52 12.5**	**-0.3**
	baz=355						
EYUL	**Yuli**	**0.64**	**209**	*e*P	**Pb**	**20 52 05.4**	**-0.2**
	baz=201						
EYUL				*e*S	**Sb**	**20 52 14.2**	**-0.4**
	baz=201						
WPL	**Puli Township**	**0.65**	**279**	⇓P	**Pb**	**20 52 04.7**	**-1.0**
	baz=274						
WPL				*e*S	**Sg**	**20 52 12.5**	**-0.7**
	baz=274						
TWF1	**Yuli**	**0.65**	**210**	*e*P	**Pb**	**20 52 05.2**	**-0.5**
	baz=202						
TWF1				*e*S	**Sg**	**20 52 12.2**	**-1.1**
	baz=202						
SSLB	**Suanglung**	**0.65**	**259**	⇓P	**Pb**	**20 52 04.8**	**-1.0**
	baz=252						
SSLB				*e*S	**Sg**	**20 52 12.3**	**-1.2**
	baz=252						
DPDB	**Guoxing**	**0.68**	**280**	⇓*i*P	**Pb**	**20 52 05.3**	**-0.9**
	baz=275						
DPDB				*e*S	**Sg**	**20 52 13.7**	**-0.6**
	baz=275						
SMLT	**Sun Moon Lake**	**0.69**	**268**	⇓*i*P	**Pb**	**20 52 05.6**	**-0.9**
	baz=261						
SMLT				*e*S	**Sg**	**20 52 14.4**	**-0.4**
	baz=261						
WCS	**Beigang Elemen**	**0.69**	**282**	⇓P	**Pb**	**20 52 05.6**	**-0.9**
	baz=277						
WCS				*e*S	**Sg**	**20 52 14.0**	**-0.8**
	baz=277						
NDT	**Datong Townshi**	**0.70**	**349**	⇓*i*P	**Pg**	**20 52 05.2**	**-0.5**
	baz=354						
NDT				*e*S	**Sg**	**20 52 14.2**	**-0.8**
	baz=354						
TWC	**Suao**	**0.71**	**14**	⇓P	**Pg**	**20 52 05.6**	**-0.5**
	baz=22						
TWC				*e*S	**Sg**	**20 52 15.3**	**-0.2**
	baz=22						
NDS	**Dongshan**	**0.72**	**4**	⇓P	**Pg**	**20 52 05.6**	**-0.6**
	baz=10.0						
NDS				*e*S	**Sg**	**20 52 14.8**	**-0.7**
	baz=10.0						
ENTT	**Nioudou**	**0.73**	**354**	⇓*i*P	**Pg**	**20 52 05.8**	**-0.5**
	baz=359						
ENTT				*e*S	**Sg**	**20 52 15.3**	**-0.6**
	baz=359						
TYC	**Yuchr**	**0.73**	**269**	⇓P	**Pb**	**20 52 06.1**	**-1.0**
	baz=264						
TYC				*e*S	**Sg**	**20 52 15.2**	**-0.7**
	baz=264						
WHP	**Taichung City**	**0.74**	**299**	⇓P	**Pb**	**20 52 06.4**	**-0.9**
	baz=297						
WHP				*e*S	**Sb**	**20 52 16.4**	**-1.2**
	baz=297						
FULB	**Fuli**	**0.79**	**205**	*e*P	**Pn**	**20 52 08.6**	**-0.8**
	baz=199						
YHNB	**Yeheng**	**0.80**	**341**	⇓P	**Pg**	**20 52 07.1**	**-0.5**
	baz=345						
YHNB				*e*S	**Sg**	**20 52 18.4**	**+0.4**
	baz=345						
TWE	**Neicheng**	**0.80**	**1**	⇓P	**Pg**	**20 52 07.3**	**-0.5**
	baz=7.0						
TWE				*e*S	**Sg**	**20 52 18.3**	**0.0**
	baz=7.0						
NSK	**Sanguang**	**0.81**	**340**	⇓P	**Pg**	**20 52 07.2**	**-0.6**
	baz=344						
NSK				*e*S	**Sg**	**20 52 17.4**	**-0.9**
	baz=344						
FUSB	**Fushanzhiwuyua**	**0.84**	**356**	⇓P	**Pg**	**20 52 08.0**	**-0.6**
FUSB				*e*S	**Sg**	**20 52 19.4**	**-0.2**
CHKT	**Chengkung**	**0.85**	**198**	*e*P	**Pn**	**20 52 09.3**	**-1.1**
	baz=192						
CHKT				*e*S	**Sn**	**20 52 23.2**	**+0.3**
	baz=192						
ILA	**Ilan**	**0.85**	**6**	*e*P	**Pg**	**20 52 08.4**	**-0.3**
	baz=11						
ILA				*e*S	**Sb**	**20 52 20.9**	**+0.3**
	baz=11						
WJS	**Zhushan**	**0.85**	**264**	*e*P	**Pb**	**20 52 09.2**	**0.0**
	baz=259						
WJS				*e*S	**Sb**	**20 52 21.4**	**+0.8**
	baz=259						
NFF	**Wufeng Townshi**	**0.87**	**326**	⇓*e*P	**Pg**	**20 52 08.6**	**-0.4**
	baz=327						
NFF				*e*S	**Sg**	**20 52 19.7**	**-0.7**
	baz=327						
NWLT	**Wulai**	**0.87**	**351**	⇓*e*P	**Pg**	**20 52 08.4**	**-0.6**
	baz=355						
NWLT				*e*S	**Sg**	**20 52 19.3**	**-1.1**
	baz=355						
ALS	**Alishan**	**0.88**	**243**	⇓*e*P	**Pb**	**20 52 09.5**	**-0.2**
	baz=237						
ALS				*e*S	**Sb**	**20 52 21.3**	**-0.4**
	baz=237						
WWF	**Wufeng**	**0.88**	**279**	*e*P	**Pn**	**20 52 10.2**	**-0.6**
	baz=275						
WWF				*e*S	**Sn**	**20 52 23.6**	**-0.1**
	baz=275						
WNT	**Mingjian**	**0.89**	**268**	*e*P	**Pn**	**20 52 10.4**	**-0.5**
	baz=263						
WNT				*e*S	**Sb**	**20 52 22.5**	**+0.7**
	baz=263						
WNT1	**Nantou City**	**0.89**	**270**	*e*P	**Pn**	**20 52 10.9**	**0.0**
	baz=265						
WNT1				*e*S	**Sn**	**20 52 23.3**	**-0.5**
	baz=265						
ECS	**Chishang**	**0.91**	**206**	*e*P	**Pn**	**20 52 10.6**	**-0.5**
	baz=201						
ECS				*e*S	**Sn**	**20 52 23.8**	**-0.5**
	baz=201						
TWQ1	**Liyutan**	**0.91**	**298**	*e*P	**Pb**	**20 52 10.1**	**-0.1**
	baz=296						
TWQ1				*e*S	**Sn**	**20 52 24.0**	**-0.5**
	baz=296						
TCU	**Taichung**	**0.93**	**285**	*e*P	**Pn**	**20 52 10.8**	**-0.5**
	baz=281						
TCU				*e*S	**Sn**	**20 52 25.2**	**+0.5**
	baz=281						
ELDTW	**Lidau**	**0.93**	**219**	*e*P	**Pb**	**20 52 09.6**	**-1.0**
	baz=213						
ELDTW				*e*S	**Sb**	**20 52 22.2**	**-0.8**
	baz=213						
NSTT	**Nanjuang**	**0.93**	**320**	⇓*e*P	**Pb**	**20 52 09.9**	**-0.6**
	baz=321						
NSTT				*e*S	**Sg**	**20 52 22.3**	**0.0**
	baz=321						
LIOB	**Emei**	**0.93**	**321**	⇓*e*P	**Pb**	**20 52 10.2**	**-0.4**
	baz=322						
LIOB				*e*S	**Sg**	**20 52 22.0**	**-0.4**
	baz=322						
CHN5	**Tsauling**	**0.95**	**251**	⇓*e*P	**Pn**	**20 52 11.3**	**-0.5**
	baz=245						
CHN5				*e*S	**Sn**	**20 52 26.0**	**+0.6**
	baz=245						
NTC	**Toucheng**	**0.95**	**10**	⇓*e*P	**Pg**	**20 52 10.0**	**-0.6**
	baz=14						
NTC				*e*S	**Sg**	**20 52 22.8**	**-0.1**
	baz=14						
NSY	**Sanyi**	**0.96**	**302**	*e*P	**Pn**	**20 52 11.3**	**-0.5**
	baz=300						
NSY				*e*S	**Sn**	**20 52 25.5**	**-0.1**
	baz=300						
EGS		**0.96**	**15**	*e*P	**Pb**	**20 52 11.0**	**-0.1**
	baz=21						
NJD	**Zhudong**	**0.97**	**328**	*e*P	**Pb**	**20 52 11.3**	**+0.1**
	baz=329						
NJD				*e*S	**Sb**	**20 52 24.1**	**+0.1**
	baz=329						
WYL	**Yuanlin Townsh**	**0.98**	**273**	*e*P	**Pn**	**20 52 12.0**	**-0.1**
	baz=269						
WYL				*e*S	**Sn**	**20 52 27.6**	**+1.4**
	baz=269						
EDH	**Donghe**	**0.99**	**199**	*e*P	**Pb**	**20 52 11.3**	**-0.2**
	baz=194						
EDH				*e*S	**Sn**	**20 52 27.2**	**+0.9**
	baz=194						
NMLH	**Miaoli**	**1.00**	**308**	*e*P	**Pn**	**20 52 12.1**	**-0.3**
	baz=308						
NMLH				*e*S	**Sb**	**20 52 26.1**	**+1.1**
	baz=308						
WCHH	**Zhanghua**	**1.02**	**280**	*e*P	**Pn**	**20 52 12.2**	**-0.3**
	baz=276						
WCHH				*e*S	**Sn**	**20 52 29.1**	**+2.1**
	baz=276						
WDJ	**Dajia District**	**1.02**	**295**	*e*P	**Pn**	**20 52 12.8**	**+0.1**
	baz=293						
WDJ				*e*S	**Sn**	**20 52 28.1**	**+1.0**
	baz=293						
WGK	**Gukeng**	**1.03**	**257**	*e*P	**Pn**	**20 52 12.9**	**+0.2**
	baz=253						
HSN1	**Hsinchu**	**1.04**	**326**	*e*P	**Pn**	**20 52 12.8**	**-0.1**
	baz=327						
WDLH	**Douliu**	**1.05**	**258**	*e*P	**Pn**	**20 52 13.2**	**+0.2**
	baz=253						
WDLH				*e*S	**Sn**	**20 52 28.1**	**+0.4**
	baz=253						
NJN	**Zhunan**	**1.05**	**317**	*e*P	**Pn**	**20 52 13.0**	**-0.1**
	baz=317						
NHDH	**Xindian Distri**	**1.05**	**354**	*e*P	**Pg**	**20 52 12.1**	**-0.4**
	baz=357						
NHDH				*e*S	**Sg**	**20 52 25.1**	**-1.1**
	baz=357						
TWA	**Mucha**	**1.06**	**357**	*e*P	**Pb**	**20 52 12.5**	**-0.3**
TWA				*e*S	**Sg**	**20 52 25.0**	**-1.6**
TIPB	**Shuangxi**	**1.06**	**8**	*e*P	**Pg**	**20 52 12.1**	**-0.7**
	baz=13						
TIPB				*e*S	**Sg**	**20 52 25.1**	**-1.5**
	baz=13						
SBCB	**Hsinchu**	**1.07**	**325**	*e*P	**Pn**	**20 52 13.2**	**-0.1**
	baz=326						
SBCB				*e*S	**Sn**	**20 52 30.5**	**+2.3**
	baz=326						
TATO	**Taipei**	**1.07**	**352**	*e*P	**Pg**	**20 52 12.1**	**-0.7**
	baz=355						
HSN	**Hsinchu**	**1.08**	**325**	*e*P	**Pn**	**20 52 13.9**	**+0.4**
	baz=328						
HSN				*e*S	**Sn**	**20 52 30.3**	**+1.7**
	baz=328						
STYH	**Taoyuan**	**1.09**	**228**	*e*P	**Pn**	**20 52 13.6**	**0.0**
	baz=223						
STYH				*e*S	**Sn**	**20 52 28.6**	**-0.3**
	baz=223						
BACT	**New Taipei Cit**	**1.10**	**350**	*e*P	**Pn**	**20 52 14.2**	**+0.5**
	baz=353						
LONT	**Longtian**	**1.11**	**206**	*e*P	**Pb**	**20 52 12.7**	**-0.9**
	baz=201						
STYT	**Tauyuan**	**1.11**	**228**	*e*P	**Pn**	**20 52 14.2**	**+0.2**
	baz=223						
STYT				*e*S	**Sn**	**20 52 30.7**	**+1.3**
	baz=223						
TPUB	**Ta-pu**	**1.12**	**237**	⇓*e*P	**Pn**	**20 52 14.5**	**+0.5**
	baz=232						
TPUB				*e*S	**Sn**	**20 52 30.5**	**+0.9**
	baz=232						
CHN4	**Tsaushan**	**1.12**	**240**	*e*P	**Pn**	**20 52 14.7**	**+0.6**
	baz=236						
CHN4				*e*S	**Sn**	**20 52 31.1**	**+1.5**
	baz=236						
NHY	**Taipei**	**1.12**	**356**	*e*P	**Pb**	**20 52 14.0**	**+0.2**
	baz=359						
TAP1	**Taipei**	**1.13**	**354**	*e*P	**Pb**	**20 52 13.7**	**-0.1**
	baz=357						
TAP1				*e*S	**Sg**	**20 52 28.1**	**-0.5**
	baz=357						
NTY	**Taoyuan**	**1.13**	**343**	*e*P	**Pn**	**20 52 14.6**	**+0.4**
	baz=346						
TAP	**Taipei**	**1.13**	**353**	*e*P	**Pg**	**20 52 12.4**	**-1.6**
	baz=357						
TAP				*e*S	**Sg**	**20 52 28.4**	**-0.3**
	baz=357						
TWB1	**Santiao Chiao**	**1.13**	**16**	*e*P	**Pg**	**20 52 13.4**	**-0.6**
	baz=20						
TWB1				*e*S	**Sg**	**20 52 27.9**	**-0.9**
	baz=20						
NCUH	**Zhongli**	**1.13**	**338**	*e*P	**Pn**	**20 52 14.3**	**+0.1**
	baz=340						
NCUH				*e*S	**Sn**	**20 52 31.7**	**+1.9**
	baz=340						
NCU	**National Centr**	**1.14**	**338**	*e*P	**Pn**	**20 52 14.4**	**+0.1**
	baz=340						
NCU				*e*S	**Sn**	**20 52 32.1**	**+2.2**
	baz=340						
CHN2	**Minshiung**	**1.15**	**251**	*e*P	**Pn**	**20 52 15.3**	**+0.9**
	baz=246						
NWF	**Wu-fen Shan**	**1.16**	**6**	*e*P	**Pb**	**20 52 14.2**	**-0.2**
	baz=9.0						
NWF				*e*S	**Sg**	**20 52 29.1**	**-0.5**
	baz=9.0						
WFSB	**Wu-fen Shan**	**1.16**	**6**	*e*P	**Pb**	**20 52 14.3**	**-0.1**
	baz=9.0						
WFSB				*e*S	**Sg**	**20 52 28.6**	**-1.1**
	baz=9.0						
WTP	**Ta-pu**	**1.16**	**235**	*e*P	**Pn**	**20 52 15.1**	**+0.4**
	baz=230						
WTP				*e*S	**Sn**	**20 52 32.3**	**+1.7**
	baz=230						
WRL	**Guolierlin Hig**	**1.17**	**270**	*e*P	**Pn**	**20 52 14.8**	**+0.1**
	baz=266						
WRL				*e*S	**Sn**	**20 52 31.2**	**+0.5**
	baz=266						
WTK	**Tuku**	**1.18**	**259**	*e*P	**Pn**	**20 52 15.1**	**+0.3**
	baz=255						
WTK				*e*S	**Sn**	**20 52 31.9**	**+0.9**
	baz=255						
SXI1	**Grass Mountain**	**1.19**	**10**	⇓*e*P	**Pg**	**20 52 14.8**	**-0.4**
	baz=13						
SXI1				*e*S	**Sg**	**20 52 29.6**	**-1.1**
	baz=13						
CHY	**Chiayi**	**1.20**	**250**	*e*P	**Pn**	**20 52 15.9**	**+0.8**
	baz=246						
CHY				*e*S	**Sn**	**20 52 32.4**	**+0.9**
	baz=246						
TWS1	**Kuangyinshan**	**1.20**	**350**	*e*P	**Pb**	**20 52 15.2**	**0.0**
	baz=353						
TWS1				*e*S	**Sn**	**20 52 33.0**	**+1.5**
	baz=353						
TWG	**Pinlang**	**1.21**	**206**	*e*P	**Pg**	**20 52 13.1**	**-2.5**
	baz=202						
TWGBT	**Beinan**	**1.21**	**206**	*e*P	**Pg**	**20 52 13.3**	**-2.2**
	baz=202						
NHW	**Xinwu Township**	**1.22**	**333**	*e*P	**Pn**	**20 52 15.6**	**+0.2**
	baz=334						
NHW				*e*S	**Sn**	**20 52 34.0**	**+2.0**
	baz=334						
YM01	**YM01**	**1.23**	**356**	*e*P	**Pg**	**20 52 15.2**	**-0.7**
	baz=359						
YM01				*e*S	**Sb**	**20 52 32.6**	**+1.0**
	baz=359						
TNOU	**National Taiwa**	**1.24**	**5**	*e*P	**Pb**	**20 52 15.8**	**0.0**
	baz=8.0						
TNOU				*e*S	**Sn**	**20 52 33.2**	**+0.8**
	baz=8.0						
TTN	**Taitung**	**1.25**	**202**	*e*P	**Pn**	**20 52 15.8**	**+0.1**
	baz=198						
LDUT	**Ludao**	**1.25**	**188**	P	**Pg**	**20 52 13.6**	**-2.6**
	baz=185						
LDUT				*e*S	**Sg**	**20 52 30.0**	**-2.4**
	baz=185						
TWK	**Hsinying**	**1.25**	**239**	*e*P	**Pn**	**20 52 16.8**	**+1.0**
	baz=234						
TWK				*e*S	**Sn**	**20 52 34.4**	**+1.6**
	baz=234						
NTST	**Danshui**	**1.26**	**352**	*e*P	**Pn**	**20 52 16.4**	**+0.5**
	baz=354						

YOJ					*e*S		**Sb**	**20 52 35.8**	**+0.7**		
	baz=69										
TWY	**Chenhua**	**1.36**	**358**	*e*P			**Pb**	**20 52 18.3**	**+0.5**		
	baz=1.0										
WSL	**Shuilin Townsh**	**1.36**	**254**	*e*P			**Pb**	**20 52 18.4**	**+0.5**		
	baz=250										
ICHU	**Yijhu**	**1.38**	**247**	*e*P			**Pb**	**20 52 19.0**	**+0.9**		
	baz=243										
ICHU					*e*S		**Sn**	**20 52 37.9**	**+2.0**		
	baz=243										
ECL	**Taimali**	**1.46**	**206**	*e*P			**Pn**	**20 52 18.0**	**-0.7**		
	baz=203										
SCST	**Cishan**	**1.48**	**226**	*e*P			**Pg**	**20 52 21.3**	**+0.7**		
	baz=223										
SCST					*e*S		**Sn**	**20 52 43.4**	**+5.1**		
	baz=223										
SHHT	**Tainan City**	**1.49**	**234**	*e*P			**Pg**	**20 52 22.3**	**+1.4**		
	baz=230										
SSD	**Sandimen**	**1.49**	**219**	*e*P			**Pg**	**20 52 20.5**	**-0.4**		
	baz=215										
TSMG	**Majia**	**1.52**	**218**	*e*P			**Pg**	**20 52 20.9**	**-0.5**		
	baz=214										
TSMG					*e*S		**Sg**	**20 52 42.3**	**+1.2**		
	baz=214										
TWM1	**Shoushan**	**1.57**	**226**	*e*P			**Pg**	**20 52 23.2**	**+0.8**		
	baz=223										
MASBT	**Mashibuluo**	**1.60**	**216**	*e*P			**Pb**	**20 52 20.9**	**-1.1**		
	baz=213										
EAST	**Anshuo**	**1.69**	**206**	*e*P			**Pn**	**20 52 21.8**	**-0.2**		
	baz=203										
SCZT	**Fangliau**	**1.81**	**212**	*e*P			**Pg**	**20 52 25.9**	**-1.0**		
	baz=209										
SLIU	**Shizi**	**1.86**	**205**	*e*P			**Pb**	**20 52 25.1**	**-1.4**		
	baz=202										
LYUB	**Lan-yu**	**1.90**	**182**	*e*P			**Pn**	**20 52 21.8**	**-3.0**		
	baz=180										
IRIF	**Iriomote-Funau**	**1.94**	**77**	P			**Pn**	**20 52 25.6**	**+0.3**		
IRIF				S			**Sn**	**20 52 50.3**	**+0.5**		
PHUB	**P'eng-hu**	**1.95**	**259**	*e*P			**Pn**	**20 52 25.9**	**+0.5**		
	baz=256										
PHUB					*e*S		**Sb**	**20 52 51.6**	**-0.6**		
	baz=256										
HATJ	**Hateruma jima**	**1.97**	**85**	*e*S			**Sn**	**20 52 51.5**	**+1.0**		
VCHM	**Qimei**	**2.16**	**251**	*e*P			**Pn**	**20 52 29.0**	**+0.7**		
	baz=249										
JKRS	**Kuro-shima**	**2.18**	**81**	P			**Pn**	**20 52 29.5**	**+1.0**		
JKRS					*e*S		**Sn**	**20 52 56.5**	**+0.9**		
VWUC	**VWUC**	**2.28**	**299**	*e*P			**Pn**	**20 52 29.2**	**-0.7**		
	baz=297										
JIJ	**Ishigaki jima**	**2.32**	**78**	P			**Pn**	**20 52 30.5**	**0.0**		
JIJ					*e*S		**Sn**	**20 52 58.7**	**-0.4**		
JISG	**Ishigakijimahi**	**2.52**	**74**	P			**Pn**	**20 52 33.0**	**-0.2**		
JISG					*e*S		**Sn**	**20 53 03.8**	**-0.2**		
PTMZ	**Houxiangcun**	**2.57**	**296**	*e*P			**Pn**	**20 52 31.4**	**-2.5**		
	baz=295										
MATB	**Ma-tsu**	**2.71**	**326**	*e*P			**Pn**	**20 52 35.7**	**-0.2**		
	baz=325										
JTJ	**Tarama**	**2.87**	**75**	P			**Pn**	**20 52 39.7**	**+1.6**		
JTJ					*e*S		**Sn**	**20 53 13.7**	**+0.9**		
QZH	**Quanzhou**	**2.97**	**291**	Pn			**Pn**	**20 52 40.0**	**+0.5**		
QZH					Sn		**Sn**	**20 53 14.3**	**-1.0**		
QZH					smax	smax					
	comp=N,130nm,0.6s										
QZH					smax	smax					
	comp=E,100nm,0.6s										
QZH					LR	LR					
	comp=N,410nm,8.1s										
QZH					LR	LR					
	comp=E,400nm,7.7s										
QZH					LR	LR					
	comp=Z,470nm,8.7s										
JMJ2	**Miyako jima3**	**3.45**	**75**	*e*S			**Sn**	**20 53 28.9**	**+1.9**		
JOW	**Kunigami**	**6.66**	**63**	Pn			**Pn**	**20 53 29.2**	**-1.0**		
	2.3nm,0.3s,baz=130,slow=16,SNR=14										
KSRS	**Korea Array**	**14.53**	**20**	Pn			**Pn**	**20 55 17.9**	**0.0**		
	0.1nm,0.3s,baz=201,slow=12,SNR=1.6										
KLR	**Kul'dur**	**26.49**	**15**	P			**P**	**20 57 28.5**	**-1.1**		
	0.4nm,0.3s,baz=173,slow=17,SNR=2.3										
SONM	**Songino Array**	**26.78**	**337**	P			**P**	**20 57 31.4**	**-1.1**		
	0.5nm,0.6s,baz=157,slow=9.0,SNR=5.7										
SONM					LR		LR	21 07 28.3			
	comp=Z,36nm,21.1s,baz=158,slow=35										
MKAR	**Makanchi Array**	**38.83**	**316**	P			**P**	**20 59 17.4**	**-0.1**		
	0.5nm,0.6s,baz=102,slow=11,SNR=7.9										
ZALV	**Zalesovo Beam**	**40.70**	**327**	P			**P**	**20 59 32.4**	**-0.5**		
	0.5nm,0.5s,baz=121,slow=5.4,SNR=2.3										
ZALV					LR		LR	21 16 18.1			
	comp=Z,30nm,19.2s,baz=90,slow=36										
KSH	**Kashi**	**41.41**	**303**	P			**P**	**20 59 43.3**	**+4.2**		
KSH					pP		sP	20 59 45.5	+2.2		
H11S3	**WAKE ISLAND Hy**	**42.20**	**88**	T			T	21 44 48.8			
	baz=284,slow=74,SNR=12										
H11S1	**WAKE ISLAND Hy**	**42.20**	**88**	T			T	21 44 46.7			
	baz=284,slow=74,SNR=12										
H11S2	**WAKE ISLAND Hy**	**42.21**	**88**	T			T	21 44 47.3			
	baz=284,slow=74,SNR=12										
WRA	**Warramunga Arr**	**45.31**	**163**	P			**P**	**21 00 10.4**	**-0.2**		
	0.5nm,0.7s,baz=346,slow=8.7,SNR=3.2										
ASAR	**Alice Springs**	**48.77**	**165**	P			**P**	**21 00 38.7**	**+1.2**		
	0.2nm,0.3s,baz=345,slow=7.0,SNR=2.1										
STKA	**Stephens Creek**	**58.66**	**160**	P			**P**	**21 01 50.1**	**+0.2**		
	0.8nm,0.7s,baz=347,slow=7.7,SNR=4.0										
ILAR	**Eielson Array**	**69.26**	**27**	P			**P**	**21 02 59.1**	**-0.1**		
	0.3nm,0.6s,baz=299,slow=7.7,SNR=4.4										
FINES	**FINESS Array B**	**71.89**	**330**	P			**P**	**21 03 16.8**	**+1.5**		
	2.9nm,1.1s,baz=14,slow=6.4,SNR=4.6										
BBB	**Bella Bella**	**82.95**	**36**	LR			LR	21 39 00.2			
	comp=Z,37nm,21.9s,baz=206,slow=34										
YKA	**Yellowknife Ar**	**83.05**	**23**	P			**P**	**21 04 16.8**	**-0.9**		
	0.7nm,0.7s,baz=313,slow=4.8,SNR=9.0										

*MDD **25** 21:15:44.1±0.4,35°.30N×4°.14W, h0km, mb_Lg2.5/9, Error ellipse: s-maj=3.6km s-min=3.2km az=160.0*
*SFS **25** 21:15:44.0,35°.30N×4°.13W, ML2.5, ALHUCEMAS (MARRUECOS)*
*CNRM **25** 21:15:44.1, 35°.29N×4°.11W, h13km, ml2.7*
*INMG **25** 21:15:45.8±1.5, 35°.26N×4°.26W, h0km, ML2.0, Error ellipse: s-maj=6.3km s-min=3.7km az=86.0*

ISC 25 21:15:43.5±1.0, 35°.34N±0°.03×4°.12W±0°.02, h8km±8km, n42, σ1§46/67, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.19**	**130**	P	**Pg**	**21 15 47.6**	**+0.2**
PALE				S	**Sg**	**21 15 50.4**	**+0.3**
PVLZ	**Peæn de**	**0.22**	**222**	P	**Pg**	**21 15 48.0**	**+0.1**
PVLZ				S	**Sg**	**21 15 50.9**	**-0.1**
GOG	**Mont Gurugu**	**0.93**	**97**	P	**Pg**	**21 16 02.0**	**+0.7**
EMEL	**Melilla**	**0.95**	**92**	Pg	**Pg**	**21 16 01.2**	**-0.5**
EMEL				Sg	**Sg**	**21 16 15.4**	**+1.3**
CHEFC	**Chefchaouen**	**1.03**	**257**	P	**Pb**	**21 16 04.0**	**+0.5**
EALB	**Alboran**	**1.07**	**56**	Pg	**Pg**	**21 16 03.9**	**-0.1**
EALB				Sg	**Sn**	**21 16 20.2**	**+0.5**
EALB				*i* Vmb_Lg		21 16 23.7	
SMIR	**Smir Dam**	**1.08**	**289**	P	**Pg**	**21 16 03.5**	**-0.8**
CEU	**Ceuta**	**1.16**	**299**	P	**Pg**	**21 16 03.7**	**-2.1**
CEU				S	**Sg**	**21 16 17.6**	**-3.3**
ECEU	**Ceuta**	**1.17**	**299**	Pg	**Pg**	**21 16 04.8**	**-1.1**
ECEU				Sg	**Sg**	**21 16 19.2**	**-1.8**
ECEU				*i* Vmb_Lg		21 16 25.1	
EMIJ	**Mijas**	**1.33**	**337**	Pg	**Pg**	**21 16 07.6**	**-1.5**
EMIJ				Sg	**Sg**	**21 16 24.6**	**-1.7**
EMIJ				*i* Vmb_Lg		21 16 33.2	
TAF	**Taforalt**	**1.49**	**110**	P	**Pn**	**21 16 09.9**	**-0.7**
ELGU	**Los Guajares,**	**1.57**	**15**	Pg	**Pn**	**21 16 11.8**	**0.0**
ELGU				Sg	**Sn**	**21 16 31.2**	**-1.2**
ELGU				*i* Vmb_Lg		21 16 36.8	
JBK	**JBK**	**1.62**	**128**	P	**Pn**	**21 16 12.0**	**-0.6**
JBK				S	**Sn**	**21 16 31.1**	**-2.7**
LCRM	**LCR**	**1.76**	**200**	P	**Pn**	**21 16 16.2**	**+1.8**
EGOR	**Sierra Gorda,**	**1.77**	**0**	Pg	**Pn**	**21 16 15.4**	**+1.0**
EGOR				Sg	**Sb**	**21 16 39.0**	**+0.4**
EGOR				*i* Vmb_Lg		21 16 48.0	
EBER	**Berja**	**1.84**	**32**	Pn	**Pn**	**21 16 15.3**	**-0.3**
EBER				Sn	**Sn**	**21 16 36.4**	**-2.9**
EBER				*i* Vmb_Lg		21 16 54.7	
ENIJ	**Nijar**	**2.25**	**43**	Sn	**Sn**	**21 16 47.4**	**-1.5**
CZD	**Col de Zad**	**2.43**	**199**	P	**Pn**	**21 16 24.3**	**+0.6**
MD31	**MD31**	**2.52**	**192**	P	**Pn**	**21 16 24.8**	**0.0**
MD31				S	**Sn**	**21 16 55.1**	**-0.8**
EADA	**Adamuz**	**2.84**	**353**	Pn	**Pn**	**21 16 31.0**	**+1.8**
EADA				Sn	**Sn**	**21 17 05.1**	**+1.5**
EADA				*i* Vmb_Lg		21 17 16.8	

TDRA	**Tendrara**	**2.88**	**142**	P			**Pn**	**21 16 29.2**	**-0.6**		
ECAB	**El Cabril**	**2.92**	**339**	Pn			**Pn**	**21 16 31.8**	**+1.5**		
ECAB				Sn			**Sn**	**21 17 06.2**	**+0.6**		
EMIN	**Mina Concepcio**	**3.18**	**320**	Pn			**Pn**	**21 16 34.5**	**+0.8**		
EMIN				Sn			**Sn**	**21 17 11.5**	**-0.3**		
EGRO	**El Granado**	**3.48**	**310**	Pn			**Pn**	**21 16 38.7**	**+0.8**		
EGRO				Sn			**Sn**	**21 17 18.3**	**-1.1**		
PVAQ	**Vaqueiros**	**3.56**	**306**	*e*Pn			**Pn**	**21 16 40.0**	**+1.0**		
PVAQ				*e*Sn			**Sn**	**21 17 21.1**	**-0.1**		
PVAQ				A			A	21 17 26.0			
	2.1nm,0.6s										
PVAQ	**Vaqueiros**	**3.56**	**306**	P			**Pn**	**21 16 40.0**	**+1.0**		
PBDV	**Barranco-do-Ve**	**3.62**	**303**	*e*Pn			**Pn**	**21 16 41.2**	**+1.4**		
PBDV				*e*Sn			**Sn**	**21 17 22.5**	**-0.2**		
PBDV				A			A	21 17 32.2			
	2.0nm,0.7s										
PBAR	**Barrancos**	**3.67**	**321**	*e*Sn			**Sn**	**21 17 25.1**	**+1.0**		
ETOB	**Tobarra**	**3.89**	**31**	Pn			**Pn**	**21 16 46.3**	**+2.8**		
PCVE	**Castro Verde**	**3.90**	**307**	*e*Pn			**Pn**	**21 16 46.2**	**+2.5**		
PCVE				*e*Sn			**Sn**	**21 17 30.5**	**+0.9**		
PCVE				A			A	21 17 41.5			
	2.2nm,0.7s										
EBAD	**Badajoz**	**4.12**	**327**	Pn			**Pn**	**21 16 48.0**	**+1.3**		
EBAD				Sn			**Sn**	**21 17 34.6**	**-0.5**		
EBAD				*i* Vmb_Lg				21 17 41.8			
PAB	**San Pablo**	**4.20**	**358**	Pn			**Pn**	**21 16 49.9**	**+2.0**		
PAB				Sn			**Sn**	**21 17 36.7**	**-0.5**		
PAB				*i* Vmb_Lg				21 19 23.2			
PTEO	**Sao Teotonio**	**4.32**	**302**	*e*Pn			**Pn**	**21 16 52.1**	**+2.7**		
PTEO				*e*Sn			**Sn**	**21 17 40.4**	**+0.5**		
PESTR	**Estremoz**	**4.48**	**323**	*e*Pn			**Pn**	**21 16 54.4**	**+2.7**		
PESTR				*e*Sn			**Sn**	**21 17 43.1**	**-0.9**		
PESTR				A			A	21 17 55.0			
	1.3nm,0.7s										
PESTR	**Estremoz**	**4.48**	**323**	P			**Pn**	**21 16 53.4**	**+1.7**		
PNCL	**Nicolau / Gran**	**4.49**	**309**	*e*Pn			**Pn**	**21 16 53.3**	**+1.5**		
PNCL				*e*Sn			**Sn**	**21 17 45.5**	**+1.2**		
PNCL				A			A	21 17 49.8			
	1.4nm,0.6s										
PMRV	**Marv??o**	**4.84**	**328**	*e*Pn			**Pn**	**21 16 58.7**	**+2.1**		
PMRV				*e*Sn			**Sn**	**21 17 53.6**	**+0.7**		
PMRV				A			A	21 18 08.9			
	1.3nm,0.7s										
OUZM	**OUZ**	**4.94**	**207**	P			**Pn**	**21 16 59.3**	**+1.2**		
PMTG	**Montargil**	**4.96**	**320**	*e*Pn			**Pn**	**21 17 00.3**	**+2.1**		
OUK	**Oukaimeden**	**5.18**	**218**	P			**Pn**	**21 17 00.9**	**-0.7**		
PSBE	**So Bento**	**5.58**	**320**	*e*Pn			**Pn**	**21 17 09.8**	**+2.9**		
TTIG	**Tnine Tigouga,**	**6.00**	**218**	P			**Pn**	**21 17 12.3**	**-0.4**		

*IDC **25** 21:15:50.1±0.7, 0°.85S×80°.78W, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.2/38, mbtmp4.2/18, ML4.3/2, MS3.7/21, Ms1 3.7/21, ms1mx3.4/64, Error ellipse: s-maj=28.9km s-min=12.9km az=56.0*
*IGQ **25** 21:15:52±0.3, 1°.S±2°×8°.1W±°, h5km*
*VAO **25** 21:15:52.9±0.9, 0°.98S×80°.81W, h10km, mb4.9*
*NEIC **25** 21:15:53.1±2.8, 1°.04S±0°.06×80°.77W±0°.06, h10km±1km, mb4.7/57, Error ellipse: s-maj=10.7km s-min=10.0km az=242.0*

ISC 25 21:15:53.4±0.7, 0°.96S±0°.02×80°.76W±0°.03, h17km±4km, n288, σ1§46/280, mb4.6/37, MS3.6/16, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMNT	**Manta-Manabi**	**0.03**	**52**	P	**Pg**	**21 15 56.0**	**-0.5**
AMNT				S	**Sg**	**21 15 59.0**	**+0.5**
CHIS	**Cerro-Chispas-**	**0.10**	**161**	P	**Pg**	**21 15 57.0**	**0.0**
APO1	**Ecuador-Portov**	**0.31**	**105**	P	**Pb**	**21 16 01.0**	**+0.6**
APO2	**Ecuador-Portov**	**0.32**	**109**	P	**Pb**	**21 16 01.0**	**+0.4**
APO2				S	**Sn**	**21 16 08.0**	**-1.4**
ISPT	**Isla de la Pla**	**0.44**	**226**	P	**Pg**	**21 16 00.0**	**-2.3**
ISPT				S	**Sg**	**21 16 07.0**	**-1.3**
PPLP	**Puerto Lpez**	**0.58**	**182**	P	**Pg**	**21 16 03.0**	**-2.0**
PPLP				S	**Sb**	**21 16 13.0**	**-0.1**
ACHN	**Ecuador-Chone-**	**0.72**	**69**	P	**Pn**	**21 16 09.0**	**+0.2**
JAMA	**Jama**	**0.89**	**39**	P	**Pg**	**21 16 08.0**	**-2.7**
AMTV	**Ecuador-Monte**	**0.99**	**178**	P	**Pb**	**21 16 11.0**	**-1.1**
FLF1	**Flavio Alfaro-**	**1.09**	**57**	P	**Pb**	**21 16 13.0**	**-0.8**
APED	**Ecuador-Perden**	**1.24**	**34**	P	**Pn**	**21 16 15.0**	**-0.9**
BUFE	**BUENA FE, CENT**	**1.26**	**88**	P	**Pn**	**21 16 16.0**	**-0.2**
CHIB	**CHIBUNGA**	**1.27**	**48**	P	**Pn**	**21 16 16.0**	**-0.3**
MAG1	**Magdalena**	**1.32**	**48**	P	**Pn**	**21 16 17.0**	**0.0**
AGUAY	**Guayaquil**	**1.35**	**144**	P	**Pb**	**21 16 21.0**	**+1.5**
ABAB	**Ecuador-Univer**	**1.50**	**124**	P	**Pb**	**21 16 20.0**	**-0.7**
AMOM	**Mompiche**	**1.61**	**26**	P	**Pn**	**21 16 21.0**	**0.0**
AMIL	**Milagro (Trans**	**1.65**	**135**	P	**Pb**	**21 16 23.0**	**-0.3**
ASDO	**Santo Domingo**	**1.77**	**67**	P	**Pn**	**21 16 23.0**	**-0.3**
AV18	**Acelerografo,**	**1.80**	**45**	P	**Pn**	**21 16 24.0**	**+0.4**
PTGL	**Punta Galera**	**1.88**	**23**	P	**Pn**	**21 16 26.0**	**+1.3**
BV15	**Puerto Quito-O**	**1.89**	**54**	P	**Pn**	**21 16 23.0**	**-1.9**
CHSH	**Refugio Sur-Vo**	**1.96**	**106**	P	**Pn**	**21 16 27.0**	**+0.6**
ASAM	**Ecuador-Same-C**	**1.98**	**25**	P	**Pn**	**21 16 28.0**	**+1.9**
AV21	**Acelerografo,**	**2.01**	**37**	P	**Pn**	**21 16 28.0**	**+1.4**
ILLI	**Illinizas Sur**	**2.04**	**83**	P	**Pn**	**21 16 27.0**	**-0.4**
PORT	**Chimborazo Vol**	**2.05**	**104**	Pn	**Pn**	**21 16 28.3**	**+0.8**
PORT	**Chimborazo Vol**	**2.05**	**104**	P	**Pn**	**21 16 28.0**	**+0.5**
TAMH	**Tambohuasha Ch**	**2.06**	**106**	P	**Pn**	**21 16 28.0**	**+0.4**
ATON	**Ecuador-Tonsup**	**2.06**	**27**	P	**Pn**	**21 16 30.0**	**-0.4**
ISPG	**Isla Puna-Puer**	**2.08**	**164**	P	**Pn**	**21 16 29.0**	**-1.7**
COHC	**Cochancay**	**2.12**	**135**	Pn	**Pn**	**21 16 27.7**	**-0.4**
COHC	**Cochancay**	**2.12**	**135**	P	**Pn**	**21 16 27.0**	**-1.0**
PAST	**Pastocalle**	**2.13**	**83**	P	**Pn**	**21 16 29.0**	**+0.4**
IGUA	**Igualata**	**2.18**	**104**	P	**Pn**	**21 16 31.0**	**-1.8**
HPAL	**Hacienda Las P**	**2.23**	**71**	P	**Pn**	**21 16 29.0**	**-0.9**
AES2	**Ecuador-Puerto**	**2.23**	**30**	P	**Pn**	**21 16 30.0**	**+0.4**
GGPT	**Toaza - Volcan**	**2.26**	**71**	P	**Pn**	**21 16 29.0**	**-1.3**
CAMI	**Rancho Maria**	**2.27**	**83**	P	**Pn**	**21 16 31.0**	**+0.5**
SLOR	**San Lorenzo -**	**2.27**	**84**	P	**Pn**	**21 16 31.0**	**+0.5**
JUA2	**San Juan 2**	**2.28**	**71**	P	**Pn**	**21 16 30.0**	**-0.6**
TERV	**Terraza Guagua**	**2.29**	**70**	P	**Pn**	**21 16 30.0**	**-0.9**
PINO	**Pino**	**2.29**	**70**	P	**Pn**	**21 16 30.0**	**-0.9**
BNAS	**Cotopaxi Volca**	**2.29**	**83**	P	**Pn**	**21 16 32.0**	**+1.1**
BIL2	**Estacion Bilba**	**2.31**	**102**	P	**Pb**	**21 16 34.0**	**-0.7**
BMOR	**Cotopaxi Volca**	**2.31**	**84**	P	**Pn**	**21 16 32.0**	**+0.9**
NAS2	**Nasa**	**2.31**	**82**	P	**Pb**	**21 16 33.0**	**-1.9**
PAC1	**Pacto, Paraso**	**2.31**	**58**	*e*P	**Pn**	**21 16 30.7**	**-0.1**
PAC1				*i*		21 17 07.0	
	comp=Z,4µm,0.3s						
PAC1	**Pacto, Paraso**	**2.31**	**58**	P	**Pn**	**21 16 30.0**	**-0.8**
ACHO	**Acelerografo,**	**2.32**	**59**	P	**Pn**	**21 16 30.0**	**-0.8**
BBIL	**Ulba Tungurahu**	**2.32**	**102**	P	**Pb**	**21 16 33.0**	**-2.0**
APR1	**Acelerografo,**	**2.33**	**67**	P	**Pn**	**21 16 32.0**	**+0.8**
BREF	**Cotopaxi Volca**	**2.33**	**83**	P	**Pn**	**21 16 33.0**	**+1.5**
JUI6	**Juive**	**2.33**	**101**	P	**Pb**	**21 16 33.0**	**-2.2**
YANA	**Yana**	**2.34**	**69**	P	**Pn**	**21 16 31.0**	**-0.5**
BMAS	**Trigal station**	**2.34**	**103**	P	**Pn**	**21 16 33.0**	**+1.6**
POND	**Pondoa**	**2.35**	**101**	P	**Pb**	**21 16 34.0**	**-1.5**
PITA	**Cotopaxi Volc**	**2.36**	**80**	P	**Pn**	**21 16 33.0**	**+1.3**
RETU	**Refugio**	**2.36**	**102**	P	**Pb**	**21 16 34.0**	**-1.8**
BVC2	**Cotopaxi Volca**	**2.36**	**83**	P	**Pn**	**21 16 33.0**	**+1.1**
ARRY	**Arrayan**	**2.37**	**103**	P	**Pn**	**21 16 33.0**	**+1.3**
VCES	**Cotopaxi**	**2.37**	**86**	P	**Pn**	**21 16 33.0**	**+1.1**
VC1	**Cotopaxi 1**	**2.38**	**82**	P	**Pn**	**21 16 33.0**	**+1.0**
BTAM	**Cotopaxi Volca**	**2.38**	**83**	P	**Pn**	**21 16 34.0**	**-2.1**
BPAT	**Tungurahua Vol**	**2.39**	**103**	P	**Pb**	**21 16 34.0**	**-2.2**
BRUN	**Tungurahua Vol**	**2.39**	**101**	P	**Pb**	**21 16 34.0**	**-2.2**
BULB	**Ulba Tungurahu**	**2.40**	**101**	P	**Pb**	**21 16 34.0**	**-2.3**
TAMB	**Tambo**	**2.40**	**84**	P	**Pn**	**21 16 34.0**	**+1.6**
PIAT	**Ana Tenorio**	**2.50**	**91**	P	**Pn**	**21 16 35.0**	**+1.5**
ANTG	**Antisana-Guama**	**2.54**	**80**	P	**Pn**	**21 16 35.0**	**+0.7**
ANTM	**Antisana-La Mi**	**2.57**	**81**	P	**Pn**	**21 16 36.0**	**+1.3**
SANGA	**Volcan Sangay**	**2.62**	**114**	P	**Pn**	**21 16 37.0**	**+1.7**
ANTS	**Antisana-Sarah**	**2.63**	**80**	P	**Pn**	**21 16 37.0**	**+1.5**
ANTI	**Antisana**	**2.65**	**79**	P	**Pn**	**21 16 37.0**	**+1.2**
ARNL	**Arenillas**	**2.66**	**165**	Pn	**Pn**	**21 16 36.7**	**+1.2**
ARNL	**Arenillas**	**2.66**	**165**	P	**Pn**	**21 16 36.0**	**+0.5**
CUSE	**Cuicocha Este**	**2.67**	**62**	*e*P	**Pn**	**21 16 36.7**	**+0.7**
CUSE	**Cuicocha Este**	**2.67**	**62**	P	**Pn**	**21 16 36.0**	**0.0**
CUIC	**Cuicocha-Domo**	**2.71**	**62**	P	**Pn**	**21 16 37.0**	**+0.6**
CUSW	**Cuicocha Oeste**	**2.71**	**63**	P	**Pn**	**21 16 37.0**	**+0.6**
COTA	**Cotacachi**	**2.74**	**62**	P	**Pn**	**21 16 37.0**	**0.0**
PUYO	**Puyo, Santa Ro**	**2.78**	**101**	P	**Pb**	**21 16 40.0**	**-2.7**
URCU	**Urcuqui**	**2.86**	**61**	P	**Pn**	**21 16 39.0**	**+0.4**
CAYR	**Refugio Cayamb**	**2.92**	**71**	P	**Pn**	**21 16 42.0**	**+2.5**
ANGU	**Angureal**	**2.92**	**70**	P	**Pb**	**21 16 43.0**	**-2.4**
CAYA	**Cayambe**	**2.95**	**70**	P	**Pn**	**21 16 42.0**	**+2.1**
AIB2	**Ibarra (Univer**	**2.95**	**64**	P	**Pn**	**21 16 41.0**	**+1.3**
ARDO	**Archidona, Ten**	**2.96**	**91**	P	**Pn**	**21 16 42.0**	**+2.4**

ALIT	**Ecuador-Imbabu**	**2.96**	**54**	P			**Pb**	**21 16 43.0**	**-2.8**		
YAHU	**Yahuarcocha**	**2.99**	**64**	P			**Pn**	**21 16 42.0**	**+1.6**		
BOSC	**San Juan Bosco**	**3.14**	**134**	Pn			**Pb**	**21 16 45.7**	**-3.1**		
BOSC	**San Juan Bosco**	**3.14**	**134**	P			**Pb**	**21 16 46.0**	**-2.8**		
LNGL	**El Angel-Carch**	**3.23**	**59**	P			**Pn**	**21 16 45.0**	**+1.2**		
CONE	**Cono NE Rev Vo**	**3.24**	**74**	P			**Pn**	**21 16 47.0**	**+3.3**		
CHMA	**Chilma**	**3.25**	**56**	P			**Pn**	**21 16 43.0**	**-0.8**		
ECEN	**Cerro Negro**	**3.30**	**58**	P			**Pn**	**21 16 45.0**	**+0.2**		
CHL1	**Volc¡n Chiles**	**3.31**	**58**	P			**Pn**	**21 16 45.0**	**+0.2**		
CHL2	**Volc¡n Chiles**	**3.33**	**58**	P			**Pn**	**21 16 46.0**	**+0.8**		
TULM	**Tulcn-Chalpat**	**3.41**	**61**	Pn			**Pn**	**21 16 49.2**	**+3.0**		
TULM	**Tulcn-Chalpat**	**3.41**	**61**	*e*P			**Pn**	**21 16 49.3**	**+3.2**		
TULM				*e*S			**Sg**	**21 17 42.1**	**-0.8**		
TULM				*i*				21 17 45.9			
	comp=Z,623nm,0.6s										
TULM	**Tulcn-Chalpat**	**3.41**	**61**	P			**Pn**	**21 16 49.0**	**+2.9**		
MCRA	**Macar, Loja**	**3.48**	**167**	Pn			**Pn**	**21 16 47.5**	**+0.6**		
MCRA	**Macar, Loja**	**3.48**	**167**	P			**Pn**	**21 16 47.0**	**+0.2**		
CMBC	**Cumbal**	**3.49**	**57**	*e*P			**Pn**	**21 16 51.0**	**+3.8**		
CMBC	**Cumbal**	**3.49**	**57**	P			**Pn**	**21 16 50.0**	**+2.8**		
ATUL	**Tulcn**	**3.49**	**60**	P			**Pn**	**21 16 49.0**	**+1.9**		
BONI	**La Bonita**	**3.52**	**67**	P			**Pn**	**21 16 50.0**	**+2.5**		
GONZ	**Gonzanam**	**3.53**	**157**	P			**Pn**	**21 16 50.0**	**+2.2**		
CASC	**Dorado de Casc**	**3.59**	**72**	P			**Pn**	**21 16 51.0**	**+2.7**		
GCUF	**Volcan Galeras**	**4.04**	**58**	*e*P			**Pn**	**21 16 57.6**	**+2.6**		
ZUMB	**Zumba**	**4.20**	**157**	P			**Pn**	**21 17 00.0**	**+3.2**		
CRUC	**La Cruz**	**4.56**	**57**	*e*P			**P

ROC1	**El Roble**	**33.14**	**165**	P	**P**	**21 22 28.3**	**-0.8**
ROC1				IAmb	IAmb	21 22 42.5	
	comp=Z,16nm,1.0s						
CPUP	**Villa Florida**	**33.83**	**140**	LR	LR	21 39 08.0	
	comp=Z,207nm,18.2s,baz=338,slow=41						
SMTB	**Santa Maria do**	**33.94**	**104**	*e*P	**P**	**21 22 36.5**	**+0.5**
PEXB	**Peixe**	**34.04**	**110**	*e*P	**P**	**21 22 37.1**	**+0.2**
TRCB	**Terra Rica**	**34.90**	**131**	*e*P	**P**	**21 22 43.8**	**-0.5**
PCMB	**Pacaembu**	**35.32**	**128**	*e*P	**P**	**21 22 48.2**	**+0.3**
BDFB	**Brasilia**	**35.44**	**116**	P	**P**	**21 22 48.9**	**-0.2**
	comp=Z,8.5nm,0.9s,baz=291,slow=11,SNR=7.7						
BDFB				LR	LR	21 38 07.1	
	comp=Z,272nm,20.4s,baz=287,slow=38						
BDFB	**Brasilia**	**35.44**	**116**	P	**P**	**21 22 49.1**	**-0.1**
BDFB				IAmb	IAmb	21 22 50.2	
	comp=Z,18nm,1.2s						
IPMB	**Ipameri, GO**	**36.17**	**120**	*e*P	**P**	**21 22 55.7**	**+0.4**
PTGB	**Pitanga**	**36.43**	**133**	*e*P	**P**	**21 22 57.9**	**+0.4**
ROSB	**Rosrio**	**36.66**	**94**	*e*P	**P**	**21 22 58.8**	**-0.7**
TX31	**Lajitas Ar. Si**	**37.24**	**326**	P	**P**	**21 23 07.4**	**+3.0**
TXAR	**Lajitas Array**	**37.24**	**326**	P	**P**	**21 23 03.3**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=42,slow=54,SNR=3.0						
TXAR				PcP	**PcP**	**21 25 23.5**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=113,slow=2.1,SNR=3.8						
TXAR				LR	LR	21 36 47.8	
	comp=Z,106nm,18.1s,baz=317,slow=34						
TXAR	**Lajitas Array**	**37.24**	**326**	P	**P**	**21 23 06.7**	**+2.3**
SDBA	**SAO DESIDÉRIO**	**37.32**	**109**	*e*P	**P**	**21 23 05.0**	**-0.1**
FRTB	**Fartura**	**37.56**	**129**	*e*P	**P**	**21 23 07.0**	**-0.2**
RPN	**Rapa Nui**	**37.80**	**224**	LR	LR	21 34 21.4	
	comp=Z,143nm,18.2s,baz=219,slow=29						
ITAB	**Concordia**	**37.91**	**136**	P	**P**	**21 23 10.3**	**+0.5**
ITAB				IAmb	IAmb	21 23 31.2	
	comp=Z,23nm,1.3s						
ITAB	**Concordia**	**37.91**	**136**	*e*P	**P**	**21 23 10.4**	**+0.5**
LPIG	**La Paz**	**37.99**	**313**	LR	LR	21 35 05.3	
	comp=Z,77nm,19.9s,baz=102,slow=30						
LCAR	**Lake Charles**	**38.09**	**346**	P	**P**	**21 23 10.4**	**-0.9**
JANB	**Januaria**	**38.62**	**113**	*e*P	**P**	**21 23 15.7**	**-0.4**
CPSB	**Cacapava Do Su**	**39.12**	**141**	*e*P	**P**	**21 23 20.4**	**+0.3**
R49A	**Shelbyville**	**39.27**	**355**	P	**P**	**21 23 23.1**	**+1.9**
WMOK	**Wichita Mounta**	**39.32**	**336**	P	**P**	**21 23 22.3**	**+0.6**
WMOK				IAmb	IAmb	21 23 24.8	
	comp=Z,18nm,0.7s						
NBPS	**Pedro II - PI**	**39.41**	**96**	*e*P	**P**	**21 23 23.5**	**+0.7**
VAO	**Valinhos**	**39.45**	**126**	*e*P	**P**	**21 23 23.5**	**+0.5**
MNTX	**Cornudas Mount**	**40.00**	**326**	P	**P**	**21 23 26.9**	**-0.4**
DIAM	**Diamantina, MG**	**40.27**	**118**	*e*P	**P**	**21 23 30.4**	**+0.4**
BSCB	**Bom Sucesso**	**40.37**	**122**	*e*P	**P**	**21 23 29.7**	**-1.0**
MSTX	**Muleshoe**	**40.44**	**331**	P	**P**	**21 23 33.9**	**+2.7**
MSTX				IAmb	IAmb	21 23 48.6	
	comp=Z,11nm,1.0s						
PLCA	**Paso Flores**	**40.66**	**168**	P	**P**	**21 23 33.1**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=343,slow=15,SNR=4.7						
PLCA	**Paso Flores**	**40.66**	**168**	P	**P**	**21 23 32.8**	**0.0**
MAN01	**Angra dos Reis**	**41.85**	**124**	*e*P	**P**	**21 23 40.4**	**-2.4**
NBMA	**Muriti-CE**	**42.34**	**100**	*e*P	**P**	**21 23 46.9**	**0.0**
KSU1	**Kansas State U**	**42.44**	**342**	P	**P**	**21 23 46.5**	**-0.8**
KSU1				IAmb	IAmb	21 23 47.9	
	comp=Z,12nm,0.7s						
NBCL	**Cascavel-CE**	**42.54**	**95**	*e*P	**P**	**21 23 47.7**	**-0.8**
SJMB	**Sao Joao De Ma**	**42.62**	**117**	*e*P	**P**	**21 23 49.0**	**-0.2**
GDU01	**Guandu, BA**	**42.67**	**109**	*e*P	**P**	**21 23 49.5**	**-0.1**
ANMO	**Albuquerque**	**43.06**	**329**	P	**P**	**21 23 51.5**	**-1.2**
	comp=Z,5.6nm,0.7s,baz=142,slow=10.0,SNR=4.8						
ANMO	**Albuquerque**	**43.06**	**329**	P	**P**	**21 23 53.2**	**+0.5**
ANMO				IAmb	IAmb	21 23 57.7	
	comp=Z,5.8nm,0.7s						
CMC01	**Camacan, BA**	**43.14**	**112**	*e*P	**P**	**21 23 53.5**	**+0.1**
GUA01	**Guaratinga, BA**	**43.21**	**113**	*e*P	**P**	**21 23 53.6**	**-0.4**
CAM01	**Campos-RJ**	**43.35**	**121**	*e*P	**P**	**21 23 54.9**	**-0.1**
RIB01	**Linhares ES**	**43.53**	**117**	*e*P	**P**	**21 23 56.1**	**-0.4**
ALF01	**Guarapari-ES**	**43.70**	**119**	*e*P	**P**	**21 23 58.8**	**+1.0**
T25A	**Trinidad**	**43.79**	**332**	P	**P**	**21 23 58.8**	**+0.2**
T25A				IAmb	IAmb	21 24 07.0	
	comp=Z,5.8nm,0.9s						
NBLA	**Lagarto - SE**	**43.82**	**105**	*e*P	**P**	**21 23 58.2**	**-0.7**
SDCO	**Great Sand Dun**	**44.79**	**332**	P	**P**	**21 24 06.7**	**0.0**
RCBR	**Riachuelo**	**45.02**	**97**	LR	LR	21 43 39.3	
	comp=Z,346nm,20.5s,baz=60,slow=37						
SADO	**Sadowa**	**45.55**	**2**	LR	LR	21 43 41.1	
	comp=Z,47nm,18.4s,baz=216,slow=37						
NBRF	**Rio Formoso -**	**46.07**	**101**	*e*P	**P**	**21 24 16.8**	**-0.1**
PDAR	**Pinedale Array**	**50.66**	**333**	P	**P**	**21 24 52.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=152,slow=9.9,SNR=2.2						
PDAR				LR	LR	21 46 39.1	
	comp=Z,56nm,19.0s,baz=124,slow=37						
NVAR	**Mina Array Bea**	**52.24**	**323**	LR	LR	21 45 59.6	
	comp=Z,46nm,19.4s,baz=254,slow=35						
ULM	**Lac du Bonnet**	**52.63**	**348**	P	**P**	**21 25 04.8**	**-1.6**
	comp=Z,2.8nm,0.5s,baz=186,slow=7.0,SNR=3.2						
ULM	**Lac du Bonnet**	**52.63**	**348**	P	**P**	**21 25 08.5**	**+2.2**
ULM				IAmb	IAmb	21 25 20.1	
	comp=Z,9.5nm,1.1s						
YHL	**Hebgen Lake**	**53.02**	**333**	P	**P**	**21 25 11.6**	**+1.9**
KMRM	**Mail Ridge**	**56.66**	**321**	P	**P**	**21 25 37.6**	**+1.7**
SCHQ	**Schefferville**	**56.77**	**10**	LR	LR	21 50 47.8	
	comp=Z,50nm,19.4s,baz=132,slow=37						
NEW	**Newport**	**58.29**	**332**	LR	LR	21 51 53.0	
	comp=Z,50nm,18.3s,baz=148,slow=37						
YKA	**Yellowknife Ar**	**68.23**	**344**	P	**P**	**21 26 51.8**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=138,slow=6.1,SNR=28						
YKA	**Yellowknife Ar**	**68.23**	**344**	P	**P**	**21 26 52.1**	**-0.7**
LIC	**Lamto**	**75.92**	**83**	*e*P	**P**	**21 27 39.6**	**-0.3**
	comp=Z,74nm,2.1s						
TIC	**Toumodi**	**75.95**	**83**	*e*P	**P**	**21 27 39.6**	**-0.4**
DBIC	**Dimbokro**	**76.11**	**83**	P	**P**	**21 27 39.4**	**-1.6**
	comp=Z,3.3nm,0.7s,baz=282,slow=12,SNR=2.2						
DBIC	**Dimbokro**	**76.11**	**83**	P	**P**	**21 27 39.3**	**-1.6**
KIC	**Kosan Boka**	**76.21**	**83**	*e*P	**P**	**21 27 41.1**	**-0.4**
	comp=Z,15nm,0.8s						
KOWA	**Kowa**	**77.41**	**75**	P	**P**	**21 27 48.4**	**+0.2**
I29M	**Ogilvie Camp,**	**77.89**	**339**	P	**P**	**21 27 49.3**	**-0.6**
I29M				IAmb	IAmb	21 28 00.7	
	comp=Z,6.3nm,1.4s						
INK	**Inuvik**	**77.91**	**342**	P	**P**	**21 27 47.1**	**-2.8**
	comp=Z,3.0nm,0.8s,baz=124,slow=6.8,SNR=6.3						
INK	**Inuvik**	**77.91**	**342**	P	**P**	**21 27 49.5**	**-0.5**
INK				IAmb	IAmb	21 27 50.7	
	comp=Z,3.6nm,0.9s						
A36M	**Sachs Harbour**	**78.11**	**347**	P	**P**	**21 27 49.3**	**-1.6**
BCAR	**Beaver Creek A**	**78.13**	**336**	P	**P**	**21 27 51.0**	**-0.3**
SML	**Sawmill**	**80.42**	**334**	P	**P**	**21 28 03.4**	**-0.5**
ESDC	**Sonseca Array**	**80.46**	**50**	P	**P**	**21 28 04.0**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=270,slow=4.7,SNR=8.9						
ESDC	**Sonseca Array**	**80.46**	**50**	P	**P**	**21 28 06.7**	**+2.1**
BELA	**Belgrano 2**	**80.64**	**171**	P	**P**	**21 28 05.3**	**+0.6**
BELA				IAmb	IAmb	21 28 22.2	
	comp=Z,5.3nm,0.9s						
ILAR	**Eielson Array**	**80.89**	**337**	P	**P**	**21 28 05.0**	**-1.2**
	comp=Z,0.9nm,1.0s,baz=147,slow=5.1,SNR=4.7						
BMAR	**Burnt Mountain**	**81.09**	**339**	P	**P**	**21 28 07.6**	**+0.2**
BPAW	**Bear Paw Mtn.**	**82.32**	**335**	P	**P**	**21 28 13.1**	**-0.8**
BPAW				IAmb	IAmb	21 28 21.1	
	comp=Z,6.6nm,0.9s						
CAST	**Castle Rocks**	**82.58**	**335**	P	**P**	**21 28 14.3**	**-1.0**
CAST				IAmb	IAmb	21 28 14.4	
	comp=Z,5.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.87**	**77**	P	**P**	**21 28 16.6**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=281,slow=7.5,SNR=6.8						
TORD	**Torodi Ar. Bea**	**82.87**	**77**	P	**P**	**21 28 16.4**	**-1.3**
TORD				IAmb	IAmb	21 28 17.4	
	comp=Z,3.0nm,1.1s						
VNA3	**Neumayer Olymp**	**83.08**	**162**	P	**P**	**21 28 18.1**	**+0.4**
VNA1	**Neumayer--Stat**	**83.34**	**161**	P	**P**	**21 28 19.7**	**+0.7**
VNA2	**Neumayer--Watz**	**83.70**	**162**	P	**P**	**21 28 21.0**	**+0.1**
	baz=307,slow=4.0						
SNAA	**Sanae**	**85.30**	**162**	P	**P**	**21 28 29.1**	**+0.1**
TROLL	**Troll, Antarti**	**87.01**	**162**	P	**P**	**21 28 38.0**	**+0.3**
ZALV	**Zalesovo Beam**	**125.86**	**10**	PKP	**PKPdf**	**21 34 52.9**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=282,slow=2.8,SNR=4.6						
KURBB	**Kurchatov Arra**	**127.48**	**16**	PKP	**PKPdf**	**21 34 56.8**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=330,slow=2.2,SNR=12						
SONM	**Songino Array**	**132.90**	**353**	PKP	**PKPdf**	**21 35 07.2**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=75,slow=1.2,SNR=2.8						
KSRS	**Korea Array**	**135.08**	**327**	PKP	**PKPdf**	**21 35 11.7**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=29,slow=2.9,SNR=4.6						
ASAR	**Alice Springs**	**138.37**	**232**	PKhKP	PKPpre	21 35 10.2	
	comp=Z,0.3nm,0.7s,baz=131,slow=2.6,SNR=1.9						
ASAR				PKP	**PKPdf**	**21 35 16.1**	**-2.7**
	comp=Z,0.5nm,0.7s,baz=124,slow=4.0,SNR=5.4						
WRA	**Warramunga Arr**	**139.82**	**237**	PKhKP	PKPpre	21 35 13.7	
	comp=Z,0.5nm,0.7s,baz=127,slow=2.0,SNR=1.9						
WRA				PKP	**PKPdf**	**21 35 20.2**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=124,slow=1.8,SNR=5.6						
WRA	**Warramunga Arr**	**139.82**	**237**	PKPdf	**PKPdf**	**21 35 18.9**	**-2.6**
PZH	**PanZhiHua**	**154.49**	**355**	PKPbc	**PKPdf**	**21 35 45.0**	**-0.7**
QIZ	**Qiongzhong**	**159.25**	**331**	PKP	**PKPdf**	**21 35 51.0**	**-0.8**
QIZ				PP	**PP**	**21 40 10.0**	**+1.4**

*IDC **25** 21:17:57.9±3.1,26°.03N×125°.30E, h122km±31km, mb3.2/9, mb1 3.3/10,mb1mx3.1/56, mbtmp3.6/10, MS2.8/1, Ms1 2.8/1,ms1mx2.1/34, Error ellipse: s-maj=37.0km s-min=17.6km az=63.0*

*JMA **25** 21:17:58.5±0.2,26°.09N×125°.32E, h119km, M3.5*

ISC 25 21:17:58.0±0.8, 26°.09N±0°.09×125°.34E±0°.07, h126km±10km, n30, σ1§01/46, mb3.4/9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.16**	**184**	P	**Pn**	**21 18 22.7**	**+0.6**
JIKM				S	**Sn**	**21 18 40.1**	**-0.2**
JIRB	**Irabujima**	**1.26**	**187**	P	**Pn**	**21 18 23.4**	**+0.2**
JIRB				S	**Sn**	**21 18 41.2**	**-1.0**
JKE	**Kume jima 2**	**1.32**	**79**	P	**Pn**	**21 18 24.6**	**+0.9**
JKE				*e*S	**Sn**	**21 18 43.3**	**0.0**
JOGS	**Gusukube**	**1.32**	**177**	P	**Pn**	**21 18 24.5**	**+0.7**
JOGS				S	**Sn**	**21 18 43.3**	**-0.1**
JMJ2	**Miyako jima3**	**1.34**	**181**	P	**Pn**	**21 18 24.6**	**+0.6**
JMJ2				S	**Sn**	**21 18 43.4**	**-0.3**
JTJ	**Tarama**	**1.55**	**202**	P	**Pn**	**21 18 26.8**	**+0.4**
JTJ				S	**Sn**	**21 18 46.9**	**-1.0**
JISG	**Ishigakijimahi**	**1.76**	**212**	P	**Pn**	**21 18 29.3**	**+0.5**
JISG				S	**Sn**	**21 18 51.2**	**-1.1**
JAGN	**Aguni-jima**	**1.78**	**73**	P	**Pn**	**21 18 30.0**	**+1.0**
JAGN				*e*S	**Sn**	**21 18 52.1**	**-0.6**
JIJ	**Ishigaki jima**	**2.03**	**213**	P	**Pn**	**21 18 32.1**	**0.0**
JIJ				S	**Sn**	**21 18 55.9**	**-2.3**
JJT3	**Tamagusuku3**	**2.19**	**88**	P	**Pn**	**21 18 35.1**	**+1.0**
JJT3				*e*S	**Sn**	**21 19 01.6**	**-0.2**
JKRS	**Kuro-shima**	**2.20**	**214**	P	**Pn**	**21 18 34.3**	**+0.1**
JKRS				S	**Sn**	**21 19 01.1**	**-0.9**
IRIF	**Iriomote-Funau**	**2.27**	**220**	P	**Pn**	**21 18 35.2**	**+0.1**
IRIF				S	**Sn**	**21 19 03.0**	**-0.6**
JNTH	**Nagotoyohara**	**2.44**	**79**	P	**Pn**	**21 18 37.6**	**+0.3**
JNTH				*e*S	**Sn**	**21 19 05.1**	**-2.3**
HATJ	**Hateruma jima**	**2.45**	**215**	S	**Sn**	**21 19 06.5**	**-1.2**
JIH	**Iheya**	**2.53**	**67**	P	**Pn**	**21 18 39.4**	**+1.0**
JIH				*e*S	**Sn**	**21 19 08.8**	**-0.7**
JOW	**Kunigami**	**2.73**	**74**	P	**Pn**	**21 18 41.5**	**+0.5**
	3.2nm,0.3s,baz=113,slow=25,SNR=12						
JOW				S	**Sn**	**21 19 11.7**	**-2.3**
	16nm,0.3s,baz=138,slow=27,SNR=13						
JOW	**Kunigami**	**2.73**	**74**	P	**Pn**	**21 18 41.5**	**+0.5**
JYRO	**Yoronjima**	**2.94**	**71**	P	**Pn**	**21 18 43.8**	**+0.2**
JYRO				S	**Sn**	**21 19 16.7**	**-2.1**
JOKE	**Okinoerabujima**	**3.15**	**66**	P	**Pn**	**21 18 46.6**	**+0.1**
JTK	**Tokunoshima**	**3.64**	**61**	P	**Pn**	**21 18 52.9**	**+0.1**
JTK				S	**Sn**	**21 19 33.2**	**-2.1**
GUMO	**Guam**	**22.14**	**120**	LR	LR	21 30 09.2	
	comp=Z,24nm,21.3s,baz=120,slow=33						
SONM	**Songino Array**	**26.33**	**330**	P	**P**	**21 23 21.5**	**-0.6**
	0.2nm,0.5s,baz=133,slow=8.1,SNR=1.9						
MKAR	**Makanchi Array**	**39.71**	**313**	P	**P**	**21 25 19.4**	**+1.3**
	0.4nm,0.4s,baz=102,slow=9.2,SNR=11						
ZALV	**Zalesovo Beam**	**40.82**	**324**	P	**P**	**21 25 27.1**	**+0.1**
	0.6nm,0.3s,baz=122,slow=8.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**43.18**	**317**	P	**P**	**21 25 46.3**	**+0.1**
	0.1nm,0.2s,baz=106,slow=9.4,SNR=5.8						
WRA	**Warramunga Arr**	**46.58**	**168**	P	**P**	**21 26 12.3**	**-1.1**
	0.5nm,0.9s,baz=350,slow=8.6,SNR=2.3						
ASAR	**Alice Springs**	**50.15**	**170**	P	**P**	**21 26 41.1**	**+0.3**
	0.2nm,0.4s,baz=354,slow=7.7,SNR=5.0						
FINES	**FINESS Array B**	**71.70**	**330**	P	**P**	**21 29 06.0**	**+0.1**
	0.8nm,0.8s,baz=70,slow=8.0,SNR=4.5						
NOA	**NORSAR Array B**	**78.28**	**333**	P	**P**	**21 29 43.7**	**-0.1**
	0.2nm,0.4s,baz=52,slow=6.1,SNR=2.2						
YKA	**Yellowknife Ar**	**79.73**	**24**	P	**P**	**21 29 52.9**	**+1.2**
	0.5nm,0.7s,baz=303,slow=5.2,SNR=7.5						

*NEIC **25** 21:27:43.0±1.5, 43°.59N±0°.04×105°.20W±0°.08, h0km±2km, ML3.5/60, Error ellipse: s-maj=10.6km s-min=6.7km az=67.0*

*IDC **25** 21:27:43.6±1.6, 43°.78N×105°.48W, h0km, mb1 3.4/3, mb1mx3.2/43, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=29.7km s-min=10.2km az=148.0*

ISC 25 21:27:42.1±1.0, 43°.61N±0°.05×105°.23W±0°.06, h0km, n62, σ1§05/58, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.00**	**59**		**Pg**	**21 28 01.3**	**-0.1**
K22A	**Casper**	**1.35**	**225**	Pg	**Pg**	**21 28 07.2**	**-0.8**
PHWY	**Pilot Hill**	**2.31**	**184**	Pn	**Pn**	**21 28 21.9**	**+0.2**
PHWY				IAML		21 29 01.2	
	197nm,0.5s						
RWWY	**Rawlins**	**2.41**	**218**	Pn	**Pn**	**21 28 24.9**	**+1.8**
RWWY				IAML		21 29 05.2	
	322nm,0.6s						
RWWY				IAML		21 29 14.2	
	302nm,0.8s						
N23A	**Red Feather La**	**2.76**	**191**	Pn	**Pn**	**21 28 28.8**	**+0.9**
N23A				IAML		21 29 12.8	
	comp=E,277nm,0.8s						
N23A				IAML		21 29 15.9	
	comp=N,228nm,0.7s						
LAO	**LASA Array**	**3.16**	**347**	Pn	**Pn**	**21 28 34.0**	**+0.7**
RLMT	**Red Lodge**	**3.27**	**299**	Pn	**Pn**	**21 28 35.5**	**+0.7**
RLMT				IAML		21 29 38.5	
	comp=N,91nm,0.4s						
RLMT				IAML		21 29 39.7	
	comp=N,87nm,0.9s						
BW06	**Boulder Array**	**3.27**	**257**	Pn	**Pn**	**21 28 36.0**	**+1.1**
BW06				IAML		21 29 35.6	
	comp=N,110nm,0.7s						
PD31	**Pinedale Array**	**3.27**	**257**		**Pn**	**21 28 36.2**	**+1.3**
PDAR	**Pinedale Array**	**3.27**	**257**	Pn	**Pn**	**21 28 37.9**	**+2.9**
	comp=N,4.3nm,0.3s,baz=79,slow=15,SNR=26						
PDAR				Lg	Lg	21 29 21.4	
	comp=N,17nm,0.3s,baz=73,slow=32,SNR=6.3						
PDAR	**Pinedale Array**	**3.27**	**257**		**Pn**	**21 28 36.0**	**+1.1**
OGNE	**Ogallala**	**3.56**	**137**		**Pn**	**21 28 39.4**	**+0.6**
YMP	**Mirror Lake Pl**	**3.72**	**289**		**Pn**	**21 28 42.0**	**+0.9**
YMP				IAML		21 29 49.3	
	comp=N,122nm,0.6s						
ISCO	**Idaho Springs**	**3.81**	**184**	Pn	**Pn**	**21 28 43.4**	**+1.0**
ISCO				IAML		21 30 52.3	
	comp=N,77nm,4.0s						
GCMT	**Greycliff**	**3.84**	**306**	Pn	**Pn**	**21 28 43.6**	**+0.9**
LKWY	**Lake**	**3.85**	**286**	Pn	**Pn**	**21 28 44.0**	**+1.2**
LKWY				IAML		21 29 10.4	
	comp=N,104nm,0.6s						
LKWY				IAML		21 31 07.6	
	comp=N,70nm,5.0s						
H17A	**Grant Village**	**3.94**	**283**	Pn	**Pn**	**21 28 45.7**	**+1.6**
FLWY	**Flagg Ranch**	**3.98**	**279**	Pn	**Pn**	**21 28 46.7**	**+2.0**
FLWY				IAML		21 29 55.5	
	comp=N,86nm,2.7s						
FLWY				IAML		21 30 10.0	
	comp=N,78nm,2.3s						
MOOW	**Moose Ponds**	**4.00**	**274**	Pn	**Pn**	**21 28 46.4**	**+1.4**
SNOW	**Snow King Moun**	**4.02**	**270**	Pn	**Pn**	**21 28 45.8**	**+0.6**
SNOW				IAML		21 30 12.4	
	comp=N,80nm,2.5s						
SNOW				IAML		21 31 00.9	
	comp=N,90nm,3.0s						
YPP	**Pitchstone Pla**	**4.08**	**281**	Pn	**Pn**	**21 28 47.1**	**+1.0**
REDW	**Red Top Meadow**	**4.10**	**269**	Pn	**Pn**	**21 28 47.7**	**+1.4**
O20A	**White River Ci**	**4.13**	**214**	Pn	**Pn**	**21 28 47.8**	**+1.1**
O20A				IAML		21 30 08.9	
	comp=E,81nm,1.3s						
TPAW	**Teton Pass**	**4.16**	**270**	Pn	**Pn**	**21 28 48.7**	**+1.5**
TPAW				IAML		21 30 12.3	
	comp=E,39nm,0.8s						
TPAW				IAML		21 30 18.7	
	comp=E,54nm,0.8s						
YHH	**Holmes Hill**	**4.21**	**288**	Pn	**Pn**	**21 28 48.2**	**+0.4**
AHID	**Auburn Hatcher**	**4.38**	**261**	Pn	**Pn**	**21 28 51.2**	**+1.1**
AHID				IAML		21 30 10.9	
	comp=E,47nm,0.9s						
RDMU	**Red Mountain**	**4.43**	**228**	Pn	**Pn**	**21 28 51.7**	**+0.9**
RDMU				IAML		21 30 15.5	
	comp=E,62nm,1.0s						
RDMU				IAML		21 30 26.8	
	comp=N,46nm,0.8s						
YHL	**Hebgen Lake**	**4.46**	**288**	Pn	**Pn**	**21 28 51.9**	**+0.6**
YHL				IAML		21 30 20.4	
	comp=N,55nm,1.1s						
YHL				IAML		21 30 42.1	
	comp=E,51nm,0.8s						
SUSD	**Miller**	**4.60**	**77**	Pn	**Pn**	**21 28 53.6**	**+0.6**
QLMT	**Earthquake Lak**	**4.62**	**287**	Pn	**Pn**	**21 28 54.2**	**+0.8**
Q24A	**Divide**	**4.64**	**179**	Pn	**Pn**	**21 28 53.9**	**+0.1**
Q24A				IAML		21 30 11.9	
	comp=E,56nm,0.7s						
Q24A				IAML		21 31 26.2	
	comp=N,44nm,3.2s						
DGMT	**Dagmar**	**4.92**	**8**	Pn	**Pn**	**21 28 58.1**	**+0.8**
BOZ	**Bozeman (W)**	**4.99**	**296**	Pn	**Pn**	**21 28 58.8**	**+0.4**
BOZ				IAML		21 30 32.1	
	comp=N,27nm,0.7s						
BOZ				IAML		21 31 42.8	
	comp=N,25nm,5.0s						
KSCO	**Kaye Shedlock'**	**4.99**	**156**	Pn	**Pn**	**21 28 59.5**	**+1.0**
HWUT	**Hardware Ranch**	**5.08**	**249**	Pn	**Pn**	**21 28 59.9**	**+0.1**
HWUT				IAML		21 30 35.7	
	comp=N,38nm,1.2s						
HWUT				IAML		21 30 40.8	
	comp=N,42nm,0.6s						
EGMT	**Eagleton**	**5.43**	**326**	Pn	**Pn**	**21 29 04.9**	**+0.5**
P18A	**Preston Nutter**	**5.47**	**225**	Pn	**Pn**	**21 29 06.4**	**+1.2**
JLU	**Jordanelle**	**5.51**	**239**	Pn	**Pn**	**21 29 06.3**	**+0.6**
DLMT	**Dillon**	**5.55**	**291**	Pn	**Pn**	**21 29 06.2**	**0.0**
LRM	**Limekiln Ridge**	**5.60**	**296**	Pn	**Pn**	**21 29 07.5**	**+0.6**
HRY	**Holter Researc**	**5.61**	**306**	Pn	**Pn**	**21 29 07.5**	**+0.6**
MCMT	**McKenzie Canyo**	**5.61**	**285**	Pn	**Pn**	**21 29 08.4**	**+1.4**
CTU	**Camp Tracy**	**5.65**	**241**	Pn	**Pn**	**21 29 06.3**	**-1.2**
PV07	**Paradox Valley**	**5.77**	**208**	Pn	**Pn**	**21 29 10.6**	**+1.3**
P17A	**Butcher Ranch,**	**5.84**	**227**	Pn	**Pn**	**21 29 09.9**	**-0.3**
SDCO	**Great Sand Dun**	**5.86**	**182**	Pn	**Pn**	**21 29 11.6**	**+1.1**
PV11	**David Mesa, Pa**	**5.98**	**209**	Pn	**Pn**	**21 29 12.2**	**+0.1**
SRU	**San Rafael Swe**	**6.00**	**223**	Pn	**Pn**	**21 29 12.3**	**0.0**
TMUT	**Trail Mountain**	**6.22**	**228**	Pn	**Pn**	**21 29 16.8**	**+1.3**
ECSD	**EROS Data Cent**	**6.25**	**86**	Pn	**Pn**	**21 29 16.7**	**+1.1**
NLU	**North Lily Min**	**6.28**	**237**	Pn	**Pn**	**21 29 16.2**	**-0.1**
Q16A	**Castle Valley**	**6.48**	**226**	Pn	**Pn**	**21 29 17.9**	**-1.0**
T25A	**Trinidad**	**6.49**	**174**	Pn	**Pn**	**21 29 19.6**	**+0.5**
MSO	**Missoula**	**6.94**	**301**	Pn	**Pn**	**21 29 25.8**	**+0.6**
MSU	**Marysvale**	**7.31**	**228**	Pn	**Pn**	**21 29 29.8**	**-0.6**
JTMT	**Jette**	**7.57**	**306**	Pn	**Pn**	**21 29 35.1**	**+1.2**
I10CA	**LAC DU BONNET**	**9.12**	**40**	*i*		22 21 00.0	
	baz=225,slow=334,SNR=3.0						
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn	**Pn**	**21 29 55.4**	**-0.9**
	comp=N,0.6nm,0.3s,baz=229,slow=12,SNR=2.4						
ULM				Pg		21 30 30.8	
	comp=N,0.8nm,0.3s,baz=232,slow=16,SNR=3.4						
ULM				Lg	Lg	21 32 27.4	
	comp=N,0.3nm,0.3s,baz=158,slow=21,SNR=1.5						
NEW	**Newport**	**9.50**	**303**	Lg	Lg	21 32 35.4	
	comp=N,0.2nm

DSPA Despedida 23.73 257 P **P** **21 52 26.4 -0.6**
MG02 Cerro Sombrero 24.71 259 P **P** **21 52 35.5 -0.6**
GO09 Cerro Castillo 27.10 260 P **P** **21 52 56.7 -1.1**
GO08 Villa O'Higgin 28.61 265 P **P** **21 53 11.4 +0.2**
TRQA Tornquist 29.38 292 P **P** **21 53 19.2 +0.9**
TRQA pmax pmax
comp=Z,38nm,1.0s
TRQA Tornquist 29.38 292 P **P** **21 53 19.1 +0.9**
TRQA IAmb IAmb 21 53 33.5
comp=Z,38nm,0.9s
PLTB Pedras Altas 30.41 311 P **P** **21 53 29.0 +1.7**
PLTB Pedras Altas 30.41 311 *eP* **P** **21 53 26.9 -0.4**
AY01 Puyuhuapi 30.97 272 P **P** **21 53 32.5 +0.3**
CPSB Cacapava Do Su 31.51 312 *eP* **P** **21 53 37.4 +0.4**
SYO Syowa Base 31.75 141 ǁ*i*X P 21 53 33.4 -5.4
PLCA Paso Flores 32.17 279 LR LR 22 08 02.6
comp=Z,1µm,18.2s,baz=126,slow=39
PLCA Paso Flores 32.17 279 *eP* **P** **21 53 44.0 +1.1**
ITAB Concordia 33.78 317 *eP* **P** **21 53 58.3 +1.4**
QSPA South Pole Qui 34.61 180 LR LR 22 08 10.0
comp=Z,2µm,19.1s,baz=190,slow=36
QSPA South Pole Qui 34.61 180 P **P** **21 54 05.6 +1.6**
MAN01 Angra dos Reis 35.13 332 *eP* **P** **21 54 09.0 +0.2**
FRBT Francisco Belt 35.28 316 *eP* **P** **21 54 09.4 -0.6**
VAO Valinhos 35.87 327 *eP* **P** **21 54 15.8 +0.7**
PTGB Pitanga 36.03 319 *eP* **P** **21 54 16.5 0.0**
CPUP Villa Florida 36.72 310 P **P** **21 54 21.6 -0.7**
comp=Z,7.8nm,0.7s,baz=157,slow=9.2,SNR=14
CPUP PcP **PcP** **21 56 45.4 +0.7**
comp=Z,2.4nm,0.7s,baz=171,slow=3.4,SNR=2.2
CPUP LR LR 22 09 44.6
comp=Z,1µm,19.4s,baz=156,slow=37
CPUP Villa Florida 36.72 310 P **P** **21 54 21.9 -0.4**
CPUP pmax pmax
comp=Z,24nm,1.4s
CPUP Villa Florida 36.72 310 P **P** **21 54 21.9 -0.4**
CPUP Villa Florida 36.72 310 *eP* **P** **21 54 22.1 -0.2**
GO05 Huala 37.00 285 P **P** **21 54 23.4 -1.3**
BO04 La Punta 37.05 287 P **P** **21 54 25.7 +0.6**
BSCB Bom Sucesso 37.13 331 *eP* **P** **21 54 26.5 +0.6**
MT09 Talagante 37.41 287 P **P** **21 54 27.7 -0.6**
APLL PUNTA DE LOS L 37.69 295 *iP* **P** **21 54 30.2 -0.4**
PEL Peldehue 37.73 288 P **P** **21 54 31.6 +0.7**
PEL pmax pmax
comp=Z,29nm,0.9s
PEL Peldehue 37.73 288 P **P** **21 54 31.6 +0.7**
PEL IAmb IAmb 21 54 37.9
comp=Z,29nm,0.9s
AUSP Uspallata 37.74 290 *iP* **P** **21 54 31.6 +0.3**
VA05 Santo Domingo 37.84 287 P **P** **21 54 32.3 +0.5**
VA05 IAmb IAmb 21 54 47.3
comp=Z,38nm,0.8s
MT02 Curacav 37.89 287 P **P** **21 54 32.1 0.0**
MT02 IAmb IAmb 21 55 00.5
comp=Z,34nm,1.0s
ZON Zonda 37.90 292 P **P** **21 54 32.8 +0.5**
ZON pmax pmax
comp=Z,31nm,0.8s
ZON Zonda 37.90 292 P **P** **21 54 32.8 +0.5**
ZON IAmb IAmb 21 54 34.8
comp=Z,31nm,0.8s
VA03 San Esteban 37.95 289 P **P** **21 54 33.2 +0.4**
VA03 IAmb IAmb 21 55 08.2
comp=Z,36nm,0.9s
AVFE Valle Fertil 37.96 294 *iP* **P** **21 54 32.7 -0.2**
TRCB Terra Rica 37.99 319 *eP* **P** **21 54 34.0 +0.9**
RTLS Leoncito 38.03 291 *iP* **P** **21 54 34.3 +0.6**
ROC1 El Roble 38.04 288 P **P** **21 54 31.7 -2.0**
ROC1 IAmb IAmb 21 54 36.6
comp=Z,22nm,0.6s
SJMB Sao Joao De Ma 38.46 338 *eP* **P** **21 54 36.9 -0.2**
VA06 Catapilco 38.51 288 P **P** **21 54 38.5 +1.1**
VA06 IAmb IAmb 21 55 03.4
comp=Z,59nm,1.1s
PCMB Pacaembu 38.58 322 *eP* **P** **21 54 38.4 +0.3**
ACLC CERRO LA CRUZ 38.69 296 *iP* **P** **21 54 39.0 -0.1**
ACCO Cerro Coronel 38.86 292 *iP* **P** **21 54 41.6 +0.9**
ACDV Cuesta del Vie 39.22 293 *iP* **P** **21 54 43.2 -0.3**
CO02 Combarbal 39.40 290 P **P** **21 54 45.9 +0.9**
CO02 IAmb IAmb 21 55 00.7
comp=Z,59nm,1.2s
AROD Rodeo 39.40 292 *iP* **P** **21 54 46.8 +1.5**
DIAM Diamantina, MG 39.43 334 *eP* **P** **21 54 45.2 -0.1**
MATJ Matjiesfontein 39.51 76 *eP* **P** **21 54 41.2 -4.6**
MATJ IAmb IAmb 21 54 41.6
comp=Z,108nm,1.6s
CO01 Juntas del Tor 39.88 292 P **P** **21 54 49.8 +0.7**
ITRB Iturama 40.04 324 *eP* **P** **21 54 51.2 +0.9**
GO04 Tololo Observa 40.10 291 P **P** **21 54 49.9 -1.1**
GO04 IAmb IAmb 21 55 05.4
comp=Z,35nm,0.8s
GUA01 Guaratinga, BA 40.24 340 *eP* **P** **21 54 51.9 0.0**
SUR Sutherland 40.30 75 P **P** **21 54 51.6 -0.9**
comp=Z,8.5nm,1.0s,baz=290,slow=22,SNR=1.6
MAW Mawson 40.34 144 P **P** **21 54 51.7 -0.5**
comp=Z,4.7nm,1.0s,baz=213,slow=10,SNR=2.3
MAW LR LR 22 10 09.3
comp=Z,1µm,20.6s,baz=257,slow=34
CVNA Calvinia 40.42 73 *eP* **P** **21 54 53.4 0.0**
CVNA IAmb IAmb 21 55 10.9
comp=Z,2µm,4.4s
LCO Las Campanas 40.97 292 P **P** **21 54 57.2 -1.0**
LCO pmax pmax
comp=Z,60nm,1.2s
LCO Las Campanas 40.97 292 P **P** **21 54 57.2 -1.0**
LCO IAmb IAmb 21 55 12.7
comp=Z,60nm,1.1s
IPMB Ipameri, GO 40.97 328 *eP* **P** **21 54 58.7 +0.7**
MC01 Montes Claros 41.02 334 *eP* **P** **21 54 58.1 -0.3**
AQDB Aquidauana 41.26 317 P **P** **21 54 58.9 -1.5**
AQDB Aquidauana 41.26 317 *eP* **P** **21 54 59.4 -0.9**
CMC01 Camacan, BA 41.38 341 *eP* **P** **21 55 02.1 +0.8**
GO03 Copiap 41.86 294 P **P** **21 55 05.1 -0.2**
GO03 IAmb IAmb 21 55 19.8
comp=Z,75nm,1.3s
AC02 Maricunga 41.91 296 P **P** **21 55 06.6 +0.4**
AC02 IAmb IAmb 21 55 29.1
comp=Z,44nm,1.1s
AC06 Mina Casimiro 42.12 294 P **P** **21 55 06.8 -0.5**
AC06 IAmb IAmb 21 55 23.3
comp=Z,28nm,0.7s
JANB Januaria 42.70 335 *eP* **P** **21 55 12.1 -0.1**
BDFB Brasilia 43.13 329 P **P** **21 55 15.8 +0.1**
comp=Z,5.3nm,0.8s,baz=149,slow=6.3,SNR=8.4
BDFB LR LR 22 14 04.9
comp=Z,1µm,18.4s,baz=154,slow=37
BDFB Brasilia 43.13 329 P **P** **21 55 15.1 -0.6**
BDFB pmax pmax
comp=Z,7.0nm,0.9s
BDFB Brasilia 43.13 329 P **P** **21 55 15.1 -0.6**
DVLD Doverlandia 43.50 323 *eP* **P** **21 55 19.2 +0.6**
GO02 Mina Guanaco 43.52 297 P **P** **21 55 19.0 -0.1**
GO02 IAmb IAmb 21 55 35.8
comp=Z,42nm,0.8s
PP1B Ponte de Pedra 43.57 319 *eP* **P** **21 55 19.3 +0.2**
HVD Gariep Dam 44.23 78 *eP* **P** **21 55 21.7 -2.9**
HVD IAmb IAmb 21 55 25.0
comp=Z,42nm,1.4s
AF01 San Pedro de A 44.65 300 P **P** **21 55 29.6 +1.4**
LVC Limon Verde 45.30 299 P **P** **21 55 33.8 +0.4**
LVC pmax pmax
comp=Z,37nm,0.7s
LVC Limon Verde 45.30 299 P **P** **21 55 33.8 +0.4**
LVC Limon Verde 45.30 299 *eP* **P** **21 55 34.1 +0.7**
NBLA Lagarto - SE 45.37 345 *eP* **P** **21 55 33.2 -0.3**
SDBA SAO DESIDERIO 45.39 335 *eP* **P** **21 55 33.5 -0.2**
SALV Santo Antonio 45.43 319 *eP* **P** **21 55 34.4 +0.3**
BOSA Boshof 45.64 76 P **P** **21 55 35.2 -0.6**
comp=Z,9.6nm,0.8s,baz=208,slow=7.3,SNR=10
BOSA LR LR 22 11 41.2
comp=Z,3µm,18.9s,baz=202,slow=32
BOSA Boshof 45.64 76 *eP* **P** **21 55 34.3 -1.4**
BOSA IAmb IAmb 21 55 54.4
comp=Z,17nm,1.1s
BOSA Boshof 45.64 76 P **P** **21 55 35.5 -0.3**
BOSA pmax pmax
comp=Z,42nm,1.6s
BOSA Boshof 45.64 76 P **P** **21 55 35.5 -0.3**
BOSA IAmb IAmb 21 56 39.0
comp=Z,42nm,1.6s
NBPN Ponto Novo - B 45.91 341 *eP* **P** **21 55 38.2 +0.3**
PB09 IPOC Station P 46.15 300 P **P** **21 55 39.5 -0.4**
SBA Scott Base 46.51 184 P **P** **21 55 43.3 +1.4**
SBA pmax pmax
comp=Z,39nm,1.2s
SBA Scott Base 46.51 184 P **P** **21 55 43.3 +1.4**
SBA IAmb IAmb 21 55 51.0
comp=Z,38nm,1.2s
PB07 IPOC Station P 46.53 299 P **P** **21 55 43.5 +0.6**
PEXB Peixe 46.57 330 *eP* **P** **21 55 43.6 +0.6**
SWZ Schweizer 46.80 75 *eP* **P** **21 55 44.1 -0.8**
SWZ IAmb IAmb 21 55 48.2
comp=Z,16nm,0.8s
PB02 IPOC Station P 46.88 299 P **P** **21 55 45.8 +0.3**
PB01 IPOC Station P 46.91 300 P **P** **21 55 46.2 +0.4**
VNDA Vanda 47.00 183 P **P** **21 55 46.8 +1.1**
comp=Z,9.5nm,0.8s,baz=184,slow=7.0,SNR=38
VNDA LR LR 22 14 13.7
comp=Z,510nm,19.8s,baz=166,slow=34
VNDA Vanda 47.00 183 P **P** **21 55 46.6 +0.9**
VNDA pmax pmax
comp=Z,24nm,0.9s
VNDA Vanda 47.00 183 P **P** **21 55 46.6 +0.9**
VNDA IAmb IAmb 21 55 53.8
comp=Z,24nm,0.9s
PTLB Pontes e Lacer 47.17 315 *eP* **P** **21 55 47.5 -0.2**
SNKL Senekal, Frees 47.29 78 *eP* **P** **21 55 49.1 +0.3**
SNKL IAmb IAmb 21 56 07.8
comp=Z,47nm,1.3s
NBRF Rio Formoso - 47.30 349 *eP* **P** **21 55 49.5 +0.8**
SIV San Ignacio 47.47 313 LR LR 22 15 13.7
comp=Z,579nm,21.2s,baz=151,slow=35
PB08 IPOC Station P 47.51 301 P **P** **21 55 50.6 -0.2**
PB08 IAmb IAmb 21 56 04.5
comp=Z,34nm,1.1s
SNDB Serra Nova Dou 47.58 327 *eP* **P** **21 55 51.5 +0.6**
NBCA Caruaru-PE 47.85 348 *eP* **P** **21 55 54.4 +1.3**
GO01 Chusmiza 47.93 301 P **P** **21 55 54.1 -0.1**
PB11 IPOC Station P 48.08 301 P **P** **21 55 55.4 +0.5**
PRYS Parys 48.11 76 *eP* **P** **21 55 53.9 -1.2**
PRYS IAmb IAmb 21 55 59.8
comp=Z,713nm,4.0s
LBTB Lobatse 48.66 73 LR LR 22 14 27.3
comp=Z,579nm,18.7s,baz=216,slow=34
LBTB Lobatse 48.66 73 *eP* **P** **21 55 58.9 -0.4**
LBTB IAmb IAmb 21 56 13.3
comp=Z,95nm,1.9s
KSR Koster 48.70 75 *eP* **P** **21 55 57.8 -2.0**
KSR IAmb IAmb 21 55 58.7
comp=Z,26nm,1.4s
NBMA Muriti-CE 49.08 344 *eP* **P** **21 56 04.0 +1.5**
PB16 IPOC Station P 49.22 302 P **P** **21 56 04.8 +0.5**
PB16 IAmb IAmb 21 57 19.1
comp=Z,13nm,0.4s
TSUM Tsumeb 49.27 61 LR LR 22 13 29.7
comp=Z,804nm,18.8s,baz=202,slow=32
SMTB Santa Maria do 49.47 332 *eP* **P** **21 56 05.9 +0.4**
NBPV Pedro Velho 49.55 349 *eP* **P** **21 56 05.8 -0.3**
SLR Silverton 49.56 76 *eP* **P** **21 56 08.3 +2.0**
SLR IAmb IAmb 21 56 27.1
comp=Z,96nm,1.9s
PDRB Porto dos Gac 49.76 320 *eP* **P** **21 56 07.0 -0.7**
VILB Vilhena 49.85 315 *eP* **P** **21 56 07.9 -0.5**
CLDB Colider 50.11 322 *eP* **P** **21 56 08.8 -1.6**
POGA Pongola 50.20 81 *eP* **P** **21 56 12.2 +1.2**
POGA IAmb IAmb 21 56 23.0
comp=Z,599nm,4.0s
RCBR Riachuelo 50.20 348 LR LR 22 15 32.6
comp=Z,558nm,18.1s,baz=329,slow=34
LPAZ La Paz 50.34 304 P **P** **21 56 13.3 +0.6**
comp=Z,22nm,0.7s,baz=127,slow=6.5,SNR=56
LPAZ LR LR 22 17 34.9
comp=Z,344nm,21.0s,baz=170,slow=36
LPAZ La Paz 50.34 304 P **P** **21 56 12.2 -0.5**
LPAZ pmax pmax
comp=Z,27nm,0.8s
LPAZ La Paz 50.34 304 P **P** **21 56 12.2 -0.5**
LPAZ IAmb IAmb 21 56 16.4
comp=Z,27nm,0.8s
LPAZ La Paz 50.34 304 *eP* **P** **21 56 13.4 +0.6**
NBPB Pedra_Branca-C 51.00 343 *eP* **P** **21 56 16.3 -0.8**
NBCL Cascavel-CE 52.09 345 *eP* **P** **21 56 25.8 +0.6**
NBPS Pedro II - PI 52.44 341 *eP* **P** **21 56 28.3 +0.4**
PRPB Parauapebas 52.65 331 *eP* **P** **21 56 29.8 +0.4**
MOPA Mopani 53.03 77 *eP* **P** **21 56 29.4 -2.8**
MOPA IAmb IAmb 21 56 37.5
comp=Z,3.7nm,0.8s
NBMO Morrinhos-CE 53.26 343 *eP* **P** **21 56 34.3 +0.5**
NPGB Novo Progresso 53.52 324 *eP* **P** **21 56 35.4 -0.4**
CASY Casey 54.22 160 P **P** **21 56 40.6 +0.4**
BLWY Bulawayo 54.22 72 *eP* **P** **21 56 38.4 -2.7**
BLWY IAmb IAmb 21 56 59.8
comp=Z,128nm,1.4s
ROSB Rosrio 54.42 339 *eP* **P** **21 56 42.3 0.0**
ETMB Extrema 55.18 310 *eP* **P** **21 56 47.4 -0.5**
TMAB Tom-Au,PA,Br 55.84 334 *eP* **P** **21 56 53.4 +0.8**
ITTB Itaituba 56.16 324 *eP* **P** **21 56 55.0 +0.1**
LSZ Lusaka 58.00 69 LR LR 22 19 27.0
comp=Z,1µm,18.3s,baz=212,slow=33
NNA Nana 58.26 298 LR LR 22 24 00.2
comp=Z,191nm,19.3s,baz=140,slow=38
NNA Nana 58.26 298ǁ*eP* **P** **21 57 08.9 -0.9**
NNA pmax pmax
comp=Z,71nm,1.4s
MCPB Macapa, AP 58.82 330 *eP* **P** **21 57 14.5 +0.9**
MACA Manacapuru-AM 59.01 319 *eP* **P** **21 57 14.3 -0.6**
CZSB Cruzeiro do Su 59.94 305 *eP* **P** **21 57 21.1 -0.4**
BOAV Boa Vista 64.10 322 *eP* **P** **21 57 48.3 -1.0**
DBIC Dimbolo 64.69 24 P **P** **21 57 52.7 -0.5**
comp=Z,3.0nm,0.5s,baz=215,slow=5.9,SNR=4.8
DBIC LR LR 22 20 13.4
comp=Z,797nm,18.4s,baz=196,slow=31
OPO Ambohidratompo 65.83 88 LR LR 22 22 14.2
comp=Z,955nm,18.9s,baz=326,slow=32
MCRA Macar, Loja 66.35 299 P **P** **21 58 03.0 -1.0**
MCRA IAmb IAmb 21 58 18.1
comp=Z,14nm,0.9s
BOSC San Juan Bosco 66.69 301 P **P** **21 58 06.2 -0.2**
BOSC IAmb IAmb 21 58 17.2
comp=Z,11nm,0.8s
TULM Tulcn-Chalpat 69.73 304 P **P** **21 58 26.1 +0.3**
TULM IAmb IAmb 21 58 51.5
comp=Z,23nm,0.9s
SOTA Rioblanco 70.43 306 *eP* **P** **21 58 31.3 +1.2**
PCON Cinco Dias 70.50 306 *eP* **P** **21 58 35.6 +5.0**
ORTC Ortega, Tolima 71.38 308 *eP* **P** **21 58 34.7 -0.6**
MBAR Mbarara 71.75 63 LR LR 22 27 19.5
comp=Z,699nm,18.9s,baz=180,slow=34
ROSC El Rosal 71.80 309 LR LR 22 31 41.0
comp=Z,525nm,20.2s,baz=192,slow=37
YOTC Yotoco, Valle 71.94 307 *eP* **P** **21 58 36.6 -2.2**
RUSC La Rusia 72.21 311 *eP* **P** **21 58 40.9 +0.1**
TOA0 Torodi Ar. Sit 72.58 29 P **P** **21 58 41.5 -0.8**
TOA0 IAmb IAmb 21 58 54.9
comp=Z,15nm,1.0s
TORD Torodi Ar. Bea 72.58 29 P **P** **21 58 42.4 0.0**
comp=Z,9.6nm,0.5s,baz=200,slow=6.4,SNR=158
TORD LR LR 22 26 34.6
comp=Z,424nm,18.4s,baz=208,slow=33
TORD Torodi Ar. Bea 72.58 29 P **P** **21 58 41.8 -0.6**
BAUV El Baul 72.91 317 P **P** **21 58 43.5 -0.9**
PTBC PUERTO BERRIO, 73.38 310 *eP* **P** 21 58 41.9 -5.3
SOCV Socops 73.43 314 *eP* **P** **21 58 47.6 +0.2**
BIRV Birongo 73.65 319 P **P** **21 58 48.7 0.0**
SDV Santo Domingo 73.89 315 LR LR 22 32 47.3
comp=Z,509nm,19.2s,baz=147,slow=37
SDV Santo Domingo 73.89 315 P **P** **21 58 49.8 -0.6**
SDV IAmb IAmb 21 59 01.7
comp=Z,20nm,0.9s
SDV Santo Domingo 73.89 315 *eP* **P** **21 58 51.5 +1.1**
SDV Santo Domingo 73.89 315 *eP* **P** **21 58 50.2 -0.2**
ZARC Zaragoza, Cauc 74.41 310 P **P** **21 58 51.0 -2.1**
KMBO Kilima Mbogo 74.67 69 LR LR 22 29 14.9
comp=Z,906nm,19.7s,baz=162,slow=34
SJCC San Jacinto, C 76.69 311 P **P** **21 59 06.2 -0.1**
SJCC IAmb IAmb 21 59 08.1
comp=Z,27nm,1.0s
GDHS Morne Mazeau, 77.48 326 P **P** **21 59 11.9 +1.2**
DRK0 Durika 79.78 303 P **P** **21 59 22.7 -0.9**
RPZ Rata Peaks 79.87 193 LR LR 22 33 45.6
comp=Z,382nm,18.2s,baz=162,slow=35
CUPR Culebra, Puert 80.54 323 P **P** **21 59 28.4 +1.1**
SJG San Juan 80.66 322 LR LR 22 36 55.5
comp=Z,249nm,19.8s,baz=178,slow=37
CBYP Canovanas 80.71 323 P **P** **21 59 27.0 -1.3**
CBYP IAmb IAmb 21 59 30.1
comp=Z,24nm,1.1s
JTS Las Juntas de 81.49 302 LR LR 22 38 22.5
comp=Z,234nm,19.6s,baz=210,slow=38
JTS Las Juntas de 81.49 302ǁ*eP* **P** **21 59 34.0 +1.4**
JTS pmax pmax
comp=Z,10.0nm,1.0s
ACON Acoyapa 83.05 303 P **P** **21 59 40.3 -0.4**
URZ Urewera 84.27 199 LR LR 22 33 25.8
comp=Z,286nm,20.1s,baz=211,slow=33
MTO3 Montecristo 87.17 301 P **P** **22 00 01.4 -0.2**
MTO3 IAmb IAmb 22 00 17.3
comp=Z,22nm,1.1s
TBI Tubuai 87.53 231 *e*S **S** **22 10 38.5 -5.8**
comp=Z,199nm,25.5s
TBI Tubuai 87.53 231 *e*LR LR 22 27 48.5
comp=Z,527nm,29.2s,baz=175
ATD Arta Tunnel 88.28 67 LR LR 22 36 24.8
comp=Z,421nm,21.2s,baz=174,slow=34
MDT Midelt 90.12 19 LR LR 22 37 01.1
comp=Z,730nm,18.0s,baz=211,slow=33
CMIG Matias Romero 92.21 297 LR LR 22 43 24.1
comp=Z,165nm,18.0s,baz=176,slow=36
STKA Stephens Creek 92.27 170 P **P** **22 00 26.9 +1.7**
comp=Z,1.1nm,0.7s,baz=152,slow=14,SNR=3.7
STKA LR LR 22 41 05.6
comp=Z,627nm,18.8s,baz=196,slow=35
STKA Stephens Creek 92.27 170 P **P** **22 00 27.2 +2.0**
STKA pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 92.27 170 P **P** **22 00 27.2 +2.0**
PPT2 Papeete2 92.61 233 *e*LR LR 22 30 09.5
comp=Z,556nm,32.2s
PPT Papeete 92.63 233 LR LR 22 33 35.3
comp=Z,213nm,20.1s,baz=180,slow=30
RAR Rarotonga 93.70 223 LR LR 22 38 31.8
comp=Z,199nm,18.3s,baz=186,slow=33
TAOE Nuku Hiva Isla 95.53 246 *e*LR LR 22 31 30.5
comp=Z,349nm,22.1s
ESDC Sonseca Array 96.91 18 P **P** **22 00 47.2 +1.1**
comp=Z,0.3nm,0.8s,baz=212,slow=4.6,SNR=2.3
ESDC LR LR 22 40 52.3
comp=Z,286nm,19.5s,baz=182,slow=33
VAE Valguarnera 99.18 32 LR LR 22 40 38.2
comp=Z,469nm,19.2s,baz=145,slow=32
ASAR Alice Springs 99.31 162 P **Pdif** **22 00 57.5 +0.1**
comp=Z,1.8nm,0.9s,baz=185,slow=3.7,SNR=10
ASAR PP **PP** **22 04 57.0 -2.4**
comp=Z,0.7nm,0.7s,baz=192,slow=6.5,SNR=3.0
ASAR LR LR 22 44 32.0
comp=Z,382nm,19.6s,baz=182,slow=35
EIL Elat 99.90 51 LR LR 22 42 41.9
comp=Z,530nm,19.6s,baz=252,slow=33
DZM Mont Dzumac 101.79 193 *e*LR LR 22 34 22.3
comp=Z,322nm,23.1s
WRA Warramunga Arr 103.03 162 Pdiff **Pdif** **22 01 12.9 -1.1**
comp=Z,0.7nm,0.9s,baz=191,slow=4.2,SNR=3.3
WRA PP **PP** **22 05 25.9 -1.5**
comp=Z,0.6nm,1.0s,baz=184,slow=6.1,SNR=1.9
CLL Collm 111.57 26 *e*PP **PP** **22 06 31.0 +0.1**
ANMO Albuquerque 112.73 299ǁ*i*PKIKP **PKiKP** **22 05 51.3 -0.3**
SOC Sochi 113.67 47 *i*PKIKP **PKiKP** **22 05 53.7 +0.9**
SOC *e* 22 06 46.9
SOC *e*PPP PPP 22 09 10.6
SOC *e*PS **PS** **22 16 19.7 -1.9**
SOC *e*SS SS 22 22 39.0 +5.2
SOC MLR MLR
comp=Z,104nm,19.0s
KIV Kislovodsk 115.22 48 *i*PKIKP **PKiKP** **22 05 57.5 +1.6**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KIV MLR MLR
comp=Z,197nm,22.0s
PFO Pinyon Flats O 116.83 291⇑*i*PKIKP **PKiKP** **22 06 00.7 +1.3**
MOOW Moose Ponds 121.63 302 PKPdf **PKiKP** **22 06 09.6 +1.0**
FINES FINESS Array B 123.91 27 PKP **PKPdf** **22 06 11.4 -0.4**
comp=Z,4.2nm,1.0s,baz=14,slow=0.8,SNR=11
FINES FINESS Array B 123.91 27 PKIKP **PKPdf** **22 06 11.9 0.0**
FINES FINESS Array B 123.91 27 PKPdf **PKiKP** **22 06 11.9 0.0**
CMAR Chiang Mai Arr 124.98 110 PKP **PKPdf** **22 06 14.7 -0.6**
comp=Z,1.3nm,0.3s,baz=232,slow=4.5,SNR=5.2
CMAR Chiang Mai Arr 124.98 110 PKIKP **PKPdf** **22 06 14.3 -1.0**
CMAR Chiang Mai Arr 124.98 110 PKPdf **PKiKP** **22 06 14.3 -1.0**
MSO Missoula 125.43 303 PKPdf **PKiKP** **22 06 14.8 -0.6**
G08A Pilot Rock 126.78 298 PKPdf **PKiKP** **22 06 18.9 +0.3**
ABKAR Akbulak array 126.94 55 PKPdf **PKiKP** **22 06 18.1 0.0**
KLMR Klimovskoe 127.35 34 PKIKP **PKiKP** **22 06 22.7 +3.7**
KLMR pmax pmax
comp=Z,7.0nm,1.4s
KLMR Klimovskoe 127.35 34 PKPdf **PKiKP** **22 06 22.7 +3.7**
KLMR AMP 22 06 29.7
comp=Z,7.0nm,1.4s
KSH Kashi 128.23 74 PKP **PKiKP** **22 06 22.5 +0.8**
KSH LR LR
comp=Z,340nm,17.5s
KSH LR LR
comp=Z,410nm,16.8s
KSH LR LR
comp=Z,270nm,18.7s
KIRV Kirov 129.11 41ǁ*i*PKIKP **PKiKP** **22 06 23.6 +1.0**
AAK Ala-Archa 129.62 70ǁ*i*PKIKP **PKiKP** **22 06 24.3 -0.1**
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 129.62 70 PKPdf **PKPdf** **22 06 23.9 +0.3**
PRGR Permogore 129.93 36 *e*PKIKP **PKiKP** **22 06 24.0 -0.1**
ARCES ARCESS Array B 130.47 21 PKP **PKiKP** **22 06 24.8 -0.2**
comp=Z,8.0nm,1.0s,baz=201,slow=1.0,SNR=7.7
ARU Arti 131.24 47 *i*PKIKP **PKiKP** **22 06 26.7 -0.3**
ARU 22 08 45.4
ARU MLR MLR
comp=Z,178nm,18.0s
ARU Arti 131.24 47 PKPdf **PKPdf** **22 06 25.2 -0.8**
SVE Sverdlovsk 132.37 48 *i*PKIKP **PKiKP** **22 06 29.6 +0.3**
SVE pmax pmax
comp=Z,16nm,1.6s
SVE MLR MLR
comp=Z,342nm,21.0s
PZH PanZhiHua 133.00 107 PKP **PKPdf** **22 06 31.0 +0.5**
PZH PP **PP** **22 09 00.0 +3.4**
PZH AMB AMB
comp=Z,130nm,6.5s
PZH LR LR
comp=Z,450nm,19.4s
PZH LR LR
comp=Z,380nm,20.2s
PZH LR LR
comp=Z,230nm,17.2s
BRVK Borovoye 134.33 57⇑*i*PKIKP **PKiKP** **22 06 33.2 -0.1**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 134.33 57 PKPdf **PKPdf** **22 06 30.2 -1.8**
YKA Yellowknife Ar 136.02 318 PKP **PKPdf** **22 06 33.2 -1.6**
comp=Z,3.4nm,0.8s,baz=125,slow=2.3,SNR=16
MK31 Makanchi Array 136.53 71⇑*i*PKIKP **PKiKP** **22 06 37.4 -0.7**
MKAR Makanchi Array 136.53 71 PKP **PKPdf** **22 06 35.4 -1.0**
comp=Z,0.4nm,0.6s,baz=231,slow=2.2,SNR=4.2
RES Resolute Bay 137.56 339 PKIKP **PKPdf** **22 06 36.8 -0.6**
RES Resolute Bay 137.56 339 PKPdf **PKiKP** **22 06 36.8 -0.6**
WMQ Urumqi 137.59 78 *e*PKP **PKiKP** **22 06 39.5 -0.9**
WMQ LR LR
comp=Z,310nm,18.1s
WMQ LR LR
comp=Z,210nm,18.7s
EUNU Eureka 139.58 347 PKPdf **PKPdf** **22 06 41.6 +0.5**
LZH Lanzhou 141.44 99 *e*P PKPdf 22 06 32.3 -14
LZH sP pPKPdf 22 06 41.0 -6.2
LZH pmax pmax
comp=Z,16nm,1.3s
GTA Gaotai 141.50 92⇑PKP **PKiKP** **22 06 50.5 +1.9**
ZALV Zalesovo Beam 141.97 63 PKhKP PKPpre 22 06 41.8
comp=Z,0.2nm,0.3s,baz=204,slow=3.2,SNR=1.9
XAN Xi'an 142.74 107 PKP **PKPdf** **22 06 49.0 +0.9**
XAN LR LR
comp=Z,160nm,16.5s
XAN LR LR
comp=Z,200nm,19.7s
XAN LR LR
comp=Z,260nm,20.3s
A36M Sachs Harbour 143.98 328 PKPdf PKPbc 22 06 47.7 +0.7
LYN LuoYang 145.03 110⇑PKPbc **PKPdf** **22 06 53.0 +1.0**
LYN ⇑PKPbc **PKiKP** **22 06 57.3 +1.4**
LYN LR LR
comp=Z,300nm,19.4s
LYN LR LR
comp=Z,170nm,13.9s
LYN LR LR
comp=Z,260nm,20.4s
INK Inuvik 145.63 321 PKIKP **PKPab** **22 06 52.6 0.0**
INK Inuvik 145.63 321 PKPdf **PKPab** **22 06 52.6 0.0**

NJ2	Nanjing	146.35	120	ePKPbc	PKPdf	22 06 54.5	+0.2
BCAR	Beaver Creek A	147.41	310		PKPbc	22 06 58.0	+0.3
BTO	Baotou	148.07	100	ePKPbc	PKPbc	22 06 59.5	-0.8
BTO				LR	LR		
	comp=Z,700nm,20.4s						
BTO				LR	LR		
	comp=Z,920nm,18.1s						
HNS	HongShan	148.37	109	⇓PKPbc	PKiKP	22 07 02.0	-0.6
NRIK	Noril'sk	148.54	38	PKPbc	PKPbc	22 06 59.4	-1.1
	comp=Z,6.4nm,1.0s,baz=234,slow=5.0,SNR=6.2						
NRIK	Noril'sk	148.54	38	*i* PKP2	PKiKP	22 07 01.2	-0.8
NRIK	Noril'sk	148.54	38		PKPbc	22 07 00.1	-0.3
TIA	Tai'an	148.75	113	ePKPbc	PKPbc	22 07 01.3	-0.8
TIA				LR	LR		
	comp=Z,240nm,18.6s						
TIA				LR	LR		
	comp=Z,160nm,21.1s						
HHC	Hu-ho-hao-te	149.09	101	ePKPbc	PKPdf	22 06 55.5	-3.3
HHC				LR	LR		
	comp=Z,220nm,15.2s						
HHC				LR	LR		
	comp=Z,220nm,15.9s						
HHC				LR	LR		
	comp=Z,330nm,15.9s						
MOY	Mondy	149.40	75	ePKP2	PKiKP	22 07 04.4	0.0
BMAR	Burnt Mountain	149.54	318		PKiKP	22 07 03.7	-0.5
ILAR	Eielson Array	150.02	312	PKP	PKPdf	22 06 57.1	-2.2
	comp=Z,2.7nm,1.0s,baz=316,slow=2.3,SNR=4.5						
ILAR				PKPbc	PKPbc	22 07 04.2	-0.1
	comp=Z,18nm,0.8s,baz=126,slow=1.6,SNR=55						
ZAK	Zakamensk	150.04	79	ePKIKP	PKPdf	22 06 59.5	-0.4
ZAK				pmax	pmax		
	comp=Z,19nm,1.4s						
COLA	College	150.44	312	PKIKP	PKPbc	22 07 05.0	-0.3
COLA	College	150.44	312	PKPbc	PKPbc	22 07 05.0	-0.3
SONM	Songino Array	150.46	85	PKP	PKPdf	22 06 59.1	-1.6
	comp=Z,0.8nm,0.9s,baz=224,slow=1.8,SNR=5.3						
SONM				PKPbc	PKPbc	22 07 05.5	-0.5
	comp=Z,2.2nm,0.5s,baz=236,slow=1.9,SNR=19						
SONM	Songino Array	150.46	85	PKIKP	PKPdf	22 06 59.9	-0.9
SONM						22 07 06.5	
SONM	Songino Array	150.46	85	PKPdf	PKPdf	22 06 59.9	-0.9
SONM				PKPbc	PKiKP	22 07 06.5	-0.3
ULN	Ulaanbaatar	150.85	86	PKIKP	PKPbc	22 07 07.0	0.0
ULN	Ulaanbaatar	150.85	86	PKPbc	PKPbc	22 07 07.0	0.0
BJI	Beijing	151.07	107	PKPbc	PKiKP	22 07 08.5	+0.4
BJI				PP	PP	22 11 11.5	+25
IRK	Irkutsk	151.46	76	ePKIKP	PKPbc	22 07 06.3	-1.8
IRK				pmax	pmax		
	comp=Z,30nm,2.9s						
TOLK	Toolik Lake Re	151.52	320	PKPbc	PKiKP	22 07 08.3	0.0
IMAR	Indian Mountai	153.02	314	PKPbc	PKPbc	22 07 11.0	-0.1
XLT	XiLinHaoTe	153.62	101	ePKPbc	PKPdf	22 07 07.5	+2.0
XLT				SKS	SKSdf	22 14 07.8	-4.4
XLT				AMB	AMB		
	comp=Z,86nm,6.4s						
XLT				LR	LR		
	comp=Z,16nm,18.4s						
XLT				LR	LR		
	comp=Z,140nm,15.7s						
XLT				LR	LR		
	comp=Z,230nm,19.7s						
TTA	Tatalina	153.71	307	PKIKP	PKiKP	22 07 13.3	+0.3
TTA	Tatalina	153.71	307	PKPbc	PKiKP	22 07 13.3	+0.3
MJAR	Matsushiro Arr	158.33	146	PKPab	PKPab	22 07 44.5	-1.7
	comp=Z,0.9nm,0.5s,baz=195,slow=4.8,SNR=1.2						
BILL	Bilibino	166.17	339	*i* PKIKP	PKPdf	22 07 19.8	+1.1
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s						
YSS	Yuzh-Sakhalins	169.12	139	*i* PKIKP	PKPdf	22 07 22.6	+1.1
YSS				eSS	SS	22 33 17.0	-0.6

MEX ***25*** *21:48:31.0±1.2, 14.1°18N×92.1°63W, h17km±287km, MD4.0*
SNET ***25*** *21:48:31.2±0.9, 14.1°25N×92.1°28W, h46km±15km, ML3.2*
GCG ***25*** *21:48:32.2±1.5, 14.1°29N×92.1°20W, h50km±29km, MD3.8*

ISC 25 21:48:26.6±2.6, 14°22N±0.07°×92°38W±0.06, h9km±16km, n23, σ1s73/39, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.69	9	*i* P	Pb	21 48 42.7	+1.8
THIG				*i* S	Sn	21 48 53.1	-0.4
RTAL	Retalhuleu	0.73	65	*e*P	Pn	21 48 43.8	+0.6
RTAL				*e*S	Sn	21 48 54.0	-0.5
STG3	Santiaguito 3,	0.93	58	*e*P	Pn	21 48 46.5	+0.4
STG3				*e*S	Sn	21 48 59.0	-0.6
HUEH	Huehuetenango	1.38	38	*e*P	Pn	21 48 53.8	+1.4
HUEH				*e*S	Sn	21 49 11.7	+0.7
FUG	Fuego 3	1.51	81	*e*P	Pb	21 48 55.0	0.0
FUG				*e*S	Sg	21 49 13.0	-2.3
PCIG		1.69	331	*e*P	Pn	21 48 55.8	-0.5
PCIG				*e*S	Sn	21 49 14.0	-4.0
PCG	Pacaya	1.73	84	*e*P	Pn	21 48 57.4	+0.3
PCG				*e*S	Sb	21 49 19.8	-0.8
NBG	Las Nubes	2.00	79	*e*P	Pn	21 49 02.5	+1.6
NBG				*e*S	Sn	21 49 21.1	-5.2
CCIG	Comitan	2.06	7	*e*P	Pn	21 49 04.0	+2.3
CCIG				*e*S	Sn	21 49 28.9	+1.2
SLOZ	Alcaldia de Sa	2.53	94	*e*P	Pn	21 49 09.2	+1.2
NUBE	Las Nubes	2.54	97	*e*P	Pn	21 49 08.9	+0.6
NUBE				*e*S	Sn	21 49 37.7	-1.8
NUBE				IAML		21 49 46.7	
	comp=Z,116nm,0.3s						
TGIG		2.64	344	*e*P	Pn	21 49 11.2	+1.7
TGIG				*e*S	Sn	21 49 39.9	-1.9
RTR	El Retiro	2.67	97	*e*P	Pn	21 49 11.1	+1.0
SBLS	San Blas	2.70	98	*e*P	Pn	21 49 11.9	+1.4
SBLS				*e*S	Sn	21 49 44.6	+1.1
CEVE	Cerro Verde	2.70	98	*e*P	Pn	21 49 12.1	+1.5
CEVE				*e*S	Sn	21 49 43.8	+0.3
SNJE	San Jose	2.71	97	*e*P	Pn	21 49 12.2	+1.5
SNJE				*e*S	Sn	21 49 43.8	+0.1
MRL	Marmol	2.75	71	*e*P	Pn	21 49 12.0	+0.9
MTO3	Montecristo	2.93	86	*e*P	Pn	21 49 14.4	+0.7
LFRS	El Faro	3.28	100	*e*P	Pn	21 49 19.7	+1.4
LFRS				*e*S	Sn	21 49 57.3	-0.2
COEG	Centro de Oper	3.45	100	*e*P	Pn	21 49 22.2	+1.5
UXUV	UXUV	3.52	331	*e*P	Pn	21 49 21.2	-0.4
UXUV				*e*S	Sn	21 50 01.2	-2.1
CMIG	Matias Romero	3.74	320	*e*	Pn	21 49 27.2	+2.6
CMIG				*e*		21 50 06.5	
LCND	La Caada	4.46	101	*e*P	Pn	21 49 36.2	+1.7

NIED ***25*** *21:52:15.9, 38.4°49N×137.5°52E, h0km, MW3.3, Moment Tensor Solution. s2 Moment tensor: Scale 10^14 Nm; Mrr0.84; Mθθ-0.51; Mφφ-0.33; Mrθ0.32; Mrφ-0.17; Mθφ0.72; Fault plane solution: Mo1.06000×10^14 NP1: φs241.00000°, δ23.00000°, λ115.00000°. NP2: φs34.00000°, δ69.00000°, λ80.00000°.*

JMA 25 21:52:15.9±0.1, 38.4°49N×137.5°52E, h0km, M3.7, 1C-1D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSD	Sado	0.74	128	⇓P	Pg	21 52 30.4	+0.4
JSD				*e*S	Sg	21 52 40.3	+0.7
JHG	Hegura jima	0.80	217	⇑P	Pg	21 52 31.6	+0.4
JHG				*e*S	Sg	21 52 42.3	+0.8
JSZ	Suzu	1.05	187	P	Pb	21 52 36.5	-0.4
JSZ				S	Sb	21 52 50.5	-0.6
JIZZ	Izumozaki	1.34	135	*e*S	Sn	21 53 00.6	+0.2
JAW	Awa shima	1.36	91	P	Pn	21 52 42.1	0.0
JAW				*e*S	Sn	21 53 00.7	-0.1
JNS	Sasagawa	1.57	115	P	Pg	21 52 46.0	+0.1
JNS				*e*S	Sg	21 53 06.6	+0.3

IDC ***25*** *22:18:55.3±1.2, 55.1°48S×27.1°17W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.5/32, mbtmp4.0/2, MS4.4/2, Ms1 4.3/2, ms1mx3.3/45, Error ellipse: s-maj=85.1km s-min=34.5km az=104.0*
NEIC ***25*** *22:18:57.3±0.8, 55.1°6S±0.2°×26.1°9W±0.1, h10km±1km, mb4.3/6, Error ellipse: s-maj=26.9km s-min=11.5km az=9.0*

ISC 25 22:18:59.1±0.7, 55.1°5S±0.1°×27.1°0W±0.2, h25km, n27, σ0s96/24, mb4.2/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	5.61	279	Pn	Pn	22 20 21.4	+0.6
VNA1	Neumayer--Stat	17.24	159	P	P	22 23 00.4	+1.3
VNA3	Neumayer Olymp	17.45	161	P	P	22 23 04.2	+2.7
VNA2	Neumayer--Watz	17.64	159	P	P	22 23 05.4	+1.9
	baz=323,slow=14						
SNAA	Sanae	19.18	157	P	Pn	22 23 21.6	+0.1
SNAA	Sanae	19.18	157		P	22 23 19.7	-0.8
TROLL	Troll, Antarti	20.67	154	P	Pn	22 23 40.8	+1.6
BELA	Belgrano 2	22.61	184	P	P	22 23 55.3	-2.1
BELA				IAmb	IAmb	22 24 01.9	
	comp=Z,5.6nm,1.0s						
QSPA	South Pole Qui	34.72	180	P	P	22 25 46.1	-0.6
BOSA	Boshof	45.74	76	LR	LR	22 43 12.9	
	comp=Z,154nm,18.1s,baz=195,slow=32						
VNDA	Vanda	47.10	183	P	P	22 27 28.4	+0.2
	comp=Z,1.1nm,0.8s,baz=191,slow=8.1,SNR=4.2						
VNDA	Vanda	47.10	183	P	P	22 27 28.7	+0.5
VNDA				IAmb	IAmb	22 27 28.9	
	comp=Z,2.6nm,1.2s						
TOA0	Torodi Ar. Sit	72.55	29	P	P	22 30 23.9	+0.1
TOA0				IAmb	IAmb	22 30 26.1	
	comp=Z,2.9nm,0.9s						
TORD	Torodi Ar. Bea	72.55	29	P	P	22 30 24.0	+0.2
	comp=Z,2.0nm,0.6s,baz=198,slow=6.0,SNR=14						
TORD	Torodi Ar. Bea	72.55	29	P	P	22 30 23.3	-0.5
TORD				IAmb	IAmb	22 30 39.8	
	comp=Z,5.3nm,1.4s						
KEST	Kesra	96.07	29	LR	LR	23 07 05.7	
	comp=Z,491nm,21.5s,baz=201,slow=30						
ABKAR	Akbulak array	126.99	55	PKPdf	PKiKP	22 38 00.4	+0.2
YKA	Yellowknife Ar	135.85	318	PKP	PKPdf	22 38 16.0	0.0
	comp=Z,0.1nm,0.4s,baz=135,slow=1.9,SNR=4.5						
INK	Inuvik	145.46	321	PKPdf	PKPab	22 38 33.5	-0.1
BCAR	Beaver Creek A	147.24	310	PKPdf	PKPbc	22 38 38.3	-0.5
BMAR	Burnt Mountain	149.37	318	PKPbc	PKiKP	22 38 44.9	-0.4
ILAR	Eielson Array	149.84	312	PKPbc	PKPbc	22 38 44.9	-0.4
	comp=Z,0.2nm,0.5s,baz=119,slow=2.0,SNR=8.5						
ILAR	Eielson Array	149.84	312		PKPbc	22 38 45.2	-0.2
SONM	Songino Array	150.59	85	PKPbc	PKPbc	22 38 48.1	+0.2
	comp=Z,0.4nm,0.4s,baz=229,slow=1.4,SNR=4.6						
SONM	Songino Array	150.59	85		PKPbc	22 38 47.9	0.0
TOLK	Toolik Lake Re	151.35	320	PKPbc	PKiKP	22 38 49.3	-0.1
PPLA	Purkeypile	151.80	308	PKPbc	PKiKP	22 38 50.4	-0.2

IDC ***25*** *22:20:01.4±1.5, 7.2°40S×154.1°71E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.0/30, mbtmp4.2/12, ML1.6/1, Error ellipse: s-maj=39.9km s-min=20.1km az=123.0*

ISC 25 22:20:06.0±1.1, 7.3°3S±0.1°×154.1°6E±0.1, h27km, n13, σ1s23/15, mb4.2/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	3.94	319	Pn	Pn	22 21 04.8	0.0
	12nm,0.3s,baz=220,slow=4.8,SNR=5.4						
KRVT				Sn	Sn	22 21 49.0	-1.3
	26nm,0.3s,baz=244,slow=22,SNR=8.4						
PMG	Port Moresby	7.70	254	Pn	Pn	22 21 54.7	-1.7
	0.5nm,0.3s,baz=154,slow=21,SNR=1.8						
PMG				Sn	Sn	22 23 25.1	+2.2
	1.6nm,0.3s,baz=183,slow=11,SNR=4.9						
WRA	Warramunga Arr	23.36	235	P	P	22 25 11.8	-0.8
	3.2nm,0.8s,baz=60,slow=9.5,SNR=22						
ASAR	Alice Springs	25.72	228	P	P	22 25 33.0	-1.3
	1.1nm,0.6s,baz=62,slow=9.4,SNR=9.9						
KSRS	Korea Array	51.04	331	P	P	22 29 06.5	+0.7
	1.6nm,0.8s,baz=161,slow=8.0,SNR=5.8						
USRK	Ussuriysk Ar.	55.19	340	P	P	22 29 36.2	-0.1
	1.9nm,1.0s,baz=130,slow=10,SNR=3.2						
PETK	Petropavlovsk-	60.22	2	P	P	22 30 09.8	-1.7
	2.3nm,0.8s,baz=183,slow=5.8,SNR=2.2						
CMAR	Chiang Mai Arr	60.60	296	P	P	22 30 15.4	+0.6
	0.8nm,0.3s,baz=135,slow=4.7,SNR=5.4						
SONM	Songino Array	69.39	328	P	P	22 31 12.9	+1.3
	2.5nm,0.8s,baz=138,slow=5.4,SNR=19						
MKAR	Makanchi Array	83.39	319	P	P	22 32 31.4	+0.4
	1.4nm,0.7s,baz=101,slow=5.4,SNR=18						
ZALV	Zalesovo Beam	84.23	326	P	P	22 32 35.1	+0.1
	2.7nm,0.5s,baz=113,slow=5.4,SNR=16						
YKA	Yellowknife Ar	96.76	28	P	P	22 33 34.8	+0.9
	0.8nm,1.0s,baz=267,slow=4.6,SNR=6.5						
TORD	Torodi Ar. Bea	152.76	285	PKPbc	PKiKP	22 40 01.6	-0.1
	1.0nm,0.7s,baz=52,slow=2.2,SNR=5.9						

SJA ***25*** *22:20:42.7±0.6, 30.8°87S×72.2°26W, h13km, ML4.7, MW4.4*
IDC ***25*** *22:20:44.5±0.7, 30.8°86S×71.7°74W, h0km, mb4.6/11, mb1 4.5/15, mb1mx4.4/29, mbtmp4.4/15, ML4.0/4, MS3.9/7, Ms1 3.9/7, ms1mx3.5/55, Error ellipse: s-maj=24.3km s-min=16.8km az=95.0*
VAO ***25*** *22:20:45.7±0.5, 31.0°2S×71.1°91W, h10km, mb4.5*
GUC ***25*** *22:20:48.6±0.8, 30.9°6S×71.7°79W, h35km±2km, ML4.7*
NEIC ***25*** *22:20:49.8, 30.9°4S×71.7°3W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr2.87; Mθθ0.53; Mφφ-3.40; Mrθ0.39; Mrφ-0.22; Mθφ-2.45; Fault plane solution: Mo4.03000×10^15 NP1: φs13.62000°, δ26.88000°, λ106.93000°. NP2: φs174.78000°, δ64.37000°, λ81.61000°. Principal axes: T 3.7742, Plg69.0000°, Azm68.0000°; N 0.4729, Plg8.0000°, Azm178.0000°; P -4.2471, Plg19.0000°, Azm271.0000°;*
NEIC ***25*** *22:20:49.2±1.7, 30.9°4S±0.0°×71.7°7W±0.6, h23km±3km, mb4.8/56, Mwr4.3/39, Mwr4.6(GUC) Error ellipse: s-maj=8.1km s-min=5.1km az=76.0*

ISC 25 22:20:47.8±0.8, 30.9°1S±0.0°×71.3°3W±0.3, h19km±3km, n240, σ1s42/277, mb4.8/36, MS3.9/4, 7C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	Fray Jorge	0.28	36		Pn	22 20 56.8	-0.2
CO06				Sg	Sn	22 21 01.8	-1.0
CO06	Fray Jorge	0.28	36	⇓*i*P	Pn	22 20 56.8	-0.2
CO06				*i* S	Sn	22 21 01.7	-1.0
CO06				IAML		22 21 02.5	
	comp=N,80μm,0.2s						
CO02	Combarbal	0.77	113		Pb	22 21 02.8	+0.2
CO02				Sg	Sb	22 21 12.5	-0.3
CO02	Combarbal	0.77	113	⇓*i*P	Pb	22 21 02.8	+0.2
CO02				*i* S	Sb	22 21 12.7	-0.1
CO02	Combarbal	0.77	113	*e*P	Pb	22 21 03.1	+0.4
CO02				*e*S	Sb	22 21 07.4	-5.4
CO02				IAML		22 21 13.0	
	comp=Z,35μm,0.3s						
CO05	La Serena	1.11	28		Pg	22 21 09.4	+0.1
CO05	La Serena	1.11	28	⇓*i*P	Pg	22 21 09.4	+0.1
CO05				*i* S	Sn	22 21 23.8	+0.8
CO05				IAML		22 21 26.8	
	comp=E,20μm,0.4s						
GO04	Tololo Observa	1.15	51		Pn	22 21 09.5	+0.4
GO04	Tololo Observa	1.15	51	⇓*i*P	Pb	22 21 09.8	+0.6
GO04				*i* S	Sb	22 21 24.7	+0.9
GO04	Tololo Observa	1.15	51	*e*P	Pb	22 21 09.7	+0.6
GO04				*e*S	Sg	22 21 27.4	+2.1
VA06	Catapilco	1.71	165	Pn	Pn	22 21 16.6	+0.1
VA06	Catapilco	1.71	165	⇑*i*P	Pn	22 21 16.7	+0.1
VA06				*i* S	Sn	22 21 37.8	-0.1
VA06				IAML		22 21 44.6	
	comp=E,14μm,0.6s						
CO01	Juntas del Tor	1.76	59		Pb	22 21 19.5	-0.1
CO01	Juntas del Tor	1.76	59	⇓*i*P	Pb	22 21 19.2	-0.4
CO01				*i* S	Sb	22 21 41.7	+0.3
CO01				IAML		22 21 44.2	
	comp=N,7μm,0.4s						
CO01	Juntas del Tor	1.76	59	*e*P	Pb	22 21 19.6	-0.1
CO01				*e*S	Sn	22 21 36.9	-2.6
CO01				IAML		22 21 44.2	
	comp=Z,4μm,0.3s						
VA01	Torpederas	2.12	176	Pn	Pn	22 21 23.8	+1.7
VA01	Torpederas	2.12	176	*e*P	Pn	22 21 22.0	-0.1
VA01				*e*S	Sb	22 21 51.7	+0.2
LCO	Las Campanas	2.13	28		Pn	22 21 24.1	+1.4
LCO	Las Campanas	2.13	28	⇑*i*P	Pn	22 21 24.0	+1.4
LCO				*i* S	Sn	22 21 50.3	+1.8
LCO	Las Campanas	2.13	28	*e*P	Pn	22 21 23.9	+1.4
VA03	San Esteban	2.15	150		Pn	22 21 23.8	+1.1
VA03	San Esteban	2.15	150	⇑*i*P	Pn	22 21 23.8	+1.1
VA03				*e*S	Sn	22 21 48.8	-0.1
VA03				IAML		22 21 56.3	
	comp=E,9μm,0.4s						
VA03	San Esteban	2.15	150	*e*P	Pn	22 21 24.0	+1.3
VA03				IAML		22 21 60.0	
	comp=Z,3μm,1.4s						
AROD	Rodeo	2.16	71	*e*P	Pb	22 21 26.9	+0.4
ROCH	El Roble	2.17	162	⇑*i*P	Pn	22 21 23.6	+0.4
ROCH				*i* S	Sn	22 21 50.1	+0.4
ROCH				IAML		22 21 56.8	
	comp=N,8μm,0.5s						
ROC1	El Roble	2.18	162	Pn	Pn	22 21 23.6	+0.4
RTLS	Leoncito	2.34	113	*e*P	Pb	22 21 29.1	-0.5
RTLS				*e*S	Sb	22 22 00.4	+2.2
RTLS				IAML		22 22 02.4	
	comp=Z,5μm,0.6s						
ACCO	Cerro Coronel	2.40	83	*e*P	Pb	22 21 30.3	-0.3
ACCO				*e*S	Sg	22 22 05.4	+0.3
MT02	Curacav	2.42	166	Pn	Pn	22 21 26.8	+0.4
MT02	Curacav	2.42	166	*e*P	Pn	22 21 26.3	0.0
MT02	Curacav	2.42	166	*e*P	Pn	22 21 26.3	0.0
MT02				*e*S	Sb	22 22 00.7	+0.5
MT02				IAML		22 22 07.8	
	comp=Z,2μm,0.9s						
PEL	Peldehue	2.43	157		Pn	22 21 27.5	+0.9
PEL	Peldehue	2.43	157	*e*P	Pn	22 21 27.5	+0.9
PEL				*e*S	Sb	22 22 01.9	+1.3
ACDV	Cuesta del Vie	2.45	73	*e*P	Pb	22 21 31.0	-0.3
ACDV				*e*S	Sg	22 22 05.4	-1.2
ACDV				IAML		22 22 12.6	
	comp=Z,2μm,0.6s						
AUSP	Uspallata	2.46	123	*e*P	Pb	22 21 30.8	-0.8
AUSP				*e*S	Sb	22 22 05.0	+3.3
MT05	Renca	2.65	160	Pn	Pn	22 21 30.3	+0.8
MT05	Renca	2.65	160	⇑*i*P	Pn	22 21 30.4	+0.8
MT05				*i* S	Sb	22 22 04.7	-2.1
MT05				IAML		22 22 14.6	
	comp=E,5μm,0.4s						
MT05	Renca	2.65	160	*e*P	Pn	22 21 30.3	+0.8
MT05				*e*S	Sb	22 22 10.2	+3.4
MT05				IAML		22 22 11.8	
	comp=Z,3μm,0.7s						
FCH	Farellones	2.75	152	⇑*i*P	Pn	22 21 32.3	+1.2
FCH				IAML		22 22 16.8	
	comp=E,2μm,0.4s						
VA05	Santo Domingo	2.75	176		Pn	22 21 31.0	+0.1
VA05	Santo Domingo	2.75	176	*e*P	Pn	22 21 30.9	+0.1
VA05				IAML		22 22 15.7	
	comp=E,6μm,0.4s						
AC04	Llanos de Chal	2.77	14		Pn	22 21 31.9	+0.8
AC04	Llanos de Chal	2.77	14	IAML		22 22 26.5	
	comp=N,2μm,0.8s						
AC04	Llanos de Chal	2.77	14	*e*P	Pn	22 21 31.4	+0.3
AC04				*e*S	Sn	22 22 04.4	+0.3
AC04				IAML		22 22 20.6	
	comp=Z,2μm,0.6s						
ZON	Zonda	2.77	104	*e*P	Pb	22 21 35.2	-1.5
ZON				*e*S	Sg	22 22 15.4	-1.6
ZON				IAML		22 22 22.6	
	comp=Z,2μm,1.0s						
MT03	Universidad Ad	2.81	157		Pn	22 21 33.0	+1.1
MT03	Universidad Ad	2.81	157	*e*P	Pn	22 21 32.9	+1.1
MT03				*e*S	Sn	22 22 05.9	+0.6
MT03				IAML		22 22 18.7	
	comp=E,6μm,0.7s						
MT03	Universidad Ad	2.81	157	*e*P	Pn	22 21 32.8	+0.9
MT03				*e*S	Sb	22 22 09.4	-2.2
MT03				*e*S	Sg	22 22 12.7	-5.6
MT03				IAML		22 22 17.7	
	comp=Z,3μm,1.1s						
RTLL	Cerro Villicun	2.91	99	*e*P	Pn	22 21 36.6	+3.5
RTLL				*e*S	Sb	22 22 16.1	+1.9
MT09	Talagante	2.95	166		Pn	22 21 34.3	+0.6
MT09	Talagante	2.95	166	⇑*i*P	Pn	22 21 34.4	+0.6
MT09				*i* S	Sn	22 22 08.9	+0.2
MT09				IAML		22 22 21.5	
	comp=N,3μm,0.6s						
RTCV	Cerro Valdivia	2.97	110	*e*P	Pb	22 21 38.4	-1.7
RTCV				*e*S	Sb	22 22 19.9	+3.9
MT01	Popeta	2.99	171	Pn	Pn	22 21 34.0	-0.2
LMEL	Las Melosas	3.24	155	Pn	Pn	22 21 38.9	+1.1
LMEL	Las Melosas	3.24	155	*e*P	Pn	22 21 38.7	+0.9
LMEL				*i* S	Sn	22 22 16.3	+0.4
LMEL				IAML		22 22 30.4	
	comp=N,2μm,0.5s						
BO04	La Punta	3.24	162		Pn	22 21 38.5	+0.7
BO04	La Punta	3.24	162	*e*P	Pn	22 21 38.2	+0.5
BO04				*e*S	Sn	22 22 16.0	+0.1
BO04				IAML		22 22 30.2	
	comp=E,1μm,0.5s						
BO01	Tunca	3.53	170	Pn	Pn	22 21 42.6	+0.9
BO01	Tunca	3.53	170	*e*P	Pn	22 21 42.1	+0.4
BO01				IAML		22 22 41.6	
	comp=E,691nm,0.8s						
BO01	Tunca	3.53	170	*e*P	Pn	22 21 41.5	-0.2
BO01				*e*S	Sn	22 22 24.9	+2.0
GO03	Copiap	3.58	23		Pn	22 21 43.7	+1.3
GO03	Copiap	3.58	23	*e*P	Pn	22 21 43.4	+1.0
GO03				IAML		22 22 45.0	
	comp=N,2μm,0.6s						
GO03	Copiap	3.58	23	*e*P	Pn	22 21 43.4	+1.0
GO03				*e*S	Sn	22 22 27.4	+3.2
BO03	Pichilemu	3.58	182	⇓*e*P	Pn	22 21 41.2	-1.1
BO03				IAML		22 22 48.8	
	comp=N,726nm,0.8s						
AC06	Mina Casimiro	3.76	20	Pn	Pn	22 21 45.5	+0.7
GO05	Huala	4.09	181	Pn	Pn	22 21 48.5	-0.9
GO05	Huala	4.09	181	*e*P	Pn	22 21 48.1	-1.3
GO05				*e*S	Sn	22 22 35.9	-0.9
ACHE	Chepes	4.44	95	*e*P	Pn	22

CPUP				Sn		Sn	22 26 24.3	-4.1
	comp=Z,0.4nm,0.3s,baz=177,slow=9.5,SNR=1.7							
CPUP				LR		LR	22 28 35.5	
	comp=Z,461nm,18.8s,baz=230,slow=35							
CPUP	**Villa Florida**	**13.52**	**74**	Pn		**Pn**	**22 23 56.6**	**-2.1**
CPUP	**Villa Florida**	**13.52**	**74**	*eP*		**Pn**	**22 23 59.2**	**+0.5**
LPAZ	**La Paz**	**14.94**	**14**	Pn		**Pn**	**22 24 19.9**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=182,slow=7.6,SNR=34							
LPAZ	**La Paz**	**14.94**	**14**	Pn		**Pn**	**22 24 21.0**	**+2.4**
LPAZ	**La Paz**	**14.94**	**14**	*eP*		**Pn**	**22 24 20.5**	**+1.9**
PLTB	**Pedras Altas**	**15.60**	**98**	Pn		**Pn**	**22 24 23.9**	**-2.7**
PLTB	**Pedras Altas**	**15.60**	**98**	*eP*		**Pn**	**22 24 27.7**	**+1.0**
CPSB	**Cacapava Do Su**	**15.84**	**93**	*eP*		**Pn**	**22 24 30.9**	**+1.2**
FRBT	**Francisco Belt**	**17.21**	**78**	*eP*		**Pn**	**22 24 47.0**	**-0.3**
ITAB	**Concordia**	**17.60**	**83**			**Pn**	**22 24 52.7**	**+0.6**
ITAB				IAmb		IAmb	22 24 56.5	
	comp=Z,93nm,1.4s							
SIV	**San Ignacio**	**17.81**	**36**	P		**Pn**	**22 24 53.6**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=223,slow=12,SNR=13							
SIV				LR		LR	22 33 03.4	
	comp=Z,683nm,18.4s,baz=156,slow=42							
AQDB	**Aquidauana**	**17.84**	**58**	*eP*		**P**	**22 24 57.1**	**+1.4**
PTGB	**Pitanga**	**18.53**	**75**	*eP*		**Pn**	**22 25 04.0**	**+0.5**
PTLB	**Pontes e Lacer**	**19.28**	**40**	*eP*		**P**	**22 25 10.7**	**-0.8**
PP1B	**Ponte de Pedra**	**20.32**	**53**	*eP*		**P**	**22 25 22.4**	**-0.5**
PCMB	**Pacaembu**	**20.61**	**68**	*eP*		**P**	**22 25 25.2**	**-0.8**
VILB	**Vilhena**	**20.84**	**34**	*eP*		**P**	**22 25 29.1**	**+0.6**
SALV	**Santo Antonio**	**20.99**	**48**	*eP*		**P**	**22 25 29.8**	**-0.3**
FRTB	**Fartura**	**21.18**	**75**	*eP*		**P**	**22 25 32.7**	**+0.6**
ETMB	**Extrema**	**21.62**	**15**	*eP*		**P**	**22 25 38.3**	**+1.4**
ITRB	**Iturama**	**22.34**	**65**	*eP*		**P**	**22 25 46.5**	**+1.8**
DVLD	**Doverlandia**	**22.87**	**56**	*eP*		**P**	**22 25 50.7**	**+0.4**
CZSB	**Cruzeiro do Su**	**23.07**	**358**	*eP*		**P**	**22 25 53.8**	**+1.5**
BB19B	**Bebedouro**	**23.08**	**70**	*eP*		**P**	**22 25 52.6**	**+0.2**
RCLB	**Rio Claro- Sao**	**23.27**	**75**	*eP*		**P**	**22 25 55.5**	**+1.2**
VAO	**Valinhos**	**23.48**	**76**	*eP*		**P**	**22 25 55.5**	**-1.0**
PDRB	**Porto dos Gac**	**23.75**	**39**	*eP*		**P**	**22 25 58.9**	**-0.2**
USHA	**Ushuaia**	**24.04**	**175**	P		**P**	**22 26 01.3**	**-0.1**
	comp=Z,22nm,0.8s,baz=12,slow=5.1,SNR=7.7							
CLDB	**Colider**	**24.87**	**40**	*eP*		**P**	**22 26 09.7**	**+0.3**
IPMB	**Ipameri, GO**	**24.99**	**64**	*eP*		**P**	**22 26 09.4**	**-1.1**
BDFB	**Brasilia**	**26.55**	**60**	P		**P**	**22 26 23.7**	**-1.0**
	comp=Z,5.2nm,0.6s,baz=235,slow=5.2,SNR=10							
BDFB	**Brasilia**	**26.55**	**60**	P		**P**	**22 26 23.4**	**-1.4**
TBTG	**Tabatinga, AM**	**26.64**	**4**	*eP*		**P**	**22 26 26.8**	**+1.5**
SNDB	**Serra Nova Dou**	**26.75**	**50**	*eP*		**P**	**22 26 27.8**	**+1.4**
PEXB	**Peixe**	**28.68**	**54**	*eP*		**P**	**22 26 44.0**	**+0.2**
MACA	**Manacapuru-AM**	**29.53**	**23**	*eP*		**P**	**22 26 51.2**	**-0.1**
JANB	**Januaria**	**29.73**	**64**	*eP*		**P**	**22 26 52.3**	**-0.7**
ITTB	**Itaituba**	**30.44**	**33**	*eP*		**P**	**22 26 58.4**	**-0.9**
SDBA	**SAO DESIDERIO**	**30.93**	**59**	*eP*		**P**	**22 27 03.7**	**0.0**
SMTB	**Santa Maria do**	**31.49**	**51**	*eP*		**P**	**22 27 08.9**	**+0.3**
RPN	**Rapa Nui**	**32.91**	**267**	LR		LR	22 35 34.5	
	comp=Z,122nm,21.7s,baz=196,slow=27							
MALB	**Monte Alegre**	**33.34**	**33**	*eP*		**P**	**22 27 24.0**	**-0.7**
PMSA	**Palmer Station**	**34.24**	**174**	LR		LR	22 40 28.2	
	comp=Z,230nm,18.6s,baz=80,slow=34							
BOAV	**Boa Vista**	**34.82**	**20**	*eP*		**P**	**22 27 38.3**	**+0.7**
NBPN	**Ponto Novo - B**	**35.46**	**63**	*eP*		**P**	**22 27 42.5**	**-0.7**
MCPB	**Macapa, AP**	**35.70**	**35**	*eP*		**P**	**22 27 44.6**	**-0.6**
NBMA	**Muriti-CE**	**38.78**	**60**	*eP*		**P**	**22 28 11.0**	**-0.4**
NBPB	**Pedra_Branca-C**	**39.41**	**57**	*eP*		**P**	**22 28 16.3**	**-0.3**
BAUV	**El Baul**	**39.79**	**6**	P		**P**	**22 28 18.6**	**-1.0**
BAUV				IAmb		IAmb	22 28 21.8	
	comp=Z,17nm,0.9s							
MDP	**Montagnes des**	**40.23**	**30**	P		**P**	**22 28 21.1**	**-2.2**
	comp=Z,10.0nm,0.9s,baz=199,slow=8.5,SNR=4.1							
MDP				LR		LR	22 46 60.0	
	comp=Z,152nm,18.1s,baz=222,slow=39							
BIRV	**Birongo**	**41.49**	**8**	P		**P**	**22 28 33.9**	**+0.1**
MLPR	**Magueyes Islan**	**48.81**	**6**	P		**P**	**22 29 32.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**48.84**	**6**	P		**P**	**22 29 32.8**	**+0.7**
OBIP	**Obispado Ponce**	**48.92**	**7**	P		**P**	**22 29 33.2**	**+0.5**
CELP	**Cerrillos**	**48.96**	**7**	P		**P**	**22 29 33.4**	**+0.5**
PDPR	**Patillas Dam,**	**48.96**	**7**	P		**P**	**22 29 33.1**	**+0.1**
SJG	**San Juan**	**49.04**	**7**	P		**P**	**22 29 31.5**	**-2.1**
	comp=Z,10nm,0.6s,baz=206,slow=0.5,SNR=6.9							
SJG	**San Juan**	**49.04**	**7**	P		**P**	**22 29 34.2**	**+0.6**
CBYP	**Canovanas**	**49.23**	**8**	P		**P**	**22 29 34.7**	**-0.4**
SMRT	**St. Maarten**	**49.40**	**11**	P		**P**	**22 29 36.5**	**+0.1**
BELA	**Belgrano 2**	**49.89**	**170**	P		**P**	**22 29 40.1**	**+0.7**
VNA1	**Neumayer--Stat**	**52.45**	**158**	P		**P**	**22 29 58.0**	**-0.8**
VNA2	**Neumayer--Watz**	**52.80**	**158**	P		**P**	**22 30 01.4**	**+0.1**
	baz=288,slow=8.0							
SNAA	**Sanae**	**54.39**	**159**	P		**P**	**22 30 13.0**	**0.0**
SNAA	**Sanae**	**54.39**	**159**	LR		LR	22 51 39.3	
	comp=Z,220nm,20.6s,baz=54,slow=34							
SNAA	**Sanae**	**54.39**	**159**	P		**P**	**22 30 13.2**	**+0.1**
SNAA				IAmb		IAmb	22 30 13.9	
	comp=Z,9.0nm,0.7s							
TROLL	**Troll, Antarti**	**56.10**	**159**	P		**P**	**22 30 25.5**	**0.0**
QSPA	**South Pole Qui**	**59.32**	**180**	P		**P**	**22 30 48.9**	**+0.6**
QSPA				IAmb		IAmb	22 30 49.7	
	comp=Z,5.6nm,0.8s							
X48A	**Hartselle**	**66.57**	**346**	P		**P**	**22 31 36.9**	**+0.4**
X48A				IAmb		IAmb	22 31 38.3	
	comp=Z,6.7nm,1.0s							
V58A	**Windy Hill, Pi**	**66.70**	**354**	P		**P**	**22 31 38.0**	**+0.7**
SWET	**Sewanee**	**67.10**	**347**	P		**P**	**22 31 40.3**	**+0.4**
SWET				IAmb		IAmb	22 31 41.5	
	comp=Z,8.2nm,1.2s							
TXAR	**Lajitas Array**	**67.14**	**330**	P		**P**	**22 31 40.6**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=167,slow=4.5,SNR=2.4							
TKL	**Tuckaleechee C**	**67.16**	**349**	P		**P**	**22 31 39.1**	**-1.1**
TKL				IAmb		IAmb	22 31 41.2	
	comp=Z,5.9nm,0.9s							
V52A	**Sevierville**	**67.31**	**350**	P		**P**	**22 31 40.9**	**-0.3**
V52A				IAmb		IAmb	22 31 43.5	
	comp=Z,6.0nm,1.0s							
WVT	**Waverly**	**68.35**	**346**	P		**P**	**22 31 48.3**	**+0.6**
W39A	**Magazine**	**68.92**	**341**	P		**P**	**22 31 52.3**	**+1.0**
W39A				IAmb		IAmb	22 31 54.0	
	comp=Z,6.7nm,1.0s							
LCAR	**Lake Charles**	**69.05**	**343**	P		**P**	**22 31 52.5**	**+0.5**
R55A	**Marlinton**	**69.27**	**353**	P		**P**	**22 31 53.6**	**+0.1**
R55A				IAmb		IAmb	22 32 19.4	
	comp=Z,18nm,1.4s							
U40A	**Yellville**	**69.76**	**342**	P		**P**	**22 31 57.3**	**+0.8**
U40A				IAmb		IAmb	22 31 57.8	
	comp=Z,6.9nm,1.1s							
HHAR	**Hobbs**	**69.98**	**341**	P		**P**	**22 31 58.3**	**+0.4**
HHAR				IAmb		IAmb	22 31 59.7	
	comp=Z,7.7nm,1.1s							
P57A	**Homestead Farm**	**70.27**	**355**	P		**P**	**22 32 01.1**	**+1.6**
P57A				IAmb		IAmb	22 32 02.4	
	comp=Z,9.1nm,1.1s							
FVM	**French Village**	**70.70**	**345**	P		**P**	**22 32 02.8**	**+0.6**
FVM				IAmb		IAmb	22 32 04.2	
	comp=Z,5.3nm,0.7s							
CCM	**Cathedral Cave**	**70.96**	**344**	P		**P**	**22 32 04.1**	**+0.3**
CCM				IAmb		IAmb	22 32 05.7	
	comp=Z,8.4nm,0.9s							
R40A	**Maddies Statio**	**71.43**	**343**	P		**P**	**22 32 06.7**	**+0.1**
R40A				IAmb		IAmb	22 32 08.5	
	comp=Z,6.4nm,0.8s							
P40A	**Paris**	**72.55**	**344**	P		**P**	**22 32 13.7**	**+0.4**
P40A				IAmb		IAmb	22 32 15.3	
	comp=Z,13nm,0.8s							
L59A	**Walton**	**72.79**	**358**	P		**P**	**22 32 16.7**	**+1.9**
L59A				IAmb		IAmb	22 32 17.3	
	comp=Z,11nm,0.9s							
LIC	**Lamto**	**73.64**	**72**	*e*PKP2		**P**	**22 32 20.8**	**+0.4**
	comp=Z,53nm,1.9s							
TIC	**Toumodi**	**73.89**	**72**	*e*PKP2		**P**	**22 32 21.5**	**-0.4**
KIC	**Kosan Boka**	**73.96**	**72**	*e*PKP2		**P**	**22 32 22.1**	**-0.2**
	comp=Z,6.9nm,0.6s							
DBIC	**Dimbokro**	**74.04**	**72**	P		**P**	**22 32 22.8**	**+0.1**
	comp=Z,6.6nm,0.5s,baz=221,slow=5.4,SNR=13							
DBIC	**Dimbokro**	**74.04**	**72**	P		**P**	**22 32 22.6**	**-0.1**
DBIC				IAmb		IAmb	22 32 23.4	
	comp=Z,8.5nm,0.7s							
SADO	**Sadowa**	**75.61**	**355**	P		**P**	**22 32 32.1**	**+1.1**
SADO				IAmb		IAmb	22 32 55.9	
	comp=Z,8.5nm,1.0s							
G62A	**West of Eustis**	**75.77**	**1**	P		**P**	**22 32 33.4**	**+1.4**
G62A				IAmb		IAmb	22 32 34.8	
	comp=Z,8.0nm,0.8s							
MAW	**Mawson**	**76.09**	**164**	P		**P**	**22 32 33.9**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=215,slow=10,SNR=6.1							
MAW	**Mawson**	**76.09**	**164**	P		**P**	**22 32 33.8**	**+0.1**
SUR	**Sutherland**	**76.18**	**119**	P		**P**	**22 32 36.0**	**+0.8**
F64A	**Sherman**	**76.47**	**2**	P		**P**	**22 32 36.7**	**+0.7**
F64A				IAmb		IAmb	22 32 38.0	
	comp=Z,9.5nm,1.0s							
D62A	**Allapoint, All**	**77.67**	**2**	P		**P**	**22 32 43.9**	**+1.3**
D62A				IAmb		IAmb	22 32 45.6	
	comp=Z,16nm,1.0s							
ECSD	**EROS Data Cent**	**77.67**	**342**	P		**P**	**22 32 43.7**	**+0.9**
E46A	**Sault Ste Mari**	**77.73**	**351**	P		**P**	**22 32 44.0**	**+0.9**
F36A	**Milaca**	**78.90**	**345**	P		**P**	**22 32 50.3**	**+0.8**
KOWA	**Kowa**	**79.21**	**66**	P		**P**	**22 32 51.2**	**-0.7**
KOWA				IAmb		IAmb	22 32 52.6	
	comp=Z,14nm,1.5s							
BOSA	**Boshof**	**81.36**	**118**	P		**P**	**22 33 03.2**	**-0.4**
	comp=Z,5.9nm,0.9s,baz=304,slow=3.1,SNR=5.5							
BOSA	**Boshof**	**81.36**	**118**	P		**P**	**22 33 02.4**	**-1.2**
NVAR	**Mina Array Bea**	**81.46**	**325**	P		**P**	**22 33 05.4**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=167,slow=4.5,SNR=1.5							
TOA0	**Torodi Ar. Sit**	**82.99**	**70**	P		**P**	**22 33 11.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**82.99**	**70**	P		**P**	**22 33 11.5**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=277,slow=5.9,SNR=30							
TORD	**Torodi Ar. Bea**	**82.99**	**70**	P		**P**	**22 33 11.8**	**-0.3**
LBTB	**Lobatse**	**83.45**	**115**	P		**P**	**22 33 14.1**	**-0.4**
LBTB				IAmb		IAmb	22 33 42.8	
	comp=Z,16nm,1.5s							
ULM	**Lac du Bonnet**	**83.57**	**345**	P		**P**	**22 33 14.1**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=49,slow=1.0,SNR=3.8							
ULM	**Lac du Bonnet**	**83.57**	**345**	P		**P**	**22 33 13.9**	**-0.3**
ULM				IAmb		IAmb	22 33 15.4	
	comp=Z,6.6nm,1.0s							
FCC	**Fort Churchill**	**91.24**	**349**	P		**P**	**22 33 52.2**	**+1.1**
YKA	**Yellowknife Ar**	**99.19**	**341**	P		**Pdif**	**22 34 27.4**	**0.0**
	comp=Z,0.5nm,0.8s,baz=142,slow=4.5,SNR=6.7							
ASAR	**Alice Springs**	**120.39**	**207**	PKP		**PKPdf**	**22 39 37.5**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=127,slow=2.5,SNR=2.3							
WR0	**Warramunga Arr**	**123.44**	**210**	PKPdf		**PKPdf**	**22 39 44.0**	**-0.3**
WB2	**Warramunga Arr**	**123.53**	**210**	PKPdf		**PKPdf**	**22 39 44.1**	**-0.4**
WRA	**Warramunga Arr**	**123.54**	**210**	PKP		**PKPdf**	**22 39 43.6**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=155,slow=1.6,SNR=19							
WRA	**Warramunga Arr**	**123.54**	**210**	PKPdf		**PKPdf**	**22 39 43.9**	**-0.6**
WB0	**Warramunga Arr**	**123.67**	**210**	PKPdf		**PKPdf**	**22 39 44.3**	**-0.5**
H11S2	**WAKE ISLAND Hyd**	**125.95**	**271**	T		T	00 58 36.0	
	baz=116,slow=75,SNR=94							
H11S1	**WAKE ISLAND Hyd**	**125.95**	**271**	T		T	00 58 35.3	
	baz=116,slow=75,SNR=82							
H11S3	**WAKE ISLAND Hyd**	**125.95**	**271**	T		T	00 58 37.3	
	baz=116,slow=75,SNR=28							
H11N3	**WAKE ISLAND Hyd**	**126.27**	**273**	T		T	00 59 00.1	
	baz=116,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hyd**	**126.29**	**273**	T		T	00 59 02.7	
	baz=116,slow=75,SNR=9.9							
H11N2	**WAKE ISLAND Hyd**	**126.29**	**273**	T		T	00 59 02.7	
	baz=116,slow=75,SNR=84							
BRVK	**Borovoye**	**144.78**	**40**	PKPdf		**PKPdf**	**22 40 23.3**	**+0.5**
YAK	**Yakutsk**	**145.87**	**342**	PKPbc		**PKPdf**	**22 40 23.8**	**-0.7**
	comp=Z,7.7nm,0.4s,baz=172,slow=1.5,SNR=4.5							
YAK	**Yakutsk**	**145.87**	**342**			**PKPbc**	**22 40 25.1**	**+0.1**
KKAR	**Karatay Array**	**147.82**	**57**	PKPbc		**PKPbc**	**22 40 31.4**	**0.0**
TOLI2	**Tolitoli**	**148.05**	**204**	PKPbc		**PKPbc**	**22 40 32.3**	**-0.5**
GAR	**Garm**	**148.12**	**65**	PKPbc		**PKPbc**	**22 40 33.1**	**+0.7**
GSI	**Gunungsitoli**	**148.89**	**159**	PKPbc		**PKPbc**	**22 40 35.3**	**+0.3**
ZAA0	**Zalesovo Array**	**151.48**	**29**	PKPbc		**PKPbc**	**22 40 39.4**	**-0.6**
ZALV	**Zalesovo Beam**	**151.48**	**29**	PKP		**PKPdf**	**22 40 34.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=247,slow=3.0,SNR=3.0							
ZALV				PKPbc		**pPKPdf**	**22 40 39.9**	**-0.3**
	comp=Z,3.5nm,0.5s,baz=241,slow=3.1,SNR=4.1							
ZALV	**Zalesovo Beam**	**151.48**	**29**	PKPbc		**PKPbc**	**22 40 40.0**	**+0.1**
MAKZ	**Makanchi**	**154.32**	**44**	PKPbc		**PKPbc**	**22 40 45.6**	**-0.9**
MK31	**Makanchi Array**	**154.51**	**44**	PKPbc		**PKPbc**	**22 40 46.6**	**-0.3**
MK31				PKPab		**PKPab**	**22 41 02.1**	**+0.7**
MKAR	**Makanchi Array**	**154.51**	**44**	PKPbc		**PKPbc**	**22 40 46.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=318,slow=1.6,SNR=6.3							
MKAR	**Makanchi Array**	**154.51**	**44**	PKPbc		**PKPbc**	**22 40 46.8**	**-0.2**
MKAR				PKPab		**PKPab**	**22 41 02.7**	**+1.2**
SONM	**Songino Array**	**163.04**	**4**	PKPab		**PKPab**	**22 41 37.7**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=2.9,slow=2.9,SNR=2.0							

*IDC **25** 22:27:31.6±0.8, 6°.77N×72°.96W, h160km±12km, mb2.6/1, mb1 3.2/3, mb1mx3.0/28, mbtmp3.5/3, Error ellipse: s-maj=66.4km s-min=7.6km az=132.0*
*RSNC **25** 22:27:33.2±1.1, 6°.83N×73°.17W, h146km±5km, ML3.4, Mw3.7*

ISC 25 22:27:31.9±0.9, 6°.85N±0°.03×73°.13W±0°.03, h149km±6km, n34, σ1°81/65, 3C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
BARC	**Barichara**	**0.26**	**192**	⇑*iP*		**Pn**	**22 27 53.1**	**+0.5**
BARC				*eS*		**Sn**	**22 28 07.8**	**-0.5**
BARC				*i*			22 28 09.3	
	comp=Z,823nm,0.3s							
PAMC	**Pamplona, Colo**	**0.65**	**41**	⇑*iP*		**Pn**	**22 27 56.0**	**+1.4**
PAMC				*eS*		**Sn**	**22 28 13.3**	**+1.4**
PAMC				*i*			22 28 15.4	
	comp=Z,241nm,0.4s							
RUSC	**La Rusia**	**0.95**	**177**	⇓*iP*		**Pn**	**22 27 57.1**	**+0.4**
RUSC				*eS*		**Sn**	**22 28 14.9**	**-0.8**
RUSC				*i*			22 28 16.6	
	comp=Z,236nm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	*eP*		**Pn**	**22 28 00.0**	**+0.1**
PTBC				*eS*		**Sn**	**22 28 20.4**	**-1.0**
PTBC				*i*			22 28 26.4	
	comp=Z,292nm,0.2s							
TAMC	**Tame, Arauca**	**1.39**	**107**	⇓*iP*		**Pn**	**22 28 01.6**	**+1.3**
TAMC				*eS*		**Sn**	**22 28 23.2**	**+1.2**
OCAC	**Ocana**	**1.40**	**352**	⇑*eP*		**Pn**	**22 28 01.2**	**+0.6**
OCAC				*eS*		**Sn**	**22 28 23.3**	**+0.8**
OCAC				*i*			22 28 27.0	
	comp=Z,513nm,0.2s							
SPBC	**San Pablo de B**	**1.51**	**218**	*eP*		**Pn**	**22 28 02.2**	**+0.5**
SPBC				*eS*		**Sn**	**22 28 23.8**	**-0.7**
SPBC				*i*			22 28 26.5	
	comp=Z,330nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*eP*		**Pn**	**22 28 05.7**	**+0.6**
ZARC				*eS*		**Sn**	**22 28 30.4**	**-0.1**
ZARC				*i*			22 28 37.7	
	comp=Z,274nm,0.4s							
NORC	**Norcasia**	**2.15**	**234**	*eP*		**Pn**	**22 28 09.2**	**+0.4**
NORC				*eS*		**Sn**	**22 28 37.3**	**+0.1**
NORC				*i*			22 28 43.4	
	comp=Z,104nm,0.2s							
CHIC	**Chingaza**	**2.28**	**195**	*eP*		**Pn**	**22 28 11.4**	**+0.6**
CHIC				*eS*		**Sn**	**22 28 40.6**	**-0.1**
CHIC				*i*			22 28 43.0	
	comp=Z,74nm,0.3s							
ROSC	**El Rosal**	**2.32**	**211**	P		**Pn**	**22 28 13.0**	**+1.7**
	comp=Z,34nm,0.3s,baz=78,slow=19,SNR=58							
ROSC				S		**Sn**	**22 28 42.9**	**+1.4**
	comp=Z,117nm,0.3s,baz=31,slow=19,SNR=23							
ROSC	**El Rosal**	**2.32**	**211**	*eP*		**Pn**	**22 28 12.9**	**+1.7**
ROSC				*eS*		**Sn**	**22 28 43.6**	**+2.2**
ROSC				*i*			22 28 47.8	
	comp=Z,280nm,0.4s							
UREC	**San Jos de Ur**	**2.55**	**291**	*eP*		**Pn**	**22 28 12.8**	**-0.8**
UREC				*eS*		**Sn**	**22 28 44.1**	**-1.7**
UREC				*i*			22 28 57.1	
	comp=Z,151nm,0.3s							
LL1C	**La Loma 1 Cana**	**2.71**	**351**	*eP*		**Pn**	**22 28 19.4**	**+3.8**
LL1C				*eS*		**Sn**	**22 28 53.4**	**+3.9**
LL1C				*i*			22 29 02.3	
	comp=Z,309nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.75**	**234**	*eP*		**Pn**	**22 28 18.4**	**+1.8**
GUY2C				*eS*		**Sn**	**22 28 51.1**	**+0.2**
GUY2C				*i*			22 28 58.8	
	comp=Z,62nm,0.5s							
VILC	**Villavicencio,**	**2.77**	**192**	*eP*		**Pn**	**22 28 16.4**	**-0.2**
VILC				*eS*		**Sn**	**22 28 50.4**	**-0.7**
PTGC	**Puerto Gaitan,**	**2.81**	**159**	⇓*iP*		**Pn**	**22 28 16.3**	**-0.6**
PTGC				*eS*		**Sn**	**22 28 50.2**	**-1.5**
PTGC				*i*			22 28 53.4	
	comp=Z,49nm,0.4s							
DBBC	**Dabeiba**	**3.06**	**273**	*eP*		**Pn**	**22 28 19.9**	**-0.3**
DBBC				*eS*		**Sn**	**22 28 55.6**	**-1.9**
DBBC				*i*			22 28 58.4	
	comp=Z,189nm,0.6s							
SDV	**Santo Domingo**	**3.20**	**50**	P		**Pn**	**22 28 22.2**	**+0.2**
	comp=Z,10nm,0.3s,baz=224,slow=12,SNR=23							
SDV				S		**Sn**	**22 28 59.6**	**-1.1**
	comp=Z,8.8nm,0.3s,baz=248,slow=20,SNR=12							
SDV	**Santo Domingo**	**3.20**	**50**	*eP*		**Pn**	**22 28 22.8**	**+0.8**
SDV				*eS*		**Sn**	**22 29 00.1**	**-0.6**
ANIL	**Santa Ana**	**3.26**	**224**	*eP*		**Pn**	**22 28 24.9**	**+2.0**
ANIL				*eS*		**Sn**	**22 29 04.5**	**+2.3**
ANIL				*i*			22 29 09.5	
	comp=Z,196nm,0.3s							
ORTC	**Ortega, Tolima**	**3.60**	**216**	*eP*		**Pn**	**22 28 27.9**	**+0.8**
ORTC				*eS*		**Sn**	**22 29 09.8**	**0.0**
ORTC				*i*			22 29 16.8	
	comp=Z,51nm,0.5s							
SJCC	**San Jacinto, C**	**3.65**	**326**	*eP*		**Pn**	**22 28 27.3**	**-0.3**
SJCC				*eS*		**Sn**	**22 29 08.3**	**-2.7**
SJCC				*i*			22 29 22.8	
	comp=Z,71nm,0.8s							
PLMC	**San Jos del P**	**3.68**	**239**	*eP*		**Pn**	**22 28 29.3**	**+1.2**
PLMC				*eS*		**Sn**	**22 29 12.0**	**+0.2**
PLMC				*i*			22 29 18.4	
	comp=Z,21nm,0.2s							
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*eP*		**Pn**	**22 28 33.4**	**-0.9**
CRJC				*eS*		**Sn**	**22 29 21.0**	**-1.8**
CRJC				*i*			22 29 21.6	
	comp=Z,27nm,0.7s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	*eP*		**Pn**	**22 28 38.1**	**+2.0**
YOTC				*eS*		**Sn**	**22 29 31.1**	**+5.2**
GUVC	**San Jose del G**	**4.30**	**173**	*eP*		**Pn**	**22 28 35.9**	**-0.3**
GUVC				*i*			22 29 20.6	
	comp=Z,30nm,0.1s							
GUVC				*eS*		**Sn**	**22 29 24.6**	**-1.6**
MACC	**Macarena, Meta**	**4.72**	**189**	*eP*		**Pn**	**22 28 40.1**	**-1.6**
MACC				*eS*		**Sn**	**22 29 32.1**	**-4.1**
DABV	**Dabajuro**	**4.74**	**31**	*eP*		**Pn**	**22 28 42.1**	**+0.2**
DABV				*eS*		**Sn**	**22 29 34.5**	**-2.0**
URIC	**Uribia, Colomb**	**4.95**	**13**	*eP*		**Pn**	**22 28 43.7**	**-1.1**
URIC				*eS*		**Sn**	**22 29 38.2**	**-3.3**
URIC				*i*			22 29 45.5	
	comp=Z,42nm,0.9s							
GARC	**Garzon, Huila**	**5.19**	**207**	*eP*		**Pn**	**22 28 47.4**	**-0.8**
GARC				*eS*		**Sn**	**22 29 42.3**	**-5.3**
GARC				*i*			22 29 51.4	
	comp=Z,30nm,0.2s							
YKA	**Yellowknife Ar**	**63.24**	**340**	P		**P**	**22 37 43.6**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=130,slow=6.5,SNR=2.1							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc		**PKPdf**	**22 47 01.6**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=115,slow=3.7,SNR=4.2							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**	**22 47 04.8**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=106,slow=2.9,SNR=8.5							

*NEIC **25** 22:51:16.8±1.4, 22°.2S±0°.1×179°.5W±0°.1, h567km±5km, mb4.7/28, Error ellipse: s-maj=19.5km s-min=11.7km az=147.0*
*IDC **25** 22:51:19

	comp=Z,15nm,1.1s							
HHC					pmax	pmax		
	comp=Z,140nm,6.0s							
PZH	**PanZhiHua**	**90.28**	**298**		P	**P**	**23 03 18.0**	**+0.9**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.5s							
PZH					pmax	pmax		
	comp=Z,100nm,5.1s							
ILAR	**Eielson Array**	**90.29**	**13**		P	**P**	**23 03 16.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=221,slow=4.2,SNR=6.8							
ILAR	**Eielson Array**	**90.29**	**13**		P	**P**	**23 03 16.7**	**+0.6**
PDAR	**Pinedale Array**	**91.16**	**44**		P	**P**	**23 03 22.3**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=204,slow=2.0,SNR=3.4							
PDAR	**Pinedale Array**	**91.16**	**44**		P	**P**	**23 03 21.3**	**+0.4**
MKAR	**Makanchi Array**	**111.34**	**313**		PKiKP	**PKiKP**	**23 08 44.2**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=187,slow=1.2,SNR=2.3							
ARCES	**ARCESS Array B**	**130.33**	**349**		PKP	**PKPdf**	**23 09 20.7**	**-0.4**
	comp=Z,0.0nm,0.9s,baz=35,slow=4.4,SNR=3.8							
AKASG	**Malin Array Be**	**143.78**	**329**		PKP	PKPbc	23 09 45.2	-0.3
	comp=Z,0.6nm,0.3s,baz=41,slow=5.5,SNR=7.4							
AKASG	**Malin Array Be**	**143.78**	**329**			PKPbc	23 09 45.4	-0.1
EKA	**Eskdalemuir Ar**	**146.81**	**4**		PKPbc	**PKPbc**	**23 09 54.0**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=1.8,slow=2.6,SNR=4.8							
BRTR	**Keskin Array B**	**146.89**	**309**		PKPbc	**PKPbc**	**23 09 54.5**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=152,slow=5.5,SNR=4.3							
OSTC	**Ostas**	**149.14**	**340**⇑	*e*	PKP	**PKiKP**	**23 10 02.1**	**+1.0**
CHVC	**Chvalec**	**149.16**	**341**⇑	*e*	PKP	**PKiKP**	**23 10 01.6**	**+0.4**
DPC	**Dobruska-Polom**	**149.29**	**340**⇑	*e*	PKP	**PKiKP**	**23 10 02.2**	**+0.7**
CLL	**Collm**	**149.37**	**345**	*i*	PKPbc	**PKiKP**	**23 10 01.5**	**0.0**
	comp=Z,6.0nm,0.6s							
MORC	**Moravsky Berou**	**149.38**	**338**	*e*	PKP	**PKiKP**	**23 10 01.5**	**-0.2**
KRLC	**Kraliky**	**149.38**	**339**⇑	*e*	PKP	**PKiKP**	**23 10 02.0**	**+0.3**
KRUC	**Moravsky**	**150.38**	**339**	*e*	PKP	**PKiKP**	**23 10 03.5**	**-0.2**
KHC	**Kasperske Hory**	**151.19**	**342**⇑	*e*	PKP	**PKiKP**	**23 10 06.2**	**+0.8**
KHC				*e*	PKPAB	**PKPab**	**23 10 17.5**	**+1.7**
CKRC	**Cesky Krumlov**	**151.26**	**341**⇑	*e*	PKP	**PKiKP**	**23 10 06.4**	**+0.8**
GERES	**GERESS Array B**	**151.42**	**342**		PKPbc	**PKiKP**	**23 10 06.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=28,slow=2.7,SNR=2.2							
BHOU	**Houvegnez**	**151.58**	**353**	*d*	PKPdf	**PKPdf**	**23 09 59.7**	**+0.6**
DOU	**Dourbes**	**151.98**	**354**	*d*	PKPdf	**PKPdf**	**23 09 58.8**	**-0.8**
ESDC	**Sonseca Array**	**162.18**	**11**		PKPab	**PKPab**	**23 11 04.5**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=353,slow=4.5,SNR=2.6							

IPEC ***25*** *23:00:28.8±0.2, 51.59N×16.19E, h1km, ML2.1/3, Error ellipse: s-maj=1.9km s-min=1.3km az=46.0*
VIE ***25*** *23:00:29.8±1.0, 51.47N×15.98E, h0km, mb2.5/2, ml2.5/5, Error ellipse: s-maj=6.8km s-min=3.6km az=31.0 83 km WNW of Wroclaw Suspected Mining induced.*
PRU ***25*** *23:00:30.2±0.0, 51.54N×16.06E, h0km*
ISC 25 23:00:28.9±1.2, 51°58N±0.05×16°08E±0.03, h0km, n26, σ0s89/51, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.75**	**170**	*e*Pg		**Pg**	**23 00 43.4**	**+0.2**
KSP				*e*Sg		**Sg**	**23 00 53.2**	**+0.2**
CHVC	**Chvalec**	**0.99**	**181**	*e*Pg		**Pg**	**23 00 48.2**	**+0.3**
CHVC				*e*SG		**Sg**	**23 01 01.1**	**+0.3**
OSTC	**Ostas**	**1.03**	**175**	*e*Pg		**Pg**	**23 00 49.0**	**+0.4**
OSTC				*e*SG		**Sg**	**23 01 02.1**	**+0.2**
	comp=Z,34nm,0.3s							
UPC	**Upice**	**1.08**	**182**	*e*PG		**Pg**	**23 00 49.6**	**+0.1**
UPC				*e*SG		**Sg**	**23 01 03.4**	**0.0**
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*PG		**Pg**	**23 00 52.3**	**-0.3**
DPC				*e*SG		**Sg**	**23 01 08.4**	**-0.3**
	comp=Z,14nm,0.3s							
PVCC	**Panska Ves**	**1.42**	**223**	*e*PG		**Pb**	**23 00 56.4**	**+0.1**
PVCC				*e*SG		**Sn**	**23 01 15.2**	**-0.2**
	comp=Z,109nm,0.2s							
BRG	**Berggiesshubel**	**1.52**	**243**	Pg		**Pg**	**23 00 58.2**	**+0.2**
BRG				Sg		**Sn**	**23 01 18.5**	**+0.7**
BRG				Amp			23 01 19.1	
	comp=Z,48nm,0.4s							
KRLC	**Kraliky**	**1.57**	**163**	*e*PG		**Pn**	**23 00 57.3**	**-0.7**
KRLC				*e*SG		**Sn**	**23 01 18.2**	**-0.9**
	comp=Z,8.5nm,0.4s							
PRU	**Pruhonice**	**1.87**	**212**	*e*PG		**Pb**	**23 01 03.9**	**0.0**
PRU				*e*SG		**Sb**	**23 01 27.7**	**-0.1**
	comp=Z,24nm,0.3s							
CLL	**Collm**	**1.95**	**263**	*e*Pn		**Pn**	**23 01 02.0**	**-1.2**
CLL				*i* Pg		**Pg**	**23 01 06.3**	**+0.1**
CLL				*i* Sg		**Sg**	**23 01 32.1**	**+0.7**
	comp=Z,18nm,0.4s							
MORC	**Moravsky Berou**	**2.03**	**152**	*e*Pn		**Pn**	**23 01 03.9**	**-0.5**
	baz=335							
MORC				*e*Sg		**Sb**	**23 01 31.9**	**-0.6**
	comp=Z,111nm,0.4s,baz=335							
VRAC	**Vranov**	**2.30**	**172**	*e*Pn		**Pn**	**23 01 07.9**	**-0.1**
	baz=354							
VRAC				*e*Sg		**Sb**	**23 01 41.0**	**+0.9**
	comp=Z,8.7nm,0.4s,baz=354							
KRUC	**Moravsky**	**2.53**	**175**	*e*Pn		**Pn**	**23 01 11.1**	**-0.1**
	baz=357							
KRUC	**Moravsky**	**2.53**	**175**	*e*Pg		**Pb**	**23 01 15.3**	**+0.2**
	baz=357							
KRUC				*e*Sg		**Sb**	**23 01 48.4**	**+1.6**
	comp=Z,7.4nm,0.5s,baz=357							
NKC	**Novy Kostel**	**2.67**	**241**	*e*PG		**Pg**	**23 01 19.3**	**-0.7**
NKC				*e*SG		**Sg**	**23 01 54.7**	**+0.2**
	comp=Z,41nm,0.6s							
OJC	**Ojcow**	**2.72**	**119**	*e*Pg		**Pg**	**23 01 21.2**	**+0.3**
OJC				*e*Sg		**Sg**	**23 01 56.1**	**0.0**
JAVC	**Velka Javorina**	**2.91**	**159**	*e*PN		**Pn**	**23 01 15.9**	**-0.6**
KHC	**Kasperske Hory**	**2.93**	**214**	*e*PN		**Pn**	**23 01 16.5**	**-0.2**
KHC				*e*PG		**Pb**	**23 01 22.9**	**+0.9**
KHC				*e*SN		**Sn**	**23 01 51.0**	**-1.6**
KHC				*e*SG		**Sg**	**23 02 01.6**	**-1.4**
	comp=Z,6.8nm,0.3s							
CKRC	**Cesky Krumlov**	**2.99**	**203**	*e*PN		**Pn**	**23 01 17.9**	**+0.4**
CKRC				*e*PG		**Pb**	**23 01 23.8**	**+0.8**
CKRC				*e*SG		**Sg**	**23 02 03.1**	**-1.8**
	comp=Z,6.4nm,0.3s							
LANS	**Liptovska Anna**	**3.26**	**137**	*e*SG		**Sg**	**23 02 11.9**	**-1.6**
NIE	**Niedzica**	**3.45**	**127**	*e*P		**Sg**	**23 01 35.0**	**0.0**
NIE				*e*S		**Sg**	**23 02 21.1**	**+1.3**
CONA	**Conrad Observa**	**3.66**	**182**	*e*Pn		**Pn**	**23 01 26.9**	**+0.1**
	comp=Z,458nm,0.0s							
CONA				*e*Pg		**Pg**	**23 01 37.0**	**-1.9**
	comp=Z,1.6nm,0.3s							
CONA				*e*Sg		**Sg**	**23 02 26.3**	**0.0**
	comp=Z,4.1nm,0.3s							
MOA	**Molln**	**3.92**	**198**	*i* Sg		**Sg**	**23 02 33.8**	**-0.9**
	comp=Z,3.4nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.21**	**203**	Sg		**Sg**	**23 02 44.9**	**+1.0**
	comp=Z,5.6nm,0.3s							
ARSA	**Arzberg**	**4.35**	**185**	*e*Sg		**Sg**	**23 02 50.4**	**+1.9**
	comp=Z,4.3nm,0.5s							
KBA	**Koelnbreinsper**	**4.85**	**203**	*i* Pn		**Pn**	**23 01 43.6**	**+0.4**
	comp=Z,0.5nm,0.2s							
KBA				Sg		**Sg**	**23 03 07.0**	**+2.4**
	comp=Z,3.4nm,0.5s							

IDC ***25*** *23:01:37.4±0.6, 5.20S×151.62E, h108km±6km, mb3.9/12, mb1 4.1/13, mb1mx3.6/46, mbtmp4.3/13, Error ellipse: s-maj=18.3km s-min=10.8km az=126.0*
NEIC ***25*** *23:01:38.4±1.2, 5.18S±0.08×151.6E±0.1, h111km±4km, mb4.5/35, Error ellipse: s-maj=16.5km s-min=9.1km az=123.0*
ISC 25 23:01:39.1±0.5, 5°12S±0.07×151°61E±0.07, h129km, n66, σ1s41/70, mb4.4/25, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.91**	**27**	P		**Pn**	**23 01 59.1**	**-2.0**
	277nm,0.3s,baz=240,slow=0.8,SNR=90							
KRVT				S		**Sn**	**23 02 14.2**	**-3.5**
	946nm,0.3s,baz=331,slow=16,SNR=41							
RABL	**Rabaul**	**1.07**	**31**	Pn		**Pn**	**23 02 00.6**	**-2.0**
RABL				Sn		**Sn**	**23 02 17.1**	**-3.4**
RABL	**Rabaul**	**1.07**	**31**	P		**Pn**	**23 02 00.8**	**-1.9**
PMG	**Port Moresby**	**6.13**	**226**	P		**Pn**	**23 03 05.9**	**-1.5**
	11nm,0.3s,baz=34,slow=11,SNR=9.0							
PMG				S		**Sn**	**23 04 13.2**	**-3.2**
	41nm,0.3s,baz=142,slow=20,SNR=19							
PMG	**Port Moresby**	**6.13**	**226**			**Pn**	**23 03 06.1**	**-1.4**
PMG						**Sn**	**23 04 14.2**	**-2.2**
PMG	**Port Moresby**	**6.13**	**226**	P		**Pn**	**23 03 06.7**	**-0.7**
COEN	**Coen**	**12.09**	**223**	Pn		**Pn**	**23 04 26.0**	**-1.3**
MTSU	**Mount Surprise**	**14.77**	**208**	P		**Pn**	**23 05 02.6**	**+0.9**
SANVU	**Saraoutou**	**18.45**	**125**	P		**P**	**23 05 44.3**	**-0.5**
SANVU				IAmb		IAmb	23 05 50.7	
	comp=Z,20nm,0.9s							
SANVU	**Saraoutou**	**18.45**	**125**	P		**Pn**	**23 05 46.9**	**+0.4**
QIS	**Mount Isa**	**19.28**	**216**	P		**P**	**23 05 55.0**	**+1.1**
EIDS	**Eidsvold**	**20.14**	**181**	P		**P**	**23 06 03.2**	**0.0**
KDU	**Kakadu**	**20.33**	**247**	P		**P**	**23 06 05.1**	**-0.2**
SIJI	**Sorong**	**20.74**	**281**	P		**P**	**23 06 11.5**	**+1.7**
	comp=Z,4.9nm,0.3s,baz=94,slow=10.0,SNR=5.1							
MTN	**Manton Dam**	**21.62**	**248**	P		**P**	**23 06 19.7**	**+0.6**
MTN				IAmb		IAmb	23 06 20.8	
	comp=Z,16nm,0.8s							
LIFNC	**LIFOU**	**21.75**	**137**	P		**P**	**23 06 17.0**	**-3.4**
DZM	**Mont Dzumac**	**22.14**	**141**	P		**P**	**23 06 24.3**	**-0.4**
	comp=Z,12nm,0.9s,baz=319,slow=5.4,SNR=7.8							
DZM	**Mont Dzumac**	**22.14**	**141**	P		**P**	**23 06 24.9**	**+0.3**
DZM				IAmb		IAmb	23 06 26.2	
	comp=Z,18nm,0.9s							
WB0	**Warramunga Arr**	**22.20**	**228**			**P**	**23 06 24.5**	**-0.7**
WB0				IAmb		IAmb	23 06 26.4	
	comp=Z,20nm,1.1s							
WR0	**Warramunga Arr**	**22.21**	**227**			**P**	**23 06 24.6**	**-0.7**
WR0				IAmb		IAmb	23 06 26.6	
	comp=Z,13nm,0.9s							
WRAB	**Tennant Creek**	**22.34**	**227**	P		**P**	**23 06 26.2**	**-0.4**
WRAB				IAmb		IAmb	23 06 28.1	
	comp=Z,26nm,1.1s							
WRAB	**Tennant Creek**	**22.34**	**227**	P		**P**	**23 06 26.1**	**-0.4**
WB2	**Warramunga Arr**	**22.34**	**227**			**P**	**23 06 25.9**	**-0.7**
WB2				IAmb		IAmb	23 06 27.8	
	comp=Z,15nm,0.8s							
WRA	**Warramunga Arr**	**22.35**	**227**	P		**P**	**23 06 25.7**	**-0.9**
	comp=Z,12nm,0.7s,baz=52,slow=10,SNR=59							
WRA				ScP		**ScP**	**23 13 46.4**	**+3.3**
	comp=Z,0.6nm,0.7s,baz=59,slow=2.7,SNR=3.1							
WRA	**Warramunga Arr**	**22.35**	**227**	P		**P**	**23 06 25.9**	**-0.8**
OUENC	**Ouen Island, N**	**22.65**	**141**	P		**P**	**23 06 27.7**	**-1.8**
OUENC				IAmb		IAmb	23 06 33.8	
	comp=Z,21nm,1.1s							
KNRA	**Kununurra**	**24.77**	**243**	P		**P**	**23 06 49.4**	**+0.4**
KNRA				IAmb		IAmb	23 06 50.1	
	comp=Z,17nm,0.9s							
AS31	**Alice Springs**	**25.12**	**221**	P		**P**	**23 06 52.6**	**+0.3**
ASAR	**Alice Springs**	**25.12**	**221**	P		**P**	**23 06 52.2**	**0.0**
	comp=Z,9.1nm,0.6s,baz=53,slow=9.0,SNR=59							
ASAR				ScP		**ScP**	**23 13 53.7**	**+3.0**
	comp=Z,0.5nm,0.7s,baz=28,slow=4.7,SNR=3.4							
ASAR	**Alice Springs**	**25.12**	**221**	P		**P**	**23 06 52.5**	**+0.2**
ARMA	**Armidale**	**25.17**	**180**	P		**P**	**23 06 53.0**	**+0.3**
STKA	**Stephens Creek**	**28.23**	**198**	P		**P**	**23 07 19.0**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=338,slow=16,SNR=2.5							
STKA	**Stephens Creek**	**28.23**	**198**	IAmb		IAmb	23 07 21.4	
	comp=Z,0.4nm,0.9s							
FITZ	**Fitzroy Crossi**	**28.46**	**241**	P		**P**	**23 07 21.6**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=50,slow=7.0,SNR=17							
FITZ	**Fitzroy Crossi**	**28.46**	**241**	P		**P**	**23 07 21.9**	**-0.3**
FITZ				IAmb		IAmb	23 07 39.0	
	comp=Z,5.5nm,0.7s							
TOLI2	**Tolitoli**	**31.41**	**281**	P		**P**	**23 07 45.9**	**-2.4**
FORT	**Forrest**	**33.80**	**218**	P		**P**	**23 08 08.8**	**-0.1**
FORT				IAmb		IAmb	23 08 09.1	
	comp=Z,13nm,0.8s							
MBWA	**Marble Bar**	**34.78**	**240**	P		**P**	**23 08 17.1**	**-0.5**
MBWA				IAmb		IAmb	23 08 26.5	
	comp=Z,10nm,1.1s							
OUZ	**Omahuta**	**36.19**	**149**	P		**P**	**23 08 30.8**	**+1.4**
GIRL	**Giralia**	**40.08**	**241**	P		**P**	**23 09 02.5**	**+0.4**
URZ	**Urewera**	**40.33**	**148**	P		**P**	**23 09 03.7**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=0,slow=1.0,SNR=1.8							
URZ	**Urewera**	**40.33**	**148**	P		**P**	**23 09 04.5**	**+0.6**
URZ				IAmb		IAmb	23 09 21.5	
	comp=Z,14nm,1.1s							
BKZ	**Black Stump Fm**	**40.70**	**150**	P		**P**	**23 09 07.8**	**+0.7**
BKZ				IAmb		IAmb	23 09 12.5	
	comp=Z,13nm,1.1s							
MORW	**Morawa**	**41.23**	**231**	P		**P**	**23 09 11.4**	**-0.1**
MORW				IAmb		IAmb	23 09 30.3	
	comp=Z,9.7nm,1.1s							
TUWZ	**Tuamarina**	**41.30**	**154**	P		**P**	**23 09 12.3**	**+0.4**
BSWZ	**Blackbirch Sta**	**41.51**	**155**	P		**P**	**23 09 13.4**	**-0.2**
BFZ	**Birch Farm**	**41.75**	**152**	P		**P**	**23 09 15.4**	**-0.2**
KHZ	**Kahutara**	**41.95**	**156**	P		**P**	**23 09 16.9**	**-0.2**
PLWZ	**Palliser**	**41.99**	**153**	P		**P**	**23 09 17.7**	**+0.1**
RPZ	**Rata Peaks**	**42.09**	**159**	P		**P**	**23 09 18.7**	**+0.4**
	comp=Z,8.2nm,0.9s,baz=326,slow=7.3,SNR=1.1							
RPZ	**Rata Peaks**	**42.09**	**159**	IAmb		IAmb	23 09 24.4	
	comp=Z,16nm,1.0s							
OXZ	**Oxford**	**42.12**	**158**	P		**P**	**23 09 18.9**	**+0.4**
OXZ				IAmb		IAmb	23 09 27.9	
	comp=Z,19nm,1.0s							
ODZ	**Otahua Downs**	**43.11**	**160**	P		**P**	**23 09 26.7**	**+0.2**
ODZ				IAmb		IAmb	23 09 30.2	
	comp=Z,20nm,1.1s							
SONM	**Songino Array**	**65.96**	**328**	P		**P**	**23 12 13.6**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=138,slow=5.4,SNR=3.8							
KDAK	**Kodiak Island**	**77.00**	**27**	P		**P**	**23 13 17.6**	**+0.2**
KDAK				IAmb		IAmb	23 13 24.6	
	comp=Z,12nm,0.9s							
P19K	**Oil Pt**	**77.72**	**25**	P		**P**	**23 13 23.2**	**+1.7**
I23K	**Minto, Yukon-K**	**82.17**	**21**	P		**P**	**23 13 45.8**	**+0.6**
BERG	**Berg Lake**	**82.27**	**27**	P		**P**	**23 13 48.3**	**+2.4**
WAX	**Waxell Ridge**	**82.68**	**27**	P		**P**	**23 13 50.0**	**+1.9**
ILAR	**Eielson Array**	**82.90**	**22**	P		**P**	**23 13 48.6**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=246,slow=5.6,SNR=2.1							
J25K	**Salcha River,**	**83.41**	**23**	P		**P**	**23 13 53.3**	**+1.5**
MAW	**Mawson**	**84.82**	**203**	P		**P**	**23 13 59.5**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=100,slow=11,SNR=2.0							
MAW	**Mawson**	**84.82**	**203**	P		**P**	**23 13 59.6**	**+0.9**
QSPA	**South Pole Qui**	**84.84**	**180**	P		**P**	**23 13 59.7**	**+0.5**
NVAR	**Mina Array Bea**	**93.21**	**52**	P		**P**	**23 14 40.2**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=264,slow=4.4,SNR=2.0							
TORD	**Torodi Ar. Bea**	**149.27**	**287**	PKPbc		**PKPbc**	**23 21 13.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=76,slow=1.8,SNR=12							

IDC 25 23:19:56.5±1.5, 55°50S×26°62W, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.6/17, mbtmp3.6/2, Error ellipse: s-maj=123.1km s-min=38.5km az=103.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**47.14**	**183**	P		P	23 28 29.6	-0.1
	0.4nm,0.7s,baz=202,slow=7.9,SNR=2.3							
TORD	**Torodi Ar. Bea**	**72.42**	**29**	P		P	23 31 24.4	0.0
	0.6nm,0.6s,baz=191,slow=6.2,SNR=4.8							
ILAR	**Eielson Array**	**149.99**	**312**	PKPbc		PKPbc	23 39 46.9	-0.4
	0.4nm,0.8s,baz=178,slow=4.2,SNR=2.8							

IDC 25 23:44:36.0±2.5, 54.41S×26.72W, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.6/16, mbtmp3.7/2, Error ellipse: s-maj=93.1km s-min=50.6km az=4.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**49.67**	**304**	P		P	23 53 30.5	+0.2
	0.8nm,0.8s,baz=162,slow=9.6,SNR=2.4							
TORD	**Torodi Ar. Bea**	**71.49**	**29**	P		P	23 55 58.4	0.0
	0.5nm,0.6s,baz=215,slow=6.3,SNR=6.1							
YKA	**Yellowknife Ar**	**135.12**	**319**	PKP		PKPdf	00 03 53.8	-2.0
	0.3nm,0.8s,baz=106,slow=2.3,SNR=1.9							
SONM	**Songino Array**	**150.31**	**83**	PKPbc		PKPbc	00 04 28.5	+0.1
	0.3nm,0.6s,baz=252,slow=0.9,SNR=2.2							

NEIC ***25*** *23:51:59.0±1.0, 4.95S±0.08×142.77E±0.10, h109km±7km, mb4.7/80, Error ellipse: s-maj=14.4km s-min=11.7km az=110.0*
IDC ***25*** *23:51:58.8±1.9, 4.97S×142.70E, h115km±18km, mb3.8/12, mb1 4.0/17, mb1mx4.0/28, mbtmp4.4/17, MS3.2/2, Ms1 3.2/2, ms1mx2.6/58, Error ellipse: s-maj=15.6km s-min=9.7km az=109.0*
DJA ***25*** *23:51:59.1±0.6, 5°S±5°×14°3E±°, h109km±5km, M5.0/16, mB5.3/6, mb4.7/16, MLv5.4/6, Mw(mB)4.7/6*
ISC 25 23:51:57.4±0.4, 4°99S±0.05×142°79E±0.05, h100km, n123, σ1s00/118, mb4.7/56, 2C, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMPI	**Merauke**	**4.20**	**215**	P		**Pn**	**23 53 00.9**	**+1.6**
SMPI	**Sarmi**	**5.04**	**306**	P		**Pn**	**23 53 13.7**	**+2.9**
	1.0nm2µm194nm,0.7s							
MANU	**Manus Island**	**5.43**	**58**			**Pn**	**23 53 17.3**	**+1.3**
PMG	**Port Moresby**	**6.17**	**136**	P		**Pn**	**23 53 28.9**	**+2.8**
	12nm,0.3s,baz=296,slow=16,SNR=31							
PMG				S		**Sn**	**23 54 34.3**	**-0.9**
	6.8nm,0.3s,baz=215,slow=18,SNR=1.3							
PMG	**Port Moresby**	**6.17**	**136**	Pn		**Pn**	**23 53 28.3**	**+2.3**
SRPI	**Serui, Papua**	**7.23**	**295**	P		**Pn**	**23 53 40.9**	**+0.3**
	1.1nm103nm,0.4s							
BAKI	**Biak**	**7.66**	**299**	P		**Pn**	**23 53 47.7**	**+1.3**
KRVT	**Keravat (AS076**	**9.23**	**86**	P		**Pn**	**23 54 10.2**	**+2.4**
	7.4nm,0.3s,baz=283,slow=2.1,SNR=13							
SIJI	**Sorong**	**12.21**	**289**	P		**Pn**	**23 54 48.0**	**0.0**
	2.4nm,0.3s,baz=82,slow=11,SNR=10							
SIJI				S		**Sn**	**23 57 02.9**	**+0.5**
	1.2nm,0.3s,baz=221,slow=23,SNR=1.5							
SWI	**Sorong**	**12.22**	**289**	P		**Pn**	**23 54 48.1**	**0.0**
	29nm,0.7s							
CTA	**Charters Tower**	**15.38**	**168**	LR		LR	00 01 34.9	
	comp=Z,75nm,21.6s,baz=175,slow=37							
LBMI	**Labuha**	**15.87**	**285**	P		**P**	**23 55 38.6**	**+1.7**
	1µm25nm,1.0s							
WB0	**Warramunga Arr**	**16.81**	**208**	P		**Pn**	**23 55 47.5**	**+0.7**
WR0	**Warramunga Arr**	**16.91**	**208**	P		**P**	**23 55 48.7**	**+0.3**
WR0				IAmb		IAmb	23 55 51.4	
	comp=Z,25nm,0.7s							
WRAB	**Tennant Creek**	**16.97**	**208**			**Pn**	**23 55 47.9**	**-1.0**
WB2	**Warramunga Arr**	**16.98**	**208**	P		**Pn**	**23 55 49.4**	**+0.5**
WRA	**Warramunga Arr**	**16.98**	**208**	P		**Pn**	**23 55 48.0**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=30,slow=13,SNR=37							
WRA				S		Sn	23 58 45.4	-12
	baz=264,slow=39,SNR=1.8							
WRA	**Warramunga Arr**	**16.99**	**208**	P		**Pn**	**23 55 49.1**	**+0.1**
KNRA	**Kununurra**	**17.39**	**231**	P		**Pn**	**23 55 55.0**	**+1.0**
KNRA				IAmb		IAmb	23 55 59.6	
	comp=Z,24nm,0.7s							
SOEI	**Soe**	**18.96**	**254**	P		**P**	**23 56 12.1**	**+0.9**
SOEI				IAmb		IAmb	23 56 22.4	
	comp=Z,31nm,0.6s							
BATI	**Baumata**	**19.65**	**254**	P		**P**	**23 56 19.1**	**+0.6**
	comp=Z,2.7nm,0.3s,baz=88,slow=4.1,SNR=1.8							
BATI	**Baumata**	**19.65**	**254**	P		**Pn**	**23 56 21.0**	**+0.2**
	comp=Z,28nm,0.6s							
AS31	**Alice Springs**	**20.45**	**204**	P		**P**	**23 56 28.5**	**+1.4**
ASAR	**Alice Springs**	**20.45**	**204**	P		**P**	**23 56 27.5**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=34,slow=11,SNR=28							
ASAR				S		**S**	**00 00 12.2**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=19,slow=26,SNR=3.2							
GTOI	**Gorontalo**	**20.53**	**285**	P		Pn	23 56 30.8	-0.3
	comp=Z,273nmcomp=Z,30nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.23**	**231**	P		**P**	**23 56 34.4**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=319,slow=9.4,SNR=1.6							
FITZ				S		**S**	**00 00 23.0**	**-3.0**
	comp=Z,7.2nm,0.7s,baz=160,slow=7.1,SNR=3.7							
FITZ				LR		LR	00 05 51.3	
	comp=Z,86nm,18.4s,baz=174,slow=39							
TOLI2	**Tolitoli**	**22.80**	**285**	P		**P**	**23 56 51.6**	**-0.5**
MPSI	**Mapaga**	**23.47**	**282**	P		**P**	**23 56 59.4**	**+1.1**
	comp=Z,3µmcomp=Z,4.9nm,0.6s							
DZM	**Mont Dzumac**	**28.51**	**129**	P		**P**	**23 57 42.5**	**-1.3**
DZM				IAmb		IAmb	23 57 43.7	
	comp=Z,9.9nm,0.8s							
TARA	**Tarawa**	**30.76**	**79**	P		**P**	**23 58 03.7**	**+0.1**
MJAR	**Matsushiro Arr**	**41.54**	**354**	P		**P**	**23 59 34.4**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=165,slow=10.0,S

L19K	**White Mountain**	**81.92**	**25**	P	**P**	**00 04 06.3**	**+0.6**
L19K				IAmb	IAmb	00 04 07.7	
	comp=Z,6.2nm,0.8s						
CNPM	**China Poot**	**82.39**	**28**	P	**P**	**00 04 08.7**	**+0.5**
BRLK	**Bradley Lake**	**82.65**	**28**	P	**P**	**00 04 09.8**	**+0.2**
K20K	**Telida**	**82.77**	**24**	IAmb	IAmb	00 04 11.9	
	comp=Z,8.9nm,0.8s						
NRIK	**Noril'sk**	**83.06**	**343**	P	**P**	**00 04 11.5**	**0.0**
	comp=Z,7.7nm,0.7s,baz=125,slow=5.3,SNR=14						
NRIK	**Noril'sk**	**83.06**	**343**	P	**P**	**00 04 11.9**	**+0.4**
NRIK				IAmb	IAmb	00 04 12.5	
	comp=Z,9.8nm,0.8s						
J20K	**Nowinta River**	**83.11**	**23**	P	**P**	**00 04 12.8**	**+1.0**
J20K				IAmb	IAmb	00 04 13.8	
	comp=Z,7.9nm,0.8s						
PPLA	**Purkeypile**	**83.35**	**25**	P	**P**	**00 04 13.4**	**+0.1**
PPLA				IAmb	IAmb	00 04 26.9	
	comp=Z,13nm,1.2s						
SEW	**Seward**	**83.45**	**28**	P	**P**	**00 04 13.7**	**0.0**
BRVK	**Borovoye**	**83.58**	**325**	P	**P**	**00 04 15.1**	**+0.6**
BRVK				IAmb	IAmb	00 04 15.7	
	comp=Z,14nm,1.0s						
CAST	**Castle Rocks**	**83.61**	**24**	P	**P**	**00 04 14.6**	**+0.2**
CAST				IAmb	IAmb	00 04 15.2	
	comp=Z,10nm,1.0s						
RC01	**Rabbit Creek A**	**83.69**	**27**	P	**P**	**00 04 15.0**	**+0.1**
IMAR	**Indian Mountai**	**84.07**	**22**	P	**P**	**00 04 17.2**	**+0.5**
KTH	**Kantishna Hill**	**84.14**	**24**	P	**P**	**00 04 16.7**	**-0.5**
KTH				IAmb	IAmb	00 04 17.5	
	comp=Z,6.2nm,0.8s						
PWL	**Port Wells**	**84.24**	**27**	P	**P**	**00 04 17.7**	**0.0**
H21K	**Melozitna Rive**	**84.28**	**22**	P	**P**	**00 04 18.7**	**+0.9**
GHO	**Glory Hole Cre**	**84.31**	**26**	P	**P**	**00 04 18.1**	**0.0**
GHO				IAmb	IAmb	00 04 21.1	
	comp=Z,10.0nm,0.8s						
BPAW	**Bear Paw Mtn.**	**84.33**	**24**	P	**P**	**00 04 18.6**	**+0.5**
BPAW				IAmb	IAmb	00 04 19.3	
	comp=Z,7.4nm,1.1s						
TRF	**Thorofare Moun**	**84.36**	**25**	P	**P**	**00 04 19.0**	**+0.5**
TRF				IAmb	IAmb	00 04 20.4	
	comp=Z,5.1nm,0.8s						
I21K	**Tanana**	**84.39**	**23**	IAmb	IAmb	00 04 20.1	
	comp=Z,7.4nm,1.0s						
SML	**Sawmill**	**84.58**	**26**	P	**P**	**00 04 19.8**	**+0.4**
GLI	**Glacier Island**	**84.81**	**28**	P	**P**	**00 04 20.8**	**+0.2**
MCK	**McKinley**	**85.03**	**25**	P	**P**	**00 04 21.4**	**-0.3**
MCK				IAmb	IAmb	00 04 21.9	
	comp=Z,9.1nm,0.8s						
SCM	**Sheep Creek Mo**	**85.04**	**27**	P	**P**	**00 04 21.8**	**+0.1**
FID	**Port Fidalgo**	**85.06**	**28**	P	**P**	**00 04 21.6**	**-0.2**
FID				IAmb	IAmb	00 04 22.1	
	comp=Z,12nm,0.8s						
NEA2	**Nenana**	**85.29**	**24**	IAmb	IAmb	00 04 23.2	
	comp=Z,6.7nm,0.7s						
H23K	**Yukon River**	**85.58**	**22**	IAmb	IAmb	00 04 25.7	
	comp=Z,8.6nm,0.9s						
WRH	**Wood River Hil**	**85.64**	**24**	IAmb	IAmb	00 04 24.7	
	comp=Z,9.0nm,0.8s						
COLD	**Coldfoot**	**85.88**	**21**	IAmb	IAmb	00 04 27.5	
	comp=Z,7.6nm,1.0s						
H24K	**Noodor Dome**	**86.22**	**23**	IAmb	IAmb	00 04 28.8	
	comp=Z,6.2nm,0.8s						
ILAR	**Eielson Array**	**86.23**	**24**	P	**P**	**00 04 26.2**	**-1.3**
	comp=Z,9.4nm,0.7s,baz=258,slow=4.7,SNR=98						
TOLK	**Toolik Lake Re**	**86.65**	**20**	IAmb	IAmb	00 04 31.9	
	comp=Z,8.4nm,0.7s						
RIDG	**Independent Ri**	**86.74**	**25**	P	**P**	**00 04 30.3**	**+0.2**
J25K	**Salcha River,**	**86.80**	**24**	P	**P**	**00 04 30.1**	**-0.3**
J25K				IAmb	IAmb	00 04 30.9	
	comp=Z,9.3nm,0.9s						
BARN	**Barnard Glacie**	**87.40**	**28**	P	**P**	**00 04 34.5**	**+1.0**
M27K	**Edge Creek, AK**	**87.64**	**27**	IAmb	IAmb	00 04 36.8	
	comp=Z,11nm,0.9s						
L27K	**Beaver Creek,**	**87.85**	**26**	IAmb	IAmb	00 04 37.0	
	comp=Z,7.1nm,0.9s						
BMAR	**Burnt Mountain**	**87.99**	**22**	P	**P**	**00 04 37.5**	**+1.4**
ABKAR	**Akbulak array**	**89.08**	**319**	P	**P**	**00 04 40.4**	**-1.1**
DAWY	**Dawson**	**89.15**	**25**	P	**P**	**00 04 42.1**	**+0.5**
DAWY				IAmb	IAmb	00 04 43.2	
	comp=Z,10nm,0.9s						
YKA	**Yellowknife Ar**	**100.22**	**27**	P	**Pdif**	**00 05 31.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=280,slow=4.7,SNR=8.6						
PLCA	**Paso Flores**	**125.19**	**149**	PKP	**PKiKP**	**00 10 47.3**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=169,slow=1.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**140.78**	**285**	PKhKP	PKPpre	00 11 07.9	
	comp=Z,0.2nm,0.4s,baz=96,slow=3.7,SNR=1.6						
TORD				PKP	**PKPdf**	**00 11 17.8**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=118,slow=2.4,SNR=5.3						
LPAZ	**La Paz**	**142.82**	**125**	PKP	**PKPdf**	**00 11 18.3**	**-2.7**
	comp=Z,0.7nm,0.5s,baz=86,slow=3.8,SNR=4.5						
DBIC	**Dimbokro**	**147.77**	**275**	PKPbc	**PKPbc**	**00 11 31.4**	**-0.4**
	comp=Z,4.6nm,0.6s,baz=100,slow=4.4,SNR=6.0						

*OSPL **26** 00:23:38.2±2.8, 19°.41N×65°.15W, h31km±172km, ML3.5*
*NEIC **26** 00:23:38.7±1.5, 19°.50N±0°.07×65°.42W±0°.05, h36km±45km, Error ellipse: s-maj=12.1km s-min=4.3km az=211.0*
*RSPR **26** 00:23:38.2, 19°.49N×65°.37W, h77km±4km, MD3.6/13*

ISC 26 00:23:37.8±1.6, 19°.56N±0°.07×65°.39W±0°.05, h35km, n57, σ0°55/68, 11C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUPR	**Culebra, Puert**	**1.25**	**175**	*i*P	**Pn**	**00 23 58.7**	**0.0**
CUPR	**Culebra, Puert**	**1.25**	**175**	*e*S	**Sn**	**00 24 15.2**	**+0.9**
CUPR	**Culebra, Puert**	**1.25**	**175**		**Pn**	**00 23 58.5**	**-0.2**
CUPR					**Sn**	**00 24 14.8**	**+0.6**
STVI	**Saint Thomas**	**1.27**	**161**	*i*P	**Pn**	**00 23 59.3**	**+0.3**
STVI	**Saint Thomas**	**1.27**	**161**	*e*S	**Sn**	**00 24 15.0**	**+0.2**
STVI	**Saint Thomas**	**1.27**	**161**		**Pn**	**00 23 58.9**	**-0.1**
STVI					**Sn**	**00 24 14.9**	**+0.2**
CBYP	**Canovanas**	**1.35**	**199**		**Pn**	**00 23 59.1**	**-1.1**
GCPR	**Guaynabo City**	**1.40**	**208**		**Pn**	**00 23 60.0**	**-0.9**
GCPR				IAML		00 24 27.1	
	comp=N,169nm,0.7s						
GCPR				IAML		00 24 27.5	
	comp=E,162nm,0.6s						
MTP	**Monte Pirata**	**1.46**	**186**	*i*P	**Pn**	**00 24 01.6**	**0.0**
MTP				*e*S	**Sn**	**00 24 19.4**	**-0.1**
MTP	**Monte Pirata**	**1.46**	**186**		**Pn**	**00 24 01.6**	**0.0**
MTP					**Sn**	**00 24 19.4**	**-0.1**
MTP	**Monte Pirata**	**1.46**	**186**	IAML		00 24 24.4	
	comp=E,178nm,0.3s						
HUMP	**Col San Antoni**	**1.47**	**197**	*i*P	**Pn**	**00 24 01.4**	**-0.4**
HUMP	**Col San Antoni**	**1.47**	**197**	*e*S	**Sn**	**00 24 20.2**	**+0.4**
HUMP	**Col San Antoni**	**1.47**	**197**		**Pn**	**00 24 01.4**	**-0.4**
HUMP					**Sn**	**00 24 20.0**	**+0.1**
HUMP				IAML		00 24 28.3	
	comp=N,159nm,0.4s						
EMPR	**Esperanza - Ma**	**1.52**	**225**	*i*P	**Pn**	**00 24 02.4**	**-0.1**
EMPR	**Esperanza - Ma**	**1.52**	**225**	*e*S	**Sn**	**00 24 21.6**	**+0.6**
EMPR	**Esperanza - Ma**	**1.52**	**225**		**Pn**	**00 24 02.4**	**-0.1**
EMPR					**Sn**	**00 24 21.6**	**+0.6**
EMPR	**Esperanza - Ma**	**1.52**	**225**	IAML		00 24 32.0	
	comp=E,459nm,0.5s						
SJG	**San Juan**	**1.61**	**207**		**Pn**	**00 24 03.2**	**-0.5**
SJG				IAML		00 24 30.0	
	comp=E,148nm,0.5s						
SJG				IAML		00 24 33.9	
	comp=E,175nm,0.5s						
PDPR	**Patillas Dam,**	**1.64**	**201**		**Pn**	**00 24 03.5**	**-0.7**
PDPR				IAML		00 24 36.1	
	comp=E,119nm,1.8s						
IGPR	**InterUniversit**	**1.72**	**203**	*i*P	**Pn**	**00 24 05.1**	**-0.1**
IGPR	**InterUniversit**	**1.72**	**203**	*e*S	**Sn**	**00 24 25.9**	**-0.1**
IGPR	**InterUniversit**	**1.72**	**203**		**Sn**	**00 24 25.9**	**-0.1**
AOPR	**Arecibo Observ**	**1.76**	**227**	*i*P	**Pn**	**00 24 05.6**	**-0.3**
AOPR	**Arecibo Observ**	**1.76**	**227**	*e*S	**Sn**	**00 24 27.2**	**+0.1**
AOPR	**Arecibo Observ**	**1.76**	**227**		**Pn**	**00 24 05.6**	**-0.3**
AOPR					**Sn**	**00 24 27.2**	**+0.1**
CELP	**Cerrillos**	**1.85**	**218**	*i*P	**Pn**	**00 24 06.8**	**-0.3**
CELP	**Cerrillos**	**1.85**	**218**	*e*S	**Sn**	**00 24 29.3**	**0.0**
CELP	**Cerrillos**	**1.85**	**218**		**Pn**	**00 24 06.8**	**-0.3**
CELP					**Sn**	**00 24 29.3**	**0.0**
CDVI	**St. Croix**	**1.89**	**162**	*i*P	**Pn**	**00 24 07.1**	**-0.4**
CDVI	**St. Croix**	**1.89**	**162**	*e*S	**Sn**	**00 24 29.3**	**-0.9**
CDVI	**St. Croix**	**1.89**	**162**		**Pn**	**00 24 09.0**	**+1.4**
CDVI	**St. Croix**	**1.89**	**162**		**Sn**	**00 24 29.3**	**-0.9**
OBIP	**Obispado Ponce**	**1.89**	**218**	*i*P	**Pn**	**00 24 07.4**	**-0.2**
OBIP	**Obispado Ponce**	**1.89**	**218**	*e*S	**Sn**	**00 24 30.6**	**+0.3**
OBIP	**Obispado Ponce**	**1.89**	**218**		**Pn**	**00 24 07.4**	**-0.2**
OBIP					**Sn**	**00 24 30.6**	**+0.3**
OBIP	**Obispado Ponce**	**1.89**	**218**	IAML		00 24 40.3	
	comp=N,103nm,1.1s						
AGPR	**Aguadilla, PR**	**1.95**	**237**	Pn	**Pn**	**00 24 09.2**	**+0.7**
AGPR				IAML		00 24 38.3	
	comp=E,128nm,1.0s						
AGPR				IAML		00 24 42.2	
	comp=N,132nm,0.8s						
AGPR	**Aguadilla, PR**	**1.95**	**237**	*i*P	**Pn**	**00 24 08.8**	**+0.4**
AGPR				*e*S	**Sn**	**00 24 31.4**	**-0.4**
AGPR				IAML		00 24 37.0	
	comp=E,84nm,0.9s						
GBPR	**Guanica, Bosqu**	**2.11**	**222**	*e*P	**Pn**	**00 24 10.9**	**+0.3**
GBPR	**Guanica, Bosqu**	**2.11**	**222**	*e*S	**Sn**	**00 24 35.9**	**+0.2**
PRSN	**Puerto Rico Se**	**2.13**	**232**		**Sn**	**00 24 36.3**	**+0.2**
MLPR	**Magueyes Islan**	**2.22**	**225**	*e*P	**Pn**	**00 24 12.3**	**+0.1**
MLPR	**Magueyes Islan**	**2.22**	**225**	*e*S	**Sn**	**00 24 38.8**	**+0.4**
MLPR	**Magueyes Islan**	**2.22**	**225**		**Pn**	**00 24 12.3**	**+0.1**
MLPR					**Sn**	**00 24 38.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.24**	**227**	*e*P	**Pn**	**00 24 12.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.24**	**227**	*e*S	**Sn**	**00 24 38.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.24**	**227**		**Pn**	**00 24 12.5**	**+0.1**
CRPR					**Sn**	**00 24 38.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.24**	**227**	IAML		00 24 47.3	
	comp=N,80nm,1.1s						
CRPR	**Cabo Rojo, PR**	**2.24**	**227**	*i*P	**Pn**	**00 24 12.6**	**+0.1**
CRPR				*e*S	**Sn**	**00 24 37.1**	**-1.7**
CRPR				IAML		00 24 45.0	
	comp=Z,44nm,0.5s						
SMRT	**St. Maarten**	**2.66**	**124**	Pn	**Pn**	**00 24 17.9**	**-0.2**
SMRT				IAML		00 24 56.0	
	comp=E,106nm,0.4s						
SMRT				IAML		00 25 09.5	
	comp=N,91nm,0.5s						
DR12	**Loma Pena Alta**	**3.85**	**259**	Pn	**Pn**	**00 24 34.5**	**0.0**
BANI	**BANI**	**4.84**	**257**	*i*P	Pn	00 24 51.2	+3.0
BANI				*e*S	**Sn**	**00 25 42.2**	**-1.0**
BANI				IAML		00 25 51.0	
	comp=Z,30nm,1.5s						
SDDR	**Presa de Saban**	**5.60**	**265**		**Pn**	**00 24 59.5**	**+0.8**
SDDR					**Sn**	**00 26 01.8**	**0.0**
SDDR	**Presa de Saban**	**5.60**	**265**	*i*P	**Pn**	**00 25 00.2**	**+1.5**
SDDR				*e*S	**Sn**	**00 26 00.6**	**-1.3**
SDDR				IAML		00 26 06.9	
	comp=Z,21nm,0.4s						
GRTK	**Grand Turk**	**5.72**	**291**	Pn	**Pn**	**00 25 00.0**	**-0.3**
GRTK	**Grand Turk**	**5.72**	**291**	*i*P	**Pn**	**00 25 00.3**	**0.0**
GRTK				IAML		00 26 02.7	
	comp=Z,48nm,1.1s						

*BJI **26** 00:33:34.2±0.0, 31°.70N×50°.51E, h24km, mb4.7/45, mB4.9/19, Ms4.2/8, Ms7 3.9/7*
*TEH **26** 00:33:35.5, 31°.77N×51°.10E, h8km, ML4.3*
*NEIC **26** 00:33:36.5±1.5, 31°.67N±0°.02×50°.93E±0°.08, h10km±1km, mb4.6/100, Error ellipse: s-maj=11.0km s-min=3.4km az=274.0*
*GII **26** 00:33:36.2±0.0, 31°.71N×51°.01E, h10km*
*MOS **26** 00:33:36.3±1.4, 31°.75N×50°.95E, h21km, mb4.7/51, Error ellipse: s-maj=5.5km s-min=3.8km az=112.7*
*IDC **26** 00:33:38.3±2.9, 31°.70N×50°.95E, h24km±18km, mb4.2/30, mb1 4.2/40, mb1mx4.1/58, mbtmp4.3/40, ML3.3/6, MS3.5/37, Ms1 3.5/37, ms1mx3.3/91, Error ellipse: s-maj=12.7km s-min=10.2km az=6.0*
*DSN **26** 00:33:40.4±1.0, 31°.46N×51°.30E, h10km, ML4.2/11, Error ellipse: s-maj=15.6km s-min=7.2km az=29.0*
*OMAN **26** 00:33:43.1±0.2, 31°.38N×51°.22E, h16km±4km, mb4.5/35, ms3.3/6, Error ellipse: s-maj=8.1km s-min=4.5km az=327.0*

ISC 26 00:33:36.4±0.6, 31°.73N±0°.03×51°.03E±0°.03, h12km±3km, n516, σ1°85/557, mb4.6/129, MS3.6/37, 34C-22D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBRJ	**Brojen**	**0.26**	**48**	*e*Pg	**Pg**	**00 33 39.7**	**-2.3**
IBRJ				*e*Sg	**Sg**	**00 33 43.8**	**-2.0**
SHK1	**Shahrekord**	**0.61**	**348**	*e*Pg	**Pg**	**00 33 46.7**	**-1.6**
SHK1				*e*Sg	**Sg**	**00 33 56.8**	**+0.4**
KLNJ	**Kolanjah**	**0.86**	**146**	*e*Pg	**Pg**	**00 33 51.8**	**-1.4**
KLNJ				*e*Sg	**Sb**	**00 34 06.4**	**+1.2**
KLNJ				*e*		00 34 18.1	
	comp=Z,79μm,0.8s						
IPIR	**Pirpir**	**0.96**	**353**	*e*Pg	**Pg**	**00 33 53.6**	**-1.3**
IPIR				*e*		00 34 21.5	
	comp=Z,89μm,0.8s						
IGAR	**Gharneh**	**1.09**	**52**	*e*Pg	**Pg**	**00 33 54.9**	**-2.5**
IGAR				*e*		00 34 16.4	
	comp=Z,72μm,0.2s						
IRAM	**Ramesheh**	**1.15**	**86**	*e*Pg	**Pb**	**00 33 56.0**	**-2.4**
ABEH	**Behbahan**	**1.31**	**211**	*e*Pg	**Pb**	**00 34 02.0**	**+1.1**
AMIS	**Naft Sefid**	**1.49**	**268**	*e*Pn	**Pb**	**00 34 04.9**	**+0.9**
IZEF	**Zefreh**	**1.60**	**43**	*e*Pn	**Pn**	**00 34 04.0**	**-0.7**
IKLH	**Kolahrood**	**1.65**	**16**	*e*Pn	**Pn**	**00 34 05.0**	**-0.4**
IKLH				*e*		00 34 55.6	
	comp=Z,35μm,1.0s						
NASN	**Na'in**	**1.84**	**54**	*e*Pg	**Pn**	**00 34 09.6**	**+1.5**
QAMS	**Qamsar**	**2.02**	**9**	*e*Pn	**Pn**	**00 34 12.0**	**+1.4**
QAMS				*e*		00 34 50.2	
	comp=Z,18μm,0.5s						
AHWZ	**Ahwaz**	**2.08**	**260**	*e*Pn	**Pb**	**00 34 13.6**	**-0.4**
KAZ1	**Kazerun**	**2.16**	**166**	*e*Pn	**Pn**	**00 34 14.3**	**+2.0**
KAZ1				*e*		00 34 53.2	
	comp=Z,34μm,0.7s						
KHMZ	**Khomeyn**	**2.20**	**336**	*e*Pn	**Pb**	**00 34 16.0**	**-0.2**
ISAD	**Sadrabad**	**2.27**	**85**	*e*Pn	**Pn**	**00 34 15.5**	**+1.6**
ISAD				*e*		00 34 24.1	
	comp=Z,11μm,0.6s						
KRSH	**Karshahi**	**2.42**	**22**	*e*Pn	**Pn**	**00 34 18.0**	**+2.1**
SHI	**Shiraz**	**2.44**	**148**	*e*Pn	**Pn**	**00 34 18.0**	**+1.8**
ANAR	**Anarak**	**2.70**	**57**	*e*Pn	**Pn**	**00 34 22.5**	**+2.7**
GHVR	**GHOM**	**2.75**	**5**	*e*Pn	**Pn**	**00 34 23.6**	**+3.2**
ISFB	**Sefidab**	**2.80**	**21**	*e*Pn	**Pn**	**00 34 23.0**	**+1.9**
ISFB				*e*		00 35 11.2	
	comp=Z,9μm,1.1s						
AHBU	**AHRAM**	**2.87**	**175**	*e*Pn	**Pn**	**00 34 24.9**	**+3.0**
ICHK	**Chekchek**	**2.91**	**79**	*e*Pn	**Pn**	**00 34 24.5**	**+1.7**
ICHK				*e*		00 35 25.7	
	comp=Z,6μm,0.7s						
ASAO	**Ashtian**	**2.93**	**344**	*e*Pn	**Pn**	**00 34 26.4**	**+3.3**
IMEH	**Mehriz**	**3.08**	**95**	*e*Pn	**Pn**	**00 34 27.5**	**+2.5**
IMEH				*e*		00 35 36.0	
	comp=Z,7μm,1.4s						
YZKH	**Yazd**	**3.09**	**77**	*e*Pn	**Pn**	**00 34 28.2**	**+3.1**
IQOM	**Qom**	**3.10**	**1**	*e*Pn	**Pn**	**00 34 26.4**	**+1.0**
IQOM				*e*		00 34 38.1	
	comp=Z,10μm,0.6s						
HSAM	**Samen**	**3.21**	**321**	*e*Pn	**Pn**	**00 34 28.5**	**+1.6**
HSAM				*e*		00 35 33.8	
	comp=Z,10μm,1.1s						
IKFM	**Kafar-mosalman**	**3.23**	**304**	*e*Pn	**Pn**	**00 34 28.8**	**+1.9**
IVRN	**Varamin**	**3.31**	**10**	*e*Pn	**Pn**	**00 34 29.9**	**+1.8**
DHL1	**Dehloran**	**3.32**	**288**	*e*Pn	**Pn**	**00 34 30.2**	**+2.1**
HAGD	**Aghdareh**	**3.47**	**333**	*e*Pn	**Pn**	**00 34 32.4**	**+2.0**
IHSB	**Hasanabad**	**3.70**	**3**	*e*Pn	**Pn**	**00 34 35.6**	**+2.1**
IRAZ	**Razeghan**	**3.78**	**346**	*e*Pn	**Pn**	**00 34 37.1**	**+2.4**
IRAZ				*e*		00 35 54.5	
	comp=Z,8μm,0.9s						
IBAF	**Bafgh**	**3.87**	**91**	*e*Pn	**Pn**	**00 34 38.3**	**+2.4**
IBAF				*e*		00 34 53.9	
	comp=Z,6μm,1.0s						
JHRM	**Jahrom**	**3.90**	**145**	*e*Pn	**Pn**	**00 34 38.3**	**+2.1**
JHRM				*e*		00 35 41.4	
	comp=Z,7μm,0.6s						
IDMV	**Damavand**	**3.93**	**12**	*e*Pn	**Pn**	**00 34 38.7**	**+1.9**
IMHD	**Mahdasht**	**3.96**	**356**	*e*Pn	**Pn**	**00 34 39.2**	**+2.2**
IMHD				*e*		00 34 57.5	
	comp=Z,4μm,0.8s						
DAMV	**Damavand**	**3.97**	**11**	*e*Pn	**Pn**	**00 34 39.5**	**+2.2**
QABG	**Abgarm-Qazvin**	**4.15**	**343**	*e*Pn	**Pn**	**00 34 40.8**	**+1.1**
IFIR	**Firoozkooh**	**4.16**	**20**	*e*Pn	**Pn**	**00 34 42.1**	**+2.2**
IFIR				*e*		00 36 13.9	
	comp=Z,3μm,1.1s						
CHTH	**Charan**	**4.17**	**1**	*e*Pn	**Pn**	**00 34 43.0**	**+3.0**
THKV	**Tehran--Karaj**	**4.18**	**358**	*e*Pn	**Pn**	**00 34 41.5**	**+1.4**
KCHF	**Cheshme Sefid,**	**4.21**	**308**	*e*Pn	**Pn**	**00 34 42.2**	**+1.7**
KER	**Kermanshah**	**4.21**	**310**	*e*Pn	**Pn**	**00 34 42.0**	**+1.5**
IANJ	**Anjilo**	**4.43**	**32**	*e*Pn	**Pn**	**00 34 45.6**	**+1.9**
ISHM	**Shahmirzad**	**4.48**	**24**	*e*Pn	**Pn**	**00 34 45.2**	**+0.8**
SNGE	**Sanandaj**	**4.55**	**318**	*e*Pn	**Pn**	**00 34 45.3**	**0.0**
IGHG	**Ghaleghazi**	**4.56**	**306**	*e*Pn	**Pn**	**00 34 47.0**	**+1.6**
IPRN	**Peran**	**4.63**	**13**	*e*Pn	**Pn**	**00 34 49.6**	**+3.3**
IGZV	**Ghazvin**	**4.69**	**352**	*e*Pn	**Pn**	**00 34 48.7**	**+1.5**
QALM	**Alamut, Qazvin**	**4.70**	**356**	*e*Pn	**Pn**	**00 34 48.7**	**+1.3**
KHGB	**Koh Gabri**	**4.86**	**105**	*e*Pn	**Pn**	**00 34 52.5**	**+2.9**
IDHR	**Dehrash**	**4.89**	**308**	*e*Pn	**Pn**	**00 34 51.9**	**+2.0**
IDHR				*e*		00 36 46.8	
	comp=Z,3μm,1.0s						
TPRV	**Parvadeh(Tabas**	**4.96**	**73**	*e*Pn	**Pn**	**00 34 52.7**	**+2.0**
LAR1	**LAR**	**4.98**	**143**	*e*Pn	**Pn**	**00 34 52.0**	**+0.9**
JIR1	**Jirandeh**	**5.07**	**349**	*e*Pn	**Pn**	**00 34 54.3**	**+2.0**
TNSJ	**Nastanj**	**5.19**	**63**	*e*Pn	**Pn**	**00 34 55.5**	**+1.5**
KRBR	**Kerman**	**5.22**	**108**	*e*Pn	**Pn**	**00 34 58.5**	**+3.9**
TVBK	**TV Kerman**	**5.22**	**108**	*e*Pn	**Pn**	**00 34 57.8**	**+3.2**
IGLO	**Ghaloghah**	**5.29**	**25**	*e*Pn	**Pn**	**00 34 57.2**	**+1.7**
ZNJK	**Zanjan**	**5.30**	**339**	*e*Pn	**Pn**	**00 34 59.1**	**+3.6**
NGRK	**Negar Kerman**	**5.33**	**111**	*e*Pn	**Pn**	**00 34 58.0**	**+1.9**
TKDS	**Kouhdasht(Taba**	**5.47**	**68**	*e*Pn	**Pn**	**00 35 00.2**	**+2.4**
TABS	**Tabas**	**5.48**	**68**	*e*Pn	**Pn**	**00 35 00.0**	**+2.1**
LHJ2	**Lahijan - Gila**	**5.48**	**352**	*e*Pn	**Pn**	**00 35 00.2**	**+2.4**
SAKB	**Bahrain**	**5.75**	**184**	P	**Pn**	**00 35 04.5**	**+3.0**
SAKB				S	**Sn**	**00 36 07.5**	**+0.1**
SHMA	**Al-Shehemyia**	**5.85**	**181**	P	**Pn**	**00 35 05.2**	**+2.2**
SHMA				S	**Sn**	**00 36 12.6**	**+2.6**
CHMN	**Cheshme madani**	**5.90**	**107**	*e*Pn	**Pn**	**00 35 06.8**	**+2.9**
SHRO	**Shahrood**	**5.93**	**43**	*e*Pn	**Pn**	**00 35 07.3**	**+3.1**
KHOR	**Al-Khor Airpor**	**6.10**	**176**	P	**Pn**	**00 35 08.2**	**+1.9**
KHOR				S	**Sn**	**00 36 17.9**	**+1.8**
GENO	**Geno**	**6.22**	**133**	*e*Pn	**Pn**	**00 35 09.2**	**+1.0**
IBND	**Bandar-abas**	**6.42**	**130**	*e*Pn	**Pn**	**00 35 13.0**	**+2.3**
ITEG	**Tejag**	**6.63**	**78**	*e*Pn	**Pn**	**00 35 16.2**	**+2.3**
IKOO	**Kooshah**	**6.80**	**82**	*e*Pn	**Pn**	**00 35 18.9**	**+2.7**
KBAM	**BAM**	**6.91**	**110**	*e*Pn	**Pn**	**00 35 21.0**	**+3.4**
KHNJ	**Kahnooj**	**6.91**	**121**	*e*Pn	**Pn**	**00 35 19.7**	**+2.1**
AFRZ	**Afriz**	**6.95**	**74**	*e*Pn	**Pn**	**00 35 20.0**	**+1.9**
JRN	**Qarnain Island** SNR=13	**6.95**	**166**	P	**Pn**	**00 35 19.2**	**+1.2**
SMRA	**Abu-Samra**	**6.96**	**182**	P	**Pn**	**00 35 19.8**	**+1.6**
SMRA				S	**Sn**	**00 36 38.4**	**+1.1**
SBZV	**Sabzevar**	**7.17**	**48**	*e*Pn	**Pn**	**00 35 22.1**	**+0.9**
SHME	**Shamm**	**7.22**	**140**	P	**Pn**	**00 35 23.6**	**+1.9**
SHME				S	**Sn**	**00 36 42.1**	**-1.5**
SHME	**Shamm**	**7.22**	**140**	P	**Pn**	**00 35 21.4**	**-0.3**
BANOM	**Banah** SNR=23	**7.40**	**140**	P	**Pn**	**00 35 24.5**	**+0.2**
BANOM				S	**Sn**	**00 36 48.1**	**-0.2**
BANOM	**Banah** SNR=25	**7.40**	**140**	*i*P	**Pn**	**00 35 23.8**	**-0.5**
BANOM				S	**Sn**	**00 36 45.3**	**-3.0**
IMON	**Monand**	**7.44**	**76**	*e*Pn	**Pn**	**00 35 26.3**	**+1.3**
GRMI	**Germi**	**7.51**	**341**	*e*Pn	**Pn**	**00 35 30.1**	**+4.2**
TVRZ	**Varzaqan**	**7.64**	**333**	*e*Pn	**Pn**	**00 35 30.5**	**+2.8**
SLWR	**Sila**	**7.65**	**175**	P	**Pn**	**00 35 29.0**	**+1.2**
SLWR				S	**Sn**	**00 36 54.7**	**+0.4**
NHDN	**Nehbandan**	**7.70**	**90**	*e*Pn	**Pn**	**00 35 30.6**	**+2.1**
MASF	**Masafi** SNR=22	**7.78**	**143**	P	**Pn**	**00 35 29.6**	**+0.2**
MASF	SNR=10.0			S	**Sn**	**00 36 57.7**	**+0.3

SNR=8.1
MAK Makhachkala 11.55 347 *e*P Pn 00 36 15.4 -5.7
MAK *e*S **Sn** **00 38 22.8 -7.2**
MAK pmax pmax
comp=Z,499nm,1.6s
MAK MLR MLR
comp=Z,583nm,15.0s
KOPT Kop Dagi 11.88 317 Pn **Pn** **00 36 25.4 -0.5**
ASF Jabal al Asfar 12.02 276 Pn **Pn** **00 36 26.1 -1.4**
comp=Z,4.7nm,0.3s,baz=93,slow=8.9,SNR=35
ASF Sn **Sn** **00 38 35.1 -6.5**
comp=Z,0.5nm,0.3s,baz=312,slow=20,SNR=1.9
JLN Jalan Bani Buh 12.11 140 P **Pn** **00 36 27.7 -1.1**
JLN P **Pn** **00 36 27.7 -1.1**
MHTO MHTO 12.37 148 P **Pn** **00 36 31.8 -0.6**
SNR=8.4
MHTO P **Pn** **00 36 31.8 -0.6**
SNR=8.4
ONI Oni 12.40 333 P **Pn** **00 36 32.8 0.0**
ONI Oni 12.40 333 Pn **Pn** **00 36 32.8 0.0**
NATI Neve Ativ 13.00 281 Pn **Pn** **00 36 40.1 -0.8**
GEM Giv'at Ha'Em 13.06 281 Pn **Pn** **00 36 41.1 -0.7**
DQM DQM 13.13 152 P **Pn** **00 36 41.2 -1.5**
GHAJ Ghor Haditha 13.20 272 Pn Pn 00 36 38.7 -5.0
NEY Neytrino 13.25 333↓ *e*P **Pn** **00 36 42.9 -1.5**
NEY pmax pmax
comp=Z,2.0nm,1.2s
MMLI Mount Malkishu 13.26 277 Pn **Pn** **00 36 44.9 +0.4**
MMAI Mount Meron Ar 13.28 280 Pn **Pn** **00 36 44.5 -0.2**
comp=Z,1.3nm,0.3s,baz=331,slow=22,SNR=6.5
MMAI Sn **Sn** **00 39 11.5 -0.8**
comp=Z,0.4nm,0.3s,baz=106,slow=21,SNR=1.6
MMAI LR LR 00 43 18.0
comp=Z,209nm,18.5s,baz=228,slow=44
DOK Doka 13.35 167 P **Pn** **00 36 45.2 -0.6**
DOK S Sn 00 39 05.6 -8.6
SLTI Sal'it 13.59 276 Pn **Pn** **00 36 48.9 0.0**
KBZ Khabaz 13.59 334 Pn Pn 00 36 53.7 +4.9
comp=Z,0.1nm,0.3s,baz=35,slow=14,SNR=2.7
KBZ LR LR 00 41 51.6
comp=Z,98nm,21.3s,baz=152,slow=36
KBZ Khabaz 13.59 334↓ *e*P **Pn** **00 36 47.2 -1.6**
PRNI Paran 13.81 268 Pn **Pn** **00 36 51.9 -0.1**
HRFI Mount Harif 13.84 267 Pn **Pn** **00 36 53.6 +1.1**
KVAR Kislovodsk Arr 13.86 334 Pn **Pn** **00 36 56.6 +3.9**
baz=348,slow=24,SNR=2.0
KIV Kislovodsk 13.86 334 *e*P **Pn** **00 36 50.6 -2.1**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,71nm,12.0s
KIV Kislovodsk 13.86 334 Pn **Pn** **00 36 52.9 +0.2**
WHFO Wadi Hawf 13.97 169 P **Pn** **00 36 53.1 -1.2**
SNR=30
EIL Elat 13.99 266 Pn **Pn** **00 36 54.1 -0.3**
comp=Z,0.6nm,0.3s,baz=122,slow=6.9,SNR=6.4
EIL Sn **Sn** **00 39 31.4 +1.7**
comp=Z,0.2nm,0.3s,baz=108,slow=11,SNR=1.7
EIL Lg Lg 00 40 57.0
comp=Z,0.2nm,0.3s,baz=60,slow=23,SNR=1.3
MBRI Mt Berech 13.99 266 Pn **Pn** **00 36 53.6 -1.0**
KRMI Paran Flat 14.09 268 Pn **Pn** **00 36 54.1 -1.8**
KZIT Kziot 14.25 271 Pn **Pn** **00 36 58.3 +0.3**
SHAO Shalim 14.27 162 P **Pn** **00 37 00.4 +2.1**
BNN Bunyan 14.28 304 Pn **Pn** **00 36 59.8 +1.3**
DMTO DMTO 14.40 165 P **Pn** **00 36 57.9 -2.2**
DMTO S **Sn** **00 39 32.9 -6.8**
RBK Rabkut 14.45 168 P **Pn** **00 36 59.0 -1.9**
RBK S Sn 00 39 32.3 -8.9
ABTO Aybut 14.46 171 P **Pn** **00 36 58.7 -2.3**
SNR=8.9
ABTO S **Sn** **00 39 35.2 -6.1**
TOKA Tokat 14.55 310 Pn **Pn** **00 37 00.6 -1.5**
SOC Sochi 14.82 326 *e*P **Pn** **00 37 02.9 -2.9**
SOC *e* 00 39 46.8
SOC MLR MLR
comp=Z,186nm,14.0s
KBL Kabul 15.35 75 P **Pn** **00 37 14.8 +1.8**
KBL pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 15.35 75 Pn **Pn** **00 37 14.8 +1.8**
KBL Kabul 15.35 75 P **P** **00 37 18.9 +1.1**
SNR=7.9
BR131 Keskin Array S 16.20 304↑ *e*P **Pn** **00 37 21.8 -2.2**
BR131 Keskin Array S 16.20 304 Pn **Pn** **00 37 24.0 0.0**
BR131 Keskin Array S 16.20 304 P **P** **00 37 29.3 +2.1**
SNR=17
BRTR Keskin Array B 16.20 304 Pn **Pn** **00 37 26.0 +2.0**
comp=Z,0.2nm,0.3s,baz=128,slow=10,SNR=20
BRTR LR LR 00 44 58.7
comp=Z,317nm,19.2s,baz=122,slow=42
BRTR Keskin Array B 16.20 304 P **Pn** **00 37 24.1 +0.1**
BRTR Keskin Array B 16.20 304 Pn **Pn** **00 37 24.1 +0.1**
CHGR Chuyangaron 16.34 60 P **Pn** **00 37 27.0 +1.4**
CHGR Chuyangaron 16.34 60 **Pn** **00 37 27.0 +1.4**
CHGR IAmb IAmb 00 37 37.0
comp=Z,42nm,1.1s
ILGA Ilgaz 16.74 309 **Pn** **00 37 31.5 +0.6**
ILGA IAmb IAmb 00 37 40.1
comp=Z,27nm,0.7s
ANTO Ankara 16.86 304 P **Pn** **00 37 32.5 +0.2**
ANTO pmax pmax
comp=Z,30nm,0.9s
ANTO Ankara 16.86 304 P **Pn** **00 37 32.5 +0.2**
ANTO IAmb IAmb 00 37 44.3
comp=Z,30nm,0.9s
BR231 Keskin MP Arra 16.86 304 P **Pn** **00 37 34.4 +2.1**
BR231 IAmb IAmb 00 37 44.4
comp=Z,27nm,1.1s
GAR Garm 17.30 60 P **Pn** **00 37 38.9 +1.0**
THW Thamme Wali 17.55 81 P **P** **00 37 43.5 +1.5**
CEP Cherat 17.68 78 P **Pn** **00 37 44.6 +2.0**
BTK Batken 18.03 57 P **P** **00 37 48.9 +1.6**
BTK pmax pmax
comp=Z,16nm,1.2s
BTK Batken 18.03 57 P **P** **00 37 48.9 +1.6**
ELL Elmali 18.16 292 P **Pn** **00 37 47.9 -0.6**
ELL pmax pmax
comp=Z,47nm,0.8s
ELL Elmali 18.16 292 P **Pn** **00 37 47.9 -0.6**
ELL IAmb IAmb 00 37 55.5
comp=Z,47nm,0.8s
MDUB Mudurnu 18.22 304 P **Pn** **00 37 48.0 -1.2**
MDUB IAmb IAmb 00 37 57.1
comp=Z,70nm,0.9s
BORA Eskisehir 18.54 302 P **P** **00 37 52.3 -0.6**
SIM Simferopol' 18.66 320 *e*P **Pn** **00 37 57.1 +2.6**
SIM pmax pmax
comp=Z,18nm,1.1s
ABKAR Akbulak array 18.75 18 P **P** **00 37 56.1 +1.1**
ABKAR Akbulak array 18.75 18 P **P** **00 37 56.0 +0.9**
ABKAR IAmb IAmb 00 38 07.6
comp=Z,6.6nm,0.9s
NIL Nilore 18.80 78 P **P** **00 37 56.7 +1.0**
NIL pmax pmax
comp=Z,15nm,1.0s
NIL Nilore 18.80 78 P **P** **00 37 56.7 +1.0**
KK31 Karatay Array 19.14 48 P **P** **00 38 00.6 +1.2**
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KK31 Karatay Array 19.14 48 P **P** **00 38 00.6 +1.2**
KKAR Karatay Array 19.14 48 P **P** **00 38 00.5 +1.1**
KKAR pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 19.14 48 P **P** **00 38 00.5 +1.1**
AKTO Aktyubinsk 19.40 14 P **P** **00 38 01.6 -0.6**
comp=Z,0.1nm,0.3s,baz=179,slow=11,SNR=12
AKTO LR LR 00 47 19.3
comp=Z,132nm,18.4s,baz=186,slow=42
MANT Manisa 19.56 296 P **P** **00 38 03.6 -0.6**
MANT IAmb IAmb 00 38 13.2
comp=Z,16nm,0.6s
SOCY Socotra 19.64 171 **P** **00 37 59.2 -5.9**
SOCY Socotra 19.64 171 P **P** **00 38 00.4 -4.7**
SNR=5.8
KARP Karpathos 20.22 287 P **P** **00 38 10.0 -1.3**
BALB Balikesir 20.36 299 P **P** **00 38 12.5 -0.2**
BALB IAmb IAmb 00 38 20.7
comp=Z,30nm,1.0s
VRH Novokhopyorsk 20.64 343 *e*P **P** **00 38 15.8 +0.2**
VRH pmax pmax
comp=Z,60nm,0.9s
BELG Belogornoye 20.80 354 P **P** **00 38 17.0 -0.2**
comp=Z,130nm,0.9s,baz=163,slow=0.9,SNR=22
BELG LR LR 00 48 29.5
comp=Z,51nm,18.2s,baz=169,slow=43
BELG Belogornoye 20.80 354 *ce*P **P** **00 38 17.1 -0.2**
BELG pmax pmax
comp=Z,13nm,1.0s
AML Almayashu 20.82 54 P **P** **00 38 20.2 +2.1**
SNR=14
VORD Divnogorie 21.09 339 *e*P **P** **00 38 20.7 +0.2**
VORD pmax pmax
comp=Z,20nm,0.6s
KALB Balgarevo 21.31 310↑ P **P** **00 38 25.0 +2.1**
VSR Storozhevoye 21.35 339 *e*P **P** **00 38 22.7 -0.6**
VSR pmax pmax
comp=Z,30nm,1.1s
MANR Mangalia 21.38 311↑ P **P** **00 38 25.0 +1.3**
UCH Uchtor 21.42 54 P **P** **00 38 27.1 +2.5**
SNR=18
ATD Arta Tunnel 21.48 202 P **P** **00 38 23.8 -1.2**
AAK Ala-Archa 21.56 53 P **P** **00 38 27.2 +1.3**
comp=Z,3.0nm,0.8s,baz=35,slow=19,SNR=2.8
AAK LR LR 00 48 32.0
comp=Z,69nm,18.0s,baz=266,slow=41
AAK Ala-Archa 21.56 53 P **P** **00 38 27.6 +1.7**
AAK pmax pmax
comp=Z,13nm,1.1s
AAK Ala-Archa 21.56 53 P **P** **00 38 27.6 +1.7**
AAK IAmb IAmb 00 38 47.3
comp=Z,13nm,1.1s
JURR Jurilovca 21.64 313↑ P **P** **00 38 27.4 +0.9**
KSH Kashi 21.67 62 P **P** **00 38 25.3 -1.7**
KSH pmax pmax
comp=Z,10.0nm,1.0s
KSH LR LR
comp=Z,220nm,6.9s
KSH LR LR
comp=Z,190nm,9.6s
KSH LR LR
comp=Z,160nm,10.0s
FRU1 Bishkek 21.72 53 P **P** **00 38 30.6 +3.1**
FRU1 pmax pmax
comp=Z,17nm,1.1s
FRU1 Bishkek 21.72 53 P **P** **00 38 30.6 +3.1**
FRU1 IAmb IAmb 00 38 40.5
comp=Z,17nm,1.1s
VORR Voronezh 21.74 340 *e*P **P** **00 38 28.1 +0.6**
VORR *e*S **S** **00 42 29.3 +1.6**
VORR pmax pmax
comp=Z,41nm,1.6s
TIRR Tirgusor 21.79 312↑ P **P** **00 38 28.9 +0.9**
TIRR Tirgusor 21.79 312 P **P** **00 38 27.8 -0.2**
TIRR pmax pmax
comp=Z,49nm,1.0s
TIRR Tirgusor 21.79 312 P **P** **00 38 27.8 -0.2**
USP Ospenovka 21.82 52 P **P** **00 38 30.7 +2.2**
SNR=10
CHMS Chumysh 21.88 52 P **P** **00 38 33.9 +4.8**
SNR=9.3
KBK Karagaybulak 21.88 53 P **P** **00 38 35.0 +5.7**
SNR=13
TPGR Topolog 21.97 313↓ P **P** **00 38 30.6 +0.5**
IDI Anoyia 22.06 286↑ P **P** **00 38 34.3 +3.1**
IDI Anoyia 22.06 286 P **P** **00 38 32.3 +1.1**
comp=Z,17nm,0.8s,baz=48,slow=17,SNR=8.7
IDI Anoyia 22.06 286 P **P** **00 38 30.1 -1.0**
IDI IAmb IAmb 00 38 38.7
comp=Z,38nm,1.0s
HARR Harsova 22.20 312↑ P **P** **00 38 33.5 +1.0**
CFR Carcaliu 22.30 314↓ P **P** **00 38 34.0 +0.5**
TKM2 Tokmak 2 22.42 53 P **P** **00 38 37.3 +2.1**
SNR=9.3
BOOM Boomskoye usch 22.50 54 P **P** **00 38 37.9 +1.9**
BOOM pmax pmax
comp=Z,26nm,1.1s
BOOM Boomskoye usch 22.50 54 P **P** **00 38 37.9 +1.9**
BOOM IAmb IAmb 00 38 47.3
comp=Z,26nm,1.1s
ULHL Ulahol 22.63 55 P **P** **00 38 41.5 +4.2**
SNR=11
LPSR Galich'ya Gora 22.64 341 *e*P **P** **00 38 37.0 -0.1**
MILM Milestii Mici 22.81 318↑ P **P** **00 38 40.7 +1.7**
MILM Milestii Mici 22.81 318↓ *i*P **P** **00 38 39.0 0.0**
comp=Z,50nm,1.1s
MILM Milestii Mici 22.81 318 *d i*P **P** **00 38 39.0 0.0**
MILM pmax pmax
comp=Z,50nm,1.1s
KIS Kishinev 22.85 318↓ *i*P **P** **00 38 39.9 +0.5**
comp=Z,20nm,0.8s
KIS Kishinev 22.85 318 *d i*P **P** **00 38 40.0 +0.5**
KIS pmax pmax
comp=Z,20nm,0.8s
KDJ Kajisay 23.25 56 P **P** **00 38 44.9 +1.1**
KDJ pmax pmax
comp=Z,14nm,1.1s
KDJ Kajisay 23.25 56 P **P** **00 38 44.9 +1.1**
KDJ IAmb IAmb 00 38 50.9
comp=Z,14nm,1.1s
VRI Vrincioaia 23.50 314↑ P **P** **00 38 47.6 +1.5**
VRI Vrincioaia 23.50 314 P **P** **00 38 48.2 +2.1**
VRI pmax pmax
comp=Z,16nm,1.3s
PLOR Plostina 23.54 314↑ P **P** **00 38 48.1 +1.6**
PLOR Plostina 23.54 314 P **P** **00 38 48.1 +1.6**
SORM Soroca 23.76 320↑ P **P** **00 38 48.2 -0.3**
COVR Voineasa-Covas 23.82 313↑ P **P** **00 38 51.0 +1.9**
MLR Muntele Rosu 23.82 312↑ P **P** **00 38 51.7 +2.4**
MLR Muntele Rosu 23.82 312 P **P** **00 38 50.4 +1.1**
comp=Z,7.9nm,0.8s,baz=131,slow=2.2
MLR LR LR 00 50 45.5
comp=Z,140nm,18.0s,baz=121,slow=43
MLR Muntele Rosu 23.82 312 P **P** **00 38 50.4 +1.1**
MLR pmax pmax
comp=Z,23nm,1.0s
MLR Muntele Rosu 23.82 312 P **P** **00 38 50.4 +1.1**
MLR IAmb IAmb 00 38 59.8
comp=Z,22nm,1.0s
TESR Tescani 23.86 315↑ P **P** **00 38 50.2 +0.6**
VOIR 24.36 312↓ P **P** **00 38 56.0 +1.7**
VOIR 24.36 312 P **P** **00 38 56.1 +1.8**
VOIR pmax pmax
comp=Z,34nm,1.5s
DOPR Dopca 24.38 313↑ P **P** **00 38 55.3 +0.9**
VTS Vitosha 24.57 304↓ P **P** **00 38 57.9 +1.6**
VTS Vitosha 24.57 304 P **P** **00 38 56.4 +0.1**
VTS pmax pmax
comp=Z,6.0nm,1.0s
VTS Vitosha 24.57 304 P **P** **00 38 56.4 +0.1**
ARR Arges 24.60 311↓ P **P** **00 38 57.3 +0.9**
AKASG Malin Array Be 24.91 326 P **P** **00 38 59.1 +0.1**
comp=Z,9.5nm,0.7s,baz=126,slow=9.2,SNR=31
AKASG LR LR 00 50 34.8
comp=Z,78nm,19.6s,baz=155,slow=41
AKASG Malin Array Be 24.91 326 P **P** **00 38 58.2 -0.8**
AKBB Malin Array Si 24.91 326 P **P** **00 38 58.4 -0.6**
AKBB pmax pmax
comp=Z,24nm,0.9s
AKBB Malin Array Si 24.91 326 P **P** **00 38 58.4 -0.6**
ARU Arti 25.25 10 P **P** **00 39 02.9 +0.9**
comp=Z,0.5nm,0.3s,baz=107,slow=23,SNR=2.2
ARU LR LR 00 51 06.4
comp=Z,99nm,19.3s,baz=210,slow=41
ARU Arti 25.25 10 *d i*P **P** **00 39 03.5 +1.4**
ARU 00 39 39.8
ARU S **S** **00 43 32.8 +5.5**
ARU SS **SnSn** **00 44 23.0 +5.0**
ARU pmax pmax
comp=Z,9.0nm,1.4s
ARU Arti 25.25 10 P **P** **00 39 03.3 +1.2**
ARU IAmb IAmb 00 39 21.5
comp=Z,9.6nm,0.9s
BUR01 Bucovina Ar. S 25.26 316↑ P **P** **00 39 04.5 +2.0**
BURAR Bucovina Array 25.26 316 P **P** **00 39 02.8 +0.3**
BURAR pmax pmax
comp=Z,21nm,1.0s
BURAR Bucovina Array 25.26 316 P **P** **00 39 02.8 +0.3**
BURAR IAmb IAmb 00 39 05.8
comp=Z,21nm,1.0s
BUR08 Bucovina Ar. S 25.29 316 P **P** **00 39 03.2 +0.6**
BUR08 IAmb IAmb 00 39 13.4
comp=Z,19nm,0.9s
BRVK Borovoye 25.47 28 *d i*P **P** **00 39 05.6 +1.5**
BRVK pmax pmax
comp=Z,14nm,1.3s
BRVK Borovoye 25.47 28 P **P** **00 39 05.1 +1.0**
BRVK IAmb IAmb 00 39 10.1
comp=Z,13nm,1.1s
FNA Florina 25.47 299 P **P** **00 39 04.4 +0.1**
FNA pmax pmax
comp=Z,13nm,0.9s
FNA Florina 25.47 299 P **P** **00 39 04.4 +0.1**
FNA IAmb IAmb 00 39 15.3
comp=Z,12nm,0.9s
BVAR Borovoye Array 25.48 28 P **P** **00 39 05.2 +1.0**
comp=Z,4.6nm,0.8s
BVAR PcP **PcP** **00 42 35.4 -0.3**
OBN Obninsk 25.52 341 P **P** **00 39 04.4 -0.1**
comp=Z,3.0nm,0.4s,baz=136,slow=12,SNR=5.1
OBN Obninsk 25.52 341 *ce*P **P** **00 39 05.1 +0.6**
OBN *e**SP **pP** **00 39 09.4 +0.4**
OBN PPP PPP 00 39 43.0
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,67nm,18.0s
OBN Obninsk 25.52 341 P **P** **00 39 04.8 +0.3**
ARCR ARCALIA 25.52 315↑ P **P** **00 39 05.8 +1.1**
MOS Moscow 25.79 342 *e*P **P** **00 39 05.2 -1.8**
GZR Gura Zlata 25.81 310↑ P **P** **00 39 08.9 +1.5**
CJR Cluj-Napoca 25.82 313↑ P **P** **00 39 10.1 +2.6**
KBN Korca 25.88 299 P **P** **00 39 07.7 -0.4**
KBN pmax pmax
comp=Z,34nm,1.0s
KBN Korca 25.88 299 P **P** **00 39 07.7 -0.4**
SVE Sverdlovsk 25.96 12 *e*P **P** **00 39 09.5 +0.9**
MDVR Moldovita 26.30 308↑ P **P** **00 39 13.3 +1.5**
BMR Baia Mare 26.31 315↑ P **P** **00 39 13.7 +1.9**
DRGR 26.41 313↑ P **P** **00 39 14.5 +1.7**
DRGR 26.41 313 P **P** **00 39 14.3 +1.5**
DRGR pmax pmax
comp=Z,19nm,0.9s
KIRV Kirov 26.88 358 P **P** **00 39 16.4 -0.4**
comp=Z,7.1nm,0.6s,baz=50,slow=14,SNR=1.5
KIRV Kirov 26.88 358↑ *e*P **P** **00 39 18.2 +1.4**
LVV L'vov 27.06 320 *e*P **P** **00 39 20.8 +2.2**
TRPA Tarpa 27.09 315 P **P** **00 39 20.3 +1.5**
UZH Uzhgorod 27.47 316 *e*P **P** **00 39 24.4 +2.2**
UZH *i* 00 39 28.0
KOLS Kolonicke sedl 27.62 317 *e*P **P** **00 39 26.7 +3.1**
KOLS Kolonicke sedl 27.62 317 *e*P **P** **00 39 26.7 +3.1**
KWP Kalwaria Pacla 27.70 318 *e*P **P** **00 39 25.3 +0.9**
KWP Kalwaria Pacla 27.70 318 P **P** **00 39 24.0 -0.4**
KWP pmax pmax
comp=Z,81nm,0.8s
KWP Kalwaria Pacla 27.70 318 P **P** **00 39 24.0 -0.4**
KURBB Kurchatov Arra 27.76 39 P **P** **00 39 26.4 +1.6**
comp=Z,4.8nm,0.9s,baz=240,slow=9.3,SNR=24
KURBB PcP **PcP** **00 42 40.5 -0.6**
comp=Z,0.5nm,0.6s,baz=243,slow=3.3,SNR=4.5
KURBB ScP **ScP** **00 46 19.1 -2.6**
comp=Z,0.4nm,0.8s,baz=256,slow=3.7,SNR=3.4
KURBB LR LR 00 51 16.2
comp=Z,98nm,20.6s,baz=214,slow=38
KURK Kurchatov 27.86 39 *c i*P **P** **00 39 27.5 +1.8**
KURK pmax pmax
comp=Z,15nm,1.3s
KURK Kurchatov 27.86 39 P **P** **00 39 26.8 +1.1**
KURK IAmb IAmb 00 39 31.3
comp=Z,12nm,1.1s
MAKZ Makanchi 28.07 49 P **P** **00 39 28.8 +1.1**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
MAKZ Makanchi 28.07 49 P **P** **00 39 28.8 +1.1**
CRVS Cervenica-Dubn 28.08 316 *e*P **P** **00 39 30.5 +2.8**
CRVS Cervenica-Dubn 28.08 316 *e*P **P** **00 39 30.5 +2.8**
MNK Minsk 28.10 331 *i*P P 00 39 24.3 -3.5
MNK *i*S **S** **00 44 07.7 -4.6**
MNK pmax pmax
comp=N,18nm,1.7s
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=E,4.0nm,1.7s
MNK MLR MLR
comp=Z,150nm,17.0s
MNK MLR MLR
comp=N,203nm,21.0s
MNK MLR MLR
comp=E,18nm,21.0s
MNK Minsk 28.10 331 *i*P P 00 39 24.4 -3.5
comp=E,4.0nm,1.7s,baz=314
MNK *i*P P 00 39 24.4 -3.5
comp=N,18nm,1.7s
MNK *i*P P 00 39 24.4 -3.5
comp=Z,9.0nm,0.8s
MNK *i*PP **PnPn** **00 40 10.2 -5.2**
MNK *i*S **S** **00 44 07.8 -4.6**
MNK *i*SS **SnSn** **00 45 21.9 -5.7**
MNK *i*LQ LQ 00 47 57.5
MNK *i*LR LR 00 50 04.0
MNK *i*LRM MLR 00 50 54.4
comp=Z,150nm,16.9s
MNK *i*LRM MLR 00 51 07.2
comp=N,203nm,20.8s
MNK *i*LRM MLR 00 51 09.1
comp=E,18nm,21.1s
MK31 Makanchi Array 28.27 49 P **P** **00 39 30.4 +1.0**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 28.27 49 P **P** **00 39 30.4 +1.0**
MK31 IAmb IAmb 00 39 34.8
comp=Z,4.9nm,0.9s
MKAR Makanchi Array 28.27 49 P **P** **00 39 31.1 +1.7**
comp=Z,4.0nm,0.8s,baz=242,slow=8.6,SNR=20
MKAR PcP **PcP** **00 42 40.6 -1.9**
comp=Z,0.7nm,0.8s,baz=244,slow=1.0,SNR=3.4
MKAR ScP **ScP** **00 46 22.6 -0.7**
comp=Z,0.2nm,0.7s,baz=232,slow=0.4,SNR=1.8
MKAR LR LR 00 52 14.6
comp=Z,106nm,20.0s,baz=250,slow=39
MKAR Makanchi Array 28.27 49 P **P** **00 39 30.8 +1.3**
PSZ Piszkesteto 28.61 313 P **P** **00 39 32.4 -0.2**
PSZ pmax pmax
comp=Z,5.0nm,1.1s
PSZ Piszkesteto 28.61 313 P **P** **00 39 32.4 -0.2**
NACGM Naroch 28.84 331 *e*P **P** **00 39 33.6 -0.7**
LANS Liptovska Anna 29.37 316 *e*P **P** **00 39 42.2 +3.0**
LANS Liptovska Anna 29.37 316 *e*P **P** **00 39 42.2 +3.0**
CSKK Cskako 29.44 312 P **P** **00 39 46.6 +6.9**
VYHS Vyhne 29.49 314 *e*P **P** **00 39 42.5 +2.2**
VYHS Vyhne 29.49 314 *e*P **P** **00 39 42.5 +2.2**
OJC Ojcow 29.64 318 *e*P **P** **00 39 42.6 +1.0**
OJC *ep*P **sP** **00 39 47.8 -0.1**
OJC Ojcow 29.64 318 P **P** **00 39 41.8 +0.2**
OJC pmax pmax
comp=Z,12nm,0.9s
OJC Ojcow 29.64 318 P **P** **00 39 41.8 +0.2**
OJC IAmb IAmb 00 39 49.9
comp=Z,12nm,0.9s
SUW Suwalki 29.87 326 *e*P **P** **00 39 43.8 +0.3**
SUW *ep*P **pP** **00 39 49.6 +1.5**
SUW Suwalki 29.87 326 P **P** **00 39 43.6 +0.1**
SUW pmax pmax
comp=Z,51nm,0.9s
SUW Suwalki 29.87 326 P **P** **00 39 43.6 +0.1**
KLMR Klimovskoe 30.11 349 *e*P **P** **00 39 44.1 -1.4**
KLMR pmax pmax
comp=Z,21nm,1.1s
KLMR Klimovskoe 30.11 349 *e*P **P** **00 39 44.1 -1.4**
KLMR AMP 00 39 52.8
comp=Z,21nm,1.1s
PRGR Permogore 30.12 355 *e*P **P** **00 39 45.3 -0.4**
OKC Ostrava-Krasne 30.44 316 *e*P **P** **00 39 49.1 +0.5**
OKC Ostrava-Krasne 30.44 316 *e*P **P** **00 39 49.1 +0.5**
PABE Paberze 30.45 329 P **P** **00 39 48.3 -0.3**
MORC Moravsky Berou 30.77 316 P **P** **00 39 51.0 -0.6**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 30.77 316 P **P** **00 39 51.0 -0.6**
MORC IAmb IAmb 00 39 59.6
comp=Z,4.5nm,0.9s
MORC Moravsky Berou 30.77 316 *e*P **P** **00 39 52.0 +0.3**
WMQ Urumqi 31.14 57 *e*P **P** **00 39 57.8 +2.8**
WMQ pP sP 00 40 03.5 +2.2
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ LR LR
comp=Z,230nm,18.3s
WMQ LR LR
comp=Z,260nm,15.1s
WMQ LR LR

	comp=Z,70nm,20.5s								
CONA	Conrad Observa	31.15	312		P		P	00 39 55.1	0.0
	comp=Z,1.6nm,0.7s								
ARSA	Arzberg	31.17	310		P		P	00 39 57.0	+1.9
	comp=Z,4.7nm,1.2s								
VRAC	Vranov	31.17	314		LR		LR	00 55 44.4	
	comp=Z,44nm,20.7s,baz=144,slow=43								
VRAC	Vranov	31.17	314	*eP*			P	00 39 55.5	+0.4
KRLC	Kraliky	31.34	316	*eP*			P	00 39 55.5	-1.2
KRLC	Kraliky	31.34	316	*eP*			P	00 39 55.5	-1.2
OBKA	Obir	31.61	308	*eP*			P	00 39 59.1	+0.1
	comp=Z,11nm,1.9s								
KLNR	Kaliningrad	31.64	325	*ce*	P		P	00 39 59.4	+0.3
KLNR					pmax		pmax		
	comp=Z,47nm,0.7s								
DPC	Dobruska-Polom	31.72	316	*eP*			P	00 39 59.2	-0.8
DPC	Dobruska-Polom	31.72	316	*eP*			P	00 39 59.2	-0.8
LODK	Lodwar	31.79	211		P		P	00 39 59.6	-1.3
OSTC	Ostas	31.86	316	*eP*			P	00 40 01.5	+0.3
NRCA	Norcia	31.89	301		P		P	00 40 00.1	-1.5
NRCA					IAmb		IAmb	00 40 18.5	
	comp=Z,9.3nm,1.0s								
CKRC	Cesky Krumlov	32.42	313	*eP*			P	00 40 09.7	+3.6
ZAA0	Zalesovo Array	32.78	37		P		P	00 40 09.3	+0.2
ZAA0					IAmb		IAmb	00 40 18.9	
	comp=Z,5.2nm,0.8s								
ZALV	Zalesovo Beam	32.78	37		P		P	00 40 10.4	+1.3
	comp=Z,5.2nm,0.9s,baz=248,slow=7.8,SNR=21								
ZALV					LR		LR	00 55 06.1	
	comp=Z,41nm,18.3s,baz=202,slow=39								
ZALV	Zalesovo Beam	32.78	37		P		P	00 40 10.1	+1.0
GEC2	GERESS Array S	32.81	312		P		P	00 40 07.6	-2.0
GERES	GERESS Array B	32.81	312		P		P	00 40 08.8	-0.8
	comp=Z,1.2nm,0.7s,baz=101,slow=6.9,SNR=6.0								
GERES					LR		LR	00 54 06.2	
	comp=Z,49nm,18.8s,baz=300,slow=38								
GERES	GERESS Array B	32.81	312		P		P	00 40 07.0	-2.5
KHC	Kasperske Hory	32.97	313	‖ *eP*			P	00 40 10.6	-0.4
KHC					pmax		pmax		
	comp=Z,5.0nm,1.1s								
KHC	Kasperske Hory	32.97	313		P		P	00 40 10.1	-0.9
KHC	Kasperske Hory	32.97	313	*eP*			P	00 40 09.6	-1.4
TEOL	Teolo	33.32	306		P		P	00 40 13.2	-0.8
TEOL					IAmb		IAmb	00 40 29.5	
	comp=Z,11nm,1.0s								
WTTA	Wattenberg	33.73	309	*eP*			P	00 40 20.0	+2.2
	comp=Z,9.9nm,1.0s								
WATA	Walderalm	33.78	309	*eP*			P	00 40 21.2	+3.0
	comp=Z,7.8nm,1.0s								
FINES	FINESS Array B	33.88	339		P		P	00 40 18.8	+0.2
	comp=Z,3.5nm,0.8s,baz=147,slow=10.0,SNR=16								
FINES					LR		LR	00 55 35.6	
	comp=Z,73nm,18.2s,baz=164,slow=38								
FINES	FINESS Array B	33.88	339		P		P	00 40 18.2	-0.4
SQTA	Sankt Quirin	34.00	309	*eP*			P	00 40 19.6	-0.4
	comp=Z,4.0nm,0.4s								
CLL	Collm	34.03	316	*eP*	x		Px	00 40 23.0	
CLL				*ex*			x	00 40 27.0	
CLL				*i*	x		x	00 40 35.8	
MOTA	Moosalm	34.10	309	*eP*			P	00 40 22.1	+1.1
	comp=Z,6.4nm,0.9s								
FETA	Feichten	34.28	308	*eP*			P	00 40 21.7	-0.8
	comp=Z,5.8nm,0.9s								
RETA	Reutte	34.35	309	*eP*			P	00 40 22.9	-0.1
	comp=Z,5.0nm,1.2s								
DAVOX	Davos/Dischmat	34.80	308		LR		LR	00 56 39.8	
	comp=Z,102nm,18.9s,baz=80,slow=40								
DAVA	Damuels	34.90	308	*eP*			P	00 40 27.3	-0.5
	comp=Z,5.6nm,0.5s								
GOMU	GeErMu	36.36	71		P		P	00 40 41.0	+0.2
GOMU					PcP		PcP	00 43 06.3	+1.0
GOMU					pmax		pmax		
	comp=Z,3.0nm,0.7s								
SENIN	Lac Senin/Sane	36.49	306		P		P	00 40 41.3	-0.3
BNI	Bardonecchia	36.77	304		P		P	00 40 42.8	-1.1
BNI					pmax		pmax		
	comp=Z,14nm,0.9s								
BNI	Bardonecchia	36.77	304		P		P	00 40 42.8	-1.1
BNI					IAmb		IAmb	00 40 44.3	
	comp=Z,14nm,0.9s								
PALK	Pallekele	36.84	125		P		P	00 40 45.4	+0.8
	comp=Z,10nm,1.0s,baz=320,slow=12,SNR=3.4								
PALK					LR		LR	00 54 60.0	
	comp=Z,73nm,18.5s,baz=39,slow=35								
PALK	Pallekele	36.84	125		P		P	00 40 44.9	+0.3
PALK					pmax		pmax		
	comp=Z,13nm,1.1s								
PALK	Pallekele	36.84	125		P		P	00 40 44.9	+0.3
PALK					IAmb		IAmb	00 40 53.0	
	comp=Z,13nm,1.1s								
KAAM	Kaadhehdhoo	37.37	142		P		P	00 40 48.1	-1.0
MBAR	Mbarara	37.47	215		LR		LR	00 56 13.6	
	comp=Z,113nm,18.0s,baz=144,slow=36								
HFS	Hagfors	37.61	330		LR		LR	00 57 19.1	
	comp=Z,68nm,20.1s,baz=131,slow=38								
NC405	NORSAR Array S	38.95	331		P		P	00 41 01.0	-1.0
KNGR	Kungurtug, Tuv	38.99	47	‖ *eP*			P	00 41 05.2	+2.6
NB2	NORSAR Subarra	39.13	330		P		P	00 41 02.9	-0.6
	comp=Z,3.4nm,1.0s,baz=120,slow=8.6								
NOA	NORSAR Array B	39.13	330		P		P	00 41 02.7	-0.8
	comp=Z,3.8nm,0.8s,baz=121,slow=8.2,SNR=15								
NOA					LR		LR	00 58 04.4	
	comp=Z,76nm,20.8s,baz=115,slow=38								
NC303	NORSAR Array S	39.16	331		P		P	00 41 03.5	-0.2
NC303					IAmb		IAmb	00 41 16.2	
	comp=Z,6.0nm,0.8s								
NC204	NORSAR Array S	39.44	331		P		P	00 41 05.6	-0.5
NC204					IAmb		IAmb	00 41 24.4	
	comp=Z,18nm,1.1s								
GTA	Gaotai	40.01	65	‖	P		P	00 41 13.5	+2.2
GTA					pP		sP	00 41 18.8	+1.2
GTA					pmax		pmax		
	comp=Z,10.0nm,1.2s								
GTA					pmax		pmax		
	comp=Z,94nm,6.7s								
GTA					LR		LR		
	comp=Z,130nm,17.5s								
GTA					LR		LR		
	comp=Z,99nm,17.8s								
GTA					LR		LR		
	comp=Z,100nm,17.8s								
ARCES	ARCESS Array B	40.50	347		P		P	00 41 14.4	-0.4
	comp=Z,2.1nm,0.6s,baz=149,slow=9.6,SNR=11								
ARCES					LR		LR	00 59 59.5	
	comp=Z,51nm,20.6s,baz=110,slow=39								
ZAK	Zakamensk	42.60	48	*eP*			P	00 41 34.1	+1.7
ZAK					pmax		pmax		
	comp=Z,7.0nm,1.5s								
NRIK	Noril'sk	42.92	18		P		P	00 41 35.1	+0.6
	comp=Z,6.1nm,0.8s,baz=220,slow=6.9,SNR=6.5								
NRIK					LR		LR	01 03 14.3	
	comp=Z,67nm,18.6s,baz=154,slow=41								
NRIK	Noril'sk	42.92	18	*ce*	P		P	00 41 35.8	+1.3
NRIK					pmax		pmax		
	comp=Z,14nm,1.3s								
NRIK	Noril'sk	42.92	18		P		P	00 41 35.0	+0.5
NRIK					IAmb		IAmb	00 41 40.1	
	comp=Z,12nm,1.1s								
LZH	Lanzhou	43.61	69	‖	P		P	00 41 42.8	+2.0
LZH					pP		sP	00 41 49.0	+1.8
LZH					sP		pP	00 41 52.0	+6.7
LZH					pmax		pmax		
	comp=Z,13nm,1.5s								
LZH					LR		LR		
	comp=Z,240nm,15.2s								
LZH					LR		LR		
	comp=Z,180nm,15.2s								
LZH					LR		LR		
	comp=Z,100nm,14.6s								
PZH	PanZhiHua	44.29	83		P		P	00 41 47.5	+1.2
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,140nm,5.9s								
EKA	Eskdalemuir Ar	44.41	319		LR		LR	01 02 36.1	
	comp=Z,71nm,19.9s,baz=170,slow=39								
SONM	Songino Array	44.52	52		P		P	00 41 48.9	+1.0
	comp=Z,2.6nm,0.9s,baz=267,slow=8.6,SNR=13								
SONM					PcP		PcP	00 43 31.3	+0.3
	comp=Z,1.1nm,0.9s,baz=238,slow=3.0,SNR=4.2								
SONM					LR		LR	01 01 47.0	
	comp=Z,62nm,20.1s,baz=224,slow=38								
SONM	Songino Array	44.52	52		P		P	00 41 48.4	+0.5
SONM					pmax		pmax		
	comp=Z,3.0nm,1.1s								
SONM	Songino Array	44.52	52		P		P	00 41 48.4	+0.5

ESBB	Sonseca Array	44.76	296		P		P	00 41 49.5	-0.4
ESBB					IAmb		IAmb	00 42 00.9	
	comp=Z,4.3nm,1.1s								
ESDC	Sonseca Array	44.76	296		P		P	00 41 49.5	-0.3
	comp=Z,1.9nm,1.1s,baz=56,slow=8.4,SNR=8.7								
ESDC					PcP		PcP	00 43 32.1	+0.2
	comp=Z,0.4nm,0.7s,baz=60,slow=3.1,SNR=2.6								
ESDC	Sonseca Array	44.76	296		P		P	00 41 49.2	-0.6
CHTO	Chiang Mai	44.86	95		P		P	00 41 51.2	+0.3
CHTO					pmax		pmax		
	comp=Z,6.0nm,1.1s								
CHTO	Chiang Mai	44.86	95		P		P	00 41 51.2	+0.3
CHTO					IAmb		IAmb	00 41 54.3	
	comp=Z,6.1nm,1.1s								
ULN	Ulaanbaatar	44.96	52	*de*	P		P	00 41 53.1	+1.7
ULN					pmax		pmax		
	comp=Z,10.0nm,1.3s								
ULN	Ulaanbaatar	44.96	52		P		P	00 41 52.4	+0.9
ULN					IAmb		IAmb	00 41 56.7	
	comp=Z,6.0nm,0.9s								
CMAR	Chiang Mai Arr	45.02	95		P		P	00 41 52.5	+0.4
	comp=Z,1.3nm,0.4s,baz=295,slow=9.1,SNR=9.0								
CMAR					PcP		PcP	00 43 33.7	+0.6
	comp=Z,1.3nm,0.4s,baz=297,slow=5.0,SNR=1.8								
CMAR	Chiang Mai Arr	45.02	95	*ce*	P		P	00 41 51.2	-0.9
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.3s								
CMAR	Chiang Mai Arr	45.02	95		P		P	00 41 52.8	+0.7
KMI	Kunming	45.60	85	‖	P		P	00 41 59.5	+2.6
KMI					pmax		pmax		
	comp=Z,21nm,0.8s								
MTE	Manteigas	47.38	298	*eP*			P	00 42 11.8	+1.3
	comp=Z,25nm,1.2s								
MTE	Manteigas	47.38	298		P		P	00 42 11.0	+0.5
PCBR	Castelo Branco	47.42	297	*eP*			P	00 42 11.6	+0.9
	comp=Z,34nm,1.7s								
PMRV	Marv??o	47.42	296	*eP*			P	00 42 10.3	-0.4
	comp=Z,13nm,1.8s								
POLO	Lamas de Olo	47.42	299	*eP*			P	00 42 17.0	+6.2
	comp=Z,9.1nm,1.7s								
PESTR	Estemoz	47.67	296	*eP*			P	00 42 12.5	-0.2
	comp=Z,15nm,1.5s								
PGAV	Gavieira, Arco	47.69	300	*eP*			P	00 42 14.1	+1.1
	comp=Z,36nm,1.8s								
PVAQ	Vaqueiros	48.04	294	*eP*			P	00 42 17.3	+1.7
PVAQ	Vaqueiros	48.04	294		P		P	00 42 15.7	+0.2
PVAQ					IAmb		IAmb	00 42 18.4	
	comp=Z,9.8nm,1.1s								
COI	Coimbra	48.06	298	*eP*			P	00 42 17.0	+1.3
	comp=Z,23nm,1.8s								
COI	Coimbra	48.06	298		P		P	00 42 15.7	0.0
COI					pmax		pmax		
	comp=Z,14nm,1.0s								
COI	Coimbra	48.06	298		P		P	00 42 15.7	0.0
XAN	Xi'an	48.11	71	⇑	P		P	00 42 17.0	+0.8
XAN					pmax		pmax		
	comp=Z,11nm,1.1s								
PCAS	Casmilo, Conde	48.16	297	*eP*			P	00 42 17.8	+1.4
	comp=Z,26nm,1.3s								
PCVE	Castro Verde	48.25	294	*eP*			P	00 42 25.4	+8.2
	comp=Z,29nm,1.9s								
GYA	Guiyang	48.46	81	⇑	P		P	00 42 21.8	+2.7
GYA					pmax		pmax		
	comp=Z,15nm,0.5s								
PACT	Alcochete	48.64	296	*eP*			P	00 42 28.2	+8.1
	comp=Z,107nm,1.6s								
TOA0	Torodi Ar. Sit	48.77	259		P		P	00 42 20.9	-0.5
TOA0	Torodi Ar. Sit	48.77	259		P		P	00 42 22.0	+0.6
	SNR=12								
TOA0					P		P	00 42 22.0	+0.6
	SNR=12								
TORD	Torodi Ar. Bea	48.77	259		P		P	00 42 21.2	-0.2
	comp=Z,13nm,0.9s,baz=58,slow=8.3,SNR=50								
TORD	Torodi Ar. Bea	48.77	259		P		P	00 42 21.0	-0.4
HHC	Hu-ho-hao-te	48.78	61	*eP*			P	00 42 22.3	+1.0
HHC					pmax		pmax		
	comp=Z,11nm,1.1s								
HHC					pmax		pmax		
	comp=Z,160nm,5.5s								
PMAFR	Mafra	48.95	296	*eP*			P	00 42 22.9	+0.3
	comp=Z,42nm,1.3s								
SPITS	Spitsbergen Ar	48.96	351		P		P	00 42 21.6	-0.5
SPITS					pmax		pmax		
	comp=Z,33nm,1.2s								
PFVI	Vila Bisbo	48.96	294		P		P	00 42 22.3	-0.4
BOD	Bodaibo	49.51	39	*eP*			P	00 42 27.2	+0.7
BOD					pmax		pmax		
	comp=Z,15nm,1.0s								
SRIT	Nakonsritamara	50.56	106		P		P	00 42 35.1	0.0
SRIT					IAmb		IAmb	00 42 37.6	
	comp=Z,6.4nm,0.8s								
BJI	Beijing	52.38	62		P		P	00 42 49.5	+1.1
BJI					pmax		pmax		
	comp=Z,6.0nm,0.9s								
KOWA	Kowa	52.91	264		P		P	00 42 52.3	-0.4
KOWA					IAmb		IAmb	00 42 56.9	
	comp=Z,8.2nm,0.9s								
KULM	Kulim	53.30	109		P		P	00 42 56.5	+1.0
KULM					IAmb		IAmb	00 42 59.9	
	comp=Z,11nm,1.0s								
PSI	Prapat	53.41	113		P		P	00 42 56.0	-0.4
	comp=Z,5.6nm,0.6s,baz=287,slow=5.7,SNR=6.9								
VOI	Vohitsoka	53.49	185		P		P	00 42 57.7	+0.9
VOI					IAmb		IAmb	00 43 16.2	
	comp=Z,4.8nm,1.0s								
WHN	Wuhan	53.51	74	⇑	P		P	00 42 57.0	+0.2
IPM	Ipoh	54.07	109		P		P	00 43 00.5	-0.7
BORG	Borgarnes	54.30	330		LR		LR	01 09 25.1	
	comp=Z,41nm,18.7s,baz=97,slow=40								
DBG	Daneborg	54.68	342	*i*	P		P	00 43 04.8	+0.1
DBG					IAmb		IAmb	00 43 06.0	
	comp=Z,1.3nm,0.8s								
DAG	Danmarks Havn	54.73	345	*i*	P		P	00 43 04.0	-1.1
DAG					IAmb		IAmb	00 43 05.2	
	comp=Z,2.4nm,0.7s								
NOR	Nord	55.58	351	*i*	P		P	00 43 10.4	-0.8
NOR					IAmb		IAmb	00 43 11.4	
	comp=Z,2.2nm,0.9s								
BKNI	Bangkinang	56.59	113		P		P	00 43 19.9	+0.6
NJ2	Nanjing	56.66	70	*eP*			P	00 43 19.5	-0.2
NJ2					pmax		pmax		
	comp=Z,9.0nm,0.5s								
DBIC	Dimbokro	57.65	257		P		P	00 43 26.4	-0.4
	comp=Z,8.1nm,0.9s,baz=61,slow=11,SNR=4.6								
KIC	Kosan Boka	57.73	256	*eP*			P	00 43 27.7	+0.3
	comp=Z,15nm,0.9s								
TIC	Toumodi	57.80	257	*eP*			P	00 43 30.6	+2.7
LIC	Lamto	58.04	256	*eP*			P	00 43 30.4	+0.8
	comp=Z,15nm,0.8s								
CN2	Changchun	58.21	55	*eP*			P	00 43 36.5	+6.1
CN2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
TSUM	Tsumeb	59.95	217		P		P	00 43 41.6	-1.2
TSUM					IAmb		IAmb	00 43 54.7	
	comp=Z,3.9nm,0.9s								
KLR	Kul'dur	60.97	48		LR		LR	01 12 01.7	
	comp=Z,52nm,18.0s,baz=326,slow=38								
KLR	Kul'dur	60.97	48	‖ *eP*			P	00 43 49.7	+0.4
KLR					pmax		pmax		
	comp=Z,9.0nm,2.5s								
YHNB	Yeheng	61.44	77		P		P	00 43 53.0	-0.1
KSAR	Wonju Array Be	61.89	61		P		P	00 43 56.4	+0.6
KSAR	Wonju Array Be	61.89	61		P		P	00 43 56.4	+0.6
KSRS	Korea Array	61.92	61		P		P	00 43 56.0	+0.1
	comp=Z,4.9nm,0.9s,baz=278,slow=6.8,SNR=11								
KSRS					LR		LR	01 12 29.1	
	comp=Z,61nm,18.3s,baz=220,slow=38								
LWLI	Liwa	62.28	116		P		P	00 43 58.9	+0.1
	comp=Z,103nm,0.7s								
SBUM	Sibu	64.37	104		P		P	00 44 12.6	0.0
SBUM					IAmb		IAmb	00 44 23.1	
	comp=Z,5.0nm,0.9s								
BOSA	Boshof	64.83	205		P		P	00 44 15.2	-0.1
	comp=Z,4.4nm,0.7s,baz=35,slow=6.6,SNR=7.2								
SFJD	Kangerlussuaq	65.57	335		LR		LR	01 11 31.9	
	comp=Z,38nm,19.5s,baz=104,slow=35								
EUNU	Eureka	66.03	353		P		P	00 44 23.4	+1.0
EUNU					IAmb		IAmb	00 44 33.7	
	comp=Z,4.4nm,1.0s								
SEY	Seymchan	67.13	29		P		P	00 44 30.1	+0.5
	comp=Z,9.4nm,1.1s,baz=298,slow=8.0,SNR=10								
SEY					LR		LR	01 16 55.6	
	comp=Z,62nm,18.0s,baz=29,slow=39								
SEY	Seymchan	67.13	29	‖ *eP*			P	00 44 31.2	+1.6
SEY					pmax		pmax		
	comp=Z,10.0nm,1.3s								

MA2	Magadan	67.84	33	⇑ *eP*			P	00 44 36.8	+2.7
MA2					pmax		pmax		
	comp=Z,5.0nm,1.0s								
MYLDM	Lahad Datu	68.15	98		P		P	00 44 37.0	+0.2
YSS	Yuzh-Sakhalins	68.67	47	⇑ *eP*			P	00 44 40.1	+0.6
YSS					pmax		pmax		
	comp=Z,10.0nm,1.0s								
BILL	Bilibino	69.62	21	*d i* P			P	00 44 46.0	+0.9
BILL				*i*				00 44 49.3	
BILL					pmax		pmax		
	comp=Z,11nm,1.3s								
BILL					MLR		MLR		
	comp=Z,110nm,17.0s								
BILL	Bilibino	69.62	21		P		P	00 44 45.4	+0.3
MJAR	Matsushiro Arr	69.88	59		P		P	00 44 46.4	-0.9
MJAR					pmax		pmax		
	comp=Z,2.0nm,0.9s								
MJAR	Matsushiro Arr	69.88	59		P		P	00 44 46.4	-0.9
MPSI	Mapaga	71.92	101		P		P	00 45 00.9	+0.9
TOLI2	Tolitoli	72.24	100		P		P	00 45 02.4	+0.5
TOLI2					IAmb		IAmb	00 45 04.5	
	comp=Z,7.0nm,1.1s								
JAGI	Jagag, Banyuwa	72.27	112		P		P	00 45 02.0	0.0
PETK	Petropavlovsk-	74.32	37		LR		LR	01 20 50.2	
	comp=Z,43nm,18.3s,baz=232,slow=38								
A36M	Sachs Harbour	76.53	359		P		P	00 45 25.9	0.0
SCHQ	Schefferville	78.67	329		P		P	00 45 37.6	-0.5
	comp=Z,2.8nm,0.7s,baz=351,slow=6.5,SNR=3.9								
TOLK	Toolik Lake Re	78.77	8		P		P	00 45 39.4	+0.9
TOLK					IAmb		IAmb	00 45 40.4	
	comp=Z,5.7nm,0.8s								
COLD	Coldfoot	80.04	8		P		P	00 45 45.7	+0.2
COLD					IAmb		IAmb	00 45 47.3	
	comp=Z,2.9nm,0.8s								
INK	Inuvik	80.21	2		LR		LR	01 27 32.3	
	comp=Z,26nm,18.9s,baz=32,slow=40								
BMAR	Burnt Mountain	80.44	6		P		P	00 45 48.6	+1.0
IMAR	Indian Mountai	80.74	10		P		P	00 45 49.0	-0.2
BATI	Baumata	80.89	108		LR		LR	01 24 59.0	
	comp=Z,132nm,18.6s,baz=152,slow=38								
SOEI	Soe	81.13	107		P		P	00 45 52.4	+0.1
H21K	Melozitna Rive	81.19	10		P		P	00 45 51.9	+0.3
H21K					IAmb		IAmb	00 45 53.0	
	comp=Z,3.3nm,0.7s								
SHEM	Shemya Is, Ala	82.37	31		LR		LR	01 25 38.2	
	comp=Z,33nm,18.8s,baz=67,slow=38								
POKR	Poker Flat Res	82.40	8		P		P	00 45 58.4	+0.4
POKR					IAmb		IAmb	00 45 59.9	
	comp=Z,9.3nm,1.1s								
IL31		82.80	8		P		P	00 45 59.9	-0.1
ILAR	Eielson Array	82.80	8		P		P	00 45 60.0	-0.1
	comp=Z,0.9nm,0.7s,baz=323,slow=4.5,SNR=10								
ILAR					LR		LR	01 28 49.9	
	comp=Z,26nm,18.8s,baz=228,slow=40								
ILAR	Eielson Array	82.80	8		P		P	00 45 59.7	-0.4
ILAR	Eielson Array	82.80	8		P		P	00 45 59.7	-0.4
FAKI	Fak Fak	84.06	97		P		P	00 46 07.2	-0.2
FCC	Fort Churchill	85.27	343		P		P	00 46 12.3	-0.4
FCC	Fort Churchill	85.27	343		P		P	00 46 12.3	-0.4
YKA	Yellowknife Ar	85.40	353		P		P	00 46 13.1	-0.2
	comp=Z,2.0nm,1.0s,baz=8.9,slow=5.3,SNR=24								
WRA	Warramunga Arr	94.82	110		P		P	00 46 57.8	-0.6
	comp=Z,0.9nm,0.8s,baz=317,slow=4.2,SNR=5.2								
WRA	Warramunga Arr	94.82	110	*i*	P		P	00 47 00.6	+2.2
WRA					pmax		pmax		
	comp=Z,1.0nm,0.8s								

TAP **26** *00:33:37.6,24.°59N×122.°49E,h95km,ML3.3,B*
JMA **26** *00:33:37.3±0.2,24.°59N×122.°48E,h97km±2km,M2.4*
ISC 26 00:33:37.9±1.4**,24.°58N**±0.°04×**122.°51E**±0.°03**,h94**km±9km**,**
n90,σ0°46/141**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.42**	**108**			P	**Pn**	**00 33 52.7**	**+0.3**
JYNG						S	**Sn**	**00 34 03.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.47**	**104**			P	**Pn**	**00 33 53.0**	**+0.2**
YOJ						S	**Sn**	**00 34 04.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.47**	**104**	*i*		P	**Pn**	**00 33 53.1**	**+0.2**
	baz=104								
YOJ				*i*		S	**Sn**	**00 34 04.3**	**+0.4**
	baz=104								
TWC	**Suao**	**0.60**	**273**	*e*		P	**Pn**	**00 33 53.4**	**-0.4**
	baz=271								
TWC				*e*		S	**Sn**	**00 34 05.0**	**-0.7**
	baz=271								
TWB1	**Santiao Chiao**	**0.64**	**312**	*i*		P	**Pn**	**00 33 54.0**	**-0.1**
	baz=312								
TWB1				*i*		S	**Sn**	**00 34 06.0**	**-0.2**
	baz=312								
NTC	**Toucheng**	**0.67**	**294**			P	**Pn**	**00 33 54.3**	**-0.2**
	baz=293								
NTC				*e*		S	**Sn**	**00 34 06.2**	**-0.6**
	baz=293								
EWUT	**Wuta**	**0.68**	**259**			P	**Pn**	**00 33 54.6**	**+0.2**
	baz=257								
EWUT				*i*		S	**Sn**	**00 34 07.0**	**+0.1**
	baz=257

TATO	**Taipei**	**1.01 293**	*eP*	**Pn**	**00 33 57.6**	**-0.3**
	baz=292							
HWA	**Hwalien**	**1.02 234**	*eP*	**Pn**	**00 33 58.4**	**+0.3**
HWA	baz=232		*eS*	**Sn**	**00 34 13.9**	**+0.8**
YM01	**YM01**	**1.02 304**	*eP*	**Pn**	**00 33 57.9**	**-0.2**
YM01	baz=303		*eS*	**Sn**	**00 34 12.7**	**-0.6**
YM08	**YM08**	**1.03 306**	*eP*	**Pn**	**00 33 57.8**	**-0.4**
YHNB	baz=305 **Yeheng**	**1.03 275**	*eP*	**Pn**	**00 33 58.5**	**+0.2**
YHNB	baz=274		*i* S	**Sn**	**00 34 13.5**	**-0.1**
NNSB	baz=274 **Datong**	**1.03 262**	P	**Pn**	**00 33 58.5**	**+0.2**
NNSB	baz=260		S	**Sn**	**00 34 13.4**	**-0.3**
NNS	**Nan Shan**	**1.04 262**	P	**Pn**	**00 33 58.5**	**+0.1**
NNS	baz=261		*i* S	**Sn**	**00 34 13.6**	**-0.3**
NSK	baz=261 **Sanguang**	**1.05 275**	*eP*	**Pn**	**00 33 58.6**	**+0.2**
NSK	baz=274		*i* S	**Sn**	**00 34 13.7**	**-0.2**
TEYL	baz=274 **Yanliau Villag**	**1.09 230**	*eP*	**Pn**	**00 33 58.5**	**-0.3**
TEYL	baz=229		*eS*	**Sn**	**00 34 14.8**	**+0.1**
ETM	baz=229 **Tongmen**	**1.11 237**	*eP*	**Pn**	**00 33 58.8**	**-0.3**
ETM	baz=235		*eS*	**Sn**	**00 34 14.7**	**-0.4**
PCYT	baz=235 **Pengchaiyu**	**1.12 339**	P	**Pn**	**00 33 59.4**	**+0.2**
TWS1	baz=340 **Kuangyinshan**	**1.12 298**	*eP*	**Pn**	**00 33 59.0**	**-0.2**
IRIF	baz=297 **Iriomote-Funau**	**1.14 102**	P	**Pn**	**00 33 59.4**	**0.0**
IRIF			*eS*	**Sn**	**00 34 15.5**	**-0.2**
WHF	**Hehuan Shan**	**1.21 249**	P	**Pn**	**00 34 00.6**	**-0.2**
WHF	baz=247		*eS*	**Sn**	**00 34 17.2**	**-0.7**
TEGC	baz=247 **Jichi Village**	**1.24 226**	*eP*	**Pn**	**00 34 00.7**	**+0.1**
TEGC	baz=224		*eS*	**Sn**	**00 34 18.0**	**+0.3**
ESL	baz=224 **Shilin**	**1.24 232**	*eP*	**Pn**	**00 34 00.0**	**-0.6**
TWT	baz=230 **Tachien**	**1.26 255**	*eP*	**Pn**	**00 34 01.2**	**+0.2**
TWT	baz=254		*eS*	**Sn**	**00 34 18.7**	**+0.3**
NCUH	baz=254 **Zhongli**	**1.26 288**	*eP*	**Pn**	**00 34 01.1**	**+0.2**
NCUH	baz=287		*eS*	**Sn**	**00 34 18.2**	**-0.1**
NFF	baz=287 **Wufeng Townshi**	**1.27 273**	*eP*	**Pn**	**00 34 01.1**	**+0.2**
NFF	baz=271		*eS*	**Sn**	**00 34 18.2**	**-0.2**
HATJ	baz=271 **Hateruma jima**	**1.29 114**	*eS*	**Sn**	**00 34 19.3**	**+0.4**
CHGB	**Renai**	**1.32 247**	*eP*	**Pn**	**00 34 01.9**	**+0.1**
CHGB	baz=246		*eS*	**Sn**	**00 34 19.6**	**-0.3**
EGFH	baz=246 **Guangfu**	**1.34 228**	*eP*	**Pn**	**00 34 01.4**	**-0.4**
LIOB	baz=226 **Emei**	**1.36 273**	*eP*	**Pn**	**00 34 02.3**	**+0.2**
LIOB	baz=272		*eS*	**Sn**	**00 34 20.4**	**0.0**
OWD	baz=272 **Renai**	**1.36 243**	*eP*	**Pn**	**00 34 02.3**	**0.0**
OWD	baz=241		*eS*	**Sn**	**00 34 20.4**	**-0.3**
NSTT	baz=241 **Nanjuang**	**1.37 272**	*eP*	**Pn**	**00 34 02.4**	**+0.2**
NSTT	baz=271		*eS*	**Sn**	**00 34 20.6**	**-0.1**
WUSB	baz=271 **Renai**	**1.40 245**	*eP*	**Pn**	**00 34 02.9**	**+0.2**
WUSB	baz=244		*eS*	**Sn**	**00 34 21.2**	**-0.2**
JKRS	baz=244 **Kuro-shima**	**1.41 104**	P	**Pn**	**00 34 03.1**	**+0.4**
JKRS			*eS*	**Sn**	**00 34 21.9**	**+0.4**
WHP	**Taichung City**	**1.45 258**	*eP*	**Pn**	**00 34 04.4**	**+1.1**
WHP	baz=257		*eS*	**Sn**	**00 34 23.0**	**+0.4**
HGSD	baz=257 **Ruisui**	**1.47 223**	*eP*	**Pn**	**00 34 03.2**	**-0.2**
NJN	baz=221 **Zhunan**	**1.49 274**	*eP*	**Pn**	**00 34 04.0**	**+0.3**
VWDT	baz=273 **VWDT**	**1.50 237**	*eP*	**Pn**	**00 34 04.1**	**+0.4**
VWDT	baz=235		*eS*	**Sn**	**00 34 23.4**	**+0.1**
JIJ	**Ishigaki jima**	**1.51 98**	P	**Pn**	**00 34 03.7**	**-0.2**
JIJ			S	**Sn**	**00 34 22.7**	**-0.9**
EHY	**Hungye**	**1.52 226**	*eP*	**Pn**	**00 34 03.4**	**-0.7**
DPDB	baz=224 **Guoxing**	**1.54 250**	*eP*	**Pn**	**00 34 04.8**	**+0.4**
WCS	baz=248 **Beigang Elemen**	**1.55 251**	*eP*	**Pn**	**00 34 04.9**	**+0.5**
WCS	baz=249		*eS*	**Sn**	**00 34 24.7**	**+0.2**
NMLH	baz=249 **Miaoli**	**1.56 269**	*eP*	**Pn**	**00 34 04.9**	**+0.3**
NMLH	baz=267		*eS*	**Sn**	**00 34 24.8**	**-0.1**
ECBN	baz=267 **Changbin**	**1.59 218**	*eP*	**Pn**	**00 34 04.8**	**-0.1**
YULB	baz=216 **Yu-li**	**1.62 223**	*eP*	**Pn**	**00 34 04.7**	**-0.7**
SMLT	baz=222 **Sun Moon Lake**	**1.62 245**	*eP*	**Pn**	**00 34 06.6**	**+1.1**
SSLB	baz=243 **Suanglung**	**1.62 241**	*eP*	**Pn**	**00 34 05.9**	**+0.5**
SSLB	baz=240		*eS*	**Sn**	**00 34 26.5**	**+0.2**
EYUL	baz=240 **Yuli**	**1.64 222**	*eP*	**Pn**	**00 34 06.0**	**+0.4**
JISG	baz=220 **Ishigakijimahi**	**1.64 89**	P	**Pn**	**00 34 05.8**	**+0.2**
JISG			*eS*	**Sn**	**00 34 26.3**	**-0.3**
TWF1	**Yuli**	**1.65 222**	*eP*	**Pn**	**00 34 05.2**	**-0.6**
TYC	baz=221 **Yuchr**	**1.65 246**	*eP*	**Pn**	**00 34 07.0**	**+1.3**
FULB	baz=245 **Fuli**	**1.77 219**	*eP*	**Pn**	**00 34 07.2**	**-0.1**
FULB	baz=218		*eS*	**Sn**	**00 34 29.6**	**0.0**
WJS	baz=218 **Zhushan**	**1.79 245**	*eP*	**Pn**	**00 34 08.5**	**+1.0**
WNT	baz=244 **Mingjian**	**1.81 248**	*eP*	**Pn**	**00 34 08.8**	**+1.2**
ALS	baz=246 **Alishan**	**1.89 236**	*eP*	**Pn**	**00 34 09.9**	**+0.9**
CHN5	baz=234 **Tsauling**	**1.94 240**	*eP*	**Pn**	**00 34 10.1**	**+0.6**
EDH	baz=239 **Donghe**	**1.94 215**	*eP*	**Pn**	**00 34 08.9**	**-0.6**
ELDTW	baz=213 **Lidau**	**1.94 225**	*eP*	**Pn**	**00 34 09.0**	**-0.6**
JTJ	baz=223 **Tarama**	**2.00 88**	S	**Sn**	**00 34 34.8**	**0.0**
STYH	**Taoyuan**	**2.12 229**	*eP*	**Pn**	**00 34 12.5**	**+0.8**
LDUT	baz=227 **Ludao**	**2.12 207**	*eP*	**Pn**	**00 34 11.0**	**-0.8**
CHN4	baz=206 **Tsaushan**	**2.14 235**	*eP*	**Pn**	**00 34 13.1**	**+1.1**
TPUB	baz=234 **Ta-pu**	**2.14 234**	*eP*	**Pn**	**00 34 12.6**	**+0.6**
TWGBT	baz=232 **Beinan**	**2.19 217**	*eP*	**Pn**	**00 34 12.4**	**-0.3**
TWG	baz=216 **Pinlang**	**2.19 217**	*eP*	**Pn**	**00 34 12.0**	**-0.7**
CHN1	baz=216 **Nanshi**	**2.28 233**	*eP*	**Pn**	**00 34 14.8**	**+0.8**
MASBT	baz=231 **Mashibuluo**	**2.61 222**	*eP*	**Pn**	**00 34 18.9**	**+0.7**
EAST	baz=220 **Anshuo**	**2.67 215**	*eP*	**Pn**	**00 34 19.1**	**+0.1**
	baz=214							
LAY	**Lan-yu**	**2.68 199**	*eP*	**Pn**	**00 34 18.2**	**-1.0**
	baz=198							
VWUC	**VWUC**	**2.81 279**	*eP*	**Pn**	**00 34 20.5**	**-0.4**
	baz=278							
SLIU	**Shizi**	**2.83 214**	*eP*	**Pn**	**00 34 21.4**	**+0.2**
	baz=213							
WDGT	**Dungji**	**2.92 244**	*eP*	**Pn**	**00 34 22.4**	**0.0**
	baz=242							

PRE ***26*** *01:04:45.9±1.8, 47°.27S×32°.88E, h5km±2km, mb4.8*
BUL ***26*** *01:04:47.0±2.5, 47°.72S×31°.96E, h10km*
EAF ***26*** *01:04:53.7±3.8, 46°.92S×32°.62E, h10km*
IDC ***26*** *01:04:59.3±0.6, 46°.06S×33°.53E, h0km, mb4.2/14, mb1 4.4/16, mb1mx4.2/32, mbtmp4.3/16, ML4.9/2, MS3.8/15, Ms1 3.8/15, ms1mx3.5/62, Error ellipse: s-maj=30.7km s-min=13.3km az=68.0*
NEIC ***26*** *01:05:01.0±1.4, 46°.05S±0°.1×33°.5E±0°.2, h10km±1km, mb4.6/16, Error ellipse: s-maj=24.6km s-min=13.7km az=59.0*

ISC 26 01:05:00.7±0.5, 46°.01S±0°.07×33°.3E±0°.1, h10km, n87, σ1s67/75, mb4.5/22, MS3.8/15, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOE	**Somerset East**	**14.54**	**333**	*eP*		**Pn**	**01 08 25.0**	**-1.5**
SOE					IAmb	IAmb	01 08 30.6	
	comp=Z,35nm,0.8s							
GRAN	**Grantham**	**16.14**	**324**	*eP*		**Pn**	**01 08 49.0**	**+1.4**
GRAN					IAmb	IAmb	01 08 59.1	
	comp=Z,29nm,0.6s							
HVD	**Gariep Dam**	**16.52**	**336**	*eP*		**Pn**	**01 08 51.4**	**-1.2**
HVD					IAmb	IAmb	01 09 03.6	
	comp=Z,37nm,0.7s							
SUR	**Sutherland**	**16.65**	**320**	Pn		**Pn**	**01 08 55.9**	**+1.6**
	comp=Z,4.2nm,0.3s,baz=151,slow=13,SNR=62							
SUR					Sn	**Sn**	**01 11 54.1**	**-5.1**
	comp=Z,0.5nm,0.3s,baz=131,slow=22,SNR=2.0							
SUR	**Sutherland**	**16.65**	**320**			**Pn**	**01 08 55.5**	**+1.3**
SUR					IAmb	IAmb	01 08 57.7	
	comp=Z,35nm,1.1s							
SUR						**Sn**	**01 11 59.6**	**+0.4**
CVNA	**Calvinia**	**17.88**	**320**	*eP*		**P**	**01 09 12.8**	**+2.6**
CVNA					IAmb	IAmb	01 09 19.8	
	comp=Z,110nm,1.8s							
SNKL	**Senekal, Frees**	**18.22**	**344**	*eP*		**P**	**01 09 14.3**	**+0.3**
SNKL					IAmb	IAmb	01 09 32.9	
	comp=Z,211nm,2.0s							
NWCL	**Newcastle**	**18.43**	**351**	*eP*		**Pn**	**01 09 17.9**	**+1.5**
NWCL					IAmb	IAmb	01 09 36.4	
	comp=Z,14nm,0.8s							
BOSA	**Boshof**	**18.47**	**337**	P		**P**	**01 09 16.5**	**-0.2**
	comp=Z,3.3nm,0.3s,baz=165,slow=11,SNR=80							
BOSA	**Boshof**	**18.47**	**337**	*eP*		**P**	**01 09 16.2**	**-0.6**
BOSA					IAmb	IAmb	01 09 18.9	
	comp=Z,16nm,0.9s							
BOSA	**Boshof**	**18.47**	**337**	P		**P**	**01 09 16.2**	**-0.6**
BOSA	**Boshof**	**18.47**	**337**	*eP*		**P**	**01 09 16.6**	**-0.2**
BOSA	**Boshof**	**18.47**	**337**	*eP*		**P**	**01 09 16.6**	**-0.2**
POGA	**Pongola**	**18.66**	**356**	*eP*		**Pn**	**01 09 19.6**	**+0.5**
POGA					IAmb	IAmb	01 09 23.4	
	comp=Z,72nm,0.6s							
PRYS	**Parys**	**19.61**	**344**	*eP*		**Pn**	**01 09 31.1**	**+0.5**
PRYS					IAmb	IAmb	01 09 44.4	
	comp=Z,1μm,4.2s							
CNG	**Changalane**	**19.69**	**357**	*eP*		**Pn**	**01 09 35.2**	**+3.8**
CNG					IAmb	IAmb	01 09 37.8	
	comp=Z,13nm,1.2s							
CNG	**Changalane**	**19.69**	**357**	*eP*		**Pn**	**01 09 34.7**	**+3.3**
CNG	**Changalane**	**19.69**	**357**	*eP*		**Pn**	**01 09 34.7**	**+3.3**
KEIM	**Keimoes**	**19.80**	**327**	*eP*		**Pn**	**01 09 33.7**	**+0.9**
KEIM					IAmb	IAmb	01 09 35.8	
	comp=Z,31nm,1.0s							
SWZ	**Schweizer**	**19.82**	**339**	*eP*		**Pn**	**01 09 34.1**	**+1.0**
SWZ					IAmb	IAmb	01 09 39.2	
	comp=Z,36nm,0.7s							
HAGI	**HAGI**	**19.92**	**355**	*eP*		**Pn**	**01 09 34.9**	**+0.6**
HAGI					IAmb	IAmb	01 09 39.3	
	comp=Z,20nm,1.0s							
UPI	**Upington**	**20.00**	**328**	*eP*		Pn	01 09 34.9	-0.3
UPI					IAmb	IAmb	01 09 42.3	
	comp=Z,7.9nm,0.6s							
WDLM	**Western Deep L**	**20.09**	**345**	*eP*		Pn	01 09 37.9	+1.5
WDLM					IAmb	IAmb	01 09 43.6	
	comp=Z,45nm,0.4s							
AUGR	**Augrabies**	**20.14**	**325**	*eP*		**P**	**01 09 34.8**	**-0.2**
AUGR					IAmb	IAmb	01 09 36.3	
	comp=Z,48nm,1.0s							
SLR	**Silverton**	**20.62**	**347**	*eP*		**P**	**01 09 41.0**	**+0.7**
SLR					IAmb	IAmb	01 09 50.8	
	comp=Z,23nm,0.9s							
KSR	**Koster**	**20.75**	**344**	*eP*		**P**	**01 09 42.7**	**+1.0**
KSR					IAmb	IAmb	01 09 47.9	
	comp=Z,27nm,1.2s							
LBTB	**Lobatse**	**21.83**	**341**	P		**P**	**01 09 54.5**	**+1.2**
	comp=Z,14nm,0.8s,baz=157,slow=12,SNR=13							
LBTB					S	**S**	**01 13 50.8**	**-3.8**
	comp=Z,2.7nm,0.6s,baz=114,slow=24,SNR=1.6							
LBTB					LR	LR	01 17 06.3	
	comp=Z,267nm,20.9s,baz=170,slow=33							
LBTB	**Lobatse**	**21.83**	**341**	*eP*		**P**	**01 09 54.7**	**+1.4**
LBTB					IAmb	IAmb	01 10 01.1	
	comp=Z,28nm,0.8s							
LBTB	**Lobatse**	**21.83**	**341**	P		**P**	**01 09 53.4**	**+0.1**
LBTB					IAmb	IAmb	01 10 01.3	
	comp=Z,28nm,0.8s							
LBTB	**Lobatse**	**21.83**	**341**	*eP*		**P**	**01 09 55.0**	**+1.8**
LBTB	**Lobatse**	**21.83**	**341**	*eP*		**P**	**01 09 55.0**	**+1.8**
MOPA	**Mopani**	**22.49**	**356**	*eP*		**P**	**01 10 01.0**	**+0.8**
MOPA					IAmb	IAmb	01 10 20.2	
	comp=Z,31nm,1.5s							
MOPA	**Mopani**	**22.49**	**356**	*eP*		**P**	**01 09 59.6**	**-0.6**
MOPA	**Mopani**	**22.49**	**356**	*eP*		**P**	**01 09 59.6**	**-0.6**
MSNA	**Messina**	**23.75**	**353**	*eP*		**P**	**01 10 13.6**	**+0.5**
MSNA					IAmb	IAmb	01 10 15.6	
	comp=Z,20nm,0.8s							
MSNA	**Messina**	**23.75**	**353**	*eP*		**P**	**01 10 14.0**	**+0.9**
MSNA	**Messina**	**23.75**	**353**	*eP*		**P**	**01 10 14.0**	**+0.9**
MATP	**Matopo**	**25.81**	**350**	P		**P**	**01 10 32.5**	**+0.5**
	comp=Z,12nm,0.8s,baz=172,slow=11,SNR=20							
MATP	**Matopo**	**25.81**	**350**	*eP*		**P**	**01 10 32.6**	**+0.5**
MATP	**Matopo**	**25.81**	**350**	*eP*		**P**	**01 10 32.6**	**+0.5**
BLWY	**Bulawayo**	**26.08**	**350**	*eP*		**P**	**01 10 33.9**	**-0.7**
BLWY					IAmb	IAmb	01 10 37.9	
	comp=Z,71nm,0.8s							
BLWY	**Bulawayo**	**26.08**	**350**	*eP*		**P**	**01 10 35.1**	**+0.5**
BLWY	**Bulawayo**	**26.08**	**350**	*eP*		**P**	**01 10 35.1**	**+0.5**
VOI	**Vohitsoka**	**26.46**	**29**	P		**P**	**01 10 36.5**	**-1.5**
VOI					IAmb	IAmb	01 10 39.1	
	comp=Z,15nm,1.0s							
MAW	**Mawson**	**26.55**	**155**	P		**P**	**01 10 36.9**	**-1.4**
	comp=Z,4.8nm,1.1s,baz=0.3,slow=8.3,SNR=3.7							
MAW					LR	LR	01 18 57.5	
	comp=Z,179nm,19.4s,baz=284,slow=32							
MAW	**Mawson**	**26.55**	**155**	P		**P**	**01 10 37.1**	**-1.1**
ABPO	**Ambohimpanom**	**29.29**	**28**	P		**P**	**01 11 03.4**	**0.0**
ABPO					IAmb	IAmb	01 11 03.8	
	comp=Z,18nm,1.4s							
TSUM	**Tsumeb**	**29.70**	**329**	P		**P**	**01 11 07.9**	**+0.9**
	comp=Z,3.6nm,0.6s,baz=125,slow=17,SNR=2.7							
TSUM					LR	LR	01 22 47.0	
	comp=Z,224nm,18.1s,baz=158,slow=36							
TSUM	**Tsumeb**	**29.70**	**329**	P		**P**	**01 11 07.6**	**+0.7**
TSUM					IAmb	IAmb	01 11 17.8	
	comp=Z,11nm,1.2s							
SNAA	**Sanae**	**30.86**	**201**	P		**P**	**01 11 17.3**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=81,slow=24,SNR=3.3							
LSZ	**Lusaka**	**30.93**	**350**	LR		LR	01 22 46.9	
	comp=Z,177nm,18.5s,baz=166,slow=34							
LSZ	**Lusaka**	**30.93**	**350**	*eP*		**P**	**01 11 17.5**	**-0.3**
LSZ					IAmb	IAmb	01 11 19.6	
	comp=Z,164nm,0.8s							
LSZ	**Lusaka**	**30.93**	**350**	P		**P**	**01 11 18.2**	**+0.3**
QSPA	**South Pole Qui**	**44.21**	**180**	P		**P**	**01 13 08.7**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=259,slow=3.3,SNR=8.8							
QSPA	**South Pole Qui**	**44.21**	**180**	P		**P**	**01 13 09.2**	**-0.5**
KMBO	**Kilima Mbogo**	**44.83**	**6**	LR		LR	01 31 42.9	
	comp=Z,152nm,18.1s,baz=108,slow=36							
MBAR	**Mbarara**	**45.27**	**356**	LR		LR	01 30 23.6	
	comp=Z,29nm,18.8s,baz=158,slow=34							
VNDA	**Vanda**	**52.75**	**168**	P		**P**	**01 14 14.8**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=248,slow=7.6,SNR=17							
VNDA					LR	LR	01 34 39.9	
	comp=Z,143nm,20.4s,baz=200,slow=34							
VNDA	**Vanda**	**52.75**	**168**	P		**P**	**01 14 14.7**	**-0.3**
SBA	**Scott Base**	**53.19**	**169**	P		**P**	**01 14 17.1**	**-1.2**
SBA					IAmb	IAmb	01 14 48.9	
	comp=Z,9.6nm,1.1s							
H10S2	**ASCENSION HYDR**	**55.07**	**297**	T		T	02 14 59.6	
	baz=139,slow=74,SNR=27							
H10S3	**ASCENSION HYDR**	**55.08**	**297**	T		T	02 15 01.1	
	baz=81,slow=74,SNR=32							
SOCY	**Socotra**	**60.86**	**23**	P		**P**	**01 15 14.6**	**+1.2**
SOCY					IAmb	IAmb	01 15 22.5	
	comp=Z,4.7nm,0.9s							
MG05	**Puerto Natales**	**63.69**	**222**	P		**P**	**01 15 33.6**	**+1.7**
TOA0	**Torodi Ar. Sit**	**65.39**	**326**	P		**P**	**01 15 43.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**65.39**	**326**	P		**P**	**01 15 46.0**	**+2.7**
	comp=Z,1.5nm,0.4s,baz=160,slow=6.6,SNR=17							
TORD	**Torodi Ar. Bea**	**65.39**	**326**	P		**P**	**01 15 44.0**	**+0.6**
TORD					IAmb	IAmb	01 15 47.2	
	comp=Z,8.8nm,1.4s							
AY01	**Puyuhuapi**	**68.69**	**228**	P		**P**	**01 16 05.5**	**+1.3**
CPUP	**Villa Florida**	**71.94**	**251**	P		**P**	**01 16 25.0**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=298,slow=3.3,SNR=1.9							
MMAI	**Mount Meron Ar**	**78.68**	**2**	LR		LR	01 51 18.9	
	comp=Z,51nm,18.0s,baz=42,slow=35							
STKA	**Stephens Creek**	**79.03**	**125**	P		**P**	**01 17 06.0**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=333,slow=13,SNR=2.0							
ASAR	**Alice Springs**	**80.32**	**114**	P		**P**	**01 17 10.1**	**-2.1**
	comp=Z,1.9nm,0.9s,baz=220,slow=4.7,SNR=9.7							
IDI	**Anoyia**	**81.27**	**353**	LR		LR	01 54 41.3	
	comp=Z,31nm,19.4s,baz=188,slow=37							
WRA	**Warramunga Arr**	**83.28**	**112**	P		**P**	**01 17 27.6**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=220,slow=3.9,SNR=3.4							
VAE	**Valguarnera**	**84.82**	**345**	LR		LR	01 58 21.3	
	comp=Z,109nm,18.2s,baz=144,slow=38							
BRTR	**Keskin Array B**	**85.35**	**0**	P		**P**	**01 17 38.2**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=187,slow=4.8,SNR=3.6							
BRTR	**Keskin Array B**	**85.35**	**0**	P		**P**	**01 17 37.8**	**0.0**
MDT	**Midelt**	**85.61**	**329**	LR		LR	01 56 02.3	
	comp=Z,41nm,20.0s,baz=182,slow=36							
GNI	**Garni**	**86.39**	**9**	LR		LR	01 55 18.2	
	comp=Z,30nm,19.4s,baz=196,slow=35							
ESDC	**Sonseca Array**	**91.58**	**332**	P		**P**	**01 18 08.8**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=159,slow=4.6,SNR=4.5							
ESDC					LR	LR	02 01 53.2	
	comp=Z,30nm,18.5s,baz=174,slow=37							
DAVOX	**Davos/Dischmat**	**94.66**	**344**	LR		LR	02 01 17.5	
	comp=Z,91nm,21.1s,baz=208,slow=36							
AKASG	**Malin Array Be**	**96.39**	**357**	LR		LR	02 07 42.1	
	comp=Z,27nm,18.1s,baz=254,slow=39							
TXAR	**Lajitas Array**	**142.56**	**259**	PKP		**PKPdf**	**01 24 31.7**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=144,slow=5.5,SNR=4.5							
RES	**Resolute Bay**	**143.68**	**339**	PKP		**PKPdf**	**01 24 34.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=219,slow=23,SNR=1.7							
ULM	**Lac du Bonnet**	**146.32**	**296**	PKPbc		**PKPbc**	**01 24 40.6**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=158,slow=6.7,SNR=1.5							
YKA	**Yellowknife Ar**	**155.38**	**324**	PKPbc		**PKPab**	**01 25 11.7**	**-7.0**
	comp=Z,0.2nm,0.6s,baz=57,slow=2.3,SNR=6.7							
YKA	**Yellowknife Ar**	**155.38**	**324**			PKPdf	01 25 02.5	+9.4

IDC ***26*** *01:18:01.6±1.4, 37°.09N×142°.65E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.5/37, mbtmp3.4/6, ML2.7/1, MS2.5/1, Ms1 2.5/1, ms1mx2.0/50, Error ellipse: s-maj=36.1km s-min=24.6km az=155.0*
JMA ***26*** *01:18:04.8±0.2, 37°.25N×142°.17E, h30km, M3.4*

ISC 26 01:18:03.9±1.1, 37°.24N±0°.06×142°.2E±0°.1, h21km±6km, n25, σ1s02/25, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.04**	**278**	P		**Pb**	**01 18 23.5**	**+0.4**
JFK					*eS*	**Sn**	**01 18 36.6**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.10**	**263**	P		**Pb**	**01 18 24.3**	**+0.1**
JMST	**Minamisoumatoc**	**1.12**	**296**	P		**Pb**	**01 18 24.6**	**0.0**
JMST					*eS*	**Sn**	**01 18 38.7**	**-0.6**
JIKH	**Ishinomakikobu**	**1.21**	**333**	P		**Pb**	**01 18 25.7**	**-0.3**
JMM	**Marumori**	**1.26**	**300**	P		**Pb**	**01 18 26.6**	**-0.3**
JMM					*eS*	**Sn**	**01 18 42.1**	**-0.4**
JIO	**Ouri**	**1.38**	**332**	P		**Pb**	**01 18 28.5**	**-0.4**
JIO					*eS*	**Sn**	**01 18 44.8**	**-0.6**
JHO	**Hitachi**	**1.42**	**244**	P		**Pb**	**01 18 28.8**	**-0.9**
JFT	**Otama**	**1.48**	**281**	P		**Pb**	**01 18 30.9**	**+0.2**
JFT					*eS*	**Sb**	**01 18 49.8**	**+0.7**
JOU	**Okura**	**1.64**	**314**	P		**Pb**	**01 18 33.1**	**-0.3**
JOU					S	**Sb**	**01 18 53.7**	**+0.1**
JMK	**Ichinoseki**	**1.87**	**337**	P		**Pb**	**01 18 36.6**	**-0.7**
JYS	**Shirataka**	**1.93**	**301**	P		**Pb**	**01 18 38.0**	**-0.4**
JYS					S	**Sb**	**01 19 02.5**	**+0.5**
JFY	**Yanaizu**	**1.97**	**276**	P		**Pb**	**01 18 38.1**	**-0.9**
JYK	**Kaneyama**	**2.20**	**320**	P		**Pb**	**01 18 41.2**	**-1.8**
MJAR	**Matsushiro Arr**	**3.25**	**259**	Pn		**Pb**	**01 18 57.8**	**-3.0**
	0.7nm,0.3s,baz=92,slow=17,SNR=12							
MJAR					Sn	**Sb**	**01 19 42.0**	**+2.1**
	0.5nm,0.3s,baz=315,slow=32,SNR=4.6							
MJAR					LR	LR	01 20 30.6	
	comp=Z,70nm,18.4s,baz=13,slow=41							
H11N2	**WAKE ISLAND Hy**	**27.74**	**122**	T		T	01 53 13.3	
	baz=314,slow=76,SNR=7.4							
H11N1	**WAKE ISLAND Hy**	**27.75**	**122**	T		T	01 53 26.0	
	baz=314,slow=76,SNR=4.8							
H11N3	**WAKE ISLAND Hy**	**27.76**	**122**	T		T	01 53 26.7	
	baz=314,slow=76,SNR=4.6							
SONM	**Songino Array**	**28.17**	**303**	P		P	01 24 00.1	+5.3
	0.2nm,0.4s,baz=99,slow=8.9,SNR=1.9							
H11S1	**WAKE ISLAND Hy**	**28.47**	**124**	T		T	01 53 58.7	
	baz=316							
H11S3	**WAKE ISLAND Hy**	**28.47**	**124**	T		T	01 53 55.4	
	baz=316							
H11S2	**WAKE ISLAND Hy**	**28.49**	**124**	T		T	01 53 48.2	
	baz=316							
MKAR	**Makanchi Array**	**44.52**	**302**	P		P	01 26 17.9	+4.0
	0.3nm,0.7s,baz=80,slow=9.0,SNR=2.7							
ILAR	**Eielson Array**	**49.00**	**32**	P		**P**	**01 26 48.6**	**0.0**
	0.7nm,0.9s,baz=268,slow=6.3,SNR=4.2							
WRA	**Warramunga Arr**	**57.35**	**189**	P		**P**	**01 27 51.1**	**+0.5**
	0.8nm,1.0s,baz=7.1,slow=7.6,SNR=2.4							

JUA2	**San Juan 2**	**2.39**	**89**	P		**Pn**	**01 28 34.0**	**0.0**
PAST	**Pastocalle**	**2.40**	**100**	P		**Pn**	**01 28 34.0**	**0.0**
YANA	**Yana**	**2.43**	**87**	P		**Pn**	**01 28 34.0**	**-0.5**
CHSH	**Refugio Sur-Vo**	**2.46**	**120**	P		**Pn**	**01 28 36.0**	**+1.0**
PORT	**Chimborazo Vol**	**2.53**	**118**	P		**Pn**	**01 28 37.0**	**+1.1**
CAMI	**Rancho Maria**	**2.53**	**99**	P		**Pn**	**01 28 37.0**	**+1.2**
BNAS	**Cotopaxi Volca**	**2.55**	**99**	P		**Pn**	**01 28 37.0**	**+0.8**
NAS2	**Nasa**	**2.56**	**99**	P		**Pn**	**01 28 37.0**	**+0.7**
TAMH	**Tambohuasha Ch**	**2.56**	**120**	P		**Pn**	**01 28 37.0**	**+0.7**
BMOR	**Cotopaxi Volca**	**2.58**	**100**	P		**Pn**	**01 28 37.0**	**+0.3**
PITA	**Cotopaxi Volc**	**2.58**	**97**	P		**Pn**	**01 28 38.0**	**+1.4**
BREF	**Cotopaxi Volca**	**2.59**	**99**	P		**Pn**	**01 28 38.0**	**+1.2**
BVC2	**Cotopaxi Volca**	**2.62**	**99**	P		**Pn**	**01 28 38.0**	**+0.9**
BTAM	**Cotopaxi Volca**	**2.63**	**99**	P		**Pn**	**01 28 38.0**	**+0.6**
CUSE	**Cuicocha Este**	**2.66**	**78**	eP		**Pn**	**01 28 38.0**	**+0.4**
CUSE				eS		**Sn**	**01 29 10.1**	**0.0**
CUSE	**Cuicocha Este**	**2.66**	**78**	P		**Pn**	**01 28 37.0**	**-0.6**
IGUA	**Igualata**	**2.66**	**117**	P		**Pn**	**01 28 39.0**	**+1.3**
VCES	**Cotopaxi**	**2.66**	**102**	P		**Pn**	**01 28 38.0**	**+0.3**
TAMB	**Tambo**	**2.67**	**99**	P		**Pn**	**01 28 39.0**	**+1.2**
CUIC	**Cuicocha-Domo**	**2.69**	**78**	P		**Pn**	**01 28 38.0**	**-0.1**
COTA	**Cotacachi**	**2.73**	**78**	P		**Pn**	**01 28 40.0**	**+1.4**
ANTG	**Antisana-Guama**	**2.75**	**95**	P		**Pn**	**01 28 40.0**	**+1.0**
BBIL	**Ulba Tungurahu**	**2.78**	**115**	P		**Pn**	**01 28 41.0**	**+1.9**
JUI6	**Juive**	**2.78**	**115**	P		**Pn**	**01 28 41.0**	**+1.8**
POND	**Pondoa**	**2.80**	**114**	P		**Pn**	**01 28 41.0**	**+1.6**
BMAS	**Trigal station**	**2.81**	**116**	P		**Pn**	**01 28 41.0**	**+1.4**
RETU	**Refugio**	**2.81**	**115**	P		**Pn**	**01 28 41.0**	**+1.2**
URCU	**Urcuqui**	**2.83**	**76**	P		**Pn**	**01 28 41.0**	**+1.1**
ARRY	**Arrayan**	**2.83**	**116**	P		**Pn**	**01 28 41.0**	**+1.1**
BRUN	**Tungurahua Vol**	**2.83**	**114**	P		**Pn**	**01 28 41.0**	**+1.1**
PIAT	**Ana Tenorio**	**2.83**	**105**	P		**Pn**	**01 28 41.0**	**+1.0**
ANTS	**Antisana-Sarah**	**2.84**	**95**	P		**Pn**	**01 28 41.0**	**+0.8**
ANTI	**Antisana**	**2.84**	**94**	P		**Pn**	**01 28 42.0**	**+1.7**
BPAT	**Tungurahua Vol**	**2.85**	**116**	P		**Pn**	**01 28 42.0**	**+1.8**
YAHU	**Yahuarcocha**	**2.99**	**78**	P		**Pn**	**01 28 44.0**	**+1.8**
TULM	**Tulcn-Chalpat**	**3.35**	**73**	eP		**Pn**	**01 28 50.3**	**+3.1**
GCUF	**Volcan Galeras**	**3.94**	**68**	eP		**Pn**	**01 28 58.4**	**+3.1**
CRUC	**La Cruz**	**4.43**	**66**	eP		**Pn**	**01 29 04.2**	**+2.2**
SOTA	**Rioblanco**	**4.99**	**62**	eP		**Pn**	**01 29 11.3**	**+1.6**
POPC	**Popayan, Colom**	**5.14**	**57**	eP		**Pn**	**01 29 12.4**	**+0.9**
PCON	**Cinco Dias**	**5.27**	**61**	eP		**Pn**	**01 29 15.3**	**+1.6**
GARC	**Garzon, Huila**	**6.02**	**66**	eP		**Pn**	**01 29 25.1**	**+1.4**
YOTC	**Yotoco, Valle**	**6.27**	**48**	eP		**Pn**	**01 29 27.4**	**+0.3**
YOTC				eS		**Sn**	**01 30 36.7**	**-2.3**
PLMC	**San Jos del P**	**6.96**	**43**	eP		**Pn**	**01 29 39.4**	**+2.9**
ORTC	**Ortega, Tolima**	**7.08**	**54**	eP		**Pn**	**01 29 39.8**	**+1.7**
ANIL	**Santa Ana**	**7.31**	**50**	eP		Pn	01 29 47.4	+5.9
MACC	**Macarena, Meta**	**7.54**	**72**	eP		**Pn**	**01 29 46.0**	**+1.7**
GUY2C	**Guyana, Caldas**	**7.83**	**46**	eP		Pn	01 29 55.4	+6.6
CBOC	**Ciudad Bolivar**	**7.86**	**39**	eP		**Pn**	**01 29 52.2**	**+3.3**
ROSC	**El Rosal**	**8.38**	**53**	Pn		**Pn**	**01 29 55.7**	**-0.5**
	1.4nm,0.3s,baz=339,slow=23,SNR=1.8							
NORC	**Norcasia**	**8.42**	**47**	eP		Pn	01 30 06.4	+10
DBBC	**Dabeiba**	**8.66**	**33**	eP		Pn	01 30 07.0	+7.1
CHIC	**Chingaza**	**8.73**	**56**	eP		**Pn**	**01 30 03.8**	**+2.7**
PTBC	**PUERTO BERRIO,**	**9.39**	**44**	eP		**Pn**	**01 30 06.4**	**-3.4**
NNA	**Nana**	**12.36**	**161**	LR		LR	01 35 04.1	
	comp=Z,60nm,19.2s,baz=342,slow=35							
SDV	**Santo Domingo**	**13.75**	**48**	Pn		**Pn**	**01 31 08.9**	**-0.7**
	0.4nm,0.3s,baz=352,slow=7.7,SNR=1.4							
LPAZ	**La Paz**	**20.37**	**142**	P		**P**	**01 32 31.7**	**-0.2**
	1.5nm,0.5s,baz=300,slow=7.4,SNR=12							
LPAZ				LR		LR	01 41 54.8	
	comp=Z,66nm,19.2s,baz=12,slow=42							
SIV	**San Ignacio**	**25.12**	**129**	P		**P**	**01 33 19.0**	**-0.7**
	1.5nm,0.7s,baz=303,slow=9.4,SNR=7.6							
MDP	**Montagnes des**	**28.82**	**79**	LR		LR	01 45 56.8	
	comp=Z,70nm,18.8s,baz=199,slow=38							
YKA	**Yellowknife Ar**	**67.50**	**344**	P		P	01 38 53.5	+3.3
	0.8nm,1.0s,baz=132,slow=6.5,SNR=8.3							
TORD	**Torodi Ar. Bea**	**82.94**	**77**	P		**P**	**01 40 20.0**	**-0.2**
	0.2nm,0.5s,baz=276,slow=6.5,SNR=4.3							
ASAR	**Alice Springs**	**138.61**	**233**	PKP		**PKiKP**	**01 47 23.4**	**-0.1**
	0.2nm,0.3s,baz=142,slow=3.5,SNR=1.5							
WRA	**Warramunga Arr**	**139.99**	**238**	PKP		**PKiKP**	**01 47 25.3**	**-1.1**
	0.4nm,1.0s,baz=101,slow=1.9,SNR=1.6							

IDC ***26*** *01:45:45.6±1.0,23.86N×121.75E,h0km,mb3.6/9, mb1 3.8/10,mb1mx3.6/50,mbtmp3.7/10,ML3.7/1,MS3.9/3, Ms1 3.9/3,ms1mx2.8/79,Error ellipse: s-maj=27.6km s-min=20.2km az=73.0*

JMA ***26*** *01:45:46.3±0.1,23.92N×121.55E,h0km,M3.6*

NIED ***26*** *01:45:46.4,23.92N×121.55E,h0km,MW4.0,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-0.03; Mθθ-0.35; Mϕϕ0.38; Mrθ1.05; Mθϕ-0.10; Mϕr0.10; Fault plane solution: M₀1.07000×10¹⁵ NP1: ϕs238.00000°,δ5.00000°,λ63.00000°. NP2:ϕs86.00000°, δ86.00000°,λ92.00000°.*

TAP ***26*** *01:45:48.4,23.98N×121.59E,h8km,ML4.2,B*

NEIC ***26*** *01:45:48.0±1.3,23.99N±0.02×121.58E±0.04,h11km±4km, mb4.3/8,Error ellipse: s-maj=5.1km s-min=2.0km az=113.0*

ISC 26 01:45:47.8±0.7,23.96N±0.01×121.62E±0.02,h11km±4km, n177,σ1§22/273,mb3.7/11,MS4.0/3,4C-41D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.02**	**315**	*i*P			**Pg**	**01 45 50.0**	**+0.2**
HWA	baz=100			*i* S			**Sg**	**01 45 51.4**	**+0.2**
TEYL	**Yanliau Villag**	**0.10**	**194**	*i*P			**Pg**	**01 45 50.6**	**+0.2**
TEYL	baz=171			*i* S			**Sg**	**01 45 52.8**	**+0.4**
ETM	**Tongmen**	**0.12**	**272**	*i* P			**Pg**	**01 45 51.0**	**+0.2**
ETM	baz=261			*i* S			**Sg**	**01 45 52.7**	**-0.3**
TWD	**Chiawan**	**0.12**	**348**	*i*P			**Pg**	**01 45 51.2**	**+0.4**
TWD	baz=8.0			*i* S			**Sg**	**01 45 53.3**	**+0.3**
ETL	**Fush Village**	**0.20**	**0**	*i*P			**Pg**	**01 45 52.5**	**+0.4**
ETL	baz=10.0			*e*S			**Sg**	**01 45 55.6**	**+0.6**
NACB	**Ninganchiao**	**0.21**	**353**				**Pg**	**01 45 51.6**	**-0.7**
NACB					Sg		**Sg**	**01 45 55.3**	**-0.2**
NACB	**Ninganchiao**	**0.21**	**353**	*i*P			**Pg**	**01 45 52.7**	**+0.4**
NACB	baz=2.0			*i* S			**Sg**	**01 45 56.0**	**+0.5**
ESL	**Shilin**	**0.23**	**230**	*i*P			**Pg**	**01 45 52.8**	**+0.2**
ESL	baz=219			*i* S			**Sg**	**01 45 56.2**	**+0.3**
TEGC	**Jichi Village**	**0.26**	**197**	*i* P			**Pb**	**01 45 54.9**	**+0.3**
TEGC	baz=188			*e*S			**Sb**	**01 46 00.4**	**+1.3**
ETLH	**Xiulin Townshi**	**0.28**	**332**	*i*P			**Pg**	**01 45 54.0**	**+0.4**
ETLH	baz=337			*e*S			**Sg**	**01 45 57.9**	**+0.5**
EGFH	**Guangfu**	**0.34**	**212**	P			**Pg**	**01 45 55.2**	**+0.5**
EGFH	baz=206			*e*S			**Sg**	**01 45 59.9**	**+0.7**
EHP	**Heping Village**	**0.36**	**17**	*e*P			**Pb**	**01 45 57.2**	**+0.9**
WHF	**Hehuan Shan**	**0.38**	**299**	*i*P			**Pg**	**01 45 55.8**	**+0.3**
WHF	baz=299			*i* S			**Sb**	**01 46 01.0**	**-1.8**
OWD	**Renai**	**0.41**	**269**	*i*P			**Pb**	**01 45 56.4**	**-0.7**
OWD	baz=266			*e*S			**Sg**	**01 46 01.7**	**+0.3**
CHGB	**Renai**	**0.42**	**284**	*i*P			**Pb**	**01 45 56.9**	**-0.5**
CHGB	baz=282			*e*S			**Sb**	**01 46 02.6**	**-1.3**
FUSS	**Fushou**	**0.45**	**310**	*i*P			**Pg**	**01 45 56.3**	**-0.4**
FUSS	baz=310			*e*S			**Sb**	**01 46 03.4**	**-1.4**
WUSB	**Renai**	**0.46**	**274**	*i*P			**Pb**	**01 45 57.7**	**-0.4**
WUSB	baz=272			*e*S			**Sb**	**01 46 04.5**	**-0.5**
ENA	**Nanau**	**0.48**	**13**	*i*P			**Pg**	**01 45 57.8**	**+0.5**
ENA	baz=18			*i* S			**Sg**	**01 46 03.9**	**+0.3**
VWDT	**VWDT**	**0.49**	**245**	*i*P			**Pb**	**01 45 58.1**	**-0.3**
VWDT	baz=241			*e*S			**Sb**	**01 46 04.8**	**-0.7**
HGSD	**Ruisui**	**0.50**	**201**	P			**Pb**	**01 45 58.9**	**+0.3**
HGSD	baz=197			*e*S			**Sn**	**01 46 09.1**	**-0.5**
TWT	**Tachien**	**0.50**	**306**	*i*P			**Pb**	**01 45 58.7**	**-0.1**
TWT	baz=305			*e*S			**Sb**	**01 46 06.5**	**+0.3**
EWUT	**Wuta**	**0.50**	**16**	*i*P			**Pg**	**01 45 58.2**	**+0.5**
EWUT	baz=20			*e*S			**Sg**	**01 46 05.2**	**+0.8**
NNSB	**Datong**	**0.52**	**335**	*i*P			**Pb**	**01 45 58.6**	**-0.3**
NNSB	baz=337			*e*S			**Sb**	**01 46 05.2**	**-1.3**
NNS	**Nan Shan**	**0.53**	**334**	*i*P			**Pb**	**01 45 58.9**	**-0.4**
NNS	baz=337			*e*S			**Sb**	**01 46 06.1**	**-0.9**
EHY	**Hungye**	**0.53**	**211**	P			**Pg**	**01 45 58.6**	**+0.4**
EHY	baz=207			*e*S			**Sg**	**01 46 05.9**	**+0.6**
LATG	**Datong**	**0.58**	**351**	*i*P			**Pb**	**01 45 59.7**	**-0.4**
LATG	baz=354			*e*S			**Sb**	**01 46 09.7**	**+1.3**
WPL	**Puli Township**	**0.61**	**275**	P			**Pb**	**01 46 00.7**	**+0.2**
WPL	baz=273			*e*S			**Sb**	**01 46 08.7**	**-0.5**
SSLB	**Suanglung**	**0.64**	**254**				**Pg**	**01 46 00.1**	**-0.1**
SSLB					Sg		**Sg**	**01 46 07.8**	**-0.8**
SSLB	**Suanglung**	**0.64**	**254**	*i*P			**Pb**	**01 46 00.8**	**-0.2**
SSLB	baz=252			*e*S			**Sg**	**01 46 08.0**	**-0.6**
YULB	**Yu-li**	**0.64**	**208**				**Pg**	**01 46 00.4**	**+0.2**
YULB	**Yu-li**	**0.64**	**208**	*i*P			**Pg**	**01 46 00.5**	**+0.2**
YULB	baz=205			*e*S			**Sg**	**01 46 09.0**	**+0.3**
DPDB	**Guoxing**	**0.64**	**277**	*i*P			**Pb**	**01 46 01.4**	**+0.3**
DPDB	baz=275			*e*S			**Sb**	**01 46 09.9**	**-0.2**
NDT	**Datong Townshi**	**0.65**	**351**	*i*P			**Pb**	**01 46 01.2**	**0.0**
NDT	baz=354			*e*S			**Sb**	**01 46 10.0**	**-0.2**
WCS	**Beigang Elemen**	**0.66**	**279**	*i*P			**Pb**	**01 46 01.6**	**+0.2**
WCS	baz=277			*e*S			**Sb**	**01 46 10.2**	**-0.3**
ECBN	**Changbin**	**0.66**	**194**	*e*P			**Pg**	**01 46 01.5**	**+0.8**
SMLT	**Sun Moon Lake**	**0.67**	**263**	*i*P			**Pb**	**01 46 01.6**	**0.0**
SMLT	baz=261			*e*S			**Sb**	**01 46 10.4**	**-0.5**
EYUL	**Yuli**	**0.67**	**205**	*e*P			**Pg**	**01 46 01.3**	**+0.4**
NDS	**Dongshan**	**0.68**	**7**	*i*P			**Pb**	**01 46 01.6**	**-0.1**
NDS	baz=10.0			*e*S			**Sb**	**01 46 10.9**	**-0.1**
TWF1	**Yuli**	**0.68**	**206**	*e*P			**Pg**	**01 46 01.1**	**+0.2**
TWF1	baz=203			*e*S			**Sg**	**01 46 10.1**	**+0.3**
ENTT	**Nioudou**	**0.68**	**356**	*i*P			**Pb**	**01 46 01.8**	**+0.1**
ENTT	baz=359			*e*S			**Sb**	**01 46 11.7**	**+0.5**
TWC	**Suao**	**0.68**	**18**	P			**Pg**	**01 46 01.5**	**+0.5**
TWC	baz=22			*e*S			**Sb**	**01 46 10.9**	**-0.2**
WHP	**Taichung City**	**0.69**	**297**	*i*P			**Pb**	**01 46 02.4**	**+0.4**
WHP	baz=297			*e*S			**Sb**	**01 46 12.7**	**+1.0**
TYC	**Yuchr**	**0.70**	**266**	*i*P			**Pb**	**01 46 02.1**	**0.0**
TYC	baz=264			*e*S			**Sb**	**01 46 11.1**	**-0.7**
YHNB	**Yeheng**	**0.74**	**342**				**Pg**	**01 46 02.1**	**-0.1**
YHNB	**Yeheng**	**0.74**	**342**	*i*P			**Pb**	**01 46 03.0**	**+0.2**
YHNB	baz=344			*e*S			**Sb**	**01 46 13.1**	**+0.1**
NSK	**Sanguang**	**0.75**	**341**	*i*P			**Pb**	**01 46 03.2**	**+0.2**
NSK	baz=344			*e*S			**Sb**	**01 46 13.7**	**+0.4**
TWE	**Neicheng**	**0.76**	**3**	*e*P			**Pb**	**01 46 03.3**	**+0.2**
TWE	baz=7.0			*e*S			**Sb**	**01 46 14.2**	**+0.8**
FUSB	**Fushanzhiwuyua**	**0.80**	**358**	*i*P			**Pb**	**01 46 04.0**	**+0.3**
FUSB	baz=360			*e*S			**Sb**	**01 46 14.7**	**+0.1**
ILA	**Ilan**	**0.81**	**8**	*e*P			**Pb**	**01 46 04.2**	**+0.2**
NFF	**Wufeng Townshi**	**0.81**	**326**	*i*P			**Pb**	**01 46 04.6**	**+0.6**
NFF	baz=327			*e*S			**Sb**	**01 46 15.3**	**+0.3**
FULB	**Fuli**	**0.82**	**202**	*e*P			**Pb**	**01 46 04.4**	**+0.3**
FULB	baz=199			*e*S			**Sn**	**01 46 18.0**	**+0.6**
NWLT	**Wulai**	**0.82**	**352**	P			**Pb**	**01 46 04.4**	**+0.2**
NWLT	baz=354			*e*S			**Sg**	**01 46 14.4**	**-0.1**
WJS	**Zhushan**	**0.83**	**261**	*e*P			**Pn**	**01 46 05.6**	**+0.1**
WJS	baz=259			*e*S			**Sn**	**01 46 17.8**	**+0.1**
WWF	**Wufeng**	**0.85**	**276**	*e*P			**Pn**	**01 46 06.7**	**+1.0**
WWF	baz=274			*e*S			**Sn**	**01 46 20.8**	**+2.5**
WNT	**Mingjian**	**0.86**	**265**	*e*P			**Pn**	**01 46 06.5**	**+0.5**
WNT	baz=263			*e*S			**Sn**	**01 46 20.2**	**+1.7**
WNT1	**Nantou City**	**0.86**	**267**	*e*P			**Pn**	**01 46 06.9**	**+1.0**
WNT1	baz=265			*e*S			**Sn**	**01 46 20.5**	**+1.9**
TWQ1	**Liyutan**	**0.87**	**297**	*e*P			**Pn**	**01 46 06.1**	**+0.1**
TWQ1	baz=296			*e*S			**Sn**	**01 46 19.9**	**+1.2**
ALS	**Alishan**	**0.87**	**239**	*e*P			**Pb**	**01 46 05.6**	**+0.4**
ALS	baz=237			*e*S			**Sb**	**01 46 17.9**	**+0.9**
NSTT	**Nanjuang**	**0.88**	**320**	P			**Pn**	**01 46 06.0**	**-0.2**
NSTT	baz=321			*e*S			**Sn**	**01 46 18.2**	**-0.6**
LIOB	**Emei**	**0.88**	**321**	P			**Pn**	**01 46 06.2**	**+0.1**
LIOB	baz=322			*e*S			**Sn**	**01 46 18.4**	**-0.5**
TCU	**Taichung**	**0.89**	**282**	*e*P			**Pn**	**01 46 06.9**	**+0.6**
TCU	baz=281			*e*S			**Sn**	**01 46 21.3**	**+2.2**
CHKT	**Chengkung**	**0.89**	**195**	*e*P			**Pg**	**01 46 05.5**	**+0.5**
CHKT	baz=193			*e*S			**Sb**	**01 46 18.6**	**+1.4**
NSY	**Sanyi**	**0.91**	**300**	*e*P			**Pn**	**01 46 07.3**	**+0.7**
NSY	baz=300			*e*S			**Sn**	**01 46 21.6**	**+1.9**
NTC	**Toucheng**	**0.91**	**12**	*e*P			**Pb**	**01 46 06.0**	**+0.3**
EGS	baz=14	**0.92**	**18**	*e*P			**Pn**	**01 46 07.4**	**+0.6**
ECS	baz=21 **Chishang**	**0.94**	**203**	*e*P			**Pb**	**01 46 06.5**	**+0.4**
ELDTW	baz=201 **Lidau**	**0.95**	**216**	*e*P			**Pg**	**01 46 05.6**	**-0.6**
ELDTW	baz=213			*e*S			**Sg**	**01 46 18.3**	**-0.2**
NMLH	**Miaoli**	**0.95**	**307**	*e*P			**Pn**	**01 46 08.2**	**+1.0**
NMLH	baz=307			*e*S			**Sn**	**01 46 20.9**	**+0.1**
WYL	**Yuanlin Townsh**	**0.95**	**270**	*e*P			**Pn**	**01 46 08.4**	**+1.3**
WYL	baz=269			*e*S			**Sn**	**01 46 23.4**	**+2.6**
WDJ	**Dajia District**	**0.98**	**293**	*e*P			**Pn**	**01 46 08.8**	**+1.3**
WDJ	baz=293			*e*S			**Sn**	**01 46 23.4**	**+2.1**
WCHH	**Zhanghua**	**0.98**	**277**	*e*P			**Pn**	**01 46 08.0**	**+0.5**
HSN1	baz=276 **Hsinchu**	**0.98**	**326**	*e*P			**Pn**	**01 46 08.8**	**+1.2**
NJN	baz=327 **Zhunan**	**0.99**	**317**	*e*P			**Pn**	**01 46 09.8**	**+2.0**
NHDH	baz=317 **Xindian Distri**	**1.00**	**355**	*e*P			**Pn**	**01 46 08.0**	**+0.2**
NHDH	baz=357			*e*S			**Sb**	**01 46 20.7**	**+0.3**
WGK	**Gukeng**	**1.01**	**254**	*e*P			**Pn**	**01 46 09.4**	**+1.5**
SBCB	baz=253 **Hsinchu**	**1.01**	**325**	*e*P			**Pn**	**01 46 09.4**	**+1.4**
TWA	baz=326 **Mucha**	**1.02**	**358**	*e*P			**Pn**	**01 46 08.4**	**+0.4**
TWA				*e*S			**Sg**	**01 46 20.5**	**-0.2**
TATO	**Taipei**	**1.02**	**353**				**Pn**	**01 46 08.0**	**0.0**
TATO	**Taipei**	**1.02**	**353**	*e*P			**Pn**	**01 46 08.4**	**+0.3**
TATO	baz=355			*e*S			**Sb**	**01 46 21.3**	**+0.4**
TIPB	**Shuangxi**	**1.02**	**10**	*e*P			**Pb**	**01 46 08.0**	**+0.4**
TIPB	baz=12			*e*S			**Sg**	**01 46 19.0**	**-1.9**
EDH	**Donghe**	**1.03**	**197**	*e*P			**Pg**	**01 46 07.5**	**-0.2**
EDH	baz=195			*e*S			**Sb**	**01 46 22.6**	**+1.5**
HSN	**Hsinchu**	**1.03**	**325**	*e*P			**Pn**	**01 46 09.8**	**+1.6**
HSN	baz=328			*e*S			**Sn**	**01 46 24.9**	**+2.3**
WDLH	**Douliu**	**1.03**	**255**	*e*P			**Pn**	**01 46 09.3**	**+1.0**
WDLH	baz=253			*e*S			**Sn**	**01 46 24.3**	**+1.6**
NCUH	**Zhongli**	**1.08**	**338**	*e*P			**Pn**	**01 46 10.3**	**+1.4**
NCUH	baz=339			*e*S			**Sn**	**01 46 27.0**	**+3.1**
TAP	**Taipei**	**1.08**	**354**	*e*P			**Pn**	**01 46 10.1**	**+1.2**
NCU	baz=356 **National Centr**	**1.08**	**339**	*e*P			**Pn**	**01 46 10.4**	**+1.4**
NCU	baz=340			*e*S			**Sn**	**01 46 27.4**	**+3.5**
TWB1	**Santiao Chiao**	**1.09**	**18**	*e*P			**Pb**	**01 46 09.3**	**+0.5**
STYH	baz=20 **Taoyuan**	**1.11**	**225**	*e*P			**Pn**	**01 46 09.5**	**+0.3**
STYH	baz=223			*e*S			**Sn**	**01 46 24.8**	**+0.3**
NWF	baz=223 **Wu-fen Shan**	**1.11**	**7**	*e*P			**Pn**	**01 46 10.2**	**+0.8**
NWF	baz=9.0			*e*S			**Sb**	**01 46 24.0**	**+0.2**
WFSB	**Wu-fen Shan**	**1.11**	**7**	*e*P			**Pn**	**01 46 10.3**	**+0.8**
WFSB	baz=9.0			*e*S			**Sb**	**01 46 24.0**	**+0.3**
CHN4	baz=9.0 **Tsaushan**	**1.12**	**237**	*e*P			**Pn**	**01 46 10.8**	**+1.3**
CHN4	baz=236			*e*S			**Sn**	**01 46 26.4**	**+1.5**
STYT	**Tauyuan**	**1.12**	**225**	*e*P			**Pn**	**01 46 10.1**	**+0.5**
STYT	baz=223			*e*S			**Sn**	**01 46 26.8**	**+1.7**
TPUB	baz=223 **Ta-pu**	**1.12**	**234**				**Pn**	**01 46 10.4**	**+0.9**
TPUB	**Ta-pu**	**1.12**	**234**	*e*P			**Pn**	**01 46 10.6**	**+1.0**
TPUB	baz=232			*e*S			**Sn**	**01 46 26.6**	**+1.6**
CHN2	baz=232 **Minshiung**	**1.14**	**248**	*e*P			**Pn**	**01 46 11.7**	**+2.0**
WRL	baz=246 **Guolierlin Hig**	**1.14**	**267**	*e*P			**Pn**	**01 46 10.9**	**+1.1**
WRL	baz=266			*e*S			**Sn**	**01 46 27.2**	**+1.8**
LONT	**Longtian**	**1.14**	**203**	*e*P			**Pg**	**01 46 08.7**	**-1.1**
TWS1	baz=202 **Kuangyinshan**	**1.15**	**351**	*e*P			**Pn**	**01 46 11.7**	**+1.8**
TWS1	baz=352			*e*S			**Sn**	**01 46 29.1**	**+3.4**
SXI1	**Grass Mountain**	**1.15**	**11**	*e*P			**Pn**	**01 46 10.8**	**+0.8**
SXI1	baz=13			*e*S			**Sn**	**01 46 29.3**	**+3.5**
WTK	**Tuku**	**1.16**	**257**	*e*P			**Pn**	**01 46 11.4**	**+1.3**
WTK	baz=255			*e*S			**Sn**	**01 46 27.7**	**+1.8**
NHW	baz=255 **Xinwu Township**	**1.17**	**333**	*e*P			**Pn**	**01 46 12.1**	**+1.9**
NHW	baz=334			*e*S			**Sn**	**01 46 29.8**	**+3.7**
WTP	baz=334 **Ta-pu**	**1.17**	**233**	*e*P			**Pn**	**01 46 11.2**	**+1.1**
WTP	baz=230			*e*S			**Sn**	**01 46 28.3**	**+2.1**
YM01	**YM01**	**1.18**	**358**	*e*P			**Pn**	**01 46 11.8**	**+1.4**
YM01	baz=359			*e*S			**Sn**	**01 46 27.9**	**+1.4**
CHY	**Chiayi**	**1.19**	**247**	*e*P			**Pn**	**01 46 11.8**	**+1.4**
CHY	baz=246			*e*S			**Sn**	**01 46 28.8**	**+2.2**
TNOU	**National Taiwa**	**1.19**	**7**	*e*P			**Pn**	**01 46 11.4**	**+0.9**
NTST	baz=8.0 **Danshui**	**1.21**	**353**	*e*P			**Pn**	**01 46 12.5**	**+1.8**
YM08	baz=354 **YM08**	**1.22**	**359**	*e*P			**Pn**	**01 46 11.2**	**+0.3**
YM08				*e*S			**Sn**	**01 46 29.5**	**+2.0**
ANP	**Anpu**	**1.22**	**356**	*e*P			**Pn**	**01 46 12.6**	**+1.6**
ANP	baz=357			*e*S			**Sn**	**01 46 31.1**	**+3.5**
WTCT	**Ta-ch'eng**	**1.23**	**266**	*e*P			**Pn**	**01 46 12.7**	**+1.7**
WTCT	baz=264			*e*S			**Sn**	**01 46 30.5**	**+2.9**
TWGBT	**Beinan**	**1.24**	**204**	*e*P			**Pn**	**01 46 09.5**	**-1.7**
TWG	baz=202 **Pinlang**	**1.24**	**204**				**Pn**	**01 46 10.2**	**-0.9**
TWG	**Pinlang**	**1.24**	**204**	*e*P			**Pn**	**01 46 09.5**	**-1.7**
TWK	baz=202 **Hsinying**	**1.25**	**237**	*e*P			**Pg**	**01 46 12.7**	**+0.9**
TWK	baz=235			*e*S			**Sn**	**01 46 30.4**	**+2.2**
CHN1	baz=235 **Nanshi**	**1.27**	**233**	*e*P			**Pg**	**01 46 12.7**	**+0.5**
CHN1	baz=231			*e*S			**Sn**	**01 46 31.4**	**+2.8**
SNST	**Tainan City**	**1.27**	**235**	*e*P			**Pg**	**01 46 13.2**	**+1.0**
SNST	baz=233			*e*S			**Sn**	**01 46 30.6**	**+2.0**
LDUT	baz=233 **Ludao**	**1.29**	**186**	*e*P			**Pn**	**01 46 09.9**	**-1.9**
SGST	baz=185 **Jiashian**	**1.29**	**228**	*e*P			**Pg**	**01 46 12.9**	**+0.1**

	baz=226								
SGST					*e*S		**Sn**	**01 46 32.6**	**+3.4**
	baz=226								
JYNG	**Yonagunijimaku**	**1.30**	**68**	P			**Pg**	**01 46 14.2**	**+1.3**
JYNG					*e*S		**Sn**	**01 46 31.3**	**+1.9**
TWY	**Chenhua**	**1.31**	**359**	*e*P			**Pg**	**01 46 13.0**	**0.0**
	baz=1.0								
WSF	**Szhu**	**1.32**	**256**	*e*P			**Pg**	**01 46 14.8**	**+1.5**
	baz=255								
WSF					*e*S		**Sn**	**01 46 33.5**	**+3.7**
	baz=255								
WSL	**Shuilin Townsh**	**1.35**	**251**	*e*P			**Pg**	**01 46 14.5**	**+0.7**
	baz=250								
WSL					*e*S		**Sn**	**01 46 32.3**	**+1.8**
	baz=250								
YOJ	**Yonaguni jima**	**1.36**	**68**				**Pn**	**01 46 13.7**	**+0.9**
YOJ	**Yonaguni jima**	**1.36**	**68**	P			**Pn**	**01 46 13.9**	**+1.1**
	baz=69								
YOJ					*e*S		**Sg**	**01 46 32.9**	**+1.2**
	baz=69								
ICHU	**Yijhu**	**1.37**	**244**	*e*P			**Pg**	**01 46 14.7**	**+0.5**
	baz=243								
SCST	**Cishan**	**1.49**	**224**	*e*P			**Pg**	**01 46 17.4**	**+0.9**
	baz=223								
SCST					*e*S		**Sg**	**01 46 39.8**	**+3.9**
	baz=223								
SHHT	**Tainan City**	**1.50**	**232**	*e*P			**Pg**	**01 46 18.5**	**+1.9**
	baz=230								
SSD	**Sandimen**	**1.51**	**217**	*e*P			**Pb**	**01 46 16.6**	**+0.7**
	baz=215								
TSMG	**Majia**	**1.54**	**216**	*e*P			**Pg**	**01 46 17.2**	**-0.2**
	baz=214								
TWM1	**Shoushan**	**1.58**	**224**	*e*P			**Pg**	**01 46 19.5**	**+1.3**
	baz=223								
MASBT	**Mashibuluo**	**1.62**	**214**	*e*P			**Pn**	**01 46 17.2**	**+0.8**
	baz=213								
PCYT	**Pengchaiyu**	**1.71**	**14**	*e*P			**Pb**	**01 46 19.5**	**+0.2**
	baz=15								
EAST	**Anshuo**	**1.73**	**205**	*e*P			**Pn**	**01 46 18.8**	**+1.0**
	baz=203								
TAWH	**Dawu Township**	**1.75**	**203**	*e*P			**Pn**	**01 46 18.9**	**+0.7**
	baz=202								
SSPT	**Xinbi**	**1.76**	**214**	*e*P			**Pb**	**01 46 20.8**	**+0.7**
	baz=212								
SCZT	**Fangliau**	**1.83**	**210**	*e*P			**Pb**	**01 46 21.9**	**+0.6**
	baz=209								
SLIU	**Shizi**	**1.90**	**204**	*e*P			**Pb**	**01 46 23.2**	**+0.8**
	baz=203								
PHUB	**P'eng-hu**	**1.93**	**257**	*e*P			**Pn**	**01 46 22.0**	**+1.4**
	baz=256								
WDGT	**Dungji**	**1.93**	**249**	*e*P			**Pb**	**01 46 22.1**	**-1.0**
	baz=248								
WDGT					*e*S		**Sg**	**01 46 48.8**	**-1.1**
	baz=248								
IRIF	**Iriomote-Funau**	**1.96**	**79**	P			**Pn**	**01 46 21.8**	**+0.8**
IRIF					*e*S		**Sn**	**01 46 47.6**	**+2.0**
HATJ	**Hateruma jima**	**2.00**	**87**	P			**Pn**	**01 46 23.5**	**+2.0**
HATJ					*e*S		**Sn**	**01 46 48.0**	**+1.5**
JKRS	**Kuro-shima**	**2.20**	**82**	P			**Pn**	**01 46 26.2**	**+1.9**
JKRS					*e*S		**Sn**	**01 46 52.5**	**+1.0**
JIJ	**Ishigaki jima**	**2.34**	**80**	P			**Pn**	**01 46 26.3**	**+0.1**
JIJ					*e*S		**Sn**	**01 46 54.7**	**-0.2**
JISG	**Ishigakijimahi**	**2.53**	**75**	P			**Pn**	**01 46 29.1**	**+0.2**
JISG					S		**Sn**	**01 47 00.0**	**+0.3**
JTJ	**Tarama**	**2.89**	**76**	P			**Pn**	**01 46 35.4**	**+1.6**
JTJ					*e*S		**Sn**	**01 47 09.4**	**+0.8**
KNMB	**Chin-men Tao**	**3.00**	**280**	Pn			**Pn**	**01 46 35.8**	**+0.5**
JOW	**Kunigami**	**6.66**	**63**	Pn			**Pn**	**01 47 25.0**	**-0.7**
	3.2nm,0.3s,baz=131,slow=20,SNR=9.6								
JOW							Sn	**Sn**	**01 48 40.4**	**-1.2**
	baz=218,slow=23,SNR=1.4								
JOW	**Kunigami**	**6.66**	**63**				**Pn**	**01 47 25.6**	**-0.1**
KSRS	**Korea Array**	**14.49**	**20**	Pn			**P**	**01 49 17.5**	**-2.1**
	0.8nm,0.3s,baz=196,slow=11,SNR=9.5								
INU	**Inuyama**	**17.52**	**46**	Pn			**Pn**	**01 49 49.8**	**-2.4**
INU					IAmb		IAmb	01 50 19.9	
	comp=Z,12nm,1.1s								
SIJI	**Sorong**	**26.40**	**158**	LR			LR	02 03 59.3	
	comp=Z,211nm,18.5s,baz=14,slow=42								
KLR	**Kul'dur**	**26.45**	**15**	P			**P**	**01 51 24.9**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=238,slow=6.6,SNR=2.3								
SONM	**Songino Array**	**26.73**	**337**	P			**P**	**01 51 28.9**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=162,slow=10.0,SNR=4.9								
SONM	**Songino Array**	**26.73**	**337**	P			**P**	**01 51 26.0**	**-1.4**
MK31	**Makanchi Array**	**38.78**	**316**	P			**P**	**01 53 12.6**	**+0.1**
MKAR	**Makanchi Array**	**38.78**	**316**	P			**P**	**01 53 13.2**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=100,slow=11,SNR=9.4								
MKAR	**Makanchi Array**	**38.78**	**316**	P			**P**	**01 53 11.2**	**-1.3**
ZALV	**Zalesovo Beam**	**40.65**	**327**	P			**P**	**01 53 27.6**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=144,slow=5.3,SNR=4.0								
ZALV	**Zalesovo Beam**	**40.65**	**327**	P			**P**	**01 53 26.7**	**-1.2**
RABL	**Rabaul**	**40.84**	**129**	P			**P**	**01 53 30.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**41.99**	**174**	P			**P**	**01 53 37.8**	**-1.4**
H11N1	**WAKE ISLAND Hy**	**42.10**	**87**	T			T	02 39 07.5	
	baz=275,slow=75,SNR=15								
H11N2	**WAKE ISLAND Hy**	**42.10**	**87**	T			T	02 39 02.4	
	baz=275,slow=75,SNR=15								
H11N3	**WAKE ISLAND Hy**	**42.12**	**87**	T			T	02 38 57.8	
	baz=275,slow=75,SNR=14								
H11S3	**WAKE ISLAND Hy**	**42.22**	**88**	T			T	02 38 45.8	
	baz=281,slow=74								
H11S1	**WAKE ISLAND Hy**	**42.23**	**88**	T			T	02 38 46.5	
	baz=281,slow=74								
H11S2	**WAKE ISLAND Hy**	**42.24**	**88**	T			T	02 39 29.0	
	baz=281								
KURK	**Kurchatov**	**42.52**	**320**	P			**P**	**01 53 42.8**	**-0.5**
KURK					IAmb		IAmb	01 53 44.4	
	comp=Z,3.9nm,1.4s								
WRA	**Warramunga Arr**	**45.36**	**163**	P			**P**	**01 54 04.1**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=345,slow=8.7,SNR=6.0								
WB2	**Warramunga Arr**	**45.37**	**163**	P			**P**	**01 54 05.8**	**-0.6**
WB2					IAmb		IAmb	01 54 31.0	
	comp=Z,13nm,1.4s								
WR0	**Warramunga Arr**	**45.43**	**163**	P			**P**	**01 54 06.6**	**-0.3**
ASAR	**Alice Springs**	**48.82**	**165**	P			**P**	**01 54 32.7**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=343,slow=7.2,SNR=2.2								
ASAR					LR		LR	02 15 26.2	
	comp=Z,137nm,18.9s,baz=320,slow=37								
ILAR	**Eielson Array**	**69.23**	**27**	P			**P**	**01 56 53.3**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=277,slow=5.6,SNR=6.1								
ILAR	**Eielson Array**	**69.23**	**27**	P			**P**	**01 56 54.0**	**-0.4**
INK	**Inuvik**	**73.28**	**22**	P			**P**	**01 57 18.7**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=281,slow=4.6,SNR=4.7								
INK	**Inuvik**	**73.28**	**22**	P			**P**	**01 57 18.9**	**+0.1**
INK					IAmb		IAmb	01 57 49.1	
	comp=Z,5.6nm,1.4s								
RPZ	**Rata Peaks**	**81.18**	**146**	LR			LR	02 31 54.5	
	comp=Z,61nm,20.1s,baz=256,slow=34								
YKA	**Yellowknife Ar**	**83.02**	**23**	P			**P**	**01 58 13.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=311,slow=4.8,SNR=22								

*IDC **26** 01:46:37.0±2.8, 21°.75N×142°.98E, h250km±22km, mb3.2/8, mb1 3.3/9, mb1mx3.0/54, mbtmp3.8/9, Error ellipse: s-maj=29.3km s-min=22.6km az=100.0*

ISC 26 01:46:37.0±1.0, 21°.7N±0°.1×143°.0E±0°.2, h250km, n10, σ0s73/11, mb3.2/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.39**	**353**	P			**Pn**	**01 47 58.8**	**+1.3**
	6.3nm,0.3s,baz=122,slow=22,SNR=5.3								
JCJ				S			**S**	**01 49 00.7**	**-1.1**
	6.1nm,0.3s,baz=275,slow=21,SNR=8.1								
SONM	**Songino Array**	**39.18**	**321**	P			**P**	**01 53 40.9**	**-0.2**
	0.3nm,0.4s,baz=124,slow=7.6,SNR=4.3								
FITZ	**Fitzroy Crossi**	**43.07**	**205**	P			**P**	**01 54 12.6**	**-0.1**
	1.0nm,0.9s,baz=45,slow=5.7,SNR=0.9								
ZALV	**Zalesovo Beam**	**54.06**	**322**	P			**P**	**01 55 35.9**	**+0.1**
	0.8nm,0.5s,baz=96,slow=7.1,SNR=2.9								
MKAR	**Makanchi Array**	**54.53**	**313**	P			**P**	**01 55 39.3**	**0.0**
	0.2nm,0.5s,baz=78,slow=7.5,SNR=1.9								
ILAR	**Eielson Array**	**62.10**	**27**	P			**P**	**01 56 30.5**	**-0.7**
	0.6nm,1.0s,baz=246,slow=4.5,SNR=3.1								
YKA	**Yellowknife Ar**	**76.52**	**28**	P			**P**	**01 57 59.7**	**+0.4**
	0.3nm,0.5s,baz=292,slow=5.9,SNR=13								
ARCES	**ARCESS Array B**	**78.82**	**341**	P			**P**	**01 58 12.5**	**+0.5**
	4.4nm,1.0s,baz=58,slow=8.6,SNR=2.3								
FINES	**FINESS Array B**	**83.06**	**334**	P			**P**	**01 58 33.8**	**-0.6**
	0.9nm,0.5s,baz=46,slow=5.5,SNR=9.7								
PLCA	**Paso Flores**	**145.93**	**131**	PKPbc			**PKPdf**	**02 05 46.2**	**-0.1**
	2.3nm,0.9s,baz=21,slow=12,SNR=2.0								

*NEIC **26** 01:50:15.1±1.7, 6°.59N±0°.05×73°.50W±0°.06, h127km±6km, mb4.4/10, Mwr4.3(RSNC), Error ellipse: s-maj=9.5km*

s-min=6.9km az=107.0

*IDC **26** 01:50:15.3±0.5, 6°.53N×73°.41W, h129km±4km, mb3.5/12, mb1 3.8/15, mb1mx3.6/30, mbtmp4.0/15, MS2.6/1, Ms1 2.6/1, ms1mx2.3/51, Error ellipse: s-maj=13.6km s-min=7.4km az=119.0*

*RSNC **26** 01:50:16.1±0.8, 6°.56N×73°.52W, h114km±3km, ML4.3, Mw4.3, Fault plane solution: NP1:φs36.00000°, δ34.00000°, λ15.00000°.*

*VAO **26** 01:50:16.2±0.4, 6°.52N×73°.42W, h123km, mb4.2*

ISC 26 01:50:14.7±0.5, 6°.55N±0°.02×73°.50W±0°.03, h127km±4km, n129, σ1s19/190, mb3.9/15, 6C-13D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.32**	**83**	⇑*i*P			**Pn**	**01 50 32.9**	**0.0**
BARC				*e*S			**Sn**	**01 50 45.2**	**-1.3**
RUSC	**La Rusia**	**0.78**	**147**	⇓*i*P			**Pn**	**01 50 35.8**	**-0.2**
RUSC				*e*S			**Sn**	**01 50 50.9**	**-1.0**
RUSC				*i*				01 50 52.9	
	comp=Z,5μm,0.4s								
PTBC	**PUERTO BERRIO,**	**0.95**	**269**	⇓*i*P			**Pn**	**01 50 35.7**	**-1.2**
PTBC				*e*S			**Sn**	**01 50 50.5**	**-3.2**
PTBC				*i*				01 50 59.1	
	comp=Z,4μm,0.3s								
SPBC	**San Pablo de B**	**1.06**	**212**	⇓*i*P			**Pn**	**01 50 37.7**	**-0.4**
SPBC				*e*S			**Sn**	**01 50 54.2**	**-1.5**
SPBC				*i*				01 51 00.3	
	comp=Z,4μm,0.4s								
PAMC	**Pamplona, Colo**	**1.12**	**45**	⇑*i*P			**Pn**	**01 50 39.3**	**+0.3**
PAMC				*e*S			**Sn**	**01 50 57.5**	**+0.1**
PAMC				*i*				01 50 59.0	
	comp=Z,3μm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.64**	**305**				**Pn**	**01 50 44.3**	**+0.1**
ZARC	**Zaragoza, Cauc**	**1.64**	**305**	⇓*i*P			**Pn**	**01 50 44.4**	**+0.2**
ZARC				*e*S			**Sn**	**01 51 07.1**	**+0.4**
ZARC				*i*				01 51 11.4	
	comp=Z,3μm,0.3s								
NORC	**Norcasia**	**1.68**	**234**	⇓*i*P			**Pn**	**01 50 44.3**	**-0.4**
NORC				*e*S			**Sn**	**01 51 06.4**	**-1.2**
NORC				*i*				01 51 10.4	
	comp=Z,2μm,0.2s								
OCAC	**Ocana**	**1.69**	**6**				**Pn**	**01 50 44.8**	**-0.1**
OCAC						Sn	**Sn**	**01 51 07.6**	**-0.4**
OCAC	**Ocana**	**1.69**	**6**	⇑*i*P			**Pn**	**01 50 45.0**	**+0.1**
OCAC				*e*S			**Sn**	**01 51 07.8**	**-0.1**
TAMC	**Tame, Arauca**	**1.70**	**94**	⇑*i*P			**Pn**	**01 50 45.6**	**+0.6**
TAMC				*e*S			**Sn**	**01 51 08.3**	**+0.2**
TAMC				*i*				01 51 14.3	
	comp=Z,2μm,0.5s								
ROSC	**El Rosal**	**1.89**	**206**	P			**Pn**	**01 50 49.1**	**+1.5**
	comp=Z,610nm,0.3s,baz=285,slow=22,SNR=338								
ROSC						S	**Sn**	**01 51 14.9**	**+2.3**
	comp=Z,85nm,0.3s,baz=118,slow=17,SNR=4.5								
ROSC	**El Rosal**	**1.89**	**206**				**Pn**	**01 50 48.6**	**+1.0**
ROSC						Sn	**Sn**	**01 51 14.4**	**+1.9**
ROSC	**El Rosal**	**1.89**	**206**	⇓*i*P			**Pn**	**01 50 49.0**	**+1.5**
ROSC				*e*S			**Sn**	**01 51 12.1**	**-0.5**
ROSC				*i*				01 51 19.9	
	comp=Z,1μm,0.5s								
CHIC	**Chingaza**	**1.92**	**187**	⇓*e*P			**Pn**	**01 50 48.1**	**0.0**
CHIC				*e*S			**Sn**	**01 51 13.5**	**+0.1**
CHIC				*i*				01 51 23.6	
	comp=Z,760nm,0.3s								
GUY2C	**Guyana, Caldas**	**2.27**	**235**	⇓*e*P			**Pn**	**01 50 53.2**	**+0.8**
GUY2C				*e*S			**Sn**	**01 51 21.8**	**+0.5**
GUY2C				*i*				01 51 26.5	
	comp=Z,1μm,0.6s								
UREC	**San Jos de Ur**	**2.34**	**301**	⇓*e*P			**Pn**	**01 50 52.2**	**-0.6**
UREC				*e*S			**Sn**	**01 51 20.3**	**-1.8**
UREC				*i*				01 51 29.6	
	comp=Z,2μm,0.2s								
VILC	**Villavicencio,**	**2.43**	**184**	⇓*i*P			**Pn**	**01 50 54.7**	**+0.6**
VILC				*e*S			**Sn**	**01 51 24.9**	**+0.6**
CMAN1	**Manizales, Cal**	**2.49**	**234**	*e*P			**Pn**	**01 50 57.7**	**+2.7**
CMAN1				*e*S			**Sn**	**01 51 27.0**	**+1.2**
CBOC	**Ciudad Bolivar**	**2.59**	**255**	*e*P			**Pn**	**01 50 56.9**	**+0.8**
CBOC				*e*S			**Sn**	**01 51 28.2**	**+0.3**
CBOC				*i*				01 51 31.8	
	comp=Z,1μm,0.4s								
PTGC	**Puerto Gaitan,**	**2.71**	**150**	⇓*i*P			**Pn**	**01 50 57.2**	**-0.3**
PTGC				*e*S			**Sn**	**01 51 29.0**	**-1.3**
PTGC				*i*				01 51 33.3	
	comp=Z,727nm,0.3s								
DBBC	**Dabeiba**	**2.73**	**280**	*e*P			**Pn**	**01 50 57.7**	**-0.1**
DBBC				*e*S			**Sn**	**01 51 27.5**	**-3.5**
ANIL	**Santa Ana**	**2.79**	**223**	*e*P			**Pn**	**01 50 59.7**	**+0.9**
ANIL				*e*S			**Sn**	**01 51 33.8**	**+1.1**
ANIL				*i*				01 51 37.7	
	comp=Z,2μm,0.3s								
LL1C	**La Loma 1 Cana**	**2.97**	**359**	*e*P			**Pn**	**01 51 03.6**	**+2.7**
LL1C				*e*S			**Sn**	**01 51 40.8**	**+4.3**
SOCV	**Socops**	**3.14**	**57**	*e*P			**Pn**	**01 51 03.5**	**+0.4**
SOCV				*e*S			**Sn**	**01 51 39.4**	**-1.0**
ORTC	**Ortega, Tolima**	**3.15**	**214**	⇓*e*P			**Pn**	**01 51 03.6**	**+0.4**
ORTC				*e*S			**Sn**	**01 51 41.3**	**+0.6**
ORTC				*i*				01 51 46.5	
	comp=Z,593nm,0.7s								
LL6C	**La Loma 6 Bece**	**3.17**	**4**	*e*P			**Pn**	**01 51 03.9**	**+0.3**
LL6C				*e*S			**Sn**	**01 51 41.1**	**-0.1**
LL6C				*i*				01 51 53.8	
	comp=Z,712nm,0.4s								
LL5C	**La Loma 5 El P**	**3.19**	**356**	*e*P			**Pn**	**01 51 04.9**	**+1.3**
LL5C				*e*S			**Sn**	**01 51 42.7**	**+1.3**
LL5C				*i*				01 51 51.0	
	comp=Z,2μm,0.3s								
PLMC	**San Jos del P**	**3.21**	**240**	⇑*e*P			**Pn**	**01 51 04.8**	**+0.7**
PLMC				*e*S			**Sn**	**01 51 42.1**	**-0.2**
PLMC				*i*				01 51 46.3	
	comp=Z,994nm,0.3s								
LCBC	**Los crdobas,**	**3.65**	**309**	*e*P			**Pn**	**01 51 10.2**	**+0.5**
LCBC				*e*S			**Sn**	**01 51 53.0**	**+0.6**
LCBC				*i*				01 51 56.7	
	comp=Z,461nm,0.5s								
SDV	**Santo Domingo**	**3.67**	**51**	P			**Pn**	**01 51 10.8**	**+0.6**
	comp=Z,136nm,0.3s,baz=218,slow=5.6,SNR=555								
SDV						S	**Sn**	**01 51 53.5**	**+0.3**
	comp=Z,409nm,0.3s,baz=20,slow=12,SNR=57								
SDV	**Santo Domingo**	**3.67**	**51**	⇑*i*P			**Pn**	**01 51 10.8**	**+0.6**
SDV				*e*S			**Sn**	**01 51 51.7**	**-1.5**
SDV	**Santo Domingo**	**3.67**	**51**	*e*P			**Pn**	**01 51 10.9**	**+0.6**
SJCC	**San Jacinto, C**	**3.71**	**334**	Pn			**Pn**	**01 51 09.5**	**-1.2**
SJCC	**San Jacinto, C**	**3.71**	**334**	⇓*i*P			**Pn**	**01 51 09.8**	**-0.9**
SJCC				*e*S			**Sn**	**01 51 51.0**	**-3.0**
SJCC				*i*				01 51 54.6	
	comp=Z,511nm,0.4s								
YOTC	**Yotoco, Valle**	**3.81**	**228**	*e*P			**Pn**	**01 51 12.1**	**+0.1**
YOTC				*e*S			**Sn**	**01 51 55.5**	**-0.9**
SOLC	**Bahia Solano**	**3.90**	**265**	*e*P			**Pn**	**01 51 13.4**	**+0.3**
SOLC				*e*S			**Sn**	**01 51 57.5**	**-0.7**
SOLC				*i*				01 52 05.0	
	comp=Z,155nm,0.3s								
CVALL	**Valledupar, Ce**	**3.94**	**4**	*e*P			**Pn**	**01 51 14.3**	**+0.6**
CVALL				*e*S			**Sn**	**01 51 59.9**	**+0.6**
CVALL				*i*				01 52 09.8	
	comp=Z,786nm,0.3s								
ELOV	**Elorza**	**4.02**	**83**	*e*P			**Pn**	**01 51 14.8**	**+0.1**
ELOV				*e*S			**Sn**	**01 51 59.0**	**-2.1**
GUVC	**San Jose del G**	**4.08**	**168**	*e*P			**Pn**	**01 51 15.1**	**-0.4**
GUVC				*e*S			**Sn**	**01 51 59.9**	**-2.7**
GUVC				*i*				01 52 07.8	
	comp=Z,608nm,0.2s								
PIZC	**Pizarro, Choco**	**4.15**	**248**	*e*P			**Pn**	**01 51 17.8**	**+1.4**
PIZC				*e*S			**Sn**	**01 52 04.2**	**-0.1**
PIZC				*i*				01 52 17.3	
	comp=Z,222nm,0.4s								
BETC	**Betania**	**4.30**	**207**	*e*P			**Pn**	**01 51 18.2**	**-0.4**
BETC				*e*S			**Sn**	**01 52 05.3**	**-2.8**
BETC				*i*				01 52 12.5	
	comp=Z,205nm,0.6s								
PTAC	**Punta Ardita,**	**4.32**	**278**	*e*P			**Pn**	**01 51 18.7**	**0.0**
PTAC				*e*S			**Sn**	**01 52 06.9**	**-1.4**
PTAC				*i*				01 52 08.7	
	comp=Z,102nm,0.2s								
MACC	**Macarena, Meta**	**4.39**	**185**	*e*P			**Pn**	**01 51 18.4**	**-1.3**
MACC				*e*S			**Sn**	**01 52 07.4**	**-2.8**
MACC				*i*				01 52 14.9	
	comp=Z,237nm,0.5s								
MARP	**Paez Belalcaza**	**4.42**	**214**	*e*P			**Pn**	**01 51 20.6**	**+0.2**
MARP				*e*S			**Sn**	**01 52 11.8**	**+0.6**
CRJC	**Cerrejon, Guaj**	**4.48**	**8**	*e*P			**Pn**	**01 51 20.7**	**-0.3**
CRJC				*e*S			**Sn**	**01 52 12.2**	**-0.2**
CRJC				*i*				01 52 15.2	
	comp=Z,818nm,0.3s								
SMRC	**Santa Marta, M**	**4.64**	**351**	*e*P			**Pn**	**01 51 23.3**	**+0.3**
SMRC				*e*S			**Sn**	**01 52 14.9**	**-1.1**
SMRC				*i*				01 52 28.3	
	comp=Z,322nm,0.4s								
GARC	**Garzon, Huila**	**4.77**	**205**	*e*P			**Pn**	**01 51 24.2**	**-0.7**
GARC				*e*S			**Sn**	**01 52 18.2**	**-1.3**
GARC				*i*				01 52 22.0	
	comp=Z,352nm,0.3s								
POPC	**Popayan, Colom**	**5.09**	**219**	*e*P			**Pn**	**01 51 29.6**	**+0.4**
POPC				*e*S			**Sn**	**01 52 25.8**	**-1.3**
PCON	**Cinco Dias**	**5.09**	**215**	*e*P			**Pn**	**01 51 30.6**	**+1.1**
PCON				*e*S			**Sn**	**01 52 26.4**	**-1.4**
PCON				*i*				01 52 36.5	
	comp=Z,110nm,0.4s								
DABV	**Dabajuro**	**5.18**	**33**	*e*P			**Pn**	**01 51 30.7**	**+0.4**
DABV				*e*S			**Sn**	**01 52 28.4**	**-0.7**
URIC	**Uribia, Colomb**	**5.33**	**16**	Pn			**Pn**	**01 51 31.0**	**-1.2**
URIC	**Uribia, Colomb**	**5.33**	**16**	*e*P			**Pn**	**01 51 31.2**	**-1.0**
URIC				*e*S			**Sn**	**01 52 29.2**	**-3.4**
URIC				*i*				01 52 36.5	
	comp=Z,173nm,0.4s								
SOTA	**Rioblanco**	**5.37**	**215**	*e*P			**Pn**	**01 51 34.8**	**+1.6**
SOTA				*e*S			Sn	01 52 23.5	-11
SOTA				*i*				01 52 47.5	
	comp=Z,77nm,0.6s								
BAUV	**El Baul**	**5.91**	**66**	Pn			**Pn**	**01 51 38.3**	**-1.7**
GCUF	**Volcan Galeras**	**6.53**	**216**	*e*P			**Pn**	**01 51 50.7**	**+1.8**
GCUF				*e*S			**Sn**	**01 53 00.4**	**-2.0**
BCIP	**Isla Barro Col**	**6.79**	**293**				**Pn**	**01 51 49.1**	**-2.8**
HATO	**Hato, Curacao**	**7.17**	**38**	Pn			**Pn**	**01 51 56.7**	**-0.3**
TULM	**Tulcn-Chalpat**	**7.20**	**217**				**Pn**	**01 52 00.1**	**+2.2**
OTAV	**Otavalo**	**7.98**	**218**				**Pn**	**01 52 08.7**	**+0.2**
BIRV	**Birongo**	**8.15**	**61**	Pn			**Pn**	**01 52 08.5**	**-1.7**
BRU2	**Volcan**	**9.38**	**284**	Pn			**Pn**	**01 52 27.1**	**+0.1**
CDITO	**Canoas**	**9.50**	**283**	Pn			**Pn**	**01 52 27.7**	**-0.8**
SRBA	**San Rafael, Bu**	**10.12**	**286**	Pn			**Pn**	**01 52 36.5**	**-0.4**
BOSC	**San Juan Bosco**	**10.85**	**207**				**Pn**	**01 52 46.5**	**-0.2**
JAKH	**Jacmel**	**11.65**	**5**	Pn			**Pn**	**01 52 57.2**	**0.0**
SDDR	**Presa de Saban**	**12.54**	**10**				**Pn**	**01 53 08.0**	**-0.9**
MCRA	**Macar, Loja**	**12.62**	**211**				**Pn**	**01 53 08.3**	**-1.7**
DR12	**Loma Pena Alta**	**12.81**	**18**				**Pn**	**01 53 12.2**	**-0.1**
SJG	**San Juan**	**13.54**	**31**	P			**Pn**	**01 53 20.4**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=214,slow=13,SNR=6.6								
SJG						LR	LR	01 59 32.9	
	comp=Z,24nm,20.0s,baz=230,slow=41								
SJG	**San Juan**	**13.54**	**31**				**Pn**	**01 53 20.5**	**-1.3**
CDVI	**St. Croix**	**14.02**	**37**	Pn			**Pn**	**01 53 27.0**	**-1.0**
CZSB	**Cruzeiro do Su**	**14.21**	**177**	*e*P			**Pn**	**01 53 30.4**	**+0.1**
MTO3	**Montecristo**	**17.43**	**298**	P			**P**	**01 54 09.1**	**-0.6**
ETMB	**Extrema**	**17.81**	**156**	*e*P			**P**	**01 54 13.9**	**+0.2**
NNA	**Nana**	**18.71**	**190**	P			**P**	**01 54 23.4**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=135,slow=6.3,SNR=1.9								
ITTB	**Itaituba**	**20.79**	**121**	*e*P			**P**	**01 54 47.3**	**+1.2**
MALB	**Monte Alegre**	**20.94**	**113**	*e*P			**P**	**01 54 48.7**	**+1.1**
MCPB	**Macapa, AP**	**22.48**	**107**	*e

*DJA **26** 01:51:58.6±1.6,11°N±9°×12°7E±°, h38km±13km, M5.1/12, mb4.8/12, mB5.2/6, MLv5.6/2, Mw(mB)4.6/6, MwMwp4.6/1, Mwp5.0/1*

*NEIC **26** 01:52:02.8±1.3, 10°.46N±0°.07×126°.2E±0°.1, h64km±7km, mb4.8/67, Error ellipse: s-maj=15.3km s-min=9.5km az=76.0*

ISC 26 01:52:00.6±0.7, 10°.46N±0°.04×126°.33E±0°.05, h49km±7km, n188, σ1s55/169, mb4.7/66, MS4.0/49, 11C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**1.06**	**231**	*e*P		**Pn**	**01 52 16.1**	**-3.1**
SCPH				*e*S		**Sn**	**01 52 29.9**	**-3.1**
MSLP	**Maasin**	**1.48**	**258**	*e*P		**Pn**	**01 52 22.6**	**-2.3**
MSLP				*i* S		**Sn**	**01 52 42.2**	**-0.9**
BIPH	**Bislig**	**2.26**	**179**	*e*P		**Pn**	**01 52 33.6**	**-1.9**
BIPH				*e*S		**Sn**	**01 52 59.6**	**-2.6**
LLP	**Lapu-Lapu**	**2.33**	**267**	*i*P		**Pn**	**01 52 35.9**	**-0.7**
LLP				*i* S		**Sn**	**01 53 05.1**	**+1.2**
TBP	**Tagbilaran**	**2.55**	**253**	*i*P		**Pn**	**01 52 38.4**	**-1.0**
TBP				*i* S		**Sn**	**01 53 08.5**	**-0.8**
BUKP	**Musuan**	**2.85**	**206**	*i*P		**Pn**	**01 52 44.2**	**+0.5**
BUKP				*i* S		**Sn**	**01 53 20.6**	**+3.8**
DAV	**Davao City (W)**	**3.44**	**193**	Pn		**Pn**	**01 52 52.2**	**+0.3**
	56nm,0.3s,baz=23,slow=6.1,SNR=1.7							
DAV	**Davao City (W)**	**3.44**	**193**	Pn		**Pn**	**01 52 54.3**	**+2.5**
DAV				Sn		**Sn**	**01 53 34.4**	**+2.9**
DCPH	**Dipolog City**	**3.48**	**238**	*e*P		**Pn**	**01 52 52.6**	**+0.3**
DCPH				*e*S		**Sn**	**01 53 32.5**	**+0.4**
KCP	**Kidapawan**	**3.64**	**200**	*e*P		**Pn**	**01 52 55.5**	**+0.9**
KCP				*i* S		Sn	01 53 14.4	-22
CNOP	**Candoni, Negro**	**3.69**	**261**	*e*P		**Pn**	**01 52 54.8**	**-0.3**
RCP	**Roxas**	**3.69**	**288**	*e*P		**Pn**	**01 52 55.6**	**+0.5**
RCP				*e*S		**Sn**	**01 53 39.2**	**+1.9**
CTBH	**Cotabato--PC H**	**3.82**	**213**	*e*P		**Pn**	**01 52 57.2**	**+0.3**
CTBH				*i* S		**Sn**	**01 53 46.1**	**+5.6**
PAGZ	**Pagadian**	**3.90**	**229**	*i*P		**Pn**	**01 52 58.7**	**+0.7**
JAP	**San Jose, Anti**	**4.32**	**274**	*i*P		**Pn**	**01 53 07.4**	**+3.6**
GQP	**Guinayangan**	**5.12**	**312**	*e*P		**Pn**	**01 53 13.5**	**-1.2**
LQP	**Lukban**	**5.93**	**308**	*e*P		**Pn**	**01 53 25.1**	**-0.9**
TGY	**Tagaytay City**	**6.40**	**305**	Pn		**Pn**	**01 53 33.6**	**+1.3**
	baz=131,slow=17,SNR=3.5							
PCPH	**Palayan**	**7.20**	**315**	*e*P		Pn	01 53 49.6	+6.3
MYLDM	**Lahad Datu**	**9.36**	**237**			**Pn**	**01 54 14.5**	**+1.5**
GTOI	**Gorontalo**	**10.30**	**199**	P		**Pn**	**01 54 25.1**	**-0.7**
	305nm30nm,1.2s							
MRSI	**Marisa**	**10.83**	**204**	P		**Pn**	**01 54 37.2**	**+4.1**
	24nm,1.0s							
LUWI	**Luwuk**	**11.96**	**197**	Pn		**Pn**	**01 54 49.9**	**+1.4**
LUWI	**Luwuk**	**11.96**	**197**	P		**Pn**	**01 54 49.3**	**+0.8**
	8μm86nm,1.2s							
APSI	**Ampana**	**12.21**	**203**	P		**Pn**	**01 54 54.1**	**+2.1**
	32nm,1.2s							
TPUB	**Ta-pu**	**13.89**	**338**	Pn		**Pn**	**01 55 15.8**	**+1.0**
FAKI	**Fak Fak**	**14.54**	**156**	Pn		**Pn**	**01 55 24.6**	**+1.0**
FAKI	**Fak Fak**	**14.54**	**156**	P		**Pn**	**01 55 21.9**	**-1.6**
	720nm33nm,0.9s							
SPSI	**Sidrap Palu**	**15.74**	**205**	P		**P**	**01 55 47.8**	**+5.4**
SBUM	**Sibu**	**16.11**	**241**	P		**Pn**	**01 55 45.1**	**+1.2**
JOW	**Kunigami**	**16.39**	**6**	Pn		**P**	**01 55 49.5**	**0.0**
	0.4nm,0.3s,baz=198,slow=13,SNR=3.7							
JOW				LR		LR	02 00 51.2	
	comp=Z,602nm,20.2s,baz=132,slow=33							
SMPI	**Sarmi**	**17.45**	**134**	P		**Pn**	**01 55 58.4**	**-2.3**
	41nm,1.5s							
GUMO	**Guam**	**18.40**	**78**	LR		LR	02 01 47.0	
	comp=Z,360nm,19.8s,baz=250,slow=32							
SOEI	**Soe**	**20.18**	**186**			**P**	**01 56 32.0**	**+0.6**
SOEI				IAmb		IAmb	01 56 55.6	
	comp=Z,36nm,0.7s							
SOEI	**Soe**	**20.18**	**186**	P		Pn	01 56 35.1	+1.5
	comp=Z,51nm,0.8s							
BATI	**Baumata**	**20.70**	**187**	P		**P**	**01 56 33.4**	**-3.4**
	comp=Z,17nm,0.4s,baz=29,slow=20,SNR=1.4							
BATI				LR		LR	02 06 01.4	
	comp=Z,279nm,18.6s,baz=0.5,slow=41							
BATI	**Baumata**	**20.70**	**187**	P		Pn	01 56 40.9	+1.3
UBPT	**Khong Chiam**	**20.89**	**285**	P		**P**	**01 56 37.5**	**-1.4**
SSE	**Sheshan**	**21.09**	**348**	P		**P**	**01 56 44.3**	**+3.4**
SSE				S		**S**	**02 00 36.5**	**+3.6**
SSE				pmax		pmax		
	comp=Z,19nm,0.8s							
SSE				pmax		pmax		
	comp=Z,46nm,3.4s							
SSE				LR		LR		
	comp=N,180nm,16.4s							
SSE				LR		LR		
	comp=E,72nm,12.4s							
JCJ	**Chichijima**	**22.30**	**40**	P		**P**	**01 56 55.0**	**+0.9**
	comp=E,83nm,0.8s,baz=228,slow=6.5,SNR=6.3							
JCJ				LR		LR	02 03 38.3	
	comp=E,378nm,21.7s,baz=151,slow=31							
JCJ	**Chichijima**	**22.30**	**40**	P		**P**	**01 56 55.5**	**+1.4**
WHN	**Wuhan**	**22.89**	**333**	P		**P**	**01 57 01.3**	**+1.2**
WHN				S		**S**	**02 01 03.0**	**-3.3**
WHN				LR		LR		
	comp=N,740nm,14.4s							
WHN				LR		LR		
	comp=E,450nm,9.9s							
WHN				LR		LR		
	comp=Z,1μm,22.3s							
JNU	**Nakatsue**	**22.94**	**10**	P		**P**	**01 57 01.1**	**+0.4**
JNU				IAmb		IAmb	01 57 03.2	
	comp=Z,45nm,1.2s							
JHS	**Saijyo**	**25.20**	**13**	P		**P**	**01 57 22.0**	**+0.2**
LEM	**Lembang**	**25.34**	**228**	LR		LR	02 07 01.5	
	comp=Z,315nm,19.8s,baz=111,slow=36							
JHJ	**Hachijo jima 2**	**25.73**	**27**	LR		LR	02 05 30.4	
	comp=Z,287nm,21.6s,baz=287,slow=32							
KNRA	**Kununurra**	**26.07**	**175**	P		**P**	**01 57 29.7**	**0.0**
KNRA				IAmb		IAmb	01 58 05.2	
	comp=Z,20nm,0.8s							
KSAR	**Wonju Array Be**	**26.91**	**3**	P		**P**	**01 57 37.8**	**+0.7**
KSRS	**Korea Array**	**26.92**	**3**	P		**P**	**01 57 37.3**	**+0.1**
	comp=Z,6.5nm,0.8s,baz=178,slow=11,SNR=23							
KSRS				PcP		**PcP**	**02 00 57.8**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=180,slow=2.2,SNR=4.7							
KSRS				LR		LR	02 07 21.8	
	comp=Z,254nm,21.0s,baz=180,slow=34							
TIA	**Tai'an**	**26.97**	**343**	P		**P**	**01 57 38.0**	**+0.3**
TIA				S		**S**	**02 02 13.0**	**+1.4**
TIA				pmax		pmax		
	comp=Z,14nm,0.8s							
TIA				LR		LR		
	comp=N,160nm,10.7s							
TIA				LR		LR		
	comp=E,39nm,3.5s							
TIA				LR		LR		
	comp=Z,220nm,11.4s							
LYN	**LuoYang**	**27.13**	**334**	*e*P		**P**	**01 57 38.5**	**-0.6**
LYN				S		S	02 01 45.3	-29
LYN				SS		SnSn	02 02 44.8	-40
LYN				pmax		pmax		
	comp=Z,90nm,6.3s							
LYN				LR		LR		
	comp=Z,270nm,19.0s							
CMAR	**Chiang Mai Arr**	**27.66**	**290**	P		**P**	**01 57 40.5**	**-3.6**
	comp=Z,3.5nm,0.8s,baz=105,slow=7.5,SNR=12							
PPI	**Padang Panjang**	**27.98**	**249**	P		P	01 57 55.2	+8.2
MJAR	**Matsushiro Arr**	**28.11**	**21**	P		**P**	**01 57 46.5**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=186,slow=9.3,SNR=6.4							
MJAR				LR		LR	02 07 16.9	
	comp=Z,420nm,20.9s,baz=204,slow=33							
MJAR	**Matsushiro Arr**	**28.11**	**21**	P		**P**	**01 57 46.7**	**-1.2**
PSI	**Prapat**	**28.24**	**256**	LR		LR	02 11 54.3	
	comp=Z,391nm,18.9s,baz=85,slow=43							
FITZ	**Fitzroy Crossi**	**28.38**	**181**	P		**P**	**01 57 48.8**	**-1.6**
	comp=Z,6.9nm,0.8s,baz=8.9,slow=6.4,SNR=9.9							
FITZ	**Fitzroy Crossi**	**28.38**	**181**	P		**P**	**01 57 50.2**	**-0.2**
HNS	**HongShan**	**28.80**	**341**	P		**P**	**01 57 54.5**	**+0.5**
HNS				*e*S		S	02 02 16.0	-24
HNS				sS		**sS**	**02 02 57.5**	**-1.8**
HNS				pmax		pmax		
	comp=Z,16nm,1.1s							
HNS				LR		LR		
	comp=E,370nm,14.9s							
HNS				LR		LR		
	comp=Z,250nm,15.9s							
KRVT	**Keravat (AS076**	**29.49**	**119**	P		**P**	**01 58 01.9**	**+1.4**
	comp=Z,19nm,0.6s,baz=185,slow=3.4,SNR=4.0							
WRA	**Warramunga Arr**	**31.22**	**165**	P		**P**	**01 58 14.0**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=344,slow=8.2,SNR=9.6							
WRA	**Warramunga Arr**	**31.22**	**165**	P		**P**	**01 58 13.1**	**-2.5**
WB2	**Warramunga Arr**	**31.22**	**165**	P		**P**	**01 58 14.3**	**-1.3**
WR0	**Warramunga Arr**	**31.29**	**165**	P		**P**	**01 58 15.2**	**-0.9**
MBWA	**Marble Bar**	**32.08**	**192**	P		**P**	**01 58 22.7**	**-0.4**
MBWA				IAmb		IAmb	01 58 27.2	
	comp=Z,11nm,0.8s							
CN2	**Changchun**	**33.23**	**359**	*e*P		**P**	**01 58 35.5**	**+2.5**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CN2				LR		LR		
	comp=N,200nm,15.0s							
CN2				LR		LR		
	comp=E,200nm,15.0s							
CN2				LR		LR		
	comp=Z,200nm,13.0s							
USRK	**Ussuriysk Ar.**	**33.98**	**7**	P		**P**	**01 58 39.6**	**+0.1**
	comp=Z,7.4nm,0.7s,baz=188,slow=8.7,SNR=9.7							
USRK				LR		LR	02 10 51.8	
	comp=Z,194nm,21.9s,baz=168,slow=33							
USRK	**Ussuriysk Ar.**	**33.98**	**7**	P		**P**	**01 58 39.9**	**+0.4**
MDJ	**Mudanjiang**	**34.15**	**4**	P		**P**	**01 58 40.5**	**-0.5**
ASAR	**Alice Springs**	**34.71**	**168**	P		**P**	**01 58 45.2**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=18,slow=10.0,SNR=16							
ASAR				PcP		**PcP**	**02 01 19.3**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=353,slow=3.7,SNR=2.4							
ASAR	**Alice Springs**	**34.71**	**168**	P		**P**	**01 58 45.4**	**-0.7**
CTA	**Charters Tower**	**36.14**	**147**	P		**P**	**01 58 58.8**	**+0.5**
	comp=Z,12nm,0.8s,baz=347,slow=12,SNR=5.4							
ASAJ	**Asahikawa**	**36.37**	**20**	LR		LR	02 12 08.9	
	comp=Z,216nm,21.7s,baz=210,slow=33							
GTA	**Gaotai**	**37.26**	**325**	P		**P**	**01 59 08.0**	**+0.1**
GTA				pP		pP	01 59 17.5	-1.5
GTA				sP		sP	01 59 21.5	-2.6
GTA				pmax		pmax		
	comp=Z,12nm,1.2s							
GTA				pmax		pmax		
	comp=Z,95nm,4.7s							
GTA				LR		LR		
	comp=N,340nm,17.1s							
GTA				LR		LR		
	comp=E,380nm,17.4s							
GTA				LR		LR		
	comp=Z,580nm,17.8s							
GOMU	**GeErMu**	**38.35**	**317**	P		**P**	**01 59 17.3**	**-0.1**
GOMU				pmax		pmax		
	comp=Z,6.0nm,0.7s							
GOMU				LR		LR		
	comp=N,160nm,15.3s							
GOMU				LR		LR		
	comp=E,350nm,15.8s							
GOMU				LR		LR		
	comp=Z,370nm,16.8s							
KLR	**Kul'dur**	**38.92**	**6**	LR		LR	02 14 48.3	
	comp=Z,144nm,21.2s,baz=206,slow=35							
H11N1	**WAKE ISLAND Hy**	**40.14**	**72**	T		T	02 42 51.9	
	baz=265,slow=74,SNR=99							
H11N2	**WAKE ISLAND Hy**	**40.15**	**72**	T		T	02 42 56.4	
	baz=265,slow=74,SNR=58							
H11N3	**WAKE ISLAND Hy**	**40.16**	**72**	T		T	02 42 53.3	
	baz=265,slow=74,SNR=111							
ULN	**Ulaanbaatar**	**40.67**	**340**	P		**P**	**01 59 35.6**	**-0.7**
ULN				IAmb		IAmb	01 59 38.7	
	comp=Z,12nm,1.4s							
SONM	**Songino Array**	**40.87**	**339**	P		**P**	**01 59 36.6**	**-1.3**
	comp=Z,6.4nm,1.1s,baz=160,slow=8.3,SNR=25							
SONM				PcP		**PcP**	**02 01 37.7**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=167,slow=3.1,SNR=4.8							
SONM				LR		LR	02 18 55.0	
	comp=Z,156nm,18.7s,baz=182,slow=40							
SONM	**Songino Array**	**40.87**	**339**	P		**P**	**01 59 37.1**	**-0.8**
SONM				PcP		**PcP**	**02 01 37.8**	**-0.1**
BBOO	**Buckleboo**	**44.01**	**168**	P		**P**	**02 00 03.6**	**+0.2**
BBOO				IAmb		IAmb	02 00 04.4	
	comp=Z,30nm,1.2s							
STKA	**Stephens Creek**	**44.56**	**161**	P		**P**	**02 00 06.2**	**-1.6**
	comp=Z,6.6nm,0.9s,baz=338,slow=6.2,SNR=11							
STKA	**Stephens Creek**	**44.56**	**161**	P		**P**	**02 00 08.4**	**+0.7**
PALK	**Pallekele**	**45.16**	**270**	LR		LR	02 19 34.3	
	comp=Z,140nm,19.0s,baz=195,slow=37							
PETK	**Petropavlovsk-**	**49.45**	**24**	P		**P**	**02 00 46.4**	**+0.7**
	comp=Z,3.9nm,0.6s,baz=211,slow=4.3,SNR=12							
PETK				LR		LR	02 20 20.4	
	comp=Z,164nm,21.1s,baz=220,slow=34							
YAK	**Yakutsk**	**51.54**	**2**	LR		LR	02 23 37.2	
	comp=Z,80nm,20.3s,baz=253,slow=37							
MK31	**Makanchi Array**	**51.92**	**323**	P		**P**	**02 01 04.2**	**-0.3**
MK31				IAmb		IAmb	02 01 14.7	
	comp=Z,6.5nm,0.8s							
MKAR	**Makanchi Array**	**51.92**	**323**	P		**P**	**02 01 03.7**	**-0.8**
	comp=Z,4.9nm,0.8s,baz=122,slow=8.4,SNR=46							
MKAR				LR		LR	02 22 11.2	
	comp=Z,183nm,20.6s,baz=124,slow=35							
MAKZ	**Makanchi**	**52.11**	**323**	P		**P**	**02 01 05.4**	**-0.5**
MAKZ				IAmb		IAmb	02 01 06.3	
	comp=Z,8.2nm,1.1s							
MA2	**Magadan**	**52.34**	**15**	LR		LR	02 21 09.1	
	comp=Z,92nm,21.9s,baz=176,slow=34							
MA2	**Magadan**	**52.34**	**15**	P		**P**	**02 01 08.6**	**+1.2**
MA2				IAmb		IAmb	02 01 09.5	
	comp=Z,7.0nm,0.9s							
KSH	**Kashi**	**53.15**	**312**	P		**P**	**02 01 15.5**	**+1.6**
KSH				pP		sP	02 01 40.0	+7.8
KSH				pmax		pmax		
	comp=Z,4.0nm,0.5s							
KSH				LR		LR		
	comp=N,200nm,15.2s							
KSH				LR		LR		
	comp=E,180nm,15.7s							
KSH				LR		LR		
	comp=Z,190nm,13.1s							
ZAA0	**Zalesovo Array**	**54.49**	**331**	P		**P**	**02 01 22.4**	**-0.8**
ZAA0				IAmb		IAmb	02 01 39.8	
	comp=Z,4.4nm,0.8s							
ZALV	**Zalesovo Beam**	**54.49**	**331**	P		**P**	**02 01 21.9**	**-1.3**
	comp=Z,2.2nm,0.7s,baz=104,slow=6.3,SNR=9.9							
ZALV	**Zalesovo Beam**	**54.49**	**331**	P		**P**	**02 01 22.5**	**-0.7**
AAK	**Ala-Archa**	**55.24**	**315**	LR		LR	02 27 44.0	
	comp=Z,246nm,18.9s,baz=84,slow=39							
KURK	**Kurchatov**	**55.95**	**325**	P		**P**	**02 01 32.9**	**-0.9**
KURK				IAmb		IAmb	02 02 04.0	
	comp=Z,14nm,0.9s							
SHEM	**Shemya Is, Ala**	**56.96**	**32**	LR		LR	02 24 06.1	
	comp=Z,51nm,19.6s,baz=322,slow=34							
KK31	**Karatay Array**	**58.16**	**315**	P		**P**	**02 01 48.0**	**-1.7**
KKAR	**Karatay Array**	**58.16**	**315**	P		**P**	**02 01 48.1**	**-1.5**
KKAR				IAmb		IAmb	02 01 49.0	
	comp=Z,3.8nm,1.0s							
KKAR	**Karatay Array**	**58.16**	**315**	P		**P**	**02 01 46.9**	**-2.7**
MSVF	**Nonsavu**	**58.25**	**118**	P		**P**	**02 01 51.8**	**+1.1**
	comp=Z,20nm,0.8s,baz=263,slow=5.1,SNR=12							
MSVF	**Nonsavu**	**58.25**	**118**	P		**P**	**02 01 51.5**	**+0.8**
BRVK	**Borovoye**	**61.62**	**325**	P		**P**	**02 02 11.2**	**-2.0**
BRVK				IAmb		IAmb	02 02 36.5	
	comp=Z,8.2nm,1.1s							
BILL	**Bilibino**	**63.21**	**16**	P		**P**	**02 02 24.0**	**+0.5**
BILL				IAmb		IAmb	02 02 25.7	
	comp=Z,14nm,1.4s							
NRIK	**Noril'sk**	**63.85**	**346**	P		**P**	**02 02 27.7**	**0.0**
	comp=Z,13nm,0.9s,baz=136,slow=5.7,SNR=16							
NRIK	**Noril'sk**	**63.85**	**346**	P		**P**	**02 02 28.0**	**+0.3**
WSAR	**Wadi Sarin**	**65.54**	**291**	LR		LR	02 34 38.4	
	comp=Z,71nm,18.8s,baz=112,slow=39							
GEYT	**Alibeck**	**66.48**	**307**	LR		LR	02 36 23.9	
	comp=Z,169nm,19.0s,baz=122,slow=40							
ABKAR	**Akbulak array**	**66.78**	**319**	P		**P**	**02 02 45.4**	**-1.6**
ABKAR	**Akbulak array**	**66.78**	**319**	P		**P**	**02 02 45.0**	**-2.0**
ABKAR				IAmb		IAmb	02 03 12.6	
	comp=Z,6.5nm,1.2s							
RPZ	**Rata Peaks**	**67.50**	**146**	P		**P**	**02 02 51.9**	**+0.3**
	comp=Z,21nm,0.8s,baz=134,slow=3.8,SNR=5.1							
BKZ	**Black Stump Fm**	**67.89**	**140**	P		**P**	**02 02 54.6**	**+0.4**
AKTO	**Aktyubinsk**	**68.22**	**320**	LR		LR	02 35 23.6	
	comp=Z,236nm,19.2s,baz=106,slow=38							
ARU	**Arti**	**69.11**	**327**	LR		LR	02 36 12.1	
	comp=Z,95nm,19.0s,baz=114,slow=38							
O18K	**Koktuh Hills**	**75.23**	**31**	P		**P**	**02 03 38.4**	**+0.4**
J20K	**Nowinta River**	**76.09**	**26**	P		**P**	**02 03 43.4**	**+0.6**
J20K				IAmb		IAmb	02 03 55.4	
	comp=Z,13nm,1.2s							
IMAR	**Indian Mountai**	**76.41**	**24**	P		**P**	**02 03 45.9**	**+1.2**
KDAK	**Kodiak Island**	**76.47**	**33**	LR		LR	02 35 43.2	
	comp=Z,78nm,21.1s,baz=258,slow=34							
H21K	**Melozitna Rive**	**76.77**	**25**	P		**P**	**02 03 47.2**	**+0.5**
H21K				IAmb		IAmb	02 03 49.9	
	comp=Z,12nm,0.9s							
CAST	**Castle Rocks**	**76.95**	**27**	P		**P**	**02 03 48.6**	**+0.9**
CAST				IAmb		IAmb	02 03 50.5	
	comp=Z,12nm,1.0s							
I21K	**Tanana**	**77.09**	**25**	P		**P**	**02 03 49.8**	**+1.3**
BPAW	**Bear Paw Mtn.**	**77.47**	**27**	P		**P**	**02 03 51.7**	**+1.0**
TRF	**Thorofare Moun**	**77.76**	**27**	P		**P**	**02 03 53.3**	**+0.8**
TRF				IAmb		IAmb	02 03 54.6	
	comp=Z,14nm,1.0s							
COLD	**Coldfoot**	**77.90**	**23**	P		**P**	**02 03 52.5**	**-0.4**
COLD				IAmb		IAmb	02 03 56.2	
	comp=Z,12nm,0.9s							
H23K	**Yukon River**	**78.13**	**25**	P		**P**	**02 03 56.4**	**+2.1**
H23K				IAmb		IAmb	02 03 57.6	
	comp=Z,15nm,1.0s							
KBZ	**Khabaz**	**78.13**	**313**	LR		LR	02 42 32.3	
	comp=Z,64nm,18.2s,baz=86,slow=39							
TOLK	**Toolik Lake Re**	**78.18**	**22**	P		**P**	**02 03 56.4**	**+1.8**
TOLK				IAmb		IAmb	02 03 57.6	
	comp=Z,11nm,0.8s							
I23K	**Minto, Yukon-K**	**78.19**	**25**	P		**P**	**02 03 54.3**	**-0.3**
I23K				IAmb		IAmb	02 03 58.4	
	comp=Z,7.5nm,0.8s							
NEA2	**Nenana**	**78.31**	**26**	P		**P**	**02 03 56.0**	**+0.7**
NEA2				IAmb		IAmb	02 03 58.3	
	comp=Z,11nm,0.8s							
MCK	**McKinley**	**78.37**	**27**	P		**P**	**02 03 57.0**	**+1.3**
MDM	**Murphy Dome**	**78.67**	**26**	P		**P**	**02 03 57.0**	**-0.3**
MDM				IAmb		IAmb	02 04 00.8	
	comp=Z,7.6nm,1.0s							
H24K	**Noodor Dome**	**78.81**	**25**	P		**P**	**02 03 59.0**	**+0.9**
H24K				IAmb		IAmb	02 04 02.0	
	comp=Z,7.7nm,0.8s							
GURO	**Guroymak-BITLI**	**79.13**	**307**	P		**P**	**02 03 59.0**	**-1.5**
IL31		**79.25**	**26**	P		**P**	**02 04 00.7**	**+0.3**
ILAR	**Eielson Array**	**79.25**	**26**	P		**P**	**02 04 00.4**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=237,slow=5.4,SNR=33							
KLMR	**Klimovskoe**	**79.40**	**330**	*e*P		**P**	**02 03 59.4**	**-1.9**
KLMR				AMP			02 04 14.6	
	comp=Z,11nm,0.9s							
J25K	**Salcha River,**	**79.91**	**26**	P		**P**	**02 04 04.5**	**+0.4**
BMAR	**Burnt Mountain**	**80.08**	**23**	P		**P**	**02 04 05.4**	**+0.5**
RIDG	**Independent Ri**	**80.19**	**27**	P		**P**	**02 04 06.7**	**+1.1**
SCRK	**Sand Creek**	**80.55**	**27**	P		**P**	**02 04 08.5**	**+0.8**
SCRK				IAmb		IAmb	02 04 10.0	
	comp=Z,16nm,1.4s							
L27K	**Beaver Creek,**	**81.60**	**27**	P		**P**	**02 04 14.1**	**+0.9**
L27K				IAmb		IAmb	02 04 16.4	
	comp=Z,6.6nm,1.1s							
BCAR	**Beaver Creek A**	**81.62**	**27**	P		**P**	**02 04 14.7**	**+1.4**
CTGM	**Chitina Glacie**	**82.08**	**29**	P		**P**	**02 04 16.8**	**+1.0**
DAWY	**Dawson**	**82.55**	**26**	P		**P**	**02 04 18.6**	**+0.5**
DAWY				IAmb		IAmb	02 04 21.2	
	comp=Z,12nm,1.1s							
EPYK	**Eagle Plains**	**83.28**	**24**	P		**P**	**02 04 23.1**	**+1.3**
EPYK				IAmb		IAmb	02 04 24.3	
	comp=Z,7.8nm,0.9s							
SPB2	**Spitsbergen Ar**	**83.85**	**349**	P		**P**	**02 04 25.1**	**+0.6**
HYT	**Haines Junctio**	**83.95**	**29**	P		**P**	**02 04 26.4**	**+0.9**
HYT				IAmb		IAmb	02 04 28.9	
	comp=Z,14nm,1.0s							
M30M	**Minto, Yukon**	**83.96**	**28**	P		**P**	**02 04 27.6**	**+2.2**
ARCES	**ARCESS Array B**	**84.04**	**340**	P		**P**	**02 04 24.7**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=81,slow=5.7,SNR=8.5							
ARCES				LR		LR	02 47 17.2	
	comp=Z,66nm,18.3s,baz=68,slow=40							
ARCES	**ARCESS Array B**	**84.04**	**340**	P		**P**	**02 04 25.4**	**-0.3**
INK	**Inuvik**	**84.09**	**22**	P		**P**	**02 04 27.2**	**+1.3**
INK				IAmb		IAmb	02 04 28.2	
	comp=Z,14nm,1.3s							
MMAI	**Mount Meron Ar**	**85.16**	**303**	LR		LR	02 46 46.0	
	comp=Z,76nm,19.1s,baz=234,slow=39							
WHY	**Whitehorse**	**85.25**	**29**	P		**P**	**02 04 33.3**	**+1.3**
A36M	**Sachs Harbour**	**85.72**	**17**	P		**P**	**02 04 35.2**	**+1.2**
FINES	**FINESS Array B**	**85.76**	**332**	P		**P**	**02 04 33.3**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=100,slow=4.5,SNR=6.3							
FINES				LR		LR	02 46 50.8	
	comp=Z,75nm,20.8s,baz=86,slow=38							
EIL	**Elat**	**86.09**	**299**	LR		LR	02 48 06.5	
	comp=Z,70nm,18.5s,baz=41,slow=39							
NOR	**Nord**	**86.40**	**355**	*i* P		**P**	**02 04 36.6**	**-0.7**
AKASG	**Malin Array Be**	**86.46**	**321**	P		**P**	**02 04 36.5**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=62,slow=6.3,SNR=9.1							
C36M	**Paulatuk**	**87.05**	**20**	P		**P**	**02 04 41.5**	**+0.9**
C36M				IAmb		IAmb	02 04 42

ARNL	Arenillas	6.59	348			Pn		02 09 39.1	+0.3
BOSC	San Juan Bosco	6.85	2	Pn		Pn		02 09 42.1	-0.5
COHC	Cochancay	7.55	356			Pn		02 09 53.1	+1.2
PORT	Chimborazo Vol	8.53	360	Pn		Pn		02 10 06.6	+0.7
OTAV	Otavalo	10.22	2			Pn		02 10 32.6	+3.7
PAC1	Pacto, Paraso	10.24	360	*e*P		Pn		02 10 28.1	-0.9
CUSE	Cuicocha Este	10.29	2	*e*P		Pn		02 10 34.6	+4.7
CUSE				*e*S				02 10 58.1	
TULM	Tulcn-Chalpat	10.73	5	Pn		Pn		02 10 34.3	-1.7
TULM	Tulcn-Chalpat	10.73	5	*e*P		Pn		02 10 39.9	+3.9
GCUF	Volcan Galeras	11.28	7	*e*P		Pn		02 10 46.2	+2.6
LPAZ	La Paz	12.04	122	P		Pn		02 10 55.0	+0.9
	0.3nm,0.3s,baz=317,slow=13,SNR=11								
LPAZ				LR		LR		02 16 01.5	
	comp=Z,445nm,19.9s,baz=297,slow=40								
LPAZ	La Paz	12.04	122	Pn		Pn		02 10 53.8	-0.2
LPAZ	La Paz	12.04	122	*e*P		Pn		02 10 53.6	-0.4
PB16	IPOC Station P	12.16	134	Pn		Pn		02 10 54.6	-0.9
SOTA	Rioblanco	12.29	10	*e*P		Pn		02 10 59.3	+2.0
ETMB	Extrema	12.34	90	*e*P		Pn		02 10 56.1	-1.4
PCON	Cinco Dias	12.51	11	*e*P		Pn		02 11 02.0	+1.7
GARC	Garzon, Huila	12.57	15	*e*P		Pn		02 11 00.2	-0.7
POPC	Popayan, Colom	12.67	9	*e*P		Pn		02 11 05.3	+3.0
PB11	IPOC Station P	13.04	139			Pn		02 11 05.0	-2.2
MARP	Paez Belalcaza	13.10	12	*e*P		Pn		02 11 11.1	+2.9
YOTC	Yotoco, Valle	14.14	10	*e*P		P		02 11 27.4	-0.7
CHIC	Chingaza	15.41	19	*e*P		P		02 11 41.6	-0.9
ROSC	El Rosal	15.43	17	P		P		02 11 44.9	+2.1
	1.5nm,0.3s,baz=147,slow=15,SNR=4.0								
ROSC				LR		LR		02 18 50.3	
	comp=Z,394nm,18.4s,baz=208,slow=42								
ROSC	El Rosal	15.43	17	Pn		Pn		02 11 39.2	+0.1
LVC	Limon Verde	15.64	144	P		P		02 11 46.1	+1.1
	0.9nm,0.3s,baz=332,slow=8.5,SNR=7.9								
LVC				LR		LR		02 18 13.9	
	comp=Z,34nm,18.6s,baz=306,slow=39								
LVC	Limon Verde	15.64	144	Pn		Pn		02 11 41.2	-0.6
CBOC	Ciudad Bolivar	16.04	10	*e*P		P		02 11 49.5	+0.2
SPBC	San Pablo de B	16.27	17	*e*P		Pn		02 11 49.2	-0.4
RUSC	La Rusia	16.80	20	*e*P		P		02 11 58.3	+0.2
PTBC	PUERTO BERRIO,	17.02	15	*e*P		Pn		02 11 46.0	-13
DBBC	Dabeiba	17.14	9	*e*P		Pn		02 11 51.8	-8.6
SIV	San Ignacio	18.19	111	P		P		02 12 13.2	+0.2
	0.5nm,0.3s,baz=291,slow=10,SNR=27								
SIV				LR		LR		02 19 38.4	
	comp=Z,196nm,21.6s,baz=298,slow=38								
VILB	Vilhena	18.39	101	*e*P		P		02 12 14.9	-0.3
MACA	Manacapuru-AM	19.18	70	*e*P		P		02 12 23.1	-0.7
PTLB	Pontes e Lacer	19.85	108	*e*P		P		02 12 31.4	+0.4
SDV	Santo Domingo	20.46	23	P		Pn		02 12 43.6	+3.1
	5.0nm,0.7s,baz=237,slow=11,SNR=3.6								
SDV	Santo Domingo	20.46	23	P		P		02 12 36.0	-1.9
SDV				IAmb		IAmb		02 12 56.0	
	comp=Z,9.8nm,0.8s								
SDV	Santo Domingo	20.46	23	*e*P		P		02 12 37.0	-0.9
JTS	Las Juntas de	21.13	343	LR		LR		02 19 53.8	
	comp=Z,74nm,19.7s,baz=230,slow=34								
BAUV	El Baul	21.66	30	P		P		02 12 49.6	-1.0
PDRB	Porto dos Gac	21.67	96	*e*P		P		02 12 50.5	-0.2
BOAV	Boa Vista	21.95	57	*e*P		P		02 12 53.8	+0.1
CLDB	Colider	22.57	94	*e*P		P		02 12 59.7	-0.8
URIC	Uribia, Colomb	22.62	17	P		P		02 13 00.1	-0.8
SALV	Santo Antonio	23.18	107	*e*P		P		02 13 06.4	-0.3
H03N2	Juan Fernandez	23.28	180	T		T		02 37 04.0	
	baz=0.7,slow=75,SNR=465								
H03N1	Juan Fernandez	23.29	180	T		T		02 37 04.8	
	baz=0.7,slow=75,SNR=500								
H03N3	Juan Fernandez	23.30	180	T		T		02 37 03.7	
	baz=0.7,slow=75,SNR=371								
NPGB	Novo Progresso	23.30	85	*e*P		P		02 13 06.4	-1.5
ITTB	Itaituba	23.50	78	*e*P		P		02 13 09.1	-0.6
PP1B	Ponte de Pedra	24.33	111	*e*P		P		02 13 17.3	0.0
AQDB	Aquidauana	24.49	118	*e*P		P		02 13 18.9	+0.2
MALB	Monte Alegre	25.64	73	*e*P		P		02 13 29.5	+0.3
CPUP	Villa Florida	25.93	131	P		P		02 13 31.4	-0.3
	comp=Z,3.6nm,1.1s,baz=305,slow=12,SNR=2.9								
CPUP				LR		LR		02 25 27.4	
	comp=Z,116nm,19.8s,baz=307,slow=40								
CPUP	Villa Florida	25.93	131	*e*P		P		02 13 31.9	+0.2
MTO3	Montecristo	26.48	336	P		P		02 13 36.1	-0.8
SNDB	Serra Nova Dou	27.00	97	*e*P		P		02 13 41.8	+0.3
TRCB	Terra Rica	28.00	120	*e*P		P		02 13 51.2	+0.7
MCPB	Macapa, AP	28.23	72	*e*P		P		02 13 52.5	0.0
ITRB	Iturama	29.01	113	*e*P		P		02 13 59.8	+0.4
PEXB	Peixe	29.93	97	*e*P		P		02 14 08.5	+0.8
MDP	Montagnes des	30.03	61	LR		LR		02 26 51.8	
	comp=Z,295nm,18.9s,baz=243,slow=38								
ITAB	Concordia	30.35	128	*e*P		P		02 14 10.8	-0.4
BDFB	Brasilia	30.44	104	P		P		02 14 12.3	0.0
	comp=Z,5.7nm,0.9s,baz=337,slow=7.7,SNR=5.7								
BDFB				LR		LR		02 27 08.5	
	comp=Z,227nm,19.8s,baz=312,slow=38								
BDFB	Brasilia	30.44	104	P		P		02 14 10.6	-1.7
IPMB	Ipameri, GO	30.61	108	*e*P		P		02 14 13.2	-0.5
SMTB	Santa Maria do	30.74	90	*e*P		P		02 14 15.1	+0.3
CPSB	Cacapava Do Su	31.07	134	*e*P		P		02 14 17.8	+0.4
TMAB	Tom-Au,PA,Br	31.37	78	*e*P		P		02 14 21.4	+1.1
PLCA	Paso Flores	31.41	168	P		P		02 14 20.1	-0.4
	comp=Z,4.2nm,1.1s,baz=22,slow=17,SNR=3.2								
PLCA	Paso Flores	31.41	168	*e*P		P		02 14 21.2	+0.8
VAO	Valinhos	32.98	117	*e*P		P		02 14 34.2	+0.1
JANB	Januaria	33.94	102	*e*P		P		02 14 42.7	-0.2
NBPS	Pedro II - PI	37.39	84	*e*P		P		02 15 12.4	-0.2
RCBR	Riachuelo	42.60	88	LR		LR		02 34 19.9	
	comp=Z,146nm,18.7s,baz=16,slow=37								
344A	Westbrook Farm	42.84	345	P		P		02 15 56.8	-0.4
LRAL	Lakeview Retre	43.56	350	P		P		02 16 02.9	-0.1
NATX	Nacogdoches	44.28	340	P		P		02 16 07.8	-1.0
FPAL	Fort Paine	44.82	352	P		P		02 16 12.6	-0.5
FPAL				IAmb		IAmb		02 16 13.8	
	comp=Z,7.2nm,0.7s								
SWET	Sewanee	45.53	352	P		P		02 16 18.6	-0.2
SWET				IAmb		IAmb		02 16 19.0	
	comp=Z,5.2nm,0.7s								
WLAR	White Oak Lake	45.59	343	P		P		02 16 20.1	+0.9
PLAL	Pickwick Lake	45.65	349	P		P		02 16 19.9	+0.3
TKL	Tuckaleechee C	45.70	354	P		P		02 16 19.8	-0.3
TKL				IAmb		IAmb		02 16 34.6	
	comp=Z,8.7nm,1.1s								
TXAR	Lajitas Array	45.95	329	P		P		02 16 23.4	+1.2
	comp=Z,1.1nm,0.7s,baz=150,slow=9.8,SNR=16								
TXAR				pP		pP		02 16 36.8	+0.1
	comp=Z,1.1nm,0.8s,baz=152,slow=8.7,SNR=9.1								
TXAR	Lajitas Array	45.95	329	P		P		02 16 22.9	+0.7
TX31	Lajitas Ar. Si	45.95	329	P		P		02 16 22.2	0.0
TX31				IAmb		IAmb		02 16 42.7	
	comp=Z,7.8nm,1.0s								
TX32	Lajitas Array	45.95	329	P		P		02 16 22.7	+0.5
V48A	Smith Brothers	46.17	351	P		P		02 16 23.3	-0.5
V48A				IAmb		IAmb		02 16 24.2	
	comp=Z,8.3nm,0.7s								
UALR	University of	46.40	344	P		P		02 16 26.2	+0.6
UALR				IAmb		IAmb		02 16 27.2	
	comp=Z,8.8nm,0.8s								
WVT	Waverly	46.72	350	P		P		02 16 26.7	-1.3
WVT				IAmb		IAmb		02 16 27.4	
	comp=Z,4.0nm,0.7s								
W41B	Gary Mavity, V	46.76	345	P		P		02 16 27.6	-0.8
W41B				IAmb		IAmb		02 16 48.4	
	comp=Z,8.4nm,0.9s								
WHAR	Wooly Hollow	46.88	345	P		P		02 16 29.7	+0.4
WHAR				IAmb		IAmb		02 16 49.9	
	comp=Z,12nm,1.1s								
ABTX	Abilene, Hawle	46.89	336	P		P		02 16 30.0	+0.5
ABTX				IAmb		IAmb		02 16 31.6	
	comp=Z,13nm,1.0s								
X37A	Clayton	47.11	341	P		P		02 16 31.1	-0.1
FCAR	Ozark Folk Cen	47.40	345	P		P		02 16 33.4	0.0
FCAR				IAmb		IAmb		02 16 53.6	
	comp=Z,8.6nm,0.9s								
PBMO	Poplar Bluff	47.86	347	P		P		02 16 36.8	-0.1
PBMO				IAmb		IAmb		02 16 37.5	
	comp=Z,5.1nm,0.7s								
X34A	Smith Ranch, M	47.95	339	P		P		02 16 39.0	+1.3
U40A	Yellville	48.03	345	P		P		02 16 39.0	+0.7
HHAR	Hobbs	48.26	343	P		P		02 16 40.6	+0.6
HHAR				IAmb		IAmb		02 16 56.2	
	comp=Z,6.0nm,1.0s								
TUL1	Leonard	48.46	341	P		P		02 16 41.0	-0.6
MGMO	Mountain Grove	48.64	346	P		P		02 16 42.7	-0.3
MNTX	Cornudas Mount	48.72	329	P		P		02 16 42.4	-1.3
S39A	Bolivar	49.41	345	P		P		02 16 49.0	+0.1
S39A				IAmb		IAmb		02 17 09.0	
	comp=Z,11nm,1.1s								
319A	Douglas	50.53	326	P		P		02 16 58.2	+0.6
319A				IAmb		IAmb		02 17 18.4	
	comp=Z,9.0nm,1.0s								
P38A	Dawn	51.29	345	P		P		02 17 03.8	+0.7
P38A				IAmb		IAmb		02 17 22.9	
	comp=Z,6.1nm,0.8s								
ANMO	Albuquerque	51.88	331	P		P		02 17 07.8	+0.1
ANMO				IAmb		IAmb		02 17 09.4	
	comp=Z,3.5nm,0.7s								
TUC	Tucson	52.07	325	P		P		02 17 08.4	-0.7
W18A	Petrified Fore	53.65	328	P		P		02 17 20.3	-0.5
SDCO	Great Sand Dun	53.74	334			P		02 17 21.2	-0.3
SDCO				IAmb		IAmb		02 17 42.4	
	comp=Z,7.0nm,1.1s								
X16A	Lo Mia Camp, P	54.01	326	P		P		02 17 23.6	+0.1
113A	Mohawk Valley,	54.12	323	P		P		02 17 25.3	+1.3
113A				IAmb		IAmb		02 17 29.6	
	comp=Z,7.5nm,1.1s								
WUAZ	Wupatki	54.81	327	P		P		02 17 29.9	+0.7
WUAZ				IAmb		IAmb		02 17 31.8	
	comp=Z,6.6nm,0.8s								
ISCO	Idaho Springs	55.51	335	P		P		02 17 34.1	-0.3
PV15	Paradox Valley	55.58	332	P		P		02 17 34.7	-0.1
W13A	Hualapai Mount	55.87	325	IAmb		IAmb		02 17 39.2	
	comp=Z,5.2nm,1.0s								
O20A	White River Ci	56.92	333	IAmb		IAmb		02 17 46.0	
	comp=Z,5.7nm,1.0s								
SHPR	Sheep Range	57.60	325	IAmb		IAmb		02 17 51.6	
	comp=Z,3.8nm,0.9s								
RDMU	Red Mountain	57.87	333	IAmb		IAmb		02 18 07.9	
	comp=Z,6.0nm,0.8s								
PSUT	Pine Spring	58.38	328	IAmb		IAmb		02 18 18.9	
	comp=Z,4.1nm,1.1s								
R11A	Troy Canyon, C	59.16	327	IAmb		IAmb		02 18 16.1	
	comp=Z,6.0nm,1.4s								
PDAR	Pinedale Array	59.63	334	P		P		02 18 03.7	+0.5
	comp=Z,0.9nm,0.8s,baz=132,slow=8.5,SNR=6.3								
PDAR				pP		pP		02 18 16.9	-1.3
	comp=Z,1.3nm,0.6s,baz=133,slow=10,SNR=9.2								
NV11	Mina Array Sit	60.64	325	IAmb		IAmb		02 18 26.2	
	comp=Z,12nm,1.4s								
NVAR	Mina Array Bea	60.73	325	P		P		02 18 12.6	+1.8
	comp=Z,3.0nm,0.8s,baz=138,slow=7.8,SNR=8.7								
NVAR				pP		pP		02 18 25.8	0.0
	comp=Z,3.0nm,0.8s,baz=143,slow=7.8,SNR=4.0								
ULM	Lac du Bonnet	61.88	348	P		P		02 18 18.2	+0.2
	comp=Z,4.1nm,0.7s,baz=157,slow=4.1,SNR=4.7								
YHL	Hebgen Lake	62.01	334	P		P		02 18 18.1	-1.2
MFID	Camas Ranch	63.02	330	IAmb		IAmb		02 18 48.0	
	comp=Z,7.4nm,0.9s								
ORV	Oroville	63.32	324	P		P		02 18 28.1	+0.2
ORV				IAmb		IAmb		02 18 43.8	
	comp=Z,7.7nm,0.9s								
FCC	Fort Churchill	69.69	352	P		P		02 19 07.2	-0.9
FRB	Frobisher Bay	73.99	5	LR		LR		02 53 36.8	
	comp=Z,63nm,21.7s,baz=339,slow=37								
LIC	Lamto	75.17	81	*e*PKIKP		P		02 19 57.3	+16
	comp=Z,26nm,1.7s								
TIC	Toumodi	75.26	80	*e*PKIKP		P		02 19 57.2	+15
DBIC	Dimbokro	75.42	80	P		P		02 19 44.3	+1.1
	comp=Z,5.7nm,1.0s,baz=260,slow=12,SNR=2.8								
DBIC				pP		PcP		02 19 57.2	+1.1
	comp=Z,6.7nm,0.7s,baz=259,slow=7.1,SNR=6.7								
KIC	Kosan Boka	75.47	81	*e*PKIKP		P		02 19 57.6	+14
	comp=Z,10nm,0.6s								
YKA	Yellowknife Ar	77.46	344	P		P		02 19 53.5	-0.1
	comp=Z,1.0nm,0.8s,baz=140,slow=6.1,SNR=24								
YKA				pP		pP		02 20 07.2	-1.9
	comp=Z,1.1nm,0.6s,baz=142,slow=6.0,SNR=11								
QSPA	South Pole Qui	80.07	180	P		P		02 20 09.5	+1.3
QSPA				IAmb		IAmb		02 20 14.6	
	comp=Z,10.0nm,1.2s								
MDT	Midelt	82.34	55	LR		LR		02 53 41.6	
	comp=Z,48nm,21.8s,baz=270,slow=33								
TORD	Torodi Ar. Bea	83.09	75	P		P		02 20 25.6	+0.7
	comp=Z,2.7nm,0.8s,baz=276,slow=5.4,SNR=12								
TORD				pP		pP		02 20 38.2	-2.3
	comp=Z,3.7nm,1.0s,baz=284,slow=7.1,SNR=7.6								
TORD				LR		LR		02 56 07.0	
	comp=Z,76nm,18.4s,baz=220,slow=35								
TORD	Torodi Ar. Bea	83.09	75	P		P		02 20 24.9	-0.1
ESDC	Sonseca Array	84.87	48	P		P		02 20 35.8	+2.1
	comp=Z,0.7nm,1.0s,baz=307,slow=4.7,SNR=3.5								
ESDC				pP		pP		02 20 48.7	-0.6
	comp=Z,0.9nm,0.8s,baz=260,slow=4.9,SNR=5.6								
ESDC				LR		LR		02 56 02.4	
	comp=Z,49nm,18.8s,baz=282,slow=34								
VNDA	Vanda	86.33	191	LR		LR		02 54 13.8	
	comp=Z,119nm,18.7s,baz=196,slow=32								
ILAR	Eielson Array	89.97	337	P		P		02 20 57.6	+0.1
	comp=Z,0.9nm,0.9s,baz=154,slow=5.0,SNR=6.4								
ILAR				pP		pP		02 21 11.3	-2.0
	comp=Z,1.0nm,1.0s,baz=143,slow=2.3,SNR=4.0								
EKA	Eskdalemuir Ar	90.12	34	LR		LR		02 59 44.4	
	comp=Z,58nm,18.5s,baz=5.0,slow=34								
RPZ	Rata Peaks	97.32	223	LR		LR		02 56 37.8	
	comp=Z,85nm,19.9s,baz=208,slow=30								
H11N3	WAKE ISLAND Hyl	16.15	287	T		T		04 33 19.3	
	baz=93,slow=75,SNR=13								
H11N2	WAKE ISLAND Hyl	16.17	287	T		T		04 33 14.7	
	baz=93,slow=75,SNR=16								
H11N1	WAKE ISLAND Hyl	16.17	287	T		T		04 33 19.7	
	baz=93,slow=75,SNR=22								
H11S2	WAKE ISLAND Hyl	16.30	286	T		T		04 33 25.4	
	baz=94,slow=75,SNR=13								
H11S1	WAKE ISLAND Hyl	16.31	286	T		T		04 33 24.2	
	baz=94,slow=75,SNR=5.6								
H11S3	WAKE ISLAND Hyl	16.32	286	T		T		04 33 24.4	
	baz=94,slow=75,SNR=7.8								
ASAR	Alice Springs	133.73	223	PKP		PKPdf		02 27 16.4	+0.3
	comp=Z,0.8nm,0.6s,baz=130,slow=2.0,SNR=9.4								
ASAR				pPKP		pPKPdf		02 27 30.3	-2.1
	comp=Z,0.7nm,0.7s,baz=125,slow=2.1,SNR=3.2								
ASAR	Alice Springs	133.73	223			PKPdf		02 27 15.9	-0.2
ZALV	Zalesovo Beam	134.28	14	PKP		PKPdf		02 27 15.7	-0.3
	comp=Z,0.4nm,0.3s,baz=256,slow=4.3,SNR=5.1								
ZALV				pPKP		pPKPdf		02 27 31.1	-1.3
	comp=Z,0.6nm,0.4s,baz=321,slow=2.1,SNR=2.8								
ZALV	Zalesovo Beam	134.28	14			PKPdf		02 27 15.8	-0.2
KURBB	Kurchatov Arra	135.41	21	PKP		PKiKP		02 27 19.6	-0.2
	comp=Z,1.0nm,0.7s,baz=303,slow=2.0,SNR=6.1								
KURBB				pPKP		pPKPdf		02 27 33.5	-1.2
	comp=Z,0.9nm,0.6s,baz=317,slow=2.5,SNR=5.0								
WRA	Warramunga Arr	135.86	227	PKP		PKPdf		02 27 20.7	+0.6
	comp=Z,2.3nm,0.7s,baz=126,slow=1.8,SNR=13								
WRA				pPKP		pPKPdf		02 27 35.1	-1.4
	comp=Z,1.6nm,0.8s,baz=120,slow=2.1,SNR=4.8								
MKAR	Makanchi Array	139.98	20	PKhKP		PKPpre		02 27 21.7	
	comp=Z,0.3nm,0.8s,baz=29,slow=3.3,SNR=1.9								
MKAR				PKP		PKPdf		02 27 27.5	+0.6
	comp=Z,0.5nm,0.8s,baz=19,slow=5.1,SNR=4.5								
MKAR				pPKP		pPKPdf		02 27 42.7	-0.6
	comp=Z,0.4nm,0.6s,baz=20,slow=3.9,SNR=3.7								
SONM	Songino Array	142.09	354	PKhKP		PKPpre		02 27 25.5	
	comp=Z,0.6nm,0.6s,baz=325,slow=2.3,SNR=2.6								
SONM				PKP		PKPdf		02 27 31.5	+0.7
	comp=Z,1.0nm,0.7s,baz=31,slow=1.3,SNR=5.0								
SONM	Songino Array	142.09	354			PKPdf		02 27 30.2	-0.5
KSRS	Korea Array	143.65	323	PKP		PKPbc		02 27 31.5	+0.3
	comp=Z,3.5nm,0.7s,baz=56,slow=3.8,SNR=12								
KSRS				pPKP		pPKPdf		02 27 45.9	-4.2
	comp=Z,3.9nm,0.8s,baz=58,slow=3.3,SNR=5.0								
GTA	Gaotai	150.73	2	*e*PKPbc		PKiKP		02 27 52.0	+0.2
GTA				sPKP				02 28 06.0	
PZH	PanZhiHua	163.62	358	PKP		PKPdf		02 28 02.0	-0.2

NNC ***26*** *02:14:25.0±5.1, 44.˙54N×76.˙70E, h0km, mb2.5, mpv2.4,*
Error ellipse: s-maj=37.1km s-min=22.3km az=157.0
SOME ***26*** *02:14:25.4, 41.˙80N×77.˙35E, h10km*
KRNET ***26*** *02:14:25.4±0.1, 41.˙76N×77.˙36E, h17km, mb2.7*

ISC 26 02:14:25.4±1.3, 41.˙78N±0.˙04×77.˙32E±0.˙02, h7km±10km, n41, σ1°914/82, 22C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.36	97	⇑*i*P		Pg		02 14 32.2	-0.4
TARG	baz=95			⇑*i*S		Sg		02 14 36.7	-0.8
KDJ	Kajisay	0.37	344	⇑*i*P		Pg		02 14 33.0	+0.4
KDJ	baz=42			⇑*i*S		Sg		02 14 38.3	+0.8
ULHL	Ulahol	0.93	301	⇓*i*P		Pg		02 14 43.6	+0.3
ULHL	baz=1.0			⇓*i*S		Sb		02 14 56.7	0.0
ANVS	Anan'yevo	1.04	14	⇑*i*P		Pb		02 14 45.2	-0.6
ANVS	baz=13			⇑*i*S		Sn		02 14 59.6	-1.9
BOOM	Boomskoye usch	1.25	305	⇑*i*P		Pb		02 14 49.2	-0.2
BOOM	baz=5.0			⇑*i*S		Sn		02 15 06.4	-0.3
TNSS	Tian-Shan	1.29	348	⇑*i*P		Pg		02 14 50.2	0.0
TNSS	baz=47			⇑*e*S		Sn		02 15 08.2	+0.2
TNSS	Tian-Shan	1.29	348	⇑*i*P		Pg		02 14 50.2	0.0
TNSS	9.1nm,0.1s			*e*S		Sn		02 15 08.2	+0.2
MDOK	Medeo	1.40	352	*e*P		Pg		02 14 51.7	-0.5
MDOK	baz=51			*e*S		Sg		02 15 10.8	+0.4
MDOK	Medeo	1.40	352	*e*P		Pg		02 14 51.7	-0.5
MDOK	7.6nm,0.1s			*e*S		Sg		02 15 10.8	+0.4
MDOK	Medeo	1.40	352	⇓P		Pg		02 14 51.8	-0.5
MDOK	8.7nm,0.3s			S		Sg		02 15 11.0	+0.5
MDOK	Medeo	1.40	352	*e*P		Pg		02 14 53.3	-0.2
MDOK	4.6nm,0.5s			*e*S		Sg		02 15 13.5	+1.0
KOTS	Kotyrbulak	1.47	354	*e*P		Pg		02 14 53.3	-0.2
KOTS	baz=53			*e*S		Sg		02 15 13.5	+1.0
KOTS	Kotyrbulak	1.47	354	*e*P		Pg		02 14 53.3	-0.2
KOTS	7.4nm,0.1s			*e*S		Sg		02 15 13.5	+1.0
MTBS	Maitube	1.51	334	*e*P		Pg		02 14 53.7	-0.5
MTBS	baz=34			*e*S		Sg		02 15 14.1	+0.3
MTBS	Maitube	1.51	334	*e*P		Pg		02 14 53.7	-0.5
MTBS	3.2nm,0.2s			*e*S		Sg		02 15 14.1	+0.3
SATY	Saty	1.51	32	*e*P		Pb		02 14 53.2	-0.7
SATY	baz=31			*e*S		Sg		02 15 13.4	-0.7
SATY	Saty	1.51	32	*e*P		Pb		02 14 53.2	-0.7
SATY	1.6nm,0.2s			*e*S		Sg		02 15 13.3	-0.7
KST	Kastek	1.62	322	*e*P		Pb		02 14 55.1	-0.6
KST	3.2nm,0.2s			*e*S		Sg		02 15 16.5	-0.8
ZHN	Zhinishke	1.62	30	*e*P		Pb		02 14 55.3	-0.3
ZHN	baz=29			*e*S		Sg		02 15 16.9	-0.5
ZHN	Zhinishke	1.62	30	*e*P		Pb		02 14 55.3	-0.3
ZHN	10nm,0.1s			*e*S		Sg		02 15 16.9	-0.5
TKM2	Tokmak 2	1.71	312	⇑*i*P		Pb		02 14 57.4	0.0
TKM2	baz=12			⇑*i*S		Sg		02 15 20.8	+0.3
TKM2	Tokmak 2	1.71	312	⇑P		Pg		02 14 58.0	-0.2
TKM2	0.3nm,0.2s			⇑S		Sg		02 15 20.9	+0.3
KURS	Kuram	1.82	20	*e*P		Pb		02 14 58.6	-0.5
KURS	baz=19			*e*S		Sg		02 15 22.6	-1.3
KURS	Kuram	1.82	20	*e*P		Pb		02 14 58.6	-0.5
KURS	3.0nm,0.4s			*e*S		Sg		02 15 22.6	-1.3
DGS	Degeres	1.86	323	*e*P		Pb		02 15 00.1	+0.3
DGS	baz=22			*e*S		Sg		02 15 25.2	+0.1
DGS	Degeres	1.86	323	*e*P		Pb		02 15 00.1	+0.3
DGS	3.0nm,0.2s			*

ISC 26 02:23:27.2±1.3,**8°57N**±0.03×**71°33W**±0.03,**h3**km±8km,
n180,σ1°33/194,**mb4.4**/41,**MS3.5**/8,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.55**	**121**	*eP*	**Pg**	**02 23 39.2**	**+1.4**
SDV	**Santo Domingo**	**0.76**	**65**	Pg	**Pg**	**02 23 43.0**	**+1.2**
	165nm,0.3s,baz=260,slow=5.5,SNR=500						
SDV				Lg	Lg	02 23 53.6	
	494nm,0.3s,baz=310,slow=17,SNR=31						
SDV				LR	LR	02 24 04.4	
	comp=Z,153nm,21.5s,baz=270,slow=46						
SDV	**Santo Domingo**	**0.76**	**65**	*eP*	**Pg**	**02 23 43.0**	**+1.2**
SDV	**Santo Domingo**	**0.76**	**65**	*eP*	**Pg**	**02 23 43.0**	**+1.2**
CAPV	**Capacho**	**1.20**	**234**	*eP*	**Pg**	**02 23 49.0**	**-1.7**
CAPV				*eS*	**Sg**	**02 24 03.1**	**-2.6**
PAMC	**Pamplona, Colo**	**1.82**	**228**	*eP*	**Pn**	**02 24 01.1**	**+1.1**
MCQV	**Machiques**	**1.89**	**321**	*eP*	**Pn**	**02 24 01.4**	**+0.9**
MCQV				*eS*	**Sb**	**02 24 26.8**	**+0.3**
CURV	**Curarigua**	**1.97**	**43**	*eS*	**Sb**	**02 24 30.5**	**+1.5**
OCAC	**Ocana**	**1.99**	**261**		**Pn**	**02 24 02.3**	**+0.4**
OCAC				Sn	**Sn**	**02 24 28.8**	**+1.3**
OCAC	**Ocana**	**1.99**	**261**	*eP*	**Pn**	**02 24 02.4**	**+0.4**
SANV	**Sanarito**	**2.00**	**62**	*eP*	**Pb**	**02 24 04.4**	**0.0**
SANV				*eS*	**Sb**	**02 24 30.9**	**+1.0**
TAMC	**Tame, Arauca**	**2.17**	**192**	*eP*	**Pn**	**02 24 05.8**	**+1.5**
LL6C	**La Loma 6 Bece**	**2.24**	**301**	*eP*	**Pn**	**02 24 05.8**	**+0.6**
LL1C	**La Loma 1 Cana**	**2.40**	**294**	*eP*	**Pn**	**02 24 07.8**	**+0.4**
DABV	**Dabajuro**	**2.44**	**16**	*eP*	**Pn**	**02 24 10.1**	**+2.1**
DABV	**Dabajuro**	**2.44**	**16**	*eP*	**Pn**	**02 24 09.6**	**+1.6**
DABV				*eS*	**Sb**	**02 24 40.7**	**-1.6**
SIQV	**Siquisique**	**2.56**	**36**	*eP*	**Pn**	**02 24 11.9**	**+2.3**
SIQV				*eS*	**Sb**	**02 24 44.1**	**-1.6**
BARC	**Barichara**	**2.69**	**223**	*eP*	**Pn**	**02 24 14.1**	**+2.5**
CRJC	**Cerrejon, Guaj**	**2.87**	**328**	*eP*	**Pn**	**02 24 14.5**	**+0.5**
MAPV	**Macapo**	**3.10**	**66**	*eP*	**Pn**	**02 24 18.5**	**+1.3**
MAPV				*eS*	**Sn**	**02 24 56.6**	**+1.7**
RUSC	**La Rusia**	**3.17**	**213**	*eP*	**Pn**	**02 24 19.8**	**+1.3**
URIC	**Uribia, Colomb**	**3.18**	**348**		**Pn**	**02 24 17.7**	**-0.5**
URIC	**Uribia, Colomb**	**3.18**	**348**	*eP*	**Pn**	**02 24 17.9**	**-0.3**
BAUV	**El Baul**	**3.27**	**83**	Pn	**Pn**	**02 24 20.4**	**+0.8**
BAUV	**El Baul**	**3.27**	**83**	*eP*	**Pn**	**02 24 21.2**	**+1.7**
BAUV				*eS*	**Sn**	**02 24 59.1**	**+0.1**
JACV	**Jacura**	**3.52**	**44**	*eP*	**Pn**	**02 24 25.0**	**+2.2**
JACV				*eS*	**Sn**	**02 25 05.6**	**+0.6**
ZARC	**Zaragoza, Cauc**	**3.65**	**253**		**Pn**	**02 24 24.8**	**+0.1**
ZARC	**Zaragoza, Cauc**	**3.65**	**253**	*eP*	**Pn**	**02 24 25.1**	**+0.5**
PTBC	**PUERTO BERRIO,**	**3.69**	**237**	*eP*	**Pn**	**02 24 24.9**	**-0.4**
SMRC	**Santa Marta, M**	**3.84**	**312**	*eP*	**Pn**	**02 24 27.5**	**+0.2**
TURV	**Turiamo**	**3.92**	**61**	*eP*	**Pn**	**02 24 30.3**	**+1.9**
TURV				*eS*	**Sn**	**02 25 15.3**	**+0.4**
BENV	**Beln**	**3.94**	**69**	*eP*	**Pn**	**02 24 29.9**	**+1.2**
BENV				*eS*	**Sn**	**02 25 15.7**	**+0.2**
SPBC	**San Pablo de B**	**3.97**	**223**	*eP*	**Pn**	**02 24 30.5**	**+1.3**
SJCC	**San Jacinto, C**	**4.02**	**289**	Pn	**Pn**	**02 24 30.8**	**+1.0**
SJCC	**San Jacinto, C**	**4.02**	**289**	*eP*	**Pn**	**02 24 31.3**	**+1.5**
UREC	**San Jos de Ur**	**4.24**	**259**	*eP*	**Pn**	**02 24 33.6**	**+0.9**
PTGC	**Puerto Gaitan,**	**4.41**	**190**	*eP*	**Pn**	**02 24 35.2**	**0.0**
CHIC	**Chingaza**	**4.58**	**211**	*eP*	**Pn**	**02 24 39.1**	**+1.2**
CHIC				*eS*	**Sn**	**02 25 31.1**	**-0.8**
NORC	**Norcasia**	**4.61**	**230**	*eP*	**Pn**	**02 24 39.3**	**+1.4**
ROSC	**El Rosal**	**4.75**	**219**	Pn	**Pn**	**02 24 43.0**	**+2.9**
	13nm,0.3s,baz=98,slow=9.5,SNR=21						
ROSC				Sn	**Sn**	**02 25 40.5**	**+4.7**
	11nm,0.3s,baz=105,slow=20,SNR=1.9						
ROSC	**El Rosal**	**4.75**	**219**	Pn	**Pn**	**02 24 41.5**	**+1.4**
ROSC	**El Rosal**	**4.75**	**219**	*eP*	**Pn**	**02 24 42.5**	**+2.3**
CARV	**Caracas**	**4.75**	**66**	*eP*	**Pn**	**02 24 41.1**	**+1.2**
CARV				*eS*	**Sn**	**02 25 34.0**	**-1.7**
FUNV	**FUNVISIS**	**4.84**	**67**	*eP*	**Pn**	**02 24 42.3**	**+1.1**
FUNV				*eS*	**Sn**	**02 25 36.5**	**-1.5**
CACV	**CAICARA DEL OR**	**4.85**	**102**	*eP*	**Pb**	**02 24 49.9**	**-3.0**
CACV				*eS*	**Sb**	**02 25 48.7**	**-3.0**
LCBC	**Los crdobas,**	**4.99**	**274**	*eP*	**Pn**	**02 24 43.9**	**+0.9**
VILC	**Villavicencio,**	**5.01**	**208**	*eP*	**Pn**	**02 24 44.3**	**+0.8**
MERV	**Las Mercedes**	**5.02**	**82**	*eP*	**Pn**	**02 24 44.9**	**+1.3**
MERV				*eS*	**Sn**	**02 25 40.8**	**-1.4**
DBBC	**Dabeiba**	**5.07**	**253**	*eP*	**Pn**	**02 24 48.6**	**+4.3**
GUY2C	**Guyana, Caldas**	**5.20**	**231**	*eP*	**Pn**	**02 24 47.6**	**+1.2**
BIRV	**Birongo**	**5.34**	**69**	Pn	**Pn**	**02 24 48.5**	**+1.5**
BIRV	**Birongo**	**5.34**	**69**	*eP*	**Pn**	**02 24 48.9**	**+0.9**
BIRV				*eS*	**Sn**	**02 25 48.3**	**-1.8**
CBOC	**Ciudad Bolivar**	**5.36**	**240**	*eP*	**Pn**	**02 24 50.9**	**+2.5**
ANIL	**Santa Ana**	**5.72**	**225**	*eP*	**Pn**	**02 24 55.0**	**+1.5**
ORTC	**Ortega, Tolima**	**6.05**	**220**	*eP*	**Pn**	**02 24 58.2**	**+0.5**
PLMC	**San Jos del P**	**6.12**	**234**	*eP*	**Pn**	**02 25 01.2**	**+2.5**
GUVC	**San Jose del G**	**6.12**	**192**	*eP*	**Pn**	**02 24 58.7**	**0.0**
PRGV	**PARIAGUAN**	**6.62**	**88**	*eP*	**Pn**	**02 25 05.6**	**+0.1**
PRGV				*eS*	**Sn**	**02 26 17.2**	**-4.3**
YOTC	**Yotoco, Valle**	**6.75**	**228**	*eP*	**Pn**	**02 25 08.7**	**+1.2**
PCRV	**Puerto La Cruz**	**6.80**	**76**	*eP*	**Pn**	**02 25 08.6**	**+0.5**
PCRV				*eS*	**Sn**	**02 26 23.2**	**-2.9**
MACC	**Macarena, Meta**	**6.85**	**202**	*eP*	**Pn**	**02 25 07.7**	**-1.1**
MARP	**Paez Belalcaza**	**7.31**	**219**	*eP*	**Pn**	**02 25 14.6**	**-0.7**
GARC	**Garzon, Huila**	**7.57**	**213**	*eP*	**Pn**	**02 25 19.0**	**+0.1**
PCON	**Cinco Dias**	**7.99**	**219**	*eP*	**Pn**	**02 25 26.2**	**+1.4**
POPC	**Popayan, Colom**	**8.01**	**222**	*eP*	**Pn**	**02 25 26.2**	**+1.4**
SOPA	**Rioblanco**	**8.27**	**223**	*eP*	**Pn**	**02 25 29.4**	**+0.8**
BCIP	**Isla Barro Col**	**8.42**	**175**	Pn	**Pn**	**02 25 30.6**	**+0.3**
TULM	**Tulcn-Chalpat**	**10.11**	**220**	Pn	**Pn**	**02 25 53.5**	**-0.3**
DR12	**Loma Pena Alta**	**10.33**	**10**		**Pn**	**02 25 56.7**	**+0.1**
SDDR	**Presa de Saban**	**10.35**	**0**		**Pn**	**02 25 58.0**	**+1.2**
PDPR	**Patillas Dam,**	**10.72**	**28**		**Pn**	**02 26 02.2**	**+0.5**
SJG	**San Juan**	**10.74**	**27**	Pn	**Pn**	**02 26 01.5**	**-0.6**
	2.1nm,0.3s,baz=216,slow=16,SNR=5.6						
GCPR	**Guaynabo City**	**10.94**	**27**		**Pn**	**02 26 04.4**	**-0.4**
CDVI	**St. Croix**	**11.14**	**34**	Pn	**Pn**	**02 26 08.2**	**+0.7**
BOAV	**Boa Vista**	**12.38**	**119**	*eP*	**Pn**	**02 26 24.6**	**0.0**
JTS	**Las Juntas de**	**13.54**	**278**	LR	LR	02 33 48.1	
	comp=Z,17nm,20.9s,baz=192,slow=46						
MCRA	**Macar, Loja**	**15.46**	**214**	P	**Pn**	**02 27 07.7**	**+1.1**
CZSB	**Cruzeiro do Su**	**16.25**	**185**	*eP*	**Pn**	**02 27 15.5**	**-1.2**
MTO3	**Montecristo**	**18.59**	**290**	P	**Pn**	**02 27 47.0**	**+0.9**
MDP	**Montagnes des**	**18.87**	**99**	P	**Pn**	**02 27 50.8**	**+1.3**
	0.5nm,0.3s,baz=260,slow=12,SNR=2.1						
MDP				LR	LR	02 36 26.8	
	comp=Z,45nm,21.0s,baz=248,slow=41						
ETMB	**Extrema**	**18.96**	**164**	*eP*	**Pn**	**02 27 51.1**	**+0.7**
MALB	**Monte Alegre**	**19.92**	**121**	*eP*	**P**	**02 28 01.5**	**+1.1**
ITTB	**Itaituba**	**20.18**	**129**	*eP*	Pn	02 28 05.6	+0.6
NNA	**Nana**	**21.14**	**195**	LR	LR	02 36 56.6	
	comp=Z,70nm,18.6s,baz=349,slow=38						
MCPB	**Macapa, AP**	**21.16**	**114**	*eP*	**P**	**02 28 15.5**	**+1.7**
NPGB	**Novo Progresso**	**22.23**	**134**	*eP*	**P**	**02 28 27.5**	**+2.2**
VILB	**Vilhena**	**24.07**	**153**	*eP*	**P**	**02 28 45.3**	**+1.1**
CMIG	**Matias Romero**	**24.45**	**293**	LR	LR	02 39 38.7	
	comp=Z,37nm,18.7s,baz=118,slow=40						
CLDB	**Colider**	**24.74**	**141**	*eP*	**P**	**02 28 51.1**	**+0.9**
PDRB	**Porto dos Gac**	**24.76**	**144**	*eP*	**P**	**02 28 51.2**	**+0.9**
LPAZ	**La Paz**	**24.90**	**173**	P	**P**	**02 28 53.8**	**+1.5**
	2.8nm,0.6s,baz=1.4,slow=8.9,SNR=16						
LPAZ	**La Paz**	**24.90**	**173**	P	**P**	**02 28 51.6**	**-0.7**
LPAZ	**La Paz**	**24.90**	**173**	*eP*	**P**	**02 28 53.6**	**+1.3**
TMAB	**Tom-Au,PA,Br**	**25.59**	**114**	*eP*	**P**	**02 28 59.4**	**+1.5**
PRPB	**Parauapebas**	**25.98**	**124**	*eP*	**P**	**02 29 02.8**	**+1.3**
352A	**Blakely**	**26.07**	**333**	P	**P**	**02 28 58.8**	**-3.4**
352A				IAmb	IAmb	02 29 08.7	
	comp=Z,11nm,0.8s						
SIV	**San Ignacio**	**26.43**	**157**	P	**P**	**02 29 06.5**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=312,slow=9.9,SNR=6.3						
PTLB	**Pontes e Lacer**	**26.75**	**153**	*eP*	**P**	**02 29 10.9**	**+2.6**
HODGE	**Hodges**	**27.45**	**340**	P	**P**	**02 29 15.0**	**+0.5**
HODGE				IAmb	IAmb	02 29 16.5	
	comp=Z,5.4nm,0.9s						
SNDB	**Serra Nova Dou**	**28.52**	**135**	*eP*	**P**	**02 29 25.4**	**+1.1**
SALV	**Santo Antonio**	**28.83**	**147**	*eP*	**P**	**02 29 29.2**	**+2.2**
TKL	**Tuckaleechee C**	**29.26**	**339**	LR	LR	02 43 09.3	
	comp=Z,50nm,18.5s,baz=166,slow=40						
SMTB	**Santa Maria do**	**29.32**	**126**	*eP*	**P**	**02 29 32.8**	**+1.3**
PEXB	**Peixe**	**30.76**	**132**	*eP*	**P**	**02 29 44.2**	**0.0**
LVC	**Limon Verde**	**31.08**	**176**	LR	LR	02 44 04.3	
	comp=Z,98nm,18.9s,baz=354,slow=40						
LVC	**Limon Verde**	**31.08**	**176**	*eP*	**P**	**02 29 49.4**	**+2.1**
NBPS	**Pedro II - PI**	**32.47**	**112**	*eP*	**P**	**02 30 00.0**	**+0.7**
AQDB	**Aquidauana**	**32.70**	**152**	*eP*	**P**	**02 30 01.9**	**+0.7**
BDFB	**Brasilia**	**33.35**	**136**	P	**P**	**02 30 07.8**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=328,slow=9.5,SNR=1.8						
SDBA	**SAO DESIDERIO**	**33.53**	**128**	*eP*	**P**	**02 30 09.3**	**+0.7**
U40A	**Yellville**	**33.90**	**328**	P	**P**	**02 30 11.7**	**+0.2**
U40A				IAmb	IAmb	02 30 14.7	
	comp=Z,5.0nm,0.7s						
IPMB	**Ipameri, GO**	**34.89**	**139**	*eP*	**P**	**02 30 21.6**	**+1.2**
NBPN	**Ponto Novo - B**	**36.49**	**121**	*eP*	**P**	**02 30 35.8**	**+1.6**
TXAR	**Lajitas Array**	**36.70**	**309**	P	**P**	**02 30 35.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=127,slow=8.5,SNR=9.8						
TXAR				PcP	**PcP**	**02 32 59.5**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=144,slow=5.5,SNR=5.8						
TXAR	**Lajitas Array**	**36.70**	**309**	P	**P**	**02 30 35.3**	**-0.6**
BB19B	**Bebedouro**	**37.01**	**143**	*eP*	**P**	**02 30 39.8**	**+1.4**
CPUP	**Villa Florida**	**37.26**	**159**	LR	LR	02 46 59.3	
	comp=Z,94nm,19.1s,baz=26,slow=38						
DIAM	**Diamantina, MG**	**38.19**	**134**	*eP*	**P**	**02 30 48.3**	**-0.3**
MSTX	**Muleshoe**	**38.41**	**316**	P	**P**	**02 30 50.0**	**-0.3**
MSTX				IAmb	IAmb	02 30 51.0	
	comp=Z,7.9nm,1.1s						
MNTX	**Cornudas Mount**	**39.12**	**311**	P	**P**	**02 30 55.6**	**-0.5**
CMC01	**Camacan, BA**	**39.48**	**127**	*eP*	**P**	**02 31 00.3**	**+1.0**
LPIG	**La Paz**	**40.30**	**297**	P	**P**	**02 31 05.2**	**-0.9**
	comp=Z,29nm,0.4s,baz=66,slow=4.3,SNR=1.9						
LPIG				LR	LR	02 51 12.7	
	comp=Z,79nm,18.2s,baz=300,slow=41						
SDCO	**Great Sand Dun**	**42.36**	**319**	P	**P**	**02 31 21.9**	**-1.3**
SDCO				IAmb	IAmb	02 31 27.0	
	comp=Z,12nm,1.4s						
S22A	**4UR Ranch, Cre**	**43.24**	**318**	P	**P**	**02 31 27.8**	**-2.6**
ISCO	**Idaho Springs**	**43.62**	**321**	P	**P**	**02 31 32.5**	**-0.9**
PV15	**Paradox Valley**	**44.66**	**318**	P	**P**	**02 31 41.2**	**-0.5**
WUAZ	**Wupatki**	**45.31**	**312**	P	**P**	**02 31 46.0**	**-0.9**
WUAZ				IAmb	IAmb	02 31 49.1	
	comp=Z,5.1nm,0.9s						
SCHQ	**Schefferville**	**46.28**	**4**	P	**P**	**02 31 54.3**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=213,slow=5.7,SNR=5.2						
ULM	**Lac du Bonnet**	**46.29**	**338**	P	**P**	**02 31 53.0**	**-1.1**
	comp=Z,3.8nm,0.6s,baz=159,slow=8.5,SNR=4.1						
ULM				LR	LR	02 52 43.8	
	comp=Z,43nm,18.8s,baz=310,slow=38						
ULM	**Lac du Bonnet**	**46.29**	**338**	P	**P**	**02 31 53.2**	**-0.9**
ULM				IAmb	IAmb	02 31 56.2	
	comp=Z,6.7nm,1.1s						
LCMT	**Little Creek M**	**47.32**	**313**	P	**P**	**02 32 03.2**	**+0.6**
LCMT				IAmb	IAmb	02 32 04.6	
	comp=Z,2.4nm,0.9s						
BW06	**Boulder Array**	**47.76**	**322**	P	**P**	**02 32 05.2**	**-0.8**
PD31	**Pinedale Array**	**47.76**	**322**	P	**P**	**02 32 05.1**	**-1.0**
PDAR	**Pinedale Array**	**47.76**	**322**	P	**P**	**02 32 06.2**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=125,slow=9.8,SNR=25						
PDAR	**Pinedale Array**	**47.76**	**322**	P	**P**	**02 32 05.7**	**-0.4**
AHID	**Auburn Hatcher**	**48.70**	**321**	P	**P**	**02 32 13.3**	**0.0**
AHID				IAmb	IAmb	02 32 15.8	
	comp=Z,5.2nm,1.0s						
LOHW	**Long Hollow**	**48.86**	**322**	P	**P**	**02 32 15.0**	**+0.4**
REDW	**Red Top Meadow**	**48.88**	**322**	P	**P**	**02 32 14.9**	**+0.2**
REDW				IAmb	IAmb	02 32 18.1	
	comp=Z,6.4nm,1.0s						
BGU	**Big Grassy Mou**	**48.99**	**318**	P	**P**	**02 32 15.3**	**-0.2**
BGU				IAmb	IAmb	02 32 16.7	
	comp=Z,4.0nm,0.7s						
TPAW	**Teton Pass**	**49.01**	**322**	P	**P**	**02 32 15.8**	**0.0**
TPAW				IAmb	IAmb	02 32 17.9	
	comp=Z,2.6nm,0.8s						
MOOW	**Moose Ponds**	**49.02**	**322**	P	**P**	**02 32 15.5**	**-0.3**
MOOW				IAmb	IAmb	02 32 17.1	
	comp=Z,2.8nm,0.9s						
PLCA	**Paso Flores**	**49.06**	**179**	P	**P**	**02 32 15.3**	**-0.5**
	comp=Z,4.2nm,0.7s,baz=347,slow=10,SNR=10						
PLCA	**Paso Flores**	**49.06**	**179**	P	**P**	**02 32 14.5**	**-1.3**
PLCA	**Paso Flores**	**49.06**	**179**	*eP*	**P**	**02 32 15.5**	**-0.3**
LL04	**Puerto Octay**	**49.24**	**181**	P	**P**	**02 32 15.6**	**-1.5**
GCMT	**Greycliff**	**49.57**	**325**	P	**P**	**02 32 19.8**	**0.0**
YMR	**Madison River**	**49.67**	**323**	P	**P**	**02 32 21.0**	**+0.3**
YMR				IAmb	IAmb	02 32 24.2	
	comp=Z,4.0nm,0.9s						
YHL	**Hebgen Lake**	**49.90**	**323**	P	**P**	**02 32 22.5**	**0.0**
BOZ	**Bozeman (W)**	**50.58**	**324**	P	**P**	**02 32 27.5**	**0.0**
BOZ				IAmb	IAmb	02 32 29.1	
	comp=Z,5.0nm,1.4s						
MCMT	**McKenzie Canyo**	**50.88**	**323**	P	**P**	**02 32 29.4**	**-0.5**
LRM	**Limekiln Ridge**	**51.18**	**324**	P	**P**	**02 32 30.2**	**-1.9**
HLID	**Hailey**	**51.19**	**320**	P	**P**	**02 32 32.2**	**0.0**
MFID	**Camas Ranch**	**52.02**	**320**	P	**P**	**02 32 38.2**	**-0.1**
MFID				IAmb	IAmb	02 32 41.3	
	comp=Z,3.7nm,0.8s						
PLID	**Pearl Lake**	**52.93**	**321**	P	**P**	**02 32 44.4**	**-0.8**
PLID				IAmb	IAmb	02 32 46.9	
	comp=Z,4.1nm,0.8s						
JTMT	**Jette**	**53.29**	**325**	P	**P**	**02 32 47.4**	**-0.3**
F10A	**Beach Ranch, E**	**54.12**	**322**	P	**P**	**02 32 52.8**	**-0.9**
F10A				IAmb	IAmb	02 32 58.0	
	comp=Z,4.4nm,0.8s						
NEW	**Newport**	**55.19**	**324**	P	**P**	**02 33 01.3**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=106,slow=4.6,SNR=3.3						
B08A	**Colville Reser**	**56.52**	**324**	P	**P**	**02 33 10.6**	**-0.4**
B08A				IAmb	IAmb	02 33 12.6	
	comp=Z,4.2nm,0.8s						
YKA	**Yellowknife Ar**	**62.26**	**339**	P	**P**	**02 33 49.9**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=125,slow=7.1,SNR=46						
YKA	**Yellowknife Ar**	**62.26**	**339**	P	**P**	**02 33 49.1**	**-1.2**
ESDC	**Sonseca Array**	**67.18**	**51**	P	**P**	**02 34 23.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=270,slow=6.6,SNR=13						
M30M	**Minto, Yukon**	**71.25**	**334**	P	**P**	**02 34 47.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**71.66**	**79**	P	**P**	**02 34 50.2**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=289,slow=6.6,SNR=18						
TORD	**Torodi Ar. Bea**	**71.66**	**79**	P	**P**	**02 34 49.5**	**-1.5**
TORD				IAmb	IAmb	02 34 50.8	
	comp=Z,1.9nm,0.8s						
INK	**Inuvik**	**72.00**	**340**	P	**P**	**02 34 51.9**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=54,slow=4.2						
ILAR	**Eielson Array**	**76.14**	**335**	P	**P**	**02 35 16.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=101,slow=4.1,SNR=16						
ILAR				LR	LR	03 09 45.2	
	comp=Z,50nm,19.9s,baz=183,slow=36						
DAVA	**Damuels**	**77.80**	**43**	*eP*	**P**	**02 35 26.6**	**+0.3**
	comp=Z,2.3nm,0.6s						
FETA	**Feichten**	**78.38**	**44**	*eP*	**P**	**02 35 29.9**	**+0.3**
	comp=Z,2.6nm,0.6s						
MOTA	**Moosalm**	**78.64**	**43**	*eP*	**P**	**02 35 30.7**	**-0.3**
SQTA	**Sankt Quirin**	**78.71**	**44**	*eP*	**P**	**02 35 31.3**	**0.0**
	comp=Z,1.8nm,0.6s						
NOA	**NORSAR Array B**	**78.95**	**29**	P	**P**	**02 35 32.5**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=266,slow=5.4,SNR=3.3						
WTTA	**Wattenberg**	**79.00**	**44**	*eP*	**P**	**02 35 32.8**	**-0.2**
	comp=Z,1.9nm,0.5s						
GERES	**GERESS Array B**	**80.35**	**42**	P	**P**	**02 35 39.8**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=316,slow=9.3,SNR=5.7						
ARCES	**ARCESS Array B**	**84.42**	**21**	P	**P**	**02 36 02.0**	**+1.1**
	comp=Z,3.1nm,1.0s,baz=289,slow=5.6,SNR=4.4						
ARCES	**ARCESS Array B**	**84.42**	**21**	P	**P**	**02 36 01.7**	**+0.8**
FINES	**FINESS Array B**	**86.07**	**29**	P	**P**	**02 36 08.9**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=211,slow=3.3,SNR=3.8						
CMAR	**Chiang Mai Arr**	**151.48**	**20**	PKPbc	**PKPbc**	**02 43 23.4**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=343,slow=5.2,SNR=1.3						
ASAR	**Alice Springs**	**151.56**	**235**	PKPbc	**PKPbc**	**02 43 22.4**	**-1.5**
	comp=Z,2.3nm,0.7s,baz=120,slow=2.4,SNR=20						
ASAR	**Alice Springs**	**151.56**	**235**		**PKPbc**	**02 43 22.6**	**-1.3**
WRA	**Warramunga Arr**	**152.72**	**243**	PKPbc	**PKPbc**	**02 43 25.3**	**-1.3**
	comp=Z,2.6nm,0.6s,baz=271,slow=0.6,SNR=33						

FUNV ***26*** *02:29:34.8,8°.51N×71°.30W,h5km,MW3.6*
ISC 26 02:29:33.9±0.9,**8°47N**±0°04×**71°30W**±0°04,**h8**km,**n14**,
σ0°90/20,**1C**,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.47**	**112**	*eP*	**Pb**	**02 29 44.1**	**-0.5**
SOCV	**Socops**	**0.47**	**112**	*eP*	**Pg**	**02 29 43.2**	**0.0**
SOCV				⇑*eS*	**Sb**	**02 29 52.1**	**+0.3**
SDV	**Santo Domingo**	**0.78**	**58**	*eP*	**Pg**	**02 29 48.1**	**-0.9**
PAMC	**Pamplona, Colo**	**1.78**	**231**	*eP*	**Pn**	**02 30 05.0**	**-0.5**
OCAC	**Ocana**	**2.01**	**264**	*eP*	**Pn**	**02 30 07.3**	**-1.1**
CURV	**Curarigua**	**2.03**	**41**	*eS*	**Sn**	**02 30 34.3**	**+0.2**
TAMC	**Tame, Arauca**	**2.08**	**194**	*eP*	**Pb**	**02 30 13.0**	**+1.1**
TAMC				*eS*	**Sb**	**02 30 39.4**	**+1.5**
LL6C	**La Loma 6 Bece**	**2.32**	**303**	*eP*	**Pb**	**02 30 16.9**	**+0.9**
DABV	**Dabajuro**	**2.53**	**15**	*eP*	**Pn**	**02 30 15.8**	**+0.5**
DABV	**Dabajuro**	**2.53**	**15**	*eP*	**Pn**	**02 30 15.1**	**-0.2**
DABV				*eS*	**Sn**	**02 30 45.0**	**-1.3**
SIQV	**Siquisique**	**2.62**	**34**	*eP*	**Pn**	**02 30 17.4**	**+0.8**
SIQV				*eS*	**Sn**	**02 30 47.4**	**-1.3**
BARC	**Barichara**	**2.64**	**225**	*eP*	**Pb**	**02 30 21.4**	**-0.2**
CRJC	**Cerrejon, Guaj**	**2.98**	**329**	*eP*	**Pb**	**02 30 28.7**	**+1.4**
CRJC				*eP*	**Pg**	**02 30 30.4**	**-0.6**
BAUV	**El Baul**	**3.25**	**81**	*eP*	**Pn**	**02 30 25.7**	**+0.4**
BAUV				*eS*	**Sn**	**02 31 03.9**	**-0.4**

IDC ***26*** *02:30:57.1±1.0,35°.70N×140°.97E,h0km,mb3.7/7,*
mb1 3.8/8,mb1mx3.5/47,mbtmp3.6/8,ML2.5/1,MS2.2/1,
Ms1 2.2/1,ms1mx2.0/92,Error ellipse: s-maj=29.0km
s-min=21.5km az=75.0
JMA ***26*** *02:31:03.6±0.1,35°.73N×140°.71E,h50km±1km,M3.2*
JMA Felt I J1.
ISC 26 02:31:04.0±0.9,**35°73N**±0°05×**140°80E**±0°07,**h47**km±6km,
n25,σ1°45/24,**mb3.6**/7,**1C-5D**,**Near east coast of**
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.05**	**115**	⇑P	**Pn**	**02 31 11.3**	**0.0**
CHOJ				S	**Sn**	**02 31 17.0**	**+0.5**
JSMT	**Sammumatsuo**	**0.30**	**254**	⇓P	**Pn**	**02 31 12.5**	**-0.3**
JSMT				eS	**Sn**	**02 31 19.3**	**+0.3**
JIHU	**Itakohorinouch**	**0.33**	**317**	⇓P	**Pn**	**02 31 13.1**	**0.0**
JIHU				eS	**Sn**	**02 31 20.1**	**+0.5**
JCN	**Nagara**	**0.57**	**238**	⇓P	**Pn**	**02 31 15.8**	**-0.2**
JCN				S	**Sn**	**02 31 23.9**	**-0.7**
JYT	**Yasato**	**0.70**	**316**	⇓P	**Pn**	**02 31 16.5**	**-1.1**
BSO4	**Boso 4**	**0.82**	**207**	P	**Pn**	**02 31 19.0**	**-0.2**
JHO	**Hitachi**	**0.90**	**348**	P	**Pn**	**02 31 20.2**	**-0.2**
BSO3	**Boso 3**	**0.95**	**194**	P	**Pn**	**02 31 20.6**	**-0.2**
BSO1	**Boso 1**	**1.08**	**172**	P	**Pn**	**02 31 23.1**	**+0.9**
JAG	**Ashikaga**	**1.29**	**303**	P	**Pn**	**02 31 24.7**	**-1.0

PB10	**IPOC Station P**	**3.10**	**210**	Pn		**Pn**	02 42 43.8	**-0.2**
PB10	**IPOC Station P**	**3.10**	**210**	*e*P		**Pn**	02 42 44.1	**+0.1**
PB14	**IPOC Station P**	**4.04**	**201**	Pn		**Pn**	02 42 57.2	**+0.5**
GO02	**Mina Guanaco**	**4.36**	**189**	Pn		**Pn**	02 43 00.7	**-0.4**
LPAZ	**La Paz**	**4.57**	**9**	P		**Pn**	02 43 06.4	**+2.2**
	comp=N,4.8nm,0.3s,baz=198,slow=5.9,SNR=74							
LPAZ				LR		LR	02 45 37.4	
	comp=N,107nm,20.3s,baz=198,slow=48							
LPAZ	**La Paz**	**4.57**	**9**	Pn		**Pn**	02 43 03.7	**-0.5**
AC01	**Pan de Azucar**	**5.53**	**197**			**Pn**	02 43 14.8	**-1.7**
AC02	**Maricunga**	**5.98**	**182**	Pn		**Pn**	02 43 22.5	**-0.6**
AC06	**Mina Casimiro**	**6.64**	**192**	Pn		**Pn**	02 43 30.5	**-1.1**
GO03	**Copiap**	**6.85**	**190**			**Pn**	02 43 34.9	**+0.5**
SIV	**San Ignacio**	**8.81**	**58**	P		**Pn**	02 43 58.5	**-2.5**
	comp=N,6.2nm,0.3s,baz=255,slow=9.1,SNR=152							
SIV				LR		LR	02 47 44.4	
	comp=N,117nm,19.3s,baz=268,slow=40							
CO01	**Juntas del Tor**	**9.18**	**187**	Pn		**Pn**	02 44 03.1	**-3.1**
GO04	**Tololo Observa**	**9.47**	**190**	Pn		**Pn**	02 44 06.4	**-3.7**
ETMB	**Extrema**	**11.24**	**13**	*e*P		**Pn**	02 44 34.0	**+0.1**
VILB	**Vilhena**	**11.39**	**48**	*e*P		**Pn**	02 44 34.4	**-1.5**
CPUP	**Villa Florida**	**11.89**	**120**	P		**Pn**	02 44 39.8	**-2.6**
	comp=N,0.1nm,0.3s,baz=74,slow=20,SNR=2.8							
CPUP	**Villa Florida**	**11.89**	**120**			**Pn**	02 44 39.5	**-2.9**
CPUP	**Villa Florida**	**11.89**	**120**	*e*P		**Pn**	02 44 42.9	**+0.4**
ROC1	**El Roble**	**12.25**	**189**	Pn		**Pn**	02 44 47.0	**-0.4**
AQDB	**Aquidauana**	**12.31**	**91**			**Pn**	02 44 45.8	**-2.2**
AQDB	**Aquidauana**	**12.31**	**91**	*e*P		**Pn**	02 44 48.0	**0.0**
MT02	**Curacav**	**12.54**	**189**	Pn		**Pn**	02 44 49.8	**-1.3**
MT01	**Popeta**	**13.15**	**189**	Pn		**Pn**	02 44 58.0	**-1.0**
SALV	**Santo Antonio**	**13.41**	**71**	*e*P		**Pn**	02 45 02.7	**+0.3**
BO01	**Tunca**	**13.65**	**188**			**Pn**	02 45 04.8	**-0.6**
PDRB	**Porto dos Gac**	**14.80**	**54**	*e*P		**Pn**	02 45 20.3	**0.0**
ML02	**Panimavida**	**15.05**	**188**	Pn		**Pn**	02 45 22.3	**-0.9**
ML02				IAmb		IAmb	02 45 28.5	
	comp=Z,33nm,1.0s							
TRCB	**Terra Rica**	**15.18**	**100**	P		**P**	02 45 25.9	**-1.5**
TRCB	**Terra Rica**	**15.18**	**100**	*e*P		**P**	02 45 26.6	**-0.9**
PTGB	**Pitanga**	**15.98**	**107**	*e*P		**P**	02 45 36.4	**+0.4**
CLDB	**Colider**	**15.97**	**54**	*e*P		**P**	02 45 35.5	**-0.8**
DVLD	**Doverlandia**	**16.34**	**78**	*e*P		**P**	02 45 42.4	**+2.1**
PCMB	**Pacaembu**	**16.41**	**96**	*e*P		**P**	02 45 41.8	**+0.7**
ITAB	**Concordia**	**16.53**	**116**			**P**	02 45 41.9	**-0.5**
ITAB				IAmb		IAmb	02 46 02.9	
	comp=Z,16nm,1.0s							
ITAB	**Concordia**	**16.53**	**116**	*e*P		**P**	02 45 42.0	**-0.5**
CPSB	**Cacapava Do Su**	**16.83**	**128**	*e*P		**P**	02 45 45.5	**-0.1**
FRTB	**Fartura**	**18.04**	**102**	*e*P		**Pn**	02 45 58.7	**-1.4**
TRQA	**Tornquist**	**18.16**	**162**	P		**P**	02 45 59.4	**-0.9**
TRQA				IAmb		IAmb	02 46 03.1	
	comp=Z,48nm,1.4s							
TRQA	**Tornquist**	**18.16**	**162**	*e*P		**Pn**	02 46 01.3	**-0.1**
LC01	**Cunco**	**18.19**	**188**	P		**P**	02 46 00.9	**+0.4**
TIJ01	**Guaruva-PR**	**18.79**	**108**	*e*P		**Pn**	02 46 08.0	**-1.1**
NPGB	**Novo Progresso**	**18.93**	**46**	*e*P		**P**	02 46 07.3	**-1.5**
BB19B	**Bebedouro**	**18.98**	**94**	*e*P		**P**	02 46 09.0	**-0.3**
SNDB	**Serra Nova Dou**	**18.98**	**65**	*e*P		**P**	02 46 08.8	**-0.6**
MACA	**Manacapuru-AM**	**19.28**	**25**	*e*P		**P**	02 46 11.3	**-1.3**
TER01	**Tubaro-SC**	**19.47**	**117**	*e*P		**P**	02 46 12.9	**-1.6**
MCRA	**Macar, Loja**	**19.61**	**325**	P		**P**	02 46 13.7	**-2.6**
IPMB	**Ipameri, GO**	**19.66**	**85**	*e*P		**P**	02 46 16.1	**-0.8**
RCLB	**Rio Claro- Sao**	**19.87**	**98**	*e*P		**P**	02 46 19.0	**-0.1**
PLCA	**Paso Flores**	**19.89**	**184**	P		**Pn**	02 46 20.7	**-1.0**
	comp=Z,0.4nm,0.3s,baz=5.4,slow=11,SNR=17							
PLCA	**Paso Flores**	**19.89**	**184**	P		**P**	02 46 18.6	**-0.5**
PLCA				IAmb		IAmb	02 46 25.2	
	comp=Z,14nm,0.8s							
PLCA	**Paso Flores**	**19.89**	**184**	*e*P		**P**	02 46 20.3	**+1.2**
BOSC	**San Juan Bosco**	**19.93**	**331**	P		**P**	02 46 18.2	**-1.7**
BOSC				IAmb		IAmb	02 46 30.1	
	comp=Z,13nm,0.5s							
PET01	**Itanhaem-SP**	**20.21**	**104**	*e*P		**P**	02 46 22.0	**-0.6**
LL04	**Puerto Octay**	**20.24**	**188**	P		**P**	02 46 22.2	**-0.6**
LL04				IAmb		IAmb	02 46 24.9	
	comp=Z,26nm,0.9s							
VAO	**Valinhos**	**20.41**	**100**	*e*P		**P**	02 46 23.6	**-1.3**
BDFB	**Brasilia**	**20.44**	**79**	P		**P**	02 46 24.3	**-0.9**
	comp=Z,5.9nm,0.6s,baz=262,slow=13,SNR=7.3							
BDFB				LR		LR	02 55 23.9	
	comp=Z,116nm,21.5s,baz=327,slow=40							
BDFB	**Brasilia**	**20.44**	**79**	P		**P**	02 46 23.8	**-1.5**
ITTB	**Itaituba**	**20.74**	**40**	*e*P		**P**	02 46 26.9	**-1.5**
COHC	**Cochancay**	**20.89**	**330**	P		**P**	02 46 27.4	**-2.6**
PEXB	**Peixe**	**21.50**	**69**	*e*P		**P**	02 46 34.7	**-1.9**
PARB	**Paraibuna**	**21.66**	**101**	*e*P		**P**	02 46 36.5	**-1.7**
LL02	**Futaleuf**	**22.43**	**186**	P		**P**	02 46 45.9	**-0.1**
MAN01	**Angra dos Reis**	**23.17**	**100**	*e*P		**P**	02 46 53.1	**-0.4**
MALB	**Monte Alegre**	**23.62**	**39**	*e*P		**P**	02 46 56.4	**-1.2**
SMTB	**Santa Maria do**	**23.70**	**63**	*e*P		**P**	02 46 58.3	**-0.1**
AY01	**Puyuhuapi**	**23.73**	**187**	P		**P**	02 46 58.8	**+0.5**
AY01				IAmb		IAmb	02 47 00.3	
	comp=Z,10nm,0.8s							
DIAM	**Diamantina, MG**	**23.84**	**88**	*e*P		**P**	02 46 58.6	**-1.1**
MC01	**Montes Claros**	**23.92**	**84**	*e*P		**P**	02 46 58.9	**-1.5**
JANB	**Januaria**	**24.02**	**80**	*e*P		**P**	02 46 59.9	**-1.3**
SDBA	**SAO DESIDERIO**	**24.39**	**74**	*e*P		**P**	02 47 03.0	**-1.7**
BOAV	**Boa Vista**	**24.48**	**20**	*e*P		**P**	02 47 06.0	**+0.6**
DUB01	**Friburgo-RJ**	**24.66**	**98**	*e*P		**P**	02 47 07.4	**+0.5**
COYC	**Coyhaique**	**24.82**	**185**	P		**P**	02 47 09.5	**+1.4**
COYC				IAmb		IAmb	02 47 34.0	
	comp=Z,24nm,1.4s							
SJMB	**Sao Joao De Ma**	**26.10**	**90**	*e*P		**P**	02 47 20.4	**+0.4**
MCPB	**Macapa, AP**	**26.14**	**41**	*e*P		**P**	02 47 20.5	**+0.1**
NAN01	**Guarapari, ES**	**27.24**	**89**	*e*P		**P**	02 47 29.5	**-0.8**
GUA01	**Guaratinga, BA**	**27.80**	**86**	*e*P		**P**	02 47 34.6	**-0.7**
GDU01	**Guandu, BA**	**28.79**	**81**	*e*P		**P**	02 47 43.0	**-1.1**
NBPN	**Ponto Novo - B**	**29.24**	**75**	*e*P		**P**	02 47 47.6	**-0.6**
BAUV	**El Baul**	**29.60**	**2**	P		**P**	02 47 50.4	**-0.8**
BAUV				IAmb		IAmb	02 48 18.0	
	comp=Z,12nm,1.0s							
NBPS	**Pedro II - PI**	**31.24**	**62**	*e*P		**P**	02 48 05.5	**-0.3**
NBLA	**Lagarto - SE**	**31.37**	**77**	*e*P		**P**	02 48 05.2	**-1.7**
NBMA	**Muriti-CE**	**32.02**	**70**	*e*P		**P**	02 48 12.1	**-0.5**
NBPB	**Pedra_Branca-C**	**32.19**	**66**	*e*P		**P**	02 48 13.9	**-0.2**
NBMO	**Morrinhos-CE**	**33.00**	**62**	*e*P		**P**	02 48 20.9	**-0.3**
NBAN	**Anadia - AL**	**33.25**	**75**	*e*P		**P**	02 48 22.4	**-1.0**
NBCL	**Cascavel-CE**	**33.98**	**65**	*e*P		**P**	02 48 28.7	**-0.9**
NBRF	**Rio Formoso -**	**34.68**	**75**	*e*P		**P**	02 48 34.6	**-1.1**
RCBR	**Riachuelo**	**35.24**	**70**	P		**P**	02 48 40.8	**+0.2**
RCBR	**Riachuelo**	**35.24**	**70**	*e*P		**P**	02 48 40.5	**-0.1**
NBPV	**Pedro Velho**	**35.51**	**71**	*e*P		**P**	02 48 42.7	**-0.1**
MLPR	**Magueyes Islan**	**38.60**	**3**	P		**P**	02 49 08.2	**-0.5**
MLPR						**PcP**	02 51 17.9	**-1.2**
PDPR	**Patillas Dam,**	**38.71**	**4**	P		**P**	02 49 08.1	**-1.6**
SJG	**San Juan**	**38.79**	**4**	P		**P**	02 49 09.9	**-0.5**
	comp=Z,9.6nm,0.6s,baz=285,slow=6.7,SNR=6.8							
SJG	**San Juan**	**38.79**	**4**	P		**P**	02 49 09.3	**-1.1**
TXAR	**Lajitas Array**	**60.12**	**325**	P		**P**	02 51 54.2	**+1.8**
	comp=Z,0.1nm,0.5s,baz=159,slow=8.7,SNR=4.2							
TXAR				pP		**pP**	02 52 21.7	**+1.3**
	comp=Z,0.4nm,0.9s,baz=151,slow=2.9,SNR=3.0							
S39A	**Bolivar**	**62.61**	**338**	P		**P**	02 52 08.4	**-0.4**
S39A				IAmb		IAmb	02 52 11.1	
	comp=Z,4.3nm,0.7s							
S39A				pP		**pP**	02 52 36.5	**-1.1**
SNAA	**Sanae**	**62.89**	**161**	P		**P**	02 52 12.2	**+1.8**
	comp=Z,4.0nm,0.9s,baz=252,slow=6.5,SNR=11							
SNAA				pP		**pP**	02 52 40.0	**+0.7**
	comp=Z,2.5nm,0.8s,baz=254,slow=6.8,SNR=3.8							
SNAA	**Sanae**	**62.89**	**161**	P		**P**	02 52 12.0	**+1.6**
SNAA				IAmb		IAmb	02 52 12.5	
	comp=Z,4.0nm,0.8s							
SNAA				pP		**pP**	02 52 40.7	**+1.3**
DBIC	**Dimbokro**	**68.48**	**74**	P		**P**	02 52 47.4	**+0.2**
	comp=Z,6.4nm,0.7s,baz=265,slow=8.5,SNR=6.0							
DBIC	**Dimbokro**	**68.48**	**74**	P		**P**	02 52 47.2	**+0.1**
QSPA	**South Pole Qui**	**69.36**	**180**	P		**P**	02 52 54.2	**+2.4**
QSPA				IAmb		IAmb	02 52 54.9	
	comp=Z,3.8nm,0.8s							
PV13	**Radium Mtn., P**	**69.67**	**327**	P		**P**	02 52 53.5	**-0.7**
PV13				IAmb		IAmb	02 53 08.5	
	comp=Z,6.9nm,1.0s							
CCUT	**Cedar City**	**71.61**	**324**	P		**P**	02 53 04.3	**-1.7**
KOWA	**Kowa**	**72.69**	**67**	P		**P**	02 53 12.3	**-0.4**
KOWA				IAmb		IAmb	02 53 13.6	
	comp=Z,6.4nm,0.6s							
TOA0	**Torodi Ar. Sit**	**77.07**	**70**	P		**P**	02 53 37.6	**-0.3**
TOA0				IAmb		IAmb	02 53 38.9	
	comp=Z,7.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P		**P**	02 53 38.0	**+0.1**
	comp=Z,4.6nm,0.5s,baz=253,slow=5.2,SNR=79							
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P		**P**	02 53 37.8	**-0.1**
TORD				IAmb		IAmb	02 53 38.9	
	comp=Z,6.4nm,0.8s							
TSUM	**Tsumeb**	**80.17**	**107**	P		**P**	02 53 56.4	**+1.3**
	comp=Z,2.4nm,0.7s,baz=162,slow=9.6,SNR=1.8							
LBTB	**Lobatse**	**85.24**	**115**	P		**P**	02 54 22.4	**+1.2**
	comp=Z,2.1nm,0.7s,baz=249,slow=7.0,SNR=2.1							
ESDC	**Sonseca Array**	**85.31**	**45**	P		**P**	02 54 21.9	**+0.8**
	comp=Z,1.7nm,1.0s,baz=251,slow=5.0,SNR=7.7							
ESDC	**Sonseca Array**	**85.31**	**45**	P		**P**	02 54 20.6	**-0.5**
MATP	**Matopo**	**89.39**	**112**	P		**P**	02 54 42.6	**+1.3**
	comp=Z,1.6nm,0.8s,baz=8.8,slow=1.6,SNR=4.1							
YKA	**Yellowknife Ar**	**90.58**	**341**	P		**P**	02 54 47.5	**+1.9**
	comp=Z,0.4nm,0.6s,baz=135,slow=4.5,SNR=15							
YKA				pP		**pP**	02 55 16.5	**+0.5**
	comp=Z,3.2nm,1.0s,baz=135,slow=4.9,SNR=14							
MKAR	**Makanchi Array**	**145.06**	**35**	PKP		**PKPdf**	03 01 22.3	**+1.7**
	comp=Z,3.2nm,0.6s,baz=321,slow=3.7,SNR=32							
MKAR				pPKP		**pPKPdf**	03 01 52.7	**0.0**
	comp=Z,0.9nm,0.7s,baz=319,slow=3.5,SNR=3.8							
MKAR	**Makanchi Array**	**145.06**	**35**			**PKPbc**	03 01 20.2	**-0.1**

*IDC **26** 03:05:15.8±1.5, 14.˚46S×166.˚05E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/34, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=57.0km s-min=32.9km az=119.0*
*NOU **26** 03:05:21.9, 14.˚78S×166.˚41E, h5km, MLv4.4/8, Vanuatu Islands*

ISC 26 03:05:17.2±1.4, 14.˚5S±0.˚1×166.˚3E±0.˚2, h10km, n8, σ1s77/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.29**	**136**	P		**Pn**	**03 05 41.4**	**+0.1**
DZM	**Mont Dzumac**	**7.51**	**179**	Pn		**Pn**	**03 07 07.6**	**+0.7**
	1.1nm,0.3s,baz=348,slow=23,SNR=9.3							
DZM				Sn		**Sn**	**03 08 30.6**	**-1.8**
	0.8nm,0.3s,baz=131,slow=19,SNR=2.0							
DZM	**Mont Dzumac**	**7.51**	**179**	P		**Pn**	**03 07 07.6**	**+0.7**
YATNC	**Mamie plateau,**	**7.52**	**176**	P		**Pn**	**03 07 09.4**	**+2.4**
NOUC	**Port Laguerre**	**7.54**	**180**	P		**Pn**	**03 07 09.3**	**+2.1**
ASAR	**Alice Springs**	**31.84**	**248**	P		**P**	**03 11 41.4**	**-1.2**
	0.2nm,0.5s,baz=81,slow=8.6,SNR=4.4							
ILAR	**Eielson Array**	**86.63**	**18**	P		**P**	**03 18 00.9**	**+0.4**
	0.7nm,0.9s,baz=238,slow=5.2,SNR=5.7							
YKA	**Yellowknife Ar**	**97.81**	**27**	P		Pdif	03 18 52.3	-0.2
	0.6nm,1.1s,baz=262,slow=4.9,SNR=3.6							

*JMA **26** 03:15:50.1±0.1, 36.˚72N×141.˚39E, h45km±2km, M3.3*
*IDC **26** 03:15:51.2±2.9, 36.˚25N×141.˚26E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/57, mbtmp3.4/3, ML2.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.1/70, Error ellipse: s-maj=64.0km s-min=29.5km az=42.0*

ISC 26 03:15:48.8±2.0, 36.˚77N±0.˚05×141.˚46E±0.˚07, h6km±10km, n21, σ1s51/26, 2C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.63**	**302**	P		**Pb**	**03 16 02.3**	**0.0**
ONAJ				S		**Sb**	**03 16 11.3**	**-0.1**
JHO	**Hitachi**	**0.73**	**258**	P		**Pg**	**03 16 03.1**	**+0.2**
JHO				S		**Sg**	**03 16 12.9**	**+0.4**
JFK	**Kawauchi**	**0.76**	**322**	⇑P		**Pb**	**03 16 04.5**	**0.0**
JFK				S		**Sb**	**03 16 15.0**	**-0.2**
JFFD	**Fukushimafurud**	**0.79**	**294**	P		**Pg**	**03 16 04.3**	**+0.3**
JFFD				*e*S		**Sg**	**03 16 14.3**	**0.0**
JHYU	**Hitachinakayam**	**0.82**	**239**	⇓P		**Pg**	**03 16 04.6**	**0.0**
JHYU				S		**Sg**	**03 16 14.8**	**-0.5**
JFT	**Otama**	**1.17**	**310**	⇑P		**Pg**	**03 16 11.2**	**-0.1**
JFT				*e*S		**Sg**	**03 16 26.2**	**-0.3**
JMM	**Marumori**	**1.22**	**334**	P		**Pb**	**03 16 11.6**	**-0.7**
JMM				S		**Sb**	**03 16 27.4**	**-0.9**
JAG	**Ashikaga**	**1.65**	**259**	P		**Pn**	**03 16 17.0**	**-1.4**
JAG				*e*S		**Sn**	**03 16 37.0**	**-3.0**
JIO	**Ouri**	**1.69**	**357**	⇓P		**Pn**	**03 16 18.3**	**-0.6**
JIO				*e*S		**Sn**	**03 16 38.4**	**-2.4**
JOU	**Okura**	**1.72**	**339**	P		**Pn**	**03 16 19.1**	**-0.2**
JOU				*e*S		**Sn**	**03 16 41.7**	**+0.1**
JKT	**Katashina**	**1.78**	**271**	P		**Pn**	**03 16 20.0**	**-0.2**
JKT				*e*S		**Sn**	**03 16 41.5**	**-1.7**
MJAR	**Matsushiro Arr**	**2.63**	**266**	Pn		**Pn**	**03 16 31.5**	**-0.3**
	0.5nm,0.3s,baz=91,slow=14,SNR=15							
MJAR				Sn		**Sn**	**03 17 05.2**	**+1.2**
	0.7nm,0.3s,baz=63,slow=26,SNR=6.2							
SHEM	**Shemya Is, Ala**	**27.83**	**45**	LR		LR	03 30 34.8	
	comp=Z,25nm,21.4s,baz=116,slow=31							
SONM	**Songino Array**	**27.97**	**304**	P		**P**	**03 21 45.4**	**+5.2**
	0.3nm,0.4s,baz=99,slow=7.4,SNR=1.9							
H11N2	**WAKE ISLAND Hy**	**27.98**	**120**	T		T	03 50 51.5	
	baz=313,slow=75,SNR=235							
H11N1	**WAKE ISLAND Hy**	**27.99**	**120**	T		T	03 50 52.7	
	baz=313,slow=75,SNR=204							
H11N3	**WAKE ISLAND Hy**	**28.00**	**120**	T		T	03 50 53.9	
	baz=313,slow=75,SNR=192							
H11S1	**WAKE ISLAND Hy**	**28.68**	**123**	T		T	03 51 45.9	
	baz=314,slow=76,SNR=86							
H11S3	**WAKE ISLAND Hy**	**28.68**	**123**	T		T	03 51 45.7	
	baz=314,slow=76,SNR=134							
H11S2	**WAKE ISLAND Hy**	**28.70**	**123**	T		T	03 51 45.9	
	baz=314,slow=76,SNR=104							
WRA	**Warramunga Arr**	**56.80**	**188**	P		**P**	**03 25 33.4**	**-0.6**
	0.3nm,0.6s,baz=5.8,slow=7.3,SNR=5.9							

*IDC **26** 03:18:09.9±1.0, 37.˚14N×20.˚96E, h0km, mb3.7/7, mb1 3.8/15, mb1mx3.6/56, mbtmp3.7/15, ML3.7/7, MS2.0/1, Ms1 2.0/1, ms1mx1.8/100, Error ellipse: s-maj=20.2km s-min=14.2km az=162.0*
*THE **26** 03:18:11.7, 37.˚04N×20.˚91E, h0km±2km, ML3.7/9, Error ellipse: s-maj=3.3km s-min=0.7km az=223.0*
*ATH **26** 03:18:12.0, 37.˚06N×20.˚95E, h14km±1km, ML3.5/10, Error ellipse: s-maj=1.8km s-min=1.0km az=45.0*
*PDG **26** 03:18:13.2±0.6, 37.˚14N×20.˚85E, h32km±1km, ML4.1/13, Error ellipse: s-maj=1.6km s-min=1.6km az=90.0*
*GII **26** 03:18:14.8±0.0, 37.˚00N×21.˚94E, h1km*

ISC 26 03:18:11.9±1.1, 37.˚05N±0.˚03×20.˚91E±0.˚02, h15km±7km, n208, σ1s68/258, mb3.7/8, 40C-31D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.66**	**355**	P		**Pg**	**03 18 24.7**	**-0.1**
PYL	**PYLOS**	**0.69**	**103**	P		**Pg**	**03 18 25.0**	**-0.3**
PYL				S		**Sg**	**03 18 33.8**	**-0.6**
PYL				AML	AML		03 18 37.1	
	comp=E,11140μm,0.4s							
PYL				AML	AML		03 18 39.8	
	comp=N,7146μm,0.3s							
PYL	**PYLOS**	**0.69**	**103**	P		**Pg**	**03 18 25.0**	**-0.3**
PYL				S		**Sb**	**03 18 34.9**	**-0.1**
	comp=N,5μm,0.4s							
ZAK2	**Zakynthos**	**0.73**	**360**	P		**Pg**	**03 18 26.3**	**+0.1**
ZAK2				S		**Sb**	**03 18 38.0**	**+1.7**
	comp=N,15μm,0.5s							
ITM	**Ithomi**	**0.83**	**81**	P		**Pg**	**03 18 27.4**	**-0.5**
ITM	**Ithomi**	**0.83**	**81**	P		**Pg**	**03 18 27.3**	**-0.6**
ITM				S		**Sg**	**03 18 37.9**	**-0.9**
ITM				AML	AML		03 18 40.7	
	comp=E,10769μm,0.5s							
ITM				AML	AML		03 18 43.9	
	comp=N,11778μm,0.3s							
ITM	**Ithomi**	**0.83**	**81**	P		**Pg**	**03 18 26.8**	**-1.1**
ITM				S		**Sb**	**03 18 38.8**	**-0.2**
	comp=N,6μm,0.4s							
ITM	**Ithomi**	**0.83**	**81**	⇑P		**Pg**	**03 18 27.1**	**-0.8**
ITM				S		**Sb**	**03 18 39.8**	**+0.8**
ITM				AML	AML			
	comp=N,1570μm,0.3s							
ITM				AML	AML			
	comp=E,1485μm,0.9s							
PSDA	**Pessada-Kefalo**	**1.09**	**347**	P		**Pg**	**03 18 32.3**	**-0.7**
PSDA	**Pessada-Kefalo**	**1.09**	**347**	P		**Pg**	**03 18 32.2**	**-0.8**
RLS	**Riolos of Patr**	**1.10**	**24**	P		**Pg**	**03 18 32.2**	**-0.9**
RLS				S		**Sg**	**03 18 47.2**	**-0.3**
RLS				AML	AML		03 18 52.9	
	comp=E,5364μm,0.4s							
RLS				AML	AML		03 18 54.2	
	comp=N,3533μm,0.4s							
RLS	**Riolos of Patr**	**1.10**	**24**	P		**Pg**	**03 18 32.1**	**-1.0**
RLS				S		**Sb**	**03 18 48.9**	**+2.1**
	comp=N,2μm,0.7s							
DRO	**Drossia**	**1.10**	**35**	P		**Pg**	**03 18 32.4**	**-0.9**
DRO				S		**Sg**	**03 18 47.0**	**-0.6**
DRO				AML	AML		03 18 53.8	
	comp=E,4735μm,0.4s							
DRO				AML	AML		03 18 55.3	
	comp=N,9082μm,0.4s							
DRO	**Drossia**	**1.10**	**35**	P		**Pg**	**03 18 31.7**	**-1.5**
DRO				S		**Sb**	**03 18 48.5**	**+1.5**
	comp=N,3μm,0.4s							
VLS	**Valsamata**	**1.15**	**347**	P		**Pg**	**03 18 33.2**	**-0.9**
VLS				S		**Sb**	**03 18 50.5**	**+2.1**
VLS				AML	AML		03 18 55.8	
	comp=E,2418μm,0.2s							
VLS				AML	AML		03 18 58.5	
	comp=N,2748μm,0.4s							
VLS	**Valsamata**	**1.15**	**347**	P		**Pg**	**03 18 33.0**	**-1.1**
VLS				S		**Sb**	**03 18 49.9**	**+1.5**
	comp=N,1μm,0.3s							
VLS	**Valsamata**	**1.15**	**347**	P		**Pg**	**03 18 33.1**	**-1.1**
VLS				S		**Sn**	**03 18 51.2**	**+2.1**
VLS				AML	AML			
	comp=E,488μm,0.5s							
VLS				AML	AML			
	comp=N,526μm,0.7s							
ARGA	**Argostoli. Kep**	**1.17**	**343**	P		**Pg**	**03 18 34.7**	**+0.1**
KEF3	**Kipouria, Keph**	**1.23**	**339**	P		**Pg**	**03 18 35.4**	**-0.2**
KEF3				S		**Sb**	**03 18 52.8**	**+2.2**
	comp=N,5μm,0.3s							
KEF4	**Livadi, Kephal**	**1.26**	**343**	P		**Pg**	**03 18 36.2**	**0.0**
KEF4	**Livadi, Kephal**	**1.26**	**343**	P		**Pg**	**03 18 35.5**	**-0.7**
KEF4				S		**Sn**	**03 18 54.5**	**+2.7**
	comp=N,9μm,0.3s							
KLV	**Kalavryta, Ach**	**1.40**	**45**	P		**Pg**	**03 18 37.8**	**-1.0**
KLV	**Kalavryta, Ach**	**1.40**	**45**	P		**Pg**	**03 18 36.9**	**-1.9**
KLV	**Kalavryta, Ach**	**1.40**	**45**	P		**Pg**	**03 18 37.7**	**-1.1**
KLV				AML	AML			
	comp=E,939μm,1.1s							
KLV				AML	AML			
	comp=N,1048μm,0.6s							
FSK	**Fiskardo**	**1.43**	**349**	P		**Pn**	**03 18 38.4**	**+1.0**
FSK	**Fiskardo**	**1.43**	**349**	P		**Pn**	**03 18 37.6**	**+0.2**
GUR	**Goura**	**1.44**	**52**	P		**Pn**	**03 18 37.7**	**0.0**
GUR				S		**Sb**	**03 18 57.8**	**+1.0**
GUR				AML	AML		03 19 03.5	
	comp=N,4777μm,0.4s							
GUR				AML	AML		03 19 06.1	
	comp=E,3924μm,0.7s							
LAKA	**Lakka**	**1.46**	**35**	P		**Pn**	**03 18 39.0**	**+1.2**
EVGl	**Lefkada island**	**1.58**	**353**	P		**Pb**	**03 18 41.7**	**+0.9**
EVGl	**Lefkada island**	**1.58**	**353**	P		**Pn**	**03 18 39.9**	**+0.5**
EFP	**Efpalio**	**1.58**	**30**	P		**Pn**	**03 18 41.0**	**+1.5**
EFP				S		**Sg**	**03 19 02.9**	**-0.1**
EFP				AML	AML		03 19 04.6	
	comp=E,2035μm,0.3s							
EFP				AML	AML		03 19 09.4

JOPP	**Joppolo**	**4.27**	**293**	⇓P		**Pn**	**03**	**19**	**17.3**	**+0.9**
JOPP				S		**Sn**	**03**	**20**	**03.7**	**-2.3**
CAR1	**CAROLEI**	**4.30**	**302**	P		**Pn**	**03**	**19**	**18.7**	**+1.8**
CAR1				S		**Sn**	**03**	**20**	**08.2**	**+1.3**
CAR1				AML	AML					
	comp=E,298µm,0.7s									
CAR1				AML	AML					
	comp=N,248µm,0.6s									
TIR	**Tirane**	**4.37**	**350**	⇑P		**Pn**	**03**	**19**	**19.3**	**+1.6**
MSRU	**Castanea**	**4.45**	**287**	⇑P		**Pn**	**03**	**19**	**19.9**	**+1.0**
MSRU				S		**Sn**	**03**	**20**	**10.0**	**-0.5**
MSRU				AML	AML					
	comp=E,387µm,1.1s									
MSRU				AML	AML					
	comp=N,370µm,1.3s									
VAY	**Valandovo**	**4.46**	**16**	*i* Pn		**Pn**	**03**	**19**	**19.9**	**+0.9**
VAY				*i* Sn		**Sn**	**03**	**20**	**08.1**	**-2.4**
VAY	**Valandovo**	**4.46**	**16**	*i* Pn		**Pn**	**03**	**19**	**19.9**	**+0.9**
VAY				*i* Sn		**Sn**	**03**	**20**	**08.1**	**-2.4**
AGST	**Augusta-Monte**	**4.54**	**274**	P		**Pn**	**03**	**19**	**19.6**	**-0.5**
MPNC	**Port Mandanici**	**4.54**	**286**	⇑P		**Pn**	**03**	**19**	**21.6**	**+1.4**
SALB	**San Lorenzo Be**	**4.56**	**310**	⇑P		**Pn**	**03**	**19**	**22.5**	**+2.0**
SALB				AML	AML					
	comp=E,127µm,0.3s									
SALB				AML	AML					
	comp=N,128µm,1.1s									
SALB				AML	AML					
	comp=E,136µm,1.4s									
SALB				AML	AML					
	comp=N,90µm,1.1s									
HAGA	**Augusta**	**4.60**	**275**	P		**Pn**	**03**	**19**	**20.2**	**-0.7**
AIO	**Antillo**	**4.60**	**283**	⇓P		**Pn**	**03**	**19**	**22.2**	**+1.1**
AIO				AML	AML					
	comp=E,248µm,1.2s									
AIO				AML	AML					
	comp=N,294µm,0.4s									
ORI	**Oriolo Calabro**	**4.61**	**312**	⇑P		**Pn**	**03**	**19**	**23.6**	**+2.5**
ORI				AML	AML					
	comp=E,227µm,1.1s									
ORI				AML	AML					
	comp=N,257µm,1.6s									
CET2	**Cetraro**	**4.61**	**304**	⇑P		**Pn**	**03**	**19**	**23.7**	**+2.5**
CET2				AML	AML					
	comp=E,364µm,0.3s									
CET2				AML	AML					
	comp=N,297µm,0.9s									
HAVL	**Avola**	**4.63**	**271**	⇑P		**Pn**	**03**	**19**	**21.2**	**-0.2**
HAVL				S		**Sn**	**03**	**20**	**13.0**	**-1.9**
HAVL				AML	AML					
	comp=N,1375µm,0.3s									
HAVL				AML	AML					
	comp=E,1160µm,0.3s									
HPAC	**Pachino**	**4.66**	**267**	⇑P		**Pn**	**03**	**19**	**22.2**	**+0.5**
HPAC				AML	AML					
	comp=E,416µm,0.5s									
HPAC				AML	AML					
	comp=N,448µm,0.5s									
MILZ	**Milazzo**	**4.66**	**287**	P		**Pb**	**03**	**19**	**32.1**	**-1.3**
SSY	**Sortino**	**4.67**	**273**	P		**Pn**	**03**	**19**	**21.6**	**-0.3**
SSY				AML	AML					
	comp=E,423µm,1.2s									
SSY				AML	AML					
	comp=N,1082µm,1.2s									
URLA	**Izmir**	**4.70**	**72**	*e*P		**Pn**	**03**	**19**	**22.5**	**+0.2**
ZKR	**Zakros**	**4.72**	**113**	*e*P		**Pn**	**03**	**19**	**23.4**	**+0.8**
STIP	**Stip**	**4.74**	**12**	*i* Pn		**Pn**	**03**	**19**	**24.7**	**+1.8**
STIP				*i* Sn		**Sn**	**03**	**20**	**18.1**	**+0.5**
STIP	**Stip**	**4.74**	**12**	*i* Pn		**Pn**	**03**	**19**	**24.6**	**+1.8**
STIP				*i* Sn		**Sn**	**03**	**20**	**18.9**	**+1.3**
LTRZ	**Laterza**	**4.77**	**319**	⇓P		**Pn**	**03**	**19**	**23.6**	**+0.3**
MEU	**Monte Lauro**	**4.78**	**272**	⇓P		**Pn**	**03**	**19**	**24.2**	**+0.7**
MEU				AML	AML					
	comp=E,1260µm,0.2s									
MEU				AML	AML					
	comp=N,1101µm,0.4s									
NOCI	**Noci**	**4.79**	**322**	⇑P		**Pn**	**03**	**19**	**24.2**	**+0.7**
NOCI				AML	AML					
	comp=N,207µm,1.2s									
NOCI				AML	AML					
	comp=E,214µm,0.7s									
CRAC	**Cracо**	**4.81**	**315**	⇑P		**Pn**	**03**	**19**	**25.8**	**+1.9**
IST3	**Stromboli F**	**4.81**	**293**	⇓P		**Pn**	**03**	**19**	**24.6**	**+0.7**
HLNI	**Lentini**	**4.83**	**275**	⇑P		**Pn**	**03**	**19**	**23.7**	**-0.4**
HLNI				AML	AML					
	comp=E,621µm,0.7s									
HLNI				AML	AML					
	comp=N,605µm,0.3s									
ESML	**S. M. di Licod**	**4.84**	**279**	⇑P		**Pn**	**03**	**19**	**24.4**	**+0.2**
ESML				AML	AML					
	comp=E,310µm,1.0s									
ESML				AML	AML					
	comp=N,256µm,0.6s									
EPZF	**Pizzo Felice**	**4.88**	**281**	P		**Pn**	**03**	**19**	**25.9**	**+1.1**
HMDC	**Modica**	**4.90**	**271**	⇓P		**Pn**	**03**	**19**	**25.2**	**+0.1**
HMDC				AML	AML					
	comp=E,546µm,0.3s									
HMDC				AML	AML					
	comp=N,526µm,0.7s									
SCHR	**S. Chirico Rap**	**4.92**	**311**	⇑P		**Pn**	**03**	**19**	**28.0**	**+2.6**
SKO	**Skopje**	**4.93**	**5**	*i* Pn		**Pn**	**03**	**19**	**26.6**	**+1.1**
SKO				*i* Sn		**Sn**	**03**	**20**	**19.2**	**-3.1**
CUC	**Castrocucco**	**4.96**	**308**	⇑P		**Pn**	**03**	**19**	**28.1**	**+2.3**
GADA	**Gvkgeada**	**5.01**	**50**	*e*P		**Pn**	**03**	**19**	**26.9**	**+0.3**
MMB	**Musomiste**	**5.03**	**25**	P		**Pn**	**03**	**19**	**27.5**	**+0.6**
SIRI	**Monte Sirino -**	**5.03**	**310**	⇓P		**Pn**	**03**	**19**	**29.5**	**+2.5**
SIRI				AML	AML					
	comp=E,152µm,1.1s									
SIRI				AML	AML					
	comp=N,148µm,1.1s									
SIRI				AML	AML					
	comp=N,141µm,1.1s									
SIRI				AML	AML					
	comp=E,159µm,0.5s									
ULC	**Ulcinj**	**5.07**	**346**	⇑*i* Pn		**Pn**	**03**	**19**	**27.0**	**-0.4**
ULC				*i* Sn		**Sn**	**03**	**20**	**22.3**	**-3.5**
GALF	**Gagliano Caste**	**5.09**	**279**	⇓P		**Pn**	**03**	**19**	**29.3**	**+1.5**
GALF				AML	AML					
	comp=E,160µm,0.6s									
GALF				AML	AML					
	comp=N,180µm,0.6s									
KKB	**Krupnik**	**5.09**	**19**	P		**Pn**	**03**	**19**	**28.4**	**+0.6**
AMUR	**Altamura**	**5.10**	**320**	⇑P		**Pn**	**03**	**19**	**28.6**	**+0.7**
AMUR				AML	AML					
	comp=E,129µm,0.4s									
AMUR				AML	AML					
	comp=N,148µm,1.6s									
MSFR	**San Fratello**	**5.11**	**283**	⇓P		**Pn**	**03**	**19**	**28.9**	**+0.8**
MSFR				AML	AML					
	comp=E,184µm,1.2s									
MSFR				AML	AML					
	comp=N,168µm,1.5s									
BODT	**Bodrum**	**5.12**	**88**	*e*P		**Pn**	**03**	**19**	**28.5**	**+0.3**
CAGR	**Agira**	**5.14**	**278**	⇓P		**Pn**	**03**	**19**	**30.1**	**+1.8**
CAGR				AML	AML					
	comp=E,284µm,1.0s									
CAGR				AML	AML					
	comp=N,248µm,1.0s									
DKL	**Dikili**	**5.14**	**65**	*e*P		**Pn**	**03**	**19**	**28.4**	**0.0**
MTSN	**Montesano sull**	**5.16**	**310**	⇓P		**Pn**	**03**	**19**	**30.9**	**+2.3**
MTSN				AML	AML					
	comp=N,118µm,1.1s									
MTSN				AML	AML					
	comp=E,113µm,1.2s									
MCEL	**Monticello**	**5.16**	**311**	⇓P		**Pn**	**03**	**19**	**30.9**	**+2.2**
VAE	**Valguarnera**	**5.20**	**277**	Pn		**Pn**	**03**	**19**	**31.2**	**+2.0**
	comp=E,8.8nm,0.3s,baz=352,slow=1.7,SNR=16									
VAE				Sn		**Sn**	**03**	**20**	**32.8**	**+3.8**
	comp=E,7.0nm,0.3s,baz=354,slow=10,SNR=2.5									
MGR	**Morigerati**	**5.20**	**308**	⇑P		**Pn**	**03**	**19**	**30.1**	**+0.9**
IFIL	**Filicudi I Eol**	**5.24**	**289**	⇓P		**Pn**	**03**	**19**	**30.8**	**+1.0**
IFIL				AML	AML					
	comp=E,1300µm,1.6s									
IFIL				AML	AML					
	comp=N,438µm,1.3s									
BULG	**Bulgheria - Ca**	**5.28**	**307**	⇑P		**Pn**	**03**	**19**	**32.6**	**+2.2**
WDD	**Wied Dalam**	**5.29**	**259**	⇑P		**Pn**	**03**	**19**	**31.2**	**+0.8**
DRME	**Dracevica, Mon**	**5.30**	**346**	*e*Pn		**Pn**	**03**	**19**	**30.4**	**-0.1**
DRME	**Dracevica, Mon**	**5.30**	**346**	⇑*i* Pn		**Pn**	**03**	**19**	**30.2**	**-0.3**
DRME				*i* Sn		**Sn**	**03**	**20**	**27.8**	**-3.5**
SLCN	**Sala Consilina**	**5.30**	**311**	⇑P		**Pn**	**03**	**19**	**33.9**	**+3.2**
IACL	**Alicudi**	**5.39**	**288**	⇑P		**Pn**	**03**	**19**	**33.5**	**+1.7**
MRVN	**Minervino Murg**	**5.43**	**319**	P		**Pn**	**03**	**19**	**33.2**	**+0.9**
PLLN	**Pollina**	**5.46**	**282**	⇓P		**Pn**	**03**	**19**	**34.5**	**+1.7**
CMPR	**Campora**	**5.46**	**308**	⇑P		**Pn**	**03**	**19**	**34.3**	**+1.4**
BUM	**Brajici-Budva**	**5.47**	**344**	⇑*i* Pn		**Pn**	**03**	**19**	**32.5**	**-0.4**
BUM				*i* Sn		**Sn**	**03**	**20**	**31.7**	**-3.9**
PALZ	**Palazzo San Ge**	**5.47**	**317**	⇓P		**Pn**	**03**	**19**	**34.0**	**+1.1**
RZN	**Rozhen**	**5.49**	**31**	P		**Pn**	**03**	**19**	**33.8**	**+0.4**
PDG	**Podgorica**	**5.52**	**347**	*e*Pn		**Pn**	**03**	**19**	**33.0**	**-0.6**
PDG	**Podgorica**	**5.52**	**347**	⇑P		**Pn**	**03**	**19**	**33.8**	**+0.2**
TTG	**Podgorica**	**5.52**	**347**	⇓*i* Pn		**Pn**	**03**	**19**	**33.2**	**-0.4**
TTG				*i* Sn		**Sn**	**03**	**20**	**33.0**	**-3.8**
CLTA	**Licata**	**5.55**	**273**	⇓P		**Pn**	**03**	**19**	**35.8**	**+1.8**
CDRU	**Civita di Ruta**	**5.56**	**310**	⇓P		**Pn**	**03**	**19**	**35.8**	**+1.6**
PVY	**Plav**	**5.58**	**353**	⇓*i* Pn		**Pn**	**03**	**19**	**34.1**	**-0.5**
PVY				*i* Sn		**Sn**	**03**	**20**	**34.6**	**-4.0**
MRLC	**Muro Lucano**	**5.62**	**313**	⇓P		**Pn**	**03**	**19**	**36.9**	**+1.9**
CEME	**Cevo**	**5.70**	**345**	⇓*i* Pn		**Pn**	**03**	**19**	**35.7**	**-0.4**
CEME				*i* Sn		**Sn**	**03**	**20**	**37.2**	**-4.1**
HCY	**Herceg Novi**	**5.70**	**342**	*e*Pn		**Pn**	**03**	**19**	**34.9**	**-1.1**
HCY	**Herceg Novi**	**5.70**	**342**	⇓*i* Pn		**Pn**	**03**	**19**	**35.0**	**-1.1**
HCY				*i* Sn		**Sn**	**03**	**20**	**37.3**	**-3.9**
KDZ	**Kurdzhali**	**5.77**	**36**	P		**Pn**	**03**	**19**	**36.5**	**-0.5**
FAVR	**Favara**	**5.79**	**274**	⇑P		**Pn**	**03**	**19**	**39.7**	**+2.4**
VTS	**Vitosha**	**5.84**	**17**	P		**Pn**	**03**	**19**	**38.9**	**+0.8**
IVA	**Berane**	**5.87**	**353**	⇑*i* Pn		**Pn**	**03**	**19**	**37.9**	**-0.5**
IVA				*i* Sn		**Sn**	**03**	**20**	**41.3**	**-4.1**
SNAL	**S. Angelo Dei**	**5.89**	**313**	⇑P		**Pn**	**03**	**19**	**39.9**	**+1.2**
KOME	**Kolasin**	**5.89**	**350**	⇓*i* Pn		**Pn**	**03**	**19**	**38.3**	**-0.4**
KOME				*i* Sn		**Sn**	**03**	**20**	**41.8**	**-4.2**
NKME	**Niksic**	**5.90**	**346**	*e*Pn		**Pn**	**03**	**19**	**38.3**	**-0.6**
NKME				*i* Sn		**Sn**	**03**	**20**	**42.1**	**-4.2**
TREB	**Trebinje**	**5.99**	**342**	*e*Pn		**Pn**	**03**	**19**	**38.4**	**-1.6**
BRY	**Bratogost**	**6.12**	**343**	*e*Pn		**Pn**	**03**	**19**	**40.8**	**-1.1**
BRY	**Bratogost**	**6.12**	**343**	⇑*i* Pn		**Pn**	**03**	**19**	**41.3**	**-0.6**
BRY				*i* Sn		**Sn**	**03**	**20**	**47.2**	**-4.6**
APRC	**Apricena**	**6.27**	**320**	P		**Pn**	**03**	**19**	**44.5**	**+0.6**
VTIR	**Vesuvio Tirone**	**6.29**	**309**	P		**Pn**	**03**	**19**	**46.2**	**+2.0**
STON	**Ston**	**6.31**	**338**	*e*Pn		**Pn**	**03**	**19**	**43.6**	**-0.8**
STON	**Ston**	**6.31**	**338**	⇓P		**Pn**	**03**	**19**	**44.0**	**-0.4**
UPM	**Unac-Piva**	**6.33**	**347**	*e*Pn		**Pn**	**03**	**19**	**45.3**	**+0.4**
UPM	**Unac-Piva**	**6.33**	**347**	⇑*i* Pn		**Pn**	**03**	**19**	**44.3**	**-0.6**
UPM				*i* Sn		**Sn**	**03**	**20**	**52.3**	**-4.8**
PAOL	**Paolisi**	**6.33**	**311**	⇑P		**Pn**	**03**	**19**	**46.2**	**+1.4**
PLE	**Pljevlja**	**6.38**	**350**	⇓*i* Pn		**Pn**	**03**	**19**	**45.0**	**-0.5**
PLE				*i* Sn		**Sn**	**03**	**20**	**53.5**	**-4.6**
VITU	**Vitulano (BN)**	**6.39**	**312**	P		**Pn**	**03**	**19**	**47.5**	**+2.0**
GATE	**Gambatesa**	**6.44**	**316**	⇓P		**Pn**	**03**	**19**	**49.8**	**+3.6**
MELA	**Melanico ??? S**	**6.45**	**318**	⇓P		**Pn**	**03**	**19**	**47.4**	**+1.1**
CFMN	**Campi Flegrei**	**6.52**	**307**	P		**Pb**	**03**	**20**	**03.4**	**-1.6**
BSSO	**Busso**	**6.64**	**314**	⇑P		**Pn**	**03**	**19**	**51.4**	**+2.3**
MPEP	**Malo Peshtene**	**6.66**	**18**	P		**Pn**	**03**	**19**	**50.5**	**+1.3**
RUDO	**Rudo**	**6.66**	**350**	*e*Pn		**Pn**	**03**	**19**	**48.7**	**-0.6**
TRIV	**Trivento**	**6.81**	**316**	P		**Pn**	**03**	**19**	**53.1**	**+1.7**
MODR	**Mondragone**	**6.82**	**309**	⇓P		**Pn**	**03**	**19**	**52.4**	**+0.9**
BBLS	**Lazići**	**6.90**	**351**	*e*Pn		**Pn**	**03**	**19**	**51.9**	**-0.7**
DIVS	**Divibare**	**7.07**	**355**	*e*Pn		**Pn**	**03**	**19**	**53.8**	**-1.2**
DIVS	**Divibare**	**7.07**	**355**	⇑P		**Pn**	**03**	**19**	**54.4**	**-0.6**
SRKY	**Kupres RS**	**7.56**	**339**	*e*Pn		**Pn**	**03**	**20**	**02.0**	**+0.3**
LATB	**Latina**	**7.59**	**308**	⇓P		**Pn**	**03**	**20**	**01.9**	**-0.1**
FRGS	**Fruska Gora**	**8.14**	**355**	*e*Pn		**Pn**	**03**	**20**	**07.3**	**-2.3**
BLY	**Banja Luka**	**8.19**	**341**	*e*Pn		**Pn**	**03**	**20**	**08.6**	**-1.6**
MLR	**Muntele Rosu**	**9.24**	**23**	Pn		**Pn**	**03**	**20**	**26.6**	**+1.8**
	comp=N,0.2nm,0.3s,baz=150,slow=14,SNR=3.1									
MORH	**Mrgy, Hungar**	**9.31**	**350**	*e*Pn		**Pn**	**03**	**20**	**24.1**	**-1.5**
KEST	**Kesra**	**9.41**	**265**	Pn		**Pn**	**03**	**20**	**28.2**	**+1.1**
	comp=N,0.2nm,0.3s,baz=62,slow=11,SNR=2.6									
DOPR	**Dopca**	**9.52**	**19**	⇑P		Pn	03	20	15.7	-13
CRES	**Cresnjev**	**9.67**	**337**	*e*Pn		**Pn**	**03**	**20**	**29.8**	**-0.7**
PLOR	**Plostina**	**9.79**	**24**	⇑P		**Pn**	**03**	**20**	**35.3**	**+3.1**
VRI	**Vrincioaia**	**9.83**	**25**	⇑P		Pn	03	20	20.7	-12
SKDS	**Skadanscina**	**9.94**	**331**	*e*Pn		**Pn**	**03**	**20**	**32.9**	**-1.3**
CEY	**Cerknica**	**9.95**	**333**	*e*Pn		**Pn**	**03**	**20**	**32.8**	**-1.5**
BRTR	**Keskin Array B**	**10.35**	**71**	Pn		**Pn**	**03**	**20**	**42.6**	**+2.7**
	comp=N,0.1nm,0.3s,baz=255,slow=14,SNR=3.7									
SOKA	**Soboth**	**10.56**	**337**	Pn		**Pn**	**03**	**20**	**42.2**	**-0.6**
	comp=N,3.3nm,0.5s,SNR=7.2									
OBKA	**Obir**	**10.57**	**335**	*i* Pn		**Pn**	**03**	**20**	**43.8**	**+0.9**
	comp=N,1.3nm,0.3s									
OBKA				Sn		**Sn**	**03**	**22**	**35.7**	**-5.3**
GERES	**GERESS Array B**	**12.90**	**338**	Pn		**Pn**	**03**	**21**	**12.9**	**-1.9**
	comp=N,0.3nm,0.3s,baz=158,slow=14,SNR=6.8									
DSI	**Dead Sea**	**13.15**	**110**	Pn		Pn	03	21	11.6	-6.6
KRMI	**Paran Flat**	**13.43**	**117**	Pn		Pn	03	21	16.9	-5.1
KRMI				Sn		Sn	03	23	38.3	-13
PRNI	**Paran**	**13.50**	**116**	Pn		Pn	03	21	18.2	-4.8
PRNI				Sn		Sn	03	23	39.5	-13
MBRI	**Mt Berech**	**13.75**	**118**	Pn		Pn	03	21	21.6	-4.8
MBRI				Sn		Sn	03	23	46.3	-13
AKASG	**Malin Array Be**	**14.89**	**21**	Pn		**Pn**	**03**	**21**	**45.9**	**+4.1**
	comp=N,3.6nm,0.3s,baz=205,slow=9.6,SNR=12									
KBZ	**Khabaz**	**18.00**	**61**	P		**Pn**	**03**	**22**	**22.6**	**+1.1**
	comp=N,0.2nm,0.3s,baz=273,slow=6.6,SNR=3.8									
ESDC	**Sonseca Array**	**19.66**	**285**	P		**P**	**03**	**22**	**41.8**	**+1.4**
	comp=N,0.1nm,0.3s,baz=76,slow=11,SNR=4.9									
MDT	**Midelt**	**21.32**	**266**	P		**P**	**03**	**22**	**59.7**	**+1.3**
	comp=N,1.7nm,0.8s,baz=60,slow=9.0,SNR=3.6									
BELG	**Belogornoye**	**24.21**	**42**	P		**P**	**03**	**23**	**27.4**	**-0.5**
	comp=N,12nm,0.4s,baz=321,slow=1.8,SNR=10.0									
FINES	**FINESS Array B**	**24.63**	**6**	P		**P**	**03**	**23**	**31.1**	**-0.5**
	comp=N,0.7nm,0.4s,baz=186,slow=8.8,SNR=7.0									
NOA	**NORSAR Array B**	**24.78**	**349**	P		**P**	**03**	**23**	**32.0**	**-0.9**
	comp=N,0.4nm,0.7s,baz=156,slow=9.0,SNR=3.3									
TORD	**Torodi Ar. Bea**	**29.36**	**221**	P		**P**	**03**	**24**	**15.2**	**+0.7**
	comp=N,0.7nm,0.7s,baz=33,slow=9.4,SNR=7.6									
AKTO	**Aktyubinsk**	**29.63**	**51**	P		**P**	**03**	**24**	**15.9**	**-0.7**
	comp=N,0.4nm,0.3s,baz=247,slow=7.7,SNR=2.3									
ARCES	**ARCESS Array B**	**32.64**	**3**	P		**P**	**03**	**24**	**41.7**	**-1.1**
	comp=N,0.9nm,0.5s,baz=192,slow=9.9,SNR=14									
ZALV	**Zalesovo Beam**	**46.22**	**47**	P		**P**	**03**	**26**	**34.4**	**-1.8**
	comp=N,0.8nm,0.3s,baz=276,slow=8.4,SNR=4.4									

*IDC **26** 03:20:11.6±1.1,55°.53S×26°.69W,h0km,mb4.1/3,*
mb1 4.2/3,mb1mx3.9/20,mbtmp4.1/3,Error ellipse:
s-maj=45.6km s-min=29.4km az=91.0
ISC 26 03:20:15.8±1.0,55°.4S±0°.2×26°.9W±0°.3,h25km,n9,σ1§25/8,
mb4.2/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.53**	**161**	P	**Pn**	**03 24 18.0**	**-0.1**
VNA2	**Neumayer--Watz**	**17.72**	**159**	P	**P**	**03 24 22.1**	**+1.0**
	baz=317,slow=12						
SNAA	**Sanae**	**19.25**	**157**	P	**Pn**	**03 24 40.0**	**+0.9**
TROLL	**Troll, Antarti**	**20.74**	**154**	P	Pn	03 24 56.7	-0.1
VNDA	**Vanda**	**47.20**	**183**	P	**P**	**03 28 44.6**	**-1.1**
	1.4nm,0.8s,baz=169,slow=6.3,SNR=17						
LPAZ	**La Paz**	**50.14**	**305**	P	**P**	**03 29 10.8**	**+1.1**
	2.1nm,0.8s,baz=197,slow=2.1,SNR=8.1						
TORD	**Torodi Ar. Bea**	**72.44**	**29**	P	**P**	**03 31 39.9**	**0.0**
	1.8nm,0.5s,baz=195,slow=6.4,SNR=46						
YKA	**Yellowknife Ar**	**135.80**	**318**	PKP	**PKPdf**	**03 39 30.7**	**-1.9**
	0.3nm,0.6s,baz=122,slow=2.2,SNR=5.4						
ILAR	**Eielson Array**	**149.81**	**312**	PKPbc	**PKPbc**	**03 40 02.1**	**+0.1**
	0.9nm,0.7s,baz=132,slow=4.2,SNR=10						

*IDC **26** 03:20:59.8±1.3,40°.79N×74°.31E,h0km,mb3.8/8,*
mb1 3.9/10,mb1mx3.6/49,mbtmp3.7/10,ML2.7/3,MS3.3/2,
Ms1 3.3/2,ms1mx2.5/95,Error ellipse: s-maj=27.7km
s-min=13.4km az=123.0
*SOME **26** 03:21:01.4,40°.92N×74°.45E,h10km,MS3.2*
*KRNET **26** 03:21:01.3±0.1,40°.87N×74°.43E,h19km,mb4.2*
*NNC **26** 03:21:02.8±1.1,40°.93N×74°.37E,h0km,mb4.3,mpv4.0,*
Error ellipse: s-maj=9.8km s-min=5.5km az=165.0
*MOS **26** 03:21:02.2±1.1,40°.77N×74°.40E,h16km,mb4.0/1,Error*
ellipse: s-maj=9.4km s-min=4.6km az=79.6
*KNET **26** 03:21:03.5±0.6,41°.02N×74°.49E,h0km,4km,ml3.8,Error*
ellipse: s-maj=5.4km s-min=3.2km az=39.0
ISC 26 03:21:02.1±1.2,40°.88N±0°.03×74°.39E±0°.02,h7km±8km,
n138,σ1§88/223,mb3.8/8,52C-22D,Kyrgyzstan-Xinjiang
border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.27**	**254**	*i* PG	**Pn**	**03 21 25.8**	**-0.6**
OHH				*i* S	**Sg**	**03 21 43.9**	**+1.0**
OHH	**Osh**	**1.27**	**254**	⇑*i* P	**Pn**	**03 21 25.8**	**-0.6**
	baz=55						
OHH				⇑*i* S	**Sg**	**03 21 43.9**	**+1.0**
	baz=55						
UCH	**Uchtor**	**1.35**	**4**	P	**Pn**	**03 21 27.4**	**-0.4**
	358nm,0.2s,SNR=1444						
UCH				⇓S	**Sn**	**03 21 45.8**	**-0.3**
	460nm,0.3s						
UCH	**Uchtor**	**1.35**	**4**	*i* PG	**Pn**	**03 21 27.3**	**-0.4**
UCH				*i* S	**Sn**	**03 21 46.1**	**0.0**
UCH	**Uchtor**	**1.35**	**4**	⇑*i* P	**Pn**	**03 21 27.3**	**-0.4**
	baz=3.0						
UCH				⇑*i* S	**Sn**	**03 21 46.1**	**0.0**
	baz=3.0						
AML	**Almayashu**	**1.35**	**338**	P		**03 21 27.2**	**-0.6**
	322nm,0.3s,SNR=843						
AML				⇓S	**Sn**	**03 21 45.9**	**-0.2**
	2µm,0.6s						
AML	**Almayashu**	**1.35**	**338**	*i* PG	**Pn**	**03 21 27.5**	**-0.3**
AML				*i* S	**Sn**	**03 21 46.6**	**+0.4**
AAK	**Ala-Archa**	**1.75**	**3**	P	**Pb**	**03 21 34.8**	**0.0**
	254nm,0.3s,SNR=235						
AAK				⇓S	**Sg**	**03 21 58.4**	**-0.1**
	2µm,0.8s						
AAK	**Ala-Archa**	**1.75**	**3**	Pn	**Pb**	**03 21 35.1**	**+0.4**
	127nm,0.3s,baz=173,slow=9.7,SNR=610						
AAK				Lg	Lg	03 21 58.5	
	83nm,0.3s,baz=358,slow=14,SNR=31						
AAK	**Ala-Archa**	**1.75**	**3**	*i* PN	**Pb**	**03 21 34.3**	**-0.4**
AAK				*i* S	**Sg**	**03 21 58.3**	**-0.2**
AAK	**Ala-Archa**	**1.75**	**3**	⇓*i* P	**Pb**	**03 21 34.3**	**-0.4**
	baz=2.0						
AAK				⇓*i* S	**Sg**	**03 21 58.6**	**+0.1**
	baz=2.0						
KBK	**Karagaybulak**	**1.82**	**13**	⇓P	**Pb**	**03 21 36.0**	**+0.1**
	200nm,0.2s,SNR=123						
KBK				⇑S	**Sg**	**03 22 00.8**	**+0.2**
	788nm,0.3s						
KBK	**Karagaybulak**	**1.82**	**13**	*i* PN	**Pb**	**03 21 35.5**	**-0.4**
KBK				*i* S	**Sg**	**03 22 00.3**	**-0.3**
KBK	**Karagaybulak**	**1.82**	**13**	⇑*i* P	**Pb**	**03 21 35.5**	**-0.4**
	baz=12						
KBK				⇑*i* S	**Sg**	**03 22 00.4**	**-0.2**
	baz=12						
EKS2	**Erkin-Say**	**1.83**	**346**	⇓P	**Pb**	**03 21 36.1**	**0.0**
	149nm,0.3s,SNR=160						
EKS2	**Erkin-Say**	**1.83**	**346**	*i* PN	**Pb**	**03 21 35.9**	**-0.2**
EKS2				*i* S	**Sg**	**03 22 00.9**	**-0.1**
EKS2	**Erkin-Say**	**1.83**	**346**	⇑*i* P	**Pb**	**03 21 35.9**	**-0.2**
	baz=45						
EKS2				⇑*i* S	**Sg**	**03 22 01.3**	**+0.2**
	baz=45						
FRU1	**Bishkek**	**1.93**	**5**	*i* PN	**Pb**	**03 21 38.0**	**+0.3**
FRU1				*i* S	**Sg**	**03 22

KRBS				eS	Sg	03 22 35.9	-1.5
	891nm,0.8s						
AAA	Alma-Ata	2.99	38	ePN	Pn	03 21 52.8	+2.8
AAA				i		03 21 59.2	
AAA				e		03 22 37.0	
AAA	Alma-Ata	2.99	38	eP	Pb	03 21 57.4	+1.7
	131nm,0.2s						
AAA				eS	Sg	03 22 37.5	-0.6
	1µm,0.4s						
AAA	Alma-Ata	2.99	38	ePn	Pn	03 21 52.8	+2.8
	baz=43						
AAA				i Pg	Pg	03 21 59.2	-0.2
	baz=43						
AAA				eSb	Sg	03 22 37.0	-1.1
	baz=43						
MDOK	Medeo	3.02	40	ePN	Pn	03 21 53.3	+2.8
MDOK				i		03 21 59.5	
MDOK				e		03 22 30.7	
MDOK	Medeo	3.02	40	eP	Pb	03 21 57.2	+0.9
	97nm,0.9s						
MDOK				⇓eS	Sg	03 22 37.4	-1.7
	313nm,0.7s						
MDOK	Medeo	3.02	40	ePn	Pn	03 21 53.3	+2.8
	baz=45						
MDOK				i Pg	Pg	03 21 59.5	-0.5
	baz=45						
MDOK				eSn	Sb	03 22 30.8	-2.7
	baz=45						
MDOK	Medeo	3.02	40	⇑Pg	Pb	03 21 57.2	+0.9
	105nm,0.7s						
MDOK				⇑Lg	Lg	03 22 37.1	
	304nm,0.6s						
KNDC	Almaty	3.02	39	PN	Pb	03 21 57.6	+1.4
KNDC						03 22 38.3	
KNDC	Almaty	3.02	39	⇑Pg	Pb	03 21 57.7	+1.4
	280nm,0.7s						
KNDC				⇑Lg	Lg	03 22 38.3	
	2µm,0.5s						
DZA	Taraz	3.04	312	ePN	Pb	03 21 57.0	+0.5
DZA				e		03 22 38.2	
DZA	Taraz	3.04	312	eP	Pb	03 21 58.4	+1.9
	168nm,0.2s						
DZA				eS	Sg	03 22 39.0	-0.7
	774nm,0.4s						
DZA	Taraz	3.04	312	ePg	Pb	03 21 57.0	+0.5
	baz=311						
DZA				eLg	Lg	03 22 35.2	
	baz=311						
DZA				eSg	Sg	03 22 38.3	-1.4
	baz=311						
ANVS	Anan'yevo	3.10	51	⇑iP	Pn	03 21 53.4	+1.8
	baz=51						
ANVS				⇑iS	Sn	03 22 31.7	+2.7
	baz=51						
KOTS	Kotyrbulak	3.10	40	eP	Pb	03 21 58.7	+1.0
	105nm,0.8s						
KOTS				eS	Sg	03 22 39.6	-2.2
	957nm,0.3s						
KTBS	Karatobe	3.30	30	eP	Pb	03 22 02.2	+1.2
	67nm,0.4s						
KTBS				eS	Sg	03 22 45.6	-2.4
	331nm,0.6s						
KUU	Kurty	3.34	25	ePN	Pn	03 21 56.7	+2.0
KUU				i		03 22 02.6	
KUU				e		03 22 45.7	
KUU	Kurty	3.34	25	eP	Pb	03 22 03.1	+1.4
	60nm,0.3s						
KUU				⇑iS	Sg	03 22 46.8	-2.5
	715nm,0.6s						
KUU	Kurty	3.34	25	ePn	Pn	03 21 56.8	+2.0
	baz=29						
KUU				i Pb	Pb	03 22 02.7	+1.1
	baz=29						
KUU				eSb	Sb	03 22 45.7	+3.3
	baz=29						
IUG	Iuzhnay	3.50	293	ePN	Pn	03 21 58.9	+1.8
IUG				e		03 22 05.6	
IUG				e		03 22 48.2	
IUG	Iuzhnay	3.50	293	eP	Pb	03 22 06.0	+1.5
	3µm,0.3s						
IUG				eS	Sg	03 22 52.3	-2.4
	614nm,0.8s						
IUG	Iuzhnay	3.50	293	ePn	Pn	03 21 59.0	+1.8
	baz=290						
IUG				ePg	Pb	03 22 05.6	+1.1
	baz=290						
IUG				eSb	Sb	03 22 48.3	+0.9
	baz=290						
CHKK	Chushkaly	3.54	32	ePN	Pb	03 22 06.7	+1.7
CHKK				e		03 22 52.8	
CHKK	Chushkaly	3.54	32	eP	Pb	03 22 06.5	+1.5
	32nm,0.5s						
CHKK				eS	Sg	03 22 53.2	-2.6
	692nm,0.4s						
CHKK	Chushkaly	3.54	32	ePb	Pb	03 22 06.8	+1.7
	baz=36						
CHKK				eSb	Sg	03 22 52.9	-2.9
	baz=36						
KK31	Karatay Array	3.64	309	ePN	Pb	03 22 07.5	+0.7
KK31						03 22 56.2	
KK31	Karatay Array	3.64	309	Pn	Pn	03 22 00.2	+1.3
	1.0nm,0.4s,baz=127,slow=12,SNR=367						
KK31				⇑Pg	Pb	03 22 07.5	+0.7
	27nm,0.4s,baz=119,slow=16,SNR=124						
KK31				⇓Lg	Lg	03 22 56.3	
	121nm,0.5s,baz=130,slow=27,SNR=13						
SATY	Saty	3.70	53	i PN	Pg	03 22 11.3	-1.7
SATY	Saty	3.70	53	eP	Pb	03 22 09.3	+1.4
	50nm,0.3s						
SATY				eS	Sg	03 22 57.8	-3.2
	172nm,0.2s						
SATY	Saty	3.70	53	i Pb	Pg	03 22 11.3	-1.7
	baz=57						
ZHN	Zhinishke	3.78	52	ePN	Pg	03 22 12.6	-1.9
ZHN				e		03 23 01.7	
ZHN	Zhinishke	3.78	52	eP	Pb	03 22 10.8	+1.5
	43nm,0.2s						
ZHN				eS	Sg	03 22 59.9	-3.7
	177nm,0.4s						
ZHN	Zhinishke	3.78	52	ePb	Pg	03 22 12.7	-1.9
	baz=55						
ZHN				eSb	Sg	03 23 01.8	-1.8
	baz=55						
KURS	Kuram	3.83	46	eP	Pb	03 22 11.5	+1.4
	32nm,0.7s						
KURS				⇓eS	Sg	03 23 01.9	-3.2
	98nm,0.6s						
CHM	Chimkent	3.86	293	eP	Pb	03 22 12.9	+2.3
	5.6nm,0.3s						
CHM				eS	Sg	03 23 04.1	-2.1
	688nm,0.3s						
TAS	Tashkent	3.87	278	⇑iP	Pn	03 22 04.7	+2.6
	baz=79						
TAS				⇑iS	Sn	03 22 50.9	+3.1
	baz=79						
BRLS	Borolday	4.01	304	ePN	Pb	03 22 14.0	+0.9
BRLS	Borolday	4.01	304	eP	Pb	03 22 15.7	+2.5
	17nm,0.4s						
BRLS				eS	Sg	03 23 08.9	-2.1
	164nm,0.5s						
BRLS	Borolday	4.01	304	ePg	Pb	03 22 14.1	+0.9
	baz=298						
KPKS	Kokpek	4.11	50	ePN	Pg	03 22 19.9	-0.8
KPKS				e		03 23 11.0	
KPKS	Kokpek	4.11	50	eP	Pb	03 22 14.8	+0.1
	30nm,0.3s						
KPKS				eS	Sb	03 23 07.3	+2.7
	233nm,0.2s						
KPKS	Kokpek	4.11	50	ePg	Pg	03 22 19.9	-0.8
	baz=53						
KPKS				eSb	Sg	03 23 11.1	-2.8
	baz=53						
KPKS				i Sb	Sg	03 23 11.1	-2.8
	baz=53						
UZB	Uzynbulak	4.13	55	ePN	Pb	03 22 11.7	-3.5
UZB	Uzynbulak	4.13	55	eP	Pb	03 22 16.1	+0.9
	29nm,0.4s						
UZB				eS	Sb	03 23 09.3	+4.0
	81nm,0.3s						
UZB	Uzynbulak	4.13	55	ePg	Pg	03 22 20.9	-0.3
	baz=59						
BTLS	Baital	4.16	357	ePN	Pb	03 22 12.4	-3.3
BTLS	Baital	4.16	357	ePg	Pb	03 22 17.1	+1.5
	baz=359						
BTLS				eLg	Lg	03 23 11.1	
	baz=359						
ARXS	Arharly	4.19	36	ePN	Pb	03 22 16.9	+0.8
ARXS	Arharly	4.19	36	eP	Pb	03 22 18.0	+1.9
	98nm,0.5s						
ARXS				eS	Sg	03 23 12.9	-3.6
	601nm,0.4s						
SHLS	Shalkode	4.41	57	eP	Pg	03 22 25.2	-1.4
	46nm,0.3s						
SHLS				eS	Sg	03 23 24.2	+0.5
	98nm,0.7s						
SHLS	Shalkode	4.41	57	ePg	Pg	03 22 31.7	+5.1
	baz=62						
SHLS				eSb	Sg	03 23 29.6	+5.8
	baz=62						
BLB	Baldybastay	4.41	42	eP	Pb	03 22 22.3	+2.3
	48nm,0.4s						
BLB				eS	Sg	03 23 20.2	-3.5
	385nm,0.4s						
PDGK	Podgornoye	4.51	56	PN	Pn	03 22 12.3	+1.3
PDGK				PG	Pb	03 22 24.2	+2.5
PDGK				LG	Lg	03 23 21.6	
PDGK	Podgornoye	4.51	56	⇑Pn	Pn	03 22 12.3	+1.3
	6.7nm,0.7s						
PDGK				⇑Pg	Pb	03 22 24.2	+2.5
	37nm,0.6s						
PDGK				⇑Lg	Lg	03 23 21.6	
	76nm,0.6s						
TDK	Taldyqorghan	5.06	34	ePN	Pb	03 22 33.2	+2.2
TDK				e		03 23 37.5	
TDK	Taldyqorghan	5.06	34	eP	Pb	03 22 35.0	+4.0
	134nm,0.3s						
TDK				eS	Sg	03 23 41.2	-3.4
	293nm,0.4s						
TDK	Taldyqorghan	5.06	34	ePb	Pb	03 22 33.2	+2.2
	baz=37						
TDK				eSb	Sb	03 23 37.6	+5.5
	baz=37						
DJR	Jarkent	5.27	47	eP	Pb	03 22 35.4	+0.8
	7.5nm,0.6s						
DJR				eS	Sb	03 23 42.7	+4.6
	50nm,0.5s						
KAPS	Kapalarasan	5.71	38	eP	Pb	03 22 46.9	+4.9
	16nm,0.7s						
KAPS				eS	Sg	03 24 01.0	-4.4
	60nm,0.3s						
OTUK	Ortayu	7.50	349	P	Pn	03 22 54.9	+3.0
OTUK	Ortayu	7.50	349	⇓Pn	Pn	03 22 54.5	+2.6
	5.3nm,0.8s						
OTUK				⇓Lg	Lg	03 24 57.7	
	27nm,0.7s						
MAKZ	Makanchi	8.07	40	P	Pn	03 23 04.0	+4.3
MAKZ	Makanchi	8.07	40	⇑Lg	Lg	03 25 13.7	
	25nm,1.0s						
MK31	Makanchi Array	8.21	41	P	Pn	03 23 04.4	+2.7
MK31	Makanchi Array	8.21	41	⇑Pn	Pn	03 23 04.4	+2.7
	2.8nm,0.7s,baz=223,slow=14,SNR=10.0						
MK31				⇓Lg	Lg	03 25 20.2	
	10nm,0.8s,baz=230,slow=27,SNR=7.8						
MKAR	Makanchi Array	8.21	41	Pn	Pn	03 23 03.1	+1.4
	0.1nm,0.3s,baz=235,slow=17,SNR=3.1						
MKAR				Lg	Lg	03 25 19.1	
	1.3nm,0.3s,baz=232,slow=23,SNR=6.6						
KURBB	Kurchatov Arra	10.16	15	Pn	Pn	03 23 28.6	+0.3
	0.1nm,0.3s,baz=205,slow=10,SNR=3.0						
KURBB				Sn	Sn	03 25 15.1	-7.3
	0.1nm,0.3s,baz=202,slow=27,SNR=4.2						
KURBB				Lg	Lg	03 26 18.9	
	0.2nm,0.3s,baz=197,slow=28,SNR=8.3						
KURK	Kurchatov	10.27	15	P	Pn	03 23 28.6	-1.1
WMQ	Urumqi	10.28	69	eP	Pn	03 23 32.5	+2.5
BRVK	Borovoye	12.49	348	deP	Pn	03 24 02.6	+2.4
AB31	Akbulak array	13.18	314	P	Pn	03 24 08.3	-1.3
AB31	Akbulak array	13.18	314	⇑Pn	Pn	03 24 08.3	-1.3
	1.2nm,0.6s,baz=119,slow=14,SNR=16						
ZALV	Zalesovo Beam	14.83	25	Pn	Pn	03 24 33.0	+0.9
	0.1nm,0.3s,baz=220,slow=13,SNR=2.3						
AKTO	Aktyubinsk	14.88	315	LR	LR	03 30 44.5	
	comp=Z,24nm,20.9s,baz=167,slow=39						
ARU	Arti	18.67	332	d iP	Pn	03 25 24.0	+3.2
ARU				S	S	03 28 55.8	+2.6
ARU				pmax	pmax		
	comp=Z,10.0nm,2.2s						
GNI	Garni	22.50	278	⇑eP	P	03 26 05.6	+3.2
BRTR	Keskin Array B	30.90	281	P	P	03 27 19.6	+0.2
	comp=Z,0.8nm,0.7s,baz=89,slow=7.8,SNR=6.9						
MLR	Muntele Rosu	35.19	294	P	P	03 27 54.3	-2.5
	comp=Z,1.1nm,0.7s,baz=111,slow=17,SNR=1.7						
ARCES	ARCESS Array B	38.21	335	P	P	03 28 22.2	+0.1
	comp=Z,1.8nm,0.8s,baz=98,slow=10,SNR=3.6						
GERES	GERESS Array B	42.72	302	P	P	03 28 59.1	-0.6
	comp=Z,0.2nm,0.3s,baz=62,slow=8.3,SNR=4.1						
JOW	Kunigami	46.21	90	LR	LR	03 52 14.0	
	comp=Z,156nm,19.6s,baz=38,slow=40						
TORD	Torodi Ar. Bea	68.46	269	P	P	03 32 03.2	-1.9
	comp=Z,0.5nm,0.6s,baz=50,slow=5.0,SNR=8.3						
INK	Inuvik	69.13	11	P	P	03 32 08.2	-0.3
	comp=Z,2.1nm,0.9s,baz=339,slow=5.0,SNR=3.5						
ILAR	Eielson Array	69.83	18	P	P	03 32 11.5	-1.4
	comp=Z,0.4nm,0.8s,baz=319,slow=6.8,SNR=5.5						
YKA	Yellowknife Ar	76.72	4	P	P	03 32 52.4	-1.2
	comp=Z,0.5nm,0.7s,baz=350,slow=5.6,SNR=10						

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*NNC **26** 03:39:08.9±0.4, 42°.86N×78°.69E, h2km±2km, mb4.3, mpv4.2, Error ellipse: s-maj=3.7km s-min=1.4km az=172.0*
*KRNET **26** 03:39:09.5±0.1, 42°.85N×78°.68E, h17km, mb4.1*
*MOS **26** 03:39:10.9±1.2, 42°.92N×78°.72E, h16km, mb3.9/3, Error ellipse: s-maj=6.4km s-min=6.0km az=21.9*
MOS Felt (II-III) at Korumdy, Bayzak, Ken-Suu.
*SOME **26** 03:39:10.0, 42°.85N×78°.60E, h5km*
ISC 26 03:39:10.5±0.7**, 42°.82N**±0°.03×**78°.65E**±0°.02**, h10km, n145,**
σ**1s.60**/241**, 37C-25D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	0.29	323	⇓iPG	Pg	03 39 15.5	-0.9
SATY				eS	Sg	03 39 19.2	-1.3
SATY	Saty	0.29	323	⇓iP	Pg	03 39 15.6	-0.9
	baz=16						
SATY				⇓eS	Sg	03 39 19.5	-1.0
	baz=16						
SATY	Saty	0.29	323	⇓iP	Pg	03 39 15.6	-0.9
	436nm,0.2s						
SATY				eS	Sg	03 39 19.5	-1.0
	3µm,0.1s						
SATY	Saty	0.29	323	⇓iP	Pg	03 39 15.6	-0.9
	baz=289						
SATY				eS	Sg	03 39 19.1	-1.3
	baz=289						
SATY				eS	Sg	03 39 19.2	-1.3
	baz=289						
SATY	Saty	0.29	323	P	Pg	03 39 15.6	-0.9
	436nm,0.2s						
SATY				S	Sg	03 39 19.5	-1.0
	3µm,0.1s						
ZHN	Zhinishke	0.38	336	i PG	Pg	03 39 16.9	-1.1
ZHN	Zhinishke	0.38	336	eP	Pg	03 39 16.9	-1.1
	baz=30						
ZHN				eS	Sg	03 39 21.9	-1.1
	baz=30						
ZHN	Zhinishke	0.38	336	eP	Pg	03 39 16.9	-1.1
	730nm,0.2s						
ZHN				eS	Sg	03 39 22.0	-1.1
	2µm,0.2s						
ZHN	Zhinishke	0.38	336	P	Pg	03 39 16.9	-1.1
	730nm,0.2s						
ZHN				S	Sg	03 39 22.0	-1.1
	2µm,0.2s						
UZB	Uzynbulak	0.43	40	⇑iPG	Pg	03 39 17.2	-1.6
UZB				eS	Sg	03 39 22.5	-2.0
UZB	Uzynbulak	0.43	40	⇑iP	Pg	03 39 17.3	-1.6
	baz=40						
UZB				⇓iS	Sg	03 39 22.3	-2.3
	baz=40						
UZB	Uzynbulak	0.43	40	⇑iP	Pg	03 39 17.3	-1.6
	103nm,0.2s						
UZB				⇓iS	Sg	03 39 22.3	-2.3
	2µm,0.2s						
UZB	Uzynbulak	0.43	40	⇑iP	Pg	03 39 17.2	-1.6
	baz=62						
UZB				eS	Sg	03 39 22.6	-2.0
	baz=62						
UZB	Uzynbulak	0.43	40	P	Pg	03 39 17.3	-1.6
	103nm,0.2s						
UZB				S	Sg	03 39 22.3	-2.3
	2µm,0.2s						
KPKS	Kokpek	0.64	2	i PG	Pg	03 39 21.4	-1.5
KPKS				eS	Sg	03 39 29.7	-1.8
KPKS	Kokpek	0.64	2	⇓iP	Pg	03 39 21.5	-1.5
	baz=0.0						
KPKS				⇑iS	Sg	03 39 29.6	-1.9
	baz=0.0						
KPKS	Kokpek	0.64	2	⇓iP	Pg	03 39 21.5	-1.5
	972nm,0.1s						
KPKS				⇑iS	Sg	03 39 29.7	-1.8
	1µm,0.3s						
KPKS	Kokpek	0.64	2	i P	Pg	03 39 21.5	-1.5
	baz=3.9						
KPKS				eS	Sg	03 39 29.8	-1.8
	baz=3.9						
SHLS	Shalkode	0.69	61	i PG	Pn	03 39 27.3	+0.9
SHLS				eS	Sn	03 39 40.3	+3.2
SHLS	Shalkode	0.69	61	eP	Pn	03 39 27.3	+0.9
	baz=70						
SHLS				eS	Sn	03 39 39.5	+2.3
	baz=70						
SHLS	Shalkode	0.69	61	eP	Pn	03 39 27.3	+0.9
	84nm,0.2s						
SHLS				eS	Sn	03 39 39.5	+2.3
	168nm,0.3s						
SHLS	Shalkode	0.69	61	i P	Pn	03 39 27.4	+0.9
	baz=80						
SHLS				eS	Sn	03 39 40.4	+3.2
	baz=80						
SHLS	Shalkode	0.69	61	P	Pn	03 39 27.3	+0.9
	84nm,0.2s						
SHLS				S	Sn	03 39 39.5	+2.3
	168nm,0.3s						
ANVS	Anan'yevo	0.72	267	i PG	Pg	03 39 23.9	-0.5
ANVS				i S	Sb	03 39 34.6	-0.7
ANVS	Anan'yevo	0.72	267	⇓iP	Pg	03 39 24.0	-0.5
	baz=65						
ANVS				⇓iS	Sg	03 39 34.1	+0.2
	baz=65						
KURS	Kuram	0.75	333	eP	Pg	03 39 23.9	-1.1
	baz=30						
KURS				⇓eS	Sg	03 39 33.9	-0.9
	baz=30						
KURS	Kuram	0.75	333	eP	Pg	03 39 23.9	-1.1
	133nm,0.2s						
KURS				⇓eS	Sg	03 39 33.9	-0.9
	121nm,0.1s						
KURS	Kuram	0.75	333	P	Pg	03 39 23.8	-1.1
	133nm,0.2s						
KURS				S	Sg	03 39 33.9	-0.9
	121nm,0.1s						
PDGK	Podgornoye	0.80	50	PG	Pg	03 39 23.7	-2.2
PDGK				S	Sg	03 39 33.8	-2.6
PDGK	Podgornoye	0.80	50	P	Pg	03 39 23.9	-2.0
	33nm,0.2s						
PDGK				S	Sg	03 39 34.1	-2.3
	230nm,0.2s						
PDGK	Podgornoye	0.80	50	⇑P	Pg	03 39 23.8	-2.2
	31nm,0.4s						
PDGK				⇑S	Sg	03 39 33.8	-2.6
	228nm,0.4s						
KOTS	Kotyrbulak	1.20	291	eP	Pb	03 39 32.2	-1.1
	baz=89						
KOTS				eS	Sb	03 39 48.4	-0.6
	baz=89						
KOTS	Kotyrbulak	1.20	291	eP	Pb	03 39 32.2	-1.1
	59nm,0.2s						
KOTS				eS	Sb	03 39 48.4	-0.6
	297nm,0.2s						
KOTS	Kotyrbulak	1.20	291	P	Pb	03 39 32.2	-1.1
	59nm,0.2s						
KOTS				S	Sb	03 39 48.4	-0.6
	297nm,0.2s						
MDOK	Medeo	1.22	287	i PG	Pn	03 39 32.8	-0.9
MDOK				i S	Sb	03 39 49.0	-0.6
MDOK	Medeo	1.22	287	eP	Pn	03 39 32.5	-1.3
	baz=85						
MDOK				eS	Sb	03 39 48.8	-0.8
	baz=85						
MDOK	Medeo	1.22	287	eP	Pn	03 39 32.5	-1.3
	34nm,0.2s						
MDOK				eS	Sb	03 39 48.8	-0.8
	363nm,0.4s						
MDOK	Medeo	1.22	287	i P	Pn	03 39 32.9	-0.9
	baz=278						
MDOK				i S	Sb	03 39 49.1	-0.6
	baz=278						
MDOK	Medeo	1.22	287	⇓P	Pn	03 39 32.4	-1.3
	15nm,0.4s						
MDOK				⇓S	Sb	03 39 48.4	-1.3
	223nm,0.4s						
MDOK	Medeo	1.22	287	Pg	Pn	03 39 32.5	-1.3
	34nm,0.2s						
MDOK				Lg	Lg	03 39 48.8	
	363nm,0.4s						
TNSS	Tian-Shan	1.27	280	i PG	Pn	03 39 33.1	-1.5
TNSS	Tian-Shan	1.27	280	eP	Pn	03 39 33.5	-1.1
	baz=79						
TNSS				eS	Sb	03 39 50.6	-0.6
	baz=79						
TNSS	Tian-Shan	1.27	280	eP	Pn	03 39 33.5	-1.1
	45nm,0.1s						
TNSS				eS	Sb	03 39 50.5	-0.6
	94nm,0.1s						
TNSS	Tian-Shan	1.27	280	i P	Pn	03 39 33.1	-1.5
	baz=272						
TNSS	Tian-Shan	1.27	280	P	Pn	03 39 33.5	-1.1
	45nm,0.1s						
TNSS				S	Sb	03 39 50.6	-0.6
	94nm,0.1s						
BLB	Baldybastay	1.28	355	eP	Pn	03 39 33.1	-1.4
	378nm,0.1s						
BLB				eS	Sb	03 39 49.8	-1.5
	1µm,0.2s						
BLB	Baldybastay	1.28	355	P	Pn	03 39 33.1	-1.4
	378nm,0.1s						
BLB				S	Sb	03 39 49.8	-1.5
	1µm,0.2s						
KDJ	Kajisay	1.29	238	i PG	Pg	03 39 34.6	-0.6
KDJ				i S	Sn	03 39 52.0	-0.1
KDJ	Kajisay	1.29	238	⇑iP	Pn	03 39 34.1	-0.6
	baz=37						
KDJ				⇑iS	Sn	03 39 51.5	-0.6
	baz=37						
KNDC	Almaty	1.29	288	⇓P	Pn	03 39 32.7	-2.0
	26nm,0.5s						
KNDC				⇓S	Sg	03 39 51.8	-0.3
	191nm,0.6s						
AAA	Alma-Ata	1.33	288	ePG	Pb	03 39 35.0	-0.5
AAA				eS	Sg	03 39 52.7	-0.5
AAA	Alma-Ata	1.33	288	eP	Pn	03 39 34.6	-0.5
	baz=86						
AAA				eS	Sn	03 39 52.5	-0.4
	baz=86						
AAA	Alma-Ata	1.33	288	eP	Pn	03 39 34.6	-0.5
	56nm,0.1s						
AAA				eS	Sn	03 39 52.5	-0.4
	261nm,0.2s						
AAA	Alma-Ata	1.33	288	eP	Pb	03 39 35.1	-0.5
	baz=280						
AAA				eS	Sg	03 39 52.8	-0.5
	baz=280						
AAA	Alma-Ata	1.33	288	P	Pn	03 39 34.6	-0.5
	56nm,0.1s						
AAA				S	Sn	03 39 52.5	-0.4
	261nm,0.2s						
IZV	Izvestkoviy	1.51	279	eP	Pb	03 39 38.0	-0.7
	baz=78						
IZV				eS	Sb	03 39 58.1	+0.2
	baz=78						
IZV	Izvestkoviy	1.51	279	eP	Pb	03 39 38.0	-0.7
	53nm,0.2s						
IZV				eS	Sb	03 39 58.1	+0.2
	218nm,0.5s						
IZV	Izvestkoviy	1.51	279	P	Pb	03 39 38.0	-0.7
	53nm,0.2s						
IZV				S	Sb	03 39 58.1	+0.2
	218nm,0.5s						
ARXS	Arharly	1.51	337	ePG	Pn	03 39 37.4	-0.3
ARXS	Arharly	1.51	337	eP	Pn	03 39 37.4	-0.3
	142nm,0.2s						
ARXS				eS	Sn	03 39 57.0	-0.5
	208nm,0.2s						
ARXS	Arharly	1.51	337	P	Pn	03 39 37.4	-0.3
	142nm,0.2s						
ARXS				S	Sn	03 39 57.0	-0.5
	208nm,0.2s						
CHKK	Chushkaly	1.59	311	i PN	Pb	03 39 38.9	-1.0
CHKK				eS	Sb	03 39 59.9	-0.2
CHKK	Chushkaly	1.59	311	eP	Pb	03 39 38.9	-1.0
	baz=10.0						

CHKK			⇑*i*S		**Sb**	**03 39 59.9**	**-0.2**
	baz=10.0						
CHKK	**Chushkaly**	**1.59 311**	*e*P		**Pb**	**03 39 38.9**	**-1.0**
	64nm,0.2s						
CHKK			⇑*i*S		**Sb**	**03 39 59.9**	**-0.2**
	598nm,0.2s						
CHKK	**Chushkaly**	**1.59 311**	P		**Pb**	**03 39 38.9**	**-1.0**
	64nm,0.2s						
CHKK			S		**Sb**	**03 39 59.9**	**-0.2**
	598nm,0.2s						
MTBS	**Maitube**	**1.66 281**	*e*P		**Pb**	**03 39 40.6**	**-0.5**
	baz=80						
MTBS			*e*S		**Sb**	**03 40 02.5**	**+0.4**
	baz=80						
MTBS	**Maitube**	**1.66 281**	*e*P		**Pb**	**03 39 40.6**	**-0.5**
	124nm,0.2s						
MTBS			*e*S		**Sb**	**03 40 02.5**	**+0.4**
	154nm,0.3s						
MTBS	**Maitube**	**1.66 281**	P		**Pb**	**03 39 40.6**	**-0.5**
	124nm,0.2s						
MTBS			S		**Sb**	**03 40 02.5**	**+0.4**
	154nm,0.3s						
KTBS	**Karatobe**	**1.69 302**	*e*P		**Pb**	**03 39 41.2**	**-0.5**
	baz=1.0						
KTBS			*e*S		**Sb**	**03 40 03.4**	**+0.4**
	baz=1.0						
KTBS	**Karatobe**	**1.69 302**	*e*P		**Pb**	**03 39 41.2**	**-0.5**
	132nm,0.2s						
KTBS			*e*S		**Sb**	**03 40 03.4**	**+0.4**
	312nm,0.3s						
KTBS	**Karatobe**	**1.69 302**	P		**Pb**	**03 39 41.2**	**-0.5**
	132nm,0.2s						
KTBS			S		**Sb**	**03 40 03.4**	**+0.4**
	312nm,0.3s						
ULHL	**Ulahol**	**1.87 253**	P		**Pb**	**03 39 44.1**	**-0.8**
	SNR=365						
ULHL	**Ulahol**	**1.87 253**	*e*PN		**Pb**	**03 39 44.0**	**-0.8**
ULHL			*i* S		**Sb**	**03 40 08.7**	**+0.4**
ULHL	**Ulahol**	**1.87 253**	⇑*e*P		**Pb**	**03 39 44.0**	**-0.8**
	baz=52						
ULHL			⇑*i*S		**Sb**	**03 40 08.7**	**+0.4**
	baz=52						
KST	**Kastek**	**1.98 277**	*e*P		**Pb**	**03 39 46.5**	**-0.2**
	128nm,0.3s						
KST			*e*S		**Sg**	**03 40 12.6**	**-1.6**
	166nm,0.6s						
KST	**Kastek**	**1.98 277**	Pg		**Pb**	**03 39 46.5**	**-0.2**
	128nm,0.3s						
KST			Lg		Lg	03 40 12.6	
	166nm,0.6s						
KUU	**Kurty**	**1.99 303**	*i* PN		**Pb**	**03 39 45.9**	**-0.9**
KUU			*e*			03 40 12.1	
KUU	**Kurty**	**1.99 303**	*e*P		**Pb**	**03 39 46.1**	**-0.7**
	baz=2.0						
KUU			*e*S		**Sb**	**03 40 12.3**	**+0.6**
	baz=2.0						
KUU	**Kurty**	**1.99 303**	*e*P		**Pb**	**03 39 46.1**	**-0.7**
	37nm,0.2s						
KUU			*e*S		**Sb**	**03 40 12.3**	**+0.6**
	476nm,0.1s						
KUU	**Kurty**	**1.99 303**	*i* Pg		**Pb**	**03 39 46.0**	**-0.9**
	baz=299						
KUU			*e*Sb		**Sb**	**03 40 12.1**	**+0.4**
	baz=299						
KUU	**Kurty**	**1.99 303**	Pg		**Pb**	**03 39 46.1**	**-0.7**
	37nm,0.2s						
KUU			Lg		Lg	03 40 12.3	
	476nm,0.1s						
BOOM	**Boomskoye usch**	**2.02 261**	*i* PN		**Pb**	**03 39 46.6**	**-0.8**
BOOM			*i* S		**Sb**	**03 40 13.2**	**+0.5**
BOOM	**Boomskoye usch**	**2.02 261**	⇑*i*P		**Pb**	**03 39 46.2**	**-1.2**
	baz=61						
BOOM			⇑*i*S		**Sb**	**03 40 12.8**	**+0.1**
	baz=61						
DGS	**Degeres**	**2.15 282**	*e*P		**Pb**	**03 39 49.3**	**-0.2**
	154nm,0.3s						
DGS			*e*S		**Sb**	**03 40 17.6**	**+1.3**
	239nm,0.5s						
DGS	**Degeres**	**2.15 282**	Pg		**Pb**	**03 39 49.3**	**-0.2**
	154nm,0.3s						
DGS			Lg		Lg	03 40 17.6	
	239nm,0.5s						
TDK	**Taldyqorghan**	**2.19 356**	*e*PN		**Pb**	**03 39 48.9**	**-1.2**
TDK	**Taldyqorghan**	**2.19 356**	*e*P		**Pb**	**03 39 48.9**	**-1.2**
	248nm,0.2s						
TDK			*e*S		**Sb**	**03 40 17.0**	**-0.3**
	598nm,0.3s						
TDK	**Taldyqorghan**	**2.19 356**	*e*Pg		**Pb**	**03 39 49.0**	**-1.2**
	baz=355						
TDK			*e*Lg		Lg	03 40 17.5	
	baz=355						
TDK	**Taldyqorghan**	**2.19 356**	Pg		**Pb**	**03 39 48.9**	**-1.2**
	248nm,0.2s						
TDK			Lg		Lg	03 40 17.0	
	598nm,0.3s						
TKM2	**Tokmak 2**	**2.24 274**	P		**Pb**	**03 39 50.8**	**-0.4**
	SNR=436						
TKM2	**Tokmak 2**	**2.24 274**	*i* PN		**Pb**	**03 39 50.6**	**-0.6**
TKM2			*i* S		**Sb**	**03 40 19.6**	**+0.5**
TKM2	**Tokmak 2**	**2.24 274**	⇑*i*P		**Pb**	**03 39 49.2**	**-2.0**
	baz=73						
TKM2			⇑*i*S		**Sb**	**03 40 18.2**	**-0.9**
	baz=73						
TKM2	**Tokmak 2**	**2.24 274**	⇑Pg		**Pb**	**03 39 50.9**	**-0.3**
	178nm,0.5s						
TKM2			⇑Lg		Lg	03 40 21.5	
	122nm,0.7s						
KRBS	**Karabastau**	**2.34 293**	*e*P		**Pb**	**03 39 52.6**	**-0.2**
	21nm,0.3s						
KRBS			*e*S		**Sb**	**03 40 23.0**	**+1.2**
	242nm,0.2s						
KRBS	**Karabastau**	**2.34 293**	Pg		**Pb**	**03 39 52.6**	**-0.2**
	21nm,0.3s						
KRBS			Lg		Lg	03 40 23.0	
	242nm,0.2s						
KAPS	**Kapalarasan**	**2.52 12**	*e*P		**Pb**	**03 39 55.4**	**-0.4**
	20nm,0.3s						
KAPS			*e*S		**Sb**	**03 40 27.9**	**+1.1**
	86nm,0.2s						
KAPS	**Kapalarasan**	**2.52 12**	Pg		**Pb**	**03 39 55.4**	**-0.4**
	20nm,0.3s						
KAPS			Lg		Lg	03 40 27.9	
	86nm,0.2s						
KBK	**Karagaybulak**	**2.73 268**	P		**Pb**	**03 39 58.0**	**-1.5**
	SNR=51						
KBK	**Karagaybulak**	**2.73 268**	*e*PN		**Pb**	**03 39 56.7**	**-2.8**
KBK			*i* S		**Sb**	**03 40 30.8**	**-2.3**
KBK	**Karagaybulak**	**2.73 268**	⇑*e*P		**Pn**	**03 39 56.0**	**+1.5**
	baz=67						
KBK			⇑*i*S		**Sb**	**03 40 30.1**	**-3.0**
	baz=67						
CHMS	**Chumysh**	**2.87 275**	P		**Pb**	**03 40 01.5**	**-0.2**
	SNR=19						
CHMS	**Chumysh**	**2.87 275**	*i* PN		**Pb**	**03 39 59.1**	**-2.6**
CHMS			*i* S		**Sb**	**03 40 34.4**	**-2.5**
CHMS	**Chumysh**	**2.87 275**	⇑*i*P		**Pn**	**03 39 57.7**	**+1.4**
	baz=74						
CHMS			⇑*i*S		**Sn**	**03 40 33.0**	**+2.2**
	baz=74						
CHMS	**Chumysh**	**2.87 275**	⇑Pg		**Pb**	**03 40 00.5**	**-1.2**
	43nm,0.7s						
CHMS			⇑Lg		Lg	03 40 38.9	
	74nm,0.5s						
SGDS	**Sogindy**	**3.01 283**	*e*PN		**Pn**	**03 40 00.2**	**+2.0**
SGDS	**Sogindy**	**3.01 283**	*e*P		**Pb**	**03 40 04.7**	**+0.6**
	14nm,0.5s						
SGDS			*e*S		**Sg**	**03 40 43.8**	**-3.2**
	76nm,0.3s						
SGDS	**Sogindy**	**3.01 283**	*e*Pn		**Pn**	**03 40 00.3**	**+2.0**
	baz=280						
SGDS	**Sogindy**	**3.01 283**	Pg		**Pb**	**03 40 04.7**	**+0.6**
	14nm,0.5s						
SGDS			Lg		Lg	03 40 43.8	
	76nm,0.3s						
AAK	**Ala-Archa**	**3.06 268**	P		**Pb**	**03 40 02.7**	**-2.5**
	SNR=25						
AAK	**Ala-Archa**	**3.06 268**	*i* PN		**Pb**	**03 40 01.6**	**-3.6**
AAK			*i* S		**Sn**	**03 40 38.8**	**+2.9**
AAK	**Ala-Archa**	**3.06 268**	⇑*i*P		**Pn**	**03 40 00.6**	**+1.5**
	baz=67						
AAK			⇑*i*S		**Sn**	**03 40 37.8**	**+1.9**
	baz=67						
USP	**Ospenovka**	**3.07 280**	P		**Pb**	**03 40 02.1**	**-3.2**
	SNR=14						
USP	**Ospenovka**	**3.07 280**	*i* PN		**Pb**	**03 40 02.0**	**-3.2**
USP			*i* S		**Sb**	**03 40 39.7**	**-3.1**
USP	**Ospenovka**	**3.07 280**	⇓*i*P		**Pn**	**03 40 00.5**	**+1.4**
	baz=79						
USP			⇓*i*S		**Sn**	**03 40 38.2**	**+2.3**
	baz=79						
UCH	**Uchtor**	**3.11 260**	P		**Pb**	**03 40 03.5**	**-2.7**
	SNR=23						
UCH	**Uchtor**	**3.11 260**	*e*PN		**Pn**	**03 40 02.0**	**+2.0**
UCH			*i* S		**Sn**	**03 40 39.7**	**+2.2**
UCH	**Uchtor**	**3.11 260**	⇓*e*P		**Pn**	**03 40 01.5**	**+1.5**
	baz=60						
UCH			⇓*i*S		**Sn**	**03 40 39.2**	**+1.7**
	baz=60						
EKS2	**Erkin-Say**	**3.59 269**	P		**Pb**	**03 40 09.7**	**-4.4**
	SNR=14						
EKS2	**Erkin-Say**	**3.59 269**	*i* PN		**Pn**	**03 40 08.8**	**+2.5**
EKS2			*i* S		**Sn**	**03 40 51.4**	**+2.6**
EKS2	**Erkin-Say**	**3.59 269**	⇑*i*P		**Pn**	**03 40 07.8**	**+1.5**
	baz=69						
EKS2			⇑*i*S		**Sn**	**03 40 50.4**	**+1.6**
	baz=69						
AML	**Almayashu**	**3.73 261**	P		**Pb**	**03 40 14.5**	**-2.1**
	SNR=8.2						
MRKS	**Merke**	**3.99 271**	*e*P		**Pg**	**03 40 23.5**	**-3.4**
	19nm,0.2s						
MRKS			*e*S		**Sg**	**03 41 16.3**	**-2.3**
	36nm,0.2s						
MRKS	**Merke**	**3.99 271**	Pg		**Pg**	**03 40 23.5**	**-3.4**
	19nm,0.2s						
MRKS			Lg		Lg	03 41 16.3	
	36nm,0.2s						
BTLS	**Baital**	**3.99 305**	*i* PN		**Pb**	**03 40 22.7**	**+1.8**
BTLS			*e*			03 41 11.3	
BTLS	**Baital**	**3.99 305**	*i* Pg		**Pb**	**03 40 22.8**	**+1.8**
	baz=303						
BTLS			*e*Sb		**Sb**	**03 41 11.3**	**+2.0**
	baz=303						
MAKZ	**Makanchi**	**4.64 30**	PN		**Pn**	**03 40 21.4**	**+0.8**
MAKZ						03 41 29.8	
MAKZ	**Makanchi**	**4.64 30**	⇑Pn		**Pn**	**03 40 21.2**	**+0.7**
	1.0nm,0.5s						
MAKZ			⇑Lg		Lg	03 41 30.1	
	14nm,0.9s						
MK31	**Makanchi Array**	**4.74 32**	PN		**Pn**	**03 40 23.0**	**+1.0**
MK31						03 41 17.3	
MK31						03 41 34.2	
MK31	**Makanchi Array**	**4.74 32**	Pn		**Pn**	**03 40 22.4**	**+0.4**
	0.2nm,0.2s,baz=219,slow=12,SNR=27						
MK31			⇑Sn		**Sn**	**03 41 15.7**	**-1.4**
	4.8nm,0.6s						
MK31			⇓Lg		Lg	03 41 34.2	
	3.0nm,0.3s,baz=208,slow=28,SNR=12						
MKAR	**Makanchi Array**	**4.74 32**	*i* PN		**Pn**	**03 40 23.1**	**+1.1**
MKAR			pmax		pmax		
	comp=Z,1.0nm,0.3s						
KK31	**Karatay Array**	**5.97 275**	PN		**Pb**	**03 40 58.3**	**+3.6**
KK31			LG		Lg	03 42 17.2	
KK31	**Karatay Array**	**5.97 275**	⇓Pg		**Pb**	**03 40 58.0**	**+3.4**
	comp=Z,1.5nm,0.3s,baz=89,slow=17,SNR=23						
KK31			⇑Lg		Lg	03 42 17.0	
	comp=Z,7.5nm,0.5s,baz=83,slow=28,SNR=14						
IUG	**Iuzhnay**	**6.41 267**	*e*P		**Pg**	**03 41 08.7**	**-4.4**
	comp=Z,142nm,0.4s						
IUG			*e*S		**Sg**	**03 42 34.1**	**-2.0**
	comp=Z,26nm,0.6s						
IUG	**Iuzhnay**	**6.41 267**	*e*Pg		**Pg**	**03 41 08.5**	**-4.6**
	baz=265						
IUG	**Iuzhnay**	**6.41 267**	Pg		**Pg**	**03 41 08.7**	**-4.4**
	comp=Z,142nm,0.4s						
OTUK	**Ortayu**	**7.00 323**	PN		**Pn**	**03 40 56.2**	**+3.2**
OTUK						03 42 45.3	
OTUK	**Ortayu**	**7.00 323**	⇑Pn		**Pn**	**03 40 51.6**	**-1.5**
	comp=Z,2.3nm,0.9s						
OTUK			⇑Lg		Lg	03 42 45.3	
	comp=Z,18nm,0.6s						
KURBB	**Kurchatov Arra**	**7.80 359**	⇓Lg		Lg	03 43 12.2	
	comp=Z,25nm,0.8s						
KURK	**Kurchatov**	**7.90 360**	*e*P		**Pn**	**03 41 06.9**	**+1.6**
KURK	**Kurchatov**	**7.90 360**	⇓Lg		Lg	03 43 17.6	
	comp=Z,12nm,0.7s						
BRVK	**Borovoye**	**11.67 334**	*e*P		**Pn**	**03 41 56.2**	**-0.7**
BELG	**Belogornoye**	**22.84 306**	⇑*i*P		**P**	**03 44 16.5**	**+3.0**
BELG			pmax		pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**25.92 284**	*i* P		**P**	**03 44 46.2**	**+3.6**
KBZ			pmax		pmax		
	comp=Z,6.0nm,1.8s						
BR131	**Keskin Array S**	**33.66 280**	*i* P		**P**	**03 45 53.5**	**+2.0**
BRTR	**Keskin Array B**	**33.66 280**	*i* P		**P**	**03 45 52.7**	**+1.2**
BRTR			pmax		pmax		
	comp=Z,1.0nm,0.8s						

IDC 26 03:50:20.7±47.0, 16°.56S×175°.10W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/27, mbtmp4.1/3, Error ellipse: s-maj=889.5km s-min=167.7km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.05**	**241**	P	P	03 58 14.7	+0.3
	0.7nm,0.4s,baz=50,slow=7.9,SNR=4.9						
WRA	**Warramunga Arr**	**48.00**	**258**	P	P	03 59 01.3	-0.6
	0.3nm,0.2s,baz=95,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**48.21**	**253**	P	P	03 59 03.5	0.0
	3.5nm,0.4s,baz=89,slow=8.0,SNR=53						

*SNET **26** 03:55:13.6±0.7, 12°.45N×87°.97W, h22km±5km, ML2.5*
*INET **26** 03:55:13.4±0.8, 12°.42N×87°.72W, h26km±12km, MW3.9*
ISC 26 03:55:10.3±2.7, 12°.3N±0°.1×87°.83W±0°.06, h24km±17km, n10, σ0°76/18, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.73**	**21**	*e*P	**Pb**	**03 55 24.8**	**+0.4**
CRIN	**San Cristobal**	**0.86**	**62**	*e*P	**Pn**	**03 55 27.7**	**+0.6**
CRIN				*e*S	**Sn**	**03 55 39.9**	**+1.0**
LCND	**La Caada**	**1.01**	**357**	*e*P	**Pn**	**03 55 29.0**	**0.0**
LCND				*e*S	**Sb**	**03 55 41.4**	**-0.6**
LCND				IAML		03 55 43.9	
	comp=Z,223nm,0.4s						
CNGN	**Cerro Negro**	**1.13**	**79**	*e*P	**Pn**	**03 55 30.6**	**0.0**
CNGN				*e*S	**Sn**	**03 55 44.2**	**-1.2**
PACA	**Pacayal**	**1.26**	**338**	*e*P	**Pn**	**03 55 33.0**	**+0.5**
PACA				*e*S	**Sn**	**03 55 48.8**	**0.0**
MOMN	**Momotombo**	**1.27**	**85**	*e*P	**Pn**	**03 55 33.1**	**+0.6**
MOMN				*e*S	**Sn**	**03 55 47.9**	**-0.9**
COEB	**Comit de Eme**	**1.38**	**330**	*e*P	**Pb**	**03 55 35.1**	**-0.4**
COEB				*e*S	**Sn**	**03 55 50.9**	**-0.8**
COEB				IAML		03 55 55.6	
	comp=Z,66nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.65**	**328**	*e*P	**Pn**	**03 55 39.1**	**+1.3**
COEG	**Centro de Oper**	**1.67**	**322**	*e*P	**Pn**	**03 55 38.4**	**+0.4**
COEG				*e*S	**Sn**	**03 55 58.3**	**-0.5**
COEG				IAML		03 56 01.6	
	comp=Z,51nm,0.4s						
SJTE	**Alcalda de S**	**1.74**	**319**	*e*P	**Pn**	**03 55 39.9**	**+0.8**
SJTE				*e*S	**Sn**	**03 56 00.2**	**-0.4**

IDC 26 04:07:22.1±4.2, 17°.20S×177°.99W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/29, mbtmp4.2/3, MS4.9/1, Ms1 4.9/1, ms1mx3.2/57, Error ellipse: s-maj=171.2km s-min=51.0km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**34.75**	**278**	LR	LR	04 25 16.0	
	comp=Z,2μm,18.8s,baz=354,slow=31						
STKA	**Stephens Creek**	**39.32**	**241**	P	P	04 14 53.7	+0.5
	1.2nm,0.4s,baz=66,slow=9.8,SNR=5						
WRA	**Warramunga Arr**	**45.16**	**259**	P	P	04 15 40.3	-0.6
	1.0nm,0.5s,baz=97,slow=7.3,SNR=24						
ASAR	**Alice Springs**	**45.37**	**254**	P	P	04 15 42.5	-0.2
	5.2nm,0.5s,baz=88,slow=8.3,SNR=67						
GERES	**GERESS Array B**	**147.03**	**346**	PKPbc	PKPbc	04 27 06.3	-0.7
	0.3nm,0.4s,baz=2.9,slow=5.9,SNR=2.1						

*MOS **26** 04:19:50.2±0.9, 4°.41S×140°.20E, h75km, mb5.6/55, Error ellipse: s-maj=8.0km s-min=4.4km az=110.2*
*BJI **26** 04:19:50.1±0.0, 4°.43S×140°.62E, h89km, mb5.3/91, mB5.2/63, Ms4.8/73, Ms7 4.5/71*
*NEIC **26** 04:19:54, 4°.47S×140°.08E, h100km, Moment Tensor Solution. Duration: 3s6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.29; $M_{\theta\theta}$-1.82; $M_{\phi\phi}$0.53; $M_{r\theta}$-1.96; $M_{\theta\phi}$-0.42; $M_{\phi r}$1.24;*
Fault plane solution: M_o2.86000×10^{17} NP1:ϕ_s51.00000°, δ28.00000°, λ32.00000°. NP2:ϕ_s293.00000°, δ76.00000°, λ115.00000°. Principal axes: T 2.9368, Plg53.0000°, Azm232.0000°; N -0.1649, Plg24.0000°, Azm106.0000°; P -2.7719, Plg27.0000°, Azm3.0000°;
*NEIC **26** 04:19:54.6, 4°.49S×140°.17E, h107km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.15; $M_{\theta\theta}$-1.67; $M_{\phi\phi}$0.52; $M_{r\theta}$-1.84; $M_{\theta\phi}$-0.05; $M_{\phi r}$1.61; Fault plane solution: M_o2.86000×10^{17} NP1:ϕ_s60.54000°, δ25.00000°, λ29.65000°. NP2:ϕ_s303.26000°, δ77.93000°, λ112.06000°. Principal axes: T 2.9686, Plg52.0000°, Azm239.0000°; N -0.2324, Plg22.0000°, Azm118.0000°; P -2.7362, Plg30.0000°, Azm15.0000°;*
*DJA **26** 04:19:54.9±0.2, 4°.5S×140°.0E±°, h110km±2km, M5.5/102, mb5.5/102, mB5.9/72, MLv6.3/6, Mw(mB)5.5/72, MwMwp5.2/23, Mwp5.5/23*
*NEIC **26** 04:19:55.4±1.6, 4°.51S±0°.08×140°.19E±0°.07, h107km±1km, mb5.5/221, Mwb5.6/38, Mww5.6, Error ellipse: s-maj=13.0km s-min=11.4km az=199.0*
*IDC **26** 04:19:55.6±0.5, 4°.50S×140°.25E, h109km±4km, mb5.0/27, mb1 5.0/35, mb1mx4.9/41, mbtmp5.5/35, MS4.4/34, Ms1 4.4/34, ms1mx4.2/56, Error ellipse: s-maj=11.2km s-min=7.6km az=67.0*
*GCMT **26** 04:19:56.4±0.1, 4°.43S±0°.01×140°.15E±0°.01, h114km, MW5.6/153, Moment Tensor Solution. s153,c278; s149,c305; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}1.25±.03; $M_{\theta\theta}$-2.49±.04; $M_{\phi\phi}$1.24±.04; $M_{r\theta}$-1.86±.03; $M_{\theta\phi}$-0.44±.03; $M_{\phi r}$1.49±.02; Best double couple: M_o3.24300×10^{17} NP1:ϕ_s48.00000°, δ37.00000°, λ24.00000°. NP2:ϕ_s299.00000°, δ76.00000°, λ125.00000°. Principal axes: T 3.2230, Plg47.0000°, Azm245.0000°; N 0.0420, Plg34.0000°, Azm109.0000°; P -3.2640, Plg23.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 04:19:54.6±0.2, 4°.52S±0°.03×140°.13E±0°.03, h104km±1km, h104km:pP-P, n1037, σ1s53/1077, mb5.4/254, 102C-99D, Fault plane solution: NP1:ϕ_s87.95419°, δ15.29155°, λ73.33443°. NP2:ϕ_s285.19577°, δ75.36546°, λ94.48339°. Principal axes: T Plg59.3981°, Azm201.4292°; N Plg4.3377°, Azm104.0609°; P Plg30.2265°, Azm11.5279°; Fault plane solution: NP1:ϕ_s42.12183°, δ52.32415°, λ1.79382°. NP2:ϕ_s311.02524°, δ88.58032°, λ142.31056°. Principal axes: T Plg26.7243°, Azm259.8161°; N Plg52.2878°, Azm129.1885°; P Plg24.4979°, Azm3.0794°;
Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.92**	**1**	P	**Pn**	**04 20 25.3**	**-1.0**
GENI				S	**Sn**	**04 20 49.2**	**-1.3**
GENI	**Genyem**	**1.92**	**1**	P	**Pn**	**04 20 25.9**	**-0.4**
SMPI	**Sarmi**	**2.89**	**331**	P	**Pn**	**04 20 38.6**	**-0.4**
MMPI	**Merauke**	**3.93**	**176**	P	**Pn**	**04 20 55.3**	**+2.4**
SRPI	**Serui, Papua**	**4.69**	**304**	P	**Pn**	**04 21 04.5**	**+1.3**
BAKI	**Biak**	**5.21**	**309**	P	**Pn**	**04 21 10.6**	**+0.4**
	15μm1μm,1.2s						
FAKI	**Fak Fak**	**8.03**	**281**	Pn	**Pn**	**04 21 48.1**	**-0.4**
FAKI				Sn	**Sn**	**04 23 15.6**	**-2.1**
FAKI	**Fak Fak**	**8.03**	**281**	P	**Pn**	**04 21 48.8**	**+0.3**
	15μm10μm876nm,1.0s						
FAKI	**Fak Fak**	**8.03**	**281**	P	**Pn**	**04 21 49.8**	**+1.3**
PMG	**Port Moresby**	**8.50**	**125**	P	**Pn**	**04 21 55.4**	**+0.5**
	56nm,0.3s,baz=346,slow=3.0,SNR=50						
PMG				S	**Sn**	**04 23 24.4**	**-4.7**
	39nm,0.3s,baz=224,slow=22,SNR=7.4						
PMG	**Port Moresby**	**8.50**	**125**	P	**Pn**	**04 21 54.6**	**-0.3**
PMG	**Port Moresby**	**8.50**	**125**	Pn	**Pn**	**04 21 54.6**	**-0.3**
PMG	**Port Moresby**	**8.50**	**125**	P	**Pn**	**04 21 55.5**	**+0.6**
SAUI	**Saumlaki**	**9.43**	**248**		**Pn**	**04 22 09.2**	**+1.6**
SAUI	**Saumlaki**	**9.43**	**248**	P	**Pn**	**04 22 10.7**	**+3.2**
	12μm33μm2μm,0.6s						
SIJI	**Sorong**	**9.57**	**292**	P	**Pn**	**04 22 11.2**	**+1.8**
	59nm,0.3s,baz=101,slow=9.7,SNR=99						
SIJI				S	**Sn**	**04 23 56.4**	**+1.1**
	4.7nm,0.3s,baz=79,slow=15,SNR=4.5						
SIJI				LR	LR	04 26 50.0	
	comp=Z,1μm,18.3s,baz=104,slow=43						
SWI	**Sorong**	**9.58**	**292**	P	**Pn**	**04 22 11.1**	**+1.5**
	3μm12μm1μm,0.9s						
COEN	**Coen**	**9.84**	**162**	P	**Pn**	**04 22 12.9**	**-0.3**
	baz=9.9,SNR=80						
BNDI	**Bandanaira**	**10.20**	**270**	P	**Pn**	**04 22 21.2**	**+3.2**
KDU	**Kakadu**	**11.09**	**223**	P	**Pn**	**04 22 28.9**	**-1.3**
	baz=11,SNR=1000						
MSAI	**Masohi**	**11.24**	**276**	P	**Pn**	**04 22 33.8**	**+1.7**
	718nm36nm,0.5s						
KRVT	**Keravat (AS076**	**11.86**	**89**	P	**Pn**	**04 22 38.2**	**-2.2**
	5.3nm,0.3s,baz=290,slow=1.0,SNR=9.6						
AAI	**Ambon**	**11.94**	**274**	P	**Pn**	**04 22 41.4**	**0.0**
	5μm431nm,1.5s						
MTN	**Manton Dam**	**12.14**	**227**	P	**Pn**	**04 22 43.0**	**-1.1**
	baz=12,SNR=585						
LBMI	**Labuha**	**13.19**	**287**	P	**Pn**	**04 22 59.5**	**+1.5**
	3μm3μm270nm,1.4s						
TNTI	**Ternate**	**13.79**	**292**	Pn	**Pn**	**04 23 06.6**	**+0.7**
TNTI	**Ternate**	**13.79**	**292**	P	**Pn**	**04 23 05.8**	**0.0**
	4μm176nm,1.5s						
TNTI	**Ternate**	**13.79**	**292**	P	**Pn**	**04 23 07.8**	**+2.0**
MTSU	**Mount Surprise**	**14.13**	**163**	P	**Pn**	**04 23 10.6**	**+0.4**
	baz=14,SNR=51						
SANI	**Sanana**	**14.33**	**279**	P	**Pn**	**04 23 12.0**	**-0.8**
	4μm2μm213nm,1.0s						
SANI	**Sanana**	**14.33**	**279**	P	**Pn**	**04 23 12.9**	**+0.1**
KNRA	**Kununurra**	**15.74**	**224**	P	**Pn**	**04 23 29.9**	**-0.6**
	baz=16,SNR=358						
QIS	**Mount Isa**	**15.95**	**182**	P	**Pn**	**04 23 32.0**	**-1.1**
	baz=16,SNR=500						
WB0	**Warramunga Arr**	**16.15**	**200**	Pn	**Pn**	**04 23 34.9**	**-0.7**
WR0	**Warramunga Arr**	**16.28**	**199**	P	**Pn**	**04 23 35.2**	**-2.0**
WRAB	**Tennant Creek**	**16.32**	**200**	P	**Pn**	**04 23 37.5**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,2μm,1.0s						
WRAB	**Tennant Creek**	**16.32**	**200**	Pn	**Pn**	**04 23 37.5**	**-0.2**
WRAB	**Tennant

comp=Z,7μmcomp=Z,8μmcomp=Z,514nm,1.2s
MMRI Maumere 18.24 256 P **Pn** **04 24 01.4 +0.3**
DAV Davao City (W) 18.54 308 P **Pn** **04 24 05.0 +0.3**
comp=Z,40nm,0.3s,baz=275,slow=4.2,SNR=5.1
DAV Davao City (W) 18.54 308 P **P** **04 24 03.4 +0.1**
GUMO Guam 18.60 15 P **P** **04 24 03.3 -0.6**
comp=Z,13nm,0.3s,baz=183,slow=4.6,SNR=7.3
GUMO LR LR 04 31 24.2
comp=Z,2μm,18.7s,baz=204,slow=37
GUMO Guam 18.60 15 P **P** **04 24 02.0 -1.9**
GUMO Guam 18.60 15 P **Pn** **04 24 04.9 -0.5**
comp=Z,577nm,1.8s
BIPH Bislig 18.66 313⇓*iP* **P** **04 24 04.0 -0.5**
APSI Ampana 18.80 280 P **Pn** **04 24 07.2 -0.6**
comp=Z,4μmcomp=Z,6μmcomp=Z,508nm,1.1s
MRSI Marisa 18.84 285 P **P** **04 24 07.1 +0.5**
comp=Z,5μmcomp=Z,4μmcomp=Z,279nm,0.6s
KCP Kidapawan 18.88 307⇓*eP* **Pn** **04 24 08.4 -0.4**
FITZ Fitzroy Crossi 19.57 225 P **P** **04 24 14.8 +0.4**
comp=Z,4.6nm,0.3s,baz=46,slow=10,SNR=179
FITZ S **S** **04 27 42.9 -7.1**
comp=Z,27nm,0.3s,baz=88,slow=12,SNR=11
FITZ Fitzroy Crossi 19.57 225 P **P** **04 24 14.2 -0.3**
baz=20,SNR=236
FITZ Fitzroy Crossi 19.57 225 P **P** **04 24 14.0 -0.4**
FITZ IAmb IAmb 04 24 18.6
comp=Z,452nm,1.1s
FITZ Fitzroy Crossi 19.57 225 P **P** **04 24 15.5 +1.1**
BSSI Bau Bau, Buton 19.62 264 P **Pn** **04 24 17.4 0.0**
comp=Z,4μmcomp=Z,5μmcomp=Z,340nm,1.7s
CTBH Cotabato--PC H 19.68 306⇑*iP* **Pn** **04 24 16.9 -1.2**
BKSI Bulukumba 19.95 267 P **Pn** **04 24 20.7 -0.6**
comp=Z,3μmcomp=Z,137nm,1.0s
AS31 Alice Springs 19.96 197 P **P** **04 24 19.0 +0.4**
AS31 IAmb IAmb 04 24 25.4
comp=Z,211nm,0.9s
ASAR Alice Springs 19.96 197 P **Pn** **04 24 20.6 -0.7**
comp=Z,1μm,1.1s,baz=29,slow=9.3,SNR=1504
ASAR S **S** **04 27 53.3 -4.4**
comp=Z,126nm,1.0s,baz=13,slow=29,SNR=4.1
ASAR Alice Springs 19.96 197 P **P** **04 24 19.5 +0.8**
BNSI Bone 19.96 270 P **Pn** **04 24 20.8 -0.6**
comp=Z,4μmcomp=Z,265nm,1.0s
TOLI2 Tolitoli 20.13 286 P **P** **04 24 20.6 +0.1**
TOLI2 Tolitoli 20.13 286 P Pn 04 24 22.1 -1.2
BASI Baing, Sumba 20.19 253 P **P** **04 24 22.5 +1.2**
comp=Z,11μmcomp=Z,788nm,1.1s
HNR Honiara 20.26 105 P **P** **04 24 20.6 -1.3**
comp=Z,217nm,0.6s,baz=187,slow=1.9,SNR=6.1
HNR Honiara 20.26 105 P **P** **04 24 20.5 -1.5**
SPSI Sidrap Palu 20.31 271 P **P** **04 24 23.7 +1.1**
comp=Z,5μmcomp=Z,4μmcomp=Z,243nm,1.3s
KAPI Kappang 20.32 268 P Pn 04 24 24.7 -0.8
comp=Z,43nm,0.5s,baz=80,slow=9.4,SNR=16
KAPI Kappang 20.32 268 P **P** **04 24 22.5 -0.1**
KAPI pmax pmax
comp=Z,391nm,1.5s
KAPI Kappang 20.32 268 P **P** **04 24 22.5 -0.1**
KAPI IAmb IAmb 04 24 33.1
comp=Z,391nm,1.4s
KAPI Kappang 20.32 268 P Pn 04 24 24.3 -1.2
TTSI Tana Toraja 20.32 273 P **P** **04 24 22.4 -0.2**
comp=Z,5μmcomp=Z,171nm,1.3s
PAGZ Pagadian 20.74 306⇑*eP* **P** **04 24 28.7 +1.5**
MPSI Mapaga 20.78 283 P **P** **04 24 27.4 -0.2**
comp=Z,3μmcomp=Z,4μmcomp=Z,104nm,1.2s
WBSI Waikabubak, Su 21.19 255 P **P** **04 24 32.2 +0.1**
comp=Z,488nm,0.9s
PATS Pohnpei 21.37 58 P **P** **04 24 32.0 -1.9**
baz=21,SNR=5.4
PATS Pohnpei 21.37 58 P **P** **04 24 32.9 -0.9**
PATS Pohnpei 21.37 58 P **P** **04 24 33.0 -0.9**
TBP Tagbilaran 21.50 311 *eP* **P** **04 24 37.3 +2.0**
TBP *i* S **S** **04 28 29.5 +1.6**
LLP Lapu-Lapu 21.83 313⇓*eP* **P** **04 24 38.2 -0.5**
QLP Quilpie 22.28 170 P **P** **04 24 44.3 +0.9**
PLAI Plampang 22.61 258 P **P** **04 24 47.8 +0.9**
comp=Z,3μmcomp=Z,3μmcomp=Z,208nm,0.9s
PLAI Plampang 22.61 258 P **P** **04 24 45.6 -1.3**
SGKI Sangatta, Kali 22.85 279 P **P** **04 24 51.4 +2.1**
comp=Z,5μmcomp=Z,11μmcomp=Z,753nm,1.2s
INKA Innaminka 23.10 179 P **P** **04 24 52.0 +0.5**
EIDS Eidsvold 23.24 154 P **P** **04 24 52.0 -0.9**
baz=23,SNR=62
EIDS Eidsvold 23.24 154 P **P** **04 24 52.4 -0.5**
SMKI Samarinda 23.25 279 P **P** **04 24 53.6 +0.4**
comp=Z,6μmcomp=Z,20μmcomp=Z,331nm,0.5s
RMQ Roma 23.35 160 P **P** **04 24 53.6 -0.3**
baz=23,SNR=25
RMQ Roma 23.35 160 P **P** **04 24 54.2 +0.3**
WRKA Warakurna 23.35 208 P **P** **04 24 53.6 -0.4**
baz=24,SNR=258
WRKA Warakurna 23.35 208 P **P** **04 24 54.1 +0.1**
OOD Oodnadatta 23.53 190 P **P** **04 24 55.7 +0.2**
RCP Roxas 23.55 313⇑*eP* **P** **04 24 57.2 +1.4**
MYLDM Lahad Datu 23.66 294 P **P** **04 24 57.2 +0.3**
BBKI Banjar Baru 25.25 271 P **P** **04 25 12.1 +0.8**
comp=Z,5μmcomp=Z,65nm,1.2s
SPMM Sapulut 25.36 291 P **P** **04 25 14.0 +1.7**
MTKI Muara Teweh, K 25.45 277 P **P** **04 25 13.4 +0.3**
JCNP Jose Panganiba 25.46 317⇑*eP* **P** **04 25 13.4 +0.3**
PPR Puerto Princes 25.62 304⇓*iP* **P** **04 25 16.0 +1.4**
MBWA Marble Bar 25.80 228 P **P** **04 25 16.2 -0.1**
MBWA IAmb IAmb 04 25 41.6
comp=Z,153nm,0.8s
LCRK Leigh Creek 25.85 184 P **P** **04 25 16.3 -0.2**
JAGI Jajag, Banyuwa 26.10 260 P **P** **04 25 16.6 -2.4**
JAGI Jajag, Banyuwa 26.10 260 P **P** **04 25 19.8 +0.8**
comp=Z,81nm,1.1s
LQP Lukban 26.13 315⇓*eP* **P** **04 25 19.1 -0.4**
KMMI Kalianget 26.15 263 P P 04 25 34.3 +15
MULG Mulgathing 26.25 192 P **P** **04 25 19.9 -0.3**
TGY Tagaytay City 26.55 314 P **P** **04 25 24.1 +1.1**
comp=Z,131nm,0.3s,baz=240,slow=1.5,SNR=7.5
BLJI Banyuglugur 26.57 262 P **P** **04 25 22.1 -1.1**
comp=Z,2μmcomp=Z,34nm,0.7s
STKA Stephens Creek 27.25 177 P **P** **04 25 28.1 -1.0**
comp=Z,20nm,0.9s,baz=349,slow=8.9,SNR=34
STKA LR LR 04 36 22.9
comp=Z,1μm,18.6s,baz=354,slow=36
STKA Stephens Creek 27.25 177 P **P** **04 25 27.9 -1.0**
baz=27,SNR=23
STKA Stephens Creek 27.25 177 P **P** **04 25 28.0 -1.0**
STKA pmax pmax
comp=Z,24nm,0.9s
STKA Stephens Creek 27.25 177 P **P** **04 25 28.0 -1.0**
STKA Stephens Creek 27.25 177 P **P** **04 25 28.1 -1.0**
CMSA Cobar Meteorol 27.38 170 P **P** **04 25 30.3 +0.1**
baz=28,SNR=42
CMSA Cobar Meteorol 27.38 170 P **P** **04 25 30.9 +0.7**
ARMA Armidale 27.95 158 P **P** **04 25 36.1 +0.6**
baz=28,SNR=12
ARMA Armidale 27.95 158 P **P** **04 25 35.5 +0.1**
ARMA Armidale 27.95 158 P **P** **04 25 36.3 +0.8**
comp=Z,38nm,1.5s
PWJI Pagerwojo 28.37 262 P **P** **04 25 38.5 -0.7**
comp=Z,46nm,2.1s
BBOO Buckleboo 28.40 187 P **P** **04 25 38.4 -0.9**
baz=28,SNR=54
BBOO Buckleboo 28.40 187 P **P** **04 25 38.6 -0.7**
BBOO IAmb IAmb 04 26 13.7
comp=Z,136nm,1.1s
BBOO Buckleboo 28.40 187 P **P** **04 25 38.4 -0.9**
WHYH Whyalla 28.46 185 P **P** **04 25 39.2 -0.7**
comp=Z,73nm,0.9s
FORT Forrest 28.49 202 P **P** **04 25 40.5 +0.4**
baz=29,SNR=43
FORT Forrest 28.49 202 P **P** **04 25 40.2 +0.1**
FORT Forrest 28.49 202 P **P** **04 25 40.7 +0.6**
NAPP Napperby 28.57 183 P **P** **04 25 40.2 -0.6**
comp=Z,128nm,0.9s
SBUM Sibu 28.74 283 P **P** **04 25 44.1 +1.6**
SBUM IAmb IAmb 04 25 45.7
comp=Z,114nm,1.4s
SBUM Sibu 28.74 283 P **P** **04 25 44.0 +1.5**
SANVU Saraoutou 28.75 114 P **P** **04 25 41.7 -0.9**
SANVU IAmb IAmb 04 25 43.1
comp=Z,53nm,0.7s
SANVU Saraoutou 28.75 114 P **P** **04 25 42.1 -0.5**
SANVU Saraoutou 28.75 114 P **P** **04 25 42.4 -0.1**
HTT Hallett 28.78 182 P **P** **04 25 42.0 -0.8**
baz=29,SNR=14
HTT Hallett 28.78 182 P **P** **04 25 42.1 -0.7**
STKI Sintang 28.98 278 P **P** **04 25 46.1 +1.3**
comp=Z,62nm,0.9s
PCJI Pacitan 29.00 261 P **P** **04 25 46.0 +1.1**
comp=Z,114nm,1.1s
SMRI Semarang 29.64 264 P **P** **04 25 51.1 +0.5**
comp=Z,133nm,1.1s
SMRI Semarang 29.64 264 P **P** **04 25 51.1 +0.5**
comp=Z,135nm,1.1s
MEEK Meekatharra 30.11 221 P **P** **04 25 54.4 -0.2**
baz=30,SNR=36
MEEK Meekatharra 30.11 221 P **P** **04 25 56.0 +1.4**
KSM Kuching 30.39 281 P **P** **04 25 58.2 +1.1**
KSM IAmb IAmb 04 25 59.8
comp=Z,121nm,1.1s
KSM Kuching 30.39 281 P **P** **04 25 59.0 +1.8**
KSM Kuching 30.39 281 P **P** **04 25 58.3 +1.1**
comp=Z,142nm,1.8s
TWOA Tennyson Woods 30.39 183 P **P** **04 25 56.7 -0.2**
comp=Z,48nm,0.8s
SYDH Sydney Hard Ro 30.72 163 P **P** **04 26 02.1 +2.3**
comp=Z,24nm,0.7s
GIRL Giralia 30.85 232 P **P** **04 26 02.7 +1.5**
baz=31,SNR=11
GIRL Giralia 30.85 232 P **P** **04 26 01.3 +0.1**
GIRL Giralia 30.85 232 P **P** **04 26 02.5 +1.4**
DZM Mont Dzumac 30.89 127 P **P** **04 26 00.7 -0.9**
comp=Z,7.0nm,0.6s,baz=296,slow=9.3,SNR=11
DZM Mont Dzumac 30.89 127 *eS* **S** **04 31 00.4 +2.1**
comp=Z,605nm,24.2s
DZM *e*LR LR 04 34 11.4
comp=Z,1μm,27.1s
DZM Mont Dzumac 30.89 127 P **P** **04 26 00.7 -0.9**
JCJ Chichijima 31.50 4 P **P** **04 26 04.4 -2.3**
comp=Z,224nm,1.0s,baz=177,slow=6.7,SNR=8.3
JCJ Chichijima 31.50 4 P **P** **04 26 05.6 -1.1**
JCJ Chichijima 31.50 4 P **P** **04 26 06.7 0.0**
comp=Z,225nm,0.9s
CMJI Cimerak 31.66 263 P **P** **04 26 07.6 -0.8**
comp=Z,54nm,1.1s
CAN Canberra 31.73 166 P **P** **04 26 07.8 -0.9**
CAN pmax pmax
comp=Z,44nm,1.2s
CAN Canberra 31.73 166 P **P** **04 26 07.8 -0.9**
CAN Canberra 31.73 166 P **P** **04 26 09.8 +1.1**
CAN Canberra 31.73 166 P **P** **04 26 09.6 +0.9**
CAN pP **sP** **04 26 39.8 -4.2**
CAN sP pP 04 26 55.3 +23
CAN PP **PP** **04 27 26.0 +3.6**
CNB Canberra Magne 31.81 166 P **P** **04 26 10.4 +0.9**
baz=32,SNR=7.1
CNB Canberra Magne 31.81 166 P **P** **04 26 10.6 +1.1**
ARPS Mount Arapiles 32.13 177 P **P** **04 26 12.1 -0.1**
baz=32,SNR=12
ARPS Mount Arapiles 32.13 177 P **P** **04 26 12.1 -0.1**
LEM Lembang 32.43 264 P **P** **04 26 14.3 -1.0**
comp=Z,50nm,0.7s,baz=0.8,slow=23,SNR=8.3
LEM Lembang 32.43 264 P **P** **04 26 15.2 -0.1**
comp=Z,49nm,1.0s
TPI Tanjungpandan 32.46 272 P **P** **04 26 16.2 +0.8**
comp=Z,1μmcomp=Z,96nm,1.2s
CNJI Cibinong 32.94 264 P **P** **04 26 18.1 -1.4**
comp=Z,2μmcomp=Z,176nm,1.2s
BRAT Ballarat 33.05 174 P **P** **04 26 21.2 +1.0**
comp=Z,22nm,0.9s
JOW Kunigami 33.22 340 LR LR 04 39 08.8
comp=Z,688nm,20.6s,baz=158,slow=35
JOW Kunigami 33.22 340 P **P** **04 26 20.6 -1.2**
JOW Kunigami 33.22 340 P **P** **04 26 22.5 +0.7**
comp=Z,204nm,1.4s
TOO Toolangi 33.26 172 P **P** **04 26 22.8 +0.8**
baz=33,SNR=7.9
TOO Toolangi 33.26 172 P **P** **04 26 21.8 -0.3**
TOO pmax pmax
comp=Z,63nm,1.5s
TOO Toolangi 33.26 172 P **P** **04 26 21.8 -0.3**
TOO Toolangi 33.26 172 P **P** **04 26 23.4 +1.3**
comp=Z,17nm,0.7s
TARA Tarawa 33.28 81 P **P** **04 26 22.6 0.0**
TARA sP **sP** **04 27 03.1 +5.1**
MORW Morawa 33.43 220 P **P** **04 26 23.8 +0.2**
baz=34,SNR=39
MORW Morawa 33.43 220 P **P** **04 26 23.6 0.0**
MORW Morawa 33.43 220 P **P** **04 26 25.4 +1.8**
TPUB Ta-pu 33.57 326 P **P** **04 26 23.7 -1.3**
TPUB Ta-pu 33.57 326 P **P** **04 26 24.6 -0.3**
comp=Z,24nm,1.2s
NACB Ninganchiao 33.76 328 P **P** **04 26 25.2 -1.3**
NACB IAmb IAmb 04 26 27.2
comp=Z,134nm,1.4s
SSLB Suanglung 33.78 327 P **P** **04 26 25.7 -1.1**
SSLB Suanglung 33.78 327 P **P** **04 26 28.7 +1.9**
comp=Z,19nm,1.1s
PPBI Pangkal Pinang 34.01 273 P **P** **04 26 28.9 0.0**
comp=Z,11μmcomp=Z,290nm,1.2s
BLDU Ballidu 34.07 218 P **P** **04 26 30.3 +1.2**
baz=34,SNR=11
BLDU Ballidu 34.07 218 P **P** **04 26 30.4 +1.2**
KLBR Kellerberrin 34.16 215 P **P** **04 26 30.4 +0.5**
baz=34,SNR=27
KLBR Kellerberrin 34.16 215 P **P** **04 26 30.8 +0.9**
YHNB Yeheng 34.28 329 P **P** **04 26 31.9 +0.8**
WAKE Wake Island 35.23 47 P **P** **04 26 37.9 -1.4**
WAKE Wake Island 35.23 47 P **P** **04 26 38.5 -0.7**
comp=Z,116nm,1.2s
WAKE Wake Island 35.23 47 P **P** **04 26 38.1 -1.1**
WAKE pP **pP** **04 27 01.1 -1.7**
PMBI Palembang 35.32 271 P **P** **04 26 42.6 +2.5**
comp=Z,30μmcomp=Z,772nm,0.5s
PMBI Palembang 35.32 271 P **P** **04 26 43.4 +3.3**
comp=Z,744nm,0.6s
NWAO Narrogin (SRO) 35.44 214 P **P** **04 26 41.8 +0.9**
NWAO pmax pmax
comp=Z,128nm,0.9s
NWAO Narrogin (SRO) 35.44 214 P **P** **04 26 41.8 +0.9**
NWAO Narrogin (SRO) 35.44 214⇓P **P** **04 26 42.5 +1.6**
KASI Kota Agung 35.51 267 P **P** **04 26 39.8 -2.0**
comp=Z,3μmcomp=Z,78nm,0.8s
DSRI Dabo 35.74 275 P **P** **04 26 45.0 +1.3**
comp=Z,2μmcomp=Z,154nm,1.3s
MDSI Maura Dua 35.84 269 P **P** **04 26 44.9 +0.3**
comp=Z,1μmcomp=Z,100nm,1.3s
LWLI Liwa 35.95 268 P **P** **04 26 46.3 +0.6**
comp=Z,202nm,1.1s
TPRI Tanjung Pinang 35.98 278 P **P** **04 26 47.5 +1.7**
comp=Z,348nm,1.2s
QZH Quanzhou 36.01 325⇓*iP* **P** **04 26 45.8 0.0**
QZH S **S** **04 32 16.5 -0.6**
QZH pmax pmax
comp=Z,41nm,1.0s
QZH LR LR
comp=Z,260nm,13.3s
QZH LR LR
comp=Z,370nm,14.7s
QZH LR LR
comp=Z,380nm,14.2s
MYKOM Kota Tinggi 36.79 279 P **P** **04 26 53.1 +0.4**
MYKOM Kota Tinggi 36.79 279 P **P** **04 26 53.0 +0.3**
RKGY Rocky Gully 36.84 213 P **P** **04 26 54.4 +1.6**
baz=37,SNR=21
RKGY Rocky Gully 36.84 213 P **P** **04 26 55.9 +3.1**
GLAD Gladstone 36.98 170 P **P** **04 26 56.5 +2.6**
comp=Z,38nm,0.9s
JSU Suzuyama 37.00 346 P **P** **04 26 54.2 0.0**
KSI Kapahiang 37.45 270 P **P** **04 26 58.2 -0.2**
QIZ Qiongzhong 37.91 309 P **P** **04 27 01.5 -0.6**
QIZ S **S** **04 32 50.8 +4.5**
QIZ pmax pmax
comp=Z,24nm,1.2s
QIZ LR LR
comp=Z,790nm,13.7s
QIZ LR LR
comp=Z,720nm,17.1s
QIZ LR LR
comp=Z,630nm,17.7s
QIZ Qiongzhong 37.91 309 P **P** **04 27 02.5 +0.4**
RGRI Rengat 37.98 275 P **P** **04 27 02.9 +0.1**
MOO Moorlands 38.28 172 P **P** **04 27 06.1 +1.2**
baz=38,SNR=4.4
MOO Moorlands 38.28 172 P **P** **04 27 05.7 +0.9**
JNU Nakatsue 38.45 347 P **P** **04 27 06.2 -0.2**
comp=Z,201nm,0.9s,baz=143,slow=5.2,SNR=51
JNU LR LR 04 41 44.4
comp=Z,676nm,20.9s,baz=160,slow=34
JNU Nakatsue 38.45 347 P **P** **04 27 06.5 0.0**
JNU Nakatsue 38.45 347 P **P** **04 27 06.2 -0.2**
comp=Z,296nm,1.2s
JRMM Jerantut 38.54 282 P **P** **04 27 09.0 +1.6**
KRJI Kerinci 38.68 272 P **P** **04 27 09.3 +0.6**
comp=Z,17μmcomp=Z,1μm,1.1s
TAU Tasmania Unive 38.76 172 P **P** **04 27 09.0 +0.2**
TAU pmax pmax
comp=Z,125nm,1.5s
TAU Tasmania Unive 38.76 172 P **P** **04 27 09.0 +0.2**
TAU IAmb IAmb 04 27 11.5
comp=Z,125nm,1.5s
TAU Tasmania Unive 38.76 172 P **P** **04 27 10.5 +1.7**
TAU pP **pP** **04 27 36.8 +4.2**
TAU sP sP 04 27 54.9 +10
BKNI Bangkinang 39.35 276 P **P** **04 27 14.4 +0.1**
BKNI Bangkinang 39.35 276 P **P** **04 27 15.9 +1.7**
comp=Z,9μmcomp=Z,1μm,1.2s
BKNI Bangkinang 39.35 276 P **P** **04 27 16.1 +1.9**
MSVF Nonsavu 39.35 113 P **P** **04 27 14.6 +0.3**
comp=Z,13nm,0.8s,baz=148,slow=4.3,SNR=8.7
MSVF LR LR 04 42 45.3
comp=Z,422nm,18.4s,baz=281,slow=35
MSVF Nonsavu 39.35 113*c iP* **P** **04 27 14.9 +0.6**
MSVF pmax pmax
comp=Z,49nm,1.4s
MSVF Nonsavu 39.35 113 P **P** **04 27 13.1 -1.2**
MSVF Nonsavu 39.35 113 P **P** **04 27 15.9 +1.6**
comp=Z,35nm,1.1s
MSVF Nonsavu 39.35 113⇑P **P** **04 27 15.4 +1.1**
MSVF X 04 27 31.5
MSVF pP **pP** **04 27 40.1 +1.4**
MSVF sP **sP** **04 27 52.6 +1.8**
UBPT Khong Chiam 39.57 300 P **P** **04 27 16.0 0.0**
INU Inuyama 39.77 356 P **P** **04 27 16.2 -1.1**
INU IAmb IAmb 04 27 19.1
comp=Z,85nm,1.1s
INU Inuyama 39.77 356 P **P** **04 27 16.6 -0.7**
INU Inuyama 39.77 356 P **P** **04 27 16.3 -1.1**
SSE Sheshan 39.77 334 P **P** **04 27 17.8 +0.4**
SSE S **S** **04 33 18.3 +4.4**
SSE pmax pmax
comp=Z,74nm,1.2s
SSE pmax pmax
comp=Z,240nm,7.5s
SSE LR LR
comp=Z,200nm,18.2s
SSE LR LR
comp=Z,200nm,14.1s
SSE Sheshan 39.77 334 P **P** **04 27 17.8 +0.4**
JHS Saijyo 39.86 351 P **P** **04 27 18.1 -0.1**
PPI Padang Panjang 39.89 275 P **P** **04 27 19.1 +0.4**
JGF Kuroka 40.00 356 P **P** **04 27 17.8 -1.5**
JGF IAmb IAmb 04 27 19.4
comp=Z,120nm,1.2s
PPSI Pulau Pagai 40.08 271 P **P** **04 27 21.2 +1.0**
comp=Z,334nm,1.1s
IPM Ipoh 40.08 282 P **P** **04 27 20.6 +0.4**
IPM Ipoh 40.08 282 P **P** **04 27 21.0 +0.7**
IPM Ipoh 40.08 282 P **P** **04 27 21.0 +0.7**
comp=Z,135nm,1.2s
JTU Tsushima 40.13 346 P **P** **04 27 19.7 -0.6**
JTU IAmb IAmb 04 27 21.5
comp=Z,104nm,1.0s
JYT Yasato 40.54 0 P **P** **04 27 22.1 -1.6**
KULM Kulim 40.62 283 P **P** **04 27 24.6 -0.1**
KULM IAmb IAmb 04 27 26.7
comp=Z,173nm,1.4s
KULM Kulim 40.62 283 P **P** **04 27 25.0 +0.3**
MNSI Mandailing Nat 40.86 276 P **P** **04 27 26.1 -0.6**
comp=Z,175nm,1.2s
MJAR Matsushiro Arr 40.89 358 P **P** **04 27 24.3 -2.3**
comp=Z,23nm,0.8s,baz=155,slow=11,SNR=36
MJAR Matsushiro Arr 40.89 358 P **P** **04 27 24.3 -2.3**
MJAR pmax pmax
comp=Z,27nm,1.0s
MJAR Matsushiro Arr 40.89 358 P **P** **04 27 24.3 -2.3**
MAJO Matsushiro 40.89 358 P **P** **04 27 24.8 -1.8**
MAJO pmax pmax
comp=Z,66nm,1.1s
MAJO Matsushiro 40.89 358 P **P** **04 27 24.8 -1.8**
MAJO IAmb IAmb 04 27 26.0
comp=Z,66nm,1.1s
MAJO Matsushiro 40.89 358 P **P** **04 27 24.8 -1.8**
comp=Z,72nm,1.0s
MAJO Matsushiro 40.89 358 P **P** **04 27 24.9 -1.7**
MAJO sP sP 04 28 14.7 +12
MJB9 Matsu-Tunnel 40.90 358 P **P** **04 27 24.8 -1.9**
MJB9 IAmb IAmb 04 27 26.0
comp=Z,62nm,1.0s
SISI Saibi 41.10 273 P **P** **04 27 29.6 +0.9**
comp=Z,2μmcomp=Z,153nm,1.0s
GULI GuiLin 41.40 317⇓P **P** **04 27 32.5 +1.6**
GULI S **S** **04 33 37.5 -0.8**
GULI pmax pmax
comp=Z,20nm,1.0s
GULI LR LR
comp=Z,660nm,21.8s
GULI LR LR
comp=Z,520nm,23.8s
GULI LR LR
comp=Z,590nm,22.7s
NJ2 Nanjing 41.63 332⇓*iP* **P** **04 27 33.5 +0.8**
NJ2 sP **pP** **04 28 02.3 +5.4**
NJ2 PP **PnPn** **04 29 14.0 -2.7**
NJ2 S **S** **04 33 43.0 +1.5**
NJ2 pmax pmax
comp=Z,76nm,1.3s
NJ2 pmax pmax
comp=Z,460nm,3.5s
NJ2 LR LR
comp=Z,440nm,14.2s
NJ2 LR LR
comp=Z,330nm,13.7s
NJ2 LR LR
comp=Z,780nm,18.6s
CNSH ChangSha 41.76 323⇓P **P** **04 27 35.0 +1.2**
CNSH S **S** **04 33 45.0 +1.4**
CNSH pmax pmax
comp=Z,45nm,1.1s
CNSH LR LR
comp=Z,780nm,13.1s
CNSH LR LR
comp=Z,980nm,10.1s
CNSH LR LR
comp=Z,390nm,15.1s
JMM Marumori 42.18 1 P **P** **04 27 35.9 -1.2**
TSI Tuntungan 42.29 280 P **P** **04 27 39.6 +1.2**
comp=Z,388nm,1.3s
TJN Taejon 42.41 345*ce*P **P** **04 27 38.4 -0.5**
TJN Taejon 42.41 345 P **P** **04 27 38.8 -0.1**
comp=Z,452nm,1.2s
WHN Wuhan 42.70 326⇓P **P** **04 27 42.5 +1.1**
WHN S **S** **04 33 57.3 -0.1**
WHN pmax pmax
comp=Z,150nm,1.4s
WHN LR LR
comp=Z,990nm,8.9s
WHN LR LR
comp=Z,690nm,8.4s
WHN LR LR
comp=Z,3μm,40.8s
GSI Gunungsitoli 42.91 277 P **P** **04 27 42.1 -1.3**
GSI Gunungsitoli 42.91 277 P **P** **04 27 42.0 -1.4**
comp=Z,188nm,1.3s
GSI Gunungsitoli 42.91 277 P **P** **04 27 43.6 +0.2**
KCSI Kotacane, Aceh 43.07 280 P **P** **04 27 44.8 +0.1**
comp=Z,2μmcomp=Z,113nm,1.4s
KSAR Wonju Array Be 43.28 346 P **P** **04 27 45.9 -0.1**
KSAR Wonju Array Be 43.28 346 P **P** **04 27 45.9 -0.1**
KSRS Korea Array 43.28 346 P **P** **04 27 46.3 +0.3**
comp=Z,37nm,1.0s,baz=161,slow=8.2,SNR=76
KSRS LR LR 04 45 40.8
comp=Z,373nm,18.9s,baz=165,slow=36
KS19 Wonju Array Si 43.34 346 IAmb IAmb 04 27 48.7
comp=Z,88nm,1.2s
COCO West Island 43.46 257 P **P** **04 27 47.9 +0.1**
COCO pmax pmax
comp=Z,351nm,1.2s
COCO West Island 43.46 257 P **P** **04 27 47.9 +0.1**
INCN Inchon 43.64 344 P **P** **04 27 49.2 +0.3**
INCN pmax pmax
comp=Z,369nm,1.3s
INCN Inchon 43.64 344 P **P** **04 27 49.2 +0.3**
INCN Inchon 43.64 344 P **P** **04 27 49.4 +0.5**
comp=Z,237nm,1.3s
INCN Inchon 43.64 344 P **P** **04 27 49.3 +0.5**
LHMI Lhok Sumawe 44.20 282 P **P** **04 27 54.0 +0.2**
LHMI Lhok Sumawe 44.20 282 P **P** **04 27 54.2 +0.4**
comp=Z,5μmcomp=Z,313nm,1.1s

LHMI	**Lhok Sumawe**	**44.20**	**282**	P	**P**	**04 27 54.7**	**+0.9**
	comp=Z,319nm,1.1s								
HJU	**Haeju**	**44.41**	**344**	P	**P**	**04 27 55.8**	**+0.8**
HJU				sP	**sP**	**04 28 27.0**	**-4.3**
HJU				S	**S**	**04 34 23.4**	**+1.3**
HJU				AmB			
	comp=Z,804nm,1.4s						
HJU				AMS	AMS		
	comp=N,1μm,8.3s						
HJU				AMS	AMS		
	comp=E,690nm,5.1s						
HJU				AMS	AMS		
	comp=Z,815nm,6.0s						
GYA	**Guiyang**	**44.70**	**315**	⇓*i*P	**P**	**04 28 00.8**	**+3.1**
GYA				sP	pP	04 28 26.5	+4.0
GYA				S	**S**	**04 34 30.8**	**+4.0**
GYA				SS	**ScS**	**04 37 45.0**	**-0.4**
GYA				pmax	pmax		
	comp=Z,31nm,1.2s						
GYA				pmax	pmax		
	comp=Z,140nm,3.5s						
PYAG	**Pyongyang**	**45.35**	**344**	P	**P**	**04 28 03.5**	**+1.1**
PYAG				sP	**sP**	**04 28 34.5**	**-4.3**
PYAG				S	**S**	**04 34 37.9**	**+2.4**
PYAG				AmB			
	comp=Z,442nm,1.2s						
PYAG				AMS	AMS		
	comp=N,126nm,2.5s						
PYAG				AMS	AMS		
	comp=E,179nm,3.5s						
PYAG				AMS	AMS		
	comp=Z,71nm,1.4s						
ENH	**Enshi**	**45.35**	**322**	IAmb	IAmb	04 28 04.3	
	comp=Z,131nm,1.5s						
ENH	**Enshi**	**45.35**	**322**	P	**P**	**04 28 03.2**	**+0.5**
HHU	**Hamhung**	**45.73**	**346**	P	**P**	**04 28 06.1**	**+0.7**
HHU				sP	**pP**	**04 28 31.8**	**+1.8**
HHU				S	**S**	**04 34 43.2**	**+2.2**
HHU				AmB			
	comp=Z,769nm,1.5s						
HHU				AMS	AMS		
	comp=N,630nm,2.7s						
HHU				AMS	AMS		
	comp=E,12μm,49.3s						
HHU				AMS	AMS		
	comp=Z,5μm,19.6s						
TIA	**Tai'an**	**45.89**	**334**	P	**P**	**04 28 06.5**	**-0.3**
TIA				PP	**PP**	**04 29 53.3**	**-3.1**
TIA				S	**S**	**04 34 41.8**	**-1.7**
TIA				pmax	pmax		
	comp=Z,24nm,0.8s						
TIA				pmax	pmax		
	comp=Z,170nm,2.7s						
TIA				LR	LR		
	comp=Z,280nm,19.9s						
TIA				LR	LR		
	comp=Z,140nm,15.7s						
TIA				LR	LR		
	comp=Z,470nm,17.8s						
QRZ	**Quartz Range**	**46.39**	**146**	IAmb	IAmb	04 28 13.4	
	comp=Z,115nm,1.2s						
ERM	**Érimo**	**46.40**	**3***ce*P		**P**	**04 28 10.0**	**-0.6**
ERM				pmax	pmax		
	comp=Z,40nm,1.7s						
DL2	**Dalian**	**46.48**	**340**	P	**P**	**04 28 08.5**	**-2.8**
DL2				S	**S**	**04 34 51.3**	**-0.4**
DL2				sS	**sS**	**04 35 35.0**	**-0.5**
DL2				ScS	**ScS**	**04 37 53.8**	**-2.2**
DL2				pmax	pmax		
	comp=Z,38nm,1.2s						
DL2				pmax	pmax		
	comp=Z,200nm,8.3s						
DL2				LR	LR		
	comp=Z,330nm,19.1s						
DL2				LR	LR		
	comp=Z,230nm,16.2s						
DL2				LR	LR		
	comp=Z,420nm,21.6s						
CM31	**Chiang Mai Arr**	**46.57**	**301**	P	**P**	**04 28 13.2**	**+0.8**
	SNR=19						
CMAR	**Chiang Mai Arr**	**46.57**	**301**	P	**P**	**04 28 13.2**	**+0.7**
	comp=Z,17nm,1.0s,baz=124,slow=6.1,SNR=80						
CMAR				pP	**pP**	**04 28 40.4**	**+2.7**
	comp=Z,22nm,0.9s,baz=124,slow=6.2,SNR=7.5						
CMAR				ScP	**ScP**	**04 33 31.3**	**+2.0**
	comp=Z,2.0nm,0.3s,baz=142,slow=2.9,SNR=6.0						
CMAR	**Chiang Mai Arr**	**46.57**	**301**	*i* P	**P**	**04 28 13.1**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,18nm,0.9s						
SUJ	**Sinuiju**	**46.68**	**343**	P	**P**	**04 28 13.4**	**+0.6**
SUJ				sP	**sP**	**04 28 43.4**	**-5.9**
SUJ				S	**S**	**04 34 56.0**	**+1.5**
SUJ				AmB			
	comp=Z,665nm,1.7s						
SUJ				AMS	AMS		
	comp=N,446nm,4.3s						
SUJ				AMS	AMS		
	comp=E,385nm,3.7s						
SUJ				AMS	AMS		
	comp=Z,493nm,4.8s						
CHTO	**Chiang Mai**	**46.72**	**301**	P	**P**	**04 28 13.7**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,50nm,1.4s						
CHTO	**Chiang Mai**	**46.72**	**301**	P	**P**	**04 28 13.7**	**+0.1**
CHTO	**Chiang Mai**	**46.72**	**301**	P	**P**	**04 28 14.0**	**+0.4**
	comp=Z,15nm,1.1s						
CHTO	**Chiang Mai**	**46.72**	**301**	P	**P**	**04 28 13.9**	**+0.3**
CHTO				pP	**pP**	**04 28 40.9**	**+2.0**
CHTO				pwP	**sP**	**04 28 51.9**	**+1.1**
KMI	**Kunming**	**46.77**	**311**	⇓P	**P**	**04 28 13.8**	**-0.3**
KMI				pP	pP	04 28 35.0	-4.1
KMI				sP	sP	04 28 44.5	-6.5
KMI				S	**S**	**04 34 54.5**	**-2.3**
KMI				ScS	**ScS**	**04 37 58.0**	**-1.1**
KMI				pmax	pmax		
	comp=Z,33nm,1.3s						
KMI				LR	LR		
	comp=Z,450nm,20.5s						
KMI				LR	LR		
	comp=Z,350nm,20.5s						
KMI				LR	LR		
	comp=Z,750nm,27.4s						
LYN	**LuoYang**	**46.80**	**328**	⇓*i*P	**P**	**04 28 14.3**	**+0.4**
LYN				pP	pP	04 28 40.5	+1.8
LYN				sP	sP	04 28 51.0	+0.4
LYN				S	**S**	**04 34 56.5**	**0.0**
LYN				pmax	pmax		
	comp=Z,70nm,1.1s						
LYN				pmax	pmax		
	comp=Z,110nm,7.2s						
DCZ	**Deep Cove**	**47.11**	**154**	P	**P**	**04 28 16.8**	**+0.7**
DCZ				IAmb	IAmb	04 28 44.2	
	comp=Z,112nm,1.0s						
JEW	**Eniwo**	**47.16**	**1**	P	**P**	**04 28 16.3**	**-0.2**
THZ	**Tophouse**	**47.23**	**147**	IAmb	IAmb	04 28 47.5	
	comp=Z,105nm,1.4s						
MLZ	**Mavora Lakes**	**47.46**	**153**	P	**P**	**04 28 19.5**	**+0.6**
MLZ				IAmb	IAmb	04 28 20.6	
	comp=Z,82nm,0.8s						
URZ	**Urewera**	**47.53**	**140**	P	**P**	**04 28 19.0**	**-0.5**
	comp=Z,17nm,0.6s,baz=258,slow=4.3,SNR=13						
URZ				LR	LR	04 47 57.2	
	comp=Z,406nm,20.1s,baz=28,slow=35						
URZ	**Urewera**	**47.53**	**140**	IAmb	IAmb	04 28 50.8	
	comp=Z,64nm,1.2s						
LTZ	**Lake Taylor**	**47.59**	**148**	P	**P**	**04 28 19.6**	**-0.4**
MSHR	**Mys Shultsa**	**47.59**	**351**	*ce*P	**P**	**04 28 20.3**	**+0.5**
MSHR				pmax	pmax		
	comp=Z,55nm,0.8s						
RPZ	**Rata Peaks**	**47.62**	**150**	LR	LR	04 47 20.8	
	comp=Z,460nm,20.4s,baz=312,slow=35						
BKZ	**Black Stump Fm**	**47.67**	**141**	P	**P**	**04 28 21.5**	**+0.8**
	comp=Z,204nm,0.8s						
HAZ	**Te Kaha**	**47.67**	**139**	P	P	04 28 11.8	-8.8
LBZ	**Lake Benmore**	**47.68**	**151**	IAmb	IAmb	04 28 22.3	
	comp=Z,63nm,1.0s						
WHZ	**Wether Hill Ro**	**47.79**	**154**	IAmb	IAmb	04 28 23.1	
	comp=Z,66nm,1.2s						
NMHZ	**Naumai**	**47.83**	**141**	P	**P**	**04 28 23.0**	**+1.1**
NMHZ				S	**P**	**04 28 24.0**	**+2.0**
TSZ	**Takapari Road**	**47.89**	**143**	P	**P**	**04 28 22.8**	**+0.4**
SNZO	**South Karori**	**47.94**	**145**	P	**P**	**04 28 22.0**	**-0.7**
SNZO				IAmb	IAmb	04 28 27.1	
	comp=Z,35nm,0.7s						
SNZO	**South Karori**	**47.94**	**145**	P	**P**	**04 28 21.8**	**-0.9**
PNHZ	**Pukenui**	**47.94**	**142**	P	**P**	**04 28 23.3**	**+0.5**
HNS	**HongShan**	**47.96**	**333**	⇓P	**P**	**04 28 22.8**	**0.0**
HNS				S	**S**	**04 35 09.5**	**-3.3**
HNS				ScS	**ScS**	**04 38 07.5**	**+1.6**
HNS				SS	**SS**	**04 38 39.5**	**-3.6**
HNS				pmax	pmax		
	comp=Z,62nm,1.2s						
HNS				LR	LR		
	comp=Z,310nm,22.8s						
HNS				LR	LR		
	comp=Z,380nm,21.5s						
HNS				LR	LR		
	comp=Z,680nm,20.0s						
SNGZ	**Shannon Statio**	**47.98**	**140**	P	**P**	**04 28 23.2**	**+0.2**
VLA	**Vladivostok**	**48.01**	**352**	*d i*P	**P**	**04 28 23.3**	**+0.2**
VLA				pmax	pmax		
	comp=Z,234nm,1.2s						
TKGZ	**Te Karaka**	**48.10**	**140**	P	P	04 28 19.0	-5.0
WMGZ	**Waiomatatini S**	**48.12**	**139**	P	**P**	**04 28 24.6**	**+0.5**
PZH	**PanZhiHua**	**48.28**	**312**	P	**P**	**04 28 25.8**	**+0.1**
PZH				S	**S**	**04 35 12.5**	**-5.5**
PZH				sS	**sS**	**04 35 57.5**	**-4.5**
PZH				ScS	**ScS**	**04 38 06.3**	**-2.5**
PZH				pmax	pmax		
	comp=Z,30nm,1.3s						
PZH				pmax	pmax		
	comp=Z,170nm,3.6s						
PZH				LR	LR		
	comp=Z,1μm,24.9s						
PZH				LR	LR		
	comp=Z,1μm,24.9s						
PZH				LR	LR		
	comp=Z,3μm,26.1s						
AFI	**Afiamalu**	**48.29**	**105**	LR	LR	04 46 34.5	
	comp=Z,255nm,20.8s,baz=227,slow=33						
XAN	**Xi'an**	**48.37**	**325**	⇓P	**P**	**04 28 26.3**	**+0.1**
XAN				pP	pP	04 28 45.0	-6.0
XAN				ScP	**ScP**	**04 33 36.3**	**-0.3**
XAN				S	**S**	**04 35 17.3**	**-1.5**
XAN				ScS	**ScS**	**04 38 10.8**	**+1.9**
XAN				pmax	pmax		
	comp=Z,77nm,1.3s						
XAN				pmax	pmax		
	comp=Z,390nm,5.9s						
XAN				LR	LR		
	comp=Z,380nm,18.4s						
XAN				LR	LR		
	comp=Z,350nm,18.4s						
XAN				LR	LR		
	comp=Z,620nm,19.7s						
XAN	**Xi'an**	**48.37**	**325**	P	**P**	**04 28 26.2**	**+0.1**
XAN				pP	**pP**	**04 28 56.5**	**+5.4**
BFZ	**Birch Farm**	**48.45**	**143**	IAmb	IAmb	04 28 26.7	
	comp=Z,49nm,0.7s						
ASAJ	**Asahikawa**	**48.47**	**2**	P	**P**	**04 28 26.1**	**-0.5**
	comp=Z,34nm,0.9s,baz=229,slow=12,SNR=20						
ASAJ				LR	LR	04 51 06.4	
	comp=Z,116nm,18.1s,baz=180,slow=39						
JKA	**Kamikawa-asahi**	**48.47**	**2**	IAmb	IAmb	04 28 27.0	
	comp=Z,57nm,1.0s						
SNY	**Shenyang**	**48.54**	**343**	⇓P	**P**	**04 28 27.3**	**+0.1**
SNY				S	**S**	**04 35 17.0**	**-3.8**
SNY				pmax	pmax		
	comp=Z,59nm,1.1s						
SNY				pmax	pmax		
	comp=Z,470nm,5.1s						
SNY				LR	LR		
	comp=Z,320nm,15.1s						
SNY				LR	LR		
	comp=Z,490nm,20.0s						
SNY				LR	LR		
	comp=Z,690nm,20.8s						
USRK	**Ussuriysk Ar.**	**49.05**	**352**	P	**P**	**04 28 31.3**	**+0.2**
	comp=Z,60nm,0.9s,baz=173,slow=8.1,SNR=78						
TEY	**Ternei**	**49.44**	**357**	⇑*e*P	**P**	**04 28 33.1**	**-0.9**
TEY				*e*		04 35 28.1	
TEY				pmax	pmax		
	comp=N,80nm,2.4s						
TEY				pmax	pmax		
	comp=Z,80nm,2.4s						
TEY				pmax	pmax		
	comp=N,10.0nm,1.5s						
TEY				pmax	pmax		
	comp=E,10.0nm,1.5s						
TEY				pmax	pmax		
	comp=Z,30nm,1.5s						
CD2	**Chengdu**	**49.47**	**318**	P	**P**	**04 28 35.8**	**+1.2**
CD2				S	**S**	**04 35 35.3**	**+0.9**
CD2				ScS	**ScS**	**04 38 15.3**	**-1.2**
CD2				SS	**SS**	**04 39 06.8**	**-1.0**
CD2				pmax	pmax		
	comp=Z,80nm,1.1s						
CD2				pmax	pmax		
	comp=Z,400nm,7.7s						
CD2				LR	LR		
	comp=Z,510nm,17.1s						
CD2				LR	LR		
	comp=Z,390nm,13.9s						
BJT	**Baijiatuan**	**49.50**	**336**	IAmb	IAmb	04 28 35.8	
	comp=Z,56nm,1.4s						
BJT	**Baijiatuan**	**49.50**	**336**	P	**P**	**04 28 34.5**	**-0.1**
BJI	**Beijing**	**49.52**	**336**	P	**P**	**04 28 34.0**	**-0.7**
BJI				pP	**pP**	**04 28 52.0**	**-7.6**
BJI				sP	sP	04 29 02.8	-8.6
BJI				PP	**PP**	**04 30 34.0**	**+4.0**
BJI				S	**S**	**04 35 28.3**	**-6.3**
BJI				SS	**SS**	**04 39 01.5**	**-6.6**
BJI				pmax	pmax		
	comp=Z,25nm,1.3s						
BJI				pmax	pmax		
	comp=Z,240nm,3.9s						
BJI				LR	LR		
	comp=Z,330nm,16.9s						
BJI				LR	LR		
	comp=Z,270nm,17.0s						
BJI				LR	LR		
	comp=Z,590nm,22.8s						
MDJ	**Mudanjiang**	**49.82**	**350**	P	**P**	**04 28 37.0**	**0.0**
MDJ				sP	pP	04 29 05.5	+3.6
MDJ				S	**S**	**04 35 32.0**	**-6.7**
MDJ				ScS	**ScS**	**04 38 15.3**	**-2.9**
MDJ				pmax	pmax		
	comp=Z,110nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,570nm,3.8s						
MDJ				LR	LR		
	comp=Z,370nm,18.4s						
MDJ				LR	LR		
	comp=Z,400nm,18.2s						
MDJ				LR	LR		
	comp=Z,510nm,21.2s						
MDJ	**Mudanjiang**	**49.82**	**350**	P	**P**	**04 28 37.2**	**+0.2**
CN2	**Changchun**	**49.89**	**346**	*e*P	**P**	**04 28 37.0**	**-0.5**
CN2				*e*S	**S**	**04 35 38.8**	**-0.9**
CN2				pmax	pmax		
	comp=Z,60nm,1.1s						
CN2				pmax	pmax		
	comp=Z,400nm,5.0s						
CN2				LR	LR		
	comp=Z,500nm,19.0s						
CN2				LR	LR		
	comp=Z,400nm,19.0s						
CN2				LR	LR		
	comp=Z,700nm,20.0s						
KUR	**Kuril'sk**	**50.02**	**7**	*e*P	**P**	**04 28 38.1**	**-0.3**
KUR				S	**S**	**04 35 42.4**	**+1.1**
KUR				SSS	SSS	04 40 47.3	
KUR				pmax	pmax		
	comp=Z,480nm,1.1s						
KUR				pmax	pmax		
	comp=N,136nm,1.2s						
KUR				pmax	pmax		
	comp=E,83nm,0.9s						
KUR				MLR	MLR		
	comp=Z,309nm,18.0s						
YSS	**Yuzh-Sakhalins**	**51.31**	**2**	*k e*P	**P**	**04 28 47.1**	**-0.9**
YSS				*e*	*e*P	**04 29 16.0**	**+2.9**
YSS				*e*		04 30 02.5	
YSS				*e*		04 30 43.7	
YSS				*e*S	**S**	**04 35 56.3**	**-2.9**
YSS				pmax	pmax		
	comp=Z,400nm,3.1s						
YSS				pmax	pmax		
	comp=N,200nm,3.2s						
YSS				pmax	pmax		
	comp=E,200nm,3.2s						
YSS				pmax	pmax		
	comp=Z,140nm,1.0s						
YSS				smax	smax		
	comp=N,400nm,12.1s						
YSS	**Yuzh-Sakhalins**	**51.31**	**2**	P	**P**	**04 28 47.6**	**-0.4**
YSS	**Yuzh-Sakhalins**	**51.31**	**2**	P	**P**	**04 28 47.4**	**-0.6**
	comp=N,145nm,1.0s						
YSS	**Yuzh-Sakhalins**	**51.31**	**2**	P	**P**	**04 28 47.5**	**-0.6**
BNX	**BinXian**	**51.31**	**349**	⇓P	**P**	**04 28 47.8**	**-0.3**
BNX				pP	**pP**	**04 29 11.3**	**-1.9**
BNX				sP	**sP**	**04 29 22.5**	**-2.3**
BNX				PP	**PP**	**04 30 46.5**	**+0.3**
BNX				S	**S**	**04 35 59.8**	**+0.5**
BNX				pmax	pmax		
	comp=N,280nm,1.2s						
BNX				pmax	pmax		
	comp=N,780nm,6.1s						
BNX				LR	LR		
	comp=N,270nm,11.4s						
BNX				LR	LR		
	comp=N,660nm,16.4s						
MCQ	**Macquarie Isla**	**52.12**	**166**	P	**P**	**04 28 55.2**	**+1.2**
	baz=52,SNR=4.1						
MCQ	**Macquarie Isla**	**52.12**	**166**	P	**P**	**04 28 54.0**	**0.0**
MCQ				pmax	pmax		
	comp=Z,321nm,1.3s						
MCQ	**Macquarie Isla**	**52.12**	**166**	P	**P**	**04 28 54.0**	**0.0**
MCQ	**Macquarie Isla**	**52.12**	**166**	P	**P**	**04 28 55.5**	**+1.5**
HHC	**Hu-ho-hao-te**	**52.18**	**333**	*e*P	**P**	**04 28 55.3**	**+0.5**
HHC				pP	pP	04 29 13.8	-6.2
HHC				sP	sP	04 29 25.3	-6.4
HHC				S	**S**	**04 36 11.8**	**+0.1**
HHC				ScS	**ScS**	**04 38 35.8**	**+0.9**
HHC				pmax	pmax		
	comp=Z,35nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,4.1s						
HHC				LR	LR		
	comp=Z,380nm,18.8s						
HHC				LR	LR		
	comp=Z,290nm,16.1s						
HHC				LR	LR		
	comp=Z,580nm,15.2s						
MIDW	**Midway**	**52.28**	**49**	X		04 28 55.5	
LZH	**Lanzhou**	**52.77**	**323**	⇓P	**P**	**04 29 00.8**	**+1.4**
LZH				pP	pP	04 29 21.0	-3.8
LZH				sP	sP	04 29 29.5	-7.1
LZH				S	**S**	**04 36 20.0**	**0.0**
LZH				pmax	pmax		
	comp=Z,87nm,1.4s						
LZH				pmax	pmax		
	comp=Z,140nm,4.9s						
LZH				LR	LR		
	comp=Z,390nm,19.5s						
LZH				LR	LR		
	comp=Z,310nm,17.3s						
LZH				LR	LR		
	comp=Z,510nm,18.4s						
XLT	**XiLinHaoTe**	**52.85**	**338**	*e*P	**P**	**04 29 00.0**	**+0.3**
XLT				pP	pP	04 29 19.0	-5.8
XLT				sP	sP	04 29 28.8	-7.7
XLT				S	**S**	**04 36 17.8**	**-2.8**
XLT				sS	sS	04 36 55.8	-8.1
XLT				SS	**SS**	**04 39 56.8**	**-4.2**
XLT				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,210nm,4.8s						
XLT				LR	LR		
	comp=Z,36nm,20.4s						
XLT				LR	LR		
	comp=Z,340nm,16.2s						
XLT				LR	LR		
	comp=Z,550nm,24.0s						
UGL	**Uglegorsk**	**53.41**	**2**	*e*P	**P**	**04 29 03.3**	**-0.2**
UGL				*e*		04 36 30.8	
UGL				pmax	pmax		
	comp=Z,160nm,1.3s						
UGL				MLR	MLR		
	comp=N,4μm,18.0s						
UGL				MLR	MLR		
	comp=E,2μm,18.0s						
UGL				MLR	MLR		
	comp=Z,1μm,18.0s						
KLR	**Kul'dur**	**54.03**	**353**	P	**P**	**04 29 08.6**	**+0.5**
	comp=Z,68nm,1.0s,baz=178,slow=4.8,SNR=187						
KLR	**Kul'dur**	**54.03**	**353**	*ce*P	**P**	**04 29 08.1**	**0.0**
KLR				pmax	pmax		
	comp=Z,195nm,1.4s						
GRNR	**Gornyy**	**55.17**	**357**	⇓*i*P	**P**	**04 29 16.4**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,30nm,1.1s						
TYV	**Tymovskoe**	**55.21**	**2**	*e*P	**P**	**04 29 17.1**	**+0.5**
TYV				*e*S	**S**	**04 36 54.8**	**+2.9**
TYV				pmax	pmax		
	comp=Z,700nm,4.7s						
TYV				pmax	pmax		
	comp=Z,77nm,1.4s						
TYV				smax	smax		
	comp=N,400nm,7.3s						
TYV				smax	smax		
	comp=E,300nm,7.3s						
SHL	**Shillong**	**55.53**	**305**	P	**P**	**04 29 19.9**	**+0.3**
SHL				pmax	pmax		
	comp=Z,107nm,1.3s						
SHL	**Shillong**	**55.53**	**305**	P	**P**	**04 29 19.9**	**+0.3**
SHL				IAmb	IAmb	04 29 21.3	
	comp=Z,107nm,1.3s						
SHL	**Shillong**	**55.53**	**305**	P	**P**	**04 29 20.1**	**+0.5**
	SNR=17						
HIA	**Hailar**	**56.43**	**344**	P	**P**	**04 29 25.6**	**+0.2**
HIA				pmax	pmax		
	comp=Z,31nm,1.2s						
HIA	**Hailar**	**56.43**	**344**	P	**P**	**04 29 25.6**	**+0.2**
SKR	**Severo-Kuril's**	**56.69**	**12**	*e*P	**P**	**04 29 26.6**	**-0.5**
SKR				*e*S	**S**	**04 37 13.7**	**+2.2**
SKR				pmax	pmax		
	comp=Z,159nm,1.1s						
SKR				pmax	pmax		
	comp=Z,100nm,4.7s						
SKR				MLR	MLR		
	comp=Z,200nm,14.0s						
GTA	**Gaotai**	**57.36**	**323**	⇓P	**P**	**04 29 33.5**	**+1.2**
GTA				pP	pP	04 29 52.8	-5.3
GTA				sP	sP	04 30 05.5	-4.3
GTA				S	**S**	**04 37 22.5**	**+1.4**
GTA				ScS	**ScS**	**04 39 11.8**	**-0.2**
GTA				pmax	pmax		
	comp=Z,48nm,1.0s						
GTA				pmax	pmax		
	comp=Z,160nm,4.9s						
GTA				LR	LR		
	comp=Z,300nm,17.8s						
GTA				LR	LR		
	comp=Z,280nm,19.3s						
GTA				LR	LR		
	comp=Z,320nm,18.5s						
NKL	**Nikolayevsk**	**57.46**	**0**	*e*P	**P**	**04 29 30.3**	**-2.2**
NKL				*e*S	**S**	**04 37 23.3**	**+1.8**
NKL				pmax	pmax		
	comp=N,1.0nm,0.8s						
NKL				pmax	pmax		
	comp=E,3.0nm,0.8s						
NKL				pmax	pmax		
	comp=Z,86nm,1.1s						
NKL				smax	smax		
	comp=E,7.0nm,3.5s						
NKL				smax	smax		
	comp=N,1.0nm,4.2s						
LSA	**Lhasa**	**57.95**	**309**	P	**P**	**04 29 38.1**	**+1.1**
LSA				pmax	pmax		
	comp=Z,19nm,0.8s						
LSA	**Lhasa**	**57.95**	**309**	P	**P**	**04 29 38.1**	**+1.1**
LSA	**Lhasa**	**57.95**	**309**	P	**P**	**04 29 38.5**	**+1.5**
LSA				S	**S**	**04 37 31.5**	**+1.7**
LSA				LR	LR		
	comp=Z,240nm,10.0s						
LSA				LR	LR		
	comp=Z,230nm,14.2s						
GOMU	**GeErMu**	**58.60**	**318**	P	**P**	**04 29 42.8**	**+1.5**
GOMU				pP	pP	04 30 01.0	-6.1
GOMU				PcP	**PcP**	**04 30 30.5**	**0.0**
GOMU				S	**S**	**04 37 43.0**	**+5.1**
GOMU				pmax	pmax		
	comp=Z,21nm,1.2s						

GOMU pmax pmax
comp=Z,130nm,6.1s
GOMU LR LR
comp=Z,310nm,22.4s
GOMU LR LR
comp=Z,200nm,22.8s
GOMU LR LR
comp=Z,320nm,23.8s
ZEA Zeya 59.05 351 *e*P **P 04 29 43.7 +0.1**
ZEA pmax pmax
comp=E,100nm,3.9s
ZEA pmax pmax
comp=N,100nm,5.0s
ZEA pmax pmax
comp=Z,300nm,4.4s
ZEA pmax pmax
comp=N,30nm,1.4s
ZEA pmax pmax
comp=E,10.0nm,1.4s
ZEA pmax pmax
comp=Z,60nm,1.2s
PEA0B Petropavlovsk- 59.30 12 P **P 04 29 45.1 -0.2**
PEA0B pmax pmax
comp=Z,138nm,1.1s
PEA0B Petropavlovsk- 59.30 12 P **P 04 29 45.1 -0.2**
PETK Petropavlovsk- 59.30 12 P **P 04 29 45.3 -0.1**
comp=Z,69nm,1.0s,baz=186,slow=5.5,SNR=40
PETK LR LR 04 52 27.5
comp=Z,443nm,21.7s,baz=195,slow=33
PET Petropavlovsk 59.43 13 *e*P **P 04 29 45.7 -0.5**
PET *e**PP pP 04 30 00.3 -12
PET *e**SP sP 04 30 11.5 -12
PET *e*S **S 04 37 48.9 +1.8**
PET *e* 04 39 19.3
PET *e*SS **SS 04 41 49.6 +5.5**
PET *e*SSS SSS 04 44 14.6
PET pmax pmax
comp=Z,600nm,8.5s
PET pmax pmax
comp=Z,88nm,1.3s
PET pmax pmax
comp=Z,300nm,10.5s
PET MLR MLR
comp=Z,400nm,19.0s
PET Petropavlovsk 59.43 13 P **P 04 29 45.9 -0.3**
PET Petropavlovsk 59.43 13 P **P 04 29 47.7 +1.5**
comp=Z,269nm,1.4s
TAPN Taplejung 59.67 305 *e*P **P 04 29 49.6 +0.8**
TAPN Taplejung 59.67 305 *e*P **P 04 29 49.5 +0.8**
ULN Ulaanbaatar 59.70 335*ce*P **P 04 29 49.1 +0.7**
ULN pmax pmax
comp=Z,27nm,1.3s
ULN Ulaanbaatar 59.70 335 P **P 04 29 49.0 +0.6**
ULN IAmb IAmb 04 29 50.6
comp=Z,40nm,1.4s
ULN Ulaanbaatar 59.70 335 P **P 04 29 49.1 +0.7**
ODAN Odare 59.74 305 *e*P **P 04 29 49.9 +0.7**
comp=Z,20nm,0.4s
SONM Songino Array 59.95 334 P **P 04 29 50.9 +0.8**
comp=Z,801nm,0.4s,baz=154,slow=7.1,SNR=9.3
SONM LR LR 04 54 40.9
comp=Z,446nm,22.0s,baz=162,slow=35
RAMN Ramite 60.42 304 *e*P **P 04 29 54.9 +1.1**
comp=Z,18nm,0.5s
RAMN Ramite 60.42 304 *e*P **P 04 29 54.8 +1.0**
comp=Z,18nm,0.5s
PALK Pallekele 60.45 281 P **P 04 29 54.6 +0.6**
PALK pmax pmax
comp=Z,75nm,1.2s
PALK Pallekele 60.45 281 P **P 04 29 54.6 +0.6**
PALK IAmb IAmb 04 29 56.2
comp=Z,75nm,1.2s
PALK Pallekele 60.45 281 P **P 04 29 54.9 +0.8**
PALK pP **pP 04 30 23.7 +3.5**
PALK sP **PcP 04 30 41.7 +3.7**
RAR Rarotonga 60.53 112 LR LR 04 55 49.6
comp=Z,72nm,18.1s,baz=271,slow=36
JIRN Jiri 61.03 305 *e*P **P 04 29 59.0 +0.9**
GUN Gumba 61.38 305 *e*P **P 04 30 01.4 +0.9**
PKI Pulchoki 61.64 305 *e*P **P 04 30 02.6 +0.4**
PKIN Phulchoki 61.65 305 *e*P **P 04 30 02.6 +0.4**
PKIN Phulchoki 61.65 305 *e*P **P 04 30 02.2 0.0**
KKN Kakani 61.83 305 *e*P **P 04 30 04.0 +0.7**
DMN Daman 61.90 304 *e*P **P 04 30 04.8 +1.0**
DRV Dumont d'Urvil 62.03 180 ⇑P **P 04 30 03.8 +0.2**
DRV pP **pP 04 30 31.1 +1.7**
DRV sP **PcP 04 30 49.3 +6.2**
GKN Gorkha 62.43 305 *e*P **P 04 30 08.1 +0.8**
GKN Gorkha 62.43 305 *e*P **P 04 30 08.2 +0.9**
comp=Z,62nm,0.6s
KOLN Koldanda 63.20 304 *e*P **P 04 30 13.4 +1.0**
ZAK Zakamensk 63.22 335 *e*P **P 04 30 11.9 -0.1**
ZAK pmax pmax
comp=Z,71nm,1.3s
DANN Dangsing 63.28 305 *e*P **P 04 30 13.7 +0.6**
comp=Z,69nm,0.7s
PYUN Piuthan 63.82 304 *e*P **P 04 30 17.4 +0.9**
comp=Z,145nm,0.7s
SHEM Shemya Is, Ala 63.86 22 LR LR 04 53 10.2
comp=Z,581nm,21.6s,baz=230,slow=31
SMY Shemya 63.86 22 P **P 04 30 15.4 -0.5**
SMY pmax pmax
comp=Z,163nm,0.9s
SMY Shemya 63.86 22 P **P 04 30 15.3 -0.5**
IRK Irkutsk 64.21 336 *e*P **P 04 30 17.8 -0.5**
IRK pmax pmax
comp=Z,77nm,1.7s
MA2 Magadan 64.45 6 P **P 04 30 19.9 +0.1**
comp=Z,38nm,0.9s,baz=171,slow=7.0,SNR=40
MA2 LR LR 04 56 10.3
comp=Z,183nm,21.9s,baz=183,slow=34
MA2 Magadan 64.45 6*ce*P **P 04 30 19.7 0.0**
MA2 pmax pmax
comp=Z,189nm,2.5s
MA2 Magadan 64.45 6 P **P 04 30 19.4 -0.4**
MA2 IAmb IAmb 04 30 21.1
comp=Z,82nm,1.1s
MA2 Magadan 64.45 6 P **P 04 30 19.8 +0.1**
HYBB Hyderabad (bro 64.55 292 *e*P **P 04 30 21.0 -0.3**
HYBB *e*PcP **PcP 04 30 54.0 -0.6**
HYBB *es*P **sP 04 30 59.5 -0.5**
HYBB *e*PP **PP 04 32 44.6 0.0**
HYBB *e*S **S 04 38 52.9 -0.2**
CASY Casey 65.02 193 P **P 04 30 23.6 +0.3**
CASY IAmb IAmb 04 30 25.0
comp=Z,118nm,1.2s
CASY Casey 65.02 193 ⇑P **P 04 30 23.8 +0.5**
CASY X 04 30 49.1
CASY pP **sP 04 31 03.2 +2.5**
MOY Mondy 65.15 334 *e*P **P 04 30 25.4 +0.8**
MOY pmax pmax
comp=Z,71nm,2.1s
PCHI Peechi 65.24 284⇑ *e*P **P 04 30 27.0 +1.3**
PCHI *e*S **S 04 39 00.7 -0.8**
BOD Bodaibo 65.62 345 *e*P **P 04 30 27.0 -0.3**
BOD pmax pmax
comp=Z,61nm,1.2s
AIS Amsterdam Isla 65.69 230 P **P 04 30 28.7 +0.5**
AIS Amsterdam Isla 65.69 230 ⇑P **P 04 30 30.5 +2.3**
KIP Kipapa 65.81 64*ce*P **P 04 30 29.5 +0.2**
KIP pmax pmax
comp=Z,283nm,2.5s
KIP Kipapa 65.81 64 P **P 04 30 28.5 -0.8**
KIP Kipapa 65.81 64 P **P 04 30 30.0 +0.7**
KIP X 04 30 35.6
KIP pP **pP 04 30 55.7 +0.3**
KIP sP **sP 04 31 09.6 +2.9**
KNGR Kungurtug, Tuv 65.97 332 *i* P **P 04 30 30.7 +0.8**
YAK Yakutsk 66.85 355 P **P 04 30 35.5 +0.4**
comp=Z,14nm,0.5s,baz=197,slow=0.9,SNR=9.1
YAK Yakutsk 66.85 355 *e*P **P 04 30 34.6 -0.5**
YAK *e**PP **pP 04 31 00.5 -0.7**
YAK *e* 04 33 09.6
YAK *e*S **S 04 39 20.4 +1.1**
YAK *e**SS **sS 04 40 04.6 +0.6**
YAK *e* 04 40 21.7
YAK pmax pmax
comp=Z,90nm,1.0s
YAK pmax pmax
comp=N,40nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,12nm,0.6s

YAK smax smax
comp=E,173nm,2.1s
YAK smax smax
comp=N,390nm,3.2s
YAK Yakutsk 66.85 355 P **P 04 30 34.6 -0.5**
ADK Adak 67.10 27 P **P 04 30 36.9 0.0**
ADK pmax pmax
comp=Z,236nm,1.4s
ADK Adak 67.10 27 P **P 04 30 36.9 0.0**
ADK Adak 67.10 27 P **P 04 30 36.7 -0.2**
WMQ Urumqi 67.30 322 ⇑P **P 04 30 40.0 +1.6**
WMQ pP pP 04 31 00.5 -4.3
WMQ PcP **PcP 04 31 07.8 +2.3**
WMQ sP sP 04 31 14.8 -1.5
WMQ S **S 04 39 28.5 +2.9**
WMQ pmax pmax
comp=Z,54nm,1.3s
WMQ pmax pmax
comp=Z,230nm,6.1s
WMQ LR LR
comp=Z,440nm,18.5s
WMQ LR LR
comp=Z,380nm,17.1s
WMQ LR LR
comp=Z,250nm,20.5s
POHA Pohakuloa 67.65 67 P **P 04 30 40.1 -1.2**
SEY Seymchan 67.91 6 P **P 04 30 42.0 +0.3**
comp=Z,21nm,0.9s,baz=176,slow=5.1,SNR=59
SEY Seymchan 67.91 6*ce*P **P 04 30 41.7 -0.1**
SEY pmax pmax
comp=Z,96nm,2.2s
POO Poona 69.16 292 *e*P **P 04 30 46.0 -4.5**
PPT2 Papeete2 69.87 107 *e*S **S 04 39 55.4 -1.5**
comp=Z,944nm,27.2s
PPT2 Papeete2 69.87 107 *e*LR LR 04 52 17.7
comp=Z,515nm,35.0s
TBI Tubuai 70.24 113 *e*S **S 04 39 59.4 -1.5**
comp=Z,278nm,28.2s
TBI *e*LQ LQ 04 49 26.0
comp=Z,770nm,40.8s
TBI *e*LR LR 04 52 28.2
comp=Z,363nm,36.0s
CCD Concordia, Ant 71.19 185 P **P 04 31 02.7 +0.5**
CCD X 04 31 28.7
CCD pP **sP 04 31 38.0 -2.0**
NIKH Nikolski High 71.52 30 P **P 04 31 03.9 -0.2**
baz=235
MK31 Makanchi Array 72.08 322 *i* P **P 04 31 08.5 +0.8**
MKAR Makanchi Array 72.08 322 P **P 04 31 08.7 +1.0**
comp=Z,22nm,0.8s,baz=108,slow=7.8,SNR=124
MKAR pP **pP 04 31 35.0 +0.6**
comp=Z,36nm,1.0s,baz=112,slow=7.2,SNR=4.7
MKAR LR LR 05 05 05.4
comp=Z,120nm,19.1s,baz=125,slow=38
MKAR Makanchi Array 72.08 322 *i* P **P 04 31 08.6 +0.9**
MKAR pmax pmax
comp=Z,22nm,0.8s
MKAR Makanchi Array 72.08 322 P **P 04 31 08.4 +0.7**
MAKZ Makanchi 72.28 322 P **P 04 31 09.5 +0.7**
MAKZ pmax pmax
comp=Z,37nm,0.9s
MAKZ Makanchi 72.28 322 P **P 04 31 09.5 +0.7**
SHLS Shalkode 72.30 318 *e*P **P 04 31 08.1 -1.1**
SHLS *i* S **S 04 40 23.6 -0.7**
SHLS pmax pmax
comp=Z,19nm,0.9s
SHLS Shalkode 72.30 318 *e*P **P 04 31 08.2 -1.1**
comp=Z,19nm,0.9s,baz=318
SHLS *i* S **S 04 40 23.7 -0.7**
baz=318
PDGK Podgornoye 72.36 318 P **P 04 31 10.5 +1.0**
UZB Uzynbulak 72.59 318 *e*P **P 04 31 11.2 +0.3**
UZB *e*S **S 04 40 28.8 +1.1**
UZB pmax pmax
comp=Z,31nm,0.9s
UZB Uzynbulak 72.59 318 *e*P **P 04 31 11.3 +0.3**
comp=Z,31nm,0.9s,baz=318
UZB *e*S **S 04 40 28.8 +1.1**
baz=318
KPKS Kokpek 72.95 318 *e*P **P 04 31 13.0 +0.1**
KPKS *e*S **S 04 40 33.6 +2.1**
KPKS pmax pmax
comp=Z,38nm,1.2s
KPKS Kokpek 72.95 318 *e*P **P 04 31 13.1 +0.1**
comp=Z,38nm,1.2s,baz=318
KPKS *e*S **S 04 40 33.7 +2.1**
baz=318
SATY Saty 72.97 318 *e*P **P 04 31 13.3 +0.1**
SATY *i* S **SKiKP 04 40 34.1 -2.0**
SATY pmax pmax
comp=Z,25nm,0.9s
SATY Saty 72.97 318 *e*P **P 04 31 13.3 +0.1**
comp=Z,25nm,0.9s,baz=318
SATY *i* S **SKiKP 04 40 34.2 -2.0**
baz=318
ZHN Zhinishke 73.00 318 *e*P **P 04 31 13.8 +0.5**
ZHN *i* S **SKiKP 04 40 34.4 -1.7**
ZHN Zhinishke 73.00 318 *e*P **P 04 31 13.8 +0.5**
baz=318
ZHN *i* S **SKiKP 04 40 34.4 -1.7**
baz=318
UNV Unalaska Valle 73.18 30 IAmb IAmb 04 31 17.0
comp=Z,117nm,1.0s
UNV Unalaska Valle 73.18 30 P **P 04 31 13.4 -0.5**
baz=237
KSH Kashi 73.35 313 P **P 04 31 18.0 +2.5**
KSH pP pP 04 31 45.5 +3.1
KSH S **SKiKP 04 40 41.3 +4.5**
KSH ScS **ScS 04 41 15.5 +0.4**
KSH pmax pmax
comp=Z,49nm,1.3s
KSH LR LR
comp=Z,350nm,15.1s
KSH LR LR
comp=Z,200nm,16.8s
KSH LR LR
comp=Z,280nm,18.9s
SPIA Saint Paul Isl 73.38 26 P **P 04 31 14.3 -0.7**
baz=232
NIL Nilore 73.54 307 P **P 04 31 17.2 +0.6**
NIL pmax pmax
comp=Z,131nm,1.0s
NIL Nilore 73.54 307 P **P 04 31 17.2 +0.6**
NIL IAmb IAmb 04 31 18.6
comp=Z,131nm,1.0s
TDK Taldyqorghan 73.75 319 *e*P **P 04 31 18.1 +0.6**
TDK *i* S **S 04 40 42.4 +2.0**
TDK pmax pmax
comp=Z,23nm,0.6s
TDK Taldyqorghan 73.75 319 *e*P **P 04 31 18.1 +0.6**
comp=Z,23nm,0.6s,baz=319
TDK *i* S **S 04 40 42.4 +2.0**
baz=319
ARXS Arharly 73.81 318 *e*P **P 04 31 19.0 +1.0**
VNDA Vanda 73.86 175 P **P 04 31 17.9 +0.3**
comp=Z,15nm,0.8s,baz=328,slow=6.9,SNR=123
VNDA LR LR 05 04 40.3
comp=Z,354nm,18.6s,baz=344,slow=36
VNDA Vanda 73.86 175 P **P 04 31 17.9 +0.3**
VNDA pmax pmax
comp=Z,19nm,0.8s
VNDA Vanda 73.86 175 P **P 04 31 17.9 +0.3**
MDOK Medeo 73.93 317 *e*P **P 04 31 19.1 +0.3**
MDOK *i* S **S 04 40 45.2 +2.4**
MDOK Medeo 73.93 317 *e*P **P 04 31 19.1 +0.3**
baz=317
MDOK *i* S **S 04 40 45.3 +2.4**
baz=317
TNSS Tian-Shan 73.95 317 *e*P **P 04 31 19.5 +0.3**
TNSS Tian-Shan 73.95 317 *e*P **P 04 31 19.5 +0.3**
baz=317
AAA Alma-Ata 74.04 317 *e*P **P 04 31 19.9 +0.6**
AAA *i* S **S 04 40 45.8 +2.0**
AAA pmax pmax
comp=Z,23nm,0.5s
AAA Alma-Ata 74.04 317 *e*P **P 04 31 20.0 +0.6**
comp=Z,23nm,0.5s,baz=317
AAA *i* S **S 04 40 45.8 +2.0**
baz=317
ULHL Ulahol 74.14 316 P **P 04 31 21.7 +1.6**
SNR=12
ZALV Zalesovo Beam 74.21 330 P **P 04 31 19.8 -0.2**
comp=Z,9.2nm,0.8s,baz=111,slow=5.4,SNR=32
ZALV LR LR 05 05 05.5
comp=Z,146nm,20.1s,baz=127,slow=36
ZALV Zalesovo Beam 74.21 330 *i* P **P 04 31 19.6 -0.4**

ZALV pmax pmax
comp=Z,9.0nm,0.8s
ZALV Zalesovo Beam 74.21 330 P **P 04 31 19.1 -0.9**
CHKK Chushkaly 74.23 318 *e*P **P 04 31 20.8 +0.4**
CHKK Chushkaly 74.23 318 *e*P **P 04 31 20.8 +0.4**
baz=318
BOOM Boomskoye usch 74.44 316 IAmb IAmb 04 31 24.9
comp=Z,35nm,0.7s
SBA Scott Base 74.61 174 P **P 04 31 22.7 +0.8**
SBA pmax pmax
comp=Z,30nm,1.1s
SBA Scott Base 74.61 174 P **P 04 31 22.7 +0.8**
KUU Kurty 74.68 318 *e*P **P 04 31 23.0 0.0**
KUU *i* S **S 04 40 52.3 +1.5**
KUU pmax pmax
comp=Z,58nm,1.0s
KUU Kurty 74.68 318 *e*P **P 04 31 23.1 0.0**
comp=Z,58nm,1.0s,baz=318
KUU *i* S **S 04 40 52.4 +1.5**
baz=318
BILL Bilibino 74.69 10*c i*P **P 04 31 22.2 -0.3**
BILL *e* 04 34 08.6
BILL *i* S **S 04 40 56.7 +6.7**
BILL pmax pmax
comp=Z,64nm,1.7s
BILL MLR MLR
comp=Z,172nm,18.0s
BILL Bilibino 74.69 10 P **P 04 31 22.4 -0.1**
TKM2 Tokmak 2 74.83 317 P **P 04 31 25.5 +1.4**
SNR=26
TKM2 Tokmak 2 74.83 317 *i* P **P 04 31 25.1 +1.0**
TKM2 pmax pmax
comp=Z,24nm,0.8s
SEM Semipalatinsk 74.94 325 *e*P **P 04 31 23.6 -0.9**
SEM *i* S **S 04 40 52.6 -1.2**
SEM Semipalatinsk 74.94 325 *e*P **P 04 31 23.7 -0.9**
baz=325
SEM *i* S **S 04 40 52.7 -1.2**
baz=325
KBK Karagaybulak 75.18 316 P **P 04 31 28.9 +2.8**
SNR=5.9
FALS False Pass 75.25 30 P **P 04 31 25.5 -0.4**
baz=239
UCH Uchtor 75.33 316 P **P 04 31 29.3 +2.0**
SNR=36
CHMS Chumysh 75.44 316 P **P 04 31 29.8 +2.4**
SNR=6.8
CHMS Chumysh 75.44 316 *i* P **P 04 31 28.4 +1.0**
CHMS pmax pmax
comp=Z,36nm,1.1s
AAK Ala-Archa 75.49 316 P **P 04 31 29.9 +2.1**
SNR=14
AAK Ala-Archa 75.49 316 LR LR 05 05 38.5
comp=Z,179nm,21.5s,baz=100,slow=36
AAK Ala-Archa 75.49 316*ce*P **P 04 31 29.2 +1.4**
AAK pmax pmax
comp=Z,28nm,1.3s
AAK Ala-Archa 75.49 316 P **P 04 31 27.9 0.0**
AAK Ala-Archa 75.49 316 *i* P **P 04 31 29.4 +1.6**
SNR=16
SGDS Sogindy 75.68 317 *e*P **P 04 31 28.5 -0.2**
SGDS *i* S **S 04 41 03.5 +1.5**
SGDS Sogindy 75.68 317 *e*P **P 04 31 28.6 -0.2**
baz=317
SGDS *i* S **S 04 41 03.5 +1.5**
baz=317
USP Ospenovka 75.70 317 P **P 04 31 30.2 +1.3**
SNR=34
AML Almayashu 75.87 315 P **P 04 31 32.1 +1.7**
SNR=69
AML Almayashu 75.87 315 *i* P **P 04 31 31.8 +1.5**
SNR=69
EKS2 Erkin-Say 75.99 316 P **P 04 31 32.4 +1.7**
SNR=18
KURK Kurchatov 76.00 325 P **P 04 31 30.9 +0.5**
KURK pmax pmax
comp=Z,34nm,0.9s
KURK Kurchatov 76.00 325 P **P 04 31 30.9 +0.5**
KURBB Kurchatov Arra 76.02 325 P **P 04 31 32.2 +0.8**
comp=Z,22nm,1.1s,baz=114,slow=5.3,SNR=59
KURBB pP **pP 04 31 58.8 +1.3**
comp=Z,24nm,1.0s,baz=118,slow=5.1,SNR=8.5
DRK Karamyk 76.39 312 IAmb IAmb 04 31 36.0
comp=Z,119nm,1.4s
BTLS Baital 76.63 318 *e*P **P 04 31 33.7 -0.3**
BTLS *i* S **S 04 41 11.7 -0.5**
BTLS Baital 76.63 318 *e*P **P 04 31 33.8 -0.3**
baz=318
BTLS *i* S **S 04 41 11.8 -0.5**
baz=318
SDPT Sand Point 76.96 30 P **P 04 31 35.3 -0.3**
baz=242
GAMB Gambell 76.98 20 P **P 04 31 34.6 -0.9**
baz=230
KBL Kabul 77.14 307 P **P 04 31 37.5 +0.1**
KBL pmax pmax
comp=Z,45nm,0.9s
KBL Kabul 77.14 307 P **P 04 31 37.5 +0.1**
KBL IAmb IAmb 04 31 38.8
comp=Z,45nm,0.9s
KBL Kabul 77.14 307 P **P 04 31 38.0 +0.6**
SNR=18
BTK Batken 77.29 313 IAmb IAmb 04 31 40.5
comp=Z,76nm,1.4s
DZA Taraz 77.77 315 *e*P **P 04 31 41.3 +0.8**
DZA *i* S **S 04 41 26.6 +1.8**
DZA Taraz 77.77 315 *e*P **P 04 31 41.4 +0.8**
baz=315
DZA *i* S **S 04 41 26.6 +1.8**
baz=315
CHGR Chuyangaron 78.13 311 IAmb IAmb 04 31 44.8
comp=Z,115nm,0.9s
KK31 Karatay Array 78.41 316 *i* P **P 04 31 44.7 +0.7**
KKAR Karatay Array 78.41 316 P **P 04 31 44.8 +0.8**
KKAR Karatay Array 78.41 316 P **P 04 31 44.8 +0.8**
KKAR Karatay Array 78.41 316 IAmb IAmb 04 31 47.1
comp=Z,20nm,1.1s
IUG Iuzhnay 78.46 314 *e*P **P 04 31 44.5 +0.1**
IUG *e*S **S 04 41 33.7 +1.3**
IUG Iuzhnay 78.46 314 *e*P **P 04 31 44.5 +0.1**
baz=314
IUG *e*S **S 04 41 33.7 +1.3**
baz=314
OTUK Ortayu 78.84 321 P **P 04 31 47.2 +0.9**
TAOE Nuku Hiva Isla 79.18 98 *e*LR LR 04 56 30.1
comp=Z,279nm,23.9s
BRZS Berezniki 79.22 323 *e*P **P 04 31 49.2 +0.9**
BRZS pmax pmax
comp=Z,26nm,2.3s
BRZS Berezniki 79.22 323 *e*P **P 04 31 48.1 -0.2**
baz=323
CHIR Chirikof Islan 79.64 31 P **P 04 31 49.8 -0.6**
baz=246
ANM Nome 79.67 21 P **P 04 31 50.9 +0.5**
baz=236
SII Sitkinak Islan 80.67 31 P **P 04 31 56.2 +0.2**
baz=247
MAW Mawson 80.99 202 P **P 04 31 58.0 +0.6**
comp=Z,37nm,1.0s,baz=67,slow=6.6,SNR=29
MAW LR LR 05 07 16.4
comp=Z,258nm,18.1s,baz=74,slow=35
MAW Mawson 80.99 202 P **P 04 31 58.3 +0.9**
baz=81,SNR=12
MAW Mawson 80.99 202 P **P 04 31 58.1 +0.6**
MAW pmax pmax
comp=Z,16nm,1.1s
MAW Mawson 80.99 202 P **P 04 31 58.1 +0.6**
OHAK Old Harbor 81.39 30 P **P 04 31 58.7 -0.9**
baz=248
O18K Koktuh Hills 81.50 27 P **P 04 31 59.3 -1.1**
baz=246
N18K Kilae Creek 81.54 27 IAmb IAmb 04 32 02.4
comp=Z,48nm,1.1s
N18K Kilae Creek 81.54 27 P **P 04 32 01.2 +0.7**
baz=245,SNR=7.8
BRVK Borovoye 81.67 325 P **P 04 32 02.4 +1.1**
BRVK pmax pmax
comp=Z,34nm,1.0s
BRVK Borovoye 81.67 325 P **P 04 32 02.4 +1.1**
NRIK Noril'sk 81.85 343 P **P 04 32 02.4 +0.4**
comp=Z,38nm,1.0s,baz=124,slow=5.7,SNR=35
NRIK LR LR 05 09 01.3
comp=Z,214nm,20.3s,baz=130,slow=36
NRIK Noril'sk 81.85 343*ce*P **P 04 32 02.2 +0.3**
NRIK pmax pmax
comp=Z,64nm,1.1s

NRIK	Noril'sk	81.85	343		IAmb	IAmb	04 32 03.5		
	comp=Z,67nm,1.2s								
KDAK	Kodiak Island	81.95	30	P		P	04 32 02.9	+0.2	
	comp=Z,36nm,1.0s,baz=284,slow=7.1,SNR=10								
KDAK				LR		LR	05 03 05.4		
	comp=Z,508nm,20.5s,baz=257,slow=32								
KDAK	Kodiak Island	81.95	30	P		P	04 32 01.3	-1.3	
	baz=248								
O19K	Port Alsworth	82.05	27	P		P	04 32 02.5	-0.7	
	baz=246								
N19K	Bonanza Creek	82.23	27	IAmb		IAmb	04 32 05.6		
	comp=Z,65nm,1.2s								
N19K	Bonanza Creek	82.23	27	P		P	04 32 04.3	+0.1	
	baz=246								
P19K	Oil Pt	82.34	28	P		P	04 32 04.8	0.0	
	baz=247								
RDOG	Red Dog Mine	82.43	19	IAmb		IAmb	04 32 05.6		
	comp=Z,72nm,1.1s								
RDOG	Red Dog Mine	82.43	19	P		P	04 32 04.4	-0.6	
	baz=237,SNR=37								
TTA	Tatalina	82.45	24	P		P	04 32 05.2	-0.2	
	baz=244								
L19K	White Mountain	82.62	25	IAmb		IAmb	04 32 07.7		
	comp=Z,70nm,1.1s								
L19K	White Mountain	82.62	25	P		P	04 32 06.5	+0.4	
	baz=246,SNR=14								
M19K	Big River Lodg	82.71	26	P		P	04 32 07.1	+0.5	
	baz=246,SNR=7.9								
GCSA	Galena City Sc	82.91	23	P		P	04 32 07.7	+0.2	
	baz=244,SNR=14								
HOM	Homer	83.09	28	P		P	04 32 07.8	-0.7	
	baz=249								
JLN	Jalan Bani Buh	83.13	293	P		P	04 32 12.0	+2.4	
	SNR=5.6								
L20K	Farewell, AK	83.16	25	P		P	04 32 09.3	+0.4	
	baz=246,SNR=14								
K20K	Telida	83.44	24	IAmb		IAmb	04 32 12.0		
	comp=Z,59nm,1.0s								
K20K	Telida	83.44	24	P		P	04 32 10.7	+0.4	
	baz=246,SNR=21								
WBK	Wadi Bani Khal	83.59	293	P		P	04 32 14.0	+2.0	
	SNR=5.8								
J20K	Nowinta River	83.74	24	IAmb		IAmb	04 32 13.6		
	comp=Z,87nm,1.2s								
J20K	Nowinta River	83.74	24	P		P	04 32 12.2	+0.5	
	baz=246,SNR=25								
WSAR	Wadi Sarin	83.98	294	P		P	04 32 15.2	+1.2	
	SNR=15								
PPLA	Purkeypile	84.04	25	IAmb		IAmb	04 32 14.2		
	comp=Z,52nm,1.2s								
PPLA	Purkeypile	84.04	25	P		P	04 32 12.7	-0.9	
	baz=248								
CAST	Castle Rocks	84.28	25	P		P	04 32 14.0	-0.6	
	baz=248,SNR=14								
MHTO	MHTO	84.31	292	P		P	04 32 17.0	+1.3	
	SNR=15								
MSEY	Mahe Island	84.32	266	*i* P		P	04 32 16.5	+0.6	
	SNR=7.2								
JMDO	Jabal Madar	84.36	293	P		P	04 32 17.0	+1.2	
	SNR=7.5								
CHUM	Lake Minchumin	84.36	24	P		P	04 32 15.0	+0.1	
	baz=248,SNR=45								
BIDO	Bidbid	84.48	294	P		P	04 32 18.0	+1.5	
	SNR=45								
RC01	Rabbit Creek A	84.48	27	IAmb		IAmb	04 32 15.9		
	comp=Z,92nm,1.2s								
RC01	Rabbit Creek A	84.48	27	P		P	04 32 14.7	-0.9	
	baz=250,SNR=5.5								
SMDO	Samad	84.49	294	P		P	04 32 18.0	+1.3	
	SNR=14								
M22K	Willow	84.53	27	P		P	04 32 14.6	-1.3	
	baz=250,SNR=14								
IMAR	Indian Mountai	84.62	22	P		P	04 32 16.3	0.0	
CUT	Chulitna	84.69	26	IAmb		IAmb	04 32 16.6		
	comp=Z,112nm,1.1s								
CUT	Chulitna	84.69	26	P		P	04 32 15.1	-1.6	
	baz=250,SNR=6.7								
KTH	Kantishna Hill	84.82	25	IAmb		IAmb	04 32 17.5		
	comp=Z,50nm,1.0s								
H21K	Melozitna Rive	84.85	23	P		P	04 32 17.4	0.0	
	baz=247,SNR=22								
PMR	Palmer	84.92	27	IAmb		IAmb	04 32 18.0		
	comp=Z,64nm,1.0s								
PMR	Palmer	84.92	27	P		P	04 32 16.9	-0.9	
	baz=251,SNR=12								
I21K	Tanana	84.99	23	P		P	04 32 18.3	+0.3	
	baz=248,SNR=15								
BPAW	Bear Paw Mtn.	84.99	24	P		P	04 32 17.4	-0.8	
	baz=249,SNR=7.5								
TRF	Thorofare Moun	85.05	25	P		P	04 32 17.3	-1.3	
	baz=250,SNR=9.0								
PWL	Port Wells	85.05	28	IAmb		IAmb	04 32 19.1		
	comp=Z,70nm,1.1s								
PWL	Port Wells	85.05	28	P		P	04 32 17.8	-0.7	
	baz=252,SNR=6.0								
GHO	Glory Hole Cre	85.08	27	IAmb		IAmb	04 32 19.0		
	comp=Z,44nm,1.0s								
KNK	Knik Glacier	85.17	27	IAmb		IAmb	04 32 19.9		
	comp=Z,76nm,1.0s								
KNK	Knik Glacier	85.17	27	P		P	04 32 18.8	-0.3	
	baz=251,SNR=9.7								
HOQ	Hoqain	85.23	294	P		P	04 32 21.0	+0.8	
	SNR=38								
BSY	Bisya	85.23	293	P		P	04 32 21.0	+0.7	
	SNR=11								
SML	Sawmill	85.35	27	IAmb		IAmb	04 32 20.6		
	comp=Z,115nm,1.1s								
SML	Sawmill	85.35	27	P		P	04 32 19.6	-0.5	
	baz=252,SNR=11								
QSPA	South Pole Qui	85.44	180	LR		LR	05 11 57.3		
	comp=Z,356nm,18.0s,baz=358,slow=36								
QSPA	South Pole Qui	85.44	180	P		P	04 32 20.6	+0.1	
M23K	Glacier View	85.62	27	P		P	04 32 20.7	-0.7	
	baz=252,SNR=12								
GLI	Glacier Island	85.64	28	IAmb		IAmb	04 32 21.5		
	comp=Z,41nm,0.8s								
GLI	Glacier Island	85.64	28	P		P	04 32 20.8	-0.6	
	baz=253								
BWN	Browne	85.64	24	IAmb		IAmb	04 32 22.0		
	comp=Z,78nm,1.1s								
RND	Reindeer	85.64	25	IAmb		IAmb	04 32 21.4		
	comp=Z,82nm,1.0s								
MCK	McKinley	85.71	25	IAmb		IAmb	04 32 21.8		
	comp=Z,51nm,1.0s								
MCK	McKinley	85.71	25	P		P	04 32 20.7	-1.0	
	baz=251,SNR=15								
SCM	Sheep Creek Mo	85.82	27	IAmb		IAmb	04 32 23.1		
	comp=Z,81nm,1.0s								
SCM	Sheep Creek Mo	85.82	27	P		P	04 32 22.0	-0.4	
	baz=252,SNR=11								
WAT6	Susitna Watana	85.86	26	P		P	04 32 21.7	-1.0	
	baz=252,SNR=9.3								
NEA2	Nenana	85.94	24	P		P	04 32 22.0	-0.8	
	baz=251,SNR=5.3								
A21K	Barrow	85.96	17	IAmb		IAmb	04 32 24.2		
	comp=Z,106nm,1.2s								
A21K	Barrow	85.96	17	P		P	04 32 22.7	0.0	
	baz=243								
SOHO	SOHO	86.00	294	*i* P		P	04 32 24.2	+0.2	
	SNR=19								
I23K	Minto, Yukon-K	86.01	24	IAmb		IAmb	04 32 24.2		
	comp=Z,49nm,1.3s								
I23K	Minto, Yukon-K	86.01	24	P		P	04 32 22.9	-0.2	
	baz=250								
H23K	Yukon River	86.17	23	P		P	04 32 24.1	+0.1	
	baz=250,SNR=13								
DHY	Denali Highway	86.17	26	IAmb		IAmb	04 32 24.9		
	comp=Z,64nm,1.0s								
DHY	Denali Highway	86.17	26	P		P	04 32 23.8	-0.4	
	baz=252,SNR=26								
SHAO	Shalim	86.17	288	P		P	04 32 25.1	+0.1	
WRH	Wood River Hil	86.30	24	IAmb		IAmb	04 32 24.6		
	comp=Z,78nm,1.3s								
DIV	Divide	86.33	28	IAmb		IAmb	04 32 25.9		
	comp=Z,78nm,1.0s								
KLU	Klutina	86.36	28	IAmb		IAmb	04 32 26.1		
	comp=Z,56nm,1.1s								
KLU	Klutina	86.36	28	P		P	04 32 25.0	-0.1	
	baz=254,SNR=8.5								
UOSS	Minazif	86.39	295	P		P	04 32 25.2	-0.8	
UOSS	Minazif	86.39	295	*i* P		P	04 32 25.8	-0.1	
	SNR=14								
COLD	Coldfoot	86.41	21	IAmb		IAmb	04 32 27.0		
	comp=Z,81nm,1.5s								
COLD	Coldfoot	86.41	21	P		P	04 32 25.6	+0.5	
	baz=249,SNR=26								
M24K	Tolsona, Glenn	86.42	27	P		P	04 32 25.2	-0.1	
	baz=253,SNR=7.6								
BANOM	Banah	86.42	296	P		P	04 32 28.0	+1.9	
	SNR=9.5								
BANOM	Banah	86.42	296	*i* P		P	04 32 26.6	+0.5	
	SNR=30								
HATD	Hatta, Dubai	86.45	295	P		P	04 32 27.0	+0.8	
	SNR=13								
HATD	Hatta, Dubai	86.45	295	*i* P		P	04 32 27.0	+0.8	
	SNR=9.1								
GEYT	Alibeck	86.47	308	P		P	04 32 26.7	+0.6	
	comp=Z,21nm,1.0s,baz=134,slow=4.3,SNR=17								
GEYT				pP		pP	04 32 56.2	+2.6	
	comp=Z,14nm,1.0s,baz=131,slow=4.5,SNR=3.3								
GEYT				LR		LR	05 14 08.5		
	comp=Z,112nm,21.2s,baz=109,slow=38								
GEYT	Alibeck	86.47	308	IAmb		IAmb	04 32 31.0		
	comp=Z,62nm,1.4s								
GYA0B	ALIBECK ARRAY	86.47	308	IAmb		IAmb	04 32 30.9		
	comp=Z,83nm,1.4s								
MSFE	Esma-Masafi	86.48	296	*i* P		P	04 32 26.9	+0.5	
	SNR=20								
MSFE				*i* P		P	04 32 27.0	+0.5	
	SNR=15								
MASF	Masafi	86.48	296	P		P	04 32 27.7	+1.3	
	SNR=18								
ASHO	Ashiyiah	86.50	295	P		P	04 32 28.0	+1.5	
	SNR=12								
ASHO	Ashiyiah	86.50	295	*i* P		P	04 32 27.2	+0.7	
	SNR=11								
TCOL	CIGO, UAF Yank	86.52	24	P		P	04 32 23.9	-1.7	
	baz=252								
COLA	College	86.53	24	P		P	04 32 24.8	-0.8	
COLA				pmax		pmax			
	comp=Z,28nm,1.0s								
COLA	College	86.53	24	P		P	04 32 24.8	-0.8	
COLA	College	86.53	24	P		P	04 32 24.1	-1.6	
	baz=252								
SHME	Shmm	86.58	296	P		P	04 32 29.0	+2.1	
	SNR=6.3								
SHME	Shamm	86.58	296	*i* P		P	04 32 27.6	+0.7	
	SNR=9.8								
KAIM	Kayak Island	86.65	29	P		P	04 32 25.3	-1.1	
	baz=255								
ALNE	Al Ain	86.70	294	P		P	04 32 28.7	+1.2	
	SNR=19								
ALNE	Al Ain	86.70	294	*i* P		P	04 32 27.9	+0.4	
	SNR=10								
POKR	Poker Plat Res	86.77	24	P		P	04 32 25.3	-1.6	
	baz=252								
H24K	Noodor Dome	86.82	23	IAmb		IAmb	04 32 28.4		
	comp=Z,37nm,1.2s								
H24K	Noodor Dome	86.82	23	P		P	04 32 26.7	-0.5	
	baz=252,SNR=12								
BMRM	Bremner River	86.83	28	IAmb		IAmb	04 32 28.2		
	comp=Z,54nm,1.1s								
BMRM	Bremner River	86.83	28	P		P	04 32 27.0	-0.3	
	baz=255								
NAZ	Nazwa, Dubai	86.89	295	P		P	04 32 30.0	+1.6	
	SNR=13								
NAZ	Nazwa, Dubai	86.89	295	*i* P		P	04 32 29.0	+0.6	
	SNR=11								
IL31		86.89	24	IAmb		IAmb	04 32 26.9		
	comp=Z,27nm,0.9s								
ILAR	Eielson Array	86.89	24	P		P	04 32 25.7	-1.8	
	comp=Z,21nm,0.9s,baz=260,slow=4.6,SNR=83								
ILAR				pP		pP	04 32 56.7	+1.8	
	comp=Z,5.8nm,0.7s,baz=261,slow=4.6,SNR=3.2								
ILAR				PP		PP	04 35 46.0	-5.6	
	comp=Z,3.6nm,1.0s,baz=240,slow=7.4,SNR=4.5								
ILAR				LR		LR	05 05 56.3		
	comp=Z,254nm,20.7s,baz=198,slow=32								
FAQ	Al Faqa, Dubai	86.92	295	P		P	04 32 29.0	+0.5	
	SNR=11								
FAQ	Al Faqa, Dubai	86.92	295	*i* P		P	04 32 29.0	+0.5	
	SNR=7.6								
HARP	HAARP	86.96	27	P		P	04 32 27.5	-0.4	
	baz=254								
PAX	Paxson	86.97	26	IAmb		IAmb	04 32 29.9		
	comp=Z,56nm,1.5s								
PAX	Paxson	86.97	26	P		P	04 32 27.6	-0.5	
	baz=254,SNR=11								
N25K	Chitina, Valde	87.00	28	P		P	04 32 27.9	-0.2	
	baz=255,SNR=5.2								
AB31	Akbulak array	87.01	320	*i* P		P	04 32 27.4	-1.0	
ABKAR	Akbulak array	87.01	320	P		P	04 32 27.8	-0.6	
K24K	Donnelly Dome	87.07	25	P		P	04 32 27.8	-0.6	
	baz=254,SNR=9.1								
TOLK	Toolik Lake Re	87.12	20	P		P	04 32 29.3	+0.7	
	baz=250,SNR=50								
ASUD	Al Ashush, Dub	87.15	295	P		P	04 32 31.0	+1.4	
	SNR=14								
ASUD	Al Ashush, Dub	87.15	295	*i* P		P	04 32 29.8	+0.2	
	SNR=14								
SOCY	Socotra	87.18	282	IAmb		IAmb	04 33 00.2		
	comp=Z,37nm,0.8s								
SOCY	Socotra	87.18	282	P		P	04 32 30.3	+0.2	
	SNR=11								
BGLC	Bering Glacier	87.25	29	P		P	04 32 28.9	-0.3	
	baz=256								
GLB	Gilahina Butte	87.32	28	IAmb		IAmb	04 32 30.6		
	comp=Z,43nm,1.0s								
VRDI	Verde Repeater	87.44	28	IAmb		IAmb	04 32 31.2		
	comp=Z,34nm,1.1s								
AJN	Ajban	87.45	295	P		P	04 32 32.2	+1.2	
	SNR=7.0								
AJN	Ajban	87.45	295	*i* P		P	04 32 31.7	+0.7	
	SNR=8.4								
RIDG	Independent Ri	87.45	25	IAmb		IAmb	04 32 31.0		
	comp=Z,79nm,1.1s								
RIDG	Independent Ri	87.45	25	P		P	04 32 29.8	-0.5	
	baz=254,SNR=18								
J25K	Salcha River,	87.47	25	IAmb		IAmb	04 32 30.8		
	comp=Z,49nm,1.1s								
J25K	Salcha River,	87.47	25	P		P	04 32 29.5	-0.8	
	baz=254								
RBK	Rabkut	87.47	288	P		P	04 32 33.0	+1.6	
	SNR=9.3								
TGL	Tana Glacier	87.62	29	IAmb		IAmb	04 32 32.4		
	comp=Z,83nm,1.2s								
DOK	Doka	87.65	289	P		P	04 32 33.0	+0.9	
	SNR=6.6								
MCARA	McCarthy VSAT	87.67	28	P		P	04 32 31.1	-0.2	
	baz=256								
MENT	Mentasta	87.74	26	IAmb		IAmb	04 32 32.7		
	comp=Z,30nm,0.9s								
DOT	Dot Lake	87.77	26	IAmb		IAmb	04 32 32.6		
	comp=Z,56nm,1.0s								
SCRK	Sand Creek	87.88	25	P		P	04 32 32.1	-0.3	
	baz=255,SNR=8.6								
WHFO	Wai Hawf	87.92	288	P		P	04 32 34.0	+0.6	
	SNR=9.0								
L26K	Log Cabin Wild	87.92	26	IAmb		IAmb	04 32 33.6		
	comp=Z,26nm,0.9s								
L26K	Log Cabin Wild	87.92	26	P		P	04 32 32.4	-0.1	
	baz=256								
M26K	Nabesna, AK	87.93	27	P		P	04 32 32.5	-0.1	
	baz=256								
GRNC	Granite Creek	88.13	29	IAmb		IAmb	04 32 35.0		
	comp=Z,32nm,1.0s								
J26L	Joseph Array	88.19	25	P		P	04 32 33.7	-0.1	
	baz=256,SNR=35								
BARN	Barnard Glacie	88.24	28	IAmb		IAmb	04 32 35.7		
	comp=Z,63nm,1.0s								
ABTO	Aybut	88.32	287	P		P	04 32 36.0	+0.6	
	SNR=12								
TABL	Table Mountain	88.36	29	IAmb		IAmb	04 32 36.0		
	comp=Z,52nm,0.9s								
CTG	Chitna Glacier	88.38	29	P		P	04 32 35.2	+0.4	
	baz=258,SNR=11								
CTGM	Chitina Glacie	88.38	29	IAmb		IAmb	04 32 36.3		
	comp=Z,81nm,1.0s								
M27K	Edge Creek, AK	88.43	27	IAmb		IAmb	04 32 36.5		
	comp=Z,45nm,0.9s								
M27K	Edge Creek, AK	88.43	27	P		P	04 32 35.3	+0.2	
	baz=257,SNR=17								
AKTO	Aktyubinsk	88.44	321	LR		LR	05 14 59.0		
	comp=Z,110nm,19.4s,baz=94,slow=37								
LOGN	Logan Glacier	88.51	29	IAmb		IAmb	04 32 36.2		
	comp=Z,22nm,0.8s								
BMAR	Burnt Mountain	88.54	22	P		P	04 32 35.6	+0.3	
L27K	Beaver Creek,	88.61	26	IAmb		IAmb	04 32 37.2		
	comp=Z,41nm,1.0s								
L27K	Beaver Creek,	88.61	26	P		P	04 32 36.0	+0.3	
	baz=257,SNR=24								
BCAR	Beaver Creek A	88.62	26	P		P	04 32 36.1	+0.3	
MZR	Muzera	88.67	293	P		P	04 32 37.6	+0.7	
	SNR=16								
MZR	Muzera	88.67	293	*i* P		P	04 32 37.6	+0.7	
	SNR=7.7								
K27K	Chicken	88.71	25	IAmb		IAmb	04 32 38.2		
	comp=Z,81nm,1.1s								
K27K	Chicken	88.71	25	P		P	04 32 36.8	+0.7	
	baz=257								
BVCY	Beaver Creek	88.90	27	P		P	04 32 37.4	+0.2	
	baz=258,SNR=15								
YUK3	Moose Creek	88.96	28	P		P	04 32 37.9	+0.2	
	baz=258,SNR=19								
PNL	Peninsula	89.07	30	P		P	04 32 37.5	-0.4	
	baz=260								
ARU	Arti	89.08	327	LR		LR	05 14 18.5		
	comp=Z,151nm,20.5s,baz=96,slow=37								
ARU	Arti	89.08	327	*c i* P		P	04 32 38.1	+0.1	
ARU				*PP		pP	04 32 59.9	-5.9	
ARU				S		SKSac	04 43 00.1	+1.9	
ARU				SS		SS	04 49 09.4	-4.3	
ARU				pmax		pmax			
	comp=Z,19nm,1.1s								
ARU				MLR		MLR			
	comp=Z,211nm,20.0s								
EGAK	Eagle	89.26	25	P		P	04 32 38.4	-0.3	
	baz=258								
SYO	Syowa Base	89.58	201	‖ *e* P		P	04 32 39.6	-0.5	
SYO	Syowa Base	89.58	201	‖ *e* sP		sP	04 33 21.2	+1.8	
YUK4	Talbot Arm	89.73	28	P		P	04 32 42.0	+0.7	
	baz=260,SNR=12								
YUK6	Outpost Mounta	89.80	29	P		P	04 32 41.4	-0.2	
	baz=260								
DAWY	Dawson	89.88	26	IAmb		IAmb	04 32 43.2		
	comp=Z,37nm,1.1s								
DAWY	Dawson	89.88	26	P		P	04 32 42.0	+0.3	
	baz=259								
HYT	Haines Junctio	90.19	29	IAmb		IAmb	04 32 44.8		
	comp=Z,22nm,1.0s								
HYT	Haines Junctio	90.19	29	P		P	04 32 43.5	+0.2	
	baz=261,SNR=6.3								
J29M	Klondike Camp	90.45	25	P		P	04 32 44.6	+0.2	
	baz=260								
I29M	Ogilvie Camp,	90.56	24	P		P	04 32 45.2	+0.4	
	baz=260								
M30M	Minto, Yukon	90.79	27	P		P	04 32 46.1	+0.2	
	baz=262								
SKAG	Skagway	91.08	31	IAmb		IAmb	04 33 24.8		
	comp=Z,20nm,1.1s								
SKAG	Skagway	91.08	31	P		P	04 32 47.7	+0.4	
	baz=263								
N31M	Braeburn, Yuko	91.12	29	P		P	04 32 47.3	-0.2	
	baz=263								
EPYK	Eagle Plains	91.36	24	P		P	04 32 49.0	+0.5	
	baz=262								
VOI	Vohitsoka	91.42	248	P		P	04 32 49.6	-0.3	
VOI				IAmb		IAmb	04 32 51.2		
	comp=Z,37nm,1.5s								
VOI	Vohitsoka	91.42	248	P		P	04 32 51.0	+1.1	
WHY	Whitehorse	91.45	29	P		P	04 32 48.8	-0.3	
	baz=263								
M31M	Drury Creek, Y	91.85	28	P		P	04 32 51.1	+0.2	
	baz=264								
FARO	Faro, Yukon	92.34	28	P		P	04 32 53.1	0.0	
	baz=265								
INK	Inuvik	92.81	22	LR		LR	05 09 58.6		
	comp=Z,320nm,21.9s,baz=250,slow=32								
INK	Inuvik	92.81	22	P		P	04 32 55.4	+0.3	
	baz=265								
MMPY	Sheldon Lake,	93.34	28	P		P	04 32 57.9	+0.2	
	baz=267								
DLBC	Dease Lake	93.74	32	LR		LR	05 09 03.1		
	comp=Z,204nm,20.7s,baz=282,slow=32								
KIRV	Kirov	94.20	328	*c e* P		P	04 33 02.6	+0.9	
BBB	Bella Bella	94.62	38	LR		LR	05 07 50.1		
	comp=Z,266nm,21.3s,baz=276,slow=30								
BELG	Belogornoye	95.08	322	LR		LR	05 17 35.3		
	comp=Z,146nm,21.9s,baz=338,slow=36								
BELG	Belogornoye	95.08	322	*i* P		P	04 33 05.1	-0.8	
BELG				pmax		pmax			
	comp=Z,5.0nm,1.3s								
A36M	Sachs Harbour	95.71	18	IAmb		IAmb	04 33 10.2		
	comp=Z,15nm,0.8s								
A36M	Sachs Harbour	95.71	18	P		P	04 33 07.9	-0.4	
	baz=273								
PRGR	Permogore	96.10	331	*e* P		P	04 33 05.0	-5.3	
PRGR				*e*			04 37 02.2		
CBB	Campbell River	96.34	40	IAmb		IAmb	04 33 13.3		
	comp=Z,14nm,0.9s								
GNI	Garni	97.01	310	*i* P		P	04 33 15.2	0.0	
GNI				pmax		pmax			
	comp=Z,8.0nm,1.0s								
I02E	Swisshome, OR	97.45	46	P		Pdif	04 33 17.4	+0.5	
	baz=271								
K02D	Willamette Mer	97.61	48	P		Pdif	04 33 18.1	+0.3	
	baz=271								
ZEI	Tsey	97.62	312	*e* P		P	04 33 15.9	-2.0	
ZEI				pmax		pmax			
	comp=Z,17nm,1.3s								
BELA	Belgrano 2	97.66	181	IAmb		IAmb	04 33 18.1		
	comp=Z,27nm,1.1s								
L02E	Cave Junction	97.66	48	P		Pdif	04 33 18.3	+0.4	
	baz=271								
HUMO	Hull Mountain	98.13	48	IAmb		IAmb	04 33 22.5		
	comp=Z,12nm,1.0s								
M02C	Callahan	98.23	49	IAmb		IAmb	04 33 22.3		
	comp=Z,12nm,1.0s								
M02C	Callahan	98.23	49	P		P	04 33 20.5	0.0	
	baz=271								
H04D	Lebanon	98.24	46	P		Pdif	04 33 20.4	0.0	
	baz=272								
E04D	Cinebar	98.29	44	Pdiff		Pdif	04 33 21.2	+0.6	
	baz=272								
O02D	Mt. Diablo Mer	98.31	50	IAmb		IAmb	04 33 22.7		
	comp=Z,18nm,1.1s								
O02D	Mt. Diablo Mer	98.31	50	Pdiff		Pdif	04 33 21.4	+0.5	
	baz=271								
YBH	Yreka Blue Hor	98.33	49	LR		LR	05 09 59.2		
	comp=Z,608nm,21.2s,baz=287,slow=31								
YBH	Yreka Blue Hor	98.33	49	IAmb		IAmb	04 33 22.4		
	comp=Z,16nm,1.2s								
KBZ	Khabaz	98.33	313	LR		LR	05 24 56.1		
	comp=Z,49nm,18.4s,baz=69,slow=40								
N02D	Trinity Center	98.36	49	Pdiff		Pdif	04 33 21.7	+0.6	
	baz=271								
NEY	Neytrino	98.48	313	*i* P		Pdif	04 33 23.0	+1.3	
NEY

YKA	Yellowknife Ar	101.03	27	P	Pdif	04 33 31.8	-0.6
	comp=Z,2.1nm,0.9s,baz=282,slow=4.5,SNR=27						
YKA				PP	PP	04 37 36.1	-5.7
	comp=Z,1.9nm,0.9s,baz=278,slow=7.2,SNR=5.4						
YKA				PKKPbc	PKKPbc	04 49 40.8	-5.4
	comp=Z,0.8nm,0.9s,baz=105,slow=2.9,SNR=7.5						
VNA2	Neumayer--Watz	101.68	190	Pdiff	Pdif	04 33 36.0	+0.8
	baz=144,slow=5.0						
VNA3	Neumayer Olymp	101.81	190	Pdiff	Pdif	04 33 36.3	+0.5
NEW	Newport	101.84	42	Pdiff	Pdif	04 33 36.5	0.0
	baz=277						
NVAR	Mina Array Bea	101.86	52	P	Pdif	04 33 37.9	+0.9
	comp=Z,2.8nm,0.9s,baz=261,slow=8.2,SNR=11						
VNA1	Neumayer--Stat	102.07	190	PP	PP	04 37 47.3	-1.7
VNA1	Neumayer--Stat	102.07	190	Pdiff	Pdif	04 33 36.5	-0.4
ANN	Anapa	102.18	315	*eP*	Pdif	04 33 38.3	+0.4
ANN				pmax	pmax		
	comp=Z,86nm,1.1s						
ARCES	ARCESS Array B	102.68	341	P	Pdif	04 33 39.7	+0.1
	comp=Z,5.3nm,0.9s,baz=66,slow=6.8,SNR=6.1						
HLID	Hailey	104.30	46	Pdiff	Pdif	04 33 48.1	+0.5
	baz=278						
BRTR	Keskin Array B	105.55	310	Pdiff	Pdif	04 33 52.0	-1.2
	comp=Z,0.6nm,0.7s,baz=126,slow=6.3,SNR=4.5						
PDAR	Pinedale Array	107.93	47	Pdiff	Pdif	04 34 04.7	+0.8
	comp=Z,1.1nm,0.9s,baz=273,slow=2.7,SNR=7.4						
Y22A	Socorro	111.47	55	P	PKiKP	04 38 18.2	+0.7
	baz=279						
ANMO	Albuquerque	111.72	54	P	PKiKP	04 38 18.4	+0.4
	baz=280						
ANMO	Albuquerque	111.72	54	PKiKP	PKiKP	04 38 18.6	+0.6
	baz=280						
SDCO	Great Sand Dun	111.95	51	PKiKP	PKiKP	04 38 19.1	+0.7
	baz=282						
MNTX	Cornudas Mount	113.15	58	PKiKP	PKiKP	04 38 21.2	+0.7
	baz=279						
MODS	Modra-Piesok	114.77	322	*eP*	Pdif	04 34 34.2	+0.3
MODS	Modra-Piesok	114.77	322	*e*PDIFF	Pdif	04 34 34.2	+0.3
TXAR	Lajitas Array	115.00	60	PKP	PKPdf	04 38 24.0	-0.2
	comp=Z,0.4nm,0.5s,baz=191,slow=2.9,SNR=13						
TXAR				PKKPbc	PKKPbc	04 49 01.4	+0.3
	comp=Z,0.4nm,0.7s,baz=112,slow=5.6,SNR=4.3						
TXAR				PKKPab	PKKPab	04 49 07.2	+0.7
	comp=Z,2.9nm,0.9s,baz=120,slow=6.6,SNR=17						
CLL	Collm	116.02	326	*e*Sdif	Sdif	04 47 08.0	+0.4
CLL				*e*SP	SP	04 49 03.0	+2.1
CLL				*e*SS	SS	04 55 23.0	-1.8
CLL				*ex*	x	04 59 00.0	
CLL				Lm	MLR	05 30 00.0	
	comp=N,200nm,20.5s						
CLL				Lm	MLR	05 30 00.0	
	comp=E,200nm,20.3s						
CLL				Lm	MLR	05 30 00.0	
	comp=Z,300nm,20.7s						
GERES	GERESS Array B	116.74	323	PKP	PKPdf	04 38 26.9	-0.1
	comp=Z,0.6nm,0.5s,baz=342,slow=0.4,SNR=4.5						
GERES				pPKP	pPKPdf	04 38 56.3	-0.1
	comp=Z,0.7nm,0.5s,baz=93,slow=1.2,SNR=3.4						
ECSD	EROS Data Cent	116.76	43	P	PKPdf	04 38 24.7	-2.4
	baz=291						
ECSD	EROS Data Cent	116.76	43	PKiKP	PKPdf	04 38 26.6	-0.6
	baz=291						
F36A	Milaca	117.96	40	P	PKPdf	04 38 29.0	-0.4
	baz=295						
JCT	Junction City	118.08	58	P	PKPdf	04 38 29.6	-0.5
	baz=282						
JCT	Junction City	118.08	58	PKiKP	PKiKP	04 38 30.2	+0.1
	baz=282						
KSU1	Kansas State U	118.34	48	PKiKP	PKiKP	04 38 30.5	+0.2
	baz=289						
STAL	STALIGIAL	118.47	321		PKiKP	04 38 30.4	0.0
SPMN	Marine on St.	118.69	40	PKiKP	PKiKP	04 38 31.2	+0.3
	baz=295						
I37B	Waseca	118.80	41	P	PKPdf	04 38 30.4	-0.6
	baz=294						
833A	Chaparral WMA,	118.86	60	P	PKiKP	04 38 31.9	+0.3
	baz=281						
833A	Chaparral WMA,	118.86	60	PKiKP	PKiKP	04 38 32.0	+0.4
	baz=281						
T35B	Sooner Cattle	119.09	50	P	PKiKP	04 38 32.6	+0.8
	baz=288						
Z35A	Perchaven, San	119.52	54	P	PKPdf	04 38 32.5	-0.2
	baz=285						
NRCA	Norcia	119.64	317		PKPdf	04 38 32.8	0.0
TUL1	Leonard	119.95	51	PKiKP	PKiKP	04 38 33.7	+0.2
	baz=288						
P38A	Dawn	120.40	46	P	PKPdf	04 38 33.6	-0.6
	baz=292						
TUE	Stuetta	120.44	323	PKPdf	PKPdf	04 38 34.4	0.0
X37A	Clayton	120.67	52	P	PKPdf	04 38 34.9	0.0
	baz=287						
S39A	Bolivar	121.24	48	P	PKPdf	04 38 35.4	-0.5
	baz=291						
HHAR	Hobbs	121.25	50	P	PKPdf	04 38 35.0	-1.0
	baz=289						
P40A	Paris	121.50	46	P	PKPdf	04 38 35.8	-0.5
	baz=293						
W39A	Magazine	121.72	51	P	PKPdf	04 38 36.7	-0.2
	baz=289						
W39A	Magazine	121.72	51	PKiKP	PKiKP	04 38 37.0	-0.1
	baz=289						
U40A	Yellville	122.06	50	P	PKPdf	04 38 36.5	-1.0
	baz=290						
U40A				P	PKPdf	04 38 36.5	-1.0
	baz=290						
U40A	Yellville	122.06	50	PKiKP	PKPdf	04 38 37.2	-0.4
	baz=290						
MIAR	Mount Ida	122.09	52	PKiKP	PKiKP	04 38 38.2	+0.3
	baz=289						
CCM	Cathedral Cave	122.64	47	PKiKP	PKPdf	04 38 37.7	-0.9
CCM	Cathedral Cave	122.64	47	PKPdf	PKPdf	04 38 37.7	-0.9
CCM	Cathedral Cave	122.64	47	P	PKPdf	04 38 38.0	-0.6
	baz=292						
CCM	Cathedral Cave	122.64	47	PKiKP	PKPdf	04 38 38.3	-0.3
	baz=292						
W41B	Gary Mavity, V	122.92	51	P	PKPdf	04 38 38.1	-1.0
	baz=290						
W41B	Gary Mavity, V	122.92	51	PKiKP	PKPdf	04 38 38.9	-0.3
	baz=290						
HDIL	Hopedale	123.01	44	PKiKP	PKiKP	04 38 39.5	+0.1
	baz=296						
P43A	Skaggs, Pawnee	123.24	45	P	PKPdf	04 38 39.6	-0.1
	baz=295						
FVM	French Village	123.26	47	P	PKPdf	04 38 39.3	-0.5
	baz=293						
E46A	Sault Ste Mari	123.33	35	P	PKPdf	04 38 39.3	-0.3
	baz=303						
LCAR	Lake Charles	123.44	49	P	PKPdf	04 38 39.6	-0.6
	baz=291						
LL02	Futaleuf	124.41	152	PKPdf	PKPdf	04 38 41.4	-0.4
SFIN	Lafayette	124.59	43	PKiKP	PKiKP	04 38 42.5	0.0
	baz=297						
OLIL	Olney	124.62	45	P	PKPdf	04 38 42.2	-0.1
	baz=296						
KEST	Kesra	125.13	311	PKP	PKiKP	04 38 44.8	+0.9
	comp=Z,5.8nm,0.9s,baz=96,slow=5.0,SNR=3.8						
VBMS	Vicksburg	125.27	53	PKiKP	PKiKP	04 38 44.1	0.0
	baz=289						
W45A	Hickory Valley	125.27	50	P	PKPdf	04 38 43.2	-0.5
	baz=292						
SCHQ	Schefferville	125.31	19	PKP	PKPdf	04 38 42.6	-0.6
	comp=Z,4.5nm,0.9s,baz=243,slow=14,SNR=4.2						
Y45A	Yeager Farm, C	125.47	51	P	PKiKP	04 38 44.9	+0.4
	baz=291						
L48A	N Adams	125.59	40	P	PKPdf	04 38 43.9	-0.3
	baz=301						
L48A				P	PKPdf	04 38 43.9	-0.3
	baz=301						
WVT	Waverly	125.90	48	PKIKP	PKPdf	04 38 44.0	-0.9
WVT	Waverly	125.90	48		PKPdf	04 38 44.0	-0.9
WVT	Waverly	125.90	48	P	PKPdf	04 38 44.0	-0.9
	baz=294						
WVT	Waverly	125.90	48	PKiKP	PKPdf	04 38 44.2	-0.6
	baz=294						
O48B	Farmland	125.96	42	P	PKPdf	04 38 44.2	-0.7
	baz=299						
O48B	Farmland	125.96	42	PKiKP	PKPdf	04 38 44.5	-0.3
	baz=299						
VLDQ	Val d'Or	125.98	30		PKPdf	04 38 43.8	-0.8
T47A	Sharon Grove	126.08	47	P	PKPdf	04 38 44.7	-0.5
	baz=295						
P48A	Milroy	126.16	43	P	PKPdf	04 38 45.4	+0.1
	baz=298						
P48A				P	PKPdf	04 38 45.4	+0.1
	baz=298						
N49A	Columbus Grove	126.28	41	P	PKPdf	04 38 44.9	-0.6
	baz=300						
N49A				P	PKPdf	04 38 44.9	-0.6
	baz=300						
O49A	Covington	126.54	42	P	PKPdf	04 38 45.7	-0.3
	baz=300						
O49A				P	PKPdf	04 38 45.7	-0.3
	baz=300						
P49A	Miami Univ. Ec	126.60	43	P	PKPdf	04 38 45.9	-0.2
	baz=299						
P49A	Miami Univ. Ec	126.60	43	PKiKP	PKPdf	04 38 46.1	0.0
	baz=299						
V48A	Smith Brothers	126.81	48	P	PKPdf	04 38 45.7	-0.9
	baz=295						
PLCA	Paso Flores	126.91	151	PKP	PKiKP	04 38 47.9	+0.6
	comp=Z,9.9nm,0.8s,baz=210,slow=2.1,SNR=19						
PLCA				pPKP	pPKPdf	04 39 17.5	+1.0
	comp=Z,6.1nm,0.8s,baz=228,slow=2.2,SNR=4.5						
PLCA	Paso Flores	126.91	151	*eP*	PKiKP	04 38 48.2	+0.9
PLCA	Paso Flores	126.91	151	*eP*	PKiKP	04 38 48.1	+0.8
X48A	Hartselle	127.17	50	P	PKPdf	04 38 46.6	-0.7
	baz=294						
U49A	Red Boiling Sp	127.25	47	P	PKPdf	04 38 45.8	-1.7
	baz=296						
ACSO	Alum Creek Sta	127.41	41	PKiKP	PKiKP	04 38 48.2	0.0
	baz=301						
R50A	Paris	127.47	44	P	PKPdf	04 38 47.9	+0.1
	baz=298						
R50A				P	PKPdf	04 38 47.9	+0.1
	baz=298						
T50A	Nancy	127.70	46	P	PKPdf	04 38 47.5	-0.8
	baz=297						
T50A				P	PKPdf	04 38 47.5	-0.8
	baz=297						
LRAL	Lakeview Retre	127.75	51	P	PKPdf	04 38 47.8	-0.8
	baz=293						
LRAL	Lakeview Retre	127.75	51	PKiKP	PKPdf	04 38 48.7	+0.2
	baz=293						
Y49A	Blount Mountai	127.88	50	P	PKPdf	04 38 48.4	-0.3
	baz=294						
M53A	WI Miller and	128.24	39	PKiKP	PKPdf	04 38 48.9	-0.4
	baz=304						
P52A	Corning	128.28	41	PKiKP	PKPdf	04 38 49.2	-0.2
	baz=301						
S51A	Beattyville	128.28	44	P	PKPdf	04 38 49.0	-0.4
	baz=299						
S51A				P	PKPdf	04 38 49.0	-0.4
	baz=299						
V51A	Loudon	128.59	47	P	PKPdf	04 38 50.3	+0.2
	baz=297						
TZTN	Tazewell	128.83	46	PKiKP	PKPdf	04 38 50.3	-0.2
	baz=298						
P53A	Whipple	128.85	41	P	PKPdf	04 38 49.6	-0.8
	baz=302						
P53A				P	PKPdf	04 38 49.6	-0.8
	baz=302						
Z51A	Franklin	129.04	50	P	PKPdf	04 38 51.3	+0.3
	baz=294						
TKL	Tuckaleechee C	129.08	47	P	PKPdf	04 38 50.8	-0.2
	baz=297						
V52A	Sevierville	129.12	46	P	PKPdf	04 38 50.7	-0.4
	baz=297						
152A	Waverly Hall	129.66	51	P	PKPdf	04 38 51.5	-0.7
	baz=294						
Y52A	Lilburn	129.66	49	P	PKiKP	04 38 52.7	-0.2
	baz=296						
Y52A				P	PKiKP	04 38 52.7	-0.2
	baz=296						
V53A	Saluda	129.77	46	P	PKPdf	04 38 51.9	-0.5
	baz=298						
V53A				P	PKPdf	04 38 51.9	-0.5
	baz=298						
LONY	Lake Ozonia	129.80	32	PKiKP	PKPdf	04 38 52.4	+0.3
	baz=312						
352A	Blakely	129.97	52	P	PKPdf	04 38 52.6	-0.2
	baz=293						
GOGA	Godfrey	130.30	49	PKiKP	PKPdf	04 38 53.7	+0.3
	baz=296						
SSPA	Standing Stone	130.43	38		PKPdf	04 38 53.3	-0.1
SSPA	Standing Stone	130.43	38	PKiKP	PKiKP	04 38 53.9	-0.4
	baz=306						
BLA	Blacksburg	130.69	43	PKiKP	PKiKP	04 38 54.6	-0.3
	baz=301						
N58A	Sunbury	131.02	37	P	PKiKP	04 38 55.0	-0.4
	baz=308						
N58A				P	PKiKP	04 38 55.0	-0.4
	baz=308						
KMSC	Kings Mountain	131.08	46	PKiKP	PKPdf	04 38 54.7	-0.1
	baz=299						
ESDC	Sonseca Array	132.30	322	PKP	PKiKP	04 38 58.2	0.0
	comp=Z,0.8nm,0.8s,baz=48,slow=2.2,SNR=5.1						
ESDC				PP	PP	04 41 19.1	-1.1
	comp=Z,1.0nm,0.9s,baz=44,slow=8.0,SNR=4.4						
PVIS	Viseu	133.93	326	*e*PKP	PKPdf	04 38 58.3	-1.8
PCBR	Castelo Branco	134.28	325	*e*PKP	PKiKP	04 39 03.0	+1.0
PCAS	Casmilo, Conde	134.71	326	*e*PKP	PKiKP	04 39 03.6	+0.7
PESTR	Estremoz	134.99	324	*e*PKP	PKiKP	04 39 05.4	+1.9
PMAFR	Mafra	135.91	325	*e*PKP	PKPdf	04 39 03.0	-0.8
TORD	Torodi Ar. Bea	138.10	285	PKhKP	PKPpre	04 38 58.1	
	comp=Z,3.1nm,0.9s,baz=73,slow=3.2,SNR=11						
TORD				PKP	PKPdf	04 39 09.1	+0.7
	comp=Z,7.3nm,0.8s,baz=74,slow=1.5,SNR=10						
MCRA	Macar, Loja	138.99	102	PKPdf	PKPdf	04 39 09.1	-1.1
BOSC	San Juan Bosco	140.66	101	PKPdf	PKPdf	04 39 11.7	-1.7
GCUF	Volcan Galeras	142.43	94	*eP*	PKPdf	04 39 14.7	-2.3
GO01	Chusmiza	142.46	131		PKPdf	04 39 13.4	-3.5
PB16	IPOC Station P	142.99	129	PKPdf	PKPdf	04 39 15.3	-2.6
POPC	Popayan, Colom	143.21	92	*e*P	PKPab	04 39 13.7	-0.2
SOTA	Rioblanco	143.25	92	*e*P	PKPbc	04 39 16.0	+0.2
KOWA	Kowa	143.33	288	PKPdf	PKPbc	04 39 15.1	-0.1
PCON	Cinco Dias	143.48	92	*e*P	PKPbc	04 39 16.8	+0.4
YOTC	Yotoco, Valle	143.62	89	*e*P	PKPab	04 39 13.6	-1.8
PLMC	San Jos del P	143.71	88	*e*P	PKPab	04 39 14.9	-0.8
DBBC	Dabeiba	143.76	84	*e*P	PKPab	04 39 15.7	-0.2
CBOC	Ciudad Bolivar	143.99	86	*e*P	PKPbc	04 39 17.2	-0.2
GARC	Garzon, Huila	144.37	93	*e*P	PKPbc	04 39 18.9	+0.2
UREC	San Jos de Ur	144.41	83	*e*P	PKPab	04 39 17.9	-0.3
BETC	Betania	144.45	92	*e*P	PKPbc	04 39 19.0	+0.3
ANIL	Santa Ana	144.58	89	*e*P	PKPab	04 39 19.2	0.0
SJCC	San Jacinto, C	144.58	79	*e*P	PKPbc	04 39 19.1	0.0
GUY2C	Guyana, Caldas	144.63	87	*e*P	PKPbc	04 39 19.9	+0.1
PMAR	Madeira	144.68	325	*e*PKP	PKPdf	04 39 20.5	+0.5
ORTC	Ortega, Tolima	144.72	90	*e*P	PKPab	04 39 18.8	-0.6
PMOZ	Porto Moniz, M	144.77	326	*e*PKP	PKPdf	04 39 20.8	+0.7
CPUP	Villa Florida	144.97	152	PKP	PKPab	04 39 20.1	+0.2
	comp=Z,36nm,0.6s,baz=233,slow=2.7,SNR=88						
CPUP	Villa Florida	144.97	152	*e*P	PKPbc	04 39 19.5	-0.4
KIC	Kosan Boka	144.99	275	*e*P	PKPbc	04 39 19.7	-0.6
	comp=Z,278nm,1.0s						
CZSB	Cruzeiro do Su	145.05	110	*e*P	PKPbc	04 39 19.6	-0.9
ZARC	Zaragoza, Cauc	145.09	83		PKPbc	04 39 19.6	-1.1
ZARC	Zaragoza, Cauc	145.09	83	*e*P	PKPbc	04 39 20.2	-0.5
DBIC	Dimbokro	145.09	275	PKPbc	PKPdf	04 39 21.0	0.0
	comp=Z,226nm,1.0s,baz=97,slow=3.7,SNR=118						
DBIC	Dimbokro	145.09	275		PKPbc	04 39 20.5	-0.1
NORC	Norcasia	145.12	87	*e*P	PKPbc	04 39 20.3	-0.5
LPAZ	La Paz	145.23	127	PKPbc	PKPdf	04 39 22.9	+1.0
	comp=Z,82nm,0.7s,baz=263,slow=1.5,SNR=431						
LPAZ	La Paz	145.23	127	PKiKP	PKPdf	04 39 23.0	+1.0
LPAZ	La Paz	145.23	127	*e*P	PKPdf	04 39 22.9	+0.9
LPAZ	La Paz	145.23	127	*e*P	PKPbc	04 39 21.4	-0.3
TIC	Toumodi	145.26	275	*e*P	PKPbc	04 39 20.5	-0.7
LIC	Lamto	145.28	274	*e*P	PKPbc	04 39 21.1	-0.1
	comp=Z,400nm,1.2s						
SMRC	Santa Marta, M	145.36	77	*e*P	PKPbc	04 39 21.5	0.0
PTBC	PUERTO BERRIO	145.52	85	*e*P	PKPdf	04 39 20.9	-0.9
ROSC	El Rosal	145.66	88	PKPbc	PKPbc	04 39 22.9	0.0
	comp=Z,27nm,0.6s,baz=93,slow=3.2,SNR=17						
ROSC	El Rosal	145.66	88	PKP2	PKPbc	04 39 23.0	0.0
ROSC	El Rosal	145.66	88	*e*P	PKPdf	04 39 22.3	-0.2
SPBC	San Pablo de B	145.92	87	*e*P	PKPdf	04 39 22.1	-0.5
TER01	Tubaro-SC	145.95	165	*e*P	PKPab	04 39 23.7	+0.2
MACC	Macarena, Meta	146.00	93	*e*P	PKPdf	04 39 21.9	-0.7
SDDR	Presa de Saban	146.14	62	*e*P	PKPdf	04 39 22.9	+0.2
CHIC	Chingaza	146.25	88	*e*P	PKPdf	04 39 21.7	-1.8
VILC	Villavicencio,	146.27	89	*e*P	PKPdf	04 39 23.7	+0.5
ITAB	Concordia	146.28	160	*e*P	PKPab	04 39 25.0	+0.2
OCAC	Ocana	146.56	82		PKPdf	04 39 22.6	-1.0
OCAC	Ocana	146.56	82	*e*P	PKPdf	04 39 23.4	-0.3
CRJC	Cerrejon, Guaj	146.68	77	*e*P	PKPbc	04 39 24.9	-0.7
BARC	Barichara	146.78	85	*e*P	PKPbc	04 39 25.9	-0.2
RUSC	La Rusia	146.90	86	*e*P	PKPdf	04 39 24.2	-0.5
FRBT	Francisco Belt	147.09	158	*e*P	PKPbc	04 39 25.6	-0.7
PAMC	Pamplona, Colo	147.23	84	*e*P	PKPdf	04 39 26.3	+1.1
GUVC	San Jose del G	147.25	92	*e*P	PKPbc	04 39 26.0	-1.1
URIC	Uribia, Colomb	147.43	75	*e*P	PKPdf	04 39 24.9	-0.1
PTGC	Puerto Gaitan,	147.83	89	*e*P	PKPbc	04 39 27.3	-1.4
PTGB	Pitanga	148.61	158	*e*P	PKiKP	04 39 31.5	-0.5
PTGB	Pitanga	148.61	158	*e*P	PKPdf	04 39 28.2	+1.5
DABV	Dabajuro	148.88	76	*e*P	PKPbc	04 39 30.5	-0.8
SOCV	Socops	148.99	81	*e*P	PKPdf	04 39 27.7	+0.1
TIJ01	Guaruva-PR	149.03	164	*e*P	PKPbc	04 39 29.8	-1.8
SDV	Santo Domingo	149.15	80	*e*P	PKPdf	04 39 27.4	-0.6
SDV	Santo Domingo	149.15	80	*e*P	PKPdf	04 39 27.7	-0.3
TRCB	Terra Rica	150.12	156	*e*P	PKiKP	04 39 34.9	-0.2
MLPR	Magueyes Islan	150.25	61		PKPbc	04 39 33.1	-1.5
PET01	Itanhaem-SP	150.47	166	*e*P	PKPdf	04 39 31.4	+1.9
AQDB	Aquidauana	150.69	148	*e*P	PKPdf	04 39 31.6	+1.6
FRTB	Fartura	150.73	162	*e*P	PKPdf	04 39 32.4	+2.3
SJG	San Juan	150.97	60	*e*P	PKPbc	04 39 35.5	-0.8
MTP	Monte Pirata	151.49	60		PKPbc	04 39 36.1	-1.4
PCMB	Pacaembu	151.73	157	*e*P	PKPdf	04 39 33.3	+1.7
PARB	Paraibuna	151.75	169	*e*P	PKPdf	04 39 34.8	+3.1
VAO	Valinhos	151.78	166	*e*P	PKPdf	04 39 33.3	+1.6
STVI	Saint Thomas	151.89	59		PKPbc	04 39 37.5	-0.8
ESAR	Angra dos Reis	152.26	171	*e*P	PKPdf	04 39 35.1	+2.8
PTLB	Pontes e Lacer	152.47	136	*e*P	PKPdf	04 39 33.7	+0.9
MAN01	Angra dos Reis	152.49	172	*e*P	PKPdf	04 39 35.3	+2.6
BB19B	Bebedouro	153.19	162	*e*P	PKPdf	04 39 35.8	+2.0
VILB	Vilhena	153.37	131	*e*P	PKPdf	04 39 35.2	+1.0
PP1B	Ponte de Pedra	153.49	146	*e*P	PKPdf	04 39 36.6	+2.3
ITRB	Iturama	153.81	157	*e*P	PKiKP	04 39 43.7	+1.0
ITRB	Iturama	153.81	157	*e*P	PKPdf	04 39 36.1	+1.4
DIAM	Diamantina, MG	157.02	171	*e*P	PKPdf	04 39 40.5	+1.3
NAN01	Guarapari, ES	157.77	179	*e*P	PKPdf	04 39 41.9	+1.9
BDFB	Brasilia	158.40	158	PKP	PKPdf	04 39 41.9	+0.9
	comp=Z,8.7nm,1.0s,baz=234,slow=3.0,SNR=8.4						
BDFB				PKPab	PKPab	04 40 15.9	+0.3
	comp=Z,15nm,0.7s,baz=189,slow=3.2,SNR=22						
GUA01	Guaratinga, BA	159.03	180	*e*P	PKPdf	04 39 42.8	+1.2
BOAV	Boa Vista	159.28	95	*e*P	PKPdf	04 39 42.5	+0.5
JANB	Januaria	160.05	167	*e*P	PKPdf	04 39 43.3	+0.5
SNDB	Serra Nova Dou	160.06	145	*e*P	PKPdf	04 39 43.9	+1.2
SNDB	Serra Nova Dou	160.06	145	*e*P	PKPdf	04 39 44.1	+1.3
CMC01	Camacan, BA	160.24	181	*e*P	PKPdf	04 39 44.4	+1.5
NPGB	Novo Progresso	160.74	127	*e*P	PKPdf	04 39 44.1	+0.6
PEXB	Peixe	161.47	153	*e*P	PKPdf	04 39 45.9	+1.6
ITTB	Itaituba	161.86	119	*e*P	PKPdf	04 39 45.4	+0.7
GDU01	Guandu, BA	161.87	181	*e*P	PKPdf	04 39 46.1	+1.4
SDBA	SAO DESIDERIO	162.45	163	*e*P	PKPdf	04 39 46.0	+0.6
SMTB	Santa Maria do	164.64	150	*e*P	PKPdf	04 39 48.6	+1.2
NBMA	Muriti-CE	168.14	185	*e*P	PKPdf	04 39 51.0	+0.9

WEL 26 04:28:16.3,39°S±2°×17°6E±°, h5km±2km, M0.8/6, ML0.8/6, MLv0.8/6 Error ellipse: s-maj=0.0km s-min=0.0km az=58.7, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NGZ	Ngauruhoe	0.05	92	P		P	Pg	04 28 18.2	+0.4
NGZ				S		S	Sg	04 28 19.5	+0.7
WTVZ	West Tongariro	0.07	36	P		P	Pg	04 28 18.2	+0.2
NNVZ	North Ngauruho	0.07	56	P		P	Pg	04 28 18.5	+0.5
NNVZ				S		S	Sg	04 28 20.2	+0.9
SNVZ	South Ngauruho	0.08	99	P		P	Pg	04 28 18.7	+0.5
SNVZ				S		S	Sg	04 28 20.0	+0.4
OTVZ	Oturere	0.10	84	P		P	Pg	04 28 19.1	+0.7
TMVZ	Te Maari	0.14	66	P		P	Pg	04 28 18.9	-0.3
WNVZ	Wahianoa	0.16	163	P		P	Pg	04 28 19.9	+0.4
MOVZ	Moawhango	0.29	144	P		P	Pg	04 28 19.4	-2.4
BHHZ	Black Hill Sta	0.52	128	P		P	Pg	04 28 21.3	-4.9

SNET ***26*** *04:33:12.7±1.0, 13°.66N×90°.58W, h47km±18km, ML3.2*
GCG ***26*** *04:33:13.8±2.8, 13°.72N×90°.65W, h29km±25km, MD3.6*
ISC 26 04:33:08.4±2.3, 13°.52N±0°.09×90°.70W±0°.06, h7km±14km, n18, σ0°.72/24, 5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.88	6	*eP*		P	Pn	04 33 27.7	+0.3
PCG				*eS*		S	Sg	04 33 37.0	+0.3
FUG	Fuego 3	0.94	352	*eP*		P	Pg	04 33 24.4	-2.0
FUG				*eS*		S	Sb	04 33

baz=356
SCZT Fangliau 0.76 324 *i* P **Pg 04 39 39.1 -0.5**
baz=318
SCZT *i* S **Sg 04 39 50.5 +0.7**
baz=318
ECL Taimali 0.85 351 P **Pb 04 39 39.1 -1.7**
baz=10.0
SSPT Xinbi 0.88 326 *i* P **Pg 04 39 41.9 0.0**
baz=331
SSPT S **Sn 04 39 54.8 +0.6**
baz=331
WLCH Liuqiu 0.89 312 *i* P **Pg 04 39 42.9 +0.7**
baz=315
TWP Hsiaoliuchiu 0.90 311 P **Pg 04 39 42.9 +0.5**
baz=314
MASBT Mashibuluo 0.96 333 P **Pb 04 39 42.0 -0.7**
baz=357
MASBT S **Sb 04 39 55.6 +0.7**
baz=357
LDUT Ludao 0.98 21 *i* P **Pb 04 39 41.8 -1.2**
baz=37
LDUT *i* S **Sb 04 39 55.7 +0.2**
baz=37
TTN Taitung 1.00 3 P **Pb 04 39 41.8 -1.5**
baz=9.0
TSMG Majia 1.04 336 *i* P **Pn 04 39 43.4 -0.8**
baz=359
TSMG S **Sn 04 39 58.4 +0.3**
baz=359
TWGBT Beinan 1.06 359 P **Pn 04 39 41.7 -2.8**
baz=5.0
TWG Pinlang 1.06 359 *i* P **Pn 04 39 41.8 -2.7**
baz=5.0
SSD Sandimen 1.08 336 *i* P **Pn 04 39 43.9 -0.8**
baz=359
SSD *i* S **Sg 04 39 59.9 0.0**
baz=359
LONT Longtian 1.15 1 *i* P **Pn 04 39 43.3 -2.4**
baz=7.0
EDH Donghe 1.23 9 *i* P **Pn 04 39 44.9 -1.9**
baz=16
EDH *i* S **Sn 04 40 01.7 -1.1**
baz=16
TWM1 Shoushan 1.23 330 *i* P **Pg 04 39 48.4 -0.2**
baz=314
TWM1 *e*S **Sg 04 40 04.7 -0.2**
baz=314
SCST Cishan 1.26 334 *i* P **Pg 04 39 48.4 -0.7**
baz=356
SCST S **Sg 04 40 05.8 +0.3**
baz=356
CHKT Chengkung 1.36 10 *i* P **Pn 04 39 47.1 -1.5**
baz=18
CHKT *i* S **Sn 04 40 04.3 -1.8**
baz=18
SGST Jiashian 1.41 340 *i* P **Pn 04 39 48.4 -0.9**
SGST S **Sn 04 40 07.0 -0.3**
ELDTW Lidau 1.43 357 P **Pn 04 39 49.4 -0.3**
baz=16
STYT Tauyuan 1.44 347 *i* P **Pn 04 39 49.6 -0.1**
baz=353
SHHT Tainan City 1.44 331 P **Pb 04 39 51.3 +0.4**
baz=319
STYH Taoyuan 1.44 348 *i* P **Pb 04 39 50.2 -0.7**
baz=354
STYH *e*S **Sb 04 40 09.7 +0.8**
baz=354
FULB Fuli 1.45 7 *i* P **Pn 04 39 48.4 -1.5**
baz=14
FULB *i* S **Sn 04 40 07.7 -0.6**
baz=14
CHN3 Shinhua 1.48 333 *e*P **Pb 04 39 50.7 -0.8**
baz=337
CHN1 Nanshi 1.52 340 *i* P **Pb 04 39 51.2 -1.0**
baz=345
WTP Ta-pu 1.55 343 *i* P **Pn 04 39 51.5 +0.2**
baz=349
SNST Tainan City 1.56 339 *i* P **Pn 04 39 51.6 +0.3**
baz=359
EYUL Yuli 1.60 7 *i* P **Pn 04 39 50.7 -1.2**
baz=13
TPUB Ta-pu 1.60 344 P **Pn 04 39 52.1 +0.2**
baz=349
TWF1 Yuli 1.60 7 *i* P **Pn 04 39 50.2 -1.7**
baz=14
TWF1 S **Sn 04 40 09.4 -2.7**
baz=14
TWK Hsinying 1.61 340 *i* P **Pn 04 39 51.8 -0.3**
baz=345
YULB Yu-li 1.64 6 P **Pn 04 39 50.3 -2.2**
baz=13
EHY Hungye 1.76 7 *i* P **Pn 04 39 52.1 -1.9**
baz=13
HGSD Ruisui 1.76 10 P **Pn 04 39 53.0 -1.0**
baz=16
ALS Alishan 1.77 351 *i* P **Pb 04 39 55.4 -1.3**
baz=357
ICHU Yijhu 1.77 335 P **Pn 04 39 54.8 +0.6**
baz=339
CHY Chiayi 1.84 340 P **Pn 04 39 54.5 -0.8**
baz=328
CHN5 Tsauling 1.88 348 *i* P **Pn 04 39 56.0 +0.2**
baz=353
EGFH Guangfu 1.93 9 *e*P **Pn 04 39 56.0 -0.5**
baz=16
WSL Shuilin Townsh 1.94 336 P **Pn 04 39 55.0 -1.5**
baz=340
VWDT VWDT 1.99 1 P **Pn 04 39 57.8 +0.6**
baz=18
WDLH Douliu 1.99 345 *i* P **Pn 04 39 57.7 +0.4**
baz=350
WDGT Dungji 2.00 319 *i* P **Pn 04 39 55.6 -1.8**
baz=320
WDGT *i* S **Sn 04 40 20.9 -1.1**
baz=320
SSLB Suanglung 2.03 356 P **Pn 04 39 58.2 +0.3**
baz=16
WTK Tuku 2.03 341 P **Pn 04 39 56.8 -1.1**
baz=346
WSF Szhu 2.04 337 S **Sn 04 40 24.6 +1.6**
baz=325
ESL Shilin 2.07 8 *i* P **Pn 04 39 57.0 -1.4**
baz=15
WJS Zhushan 2.09 351 P **Pn 04 39 59.4 +0.7**
baz=356
VCHM Qimei 2.12 313 P **Pn 04 39 57.1 -1.9**
baz=314
VCHM S **Sn 04 40 21.9 -2.9**
baz=314
SMLT Sun Moon Lake 2.13 355 *i* P **Pn 04 40 00.5 +1.3**
baz=345
WNT Mingjian 2.15 350 *e*P **Pb 04 40 00.9 -2.0**
baz=356
TYC Yuchr 2.15 354 *i* P **Pb 04 40 01.1 -2.0**
baz=1.0
TYC S **Sn 04 40 27.0 +1.4**
baz=1.0
OWD Renai 2.19 2 *i* P **Pn 04 39 59.2 -0.9**
baz=9.0
WUSB Renai 2.23 0 P **Pn 04 40 00.8 +0.2**
baz=8.0
WUSB S **Sn 04 40 28.0 +0.3**
baz=8.0
WRL Guolierlin Hig 2.24 343 *e*P **Pn 04 40 00.1 -0.6**
baz=332
WRL S **Sn 04 40 28.5 +0.7**
baz=332
PHUB P'eng-hu 2.25 321 P **Pn 04 39 59.1 -1.7**
baz=323
PHUB S **Sn 04 40 26.1 -1.9**
baz=323
CHGB Renai 2.30 2 P **Pn 04 40 01.5 -0.2**
baz=21
WCS Beigang Elemen 2.30 356 *i* P **Pn 04 40 02.4 +0.9**
baz=347
WCS *e*S **Sn 04 40 30.9 +1.7**
baz=347
PNG Penghu 2.30 322 *i* P **Pn 04 40 00.1 -1.4**
baz=324
PNG *i* S **Sn 04 40 27.6 -1.7**
baz=324
WHF Hehuan Shan 2.38 4 *i* P **Pn 04 40 02.8 -0.3**
baz=23
WHF S **Sn 04 40 30.7 -1.3**
baz=23
NACB Ninganchiao 2.45 11 P **Pn 04 40 02.0 -1.7**
baz=19
NACB *e*S **Sn 04 40 31.3 -1.8**
baz=19
ETLH Xiulin Townshi 2.47 8 P **Pn 04 40 04.3 +0.3**
baz=25
TWT Tachien 2.49 2 P **Pn 04 40 05.3 +1.0**
baz=20
WHP Taichung City 2.52 357 *i* P **Pn 04 40 05.7 +1.1**
baz=17
WHP S **Sn 04 40 37.1 +2.4**
baz=17
NNSB Datong 2.67 6 P **Pn 04 40 07.2 +0.4**
baz=24
NNSB *e*S **Sn 04 40 38.5 -0.3**
baz=24
NNS Nan Shan 2.69 5 *e*S **Sn 04 40 38.6 -0.4**
baz=24
ENA Nanau 2.73 12 *i* P **Pn 04 40 06.8 -0.6**
baz=20
LATG Datong 2.80 8 *i* P **Pn 04 40 07.7 -0.8**
baz=28
LATG *e*S **Sn 04 40 40.3 -1.4**
baz=28
NDT Datong Townshi 2.86 8 *i* P **Pn 04 40 09.4 +0.1**
baz=27
NDT *e*S **Sn 04 40 43.2 0.0**
baz=27
NFF Wufeng Townshi 2.87 0 P **Pn 04 40 11.3 +1.9**
baz=8.0
NFF S **Sn 04 40 43.8 +0.5**
baz=8.0
NSTT Nanjuang 2.87 358 *e*P **Pn 04 40 11.6 +2.3**
baz=5.0
LIOB Emei 2.88 358 *e*P **Pn 04 40 10.3 +0.8**
baz=360
ENTT Nioudou 2.91 8 *i* P **Pn 04 40 09.9 0.0**
baz=28
ENTT S **Sn 04 40 41.9 -2.3**
baz=28
YHNB Yeheng 2.91 5 P **Pn 04 40 10.4 +0.3**
baz=357
NSK Sanguang 2.92 5 *i* P **Pn 04 40 10.7 +0.6**
baz=356
NSK S **Sn 04 40 46.2 +1.5**
baz=356
NDS Dongshan 2.92 11 *i* P **Pn 04 40 11.4 +1.3**
baz=20
NDS *e*S **Sn 04 40 43.5 -1.2**
baz=20
TWC Suao 2.92 14 P **Pn 04 40 10.9 +0.8**
baz=11
TWC S **Sn 04 40 45.2 +0.5**
baz=11
FUSB Fushanzhiwuyua 3.03 8 P **Pn 04 40 12.2 +0.6**
baz=25
NWLT Wulai 3.03 7 *i* P **Pn 04 40 12.4 +0.8**
baz=27
NWLT S **Sn 04 40 46.2 -1.3**
baz=27
JYNG Yonagunijimaku 3.18 32 S **Sn 04 40 50.9 0.0**
YOJ Yonaguni jima 3.22 33 *e*P **Pn 04 40 14.9 +0.7**
baz=39
TIPB Shuangxi 3.27 12 P **Pn 04 40 15.4 +0.5**
baz=22
TIPB S **Sn 04 40 53.8 +0.5**
baz=22
NWF Wu-fen Shan 3.36 11 *e*P **Pn 04 40 18.1 +1.9**
baz=19
HATJ Hateruma jima 3.39 47 P **Pn 04 40 16.9 +0.4**
HATJ *e*S **Sn 04 40 55.0 -1.1**
SXI1 Grass Mountain 3.40 12 P **Pn 04 40 18.3 +1.5**
baz=21
IRIF Iriomote-Funau 3.53 43 P **Pn 04 40 19.0 +0.5**
IRIF *e*S **Sn 04 40 58.3 -1.4**
VWUC VWUC 3.56 335 *e*P **Pn 04 40 17.7 -1.2**
baz=352
KNM Kinmen 3.61 318 *e*S **Sn 04 41 02.5 +0.9**
baz=315
JKRS Kuro-shima 3.65 47 P **Pn 04 40 20.1 0.0**
JKRS *e*S **Sn 04 41 00.6 -1.9**
KNMB Chin-men Tao 3.67 318 P **Pn 04 40 19.0 -1.4**
baz=317
KNMB S **Sn 04 41 01.1 -2.1**
baz=317
ZPLA Ao Xicun 3.77 306 *e*P **Pn 04 40 20.3 -1.5**
baz=304
JIJ Ishigaki jima 3.82 47 P **Pn 04 40 22.5 0.0**
JIJ *e*S **Sn 04 41 04.8 -2.1**
JISG Ishigakijimahi 4.08 46 P **Pn 04 40 26.0 -0.1**
JISG *e*S **Sn 04 41 12.0 -1.3**
AXDP Jialang 4.25 318 *e*P **Pn 04 40 27.9 -0.5**
baz=316
AXDP *e*S **Sn 04 41 14.9 -2.5**
baz=316
JTJ Tarama 4.39 48 P **Pn 04 40 30.8 +0.6**
JTJ *e*S **Sn 04 41 20.1 -0.7**
MATB Ma-tsu 4.50 347 *e*P **Pn 04 40 30.7 -1.1**
baz=351
MATB *e*S **Sn 04 41 21.6 -2.1**
baz=351
MKAR Makanchi Array 40.05 318 P **P 04 47 00.4 +1.8**
0.8nm,1.1s,baz=111,slow=7.9,SNR=3.2
WRA Warramunga Arr 43.41 162 P **P 04 47 25.6 -0.7**
0.7nm,0.8s,baz=342,slow=8.9,SNR=3.4
ASAR Alice Springs 46.84 164 P **P 04 47 56.6 +3.2**
0.1nm,0.3s,baz=356,slow=12,SNR=1.9
YKA Yellowknife Ar 85.23 23 P **P 04 51 59.4 -0.2**
0.3nm,0.6s,baz=310,slow=4.5,SNR=7.1

*IDC **26** 04:55:51.9±1.7, 1.°64N×124.°69E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/34, mbtmp3.8/4, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/81, Error ellipse: s-maj=122.0km s-min=23.1km az=67.0*
*DJA **26** 04:56:20.0±0.7, 1.°N±6.°×12.°4E±.°, h275km±7km, M3.7/10, MLv3.7/10*
ISC 26 04:56:22.1±1.9, **0.°7N**±0.°2×**124.°08E**±0.°09, **h260**km±18km, **n12**, σ**0.°32/10**, **mb3.4/3**, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.18**	**211**	P	**Pn**	**04 56 55.6**	**+0.1**
GTOI	**Gorontalo**	**1.07**	**265**	P	**Pn**	**04 56 58.6**	**+0.1**
LUWI	**Luwuk**	**2.19**	**217**	P	**Pn**	**04 57 06.9**	**-0.2**
APSI	**Ampana**	**2.92**	**236**	P	**Pn**	**04 57 14.1**	**-0.3**
TNTI	**Ternate**	**3.29**	**89**	P	**Pn**	**04 57 17.8**	**-0.5**
SANI	**Sanana**	**3.36**	**145**	P	**Pn**	**04 57 18.9**	**-0.2**
LBMI	**Labuha**	**3.69**	**112**	P	**Pn**	**04 57 23.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**18.77**	**175**	P	**P**	**05 00 22.7**	**+0.2**
	0.2nm,0.3s,baz=341,slow=4.5,SNR=11						
WRA	**Warramunga Arr**	**22.88**	**154**	P	**P**	**05 01 03.6**	**+0.2**
	2.1nm,0.3s,baz=335,slow=10,SNR=42						
PSI	**Prapat**	**25.22**	**275**	LR	LR	05 12 19.7	
	comp=Z,134nm,18.2s,baz=87,slow=38						
ASAR	**Alice Springs**	**26.07**	**159**	P	**P**	**05 01 32.2**	**0.0**
	0.4nm,0.5s,baz=337,slow=7.3,SNR=5.9						
MKAR	**Makanchi Array**	**58.57**	**328**	P		05 05 47.6	-4.2
	0.5nm,0.5s,baz=133,slow=7.0,SNR=8.1						

*IDC **26** 05:22:00.7±1.4, 14.°42S×166.°20E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/41, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=49.7km s-min=28.3km az=130.0*
*NOU **26** 05:22:06.5, 14.°78S×166.°40E, h7km, MLv4.6/11, Vanuatu Islands*
*NEIC **26** 05:22:06.1±0.9, 14.°6S±0.°1×166.°4E±0.°1, h35km±2km, mb4.3/4, Error ellipse: s-maj=20.6km s-min=17.2km az=20.0*
ISC 26 05:22:05.1±0.9, **14.°58S**±0.°10×**166.°4E**±0.°1, **h28**km, **n22**, σ**0.°95/23**, **mb4.2/6**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.19**	**137**		**Pn**	**05 22 25.8**	**-0.2**
SANVU	**Saraoutou**	**1.19**	**137**	P	**Pn**	**05 22 25.9**	**0.0**
DVP	**Devils Point**	**3.59**	**151**	P	**Pn**	**05 22 59.8**	**+0.8**
KOUNC	**Koumac, New Ca**	**6.26**	**198**		**Pn**	**05 23 35.4**	**-0.2**
KOUNC	**Koumac, New Ca**	**6.26**	**198**	P	**Pn**	**05 23 36.8**	**+1.1**
	32nm,1.4s						
DZM	**Mont Dzumac**	**7.45**	**179**	Pn	**Pn**	**05 23 52.3**	**+0.1**
	2.0nm,0.3s,baz=154,slow=16,SNR=24						
DZM				Sn	**Sn**	**05 25 14.0**	**-1.9**
	0.6nm,0.3s,baz=168,slow=20,SNR=1.5						
DZM	**Mont Dzumac**	**7.45**	**179**	P	**Pn**	**05 23 52.3**	**+0.1**
YATNC	**Mamie plateau,**	**7.46**	**176**	P	**Pn**	**05 23 52.6**	**+0.4**
	19nm,1.3s						
NOUC	**Port Laguerre**	**7.48**	**180**	P	**Pn**	**05 23 53.7**	**+1.2**
ONTNC	**Ouen Toro**	**7.69**	**179**	Pn	**Pn**	**05 23 55.2**	**-0.1**
OUENC	**Ouen Island, N**	**7.81**	**177**	Pn	**Pn**	**05 23 57.3**	**+0.3**
OUENC	**Ouen Island, N**	**7.81**	**177**	P	**Pn**	**05 23 58.9**	**+1.9**
	21nm,1.1s						
PINNC	**Pines Island,**	**8.06**	**173**	Pn	**Pn**	**05 24 00.2**	**-0.2**
WB2	**Warramunga Arr**	**31.00**	**256**	P	**P**	**05 28 20.5**	**0.0**
WB2				IAmb	IAmb	05 28 42.8	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**31.01**	**256**	P	**P**	**05 28 19.6**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=83,slow=9.5,SNR=2.5						
ASAR	**Alice Springs**	**31.90**	**249**	P	**P**	**05 28 27.4**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=72,slow=9.4,SNR=5.4						
BBOO	**Buckleboo**	**32.98**	**231**	P	**P**	**05 28 37.6**	**-0.2**
FORT	**Forrest**	**38.62**	**239**	P	**P**	**05 29 26.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**39.17**	**259**	P	**P**	**05 29 30.5**	**-0.5**
QSPA	**South Pole Qui**	**75.45**	**180**	P	**P**	**05 33 48.5**	**+2.0**
QSPA				IAmb	IAmb	05 33 54.4	
	comp=Z,3.9nm,1.1s						
ILAR	**Eielson Array**	**86.66**	**18**	P	**P**	**05 34 45.5**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=230,slow=5.2,SNR=9.7						
YKA	**Yellowknife Ar**	**97.82**	**27**	P	**P**	**05 35 37.1**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=258,slow=4.7,SNR=8.0						

*IDC **26** 05:32:20.9±5.4, 39.°50N×141.°36E, h101km±49km, mb3.3/6, mb1 3.4/7, mb1mx3.1/45, mbtmp3.6/7, Error ellipse: s-maj=35.8km s-min=23.0km az=103.0*
*JMA **26** 05:32:20.3, 39.°58N×141.°18E, h93km±1km, M3.0*
ISC 26 05:32:20.3±0.8, **39.°58N**±0.°04×**141.°27E**±0.°08, **h93**km±6km, **n23**, σ**0.°63/27**, **mb3.6/6**, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOM	**Ohasama**	**0.11**	**173**	P	**Pn**	**05 32 33.4**	**0.0**
JOM				S	**Sn**	**05 32 43.5**	**+0.5**
JSZI	**Iwateshizukuis**	**0.30**	**303**	P	**Pn**	**05 32 34.0**	**0.0**
JSZI				S	**Sn**	**05 32 44.3**	**+0.1**
JRG	**Rokugo**	**0.53**	**250**	P	**Pn**	**05 32 35.2**	**-0.3**
JRG				S	**Sn**	**05 32 46.8**	**-0.1**
JMK	**Ichinoseki**	**0.63**	**184**	P	**Pn**	**05 32 36.5**	**+0.1**
JMK				*e*S	**Sn**	**05 32 48.3**	**0.0**
JAH	**Hinai**	**0.78**	**321**	P	**Pn**	**05 32 37.6**	**-0.2**
JAH				S	**Sn**	**05 32 50.5**	**-0.4**
JANG	**Nango**	**0.81**	**13**	P	**Pn**	**05 32 38.4**	**+0.2**
JANG				S	**Sn**	**05 32 51.6**	**+0.1**
JYK	**Kaneyama**	**0.97**	**227**	P	**Pn**	**05 32 39.6**	**-0.3**
JYK				S	**Sn**	**05 32 53.9**	**-0.6**
JIO	**Ouri**	**1.13**	**177**	P	**Pn**	**05 32 42.1**	**+0.5**
JIO				S	**Sn**	**05 32 57.6**	**0.0**
JTM	**Tenmabayashi**	**1.22**	**353**	P	**Pn**	**05 32 42.9**	**+0.2**
JTM				S	**Sn**	**05 32 59.7**	**+0.2**
JOU	**Okura**	**1.30**	**202**	P	**Pn**	**05 32 44.4**	**+0.6**
JOU				*e*S	**Sn**	**05 33 02.8**	**+1.3**
USRK	**Ussuriysk Ar.**	**8.32**	**307**	P	**Pn**	**05 34 19.9**	**+1.8**
	baz=125,slow=14,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**29.61**	**124**	T	T	06 09 02.4	
	baz=318,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**29.62**	**125**	T	T	06 09 02.8	
	baz=318,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**29.63**	**124**	T	T	06 09 00.5	
	baz=318,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**30.39**	**126**	T	T	06 10 03.8	
	baz=319,slow=76,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**30.40**	**126**	T	T	06 10 04.5	
	baz=319,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**30.41**	**126**	T	T	06 10 02.2	
	baz=319,slow=76,SNR=8.0						
KURBB	**Kurchatov Arra**	**44.38**	**306**	P	**P**	**05 40 22.1**	**+0.8**
	0.7nm,0.5s,baz=82,slow=8.7,SNR=6.3						
ILAR	**Eielson Array**	**47.42**	**34**	P	**P**	**05 40 44.7**	**-0.3**
	0.4nm,0.7s,baz=276,slow=5.4,SNR=5.1						
WRA	**Warramunga Arr**	**59.56**	**188**	P	**P**	**05 42 13.4**	**-0.8**
	0.2nm,0.6s,baz=22,slow=7.2,SNR=1.7						
YKA	**Yellowknife Ar**	**61.67**	**31**	P	**P**	**05 42 28.2**	**+0.2**
	0.2nm,0.6s,baz=300,slow=6.3,SNR=5.7						
ASAR	**Alice Springs**	**63.29**	**188**	P	**P**	**05 42 38.4**	**-0.9**
	0.3nm,0.3s,baz=11,slow=16,SNR=1.7						
FINES	**FINESS Array B**	**66.52**	**332**	P	**P**	**05 42 59.5**	**-0.3**
	1.5nm,0.8s,baz=55,slow=7.3,SNR=2.0						

OMAN 26 05:42:09.3±0.9, **17.°37N**×**59.°95E**, **h30**km±33km, **mb3.6/3**, **ml3.8/6**, **Error ellipse: s-maj=50.4km s-min=6.5km az=306.0**, **Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQM	**DQM**	**3.42**	**318**	P	Pn	05 43 01.2	+0.6
	SNR=36						
DQM				S	Sn	05 43 41.5	+1.3
MHTO	**MHTO**	**4.06**	**333**	P	Pn	05 43 08.9	-0.4
	SNR=27						
MHTO				S	Sn	05 43 56.9	+1.1
SHAO	**Shalim**	**4.18**	**280**	P	Pn	05 43 10.6	-0.4
	SNR=21						
SHAO				S	Sn	05 43 59.0	+0.1
JLN	**Jalan Bani Buh**	**4.78**	**354**	P	Pn	05 43 19.4	+0.1
JLN				S	Sn	05 44 13.2	-0.6
	SNR=16						
DMTO	**DMTO**	**4.79**	**275**	P	Pn	05 43 19.0	-0.4
	SNR=59						
JMDO	**Jabal Madar**	**5.27**	**341**	P	Pn	05 43 27.0	+0.9
JMDO				S	Sn	05 44 28.2	+2.4
	SNR=8.1						
RBK	**Rabkut**	**5.49**	**272**	P	Pn	05 43 29.0	-0.1
RBK				S	Sn	05 44 30.8	-0.5
WHFO	**Wadi Hawf**	**5.92**	**276**	P	Pn	05 43 35.3	+0.3
	SNR=15						
ABTO	**Aybut**	**6.36**	**271**	P	Pn	05 43 40.9	-0.1
	SNR=7.0						
ABTO				S	Sn	05 44 51.7	-1.0
	SNR=6.4						

*JMA **26** 05:56:17.8±0.2, 33.°85N×141.°07E, h41km, M3.3*
*IDC **26** 05:56:18.2±3.0, 33.°71N×141.°21E, h54km±27km, mb3.4/3, mb1 3.7/5, mb1mx3.3/43, mbtmp3.8/5, ML3.7/2, Error ellipse: s-maj=26.5km s-min=11.8km az=90.0*
ISC 26 05:56:15.5±1.2, **33.°73N**±0.°05×**141.°34E**±0.°09, **h41**km, **n18**, σ**1.°56/24**, **mb3.6/3**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.97**	**342**	P	**Pn**	**05 56 32.8**	**+0.6**
BSO1				X		05 56 46.4	
BSO3	**Boso 3**	**1.27**	**328**	P	**Pn**	**05 56 36.9**	**+0.3**
JHJ2	**Mitsune**	**1.42**	**245**	P	**Pn**	**05 56 39.9**	**+1.1**
JHJ	**Hachijo jima 2**	**1.44**	**245**	P	**Pn**	**05 56 40.1**	**+1.0**
	36nm,0.3s,baz=332,slow=21,SNR=9.4						
JHJ				S	**Sn**	**05 56 56.6**	**-0.1**
	121nm,0.3s,baz=89,slow=22,SNR=11						
JHCJ	**Hachijojimakas**	**1.45**	**243**	P	**Pn**	**05 56 40.3**	**+1.1**
JMKN	**Mikurajimanish**	**1.47**	**277**	P	**Pn**	**05 56 39.5**	**0.0**
BSO4	**Boso 4**	**1.51**	**327**	P	**Pn**	**05 56 40.5**	**+0.5**
JIM2	**Oshima 3**	**1.86**	**302**	P	**Pn**	**05 56 44.4**	**-0.6**
JIM2				*e*S	**Sn**	**05 57 04.8**	**-2.5**
JTHY	**Toshimahigashi**	**1.88**	**296**	P	**Pn**	**05 56 45.3**	**+0.2**
JKO	**Kozu shima**	**1.89**	**285**	P	**Pn**	**05 56 45.3**	**0.0**
KTJ3	**Kamata3**	**2.23**	**303**	P	**Pn**	**05 56 49.8**	**-0.2**
KTJ3				*e*S	**Sn**	**05 57 13.3**	**-3.0**
JIZS	**Izushimoda**	**2.27**	**296**	P	**Pn**	**05 56 50.8**	**+0.3**
JIZS				*e*S	**Sn**	**05 57 15.5**	**-1.7**
JOD2	**Odawara 2**	**2.41**	**310**	P	**Pn**	**05 56 52.3**	**-0.2**
MJAR	**Matsushiro Arr**	**3.80**	**318**	P	**Pn**	**05 57 13.2**	**+1.6**
	2.0nm,0.3s,baz=148,slow=12,SNR=25						
MJAR				S	**Sn**	**05 57 56.4**	**+1.3**
	0.7nm,0.3s,baz=264,slow=4.0,SNR=5.9						
JCJ	**Chichijima**	**6.65**	**173**	P	**Pn**	**05 57 51.6**	**+0.9**
	3.6nm,0.3s,baz=270,slow=19,SNR=1.4						
JCJ				S	**Sn**	**05 59 00.8**	**-4.6**
	5.0nm,0.3s,baz=294,slow=20,SNR=1.6						
MKAR	**Makanchi Array**	**45.89**	**305**	P	**P**	**06 04 34.0**	**+0.1**
	0.4nm,0.6s,baz=87,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**53.79**	**188**	P	**P**	**06 05 35.4**	**+1.4**
	0.7nm,0.5s,baz=2.7,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**57.52**	**188**	P	**P**	**06 06 01.9**	**+1.1**
	0.2nm,0.3s,baz=13,slow=8.6,SNR=2.3						

*VAO **26** 05:56:26.9±2.1, 23.°63S×75.°42W, h10km, mb4.5*
*IDC **26** 05:57:39.7±0.7, 22.°47S×68.°39W, h99km±14km, mb3.6/2, mb1 3.5/5, mb1mx3.2/35, mbtmp3.8/5, Error ellipse: s-maj=41.5km s-min=22.7km az=117.0*

*GUC **26** 05:57:39.8±1.0, 22.°34S×68.°66W, h116$_{km}$±5$_{km}$, ML3.9*

ISC 26 05:57:39.5±0.7, **22.°32S**±0.°04×**68.°59W**±0.°05, **h119**$_{km}$±6$_{km}$, **n37**, σ1°**74**/56, **10C-2D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.41**	**226**	P	**Pn**	**05 57 57.4**	**+0.1**
	422nm,0.3s,baz=59,slow=6.8,SNR=6359						
LVC				S	**Sn**	**05 58 09.5**	**-1.1**
	694nm,0.3s,baz=227,slow=19,SNR=34						
LVC	**Limon Verde**	**0.41**	**226**	*e*P	**Pn**	**05 57 56.4**	**-0.9**
LVC				*e*S	**Sn**	**05 58 09.1**	**-1.5**
LVC	**Limon Verde**	**0.41**	**226**	*e*P	**Pn**	**05 57 57.4**	**+0.1**
AF01	**San Pedro de A**	**0.73**	**149**↓	*i*P	**Pn**	**05 58 00.2**	**+0.8**
AF01				*e*S	**Sn**	**05 58 15.2**	**+0.9**
AF01				IAML		05 58 30.1	
	comp=N,2μm,0.4s						
PB09	**IPOC Station P**	**0.80**	**311**↑	*i*P	**Pn**	**05 58 00.6**	**+0.8**
PB09				*i* S	**Sn**	**05 58 15.3**	**+0.3**
PB09				IAML		05 58 16.5	
	comp=N,3μm,0.4s						
PB06	**IPOC Station P**	**0.98**	**247**↑	*i*P	**Pn**	**05 58 01.6**	**+0.2**
PB06				*i* S	**Sn**	**05 58 17.6**	**-0.4**
PB06				IAML		05 58 18.9	
	comp=N,2μm,0.2s						
PB15	**IPOC Station P**	**1.20**	**222**↑	*i*P	**Pn**	**05 58 04.3**	**+0.6**
PB15				*i* S	**Sn**	**05 58 22.3**	**+0.3**
PB07	**IPOC Station P**	**1.34**	**296**↑	*i*P	**Pn**	**05 58 05.8**	**+0.6**
PB07				*i* S	**Sn**	**05 58 24.4**	**-0.2**
PB07				IAML		05 58 25.0	
	comp=N,4μm,0.2s						
PB04	**IPOC Station P**	**1.44**	**269**↑	*i*P	**Pn**	**05 58 06.6**	**+0.3**
PB04				*e*S	**Sn**	**05 58 26.6**	**-0.2**
PB04				IAML		05 58 28.2	
	comp=N,1μm,0.1s						
PB01	**IPOC Station P**	**1.52**	**327**↑	*i*P	**Pn**	**05 58 07.9**	**+0.7**
PB01				*i* S	**Sn**	**05 58 28.4**	**+0.2**
PB01				IAML		05 58 29.5	
	comp=E,3μm,0.2s						
PB02	**IPOC Station P**	**1.57**	**309**↑	*i*P	**Pn**	**05 58 08.4**	**+0.7**
PB02				*i* S	**Sn**	**05 58 29.1**	**-0.2**
PB02				IAML		05 58 30.2	
	comp=E,3μm,0.3s						
PATCX	**Punta Patache**	**2.08**	**315**↑	*e*P	**Pn**	**05 58 14.1**	**+0.1**
PATCX				*e*S	**Sn**	**05 58 38.8**	**-1.6**
PATCX				IAML		05 58 47.0	
	comp=E,1μm,0.3s						
PB10	**IPOC Station P**	**2.16**	**236**	*e*P	**Pn**	**05 58 14.8**	**-0.1**
PB10				*e*S	**Sn**	**05 58 40.4**	**-1.8**
PB08	**IPOC Station P**	**2.23**	**346**↑	*e*P	**Pn**	**05 58 18.0**	**+1.8**
PB08				*e*S	**Sn**	**05 58 46.2**	**+1.9**
PB08				IAML		05 58 50.2	
	comp=E,386nm,0.3s						
TA01	**Diego Aracena**	**2.29**	**319**↑	*e*P	**Pn**	**05 58 16.4**	**-0.2**
TA01				*e*S	**Sn**	**05 58 43.9**	**-1.0**
TA01				IAML		05 58 50.8	
	comp=N,708nm,0.3s						
TA02	**Huaiquique**	**2.50**	**325**	*e*P	**Pn**	**05 58 18.9**	**-0.3**
TA02				*e*S	**Sn**	**05 58 49.9**	**+0.3**
TA02				IAML		05 58 59.9	
	comp=N,1μm,0.1s						
GO01	**Chusmiza**	**2.70**	**348**	*e*P	**Pn**	**05 58 23.8**	**+1.5**
GO01				*e*S	**Sn**	**05 58 57.2**	**+2.0**
GO01				IAML		05 59 00.6	
	comp=N,744nm,0.1s						
PB11	**IPOC Station P**	**2.73**	**338**	*e*P	**Pn**	**05 58 22.7**	**+0.2**
PB11				*e*S	**Sn**	**05 58 55.5**	**0.0**
PB11				IAML		05 58 57.6	
	comp=E,536nm,0.3s						
GO02	**Mina Guanaco**	**2.97**	**198**↓	*i*P	**Pn**	**05 58 25.8**	**+0.1**
GO02				*e*S	**Sn**	**05 59 02.2**	**+1.0**
GO02				IAML		05 59 03.7	
	comp=E,294nm,0.1s						
LPAZ	**La Paz**	**6.02**	**4**	P	**Pn**	**05 59 09.7**	**+3.0**
	comp=E,0.6nm,0.3s,baz=166,slow=3.2,SNR=26						
SIV	**San Ignacio**	**9.49**	**50**	P	**Pn**	**05 59 52.2**	**-1.1**
	comp=E,0.6nm,0.3s,baz=254,slow=7.8,SNR=11						
SIV				S	**Sn**	**06 01 30.2**	**-8.0**
	comp=E,0.4nm,0.3s,baz=135,slow=20,SNR=3.4						
FRBT	**Francisco Belt**	**14.63**	**107**	*e*P	**P**	**06 01 05.5**	**+1.6**
PTGB	**Pitanga**	**15.35**	**102**	*e*P	**P**	**06 01 14.5**	**+2.6**
PDRB	**Porto dos Gac**	**15.55**	**49**	*e*P	**P**	**06 01 15.1**	**+1.0**
ITAB	**Concordia**	**15.73**	**111**	*e*P	**Pn**	**06 01 14.2**	**-0.2**
CLDB	**Colider**	**16.72**	**49**	*e*P	**P**	**06 01 27.7**	**+0.7**
FRTB	**Fartura**	**17.57**	**97**	*e*P	**Pn**	**06 01 37.9**	**+0.8**
PLCA	**Paso Flores**	**18.43**	**185**	P	**P**	**06 01 46.0**	**+0.3**
	comp=E,0.1nm,0.3s,baz=0.0,slow=17,SNR=1.7						
SNDB	**Serra Nova Dou**	**19.45**	**61**	*e*P	**P**	**06 01 56.9**	**-0.1**
IPMB	**Ipameri, GO**	**19.61**	**81**	*e*P	**P**	**06 01 59.6**	**+0.9**
PET01	**Itanhaem-SP**	**19.68**	**100**	*e*P	**P**	**06 01 58.4**	**-0.9**
VAO	**Valinhos**	**19.97**	**96**	*e*P	**P**	**06 02 01.8**	**-0.8**
BDFB	**Brasilia**	**20.55**	**75**	P	**P**	**06 02 09.0**	**+0.1**
	comp=E,1.8nm,0.6s,baz=238,slow=9.3,SNR=5.5						
PEXB	**Peixe**	**21.86**	**66**	*e*P	**P**	**06 02 20.5**	**-2.3**
DUB01	**Friburgo-RJ**	**24.27**	**94**	*e*P	**P**	**06 02 40.1**	**-5.7**
TORD	**Torodi Ar. Bea**	**77.35**	**70**	P	**P**	**06 09 23.2**	**+1.5**
	comp=E,1.1nm,0.4s,baz=257,slow=5.8,SNR=14						
MKAR	**Makanchi Array**	**146.12**	**37**	PKPbc	**PKPab**	**06 17 07.2**	**+0.6**
	comp=E,0.4nm,0.7s,baz=312,slow=2.6,SNR=3.6						

IDC 26 06:21:04.9±2.3, **8.°76S**×**128.°51E**, **h0**$_{km}$, **mb3.6**/1, **mb1 3.6**/3, **mb1mx3.4**/22, **mbtmp3.4**/3, **ML3.0/2, Error ellipse: s-maj=277.0km s-min=32.4km az=64.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.47**	**154**	Pn	Pn	06 24 04.6	+0.9
	0.1nm,0.3s,baz=334,slow=12,SNR=1.6						
WRA				Sn	Sn	06 26 34.2	+11
	0.2nm,0.3s,baz=338,slow=22,SNR=1.5						
ASAR	**Alice Springs**	**15.70**	**161**	Pn	Pn	06 24 46.5	-1.1
	0.2nm,0.3s,baz=339,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**68.90**	**328**	P	P	06 32 11.7	0.0
	0.2nm,0.4s,baz=122,slow=7.9,SNR=6.8						

*NEIC **26** 06:25:44.8, 36.°46N×98.°73W, h8$_{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}=0.88; $M_{\theta\theta}$=4.30; $M_{\phi\phi}$-3.43; $M_{r\theta}$-0.76; $M_{r\phi}$-0.44; $M_{\theta\phi}$-1.79; Fault plane solution: $M_0$4.42000×10^{13} NP1:ϕ_s315.00000°, δ65.00000°, λ-15.00000°. NP2:ϕ_s51.00000°, δ76.00000°, λ-154.00000°. Principal axes: T 4.4141, Plg8.0000°, Azm181.0000°; N -0.0018, Plg61.0000°, Azm77.0000°; P -4.4123, Plg28.0000°, Azm275.0000°;*

*NEIC **26** 06:25:44.8±1.6, 36.°46N±0.°03×98.°69W±0.°05, h6$_{km}$±4$_{km}$, Mwr3.0/8(SLM) Error ellipse: s-maj=6.1km s-min=3.0km az=122.0*

*ANF **26** 06:25:44.9±0.3, 36.°41N×98.°71W, h7$_{km}$, ML4.1/6, ML4.3/8, Error ellipse: s-maj=6.1km s-min=2.4km az=163.0*

ISC 26 06:25:44.9±0.9, **36.°44N**±0.°05×**98.°72W**±0.°04, **h10**$_{km}$, **n34**, σ1°**22**/34, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.23**	**256**	Sg	**Sg**	**06 25 53.0**	**0.0**
U32A	**Winter Ranch,**	**0.23**	**256**	S	**Sg**	**06 25 52.8**	**-0.2**
	baz=73						
U32A	**Winter Ranch,**	**0.23**	**256**	P	**Pg**	**06 25 49.1**	**-0.6**
	baz=73,SNR=169						
U32A	**Winter Ranch,**	**0.23**	**256**	Pg	**Pg**	**06 25 49.1**	**-0.6**
WMOK	**Wichita Mounta**	**1.70**	**182**		**Pn**	**06 26 14.6**	**-0.1**
WMOK	**Wichita Mounta**	**1.70**	**182**	P	**Pn**	**06 26 14.5**	**-0.1**
	baz=2.5,SNR=51						
T35B	**Sooner Cattle**	**1.84**	**74**	Sb	**Sb**	**06 26 42.0**	**+0.3**
	baz=256						
T35B	**Sooner Cattle**	**1.84**	**74**	P	**Pn**	**06 26 17.4**	**+0.9**
	baz=256,SNR=52						
X34A	**Smith Ranch, M**	**1.97**	**158**		**Pb**	**06 26 19.9**	**-0.9**
R32A	**Long Quarter,**	**1.98**	**0**		**Pn**	**06 26 19.1**	**+0.6**
R32A	**Long Quarter,**	**1.98**	**0**	P	**Pn**	**06 26 19.2**	**+0.6**
	baz=180,SNR=36						
TUL1	**Leonard**	**2.43**	**102**	Pn	**Pn**	**06 26 24.9**	**+0.3**
TUL1	**Leonard**	**2.43**	**102**	Sb	**Sb**	**06 26 59.3**	**+0.7**
	baz=284						
CBKS	**Cedar Bluff**	**2.51**	**341**		**Pn**	**06 26 27.6**	**+1.8**
AMTX	**Amarillo**	**2.87**	**238**		**Pb**	**06 26 33.9**	**-2.4**
AMTX	**Amarillo**	**2.87**	**238**	Sb	**Sb**	**06 27 14.0**	**+2.6**
	baz=56						
AMTX	**Amarillo**	**2.87**	**238**	Pb	**Pb**	**06 26 37.0**	**+0.8**
	baz=56						
KSU1	**Kansas State U**	**3.14**	**32**	Pn	**Pn**	**06 26 35.1**	**+0.7**
KSU1	**Kansas State U**	**3.14**	**32**	P	**Pn**	**06 26 35.2**	**+0.7**
	baz=212						
X37A	**Clayton**	**3.29**	**123**	Pn	**Pn**	**06 26 38.4**	**+1.9**
Z35A	**Perchaven, San**	**3.33**	**158**	Pn	**Pn**	**06 26 38.6**	**+1.6**
W39A	**Magazine**	**4.20**	**106**	Pn	**Pn**	**06 26 50.7**	**+1.7**
N33A	**J Bar K, Exete**	**4.41**	**13**	Pn	**Pn**	**06 26 51.5**	**-0.3**
S39A	**Bolivar**	**4.49**	**72**	Pn	**Pn**	**06 26 54.5**	**+1.4**
S39A	**Bolivar**	**4.49**	**72**	P	**Pn**	**06 26 54.4**	**+1.3**
	baz=256,SNR=7.2						
MIAR	**Mount Ida**	**4.60**	**113**	Pn	**Pn**	**06 26 55.4**	**+0.9**
BGNE	**Belgrade**	**4.98**	**5**	Pn	**Pn**	**06 26 59.7**	**-0.1**
P38A	**Dawn**	**5.18**	**51**	Pn	**Pn**	**06 27 02.9**	**+0.4**
UALR	**University of**	**5.45**	**106**	Pn	**Pn**	**06 27 04.9**	**-1.3**
SDCO	**Great Sand Dun**	**5.58**	**286**	Pn	**Pn**	**06 27 09.0**	**+0.8**
Q24A	**Divide**	**5.69**	**298**		**Pn**	**06 27 08.5**	**-1.3**
435B	**Jarrell**	**5.72**	**170**		**Pn**	**06 27 08.3**	**-1.6**
P40A	**Paris**	**6.11**	**58**	Pn	**Pn**	**06 27 16.4**	**+1.2**
ECSD	**EROS Data Cent**	**7.46**	**12**	Pn	**Pn**	**06 27 32.1**	**-1.7**

*TUL **26** 06:25:56.5±1.7, 36.°48N±0.°04×98.°75W±0.°05, h7$_{km}$±7$_{km}$, ML3.9, mb_Lg3.6/97(NEIC), Mwr3.4/7(SLM), Error ellipse: s-maj=6.2km s-min=4.3km az=127.0*

*NEIC **26** 06:25:56.5, 36.°47N×98.°75W, h8$_{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.08; $M_{\theta\theta}$1.43; $M_{\phi\phi}$-1.34; $M_{r\theta}$-0.29; $M_{\theta\phi}$-0.04; $M_{r\phi}$-0.43; Fault plane solution: $M_0$1.48000×10^{14} NP1:ϕ_s315.00000°, δ70.00000°, λ-5.00000°. NP2:ϕ_s47.00000°, δ85.00000°, λ-160.00000°. Principal axes: T 1.4808, Plg11.0000°, Azm179.0000°; N -0.0023, Plg69.0000°, Azm59.0000°; P -1.4784, Plg17.0000°, Azm273.0000°;*

*ANF **26** 06:25:56.4±0.2, 36.°49N×98.°71W, h11$_{km}$ Error ellipse: s-maj=3.0km s-min=1.7km az=154.0*

*NEIC **26** 06:25:57.4±1.8, 36.°48N±0.°02×98.°62W±0.°05, h15$_{km}$±7$_{km}$, Error ellipse: s-maj=6.3km s-min=1.2km az=69.0*

ISC 26 06:25:56.2±0.8, **36.°50N**±0.°04×**98.°68W**±0.°03, **h10**$_{km}$, **n85**, σ1°**06**/61, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.28**	**246**	Pg	**Pg**	**06 26 01.2**	**-0.7**
U32A	**Winter Ranch,**	**0.28**	**246**	P	**Pg**	**06 26 01.5**	**-0.4**
	baz=73						
U32A				S	**Sg**	**06 26 05.1**	**-0.6**
	baz=73						
OK009	**Oakdale Elemen**	**1.37**	**131**	Pn	**Pg**	**06 26 22.5**	**0.0**
OK001	**Jones High Sch**	**1.47**	**129**	Pn	**Pn**	**06 26 22.6**	**-0.1**
OK005	**Luther M Schoo**	**1.47**	**124**	Pn	**Pn**	**06 26 23.1**	**+0.3**
FNO	**Franklin**	**1.62**	**140**	Pn	**Pn**	**06 26 25.6**	**+0.8**
WMOK	**Wichita Mounta**	**1.76**	**183**	Pn	**Pn**	**06 26 25.9**	**-0.8**
WMOK	**Wichita Mounta**	**1.76**	**183**	P	**Pn**	**06 26 27.4**	**+0.7**
	baz=3.9						
T35A	**Sooner Cattle**	**1.79**	**76**	Pn	**Pn**	**06 26 26.9**	**-0.3**
T35B	**Sooner Cattle**	**1.79**	**76**	Pb	**Pb**	**06 26 29.7**	**+0.6**
	baz=256						
T35B				Sb	**Sg**	**06 26 54.3**	**+0.5**
	baz=256						
R32A	**Long Quarter,**	**1.92**	**359**	Pn	**Pn**	**06 26 28.9**	**-0.1**
R32A				IAmb_Lg		06 26 57.8	
	comp=Z,92nm,0.7s						
R32A	**Long Quarter,**	**1.92**	**359**	Pb	**Pb**	**06 26 31.5**	**+0.1**
	baz=178						
R32A				Sb	**Sg**	**06 26 57.8**	**-0.2**
	baz=178						
X34A	**Smith Ranch, M**	**2.02**	**160**	Pn	**Pn**	**06 26 29.5**	**-0.7**
TUL1	**Leonard**	**2.41**	**103**	Pn	**Pn**	**06 26 36.2**	**+0.5**
TUL1				IAmb_Lg		06 27 14.8	
	comp=Z,181nm,0.8s						
TUL1	**Leonard**	**2.41**	**103**	Sb	**Sb**	**06 27 11.3**	**+1.9**
	baz=284						
CBKS	**Cedar Bluff**	**2.46**	**340**	Pn	**Pn**	**06 26 37.6**	**+1.2**
AMTX	**Amarillo**	**2.92**	**237**	Pn	**Pn**	**06 26 44.4**	**+1.5**
AMTX	**Amarillo**	**2.92**	**237**	Pb	**Pb**	**06 26 49.1**	**+0.7**
	baz=56						
AMTX				Sb	**Sb**	**06 27 26.3**	**+2.0**
	baz=56						
KSU1	**Kansas State U**	**3.07**	**32**	Pn	**Pn**	**06 26 46.1**	**+1.2**
X37A	**Clayton**	**3.30**	**124**	Pn	**Pn**	**06 26 46.5**	**-1.5**
X37A				IAmb_Lg		06 27 46.7	
	comp=Z,145nm,0.8s						
Z35A	**Perchaven, San**	**3.37**	**159**	Pn	**Pn**	**06 26 49.1**	**+0.2**
HHAR	**Hobbs**	**3.83**	**92**	Pn	**Pn**	**06 26 54.0**	**-1.2**
ABTX	**Abilene, Hawle**	**3.94**	**192**	Pn	**Pn**	**06 26 56.9**	**+0.1**
KSCO	**Kaye Shedlock'**	**4.01**	**310**	Pn	**Pn**	**06 26 58.5**	**+0.7**
KSCO				IAmb_Lg		06 28 12.0	
	comp=Z,179nm,0.8s						
W39A	**Magazine**	**4.18**	**107**	Pn	**Pn**	**06 26 59.5**	**-0.6**
W39A				IAmb_Lg		06 28 17.0	
	comp=Z,190nm,0.9s						
MSTX	**Muleshoe**	**4.19**	**234**	Pn	**Pn**	**06 27 00.2**	**-0.1**
MSTX				IAmb_Lg		06 28 09.7	
	comp=Z,103nm,0.7s						
N33A	**J Bar K, Exete**	**4.34**	**12**	Pn	**Pn**	**06 27 03.2**	**+0.9**
N33A				IAmb_Lg		06 28 23.0	
	comp=Z,87nm,0.8s						
Z38A	**Mt. Pleasant**	**4.43**	**136**	Pn	**Pn**	**06 27 03.7**	**+0.2**
Z38A				IAmb_Lg		06 28 22.4	
	comp=Z,175nm,0.8s						
S39A	**Bolivar**	**4.45**	**73**	Pn	**Pn**	**06 27 03.1**	**-0.6**
S39A				IAmb_Lg		06 28 25.7	
	comp=Z,58nm,0.8s						
MIAR	**Mount Ida**	**4.60**	**114**	Pn	**Pn**	**06 27 05.0**	**-0.8**
MIAR				IAmb_Lg		06 28 31.5	
	comp=Z,137nm,0.9s						
WHTX	**Lake Whitney,**	**4.61**	**167**		**Pn**	**06 27 04.5**	**-1.4**
T25A	**Trinidad**	**4.64**	**280**	Pn	**Pn**	**06 27 05.7**	**+0.9**
T25A				IAmb_Lg		06 28 29.7	
	comp=Z,130nm,0.9s						
U40A	**Yellville**	**4.70**	**90**	Pn	**Pn**	**06 27 07.6**	**+0.4**
U40A				IAmb_Lg		06 28 33.5	
	comp=Z,102nm,0.8s						
BGNE	**Belgrade**	**4.92**	**5**	IAmb_Lg		06 28 47.5	
	comp=Z,114nm,0.7s						
N35A	**Tabor**	**4.96**	**28**	Pn	**Pn**	**06 27 11.6**	**+0.8**
237A	**Washetta, Mont**	**5.08**	**151**	Pn	**Pn**	**06 27 12.1**	**-0.3**
237A				IAmb_Lg		06 28 48.0	
	comp=Z,81nm,0.9s						
P38A	**Dawn**	**5.12**	**51**	Pn	**Pn**	**06 27 13.6**	**+0.6**
P38A				IAmb_Lg		06 28 53.6	
	comp=Z,73nm,0.9s						
X40A	**Basin Creek Fa**	**5.17**	**111**	Pn	**Pn**	**06 27 13.0**	**-0.7**
X40A				IAmb_Lg		06 28 50.9	
	comp=Z,96nm,0.9s						
MGMO	**Mountain Grove**	**5.19**	**81**	Pn	**Pn**	**06 27 14.4**	**+0.5**
MGMO				IAmb_Lg		06 28 42.7	
	comp=Z,68nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.34**	**95**	IAmb_Lg		06 28 56.5	
	comp=Z,76nm,0.7s						
WLAR	**White Oak Lake**	**5.36**	**120**	IAmb_Lg		06 29 01.5	
	comp=Z,79nm,0.8s						
W41B	**Gary Mavity, V**	**5.39**	**102**	IAmb_Lg		06 28 51.5	
	comp=Z,76nm,0.8s						
R40A	**Maddies Statio**	**5.41**	**69**	IAmb_Lg		06 28 51.8	
	comp=Z,76nm,0.9s						
UALR	**University of**	**5.44**	**107**	IAmb_Lg		06 28 59.2	
	comp=Z,71nm,0.7s						
SDCO	**Great Sand Dun**	**5.59**	**285**	IAmb_Lg		06 29 01.3	
	comp=Z,67nm,1.1s						
Q24A	**Divide**	**5.69**	**298**	IAmb_Lg		06 29 03.4	
	comp=Z,95nm,0.8s						
435B	**Jarrell**	**5.77**	**171**	Pn	**Pn**	**06 27 21.5**	**-0.4**
435B				IAmb_Lg		06 29 12.2	
	comp=Z,70nm,0.8s						
NATX	**Nacogdoches**	**5.78**	**144**	IAmb_Lg		06 29 13.2	
	comp=Z,92nm,0.9s						
Z41A	**Richland Creek**	**5.81**	**122**	IAmb_Lg		06 29 16.6	
	comp=Z,81nm,0.8s						
N38A	**Joes South For**	**6.05**	**43**		**Pn**	**06 27 26.3**	**+0.6**
JCT	**Junction City**	**6.07**	**189**	IAmb_Lg		06 29 22.2	
	comp=Z,82nm,0.8s						
CCM	**Cathedral Cave**	**6.13**	**73**	IAmb_Lg		06 29 23.7	
	comp=Z,113nm,0.9s						
CCAR	**Cane Creek**	**6.21**	**112**	IAmb_Lg		06 29 27.0	
	comp=Z,82nm,1.0s						
ISCO	**Idaho Springs**	**6.38**	**303**		**Pn**	**06 27 31.2**	**+0.6**
ISCO				IAmb_Lg		06 29 18.9	
	comp=Z,62nm,0.9s						
S22A	**4UR Ranch, Cre**	**6.63**	**283**		**Pn**	**06 27 35.9**	**+2.0**
PBMO	**Poplar Bluff**	**6.64**	**85**	IAmb_Lg		06 29 31.2	
	comp=Z,67nm,0.8s						
FVM	**French Village**	**6.75**	**75**	IAmb_Lg		06 29 39.0	
	comp=Z,75nm,0.9s						
SCIA	**State Center**	**6.87**	**36**		**Pn**	**06 27 37.9**	**+1.0**
SCIA				IAmb_Lg		06 29 43.1	
	comp=Z,84nm,0.8s						
BNM	**Barren Site**	**6.90**	**253**		**Pn**	**06 27 38.2**	**+0.6**
GNAR	**Gosnell**	**7.02**	**92**	Pn	**Pn**	**06 27 39.4**	**+0.3**
GNAR				IAmb_Lg		06 29 43.7	
	comp=Z,94nm,0.7s						
SLM	**Saint Louis**	**7.04**	**70**	IAmb_Lg		06 29 40.6	
	comp=Z,80nm,0.8s						
PEBM	**Pemiscott Bayo**	**7.13**	**90**	Pn	**Pn**	**06 27 38.8**	**-1.8**
HDBT	**Hernando Brdge**	**7.13**	**98**		**Pn**	**06 27 37.6**	**-3.0**
PHWY	**Pilot Hill**	**7.13**	**314**	IAmb_Lg		06 29 46.4	
	comp=Z,60nm,0.8s						
Y22D	**IRIS PASSCAL I**	**7.16**	**253**	IAmb_Lg		06 29 52.4	
	comp=Z,71nm,0.8s						
LENM	**Lemitar**	**7.17**	**253**		**Pn**	**06 27 40.0**	**-1.2**
N23A	**Red Feather La**	**7.18**	**310**		**Pn**	**06 27 42.2**	**+0.7**
MNTX	**Cornudas Mount**	**7.33**	**231**	IAmb_Lg		06 29 56.5	
	comp=Z,45nm,0.9s						
N41A	**Harden Midland**	**7.43**	**53**		**Pn**	**06 27 45.1**	**+0.4**
GLAT	**Glass**	**7.58**	**89**	IAmb_Lg		06 30 21.0	
	comp=Z,91nm,0.8s						
HICK	**Hickman**	**7.61**	**87**	Pn	**Pn**	**06 27 46.7**	**-0.4**
S44A	**Carbondale**	**7.63**	**78**		**Pn**	**06 27 47.5**	**+0.2**
S44A				IAmb_Lg		06 30 02.4	
	comp=Z,72nm,0.8s						
SIUC	**Southern Illin**	**7.66**	**78**	IAmb_Lg		06 30 13.0	
	comp=Z,53nm,0.8s						
OXF	**Oxford**	**7.82**	**102**		**Pn**	**06 27 47.8**	**-2.1**
OXF				IAmb_Lg		06 30 14.4	
	comp=Z,43nm,0.8s						
W45A	**Hickory Valley**	**7.83**	**97**	IAmb_Lg		06 30 22.3	
	comp=Z,54nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.88**	**64**		**Pn**	**06 27 49.0**	**-1.8**
UTMT	**University of**	**7.92**	**88**	Pn	**Pn**	**06 27 49.4**	**-1.9**
UTMT				IAmb_Lg		06 30 14.4	
	comp=Z,84nm,0.9s						
SUSD	**Miller**	**7.94**	**359**	IAmb_Lg		06 30 11.6	
	comp=Z,46nm,0.9s						
VBMS	**Vicksburg**	**7.99**	**120**	IAmb_Lg		06 30 28.6	
	comp=Z,50nm,1.3s						
HDIL	**Hopedale**	**8.40**	**58**		**Pn**	**06 27 55.8**	**-2.2**
K22A	**Casper**	**8.62**	**318**	IAmb_Lg		06 30 35.8	
	comp=Z,54nm,0.8s						
RSSD	**Black Hills**	**8.64**	**333**	IAmb_Lg		06 30 39.9	
	comp=Z,38nm,0.8s						
JFWS	**Jewell Farm**	**9.12**	**43**	IAmb_Lg		06 30 57.7	
	comp=Z,50nm,0.7s						
I40A	**Norwalk**	**9.62**	**37**	IAmb_Lg		06 31 07.8	
	comp=Z,46nm,1.0s						
LAO	**LASA Array**	**11.64**	**333**		**Pn**	**06 28 41.9**	**-0.4**

IDC 26 06:38:21.8±1.9, **16.°40S**×**177.°97E**, **h0**$_{km}$, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.6**/39, **mbtmp3.8**/3, **Error ellipse: s-maj=43.0km s-min=24.0km az=82.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.32**	**177**	Pn	Pb	06 38 47.6	0.0
	33nm,0.3s,baz=260,slow=22,SNR=9.4						
MSVF				Sn	Sn	06 39 07.4	+1.3
	120nm,0.3s,baz=186,slow=22,SNR=10						
STKA	**Stephens Creek**	**36.39**	**238**	P	P	06 45 29.6	+1.5
	1.6nm,0.7s,baz=69,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**41.89**	**253**	P	P	06 46 13.1	-1.3
	0.9nm,0.7s,baz=88,slow=8.5,SNR=10						
ILAR	**Eielson Array**	**85.25**	**14**	P	P	06 51 00.1	+0.1
	0.3nm,0.6s,baz=203,slow=6.6,SNR=2.5						

*INMG **26** 06:49:43.7±0.6, 36.°94N×13.°51W, h10$_{km}$, ML2.5, Error ellipse: s-maj=3.6km s-min=2.8km az=91.0*

*CNRM **26** 06:49:51.0, 36.°38N×12.°31W, h92$_{km}$, ml2.7*

ISC 26 06:49:37.4±1.3, **36.°84N**±0.°06×**13.°09W**±0.°07, **h10**$_{km}$, **n27**, σ2°**64**/33, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.43**	**84**	*e*Pn	**Pb**	**06 50 35.9**	**-2.3**
PFVI				*e*Sn	**Sb**	**06 51 14.3**	**-5.7**
PFVI				A	A	06 51 17.3	
	8.5nm,0.2s						
PTEO	**Sao Teotonio**	**3.56**	**77**	*e*Sn	**Sn**	**06 51 17.3**	**+2.5**
PTEO				A	A	06 51 40.3	

	SNR=50							
UCH	**Uchtor**	**5.34**	**26**	P		**Pn**	**07 07 46.7**	**+1.3**
	SNR=17							
EKS2	**Erkin-Say**	**5.52**	**19**	P		**Pn**	**07 07 49.9**	**+2.4**
	SNR=13							
KK31	**Karatay Array**	**5.67**	**354**	P		**Pn**	**07 07 52.4**	**+3.0**
	6.1nm,0.2s,baz=179,slow=12,SNR=164							
KK31				⇑S		**Sn**	**07 08 55.8**	**+2.6**
	6.5nm,0.3s,baz=172,slow=21,SNR=11							
AAK	**Ala-Archa**	**5.70**	**24**	P		**Pn**	**07 07 52.0**	**+2.0**
	SNR=30							
AAK	**Ala-Archa**	**5.70**	**24**	P		**Pn**	**07 07 52.1**	**+2.1**
	9.9nm,0.3s,baz=185,slow=5.8,SNR=63							
AAK				S		**Sn**	**07 08 54.5**	**+0.3**
	1.6nm,0.3s,baz=130,slow=20,SNR=12							
ULHL	**Ulahol**	**6.08**	**37**	P		**Pn**	**07 07 55.3**	**+0.2**
	SNR=5.4							
CHMS	**Chumaysh**	**6.11**	**24**	P		**Pn**	**07 07 57.3**	**+1.9**
	SNR=9.3							
CHMS	**Chumysh**	**6.11**	**24**	⇑P		**Pn**	**07 07 56.7**	**+1.3**
	19nm,0.6s							
CHMS				⇑S		**Sn**	**07 09 02.9**	**-1.0**
	9.6nm,0.6s							
USP	**Ospenovka**	**6.28**	**22**	P		**Pn**	**07 08 00.5**	**+2.9**
	SNR=6.0							
TKM2	**Tokmak 2**	**6.35**	**29**	P		**Pn**	**07 08 00.1**	**+1.3**
	SNR=10							
TKM2	**Tokmak 2**	**6.35**	**29**	⇓P		**Pn**	**07 08 00.1**	**+1.3**
	6.1nm,0.7s							
TKM2				⇓S		**Sn**	**07 09 06.5**	**-3.4**
	7.7nm,0.7s							
GEYT	**Alibeck**	**10.50**	**277**	S		**Sn**	**07 10 48.4**	**-2.2**
	2.6nm,0.3s,baz=62,slow=26,SNR=5.3							
MK31	**Makanchi Array**	**12.35**	**38**	⇑P		**Pn**	**07 09 17.7**	**-1.9**
	1.1nm,0.7s,baz=221,slow=14,SNR=7.2							
MKAR	**Makanchi Array**	**12.35**	**38**	P		**Pn**	**07 09 18.8**	**-0.9**
	0.1nm,0.3s,baz=221,slow=13,SNR=10							
KURBB	**Kurchatov Arra**	**14.12**	**19**	P		**P**	**07 09 46.6**	**-0.1**
	0.1nm,0.3s,baz=206,slow=10,SNR=17							
KURBB	**Kurchatov Arra**	**14.12**	**19**	⇑P		**Pn**	**07 09 43.8**	**+1.2**
	3.9nm,0.6s							
AB31	**Akbulak array**	**14.39**	**329**	P		**Pn**	**07 09 46.8**	**+0.7**
	0.7nm,0.3s,baz=134,slow=13,SNR=66							
AB31				S		**Sn**	**07 12 18.9**	**-5.7**
	5.4nm,0.7s,baz=143,slow=24,SNR=13							
AKTO	**Aktyubinsk**	**16.10**	**328**	P		**P**	**07 10 09.6**	**+0.9**
	1.2nm,0.3s,baz=136,slow=11,SNR=16							
AKTO	**Aktyubinsk**	**16.10**	**328**	⇓P		**P**	**07 10 09.8**	**+1.2**
	3.7nm,0.5s							
AKTO				⇑S		**Sn**	**07 13 03.1**	**-2.7**
	3.2nm,0.8s							
ZALV	**Zalesovo Beam**	**18.93**	**25**	P		**P**	**07 10 39.6**	**-0.1**
	0.8nm,0.3s,baz=223,slow=11,SNR=9.8							
FINES	**FINESS Array B**	**36.85**	**325**	P		**P**	**07 13 27.1**	**+2.2**
	1.0nm,0.4s,baz=116,slow=8.7,SNR=6.0							
ARCES	**ARCESS Array B**	**40.37**	**337**	P		**P**	**07 13 55.5**	**+1.3**
	2.5nm,0.7s,baz=116,slow=9.6,SNR=5.8							
NB2	**NORSAR Subarra**	**43.78**	**322**	P		**P**	**07 14 23.4**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**43.78**	**322**	P		**P**	**07 14 23.5**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=93,slow=7.7,SNR=4.4							
USRK	**Ussuriysk Ar.**	**45.46**	**62**	LR		LR	07 36 30.7	
	comp=Z,83nm,19.3s,baz=176,slow=40							
TORD	**Torodi Ar. Bea**	**66.02**	**268**	P		**P**	**07 17 01.7**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=48,slow=5.8,SNR=4.2							
INK	**Inuvik**	**72.91**	**9**	P		**P**	**07 17 44.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=321,slow=5.5,SNR=5.8							
YKA	**Yellowknife Ar**	**80.27**	**3**	P		**P**	**07 18 25.4**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=352,slow=5.5,SNR=19							

*IDC **26** 07:18:25.6±2.3,23°.64S×179°.81W,h522km±20km, mb3.5/4, mb1 3.7/6, mb1mx3.2/36, mbtmp4.4/6, Error ellipse: s-maj=41.3km s-min=22.0km az=145.0*
*NEIC **26** 07:18:28.6±1.9,23°.6S±0°.1×179°.97W±0°.08, h544km±8km, mb4.4/26, Error ellipse: s-maj=20.0km s-min=10.8km az=170.0*

ISC 26 07:18:27.1±0.6,23°.60S±0°.10×179°.94W±0°.09,h532km, n43,σ1§34/46,mb4.3/17,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.13**	**342**	P		**P**	**07 20 05.5**	**-0.9**
	3.7nm,0.3s,baz=135,slow=17,SNR=15							
MSVF	**Nonsavu**	**6.13**	**342**	P		**P**	**07 20 05.4**	**-1.0**
NIUE	**Niue**	**10.36**	**66**	P		**P**	**07 20 51.3**	**+2.6**
MARNC	**Mare, Loyalty**	**11.31**	**278**	P		**P**	**07 20 59.0**	**+0.5**
PINNC	**Pines Island,**	**11.65**	**272**	P		**P**	**07 21 04.8**	**+2.8**
URZ	**Urewera**	**14.83**	**189**	P		**P**	**07 21 31.4**	**-3.5**
	0.3nm,0.3s,baz=302,slow=19,SNR=1.1							
QRZ	**Quartz Range**	**18.30**	**198**	P		**P**	**07 22 10.7**	**+2.2**
TUWZ	**Tuamarina**	**18.50**	**195**	P		**P**	**07 22 10.7**	**+0.5**
LTZ	**Lake Taylor**	**20.19**	**197**	P		**P**	**07 22 27.4**	**+1.8**
LTZ					IAmb	IAmb	07 22 55.0	
	comp=Z,31nm,1.3s							
WHZ	**Wether Hill Ro**	**24.31**	**201**	P		**P**	**07 23 03.6**	**+1.2**
ARMA	**Armidale**	**26.18**	**249**	P		**P**	**07 23 20.9**	**+1.5**
ARMA					IAmb	IAmb	07 23 40.3	
	comp=Z,22nm,1.5s							
EIDS	**Eidsvold**	**26.41**	**260**	P		**P**	**07 23 21.8**	**+0.4**
CTAO	**Charters Tower**	**31.53**	**270**	P		**P**	**07 24 06.1**	**+0.2**
TOO	**Toolangi**	**32.65**	**237**	P		**P**	**07 24 16.5**	**+1.2**
TOO					IAmb	IAmb	07 24 40.1	
	comp=Z,10nm,1.4s							
STKA	**Stephens Creek**	**34.88**	**248**	P		**P**	**07 24 34.9**	**+0.8**
	comp=Z,5.0nm,0.5s,baz=98,slow=11,SNR=16							
STKA	**Stephens Creek**	**34.88**	**248**	P		**P**	**07 24 34.5**	**+0.4**
BBOO	**Buckleboo**	**39.61**	**247**	P		**P**	**07 25 12.3**	**-0.5**
BBOO					IAmb	IAmb	07 25 12.9	
	comp=Z,6.7nm,0.8s							
AS31	**Alice Springs**	**42.13**	**260**	P		**P**	**07 25 32.8**	**-0.2**
AS31					IAmb	IAmb	07 25 33.9	
	comp=Z,3.1nm,0.5s							
ASAR	**Alice Springs**	**42.13**	**260**	P		**P**	**07 25 32.9**	**-0.2**
	comp=Z,6.8nm,0.6s,baz=94,slow=7.4,SNR=90							
ASAR					ScP	**ScP**	**07 30 16.8**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=110,slow=4.8,SNR=4.3							
ASAR	**Alice Springs**	**42.13**	**260**	P		**P**	**07 25 32.5**	**-0.6**
WR0	**Warramunga Arr**	**42.29**	**266**	P		**P**	**07 25 33.5**	**-0.7**
WR0					IAmb	IAmb	07 25 50.4	
	comp=Z,7.7nm,1.1s							
WB2	**Warramunga Arr**	**42.47**	**266**	P		**P**	**07 25 34.8**	**-0.9**
WB2					IAmb	IAmb	07 25 35.3	
	comp=Z,10.0nm,0.5s							
WB0	**Warramunga Arr**	**42.47**	**266**	P		**P**	**07 25 34.8**	**-0.9**
WB0					IAmb	IAmb	07 25 35.5	
	comp=Z,12nm,0.7s							
WRAB	**Tennant Creek**	**42.47**	**266**	P		**P**	**07 25 34.7**	**-1.0**
WRAB					IAmb	IAmb	07 25 35.2	
	comp=Z,8.3nm,0.5s							
WRA	**Warramunga Arr**	**42.48**	**266**	P		**P**	**07 25 35.0**	**-0.8**
	comp=Z,3.7nm,0.3s,baz=90,slow=5.9,SNR=159							
WRA	**Warramunga Arr**	**42.48**	**266**	P		**P**	**07 25 34.7**	**-1.1**
FORT	**Forrest**	**46.46**	**249**	P		**P**	**07 26 06.3**	**0.0**
KNRA	**Kununurra**	**48.74**	**270**	P		**P**	**07 26 22.9**	**-0.7**
KNRA					IAmb	IAmb	07 26 23.9	
	comp=Z,15nm,1.1s							
FITZ	**Fitzroy Crossi**	**50.90**	**265**	P		**P**	**07 26 39.2**	**-0.2**
FITZ					IAmb	IAmb	07 26 40.2	
	comp=Z,3.9nm,0.6s							
VNDA	**Vanda**	**54.68**	**185**	P		**P**	**07 27 07.0**	**+1.5**
MBWA	**Marble Bar**	**55.47**	**260**	P		**P**	**07 27 10.9**	**-1.0**
MBWA					IAmb	IAmb	07 27 21.0	
	comp=Z,23nm,1.4s							
MORW	**Morawa**	**57.02**	**250**	P		**P**	**07 27 22.0**	**-0.5**
MORW					IAmb	IAmb	07 27 29.0	
	comp=Z,49nm,1.4s							
GIRL	**Giralia**	**60.03**	**257**	P		**P**	**07 27 43.4**	**+0.5**
TOLI2	**Tolitoli**	**62.55**	**284**	P		**P**	**07 27 59.5**	**0.0**
TOLI2					IAmb	IAmb	07 28 00.5	
	comp=Z,4.4nm,0.6s							
QSPA	**South Pole Qui**	**66.48**	**180**	P		**P**	**07 28 23.9**	**+0.2**
BELA	**Belgrano 2**	**76.72**	**173**	P		**P**	**07 29 22.1**	**-0.9**
MAW	**Mawson**	**78.05**	**200**	P		**P**	**07 29 32.3**	**+2.0**
SNAA	**Sanae**	**84.96**	**179**	P		**P**	**07 30 04.8**	**-1.0**
TXAR	**Lajitas Array**	**90.23**	**58**	P		**P**	**07 30 31.3**	**0.0**
	comp=Z,0.2nm,0.7s,baz=203,slow=8.4,SNR=4.0							
TXAR	**Lajitas Array**	**90.23**	**58**	P		**P**	**07 30 30.8**	**-0.6**
AKASG	**Malin Array Be**	**144.75**	**328**	PKP		**PKPdf**	**07 37 00.1**	**-3.0**
	comp=Z,2.8nm,0.7s,baz=57,slow=2.5,SNR=5.5							
BRTR	**Keskin Array B**	**147.44**	**308**	PKPbc		**PKPbc**	**07 37 10.0**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=148,slow=5.3,SNR=2.3							
BRTR	**Keskin Array B**	**147.44**	**308**	PKPdf		**PKPdf**	**07 37 07.0**	**-1.2**
BRTR						**PKPbc**	**07 37 10.4**	**-1.2**
BRTR				PKPab		**PKPab**	**07 37 14.9**	**-0.5**

*IDC **26** 07:30:23.2±1.3, 10°.36N×126°.26E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/33, mbtmp3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/43, Error ellipse: s-maj=73.2km s-min=25.4km az=75.0*
*MAN **26** 07:30:28.7, 10°.40N×126°.15E, h1km, mb4.8, ML3.7, MS3.6, Hypocentre not reviewed by the ISC*

ISC 26 07:30:29.8±1.1,10°.42N±0°.07×126°.39E±0°.08,h44km,n14, σ1§50/18,mb3.3/4,3C-5D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.09**	**234**	⇓eP		**Pn**	**07 30 46.3**	**-2.2**
SCPH				eS		**Sn**	**07 31 00.5**	**-2.0**
MSLP	**Maasin**	**1.53**	**259**	⇑eP		**Pn**	**07 30 54.3**	**-0.3**
BIPH	**Bislig**	**2.22**	**181**	⇑iP		**Pn**	**07 31 03.6**	**-0.6**
BIPH				iS		**Sn**	**07 31 30.6**	**+0.2**
LLP	**Lapu-Lapu**	**2.38**	**268**	⇓iP		**Pn**	**07 31 06.3**	**-0.1**
LLP				iS		**Sn**	**07 31 35.1**	**+0.8**
TBP	**Tagbilaran**	**2.59**	**254**	eP		**Pn**	**07 31 09.7**	**+0.5**
TBP				iS		**Sn**	**07 31 41.0**	**+1.5**
BUKP	**Musuan**	**2.84**	**207**	⇑eP		**Pn**	**07 31 14.2**	**+1.5**
DCPH	**Dipolog City**	**3.51**	**239**	⇓eP		**Pn**	**07 31 22.8**	**+1.0**
DCPH				eS		**Sn**	**07 32 02.6**	**+0.6**
KCP	**Kidapawan**	**3.62**	**201**	⇓eP		**Pn**	**07 31 27.0**	**+3.5**
KCP				iS		Sn	07 32 13.6	+8.5
RCP	**Roxas**	**3.75**	**288**	⇓eP		**Pn**	**07 31 26.5**	**+1.4**
KSRS	**Korea Array**	**26.95**	**3**	LR		LR	07 47 20.0	
	comp=Z,31nm,20.6s,baz=150,slow=38							
WRA	**Warramunga Arr**	**31.17**	**165**	P		**P**	**07 36 43.4**	**-1.4**
	0.5nm,0.9s,baz=347,slow=9.2,SNR=2.5							
ASAR	**Alice Springs**	**34.67**	**168**	P		**P**	**07 37 14.8**	**-0.5**
	0.1nm,0.3s,baz=352,slow=6.7,SNR=2.0							
MKAR	**Makanchi Array**	**51.98**	**323**	P		**P**	**07 39 33.9**	**-0.7**
	0.4nm,0.7s,baz=124,slow=7.8,SNR=5.0							
ILAR	**Eielson Array**	**79.25**	**26**	P		**P**	**07 42 30.9**	**+0.7**
	0.3nm,0.7s,baz=238,slow=5.2,SNR=4.7							

WEL 26 08:05:41.1,39°S±5°×17°5E±°,h65km±5km,M2.4/36, ML2.4/28,MLv2.4/36,Error ellipse: s-maj=0.0km s-min=0.0km az=122.8,North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MTVZ	**Mangateitei**	**0.02**	**120**	P		Pn	08 05 50.6	0.0
TRVZ	**Turoa**	**0.11**	**46**	P		Pn	08 05 51.1	+0.1
PKVZ	**Pokaka**	**0.12**	**317**	P		Pn	08 05 50.8	0.0
WNVZ	**Wahianoa**	**0.12**	**68**	P		Pn	08 05 51.1	+0.1
WHVZ	**Whangaehu Hut**	**0.14**	**50**	P		Pn	08 05 51.3	+0.2
FWVZ	**Far West T-bar**	**0.14**	**34**	P		Pn	08 05 51.2	+0.1
TUVZ	**Tukino**	**0.19**	**56**	P		Pn	08 05 51.5	+0.3
NGZ	**Ngauruhoe**	**0.23**	**31**	P		Pn	08 05 51.6	+0.2
MOVZ	**Moawhango**	**0.24**	**98**	P		Pn	08 05 51.0	-0.3
SNVZ	**South Ngauruho**	**0.24**	**38**	P		Pn	08 05 51.9	+0.4
OTVZ	**Oturere**	**0.27**	**39**	P		Pn	08 05 52.0	+0.3
NNVZ	**North Ngauruho**	**0.28**	**28**	P		Pn	08 05 51.9	+0.2
WTVZ	**West Tongariro**	**0.28**	**23**	P		Pn	08 05 51.8	+0.1
ETVZ	**East Tongariro**	**0.31**	**41**	P		Pn	08 05 52.2	+0.3
TMVZ	**Te Maari**	**0.33**	**38**	P		Pn	08 05 52.4	+0.4
NTVZ	**North Tongarir**	**0.33**	**33**	P		Pn	08 05 52.4	+0.4
KATZ	**Kakaramea**	**0.44**	**26**	P		Pn	08 05 53.3	+0.2
BHHZ	**Black Hill Sta**	**0.49**	**104**	P		Pn	08 05 52.6	-0.7
RITZ	**Rihia Road**	**0.51**	**39**	P		Pn	08 05 54.0	+0.4
WAZ	**Wanganui**	**0.52**	**223**	P		Pn	08 05 52.9	-0.7
RATZ	**Rangitukua**	**0.57**	**27**	P		Pn	08 05 54.4	+0.2
VRZ	**Vera Road**	**0.59**	**295**	P		Pn	08 05 54.0	-0.4
HATZ	**Hinemaiaia**	**0.70**	**46**	P		Pn	08 05 55.3	-0.3
WATZ	**Wairara**	**0.70**	**19**	P		Pn	08 05 55.8	+0.2
KWHZ	**Kaweka Forest**	**0.76**	**94**	P		Pn	08 05 56.2	-0.1
WHTZ	**Whakaora**	**0.81**	**29**	P		Pn	08 05 57.7	+0.7
LREZ	**Lake Rotokare**	**0.81**	**264**	P		Pn	08 05 56.2	-0.7
BKZ	**Black Stump Fm**	**0.84**	**76**	P		Pn	08 05 56.8	-0.5
MHEZ	**Mangahewa**	**0.92**	**288**	P		Pn	08 05 58.6	+0.3
MRHZ	**Matea Rd**	**0.93**	**55**	P		Pn	08 05 57.9	-0.6
KUTZ	**Kaahu Road**	**0.93**	**18**	P		Pn	08 05 58.7	+0.2
DREZ	**Durham Road**	**0.99**	**280**	P		Pn	08 05 58.8	-0.3
PREZ	**Palmer Road**	**1.00**	**271**	P		Pn	08 05 59.1	-0.2
WPRZ	**Whakapapatarin**	**1.02**	**33**	P		Pn	08 05 59.5	-0.1
NEZ	**North Egmont**	**1.05**	**275**	P		Pn	08 05 59.8	-0.3
NMHZ	**Naumai**	**1.09**	**76**	P		Pn	08 06 01.1	+0.6
KHEZ	**Kahui Hut**	**1.11**	**274**	P		Pn	08 06 00.4	-0.4
GRRZ	**Galatos Road**	**1.15**	**27**	P		Pn	08 06 01.3	+0.1
PKE	**Pukeiti**	**1.15**	**279**	P		Pn	08 06 00.6	-0.6
RAHZ	**Arahi**	**1.35**	**71**	P		Pn	08 06 04.0	+0.1
RTZ	**Ruatahuna**	**1.41**	**58**	P		Pn	08 06 04.6	-0.2
WHHZ	**Waihua**	**1.42**	**78**	P		Pn	08 06 03.3	-1.5
SNGZ	**Shannon Statio**	**1.59**	**69**	P		Pn	08 06 07.8	+0.8
URZ	**Urewera**	**1.71**	**50**	P		Pn	08 06 08.0	-0.6
TGRZ	**Tauranga**	**1.76**	**21**	P		Pn	08 06 09.6	+0.2
TMWZ	**Te Maipa**	**1.76**	**169**	P		Pn	08 06 18.3	+8.9
RAGZ	**Rawiri**	**1.77**	**61**	P		Pn	08 06 11.6	+2.0
DUWZ	**D'Urville Isla**	**1.84**	**219**	P		Pn	08 06 07.9	-2.6
RIGZ	**Rimuhau**	**1.92**	**70**	P		Pn	08 06 10.8	-0.7
MWZ	**Matawai**	**1.93**	**58**	P		Pn	08 06 11.2	-0.5
TCW	**Tory Channel**	**2.04**	**206**	P		Pn	08 06 10.1	-3.0
RUGZ	**Raukumara Rang**	**2.24**	**52**	P		Pn	08 06 16.0	0.0
TWGZ	**Tauwhareparae**	**2.31**	**60**	P		Pn	08 06 16.7	-0.2
TUWZ	**Tuamarina**	**2.35**	**209**	P		Pn	08 06 13.9	-3.5
NNZ	**Nelson**	**2.43**	**220**	P		Pn	08 06 15.0	-3.3
HAZ	**Te Kaha**	**2.44**	**49**	P		Pn	08 06 18.2	-0.4
TKNZ	**Takaka Hill**	**2.52**	**228**	P		Pn	08 06 16.3	-3.4
PKGZ	**Pakihiroa**	**2.54**	**55**	P		Pn	08 06 20.6	+0.7
BSWZ	**Blackbirch Sta**	**2.63**	**207**	P		Pn	08 06 17.4	-3.7
QRZ	**Quartz Range**	**2.67**	**236**	P		Pn	08 06 18.3	-3.3
MRNZ	**Matariki Terra**	**2.88**	**225**	P		Pn	08 06 21.0	-3.6
THZ	**Tophouse**	**3.07**	**218**	P		Pn	08 06 23.5	-3.8

*NEIC **26** 08:05:58.6±1.4, 14°.0S±0°.1×166°.6E±0°.1, h4km±6km, mb4.5/17, Error ellipse: s-maj=17.7km s-min=14.6km az=45.0*
*IDC **26** 08:05:58.1±1.5, 13°.99S×166°.41E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/40, mbtmp3.8/5, ML3.6/1, MS3.7/17, Ms1 3.7/17, ms1mx3.3/63, Error ellipse: s-maj=42.9km s-min=29.3km az=110.0*

ISC 26 08:05:59.1±0.7,13°.99S±0°.08×166°.5E±0°.1,h10km,n43, σ1§07/30,mb4.3/12,MS3.7/15,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.60**	**155**	Pn		**Pb**	**08 06 27.9**	**-0.9**
KOUNC	**Koumac, New Ca**	**6.86**	**198**	Pn		**Pn**	**08 07 41.2**	**+1.4**
DZM	**Mont Dzumac**	**8.04**	**180**	Pn		**Pn**	**08 07 57.2**	**+1.1**
	0.7nm,0.3s,baz=143,slow=19,SNR=11							
DZM					Sn	**Sn**	**08 09 27.4**	**+0.2**
	baz=288,slow=19,SNR=0.9							
DZM					LR	LR	08 10 08.6	
	comp=Z,165nm,18.9s,baz=7.5,slow=31							
DZM	**Mont Dzumac**	**8.04**	**180**			**Pn**	**08 07 57.7**	**+1.6**
OUENC	**Ouen Island, N**	**8.39**	**178**	Pn		**Pn**	**08 08 02.5**	**+1.6**
PMG	**Port Moresby**	**19.47**	**281**	LR		LR	08 17 14.2	
	comp=Z,166nm,18.7s,baz=356,slow=35							
CTA	**Charters Tower**	**20.28**	**250**	LR		LR	08 17 46.4	
	comp=Z,120nm,18.5s,baz=88,slow=35							
CTAO	**Charters Tower**	**20.28**	**250**	P		**P**	**08 10 35.6**	**+0.5**
CTAO					IAmb	IAmb	08 11 01.9	
	comp=Z,23nm,1.4s							
ARMA	**Armidale**	**21.34**	**218**	P		**P**	**08 10 44.5**	**-2.0**
COEN	**Coen**	**22.63**	**267**	P		**P**	**08 10 59.4**	**-1.1**
COEN					IAmb	IAmb	08 10 59.8	
	comp=Z,12nm,1.1s							
NIUE	**Niue**	**23.15**	**106**	P		**P**	**08 11 04.4**	**-1.4**
BKZ	**Black Stump Fm**	**26.59**	**162**	P		**P**	**08 11 36.8**	**-0.8**
BKZ					IAmb	IAmb	08 11 56.8	
	comp=Z,14nm,1.3s							
STKA	**Stephens Creek**	**28.92**	**228**	LR		LR	08 23 29.3	
	comp=Z,180nm,18.2s,baz=34,slow=36							
STKA	**Stephens Creek**	**28.92**	**228**	P		**P**	**08 11 57.2**	**-1.3**
RPZ	**Rata Peaks**	**29.88**	**173**	LR		LR	08 23 45.9	
	comp=Z,135nm,18.7s,baz=203,slow=36							
WR0	**Warramunga Arr**	**31.10**	**255**	P		**P**	**08 12 17.5**	**-0.5**
WR0					IAmb	IAmb	08 12 18.8	
	comp=Z,6.3nm,1.2s							
WB0	**Warramunga Arr**	**31.22**	**255**	P		**P**	**08 12 18.8**	**-0.2**
WB0					IAmb	IAmb	08 12 21.2	
	comp=Z,5.0nm,1.1s							
WB2	**Warramunga Arr**	**31.28**	**255**	P		**P**	**08 12 20.2**	**+0.7**
WB2					IAmb	IAmb	08 12 41.6	
	comp=Z,1.1nm,1.5s							
WRA	**Warramunga Arr**	**31.29**	**255**	P		**P**	**08 12 19.1**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=84,slow=9.7,SNR=6.7							
WRA					LR	LR	08 24 08.4	
	comp=Z,107nm,19.8s,baz=62,slow=35							
WRA	**Warramunga Arr**	**31.29**	**255**	P		**P**	**08 12 19.6**	**0.0**
ASAR	**Alice Springs**	**32.25**	**248**	P		**P**	**08 12 27.8**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=74,slow=10,SNR=4.8							
ASAR					LR	LR	08 24 34.8	
	comp=Z,94nm,18.2s,baz=124,slow=35							
BBOO	**Buckleboo**	**33.45**	**231**	P		**P**	**08 12 38.7**	**+0.2**
BBOO					IAmb	IAmb	08 12 58.3	
	comp=Z,12nm,1.2s							
MTN	**Manton Dam**	**34.40**	**268**	P		**P**	**08 12 44.4**	**-2.5**
MTN					IAmb	IAmb	08 12 59.5	
	comp=Z,19nm,1.2s							
SIJI	**Sorong**	**37.21**	**287**	LR		LR	08 29 30.7	
	comp=Z,91nm,19.6s,baz=235,slow=38							
FORT	**Forrest**	**39.04**	**238**	P		**P**	**08 13 26.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**39.42**	**258**	LR		LR	08 29 56.7	
	comp=Z,150nm,18.0s,baz=86,slow=37							
FITZ	**Fitzroy Crossi**	**39.42**	**258**	P		**P**	**08 13 29.0**	**-0.6**
MCQ	**Macquarie Isla**	**40.85**	**187**	P		**P**	**08 13 42.2**	**+1.3**
BATI	**Baumata**	**42.01**	**270**	LR		LR	08 28 16.7	
	comp=Z,100nm,20.7s,baz=56,slow=32							
VNDA	**Vanda**	**63.58**	**181**	P		**P**	**08 16 29.2**	**-0.3**
VNDA					IAmb	IAmb	08 16 52.9	
	comp=Z,1.9nm,1.1s							
QSPA	**South Pole Qui**	**76.04**	**180**	P		**P**	**08 17 46.4**	**-0.1**
IMAR	**Indian Mountai**	**85.05**	**15**	P		**P**	**08 18 35.2**	**+0.6**
PFO	**Pinyon Flats O**	**87.17**	**55**	LR		LR	08 53 33.3	
	comp=Z,42nm,18.5s,baz=239,slow=33							
NVAR	**Mina Array Bea**	**87.36**	**49**	LR		LR	08 51 44.8	
	comp=Z,56nm,18.7s,baz=254,slow=31							
ELK	**Elko**	**90.35**	**48**	LR		LR	08 53 54.2	
	comp=Z,35nm,18.4s,baz=132,slow=32							
INK	**Inuvik**	**92.43**	**19**	LR		LR	08 59 57.2	
	comp=Z,40nm,18.1s,baz=140,slow=35							
PDAR	**Pinedale Array**	**95.00**	**47**	LR		LR	09 01 32.4	
	comp=Z,21nm,18.8s,baz=276,slow=35							
ANMO	**Albuquerque**	**95.50**	**56**	LR		LR	08 55 07.5	
	comp=Z,32nm,20.7s,baz=247,slow=31							
MKAR	**Makanchi Array**	**96.15**	**317**	P		**P**	**08 19 28.8**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=102,slow=7.4,SNR=5.3							
TXAR	**Lajitas Array**	**96.58**	**62**	LR		LR	08 54 51.1	
	comp=Z,24nm,21.0s,baz=253,slow=30							
YKA	**Yellowknife Ar**	**97.23**	**27**	P		**P**	**08 19 31.9**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=254,slow=4.5,SNR=4.3							
ARCES	**ARCESS Array B**	**119.35**	**345**	PKP		**PKiKP**	**08 24 48.5**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=72,slow=2.9,SNR=3.8							
ARCES	**ARCESS Array B**	**119.35**	**345**			**PKPdf**	**08 24 48.1**	**-0.1**

*GEN **26** 08:07:08.3, 43°.89N×7°.82E, h4km, Ml2.0*
*ROM **26** 08:07:08.2±0.2, 43°.887N±0°.009×7

BURY				AML	AML			
	comp=E,668µm,0.6s							
BURY				AML	AML			
	comp=N,890µm,0.3s							
BURY	**Giardini Botan**	**0.24**	**251**	P	**Pg**	**08 07 13.2**	**-0.1**	
BURY				S	**Sg**	**08 07 16.6**	**-0.2**	
SAOF	**Saorge**	**0.26**	**300**	Pg	**Pg**	**08 07 13.1**	**-0.6**	
SAOF				Sg	**Sg**	**08 07 16.7**	**-0.7**	
SAOF	**Saorge**	**0.26**	**300**	P	**Pg**	**08 07 13.1**	**-0.6**	
SAOF				S	**Sg**	**08 07 16.8**	**-0.7**	
SAOF				AML	AML			
	comp=N,965µm,0.2s							
SAOF				AML	AML			
	comp=E,1185µm,0.4s							
SAOF	**Saorge**	**0.26**	**300**	P	**Pg**	**08 07 13.1**	**-0.6**	
SAOF				S	**Sg**	**08 07 17.0**	**-0.5**	
MENA	**Menton**	**0.28**	**255**	P	**Pg**	**08 07 14.7**	**+0.7**	
MENA				S	**Sg**	**08 07 19.2**	**+1.1**	
RORO	**Rocca Rossa**	**0.29**	**30**	P	**Pg**	**08 07 14.7**	**+0.5**	
RORO				S	**Sg**	**08 07 18.5**	**+0.1**	
RORO				AML	AML			
	comp=N,750µm,0.8s							
RORO				AML	AML			
	comp=E,716µm,0.7s							
RORO	**Rocca Rossa**	**0.29**	**30**	P	**Pg**	**08 07 14.5**	**+0.2**	
RORO				S	**Sg**	**08 07 18.5**	**+0.1**	
SBF	**Sospel**	**0.31**	**271**	*e*Pg	**Pg**	**08 07 14.6**	**0.0**	
SBF				*e*Sg	**Sg**	**08 07 18.7**	**-0.3**	
	comp=E,568nm,0.3s							
TURF	**col de Turini**	**0.36**	**289**	Pg	**Pg**	**08 07 15.3**	**-0.2**	
TURF				Sg	**Sg**	**08 07 20.2**	**-0.4**	
TURF	**col de Turini**	**0.36**	**289**	P	**Pg**	**08 07 15.3**	**-0.2**	
TURF				S	**Sg**	**08 07 20.4**	**-0.2**	
GBOS	**Grotte di Boss**	**0.38**	**357**	P	**Pg**	**08 07 16.0**	**+0.1**	
GBOS				S	**Sg**	**08 07 20.9**	**-0.3**	
GBOS	**Grotte di Boss**	**0.38**	**357**	P	**Pg**	**08 07 16.0**	**+0.1**	
GBOS				S	**Sg**	**08 07 20.9**	**-0.3**	
CANO	**Canova, Maglio**	**0.44**	**38**	P	**Pg**	**08 07 17.3**	**+0.4**	
CANO				S	**Sg**	**08 07 23.0**	**+0.2**	
CANO				AML	AML			
	comp=N,588µm,0.8s							
CANO				AML	AML			
	comp=E,658µm,0.6s							
CANO	**Canova, Maglio**	**0.44**	**38**	P	**Pg**	**08 07 17.3**	**+0.4**	
CANO				S	**Sg**	**08 07 23.2**	**+0.3**	
ENR	**Entracque**	**0.49**	**319**	P	**Pg**	**08 07 17.5**	**-0.3**	
ENR				AML	AML			
	comp=E,292µm,0.7s							
ENR				AML	AML			
	comp=N,308µm,0.5s							
ENR	**Entracque**	**0.49**	**319**	P	**Pg**	**08 07 17.5**	**-0.3**	
SPIF	**crte de Spivo**	**0.49**	**294**	Pg	**Pg**	**08 07 17.8**	**-0.1**	
SPIF				Sg	**Sg**	**08 07 24.5**	**-0.1**	
MVIF	**Mont Vial**	**0.52**	**274**	Pg	**Pg**	**08 07 18.4**	**0.0**	
MVIF				Sg	**Sg**	**08 07 25.0**	**-0.3**	
MVIF	**Mont Vial**	**0.52**	**274**	P	**Pg**	**08 07 19.0**	**+0.6**	
MVIF				S	**Sg**	**08 07 25.7**	**+0.4**	
STV	**Sant Anna di V**	**0.55**	**315**	P	**Pg**	**08 07 18.6**	**-0.4**	
STV				S	**Sg**	**08 07 25.7**	**-0.6**	
STV				AML	AML			
	comp=E,228µm,0.1s							
STV				AML	AML			
	comp=N,158µm,0.3s							
STV	**Sant Anna di V**	**0.55**	**315**	P	**Pg**	**08 07 18.5**	**-0.4**	
STV				S	**Sg**	**08 07 25.7**	**-0.6**	
QLNO	**Quiliano**	**0.58**	**37**	∥P	**Pg**	**08 07 20.0**	**+0.5**	
QLNO				AML	AML			
	comp=E,286µm,0.5s							
QLNO				AML	AML			
	comp=N,242µm,0.4s							
QLNO				AML	AML			
	comp=E,286µm,0.5s							
QLNO	**Quiliano**	**0.58**	**37**	P	**Pg**	**08 07 19.9**	**+0.5**	
EILF	**Villa Eilenroc**	**0.62**	**240**	Pg	**Pg**	**08 07 20.5**	**+0.3**	
EILF				Sg	**Sg**	**08 07 29.2**	**+0.8**	
EILF	**Villa Eilenroc**	**0.62**	**240**	P	**Pg**	**08 07 21.0**	**+0.9**	
EILF				S	**Sg**	**08 07 29.2**	**+0.8**	
ISO	**Isola**	**0.67**	**299**	Pg	**Pb**	**08 07 21.0**	**-0.6**	
ISO				Sg	**Sg**	**08 07 29.8**	**-0.3**	
ISO	**Isola**	**0.67**	**299**	P	**Pb**	**08 07 21.0**	**-0.6**	
ISO				S	**Sg**	**08 07 29.8**	**-0.3**	
CALF	**Calern**	**0.69**	**261**	Pg	**Pb**	**08 07 21.8**	**-0.1**	
CALF				Sg	**Sb**	**08 07 31.7**	**+0.4**	
PCP	**Piancastagn**	**0.84**	**35**	P	**Pb**	**08 07 24.6**	**+0.2**	
PCP				S	**Sb**	**08 07 36.3**	**+0.7**	
PCP				AML	AML			
	comp=E,344µm,0.4s							
PCP				AML	AML			
	comp=N,240µm,0.5s							
PCP	**Piancastagn**	**0.84**	**35**	P	**Pb**	**08 07 24.6**	**+0.2**	
PCP				S	**Sg**	**08 07 36.7**	**+1.3**	
PZZ	**Stroppo**	**0.84**	**320**	P	**Pb**	**08 07 24.0**	**-0.5**	
PZZ				AML	AML			
	comp=N,218µm,1.3s							
PZZ				AML	AML			
	comp=E,177µm,1.1s							
PZZ	**Stroppo**	**0.84**	**320**	P	**Pb**	**08 07 24.1**	**-0.5**	
PZZ				S	**Sb**	**08 07 34.9**	**-0.8**	
SURF	**Saint Ours**	**0.98**	**310**	Pg	**Pb**	**08 07 26.6**	**-0.3**	
SURF				Sg	**Sb**	**08 07 39.5**	**-0.3**	
SURF	**Saint Ours**	**0.98**	**310**	P	**Pb**	**08 07 26.6**	**-0.3**	
SURF				S	**Sb**	**08 07 39.6**	**-0.1**	
RNCA	**Ronca, Sant'Ol**	**0.99**	**52**	P	**Pb**	**08 07 28.0**	**+1.0**	
TRIGF	**Trigance**	**1.06**	**264**	Pg	**Pb**	**08 07 28.6**	**+0.3**	
TRIGF				Pn	**Pn**	**08 07 29.1**	**+0.5**	
TRIGF				Sg	**Sb**	**08 07 43.4**	**+1.4**	
BHB	**Bricherasio**	**1.07**	**336**	P	**Pb**	**08 07 27.5**	**-0.9**	
BHB				S	**Sb**	**08 07 41.0**	**-1.3**	
LMR	**La Mourre**	**1.12**	**242**	*e*Pg	**Pn**	**08 07 28.6**	**-0.6**	
LMR				*e*Sg	**Sb**	**08 07 43.1**	**-0.4**	
	comp=E,36nm,0.2s							
OGAG	**Argentiere**	**1.12**	**302**	Pg	**Pg**	**08 07 32.9**	**+3.1**	
OGAG				Sg	**Sg**	**08 07 51.0**	**+6.5**	
OGDI	**Digne**	**1.16**	**283**	P	**Pg**	**08 07 32.2**	**+1.8**	
MBDF	**Montbardon**	**1.17**	**318**	*e*Pg	**Pn**	**08 07 29.6**	**-0.5**	
MBDF				*e*Sg	**Sb**	**08 07 44.9**	**-0.3**	
	comp=E,62nm,0.4s							
FLAF	**Flassans-sur-I**	**1.26**	**248**	Pg	**Pn**	**08 07 31.5**	**+0.3**	
FLAF				Sg	**Sb**	**08 07 47.8**	**+0.1**	
RRL	**Rocca Remolon**	**1.31**	**324**	P	**Pn**	**08 07 31.8**	**-0.3**	
RRL				AML	AML			
	comp=E,90µm,0.5s							
RRL				AML	AML			
	comp=N,82µm,0.6s							
RRL	**Rocca Remolon**	**1.31**	**324**	P	**Pn**	**08 07 31.9**	**-0.3**	
RSP	**Reno Superiore**	**1.36**	**342**	P	**Pn**	**08 07 32.1**	**-0.6**	
RSP				AML	AML			
	comp=N,47µm,1.5s							
RSP				AML	AML			
	comp=E,49µm,1.6s							
RSP	**Reno Superiore**	**1.36**	**342**	P	**Pn**	**08 07 32.2**	**-0.5**	
PGF	**Pioggiola**	**1.55**	**147**	*e*Pn	**Pn**	**08 07 34.2**	**-1.1**	
PGF				*e*Sn	**Sn**	**08 07 53.1**	**-2.1**	
	comp=E,14nm,0.2s							
BSTF	**la Bastide-des**	**1.61**	**271**	Pg	**Pn**	**08 07 36.8**	**+0.8**	
BSTF				Sg	**Sb**	**08 07 59.7**	**+2.1**	
SMRF	**Simiane la Rot**	**1.66**	**275**	*e*Pg	**Pn**	**08 07 38.1**	**+1.4**	
SMRF				*e*Sg	**Sb**	**08 08 00.4**	**+1.2**	
	comp=E,98nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.77**	**307**	*e*Pg	**Pb**	**08 07 41.0**	**+0.6**	
ORIF				*e*Sg	**Sb**	**08 08 03.8**	**+1.3**	
	comp=E,56nm,0.6s							
ORIF	**Oris-en-Rattie**	**1.77**	**307**	Pn	**Pb**	**08 07 41.0**	**+0.6**	
ORIF				Sg	**Sg**	**08 08 05.8**	**+0.7**	
LPG	**La Plagne**	**1.82**	**334**	*e*P	**Pn**	**08 07 40.1**	**+0.9**	
LPG	**La Plagne**	**1.82**	**334**	*e*Pg	**Pb**	**08 07 41.9**	**+0.6**	
LPG				*e*Sn	**Sn**	**08 07 59.5**	**-2.7**	
LPG				*e*Sg	**Sb**	**08 08 05.3**	**+1.2**	
	comp=E,6.9nm,0.3s							
LPL	**La Plagne**	**1.84**	**334**	*e*P	**Pn**	**08 07 40.8**	**+1.4**	
LPL	**La Plagne**	**1.84**	**334**	*e*Pg	**Pb**	**08 07 42.4**	**+0.7**	
LPL				*e*Sn	**Sn**	**08 08 00.2**	**-2.4**	
LPL				*e*Sg	**Sb**	**08 08 05.8**	**+1.2**	
	comp=E,11nm,0.3s							
VIVF	**Saint-Julien-I**	**2.50**	**295**	*e*P	**Pn**	**08 07 49.4**	**+1.1**	
VIVF	**Saint-Julien-I**	**2.50**	**295**	*e*Pg	**Pb**	**08 07 54.3**	**+1.6**	
VIVF				*e*Sn	**Sn**	**08 08 15.9**	**-2.6**	
	comp=E,3.0nm,0.2s							
VIVF				*e*Sg	**Sb**	**08 08 26.4**	**+3.1**	
	comp=E,9.0nm,0.4s							
LASF	**Ste Croix**	**2.90**	**276**	*e*P	**Pn**	**08 07 55.2**	**+1.4**	
LASF				*e*Sn	**Sn**	**08 08 25.3**	**-3.2**	
	comp=E,4.1nm,0.3s							
LASF				*e*Sg	**Sb**	**08 08 39.1**	**+4.2**	
	comp=E,6.1nm,0.5s							
CABF	**La Chapelle**	**3.02**	**336**	*e*P	**Pn**	**08 07 57.7**	**+2.1**	
CABF				*e*Sn	**Sn**	**08 08 28.1**	**-3.5**	
	comp=E,3.1nm,0.4s							
SMF	**Signal de Mont**	**3.98**	**316**	*e*P	**Pn**	**08 08 10.8**	**+2.2**	
SMF				*e*Sn	**Sn**	**08 08 51.0**	**-4.0**	
	comp=E,2.7nm,0.4s							
SMF				*e*Sg	**Sb**	**08 09 11.5**	**+5.6**	
	comp=E,1.0nm,0.2s							
MTLF	**Montolieu**	**4.13**	**265**	*e*P	**Pn**	**08 08 12.2**	**+1.5**	
MTLF				*e*Sn	**Sn**	**08 08 54.7**	**-4.1**	
	comp=E,2.1nm,0.5s							
MTLF				*e*Sg	**Sg**	**08 09 17.6**	**-3.2**	
	comp=E,4.2nm,0.4s							
HAU	**Haudompre**	**4.28**	**346**	*e*P	**Pn**	**08 08 14.6**	**+1.9**	
HAU				*e*Sn	**Sn**	**08 08 58.5**	**-3.9**	
	comp=E,4.6nm,0.3s							
CAF	**Calviac**	**4.29**	**286**	*e*P	**Pn**	**08 08 14.0**	**+1.1**	
AVF	**Avril sur Loir**	**4.33**	**314**	*e*P	**Pn**	**08 08 15.0**	**+1.7**	
AVF	**Avril sur Loir**	**4.33**	**314**	*e*Pg	**Pb**	**08 08 27.8**	**+4.0**	
AVF				*e*Sn	**Sn**	**08 08 59.5**	**-4.0**	
	comp=E,1.3nm,0.4s							
SSF	**Saint Saulge**	**4.43**	**318**	*e*P	**Pn**	**08 08 15.9**	**+1.1**	
SSF				*e*Sn	**Sn**	**08 09 02.2**	**-4.0**	
	comp=E,2.0nm,0.4s							
BGF	**Bois d'Agland**	**4.46**	**309**	*e*P	**Pn**	**08 08 16.5**	**+1.4**	
TCF	**Toulx Ste Croi**	**4.68**	**303**	*e*P	**Pn**	**08 08 20.9**	**+2.6**	
TCF				*e*Sn	**Sn**	**08 09 07.6**	**-4.8**	
	comp=E,1.0nm,0.3s							
RJF	**Les Rejaudoux**	**4.76**	**290**	*e*P	**Pn**	**08 08 21.5**	**+2.2**	
RJF				*e*Sg	**Sg**	**08 09 37.3**	**-3.5**	
	comp=E,2.7nm,0.4s							
EPF	**Esparros**	**5.54**	**264**	*e*P	**Pn**	**08 08 33.0**	**+2.9**	
EPF				*e*Sn	**Sn**	**08 09 27.9**	**-5.7**	
	comp=E,9.9nm,0.7s							

MDD ***26*** *08:10:10.4±0.9, 35°.69N×3°.73W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=8.4km s-min=4.1km az=39.0*
CNRM ***26*** *08:10:12.3, 35°.61N×3°.53W, h27km, ml2.0*
ISC 26 08:10:11.3±1.2, 35°.67N±0°.04×3°.60W±0°.06, h33km±10km, n7, σ0s65/14, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.53**	**211**	P		**Pb**	**08 10 22.7**	**+0.3**
PALE				S		**Sn**	**08 10 30.6**	**+0.2**
EALB	**Alboran**	**0.53**	**60**	Pg		**Pb**	**08 10 22.2**	**-0.2**
EALB				Sg		**Sb**	**08 10 30.6**	**+0.6**
EALB				*i* Vmb_Lg			08 10 45.6	
EMEL	**Melilla**	**0.64**	**125**	Pg		**Pb**	**08 10 24.4**	**+0.3**
EMEL				Sg		**Sb**	**08 10 33.1**	**+0.1**
EMEL				*i* Vmb_Lg			08 10 33.7	
GOG	**Mont Gurugu**	**0.67**	**132**	P		**Pb**	**08 10 24.3**	**-0.4**
GOG				S		**Sb**	**08 10 32.4**	**-1.4**
ELGU	**Los Guajares,**	**1.20**	**359**	Pg		**Pn**	**08 10 32.4**	**+0.5**
ELGU				Sg		**Sn**	**08 10 47.1**	**+0.1**
ELGU				*i* Vmb_Lg			08 10 52.8	
EMIJ	**Mijas**	**1.30**	**314**	Pg		**Pn**	**08 10 33.3**	**+0.1**
EMIJ				Sg		**Sn**	**08 10 48.4**	**-1.1**
EMIJ				*i* Vmb_Lg			08 10 50.8	
JBK	**JBK**	**1.58**	**147**	P		**Pn**	**08 10 37.4**	**+0.2**
JBK				S		**Sn**	**08 10 56.9**	**+0.2**

MDD ***26*** *08:38:02.2±1.4, 37°.20N×10°.88W, h0km, Mb3.8/5, M_mb3.1/5, Error ellipse: s-maj=11.0km s-min=9.6km az=30.0*
IGIL ***26*** *08:38:02.8, 37°.12N×11°.13W, h30km, ML2.0*
INMG ***26*** *08:38:03.2±0.8, 37°.10N×11°.13W, h31km, ML2.2, Error ellipse: s-maj=4.0km s-min=2.5km az=75.0*
CNRM ***26*** *08:38:11.6, 36°.66N×8°.70W, h231km, ml1.5*
ISC 26 08:37:59.0±2.0, 37°.09N±0°.05×11°.2W±0°.1, h90km±28km, n33, σ1s88/57, 5C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.89**	**88**	*e*Pn		**Pn**	**08 38 31.0**	**+1.3**
PFVI				*e*Sn		**Sn**	**08 38 51.9**	**-1.2**
PFVI				A		A	08 38 52.2	
	9.7nm,0.2s							
PTEO	**Sao Teotonio**	**2.02**	**76**	*e*Pn		**Pn**	**08 38 32.9**	**+1.5**
PTEO				*e*Sn		**Sn**	**08 38 55.0**	**-1.1**
PTEO				A		A	08 38 57.1	
	11nm,0.7s							
MORF	**Marmelete**	**2.04**	**83**	*e*P		**Pn**	**08 38 33.1**	**+1.5**
MORF				*e*S		**Sn**	**08 38 55.3**	**-1.4**
MORF				IAML			08 38 56.1	
	comp=E,11nm,0.1s							
MORF	**Marmelete**	**2.04**	**83**	*e*Pn		**Pn**	**08 38 33.2**	**+1.5**
MORF				*e*Sn		**Sn**	**08 38 55.6**	**-1.1**
MORF				A		A	08 39 02.3	
	comp=E,8.3nm,0.1s							
PNCL	**Nicolau / Gran**	**2.35**	**63**	*e*Pn		**Pn**	**08 38 37.3**	**+1.6**
PNCL				*e*Sn		**Sn**	**08 39 03.1**	**-0.8**
PNCL				A		A	08 39 08.1	
	comp=E,5.8nm,0.1s							
PMAFR	**Mafra**	**2.40**	**38**	*e*Pn		**Pn**	**08 38 37.8**	**+1.4**
PMAFR				*e*Sn		**Sn**	**08 39 04.3**	**-0.8**
PMAFR				A		A	08 39 06.0	
	comp=E,39nm,0.2s							
PACT	**Alcochete**	**2.51**	**47**	*e*Pn		**Pn**	**08 38 39.7**	**+1.9**
PACT				*e*Sn		**Sn**	**08 39 07.2**	**-0.5**
PACT				A		A	08 39 08.8	
	comp=E,45nm,0.4s							
PCVE	**Castro Verde**	**2.57**	**77**	*e*Pn		**Pn**	**08 38 40.4**	**+1.7**
PCVE				*e*Sn		**Sn**	**08 39 07.9**	**-1.2**
PCVE				A		A	08 39 12.0	
	comp=E,2.8nm,0.4s							
PBDV	**Barranco-do-Ve**	**2.60**	**86**	*e*Pn		**Pn**	**08 38 41.3**	**+2.1**
PBDV				*e*Sn		**Sn**	**08 39 09.2**	**-0.9**
PBDV				A		A	08 39 15.7	
	comp=E,4.1nm,0.3s							
PVAQ	**Vaqueiros**	**2.79**	**82**	*e*Pn		**Pn**	**08 38 43.7**	**+2.1**
PVAQ				*e*Sn		**Sn**	**08 39 13.3**	**-1.1**
PVAQ				A		A	08 39 17.8	
	comp=E,4.9nm,0.3s							
PVAQ	**Vaqueiros**	**2.79**	**82**	P		**Pn**	**08 38 43.1**	**+1.5**
PVAQ				S		**Sn**	**08 39 12.7**	**-1.7**
PBEJ	**Beja**	**2.80**	**69**	*e*Sn		**Sn**	**08 39 14.0**	**-0.8**
EGRO	**El Granado**	**2.99**	**80**	P		**Pn**	**08 38 45.9**	**+1.6**
EGRO				⇑*i*Vmb_V			08 38 46.7	
	comp=E,270nm,SNR=3.3							
EGRO				S		**Sn**	**08 39 18.1**	**-1.1**
PMTG	**Montargil**	**3.06**	**49**	*e*Pn		**Pn**	**08 38 46.7**	**+1.4**
PMTG				*e*Sn		**Sn**	**08 39 20.0**	**-1.0**
PMTG				A		A	08 39 30.4	
	comp=E,3.2nm,0.4s							
PSBE	**So Bento**	**3.07**	**37**	*e*Pn		**Pn**	**08 38 47.3**	**+1.9**
PSBE				*e*Sn		**Sn**	**08 39 16.2**	**-5.0**
PESTR	**Estremoz**	**3.35**	**57**	*e*Pn		**Pn**	**08 38 50.9**	**+1.7**
PESTR				*e*Sn		**Sn**	**08 39 27.4**	**-0.7**
PESTR				A		A	08 39 32.3	
	comp=E,4.0nm,0.6s							
PBAR	**Barrancos**	**3.47**	**70**	*e*Pn		**Pn**	**08 38 52.9**	**+2.1**
PBAR				*e*Sn		**Sn**	**08 39 29.5**	**-1.3**
PCAS	**Casmilo, Conde**	**3.63**	**35**	*e*Pn		**Pn**	**08 38 54.7**	**+1.6**
PCAS				*e*Sn		**Sn**	**08 39 34.2**	**-0.7**
EMIN	**Mina Concepcio**	**3.66**	**78**	P		**Pn**	**08 38 55.7**	**+2.4**
EMIN				⇑*i*Vmb_V			08 38 55.9	
	comp=E,118nm,SNR=2.2							
EMIN				S		**Sn**	**08 39 33.3**	**-2.1**
EBAD	**Badajoz**	**3.70**	**62**	P		**Pn**	**08 38 55.5**	**+1.6**
EBAD				⇑*i*Vmb_V			08 38 57.0	
	comp=E,265nm,SNR=5.0							
EBAD				S		**Sn**	**08 39 36.0**	**-0.4**
PMRV	**Marv??o**	**3.79**	**51**	*e*Pn		**Pn**	**08 38 56.8**	**+1.6**
PMRV				*e*Sn		**Sn**	**08 39 37.4**	**-1.4**
PMRV				A		A	08 39 39.9	
	comp=E,2.9nm,0.3s							
PCBR	**Castelo Branco**	**4.00**	**46**	*e*Pn		**Pn**	**08 38 59.8**	**+1.8**
PCBR				*e*Sn		**Sn**	**08 39 42.8**	**-1.0**
MTE	**Manteigas**	**4.37**	**40**	*e*Sn		**Sn**	**08 39 51.8**	**-0.9**
MTE				A		A	08 39 57.6	
	comp=E,4.2nm,0.5s							
PVIS	**Viseu**	**4.44**	**34**	*e*Sn		**Sn**	**08 39 52.9**	**-1.6**
ECAB	**El Cabril**	**4.69**	**76**	P		**Pn**	**08 39 09.0**	**+1.6**
ECAB				⇑*i*Vmb_V			08 39 10.1	
	comp=E,98nm,SNR=2.6							
ECAB				S		**Sn**	**08 39 58.5**	**-2.0**
POLO	**Lamas de Olo**	**5.03**	**31**	*e*Sn		**Sn**	**08 40 06.2**	**-2.6**
POLO				A		A	08 40 12.6	
	comp=E,1.3nm,0.6s							
MVO	**Moncorvo**	**5.20**	**37**	*e*Sn		**Sn**	**08 40 11.2**	**-1.8**
MVO				A		A	08 40 13.1	
	comp=E,4.8nm,0.6s							
PCAB	**Cabril**	**5.23**	**27**	*e*Sn		**Sn**	**08 40 10.9**	**-2.7**
EADA	**Adamuz**	**5.36**	**76**	P		**Pn**	**08 39 17.8**	**+1.4**
EADA				⇑*i*Vmb_V			08 39 19.6	
	comp=E,88nm,SNR=2.2							
EADA				S		**Sn**	**08 40 16.4**	**-0.5**
PGAV	**Gavieira, Arco**	**5.37**	**24**	*e*Sn		**Sn**	**08 40 15.2**	**-2.0**
PGAV				A		A	08 40 19.6	
	comp=E,2.4nm,0.3s							
PBRG	**Braganca**	**5.83**	**35**	*e*Sn		**Sn**	**08 40 26.0**	**-2.4**
PBRG				A		A	08 40 31.3	
	comp=E,3.2nm,0.4s							
OUK	**Oukaimeden**	**6.48**	**154**	P		**Pn**	**08 39 33.4**	**+1.3**
OUK				S		**Sn**	**08 40 39.1**	**-5.6**
OUZM	**OUZ**	**7.17**	**148**	P		**Pn**	**08 39 41.9**	**+0.6**
OUZM				S		Sn	08 40 49.8	-12

IDC ***26*** *08:48:26.3±4.8, 14°.94N×92°.71W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/36, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=157.1km s-min=23.6km az=33.0*
MEX ***26*** *08:48:26.4±1.1, 14°.32N×93°.38W, h14km±150km, MD4.2*
GCG ***26*** *08:48:29.4±1.5, 14°.68N×93°.10W, h35km±999km, MD3.9*
ISC 26 08:48:24.2±2.6, 14°.30N±0°.07×93°.19W±0°.05, h9km±15km, n18, σ1s48/29, mb3.9/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
THIG		**1.08**	**56**	*i* P		**Pb**	**08 48 45.2**	**+0.2**
THIG				*i* S		**Sb**	**08 48 58.7**	**-0.5**
PATR	**El Naranjo**	**1.23**	**48**	*i* P		**Pn**	**08 48 47.1**	**-0.7**
PATR				*i* S		**Sn**	**08 49 04.3**	**-0.3**
CHUJ	**Union Juarez**	**1.31**	**53**	*i* P		**Pn**	**08 48 48.3**	**-0.6**
CHUJ				*i* S		**Sg**	**08 49 07.0**	**+0.5**
PAVE	**Pavencul**	**1.32**	**48**	*i* P		**Pn**	**08 48 48.3**	**-0.8**
PAVE				*i* S		**Sg**	**08 49 07.9**	**+1.0**
PCIG		**1.40**	**359**	*i* P		**Pn**	**08 48 48.1**	**-1.7**
PCIG				*i* S		**Sn**	**08 49 03.8**	**-4.6**
STG3	**Santiaguito 3,**	**1.62**	**75**	*e*P		**Pn**	**08 48 53.3**	**+0.2**
STG3				*e*S		**Sn**	**08 49 13.4**	**-0.7**
CCIG	**Comitan**	**2.22**	**27**	*i* P		**Pb**	**08 49 03.5**	**-1.1**
CCIG				*i* S		**Sb**	**08 49 33.5**	**+1.2**
FUG	**Fuego 3**	**2.28**	**86**	*e*P		**Pb**	**08 49 04.3**	**-1.3**
FUG				*e*S		**Sn**	**08 49 31.7**	**+1.3**
TGIG		**2.47**	**1**	*i* P		**Pn**	**08 49 05.7**	**+1.1**
TGIG				*i* S		**Sn**	**08 49 36.1**	**+1.2**
PCG	**Pacaya**	**2.50**	**88**	*e*P		**Pb**	**08 49 08.5**	**-1.0**
NBG	**Las Nubes**	**2.77**	**84**	*e*P		**Pb**	**08 49 11.9**	**-2.1**
UXUV	**UXUV**	**3.14**	**343**	*i* P		**Pn**	**08 49 14.9**	**+1.0**
UXUV				*i* S		**Sn**	**08 49 52.7**	**+1.2**
CMIG	**Matias Romero**	**3.22**	**330**	Pn		**Pn**	**08 49 14.2**	**-0.8**
	11nm,0.3s,baz=153,slow=11,SNR=171							
CMIG				Sn		**Sn**	**08 49 51.4**	**-2.1**
	10nm,0.3s,baz=112,slow=11,SNR=5.7							
TXAR	**Lajitas Array**	**17.83**	**329**	P		**P**	**08 52 33.5**	**+0.1**
	0.0nm,0.3s,baz=149,slow=13,SNR=8.2							
SDV	**Santo Domingo**	**22.73**	**101**	P		**P**	**08 53 26.9**	**-0.1**
	2.5nm,0.8s,baz=354,slow=9.2,SNR=5.1							
NVAR	**Mina Array Bea**	**32.72**	**322**	P		**P**	**08 54 59.8**	**+2.3**
	0.7nm,0.8s,baz=137,slow=7.5,SNR=3.9							
YKA	**Yellowknife Ar**	**50.48**	**347**	P		**P**	**08 57 22.0**	**-0.2**
	1.7nm,0.7s,baz=152,slow=7.4,SNR=38							
INK	**Inuvik**	**59.83**	**344**	P		**P**	**08 58 29.4**	**-0.2**
	0.9nm,0.7s,baz=117,slow=5.3,SNR=5.3							

IDC ***26*** *08:48:57.8±5.2, 31°.40S×179°.87W, h316km±48km, mb3.0/3, mb1 3.3/4, mb1mx3.1/23, mbtmp3.9/4, Error ellipse: s-maj=49.4km s-min=28.3km az=21.0*
WEL ***26*** *08:49:08.3±0.5, 32°.5S×178°.0E±1°.0, h33km, M4.6/9, mB5.1/9, ML4.9/9, MLv4.8/6, Mw(mB)4.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=112.0*
ISC 26 08:48:59.9±0.8, 31°.61S±0°.08×179°.9W±0°.1, h350km, n43, σ3s05/57, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.89**	**36**	P		**Pn**	**08 49 56.1**	**-2.3**
GLKZ				S		**S**	**08 50 39.9**	**-5.4**
MXZ	**Matakaoa Point**	**6.12**	**194**	P		**Pn**	**08 50 33.7**	**+1.7**
MXZ				S		**S**	**08 51 44.7**	**-2.1**
KUZ	**Kuaotunu**	**6.28**	**214**	P		Pn	08 50 40.0	+6.1
**

mb1 4.0/6,mb1mx3.5/41,mbtmp4.0/6,ML2.2/1,MS3.6/2, Ms1 3.6/2,ms1mx2.6/63,Error ellipse: s-maj=57.2km s-min=8.8km az=124.0

ISC 26 09:01:50.1±1.2,5°.9S±0°.2×**151°.6E**±0°.3,**h41**km,**n21,** σ**0s97**/20,**mb4.0**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.67**	**16**	P	**Pn**	**09 02 16.4**	**-0.5**
	129nm,0.3s,baz=237,slow=1.7,SNR=72						
KRVT				S	**Sn**	**09 02 39.0**	**+1.8**
	218nm,0.3s,baz=50,slow=22,SNR=21						
KRVT				LR	LR	09 03 11.7	
	comp=Z,233nm,19.1s,baz=257,slow=47						
RABL	**Rabaul**	**1.82**	**19**		**Pn**	**09 02 17.9**	**-1.1**
PMG	**Port Moresby**	**5.56**	**231**	P	**Pn**	**09 03 11.4**	**+1.0**
	5.1nm,0.3s,baz=58,slow=9.9,SNR=9.3						
PMG				S	**Sn**	**09 04 11.5**	**-1.6**
	3.2nm,0.3s,baz=158,slow=19,SNR=2.3						
PMG	**Port Moresby**	**5.56**	**231**		**Pn**	**09 03 11.2**	**+0.8**
WB0	**Warramunga Arr**	**21.63**	**229**	P	**P**	**09 06 37.6**	**+0.6**
WB0				IAmb	IAmb	09 06 39.9	
	comp=Z,7.0nm,1.1s						
WR0	**Warramunga Arr**	**21.64**	**228**	P	**P**	**09 06 37.1**	**0.0**
WR0				IAmb	IAmb	09 06 37.5	
	comp=Z,8.8nm,1.3s						
WRAB	**Tennant Creek**	**21.76**	**229**	P	**P**	**09 06 38.4**	**-0.1**
WRAB				IAmb	IAmb	09 06 52.0	
	comp=Z,9.0nm,1.0s						
WB2	**Warramunga Arr**	**21.77**	**229**	P	**P**	**09 06 38.5**	**0.0**
WB2				IAmb	IAmb	09 06 52.1	
	comp=Z,6.4nm,1.0s						
WRA	**Warramunga Arr**	**21.78**	**229**	P	**P**	**09 06 37.4**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=55,slow=10.0,SNR=24						
WRA	**Warramunga Arr**	**21.78**	**229**	IAmb	IAmb	09 06 45.1	
	comp=Z,0.5nm,1.4s						
KNRA	**Kununurra**	**24.37**	**245**	P	**P**	**09 07 04.5**	**-0.1**
AS31	**Alice Springs**	**24.49**	**222**	P	**P**	**09 07 05.0**	**-0.7**
AS31				IAmb	IAmb	09 07 08.8	
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**24.49**	**222**	P	**P**	**09 07 05.0**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=54,slow=8.9,SNR=29						
ASAR	**Alice Springs**	**24.49**	**222**	P	**P**	**09 07 04.1**	**-1.6**
STKA	**Stephens Creek**	**27.45**	**199**	P	**P**	**09 07 32.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=4.1,slow=14,SNR=3.4						
FITZ	**Fitzroy Crossi**	**28.04**	**242**	P	**P**	**09 07 36.8**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=56,slow=9.0,SNR=8.6						
FITZ	**Fitzroy Crossi**	**28.04**	**242**	P	**P**	**09 07 37.3**	**-0.4**
URZ	**Urewera**	**39.68**	**148**	LR	LR	09 23 50.0	
	comp=Z,77nm,20.1s,baz=211,slow=33						
RPZ	**Rata Peaks**	**41.37**	**159**	LR	LR	09 26 28.5	
	comp=Z,78nm,18.7s,baz=235,slow=36						
YKA	**Yellowknife Ar**	**96.99**	**28**	P	**P**	**09 15 17.8**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=272,slow=5.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**149.44**	**286**	PKPbc	**PKPbc**	**09 21 35.4**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=58,slow=2.7,SNR=7.9						

*IDC **26** 09:14:02.7±1.8,7°.18S×129°.58E,h107km±16km,mb3.8/4, mb1 4.2/9,mb1mx3.7/42,mbtmp4.4/9,MS2.9/1,Ms1 2.9/1, ms1mx2.3/73,Error ellipse: s-maj=30.0km s-min=14.4km az=94.0*

*NEIC **26** 09:14:04.6±1.9,7°.15S±0°.02×129°.48E±0°.09,h114km±9km, mb4.2/14,Error ellipse: s-maj=12.6km s-min=3.0km az=96.0*

*DJA **26** 09:14:05.1±0.2,7°.5S×12°.9E±°,h116km±7km,M4.5/13, mB5.3/4,mb4.5/13,MLv4.5/10,Mw(mB)4.7/4*

ISC 26 09:14:03.7±0.5,**7°.22S**±0°.05×**129°.44E**±0°.05,**h100**km,**n76,** σ**2s11**/78,**mb4.2**/13,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.00**	**112**	P	**Pn**	**09 14 39.8**	**+3.5**
SAUI	**Saumlaki**	**2.00**	**112**	P	**Pn**	**09 14 39.0**	**+2.7**
SAUI	**Saumlaki**	**2.00**	**112**	P	**Pn**	**09 14 40.5**	**+4.2**
BNDI	**Bandanaira**	**2.72**	**10**	P	Pn	09 14 58.0	+12
AAI	**Ambon**	**3.72**	**341**	P	**Pn**	**09 15 01.5**	**+2.2**
MSAI	**Masohi**	**3.88**	**353**	P	**Pn**	**09 15 04.6**	**+3.2**
SOEI	**Soe**	**5.70**	**243**	Pn	**Pn**	**09 15 29.0**	**+3.0**
SOEI	**Soe**	**5.70**	**243**	P	**Pn**	**09 15 28.3**	**+2.2**
	1.2nm1μm65nm,0.8s						
SOEI				S	**Sn**	**09 16 31.2**	**+1.0**
	1.2nm1μm65nm,0.8s						
SOEI	**Soe**	**5.70**	**243**	P	**Pn**	**09 15 29.5**	**+3.4**
MTN	**Manton Dam**	**5.83**	**163**	Pn	**Pn**	**09 15 29.2**	**+1.4**
MTN	**Manton Dam**	**5.83**	**163**	P	**Pn**	**09 15 29.1**	**+1.4**
SANI	**Sanana**	**6.18**	**326**	P	**Pn**	**09 15 36.5**	**+3.9**
	0.1nm20nm,0.8s						
KDU	**Kakadu**	**6.20**	**151**	P	**Pn**	**09 15 33.6**	**+0.8**
BATI	**Baumata**	**6.43**	**242**	P	**Pn**	**09 15 37.7**	**+1.8**
	19nm,0.3s,baz=142,slow=4.6,SNR=5.1						
BATI				S	**Sn**	**09 16 47.5**	**-0.4**
	38nm,0.3s,baz=306,slow=22,SNR=16						
BATI	**Baumata**	**6.43**	**242**	P	**Pn**	**09 15 37.4**	**+1.5**
	0.5nm31nm,0.7s						
BATI				S	**Sn**	**09 16 49.7**	**+1.8**
	0.5nm31nm,0.7s						
SIJI	**Sorong**	**6.57**	**16**	P	**Pn**	**09 15 36.0**	**-1.9**
	2.3nm,0.3s,baz=162,slow=20,SNR=2.2						
SIJI				S	**Sn**	**09 16 49.0**	**-2.3**
	6.9nm,0.3s,baz=219,slow=23,SNR=6.8						
LBMI	**Labuha**	**6.82**	**343**	P	Pn	09 15 47.2	+5.9
MMRI	**Maumere**	**7.27**	**258**	Pn	**Pn**	**09 15 48.1**	**+0.8**
KNRA	**Kununurra**	**8.43**	**184**	Pn	**Pn**	**09 16 02.8**	**-0.3**
KNRA	**Kununurra**	**8.43**	**184**	P	**Pn**	**09 16 03.5**	**+0.4**
BAKI	**Biak**	**8.95**	**48**	P	**Pn**	**09 16 12.6**	**+2.3**
BKSI	**Bulukumba**	**9.45**	**281**	P	**Pn**	**09 16 19.9**	**+2.9**
	16nm,0.8s						
WBSI	**Waikabubak, Su**	**10.22**	**256**	P	**Pn**	**09 16 29.3**	**+1.7**
	38nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.42**	**199**	P	**Pn**	**09 16 42.0**	**-1.8**
	7.9nm,0.3s,baz=31,slow=10,SNR=174						
FITZ				S	Sn	09 18 40.7	-8.8
	8.4nm,0.3s,baz=84,slow=17,SNR=8.5						
FITZ	**Fitzroy Crossi**	**11.42**	**199**	Pn	**Pn**	**09 16 41.8**	**-2.0**
WB0	**Warramunga Arr**	**13.37**	**159**	Pn	**Pn**	**09 17 06.5**	**-3.0**
WRAB	**Tennant Creek**	**13.51**	**160**	Pn	**Pn**	**09 17 08.8**	**-2.6**
WRA	**Warramunga Arr**	**13.51**	**160**	P	**Pn**	**09 17 08.3**	**-3.1**
	6.1nm,0.3s,baz=330,slow=13,SNR=156						
WRA				S	Sn	09 19 30.9	-9.3
	6.0nm,0.3s,baz=328,slow=23,SNR=11						
WRA				LR	LR	09 23 15.3	
	comp=Z,43nm,18.6s,baz=126,slow=41						
WRA	**Warramunga Arr**	**13.51**	**160**	Pn	Pn	09 17 07.0	-4.4
WB2	**Warramunga Arr**	**13.51**	**160**	Pn	**Pn**	**09 17 08.7**	**-2.8**
WR0	**Warramunga Arr**	**13.60**	**159**	Pn	**Pn**	**09 17 09.7**	**-2.8**
COEN	**Coen**	**15.07**	**117**	Pn	**Pn**	**09 17 31.0**	**-0.4**
COEN				IAmb	IAmb	09 17 51.6	
	comp=Z,27nm,1.2s						
COEN	**Coen**	**15.07**	**117**	P	**Pn**	**09 17 33.5**	**+2.0**
JAGI	**Jajag, Banyuwa**	**15.19**	**264**	Pn	**Pn**	**09 17 33.2**	**+0.2**
MYLDM	**Lahad Datu**	**16.46**	**318**		**Pn**	**09 17 48.6**	**-0.2**
MYLDM				IAmb	IAmb	09 18 04.9	
	comp=Z,13nm,1.2s						
QIS	**Mount Isa**	**16.52**	**144**	P	**Pn**	**09 17 49.8**	**+0.3**
MBWA	**Marble Bar**	**16.73**	**213**		**Pn**	**09 17 52.8**	**+0.7**
MBWA				IAmb	IAmb	09 18 06.6	
	comp=Z,23nm,1.3s						
AS31	**Alice Springs**	**16.90**	**166**		**Pn**	**09 17 53.5**	**-0.8**
ASAR	**Alice Springs**	**16.90**	**166**	P	**Pn**	**09 17 53.1**	**-1.2**
	comp=Z,3.3nm,0.3s,baz=339,slow=11,SNR=127						
ASAR				S	**Sn**	**09 20 54.4**	**-7.8**
	comp=Z,1.8nm,0.3s,baz=344,slow=24,SNR=10						
ASAR				ScP	**ScP**	**09 25 57.1**	**-4.5**
	comp=Z,0.4nm,0.3s,baz=5.1,slow=1.9,SNR=6.9						
ASAR	**Alice Springs**	**16.90**	**166**		**Pn**	**09 17 53.2**	**-1.1**
WRKA	**Warakurna**	**17.75**	**183**	P	**P**	**09 18 03.9**	**-0.1**
MTSU	**Mount Surprise**	**18.11**	**128**	P	**Pn**	**09 18 10.3**	**+1.4**
STKI	**Sintang**	**19.32**	**291**	P	**Pn**	**09 18 26.8**	**+3.5**
SBUM	**Sibu**	**19.68**	**299**	P	**P**	**09 18 24.6**	**-0.6**
SBUM				IAmb	IAmb	09 18 28.1	
	comp=Z,12nm,1.0s						
OOD	**Oodnadatta**	**21.30**	**165**	P	**P**	**09 18 43.3**	**+0.9**
MEEK	**Meekatharra**	**21.88**	**207**	P	**P**	**09 18 48.7**	**0.0**
INKA	**Innaminka**	**23.05**	**154**	P	**P**	**09 19 02.1**	**+1.5**
MULG	**Mulgathing**	**23.35**	**170**	P	**P**	**09 19 04.2**	**+0.9**
FORT	**Forrest**	**23.47**	**183**	P	**P**	**09 19 04.5**	**0.0**
FORT	**Forrest**	**23.47**	**183**	P	**P**	**09 19 05.2**	**+0.7**
QLP	**Quilpie**	**23.85**	**146**	P	**P**	**09 19 09.1**	**+1.2**
LCRK	**Leigh Creek**	**24.53**	**161**	P	**P**	**09 19 14.9**	**+0.9**
BBOO	**Buckleboo**	**26.19**	**167**	P	**P**	**09 19 29.3**	**+0.2**
BBOO				IAmb	IAmb	09 19 48.6	
	comp=Z,9.8nm,1.1s						
BBOO	**Buckleboo**	**26.19**	**167**	P	**P**	**09 19 29.5**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.02**	**157**	P	**P**	**09 19 37.1**	**+0.5**
	comp=Z,4.3nm,0.5s,baz=327,slow=9.2,SNR=26						
STKA	**Stephens Creek**	**27.02**	**157**	P	**P**	**09 19 37.0**	**+0.4**
STKA	**Stephens Creek**	**27.02**	**157**	P	**P**	**09 19 37.4**	**+0.8**
HTT	**Hallett**	**27.52**	**163**	P	**P**	**09 19 41.8**	**+0.7**
CMSA	**Cobar Meteorol**	**28.56**	**150**	P	**P**	**09 19 51.4**	**+1.1**
KULM	**Kulim**	**31.30**	**293**	P	**P**	**09 20 14.0**	**-0.7**
KULM				IAmb	IAmb	09 20 20.3	
	comp=Z,8.5nm,1.1s						
ARPS	**Mount Arapiles**	**31.51**	**161**	P	**P**	**09 20 17.9**	**+1.6**
TOO	**Toolangi**	**33.55**	**157**	P	**P**	**09 20 35.2**	**+1.1**
KOUNC	**Koumac, New Ca**	**36.23**	**115**	P	**P**	**09 21 00.4**	**+3.0**
CMAR	**Chiang Mai Arr**	**39.45**	**311**	P	**P**	**09 21 23.1**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=142,slow=9.1,SNR=4.6						
PZH	**PanZhiHua**	**42.96**	**322**	P	**P**	**09 21 54.5**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
LZH	**Lanzhou**	**49.34**	**333**	*e*P	P	09 22 50.0	+6.8
LZH				pP	pP	09 23 02.5	-4.1
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
HHC	**Hu-ho-hao-te**	**50.58**	**342**	*e*P	**P**	**09 22 54.5**	**+2.1**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
WMQ	**Urumqi**	**63.28**	**327**	*e*P	**P**	**09 24 21.5**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				LR	LR		
	comp=N,250nm,16.7s						
WMQ				LR	LR		
	comp=E,390nm,19.3s						
WMQ				LR	LR		
	comp=Z,120nm,20.9s						
MK31	**Makanchi Array**	**68.11**	**327**	P	**P**	**09 24 52.2**	**-0.7**
MK31				IAmb	IAmb	09 24 52.7	
	comp=Z,1.4nm,0.6s						
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**09 24 51.6**	**-1.3**
	comp=Z,1.9nm,0.4s,baz=112,slow=9.3,SNR=25						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**09 25 11.3**	**-2.4**
	comp=Z,0.5nm,0.4s,baz=135,slow=4.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**09 25 12.3**	**-1.4**
VNDA	**Vanda**	**72.30**	**173**	P	**P**	**09 25 18.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=308,slow=8.3,SNR=2.1						
VNDA	**Vanda**	**72.30**	**173**	P	**P**	**09 25 17.9**	**-0.1**
KURK	**Kurchatov**	**72.42**	**329**	P	**P**	**09 25 16.9**	**-2.1**
ABKAR	**Akbulak array**	**82.33**	**322**	P	**P**	**09 26 12.7**	**-1.7**
ABKAR				IAmb	IAmb	09 26 24.2	
	comp=Z,3.5nm,1.4s						

*DNK **26** 09:22:31.3±2.4,51°.45N×16°.52E,h15km±121km,ML1.7*
*PRU **26** 09:22:33.4±0.0,51°.58N×16°.27E,h0km*
*BGR **26** 09:22:37.6±0.5,51°.28N×16°.25E,h1km,ML2.8/10,Error ellipse: s-maj=14.5km s-min=5.6km az=23.0*
*VIE **26** 09:22:38.8,51°.43N×16°.15E,h0km,ML3.0/2 70 km WNW of Wroclaw Suspected Mining induced.*

ISC 26 09:22:32.2±0.8,**51°.54N**±0°.03×**16°.26E**±0°.02,**h0**km,**n47,** σ**1s96**/74,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**178**	*e*Pg	**Pg**	**09 22 45.0**	**-0.6**
KSP				*e*Sg	**Sg**	**09 22 52.8**	**-1.7**
KSP	**Ksiaz**	**0.70**	**178**	*e*Pg	**Pn**	**09 22 50.4**	**+1.1**
KSP				*e*Sg	**Sb**	**09 22 58.4**	**+1.0**
KSP	**Ksiaz**	**0.70**	**178**	*e*Pg	**Pg**	**09 22 45.0**	**-0.6**
KSP				*e*Sg	**Pn**	**09 22 50.4**	**+1.1**
CHVC	**Chvalec**	**0.96**	**188**	*e*PG	**Pg**	**09 22 50.0**	**-0.6**
CHVC				*e*SG	**Sb**	**09 23 05.5**	**+0.5**
	comp=Z,50nm,0.4s						
OSTC	**Ostas**	**0.98**	**182**	*e*PG	**Pg**	**09 22 50.5**	**-0.5**
OSTC				*e*SG	**Sn**	**09 23 07.5**	**-0.4**
	comp=Z,83nm,0.8s						
UPC	**Upice**	**1.04**	**189**	*e*PG	**Pg**	**09 22 51.2**	**-1.0**
DPC	**Dobruska-Polom**	**1.19**	**178**	*e*PN	**Pg**	**09 22 54.5**	**-0.5**
DPC				*e*SG	**Sn**	**09 23 13.6**	**+0.5**
	comp=Z,74nm,0.6s						
DPC	**Dobruska-Polom**	**1.19**	**178**	*e*Pg	**Pg**	**09 22 54.0**	**-1.0**
DPC				*e*Sg	**Sg**	**09 23 09.4**	**-1.0**
PVCC	**Panska Ves**	**1.47**	**227**	*e*PN	**Pn**	**09 22 59.7**	**-0.3**
PVCC				*e*SG	**Sn**	**09 23 22.7**	**+2.8**
	comp=Z,273nm,0.2s						
KRLC	**Kraliky**	**1.50**	**167**	*e*PN	**Pn**	**09 22 59.4**	**-1.0**
KRLC				*e*SG	**Sn**	**09 23 23.5**	**+2.8**
	comp=Z,68nm,0.6s						
BRG	**Berggiesshubel**	**1.60**	**246**	Pg	**Pg**	**09 23 02.5**	**-0.4**
BRG	**Berggiesshubel**	**1.60**	**246**	Pg	Pg	09 23 07.7	+4.8
BRG				Sg	**Sn**	**09 23 23.0**	**-0.2**
BRG				Amp		09 23 24.0	
	comp=Z,26nm,0.3s						
BRG	**Berggiesshubel**	**1.60**	**246**	Sg	**Sg**	**09 23 28.4**	**+4.7**
BRG				Amp		09 23 29.2	
	comp=Z,84nm,0.5s						
BRG	**Berggiesshubel**	**1.60**	**246**	*e*Sn	**Sn**	**09 23 23.0**	**-0.2**
BRG				*e*Sg	**Sg**	**09 23 27.9**	**+4.2**
PRU	**Pruhonice**	**1.90**	**216**	*e*PN	**Pn**	**09 23 06.1**	**+0.3**
PRU				*e*SG	**Sg**	**09 23 35.6**	**+2.5**
	comp=Z,64nm,0.4s						
FBE	**Freiberg**	**1.93**	**252**	*e*Sn	**Sb**	**09 23 32.7**	**-0.2**
FBE				*e*Sg	**Sg**	**09 23 37.8**	**+3.6**
MORC	**Moravsky Berou**	**1.94**	**155**	*e*PN	**Pn**	**09 23 05.8**	**-0.7**
MORC				*e*SG	**Sb**	**09 23 32.4**	**-0.9**
MORC	**Moravsky Berou**	**1.94**	**155**	*e*Pn	**Pn**	**09 23 05.5**	**-1.0**
CLL	**Collm**	**2.05**	**265**	*i* Pn	**Pg**	**09 23 11.2**	**-0.4**
CLL				*i* Pg	Pb	09 23 16.4	+6.0
CLL				*e*Sg	**Sg**	**09 23 43.0**	**+4.9**
	comp=Z,39nm,0.5s						
CLL	**Collm**	**2.05**	**265**	*e*Pn	**Pg**	**09 23 11.1**	**-0.4**
CLL				*e*Pg	**Pb**	**09 23 14.4**	**+4.1**
OKC	**Ostrava-Krasne**	**2.08**	**144**	*e*SG	**Sg**	**09 23 39.7**	**+0.6**
	comp=Z,29nm,0.4s						
OKC	**Ostrava-Krasne**	**2.08**	**144**	*e*Sg	**Sg**	**09 23 38.6**	**-0.5**
VRAC	**Vranov**	**2.24**	**174**	*e*PN	**Pn**	**09 23 10.0**	**-0.6**
VRAC				*e*SG	**Sb**	**09 23 41.5**	**-0.4**
KRUC	**Moravsky**	**2.48**	**178**	*e*PN	**Pn**	**09 23 13.7**	**-0.2**
KRUC				*e*SG	**Sb**	**09 23 48.5**	**-0.2**
OJC	**Ojcow**	**2.60**	**119**	*e*Pg	**Pg**	**09 23 23.8**	**+1.8**
OJC				*e*Sg	**Sg**	**09 23 58.8**	**+3.1**
OJC	**Ojcow**	**2.60**	**119**	*e*Pg	**Pg**	**09 23 23.6**	**+1.5**
TANN	**Tannenbergstha**	**2.65**	**246**	*e*Pn	**Pg**	**09 23 21.5**	**-1.5**
TANN				*e*Sg	**Sg**	**09 23 56.1**	**-1.3**
WERD	**Werda**	**2.73**	**248**	*e*Sg	**Sg**	**09 23 58.4**	**+1.4**
NKC	**Novy Kostel**	**2.75**	**243**	*e*SG	**Sg**	**09 24 01.2**	**+0.8**
	comp=Z,59nm,0.3s						
JAVC	**Velka Javorina**	**2.83**	**161**	*e*PN	**Pn**	**09 23 18.6**	**-0.1**
KHC	**Kasperske Hory**	**2.96**	**217**	*e*PN	**Pn**	**09 23 19.3**	**-1.2**
KHC				*e*SN	**Sn**	**09 23 54.5**	**-2.2**
KHC				*e*SG	**Sg**	**09 24 08.9**	**+1.6**
	comp=Z,26nm,0.7s						
CKRC	**Cesky Krumlov**	**3.00**	**206**	*e*SG	**Sg**	**09 24 10.1**	**+1.7**
MOX	**Moxa**	**3.06**	**255**	*e*Pn	**Pb**	**09 23 27.1**	**-0.5**
LANS	**Liptovska Anna**	**3.15**	**138**	*e*Pg	**Pg**	**09 23 33.5**	**+0.9**
LANS				*e*SG	**Sg**	**09 24 16.4**	**+3.0**
WET	**Wettzell**	**3.23**	**223**	*e*Pn	**Pb**	**09 23 29.3**	**-1.2**
MODS	**Modra-Piesok**	**3.23**	**168**	*e*PG	**Pg**	**09 23 33.4**	**-0.8**
MODS				*e*SG	**Sg**	**09 24 17.5**	**+1.4**
VYHS	**Vyhne**	**3.47**	**150**	*e*PG	Pg	09 23 43.0	+4.3
VYHS				*e*SG	**Sg**	**09 24 29.2**	**+5.6**
CONA	**Conrad Observa**	**3.62**	**184**	*i* Pn	**Pb**	**09 23 35.3**	**-1.8**
	comp=Z,0.5nm,0.1s						
CONA				Sg	**Sg**	**09 24 26.7**	**-1.8**
	comp=Z,18nm,0.4s						
RONA	**Rosalia, Austr**	**3.84**	**180**	*i* Pn	**Pg**	**09 23 45.8**	**0.0**
	comp=Z,1.9nm,0.4s						
RONA				*i* Sg	**Sg**	**09 24 37.3**	**+1.7**
	comp=Z,6.8nm,0.4s						
MOA	**Molln**	**3.91**	**200**	*e*Pn	**Pb**	**09 23 39.6**	**-2.4**
	comp=Z,1.5nm,0.2s						
MOA				Sg	**Sg**	**09 24 40.9**	**+3.0**
	comp=Z,14nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.25**	**126**	*e*PG	Pg	09 24 04.0	+10
ARSA	**Arzberg**	**4.32**	**187**	*e*Pn	Pg	09 23 59.6	+4.7
	comp=Z,5.3nm,0.5s						
ARSA				Sg	**Sg**	**09 24 49.9**	**-1.0**
	comp=Z,16nm,0.6s						
LUNU	**Lund**	**4.43**	**339**	*i* P	**Pn**	**09 23 40.9**	**+0.2**
LUNU				*i* S	**Sn**	**09 24 31.8**	**-1.1**
KOLS	**Kolonicke sedl**	**4.66**	**122**	*e*PG	Pg	09 24 06.9	+5.5
COP	**Copenhagen**	**4.74**	**333**	*i* S	**Sn**	**09 24 38.6**	**-1.8**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLEU	**Blekinge**	**4.78**	**357**	*i* P	**Pn**	**09 23 46.2**	**+0.7**
BLEU				*i* S	**Sn**	**09 24 38.2**	**-3.4**
DEL	**Delary**	**5.14**	**345**	*i* P	**Pn**	**09 23 48.0**	**-2.4**
DEL				*i* S	**Sn**	**09 24 46.5**	**-3.8**
DEL				IAML		09 24 51.1	
	comp=N,0.4nm,0.1s						

NDI 26 09:33:37.1±3.1,**28°.05N**×**85°.36E,h10**km,**ML4.0,Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALBI	**Allahabad**	**4.19**	**230**	*e*P	Pn	09 34 40.0	-1.0
ALBI				*e*S	Sn	09 35 31.4	+1.3
BOK	**Bokaro**	**4.27**	**173**	*e*P	Pn	09 34 41.2	-1.0
BOK				*e*S	Sn	09 35 28.9	-3.1
BOK				IAML		09 35 52.9	
	comp=E,88nm,0.4s						
TURI	**Tura**	**5.10**	**118**	*e*P	Pn	09 34 52.8	-0.8
TURI				*e*S	Sn	09 35 47.5	-5.1
TURI				IAML		09 35 52.1	
	comp=E,126nm,0.3s						
TURI				IAML		09 35 52.2	
	comp=N,68nm,0.1s						
GUWA	**GUWAHATI**	**5.94**	**107**	*e*P	Pn	09 35 05.4	+0.3
SHL	**Shillong**	**6.33**	**112**	*e*P	Pn	09 35 09.5	-1.3
SHL				*e*S	Sn	09 36 19.4	-3.9
SHL				IAML		09 36 22.4	
	comp=N,212nm,0.2s						
SMLA	**Simla**	**7.76**	**295**	*e*P	Pn	09 35 30.3	+0.2
SMLA				IAML		09 37 42.1	
	comp=N,801nm,0.4s						
BHPL	**Bhopal**	**8.61**	**238**	*e*P	Pn	09 35 39.2	-2.7
BHPL				*e*S	Sn	09 37 11.3	-7.9
BHPL				IAML		09 37 14.8	
	comp=N,409nm,0.2s						

*KRNET **26** 09:33:53.0±0.1,39°.60N×75°.39E,mb4.6*
*IDC **26** 09:33:55.6±0.8,39°.62N×75°.27E,h23km±4km,mb3.9/13, mb1 4.0/17,mb1mx3.8/59,mbtmp3.9/17,ML3.4/3,MS3.3/21, Ms1 3.3/21,ms1mx3.0/98,Error ellipse: s-maj=15.9km s-min=13.4km az=54.0*
*SOME **26** 09:33:55.2,39°.82N×75°.32E,h10km,MS3.7*
*NEIC **26** 09:33:58.7±2.1,39°.67N±0°.07×75°.29E±0°.09,h44km±8km, mb4.3/11,Error ellipse: s-maj=11.7km s-min=8.8km az=138.0*
*NNC **26** 09:34:00.4±1.9,40°.05N×75°.25E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=16.3km s-min=9.7km az=172.0*

ISC 26 09:33:53.9±0.7,**39°.50N**±0°.04×**75°.27E**±0°.02,**h14**km±4km, **n130,** σ**2s14**/166,**mb4.1**/17,**MS3.3**/16,**35C-20D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.55**	**88**	Pg	**Pn**	**09 34 08.5**	**+1.0**
KSH				Sg	**Sn**	**09 34 18.5**	**+2.0**
KSH				smax	smax		
	comp=N,7μm,0.4s						
KSH				smax	smax		
	comp=E,7μm,0.4s						
OHH	**Osh**	**2.16**	**299**	⇑*e*P	**Pb**	**09 34 32.9**	**0.0**
	baz=96						
OHH				⇑*i*S	**Sg**	**09 35 02.2**	**-1.3**
	baz=96						
DRK	**Karamyk**	**2.68**	**271**	⇑*i*P	**Pb**	**09 34 41.1**	**-0.8**
	baz=69						
DRK				⇑*i*S	**Sb**	**09 35 16.0**	**+1.2**
	baz=69						
DRK	**Karamyk**	**2.68**	**271**	Pn	**Pn**	**09 34 39.0**	**+2.0**
UCH	**Uchtor**	**2.79**	**348**	P	**Pn**	**09 34 40.3**	**+1.8**
	SNR=544						
UCH	**Uchtor**	**2.79**	**348**	⇑*e*P	**Pn**	**09 34 40.3**	**+1.8**
	baz=46						
UCH				⇑*i*S	**Sn**	**09 35 14.7**	**+2.5**
	baz=46						

comp=E,275nm,0.8s
TRKS Terek-Say 3.74 304⇑ *eP* **Pn 09 34 53.9 +2.5**
baz=1.0
TRKS ⇑*iS* **Sn 09 35 38.5 +3.1**
baz=1.0
ANVS Anan'yevo 3.75 28⇑ *eP* **Pn 09 34 52.6 +1.1**
baz=28
ANVS ⇑*iS* **Sn 09 35 36.1 +0.5**
baz=28
TNSS Tian-Shan 3.76 19 *eP* **Pb 09 34 59.9 -0.4**
comp=E,150nm,0.4s
TNSS *eS* **Sb 09 35 45.9 +0.1**
comp=E,261nm,0.8s
DGS Degeres 3.76 6 *eP* **Pb 09 35 00.4 +0.2**
comp=E,225nm,0.5s
DGS *eS* **Sb 09 35 46.1 +0.5**
comp=E,263nm,1.1s
USP Ospenovka 3.81 352 P **Pn 09 34 54.2 +2.0**
SNR=57
USP Ospenovka 3.81 352⇓ *eP* **Pn 09 34 54.1 +1.9**
baz=50
USP ⇓*iS* **Sn 09 35 38.6 +1.7**
baz=50
GAR Garm 3.87 264⇑ *eP* **Pn 09 34 57.6 +4.4**
baz=63
GAR ⇑*iS* **Sb 09 35 44.7 -4.2**
baz=63
GAR Garm 3.87 264 **Pb 09 34 58.0 -4.1**
MDOK Medeo 3.90 20 *eP* **Pb 09 35 01.9 -0.7**
comp=E,77nm,0.5s
MDOK *eS* **Sb 09 35 49.3 -0.4**
comp=E,416nm,0.8s
MDOK Medeo 3.90 20 ⇓Pn **Pn 09 34 55.2 +1.7**
comp=E,16nm,0.4s
MDOK ⇑Pg **Pb 09 35 01.7 -0.8**
comp=E,105nm,0.8s
MDOK ⇑Lg Lg 09 35 50.1
comp=E,999nm,0.8s
AAA Alma-Ata 3.91 18 *eP* **Pb 09 35 03.6 +0.9**
comp=E,189nm,0.6s
AAA *eS* **Sb 09 35 51.7 +1.8**
comp=E,1μm,0.8s
KNDC Almaty 3.93 18 ⇓Pg **Pb 09 35 03.2 +0.2**
comp=E,189nm,0.6s
KNDC ⇓Lg Lg 09 35 50.9
comp=E,2μm,0.8s
SGDS Sogindy 3.98 353 *eP* **Pb 09 35 03.3 -0.5**
comp=E,45nm,0.6s
SGDS *eS* **Sb 09 35 51.2 -0.7**
comp=E,112nm,0.8s
KOTS Kotyrbulak 3.98 20 *eP* **Pb 09 35 04.1 +0.1**
comp=E,92nm,0.5s
KOTS *eS* **Sb 09 35 53.0 +1.0**
comp=E,758nm,1.1s
KRBS Karabastau 4.21 4 *eP* **Pb 09 35 07.5 -0.2**
comp=E,94nm,0.7s
KRBS *eS* **Sb 09 35 58.4 0.0**
comp=E,88nm,0.3s
SATY Saty 4.27 33 *eP* **Pb 09 35 08.9 0.0**
comp=E,47nm,0.9s
SATY *eS* **Sb 09 36 01.4 +1.0**
comp=E,235nm,1.1s
KTBS Karatobe 4.34 14 *eP* **Pb 09 35 10.0 0.0**
comp=E,88nm,0.5s
KTBS *eS* **Sb 09 36 03.2 +0.9**
comp=E,286nm,1.0s
ZHN Zhinishke 4.37 32 *eP* **Pb 09 35 11.0 +0.3**
comp=E,23nm,0.5s
ZHN *eS* **Sb 09 36 04.8 +1.5**
comp=E,110nm,0.8s
KUU Kurty 4.46 10 *eP* **Pb 09 35 12.3 +0.2**
comp=E,51nm,0.8s
KUU *eS* **Sb 09 36 07.3 +1.6**
comp=E,352nm,1.1s
DZA Taraz 4.51 320 *eP* **Pb 09 35 16.3 +3.5**
comp=E,154nm,0.1s
DZA *eS* **Sg 09 36 13.9 -4.7**
comp=E,303nm,0.5s
CHKK Chushkaly 4.54 16 *eP* **Pb 09 35 13.4 +0.1**
comp=E,93nm,0.8s
CHKK *eS* **Sb 09 36 08.8 +0.8**
comp=E,475nm,0.6s
KURS Kuram 4.54 28 *eP* **Pb 09 35 13.1 -0.4**
comp=E,111nm,0.8s
KURS *eS* **Sb 09 36 08.0 -0.1**
comp=E,122nm,0.9s
UZB Uzynbulak 4.61 37 *eP* **Pb 09 35 15.0 +0.2**
comp=E,22nm,0.7s
UZB *eS* **Sb 09 36 11.7 +1.5**
comp=E,110nm,1.4s
KPKS Kokpek 4.72 32 *eP* **Pb 09 35 16.2 -0.4**
comp=E,36nm,0.7s
KPKS *eS* **Sb 09 36 14.1 +0.8**
comp=E,138nm,0.8s
IUG Iuzhnay 4.77 305 *eP* **Pb 09 35 21.6 +4.2**
comp=E,726nm,0.3s
IUG *eS* **Sg 09 36 22.8 -4.3**
comp=E,378nm,0.7s
CHGR Chuyangaron 4.83 262 Pn **Pn 09 35 10.3 +4.1**
SHLS Shalkode 4.83 39 *eP* **Pg 09 35 24.1 -2.3**
comp=E,25nm,0.7s
SHLS *eS* **Sg 09 36 27.4 -1.6**
comp=E,100nm,0.7s
TAS Tashkent 4.91 294 Pn **Pn 09 35 09.3 +2.0**
PDGK Podgornoye 4.97 38 ⇑Pn **Pn 09 35 09.7 +1.4**
comp=E,48nm,1.1s
PDGK ⇓Lg Lg 09 36 24.0
comp=E,168nm,0.8s
KK31 Karatay Array 5.08 317 Pn **Pn 09 35 10.2 +0.6**
KK31 Karatay Array 5.08 317 ⇑Pn **Pn 09 35 10.5 +0.8**
comp=E,2.1nm,0.3s,baz=122,slow=12,SNR=60
KK31 ⇑Pg **Pb 09 35 24.3 +1.7**
comp=E,24nm,0.8s,baz=139,slow=16,SNR=16
KK31 ⇓Sn **Sn 09 36 09.8 +1.7**
comp=E,9.5nm,0.3s
KK31 ⇓Lg Lg 09 36 29.6
comp=E,30nm,0.4s,baz=135,slow=28,SNR=3.4
KKAR Karatay Array 5.08 317 Pn **Pn 09 35 10.4 +0.8**
ARXS Arharly 5.08 21 *eP* **Pb 09 35 23.4 +0.7**
comp=E,120nm,0.8s
ARXS *eS* **Sb 09 36 26.0 +2.3**
comp=E,151nm,0.2s
BLB Baldybastay 5.18 27 *eP* **Pb 09 35 25.1 +0.7**
comp=E,39nm,0.5s
BLB *eS* **Sb 09 36 29.0 +2.4**
comp=E,140nm,0.7s
BRLS Boroldday 5.40 313 *eP* **Pb 09 35 31.8 +3.7**
comp=E,12nm,0.5s
BRLS *eS* **Sb 09 36 40.5 +7.7**
comp=E,35nm,0.6s
DJR Jarkent 5.89 33 *eP* **Pb 09 35 38.5 +2.0**
comp=E,12nm,0.9s
DJR *eS* **Sb 09 36 51.5 +4.6**
comp=E,43nm,0.8s
TDK Taldyqorghan 5.97 22 *eP* **Pb 09 35 40.3 +2.5**
comp=E,46nm,0.3s
TDK *eS* **Sb 09 36 54.7 +5.6**
comp=E,206nm,1.2s
CHCP Chirah Chowk 6.05 196 P Pb 09 35 31.9 -7.2
NIL Nilore 6.06 196 Pn **Pn 09 35 27.4 +4.3**
CEP Cherat 6.27 206 P Pn 09 35 34.3 +8.1
CEP S **Sn 09 36 46.0 +8.3**
KAPS Kapalarasan 6.53 26 *eP* **Pb 09 35 48.4 +1.1**
comp=E,23nm,0.8s
KAPS *eS* **Sb 09 37 08.9 +3.7**
comp=E,55nm,0.8s
KBL Kabul 7.02 227 **Pn 09 35 40.4 +3.9**
THW Thamme Wali 7.27 204 P Pn 09 35 49.3 +10
MAKZ Makanchi 8.80 32 ⇑Lg Lg 09 38 25.3
comp=E,21nm,1.1s
MK31 Makanchi Array 8.91 33 Pn **Pn 09 36 00.9 -1.3**
MK31 Makanchi Array 8.91 33 Pn **Pn 09 36 02.4 +0.1**
comp=E,4.2nm,0.7s,baz=207,slow=13,SNR=33
MK31 ⇓Lg Lg 09 38 28.8
comp=E,11nm,0.8s
MKAR Makanchi Array 8.91 33 Pn **Pn 09 36 02.6 +0.3**
comp=E,0.2nm,0.3s,baz=207,slow=11,SNR=11
MKAR Lg Lg 09 38 23.0
comp=E,0.3nm,0.3s,baz=201,slow=23,SNR=2.4
MKAR LR LR 09 39 08.3
comp=E,36nm,19.1s,baz=220,slow=36
MKAR Makanchi Array 8.91 33 Pn **Pn 09 36 01.1 -1.1**
OTUK Ortayu 8.99 347 ⇓Pn **Pn 09 36 03.6 +0.3**
comp=E,4.0nm,0.7s
OTUK ⇑Lg Lg 09 38 27.8
comp=E,43nm,1.1s
WMQ Urumqi 10.25 61 *eP* **Pn 09 36 21.8 +1.1**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ smax smax
comp=N,26nm,0.9s
WMQ smax smax
comp=E,23nm,1.5s
KURBB Kurchatov Arra 11.36 11 Pn **Pn 09 36 34.5 -1.2**
baz=195,slow=13,SNR=1.4
KURBB Lg Lg 09 39 40.1
comp=E,0.1nm,0.3s,baz=202,slow=29,SNR=6.7
KURK Kurchatov 11.46 11 Pn **Pn 09 36 36.2 -0.9**
GEYT Alibeck 13.49 269 Pn **P 09 37 11.8 -2.3**
comp=E,0.6nm,0.3s,baz=83,slow=12,SNR=1.7
GEYT LR LR 09 43 11.9
comp=E,72nm,18.8s,baz=48,slow=41
BRVK Borovoye 13.99 347 **Pn 09 37 09.6 -2.0**
AB31 Akbulak array 14.64 317 Pn **Pn 09 37 19.4 -1.2**
comp=E,2.3nm,0.7s,baz=126,slow=12,SNR=15
ABKAR Akbulak array 14.64 317 Pn **Pn 09 37 19.9 -0.7**
ZALV Zalesovo Beam 15.85 21 Pn **Pn 09 37 34.3 -2.2**
comp=E,0.2nm,0.3s,baz=213,slow=11,SNR=6.6
ZALV LR LR 09 43 56.5
comp=E,76nm,20.5s,baz=72,slow=38
ZALV Zalesovo Beam 15.85 21 **Pn 09 37 34.0 -2.4**
AKTO Aktyubinsk 16.34 318 LR LR 09 44 22.2
comp=E,98nm,18.2s,baz=134,slow=38
ARU Arti 20.21 332 P **P 09 38 26.4 -1.7**
comp=E,2.8nm,0.2s,baz=150,slow=9.1,SNR=5.8
ARU LR LR 09 46 31.6
comp=E,84nm,18.7s,baz=262,slow=38
SONM Songino Array 23.88 59 P **P 09 39 07.0 -0.1**
comp=E,1.3nm,0.6s,baz=247,slow=10,SNR=7.6
SONM Songino Array 23.88 59 IAmb IAmb 09 39 08.0
comp=Z,0.9nm,0.7s
KIRV Kirov 25.26 328 LR LR 09 49 43.4
comp=Z,147nm,18.3s,baz=117,slow=38
CMAR Chiang Mai Arr 29.31 129 LR LR 09 54 14.2
comp=Z,30nm,19.7s,baz=185,slow=42
BR131 Keskin Array S 31.86 284 P **P 09 40 19.0 +0.3**
BRTR Keskin Array B 31.86 284 P **P 09 40 20.1 +1.4**
comp=Z,1.9nm,0.7s,baz=91,slow=8.0,SNR=8.8
BRTR LR LR 09 56 50.7
comp=Z,36nm,19.4s,baz=48,slow=43
BRTR Keskin Array B 31.86 284 P **P 09 40 18.5 -0.2**
PALK Pallekele 32.45 170 LR LR 09 54 23.1
comp=Z,92nm,19.3s,baz=2.2,slow=38
AKASG Malin Array Be 33.85 305 LR LR 09 57 27.3
comp=Z,48nm,19.8s,baz=118,slow=42
FINES FINESS Arr B 37.01 323 P **P 09 41 02.1 -0.6**
comp=Z,2.0nm,0.6s,baz=99,slow=9.8,SNR=6.4
FINES pP **pP 09 41 09.4 +1.8**
comp=Z,1.3nm,0.6s,baz=108,slow=12,SNR=1.5
FINES LR LR 09 57 01.5
comp=Z,46nm,20.1s,baz=28,slow=38
ARCES ARCESS Array B 39.75 335 P **P 09 41 24.9 -0.8**
comp=Z,3.2nm,0.6s,baz=95,slow=8.6,SNR=17
ARCES pP **pP 09 41 32.0 +1.4**
comp=Z,1.7nm,0.5s,baz=112,slow=9.3,SNR=1.8
ARCES LR LR 09 58 19.9
comp=Z,60nm,18.8s,baz=170,slow=37
KLR Kul'dur 40.67 57 P **P 09 41 33.2 -0.4**
comp=Z,0.4nm,0.3s,baz=232,slow=11,SNR=3.6
KLR LR LR 09 58 23.8
comp=Z,48nm,19.1s,baz=245,slow=36
KSRS Korea Array 40.79 76 LR LR 10 01 28.4
comp=Z,20nm,19.0s,baz=190,slow=41
VRAC Vranov 42.08 301 LR LR 10 02 43.1
comp=Z,39nm,19.2s,baz=68,slow=41
HFS Hagfors 42.88 320 LR LR 10 00 12.4
comp=Z,52nm,21.1s,baz=97,slow=37
NOA NORSAR Array B 44.09 321 P **P 09 41 59.0 -2.4**
comp=Z,1.0nm,0.7s,baz=90,slow=7.9,SNR=3.7
NOA LR LR 10 01 20.1
comp=Z,30nm,18.1s,baz=220,slow=37
ASAJ Asahikawa 49.14 61 LR LR 10 05 32.2
comp=Z,52nm,19.6s,baz=170,slow=39
MA2 Magadan 49.92 40 LR LR 10 05 00.5
comp=Z,34nm,21.0s,baz=180,slow=37
ESDC Sonseca Array 59.04 298 P **P 09 43 53.6 +0.2**
comp=Z,0.9nm,0.6s,baz=57,slow=4.7,SNR=5.8
ESDC Sonseca Array 59.04 298 IAmb IAmb 09 44 03.7
comp=Z,1.9nm,1.4s
TOLK Toolik Lake Re 67.14 16 P **P 09 44 46.2 -0.5**
TOLK IAmb IAmb 09 44 46.6
comp=Z,2.7nm,0.7s
COLD Coldfoot 68.14 17 P **P 09 44 52.1 -1.0**
COLD IAmb IAmb 09 44 53.1
comp=Z,4.0nm,1.0s
TOA0 Torodi Ar. Sit 69.12 270 P **P 09 45 00.6 +0.6**
TORD Torodi Ar. Bea 69.12 270 P **P 09 45 00.1 +0.1**
comp=Z,2.1nm,0.6s,baz=49,slow=5.8,SNR=24
TORD Torodi Ar. Bea 69.12 270 IAmb IAmb 09 45 01.0
comp=Z,1.4nm,0.8s
BMAR Burnt Mountain 69.20 15 P **P 09 44 59.7 -0.1**
J20K Nowinta River 69.57 21 P **P 09 45 01.5 -0.5**
J20K IAmb IAmb 09 45 28.8
comp=Z,6.0nm,1.5s
INK Inuvik 70.37 11 P **P 09 45 06.3 -0.5**
INK IAmb IAmb 09 45 29.8
comp=Z,4.3nm,1.4s
C36M Paulatuk 70.53 7 P **P 09 45 06.6 -1.2**
C36M IAmb IAmb 09 45 07.4
comp=Z,6.8nm,1.3s
ILAR Eielson Array 70.94 18 P **P 09 45 08.9 -1.5**
comp=Z,0.7nm,0.8s,baz=320,slow=4.7,SNR=6.5
YKA Yellowknife Ar 78.04 5 P **P 09 45 50.5 -1.2**
comp=Z,1.3nm,0.7s,baz=348,slow=5.6,SNR=29
WRA Warramunga Arr 80.83 125 P **P 09 46 08.6 +1.1**
comp=Z,1.0nm,0.9s,baz=323,slow=4.2,SNR=8.7
WRA pP **sP 09 46 15.7 +1.2**
comp=Z,0.5nm,0.5s,baz=323,slow=4.1,SNR=2.8
ASAR Alice Springs 83.32 128 P **P 09 46 21.4 +0.9**
comp=Z,0.6nm,0.6s,baz=316,slow=5.1,SNR=11
ASAR pP **sP 09 46 28.1 +0.6**
comp=Z,0.5nm,0.5s,baz=313,slow=5.0,SNR=5.0
HNR Honiara 91.86 101 LR LR 10 27 19.1
comp=Z,133nm,21.5s,baz=50,slow=35

*IDC **26** 09:47:23.4±1.3,31.64N×50.99E,h0km,mb3.9/9, mb1 4.0/12,mb1mx3.7/51,mbtmp3.9/12,ML3.8/3,MS3.0/3, Ms1 3.0/3,ms1mx2.4/90,Error ellipse: s-maj=29.2km s-min=20.6km az=171.0*
*NEIC **26** 09:47:25.4±2.6,31.81N±0.03×51.17E±0.06,h10km±1km, Error ellipse: s-maj=8.8km s-min=4.2km az=79.0*
*TEH **26** 09:47:25.0,31.79N×51.15E,h9km,ML3.5*
*DSN **26** 09:47:28.5±0.9,31.34N×51.14E,h10km,ML3.5/5,Error ellipse: s-maj=41.2km s-min=8.0km az=52.0*
ISC 26 09:47:24.9±0.9,31.76N±0.02×51.14E±0.03,h12km±6km, n87,σ1s78/95,mb4.1/13,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IBRJ	**Brojen**	**0.18**	**34**	Pg		**Pg**	**09 47 28.5**	**-0.6**
IBRJ				Sg		**Sg**	**09 47 32.3**	**+0.3**
IBRJ	**Brojen**	**0.18**	**34**	*e*Pg		**Pg**	**09 47 28.5**	**-0.6**
IBRJ				*e*Sg		**Sg**	**09 47 32.3**	**+0.3**
SHK1	**Shahrekord**	**0.61**	**339**	*e*Pg		**Pg**	**09 47 35.7**	**-1.1**
SHK1				*e*Sg		**Sb**	**09 47 45.8**	**-0.4**
SHK1				*e*			09 47 54.7	
comp=Z,43μm,0.7s								
KLNJ	**Kolanjah**	**0.84**	**153**	Pg		**Pg**	**09 47 41.0**	**-0.2**
KLNJ						**Sn**	**09 47 56.3**	**+0.8**
KLNJ	**Kolanjah**	**0.84**	**153**	*e*Pg		**Pg**	**09 47 41.1**	**-0.2**
KLNJ				*e*Sg		**Sn**	**09 47 56.4**	**+0.9**
KLNJ				*e*			09 48 03.5	
comp=Z,28μm,0.5s								
IPIR	**Pirpir**	**0.94**	**347**	Pg		**Pg**	**09 47 42.3**	**-0.9**
IPIR						**Sn**	**09 47 57.4**	**-0.5**
IPIR	**Pirpir**	**0.94**	**347**	*e*Pg		**Pg**	**09 47 42.4**	**-0.8**
IPIR				*e*Sg		**Sn**	**09 47 57.5**	**-0.5**
IPIR				*e*			09 48 09.8	
comp=Z,11μm,0.4s								
IGAR	**Gharneh**	**1.00**	**50**	Pg		**Pg**	**09 47 43.6**	**-0.6**
IGAR	**Gharneh**	**1.00**	**50**	*e*Pg		**Pg**	**09 47 43.7**	**-0.5**
IGAR				*e*			09 48 11.2	
comp=Z,16μm,0.4s								
IRAM	**Ramesheh**	**1.06**	**87**	Pg		**Pg**	**09 47 44.3**	**-1.0**
IRAM	**Ramesheh**	**1.06**	**87**	*e*Pg		**Pg**	**09 47 44.3**	**-1.0**
ABEH	**Behbahan**	**1.39**	**214**	*e*Pg		**Pb**	**09 47 51.7**	**+0.9**
IZEF	**Zefreh**	**1.51**	**41**	*e*Pg		**Pn**	**09 47 52.3**	**+0.2**
IZEF				*e*			09 47 58.3	
comp=Z,5μm,0.5s								
AMIS	**Naft Sefid**	**1.58**	**267**	*e*Pg		**Pb**	**09 47 55.3**	**+1.1**
IKLH	**Kolahrood**	**1.60**	**13**	Pn		**Pn**	**09 47 53.9**	**+0.7**
IKLH	**Kolahrood**	**1.60**	**13**	*e*Pn		**Pn**	**09 47 54.0**	**+0.7**
IKLH				*e*			09 48 00.1	
comp=Z,6μm,0.4s								
QAMS	**Qamsar**	**1.98**	**6**	Pn		**Pb**	**09 48 00.3**	**-0.8**
QAMS	**Qamsar**	**1.98**	**6**	*e*Pn		**Pb**	**09 48 00.3**	**-0.8**
QAMS				*e*			09 48 37.1	
comp=Z,6μm,0.4s								
ISAD	**Sadrabad**	**2.17**	**85**	*e*Pn		**Pb**	**09 48 04.9**	**+0.6**
ISAD				*e*			09 48 46.4	
comp=Z,3μm,0.6s								
KAZ1	**Kazerun**	**2.17**	**169**	Pn		**Pb**	**09 48 03.9**	**-0.3**
KAZ1	**Kazerun**	**2.17**	**169**	*e*Pn		**Pb**	**09 48 03.9**	**-0.3**
AHWZ	**Ahwaz**	**2.18**	**259**	*e*Pn		**Pb**	**09 48 04.3**	**+0.1**
KRSH	**Karshahi**	**2.35**	**21**	*e*			09 48 23.6	
comp=Z,4μm,0.5s								
KRSH				*e*Pn		**Pb**	**09 48 07.5**	**+0.1**
SHI	**Shiraz**	**2.42**	**150**	*e*Pn		**Pn**	**09 48 07.5**	**+3.0**
SHI				*e*			09 49 07.8	
comp=Z,2μm,1.0s								
ANAR	**Anarak**	**2.61**	**56**	*e*Pn		**Pb**	**09 48 10.5**	**-1.2**
ISFB	**Sefidab**	**2.74**	**19**	*e*Pn		**Pn**	**09 48 11.3**	**+2.4**
ISFB				*e*			09 48 17.2	
comp=Z,2μm,0.6s								
IMEH	**Mehriz**	**2.98**	**96**	*e*Pn		**Pb**	**09 48 17.0**	**-1.2**
IMEH				*e*			09 49 26.4	
comp=Z,1μm,0.8s								
IQOM	**Qom**	**3.07**	**359**	*e*Pn		**Pn**	**09 48 16.0**	**+2.4**
IQOM				*e*			09 48 22.1	
comp=Z,3μm,0.8s								
IDOB	**Doab**	**3.21**	**310**	Pn		**Pn**	**09 48 17.4**	**+2.0**
IDOB	**Doab**	**3.21**	**310**	*e*Pn		**Pn**	**09 48 17.5**	**+2.0**
HSAM	**Samen**	**3.24**	**320**	Pn		**Pn**	**09 48 18.4**	**+2.5**
HSAM	**Samen**	**3.24**	**320**	*e*Pn		**Pn**	**09 48 18.4**	**+2.5**
IVRN	**Varamin**	**3.26**	**8**	*e*Pn		**Pn**	**09 48 18.9**	**+2.9**
IKFM	**Kafar-mosalman**	**3.29**	**303**	Pn		**Pn**	**09 48 17.8**	**+1.5**
IKFM	**Kafar-mosalman**	**3.29**	**303**	*e*Pn		**Pn**	**09 48 17.8**	**+1.5**
IRAZ	**Razeghan**	**3.77**	**345**	Pn		**Pn**	**09 48 24.9**	**+1.8**
IRAZ	**Razeghan**	**3.77**	**345**	*e*Pn		**Pn**	**09 48 24.9**	**+1.8**
IDMV	**Damavand**	**3.88**	**11**	Pn		**Pn**	**09 48 26.7**	**+2.1**
IDMV	**Damavand**	**3.88**	**11**	*e*Pn		**Pn**	**09 48 26.8**	**+2.1**
IMHD	**Mahdasht**	**3.93**	**354**	*e*Pn		**Pn**	**09 48 28.8**	**+3.6**
IMHD				*e*			09 49 42.6	
comp=Z,659nm,0.8s								
QABG	**Abgarm-Qazvin**	**4.15**	**342**	Pn		**Pn**	**09 48 29.0**	**+0.7**
QABG	**Abgarm-Qazvin**	**4.15**	**342**	*e*Pn		**Pn**	**09 48 29.0**	**+0.7**
QABG				*e*			09 49 44.9	
comp=Z,663nm,1.0s								
QALM	**Alamut, Qazvin**	**4.68**	**355**	Pn		**Pn**	**09 48 37.6**	**+2.0**
QALM	**Alamut, Qazvin**	**4.68**	**355**	*e*Pn		**Pn**	**09 48 37.6**	**+2.0**
KHGB	**Koh Gabri**	**4.78**	**105**	Pn		**Pn**	**09 48 39.7**	**+2.7**
KHGB	**Koh Gabri**	**4.78**	**105**	*e*Pn		**Pn**	**09 48 39.8**	**+2.7**
TPRV	**Parvadeh(Tabas**	**4.86**	**73**	*e*Pn		**Pn**	**09 48 40.8**	**+2.9**
TNSJ	**Nastanj**	**5.10**	**63**	*e*Pn		**Pn**	**09 48 43.1**	**+1.9**
NGRK	**Negar Kerman**	**5.25**	**112**	Pn		**Pn**	**09 48 46.3**	**+2.6**
NGRK	**Negar Kerman**	**5.25**	**112**	*e*Pn		**Pn**	**09 48 46.3**	**+2.6**
TKDS	**Koohdasht(Taba**	**5.37**	**68**	*e*Pn		**Pn**	**09 48 47.8**	**+2.8**
GENO	**Geno**	**6.17**	**134**	Pn		**Pn**	**09 48 57.8**	**+1.7**
GENO	**Geno**	**6.17**	**134**	*e*Pn		**Pn**	**09 48 57.8**	**+1.7**
SBZV	**Sabzevar**	**7.08**	**48**	*e*Pn		**Pn**	**09 49 11.0**	**+2.5**
SHME	**Shamm**	**7.18**	**141**	P		**Pn**	**09 49 09.7**	**-0.1**
BANOM	**Banah**	**7.37**	**141**	P		**Pn**	**09 49 12.6**	**+0.2**
BANOM				S		**Sn**	**09 50 32.7**	**-3.2**
MSFE	**Esma-Masafi**	**7.75**	**144**	P		**Pn**	**09 49 16.9**	**-0.7**
UOSS	**Minazif**	**8.12**	**145**	Pn		**Pn**	**09 49 22.6**	**-0.1**
UOSS	**Minazif**	**8.12**	**145**	P		**Pn**	**09 49 21.6**	**-1.1**
HATD	**Hatta, Dubai**	**8.19**	**146**	P		**Pn**	**09 49 22.2**	**-1.4**
ASHO	**Ashiyiah**	**8.28**	**147**	P		**Pn**	**09 49 23.9**	**-0.9**
ASHO				S		**Sn**	**09 50 55.6**	**-2.8**
GEYT	**Alibeck**	**8.41**	**41**	LR		LR	09 53 41.5	
comp=Z,45nm,21.0s,baz=244,slow=44								
WSAR	**Wadi Sarin**	**10.78**	**140**	Pn		**Pn**	**09 49 57.9**	**-1.3**
comp=Z,0.9nm,0.3s,baz=325,slow=14,SNR=8.4								
WSAR				Sn		**Sn**	**09 51 54.8**	**-5.0**
comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.1								
WSAR				LR		LR	09 54 10.7	
comp=Z,36nm,18.1s,baz=62,slow=38								
ASF	**Jabal al Asfar**	**12.11**	**276**	Pn		**Pn**	**09 50 13.9**	**-3.5**
comp=Z,1.2nm,0.3s,baz=98,slow=11,SNR=7.1								
BRTR	**Keskin Array B**	**16.26**	**304**	Pn		**P**	**09 51 15.4**	**-0.9**
comp=Z,0.1nm,0.3s,baz=132,slow=14,SNR=2.7								
ABKAR	**Akbulak array**	**18.69**	**18**	P		**P**	**09 51 41.2**	**-1.8**
KKAR	**Karatay Array**	**19.05**	**48**	P		**P**	**09 51 46.2**	**-0.8**
AKTO	**Aktyubinsk**	**19.34**	**13**	P		**Pn**	**09 51 56.9**	**+5.7**
comp=Z,0.1nm,0.3s,baz=175,slow=12,SNR=3.7								
AKASG	**Malin Array Be**	**24.93**	**326**	P		**P**	**09 52 47.9**	**+0.1**
comp=Z,0.6nm,0.3s,baz=134,slow=8.4,SNR=7.0								
BURAR	**Bucovina Array**	**25.30**	**316**	P		**P**	**09 52 50.7**	**-0.7**
BUR08	**Bucovina Ar. S**	**25.33**	**316**	P		**P**	**09 52 51.8**	**+0.2**
BUR08				IAmb		IAmb	09 53 03.3	
comp=Z,4.3nm,1.1s								
KURBB	**Kurchatov Arra**	**27.68**	**39**	P		**P**	**09 53 14.3**	**+1.7**
comp=Z,1.1nm,0.2s,baz=241,slow=9.2,SNR=5.2								
MK31	**Makanchi Array**	**28.18**	**49**	P		**P**	**09 53 16.9**	**-0.3**
MKAR	**Makanchi Array**	**28.18**	**49**	P		**P**	**09 53 19.9**	**+2.7**
comp=Z,0.5nm,0.6s,baz=232,slow=8.8,SNR=6.3								
VAE	**Valguarnera**	**30.63**	**291**	LR		LR	10 08 26.9	
comp=Z,88nm,18.2s,baz=144,slow=41								
ZALV	**Zalesovo Beam**	**32.70**	**37**	P		**P**	**09 53 58.9**	**+1.9**
comp=Z,1.0nm,0.6s,baz=232,slow=9.2,SNR=4.6								
FINES	**FINESS Array B**	**33.89**	**339**	P		**P**	**09 54 07.4**	**+0.1**
comp=Z,1.3nm,0.7s,baz=180,slow=11,SNR=4.6								
FINES	**FINESS Array B**	**33.89**	**339**	P		**P**	**09 54 08.0**	**+0.8**
CLL	**Collm**	**34.07**	**316**	P		**P**	**09 54 08.9**	**-0.1**
KEST	**Kesra**	**34.79**	**288**	P		**P**	**09 54 14.7**	**-0.8**
KEST				IAmb		IAmb	09 54 26.9	
comp=Z,16nm,1.4s								
SENIN	**Lac Senin/Sane**	**36.55**	**306**	P		**P**	**09 54 29.9**	**-0.8**
SENIN				IAmb		IAmb	09 54 58.6	
comp=Z,4.1nm,1.0s								
NOA	**NORSAR Array B**	**39.15**	**330**	P		**P**	**09 54 53.5**	**+1.2**
comp=Z,1.0nm,0.7s,baz=130,slow=8.9,SNR=3.9								
ARCES	**ARCESS Array B**	**40.49**	**346**	P		**P**	**09 55 04.9**	**+1.6**
comp=Z,5.4nm,1.1s,baz=148,slow=10,SNR=2.0								
TOA0	**Torodi Ar. Sit**	**48.86**	**259**	P		**P**	**09 56 11.0**	**+0.3**
TOA0				IAmb		IAmb	09 56 13.4	
comp=Z,4.7nm,1.0s								
TORD	**Torodi Ar. Bea**	**48.86**	**259**	P		**P**	**09 56 10.6**	**-0.2**
comp=Z,2.0nm,0.7s,baz=54,slow=8.5,SNR=14								
TORD	**Torodi Ar. Bea**	**48.86**	**259**	P		**P**	**09 56 10.4**	**-0.3**
TORD				IAmb		IAmb	09 56 13.4	
comp=Z,3.1nm,1.0s								
YKA	**Yellowknife Ar**	**85.38**	**353**	P		**P**	**10 00 01.8**	**0.0**
comp=Z,0.4nm,1.0s,baz=8.0,slow=5.5,SNR=4.7								

*IDC **26** 09:52:11.1±1.2,34.31S×179.39W,h0km,mb4.1/4, mb1 4.3/5,mb1mx3.9/32,mbtmp4.2/5,ML4.3/1,MS3.4/2, Ms1 3.4/2,ms1mx2.7/60,Error ellipse: s-maj=35.7km s-min=28.7km az=74.0*
*NEIC **26** 09:52:18.1±1.1,34.41S±0.06×179.6W±0.2,h35km±1km, mb4.1/6,Error ellipse: s-maj=28.5km s-min=9.2km az=77.0*
*WEL **26** 09:52:19.1±0.9,35.8S×179.1W±1.1,h144km±33km, M4.3/20,mB4.7/4,ML4.6/23,MLv4.4/20,Mw(mB)4.0/4, Error ellipse: s-maj=0.0km s-min=0.0km az=69.9*
ISC 26 09:52:16.0±0.8,34.67S±0.07×179.07W±0.09,h35km,n55, σ1s58/72,mb4.2/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.59**	**216**	Pn		**Pn**	**09 53 09.4**	**+0.4**
MXZ	**Matakaoa Point**	**3.59**	**216**	P		**Pn**	**09 53 09.4**	**+0.4**
MXZ				S		**Sn**	**09 53 50.3**	**+0.2**
WMGZ	**Waiomatatini S**	**3.75**	**212**	P		**Pn**	**09 53 12.1**	**+0.9**
WMGZ				S		**Sn**	**09 53 54.4**	**+0.3**
HAZ	**Te Kaha**	**4.00**	**219**	P		**Pn**	**09 53 14.9**	**+0.2**
HAZ				S		**Sn**	**09 54 01.5**	**+1.2**
PUZ	**Puketiti**	**4.

URZ			Sn	**Sn**	**09 54 14.9**	**-3.3**
	12nm,0.3s,baz=197,slow=19,SNR=7.3					
URZ	**Urewera**	**4.72 219**		**Pn**	**09 53 24.8**	**+0.1**
URZ	**Urewera**	**4.72 219**	P	**Pn**	**09 53 24.5**	**-0.1**
URZ			S	**Sn**	**09 54 16.3**	**-1.9**
OPRZ	**Ohinepanea**	**4.75 227**	P	**Pn**	**09 53 25.3**	**+0.3**
RAGZ	**Rawiri**	**4.75 215**	P	**Pn**	**09 53 25.6**	**+0.4**
RAGZ			S	**Sn**	**09 54 17.1**	**-2.0**
RIGZ	**Rimuhau**	**4.77 211**	P	**Pn**	**09 53 25.1**	**-0.2**
MARZ	**Manawahe**	**4.77 225**	P	**Pn**	**09 53 25.6**	**+0.2**
TQRZ	**Tauranga**	**4.86 230**	P	**Pn**	**09 53 27.6**	**+1.1**
PRQZ	**Paritu Road**	**4.90 209**	P	**Pn**	**09 53 27.1**	**-0.1**
PRQZ			S	**Sn**	**09 54 20.6**	**-2.1**
TARZ	**Mount Tarawera**	**5.04 224**	P	**Pn**	**09 53 29.8**	**+0.7**
KARZ	**Kaharoa**	**5.05 227**	P	**Pn**	**09 53 28.9**	**-0.3**
RTZ	**Ruatahuna**	**5.06 218**	P	**Pn**	**09 53 29.0**	**-0.4**
RTZ			S	**Sn**	**09 54 24.1**	**-2.5**
MHGZ	**Mahia Peninsul**	**5.09 207**	P	**Pn**	**09 53 29.4**	**-0.4**
KMRZ	**Kaimai**	**5.13 230**	P	**Pn**	**09 53 31.4**	**+1.1**
HLRZ	**Highlands Stat**	**5.14 225**	P	**Pn**	**09 53 31.2**	**+0.7**
WIAZ	**Waiheke Island**	**5.17 244**	P	**Pn**	**09 53 31.5**	**+0.7**
RAHZ	**Arahi**	**5.24 215**	P	**Pn**	**09 53 32.4**	**+0.5**
RAHZ			S	**Sn**	**09 54 30.6**	**-0.5**
MTHZ	**Maungataniwha**	**5.31 217**	P	**Pn**	**09 53 32.7**	**-0.1**
MTHZ			S	**Sn**	**09 54 31.3**	**-1.5**
TOZ	**Tahuroa Road**	**5.35 234**	P	**Pn**	**09 53 34.2**	**+0.9**
ALRZ	**Allen Road**	**5.36 222**	P	**Pn**	**09 53 33.9**	**+0.5**
ARHZ	**Aropaoanui**	**5.56 213**	P	**Pn**	**09 53 36.1**	**-0.1**
ARHZ			S	**Sn**	**09 54 37.6**	**-1.4**
KUTZ	**Kaahu Road**	**5.61 226**	P	**Pn**	**09 53 37.5**	**+0.6**
CTZ	**Chatham Island**	**9.26 169**	P	**Pn**	**09 54 30.6**	**+3.7**
CTZ			S	**Sn**	**09 56 04.3**	**-5.3**
DZM	**Mont Dzumac**	**17.86 311**	LR	LR	10 01 53.6	
	comp=Z,143nm,18.4s,baz=198,slow=33					
CTA	**Charters Tower**	**33.85 286**	P	**P**	**09 58 55.5**	**+0.3**
	3.6nm,0.7s,baz=99,slow=13,SNR=1.9					
AS31	**Alice Springs**	**42.16 272**	P	**P**	**10 00 03.6**	**-1.7**
AS31			IAmb	IAmb	10 00 21.6	
	comp=Z,0.9nm,0.9s					
ASAR	**Alice Springs**	**42.17 272**	P	**P**	**10 00 03.7**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=115,slow=7.5,SNR=16					
WR0	**Warramunga Arr**	**43.37 277**	P	**P**	**10 00 13.2**	**-1.9**
WR0			IAmb	IAmb	10 00 14.1	
	comp=Z,10nm,1.4s					
WB2	**Warramunga Arr**	**43.53 277**	P	**P**	**10 00 14.2**	**-2.3**
WB2			IAmb	IAmb	10 00 16.1	
	comp=Z,3.8nm,0.8s					
WRA	**Warramunga Arr**	**43.54 277**	P	**P**	**10 00 14.0**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=118,slow=7.7,SNR=16					
WB0	**Warramunga Arr**	**43.58 277**	P	**P**	**10 00 14.6**	**-2.2**
WB0			IAmb	IAmb	10 00 37.4	
	comp=Z,4.5nm,0.9s					
QSPA	**South Pole Qui**	**55.46 180**	P	**P**	**10 01 50.7**	**+3.8**
	comp=Z,3.6nm,0.9s,baz=44,slow=0.8,SNR=8.8					
QSPA	**South Pole Qui**	**55.46 180**	P	**P**	**10 01 50.7**	**+3.8**
SIJI	**Sorong**	**57.18 295**	LR	LR	10 23 03.1	
	comp=Z,26nm,21.9s,baz=183,slow=33					
PETK	**Petropavlovsk-**	**89.72 346**	P	**P**	**10 05 09.9**	**0.0**
	comp=Z,1.8nm,0.8s,baz=118,slow=8.6,SNR=4.4					
MKAR	**Makanchi Array**	**119.76 309**	PKP	**PKPdf**	**10 11 00.8**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=85,slow=3.6,SNR=2.2					
KURK	**Kurchatov**	**123.28 312**		**PKPdf**	**10 11 07.4**	**-1.1**
KURBB	**Kurchatov Arra**	**123.31 312**	PKP	**PKPdf**	**10 11 07.4**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=110,slow=2.0,SNR=6.4					
FINES	**FINESS Array B**	**148.77 337**	PKPbc	**PKPbc**	**10 11 57.7**	**-1.1**
	comp=Z,3.7nm,1.0s,baz=35,slow=7.0,SNR=4.4					
FINES	**FINESS Array B**	**148.77 337**	PKPbc	**PKPbc**	**10 11 58.4**	**-0.4**
FINES			PKPab	**PKPab**	**10 12 02.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**158.57 182**	PKPab	**PKPab**	**10 12 46.2**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=174,slow=4.2,SNR=5.3					
TORD	**Torodi Ar. Bea**	**158.57 182**	PKPdf	**PKPdf**	**10 12 10.2**	**-0.1**
TORD				**PKPab**	**10 12 47.3**	**+2.1**

*IDC **26** 10:01:05.5±1.3,34°.41S×179°.40W,h0km,mb4.0/3, mb1 4.2/4,mb1mx3.9/36,mbtmp4.1/4,ML4.6/1,MS3.4/1, Ms1 3.4/1,ms1mx2.5/60,Error ellipse: s-maj=42.3km s-min=33.6km az=139.0*

*WEL **26** 10:01:11.7±1.1,35°.5±7°×17°.9W±1°.2,h33km,M4.5/12, ML4.5/15,MLv4.5/12,Error ellipse: s-maj=0.0km s-min=0.0km az=108.1*

*NEIC **26** 10:01:12.7±1.3,34°.5S±0°.1×179°.6W±0°.2,h35km±2km, mb4.4/9,Error ellipse: s-maj=25.8km s-min=19.7km az=93.0*

ISC 26 10:01:11.3±0.9,34°.58S±0°.08×179°.2W±0°.1,h35km,n45, σ1s53/57,mb4.3/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.58**	**213**	Pn	**Pn**	**10 02 03.9**	**-0.5**
MXZ	**Matakaoa Point**	**3.58**	**213**	P	**Pn**	**10 02 04.4**	**0.0**
MXZ				S	**Sn**	**10 02 45.9**	**+0.4**
WMGZ	**Waiomatatini S**	**3.75**	**210**	P	**Pn**	**10 02 07.3**	**+0.6**
WMGZ				S	**Sn**	**10 02 54.2**	**+4.6**
PKGZ	**Pakihiroa**	**3.96**	**213**	P	**Pn**	**10 02 09.2**	**-0.4**
PKGZ				S	**Sn**	**10 02 55.5**	**+0.8**
HAZ	**Te Kaha**	**3.99**	**216**	P	**Pn**	**10 02 10.3**	**+0.4**
PUZ	**Puketiti**	**4.03**	**210**	P	**Pn**	**10 02 12.3**	**+1.7**
PUZ				S	**Sn**	**10 02 57.5**	**+0.9**
RUGZ	**Raukumara Rang**	**4.20**	**216**	P	**Pn**	**10 02 13.1**	**0.0**
RUGZ				S	**Sn**	**10 03 01.8**	**+0.9**
TWGZ	**Tauwhareparae**	**4.24**	**211**	P	**Pn**	**10 02 13.2**	**-0.2**
CNGZ	**Carnagh Statio**	**4.41**	**207**	P	**Pn**	**10 02 15.9**	**+0.2**
CNGZ				S	**Sn**	**10 03 07.1**	**+1.3**
TKGZ	**Te Karaka**	**4.51**	**211**	P	**Pn**	**10 02 17.8**	**+0.7**
TKGZ				S	**Sn**	**10 03 07.8**	**-0.6**
MYRZ	**Mayor Island**	**4.56**	**232**	P	**Pn**	**10 02 19.2**	**+1.4**
MWZ	**Matawai**	**4.57**	**214**	P	**Pn**	**10 02 17.3**	**-0.7**
MWZ				S	**Sn**	**10 03 10.2**	**+0.3**
URZ	**Urewera**	**4.71**	**218**	Pn	**Pn**	**10 02 19.6**	**-0.3**
	24nm,0.3s,baz=265,slow=2.4,SNR=113						
URZ				Sn	**Sn**	**10 03 11.1**	**-2.2**
	16nm,0.3s,baz=194,slow=20,SNR=7.0						
URZ	**Urewera**	**4.71**	**218**		**Pn**	**10 02 19.2**	**-0.7**
URZ	**Urewera**	**4.71**	**218**	P	**Pn**	**10 02 19.1**	**-0.7**
URZ				S	**Sn**	**10 03 10.6**	**-2.7**
RAGZ	**Rawiri**	**4.75**	**214**	P	**Pn**	**10 02 20.1**	**-0.4**
RAGZ				S	**Sn**	**10 03 13.6**	**-0.8**
RIGZ	**Rimuhau**	**4.78**	**210**	P	**Pn**	**10 02 20.4**	**-0.5**
RIGZ				S	**Sn**	**10 03 14.9**	**-0.1**
KNZ	**Kokohu**	**5.08**	**208**	P	**Pn**	**10 02 23.1**	**-1.9**
KNZ	**Kokohu**	**5.08**	**208**	P	**Pn**	**10 02 22.7**	**-2.2**
MKAZ	**Moumakai**	**5.21**	**239**	P	**Pn**	**10 02 28.0**	**+1.3**
MKAZ	**Moumakai**	**5.21**	**239**	P	**Pn**	**10 02 27.9**	**+1.2**
TOZ	**Tahuroa Road**	**5.30**	**232**	P	**Pn**	**10 02 29.4**	**+1.4**
WCZ	**Waipu Caves**	**5.43**	**254**	P	**Pn**	**10 02 30.8**	**+1.0**
BKZ	**Black Stump Fm**	**5.72**	**216**		**Pn**	**10 02 32.2**	**-1.6**
BKZ	**Black Stump Fm**	**5.72**	**216**	P	**Pn**	**10 02 31.4**	**-2.4**
BKZ				S	**Sn**	**10 03 36.8**	**-1.4**
OUZ	**Omahuta**	**5.93**	**262**	P	**Pn**	**10 02 37.2**	**+0.6**
MSVF	**Nonsavu**	**16.95**	**351**	LR	LR	10 10 05.2	
	comp=Z,118nm,18.9s,baz=175,slow=32						
AS31	**Alice Springs**	**42.03**	**272**	P	**P**	**10 08 57.7**	**-2.0**
ASAR	**Alice Springs**	**42.04**	**272**	P	**P**	**10 08 57.6**	**-2.1**
	0.7nm,0.5s,baz=113,slow=8.0,SNR=22						
WR0	**Warramunga Arr**	**43.23**	**277**	P	**P**	**10 09 07.7**	**-1.6**
WR0				IAmb	IAmb	10 09 28.9	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**43.39**	**277**	P	**P**	**10 09 08.8**	**-1.9**
WB2				IAmb	IAmb	10 09 21.4	
	comp=Z,7.3nm,1.2s						
WRAB	**Tennant Creek**	**43.40**	**277**	P	**P**	**10 09 08.6**	**-2.2**
WRAB				IAmb	IAmb	10 09 09.4	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**43.40**	**277**	P	**P**	**10 09 08.5**	**-2.3**
	comp=Z,1.0nm,0.5s,baz=118,slow=7.6,SNR=26						
WB0	**Warramunga Arr**	**43.45**	**277**	P	**P**	**10 09 09.2**	**-1.9**
WB0				IAmb	IAmb	10 09 35.3	
	comp=Z,13nm,1.4s						
KNRA	**Kununurra**	**50.14**	**278**	P	**P**	**10 10 01.9**	**-1.6**
CASY	**Casey**	**50.98**	**209**	P	**P**	**10 10 09.5**	**+0.4**
CASY				IAmb	IAmb	10 10 09.6	
	comp=Z,3.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.46**	**274**	P	**P**	**10 10 11.4**	**-1.9**
QSPA	**South Pole Qui**	**55.54**	**180**	P	**P**	**10 10 45.6**	**+2.7**
PETK	**Petropavlovsk-**	**89.61**	**346**	P	**P**	**10 14 04.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=137,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**119.61**	**309**	PKP	**PKPdf**	**10 19 55.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=117,slow=2.6,SNR=4.0						
FINES	**FINESS Array B**	**148.64**	**337**	PKPbc	**PKPdf**	**10 20 52.7**	**+2.6**
	comp=Z,1.3nm,0.6s,baz=20,slow=6.1,SNR=5.8						
NB2	**NORSAR Subarra**	**152.68**	**349**	PKP	**PKPbc**	**10 21 02.9**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=16,slow=2.5						
NOA	**NORSAR Array B**	**152.68**	**349**	PKPbc	**PKPbc**	**10 21 02.4**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=16,slow=4.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**158.65**	**182**	PKPab	**PKPab**	**10 21 40.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=181,slow=3.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**158.65**	**182**		**PKPab**	**10 21 42.0**	**+1.1**

RSNC 26 10:01:12.1±0.9,10°.03N×73°.04W,h128km±3km,ML3.6, Mw3.8,3C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL6C	**La Loma 6 Bece**	**0.37**	**217**	⇑*iP*	Pn	10 01 30.6	+0.2
LL6C				*eS*	Sn	10 01 43.7	-0.5
CVALL	**Valledupar, Ce**	**0.52**	**336**	⇑*eP*	Pn	10 01 30.8	-0.3
CVALL				*eS*	Sn	10 01 44.8	-0.8
CVALL				*i*		10 01 45.5	
	comp=Z,915nm,0.2s						
LL1C	**La Loma 1 Cana**	**0.70**	**226**	*eP*	Pn	10 01 32.3	0.0
LL1C				*eS*	Sn	10 01 47.1	-0.5
LL5C	**La Loma 5 El P**	**0.72**	**247**	*eP*	Pn	10 01 32.5	0.0
LL5C				*eS*	Sn	10 01 47.8	-0.1
CRJC	**Cerrejon, Guaj**	**0.99**	**9**	⇑*iP*	Pn	10 01 34.5	-0.4
CRJC				*eS*	Sn	10 01 51.2	-1.1
CRJC				*i*		10 01 52.8	
	comp=Z,3μm,0.2s						
SMRC	**Santa Marta, M**	**1.62**	**314**	*eP*	Pn	10 01 41.1	-0.3
SMRC				*eS*	Sn	10 02 03.8	0.0
SMRC				*i*		10 02 08.9	
	comp=Z,305nm,0.4s						
OCAC	**Ocana**	**1.80**	**189**	⇓*eP*	Pn	10 01 43.2	-0.7
OCAC				*eS*	Sn	10 02 07.3	-0.7
OCAC				*i*		10 02 11.1	
	comp=Z,1μm,0.4s						
URIC	**Uribia, Colomb**	**1.95**	**32**	*eP*	Pn	10 01 44.6	-0.8
URIC				*eS*	Sn	10 02 09.8	-1.1
URIC				*i*		10 02 10.3	
	comp=Z,561nm,0.8s						
SJCC	**San Jacinto, C**	**2.11**	**267**	⇓*iP*	Pn	10 01 46.7	-0.7
SJCC				*eS*	Sn	10 02 13.4	-1.0
SJCC				*i*		10 02 14.9	
	comp=Z,431nm,0.9s						
DABV	**Dabajuro**	**2.53**	**69**	*eP*	Pn	10 01 52.5	0.0
DABV				*eS*	Sn	10 02 23.7	-0.1
SDV	**Santo Domingo**	**2.64**	**115**	*eP*	Pn	10 01 54.4	+0.2
SDV				*eS*	Sn	10 02 25.4	-1.1
PAMC	**Pamplona, Colo**	**2.70**	**173**	*eP*	Pn	10 01 55.1	-0.1
PAMC				*eS*	Sn	10 02 28.0	-0.4
PAMC				*i*		10 02 29.1	
	comp=Z,126nm,0.2s						
SOCV	**Socops**	**2.77**	**129**	*eP*	Pn	10 01 56.2	+0.4
ZARC	**Zaragoza, Cauc**	**3.10**	**216**	*eP*	Pn	10 01 59.0	-1.0
ZARC				*eS*	Sn	10 02 34.5	-2.4
UREC	**San Jos de Ur**	**3.34**	**228**	*eP*	Pn	10 02 01.5	-1.7
UREC				*i*		10 02 42.0	
	comp=Z,112nm,0.8s						
BARC	**Barichara**	**3.42**	**182**	*eP*	Pn	10 02 04.3	-0.2
BARC				*eS*	Sn	10 02 44.0	-0.8
LCBC	**Los crdobas,**	**3.48**	**251**	*eP*	Pn	10 02 04.0	-1.0
PTBC	**PUERTO BERRIO,**	**3.74**	**202**	*eP*	Pn	10 02 08.2	-0.3
PTBC				*eS*	Sn	10 02 50.1	-2.0
PTBC				*i*		10 02 55.9	
	comp=Z,48nm,0.3s						
TAMC	**Tame, Arauca**	**3.78**	**161**	*eP*	Pn	10 02 09.4	+0.3
RUSC	**La Rusia**	**4.11**	**181**	*eP*	Pn	10 02 13.1	-0.7
SPBC	**San Pablo de B**	**4.47**	**193**	*eP*	Pn	10 02 17.8	-0.4
HELC	**Santa Helena**	**4.54**	**213**	*eP*	Pn	10 02 18.6	-0.8
HELC				*i*		10 03 28.4	
	comp=Z,25nm,0.6s						
NORC	**Norcasia**	**4.79**	**202**	*eP*	Pn	10 02 21.6	-0.9
GUY2C	**Guyana, Caldas**	**5.30**	**206**	*eP*	Pn	10 02 29.2	-0.5
GUY2C				*i*		10 03 40.0	
	comp=Z,22nm,0.6s						
CHIC	**Chingaza**	**5.41**	**187**	*eP*	Pn	10 02 31.7	+0.6
PTAC	**Punta Ardita,**	**5.52**	**239**	*eP*	Pn	10 02 31.1	-1.1
PLMC	**San Jos del P**	**6.02**	**212**	*eP*	Pn	10 02 38.6	-0.5
PLMC				*i*		10 03 53.2	
	comp=Z,23nm,0.9s						
ORTC	**Ortega, Tolima**	**6.46**	**200**	*eP*	Pn	10 02 45.4	+0.4
ORTC				*i*		10 04 02.8	
	comp=Z,8.2nm,0.7s						
BCIP	**Isla Barro Col**	**6.75**	**263**	*eP*	Pn	10 02 47.2	-1.6
BCIP				*eS*	Sn	10 03 59.8	-4.7
YOTC	**Yotoco, Valle**	**6.84**	**209**	*eP*	Pn	10 02 49.2	-1.0
AZU	**Azuero**	**7.48**	**253**	*eP*	Pn	10 02 57.4	-1.3
AZU				*eS*	Sn	10 04 16.6	-5.4
MACC	**Macarena, Meta**	**7.88**	**186**	*eP*	Pn	10 03 01.3	-2.7

WEL 26 10:01:30.5±0.8,40°.5S±3°×17°.3E±1°,h178km±6km,M3.1/18, ML3.3/8,MLv3.1/18,Error ellipse: s-maj=0.0km s-min=0.0km az=104.5,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.64**	**149**	P	Pn	10 01 56.5	+0.7
DUWZ				S	Sn	10 02 16.8	+1.4
TKNZ	**Takaka Hill**	**0.88**	**207**	P	Pn	10 01 57.0	-0.2
QRZ	**Quartz Range**	**0.93**	**232**	P	Pn	10 01 57.1	-0.5
QRZ				S	Sn	10 02 17.8	-0.7
NNZ	**Nelson**	**0.97**	**185**	P	Pn	10 01 57.9	+0.1
NNZ				S	Sn	10 02 19.9	+0.9
NBEZ	**Newall Road No**	**1.02**	**17**	P	Pn	10 01 58.1	-0.2
KHEZ	**Kahui Hut**	**1.04**	**23**	P	Pn	10 01 58.4	-0.1
LREZ	**Lake Rotokare**	**1.06**	**42**	P	Pn	10 01 58.8	+0.3
LREZ				S	Sn	10 02 21.1	+1.1
NEZ	**North Egmont**	**1.09**	**26**	P	Pn	10 01 58.6	-0.3
NEZ				S	Sn	10 02 22.2	+1.5
PKE	**Pukeiti**	**1.12**	**20**	P	Pn	10 01 58.9	-0.2
TCW	**Tory Channel**	**1.13**	**148**	P	Pn	10 01 59.9	+0.9
TCW				S	Sn	10 02 21.8	+0.6
DREZ	**Durham Road**	**1.20**	**28**	P	Pn	10 01 59.4	-0.3
TUWZ	**Tuamarina**	**1.23**	**164**	P	Pn	10 02 00.4	+0.6
KIW	**Kapiti Island**	**1.24**	**120**	P	Pn	10 02 00.5	+0.5
KIW				S	Sn	10 02 22.5	-0.3
WAZ	**Wanganui**	**1.25**	**67**	P	Pn	10 02 00.8	+0.7
WAZ				S	Sn	10 02 25.5	+2.6
MRNZ	**Matariki Terra**	**1.27**	**206**	P	Pn	10 01 59.8	-0.5
MHEZ	**Mangahewa**	**1.34**	**29**	P	Pn	10 02 01.0	+0.1
OGWZ	**Otaki Gorge**	**1.40**	**114**	P	Pn	10 02 02.0	+0.7
OGWZ				S	Sn	10 02 26.3	+1.0
WEL	**Wellington**	**1.42**	**137**	P	Pn	10 02 02.0	+0.5
CAW	**Cannon Point**	**1.47**	**126**	P	Pn	10 02 02.6	+0.6
CAW				S	Sn	10 02 27.3	+0.7
BSWZ	**Blackbirch Sta**	**1.49**	**169**	P	Pn	10 02 02.7	+0.5
BSWZ				S	Sn	10 02 26.5	-0.4
VRZ	**Vera Road**	**1.49**	**41**	P	Pn	10 02 01.6	-0.7
VRZ				S	Sn	10 02 27.2	+0.4
BHW	**Baring Head**	**1.56**	**138**	P	Pn	10 02 03.0	+0.2
BHW				S	Sn	10 02 27.9	-0.1
THZ	**Tophouse**	**1.57**	**196**	P	Pn	10 02 02.8	-0.3
THZ				S	Sn	10 02 29.2	+0.8
CMWZ	**Cape Campbell**	**1.59**	**160**	P	Pn	10 02 03.8	+0.6
CMWZ				S	Sn	10 02 31.1	+2.4
MRZ	**Mangatainoka R**	**1.64**	**105**	P	Pn	10 02 04.0	+0.3
MRZ				S	Sn	10 02 29.1	-0.3
HOWZ	**Holdsworth Sta**	**1.67**	**113**	P	Pn	10 02 04.3	+0.3
HOWZ				S	Sn	10 02 29.4	-0.6
PKVZ	**Pokaka**	**1.72**	**57**	P	Pn	10 02 04.2	-0.5
PKVZ				S	Sn	10 02 30.4	-0.6
POWZ	**Post Office Ro**	**1.75**	**95**	P	Pn	10 02 04.9	+0.2
POWZ				S	Sn	10 02 31.1	-0.2
MTVZ	**Mangateitei**	**1.75**	**61**	P	Pn	10 02 04.5	-0.4
MTVZ				S	Sn	10 02 31.6	0.0
MSWZ	**Moikau Station**	**1.77**	**132**	P	Pn	10 02 05.1	+0.1
MSWZ				S	Sn	10 02 31.3	-0.6
MTW	**Mount Morrison**	**1.78**	**121**	P	Pn	10 02 05.1	+0.1
TRVZ	**Turoa**	**1.85**	**60**	P	Pn	10 02 05.5	-0.6
PAWZ	**Paruwai Farm**	**1.85**	**128**	P	Pn	10 02 05.9	0.0
WNVZ	**Wahianoa**	**1.87**	**61**	P	Pn	10 02 05.7	-0.6
FWVZ	**Far West T-bar**	**1.88**	**59**	P	Pn	10 02 05.7	-0.7
PLWZ	**Palliser**	**1.88**	**135**	P	Pn	10 02 06.0	-0.2
WHVZ	**Whangaehu Hut**	**1.88**	**60**	P	Pn	10 02 06.0	-0.5
TIWZ	**Tintock**	**1.90**	**107**	P	Pn	10 02 06.7	+0.3
TSZ	**Takapari Road**	**1.90**	**85**	P	Pn	10 02 06.3	-0.2
PRWZ	**Pori Road**	**1.92**	**100**	P	Pn	10 02 07.2	+0.6
MOVZ	**Moawhango**	**1.94**	**65**	P	Pn	10 02 06.0	-0.8
TUVZ	**Tukino**	**1.94**	**60**	P	Pn	10 02 06.5	-0.4
NGZ	**Ngauruhoe**	**1.95**	**57**	P	Pn	10 02 06.4	-0.8
DSZ	**Denniston Nort**	**1.96**	**220**	P	Pn	10 02 05.9	-1.1
SNVZ	**South Ngauruho**	**1.97**	**58**	P	Pn	10 02 06.7	-0.6
WTVZ	**West Tongariro**	**1.98**	**56**	P	Pn	10 02 06.7	-0.7
NNVZ	**North Ngauruho**	**1.98**	**56**	P	Pn	10 02 06.7	-0.8
OTVZ	**Oturere**	**2.00**	**58**	P	Pn	10 02 07.0	-0.7
TMWZ	**Te Maipa**	**2.02**	**116**	P	Pn	10 02 07.7	+0.1
TRWZ	**Traveller**	**2.02**	**125**	P	Pn	10 02 07.7	0.0
HIZ	**Hauiti**	**2.03**	**32**	P	Pn	10 02 06.6	-1.3
NTVZ	**North Tongarir**	**2.04**	**56**	P	Pn	10 02 07.2	-0.9
ETVZ	**East Tongariro**	**2.04**	**58**	P	Pn	10 02 07.6	-0.5
DVHZ	**Dannevirke**	**2.05**	**92**	P	Pn	10 02 07.8	-0.2
TMVZ	**Te Maari**	**2.05**	**57**	P	Pn	10 02 07.7	-0.5
PNHZ	**Pukenui**	**2.11**	**82**	P	Pn	10 02 08.3	-0.3
BHHZ	**Black Hill Sta**	**2.12**	**70**	P	Pn	10 02 07.8	-1.1
KATZ	**Kakaramea**	**2.13**	**54**	P	Pn	10 02 08.4	-0.6
BFZ	**Birch Farm**	**2.15**	**102**	P	Pn	10 02 09.0	0.0
KHZ	**Kahutara**	**2.16**	**179**	P	Pn	10 02 08.3	-0.9
WPHZ	**Waipukurau**	**2.27**	**86**	P	Pn	10 02 10.3	-0.1
ANWZ	**Angora Road**	**2.29**	**96**	P	Pn	10 02 11.1	+0.5
KRHZ	**Kereru**	**2.29**	**76**	P	Pn	10 02 10.2	-0.6
WATZ	**Wairara**	**2.32**	**49**	P	Pn	10 02 10.2	-0.9
KWHZ	**Kaweka Forest**	**2.40**	**71**	P	Pn	10 02 11.8	-0.3
PRHZ	**Porangahau**	**2.41**	**91**	P	Pn	10 02 12.4	+0.4
BKZ	**Black Stump Fm**	**2.56**	**66**	P	Pn	10 02 12.4	-1.4
MCHZ	**McNeill Hill**	**2.60**	**73**	P	Pn	10 02 14.6	+0.4
KAHZ	**Kahuranaki**	**2.64**	**81**	P	Pn	10 02 14.5	-0.3
LTZ	**Lake Taylor**	**2.69**	**200**	P	Pn	10 02 13.8	-1.6
GVZ	**Greta Valley S**	**2.73**	**187**	P	Pn	10 02 14.1	-1.7
NMHZ	**Naumai**	**2.81**	**67**	P	Pn	10 02 16.8	0.0
ARHZ	**Aropaoanui**	**2.88**	**71**	P	Pn	10 02 16.9	-0.7
INZ	**Inchbonnie**	**2.91**	**211**	P	Pn	10 02 15.8	-2.1
MTHZ	**Maungataniwha**	**2.94**	**63**	P	Pn	10 02 17.0	-1.5
AMCZ	**Amberley**	**2.99**	**192**	P	Pn	10 02 17.0	-1.9
TARZ	**Mount Tarawera**	**3.09**	**50**	P	Pn	10 02 25.7	+5.5
KARZ	**Kaharoa**	**3.09**	**45**	P	Pn	10 02 25.3	+5.1
WHHZ	**Waihua**	**3.12**	**69**	P	Pn	10 02 24.9	+4.4
RTZ	**Ruatahuna**	**3.16**	**60**	P	Pn	10 02 18.8	-2.3
OXZ	**Oxford**	**3.26**	**199**	P	Pn	10 02 19.6	-2.6
TGRZ	**Tauranga**	**3.32**	**41**	P	Pn	10 02 23.3	+0.4
SNGZ	**Shannon Statio**	**3.32**	**65**	P	Pn	10 02 24.6	+1.6
MARZ	**Manawahe**	**3.35**	**49**	P	Pn	10 02 21.4	-2.1
OPRZ	**Ohinepanea**	**3.39**	**46**	P	Pn	10 02 20.1	-3.7
OKCZ	**Okains Bay**	**3.48**	**185**	P	Pn	10 02 22.4	-2.6
MQZ	**McQueen's Vall**	**3.51**	**190**	P	Pn	10 02 22.1	-3.2
MHGZ	**Mahia Peninsul**	**3.58**	**74**	P	Pn	10 02 25.0	-1.2
RACZ	**Rakaia**	**3.62**	**196**	P	Pn	10 02 24.0	-2.6
MBAZ	**Motutapu North**	**3.65**	**18**	P	Pn	10 02 28.8	+1.7
WIAZ	**Waiheke Island**	**3.69**	**21**	P	Pn	10 02 26.3	-1.3
WACZ	**Wakanui South**	**3.89**	**198**	P	Pn	10 02 27

KRBS	**Karabastau**	**1.14**	**53**	*e*P		**Pg**	**10 03 35.0**	**-1.6**
	baz=54							
KRBS				*e*S		**Sg**	**10 03 50.0**	**-1.4**
	baz=54							
KRBS	**Karabastau**	**1.14**	**53**	*e*P		**Pg**	**10 03 35.0**	**-1.6**
	2.6nm,0.2s							
KRBS				*e*S		**Sg**	**10 03 50.0**	**-1.4**
	23nm,0.2s							
KRBS	**Karabastau**	**1.14**	**53**	P		**Pg**	**10 03 35.0**	**-1.6**
	2.6nm,0.2s							
KRBS				S		**Sg**	**10 03 50.0**	**-1.4**
	23nm,0.2s							
BOOM	**Boomskoye usch**	**1.25**	**115**	⇑*i*P		**Pg**	**10 03 36.9**	**-1.7**
	baz=15							
BOOM				⇑*i*S		**Sg**	**10 03 53.6**	**-1.2**
	baz=15							
MTBS	**Maitube**	**1.48**	**85**	*e*P		**Pn**	**10 03 40.9**	**-0.4**
	baz=85							
MTBS				*e*S		**Sb**	**10 04 01.0**	**-0.2**
	baz=85							
MTBS	**Maitube**	**1.48**	**85**	*e*P		**Pn**	**10 03 40.9**	**-0.4**
	5.8nm,0.4s							
MTBS				*e*S		**Sb**	**10 04 01.0**	**-0.2**
	15nm,0.2s							
MTBS	**Maitube**	**1.48**	**85**	P		**Pn**	**10 03 40.9**	**-0.4**
	5.8nm,0.4s							
MTBS				S		**Sb**	**10 04 01.0**	**-0.2**
	15nm,0.2s							
ULHL	**Ulahol**	**1.56**	**119**	⇓P		**Pn**	**10 03 42.0**	**-0.5**
	3.1nm,0.1s,SNR=18							
ULHL				⇑S		**Sn**	**10 04 03.2**	**+0.4**
	10nm,0.2s							
ULHL	**Ulahol**	**1.56**	**119**	⇓*i*P		**Pn**	**10 03 42.4**	**-0.1**
	baz=19							
ULHL				⇓*i*S		**Sn**	**10 04 03.6**	**+0.8**
	baz=19							
IZV	**Izvestkoviy**	**1.62**	**89**	*e*P		**Pn**	**10 03 43.9**	**+0.7**
	6.4nm,0.2s							
IZV				*e*S		**Sn**	**10 04 05.4**	**+1.2**
	26nm,0.3s							
KUU	**Kurty**	**1.65**	**58**	*e*P		**Pn**	**10 03 43.8**	**+0.2**
	baz=58							
KUU				*e*S		**Sn**	**10 04 05.6**	**+0.8**
	baz=58							
KUU	**Kurty**	**1.65**	**58**	*e*P		**Pn**	**10 03 43.8**	**+0.2**
	2.2nm,0.2s							
KUU				*e*S		**Sn**	**10 04 05.6**	**+0.8**
	52nm,0.2s							
KUU	**Kurty**	**1.65**	**58**	P		**Pn**	**10 03 43.8**	**+0.2**
	2.2nm,0.2s							
KUU				S		**Sn**	**10 04 05.6**	**+0.8**
	52nm,0.2s							
KTBS	**Karatobe**	**1.79**	**67**	*e*P		**Pn**	**10 03 46.0**	**+0.4**
	baz=67							
KTBS				*e*S		**Sn**	**10 04 09.4**	**+1.0**
	baz=67							
KTBS	**Karatobe**	**1.79**	**67**	*e*P		**Pn**	**10 03 46.0**	**+0.4**
	3.4nm,0.3s							
KTBS				*e*S		**Sn**	**10 04 09.4**	**+1.0**
	23nm,0.2s							
KTBS	**Karatobe**	**1.79**	**67**	P		**Pn**	**10 03 46.0**	**+0.4**
	3.4nm,0.3s							
KTBS				S		**Sn**	**10 04 09.8**	**+1.4**
	23nm,0.2s							
TNSS	**Tian-Shan**	**1.86**	**89**	*e*P		**Pn**	**10 03 47.7**	**+0.9**
	baz=89							
TNSS				*e*S		**Sb**	**10 04 12.4**	**+0.1**
	baz=89							
TNSS	**Tian-Shan**	**1.86**	**89**	*e*P		**Pn**	**10 03 47.7**	**+0.9**
	5.3nm,0.2s							
TNSS				*e*S		**Sb**	**10 04 12.4**	**+0.1**
	14nm,0.4s							
TNSS	**Tian-Shan**	**1.86**	**89**	P		**Pn**	**10 03 47.7**	**+0.9**
	5.3nm,0.2s							
TNSS				S		**Sb**	**10 04 12.4**	**+0.1**
	14nm,0.4s							
MDOK	**Medeo**	**1.94**	**85**	*e*P		**Pn**	**10 03 48.4**	**+0.8**
	baz=85							
MDOK				*e*S		**Sn**	**10 04 13.9**	**+1.8**
	baz=85							
MDOK	**Medeo**	**1.94**	**85**	*e*P		**Pn**	**10 03 48.4**	**+0.8**
	2.3nm,0.3s							
MDOK				*e*S		**Sn**	**10 04 13.9**	**+1.8**
	19nm,0.3s							
MDOK	**Medeo**	**1.94**	**85**	⇑Pg		**Pn**	**10 03 48.6**	**+1.0**
MDOK				⇑Lg		Lg	10 04 15.0	
MDOK	**Medeo**	**1.94**	**85**	Pg		**Pn**	**10 03 48.4**	**+0.8**
	2.3nm,0.3s							
MDOK				Lg		Lg	10 04 13.9	
	19nm,0.3s							
KOTS	**Kotyrbulak**	**1.99**	**83**	*e*P		**Pb**	**10 03 50.7**	**-0.3**
	1.8nm,0.2s							
KOTS				*e*S		**Sb**	**10 04 17.2**	**+1.4**
	20nm,0.2s							
KOTS	**Kotyrbulak**	**1.99**	**83**	Pg		**Pb**	**10 03 50.7**	**-0.3**
	1.8nm,0.2s							
KOTS				Lg		Lg	10 04 17.2	
	20nm,0.2s							
CHKK	**Chushkaly**	**2.05**	**65**	*e*P		**Pb**	**10 03 51.2**	**-0.7**
	2.7nm,0.1s							
CHKK				*e*S		**Sb**	**10 04 18.0**	**+0.5**
	24nm,0.2s							
CHKK	**Chushkaly**	**2.05**	**65**	Pg		**Pb**	**10 03 51.2**	**-0.7**
	2.7nm,0.1s							
CHKK				Lg		Lg	10 04 18.0	
	24nm,0.2s							
KDJ	**Kajisay**	**2.23**	**113**	⇑*i*P		**Pn**	**10 03 52.2**	**+0.5**
	baz=13							
KDJ				⇑*i*S		**Sn**	**10 04 20.0**	**+0.6**
	baz=13							
ANVS	**Anan'yevo**	**2.41**	**95**	⇓*i*P		**Pn**	**10 03 54.4**	**+0.3**
	baz=95							
ANVS				⇓*i*S		**Sn**	**10 04 23.7**	**0.0**
	baz=95							
ARXS	**Arharly**	**2.75**	**63**	*e*P		**Pb**	**10 04 03.1**	**-0.8**
	1.6nm,0.4s							
ARXS				*e*S		**Sb**	**10 04 38.3**	**+0.6**
	22nm,0.5s							
KK31	**Karatay Array**	**2.86**	**273**	Pg		**Pb**	**10 04 04.8**	**-0.9**
	0.5nm,0.2s,baz=92,slow=15,SNR=24							
KK31				Lg		Lg	10 04 41.1	
	2.8nm,0.4s,baz=94,slow=28,SNR=14							
SATY	**Saty**	**2.93**	**88**	*e*P		**Pb**	**10 04 06.5**	**-0.5**
	1.3nm,0.2s							
SATY				*e*S		**Sb**	**10 04 44.3**	**+1.5**
	8.5nm,0.2s							
SATY	**Saty**	**2.93**	**88**	Pg		**Pb**	**10 04 06.5**	**-0.5**
	1.3nm,0.2s							
SATY				Lg		Lg	10 04 44.3	
	8.5nm,0.2s							
KPKS	**Kokpek**	**3.15**	**80**	*e*P		**Pb**	**10 04 10.4**	**-0.4**
	2.1nm,0.3s							
KPKS				*e*S		**Sb**	**10 04 50.9**	**+1.6**
	10nm,0.3s							
IUG	**Iuzhnay**	**3.35**	**256**	*e*P		**Pb**	**10 04 15.0**	**+0.9**
	62nm,0.3s							
IUG				*e*S		**Sg**	**10 04 58.8**	**-3.4**
	10nm,0.4s							
IUG	**Iuzhnay**	**3.35**	**256**	Pg		**Pb**	**10 04 15.0**	**+0.9**
	62nm,0.3s							
IUG				Lg		Lg	10 04 58.8	
	10nm,0.4s							
BRLS	**Borolday**	**3.35**	**272**	*e*P		**Pb**	**10 04 16.0**	**+1.9**
	1.6nm,0.2s							
BRLS				*e*S		**Sg**	**10 05 00.5**	**-1.7**
	3.3nm,0.6s							
BRLS	**Borolday**	**3.35**	**272**	Pg		**Pb**	**10 04 16.0**	**+1.9**
	1.6nm,0.2s							
BRLS				Lg		Lg	10 05 00.5	
	3.3nm,0.6s							
PDGK	**Podgornoye**	**3.73**	**84**	Pg		**Pb**	**10 04 20.7**	**+0.2**
	0.3nm,0.2s							
PDGK				Lg		Lg	10 05 08.7	
	1.9nm,0.5s							
KAPS	**Kapalarasan**	**4.22**	**56**	*e*P		**Pb**	**10 04 29.2**	**+0.3**
	0.6nm,0.1s							
KAPS				*e*S		**Sb**	**10 05 23.0**	**+3.3**
	6.2nm,0.4s							

NEIC ***26*** *10:07:01.7±1.5,52.1°N±0.2°×171.2°W±0.1°,h36km±23km, mb3.6/7,ML3.0/17(AEIC), Error ellipse: s-maj=24.6km s-min=5.2km az=159.0*

AEIC 26 10:07:02±1.4,**52.0°N**±0.2°×**171.12W**±0.10°,**h11**km±8km, **Error ellipse: s-maj=23.6km s-min=4.7km az=161.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.68**	**54**		**Pn**	10 07 26.8	-4.6
NIKH	**Nikolski High**	**1.68**	**54**		Sn	10 07 45.6	-7.3
KOFP	**Korovin Flat P**	**1.86**	**279**		Pn	10 07 30.2	-3.6
ATKA	**Atka Island**	**1.91**	**277**		Pn	10 07 30.3	-4.1
ATKA					Sn	10 07 51.9	-6.5
KOKL	**Mount Kliuchef**	**1.93**	**280**		Pn	10 07 31.4	-3.4
OKFG	**Magazine Ridge**	**2.40**	**53**		Pn	10 07 37.8	-3.4
OKFG					Sn	10 08 06.1	-4.4
GSTD	**Great Sitkin T**	**3.11**	**273**		Pn	10 07 47.4	-3.6
UNV	**Unalaska Valle**	**3.34**	**55**		Pn	10 07 50.8	-3.3
ADK	**Adak**	**3.45**	**270**		Pn	10 07 52.9	-2.7
KIWB	**Kanaga Island**	**3.74**	**270**		Pn	10 07 57.0	-2.6
KIMD	**Kanaga Island**	**3.80**	**269**		Pn	10 07 57.9	-2.5
AKUT	**Akutan**	**3.86**	**54**	Pn	Pn	10 07 57.9	-3.4
RSO	**Redoubt South**	**13.22**	**43**	Pn	Pn	10 10 04.1	-5.6
BRLK	**Bradley Lake**	**13.71**	**48**	Pn	Pn	10 10 09.8	-6.3
CAST	**Castle Rocks**	**15.22**	**34**	Pn	Pn	10 10 33.3	-3.3
CAST				IAmb	IAmb	10 10 37.7	
	comp=Z,4.4nm,1.1s						
I23K	**Minto, Yukon-K**	**17.24**	**32**		Pn	10 10 58.5	-4.0
J25K	**Salcha River,**	**18.32**	**37**	P	Pn	10 11 09.2	-6.6
J25K				IAmb	IAmb	10 11 15.7	
	comp=Z,2.6nm,1.1s						
BCAR	**Beaver Creek A**	**19.04**	**43**	P	P	10 11 19.6	-4.3
TOLK	**Toolik Lake Re**	**19.59**	**24**	P	P	10 11 26.7	-3.2
TOLK				IAmb	IAmb	10 11 31.7	
	comp=Z,8.9nm,1.4s						
HYT	**Haines Junctio**	**20.36**	**51**	P	P	10 11 34.5	-3.9
HYT				IAmb	IAmb	10 11 37.2	
	comp=Z,6.0nm,1.1s						
SKAG	**Skagway**	**21.26**	**55**	P	P	10 11 45.2	-2.7

KRNET 26 10:17:40.7±0.1,43.54N×69.47E,mb2.4,8C,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.87**	**119**	P	Pg	10 17 56.5	-0.9
	0.4nm,0.4s,baz=318,slow=17,SNR=16						
KK31				S	Sg	10 18 08.6	-0.1
	2.3nm,0.3s,baz=318,slow=29,SNR=121						
KK31				⇑Rg	Rg	10 18 13.7	
	96nm,0.9s,baz=319,slow=37,SNR=28						
KKAR	**Karatay Array**	**0.87**	**119**	⇑*i*P	Pg	10 17 57.4	0.0
	baz=19						
KKAR				⇑*i*S	Sg	10 18 09.4	+0.7
	baz=19						
TRKS	**Terek-Say**	**2.35**	**148**	⇑*i*P	Pb	10 18 22.9	-1.2
	baz=48						
TRKS				⇑*i*S	Sb	10 18 53.8	0.0
	baz=48						
ARK	**Arkit**	**2.53**	**133**	⇑*i*P	Pn	10 18 24.1	+1.0
	baz=32						
ARK				⇑*i*S	Sn	10 18 56.2	+1.5
	baz=32						
EKS2	**Erkin-Say**	**3.27**	**104**	⇑*i*P	Pn	10 18 35.1	+1.7
	baz=4.0						

JMA ***26*** *10:21:47.0,39.6°N×142.11E,h48km±1km,M3.8 Broadband fault plane solution: P waves. NP1: ϕs20.00000°,δ54.00000°,λ.81.00000°. NP2:ϕs214.00000°, δ37.00000°,λ.102.00000°. Principal axes: T Plg79.0000°, Azm255.0000°; N Plg7.0000°, Azm25.0000°; P Plg8.0000°, Azm116.0000°;*

JMA Felt I J1.

NEIC ***26*** *10:21:47.5±1.4,39.6°N±0.03°×142.0°E±0.1°,h50km±9km, mb4.2/7 Error ellipse: s-maj=14.1km s-min=4.1km az=93.0*

NIED ***26*** *10:21:47.1,39.6°N×142.11E,h48km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.36; Mθθ-0.04; Mϕϕ-2.32; Mrθ0.89; Mθϕ-0.26; Mϕr2.07; Fault plane solution: M₀3.26000×10¹⁴ NP1: ϕs176.00000°,δ24.00000°,λ70.00000°. NP2:ϕs18.00000°, δ67.00000°,λ.99.00000°.*

IDC ***26*** *10:21:49.3±2.7,39.59N×142.18E,h73km±23km,mb3.5/6, mb1 3.6/10,mb1mx3.3/49,mbtmp3.8/10 Error ellipse: s-maj=30.4km s-min=19.4km az=110.0*

ISC 26 10:21:46.9±1.0,39.62N±0.04°×142.14E±0.07°,h47km±7km, **n46,σ1°17/49,mb4.1/10,1C-9D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.25**	**260**	P	**Pn**	**10 21 55.4**	**+0.1**
MIYJ				S	**Sn**	**10 22 01.2**	**0.0**
JTH	**Tanohata**	**0.38**	**327**	⇓P	**Pn**	**10 21 56.5**	**-0.1**
JTH				S	**Sn**	**10 22 03.2**	**-0.3**
OFUJ	**Ofunato**	**0.65**	**214**	⇑P	**Pn**	**10 21 59.8**	**-0.1**
OFUJ				S	**Sn**	**10 22 08.8**	**-0.4**
JOM	**Ohasama**	**0.67**	**258**	⇓P	**Pn**	**10 22 00.3**	**+0.2**
JOM				S	**Sn**	**10 22 09.7**	**+0.1**
JKEN	**Kujiedanarisaw**	**0.67**	**331**	⇓P	**Pn**	**10 21 59.8**	**-0.3**
JKEN				S	**Sn**	**10 22 09.0**	**-0.7**
JKZ	**Kuzumaki**	**0.72**	**301**	⇓P	**Pn**	**10 22 00.8**	**0.0**
JKZ				S	**Sn**	**10 22 10.4**	**-0.5**
JANG	**Nango**	**0.89**	**328**	⇓P	**Pn**	**10 22 02.7**	**-0.4**
JANG				S	**Sn**	**10 22 14.0**	**-0.9**
JMK	**Ichinoseki**	**0.97**	**227**	⇓P	**Pn**	**10 22 04.2**	**0.0**
JMK				S	**Sn**	**10 22 16.7**	**-0.2**
JRG	**Rokugo**	**1.18**	**260**	⇓P	**Pn**	**10 22 07.0**	**0.0**
JAH	**Hinai**	**1.29**	**297**	⇓P	**Pn**	**10 22 08.5**	**+0.1**
JAH				S	**Sn**	**10 22 25.0**	**+0.5**
JIO	**Ouri**	**1.31**	**208**	P	**Pn**	**10 22 08.9**	**+0.1**
JTM	**Tenmabayashi**	**1.42**	**325**	⇓P	**Pn**	**10 22 10.2**	**-0.1**
JTM				S	**Sn**	**10 22 27.6**	**-0.3**
JTM	**Tenmabayashi**	**1.42**	**325**	Pn	**Pn**	**10 22 10.5**	**+0.2**
JMM	**Marumori**	**2.04**	**211**		**Pn**	**10 22 18.0**	**-0.8**
ERM	**Erimo**	**2.52**	**18**	Pn	**Pn**	**10 22 26.2**	**+0.9**
JEW	**Eniwo**	**3.26**	**351**	Pn	**Pn**	**10 22 35.9**	**+0.5**
JSD	**Sado**	**3.42**	**244**	Pn	**Pn**	**10 22 36.9**	**-0.7**
JYT	**Yasato**	**3.72**	**205**	Pn	**Pn**	**10 22 41.8**	**+0.1**
MJB9	**Matsu-Tunnel**	**4.36**	**227**		**Pn**	**10 22 49.8**	**-0.8**
MAJO	**Matsushiro**	**4.36**	**226**	Pn	**Pn**	**10 22 49.9**	**-0.7**
MJAR	**Matsushiro Arr**	**4.36**	**226**	P	**Pn**	**10 22 53.6**	**+2.9**
	0.5nm,0.3s,baz=32,slow=13,SNR=26						
MJAR	**Matsushiro Arr**	**4.36**	**226**	Pn	**Pn**	**10 22 49.3**	**-1.4**
ASAJ	**Asahikawa**	**4.51**	**4**	P	**Pn**	**10 22 53.4**	**+0.8**
	1.6nm,0.3s,baz=182,slow=7.9,SNR=9.0						
JGF	**Kuroka**	**5.52**	**225**	Pn	**Pn**	**10 23 07.2**	**+0.6**
USA0B	**Ussuriysk Arra**	**8.84**	**304**	Pn	**Pn**	**10 23 49.0**	**-2.9**
USRK	**Ussuriysk Ar.**	**8.84**	**304**	P	**Pn**	**10 23 55.0**	**+3.0**
	baz=118,slow=16,SNR=10						
USRK	**Ussuriysk Ar.**	**8.84**	**304**	Pn	**Pn**	**10 23 52.7**	**+0.7**
KSRS	**Korea Array**	**11.34**	**264**	P	**Pn**	**10 24 30.9**	**+4.7**
	0.5nm,0.3s,baz=76,slow=15,SNR=4.1						
SEY	**Seymchan**	**24.15**	**11**	P	**P**	**10 26 59.3**	**+1.1**
	1.1nm,0.7s,baz=195,slow=9.9,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**29.09**	**126**	T	T	10 58 19.6	
	baz=318,slow=75,SNR=152						
H11N1	**WAKE ISLAND Hy**	**29.10**	**126**	T	T	10 58 15.6	
	baz=318,slow=75,SNR=142						
H11N3	**WAKE ISLAND Hy**	**29.11**	**126**	T	T	10 58 16.8	
	baz=318,slow=75,SNR=160						
H11S1	**WAKE ISLAND Hy**	**29.89**	**128**	T	T	10 59 18.9	
	baz=319,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.89**	**128**	T	T	10 59 18.8	
	baz=319,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**29.90**	**128**	T	T	10 59 20.1	
	baz=319,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**40.64**	**310**	P	**P**	**10 29 22.0**	**0.0**
	1.6nm,0.4s,baz=92,slow=7.9,SNR=6.6						
SVW2	**Sparrevohn**	**43.14**	**39**	P	**P**	**10 29 42.1**	**-0.3**
SVW2				IAmb	IAmb	10 30 09.1	
	comp=Z,9.3nm,1.2s						
MK31	**Makanchi Array**	**43.27**	**300**	P	**P**	**10 29 43.1**	**-0.6**
MK31				IAmb	IAmb	10 29 44.3	
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**43.27**	**300**	P	**P**	**10 29 43.4**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=84,slow=9.3,SNR=10						
KURK	**Kurchatov**	**44.83**	**306**	P	**P**	**10 29 55.5**	**-0.5**
KURK				IAmb	IAmb	10 29 58.2	
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**51.83**	**28**	P	**P**	**10 30 50.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=271,slow=4.9,SNR=3.8						
INK	**Inuvik**	**51.83**	**28**	IAmb	IAmb	10 30 52.0	
	comp=Z,4.6nm,1.3s						
ABKAR	**Akbulak array**	**56.73**	**309**	P	**P**	**10 31 25.4**	**-0.2**
ABKAR				IAmb	IAmb	10 31 25.7	
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**59.70**	**189**	P	**P**	**10 31 45.5**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=8.6,slow=7.1,SNR=4.7						
FINES	**FINESS Array B**	**66.80**	**332**	P	**P**	**10 32 32.9**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=5.4,slow=5.9,SNR=3.5						
NC405	**NORSAR Array S**	**71.82**	**337**	P	**P**	**10 33 03.7**	**-0.4**

IDC 26 10:48:03.5±1.1,12.37N×145.32E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.5/51,mbtmp3.5/4,MS3.0/5,Ms1 3.0/5, ms1mx2.6/44,Error ellipse: s-maj=52.6km s-min=19.1km az=97.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.29**	**340**	P	Pn	10 48 28.8	+0.1
	75nm,0.3s,baz=139,slow=6.5,SNR=40						
GUMO				Sn	Sg	10 48 43.7	-1.2
	157nm,0.3s,baz=49,slow=19,SNR=7.9						
GUMO				LR	LR	10 49 21.0	
	comp=Z,134nm,18.8s,baz=176,slow=60						
DAV	**Davao City (W)**	**20.15**	**257**	LR	LR	10 59 04.0	
	comp=Z,22nm,21.6s,baz=166,slow=33						
JHJ	**Hachijo jima 2**	**21.26**	**347**	LR	LR	11 00 35.5	
	comp=Z,36nm,19.1s,baz=206,slow=35						
MJAR	**Matsushiro Arr**	**24.90**	**346**	LR	LR	11 03 09.2	
	comp=Z,24nm,20.3s,baz=188,slow=36						
CTA	**Charters Tower**	**32.27**	**178**	LR	LR	11 07 59.3	
	comp=Z,71nm,18.1s,baz=253,slow=37						
WRA	**Warramunga Arr**	**33.88**	**199**	P	P	10 54 48.0	-0.2
	1.0nm,0.8s,baz=23,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**37.52**	**197**	P	P	10 55 19.4	0.0
	0.3nm,0.7s,baz=24,slow=9.7,SNR=8.6						
KLR	**Kul'dur**	**38.43**	**346**	LR	LR	11 12 46.3	
	comp=Z,28nm,18.1s,baz=219,slow=39						
ILAR	**Eielson Array**	**69.47**	**25**	P	P	10 59 12.6	-0.9
	0.3nm,0.5s,baz=248,slow=5.3,SNR=7.2						
YKA	**Yellowknife Ar**	**83.73**	**27**	P	P	11 00 35.3	+1.1
	0.2nm,0.5s,baz=287,slow=5.0,SNR=5.2						

SJA ***26*** *10:54:16.2±0.7,31.74S×72.37W,h16km±5km,ML4.0, MW4.2*

IDC ***26*** *10:54:17.6±1.3,31.69S×72.35W,h0km,mb4.2/4, mb1 4.1/7,mb1mx3.9/42,mbtmp4.0/7,ML4.0/3,MS3.2/1, Ms1 3.2/1,ms1mx2.6/51,Error ellipse: s-maj=52.8km s-min=22.3km az=101.0*

NEIC ***26*** *10:54:19.8±1.4,31.76S±0.02°×72.08W±0.07°,h10km±1km, mb4.5/3,Mwr3.9/19,ML3.8(GUC), Error ellipse: s-maj=10.9km s-min=2.9km az=284.0*

GUC ***26*** *10:54:19.5±0.6,31.71S×72.15W,h40km±2km,ML3.9*

NEIC ***26*** *10:54:19.8,31.76S×72.08W,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-2.46; Mθθ0.23; Mϕϕ2.23; Mrθ1.94; Mθϕ0.14; Mϕr-8.58; Fault plane solution: M₀9.11000×10¹⁴ NP1:ϕs193.46000°, δ8.01000°,λ-64.70000°. NP2:ϕs347.94000°,δ82.76000°, λ-93.44000°. Principal axes: T 8.9105, Plg38.0000°, Azm81.0000°; N 0.3808, Plg3.0000°, Azm348.0000°; P -9.2913, Plg52.0000°, Azm254.0000°;*

ISC 26 10:54:19.0±1.7,31.71S±0.02°×72.16W±0.05,h9km±11km, **n94,σ1°52/130,mb4.5/3,2C-7D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**1.11**	**63**		**Pb**	**10 54 39.3**	**-1.1**
CO02				Sg	**Sb**	**10 54 54.5**	**-0.6**
CO02	**Combarbal**	**1.11**	**63**	⇑*i*P	**Pb**	**10 54 39.3**	**-1.1**
CO02				*e*S	**Sb**	**10 54 54.1**	**-1.0**
CO02				IAML		10 54 55.3	
	comp=N,18μm,0.2s						
CO02	**Combarbal**	**1.11**	**63**	*e*P	**Pb**	**10 54 39.4**	**-1.1**
CO02				*e*S	**Sb**	**10 54 54.5**	**-0.6**
CO02				IAML		10 54 55.1	
	comp=Z,12μm,0.3s						
VA06	**Catapilco**	**1.12**	**140**		**Pb**	**10 54 39.6**	**-0.9**
VA06				Sg	**Sb**	**10 54 53.1**	**-2.0**
VA06	**Catapilco**	**1.12**	**140**	⇓*i*P	**Pb**	**10 54 39.6**	**-0.9**
VA06				*i* S	**Sb**	**10 54 54.0**	**-1.2**
VA06				IAML		10 54 59.7	
	comp=E,4μm,0.5s						
CO06	**Fray Jorge**	**1.13**	**24**		**Pb**	**10 54 39.7**	**-0.9**
CO06	**Fray Jorge**	**1.13**	**24**	*e*P	**Pb**	**10 54 39.6**	**-1.0**
CO06				*e*S	**Sb**	**10 54 54.4**	**-1.0**
CO06				IAML		10 55 02.3	
	comp=E,3μm,0.5s						
VA01	**Torpederas**	**1.38**	**162**		**Pn**	**10 54 43.6**	**-0.8**
VA01	**Torpederas**	**1.38**	**162**	*e*P	**Pn**	**10 54 42.8**	**-1.6**
ROCH	**El Roble**	**1.59**	**143**	⇓*i*P	**Pn**	**10 54 46.6**	**-0.9**
ROCH				*e*S	**Sn**	**10 55 07.8**	**-0.5**
ROCH				IAML		10 55 15.1	
	comp=N,3μm,0.5s						
ROC1	**El Roble**	**1.59**	**143**		**Pn**	**10 54 44.1**	**-3.4**
ROC1	**El Roble**	**1.59**	**143**	*e*P	**Pn**	**10 54 44.5**	**-3.1**
ROC1				*e*S	**Sn**	**10 55 06.8**	**-1.6**
VA03	**San Esteban**	**1.72**	**128**		**Pn**	**10 54 48.8**	**-0.4**
VA03	**San Esteban**	**1.72**	**128**	⇓*e*P	**Pn**	**10 54 48.9**	**-0.4**
VA03				*e*S	**Sn**	**10 55 10.8**	**-0.6**
VA03				IAML		10 55 16.8	
	comp=N,2μm,0.4s						
VA03	**San Esteban**	**1.72**	**128**	*e*P	Pn	10 54 43.6	-5.6
VA03				*e*P	**Pb**	**10 54 49.0**	**-1.8**
VA03				*e*S	**Sg**	**10 55 16.5**	**+2.1**
VA03				IAML		10 55 18.4	
	comp=Z,1μm,0.6s						
MT02	**Curacav**	**1.77**	**151**		**Pn**	**10 54 49.1**	**-0.7**
MT02	**Curacav**	**1.77**	**151**	⇓*i*P	**Pn**	**10 54 49.1**	**-0.7**
MT02				*e*S	**Sn**	**10 55 10.1**	**-2.3**
MT02	**Curacav**	**1.77**	**151**	*e*P	**Pn**	**10 54 49.2**	**-0.6**
MT02				*e*S	**Sb**	**10 55 13.8**	**-0.1**
MT02				IAML		10 55 19.4	
	comp=Z,736nm,0.7s						
PEL

	comp=N,562nm,0.4s								
AUSP	**Uspallata**	**2.41**	**103**		*e*P		**Pb**	**10 55 01.0**	**-1.7**
AUSP					*e*S		**Sb**	**10 55 34.2**	**+1.6**
RTLS	**Leoncito**	**2.44**	**93**		*e*P		**Pb**	**10 55 01.0**	**-2.2**
RTLS					*e*S		**Sb**	**10 55 34.2**	**+0.8**
RTLS					*e*S		**Sg**	**10 55 34.7**	**-2.7**
RTLS					IAML			10 55 38.6	
	comp=Z,798nm,1.1s								
CO01	**Juntas del Tor**	**2.48**	**46**				**Pn**	**10 55 00.5**	**+0.8**
CO01	**Juntas del Tor**	**2.48**	**46**		*e*P		**Pn**	**10 55 00.5**	**+0.8**
CO01					*e*S		**Sn**	**10 55 29.8**	**-0.4**
CO01					IAML			10 55 36.1	
	comp=E,694nm,0.3s								
CO01	**Juntas del Tor**	**2.48**	**46**		*e*P		**Pn**	**10 55 00.6**	**+0.8**
CO01					*e*P		**Pb**	**10 55 01.0**	**-2.8**
CO01					IAML			10 55 41.0	
	comp=Z,603nm,1.1s								
BO04	**La Punta**	**2.62**	**151**		Pn		**Pn**	**10 55 02.0**	**+0.4**
BO04	**La Punta**	**2.62**	**151**	⇓	*e*P		**Pn**	**10 55 01.7**	**+0.2**
BO04					*e*S		**Sn**	**10 55 32.4**	**-1.0**
BO04					IAML			10 55 50.9	
	comp=N,365nm,0.4s								
LMEL	**Las Melosas**	**2.69**	**143**				**Pn**	**10 55 02.8**	**+0.1**
LMEL	**Las Melosas**	**2.69**	**143**		*e*P		**Pn**	**10 55 03.2**	**+0.5**
LMEL					*e*S		**Sn**	**10 55 34.4**	**-1.0**
LMEL					IAML			10 55 49.5	
	comp=N,320nm,0.5s								
AROD	**Rodeo**	**2.77**	**57**		*e*P		**Pn**	**10 55 06.0**	**+2.1**
AROD					*e*S		**Sb**	**10 55 41.1**	**-2.1**
BO01	**Tunca**	**2.82**	**162**		Pn		**Pn**	**10 55 04.0**	**-0.3**
BO01	**Tunca**	**2.82**	**162**		*e*P		**Pn**	**10 55 03.9**	**-0.4**
BO01					*e*P		Pb	10 55 04.0	-5.6
ACCO	**Cerro Coronel**	**2.88**	**68**		*e*P		**Pb**	**10 55 08.0**	**-2.7**
ACCO					*e*S		**Sb**	**10 55 43.6**	**-2.6**
LCO	**Las Campanas**	**2.97**	**25**		Pn		**Pn**	**10 55 06.3**	**-0.3**
LCO	**Las Campanas**	**2.97**	**25**		*e*P		**Pn**	**10 55 06.0**	**-0.5**
LCO					*e*S		**Sn**	**10 55 40.5**	**-2.0**
LCO	**Las Campanas**	**2.97**	**25**		*e*P		**Pn**	**10 55 06.5**	**-0.5**
ZON	**Zonda**	**2.97**	**88**				**Pn**	**10 55 06.8**	**+0.4**
ACDV	**Cuesta del Vie**	**3.03**	**60**		*e*P		**Pb**	**10 55 10.0**	**-3.2**
ACDV					*e*S		**Sb**	**10 55 48.6**	**-1.8**
ACDV					IAML			10 55 54.2	
	comp=Z,317nm,0.9s								
GO05	**Huala**	**3.30**	**177**				**Pn**	**10 55 09.4**	**-1.4**
GO05	**Huala**	**3.30**	**177**		*e*P		**Pn**	**10 55 09.7**	**-1.1**
GO05					*e*P		Pb	10 55 10.0	-7.7
GO05					*e*S		**Sg**	**10 56 02.6**	**-2.3**
AC04	**Llanos de Chal**	**3.62**	**15**		*e*P		Pn	10 55 03.8	-11
AC04					*e*S		**Sb**	**10 56 09.6**	**+2.4**
AC04					IAML			10 56 20.5	
	comp=Z,273nm,0.9s								
ML02	**Panimavida**	**4.09**	**172**		Pn		**Pn**	**10 55 21.3**	**-0.4**
AVFE	**Valle Fertil**	**4.16**	**77**		*e*P		**Pn**	**10 55 25.8**	**+3.0**
AVFE					*e*P		Pb	10 55 26.1	-6.4
AVFE					*e*S		**Sb**	**10 56 17.1**	**-5.9**
AVFE					IAML			10 56 30.4	
	comp=Z,342nm,0.9s								
RFA	**San Rafael**	**4.34**	**136**		*e*P		**Pn**	**10 55 26.6**	**+1.3**
RFA					*e*S		**Sb**	**10 56 33.1**	**+4.9**
RFA					IAML			10 56 38.6	
	comp=Z,86nm,1.4s								
GO03	**Copiap**	**4.43**	**23**				**Pn**	**10 55 27.3**	**+0.9**
AC06	**Mina Casimiro**	**4.61**	**20**		Pn		**Pn**	**10 55 30.6**	**+1.6**
APLL	**PUNTA DE LOS L**	**5.00**	**76**		*e*S		**Sb**	**10 56 47.1**	**-0.1**
BI05	**Punta Hualpn**	**5.10**	**189**		Pn		**Pn**	**10 55 34.2**	**-1.4**
MRA	**San Martin**	**5.51**	**99**		*e*P		**Pn**	**10 55 43.0**	**+1.6**
MRA					*e*S		**Sn**	**10 56 47.1**	**+2.1**
AC02	**Maricunga**	**5.53**	**29**		Pn		**Pn**	**10 55 42.0**	**0.0**
AC02	**Maricunga**	**5.53**	**29**		*e*P		**Pn**	**10 55 42.0**	**0.0**
AC01	**Pan de Azucar**	**5.71**	**14**		Pn		**Pn**	**10 55 45.5**	**+1.5**
H03N1	**Juan Fernandez**	**5.96**	**251**		T		T	11 02 35.0	
	baz=78,slow=72,SNR=386								
H03N3	**Juan Fernandez**	**5.97**	**251**		T		T	11 02 34.3	
	baz=78,slow=72,SNR=346								
H03N2	**Juan Fernandez**	**5.97**	**251**		T		T	11 02 33.9	
	baz=78,slow=72,SNR=336								
LC01	**Cunco**	**7.17**	**178**		Pn		**Pn**	**10 56 03.2**	**-0.9**
LC01	**Cunco**	**7.17**	**178**		*e*P		**Pn**	**10 56 04.0**	**-0.1**
PB10	**IPOC Station P**	**8.29**	**10**		Pn		**Pn**	**10 56 20.6**	**+1.2**
PLCA	**Paso Flores**	**9.10**	**172**		Pn		**Pn**	**10 56 30.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=327,slow=13,SNR=9.9								
LVC	**Limon Verde**	**9.51**	**18**		Pn		Pn	10 56 42.0	+5.5
	comp=Z,0.8nm,0.3s,baz=211,slow=5.9,SNR=3.4								
LVC					Sn		**Sn**	**10 58 19.8**	**-4.0**
	comp=Z,1.1nm,0.3s,baz=240,slow=16,SNR=1.7								
LVC					LR		LR	11 00 15.9	
	comp=Z,117nm,18.1s,baz=216,slow=38								
TRQA	**Tornquist**	**10.48**	**130**		Pn		**Pn**	**10 56 48.3**	**-1.2**
CPUP	**Villa Florida**	**14.03**	**71**		Pn		**Pn**	**10 57 41.4**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=246,slow=12,SNR=1.8								
SIV	**San Ignacio**	**18.62**	**35**		P		**Pn**	**10 58 38.8**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=197,slow=14,SNR=2.0								
VNA3	**Neumayer Olymp**	**51.52**	**158**		P		**P**	**11 03 25.5**	**+0.9**
VNA2	**Neumayer--Watz**	**52.16**	**158**		P		**P**	**11 03 30.1**	**+0.7**
	baz=283,slow=8.0								
SNAA	**Sanae**	**53.74**	**158**		P		**P**	**11 03 41.6**	**+0.5**
SNAA	**Sanae**	**53.74**	**158**		P		**P**	**11 03 41.4**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=260,slow=6.9,SNR=18								
SNAA	**Sanae**	**53.74**	**158**		P		**P**	**11 03 41.5**	**+0.3**
SNAA					IAmb		IAmb	11 03 42.3	
	comp=Z,3.9nm,0.7s								
TROLL	**Troll, Antarti**	**55.45**	**159**		P		**P**	**11 03 54.2**	**+0.6**
QSPA	**South Pole Qui**	**58.52**	**180**		P		**P**	**11 04 16.3**	**+0.8**
	comp=Z,3.8nm,1.0s,baz=183,slow=1.3,SNR=14								
QSPA	**South Pole Qui**	**58.52**	**180**		P		**P**	**11 04 16.3**	**+0.8**
QSPA					IAmb		IAmb	11 04 17.0	
	comp=Z,5.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**83.53**	**70**		P		**P**	**11 06 47.5**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=251,slow=8.5,SNR=8.1								
TORD	**Torodi Ar. Bea**	**83.53**	**70**		IAmb		IAmb	11 06 48.0	
	comp=Z,1.4nm,0.8s								
YKA	**Yellowknife Ar**	**99.86**	**341**		P		**Pdif**	**11 08 02.2**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=145,slow=4.8,SNR=4.5								
ZALV	**Zalesovo Beam**	**152.32**	**30**		PKPbc		**PKiKP**	**11 14 15.1**	**0.0**
	comp=Z,1.6nm,0.5s,baz=318,slow=1.9,SNR=8.0								
ZALV					PKPab		**PKPab**	**11 14 24.9**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=310,slow=4.0,SNR=6.7								
ZALV	**Zalesovo Beam**	**152.32**	**30**		PKPdf		**PKPdf**	**11 14 07.0**	**-1.0**

*NOU **26** 10:58:49.6,20˚51S×177˚55W,h648km,mb4.6/12, Fiji Islands Region*
*NEIC **26** 10:58:56.7±2.0,21˚1S±0˚1×178˚7W±0˚1,h582km±6km, mb4.5/61, Error ellipse: s-maj=18.4km s-min=16.1km az=82.0*
*IDC **26** 10:58:58.3±1.1,21˚00S×178˚93W,h597km±12km, mb3.6/20,mb1 3.8/22,mb1mx3.6/46,mbtmp4.5/22, Error ellipse: s-maj=12.7km s-min=9.5km az=133.0*
ISC 26 10:58:55.9±0.4,**21˚16S**±0˚06×**178˚71W**±0˚07,**h579**km, **n182,σ1$23/190,mb4.5/51,22C-5D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58**	**318**	P	**P**	**11 00 25.2**	**+0.9**
	33nm,0.3s,baz=150,slow=4.5,SNR=104						
MSVF	**Nonsavu**	**4.58**	**318**	P	**P**	**11 00 25.4**	**+1.1**
GLKZ	**Green Lake**	**8.10**	**175**	P	**P**	**11 00 55.6**	**+0.3**
GLKZ				S	**S**	**11 02 29.7**	**-3.6**
MARNC	**Mare, Loyalty**	**12.36**	**266**	P	**P**	**11 01 38.9**	**+0.6**
DZM	**Mont Dzumac**	**13.84**	**264**	P	**P**	**11 01 54.9**	**+1.4**
	1.7nm,0.3s,baz=75,slow=23,SNR=16						
DZM	**Mont Dzumac**	**13.84**	**264**	P	**P**	**11 01 54.0**	**+0.5**
DZM	**Mont Dzumac**	**13.84**	**264**	P	**P**	**11 01 56.5**	**+3.0**
SANVU	**Saraoutou**	**14.53**	**291**	P	**P**	**11 02 00.2**	**-0.1**
SANVU	**Saraoutou**	**14.53**	**291**	P	**P**	**11 02 00.3**	**+0.1**
OUZ	**Omahuta**	**15.55**	**204**	P	**P**	**11 02 11.5**	**+1.7**
OUZ				IAmb	IAmb	11 02 14.0	
	comp=Z,36nm,0.9s						
OUZ	**Omahuta**	**15.55**	**204**	P	**P**	**11 02 11.9**	**+2.1**
OUZ	**Omahuta**	**15.55**	**204**	P	**P**	**11 02 12.4**	**+2.6**
KOUNC	**Koumac, New Ca**	**15.90**	**269**	P	**P**	**11 02 13.8**	**+0.4**
KOUNC	**Koumac, New Ca**	**15.90**	**269**	P	**P**	**11 02 15.1**	**+1.7**
WCZ	**Waipu Caves**	**15.93**	**201**	P	**P**	**11 02 16.1**	**+2.7**
KUZ	**Kuaotunu**	**16.27**	**196**	P	**P**	**11 02 18.6**	**+2.1**
WIAZ	**Waiheke Island**	**16.47**	**198**	P	**P**	**11 02 21.4**	**+3.0**
ETAZ	**East Tamaki Re**	**16.68**	**198**	P	**P**	**11 02 23.2**	**+3.0**
MKAZ	**Moumakai**	**16.76**	**197**	P	**P**	**11 02 23.5**	**+2.6**
WTAZ	**Waiatarua**	**16.77**	**199**	P	**P**	**11 02 23.8**	**+2.7**
WMGZ	**Waiomatatini S**	**16.79**	**188**	P	**P**	**11 02 21.2**	**0.0**
HAZ	**Te Kaha**	**16.82**	**190**	P	**P**	**11 02 22.4**	**+1.0**
HAZ				S	**S**	**11 05 04.7**	**-4.1**
AWAZ	**Awhitu Peninsu**	**16.87**	**199**	P	**P**	**11 02 24.8**	**+2.9**
RUGZ	**Raukumara Rang**	**17.04**	**190**	P	**P**	**11 02 24.1**	**+0.6**
RUGZ				S	**S**	**11 05 11.5**	**-1.1**
TGRZ	**Tauranga**	**17.08**	**194**	P	**P**	**11 02 26.4**	**+2.6**
TOZ	**Tahuroa Road**	**17.26**	**196**	P	**P**	**11 02 27.6**	**+2.1**
KMRZ	**Kaimai**	**17.26**	**194**	P	**P**	**11 02 27.8**	**+2.3**
URZ	**Urewera**	**17.42**	**191**	P	**P**	**11 02 25.7**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=321,slow=1.8,SNR=13						
URZ	**Urewera**	**17.42**	**191**	IAmb	IAmb	11 02 32.5	
	comp=Z,55nm,1.4s						
URZ	**Urewera**	**17.42**	**191**	P	**P**	**11 02 26.1**	**-0.8**
URZ	**Urewera**	**17.42**	**191**	P	**P**	**11 02 26.3**	**-0.6**
MWZ	**Matawai**	**17.42**	**190**	P	**P**	**11 02 26.8**	**-0.2**
MWZ				S	**S**	**11 05 16.7**	**-2.0**
CNGZ	**Carnagh Statio**	**17.47**	**188**	P	**P**	**11 02 28.2**	**+0.8**
RIGZ	**Rimuhau**	**17.75**	**189**	P	**P**	**11 02 31.0**	**+1.0**
RIGZ				S	**S**	**11 05 23.5**	**-0.6**
BKZ	**Black Stump Fm**	**18.41**	**192**	P	**P**	**11 02 34.7**	**-1.4**
KWHZ	**Kaweka Forest**	**18.68**	**192**	P	**P**	**11 02 38.2**	**-0.2**
KWHZ				S	**S**	**11 05 36.6**	**-2.5**
BFZ	**Birch Farm**	**19.93**	**191**	P	**P**	**11 02 48.9**	**-0.8**
QRZ	**Quartz Range**	**20.97**	**199**	P	**P**	**11 02 59.9**	**+0.8**
KHZ	**Kahutara**	**22.17**	**195**	P	**P**	**11 03 09.4**	**-0.4**
RPZ	**Rata Peaks**	**24.05**	**198**	P	**P**	**11 03 27.5**	**+0.9**
	comp=Z,4.9nm,0.4s,baz=73,slow=19,SNR=3.4						
EIDS	**Eidsvold**	**28.03**	**256**	P	**P**	**11 04 02.3**	**+0.5**
EIDS				IAmb	IAmb	11 04 28.6	
	comp=Z,19nm,1.2s						
ARMA	**Armidale**	**28.18**	**245**	P	**P**	**11 04 03.7**	**+0.5**
ARMA				IAmb	IAmb	11 04 27.3	
	comp=Z,34nm,1.5s						
CTAO	**Charters Tower**	**32.77**	**265**	P	**P**	**11 04 42.9**	**+0.5**
RABL	**Rabaul**	**32.94**	**297**	P	**P**	**11 04 43.9**	**-0.1**
PMG	**Port Moresby**	**34.85**	**284**	P	**P**	**11 05 00.4**	**+0.5**
PATS	**Pohnpei**	**35.82**	**319**	P	**P**	**11 05 08.8**	**+0.9**
STKA	**Stephens Creek**	**36.90**	**245**	P	**P**	**11 05 17.3**	**+0.7**
	comp=Z,7.1nm,0.8s,baz=73,slow=7.3,SNR=11						
STKA	**Stephens Creek**	**36.90**	**245**	P	**P**	**11 05 17.8**	**+1.1**
COEN	**Coen**	**36.97**	**275**	P	**P**	**11 05 18.2**	**+0.8**
COEN				IAmb	IAmb	11 05 19.1	
	comp=Z,22nm,1.1s						
MANU	**Manus Island**	**38.12**	**295**	P	**P**	**11 05 27.7**	**+1.0**
MANU				IAmb	IAmb	11 05 28.2	
	comp=Z,27nm,1.4s						
BBOO	**Buckleboo**	**41.66**	**244**	P	**P**	**11 05 55.2**	**+0.4**
BBOO				IAmb	IAmb	11 06 08.9	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**43.66**	**263**	P	**P**	**11 06 10.2**	**-0.4**
WR0				IAmb	IAmb	11 06 11.3	
	comp=Z,5.8nm,0.6s						
AS31	**Alice Springs**	**43.72**	**257**	P	**P**	**11 06 11.4**	**+0.3**
ASAR	**Alice Springs**	**43.72**	**257**	P	**P**	**11 06 11.4**	**+0.4**
	comp=Z,16nm,0.5s,baz=92,slow=7.9,SNR=402						
ASAR				PcP	**PcP**	**11 07 44.8**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=92,slow=5.5,SNR=10.0						
ASAR				ScP	**ScP**	**11 10 42.4**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=102,slow=4.4,SNR=7.1						
ASAR				S	**S**	**11 11 57.9**	**-2.3**
	comp=Z,3.0nm,1.0s,baz=93,slow=15,SNR=13						
WB0	**Warramunga Arr**	**43.83**	**263**	P	**P**	**11 06 11.8**	**-0.1**
WB2	**Warramunga Arr**	**43.84**	**263**	P	**P**	**11 06 11.1**	**-0.9**
WB2				IAmb	IAmb	11 06 12.1	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**43.84**	**263**	P	**P**	**11 06 11.2**	**-0.9**
WRAB				IAmb	IAmb	11 06 12.0	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**43.85**	**263**	P	**P**	**11 06 11.8**	**-0.3**
	comp=Z,8.0nm,0.5s,baz=96,slow=7.7,SNR=299						
WRA				S	**S**	**11 11 58.1**	**-4.0**
	comp=Z,1.0nm,0.8s,baz=100,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**43.85**	**263**	P	**P**	**11 06 10.8**	**-1.3**
FORT	**Forrest**	**48.42**	**247**	P	**P**	**11 06 46.6**	**+0.1**
MTN	**Manton Dam**	**48.51**	**271**	P	**P**	**11 06 47.3**	**0.0**
MTN				IAmb	IAmb	11 06 47.3	
	comp=Z,18nm,0.7s						
KNRA	**Kununurra**	**49.95**	**267**	P	**P**	**11 06 57.9**	**-0.1**
KNRA				IAmb	IAmb	11 06 58.6	
	comp=Z,16nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.28**	**263**	P	**P**	**11 07 15.2**	**+0.4**
FITZ				IAmb	IAmb	11 07 16.2	
	comp=Z,15nm,1.4s						
SOEI	**Soe**	**55.86**	**272**	P	**P**	**11 07 40.8**	**+0.7**
MBWA	**Marble Bar**	**57.06**	**258**	P	**P**	**11 07 47.8**	**-0.3**
MBWA				IAmb	IAmb	11 07 48.6	
	comp=Z,15nm,0.8s						
SBA	**Scott Base**	**57.17**	**184**	P	**P**	**11 07 49.5**	**+1.6**
VNDA	**Vanda**	**57.20**	**185**	P	**P**	**11 07 50.7**	**+2.7**
	comp=Z,1.3nm,0.7s,baz=357,slow=6.6,SNR=21						
VNDA	**Vanda**	**57.20**	**185**	P	**P**	**11 07 50.9**	**+2.8**
MMRI	**Maumere**	**58.12**	**273**	P	**P**	**11 07 55.2**	**-0.2**
MORW	**Morawa**	**58.96**	**248**	P	**P**	**11 08 01.1**	**+0.2**
MORW				IAmb	IAmb	11 08 06.7	
	comp=Z,39nm,1.5s						
TOLI2	**Tolitoli**	**63.09**	**283**	P	**P**	**11 08 27.6**	**-0.4**
TOLI2				IAmb	IAmb	11 08 30.0	
	comp=Z,9.1nm,0.5s						
JAGI	**Jajag, Banyuwa**	**65.72**	**270**	P	**P**	**11 08 43.7**	**-0.9**
QSPA	**South Pole Qui**	**68.91**	**180**	P	**P**	**11 09 05.4**	**+2.0**
	comp=Z,7.6nm,0.9s,baz=350,slow=0.9,SNR=28						
QSPA	**South Pole Qui**	**68.91**	**180**	P	**P**	**11 09 05.3**	**+2.0**
QSPA				IAmb	IAmb	11 09 06.2	
	comp=Z,8.2nm,0.9s						
JGF	**Kuroka**	**70.13**	**323**	P	**P**	**11 09 10.7**	**-0.3**
MJAR	**Matsushiro Arr**	**70.35**	**324**	P	**P**	**11 09 11.2**	**-1.0**
	comp=Z,3.6nm,0.6s,baz=150,slow=7.5,SNR=11						
MJAR	**Matsushiro Arr**	**70.35**	**324**	IAmb	IAmb	11 09 12.7	
	comp=Z,1.7nm,0.7s						
MAJO	**Matsushiro**	**70.35**	**324**	P	**P**	**11 09 11.8**	**-0.4**
MJB9	**Matsu-Tunnel**	**70.35**	**324**	P	**P**	**11 09 10.6**	**-1.7**
KSM	**Kuching**	**72.85**	**278**	P	**P**	**11 09 26.9**	**-0.4**
KSM				IAmb	IAmb	11 09 28.5	
	comp=Z,12nm,0.7s						
YULB	**Yu-li**	**73.31**	**304**	P	**P**	**11 09 28.4**	**-1.2**
YULB				IAmb	IAmb	11 09 38.3	
	comp=Z,25nm,1.5s						
NACB	**Ninganchiao**	**73.50**	**305**	P	**P**	**11 09 30.0**	**-0.7**
NACB				IAmb	IAmb	11 09 31.2	
	comp=Z,28nm,1.2s						
TPUB	**Ta-pu**	**73.78**	**303**	P	**P**	**11 09 31.3**	**-1.0**
SSLB	**Suanglung**	**73.78**	**304**	P	**P**	**11 09 31.3**	**-1.1**
SSLB				IAmb	IAmb	11 09 32.2	
	comp=Z,14nm,0.8s						
ASAJ	**Asahikawa**	**73.99**	**332**	P	**P**	**11 09 33.5**	**+0.5**
	comp=Z,6.0nm,0.8s,baz=146,slow=6.6,SNR=3.1						
PETK	**Petropavlovsk-**	**76.74**	**346**	P	**P**	**11 09 47.9**	**-0.2**
	comp=Z,5.4nm,0.6s,baz=145,slow=5.4,SNR=14						
KSRS	**Korea Array**	**76.94**	**319**	P	**P**	**11 09 50.3**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=153,slow=3.9,SNR=5.3						
BELA	**Belgrano 2**	**78.99**	**173**	P	**P**	**11 10 00.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**79.14**	**326**	P	**P**	**11 10 01.2**	**+0.1**
	comp=Z,7.6nm,0.8s,baz=98,slow=3.4,SNR=7.1						
USRK	**Ussuriysk Ar.**	**79.14**	**326**	P	**P**	**11 10 01.5**	**+0.4**
NJ2	**Nanjing**	**79.79**	**310**	*e*P	**P**	**11 10 06.5**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
YBH	**Yreka Blue Hor**	**81.22**	**39**	P	**P**	**11 10 13.3**	**+1.1**
	comp=Z,2.4nm,0.7s,baz=99,slow=11,SNR=7.7						
YBH	**Yreka Blue Hor**	**81.22**	**39**	P	**P**	**11 10 12.7**	**+0.5**
YBH				IAmb	IAmb	11 10 26.4	
	comp=Z,11nm,1.4s						
NVAR	**Mina Array Bea**	**81.96**	**44**	P	**P**	**11 10 17.1**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=225,slow=8.5,SNR=12						
CN2	**Changchun**	**82.42**	**323**	*e*P	**P**	**11 10 18.5**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TPH	**Tonopah**	**82.46**	**44**	P	**P**	**11 10 19.5**	**+0.8**
TPH				IAmb	IAmb	11 10 20.4	
	comp=Z,16nm,0.9s						
IPM	**Ipoh**	**82.56**	**278**	P	**P**	**11 10 19.3**	**-0.2**
IPM				IAmb	IAmb	11 10 21.0	
	comp=Z,13nm,0.6s						
PINE	**Pine Mountain**	**83.51**	**38**	P	**P**	**11 10 24.9**	**+1.1**
MA2	**Magadan**	**84.24**	**345**	P	**P**	**11 10 26.1**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=160,slow=9.5,SNR=3.9						
MA2	**Magadan**	**84.24**	**345**	IAmb	IAmb	11 10 26.9	
	comp=Z,6.9nm,1.1s						
I07A	**Izee**	**84.52**	**38**	P	**P**	**11 10 29.7**	**+1.1**
U15A	**North Rim**	**84.90**	**48**	P	**P**	**11 10 32.6**	**+1.7**
KLU	**Klutina**	**86.47**	**15**	P	**P**	**11 10 37.1**	**-0.4**
CAST	**Castle Rocks**	**86.85**	**12**	P	**P**	**11 10 37.8**	**-1.5**
CAST				IAmb	IAmb	11 10 38.5	
	comp=Z,7.7nm,0.9s						
SEY	**Seymchan**	**86.86**	**347**	P	**P**	**11 10 39.0**	**-0.2**
	comp=Z,6.0nm,0.9s,baz=136,slow=6.0,SNR=22						
F10A	**Beach Ranch, E**	**86.93**	**38**	P	**P**	**11 10 40.2**	**+0.1**
F10A				IAmb	IAmb	11 10 41.4	
	comp=Z,9.6nm,0.9s						
TROLL	**Troll, Antarti**	**87.07**	**180**	P	**P**	**11 10 41.5**	**+1.0**
B08A	**Colville Reser**	**87.15**	**35**	P	**P**	**11 10 40.6**	**-0.4**
B08A				IAmb	IAmb	11 10 41.6	
	comp=Z,4.7nm,0.8s						
TRF	**Thorofare Moun**	**87.23**	**12**	P	**P**	**11 10 40.5**	**-0.7**
TRF				IAmb	IAmb	11 10 41.7	
	comp=Z,11nm,0.7s						
DHY	**Denali Highway**	**87.51**	**14**	P	**P**	**11 10 42.4**	**-0.1**
VNA3	**Neumayer Olymp**	**87.53**	**176**	P	**P**	**11 10 42.8**	**+0.3**
MCK	**McKinley**	**87.76**	**13**	P	**P**	**11 10 43.1**	**-0.3**
MCK				IAmb	IAmb	11 10 45.0	
	comp=Z,15nm,1.2s						
TXAR	**Lajitas Array**	**87.97**	**58**	P	**P**	**11 10 46.9**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=208,slow=4.3,SNR=7.7						
XAN	**Xi'an**	**88.00**	**308**	⇓P	**P**	**11 10 46.0**	**+0.7**
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
WRH	**Wood River Hil**	**88.59**	**13**	P	**P**	**11 10 46.6**	**-0.6**
WRH				IAmb	IAmb	11 10 47.3	
	comp=Z,9.9nm,0.9s						
MDM	**Murphy Dome**	**88.99**	**12**	P	**P**	**11 10 48.4**	**-0.8**
MDM				IAmb	IAmb	11 10 48.9	
	comp=Z,4.8nm,0.8s						
ILAR	**Eielson Array**	**89.10**	**13**	P	**P**	**11 10 48.5**	**-1.1**
	comp=Z,2.3nm,0.9s,baz=226,slow=5.7,SNR=15						
HHC	**Hu-ho-hao-te**	**89.34**	**315**	*e*P	**P**	**11 10 51.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.4s						
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P	**P**	**11 10 55.0**	**+1.4**
	comp=Z,3.7nm,0.8s,baz=131,slow=3.2,SNR=22						
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P	**P**	**11 10 54.5**	**+1.0**
PD31	**Pinedale Array**	**89.90**	**43**	P	**P**	**11 10 54.0**	**-0.2**
PDAR	**Pinedale Array**	**89.90**	**43**	P	**P**	**11 10 54.8**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=217,slow=3.8,SNR=16						
PZH	**PanZhiHua**	**90.43**	**298**	P	**P**	**11 10 57.8**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,50nm,6.0s						
YKA	**Yellowknife Ar**	**97.39**	**25**	P	Pdif	11 11 27.0	-0.4
	comp=Z,0.3nm,0.7s,baz=245,slow=4.3,SNR=6.7						
MKAR	**Makanchi Array**	**111.16**	**313**	PKiKP	**PKiKP**	**11 16 23.2**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=30,slow=1.7,SNR=4.4						
ABKAR	**Akbulak array**	**126.10**	**316**		**PKPdf**	**11 16 52.2**	**-0.7**
ARCES	**ARCESS Array B**	**129.44**	**349**	PKP	**PKPdf**	**11 16 58.0**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=346,slow=3.0,SNR=8.5						
FINES	**FINESS

JUBC				*i* S		**Sg**	**11 01 10.9**	**+0.5**
INCO	**Volcan de Coli**	**1.23**	**355**	*i* P		**Pg**	**11 00 54.2**	**-0.6**
INCO				*i* S		**Sg**	**11 01 11.1**	**+0.2**
CJM	**Chamela**	**1.89**	**309**	*i* P		**Pn**	**11 01 01.3**	**-1.2**
CJM				*eS*		**Sn**	**11 01 24.0**	**-1.9**
ZIIG	**Zihuatanejo**	**2.06**	**109**			**Pn**	**11 01 03.5**	**-1.3**
ZIIG	**Zihuatanejo**	**2.06**	**109**	*eP*		**Pn**	**11 01 03.5**	**-1.3**
MOIG	**Morelia**	**2.58**	**58**			**Pb**	**11 01 15.2**	**-1.8**
MOIG	**Morelia**	**2.58**	**58**	*eP*		**Pb**	**11 01 15.2**	**-1.8**
ANIG	**Ahuacatlan**	**2.91**	**341**			**Pn**	**11 01 17.5**	**+0.9**
ANIG	**Ahuacatlan**	**2.91**	**341**	*eP*		**Pn**	**11 01 17.5**	**+0.9**
ARIG	**Puente Sto Nin**	**2.99**	**90**			**Pn**	**11 01 18.4**	**+0.7**
ARIG	**Puente Sto Nin**	**2.99**	**90**	*i* P		**Pn**	**11 01 18.4**	**+0.7**
IGIG	**Irapuato, Guan**	**3.19**	**40**	*i* P		**Pb**	**11 01 28.0**	**+0.7**
CAIG	**El Cayaco**	**3.32**	**111**			**Pn**	**11 01 21.9**	**-0.4**
CAIG	**El Cayaco**	**3.32**	**111**	*i* P		**Pn**	**11 01 21.9**	**-0.4**
JRQG	**Juriquilla Cam**	**3.74**	**50**			**Pb**	**11 01 35.7**	**-1.1**
JRQG	**Juriquilla Cam**	**3.74**	**50**	*eP*		**Pb**	**11 01 35.7**	**-1.1**
PLIG	**Platanillo**	**3.80**	**88**			**Pn**	**11 01 29.1**	**+0.3**
PLIG	**Platanillo**	**3.80**	**88**	*eP*		**Pn**	**11 01 29.1**	**+0.3**
AAIG	**Aguscalientes**	**3.80**	**16**	*eP*		**Pn**	**11 01 30.9**	**+1.9**
DAIG	**Los Arroyos**	**3.88**	**109**			**Pn**	**11 01 29.9**	**0.0**
DAIG	**Los Arroyos**	**3.88**	**109**	*eP*		**Pn**	**11 01 29.9**	**0.0**
UNM	**Universidad Na**	**4.22**	**75**			**Pn**	**11 01 33.1**	**-1.7**
YAIG	**Yautepec**	**4.24**	**82**			**Pn**	**11 01 36.7**	**+1.7**
YAIG	**Yautepec**	**4.24**	**82**	*eP*		**Pn**	**11 01 36.7**	**+1.7**
CRIG	**Cruz Grande**	**4.45**	**110**			**Pn**	**11 01 37.6**	**-0.1**
CRIG	**Cruz Grande**	**4.45**	**110**	*i* P		**Pn**	**11 01 37.6**	**-0.1**
ZAIG	**Zacatecas**	**4.53**	**11**			**Pn**	**11 01 40.2**	**+1.0**
ZAIG	**Zacatecas**	**4.53**	**11**	*eP*		**Pn**	**11 01 41.5**	**+2.4**
DEIG	**Demacu**	**4.66**	**64**	*eP*		**Pn**	**11 01 40.4**	**-0.4**
TLIG	**Tlapa**	**4.75**	**98**			**Pn**	**11 01 41.7**	**-0.3**
TLIG	**Tlapa**	**4.75**	**98**	*eP*		**Pn**	**11 01 43.0**	**+1.0**
MGIG	**Malinaltepec**	**4.75**	**102**	*i* P		**Pn**	**11 01 43.4**	**+1.3**
RPIG	**Rio Verde**	**4.86**	**42**	*eP*		Pn	11 01 37.3	-6.3
FTIG	**Fresnillo de T**	**5.12**	**94**	*eP*		**Pn**	**11 01 48.2**	**+1.1**
HLIG	**Huajuapan de L**	**5.44**	**94**	*eP*		**Pn**	**11 01 52.9**	**+1.4**
YOIG	**Yosondua**	**5.86**	**103**	*eP*		**Pn**	**11 01 58.9**	**+1.6**
TOIG	**Toxpalan**	**6.12**	**91**	*eP*		**Pn**	**11 02 02.2**	**+1.4**
CMIG	**Matias Romero**	**8.30**	**97**	Pn		**Pn**	**11 02 32.1**	**+1.4**
	0.3nm,0.3s,baz=269,slow=13,SNR=8.2							
CMIG				Sn		**Sn**	**11 03 59.5**	**-4.6**
	0.6nm,0.3s,baz=247,slow=15,SNR=3.6							
CMIG				Lg		Lg	11 04 52.5	
	1.3nm,0.3s,baz=16,slow=12,SNR=6.7							
TX31	**Lajitas Ar. Si**	**10.99**	**359**			**Pn**	**11 03 07.0**	**-0.5**
TX32	**Lajitas Array**	**10.99**	**359**			**Pn**	**11 03 06.8**	**-0.7**
TXAR	**Lajitas Array**	**10.99**	**359**	Pn		**Pn**	**11 03 11.8**	**+4.3**
	0.0nm,0.3s,baz=171,slow=16,SNR=12							
TXAR				Lg		Lg	11 06 19.9	
	0.0nm,0.3s,baz=160,slow=24,SNR=2.7							
TXAR				LR		LR	11 07 09.7	
	comp=Z,66nm,20.3s,baz=171,slow=37							
TXAR	**Lajitas Array**	**10.99**	**359**			**Pn**	**11 03 08.7**	**+1.2**
NATX	**Nacogdoches**	**15.60**	**29**			**P**	**11 04 14.9**	**+0.6**
MSTX	**Muleshoe**	**15.62**	**2**			**P**	**11 04 14.1**	**-0.6**
LENM	**Lemitar**	**15.67**	**350**			**P**	**11 04 19.5**	**-0.6**
ANMO	**Albuquerque**	**16.79**	**352**	LR		LR	11 10 25.0	
	comp=Z,85nm,19.2s,baz=163,slow=36							
T25A	**Trinidad**	**18.79**	**358**	P		**Pn**	**11 04 51.8**	**+1.5**
TUL1	**Leonard**	**18.82**	**20**	P		**P**	**11 04 48.1**	**-1.8**
TUL1				IAmb		IAmb	11 04 53.0	
	comp=Z,11nm,1.0s							
W39A	**Magazine**	**18.91**	**25**	P		**P**	**11 04 50.9**	**0.0**
PFO	**Pinyon Flats O**	**19.16**	**325**	LR		LR	11 11 52.3	
	comp=Z,71nm,20.3s,baz=154,slow=36							
SDCO	**Great Sand Dun**	**19.45**	**355**	P		**Pn**	**11 04 57.9**	**-0.5**
T35A	**Sooner Cattle**	**19.54**	**17**	P		**P**	**11 04 57.7**	**-0.1**
T35A				IAmb		IAmb	11 04 59.6	
	comp=Z,11nm,1.1s							
W41B	**Gary Mavity, V**	**19.56**	**29**	P		**P**	**11 04 57.5**	**-0.5**
W41B				IAmb		IAmb	11 05 00.8	
	comp=Z,7.8nm,1.1s							
S22A	**4UR Ranch, Cre**	**19.59**	**352**			**P**	**11 04 57.9**	**-0.8**
WHAR	**Wooly Hollow**	**19.63**	**28**	P		**P**	**11 04 58.9**	**+0.1**
WHAR				IAmb		IAmb	11 05 01.0	
	comp=Z,8.4nm,0.8s							
FCAR	**Ozark Folk Cen**	**20.21**	**28**	P		**P**	**11 05 04.6**	**-0.5**
FCAR				IAmb		IAmb	11 05 05.2	
	comp=Z,7.4nm,0.8s							
U40A	**Yellville**	**20.30**	**25**	P		**P**	**11 05 05.3**	**-0.8**
U40A				IAmb		IAmb	11 05 06.4	
	comp=Z,7.5nm,0.8s							
LCMT	**Little Creek M**	**20.52**	**337**	P		**P**	**11 05 09.5**	**+0.9**
LCAR	**Lake Charles**	**20.80**	**29**	P		**P**	**11 05 11.1**	**-0.3**
LRAL	**Lakeview Retre**	**20.85**	**42**	P		**P**	**11 05 11.6**	**-0.5**
LRAL				IAmb		IAmb	11 05 12.4	
	comp=Z,7.3nm,1.1s							
SHPR	**Sheep Range**	**20.85**	**333**	P		Pn	11 05 14.0	-0.8
MSU	**Marysvale**	**21.52**	**341**	P		**P**	**11 05 19.5**	**+0.1**
PLAL	**Pickwick Lake**	**21.54**	**36**	P		**P**	**11 05 20.9**	**+1.4**
PLAL				IAmb		IAmb	11 05 27.7	
	comp=Z,8.7nm,1.2s							
FPAL	**Fort Paine**	**22.71**	**41**	P		**P**	**11 05 31.1**	**-0.9**
FPAL				IAmb		IAmb	11 05 32.8	
	comp=Z,13nm,1.0s							
T47A	**Sharon Grove**	**23.55**	**34**	P		**P**	**11 05 39.6**	**-0.9**
NV11	**Mina Array Sit**	**23.79**	**330**	P		**P**	**11 05 44.1**	**+1.1**
NV11				IAmb		IAmb	11 05 46.9	
	comp=Z,4.7nm,1.1s							
NVAR	**Mina Array Bea**	**23.86**	**330**	P		**P**	**11 05 45.9**	**+2.2**
	comp=Z,2.9nm,0.9s,baz=154,slow=10,SNR=12							
NVAR	**Mina Array Bea**	**23.86**	**330**	P		**P**	**11 05 43.8**	**+0.1**
BBGB	**Big Mountain B**	**23.89**	**323**	P		**P**	**11 05 42.8**	**-1.1**
W52A	**Murphy**	**24.12**	**42**	P		**P**	**11 05 45.4**	**-0.7**
V51A	**Loudon**	**24.31**	**40**	P		**P**	**11 05 46.7**	**-1.0**
ELK	**Elko**	**24.54**	**338**	LR		LR	11 15 16.6	
	comp=Z,73nm,18.2s,baz=172,slow=36							
TKL	**Tuckaleechee C**	**24.58**	**41**	P		**P**	**11 05 49.1**	**-1.1**
	comp=Z,7.5nm,0.7s,baz=202,slow=11,SNR=10							
TKL				LR		LR	11 15 28.0	
	comp=Z,31nm,18.7s,baz=198,slow=37							
TKL	**Tuckaleechee C**	**24.58**	**41**	P		**P**	**11 05 49.3**	**-0.9**
BG3	**Lake Jocassee**	**24.71**	**44**	P		**P**	**11 05 50.3**	**-1.1**
V52A	**Sevierville**	**24.80**	**41**	P		**P**	**11 05 51.8**	**-0.5**
V52A				IAmb		IAmb	11 05 52.1	
	comp=Z,5.5nm,0.7s							
T50A	**Nancy**	**24.84**	**38**	P		**P**	**11 05 51.0**	**-1.6**
T50A				IAmb		IAmb	11 05 52.4	
	comp=Z,4.2nm,0.8s							
PDAR	**Pinedale Array**	**24.93**	**349**	P		**P**	**11 05 53.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=180,slow=7.4,SNR=4.0							
PDAR				PcP		**PcP**	**11 09 29.0**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=167,slow=4.3,SNR=2.4							
V53A	**Saluda**	**25.20**	**43**	P		**P**	**11 05 54.9**	**-0.9**
V53A				IAmb		IAmb	11 05 57.1	
	comp=Z,5.4nm,0.7s							
ULM	**Lac du Bonnet**	**32.46**	**9**	P		**P**	**11 06 57.6**	**-2.6**
	comp=Z,2.2nm,0.6s,baz=170,slow=6.1,SNR=1.9							
SDV	**Santo Domingo**	**33.23**	**102**	LR		LR	11 21 30.8	
	comp=Z,47nm,18.6s,baz=326,slow=38							
DLBC	**Dease Lake**	**44.56**	**340**	P		**P**	**11 08 44.0**	**+2.1**
	comp=Z,5.7nm,1.0s,baz=213,slow=4.0,SNR=5.0							
DLBC	**Dease Lake**	**44.56**	**340**	IAmb		IAmb	11 08 45.1	
	comp=Z,6.3nm,1.0s							
YKA	**Yellowknife Ar**	**44.83**	**353**	P		**P**	**11 08 43.5**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=164,slow=7.6,SNR=6.8							
YKA				LR		LR	11 29 00.4	
	comp=Z,150nm,18.7s,baz=314,slow=38							
INK	**Inuvik**	**53.45**	**347**	P		**P**	**11 09 50.4**	**+0.6**
	comp=Z,4.3nm,1.0s,baz=130,slow=6.5,SNR=8.2							
ILAR	**Eielson Array**	**54.70**	**339**	P		**P**	**11 10 00.2**	**+1.3**
	comp=Z,3.3nm,1.0s,baz=146,slow=5.5,SNR=22							
H03N2	**Juan Fernandez**	**56.54**	**155**	T		T	12 11 14.1	
	baz=333,slow=77,SNR=299							
H03N1	**Juan Fernandez**	**56.55**	**155**	T		T	12 11 13.3	
	baz=333,slow=77,SNR=258							
H03N3	**Juan Fernandez**	**56.56**	**155**	T		T	12 11 14.3	
	baz=333,slow=77,SNR=312							
SEY	**Seymchan**	**80.13**	**333**	P		**P**	**11 12 41.6**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=84,slow=5.5,SNR=5.9							
NOA	**NORSAR Array B**	**85.45**	**26**	P		**P**	**11 13 08.5**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=308,slow=5.1,SNR=2.8							
ESDC	**Sonseca Array**	**85.59**	**50**	P		**P**	**11 13 09.7**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=311,slow=6.1,SNR=8.3							

DNK 26 11:08:14.3±0.5, 56.96N×14.40E, h0km, ML1.2 (UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VXJU	**Vaexsjoe**	**0.30**	**97**	P	Pg	11 08 19.7	-0.3
VXJU				S	Sg	11 08 23.8	0.0
GNOU	**Gnosjoe**	**0.48**	**314**	P	Pg	11 08 23.3	-0.2
DEL	**Delary**	**0.57**	**211**	*i* P	Pg	11 08 24.0	-1.2
DEL				*i* S	Sg	11 08 31.4	-1.2
DEL				IAML		11 08 32.5	
	comp=Z,0.4nm,0.2s						
DEL	**Delary**	**0.57**	**211**	P	Pg	11 08 24.6	-0.6
OSKU	**Oskarshamn**	**0.96**	**75**	P	Pg	11 08 31.8	-0.9
BLEU	**Blekinge**	**1.02**	**129**	*i* P	Pg	11 08 32.5	-1.3
BLEU				*i* S	Sn	11 08 50.5	-0.3
BLEU	**Blekinge**	**1.02**	**129**	P	Pg	11 08 32.8	-1.1
BORU	**Boraas**	**1.11**	**308**	*i* S	Sn	11 08 53.6	+0.4
BORU	**Boraas**	**1.11**	**308**	P	Pg	11 08 34.3	-1.4
FKPU	**Falk**	**1.26**	**343**	P	Pg	11 08 37.4	-1.0
VSTU	**Vaestervik**	**1.35**	**58**	P	Pg	11 08 38.9	-1.3
LNKU	**Linkoeping**	**1.40**	**25**	P	Pn	11 08 40.0	-1.1
ONAU	**Onsala**	**1.42**	**289**	*i* P	Pn	11 08 38.9	-2.5
ONAU				*i* S	Sg	11 08 57.7	-2.3
LUNU	**Lund**	**1.43**	**202**	P	Pn	11 08 40.7	-0.8

*KRNET **26** 11:16:36.7±0.1, 41.22N×70.11E, h13km, mb2.7*
*SOME **26** 11:16:40.2, 41.10N×70.18E, h10km*
ISC 26 11:16:36.9±1.2, 41.20N±0.03×70.10E±0.03, h10km±16km, n12, σ1.938/21, 11C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.62**	**282**	⇑*iP*	**Pg**	**11 16 48.8**	**-0.1**
	baz=81						
TAS				⇑*iS*	**Sb**	**11 16 57.9**	**-0.7**
	baz=81						
TRKS	**Terek-Say**	**0.85**	**67**	⇑*eP*	**Pg**	**11 16 52.7**	**-0.6**
	baz=73						
TRKS				⇑*eS*	**Sb**	**11 17 05.0**	**-0.4**
	baz=73						
IUG	**luzhnay**	**0.95**	**357**	*eP*	Pn	11 17 02.1	+5.8
	98nm,0.1s						
IUG				*eS*	Sn	11 17 18.2	+8.2
	85nm,0.4s						
BTK	**Batken**	**1.27**	**154**	⇑*iP*	**Pg**	**11 17 01.0**	**-0.2**
	baz=55						
BTK				⇑*iS*	**Sg**	**11 17 19.2**	**+1.6**
	baz=55						
ARK	**Arkit**	**1.52**	**66**	⇑*iP*	**Pb**	**11 17 04.9**	**-0.4**
	baz=67						
ARK				⇑*iS*	**Sg**	**11 17 25.7**	**-0.2**
	baz=67						
BRLS	**Boroldoy**	**1.84**	**354**	*eP*	**Pg**	**11 17 12.1**	**-0.1**
	3.3nm,0.3s						
BRLS				*eS*	**Sg**	**11 17 35.1**	**-1.0**
	6.3nm,0.7s						
KK31	**Karatay Array**	**1.93**	**9**	Pg	**Pg**	**11 17 16.1**	**+2.2**
	2.6nm,0.5s,baz=193,slow=16,SNR=21						
KK31				⇑Lg	Lg	11 17 45.1	
	1.5nm,0.3s,baz=195,slow=27,SNR=7.8						
OHH	**Osh**	**2.15**	**107**	⇑*iP*	**Pb**	**11 17 15.2**	**-0.7**
	baz=8.0						
OHH				⇑*iS*	**Sg**	**11 17 43.8**	**-2.0**
	baz=8.0						
GAR	**Garm**	**2.20**	**176**	⇓*eP*	**Pb**	**11 17 16.5**	**-0.4**
	baz=76						
GAR				⇓*iS*	**Sb**	**11 17 46.1**	**+1.8**
	baz=76						
MRKS	**Merke**	**2.80**	**55**	*eP*	**Pg**	**11 17 32.8**	**+2.3**
	3.9nm,0.3s						
MRKS				*eS*	**Sg**	**11 18 09.2**	**+2.4**
	7.0nm,0.5s						
KST	**Kastek**	**4.73**	**65**	*eP*	**Pg**	**11 18 07.2**	**-0.4**
	1.9nm,0.5s						
KST				*eS*	**Sg**	**11 19 09.6**	**+0.7**
	3.7nm,0.6s						
KRBS	**Karabastau**	**4.82**	**57**	*eP*	**Pg**	**11 18 08.5**	**-0.7**
	0.9nm,0.4s						
KRBS				*eS*	**Sg**	**11 19 10.1**	**-1.5**
	1.5nm,0.5s						

IDC 26 11:24:41.0±21.0, 27.13N×43.84W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.4/38, mbtmp3.5/3, MS3.3/5, Ms1 3.3/5, ms1mx2.7/64, Error ellipse: s-maj=480.1km s-min=127.4km az=154.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADO	**Sadowa**	**33.23**	**311**	LR	LR	11 42 45.3	
	comp=Z,48nm,19.3s,baz=80,slow=33						
TKL	**Tuckaleechee C**	**34.94**	**294**	LR	LR	11 42 45.8	
	comp=Z,33nm,19.9s,baz=102,slow=31						
FRB	**Frobisher Bay**	**39.97**	**343**	LR	LR	11 47 07.0	
	comp=Z,34nm,21.4s,baz=3.5,slow=34						
DBIC	**Dimbokro**	**42.23**	**112**	LR	LR	11 48 15.4	
	comp=Z,38nm,20.9s,baz=160,slow=34						
H10N2	**ASCENSION HYDR**	**44.91**	**137**	T	T	12 21 11.3	
	baz=321,slow=75,SNR=68						
H10N3	**ASCENSION HYDR**	**44.91**	**137**	T	T	12 21 11.4	
	baz=321,slow=75,SNR=55						
H10N1	**ASCENSION HYDR**	**44.93**	**137**	T	T	12 21 12.7	
	baz=321,slow=75,SNR=98						
H10S3	**ASCENSION HYDR**	**45.68**	**138**	T	T	12 22 03.9	
	baz=321,slow=74,SNR=16						
H10S2	**ASCENSION HYDR**	**45.70**	**138**	T	T	12 22 05.0	
	baz=259,slow=74,SNR=11						
PDAR	**Pinedale Array**	**54.77**	**305**	P	P	11 34 13.0	+0.1
	0.7nm,0.9s,baz=87,slow=7.9,SNR=4.8						
YKA	**Yellowknife Ar**	**57.45**	**329**	P	P	11 34 31.3	-0.1
	0.3nm,0.9s,baz=97,slow=7.6,SNR=3.0						
YKA				LR	LR	11 57 15.7	
	comp=Z,42nm,21.2s,baz=351,slow=34						
ILAR	**Eielson Array**	**71.12**	**334**	P	P	11 36 00.9	-0.1
	0.6nm,0.8s,baz=83,slow=5.5,SNR=5.6						

*NEIC **26** 11:26:02.9±0.7, 19.49N±0.10×65.42W±0.07, h36km±45km, Error ellipse: s-maj=14.8km s-min=8.8km az=204.0*
*RSPR **26** 11:26:02.8, 19.54N×65.41W, h60km±12km, MD3.3/6*
ISC 26 11:26:02.9±2.5, 19.5N±0.1×65.43W±0.07, h35km, n25, σ0.945/30, 4C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.20**	**173**	⇑*eP*	**Pn**	**11 26 22.8**	**-0.4**
CUPR	**Culebra, Puert**	**1.20**	**173**	*eS*	**Sn**	**11 26 38.8**	**+0.5**
CUPR	**Culebra, Puert**	**1.20**	**173**		**Pn**	**11 26 22.8**	**-0.4**
CUPR					**Sn**	**11 26 38.8**	**+0.5**
STVI	**Saint Thomas**	**1.24**	**159**	⇑*eP*	**Pn**	**11 26 23.3**	**-0.4**
STVI	**Saint Thomas**	**1.24**	**159**	*eS*	**Sn**	**11 26 39.3**	**+0.2**
STVI	**Saint Thomas**	**1.24**	**159**		**Pn**	**11 26 23.3**	**-0.4**
STVI					**Sn**	**11 26 39.3**	**+0.2**
CBYP	**Canovanas**	**1.29**	**198**	⇓*eP*	**Pn**	**11 26 23.7**	**-0.8**
CBYP	**Canovanas**	**1.29**	**198**		**Pn**	**11 26 23.7**	**-0.8**
SJVI	**Gifft Hill Sch**	**1.33**	**152**	⇑*eP*	**Pn**	**11 26 24.7**	**-0.2**
SJVI	**Gifft Hill Sch**	**1.33**	**152**	*eS*	**Sn**	**11 26 41.9**	**+0.5**
SJVI	**Gifft Hill Sch**	**1.33**	**152**		**Pn**	**11 26 24.7**	**-0.2**
SJVI					**Sn**	**11 26 41.9**	**+0.5**
MTP	**Monte Pirata**	**1.41**	**185**	⇑*eP*	**Pn**	**11 26 25.7**	**-0.4**
MTP	**Monte Pirata**	**1.41**	**185**	*eS*	**Sn**	**11 26 43.6**	**+0.2**
MTP	**Monte Pirata**	**1.41**	**185**		**Pn**	**11 26 25.7**	**-0.4**
MTP					**Sn**	**11 26 43.6**	**+0.2**
SJG	**San Juan**	**1.55**	**206**	Pn	**Pn**	**11 26 27.2**	**-0.7**
AOPR	**Arecibo Observ**	**1.71**	**228**	⇓*eP*	**Pn**	**11 26 29.9**	**-0.3**
AOPR	**Arecibo Observ**	**1.71**	**228**		**Pn**	**11 26 29.9**	**-0.3**
CELP	**Cerrillos**	**1.79**	**218**	⇓*eP*	**Pn**	**11 26 30.9**	**-0.5**
CELP	**Cerrillos**	**1.79**	**218**	*eS*	**Sn**	**11 26 53.5**	**+0.6**
CELP	**Cerrillos**	**1.79**	**218**		**Pn**	**11 26 30.9**	**-0.5**
CELP					**Sn**	**11 26 53.5**	**+0.6**
MLPR	**Magueyes Islan**	**2.16**	**225**	⇓*eP*	**Pn**	**11 26 36.4**	**0.0**
MLPR	**Magueyes Islan**	**2.16**	**225**		**Pn**	**11 26 36.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.18**	**227**	⇓*eP*	**Pn**	**11 26 36.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.18**	**227**		**Pn**	**11 26 36.6**	**-0.1**
SDDR	**Presa de Saban**	**5.56**	**266**	Pn	**Pn**	**11 27 22.9**	**-0.3**

JMA 26 11:35:15.2±0.1, 38.20N×144.44E, h32km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.34**	**293**	P	Pn	11 35 53.0	+1.6
OFUJ				S	Sn	11 36 21.0	+1.9
JIKH	**Ishinomakikobu**	**2.34**	**274**	P	Pn	11 35 52.7	+1.2
JIKH				S	Sn	11 36 20.6	+1.4
JKMT	**Kesennumamotoy**	**2.41**	**286**	P	Pn	11 35 53.8	+1.5
JKMT				S	Sn	11 36 22.6	+1.9
JIO	**Ouri**	**2.44**	**277**	P	Pn	11 35 54.5	+1.7
JIO				S	Sn	11 36 23.4	+1.8
MIYJ	**Miyakonagasawa**	**2.46**	**305**	P	Pn	11 35 54.4	+1.3
MIYJ				S	Sn	11 36 23.4	+1.3
JMK	**Ichinoseki**	**2.63**	**288**	P	Pn	11 35 57.4	+2.0
JMK				S	Sn	11 36 29.0	+2.7
JOM	**Ohasama**	**2.77**	**298**	P	Pn	11 35 59.3	+2.0
JOM				S	Sn	11 36 32.2	+2.6
JANG	**Nango**	**3.14**	**315**	P	Pn	11 36 04.3	+1.9
JANG				*eS*	Sn	11 36 39.8	+1.0
JYK	**Kaneyama**	**3.28**	**284**	*eS*	Sn	11 36 45.6	+3.4
JFT	**Otama**	**3.32**	**259**	S	Sn	11 36 45.7	+2.5
JOT	**Ohata**	**4.11**	**322**	*eS*	Sn	11 37 02.6	-0.2
JCH	**Churui**	**4.49**	**350**	P	Pn	11 36 20.8	-0.1
JCH				*eS*	Sn	11 37 09.6	-2.4
JRY	**Ryogami san**	**4.93**	**245**	P	Pn	11 36 28.6	+1.5
JRY				S	Sn	11 37 21.6	-1.5
NEM2	**Nemuro 2**	**5.25**	**10**	P	Pn	11 36 28.4	-3.0
NEM2				*eS*	Sn	11 37 23.7	-7.2
JOSM	**Okushiri--Mats**	**5.43**	**317**	P	Pn	11 36 36.9	+3.0
JTKR	**Abashiri--Toko**	**5.78**	**356**	P	Pn	11 36 38.2	-0.5
JTKR				S	Sn	11 37 40.2	-3.6

*ARE **26** 11:44:40±1.8, 17.07S±0.08×72.89W±0.10, h34km±5km, Error ellipse: s-maj=14.1km s-min=10.3km az=61.0*
*GUC **26** 11:44:42.0±0.7, 17.07S×72.83W, h18km±22km, ML4.0*
*NEIC **26** 11:44:43.9±2.0, 17.09S±0.08×72.75W±0.09, h35km±2km, mb4.3/4, ML4.1(ARE), Error ellipse: s-maj=16.1km s-min=12.0km az=236.0*
*IDC **26** 11:44:45.5±1.9, 17.13S×72.65W, h68km±21km, mb3.8/4, mb1 3.8/7, mb1mx3.5/39, mbtmp4.0/7, MS2.3/1, Ms1 2.3/1, ms1mx2.2/62, Error ellipse: s-maj=35.3km s-min=13.6km az=54.0*
ISC 26 11:44:40.0±0.8, 16.88S±0.08×73.0W±0.1, h33km, n34, σ1.949/34, mb4.4/5, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.95**	**121**	Pn	**Pn**	**11 45 23.9**	**-0.6**
AP01	**Chacalluta**	**2.95**	**121**	IAML		11 46 12.7	
	comp=E,1μm,0.2s						
PB12	**IPOC Station P**	**3.09**	**124**		**Pn**	**11 45 25.4**	**-1.1**
PB12	**IPOC Station P**	**3.09**	**124**	*eP*	**Pn**	**11 45 25.6**	**-0.9**
PB12				IAML		11 46 17.6	
	comp=N,315nm,0.5s						
PB16	**IPOC Station P**	**3.64**	**114**		**Pn**	**11 45 34.9**	**+0.3**
PB11	**IPOC Station P**	**4.29**	**132**		**Pn**	**11 45 42.8**	**-0.3**
TA02	**Huaiquique**	**4.34**	**141**	Pn	**Pn**	**11 45 42.8**	**-0.8**
TA01	**Diego Aracena**	**4.54**	**144**	Pn	**Pn**	**11 45 46.1**	**-0.3**
GO01	**Chusmiza**	**4.57**	**128**		**Pn**	**11 45 47.5**	**+0.2**
PATCX	**Punta Patache**	**4.76**	**146**		**Pn**	**11 45 49.4**	**-0.2**
PATCX	**Punta Patache**	**4.76**	**146**	⇑*iP*	**Pn**	**11 45 48.7**	**-0.9**
PB08	**IPOC Station P**	**4.89**	**132**		**Pn**	**11 45 51.2**	**-0.4**
PB02	**IPOC Station P**	**5.31**	**147**		**Pn**	**11 45 56.7**	**-0.5**
PB01	**IPOC Station P**	**5.32**	**142**		**Pn**	**11 45 56.2**	**-1.0**
PB07	**IPOC Station P**	**5.66**	**149**		**Pn**	**11 46 00.9**	**-1.0**
PB09	**IPOC Station P**	**6.05**	**145**	Pn	**Pn**	**11 46 07.2**	**-0.2**
PB04	**IPOC Station P**	**6.06**	**154**		**Pn**	**11 46 06.0**	**-1.5**
NNA	**Nana**	**6.12**	**322**	P	Pn	11 46 17.5	+9.4
	comp=N,1.3nm,0.3s,baz=213,slow=17,SNR=1.7						
NNA				S	**Sb**	**11 47 34.3**	**-4.3**
	comp=N,3.1nm,0.3s,baz=236,slow=18,SNR=2.7						
NNA				LR	LR	11 48 53.4	

KHMN	**Narli-Kahraman**	**0.43**	**15**	PG	**Pb**	**11 51 41.1**	**-0.9**
KHMN				SG	**Sb**	**11 51 47.4**	**-1.6**
KAHM	**Kahramanmaras,**	**0.54**	**358**	P	**Pg**	**11 51 42.3**	**+0.1**
KAHM				S	**Sg**	**11 51 49.6**	**+0.4**
KAHM				*i* AML	AML	11 51 50.0	
	comp=E,1μm,0.4s						
KAHM				*i* AML	AML	11 51 55.0	
	comp=N,2μm,0.5s						
ANDN	**Andirin**	**0.81**	**319**	P	**Pb**	**11 51 48.1**	**-0.4**
ANDN				S	**Sn**	**11 52 01.6**	**-1.1**
ANDN				*i* AML	AML	11 52 02.0	
	comp=N,4μm,0.3s						
ANDN				*i* AML	AML	11 52 02.0	
	comp=E,2μm,0.4s						
TAHT	**Tahtakopru-Hat**	**0.90**	**228**	PG	**Pb**	**11 51 49.8**	**-0.1**
CEYT	**Ceyhan**	**1.01**	**272**	PG	**Pn**	**11 51 52.4**	**-0.5**
CEYT				SG	**Sn**	**11 52 06.6**	**-1.0**
KOZT	**Kozan**	**1.07**	**298**	PG	**Pn**	**11 51 53.5**	**-0.2**
YURE	**YUREGIR**	**1.12**	**263**	P	**Pg**	**11 51 54.6**	**+1.4**
YURE				*i* AML	AML	11 52 15.0	
	comp=N,465nm,0.5s						
YURE				*i* AML	AML	11 52 16.0	
	comp=E,653nm,0.9s						
ATAB	**Bozova**	**1.14**	**64**	P	**Pn**	**11 51 54.0**	**-0.6**
ATAB				S	**Sb**	**11 52 08.2**	**-1.0**
ATAB				*i* AML	AML	11 52 11.0	
	comp=N,3μm,0.6s						
ATAB				*i* AML	AML	11 52 11.0	
	comp=E,8μm,0.8s						
YAYL	**Yayladag**	**1.19**	**218**	PN	**Pg**	**11 51 55.6**	**+1.0**
SAIM	**ADANA**	**1.24**	**324**	P	**Pg**	**11 51 55.8**	**+0.2**
SAIM				S	**Sn**	**11 52 14.4**	**+0.9**
SAIM				*i* AML	AML	11 52 16.0	
	comp=N,6μm,0.3s						
SURC	**SANLIURFA_SURC**	**1.28**	**94**	P	**Pn**	**11 51 56.3**	**-0.3**
SURC				S	**Sb**	**11 52 12.8**	**-0.7**
SURC				*i* AML	AML	11 52 15.0	
	comp=N,4μm,0.5s						
ELBS	**KAHRAMANMARAS**	**1.35**	**4**	P	**Pg**	**11 51 58.2**	**+0.6**
ELBS				S	**Sg**	**11 52 17.3**	**+2.1**
ELBS				*i* AML	AML	11 52 18.0	
	comp=E,4μm,0.5s						
ELBS				*i* AML	AML	11 52 19.0	
	comp=N,1μm,0.3s						
AKCD	**Akcadag**	**1.50**	**28**	P	**Pb**	**11 51 59.8**	**-0.6**
AKCD				S	**Sg**	**11 52 20.2**	**+0.2**
AKCD				*i* AML	AML	11 52 22.0	
	comp=N,4μm,0.3s						
AKCD				*i* AML	AML	11 52 23.0	
	comp=E,3μm,0.6s						
SARI	**SarD1z-Kayseri**	**1.50**	**342**	PN	**Pg**	**11 52 00.7**	**+0.1**
SARI				SN	**Sg**	**11 52 20.8**	**+0.6**
SANL	**SANLIURFA_Merk**	**1.59**	**82**	P	**Pb**	**11 52 01.4**	**-0.4**
SANL				S	**Sb**	**11 52 22.6**	**+0.3**
SANL				*i* AML	AML	11 52 27.0	
	comp=E,2μm,0.4s						
SANL				*i* AML	AML	11 52 29.0	
	comp=N,2μm,0.6s						
KARA	**Karaisali**	**1.59**	**281**	PN	**Pb**	**11 52 01.4**	**-0.4**
DARE	**Darende-Malaty**	**1.64**	**13**	PN	**Pb**	**11 52 02.7**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**1.72**	**311**	P	**Pb**	**11 52 03.6**	**-0.6**
YAHY				S	**Sb**	**11 52 25.5**	**-0.8**
YAHY				*i* AML	AML	11 52 30.0	
	comp=N,379nm,0.8s						
YAHY				*i* AML	AML	11 52 34.0	
	comp=E,294nm,0.8s						
MALT	**Malatya**	**1.74**	**40**	PN	**Pb**	**11 52 03.9**	**-0.6**
CMRD	**Camardi-Nigde**	**1.75**	**294**	PN	**Pb**	**11 52 03.7**	**-0.9**
CUGUR	**Gurin_SVAS**	**1.76**	**7**	P	**Pg**	**11 52 05.0**	**-0.5**
CUGUR				S	**Sg**	**11 52 29.9**	**+1.6**
CUGUR				*i* AML	AML	11 52 31.0	
	comp=E,3μm,0.5s						
CUGUR				*i* AML	AML	11 52 34.0	
	comp=N,2μm,0.5s						
DED	**Mersin**	**1.77**	**270**	P	**Pb**	**11 52 03.8**	**-1.1**
DED				S	**Sb**	**11 52 26.5**	**-1.1**
DED				*i* AML	AML	11 52 31.0	
	comp=N,307nm,0.4s						
DED				*i* AML	AML	11 52 33.0	
	comp=E,220nm,0.8s						
GULE	**Gulek**	**1.81**	**280**	P	**Pb**	**11 52 05.0**	**-0.7**
GULE				S	**Sg**	**11 52 29.0**	**-1.0**
GULE				*i* AML	AML	11 52 32.0	
	comp=N,706nm,0.4s						
GULE				*i* AML	AML	11 52 36.0	
	comp=E,725nm,0.4s						
MERS	**Mersin**	**2.00**	**268**	PN	**Pn**	**11 52 06.8**	**+0.3**
HEKM	**Malatya_Hekimh**	**2.04**	**21**	P	**Pb**	**11 52 08.3**	**-1.3**
HEKM				S	**Sg**	**11 52 37.9**	**+0.5**
HEKM				*i* AML	AML	11 52 40.0	
	comp=E,2μm,0.5s						
HEKM				*i* AML	AML	11 52 42.0	
	comp=N,2μm,0.5s						
NIDE	**Nigde/Merkez-G**	**2.05**	**301**	P	**Pb**	**11 52 09.3**	**-0.4**
NIDE				S	**Sb**	**11 52 34.6**	**-1.1**
NIDE				*i* AML	AML	11 52 36.0	
	comp=N,567nm,0.5s						
NIDE				*i* AML	AML	11 52 42.0	
	comp=E,546nm,0.3s						
BNN	**Bunyan**	**2.09**	**334**	PN	**Pb**	**11 52 08.8**	**-1.6**
ELZG	**Elazig**	**2.18**	**45**	P	**Pn**	**11 52 09.2**	**+0.1**
ELZG				S	**Sg**	**11 52 41.0**	**-0.8**
ELZG				*i* AML	AML	11 52 46.0	
	comp=N,737nm,0.4s						
ELZG				*i* AML	AML	11 52 52.0	
	comp=E,818nm,0.8s						
SVRC	**Sivrice-ELAZID**	**2.29**	**52**	PN	**Pb**	**11 52 12.1**	**-1.8**
KERG	**Konya-Eregli**	**2.35**	**282**	P	**Pb**	**11 52 13.4**	**-1.4**
KERG				S	**Sb**	**11 52 41.3**	**-2.9**
KERG				*i* AML	AML	11 52 48.0	
	comp=N,235nm,0.4s						
KERG				*i* AML	AML	11 52 49.0	
	comp=E,145nm,0.5s						
ARPR	**Arapgir-MALATY**	**2.36**	**26**	PN	**Pb**	**11 52 12.7**	**-2.3**
CUKAN	**kangal_SIVAS**	**2.36**	**9**	P	**Pb**	**11 52 12.9**	**-2.1**
CUKAN				*i* AML	AML	11 52 52.0	
	comp=E,225nm,0.6s						
CUKAN				*i* AML	AML	11 52 57.0	
	comp=N,236nm,0.4s						
CUSAR	**Sarkisla-SIVAS**	**2.51**	**346**	P	**Pn**	**11 52 14.5**	**+0.9**
SILI	**Silifke-Mersin**	**2.56**	**257**	PN	**Pn**	**11 52 14.9**	**+0.8**
KEMA	**Kemaliye**	**2.57**	**27**	P	**Pn**	**11 52 15.6**	**+1.3**
DIYA	**Diyarbakir**	**2.65**	**68**	P	**Pb**	**11 52 18.5**	**-1.4**
DIYA				S	**Sb**	**11 52 54.7**	**+1.9**
DIYA				*i* AML	AML	11 53 05.0	
	comp=E,776nm,0.6s						
DIYA				*i* AML	AML	11 53 06.0	
	comp=N,524nm,0.8s						
DYBB	**Diyarbakir**	**2.67**	**68**	PN	**Pn**	**11 52 17.1**	**+1.4**
KEBE	**Keben-Mersin**	**2.71**	**260**	PN	**Pn**	**11 52 16.8**	**+0.6**
YESY	**Yesilyurt**	**2.73**	**288**	PN	**Pn**	**11 52 17.6**	**+1.1**
ILIC	**ilic-Erzincan**	**2.76**	**26**	PN	**Pn**	**11 52 18.5**	**+1.5**
IKL	**Isikli**	**2.78**	**256**	PN	**Pn**	**11 52 17.7**	**+0.6**
MAZI	**Mazidag**	**2.78**	**79**	PN	**Pn**	**11 52 18.7**	**+1.4**
TISA	**Tisan-Mersin**	**2.81**	**254**	PN	**Pn**	**11 52 18.2**	**+0.7**
KOVA	**Elazig, Kovanc**	**2.81**	**51**	P	**Pn**	**11 52 18.8**	**+1.1**
HWQ	**Hawqa**	**2.83**	**198**	*e*P	**Pn**	**11 52 20.1**	**+2.2**
GULN	**MERSIN_Gulnar**	**2.90**	**255**	P	**Pn**	**11 52 19.5**	**+0.7**
GULN				S	**Sn**	**11 52 54.5**	**+0.3**
GULN				*i* AML	AML	11 52 56.0	
	comp=E,56nm,0.5s						
GULN				*i* AML	AML	11 53 08.0	
	comp=N,71nm,0.9s						
HACI	**Hacifakili, Ak**	**2.90**	**340**	P	**Pn**	**11 52 20.2**	**+1.2**
HACI				*i* AML	AML	11 53 09.0	
	comp=E,66nm,0.6s						
HACI				*i* AML	AML	11 53 12.0	
	comp=N,54nm,1.1s						
AKKU	**Akkuyu-Mersin**	**2.91**	**255**	PN	**Pn**	**11 52 19.8**	**+0.9**
AKK2	**Akkuyu-Mersin**	**2.91**	**254**	PN	**Pn**	**11 52 19.9**	**+0.9**
AKK1	**Akkuyu-Mersin**	**2.92**	**254**	PN	**Pn**	**11 52 19.8**	**+0.8**
TEVE	**Tevekalti-Mers**	**2.92**	**260**	PN	**Pn**	**11 52 20.1**	**+0.9**
SVSK	**Karacayir**	**2.94**	**360**	PN	**Pn**	**11 52 20.9**	**+1.6**
YOZ	**Yozgat**	**2.98**	**334**	PN	**Pn**	**11 52 21.7**	**+1.7**
MARD	**Mardin**	**3.03**	**82**	P	**Pn**	**11 52 20.2**	**-0.5**
BERE	**Bereket-Mersin**	**3.11**	**260**	PN	**Pn**	**11 52 23.0**	**+1.1**
YAYX	**Yaylak**	**3.20**	**309**	PN	**Pn**	**11 52 24.3**	**+1.2**
REFA	**Refahiye_ERZN**	**3.23**	**25**	P	**Pg**	**11 52 33.7**	**0.0**
TEKE	**Tekeli-Mersin**	**3.25**	**256**	PN	**Pn**	**11 52 24.2**	**+0.6**
BHL	**Bhannes**	**3.26**	**200**	*e*P	**Pb**	**11 52 29.3**	**-1.0**
ERMK	**Ermenek**	**3.31**	**265**	P	**Pn**	**11 52 26.7**	**+2.1**
ERMK				*i* AML	AML	11 53 15.0	
	comp=E,146nm,0.7s						
ERMK				*i* AML	AML	11 53 19.0	
	comp=N,162nm,0.6s						
CKRK	**Yozgat, Cekere**	**3.31**	**339**	P	**Pn**	**11 52 26.4**	**+1.8**
TOKT	**Tokat**	**3.36**	**354**	PN	**Pn**	**11 52 26.7**	**+1.5**
SERE	**Sereflikochisa**	**3.36**	**307**	PN	**Pn**	**11 52 26.7**	**+1.4**
BTMN	**Batman**	**3.51**	**74**	P	**Pb**	**11 52 35.1**	**+0.6**
BTMN				S	**Sg**	**11 53 21.8**	**-2.7**
SVAN	**Silvan-Diyarba**	**3.52**	**69**	PN	**Pn**	**11 52 29.6**	**+2.2**
SVAN	**Silvan-Diyarba**	**3.52**	**69**	P	**Pb**	**11 52 34.0**	**-0.8**
SVAN				S	**Sb**	**11 53 21.3**	**+3.3**
BNGB	**Bingl**	**3.53**	**54**	PN	**Pn**	**11 52 29.1**	**+1.6**
KAMT	**Kaman**	**3.53**	**314**	PN	**Pn**	**11 52 29.6**	**+2.0**
CHBY	**Cihanbeyli**	**3.64**	**297**	PN	**Pn**	**11 52 31.1**	**+2.0**
CORM	**Corum**	**3.70**	**330**	PN	**Pn**	**11 52 31.7**	**+1.7**
NATI	**Neve Ativ**	**3.85**	**196**	Pn	**Pg**	**11 52 44.3**	**-1.3**
NATI				Sn	**Sg**	**11 53 34.4**	**-1.1**
DELI	**KIRIKKALE**	**3.87**	**322**	P	**Pn**	**11 52 33.9**	**+1.6**
GEM	**Giv'at Ha'Em**	**3.92**	**197**	Pn	**Pg**	**11 52 45.4**	**-1.4**
GEM				Sn	**Sg**	**11 53 36.3**	**-1.3**
MUSM	**Mu-Merkez**	**3.96**	**63**	P	**Pb**	**11 52 43.9**	**+1.5**
MUSM				S	**Sg**	**11 53 36.5**	**-2.7**
MMA0B	**Mount Meron ar**	**4.17**	**199**	Pn	**Pg**	**11 52 50.2**	**-1.4**
MMA0B				Sn	**Sg**	**11 53 43.0**	**-2.6**
BLGI	**Bet Lehem HaGe**	**4.49**	**200**	Pn	**Pb**	**11 52 54.2**	**+3.0**
MMLI	**Mount Malkishu**	**4.71**	**197**	Pn	**Pb**	**11 52 56.8**	**+1.8**
HMDT	**Nahal Hemdat**	**4.87**	**195**	Pn	**Pb**	**11 52 58.6**	**+0.9**
HMDT				Sn	**Sb**	**11 53 59.8**	**+3.2**
PRNI	**Paran**	**6.81**	**195**	Pn	**Pb**	**11 53 26.8**	**-4.1**

*IDC **26** 11:58:02.5±1.6,30˚.96N×131˚.85E,h0km,mb3.6/3, mb1 3.8/5,mb1mx3.4/45,mbtmp3.7/5,ML3.1/2,Error ellipse: s-maj=66.2km s-min=21.9km az=77.0*
*JMA **26** 11:58:06.8±0.1,30˚.88N×131˚.91E,h51km±2km,M3.3*
ISC 26 11:58:06.6±2.1,30˚.86N±0˚.04×131˚.9E±0˚.1,h28km±15km, n17,σ1s57/23,mb3.6/3,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.83**	**256**	P		**Pb**		**11 58 22.4**	**0.0**
JNAR	**Kushima--Naru**	**0.86**	**321**	P		**Pb**		**11 58 22.7**	**-0.3**
JTSR	**Tashiro 2**	**0.90**	**290**	P		**Pn**		**11 58 23.0**	**-0.5**
JNKG	**Nichinankitago**	**0.93**	**330**	P		**Pn**		**11 58 23.4**	**-0.4**
JMTN	**Minamitane**	**0.98**	**243**	P		**Pn**		**11 58 24.7**	**+0.1**
JMTN				S		**Sb**		**11 58 38.5**	**+0.9**
JTZ	**Takazaki**	**1.26**	**326**	P		**Pn**		**11 58 28.1**	**-0.2**
JTZ				S		**Sn**		**11 58 44.2**	**-0.1**
JYAK	**Yakushimahirau**	**1.36**	**243**	P		**Pn**		**11 58 29.7**	**0.0**
JYAK				S		**Sn**		**11 58 46.7**	**-0.1**
JSU	**Suzuyama**	**1.41**	**298**	P		**Pn**		**11 58 30.4**	**0.0**
JTSN	**Tsuno**	**1.43**	**346**	P		**Pn**		**11 58 30.4**	**-0.3**
JTSN				S		**Sn**		**11 58 47.9**	**-0.6**
JKC	**Kuchinoerabu**	**1.53**	**256**	P		**Pn**		**11 58 32.1**	**0.0**
JZO	**Okuchi**	**1.70**	**319**	P		**Pn**		**11 58 34.5**	**0.0**
JIU3	**Izumi3**	**1.93**	**331**	P		**Pn**		**11 58 37.8**	**+0.2**
JNU	**Nakatsue**	**2.42**	**339**	Pn		**Pn**		**11 58 41.1**	**-3.3**
	3.1nm,0.3s,baz=4.5,slow=23,SNR=8.8								
JNU				Sn		**Sn**		**11 59 13.9**	**+0.7**
	4.3nm,0.3s,baz=14,slow=19,SNR=4.7								
JOW	**Kunigami**	**5.12**	**219**	Pn		**Pn**		**11 59 21.7**	**+0.2**
	4.9nm,0.3s,baz=113,slow=23,SNR=37								
JOW				Sn		**Sn**		**12 00 14.2**	**-5.5**
	1.6nm,0.3s,baz=128,slow=19,SNR=1.7								
WRA	**Warramunga Arr**	**50.56**	**177**	P		**P**		**12 07 02.9**	**+0.2**
	0.2nm,0.5s,baz=354,slow=8.1,SNR=1.5								
ASAR	**Alice Springs**	**54.25**	**178**	P		**P**		**12 07 31.2**	**+1.1**
	0.3nm,0.5s,baz=10,slow=13,SNR=7.4								
STKA	**Stephens Creek**	**63.06**	**171**	P		**P**		**12 08 32.4**	**+1.1**
	1.3nm,0.4s,baz=349,slow=10,SNR=3.8								

*MEX **26** 12:04:04.5±1.5, 18˚.14N×103˚.54W, h5km, MD4.9*
*MOS **26** 12:04:06.2±1.0, 18˚.53N×103˚.23W, h34km,mb5.2/31, Error ellipse: s-maj=8.5km s-min=4.6km az=96.3*
*NEIC **26** 12:04:08.3±1.7, 18˚.48N±0˚.07×103˚.28W±0˚.08, h35km±1km, mb4.7/383,Md4.9/78(MEX), Error ellipse: s-maj=14.8km s-min=9.5km az=224.0*
*GCMT **26** 12:04:10.3±0.5, 18˚.34N±0˚.03×103˚.44W±0˚.03, h26km±1km, MW4.9/75,Moment Tensor Solution. s30,c33; s75,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.03±.17; $M_{\theta\theta}$-1.62±.10; $M_{\phi\phi}$-0.41±.10; $M_{r\theta}$1.76±.18; $M_{\theta\phi}$0.97±.06; $M_{\phi r}$-0.98±.18; Best double couple: M_o2.90600×10^{16} NP1:ϕs299.00000°,δ23.00000°,λ90.00000°. NP2: ϕs119.00000°,δ67.00000°,λ90.00000°. Principal axes: T 2.8400, Plg68.0000°, Azm29.0000°; N 0.1310, Plg0.0000°, Azm119.0000°; P -2.9720, Plg22.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **26** 12:04:11.2±3.1, 18˚.47N×103˚.23W, h67km±24km, mb4.4/18, mb1 4.5/22,mb1mx4.4/36,mbtmp4.6/22,MS4.1/45, Ms1 4.1/45,ms1mx4.0/71 Error ellipse: s-maj=26.5km s-min=12.9km az=39.0*
ISC 26 12:04:05.0±0.8,18˚.31N±0˚.03×103˚.41W±0˚.03,h24km±5km, n795,σ1s50/804,mb4.8/169,MS4.2/46,7C-4D,Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.06**	**111**	*i* P		**Pb**		**12 04 08.8**	**-0.4**
MMIG				*i* S		**Sb**		**12 04 12.0**	**-0.1**
CDAR	**Ciudad de Arme**	**0.85**	**318**	*e*P		**Pb**		**12 04 19.4**	**-1.7**
CDAR				*e*S		**Sb**		**12 04 30.5**	**-1.6**
COIG	**Colima**	**0.91**	**343**	*i* P		**Pb**		**12 04 21.2**	**-0.9**
COIG				*e*S		**Sb**		**12 04 33.9**	**0.0**
R15V		**1.01**	**328**	*i* P		**Pn**		**12 04 22.3**	**-1.6**
R15V				*e*S		**Sb**		**12 04 35.4**	**-1.5**
MNGA	**Volcan de Coli**	**1.17**	**350**	*e*P		**Pb**		**12 04 26.6**	**-0.1**
MNGA				*i* S		**Sn**		**12 04 43.1**	**+1.7**
EZ5V		**1.18**	**351**			**Pb**		**12 04 26.8**	**-0.1**
EZ5V		**1.18**	**351**	*e*P		**Pb**		**12 04 26.8**	**-0.1**
EZ5V				*i* S		**Sn**		**12 04 43.6**	**+1.9**
JUBC	**Volcan de Coli**	**1.21**	**353**	*e*P		**Pb**		**12 04 27.1**	**-0.3**
JUBC				*e*S		**Sb**		**12 04 44.1**	**+1.3**
INCO	**Volcan de Coli**	**1.22**	**351**	*e*P		**Pb**		**12 04 27.4**	**-0.3**
INCO				*e*S		**Sb**		**12 04 44.7**	**+1.4**
UON	**La Union**	**1.55**	**102**	*e*P		**Pb**		**12 04 33.8**	**+0.7**
UON				*e*S		**Sb**		**12 04 55.0**	**+2.7**
URUA	**Uruapan**	**1.68**	**49**			**Pb**		**12 04 34.7**	**-0.7**
URUA						**Sb**		**12 04 58.5**	**+2.4**
URUA	**Uruapan**	**1.68**	**49**	*e*P		**Pb**		**12 04 34.7**	**-0.7**
URUA				*i* S		**Sb**		**12 04 58.5**	**+2.4**
CJM	**Chamela**	**1.95**	**308**	*e*P		**Pn**		**12 04 34.9**	**-1.8**
CJM				*e*S		**Sb**		**12 05 02.9**	**-0.8**
MOIG	**Morelia**	**2.50**	**57**			**Pb**		**12 04 48.4**	**-1.0**
MOIG						**Sb**		**12 05 19.7**	**-0.2**
MOIG	**Morelia**	**2.50**	**57**	*e*P		**Pb**		**12 04 48.4**	**-1.0**
MOIG				*e*S		**Sb**		**12 05 19.7**	**-0.2**
ARIG	**Puente Sto Nin**	**2.91**	**90**			**Pn**		**12 04 51.6**	**+1.7**
ARIG						**Sb**		**12 05 33.1**	**+1.7**
ARIG	**Puente Sto Nin**	**2.91**	**90**	*e*P		**Pn**		**12 04 51.6**	**+1.7**
ARIG				*e*S		**Sb**		**12 05 33.1**	**+1.7**
IGIG	**Irapuato, Guan**	**3.12**	**39**			**Pb**		**12 04 58.1**	**-1.9**
IGIG						**Sb**		**12 05 37.4**	**-0.3**
IGIG	**Irapuato, Guan**	**3.12**	**39**	*e*P		**Pb**		**12 04 58.1**	**-1.9**
IGIG				*i* S		**Sb**		**12 05 37.4**	**-0.3**
CAIG	**El Cayaco**	**3.25**	**112**			**Pn**		**12 04 54.7**	**+0.2**
CAIG						**Sb**		**12 05 42.8**	**+1.7**
CAIG	**El Cayaco**	**3.25**	**112**	*e*P		**Pn**		**12 04 54.7**	**+0.2**
CAIG				*e*S		**Sb**		**12 05 42.8**	**+1.7**
MEIG	**Mezcala**	**3.62**	**95**			**Pn**		**12 04 59.7**	**-0.1**
MEIG						**Sb**		**12 05 49.2**	**-2.8**
MEIG	**Mezcala**	**3.62**	**95**	*e*P		**Pn**		**12 04 59.7**	**-0.1**
MEIG				*e*S		**Sb**		**12 05 49.2**	**-2.8**
TOVM	**TOLUCA**	**3.66**	**74**			**Pb**		**12 05 05.2**	**-4.1**
TOVM	**TOLUCA**	**3.66**	**74**	*e*P		**Pb**		**12 05 05.2**	**-4.1**
TOVM				*e*S		**Sb**		**12 05 57.6**	**+4.2**
PLIG	**Platanillo**	**3.71**	**88**			**Pn**		**12 05 04.0**	**+3.0**
PLIG						**Sb**		**12 05 53.1**	**-1.4**
PLIG	**Platanillo**	**3.71**	**88**	*e*P		**Pn**		**12 05 04.0**	**+3.0**
PLIG				*e*S		**Sb**		**12 05 53.1**	**-1.4**
AAIG	**Aguscalientes**	**3.76**	**15**	*e*P		**Pn**		**12 05 04.1**	**+2.2**
AAIG				*e*S		**Sb**		**12 05 54.1**	**-2.2**
MAVM	**Malinalco, Edo**	**3.77**	**80**			**Pb**		**12 05 06.6**	**-4.4**
MAVM						**Sn**		**12 05 49.5**	**+3.9**
MAVM	**Malinalco, Edo**	**3.77**	**80**	*e*P		**Pb**		**12 05 06.6**	**-4.4**
MAVM				*e*S		**Sn**		**12 05 49.5**	**+3.9**
AZVM	**Cuida Lopez Ma**	**4.10**	**71**	*e*P		**Pb**		**12 05 13.9**	**-2.9**
AZVM				*e*S		**Sn**		**12 05 50.7**	**-3.4**

UNM	**Universidad Na**	**4.13**	**75**	P		**Pn**	**12 05 05.7**	**-1.3**
UNM	**Universidad Na**	**4.13**	**75**			**Pn**	**12 05 05.7**	**-1.3**
UNM	**Universidad Na**	**4.13**	**75**	*e*P		**Pb**	**12 05 13.9**	**-3.3**
UNM				*e*S		**Sb**	**12 06 07.5**	**+0.6**
PBVM	**Pinon**	**4.24**	**74**			**Pn**	**12 05 12.8**	**+4.5**
PBVM	**Pinon**	**4.24**	**74**	*e*P		**Pn**	**12 05 12.8**	**+4.5**
PBVM				*e*S		**Sn**	**12 05 54.8**	**-2.3**
PTVM	**Pico Tres Padr**	**4.26**	**72**			**Pb**	**12 05 15.3**	**-4.2**
PTVM	**Pico Tres Padr**	**4.26**	**72**	*e*P		**Pb**	**12 05 15.3**	**-4.2**
PTVM				*e*S		**Sb**	**12 06 14.1**	**+3.6**
ZUVM	**ZUMPANGO**	**4.36**	**69**			**Pb**	**12 05 17.1**	**-4.1**
ZUVM	**ZUMPANGO**	**4.36**	**69**	*e*P		**Pb**	**12 05 17.1**	**-4.1**
ZUVM				*e*S		**Sb**	**12 06 21.2**	**+7.7**
TXVM	**Universitario**	**4.39**	**75**	*e*		**Pb**	**12 05 20.9**	**-0.8**
TXVM				*e*S		**Sb**	**12 06 10.3**	**-4.1**
AMVM	**AMECAMECA**	**4.46**	**79**			**Pn**	**12 05 14.1**	**+2.7**
AMVM	**AMECAMECA**	**4.46**	**79**	*e*P		**Pn**	**12 05 14.1**	**+2.7**
AMVM				*e*S		**Sn**	**12 06 01.0**	**-1.7**
ZAIG	**Zacatecas**	**4.50**	**10**	Pn		**Pn**	**12 05 11.5**	**-0.6**
ZAIG	**Zacatecas**	**4.50**	**10**	*e*P		**Pn**	**12 05 14.9**	**+2.8**
ZAIG				*e*S		**Sb**	**12 06 17.9**	**+0.2**
DEIG	**Demacu**	**4.58**	**64**	*e*P		**Pn**	**12 05 16.1**	**+3.1**
DEIG				*e*S		**Sn**	**12 05 59.6**	**-6.1**
VTVM	**Tizayuca**	**4.62**	**71**			**Pn**	**12 05 16.5**	**+2.9**
VTVM	**Tizayuca**	**4.62**	**71**	*e*P		**Pn**	**12 05 16.5**	**+2.9**
VTVM				*e*S		**Sb**	**12 06 23.2**	**+2.4**
TLIG	**Tlapa**	**4.67**	**98**	Pn		**Pn**	**12 05 15.9**	**+1.7**
TLIG	**Tlapa**	**4.67**	**98**	*e*P		**Pn**	**12 05 15.9**	**+1.7**
TLIG				*e*S		**Sn**	**12 06 15.0**	**+7.3**
FTIG	**Fresnillo de T**	**5.03**	**94**	*e*P		**Pn**	**12 05 21.3**	**+2.1**
FTIG				*i* S		**Sb**	**12 06 29.4**	**-3.2**
HLIG	**Huajuapan de L**	**5.35**	**94**	*e*P		**Pn**	**12 05 26.0**	**+2.3**
HLIG				*e*S		**Sn**	**12 06 28.3**	**+3.5**
PNIG	**Pinotepa**	**5.39**	**110**			**Pn**	**12 05 25.5**	**+1.4**
PNIG						**Sb**	**12 06 40.8**	**-2.1**
PNIG	**Pinotepa**	**5.39**	**110**	*e*P		**Pn**	**12 05 25.5**	**+1.4**
PNIG				*e*S		**Sb**	**12 06 40.8**	**-2.1**
TXIG	**Tlaxiaco**	**5.47**	**100**	*e*P		**Pn**	**12 05 28.2**	**+2.8**
TXIG				*e*S		**Sn**	**12 06 35.5**	**+7.7**
YOIG	**Yosondua**	**5.78**	**104**	*e*P		**Pn**	**12 05 32.1**	**+2.5**
YOIG				*e*S		**Sb**	**12 06 45.4**	**-8.8**
TOIG	**Toxpalan**	**6.03**	**91**	*e*P		**Pn**	**12 05 35.4**	**+2.4**
TOIG				*e*S		**Sb**	**12 06 57.6**	**-3.8**
PEIG	**Puerto Escondi**	**6.41**	**110**	*e*P		**Pn**	**12 05 37.6**	**-0.5**
PEIG				*e*S		**Sb**	**12 07 07.5**	**-4.7**
SLBS	**Sierra La Lagu**	**8.12**	**312**	Pn		**Pn**	**12 06 03.4**	**+1.8**
CMIG	**Matias Romero**	**8.21**	**97**	P		**Pn**	**12 06 05.1**	**+2.3**
	1.5nm,0.3s,baz=300,slow=10,SNR=19							
CMIG				S		**Sn**	**12 07 37.8**	**+2.9**
	3.3nm,0.3s,baz=278,slow=11,SNR=4.7							
LPIG	**La Paz**	**8.64**	**313**	LR		LR	12 09 05.5	
	comp=Z,2μm,18.2s,baz=99,slow=34							
HPIG		**8.83**	**347**			**Pn**	**12 06 10.2**	**-1.3**
KVTX	**Kingsville**	**10.50**	**28**	Pn		**Pn**	**12 06 31.3**	**-2.8**
833A	**Chaparral WMA,**	**10.62**	**20**	Pn		**Pn**	**12 06 32.6**	**-3.2**
833A	**Chaparral WMA,**	**10.62**	**20**	P		**Pn**	**12 06 39.4**	**+3.5**
	baz=201							
**

comp=Z,157nm,1.2s
VBMS Vicksburg 18.08 38 P P 12 08 16.0 +1.1
baz=223
BLYC Blythe 18.31 329 P 12 08 16.8 -0.8
MIAR Mount Ida 18.39 27 P P 12 08 17.1 -1.3
MIAR pmax pmax
comp=Z,27nm,1.1s
MIAR Mount Ida 18.39 27 P P 12 08 17.1 -1.3
MIAR Mount Ida 18.39 27 P P 12 08 17.1 -1.3
baz=211,SNR=14
U32A Winter Ranch, 18.41 11 P 12 08 18.7 0.0
U32A IAmb IAmb 12 08 21.7
comp=Z,52nm,1.1s
WUAZ Wupatki 18.54 339 P 12 08 19.3 -0.9
WUAZ Wupatki 18.54 339 P P 12 08 20.2 0.0
baz=155,SNR=13
PDMCI Parker Dam,Lak 18.59 331 P P 12 08 19.7 -0.8
baz=146
BAR Barrett 18.63 323 P P 12 08 20.5 -0.6
MONP2 Monument Peak 18.64 324 P P 12 08 20.6 -0.8
baz=138
X40A Basin Creek Fa 18.66 28 P P 12 08 20.3 -1.1
X40A IAmb IAmb 12 08 45.7
comp=Z,44nm,1.2s
X40A Basin Creek Fa 18.66 28 P P 12 08 20.3 -1.1
baz=213,SNR=5.6
CCAR Cane Creek 18.70 32 P P 12 08 21.4 -0.4
CCAR IAmb IAmb 12 08 35.9
comp=Z,45nm,0.9s
BC3 Big Chuckawall 18.70 327 P P 12 08 22.0 +0.1
baz=142
T25A Trinidad 18.78 358 P P 12 08 22.6 -0.3
T25A IAmb IAmb 12 08 27.5
comp=Z,35nm,1.1s
T25A Trinidad 18.78 358 P P 12 08 23.0 +0.2
baz=177,SNR=13
TUL1 Leonard 18.78 20 P 12 08 21.3 -1.3
TUL1 IAmb IAmb 12 08 33.5
comp=Z,55nm,0.8s
TUL1 Leonard 18.78 20 P P 12 08 22.0 -0.7
baz=203,SNR=12
W39A Magazine 18.86 25 P P 12 08 23.5 -0.1
W39A IAmb IAmb 12 08 43.3
comp=Z,114nm,1.4s
W39A Magazine 18.86 25 P P 12 08 23.6 0.0
baz=210,SNR=24
109C Camp Elliot, M 19.03 322 P P 12 08 25.3 -0.1
baz=136
ORTG Ortega, Santa 19.09 112 P P 12 08 25.0 -1.3
UALR University of 19.13 29 P P 12 08 25.1 -1.3
UALR IAmb IAmb 12 08 53.5
comp=Z,50nm,1.2s
W13A Hualapai Mount 19.14 333 P 12 08 25.9 -0.9
TPFO Pinon Flats 19.20 325 P P 12 08 27.2 -0.2
baz=139
PFO Pinyon Flats O 19.20 325 P Pn 12 08 29.8 +1.3
comp=Z,0.5nm,0.3s,baz=135,slow=7.4,SNR=12
PFO LR LR 12 15 28.2
comp=Z,506nm,18.6s,baz=150,slow=35
PFO Pinyon Flats O 19.20 325 *i* P Pn 12 08 29.1 +0.6
PFO pmax pmax
comp=Z,37nm,1.2s
PFO Pinyon Flats O 19.20 325 P Pn 12 08 29.0 +0.6
PFO Pinyon Flats O 19.20 325 P P 12 08 27.2 -0.3
baz=139
BELC Belle Mtn. Jos 19.25 327 P P 12 08 28.4 +0.4
baz=141
MVCO Mesa Verde 19.35 348 P P 12 08 29.4 +0.2
MVCO Mesa Verde 19.35 348 P Pn 12 08 29.8 -0.6
baz=165,SNR=10.0
SDCO Great Sand Dun 19.45 355 P 12 08 30.8 +0.5
SDCO Great Sand Dun 19.45 355 P P 12 08 30.5 +0.2
baz=174,SNR=23
W41B Gary Mavity, V 19.50 28 P P 12 08 30.0 -0.5
W41B IAmb IAmb 12 08 34.4
comp=Z,34nm,0.8s
W41B Gary Mavity, V 19.50 28 P P 12 08 30.2 -0.3
baz=214,SNR=18
T35A Sooner Cattle 19.50 17 P P 12 08 29.5 -1.1
T35A IAmb IAmb 12 08 32.8
comp=Z,63nm,1.0s
JTS Las Juntas de 19.57 112 P Pn 12 08 36.7 +3.9
comp=Z,0.3nm,0.3s,baz=335,slow=19,SNR=2.6
JTS LR LR 12 15 46.2
comp=Z,218nm,20.9s,baz=3.0,slow=36
JTS Las Juntas de 19.57 112 *i* P Pn 12 08 35.1 +2.3
JTS pmax pmax
comp=Z,19nm,1.1s
BRAL Brewton 19.58 46 P P 12 08 30.8 -0.6
BRAL IAmb IAmb 12 08 33.3
comp=Z,72nm,1.1s
WHAR Wooly Hollow 19.58 28 P P 12 08 30.9 -0.5
WHAR IAmb IAmb 12 08 34.2
comp=Z,45nm,0.8s
S22A 4UR Ranch, Cre 19.59 352 P P 12 08 30.8 -1.1
S22A 4UR Ranch, Cre 19.59 352 P P 12 08 32.4 +0.6
baz=170,SNR=14
MURC Murrieta 19.60 324 P Pn 12 08 33.0 -0.1
baz=137
U15A North Rim 19.68 338 P Pn 12 08 35.0 +0.8
GMRC Granite Mounta 19.70 329 P P 12 08 33.3 +0.4
baz=143,SNR=8.1
HHAR Hobbs 19.76 23 P P 12 08 32.7 -0.7
ELS Elsinore Mount 19.77 323 P P 12 08 34.1 +0.5
Y45A Yeager Farm, C 19.84 36 P P 12 08 33.6 -0.7
Y45A IAmb IAmb 12 08 54.4
comp=Z,44nm,0.9s
BBRC Big Bear Solar 19.95 325 P P 12 08 35.1 -0.6
baz=139
HEC Hector,Ludlow 20.07 328 P P 12 08 36.6 -0.3
baz=142,SNR=7.9
FCAR Ozark Folk Cen 20.16 27 P P 12 08 37.5 -0.2
FCAR IAmb IAmb 12 08 38.5
comp=Z,47nm,0.7s
Z47A Carrollton 20.23 40 P P 12 08 38.4 -0.1
Z47A IAmb IAmb 12 08 57.5
comp=Z,54nm,1.1s
U40A Yellville 20.25 25 P P 12 08 38.0 -0.7
U40A IAmb IAmb 12 08 39.6
comp=Z,48nm,0.8s
U40A Yellville 20.25 25 P P 12 08 38.0 -0.7
baz=210,SNR=49
FMP Fort Macarthur 20.31 322 P P 12 08 39.2 -0.2
baz=135
BFSC Mount Baldy Ra 20.33 324 P P 12 08 40.0 +0.2
baz=138,SNR=7.6
PV13 Radium Mtn., P 20.33 348 P P 12 08 40.5 +0.6
OXF Oxford 20.39 35 P P 12 08 39.5 -0.8
OXF pmax pmax
comp=Z,38nm,0.7s
OXF Oxford 20.39 35 P P 12 08 39.5 -0.8
OXF IAmb IAmb 12 08 44.5
comp=Z,38nm,0.7s
OXF Oxford 20.39 35 P P 12 08 39.3 -1.0
baz=221,SNR=5.5
PV15 Paradox Valley 20.44 349 P P 12 08 39.2 -1.9
R32A Long Quarter, 20.45 11 P P 12 08 38.8 -2.2
R32A IAmb IAmb 12 09 10.3
comp=Z,39nm,1.0s
PV11 David Mesa, Pa 20.48 348 P P 12 08 41.3 -0.1
PV20 West Nyswonger 20.54 347 P P 12 08 41.5 -0.6
PV20 IAmb IAmb 12 08 47.8
comp=Z,24nm,0.9s
LCMT Little Creek M 20.54 337 P P 12 08 41.3 -0.7
PV07 Paradox Valley 20.57 348 P P 12 08 41.7 -0.7
PASC Pasadena Art C 20.58 323 P P 12 08 42.4 +0.1
PASC IAmb IAmb 12 08 45.7
comp=Z,24nm,0.9s
PV10 Paradox Valley 20.59 347 P P 12 08 41.2 -1.4
PV10 IAmb IAmb 12 08 51.5
comp=Z,40nm,0.9s
250A Grady 20.60 45 P P 12 08 42.3 -0.2
250A IAmb IAmb 12 08 48.0
comp=Z,66nm,0.8s
Q24A Divide 20.64 356 P P 12 08 42.6 -0.6
Q24A Divide 20.64 356 P P 12 08 43.8 +0.6
baz=175,SNR=7.2
KSCO Kaye Shedlock' 20.64 2 P P 12 08 44.1 +1.0
KSCO IAmb IAmb 12 08 48.7
comp=Z,56nm,1.2s
KSCO Kaye Shedlock' 20.64 2 P P 12 08 43.9 +0.9
baz=182
PV23 Carpenter Ridg 20.66 347 P P 12 08 42.6 -0.8
PV23 IAmb IAmb 12 08 49.5
comp=Z,24nm,1.0s
GSC Goldstone, Bar 20.68 328 P Pn 12 08 45.1 -0.8
GSC pmax pmax
comp=Z,33nm,0.9s
GSC Goldstone, Bar 20.68 328 P Pn 12 08 45.0 -0.9
GSC IAmb IAmb 12 08 46.9
comp=Z,33nm,0.9s
GSC Goldstone, Bar 20.68 328 P P 12 08 43.7 +0.1
baz=141,SNR=17
DECC Green Verdugo 20.72 323 P Pn 12 08 45.2 -1.1
baz=136
LCAR Lake Charles 20.74 29 P P 12 08 43.4 -0.7
LCAR IAmb IAmb 12 08 48.0
comp=Z,29nm,1.1s
RIMA Rio Macho 20.76 112 P P 12 08 44.2 -0.4
LRAL Lakeview Retre 20.78 42 P P 12 08 44.1 -0.4
LRAL IAmb IAmb 12 08 45.2
comp=Z,39nm,1.1s
LRAL Lakeview Retre 20.78 42 P P 12 08 43.7 -0.8
baz=229,SNR=16
SHPR Sheep Range 20.88 333 P P 12 08 45.5 -0.2
SHPR IAmb IAmb 12 08 51.7
comp=Z,20nm,0.9s
SHOC Shoshone, Teco 20.89 330 P Pn 12 08 47.0 -1.4
baz=144,SNR=13
EDW2 Edwards Air Fo 20.99 325 P Pn 12 08 48.4 -1.1
baz=138,SNR=5.8
SZCU Shurtz Canyon 21.00 338 P P 12 08 46.7 -0.4
SMCO Snowmass 21.02 352 P P 12 08 48.0 +0.5
CCUT Cedar City 21.06 338 P P 12 08 49.8 +2.0
MTPU Mount Pierson 21.10 340 P P 12 08 48.0 -0.3
MTPU IAmb IAmb 12 08 52.2
comp=Z,29nm,0.9s
MGMO Mountain Grove 21.17 25 P P 12 08 47.1 -1.6
MGMO IAmb IAmb 12 08 49.2
comp=Z,48nm,0.9s
GNAR Gosnell 21.20 31 P P 12 08 48.0 -1.0
GNAR IAmb IAmb 12 08 53.9
comp=Z,53nm,1.0s
CCAC Calif City Air 21.21 325 P P 12 08 49.8 +0.6
CCAC IAmb IAmb 12 08 51.8
comp=Z,31nm,0.8s
S39A Bolivar 21.23 23 P P 12 08 48.5 -0.8
S39A IAmb IAmb 12 08 54.6
comp=Z,26nm,0.9s
QSM Queen of Sheba 21.24 329 P P 12 08 51.4 +2.0
QSM IAmb IAmb 12 08 52.3
comp=Z,25nm,1.0s
352A Blakely 21.24 48 P P 12 08 48.9 -0.5
352A IAmb IAmb 12 08 55.4
comp=Z,47nm,0.9s
LRMC Laurel Mtn Rad 21.27 326 P P 12 08 51.1 +1.1
baz=140,SNR=6.3
GWY Greenwater Val 21.31 329 P P 12 08 51.7 +1.3
GWY IAmb IAmb 12 08 53.2
comp=Z,23nm,1.0s
PLAL Pickwick Lake 21.48 36 P P 12 08 51.9 -0.1
PLAL IAmb IAmb 12 08 54.6
comp=Z,31nm,0.6s
ISCO Idaho Springs 21.50 355 P P 12 08 51.6 -0.9
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO Idaho Springs 21.50 355 P P 12 08 51.6 -0.9
ISCO Idaho Springs 21.50 355 P P 12 08 52.9 +0.4
baz=174
MSU Marysvale 21.53 341 P P 12 08 53.3 +0.5
MSU Marysvale 21.53 341 P P 12 08 53.3 +0.5
KSU1 Kansas State U 21.54 15 P P 12 08 51.9 -0.8
KSU1 IAmb IAmb 12 08 56.0
comp=Z,22nm,0.7s
KSU1 Kansas State U 21.54 15 P P 12 08 52.7 +0.1
baz=198
PRN Pahroc Range 21.59 334 P P 12 08 54.1 +0.8
Q16A Castle Valley 21.62 343 P P 12 08 54.1 +0.5
MPMC Manual Prospec 21.62 328 P P 12 08 55.1 +1.4
baz=141,SNR=16
SRU San Rafael Swe 21.63 345 P P 12 08 54.2 +0.4
SRU pmax pmax
comp=Z,13nm,1.2s
SRU San Rafael Swe 21.63 345 P P 12 08 54.2 +0.4
FURC Furnace Creek, 21.63 329 P P 12 08 53.7 +0.1
baz=143
ARVC Arvin 21.64 324 P P 12 08 54.9 +1.2
baz=137,SNR=5.5
PBMO Poplar Bluff 21.66 29 P P 12 08 53.2 -0.7
PBMO IAmb IAmb 12 09 20.8
comp=Z,18nm,0.9s
SBC Santa Barbara 21.66 321 P P 12 08 55.4 +1.4
baz=134
Y49A Blount Mountai 21.69 41 P P 12 08 53.5 -0.8
Y49A IAmb IAmb 12 08 56.6
comp=Z,30nm,0.8s
X48A Hartselle 21.70 39 P P 12 08 53.9 -0.5
X48A IAmb IAmb 12 08 56.4
comp=Z,30nm,0.8s
TCRU Three Creeks R 21.71 341 P P 12 08 53.6 -1.1
TPNV Topopah Spring 21.73 331 P P 12 08 57.1 +2.2
TPNV pmax pmax
comp=Z,17nm,1.0s
TPNV Topopah Spring 21.73 331 P P 12 08 57.1 +2.2
TPNV Topopah Spring 21.73 331 P P 12 08 56.3 +1.4
baz=145,SNR=16
BCW Bitter Crk WRg 21.84 322 P P 12 08 56.9 +1.0
BCW IAmb IAmb 12 09 22.2
comp=Z,49nm,1.2s
ISA Isabella, Lake 21.84 325 P P 12 08 57.6 +1.7
ISA pmax pmax
comp=Z,31nm,1.0s
ISA Isabella, Lake 21.84 325 P P 12 08 57.6 +1.7
ISA IAmb IAmb 12 09 00.8
comp=Z,31nm,0.9s
ISA Isabella, Lake 21.84 325 P P 12 08 57.0 +1.1
baz=138,SNR=9.9
TMUT Trail Mountain 21.98 344 P P 12 08 59.2 +1.6
P17A Butcher Ranch, 22.02 345 P P 12 08 56.8 -1.3
HICK Hickman 22.05 32 P P 12 08 57.8 -0.3
P18A Preston Nutter 22.05 346 P P 12 08 59.7 +1.3
152A Waverly Hall 22.06 46 P P 12 08 57.0 -1.2
152A IAmb IAmb 12 09 01.0
comp=Z,13nm,0.7s
S11A Rachel 22.09 333 P P 12 08 58.0 -0.7
S11A IAmb IAmb 12 09 04.6
comp=Z,23nm,0.9s
PSUT Pine Spring 22.11 338 P P 12 08 58.9 -0.1
Z51A Franklin 22.14 44 P P 12 08 57.9 -1.2
Z51A IAmb IAmb 12 09 02.1
comp=Z,41nm,1.1s
O20A White River Ci 22.15 350 P P 12 08 57.4 -2.0
O20A White River Ci 22.15 350 P P 12 09 00.0 +0.7
baz=168
R40A Maddies Statio 22.16 24 P P 12 08 57.5 -1.8
R40A IAmb IAmb 12 09 27.3
comp=Z,18nm,0.8s
TIGA Tifton 22.18 50 P P 12 08 57.5 -2.1
TIGA IAmb IAmb 12 09 01.3
comp=Z,70nm,1.4s
CWC Cottonwood Cre 22.22 327 P P 12 09 00.8 +0.7
baz=140
GRAC Grapevine Rang 22.30 329 P P 12 09 01.3 +0.5
baz=143,SNR=5.4
VES Vestal, Richgr 22.30 325 P P 12 09 01.0 +0.2
baz=137,SNR=12
CCM Cathedral Cave 22.36 26 P P 12 08 59.8 -1.6
CCM pmax pmax
comp=Z,25nm,0.7s
CCM Cathedral Cave 22.36 26 P P 12 08 59.8 -1.6
CCM IAmb IAmb 12 09 02.0
comp=Z,24nm,0.7s
SMMC Simmler 22.44 322 P P 12 09 01.8 -0.5
baz=134
WVT Waverly 22.46 35 P P 12 09 01.0 -1.5
WVT pmax pmax
comp=Z,20nm,0.9s
WVT Waverly 22.46 35 P P 12 09 01.0 -1.5
WVT IAmb IAmb 12 09 03.2
comp=Z,20nm,0.9s
WVT Waverly 22.46 35 P P 12 09 01.4 -1.1
baz=222
N23A Red Feather La 22.61 355 P P 12 09 03.2 -1.2
N23A Red Feather La 22.61 355 P P 12 09 05.1 +0.7
baz=174,SNR=5.7
R11A Troy Canyon, C 22.62 334 P P 12 09 04.3 -0.1
R11A Troy Canyon, C 22.62 334 P P 12 09 05.0 +0.6
baz=148,SNR=22
LCH Last Change Ra 22.62 329 P P 12 09 05.9 +1.5
FPAL Fort Paine 22.64 41 P P 12 09 02.2 -2.3
FVM French Village 22.65 27 P P 12 09 02.6 -1.9
FVM pmax pmax
comp=Z,17nm,0.9s
FVM French Village 22.65 27 P P 12 09 02.6 -1.9
FVM IAmb IAmb 12 09 31.8
comp=Z,17nm,0.9s
V48A Smith Brothers 22.74 37 P P 12 09 04.8 -0.7
V48A IAmb IAmb 12 09 06.0
comp=Z,42nm,1.5s
RDMU Red Mountain 22.81 348 P P 12 09 07.3 +0.8
PAGB Antelope Grade 22.88 323 P P 12 09 07.1 +0.1
PAGB IAmb IAmb 12 09 23.9
comp=Z,28nm,1.1s
SWET Sewanee 22.89 39 P P 12 09 06.1 -1.1
SWET IAmb IAmb 12 09 06.7
comp=Z,15nm,0.7s
P38A Dawn 22.90 20 P P 12 09 05.8 -1.3
P38A IAmb IAmb 12 09 26.4
comp=Z,14nm,0.8s
S44A Carbondale 22.95 30 P P 12 09 06.2 -1.4
S44A IAmb IAmb 12 09 36.3
comp=Z,22nm,0.9s
PHWY Pilot Hill 22.98 356 P P 12 09 07.7 -0.6
SIUC Southern Illin 22.98 30 P P 12 09 06.0 -1.9
SIUC IAmb IAmb 12 09 15.3
comp=Z,17nm,0.8s
TPH Tonopah 23.10 331 P P 12 09 09.9 +0.5
TPH pmax pmax
comp=Z,60nm,1.0s
TPH Tonopah 23.10 331 P P 12 09 09.9 +0.5
TPH IAmb IAmb 12 09 12.2
comp=Z,60nm,1.0s
X51A Calhoun 23.13 42 P P 12 09 07.7 -1.9
X51A IAmb IAmb 12 09 09.9
comp=Z,31nm,0.8s
Y52A Lilburn 23.21 44 P P 12 09 09.2 -1.2
Y52A IAmb IAmb 12 09 10.9
comp=Z,28nm,0.8s
W50A Signal Mountai 23.26 40 P P 12 09 09.0 -1.9
W50A IAmb IAmb 12 09 11.2
comp=Z,64nm,1.4s
CLTN Cedars of Leba 23.27 37 P P 12 09 10.1 -0.8
DUG Dugway, Tooele 23.27 342 P P 12 09 09.3 -1.8
DUG pmax pmax
comp=Z,8.0nm,1.2s
DUG Dugway, Tooele 23.27 342 P P 12 09 09.3 -1.8
SLM Saint Louis 23.28 27 P P 12 09 09.8 -1.2
SLM pmax pmax
comp=Z,63nm,1.2s
SLM Saint Louis 23.28 27 P P 12 09 09.8 -1.2
SLM IAmb IAmb 12 09 11.3
comp=Z,63nm,1.1s
P40A Paris 23.32 23 P P 12 09 10.3 -1.1
P40A IAmb IAmb 12 09 11.2
comp=Z,79nm,1.4s
GOGA Godfrey 23.35 46 P P 12 09 10.6 -1.1
GOGA pmax pmax
comp=Z,17nm,0.7s
GOGA Godfrey 23.35 46 P P 12 09 10.6 -1.1
GOGA IAmb IAmb 12 09 11.5
comp=Z,17nm,0.7s
GOGA Godfrey 23.35 46 P P 12 09 10.1 -1.6
baz=235,SNR=9.7
BGNE Belgrade 23.46 10 P P 12 09 12.7 0.0
T47A Sharon Grove 23.49 34 P P 12 09 12.3 -0.8
MLAC Mammoth, Mammo 23.52 328 P P 12 09 12.2 -1.5
baz=141
OMMB Old Mammoth Mi 23.59 328 P P 12 09 15.4 +0.9
OMMB IAmb IAmb 12 09 17.4
comp=Z,29nm,1.3s
MDPB Devils Postpil 23.64 328 P P 12 09 15.2 +0.2
MDPB IAmb IAmb 12 09 17.7
comp=Z,27nm,1.0s
NV11 Mina Array Sit 23.82 330 P P 12 09 17.5 +1.1
NV11 IAmb IAmb 12 09 19.3
comp=Z,57nm,1.4s
LHV Little Huntoon 23.84 330 P P 12 09 15.8 -0.6
LHV IAmb IAmb 12 09 19.9
comp=Z,17nm,1.2s
U49A Red Boiling Sp 23.88 37 P P 12 09 16.2 -0.6
U49A IAmb IAmb 12 09 17.7
comp=Z,20nm,0.7s
NVAR Mina Array Bea 23.89 330 P P 12 09 19.2 +2.1
comp=Z,9.2nm,0.7s,baz=147,slow=10,SNR=67
NVAR PcP PcP 12 13 01.3 +1.6
comp=Z,0.7nm,0.6s,baz=145,slow=3.3,SNR=3.9
NVAR LR LR 12 18 17.7
comp=Z,362nm,18.9s,baz=128,slow=36
NVAR Mina Array Bea 23.89 330 P P 12 09 17.9 +0.7
NVAR PcP PcP 12 13 00.8 +1.1
CPCT Cooper Cave 23.91 41 P P 12 09 15.9 -1.3
CPCT IAmb IAmb 12 09 17.1
comp=Z,28nm,0.7s
USIN University of 23.93 32 P P 12 09 16.3 -1.1
Q44A Meyer Farm, Va 24.03 28 P P 12 09 17.3 -1.0
N38A Joes South For 24.05 19 P P 12 09 17.1 -1.4
N38A IAmb IAmb 12 09 20.0
comp=Z,43nm,0.8s
W52A Murphy 24.05 42 P P 12 09 17.3 -1.3
RYN Ryan 24.15 330 P P 12 09 20.3 +0.7
RYN IAmb IAmb 12 09 23.2
comp=Z,19nm,1.0s
V51A Loudon 24.25 40 P P 12 09 19.3 -1.0
HWUT Hardware Ranch 24.25 345 P P 12 09 20.3 -0.1
OLIL Olney 24.32 30 P P 12 09 20.2 -0.7
K22A Casper 24.41 354 P P 12 09 21.9 0.0
K22A Casper 24.41 354 P P 12 09 21.4 -0.5
baz=173
P43A Skaggs, Pawnee 24.42 27 P P 12 09 21.2 -0.6
P43A IAmb IAmb 12 09 22.2
comp=Z,37nm,0.8s
TKL Tuckaleechee C 24.51 41 P P 12 09 21.4 -1.3
comp=Z,51nm,0.7s,baz=217,slow=10,SNR=68
TKL LR LR 12 21 21.5
comp=Z,338nm,18.3s,baz=233,slow=42
TKL Tuckaleechee C 24.51 41 P P 12 09 21.8 -0.9
TKL pmax pmax
comp=Z,53nm,0.8s
TKL Tuckaleechee C 24.51 41 P P 12 09 21.8 -0.9
ELK Elko 24.57 338 P P 12 09 24.5 +1.0
comp=Z,4.5nm,0.9s,baz=155,slow=8.1,SNR=12
ELK LR LR 12 19 19.5
comp=Z,471nm,18.4s,baz=159,slow=37
ELK Elko 24.57 338 P P 12 09 24.4 +1.0
CMB Columbia Colle 24.62 326 P P 12 09 24.3 +0.5
CMB pmax pmax
comp=Z,11nm,1.0s
CMB Columbia Colle 24.62 326 P P 12 09 24.3 +0.5
BG3 Lake Jocassee 24.64 44 P P 12 09 23.1 -0.7
HODGE Hodges 24.64 46 P P 12 09 22.3 -1.6
HODGE IAmb IAmb 12 09 51.8
comp=Z,18nm,1.3s
V52A Sevierville 24.74 41 P P 12 09 23.4 -1.4
T50A Nancy 24.77 37 P P 12 09 23.5 -1.5
T50A IAmb IAmb 12 09 25.6
comp=Z,29nm,0.8s
YERR Yerington 24.77 330 P P 12 09 26.1 +0.8
YERR IAmb IAmb 12 09 30.0
comp=Z,13nm,1.0s
N41A Harden Midland 24.80 23 P P 12 09 23.8 -1.4
N41A IAmb IAmb 12 09 26.2
comp=Z,31nm,0.8s
BW06 Boulder Array 24.93 349 P P 12 09 25.3 -1.4
BW06 Boulder Array 24.93 349 P P 12 09 25.8 -0.9
baz=166,SNR=7.3
PD31 Pinedale Array 24.93 349 P P 12 09 23.4 -3.3
PD31 PcP 12 13 02.1 +0.2
PDAR Pinedale Array 24.93 349 P P 12 09 26.4 -0.3
comp=Z,2.8nm,0.8s,baz=158,slow=9.9,SNR=27
PDAR PcP PcP 12 13 00.4 -1.5
comp=Z,1.4nm,0.8s,baz=157,slow=4.2,SNR=6.2
PDAR LR LR 12 19 41.4
comp=Z,440nm,21.6s,baz=184,slow=38
PDAR Pinedale Array 24.93 349 P P 12 09 26.8 +0.1
PNTR Pine Nut 25.03 329 P P 12 09 29.4 +1.7
PNTR IAmb IAmb 12 09 31.8
comp=Z,27nm,1.0s
BMN Battle Mountai 25.05 335 P P 12 09 26.3 -1.5
BMN pmax pmax
comp=Z,12nm,0.9s
BMN Battle Mountai 25.05 335 P P 12 09 26.3 -1.5
BMN IAmb IAmb 12 09 31.2
comp=Z,12nm,0.9s
SCIA State Center 25.08 18 P P 12 09 26.1 -1.6
SCIA IAmb IAmb 12 09 29.9
comp=Z,26nm,0.9s

V53A	**Saluda**	**25.13**	**42**	P	**P**	**12 09 27.3**	**-1.0**		
V53A				IAmb	IAmb	12 09 29.9			
	comp=Z,41nm,0.9s								
EMB	**Emerald Bay**	**25.19**	**328**	P	**P**	**12 09 28.1**	**-0.9**		
EMB				IAmb	IAmb	12 09 33.6			
	comp=Z,46nm,1.1s								
VCNR	**Virginia City**	**25.21**	**329**	P	**P**	**12 09 28.4**	**-0.9**		
VCNR				IAmb	IAmb	12 09 33.5			
	comp=Z,20nm,1.1s								
TZTN	**Tazewell**	**25.22**	**40**	P	**P**	**12 09 27.4**	**-1.7**		
TZTN				IAmb	IAmb	12 09 30.5			
	comp=Z,57nm,1.2s								
TZTN	**Tazewell**	**25.22**	**40**	P	**P**	**12 09 27.5**	**-1.7**		
	baz=229,SNR=11								
PAULI	**Pauline**	**25.28**	**45**	P	**P**	**12 09 28.4**	**-1.2**		
PAULI				IAmb	IAmb	12 09 30.9			
	comp=Z,29nm,0.7s								
HDIL	**Hopedale**	**25.28**	**26**	P	**P**	**12 09 28.8**	**-0.8**		
HDIL				IAmb	IAmb	12 09 55.8			
	comp=Z,24nm,0.8s								
JSC	**Jenkinsville**	**25.35**	**47**	P	**P**	**12 09 29.8**	**-0.5**		
JSC				pmax	pmax				
	comp=Z,8.0nm,0.8s								
JSC	**Jenkinsville**	**25.35**	**47**	P	**P**	**12 09 29.8**	**-0.5**		
MPK	**Martis Peak**	**25.40**	**329**	P	**P**	**12 09 32.4**	**+1.3**		
PAHR	**Pah Rah Range**	**25.41**	**330**	P	**P**	**12 09 32.6**	**+1.6**		
BLO	**Bloomington**	**25.43**	**32**	P	**P**	**12 09 29.9**	**-1.1**		
BLO				pmax	pmax				
	comp=Z,40nm,0.6s								
BLO	**Bloomington**	**25.43**	**32**	P	**P**	**12 09 29.9**	**-1.1**		
RSSD	**Black Hills**	**25.74**	**359**	P	**P**	**12 09 32.0**	**-1.9**		
RSSD					**PcP**	**12 13 04.1**	**+0.4**		
RSSD	**Black Hills**	**25.74**	**359**		P	**P**	**12 09 33.4**	**-0.6**	
	baz=179								
REDW	**Red Top Meadow**	**25.75**	**347**	P	**P**	**12 09 33.2**	**-0.9**		
KMSC	**Kings Mountain**	**25.79**	**45**	P	**P**	**12 09 33.2**	**-1.1**		
KMSC				IAmb	IAmb	12 09 33.8			
	comp=Z,18nm,0.8s								
KMSC	**Kings Mountain**	**25.79**	**45**	P	**P**	**12 09 32.8**	**-1.4**		
	baz=235								
SNOW	**Snow King Moun**	**25.83**	**348**	P	**P**	**12 09 35.3**	**+0.5**		
K38A	**Parkersburg**	**25.89**	**18**	P	**P**	**12 09 36.2**	**+1.1**		
K38A				IAmb	IAmb	12 09 37.4			
	comp=Z,18nm,0.8s								
TPAW	**Teton Pass**	**25.90**	**347**	P	**P**	**12 09 35.4**	**-0.1**		
S51A	**Beattyville**	**25.92**	**38**	P	**P**	**12 09 33.9**	**-1.5**		
S51A				IAmb	IAmb	12 09 38.3			
	comp=Z,21nm,1.1s								
R50A	**Paris**	**25.94**	**36**	P	**P**	**12 09 34.2**	**-1.4**		
R50A				IAmb	IAmb	12 09 37.7			
	comp=Z,10nm,0.7s								
LOHW	**Long Hollow**	**25.95**	**348**	P	**P**	**12 09 34.3**	**-1.6**		
ECSD	**EROS Data Cent**	**25.98**	**11**	P	**P**	**12 09 35.7**	**-0.3**		
ECSD	**EROS Data Cent**	**25.98**	**11**	P	**P**	**12 09 35.6**	**-0.4**		
	baz=195								
BEKR	**Beckworth**	**26.00**	**329**	P	**P**	**12 09 37.6**	**+1.2**		
BEKR				IAmb	IAmb	12 09 39.8			
	comp=Z,18nm,1.0s								
SFIN	**Lafayette**	**26.10**	**29**	P	**P**	**12 09 35.7**	**-1.4**		
SFIN				IAmb	IAmb	12 09 57.6			
	comp=Z,22nm,1.1s								
MOOW	**Moose Ponds**	**26.10**	**348**	P	**P**	**12 09 38.2**	**+0.9**		
P48A	**Milroy**	**26.21**	**33**	P	**P**	**12 09 36.9**	**-1.2**		
P48A				IAmb	IAmb	12 09 37.1			
	comp=Z,13nm,0.9s								
V55A	**Taylorsville**	**26.27**	**44**	P	**P**	**12 09 36.9**	**-1.8**		
V55A				IAmb	IAmb	12 09 38.3			
	comp=Z,11nm,0.8s								
U54A	**Nelsons Funny**	**26.28**	**42**	P	**P**	**12 09 37.1**	**-1.8**		
U54A				IAmb	IAmb	12 09 38.6			
	comp=Z,26nm,0.8s								
ORV	**Oroville**	**26.34**	**327**	P	**P**	**12 09 40.9**	**+1.7**		
ORV				pmax	pmax				
	comp=Z,19nm,1.3s								
ORV	**Oroville**	**26.34**	**327**	P	**P**	**12 09 40.9**	**+1.7**		
ORV				IAmb	IAmb	12 09 42.3			
	comp=Z,19nm,1.3s								
L42A	**Oliver, Polo**	**26.36**	**23**	P	**P**	**12 09 37.9**	**-1.5**		
L42A				IAmb	IAmb	12 09 50.7			
	comp=Z,52nm,1.5s								
FLWY	**Flagg Ranch**	**26.42**	**348**	P	**P**	**12 09 40.6**	**+0.5**		
P49A	**Miami Univ. Ec**	**26.63**	**34**	P	**P**	**12 09 40.2**	**-1.7**		
P49A				IAmb	IAmb	12 09 41.8			
	comp=Z,32nm,0.8s								
P49A	**Miami Univ. Ec**	**26.63**	**34**	P	**P**	**12 09 39.7**	**-2.2**		
	baz=223,SNR=6.4								
W57A	**Gilead**	**26.70**	**46**	P	**P**	**12 09 41.2**	**-1.3**		
LKWY	**Lake**	**26.82**	**349**	P	**P**	**12 09 45.1**	**+1.2**		
LKWY				pmax	pmax				
	comp=Z,9.0nm,1.3s								
LKWY	**Lake**	**26.82**	**349**	P	**P**	**12 09 45.1**	**+1.2**		
HLID	**Hailey**	**26.83**	**342**	P	**P**	**12 09 42.7**	**-1.1**		
HLID	**Hailey**	**26.83**	**342**	P	**P**	**12 09 43.5**	**-0.3**		
	baz=156								
JFWS	**Jewell Farm**	**26.94**	**22**	P	**P**	**12 09 42.3**	**-2.3**		
JFWS				pmax	pmax				
	comp=Z,13nm,0.9s								
JFWS	**Jewell Farm**	**26.94**	**22**	P	**P**	**12 09 42.3**	**-2.3**		
JFWS				IAmb	IAmb	12 10 11.6			
	comp=Z,13nm,0.9s								
JFWS	**Jewell Farm**	**26.94**	**22**	P	**P**	**12 09 43.4**	**-1.2**		
	baz=209								
O48B	**Farmland**	**26.94**	**32**	P	**P**	**12 09 42.5**	**-2.2**		
	baz=221,SNR=6.0								
I37A	**Lemond, Waseca**	**26.97**	**16**	P	**P**	**12 09 43.3**	**-1.6**		
I37A				IAmb	IAmb	12 09 44.7			
	comp=Z,15nm,0.7s								
Q51A	**Peebles**	**27.01**	**36**	P	**P**	**12 09 44.0**	**-1.3**		
Q51A				IAmb	IAmb	12 09 45.2			
	comp=Z,46nm,1.3s								
O03E	**Paynes Creek**	**27.04**	**328**	P	**P**	**12 09 45.5**	**-0.2**		
	baz=139								
U56A	**King**	**27.11**	**44**	P	**P**	**12 09 44.9**	**-1.3**		
U56A				IAmb	IAmb	12 09 45.7			
	comp=Z,21nm,1.1s								
MFID	**Camas Ranch**	**27.14**	**340**	P	**P**	**12 09 45.8**	**-0.7**		
N47A	**Urbana**	**27.15**	**30**	P	**P**	**12 09 45.3**	**-1.3**		
N47A				IAmb	IAmb	12 09 46.6			
	comp=Z,21nm,0.8s								
RLMT	**Red Lodge**	**27.18**	**351**	P	**P**	**12 09 46.3**	**-0.6**		
YHL	**Hebgen Lake**	**27.25**	**348**	P	**P**	**12 09 47.0**	**-0.7**		
O49A	**Covington**	**27.31**	**33**	P	**P**	**12 09 46.4**	**-1.5**		
O49A				IAmb	IAmb	12 09 47.4			
	comp=Z,26nm,1.2s								
WVOR	**Wild Horse Val**	**27.31**	**335**	P	**P**	**12 09 47.9**	**-0.2**		
WVOR				pmax	pmax				
	comp=Z,8.0nm,1.1s								
WVOR	**Wild Horse Val**	**27.31**	**335**	P	**P**	**12 09 47.9**	**-0.2**		
R53A	**Hurricane**	**27.35**	**39**	P	**P**	**12 09 47.4**	**-0.9**		
R53A				IAmb	IAmb	12 09 47.9			
	comp=Z,31nm,0.8s								
S54A	**Dingess, Beckl**	**27.39**	**40**	P	**P**	**12 09 47.6**	**-1.2**		
S54A				IAmb	IAmb	12 09 52.2			
	comp=Z,17nm,1.1s								
Q52A	**Bidwell**	**27.58**	**37**	P	**P**	**12 09 48.7**	**-1.7**		
Q52A				IAmb	IAmb	12 09 49.7			
	comp=Z,48nm,1.1s								
MOD	**Modoc Plateau**	**27.58**	**332**	P	**P**	**12 09 51.0**	**+0.4**		
MOD				IAmb	IAmb	12 09 52.9			
	comp=Z,14nm,1.2s								
BLA	**Blacksburg**	**27.59**	**42**	P	**P**	**12 09 49.2**	**-1.4**		
BLA				pmax	pmax				
	comp=Z,27nm,0.9s								
BLA	**Blacksburg**	**27.59**	**42**	P	**P**	**12 09 49.2**	**-1.4**		
BLA				IAmb	IAmb	12 09 50.6			
	comp=Z,26nm,0.8s								
BLA	**Blacksburg**	**27.59**	**42**	P	**P**	**12 09 49.0**	**-1.6**		
	baz=233								
MCMT	**McKenzie Canyo**	**27.59**	**345**	P	**P**	**12 09 51.5**	**+0.8**		
GCMT	**Greycliff**	**27.89**	**351**	P	**P**	**12 09 53.5**	**+0.3**		
J08A	**Circle Bar Ran**	**28.03**	**336**	P	**P**	**12 09 55.9**	**+1.4**		
BOZ	**Bozeman (W)**	**28.05**	**348**	P	**P**	**12 09 55.3**	**+0.5**		
BOZ				pmax	pmax				
	comp=Z,4.0nm,0.9s								
BOZ	**Bozeman (W)**	**28.05**	**348**	P	**P**	**12 09 55.3**	**+0.5**		
BOZ	**Bozeman (W)**	**28.05**	**348**	P	**P**	**12 09 54.9**	**+0.2**		
	baz=163								
T57A	**Hurt**	**28.23**	**44**	P	**P**	**12 09 55.1**	**-1.1**		
T57A				IAmb	IAmb	12 09 56.7			
	comp=Z,14nm,0.8s								
LAO	**LASA Array**	**28.39**	**356**	P	**P**	**12 09 56.6**	**-1.1**		
LAO					**PcP**	**12 13 10.9**	**+1.1**		
LAO	**LASA Array**	**28.39**	**356**	P	**P**	**12 09 56.7**	**-1.0**		
	baz=174								
R55A	**Marlinton**	**28.43**	**41**	P	**P**	**12 09 56.7**	**-1.4**		
R55A				IAmb	IAmb	12 09 57.7			
	comp=Z,11nm,0.8s								
P53A	**Whipple**	**28.44**	**38**	P	**P**	**12 09 56.8**	**-1.3**		
P53A				IAmb	IAmb	12 09 57.2			
	comp=Z,17nm,0.9s								
LRM	**Limekiln Ridge**	**28.44**	**347**	P	**P**	**12 09 59.9**	**+1.6**		
YBH	**Yreka Blue Hor**	**28.58**	**329**	P	**P**	**12 10 00.8**	**+1.4**		
	comp=Z,1.1nm,0.7s,baz=247,slow=7.7,SNR=1.9								
YBH					LR	LR	12 20 37.4		
	comp=Z,146nm,18.4s,baz=165,slow=35								
YBH	**Yreka Blue Hor**	**28.58**	**329**		P	**P**	**12 10 00.8**	**+1.4**	
YBH					pmax	pmax			
	comp=Z,4.0nm,1.2s								
SJCC	**San Jacinto, C**	**28.59**	**103**	P	**P**	**12 10 02.4**	**+2.7**		
SJCC				IAmb	IAmb	12 10 03.3			
	comp=Z,18nm,1.0s								
F36A	**Milaca**	**28.67**	**14**	P	**P**	**12 09 59.5**	**-0.5**		
PLID	**Pearl Lake**	**28.69**	**341**	P	**P**	**12 10 01.8**	**+1.2**		
PLID					**PcP**	**12 13 12.0**	**+1.2**		
S57A	**Dark Hollow, R**	**28.86**	**43**	P	**P**	**12 10 00.7**	**-1.1**		
S57A				IAmb	IAmb	12 10 01.3			
	comp=Z,9.0nm,0.8s								
BMO	**Blue Mountains**	**28.90**	**339**	P	**P**	**12 10 02.0**	**-0.3**		
BMO				pmax	pmax				
	comp=Z,6.0nm,1.1s								
BMO	**Blue Mountains**	**28.90**	**339**	P	**P**	**12 10 02.0**	**-0.3**		
J05D	**Fort Rock, OR**	**29.10**	**333**	P	**P**	**12 10 04.4**	**+0.4**		
	baz=143,SNR=6.2								
AAM	**Ann Arbor**	**29.23**	**31**	P	**P**	**12 10 03.3**	**-1.7**		
AAM				pmax	pmax				
	comp=Z,46nm,0.5s								
AAM	**Ann Arbor**	**29.23**	**31**	P	**P**	**12 10 03.3**	**-1.7**		
J04D	**Umpqua Nationa**	**29.45**	**332**	P	**P**	**12 10 08.5**	**+1.2**		
J04D				IAmb	IAmb	12 10 13.0			
	comp=Z,38nm,1.3s								
J04D	**Umpqua Nationa**	**29.45**	**332**	P	**P**	**12 10 07.2**	**-0.1**		
	baz=142								
JSRW	**J. Sargeant Re**	**29.52**	**44**	P	**P**	**12 10 06.6**	**-1.1**		
MDND	**Maddock**	**29.62**	**5**	P	**P**	**12 10 08.5**	**0.0**		
	baz=187								
MSO	**Missoula**	**29.74**	**345**	P	**P**	**12 10 10.4**	**+0.8**		
	baz=160								
K02D	**Willamette Mer**	**29.77**	**329**	P	**P**	**12 10 10.9**	**+1.0**		
	baz=138								
ZARC	**Zaragoza, Cauc**	**29.78**	**107**	P	**P**	**12 10 10.4**	**+0.2**		
G08A	**Pilot Rock**	**29.86**	**338**	P	**P**	**12 10 11.4**	**+0.6**		
G08A				IAmb	IAmb	12 10 12.3			
	comp=Z,9.9nm,1.1s								
F10A	**Beach Ranch, E**	**29.87**	**340**	P	**P**	**12 10 11.1**	**+0.3**		
F10A				IAmb	IAmb	12 10 12.2			
	comp=Z,11nm,1.1s								
I05D	**Terrebonne, OR**	**30.00**	**334**	P	**P**	**12 10 12.7**	**+0.8**		
	baz=144								
EGMT	**Eagleton**	**30.09**	**351**	P	**P**	**12 10 12.4**	**-0.3**		
EGMT				IAmb	IAmb	12 10 14.5			
	comp=Z,17nm,1.1s								
EGMT	**Eagleton**	**30.09**	**351**	P	**P**	**12 10 12.5**	**-0.2**		
	baz=168,SNR=9.5								
K50A	**Casco**	**30.09**	**31**	P	**P**	**12 10 10.4**	**-2.2**		
DGMT	**Dagmar**	**30.09**	**359**	P	**P**	**12 10 10.9**	**-1.8**		
DGMT				IAmb	IAmb	12 10 14.0			
	comp=Z,14nm,0.8s								
DGMT	**Dagmar**	**30.09**	**359**	P	**P**	**12 10 12.2**	**-0.4**		
	baz=178,SNR=5.5								
J01E	**Myrtle Point**	**30.25**	**329**	P	**P**	**12 10 15.1**	**+1.1**		
J01E	**Myrtle Point**	**30.25**	**329**	P	**P**	**12 10 14.7**	**+0.7**		
	baz=138,SNR=5.8								
I03D	**Drain, OR**	**30.38**	**331**	P	**P**	**12 10 16.0**	**+0.8**		
	baz=140								
AGMN	**Agassiz Nation**	**30.54**	**10**	P	**P**	**12 10 15.9**	**-0.6**		
AGMN				IAmb	IAmb	12 10 17.1			
	comp=Z,16nm,0.6s								
AGMN	**Agassiz Nation**	**30.54**	**10**	P	**P**	**12 10 16.0**	**-0.6**		
	baz=194								
ALLY	**Alegheny Colle**	**30.59**	**36**	P	**P**	**12 10 15.4**	**-1.7**		
H04A	**Detroit Lake**	**30.63**	**333**	P	**P**	**12 10 17.9**	**+0.4**		
H04A				IAmb	IAmb	12 10 20.7			
	comp=Z,14nm,1.4s								
H04D	**Lebanon**	**30.75**	**332**	P	**P**	**12 10 17.1**	**-1.3**		
	baz=142								
ERPA	**Erie**	**30.99**	**35**	P	**P**	**12 10 18.4**	**-2.2**		
	baz=227								
EYMN	**Ely**	**31.12**	**16**	P	**P**	**12 10 20.1**	**-1.6**		
	baz=202								
SSPA	**Standing Stone**	**31.24**	**39**	P	**P**	**12 10 21.4**	**-1.4**		
	baz=232								
M55A	**Ridgway**	**31.25**	**37**	P	**P**	**12 10 21.8**	**-1.1**		
M55A				IAmb	IAmb	12 10 48.2			
	comp=Z,8.2nm,0.9s								
F05D	**White Salmon**	**31.31**	**335**	P	**P**	**12 10 23.1**	**-0.3**		
	baz=145								
WALA	**Waterton Lakes**	**31.83**	**347**	P	**P**	**12 10 29.3**	**+1.3**		
NEW	**Newport**	**31.90**	**343**	LR	LR	12 24 54.0			
	comp=Z,354nm,19.8s,baz=161,slow=39								
NEW	**Newport**	**31.90**	**343**		P	**P**	**12 10 28.7**	**+0.1**	
NEW					PcP	**PcP**	**12 13 19.3**	**+0.5**	
NEW	**Newport**	**31.90**	**343**		P	**P**	**12 10 28.5**	**-0.1**	
	baz=155								
LTY	**Liberty**	**32.16**	**338**	P	**P**	**12 10 32.1**	**+1.1**		
LTY				IAmb	IAmb	12 10 33.2			
	comp=Z,12nm,1.1s								
E04D	**Cinebar**	**32.30**	**335**	P	**P**	**12 10 33.1**	**+1.0**		
	baz=144								
ULM	**Lac du Bonnet**	**32.43**	**9**	P	**P**	**12 10 31.4**	**-1.8**		
	comp=Z,6.5nm,0.5s,baz=187,slow=9.0,SNR=8.6								
ULM					PcP	**PcP**	**12 13 19.9**	**-0.3**	
	comp=Z,5.7nm,0.9s,baz=214,slow=4.4,SNR=3.9								
ULM					LR	LR	12 24 29.4		
	comp=Z,914nm,18.6s,baz=162,slow=38								
ULM	**Lac du Bonnet**	**32.43**	**9**	P	**P**	**12 10 32.0**	**-1.2**		
ULM				IAmb	IAmb	12 10 34.1			
	comp=Z,7.4nm,0.6s								
B08A	**Colville Reser**	**32.65**	**340**	P	**P**	**12 10 35.5**	**+0.3**		
B08A				IAmb	IAmb	12 10 37.2			
	comp=Z,15nm,1.4s								
B08A					PcP	**PcP**	**12 13 21.3**	**+0.5**	
SDV	**Santo Domingo**	**33.15**	**102**	LR	LR	12 25 07.8			
	comp=Z,195nm,19.9s,baz=316,slow=38								
SDV	**Santo Domingo**	**33.15**	**102**	P	**P**	**12 10 42.5**	**+2.4**		
SADO	**Sadowa**	**33.27**	**32**	LR	LR	12 26 24.5			
	comp=Z,188nm,18.1s,baz=162,slow=40								
D03D	**Eldon**	**33.30**	**335**	P	**P**	**12 10 40.8**	**-0.1**		
	baz=144								
BINY	**Binghamton**	**33.32**	**39**	P	**P**	**12 10 39.6**	**-1.6**		
BINY	**Binghamton**	**33.32**	**39**	P	**P**	**12 10 40.1**	**-1.1**		
	baz=233								
B05A	**Bryant**	**33.53**	**337**	P	**P**	**12 10 42.4**	**-0.4**		
	baz=146								
L59A	**Walton**	**33.88**	**39**	P	**P**	**12 10 43.9**	**-2.1**		
L59A				IAmb	IAmb	12 10 45.6			
	comp=Z,19nm,0.8s								
DELO	**Deloro Mine**	**33.89**	**34**	P	**P**	**12 10 44.3**	**-1.7**		
DELO				IAmb	IAmb	12 10 44.9			
	comp=Z,16nm,0.9s								
PAL	**Palisades**	**33.91**	**42**	P	**P**	**12 10 45.6**	**-0.6**		
	baz=237								
SJG	**San Juan**	**35.35**	**84**	P	**P**	**12 10 59.3**	**+0.3**		
	comp=Z,6.1nm,0.3s,baz=260,slow=6.1,SNR=6.1								
SJG					LR	LR	12 26 57.3		
	comp=Z,155nm,19.2s,baz=304,slow=39								
SJG	**San Juan**	**35.35**	**84**		P	**P**	**12 10 59.3**	**+0.3**	
SJG					pmax	pmax			
	comp=Z,16nm,0.9s								
SJG	**San Juan**	**35.35**	**84**		IAmb	IAmb	12 11 00.6		
	comp=Z,16nm,0.9s								
PDPR	**Patillas Dam,**	**35.48**	**84**	P	**P**	**12 11 00.9**	**+0.8**		
PDPR				IAmb	IAmb	12 11 02.2			
	comp=Z,14nm,0.8s								
BAUV	**El Baul**	**35.55**	**100**	P	**P**	**12 11 02.0**	**+1.3**		
EDM	**Edmonton**	**35.69**	**350**	P	**P**	**12 11 01.1**	**-0.4**		
EDM				pmax	pmax				
	comp=Z,8.0nm,0.6s								
EDM	**Edmonton**	**35.69**	**350**	P	**P**	**12 11 01.1**	**-0.4**		
EDM				IAmb	IAmb	12 11 01.7			
	comp=Z,7.9nm,0.6s								
TRQ	**Mont Tremblant**	**36.64**	**34**	P	**P**	**12 11 08.4**	**-1.3**		
TRQ				IAmb	IAmb	12 11 09.2			
	comp=Z,16nm,0.9s								
BBB	**Bella Bella**	**38.97**	**336**	LR	LR	12 28 04.0			
	comp=Z,198nm,19.2s,baz=145,slow=37								
NNA	**Nana**	**39.92**	**137**	LR	LR	12 26 09.5			
	comp=Z,71nm,19.2s,baz=300,slow=33								
D62A	**Allapoint, All**	**40.19**	**37**	P	**P**	**12 11 38.5**	**-1.0**		
D62A				IAmb	IAmb	12 11 39.8			
	comp=Z,13nm,0.9s								
FCC	**Fort Churchill**	**40.97**	**7**	P	**P**	**12 11 45.2**	**-0.5**		
FCC				pmax	pmax				
	comp=Z,5.0nm,0.8s								
FCC	**Fort Churchill**	**40.97**	**7**	P	**P**	**12 11 45.2**	**-0.5**		
CRAG	**Craig**	**43.40**	**336**	P	**P**	**12 12 07.4**	**+1.8**		
	baz=137								
GBN	**Guysborough**	**43.96**	**43**	P	**P**	**12 12 09.7**	**-0.6**		
DLBC	**Dease Lake**	**44.58**	**340**	LR	LR	12 32 54.0			
	comp=Z,450nm,18.5s,baz=128,slow=39								
DLBC	**Dease Lake**	**44.58**	**340**	P	**P**	**12 12 16.9**	**+1.7**		
YKA	**Yellowknife Ar**	**44.83**	**353**	P	**P**	**12 12 15.9**	**-1.0**		
	comp=Z,3.1nm,0.8s,baz=162,slow=7.6,SNR=36								
YKA					PcP	**PcP**	**12 13 58.6**	**+0.2**	
	comp=Z,1.0nm,0.8s,baz=157,slow=3.5,SNR=6.9								
YKA					LR	LR	12 31 31.2		
	comp=Z,520nm,18.1s,baz=152,slow=37								
YKA	**Yellowknife Ar**	**44.83**	**353**	P	**P**	**12 12 14.1**	**-2.8**		
TAOE	**Nuku Hiva Isla**	**45.21**	**236**	*e*LR	LR	12 24 57.7			
	comp=Z,270nm,25.7s								
TAOE	**Nuku Hiva Isla**	**45.21**	**236**	*e*T	T	13 00 26.3			
	comp=Z,112nm,0.3s								
SCHQ	**Schefferville**	**45.88**	**29**	P	**P**	**12 12 24.7**	**-0.8**		
	comp=Z,4.9nm,0.8s,baz=235,slow=8.0,SNR=5.6								
SCHQ					LR	LR	12 33 40.2		
	comp=Z,180nm,18.4s,baz=242,slow=39								
TGTN	**Hyland Airport**	**46.60**	**344**	P	**P**	**12 12 32.4**	**+1.3**		
	baz=147,SNR=12								
SKAG	**Skagway**	**47.14**	**338**	P	**P**	**12 12 36.5**	**+1.3**		
	baz=137								
MMPY	**Sheldon Lake,**	**48.30**	**343**	P	**P**	**12 12 45.0**	**+0.7**		
	baz=144,SNR=20								
FARO	**Faro, Yukon**	**48.59**	**342**	P	**P**	**12 12 47.1**	**+0.6**		
	baz=141,SNR=7.3								
N31M	**Braeburn, Yuko**	**48.78**	**340**	P	**P**	**12 12 49.8**	**+1.8**		
N31M	**Braeburn, Yuko**	**48.78**	**340**	P	**P**	**12 12 49.0**	**+1.1**		
	baz=137,SNR=7.9								
HYT	**Haines Junctio**	**48.88**	**339**	P	**P**	**12 12 51.2**	**+2.3**		
HYT	**Haines Junctio**	**48.88**	**339**	P	**P**	**12 12 50.2**	**+1.4**		
	baz=135								
M31M	**Drury Creek, Y**	**48.88**	**341**	P	**P**	**12 12 49.9**	**+1.1**		
M31M	**Drury Creek, Y**	**48.88**	**341**	P	**P**	**12 12 49.8**	**+1.1**		
	baz=140,SNR=14								
YUK6	**Outpost Mounta**	**49.26**	**338**	P	**P**	**12 12 53.6**	**+1.7**		
	baz=134								
YUK4	**Talbot Arm**	**49.64**	**339**	P	**P**	**12 12 56.0**	**+1.3**		
	baz=134,SNR=5.6								
M30M	**Minto, Yukon**	**49.91**	**341**	P	**P**	**12 12 57.9**	**+1.3**		
M30M				IAmb	IAmb	12 12 59.0			
	comp=Z,21nm,1.3s								
M30M	**Minto, Yukon**	**49.91**	**341**	P	**P**	**12 12 57.8**	**+1.3**		
	baz=137								
CTG	**Chitna Glacier**	**50.35**	**337**	P	**P**	**12 13 01.2**	**+1.1**		
	baz=131								
YUK3	**Moose Creek**	**50.57**	**338**	P	**P**	**12 13 03.2**	**+1.4**		
	baz=132								
BVCY	**Beaver Creek**	**51.14**	**339**	P	**P**	**12 13 07.1**	**+1.2**		
	baz=132,SNR=5.4								
FRB	**Frobisher Bay**	**51.22**	**19**	LR	LR	12 35 54.7			
	comp=Z,283nm,18.2s,baz=238,slow=37								
MDP	**Montagnes des**	**51.24**	**98**	LR	LR	12 36 33.4			
	comp=Z,98nm,20.7s,baz=278,slow=38								
MCARA	**McCarthy VSAT**	**51.24**	**337**	P	**P**	**12 13 08.7**	**+2.1**		
MCARA	**McCarthy VSAT**	**51.24**	**337**	P	**P**	**12 13 08.4**	**+1.7**		
	baz=129								
M27K	**Edge Creek, AK**	**51.45**	**338**	P	**P**	**12 13 10.3**	**+1.9**		
M27K	**Edge Creek, AK**	**51.45**	**338**	P	**P**	**12 13 09.8**	**+1.4**		
	baz=131,SNR=11								
GLB	**Gilahina Butte**	**51.58**	**337**	P	**P**	**12 13 10.8**	**+1.6**		
BMRM	**Bremner River**	**51.59**	**336**	P	**P**	**12 13 10.3**	**+1.0**		
	baz=127								
J29M	**Klondike Camp**	**51.71**	**342**	P	**P**	**12 13 11.4**	**+1.2**		
	baz=136								
DAWY	**Dawson**	**51.79**	**341**	P	**P**	**12 13 11.5**	**+0.8**		
DAWY				IAmb	IAmb	12 13 12.8			
	comp=Z,16nm,0.9s								
DAWY	**Dawson**	**51.79**	**341**	P	**P**	**12 13 11.4**	**+0.7**		
	baz=135,SNR=7.9								
EYAK	**Cordova Ski Ar**	**51.79**	**335**	P	**P**	**12 13 12.4**	**+1.6**		
	baz=125								
M26K	**Nabesna, AK**	**51.88**	**338**	P	**P**	**12 13 13.0**	**+1

RC01 **Rabbit Creek A** 53.72 334 P P 12 13 25.9 +0.9
baz=122
PMR **Palmer** 53.74 335 P P 12 13 26.0 +0.9
PMR pmax pmax
comp=Z,25nm,0.6s
PMR **Palmer** 53.74 335 P P 12 13 26.0 +0.9
PMR **Palmer** 53.74 335 P P 12 13 25.5 +0.4
baz=122,SNR=5.6
WAT6 **Susitna Watana** 53.74 336 P P 12 13 25.7 +0.4
baz=124,SNR=11
K24K **Donnelly Dome** 53.75 338 P P 12 13 25.8 +0.6
baz=127,SNR=15
GHO **Glory Hole Cre** 53.76 335 P P 12 13 26.5 +1.1
SIV **San Ignacio** 53.85 127 LR LR 12 34 00.9
comp=Z,88nm,21.1s,baz=116,slow=33
DHY **Denali Highway** 53.89 337 P P 12 13 27.0 +0.7
DHY IAmb IAmb 12 13 28.2
comp=Z,14nm,0.8s
DHY **Denali Highway** 53.89 337 P P 12 13 27.1 +0.7
baz=125,SNR=7.4
J25K **Salcha River,** 54.11 339 P P 12 13 29.3 +1.5
J25K IAmb IAmb 12 13 31.0
comp=Z,15nm,0.9s
M22K **Willow** 54.23 335 P P 12 13 30.1 +1.5
M22K **Willow** 54.23 335 P P 12 13 29.5 +0.8
baz=122,SNR=9.9
CUT **Chulitna** 54.63 335 P P 12 13 32.7 +1.1
CUT **Chulitna** 54.63 335 P P 12 13 32.7 +1.1
baz=122,SNR=11
RND **Reindeer** 54.63 337 P P 12 13 32.7 +1.0
RND **Reindeer** 54.63 337 P P 12 13 32.7 +1.0
RSO **Redoubt South** 54.70 333 P P 12 13 33.1 +0.8
IL31 54.72 339 P P 12 13 32.8 +0.7
ILAR **Eielson Array** 54.72 339 P P 12 13 32.9 +0.7
comp=Z,25nm,0.9s,baz=148,slow=5.7,SNR=86
ILAR PcP **PcP** 12 14 35.2 +0.6
comp=Z,2.2nm,0.6s,baz=163,slow=3.0,SNR=7.3
MCK **McKinley** 54.84 337 P P 12 13 34.4 +1.2
MCK pmax pmax
comp=Z,26nm,0.9s
MCK **McKinley** 54.84 337 P P 12 13 34.4 +1.2
MCK **McKinley** 54.84 337 P P 12 13 33.7 +0.5
baz=124,SNR=11
WRH **Wood River Hil** 54.96 338 P P 12 13 34.6 +0.6
COLA **College** 55.11 339 *i* P P 12 13 34.5 -0.5
COLA pmax pmax
comp=Z,22nm,1.0s
COLA **College** 55.11 339 P P 12 13 34.9 -0.2
COLA PcP **PcP** 12 14 36.3 +0.2
COLA **College** 55.11 339 P P 12 13 34.8 -0.2
baz=126
POKR **Poker Plat Res** 55.11 339 P P 12 13 35.8 +0.7
POKR **Poker Plat Res** 55.11 339 P P 12 13 35.6 +0.5
baz=126,SNR=9.2
TCOL **CIGO, UAF Yank** 55.12 339 P P 12 13 34.9 -0.2
TCOL PcP **PcP** 12 14 36.2 0.0
TCOL **CIGO, UAF Yank** 55.12 339 P P 12 13 34.7 -0.3
baz=126,SNR=7.5
A36M **Sachs Harbour** 55.17 352 P P 12 13 35.4 +0.1
A36M **Sachs Harbour** 55.17 352 P P 12 13 35.2 -0.1
baz=154,SNR=17
TRF **Thorofare Moun** 55.20 336 P P 12 13 36.8 +0.9
TRF **Thorofare Moun** 55.20 336 P P 12 13 36.3 +0.4
baz=122,SNR=24
O19K **Port Alsworth** 55.27 332 P P 12 13 36.8 +0.6
O19K **Port Alsworth** 55.27 332 P P 12 13 36.7 +0.6
baz=116
BWN **Browne** 55.28 337 P P 12 13 37.4 +1.1
MDM **Murphy Dome** 55.29 339 P P 12 13 37.0 +0.6
MDM IAmb IAmb 12 13 41.7
comp=Z,16nm,1.0s
P18K **Big Mountain,** 55.34 331 P P 12 13 37.2 +0.4
baz=115
NEA2 **Nenana** 55.38 338 P P 12 13 37.6 +0.6
NEA2 **Nenana** 55.38 338 P P 12 13 37.6 +0.6
baz=124,SNR=15
KTH **Kantishna Hill** 55.49 336 P P 12 13 38.7 +0.8
O18K **Koktuh Hills** 55.52 331 P P 12 13 39.0 +0.9
O18K **Koktuh Hills** 55.52 331 P P 12 13 38.7 +0.6
baz=115,SNR=5.5
N19K **Bonanza Creek** 55.62 332 P P 12 13 39.5 +0.7
N19K **Bonanza Creek** 55.62 332 P P 12 13 39.4 +0.5
baz=116,SNR=17
PPLA **Purkeypile** 55.65 335 P P 12 13 40.2 +1.1
PPLA **Purkeypile** 55.65 335 P P 12 13 39.8 +0.7
baz=120,SNR=7.2
BMAR **Burnt Mountain** 55.66 342 P P 12 13 39.8 +0.8
H24K **Noodor Dome** 55.69 340 P P 12 13 40.2 +1.0
H24K **Noodor Dome** 55.69 340 P P 12 13 40.1 +0.8
baz=126,SNR=40
I23K **Minto, Yukon-K** 55.80 338 P P 12 13 41.0 +1.1
I23K **Minto, Yukon-K** 55.80 338 P P 12 13 40.9 +0.9
baz=124,SNR=22
BPAW **Bear Paw Mtn.** 55.81 337 P P 12 13 40.5 +0.4
BPAW IAmb IAmb 12 13 41.7
comp=Z,15nm,1.0s
BPAW **Bear Paw Mtn.** 55.81 337 P P 12 13 40.5 +0.4
baz=122,SNR=8.9
CAST **Castle Rocks** 55.87 336 P P 12 13 41.0 +0.4
CAST **Castle Rocks** 55.87 336 P P 12 13 40.7 +0.2
baz=120,SNR=23
M19K **Big River Lodg** 56.07 334 P P 12 13 43.0 +1.1
M19K **Big River Lodg** 56.07 334 P P 12 13 42.9 +0.9
baz=117,SNR=12
L20K **Farewell, AK** 56.12 334 P P 12 13 42.9 +0.5
baz=118,SNR=18
N18K **Kilae Creek** 56.18 332 P P 12 13 43.5 +0.7
N18K **Kilae Creek** 56.18 332 P P 12 13 43.4 +0.6
baz=115,SNR=16
CHUM **Lake Minchumin** 56.19 336 P P 12 13 42.9 +0.1
baz=120,SNR=7.1
SVW2 **Sparrevohn** 56.22 333 P P 12 13 43.5 +0.5
H23K **Yukon River** 56.24 339 P P 12 13 44.2 +1.0
H23K **Yukon River** 56.24 339 P P 12 13 43.9 +0.7
baz=124,SNR=21
L19K **White Mountain** 56.39 334 P P 12 13 45.0 +0.7
L19K **White Mountain** 56.39 334 P P 12 13 44.7 +0.4
baz=117,SNR=16
H03N2 **Juan Fernandez** 56.52 155 T T 13 14 47.3
baz=333,slow=77,SNR=840
H03N1 **Juan Fernandez** 56.53 155 T T 13 14 48.5
baz=333,slow=77,SNR=1205
H03N3 **Juan Fernandez** 56.53 155 T T 13 14 47.6
baz=333,slow=77,SNR=898
RES **Resolute Bay** 56.58 3 P P 12 13 44.8 -0.6
RES pmax pmax
comp=Z,6.0nm,1.2s
RES **Resolute Bay** 56.58 3 P P 12 13 44.8 -0.6
RES IAmb IAmb 12 13 47.3
comp=Z,5.5nm,1.2s
K20K **Telida** 56.62 335 P P 12 13 46.3 +0.4
K20K **Telida** 56.62 335 P P 12 13 46.0 +0.2
baz=118,SNR=12
I21K **Tanana** 56.74 338 P P 12 13 47.4 +0.7
I21K **Tanana** 56.74 338 P P 12 13 47.1 +0.4
baz=122,SNR=20
J20K **Nowinta River** 57.04 336 P P 12 13 49.2 +0.3
J20K **Nowinta River** 57.04 336 P P 12 13 49.1 +0.3
baz=119,SNR=17
TTA **Tatalina** 57.20 334 P P 12 13 49.9 -0.2
TTA pmax pmax
comp=Z,22nm,0.8s
TTA **Tatalina** 57.20 334 P P 12 13 49.9 -0.2
TTA **Tatalina** 57.20 334 P P 12 13 50.1 0.0
baz=116,SNR=15
COLD **Coldfoot** 57.26 340 P P 12 13 51.6 +1.3
COLD **Coldfoot** 57.26 340 P P 12 13 51.0 +0.7
baz=124,SNR=25
H21K **Melozitna Rive** 57.28 338 P P 12 13 51.1 +0.5
H21K **Melozitna Rive** 57.28 338 P P 12 13 50.2 -0.4
baz=121,SNR=24
PPT **Papeete** 57.73 234 LR LR 12 32 30.9
comp=Z,111nm,19.4s,baz=64,slow=29
PPT2 **Papeete2** 57.74 234 *e*S S 12 21 54.2 +1.7
comp=Z,84nm,24.5s
PPT2 *e*LR LR 12 30 48.1
comp=Z,292nm,25.5s,baz=52
IMAR **Indian Mountai** 57.79 338 P P 12 13 53.5 -0.6
TOLK **Toolik Lake Re** 57.89 342 P P 12 13 55.8 +1.0
TOLK **Toolik Lake Re** 57.89 342 P P 12 13 55.1 +0.3
baz=126,SNR=28
FALS **False Pass** 58.04 324 P P 12 13 56.1 +0.1
baz=104
GCSA **Galena City Sc** 58.35 336 P P 12 13 58.7 +0.7
baz=116

SFJD **Kangerlussuaq** 59.14 21 LR LR 12 40 31.4
comp=Z,292nm,19.1s,baz=234,slow=37
UNV **Unalaska Valle** 59.59 322 P P 12 14 07.6 +0.9
baz=101
NIKH **Nikolski High** 60.83 321 P P 12 14 15.9 +0.6
baz=98
TBI **Tubuai** 61.13 229 *e*LR LR 12 32 32.2
comp=Z,286nm,25.8s
TBI **Tubuai** 61.13 229 *e*T T 13 20 28.9
comp=Z,9.8nm,0.2s
A21K **Barrow** 61.38 343 P P 12 14 19.2 +0.4
A21K **Barrow** 61.38 343 P P 12 14 18.8 0.0
baz=120
RDOG **Red Dog Mine** 61.93 338 P P 12 14 22.4 -0.1
RDOG **Red Dog Mine** 61.93 338 P P 12 14 21.7 -0.8
baz=112,SNR=6.1
EUNU **Eureka** 62.26 3 P P 12 14 25.0 +0.4
EUNU IAmb IAmb 12 14 25.5
comp=Z,5.1nm,0.8s
CPUP **Villa Florida** 63.02 134 P P 12 14 30.9 +0.5
comp=Z,4.0nm,0.8s,baz=327,slow=7.7,SNR=5.6
ICESG **Greenland Ices** 63.75 21 *i* P P 12 14 33.8 -1.3
ICESG IAmb IAmb 12 14 36.0
comp=Z,8.2nm,0.7s
PLCA **Paso Flores** 66.21 153 LR LR 12 38 38.7
comp=Z,191nm,18.0s,baz=316,slow=31
DBG **Daneborg** 70.66 17 *i* P P 12 15 16.5 -1.8
DBG IAmb IAmb 12 15 19.5
comp=Z,2.1nm,0.8s
RCBR **Riachuelo** 70.72 103 LR LR 12 48 46.4
comp=Z,160nm,18.8s,baz=350,slow=38
DAG **Danmarks Havn** 71.10 14 *i* P P 12 15 20.0 -1.0
DAG IAmb IAmb 12 15 20.9
comp=Z,9.3nm,0.6s
NOR **Nord** 71.53 9 *i* P P 12 15 22.1 -1.4
NOR IAmb IAmb 12 15 25.2
comp=Z,7.3nm,0.7s
BILL **Bilibino** 73.30 337 *ce*P P 12 15 34.4 +0.1
BILL *i* S S 12 24 56.8 -4.5
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL **Bilibino** 73.30 337 P P 12 15 34.1 -0.2
BILL IAmb IAmb 12 15 36.4
comp=Z,14nm,1.3s
SPA0 **Spitsbergen Ar** 77.98 11 *e*P P 12 16 01.7 +0.7
SPITS **Spitsbergen Ar** 77.98 11 LR LR 12 51 49.2
comp=Z,260nm,18.7s,baz=348,slow=37
SEY **Seymchan** 80.15 333 *ce*P P 12 16 14.1 +1.0
SEY pmax pmax
comp=Z,18nm,0.9s
PEA0B **Petropavlovsk-** 80.76 323 *ce*P P 12 16 17.9 +1.4
PETK **Petropavlovsk-** 80.76 323 P P 12 16 18.2 +1.7
comp=Z,9.8nm,0.8s,baz=116,slow=6.8,SNR=10
PETK **Petropavlovsk-** 80.76 323 P P 12 16 17.5 +0.9
MA2 **Magadan** 82.13 330 *ce*P P 12 16 22.6 -1.0
MA2 pmax pmax
comp=Z,13nm,1.0s
LOF **Lofoten** 82.63 20 *e*P P 12 16 27.2 +1.2
MTE **Manteigas** 82.67 50 P P 12 16 27.9 +0.9
ASK **Askoy** 83.04 28 *e*P P 12 16 28.9 +0.6
AKN **Aaknes** 83.09 26 *e*P P 12 16 30.0 +1.4
PESTR **Estremoz** 83.11 51 P P 12 16 28.8 -0.4
PESTR IAmb IAmb 12 16 31.2
comp=Z,8.9nm,1.0s
BER **Bergen** 83.14 28 *e*P P 12 16 29.2 +0.4
HYA **Hoyanger** 83.18 27 *e*P P 12 16 30.3 +1.3
STEI **Steigen** 83.28 20 *e*P P 12 16 30.6 +1.2
KONS **Konsvik** 83.34 21 *e*P P 12 16 30.8 +1.1
TRO **Tromso** 83.42 17 *e*P P 12 16 30.9 +0.8
TIXI **Tiksi** 83.56 345 P P 12 16 30.9 +0.1
TIXI pmax pmax
comp=Z,20nm,0.9s
TIXI **Tiksi** 83.56 345 P P 12 16 30.9 +0.1
FAUS **Fauske** 83.59 20 *e*P P 12 16 31.2 +0.2
KMY **Karmoy** 83.60 29 *e*P P 12 16 31.7 +0.5
JETT **Jettan, Norway** 83.88 17 *e*P P 12 16 33.3 +0.7
TBLU **Trondheim** 83.92 25 *e*P P 12 16 34.0 +1.2
ODD1 **Odda** 83.93 28 *e*P P 12 16 34.7 +1.7
NSS **Namsos** 83.94 23 *e*P P 12 16 33.8 +0.9
MOR8 **Moi Rana** 83.97 21 *e*P P 12 16 34.6 +1.5
DOMB **Dombas** 84.01 26 *e*P P 12 16 34.1 +0.7
SKAR **Skarslia** 84.33 27 *e*P P 12 16 35.9 +0.9
KTK1 **Kautokeino** 85.01 17 *e*P P 12 16 38.4 +0.1
MSVF **Nonsavu** 85.11 250 LR LR 12 46 01.4
comp=Z,86nm,18.6s,baz=60,slow=29
ARA0 **ARCESS Array S** 85.27 16 *e*P P 12 16 39.4 -0.2
ARCES **ARCESS Array B** 85.27 16 P P 12 16 39.7 +0.2
comp=Z,12nm,0.9s,baz=345,slow=1.4,SNR=12
ARCES LR LR 12 55 14.9
comp=Z,161nm,20.4s,baz=302,slow=36
ARCES **ARCESS Array B** 85.27 16 P P 12 16 39.8 +0.2
ARCES pmax pmax
comp=Z,15nm,0.9s
ARCES **ARCESS Array B** 85.27 16 P P 12 16 39.8 +0.3
PAB **San Pablo** 85.27 50 P P 12 16 41.3 +1.0
PAB pmax pmax
comp=Z,31nm,1.1s
PAB **San Pablo** 85.27 50 P P 12 16 41.3 +1.0
KONO **Kongsberg** 85.38 28 *ce*P P 12 16 41.6 +1.3
KONO pmax pmax
comp=Z,57nm,2.5s
KONO **Kongsberg** 85.38 28 *e*P P 12 16 41.1 +0.8
NB2 **NORSAR Subarra** 85.40 26 P P 12 16 41.2 +0.8
comp=Z,13nm,1.0s,baz=300,slow=5.1
NB2 **NORSAR Subarra** 85.40 26 P P 12 16 41.2 +0.8
baz=300,slow=5.1
NOA **NORSAR Array B** 85.40 26 P P 12 16 40.5 +0.1
comp=Z,8.0nm,0.9s,baz=302,slow=5.0,SNR=15
NB201 **NORSAR Array S** 85.43 26 P P 12 16 41.2 +0.7
ESDC **Sonseca Array** 85.51 50 P P 12 16 42.5 +1.1
comp=Z,9.6nm,0.9s,baz=304,slow=5.3,SNR=50
ESDC LR LR 12 56 12.8
comp=Z,110nm,18.1s,baz=308,slow=37
ESDC **Sonseca Array** 85.51 50 P P 12 16 42.0 +0.5
HOMB **Homborsund** 85.54 29 *e*P P 12 16 40.9 -0.2
NC405 **NORSAR Array S** 85.58 26 P P 12 16 41.1 -0.1
NC602 **NORSAR Array S** 85.69 27 P P 12 16 42.0 +0.2
NC602 **NORSAR Array S** 85.69 27 *e*P P 12 16 42.8 +1.0
HFS **Hagfors** 86.92 26 LR LR 12 56 01.7
comp=Z,112nm,19.7s,baz=315,slow=36
BMRD **Maredsous** 87.16 38 *d*P P 12 16 49.6 +0.4
comp=Z,8.8nm,1.0s
BGES **Gesves** 87.31 37 *d*P P 12 16 51.1 +1.1
MDT **Midelt** 87.36 56 LR LR 12 54 25.2
comp=Z,61nm,18.2s,baz=298,slow=35
MEM **Membach** 87.74 37 *d*P P 12 16 53.2 +1.2
MEM *d*PcP **PcP** 12 16 55.0 +1.1
YAK **Yakutsk** 89.63 338 *i* P P 12 17 01.6 +0.9
YAK pmax pmax
comp=Z,24nm,0.9s
FINES **FINESS Array B** 90.94 22 LR LR 12 57 14.1
comp=Z,98nm,21.9s,baz=342,slow=35
DAVOX **Davos/Dischmat** 91.79 39 LR LR 12 59 35.4
comp=Z,206nm,18.0s,baz=263,slow=36
YSS **Yuzh-Sakhalins** 92.03 321 *e*P P 12 17 12.9 +0.7
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS **Yuzh-Sakhalins** 92.03 321 P P 12 17 11.7 -0.5
NRIK **Noril'sk** 92.24 356 P P 12 17 13.6 +0.9
comp=Z,7.8nm,0.8s,baz=24,slow=3.9,SNR=10
NRIK LR LR 13 02 14.8
comp=Z,128nm,18.7s,baz=10,slow=38
NRIK **Noril'sk** 92.24 356 *ce*P P 12 17 13.3 +0.6
NRIK pmax pmax
comp=Z,13nm,1.0s
NRIK **Noril'sk** 92.24 356 P P 12 17 12.4 -0.3
GERES **GERESS Array B** 92.95 36 P P 12 17 17.0 +0.4
comp=Z,0.7nm,0.6s,baz=1.9,slow=4.0,SNR=6.1
GERES LR LR 12 58 54.5
comp=Z,73nm,21.7s,baz=279,slow=35
GERES **GERESS Array B** 92.95 36 P P 12 17 17.0 +0.4
URZ **Urewera** 93.21 231 LR LR 12 50 20.1
comp=Z,73nm,19.8s,baz=30,slow=30
VRAC **Vranov** 94.29 35 LR LR 13 02 13.6
comp=Z,100nm,18.1s,baz=296,slow=37
KLMR **Klimovskoe** 95.67 17 *e*P P 12 17 23.0 -5.6
KLMR pmax pmax
comp=Z,9.0nm,1.0s
KLMR **Klimovskoe** 95.67 17 *e*P P 12 17 23.0 -5.6
KLMR AMP 12 17 28.6
comp=Z,9.0nm,1.0s
DBIC **Dimbokro** 95.98 81 LR LR 12 56 15.7
comp=Z,75nm,19.7s,baz=278,slow=33
MNK **Minsk** 96.43 26 *i* P P 12 17 20.8 -11
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=E,5.0nm,1.1s
MNK pmax pmax
comp=N,35nm,0.8s
MNK **Minsk** 96.43 26 *i* SSS SSS 12 38 54.9
MNK **Minsk** 96.43 26 *i* P P 12 17 20.8 -11
comp=Z,16nm,0.8s,baz=134
MNK **Minsk** 96.43 26 *i* P P 12 17 20.8 -11
comp=N,35nm,0.8s
MNK **Minsk** 96.43 26 *i* P P 12 17 20.8 -11
comp=E,5.0nm,1.1s
MNK **Minsk** 96.43 26 *i* pP pP 12 17 49.6 +10
MNK **Minsk** 96.43 26 *i* PP PP 12 21 16.1 -9.3
MNK **Minsk** 96.43 26 *i* PPP PPP 12 23 13.4
MNK **Minsk** 96.43 26 *i* SKS 12 27 01.6
MNK **Minsk** 96.43 26 *i* S S 12 27 42.8 -68
MNK **Minsk** 96.43 26 *i* SS SS 12 35 09.4 -14
PRGR **Permogore** 96.58 14 *e*P P 12 17 30.3 -2.4
DZM **Mont Dzumac** 96.83 249 LR LR 12 53 21.6
comp=E,119nm,18.1s,baz=44,slow=30
DZM **Mont Dzumac** 96.83 249 *e*LR LR 12 49 01.4
comp=E,210nm,22.9s
PSZ **Piszkesteto** 96.88 34 P P 12 17 34.6 +0.1
PSZ pmax pmax
comp=Z,13nm,1.0s
PSZ **Piszkesteto** 96.88 34 P P 12 17 34.6 +0.1
HNR **Honiara** 99.17 263 LR LR 12 55 17.5
comp=Z,76nm,18.2s,baz=125,slow=31
OBN **Obninsk** 99.34 22 *e*P Pdif 12 17 44.4 -0.8
OBN *e* 12 30 50.6
OBN pmax pmax
comp=Z,10.0nm,1.5s
OBN MLR MLR
comp=Z,166nm,16.0s
AKASG **Malin Array Be** 99.68 28 P Pdif 12 17 46.0 -0.9
comp=Z,0.4nm,0.3s,baz=292,slow=2.5,SNR=5.4
AKASG LR LR 13 04 52.1
comp=Z,55nm,18.4s,baz=350,slow=37
AKASG **Malin Array Be** 99.68 28 *i* P Pdif 12 17 46.5 -0.4
AKASG **Malin Array Be** 99.68 28 IAmb IAmb 12 18 06.8
comp=Z,1.8nm,1.1s
AKBB **Malin Array Si** 99.68 28 *i* P Pdif 12 17 45.6 -1.3
KIRV **Kirov** 100.17 14 LR LR 13 03 56.6
comp=Z,154nm,21.5s,baz=340,slow=36
KIV **Kislovodsk** 110.70 26 *i* PKIKP PKiKP 12 22 33.4 -2.8
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,50nm,21.0s
HHC **Hu-ho-hao-te** 112.77 332 *e*P PKiKP 12 22 41.8 +1.5
MKAR **Makanchi Array** 115.00 356 PKP PKiKP 12 22 43.3 -1.0
comp=Z,1.0nm,0.8s,baz=353,slow=2.8,SNR=7.4
NJ2 **Nanjing** 115.60 321 *e*P PKPdf 12 22 46.5 +0.7
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
WMQ **Urumqi** 117.34 351 *e*P PKiKP 12 22 50.5 +1.6
WMQ LR LR
comp=N,180nm,16.3s
WMQ LR LR
comp=E,320nm,19.1s
WMQ LR LR
comp=Z,130nm,21.1s
AAK **Ala-Archa** 119.33 2 *i* PKIKP PKPdf 12 22 52.1 -0.8
WRAB **Tennant Creek** 125.64 258 *i* PKIKP PKPdf 12 23 05.3 0.0
WRA **Warramunga Arr** 125.65 258 PKP PKPdf 12 23 05.5 +0.1
comp=Z,1.5nm,0.8s,baz=84,slow=2.0,SNR=11
ASAR **Alice Springs** 126.52 254 PKP PKPdf 12 23 07.0 0.0
comp=Z,1.1nm,0.8s,baz=80,slow=2.8,SNR=6.5
PZH **PanZhiHua** 129.20 331 PKP PKiKP 12 23 13.0 +0.1
BOSA **Boshof** 132.11 112 PKP PKPdf 12 23 15.9 -1.7
comp=Z,2.7nm,0.7s,baz=288,slow=3.2,SNR=3.0
CMAR **Chiang Mai Arr** 137.37 328 PKP PKPdf 12 23 26.8 -0.8
comp=Z,1.0nm,0.6s,baz=343,slow=3.5,SNR=7.7

*IDC **26** 12:08:37.3±0.7,59°.28S×27°.09W,h0km,mb4.6/7, mb1 4.5/8,mb1mx4.3/22,mbtmp4.5/8,ML4.2/1,MS3.8/10, Ms1 3.8/10,ms1mx3.5/44,Error ellipse: s-maj=29.3km s-min=19.2km az=105.0*
*NEIC **26** 12:08:39.4±1.4,59°.39S±0°.09×26°.9W±0°.2,h10km±1km, mb5.1/42,Error ellipse: s-maj=16.5km s-min=14.2km az=39.0*

ISC 26 12:08:41.9±0.4,59°44S±0°.08×26°.93W±0°.08,h30km,n118, σ0°98/106,mb5.1/26,MS3.9/10,1C-2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	7.36	310	Pn		Pn	Pn	12 10 26.7	-0.4
ORCD	**Orcadas**	8.99	254	Pn		Pn	Pn	12 10 49.8	+0.4
VNA1	**Neumayer--Stat**	13.64	153	P		Pn	Pn	12 11 53.3	+0.4
VNA3	**Neumayer Olymp**	13.78	156	P		Pn	Pn	12 11 54.8	0.0
VNA2	**Neumayer--Watz**	14.04	153	P		Pn	Pn	12 11 59.0	+0.7
ESPZ	**Base Esperanza**	14.84	242	Pn		Pn	Pn	12 12 08.6	-0.6
SNAA	**Sanae**	15.63	151	P		Pn	Pn	12 12 20.4	+0.8
SNAA	**Sanae**	15.63	151	Pn		Pn	Pn	12 12 20.1	+0.4
	1.0nm,0.3s,baz=304,slow=13,SNR=31								
SNAA				LR		LR	LR	12 17 28.5	
	comp=Z,280nm,18.7s,baz=292,slow=34								
SNAA	**Sanae**	15.63	151	Pn		Pn	Pn	12 12 20.7	+1.0
TROLL	**Troll, Antarti**	17.20	149	P		P	P	12 12 41.7	+0.7
PMSA	**Palmer Station**	17.96	237	LR		LR	LR	12 18 04.3	
	comp=Z,339nm,18.7s,baz=62,slow=32								
BELA	**Belgrano 2**	18.70	185	P		P	P	12 12 55.7	-1.6
USHA	**Ushuaia**	22.70	263	P		P	P	12 13 40.5	-0.3
	30nm,1.2s,baz=127,slow=10,SNR=3.9								
SYO	**Syowa Base**	28.93	137	*e*P		P	P	12 14 34.0	-3.7
QSPA	**South Pole Qui**	30.80	180	P		P	P	12 14 54.8	+0.2
	11nm,1.1s,baz=200,slow=5.0,SNR=13								
QSPA				PcP		PcP	PcP	12 17 50.6	-0.3
	1.7nm,0.7s,baz=145,slow=0.6,SNR=2.4								
QSPA				LR		LR	LR	12 27 08.4	
	comp=Z,241nm,18.8s,baz=219,slow=36								
QSPA	**South Pole Qui**	30.80	180	P		P	P	12 14 54.9	+0.3
QSPA				IAmb		IAmb	IAmb	12 14 59.8	
	comp=Z,20nm,1.1s								
AY01	**Puyuhuapi**	31.22	278	P		P	P	12 14 58.0	-0.2
LL02	**Futaleuf**	31.70	281	P		P	P	12 15 00.4	-2.1
LL02				IAmb		IAmb	IAmb	12 15 03.1	
	comp=Z,37nm,1.6s								
LL01	**San Ignacio de**	32.57	281	P		P	P	12 15 09.8	-0.4
PLCA	**Paso Flores**	32.88	285	P		P	P	12 15 12.7	-0.3
MAW	**Mawson**	37.37	141	LR		LR	LR	12 29 55.7	
	comp=Z,115nm,18.9s,baz=267,slow=34								
BO01	**Tunca**	38.14	291	P		P	P	12 15 57.8	-0.3
BO01				IAmb		IAmb	IAmb	12 15 59.8	
	comp=Z,80nm,1.9s								
MT09	**Talagante**	38.60	292	P		P	P	12 16 03.0	+0.8
MT05	**Renca**	38.80	292	P		P	P	12 16 02.6	-1.1
MT05				IAmb		IAmb	IAmb	12 16 06.2	
	comp=Z,57nm,1.1s								
PEL	**Peldehue**	38.98	293	P		P	P	12 16 05.2	+0.1
PEL				IAmb		IAmb	IAmb	12 16 08.4	
	comp=Z,40nm,1.1s								
VA03	**San Esteban**	39.23	293	P		P	P	12 16 07.2	-0.2
VA03				IAmb		IAmb	IAmb	12 16 10.2	
	comp=Z,64nm,1.3s								
ZON	**Zonda**	39.38	296	P		P	P	12 16 08.9	+0.3
ZON				IAmb		IAmb	IAmb	12 16 10.6	
	comp=Z,40nm,1.5s								
CO02	**Combarbal**	40.74	294	P		P	P	12 16 20.2	+0.3
CO02				IAmb		IAmb	IAmb	12 16 22.2	
	comp=Z,92nm,1.5s								
CO01	**Juntas del Tor**	41.35	296	P		P	P	12 16 25.6	+0.5
CO01				IAmb		IAmb	IAmb	12 16 28.9	
	comp=Z,59nm,1.6s								
SBA	**Scott Base**	42.70	184	P		P	P	12 16 36.7	+1.5
VNDA	**Vanda**	43.18	183	P		P	P	12 16 41.2	+2.0
	comp=Z,2.8nm,0.7s,baz=193,slow=4.9,SNR=18								
VNDA				LR		LR	LR	12 32 32.9	
	comp=Z,70nm,21.7s,baz=195,slow=33								
VNDA	**Vanda**	43.18	183	P		P	P	12 16 40.7	+1.5
AC02	**Maricunga**	43.60	299	P		P	P	12 16 41.4	-2.4
AC02				IAmb		IAmb	IAmb	12 16 50.1	
	comp=Z,54nm,1.6s								
GO02	**Mina Guanaco**	45.25	300	P		P	P	12 16 55.7	-1.0
BOSA	**Boshof**	46.77	72	P		P	P	12 17 09.1	+0.7
	comp=Z,7.9nm,1.1s,baz=219,slow=16,SNR=3.0								
LVC	**Limon Verde**	47.19	303	P		P	P	12 17 12.4	+0.4
LVC				IAmb		IAmb	IAmb	12 17 16.5	
	comp=Z,41nm,1.6s								
GO01	**Chusmiza**	49.91	304	P		P	P	12 17 33.5	+0.4

GO01					IAmb	IAmb	12 17 37.4		
	comp=Z,72nm,1.8s								
LBTB	**Lobatse**	**49.94**	**70**		LR	LR	12 34 53.0		
	comp=Z,74nm,18.9s,baz=203,slow=32								
H10S2	**ASCENSION HYDR**	**51.23**	**16**		T	T	13 13 02.9		
	baz=188,slow=74,SNR=841								
H10S3	**ASCENSION HYDR**	**51.23**	**16**		T	T	13 13 03.7		
	baz=32,slow=74,SNR=1854								
H10N1	**ASCENSION HYDR**	**52.34**	**16**		T	T	13 14 28.6		
	baz=181,slow=71,SNR=685								
H10N3	**ASCENSION HYDR**	**52.35**	**16**		T	T	13 14 27.6		
	baz=181,slow=71,SNR=1895								
H10N2	**ASCENSION HYDR**	**52.36**	**16**		T	T	13 14 30.2		
	baz=181,slow=71,SNR=1083								
LSZ	**Lusaka**	**59.53**	**67**		P	**P**	**12 18 42.0**	**-0.4**	
LSZ					IAmb	IAmb	12 18 47.5		
	comp=Z,29nm,1.6s								
NNA	**Nana**	**60.05**	**300**		LR	LR	12 47 23.0		
	comp=Z,20nm,18.5s,baz=29,slow=39								
MCRA	**Macar, Loja**	**68.19**	**301**		P	**P**	**12 19 38.7**	**-0.6**	
MCRA					IAmb	IAmb	12 19 41.7		
	comp=Z,16nm,1.2s								
DBIC	**Dimbokro**	**68.21**	**24**		P	**P**	**12 19 37.2**	**-2.1**	
	comp=Z,3.4nm,0.8s,baz=221,slow=9.3,SNR=3.8								
BOSC	**San Juan Bosco**	**68.65**	**303**		P	**P**	**12 19 42.3**	**-0.1**	
BOSC					IAmb	IAmb	12 19 44.8		
	comp=Z,31nm,1.5s								
ARNL	**Arenillas**	**68.98**	**301**		P	**P**	**12 19 45.7**	**+1.5**	
COHC	**Cochancay**	**69.59**	**302**		P	**P**	**12 19 48.7**	**+0.7**	
OTAV	**Otavalo**	**71.68**	**304**		P	**P**	**12 20 01.9**	**+0.7**	
OTAV					IAmb	IAmb	12 20 04.8		
	comp=Z,27nm,1.3s								
TULM	**Tulcn-Chalpat**	**71.83**	**305**		P	**P**	**12 20 03.7**	**+1.6**	
TULM					IAmb	IAmb	12 20 05.7		
	comp=Z,29nm,1.1s								
ODZ	**Otahua Downs**	**74.88**	**193**		P	**P**	**12 20 19.8**	**+0.6**	
ODZ					IAmb	IAmb	12 21 16.3		
	comp=Z,45nm,1.3s								
BAUV	**El Baul**	**75.67**	**318**		P	**P**	**12 20 23.8**	**-0.2**	
BAUV					IAmb	IAmb	12 20 27.2		
	comp=Z,31nm,1.4s								
TOA0	**Torodi Ar. Sit**	**75.96**	**29**		P	**P**	**12 20 26.0**	**+0.4**	
TORD	**Torodi Ar. Bea**	**75.96**	**29**		P	**P**	**12 20 25.9**	**+0.2**	
	comp=Z,5.0nm,0.6s,baz=195,slow=6.3,SNR=36								
TORD	**Torodi Ar. Bea**	**75.96**	**29**		P	**P**	**12 20 26.0**	**+0.4**	
KOWA	**Kowa**	**75.99**	**23**		P	**P**	**12 20 27.0**	**+1.2**	
KOWA					IAmb	IAmb	12 20 29.5		
	comp=Z,22nm,1.4s								
SDV	**Santo Domingo**	**76.52**	**315**		LR	LR	12 55 22.9		
	comp=Z,67nm,19.6s,baz=102,slow=37								
ZARC	**Zaragoza, Cauc**	**76.81**	**311**		P	**P**	**12 20 30.4**	**-0.1**	
BOAB	**BOACO BROADBA**	**76.71**	**303**		P	**P**	**12 21 18.3**	**+0.6**	
RAO	**Raoul Island**	**88.43**	**205**		LR	LR	12 53 50.9		
	comp=Z,219nm,20.5s,baz=132,slow=31								
ASAR	**Alice Springs**	**95.70**	**162**		P	**P**	**12 22 04.2**	**-0.5**	
ASAR					LR	LR	13 04 02.9		
	comp=Z,72nm,18.0s,baz=188,slow=35								
PSUT	**Pine Spring**	**120.79**	**294**			**PKiKP**	**12 27 30.7**	**+0.2**	
HWUT	**Hardware Ranch**	**122.20**	**298**			**PKiKP**	**12 27 33.6**	**+0.5**	
NVAR	**Mina Array Bea**	**122.80**	**291**	PKP		**PKiKP**	**12 27 34.4**	**0.0**	
	comp=Z,0.8nm,1.0s,baz=227,slow=5.7,SNR=4.0								
LOHW	**Long Hollow**	**123.37**	**300**			**PKiKP**	**12 27 35.7**	**+0.3**	
MOOW	**Moose Ponds**	**123.54**	**300**			**PKiKP**	**12 27 37.0**	**+1.3**	
CMAR	**Chiang Mai Arr**	**123.69**	**112**	PKP		**PKiKP**	**12 27 37.5**	**+1.0**	
	comp=Z,0.6nm,0.3s,baz=242,slow=3.3,SNR=4.7								
BEKR	**Beckworth**	**124.92**	**290**			**PKiKP**	**12 27 40.2**	**+1.7**	
BMO	**Blue Mountains**	**127.35**	**297**			**PKiKP**	**12 27 43.4**	**+0.3**	
MSO	**Missoula**	**127.35**	**300**	PKPdf		**PKiKP**	**12 27 42.9**	**-0.1**	
G08A	**Pilot Rock**	**128.44**	**296**	PKPdf		**PKiKP**	**12 27 45.8**	**+0.5**	
ABKAR	**Akbulak array**	**129.13**	**58**	PKPdf		**PKPdf**	**12 27 45.6**	**-0.1**	
KSH	**Kashi**	**129.27**	**77**	PKP		**PKPdf**	**12 27 42.0**	**-4.5**	
KSH				sPKP			12 27 54.0		
KSH				LR	LR				
	comp=Z,160nm,13.1s								
KSH				LR	LR				
	comp=Z,290nm,17.2s								
PZH	**PanZhiHua**	**131.88**	**110**	PKP		**PKiKP**	**12 27 54.0**	**+1.2**	
EDM	**Edmonton**	**131.89**	**306**			**PKiKP**	**12 27 51.7**	**-0.2**	
WMQ	**Urumqi**	**138.35**	**82**	*e*PKP		**PKiKP**	**12 28 06.0**	**+0.7**	
WMQ				LR	LR				
	comp=Z,190nm,16.7s								
WMQ				LR	LR				
	comp=Z,260nm,19.7s								
YKA	**Yellowknife Ar**	**138.74**	**315**	PKP		**PKPdf**	**12 28 02.7**	**-0.5**	
	comp=Z,4.2nm,1.0s,baz=129,slow=2.3,SNR=23								
YKA	**Yellowknife Ar**	**138.74**	**315**	PKPdf		**PKPdf**	**12 28 03.3**	**+0.1**	
ZALV	**Zalesovo Beam**	**143.63**	**68**	PKP		PKPbc	12 28 09.8	-0.1	
	comp=Z,1.9nm,0.6s,baz=246,slow=3.6,SNR=11								
NJ2	**Nanjing**	**144.37**	**125**	⇓PKP		**PKPdf**	**12 28 15.0**	**+0.7**	
SKAG	**Skagway**	**145.23**	**302**	PKPbc		**PKPdf**	**12 28 15.3**	**+0.4**	
HNS	**HongShan**	**147.03**	**115**	⇑PKPbc		**PKiKP**	**12 28 23.8**	**+0.6**	
BTO	**Baotou**	**147.31**	**106**	*e*PKPbc		**PKPab**	**12 28 22.8**	**-0.7**	
M30M	**Minto, Yukon**	**147.39**	**306**			**PKPbc**	**12 28 20.9**	**-0.2**	
HHC	**Hu-ho-hao-te**	**148.25**	**107**	*e*PKPbc		**PKPbc**	**12 28 24.0**	**-0.2**	
DAWY	**Dawson**	**149.08**	**308**			**PKPbc**	**12 28 25.6**	**+0.1**	
M27K	**Edge Creek, AK**	**149.42**	**304**			**PKPbc**	**12 28 26.7**	**+0.2**	
VRDI	**Verde Repeater**	**149.62**	**301**			**PKPbc**	**12 28 27.4**	**+0.4**	
BCAR	**Beaver Creek A**	**149.67**	**305**	PKPbc		**PKPbc**	**12 28 25.9**	**-1.1**	
L27K	**Beaver Creek,**	**149.69**	**305**			**PKiKP**	**12 28 27.5**	**-0.4**	
M26K	**Nabesna, AK**	**149.91**	**303**			**PKPbc**	**12 28 28.0**	**+0.5**	
EGAK	**Eagle**	**150.06**	**308**			**PKPbc**	**12 28 28.1**	**+0.4**	
L26K	**Log Cabin Wild**	**150.31**	**304**			**PKiKP**	**12 28 29.1**	**-0.1**	
MENT	**Mentasta**	**150.43**	**304**			**PKPbc**	**12 28 29.1**	**+0.3**	
SONM	**Songino Array**	**150.62**	**92**	PKPbc		**PKPbc**	**12 28 29.8**	**0.0**	
	comp=Z,2.9nm,0.8s,baz=248,slow=2.2,SNR=12								
SONM	**Songino Array**	**150.62**	**92**			**PKiKP**	**12 28 30.6**	**+0.1**	
DOT	**Dot Lake**	**150.84**	**305**			**PKiKP**	**12 28 30.2**	**-0.2**	
SCRK	**Sand Creek**	**150.93**	**306**			**PKPbc**	**12 28 30.0**	**0.0**	
RIDG	**Independent Ri**	**151.20**	**305**			**PKPbc**	**12 28 30.6**	**0.0**	
NRIK	**Noril'sk**	**151.50**	**43**	PKPbc		**PKiKP**	**12 28 33.0**	**+1.5**	
	comp=Z,1.3nm,0.5s,baz=251,slow=2.0,SNR=4.5								
DHY	**Denali Highway**	**152.04**	**303**			**PKiKP**	**12 28 33.7**	**+0.8**	
BMAR	**Burnt Mountain**	**152.19**	**313**			**PKPbc**	**12 28 32.9**	**+0.1**	
IL31		**152.38**	**307**			**PKiKP**	**12 28 33.3**	**0.0**	
ILAR	**Eielson Array**	**152.38**	**307**	PKPbc		**PKPbc**	**12 28 32.3**	**-0.9**	
	comp=Z,9.3nm,1.0s,baz=153,slow=1.8,SNR=36								
ILAR	**Eielson Array**	**152.38**	**307**			**PKPbc**	**12 28 32.5**	**-0.7**	
KSRS	**Korea Array**	**152.70**	**132**	PKPab		**PKPab**	**12 28 47.6**	**+2.0**	
	comp=Z,1.6nm,0.9s,baz=214,slow=1.3,SNR=4.2								
RND	**Reindeer**	**152.78**	**303**			**PKiKP**	**12 28 34.6**	**+0.2**	
WRH	**Wood River Hil**	**152.78**	**306**			**PKPbc**	**12 28 33.8**	**-0.3**	
COLA	**College**	**152.80**	**307**			**PKPbc**	**12 28 33.5**	**-0.5**	
TCOL	**CIGO, UAF Yank**	**152.81**	**307**			**PKPbc**	**12 28 33.4**	**-0.7**	
MCK	**McKinley**	**152.91**	**304**			**PKPbc**	**12 28 34.5**	**+0.1**	
NEA2	**Nenana**	**153.22**	**306**			**PKPbc**	**12 28 34.4**	**-0.6**	
BWN	**Browne**	**153.27**	**305**			**PKPbc**	**12 28 35.1**	**-0.1**	
I23K	**Minto, Yukon-K**	**153.49**	**307**			**PKPbc**	**12 28 35.6**	**+0.1**	
TOLK	**Toolik Lake Re**	**154.27**	**315**	PKPbc		**PKiKP**	**12 28 37.4**	**+0.1**	
H21K	**Melozitna Rive**	**155.01**	**307**			PKPdf	12 28 39.4	+9.4	

PRU 26 12:15:28.1±0.0, 50.24N×18.94E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OJC	**Ojcow**	**0.55**	**92**	*e*Pg		Pg	12 15 37.9	-0.8
OJC				*e*Sg		Sg	12 15 45.0	-0.8
MORC	**Moravsky Berou**	**1.01**	**243**	*e*PG		Pg	12 15 47.6	+0.1
MORC				*e*SG		Sb	12 16 01.8	-0.6
LANS	**Liptovska Anna**	**1.14**	**162**	*e*Pg		Pg	12 15 49.9	-0.1
LANS				*e*SG		Sg	12 16 04.6	-0.2
LANS				*e*LG		Lg	12 16 06.5	
NIE	**Niedzica**	**1.21**	**133**	*e*Pg		Pg	12 15 51.2	+0.1
NIE				*e*Sg		Sb	12 16 07.7	-0.2
KRLC	**Kraliky**	**1.40**	**264**	*e*PG		Pg	12 15 53.5	-1.4
KRLC				*e*SG		Sg	12 16 13.1	+0.1
	comp=Z,4.2nm,0.3s							
DPC	**Dobruska-Polom**	**1.68**	**275**	*e*PG		Pn	12 15 58.3	-0.5
DPC				*e*SG		Sg	12 16 22.7	+0.6
	comp=Z,4.1nm,0.3s							
VYHS	**Vyhne**	**1.75**	**182**	*e*PN		Pn	12 15 58.4	-1.3
VYHS				*e*SN		Sn	12 16 21.3	-1.4
VYHS				*e*LG		Lg	12 16 28.3	
VRAC	**Vranov**	**1.78**	**239**	*e*PN		Pn	12 16 00.1	-0.1
VRAC				*e*SG		Sb	12 16 24.3	-0.3
CHVC	**Chvalec**	**1.88**	**282**	*e*SG		Sg	12 16 28.3	-0.1
UPC	**Upice**	**1.89**	**279**	*e*SG		Sg	12 16 29.6	+0.7
	comp=Z,2.9nm,0.2s							
KHC	**Kasperske Hory**	**3.65**	**254**	*e*SG		Sg	12 17 24.9	-0.5
	comp=Z,2.7nm,0.4s							

*NEIC **26** 12:21:06.9±1.1, 11.24S±0.07×163.5E±0.1, h34km±3km,*

2016 APR

mb4.5/20, Error ellipse: s-maj=14.9km s-min=9.8km az=67.0

*IDC **26** 12:21:09.0±2.2, 11.13S×163.42E, h58km±18km, mb3.9/7, mb1 4.3/10, mb1mx3.9/38, mbtmp4.3/10, ML4.5/3, MS3.7/28, Ms1 3.7/28, ms1mx3.5/63, Error ellipse: s-maj=19.4km s-min=15.8km az=165.0*

ISC 26 12:21:06.9±0.6, 11.20S±0.06×163.48E±0.07, h31km, n97, σ1.975/70, mb4.5/21, MS3.8/26, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**3.90**	**296**	P		**Pn**	**12 22 05.1**	**+0.4**
	97nm,0.3s,baz=155,slow=5.2,SNR=26							
HNR				S		**Sn**	**12 22 49.6**	**+0.2**
	55nm,0.3s,baz=73,slow=20,SNR=2.3							
HNR				LR		LR	12 23 45.7	
	comp=Z,2μm,19.9s,baz=120,slow=41							
HNR	**Honiara**	**3.90**	**296**			**Pn**	**12 22 05.5**	**+0.8**
HNR	**Honiara**	**3.90**	**296**	P		**Pn**	**12 22 05.4**	**+0.7**
SANVU	**Saraoutou**	**5.56**	**140**	Pn		**Pn**	**12 22 27.9**	**+0.3**
SANVU	**Saraoutou**	**5.56**	**140**	P		**Pn**	**12 22 27.9**	**+0.3**
DVP	**Devils Point**	**7.93**	**145**	P		**Pn**	**12 23 02.4**	**+2.3**
KOUNC	**Koumac, New Ca**	**9.33**	**175**	Pn		**Pn**	**12 23 16.9**	**-2.5**
KOUNC	**Koumac, New Ca**	**9.33**	**175**	P		Pn	12 23 24.6	+5.2
MARNC	**Mare, Loyalty**	**11.12**	**157**	Pn		**Pn**	**12 23 41.7**	**-2.1**
NOUC	**Port Laguerre**	**11.18**	**166**	P		**Pn**	**12 23 47.1**	**+2.5**
DZM	**Mont Dzumac**	**11.18**	**166**	P		**Pn**	**12 23 46.9**	**+2.1**
	1.6nm,0.3s,baz=2.7,slow=12,SNR=44							
DZM				S		**Sn**	**12 25 47.6**	**-1.2**
	0.4nm,0.3s,baz=159,slow=14,SNR=1.2							
DZM				LR		LR	12 27 18.3	
	comp=Z,208nm,21.8s,baz=8.5,slow=33							
DZM	**Mont Dzumac**	**11.18**	**166**	*e*Pn		**Pn**	**12 23 46.1**	**+1.3**
	10nm,0.4s							
DZM				*e*LR		LR	12 26 24.0	
	comp=Z,407nm,27.4s							
DZM	**Mont Dzumac**	**11.18**	**166**	Pn		**Pn**	**12 23 42.9**	**-1.9**
DZM	**Mont Dzumac**	**11.18**	**166**	P		**Pn**	**12 23 46.8**	**+2.1**
YATNC	**Mamie plateau,**	**11.28**	**164**	P		**Pn**	**12 23 49.3**	**+3.2**
ONTNC	**Ouen Toro**	**11.41**	**166**	Pn		**Pn**	**12 23 46.5**	**-1.3**
OUENC	**Ouen Island, N**	**11.61**	**164**	P		**Pn**	**12 23 55.0**	**+4.4**
KRVT	**Keravat (AS076**	**13.25**	**300**	LR		LR	12 29 57.3	
	comp=Z,431nm,18.3s,baz=261,slow=40							
MSVF	**Nonsavu**	**15.53**	**116**	LR		LR	12 29 47.1	
	comp=Z,294nm,19.4s,baz=299,slow=33							
TARA	**Tarawa**	**15.61**	**38**	Pn		**Pn**	**12 24 43.7**	**-1.1**
PMG	**Port Moresby**	**16.16**	**275**	LR		LR	12 31 20.3	
	comp=Z,412nm,18.9s,baz=124,slow=38							
EIDS	**Eidsvold**	**18.34**	**218**			**P**	**12 25 17.9**	**-1.1**
MANU	**Manus Island**	**18.40**	**298**	P		**P**	**12 25 18.6**	**-1.0**
PATS	**Pohnpei**	**18.64**	**344**	P		**Pn**	**12 25 22.3**	**-0.4**
CTA	**Charters Tower**	**18.78**	**240**	P		**Pn**	**12 25 24.1**	**-0.4**
	0.8nm,0.3s,baz=74,slow=12,SNR=10.0							
CTA				LR		LR	12 31 56.4	
	comp=Z,216nm,18.7s,baz=66,slow=34							
CTA	**Charters Tower**	**18.78**	**240**	P		**Pn**	**12 25 27.5**	**+3.0**
CTAO	**Charters Tower**	**18.78**	**240**	P		**P**	**12 25 22.6**	**-1.3**
CTAO				IAmb		IAmb	12 25 28.0	
	comp=Z,45nm,1.3s							
MTSU	**Mount Surprise**	**19.77**	**247**	P		**Pn**	**12 25 37.7**	**+1.3**
COEN	**Coen**	**20.01**	**260**	P		**P**	**12 25 36.1**	**-1.2**
COEN				IAmb		IAmb	12 25 40.9	
	comp=Z,39nm,1.1s							
COEN	**Coen**	**20.01**	**260**	P		**Pn**	**12 25 39.6**	**+0.4**
ARMA	**Armidale**	**22.07**	**208**	P		**P**	**12 25 56.8**	**-2.7**
ARMA				IAmb		IAmb	12 26 05.4	
	comp=Z,55nm,1.5s							
ARMA	**Armidale**	**22.07**	**208**	P		**P**	**12 26 03.4**	**+3.9**
QIS	**Mount Isa**	**24.75**	**245**	P		**P**	**12 26 26.2**	**+0.2**
CMSA	**Cobar Meteorol**	**26.08**	**216**	P		**P**	**12 26 40.8**	**+2.9**
STKA	**Stephens Creek**	**28.84**	**221**	P		**P**	**12 27 02.0**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=20,slow=9.4,SNR=7.4							
STKA				LR		LR	12 37 55.5	
	comp=Z,264nm,18.8s,baz=24,slow=35							
STKA	**Stephens Creek**	**28.84**	**221**	P		**P**	**12 27 02.0**	**-0.6**
WR0	**Warramunga Arr**	**29.17**	**249**	P		**P**	**12 27 04.2**	**-1.5**
WR0				IAmb		IAmb	12 27 27.5	
	comp=Z,6.1nm,1.1s							
WB0	**Warramunga Arr**	**29.26**	**250**	P		**P**	**12 27 05.2**	**-1.3**
WB0				IAmb		IAmb	12 27 06.9	
	comp=Z,9.4nm,0.8s							
WRAB	**Tennant Creek**	**29.34**	**249**	P		**P**	**12 27 05.8**	**-1.4**
WRAB				IAmb		IAmb	12 27 07.5	
	comp=Z,8.3nm,0.9s							
WRAB	**Tennant Creek**	**29.34**	**249**	P		**P**	**12 27 08.0**	**+0.8**
WB2	**Warramunga Arr**	**29.34**	**249**	P		**P**	**12 27 05.9**	**-1.4**
WB2				IAmb		IAmb	12 27 07.6	
	comp=Z,7.6nm,0.9s							
WRA	**Warramunga Arr**	**29.35**	**249**	P		**P**	**12 27 06.5**	**-0.9**
	comp=Z,5.9nm,0.9s,baz=78,slow=8.7,SNR=27							
WRA				S		**S**	**12 31 56.6**	**-2.5**
	comp=Z,1.5nm,1.1s,baz=79,slow=13,SNR=4.7							
WRA				LR		LR	12 38 40.0	
	comp=Z,237nm,18.9s,baz=256,slow=36							
WRA	**Warramunga Arr**	**29.35**	**249**	P		**P**	**12 27 05.7**	**-1.6**
H11S2	**WAKE ISLAND Hy**	**29.67**	**6**	T		T	12 58 06.5	
	baz=188,slow=76,SNR=24							
H11S3	**WAKE ISLAND Hy**	**29.67**	**6**	T		T	12 58 13.8	
	baz=188,slow=76,SNR=22							
H11S1	**WAKE ISLAND Hy**	**29.69**	**6**	T		T	12 58 09.9	
	baz=188,slow=76,SNR=17							
LCRK	**Leigh Creek**	**30.28**	**227**	P		**P**	**12 27 17.3**	**+1.9**
KDU	**Kakadu**	**30.37**	**264**	P		**P**	**12 27 14.8**	**-1.5**
	comp=Z,14nm,1.0s							
AS31	**Alice Springs**	**30.75**	**242**	P		**P**	**12 27 18.4**	**-1.2**
ASAR	**Alice Springs**	**30.75**	**242**	P		**P**	**12 27 18.9**	**-0.8**
	comp=Z,5.8nm,0.7s,baz=62,slow=10.0,SNR=115							
ASAR				LR		LR	12 38 50.7	
	comp=Z,197nm,20.6s,baz=78,slow=35							
ASAR	**Alice Springs**	**30.75**	**242**	P		**P**	**12 27 18.2**	**-1.4**
GUMO	**Guam**	**30.78**	**323**	LR		LR	12 38 30.7	
	comp=Z,120nm,21.9s,baz=143,slow=34							
OOD	**Oodnadatta**	**30.86**	**234**	P		**P**	**12 27 22.2**	**+1.7**
H11N1	**WAKE ISLAND Hy**	**30.90**	**6**	T		T	12 59 44.5	
	baz=188,slow=76,SNR=8.3							
H11N3	**WAKE ISLAND Hy**	**30.91**	**6**	T		T	12 59 49.5	
	baz=188,slow=76,SNR=10							
H11N2	**WAKE ISLAND Hy**	**30.92**	**6**	T		T	12 59 44.4	
	baz=188,slow=76,SNR=8.5							
HTT	**Hallett**	**31.56**	**222**	P		**P**	**12 27 29.8**	**+3.1**
MTN	**Manton Dam**	**31.67**	**264**	P		**P**	**12 27 26.3**	**-1.5**
MTN				IAmb		IAmb	12 27 31.0	
	comp=Z,15nm,1.2s							
MTN	**Manton Dam**	**31.67**	**264**	P		**P**	**12 27 28.5**	**+0.6**
BBOO	**Buckleboo**	**33.12**	**225**	P		**P**	**12 27 40.6**	**+0.2**
BBOO	**Buckleboo**	**33.12**	**225**	P		**P**	**12 27 43.2**	**+2.8**
	comp=Z,16nm,1.8s							
MULG	**Mulgathing**	**33.27**	**231**	P		**P**	**12 27 42.2**	**+0.5**
SIJI	**Sorong**	**33.59**	**286**	LR		LR	12 43 16.3	
	comp=Z,163nm,18.3s,baz=144,slow=40							
KNRA	**Kununurra**	**34.03**	**259**	P		**P**	**12 27 47.4**	**-1.1**
KNRA	**Kununurra**	**34.03**	**259**	P		**P**	**12 27 47.5**	**-1.1**
WRKA	**Warakurna**	**36.04**	**243**	P		**P**	**12 28 05.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**37.20**	**255**	LR		LR	12 44 21.8	
	comp=Z,158nm,18.1s,baz=87,slow=38							
FITZ	**Fitzroy Crossi**	**37.20**	**255**	P		**P**	**12 28 14.3**	**-1.4**
FITZ				IAmb		IAmb	12 28 42.1	
	comp=Z,8.9nm,1.2s							
BATI	**Baumata**	**39.12**	**268**	LR		LR	12 45 14.3	
	comp=Z,185nm,21.2s,baz=219,slow=37							
DAV	**Davao City (W)**	**41.85**	**294**	LR		LR	12 46 59.2	
	comp=Z,24nm,18.2s,baz=157,slow=37							
MBWA	**Marble Bar**	**43.05**	**251**	P		**P**	**12 29 04.1**	**-0.1**
KAPI	**Kappang**	**43.69**	**274**	LR		LR	12 49 46.9	
	comp=Z,75nm,19.3s,baz=307,slow=39							
PPT	**Papeete**	**45.82**	**104**	LR		LR	12 45 50.2	
	comp=Z,72nm,21.1s,baz=194,slow=32							
PPT2	**Papeete2**	**45.82**	**104**	*e*LR		LR	12 42 47.7	
	comp=Z,114nm,24.8s							
TBI	**Tubuai**	**46.34**	**112**	*e*LR		LR	12 43 09.0	
	comp=Z,107nm,28.8s							
NJ2	**Nanjing**	**60.59**	**317**	*e*P		**P**	**12 31 17.3**	**+2.5**
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.6s							
USA0B	**Ussuriysk Arra**	**62.11**	**335**	P		**P**	**12 31 25.1**	**+0.3**
USA0B				IAmb		IAmb	12 31 27.8	
	comp=Z,6.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**62.11**	**335**	P		**P**	**12 31 24.6**	**-0.3**
SHEM	**Shemya Is, Ala**	**64.32**	**7**	LR		LR	12 53 07.5	
	comp=Z,54nm,20.8s,baz=98,slow=30							
XAN	**Xi'an**	**68.59**	**313**	P		**P**	**12 32 07.3**	**+0.1**
XAN				pP		sP	12 32 17.5	+0.1
XAN				sP		pwP	12 32 21.5	-1.9
XAN				pmax		pmax		
	comp=Z,10.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**70.52**	**321**	*e*P		**P**	**12 32 21.5**	**+2.5**
HHC				pmax		pmax		
	comp=Z,14nm,0.9s							
HHC				pmax		pmax		
	comp=Z,69nm,5.5s							
HHC				LR		LR		
	comp=N,170nm,16.3s							
HHC				LR		LR		
	comp=E,140nm,17.3s							
HHC				LR		LR		
	comp=Z,180nm,14.4s							
SONM	**Songino Array**	**77.49**	**325**	P		**P**	**12 32 57.7**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=115,slow=10,SNR=2.1							
KDAK	**Kodiak Island**	**77.55**	**22**	LR		LR	13 01 55.4	
	comp=Z,64nm,19.5s,baz=226,slow=32							
GTA	**Gaotai**	**77.57**	**315**	*e*P		**P**	**12 33 02.8**	**+2.5**
GTA				pP		sP	12 33 10.5	-0.1
GTA				sP		pwP	12 33 14.5	-2.1
GTA				pmax		pmax		
	comp=Z,3.0nm,1.5s							
ILAR	**Eielson Array**	**84.37**	**19**	P		**P**	**12 33 34.6**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=237,slow=5.0,SNR=5.6							
YBH	**Yreka Blue Hor**	**85.59**	**46**	LR		LR	13 12 04.4	
	comp=Z,40nm,18.0s,baz=261,slow=36							
BBB	**Bella Bella**	**85.97**	**35**	LR		LR	13 02 39.6	
	comp=Z,42nm,21.1s,baz=303,slow=29							
DLBC	**Dease Lake**	**87.61**	**29**	LR		LR	13 14 53.1	
	comp=Z,66nm,18.0s,baz=254,slow=37							
WMQ	**Urumqi**	**87.64**	**315**	*e*P		**P**	**12 33 53.8**	**+1.3**
WMQ				LR		LR		
	comp=N,210nm,20.7s							
WMQ				LR		LR		
	comp=E,320nm,20.7s							
WMQ				LR		LR		
	comp=Z,170nm,20.7s							
NVAR	**Mina Array Bea**	**87.82**	**50**	P		**P**	**12 33 53.0**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=238,slow=8.5,SNR=4.7							
PFO	**Pinyon Flats O**	**87.99**	**55**	LR		LR	13 02 55.7	
	comp=Z,24nm,21.4s,baz=238,slow=28							
ELK	**Elko**	**90.71**	**49**	LR		LR	13 05 22.6	
	comp=Z,25nm,20.7s,baz=244,slow=29							
LPIG	**La Paz**	**91.09**	**66**	LR		LR	13 08 07.1	
	comp=Z,24nm,18.0s,baz=200,slow=31							
NEW	**Newport**	**91.31**	**41**	LR		LR	13 09 00.0	
	comp=Z,33nm,19.1s,baz=328,slow=31							
MKAR	**Makanchi Array**	**92.12**	**317**	LR		LR	13 17 19.0	
	comp=Z,62nm,19.6s,baz=340,slow=37							
YKA	**Yellowknife Ar**	**96.13**	**28**	P		**P**	**12 34 29.4**	**-1.9**
	comp=Z,0.6nm,1.0s,baz=250,slow=4.6,SNR=4.3							
YKA	

	35nm,0.7s									
GEYT	**Alibeck**	**9.29**	**266**	Pn	**Pn**	**12 28 51.0**	**+3.9**			
	1.1nm,0.3s,baz=87,slow=12,SNR=3.7									
MK31	**Makanchi Array**	**11.90**	**46**	⇑Pn	**Pn**	**12 29 19.4**	**-3.3**			
	0.6nm,0.5s,baz=339,slow=22,SNR=3.9									
MKAR	**Makanchi Array**	**11.90**	**46**	Pn	**Pn**	**12 29 18.3**	**-4.5**			
	0.2nm,0.3s,baz=233,slow=14,SNR=3.7									
MKAR				Lg	Lg	12 32 44.1				
	0.1nm,0.3s,baz=247,slow=25,SNR=3.5									
AB31	**Akbulak array**	**12.40**	**328**	⇑Pn	**Pn**	**12 29 30.6**	**+1.1**			
	1.4nm,0.4s,baz=164,slow=11,SNR=52									
AB31				Sn	**Sn**	**12 31 45.1**	**-2.3**			
	4.7nm,0.5s,baz=149,slow=24,SNR=10									
KURBB	**Kurchatov Arra**	**13.05**	**25**	Pn	**Pn**	**12 29 34.5**	**-3.8**			
	0.1nm,0.3s,baz=214,slow=13,SNR=7.4									
KURBB				Lg	Lg	12 33 25.7				
	0.1nm,0.3s,baz=200,slow=27,SNR=5.3									
KURBB				LR	LR	12 34 27.1				
	comp=Z,58nm,19.4s,baz=143,slow=36									
KURBB	**Kurchatov Arra**	**13.05**	**25**	⇑Pn	**Pn**	**12 29 33.9**	**-4.4**			
	2.6nm,1.0s									
BVAR	**Borovoye Array**	**13.94**	**1**	Pn	**Pn**	**12 29 49.6**	**-0.9**			
AKTO	**Aktyubinsk**	**14.10**	**327**	Pn	**Pn**	**12 29 54.8**	**+2.0**			
	0.2nm,0.3s,baz=144,slow=17,SNR=2.1									
AKTO				Sn	**Sn**	**12 32 26.6**	**-2.4**			
	0.3nm,0.3s,baz=90,slow=11,SNR=3.4									
AKTO	**Aktyubinsk**	**14.10**	**327**	⇓Pn	**Pn**	**12 29 55.3**	**+2.6**			
	3.0nm,0.5s									
AKTO				⇑Sn	**Sn**	**12 32 27.2**	**-1.9**			
	6.9nm,0.8s									
ZALV	**Zalesovo Beam**	**18.01**	**30**	P	**Pn**	**12 30 40.0**	**-3.3**			
	0.3nm,0.3s,baz=229,slow=12,SNR=6.2									
ARU	**Arti**	**18.89**	**340**	P	**Pn**	**12 30 54.4**	**+0.4**			
	0.0nm,0.3s,baz=212,slow=3.6,SNR=4.9									
FINES	**FINESS Array B**	**34.85**	**324**	P	**P**	**12 33 24.2**	**+0.3**			
	1.4nm,0.8s,baz=120,slow=8.5,SNR=4.3									
ARCES	**ARCESS Array B**	**38.41**	**337**	P	**P**	**12 33 53.7**	**-0.5**			
	6.2nm,1.1s,baz=92,slow=8.6,SNR=4.1									
NOA	**NORSAR Array B**	**41.79**	**321**	P	**P**	**12 34 22.6**	**+0.3**			
	0.3nm,0.6s,baz=114,slow=7.7,SNR=2.1									
ESDC	**Sonseca Array**	**55.49**	**296**	P	**P**	**12 36 08.9**	**+0.9**			
	0.9nm,0.5s,baz=61,slow=6.7,SNR=8.3									
TORD	**Torodi Ar. Bea**	**64.93**	**267**	P	**P**	**12 37 12.3**	**-0.6**			
	1.1nm,0.6s,baz=55,slow=5.1,SNR=11									
INK	**Inuvik**	**71.49**	**9**	P	**P**	**12 37 50.3**	**-2.9**			
	1.0nm,0.9s,baz=58,slow=2.5,SNR=2.4									
YKA	**Yellowknife Ar**	**78.69**	**2**	P	**P**	**12 38 33.0**	**-1.9**			
	0.3nm,0.5s,baz=352,slow=5.5,SNR=10									
SADO	**Sadowa**	**91.97**	**338**	LR	LR	13 23 34.0				
	comp=Z,39nm,19.1s,baz=55,slow=37									

*IDC **26** 12:50:18.1±1.5,32.5°S×130.42°E,h0km,mb3.2/2,*
mb1 3.6/3,mb1mx3.2/47,mbtmp3.3/3,ML2.7/1,MS2.8/1,
Ms1 2.8/1,ms1mx2.4/30,Error ellipse: s-maj=27.4km
s-min=10.6km az=117.0
*JMA **26** 12:50:20.8,32.5°S×130.67E,h10km±1km,M3.9*
Broadband fault plane solution: P waves. NP1:
φs286.00000°,δ87.00000°,λ-14.00000°. NP2:φs16.00000°,
δ76.00000°,λ-177.00000°. Principal axes: T Plg8.0000°,
Azm332.0000°; N Plg75.0000°, Azm95.0000°; P
Plg12.0000°, Azm240.0000°;
JMA Felt III J1.
*NIED **26** 12:50:20.8,32.59N×130.67E,h10km,MW3.9,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^14Nm;
Mrr1.16; Mθθ5.70; Mφφ-6.86; Mrθ-1.45; Mθφ6.14; Mφr1.86;
Fault plane solution: M09.05000×10^14 NP1:
φs203.00000°,δ78.00000°,λ-176.00000°. NP2:
φs112.00000°,δ86.00000°,λ-12.00000°.

ISC 26 12:50:20.3±1.4,32.60N±0.04×130.59E±0.08,h6km±12km,
n11,σ1s30/14,4C,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.19**	**105**	⇑P		**Pg**		**12 50 23.7**	**-0.4**
JIU3				S		**Sg**		**12 50 26.0**	**-0.7**
JTA	**Tamana**	**0.37**	**352**	⇑P		**Pb**		**12 50 28.7**	**-0.5**
JTA				S		**Sb**		**12 50 34.2**	**-1.1**
JZO	**Okuchi**	**0.46**	**179**	⇑P		**Pg**		**12 50 29.6**	**+0.5**
JZO				S		**Sg**		**12 50 35.5**	**+0.4**
JNU	**Nakatsue**	**0.57**	**25**	Pg		**Pg**		**12 50 31.6**	**+0.2**
	baz=204,slow=10								
JNU				Lg		Lg		12 50 39.2	
	900nm,0.3s,baz=252,slow=13,SNR=37								
JTZ	**Takazaki**	**0.81**	**149**	⇑P		**Pg**		**12 50 36.0**	**+0.1**
JTZ				S		**Sg**		**12 50 46.5**	**+0.1**
KSRS	**Korea Array**	**5.32**	**336**	Pg		**Pb**		**12 51 52.9**	**-0.7**
	0.2nm,0.3s,baz=157,slow=15,SNR=3.7								
KSRS				Lg		Lg		12 53 06.9	
	1.1nm,0.3s,baz=160,slow=30,SNR=8.5								
MJAR	**Matsushiro Arr**	**7.41**	**56**	Pn		**Pn**		**12 52 11.3**	**+2.3**
	0.1nm,0.3s,baz=232,slow=13,SNR=3.1								
KLR	**Kul'dur**	**16.64**	**3**	Pn		**P**		**12 54 18.3**	**+1.8**
	0.0nm,0.3s,baz=174,slow=6.9,SNR=2.4								
GUMO	**Guam**	**22.99**	**142**	LR		LR		13 02 28.7	
	comp=Z,26nm,21.4s,baz=30,slow=32								
WRA	**Warramunga Arr**	**52.37**	**176**	P		**P**		**12 59 31.4**	**-1.8**
	0.3nm,0.8s,baz=356,slow=8.3,SNR=2.1								
ASAR	**Alice Springs**	**56.04**	**176**	P		**P**		**12 59 58.6**	**-1.4**
	0.3nm,0.8s,baz=13,slow=12,SNR=2.5								

*ISK **26** 12:50:38.5,35.11N×32.34E,h14km,ML2.7/8*
*GII **26** 12:50:39.9±0.0,35.24N×32.40E,h16km,Mm2.7/3*
*NIC **26** 12:50:39.6±0.0,35.17N×32.29E,h11km±6km,Ml3.2/5*
*DDA **26** 12:50:43.1±0.0,35.29N×32.52E,h15km±1km,ML2.1*

ISC 26 12:50:40.5±0.9,35.18N±0.02×32.40E±0.04,h16km±6km,
n29,σ0s85/51,2D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.16**	**96**	⇓*i*P		**Pg**		**12 50 45.6**	**+0.9**
ALFC				S		**Sg**		**12 50 49.2**	**+1.7**
ALFC				AML		AML		12 50 51.0	
	41nm,0.2s								
ALFC				AML		AML		12 50 51.0	
	41nm,0.2s								
AKMS	**Akamas**	**0.17**	**199**	⇓*i*P		**Pg**		**12 50 43.9**	**-0.8**
AKMS				S		**Sg**		**12 50 46.2**	**-1.2**
AKMS				AML		AML		12 50 46.7	
	26nm,0.2s								
AKMS				AML		AML		12 50 46.7	
	26nm,0.2s								
AKMS				AML		AML		12 50 46.9	
	32nm,0.1s								
AKMS				AML		AML		12 50 46.9	
	32nm,0.1s								
LEF	**Lefka**	**0.41**	**98**	PG		**Pg**		**12 50 48.1**	**-0.6**
LEF				SG		**Sg**		**12 50 53.7**	**-0.5**
LEF	**Lefka**	**0.41**	**98**	P		**Pb**		**12 50 49.8**	**+0.5**
LEF				S		**Sb**		**12 50 55.1**	**-0.2**
NATA	**Nata**	**0.42**	**161**	P		**Pg**		**12 50 48.2**	**-0.7**
NATA				S		**Sb**		**12 50 56.1**	**+0.4**
NATA				AML		AML		12 51 00.3	
	13nm,0.3s								
NATA				AML		AML		12 51 00.3	
	13nm,0.3s								
CSS	**Mathiatis**	**0.79**	**105**	PG		**Pg**		**12 50 54.9**	**-1.0**
CSS				SG		**Sb**		**12 51 06.8**	**+0.4**
ASGA	**Asgata**	**0.80**	**119**	P		**Pb**		**12 50 56.0**	**0.0**
ASGA				S		**Sn**		**12 51 09.6**	**+1.0**
ASGA				AML		AML		12 51 10.7	
	1.8nm,0.4s								
ASGA				AML		AML		12 51 10.7	
	1.8nm,0.4s								
ASGA				AML		AML		12 51 10.8	
	2.2nm,0.3s								
ASGA				AML		AML		12 51 10.8	
	2.2nm,0.3s								
AKIN	**Akıncılar- Kıb**	**0.89**	**100**	PG		**Pg**		**12 50 56.8**	**-0.9**
LFK	**Lefkose**	**0.93**	**83**	PG		**Pb**		**12 50 58.2**	**-0.1**
LFK				SG		**Sn**		**12 51 12.2**	**+0.1**
GAZI	**Gazipasa**	**1.06**	**356**	PN		**Pg**		**12 51 00.4**	**-0.6**
GAZI	**Gazipasa**	**1.06**	**356**	P		**Pn**		**12 51 01.5**	**+0.7**
GAZI				S		**Sg**		**12 51 12.4**	**-2.5**
GAZI				*i* AML		AML		12 51 28.0	
	comp=E,53nm,0.5s								
GAZI				*i* AML		AML		12 51 31.0	
	comp=N,46nm,0.5s								
TEKE	**Tekeli-Mersin**	**1.13**	**31**	PN		**Pb**		**12 51 01.7**	**+0.1**
BERE	**Bereket-Mersin**	**1.35**	**29**	PN		**Pn**		**12 51 04.6**	**-0.2**
BERE				SN		**Sg**		**12 51 23.9**	**-0.2**
AKKU	**Akkuyu-Mersin**	**1.36**	**43**	PN		**Pn**		**12 51 04.9**	**+0.1**
GULN	**MERSIN_Gulnar**	**1.37**	**42**	P		**Pg**		**12 51 06.4**	**-0.5**
GULN				S		**Sb**		**12 51 20.7**	**-2.4**
GULN				*i* AML		AML		12 51 23.0	
	comp=E,20nm,0.7s								
GULN				*i* AML		AML		12 51 35.0	
	comp=N,23nm,0.5s								
IKL	**Isikli**	**1.49**	**44**	PN		**Pn**		**12 51 06.7**	**+0.1**
TEVE	**Tevekalti-Mers**	**1.52**	**34**	PN		**Pn**		**12 51 07.2**	**+0.1**
ERMK	**Ermenek**	**1.52**	**16**	P		**Pg**		**12 51 11.4**	**+1.6**
ERMK				S		**Sg**		**12 51 30.1**	**+0.5**
ERMK				*i* AML		AML		12 51 36.0	
	comp=E,54nm,0.5s								
ERMK				*i* AML		AML		12 51 38.0	
	comp=N,76nm,0.3s								
KEBE	**Keben-Mersin**	**1.66**	**40**	PN		**Pn**		**12 51 09.2**	**+0.2**
KEPZ	**Antalya-Kepez**	**1.84**	**340**	P		**Pn**		**12 51 12.5**	**+0.9**
KEPZ				S		**Sg**		**12 51 40.3**	**+0.5**
KEPZ				*i* AML		AML		12 51 43.0	
	comp=E,17nm,0.7s								
KEPZ				*i* AML		AML		12 51 49.0	
	comp=N,28nm,1.2s								
KKBE	**Karaman, Kazim**	**2.09**	**12**	P		**Pb**		**12 51 18.5**	**+0.4**
KKBE				S		**Sb**		**12 51 43.6**	**-0.3**
KKBE				*i* AML		AML		12 51 53.0	
	comp=E,18nm,1.0s								
KKBE				*i* AML		AML		12 51 55.0	
	comp=N,18nm,0.8s								
GULE	**Gulek**	**2.85**	**42**	P		**Pb**		**12 51 30.4**	**-0.7**
GULE				S		**Sg**		**12 52 11.3**	**-0.7**
GULE				*i* AML		AML		12 52 15.0	
	comp=E,34nm,0.5s								
GULE				*i* AML		AML		12 52 20.0	
	comp=N,25nm,0.6s								
HNTI	**Hanita**	**3.10**	**131**	Pn		**Pn**		**12 51 28.4**	**-0.5**
HNTI				Sn		**Sn**		**12 52 05.9**	**+0.2**
MMA0B	**Mount Meron ar**	**3.29**	**130**	Pn		**Pn**		**12 51 31.7**	**+0.2**
MMA0B				Sn		**Sn**		**12 52 11.6**	**+1.2**
GEM	**Giv'at Ha'Em**	**3.34**	**125**	Pn		**Pn**		**12 51 32.4**	**+0.3**
GEM				Sn		**Sn**		**12 52 11.4**	**0.0**
NATI	**Neve Ativ**	**3.36**	**124**	Pn		**Pn**		**12 51 33.1**	**+0.8**
NATI				Sn		**Sn**		**12 52 11.6**	**-0.3**
MMLI	**Mount Malkishu**	**3.71**	**136**	Pn		**Pn**		**12 51 38.2**	**+1.0**
MMLI				Sn		**Sn**		**12 52 21.4**	**+0.7**
HMDT	**Nahal Hemdat**	**3.91**	**137**	Pn		**Pn**		**12 51 40.6**	**+0.7**
HMDT				Sn		**Sn**		**12 52 26.4**	**+0.9**
DSI	**Dead Sea**	**4.37**	**144**	Pn		**Pn**		**12 51 46.6**	**+0.3**
DSI				Sn		**Sn**		**12 52 37.4**	**+0.4**

*DDA **26** 13:36:26.8±0.0,37.00N×37.00E,h13km±2km,ML2.7*
*ISK **26** 13:36:26.5,36.97N×37.03E,h7km,ML3.0/16*

ISC 26 13:36:26.7±1.2,36.97N±0.03×37.02E±0.02,h6km±10km,
n31,σ0s81/46,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAMA	**Osmaniye**	**0.35**	**307**	P		**Pg**		**13 36 33.8**	**+0.1**
KAMA				S		**Sg**		**13 36 38.8**	**+0.4**
KAMA				*i* AML		AML		13 36 39.0	
	comp=N,633nm,0.2s								
KAMA				*i* AML		AML		13 36 39.0	
	comp=E,569nm,0.1s								
HCB	**Kahramanmara**	**0.38**	**346**	P		**Pg**		**13 36 33.7**	**-0.4**
HCB				*i* AML		AML		13 36 39.0	
	comp=E,449nm,0.3s								
HCB				S		**Sg**		**13 36 39.2**	**0.0**
HCB				*i* AML		AML		13 36 40.0	
	comp=N,373nm,0.1s								
KHMN	**Narli-Kahraman**	**0.43**	**14**	PG		**Pg**		**13 36 35.1**	**0.0**
KAHM	**Kahramanmaras,**	**0.54**	**357**	P		**Pg**		**13 36 37.2**	**0.0**
KAHM				S		**Sg**		**13 36 44.2**	**-0.2**
KAHM				*i* AML		AML		13 36 45.0	
	comp=N,160nm,0.3s								
KAHM				*i* AML		AML		13 36 46.0	
	comp=E,140nm,0.4s								
GZT	**Gaziantep**	**0.58**	**48**	P		**Pg**		**13 36 38.0**	**+0.1**
ANDN	**Andirin**	**0.81**	**318**	P		**Pb**		**13 36 42.5**	**-0.8**
ANDN				*i* AML		AML		13 36 57.0	
	comp=N,244nm,0.2s								
ANDN				*i* AML		AML		13 36 57.0	
	comp=E,238nm,0.2s								
TAHT	**Tahtakopru-Hat**	**0.90**	**229**	PG		**Pg**		**13 36 44.1**	**+0.1**
TAHT				SG		**Sb**		**13 36 57.3**	**+0.3**
CEYT	**Ceyhan**	**1.02**	**272**	PG		**Pn**		**13 36 46.8**	**-0.8**
CEYT				SG		**Sn**		**13 37 01.4**	**-0.8**
KOZT	**Kozan**	**1.08**	**298**	PN		**Pn**		**13 36 47.5**	**-0.9**
ATAB	**Bozova**	**1.13**	**64**	P		**Pn**		**13 36 48.8**	**-0.3**
ATAB				S		**Sb**		**13 37 03.0**	**-0.7**
ATAB				*i* AML		AML		13 37 05.0	
	comp=N,675nm,0.8s								
ATAB				*i* AML		AML		13 37 05.0	
	comp=E,845nm,0.4s								
YAYL	**Yayladag**	**1.19**	**218**	PN		**Pg**		**13 36 50.0**	**+0.4**
YAYL				SN		**Sn**		**13 37 06.9**	**+0.3**
SAIM	**ADANA**	**1.25**	**324**	P		**Pg**		**13 36 51.2**	**+0.5**
SAIM				S		**Sn**		**13 37 08.8**	**+0.8**
SAIM				*i* AML		AML		13 37 10.0	
	comp=N,214nm,0.2s								
SAIM				*i* AML		AML		13 37 11.0	
	comp=E,225nm,0.3s								
SURC	**SANLIURFA_SURC**	**1.28**	**94**	P		**Pb**		**13 36 50.9**	**-0.3**
SURC				S		**Sb**		**13 37 07.6**	**-0.3**
SURC				*i* AML		AML		13 37 08.0	
	comp=N,455nm,0.2s								
SURC				*i* AML		AML		13 37 09.0	
	comp=E,408nm,0.2s								
ELBS	**KAHRAMANMARAS**	**1.35**	**4**	P		**Pg**		**13 36 53.6**	**+0.9**
ELBS				*i* AML		AML		13 37 12.0	
	comp=E,398nm,0.7s								
ELBS				S		**Sg**		**13 37 12.3**	**+2.0**
AKCD	**Akcadag**	**1.50**	**28**	P		**Pg**		**13 36 56.0**	**+0.4**
AKCD				S		**Sg**		**13 37 15.1**	**+0.1**
AKCD				*i* AML		AML		13 37 17.0	
	comp=N,261nm,0.2s								
AKCD				*i* AML		AML		13 37 17.0	
	comp=E,199nm,0.2s								
SARI	**SarD1z-Kayseri**	**1.51**	**342**	PN		**Pb**		**13 36 54.6**	**-0.7**
SANL	**SANLIURFA_Merk**	**1.58**	**82**	P		**Pg**		**13 36 56.8**	**-0.3**
SANL				S		**Sb**		**13 37 16.9**	**+0.2**
SANL				*i* AML		AML		13 37 18.0	
	comp=E,186nm,0.3s								
SANL				*i* AML		AML		13 37 18.0	
	comp=N,268nm,0.6s								
DARE	**Darende-Malaty**	**1.64**	**13**	PN		**Pb**		**13 36 56.4**	**-1.0**
MALT	**Malatya**	**1.74**	**39**	PN		**Pb**		**13 36 58.1**	**-1.1**
CUGUR	**Gurin_SVAS**	**1.76**	**6**	P		**Pg**		**13 36 59.5**	**-0.9**
CUGUR				S		**Sg**		**13 37 24.9**	**+1.7**
CUGUR				*i* AML		AML		13 37 25.0	
	comp=E,250nm,0.5s								
CUGUR				*i* AML		AML		13 37 27.0	
	comp=N,223nm,0.5s								
CMRD	**Camardi-Nigde**	**1.76**	**294**	PN		**Pb**		**13 36 58.1**	**-1.4**
GULE	**Gulek**	**1.82**	**280**	P		**Pb**		**13 37 00.3**	**-0.3**
GULE				S		**Sg**		**13 37 24.0**	**-1.3**
GULE				*i* AML		AML		13 37 30.0	
	comp=N,55nm,0.5s								
GULE				*i* AML		AML		13 37 30.0	
	comp=E,57nm,0.5s								
MERS	**Mersin**	**2.01**	**268**	PN		**Pn**		**13 37 01.8**	**+0.6**
HEKM	**Malatya_Hekimh**	**2.04**	**21**	P		**Pg**		**13 37 05.6**	**-0.2**
HEKM				S		**Sg**		**13 37 33.0**	**+0.6**
HEKM				*i* AML		AML		13 37 34.0	
	comp=E,113nm,0.5s								
HEKM				*i* AML		AML		13 37 34.0	
	comp=N,111nm,0.3s								
SVRC	**Sivrice-ELAZID**	**2.29**	**52**	PN		**Pn**		**13 37 05.2**	**0.0**
ARPR	**Arapgir-MALATY**	**2.36**	**26**	PN		**Pn**		**13 37 06.5**	**+0.4**
KEBE	**Keben-Mersin**	**2.71**	**260**	PN		**Pn**		**13 37 12.2**	**+1.3**
IKL	**Isikli**	**2.78**	**256**	PN		**Pn**		**13 37 13.0**	**+1.2**
AKKU	**Akkuyu-Mersin**	**2.91**	**255**	PN		**Pn**		**13 37 14.1**	**+0.5**
TEVE	**Tevekalti-Mers**	**2.93**	**261**	PN		**Pn**		**13 37 14.4**	**+0.5**
SVSK	**Karacayir**	**2.94**	**360**	PN		**Pn**		**13 37 15.4**	**+1.5**

WEL 26 13:52:43.1±0.8,34°S±9°×18°0W±2°1,h0km,M4.0/8,
ML4.2/11,MLv4.0/8,Error ellipse: s-maj=0.0km
s-min=0.0km az=112.6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.54**	**209**	P		P	Pn	13 53 40.3	+0.9
MXZ				S		S	Sn	13 54 20.0	-1.9
WMGZ	**Waiomatatini S**	**3.72**	**206**	P		P	Pn	13 53 43.8	+1.9
WMGZ				S		S	Sn	13 54 26.5	0.0
PKGZ	**Pakihiroa**	**3.91**	**209**	P		P	Pn	13 53 45.4	+0.8
PKGZ				S		S	Sn	13 54 30.9	-0.3
HAZ	**Te Kaha**	**3.92**	**213**	P		P	Pn	13 53 46.0	+1.4
HAZ				S		S	Sn	13 54 31.5	+0.1
PUZ	**Puketiti**	**4.00**	**206**	P		P	Pn	13 53 46.8	+1.0
PUZ				S		S	Sn	13 54 32.3	-1.1
RUGZ	**Raukumara Rang**	**4.14**	**212**	P		P	Pn	13 53 49.2	+1.4
RUGZ				S		S	Sn	13 54 36.6	-0.4
TWGZ	**Tauwhareparae**	**4.20**	**208**	P		P	Pn	13 53 49.7	+1.2
TWGZ				S		S	Sn	13 54 37.5	-0.7
CNGZ	**Carnagh Statio**	**4.39**	**204**	P		P	Pn	13 53 51.4	+0.3
KUZ	**Kuaotunu**	**4.47**	**238**	P		P	Pn	13 53 55.7	+3.5
TKGZ	**Te Karaka**	**4.48**	**207**	P		P	Pn	13 53 53.7	+1.4
TKGZ				S		S	Sn	13 54 43.0	-2.1
MWZ	**Matawai**	**4.52**	**211**	P		P	Pn	13 53 53.0	+0.2
MWZ				S		S	Sn	13 54 44.3	-1.8
URZ	**Urewera**	**4.64**	**215**	P		P	Pn	13 53 55.3	+0.8
URZ				S		S	Sn	13 54 46.9	-2.1
MARZ	**Manawahe**	**4.65**	**220**	P		P	Pn	13 53 56.5	+1.8
GLKZ	**Green Lake**	**5.38**	**15**	S		S	Sn	13 55 03.5	-3.8

*NEIC **26** 14:04:20.1±2.0,54.71N±0.08×160.9W±0.1,h24km±15km,*
Error ellipse: s-maj=13.0km s-min=6.5km az=151.0

AEIC 26 14:04:22.2±2.9,54.9N±0.1×161.1W±0.1,h79km±9km,ML3.0,
ML3.7/10(NEIC),**Error ellipse: s-maj=17.7km**
s-min=7.6km az=151.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.56**	**42**				Pn	14 04 36.9	+0.7
PVV	**Pavlof Volcano**	**0.58**	**320**				Pn	14 04 37.0	+0.6
PS4A	**Pavlof South-4**	**0.58**	**315**				Pn	14 04 37.2	+0.8
PS1A	**Pavlof South-1**	**0.60**	**325**				Pn	14 04 37.3	+0.7
BLHA	**Black Hill**	**0.94**	**326**				Pn	14 04 40.7	+0.4
BALA	**Baldy Mountain**	**0.99**	**286**				Pn	14 04 42.2	+1.4
FALS	**False Pass**	**1.32**	**268**				Pn	14 04 45.5	+0.6
ISLZ	**Isanotski Laza**	**1.51**	**263**				Pn	14 04 48.1	+0.7
BRPK	**Brown Peak**	**1.54**	**260**				Pn	14 04 48.3	+0.5
SSLN	**Shishaldin Nor**	**1.66**	**267**				Pn	14 04 50.6	+1.3
SSLS	**Shishaldin Sou**	**1.67**	**263**				Pn	14 04 50.7	+1.1
VNHG	**Veniaminof 1**	**1.71**	**40**				Pn	14 04 50.8	+0.8
WESE	**West Dahl East**	**2.06**	**258**				Pn	14 04 55.8	+1.1
WECS	**Westdahl Cape**	**2.15**	**261**				Pn	14 04 57.1	+1.2
ANPB	**Aniakchak Plen**	**2.47**	**39**				Pn	14 05 00.5	+0.4
AKSA	**Akutan Strait**	**2.78**	**255**				Pn	14 05 05.4	+1.2
AKUT	**Akutan**	**2.82**	**255**	Pn			Pn	14 05 05.6	+0.8
AKUT				IAML				14 06 18.6	
	comp=E,109nm,4.3s								
AKUT				IAML				14 06 30.3	
	comp=N,106nm,4.2s								
HSB	**Akutan Spr's B**	**2.88**	**257**				Pn	14 05 06.4	+0.7
CHIR	**Chirikof Islan**	**3.27**	**72**				Pn	14 05 10.3	-0.5
CHIR	**Chirikof Islan**	**3.27**	**72**	IAML				14 06 48.9	
	comp=N,202nm,3.5s								
CHIR				IAML				14 07 13.5	
	comp=E,246nm,4.4s								
UNV	**Unalaska Valle**	**3.33**	**253**				Pn	14 05 11.7	0.0
SII	**Sitkinak Islan**	**4.25**	**65**	Pn			Pn	14 05 23.6	-0.7
OHAK	**Old Harbor**	**4.96**	**59**	Pn			Pn	14 05 32.6	-1.2
OHAK				IAML				14 06 34.2	
	comp=N,101nm,4.0s								
OHAK				IAML				14 07 40.9	
	comp=E,79nm,4.0s								
NIKH	**Nikolski High**	**4.97**	**250**	Pn			Pn	14 05 34.5	+0.5
KDAK	**Kodiak Island**	**5.54**	**56**	Pn			Pn	14 05 40.4	-1.4
Q19K	**Cape Douglas,**	**5.73**	**43**	Pn			Pn	14 05 44.0	-0.4
O18K	**Koktuh Hills**	**5.88**	**31**	Pn			Pn	14 05 47.4	+1.0
CNPM	**China Poot**	**7.07**	**45**	Pn			Pn	14 06 02.5	-0.1
BRLK	**Bradley Lake**	**7.35**	**45**	Pn			Pn	14 06 06.0	-0.5
SEW	**Seward**	**8.14**	**46**	Pn			Pn	14 06 16.4	-0.8
PWL	**Port Wells**	**9.03**	**44**	Pn			Pn	14 06 27.3	-2.0
KNK	**Knik Glacier**	**9.31**	**41**	Pn			Pn	14 06 31.7	-1.6
FID	**Port Fidalgo**	**9.73**	**47**	Pn			Pn	14 06 36.8	-2.1
EYAK	**Cordova Ski Ar**	**9.95**	**49**	Pn			Pn	14 06 40.1	-1.7
SCM	**Sheep Creek Mo**	**10.00**	**41**	Pn			Pn	14 06 40.6	-2.0
DIV	**Divide**	**10.22**	**46**	Pn	

comp=N,162nm,0.6s
CUGUR *i* AML AML 14 11 19.0
comp=E,137nm,0.5s
MERS Mersin 2.00 268 PN **Pn** **14 10 49.9 +0.7**
BNN Bunyan 2.11 334 PN **Pb** **14 10 51.8 -1.7**
SVRC Sivrice-ELAZID 2.31 51 PN **Pb** **14 10 55.7 -1.3**
ARPR Arapgir-MALATY 2.38 26 PN **Pn** **14 10 56.3 +1.7**
KEBE Keben-Mersin 2.70 260 PN **Pn** **14 10 59.7 +0.8**
IKL Isikli 2.77 256 PN **Pn** **14 11 00.6 +0.8**
AKKU Akkuyu-Mersin 2.90 255 PN **Pn** **14 11 02.2 +0.7**

IDC ***26*** *14:15:14.2±1.0,37°.73N×21°.27E, h0km, mb3.8/10, mb1 3.9/14,mb1mx3.8/38,mbtmp3.8/14,ML3.7/4,MS3.1/9, Ms1 3.1/9,ms1mx2.7/96, Error ellipse: s-maj=23.1km s-min=15.8km az=137.0*
ATH ***26*** *14:15:15.8,37°.87N×21°.10E,h28km±1km,ML3.9/12, Error ellipse: s-maj=1.9km s-min=0.7km az=207.0*
THE ***26*** *14:15:17.1,37°.86N×21°.07E,h0km±2km,ML3.9/10, Error ellipse: s-maj=2.2km s-min=0.5km az=203.0*
NEIC ***26*** *14:15:18.1±2.4,37°.76N±0°.05×21°.11E±0°.07,h23km±6km, mb4.6/14,Error ellipse: s-maj=8.0km s-min=6.3km az=58.0*
ISC 26 14:15:17.2±0.9,**37°.86N**±0°.02×**21°.09E**±0°.02,**h20**km±4km, **n177**,σ1°**63**/198,**mb4.1**/16,**MS3.0**/3,**13C-5D**,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZAK2	**Zakynthos**	**0.17**	**244**	P		**Pg**	**14 15 21.9**	**0.0**
LTHK	**Lithakia**	**0.25**	**233**	P		**Pg**	**14 15 23.0**	**-0.2**
LTHK				S		**Sg**	**14 15 27.7**	**+0.5**
RLS	**Riolos of Patr**	**0.35**	**57**	P		**Pb**	**14 15 23.9**	**-1.0**
RLS				S		**Sb**	**14 15 29.9**	**-0.2**
RLS				AML		AML	14 15 30.3	
RLS				AML		AML	14 15 30.4	
	comp=N,60229μm,0.5s							
RLS	**Riolos of Patr**	**0.35**	**57**	P		**Pb**	**14 15 24.0**	**-1.0**
RLS				S		**Sb**	**14 15 29.9**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.47**	**302**	P		**Pb**	**14 15 25.9**	**-1.0**
PSDA				S		**Sb**	**14 15 33.6**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.47**	**302**	P		**Pb**	**14 15 26.0**	**-1.0**
PSDA				S		**Sb**	**14 15 33.3**	**-0.2**
DRO	**Drossia**	**0.50**	**80**	P		**Pb**	**14 15 26.0**	**-1.4**
DRO				S		**Sb**	**14 15 33.7**	**-0.5**
DRO				AML		AML	14 15 38.1	
	comp=E,38112μm,0.5s							
DRO				AML		AML	14 15 40.7	
	comp=N,63639μm,0.4s							
DRO	**Drossia**	**0.50**	**80**	P		**Pb**	**14 15 26.2**	**-1.1**
DRO				S		**Sb**	**14 15 34.9**	**+0.7**
	comp=N,26μm,0.4s							
VLS	**Valsamata**	**0.51**	**308**	P		**Pb**	**14 15 26.3**	**-1.2**
VLS				S		**Sb**	**14 15 34.1**	**-0.3**
VLS				AML		AML	14 15 36.2	
	comp=E,29902μm,0.3s							
VLS				AML		AML	14 15 36.4	
	comp=N,21800μm,0.3s							
VLS	**Valsamata**	**0.51**	**308**	P		**Pb**	**14 15 26.4**	**-1.1**
VLS				S		**Sb**	**14 15 34.2**	**-0.3**
	comp=N,13μm,0.4s							
KEF4	**Livadi, Kephal**	**0.66**	**307**	P		**Pb**	**14 15 29.1**	**-1.0**
KEF4				S		**Sb**	**14 15 39.2**	**+0.4**
KEF4	**Livadi, Kephal**	**0.66**	**307**	P		**Pb**	**14 15 29.1**	**-1.0**
KEF4				S		**Sb**	**14 15 39.0**	**+0.2**
KEF3	**Kipouria, Keph**	**0.68**	**300**	P		**Pb**	**14 15 29.2**	**-1.1**
KEF3	**Kipouria, Keph**	**0.68**	**300**	P		**Pb**	**14 15 29.3**	**-1.1**
KEF3				S		**Sb**	**14 15 39.6**	**+0.2**
DMLN	**Damoulianata-K**	**0.68**	**304**	P		**Pb**	**14 15 29.4**	**-1.1**
DMLN				S		**Sb**	**14 15 39.9**	**+0.4**
DMLN	**Damoulianata-K**	**0.68**	**304**	P		**Pb**	**14 15 29.5**	**-0.9**
UPR	**University Cam**	**0.69**	**52**	P		**Pb**	**14 15 30.7**	**+0.1**
UPR				S		**Sn**	**14 15 41.8**	**-0.3**
FSK	**Fiskardo**	**0.73**	**325**	P		**Pb**	**14 15 30.7**	**-0.6**
FSK				AML		AML	14 15 48.9	
	comp=N,11988μm,0.8s							
FSK				AML		AML	14 15 50.9	
	comp=E,18134μm,0.4s							
FSK	**Fiskardo**	**0.73**	**325**	P		**Pb**	**14 15 30.9**	**-0.4**
FSK				S		**Sb**	**14 15 42.1**	**+1.3**
	comp=E,8μm,0.4s							
LAKA	**Lakka**	**0.79**	**61**	P		**Pg**	**14 15 31.4**	**-1.4**
LAKA				S		**Sg**	**14 15 42.2**	**-1.3**
LAKA				AML		AML	14 15 46.5	
	comp=N,14842μm,1.0s							
LAKA				AML		AML	14 15 56.6	
	comp=E,8691μm,0.7s							
LAKA	**Lakka**	**0.79**	**61**	P		**Pg**	**14 15 31.3**	**-1.5**
LAKA				S		**Sb**	**14 15 44.0**	**+1.2**
EVGI	**Lefkada island**	**0.83**	**336**	P		**Pg**	**14 15 32.0**	**-1.5**
EVGI	**Lefkada island**	**0.83**	**336**	P		**Pg**	**14 15 32.1**	**-1.5**
EVGI				S		**Sb**	**14 15 44.6**	**+0.8**
	comp=E,11μm,0.5s							
EFP	**Efpalio**	**0.85**	**48**	P		**Pg**	**14 15 32.4**	**-1.6**
EFP				S		**Sg**	**14 15 44.0**	**-1.3**
EFP				AML		AML	14 15 48.2	
	comp=E,16816μm,0.5s							
EFP				AML		AML	14 15 48.6	
	comp=N,35007μm,0.8s							
EFP	**Efpalio**	**0.85**	**48**	P		**Pg**	**14 15 32.6**	**-1.3**
KLV	**Kalavryta, Ach**	**0.85**	**78**	P		**Pg**	**14 15 32.1**	**-1.9**
KLV				AML		AML	14 15 50.6	
	comp=N,11147μm,0.6s							
KLV				AML		AML	14 15 53.2	
	comp=E,8534μm,0.6s							
KLV	**Kalavryta, Ach**	**0.85**	**78**	P		**Pg**	**14 15 32.3**	**-1.7**
KLV				S		**Sn**	**14 15 46.0**	**-0.2**
	comp=E,5μm,0.6s							
ALIK	**Aliki, Aigiali**	**0.90**	**63**	P		**Pb**	**14 15 33.3**	**-0.8**
NYDR	**Nydri-Lefkada**	**0.90**	**340**	P		**Pg**	**14 15 32.9**	**-2.0**
NYDR	**Nydri-Lefkada**	**0.90**	**340**	P		**Pg**	**14 15 33.2**	**-1.7**
NYDR				S		**Sb**	**14 15 46.5**	**+0.6**
	comp=E,7μm,0.6s							
DRAG	**Dragano-Lefkad**	**0.92**	**334**	P		**Pg**	**14 15 33.1**	**-2.1**
DRAG	**Dragano-Lefkad**	**0.92**	**334**	P		**Pg**	**14 15 33.4**	**-1.7**
ITM	**Ithomi**	**0.95**	**136**	P		**Pb**	**14 15 34.2**	**-0.9**
ITM				AML		AML	14 15 53.6	
	comp=N,10386μm,0.8s							
ITM				AML		AML	14 15 55.6	
	comp=E,10434μm,1.2s							
ITM	**Ithomi**	**0.95**	**136**	P		**Pb**	**14 15 34.2**	**-0.9**
ITM				S		**Sn**	**14 15 49.2**	**+0.7**
ITM	**Ithomi**	**0.95**	**136**	P		**Pb**	**14 15 34.2**	**-0.9**
ANX	**Ano Chora**	**0.98**	**42**	P		**Pg**	**14 15 34.6**	**-1.8**
ANX				S		**Sb**	**14 15 48.9**	**+0.7**
ANX				AML		AML	14 15 53.0	
	comp=E,14220μm,0.4s							
ANX				AML		AML	14 15 57.1	
	comp=N,26315μm,0.6s							
ANX	**Ano Chora**	**0.98**	**42**	P		**Pg**	**14 15 34.8**	**-1.5**
ANX				S		**Sn**	**14 15 50.3**	**+1.0**
	comp=N,11μm,0.6s							
LKD2	**Lefkada island**	**0.98**	**340**	P		**Pg**	**14 15 34.8**	**-1.7**
LKD2				S		**Sn**	**14 15 50.3**	**+0.9**
GUR	**Goura**	**0.99**	**85**	P		**Pg**	**14 15 34.5**	**-2.1**
GUR	**Goura**	**0.99**	**85**	P		**Pg**	**14 15 34.7**	**-1.9**
GUR				S		**Sn**	**14 15 51.7**	**+2.0**
	comp=N,11μm,0.4s							
TSLK	**Tsoukalades, L**	**1.02**	**340**	P		**Pg**	**14 15 35.3**	**-1.8**
TSLK	**Tsoukalades, L**	**1.02**	**340**	P		**Pg**	**14 15 35.5**	**-1.6**
PYL	**PYLOS**	**1.10**	**152**	P		**Pb**	**14 15 36.3**	**-1.2**
EVR	**Evrytania**	**1.19**	**28**	P		**Pn**	**14 15 38.4**	**-0.6**
EVR				AML		AML	14 16 05.5	
	comp=N,6719μm,0.6s							
EVR				AML		AML	14 16 07.4	
	comp=E,7690μm,0.6s							
EVR	**Evrytania**	**1.19**	**28**	P		**Pg**	**14 15 38.9**	**-1.5**
THAL	**Thalero**	**1.25**	**82**	P		**Pb**	**14 15 39.5**	**-0.8**
THAL				AML		AML	14 16 04.5	
	comp=E,23597μm,0.8s							
THAL				AML		AML	14 16 05.5	
	comp=N,11489μm,1.0s							
THAL	**Thalero**	**1.25**	**82**	P		**Pn**	**14 15 39.3**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.41**	**35**	P		**Pg**	**14 15 42.8**	**-1.7**
MAKR				AML		AML	14 16 10.4	
	comp=N,8303μm,0.6s							
MAKR				AML		AML	14 16 10.7	
	comp=E,11932μm,0.6s							
MAKR	**Makrakomi, Fth**	**1.41**	**35**	P		**Pg**	**14 15 43.2**	**-1.3**
MAKR				S		**Sg**	**14 16 03.8**	**+0.9**
	comp=E,5μm,0.9s							
AGG	**Agios Georgios**	**1.51**	**40**	P		**Pg**	**14 15 44.6**	**-1.8**
AGG				S		**Sg**	**14 16 05.8**	**-0.3**
	comp=E,2μm,0.7s							
AGG	**Agios Georgios**	**1.51**	**40**	P		**Pg**	**14 15 44.6**	**-1.8**
KRND	**KRANIDI**	**1.70**	**106**	P		**Pg**	**14 15 48.9**	**-1.1**
ATAL	**Atalanti**	**1.73**	**61**	P		**Pb**	**14 15 48.1**	**-0.2**
IGT	**Igoumenitsa**	**1.77**	**341**	P		**Pb**	**14 15 48.7**	**-0.3**
VILL	**Villia**	**1.78**	**80**	P		**Pb**	**14 15 49.0**	**-0.2**
THL	**Klokotos Trika**	**1.84**	**23**	P		**Pb**	**14 15 50.4**	**+0.1**
VLI	**Veliai**	**1.86**	**127**	P		**Pg**	**14 15 51.3**	**-1.8**
ATH	**Athens Observa**	**2.08**	**86**	P		**Pb**	**14 15 53.4**	**-0.9**
KPRO	**Kipourio**	**2.10**	**6**	P		**Pb**	**14 15 54.5**	**-0.2**
KEK	**Kerkira**	**2.11**	**332**	P		**Pb**	**14 15 53.8**	**-1.0**
KEK	**Kerkira**	**2.11**	**332**	Pn		**Pb**	**14 15 52.8**	**-2.0**
ATHU	**Athens Univers**	**2.13**	**86**	P		**Pb**	**14 15 54.2**	**-1.0**
VLY	**Voula,Athens**	**2.14**	**89**	P		**Pb**	**14 15 54.6**	**-0.7**
SRN	**Sarande**	**2.19**	**337**	P		**Pb**	**14 15 54.4**	**-1.7**
PTL	**Penteli**	**2.20**	**84**	P		**Pb**	**14 15 55.6**	**-0.8**
KTHR	**Kythira**	**2.21**	**136**	P		**Pb**	**14 15 55.3**	**-1.3**
XOR	**Xorichti**	**2.23**	**47**	P		**Pb**	**14 15 55.3**	**-1.5**
KTHA	**Kythira Island**	**2.25**	**135**	P		**Pb**	**14 15 56.4**	**-0.8**
DION	**Dionisos Attik**	**2.25**	**84**	P		**Pb**	**14 15 56.3**	**-1.0**
PENT	**Pentalofos**	**2.33**	**1**	P		**Pb**	**14 15 56.9**	**-1.7**
LIT	**Litokhoron**	**2.48**	**26**	P		**Pb**	**14 15 59.5**	**-1.8**
LIT	**Litokhoron**	**2.48**	**26**			**Pb**	**14 15 59.1**	**-2.2**
KYMI	**Kymi, Euboea I**	**2.49**	**71**	P		**Pb**	**14 15 59.0**	**-2.3**
KZN	**Kozani**	**2.50**	**12**	P		**Pb**	**14 15 59.2**	**-2.3**
KARY	**Karystos**	**2.65**	**85**	P		**Pb**	**14 16 01.4**	**-2.6**
KTI	**Kastanea**	**2.65**	**17**	P		**Pb**	**14 16 02.1**	**-2.0**
VLO	**Vlora**	**2.88**	**335**	Pn		**Pn**	**14 16 04.3**	**+2.3**
FNA	**Florina**	**2.92**	**4**	P		**Pn**	**14 16 04.8**	**+2.1**
FNA	**Florina**	**2.92**	**4**			**Pn**	**14 16 04.8**	**+2.1**
SCTE	**Santa Cesarea**	**3.01**	**318**			**Pn**	**14 16 04.2**	**+0.4**
OHR	**Ohrid**	**3.25**	**356**	*e*Pn		**Pg**	**14 16 17.1**	**-2.5**
SOH	**Sokhos**	**3.44**	**30**	P		**Pn**	**14 16 12.6**	**+2.9**
TIR	**Tirane**	**3.61**	**345**	⇓P		**Pn**	**14 16 14.2**	**+2.1**
TIR	**Tirane**	**3.61**	**345**			**Pn**	**14 16 13.4**	**+1.4**
APE	**Apeiranthos**	**3.62**	**101**	⇑P		**Pb**	**14 16 20.5**	**-0.1**
VAY	**Valandovo**	**3.64**	**18**	*e*Pn		**Pb**	**14 16 19.7**	**-1.2**
TIP	**Timpagrande**	**3.64**	**292**	⇓P		**Pn**	**14 16 11.8**	**-0.8**
TIP				⇑S		**Sn**	**14 16 51.4**	**-3.7**
TIP	**Timpagrande**	**3.64**	**292**			**Pn**	**14 16 12.8**	**+0.2**
STIP	**Stip**	**3.92**	**12**	*e*Pn		**Pn**	**14 16 19.8**	**+3.5**
IDI	**Anoyia**	**3.99**	**129**	⇑P		**Pb**	**14 16 26.3**	**-0.7**
IDI	**Anoyia**	**3.99**	**129**	Pn		**Pn**	**14 16 18.3**	**+0.9**
	comp=E,0.9nm,0.3s,baz=311,slow=11,SNR=2.5							
IDI				Sn		**Sn**	**14 16 59.7**	**-3.9**
	comp=E,2.8nm,0.3s,baz=285,slow=9.6,SNR=4.1							
IDI				LR		LR	14 17 52.9	
	comp=E,163nm,18.6s,baz=270,slow=42							
SKO	**Skopje**	**4.11**	**4**	*e*Pn		**Pb**	**14 16 25.7**	**-3.3**
CEL	**Celeste**	**4.12**	**277**			**Pn**	**14 16 18.9**	**-0.3**
MATE	**Matera**	**4.40**	**311**	⇑P		**Pn**	**14 16 21.7**	**-1.2**
DRME	**Dracevica, Mon**	**4.56**	**342**	*e*Pn		**Pn**	**14 16 25.2**	**+0.1**
CUC	**Castrocucco**	**4.63**	**299**			**Pn**	**14 16 28.0**	**+1.9**
RDO	**Rodhopi**	**4.75**	**45**	Pn		**Pn**	**14 16 29.6**	**+1.9**
PDG	**Podgorica**	**4.77**	**343**	⇑P		**Pn**	**14 16 28.6**	**+0.6**
PDG				⇓S		**Sn**	**14 17 23.5**	**+0.8**
PDG	**Podgorica**	**4.77**	**343**			**Pn**	**14 16 29.0**	**+1.0**
PDG	**Podgorica**	**4.77**	**343**	*e*Pn		**Pn**	**14 16 28.2**	**+0.2**
ALN	**Alexandroupoli**	**4.89**	**51**	Pn		**Pn**	**14 16 31.4**	**+1.7**
HCY	**Herceg Novi**	**4.99**	**337**	*e*Pn		**Pn**	**14 16 30.1**	**-1.0**
VTS	**Vitosha**	**5.02**	**18**	⇑P		**Pn**	**14 16 36.1**	**+4.4**
VTS				⇑S		**Sn**	**14 17 34.6**	**+5.4**
VTS	**Vitosha**	**5.02**	**18**			**Pn**	**14 16 33.6**	**+2.0**
TREB	**Trebinje**	**5.28**	**337**	*e*Pn		**Pn**	**14 16 35.0**	**0.0**
VAE	**Valguarnera**	**5.31**	**268**	Pn		**Pn**	**14 16 37.2**	**+1.6**
	comp=E,6.6nm,0.3s,baz=18,slow=19,SNR=2.1							
VAE				Sn		**Sn**	**14 17 38.8**	**+2.6**
	comp=E,5.2nm,0.3s,baz=109,slow=19,SNR=3.2							
BRY	**Bratogost**	**5.40**	**340**	*e*Pn		**Pn**	**14 16 39.7**	**+2.9**
UPM	**Unac-Piva**	**5.59**	**343**	*e*Pn		**Pn**	**14 16 40.3**	**+0.9**
BALB	**Balikesir**	**5.59**	**69**	Pn		**Pn**	**14 16 40.1**	**+0.8**
STON	**Ston**	**5.63**	**334**	*e*Pn		**Pn**	**14 16 39.3**	**-0.5**
SGRT	**San Giovanni R**	**5.66**	**315**	Pn		**Pn**	**14 16 40.3**	**0.0**
BOVS	**Bovan**	**5.79**	**4**	⇑P		**Pn**	**14 16 45.0**	**+3.1**
RUDO	**Rudo**	**5.90**	**348**	*e*Pn		**Pn**	**14 16 43.9**	**+0.4**
BBLS	**Lazići**	**6.13**	**348**	*e*Pn		**Pn**	**14 16 50.3**	**+3.5**
CLTB	**Caltabellotta**	**6.25**	**270**			**Pn**	**14 16 47.3**	**-1.1**
DIVS	**Divibare**	**6.28**	**353**			**Pn**	**14 16 48.3**	**-0.6**
DIVS	**Divibare**	**6.28**	**353**	*e*Pn		**Pn**	**14 16 48.6**	**-0.3**
SRKY	**Kupres RS**	**6.87**	**336**	*e*Pn		**Pn**	**14 16 59.5**	**+2.5**
MDVR	**Moldovita**	**6.93**	**4**	P		**Pn**	**14 17 00.1**	**+2.4**
RAZG	**Razgrad**	**7.03**	**34**	⇓P		Pn	14 17 04.2	+5.2
HERR	**Herculane**	**7.08**	**8**	P		**Pn**	**14 17 03.0**	**+3.3**
MGRS	**Mrkonjic Grad**	**7.21**	**336**	*e*Pn		**Pn**	**14 17 01.6**	**0.0**
FRGS	**Fruska Gora**	**7.35**	**353**	⇑P		**Pn**	**14 17 05.6**	**+2.1**
GZR	**Gura Zlata**	**7.63**	**9**	⇓P		**Pn**	**14 17 10.7**	**+3.4**
BZS	**Buzias**	**7.76**	**3**	P		**Pn**	**14 17 11.6**	**+2.6**
NRCA	**Norcia**	**7.86**	**312**			**Pn**	**14 17 11.8**	**+1.3**
VOIR		**8.12**	**20**	⇑P		Pn	14 17 19.0	+4.8
MLR	**Muntele Rosu**	**8.44**	**24**	⇑P		**Pn**	**14 17 23.1**	**+4.6**
PLOR	**Plostina**	**8.99**	**26**	⇑P		Pn	14 17 31.0	+5.0
CRES	**Cresnjev**	**9.00**	**334**	*e*Pn		**Pn**	**14 17 25.0**	**-1.0**
VRI	**Vrincioaia**	**9.03**	**26**	⇑P		Pn	14 17 31.4	+4.9
CEY	**Cerknica**	**9.31**	**330**	*e*Pn		**Pn**	**14 17 30.5**	**+0.2**
SKDS	**Skadanscina**	**9.32**	**328**	*e*Pn		**Pn**	**14 17 30.5**	**0.0**
KEST	**Kesra**	**9.66**	**261**	Pn		**Pn**	**14 17 36.5**	**+1.3**
	comp=E,0.1nm,0.3s,baz=45,slow=17,SNR=3.2							
KEST	**Kesra**	**9.66**	**261**	Pn		**Pn**	**14 17 36.3**	**+1.1**
SOKA	**Soboth**	**9.88**	**335**	*e*Pn		**Pn**	**14 17 39.8**	**+1.6**
	comp=E,4.4nm,0.6s							
OBKA	**Obir**	**9.91**	**333**	*e*Pn		Pn	14 17 43.5	+4.9
	comp=E,5.6nm,0.6s							
STAL	**STALIGIAL**	**10.45**	**326**	Pn		**Pn**	**14 17 46.1**	**+0.3**
MOA	**Molln**	**11.16**	**336**	*e*Pn		**Pn**	**14 17 58.8**	**+3.2**
	comp=E,1.3nm,0.3s							
VRAC	**Vranov**	**11.89**	**346**	LR		LR	14 23 23.0	
	comp=E,79nm,18.8s,baz=188,slow=40							
DAVOX	**Davos/Dischmat**	**12.16**	**321**	LR		LR	14 25 08.5	
	comp=E,86nm,18.0s,baz=85,slow=48							
GERES	**GERESS Array B**	**12.22**	**336**	Pn		**Pn**	**14 18 13.5**	**+3.4**
	comp=E,0.3nm,0.3s,baz=162,slow=14,SNR=4.6							
GERES				LR		LR	14 23 55.6	
	comp=E,120nm,18.8s,baz=126,slow=42							
KHC	**Kasperske Hory**	**12.51**	**337**	*e*SN		**Sn**	**14 20 29.1**	**-3.6**
AKASG	**Malin Array Be**	**14.08**	**22**	LR		LR	14 24 28.5	
	comp=E,53nm,20.3s,baz=142,slow=39							
GNI	**Garni**	**18.51**	**76**	LR		LR	14 27 25.3	
	comp=E,50nm,19.5s,baz=318,slow=40							
ESDC	**Sonseca Array**	**19.61**	**283**	P		**Pn**	**14 19 45.3**	**-0.4**
	comp=E,0.1nm,0.3s,baz=78,slow=11,SNR=10							
ESDC				LR		LR	14 26 34.9	
	comp=E,57nm,18.0s,baz=88,slow=34							
HFS	**Hagfors**	**22.78**	**350**	LR		LR	14 31 47.1	
	comp=E,50nm,19.2s,baz=162,slow=43							
FINES	**FINESS Array B**	**23.81**	**6**	P		**P**	**14 20 28.4**	**-0.2**
	comp=E,3.8nm,1.1s,baz=193,slow=4.3,SNR=2.2							
FINES	**FINESS Array B**	**23.81**	**6**	P		**P**	**14 20 31.1**	**+2.5**
FIA1	**FINESS Array S**	**23.81**	**6**	P		**P**	**14 20 31.0**	**+2.4**
FIA1				IAmb		IAmb	14 20 55.4	
	comp=Z,19nm,1.5s							
EKA	**Eskdalemuir Ar**	**23.95**	**325**	P		**P**	**14 20 32.2**	**+2.3**
	comp=Z,3.7nm,0.7s,baz=122,slow=9.3,SNR=6.2							
ESK	**Eskdalemuir**	**23.96**	**325**	P		**P**	**14 20 30.9**	**+0.9**
ESK				IAmb		IAmb	14 20 59.6	
	comp=Z,53nm,1.5s							
NC405	**NORSAR Array S**	**24.01**	**349**	P		**P**	**14 20 30.1**	**-0.4**
NB201	**NORSAR Array S**	**24.01**	**348**	P		**P**	**14 20 30.1**	**-0.4**
NB2	**NORSAR Subarra**	**24.02**	**348**	P		**P**	**14 20 31.1**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=160,slow=11							
NOA	**NORSAR Array B**	**24.02**	**348**	P		**P**	**14 20 31.0**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=158,slow=8.6,SNR=6.4							
NOA				LR		LR	14 31 47.8	
	comp=Z,21nm,18.6s,baz=235,slow=41							
NC204	**NORSAR Array S**	**24.31**	**348**	P		**P**	**14 20 35.7**	**+2.3**
NC204				IAmb		IAmb	14 20 42.9	
	comp=Z,51nm,1.4s							
AKTO	**Aktyubinsk**	**29.01**	**52**	P		**P**	**14 21 15.0**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=264,slow=9.2,SNR=2.3							
ABKAR	**Akbulak array**	**30.05**	**55**	P		**P**	**14 21 24.0**	**-0.8**
TOA0	**Torodi Ar. Sit**	**30.07**	**220**	P		**P**	**14 21 24.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**30.07**	**220**	P		**P**	**14 21 25.6**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=35,slow=8.7,SNR=8.5							
TORD	**Torodi Ar. Bea**	**30.07**	**220**	P		**P**	**14 21 25.1**	**-0.3**
ARCES	**ARCESS Array B**	**31.82**	**3**	P		**P**	**14 21 41.2**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=187,slow=8.6,SNR=4.3							
ARCES	**ARCESS Array B**	**31.82**	**3**	IAmb		IAmb	14 22 03.5	
	comp=Z,19nm,1.5s							
KKAR	**Karatay Array**	**37.51**	**66**	P		**P**	**14 22 29.8**	**+0.1**
DBIC	**Dimbokro**	**38.97**	**224**	P		**P**	**14 22 41.2**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=11,slow=5.2,SNR=2.1							
DBIC	**Dimbokro**	**38.97**	**224**	P		**P**	**14 22 41.5**	**-0.7**
DBIC				IAmb		IAmb	14 23 08.4	
	comp=Z,11nm,1.2s							
MK31	**Makanchi Array**	**45.08**	**58**	P		**P**	**14 23 31.3**	**-0.6**
MK31				IAmb		IAmb	14 23 38.0	
	comp=Z,1.7nm,0.8s							
MKAR	**Makanchi Array**	**45.08**	**58**	P		**P**	**14 23 31.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=277,slow=6.8,SNR=8.2							
MKAR	**Makanchi Array**	**45.08**	**58**	P		**P**	**14 23 31.3**	**-0.6**
ZAA0	**Zalesovo Array**	**45.56**	**48**	P		**P**	**14 23 34.9**	**-0.6**
ZAA0				IAmb		IAmb	14 23 41.6	
	comp=Z,3.4nm,0.8s							
ZALV	**Zalesovo Beam**	**45.56**	**48**	P		**P**	**14 23 35.2**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=276,slow=8.4,SNR=7.3							
ZALV	**Zalesovo Beam**	**45.56**	**48**	P		**P**	**14 23 34.5**	**-1.1**
SCHQ	**Schefferville**	**59.00**	**318**	P		**P**	**14 25 14.0**	**-1.3**
SCHQ				IAmb		IAmb	14 25 30.3	
	comp=Z,11nm,1.4s							
LMN	**Caledonia Moun**	**61.53**	**308**	P		**P**	**14 25 34.2**	**+1.4**
YKA	**Yellowknife Ar**	**73.84**	**340**	P		**P**	**14 26 52.8**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=32,slow=5.3,SNR=5.8							
JCJ	**Chichijima**	**95.02**	**50**	LR		LR	15 14 03.2	
	comp=Z,104nm,18.5s,baz=320,slow=37							

IDC ***26*** *14:33:56.0±1.6,33°.69N×141°.80E,h0km,mb3.7/5, mb1 3.8/7,mb1mx3.5/52,mbtmp3.7/7,ML3.1/2,MS2.8/1, Ms1 2.8/1,ms1mx2.2/89, Error ellipse: s-maj=38.8km s-min=19.8km az=72.0*
JMA ***26*** *14:34:01.1±0.4,33°.76N×141°.41E,h15km,M3.2*
ISC 26 14:33:59.0±1.5,**33°.70N**±0°.06×**141°.6E**±0°.1,**h10**km,**n21**, σ0°**83**/21,**mb3.9**/5,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**1.08**	**333**	P		**Pb**	**14 34 19.1**	**-0.3**
BSO1				*e*S		**Sb**	**14 34 31.6**	**-1.7**
BSO3	**Boso 3**	**1.41**	**322**	P		**Pn**	**14 34 24.8**	**+0.3**
JHJ2	**Mitsune**	**1.58**	**249**	P		**Pn**	**14 34 27.3**	**+0.2**
JHJ	**Hachijo jima 2**	**1.60**	**249**	Pn		**Pn**	**14 34 27.5**	**+0.1**
	24nm,0.3s,baz=315,slow=17,SNR=48							
JHJ				Sn		**Sn**	**14 34 49.0**	**+0.8**
	64nm,0.3s,baz=86,slow=22,SNR=7.5							
JHCJ	**Hachijojimakas**	**1.61**	**248**	P		**Pn**	**14 34 27.5**	**0.0**
BSO4	**Boso 4**	**1.65**	**322**	P		**Pn**	**14 34 28.6**	**+0.7**
JMKN	**Mikurajimainsh**	**1.66**	**277**	P		**Pn**	**14 34 28.3**	**+0.1**
KTR	**Katsuura**	**1.78**	**325**	P		**Pn**	**14 34 30.5**	**+0.6**
JIM2	**Oshima 3**	**2.05**	**300**	P		**Pn**	**14 34 32.8**	**-0.8**
JIZS	**Izushimoda**	**2.46**

NB201				*e*Sg	**Sg**	**14 36 56.9**	**-1.0**
NB201				IAML		14 37 17.7	
	comp=Z,9.9nm,0.3s						
NB2	**NORSAR Subarra**	**4.28**	**304**	Pn	**Pn**	**14 35 50.6**	**+2.7**
	baz=123,slow=14						
NB2				Lg	Lg	14 36 59.6	
	baz=117,slow=37						
NB2	**NORSAR Subarra**	**4.28**	**304**	Pn	**Pn**	**14 35 50.6**	**+2.7**
	baz=123,slow=14						
NOA	**NORSAR Array B**	**4.28**	**304**	Pn	**Pn**	**14 35 50.6**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=122,slow=14,SNR=38						
NOA				Lg	Lg	14 36 55.1	
	comp=Z,0.3nm,0.3s,baz=102,slow=6.4,SNR=7.4						
VSU	**Vasula**	**4.31**	**92**	*e*P	**Pn**	**14 35 50.0**	**+1.6**
VSU	**Vasula**	**4.31**	**92**	*e*S	**Sn**	**14 36 36.6**	**-2.8**
NAO01	**NORSAR Array S**	**4.33**	**301**	*e*P	**Pn**	**14 35 50.8**	**+2.1**
NAO01				*e*Sg	**Sg**	**14 36 59.4**	**-1.4**
NAO01				IAML		14 37 20.6	
	comp=Z,8.4nm,0.3s						
PABE	**Paberze**	**4.48**	**136**	*e*P	**Pn**	**14 35 52.6**	**+1.9**
KEF	**Keuruu**	**4.58**	**41**	*e*P	**Pn**	**14 35 54.3**	**+2.2**
KEF				*e*S	**Sn**	**14 36 44.2**	**-1.6**
FIA0	**FINESS Array S**	**4.59**	**52**	Pn	**Pn**	**14 35 54.4**	**+2.2**
	baz=228,slow=10						
FIA0				Lg	Lg	14 37 02.5	
	baz=243,slow=28						
FIA0	**FINESS Array S**	**4.59**	**52**	Pn	**Pn**	**14 35 54.4**	**+2.2**
	baz=228,slow=10						
FINES	**FINESS Array B**	**4.59**	**52**	Pn	**Pn**	**14 35 54.4**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=237,slow=11,SNR=16						
FINES				Sn	**Sn**	**14 36 46.2**	**0.0**
	comp=Z,1.4nm,0.3s,baz=245,slow=17,SNR=8.4						
FINES				Lg	Lg	14 37 02.5	
	comp=Z,4.2nm,0.3s,baz=248,slow=25,SNR=12						
KONO	**Kongsberg**	**4.64**	**284**	*e*P	**Pn**	**14 35 55.9**	**+2.9**
KONO				*e*Sg	**Sg**	**14 37 10.2**	**-0.5**
KONO				IAML		14 37 41.8	
	comp=Z,7.6nm,0.3s						
KAF	**Kangasniemi**	**5.05**	**46**	*e*P	**Pn**	**14 36 00.8**	**+2.2**
KAF				*e*S	**Sn**	**14 36 56.2**	**-1.4**
HOMB	**Homborsund**	**5.27**	**268**	*e*P	**Pn**	**14 36 01.8**	**+0.2**
HOMB				IAML		14 37 40.0	
	comp=Z,11nm,0.8s						
SUF	**Sumiainen**	**5.39**	**41**	*e*P	**Pn**	**14 36 04.4**	**+1.2**
SUF				*e*S	**Sn**	**14 37 04.2**	**-1.7**
SKAR	**Skarslia**	**5.47**	**294**	*e*P	**Pn**	**14 36 06.3**	**+1.9**
SKAR				IAML		14 37 50.8	
	comp=Z,9.5nm,0.3s						
DOMB	**Dombas**	**5.67**	**308**	*e*P	**Pn**	**14 36 08.3**	**+1.3**
DOMB				*e*		14 37 31.4	
DOMB				IAML		14 37 46.6	
	comp=Z,8.1nm,0.2s						
SNART	**Snartemo**	**5.93**	**270**	*e*P	**Pn**	**14 36 11.1**	**+0.4**
ODD1	**Odda**	**6.17**	**285**	*e*P	**Pn**	**14 36 15.9**	**+2.0**
BLS5	**Blasjo**	**6.23**	**280**	*e*P	**Pn**	**14 36 15.4**	**+0.6**
BLS5				IAML		14 38 07.8	
	comp=Z,4.5nm,0.4s						
OUF	**Merijarvi**	**6.28**	**26**	*e*P	**Pn**	**14 36 17.4**	**+2.0**
OUF				*e*S	**Sn**	**14 37 26.6**	**-1.1**
NSS	**Namsos**	**6.49**	**334**	*e*P	**Pn**	**14 36 17.8**	**-0.5**
NSS				*e*S	**Sn**	**14 37 28.7**	**-4.2**
NSS				IAML		14 38 08.8	
	comp=Z,2.7nm,0.3s						
AKN	**Aaknes**	**6.59**	**305**	*e*P	**Pn**	**14 36 21.3**	**+1.6**
AKN				*e*S	**Sn**	**14 37 30.8**	**-4.6**
AKN				IAML		14 37 56.1	
	comp=Z,4.1nm,0.8s						
HYA	**Hoyanger**	**6.60**	**296**	*e*P	**Pn**	**14 36 21.0**	**+1.2**
HYA				IAML		14 38 31.5	
	comp=Z,5.6nm,0.4s						
TOF	**Tornio**	**7.74**	**18**	*e*P	**Pn**	**14 36 36.2**	**+0.9**
TOF				*e*S	**Sn**	**14 38 01.7**	**-1.8**
KONS	**Konsvik**	**8.06**	**344**	*e*P	**Pn**	**14 36 39.5**	**-0.3**
KONS				IAML		14 38 38.6	
	comp=Z,2.0nm,0.8s						
APA0	**Apatity Array**	**10.91**	**30**	Pn	**Pn**	**14 37 18.1**	**-0.6**
	baz=220,slow=14						
APA0	**Apatity Array**	**10.91**	**30**	Pn	**Pn**	**14 37 18.1**	**-0.6**
	baz=220,slow=14						
ARA0	**ARCESS Array S**	**11.14**	**13**	Pn	**Pn**	**14 37 21.4**	**-0.6**
	baz=195,slow=16						
ARA0	**ARCESS Array S**	**11.14**	**13**	Pn	**Pn**	**14 37 21.4**	**-0.6**
	baz=195,slow=16						
ARCES	**ARCESS Array B**	**11.14**	**13**	Pn	**Pn**	**14 37 21.1**	**-0.8**
	baz=189,slow=13,SNR=17						

*UPP **26** 14:34:51.4±0.4, 58.82N×18.63E, h0km, ML2.5, Explosion*
*DNK **26** 14:34:56.3±3.0, 58.98N×17.96E, h0km, ML2.5(UPP), Explosion*
ISC 26 14:34:51.6±1.8, 58.88N±0.08×18.45E±0.08, h0km, n21, σ0§46/22, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.26**	**298**	S	**Sb**	**14 35 03.6**	**-0.5**
NYNU	**Nynaeshamn**	**0.26**	**298**	P	**Pb**	**14 34 58.5**	**-0.6**
NYNU				S	**Sb**	**14 35 03.6**	**-0.5**
NYNU	**Nynaeshamn**	**0.26**	**298**	P	**Pb**	**14 34 58.5**	**-0.6**
NRTU	**Norrtaelje**	**0.80**	**7**	P	**Pg**	**14 35 07.6**	**+0.6**
NRTU	**Norrtaelje**	**0.80**	**7**	P	**Pg**	**14 35 07.6**	**+0.6**
VIKU	**Vikbolandet**	**0.99**	**248**	P	**Pg**	**14 35 11.2**	**+0.7**
VIKU	**Vikbolandet**	**0.99**	**248**	P	**Pg**	**14 35 11.2**	**+0.7**
UPP	**Uppsala**	**1.06**	**337**	P	**Pb**	**14 35 13.1**	**+0.2**
ESKU	**Eskilstuna**	**1.12**	**289**	P	**Pn**	**14 35 14.4**	**0.0**
ESKU	**Eskilstuna**	**1.12**	**289**	P	**Pn**	**14 35 14.4**	**0.0**
FIBU	**Brunna**	**1.17**	**332**	P	**Pn**	**14 35 15.0**	**-0.1**
FIBU	**Brunna**	**1.17**	**332**	P	**Pn**	**14 35 15.0**	**-0.1**
BACU	**Backbrunna**	**1.19**	**325**	P	**Pn**	**14 35 15.7**	**+0.2**
BACU	**Backbrunna**	**1.19**	**325**	P	**Pn**	**14 35 15.7**	**+0.2**
FLYU	**Flymyra**	**1.28**	**347**	P	**Pb**	**14 35 16.6**	**0.0**
FLYU	**Flymyra**	**1.28**	**347**	P	**Pb**	**14 35 16.6**	**0.0**
GRAU	**Graesoe**	**1.46**	**2**	P	**Pn**	**14 35 19.2**	**+0.1**
GRAU	**Graesoe**	**1.46**	**2**	P	**Pn**	**14 35 19.2**	**+0.1**
FORU	**Forsmark**	**1.52**	**355**	P	**Pg**	**14 35 21.0**	**+0.4**
FORU	**Forsmark**	**1.52**	**355**	P	**Pg**	**14 35 21.0**	**+0.4**
AAL	**Aland**	**1.52**	**31**	P	**Pn**	**14 35 19.2**	**-0.8**

*IDC **26** 14:41:09.2±1.0, 33.60N×141.81E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.5/47, mbtmp3.8/9, ML3.6/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/93, Error ellipse: s-maj=26.2km s-min=17.1km az=78.0*
*NEIC **26** 14:41:10.6±0.7, 33.66N±0.07×141.8E±0.1, h10km±2km, mb4.2/12, Error ellipse: s-maj=14.0km s-min=9.3km az=100.0*
*JMA **26** 14:41:13.1±0.3, 33.71N×141.63E, h36km, M3.4*
ISC 26 14:41:13.2±0.8, 33.60N±0.06×141.78E±0.07, h34km, n47, σ1§18/50, mb4.0/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.25**	**328**	P	**Pn**	**14 41 32.5**	**-1.3**
BSO3	**Boso 3**	**1.60**	**319**	P	**Pn**	**14 41 37.6**	**-1.2**
JHJ2	**Mitsune**	**1.72**	**254**	P	**Pn**	**14 41 40.5**	**-0.2**
JHJ2	**Mitsune**	**1.72**	**254**	Pn	**Pn**	**14 41 40.5**	**-0.2**
JHJ	**Hachijo jima 2**	**1.74**	**255**	Pn	**Pn**	**14 41 40.8**	**-0.3**
	46nm,0.3s,baz=314,slow=18,SNR=58						
JHJ				Sn	**Sn**	**14 42 01.2**	**-0.8**
	83nm,0.3s,baz=62,slow=22,SNR=6.6						
JHCJ	**Hachijojimakas**	**1.74**	**253**	P	**Pn**	**14 41 40.8**	**-0.3**
BSO4	**Boso 4**	**1.83**	**320**	P	**Pn**	**14 41 41.6**	**-0.6**
JMKN	**Mikurajimanish**	**1.85**	**280**	P	**Pn**	**14 41 41.7**	**-0.9**
JMKN				*e*S	**Sn**	**14 42 02.6**	**-2.2**
KTR	**Katsuura**	**1.96**	**322**	P	**Pn**	**14 41 43.5**	**-0.6**
JAOM	**Aogashimamukai**	**2.04**	**237**	P	**Pn**	**14 41 45.0**	**-0.2**
JIM2	**Oshima 3**	**2.25**	**300**	P	**Pn**	**14 41 46.2**	**-1.8**
JKO	**Kozu shima**	**2.28**	**286**	P	**Pn**	**14 41 47.6**	**-0.8**
JIZS	**Izushimoda**	**2.66**	**296**	P	**Pn**	**14 41 52.9**	**-0.7**
JOD2	**Odawara 2**	**2.78**	**307**	P	**Pn**	**14 41 53.7**	**-1.6**
JOD2				*e*S	**Sn**	**14 42 25.2**	**-2.5**
JYT	**Yasato**	**2.93**	**334**	Pn	**Pn**	**14 41 57.4**	**0.0**
JYN	**Shimodate**	**3.28**	**306**	P	**Pn**	**14 42 01.2**	**-1.0**
MJAR	**Matsushiro Arr**	**4.15**	**316**	Pn	**Pn**	**14 42 14.0**	**-0.2**
	0.5nm,0.3s,baz=162,slow=12,SNR=21						
MJAR				Sn	**Sn**	**14 43 02.1**	**+0.6**
	0.6nm,0.3s,baz=303,slow=11,SNR=10						
MJAR				LR	LR	14 44 15.9	
	comp=Z,66nm,20.2s,baz=156,slow=45						
MJAR	**Matsushiro Arr**	**4.15**	**316**		**Pn**	**14 42 13.4**	**-0.7**
MAJO	**Matsushiro**	**4.15**	**316**		**Pn**	**14 42 13.4**	**-0.8**
MJB9	**Matsu-Tunnel**	**4.16**	**316**		**Pn**	**14 42 13.3**	**-0.9**
JGF	**Kuroka**	**4.16**	**300**		**Pn**	**14 42 14.5**	**+0.1**

JMM	**Marumori**	**4.33**	**350**	Pn	**Pn**	**14 42 14.9**	**-1.8**
JSD	**Sado**	**5.27**	**328**		**Pn**	**14 42 28.5**	**-1.1**
JCJ	**Chichijima**	**6.49**	**177**	Pn	**Pn**	**14 42 46.7**	**+0.3**
	6.1nm,0.3s,baz=285,slow=20,SNR=1.5						
JCJ				Sn	**Sn**	**14 43 55.8**	**-3.5**
	1.8nm,0.3s,baz=270,slow=20,SNR=2.1						
ERM	**Erimo**	**8.47**	**7**	Pn	**Pn**	**14 43 12.1**	**-1.4**
ASAJ	**Asahikawa**	**10.52**	**3**	Pn	**Pn**	**14 43 39.2**	**-2.3**
	0.7nm,0.3s,baz=248,slow=11,SNR=9.0						
JKA	**Kamikawa-asahi**	**10.52**	**3**	Pn	**Pn**	**14 43 40.6**	**-1.0**
ULN	**Ulaanbaatar**	**29.65**	**309**	P	**P**	**14 47 14.0**	**-1.6**
ULN				IAmb	IAmb	14 47 18.4	
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**30.07**	**309**	P	**P**	**14 47 21.2**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=122,slow=11,SNR=6.0						
SONM	**Songino Array**	**30.07**	**309**	IAmb	IAmb	14 47 21.6	
	comp=Z,1.7nm,1.0s						
MK31	**Makanchi Array**	**46.27**	**305**	P	**P**	**14 49 35.5**	**+0.1**
MK31				IAmb	IAmb	14 49 36.1	
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**46.27**	**305**	P	**P**	**14 49 35.7**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=86,slow=9.9,SNR=12						
MAKZ	**Makanchi**	**46.48**	**305**	P	**P**	**14 49 37.3**	**+0.3**
MAKZ				IAmb	IAmb	14 49 51.2	
	comp=Z,1.9nm,0.9s						
KURK	**Kurchatov**	**48.34**	**311**	P	**P**	**14 49 51.3**	**0.0**
KURK				IAmb	IAmb	14 49 52.8	
	comp=Z,4.1nm,1.1s						
ILAR	**Eielson Array**	**52.25**	**31**	P	**P**	**14 50 22.1**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=269,slow=6.7,SNR=3.1						
WB0	**Warramunga Arr**	**53.53**	**189**	P	**P**	**14 50 31.3**	**+0.6**
WRAB	**Tennant Creek**	**53.70**	**189**	P	**P**	**14 50 32.4**	**+0.5**
WRAB				IAmb	IAmb	14 50 37.2	
	comp=Z,6.2nm,1.3s						
WR0	**Warramunga Arr**	**53.70**	**188**	P	**P**	**14 50 32.3**	**+0.4**
WB2	**Warramunga Arr**	**53.71**	**189**	P	**P**	**14 50 32.2**	**+0.3**
WB2				IAmb	IAmb	14 50 33.1	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**53.71**	**189**	P	**P**	**14 50 32.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=4.5,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**53.71**	**189**	IAmb	IAmb	14 50 34.6	
	comp=Z,0.2nm,0.9s						
KKAR	**Karatay Array**	**55.16**	**302**	P	**P**	**14 50 43.0**	**+0.6**
AS31	**Alice Springs**	**57.44**	**189**	P	**P**	**14 50 59.4**	**+0.7**
ASAR	**Alice Springs**	**57.44**	**189**	P	**P**	**14 50 59.6**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=359,slow=5.5,SNR=8.5						
ABKAR	**Akbulak array**	**60.41**	**312**	P	**P**	**14 51 19.3**	**+0.2**
AKTO	**Aktyubinsk**	**61.22**	**314**	P	**P**	**14 51 26.1**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=76,slow=12,SNR=4.1						
GNI	**Garni**	**74.02**	**308**	P	**P**	**14 52 46.4**	**+0.6**

*DNK **26** 14:50:43.4±1.4, 58.80N×18.69E, h0km, ML2.7, Explosion*
*HEL **26** 14:50:43.9±0.1, 58.81N×18.67E, h0km, ML1.8, ML3.1(UPP), Explosion*
*UPP **26** 14:50:43.0±0.2, 58.80N×18.69E, h0km, ML3.1, Explosion*
*BER **26** 14:50:46.9±1.8, 58.91N×18.45E, h0km, ML2.1, ML3.1(UPP), Suspected explosion*
*IDC **26** 14:50:46.6±2.5, 59.06N×18.54E, h0km, mb1 3.4/3, mb1mx3.0/45, mbtmp3.2/3, ML2.5/3, Error ellipse: s-maj=32.7km s-min=9.5km az=176.0*
*NAO **26** 14:50:46.2±3.0, 59.04N×18.59E, ML2.4*
ISC 26 14:50:42.8±0.8, 58.83N±0.03×18.61E±0.03, h0km, n88, σ1§44/118, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.36**	**299**	P	**Pg**	**14 50 50.9**	**+1.2**
NYNU				S	**Sg**	**14 50 55.8**	**+1.5**
NYNU	**Nynaeshamn**	**0.36**	**299**	P	**Pg**	**14 50 50.9**	**+1.2**
NYNU				S	**Sg**	**14 50 55.8**	**+1.5**
NYNU	**Nynaeshamn**	**0.36**	**299**	*i* P	**Pg**	**14 50 50.9**	**+1.2**
NYNU				*i* S	**Sg**	**14 50 55.8**	**+1.5**
NRTU	**Norrtaelje**	**0.85**	**1**	P	**Pg**	**14 50 59.4**	**+0.3**
NRTU	**Norrtaelje**	**0.85**	**1**	P	**Pg**	**14 50 59.4**	**+0.3**
NRTU	**Norrtaelje**	**0.85**	**1**	*i* P	**Pg**	**14 50 59.4**	**+0.3**
VIKU	**Vikbolandet**	**1.05**	**253**	*e*P	**Pg**	**14 51 03.5**	**+0.5**
VIKU	**Vikbolandet**	**1.05**	**253**	P	**Pg**	**14 51 03.2**	**+0.3**
VIKU	**Vikbolandet**	**1.05**	**253**	P	**Pg**	**14 51 03.2**	**+0.3**
VIKU	**Vikbolandet**	**1.05**	**253**	*e*P	**Pg**	**14 51 03.2**	**+0.3**
UPP	**Uppsala**	**1.15**	**334**	P	**Pg**	**14 51 05.4**	**+0.6**
UPP				S	**Sg**	**14 51 20.5**	**+0.8**
UPP	**Uppsala**	**1.15**	**334**	*e*P	**Pg**	**14 51 05.4**	**+0.6**
UPP				*e*S	**Sg**	**14 51 20.5**	**+0.8**
ESKU	**Eskilstuna**	**1.22**	**290**	P	**Pg**	**14 51 06.3**	**+0.2**
ESKU	**Eskilstuna**	**1.22**	**290**	P	**Pg**	**14 51 06.3**	**+0.2**
ESKU	**Eskilstuna**	**1.22**	**290**	*e*P	**Pg**	**14 51 06.3**	**+0.2**
FIBU	**Brunna**	**1.25**	**330**	P	**Pg**	**14 51 07.1**	**+0.3**
FIBU	**Brunna**	**1.25**	**330**	P	**Pg**	**14 51 07.1**	**+0.3**
BACU	**Backbrunna**	**1.28**	**324**	P	**Pg**	**14 51 07.8**	**+0.4**
BACU	**Backbrunna**	**1.28**	**324**	P	**Pg**	**14 51 07.8**	**+0.4**
BACU	**Backbrunna**	**1.28**	**324**	*e*P	**Pg**	**14 51 07.8**	**+0.4**
FLYU	**Flymyra**	**1.35**	**344**	P	**Pg**	**14 51 08.8**	**+0.1**
FLYU	**Flymyra**	**1.35**	**344**	P	**Pg**	**14 51 08.8**	**+0.1**
FLYU	**Flymyra**	**1.35**	**344**	*e*P	**Pg**	**14 51 08.8**	**+0.1**
GRAU	**Graesoe**	**1.51**	**359**	P	**Pn**	**14 51 11.4**	**+0.3**
GRAU	**Graesoe**	**1.51**	**359**	P	**Pn**	**14 51 11.4**	**+0.3**
GRAU	**Graesoe**	**1.51**	**359**	P	**Pn**	**14 51 11.4**	**+0.3**
AAL	**Aland**	**1.53**	**27**	*e*P	**Pn**	**14 51 11.3**	**+0.3**
AAL	**Aland**	**1.53**	**27**	P	**Pn**	**14 51 11.2**	**0.0**
AAL	**Aland**	**1.53**	**27**	*e*P	**Pn**	**14 51 11.2**	**0.0**
AAL				*e*S	**Sn**	**14 51 30.0**	**-1.8**
FORU	**Forsmark**	**1.58**	**352**	P	**Pn**	**14 51 12.6**	**+0.6**
FORU	**Forsmark**	**1.58**	**352**	P	**Pn**	**14 51 12.6**	**+0.6**
FORU	**Forsmark**	**1.58**	**352**	*e*P	**Pn**	**14 51 12.6**	**+0.6**
OSTU	**Oestervaala**	**1.59**	**332**	P	**Pn**	**14 51 13.1**	**+0.8**
OSTU	**Oestervaala**	**1.59**	**332**	P	**Pn**	**14 51 13.1**	**+0.8**
OSTU	**Oestervaala**	**1.59**	**332**	*e*P	**Pn**	**14 51 13.1**	**+0.8**
VSTU	**Vaestervik**	**1.61**	**224**	P	**Pn**	**14 51 12.4**	**+0.1**
VSTU	**Vaestervik**	**1.61**	**224**	P	**Pn**	**14 51 12.4**	**+0.1**
VSTU	**Vaestervik**	**1.61**	**224**	*e*P	**Pn**	**14 51 12.4**	**+0.1**
LNKU	**Linkoeping**	**1.74**	**251**	P	**Pn**	**14 51 15.0**	**+0.8**
LNKU	**Linkoeping**	**1.74**	**251**	P	**Pn**	**14 51 15.0**	**+0.8**
LNKU	**Linkoeping**	**1.74**	**251**	*e*P	**Pn**	**14 51 15.0**	**+0.8**
BYXU	**Byxelkrok**	**1.76**	**210**	P	**Pn**	**14 51 15.0**	**+0.5**
BYXU	**Byxelkrok**	**1.76**	**210**	P	**Pn**	**14 51 15.0**	**+0.5**
BYXU	**Byxelkrok**	**1.76**	**210**	*e*P	**Pn**	**14 51 15.0**	**+0.5**
SLIT	**Slitere, Latvi**	**2.29**	**120**	*e*P	**Pn**	**14 51 22.6**	**+0.8**
MTSE	**Matsula**	**2.71**	**90**	*e*P	**Pn**	**14 51 27.0**	**-0.6**
RAF	**Rauma**	**2.71**	**34**	*e*P	**Pn**	**14 51 27.4**	**-0.1**
RAF	**Rauma**	**2.71**	**34**	*e*P	**Pn**	**14 51 28.4**	**+0.9**
RAF				*e*S	**Sn**	**14 52 00.6**	**-0.4**
RAF				MSG		14 52 04.6	
	comp=Z,2.5nm,0.1s						
BLEU	**Blekinge**	**2.95**	**212**	*i* P	**Pn**	**14 51 31.4**	**+0.7**
BLEU				*i* S	**Sn**	**14 52 07.5**	**+0.7**
MEF	**Metsahovi**	**3.26**	**62**	*e*P	**Pn**	**14 51 38.2**	**+3.1**
MEF	**Metsahovi**	**3.26**	**62**	*e*P	**Pn**	**14 51 36.6**	**+1.5**
MEF				*e*S	**Sn**	**14 52 13.9**	**-0.6**
MEF				MSG		14 52 23.7	
	comp=Z,3.0nm,0.1s						
BORU	**Boraas**	**3.31**	**251**	*i* P	**Pn**	**14 51 36.6**	**+0.7**
BORU				*i* P	Pb	14 51 36.9	-5.4
BORU				*i* S	**Sn**	**14 52 18.1**	**+2.2**
DEL	**Delary**	**3.48**	**229**	*e*P	**Pn**	**14 51 37.7**	**-0.3**
DEL	**Delary**	**3.48**	**229**	*i* P	**Pn**	**14 51 38.0**	**-0.1**
DEL				*i* S	**Sn**	**14 52 20.1**	**+0.3**
DEL				IAML		14 52 35.0	
	comp=Z,7.9nm,0.3s						
FABU	**Falkenberg**	**3.64**	**242**	*i* S	**Sn**	**14 52 24.2**	**+0.4**
TJOU	**Tjoern**	**3.76**	**261**	*i* P	**Pn**	**14 51 44.8**	**+2.9**
ONAU	**Onsala**	**3.83**	**251**	*i* P	**Pb**	**14 51 52.0**	**+0.8**
STRU	**Stroemstad**	**3.86**	**276**	*i* P	**Pn**	**14 51 44.1**	**+0.8**
STRU	**Stroemstad**	**3.86**	**276**	*e*P	**Pn**	**14 51 45.2**	**+1.9**
STRU				*e*S	**Sn**	**14 52 26.6**	**-2.6**
HEMU	**Hemsoen**	**3.87**	**356**	*e*P	**Pn**	**14 51 44.9**	**+1.4**
HEMU				*e*S	**Sn**	**14 52 28.9**	**-0.6**
NC602	**NORSAR Array S**	**4.05**	**301**	*e*P	**Pn**	**14 51 46.9**	**+0.9**
NC602				IAML		14 52 56.1	
	comp=Z,6.9nm,0.3s						
NRA0	**NORESS Array S**	**4.05**	**301**	Pn	**Pn**	**14 51 47.0**	**+1.0**
	baz=116,slow=11						
NRA0				Sn	**Sn**	**14 52 34.0**	**-0.1**
	baz=107,slow=16						
NRA0				Lg	Lg	14 52 48.3	
	baz=111,slow=37						
NRA0	**NORESS Array S**	**4.05**	**301**	Pn	**Pn**	**14 51 47.0**	**+1.0**
	baz=116,slow=11						
NRA0				Sg	**Sb**	**14 52 48.3**	**+3.8**
	baz=111,slow=37						
OSL	**Oslo**	**4.18**	**289**	*e*Sg	**Sg**	**14 52 56.4**	**-0.8**
OSL				IAML		14 52 59.5	
	comp=Z,17nm,0.4s						
BSD	**Bornholm Skovb**	**4.24**	**210**	*i* P	**Pb**	**14 51 56.8**	**-1.3**
BSD				*i* S	**Sn**	**14 52 36.3**	**-2.4**
BSD				IAML		14 52 57.5	
	comp=Z,9.9nm,0.3s						
NB2	**NORSAR Subarra**	**4.33**	**304**	Pn	**Pn**	**14 51 51.4**	**+1.5**
	baz=124,slow=14						
NB2				Lg	Lg	14 52 59.2	
	baz=117,slow=37						
NB2	**NORSAR Subarra**	**4.33**	**304**	Pn	**Pn**	**14 51 51.4**	**+1.5**
	baz=124,slow=14						
NB2				Sg	**Sg**	**14 52 59.2**	**-2.6**
	baz=117,slow=37						
NOA	**NORSAR Array B**	**4.33**	**304**	Pn	**Pn**	**14 51 50.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=122,slow=14,SNR=36						
NOA				Lg	Lg	14 52 54.3	
	comp=Z,0.3nm,0.3s,baz=212,slow=16,SNR=6.7						
NC303	**NORSAR Array S**	**4.36**	**307**	*e*P	**Pn**	**14 51 50.8**	**+0.6**
NC303				IAML		14 53 00.9	
	comp=Z,10nm,0.3s						
NAO01	**NORSAR Array S**	**4.39**	**301**	*e*P	**Pn**	**14 51 50.8**	**+0.1**
NAO01				IAML		14 53 02.1	
	comp=Z,7.1nm,0.3s						
PABE	**Paberze**	**4.43**	**137**	*e*P	**Pn**	**14 51 55.4**	**+4.2**
NBO00	**NORSAR Array S**	**4.52**	**303**	*e*P	**Pn**	**14 51 52.8**	**+0.4**
NBO00				IAML		14 53 09.0	
	comp=Z,11nm,0.3s						
KEF	**Keuruu**	**4.56**	**40**	*e*P	**Pn**	**14 51 54.0**	**+1.1**
KEF				*e*S	**Sn**	**14 52 45.2**	**-1.4**
FIA0	**FINESS Array S**	**4.56**	**52**	Pn	**Pn**	**14 51 54.4**	**+1.4**
	baz=238,slow=11						
FIA0				Sn	**Sn**	**14 52 46.4**	**-0.2**
	baz=244,slow=22						
FIA0				Lg	Lg	14 53 03.7	
	baz=241,slow=28						
FIA0	**FINESS Array S**	**4.56**	**52**	Pn	**Pn**	**14 51 54.4**	**+1.4**
	baz=238,slow=11						
FIA0				Sn	**Sn**	**14 52 46.4**	**-0.2**
	baz=244,slow=22						
FIA0	**FINESS Array S**	**4.56**	**52**	*e*P	**Pn**	**14 51 54.4**	**+1.4**
FIA0				*e*S	**Sn**	**14 52 45.2**	**-1.4**
FINES	**FINESS Array B**	**4.56**	**52**	Pn	**Pn**	**14 51 54.4**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=241,slow=12,SNR=13						
FINES				Sn	**Sn**	**14 52 46.8**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=243,slow=21,SNR=11						
FINES				Lg	Lg	14 53 03.5	
	comp=Z,1.3nm,0.3s,baz=238,slow=24,SNR=3.5						
FIA1	**FINESS Array S**	**4.56**	**52**	*e*P	**Pn**	**14 51 54.4**	**+1.4**
FIA1				*e*S	**Sn**	**14 52 45.4**	**-1.2**
NC204	**NORSAR Array S**	**4.64**	**305**	*e*P	**Pn**	**14 51 55.5**	**+1.4**
NC204				IAML		14 53 11.0	
	comp=Z,5.6nm,0.3s						
KONO	**Kongsberg**	**4.70**	**284**	*e*P	**Pn**	**14 51 55.3**	**+0.4**
KONO				*e*Sg	**Sg**	**14 53 08.7**	**-5.0**
KONO				IAML		14 53 17.4	
	comp=Z,4.9nm,0.3s						
KAF	**Kangasniemi**	**5.03**	**46**	*e*P	**Pn**	**14 52 00.8**	**+1.4**
KAF				*e*S	**Sn**	**14 52 56.9**	**-1.3**
SUF	**Sumiainen**	**5.37**	**40**	*e*P	**Pn**	**14 52 05.0**	**+0.9**
SUF				*e*S	**Sn**	**14 53 04.4**	**-2.2**
SKAR	**Skarslia**	**5.53**	**294**	*e*P	**Pn**	**14 52 06.5**	**+0.1

PV14					IAML			14 54 21.1	
	comp=N,53nm,0.4s								
PV19	**Morning Glory**	**2.82**	**80**		Pn	Pn		14 53 30.2	-0.2
PV19					IAML			14 54 17.4	
	comp=E,43nm,0.8s								
PV19					IAML			14 54 21.7	
	comp=N,46nm,0.8s								
PV23	**Carpenter Ridg**	**2.82**	**78**			Pn		14 53 31.1	+0.6
PV17	**East Wray Mesa**	**2.83**	**81**		Pg	Pb		14 53 35.0	-1.0
PV17					IAML			14 54 16.6	
	comp=E,48nm,0.7s								
PV20	**West Nyswonger**	**2.84**	**80**		Pg	Pb		14 53 34.8	-1.2
PV18	**Skein Mesa, Pa**	**2.87**	**82**		Pg	Pb		14 53 36.1	-0.5
PV18					IAML			14 54 17.4	
	comp=N,32nm,0.5s								
PV18					IAML			14 54 21.8	
	comp=E,29nm,0.6s								
PV16	**Nyswonger Mesa**	**2.87**	**81**		Pn	Pn		14 53 31.1	-0.1
PV04	**Paradox Valley**	**2.89**	**79**		Pn	Pn		14 53 31.2	-0.2
PV04					IAML			14 54 18.8	
	comp=N,44nm,0.8s								
PV04					IAML			14 54 21.2	
	comp=E,43nm,0.6s								
PV11	**David Mesa, Pa**	**2.91**	**81**		Pg	Pb		14 53 37.0	-0.2
PV03	**Paradox Valley**	**2.92**	**82**		Pn	Pn		14 53 32.0	+0.2
PV03					IAML			14 54 15.6	
	comp=N,36nm,0.4s								
PV03					IAML			14 54 21.3	
	comp=E,49nm,0.7s								
PV13	**Radium Mtn., P**	**2.93**	**84**			Pn		14 53 32.6	+0.6
PV13					IAML			14 54 20.6	
	comp=N,44nm,0.7s								
PV12	**Saucer Basin,**	**2.96**	**81**		Pg	Pb		14 53 37.4	-0.8
W13A	**Hualapai Mount**	**3.00**	**202**		Pn	Pn		14 53 31.1	-1.8
W13A					IAML			14 54 42.6	
	comp=E,20nm,0.1s								
W13A					IAML			14 54 56.2	
	comp=N,15nm,0.1s								
PV07	**Paradox Valley**	**3.10**	**79**			Pn		14 53 34.4	+0.1
PV07					IAML			14 54 27.4	
	comp=E,22nm,0.6s								
PV07					IAML			14 54 39.2	
	comp=N,18nm,1.0s								
TPNV	**Topopah Spring**	**3.12**	**254**			Pn		14 53 35.3	+0.9
TPNV					IAML			14 54 15.0	
	comp=N,19nm,4.9s								
TPNV					IAML			14 54 17.2	
	comp=N,14nm,2.5s								
PV01	**Paradox Valley**	**3.13**	**84**		Pn	Pn		14 53 35.8	+1.2
PV01					IAML			14 54 22.2	
	comp=E,35nm,0.4s								
PV01					IAML			14 54 23.6	
	comp=N,34nm,0.6s								
PV15	**Paradox Valley**	**3.22**	**81**			Pn		14 53 36.4	+0.5
PV15					IAML			14 54 29.1	
	comp=E,28nm,0.7s								
PV15					IAML			14 54 34.4	
	comp=N,36nm,1.0s								
MVCO	**Mesa Verde**	**3.27**	**101**			Pn		14 53 37.1	+0.5
ELK	**Elko**	**3.54**	**324**			Pn		14 53 41.4	+1.0
W18A	**Petrified Fore**	**3.56**	**140**			Pn		14 53 41.0	+0.4
W18A					IAML			14 54 42.4	
	comp=E,27nm,0.4s								
X18A	**Snowflake**	**3.95**	**147**			Pn		14 53 44.9	-1.0
Y14A	**Wickenburg**	**3.97**	**186**		Pn	Pn		14 53 45.4	-0.6
Y14A					IAML			14 54 51.0	
	comp=E,12nm,2.4s								
Y14A					IAML			14 54 57.1	
	comp=N,15nm,1.7s								
QSM	**Queen of Sheba**	**3.98**	**242**			Pn		14 53 45.0	-1.1
QSM					IAML			14 54 20.3	
	comp=N,10nm,4.4s								
QSM					IAML			14 54 37.8	
	comp=E,13nm,4.3s								
LCH	**Last Change Ra**	**4.13**	**262**			Pn		14 53 49.8	+1.5
LCH					IAML			14 55 09.0	
	comp=N,8.0nm,4.8s								
LCH					IAML			14 56 24.3	
	comp=E,8.6nm,4.8s								

*IDC **26** 14:53:11.2±1.1, 33°.60N×141°.75E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.6/40, mbtmp3.8/8, ML3.5/3, Error ellipse: s-maj=23.1km s-min=17.5km az=79.0*
*JMA **26** 14:53:15.2±0.2, 33°.70N×141°.68E, h55km±5km, M3.3*
*NEIC **26** 14:53:25.9±1.1, 33°.20N±0°.09×140°.6E±0°.1, h87km±6km, mb4.5/12, Error ellipse: s-maj=16.5km s-min=5.8km az=224.0*

ISC 26 14:53:16.7±0.7, 33°.64N±0°.05×141°.72E±0°.07, h41km, n50, σ1§61/50, mb4.2/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.18**	**329**	P	**Pn**	**14 53 34.9**	**-1.4**
BSO3	**Boso 3**	**1.53**	**319**	P	**Pn**	**14 53 40.0**	**-1.3**
JHJ2	**Mitsune**	**1.68**	**252**	P	**Pn**	**14 53 42.8**	**-0.8**
JHJ2				*e*S	**Sn**	**14 54 02.8**	**-1.1**
JHJ2	**Mitsune**	**1.68**	**252**	Pn	**Pn**	**14 53 42.7**	**-0.8**
JHJ2				Sn	Sn	14 53 53.3	-11
JHJ	**Hachijo jima 2**	**1.70**	**253**	Pn	**Pn**	**14 53 43.0**	**-0.9**
	43nm,0.3s,baz=140,slow=22,SNR=50						
JHJ				Sn	**Sn**	**14 54 03.9**	**-0.6**
	48nm,0.3s,baz=94,slow=22,SNR=10.0						
JHCJ	**Hachijojimakas**	**1.71**	**251**	P	**Pn**	**14 53 42.9**	**-1.1**
BSO4	**Boso 4**	**1.77**	**320**	P	**Pn**	**14 53 43.9**	**-0.8**
JMKN	**Mikurajimanish**	**1.79**	**279**	P	**Pn**	**14 53 44.0**	**-1.2**
JMKN				*e*S	**Sn**	**14 54 05.1**	**-1.6**
KTR	**Katsuura**	**1.90**	**323**	P	**Pn**	**14 53 45.8**	**-0.8**
JAOM	**Aogashimamukai**	**2.02**	**235**	P	**Pn**	**14 53 47.4**	**-0.9**
JIM2	**Oshima 3**	**2.18**	**300**	P	**Pn**	**14 53 48.6**	**-1.9**
JIZS	**Izushimoda**	**2.59**	**295**	P	**Pn**	**14 53 54.7**	**-1.4**
JOD2	**Odawara 2**	**2.71**	**307**	P	**Pn**	**14 53 56.0**	**-1.8**
JOD2				*e*S	**Sn**	**14 54 27.5**	**-1.9**
JYT	**Yasato**	**2.87**	**335**		**Pn**	**14 53 59.5**	**-0.5**
JYN	**Shimob**	**3.21**	**306**	P	**Pn**	**14 54 03.6**	**-1.1**
SHZ3	**Shizuoka 3**	**3.23**	**297**	P	**Pn**	**14 54 04.8**	**-0.2**
TK02	**Tokai 2**	**3.31**	**276**	P	**Pn**	**14 54 05.2**	**-0.7**
TK02				*e*S	**Sn**	**14 54 42.9**	**-1.0**
JRY	**Ryogami san**	**3.32**	**316**	P	**Pn**	**14 54 04.9**	**-1.2**
JAG	**Ashikaga**	**3.34**	**327**	P	**Pn**	**14 54 05.5**	**-1.0**
MJAR	**Matsushiro Arr**	**4.08**	**316**	Pn	**Pn**	**14 54 15.7**	**-1.0**
	0.5nm,0.3s,baz=204,slow=3.4,SNR=23						
MJAR				Sn	**Sn**	**14 55 02.9**	**-0.3**
	0.5nm,0.3s,baz=140,slow=24,SNR=9.9						
MJAR	**Matsushiro Arr**	**4.08**	**316**		**Pn**	**14 54 16.0**	**-0.6**
MAJO	**Matsushiro**	**4.08**	**316**		**Pn**	**14 54 16.9**	**+0.2**
MJB9	**Matsu-Tunnel**	**4.09**	**316**		**Pn**	**14 54 16.8**	**+0.1**
INU	**Inuyama**	**4.24**	**295**	Pn	**Pn**	**14 54 18.6**	**-0.2**
JSD	**Sado**	**5.21**	**328**		**Pn**	**14 54 30.7**	**-1.4**
JCJ	**Chichijima**	**6.54**	**176**	Pn	**Pn**	**14 54 49.1**	**-1.2**
	4.3nm,0.3s,baz=308,slow=22,SNR=2.0						
JCJ				Sn	**Sn**	**14 55 57.5**	**-6.2**
	2.3nm,0.3s,baz=282,slow=19,SNR=1.3						
ASAJ	**Asahikawa**	**10.48**	**3**	P	**Pn**	**14 55 41.5**	**-2.9**
	0.5nm,0.3s,baz=204,slow=17,SNR=7.0						
JKA	**Kamikawa-asahi**	**10.48**	**3**		**Pn**	**14 55 41.5**	**-2.9**
MDJ	**Mudanjiang**	**14.43**	**323**	Pn	**Pn**	**14 56 37.4**	**-0.8**
SONM	**Songino Array**	**30.00**	**309**	P	**P**	**14 59 22.1**	**+0.6**
	1.2nm,0.8s,baz=106,slow=7.9,SNR=5.7						
SONM	**Songino Array**	**30.00**	**309**	IAmb	IAmb	14 59 24.0	
	comp=Z,2.2nm,1.2s						
SBUM	**Sibu**	**41.51**	**228**	P	P	15 00 54.2	-5.9
SBUM				IAmb	IAmb	15 00 58.4	
	comp=Z,5.8nm,1.2s						
MK31	**Makanchi Array**	**46.20**	**305**	P	**P**	**15 01 37.9**	**+0.4**
MKAR	**Makanchi Array**	**46.20**	**305**	P	**P**	**15 01 38.1**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=87,slow=9.9,SNR=11						
KURK	**Kurchatov**	**48.27**	**311**	P	**P**	**15 01 53.8**	**+0.3**
KURK				IAmb	IAmb	15 01 54.5	
	comp=Z,2.6nm,0.8s						
RSO	**Redoubt South**	**49.44**	**36**	P	P	15 02 13.6	+11
ILAR	**Eielson Array**	**52.25**	**31**	P	**P**	**15 02 24.5**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=264,slow=6.7,SNR=4.6						
N25K	**Chitina, Valde**	**53.39**	**35**	P	P	15 02 42.8	+11
WRAB	**Tennant Creek**	**53.73**	**189**	P	**P**	**15 02 34.1**	**-0.8**
WRAB				IAmb	IAmb	15 02 58.2	
	comp=Z,13nm,1.4s						
WR0	**Warramunga Arr**	**53.74**	**188**	P	**P**	**15 02 34.5**	**-0.4**
WR0				IAmb	IAmb	15 02 35.5	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**53.74**	**189**	P	**P**	**15 02 34.4**	**-0.5**
WB2				IAmb	IAmb	15 02 58.5	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**53.75**	**189**	P	**P**	**15 02 34.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=4.9,slow=7.6,SNR=15						
WRA	**Warramunga Arr**	**53.75**	**189**	IAmb	IAmb	15 02 38.4	
	comp=Z,0.2nm,1.4s						
KKAR	**Karatay Array**	**55.09**	**302**	P	**P**	**15 02 44.4**	**-0.2**
KNTN	**Kanton**	**56.88**	**120**	P	P	15 03 04.7	+7.1
ASAR	**Alice Springs**	**57.47**	**189**	P	**P**	**15 03 01.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=353,slow=5.5,SNR=9.1						
MARNC	**Mare, Loyalty**	**60.28**	**152**	P	**P**	**15 03 25.1**	**+4.0**
ABKAR	**Akbulak array**	**60.35**	**312**	P	**P**	**15 03 20.9**	**-0.5**
TULEG	**Thule**	**68.42**	**7**	P	P	15 04 20.4	+6.6
TULEG				IAmb	IAmb	15 04 47.4	
	comp=Z,14nm,1.5s						
CAN	**Canberra**	**68.94**	**174**	P	**P**	**15 04 20.4**	**+3.0**

*INET **26** 14:57:05.1±0.9, 12°.24N×86°.78W, h104km±4km, ML3.7, MW3.3*
*UCR **26** 14:57:07.9±0.9, 12°.20N×87°.07W, h18km±384km, ML3.5*
*SNET **26** 14:57:08.3±0.8, 12°.40N×86°.94W, h94km±30km, ML3.7*

ISC 26 14:57:05.4±1.5, 12°.20N±0°.09×86°.81W±0°.06, h95km±12km, n22, σ0§83/33, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.21**	**95**	*e*P	**Pn**	**14 57 19.2**	**+0.2**
CNGN	**Cerro Negro**	**0.32**	**20**	*e*P	**Pn**	**14 57 18.7**	**-0.9**
MOMN	**Momotombo**	**0.34**	**52**	*e*P	**Pn**	**14 57 19.6**	**0.0**
MOMN					IAML	14 58 06.9	
	comp=Z,9μm,1.7s						
CRIN	**San Cristobal**	**0.55**	**335**	*e*P	**Pn**	**14 57 21.6**	**+0.4**
CRIN				*e*S	**Sn**	**14 57 34.8**	**+1.8**
CRIN					IAML	14 57 37.5	
	comp=Z,1μm,0.4s						
CSGN	**Cosiguina Volc**	**1.06**	**317**	*e*P	**Pn**	**14 57 26.4**	**+0.1**
CSGN					IAML	14 58 39.2	
	comp=Z,6μm,4.5s						
MATN	**Matagalpa**	**1.13**	**50**	*e*P	**Pn**	**14 57 26.8**	**-0.2**
MATN				*e*S	**Sn**	**14 57 43.7**	**+0.4**
BOAB	**BOACO BROADBAN**	**1.15**	**77**	*e*P	**Pn**	**14 57 26.8**	**-0.3**
CONN	**Concepcion**	**1.32**	**118**	*e*P	**Pn**	**14 57 28.9**	**-0.3**
CONN				*e*S	**Sn**	**14 57 48.1**	**+0.9**
CONN					IAML	14 57 49.5	
	comp=Z,137nm,0.5s						
LCND	**La Caada**	**1.53**	**316**	*e*P	**Pn**	**14 57 32.0**	**+0.3**
LCND				*e*S	**Sn**	**14 57 50.6**	**-1.1**
LCND					IAML	14 57 59.5	
	comp=Z,313nm,0.2s						
LCND	**La Caada**	**1.53**	**316**	*e*P	**Pn**	**14 57 32.0**	**+0.3**
LCND				*e*S	**Sn**	**14 57 50.6**	**-1.1**
LCND					IAML	14 57 59.5	
	comp=Z,313nm,0.2s						
HZTE	**Horizontes, Gu**	**1.90**	**141**	*e*P	**Pn**	**14 57 36.3**	**-0.1**
PACA	**Pacayal**	**1.94**	**311**	*e*P	**Pn**	**14 57 37.5**	**+0.4**
PACA				*e*S	**Sn**	**14 58 00.3**	**-1.1**
PACA					IAML	14 58 09.4	
	comp=Z,2μm,0.3s						
PACA	**Pacayal**	**1.94**	**311**	*e*P	**Pn**	**14 57 37.5**	**+0.4**
PACA				*e*S	**Sn**	**14 58 00.3**	**-1.1**
PACA					IAML	14 58 09.4	
	comp=Z,2μm,0.3s						
PACA	**Pacayal**	**1.94**	**311**	*e*P	**Pn**	**14 57 37.6**	**+0.4**
SCLA	**Alcaldia de Sa**	**2.39**	**309**	*e*P	**Pn**	**14 57 43.3**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.39**	**309**	*e*P	**Pn**	**14 57 43.3**	**+0.3**
LFRS	**El Faro**	**2.61**	**303**	*e*P	**Pn**	**14 57 47.1**	**+1.1**
LFRS				*e*S	**Sn**	**14 58 16.4**	**-0.7**
LFRS	**El Faro**	**2.61**	**303**	*e*P	**Pn**	**14 57 47.1**	**+1.1**
LFRS				*e*S	**Sn**	**14 58 16.4**	**-0.7**
JAYA	**Jayaque - finc**	**2.95**	**300**	*e*P	**Pn**	**14 57 50.7**	**+0.2**
JAYA				*e*S	**Sn**	**14 58 24.5**	**-0.8**
JAYA					IAML	14 58 29.1	
	comp=Z,179nm,0.1s						
JAYA	**Jayaque - finc**	**2.95**	**300**	*e*P	**Pn**	**14 57 50.7**	**+0.2**
JAYA				*e*S	**Sn**	**14 58 24.5**	**-0.8**
JAYA					IAML	14 58 29.1	
	comp=Z,179nm,0.1s						
MTO3	**Montecristo**	**3.31**	**312**	*e*P	**Pn**	**14 57 56.7**	**+1.3**
MTO3	**Montecristo**	**3.31**	**312**	*e*P	**Pn**	**14 57 56.7**	**+1.3**

*BJI **26** 15:01:22.2±0.0, 38°.06N×141°.88E, h53km, mb4.9/81, mB4.9/48, Ms4.4/79, Ms7 4.3/73*
*MOS **26** 15:01:23.1±1.1, 38°.26N×141°.59E, h46km, mb5.3/102, Error ellipse: s-maj=5.1km s-min=3.4km az=110.8*
*JMA **26** 15:01:24.7, 38°.18N×141°.69E, h52km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φs22.00000°, δ64.00000°, λ95.00000°. NP2:φs190.00000°, δ26.00000°, λ79.00000°. Principal axes: T Plg70.0000°, Azm303.0000°; N Plg5.0000°, Azm200.0000°; P Plg19.0000°, Azm108.0000°;*
JMA Felt III J1.
*NEIC **26** 15:01:24.8±1.7, 38°.21N±0°.06×141°.64E±0°.09, h44km±4km, mb5.0/275 Error ellipse: s-maj=10.6km s-min=7.6km az=112.0*
*NIED **26** 15:01:24.7, 38°.18N×141°.69E, h52km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr2.48; Mθθ-0.27; Mφφ-2.21; Mrθ0.96; Mθφ-0.86; Mφr2.46; Fault plane solution: M0.65000×10¹⁶ NP1: φs200.00000°, δ22.00000°, λ89.00000°. NP2:φs21.00000°, δ68.00000°, λ90.00000°.*
*IDC **26** 15:01:25.7±1.4, 38°.19N×141°.63E, h55km±12km, mb4.4/36, mb1 4.5/44, mb1mx4.4/61, mbtmp4.6/44, MS4.0/81, Ms1 4.0/81, ms1mx3.9/92 Error ellipse: s-maj=12.1km s-min=9.4km az=110.0*
*GCMT **26** 15:01:26.8±0.2, 38°.25N±0°.01×141°.80E±0°.02, h55km±1km, MW5.0/113, Moment Tensor Solution. s73,c97; s113,c179; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.00±.14; Mθθ-0.62±.11; Mφφ-3.38±.10; Mrθ1.07±.08; Mθφ-1.26±.08; Mφr2.30±.08; Best double couple: M0 4.68100×10¹⁶ NP1:φs199.00000°, δ29.00000°, λ87.00000°. NP2:φs23.00000°, δ61.00000°, λ92.00000°. Principal axes: T 4.7490, Plg74.0000°, Azm298.00000°; N -0.1390, Plg2.0000°, Azm202.0000°; P -4.6140, Plg16.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 15:01:24.1±0.3, 38°.14N±0°.03×141°.82E±0°.03, h47km±1km, h47km:pP-P, n1059, σ1§47/1109, mb5.0/292, MS4.1/101, 58C-45D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.33**	**302**	ǁP	**Pn**	**15 01 33.4**	**+0.2**
JIKH				S	**Sn**	**15 01 39.4**	**-0.3**
JIO	**Ouri**	**0.49**	**311**	ǁP	**Pn**	**15 01 34.9**	**-0.1**
JIO				S	**Sn**	**15 01 41.8**	**-1.0**
JKMT	**Kesennumamotoy**	**0.72**	**338**	ǁP	**Pn**	**15 01 37.8**	**-0.2**
JKMT				S	**Sn**	**15 01 47.2**	**-1.0**
JMM	**Marumori**	**0.85**	**252**	ǁP	**Pn**	**15 01 39.2**	**-0.6**
JMM				S	**Sn**	**15 01 49.8**	**-1.4**
JMM	**Marumori**	**0.85**	**252**		**Pn**	**15 01 39.1**	**-0.6**
JOU	**Okura**	**0.94**	**285**	ǁP	**Pn**	**15 01 40.4**	**-0.5**
JOU				S	**Sn**	**15 01 52.0**	**-1.2**
JMK	**Ichinoseki**	**0.94**	**330**	ǁP	**Pn**	**15 01 40.7**	**-0.2**
JMK				S	**Sn**	**15 01 52.2**	**-1.1**
JFK	**Kawauchi**	**1.07**	**224**	ǁP	**Pn**	**15 01 42.8**	**+0.1**
JFK				S	**Sn**	**15 01 55.9**	**-0.6**
JFT	**Otama**	**1.32**	**243**	ǁP	**Pn**	**15 01 46.4**	**+0.2**
JFT				S	**Sn**	**15 02 02.5**	**-0.2**
JYS	**Shirataka**	**1.38**	**274**	ǁP	**Pn**	**15 01 46.6**	**-0.3**
JYK	**Kaneyama**	**1.38**	**305**	ǁP	**Pn**	**15 01 46.5**	**-0.5**
JOM	**Ohasama**	**1.40**	**343**	ǁP	**Pn**	**15 01 47.2**	**+0.1**
JRG	**Rokugo**	**1.56**	**324**	ǁP	**Pn**	**15 01 49.5**	**+0.1**
JYA	**Atsumi**	**1.71**	**286**	ǁP	**Pn**	**15 01 51.1**	**-0.4**
JYT	**Yasato**	**2.30**	**215**		**Pn**	**15 01 59.7**	**+0.1**
JTM	**Tenmabayashi**	**2.71**	**348**		**Pn**	**15 02 05.9**	**+0.8**
JSD	**Sado**	**2.81**	**269**		**Pn**	**15 02 05.5**	**-1.0**
MJAR	**Matsushiro Arr**	**3.29**	**242**	P	**Pn**	**15 02 13.9**	**+0.9**
	5.8nm,0.3s,baz=282,slow=13,SNR=114						
MJAR				S	**Sn**	**15 02 54.9**	**+4.0**
	8.5nm,0.3s,baz=68,slow=14,SNR=4.8						
MJAR				LR	LR	15 03 55.1	
	comp=Z,4μm,20.2s,baz=60,slow=47						
MJAR	**Matsushiro Arr**	**3.29**	**242**	P	**Pn**	**15 02 14.0**	**+0.9**
MAJO	**Matsushiro**	**3.29**	**242**	*d*iP	**Pn**	**15 02 14.5**	**+1.4**
MAJO	**Matsushiro**	**3.29**	**242**		**Pn**	**15 02 14.5**	**+1.4**
MAJO	**Matsushiro**	**3.29**	**242**	P	**Pn**	**15 02 15.0**	**+1.9**
MJB9	**Matsu-Tunnel**	**3.29**	**242**		**Pn**	**15 02 14.4**	**+1.4**
ERM	**Erimo**	**4.01**	**14**	P	**Pn**	**15 02 23.3**	**+0.4**
ERM	**Erimo**	**4.01**	**14**	Pn	**Pn**	**15 02 23.3**	**+0.4**
JGF	**Kuroka**	**4.38**	**236**		**Pn**	**15 02 30.0**	**+1.9**
JEW	**Eniwo**	**4.71**	**357**	Pn	**Pn**	**15 02 33.1**	**+0.6**
INU	**Inuyama**	**4.75**	**236**		**Pn**	**15 02 35.3**	**+2.1**
INU	**Inuyama**	**4.75**	**236**	P	**Pn**	**15 02 36.1**	**+2.9**
JHJ2	**Mitsune**	**5.27**	**199**		**Pn**	**15 02 41.6**	**+1.3**
JHJ2	**Mitsune**	**5.27**	**199**	P	**Pn**	**15 02 42.1**	**+1.8**
JHJ	**Hachijo jima 2**	**5.27**	**199**	P	**Pn**	**15 02 41.7**	**+1.4**
	65nm,0.3s,baz=339,slow=20,SNR=29						
JHJ				S	**Sn**	**15 03 37.4**	**-2.4**
	263nm,0.3s,baz=106,slow=20,SNR=8.2						
JHJ				LR	LR	15 04 23.5	
	comp=Z,574nm,20.1s,baz=3.0,slow=34						
JKA	**Kamikawa-asahi**	**6.00**	**5**		**Pn**	**15 02 50.1**	**-0.2**
ASAJ	**Asahikawa**	**6.00**	**5**	P	**Pn**	**15 02 50.4**	**+0.1**
	8.0nm,0.3s,baz=216,slow=12,SNR=73						
ASAJ				S	**Sn**	**15 03 55.4**	**-2.3**
	6.8nm,0.3s,baz=101,slow=7.2,SNR=3.6						
NMR	**Nemuro--Hokkai**	**6.01**	**28**	*e*P	**Pn**	**15 02 48.9**	**-1.5**
NMR				*i* S	**Sn**	**15 03 52.5**	**-5.3**
GLVR	**Golovnino**	**6.26**	**25**	*e*P	**Pn**	**15 02 53.4**	**-0.4**
GLVR				*e*S	**Sn**	**15 04 00.8**	**-3.1**
GLVR				pmax	pmax		
	comp=N,112nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,256nm,0.2s						
GLVR				pmax	pmax		
	comp=E,108nm,0.3s						
GLVR				smax	smax		
	comp=N,1μm,0.3s						
GLVR				smax	smax		
	comp=E,1μm,0.4s						
RUSJ	**Misakicho**	**6.50**	**22**	*e*P	**Pn**	**15 02 57.6**	**+0.5**
RUSJ				*e*S	**Sn**	**15 04 07.4**	**-2.5**
YUK	**Yuzh-Kuril'sk**	**6.64**	**26***c*	*i*P	**Pn**	**15 02 58.4**	**-0.6**
YUK				*i* S	**Sn**	**15 04 09.5**	**-3.7**
YUK				pmax	pmax		
	comp=Z,303nm,0.3s						
YUK				pmax	pmax		
	comp=N,109nm,0.2s						
YUK				pmax	pmax		
	comp=E,145nm,0.2s						
SHO	**Shikotan**	**6.87**	**32***c*	*i*P	**Pn**	**15 03 00.4**	**-1.7**
SHO				*i* S	**Sn**	**15 04 13.2**	**-5.7**
SHO				pmax	pmax		
	comp=E,47nm,0.3s						
SHO				pmax	pmax		
	comp=Z,55nm,0.3s						
SHO				pmax	pmax		
	comp=N,23nm,0.2s						
JHS	**Saijyo**	**7.67**	**249**	Pn	**Pn**	**15 03 13.3**	**+0.1**
TEY	**Ternei**	**7.92**	**332**	ǁ*e*P	**Pn**	**15 03 21.1**	**+4.5**
TEY				pmax	pmax		
	comp=E,100nm,1.2s						
TEY				pmax	pmax		
	comp=Z,100nm,1.2s						
TEY				pmax	pmax		
	comp=Z,70nm,1.3s						
TEY				pmax	pmax		
	comp=N,70nm,1.3s						
TEY				pmax	pmax		
	comp=E,40nm,1.3s						
TEY				MLR	MLR		
	comp=N,100nm,13.0s						
KUR	**Kuril'sk**	**8.41**	**31**	*e*P	**Pn**	**15 03 23.2**	**0.0**
KUR				*e*S	**Sn**	**15 04 52.1**	**-4.6**
KUR				pmax	pmax		
	comp=Z,262nm,2.5s						
KUR				pmax	pmax		
	comp=Z,99nm,0.8s						
KUR				pmax	pmax		
	comp=N,43nm,0.7s						
KUR				pmax	pmax		
	comp=E,35nm,0.4s						
KUR				smax	smax		
	comp=N,343nm,0.6s						
KUR				smax	smax		
	comp=E,164nm,0.4s						
KUR				smax	smax		
	comp=N,1μm,3.4s						
KUR				smax	smax		
	comp=E,556nm,3.0s						
YSS	**Yuzh-Sakhalins**	**8.84**	**4**	*e*P	**Pn**	**15 03 29.7**	**+0.6**
YSS				*e*S	**Sn**	**15 05 05.5**	**-1.8**
YSS				pmax	pmax		
	comp=Z,200nm,3.4s						
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				smax	smax		
	comp=E,200nm,3.8s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS				MLR	MLR		
	comp=N,600nm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.84**	**4**	Pn	**Pn**	**15 03 29.1**	**0.0**
VLA	**Vladivostok**	**9.04**	**307**	*i* P	**Pn**	**15 03 33.6**	**+1.7**
MSHR	**Mys Shultsa**	**9.27**	**302**	*ce*P	**Pn**	**15 03 36.8**	**+1.8**
MSHR				pmax	pmax		
	comp=Z,136nm,1.3s						
USA0B	**Ussuriysk Arra**	**9.57**	**312**	P	**Pn**	**15 03 36.8**	**-2.3**
USA0B	**Ussuriysk Arra**	**9.57**	**312**		**Pn**	**15 03 36.8**	**-2.3**
USRK	**Ussuriysk Ar.**	**9.57**	**312**	P	**Pn**	**15 03 37.2**	**-1.9**
	baz=121,slow=14,SNR=21						
USRK				LR	LR	15 07 08.7	
	comp=Z,1μm,20.2s,baz=118,slow=36						
USRK	**Ussuriysk Ar.**	**9.57**	**312**	P	**Pn**	**15 03 36.6**	**-2.5**
USRK	**Ussuriysk Ar.**	**9.57**	**312**	Pn	**Pn**	**15 03 36.6**	**-2.5**
JNU	**Nakatsue**	**10.21**	**244**	P	**Pn**	**15 03 48.5**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=80,slow=12,SNR=8.6						
JNU	

KLR **Kul'dur** 13.25 330 P Pn 15 04 29.0 -0.4
comp=Z,0.4nm,0.3s,baz=126,slow=9.6,SNR=7.5
KLR LR LR 15 09 38.0
comp=Z,1µm,18.8s,baz=143,slow=38
KLR Kul'dur 13.25 330*ce*P **Pn 15 04 28.7 -0.7**
KLR pmax pmax
comp=Z,8.0nm,1.9s
CN2 Changchun 13.59 300 *e*P **Pn 15 04 33.8 -0.3**
CN2 *e*S **Sn 15 06 56.0 -7.6**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,800nm,6.0s
CN2 LR LR
comp=Z,400nm,13.0s
CN2 LR LR
comp=Z,700nm,13.0s
CN2 LR LR
comp=Z,800nm,18.0s
SNY Shenyang 14.46 290 ⇓P **P 15 04 52.8 +1.3**
SNY S **S 15 07 41.5 -0.9**
SNY pmax pmax
comp=Z,30nm,0.9s
SNY pmax pmax
comp=Z,520nm,4.5s
SNY LR LR
comp=N,750nm,14.9s
SNY LR LR
comp=E,1µm,20.4s
SNY LR LR
comp=Z,2µm,20.2s
DL2 Dalian 15.82 279 P Pn 15 04 54.8 -8.7
DL2 S Sn 15 07 42.8 -15
DL2 pmax pmax
comp=Z,47nm,1.0s
DL2 pmax pmax
comp=Z,260nm,7.8s
DL2 LR LR
comp=N,220nm,14.5s
DL2 LR LR
comp=E,570nm,20.0s
DL2 LR LR
comp=Z,830nm,27.3s
JOW Kunigami 16.03 229 P **Pn 15 05 06.8 +0.6**
comp=Z,1.7nm,0.3s,baz=52,slow=10.0,SNR=3.7
JOW LR LR 15 10 50.4
comp=Z,207nm,21.0s,baz=109,slow=35
SSE Sheshan 18.36 254 P **Pn 15 05 36.3 +1.2**
SSE S **Sn 15 08 59.8 +0.6**
SSE pmax pmax
comp=Z,57nm,0.9s
SSE pmax pmax
comp=Z,150nm,5.9s
SSE LR LR
comp=Z,92nm,17.0s
SSE LR LR
comp=Z,230nm,16.9s
ZEA Zeya 18.54 332 *e*P **P 15 05 34.9 -1.7**
ZEA *e* 15 09 02.0
ZEA pmax pmax
comp=Z,30nm,0.7s
ZEA MLR MLR
comp=N,400nm,19.0s
ZEA MLR MLR
comp=E,300nm,19.0s
ZEA MLR MLR
comp=Z,500nm,17.0s
PEA0B Petropavlovsk- 18.58 31 P **P 15 05 36.6 -0.4**
PEA0B pmax pmax
comp=Z,31nm,1.1s
PEA0B Petropavlovsk- 18.58 31 P **P 15 05 36.6 -0.4**
PETK Petropavlovsk- 18.58 31 P **Pn 15 05 39.2 +1.6**
comp=Z,0.1nm,0.3s,baz=237,slow=6.9,SNR=5.5
PETK LR LR 15 14 02.4
comp=Z,292nm,18.5s,baz=220,slow=41
PETK Petropavlovsk- 18.58 31 Pn 15 05 37.3 -0.3
PET Petropavlovsk 18.91 33 *e*P **Pn 15 05 43.9 +2.3**
PET *e*S **Sn 15 09 11.3 -1.0**
PET pmax pmax
comp=Z,23nm,1.3s
PET MLR MLR
comp=Z,300nm,13.0s
PET MLR MLR
comp=Z,300nm,18.0s
PET Petropavlovsk 18.91 33 P **Pn 15 05 41.5 -0.1**
JMJ Miyako jima 2 19.32 231 P **P 15 05 44.7 -0.6**
HIA Hailar 19.38 312 P **P 15 05 42.7 -3.1**
HIA pmax pmax
comp=Z,12nm,1.0s
HIA Hailar 19.38 312 P **P 15 05 42.7 -3.1**
NJ2 Nanjing 19.72 259 ⇓P **P 15 05 48.3 -1.4**
NJ2 S **S 15 09 28.0 -1.4**
NJ2 pmax pmax
comp=Z,11nm,0.9s
NJ2 LR LR
comp=Z,320nm,15.7s
NJ2 LR LR
comp=Z,780nm,14.7s
NJ2 LR LR
comp=Z,1µm,18.1s
TIA Tai'an 19.76 272 P **P 15 05 48.5 -1.5**
TIA pmax pmax
comp=Z,14nm,1.1s
BJI Beijing 19.98 283 P **P 15 05 50.8 -1.5**
BJI sP **sP 15 06 07.3 -2.1**
BJI S **S 15 09 28.8 -5.6**
BJI sS **Sn 15 09 44.0 +5.9**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI LR LR
comp=Z,350nm,13.7s
BJI LR LR
comp=Z,260nm,18.8s
BJI LR LR
comp=Z,510nm,24.4s
BJT Baijiatuau 19.98 283 P **P 15 05 50.3 -2.1**
BJT pmax pmax
comp=Z,30nm,0.5s
BJT Baijiatuau 19.98 283 P **P 15 05 50.3 -2.1**
BJT IAmb IAmb 15 05 54.8
comp=Z,30nm,0.5s
XLT XiLinHaoTe 20.21 295 ⇑*i*P **P 15 05 53.5 -1.5**
XLT sP sP 15 06 09.8 -2.3
XLT PP **PnPn 15 06 13.8 +0.9**
XLT S **S 15 09 30.5 -8.7**
XLT pmax pmax
comp=Z,42nm,1.4s
XLT pmax pmax
comp=Z,140nm,3.6s
XLT LR LR
comp=Z,450nm,18.7s
XLT LR LR
comp=Z,790nm,24.4s
YOJ Yonaguni jima 21.02 235 P **P 15 06 04.3 +0.6**
HNS HongShan 21.42 276 ⇑P **P 15 06 06.3 -1.6**
HNS pP **pP 15 06 19.3 +0.2**
HNS S S 15 09 52.0 -11
HNS SS **SnSn 15 10 31.3 +3.0**
HNS pmax pmax
comp=Z,25nm,1.1s
HNS LR LR
comp=Z,160nm,15.9s
HNS LR LR
comp=Z,560nm,15.9s
HNS LR LR
comp=Z,700nm,14.7s
YHNB Yeheng 21.95 238 P **P 15 06 12.5 -1.3**
NACB Ninganchiao 22.14 237 P **P 15 06 13.9 -1.9**
MA2 Magadan 22.21 12 P **P 15 06 17.0 +0.8**
comp=Z,29nm,0.6s,baz=197,slow=10,SNR=45
MA2 LR LR 15 15 31.7
comp=Z,209nm,18.7s,baz=204,slow=38
MA2 Magadan 22.21 12*ce*P **P 15 06 15.9 -0.3**
MA2 pmax pmax
comp=Z,37nm,0.8s
MA2 Magadan 22.21 12 P **P 15 06 14.9 -1.3**
MA2 IAmb IAmb 15 06 19.5
comp=Z,31nm,0.6s
SSLB Suanglung 22.83 237 P **P 15 06 21.6 -1.6**
SSLB Suanglung 22.83 237 P **P 15 06 20.4 -2.8**
YULB Yu-li 22.88 236 P **P 15 06 20.4 -3.3**
TPUB Ta-pu 23.38 237 P **P 15 06 26.4 -2.2**
TPUB IAmb IAmb 15 06 31.1
comp=Z,89nm,1.2s
TPUB Ta-pu 23.38 237 P **P 15 06 27.2 -1.4**
TWG Pinlang 23.43 235 P **P 15 06 27.0 -2.1**

TWG IAmb IAmb 15 06 34.0
comp=Z,100nm,1.2s
HHC Hu-ho-hao-te 23.45 286 *e*P **P 15 06 29.0 -0.3**
HHC pP pP 15 06 42.0 +1.0
HHC S **S 15 10 35.5 -3.8**
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,260nm,4.8s
HHC LR LR
comp=Z,190nm,13.3s
HHC LR LR
comp=Z,640nm,12.8s
HHC LR LR
comp=Z,810nm,13.5s
QZH Quanzhou 23.69 243 *e*P **P 15 06 31.8 +0.3**
QZH S **S 15 10 41.3 -1.7**
QZH LR LR
comp=Z,320nm,19.4s
QZH LR LR
comp=Z,390nm,18.0s
QZH LR LR
comp=Z,470nm,17.1s
WHN Wuhan 23.85 260 ⇑P **P 15 06 31.8 -1.2**
WHN S **S 15 10 41.8 -3.9**
WHN pmax pmax
comp=Z,32nm,0.6s
WHN LR LR
comp=Z,410nm,10.6s
WHN LR LR
comp=Z,1µm,13.5s
WHN LR LR
comp=Z,2µm,19.8s
LYN LuoYang 23.86 270 ⇑P **P 15 06 31.8 -1.2**
LYN pP sP 15 06 48.5 -2.3
LYN S **S 15 10 41.3 -4.5**
LYN pmax pmax
comp=Z,60nm,0.7s
LYN LR LR
comp=Z,430nm,13.2s
LYN LR LR
comp=Z,370nm,12.8s
LYN LR LR
comp=Z,650nm,22.9s
KNMB Chin-men Tao 24.13 242 P **P 15 06 32.9 -2.7**
KNMB IAmb IAmb 15 06 37.3
comp=Z,133nm,1.5s
GUMO Guam 24.60 173 LR LR 15 16 22.3
comp=Z,127nm,22.0s,baz=12,slow=36
BTO Baotou 24.64 286 *e*P **P 15 06 37.5 -2.7**
BTO S **S 15 10 56.3 -2.1**
BTO LR LR
comp=Z,980nm,16.7s
BTO LR LR
comp=Z,2µm,23.5s
YAK Yakutsk 25.07 346 P **P 15 06 43.3 -0.5**
comp=Z,16nm,0.4s,baz=156,slow=1.4,SNR=20
YAK LR LR 15 16 51.8
comp=Z,455nm,19.8s,baz=136,slow=37
YAK Yakutsk 25.07 346*c i*P **P 15 06 42.9 -0.9**
YAK *e**PP **pP 15 06 57.9 +2.0**
YAK *e* 15 07 19.3
YAK *e* 15 10 14.3
YAK *e*S **S 15 11 03.5 -1.1**
YAK *e**SS **sS 15 11 21.9 -3.3**
YAK *e*SS **SnSn 15 11 54.9 -2.3**
YAK *e* 15 17 38.3
YAK pmax pmax
comp=Z,71nm,1.2s
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,27nm,0.7s
YAK pmax pmax
comp=E,31nm,1.3s
YAK pmax pmax
comp=N,17nm,0.8s
YAK smax smax
comp=E,50nm,1.8s
YAK smax smax
comp=N,290nm,3.3s
YAK MLR MLR
comp=Z,477nm,16.0s
YAK MLR MLR
comp=N,168nm,13.0s
YAK MLR MLR
comp=E,133nm,14.0s
YAK Yakutsk 25.07 346 P **P 15 06 42.8 -0.9**
YAK IAmb IAmb 15 07 02.4
comp=Z,69nm,0.8s
SEY Seymchan 25.65 11 P **P 15 06 50.3 +1.3**
comp=Z,28nm,1.1s,baz=203,slow=7.2,SNR=38
SEY LR LR 15 16 52.7
comp=Z,250nm,21.5s,baz=166,slow=36
SEY Seymchan 25.65 11*ce*P **P 15 06 50.4 +1.4**
SEY pmax pmax
comp=Z,30nm,1.1s
SHEM Shemya Is, Ala 26.67 46 LR LR 15 15 34.0
comp=Z,94nm,21.5s,baz=246,slow=32
BOD Bodaibo 26.78 326 *e*P **P 15 06 58.6 -0.7**
BOD pmax pmax
comp=Z,37nm,0.9s
XAN Xi'an 26.82 271 ⇑P **P 15 06 59.0 -0.9**
XAN pP pP 15 07 11.5 -0.7
XAN sP sP 15 07 16.3 -1.5
XAN S **S 15 11 32.3 -0.6**
XAN pmax pmax
comp=Z,21nm,1.0s
XAN LR LR
comp=Z,430nm,20.3s
XAN LR LR
comp=Z,300nm,19.4s
XAN LR LR
comp=Z,510nm,17.8s
ULN Ulaanbaatar 27.02 302 P **P 15 07 02.4 +0.7**
ULN pmax pmax
comp=Z,32nm,1.3s
ULN Ulaanbaatar 27.02 302 P **P 15 07 02.4 +0.7**
ULN Ulaanbaatar 27.02 302 P **P 15 07 02.9 +1.2**
ULN P **P 15 07 02.9 +1.2**
SONM Songino Array 27.45 302 P **P 15 07 05.8 +0.2**
comp=Z,7.8nm,0.8s,baz=102,slow=7.9,SNR=45
SONM PcP **PcP 15 10 23.5 +0.5**
comp=Z,0.6nm,0.7s,baz=124,slow=3.4,SNR=3.6
SONM ScP **ScP 15 13 58.6 -1.0**
comp=Z,3.1nm,1.2s,baz=98,slow=3.3,SNR=7.0
SONM LR LR 15 18 32.3
comp=Z,463nm,18.3s,baz=100,slow=38
SONM Songino Array 27.45 302 P **P 15 07 05.2 -0.4**
ENH Enshi 27.76 263 P **P 15 07 06.7 -1.7**
H11N2 WAKE ISLAND Hy 28.46 123 T T 15 37 27.7
baz=316,slow=76,SNR=1557
H11N1 WAKE ISLAND Hy 28.47 123 T T 15 37 28.0
baz=316,slow=76,SNR=2693
H11N3 WAKE ISLAND Hy 28.48 123 T T 15 37 28.7
baz=316,slow=76,SNR=2021
H11S1 WAKE ISLAND Hy 29.21 125 T T 15 38 29.2
baz=317,slow=76,SNR=1764
H11S3 WAKE ISLAND Hy 29.21 125 T T 15 38 29.3
baz=317,slow=76,SNR=2558
H11S2 WAKE ISLAND Hy 29.23 125 T T 15 38 26.9
baz=317,slow=76,SNR=1524
ZAK Zakamensk 29.85 307 *e*P **P 15 07 26.3 -0.6**
ZAK pmax pmax
comp=Z,26nm,1.4s
LZH Lanzhou 30.21 278 ⇑P **P 15 07 30.8 +0.5**
LZH pP pP 15 07 42.3 -0.4
LZH sP sP 15 07 48.0 -0.3
LZH S **S 15 12 25.5 -1.1**
LZH pmax pmax
comp=Z,35nm,1.5s
LZH pmax pmax
comp=Z,130nm,4.9s
LZH LR LR
comp=Z,350nm,17.9s
LZH LR LR
comp=Z,460nm,18.4s
LZH LR LR
comp=Z,670nm,18.4s
MOY Mondy 31.48 309 *e*P **P 15 07 41.4 +0.1**
MOY pmax pmax
comp=Z,15nm,1.8s
GYA Guiyang 31.73 259 ⇑P **P 15 07 42.3 -1.4**
GYA sP sP 15 08 00.3 -1.4

GYA S **S 15 12 48.0 -2.4**
GYA pmax pmax
comp=Z,52nm,1.2s
GYA pmax pmax
comp=Z,140nm,3.5s
GYA LR LR
comp=Z,580nm,17.0s
CD2 Chengdu 32.01 269 P **P 15 07 45.3 -0.7**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 LR LR
comp=Z,440nm,14.1s
CD2 LR LR
comp=Z,530nm,17.2s
GTA Gaotai 32.56 286 *e*P **P 15 07 50.5 -0.4**
GTA pP pP 15 08 02.3 -1.0
GTA sP sP 15 08 05.5 -3.4
GTA PP **PnPn 15 08 59.8 +0.3**
GTA PcP **PcP 15 10 37.8 +1.3**
GTA S **S 15 13 03.5 +0.4**
GTA sS sS 15 13 23.5 -0.4
GTA PcS **PcS 15 14 22.0 +0.3**
GTA ScS **ScS 15 18 14.8 -1.2**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,85nm,7.3s
GTA LR LR
comp=Z,270nm,18.9s
GTA LR LR
comp=Z,500nm,20.4s
GTA LR LR
comp=Z,650nm,18.9s
BILL Bilibino 32.88 17⇓*e*P **P 15 07 53.3 +0.1**
BILL *i* 15 08 06.2
BILL *e* 15 09 00.2
BILL pmax pmax
comp=Z,15nm,1.3s
BILL MLR MLR
comp=Z,123nm,17.0s
BILL Bilibino 32.88 17 P **P 15 07 53.3 +0.2**
BILL IAmb IAmb 15 08 09.8
comp=Z,18nm,1.2s
BILL Bilibino 32.88 17 P **P 15 07 53.2 +0.1**
BILL pP **pP 15 08 05.7 +0.2**
QIZ Qiongzhong 33.68 245 P **P 15 08 01.0 +0.4**
QIZ S **S 15 13 20.3 -0.2**
QIZ pmax pmax
comp=Z,27nm,1.4s
QIZ LR LR
comp=Z,370nm,16.9s
QIZ LR LR
comp=Z,350nm,19.4s
QIZ LR LR
comp=Z,250nm,15.7s
TIXI Tiksi 34.24 353 P **P 15 08 03.7 -1.2**
comp=Z,3.9nm,0.5s,baz=272,slow=22,SNR=17
TIXI LR LR 15 23 06.0
comp=Z,202nm,20.8s,baz=180,slow=38
TIXI Tiksi 34.24 353*ce*P **P 15 08 03.6 -1.2**
TIXI pmax pmax
comp=Z,17nm,2.5s
TIXI Tiksi 34.24 353 P **P 15 08 04.3 -0.6**
TIXI Tiksi 34.24 353 P **P 15 08 04.8 -0.1**
DAV Davao City (W) 34.25 210 LR LR 15 21 44.8
comp=Z,107nm,21.4s,baz=16,slow=36
KMI Kunming 35.45 260 ⇑P **P 15 08 15.5 -0.7**
KMI pP pP 15 08 29.0 +0.3
KMI sP sP 15 08 33.5 -0.8
KMI S **S 15 13 44.5 -3.7**
KMI pmax pmax
comp=Z,23nm,0.5s
KMI LR LR
comp=Z,270nm,15.8s
KMI LR LR
comp=Z,380nm,15.2s
KMI LR LR
comp=Z,500nm,18.4s
PZH PanZhiHua 35.54 263 P **P 15 08 15.5 -1.3**
PZH sP **sP 15 08 33.5 -1.4**
PZH S **S 15 13 45.5 -3.9**
PZH pmax pmax
comp=Z,30nm,0.7s
PZH pmax pmax
comp=Z,30nm,4.3s
PZH LR LR
comp=Z,590nm,19.6s
PZH LR LR
comp=Z,1µm,18.0s
PZH LR LR
comp=Z,1µm,18.4s
GOMU GeErMu 37.20 282 P **P 15 08 31.0 -0.1**
GOMU pP pP 15 08 45.0 +1.3
GOMU sP sP 15 08 49.8 +0.6
GOMU pmax pmax
comp=Z,22nm,0.8s
GAMB Gambell 37.61 32 P **P 15 08 35.3 +1.5**
baz=250
MYLDM Lahad Datu 39.07 219 P **P 15 08 45.7 -0.9**
MYLDM IAmb IAmb 15 08 52.6
comp=Z,32nm,1.1s
UBPT Khong Chiam 39.28 245 P **P 15 08 47.1 -1.3**
DLV T Lat 39.54 238 P **P 15 08 49.3 -1.4**
DLV IAmb IAmb 15 09 10.4
comp=Z,23nm,1.0s
SWI Sorong 40.01 197 P **P 15 08 58.5 +4.1**
comp=Z,22nm,0.9s
SIJI Sorong 40.02 197 LR LR 15 24 57.4
comp=Z,62nm,18.9s,baz=52,slow=35
ANM Nome 40.49 32 P **P 15 08 59.6 +1.7**
baz=256
WMQ Urumqi 40.64 296 ⇓P **P 15 09 00.8 +1.3**
WMQ sP sP 15 09 17.5 -0.2
WMQ pmax pmax
comp=Z,67nm,0.9s
WMQ pmax pmax
comp=Z,170nm,3.9s
WMQ LR LR
comp=Z,210nm,12.9s
WMQ LR LR
comp=Z,460nm,21.5s
WMQ LR LR
comp=Z,430nm,18.3s
WMQ Urumqi 40.64 296 P **P 15 09 00.7 +1.2**
WMQ pP **sP 15 09 18.9 +1.3**
LBMI Labuha 40.78 202 P **P 15 09 01.6 +0.8**
comp=Z,18nm,0.8s
KMSI Cibinong 40.82 208 P **P 15 09 01.6 +0.5**
comp=Z,54nm,1.0s
GTOI Gorontalo 41.13 209 P **P 15 09 03.3 -0.4**
comp=Z,158nmcomp=Z,16nm,1.3s
ZAA0 Zalesovo Array 41.42 311 P **P 15 09 04.6 -1.0**
ZALV Zalesovo Beam 41.42 311 P **P 15 09 05.3 -0.3**
comp=Z,23nm,0.5s,baz=86,slow=7.2,SNR=109
ZALV PcP **PcP 15 11 02.8 0.0**
comp=Z,2.6nm,0.4s,baz=100,slow=3.2,SNR=4.7
ZALV ScP **ScP 15 14 48.0 -0.9**
comp=Z,0.4nm,0.3s,baz=138,slow=13,SNR=2.2
ZALV LR LR 15 26 59.1
comp=Z,375nm,19.3s,baz=80,slow=37
ZALV Zalesovo Beam 41.42 311 P **P 15 09 03.9 -1.7**
TOLI2 Tolitoli 41.61 213 P **P 15 09 07.2 -0.3**
MRSI Marisa 41.70 211 P **P 15 09 08.4 +0.1**
comp=Z,23nm,0.9s
SDPT Sand Point 41.81 46 P **P 15 09 09.3 +0.5**
baz=271
CHTO Chiang Mai 41.88 255 P **P 15 09 09.1 -0.8**
CHTO pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 41.88 255 P **P 15 09 09.1 -0.8**
CHTO Chiang Mai 41.88 255 P **P 15 09 10.1 +0.2**
CHTO Chiang Mai 41.88 255 P **P 15 09 10.2 +0.4**
CHTO pP **sP 15 09 26.5 -1.6**
ZSN Zaisan 41.97 302 *e*P **P 15 09 09.1 -1.2**
ZSN pmax pmax
comp=Z,26nm,0.9s
ZSN Zaisan 41.97 302 *e*P **P 15 09 09.2 -1.2**
comp=Z,26nm,0.9s,baz=302
CM31 Chiang Mai Arr 42.09 254 P **P 15 09 11.7 +0.1**
CM31 Chiang Mai Arr 42.09 254 P **P 15 09 12.4 +0.8**
CMAR Chiang Mai Arr 42.09 254 P **P 15 09 11.8 +0.2**
comp=Z,2.8nm,0.6s,baz=43,slow=6.0,SNR=25
CMAR PcP **PcP 15 11 06.0 +0.4**
comp=Z,1.5nm,0.7s,baz=22,slow=2.1,SNR=5.0
CMAR ScP **ScP 15 14 51.0 -1.1**
comp=Z,0.2nm,0.3s,baz=6.9,slow=3.6,SNR=5.2

CMAR **Chiang Mai Arr** 42.09 254 P **P** 15 09 11.0 -0.6
RDOG **Red Dog Mine** 42.38 27 P **P** 15 09 13.0 -0.3
RDOG **Red Dog Mine** 42.38 27 P **P** 15 09 13.6 +0.3
baz=254,SNR=5.6
NRIK **Noril'sk** 42.41 335 P **P** 15 09 13.5 0.0
comp=Z,3.2nm,0.4s,baz=114,slow=9.9,SNR=11
NRIK LR LR 15 27 54.0
comp=Z,560nm,19.3s,baz=118,slow=38
NRIK **Noril'sk** 42.41 335 *ceP* **P** 15 09 13.2 -0.3
NRIK pmax pmax
comp=Z,20nm,1.4s
NRIK **Noril'sk** 42.41 335 P **P** 15 09 13.0 -0.5
LSA **Lhasa** 42.44 274 P **P** 15 09 13.8 -1.1
LSA pmax pmax
comp=Z,26nm,1.0s
LSA **Lhasa** 42.44 274 P **P** 15 09 13.8 -1.1
LSA IAmb IAmb 15 09 36.5
comp=Z,26nm,1.0s
LSA **Lhasa** 42.44 274 P **P** 15 09 11.3 -3.6
LSA S **S** 15 15 36.5 +2.8
LSA LR LR
comp=Z,160nm,21.4s
LSA LR LR
comp=Z,170nm,8.6s
SANI **Sanana** 42.58 204 P **P** 15 09 14.3 -1.2
MPSI **Mapaga** 42.68 213 P **P** 15 09 16.3 0.0
comp=Z,9.5nm,1.0s
LUWI **Luwuk** 42.76 209 P **P** 15 09 15.8 -1.1
LUWI IAmb IAmb 15 09 22.7
comp=Z,57nm,1.3s
APSI **Ampana** 43.08 210 P **P** 15 09 20.5 +1.0
comp=Z,474nmcomp=Z,44nm,1.2s
KRVT **Keravat (AS076** 43.28 165 P **P** 15 09 24.1 +2.9
comp=Z,9.5nm,0.6s,baz=3.6,slow=18,SNR=2.5
AAI **Ambon** 43.49 200 P **P** 15 09 26.0 +3.2
comp=Z,40nm,0.8s
SHL **Shillong** 43.75 268 P **P** 15 09 23.5 -1.6
SHL pmax pmax
comp=Z,22nm,0.5s
SHL **Shillong** 43.75 268 P **P** 15 09 23.5 -1.6
SHL IAmb IAmb 15 09 49.8
comp=Z,22nm,0.5s
SHL **Shillong** 43.75 268 P **P** 15 09 25.6 +0.4
SNR=5.8
MK31 **Makanchi Array** 43.81 301 *i* P **P** 15 09 24.7 -0.5
MK31 pmax pmax
comp=Z,65nm,0.8s
MK31 **Makanchi Array** 43.81 301 P **P** 15 09 24.2 -1.0
MKAR **Makanchi Array** 43.81 301 P **P** 15 09 25.3 0.0
comp=Z,15nm,0.7s,baz=85,slow=9.7,SNR=120
MKAR LR LR 15 29 04.0
comp=Z,182nm,18.2s,baz=78,slow=38
MKAR **Makanchi Array** 43.81 301 *i* P **P** 15 09 24.8 -0.4
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR **Makanchi Array** 43.81 301 P **P** 15 09 24.2 -1.0
MAKZ **Makanchi** 44.02 301 P **P** 15 09 25.9 -1.0
MAKZ pmax pmax
comp=Z,86nm,1.1s
MAKZ **Makanchi** 44.02 301 P **P** 15 09 25.9 -1.0
MAKZ **Makanchi** 44.02 301 P **P** 15 09 26.5 -0.4
MAKZ pP **sP** 15 09 44.6 -0.7
N18K **Kilae Creek** 44.29 39 P **P** 15 09 28.7 -0.2
N18K IAmb IAmb 15 09 46.9
comp=Z,21nm,1.1s
N18K **Kilae Creek** 44.29 39 P **P** 15 09 29.9 +1.1
baz=269
SVW2 **Sparrevohn** 44.45 38 P **P** 15 09 30.5 +0.4
SVW2 IAmb IAmb 15 09 52.3
comp=Z,19nm,1.1s
SEM **Semipalatinsk** 44.53 307 *eP* **P** 15 09 29.3 -1.8
SEM pmax pmax
comp=Z,25nm,1.2s
SEM **Semipalatinsk** 44.53 307 *eP* **P** 15 09 29.4 -1.8
comp=Z,25nm,1.2s,baz=307
CHIR **Chirikof Islan** 44.54 46 P **P** 15 09 32.1 +1.2
baz=274
P18K **Big Mountain,** 44.62 40 P **P** 15 09 32.3 +0.8
baz=271
O18K **Koktuh Hills** 44.62 40 P **P** 15 09 33.1 +1.6
baz=270
SBUM **Sibu** 44.67 225 P **P** 15 09 31.9 -0.4
L19K **White Mountain** 44.84 36 P **P** 15 09 35.9 +2.8
L19K IAmb IAmb 15 09 50.8
comp=Z,23nm,1.4s
L19K **White Mountain** 44.84 36 P **P** 15 09 34.2 +1.0
baz=268
M19K **Big River Lodg** 45.05 37 P **P** 15 09 36.8 +2.0
baz=269
K20K **Telida** 45.24 35 P **P** 15 09 38.3 +2.0
K20K **Telida** 45.24 35 P **P** 15 09 37.2 +0.9
baz=268
J20K **Nowinta River** 45.25 34 P **P** 15 09 37.8 +1.4
J20K IAmb IAmb 15 09 54.7
comp=Z,27nm,1.1s
J20K **Nowinta River** 45.25 34 P **P** 15 09 38.5 +2.1
baz=267
L20K **Farewell, AK** 45.30 36 P **P** 15 09 37.9 +1.1
baz=269
A21K **Barrow** 45.32 23 P **P** 15 09 38.1 +1.2
baz=257
KURK **Kurchatov** 45.51 307 P **P** 15 09 37.4 -1.3
KURK pmax pmax
comp=Z,209nm,1.0s
KURK **Kurchatov** 45.51 307 P **P** 15 09 37.4 -1.3
KURK **Kurchatov** 45.51 307 P **P** 15 09 38.0 -0.6
KURK X 15 09 45.8
KURK pP **sP** 15 09 54.6 -2.4
IMAR **Indian Mountai** 45.54 31 **P** 15 09 39.8 +1.1
KURBB **Kurchatov Arra** 45.58 307 P **P** 15 09 38.7 -0.5
comp=Z,22nm,0.6s,baz=82,slow=8.3,SNR=221
KURBB LR LR 15 29 23.2
comp=Z,427nm,20.8s,baz=64,slow=37
H21K **Melozitna Rive** 45.91 32 P **P** 15 09 43.2 +1.6
H21K **Melozitna Rive** 45.91 32 P **P** 15 09 42.3 +0.7
baz=267
CHUM **Lake Minchumin** 46.04 34 P **P** 15 09 42.9 +0.3
baz=269
KDAK **Kodiak Island** 46.07 43 P **P** 15 09 44.1 +1.2
comp=Z,9.8nm,1.0s,baz=91,slow=2.2,SNR=5.7
KDAK LR LR 15 28 31.0
comp=Z,334nm,20.3s,baz=260,slow=35
KDAK **Kodiak Island** 46.07 43 P **P** 15 09 44.1 +1.2
KDAK pmax pmax
comp=Z,28nm,1.0s
KDAK **Kodiak Island** 46.07 43 IAmb IAmb 15 09 59.5
comp=Z,28nm,1.0s
PPLA **Purkeypile** 46.08 36 P **P** 15 09 43.7 +0.5
PPLA IAmb IAmb 15 10 04.8
comp=Z,37nm,1.3s
PPLA **Purkeypile** 46.08 36 P **P** 15 09 44.0 +0.8
baz=270
MTKI **Muara Teweh, K** 46.13 219 P **P** 15 09 46.5 +2.6
comp=Z,2µmcomp=Z,34nm,1.2s
CAST **Castle Rocks** 46.14 35 P **P** 15 09 46.0 +2.5
CAST IAmb IAmb 15 10 01.4
comp=Z,16nm,1.1s
CAST **Castle Rocks** 46.14 35 P **P** 15 09 44.4 +0.9
baz=270
TAPN **Taplejung** 46.19 273 *eP* **P** 15 09 42.0 -2.7
comp=Z,21nm,0.5s
I21K **Tanana** 46.23 32 P **P** 15 09 45.3 +1.2
baz=268
KSM **Kuching** 46.55 226 P **P** 15 09 47.1 -0.1
KSM IAmb IAmb 15 09 49.8
comp=Z,20nm,1.1s
PDGK **Podgornoye** 46.55 297 P **P** 15 09 45.1 -2.0
SPSI **Sidrap Palu** 46.61 211 P **P** 15 09 49.3 +1.7
comp=Z,26nm,1.0s
SHLS **Shalkode** 46.62 297 *eP* **P** 15 09 44.1 -3.5
SHLS **Shalkode** 46.62 297 *eP* **P** 15 09 44.1 -3.5
baz=297
BPAW **Bear Paw Mtn.** 46.63 34 **P** 15 09 49.9 +2.6
BPAW **Bear Paw Mtn.** 46.63 34 P **P** 15 09 48.3 +1.0
baz=270
KTH **Kantishna Hill** 46.66 35 **P** 15 09 50.0 +2.4
KTH IAmb IAmb 15 10 05.9
comp=Z,23nm,1.0s
ODAN **Odare** 46.67 273 *eP* **P** 15 09 46.7 -1.7
TDK **Taldyqorghan** 46.86 300 *eP* **P** 15 09 48.8 -0.6
TDK pmax pmax
comp=Z,9.0nm,0.6s
TDK **Taldyqorghan** 46.86 300 *eP* **P** 15 09 48.8 -0.6
comp=Z,9.2nm,0.6s,baz=300
BNSI **Bone** 46.87 210 P **P** 15 09 51.6 +1.9
comp=Z,55nm,1.1s

UZB **Uzynbulak** 46.93 297 *eP* **P** 15 09 49.5 -0.6
UZB **Uzynbulak** 46.93 297 *eP* **P** 15 09 49.5 -0.6
baz=297
COLD **Coldfoot** 47.04 30 P **P** 15 09 52.8 +2.4
COLD **Coldfoot** 47.04 30 P **P** 15 09 51.3 +0.9
baz=268
M22K **Willow** 47.07 37 P **P** 15 09 51.1 +0.4
baz=273
KPKS **Kokpek** 47.08 298 *eP* **P** 15 09 49.2 -2.0
KPKS **Kokpek** 47.08 298 *eP* **P** 15 09 49.3 -2.0
baz=297
JIRN **Jiri** 47.24 274 *eP* **P** 15 09 53.5 +0.5
RAMN **Ramite** 47.25 273 *eP* **P** 15 09 52.9 0.0
comp=Z,36nm,0.5s
H23K **Yukon River** 47.26 31 P **P** 15 09 54.5 +2.3
H23K IAmb IAmb 15 10 10.9
comp=Z,19nm,1.1s
H23K **Yukon River** 47.26 31 P **P** 15 09 53.3 +1.1
baz=270,SNR=6.7
BWN **Browne** 47.30 34 P **P** 15 09 54.9 +2.4
I23K **Minto, Yukon-K** 47.33 32 P **P** 15 09 55.4 +2.7
I23K IAmb IAmb 15 10 09.9
comp=Z,16nm,1.2s
I23K **Minto, Yukon-K** 47.33 32 P **P** 15 09 54.0 +1.3
baz=270
ZHN **Zhinishke** 47.34 297 *eP* **P** 15 09 51.8 -1.4
ZHN **Zhinishke** 47.34 297 *eP* **P** 15 09 51.9 -1.3
baz=297
O22K **Cooper Landing** 47.34 39 P **P** 15 09 54.1 +1.3
baz=274
TOLK **Toolik Lake Re** 47.35 28 P **P** 15 09 54.1 +1.3
TOLK IAmb IAmb 15 10 10.7
comp=Z,12nm,1.1s
TOLK **Toolik Lake Re** 47.35 28 P **P** 15 09 53.6 +0.8
baz=267,SNR=8.1
GUN **Gumba** 47.37 275 *eP* **P** 15 09 53.7 -0.3
SATY **Saty** 47.39 297 *eP* **P** 15 09 51.5 -2.1
SATY **Saty** 47.39 297 *eP* **P** 15 09 51.5 -2.1
baz=297
NEA2 **Nenana** 47.46 33 P **P** 15 09 56.4 +2.6
NEA2 IAmb IAmb 15 10 11.3
comp=Z,24nm,1.1s
NEA2 **Nenana** 47.46 33 P **P** 15 09 54.6 +0.8
baz=271
ARXS **Arharly** 47.47 299 *eP* **P** 15 09 53.6 -0.6
MCK **McKinley** 47.54 34 P **P** 15 09 56.4 +2.0
MCK pmax pmax
comp=Z,12nm,0.9s
MCK **McKinley** 47.54 34 P **P** 15 09 56.4 +2.0
MCK IAmb IAmb 15 10 15.0
comp=Z,12nm,0.9s
MCK **McKinley** 47.54 34 P **P** 15 09 56.4 +2.0
baz=272
PMR **Palmer** 47.55 37 P **P** 15 09 55.6 +1.1
baz=274
PMG **Port Moresby** 47.56 173 LR LR 15 28 07.0
comp=Z,54nm,21.9s,baz=318,slow=34
KAPI **Kappang** 47.57 210 P **P** 15 09 56.1 +1.0
KAPI pmax pmax
comp=Z,60nm,1.2s
KAPI **Kappang** 47.57 210 P **P** 15 09 56.1 +1.0
KAPI **Kappang** 47.57 210 P **P** 15 09 57.0 +1.9
KAPI **Kappang** 47.57 210 P **P** 15 09 56.5 +1.3
KAPI pP **sP** 15 10 12.2 -1.2
RND **Reindeer** 47.59 35 P **P** 15 09 55.5 +0.6
RND pmax pmax
comp=Z,22nm,1.0s
RND **Reindeer** 47.59 35 **P** 15 09 55.5 +0.6
RND IAmb IAmb 15 10 12.1
comp=Z,22nm,1.0s
GHO **Glory Hole Cre** 47.64 37 P **P** 15 09 55.9 +0.6
BKSI **Bulukumba** 47.71 210 P **P** 15 09 56.6 +0.4
comp=Z,16nm,1.2s
WAT1 **Susitna Watana** 47.75 36 P **P** 15 09 56.9 +0.9
baz=273
MDM **Murphy Dome** 47.81 33 P **P** 15 09 56.5 -0.1
MDM IAmb IAmb 15 10 14.7
comp=Z,32nm,1.2s
KNK **Knik Glacier** 47.89 37 P **P** 15 09 58.6 +1.5
baz=275
KKN **Kakani** 47.90 275 *eP* **P** 15 09 57.7 -0.2
comp=Z,84nm,1.0s
PKI **Pulchoki** 47.90 275 *eP* **P** 15 09 57.3 -0.7
comp=Z,39nm,0.9s
PKIN **Phulchoki** 47.91 275 *eP* **P** 15 09 57.4 -0.6
SML **Sawmill** 47.92 37 **P** 15 09 59.7 +2.3
SML IAmb IAmb 15 10 28.8
comp=Z,18nm,0.9s
SML **Sawmill** 47.92 37 P **P** 15 09 59.7 +2.3
baz=274
H24K **Noodor Dome** 47.95 31 P **P** 15 09 60.0 +2.4
H24K IAmb IAmb 15 10 15.7
comp=Z,13nm,1.1s
H24K **Noodor Dome** 47.95 31 P **P** 15 09 59.0 +1.5
baz=271
PWL **Port Wells** 47.99 38 P **P** 15 09 59.7 +1.8
baz=275
SRIT **Nakonsritamara** 48.02 243 P **P** 15 09 59.2 +0.6
SRIT IAmb IAmb 15 10 00.8
comp=Z,28nm,1.0s
DMN **Daman** 48.12 275 *eP* **P** 15 09 59.9 +0.2
WAT6 **Susitna Watana** 48.14 36 P **P** 15 10 00.7 +1.4
baz=274
CHKK **Chushkaly** 48.15 298 *eP* **P** 15 09 57.9 -1.5
CHKK **Chushkaly** 48.15 298 *eP* **P** 15 09 58.0 -1.5
baz=298
POKR **Poker Plat Res** 48.15 32 P **P** 15 10 01.1 +2.0
POKR **Poker Plat Res** 48.15 32 P **P** 15 10 00.2 +1.1
baz=272,SNR=9.7
M23K **Glacier View** 48.21 37 P **P** 15 10 00.5 +0.9
baz=275
DHY **Denali Highway** 48.27 35 P **P** 15 10 01.4 +1.2
DHY IAmb IAmb 15 10 17.6
comp=Z,13nm,1.1s
DHY **Denali Highway** 48.27 35 P **P** 15 10 01.8 +1.5
baz=274
GKN **Gorkha** 48.31 276 *eP* **P** 15 10 00.7 -0.3
comp=Z,192nm,1.1s
MDOK **Medeo** 48.31 298 *eP* **P** 15 09 59.5 -1.3
MDOK **Medeo** 48.31 298 *eP* **P** 15 09 59.5 -1.3
baz=298
BBKI **Banjar Baru** 48.35 217 P **P** 15 10 01.0 -0.1
comp=Z,16nm,0.5s
AAA **Alma-Ata** 48.39 298 *eP* **P** 15 09 59.9 -1.4
AAA **Alma-Ata** 48.39 298 *eP* **P** 15 09 59.9 -1.4
baz=298
SCM **Sheep Creek Mo** 48.39 37 P **P** 15 10 01.8 +0.7
baz=275
IL31 48.40 33 P **P** 15 10 01.4 +0.5
IL31 IAmb IAmb 15 10 18.2
comp=Z,13nm,0.8s
ILAR **Eielson Array** 48.40 33 P **P** 15 10 02.0 +1.0
comp=Z,2.7nm,0.6s,baz=265,slow=6.2,SNR=44
ILAR LR LR 15 31 50.9
comp=Z,33nm,21.4s,baz=6.0,slow=38
ILAR **Eielson Array** 48.40 33 P **P** 15 10 01.4 +0.4
TNSS **Tian-Shan** 48.41 297 *eP* **P** 15 10 00.7 -1.2
TNSS **Tian-Shan** 48.41 297 *eP* **P** 15 10 00.8 -1.2
baz=297
KDJ **Kajisay** 48.53 296 P **P** 15 10 01.7 -0.8
KDJ pmax pmax
comp=Z,41nm,0.9s
KDJ **Kajisay** 48.53 296 P **P** 15 10 01.7 -0.8
KUU **Kurty** 48.59 299 *eP* **P** 15 10 00.3 -2.4
KUU pmax pmax
comp=Z,9.0nm,0.7s
KUU **Kurty** 48.59 299 *eP* **P** 15 10 00.4 -2.4
comp=Z,8.9nm,0.7s,baz=299
DANN **Dangsing** 48.84 277 *eP* **P** 15 10 05.1 -0.1
comp=Z,195nm,0.7s
K24K **Donnelly Dome** 48.94 34 P **P** 15 10 05.8 +0.6
baz=275
KLU **Klutina** 49.09 37 P **P** 15 10 07.8 +1.3
baz=277
Q23K **Middleton Isla** 49.14 40 P **P** 15 10 07.4 +0.7
baz=278
PAX **Paxson** 49.15 35 P **P** 15 10 08.0 +1.1
baz=276
ULHL **Ulahol** 49.15 297 P P 15 10 25.7 +18
SNR=5.1
BMAR **Burnt Mountain** 49.22 29 P **P** 15 10 09.2 +1.9
KOLN **Koldanda** 49.23 276 *eP* **P** 15 10 08.1 0.0
BOOM **Boomskoye usch** 49.29 297 P **P** 15 10 07.8 -0.5
BOOM pmax pmax
comp=Z,88nm,1.0s
BOOM **Boomskoye usch** 49.29 297 P **P** 15 10 07.8 -0.5

EYAK **Cordova Ski Ar** 49.29 38 P **P** 15 10 08.7 +0.9
baz=278
HARP **HAARP** 49.35 36 P **P** 15 10 08.9 +0.6
baz=276
RIDG **Independent Ri** 49.36 34 P **P** 15 10 08.0 -0.5
baz=276
BRZS **Berezniki** 49.39 307 *eP* **P** 15 10 06.6 -2.2
BRZS **Berezniki** 49.39 307 *eP* **P** 15 10 06.6 -2.2
baz=307
TKM2 **Tokmak 2** 49.40 298 P **P** 15 10 09.9 +0.7
SNR=26
TKM2 **Tokmak 2** 49.40 298 *i* P **P** 15 10 08.8 -0.4
TKM2 pmax pmax
comp=Z,106nm,0.8s
PYUN **Piuthan** 49.55 277 *eP* **P** 15 10 10.4 -0.2
comp=Z,181nm,1.0s
KULM **Kulim** 49.65 239 P **P** 15 10 10.9 -0.3
KULM IAmb IAmb 15 10 13.0
comp=Z,23nm,1.1s
N25K **Chitina, Valde** 49.71 37 P **P** 15 10 12.5 +1.4
baz=278
SCRK **Sand Creek** 49.71 34 P **P** 15 10 12.2 +1.0
SCRK IAmb IAmb 15 10 28.0
comp=Z,16nm,1.1s
SCRK **Sand Creek** 49.71 34 P **P** 15 10 12.0 +0.8
baz=276,SNR=5.5
BTLS **Baital** 49.82 301 *eP* **P** 15 10 10.7 -1.4
BTLS **Baital** 49.82 301 *eP* **P** 15 10 10.7 -1.4
baz=301
J26L **Joseph Creek** 49.84 33 P **P** 15 10 13.0 +0.8
baz=276
SGDS **Sogindy** 49.90 299 *eP* **P** 15 10 11.0 -1.9
SGDS **Sogindy** 49.90 299 *eP* **P** 15 10 11.1 -1.9
baz=299
KBK **Karagaybulak** 49.93 298 P **P** 15 10 13.5 +0.3
SNR=16
MENT **Mentasta** 49.95 35 P **P** 15 10 14.9 +2.0
MENT IAmb IAmb 15 10 32.5
comp=Z,20nm,1.2s
CHMS **Chumysh** 49.96 298 P P 15 10 31.5 +18
SNR=6.2
CHMS **Chumysh** 49.96 298 *i* P **P** 15 10 12.3 -1.0
CHMS pmax pmax
comp=Z,38nm,0.9s
IPM **Ipoh** 49.99 238 P **P** 15 10 13.0 -0.7
OTUK **Örtayu** 50.05 305 P **P** 15 10 11.4 -2.5
USP **Ospenovka** 50.05 298 P **P** 15 10 14.4 +0.5
SNR=7.2
BVAR **Borovoye Array** 50.07 312 P **P** 15 10 14.0 0.0
comp=Z,3.3nm,0.5s
BVAR **Borovoye Array** 50.07 312 P **P** 15 10 14.0 0.0
FRU1 **Bishkek** 50.10 298 P **P** 15 10 13.8 -0.6
FRU1 pmax pmax
comp=Z,63nm,0.9s
FRU1 **Bishkek** 50.10 298 P **P** 15 10 13.8 -0.6
L26K **Log Cabin Wild** 50.11 35 P **P** 15 10 15.2 +1.1
L26K IAmb IAmb 15 10 32.5
comp=Z,21nm,1.0s
L26K **Log Cabin Wild** 50.11 35 P **P** 15 10 16.2 +2.1
baz=278
BRVK **Borovoye** 50.13 312 P **P** 15 10 14.1 -0.3
BRVK pmax pmax
comp=Z,46nm,1.0s
BRVK **Borovoye** 50.13 312 P **P** 15 10 14.1 -0.3
BRVK **Borovoye** 50.13 312 P **P** 15 10 14.3 0.0
BRVK **Borovoye** 50.13 312 P **P** 15 10 14.3 -0.1
BRVK X 15 10 20.7
BRVK pP **sP** 15 10 32.6 -0.2
MYKOM **Kota Tinggi** 50.17 233 P **P** 15 10 15.2 +0.1
MYKOM IAmb IAmb 15 10 17.2
comp=Z,14nm,1.0s
AAK **Ala-Archa** 50.25 298 P **P** 15 10 15.8 +0.1
SNR=9.3
KSH **Kashi** 50.26 293 P **P** 15 10 20.3 +4.6
KSH pP sP 15 10 33.3 -0.8
KSH sP pP 15 10 37.8 +9.1
KSH pmax pmax
comp=Z,12nm,0.8s
KSH LR LR
comp=Z,320nm,17.5s
KSH LR LR
comp=Z,410nm,16.1s
KSH LR LR
comp=Z,530nm,14.8s
HNR **Honiara** 50.26 156 LR LR 15 30 19.3
comp=Z,206nm,19.6s,baz=27,slow=34
M26K **Nabesna, AK** 50.35 36 P **P** 15 10 16.9 +0.9
baz=278
UCH **Uchtor** 50.37 297 P **P** 15 10 18.4 +1.4
SNR=7.3
SOEI **Soe** 50.39 203 P **P** 15 10 17.7 +0.9
SOEI IAmb IAmb 15 10 35.8
comp=Z,25nm,0.9s
MCARA **McCarthy VSAT** 50.49 37 P **P** 15 10 18.6 +1.7
baz=279
K27K **Chicken** 50.54 34 P **P** 15 10 19.3 +2.0
baz=278
EKS2 **Erkin-Say** 50.75 298 P **P** 15 10 19.4 0.0
SNR=9.0
L27K **Beaver Creek,** 50.79 35 P **P** 15 10 21.3 +2.0
L27K IAmb IAmb 15 10 37.8
comp=Z,15nm,1.0s
L27K **Beaver Creek,** 50.79 35 P **P** 15 10 20.8 +1.6
baz=279
BCAR **Beaver Creek A** 50.81 35 P **P** 15 10 21.4 +2.0
M27K **Edge Creek, AK** 50.87 36 P **P** 15 10 22.2 +2.2
M27K IAmb IAmb 15 10 38.5
comp=Z,16nm,1.1s
M27K **Edge Creek, AK** 50.87 36 P **P** 15 10 21.5 +1.5
baz=279
AML **Almayashu** 50.98 297 P **P** 15 10 22.2 +0.7
SNR=29
AML **Almayashu** 50.98 297 P **P** 15 10 22.4 +0.9
AML **Almayashu** 50.98 297 *i* P **P** 15 10 22.2 +0.7
SNR=29
PBA **Port Blair** 50.99 252 P **P** 15 10 22.2 +0.9
PBA IAmb IAmb 15 10 22.7
comp=Z,22nm,0.8s
PBA **Port Blair** 50.99 252 P **P** 15 10 22.6 +1.4
BATI **Baumata** 51.00 203 LR LR 15 29 31.6
comp=Z,178nm,21.6s,baz=263,slow=33
BVCY **Beaver Creek** 51.33 36 P **P** 15 10 24.9 +1.6
baz=280
DSRI **Dabo** 51.49 231 P **P** 15 10 27.6 +2.6
comp=Z,9.6nm,0.9s
YUK3 **Moose Creek** 51.63 36 P **P** 15 10 26.5 +0.7
baz=281
MTN **Manton Dam** 51.69 193 P **P** 15 10 27.0 +0.6
DAWY **Dawson** 51.70 33 P **P** 15 10 26.9 +0.7
baz=280
I29M **Ogilvie Camp,** 51.95 32 P **P** 15 10 29.6 +1.8
I29M IAmb IAmb 15 10 46.1
comp=Z,17nm,1.1s
I29M **Ogilvie Camp,** 51.95 32 P **P** 15 10 29.2 +1.3
baz=280,SNR=7.1
DZA **Taraz** 52.37 299 *eP* **P** 15 10 30.1 -1.2
DZA **Taraz** 52.37 299 *eP* **P** 15 10 30.1 -1.2
baz=299
YUK4 **Talbot Arm** 52.57 37 P **P** 15 10 34.7 +2.0
baz=283
PSI **Prapat** 52.63 239 LR LR 15 34 11.2
comp=Z,228nm,19.3s,baz=44,slow=37
YUK6 **Outpost Mounta** 52.79 37 P **P** 15 10 35.5 +1.1
baz=283
KK31 **Karatay Array** 52.85 300 P **P** 15 10 34.5 -0.4
KK31 pmax pmax
comp=Z,49nm,1.0s
KK31 **Karatay Array** 52.85 300 P **P** 15 10 34.5 -0.4
KKAR **Karatay Array** 52.85 300 P **P** 15 10 34.5 -0.4
KKAR pmax pmax
comp=Z,49nm,1.0s
KKAR **Karatay Array** 52.85 300 P **P** 15 10 34.5 -0.4
KKAR **Karatay Array** 52.85 300 P **P** 15 10 34.6 -0.3
KKAR IAmb IAmb 15 10 53.8
comp=Z,50nm,1.0s
BKNI **Bangkinang** 53.09 235 P **P** 15 10 37.0 +0.2
BKNI **Bangkinang** 53.09 235 P **P** 15 10 38.7 +1.8
comp=Z,93nm,0.9s
M30M **Minto, Yukon** 53.15 35 P **P** 15 10 38.4 +1.6
baz=283
HYT **Haines Junctio** 53.23 37 **P** 15 10 39.6 +2.1
HYT IAmb IAmb 15 11 02.4
comp=Z,30nm,1.3s
HYT **Haines Junctio** 53.23 37 P **P** 15 10 38.5 +1.0
baz=284
INK **Inuvik** 53.26 28 P **P** 15 10 38.8 +1.3

comp=Z,5.3nm,0.6s,baz=276,slow=5.7,SNR=13
INK LR LR 15 35 18.3

comp=Z,65nm,19.1s,baz=321,slow=38
INK Inuvik 53.26 28 P **P 15 10 38.6 +1.1**
INK pmax pmax

comp=Z,17nm,1.2s
INK Inuvik 53.26 28 P **P 15 10 38.6 +1.1**
INK IAmb IAmb 15 10 55.4

comp=Z,17nm,1.1s
INK Inuvik 53.26 28 P **P 15 10 38.3 +0.9**
baz=282,SNR=7.8

DRK Karamyk 53.27 295 P **P 15 10 38.3 -0.1**
IUG luzhnay 53.53 299 *e*P **P 15 10 38.6 -1.4**
IUG luzhnay 53.53 299 *e*P **P 15 10 38.6 -1.4**
baz=298

BTK Batken 53.75 296 P **P 15 10 41.2 -0.4**
BTK pmax pmax

comp=Z,43nm,1.2s
BTK Batken 53.75 296 P **P 15 10 41.2 -0.4**
N31M Braeburn, Yuko 53.87 36 P **P 15 10 43.2 +1.1**
baz=285

M31M Drury Creek, Y 54.33 35 P **P 15 10 46.0 +0.6**
M31M IAmb IAmb 15 11 09.0

comp=Z,20nm,1.4s
M31M Drury Creek, Y 54.33 35 P **P 15 10 46.4 +1.0**
baz=285

GAR Garm 54.52 295 P **P 15 10 46.8 -0.5**
SVE Sverdlovsk 54.54 318 *e*P **P 15 10 47.1 +0.1**
SVE pmax pmax

comp=Z,77nm,1.3s
NIL Nilore 54.58 288 P **P 15 10 48.1 +0.4**
NIL pmax pmax

comp=Z,74nm,0.8s
NIL Nilore 54.58 288 P **P 15 10 48.1 +0.4**
NIL Nilore 54.58 288 P **P 15 10 48.5 +0.8**
SKAG Skagway 54.63 38 P **P 15 10 48.0 +0.4**
baz=287

GSI Gunungsitoli 54.64 239 P **P 15 10 47.1 -1.2**
GSI Gunungsitoli 54.64 239 P **P 15 10 47.9 -0.4**
comp=Z,116nm,1.3s
FARO Faro, Yukon 54.79 35 P **P 15 10 49.4 +0.6**
baz=286

LEM Lembang 54.90 223 P **P 15 10 49.4 -0.8**
LEM pmax pmax

comp=Z,45nm,0.6s
KNRA Kununurra 54.91 195 P **P 15 10 50.0 -0.1**
A36M Sachs Harbour 55.12 22 P **P 15 10 52.0 +1.1**
A36M IAmb IAmb 15 11 09.9

comp=Z,16nm,0.9s
A36M Sachs Harbour 55.12 22 P **P 15 10 51.5 +0.6**
baz=286,SNR=6.1

CHGR Chuyangaron 55.49 295 P **P 15 10 53.6 -0.6**
CHGR Chuyangaron 55.49 295 P **P 15 10 53.6 -0.6**
MMPY Sheldon Lake, 55.61 34 P **P 15 10 56.2 +1.5**
baz=288

ARU Arti 55.75 318 LR LR 15 37 15.7
comp=Z,462nm,18.3s,baz=68,slow=39
ARU Arti 55.75 318*c i*P **P 15 10 55.4 -0.3**
ARU *PP **pP 15 11 09.3 +0.4**
ARU 15 11 50.1
ARU 15 12 56.3
ARU S **S 15 18 40.9 +2.1**
ARU SS **SS 15 22 25.1 +1.0**
ARU pmax pmax

comp=Z,51nm,1.1s
ARU MLR MLR

comp=Z,364nm,16.0s
ARU Arti 55.75 318 P **P 15 10 55.2 -0.5**
ARU Arti 55.75 318 P **P 15 10 55.7 -0.1**
C36M Paulatuk 56.30 25 P **P 15 11 00.2 +0.9**
C36M IAmb IAmb 15 11 01.9

comp=Z,15nm,0.9s
C36M Paulatuk 56.30 25 P **P 15 11 00.4 +1.0**
baz=289,SNR=7.6

CRAG Craig 57.03 43 P **P 15 11 06.4 +1.6**
baz=291

TGTN Hyland Airport 57.29 35 P **P 15 11 07.5 +0.9**
baz=291

KBL Kabul 57.33 290 P **P 15 11 06.5 -1.0**
KBL pmax pmax

comp=Z,65nm,1.0s
KBL Kabul 57.33 290 P **P 15 11 06.5 -1.0**
KBL Kabul 57.33 290 P **P 15 11 07.5 0.0**
SNR=18

AB31 Akbulak array 57.48 310 *e*P **P 15 11 06.7 -1.4**
ABKAR Akbulak array 57.48 310 P **P 15 11 06.7 -1.4**
ABKAR Akbulak array 57.48 310 P **P 15 11 07.4 -0.7**
ABKAR IAmb IAmb 15 11 26.7

comp=Z,40nm,1.1s
DLBC Dease Lake 57.56 39 LR LR 15 37 55.8
comp=Z,51nm,18.8s,baz=290,slow=38
FITZ Fitzroy Crossi 57.96 198 LR LR 15 34 40.3
comp=Z,56nm,21.8s,baz=338,slow=34
WB0 Warramunga Arr 58.02 188 P **P 15 11 11.7 -0.4**
CTA Charters Tower 58.06 175 LR LR 15 37 11.9
comp=Z,50nm,20.2s,baz=316,slow=37
AKTO Aktyubinsk 58.18 312 LR LR 15 37 25.8
comp=Z,209nm,18.5s,baz=69,slow=37
AKTO Aktyubinsk 58.18 312 P **P 15 11 11.4 -1.6**
WRAB Tennant Creek 58.19 188 P **P 15 11 12.9 -0.4**
WRAB pmax pmax

comp=Z,26nm,0.9s
WRAB Tennant Creek 58.19 188 P **P 15 11 12.9 -0.4**
WRAB Tennant Creek 58.19 188 P **P 15 11 13.7 +0.5**
WRAB pP **sP 15 11 29.5 -2.3**
WR0 Warramunga Arr 58.19 188 P **P 15 11 12.9 -0.4**
WB2 Warramunga Arr 58.19 188 P **P 15 11 13.4 +0.1**
WRA Warramunga Arr 58.20 188 P **P 15 11 13.4 +0.1**
comp=Z,8.0nm,0.4s,baz=4.5,slow=7.2,SNR=284
WRA LR LR 15 33 40.8

comp=Z,121nm,21.5s,baz=336,slow=33
WRA Warramunga Arr 58.20 188 *i* P **P 15 11 13.3 -0.1**
WRA pmax pmax

comp=Z,8.0nm,0.4s
WRA Warramunga Arr 58.20 188 P **P 15 11 13.0 -0.4**
SANVU Saraoutou 58.38 151 P **P 15 11 15.2 +0.5**
SANVU Saraoutou 58.38 151 P **P 15 11 16.6 +1.9**
SANVU X 15 11 22.2
SANVU pP **sP 15 11 33.0 -0.2**
HYBB Hyderabad (bro 58.56 268 *e*P **P 15 11 16.1 -0.1**
HYBB IVmB_BB 15 11 19.4

comp=Z,74nm,1.3s
HYBB *es*P **sP 15 11 33.9 -0.8**
HYBB *e*PP **PP 15 13 25.4 -0.5**
HYBB *e*ScS **ScS 15 21 01.7 -0.5**
ALE Alert 58.99 4 P **P 15 11 19.2 +1.0**
ALE pP **sP 15 11 38.1 +1.3**
EUNU Eureka 59.05 9 P **P 15 11 18.6 -0.2**
EUNU IAmb IAmb 15 11 20.4

comp=Z,11nm,0.7s
SPA0 Spitsbergen Ar 59.51 349 *e*P **P 15 11 21.8 -0.1**
SPITS Spitsbergen Ar 59.51 349 LR LR 15 38 54.9
comp=Z,165nm,20.7s,baz=251,slow=38
KIRV Kirov 59.56 323 LR LR 15 40 36.2
comp=Z,147nm,18.1s,baz=67,slow=40
KIRV Kirov 59.56 323 *i* P **P 15 11 21.8 -0.6**
NOR Nord 59.97 356 *i* P **P 15 11 24.6 -0.3**
NOR IAmb IAmb 15 14 31.6

comp=Z,1.9nm,0.7s
PRGR Permogore 60.02 327 *e*P **P 15 11 28.0 +2.5**
BBB Bella Bella 61.05 45 LR LR 15 36 07.1
comp=Z,31nm,21.2s,baz=292,slow=34
RES Resolute Bay 61.45 15 LR LR 15 40 04.4
comp=Z,48nm,21.6s,baz=283,slow=38
RES Resolute Bay 61.45 15 P **P 15 11 35.1 0.0**
RES pmax pmax

comp=Z,10.0nm,0.8s
RES Resolute Bay 61.45 15 P **P 15 11 35.1 0.0**
RES IAmb IAmb 15 11 36.7

comp=Z,10nm,0.8s
AS31 Alice Springs 61.92 188 P **P 15 11 38.9 +0.1**
ASAR Alice Springs 61.92 188 P **P 15 11 39.2 +0.4**
comp=Z,5.1nm,0.8s,baz=354,slow=4.2,SNR=163
ASAR LR LR 15 37 55.6

comp=Z,108nm,21.8s,baz=340,slow=35
ASAR Alice Springs 61.92 188 P **P 15 11 38.5 -0.4**
HRA Herat 62.37 293 P **P 15 11 41.6 -0.6**
MBWA Marble Bar 62.53 203 P **P 15 11 43.3 +0.4**
MBWA pP **pP 15 11 58.7 +2.5**
YKA Yellowknife Ar 62.70 31 P **P 15 11 44.6 +1.0**
comp=Z,3.0nm,0.9s,baz=296,slow=6.5,SNR=30
YKA Yellowknife Ar 62.70 31 *i* P **P 15 11 44.5 +0.9**
YKA pmax pmax

comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 62.70 31 P **P 15 11 44.0 +0.4**

HAMF Hammerfest 62.88 341 *e*P **P 15 11 44.7 0.0**
PALK Pallekele 62.92 257 LR LR 15 42 05.5
comp=Z,95nm,18.3s,baz=155,slow=39
KLMR Klimovskoe 63.00 328 *e*P **P 15 11 44.2 -1.4**
KLMR *e* 15 14 02.5
KLMR pmax pmax

comp=Z,22nm,1.1s
KLMR Klimovskoe 63.00 328 *e*P **P 15 11 44.3 -1.4**
KLMR AMP 15 11 46.6

comp=Z,22nm,1.1s
KLMR *e*PP **PP 15 14 02.5 -1.6**
ARA0 ARCESS Array S 63.08 339 *e*P **P 15 11 46.1 +0.1**
ARCES ARCESS Array B 63.08 339 P **P 15 11 46.0 -0.1**
comp=Z,4.0nm,0.5s,baz=54,slow=7.6,SNR=39
ARCES LR LR 15 41 43.9

comp=Z,136nm,21.9s,baz=42,slow=38
ARCES ARCESS Array B 63.08 339 P **P 15 11 46.0 -0.1**
ARCES pmax pmax

comp=Z,16nm,1.2s
ARCES ARCESS Array B 63.08 339 IAmb IAmb 15 12 09.5
comp=Z,16nm,1.1s
BELG Belogornoye 63.22 317 LR LR 15 41 08.8
comp=Z,229nm,18.6s,baz=342,slow=38
BELG Belogornoye 63.22 317 *i* P **P 15 11 46.9 -0.3**
BELG pmax pmax

comp=Z,9.0nm,1.0s
GEYT Alibeck 63.59 299 P **P 15 11 50.0 0.0**
comp=Z,4.9nm,0.8s,baz=157,slow=3.9,SNR=6.3
GEYT LR LR 15 40 47.2

comp=Z,203nm,21.8s,baz=82,slow=37
GEYT Alibeck 63.59 299 P **P 15 11 49.5 -0.5**
GEYT IAmb IAmb 15 12 09.5

comp=Z,21nm,1.1s
GYA0 ALIBECK ARRAY 63.59 299 P **P 15 11 49.0 -1.0**
GYA0 pmax pmax

comp=Z,21nm,1.1s
GYA0B ALIBECK ARRAY 63.59 299 P **P 15 11 49.0 -0.9**
GYA0B IAmb IAmb 15 12 09.5

comp=Z,21nm,1.1s
TULEG Thule 63.97 8 P **P 15 11 51.5 -0.3**
TULEG IAmb IAmb 15 11 53.0

comp=Z,23nm,1.0s
TULEG Thule 63.97 8 *i* P **P 15 11 51.3 -0.5**
TULEG IAmb IAmb 15 11 52.2

comp=Z,9.7nm,0.8s
KTK1 Kautokeino 64.04 339 *e*P **P 15 11 52.5 +0.1**
DZM Mont Dzumac 64.20 155 LR LR 15 37 53.5
comp=Z,212nm,20.7s,baz=7.0,slow=34
DZM Mont Dzumac 64.20 155 *e*LR LR 15 31 14.3
comp=Z,401nm,21.9s
JETT Jettan, Norway 64.44 341 *e*P **P 15 11 55.1 0.0**
DAG Danmarks Havn 64.70 355 *i* P **P 15 11 56.0 -0.6**
DAG IAmb IAmb 15 11 57.1

comp=Z,10.0nm,0.7s
TRO Tromso 64.78 341 *e*P **P 15 11 57.5 +0.3**
MSVF Nonsavu 65.16 142 LR LR 15 35 06.0
comp=Z,182nm,21.3s,baz=23,slow=31
LLLB Lillooet 65.24 44 **P 15 12 01.6 +1.1**
LLLB IAmb IAmb 15 12 22.4

comp=Z,14nm,1.0s
D03D Eldon 66.12 48 P **P 15 12 07.3 +1.0**
baz=301,SNR=5.3
B05A Bryant 66.32 47 P **P 15 12 09.1 +1.6**
baz=301
MOS Moscow 66.56 323 *e*P **P 15 12 08.0 -0.9**
MOS *i* 15 12 26.5
MOS pmax pmax

comp=Z,49nm,1.0s
E04D Cinebar 66.93 48 P **P 15 12 11.0 -0.4**
baz=302
STEI Steigen 66.93 341 *e*P **P 15 12 11.1 +0.1**
VRH Novokhopyorsk 66.98 318 *e*P **P 15 12 10.1 -1.5**
VRH *e*SP **pP 15 12 27.6 +2.5**
VRH pmax pmax

comp=Z,40nm,1.0s
DBG Daneborg 67.19 355 *i* P **P 15 12 12.4 -0.2**
DBG IAmb IAmb 15 12 32.4

comp=Z,2.3nm,0.7s
LOF Lofoten 67.22 341 *e*P **P 15 12 12.6 -0.3**
FAUS Fauske 67.32 340 *e*P **P 15 12 13.8 +0.3**
OBN Obninsk 67.41 323 LR LR 15 44 05.4
comp=Z,33nm,18.9s,baz=36,slow=38
OBN Obninsk 67.41 323 *d i*P **P 15 12 14.5 +0.3**
OBN *e*PP **pP 15 12 29.6 +1.9**
OBN pmax pmax

comp=Z,37nm,0.9s
OBN MLR MLR

comp=Z,122nm,16.0s
OBN Obninsk 67.41 323 P **P 15 12 13.2 -1.0**
LPSR Galich'ya Gora 67.66 320 *e*P **P 15 12 15.4 -0.5**
LPSR *e*SP **pP 15 12 32.1 +2.7**
LPSR pmax pmax

comp=Z,30nm,1.0s
LTY Liberty 67.67 47 P **P 15 12 17.0 +0.8**
B08A Colville Reser 67.83 45 P **P 15 12 17.7 +0.6**
B08A IAmb IAmb 15 12 34.2

comp=Z,18nm,1.2s
I03D Drain, OR 67.97 51 P **P 15 12 20.0 +2.0**
baz=302
FIA1 FINESS Array S 67.99 332 P **P 15 12 17.4 -0.4**
FINES FINESS Array B 67.99 332 P **P 15 12 18.2 +0.4**
comp=Z,19nm,0.8s,baz=54,slow=9.7,SNR=36
FINES LR LR 15 43 46.6

comp=Z,127nm,21.9s,baz=40,slow=37
MAK Makhachkala 68.03 308 *e*P **P 15 12 16.2 -2.2**
MAK *e*PP **pP 15 12 31.4 -0.5**
MAK *e*SP **sP 15 12 38.9 +1.6**
MAK *e* 15 14 46.9
MAK *e*S **S 15 21 11.6 -2.6**
MAK *e*SS **sS 15 21 38.3 +1.4**
MAK *e*SS **SS 15 25 30.1 -6.3**
MAK pmax pmax

comp=Z,95nm,0.5s
MAK MLR MLR

comp=Z,231nm,13.0s
VORR Voronezh 68.04 319 *e*P **P 15 12 18.9 +0.6**
VORR pmax pmax

comp=Z,80nm,0.5s
H04A Detroit Lake 68.15 50 **P 15 12 22.1 +2.9**
H04A IAmb IAmb 15 12 37.1

comp=Z,16nm,1.1s
EDM Edmonton 68.29 39 P **P 15 12 21.1 +1.2**
EDM pmax pmax

comp=Z,27nm,1.2s
EDM Edmonton 68.29 39 P **P 15 12 21.1 +1.2**
EDM IAmb IAmb 15 12 37.1

comp=Z,27nm,1.2s
K02D Willamette Mer 68.30 52 P **P 15 12 21.7 +1.5**
baz=302
VSR Storozhevoye 68.31 319 *e*P **P 15 12 19.4 -0.7**
VSR *e*SP **sP 15 12 37.7 -1.2**
VSR pmax pmax

comp=Z,30nm,0.8s
VORD Divnogorie 68.39 318 *e*P **P 15 12 20.4 -0.1**
VORD *e*SP **pP 15 12 36.5 +2.5**
VORD pmax pmax

comp=Z,20nm,0.9s
MOR8 Moi Rana 68.44 340 *e*P **P 15 12 19.5 -1.1**
STOK Stokkvaagen 68.70 340 *e*P **P 15 12 21.9 -0.3**
C09A Chrisman Ranch 68.73 45 P **P 15 12 23.8 +1.0**
C09A IAmb IAmb 15 12 40.4

comp=Z,29nm,1.2s
D08A Wollman Farm, 68.78 46 **P 15 12 24.6 +1.5**
GROC Groznyy 68.96 309 *e*P **P 15 12 23.2 -1.0**
GROC *e*PP **pP 15 12 39.9 +2.2**
GROC *e* 15 12 47.8
GROC pmax pmax

comp=Z,23nm,0.4s
J04D Umpqua Nationa 68.97 51 P **P 15 12 26.8 +2.2**
J04D IAmb IAmb 15 12 42.2

comp=Z,29nm,1.4s
NEW Newport 69.12 45 LR LR 15 40 16.2
comp=Z,27nm,22.0s,baz=307,slow=34
NEW Newport 69.12 45 P **P 15 12 25.3 +0.1**
NEW pmax pmax

comp=Z,18nm,1.2s
NEW Newport 69.12 45 P **P 15 12 25.3 +0.1**
NEW IAmb IAmb 15 12 42.2

comp=Z,18nm,1.1s
NEW Newport 69.12 45 P **P 15 12 26.4 +1.2**
baz=304
SEKA Sheki 69.16 306 P **P 15 12 25.1 -0.5**
ZKTA Zakatala 69.30 307 P **P 15 12 26.2 -0.2**
PINE Pine Mountain 69.38 50 P **P 15 12 28.6 +1.5**
YBH Yreka Blue Hor 69.42 53 P **P 15 12 28.7 +1.4**

YBH Yreka Blue Hor 69.42 53 P **P 15 12 28.6 +1.4**
YBH IAmb IAmb 15 12 45.6

comp=Z,14nm,1.2s
MNGR Mingechevir, A 69.47 306 P **P 15 12 27.6 +0.2**
J05D Fort Rock, OR 69.48 51 P **P 15 12 28.6 +0.9**
baz=304,SNR=5.6
LKRN Lenkeran, Azer 69.49 303 P **P 15 12 28.0 +0.4**
M02C Callahan 69.52 53 P **P 15 12 28.8 +1.0**
baz=303
K04D Chiloquin, OR 69.53 52 P **P 15 12 29.4 +1.5**
baz=304
STKA Stephens Creek 69.65 180 P **P 15 12 29.8 +1.4**
comp=Z,4.7nm,0.9s,baz=0.1,slow=9.3,SNR=5.9
STKA LR LR 15 41 02.8

comp=Z,68nm,21.9s,baz=23,slow=34
STKA Stephens Creek 69.65 180 P **P 15 12 29.6 +1.2**
STKA pmax pmax

comp=Z,2.0nm,1.2s
STKA Stephens Creek 69.65 180 P **P 15 12 29.6 +1.2**
VSU Vasula 69.67 329 *e*P **P 15 12 29.1 +0.8**
RAF Rauma 69.83 333 *e*P **P 15 12 30.1 +0.8**
K05A Summer Lake 70.00 51 P **P 15 12 32.2 +1.3**
K05A IAmb IAmb 15 12 50.0

comp=Z,30nm,1.1s
GANJ Ganja 70.03 306 P **P 15 12 31.1 +0.2**
I07A Izee 70.09 49 **P 15 12 32.5 +1.1**
O02D Mt. Diablo Mer 70.22 54 P **P 15 12 33.6 +1.4**
baz=304
ZEI Tsey 70.35 309 *e*P **P 15 12 31.5 -1.6**
ZEI pmax pmax

comp=Z,22nm,1.5s
NSS Namsos 70.36 339 *e*P **P 15 12 32.6 +0.1**
WALA Waterton Lakes 70.41 43 P **P 15 12 32.9 -0.3**
WALA IAmb IAmb 15 12 50.9

comp=Z,18nm,1.2s
KIV Kislovodsk 70.43 311 ⇓P **P 15 12 34.4 +1.0**
KIV Kislovodsk 70.43 311 *e*P **P 15 12 33.0 -0.4**
KIV pmax pmax

comp=Z,44nm,1.1s
KIV MLR MLR

comp=Z,146nm,18.0s
KIV Kislovodsk 70.43 311 P **P 15 12 33.3 -0.1**
KIV Kislovodsk 70.43 311 P **P 15 12 34.6 +1.2**
KIV Kislovodsk 70.43 311 *i* P **P 15 12 34.3 +0.9**
SNR=5.7
KIV Kislovodsk 70.43 311 P **P 15 12 34.4 +1.0**
KIV pP **pP 15 12 49.7 +2.8**
KBZ Khabaz 70.43 311 P **P 15 12 34.0 +0.7**
comp=Z,13nm,0.9s,baz=46,slow=2.9,SNR=26
KBZ LR LR 15 47 25.0

comp=Z,114nm,18.4s,baz=36,slow=39
KBZ Khabaz 70.43 311*c i*P **P 15 12 33.4 +0.2**
KBZ pmax pmax

comp=Z,24nm,1.0s
SHA1 Shidzhatmaz 70.57 311*d i*P **P 15 12 34.9 +0.5**
MTSE Matsula 70.65 331 *e*P **P 15 12 35.1 +0.8**
ONI Oni 70.73 309 P **P 15 12 36.1 +0.8**
ONI pmax pmax

comp=Z,47nm,1.3s
ONI Oni 70.73 309 P **P 15 12 36.1 +0.8**
MOD Modoc Plateau 70.82 52 **P 15 12 36.1 +0.1**
WSAR Wadi Sarin 70.89 285 LR LR 15 47 09.5
comp=Z,93nm,20.3s,baz=97,slow=39
WSAR Wadi Sarin 70.89 285 P **P 15 12 37.5 +1.0**
JLN Jalan Bani Buh 70.90 283 P **P 15 12 37.1 +0.6**
BMO Blue Mountains 70.95 48 P **P 15 12 37.0 +0.4**
BMO pmax pmax

comp=Z,8.0nm,1.2s
BMO Blue Mountains 70.95 48 P **P 15 12 37.0 +0.4**
JTMT Jette 70.98 44 P **P 15 12 38.5 +1.8**
JTMT IAmb IAmb 15 12 54.5

comp=Z,21nm,1.3s
WBK Wadi Bani Khal 70.98 284 P **P 15 12 37.7 +0.7**
SNR=6.8
AAL Aland 71.05 333 *e*P **P 15 12 36.8 +0.1**
SCO Scoresbysund 71.05 354 P **P 15 12 36.7 +0.1**
SCO pmax pmax

comp=Z,11nm,0.9s
SCO Scoresbysund 71.05 354 P **P 15 12 36.7 +0.1**
SCO IAmb IAmb 15 12 38.8

comp=Z,11nm,0.9s
SCO Scoresbysund 71.05 354 *i* P **P 15 12 37.4 +0.8**
SCO IAmb IAmb 15 12 38.1

comp=Z,4.7nm,0.8s
J08A Circle Bar Ran 71.11 49 P **P 15 12 38.9 +1.3**
J08A IAmb IAmb 15 12 55.2

comp=Z,24nm,1.4s
BIDO Bidbid 71.12 285 P **P 15 12 39.4 +1.6**
SNR=6.4
BANOM Banah 71.16 288 P **P 15 12 38.4 +0.3**
BANOM Banah 71.16 288 *i* P **P 15 12 38.4 +0.3**
SNR=8.4
SHME Shamm 71.21 289 P **P 15 12 38.6 +0.3**
SNR=6.0
SHME Shamm 71.21 289 *i* P **P 15 12 38.6 +0.3**
SNR=9.7
GNI Garni 71.31 307 LR LR 15 46 28.2
comp=Z,112nm,21.9s,baz=70,slow=38
GNI Garni 71.31 307 *i* P **P 15 12 39.4 +0.5**
GNI pmax pmax

comp=Z,21nm,1.3s
GNI Garni 71.31 307 P **P 15 12 39.3 +0.4**
NAX Nakhchivan 71.37 305 P **P 15 12 39.2 0.0**
AKH Akhalkalaki 71.38 308 ⇑P **P 15 12 40.5 +1.2**
ORV Oroville 71.39 54 P **P 15 12 40.0 +0.8**
ORV pmax pmax

comp=Z,20nm,1.5s
ORV Oroville 71.39 54 **P 15 12 40.0 +0.8**
ORV IAmb IAmb 15 12 55.9

comp=Z,20nm,1.4s
SMDO Samad 71.44 285 P **P 15 12 41.0 +1.1**
SNR=5.9
CHVG Ch'k'valeri 71.49 310 ⇑P **P 15 12 41.4 +1.7**
CHVG Ch'k'valeri 71.49 310 ⇑P **P 15 12 41.4 +1.7**
WVOR Wild Horse Val 71.54 50 P **P 15 12 41.8 +1.6**
WVOR pmax pmax

comp=Z,11nm,1.2s
WVOR Wild Horse Val 71.54 50 P **P 15 12 41.8 +1.6**
PLID Pearl Lake 71.57 47 **P 15 12 40.3 -0.2**
MASF Masafi 71.57 288 P **P 15 12 41.2 +0.6**
MSFE Esma-Masafi 71.58 288 P **P 15 12 40.0 -0.6**
HOQ Hoqain 71.70 286 P **P 15 12 42.0 +0.7**
SNR=6.3
MSO Missoula 71.71 45 **P 15 12 40.1 -1.0**
MSO Missoula 71.71 45 P **P 15 12 42.0 +0.9**
baz=307
IDID Didziasalis 71.73 327 *e*P **P 15 12 41.6 +0.7**
MNK Minsk 71.76 326 *i* P **P 15 12 42.8 +1.7**
MNK *i* *PP **PcP 15 12 59.3 -0.6**
MNK *i* 15 15 23.6
MNK *i* PPP PPP 15 16 57.8
MNK *i* S **S 15 21 59.3 +1.8**
MNK *i* SS **SS 15 26 40.8 +7.7**
MNK pmax pmax

comp=Z,48nm,1.3s
MNK pmax pmax

comp=E,4.0nm,0.9s
MNK pmax pmax

comp=N,30nm,0.8s
MNK MLR MLR

comp=E,55nm,24.0s
MNK MLR MLR

comp=N,242nm,26.0s
MNK MLR MLR

comp=Z,238nm,20.0s
MNK Minsk 71.76 326 *i* P **P 15 12 42.8 +1.7**
comp=E,4.0nm,0.9s
MNK *i* P **P 15 12 42.8 +1.7**

comp=N,30nm,0.8s
MNK *i* P **P 15 12 42.8 +1.7**

comp=Z,48nm,1.3s,baz=227
MNK *i* pP **PcP 15 12 59.3 -0.6**
MNK *i* PP **PP 15 15 23.6 +3.4**
MNK *i* PPP PPP 15 16 57.9
MNK *i* S **S 15 21 59.4 +1.8**
MNK *i* SS **SS 15 26 40.9 +7.7**
MNK *i* SSS SSS 15 30 01.1
MNK *i* LQ LQ 15 39 38.4
MNK *i* LR LR 15 43 11.4
MNK *i* LRM MLR 15 46 19.7

comp=E,55nm,24.2s
MNK *i* LRM MLR 15 46 28.6

comp=N,242nm,26.3s
MNK *i* LRM MLR 15 46 31.2

comp=Z,238nm,19.8s

UOSS Minazif 71.78 288 P **P** 15 12 41.0 -0.8
UOSS IAmb IAmb 15 13 01.0
comp=Z,30nm,0.9s
UOSS Minazif 71.78 288 P **P** 15 12 41.8 +0.1
UOSS Minazif 71.78 288 *i* P **P** 15 12 41.6 -0.1
SNR=11
UOSS Minazif 71.78 288 ⇑P **P** 15 12 41.7 -0.1
UOSS pP **PcP** 15 12 59.6 -0.9
JMDO Jabal Madar 71.78 284 P **P** 15 12 42.2 +0.4
SNR=5.0
HATD Hatta, Dubai 71.90 288 P **P** 15 12 43.0 +0.5
SNR=8.0
HATD Hatta, Dubai 71.90 288 *i* P **P** 15 12 43.0 +0.5
SNR=11
BEKR Beckworth 71.94 53 P **P** 15 12 42.6 -0.1
NACGM Naroch 71.98 327 *eP* **P** 15 12 40.9 -1.5
ASHO Ashiyiah 72.03 288 P **P** 15 12 44.2 +0.8
SNR=8.4
ASHO Ashiyiah 72.03 288 *i* P **P** 15 12 43.2 -0.2
SNR=11
KARS Kars 72.08 308 P **P** 15 12 41.2 -2.3
KARS pmax pmax
comp=Z,78nm,1.1s
KARS Kars 72.08 308 P **P** 15 12 41.2 -2.3
UPP Uppsala 72.10 334 *eP* **P** 15 12 43.6 +0.6
NAZ Nazwa, Dubai 72.16 288 P **P** 15 12 44.8 +0.8
BSY Bisya 72.26 285 P **P** 15 12 45.0 +0.3
SNR=8.0
FAQ Al Faqa, Dubai 72.35 288 P **P** 15 12 45.7 +0.5
FAQ Al Faqa, Dubai 72.35 288 P **P** 15 12 45.6 +0.5
SOC Sochi 72.40 312 *eP* **P** 15 12 44.8 -0.4
SOC *e* 15 15 24.0
SOC *e*PPP PPP 15 17 10.4
SOC *e*S **S** 15 22 05.3 0.0
SOC *e*SS **SS** 15 26 42.8 -0.7
SOC MLR MLR
comp=Z,103nm,21.0s
ARQ Araqi 72.44 286 P **P** 15 12 46.7 +0.9
SNR=6.9
MPK Martis Peak 72.47 54 P **P** 15 12 47.1 +1.1
MPK IAmb IAmb 15 13 04.1
comp=Z,23nm,1.1s
ASUD Al Ashush, Dub 72.61 288 P **P** 15 12 47.1 +0.4
ASUD Al Ashush, Dub 72.61 288 P **P** 15 12 46.8 +0.1
ALNE Al Ain 72.62 287 P **P** 15 12 47.1 +0.3
SNR=8.6
PAHR Pah Rah Range 72.65 53 P **P** 15 12 49.3 +2.4
MFID Camas Ranch 72.65 48 P **P** 15 12 47.7 +0.8
MHTO MHTO 72.67 283 P **P** 15 12 47.4 +0.4
SNR=7.5
PABE Paberze 72.77 328 P **P** 15 12 47.1 0.0
PABE Paberze 72.77 328 *eP* **P** 15 12 47.8 +0.7
FCC Fort Churchill 72.87 27 P **P** 15 12 47.7 +0.1
FCC pmax pmax
comp=Z,14nm,1.1s
FCC Fort Churchill 72.87 27 P **P** 15 12 47.7 +0.1
FCC IAmb IAmb 15 12 49.5
comp=Z,14nm,1.1s
HRY Holter Researc 72.94 44 P **P** 15 12 49.4 +1.0
CMB Columbia Colle 72.97 55 P **P** 15 12 50.6 +1.9
CMB pmax pmax
comp=Z,13nm,1.2s
CMB Columbia Colle 72.97 55 **P** 15 12 50.6 +1.9
ANN Anapa 73.00 314 *eP* **P** 15 12 46.7 -2.0
ANN *e**PP **pP** 15 13 02.4 +0.2
ANN pmax pmax
comp=Z,41nm,0.9s
ICESG Greenland Ices 73.08 1 *i* P **P** 15 12 49.4 +0.2
ICESG IAmb IAmb 15 12 50.6
comp=Z,8.3nm,0.6s
NC405 NORSAR Array S 73.08 337 P **P** 15 12 49.1 +0.1
NC303 NORSAR Array S 73.10 337 P **P** 15 12 49.2 +0.1
DOMB Dombas 73.14 339 *eP* **P** 15 12 49.6 +0.3
LRM Limekiln Ridge 73.14 45 P **P** 15 12 51.6 +1.8
YERR Yerington 73.16 54 P **P** 15 12 50.9 +0.9
YERR IAmb IAmb 15 13 07.4
comp=Z,24nm,1.3s
HFS Hagfors 73.22 336 P **P** 15 12 49.6 -0.1
comp=Z,7.0nm,0.7s,baz=1.8,slow=4.5,SNR=10
HFS LR LR 15 47 53.2
comp=Z,448nm,19.6s,baz=44,slow=38
EGMT Eagleton 73.23 42 P **P** 15 12 51.7 +1.5
EGMT IAmb IAmb 15 13 07.1
comp=Z,24nm,1.1s
EGMT Eagleton 73.23 42 P **P** 15 12 51.5 +1.3
baz=309
NC204 NORSAR Array S 73.25 338 P **P** 15 12 49.8 -0.2
NB201 NORSAR Array S 73.26 337 P **P** 15 12 50.5 +0.5
NB2 NORSAR Subarra 73.30 337 P **P** 15 12 50.2 0.0
comp=Z,17nm,0.7s,baz=38,slow=6.2
NB2 NORSAR Subarra 73.30 337 P **P** 15 12 50.2 0.0
baz=38,slow=6.2
NOA NORSAR Array B 73.30 337 P **P** 15 12 50.3 0.0
comp=Z,12nm,0.7s,baz=38,slow=5.9,SNR=47
NOA LR LR 15 47 36.0
comp=Z,257nm,21.6s,baz=40,slow=38
DLMT Dillon 73.34 45 P **P** 15 12 52.2 +1.3
DLMT IAmb IAmb 15 13 08.6
comp=Z,16nm,1.2s
HLID Hailey 73.39 47 P **P** 15 12 53.0 +1.7
HLID Hailey 73.39 47 P **P** 15 12 52.3 +1.0
baz=307
GEVA Gevas 73.43 306 P **P** 15 12 50.5 -1.0
GEVA IAmb IAmb 15 13 12.2
comp=Z,24nm,1.3s
VIKU Vikbolandet 73.43 333 *eP* **P** 15 12 51.5 +0.5
NC602 NORSAR Array S 73.43 337 P **P** 15 12 50.4 -0.5
NC602 IAmb IAmb 15 12 52.1
comp=Z,32nm,1.2s
NC602 NORSAR Array S 73.43 337 *eP* **P** 15 12 51.0 +0.1
NBO00 NORSAR Array S 73.43 337 P **P** 15 12 50.9 -0.1
NAO01 NORSAR Array S 73.55 337 P **P** 15 12 51.1 -0.5
NAO01 IAmb IAmb 15 13 14.0
comp=Z,47nm,1.4s
BMN Battle Mountai 73.57 51 P **P** 15 12 54.7 +2.3
BMN pmax pmax
comp=Z,10.0nm,1.0s
BMN Battle Mountai 73.57 51 P **P** 15 12 54.7 +2.3
AKASG Malin Array Be 73.62 322 P **P** 15 12 52.0 -0.3
comp=Z,6.5nm,0.4s,baz=47,slow=6.2,SNR=46
AKASG LR LR 15 48 45.9
comp=Z,95nm,19.1s,baz=16,slow=39
AKASG Malin Array Be 73.62 322 *i* P **P** 15 12 52.0 -0.3
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKBB Malin Array Si 73.62 322 P **P** 15 12 51.3 -1.0
AKBB pmax pmax
comp=Z,25nm,0.9s
AKBB Malin Array Si 73.62 322 P **P** 15 12 51.2 -1.0
AKBB IAmb IAmb 15 12 53.0
comp=Z,25nm,0.9s
BOZ Bozeman (W) 73.73 45 P **P** 15 12 54.5 +1.3
BOZ pmax pmax
comp=Z,14nm,1.2s
BOZ Bozeman (W) 73.73 45 P **P** 15 12 54.5 +1.3
BOZ Bozeman (W) 73.73 45 P **P** 15 12 53.9 +0.7
baz=308
UMZA Um Al Zommool 73.83 286 P **P** 15 12 53.8 -0.1
GURO Guroymak-BITLI 73.94 306 P **P** 15 12 55.2 +0.7
GURO IAmb IAmb 15 13 15.6
comp=Z,37nm,1.3s
LHV Little Huntoon 74.05 54 P **P** 15 12 57.8 +2.8
LHV IAmb IAmb 15 13 13.1
comp=Z,21nm,1.2s
NVAR Mina Array Bea 74.07 54 P **P** 15 12 57.0 +1.6
comp=Z,1.3nm,0.9s,baz=293,slow=7.7,SNR=7.2
NVAR LR LR 15 37 37.3
comp=Z,56nm,21.8s,baz=280,slow=29
NVAR Mina Array Bea 74.07 54 P **P** 15 12 56.3 +0.8
SUW Suwalki 74.13 327 *eP* **P** 15 12 55.4 +0.3
SUW *ep*P **sP** 15 13 13.1 -1.0
SUW Suwalki 74.13 327 P **P** 15 12 54.6 -0.6
SUW pmax pmax
comp=Z,45nm,1.1s
SUW Suwalki 74.13 327 P **P** 15 12 54.6 -0.6
SUW Suwalki 74.13 327 *eP* **P** 15 12 55.7 +0.5
NV11 Mina Array Sit 74.17 54 P **P** 15 12 57.3 +1.5
MZWR Madinat Zayed 74.19 288 P **P** 15 12 56.2 +0.2
JRN Qarnain Island 74.29 289 P **P** 15 12 55.4 -1.1
QLMT Earthquake Lak 74.31 45 P **P** 15 12 57.4 +0.7
YHL Hebgen Lake 74.44 45 P **P** 15 12 55.9 -1.6
SKAR Skarslia 74.45 338 *eP* **P** 15 12 58.1 +1.1
ELK Elko 74.60 50 LR LR 15 38 31.3
comp=Z,60nm,21.6s,baz=272,slow=30

HYA Hoyanger 74.66 339 *eP* **P** 15 12 58.3 +0.3
YHH Holmes Hill 74.66 45 P **P** 15 12 01.2 +2.3
YMR Madison River 74.67 45 P **P** 15 13 00.7 +1.9
YMR IAmb IAmb 15 13 16.5
comp=Z,16nm,1.3s
GCMT Greycliff 74.68 43 P **P** 15 12 58.5 -0.2
SFJD Kangerlussuaq 74.76 5 LR LR 15 46 46.3
comp=Z,84nm,21.3s,baz=347,slow=36
SIM Simferopol' 74.77 315 *eP* **P** 15 13 00.0 +1.0
SIM S S 15 22 51.0 +19
SIM pmax pmax
comp=Z,35nm,1.1s
SIM MLR MLR
comp=E,300nm,25.5s
YNR Norris Junctio 74.81 45 P **P** 15 13 01.9 +2.3
YNR IAmb IAmb 15 13 17.7
comp=Z,25nm,1.4s
KONO Kongsberg 74.89 337 ⇑P **P** 15 13 00.7 +1.3
KONO Kongsberg 74.89 337 *eP* **P** 15 12 59.8 +0.3
MZR Muzera 74.93 287 P **P** 15 13 01.1 +0.8
SNR=5.4
MZR Muzera 74.93 287 *i* P **P** 15 12 60.0 -0.3
SNR=7.7
TPH Tonopah 74.97 53 P **P** 15 13 01.4 +0.8
TPH pmax pmax
comp=Z,76nm,1.3s
TPH Tonopah 74.97 53 P **P** 15 13 01.4 +0.8
LKWY Lake 75.05 45 P **P** 15 13 01.4 +0.3
LKWY pmax pmax
comp=Z,18nm,1.3s
LKWY Lake 75.05 45 P **P** 15 13 01.4 +0.3
LKWY IAmb IAmb 15 13 20.0
comp=Z,18nm,1.2s
H17A Grant Village 75.06 45 P **P** 15 13 03.1 +2.0
H17A IAmb IAmb 15 13 20.2
comp=Z,24nm,1.1s
H17A Grant Village 75.06 45 P **P** 15 13 02.1 +1.0
baz=309
YMP Mirror Lake Pl 75.08 45 P **P** 15 13 03.2 +1.9
YMP IAmb IAmb 15 13 19.7
comp=Z,19nm,1.4s
MOOW Moose Ponds 75.38 46 P **P** 15 13 03.0 +0.1
MOOW IAmb IAmb 15 13 20.8
comp=Z,20nm,1.4s
CWC Cottonwood Cre 75.40 55 P **P** 15 13 04.3 +1.2
baz=307
TPAW Teton Pass 75.42 46 P **P** 15 13 05.3 +2.1
HVU Hansel Valley 75.43 48 P **P** 15 13 05.1 +2.0
HVU pmax pmax
comp=Z,15nm,1.2s
HVU Hansel Valley 75.43 48 P **P** 15 13 05.1 +2.0
HVU IAmb IAmb 15 13 20.2
comp=Z,15nm,1.2s
MARD Mardin 75.47 306 P **P** 15 13 02.9 -0.5
MARD IAmb IAmb 15 13 23.4
comp=Z,45nm,1.3s
BER Bergen 75.54 339 *eP* **P** 15 13 02.1 -1.0
REDW Red Top Meadow 75.56 46 P **P** 15 13 05.4 +1.5
ISA Isabella, Lake 75.60 56 P **P** 15 13 06.6 +2.5
baz=307
ARVC Arvin 75.69 57 P **P** 15 13 06.6 +2.1
baz=307
SORM Soroca 75.74 321 ⇓P **P** 15 13 04.2 -0.3
SORM Soroca 75.74 321 ⇓P **P** 15 13 04.2 -0.3
DGMT Dagmar 75.78 39 P **P** 15 13 05.7 +0.9
DGMT IAmb IAmb 15 13 21.6
comp=Z,28nm,1.2s
DGMT Dagmar 75.78 39 P **P** 15 13 06.2 +1.3
baz=312
AHID Auburn Hatcher 75.79 47 P **P** 15 13 06.2 +0.9
R11A Troy Canyon, C 75.83 52 P **P** 15 13 07.5 +1.9
R11A IAmb IAmb 15 13 23.0
comp=Z,20nm,1.4s
R11A Troy Canyon, C 75.83 52 P **P** 15 13 07.8 +2.3
baz=308
LAO LASA Array 75.93 41 P **P** 15 13 07.3 +1.5
LAO IAmb IAmb 15 13 23.2
comp=Z,34nm,1.2s
LAO LASA Array 75.93 41 P **P** 15 13 07.7 +1.9
baz=311
MPMC Manual Prospec 76.01 55 P **P** 15 13 08.0 +1.5
baz=307
S11A Rachel 76.16 53 P **P** 15 13 08.5 +1.2
S11A IAmb IAmb 15 13 24.3
comp=Z,16nm,1.0s
DIKM Dikmen 76.19 312 ⇓P **P** 15 13 09.2 +2.0
HWUT Hardware Ranch 76.25 48 P **P** 15 13 09.6 +1.8
HWUT IAmb IAmb 15 13 25.6
comp=Z,29nm,1.3s
TPNV Topopah Spring 76.27 54 P **P** 15 13 09.7 +1.7
TPNV pmax pmax
comp=Z,13nm,1.2s
TPNV Topopah Spring 76.27 54 P **P** 15 13 09.7 +1.7
TPNV IAmb IAmb 15 13 24.6
comp=Z,13nm,1.1s
TPNV Topopah Spring 76.27 54 P **P** 15 13 09.4 +1.5
baz=308
DUG Dugway, Tooele 76.39 49 P **P** 15 13 10.1 +1.4
DUG pmax pmax
comp=Z,11nm,1.0s
DUG Dugway, Tooele 76.39 49 **P** 15 13 10.1 +1.4
DUG IAmb IAmb 15 13 26.8
comp=Z,11nm,0.9s
DUG Dugway, Tooele 76.39 49 P **P** 15 13 10.9 +2.3
baz=309
GWY Greenwater Val 76.46 55 P **P** 15 13 10.1 +1.0
QSM Queen of Sheba 76.46 55 P **P** 15 13 10.4 +1.5
QSM IAmb IAmb 15 13 26.1
comp=Z,27nm,1.4s
BORG Borgarnes 76.60 353 LR LR 15 48 23.0
comp=Z,33nm,20.7s,baz=355,slow=37
BW06 Boulder Array 76.67 46 P **P** 15 13 11.1 +0.9
BW06 Boulder Array 76.67 46 P **P** 15 13 11.4 +1.2
baz=310
PD31 Pinedale Array 76.67 46 P **P** 15 13 11.3 +1.0
PDAR Pinedale Array 76.67 46 P **P** 15 13 11.8 +1.5
comp=Z,1.7nm,0.6s,baz=268,slow=2.3,SNR=21
PDAR LR LR 15 45 06.9
comp=Z,25nm,21.3s,baz=318,slow=34
PDAR Pinedale Array 76.67 46 P **P** 15 13 11.3 +1.0
LVV L'vov 76.68 324 *eP* **P** 15 13 10.8 +0.9
BEL Belsk 76.70 327 *eP* **P** 15 13 11.5 +1.6
BEL *ep*P **sP** 15 13 27.1 -1.8
PRN Pahroc Range 76.74 53 P **P** 15 13 12.2 +1.6
PRN IAmb IAmb 15 13 30.9
comp=Z,21nm,1.5s
PSUT Pine Spring 76.79 51 P **P** 15 13 11.7 +0.6
PSUT IAmb IAmb 15 13 27.8
comp=Z,14nm,1.2s
DMTO DMTO 76.88 282 P **P** 15 13 10.8 -0.7
JLU Jordanelle 76.95 48 P **P** 15 13 12.1 +0.2
DOK Doka 76.98 283 P **P** 15 13 11.8 -0.3
SHPR Sheep Range 77.23 54 P **P** 15 13 15.5 +2.1
VLDR Vladesti 77.42 319 ⇑P **P** 15 13 15.0 +1.0
KWP Kalwaria Pacla 77.42 324 *eP* **P** 15 13 15.4 +1.3
KWP *ep*P **sP** 15 13 32.3 -0.8
KWP Kalwaria Pacla 77.42 324 P **P** 15 13 14.4 +0.4
KWP Kalwaria Pacla 77.42 324 P **P** 15 13 14.4 +0.4
ILGA Ilgaz 77.46 313 P **P** 15 13 16.1 +1.4
RBK Rabkut 77.57 282 P **P** 15 13 15.2 -0.2
BNN Bunyan 77.60 310 P **P** 15 13 15.9 +0.5
BUR08 Bucovina Ar. S 77.63 322 P **P** 15 13 14.1 -1.3
BUR08 IAmb IAmb 15 13 17.0
comp=Z,8.8nm,0.8s
BURAR Bucovina Array 77.65 322 ⇑P **P** 15 13 15.4 0.0
BURAR Bucovina Array 77.65 322 ⇑P **P** 15 13 15.4 0.0
BURAR Bucovina Array 77.65 322 P **P** 15 13 15.3 -0.2
BURAR IAmb IAmb 15 13 17.4
comp=Z,13nm,0.9s
WHFO Wadi Hawf 77.66 283 P **P** 15 13 14.7 -1.2
TESR Tescani 77.69 320 ⇓P **P** 15 13 16.0 +0.4
CCUT Cedar City 77.71 52 P **P** 15 13 18.1 +2.0
IZVR Izvoarele 77.78 319 ⇑P **P** 15 13 12.6 -3.5
MSU Marysvale 77.83 50 P **P** 15 13 18.7 +1.8
MSU Marysvale 77.83 50 P **P** 15 13 18.7 +1.8
CFR Carcaliu 77.83 319 ⇑P **P** 15 13 16.8 +0.4
CFR Carcaliu 77.83 319 ⇑P **P** 15 13 16.8 +0.4
TPGR Topolog 77.90 318 ⇑P **P** 15 13 18.0 +1.2
TMUT Trail Mountain 77.92 49 P **P** 15 13 19.2 +1.7
RDMU Red Mountain 78.07 48 P **P** 15 13 20.2 +2.1
RDMU IAmb IAmb 15 13 36.2
comp=Z,25nm,1.0s
P17A Butcher Ranch, 78.09 49 P **P** 15 13 19.4 +1.2
P17A IAmb IAmb 15 13 36.4

comp=Z,14nm,1.0s
VRI Vrincioaia 78.09 320 ⇑P **P** 15 13 20.1 +2.2
VRI Vrincioaia 78.09 320 ⇑P **P** 15 13 20.1 +2.2
KOLS Kolonicke sedl 78.12 324 *eP* **P** 15 13 19.0 +1.0
KOLS pmax pmax
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 78.12 324 *eP* **P** 15 13 19.0 +1.0
LCMT Little Creek M 78.12 52 P **P** 15 13 20.0 +1.7
LCMT IAmb IAmb 15 13 36.2
comp=Z,24nm,1.5s
MTPU Mount Pierson 78.12 51 P **P** 15 13 20.5 +1.8
PLOR Plostina 78.14 320 ⇑P **P** 15 13 19.6 +1.4
PLOR Plostina 78.14 320 ⇑P **P** 15 13 19.6 +1.4
PFO Pinyon Flats O 78.16 57 LR LR 15 39 27.5
comp=Z,136nm,20.9s,baz=268,slow=29
TPFO Pinon Flats 78.17 57 P **P** 15 13 20.6 +1.9
baz=308
TIRR Tirgusor 78.17 318 ⇑P **P** 15 13 19.4 +1.1
TIRR Tirgusor 78.17 318 ⇑P **P** 15 13 19.4 +1.1
Q16A Castle Valley 78.18 50 P **P** 15 13 20.4 +1.6
Q16A IAmb IAmb 15 13 36.5
comp=Z,19nm,1.3s
P18A Preston Nutter 78.28 49 P **P** 15 13 21.1 +1.7
P18A IAmb IAmb 15 13 37.0
comp=Z,15nm,1.1s
OJC Ojcow 78.30 326 *eP* **P** 15 13 20.0 +1.1
OJC *ep*P **pP** 15 13 33.7 +1.0
OJC Ojcow 78.30 326 P **P** 15 13 19.0 0.0
OJC pmax pmax
comp=Z,32nm,1.0s
OJC Ojcow 78.30 326 P **P** 15 13 18.9 0.0
TLBR Topalu 78.31 318 ⇑P **P** 15 13 19.8 +0.8
UZH Uzhgorod 78.33 324 *eP* **P** 15 13 20.3 +1.2
UZH *e* 15 13 35.3
ABTO Aybut 78.36 283 P **P** 15 13 19.3 -0.5
BR131 Keskin Array S 78.36 312 P **P** 15 13 18.3 -1.3
BR131 pmax pmax
comp=Z,14nm,1.0s
BR131 Keskin Array S 78.36 312 P **P** 15 13 18.3 -1.3
BR131 IAmb IAmb 15 13 21.6
comp=Z,14nm,1.0s
BR131 Keskin Array S 78.36 312 P **P** 15 13 19.8 +0.1
BRTR Keskin Array B 78.36 312 P **P** 15 13 19.4 -0.2
comp=Z,4.6nm,0.9s,baz=79,slow=6.4,SNR=14
BRTR LR LR 15 52 48.1
comp=Z,68nm,20.0s,baz=60,slow=39
BRTR Keskin Array B 78.36 312 *i* P **P** 15 13 20.2 +0.6
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 78.36 312 P **P** 15 13 19.2 -0.5
COVR Voineasa-Covas 78.38 320 ⇑P **P** 15 13 20.9 +1.5
ULM Lac du Bonnet 78.41 34 P **P** 15 13 20.1 +0.5
comp=Z,1.6nm,0.4s,baz=327,slow=5.4,SNR=3.6
ULM Lac du Bonnet 78.41 34 P **P** 15 13 19.8 +0.3
ULM pmax pmax
comp=Z,17nm,1.3s
ULM Lac du Bonnet 78.41 34 P **P** 15 13 19.8 +0.3
ULM IAmb IAmb 15 13 41.9
comp=Z,17nm,1.3s
K22A Casper 78.44 44 P **P** 15 13 21.7 +1.6
K22A IAmb IAmb 15 13 37.7
comp=Z,25nm,1.4s
SRU San Rafael Swe 78.45 49 P **P** 15 13 21.5 +1.3
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael Swe 78.45 49 P **P** 15 13 21.5 +1.3
SRU IAmb IAmb 15 13 36.8
comp=Z,10nm,0.9s
CRVS Cervenica-Dubn 78.51 324 *eP* **P** 15 13 21.5 +1.4
CRVS Cervenica-Dubn 78.51 324 *eP* **P** 15 13 21.5 +1.4
NIE Niedzica 78.67 325 *eP* **P** 15 13 23.1 +2.1
IRM Iron Mountain 78.69 55 P **P** 15 13 23.1 +1.7
baz=309
ISR Istrita 78.70 319 ⇑P **P** 15 13 23.3 +2.0
ISR Istrita 78.70 319 ⇑P **P** 15 13 23.3 +2.0
DOPR Dopca 78.70 320 ⇑P **P** 15 13 23.4 +2.1
ICOR Ion Corvin 78.73 318 ⇓P **P** 15 13 22.4 +1.1
MLR Muntele Rosu 78.75 320 ⇑P **P** 15 13 23.0 +1.3
MLR Muntele Rosu 78.75 320 LR LR 15 50 46.9
comp=Z,252nm,20.1s,baz=47,slow=38
MLR Muntele Rosu 78.75 320 P **P** 15 13 21.7 0.0
MLR pmax pmax
comp=Z,30nm,1.4s
MLR Muntele Rosu 78.75 320 P **P** 15 13 21.6 0.0
MLR IAmb IAmb 15 13 46.5
comp=Z,30nm,1.4s
ANTO Ankara 78.77 312 P **P** 15 13 21.4 -0.4
ANTO pmax pmax
comp=Z,15nm,0.8s
ANTO Ankara 78.77 312 P **P** 15 13 21.4 -0.4
ANTO IAmb IAmb 15 13 23.4
comp=Z,15nm,0.8s
RSSD Black Hills 78.80 42 P **P** 15 13 22.0 -0.1
RSSD pmax pmax
comp=Z,5.0nm,0.9s
RSSD Black Hills 78.80 42 P **P** 15 13 21.9 -0.1
BC3 Big Chuckawall 78.80 56 P **P** 15 13 23.7 +1.6
baz=309
U15A North Rim 79.08 52 P **P** 15 13 25.3 +1.5
U15A IAmb IAmb 15 13 41.8
comp=Z,23nm,1.5s
O20A White River Ci 79.13 47 P **P** 15 13 25.2 +1.3
O20A White River Ci 79.13 47 P **P** 15 13 25.0 +1.1
baz=311
LANS Liptovska Anna 79.23 326 *eP* **P** 15 13 25.7 +1.6
LANS pmax pmax
comp=Z,10.0nm,1.4s
LANS Liptovska Anna 79.23 326 *eP* **P** 15 13 25.7 +1.6
VOIR 79.24 320 ⇓P **P** 15 13 25.4 +1.1
VOIR 79.24 320 ⇓P **P** 15 13 25.4 +1.1
KECS Kecovo 79.26 325 *eP* **P** 15 13 25.7 +1.5
KECS Kecovo 79.26 325 *eP* **P** 15 13 25.7 +1.5
MDUB Mudurnu 79.30 313 P **P** 15 13 24.9 +0.2
KSP Ksiaz 79.33 328 *eP* **P** 15 13 25.8 +1.3
KSP *ep*P **sP** 15 13 41.4 -2.2
DRGR 79.44 322 ⇑P **P** 15 13 26.6 +1.3
DRGR 79.44 322 ⇑P **P** 15 13 26.6 +1.3
ARR Arges 79.50 320 ⇓P **P** 15 13 28.0 +2.3
OSTC Ostas 79.58 328 *eP* **P** 15 13 27.0 +1.0
MORC Moravsky Berou 79.61 327 ⇑P **P** 15 13 27.4 +1.2
MORC Moravsky Berou 79.61 327 P **P** 15 13 26.4 +0.2
MORC pmax pmax
comp=Z,19nm,1.0s
MORC Moravsky Berou 79.61 327 P **P** 15 13 26.4 +0.2
MORC IAmb IAmb 15 13 28.0
comp=Z,19nm,1.0s
MORC Moravsky Berou 79.61 327 *eP* **P** 15 13 27.1 +0.9
CHVC Chvalec 79.63 328 *eP* **P** 15 13 27.1 +0.9
DPC Dobruska-Polom 79.69 328 *eP* **P** 15 13 27.5 +0.9
DPC Dobruska-Polom 79.69 328 *eP* **P** 15 13 27.5 +0.9
KRLC Kraliky 79.71 328 *eP* **P** 15 13 26.9 +0.2
KRLC Kraliky 79.71 328 *eP* **P** 15 13 26.9 +0.2
PV23 Carpenter Ridg 79.78 49 P **P** 15 13 29.0 +1.5
PV23 IAmb IAmb 15 13 45.6
comp=Z,21nm,1.1s
PV10 Paradox Valley 79.81 49 P **P** 15 13 29.0 +1.3
PV10 IAmb IAmb 15 13 45.5
comp=Z,36nm,1.2s
AGMN Agassiz Nation 79.85 35 P **P** 15 13 28.4 +0.9
baz=318
N23A Red Feather La 79.93 45 P **P** 15 13 29.2 +0.8
N23A IAmb IAmb 15 13 46.7
comp=Z,13nm,1.0s
N23A Red Feather La 79.93 45 P **P** 15 13 28.9 +0.5
baz=312
PSZ Piszkesteto 79.95 325 ⇑P **P** 15 13 28.5 +0.4
PSZ Piszkesteto 79.95 325 P **P** 15 13 28.6 +0.6
PSZ pmax pmax
comp=Z,25nm,1.1s
PSZ Piszkesteto 79.95 325 P **P** 15 13 28.6 +0.6
PSZ IAmb IAmb 15 13 30.0
comp=Z,25nm,1.1s
VYHS Vyhne 80.00 325 *eP* **P** 15 13 29.4 +1.1
VYHS pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 80.00 325 *eP* **P** 15 13 29.4 +1.1
PV13 Radium Mtn., P 80.08 49 P **P** 15 13 30.6 +1.4
PV13 IAmb IAmb 15 13 47.3
comp=Z,18nm,1.1s
Y14A Wickenburg 80.21 55 P **P** 15 13 30.8 +1.1
WUAZ Wupatki 80.23 52 P **P** 15 13 31.4 +1.5
WUAZ IAmb IAmb 15 13 47.6
comp=Z,14nm,1.1s
WUAZ Wupatki 80.23 52 P **P** 15 13 30.5 +0.6

baz=310
JAVC Velka Javorina 80.24 326 *e*P **P** **15 13 31.4 +1.8**
BRG Berggiesshubel 80.27 330 *i* P **P** **15 13 30.5 +0.9**
BRG Amp 15 13 31.2
comp=Z,14nm,1.0s
BRG *ex* x 15 13 49.2
BRG Amp 15 13 50.7
comp=Z,8.5nm,0.9s
BRG Amp 15 51 55.0
comp=Z,0.3nm,18.9s
BRG Amp 15 51 59.0
comp=E,0.2nm,19.3s
BRG Amp 15 51 59.0
comp=N,0.3nm,19.6s
BRG Berggiesshubel 80.27 330 *i* P **P** **15 13 30.5 +0.9**
BRG *e* 15 13 49.2
BRG pmax pmax
comp=Z,14nm,1.0s
BRG MLR MLR
comp=Z,340nm,18.9s
BRG MLR MLR
comp=E,150nm,19.3s
BRG MLR MLR
comp=N,280nm,19.6s
PVCC Panska Ves 80.28 329 *e*P **P** **15 13 30.8 +1.1**
PVCC Panska Ves 80.28 329 *e*P **P** **15 13 30.8 +1.1**
CLL Collm 80.30 330 *i* P **P** **15 13 29.5 -0.3**
CLL *i* *PP **pP** **15 13 45.8 +2.3**
CLL pmax pmax
comp=Z,24nm,0.9s
CLL Collm 80.30 330 P **P** **15 13 29.2 -0.6**
CLL IAmb IAmb 15 13 31.0
comp=Z,18nm,0.8s
CLL Collm 80.30 330 *i* P **P** **15 13 29.5 -0.3**
comp=Z,24nm,0.9s
CLL *i* (PcP) **PcP** **15 13 34.2 -2.6**
CLL *i* pP **pP** **15 13 45.8 +2.3**
comp=Z,12nm,0.9s
CLL *i* sP **sP** **15 13 49.5 +0.7**
CLL *e*PP **PP** **15 16 37.0 +4.8**
SIRR Siria 80.32 323 ⇑P **P** **15 13 31.5 +1.4**
VRAC Vranov 80.37 327 ⇑P **P** **15 13 32.1 +1.9**
VRAC Vranov 80.37 327 P **P** **15 13 29.2 -1.1**
comp=Z,13nm,0.9s,baz=51,slow=6.8,SNR=6.5
VRAC LR LR 15 53 10.4
comp=Z,170nm,18.0s,baz=34,slow=39
VRAC Vranov 80.37 327 *e*P **P** **15 13 31.4 +1.2**
GZR Gura Zlata 80.41 321 ⇓P **P** **15 13 30.9 +0.3**
GZR Gura Zlata 80.41 321 ⇓P **P** **15 13 30.9 +0.3**
SMOL Smolenice 80.61 326 *e*P **P** **15 13 33.1 +1.6**
SMOL Smolenice 80.61 326 *e*P **P** **15 13 33.1 +1.6**
KRUC Moravsky 80.64 327 *e*P **P** **15 13 32.7 +1.0**
PRU Pruhonice 80.71 329 *e*P **P** **15 13 33.1 +1.1**
PRU Pruhonice 80.71 329 *e*P **P** **15 13 33.1 +1.1**
SRO Srobarova 80.74 325 *e*P **P** **15 13 33.5 +1.3**
SRO Srobarova 80.74 325 *e*P **P** **15 13 33.5 +1.3**
MODS Modra-Piesok 80.78 326 *e*P **P** **15 13 33.9 +1.4**
MODS pmax pmax
comp=Z,34nm,1.2s
MODS Modra-Piesok 80.78 326 *e*P **P** **15 13 33.9 +1.4**
BZS Buzias 80.81 322 ⇑P **P** **15 13 33.6 +1.0**
BZS Buzias 80.81 322 ⇑P **P** **15 13 33.6 +1.0**
ISCO Idaho Springs 80.86 46 P **P** **15 13 34.1 +0.7**
ISCO pmax pmax
comp=Z,9.0nm,1.2s
ISCO Idaho Springs 80.86 46 **P** **15 13 34.1 +0.7**
ISCO Idaho Springs 80.86 46 P **P** **15 13 34.7 +1.3**
baz=313
MVCO Mesa Verde 80.89 50 P **P** **15 13 33.7 +0.1**
MVCO IAmb IAmb 15 13 51.1
comp=Z,23nm,1.5s
MVCO Mesa Verde 80.89 50 P **P** **15 13 34.6 +1.0**
baz=312
X16A Lo Mia Camp, P 80.90 53 P **P** **15 13 35.7 +2.1**
SOCY Socotra 80.90 278 P **P** **15 13 32.0 -1.6**
SOCY Socotra 80.90 278 P **P** **15 13 32.1 -1.6**
HERR Herculane 80.95 321 ⇑P **P** **15 13 33.3 -0.1**
NKC Novy Kostel 81.36 330 *e*P **P** **15 13 36.4 +0.9**
NKC Novy Kostel 81.36 330 *e*P **P** **15 13 36.4 +0.9**
MDVR Moldovita 81.37 321 ⇑P **P** **15 13 36.1 +0.4**
W18A Petrified Fore 81.51 52 P **P** **15 13 37.4 +0.6**
baz=311
S22A 4UR Ranch, Cre 81.53 48 P **P** **15 13 39.0 +2.0**
S22A 4UR Ranch, Cre 81.53 48 P **P** **15 13 38.0 +1.0**
baz=312
MMAI Mount Meron Ar 81.59 305 LR LR 15 52 47.7
comp=Z,140nm,20.8s,baz=221,slow=38
214A Organ Pipe Nat 81.59 56 P **P** **15 13 38.5 +1.4**
baz=310
Q24A Divide 81.69 46 P **P** **15 13 38.3 +0.5**
baz=313
CKRC Cesky Krumlov 81.71 328 *e*P **P** **15 13 38.2 +0.8**
RONA Rosalia, Austr 81.72 326 *i* P **P** **15 13 39.1 +1.6**
comp=Z,16nm,0.9s,SNR=6.1
CONA Conrad Observa 81.74 327 *i* P **P** **15 13 37.7 +0.1**
comp=Z,15nm,1.0s,SNR=8.5
KHC Kasperske Hory 81.77 329 P **P** **15 13 38.1 +0.4**
KHC pmax pmax
comp=Z,19nm,1.0s
KHC Kasperske Hory 81.77 329 P **P** **15 13 38.1 +0.4**
KHC IAmb IAmb 15 13 39.5
comp=Z,19nm,1.0s
KHC Kasperske Hory 81.77 329 *e*P **P** **15 13 38.4 +0.7**
KHC *e*pP **pP** **15 13 53.5 +2.0**
MORH Mrgy, Hungar 81.78 324 ⇑P **P** **15 13 38.3 +0.6**
GEC2 GERESS Array S 81.94 328 P **P** **15 13 39.0 +0.3**
GERES GERESS Array B 81.94 328 P **P** **15 13 38.4 -0.3**
comp=Z,2.7nm,0.5s,baz=46,slow=5.8,SNR=25
GERES LR LR 15 52 41.5
comp=Z,168nm,21.4s,baz=51,slow=38
GERES GERESS Array B 81.94 328 P **P** **15 13 38.6 -0.1**
GERES GERESS Array B 81.94 328 P **P** **15 13 38.6 -0.1**
FRGS Fruska Gora 82.02 323 ⇑P **P** **15 13 39.5 +0.4**
OGNE Ogallala 82.06 43 P **P** **15 13 41.0 +1.6**
baz=315
VTS Vitosha 82.16 319 ⇓P **P** **15 13 40.2 +0.2**
VTS Vitosha 82.16 319 P **P** **15 13 39.8 -0.2**
VTS pmax pmax
comp=Z,12nm,0.8s
VTS Vitosha 82.16 319 P **P** **15 13 39.8 -0.2**
VTS IAmb IAmb 15 13 42.0
comp=Z,12nm,0.8s
EKA Eskdalemuir Ar 82.20 341 LR LR 15 53 30.2
comp=Z,129nm,20.4s,baz=360,slow=38
BOVS Bovan 82.20 321 ⇑P **P** **15 13 39.3 -0.7**
GRA1 Grafenberg Arr 82.28 330 P **P** **15 13 40.7 +0.4**
GRF Grafenberg Arr 82.28 330 P **P** **15 13 40.7 +0.4**
GRF pmax pmax
comp=Z,32nm,1.0s
GRFO Grafenberg 82.28 330 P **P** **15 13 41.6 +1.3**
GRFO pmax pmax
comp=Z,28nm,0.9s
GRFO Grafenberg 82.28 330 P **P** **15 13 41.6 +1.3**
SDCO Great Sand Dun 82.31 48 P **P** **15 13 41.6 +0.5**
baz=313
ARSA Arzberg 82.40 326 *e*P **P** **15 13 42.1 +1.0**
comp=Z,15nm,1.4s
MOA Molln 82.48 327 *e*P **P** **15 13 42.5 +1.1**
comp=Z,8.1nm,1.2s
ELL Elmali 82.53 311 P **P** **15 13 42.5 +0.5**
ELL pmax pmax
comp=Z,51nm,0.9s
ELL Elmali 82.53 311 P **P** **15 13 42.5 +0.5**
URZ Urewera 82.68 153 LR LR 15 44 58.4
comp=Z,124nm,19.5s,baz=31,slow=32
DIVS Divibare 82.71 322 P **P** **15 13 42.5 -0.3**
DIVS IAmb IAmb 15 13 44.0
comp=Z,12nm,1.1s
ECSD EROS Data Cent 82.86 38 P **P** **15 13 44.2 +0.8**
ECSD EROS Data Cent 82.86 38 P **P** **15 13 44.2 +0.8**
baz=318
BIOA Bad Ischl, Aus 82.87 328 *e*P **P** **15 13 44.2 +0.7**
comp=Z,11nm,0.7s
PERS Pernice 83.05 326 *i* P **P** **15 13 44.7 +0.2**
SOKA Soboth 83.06 326 *i* P **P** **15 13 45.5 +0.9**
comp=Z,27nm,1.2s,SNR=7.0
T25A Trinidad 83.36 47 **P** **15 13 47.5 +1.1**
T25A Trinidad 83.36 47 P **P** **15 13 47.6 +1.2**
baz=314
OBKA Obir 83.40 326 *e*P **P** **15 13 46.8 +0.5**
comp=Z,8.5nm,0.9s
GCIS Gornji Cirnik 83.42 325 *i* P **P** **15 13 46.2 -0.1**
BTNL Ternell 83.45 333 *d*P **P** **15 13 47.0 +0.6**
comp=Z,11nm,1.0s
MEM Membach 83.47 333 *d*P **P** **15 13 45.8 -0.7**
MEM *dx* x 15 13 47.4
KBA Koelnbreinsper 83.47 327 *i* P **P** **15 13 47.0 +0.2**
comp=Z,8.7nm,0.7s,SNR=6.4
ANMO Albuquerque 83.64 50 LR LR 15 44 17.0
comp=Z,66nm,21.8s,baz=303,slow=31
ANMO Albuquerque 83.64 50 P **P** **15 13 49.7 +1.8**
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO Albuquerque 83.64 50 P **P** **15 13 49.6 +1.8**
ANMO Albuquerque 83.64 50 P **P** **15 13 49.2 +1.4**
baz=313
BSTI Sart Tilman 83.65 334 *d*P **P** **15 13 48.4 +1.0**
BHOU Houvegnez 83.68 333 *d*P **P** **15 13 47.9 +0.3**
MYKA Terra Mystica 83.70 327 *e*P **P** **15 13 47.7 -0.2**
comp=Z,8.9nm,0.5s
BCLA Clavier 83.88 334 *d*P **P** **15 13 49.2 +0.7**
BGES Gesves 83.98 334 *d*P **P** **15 13 48.9 -0.2**
WATA Walderalm 84.01 329 *e*P **P** **15 13 50.1 +0.6**
comp=Z,5.1nm,0.6s
EIL Elat 84.04 303 LR LR 15 55 55.0
comp=Z,113nm,19.4s,baz=57,slow=39
WTTA Wattenberg 84.04 328 *e*P **P** **15 13 50.5 +0.8**
comp=Z,4.7nm,0.5s
ABTA Abfaltersbach 84.09 328 *e*P **P** **15 13 49.9 +0.1**
comp=Z,8.3nm,0.8s
RCHB Rochefort 84.12 334 *d*P **P** **15 13 49.9 +0.1**
SNF Seneffe 84.15 334 *d*P **P** **15 13 50.8 +0.8**
I37A Lemond, Waseca 84.19 37 P **P** **15 13 51.2 +0.9**
I37A IAmb IAmb 15 13 52.7
comp=Z,22nm,0.9s
SCHQ Schefferville 84.19 16 P **P** **15 13 51.3 +1.2**
comp=Z,4.4nm,0.8s,baz=331,slow=6.6,SNR=4.1
SCHQ LR LR 15 53 00.6
comp=Z,76nm,21.7s,baz=318,slow=37
MOTA Moosalm 84.20 329 *i* P **P** **15 13 51.1 +0.6**
comp=Z,26nm,1.2s,SNR=5.3
WLF Walferdange 84.21 333 *d*P **P** **15 13 51.5 +1.2**
RETA Reutte 84.22 329 *i* P **P** **15 13 51.1 +0.6**
comp=Z,27nm,1.1s,SNR=7.9
319A Douglas 84.25 54 **P** **15 13 51.1 +0.1**
319A IAmb IAmb 15 14 07.7
comp=Z,15nm,1.0s
SQTA Sankt Quirin 84.25 329 *e*P **P** **15 13 51.1 +0.4**
comp=Z,8.8nm,0.7s
PDG Podgorica 84.31 321 ⇑P **P** **15 13 51.5 +0.6**
PDG Podgorica 84.31 321 P **P** **15 13 50.6 -0.2**
PMOR Pomariorio Ree 84.33 114 *e*T T 16 47 03.2
comp=Z,45nm,0.2s
STAL STALIGIAL 84.39 327 P **P** **15 13 50.4 -0.9**
DOU Dourbes 84.39 334 *d*P **P** **15 13 51.4 +0.3**
121A Cookes Peak, D 84.44 53 **P** **15 13 52.4 +0.4**
121A IAmb IAmb 15 14 10.3
comp=Z,11nm,1.1s
121A Cookes Peak, D 84.44 53 P **P** **15 13 53.6 +1.6**
baz=312
BFO Black Forest 84.50 331 P **P** **15 13 51.7 -0.1**
BFO pmax pmax
comp=Z,35nm,1.2s
BFO Black Forest 84.50 331 P **P** **15 13 51.7 -0.1**
FETA Feichten 84.61 329 *e*P **P** **15 13 53.0 +0.4**
comp=Z,16nm,1.0s
DAVA Damuels 84.74 329 *i* P **P** **15 13 53.6 +0.4**
comp=Z,33nm,1.1s,SNR=7.6
PPT2 Papeete2 84.86 117 *e*LR LR 15 40 48.0
comp=Z,443nm,25.5s,baz=315
PPT2 Papeete2 84.86 117 *e*T T 16 47 43.9
comp=Z,8.0nm,0.3s
ECH Echery 85.04 331 P **P** **15 13 55.0 +0.5**
ECH pmax pmax
comp=Z,17nm,0.9s
ECH Echery 85.04 331 P **P** **15 13 55.0 +0.5**
ECH IAmb IAmb 15 13 55.7
comp=Z,16nm,0.9s
DAVOX Davos/Dischmat 85.15 329 P **P** **15 13 55.4 +0.1**
comp=Z,8.0nm,0.8s,baz=45,slow=2.9,SNR=4.3
DAVOX LR LR 15 55 27.6
comp=Z,248nm,19.1s,baz=83,slow=38
TUE Stuetta 85.61 329 P **P** **15 13 57.3 -0.4**
TUE IAmb IAmb 15 13 58.9
comp=Z,15nm,1.0s
RPZ Rata Peaks 85.67 159 LR LR 15 47 25.7
comp=Z,151nm,20.7s,baz=342,slow=32
TAOE Nuku Hiva Isla 86.13 104 *e*LR LR 15 41 11.5
comp=Z,357nm,29.0s
MNTX Cornudas Mount 86.50 52 P **P** **15 14 04.0 +1.9**
MNTX Cornudas Mount 86.50 52 P **P** **15 14 03.4 +1.4**
baz=314
N38A Joes South For 86.72 39 P **P** **15 14 02.4 -0.5**
LDF La Druitiere 87.27 336 *e*P **P** **15 14 05.8 +0.4**
LDF pmax pmax
comp=Z,10.0nm,0.8s
SSF Saint Saulge 87.35 333 *e*P **P** **15 14 06.7 +0.8**
SSF pmax pmax
comp=Z,11nm,0.9s
P40A Paris 88.27 39 P **P** **15 14 11.4 +1.0**
P40A IAmb IAmb 15 14 12.7
comp=Z,12nm,0.8s
LPIG La Paz 88.36 60 LR LR 15 47 57.5
comp=Z,44nm,19.0s,baz=206,slow=32
TBI Tubuai 88.82 121 *e*LR LR 15 42 21.2
comp=Z,273nm,32.2s,baz=320
TBI Tubuai 88.82 121 *e*T T 16 52 40.3
comp=Z,141nm,0.3s
MFF Saint Martin d 89.02 335 *e*P **P** **15 14 14.7 +0.9**
MFF pmax pmax
comp=Z,24nm,1.3s
S39A Bolivar 89.03 41 P **P** **15 14 14.2 +0.1**
S39A IAmb IAmb 15 14 30.1
comp=Z,8.2nm,1.1s
R40A Maddies Statio 89.11 40 P **P** **15 14 15.1 +0.7**
TX31 Lajitas Ar. Si 89.20 53 P **P** **15 14 16.5 +1.4**
TX31 IAmb IAmb 15 14 31.5
comp=Z,13nm,1.0s
TX32 Lajitas Array 89.20 53 P **P** **15 14 15.8 +0.7**
TXAR Lajitas Array 89.20 53 P **P** **15 14 16.2 +1.2**
comp=Z,0.9nm,0.5s,baz=306,slow=2.8,SNR=13
TXAR LR LR 15 48 04.3
comp=Z,52nm,21.4s,baz=308,slow=31
TXAR Lajitas Array 89.20 53 P **P** **15 14 15.5 +0.4**
SADO Sadowa 89.57 28 LR LR 15 56 37.6
comp=Z,43nm,19.8s,baz=355,slow=37
CAF Calviac 89.70 333 *e*P **P** **15 14 17.5 +0.4**
CAF pmax pmax
comp=Z,8.0nm,0.9s
CCM Cathedral Cave 89.81 39 P **P** **15 14 18.9 +1.2**
CCM pmax pmax
comp=Z,18nm,1.2s
CCM Cathedral Cave 89.81 39 P **P** **15 14 18.9 +1.2**
CCM IAmb IAmb 15 14 35.1
comp=Z,18nm,1.2s
CCM Cathedral Cave 89.81 39 P **P** **15 14 18.6 +1.0**
baz=321
ATD Arta Tunnel 89.91 285 LR LR 15 57 53.0
comp=Z,67nm,18.6s,baz=76,slow=38
SFIN Lafayette 89.94 35 P **P** **15 14 18.8 +0.6**
baz=324
MGMO Mountain Grove 89.98 40 P **P** **15 14 18.8 +0.2**
MGMO IAmb IAmb 15 14 34.9
comp=Z,6.8nm,1.0s
LFF La Frestale 90.16 333 *e*P **P** **15 14 19.5 +0.3**
LFF pmax pmax
comp=Z,16nm,1.0s
U40A Yellville 90.30 41 P **P** **15 14 20.3 +0.3**
U40A Yellville 90.30 41 P **P** **15 14 20.3 +0.3**
baz=320
VAE Valguarnera 90.48 321 LR LR 15 57 19.8
comp=Z,134nm,18.1s,baz=114,slow=37
W39A Magazine 90.69 43 P **P** **15 14 22.8 +1.0**
baz=320
O48B Farmland 90.91 34 P **P** **15 14 23.7 +0.9**
baz=325
MIAR Mount Ida 91.29 43 P **P** **15 14 24.6 0.0**
baz=320
LONY Lake Ozonia 91.31 25 P **P** **15 14 25.2 +0.6**
baz=332
W41B Gary Mavity, V 91.52 42 P **P** **15 14 27.0 +1.3**
baz=321
ACSO Alum Creek Sta 91.88 33 P **P** **15 14 28.2 +1.0**
baz=326
WVT Waverly 93.00 38 P **P** **15 14 34.2 +1.7**
baz=323
KEST Kesra 94.34 323 LR LR 16 01 35.4
comp=Z,170nm,19.5s,baz=298,slow=38
TKL Tuckaleechee C 95.31 36 LR LR 16 01 04.1
comp=Z,26nm,18.5s,baz=326,slow=38
ESDC Sonseca Array 96.44 334 P **P** **15 14 48.6 +0.3**
comp=Z,0.6nm,0.7s,baz=21,slow=4.4,SNR=4.8
ESDC LR LR 16 02 54.3
comp=Z,240nm,20.2s,baz=10,slow=38
ESDC Sonseca Array 96.44 334 IAmb IAmb 15 14 49.1
comp=Z,1.8nm,1.1s
GOGA Godfrey 97.30 37 P Pdif 15 14 54.0 +1.8
baz=326
TORD Torodi Ar. Bea 116.78 316 PKP **PKPdf** **15 20 02.6 -1.1**
comp=Z,0.5nm,0.4s,baz=359,slow=1.0,SNR=8.1
TORD PP **PP** **15 21 11.3 -0.2**
comp=Z,1.5nm,1.0s,baz=38,slow=6.6,SNR=4.6
DBIC Dimbokro 125.70 318 PKP **PKPdf** **15 20 19.0 -1.9**
comp=Z,2.0nm,0.6s,baz=0.0,slow=2.0,SNR=1.8
SYO Syowa Base 129.33 207⇓ *e*Pdiff **Pdif** **15 17 14.2 +0.7**
SNAA Sanae 141.90 197 P **PKPdf** **15 20 43.5 -5.9**
VNA2 Neumayer--Watz 143.46 196 P PKPbc 15 20 49.8 +0.2
baz=112,slow=2.0
VNA3 Neumayer Olymp 143.71 195 P PKPbc 15 20 50.1 -0.2
VNA1 Neumayer--Stat 143.86 196 P PKPbc 15 20 51.1 +0.4
PB12 IPOC Station P 145.92 64 **PKPdf** **15 20 57.7 -0.4**
PB16 IPOC Station P 146.32 63 **PKPab** **15 21 01.8 +0.3**
H03N2 Juan Fernandez 146.81 94 T T 18 05 44.9
baz=290,slow=76,SNR=36
H03N3 Juan Fernandez 146.82 95 T T 18 05 43.5
baz=290,slow=76,SNR=38
H03N1 Juan Fernandez 146.82 94 T T 18 05 46.4
baz=290,slow=76,SNR=40
BDFB Brasilia 155.97 24 PKPab **PKPab** **15 21 41.8 +1.1**
comp=Z,1.1nm,0.4s,baz=317,slow=6.4,SNR=3.0

IDC 26 15:10:51.7±1.7,38.59S×146.76E,h0km,mb3.5/4, mb1 3.9/5,mb1mx3.5/42,mbtmp3.7/5,ML1.8/1,MS3.5/1, Ms1 3.5/1,ms1mx2.5/42,Error ellipse: s-maj=51.3km s-min=27.1km az=101.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.79**	**176**	Pn		Pn		15 12 20.6	+1.5
	1.8nm,0.3s,baz=89,slow=4.5,SNR=8.3								
WRA	**Warramunga Arr**	**20.27**	**216**	P		P		15 15 29.2	0.0
	1.0nm,0.8s,baz=43,slow=10,SNR=3.4								
ASAR	**Alice Springs**	**23.51**	**211**	P		P		15 16 03.0	-0.6
	0.8nm,0.6s,baz=44,slow=7.8,SNR=6.9								
KAPI	**Kappang**	**26.97**	**266**	LR		LR		15 27 22.8	
	comp=Z,103nm,21.3s,baz=8.0,slow=37								
CMAR	**Chiang Mai Arr**	**51.93**	**297**	P		P		15 20 02.8	-0.1
	0.7nm,0.3s,baz=119,slow=7.3,SNR=1.6								
ILAR	**Eielson Array**	**83.37**	**23**	P		P		15 23 20.5	-0.1
	0.4nm,0.8s,baz=235,slow=4.2,SNR=4.1								

*IDC **26** 15:14:21.8±1.2,38.10N×142.02E,h0km,mb3.4/3, mb1 3.6/7,mb1mx3.3/58,mbtmp3.5/7,ML2.9/4,Error ellipse: s-maj=33.1km s-min=19.7km az=108.0*
*JMA **26** 15:14:28.7±0.1,38.17N×141.68E,h50km±1km,M3.6 Broadband fault plane solution: P waves. NP1: ϕs175.00000°,δ58.00000°,λ-119.00000°. NP2: ϕs41.00000°,δ41.00000°,λ-52.00000°. Principal axes: T Plg9.0000°, Azm285.0000°; N Plg24.0000°, Azm191.0000°; P Plg64.0000°, Azm35.0000°;*
JMA Felt I J1.

ISC 26 15:14:28.0±1.3,38.14N±0.05×141.77E±0.09,h43km±11km, n27,σ1s31/36,mb3.5/3,10C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.29**	**306**	⇓P		**Pn**		**15 14 37.2**	**+0.7**
JIKH				S		**Sn**		**15 14 43.0**	**+0.6**
JIO	**Ouri**	**0.46**	**314**	⇓P		**Pn**		**15 14 38.7**	**+0.4**
JIO				S		**Sn**		**15 14 45.5**	**-0.1**
JKMT	**Kesennumamotoy**	**0.71**	**341**	P		**Pn**		**15 14 41.8**	**+0.2**
JKMT				S		**Sn**		**15 14 50.8**	**-0.7**
JOFO	**Osakifurukawao**	**0.82**	**305**	⇑P		**Pn**		**15 14 43.3**	**+0.2**
JOFO				S		**Sn**		**15 14 54.3**	**+0.2**
JMM	**Marumori**	**0.82**	**251**	⇑P		**Pn**		**15 14 42.9**	**-0.2**
JMM				S		**Sn**		**15 14 53.4**	**-0.7**
JOU	**Okura**	**0.90**	**285**	⇑P		**Pn**		**15 14 44.3**	**+0.1**
JOU				S		**Sn**		**15 14 55.5**	**-0.6**
JMK	**Ichinoseki**	**0.92**	**332**	⇑P		**Pn**		**15 14 44.7**	**+0.2**
JMK				S		**Sn**		**15 14 55.9**	**-0.6**
JFK	**Kawauchi**	**1.05**	**223**	P		**Pn**		**15 14 46.5**	**+0.2**
JFK				S		**Sn**		**15 14 59.3**	**-0.4**
JFT	**Otama**	**1.29**	**242**	⇑P		**Pn**		**15 14 50.2**	**+0.6**
JFT				S		**Sn**		**15 15 06.0**	**+0.3**
JYS	**Shirataka**	**1.35**	**274**	⇑P		**Pn**		**15 14 50.5**	**+0.2**
JYS				S		**Sn**		**15 15 06.9**	**-0.1**
JYK	**Kaneyama**	**1.35**	**306**	⇑P		**Pn**		**15 14 50.4**	**0.0**
JYK				S		**Sn**		**15 15 07.2**	**0.0**
JOM	**Ohasama**	**1.38**	**344**	⇑P		**Pn**		**15 14 51.1**	**+0.3**
JOM				eS		**Sn**		**15 15 07.6**	**-0.3**
JRG	**Rokugo**	**1.54**	**325**	⇑P		**Pn**		**15 14 53.5**	**+0.6**
JYA	**Atsumi**	**1.68**	**286**	⇑P		**Pn**		**15 14 55.0**	**+0.1**
MJAR	**Matsushiro Arr**	**3.25**	**242**	Pn		**Pn**		**15 15 16.7**	**+0.1**
	0.2nm,0.3s,baz=61,slow=10.0,SNR=8.5								
MJAR				Sn		**Sn**		**15 15 59.5**	**+5.5**
	0.1nm,0.3s,baz=72,slow=15,SNR=1.6								
JHJ	**Hachijo jima 2**	**5.26**	**198**	Pn		**Pn**		**15 15 42.2**	**-1.9**
	7.5nm,0.3s,baz=103,slow=17,SNR=1.1								
JHJ				Sn		**Sn**		**15 16 40.2**	**-3.3**
	6.5nm,0.3s,baz=234,slow=23,SNR=1.5								
ASAJ	**Asahikawa**	**6.00**	**6**	Pn		**Pn**		**15 15 51.9**	**-2.4**
	0.4nm,0.3s,baz=219,slow=15,SNR=7.2								
ASAJ				Sn		**Sn**		**15 17 02.0**	**+0.3**
	0.2nm,0.3s,baz=263,slow=20,SNR=2.2								
USRK	**Ussuriysk Ar.**	**9.54**	**312**	Pn		**Pn**		**15 16 42.5**	**-0.2**
	baz=119,slow=12,SNR=1.3								
H11N2	**WAKE ISLAND Hy**	**28.49**	**123**	T		T		15 50 36.8	
	baz=316,slow=76,SNR=9.8								
H11N1	**WAKE ISLAND Hy**	**28.50**	**123**	T		T		15 50 35.3	
	baz=316,slow=76,SNR=14								
H11N3	**WAKE ISLAND Hy**	**28.51**	**123**	T		T		15 50 36.1	
	baz=316,slow=76,SNR=7.9								
H11S1	**WAKE ISLAND Hy**	**29.24**	**125**	T		T		15 51 36.0	
	baz=317,slow=76,SNR=13								
H11S3	**WAKE ISLAND Hy**	**29.24**	**125**	T		T		15 51 34.9	
	baz=317,slow=76,SNR=15								
H11S2	**WAKE ISLAND Hy**	**29.26**	**125**	T		T		15 51 35.0	
	baz=317,slow=76,SNR=9.3								
WRA	**Warramunga Arr**	**58.19**	**188**	P		**P**		**15 24 16.9**	**-0.8**
	0.6nm,0.7s,baz=4.4,slow=7.2,SNR=10								
ASAR	**Alice Springs**	**61.92**	**188**	P		**P**		**15 24 43.1**	**-0.1**
	0.2nm,0.6s,baz=352,slow=4.7,SNR=6.3								
PDAR	**Pinedale Array**	**76.69**	**46**	P		**P**		**15 26 15.2**	**+0.4**
	0.3nm,0.8s,baz=315,slow=1.9,SNR=3.7								

*DNK **26** 15:14:53.3±0.4,58.80N×18.67E,h0km,ML2.0(UPP), Explosion*
*BER **26** 15:14:54.8±3.5,58.81N×18.53E,h0km,ML1.9, ML2.0(UPP),Suspected explosion*
*NAO **26** 15:14:57.0±3.2,59.05N×18.59E,ML2.0*
UPP 26 15:14:52.7±0.2,58.80N×18.69E,h0km,ML2.0, Explosion,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.41**	**300**	P		Pg		15 15 00.7	+0.1
NYNU				S		Sg		15 15 05.7	-0.3
NYNU	**Nynaeshamn**	**0.41**	**300**	P		Pg		15 15 00.7	+0.1
NYNU				S		Sg		15 15 05.7	-0.3
NYNU	**Nynaeshamn**	**0.41**	**300**	P		Pg		15 15 00.7	+0.1
NYNU				S		Sg		15 15 05.7	-0.3
NRTU	**Norrtaelje**	**0.88**	**358**	P		Pg		15 15 09.2	-0.4
NRTU	**Norrtaelje**	**0.88**	**358**	P		Pg		15 15 09.2	-0.4
NRTU	**Norrtaelje**	**0.88**	**358**	P		Pg		15 15 09.2	-0.4
VIKU	**Vikbolandet**	**1.08**	**255**	P		Pg		15 15 12.9	-0.5
VIKU	**Vikbolandet**	**1.08**	**255**	P		Pg		15 15 12.9	-0.5
VIKU	**Vikbolandet**	**1.08**	**255**	P		Pg		15 15 12.9	-0.5
GOTU	**Gotland**	**1.12**	**183**	P		Pg		15 15 13.6	-0.5
GOTU	**Gotland**	**1.12**	**183**	P		Pg		15 15 13.6	-0.5
GOTU	**Gotland**	**1.12**	**183**	P		Pg		15 15 13.6	-0.5
UPP	**Uppsala**	**1.20**	**333**	P		Pg		15 15 15.1	-0.5
ESKU	**Eskilstuna**	**1.27**	**291**	P		Pg		15 15 16.0	-0.9
ESKU	**Eskilstuna**	**1.27**	**291**	P		Pg		15 15 16.0	-0.9
ESKU	**Eskilstuna**	**1.27**	**291**	P		Pg		15 15 16.0	-0.9
FIBU	**Brunna**	**1.30**	**329**	P		Pg		15 15 17.0	-0.6
FIBU	**Brunna**	**1.30**	**329**	P		Pg		15 15 17.0	-0.6
FIBU	**Brunna**	**1.30**	**329**	P		Pg		15 15 17.0	-0.6
BACU	**Backbrunna**	**1.34**	**323**	P		Pg		15 15 17.6	-0.7
BACU	**Backbrunna**	**1.34**	**323**	P		Pg		15 15 17.6	-0.7
BACU	**Backbrunna**	**1.34**	**323**	P		Pg		15 15 17.6	-0.7

FLYU	**Flymyra**	**1.40**	**343**	P	Pn	15 15 18.6	-0.8
FLYU	**Flymyra**	**1.40**	**343**	P	Pn	15 15 18.6	-0.8
FLYU	**Flymyra**	**1.40**	**343**	P	Pn	15 15 18.6	-0.8
AAL	**Aland**	**1.54**	**25**	P	Pn	15 15 20.9	-0.4
GRAU	**Graesoe**	**1.54**	**357**	P	Pn	15 15 21.1	-0.3
GRAU	**Graesoe**	**1.54**	**357**	P	Pn	15 15 21.1	-0.3
GRAU	**Graesoe**	**1.54**	**357**	P	Pn	15 15 21.1	-0.3
VSTU	**Vaestervik**	**1.61**	**226**	P	Pn	15 15 22.1	-0.2
VSTU	**Vaestervik**	**1.61**	**226**	P	Pn	15 15 22.1	-0.2
VSTU	**Vaestervik**	**1.61**	**226**	P	Pn	15 15 22.1	-0.2
OSTU	**Oestervaala**	**1.64**	**332**	P	Pn	15 15 22.8	+0.1
OSTU	**Oestervaala**	**1.64**	**332**	P	Pn	15 15 22.8	+0.1
OSTU	**Oestervaala**	**1.64**	**332**	P	Pn	15 15 22.8	+0.1
NRA0	**NORESS Array S**	**4.11**	**301**	Pn	Pn	15 15 57.5	+0.9
	baz=86,slow=12						
NRA0				Lg	Lg	15 17 00.8	
	baz=112,slow=28						
NRA0	**NORESS Array S**	**4.11**	**301**	Pn	Pn	15 15 57.5	+0.9
	baz=86,slow=12						
NRA0				Sg	Sg	15 17 00.8	-3.6
	baz=112,slow=28						
NB2	**NORSAR Subarra**	**4.38**	**304**	Pn	Pn	15 16 00.4	-0.1
	baz=126,slow=14						
NB2				Lg	Lg	15 17 08.9	
	baz=115,slow=37						
NB2	**NORSAR Subarra**	**4.38**	**304**	Pn	Pn	15 16 00.4	-0.1
	baz=126,slow=14						
NB2				Sg	Sg	15 17 08.9	-4.5
	baz=115,slow=37						
FIA0	**FINESS Array S**	**4.55**	**51**	Pn	Pn	15 16 05.2	+2.5
	baz=233,slow=11						
FIA0				Lg	Lg	15 17 13.4	
	baz=245,slow=28						
FIA0	**FINESS Array S**	**4.55**	**51**	Pn	Pn	15 16 05.2	+2.5
	baz=233,slow=11						
KONO	**Kongsberg**	**4.75**	**284**	*e*Sg	Sb	15 17 19.7	+5.3
SKAR	**Skarslia**	**5.58**	**294**	*e*Sg	Sb	15 17 44.7	+6.3
SKAR				IAML		15 17 53.7	
	comp=Z,2.7nm,0.4s						
DOMB	**Dombas**	**5.77**	**308**	IAML		15 17 48.5	
	comp=Z,3.2nm,0.3s						
DOMB				*e*Sg	Sg	15 17 51.3	-6.6
ARA0	**ARCESS Array S**	**11.17**	**12**	Pn	Pn	15 17 31.6	-1.8
	baz=192,slow=14						
ARA0	**ARCESS Array S**	**11.17**	**12**	Pn	Pn	15 17 31.6	-1.8
	baz=192,slow=14						

***UPP 26** 15:15:03.2±0.2,* **58°82N×18°68E, h0km, ML2.2, Explosion, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.40**	**299**	P	Pg	15 15 10.9	+0.1
NYNU	**Nynaeshamn**	**0.40**	**299**	P	Pg	15 15 10.9	+0.1
NRTU	**Norrtaelje**	**0.86**	**358**	P	Pg	15 15 19.3	-0.5
NRTU	**Norrtaelje**	**0.86**	**358**	P	Pg	15 15 19.3	-0.5
VIKU	**Vikbolandet**	**1.08**	**254**	*e*P	Pg	15 15 19.6	-4.3
VIKU	**Vikbolandet**	**1.08**	**254**	P	Pg	15 15 23.5	-0.5
VIKU	**Vikbolandet**	**1.08**	**254**	P	Pg	15 15 23.5	-0.5
GOTU	**Gotland**	**1.13**	**183**	P	Pg	15 15 24.4	-0.5
GOTU	**Gotland**	**1.13**	**183**	P	Pg	15 15 24.4	-0.5
UPP	**Uppsala**	**1.18**	**333**	*e*P	Pg	15 15 26.0	+0.3
UPP	**Uppsala**	**1.18**	**333**	P	Pg	15 15 25.3	-0.4
ESKU	**Eskilstuna**	**1.25**	**290**	P	Pg	15 15 26.6	-0.7
ESKU	**Eskilstuna**	**1.25**	**290**	P	Pg	15 15 26.6	-0.7
FIBU	**Brunna**	**1.28**	**329**	P	Pg	15 15 27.3	-0.5
FIBU	**Brunna**	**1.28**	**329**	P	Pg	15 15 27.3	-0.5
BACU	**Backbrunna**	**1.32**	**323**	P	Pg	15 15 27.8	-0.6
BACU	**Backbrunna**	**1.32**	**323**	P	Pg	15 15 27.8	-0.6
FLYU	**Flymyra**	**1.38**	**343**	P	Pg	15 15 29.1	-0.5
FLYU	**Flymyra**	**1.38**	**343**	P	Pg	15 15 29.1	-0.5
AAL	**Aland**	**1.52**	**26**	*e*P	Pg	15 15 35.0	+2.7
AAL	**Aland**	**1.52**	**26**	P	Pn	15 15 31.4	-0.2
GRAU	**Graesoe**	**1.53**	**357**	P	Pn	15 15 31.6	-0.1
GRAU	**Graesoe**	**1.53**	**357**	P	Pn	15 15 31.6	-0.1
OSTU	**Oestervaala**	**1.62**	**332**	P	Pn	15 15 33.1	+0.1
OSTU	**Oestervaala**	**1.62**	**332**	P	Pn	15 15 33.1	+0.1
SLIT	**Slitere, Latvi**	**2.25**	**120**	*e*P	Pn	15 15 40.2	-1.4
MTSE	**Matsula**	**2.68**	**90**	*e*P	Pn	15 15 47.1	-0.4
RAF	**Rauma**	**2.71**	**34**	*e*P	Pb	15 15 50.5	-1.9
MEF	**Metsahovi**	**3.23**	**62**	*e*P	Pn	15 15 57.4	+2.2
PBUR	**Paburge**	**3.30**	**147**	*e*P	Pn	15 15 55.2	-0.9
DEL	**Delary**	**3.50**	**230**	*e*P	Pn	15 15 53.5	-5.2
VSU	**Vasula**	**4.22**	**91**	*e*P	Pn	15 16 08.1	-0.6
BSD	**Bornholm Skovb**	**4.24**	**211**	*e*P	Pn	15 16 06.8	-2.2
PABE	**Paberze**	**4.39**	**137**	*e*P	Pn	15 16 08.9	-2.1

*DNK **26** 15:15:21.6±0.5, 58°80N×18°65E, h0km, ML2.9(UPP), Explosion*

***UPP 26** 15:15:21.3±0.6,* **58°82N×18°67E, h0km, ML2.9, Explosion, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.39**	**298**	P	Pg	15 15 28.8	0.0
NYNU				S	Sg	15 15 33.9	+0.1
NYNU	**Nynaeshamn**	**0.39**	**298**	P	Pg	15 15 28.8	0.0
NYNU				S	Sg	15 15 33.9	+0.1
NRTU	**Norrtaelje**	**0.86**	**359**	P	Pg	15 15 37.2	-0.5
NRTU	**Norrtaelje**	**0.86**	**359**	P	Pg	15 15 37.2	-0.5
UPP	**Uppsala**	**1.17**	**333**	P	Pg	15 15 43.3	-0.4
ESKU	**Eskilstuna**	**1.25**	**290**	P	Pg	15 15 44.2	-0.9
ESKU	**Eskilstuna**	**1.25**	**290**	P	Pg	15 15 44.2	-0.9
FIBU	**Brunna**	**1.27**	**329**	P	Pg	15 15 45.0	-0.7
FIBU	**Brunna**	**1.27**	**329**	P	Pg	15 15 45.0	-0.7
FLYU	**Flymyra**	**1.37**	**343**	P	Pg	15 15 47.0	-0.5
FLYU	**Flymyra**	**1.37**	**343**	P	Pg	15 15 47.0	-0.5
GRAU	**Graesoe**	**1.52**	**358**	P	Pn	15 15 49.4	-0.3
GRAU	**Graesoe**	**1.52**	**358**	P	Pn	15 15 49.4	-0.3
AAL	**Aland**	**1.52**	**26**	P	Pn	15 15 49.2	-0.5
OSTU	**Oestervaala**	**1.61**	**332**	P	Pn	15 15 50.9	-0.1
OSTU	**Oestervaala**	**1.61**	**332**	P	Pn	15 15 50.9	-0.1

*JMA **26** 15:28:45.8±0.2, 34°94N×136°82E, h324km±2km, M3.1*
*IDC **26** 15:28:45.6±0.6, 34°93N×136°97E, h323km±7km, mb2.9/10, mb1 3.1/13, mb1mx2.9/73, mbtmp3.6/13, Error ellipse: s-maj=16.1km s-min=10.9km az=69.0*

ISC 26 15:28:45.6±0.7, 34°92N±0°07×136°85E±0°06, h322km±6km, n33, σ0°81/40, mb3.2/10, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.54**	**192**	P	**Pn**	**15 29 27.5**	**+0.5**
JIE				S	**S**	**15 29 59.2**	**-0.7**
JYTA	**Yamagatataniai**	**0.68**	**352**	P	**Pn**	**15 29 27.9**	**+0.7**
JYTA				S	**S**	**15 30 00.0**	**-0.4**
TK02	**Tokai 2**	**1.23**	**142**	P	**Pn**	**15 29 30.2**	**+0.9**
JWT	**Wachi**	**1.24**	**287**	P	**Pn**	**15 29 30.0**	**+0.5**
JWT				S	**S**	**15 30 03.4**	**-1.2**
JWY	**Kouya**	**1.25**	**236**	P	**Pn**	**15 29 30.1**	**+0.3**
JWY				S	**S**	**15 30 03.7**	**-1.2**
TTO1	**TONANKAI O.B.S**	**1.29**	**182**	P	**Pn**	**15 29 30.8**	**+1.2**
JKG	**Kaga**	**1.42**	**343**	P	**Pn**	**15 29 30.8**	**+0.4**
JKG				*e*S	**S**	**15 30 06.4**	**+0.2**
JTNC	**Tanabenakahech**	**1.50**	**223**	P	**Pn**	**15 29 31.3**	**+0.2**
JYN	**Shimob**	**1.51**	**67**	P	**Pn**	**15 29 31.5**	**+0.4**
JFNN	**Fujinakano**	**1.53**	**79**	P	**Pn**	**15 29 31.9**	**+0.7**
JOD2	**Odawara 2**	**1.87**	**79**	P	**Pn**	**15 29 33.8**	**+0.3**
MAT	**Matsushiro**	**1.96**	**34**	P	**Pn**	**15 29 34.6**	**+0.5**
MJAR	**Matsushiro Arr**	**1.96**	**34**	P	**Pn**	**15 29 34.1**	**+0.1**
	1.1nm,0.3s,baz=208,slow=7.8,SNR=87						
MJAR				S	**S**	**15 30 12.0**	**-0.8**
	baz=262,slow=30,SNR=4.6						
JRY	**Ryogami san**	**2.00**	**56**	P	**Pn**	**15 29 35.3**	**+0.9**
JAI	**Aioi**	**2.28**	**241**	P	**Pn**	**15 29 36.6**	**0.0**
JHJ	**Hachijo jima 2**	**3.03**	**126**	P	**Pn**	**15 29 43.5**	**+0.3**
	14nm,0.3s,baz=235,slow=19,SNR=1.7						
JHJ				S	**S**	**15 30 29.7**	**+0.2**
	3.8nm,0.3s,baz=35,slow=23,SNR=1.5						
JHJ2	**Mitsune**	**3.06**	**125**	P	**Pn**	**15 29 44.4**	**+0.9**
JHS	**Saijyo**	**3.06**	**273**	P	**Pn**	**15 29 44.1**	**+0.5**
JOI	**OKI**	**3.23**	**296**	P	**Pn**	**15 29 45.4**	**+0.3**
BSO1	**Boso 1**	**3.41**	**93**	P	**Pn**	**15 29 45.4**	**-0.9**
JTO	**Tosashimizu**	**3.94**	**240**	P	**Pn**	**15 29 52.5**	**0.0**
JNU	**Nakatsue**	**5.27**	**252**	P	**Pn**	**15 30 07.4**	**+0.2**
	0.8nm,0.3s,baz=106,slow=1.7,SNR=5.4						
KSRS	**Korea Array**	**7.64**	**292**	P	**Pn**	**15 30 36.3**	**+1.3**
	0.1nm,0.3s,baz=106,slow=14,SNR=2.6						
SONM	**Songino Array**	**26.05**	**309**	P	**P**	**15 33 52.1**	**+1.6**
	0.9nm,0.5s,baz=115,slow=8.7,SNR=6.9						
MKAR	**Makanchi Array**	**42.14**	**303**	P	**P**	**15 36 08.4**	**+1.2**
	0.6nm,0.6s,baz=92,slow=9.9,SNR=6.8						
KURBB	**Kurchatov Arra**	**44.42**	**309**	P	**P**	**15 36 25.0**	**-0.1**
	0.6nm,0.4s,baz=101,slow=25,SNR=9.7						
ILAR	**Eielson Array**	**53.24**	**31**	P	**P**	**15 37 30.1**	**-1.2**
	0.3nm,0.6s,baz=250,slow=5.0,SNR=5.1						
WRA	**Warramunga Arr**	**54.61**	**183**	P	**P**	**15 37 41.2**	**-0.5**
	0.3nm,0.3s,baz=360,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**58.33**	**183**	P	**P**	**15 38 07.3**	**-0.4**
	0.1nm,0.3s,baz=3.9,slow=7.3,SNR=5.6						
YKA	**Yellowknife Ar**	**67.46**	**28**	P	**P**	**15 39 06.9**	**+0.1**
	0.1nm,0.5s,baz=305,slow=6.4,SNR=2.3						
FINES	**FINESS Array B**	**68.92**	**331**	P	**P**	**15 39 16.5**	**+0.7**
	1.6nm,0.9s,baz=56,slow=7.8,SNR=3.9						
NOA	**NORSAR Array B**	**74.64**	**336**	P	**P**	**15 39 48.1**	**-1.7**
	0.2nm,0.4s,baz=46,slow=6.2,SNR=1.4						
TXAR	**Lajitas Array**	**94.33**	**50**	P	**P**	**15 41 29.8**	**+0.5**
	0.2nm,0.7s,baz=259,slow=4.3,SNR=3.4						

*IDC **26** 15:30:12.7±3.1, 11°66N×142°62E, h62km±31km, mb3.3/8, mb1 3.6/9, mb1mx3.4/56, mbtmp3.6/9, ML3.7/1, Error ellipse: s-maj=33.4km s-min=18.2km az=115.0*

ISC 26 15:30:10.2±0.9, 11°6N±0°2×142°5E±0°1, h35km, n9, σ1§10/10, mb3.5/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.03**	**50**	P	**Pn**	**15 30 56.2**	**+0.6**
	11nm,0.3s,baz=169,slow=23,SNR=9.0						
GUMO				S	**Sn**	**15 31 31.4**	**+0.7**
	9.2nm,0.3s,baz=33,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**32.39**	**194**	P	**P**	**15 36 36.0**	**-0.7**
	0.3nm,0.8s,baz=13,slow=9.9,SNR=1.2						
ASAR	**Alice Springs**	**36.07**	**193**	P	**P**	**15 37 09.6**	**+0.8**
	0.4nm,0.8s,baz=13,slow=12,SNR=5.1						
CMAR	**Chiang Mai Arr**	**42.52**	**285**	P	**P**	**15 38 04.5**	**+1.8**
	0.3nm,0.3s,baz=82,slow=6.5,SNR=1.1						
MKAR	**Makanchi Array**	**61.31**	**317**	P	**P**	**15 40 21.9**	**-0.4**
	0.3nm,0.8s,baz=87,slow=9.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**64.64**	**321**	P	**P**	**15 40 43.5**	**-0.7**
	0.6nm,0.6s,baz=105,slow=7.5,SNR=4.2						
ILAR	**Eielson Array**	**71.32**	**25**	P	**P**	**15 41 24.6**	**-1.4**
	0.6nm,0.6s,baz=248,slow=5.9,SNR=12						
YKA	**Yellowknife Ar**	**85.65**	**27**	P	**P**	**15 42 45.1**	**+0.1**
	0.2nm,0.6s,baz=293,slow=5.1,SNR=4.5						
ARCES	**ARCESS Array B**	**88.21**	**342**	P	**P**	**15 42 56.7**	**-0.7**
	3.3nm,1.1s,baz=64,slow=4.1,SNR=1.2						

*UPP **26** 15:31:27.9±0.2, 58°80N×18°69E, h3km±3km, ML2.6, Explosion*
*HEL **26** 15:31:27.6, 58°75N×18°53E, h0km, ML2.1, Explosion*
*BER **26** 15:31:29.4±1.9, 58°81N×18°68E, h0km, ML2.1, ML2.6(UPP), Suspected explosion*
*IDC **26** 15:31:30.6±1.2, 58°93N×18°79E, h0km, mb1 3.4/6, mb1mx3.1/65, mbtmp3.4/6, ML2.9/6, Error ellipse: s-maj=16.9km s-min=8.8km az=5.0*

ISC 26 15:31:26.9±0.8, 58°78N±0°02×18°66E±0°03, h0km, n93, σ1§42/115, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.41**	**304**	P	**Pg**	**15 31 35.6**	**+0.9**
NYNU				S	**Sg**	**15 31 40.8**	**+0.8**
NYNU	**Nynaeshamn**	**0.41**	**304**	P	**Pg**	**15 31 35.6**	**+0.9**
NYNU				S	**Sg**	**15 31 40.8**	**+0.8**
NYNU	**Nynaeshamn**	**0.41**	**304**	P	**Pg**	**15 31 35.6**	**+0.9**
NYNU				S	**Sg**	**15 31 40.8**	**+0.8**
NYNU	**Nynaeshamn**	**0.41**	**304**	*i* P	**Pg**	**15 31 35.6**	**+0.9**
NYNU				*i* S	**Sg**	**15 31 40.8**	**+0.8**
NRTU	**Norrtaelje**	**0.90**	**359**	P	**Pg**	**15 31 44.2**	**0.0**
NRTU	**Norrtaelje**	**0.90**	**359**	P	**Pg**	**15 31 44.2**	**0.0**
NRTU	**Norrtaelje**	**0.90**	**359**	P	**Pg**	**15 31 44.2**	**0.0**
NRTU	**Norrtaelje**	**0.90**	**359**	*i* P	**Pg**	**15 31 44.2**	**0.0**
VIKU	**Vikbolandet**	**1.06**	**256**	*e*P	**Pg**	**15 31 48.2**	**+1.0**
VIKU	**Vikbolandet**	**1.06**	**256**	P	**Pg**	**15 31 47.9**	**+0.7**
VIKU	**Vikbolandet**	**1.06**	**256**	P	**Pg**	**15 31 47.9**	**+0.7**
VIKU	**Vikbolandet**	**1.06**	**256**	P	**Pg**	**15 31 47.9**	**+0.7**
VIKU	**Vikbolandet**	**1.06**	**256**	*e*P	**Pg**	**15 31 47.9**	**+0.7**
GOTU	**Gotland**	**1.09**	**182**	P	**Pg**	**15 31 48.6**	**+0.7**
GOTU	**Gotland**	**1.09**	**182**	P	**Pg**	**15 31 48.6**	**+0.7**
GOTU	**Gotland**	**1.09**	**182**	P	**Pg**	**15 31 48.6**	**+0.7**
GOTU	**Gotland**	**1.09**	**182**	*e*P	**Pg**	**15 31 48.6**	**+0.7**
UPP	**Uppsala**	**1.21**	**335**	*e*P	**Pg**	**15 31 50.1**	**+0.1**
UPP	**Uppsala**	**1.21**	**335**	P	**Pg**	**15 31 50.1**	**+0.1**
UPP	**Uppsala**	**1.21**	**335**	*e*P	**Pg**	**15 31 50.1**	**+0.1**
FIBU	**Brunna**	**1.31**	**330**	P	**Pg**	**15 31 52.0**	**0.0**
FIBU	**Brunna**	**1.31**	**330**	P	**Pg**	**15 31 52.0**	**0.0**
FIBU	**Brunna**	**1.31**	**330**	P	**Pg**	**15 31 52.0**	**0.0**
FIBU	**Brunna**	**1.31**	**330**	*e*P	**Pg**	**15 31 52.0**	**0.0**
BACU	**Backbrunna**	**1.34**	**324**	P	**Pg**	**15 31 52.6**	**0.0**
BACU	**Backbrunna**	**1.34**	**324**	P	**Pg**	**15 31 52.6**	**0.0**
BACU	**Backbrunna**	**1.34**	**324**	P	**Pg**	**15 31 52.6**	**0.0**
BACU	**Backbrunna**	**1.34**	**324**	*e*P	**Pg**	**15 31 52.6**	**0.0**
FLYU	**Flymyra**	**1.41**	**344**	P	**Pg**	**15 31 53.5**	**-0.4**
FLYU	**Flymyra**	**1.41**	**344**	P	**Pg**	**15 31 53.5**	**-0.4**
FLYU	**Flymyra**	**1.41**	**344**	P	**Pg**	**15 31 53.5**	**-0.4**
FLYU	**Flymyra**	**1.41**	**344**	*e*P	**Pg**	**15 31 53.5**	**-0.4**
AAL	**Aland**	**1.56**	**25**	*e*P	**Pn**	**15 31 56.2**	**+0.3**
AAL	**Aland**	**1.56**	**25**	P	**Pn**	**15 31 55.9**	**+0.1**
AAL	**Aland**	**1.56**	**25**	*e*P	**Pn**	**15 31 56.0**	**+0.1**
AAL				*e*S	**Sn**	**15 32 16.7**	**-0.1**
GRAU	**Graesoe**	**1.56**	**358**	P	**Pn**	**15 31 56.1**	**+0.2**
GRAU	**Graesoe**	**1.56**	**358**	P	**Pn**	**15 31 56.1**	**+0.2**
GRAU	**Graesoe**	**1.56**	**358**	P	**Pn**	**15 31 56.1**	**+0.2**
GRAU	**Graesoe**	**1.56**	**358**	*e*P	**Pn**	**15 31 56.1**	**+0.2**
VSTU	**Vaestervik**	**1.58**	**226**	P	**Pn**	**15 31 57.0**	**+0.8**
VSTU	**Vaestervik**	**1.58**	**226**	P	**Pn**	**15 31 57.0**	**+0.8**
VSTU	**Vaestervik**	**1.58**	**226**	P	**Pn**	**15 31 57.0**	**+0.8**
VSTU	**Vaestervik**	**1.58**	**226**	*e*P	**Pn**	**15 31 57.0**	**+0.8**
FORU	**Forsmark**	**1.63**	**352**	P	**Pn**	**15 31 57.4**	**+0.5**
FORU	**Forsmark**	**1.63**	**352**	P	**Pn**	**15 31 57.4**	**+0.5**
FORU	**Forsmark**	**1.63**	**352**	*e*P	**Pn**	**15 31 57.4**	**+0.5**
OSTU	**Oestervaala**	**1.65**	**333**	P	**Pn**	**15 31 57.8**	**+0.7**
OSTU	**Oestervaala**	**1.65**	**333**	P	**Pn**	**15 31 57.8**	**+0.7**
OSTU	**Oestervaala**	**1.65**	**333**	*e*P	**Pn**	**15 31 57.8**	**+0.7**
BYXU	**Byxelkrok**	**1.73**	**211**	P	**Pn**	**15 31 59.5**	**+1.4**
BYXU	**Byxelkrok**	**1.73**	**211**	P	**Pn**	**15 31 59.5**	**+1.4**
BYXU	**Byxelkrok**	**1.73**	**211**	*e*P	**Pn**	**15 31 59.5**	**+1.4**
LNKU	**Linkoeping**	**1.75**	**253**	P	**Pn**	**15 31 59.8**	**+1.4**
LNKU	**Linkoeping**	**1.75**	**253**	P	**Pn**	**15 31 59.8**	**+1.4**
LNKU	**Linkoeping**	**1.75**	**253**	*e*P	**Pn**	**15 31 59.8**	**+1.4**
SLIT	**Slitere, Latvi**	**2.24**	**119**	*e*P	**Pn**	**15 32 06.5**	**+1.3**
MTSE	**Matsula**	**2.69**	**89**	*e*P	**Pn**	**15 32 12.8**	**+1.5**
MTSE	**Matsula**	**2.69**	**89**	*e*P	**Pn**	**15 32 12.8**	**+1.5**
MTSE				*e*S	**Sn**	**15 32 46.2**	**+1.6**
RAF	**Rauma**	**2.75**	**33**	*e*P	**Pn**	**15 32 13.5**	**+1.4**
RAF	**Rauma**	**2.75**	**33**	*e*P	**Pn**	**15 32 13.3**	**+1.2**
RAF				*e*S	**Sn**	**15 32 47.6**	**+1.6**
HFS	**Hagfors**	**2.88**	**300**	Pn	**Pn**	**15 32 15.9**	**+1.9**
	4.1nm,0.3s,baz=14,slow=31,SNR=47						
HFS				Sn	**Sb**	**15 32 52.5**	**-2.2**
	12nm,0.3s,baz=246,slow=14,SNR=18						
BLEU	**Blekinge**	**2.91**	**213**	*i* P	**Pn**	**15 32 15.2**	**+0.7**
BLEU				*i* S	**Sn**	**15 32 51.0**	**+0.9**
MEF	**Metsahovi**	**3.26**	**61**	*e*P	**Pn**	**15 32 19.2**	**0.0**
MEF	**Metsahovi**	**3.26**	**61**	*e*S	**Sn**	**15 33 00.2**	**+1.4**
MEF				MSG		15 33 09.6	
	comp=Z,3.0nm,0.1s						
PBUR	**Paburge**	**3.28**	**146**	*e*P	**Pn**	**15 32 19.9**	**+0.4**
BORU	**Boraas**	**3.32**	**252**	*i* P	**Pn**	**15 32 22.9**	**+2.9**
BORU				*i* S	**Sn**	**15 33 03.6**	**+3.5**
DEL	**Delary**	**3.46**	**230**	*e*P	**Pn**	**15 32 21.3**	**-0.6**
DEL	**Delary**	**3.46**	**230**	*i* P	**Pn**	**15 32 23.0**	**+1.1**
DEL				*i* S	**Sn**	**15 33 05.4**	**+1.8**
DEL				IAML		15 33 40.0	
	comp=Z,6.0nm,0.3s						
NUR	**Nurmijrvi**	**3.50**	**58**	*e*S	**Sn**	**15 33 05.5**	**+0.9**
FABU	**Falkenberg**	**3.63**	**243**	*i* P	**Pn**	**15 32 25.5**	**-0.8**
FABU				*i* P	Pb	15 32 25.3	-6.6
FABU				*i* S	**Sn**	**15 33 09.0**	**+1.1**
TJOU	**Tjoern**	**3.77**	**262**	*i* P	**Pn**	**15 32 27.3**	**+1.1**
TJOU				*i* S	**Sn**	**15 33 11.7**	**+0.4**
STRU	**Stroemstad**	**3.88**	**277**	*i* P	**Pn**	**15 32 30.1**	**+2.3**
STRU				*i* P	**Pn**	**15 32 30.1**	**+2.3**
STRU	**Stroemstad**	**3.88**	**277**	*e*P	**Pn**	**15 32 29.7**	**+1.9**
HEMU	**Hemsoen**	**3.92**	**356**	*e*P	**Pn**	**15 32 29.4**	**+1.0**
HEMU				*e*S	**Sn**	**15 33 15.1**	**+0.1**
PVF	**Pernaja**	**4.06**	**61**	*e*P	**Pn**	**15 32 32.4**	**+2.2**
PVF				*e*S	**Sn**	**15 33 19.0**	**+0.6**
BJUU	**Bjuv**	**4.08**	**231**	*i* P	**Pn**	**15 32 30.1**	**-0.3**
BJUU				*i* S	**Sn**	**15 33 17.9**	**-0.8**
NC602	**NORSAR Array S**	**4.10**	**302**	*e*P	**Pn**	**15 32 31.1**	**+0.4**
BSD	**Bornholm Skovb**	**4.20**	**211**	*i* P	**Pn**	**15 32 29.5**	**-2.7**
BSD				*i* S	**Sn**	**15 33 19.1**	**-2.8**
BSD				IAML		15 33 54.0	
	comp=Z,11nm,0.3s						
LUNU	**Lund**	**4.24**	**224**	*i* S	**Sn**	**15 33 17.4**	**-5.4**
NB201	**NORSAR Array S**	**4.35**	**305**	*e*P	**Pn**	**15 32 35.4**	**+1.1**
NB201				IAML		15 33 48.5	
	comp=Z,9.7nm,0.3s						
PABE	**Paberze**	**4.37**	**136**	*e*P	**Pn**	**15 32 36.1**	**+1.6**
NOA	**NORSAR Array B**	**4.38**	**304**	P	**Pn**	**15 32 35.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=145,slow=10,SNR=35						
NOA				Sn	**Sn**	**15 33 27.8**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=305,slow=23,SNR=2.3						
NOA				Lg	Lg	15 33 42.0	
	comp=Z,0.4nm,0.3s,baz=238,slow=12,SNR=3.8						
NC303	**NORSAR Array S**	**4.41**	**307**	*e*P	**Pn**	**15 32 36.2**	**+1.2**
NC303				IAML		15 33 56.5	
	comp=Z,10.0nm,0.3s						
NAO01	**NORSAR Array S**	**4.44**	**301**	*e*P	**Pn**	**15 32 36.9**	**+1.5**
NAO01				IAML		15 34 01.0	
	comp=Z,5.9nm,0.3s						
FINES	**FINESS Array B**	**4.58**	**51**	Pn	**Pn**	**15 32 39.1**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=241,slow=11,SNR=16						
FINES				Sn	**Sn**	**15 33 28.8**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=234,slow=22,SNR=2.6						
FINES				Lg	Lg	15 33 43.7	
	comp=Z,1.4nm,0.3s,baz=247,slow=22,SNR=5.4						
KEF	**Keuruu**	**4.58**	**39**	*e*P	**Pn**	**15 32 39.2**	**+1.8**
KEF				*e*S	**Sn**	**15 33 31.7**	**+0.4**
KEF				MSG		15 33 49.4	
	comp=Z,2.8nm,0.2s						
KONO	**Kongsberg**	**4.74**	**285**	*e*P	**Pn**	**15 32 41.1**	**+1.6**
KONO				IAML		15 33 59.4	
	comp=Z,4.4nm,0.3s						
SKAR	**Skarslia**	**5.57**	**294**	*e*P	**Pn**	**15 32 51.4**	**+0.4**
DOMB	**Dombas**	**5.77**	**309**	*e*P	**Pn**	**15 32 54.8**	**+1.1**
SNART	**Snartemo**	**6.01**	**271**	*i* P	**Pn**	**15 32 54.6**	**-2.3**
SNART				*i* S	**Sn**	**15 34 00.4**	**-5.9**
AKASG	**Malin Array Be**	**10.13**	**138**	Pn	**Pn**	**15 33 53.1**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=296,slow=13,SNR=1.8						
ARCES	**ARCESS Array B**	**11.20**	**12**	Pn	**Pn**	**15 34 05.4**	**-2.5**
	baz=196,slow=14,SNR=26						
SPITS	**Spitsbergen Ar**	**19.51**	**359**	Pn	**P**	**15 35 53.9**	**-1.3**
	baz=167,slow=13,SNR=1.5						

*JMA **26** 15:33:13.7±0.1, 39°24N×142°39E, h34km±1km, M3.2*
*IDC **26** 15:33:19.1±4.3, 39°61N×141°33E, h105km±60km, mb2.9/2, mb1 2.9/4, mb1mx2.8/76, mbtmp

IDI	**Anoyia**	**1.42**	**304**	PN	**Pg**	**15 35 12.1 +0.3**
IDI				SN	**Sg**	**15 35 31.1 +0.8**
IDI	**Anoyia**	**1.42**	**304**		**Pg**	**15 35 12.1 +0.3**
GVD	**Gavdhos**	**1.88**	**281**	P	**Pb**	**15 35 19.5 +0.8**
GVD	**Gavdhos**	**1.88**	**281**	P	**Pb**	**15 35 19.6 +0.8**
GVD	**Gavdhos**	**1.88**	**281**	PN	**Pb**	**15 35 19.0 +0.2**
THR8	**Santorini-Mono**	**2.03**	**340**	P	**Pn**	**15 35 18.4 -0.2**
IMMV	**Iera Moni Meta**	**2.15**	**297**	P	**Pb**	**15 35 23.9 +0.4**
IMMV	**Iera Moni Meta**	**2.15**	**297**	P	**Pb**	**15 35 24.0 +0.5**
IMMV	**Iera Moni Meta**	**2.15**	**297**	PN	**Pb**	**15 35 22.6 +2.3**
ARG	**Arkhangelos**	**2.27**	**40**	P	**Pb**	**15 35 25.2 -0.2**
ARG	**Arkhangelos**	**2.27**	**40**	PN	**Pb**	**15 35 24.3 -1.1**
ARG	**Arkhangelos**	**2.27**	**40**	PN	**Pn**	**15 35 22.5 +0.6**
KNDR	**Palaiochora Ch**	**2.29**	**290**	PN	**Pb**	**15 35 25.3 -0.5**
KOSK	**Kos Island**	**2.32**	**13**	PN	**Pb**	**15 35 25.1 -1.2**
RODP	**Rodopos**	**2.36**	**298**	PN	**Pn**	**15 35 25.7 +2.5**
DAT	**Datca**	**2.45**	**24**	P	**Pn**	**15 35 25.5 +0.9**
DAT	**Datca**	**2.45**	**24**	PN	**Pn**	**15 35 25.9 +1.3**
DAT	**Datca**	**2.45**	**24**	P	**Pn**	**15 35 26.4 +1.8**
APE	**Apeiranthos**	**2.65**	**346**	PN	**Pn**	**15 35 29.1 +1.9**
APE	**Apeiranthos**	**2.65**	**346**	P	**Pn**	**15 35 28.4 +1.2**
BODT	**Bodrum**	**2.69**	**17**	PN	**Pn**	**15 35 29.6 +1.9**
BODT	**Bodrum**	**2.69**	**17**	P	**Pb**	**15 35 33.6 +1.0**
BDRM	**Kayabasi**	**2.72**	**19**	P	**Pn**	**15 35 30.7 +2.5**
TURN	**Turunc**	**2.76**	**34**	PN	**Pn**	**15 35 30.9 +2.2**
TURN	**Turunc**	**2.76**	**34**	P	**Pn**	**15 35 30.4 +1.7**
DALY	**Dalyan (Mula)**	**3.00**	**39**	PN	**Pn**	**15 35 34.4 +2.5**
MLSB	**Milas**	**3.04**	**22**	PN	**Pn**	**15 35 34.8 +2.3**
YER	**Yerkesik**	**3.08**	**31**	PN	**Pn**	**15 35 35.7 +2.6**
YER	**Yerkesik**	**3.08**	**31**	P	**Pn**	**15 35 34.2 +1.1**
YER				S	**Sn**	**15 36 11.9 +1.9**
AKAS	**Kas**	**3.19**	**56**	Pn	**Pn**	**15 35 35.1 +0.3**
AKAS	**Kas**	**3.19**	**56**	P	**Pn**	**15 35 36.6 +1.8**
AKAS				S	**Sn**	**15 36 11.1 -1.9**
AKAS				*i* AML	AML	15 36 14.0
	comp=N,167nm,1.6s					
AKAS				*i* AML	AML	15 36 28.0
	comp=N,92nm,1.0s					
MULA	**Mugla, Merkez-**	**3.20**	**30**	P	**Pb**	**15 35 38.5 -2.9**
AYDN	**Tasoluk**	**3.40**	**21**	P	**Pn**	**15 35 40.1 +2.6**
CAEL	**Denizli, Camel**	**3.58**	**42**	P	**Pb**	**15 35 47.0 -1.0**
DGB	**zmir**	**3.58**	**7**	P	**Pb**	**15 35 46.4 -1.4**
TAVA	**DENIZLI_Tavas**	**3.63**	**35**	P	**Pn**	**15 35 42.6 +1.8**
AKUM	**Antalya-Kumluc**	**3.76**	**60**	P	**Pn**	**15 35 43.2 +0.9**
AKUM				S	**Sn**	**15 36 25.0 -1.6**
AKUM				*i* AML	AML	15 36 42.0
	comp=N,37nm,0.8s					
AKUM				*i* AML	AML	15 37 48.0
	comp=N,46nm,2.2s					
GOLH	**Golhisar**	**3.80**	**43**	P	**Pn**	**15 35 45.0 +2.0**
URLA	**Izmir**	**3.87**	**3**	P	**Pn**	**15 35 44.7 +0.8**
ITM	**Ithomi**	**4.46**	**308**	Pn	**Pn**	**15 35 54.7 +2.6**
KEPZ	**Antalya-Kepez**	**4.92**	**59**	P	**Pn**	**15 35 59.3 +0.8**
KEPZ				S	**Sn**	**15 36 55.2 -0.2**
KEPZ				*i* AML	AML	15 37 21.0
	comp=N,25nm,1.0s					
GAZI	**Gazipasa**	**5.20**	**69**	P	**Pn**	**15 36 02.7 +0.5**
GAZI				S	**Sn**	**15 36 60.0 -2.1**
GAZI				*i* AML	AML	15 37 10.0
	comp=N,29nm,0.8s					
GAZI				*i* AML	AML	15 37 14.0
	comp=N,35nm,0.6s					
SEDI	**Konya, Seydise**	**5.30**	**55**	P	**Pn**	**15 36 07.2 +3.4**
SEDI				S	**Sn**	**15 37 06.5 +1.6**
AGG	**Agios Georgios**	**5.54**	**326**	Pn	**Pn**	**15 36 09.2 +2.3**
CSS	**Mathiatis**	**5.79**	**83**	Pn	**Pn**	**15 36 10.8 +0.4**
MMAI	**Mount Meron Ar**	**7.70**	**98**	Pn	**Pn**	**15 36 35.2 -1.5**
	comp=N,0.7nm,0.3s,baz=297,slow=41,SNR=1.3					
MMAI				Sn	**Sn**	**15 38 01.8 -2.2**
	comp=N,1.5nm,0.3s,baz=96,slow=38,SNR=2.1					
EIL	**Elat**	**8.76**	**121**	Pn	**Pn**	**15 36 51.2 +0.1**
	comp=N,0.6nm,0.3s,baz=179,slow=17,SNR=1.5					
EIL				Sn	Sn	15 38 20.5 -9.2
	comp=N,0.2nm,0.3s,baz=92,slow=16,SNR=1.5					
EIL				LR	LR	15 41 29.6
	comp=N,45nm,19.5s,baz=344,slow=46					
TIP	**Timpagrande**	**8.98**	**304**	Pn	**Pn**	**15 36 54.8 +0.6**
ASF	**Jabal al Asfar**	**9.14**	**102**	Pn	**Pn**	**15 36 59.0 +2.6**
	comp=N,0.1nm,0.3s,baz=144,slow=11,SNR=2.1					
ASF				Sn	**Sn**	**15 38 38.8 -0.7**
	comp=N,0.3nm,0.3s,baz=197,slow=20,SNR=1.4					
CUC	**Castrocucco**	**10.01**	**306**	Pn	**Pn**	**15 37 10.1 +1.9**
KBZ	**Khabaz**	**15.80**	**49**	Pn	**Pn**	**15 38 28.9 +2.0**
	comp=N,0.1nm,0.3s,baz=270,slow=12,SNR=2.4					
AKASG	**Malin Array Be**	**16.34**	**7**	Pn	**Pn**	**15 38 34.1 +0.4**
	comp=N,0.5nm,0.3s,baz=191,slow=9.4,SNR=2.9					
VRAC	**Vranov**	**16.46**	**337**	Pn	**Pn**	**15 38 32.9 -2.4**
	comp=N,0.7nm,0.3s,baz=180,slow=20,SNR=2.2					
GERES	**GERESS Array B**	**17.13**	**331**	P	**P**	**15 38 45.3 -0.2**
	comp=N,0.2nm,0.3s,baz=137,slow=12,SNR=6.6					
SENIN	**Lac Senin/Sane**	**18.66**	**315**	P	**P**	**15 39 03.2 +0.6**
ESDC	**Sonseca Array**	**24.64**	**291**	P	**P**	**15 40 05.3 +0.1**
	comp=N,0.5nm,0.6s,baz=84,slow=9.1,SNR=4.9					
GEYT	**Alibeck**	**25.82**	**73**	P	**P**	**15 40 15.7 -0.1**
	comp=N,2.0nm,0.4s,baz=268,slow=11,SNR=2.8					
AKTO	**Aktyubinsk**	**28.02**	**46**	P	**P**	**15 40 36.8 +1.4**
	comp=N,0.3nm,0.3s,baz=250,slow=15,SNR=1.7					
TOA0	**Torodi Ar. Sit**	**30.82**	**232**	P	**P**	**15 41 01.0 +0.5**
TOA0				IAmb	IAmb	15 41 09.1
	comp=Z,11nm,1.5s					
TORD	**Torodi Ar. Bea**	**30.82**	**232**	P	**P**	**15 41 01.6 +1.1**
	comp=Z,2.1nm,0.7s,baz=41,slow=9.3,SNR=13					
TORD	**Torodi Ar. Bea**	**30.82**	**232**	IAmb	IAmb	15 41 11.4
	comp=Z,4.4nm,1.4s					
ARCES	**ARCESS Array B**	**35.10**	**360**	P	**P**	**15 41 37.2 -0.1**
	comp=Z,4.6nm,1.0s,baz=178,slow=9.7,SNR=4.4					
ARCES	**ARCESS Array B**	**35.10**	**360**	IAmb	IAmb	15 41 41.3
	comp=Z,11nm,1.1s					
KKAR	**Karatay Array**	**35.16**	**62**	P	**P**	**15 41 38.2 0.0**
MK31	**Makanchi Array**	**43.35**	**56**	P	**P**	**15 42 46.1 -0.5**
MKAR	**Makanchi Array**	**43.35**	**56**	P	**P**	**15 42 47.8 +1.2**
	comp=Z,2.4nm,0.8s,baz=278,slow=5.8,SNR=19					
MKAR	**Makanchi Array**	**43.35**	**56**	P	**P**	**15 42 46.8 +0.2**
ZALV	**Zalesovo Beam**	**44.78**	**46**	P	**P**	**15 42 57.6 -0.3**
	comp=Z,0.6nm,0.5s,baz=276,slow=9.6,SNR=3.5					
SONM	**Songino Array**	**59.17**	**51**	P	**P**	**15 44 45.1 -0.3**
	comp=Z,0.3nm,0.5s,baz=292,slow=10,SNR=2.7					
LBTB	**Lobatse**	**59.19**	**181**	LR	LR	16 10 59.9
	comp=Z,76nm,18.3s,baz=63,slow=37					
EUNU	**Eureka**	**60.02**	**349**	P	**P**	**15 44 51.0 +0.3**
EUNU				IAmb	IAmb	15 44 55.9
	comp=Z,6.5nm,1.4s					
SCHQ	**Schefferville**	**64.31**	**320**	P	**P**	**15 45 19.1 -0.7**
	comp=Z,2.0nm,0.7s,baz=109,slow=1.2,SNR=3.8					
SCHQ	**Schefferville**	**64.31**	**320**	IAmb	IAmb	15 45 22.7
	comp=Z,15nm,1.4s					
A36M	**Sachs Harbour**	**71.95**	**351**	P	**P**	**15 46 07.9 +0.4**
A36M				IAmb	IAmb	15 46 29.4
	comp=Z,5.1nm,1.0s					
NCB	**Newcomb**	**73.69**	**312**	P	**P**	**15 46 18.3 0.0**
FCC	**Fort Churchill**	**74.74**	**332**	P	**P**	**15 46 24.3 +0.3**
IPM	**Ipoh**	**74.87**	**95**	P	**P**	**15 46 24.6 -1.0**
IPM				IAmb	IAmb	15 46 48.5
	comp=Z,10nm,1.5s					
TOLK	**Toolik Lake Re**	**77.13**	**358**	P	**P**	**15 46 38.4 +0.8**
TOLK				IAmb	IAmb	15 46 42.8
	comp=Z,5.7nm,1.5s					
YKA	**Yellowknife Ar**	**78.37**	**343**	P	**P**	**15 46 43.3 -1.3**
	comp=Z,0.3nm,0.7s,baz=32,slow=5.6,SNR=2.9					
IMAR	**Indian Mountai**	**79.85**	**0**	P	**P**	**15 46 53.7 +1.1**
H21K	**Melozitna Rive**	**80.17**	**360**	P	**P**	**15 46 55.0 +0.6**
H21K				IAmb	IAmb	15 47 06.9
	comp=Z,4.8nm,1.4s					
MDM	**Murphy Dome**	**80.78**	**358**	P	**P**	**15 46 58.4 +0.7**
MDM				IAmb	IAmb	15 47 16.5
	comp=Z,13nm,1.5s					
PPLA	**Purkeypile**	**82.94**	**359**	P	**P**	**15 47 09.9 +0.6**
KNK	**Knik Glacier**	**84.34**	**357**	P	**P**	**15 47 15.2 -1.1**
JHJ	**Hachijo jima 2**	**88.25**	**50**	LR	LR	16 30 35.4
	comp=Z,36nm,19.1s,baz=110,slow=38					

*NEIC **26** 15:42:18.5±1.6, 4°.1S±0°.1×142°.1E±0°.1, h107km±10km, mb4.0/14, Error ellipse: s-maj=19.1km s-min=13.7km az=220.0*

*IDC **26** 15:42:18.8±1.5, 4°.11S×142°.06E, h106km±10km, mb3.4/3, mb1 3.8/6, mb1mx3.4/34, mbtmp4.1/6, Error ellipse: s-maj=35.0km s-min=20.8km az=88.0*

ISC 26 15:42:18.8±1.0, 4°.2S±0°.1×142°.03E±0°.10, h109km, n25, σ0s92/28, mb3.7/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.28**	**136**	P	**Pn**	**15 44 04.4**	**+1.8**
	1.1nm,0.3s,baz=316,slow=10,SNR=2.8						
PMG				S	**Sn**	**15 45 22.6**	**-1.1**
	0.2nm,0.3s,baz=19,slow=18,SNR=1.3						
COEN	**Coen**	**9.80**	**173**	Pn	**Pn**	**15 44 38.4**	**+1.6**
MTN	**Manton Dam**	**13.80**	**231**	Pn	**Pn**	**15 45 28.9**	**-1.0**
WB0	**Warramunga Arr**	**17.21**	**205**	P	**P**	**15 46 11.4**	**-1.1**
WB0				IAmb	IAmb	15 46 40.9	
	comp=Z,5.2nm,1.1s						
WR0	**Warramunga Arr**	**17.32**	**204**	P	**P**	**15 46 12.6**	**-1.0**
WR0				IAmb	IAmb	15 46 14.3	
	comp=Z,9.4nm,0.8s						
KNRA	**Kununurra**	**17.36**	**228**	P	**P**	**15 46 14.4**	**+0.3**
KNRA				IAmb	IAmb	15 46 34.2	
	comp=Z,8.9nm,0.8s						
WRAB	**Tennant Creek**	**17.37**	**205**	P	**P**	**15 46 14.1**	**-0.2**
WRAB				IAmb	IAmb	15 46 16.0	
	comp=Z,6.7nm,0.8s						
WB2	**Warramunga Arr**	**17.38**	**205**	P	**P**	**15 46 13.6**	**-0.8**
WB2				IAmb	IAmb	15 46 16.1	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**17.39**	**205**	P	**P**	**15 46 13.4**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=29,slow=12,SNR=36						
SOEI	**Soe**	**18.48**	**252**	Pn	**Pn**	**15 46 28.5**	**+0.5**
BATI	**Baumata**	**19.18**	**251**	P	**Pn**	**15 46 36.5**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=72,slow=9.6,SNR=2.7						
MMRI	**Maumere**	**20.16**	**256**	P	**P**	**15 46 45.5**	**+0.7**
MMRI				IAmb	IAmb	15 46 48.7	
	comp=Z,11nm,0.7s						
AS31	**Alice Springs**	**20.92**	**201**		**P**	**15 46 52.7**	**-0.2**
ASAR	**Alice Springs**	**20.92**	**201**	P	**P**	**15 46 52.6**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=27,slow=9.8,SNR=43						
ASAR				pP	**pP**	**15 47 13.9**	**0.0**
	comp=Z,2.3nm,0.8s,baz=37,slow=8.9,SNR=5.4						
ASAR				sP	**sP**	**15 47 26.6**	**-1.2**
	comp=Z,5.1nm,0.7s,baz=29,slow=9.5,SNR=8.6						
ASAR	**Alice Springs**	**20.92**	**201**	P	**P**	**15 46 52.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.20**	**228**	P	**P**	**15 46 57.8**	**+2.0**
	comp=Z,2.0nm,0.5s,baz=41,slow=11,SNR=17						
FITZ	**Fitzroy Crossi**	**21.20**	**228**	P	**P**	**15 46 56.6**	**+0.8**
FITZ				IAmb	IAmb	15 47 20.4	
	comp=Z,3.6nm,0.8s						
TOLI2	**Tolitoli**	**21.87**	**283**	P	**P**	**15 47 02.8**	**-0.2**
KOUNC	**Koumac, New Ca**	**27.10**	**129**	P	**P**	**15 47 50.5**	**-1.1**
STKA	**Stephens Creek**	**27.57**	**181**	P	**P**	**15 47 56.0**	**+0.3**
MORW	**Morawa**	**34.95**	**222**	P	**P**	**15 49 01.1**	**+0.5**
MKAR	**Makanchi Array**	**72.97**	**322**	P	**P**	**15 53 36.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=98,slow=6.0,SNR=5.7						
MKAR				pP	**pP**	**15 54 03.6**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=131,slow=4.0,SNR=2.2						
MKAR	**Makanchi Array**	**72.97**	**322**	P	**P**	**15 53 36.3**	**-0.3**
ILAR	**Eielson Array**	**85.79**	**24**	pP	pP	15 55 12.2	-1.8
	comp=Z,0.4nm,0.5s,baz=257,slow=4.6,SNR=3.2						
QSPA	**South Pole Qui**	**85.79**	**180**	P	**P**	**15 54 46.1**	**+0.2**
QSPA				IAmb	IAmb	15 54 50.2	
	comp=Z,5.8nm,1.4s						

*IDC **26** 15:44:11.5±0.9, 35°.60N×97°.19W, h0km, mb3.5/2, mb1 3.9/8, mb1mx3.6/55, mbtmp3.6/8, ML3.5/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/55, Error ellipse: s-maj=12.5km s-min=10.4km az=140.0*

*TUL **26** 15:44:11.9±1.4, 35°.52N±0°.02×97°.09W±0°.02, h7km±5km, ML3.9, mb_Lg4.0/126(NEIC), Mwr3.6/45(NEIC), Error ellipse: s-maj=2.3km s-min=1.9km az=188.0*

*ANF **26** 15:44:12.3±0.1, 35°.55N×97°.09W, h10km, ML4.8/26, Error ellipse: s-maj=2.1km s-min=1.8km az=159.0*

*NEIC **26** 15:44:12.1, 35°.53N×97°.09W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.98; $M_{\theta\theta}$3.21; $M_{\phi\phi}$-2.23; $M_{r\theta}$0.10; $M_{r\phi}$0.89; $M_{\theta\phi}$-1.60; Fault plane solution: M_o3.38000×10^{14} NP1:ϕ_s300.89000°, δ65.46000°, λ-23.27000°. NP2:ϕ_s41.02000°, δ68.94000°, λ-153.57000°. Principal axes: T 3.3529, Plg2.0000°, Azm170.0000°; N 0.0621, Plg57.0000°, Azm77.0000°; P -3.4151, Plg33.0000°, Azm262.0000°;*

*NEIC **26** 15:44:12.2±1.3, 35°.53N±0°.02×97°.09W±0°.02, h12km±3km Error ellipse: s-maj=3.9km s-min=2.2km az=144.0*

ISC 26 15:44:12.1±0.8, 35°.56N±0°.03×97°.10W±0°.02, h11km±6km, n195, σ1s08/214, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.12**	**320**	Sg	**Sg**	**15 44 18.1**	**+0.9**
OK001	**Jones High Sch**	**0.16**	**269**	Pg	**Pg**	**15 44 15.6**	**0.0**
OK001				Sg	**Sg**	**15 44 18.4**	**+0.2**
OK009	**Oakdale Elemen**	**0.27**	**274**		**Pg**	**15 44 17.6**	**+0.1**
OK009					**Sg**	**15 44 21.9**	**+0.7**
FNO	**Franklin**	**0.39**	**219**	Pg	**Pg**	**15 44 19.2**	**-0.7**
FNO				Sg	**Sg**	**15 44 24.8**	**-0.4**
TUL1	**Leonard**	**1.12**	**72**		**Pg**	**15 44 32.3**	**-1.3**
TUL1				Sg	**Sg**	**15 44 47.9**	**-0.2**
TUL1	**Leonard**	**1.12**	**72**	P	**Pg**	**15 44 32.3**	**-1.3**
	baz=250,SNR=176						
TUL1				S	**Sg**	**15 44 47.8**	**-0.3**
	baz=250						
TUL1	**Leonard**	**1.12**	**72**	P	**Pg**	**15 44 32.3**	**-1.3**
	baz=250,SNR=165						
TUL1				S	**Sg**	**15 44 47.6**	**-0.5**
	baz=250						
X34A	**Smith Ranch, M**	**1.13**	**212**	Pg	**Pg**	**15 44 32.9**	**-1.0**
T35A	**Sooner Cattle**	**1.43**	**19**	Pn	**Pn**	**15 44 38.5**	**+0.5**
T35B	**Sooner Cattle**	**1.43**	**19**	P	**Pn**	**15 44 38.3**	**+0.4**
	baz=199,SNR=293						
T35B				S	**Sg**	**15 44 58.3**	**+0.2**
	baz=199						
WMOK	**Wichita Mounta**	**1.61**	**240**		**Pn**	**15 44 40.2**	**-0.2**
WMOK	**Wichita Mounta**	**1.61**	**240**	P	**Pn**	**15 44 40.1**	**-0.2**
	baz=60,SNR=398						
WMOK				S	**Sb**	**15 45 01.7**	**-0.3**
	baz=60						
WMOK	**Wichita Mounta**	**1.61**	**240**	P	**Pn**	**15 44 40.2**	**-0.2**
	baz=60						
WMOK				S	**Sb**	**15 45 01.7**	**-0.3**
	baz=60						
X37A	**Clayton**	**1.72**	**124**	Pn	**Pn**	**15 44 42.5**	**+0.6**
X37A				IAmb_Lg		15 45 08.4	
	comp=Z,863nm,0.8s						
X37A	**Clayton**	**1.72**	**124**	P	**Pn**	**15 44 42.2**	**+0.3**
	baz=304,SNR=105						
U32A	**Winter Ranch,**	**1.75**	**298**	Pn	**Pn**	**15 44 43.4**	**+1.1**
U32A	**Winter Ranch,**	**1.75**	**298**	P	**Pn**	**15 44 43.2**	**+0.9**
	baz=118,SNR=50						
U32A				S	**Sb**	**15 45 06.1**	**+0.1**
	baz=118						
Z35A	**Perchaven, San**	**2.23**	**183**		**Pn**	**15 44 49.3**	**+0.3**
Z35A				IAmb_Lg		15 45 22.6	
	comp=Z,922nm,1.3s						
Z35A	**Perchaven, San**	**2.23**	**183**	P	**Pn**	**15 44 49.3**	**+0.3**
	baz=3.5,SNR=36						
HHAR	**Hobbs**	**2.66**	**73**	Pn	**Pn**	**15 44 54.6**	**-0.3**
W39A	**Magazine**	**2.73**	**97**		**Pn**	**15 44 56.3**	**+0.4**
W39A	**Magazine**	**2.73**	**97**	P	**Pn**	**15 44 56.4**	**+0.6**
	baz=278,SNR=125						
W39A				S	**Sn**	**15 45 30.2**	**+1.4**
	baz=278						
W39A	**Magazine**	**2.73**	**97**	P	**Pn**	**15 44 56.4**	**+0.6**
	baz=278,SNR=82						
W39A				S	**Sn**	**15 45 30.0**	**+1.2**
	baz=278						
Z38A	**Mt. Pleasant**	**2.89**	**142**		**Pn**	**15 44 58.3**	**+0.4**
Z38A				IAmb_Lg		15 45 44.0	
	comp=Z,382nm,0.8s						
Z38A	**Mt. Pleasant**	**2.89**	**142**	P	**Pn**	**15 44 58.0**	**+0.1**
	baz=323						
MIAR	**Mount Ida**	**3.06**	**108**	Pn	**Pn**	**15 45 00.8**	**+0.4**
MIAR				IAmb_Lg		15 45 56.1	
	comp=Z,258nm,0.7s						
MIAR	**Mount Ida**	**3.06**	**108**	P	**Pn**	**15 45 01.1**	**+0.8**
	baz=290,SNR=71						
MIAR				S	**Sn**	**15 45 38.1**	**+1.1**
	baz=290						
MIAR	**Mount Ida**	**3.06**	**108**	P	**Pn**	**15 45 01.2**	**+0.8**
	baz=290,SNR=40						
MIAR				S	**Sn**	**15 45 38.2**	**+1.2**
	baz=290						
R32A	**Long Quarter,**	**3.13**	**336**		**Pn**	**15 45 02.1**	**+0.8**
R32A	**Long Quarter,**	**3.13**	**336**	P	**Pn**	**15 45 02.8**	**+1.4**
	baz=156,SNR=7.9						
R32A				S	**Sn**	**15 45 41.1**	**+2.4**
	baz=156						
U40A	**Yellville**	**3.53**	**76**		**Pn**	**15 45 06.0**	**-0.9**
U40A				IAmb_Lg		15 46 06.8	
	comp=Z,255nm,0.7s						
U40A	**Yellville**	**3.53**	**76**	P	**Pn**	**15 45 07.3**	**+0.4**
	baz=258,SNR=67						
U40A				P	**Pn**	**15 45 07.3**	**+0.4**
	baz=258,SNR=67						
U40A	**Yellville**	**3.53**	**76**	P	**Pn**	**15 45 07.0**	**+0.1**
	baz=258,SNR=43						
KSU1	**Kansas State U**	**3.55**	**6**	Pn	**Pn**	**15 45 07.1**	**0.0**
KSU1				IAmb_Lg		15 46 07.7	
	comp=Z,368nm,0.9s						
KSU1	**Kansas State U**	**3.55**	**6**	P	**Pn**	**15 45 08.0**	**+0.9**
	baz=186,SNR=21						
KSU1	**Kansas State U**	**3.55**	**6**	P	**Pn**	**15 45 08.0**	**+0.9**
	baz=186,SNR=9.0						
KSU1				Sb	**Sg**	**15 46 03.8**	**-2.4**
	baz=186						
WHTX	**Lake Whitney,**	**3.58**	**185**		**Pn**	**15 45 06.5**	**-1.0**
WHTX	**Lake Whitney,**	**3.58**	**185**	P	**Pn**	**15 45 07.5**	**0.0**
	baz=4.8,SNR=5.8						
WHTX	**Lake Whitney,**	**3.58**	**185**	P	**Pn**	**15 45 07.1**	**-0.4**
	baz=4.8						
WHTX				Sb	**Sb**	**15 46 00.9**	**+2.2**
	baz=4.8						
ABTX	**Abilene, Hawle**	**3.61**	**216**		**Pn**	**15 45 07.7**	**-0.3**
ABTX				IAmb_Lg		15 46 13.6	
	comp=Z,230nm,0.9s						
ABTX	**Abilene, Hawle**	**3.61**	**216**	P	**Pn**	**15 45 08.0**	**0.0**
	baz=35						
ABTX				S	**Sn**	**15 45 51.4**	**+0.7**
	baz=35						
ABTX	**Abilene, Hawle**	**3.61**	**216**	P	**Pn**	**15 45 07.8**	**-0.3**
	baz=35						
ABTX				S	**Sn**	**15 45 51.1**	**+0.4**
	baz=35						
X40A	**Basin Creek Fa**	**3.66**	**106**		**Pn**	**15 45 08.8**	**+0.2**
X40A				IAmb_Lg		15 46 09.4	
	comp=Z,515nm,0.8s						
X40A	**Basin Creek Fa**	**3.66**	**106**	P	**Pn**	**15 45 08.8**	**+0.2**
	baz=288,SNR=19						
X40A				P	**Pn**	**15 45 08.8**	**+0.2**
	baz=288,SNR=19						
X40A	**Basin Creek Fa**	**3.66**	**106**	P	**Pn**	**15 45 09.5**	**+0.9**
	baz=288,SNR=11						
X40A				S	**Sb**	**15 46 05.0**	**+3.9**
	baz=288						
S39A	**Bolivar**	**3.71**	**54**	Pn	**Pn**	**15 45 09.9**	**+0.7**
S39A				IAmb_Lg		15 46 11.8	
	comp=Z,400nm,0.8s						
S39A	**Bolivar**	**3.71**	**54**	P	**Pn**	**15 45 09.6**	**+0.4**
	baz=236,SNR=47						
S39A				S	**Sn**	**15 45 54.8**	**+2.0**
	baz=236						
237A	**Washetta, Mont**	**3.71**	**163**		**Pn**	**15 45 07.2**	**-2.1**
237A	**Washetta, Mont**	**3.71**	**163**	P	**Pn**	**15 45 09.2**	**-0.1**
	baz=344,SNR=8.2						
237A				S	**Sn**	**15 45 53.3**	**+0.3**
	baz=344						
WLAR	**White Oak Lake**	**3.78**	**119**	Pn	**Pn**	**15 45 09.6**	**-0.6**
WLAR				IAmb_Lg		15 46 15.0	
	comp=Z,280nm,0.8s						
AMTX	**Amarillo**	**3.81**	**261**	Pn	**Pn**	**15 45 10.8**	**0.0**
AMTX				IAmb_Lg		15 46 21.5	
	comp=Z,320nm,0.9s						
AMTX	**Amarillo**	**3.81**	**261**	P	**Pn**	**15 45 11.4**	**+0.6**
	baz=79						
AMTX				Sb	**Sb**	**15 46 08.7**	**+3.1**
	baz=79						
CBKS	**Cedar Bluff**	**3.87**	**328**	Pn	**Pn**	**15 45 12.8**	**+1.2**
CBKS				IAmb_Lg		15 46 23.4	
	comp=Z,290nm,0.8s						
CBKS	**Cedar Bluff**	**3.87**	**328**	P	**Pn**	**15 45 12.7**	**+1.2**
	baz=147						
CBKS				S	**Sn**	**15 45 59.3**	**+2.3**
	baz=147						
CBKS	**Cedar Bluff**	**3.87**	**328**	P	**Pn**	**15 45 12.6**	**+1.1**
	baz=147,SNR=16						
CBKS				Sb	**Sg**	**15 46 12.7**	**-3.6**
	baz=147						
WHAR	**Wooly Hollow**	**3.94**	**93**	Pn	**Pn**	**15 45 11.5**	**-0.9**
WHAR				IAmb_Lg		15 46 19.7	
	comp=Z,324nm,1.0s						
UALR	**University of**	**3.97**	**100**	Pn	**Pn**	**15 45 13.1**	**+0.2**
UALR				IAmb_Lg		15 46 20.5	
	comp=Z,404nm,0.8s						
W41B	**Gary Mavity, V**	**3.98**	**94**		**Pn**	**15 45 13.3**	**+0.3**
W41B				IAmb_Lg		15 46 16.8	
	comp=Z,217nm,0.8s						
W41B	**Gary Mavity, V**	**3.98**	**94**	P	**Pn**	**15 45 13.2**	**+0.1**
	baz=276,SNR=84			

KSCO	**Kaye Shedlock'**	**5.59**	**310**			**Pn**	**15 45 35.7**	**+0.4**
KSCO				IAmb_Lg			15 47 21.7	
	comp=Z,255nm,0.9s							
KSCO	**Kaye Shedlock'**	**5.59**	**310**	P		**Pn**	**15 45 36.4**	**+1.1**
	baz=127							
KSCO	**Kaye Shedlock'**	**5.59**	**310**	P		**Pn**	**15 45 36.1**	**+0.8**
	baz=127,SNR=10.0							
KSCO				S		**Sn**	**15 46 41.0**	**+1.4**
	baz=127							
P40A	**Paris**	**5.63**	**44**			**Pn**	**15 45 36.3**	**+0.6**
P40A	**Paris**	**5.63**	**44**	P		**Pn**	**15 45 36.5**	**+0.8**
	baz=226							
HKT	**Hockley**	**5.70**	**169**			**Pn**	**15 45 33.9**	**-2.7**
GNAR	**Gosnell**	**5.77**	**84**	IAmb_Lg			15 47 24.5	
	comp=Z,313nm,0.8s							
FVM	**French Village**	**5.87**	**64**			**Pn**	**15 45 38.9**	**-0.2**
FVM				IAmb_Lg			15 47 21.8	
	comp=Z,295nm,1.1s							
FVM	**French Village**	**5.87**	**64**	P		**Pn**	**15 45 39.3**	**+0.3**
	baz=247,SNR=23							
BGNE	**Belgrade**	**5.89**	**352**			**Pn**	**15 45 40.0**	**+0.7**
BGNE				IAmb_Lg			15 47 34.9	
	comp=Z,252nm,0.8s							
PEBM	**Pemiscott Bayo**	**5.90**	**83**	IAmb_Lg			15 47 24.5	
	comp=Z,281nm,0.7s							
N38A	**Joes South For**	**6.04**	**29**			**Pn**	**15 45 40.6**	**-0.7**
N38A	**Joes South For**	**6.04**	**29**	P		**Pn**	**15 45 42.1**	**+0.8**
	baz=211							
PARMO	**Parma**	**6.05**	**77**	IAmb_Lg			15 47 30.6	
	comp=Z,306nm,0.8s							
T25A	**Trinidad**	**6.11**	**287**	P		**Pn**	**15 45 42.8**	**+0.4**
	baz=103,SNR=7.1							
OXF	**Oxford**	**6.39**	**97**			**Pn**	**15 45 46.6**	**+0.5**
OXF				IAmb_Lg			15 47 46.1	
	comp=Z,140nm,0.8s							
OXF	**Oxford**	**6.39**	**97**	P		**Pn**	**15 45 46.4**	**+0.3**
	baz=281,SNR=29							
OXF	**Oxford**	**6.39**	**97**	P		**Pn**	**15 45 46.4**	**+0.3**
	baz=281,SNR=15							
OXF				S		**Sn**	**15 46 59.5**	**+0.4**
	baz=281							
L34A	**Svendsen Farm,**	**6.42**	**5**	P		**Pn**	**15 45 47.5**	**+1.0**
	baz=185							
Y45A	**Yeager Farm, C**	**6.45**	**103**			**Pn**	**15 45 45.0**	**-1.9**
Y45A				IAmb_Lg			15 47 54.9	
	comp=Z,134nm,0.9s							
Y45A	**Yeager Farm, C**	**6.45**	**103**	P		**Pn**	**15 45 48.2**	**+1.3**
	baz=287							
W45A	**Hickory Valley**	**6.48**	**91**	IAmb_Lg			15 47 41.2	
	comp=Z,135nm,0.8s							
W45A	**Hickory Valley**	**6.48**	**91**	P		**Pn**	**15 45 48.0**	**+0.6**
	baz=276							
OGNE	**Ogallala**	**6.63**	**326**			**Pn**	**15 45 48.6**	**-0.9**
OGNE	**Ogallala**	**6.63**	**326**	P		**Pn**	**15 45 50.6**	**+1.1**
	baz=143,SNR=5.9							
S44A	**Carbondale**	**6.66**	**69**			**Pn**	**15 45 49.6**	**-0.1**
S44A				IAmb_Lg			15 47 48.4	
	comp=Z,229nm,0.9s							
S44A	**Carbondale**	**6.66**	**69**	P		**Pn**	**15 45 49.9**	**+0.2**
	baz=253,SNR=12							
SIUC	**Southern Illin**	**6.69**	**69**			**Pn**	**15 45 50.4**	**+0.2**
SIUC				IAmb_Lg			15 47 48.2	
	comp=Z,258nm,1.0s							
735A	**Kenedy**	**6.72**	**185**	IAmb_Lg			15 47 58.4	
	comp=Z,251nm,1.1s							
SCIA	**State Center**	**7.02**	**24**	Pn		**Pn**	**15 45 55.8**	**+1.0**
SCIA				IAmb_Lg			15 47 59.5	
	comp=Z,247nm,0.9s							
SCIA	**State Center**	**7.02**	**24**	P		**Pn**	**15 45 56.0**	**+1.2**
	baz=207							
SDCO	**Great Sand Dun**	**7.10**	**290**			**Pn**	**15 45 57.0**	**+0.9**
SDCO	**Great Sand Dun**	**7.10**	**290**	P		**Pn**	**15 45 57.0**	**+0.9**
	baz=106							
N41A	**Harden Midland**	**7.11**	**42**			**Pn**	**15 45 56.9**	**+0.9**
N41A	**Harden Midland**	**7.11**	**42**	P		**Pn**	**15 45 56.9**	**+0.9**
	baz=225							
K31A	**O'Neill**	**7.17**	**350**			**Pn**	**15 45 55.4**	**-1.4**
K31A				IAmb_Lg			15 48 19.9	
	comp=Z,177nm,0.8s							
K31A	**O'Neill**	**7.17**	**350**	P		**Pn**	**15 45 58.4**	**+1.6**
	baz=169							
Q44A	**Meyer Farm, Va**	**7.26**	**60**	P		**Pn**	**15 45 59.3**	**+1.3**
	baz=245							
P43A	**Skaggs, Pawnee**	**7.26**	**54**			**Pn**	**15 45 59.1**	**+1.1**
P43A	**Skaggs, Pawnee**	**7.26**	**54**	P		**Pn**	**15 45 59.1**	**+1.1**
	baz=238							
Q24A	**Divide**	**7.26**	**300**			**Pn**	**15 45 58.8**	**+0.5**
Q24A				IAmb_Lg			15 48 17.6	
	comp=Z,181nm,0.8s							
PLAL	**Pickwick Lake**	**7.40**	**92**			**Pn**	**15 45 58.4**	**-1.6**
833A	**Chaparral WMA,**	**7.48**	**196**	Pn		**Pn**	**15 45 59.6**	**-1.4**
833A				IAmb_Lg			15 48 13.3	
	comp=Z,122nm,0.9s							
833A	**Chaparral WMA,**	**7.48**	**196**	P		**Pn**	**15 46 01.9**	**+0.8**
	baz=15							
833A	**Chaparral WMA,**	**7.48**	**196**	P		**Pn**	**15 46 01.9**	**+0.8**
	baz=15							
WVT	**Waverly**	**7.55**	**83**			**Pn**	**15 46 01.4**	**-0.6**
WVT	**Waverly**	**7.55**	**83**	P		**Pn**	**15 46 02.2**	**+0.1**
	baz=268							
ANMO	**Albuquerque**	**7.68**	**268**	Pn		**Pn**	**15 46 05.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=92,slow=17,SNR=2.0							
ANMO				Pg		Pb	15 46 30.7	+5.4
	comp=Z,1.2nm,0.3s,baz=89,slow=17,SNR=11							
ANMO				Lg	Lg		15 48 11.3	
	comp=Z,2.5nm,0.3s,baz=124,slow=3.6,SNR=4.7							
K38A	**Parkersburg**	**7.83**	**24**	IAmb_Lg			15 48 27.3	
	comp=Z,207nm,0.9s							
OLIL	**Olney**	**7.85**	**64**	IAmb_Lg			15 48 33.6	
	comp=Z,182nm,0.8s							
MNTX	**Cornudas Mount**	**7.91**	**243**			**Pn**	**15 46 06.7**	**-0.3**
MNTX	**Cornudas Mount**	**7.91**	**243**	P		**Pn**	**15 46 07.0**	**0.0**
	baz=59							
HDIL	**Hopedale**	**7.92**	**49**			**Pn**	**15 46 06.5**	**-0.6**
HDIL	**Hopedale**	**7.92**	**49**	P		**Pn**	**15 46 08.0**	**+0.9**
	baz=233							
USIN	**University of**	**7.94**	**70**	IAmb_Lg			15 48 32.2	
	comp=Z,198nm,1.2s							
L40A	**Anamosa**	**7.94**	**33**	Pn		**Pn**	**15 46 07.2**	**-0.2**
L40A	**Anamosa**	**7.94**	**33**	P		**Pn**	**15 46 08.3**	**+0.9**
	baz=217							
ISCO	**Idaho Springs**	**7.96**	**305**			**Pn**	**15 46 07.7**	**-0.3**
ISCO	**Idaho Springs**	**7.96**	**305**	P		**Pn**	**15 46 09.3**	**+1.3**
	baz=120							
ECSD	**EROS Data Cent**	**8.17**	**2**			**Pn**	**15 46 09.6**	**-1.0**
ECSD	**EROS Data Cent**	**8.17**	**2**	P		**Pn**	**15 46 10.9**	**+0.4**
	baz=183,SNR=14							
T47A	**Sharon Grove**	**8.20**	**77**			**Pn**	**15 46 10.4**	**-0.4**
T47A				IAmb_Lg			15 48 40.5	
	comp=Z,132nm,0.9s							
T47A	**Sharon Grove**	**8.20**	**77**	P		**Pn**	**15 46 11.5**	**+0.6**
	baz=263							
X48A	**Hartselle**	**8.32**	**95**			**Pn**	**15 46 12.1**	**-0.5**
X48A	**Hartselle**	**8.32**	**95**	P		**Pn**	**15 46 12.7**	**+0.1**
	baz=280							
TX31	**Lajitas Ar. Si**	**8.33**	**224**			**Pn**	**15 46 11.9**	**-0.9**
TX31	**Lajitas Ar. Si**	**8.33**	**224**	P		**Pn**	**15 46 12.4**	**-0.4**
	baz=40							
TXAR	**Lajitas Array**	**8.33**	**224**	Pn		**Pn**	**15 46 11.8**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=50,slow=12,SNR=17							
TXAR				Pg		Pb	15 46 41.5	+5.1
	comp=Z,1.3nm,0.3s,baz=40,slow=13,SNR=12							
TXAR				Lg	Lg		15 48 28.8	
	comp=Z,3.8nm,0.3s,baz=36,slow=29,SNR=7.1							
N23A	**Red Feather La**	**8.76**	**310**			**Pn**	**15 46 19.5**	**+0.7**
N23A				IAmb_Lg			15 49 05.0	
	comp=Z,162nm,0.8s							
N23A	**Red Feather La**	**8.76**	**310**	P		**Pn**	**15 46 20.2**	**+1.4**
	baz=125							
I37A	**Lemond, Waseca**	**8.90**	**17**	IAmb_Lg			15 49 11.2	
	comp=Z,92nm,0.7s							
Y49A	**Blount Mountai**	**8.96**	**98**			**Pn**	**15 46 20.2**	**-1.3**
SUSD	**Miller**	**8.98**	**351**	IAmb_Lg			15 49 05.9	
	comp=Z,103nm,0.9s							
JFWS	**Jewell Farm**	**9.06**	**34**	P		**Pn**	**15 46 22.8**	**+0.1**
	baz=218							
SFIN	**Lafayette**	**9.24**	**56**	IAmb_Lg			15 49 19.0	
	comp=Z,157nm,0.8s							
SFIN	**Lafayette**	**9.24**	**56**	P		**Pn**	**15 46 26.2**	**+1.0**
	baz=242							
FPAL	**Fort Paine**	**9.47**	**93**			**Pn**	**15 46 28.1**	**-0.3**
I40A	**Norwalk**	**9.70**	**29**	Pn		**Pn**	**15 46 31.6**	**+0.1**
I40A				IAmb_Lg			15 49 27.5	
	comp=Z,104nm,0.8s							
RSSD	**Black Hills**	**10.07**	**330**			**Pn**	**15 46 36.5**	**-0.2**
RSSD	**Black Hills**	**10.07**	**330**	P		**Pn**	**15 46 38.2**	**+1.5**
	baz=146							
SPMN	**Marine on St.**	**10.19**	**17**			**Pn**	**15 46 37.1**	**-1.1**
SPMN	**Marine on St.**	**10.19**	**17**	P		**Pn**	**15 46 39.3**	**+1.1**
	baz=200							
F33A	**5 Mile Ranch,**	**10.28**	**3**			**Pn**	**15 46 38.2**	**-1.3**
O48B	**Farmland**	**10.53**	**60**	P		**Pn**	**15 46 42.5**	**-0.4**
	baz=247							
P49A	**Miami Univ. Ec**	**10.60**	**64**	P		**Pn**	**15 46 43.7**	**-0.1**
	baz=252							
F36A	**Milaca**	**10.64**	**14**			**Pn**	**15 46 43.4**	**-1.0**
TKL	**Tuckaleechee C**	**10.85**	**86**	Pn		**Pn**	**15 46 47.7**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=274,slow=13,SNR=7.0							
TKL				Lg	Lg		15 49 48.0	
	comp=Z,1.2nm,0.3s,baz=356,slow=19,SNR=1.7							
G40A	**Rib Lake**	**11.02**	**26**			**Pn**	**15 46 48.1**	**-1.4**
S51A	**Beattyville**	**11.05**	**75**			**Pn**	**15 46 49.1**	**-1.0**
GOGA	**Godfrey**	**11.45**	**97**	P		**Pn**	**15 46 55.7**	**+0.1**
	baz=284							
PD31	**Pinedale Array**	**12.04**	**310**			**Pn**	**15 47 02.5**	**-1.3**
PDAR	**Pinedale Array**	**12.04**	**310**	Pn		**Pn**	**15 47 03.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=118,slow=12,SNR=9.9							
PDAR				Pg			15 47 54.2	
	comp=Z,0.4nm,0.3s,baz=120,slow=14,SNR=3.4							
PDAR				Lg	Lg		15 50 24.6	
	comp=Z,0.5nm,0.3s,baz=117,slow=28,SNR=3.0							
ACSO	**Alum Creek Sta**	**12.08**	**63**	P		**Pn**	**15 47 04.2**	**+0.1**
	baz=252							
Q52A	**Bidwell**	**12.29**	**70**			**Pn**	**15 47 05.5**	**-1.5**
P52A	**Corning**	**12.54**	**67**	P		**Pn**	**15 47 09.4**	**-1.0**
	baz=256							
AGMN	**Agassiz Nation**	**12.76**	**4**			**Pn**	**15 47 11.1**	**-2.2**
EYMN	**Ely**	**13.05**	**17**	P		**Pn**	**15 47 16.8**	**-0.5**
	baz=200							
E43A	**Lone Tree Farm**	**13.21**	**32**	Pn		**Pn**	**15 47 18.8**	**-0.7**
O53A	**New Philadelph**	**13.38**	**65**	P		**Pn**	**15 47 21.4**	**-0.5**
	baz=254							
ULM	**Lac du Bonnet**	**14.71**	**3**	Pn		**Pn**	**15 47 36.5**	**-3.4**
	comp=Z,0.4nm,0.3s,baz=180,slow=14,SNR=5.7							
ULM				Sn		Sn	15 50 10.4	-12
	comp=Z,0.3nm,0.3s,baz=205,slow=9.7,SNR=2.0							
ULM				Lg	Lg		15 51 44.2	
	comp=Z,0.3nm,0.3s,baz=128,slow=19,SNR=1.4							
SADO	**Sadowa**	**16.49**	**51**	Lg	Lg		15 52 43.1	
	comp=Z,0.6nm,0.3s,baz=216,slow=19,SNR=3.1							
CMIG	**Matias Romero**	**18.50**	**173**	P		**Pn**	**15 48 29.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=354,slow=10,SNR=2.0							
YBH	**Yreka Blue Hor**	**20.89**	**295**	LR	LR		15 58 15.5	
	comp=Z,51nm,20.4s,baz=254,slow=41							
YKA	**Yellowknife Ar**	**29.09**	**343**	P		**P**	**15 50 11.2**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=141,slow=9.0,SNR=7.3							
ILAR	**Eilson Array**	**41.52**	**330**	P		**P**	**15 52 01.3**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=100,slow=7.2,SNR=6.2							

*NOU **26** 15:46:48.1,36˚41S×179˚42W,h16km,mb4.3/7,East of North Island, N.Z.*
*IDC **26** 15:46:53.6±3.3,36˚05S×179˚17E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.3/43,mbtmp3.5/3,ML3.4/1,Error ellipse: s-maj=71.6km s-min=33.7km az=112.0*
*WEL **26** 15:46:56.5±0.9,37˚S±7˚×18˚0E±˚,h33km,M3.6/13, ML3.9/15,MLv3.6/13,Error ellipse: s-maj=0.0km s-min=0.0km az=167.6*

ISC 26 15:46:55.4±2.7,36˚5S±0˚1×179˚9W±0˚1,h55km±25km,n73, σ1§00/89,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.77**	**233**	P		**Pn**	**15 47 22.9**	**-0.7**
MXZ				S		Sn	15 47 44.5	-0.4
WMGZ	**Waiomatatini S**	**1.86**	**225**	P		**Pn**	**15 47 25.4**	**+0.5**
WMGZ				S		Sn	15 47 49.3	+1.9
PUZ	**Puketiti**	**2.13**	**222**	P		**Pn**	**15 47 28.7**	**+0.1**
PUZ				S		Sn	15 47 55.8	+1.9
HAZ	**Te Kaha**	**2.22**	**235**	P		**Pn**	**15 47 30.0**	**+0.3**
HAZ				S		Sn	15 47 57.8	+1.8
TWGZ	**Tauwhareparae**	**2.36**	**225**	P		**Pn**	**15 47 32.0**	**+0.3**
TWGZ				S		Sn	15 48 01.5	+2.0
RUGZ	**Raukumara Rang**	**2.41**	**232**	P		**Pn**	**15 47 32.5**	**+0.1**
CNGZ	**Carnagh Statio**	**2.47**	**217**	P		**Pn**	**15 47 34.0**	**+0.8**
CNGZ				S		Sn	15 48 04.2	+2.0
TKGZ	**Te Karaka**	**2.62**	**222**	P		**Pn**	**15 47 36.5**	**+1.3**
TKGZ				S		Sn	15 48 06.5	+0.6
MWZ	**Matawai**	**2.73**	**227**	P		**Pn**	**15 47 36.4**	**-0.4**
MWZ				S		Sn	15 48 07.9	-0.7
WHRZ	**Whale Island**	**2.82**	**241**	P		**Pn**	**15 47 39.0**	**+1.0**
RIGZ	**Rimuhau**	**2.86**	**219**	P		**Pn**	**15 47 38.6**	**0.0**
RIGZ				S		Sn	15 48 11.2	-0.7
RAGZ	**Rawiri**	**2.90**	**226**	P		**Pn**	**15 47 38.9**	**-0.2**
RAGZ				S		Sn	15 48 12.2	-0.7
URZ	**Urewera**	**2.94**	**233**	Pn		**Pn**	**15 47 38.9**	**-0.6**
	6.2nm,0.3s,baz=260,slow=3.9,SNR=87							
URZ				Sn		**Sn**	**15 48 12.2**	**-1.5**
	15nm,0.3s,baz=205,slow=24,SNR=20							
URZ	**Urewera**	**2.94**	**233**	P		**Pn**	**15 47 39.0**	**-0.6**
URZ				S		Sn	15 48 12.6	-1.0
URZ	**Urewera**	**2.94**	**233**	P		**Pn**	**15 47 39.0**	**-0.6**
PRGZ	**Paritu Road**	**2.97**	**215**	P		**Pn**	**15 47 39.8**	**-0.3**
PRGZ				S		Sn	15 48 14.3	-0.2
MARZ	**Manawahe**	**3.09**	**241**	P		**Pn**	**15 47 41.1**	**-0.6**
MARZ				S		Sn	15 48 15.4	-2.1
EDRZ	**Edgecumbe**	**3.10**	**238**	P		**Pn**	**15 47 43.2**	**+1.3**
OPRZ	**Ohinepanea**	**3.12**	**244**	P		**Pn**	**15 47 43.3**	**-0.7**
OPRZ				S		Sn	15 48 15.4	-2.6
SNGZ	**Shannon Statio**	**3.14**	**223**	P		**Pn**	**15 47 42.8**	**+0.4**
SNGZ				S		Sn	15 48 19.1	+0.4
MHGZ	**Mahia Peninsul**	**3.15**	**212**	P		**Pn**	**15 47 43.0**	**+0.5**
RTZ	**Ruatahuna**	**3.24**	**229**	P		**Pn**	**15 47 43.3**	**-0.4**
MUGZ	**Murupara**	**3.28**	**232**	P		**Pn**	**15 47 44.1**	**-0.2**
TGRZ	**Tauranga**	**3.29**	**247**	P		**Pn**	**15 47 44.3**	**-0.1**
TARZ	**Mount Tarawera**	**3.33**	**238**	P		**Pn**	**15 47 46.0**	**+1.0**
RAHZ	**Arahi**	**3.38**	**224**	P		**Pn**	**15 47 46.0**	**+0.3**
KARZ	**Kaharoa**	**3.41**	**243**	P		**Pn**	**15 47 45.7**	**-0.4**
HLRZ	**Highlands Stat**	**3.44**	**239**	P		**Pn**	**15 47 47.5**	**+1.0**
MTHZ	**Maungataniwha**	**3.48**	**227**	P		**Pn**	**15 47 47.3**	**+0.3**
PRRZ	**Plateau Road**	**3.54**	**235**	P		**Pn**	**15 47 48.3**	**+0.5**
KMRZ	**Kaimai**	**3.56**	**247**	P		**Pn**	**15 47 49.0**	**+0.8**
ALRZ	**Allen Road**	**3.61**	**234**	P		**Pn**	**15 47 49.3**	**+0.5**
NMHZ	**Naumai**	**3.66**	**224**	P		**Pn**	**15 47 49.7**	**+0.2**
ARHZ	**Arohpaoanui**	**3.68**	**221**	P		**Pn**	**15 47 50.0**	**+0.3**
MRHZ	**Matea Rd**	**3.72**	**230**	P		**Pn**	**15 47 51.3**	**+1.0**
TOZ	**Tahuroa Road**	**3.86**	**250**	P		**Pn**	**15 47 51.1**	**-1.0**
BKZ	**Black Stump Fm**	**3.88**	**226**	P		**Pn**	**15 47 52.0**	**-0.6**
BKZ	**Black Stump Fm**	**3.88**	**226**	P		**Pn**	**15 47 52.0**	**-0.6**
MCHZ	**McNeill Hill**	**3.97**	**221**	P		**Pn**	**15 47 53.2**	**-0.5**
WIAZ	**Waiheke Island**	**3.99**	**264**	P		**Pn**	**15 47 53.7**	**-0.3**
MKAZ	**Moumakai**	**3.99**	**260**	P		**Pn**	**15 47 53.4**	**-0.6**
KWHZ	**Kaweka Forest**	**4.10**	**224**	P		**Pn**	**15 47 55.0**	**-0.5**
KAHZ	**Kahuranaki**	**4.14**	**217**	P		**Pn**	**15 47 54.5**	**-1.5**
ETAZ	**East Tamaki Re**	**4.16**	**262**	P		**Pn**	**15 47 56.0**	**-0.4**
MBAZ	**Motutapu North**	**4.18**	**265**	P		**Pn**	**15 47 56.9**	**+0.4**
ABAZ	**Army Bay**	**4.23**	**267**	P		**Pn**	**15 47 57.8**	**+0.6**
KRHZ	**Kereru**	**4.28**	**222**	P		**Pn**	**15 47 58.2**	**+0.1**
TMVZ	**Te Maari**	**4.33**	**232**	P		**Pn**	**15 47 58.1**	**-0.7**
ETVZ	**East Tongariro**	**4.34**	**232**	P		**Pn**	**15 47 58.3**	**-0.6**
NTVZ	**North Tongarir**	**4.34**	**232**	P		**Pn**	**15 47 58.3**	**-0.6**
BHHZ	**Black Hill Sta**	**4.35**	**226**	P		**Pn**	**15 47 59.9**	**+1.0**
OTVZ	**Oturere**	**4.38**	**232**	P		**Pn**	**15 47 58.9**	**-0.7**
NNVZ	**North Ngauruho**	**4.40**	**232**	P		**Pn**	**15 48 00.9**	**+1.1**
RVAZ	**Riverhead Bore**	**4.43**	**265**	P		**Pn**	**15 48 01.1**	**+1.1**
NGZ	**Ngauruhoe**	**4.43**	**232**	P		**Pn**	**15 47 59.6**	**-0.7**
WNVZ	**Wahianoa**	**4.53**	**230**	P		**Pn**	**15 48 01.4**	**-0.1**
PNHZ	**Pukenui**	**4.57**	**221**	P		**Pn**	**15 48 02.1**	**+0.1**
HIZ	**Hauiti**	**4.61**	**243**	P		**Pn**	**15 48 03.8**	**+1.3**
HIZ	**Hauiti**	**4.61**	**243**	P		**Pn**	**15 48 03.5**	**+1.0**
MTVZ	**Mangateitei**	**4.64**	**230**	P		**Pn**	**15 48 02.7**	**-0.2**
WCZ	**Waipu Caves**	**4.67**	**275**	P		**Pn**	**15 48 02.7**	**-0.7**
TSZ	**Takapari Road**	**4.80**	**221**	P		**Pn**	**15 48 03.9**	**-1.3**
BFZ	**Birch Farm**	**5.13**	**215**	P		**Pn**	**15 48 07.8**	**-1.9**
BFZ	**Birch Farm**	**5.13**	**215**	P		**Pn**	**15 48 09.3**	**-0.4**
WAZ	**Wanganui**	**5.16**	**230**	P		**Pn**	**15 48 09.8**	**-0.3**
PRWZ	**Pori Road**	**5.17**	**217**	P		**Pn**	**15 48 09.4**	**-0.7**
OUZ	**Omahuta**	**5.42**	**282**	P		**Pn**	**15 48 13.4**	**-0.2**
SNZO	**South Karori**	**6.37**	**220**	P		**Pn**	**15 48 25.4**	**-1.1**
CTZ	**Chatham Island**	**7.65**	**162**	P		**Pn**	**15 48 49.9**	**+5.9**
CTZ				S		**Sn**	**15 50 07.8**	**-1.5**
KHZ	**Kahutara**	**7.77**	**219**	P		**Pn**	**15 48 45.3**	**-0.4**
ASAR	**Alice Springs**	**41.59**	**275**	P		**P**	**15 54 37.4**	**-0.6**
	0.5nm,0.7s,baz=121,slow=7.8,SNR=9.8							
WRA	**Warramunga Arr**	**43.13**	**280**	P		**P**	**15 54 49.1**	**-1.5**
	0.4nm,0.6s,baz=119,slow=7.9,SNR=6.5							
FINES	**FINESS Array B**	**150.16**	**335**	PKPbc		**PKiKP**	**16 06 43.1**	**+3.2**
	0.5nm,0.6s,baz=57,slow=5.1,SNR=1.2							

*IDC **26** 15:50:29.6±1.4,0˚36S×80˚60W,h0km,mb3.8/10, mb1 4.1/11,mb1mx3.9/46,mbtmp3.8/11,ML2.8/1,MS3.3/7, Ms1 3.3/7,ms1mx2.9/66,Error ellipse: s-maj=53.6km s-min=20.6km az=35.0*
*IGQ **26** 15:50:34±1.6,0˚N±4˚×8˚1W±1˚1,h7km*
*NEIC **26** 15:50:35.4±1.6,0˚23N±0.˚07×80˚51W±0˚09,h10km±1km, mb4.4/29,Error ellipse: s-maj=15.0km s-min=12.3km az=289.0*

ISC 26 15:50:34.7±0.5,0˚33N±0˚04×80˚59W±0˚05,h10km,n118, σ1§33/111,mb4.2/23,MS3.4/4,3C,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAMA	**Jama**	**0.70**	**147**	P		**Pb**	**15 50 48.0**	**-1.1**
JAMA				S		**Sb**	**15 50 59.0**	**+0.1**
MAG1	**Magdalena**	**0.91**	**116**	P		**Pb**	**15 50 52.0**	**-0.6**
FLF1	**Flavio Alfaro-**	**1.01**	**132**	P		**Pn**	**15 50 54.0**	**-1.0**
AMA1	**Acelerografo,**	**1.06**	**55**	P		**Pg**	**15 50 54.0**	**-1.0**
AMA1				S		**Sn**	**15 51 11.0**	**+0.6**
AV21	**Acelerografo,**	**1.10**	**73**	P		**Pb**	**15 50 54.0**	**-1.8**
BV15	**Puerto Quito-O**	**1.38**	**97**	P		**Pn**	**15 50 58.0**	**-2.0**
PAC1	**Pacto, Paraso**	**1.80**	**92**	eP		**Pn**	**15 51 05.0**	**-1.0**
PAC1				eS		**Sg**	**15 51 36.1**	**+3.4**
PAC1	**Pacto, Paraso**	**1.80**	**92**	P		**Pn**	**15 51 05.0**	**-1.0**
HPAL	**Hacienda Las P**	**2.02**	**106**	P		**Pn**	**15 51 07.0**	**-2.1**
PINO	**Pino**	**2.04**	**104**	P		**Pn**	**15 51 08.0**	**-1.7**
GGPT	**Toaza - Volcan**	**2.05**	**106**	P		**Pn**	**15 51 08.0**	**-1.6**
TERV	**Terraza Guagua**	**2.05**	**104**	P		**Pn**	**15 51 08.0**	**-1.8**
JUA2	**San Juan 2**	**2.06**	**105**	P		**Pn**	**15 51 08.0**	**-1.8**
ILLI	**Illinizas Sur**	**2.13**	**119**	P		**Pn**	**15 51 10.0**	**-0.8**
OTAV	**Otavalo**	**2.15**	**92**	Pn		**Pn**	**15 51 10.0**	**-0.9**
CUSE	**Cuicocha Este**	**2.19**	**91**	eP		**Pn**	**15 51 11.6**	**0.0**
CUSE				eS		**Sg**	**15 51 47.1**	**+1.8**
CUSE	**Cuicocha Este**	**2.19**	**91**	P		**Pn**	**15 51 11.0**	**-0.6**
CUIC	**Cuicocha-Domo**	**2.23**	**91**	P		**Pn**	**15 51 12.0**	**-0.1**
CUSW	**Cuicocha Oeste**	**2.24**	**91**	P		**Pn**	**15 51 12.0**	**-0.2**
COTA	**Cotacachi**	**2.26**	**90**	P		**Pn**	**15 51 13.0**	**+0.5**
CAMI	**Rancho Maria**	**2.32**	**116**	P		**Pn**	**15 51 14.0**	**+0.7**
BNAS	**Cotopaxi Volca**	**2.33**	**115**	P		**Pn**	**15 51 14.0**	**+0.4**
URCU	**Urcuqui**	**2.34**	**87**	P		**Pn**	**15 51 13.0**	**-0.6**
BREF	**Cotopaxi Volca**	**2.37**	**115**	P		**Pn**	**15 51 14.0**	**-0.2**
BMOR	**Cotopaxi Volca**	**2.38**	**116**	P		**Pn**	**15 51 14.0**	**-0.3**
BVC2	**Cotopaxi Volca**	**2.39**	**114**	P		**Pn**	**15 51 15.0**	**+0.5**
VC1	**Cotopaxi 1**	**2.39**	**114**	P		**Pn**	**15 51 15.0**	**+0.6**
BTAM	**Cotopaxi Volca**	**2.41**	**114**	P		**Pn**	**15 51

ORV				IAmb	IAmb	16 00 02.0	
	comp=Z,4.0nm,1.1s						
WVOR	**Wild Horse Val**	**54.07**	**326**	P	**P**	**16 00 00.4**	**+0.7**
G08A	**Pilot Rock**	**56.12**	**328**	P	**P**	**16 00 15.6**	**+1.1**
G08A				IAmb	IAmb	16 00 16.6	
	comp=Z,2.7nm,0.9s						
FCC	**Fort Churchill**	**59.23**	**352**	P	**P**	**16 00 35.4**	**-0.6**
FCC				IAmb	IAmb	16 00 35.9	
	comp=Z,3.2nm,0.9s						
YKA	**Yellowknife Ar**	**67.05**	**344**	P	**P**	**16 01 27.4**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=134,slow=6.3,SNR=12						
RES	**Resolute Bay**	**74.75**	**356**	LR	LR	16 34 37.1	
	comp=Z,19nm,18.6s,baz=90,slow=35						
A36M	**Sachs Harbour**	**76.89**	**347**	P	**P**	**16 02 26.4**	**-0.3**
BCAR	**Beaver Creek A**	**77.03**	**336**	P	**P**	**16 02 28.9**	**+1.1**
ESDC	**Sonseca Array**	**79.51**	**50**	P	**P**	**16 02 41.2**	**-0.8**
	comp=Z,1.3nm,1.0s,baz=269,slow=4.9,SNR=8.5						
ESDC	**Sonseca Array**	**79.51**	**50**	IAmb	IAmb	16 02 43.8	
	comp=Z,2.1nm,1.1s						
ILAR	**Eielson Array**	**79.78**	**337**	P	**P**	**16 02 42.0**	**-0.8**
	comp=Z,1.0nm,1.1s,baz=161,slow=6.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**82.42**	**77**	P	**P**	**16 02 56.4**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=294,slow=4.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**82.42**	**77**	IAmb	IAmb	16 02 57.6	
	comp=Z,2.6nm,1.2s						
MKAR	**Makanchi Array**	**130.73**	**15**	PKP	**PKPdf**	**16 09 42.2**	**-4.2**
	comp=Z,0.4nm,0.8s,baz=349,slow=1.5,SNR=2.6						
ASAR	**Alice Springs**	**139.28**	**233**	PKhKP	PKPpre	16 09 45.7	
	comp=Z,0.2nm,0.7s,baz=103,slow=2.9,SNR=1.2						
WRA	**Warramunga Arr**	**140.64**	**238**	PKhKP	PKPpre	16 09 55.0	
	comp=Z,0.4nm,0.9s,baz=90,slow=1.4,SNR=1.6						

*IDC **26** 15:52:22.4±19.0, 38.˚17N×20.˚23E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/54, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=374.3km s-min=36.4km az=36.0*
*IASPEI **26** 15:52:28.7±0.8, 38.˚75N±0.˚02×20.˚65E±0.˚03, h9km±4km, mb3.6/3, Error ellipse: s-maj=3.9km s-min=2.7km az=108.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ATH **26** 15:52:28.8, 38.˚77N×20.˚65E, h9km±1km, ML3.6/3, Error ellipse: s-maj=1.9km s-min=0.9km az=304.0*
*THE **26** 15:52:29.4, 38.˚74N×20.˚67E, h3km±1km, ML3.2/11, Error ellipse: s-maj=1.6km s-min=0.5km az=251.0*

ISC 26 15:52:28.9±0.7, 38.˚74N±0.˚02×20.˚65E±0.˚02, h8km±4km, n53, σ0°69/80, mb3.6/3, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
LKD2	**Lefkada island**	**0.05**	**11**	P		**Pg**	**15 52 30.1**	**-0.6**
LKD2				S		**Sg**	**15 52 31.5**	**-0.5**
LKD2				AML		AML	15 52 31.7	
LKD2				AML		AML	15 52 31.9	
LKD2	**Lefkada island**	**0.05**	**11**	P		**Pg**	**15 52 30.2**	**-0.5**
LKD2				S		**Sg**	**15 52 31.5**	**-0.5**
NYDR	**Nydri-Lefkada**	**0.05**	**124**	P		**Pg**	**15 52 30.7**	**+0.1**
NYDR				S		**Sg**	**15 52 32.0**	**+0.2**
NYDR	**Nydri-Lefkada**	**0.05**	**124**	P		**Pg**	**15 52 30.5**	**-0.1**
NYDR				S		**Sg**	**15 52 31.8**	**0.0**
DRAG	**Dragano-Lefkad**	**0.08**	**224**	P		**Pg**	**15 52 30.9**	**-0.1**
DRAG				S		**Sg**	**15 52 32.9**	**+0.3**
DRAG	**Dragano-Lefkad**	**0.08**	**224**	P		**Pg**	**15 52 30.9**	**-0.1**
DRAG				S		**Sg**	**15 52 32.8**	**+0.3**
TSLK	**Tsoukalades, L**	**0.08**	**5**	P		**Pg**	**15 52 30.9**	**-0.2**
TSLK				S		**Sg**	**15 52 32.6**	**0.0**
TSLK	**Tsoukalades, L**	**0.08**	**5**	P		**Pg**	**15 52 30.8**	**-0.3**
TSLK				S		**Sg**	**15 52 32.6**	**0.0**
EVGI	**Lefkada island**	**0.12**	**176**	P		**Pg**	**15 52 32.0**	**+0.3**
EVGI				S		**Sg**	**15 52 34.7**	**+1.2**
EVGI	**Lefkada island**	**0.12**	**176**	P		**Pg**	**15 52 31.9**	**+0.3**
EVGI				S		**Sg**	**15 52 34.5**	**+1.0**
	42μm,0.2s							
FSK	**Fiskardo**	**0.29**	**193**	P		**Pg**	**15 52 35.3**	**+0.6**
FSK				S		**Sb**	**15 52 39.9**	**-1.4**
FSK				AML		AML	15 52 41.3	
	comp=E,31675μm,0.3s							
FSK				AML		AML	15 52 41.4	
	comp=N,14117μm,0.3s							
FSK	**Fiskardo**	**0.29**	**193**	P		**Pg**	**15 52 35.2**	**+0.6**
FSK				S		**Sb**	**15 52 40.3**	**-1.0**
	comp=N,11μm,0.3s							
KEF4	**Livadi, Kephal**	**0.51**	**200**	P		**Pg**	**15 52 38.7**	**-0.1**
KEF4				S		**Sb**	**15 52 47.4**	**-0.3**
KEF4	**Livadi, Kephal**	**0.51**	**200**	P		**Pg**	**15 52 38.8**	**-0.1**
KEF4				S		**Sb**	**15 52 47.2**	**-0.5**
DMLN	**Damoulianata-K**	**0.55**	**203**	P		**Pg**	**15 52 39.1**	**-0.3**
DMLN	**Damoulianata-K**	**0.55**	**203**	P		**Pg**	**15 52 39.0**	**-0.5**
DMLN				S		**Sb**	**15 52 48.2**	**-0.5**
	comp=N,3μm,0.5s							
LXRA	**Lixouri, Kepha**	**0.56**	**197**	P		**Pg**	**15 52 39.8**	**0.0**
VLS	**Valsamata**	**0.56**	**184**	P		**Pg**	**15 52 39.6**	**-0.2**
VLS				S		**Sb**	**15 52 48.6**	**-0.7**
VLS				AML		AML	15 52 52.2	
	comp=E,6352μm,0.5s							
VLS				AML		AML	15 52 52.9	
	comp=N,4425μm,0.4s							
VLS	**Valsamata**	**0.56**	**184**	P		**Pg**	**15 52 39.5**	**-0.3**
VLS				S		**Sb**	**15 52 48.3**	**-1.0**
	comp=N,3μm,0.5s							
ARGA	**Argostoli. Kep**	**0.58**	**193**	P		**Pb**	**15 52 41.0**	**-0.2**
ARGA				S		**Sb**	**15 52 49.2**	**-0.5**
KEF3	**Kipouria, Keph**	**0.59**	**204**	P		**Pg**	**15 52 39.2**	**-1.0**
KEF3				S		**Sg**	**15 52 48.6**	**+0.7**
KEF3	**Kipouria, Keph**	**0.59**	**204**	P		**Pg**	**15 52 39.4**	**-0.8**
KEF3				S		**Sg**	**15 52 48.5**	**+0.7**
	comp=N,5μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.63**	**184**	P		**Pg**	**15 52 40.6**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.63**	**184**	P		**Pg**	**15 52 40.6**	**-0.4**
PSDA				S		**Sb**	**15 52 50.3**	**-0.7**
IGT	**Igoumenitsa**	**0.83**	**343**	P		**Pg**	**15 52 44.1**	**-0.8**
IGT	**Igoumenitsa**	**0.83**	**343**	P		**Pg**	**15 52 44.3**	**-0.5**
IGT				S		**Sb**	**15 52 57.7**	**+0.9**
	comp=N,702nm,0.4s							
EVR	**Evrytania**	**0.93**	**79**	P		**Pg**	**15 52 46.5**	**-0.2**
EVR	**Evrytania**	**0.93**	**79**	P		**Pg**	**15 52 46.4**	**-0.3**
EVR				S		**Sb**	**15 52 59.4**	**-0.3**
	comp=N,755nm,0.8s							
RLS	**Riolos of Patr**	**0.94**	**136**	P		**Pg**	**15 52 46.7**	**-0.3**
RLS	**Riolos of Patr**	**0.94**	**136**	P		**Pg**	**15 52 46.6**	**-0.3**
RLS				S		**Sn**	**15 53 02.0**	**0.0**
	comp=N,952nm,0.5s							
ANX	**Ano Chora**	**1.01**	**98**	P		**Pg**	**15 52 47.8**	**-0.5**
ANX	**Ano Chora**	**1.01**	**98**	P		**Pg**	**15 52 47.8**	**-0.5**
ANX				S		**Sb**	**15 53 03.5**	**+1.4**
	comp=N,1μm,0.5s							
EFP	**Efpalio**	**1.04**	**107**	P		**Pg**	**15 52 48.2**	**-0.6**
EFP	**Efpalio**	**1.04**	**107**	P		**Pg**	**15 52 48.2**	**-0.6**
EFP				S		**Sb**	**15 53 02.9**	**+0.1**
	comp=N,998nm,0.3s							
DRO	**Drossia**	**1.15**	**133**	P		**Pg**	**15 52 50.2**	**-0.8**
DRO				S		**Sb**	**15 53 07.0**	**+0.9**
	comp=N,1μm,0.4s							
LAKA	**Lakka**	**1.16**	**115**	P		**Pg**	**15 52 50.1**	**-1.1**
KEK	**Kerkira**	**1.17**	**326**	P		**Pg**	**15 52 51.3**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.19**	**76**	P		**Pg**	**15 52 51.4**	**-0.4**
ALIK	**Aliki, Aigiali**	**1.25**	**112**	P		**Pg**	**15 52 51.7**	**-1.1**
KPRO	**Kipourio**	**1.33**	**24**	P		**Pb**	**15 52 54.7**	**+0.5**
AGG	**Agios Georgios**	**1.34**	**77**	P		**Pn**	**15 52 54.3**	**+0.3**
THL	**Klokotos Trika**	**1.34**	**52**	P		**Pn**	**15 52 54.0**	**0.0**
KLV	**Kalavryta, Ach**	**1.37**	**120**	P		**Pn**	**15 52 53.5**	**-0.9**
LSK	**Leskovik**	**1.41**	**359**	P		**Pg**	**15 52 56.4**	**+0.5**
GUR	**Goura**	**1.56**	**121**	P		**Pn**	**15 52 56.6**	**-0.4**
FNA	**Florina**	**2.12**	**15**	P		**Pb**	**15 53 06.6**	**-0.9**
OHR	**Ohrid**	**2.37**	**3**	*e*Pn		**Pb**	**15 53 11.4**	**-0.5**
VAY	**Valandovo**	**2.97**	**29**	*e*Pn		**Pb**	**15 53 23.9**	**+1.9**
STIP	**Stip**	**3.18**	**21**	*e*Pn		**Pb**	**15 53 23.7**	**-1.8**
GERES	**GERESS Array B**	**11.27**	**336**	Pn		**Pn**	**15 55 11.5**	**+1.2**
	comp=N,0.2nm,0.3s,baz=162,slow=13,SNR=3.1							
FINES	**FINESS Array B**	**22.98**		7 P		**P**	**15 57 34.4**	**+0.8**
	comp=N,1.7nm,0.9s,baz=218,slow=8.8,SNR=1.6							
MKAR	**Makanchi Array**	**44.92**	**59**	P		**P**	**16 00 43.2**	**-0.9**
	comp=N,0.1nm,0.4s,baz=276,slow=7.3,SNR=2.4							
ZALV	**Zalesovo Beam**	**45.24**	**49**	P		**P**	**16 00 46.2**	**-0.3**
	comp=N,1.1nm,0.4s,baz=271,slow=8.8,SNR=6.3							

*IDC **26** 15:58:52.3±2.8, 15.˚37N×94.˚37W, h0km, mb3.6/2, mb1 4.1/3, mb1mx3.5/48, mbtmp3.6/3, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/55, Error ellipse: s-maj=120.8km s-min=23.3km az=76.0*
*MEX **26** 15:58:55.2±0.7, 15.˚08N×95.˚13W, h20km±999km, MD4.0*

ISC 26 15:58:49.5±2.3, 15.˚15N±0.˚07×95.˚09W±0.˚04, h3km±16km, n16, σ1°86/25, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
HUIG	**Huatulco**	**1.16**	**302**	*e*P		**Pn**	**15 59 13.3**	**+0.7**
HUIG				*i* S		**Sg**	**15 59 26.9**	**+0.1**
CARR	**Arriaga**	**1.58**	**46**	*e*P		**Pb**	**15 59 18.6**	**-0.8**
CARR				*e*S		**Sn**	**15 59 36.8**	**-2.5**
PCIG		**1.89**	**73**	*e*P		**Pb**	**15 59 24.3**	**-0.3**
PCIG				*e*S		**Sn**	**15 59 46.5**	**-0.6**
CMIG	**Matias Romero**	**1.94**	**6**	Pg		**Pb**	**15 59 25.3**	**-0.3**
	14nm,0.3s,baz=182,slow=13,SNR=134							
CMIG				Lg		Lg	15 59 48.7	
	68nm,0.3s,baz=247,slow=23,SNR=15							
CMIG	**Matias Romero**	**1.94**	**6**	*e*P		**Pb**	**15 59 25.3**	**-0.3**
CMIG				*e*S		**Sn**	**15 59 48.5**	**0.0**
PEIG	**Puerto Escondi**	**2.16**	**293**	*e*P		**Pb**	**15 59 27.8**	**-1.5**
PEIG				*e*S		**Sn**	**15 59 50.3**	**-3.4**
UXUV	**UXUV**	**2.34**	**23**	*e*P		**Pb**	**15 59 31.6**	**-0.8**
UXUV				*i* S		**Sn**	**15 59 58.1**	**-0.2**
TGIG		**2.49**	**49**	*e*P		**Pb**	**15 59 34.8**	**-0.2**
TGIG				*i* S		**Sb**	**16 00 03.6**	**-2.5**
PATR	**El Naranjo**	**2.76**	**90**	*e*P		**Pn**	**15 59 36.2**	**+1.4**
PATR				*e*S		**Sn**	**16 00 06.6**	**-2.3**
PAVE	**Pavencul**	**2.81**	**89**	*e*P		**Pn**	**15 59 37.5**	**+1.9**
PAVE				*e*S		**Sn**	**16 00 08.5**	**-1.7**
CHUJ	**Union Juarez**	**2.88**	**91**	*e*P		**Pn**	**15 59 38.6**	**+2.1**
CHUJ				*e*S		**Sn**	**16 00 09.6**	**-2.3**
CCIG	**Comitan**	**3.06**	**68**	*i* P		**Pb**	**15 59 43.6**	**-1.1**
CCIG				*e*S		**Sb**	**16 00 19.5**	**-3.1**
TXAR	**Lajitas Array**	**16.19**	**332**	Pn		**P**	**16 02 43.0**	**+1.5**
	0.1nm,0.3s,baz=154,slow=11,SNR=11							
TKL	**Tuckaleechee C**	**22.80**	**24**	LR		LR	16 14 38.8	
	comp=Z,38nm,18.6s,baz=251,slow=42							
NVAR	**Mina Array Bea**	**30.93**	**323**	P		P	16 05 13.5	+5.5
	0.5nm,0.7s,baz=135,slow=10,SNR=2.5							
YKA	**Yellowknife Ar**	**49.26**	**348**	P		**P**	**16 07 42.0**	**+2.7**
	0.8nm,0.8s,baz=153,slow=7.3,SNR=12							

*UPP **26** 16:09:20.9±0.2, 58.˚79N×18.˚72E, h0km, ML2.0, Explosion*
*DNK **26** 16:09:21.0±1.4, 58.˚77N×18.˚73E, h0km, ML2.0, Explosion*
*HEL **26** 16:09:23.6±0.1, 58.˚95N×18.˚51E, h0km, ML1.9, Explosion*
*IDC **26** 16:09:23.4±3.0, 58.˚82N×18.˚68E, h0km, mb1 3.0/4, mb1mx2.8/57, mbtmp2.9/4, ML2.1/4, Error ellipse: s-maj=41.1km s-min=9.9km az=175.0*

ISC 26 16:09:20.4±0.8, 58.˚81N±0.˚03×18.˚64E±0.˚03, h0km, n67, σ1°40/61, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
NYNU	**Nynaeshamn**	**0.39**	**302**	P		**Pg**	**16 09 29.1**	**+1.3**
NYNU	**Nynaeshamn**	**0.39**	**302**	P		**Pg**	**16 09 29.1**	**+1.3**
NRTU	**Norrtaelje**	**0.87**	**360**	P		**Pg**	**16 09 37.5**	**+0.3**
NRTU	**Norrtaelje**	**0.87**	**360**	P		**Pg**	**16 09 37.5**	**+0.3**
VIKU	**Vikbolandet**	**1.06**	**254**	*e*P		**Pg**	**16 09 42.0**	**+1.3**
VIKU	**Vikbolandet**	**1.06**	**254**	P		**Pg**	**16 09 41.3**	**+0.7**
VIKU	**Vikbolandet**	**1.06**	**254**	P		**Pg**	**16 09 41.3**	**+0.7**
GOTU	**Gotland**	**1.12**	**182**	P		**Pg**	**16 09 41.7**	**-0.2**
GOTU	**Gotland**	**1.12**	**182**	P		**Pg**	**16 09 41.7**	**-0.2**
UPP	**Uppsala**	**1.18**	**334**	P		**Pg**	**16 09 43.5**	**+0.6**
ESKU	**Eskilstuna**	**1.24**	**291**	P		**Pg**	**16 09 44.5**	**+0.4**
ESKU	**Eskilstuna**	**1.24**	**291**	P		**Pg**	**16 09 44.5**	**+0.4**
FIBU	**Brunna**	**1.28**	**330**	P		**Pg**	**16 09 45.4**	**+0.4**
FIBU	**Brunna**	**1.28**	**330**	P		**Pg**	**16 09 45.4**	**+0.4**
BACU	**Backbrunna**	**1.31**	**324**	P		**Pg**	**16 09 45.9**	**+0.4**
BACU	**Backbrunna**	**1.31**	**324**	P		**Pg**	**16 09 45.9**	**+0.4**
FLYU	**Flymyra**	**1.38**	**344**	P		**Pn**	**16 09 46.9**	**0.0**
FLYU	**Flymyra**	**1.38**	**344**	P		**Pn**	**16 09 46.9**	**0.0**
GRAU	**Graesoe**	**1.53**	**358**	P		**Pn**	**16 09 49.4**	**+0.4**
GRAU	**Graesoe**	**1.53**	**358**	P		**Pn**	**16 09 49.4**	**+0.4**
AAL	**Aland**	**1.54**	**26**	*e*P		**Pn**	**16 09 49.5**	**+0.4**
AAL	**Aland**	**1.54**	**26**	P		**Pn**	**16 09 49.1**	**0.0**
AAL	**Aland**	**1.54**	**26**	*e*P		**Pn**	**16 09 49.0**	**0.0**
AAL	**Aland**	**1.54**	**26**	*e*S		**Sn**	**16 10 08.1**	**-1.7**
VSTU	**Vaestervik**	**1.60**	**225**	P		**Pn**	**16 09 50.4**	**+0.5**
VSTU	**Vaestervik**	**1.60**	**225**	P		**Pn**	**16 09 50.4**	**+0.5**
OSTU	**Oestervaala**	**1.62**	**332**	P		**Pn**	**16 09 51.1**	**+0.9**
OSTU	**Oestervaala**	**1.62**	**332**	P		**Pn**	**16 09 51.1**	**+0.9**
BYXU	**Byxelkrok**	**1.75**	**210**	P		**Pn**	**16 09 52.8**	**+0.8**
BYXU	**Byxelkrok**	**1.75**	**210**	P		**Pn**	**16 09 52.8**	**+0.8**
SLIT	**Slitere, Latvi**	**2.26**	**120**	*e*P		**Pn**	**16 09 59.8**	**+0.7**
MTSE	**Matsula**	**2.70**	**90**	*e*P		**Pn**	**16 10 05.5**	**+1.5**
RAF	**Rauma**	**2.73**	**34**	*e*P		**Pb**	**16 10 08.5**	**-1.5**
RAF	**Rauma**	**2.73**	**34**	MSG			16 10 45.9	
	comp=Z,3.2nm,0.1s							
RAF	**Rauma**	**2.73**	**34**	*e*P		**Pn**	**16 10 06.5**	**+1.2**
RAF	**Rauma**	**2.73**	**34**	*e*S		**Sn**	**16 10 39.5**	**+0.5**
HFS	**Hagfors**	**2.85**	**300**	Pn		**Pn**	**16 10 09.8**	**+2.6**
	comp=Z,1.0nm,0.3s,baz=14,slow=31,SNR=17							
HFS	**Hagfors**	**2.85**	**300**	Sn		**Sn**	**16 10 44.2**	**+2.0**
	comp=Z,1.1nm,0.3s,baz=42,slow=14,SNR=4.6							
BLEU	**Blekinge**	**2.93**	**212**	*i* P		**Pn**	**16 10 09.3**	**+1.1**
MEF	**Metsahovi**	**3.26**	**62**	*e*P		**Pb**	**16 10 16.1**	**-2.9**
MEF	**Metsahovi**	**3.26**	**62**	MSG			16 11 03.4	
	comp=Z,3.0nm,0.1s							
MEF	**Metsahovi**	**3.26**	**62**	*e*S		**Sn**	**16 10 54.2**	**+2.2**
BORU	**Boraas**	**3.32**	**252**	*i* P		Pn	16 10 04.8	-8.8
DEL	**Delary**	**3.47**	**230**	*e*P		**Pn**	**16 10 15.9**	**+0.4**
DEL	**Delary**	**3.47**	**230**	IAML			16 11 40.4	
	comp=Z,1.7nm,0.4s							
DEL	**Delary**	**3.47**	**230**	*i* P		**Pn**	**16 10 16.0**	**+0.4**
DEL	**Delary**	**3.47**	**230**	*i* S		**Sg**	**16 11 10.8**	**-1.1**
NUR	**Nurmijrvi**	**3.50**	**58**	*e*S		**Sn**	**16 10 59.4**	**+1.4**
ONAU	**Onsala**	**3.84**	**251**	*i* P		**Pn**	**16 10 16.9**	**-3.7**
STRU	**Stroemstad**	**3.87**	**277**	*i* S		**Sn**	**16 11 09.6**	**+2.3**
HEMU	**Hemsoen**	**3.90**	**356**	*e*S		**Sn**	**16 11 05.8**	**-1.9**
HEMU	**Hemsoen**	**3.90**	**356**	*e*P		**Pn**	**16 10 22.6**	**+1.2**
PVF	**Pernaja**	**4.06**	**61**	*e*S		**Sn**	**16 11 14.1**	**+1.3**
BJUU	**Bjuv**	**4.09**	**230**	*i* P		**Pn**	**16 10 24.3**	**+0.2**
VSU	**Vasula**	**4.25**	**91**	*e*S		**Sn**	**16 11 19.6**	**+3.2**
LUNU	**Lund**	**4.25**	**224**	*i* P		**Pn**	**16 10 25.9**	**-0.4**
NOA	**NORSAR Array B**	**4.36**	**304**	Lg		Lg	16 11 35.4	
	comp=Z,0.1nm,0.3s,baz=347,slow=16,SNR=5.5							
NOA	**NORSAR Array B**	**4.36**	**304**	Sn		**Sn**	**16 11 19.2**	**0.0**
	comp=Z,0.0nm,0.3s,baz=220,slow=21,SNR=1.5							
NOA	**NORSAR Array B**	**4.36**	**304**	Pn		**Pn**	**16 10 28.7**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=140,slow=10,SNR=10							
FIA0	**FINESS Array S**	**4.56**	**51**	*e*S		**Sn**	**16 11 24.7**	**+0.4**
FIA0	**FINESS Array S**	**4.56**	**51**	*e*P		Pn	**16 10 33.6**	**+3.0**
FINES	**FINESS Array B**	**4.56**	**51**	Lg		Lg	16 11 42.2	
	comp=Z,1.7nm,0.3s,baz=234,slow=26,SNR=12							
FINES	**FINESS Array B**	**4.56**	**51**	Pn		**Pn**	**16 10 33.3**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=242,slow=12,SNR=6.5							
FINES	**FINESS Array B**	**4.56**	**51**	Sn		**Sn**	**16 11 25.1**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=241,slow=20,SNR=5.6							
FIA1	**FINESS Array S**	**4.57**	**51**	*e*S		**Sn**	**16 11 25.0**	**+0.7**
FIA1	**FINESS Array S**	**4.57**	**51**	*e*P		**Pn**	**16 10 33.6**	**+3.0**
ARCES	**ARCESS Array B**	**11.17**	**13**	Pn		**Pn**	**16 11 59.8**	**-1.4**
	baz=196,slow=14,SNR=9.6							

*DNK **26** 16:09:27.7±0.4, 58.˚83N×18.˚67E, h0km, ML2.1(UPP), Explosion*
*UPP **26** 16:09:27.4±0.3, 58.˚83N×18.˚64E, h0km, ML2.1, Explosion*

ISC 26 16:09:27.2±1.5, 58.˚85N±0.˚05×18.˚66E±0.˚08, h0km, n18, σ0°37/22, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
NYNU	**Nynaeshamn**	**0.37**	**295**	S		**Pg**	**16 09 34.5**	**+0.2**
NYNU	**Nynaeshamn**	**0.37**	**295**	P		**Pg**	**16 09 34.5**	**+0.2**
NYNU	**Nynaeshamn**	**0.37**	**295**	P		**Pg**	**16 09 34.5**	**+0.2**
NYNU	**Nynaeshamn**	**0.37**	**295**	S		**Pg**	**16 09 34.5**	**+0.2**
NRTU	**Norrtaelje**	**0.83**	**359**	P		**Pg**	**16 09 43.5**	**+0.4**
NRTU				S		**Sg**	**16 09 54.5**	**+0.6**
NRTU	**Norrtaelje**	**0.83**	**359**	P		**Pg**	**16 09 43.5**	**+0.4**
NRTU				S		**Sg**	**16 09 54.5**	**+0.6**
VIKU	**Vikbolandet**	**1.08**	**252**	P		**Pg**	**16 09 47.7**	**-0.2**
VIKU	**Vikbolandet**	**1.08**	**252**	P		**Pg**	**16 09 47.7**	**-0.2**
UPP	**Uppsala**	**1.14**	**333**	P		**Pg**	**16 09 48.9**	**-0.2**
FIBU	**Brunna**	**1.25**	**328**	P		**Pg**	**16 09 50.8**	**-0.4**
FIBU				S		**Sg**	**16 10 07.6**	**+0.3**
FIBU	**Brunna**	**1.25**	**328**	P		**Pg**	**16 09 50.8**	**-0.4**
FIBU				S		**Sg**	**16 10 07.6**	**+0.3**
BACU	**Backbrunna**	**1.28**	**322**	P		**Pg**	**16 09 51.4**	**-0.4**
BACU	**Backbrunna**	**1.28**	**322**	P		**Pg**	**16 09 51.4**	**-0.4**
FLYU	**Flymyra**	**1.34**	**343**	P		**Pg**	**16 09 52.6**	**-0.4**
FLYU	**Flymyra**	**1.34**	**343**	P		**Pg**	**16 09 52.6**	**-0.4**
AAL	**Aland**	**1.50**	**27**	P		**Pn**	**16 09 54.7**	**-0.6**
BYXU	**Byxelkrok**	**1.79**	**210**	P		**Pn**	**16 09 59.4**	**0.0**
BYXU	**Byxelkrok**	**1.79**	**210**	P		**Pn**	**16 09 59.4**	**0.0**

*MAN **26** 16:12:31.3, 3.˚71N×127.˚26E, h32km, mb5.4, ML4.3, MS4.5, Hypocentre not reviewed by the ISC*
*NEIC **26** 16:12:38.8±1.2, 4.˚56N±0.˚06×127.˚65E±0.˚09, h128km±7km, mb4.5/46, Error ellipse: s-maj=13.3km s-min=8.2km az=74.0*
*DJA **26** 16:12:39.6±0.5, 4.˚4N×12.˚8E±.˚, h118km±4km, M4.6/19, mB5.1/12, mb4.6/19, MLv5.0/13, Mw(mB)4.4/12*
*IDC **26** 16:12:39.2±1.8, 4.˚58N×127.˚67E, h142km±18km, mb3.8/22, mb1 4.0/26, mb1mx3.8/57, mbtmp4.3/26, MS3.0/8, Ms1 3.1/8, ms1mx2.7/77, Error ellipse: s-maj=18.8km s-min=9.0km az=77.0*

ISC 26 16:12:36.1±0.4, 4.˚62N±0.˚04×127.˚70E±0.˚06, h104km, n117, σ1°54/118, mb4.4/51, 4C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
SGSI	**Sangihe**	**2.36**	**247**	P		**Pn**	**16 13 14.7**	**+1.2**
SGSI				S		**Sn**	**16 13 42.2**	**+0.1**
GSPH	**General Santos**	**3.10**	**298**	*e*P		**Pn**	**16 13 22.3**	**-1.1**
GSPH				*e*S		**Sn**	**16 14 01.0**	**+1.0**
DAV	**Davao City (W)**	**3.22**	**319**	P		**Pn**	**16 13 28.3**	**+3.4**
	52nm,0.3s,baz=207,slow=9.0,SNR=1.9							
DAV				S		**Sn**	**16 14 05.1**	**+2.4**
	71nm,0.3s,baz=176,slow=10,SNR=3.7							
DAV				LR		LR	16 14 47.4	
	comp=Z,316nm,18.7s,baz=101,slow=40							
DAV	**Davao City (W)**	**3.22**	**319**	Pn		**Pn**	**16 13 28.2**	**+3.2**
KCP	**Kidapawan**	**3.52**	**313**	*e*P		**Pn**	**16 13 30.2**	**+1.3**
BIPH	**Bislig**	**3.79**	**339**	*e*P		**Pn**	**16 13 32.7**	**+0.2**
BIPH				*e*S		**Sn**	**16 14 11.2**	**-4.9**
TNTI	**Ternate**	**3.84**	**185**			**Pn**	**16 13 35.3**	**+2.1**
TNTI				Sn		**Sn**	**16 14 18.8**	**+1.5**
TNTI	**Ternate**	**3.84**	**185**	P		**Pn**	**16 13 35.3**	**+2.1**
TNTI				S		**Sn**	**16 14 19.8**	**+2.4**
CTBH	**Cotabato--PC H**	**4.30**	**307**	*i* P		**Pn**	**16 13 40.0**	**+0.6**
LBMI	**Labuha**	**5.22**	**182**	P		**Pn**	**16 13 53.3**	**+1.3**
	0.6nm1μm121nm,0.8s							
KMSI	**Cibinong**	**5.47**	**223**	P		**Pn**	**16 13 56.4**	**+1.1**
	2.4nm7μm779nm,0.8s							
GTOI	**Gorontalo**	**6.13**	**230**	P

	comp=Z,4.4nm,0.7s,baz=326,slow=7.6,SNR=7.5								
STKA	**Stephens Creek**	**38.63**	**161**	P	**P**	**16 19 48.8**	**-0.6**		
HHC	**Hu-ho-hao-te**	**38.88**	**340**	*eP*	**P**	**16 19 53.8**	**+2.3**		
HHC				pmax	pmax				
	comp=Z,9.0nm,0.9s								
HHC				pmax	pmax				
	comp=Z,59nm,6.0s								
USA0B	**Ussuriysk Arra**	**39.60**	**5**	P	**P**	**16 19 58.1**	**+0.8**		
USA0B				IAmb	IAmb	16 19 58.9			
	comp=Z,7.2nm,1.1s								
USRK	**Ussuriysk Ar.**	**39.60**	**5**	P	**P**	**16 19 57.5**	**+0.2**		
	comp=Z,1.9nm,0.8s,baz=185,slow=7.9,SNR=9.5								
USRK	**Ussuriysk Ar.**	**39.60**	**5**	P	**P**	**16 19 57.9**	**+0.6**		
SHL	**Shillong**	**40.15**	**305**	P	**P**	**16 20 02.0**	**-0.4**		
XLT	**XiLinHaoTe**	**40.44**	**347**	*eP*	**P**	**16 20 05.5**	**+1.1**		
XLT				pmax	pmax				
	comp=Z,15nm,0.6s								
XLT				pmax	pmax				
	comp=Z,120nm,3.5s								
ASAJ	**Asahikawa**	**41.47**	**16**	LR	LR	16 40 42.2			
	comp=Z,15nm,18.0s,baz=144,slow=40								
GTA	**Gaotai**	**42.85**	**328**	⇑P	**P**	**16 20 24.8**	**+0.6**		
GTA				pP	pP	16 20 33.5	-13		
GTA				sP	pwP	16 20 37.8	-16		
GTA				pmax	pmax				
	comp=Z,6.0nm,1.4s								
DZM	**Mont Dzumac**	**46.27**	**127**	LR	LR	16 40 42.9			
	comp=Z,81nm,19.2s,baz=324,slow=36								
ULN	**Ulaanbaatar**	**46.59**	**341**	P	**P**	**16 20 53.9**	**+0.1**		
SONM	**Songino Array**	**46.78**	**340**	P	**P**	**16 20 55.7**	**+0.5**		
	comp=Z,1.0nm,0.6s,baz=158,slow=8.0,SNR=6.6								
SONM	**Songino Array**	**46.78**	**340**	P	**P**	**16 20 54.9**	**-0.3**		
WMQ	**Urumqi**	**52.57**	**324**	*eP*	**P**	**16 21 41.8**	**+2.7**		
PETK	**Petropavlovsk-**	**54.25**	**22**	P	**P**	**16 21 51.8**	**+0.6**		
	comp=Z,3.3nm,0.7s,baz=180,slow=4.9,SNR=9.8								
PETK	**Petropavlovsk-**	**54.25**	**22**	P	**P**	**16 21 52.0**	**+0.9**		
YAK	**Yakutsk**	**57.30**	**1**	P	**P**	**16 22 12.0**	**-0.7**		
MK31	**Makanchi Array**	**57.39**	**324**	P	**P**	**16 22 13.9**	**+0.1**		
MK31				IAmb	IAmb	16 22 14.5			
	comp=Z,3.1nm,0.7s								
MKAR	**Makanchi Array**	**57.39**	**324**	P	**P**	**16 22 14.1**	**+0.3**		
	comp=Z,3.1nm,0.5s,baz=120,slow=8.4,SNR=46								
MKAR	**Makanchi Array**	**57.39**	**324**	P	**P**	**16 22 13.9**	**+0.1**		
MAKZ	**Makanchi**	**57.58**	**324**	P	**P**	**16 22 15.3**	**+0.3**		
MAKZ				IAmb	IAmb	16 22 18.9			
	comp=Z,5.7nm,0.8s								
KSH	**Kashi**	**58.11**	**314**	P	**P**	**16 22 21.3**	**+2.2**		
KSH				pP	pwP	16 22 51.0	+1.4		
KSH				PP	**PP**	**16 24 33.5**	**+4.6**		
KSH				pmax	pmax				
	comp=Z,5.0nm,1.1s								
BOOM	**Boomskoye usch**	**59.33**	**318**	P	**P**	**16 22 27.6**	**+0.2**		
BOOM				IAmb	IAmb	16 22 28.4			
	comp=Z,3.3nm,0.8s								
ZAA0	**Zalesovo Array**	**60.25**	**332**	P	**P**	**16 22 33.0**	**-0.3**		
ZAA0				IAmb	IAmb	16 22 33.4			
	comp=Z,4.3nm,1.1s								
ZALV	**Zalesovo Beam**	**60.25**	**332**	P	**P**	**16 22 31.5**	**-1.8**		
	comp=Z,0.9nm,0.5s,baz=123,slow=7.9,SNR=5.7								
ZALV	**Zalesovo Beam**	**60.25**	**332**	P	**P**	**16 22 32.2**	**-1.2**		
DRK	**Karamyk**	**61.11**	**313**	P	**P**	**16 22 38.2**	**-1.6**		
KURK	**Kurchatov**	**61.52**	**327**	P	**P**	**16 22 41.8**	**-0.2**		
KBL	**Kabul**	**61.76**	**307**	P	**P**	**16 22 43.5**	**-0.7**		
KBL				IAmb	IAmb	16 22 44.4			
	comp=Z,4.0nm,0.8s								
BTK	**Batken**	**62.02**	**313**	P	**P**	**16 22 45.5**	**-0.1**		
BTK				IAmb	IAmb	16 22 47.8			
	comp=Z,13nm,1.4s								
GAR	**Garm**	**62.05**	**312**	P	**P**	**16 22 45.5**	**-0.5**		
KK31	**Karatay Array**	**63.25**	**316**	P	**P**	**16 22 53.7**	**-0.1**		
KK31				IAmb	IAmb	16 22 54.7			
	comp=Z,9.5nm,1.2s								
KKAR	**Karatay Array**	**63.25**	**316**	P	**P**	**16 22 53.6**	**-0.2**		
KKAR				IAmb	IAmb	16 22 54.7			
	comp=Z,9.5nm,1.2s								
KKAR	**Karatay Array**	**63.25**	**316**	P	**P**	**16 22 53.5**	**-0.3**		
TIXI	**Tiksi**	**66.95**	**0**	P	**P**	**16 23 16.2**	**-0.8**		
TIXI				IAmb	IAmb	16 23 16.9			
	comp=Z,3.2nm,0.8s								
BVAR	**Borovoye Array**	**67.11**	**327**	P	**P**	**16 23 18.2**	**-0.3**		
	comp=Z,2.9nm,0.9s								
BRVK	**Borovoye**	**67.19**	**327**	P	**P**	**16 23 18.8**	**-0.1**		
BRVK				IAmb	IAmb	16 23 19.2			
	comp=Z,4.5nm,0.8s								
GEYT	**Alibeck**	**71.10**	**308**	P	**P**	**16 23 41.9**	**-1.6**		
	comp=Z,2.3nm,0.7s,baz=116,slow=5.0,SNR=2.4								
ABKAR	**Akbulak array**	**72.08**	**320**	P	**P**	**16 23 48.5**	**-0.6**		
ABKAR	**Akbulak array**	**72.08**	**320**	P	**P**	**16 23 48.6**	**-0.6**		
AKTO	**Aktyubinsk**	**73.57**	**321**	P	**P**	**16 23 55.8**	**-2.1**		
	comp=Z,2.0nm,0.6s,baz=81,slow=6.8,SNR=8.9								
AKTO				LR	LR	16 57 46.8			
	comp=Z,11nm,19.3s,baz=96,slow=37								
ARU	**Arti**	**74.71**	**327**	P	**P**	**16 24 02.4**	**-1.9**		
	comp=Z,1.0nm,0.5s,baz=65,slow=3.3,SNR=4.8								
H23K	**Yukon River**	**82.84**	**24**	P	**P**	**16 24 49.2**	**+0.5**		
H23K				IAmb	IAmb	16 24 50.4			
	comp=Z,5.7nm,0.8s								
I23K	**Minto, Yukon-K**	**82.86**	**25**	P	**P**	**16 24 49.2**	**+0.4**		
I23K				IAmb	IAmb	16 24 51.2			
	comp=Z,4.4nm,0.8s								
MCK	**McKinley**	**82.94**	**26**	P	**P**	**16 24 49.2**	**-0.1**		
MCK				IAmb	IAmb	16 24 53.6			
	comp=Z,5.2nm,1.0s								
TOLK	**Toolik Lake Re**	**83.07**	**21**	P	**P**	**16 24 50.3**	**+0.5**		
TOLK				IAmb	IAmb	16 24 51.6			
	comp=Z,5.6nm,1.0s								
ILAR	**Eielson Array**	**83.89**	**25**	P	**P**	**16 24 51.9**	**-2.2**		
	comp=Z,1.2nm,0.9s,baz=241,slow=5.8,SNR=7.3								
VNDA	**Vanda**	**84.18**	**173**	P	**P**	**16 24 54.0**	**-1.3**		
	comp=Z,0.4nm,0.3s,baz=331,slow=4.4,SNR=8.2								
ARCES	**ARCESS Array B**	**89.95**	**340**	P	**P**	**16 25 21.4**	**-2.0**		
	comp=Z,4.4nm,1.0s,baz=46,slow=5.2,SNR=5.1								
ARCES	**ARCESS Array B**	**89.95**	**340**	IAmb	IAmb	16 25 23.4			
	comp=Z,19nm,1.4s								
FINES	**FINESS Array B**	**91.51**	**332**	P	**P**	**16 25 27.9**	**-2.9**		
	comp=Z,1.2nm,0.9s,baz=46,slow=4.0,SNR=3.8								
YKA	**Yellowknife Ar**	**98.29**	**25**	P	**P**	**16 26 00.7**	**-1.0**		
	comp=Z,0.4nm,0.7s,baz=302,slow=4.5,SNR=8.3								

*HEL **26** 16:27:07.4±0.3,58.94N×18.30E,h0km,ML1.7, Explosion*
UPP 26 16:27:06.3±0.2,58.79N×18.71E,h0km,ML2.1, Explosion,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.42**	**300**	P	Pg	16 27 14.5	0.0
NYNU	**Nynaeshamn**	**0.42**	**300**	P	Pg	16 27 14.5	0.0
NRTU	**Norrtaelje**	**0.89**	**357**	P	Pg	16 27 22.9	-0.4
NRTU	**Norrtaelje**	**0.89**	**357**	P	Pg	16 27 22.9	-0.4
VIKU	**Vikbolandet**	**1.09**	**255**	*eP*	Pg	16 27 26.9	-0.3
VIKU	**Vikbolandet**	**1.09**	**255**	P	Pg	16 27 26.8	-0.4
VIKU	**Vikbolandet**	**1.09**	**255**	P	Pg	16 27 26.8	-0.4
GOTU	**Gotland**	**1.11**	**184**	P	Pg	16 27 27.1	-0.6
GOTU	**Gotland**	**1.11**	**184**	P	Pg	16 27 27.1	-0.6
UPP	**Uppsala**	**1.20**	**333**	*eP*	Pg	16 27 22.6	-6.7
UPP	**Uppsala**	**1.20**	**333**	P	Pg	16 27 28.9	-0.5
ESKU	**Eskilstuna**	**1.28**	**291**	P	Pg	16 27 29.8	-0.9
ESKU	**Eskilstuna**	**1.28**	**291**	P	Pg	16 27 29.8	-0.9
FIBU	**Brunna**	**1.31**	**328**	P	Pg	16 27 30.7	-0.7
FIBU	**Brunna**	**1.31**	**328**	P	Pg	16 27 30.7	-0.7
BACU	**Backbrunna**	**1.34**	**323**	P	Pg	16 27 31.3	-0.7
BACU	**Backbrunna**	**1.34**	**323**	P	Pg	16 27 31.3	-0.7
FLYU	**Flymyra**	**1.40**	**343**	P	Pn	16 27 32.3	-0.8
FLYU	**Flymyra**	**1.40**	**343**	P	Pn	16 27 32.3	-0.8
AAL	**Aland**	**1.54**	**25**	*eP*	Pn	16 27 33.8	-1.1
AAL	**Aland**	**1.54**	**25**	P	Pn	16 27 34.5	-0.4
AAL	**Aland**	**1.54**	**25**	*eP*	Pn	16 27 34.5	-0.3
AAL				*eS*	Sn	16 27 53.6	-1.9
GRAU	**Graesoe**	**1.55**	**357**	P	Pn	16 27 34.8	-0.3
GRAU	**Graesoe**	**1.55**	**357**	P	Pn	16 27 34.8	-0.3
VSTU	**Vaestervik**	**1.62**	**226**	P	Pn	16 27 35.7	-0.3
VSTU	**Vaestervik**	**1.62**	**226**	P	Pn	16 27 35.7	-0.3
FORU	**Forsmark**	**1.62**	**351**	P	Pn	16 27 36.0	-0.1
FORU	**Forsmark**	**1.62**	**351**	P	Pn	16 27 36.0	-0.1
OSTU	**Oestervaala**	**1.65**	**331**	P	Pn	16 27 36.5	0.0
OSTU	**Oestervaala**	**1.65**	**331**	P	Pn	16 27 36.5	0.0
BYXU	**Byxelkrok**	**1.76**	**212**	P	Pn	16 27 38.2	+0.2
BYXU	**Byxelkrok**	**1.76**	**212**	P	Pn	16 27 38.2	+0.2
SLIT	**Slītere, Latvi**	**2.23**	**120**	*eP*	Pn	16 27 44.7	+0.4
MTSE	**Matsula**	**2.66**	**90**	*eP*	Pn	16 27 50.5	+0.2
RAF	**Rauma**	**2.71**	**33**	*eP*	Pn	16 27 50.2	-0.9
RAF	**Rauma**	**2.71**	**33**	*eP*	Pn	16 27 52.1	+1.0
RAF				*eS*	Sn	16 28 25.1	+0.6
RAF				MSG		16 28 36.6	
	comp=Z,2.2nm,0.1s						
BLEU	**Blekinge**	**2.94**	**213**	*i* P	Pn	16 27 55.0	+0.8
BLEU				*i* S	Sn	16 28 30.8	+0.5
MEF	**Metsahovi**	**3.23**	**61**	*eP*	Pn	16 27 58.2	+0.1
MEF	**Metsahovi**	**3.23**	**61**	*eS*	Sn	16 28 40.3	+3.0
MEF				MSG		16 28 53.1	
	comp=Z,1.9nm,0.1s						
DEL	**Delary**	**3.49**	**230**	*eP*	Pn	16 28 02.5	+0.8
DEL	**Delary**	**3.49**	**230**	*i* P	Pb	16 28 07.0	-1.9
DEL				*i* S	Sn	16 28 41.2	-2.6
DEL				IAML		16 29 15.1	
	comp=Z,2.4nm,0.4s						
TJOU	**Tjoern**	**3.81**	**261**	*i* P	Pn	16 28 08.1	+2.0
STRU	**Stroemstad**	**3.91**	**277**	*i* P	Pn	16 28 07.5	0.0
STRU				*i* S	Sn	16 28 52.3	-1.8
BJUU	**Bjuv**	**4.11**	**231**	*i* P	Pn	16 28 09.6	-0.7
BJUU				*i* S	Sn	16 28 58.1	-0.9
BSD	**Bornholm Skovb**	**4.24**	**211**	IAML		16 29 24.4	
	comp=Z,3.7nm,0.3s						
LUNU	**Lund**	**4.27**	**224**	*i* P	Pn	16 28 11.0	-1.5
FIA0	**FINESS Array S**	**4.54**	**51**	*eP*	Pn	16 28 19.1	+2.9
FIA0				*eS*	Sn	16 29 10.6	+1.0
FIA1	**FINESS Array S**	**4.54**	**51**	*eP*	Pn	16 28 18.7	+2.5
FIA1				*eS*	Sn	16 29 10.6	+1.0
KEF	**Keuruu**	**4.55**	**39**	*eP*	Pn	16 28 17.7	+1.4
KEF				*eS*	Sn	16 29 09.4	-0.4
KAF	**Kangasniemi**	**5.02**	**45**	*eP*	Pn	16 28 24.3	+1.6
KAF				*eS*	Sn	16 29 21.9	+0.5
SUF	**Sumiainen**	**5.37**	**40**	*eP*	Pn	16 28 28.5	+1.0
SUF				*eS*	Sn	16 29 29.5	-0.3
OUF	**Merijarvi**	**6.29**	**25**	*eP*	Pn	16 28 40.7	+0.6
OUF				*eS*	Sn	16 29 49.4	-3.1

IDC 26 16:34:29.8±3.6,12.06S×166.48E,h0km,mb3.7/3, mb1 3.7/3,mb1mx3.4/20,mbtmp3.6/3,MS3.6/3,Ms1 3.6/3, ms1mx2.8/58,Error ellipse: s-maj=125.6km s-min=53.4km az=131.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.83**	**252**	P	P	16 40 56.6	-0.1
	0.3nm,0.7s,baz=85,slow=9.1,SNR=1.7						
ASAR	**Alice Springs**	**33.00**	**245**	P	P	16 41 06.8	-0.1
	0.2nm,0.7s,baz=68,slow=10,SNR=5.2						
ASAR				PcP	PcP	16 43 51.4	+0.3
	0.2nm,0.8s,baz=86,slow=2.2,SNR=4.4						
JOW	**Kunigami**	**53.58**	**317**	LR	LR	17 03 52.1	
	comp=Z,170nm,21.9s,baz=93,slow=33						
KSRS	**Korea Array**	**61.11**	**325**	LR	LR	17 07 49.6	
	comp=Z,19nm,19.8s,baz=180,slow=33						
SONM	**Songino Array**	**79.90**	**324**	LR	LR	17 18 30.1	
	comp=Z,42nm,21.6s,baz=152,slow=33						
MKAR	**Makanchi Array**	**94.75**	**317**	P	P	16 47 52.7	-0.6
	0.6nm,0.5s,baz=86,slow=6.4,SNR=7.7						

*IDC **26** 16:52:33.3±3.0,20.45S×174.26W,h125km±35km, mb3.6/4, mb1 3.7/8,mb1mx3.5/41,mbtmp4.1/8,MS3.1/2,Ms1 3.1/2, ms1mx2.6/57,Error ellipse: s-maj=38.0km s-min=31.2km az=80.0*
*NEIC **26** 16:52:33.8±2.3,20.60S±0.10×174.2W±0.1,h125km±15km, mb4.4/16,Error ellipse: s-maj=19.9km s-min=7.2km az=47.0*
ISC 26 16:52:33.5±0.7,20.52S±0.07×174.16W±0.08,h150km, n28,σ2.88/27,mb4.3/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.23**	**71**		**Pn**	**16 53 38.5**	**+1.6**
AFI	**Afiamalu**	**6.96**	**19**	P	**Pn**	**16 54 12.6**	**-0.5**
	2.0nm,0.3s,baz=204,slow=10.0,SNR=2.4						
AFI				S	**Sn**	**16 55 26.3**	**-4.9**
	0.6nm,0.3s,baz=64,slow=22,SNR=1.2						
AFI	**Afiamalu**	**6.96**	**19**		**Pn**	**16 54 14.0**	**+0.9**
MSVF	**Nonsavu**	**7.87**	**289**	P	**Pn**	**16 54 23.3**	**-2.0**
	0.6nm,0.3s,baz=140,slow=13,SNR=8.8						
MSVF	**Nonsavu**	**7.87**	**289**		**Pn**	**16 54 24.4**	**-1.0**
RAR	**Rarotonga**	**13.46**	**95**	Pn	**Pn**	**16 55 38.7**	**+0.1**
FUNA	**Funafuti**	**13.55**	**331**	Pn	**Pn**	**16 55 39.4**	**-0.3**
ONTNC	**Ouen Toro**	**18.14**	**261**	P	**P**	**16 56 34.7**	**+0.3**
ONTNC				IAmb	IAmb	16 56 35.7	
	comp=Z,62nm,1.3s						
DZM	**Mont Dzumac**	**18.15**	**262**	P	**Pn**	**16 56 35.8**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=85,slow=19,SNR=6.7						
URZ	**Urewera**	**19.23**	**201**	P	**Pn**	**16 56 47.3**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=17,slow=7.8,SNR=9.5						
URZ				S	**S**	**17 00 05.0**	**-11**
	comp=Z,0.1nm,0.3s,baz=348,slow=22,SNR=0.9						
URZ	**Urewera**	**19.23**	**201**	IAmb	IAmb	16 57 15.2	
	comp=Z,18nm,1.3s						
KOUNC	**Koumac, New Ca**	**20.19**	**266**	P	**P**	**16 56 56.8**	**+0.2**
KOUNC				IAmb	IAmb	16 57 17.3	
	comp=Z,28nm,1.1s						
BKZ	**Black Stump Fm**	**20.25**	**201**	P	**P**	**16 56 56.2**	**-0.9**
BKZ				IAmb	IAmb	16 57 05.0	
	comp=Z,17nm,1.1s						
TUWZ	**Tuamarina**	**23.16**	**203**	P	**P**	**16 57 26.3**	**-0.3**
PPT	**Papeete**	**23.41**	**87**	LR	LR	17 05 00.4	
	comp=Z,26nm,20.1s,baz=89,slow=32						
THZ	**Tophouse**	**23.84**	**204**	P	**P**	**16 57 35.2**	**+2.3**
THZ				IAmb	IAmb	16 57 53.2	
	comp=Z,14nm,1.0s						
RPZ	**Rata Peaks**	**26.22**	**205**	P	**P**	**16 57 56.7**	**+2.4**
	comp=Z,8.7nm,0.9s,baz=90,slow=7.1,SNR=1.8						
FOZ	**Fox Glacier**	**26.57**	**207**	P	**P**	**16 57 59.7**	**+2.2**
STKA	**Stephens Creek**	**41.03**	**245**	P	**P**	**17 00 04.3**	**+2.1**
	comp=Z,0.8nm,0.4s,baz=90,slow=2.0,SNR=1.8						
COEN	**Coen**	**41.18**	**272**	P	**P**	**17 00 06.0**	**+2.4**
BBOO	**Buckleboo**	**45.77**	**244**	P	**P**	**17 00 40.9**	**+0.8**
BBOO				IAmb	IAmb	17 00 44.1	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**48.02**	**256**	P	**P**	**17 00 58.5**	**+0.8**
ASAR	**Alice Springs**	**48.02**	**256**	P	**P**	**17 00 59.1**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=81,slow=7.5,SNR=17						
WB0	**Warramunga Arr**	**48.14**	**261**	P	**P**	**17 01 00.4**	**+1.6**
WB0				IAmb	IAmb	17 01 04.1	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**48.15**	**261**	P	**P**	**17 01 00.1**	**+1.3**
WB2				IAmb	IAmb	17 01 09.0	
	comp=Z,9.5nm,1.5s						
WRA	**Warramunga Arr**	**48.16**	**261**	P	**P**	**17 01 00.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=96,slow=8.0,SNR=10						
KNRA	**Kununurra**	**54.25**	**265**	P	**P**	**17 01 47.8**	**+3.5**
MA2	**Magadan**	**84.81**	**343**	LR	LR	17 38 51.0	
	comp=Z,18nm,20.4s,baz=199,slow=33						

*JMA **26** 16:59:44.2±0.2,30.25N×131.25E,h14km±2km,M3.8*
JMA Felt I J1.
*NIED **26** 16:59:44.2,30.26N×131.26E,h14km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.17; Mθθ-0.90; Mφφ-0.27; Mrθ-0.30; Mθφ-0.42; Mφr0.11; Fault plane solution: M0 1.18000×10^15 NP1:φs54.00000°, δ40.00000°,λ74.00000°. NP2:φs254.00000°,δ51.00000°, λ103.00000°.*
*NEIC **26** 16:59:47.4±2.3,30.26N±0.05×131.1E±0.1,h33km±6km, mb4.3/21 Error ellipse: s-maj=12.8km s-min=7.5km az=102.0*
*IDC **26** 16:59:48.4±1.4,30.27N×131.07E,h44km±12km,mb3.7/22, mb1 3.8/27,mb1mx3.7/74,mbtmp3.9/27,ML3.4/5,MS3.2/8, Ms1 3.2/8,ms1mx2.8/93,Error ellipse: s-maj=17.4km s-min=8.4km az=100.0*
ISC 26 16:59:45.4±0.7,30.27N±0.05×131.15E±0.06,h22km±3km, n90,σ1.06/82,mb4.2/33,MS3.3/7,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.25**	**301**	P	**Pb**	**16 59 51.0**	**-0.6**
JMTN				S	**Sb**	**16 59 56.2**	**+0.4**
JTN	**Tanegashima 3**	**0.41**	**339**	P	**Pb**	**16 59 53.3**	**-0.8**
JTN				*eS*	**Sb**	**16 59 59.8**	**-0.1**
JYAK	**Yakushimahirau**	**0.55**	**267**	P	**Pb**	**16 59 56.7**	**+0.2**
JYAK				*eS*	**Sb**	**17 00 05.3**	**+1.3**
JKC	**Kuchinoerabu**	**0.85**	**284**	P	**Pn**	**17 00 01.9**	**-0.1**
JKC				*eS*	**Sn**	**17 00 14.7**	**+0.9**
JTSR	**Tashiro 2**	**0.92**	**348**	P	**Pn**	**17 00 02.0**	**-1.1**
JNN	**Nakanoshima**	**1.18**	**249**	P	**Pb**	**17 00 07.5**	**+0.3**
JNAR	**Kushima--Naru**	**1.26**	**5**	P	**Pn**	**17 00 08.2**	**+0.5**
JSU	**Suzuyama**	**1.37**	**334**	P	**Pn**	**17 00 09.1**	**-0.2**
JSU	**Suzuyama**	**1.37**	**334**	Pn	**Pn**	**17 00 08.7**	**-0.6**
JNKG	**Nichinankitago**	**1.40**	**8**	P	**Pn**	**17 00 10.6**	**+0.9**
JNU	**Nakatsue**	**2.86**	**355**	P	**Pn**	**17 00 31.0**	**+1.2**
	7.8nm,0.3s,baz=145,slow=2.1,SNR=14						
JNU				S	**Sn**	**17 01 06.0**	**+2.5**
	5.2nm,0.3s,baz=38,slow=15,SNR=1.4						
JNU	**Nakatsue**	**2.86**	**355**	Pn	**Pn**	**17 00 30.7**	**+1.0**
JOW	**Kunigami**	**4.25**	**217**	P	**Pn**	**17 00 49.5**	**+0.5**
	7.1nm,0.3s,baz=100,slow=15,SNR=13						
JOW				S	**Sn**	**17 01 38.8**	**+0.8**
	8.6nm,0.3s,baz=209,slow=29,SNR=10.0						
JOW	**Kunigami**	**4.25**	**217**	Pn	**Pn**	**17 00 48.1**	**-0.8**
JHS	**Saijyo**	**5.00**	**19**	Pn	**Pn**	**17 00 59.2**	**0.0**
INU	**Inuyama**	**7.08**	**43**	Pn	**Pn**	**17 01 28.1**	**+0.4**
JGF	**Kuroka**	**7.45**	**43**	Pn	**Pn**	**17 01 33.0**	**+0.2**
KSAR	**Wonju Array Be**	**7.65**	**340**	Pn	**Pn**	**17 01 35.3**	**-0.3**
KSRS	**Korea Array**	**7.65**	**340**	P	**Pn**	**17 01 37.7**	**+2.1**
	0.2nm,0.3s,baz=174,slow=15,SNR=5.1						
KS19	**Wonju Array Si**	**7.71**	**340**	Pn	**Pn**	**17 01 37.8**	**+1.4**
JHJ	**Hachijo jima 2**	**7.89**	**67**	LR	LR	17 04 34.5	
	comp=Z,55nm,21.8s,baz=242,slow=36						
MAJO	**Matsushiro**	**8.60**	**41**	Pn	**Pn**	**17 01 49.7**	**+1.1**
MJAR	**Matsushiro Arr**	**8.60**	**41**	P	**Pn**	**17 01 49.2**	**+0.6**
	0.2nm,0.3s,baz=264,slow=24,SNR=12						
MJAR	**Matsushiro Arr**	**8.60**	**41**		**Pn**	**17 01 47.2**	**-1.4**
MJB9	**Matsu-Tunnel**	**8.60**	**41**	Pn	**Pn**	**17 01 49.8**	**+1.2**
USRK	**Ussuriysk Ar.**	**13.92**	**3**	P	**P**	**17 03 09.4**	**+0.1**
	baz=181,slow=11,SNR=7.8						
USRK	**Ussuriysk Ar.**	**13.92**	**3**	Pn	**Pn**	**17 03 00.6**	**-0.7**
CN2	**Changchun**	**14.25**	**343**	*eP*	**P**	**17 03 15.3**	**+2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ASAJ	**Asahikawa**	**16.54**	**30**	LR	LR	17 10 35.8	
	comp=Z,54nm,18.7s,baz=186,slow=39						
ENH	**Enshi**	**18.71**	**275**		**Pn**	**17 04 02.8**	**-0.2**
ENH				IAmb	IAmb	17 04 17.9	
	comp=Z,6.1nm,0.6s						
KLR	**Kul'dur**	**18.95**	**1**	P	**P**	**17 04 05.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=218,slow=4.3,SNR=6.7						
HHC	**Hu-ho-hao-te**	**19.07**	**309**	*eP*	**Pn**	**17 04 07.0**	**-0.4**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,66nm,5.5s						
HIA	**Hailar**	**20.86**	**339**	P	**P**	**17 04 24.2**	**-1.6**
GUMO	**Guam**	**20.88**	**140**	LR	LR	17 10 44.9	
	comp=Z,34nm,21.7s,baz=136,slow=31						
LZH	**Lanzhou**	**23.54**	**292**	*eP*	P	17 04 46.5	-7.9
LZH				sP	sP	17 05 04.0	+0.5
LZH				pmax	pmax		
	comp=Z,21nm,1.6s						
LZH				LR	LR		
	comp=N,250nm,15.2s						
LZH				LR	LR		
	comp=E,160nm,14.6s						
LZH				LR	LR		
	comp=Z,160nm,14.1s						
DAV	**Davao City (W)**	**23.66**	**194**	LR	LR	17 15 36.5	
	comp=Z,38nm,18.8s,baz=195,slow=40						
ULN	**Ulaanbaatar**	**25.50**	**320**	P	**P**	**17 05 10.9**	**-1.4**
ULN				IAmb	IAmb	17 05 21.1	
	comp=Z,4.7nm,0.9s						
SONM	**Songino Array**	**25.85**	**320**	P	**P**	**17 05 15.4**	**0.0**
	comp=Z,1.0nm,0.6s,baz=132,slow=9.7,SNR=5.4						
SONM	**Songino Array**	**25.85**	**320**	P	**P**	**17 05 13.4**	**-2.0**
PZH	**PanZhiHua**	**26.11**	**269**	P	**P**	**17 05 19.0**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
SIJI	**Sorong**	**30.96**	**180**	LR	LR	17 17 40.9	

CLL	Collm	82.29	326	*e*PKPbc	P		17 12 05.0	-0.1
NVAR	Mina Array Bea	85.88	48	P	P		17 12 25.5	+1.5
	comp=Z,1.3nm,0.7s,baz=288,slow=5.4,SNR=9.2							
PDAR	Pinedale Array	88.42	40	P	P		17 12 35.5	-0.7
	comp=Z,0.5nm,0.9s,baz=318,slow=1.2,SNR=4.1							

NEIC ***26*** *17:01:13.2±2.8, 17°.66S±0°.08×173°.0W±0°.1, h10km±1km, mb4.6/3, Error ellipse: s-maj=20.7km s-min=13.3km az=264.0*

IDC ***26*** *17:01:13.4±2.6, 17°.47S×173°.88W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/47, mbtmp3.8/6, ML3.1/1, MS2.3/2, Ms1 2.3/2, ms1mx2.2/60, Error ellipse: s-maj=108.0km s-min=25.3km az=142.0*

ISC 26 17:01:15.5±0.7, 17.74S±0°.06×173.06W±0°.09, h28km, n14, σ2s62/16, mb4.3/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
NIUE	Niue	3.26	115		P	Pn	17 02 05.3	+0.4
NIUE					Sn	Sn	17 02 38.9	-3.9
AFI	Afiamalu	4.00	18	Pn	Pn	Pn	17 02 15.5	+0.4
	1.2nm,0.3s,baz=262,slow=15,SNR=2.2							
AFI					Sn	Sn	17 02 58.9	-2.3
	3.7nm,0.3s,baz=85,slow=23,SNR=1.5							
AFI					LR	LR	17 03 12.6	
	comp=Z,15nm,21.2s,baz=173,slow=29							
AFI	Afiamalu	4.00	18		P	Pn	17 02 13.3	-1.8
AFI					Sn	Sn	17 02 58.4	-2.7
MSVF	Nonsavu	8.47	269	LR	LR		17 05 32.3	
	comp=Z,49nm,18.5s,baz=166,slow=34							
URZ	Urewera	22.18	201	P	P		17 06 08.8	-0.7
URZ				IAmb	IAmb		17 06 26.8	
	comp=Z,27nm,1.3s							
COEN	Coen	42.20	269	P	P		17 09 07.6	+1.3
COEN				IAmb	IAmb		17 09 17.4	
	comp=Z,26nm,1.2s							
WRA	Warramunga Arr	49.66	259	P	P		17 10 01.9	-3.3
	comp=Z,0.5nm,0.5s,baz=98,slow=6.9,SNR=1.7							
ASAR	Alice Springs	49.73	254	P	P		17 10 02.3	-3.5
	comp=Z,1.2nm,0.6s,baz=92,slow=8.4,SNR=15							
QSPA	South Pole Qui	72.32	180	P	P		17 12 38.9	+0.4
QSPA				IAmb	IAmb		17 13 13.6	
	comp=Z,7.4nm,1.4s							
PDAR	Pinedale Array	83.79	42	P	P		17 13 46.9	+4.3
	comp=Z,0.5nm,0.6s,baz=204,slow=4.0,SNR=6.2							
PDAR	Pinedale Array	83.79	42	P	P		17 13 45.2	+2.7
ILAR	Eielson Array	84.66	11	P	P		17 13 48.5	+2.2
	comp=Z,0.4nm,0.7s,baz=224,slow=6.3,SNR=4.7							
ILAR	Eielson Array	84.66	11	P	P		17 13 47.8	+1.6
SEY	Seymchan	84.85	345	P	P		17 13 47.5	+0.3
	comp=Z,2.0nm,0.3s,baz=163,slow=19,SNR=14							

IDC ***26*** *17:06:00.9±1.6, 8°.05S×131°.31E, h0km, mb3.6/3, mb1 3.8/8, mb1mx3.5/52, mbtmp3.7/8, ML3.6/5, Error ellipse: s-maj=46.2km s-min=22.5km az=91.0*

ISC 26 17:06:03.1±0.9, 8.09S±0°.06×131.4E±0°.1, h35km, n8, σ3s58/13, mb3.6/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
SIJI	Sorong	7.17	359	Pn	P	Pn	17 07 45.7	0.0
	2.1nm,0.3s,baz=59,slow=23,SNR=17							
SIJI					Sn	Sn	17 08 59.2	-6.8
	0.9nm,0.3s,baz=237,slow=23,SNR=1.7							
BATI	Baumata	7.96	254	Pn	P	Pn	17 07 56.9	+0.4
	0.8nm,0.3s,baz=121,slow=19,SNR=1.7							
BATI					Sn	Sn	17 09 24.8	-0.7
	0.8nm,0.3s,baz=40,slow=18,SNR=1.1							
FITZ	Fitzroy Crossi	11.44	209	Pn	P	Pn	17 08 46.0	+1.9
	0.3nm,0.3s,baz=37,slow=12,SNR=23							
FITZ					Sn	Sn	17 10 45.4	-5.4
	0.7nm,0.3s,baz=183,slow=17,SNR=6.1							
WRA	Warramunga Arr	12.11	167	Pn	P	Pn	17 08 54.8	+1.4
	0.4nm,0.3s,baz=347,slow=14,SNR=22							
WRA					Sn	Sn	17 11 04.6	-2.6
	0.8nm,0.3s,baz=331,slow=22,SNR=7.9							
ASAR	Alice Springs	15.67	172	Pn	P	Pn	17 09 43.4	+1.9
	0.2nm,0.3s,baz=354,slow=14,SNR=15							
ASAR					Sn	Sn	17 12 30.4	-3.7
	0.1nm,0.3s,baz=355,slow=27,SNR=5.3							
SONM	Songino Array	59.93	341	P	P	P	17 16 06.7	+0.8
	0.3nm,0.5s,baz=133,slow=6.3,SNR=1.7							
MKAR	Makanchi Array	69.92	326	P	P	P	17 17 14.3	+3.6
	0.5nm,0.4s,baz=114,slow=8.0,SNR=15							
KURBB	Kurchatov Arra	74.18	328	P	P	P	17 17 39.0	+2.9
	0.3nm,0.4s,baz=130,slow=4.9,SNR=2.2							

IDC ***26*** *17:12:35.5±1.5, 54°.17N×169°.62E, h0km, mb3.3/6, mb1 3.5/8, mb1mx3.3/70, mbtmp3.3/8, ML3.1/2, Error ellipse: s-maj=41.2km s-min=19.3km az=11.0*

KRSC ***26*** *17:12:40.3±2.0, 53°.95N×168°.74E, h22km±32km, ML4.1*

ISC 26 17:12:37.1±0.9, 54°.0N±0°.1×169°.41E±0°.06, h17km, n36, σ2s21/43, mb3.2/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
BKI	Bering	2.32	302	*e*P	P	Pn	17 13 13.4	-1.0
BKI				*e*S	S	Sn	17 13 38.8	-3.7
SHEM	Shemya Is, Ala	3.10	113	Pn	P	Pn	17 13 27.0	+1.9
	4.9nm,0.3s,baz=283,slow=18,SNR=1.7							
SHEM					S	Sn	17 14 02.0	+0.3
	8.1nm,0.3s,baz=267,slow=19,SNR=2.0							
MKZ	Mys Kozlova	4.53	280	*e*P	P	Pn	17 13 46.4	+1.6
MKZ				*e*S	S	Sn	17 14 34.8	-2.2
TUMD	Tumrok D	5.37	286	*e*P	P	Pn	17 13 59.0	+2.7
TUMD				*e*S	S	Sn	17 14 56.8	-0.9
SPN	Mys Shipunski	5.67	264	*e*P	P	Pn	17 14 02.6	+2.1
SPN				*e*S	S	Sn	17 15 01.9	-3.3
KII	Karymskiy	5.87	274	*e*P	P	Pn	17 14 03.1	-0.2
NLC	Nalytchevo	6.06	266	*e*S	S	Sn	17 15 11.5	-3.1
SDLR	Sedlovina	6.31	267	*e*P	P	Pn	17 14 11.2	+1.9
UGLR	Uglovaya	6.36	267	*e*P	P	Pn	17 14 12.2	+2.2
SMAR	Somma	6.36	267	*e*P	P	Pn	17 14 12.1	+2.0
KRER	Koryakskii	6.38	268	*e*P	P	Pn	17 14 13.0	+2.6
KRER				*e*S	S	Sn	17 15 21.7	-1.2
AVH	Avacha	6.39	267	*e*P	P	Pn	17 14 12.7	+2.2
KRX	Arik	6.43	268	*e*P	P	Pn	17 14 12.9	+1.9
DALK	Dalny	6.43	265	*e*P	P	Pn	17 14 13.0	+2.1
DALK				*e*S	S	Sn	17 15 21.5	-2.4
KOK	Koryaka	6.45	268	*e*P	P	Pn	17 14 13.4	+2.1
PET	Petropavlovsk	6.50	265	*e*P	P	Pn	17 14 14.9	+3.1
PET				*e*S	S	Sn	17 15 25.5	+0.1
RUS	Russkaya	6.74	261	*e*S	S	Sn	17 15 28.6	-2.8
GNL	Ganaly	6.79	272	*e*P	P	Pn	17 14 19.0	+3.0
KRMR	Karymshinskiy	6.85	264	*e*P	P	Pn	17 14 17.9	+1.3
KRMR				*e*S	S	Sn	17 15 31.8	-2.3
MTVR	Mutnovka	6.92	262	*e*P	P	Pn	17 14 19.6	+1.9
MTVR				*e*S	S	Sn	17 15 33.3	-2.7
GRL	Gorelyy	6.96	262	*e*P	P	Pn	17 14 21.2	+2.9
PETK	Petropavlovsk-	7.04	267	Pn	P	Pn	17 14 21.3	+2.0
	0.8nm,0.3s,baz=100,slow=16,SNR=20							
PETK					S	Sn	17 15 39.0	+0.2
	1.0nm,0.3s,baz=92,slow=21,SNR=2.3							
ASAK	Asacha	7.11	261	*e*P	P	Pn	17 14 23.0	+2.7
ASAK				*e*S	S	Sn	17 15 39.0	-1.7
KDTR	Khodutka, Kamc	7.21	257	*e*P	P	Pn	17 14 23.2	+1.7
KDTR				*e*S	S	Sn	17 15 38.7	-4.2
ILAR	Eielson Array	24.17	46	P	P	P	17 17 51.7	-0.3
	0.3nm,0.5s,baz=255,slow=8.1,SNR=5.5							
TIXI	Tiksi	24.79	331	P	P	P	17 17 58.4	+0.8
	1.0nm,0.5s,baz=90,slow=24,SNR=3.1							
H11N2	WAKE ISLAND Hy 34.29	184		T	T	T	17 55 50.9	
	baz=2.5,slow=76,SNR=147							
H11N3	WAKE ISLAND Hy 34.31	184		T	T	T	17 55 46.6	
	baz=2.5,slow=76,SNR=124							
H11N1	WAKE ISLAND Hy 34.31	184		T	T	T	17 55 48.8	
	baz=2.5,slow=76,SNR=98							
H11S1	WAKE ISLAND Hy 35.52	184		T	T	T	17 57 21.8	
	baz=2.5,slow=76,SNR=31							
H11S3	WAKE ISLAND Hy 35.53	184		T	T	T	17 57 15.3	
	baz=2.5,slow=76,SNR=19							
H11S2	WAKE ISLAND Hy 35.53	184		T	T	T	17 57 23.8	
	baz=2.5,slow=76,SNR=35							
YKA	Yellowknife Ar	38.60	46	P	P	P	17 19 58.3	-0.4
	0.2nm,0.4s,baz=292,slow=8.1,SNR=3.4							
KURBB	Kurchatov Arra	51.93	306	P	P	P	17 21 45.3	+0.8
	0.2nm,0.5s,baz=49,slow=6.8,SNR=2.3							
MKAR	Makanchi Array	52.62	300	P	P	P	17 21 51.2	+1.5
	0.1nm,0.5s,baz=51,slow=6.5,SNR=2.2							
TXAR	Lajitas Array	65.09	74	P	P	P	17 23 15.5	-1.2
	0.2nm,0.4s,baz=302,slow=5.2,SNR=3.1							

NOU ***26*** *17:18:57.9, 19°.16S×176°.89W, h359km, mb4.7/65, Fiji Islands Region*

NEIC ***26*** *17:18:57.8±2.7, 19°.00S±0°.09×177°.05W±0°.09, h349km±7km, mb4.6/76, Error ellipse: s-maj=13.5km s-min=11.6km az=165.0*

IDC ***26*** *17:19:02.3±1.4, 19°.04S×177°.43W, h376km±12km, mb3.7/18, mb1 3.9/20, mb1mx3.7/44, mbtmp4.4/20, Error ellipse: s-maj=16.8km s-min=10.7km az=153.0*

ISC 26 17:18:57.0±0.4, 19.13S±0°.05×177.05W±0°.06, h344km, n211, σ1s84/227, mb4.6/53, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
MSVF	Nonsavu	4.86	286	P	P	Pn	17 20 16.7	+1.9
	4.4nm,0.3s,baz=110,slow=18,SNR=20							
MSVF				S	S		17 21 19.5	+1.8
	baz=225,slow=21,SNR=1.1							
MSVF	Nonsavu	4.86	286			Pn	17 20 15.7	+0.8
MSVF	Nonsavu	4.86	286	P		Pn	17 20 17.5	+2.6
NIUE	Niue	6.74	91	Pn		Pn	17 20 36.5	+0.4
AFI	Afiamalu	7.25	45	P		Pn	17 20 42.2	-0.1
	18nm,0.3s,baz=64,slow=0.7,SNR=23							
AFI				S		S	17 22 01.2	-6.7
	2.1nm,0.3s,baz=210,slow=22,SNR=1.5							
AFI	Afiamalu	7.25	45			Pn	17 20 40.5	-1.7
AFI	Afiamalu	7.25	45	P		Pn	17 20 42.4	+0.1
GLKZ	Green Lake	10.12	184	P		P	17 21 17.7	-0.2
GLKZ				S		S	17 23 03.1	-7.4
RTV	Rentapao	13.85	273	P		Pn	17 22 02.0	+1.4
DVP	Devils Point	14.08	273	P		Pn	17 22 04.4	+1.0
MARNC	Mare, Loyalty	14.19	258			Pn	17 22 03.7	-0.9
MARNC	Mare, Loyalty	14.19	258	P		Pn	17 22 03.9	-0.8
LIFNC	LIFOU	14.86	261	P		P	17 22 09.6	-0.8
LIFNC	LIFOU	14.86	261	P		Pn	17 22 10.8	-1.7
PINNC	Pines Island,	14.90	254			Pn	17 22 12.3	-0.5
PINNC	Pines Island,	14.90	254	P		Pn	17 22 14.0	+1.1
YATNC	Mamie plateau,	15.32	256	P		Pn	17 22 18.2	+0.5
OUENC	Ouen Island, N	15.41	255			P	17 22 17.0	+0.6
OUENC	Ouen Island, N	15.41	255	P		Pn	17 22 19.0	+0.1
SANVU	Saraoutou	15.48	281			P	17 22 16.7	-0.5
SANVU				IAmb		IAmb	17 22 20.2	
	comp=Z,14nm,0.8s							
SANVU	Saraoutou	15.48	281	P		Pn	17 22 19.3	-0.3
DZM	Mont Dzumac	15.73	256	P		Pn	17 22 21.4	-1.2
	comp=Z,2.2nm,0.3s,baz=82,slow=17,SNR=31							
DZM	Mont Dzumac	15.73	256	*e*P		Pn	17 22 22.0	-0.6
	comp=Z,93nm,0.8s							
DZM	Mont Dzumac	15.73	256			Pn	17 22 20.9	-1.7
DZM	Mont Dzumac	15.73	256	P		Pn	17 22 21.5	-1.2
ONTNC	Ouen Toro	15.75	256			Pn	17 22 21.3	-1.5
ONTNC	Ouen Toro	15.75	256	P		Pn	17 22 21.7	-1.1
NOUC	Port Laguerre	15.86	256	P		Pn	17 22 23.6	-0.5
KNTN	Kanton	17.07	18	P		P	17 22 33.3	-1.1
KNTN				IAmb		IAmb	17 22 49.8	
	comp=Z,92nm,1.6s							
KOUNC	Koumac, New Ca	17.62	262	P		Pn	17 22 41.9	-2.3
KOUNC				IAmb		IAmb	17 22 46.6	
	comp=Z,51nm,1.2s							
KOUNC	Koumac, New Ca	17.62	262	P		Pn	17 22 41.8	-2.4
OUZ	Omahuta	18.04	205	P		P	17 22 46.8	+2.3
OUZ				IAmb		IAmb	17 23 08.3	
	comp=Z,85nm,1.6s							
OUZ	Omahuta	18.04	205	P		P	17 22 49.5	+4.9
OUZ	Omahuta	18.04	205	P		P	17 22 45.6	+1.0
WCZ	Waipu Caves	18.38	203	P		P	17 22 47.8	-0.4
KUZ	Kuaotunu	18.66	198	P		P	17 22 52.0	+0.9
MXZ	Matakaoa Point	18.81	192	P		P	17 22 53.5	+0.9
MXZ				IAmb		IAmb	17 23 00.1	
	comp=Z,87nm,1.4s							
MXZ	Matakaoa Point	18.81	192	P		P	17 22 53.9	+1.2
MXZ				S		S	17 26 03.9	-4.4
WIAZ	Waiheke Island	18.89	200	P		P	17 22 53.7	+0.2
WMGZ	Waiomatatini S	19.04	191	P		P	17 22 55.4	+0.3
HAZ	Te Kaha	19.10	193	P		P	17 22 55.8	+0.1
HAZ				S		S	17 26 07.9	-5.6
PKGZ	Pakihiroa	19.17	192	P		P	17 22 58.7	+2.2
PUZ	Puketiti	19.31	191	P		P	17 22 58.1	+0.1
PUZ				S		S	17 26 11.1	-6.3
MWZ	Matawai	19.71	193	P		P	17 23 02.0	-0.3
MWZ				S		S	17 26 20.5	-3.5
CNGZ	Carnagh Statio	19.72	191	P		P	17 23 03.2	+0.9
URZ	Urewera	19.73	194	P		P	17 23 00.6	-1.7
	comp=Z,6.4nm,0.3s,baz=306,slow=2.1,SNR=35							
URZ				S		S	17 26 18.5	-5.6
	comp=Z,0.7nm,0.3s,baz=327,slow=5.5,SNR=1.1							
URZ	Urewera	19.73	194	P		P	17 23 00.8	-1.6
URZ				IAmb		IAmb	17 23 10.2	
	comp=Z,18nm,0.5s							
URZ	Urewera	19.73	194	P		P	17 23 01.8	-0.6
URZ				S		S	17 26 18.2	-6.0
URZ	Urewera	19.73	194	P		P	17 23 00.7	-1.7
RAGZ	Rawiri	19.89	193	P		P	17 23 04.4	+0.3
RAGZ				S		S	17 26 25.4	-1.5
RIGZ	Rimuhau	20.02	192	P		P	17 23 06.3	+0.9
RIGZ				S		S	17 26 26.5	-2.6
MTHZ	Maungataniwha	20.35	194	P		P	17 23 10.4	+1.8
MTHZ				S		S	17 26 34.4	-0.1
RAHZ	Arahi	20.36	193	P		P	17 23 09.0	+0.3
RAHZ				S		S	17 26 35.9	+1.3
HIZ	Hauiti	20.55	198	P		P	17 23 11.8	+1.4
HIZ	Hauiti	20.55	198	P		P	17 23 16.0	+5.6
HIZ	Hauiti	20.55	198	P		P	17 23 10.4	0.0
NMHZ	Naumai	20.59	194	P		P	17 23 09.3	-1.5
BKZ	Black Stump Fm	20.73	194	P		P	17 23 11.5	-0.6
BKZ				IAmb		IAmb	17 23 46.0	
	comp=Z,34nm,1.4s							
BKZ	Black Stump Fm	20.73	194	P		P	17 23 10.8	-1.3
BKZ				S		S	17 26 40.3	-0.4
BKZ	Black Stump Fm	20.73	194	P		P	17 23 11.1	-1.0
ETVZ	East Tongariro	20.90	196	P		P	17 23 13.8	+0.1
OTVZ	Oturere	20.93	196	P		P	17 23 13.4	-0.6
MCHZ	McNeill Hill	20.95	194	P		P	17 23 14.5	+0.5
KWHZ	Kaweka Forest	21.00	194	P		P	17 23 14.0	+0.5
BHHZ	Black Hill Sta	21.14	195	P		P	17 23 14.3	-1.5
BHHZ				S		S	17 26 48.9	+1.6
VRZ	Vera Road	21.15	198	P		P	17 23 18.8	+3.0
KRHZ	Kereru	21.22	194	P		P	17 23 17.4	+1.1
KAHZ	Kahuranaki	21.25	193	P		P	17 23 17.1	+0.4
PKE	Pukeiti	21.45	199	P		P	17 23 23.6	+5.1
PXZ	Pawanui	21.48	193	P		P	17 23 19.7	+1.0
NEZ	North Egmont	21.48	199	P		P	17 23 24.4	+5.5
TSZ	Takapari Road	21.71	195	P		P	17 23 21.5	+0.7
BFZ	Birch Farm	22.23	194	P		P	17 23 24.7	-1.0
BFZ				IAmb		IAmb	17 23 29.8	
	comp=Z,31nm,1.1s							
BFZ	Birch Farm	22.23	194	P		P	17 23 24.9	-0.7
SNZO	South Karori	23.20	196	P		P	17 23 34.5	+0.2
SNZO	South Karori	23.20	196	P		P	17 23 34.9	+0.5
QRZ	Quartz Range	23.39	200	P		P	17 23 36.8	+0.7
QRZ				IAmb		IAmb	17 23 41.0	
	comp=Z,33nm,0.6s							
QRZ	Quartz Range	23.39	200	P		P	17 23 36.8	+0.7
TUWZ	Tuamarina	23.52	197	P		P	17 23 37.5	+0.3
THZ	Tophouse	24.13	199	P		P	17 23 43.3	+0.5
THZ				IAmb		IAmb	17 23 55.7	
	comp=Z,57nm,1.6s							
KHZ	Kahutara	24.55	197	P		P	17 23 46.0	-0.5
LTZ	Lake Taylor	25.25	199	P		P	17 23 51.5	-1.3
LTZ				IAmb		IAmb	17 23 58.7	
	comp=Z,20nm,0.6s							
OXZ	Oxford	25.81	198	P		P	17 23 57.7	-0.1
OXZ				IAmb		IAmb	17 24 05.0	
	comp=Z,31nm,0.5s							
RPZ	Rata Peaks	26.47	200	P		P	17 24 02.5	-1.2
	comp=Z,23nm,1.1s,baz=63,slow=10,SNR=2.4							
RPZ	Rata Peaks	26.47	200	IAmb		IAmb	17 24 29.6	
	comp=Z,63nm,1.5s							
RPZ	Rata Peaks	26.47	200	P		P	17 24 03.9	+0.2
ODZ	Otahua Downs	27.79	199	P		P	17 24 16.3	+0.9
MLZ	Mavora Lakes	28.91	202	P		P	17 24 25.4	+0.1
MLZ				IAmb		IAmb	17 24 39.2	
	comp=Z,44nm,1.3s							
EIDS	Eidsvold	30.09	252	P		P	17 24 35.7	-0.2
EIDS				IAmb		IAmb	17 24 43.1	
	comp=Z,25nm,1.2s							
ARMA	Armidale	30.48	242	P		P	17 24 40.3	+1.0
ARMA				IAmb		IAmb	17 24 42.7	
	comp=Z,13nm,0.5s							
ARMA	Armidale	30.48	242	P		P	17 24 40.6	+1.3
MGCD	Mangrove Creek	31.69	237	P		P	17 24 49.5	-0.2
SYDH	Sydney Hard Ro	32.15	237	P		P	17 24 54.8	+1.1
RMQ	Roma	32.28	251	P		P	17 24 56.2	+1.2
CNB	Canberra Magne	33.74	235	P		P	17 25 08.5	+1.1
CAN	Canberra	34.02	235	P		P	17 25 10.2	+0.4
CAN				IAmb		IAmb	17 25 11.1	
	comp=Z,13nm,0.8s							
CAN	Canberra	34.02	235	P		P	17 25 10.7	+0.9
CTA	Charters Tower	34.54	262	P		P	17 25 14.2	-0.1
CMSA	Cobar Meteorol	35.70	242	P		P	17 25 24.5	+0.5
QLP	Quilpie	36.33	251	P		P	17 25 29.7	+0.3
MTSU	Mount Surprise	36.57	265	P		P	17 25 30.9	-0.6
GLAD	Gladstone	36.91	226	P		P	17 25 34.5	+0.5
TOO	Toolangi	37.43	233	P		P	17 25 39.1	+0.6
TOO				IAmb		IAmb	17 25 39.9	
	comp=Z,30nm,0.7s							
TOO	Toolangi	37.43	233	P		P	17 25 39.2	+0.8
TAU	Tasmania Unive	38.22	224	P		P	17 25 45.5	+0.6
TAU				IAmb		IAmb	17 25 51.5	
	comp=Z,83nm,1.5s							
TAU	Tasmania Unive	38.22	224	P		P	17 25 45.5	+0.6
COEN	Coen	38.41	272	P		P	17 25 45.0	-1.9
STKA	Stephens Creek	39.20	243	P		P	17 25 53.8	+0.7
	comp=Z,6.9nm,0.4s,baz=84,slow=9.4,SNR=13							
STKA	Stephens Creek	39.20	243	P		P	17 25 53.5	+0.5
STKA	Stephens Creek	39.20	243	P		P	17 25 53.8	+0.7
INKA	Innaminka	39.50	249	P		P	17 25 56.8	+1.2
ARPS	Mount Arapiles	39.99	235	P		P	17 25 59.7	+0.2
QIS	Mount Isa	40.71	260	P		P	17 26 04.9	-0.7
WAKE	Wake Island	41.39	336	P		P	17 26 08.3	-2.6
HTT	Hallett	41.66	241	P		P	17 26 13.5	+0.4
LCRK	Leigh Creek	41.90	246	P		P	17 26 15.6	+0.6
TWOA	Tennyson Woods	42.20	239	P		P	17 26 17.5	+0.1
NAPP	Napperby	42.27	241	P		P	17 26 18.8	+0.9
BBOO	Buckleboo	43.96	242	P		P	17 26 31.5	+0.1
BBOO				IAmb		IAmb	17 26 32.5	
	comp=Z,75nm,1.5s							
BBOO	Buckleboo	43.96	242	P		P	17 26 31.6	+0.2
OOD	Oodnadatta	43.98	250	P		P	17 26 32.6	+1.0
HON	Honolulu	44.32	26	P		P	17 26 29.0	-5.2
OPA	Opana	44.64	26	P		P	17 26 33.7	-3.0
MULG	Mulgathing	45.48	246	P		P	17 26 43.3	0.0
WR0	Warramunga Arr	45.50	261	P		P	17 26 41.8	-1.8
WB0	Warramunga Arr	45.66	261	P		P	17 26 43.6	-1.3
WB2	Warramunga Arr	45.68	261	P		P	17 26 43.1	-1.9
WRAB	Tennant Creek	45.68	261	P		P	17 26 43.5	-1.4
WRAB	Tennant Creek	45.68	261	P		P	17 26 43.9	-1.1
WRA	Warramunga Arr	45.69	261	P		P	17 26 43.8	-1.2
	comp=Z,5.2nm,0.5s,baz=98,slow=5.9,SNR=100							
WRA				PcP		PcP	17 28 17.2	+0.5
	comp=Z,0.3nm,0.4s,baz=88,slow=4.7,SNR=1.5							
WRA				S		S	17 32 57.0	-4.8
	comp=Z,0.5nm,0.8s,baz=98,slow=14,SNR=3.0							
WRA	Warramunga Arr	45.69	261	P		P	17 26 42.9	-2.2
AS31	Alice Springs	45.71	255	P		P	17 26 44.9	-0.4
ASAR	Alice Springs	45.72	255	P		P	17 26 44.9	-0.4
	comp=Z,23nm,0.7s,baz=92,slow=7.9,SNR=317							
ASAR				PcP		PcP	17 28 17.0	+0.3
	comp=Z,0.5nm,0.4s,baz=87,slow=6.8,SNR=0.8							
ASAR				S		S	17 32 57.8	-4.4
	comp=Z,1.7nm,0.9s,baz=89,slow=15,SNR=7.9							
ASAR	Alice Springs	45.72	255	P		P	17 26 44.7	-0.5
MTN	Manton Dam	50.06	269	P		P	17 27 17.2	-1.1
FORT	Forrest	50.66	246	P		P	17 27 22.2	-0.4
FORT	Forrest	50.66	246	P		P	17 27 22.4	-0.1
WRKA	Warakurna	50.71	253	P		P	17 27 23.3	+0.3
KNRA	Kununurra	51.66	265	P		P	17 27 29.2	-0.8
SIJI	Sorong	53.77	283	P		P	17 27 45.6	+0.2
	comp=Z,13nm,0.6s,baz=78,slow=7.7,SNR=8.1							
FITZ	Fitzroy Crossi	54.11	261	P		P	17 27 47.8	0.0
	comp=Z,4.2nm,0.5s,baz=159,slow=0.9,SNR=16							
BATI	Baumata	57.81	270	P		P	17 28 15.3	+1.4
	comp=Z,9.6nm,0.4s,baz=191,slow=1.2,SNR=4.4							
MEEK	Meekatharra	59.22	250	P		P	17 28 23.1	-0.3
SBA	Scott Base	59.29	184	P		P	17 28 25.8	+2.9
VNDA	Vanda	59.34	185	P		P	17 28 25.9	+2.6
	comp=Z,

IPM	**Ipoh**	**83.85**	**277**	P	**P**	**17 30 48.9**	**-0.4**
IPM				IAmb	IAmb	17 30 51.5	
	comp=Z,12nm,0.9s						
RND	**Reindeer**	**85.18**	**12**	P	**P**	**17 30 53.0**	**-1.8**
RND				IAmb	IAmb	17 30 58.4	
	comp=Z,28nm,1.6s						
PSI	**Prapat**	**85.27**	**275**	P	**P**	**17 30 56.1**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=167,slow=19,SNR=5.5						
TXAR	**Lajitas Array**	**85.57**	**57**	P	**P**	**17 31 01.4**	**+3.8**
	comp=Z,1.3nm,0.7s,baz=214,slow=7.2,SNR=9.2						
ILAR	**Eielson Array**	**86.79**	**12**	P	**P**	**17 31 03.7**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=216,slow=5.1,SNR=19						
PDAR	**Pinedale Array**	**87.36**	**43**	P	**P**	**17 31 08.8**	**+2.7**
	comp=Z,0.3nm,0.7s,baz=215,slow=1.8,SNR=3.7						
HHC	**Hu-ho-hao-te**	**89.05**	**314**	*e*P	**P**	**17 31 13.3**	**-0.5**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.1s						
TROLL	**Troll, Antarti**	**89.09**	**180**	P	**P**	**17 31 14.6**	**+1.0**
SNAA	**Sanae**	**89.34**	**178**	P	**P**	**17 31 15.6**	**+0.9**
VNA3	**Neumayer Olymp**	**89.44**	**176**	P	**P**	**17 31 16.4**	**+1.3**
VNA2	**Neumayer--Watz**	**89.89**	**177**	P	**P**	**17 31 18.6**	**+1.5**
	baz=195,slow=4.0						
VNA1	**Neumayer--Stat**	**90.11**	**176**	P	**P**	**17 31 19.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**90.50**	**289**	P	**P**	**17 31 22.2**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=119,slow=3.6,SNR=5.2						
PZH	**PanZhiHua**	**90.86**	**298**	P	**P**	**17 31 22.0**	**-0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.9s						
YKA	**Yellowknife Ar**	**94.90**	**24**	P	**P**	**17 31 42.0**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=240,slow=4.5,SNR=8.9						
CLL	**Collm**	**146.92**	**348**	*i* PKPbc	**PKPbc**	**17 37 58.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**173.93**	**168**	PKPab	**PKPab**	**17 40 01.4**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=198,slow=3.8,SNR=2.7						

*IDC **26** 17:20:24.8±2.3,2°.38N×128°.89E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/56, mbtmp3.3/3, MS3.9/1, Ms1 3.9/1, ms1mx2.4/28, Error ellipse: s-maj=158.6km s-min=24.8km az=68.0*

*NEIC **26** 17:20:28.5±1.6,2°.40N±0°.09×128°.9E±0°.2, h27km±9km, mb4.1/6, Error ellipse: s-maj=25.1km s-min=13.4km az=92.0*

ISC 26 17:20:28.0±1.2,2°.4N±0°.1×128°.9E±0°.2, h35km, n15, σ1§48/14, mb4.1/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.26**	**224**	Pn	**Pn**	**17 21 01.0**	**-1.8**
LUWI	**Luwuk**	**7.05**	**241**	Pn	**Pn**	**17 22 08.7**	**0.0**
TOLI2	**Tolitoli**	**8.24**	**261**	Pn	**Pn**	**17 22 25.0**	**-0.1**
WB0	**Warramunga Arr**	**22.69**	**167**	P	**P**	**17 25 28.3**	**+1.5**
WB0				IAmb	IAmb	17 25 31.1	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**22.84**	**167**	P	**P**	**17 25 27.9**	**-0.4**
WRAB				IAmb	IAmb	17 25 46.0	
	comp=Z,8.3nm,1.1s						
WRA	**Warramunga Arr**	**22.85**	**167**	P	**P**	**17 25 30.1**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=346,slow=11,SNR=12						
WR0	**Warramunga Arr**	**22.91**	**166**	P	**P**	**17 25 28.9**	**-0.1**
WR0				IAmb	IAmb	17 25 34.2	
	comp=Z,8.5nm,1.2s						
AS31	**Alice Springs**	**26.38**	**170**	P	**P**	**17 26 02.5**	**+1.3**
ASAR	**Alice Springs**	**26.38**	**170**	P	**P**	**17 26 02.0**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=357,slow=7.8,SNR=6.2						
HNR	**Honiara**	**33.08**	**111**	LR	LR	17 40 35.1	
	comp=Z,199nm,20.4s,baz=170,slow=37						
KSAR	**Wonju Array Be**	**34.87**	**359**	P	**P**	**17 27 13.9**	**-2.0**
MK31	**Makanchi Array**	**59.88**	**325**	P	**P**	**17 30 30.8**	**+0.5**
MK31				IAmb	IAmb	17 30 49.8	
	comp=Z,2.1nm,1.2s						
MKAR	**Makanchi Array**	**59.88**	**325**	P	**P**	**17 30 32.7**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=112,slow=7.4,SNR=8.7						
MKAR	**Makanchi Array**	**59.88**	**325**	P	**P**	**17 30 31.4**	**+1.1**
MAKZ	**Makanchi**	**60.07**	**325**	P	**P**	**17 30 32.9**	**+1.3**

*NEIC **26** 17:28:07.8±1.6,6°.8N±0°.1×123°.7E±0°.2, h558km±13km, mb4.6/17, Error ellipse: s-maj=24.8km s-min=16.2km az=52.0*

*IDC **26** 17:28:12.1±2.0,6°.65N×123°.82E, h621km±29km, mb2.8/4, mb1 3.1/5, mb1mx2.6/66, mbtmp4.1/5, Error ellipse: s-maj=78.5km s-min=12.5km az=66.0*

ISC 26 17:28:09.6±0.7,6°.58N±0°.09×123°.5E±0°.1, h600km, n29, σ1§63/33, mb4.4/9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**3.26**	**60**	*i*P	**P**	**17 29 28.8**	**-1.5**
BIPH				*i* S	S	17 30 20.7	-15
MYLDM	**Lahad Datu**	**5.16**	**255**		**P**	**17 29 41.2**	**-2.6**
TOLI2	**Tolitoli**	**6.07**	**207**		**P**	**17 29 48.9**	**-2.5**
TNTI	**Ternate**	**6.94**	**146**		**P**	**17 29 57.1**	**-2.1**
LUWI	**Luwuk**	**7.60**	**185**		**P**	**17 30 01.3**	**-3.9**
SIJI	**Sorong**	**10.72**	**133**	P	**P**	**17 30 36.6**	**+1.0**
	1.6nm,0.3s,baz=142,slow=23,SNR=8.1						
KSM	**Kuching**	**14.10**	**249**		**P**	**17 31 10.6**	**+1.0**
YULB	**Yu-li**	**16.85**	**353**	P	**P**	**17 31 31.9**	**-2.9**
YULB				IAmb	IAmb	17 31 55.6	
	comp=Z,28nm,1.5s						
TPUB	**Ta-pu**	**16.86**	**351**	P	**P**	**17 31 32.7**	**-2.1**
TPUB				IAmb	IAmb	17 31 35.9	
	comp=Z,11nm,0.6s						
SSLB	**Suanglung**	**17.29**	**352**	P	**P**	**17 31 37.6**	**-1.1**
SSLB				IAmb	IAmb	17 31 42.1	
	comp=Z,36nm,1.6s						
YHNB	**Yeheng**	**18.11**	**354**	P	**P**	**17 31 45.2**	**-1.0**
MTN	**Manton Dam**	**20.73**	**159**	P	**P**	**17 32 10.4**	**+0.3**
MTN				IAmb	IAmb	17 32 22.6	
	comp=Z,26nm,1.6s						
KNRA	**Kununurra**	**22.72**	**167**	P	**P**	**17 32 28.2**	**+0.4**
KNRA				IAmb	IAmb	17 32 43.9	
	comp=Z,20nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.61**	**175**	P	**P**	**17 32 46.1**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=343,slow=9.9,SNR=1.5						
GSI	**Gunungsitoli**	**26.38**	**260**	P	**P**	**17 33 01.5**	**+1.4**
COEN	**Coen**	**28.24**	**136**	P	**P**	**17 33 16.2**	**-0.2**
WB0	**Warramunga Arr**	**28.29**	**158**	P	**P**	**17 33 17.1**	**+0.4**
WB0				IAmb	IAmb	17 33 18.1	
	comp=Z,17nm,1.6s						
WRA	**Warramunga Arr**	**28.43**	**158**	P	**P**	**17 33 18.7**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=337,slow=10.0,SNR=24						
WRA				PcP	**PcP**	**17 36 10.8**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=335,slow=2.7,SNR=1.4						
WRA				S	**S**	**17 37 22.8**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=334,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**28.43**	**158**	P	**P**	**17 33 17.5**	**-0.5**
WR0	**Warramunga Arr**	**28.52**	**158**	P	**P**	**17 33 19.3**	**+0.6**
WR0				IAmb	IAmb	17 33 20.5	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**31.73**	**162**	P	**P**	**17 33 47.9**	**+1.7**
ASAR	**Alice Springs**	**31.73**	**162**	P	**P**	**17 33 47.9**	**+1.6**
	comp=Z,1.7nm,0.3s,baz=339,slow=7.5,SNR=46						
ASAR				PcP	**PcP**	**17 36 19.6**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=354,slow=2.5,SNR=1.6						
ASAR				S	**S**	**17 38 16.1**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=348,slow=20,SNR=11						
ASAR	**Alice Springs**	**31.73**	**162**	P	**P**	**17 33 47.7**	**+1.5**
BBOO	**Buckleboo**	**40.95**	**164**	P	**P**	**17 35 03.3**	**+1.7**
BBOO				IAmb	IAmb	17 35 27.0	
	comp=Z,32nm,1.6s						
EIDS	**Eidsvold**	**41.57**	**141**	P	**P**	**17 35 05.7**	**-0.9**
MK31	**Makanchi Array**	**53.40**	**326**	P	**P**	**17 36 35.9**	**+1.3**
MKAR	**Makanchi Array**	**53.40**	**326**	P	**P**	**17 36 36.0**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=117,slow=7.6,SNR=9.4						
KURK	**Kurchatov**	**57.63**	**328**	P	**P**	**17 37 04.5**	**+0.9**
OUZ	**Omahuta**	**62.84**	**135**	P	**P**	**17 37 38.0**	**-0.2**
OUZ				IAmb	IAmb	17 38 06.6	
	comp=Z,43nm,1.4s						

*NEIC **26** 17:31:43.2±1.4,18°.0S±0°.1×178°.5W±0°.1, h571km±7km, mb4.7/62, Error ellipse: s-maj=16.2km s-min=13.5km az=133.0*

*NOU **26** 17:31:44.1, 17°.80S×178°.33W, h596km, mb4.8/72, Fiji Islands Region*

*IDC **26** 17:31:45.5±1.5, 17°.87S×178°.57W, h591km±16km, mb3.6/23, mb1 3.8/25, mb1mx3.7/45, mbtmp4.5/25, Error ellipse: s-maj=15.4km s-min=11.1km az=145.0*

ISC 26 17:31:43.4±0.6, 17°.93S±0°.06×178°.46W±0°.06, h578km±6km, n270, σ1§12/284, mb4.7/103, 12C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.33**	**273**	P	**P**	**17 33 05.1**	**+2.3**
	3.2nm,0.3s,baz=123,slow=14,SNR=17						
MSVF				S	**S**	**17 34 05.3**	**-2.3**
	baz=137,slow=22,SNR=0.6						
MSVF	**Nonsavu**	**3.33**	**273**	P	**P**	**17 33 02.9**	**0.0**
MSVF	**Nonsavu**	**3.33**	**273**	P	**P**	**17 33 06.1**	**+3.2**
AFI	**Afiamalu**	**7.57**	**59**	P	**P**	**17 33 36.9**	**-1.1**
	10nm,0.3s,baz=186,slow=7.4,SNR=9.5						
AFI				S	**S**	**17 35 07.1**	**-4.7**
	2.7nm,0.3s,baz=48,slow=22,SNR=1.9						
AFI	**Afiamalu**	**7.57**	**59**	P	**P**	**17 33 36.2**	**-1.8**
AFI	**Afiamalu**	**7.57**	**59**	P	**P**	**17 33 37.2**	**-0.8**
	74nm,0.8s						
NIUE	**Niue**	**8.17**	**99**	P	**P**	**17 33 45.2**	**+1.5**
	baz=8.1,SNR=7.5						
NIUE				S	**S**	**17 35 23.3**	**+1.0**
	baz=8.1						
NIUE	**Niue**	**8.17**	**99**	P	**P**	**17 33 44.7**	**+1.0**
RTV	**Rentapao**	**12.49**	**269**	P	**P**	**17 34 29.1**	**+2.0**
	298nm,1.0s						
DVP	**Devils Point**	**12.72**	**269**	P	**P**	**17 34 31.5**	**+2.0**
	919nm,0.8s						
MARNC	**Mare, Loyalty**	**13.21**	**252**	P	**P**	**17 34 33.6**	**-0.8**
LIFNC	**LIFOU**	**13.79**	**256**	P	**P**	**17 34 39.0**	**-1.4**
SANVU	**Saraoutou**	**13.96**	**278**	P	**P**	**17 34 41.5**	**-0.7**
SANVU	**Saraoutou**	**13.96**	**278**	P	**P**	**17 34 44.3**	**+2.1**
	35nm,0.6s						
PINNC	**Pines Island,**	**14.02**	**248**	P	**P**	**17 34 42.0**	**-0.7**
PINNC	**Pines Island,**	**14.02**	**248**	P	**P**	**17 34 43.8**	**+1.1**
	97nm,2.0s						
OUENC	**Ouen Island, N**	**14.50**	**250**	P	**P**	**17 34 46.1**	**-1.3**
OUENC	**Ouen Island, N**	**14.50**	**250**	P	**P**	**17 34 49.2**	**+1.7**
	38nm,0.7s						
DZM	**Mont Dzumac**	**14.78**	**251**	P	**P**	**17 34 50.3**	**+0.2**
	2.8nm,0.3s,baz=117,slow=16,SNR=26						
DZM	**Mont Dzumac**	**14.78**	**251**	P	**P**	**17 34 49.2**	**-0.9**
DZM	**Mont Dzumac**	**14.78**	**251**	P	**P**	**17 34 50.9**	**+0.7**
	28nm,0.7s						
ONTNC	**Ouen Toro**	**14.82**	**250**	P	**P**	**17 34 49.0**	**-1.5**
ONTNC	**Ouen Toro**	**14.82**	**250**	P	**P**	**17 34 51.9**	**+1.4**
	57nm,2.8s						
NOUC	**Port Laguerre**	**14.91**	**251**	P	**P**	**17 34 52.8**	**+1.4**
	43nm,0.8s						
KOUNC	**Koumac, New Ca**	**16.50**	**258**	P	**P**	**17 35 06.6**	**+0.2**
KOUNC				IAmb	IAmb	17 35 09.5	
	comp=Z,28nm,0.9s						
KOUNC	**Koumac, New Ca**	**16.50**	**258**	P	**P**	**17 35 08.1**	**+1.7**
	comp=Z,36nm,2.2s						
URZ	**Urewera**	**20.62**	**190**	P	**P**	**17 35 42.0**	**-1.5**
	comp=Z,6.6nm,0.6s,baz=106,slow=4.8,SNR=3.0						
URZ				S	**S**	**17 38 51.4**	**-6.1**
	comp=Z,16nm,0.9s,baz=53,slow=20,SNR=4.8						
URZ	**Urewera**	**20.62**	**190**	P	**P**	**17 35 41.5**	**-2.1**
URZ				IAmb	IAmb	17 35 55.2	
	comp=Z,23nm,1.1s						
URZ	**Urewera**	**20.62**	**190**	P	**P**	**17 35 43.3**	**-0.2**
	comp=Z,81nm,0.7s						
HIZ	**Hauiti**	**21.32**	**195**	P	**P**	**17 35 52.6**	**+2.8**
	comp=Z,335nm,1.3s						
QRZ	**Quartz Range**	**24.10**	**197**	P	**P**	**17 36 17.1**	**+2.6**
	comp=Z,46nm,1.4s						
KHZ	**Kahutara**	**25.34**	**194**	P	**P**	**17 36 25.9**	**+0.5**
	comp=Z,22nm,1.6s						
LTZ	**Lake Taylor**	**26.00**	**196**	P	**P**	**17 36 29.4**	**-1.9**
LTZ				IAmb	IAmb	17 37 06.2	
	comp=Z,23nm,1.3s						
FOZ	**Fox Glacier**	**27.38**	**199**	P	**P**	**17 36 43.0**	**-0.3**
FOZ				IAmb	IAmb	17 37 09.9	
	comp=Z,41nm,1.2s						
WKZ	**Wanaka**	**28.80**	**199**	P	**P**	**17 36 54.8**	**-0.9**
EIDS	**Eidsvold**	**29.21**	**250**	P	**P**	**17 37 00.0**	**+0.4**
	baz=29,SNR=6.1						
EIDS	**Eidsvold**	**29.21**	**250**	P	**P**	**17 36 59.7**	**+0.1**
EIDS				IAmb	IAmb	17 37 00.8	
	comp=Z,23nm,0.8s						
EIDS	**Eidsvold**	**29.21**	**250**	P	**P**	**17 37 00.5**	**+0.9**
	comp=Z,31nm,0.8s						
MLZ	**Mavora Lakes**	**29.56**	**199**	P	**P**	**17 37 02.2**	**-0.1**
MLZ				IAmb	IAmb	17 37 03.8	
	comp=Z,23nm,1.1s						
ARMA	**Armidale**	**29.89**	**240**	P	**P**	**17 37 07.0**	**+1.6**
	baz=30,SNR=32						
ARMA	**Armidale**	**29.89**	**240**	P	**P**	**17 37 04.9**	**-0.6**
ARMA				IAmb	IAmb	17 37 07.7	
	comp=Z,28nm,0.8s						
ARMA	**Armidale**	**29.89**	**240**	P	**P**	**17 37 07.1**	**+1.6**
	comp=Z,39nm,0.8s						
MGCD	**Mangrove Creek**	**31.24**	**235**	P	**P**	**17 37 18.6**	**+1.7**
	baz=31,SNR=17						
MGCD	**Mangrove Creek**	**31.24**	**235**	P	**P**	**17 37 18.7**	**+1.8**
	comp=Z,41nm,0.7s						
RMQ	**Roma**	**31.45**	**248**	P	**P**	**17 37 20.0**	**+1.2**
	baz=32,SNR=33						
RMQ	**Roma**	**31.45**	**248**	P	**P**	**17 37 20.0**	**+1.2**
	comp=Z,37nm,0.7s						
KRVT	**Keravat (AS076**	**31.90**	**292**	P	**P**	**17 37 22.3**	**-0.4**
	comp=Z,12nm,0.5s,baz=209,slow=10,SNR=6.5						
CNB	**Canberra Magne**	**33.38**	**232**	P	**P**	**17 37 36.6**	**+1.6**
	baz=34,SNR=84						
CNB	**Canberra Magne**	**33.38**	**232**	P	**P**	**17 37 36.7**	**+1.7**
	comp=Z,84nm,0.8s						
CTA	**Charters Tower**	**33.40**	**261**	P	**P**	**17 37 35.5**	**+0.1**
	baz=34						
CTA	**Charters Tower**	**33.40**	**261**	P	**P**	**17 37 35.8**	**+0.5**
	comp=Z,31nm,1.2s						
CAN	**Canberra**	**33.65**	**233**	P	**P**	**17 37 37.1**	**-0.1**
CAN				IAmb	IAmb	17 37 39.4	
	comp=Z,21nm,0.7s						
CAN	**Canberra**	**33.65**	**233**	P	**P**	**17 37 38.6**	**+1.3**
	comp=Z,50nm,0.8s						
PMG	**Port Moresby**	**34.42**	**280**	P	**P**	**17 37 45.0**	**+1.2**
	comp=Z,41nm,0.8s,baz=52,slow=5.3,SNR=11						
PMG	**Port Moresby**	**34.42**	**280**	P	**P**	**17 37 42.9**	**-1.0**
PMG	**Port Moresby**	**34.42**	**280**	P	**P**	**17 37 45.1**	**+1.2**
	comp=Z,48nm,0.8s						
PMG	**Port Moresby**	**34.42**	**280**	P	**P**	**17 37 45.2**	**+1.3**
	comp=Z,48nm,0.8s						
CMSA	**Cobar Meteorol**	**35.10**	**240**	P	**P**	**17 37 50.3**	**+1.0**
	baz=35,SNR=40						
CMSA	**Cobar Meteorol**	**35.10**	**240**	P	**P**	**17 37 50.2**	**+0.9**
	comp=Z,63nm,0.8s						
MTSU	**Mount Surprise**	**35.36**	**264**	P	**P**	**17 37 52.1**	**+0.4**
	baz=35,SNR=13						
MTSU	**Mount Surprise**	**35.36**	**264**	P	**P**	**17 37 52.1**	**+0.4**
	comp=Z,13nm,0.8s						
QLP	**Quilpie**	**35.48**	**249**	P	**P**	**17 37 53.2**	**+0.6**
	baz=36,SNR=27						
QLP	**Quilpie**	**35.48**	**249**	P	**P**	**17 37 53.2**	**+0.6**
	comp=Z,123nm,0.6s						
JOHN	**Johnston Islan**	**35.55**	**15**	P	**P**	**17 37 52.8**	**-0.4**
GLAD	**Gladstone**	**36.80**	**224**	P	**P**	**17 38 04.3**	**+1.1**
	comp=Z,28nm,0.7s						
COEN	**Coen**	**37.06**	**270**	P	**P**	**17 38 06.8**	**+1.1**
	baz=37,SNR=25						
COEN	**Coen**	**37.06**	**270**	P	**P**	**17 38 05.1**	**-0.6**
COEN				IAmb	IAmb	17 38 07.6	
	comp=Z,38nm,0.9s						
COEN	**Coen**	**37.06**	**270**	P	**P**	**17 38 06.8**	**+1.1**
	comp=Z,47nm,0.9s						
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**17 38 07.2**	**+1.3**
	baz=37,SNR=18						
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**17 38 05.9**	**0.0**
TOO				IAmb	IAmb	17 38 08.2	
	comp=Z,36nm,0.8s						
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**17 38 07.3**	**+1.4**
	comp=Z,47nm,1.1s						
MOO	**Moorlands**	**38.04**	**223**	P	**P**	**17 38 14.7**	**+1.4**
	comp=Z,40nm,2.6s						
TAU	**Tasmania Unive**	**38.19**	**222**	P	**P**	**17 38 15.1**	**+0.6**
TAU	**Tasmania Unive**	**38.19**	**222**	P	**P**	**17 38 15.6**	**+1.1**
	comp=Z,30nm,2.4s						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**17 38 19.2**	**+1.4**
	comp=Z,32nm,0.5s,baz=90,slow=10,SNR=107						
STKA				PcP	**PcP**	**17 40 16.2**	**+1.0**
	comp=Z,2.7nm,0.6s,baz=100,slow=6.1,SNR=2.5						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**17 38 19.2**	**+1.4**
	baz=39,SNR=76						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**17 38 17.5**	**-0.3**
STKA				IAmb	IAmb	17 38 20.0	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**17 38 19.2**	**+1.4**
	comp=Z,12nm,0.9s						
INKA	**Innaminka**	**38.69**	**248**	P	**P**	**17 38 20.4**	**+1.6**
	comp=Z,92nm,0.7s						
ARPS	**Mount Arapiles**	**39.60**	**234**	P	**P**	**17 38 26.8**	**+0.9**
	baz=40,SNR=10						
ARPS	**Mount Arapiles**	**39.60**	**234**	P	**P**	**17 38 26.8**	**+0.9**
	comp=Z,28nm,0.7s						
QIS	**Mount Isa**	**39.60**	**259**	P	**P**	**17 38 26.1**	**-0.2**
	baz=40,SNR=10						
QIS	**Mount Isa**	**39.60**	**259**	P	**P**	**17 38 26.2**	**-0.1**
	comp=Z,6.3nm,0.6s						
MCQ	**Macquarie Isla**	**40.42**	**200**	P	**P**	**17 38 29.8**	**-2.3**
HTT	**Hallett**	**41.09**	**239**	P	**P**	**17 38 39.1**	**+1.1**
	baz=41,SNR=24						
HTT	**Hallett**	**41.09**	**239**	P	**P**	**17 38 39.2**	**+1.2**
	comp=Z,50nm,0.7s						
LCRK	**Leigh Creek**	**41.20**	**244**	P	**P**	**17 38 39.8**	**+1.0**
	comp=Z,104nm,0.7s						
NAPP	**Napperby**	**41.68**	**240**	P	**P**	**17 38 44.1**	**+1.6**
	comp=Z,44nm,1.0s						
TWOA	**Tennyson Woods**	**41.70**	**237**	P	**P**	**17 38 43.5**	**+0.8**
	comp=Z,33nm,0.8s						
WHYH	**Whyalla**	**42.13**	**240**	P	**P**	**17 38 47.1**	**+1.1**
	comp=Z,61nm,0.7s						
OOD	**Oodnadatta**	**43.17**	**248**	P	**P**	**17 38 55.6**	**+1.4**
	comp=Z,47nm,2.3s						
BBOO	**Buckleboo**	**43.35**	**241**	P	**P**	**17 38 56.4**	**+0.8**
	baz=44,SNR=61						
BBOO	**Buckleboo**	**43.35**	**241**	P	**P**	**17 38 55.0**	**-0.6**
BBOO	**Buckleboo**	**43.35**	**241**	P	**P**	**17 38 56.2**	**+0.6**
	comp=Z,70nm,0.9s						
MWH	**Moku'aweowe**	**43.44**	**32**	P	**P**	**17 38 56.0**	**-0.9**
HMH	**Humu'ula Sheep**	**43.59**	**32**	P	**P**	**17 38 57.7**	**-0.2**
HLK	**Haleakala**	**44.19**	**30**	P	**P**	**17 39 02.5**	**+0.1**
WR0	**Warramunga Arr**	**44.39**	**260**	P	**P**	**17 39 03.0**	**-0.8**
WR0				IAmb	IAmb	17 39 07.7	
	comp=Z,12nm,0.4s						
WR0				PcP	**PcP**	**17 40 34.9**	**0.0**
WB0	**Warramunga Arr**	**44.55**	**260**	P	**P**	**17 39 04.1**	**-0.9**
WB0				PcP	**PcP**	**17 40 35.5**	**+0.1**
WB2	**Warramunga Arr**	**44.57**	**260**	P	**P**	**17 39 04.8**	**-0.4**
	baz=45						
WB2	**Warramunga Arr**	**44.57**	**260**	P	**P**	**17 39 04.4**	**-0.8**
WB2				IAmb	IAmb	17 39 05.8	
	comp=Z,29nm,0.6s						
WB2				PcP	**PcP**	**17 40 36.0**	**+0.4**
WRAB	**Tennant Creek**	**44.57**	**260**	P	**P**	**17 39 04.3**	**-0.9**
WRAB				IAmb	IAmb	17 39 05.8	
	comp=Z,24nm,0.6s						
WRAB	**Tennant Creek**	**44.57**	**260**	P	**P**	**17 39 05.0**	**-0.2**
	comp=Z,37nm,0.9s						
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**17 39 04.9**	**-0.4**
	comp=Z,16nm,0.4s,baz=95,slow=7.3,SNR=461						
WRA				PcP	**PcP**	**17 40 36.1**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=90,slow=3.7,SNR=6.2						
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**17 39 04.3**	**-0.9**
WRA				PcP	**PcP**	**17 40 35.4**	**-0.2**
AS31	**Alice Springs**	**44.74**	**254**	P	**P**	**17 39 06.0**	**-0.4**
AS31				PcP	**PcP**	**17 40 36.4**	**+0.3**
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**17 39 07.0**	**+0.5**
	comp=Z,125nm,0.5s,baz=88,slow=8.7,SNR=3082						
ASAR				PcP	**PcP**	**17 40 36.5**	**+0.3**
	comp=Z,4.6nm,0.5s,baz=114,slow=4.1,SNR=5.6						
ASAR				S	**S**	**17 44 57.6**	**-4.6**
	comp=Z,0.8nm,0.9s,baz=89,slow=15,SNR=4.9						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**17 39 06.2**	**-0.2**
ASAR				PcP	**PcP**	**17 40 36.1**	**0.0**
MULG	**Mulgathing**	**44.76**	**245**	P	**P**	**17 39 07.0**	**+0.5**
	comp=Z,111nm,0.7s						
KDU	**Kakadu**	**47.51**	**269**	P	**P**	**17 39 27.5**	**+0.1**
	baz=48,SNR=19						
KDU	**Kakadu**	**47.51**	**269**	P	**P**	**17 39 27.5**	**+0.1**
	comp=Z,46nm,0.7s						
MTN	**Manton Dam**	**48.75**	**268**	P	**P**	**17 39 36.3**	**-0.4**
	baz=49,SNR=40						
MTN	**Manton Dam**	**48.75**	**268**	P	**P**	**17 39 35.8**	**-0.9**
MTN				IAmb	IAmb	17 39 37.1	
	comp=Z,25nm,0.7s						
MTN	**Manton Dam**	**48.75**	**268**	P	**P**	**17 39 36.6**	**-0.1**
	comp=Z,37nm,0.7s						
WRKA	**Warakurna**	**49.79**	**252**	P	**P**	**17 39 44.2**	**-0.1**
	baz=50,SNR=402						
WRKA	**Warakurna**	**49.79**	**252**	P	**P**	**17 39 44.5**	**+0.2**
	comp=Z,110nm,0.9s						
FORT	**Forrest**	**49.95**	**245**	P	**P**	**17 39 45.3**	**0.0**
	baz=50,SNR=41						
FORT	**Forrest**	**49.95**	**245**	P	**P**	**17 39 45.3**	**0.0**
FORT				PcP	**PcP**	**17 40 54.0**	**-0.8**
FORT	**Forrest**	**49.95**	**245**	P	**P**	**17 39 45.3**	**0.

comp=Z,3.1nm,0.3s,baz=113,slow=7.7,SNR=2.0
PLAI Plampang 62.45 269 P **P** 17 41 10.8 -0.7
comp=Z,45nm,0.8s
PLAI Plampang 62.45 269 P **P** 17 41 11.8 +0.3
comp=Z,45nm,0.8s
TOLI2 Tolitoli 62.67 281 P **P** 17 41 12.3 -0.6
TOLI2 Tolitoli 62.67 281 P **P** 17 41 13.1 +0.2
comp=Z,9.7nm,0.7s
GIRL Giralia 62.84 253 P **P** 17 41 15.2 +1.3
baz=63,SNR=7.7
GIRL Giralia 62.84 253 P **P** 17 41 14.8 +0.9
GIRL Giralia 62.84 253 P **P** 17 41 15.3 +1.4
comp=Z,93nm,1.0s
MPSI Mapaga 63.23 280 P **P** 17 41 15.9 -0.6
comp=Z,24nm,0.8s
JAGI Jajag, Banyuwa 65.99 269 P **P** 17 41 32.8 -1.1
JAGI IAmb IAmb 17 41 33.8
comp=Z,30nm,0.7s
JAGI Jajag, Banyuwa 65.99 269 P **P** 17 41 32.9 -1.1
comp=Z,54nm,0.7s
CASY Casey 66.10 205 P **P** 17 41 33.6 0.0
MYLDM Lahad Datu 66.27 284 P **P** 17 41 36.8 +1.1
MYLDM IAmb IAmb 17 41 39.8
comp=Z,19nm,1.4s
MJAR Matsushiro Arr 67.90 323 P **P** 17 41 44.5 -0.6
comp=Z,1.2nm,0.6s,baz=153,slow=10,SNR=4.4
MJAR Matsushiro Arr 67.90 323 P **P** 17 41 44.5 -0.6
UGM Wanagama 69.60 268 P **P** 17 41 55.7 -0.2
UGM Wanagama 69.60 268 P **P** 17 41 56.2 +0.3
comp=Z,152nm,1.7s
JHS Saijyo 69.88 319 P **P** 17 41 57.1 0.0
JHS IAmb IAmb 17 42 30.0
comp=Z,31nm,1.6s
NIKH Nikolski High 71.09 6 P **P** 17 42 03.4 -0.3
SBUM Sibu 71.16 279 P **P** 17 42 04.1 -1.0
YULB Yu-li 71.74 303 P **P** 17 42 07.0 -1.2
YULB IAmb IAmb 17 42 15.2
comp=Z,49nm,1.7s
SSLB Suanglung 72.21 303 P **P** 17 42 09.9 -1.0
SSLB IAmb IAmb 17 42 29.1
comp=Z,52nm,1.7s
SSLB Suanglung 72.21 303 P **P** 17 42 10.7 -0.3
comp=Z,14nm,1.7s
TPUB Ta-pu 72.23 302 P **P** 17 42 09.8 -1.3
TPUB IAmb IAmb 17 42 11.2
comp=Z,17nm,0.7s
TPUB Ta-pu 72.23 302 P **P** 17 42 10.3 -0.8
comp=Z,20nm,0.7s
KSM Kuching 72.64 277 P **P** 17 42 13.9 +0.3
KSM IAmb IAmb 17 42 15.7
comp=Z,26nm,0.8s
KSM Kuching 72.64 277 P **P** 17 42 14.5 +0.9
comp=Z,39nm,0.9s
LEM Lembang 72.67 268 P **P** 17 42 15.1 +1.1
comp=Z,39nm,0.6s,baz=64,slow=6.5,SNR=8.7
PETK Petropavlovsk- 73.69 345 P **P** 17 42 18.9 +0.2
comp=Z,3.7nm,0.9s,baz=141,slow=9.3,SNR=4.5
KSRS Korea Array 74.69 318 P **P** 17 42 25.6 +0.9
comp=Z,0.6nm,0.7s,baz=127,slow=6.2,SNR=4.5
NJ2 Nanjing 77.92 310 *eP* **P** 17 42 43.5 +1.0
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
YBH Yreka Blue Hor 78.57 39 P **P** 17 42 47.5 +1.6
comp=Z,1.3nm,0.5s,baz=207,slow=0.5,SNR=4.6
MYKOM Kota Tinggi 78.85 276 P **P** 17 42 46.9 -1.0
NVAR Mina Array Bea 79.47 44 P **P** 17 42 52.6 +1.6
comp=Z,1.7nm,0.8s,baz=224,slow=10,SNR=9.9
J04D Umpqua Nationa 79.83 38 P **P** 17 42 52.6 0.0
BELA Belgrano 2 82.15 173 P **P** 17 43 03.6 -0.3
BELA IAmb IAmb 17 43 05.3
comp=Z,12nm,0.8s
IPM Ipoh 82.38 277 P **P** 17 43 05.9 -0.3
IPM IAmb IAmb 17 43 08.0
comp=Z,10nm,0.7s
U15A North Rim 82.57 48 P **P** 17 43 07.8 +0.8
ELK Elko 82.71 43 P **P** 17 43 08.7 +1.2
comp=Z,0.3nm,0.4s,baz=276,slow=8.3,SNR=4.2
CAST Castle Rocks 83.66 12 P **P** 17 43 10.7 -0.8
MAW Mawson 83.82 200 P **P** 17 43 13.2 +0.9
comp=Z,3.7nm,0.5s,baz=132,slow=5.0,SNR=6.9
ENH Enshi 84.25 304 P **P** 17 43 15.3 +0.2
ENH IAmb IAmb 17 43 17.4
comp=Z,10nm,0.7s
ILAR Eielson Array 85.92 13 P **P** 17 43 22.2 -0.1
comp=Z,0.8nm,0.4s,baz=222,slow=5.1,SNR=13
TX31 Lajitas Ar. Si 86.05 58 P **P** 17 43 24.2 +0.3
TX31 IAmb IAmb 17 43 27.9
comp=Z,17nm,1.6s
TXAR Lajitas Array 86.05 58 P **P** 17 43 26.2 +2.3
comp=Z,1.2nm,0.7s,baz=216,slow=5.4,SNR=11
XAN Xi'an 86.24 307 P **P** 17 43 26.5 +1.8
XAN pmax pmax
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 87.26 314 *eP* **P** 17 43 28.0 -1.4
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,91nm,6.8s
PDAR Pinedale Array 87.40 43 P **P** 17 43 31.5 +1.3
comp=Z,0.8nm,0.6s,baz=210,slow=3.3,SNR=11
CMAR Chiang Mai Arr 88.85 290 P **P** 17 43 38.3 +1.1
comp=Z,2.3nm,0.8s,baz=108,slow=2.9,SNR=17
CMAR Chiang Mai Arr 88.85 290 P **P** 17 43 38.1 +0.9
PZH PanZhiHua 89.13 298 P **P** 17 43 40.0 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.7s
TROLL Troll, Antarti 90.28 180 P **P** 17 43 43.5 +0.6
SNAA Sanae 90.58 179 P **P** 17 43 44.4 +0.2
VNA3 Neumayer Olymp 90.72 176 P **P** 17 43 45.3 +0.5
VNA2 Neumayer--Watz 91.16 177 P **P** 17 43 47.5 +0.7
baz=196,slow=4.0
INK Inuvik 91.92 15 P **P** 17 43 49.7 -0.5
comp=Z,0.9nm,0.7s,baz=265,slow=9.4,SNR=4.3
SONM Songino Array 93.54 319 P **P** 17 43 59.6 +1.4
comp=Z,0.3nm,0.3s,baz=143,slow=4.5,SNR=2.8
YKA Yellowknife Ar 94.37 25 P **P** 17 44 01.8 +0.3
comp=Z,0.1nm,0.6s,baz=246,slow=4.2,SNR=5.2
ZALV Zalesovo Beam 108.22 322 PKiKP **PKiKP** 17 49 05.2 -0.9
comp=Z,0.6nm,0.5s,baz=101,slow=0.7,SNR=3.9
MKAR Makanchi Array 109.12 314 PKiKP **PKiKP** 17 49 07.5 -0.6
comp=Z,0.8nm,0.5s,baz=130,slow=1.6,SNR=17
ARU Arti 122.84 326 PKP **PKPdf** 17 49 34.0 0.0
comp=Z,1.2nm,0.4s,baz=223,slow=1.9,SNR=7.0
AKTO Aktyubinsk 124.86 319 PKP **PKPdf** 17 49 38.1 0.0
comp=Z,1.2nm,0.7s,baz=84,slow=9.8,SNR=5.1
ARCES ARCESS Array B 126.33 350 PKP **PKPdf** 17 49 40.4 0.0
comp=Z,3.4nm,1.0s,baz=314,slow=2.6,SNR=7.1
FINES FINESS Array B 133.20 344 PKP **PKPdf** 17 49 53.7 +0.1
comp=Z,1.8nm,0.8s,baz=38,slow=2.5,SNR=4.1
AKASG Malin Array Be 140.56 332 PKiKP PKPpre 17 50 00.5
comp=Z,0.3nm,0.4s,baz=40,slow=4.6,SNR=5.1
AKASG PKP **PKiKP** 17 50 09.0 -1.3
comp=Z,0.7nm,0.4s,baz=36,slow=4.4,SNR=5.6
SORM Soroca 142.79 330 ⇑P **PKPdf** 17 50 09.3 -2.2
BNN Bunyan 143.63 312 PKPdf **PKPdf** 17 50 13.1 -0.4
VLDR Vladesti 144.51 327 ⇑P PKPbc 17 50 14.7 -0.1
TLCR 144.57 326 ⇑P **PKPab** 17 50 15.9 +0.3
BURAR Bucovina Array 144.61 332 ⇑P **PKPab** 17 50 16.9 +1.0
GHRR 144.70 328 ⇑P **PKPab** 17 50 17.2 +1.1
TESR Tescani 144.75 329 ⇓P **PKPab** 17 50 16.4 +0.1
BRTR Keskin Array B 144.77 315 PKP **PKPab** 17 50 16.4 -0.4
comp=Z,2.4nm,0.4s,baz=114,slow=3.5,SNR=12
BRTR Keskin Array B 144.77 315 PKPdf PKPbc 17 50 15.7 -0.2
KOLS Kolonicke sedl 144.81 336 *e*PKP **PKPab** 17 50 17.2 +0.8
CFR Carcaliu 144.93 327 ⇑P **PKPab** 17 50 16.9 -0.1
TPGR Topolog 144.99 326 ⇑P **PKPab** 17 50 17.5 +0.2
NIE Niedzica 145.13 338 *e*PKPbc **PKPab** 17 50 18.5 +0.8
CRVS Cervenica-Dubn 145.14 337 *e*PKP **PKPab** 17 50 17.6 -0.1
VRI Vrincioaia 145.18 329 ⇑P **PKPab** 17 50 17.7 -0.3
OSTC Ostas 145.40 343 *e*PKP **PKPab** 17 50 18.6 -0.1
CLL Collm 145.48 347 *i* PKPbc **PKPbc** 17 50 17.9 +0.4
comp=Z,9.0nm,1.2s
DPC Dobruska-Polom 145.56 343 *e*PKP **PKPab** 17 50 18.7 -0.7
LANS Liptovska Anna 145.65 339 *e*PKP **PKPab** 17 50 19.8 +0.1
TGMR Targu Mures 145.74 331 ⇑P **PKiKP** 17 50 25.2 +4.2
DOPR Dopca 145.75 330 ⇑P **PKPab** 17 50 20.1 -0.2
MLR Muntele Rosu 145.83 329 ⇓P **PKPab** 17 50 20.0 -0.7
PRU Pruhonice 146.35 345 *e*PKP **PKPbc** 17 50 20.3 +0.3
VYHS Vyhne 146.42 339 *e*PKP **PKiKP** 17 50 21.5 -0.9
KOLL Kolacno 146.50 340 *e*PKP **PKiKP** 17 50 21.7 -0.8
ARR Arges 146.55 330 ⇓P **PKiKP** 17 50 22.0 -0.9
KRUC Moravsky 146.70 342 *e*PKP **PKPbc** 17 50 21.3 +0.4
MODS Modra-Piesok 147.04 341 *e*PKP **PKiKP** 17 50 23.5 -0.2
KHC Kasperske Hory 147.39 345 *e*PKP **PKPbc** 17 50 23.2 +0.4
CKRC Cesky Krumlov 147.49 344 *e*PKP **PKPbc** 17 50 23.6 +0.5
GERES GERESS Array B 147.62 345 PKPbc **PKiKP** 17 50 24.2 -0.8
comp=Z,3.7nm,0.6s,baz=31,slow=3.0,SNR=28
BZS Buzias 147.73 333 ⇓P **PKiKP** 17 50 24.4 -0.8
CONA Conrad Observa 147.87 342 *e*P **PKiKP** 17 50 25.3 -0.2
comp=Z,2.5nm,0.5s
RONA Rosalia, Austr 147.94 341 *e*P **PKiKP** 17 50 25.3 -0.3
comp=Z,3.6nm,0.5s
HERR Herculane 147.95 331 ⇑P **PKiKP** 17 50 25.0 -0.7
MORH Mrgy, Hungar 148.44 337 ⇓P **PKiKP** 17 50 26.0 -0.6
BOVS Bovan 149.24 331 ⇓P **PKPbc** 17 50 27.5 0.0
SOKA Soboth 149.24 342 *e*P **PKPbc** 17 50 27.7 +0.1
comp=Z,1.2nm,0.5s
VTS Vitosha 149.25 328 ⇓P **PKiKP** 17 50 28.4 -0.2
KBA Koelnbreinsper 149.35 344 *e*P **PKPbc** 17 50 28.1 +0.2
comp=Z,2.4nm,0.5s
WATA Walderalm 149.54 346 *e*P **PKiKP** 17 50 28.6 -0.4
comp=Z,1.9nm,0.3s
WTTA Wattenberg 149.59 346 *e*P **PKiKP** 17 50 29.2 0.0
comp=Z,3.0nm,0.3s
MOTA Moosalm 149.63 347 *e*P **PKiKP** 17 50 29.2 -0.1
comp=Z,1.8nm,0.4s
MYKA Terra Mystica 149.68 343 *e*P **PKPbc** 17 50 28.2 -0.4
comp=Z,3.3nm,0.5s
SQTA Sankt Quirin 149.73 347 *e*P **PKiKP** 17 50 29.6 +0.1
comp=Z,2.5nm,0.3s
ABTA Abfaltersbach 149.87 345 *e*P **PKPbc** 17 50 29.1 +0.1
comp=Z,5.1nm,0.5s
FETA Feichten 150.02 347 *e*P **PKiKP** 17 50 30.4 +0.3
comp=Z,1.5nm,0.4s
PDG Podgorica 151.30 332 ⇑P **PKiKP** 17 50 32.8 +0.2
TORD Torodi Ar. Bea 175.24 182 PKP **PKPdf** 17 50 47.1 -1.3
comp=Z,0.6nm,0.8s,baz=169,slow=0.3,SNR=3.9
TORD PKPab **PKPab** 17 52 27.8 -0.6
comp=Z,0.5nm,0.6s,baz=201,slow=3.6,SNR=2.5
TORD Torodi Ar. Bea 175.24 182 PKPab **PKPab** 17 52 29.0 +0.5

*FUNV **26** 17:31:47.8, 10°.91N×71°.74W, h7km, MW3.7*
*RSNC **26** 17:31:47.0±0.6, 11°.03N×71°.82W, h4km±3km, ML3.2, Mw3.2*
ISC 26 17:31:45.6±1.1, 11°.00N±0°.04×71°.79W±0°.03, h13km±10km, n12, σ1§14/23, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URIC	**Uribia, Colomb**	**0.72**	**344**	⇓*i* P	**Pg**	**17 31 59.3**	**-0.4**
URIC				*e*S	**Sg**	**17 32 08.7**	**-0.6**
URIC				*i*		17 32 09.8	
	comp=Z,899nm,0.2s						
URIC				⇑*e*		17 32 11.8	
CRJC	**Cerrejon, Guaj**	**1.07**	**271**	⇑*e*P	**Pg**	**17 32 05.6**	**-0.7**
CRJC				*e*S	**Sg**	**17 32 19.7**	**-0.7**
CRJC				*i*		17 32 22.0	
	comp=Z,1μm,0.4s						
DABV	**Dabajuro**	**1.13**	**94**	*e*P	**Pg**	**17 32 07.2**	**-0.2**
DABV				*e*S	**Sg**	**17 32 23.2**	**+0.9**
DABV	**Dabajuro**	**1.13**	**94**	*e*P	**Pg**	**17 32 07.3**	**-0.2**
DABV				*e*S	**Sg**	**17 32 22.9**	**+0.7**
MCQV	**Machiques**	**1.20**	**218**	*e*P	**Pg**	**17 32 08.2**	**-0.4**
MCQV				*e*S	**Sg**	**17 32 25.2**	**+0.9**
CVALL	**Valledupar, Ce**	**1.53**	**251**	*e*P	**Pn**	**17 32 12.8**	**+0.2**
CVALL				*e*S	**Sn**	**17 32 32.9**	**+0.5**
CVALL				*i*		17 32 34.1	
	comp=Z,399nm,0.4s						
SIQV	**Siquisique**	**1.98**	**100**	*e*P	**Pn**	**17 32 19.6**	**+0.8**
SIQV				*e*S	**Sn**	**17 32 44.1**	**+0.6**
SMRC	**Santa Marta, M**	**2.40**	**274**	*e*S	**Sn**	**17 32 55.3**	**+1.5**
SMRC				*i*		17 33 04.5	
	comp=Z,61nm,0.5s						
SOCV	**Socops**	**2.85**	**161**	*e*P	**Pn**	**17 32 31.4**	**+0.5**
SOCV				*e*S	**Sn**	**17 33 04.1**	**-1.0**
MAPV	**Macapo**	**3.48**	**109**	*e*P	**Pn**	**17 32 40.6**	**+1.2**
MAPV				*e*S	**Sn**	**17 33 19.1**	**-1.4**
BAUV	**El Baul**	**4.22**	**119**	*e*P	**Pn**	**17 32 50.3**	**+0.7**
BAUV				*e*S	**Sn**	**17 33 35.7**	**-3.1**
BENV	**Beln**	**4.25**	**104**	*e*P	**Pn**	**17 32 51.0**	**+0.9**
BENV				*e*S	**Sn**	**17 33 38.3**	**-1.4**

*PRU **26** 17:31:52.8±0.0, 50°.22N×18°.94E, h0km*
*IDC **26** 17:31:52.5±3.1, 50°.11N×19°.01E, h0km, mb1 3.4/3, mb1mx3.1/51, mbtmp3.3/3, ML2.3/3, Error ellipse: s-maj=60.6km s-min=10.9km az=136.0*
ISC 26 17:31:51.0±0.7, 50°.27N±0°.04×18°.99E±0°.02, h0km, n28, σ0§95/47, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.52**	**95**	*e*Pg	**Pg**	**17 32 01.9**	**+0.9**
OJC				*e*Sg	**Sg**	**17 32 09.3**	**+1.5**
OKC	**Ostrava-Krasne**	**0.69**	**232**	*e*PG	**Pg**	**17 32 05.0**	**+0.8**
OKC				*e*SG	**Sg**	**17 32 13.7**	**+0.5**
	comp=Z,35nm,0.4s						
MORC	**Moravsky Berou**	**1.05**	**243**	*e*PG	**Pb**	**17 32 11.7**	**-0.4**
MORC				*e*SG	**Sg**	**17 32 25.6**	**+0.8**
LANS	**Liptovska Anna**	**1.16**	**164**	*e*PG	**Pb**	**17 32 13.9**	**-0.1**
LANS				*e*SG	**Sg**	**17 32 28.9**	**+0.6**
LANS				*e*LG	Lg	17 32 32.2	
NIE	**Niedzica**	**1.20**	**135**	*e*Pg	**Pn**	**17 32 15.6**	**+0.5**
NIE				*e*Sg	**Sn**	**17 32 31.7**	**-0.4**
KRLC	**Kraliky**	**1.43**	**263**	*e*PG	**Pn**	**17 32 18.1**	**-0.1**
KRLC				*e*SG	**Sb**	**17 32 37.6**	**+0.3**
	comp=Z,21nm,0.3s						
JAVC	**Velka Javorina**	**1.65**	**212**	*e*PN	**Pb**	**17 32 22.4**	**+0.1**
DPC	**Dobruska-Polom**	**1.71**	**274**	*e*PG	**Pg**	**17 32 23.7**	**0.0**
DPC				*e*SG	**Sg**	**17 32 47.3**	**+1.4**
	comp=Z,23nm,0.6s						
VYHS	**Vyhne**	**1.78**	**183**	*e*PN	**Pn**	**17 32 23.2**	**+0.2**
VYHS				*e*SN	**Sn**	**17 32 45.2**	**-1.1**
VYHS				eLG	Lg	17 32 50.2	
OSTC	**Ostas**	**1.80**	**280**	*e*PG	**Pb**	**17 32 24.4**	**-0.3**
OSTC				*e*SG	**Sg**	**17 32 49.3**	**+0.7**
	comp=Z,15nm,0.8s						
KSP	**Ksiaz**	**1.81**	**289**	*e*Pg	**Pg**	**17 32 26.7**	**+1.0**
KSP				*e*Sb	**Sb**	**17 32 48.6**	**+0.4**
KSP				*e*Sg	**Sg**	**17 32 51.3**	**+2.1**
VRAC	**Vranov**	**1.83**	**239**	Pg	**Pb**	**17 32 25.2**	**0.0**
	2.3nm,0.3s,baz=61,slow=14,SNR=11						
VRAC				Lg	Lg	17 32 48.1	
	4.1nm,0.3s,baz=83,slow=19,SNR=14						
VRAC	**Vranov**	**1.83**	**239**	*e*PN	**Pb**	**17 32 24.8**	**-0.4**
VRAC				*e*SG	**Sn**	**17 32 47.9**	**+0.4**
CHVC	**Chvalec**	**1.90**	**281**	*e*PG	**Pg**	**17 32 27.5**	**+0.1**
CHVC				*e*SG	**Sg**	**17 32 53.0**	**+1.0**
	comp=Z,11nm,0.4s						
UPC	**Upice**	**1.92**	**278**	*e*PG	**Pg**	**17 32 28.1**	**+0.4**
UPC				*e*SG	**Sg**	**17 32 54.1**	**+1.5**
	comp=Z,14nm,0.3s						
KRUC	**Moravsky**	**2.07**	**235**	*e*PN	**Pn**	**17 32 27.8**	**+0.8**
KRUC				*e*SG	**Sb**	**17 32 55.9**	**+0.1**
CRVS	**Cervenica-Dubn**	**2.11**	**129**	*e*PN	**Pg**	**17 32 32.0**	**+0.6**
KOLS	**Kolonicke sedl**	**2.52**	**121**	*e*SN	**Sn**	**17 33 03.7**	**-0.9**
PVCC	**Panska Ves**	**2.84**	**277**	*e*SG	**Sg**	**17 33 22.5**	**+0.4**
	comp=Z,11nm,0.3s						
PRU	**Pruhonice**	**2.88**	**266**	*e*PG	**Pb**	**17 32 44.0**	**+0.9**
PRU				*e*SG	**Sg**	**17 33 22.5**	**-0.8**
	comp=Z,7.2nm,0.6s						
BRG	**Berggiesshubel**	**3.27**	**283**	Pg	**Pg**	**17 32 52.8**	**-0.8**
BRG				Sg	**Sg**	**17 33 35.9**	**-0.2**
BRG				Amp		17 33 39.5	
	comp=Z,6.3nm,0.4s						
CKRC	**Cesky Krumlov**	**3.38**	**246**	*e*SG	**Sg**	**17 33 38.0**	**-1.3**
KHC	**Kasperske Hory**	**3.69**	**254**	*e*PN	**Pn**	**17 32 50.5**	**+1.2**
KHC				*e*SG	**Sg**	**17 33 48.5**	**-1.0**
	comp=Z,6.7nm,0.5s						
GERES	**GERESS Array B**	**3.73**	**250**	Pn	**Pn**	**17 32 51.3**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=67,slow=15,SNR=2.1						
GERES				Pg	**Pb**	**17 32 59.7**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=66,slow=16,SNR=7.8						
GERES				Lg	Lg	17 33 44.9	
	comp=Z,0.2nm,0.3s,baz=66,slow=27,SNR=1.4						
CLL	**Collm**	**3.94**	**288**	*e*Sg	**Sg**	**17 33 58.0**	**+0.6**
	comp=Z,5.0nm,0.5s						
NKC	**Novy Kostel**	**4.20**	**272**	*e*SG	**Sg**	**17 34 05.3**	**-0.4**
	comp=Z,5.4nm,0.4s						
FINES	**FINESS Array B**	**11.88**	**17**	Pn	**Pn**	**17 34 39.0**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=5.7						
ARCES	**ARCESS Array B**	**19.58**	**7**	Pn	**P**	**17 36 19.7**	**-0.5**
	baz=186,slow=14,SNR=1.2						

*NEIC **26** 17:45:55.1±2.1, 2°.10N±0°.05×97°.88E±0°.06, h57km±9km, mb4.1/16, Error ellipse: s-maj=9.5km s-min=6.2km az=123.0*
*IDC **26** 17:46:00.3±3.6, 3°.14N×99°.59E, h64km±46km, mb3.6/6, mb1 3.7/6, mb1mx3.4/40, mbtmp3.9/6, Error ellipse: s-maj=71.1km s-min=18.2km az=57.0*
ISC 26 17:45:53.5±0.7, 2°.11N±0°.05×97°.89E±0°.06, h46km, n31, σ1§64/33, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.86**	**202**		**Pn**	**17 46 10.3**	**+1.2**
GSI				Sn	**Sn**	**17 46 21.9**	**+1.2**
RPSI	**Rantau Prapat**	**1.19**	**60**		**Pn**	**17 46 15.8**	**+2.1**
PSI	**Prapat**	**1.24**	**56**	P	**Pn**	**17 46 15.8**	**+1.3**
	11nm,0.3s,baz=105,slow=8.4,SNR=87						
PSI				S	**Sn**	**17 46 29.1**	**-1.1**
	19nm,0.3s,baz=22,slow=15,SNR=9.2						
PSI				LR	LR	17 46 33.4	
	comp=Z,128nm,18.4s,baz=164,slow=41						
LHMI	**Lhok Sumawe**	**3.24**	**343**	Pn	**Pn**	**17 46 44.6**	**+2.8**
BKNI	**Bangkinang**	**3.61**	**119**	Pn	**Pn**	**17 46 48.6**	**+1.7**
IPM	**Ipoh**	**3.92**	**53**		**Pn**	**17 46 54.5**	**+3.4**
IPM				Sn	**Sn**	**17 47 33.7**	**-2.2**
KULM	**Kulim**	**4.19**	**41**		**Pn**	**17 46 57.5**	**+2.6**
MYKOM	**Kota Tinggi**	**5.96**	**93**		**Pn**	**17 47 21.8**	**+2.6**
SRIT	**Nakonsritamara**	**6.67**	**15**	Pn	**Pn**	**17 47 29.9**	**+0.9**
PBA	**Port Blair**	**10.78**	**332**	Pn	**Pn**	**17 48 25.0**	**-0.2**
MYLDM	**Lahad Datu**	**20.79**	**81**		Pn	17 50 34.2	+0.4
MYLDM					IAmb	IAmb	17 50 57.2
	comp=Z,7.0nm,1.1s						
TOLI2	**Tolitoli**	**22.90**	**92**	P	**P**	**17 50 53.6**	**0.0**
KAAM	**Kaadhehdhoo**	**24.94**	**267**	P	**P**	**17 51 11.1**	**-1.7**
LUWI	**Luwuk**	**25.07**	**97**	P	**P**	**17 51 13.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**33.91**	**127**	P	**P**	**17 52 30.6**	**-1.7**
	comp=Z,2.5nm,1.1s,baz=331,slow=10,SNR=1.5						
KNRA	**Kununurra**	**35.27**	**121**	P	**P**	**17 52 39.8**	**-4.3**
MTN	**Manton Dam**	**36.19**	**115**	P	**P**	**17 52 50.9**	**-1.1**
WB0	**Warramunga Arr**	**41.90**	**123**	P	**P**	**17 53 39.5**	**-0.3**
WB0					IAmb	IAmb	17 53 40.3
	comp=Z,3.6nm,0.7s						
WRA	**Warramunga Arr**	**41.94**	**123**	P	**P**	**17 53 39.8**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=307,slow=8.9,SNR=58						
WRA				PcP	**PcP**	**17 55 35.4**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=314,slow=2.1,SNR=1.6						
WRAB	**Tennant Creek**	**41.94**	**123**	P	**P**	**17 53 40.0**	**-0.1**
WRAB					IAmb	IAmb	17 54 08.9
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**42.11**	**123**	P	**P**	**17 53 41.3**	**-0.2**
WR0					IAmb	IAmb	17 54 02.6
	comp=Z,9.4nm,1.4s						
AS31	**Alice Springs**	**43.40**	**128**	P	**P**	**17 53 51.4**	**-0.6**
ASAR	**Alice Springs**	**43.40**	**128**	P	**P**	**17 53 51.5**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=299,slow=7.5,SNR=22						
MKAR	**Makanchi Array**	**46.54**	**345**	P	**P**	**17 54 16.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=152,slow=8.8,SNR=6.6						
MAKZ	**Makanchi**	**46.63**	**345**	P	**P**	**17 54 16.8**	**-0.4**
MAKZ					IAmb	IAmb	17 54 35.2
	comp=Z,4.2nm,1.4s						
KURK	**Kurchatov**	**51.11**	**344**	P	**P**	**17 54 52.3**	**+0.9**
KURK					IAmb	IAmb	17 55 05.8
	comp=Z,4.4nm,1.5s						
ZALV	**Zalesovo Beam**	**52.78**	**350**	P	**P**	**17 55 04.6**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=166,slow=6.6,SNR=5.8						
STKA	**Stephens Creek**	**53.46**	**133**	P	**P**	**17 55 09.6**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=325,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**53.46**	**133**	IAmb	IAmb	17 55 33.7	
	comp=Z,2.2nm,1.6s						
BRVK	**Borovoye**	**55.70**	**340**	P	**P**	**17 55 24.9**	**-0.2**
BRVK					IAmb	IAmb	17 55 37.9
	comp=Z,1.2nm,0.9s						
ABKAR	**Akbulak array**	**57.05**	**331**	P	**P**	**17 55 34.3**	**-0.5**

*IDC **26** 17:49:46.8±2.5, 2°.44N×95°.69E, h0km, mb3.6/4, mb1 3.5/6, mb1mx3.2/43, mbtmp3.4/6, ML3.2/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/75, Error ellipse: s-maj=66.1km s-min=27.6km az=51.0*
ISC 26 17:49:48.5±2.1, 2°.6N±0°.2×95°.7E±0°.2, h10km, n14, σ1§13/6, mb3.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.19**	**86**	Pn	**Pn**	**17 50 39.4**	**+0.5**
	0.8nm,0.3s,baz=260,slow=6.1,SNR=2.6						
CMAR	**Chiang Mai Arr**	**16.10**	**11**	Pn	**P**	**17 53 37.2**	**-1.4**
	0.1nm,0.3s,baz=200,slow=10,SNR=2.7						
H08S2	**Diego Garcia H**	**25.32**	**246**	T	T	18 21 38.9	
	baz=67,slow=76,SNR=28						
H08S3	**Diego Garcia H**	**25.32**	**246**	T	T	18 21 35.0	
	baz=67,slow=76,SNR=26						
H08S1	**Diego Carcia H**	**25.33**	**246**	T	T	18 21 35.1	
	baz=67,slow=76,SNR=19						
H01W3	**Cape Leeuwin H**	**41.06**	**157**	T	T	18 41 07.2	
	baz=332,slow=76,SNR=30						
H01W2	**Cape Leeuwin H**	**41.07**	**157**	T	T	18 41 09.1	
	baz=332,slow=76,SNR=34						
H01W1	**Cape Leeuwin H**	**41.07**	**157**	T	T	18 41 09.4	
	baz=332,slow=76,SNR=37						
ASAR	**Alice Springs**	**45.37**	**127**	P	**P**	**17 58 07.0**	**-0.5**
	0.5nm,1.0s,baz=295,slow=7.1,SNR=2.0						
MKAR	**Makanchi Array**	**45.59**	**347**	P	**P**	**17 58 09.6**	**+0.7**
	0.3nm,0.4s,baz=151,slow=8.9,SNR=8.3						
SONM	**Songino Array**	**46.03**	**10**	P	**P**	**17 58 12.3**	**-0.2**
	0.5nm,0.5s,baz=193,slow=7.7,SNR=3.8						
GUMO	**Guam**	**49.76**	**74**	LR	LR	18 21 03.5	
	comp=Z,9.4nm,19.7s,baz=89,slow=38						
ZALV	**Zalesovo Beam**	**52.00**	**352**	P	**P**	**17 58 58.9**	**+0.9**
	0.7nm,0.6s,baz=179,slow=5.9,SNR=4.6						
SPITS	**Spitsbergen Ar**	**85.33**	**348**	LR	LR	18 46 26.8	
	comp=Z,15nm,21.1s,baz=146,slow=40						

*IDC **26** 17:51:29.0±1.9, 23°.81S×66°.91W, h178km±20km, mb3.5/2, mb1 3.7/7, mb1mx3.4/30, mbtmp4.1/7, Error ellipse: s-maj=31.9km s-min=22.4km az=159.0*
*GUC **26

comp=E,346nm,0.5s
PB10 IPOC Station P 3.03 275 Pn **Pn** 17 52 21.2 +1.0
PB10 Sn **S** 17 52 58.2 -0.8
PB10 IPOC Station P 3.03 275 ⇓*i*P **Pn** 17 52 21.5 +1.3
PB10 *i* S **S** 17 52 59.0 0.0
PB04 IPOC Station P 3.03 298 **Pn** 17 52 21.1 +0.6
PB04 IPOC Station P 3.03 298 ⇑*i*P **Pn** 17 52 21.3 +0.8
PB04 *i* S **S** 17 52 59.5 0.0
PB07 IPOC Station P 3.19 310 **Pn** 17 52 22.1 -0.2
PB07 Sn **S** 17 53 01.4 -1.3
PB07 IPOC Station P 3.19 310 ⇓*i*P **Pn** 17 52 22.9 +0.6
PB07 *i* S **S** 17 53 02.0 -0.7
PB01 IPOC Station P 3.44 323 **Pn** 17 52 25.3 0.0
PB01 Sn **S** 17 53 06.7 -1.3
PB01 IPOC Station P 3.44 323 ⇑*i*P **Pn** 17 52 25.3 0.0
PB01 *i* S **S** 17 53 07.3 -0.8
AC02 Maricunga 3.45 209 Pn **Pn** 17 52 26.1 +0.4
PB02 IPOC Station P 3.47 315 **Pn** 17 52 25.7 +0.1
PB02 IPOC Station P 3.47 315 ⇓*i*P **Pn** 17 52 25.8 +0.1
PB02 *i* S **S** 17 53 07.4 -1.4
AC01 Pan de Azucar 3.81 232 **Pn** 17 52 29.4 -0.3
AC01 **S** 17 53 14.2 -1.9
AC01 Pan de Azucar 3.81 232 ⇑*i*P **Pn** 17 52 29.5 -0.1
AC01 *i* S **S** 17 53 15.1 -1.0
PATCX Punta Patache 4.00 318 **Pn** 17 52 31.4 -0.7
PATCX Punta Patache 4.00 318 ⇓*i*P **Pn** 17 52 31.7 -0.4
PATCX *i* S **S** 17 53 20.1 -0.3
PATCX IAML 17 53 25.4
comp=N,257nm,0.4s
PB08 IPOC Station P 4.05 334 **Pn** 17 52 33.2 +0.2
PB08 IPOC Station P 4.05 334 ⇑*i*P **Pn** 17 52 33.6 +0.6
PB08 *i* S **S** 17 53 21.7 -0.4
TA01 Diego Aracena 4.21 320 Pn **Pn** 17 52 34.4 -0.2
HMBC Humberstone 4.28 325 ⇑*i*P **Pn** 17 52 34.5 -1.1
HMBC *e*S **S** 17 53 23.7 -3.0
HMBC IAML 17 53 28.0
comp=N,202nm,0.2s
TA02 Huaiquique 4.41 322 **Pn** 17 52 35.9 -1.3
AC06 Mina Casimiro 4.50 218 Pn **Pn** 17 52 37.4 -0.7
GO01 Chusmiza 4.50 336 **Pn** 17 52 38.0 -0.6
GO01 Chusmiza 4.50 336 ⇑*i*P **Pn** 17 52 39.0 +0.3
GO01 *e*S **S** 17 53 33.3 +1.0
PB11 IPOC Station P 4.60 331 **Pn** 17 52 38.5 -1.2
PB11 IPOC Station P 4.60 331 ⇑*i*P **Pn** 17 52 38.9 -0.8
PB11 *i* S **S** 17 53 31.7 -2.5
PB11 IAML 17 53 34.5
comp=N,231nm,0.2s
GO03 Copiap 4.62 215 **Pn** 17 52 38.4 -1.3
AC04 Llanos de Chal 5.55 217 **Pn** 17 52 49.7 -1.8
PB16 IPOC Station P 5.84 339 Pn **Pn** 17 52 55.3 -0.5
PB12 IPOC Station P 5.91 331 Pn **Pn** 17 52 54.2 -2.1
LCO Las Campanas 6.02 210 **Pn** 17 52 56.0 -1.8
CO01 Juntas del Tor 6.64 202 Pn **Pn** 17 53 05.2 -0.5
GO04 Tololo Observa 7.07 206 Pn **Pn** 17 53 08.9 -2.4
LPAZ La Paz 7.53 354 P **Pn** 17 53 17.9 +0.1
comp=N,3.7nm,0.3s,baz=135,slow=7.0,SNR=47
LPAZ S **S** 17 54 40.3 -3.1
comp=N,0.2nm,0.3s,baz=218,slow=24,SNR=2.5
LPAZ La Paz 7.53 354 **Pn** 17 53 17.6 -0.1
CO06 Fray Jorge 7.86 209 Pn **Pn** 17 53 18.8 -2.5
CO02 Combarbal 8.07 203 Pn **Pn** 17 53 22.2 -2.0
VA06 Catapilco 9.41 201 Pn **Pn** 17 53 39.6 -1.8
SIV San Ignacio 9.72 38 P Pn 17 53 41.8 -3.8
comp=N,2.4nm,0.3s,baz=229,slow=11,SNR=12
SIV S S 17 55 17.4 -17
comp=N,0.2nm,0.3s,baz=230,slow=19,SNR=3.8
MT02 Curacav 10.01 199 Pn **Pn** 17 53 46.0 -3.1
TRCB Terra Rica 13.49 89 P **Pn** 17 54 34.3 +0.9
ITAB Concordia 14.09 107 Pn **Pn** 17 54 40.1 -0.6
TRQA Tornquist 14.90 164 Pn **Pn** 17 54 47.8 -2.8
PLCA Paso Flores 17.09 189 P **Pn** 17 55 16.6 -0.4
comp=N,0.1nm,0.3s,baz=324,slow=10,SNR=3.8
PLCA Paso Flores 17.09 189 P **P** 17 55 15.5 0.0
PLCA IAmb IAmb 17 55 21.8
comp=Z,20nm,1.6s
BDFB Brasilia 19.85 69 P **P** 17 55 43.5 -2.1
comp=Z,1.4nm,0.3s,baz=245,slow=9.7,SNR=15
BDFB Brasilia 19.85 69 P **P** 17 55 44.4 -1.1
SNAA Sanae 59.61 161 P **P** 18 01 13.0 +1.2
SNAA IAmb IAmb 18 01 48.4
comp=Z,10nm,1.5s
TORD Torodi Ar. Bea 76.73 69 P **P** 18 02 59.1 +0.2
comp=Z,1.2nm,0.5s,baz=258,slow=5.6,SNR=11
YKA Yellowknife Ar 93.87 340 P **P** 18 04 25.6 +2.3
comp=Z,0.1nm,0.4s,baz=113,slow=7.6,SNR=2.1
MKAR Makanchi Array 146.54 39 PKPbc **PKPbc** 18 10 48.5 +1.6
comp=Z,0.5nm,0.6s,baz=298,slow=3.1,SNR=6.8

*DJA **26** 18:08:16.1±0.3,7˚S±2˚×13˚0E±˚, h162km±6km, M4.5/12, mb4.5/12, mB5.0/7, MLv4.6/12, Mw(mB)4.3/7*
*NEIC **26** 18:08:16.6±3.0, 6˚82S±0˚07×129˚80E±0˚07, h156km±7km, mb4.4/24, Error ellipse: s-maj=11.9km s-min=8.8km az=222.0*
*IDC **26** 18:08:16.9±1.8, 6˚67S×129˚84E, h158km±17km, mb4.0/9, mb1 4.1/12, mb1mx3.6/40, mbtmp4.5/12, MS3.0/1, Ms1 3.0/1, ms1mx2.2/74, Error ellipse: s-maj=18.9km s-min=13.5km az=50.0*
ISC 26 18:08:15.3±0.4, **6˚82S**±0˚04×**129˚83E**±0˚04, **h150**km, **n99, σ2s39**/110, **mb4.5**/26, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.86**	**128**	Pn	**Pn**	**18 08 52.4**	**+3.6**
SAUI				Sn	**Sn**	**18 09 15.4**	**+0.9**
SAUI	**Saumlaki**	**1.86**	**128**	P	**Pn**	**18 08 52.4**	**+3.6**
SAUI				S	**Sn**	**18 09 15.1**	**+0.6**
SAUI	**Saumlaki**	**1.86**	**128**	P	**Pn**	**18 08 52.6**	**+3.8**
BNDI	**Bandanaira**	**2.29**	**2**	P	**Pn**	**18 08 56.0**	**+2.1**
AAI	**Ambon**	**3.52**	**332**	P	**Pn**	**18 09 11.3**	**+2.0**
MSAI	**Masohi**	**3.57**	**345**	P	**Pn**	**18 09 12.4**	**+2.4**
SIJI	**Sorong**	**6.09**	**14**	P	**Pn**	**18 09 42.1**	**-1.1**
	16nm,0.3s,baz=196,slow=22,SNR=66						
SIJI				S	**Sn**	**18 10 45.1**	**-6.9**
	17nm,0.3s,baz=221,slow=19,SNR=14						
SWI	**Sorong**	**6.09**	**14**	P	**Pn**	**18 09 41.9**	**-1.4**
	0.7nm2μm74nm,0.6s						
SWI				S	**Sn**	**18 10 45.2**	**-6.9**
	0.7nm2μm74nm,0.6s						
SANI	**Sanana**	**6.09**	**321**	P	**Pn**	**18 09 44.7**	**+1.4**
	0.1nm15nm,0.6s						
SANI				S	**Sn**	**18 10 52.7**	**+0.5**
	0.1nm15nm,0.6s						
SANI	**Sanana**	**6.09**	**321**	P	**Pn**	**18 09 47.2**	**+3.9**
	15nm,0.6s						
MTN	**Manton Dam**	**6.12**	**168**	Pn	**Pn**	**18 09 45.1**	**+1.5**
MTN				Sn	**Sn**	**18 10 50.2**	**-2.5**
MTN	**Manton Dam**	**6.12**	**168**	P	**Pn**	**18 09 45.4**	**+1.8**
	130nm,0.5s						
KDU	**Kakadu**	**6.38**	**156**	P	**Pn**	**18 09 48.6**	**+1.5**
	100nm,0.6s						
LBMI	**Labuha**	**6.57**	**339**	P	**Pn**	**18 09 51.0**	**+1.4**
	0.4nm1μm133nm,0.9s						
BATI	**Baumata**	**6.96**	**241**	P	**Pn**	**18 09 57.0**	**+2.0**
	40nm,0.3s,baz=89,slow=2.8,SNR=48						
BATI				S	**Sn**	**18 11 13.0**	**0.0**
	21nm,0.3s,baz=68,slow=19,SNR=7.6						
BATI	**Baumata**	**6.96**	**241**	P	**Pn**	**18 09 57.2**	**+2.3**
	0.5nm1μm121nm,0.8s						
BBSI	**Bau Bau**	**7.34**	**280**	P	**Pn**	**18 10 01.9**	**+2.0**
	0.0nm6.3nm,1.0s						
MMRI	**Maumere**	**7.74**	**256**	Pn	**Pn**	**18 10 05.9**	**+0.7**
MMRI				Sn	**Sn**	**18 11 32.4**	**+0.9**
MMRI	**Maumere**	**7.74**	**256**	P	**Pn**	**18 10 04.1**	**-1.1**
MMRI	**Maumere**	**7.74**	**256**	P	**Pn**	**18 10 07.3**	**+2.1**
	26nm,0.9s						
TNTI	**Ternate**	**7.94**	**342**	Pn	**Pn**	**18 10 08.8**	**+1.0**
SRPI	**Serui, Papua**	**8.07**	**53**	P	**Pn**	**18 10 09.3**	**-0.3**
	0.3nm18nm,0.5s						
SRPI				S	**Sn**	**18 11 33.9**	**-5.7**
	0.3nm18nm,0.5s						
KNRA	**Kununurra**	**8.86**	**187**	Pn	**Pn**	**18 10 20.4**	**+0.2**
KNRA				Sn	**Sn**	**18 11 52.0**	**-6.6**
KNRA	**Kununurra**	**8.86**	**187**	P	**Pn**	**18 10 20.5**	**+0.3**
	42nm,0.6s						
LUWI	**Luwuk**	**9.08**	**309**	Pn	**Pn**	**18 10 23.9**	**+0.7**
WAMI	**Wamena**	**9.31**	**72**	P	**Pn**	**18 10 26.4**	**+0.2**
	80nm,0.6s						
APSI	**Ampana**	**10.05**	**305**	P	**Pn**	**18 10 37.0**	**+0.9**
	14nm,1.0s						
SPSI	**Sidrap Palu**	**10.41**	**285**	P	Pn	18 10 53.4	+13
MRSI	**Marisa**	**10.70**	**312**	P	**Pn**	**18 10 47.1**	**+2.4**
	338nm20nm,1.1s						
FITZ	**Fitzroy Crossi**	**11.93**	**200**	P	**Pn**	**18 11 00.1**	**-0.6**
	2.4nm,0.3s,baz=28,slow=11,SNR=59						
FITZ				S	**Sn**	**18 13 06.2**	**-6.4**
	2.8nm,0.3s,baz=96,slow=19,SNR=6.7						
TOLI2	**Tolitoli**	**11.98**	**311**		**P**	**18 11 04.6**	**-3.5**
PLAI	**Plampang**	**12.11**	**260**	P	**Pn**	**18 11 02.8**	**-0.2**
	52nm,0.9s						
WB0	**Warramunga Arr**	**13.61**	**161**	Pn	**Pn**	**18 11 20.9**	**-1.4**
WRAB	**Tennant Creek**	**13.75**	**162**		**Pn**	**18 11 22.9**	**-1.2**
WRA	**Warramunga Arr**	**13.76**	**162**	P	**Pn**	**18 11 22.2**	**-2.0**
	2.1nm,0.3s,baz=337,slow=13,SNR=58						
WRA				S	**Sn**	**18 13 50.2**	**-6.5**
	4.9nm,0.3s,baz=326,slow=24,SNR=9.4						
WRA	**Warramunga Arr**	**13.76**	**162**		**Pn**	**18 11 21.4**	**-2.8**
WB2	**Warramunga Arr**	**13.76**	**162**	Pn	**Pn**	**18 11 22.5**	**-1.8**
WR0	**Warramunga Arr**	**13.84**	**161**	Pn	**Pn**	**18 11 23.3**	**-1.9**
DAV	**Davao City (W)**	**14.44**	**343**		**P**	**18 11 37.0**	**+1.7**
COEN	**Coen**	**14.91**	**119**		**Pn**	**18 11 39.4**	**+0.6**
COEN	**Coen**	**14.91**	**119**	P	**P**	**18 11 42.3**	**+1.7**
	11nm,0.6s						
BBKI	**Banjar Baru**	**15.29**	**282**	P	**P**	**18 11 47.0**	**+2.1**
JAGI	**Jajag, Banyuwa**	**15.62**	**263**		**Pn**	**18 11 47.3**	**-0.2**
MYLDM	**Lahad Datu**	**16.43**	**316**	P	**P**	**18 11 58.1**	**+0.6**
MYLDM				IAmb	IAmb	18 12 31.6	
	comp=Z,17nm,1.5s						
QIS	**Mount Isa**	**16.62**	**146**	P	**Pn**	**18 12 01.8**	**+2.1**
	comp=Z,16nm,0.9s						
AS31	**Alice Springs**	**17.20**	**167**		**Pn**	**18 12 07.7**	**+1.0**
ASAR	**Alice Springs**	**17.20**	**167**	P	**Pn**	**18 12 08.5**	**+1.8**
	comp=Z,3.0nm,0.3s,baz=341,slow=9.6,SNR=109						
ASAR				S	**S**	**18 15 13.5**	**-4.1**
	comp=Z,1.0nm,0.3s,baz=354,slow=21,SNR=8.1						
ASAR				ScP	**ScP**	**18 20 01.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=356,slow=1.3,SNR=4.4						
ASAR	**Alice Springs**	**17.20**	**167**		**Pn**	**18 12 07.7**	**+1.0**
ASAR					**S**	**18 15 09.2**	**-8.4**
PMG	**Port Moresby**	**17.35**	**100**	P	Pn	18 12 15.8	+7.4
	comp=Z,1.0nm,0.3s,baz=286,slow=15,SNR=5.7						
PMG	**Port Moresby**	**17.35**	**100**	P	**Pn**	**18 12 11.2**	**+2.8**
PMG				IAmb	IAmb	18 12 27.1	
	comp=Z,14nm,0.9s						
PMG	**Port Moresby**	**17.35**	**100**	P	**Pn**	**18 12 10.8**	**+2.3**
	comp=Z,20nm,2.3s						
MTSU	**Mount Surprise**	**18.05**	**130**	P	**Pn**	**18 12 18.3**	**+1.5**
	comp=Z,8.4nm,0.8s						
WRKA	**Warakurna**	**18.17**	**184**	P	**Pn**	**18 12 19.2**	**+1.0**
	comp=Z,17nm,1.8s						
SBUM	**Sibu**	**19.84**	**297**	P	**P**	**18 12 34.9**	**+0.1**
SBUM				IAmb	IAmb	18 12 38.3	
	comp=Z,10.0nm,0.9s						
CTA	**Charters Tower**	**20.68**	**131**	P	Pn	18 12 46.2	-1.6
	comp=Z,6.2nm,0.9s,baz=323,slow=10,SNR=2.4						
KSM	**Kuching**	**21.15**	**292**	P	**P**	**18 12 48.3**	**-0.4**
KSM				IAmb	IAmb	18 12 54.5	
	comp=Z,22nm,1.2s						
OOD	**Oodnadatta**	**21.59**	**166**	P	**P**	**18 12 54.7**	**+1.5**
	comp=Z,29nm,0.7s						
LEM	**Lembang**	**22.05**	**269**	P	**P**	**18 12 59.8**	**+1.4**
	comp=Z,23nm,0.8s,baz=7.9,slow=20,SNR=6.6						
KRVT	**Keravat (AS076**	**22.23**	**85**	P	**P**	**18 13 01.2**	**+1.2**
	comp=Z,36nm,0.3s,baz=103,slow=4.6,SNR=4.4						
INKA	**Innaminka**	**23.24**	**155**	P	**P**	**18 13 11.6**	**+2.3**
	comp=Z,26nm,1.6s						
MULG	**Mulgathing**	**23.67**	**171**	P	**P**	**18 13 15.3**	**+2.1**
	comp=Z,26nm,1.3s						
FORT	**Forrest**	**23.89**	**184**	P	**P**	**18 13 14.3**	**-0.8**
FORT	**Forrest**	**23.89**	**184**	P	**P**	**18 13 17.1**	**+1.9**
	comp=Z,39nm,1.9s						
LCRK	**Leigh Creek**	**24.79**	**163**	P	**P**	**18 13 25.9**	**+2.6**
	comp=Z,26nm,0.8s						
BBOO	**Buckleboo**	**26.50**	**168**	P	**P**	**18 13 40.0**	**+1.2**
BBOO				IAmb	IAmb	18 14 08.3	
	comp=Z,13nm,1.1s						
BBOO	**Buckleboo**	**26.50**	**168**	P	**P**	**18 13 40.3**	**+1.5**
	comp=Z,13nm,2.3s						
STKA	**Stephens Creek**	**27.24**	**158**	P	**P**	**18 13 47.1**	**+1.8**
	comp=Z,3.5nm,0.6s,baz=342,slow=10,SNR=9.2						
STKA	**Stephens Creek**	**27.24**	**158**	P	**P**	**18 13 46.6**	**+1.2**
STKA	**Stephens Creek**	**27.24**	**158**	P	**P**	**18 13 47.2**	**+1.8**
	comp=Z,1.1nm,0.6s						
HTT	**Hallett**	**27.79**	**164**	P	**P**	**18 13 52.4**	**+2.1**
	comp=Z,8.2nm,1.2s						
CMSA	**Cmar Meteorol**	**28.71**	**151**	P	**P**	**18 14 00.8**	**+2.3**
	comp=Z,8.4nm,1.0s						
ARPS	**Mount Arapiles**	**31.76**	**161**	P	**P**	**18 14 27.8**	**+2.5**
	comp=Z,20nm,0.7s						
RPSI	**Rantau Prapat**	**32.27**	**286**	P	**P**	**18 14 31.2**	**+1.3**
PSI	**Prapat**	**32.30**	**286**	P	**P**	**18 14 31.2**	**+0.8**
	comp=Z,2.4nm,0.4s,baz=75,slow=4.7,SNR=5.4						
CAN	**Canberra**	**33.39**	**151**	P	**P**	**18 14 39.5**	**0.0**
CAN				IAmb	IAmb	18 14 43.7	
	comp=Z,9.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**39.49**	**310**	P	**P**	**18 15 31.6**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=148,slow=7.5,SNR=2.5						
MJAR	**Matsushiro Arr**	**43.85**	**10**	LR	LR	18 34 09.1	
	comp=Z,16nm,19.5s,baz=66,slow=36						
LBZ	**Lake Benmore**	**51.33**	**144**	P	**P**	**18 17 04.9**	**+0.6**
RPZ	**Rata Peaks**	**51.48**	**142**	P	**P**	**18 17 07.6**	**+2.2**
TUWZ	**Tuamarina**	**52.13**	**138**	P	**P**	**18 17 11.4**	**+1.2**
MK31	**Makanchi Array**	**67.99**	**327**	P	**P**	**18 18 58.3**	**+0.1**
MK31				IAmb	IAmb	18 18 59.3	
	comp=Z,3.8nm,0.6s						
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**18 18 58.5**	**+0.3**
	comp=Z,4.9nm,0.4s,baz=116,slow=8.1,SNR=94						
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**18 18 58.0**	**-0.3**
MAKZ	**Makanchi**	**68.17**	**327**	P	**P**	**18 18 59.6**	**+0.3**
MAKZ				IAmb	IAmb	18 19 00.3	
	comp=Z,4.7nm,0.5s						
ZAA0	**Zalesovo Array**	**71.35**	**334**	P	**P**	**18 19 17.4**	**-1.1**
ZALV	**Zalesovo Beam**	**71.35**	**334**	P	**P**	**18 19 17.9**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=130,slow=5.7,SNR=7.3						
ZALV	**Zalesovo Beam**	**71.35**	**334**	P	**P**	**18 19 17.4**	**-1.2**
GAR	**Garm**	**71.42**	**315**	P	**P**	**18 19 18.2**	**-1.4**
GAR				IAmb	IAmb	18 19 21.4	
	comp=Z,7.3nm,1.1s						
BTK	**Batken**	**71.53**	**316**	P	**P**	**18 19 20.5**	**+0.3**
BTK				IAmb	IAmb	18 19 43.1	
	comp=Z,6.0nm,0.6s						
CHGR	**Chuyangaron**	**72.10**	**314**	P	**P**	**18 19 22.9**	**-0.6**
CHGR				IAmb	IAmb	18 19 24.8	
	comp=Z,6.9nm,0.7s						
KURK	**Kurchatov**	**72.28**	**329**	P	**P**	**18 19 24.3**	**+0.1**
KURK				IAmb	IAmb	18 19 25.0	
	comp=Z,4.1nm,1.0s						
VNDA	**Vanda**	**72.64**	**173**	P	**P**	**18 19 27.4**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=297,slow=4.5,SNR=2.2						
VNDA	**Vanda**	**72.64**	**173**	P	**P**	**18 19 27.3**	**+1.4**
KKAR	**Karatay Array**	**73.10**	**319**	P	**P**	**18 19 29.2**	**-0.1**
XMAS	**Kiritimati**	**73.11**	**86**	P	**P**	**18 19 29.6**	**-0.4**
SOCY	**Socotra**	**77.72**	**284**	P	**P**	**18 19 55.8**	**-0.5**
ABKAR	**Akbulak array**	**82.27**	**322**	P	**P**	**18 20 19.6**	**-0.3**
ABKAR	**Akbulak array**	**82.27**	**322**	P	**P**	**18 20 19.8**	**-0.1**
ABKAR				IAmb	IAmb	18 20 47.6	
	comp=Z,1.9nm,0.8s						
QSPA	**South Pole Qui**	**83.15**	**180**	P	**P**	**18 20 24.5**	**+0.1**
QSPA				IAmb	IAmb	18 20 50.3	
	comp=Z,6.1nm,1.4s						

*IDC **26** 18:15:56.4±2.7, 53˚39N×169˚21E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.3/39, mbtmp3.5/4, ML3.1/2, MS2.9/9, Ms1 2.9/9, ms1mx2.6/79, Error ellipse: s-maj=68.5km s-min=30.4km az=177.0*
*KRSC **26** 18:15:58.6±1.9, 53˚90N×168˚56E, h17km±35km, ML4.1*
ISC 26 18:16:00.5±1.0, **53˚6N**±0˚2×**169˚10E**±0˚05, **h35**km, **n33, σ1s50/27, MS2.8/6, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**2.42**	**312**	*e*P	Pn	18 16 30.3	-7.2
SHEM	**Shemya Is, Ala**	**3.14**	**104**	Pn	**Pn**	**18 16 45.3**	**-2.0**
	9.3nm,0.3s,baz=298,slow=17,SNR=4.8						
SHEM				Sn	**Sn**	**18 17 20.5**	**-3.0**
	13nm,0.3s,baz=253,slow=19,SNR=8.0						
SHEM				LR	LR	18 17 51.8	
	comp=Z,176nm,19.1s,baz=172,slow=38						
MKZ	**Mys Kozlova**	**4.44**	**285**	*e*P	**Pn**	**18 17 03.0**	**-2.2**
MKZ				*e*S	**Sn**	**18 17 51.7**	**-3.9**
TUMD	**Tumrok D**	**5.33**	**291**	*e*P	**Pn**	**18 17 16.6**	**-0.8**
SPN	**Mys Shipunski**	**5.46**	**268**	*e*P	**Pn**	**18 17 19.9**	**+0.6**
SPN				*e*S	**Sn**	**18 18 19.6**	**-1.2**
KII	**Karymskiy**	**5.73**	**278**	*e*P	**Pn**	**18 17 23.3**	**+0.2**
SDLR	**Sedlovina**	**6.12**	**271**	*e*P	**Pn**	**18 17 28.5**	**+0.1**
UGLR	**Uglovaya**	**6.16**	**270**	*e*P	**Pn**	**18 17 29.9**	**+0.9**
SMAR	**Somma**	**6.17**	**271**	*e*P	**Pn**	**18 17 30.0**	**+0.8**
KRER	**Koryakskii**	**6.19**	**271**	*e*P	**Pn**	**18 17 30.0**	**+0.5**
AVH	**Avacha**	**6.20**	**271**	*e*P	**Pn**	**18 17 29.5**	**-0.1**
DALK	**Dalny**	**6.23**	**269**	*e*P	**Pn**	**18 17 30.2**	**+0.4**
KOK	**Koryaka**	**6.26**	**271**	*e*P	**Pn**	**18 17 29.9**	**-0.5**
GNL	**Ganaly**	**6.64**	**275**	*e*P	**Pn**	**18 17 36.6**	**+1.1**
KRMR	**Karymshinskiy**	**6.64**	**268**	*e*P	**Pn**	**18 17 35.6**	**+0.2**
MTVR	**Mutnovka**	**6.68**	**265**	*e*P	**Pn**	**18 17 36.9**	**+0.7**
MTVR				*e*S	**Sn**	**18 18 50.2**	**-0.9**
PETK	**Petropavlovsk-**	**6.85**	**270**	Pn	**Pn**	**18 17 39.0**	**+0.7**
	0.4nm,0.3s,baz=99,slow=16,SNR=38						
PETK				Sn	**Sn**	**18 18 55.7**	**+0.8**
	0.7nm,0.3s,baz=61,slow=19,SNR=2.4						
PETK				LR	LR	18 20 23.2	
	comp=Z,54nm,20.5s,baz=84,slow=39						
ASAK	**Asacha**	**6.88**	**264**	*e*P	**Pn**	**18 17 40.0**	**+1.2**
ASAK				*e*S	**Sn**	**18 18 54.9**	**-0.8**
KDTR	**Khodutka, Kamc**	**6.94**	**259**	*e*P	**Pn**	**18 17 40.4**	**+0.8**
KDTR				*e*S	**Sn**	**18 18 56.0**	**-1.2**
ASAJ	**Asahikawa**	**19.75**	**252**	LR	LR	18 27 19.7	
	comp=Z,20nm,20.6s,baz=2.5,slow=35						
KDAK	**Kodiak Island**	**21.78**	**64**	LR	LR	18 28 47.7	
	comp=Z,19nm,20.4s,baz=266,slow=35						
YAK	**Yakutsk**	**22.29**	**308**	LR	LR	18 29 47.6	
	comp=Z,29nm,18.6s,baz=256,slow=37						
ILAR	**Eielson Array**	**24.59**	**46**	P	**P**	**18 21 19.1**	**+2.2**
	2.0nm,0.8s,baz=254,slow=8.3,SNR=13						
ILAR				LR	LR	18 30 11.0	
	comp=Z,44nm,20.2s,baz=278,slow=35						
KSRS	**Korea Array**	**32.52**	**257**	LR	LR	18 35 23.6	
	comp=Z,11nm,20.6s,baz=145,slow=36						
H11N2	**WAKE ISLAND Hy**	**33.87**	**184**	T	T	18 59 03.7	
	baz=2.4,slow=76,SNR=242						
H11N3	**WAKE ISLAND Hy**	**33.88**	**184**	T	T	18 59 03.2	
	baz=2.4,slow=76,SNR=211						
H11N1	**WAKE ISLAND Hy**	**33.89**	**184**	T	T	18 59 03.5	
	baz=2.4,slow=76,SNR=211						
H11S1	**WAKE ISLAND Hy**	**35.09**	**184**	T	T	19 00 39.0	
	baz=2.4,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**35.10**	**184**	T	T	19 00 31.8	
	baz=2.4,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**35.11**	**184**	T	T	19 00 32.0	
	baz=2.4,slow=76,SNR=48						
YKA	**Yellowknife Ar**	**39.02**	**46**	P	**P**	**18 23 24.8**	**+1.7**
	0.2nm,0.4s,baz=297,slow=7.6,SNR=4.1						
NVAR	**Mina Aray Bea**	**50.42**	**76**	LR	LR	18 43 49.5	
	comp=Z,18nm,21.5s,baz=84,slow=33						
ARU	**Arti**	**56.52**	**321**	LR	LR	18 52 19.6	
	comp=Z,30nm,18.1s,baz=41,slow=38						

*KRSC **26** 18:22:46.7±2.0, 50˚49N×157˚12E, h87km±24km, ML4.4*
*MOS **26** 18:22:47.7±1.1, 50˚73N×156˚50E, h125km, mb4.1/10, Error ellipse: s-maj=12.0km s-min=4.1km az=73.9*
*NEIC **26** 18:22:50.3±2.2, 50˚9N±0˚1×156˚4E±0˚2, h116km±4km, mb4.2/30, Error ellipse: s-maj=17.5km s-min=10.9km az=135.0*
*IDC **26** 18:22:51.5±2.0, 51˚00N×156˚25E, h124km±17km, mb3.3/15, mb1 3.6/21, mb1mx3.5/37, mbtmp3.8/21, MS3.0/2, Ms1 3.0/2, ms1mx2.2/48, Error ellipse: s-maj=21.1km s-min=11.3km az=150.0*
ISC 26 18:22:48.5±0.7, **50˚72N**±0˚07×**156˚61E**±0˚06, **h109**km±6km, **n149, σ1s35**/156, **mb4.1**/26, **5C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.32**	**264**	⇑*i*PN	**Pn**	**18 23 03.9**	**-0.3**
SKR				*e*S	**Sn**	**18 23 14.8**	**-1.2**
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				smax	smax		
	comp=N,13μm,0.3s						
SKR				smax	smax		
	comp=E,18μm,0.7s						
SKR	**Severo-Kuril's**	**0.32**	**264**	*e*P	**Pn**	**18 23 03.8**	**-0.4**
SKR				*e*S	**Sn**	**18 23 14.7**	**-1.2**
PAU	**Pauzhetka**	**0.76**	**9**	PN	**Pn**	**18 23 07.0**	**-0.3**
PAU				S	**Sn**	**18 23 21.5**	**+0.1**
PAU	**Pauzhetka**	**0.76**	**9**	*e*P	**Pn**	**18 23 07.0**	**-0.3**
PAU				*e*S	**Sn**	**18 23 21.5**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.43**	**39**	PN	**Pn**	**18 23 13.9**	**-0.5**
KDTR				S	**Sn**	**18 23 32.6**	**-1.4**
KDTR	**Khodutka, Kamc**	**1.43**	**39**	*e*P	**Pn**	**18 23 13.9**	**-0.5**
KDTR				*e*S	**Sn**	**18 23 32.6**	**-1.4**
MIPR	**Malaya Ipel'ka**	**1.56**	**3**	PN	**Pn**	**18 23 16.4**	**+0.4**
MIPR	**Malaya Ipel'ka**	**1.56**	**3**	*e*P	**Pn**	**18 23 16.4**	**+0.4**
ASAK	**Asacha**

comp=N,4.0nm,1.4s
TYV smax smax
comp=E,7.0nm,1.4s
TYV smax smax
comp=N,100nm,5.2s
TYV smax smax
comp=E,200nm,5.2s
MA2 Magadan 9.48 342 P **Pn** **18 25 02.0 +0.1**
comp=E,0.3nm,0.3s,baz=154,slow=9.0,SNR=10.0
MA2 Magadan 9.48 342 *ce*PN **Pn** **18 25 02.5 +0.6**
MA2 pmax pmax
comp=Z,10.0nm,1.7s
MA2 Magadan 9.48 342 **Pn** **18 25 01.0 -0.9**
SHO Shikotan 9.54 228 *e*PN Pn 18 24 58.6 -4.1
YSS Yuzh-Sakhalins 9.88 253 *e*PN **Pn** **18 25 10.8 +3.4**
YUK Yuzh-Kuril'sk 9.89 232 *i* PN Pn 18 25 04.6 -2.9
JKA Kamikawa-asahi 11.55 241 **Pn** **18 25 30.7 +0.7**
ASAJ Asahikawa 11.55 241 P **Pn** **18 25 31.4 +1.4**
comp=Z,0.4nm,0.3s,baz=42,slow=19,SNR=5.5
ASAJ Asahikawa 11.55 241 PN **Pn** **18 25 30.7 +0.7**
SEY Seymchan 12.46 351 *ce*PN **Pn** **18 25 42.5 +0.7**
SEY pmax pmax
comp=Z,5.0nm,1.2s
ERM Erimo 12.71 232 *i* PN **Pn** **18 25 43.0 -2.2**
KLR Kul'dur 16.05 274 P **Pn** **18 26 27.1 -0.6**
comp=Z,0.1nm,0.3s,baz=84,slow=14,SNR=3.1
KLR LR LR 18 32 00.6
comp=Z,37nm,20.1s,baz=168,slow=35
KLR Kul'dur 16.05 274 *i* P **Pn** **18 26 26.7 -1.0**
KLR pmax pmax
comp=Z,7.0nm,1.6s
BILL Bilibino 18.02 12 *e*P **Pn** **18 26 50.5 -1.0**
BILL pmax pmax
comp=Z,15nm,2.4s
BILL Bilibino 18.02 12 P **Pn** **18 26 51.0 -0.5**
JSD Sado 18.18 233 P **P** **18 26 54.2 +1.7**
JSD IAmb IAmb 18 26 55.2
comp=Z,11nm,0.9s
ZEA Zeya 18.18 291 *e*P **Pn** **18 26 52.3 -1.2**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 18.57 318 P **P** **18 26 55.2 -1.3**
comp=Z,0.1nm,0.3s,baz=115,slow=5.8,SNR=8.4
YAK Yakutsk 18.57 318 *ce*P **P** **18 26 55.6 -1.0**
YAK pmax pmax
comp=Z,15nm,0.8s
YAK Yakutsk 18.57 318 P **P** **18 26 55.5 -1.0**
YAK IAmb IAmb 18 26 58.3
comp=Z,13nm,0.7s
MJB9 Matsu-Tunnel 19.37 230 P **P** **18 27 06.7 +1.2**
MJB9 IAmb IAmb 18 27 09.4
comp=Z,4.5nm,0.6s
MAJO Matsushiro 19.37 230 P **P** **18 27 06.4 +0.8**
MAJO pmax pmax
comp=Z,5.0nm,0.6s
MAJO Matsushiro 19.37 230 P **P** **18 27 06.4 +0.8**
MAJO IAmb IAmb 18 27 09.5
comp=Z,4.6nm,0.6s
MJAR Matsushiro Arr 19.37 230 P **P** **18 27 06.4 +0.8**
comp=Z,0.1nm,0.3s,baz=41,slow=7.7,SNR=5.4
MJAR Matsushiro Arr 19.37 230 P **P** **18 27 06.4 +0.8**
MJAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR Matsushiro Arr 19.37 230 IAmb IAmb 18 27 11.1
comp=Z,1.4nm,0.7s
JGF Kuroka 20.54 230 P **P** **18 27 18.8 +0.6**
JGF IAmb IAmb 18 27 48.0
comp=Z,15nm,1.6s
INU Inuyama 20.90 230 P **P** **18 27 20.7 -1.4**
INU IAmb IAmb 18 27 35.1
comp=Z,12nm,1.4s
FALS False Pass 24.29 65 P **P** **18 27 56.5 +1.3**
KSRS Korea Array 24.32 248 P **P** **18 27 57.8 +2.0**
comp=Z,0.6nm,0.5s,baz=50,slow=10,SNR=1.8
TIXI Tiksi 24.44 339 *ce*P **P** **18 27 54.8 -1.8**
TIXI pmax pmax
comp=Z,5.0nm,2.5s
IMAR Indian Mountai 29.21 40 P **P** **18 28 39.4 0.0**
CNPM China Poot 30.35 53 P **P** **18 28 50.5 +1.0**
BRLK Bradley Lake 30.50 52 P **P** **18 28 53.3 +2.4**
TOLK Toolik Lake Re 31.16 35 P **P** **18 28 56.1 -0.5**
TOLK IAmb IAmb 18 29 15.8
comp=Z,8.1nm,1.6s
ILAR Eielson Array 32.02 42 P **P** **18 29 06.0 +1.8**
comp=Z,0.4nm,0.7s,baz=264,slow=11,SNR=2.9
ILAR Eielson Array 32.02 42 P **P** **18 29 05.5 +1.3**
SONM Songino Array 32.38 285 P **P** **18 29 06.4 -1.2**
comp=Z,0.6nm,0.6s,baz=73,slow=7.8,SNR=3.6
H11S1 WAKE ISLAND Hy 33.13 162 T T 19 04 25.6
baz=348,slow=76,SNR=36
H11S3 WAKE ISLAND Hy 33.14 162 T T 19 04 20.6
baz=348,slow=76,SNR=70
H11S2 WAKE ISLAND Hy 33.14 162 T T 19 04 21.3
baz=348,slow=76,SNR=28
INK Inuvik 37.06 35 P **P** **18 29 48.6 +1.2**
comp=Z,1.1nm,0.5s,baz=288,slow=6.5,SNR=8.0
INK Inuvik 37.06 35 P **P** **18 29 48.3 +0.9**
INK pmax pmax
comp=Z,10.0nm,1.6s
INK Inuvik 37.06 35 P **P** **18 29 48.3 +0.9**
INK IAmb IAmb 18 30 02.4
comp=Z,9.6nm,1.6s
YULB Yu-li 38.62 238 P **P** **18 30 02.1 +1.1**
TWG Pinlang 39.20 238 P **P** **18 30 06.7 +0.8**
A36M Sachs Harbour 39.26 29 P **P** **18 30 07.0 +1.1**
A36M IAmb IAmb 18 30 07.8
comp=Z,3.6nm,0.7s
C36M Paulatuk 40.22 33 P **P** **18 30 14.4 +0.7**
ZALV Zalesovo Beam 42.27 303 PcP **PcP** **18 32 22.3 -0.1**
comp=Z,0.4nm,0.3s,baz=83,slow=4.9,SNR=4.3
EUNU Eureka 44.76 13 P **P** **18 30 50.6 +0.2**
RES Resolute Bay 46.32 20 LR LR 18 52 51.3
comp=Z,20nm,18.2s,baz=77,slow=39
YKA Yellowknife Ar 46.37 40 P **P** **18 31 05.1 +1.8**
comp=Z,0.3nm,0.7s,baz=298,slow=7.5,SNR=3.5
KURK Kurchatov 47.16 302 *i* P **P** **18 31 08.0 -1.6**
KURK pmax pmax
comp=Z,8.0nm,3.5s
KURK Kurchatov 47.16 302 P **P** **18 31 08.3 -1.3**
KURK IAmb IAmb 18 31 10.1
comp=Z,4.5nm,1.4s
MK31 Makanchi Array 47.24 296 P **P** **18 31 08.5 -1.8**
MK31 Makanchi Array 47.24 296 P **P** **18 31 08.5 -1.8**
MKAR Makanchi Array 47.24 296 P **P** **18 31 08.9 -1.4**
comp=Z,0.4nm,0.4s,baz=60,slow=5.8,SNR=14
MKAR PcP **PcP** **18 32 40.1 +0.3**
comp=Z,0.1nm,0.4s,baz=72,slow=5.2,SNR=2.6
MKAR Makanchi Array 47.24 296 *i* P **P** **18 31 08.8 -1.5**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 47.24 296 P **P** **18 31 08.5 -1.8**
MAKZ Makanchi 47.41 296 P **P** **18 31 10.2 -1.4**
MAKZ pmax pmax
comp=Z,5.0nm,1.3s
MAKZ Makanchi 47.41 296 P **P** **18 31 10.2 -1.4**
MAKZ IAmb IAmb 18 31 27.8
comp=Z,5.3nm,1.3s
BOOM Boomskoye usch 53.44 295 P **P** **18 31 56.9 -0.3**
BOOM pmax pmax
comp=Z,3.0nm,1.3s
BOOM Boomskoye usch 53.44 295 P **P** **18 31 56.9 -0.3**
BOOM IAmb IAmb 18 32 20.4
comp=Z,3.4nm,1.3s
UBPT Khong Chiam 54.05 248 P **P** **18 32 00.6 -1.1**
UBPT IAmb IAmb 18 32 13.3
comp=Z,6.7nm,1.4s
ARCES ARCESS Array B 54.86 341 P **P** **18 32 05.0 -1.9**
comp=Z,3.6nm,1.0s,baz=36,slow=7.8,SNR=1.4
ARCES ARCESS Array B 54.86 341 P **P** **18 32 05.0 -1.9**
ARCES pmax pmax
comp=Z,10.0nm,1.3s
BMO Blue Mountains 55.01 60 P **P** **18 32 08.2 -0.3**
BMO pmax pmax
comp=Z,10.0nm,1.6s
BMO Blue Mountains 55.01 60 P **P** **18 32 08.2 -0.3**
CHTO Chiang Mai 55.29 257 P **P** **18 32 11.2 +0.6**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 55.29 257 P **P** **18 32 11.2 +0.6**
KSH Kashi 55.31 292 P **P** **18 32 08.8 -1.9**
KSH pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 55.55 257 P **P** **18 32 14.2 +1.6**

comp=Z,3.1nm,0.6s,baz=30,slow=7.0,SNR=26
ABKAR Akbulak array 57.67 310 P **P** **18 32 25.1 -2.0**
ABKAR Akbulak array 57.67 310 P **P** **18 32 25.2 -2.0**
ABKAR IAmb IAmb 18 32 27.7
comp=Z,1.6nm,0.9s
NVAR Mina Array Bea 58.63 66 P **P** **18 32 36.4 +2.1**
comp=Z,0.4nm,0.6s,baz=312,slow=5.9,SNR=3.9
PMG Port Moresby 60.44 191 *i* P P 18 32 41.7 -4.8
PDAR Pinedale Array 60.59 58 P **P** **18 32 49.4 +1.7**
comp=Z,1.0nm,0.9s,baz=303,slow=5.3,SNR=6.8
FINES FINESS Array B 61.42 335 P **P** **18 32 50.5 -2.1**
comp=Z,1.7nm,0.9s,baz=35,slow=5.1,SNR=4.5
FINES FINESS Array B 61.42 335 *i* P **P** **18 32 50.9 -1.7**
FINES pmax pmax
comp=Z,2.0nm,0.9s
NC405 NORSAR Array S 65.02 342 P **P** **18 33 15.4 -1.0**
NC405 IAmb IAmb 18 33 22.9
comp=Z,6.6nm,1.1s
NC204 NORSAR Array S 65.06 343 P **P** **18 33 15.6 -1.1**
NOA NORSAR Array B 65.19 342 P **P** **18 33 16.5 -1.1**
comp=Z,0.1nm,0.3s,baz=26,slow=6.3,SNR=4.1
WRA Warramunga Arr 73.04 202 P **P** **18 34 07.8 +1.4**
comp=Z,0.1nm,0.4s,baz=17,slow=6.2,SNR=1.1
TXAR Lajitas Array 73.59 64 P **P** **18 34 11.6 +1.8**
comp=Z,0.4nm,0.5s,baz=299,slow=4.7,SNR=7.3
KHC Kasperske Hory 75.62 336 *e*P P 18 34 26.6 +5.4
KHC Kasperske Hory 75.62 336 *e*P P 18 34 26.6 +5.4
ESDC Sonseca Array 88.39 345 P **P** **18 35 26.7 -1.3**
comp=Z,0.2nm,0.4s,baz=7.4,slow=3.7,SNR=7.7
H03N2 Juan Fernandez 136.40 89 T T 21 14 28.3
baz=313,slow=77,SNR=12
H03N1 Juan Fernandez 136.41 89 T T 21 14 24.2
baz=313,slow=77,SNR=3.9
H03N3 Juan Fernandez 136.41 89 T T 21 14 28.3
baz=313,slow=77,SNR=15

NEIC 26 18:32:47.5±0.9, 35.74N±0.02×97.17W±0.02, h8km±2km, mb_Lg2.8/56, Error ellipse: s-maj=3.2km s-min=1.4km az=143.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.09**	**194**		Pg	18 32 49.1	-0.5
ADOK	**Arcadia Dam**	**0.19**	**243**	Pg	Pg	18 32 51.0	-0.2
OK001	**Jones High Sch**	**0.20**	**210**	Pg	Pg	18 32 51.1	-0.4
OK009	**Oakdale Elemen**	**0.26**	**233**	Pg	Pg	18 32 52.5	-0.2
FNO	**Franklin**	**0.52**	**202**	Pg	Pg	18 32 57.0	-0.5
FNO				Sg	Sg	18 33 04.3	0.0
TUL1	**Leonard**	**1.13**	**81**		Pg	18 33 07.8	-1.3
X34A	**Smith Ranch, M**	**1.26**	**206**		Pn	18 33 10.6	-0.8
T35A	**Sooner Cattle**	**1.29**	**24**		Pn	18 33 10.9	-0.9
U32A	**Winter Ranch,**	**1.62**	**294**		Pn	18 33 16.8	+0.4
WMOK	**Wichita Mounta**	**1.66**	**233**		Pn	18 33 17.1	+0.2
X37A	**Clayton**	**1.86**	**127**	Pn	Pn	18 33 20.2	+0.5
U38A	**Gravette**	**2.36**	**72**	Pn	Pn	18 33 26.5	0.0
HHAR	**Hobbs**	**2.67**	**77**		Pn	18 33 31.2	+0.4
HHAR				IAmb_Lg		18 34 17.0	
comp=Z,19nm,0.8s							
W39A	**Magazine**	**2.81**	**100**	Pn	Pn	18 33 33.3	+0.6
Z38A	**Mt. Pleasant**	**3.06**	**143**	IAmb_Lg		18 34 26.8	
comp=Z,23nm,0.7s							
MIAR	**Mount Ida**	**3.17**	**111**		Pn	18 33 37.9	+0.2
KSU1	**Kansas State U**	**3.38**	**7**	Pn	Pn	18 33 40.5	-0.2
KSU1				Pg	Pb	18 33 49.4	+1.7
KSU1				IAmb_Lg		18 34 40.2	
comp=Z,18nm,0.7s							
U40A	**Yellville**	**3.55**	**79**		Pn	18 33 42.6	-0.3
U40A				IAmb_Lg		18 34 41.3	
comp=Z,25nm,0.8s							
S39A	**Bolivar**	**3.65**	**57**	IAmb_Lg		18 34 48.1	
comp=Z,16nm,0.7s							
ABTX	**Abilene, Hawle**	**3.72**	**214**	IAmb_Lg		18 34 52.5	
comp=Z,15nm,0.8s							
X40A	**Basin Creek Fa**	**3.76**	**108**	IAmb_Lg		18 34 50.1	
comp=Z,20nm,0.8s							
AMTX	**Amarillo**	**3.79**	**258**	Pn	Pn	18 33 45.6	-0.7
AMTX				IAmb_Lg		18 34 55.6	
comp=Z,22nm,0.7s							
WHAR	**Wooly Hollow**	**4.00**	**95**		Pn	18 33 47.8	-1.3
WHAR				IAmb_Lg		18 34 57.4	
comp=Z,17nm,0.7s							
W41B	**Gary Mavity, V**	**4.05**	**97**		Pn	18 33 49.2	-0.6
W41B				IAmb_Lg		18 34 56.0	
comp=Z,18nm,0.9s							
FCAR	**Ozark Folk Cen**	**4.10**	**86**		Pn	18 33 50.5	0.0
FCAR				IAmb_Lg		18 34 56.5	
comp=Z,20nm,0.8s							
MGMO	**Mountain Grove**	**4.19**	**69**	IAmb_Lg		18 35 09.3	
comp=Z,24nm,0.7s							
R40A	**Maddies Statio**	**4.67**	**56**	IAmb_Lg		18 35 12.4	
comp=Z,20nm,0.9s							
P38A	**Dawn**	**4.83**	**36**	IAmb_Lg		18 35 29.2	
comp=Z,15nm,1.0s							
T42A	**Van Buren**	**5.07**	**73**	IAmb_Lg		18 35 39.1	
comp=Z,20nm,1.0s							
CCM	**Cathedral Cave**	**5.28**	**62**	IAmb_Lg		18 35 33.7	
comp=Z,22nm,0.9s							
PBMO	**Poplar Bluff**	**5.54**	**77**	IAmb_Lg		18 35 43.2	
comp=Z,25nm,0.7s							
P40A	**Paris**	**5.55**	**45**	IAmb_Lg		18 35 46.4	
comp=Z,22nm,0.7s							
JCT	**Junction City**	**5.69**	**204**	IAmb_Lg		18 35 56.0	
comp=Z,17nm,0.7s							
FVM	**French Village**	**5.85**	**65**	IAmb_Lg		18 35 53.6	
comp=Z,13nm,0.8s							
T25A	**Trinidad**	**6.00**	**286**	IAmb_Lg		18 36 02.2	
comp=Z,10nm,0.8s							
K31A	**O'Neill**	**6.98**	**350**	IAmb_Lg		18 36 44.1	
comp=Z,18nm,0.9s							
SDCO	**Great Sand Dun**	**6.99**	**289**		Pn	18 34 30.3	-0.1
Z47A	**Carrollton**	**7.93**	**106**	IAmb_Lg		18 37 20.6	
comp=Z,12nm,0.8s							
N23A	**Red Feather La**	**8.61**	**309**	IAmb_Lg		18 37 33.8	
comp=Z,12nm,0.9s							
JFWS	**Jewell Farm**	**8.95**	**35**	IAmb_Lg		18 37 39.4	
comp=Z,13nm,0.8s							

DNK 26 18:46:02.6±2.5, 79.86N×15.59W, h36km±30km, ML0.7, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.67**	**104**	*i* P	Pn	18 46 43.6	+0.7
KBS				*i* S	Sn	18 47 09.9	-4.0
NOR	**Nord**	**2.99**	**313**	*i* P	Pn	18 46 47.0	-0.4
NOR				*i* S	Sn	18 47 18.2	-3.7
NOR				IAML		18 47 24.8	
comp=Z,0.9nm,0.3s							
DAG	**Danmarks Havn**	**4.63**	**237**	*i* S	Sn	18 47 57.3	-5.0
DAG				IAML		18 49 04.3	
comp=Z,0.2nm,0.4s							

BER 26 18:46:08.6±2.6, 76.95N×15.56E, h1km±9km, ML1.6, 1D, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.05**	**353**	↓*i* P	Pg	18 46 08.1	-1.4
HSPB				*e*S	Sg	18 46 08.8	-1.4
HSPB				IAML		18 46 08.9	
comp=Z,634nm,0.4s							
BRBA	**Barentsburg A**	**1.15**	**346**	*e*P	Pg	18 46 30.7	+0.1
BRBA				*e*S	Sg	18 46 45.3	-0.1
BRBB	**Barentsburg B**	**1.18**	**346**	*e*P	Pg	18 46 29.8	-1.4
BRBB				*e*S	Sg	18 46 46.1	-0.5
SPA0	**Spitsbergen Ar**	**1.25**	**8**	*e*P	Pg	18 46 31.4	-1.1
SPA0				*e*S	Sg	18 46 47.6	-0.9
SPA0				IAML		18 46 52.8	
comp=Z,7.7nm,0.3s							
KBS	**Kingsbay**	**2.12**	**341**	*e*Pg	Pn	18 46 45.3	+0.1
KBS				*e*S	Sn	18 47 07.3	-4.8
KBS				*e*Sg	Sb	18 47 15.6	+0.9
KBS				IAML		18 47 19.6	
comp=Z,5.9nm,0.5s							
HOPEN	**Hopen**	**2.23**	**97**	*e*P	Pn	18 46 44.8	-1.7
HOPEN				*e*Pg	Pb	18 46 49.5	0.0
HOPEN				*e*S	Sn	18 47 11.4	-3.2
HOPEN				*e*Sg	Sb	18 47 17.1	-0.4
HOPEN				IAML		18 47 19.2	
comp=Z,9.7nm,0.3s							

*IDC **26** 18:46:50.9±2.0, 35.85N×97.28W, h0km, mb1 3.6/4, mb1mx3.4/38, mbtmp3.4/4, ML3.3/4, Error ellipse: s-maj=26.8km s-min=11.2km az=108.0*
*NEIC **26** 18:46:51.4±1.4, 35.73N±0.01×97.17W±0.02, h9km±5km, Error ellipse: s-maj=2.4km s-min=1.7km az=134.0*
*NEIC **26** 18:46:51.2, 35.73N×97.16W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.34; $M_{\theta\theta}$2.95; $M_{\phi\phi}$-2.61; $M_{r\theta}$0.14; $M_{r\phi}$-0.62; $M_{\theta\phi}$-0.19; Fault plane solution: $M_0$2.87000×10^{14} NP1:ϕ_s321.18000°, δ88.90000°, λ-4.89000°. NP2:ϕ_s51.28000°, δ85.11000°, λ-178.90000°. Principal axes: T 3.0228, Plg3.0000°, Azm6.0000°; N -0.3333, Plg85.0000°, Azm129.0000°; P -2.6895, Plg4.0000°, Azm276.0000°;*
*TUL **26** 18:46:51.2±1.9, 35.73N±0.01×97.16W±0.02, h5km±5km, ML4.0, mb_Lg3.7/122(NEIC), Mwr3.6/35(NEIC) Error ellipse: s-maj=2.2km s-min=1.6km az=136.0*
*ANF **26** 18:46:51.3±0.3, 35.74N×97.13W, h5km, ML4.1/12, Error ellipse: s-maj=2.8km s-min=2.6km az=32.0*
ISC 26 18:46:50.5±0.8, 35.74N±0.02×97.14W±0.02, h12km±5km, n147, σ1s41/177, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.10**	**207**	Pg	**Pg**	**18 46 53.2**	**-0.1**
OK005				Sg	**Sg**	**18 46 54.6**	**-0.7**
OK001	**Jones High Sch**	**0.22**	**215**	Pg	**Pg**	**18 46 55.4**	**+0.2**
OK001				Sg	**Sg**	**18 46 58.7**	**+0.4**
OK009	**Oakdale Elemen**	**0.28**	**236**		**Pg**	**18 46 56.7**	**+0.4**
OK009				Sg	**Sg**	**18 47 00.7**	**+0.6**
FNO	**Franklin**	**0.53**	**204**	Pg	**Pg**	**18 47 01.2**	**+0.4**
FNO				Sg	**Sg**	**18 47 08.4**	**+0.6**
TUL1	**Leonard**	**1.11**	**81**	Pg	**Pb**	**18 47 11.7**	**+0.1**
TUL1				Sg	**Sn**	**18 47 27.6**	**+0.5**
TUL1	**Leonard**	**1.11**	**81**	P	**Pb**	**18 47 11.7**	**+0.1**
baz=261							
TUL1				S	**Sn**	**18 47 27.6**	**+0.5**
baz=261							
TUL1	**Leonard**	**1.11**	**81**	P	**Pb**	**18 47 11.7**	**+0.1**
baz=261,SNR=73							
TUL1				S	**Sn**	**18 47 27.8**	**+0.7**
baz=261							
X34A	**Smith Ranch, M**	**1.27**	**207**	Pg	**Pg**	**18 47 14.8**	**-0.2**
X34A				Sg	**Sg**	**18 47 32.3**	**+0.8**
T35A	**Sooner Cattle**	**1.28**	**23**		**Pb**	**18 47 15.0**	**+0.5**
T35B	**Sooner Cattle**	**1.28**	**23**	P	**Pb**	**18 47 14.9**	**+0.4**
baz=204,SNR=178							
T35B				S	**Sg**	**18 47 32.9**	**+1.1**
baz=204							
U32A	**Winter Ranch,**	**1.64**	**293**	Pn	**Pb**	**18 47 20.7**	**0.0**
U32A	**Winter Ranch,**	**1.64**	**293**	P	**Pb**	**18 47 20.7**	**0.0**
baz=113,SNR=42							
U32A				S	**Sg**	**18 47 43.4**	**+0.2**
baz=113							
WMOK	**Wichita Mounta**	**1.68**	**234**		**Pb**	**18 47 20.8**	**-0.5**
WMOK	**Wichita Mounta**	**1.68**	**234**	P	**Pb**	**18 47 20.8**	**-0.5**
baz=53,SNR=210							
WMOK	**Wichita Mounta**	**1.68**	**234**	P	**Pb**	**18 47 20.8**	**-0.5**
baz=53							
WMOK				S	**Sg**	**18 47 43.2**	**-1.2**
baz=53							
X37A	**Clayton**	**1.85**	**128**	Pn	**Pb**	**18 47 24.2**	**0.0**
X37A				IAmb_Lg		18 47 52.0	
comp=Z,411nm,0.9s							
X37A	**Clayton**	**1.85**	**128**	P	**Pb**	**18 47 24.2**	**0.0**
baz=308,SNR=64							
X37A				Sb	**Sg**	**18 47 50.8**	**+0.9**
baz=308							
U38A	**Gravette**	**2.34**	**72**		**Pn**	**18 47 30.4**	**+1.6**
Z35A	**Perchaven, San**	**2.41**	**182**		**Pn**	**18 47 31.3**	**+1.6**
Z35A				IAmb_Lg		18 48 12.6	
comp=Z,186nm,0.9s							
Z35A	**Perchaven, San**	**2.41**	**182**	P	**Pb**	**18 47 32.0**	**-1.8**
baz=1.8,SNR=12							
Z35A				S	**Sb**	**18 48 03.0**	**-0.3**
baz=1.8							
HHAR	**Hobbs**	**2.65**	**77**		**Pn**	**18 47 35.1**	**+2.0**
W39A	**Magazine**	**2.79**	**100**		**Pn**	**18 47 36.9**	**+1.9**
W39A				IAmb_Lg		18 48 26.3	
comp=Z,160nm,0.9s							
W39A	**Magazine**	**2.79**	**100**	P	**Pn**	**18 47 37.2**	**+2.1**
baz=282,SNR=47							
W39A	**Magazine**	**2.79**	**100**	P	**Pn**	**18 47 37.1**	**+2.1**
baz=282,SNR=20							
W39A				S	**Sb**	**18 48 12.6**	**-1.9**
baz=282							
R32A	**Long Quarter,**	**2.96**	**335**		**Pn**	**18 47 38.8**	**+1.5**
R32A	**Long Quarter,**	**2.96**	**335**	Sb	**Sg**	**18 48 24.4**	**-1.1**
baz=155							
Z38A	**Mt. Pleasant**	**3.05**	**144**		**Pn**	**18 47 40.3**	**+1.8**
Z38A				IAmb_Lg		18 48 32.8	
comp=Z,298nm,0.9s							
MIAR	**Mount Ida**	**3.15**	**111**	Pn	**Pn**	**18 47 42.2**	**+2.3**
MIAR				IAmb_Lg		18 48 39.2	
comp=Z,184nm,0.9s							
MIAR	**Mount Ida**	**3.15**	**111**	P	**Pn**	**18 47 42.3**	**+2.3**
baz=293,SNR=34							
MIAR	**Mount Ida**	**3.15**	**111**	P	**Pn**	**18 47 42.2**	**+2.3**
baz=293,SNR=24							
MIAR				S	**Sn**	**18 48 20.7**	**+3.2**
baz=293							
KSU1	**Kansas State U**	**3.38**	**7**	Pn	**Pn**	**18 47 45.1**	**+2.0**
KSU1				IAmb_Lg		18 48 44.7	
comp=Z,150nm,0.8s							
KSU1	**Kansas State U**	**3.38**	**7**	P	**Pn**	**18 47 44.2**	**+1.1**
baz=188,SNR=21							
KSU1				S	**Sn**	**18 48 25.2**	**+2.0**
baz=188							
U40A	**Yellville**	**3.53**	**79**		**Pn**	**18 47 46.9**	**+1.8**
U40A				IAmb_Lg		18 48 46.1	
comp=Z,153nm,0.8s							
U40A	**Yellville**	**3.53**	**79**	P	**Pn**	**18 47 46.5**	**+1.4**
baz=261							
U40A				S	**Sn**	**18 48 30.3**	**+3.5**
baz=261							
S39A	**Bolivar**	**3.63**	**56**		**Pn**	**18 47 48.5**	**+2.0**
S39A				IAmb_Lg		18 48 52.1	
comp=Z,167nm,0.9s							
CBKS	**Cedar Bluff**	**3.70**	**327**		**Pn**	**18 47 48.1**	**+0.5**
CBKS				IAmb_Lg		18 48 54.1	
comp=Z,286nm,0.8s							
CBKS	**Cedar Bluff**	**3.70**	**327**	S	**Sn**	**18 48 32.2**	**+1.0**
baz=146							
ABTX	**Abilene, Hawle**	**3.74**	**214**		**Pn**	**18 47 49.2**	**+1.1**
ABTX				IAmb_Lg		18 48 53.7	
comp=Z,222nm,0.9s							
ABTX	**Abilene, Hawle**	**3.74**	**214**	P	**Pn**	**18 47 48.9**	**+0.8**
baz=33							
ABTX				S	**Sn**	**18 48 33.8**	**+1.8**
baz=33							
X40A	**Basin Creek Fa**	**3.74**	**108**		**Pn**	**18 47 50.2**	**+2.1**
X40A				IAmb_Lg		18 48 54.4	
comp=Z,331nm,1.1s							
X40A	**Basin Creek Fa**	**3.74**	**108**	P	**Pn**	**18 47 49.9**	**+1.8**
baz=290,SNR=21							
X40A				Sb	**Sg**	**18 48 49.0**	**-1.7**
baz=290							
WHTX	**Lake Whitney,**	**3.75**	**184**	Pn	**Pn**	**18 47 49.5**	**+1.3**
WHTX					**Pb**	**18 47 56.4**	**-0.3**
WHTX	**Lake Whitney,**	**3.75**	**184**	P	**Pn**	**18 47 49.6**	**+1.4**
baz=3.7,SNR=21							
WHTX				Sb	**Sb**	**18 48 45.3**	**+3.3**
baz=3.7							
WHTX	**Lake Whitney,**	**3.75**	**184**	P	**Pn**	**18 47 49.2**	**+1.1**
baz=3.7							
WHTX				S	**Sn**	**18 48 34.2**	**+1.9**
baz=3.7							
AMTX	**Amarillo**	**3.81**	**258**		**Pn**	**18 47 49.5**	**+0.3**
AMTX	**Amarillo**	**3.81**	**258**	Sb	**Sb**	**18 48 47.4**	**+3.4**
baz=76							
237A	**Washetta, Mont**	**3.89**	**163**		**Pn**	**18 47 51.3**	**+1.2**
237A				IAmb_Lg		18 49 00.4	
comp=Z,147nm,0.7s							
237A	**Washetta, Mont**	**3.89**	**163**	S	**Sn**	**18 48 37.5**	**+1.8**
baz=344							
WLAR	**White Oak Lake**	**3.90**	**121**	Pn	**Pn**	**18 47 52.5**	**+2.3**
WLAR				IAmb_Lg		18 48 59.7	
comp=Z,252nm,1.1s							
WHAR	**Wooly Hollow**	**3.98**	**95**	Pn	**Pn**	**18 47 52.7**	**+1.4**
WHAR				IAmb_Lg		18 49 00.5	
comp=Z,315nm,1.2s							
W41B	**Gary Mavity, V**	**4.03**	**97**		**Pn**	**18 47 53.8**	**+1.7**
W41B	**Gary Mavity, V**	**4.03**	**97**	P	**Pn**	**18 47 54.2**	**+2.1**
baz=279,SNR=17							
W41B	**Gary Mavity, V**	**4.03**	**97**	P	**Pn**	**18 47 53.9**	**+1.8**

baz=279,SNR=11
W41B S Sn 18 48 42.1 +2.9
baz=279
UALR University of 4.04 102 Pn Pn 18 47 53.3 +1.2
UALR IAmb_Lg 18 49 03.1
comp=Z,115nm,0.9s
FCAR Ozark Folk Cen 4.08 86 Pn 18 47 54.1 +1.4
FCAR IAmb_Lg 18 49 00.9
comp=Z,150nm,0.9s
MGMO Mountain Grove 4.17 69 Pn 18 47 54.2 +0.2
MGMO IAmb_Lg 18 49 10.8
comp=Z,270nm,1.1s
Z41A Richland Creek 4.35 123 Pn 18 47 57.4 +0.9
Z41A IAmb_Lg 18 49 20.2
comp=Z,155nm,0.9s
Z41A Richland Creek 4.35 123 S Sn 18 48 50.0 +2.9
baz=306
NATX Nacogdoches 4.47 152 S Sn 18 48 51.3 +1.1
baz=333
R40A Maddies Statio 4.66 55 Pn 18 48 00.5 -0.2
R40A IAmb_Lg 18 49 16.8
comp=Z,161nm,1.0s
CCAR Cane Creek 4.77 111 Pn Pn 18 48 02.1 -0.1
CCAR IAmb_Lg 18 49 33.3
comp=Z,125nm,1.0s
P38A Dawn 4.82 35 Pn 18 48 04.3 +1.5
P38A IAmb_Lg 18 49 32.6
comp=Z,95nm,0.9s
LCAR Lake Charles 4.87 84 Pn 18 48 03.2 -0.3
LCAR IAmb_Lg 18 49 32.6
comp=Z,153nm,1.1s
435B Jarrell 4.96 184 Pn 18 48 04.1 -0.7
435B IAmb_Lg 18 49 27.1
comp=Z,132nm,0.7s
MSTX Muleshoe 4.96 251 Pn 18 48 04.4 -0.5
MSTX IAmb_Lg 18 49 40.2
comp=Z,126nm,0.7s
N33A J Bar K, Exete 5.00 357 Pn Pn 18 48 04.7 -0.6
N33A IAmb_Lg 18 49 40.8
comp=Z,122nm,1.0s
N35A Tabor 5.25 13 Pn 18 48 08.0 -0.8
N35A IAmb_Lg 18 49 44.2
comp=Z,192nm,0.7s
CCM Cathedral Cave 5.26 62 Pn 18 48 08.2 -0.7
CCM IAmb_Lg 18 49 38.7
comp=Z,202nm,1.0s
HBAR Harrisburg 5.28 90 Pn Pn 18 48 09.7 +0.5
HBAR IAmb_Lg 18 49 41.2
comp=Z,212nm,0.8s
KSCO Kaye Shedlock' 5.46 308 Pn 18 48 11.1 -0.7
KSCO IAmb_Lg 18 49 47.2
comp=Z,201nm,0.9s
KSCO Kaye Shedlock' 5.46 308 P Pn 18 48 11.8 0.0
baz=125
KSCO S Sn 18 49 13.9 -0.6
baz=125
PBMO Poplar Bluff 5.52 77 Pn Pn 18 48 13.0 +0.5
PBMO IAmb_Lg 18 49 51.9
comp=Z,193nm,0.8s
P40A Paris 5.53 45 Pn 18 48 12.4 -0.3
P40A IAmb_Lg 18 49 52.5
comp=Z,155nm,0.8s
JCT Junction City 5.70 204 Pn Pn 18 48 14.9 -0.1
JCT Junction City 5.70 204 P Pn 18 48 15.9 +0.8
baz=22
JCT S Sn 18 49 21.1 +0.6
baz=22
BGNE Belgrade 5.71 352 Pn 18 48 15.1 -0.1
BGNE IAmb_Lg 18 50 05.1
comp=Z,227nm,0.8s
BGNE Belgrade 5.71 352 P Pn 18 48 15.8 +0.6
baz=172
BGNE S Sn 18 49 19.4 -1.3
baz=172
GNAR Gosnell 5.79 86 Pn Pn 18 48 17.0 +0.8
GNAR IAmb_Lg 18 49 55.0
comp=Z,200nm,0.8s
FVM French Village 5.83 65 Pn Pn 18 48 15.6 -1.1
FVM IAmb_Lg 18 50 02.5
comp=Z,143nm,1.1s
HKT Hockley 5.88 169 Pn Pn 18 48 16.9 -0.4
N38A Joes South For 5.91 30 Pn 18 48 16.5 -1.3
342A Flagon Creek P 5.92 136 Pn Pn 18 48 17.6 -0.4
T25A Trinidad 6.03 286 Pn Pn 18 48 19.4 -0.3
T25A IAmb_Lg 18 50 08.2
comp=Z,156nm,0.9s
T25A Trinidad 6.03 286 P Pn 18 48 20.0 +0.3
baz=101
T25A S Sn 18 49 27.9 -0.9
baz=101
SLM Saint Louis 6.22 60 Pn Pn 18 48 22.0 -0.1
SLM IAmb_Lg 18 50 12.2
comp=Z,182nm,0.9s
L34A Svendsen Farm, 6.25 5 Pn Pn 18 48 22.0 -0.5
L34A IAmb_Lg 18 50 26.7
comp=Z,186nm,0.7s
HALT Halls 6.34 86 IAmb_Lg 18 50 26.4
comp=Z,182nm,1.0s
OXF Oxford 6.45 99 P Pn 18 48 26.7 +1.4
baz=283
OXF S Sn 18 49 41.8 +3.0
baz=283
OGNE Ogallala 6.46 325 Pn Pn 18 48 26.6 +1.0
OGNE Ogallala 6.46 325 P Pn 18 48 26.4 +0.9
baz=142
OGNE S Sn 18 49 39.0 -0.4
baz=142
W45A Hickory Valley 6.52 93 IAmb_Lg 18 50 25.8
comp=Z,97nm,0.8s
Y45A Yeager Farm, C 6.52 104 Pn Pn 18 48 28.2 +2.0
S44A Carbondale 6.62 71 Pn Pn 18 48 27.2 -0.4
SIUC Southern Illin 6.66 70 Pn Pn 18 48 28.2 0.0
SIUC IAmb_Lg 18 50 39.1
comp=Z,133nm,0.8s
344A Westbrook Farm 6.84 127 Pn Pn 18 48 30.8 +0.1
SCIA State Center 6.88 25 Pn 18 48 31.9 +0.8
SCIA IAmb_Lg 18 50 36.1
comp=Z,94nm,0.8s
SCIA State Center 6.88 25 P Pn 18 48 32.7 +1.5
baz=208
SCIA S Sn 18 49 49.6 +0.3
baz=208
735A Kenedy 6.89 185 Pn Pn 18 48 32.2 +0.9
735A IAmb_Lg 18 50 48.4
comp=Z,58nm,0.8s
K31A O'Neill 6.99 350 Pn Pn 18 48 35.4 +2.7
K31A IAmb_Lg 18 50 52.7
comp=Z,156nm,0.8s
N41A Harden Midland 7.00 43 Pn Pn 18 48 34.7 +1.8
SDCO Great Sand Dun 7.01 289 Pn 18 48 35.2 +2.0
SDCO IAmb_Lg 18 50 43.1
comp=Z,56nm,0.9s
SDCO Great Sand Dun 7.01 289 P Pn 18 48 35.3 +2.0
baz=104
Q24A Divide 7.14 299 Pn 18 48 35.6 +0.5
Q24A IAmb_Lg 18 50 49.8
comp=Z,75nm,0.8s
Q24A Divide 7.14 299 S Sn 18 49 55.9 -0.5
baz=114
P43A Skaggs, Pawnee 7.18 55 Pn Pn 18 48 36.5 +1.1
Q44A Meyer Farm, Va 7.20 62 Pn Pn 18 48 37.3 +1.7
PLAL Pickwick Lake 7.44 93 Pn Pn 18 48 38.7 -0.2
WVT Waverly 7.56 84 Pn Pn 18 48 39.6 -1.0
833A Chaparral WMA, 7.64 195 Pn Pn 18 48 40.6 -1.0
ANMO Albuquerque 7.66 267 Pn Pn 18 48 42.2 +0.2
comp=Z,0.1nm,0.3s,baz=162,slow=9.9,SNR=3.1
ANMO Pg Pb 18 49 07.7 +4.3
comp=Z,0.8nm,0.3s,baz=81,slow=17,SNR=7.2
ANMO Lg Lg 18 50 47.8
comp=Z,4.0nm,0.3s,baz=6.3,slow=19,SNR=4.4
ANMO Albuquerque 7.66 267 Pn Pn 18 48 41.7 -0.4
K38A Parkersburg 7.69 25 IAmb_Lg 18 51 04.3
comp=Z,106nm,0.9s
L40A Anamosa 7.82 34 Pn 18 48 45.1 +1.1
L40A IAmb_Lg 18 51 01.5
comp=Z,88nm,0.8s
ISCO Idaho Springs 7.84 304 Pn Pn 18 48 45.3 +0.7
ISCO IAmb_Lg 18 51 07.0
comp=Z,72nm,0.8s
BNM Barren Site 7.95 261 Pn 18 48 46.7 +0.5
MNTX Cornudas Mount 7.96 242 Pn 18 48 44.6 -1.5
MNTX IAmb_Lg 18 51 11.1
comp=Z,70nm,0.8s
ECSD EROS Data Cent 7.99 3 Pn Pn 18 48 45.9 -0.6
ECSD IAmb_Lg 18 51 17.8
comp=Z,76nm,1.2s
ECSD EROS Data Cent 7.99 3 P Pn 18 48 46.3 -0.1
baz=183
S22A 4UR Ranch, Cre 8.03 287 Pn 18 48 47.1 -0.3
LENM Lemitar 8.23 262 Pn Pn 18 48 48.4 -1.4
TX31 Lajitas Ar. Si 8.43 223 Pn Pn 18 48 51.8 -0.9
TX32 Lajitas Array 8.43 223 Pn 18 48 51.9 -0.8
TXAR Lajitas Array 8.43 223 Pn Pn 18 48 52.7 +0.1
comp=Z,0.2nm,0.3s,baz=68,slow=14,SNR=9.2
TXAR Pg Pb 18 49 12.9 -3.6
comp=Z,1.1nm,0.3s,baz=59,slow=14,SNR=5.4
TXAR Sn Sn 18 50 26.9 -0.9
comp=Z,1.4nm,0.3s,baz=48,slow=15,SNR=1.5
TXAR Lg Lg 18 51 12.7
comp=Z,4.0nm,0.3s,baz=43,slow=21,SNR=8.9
TXAR Lajitas Array 8.43 223 Pn Pn 18 48 52.0 -0.6
SMCO Snowmass 8.54 297 Pn Pn 18 48 52.8 -1.6
L42A Oliver, Polo 8.54 41 Pn Pn 18 48 55.0 +1.0
PHWY Pilot Hill 8.56 313 Pn 18 48 55.5 +1.0
PHWY IAmb_Lg 18 51 29.7
comp=Z,54nm,0.8s
N23A Red Feather La 8.62 309 Pn Pn 18 48 55.8 +0.4
N23A Red Feather La 8.62 309 P Pn 18 48 56.6 +1.3
baz=124
I37A Lemond, Waseca 8.75 18 Pn Pn 18 48 57.6 +0.7
I37A IAmb_Lg 18 51 41.0
comp=Z,45nm,0.8s
JFWS Jewell Farm 8.93 35 Pn Pn 18 48 60.0 +0.7
JFWS IAmb_Lg 18 51 37.6
comp=Z,84nm,0.9s
JFWS Jewell Farm 8.93 35 P Pn 18 49 00.9 +1.5
baz=219
Y49A Blount Mountai 9.02 99 Pn Pn 18 49 01.1 +0.6
MVCO Mesa Verde 9.27 282 Pn Pn 18 49 04.0 -0.2
I40A Norwalk 9.56 30 Pn Pn 18 49 08.2 +0.2
I40A IAmb_Lg 18 52 00.6
comp=Z,66nm,1.1s
PV07 Paradox Valley 9.58 290 Pn Pn 18 49 07.7 -0.8
PV18 Skein Mesa, Pa 9.74 288 Pn Pn 18 49 11.1 +0.5
PV17 East Wray Mesa 9.79 288 Pn Pn 18 49 11.8 +0.5
PV20 West Nyswonger 9.81 289 Pn Pn 18 49 11.1 -0.4
RWWY Rawlins 9.86 310 Pn Pn 18 49 12.8 +0.6
PV05 Paradox Valley 9.86 287 Pn Pn 18 49 11.4 -0.9
PV23 Carpenter Ridg 9.86 289 Pn Pn 18 49 13.3 +0.9
RSSD Black Hills 9.90 330 Pn Pn 18 49 12.4 -0.4
RSSD IAmb_Lg 18 52 19.1
comp=Z,47nm,0.8s
F33A 5 Mile Ranch, 10.11 3 Pn 18 49 15.1 -0.4
PDAR Pinedale Array 11.90 310 Pn Pn 18 49 40.5 +0.2
comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=3.8
PDAR Pg 18 50 31.6
comp=Z,0.2nm,0.3s,baz=128,slow=18,SNR=4.1
PDAR Sn Sn 18 51 47.3 -5.9
comp=Z,0.3nm,0.3s,baz=104,slow=14,SNR=2.3
PDAR Lg Lg 18 52 58.9
comp=Z,1.1nm,0.3s,baz=118,slow=38,SNR=3.6
JSC Jenkinsville 13.10 92 Pn 18 49 57.0 +0.6
ULM Lac du Bonnet 14.53 3 Pn Pn 18 50 10.9 -4.9
comp=Z,0.7nm,0.3s,baz=186,slow=7.9,SNR=3.0
ULM Sn Sn 18 52 45.1 -12
comp=Z,0.3nm,0.3s,baz=243,slow=17,SNR=2.9
ULM Lg Lg 18 54 18.8
comp=Z,0.2nm,0.3s,baz=108,slow=20,SNR=1.4

IDC 26 18:50:08.0±2.5, 6°09S×130°58E, h148km±37km, mb2.9/1, mb1 3.0/5, mb1mx2.7/28, mbtmp3.4/5, Error ellipse: s-maj=73.6km s-min=21.3km az=87.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.23**	**8**	P	Pn	18 51 24.5	+0.1
	0.8nm,0.3s,baz=139,slow=24,SNR=11			S	Sn	18 52 18.7	-5.4
	2.4nm,0.3s,baz=238,slow=23,SNR=21						
FITZ	**Fitzroy Crossi**	**12.88**	**202**	P	Pn	18 53 04.7	-1.1
	0.1nm,0.3s,baz=24,slow=9.2,SNR=6.4			S	Sn	18 55 19.9	-8.3
	0.2nm,0.3s,baz=330,slow=14,SNR=7.6						
WRA	**Warramunga Arr**	**14.25**	**166**	P	Pn	18 53 24.6	+1.4
	0.1nm,0.3s,baz=348,slow=11,SNR=16			S	Sn	18 55 55.4	-5.9
WRA	0.2nm,0.3s,baz=345,slow=24,SNR=2.9						
ASAR	**Alice Springs**	**17.77**	**170**	P	P	18 54 04.8	-0.2
	0.1nm,0.3s,baz=351,slow=9.4,SNR=2.1			S	S	18 57 19.2	-2.9
ASAR	0.0nm,0.3s,baz=318,slow=18,SNR=1.6						
MKAR	**Makanchi Array**	**67.79**	**326**	P	P	19 00 50.0	0.0
	0.1nm,0.3s,baz=120,slow=6.1,SNR=2.3						

*TUL **26** 18:52:44.2±2.3, 35°.73N±0°.01×97°.16W±0°.01, h5km±4km, ML2.9,mb_Lg2.7/6(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=141.0*

NEIC 26 18:52:44.3±1.3, 35°.73N±0°.01×97°.18W±0°.02, h13km±2km, Error ellipse: s-maj=2.4km s-min=0.9km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.08**	**189**	Pg	Pg	18 52 46.2	-0.8
OK005				Sg	Sg	18 52 47.8	-1.2
ADOK	**Arcadia Dam**	**0.18**	**243**	Pg	Pg	18 52 48.2	-0.2
ADOK				Sg	Sg	18 52 51.3	+0.1
FNO	**Franklin**	**0.51**	**201**		Pg	18 52 54.0	-0.2
FNO				Sg	Sg	18 53 01.5	+0.4
TUL1	**Leonard**	**1.14**	**81**	Pg	Pb	18 53 04.7	-1.1
TUL1				Sg	Sb	18 53 20.0	-0.5
X34A	**Smith Ranch, M**	**1.25**	**206**		Pb	18 53 07.9	+0.1
X34A					Sg	18 53 25.8	+1.2
T35A	**Sooner Cattle**	**1.30**	**24**	Pn	Pn	18 53 08.0	-0.1
T35A				Sn	Sn	18 53 25.6	+0.3
U32A	**Winter Ranch,**	**1.61**	**294**	Pn	Pn	18 53 10.9	-1.5
WMOK	**Wichita Mounta**	**1.65**	**233**	Pn	Pn	18 53 11.9	-1.0
MIAR	**Mount Ida**	**3.18**	**111**	Pn	Pn	18 53 32.0	-2.0
U40A	**Yellville**	**3.56**	**79**	Pn	Pn	18 53 37.5	-1.7
S39A	**Bolivar**	**3.66**	**57**	Pn	Pn	18 53 40.3	-0.4
MGMO	**Mountain Grove**	**4.20**	**69**	Pn	Pn	18 53 50.2	+2.1
R40A	**Maddies Statio**	**4.68**	**56**	Pn	Pn	18 53 54.1	-0.6
SIUC	**Southern Illin**	**6.69**	**70**	IAmb_Lg		18 56 13.7	
	comp=Z,34nm,0.9s						

*BJI **26** 19:02:45.9±0.0, 24°.09N×126°.40E, h14km, mb4.5/67, mB4.6/47, Ms4.5/63, Ms7 4.3/60*

*MOS **26** 19:02:47.6±0.9, 24°.20N×126°.23E, h15km, mb5.0/33, MS4.0/9, Error ellipse: s-maj=7.4km s-min=4.2km az=122.7*

*IDC **26** 19:02:47.2±0.6, 24°.15N×126°.28E, h0km, mb4.4/21, mb1 4.5/24, mb1mx4.4/33, mbtmp4.4/24, ML3.7/3, MS3.6/38, Ms1 3.6/38, ms1mx3.4/91, Error ellipse: s-maj=18.3km s-min=13.6km az=89.0*

*NEIC **26** 19:02:48.7±1.5, 24°.12N±0°.06×126°.20E±0°.04, h14km±3km, mb4.8/124, Error ellipse: s-maj=9.4km s-min=5.2km az=197.0*

*JMA **26** 19:02:50.5±0.1, 24°.24N×126°.22E, h85km±3km, M4.6*

*NIED **26** 19:02:50.5, 24°.24N×126°.22E, h85km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr=5.25; Mθθ=4.20; Mφφ=1.05; Mrθ=1.72; Mθφ=-4.28; Mφr=1.85; Fault plane solution: M0=6.73000×10^15 NP1: φs=244.00000°, δs=35.00000°, λ=103.00000°. NP2: φs=48.00000°, δs=56.00000°, λ=81.00000°.*

ISC 26 19:02:49.3±0.8, 24°.08N±0°.04×126°.28E±0°.03, h20km±3km, n429, σ1§62/438, mb4.8/134, MS3.8/54, 30C-11D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.05**	**311**	P	Pn	19 03 08.9	0.0
JOGS				S	Sb	19 03 22.5	+0.3
JMJ2	**Miyako jima3**	**1.09**	**307**	P	Pb	19 03 09.4	-0.2
JMJ2				S	Sb	19 03 23.7	+0.2
JMJ	**Miyako jima 2**	**1.17**	**309**	P	Pn	19 03 09.7	-0.8
JIRB	**Irabujima**	**1.26**	**307**	P	Pn	19 03 11.4	-0.4
JIKM	**Ikemajima**	**1.27**	**312**	P	Pn	19 03 11.6	-0.3
JIKM				S	Sb	19 03 26.8	-1.6
JTJ	**Tarama**	**1.55**	**292**	P	Pn	19 03 15.6	-0.2
JTJ				S	Sn	19 03 33.9	-1.4
JISG	**Ishigakijimahi**	**1.87**	**286**	P	Pn	19 03 19.8	-0.4
JISG				S	Sn	19 03 41.7	-1.5
JIJ	**Ishigaki jima**	**1.98**	**279**	P	Pn	19 03 21.3	-0.4
JIJ				S	Sn	19 03 45.6	-0.3
JKRS	**Kuro-shima**	**2.08**	**275**	P	Pn	19 03 23.3	+0.2
JKRS				S	Sn	19 03 48.0	-0.5
HATJ	**Hateruma jima**	**2.27**	**270**	P	Pn	19 03 25.6	0.0
JKE	**Kume jima 2**	**2.29**	**11**	P	Pn	19 03 24.8	-1.1
JKE				S	Sn	19 03 50.8	-2.7
IRIF	**Iriomote-Funau**	**2.35**	**277**	P	Pn	19 03 26.6	-0.1
JJT3	**Tamagusuku3**	**2.47**	**33**	P	Pn	19 03 28.0	-0.4
JAGN	**Aguni-jima**	**2.65**	**19**	P	Pn	19 03 30.4	-0.5
JNTH	**Nagotoyohara**	**2.90**	**33**	P	Pn	19 03 33.7	-0.6
YOJ	**Yonaguni jima**	**3.01**	**278**	P	Pn	19 03 36.0	+0.1
YOJ	**Yonaguni jima**	**3.01**	**278**	P	Pn	19 03 34.6	-1.3
YOJ	**Yonaguni jima**	**3.01**	**278**		Pn	19 03 34.6	-1.3
YOJ	**Yonaguni jima**	**3.01**	**278**	P	Pn	19 03 35.8	-0.1
JYNG	**Yonagunijimaku**	**3.07**	**278**	P	Pn	19 03 36.9	+0.2
JOW	**Kunigami**	**3.28**	**33**	Pn	Pn	19 03 39.6	0.0
	18nm,0.3s,baz=174,slow=28,SNR=45						
JOW				Sn	Sn	19 04 15.7	-2.4
	25nm,0.3s,baz=270,slow=27,SNR=8.3						
JOW	**Kunigami**	**3.28**	**33**	P	Pn	19 03 39.6	0.0
JOW	**Kunigami**	**3.28**	**33**	Pn	Pn	19 03 38.9	-0.7
JOW	**Kunigami**	**3.28**	**33**	P	Pn	19 03 39.6	0.0
JIH	**Iheya**	**3.32**	**27**	P	Pn	19 03 39.4	-0.7
JYRO	**Yoronjima**	**3.53**	**33**	P	Pn	19 03 42.3	-0.7
JOKE	**Okinoerabujima**	**3.87**	**32**	P	Pn	19 03 47.2	-0.5
NACB	**Ninganchiao**	**4.29**	**272**		Pn	19 03 52.0	-1.4
NACB					Sn	19 04 38.8	-4.1
TATO	**Taipei**	**4.46**	**283**		Pn	19 03 54.9	-0.9
YHNB	**Yeheng**	**4.51**	**279**		Pn	19 03 55.7	-1.0
YHNB	**Yeheng**	**4.51**	**279**	P	Pn	19 03 57.4	+0.7
YULB	**Yu-li**	**4.62**	**263**		Pn	19 03 56.1	-2.0
YULB					Sn	19 04 45.8	-5.3
JMZ	**Minamidaito 2**	**4.80**	**68**	P	Pn	19 03 57.9	-2.7
JMZ				S	Sn	19 04 47.9	-7.8
JMZ	**Minamidaito 2**	**4.80**	**68**	Pn	Pn	19 04 01.2	+0.6
SSLB	**Suanglung**	**4.89**	**268**		Pn	19 04 00.3	-1.4
SSLB					Sn	19 04 54.5	-3.2
SSLB	**Suanglung**	**4.89**	**268**	P	Pn	19 04 00.9	-0.8
JKDJ	**Kitadaitoujima**	**4.92**	**67**	P	Pn	19 03 59.5	-2.6
JKDJ				S	Sn	19 04 51.7	-6.7
TWG	**Pinlang**	**4.95**	**256**		Pn	19 04 00.5	-2.1
TWG					Sn	19 04 54.9	-4.3
TPUB	**Ta-pu**	**5.24**	**263**		Pn	19 04 06.2	-0.4
TPUB					Sn	19 05 04.5	-2.0
TPUB	**Ta-pu**	**5.24**	**263**	P	Pn	19 04 07.0	+0.4
QZH	**Quanzhou**	**7.06**	**279**	i/Pn	Pn	19 04 30.3	-1.2
QZH					Sn	19 05 50.0	-1.2
QZH					LR		
	comp=N,1μm,11.4s						
QZH					LR		
	comp=E,610nm,9.5s						
QZH					LR		
	comp=Z,1μm,10.0s						
KNMB	**Chin-men Tao**	**7.22**	**275**	Pn	Pn	19 04 32.7	-1.0
APYP	**Conner**	**7.77**	**218**	i/eP	Pn	19 04 36.1	-5.3
APYP				eS	Sn	19 06 04.7	-4.1
JSU	**Suzuyama**	**8.27**	**26**	Pn	Pn	19 04 48.2	0.0
JNU	**Nakatsue**	**9.87**	**23**	Pn	Pn	19 05 09.7	-0.5
	0.9nm,0.3s,baz=161,slow=3.8,SNR=3.1						
JNU	**Nakatsue**	**9.87**	**23**	Pn	Pn	19 05 09.1	-1.1
NJ2	**Nanjing**	**10.30**	**322**	eP	Pn	19 05 15.0	-1.0
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NJ2				LR	LR		
	comp=N,1μm,11.8s						
NJ2				LR	LR		
	comp=E,1μm,12.0s						
NJ2				LR	LR		
	comp=Z,2μm,11.8s						
LQP	**Lukban**	**10.88**	**205**	i/eP	Pn	19 05 26.4	+2.2
WHN	**Wuhan**	**12.41**	**304**	i/P	Pn	19 05 46.0	+1.1
WHN				S	Sn	19 08 05.5	+2.9
WHN				pmax	pmax		
	comp=Z,24nm,0.8s						
WHN				LR	LR		
	comp=N,2μm,11.1s						
WHN				LR	LR		
	comp=E,2μm,9.3s						
WHN				LR	LR		
	comp=Z,3μm,10.0s						
KSRS	**Korea Array**	**13.41**	**6**	Pn	Pn	19 05 58.1	-0.3
	0.1nm,0.3s,baz=181,slow=14,SNR=10						
TIA	**Tai'an**	**14.45**	**329**	P	P	19 06 19.5	+0.1
TIA				S	S	19 09 33.0	+21
TIA				pmax	pmax		
	comp=Z,15nm,0.7s						
TIA				pmax	pmax		
	comp=Z,46nm,1.3s						
TIA				LR	LR		
	comp=N,810nm,10.7s						
TIA				LR	LR		
	comp=E,1μm,12.1s						
TIA				LR	LR		
	comp=Z,2μm,12.1s						
GULI	**GuiLin**	**14.52**	**278**	P	P	19 06 19.0	-1.3
GULI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GULI				LR	LR		
	comp=Z,630nm,17.6s						
GULI				LR	LR		
	comp=Z,740nm,10.8s						
GULI				LR	LR		
	comp=Z,960nm,12.5s						
JCJ	**Chichijima**	**14.66**	**75**	LR	LR	19 11 04.4	
	comp=Z,126nm,19.4s,baz=169,slow=34						
JGF	**Kuroka**	**14.96**	**37**	P	Pn	19 06 20.6	+0.9
DL2	**Dalian**	**15.31**	**346**	P	P	19 06 29.3	+0.4
DL2				S	S	19 09 25.0	-4.4
DL2				pmax	pmax		
	comp=Z,63nm,0.8s						
DL2				pmax	pmax		
	comp=Z,140nm,11.7s						
DL2				LR	LR		
	comp=N,850nm,10.4s						
DL2				LR	LR		
	comp=E,400nm,14.2s						
DL2				LR	LR		
	comp=Z,930nm,12.5s						
LYN	**LuoYang**	**15.93**	**314**	i/P	P	19 06 36.3	+0.5
LYN				pP	pwP	19 06 43.3	+0.2
LYN				pmax	pmax		
	comp=Z,60nm,0.9s						
LYN				pmax	pmax		
	comp=Z,220nm,3.7s						
LYN				LR	LR		
	comp=Z,2μm,14.5s						
LYN				LR	LR		
	comp=Z,1μm,12.5s						
LYN				LR	LR		
	comp=Z,2μm,12.9s						
QIZ	**Qiongzhong**	**16.09**	**255**	P	Pn	19 06 33.0	-1.6
QIZ				S	Sn	19 09 31.5	-1.1
QIZ				LR	LR		
	comp=Z,330nm,13.2s						
QIZ				LR	LR		
	comp=Z,400nm,12.4s						
QIZ				LR	LR		
	comp=Z,500nm,15.2s						
MAJO	**Matsushiro**	**16.12**	**37**	i P	Pn	19 06 34.8	0.0
MAJO	**Matsushiro**	**16.12**	**37**	P	Pn	19 06 35.0	+0.2
MJAR	**Matsushiro Arr**	**16.12**	**37**	Pn	P	19 06 39.9	+1.9
	comp=Z,0.1nm,0.3s,baz=221,slow=9.0,SNR=16						
MJAR	**Matsushiro Arr**	**16.12**	**37**	P	Pn	19 06 32.9	-1.9
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MJAR	**Matsushiro Arr**	**16.12**	**37**	P	Pn	19 06 32.9	-1.9
MJB9	**Matsu-Tunnel**	**16.12**	**37**	P	Pn	19 06 33.9	-0.9
ENH	**Enshi**	**16.16**	**296**	P	Pn	19 06 35.1	-0.3
HNS	**HongShan**	**16.58**	**326**	↓P	P	19 06 43.0	0.0
HNS				eS	Sn	19 09 48.5	+4.5
HNS				pmax	pmax		
	comp=Z,24nm,1.1s						
HNS				pmax	pmax		
	comp=Z,280nm,11.5s						
HNS				LR	LR		
	comp=Z,960nm,12.8s						
HNS				LR	LR		
	comp=Z,860nm,12.4s						
HNS				LR	LR		
	comp=Z,1μm,12.6s						
DAV	**Davao City (W)**	**16.92**	**182**	LR	LR	19 12 53.1	
	comp=Z,131nm,21.3s,baz=358,slow=36						
SNY	**Shenyang**	**17.85**	**353**	↑P	Pn	19 06 56.0	-0.4
SNY				S	Sn	19 10 05.8	-9.0
SNY				pmax	pmax		

	comp=Z,21nm,0.9s								
SNY					pmax	pmax			
	comp=Z,170nm,3.5s								
SNY					LR	LR			
	comp=Z,850nm,10.4s								
SNY					LR	LR			
	comp=Z,430nm,12.0s								
SNY					LR	LR			
	comp=Z,1µm,11.0s								
GYA	**Guiyang**	**17.91**	**282**	⇑P		**Pn**	**19 06 57.0**	**-0.4**	
GYA					pmax	pmax			
	comp=Z,170nm,6.0s								
GYA					LR	LR			
	comp=Z,560nm,11.4s								
GYA					LR	LR			
	comp=Z,760nm,11.0s								
GYA					LR	LR			
	comp=Z,1µm,11.4s								
BJT	**Baijiatuau**	**18.04**	**334**	P		**Pn**	**19 06 58.1**	**-0.7**	
BJT					pmax	pmax			
	comp=Z,11nm,0.7s								
BJT	**Baijiatuau**	**18.04**	**334**	P		**Pn**	**19 06 58.1**	**-0.7**	
BJI	**Beijing**	**18.05**	**334**	P		**Pn**	**19 06 58.3**	**-0.7**	
BJI				S		**Sn**	**19 10 21.8**	**+2.0**	
BJI					pmax	pmax			
	comp=Z,4.0nm,0.4s								
BJI					pmax	pmax			
	comp=Z,140nm,3.9s								
BJI					LR	LR			
	comp=Z,910nm,9.9s								
BJI					LR	LR			
	comp=Z,850nm,11.0s								
BJI					LR	LR			
	comp=Z,880nm,13.6s								
XAN	**Xi'an**	**18.11**	**307**	P		**P**	**19 07 00.0**	**-0.1**	
XAN				pP		pP	19 07 04.0	-1.2	
XAN				sP		pwP	19 07 07.3	-0.4	
XAN					pmax	pmax			
	comp=Z,19nm,1.0s								
XAN					pmax	pmax			
	comp=Z,170nm,5.7s								
XAN					LR	LR			
	comp=Z,680nm,13.0s								
XAN					LR	LR			
	comp=Z,1µm,12.7s								
XAN					LR	LR			
	comp=Z,2µm,12.7s								
JMM	**Marumori**	**18.51**	**39**	P		**P**	**19 07 04.0**	**-0.4**	
CN2	**Changchun**	**19.69**	**358**	*e*P		**P**	**19 07 16.8**	**-0.4**	
CN2					pmax	pmax			
	comp=Z,10.0nm,0.7s								
CN2					LR	LR			
	comp=Z,500nm,10.0s								
CN2					LR	LR			
	comp=Z,300nm,10.0s								
CN2					LR	LR			
	comp=Z,500nm,14.0s								
MYLDM	**Lahad Datu**	**20.23**	**203**	P		**P**	**19 07 21.8**	**-1.5**	
GUMO	**Guam**	**20.43**	**117**	LR		LR	19 15 08.1		
	comp=Z,107nm,18.8s,baz=297,slow=36								
USRK	**Ussuriysk Ar.**	**20.61**	**12**	P		Pn	19 07 30.0	+0.4	
	comp=Z,9.4nm,0.8s,baz=195,slow=8.4,SNR=14								
USRK	**Ussuriysk Ar.**	**20.61**	**12**	P		**P**	**19 07 23.3**	**-4.0**	
USRK	**Ussuriysk Ar.**	**20.61**	**12**	P		**P**	**19 07 23.3**	**-4.0**	
HHC	**Hu-ho-hao-te**	**20.78**	**327**	*e*P		**P**	**19 07 29.5**	**+0.2**	
HHC				sP		pwP	19 07 39.8	+3.1	
HHC				S		**S**	**19 11 11.8**	**-8.6**	
HHC				SS		**SnSn**	**19 11 46.0**	**+5.2**	
HHC					pmax	pmax			
	comp=Z,45nm,1.0s								
HHC					pmax	pmax			
	comp=Z,210nm,6.5s								
HHC					LR	LR			
	comp=Z,610nm,10.4s								
HHC					LR	LR			
	comp=Z,620nm,11.4s								
HHC					LR	LR			
	comp=Z,920nm,10.5s								
CD2	**Chengdu**	**21.09**	**294**	P		**P**	**19 07 32.5**	**-0.1**	
CD2				S		**S**	**19 11 28.0**	**+1.4**	
CD2					pmax	pmax			
	comp=Z,80nm,0.6s								
CD2					pmax	pmax			
	comp=Z,210nm,7.9s								
CD2					LR	LR			
	comp=Z,930nm,11.8s								
CD2					LR	LR			
	comp=Z,1µm,12.4s								
KMI	**Kunming**	**21.43**	**278**	⇑P		**P**	**19 07 39.0**	**+2.5**	
KMI				sP		pwP	19 07 44.3	+0.4	
KMI				PP		**PnPn**	**19 07 59.5**	**+2.8**	
KMI				S		**S**	**19 11 28.0**	**-5.7**	
KMI					pmax	pmax			
	comp=Z,43nm,0.9s								
KMI					pmax	pmax			
	comp=Z,170nm,4.1s								
KMI					LR	LR			
	comp=Z,430nm,15.4s								
KMI					LR	LR			
	comp=Z,450nm,15.8s								
KMI					LR	LR			
	comp=Z,420nm,13.1s								
UBPT	**Khong Chiam**	**21.44**	**250**	P		**P**	**19 07 35.2**	**-1.2**	
XLT	**XiLinHaoTe**	**21.48**	**340**	⇑*i*P		**P**	**19 07 36.3**	**-0.4**	
XLT				pP		pP	19 07 41.5	-0.4	
XLT				sP		pwP	19 07 44.8	+0.7	
XLT				S		**S**	**19 11 36.0**	**+1.9**	
XLT				sS		Sn	19 11 39.0	-3.4	
XLT				SS		**SnSn**	**19 12 04.0**	**+6.3**	
XLT					pmax	pmax			
	comp=Z,19nm,1.2s								
XLT					pmax	pmax			
	comp=Z,93nm,3.6s								
XLT					LR	LR			
	comp=Z,670nm,12.9s								
XLT					LR	LR			
	comp=Z,540nm,12.4s								
PZH	**PanZhiHua**	**22.31**	**281**	P		**P**	**19 07 47.0**	**+1.1**	
PZH					pmax	pmax			
	comp=Z,30nm,0.9s								
PZH					pmax	pmax			
	comp=Z,130nm,6.5s								
PZH					LR	LR			
	comp=Z,1µm,16.1s								
PZH					LR	LR			
	comp=Z,1µm,16.0s								
PZH					LR	LR			
	comp=Z,1µm,13.7s								
ERM	**Erimo**	**22.73**	**34**	P		**P**	**19 07 48.9**	**-1.1**	
ERM					pmax	pmax			
	comp=Z,124nm,1.6s								
ERM	**Erimo**	**22.73**	**34**	P		**P**	**19 07 48.9**	**-1.1**	
LZH	**Lanzhou**	**22.75**	**307**	*e*P		**P**	**19 07 48.5**	**-2.0**	
LZH				pP		pP	19 07 54.5	-1.2	
LZH				sP		pwP	19 07 58.5	+0.3	
LZH					pmax	pmax			
	comp=Z,23nm,1.5s								
LZH					pmax	pmax			
	comp=Z,88nm,4.3s								
LZH					LR	LR			
	comp=Z,420nm,14.1s								
LZH					LR	LR			
	comp=Z,740nm,13.6s								
LZH					LR	LR			
	comp=Z,1µm,14.6s								
TOLI2	**Tolitoli**	**23.44**	**194**	P		**P**	**19 07 55.9**	**-1.6**	
ASAJ	**Asahikawa**	**24.04**	**30**	P		**P**	**19 08 03.4**	**+0.3**	
	comp=Z,5.9nm,0.7s,baz=232,slow=10,SNR=3.2								
ASAJ	**Asahikawa**	**24.04**	**30**	P		**P**	**19 08 02.2**	**-0.8**	
ASAJ					pmax	pmax			
	comp=Z,14nm,0.9s								
JKA	**Kamikawa-asahi**	**24.04**	**30**	P		**P**	**19 08 02.2**	**-0.8**	
MPSI	**Mapaga**	**24.40**	**196**	P		**P**	**19 08 08.0**	**+1.5**	
	comp=Z,7.0nm,1.3s								
LBMI	**Labuha**	**24.59**	**177**	P		**P**	**19 08 09.4**	**+1.1**	
	comp=Z,16nm,1.1s								
SWI	**Sorong**	**25.26**	**168**	P		**P**	**19 08 16.4**	**+2.1**	
	comp=Z,11nm,1.0s								
SIJI	**Sorong**	**25.26**	**168**	P		**P**	**19 08 15.4**	**+1.0**	
	comp=Z,4.9nm,0.8s,baz=346,slow=6.7,SNR=4.5								
SIJI					LR	LR	19 16 30.5		
	comp=Z,131nm,20.8s,baz=5.0,slow=32								
SBUM	**Sibu**	**25.44**	**214**	P		**P**	**19 08 13.1**	**-2.9**	
KLR	**Kul'dur**	**25.47**	**8**	P		**P**	**19 08 15.8**	**-0.2**	
	comp=Z,13nm,0.8s,baz=217,slow=6.0,SNR=53								
KLR	**Kul'dur**	**25.47**	**8**	*ce*P		**P**	**19 08 15.5**	**-0.5**	
KLR					pmax	pmax			
	comp=Z,13nm,0.8s								
HIA	**Hailar**	**25.66**	**350**	P		**P**	**19 08 14.9**	**-2.9**	
HIA					pmax	pmax			
	comp=Z,5.0nm,0.7s								
HIA	**Hailar**	**25.66**	**350**	P		**P**	**19 08 14.9**	**-2.9**	
CHTO	**Chiang Mai**	**25.96**	**264**	P		**P**	**19 08 18.1**	**-2.6**	
CHTO					pmax	pmax			
	comp=Z,7.0nm,0.8s								
CHTO	**Chiang Mai**	**25.96**	**264**	P		**P**	**19 08 18.1**	**-2.6**	
SANI	**Sanana**	**25.97**	**181**	P		**P**	**19 08 21.8**	**+1.0**	
	comp=Z,20nm,0.8s								
CM31	**Chiang Mai Arr**	**26.06**	**263**	P		**P**	**19 08 19.9**	**-1.8**	
CMAR	**Chiang Mai Arr**	**26.06**	**263**	P		**P**	**19 08 22.6**	**+1.0**	
	comp=Z,3.4nm,0.8s,baz=62,slow=8.4,SNR=26								
CMAR					LR	LR	19 20 05.0		
	comp=Z,209nm,18.6s,baz=80,slow=40								
CMAR	**Chiang Mai Arr**	**26.06**	**263**	*ce*P		**P**	**19 08 23.5**	**+1.8**	
CMAR					pmax	pmax			
	comp=Z,4.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**26.06**	**263**	P		**P**	**19 08 20.5**	**-1.2**	
YSS	**Yuzh-Sakhalins**	**26.37**	**26**	*e*P		**P**	**19 08 25.7**	**+1.6**	
YSS				*e*S		**S**	**19 12 56.4**	**+0.2**	
YSS					pmax	pmax			
	comp=Z,200nm,4.1s								
YSS					pmax	pmax			
	comp=Z,50nm,0.9s								
YSS					MLR	MLR			
	comp=Z,300nm,13.0s								
YSS	**Yuzh-Sakhalins**	**26.37**	**26**	P		**P**	**19 08 23.3**	**-0.8**	
GTA	**Gaotai**	**27.08**	**311**	⇓P		**P**	**19 08 30.5**	**-0.3**	
GTA				pP		pP	19 08 35.3	-1.0	
GTA				sP		pwP	19 08 38.8	+0.1	
GTA				S		**S**	**19 13 10.8**	**+2.8**	
GTA					pmax	pmax			
	comp=Z,14nm,0.9s								
GTA					pmax	pmax			
	comp=Z,68nm,5.8s								
GTA					LR	LR			
	comp=Z,340nm,14.2s								
GTA					LR	LR			
	comp=Z,710nm,13.1s								
GTA					LR	LR			
	comp=Z,640nm,13.1s								
MTKI	**Muara Teweh, K**	**27.22**	**206**	P		**P**	**19 08 34.3**	**+2.3**	
	comp=Z,2µmcomp=Z,9.4nm,0.8s								
GRNR	**Gornyy**	**27.78**	**14**	*e*P		**P**	**19 08 38.0**	**+1.2**	
GRNR					MLR	MLR			
	comp=E,100nm,14.0s								
GRNR					MLR	MLR			
	comp=N,130nm,16.0s								
GRNR					MLR	MLR			
	comp=Z,220nm,15.0s								
ULN	**Ulaanbaatar**	**28.23**	**332**	*ce*P		**P**	**19 08 39.3**	**-1.8**	
ULN					pmax	pmax			
	comp=Z,18nm,1.7s								
ULN	**Ulaanbaatar**	**28.23**	**332**	P		**P**	**19 08 39.6**	**-1.5**	
ULN					IAmb	IAmb	19 08 42.4		
	comp=Z,7.6nm,0.7s								
SONM	**Songino Array**	**28.50**	**331**	P		**P**	**19 08 42.8**	**-0.5**	
	comp=Z,4.6nm,0.6s,baz=149,slow=9.7,SNR=30								
SONM					LR	LR	19 19 37.3		
	comp=Z,87nm,20.3s,baz=122,slow=36								
SONM	**Songino Array**	**28.50**	**331**	P		**P**	**19 08 42.4**	**-1.0**	
SONM					pmax	pmax			
	comp=Z,3.0nm,0.7s								
SONM	**Songino Array**	**28.50**	**331**	P		**P**	**19 08 42.4**	**-1.0**	
SPSI	**Sidrap Palu**	**28.58**	**194**	P		**P**	**19 08 43.0**	**-1.2**	
	comp=Z,8.2nm,0.7s								
TYV	**Tymovskoe**	**29.59**	**21**	*e*P		P	19 09 01.1	+8.2	
TYV					pmax	pmax			
	comp=Z,18nm,0.8s								
TYV					pmax	pmax			
	comp=Z,400nm,6.6s								
KAPI	**Kappang**	**29.61**	**193**	LR		LR	19 20 37.7		
	comp=Z,90nm,20.4s,baz=176,slow=36								
ZEA	**Zeya**	**29.63**	**1**	*e*P		**P**	**19 08 54.8**	**+1.6**	
ZEA					MLR	MLR			
	comp=E,200nm,14.0s								
ZEA					MLR	MLR			
	comp=N,200nm,11.0s								
ZEA					MLR	MLR			
	comp=Z,200nm,12.0s								
GOMU	**GeErMu**	**29.65**	**301**	P		**P**	**19 08 53.0**	**-1.0**	
GOMU					pmax	pmax			
	comp=Z,4.0nm,0.9s								
SRIT	**Nakonsritamara**	**29.79**	**243**	P		**P**	**19 08 54.3**	**-0.7**	
IPM	**Ipoh**	**31.17**	**235**	P		**P**	**19 09 06.6**	**-0.6**	
IPM					IAmb	IAmb	19 09 09.6		
	comp=Z,16nm,0.9s								
SHL	**Shillong**	**31.21**	**280**	P		**P**	**19 09 06.8**	**-0.9**	
SHL					pmax	pmax			
	comp=Z,15nm,0.7s								
SHL	**Shillong**	**31.21**	**280**	P		**P**	**19 09 06.8**	**-0.9**	
SHL					IAmb	IAmb	19 09 09.6		
	comp=Z,16nm,0.7s								
LSA	**Lhasa**	**31.75**	**288**	P		**P**	**19 09 11.8**	**-1.0**	
LSA					pmax	pmax			
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**31.75**	**288**	P		**P**	**19 09 11.8**	**-1.0**	
LSA					IAmb	IAmb	19 09 24.5		
	comp=Z,5.9nm,0.6s								
MOY	**Mondy**	**33.69**	**331**	*e*P		**P**	**19 09 28.1**	**-1.0**	
MOY					pmax	pmax			
	comp=Z,12nm,1.0s								
TAPN	**Taplejung**	**34.82**	**284**	*e*P		**P**	**19 09 41.0**	**+1.6**	
	comp=Z,24nm,0.7s								
ODAN	**Odare**	**35.13**	**283**	*e*P		**P**	**19 09 42.4**	**+0.4**	
	comp=Z,36nm,0.7s								
RAMN	**Ramite**	**35.83**	**283**	*e*P		**P**	**19 09 49.1**	**+1.1**	
JIRN	**Jiri**	**36.15**	**284**	*e*P		**P**	**19 09 52.4**	**+1.5**	
GUN	**Gumba**	**36.41**	**285**	*e*P		**P**	**19 09 54.4**	**+1.3**	
	comp=Z,25nm,0.8s								
PKI	**Pulchoki**	**36.84**	**284**	*e*P		**P**	**19 09 57.5**	**+0.7**	
	comp=Z,18nm,0.8s								
PKIN	**Phulchoki**	**36.85**	**284**	*e*P		**P**	**19 09 57.5**	**+0.7**	
	comp=Z,14nm,0.8s								
KKN	**Kakani**	**36.94**	**285**	*e*P		**P**	**19 09 58.6**	**+1.1**	
	comp=Z,18nm,0.7s								
MTN	**Manton Dam**	**37.00**	**172**	P		**P**	**19 09 57.2**	**-0.5**	
MTN					IAmb	IAmb	19 09 58.7		
	comp=Z,23nm,1.1s								
DMN	**Daman**	**37.11**	**284**	*e*P		**P**	**19 09 59.9**	**+0.9**	
	comp=Z,22nm,0.8s								
WMQ	**Urumqi**	**37.15**	**312**	*e*P		**P**	**19 10 00.3**	**+1.4**	
WMQ					LR	LR			
	comp=Z,520nm,11.5s								
WMQ					LR	LR			
	comp=Z,280nm,12.3s								
WMQ					LR	LR			
	comp=Z,160nm,15.1s								
PETK	**Petropavlovsk-**	**37.45**	**31**	P		**P**	**19 10 02.5**	**+1.3**	
	comp=Z,1.9nm,0.8s,baz=193,slow=4.6,SNR=4.0								
PETK					LR	LR	19 27 14.2		
	comp=Z,84nm,19.8s,baz=229,slow=39								
PETK	**Petropavlovsk-**	**37.45**	**31**	P		**P**	**19 10 00.0**	**-1.2**	
PETK	**Petropavlovsk-**	**37.45**	**31**	P		**P**	**19 09 60.0**	**-1.2**	
GKN	**Gorkha**	**37.50**	**285**	*e*P		**P**	**19 10 03.0**	**+0.9**	
	comp=Z,16nm,0.7s								
KRVT	**Keravat (AS076**	**37.74**	**135**	LR		LR	19 24 38.6		
	comp=Z,58nm,20.8s,baz=78,slow=35								
H11N1	**WAKE ISLAND Hy**	**37.84**	**88**	T		T	19 50 19.6		
	baz=283,slow=74,SNR=6.5								
H11N2	**WAKE ISLAND Hy**	**37.84**	**88**	T		T	19 50 21.0		
	baz=283,slow=74,SNR=5.1								
PET	**Petropavlovsk**	**37.85**	**32**	*e*P		P	19 10 09.0	+4.5	
PET				*e*S		**S**	**19 15 57.8**	**+3.2**	
PET					pmax	pmax			
	comp=Z,25nm,1.1s								
PET					MLR	MLR			
	comp=Z,200nm,18.0s								
H11N3	**WAKE ISLAND Hy**	**37.85**	**88**	T		T	19 50 21.9		
	baz=283,slow=74,SNR=6.5								
YAK	**Yakutsk**	**38.01**	**3**	LR		LR	19 26 43.7		
	comp=Z,103nm,20.5s,baz=90,slow=38								
YAK	**Yakutsk**	**38.01**	**3**	*e*P		**P**	**19 10 04.2**	**-1.6**	
YAK					pmax	pmax			
	comp=Z,27nm,0.8s								
YAK					pmax	pmax			
	comp=N,11nm,1.2s								
YAK					pmax	pmax			
	comp=E,3.0nm,0.9s								
YAK					MLR	MLR			
	comp=Z,106nm,11.0s								
YAK					MLR	MLR			
	comp=E,102nm,13.0s								
YAK	**Yakutsk**	**38.01**	**3**	P		**P**	**19 10 04.0**	**-1.7**	
YAK					IAmb	IAmb	19 10 07.2		
	comp=Z,30nm,0.9s								
DANN	**Dangsing**	**38.25**	**286**	*e*P		**P**	**19 10 09.9**	**+1.3**	
KOLN	**Koldanda**	**38.43**	**285**	*e*P		**P**	**19 10 11.1**	**+1.0**	
	comp=Z,29nm,0.8s								
PYUN	**Piuthan**	**38.94**	**285**	*e*P		**P**	**19 10 15.8**	**+1.4**	
	comp=Z,43nm,0.9s								
PMG	**Port Moresby**	**39.03**	**146**	LR		LR	19 25 18.7		
	comp=Z,44nm,20.0s,baz=310,slow=35								
MA2	**Magadan**	**39.42**	**19**	LR		LR	19 27 04.4		
	comp=Z,108nm,18.0s,baz=221,slow=37								
MA2	**Magadan**	**39.42**	**19**	*ce*P		**P**	**19 10 18.1**	**+0.5**	
MA2					pmax	pmax			
	comp=Z,6.0nm,0.7s								
MA2	**Magadan**	**39.42**	**19**	P		**P**	**19 10 16.7**	**-0.9**	
KNRA	**Kununurra**	**39.58**	**176**	P		**P**	**19 10 19.1**	**-0.3**	
COEN	**Coen**	**41.25**	**155**	P		**P**	**19 10 33.8**	**+0.6**	
COEN					IAmb	IAmb	19 10 35.6		
	comp=Z,15nm,0.9s								
MK31	**Makanchi Array**	**41.71**	**314**	P		**P**	**19 10 36.3**	**-0.5**	
MK31					pmax	pmax			
	comp=Z,5.0nm,0.8s								
MK31	**Makanchi Array**	**41.71**	**314**	P		**P**	**19 10 36.3**	**-0.5**	
MKAR	**Makanchi Array**	**41.71**	**314**	P		**P**	**19 10 36.9**	**+0.1**	
	comp=Z,6.4nm,0.7s,baz=96,slow=10,SNR=68								
MKAR					LR	LR	19 27 42.6		
	comp=Z,75nm,18.2s,baz=106,slow=36								
MKAR	**Makanchi Array**	**41.71**	**314**	P		**P**	**19 10 36.3**	**-0.6**	
MAKZ	**Makanchi**	**41.92**	**314**	P		**P**	**19 10 38.3**	**-0.3**	
MAKZ					pmax	pmax			
	comp=Z,10.0nm,0.8s								
MAKZ	**Makanchi**	**41.92**	**314**	P		**P**	**19 10 38.3**	**-0.3**	
MAKZ					IAmb	IAmb	19 10 40.8		
	comp=Z,10.0nm,0.8s								
FITZ	**Fitzroy Crossi**	**41.92**	**181**	P		**P**	**19 10 37.8**	**-0.9**	
KWAJ	**Kwajalein Atol**	**42.26**	**104**	P		**P**	**19 10 39.9**	**-1.8**	
KWAJ	**Kwajalein Atol**	**42.26**	**104**	P		**P**	**19 10 39.9**	**-1.8**	
SEY	**Seymchan**	**42.59**	**17**	LR		LR	19 29 44.0		
	comp=Z,110nm,19.3s,baz=274,slow=38								
SEY	**Seymchan**	**42.59**	**17**	*ce*P		**P**	**19 10 45.1**	**+1.4**	
SEY					pmax	pmax			
	comp=Z,4.0nm,0.7s								
SHLS	**Shalkode**	**42.77**	**308**	*e*P		**P**	**19 10 42.9**	**-2.7**	
SHLS	**Shalkode**	**42.77**	**308**	*e*P		**P**	**19 10 43.0**	**-2.7**	
	baz=308								
PDGK	**Podgornoye**	**42.78**	**308**	P		**P**	**19 10 45.9**	**+0.2**	
ZAA0	**Zalesovo Array**	**42.94**	**325**	P		**P**	**19 10 45.5**	**-1.2**	
ZALV	**Zalesovo Beam**	**42.94**	**325**	P		**P**	**19 10 45.6**	**-1.0**	
	comp=Z,5.9nm,0.6s,baz=110,slow=8.5,SNR=33								
ZALV					LR	LR	19 30 38.0		
	comp=Z,103nm,21.1s,baz=116,slow=39								
ZALV	**Zalesovo Beam**	**42.94**	**325**	P		**P**	**19 10 45.2**	**-1.4**	
UZB	**Uzynbulak**	**43.08**	**308**	*e*P		**P**	**19 10 48.2**	**0.0**	
UZB	**Uzynbulak**	**43.08**	**308**	*e*P		**P**	**19 10 48.2**	**0.0**	
	baz=308								
KPKS	**Kokpek**	**43.38**	**308**	*e*P		**P**	**19 10 50.2**	**-0.3**	
KPKS	**Kokpek**	**43.38**	**308**	*e*P		**P**	**19 10 50.2**	**-0.3**	
	baz=308								
ZHN	**Zhinishke**	**43.51**	**308**	*e*P		**P**	**19 10 50.6**	**-1.0**	
ZHN	**Zhinishke**	**43.51**	**308**	*e*P		**P**	**19 10 50.7**	**-1.0**	
	baz=308								
SATY	**Saty**	**43.51**	**308**	*e*P		**P**	**19 10 51.6**	**0.0**	
SATY	**Saty**	**43.51**	**308**	*e*P		**P**	**19 10 51.6**	**0.0**	
	baz=308								
TARG	**Taragay, Kyrgy**	**43.74**	**306**	P		**P**	**19 10 53.0**	**-0.8**	
TARG					pmax	pmax			
	comp=Z,11nm,1.0s								
TARG	**Taragay, Kyrgy**	**43.74**	**306**	P		**P**	**19 10 53.0**	**-0.8**	
TARG					IAmb	IAmb	19 10 56.9		
	comp=Z,11nm,1.0s								
TDK	**Taldyqorghan**	**43.88**	**311**	*e*P		**P**	**19 10 55.0**	**+0.6**	
TDK					pmax	pmax			
	comp=Z,23nm,0.8s								
TDK	**Taldyqorghan**	**43.88**	**311**	*e*P		**P**	**19 10 55.1**	**+0.6**	
	comp=Z,23nm,0.8s,baz=310								
SEM	**Semipalatinsk**	**44.13**	**319**	*e*P		**P**	**19 10 55.8**	**-0.8**	
SEM	**Semipalatinsk**	**44.13**	**319**	*e*P		**P**	**19 10 55.8**	**-0.8**	
	baz=318								
KDJ	**Kajisay**	**44.26**	**306**	P		**P**	**19 10 57.6**	**-0.1**	
KDJ					pmax	pmax			
	comp=Z,17nm,0.9s								
KDJ	**Kajisay**	**44.26**	**306**	P		**P**	**19 10 57.6**	**-0.1**	
KDJ					IAmb	IAmb	19 11 00.4		
	comp=Z,17nm,0.9s								
WB0	**Warramunga Arr**	**44.29**	**169**	P		**P**	**19 10 57.5**	**-0.4**	
WB0					IAmb	IAmb	19 11 04.7		
	comp=Z,44nm,1.7s								
WRAB	**Tennant Creek**	**44.44**	**169**	*ce*P		**P**	**19 11 00.2**	**+1.1**	
WRAB					pmax	pmax			
	comp=Z,15nm,1.3s								
WRAB	**Tennant Creek**	**44.44**	**169**	P		**P**	**19 10 58.4**	**-0.7**	
WRAB					IAmb	IAmb	19 11 10.9		
	comp=Z,12nm,1.0s								
WRA	**Warramunga Arr**	**44.45**	**169**	P		**P**	**19 11 00.3**	**+1.1**	
	comp=Z,3.3nm,0.7s,baz=351,slow=8.4,SNR=15								
WRA	**Warramunga Arr**	**44.45**	**169**	*i* P		**P**	**19 11 00.3**	**+1.1**	
WRA					pmax	pmax			
	comp=Z,4.0nm,0.7s								
WRA	**Warramunga Arr**	**44.45**	**169**	P		**P**	**19 10 58.9**	**-0.2**	
WB2	**Warramunga Arr**	**44.45**	**169**	P		**P**	**19 10 59.0**	**-0.2**	
WB2					IAmb	IAmb	19 11 08.9		
	comp=Z,12nm,0.9s								
WR0	**Warramunga Arr**	**44.50**	**169**	P		**P**	**19 10 59.2**	**-0.4**	
WR0					IAmb	IAmb	19 11 21.6		
	comp=Z,12nm,1.0s								
MDOK	**Medeo**	**44.51**	**308**	P		**P**	**19 11 00.9**	**+1.2**	
MDOK	**Medeo**	**44.51**	**308**	*e*P		**P**	**19 10 60.0**	**+0.3**	
	baz=308								
TNSS	**Tian-Shan**	**44.56**	**308**	*e*P		**P**	**19 11 00.1**	**-0.3**	
TNSS	**Tian-Shan**	**44.56**	**308**	*e*P		**P**	**19 11 00.1**	**-0.3**	
	baz=308								
AAA	**Alma-Ata**	**44.61**	**308**	*e*P		**P**	**19 11 00.2**	**-0.2**	
AAA					pmax	pmax			
	comp=Z,8.0nm,0.9s								
AAA	**Alma-Ata**	**44.61**	**308**	*e*P		**P**	**19 11 00.2**	**-0.2**	
	comp=Z,8.5nm,0.9s,baz=308								
CHKK	**Chushkaly**	**44.66**	**309**	*e*P		**P**	**19 11 00.0**	**-0.7**	
CHKK	**Chushkaly**	**44.66**	**309**	*e*P		**P**	**19 11 00.1**	**-0.7**	
	baz=309								
KSH	**Kashi**	**44.88**	**302**	P		**P**	**19 11 06.0**	**+3.3**	
KSH				pP		pwP	19 11 11

AML	**Almayashu**	**46.83**	**306**	P		**P**		**19 11 20.3**	**+2.0**
	SNR=13								
BTLS	**Baital**	**46.93**	**310**	*e*P		**P**		**19 11 17.8**	**-0.8**
BTLS				pmax		pmax			
	comp=Z,6.0nm,1.1s								
BTLS	**Baital**	**46.93**	**310**	*e*P		**P**		**19 11 17.9**	**-0.8**
	comp=Z,5.7nm,1.1s,baz=310								
NIL	**Nilore**	**46.98**	**294**	P		**P**		**19 11 18.2**	**-1.0**
NIL				pmax		pmax			
	comp=Z,10.0nm,0.9s								
NIL	**Nilore**	**46.98**	**294**	P		**P**		**19 11 18.2**	**-1.0**
NIL				IAmb		IAmb		19 11 20.9	
	comp=Z,10.0nm,0.8s								
TIXI	**Tiksi**	**47.62**	**1**	LR		LR		19 30 53.3	
	comp=Z,93nm,20.6s,baz=183,slow=36								
TIXI	**Tiksi**	**47.62**	**1**	*ce*P		**P**		**19 11 22.9**	**-0.7**
TIXI				pmax		pmax			
	comp=Z,14nm,2.5s								
TIXI	**Tiksi**	**47.62**	**1**	P		**P**		**19 11 23.3**	**-0.3**
TIXI				IAmb		IAmb		19 11 24.4	
	comp=Z,5.2nm,0.8s								
CTA	**Charters Tower**	**48.02**	**154**	LR		LR		19 30 19.5	
	comp=Z,64nm,20.9s,baz=300,slow=34								
AS31	**Alice Springs**	**48.03**	**171**	P		**P**		**19 11 26.0**	**-1.3**
ASAR	**Alice Springs**	**48.03**	**171**	P		**P**		**19 11 28.9**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=357,slow=15,SNR=20								
ASAR	**Alice Springs**	**48.03**	**171**	P		**P**		**19 11 25.9**	**-1.4**
DRK	**Karamyk**	**48.10**	**302**	P		**P**		**19 11 26.6**	**-1.6**
DRK				IAmb		IAmb		19 11 31.1	
	comp=Z,11nm,0.8s								
OTUK	**Ortayu**	**48.60**	**314**	P		**P**		**19 11 32.0**	**+0.4**
BRZS	**Berezniki**	**48.71**	**316**	*e*P		**P**		**19 11 32.1**	**-0.2**
BRZS	**Berezniki**	**48.71**	**316**	*e*P		**P**		**19 11 32.2**	**-0.2**
	baz=316								
BTK	**Batken**	**48.87**	**303**	P		**P**		**19 11 33.0**	**-0.9**
BTK				pmax		pmax			
	comp=Z,6.0nm,0.7s								
BTK	**Batken**	**48.87**	**303**	P		**P**		**19 11 33.0**	**-0.9**
BTK				IAmb		IAmb		19 11 48.4	
	comp=Z,6.3nm,0.7s								
GAR	**Garm**	**49.24**	**302**	P		**P**		**19 11 36.5**	**-0.3**
KK31	**Karatay Array**	**49.25**	**307**	P		**P**		**19 11 37.2**	**+0.6**
KK31				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KK31	**Karatay Array**	**49.25**	**307**	P		**P**		**19 11 37.2**	**+0.6**
KK31				IAmb		IAmb		19 11 39.2	
	comp=Z,6.5nm,0.9s								
KKAR	**Karatay Array**	**49.25**	**307**	P		**P**		**19 11 36.3**	**-0.3**
KKAR								19 11 37.0	
KKAR				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KKAR	**Karatay Array**	**49.25**	**307**	P		**P**		**19 11 37.0**	**+0.4**
KKAR	**Karatay Array**	**49.25**	**307**	P		**P**		**19 11 36.3**	**-0.3**
KKAR				IAmb		IAmb		19 11 39.2	
	comp=Z,6.5nm,0.9s								
IUG	**luzhnay**	**49.55**	**306**	*e*P		**P**		**19 11 39.1**	**+0.1**
IUG	**luzhnay**	**49.55**	**306**	*e*P		**P**		**19 11 39.2**	**+0.1**
	baz=306								
CHGR	**Chuyangaron**	**50.15**	**301**	P		**P**		**19 11 41.6**	**-2.0**
CHGR				pmax		pmax			
	comp=Z,21nm,0.7s								
CHGR	**Chuyangaron**	**50.15**	**301**	P		**P**		**19 11 41.6**	**-2.0**
BILL	**Bilibino**	**50.26**	**18**	*ce*P		**P**		**19 11 44.8**	**+0.9**
BILL				*e*S		S		19 19 07.0	+12
BILL				pmax		pmax			
	comp=Z,12nm,1.7s								
BILL				MLR		MLR			
	comp=Z,128nm,16.0s								
BILL	**Bilibino**	**50.26**	**18**	P		**P**		**19 11 44.1**	**+0.2**
KBL	**Kabul**	**50.41**	**296**	P		**P**		**19 11 43.6**	**-2.2**
KBL				pmax		pmax			
	comp=Z,9.0nm,0.9s								
KBL	**Kabul**	**50.41**	**296**	P		**P**		**19 11 43.6**	**-2.2**
KBL				IAmb		IAmb		19 11 48.3	
	comp=Z,8.7nm,0.9s								
NRIK	**Noril'sk**	**50.78**	**343**	P		**P**		**19 11 48.1**	**+0.4**
	comp=Z,8.8nm,0.8s,baz=122,slow=7.5,SNR=13								
NRIK				LR		LR		19 37 06.4	
	comp=Z,141nm,18.7s,baz=136,slow=41								
NRIK	**Noril'sk**	**50.78**	**343**	*ce*P		**P**		**19 11 47.4**	**-0.4**
NRIK				pmax		pmax			
	comp=Z,22nm,1.2s								
NRIK	**Noril'sk**	**50.78**	**343**	P		**P**		**19 11 46.8**	**-0.9**
NRIK				IAmb		IAmb		19 11 49.3	
	comp=Z,22nm,1.2s								
BRVK	**Borovoye**	**50.81**	**320**	*ce*P		**P**		**19 11 48.8**	**+0.6**
BRVK				pmax		pmax			
	comp=Z,20nm,1.7s								
BRVK	**Borovoye**	**50.81**	**320**	P		**P**		**19 11 47.8**	**-0.4**
BRVK				IAmb		IAmb		19 11 50.1	
	comp=Z,9.2nm,0.8s								
AB31	**Akbulak array**	**56.85**	**314**	*i* P		**P**		**19 12 33.2**	**+0.7**
ABKAR	**Akbulak array**	**56.85**	**314**	P		**P**		**19 12 32.8**	**+0.3**
ABKAR	**Akbulak array**	**56.85**	**314**	P		**P**		**19 12 32.5**	**0.0**
ABKAR				IAmb		IAmb		19 12 34.6	
	comp=Z,12nm,0.7s								
SVE	**Sverdlovsk**	**56.90**	**323**	*e*P		**P**		**19 12 33.7**	**+1.0**
SVE				pmax		pmax			
	comp=Z,26nm,1.1s								
SVE				MLR		MLR			
	comp=Z,220nm,15.0s								
STKA	**Stephens Creek**	**57.53**	**165**	LR		LR		19 38 39.3	
	comp=Z,42nm,19.0s,baz=9.2,slow=37								
ARU	**Arti**	**58.01**	**323**	LR		LR		19 41 41.3	
	comp=Z,105nm,20.8s,baz=87,slow=40								
ARU	**Arti**	**58.01**	**323**	*c i* P		**P**		**19 12 40.8**	**+0.3**
ARU								19 13 30.0	
ARU								19 14 43.7	
ARU					S		**S**	**19 20 43.0**	**+3.1**
ARU				SS		**SS**		**19 24 28.5**	**-2.3**
ARU				pmax		pmax			
	comp=Z,18nm,1.0s								
ARU	**Arti**	**58.01**	**323**	P		**P**		**19 12 39.7**	**-0.8**
ARU				IAmb		IAmb		19 12 41.9	
	comp=Z,17nm,1.0s								
AKTO	**Aktyubinsk**	**58.11**	**316**	LR		LR		19 38 35.8	
	comp=Z,56nm,20.0s,baz=99,slow=37								
AKTO	**Aktyubinsk**	**58.11**	**316**	P		**P**		**19 12 41.6**	**+0.2**
GEYT	**Alibeck**	**58.86**	**301**	P		**P**		**19 12 49.0**	**+2.1**
	comp=Z,7.7nm,0.7s,baz=67,slow=3.7,SNR=14								
GEYT	**Alibeck**	**58.86**	**301**	P		**P**		**19 12 48.0**	**+1.1**
GEYT				IAmb		IAmb		19 12 49.5	
	comp=Z,8.2nm,0.8s								
GYA0	**ALIBECK ARRAY**	**58.86**	**301**	P		**P**		**19 12 48.4**	**+1.5**
GYA0B	**ALIBECK ARRAY**	**58.86**	**301**	P		**P**		**19 12 47.8**	**+0.9**
GYA0B				IAmb		IAmb		19 12 49.5	
	comp=Z,9.9nm,0.7s								
DZM	**Mont Dzumac**	**60.24**	**136**	LR		LR		19 36 09.0	
	comp=Z,43nm,19.7s,baz=18,slow=33								
KIRV	**Kirov**	**62.98**	**325**	LR		LR		19 41 52.6	
	comp=Z,74nm,19.4s,baz=58,slow=37								
KIRV	**Kirov**	**62.98**	**325**	*ce*P		**P**		**19 13 14.9**	**+0.5**
TTA	**Tatalina**	**63.27**	**30**	P		**P**		**19 13 16.6**	**+0.2**
TTA				pmax		pmax			
	comp=Z,9.0nm,1.2s								
TTA	**Tatalina**	**63.27**	**30**	P		**P**		**19 13 16.6**	**+0.2**
TTA				IAmb		IAmb		19 13 25.5	
	comp=Z,8.7nm,1.2s								
O18K	**Koktuh Hills**	**63.76**	**33**	P		**P**		**19 13 20.5**	**+0.8**
TOO	**Toolangi**	**63.93**	**163**	P		**P**		**19 13 23.2**	**+2.3**
TOO				pmax		pmax			
	comp=Z,11nm,1.3s								
TOO	**Toolangi**	**63.93**	**163**	P		**P**		**19 13 23.2**	**+2.3**
TOO				IAmb		IAmb		19 13 30.8	
	comp=Z,11nm,1.2s								
J20K	**Nowinta River**	**64.08**	**29**	P		**P**		**19 13 23.5**	**+1.9**
J20K				IAmb		IAmb		19 13 31.1	
	comp=Z,5.1nm,0.8s								
K20K	**Telida**	**64.14**	**30**	P		**P**		**19 13 23.2**	**+1.1**
K20K				IAmb		IAmb		19 13 36.5	
	comp=Z,8.9nm,1.2s								
IMAR	**Indian Mountai**	**64.20**	**27**	P		**P**		**19 13 22.7**	**+0.3**
BELG	**Belogornoye**	**64.49**	**318**	*i* P		**P**		**19 13 24.3**	**-0.2**
BELG				pmax		pmax			
	comp=Z,3.0nm,0.8s								
H21K	**Melozitna Rive**	**64.59**	**27**	P		**P**		**19 13 25.1**	**+0.1**
H21K				IAmb		IAmb		19 13 34.4	
	comp=Z,9.6nm,1.1s								
PRGR	**Permogore**	**64.70**	**329**	*e*P		**P**		**19 13 24.5**	**-1.2**
I21K	**Tanana**	**64.96**	**27**	P		**P**		**19 13 28.3**	**+0.9**
I21K				IAmb		IAmb		19 13 40.2	
	comp=Z,7.6nm,1.1s								
PPLA	**Purkeypile**	**65.02**	**30**	P		**P**		**19 13 26.8**	**-1.2**
PPLA				IAmb		IAmb		19 13 37.7	
	comp=Z,20nm,1.4s								

CAST	**Castle Rocks**	**65.03**	**29**	P		**P**		**19 13 26.6**	**-1.3**
CAST				IAmb		IAmb		19 13 47.5	
	comp=Z,6.9nm,1.2s								
MSVF	**Nonsavu**	**65.40**	**125**	LR		LR		19 40 13.8	
	comp=Z,26nm,18.7s,baz=148,slow=34								
BPAW	**Bear Paw Mtn.**	**65.47**	**29**	P		**P**		**19 13 31.4**	**+0.7**
BPAW				IAmb		IAmb		19 13 39.9	
	comp=Z,12nm,1.4s								
TOLK	**Toolik Lake Re**	**65.69**	**24**	P		**P**		**19 13 32.9**	**+0.7**
TOLK				IAmb		IAmb		19 14 14.1	
	comp=Z,5.2nm,0.9s								
H23K	**Yukon River**	**65.93**	**27**	P		**P**		**19 13 33.7**	**0.0**
H23K				IAmb		IAmb		19 13 43.7	
	comp=Z,9.7nm,0.8s								
LKRN	**Lenkeran, Azer**	**65.96**	**303**	P		**P**		**19 13 35.8**	**+1.5**
MCK	**McKinley**	**66.40**	**29**	P		**P**		**19 13 37.7**	**+1.0**
MCK				pmax		pmax			
	comp=Z,19nm,1.6s								
MCK	**McKinley**	**66.40**	**29**	P		**P**		**19 13 37.7**	**+1.0**
MCK				IAmb		IAmb		19 14 04.2	
	comp=Z,19nm,1.6s								
RND	**Reindeer**	**66.48**	**29**	P		**P**		**19 13 37.1**	**-0.2**
RND				pmax		pmax			
	comp=Z,22nm,1.2s								
RND	**Reindeer**	**66.48**	**29**	P		**P**		**19 13 37.1**	**-0.2**
MDM	**Murphy Dome**	**66.57**	**28**	P		**P**		**19 13 38.3**	**+0.6**
H24K	**Noodor Dome**	**66.61**	**27**	P		**P**		**19 13 39.0**	**+1.0**
H24K				IAmb		IAmb		19 13 48.4	
	comp=Z,5.0nm,0.8s								
SEKA	**Sheki**	**66.62**	**306**	P		**P**		**19 13 38.9**	**+0.3**
MNGR	**Mingechevir, A**	**66.80**	**306**	P		**P**		**19 13 40.9**	**+1.3**
ZKTA	**Zakatala**	**66.95**	**307**	P		**P**		**19 13 41.0**	**+0.3**
PWL	**Port Wells**	**67.06**	**32**	P		**P**		**19 13 41.4**	**+0.4**
ILAR	**Eielson Array**	**67.16**	**28**	P		**P**		**19 13 41.8**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=273,slow=6.1,SNR=6.2								
ILAR				LR		LR		19 46 10.1	
	comp=Z,31nm,20.0s,baz=277,slow=39								
ILAR	**Eielson Array**	**67.16**	**28**	P		**P**		**19 13 42.3**	**+0.8**
ILAR	**Eielson Array**	**67.16**	**28**	P		**P**		**19 13 42.3**	**+0.8**
GANJ	**Ganja**	**67.39**	**306**	P		**P**		**19 13 44.9**	**+1.4**
SCM	**Sheep Creek Mo**	**67.39**	**31**	P		**P**		**19 13 42.8**	**-0.4**
SCM				pmax		pmax			
	comp=Z,62nm,1.5s								
SCM	**Sheep Creek Mo**	**67.39**	**31**	P		**P**		**19 13 42.8**	**-0.4**
BMAR	**Burnt Mountain**	**67.69**	**25**	P		**P**		**19 13 46.6**	**+1.7**
KLMR	**Klimovskoe**	**67.73**	**328**	*e*P		P		19 13 41.1	-4.1
KLMR				pmax		pmax			
	comp=Z,10.0nm,1.1s								
KLMR	**Klimovskoe**	**67.73**	**328**	*e*P		P		19 13 41.1	-4.1
KLMR				AMP				19 13 48.4	
J25K	**Salcha River,**	**67.83**	**28**	P		**P**		**19 13 45.9**	**+0.1**
J25K				IAmb		IAmb		19 14 11.7	
	comp=Z,7.7nm,1.4s								
M24K	**Tolsona, Glenn**	**67.89**	**30**	P		**P**		**19 13 46.6**	**+0.4**
KLU	**Klutina**	**68.11**	**31**	P		**P**		**19 13 47.5**	**-0.2**
RIDG	**Independent Ri**	**68.20**	**29**	P		**P**		**19 13 48.6**	**+0.4**
RIDG				IAmb		IAmb		19 13 57.7	
	comp=Z,10nm,1.2s								
VRH	**Novokhopyorsk**	**68.30**	**318**	*e*P		**P**		**19 13 48.7**	**-0.2**
VRH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
NAX	**Nakhchivan**	**68.35**	**304**	P		**P**		**19 13 50.8**	**+1.2**
ZEI	**Tsey**	**68.67**	**308**	*e*P		**P**		**19 13 52.1**	**+0.4**
ZEI				pmax		pmax			
	comp=Z,19nm,1.0s								
GNI	**Garni**	**68.68**	**306**	*i* P		**P**		**19 13 52.0**	**+0.3**
GNI				pmax		pmax			
	comp=Z,14nm,1.1s								
ONI	**Oni**	**69.04**	**308**	P		**P**		**19 13 53.1**	**-0.7**
ONI				pmax		pmax			
	comp=Z,13nm,0.9s								
ONI	**Oni**	**69.04**	**308**	P		**P**		**19 13 53.1**	**-0.7**
ONI				IAmb		IAmb		19 13 57.2	
	comp=Z,13nm,0.9s								
KIP	**Kipapa**	**69.05**	**75**	*ce*P		**P**		**19 13 51.8**	**-2.3**
KIP				pmax		pmax			
	comp=Z,62nm,1.3s								
SOCY	**Socotra**	**69.09**	**274**	P		**P**		**19 13 54.0**	**-0.6**
GLB	**Gilahina Butte**	**69.12**	**31**	P		**P**		**19 13 54.1**	**+0.2**
GLB				IAmb		IAmb		19 14 05.0	
	comp=Z,13nm,1.1s								
KBZ	**Khabaz**	**69.16**	**310**	P		**P**		**19 13 56.1**	**+1.7**
	comp=Z,14nm,0.8s,baz=104,slow=4.1,SNR=30								
KBZ	**Khabaz**	**69.16**	**310**	*ce*P		**P**		**19 13 55.9**	**+1.5**
KBZ				pmax		pmax			
	comp=Z,17nm,0.9s								
KIV	**Kislovodsk**	**69.26**	**310**	*e*P		**P**		**19 13 56.4**	**+1.2**
KIV				pmax		pmax			
	comp=Z,31nm,1.1s								
KIV	**Kislovodsk**	**69.26**	**310**	P		**P**		**19 13 54.5**	**-0.7**
M26K	**Nabesna, AK**	**69.29**	**30**	P		**P**		**19 13 55.4**	**+0.4**
M26K				IAmb		IAmb		19 14 05.4	
	comp=Z,10nm,1.1s								
SHA1	**Shidzhatmaz**	**69.33**	**310**	*i* P		**P**		**19 13 57.5**	**+1.7**
K27K	**Chicken**	**69.35**	**28**	P		**P**		**19 13 55.4**	**+0.2**
K27K				IAmb		IAmb		19 14 28.9	
	comp=Z,9.0nm,1.2s								
NEY	**Neytrino**	**69.40**	**309**	*i* P		**P**		**19 13 56.9**	**+0.7**
NEY				pmax		pmax			
	comp=Z,3.0nm,0.9s								
L27K	**Beaver Creek,**	**69.67**	**29**	P		**P**		**19 13 59.1**	**+1.8**
L27K				IAmb		IAmb		19 14 18.0	
	comp=Z,14nm,1.6s								
LPSR	**Galich'ya Gora**	**69.69**	**319**	*e*P		**P**		**19 13 57.8**	**+0.3**
LPSR				pmax		pmax			
	comp=Z,20nm,0.8s								
BCAR	**Beaver Creek A**	**69.69**	**29**	P		**P**		**19 13 57.1**	**-0.3**
MOS	**Moscow**	**69.72**	**323**	*e*P		**P**		**19 13 57.6**	**0.0**
MOS				pmax		pmax			
	comp=Z,39nm,0.9s								
VORR	**Voronezh**	**69.73**	**318**	*e*P		**P**		**19 13 59.6**	**+1.8**
VORR				pmax		pmax			
	comp=Z,40nm,0.4s								
M27K	**Edge Creek, AK**	**69.81**	**30**	P		**P**		**19 13 57.3**	**-1.0**
VSR	**Storozhevoye**	**69.86**	**318**	*e*P		**P**		**19 13 59.0**	**+0.4**
VSR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
GEVA	**Gevas**	**70.41**	**304**	P		**P**		**19 14 03.3**	**+0.8**
GEVA				IAmb		IAmb		19 14 05.1	
	comp=Z,8.5nm,0.8s								
OBN	**Obninsk**	**70.45**	**322**	*de*P		**P**		**19 14 03.0**	**+0.9**
OBN				*e**PP		**pP**		**19 14 07.3**	**-0.8**
OBN				*e**SP		**pwP**		**19 14 11.8**	**+1.5**
OBN				pmax		pmax			
	comp=Z,53nm,1.7s								
OBN				MLR		MLR			
	comp=Z,56nm,15.0s								
OBN	**Obninsk**	**70.45**	**322**	P		**P**		**19 14 02.5**	**+0.4**
SPB2	**Spitsbergen Ar**	**70.56**	**348**	P		**P**		**19 14 03.0**	**+0.5**
GURO	**Guroymak-BITLI**	**71.12**	**304**	P		**P**		**19 14 06.6**	**-0.2**
GURO				IAmb		IAmb		19 14 09.7	
	comp=Z,4.8nm,0.8s								
ARCES	**ARCESS Array B**	**71.36**	**339**	P		**P**		**19 14 08.7**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=56,slow=4.8,SNR=5.5								
ARCES				LR		LR		19 52 03.3	
	comp=Z,36nm,18.9s,baz=74,slow=42								
INK	**Inuvik**	**71.55**	**23**	LR		LR		19 49 12.6	
	comp=Z,78nm,18.3s,baz=291,slow=39								
INK	**Inuvik**	**71.55**	**23**	P		**P**		**19 14 08.9**	**+0.3**
INK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
INK	**Inuvik**	**71.55**	**23**	P		**P**		**19 14 08.9**	**+0.3**
KOPT	**Kop Dagi**	**71.86**	**306**	P		**P**		**19 14 11.8**	**+0.4**
KOPT				IAmb		IAmb		19 14 15.2	
	comp=Z,12nm,0.7s								
M30M	**Minto, Yukon**	**72.03**	**29**	P		**P**		**19 14 12.6**	**+0.9**
M30M				IAmb		IAmb		19 14 18.0	
	comp=Z,28nm,1.8s								
MARD	**Mardin**	**72.42**	**304**	P		**P**		**19 14 14.0**	**-0.6**
N31M	**Braeburn, Yuko**	**72.82**	**30**	P		**P**		**19 14 17.5**	**+1.1**
N31M				IAmb		IAmb		19 14 46.6	
	comp=Z,15nm,1.1s								
M31M	**Drury Creek, Y**	**73.21**	**29**	P		**P**		**19 14 18.5**	**-0.2**
M31M				IAmb		IAmb		19 14 29.6	
	comp=Z,7.8nm,0.9s								
FIA1	**FINESS Array S**	**73.86**	**331**	P		**P**		**19 14 21.3**	**-1.1**
FIA1				IAmb		IAmb		19 14 42.6	
	comp=Z,14nm,1.2s								
FINES	**FINESS Array B**	**73.86**	**331**	P		**P**		**19 14 23.5**	**+1.0**
	comp=Z,3.0nm,0.7s,baz=35,slow=4.9,SNR=9.0								
FINES				LR		LR		19 49 12.8	
	comp=Z,22nm,18.8s,baz=60,slow=38								
FINES	**FINESS Array B**	**73.86**	**331**	P		**P**		**19 14 22.1**	**-0.4**
EUNU	**Eureka**	**74.59**	**6**	P		**P**		**19 14 27.3**	**+0.8**

MNK	**Minsk**	**75.43**	**323**	*i* P		**P**		**19 14 31.1**	**-0.5**
MNK				*i*				19 17 21.9	
MNK				*i* S		**S**		**19 24 14.2**	**+3.7**
MNK				pmax		pmax			
	comp=N,28nm,0.9s								
MNK				pmax		pmax			
	comp=Z,37nm,0.8s								
MNK				pmax		pmax			
	comp=E,4.0nm,0.8s								
MNK				MLR		MLR			
	comp=E,22nm,19.0s								
MNK				MLR		MLR			
	comp=Z,90nm,19.0s								
MNK				MLR		MLR			
	comp=N,144nm,19.0s								
MNK	**Minsk**	**75.43**	**323**	*i* P		**P**		**19 14 31.1**	**-0.5**
	comp=E,4.0nm,0.8s								
MNK				*i* P		**P**		**19 14 31.1**	**-0.5**
	comp=N,28nm,0.9s								
MNK				*i* P		**P**		**19 14 31.1**	**-0.5**
	comp=Z,37nm,0.8s,baz=248								
MNK				*i* PP		**PP**		**19 17 22.0**	**+1.7**
MNK				*i* PPP		PPP		19 18 57.5	
MNK				*i* S		**S**		**19 24 14.3**	**+3.7**
MNK				*i* SS		SS		19 29 10.7	+10
MNK				*i* SSS		SSS		19 32 33.8	
MNK				*i* LQ		LQ		19 43 04.2	
MNK				*i* LR		LR		19 46 18.8	
MNK				*i* LRM		MLR		19 49 59.2	
	comp=E,22nm,18.8s								
MNK				*i* LRM		MLR		19 50 04.3	
	comp=N,144nm,18.8s								
MNK				*i* LRM		MLR		19 50 04.3	
	comp=Z,90nm,18.8s								
BNN	**Bunyan**	**75.64**	**306**	P		**P**		**19 14 33.8**	**+0.4**
IDID	**Didziasalis**	**75.75**	**324**	*e*P		**P**		**19 14 33.8**	**+0.3**
NACGM	**Naroch**	**75.88**	**324**	*e*P		**P**		**19 14 36.5**	**+2.3**
AKASG	**Malin Array Be**	**76.02**	**319**	P		**P**		**19 14 35.6**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=58,slow=7.2,SNR=10.0								
AKASG				LR		LR		19 52 45.9	
	comp=Z,66nm,18.0s,baz=82,slow=40								
AKASG	**Malin Array Be**	**76.02**	**319**	P		**P**		**19 14 34.6**	**-0.5**
AKASG				IAmb		IAmb		19 14 37.0	
	comp=Z,6.6nm,1.1s								
AKBB	**Malin Array Si**	**76.02**	**319**	P		**P**		**19 14 34.3**	**-0.8**
AKBB				pmax		pmax			
	comp=Z,10.0nm,1.0s								
AKBB	**Malin Array Si**	**76.02**	**319**	P		**P**		**19 14 34.3**	**-0.8**
AKBB				IAmb		IAmb		19 14 36.6	
	comp=Z,10nm,0.9s								
DLBC	**Dease Lake**	**76.63**	**32**	LR		LR		19 50 48.0	
	comp=Z,35nm,19.4s,baz=330,slow=38								
BR131	**Keskin Array S**	**76.96**	**308**	*i* P		**P**		**19 14 41.7**	**+0.8**
BR131	**Keskin Array S**	**76.96**	**308**	P		**P**		**19 14 40.0**	**-0.9**
BRTR	**Keskin Array B**	**76.96**	**308**	P		**P**		**19 14 42.2**	**+1.4**
	comp=Z,8.3nm,0.9s,baz=90,slow=6.2,SNR=25								
BRTR				LR		LR		19 53 46.6	
	comp=Z,30nm,18.4s,baz=126,slow=40								
BRTR	**Keskin Array B**	**76.96**	**308**	P		**P**		**19 14 40.5**	**-0.3**
PABE	**Paberze**	**77.13**	**325**	P		**P**		**19 14 41.1**	**-0.2**
PABE	**Paberze**	**77.13**	**325**	*e*P		**P**		**19 14 41.8**	**+0.5**
SORM	**Soroca**	**77.48**	**317**	⇑P		**P**		**19 14 43.6**	**+0.2**
SORM	**Soroca**	**77.48**	**317**	⇑P		**P**		**19 14 43.6**	**+0.2**
RES	**Resolute Bay**	**77.98**	**10**	LR		LR		19 51 47.1	
	comp=Z,32nm,19.3s,baz=334,slow=38								
SUW	**Suwalki**	**78.16**	**324**	P		**P**		**19 14 47.4**	**+0.3**
SUW				pmax		pmax			
	comp=Z,46nm,0.9s								
SUW	**Suwalki**	**78.16**	**324**	P		**P**		**19 14 47.4**	**+0.3**
SUW	**Suwalki**	**78.16**	**324**	*e*P		**P**		**19 14 47.4**	**+0.3**
UPP	**Uppsala**	**78.31**	**331**	*e*P		**P**		**19 14 48.2**	**+0.5**
RPZ	**Rata Peaks**	**78.98**	**149**	LR		LR		19 50 33.3	
	comp=Z,40nm,18.3s,baz=300,slow=36								
HARR	**Harsova**	**79.07**	**314**	⇑P		**P**		**19 14 54.3**	**+2.0**
HARR	**Harsova**	**79.07**	**314**	⇑P		**P**		**19 14 54.3**	**+2.0**
TESR	**Tescani**	**79.18**	**316**	⇓P		**P**		**19 14 52.9**	**+0.1**
VRI	**Vrincioaia**	**79.39**	**315**	⇑P		**P**		**19 14 56.5**	**+2.4**
VRI	**Vrincioaia**	**79.39**	**315**	⇑P		**P**		**19 14 56.5**	**+2.4**
BUR08	**Bucovina Ar. S**	**79.63**	**318**	P		**P**		**19 14 54.7**	**-0.8**
BURAR	**Bucovina Array**	**79.63**	**318**	⇓P		**P**		**19 14 56.0**	**+0.

OFUJ	**Ofunato**	**1.70**	**316**	P	**Pn**	**19 33 55.2**	**-1.2**
OFUJ				*e*S	**Sn**	**19 34 14.8**	**-2.9**
JMK	**Ichinoseki**	**1.88**	**306**	P	**Pn**	**19 33 58.1**	**-0.8**
JMM	**Marumori**	**1.88**	**271**	P	**Pn**	**19 33 58.1**	**-0.8**
JMM				S	**Sn**	**19 34 20.1**	**-2.2**
JMM	**Marumori**	**1.88**	**271**		**Pn**	**19 33 58.0**	**-0.9**
JMM				Sn	**Sn**	**19 34 19.6**	**-2.7**
JFK	**Kawauchi**	**1.89**	**256**	P	**Pn**	**19 33 58.1**	**-0.9**
JOM	**Ohasama**	**2.18**	**318**	P	**Pn**	**19 34 02.4**	**-0.6**
JFT	**Otama**	**2.27**	**262**	P	**Pn**	**19 34 04.7**	**+0.4**
JYK	**Kaneyama**	**2.45**	**296**	P	**Pn**	**19 34 06.5**	**-0.2**
JYT	**Yasato**	**2.88**	**237**	Pn	**Pn**	**19 34 11.7**	**-1.0**
JAG	**Ashikaga**	**3.30**	**245**	P	**Pn**	**19 34 18.5**	**+0.2**
JTM	**Tenmabayashi**	**3.35**	**332**	Pn	**Pn**	**19 34 21.4**	**+2.4**
JSD	**Sado**	**3.89**	**274**	Pn	**Pn**	**19 34 26.3**	**-0.1**
ERM	**Erimo**	**4.15**	**360**	P	**Pn**	**19 34 29.2**	**-0.9**
ERM	**Erimo**	**4.15**	**360**	Pn	**Pn**	**19 34 29.2**	**-0.9**
MJAR	**Matsushiro Arr**	**4.17**	**253**	Pn	**Pn**	**19 34 31.6**	**+1.2**
	1.2nm,0.3s,baz=76,slow=15,SNR=48						
MJAR				Sn	**Sn**	**19 35 18.2**	**-0.6**
	1.3nm,0.3s,baz=63,slow=15,SNR=6.1						
MJAR				LR	LR	19 35 57.5	
	comp=Z,92nm,20.7s,baz=87,slow=37						
MAJO	**Matsushiro**	**4.17**	**253**	*i* P	**Pn**	**19 34 32.2**	**+1.8**
MAJO	**Matsushiro**	**4.17**	**253**	Pn	**Pn**	**19 34 31.8**	**+1.4**
MJB9	**Matsu-Tunnel**	**4.18**	**253**		**Pn**	**19 34 31.9**	**+1.5**
JEW	**Eniwo**	**5.15**	**346**	Pn	**Pn**	**19 34 44.2**	**+0.4**
JGF	**Kuroka**	**5.18**	**246**	Pn	**Pn**	**19 34 45.6**	**+1.2**
JHJ2	**Mitsune**	**5.47**	**211**	Pn	**Pn**	**19 34 47.2**	**-1.0**
JHJ	**Hachijo jima 2**	**5.48**	**211**	Pn	**Pn**	**19 34 47.6**	**-0.6**
	25nm,0.3s,baz=162,slow=22,SNR=12						
JHJ				Sn	**Sn**	**19 35 48.7**	**-2.2**
	22nm,0.3s,baz=52,slow=19,SNR=1.4						
JHJ				LR	LR	19 36 29.0	
	comp=Z,96nm,18.7s,baz=28,slow=34						
INU	**Inuyama**	**5.55**	**245**	Pn	**Pn**	**19 34 50.0**	**+0.7**
NMR	**Nemuro--Hokkai**	**5.84**	**19** ⇑	*i*P	**Pn**	**19 34 51.1**	**-2.1**
NMR				*i* S	**Sn**	**19 35 52.9**	**-6.9**
GLVR	**Golovnino**	**6.14**	**16**	*e*P	**Pn**	**19 34 55.3**	**-2.1**
GLVR				*e*S	**Sn**	**19 36 01.2**	**-6.0**
GLVR				pmax	pmax		
	comp=Z,73nm,0.3s						
GLVR				smax	smax		
	comp=E,182nm,0.2s						
GLVR				smax	smax		
	comp=N,433nm,0.3s						
JKA	**Kamikawa-asahi**	**6.27**	**356**		**Pn**	**19 34 59.2**	**0.0**
ASAJ	**Asahikawa**	**6.27**	**356**	Pn	**Pn**	**19 34 59.6**	**+0.5**
	comp=N,2.2nm,0.3s,baz=194,slow=10,SNR=26						
ASAJ				Sn	**Sn**	**19 36 08.1**	**-2.3**
	comp=N,3.9nm,0.3s,baz=112,slow=19,SNR=2.3						
ASAJ				LR	LR	19 37 52.9	
	comp=N,409nm,20.8s,baz=145,slow=43						
RUSJ	**Misakicho**	**6.44**	**13**	*e*P	**Pn**	**19 35 00.0**	**-1.4**
RUSJ				*e*S	**Sn**	**19 36 09.9**	**-4.6**
YUK	**Yuzh-Kuril'sk**	**6.50**	**17**	*e*P	**Pn**	**19 35 00.4**	**-1.9**
YUK				*e*S	**Sn**	**19 36 09.3**	**-6.7**
YUK				pmax	pmax		
	comp=Z,272nm,0.4s						
YUK				pmax	pmax		
	comp=N,58nm,0.3s						
YUK				pmax	pmax		
	comp=E,43nm,0.3s						
YUK				smax	smax		
	comp=N,493nm,0.4s						
YUK				smax	smax		
	comp=E,199nm,0.3s						
SHO	**Shikotan**	**6.62**	**24***c*	*i*P	**Pn**	**19 35 01.6**	**-2.3**
SHO				*e*S	**Sn**	**19 36 11.2**	**-7.7**
SHO				pmax	pmax		
	comp=Z,25nm,0.5s						
SHO				pmax	pmax		
	comp=N,21nm,0.3s						
SHO				pmax	pmax		
	comp=E,7.0nm,0.3s						
SHO				smax	smax		
	comp=E,69nm,0.5s						
SHO				smax	smax		
	comp=N,137nm,0.3s						
KUR	**Kuril'sk**	**8.17**	**24** ⇑	*i*P	**Pn**	**19 35 21.3**	**-3.9**
KUR				*i* S	**Sn**	**19 36 50.7**	**-6.3**
KUR				pmax	pmax		
	comp=Z,37nm,0.6s						
KUR				pmax	pmax		
	comp=N,25nm,0.4s						
KUR				pmax	pmax		
	comp=E,9.0nm,0.3s						
KUR				smax	smax		
	comp=N,60nm,0.3s						
JHS	**Saijyo**	**8.59**	**254**	Pn	**Pn**	**19 35 30.3**	**-0.8**
YSS	**Yuzh-Sakhalins**	**9.10**	**358**	*e*P	**Pn**	**19 35 38.2**	**+0.3**
YSS				*e*S	**Sn**	**19 37 19.2**	**-0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS	**Yuzh-Sakhalins**	**9.10**	**358**	Pn	**Pn**	**19 35 37.6**	**-0.3**
VLA	**Vladivostok**	**10.07**	**305**	*i* P	**Pn**	**19 35 50.7**	**-0.6**
USA0B	**Ussuriysk Arra**	**10.55**	**310**	P	**Pn**	**19 35 55.5**	**-2.4**
USA0B	**Ussuriysk Arra**	**10.55**	**310**	Pn	**Pn**	**19 35 55.5**	**-2.4**
USRK	**Ussuriysk Ar.**	**10.55**	**310**	Pn	**Pn**	**19 35 58.8**	**+0.9**
	baz=125,slow=15,SNR=4.2						
USRK	**Ussuriysk Ar.**	**10.55**	**310**	Pn	**Pn**	**19 35 54.8**	**-3.1**
JCJ	**Chichijima**	**10.76**	**185**	Pn	**Pn**	**19 36 01.2**	**+0.4**
	comp=Z,5.2nm,0.3s,baz=268,slow=14,SNR=1.8						
JCJ	**Chichijima**	**10.76**	**185**	Pn	**Pn**	**19 35 58.9**	**-1.9**
KSRS	**Korea Array**	**12.10**	**273**	Pn	**Pn**	**19 36 20.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=87,slow=14,SNR=5.9						
KSRS				LR	LR	19 40 53.2	
	comp=Z,270nm,18.4s,baz=85,slow=37						
TYV	**Tymovskoe**	**13.01**	**359**	*e*P	**Pn**	**19 36 34.0**	**+2.6**
TYV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,100nm,4.7s						
KLR	**Kul'dur**	**14.05**	**328**	Pn	**Pn**	**19 36 44.1**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=134,slow=15,SNR=2.9						
KLR				LR	LR	19 42 11.4	
	comp=Z,227nm,18.7s,baz=148,slow=38						
KLR	**Kul'dur**	**14.05**	**328***c*	*e*P	**Pn**	**19 36 43.7**	**-1.9**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.7s						
PETK	**Petropavlovsk-**	**18.28**	**29**	P	**P**	**19 37 41.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=221,slow=13,SNR=2.3						
PETK				LR	LR	19 43 14.8	
	comp=Z,44nm,21.0s,baz=227,slow=32						
PETK	**Petropavlovsk-**	**18.28**	**29**	P	**P**	**19 37 41.0**	**+0.7**
ZEA	**Zeya**	**19.30**	**330**	*e*P	P	19 37 41.5	-10
ZEA				pmax	pmax		
	comp=N,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
ZEA				MLR	MLR		
	comp=E,100nm,12.0s						
ZEA				MLR	MLR		
	comp=N,100nm,13.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,17.0s						
NJ2	**Nanjing**	**20.73**	**261**	*e*P	**P**	**19 38 06.0**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,200nm,10.0s						
NJ2				LR	LR		
	comp=Z,340nm,12.2s						
NJ2				LR	LR		
	comp=Z,410nm,15.7s						
BJI	**Beijing**	**21.08**	**284**	P	**P**	**19 38 12.0**	**+1.1**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BJI				LR	LR		
	comp=Z,94nm,8.1s						
BJI				LR	LR		
	comp=Z,170nm,12.5s						
BJI				LR	LR		
	comp=Z,310nm,12.5s						
BJT	**Baijiatuau**	**21.09**	**284**	P	**P**	**19 38 07.7**	**-3.3**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJT	**Baijiatuau**	**21.09**	**284**	P	**P**	**19 38 07.7**	**-3.3**
XLT	**XiLinHaoTe**	**21.30**	**295**	*e*P	**P**	**19 38 18.3**	**+4.9**
XLT				pP	pwP	19 38 23.5	+3.3
XLT				sP	sP	19 38 25.5	+6.3
XLT				S	**S**	**19 42 09.5**	**+0.1**
XLT				sS	Sn	19 42 16.5	-0.4
XLT				pmax	pmax		
	comp=Z,11nm,0.9s						
XLT				pmax	pmax		
	comp=Z,95nm,4.1s						
XLT				LR	LR		
	comp=Z,210nm,13.6s						
XLT				LR	LR		
	comp=Z,240nm,13.2s						
YOJ	**Yonaguni jima**	**21.76**	**238**	P	**P**	**19 38 11.5**	**-6.7**
YOJ	**Yonaguni jima**	**21.76**	**238**	P	**P**	**19 38 11.5**	**-6.7**
MA2	**Magadan**	**22.28**	**10**	P	**P**	**19 38 25.1**	**+1.5**
	comp=Z,8.0nm,0.7s,baz=204,slow=11,SNR=14						
MA2				LR	LR	19 46 55.0	
	comp=Z,36nm,20.6s,baz=114,slow=36						
MA2	**Magadan**	**22.28**	**10***ce*	P	**P**	**19 38 24.1**	**+0.5**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MA2	**Magadan**	**22.28**	**10**	P	**P**	**19 38 23.8**	**+0.2**
HNS	**HongShan**	**22.52**	**278** ⇑	P	**P**	**19 38 24.0**	**-2.3**
HNS				*e*S	**S**	**19 42 26.3**	**-6.3**
HNS				LR	LR		
	comp=Z,180nm,12.7s						
HNS				LR	LR		
	comp=Z,280nm,14.9s						
HNS				LR	LR		
	comp=Z,230nm,11.0s						
YHNB	**Yeheng**	**22.73**	**241**	P	**P**	**19 38 29.3**	**+0.4**
YHNB				IAmb	IAmb	19 39 08.8	
	comp=Z,30nm,1.2s						
YULB	**Yu-li**	**23.63**	**239**	P	**P**	**19 38 34.5**	**-3.4**
YULB				IAmb	IAmb	19 39 20.5	
	comp=Z,35nm,1.4s						
TPUB	**Ta-pu**	**24.15**	**240**	P	**P**	**19 38 42.0**	**-0.7**
TPUB				IAmb	IAmb	19 39 07.6	
	comp=Z,53nm,1.5s						
TWG	**Pinlang**	**24.17**	**238**	P	**P**	**19 38 40.8**	**-2.1**
TWG				IAmb	IAmb	19 38 51.7	
	comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.55**	**287**	*e*P	**P**	**19 38 45.5**	**-1.0**
HHC				sP	pwP	19 38 56.0	+2.5
HHC				S	**S**	**19 43 04.5**	**-2.1**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,90nm,4.5s						
HHC				LR	LR		
	comp=Z,430nm,13.3s						
HHC				LR	LR		
	comp=Z,580nm,12.6s						
YAK	**Yakutsk**	**25.60**	**345**	P	**P**	**19 38 56.6**	**+1.0**
	comp=Z,6.9nm,0.6s,baz=181,slow=0.7,SNR=12						
YAK	**Yakutsk**	**25.60**	**345**	*e*P	**P**	**19 38 56.1**	**+0.6**
YAK				*e**PP	**pwP**	**19 39 03.0**	**+0.2**
YAK				*e*		19 39 30.1	
YAK				*e*		19 42 27.3	
YAK				*e*S	**S**	**19 43 26.8**	**+4.2**
YAK				*e**SS	sS	19 43 39.7	+10
YAK				*e*SS	**SnSn**	**19 44 17.9**	**+1.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				smax	smax		
	comp=N,65nm,2.3s						
YAK				MLR	MLR		
	comp=Z,140nm,14.0s						
YAK				MLR	MLR		
	comp=N,61nm,11.0s						
YAK				MLR	MLR		
	comp=E,47nm,14.0s						
YAK	**Yakutsk**	**25.60**	**345**	P	**P**	**19 38 54.8**	**-0.8**
YAK				IAmb	IAmb	19 38 57.5	
	comp=Z,16nm,0.7s						
SEY	**Seymchan**	**25.73**	**10**	P	**P**	**19 38 59.1**	**+2.4**
	comp=Z,13nm,0.8s,baz=195,slow=8.1,SNR=41						
SEY	**Seymchan**	**25.73**	**10***ce*	P	**P**	**19 38 58.6**	**+1.9**
SEY				pmax	pmax		
	comp=Z,14nm,0.9s						
SMY	**Shemya**	**26.10**	**45**	P	**P**	**19 38 59.0**	**-1.1**
SMY	**Shemya**	**26.10**	**45**	P	**P**	**19 38 59.0**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**27.41**	**125**	T	T	20 08 09.5	
	baz=317,slow=75,SNR=195						
H11N1	**WAKE ISLAND Hy**	**27.42**	**125**	T	T	20 08 12.2	
	baz=317,slow=75,SNR=166						
H11N3	**WAKE ISLAND Hy**	**27.43**	**125**	T	T	20 08 00.2	
	baz=317,slow=75,SNR=152						
WAKE	**Wake Island**	**27.58**	**126**	P	**P**	**19 39 12.9**	**-0.8**
BOD	**Bodaibo**	**27.61**	**326**	*e*P	**P**	**19 39 13.4**	**-0.3**
BOD				pmax	pmax		
	comp=Z,11nm,2.0s						
XAN	**Xi'an**	**27.89**	**273**	P	**P**	**19 39 18.0**	**+1.4**
XAN				pP	pwP	19 39 22.8	-0.8
XAN				sP	sP	19 39 25.0	+2.3
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,110nm,5.4s						
XAN				LR	LR		
	comp=Z,290nm,13.3s						
XAN				LR	LR		
	comp=Z,300nm,12.4s						
ULN	**Ulaanbaatar**	**28.07**	**302**	P	**P**	**19 39 17.4**	**-0.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	**Ulaanbaatar**	**28.07**	**302**	P	**P**	**19 39 17.4**	**-0.8**
H11S1	**WAKE ISLAND Hy**	**28.18**	**127**	T	T	20 09 00.2	
	baz=318,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**28.18**	**127**	T	T	20 09 00.3	
	baz=318,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy**	**28.19**	**127**	T	T	20 09 04.5	
	baz=318,slow=76,SNR=29						
SONM	**Songino Array**	**28.51**	**302**	P	**P**	**19 39 23.2**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=102,slow=8.5,SNR=8.7						
SONM				LR	LR	19 50 12.2	
	comp=Z,34nm,21.9s,baz=136,slow=35						
SONM	**Songino Array**	**28.51**	**302**	P	**P**	**19 39 21.2**	**-0.8**
SONM				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SONM	**Songino Array**	**28.51**	**302**	P	**P**	**19 39 21.2**	**-0.8**
ENH	**Enshi**	**28.80**	**265**	P	**P**	**19 39 22.4**	**-2.3**
ENH				IAmb	IAmb	19 39 37.3	
	comp=Z,14nm,0.8s						
ZAK	**Zakamensk**	**30.88**	**307**	*e*P	**P**	**19 39 43.8**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
LZH	**Lanzhou**	**31.32**	**279**	*e*P	**P**	**19 39 45.5**	**-1.5**
LZH				pP	pP	19 39 50.3	-1.2
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
LZH				pmax	pmax		
	comp=Z,89nm,4.5s						
LZH				LR	LR		
	comp=Z,240nm,13.6s						
LZH				LR	LR		
	comp=Z,280nm,15.7s						
LZH				LR	LR		
	comp=Z,210nm,15.7s						
MOY	**Mondy**	**32.49**	**309**	*e*P	P	19 40 06.7	+10
BILL	**Bilibino**	**32.85**	**16***ce*	P	**P**	**19 40 01.1**	**+1.2**
BILL				*e*		19 41 10.1	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,149nm,19.0s						
BILL	**Bilibino**	**32.85**	**16**	P	**P**	**19 39 59.9**	**0.0**
BILL				IAmb	IAmb	19 40 01.7	
	comp=Z,4.3nm,0.9s						
GTA	**Gaotai**	**33.67**	**286**	*e*P	**P**	**19 40 08.8**	**+1.2**
GTA				pP	sP	19 40 13.5	-0.2
GTA				sP	pwP	19 40 17.0	+2.4
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,84nm,4.7s						
GTA				LR	LR		
	comp=Z,91nm,16.4s						
GTA				LR	LR		
	comp=Z,230nm,15.6s						
GTA				LR	LR		
	comp=Z,260nm,17.1s						
TIXI	**Tiksi**	**34.65**	**352**	P	**P**	**19 40 15.7**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=267,slow=23,SNR=9.7						
TIXI	**Tiksi**	**34.65**	**352***ce*	P	**P**	**19 40 15.2**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TIXI	**Tiksi**	**34.65**	**352**	P	**P**	**19 40 15.8**	**+0.2**
NIKH	**Nikolski High**	**36.18**	**50**	P	**P**	**19 40 28.6**	**-0.3**
PZH	**PanZhiHua**	**36.58**	**264**	P	**P**	**19 40 32.8**	**0.0**
PZH				S	**S**	**19 46 13.0**	**-1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,5.9s						
PZH				LR	LR		
	comp=Z,200nm,15.0s						
PZH				LR	LR		
	comp=Z,350nm,16.3s						
PZH				LR	LR		
	comp=Z,400nm,14.5s						
GOMU	**GeErMu**	**38.30**	**283**	P	**P**	**19 40 48.5**	**+0.9**
GOMU				pP	pwP	19 40 56.8	+1.5
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MYLDM	**Lahad Datu**	**39.54**	**221**	P	**P**	**19 40 56.4**	**-1.3**
SIJI	**Sorong**	**40.07**	**199**	LR	LR	19 57 38.1	
	comp=Z,49nm,18.1s,baz=234,slow=36						
WMQ	**Urumqi**	**41.72**	**296**	*e*P	**P**	**19 41 16.8**	**+1.2**
ZAA0	**Zalesovo Array**	**42.40**	**312**	P	**P**	**19 41 18.9**	**-2.0**
ZAA0				PcP	**PcP**	**19 43 12.9**	**-0.8**
ZALV	**Zalesovo Beam**	**42.40**	**312**	P	**P**	**19 41 21.5**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=88,slow=7.6,SNR=11						
ZALV				PcP	**PcP**	**19 43 14.6**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=112,slow=3.7,SNR=4.6						
ZALV	**Zalesovo Beam**	**42.40**	**312**	P	**P**	**19 41 19.1**	**-1.7**
ZALV				PcP	**PcP**	**19 43 13.4**	**-0.4**
CHTO	**Chiang Mai**	**42.85**	**256**	P	**P**	**19 41 23.0**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CHTO	**Chiang Mai**	**42.85**	**256**	P	**P**	**19 41 23.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**43.06**	**256**	P	**P**	**19 41 27.9**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=44,slow=6.5,SNR=14						
CMAR				LR	LR	20 00 35.6	
	comp=Z,27nm,19.3s,baz=280,slow=38						
CMAR	**Chiang Mai Arr**	**43.06**	**256**	P	**P**	**19 41 27.5**	**+0.9**
NRIK	**Noril'sk**	**43.12**	**335**	*i* P	**P**	**19 41 26.8**	**+0.4**
NRIK				pmax	pmax		
	comp=Z,8.0nm,2.1s						
N18K	**Kilae Creek**	**43.84**	**38**	P	**P**	**19 41 33.9**	**+1.4**
N18K				IAmb	IAmb	19 41 45.9	
	comp=Z,11nm,1.2s						
TTA	**Tatalina**	**43.95**	**35**	P	**P**	**19 41 34.3**	**+1.0**
TTA				pmax	pmax		
	comp=Z,14nm,1.7s						
TTA	**Tatalina**	**43.95**	**35**	P	**P**	**19 41 34.3**	**+1.0**
TTA				IAmb	IAmb	19 42 08.0	
	comp=Z,14nm,1.7s						
SVW2	**Sparrevohn**	**44.02**	**38**	P	**P**	**19 41 34.3**	**+0.4**
SVW2				IAmb	IAmb	19 42 11.4	
	comp=Z,10.0nm,1.2s						
P18K	**Big Mountain,**	**44.13**	**40**	P	**P**	**19 41 35.1**	**+0.3**
O18K	**Koktuh Hills**	**44.16**	**40**	P	**P**	**19 41 35.7**	**+0.7**
O18K				IAmb	IAmb	19 42 18.3	
	comp=Z,29nm,1.4s						
L19K	**White Mountain**	**44.42**	**36**	P	**P**	**19 41 37.3**	**+0.2**
L19K				IAmb	IAmb	19 41 42.4	
	comp=Z,9.1nm,1.2s						
M19K	**Big River Lodg**	**44.63**	**37**	P	**P**	**19 41 38.7**	**0.0**
M19K				IAmb	IAmb	19 42 23.0	
	comp=Z,14nm,1.6s						
SHL	**Shillong**	**44.81**	**270**	P	**P**	**19 41 39.7**	**-1.2**
SHL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SHL	**Shillong**	**44.81**	**270**	P	**P**	**19 41 39.6**	**-1.2**
SHL				IAmb	IAmb	19 41 53.0	
	comp=Z,4.1nm,0.7s						
K20K	**Telida**	**44.86**	**35**	P	**P**	**19 41 42.0**	**+1.4**
MK31	**Makanchi Array**	**44.87**	**302**	P	**P**	**19 41 40.5**	**-0.4**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MK31	**Makanchi Array**	**44.87**	**302**	P	**P**	**19 41 40.5**	**-0.4**
MK31				IAmb	IAmb	19 41 53.2	
	comp=Z,4.9nm,0.8s						
MKAR	**Makanchi Array**	**44.87**	**302**	P	**P**	**19 41 40.9**	**0.0**
	comp=Z,2.6nm,0.7s,baz=86,slow=9.9,SNR=21						
MKAR				PP	**PcP**	**19 43 23.1**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=78,slow=10,SNR=1.6						
MKAR	**Makanchi Array**	**44.87**	**302**	*i* P	**P**	**19 41 44.5**	**+3.6**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**44.87**	**302**	P	**P**	**19 41 40.3**	**-0.6**
J20K	**Nowinta River**	**44.89**	**33**	P	**P**	**19 41 41.9**	**+1.2**
J20K				IAmb	IAmb	19 41 44.2	
	comp=Z,5.4nm,1.0s						
MAKZ	**Makanchi**	**45.08**	**302**	P	**P**	**19 41 40.8**	**-1.8**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAKZ	**Makanchi**	**45.08**	**302**	P	**P**	**19 41 40.8**	**-1.8**
MAKZ				IAmb	IAmb	19 41 54.9	
	comp=Z,6.3nm,0.8s						
OHAK	**Old Harbor**	**45.20**	**43**	P	**P**	**19 41 44.1**	**+0.8**
IMAR	**Indian Mountai**	**45.23**	**31**	P	**P**	**19 41 44.8**	**+1.3**
SBUM	**Sibu**	**45.24**	**226**	P	**P**	**19 41 43.2**	**-0.8**
SBUM				IAmb	IAmb	19 42 01.9	
	comp=Z,9.4nm,1.2s						
RSO	**Redoubt South**	**45.39**	**39**	P	**P**	**19 41 45.8**	**+0.8**
KDAK	**Kodiak Island**	**45.55**	**43**	P	**P**	**19 41 47.9**	**+1.9**
	comp=Z,15nm,1.0s,baz=15,slow=14,SNR=2.7						
KDAK	**Kodiak Island**	**45.55**	**43**	P	**P**	**19 41 47.1**	**+1.1**
KDAK				pmax	pmax		
	comp=Z,88nm,1.6s						
KDAK	**Kodiak Island**	**45.55**	**43**	P	**P**	**19 41 47.1**	**+1.1**
H21K	**Melozitna Rive**	**45.58**	**31**	P	**P**	**19 41 48.6**	**+2.3**
PPLA	**Purkeypile**	**45.69**	**35**	P	**P**	**19 41 50.1**	**+2.8**
CAST	**Castle Rocks**	**45.76**	**35**	P	**P**	**19 41 49.8**	**+2.2**
CNPM	**China Poot**	**46.17**	**40**	P	**P**	**19 41 51.7**	**+0.7**
BPAW	**Bear Paw Mtn.**	**46.27**	**34**	P	**P**	**19 41 54.5**	**+2.8**
KTH	**Kantishna Hill**	**46.28**	**34**	P	**P**	**19 41 53.4**	**+1.5**
KTH				IAmb	IAmb	19 41 55.4	
	comp=Z,13nm,1.2s						
BRLK	**Bradley Lake**	**46.34**	**40**	P	**P**	**19 41 53.7**	**+1.4**
KURK	**Kurchatov**	**46.53**	**308**	P	**P**	**19 41 54.3**	**+0.4**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KURK	**Kurchatov**	**46.53**	**308**	P	**P**	**19 41 54.3**	**+0.4**
KURK				IAmb	IAmb	19 42 26.0	
	comp=Z,10.0nm,0.8s						
H23K	**Yukon River**	**46.94**	**31**	P	**P**	**19 41 58.8**	**+1.9**
H23K				IAmb	IAmb	19 42 00.9	
	comp=Z,6.0nm,0.9s						
H23K				PcP	**PcP**	**19 43 32.2**	**+3.0**
RND	**Reindeer**	**47.21**	**35**	P	**P**	**19 42 00.7**	**+1.6**
RND				pmax	pmax		
	comp=Z,15nm,1.5s						
RND	**Reindeer**	**47.21**	**35**	P	**P**	**19 42 00.7**	**+1.6**
RND				IAmb	IAmb	19 42 25.4	
	comp=Z,15nm,1.5s						
GHO	**Glory Hole Cre**	**47.22**	**37**	P	**P**	**19 41 59.8**	**+0.5**
MDM	**Murphy Dome**

BOOM				PcP	**PcP**		
L27K	**Beaver Creek,**	**50.41**	**35**	P	**P**	**19 43 43.7**	**+1.4**
L27K				IAmb	IAmb	19 43 09.6	
	comp=Z,18nm,1.6s						
BCAR	**Beaver Creek A**	**50.42**	**35**	P	**P**	**19 42 25.0**	**+1.2**
CTGM	**Chitina Glacie**	**50.94**	**37**	P	**P**	**19 42 29.3**	**+1.6**
BRVK	**Borovoye**	**51.11**	**312**	P	**P**	**19 42 29.2**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**51.11**	**312**	P	**P**	**19 42 29.2**	**+0.2**
KSH	**Kashi**	**51.35**	**294**	P	**P**	**19 42 35.5**	**+4.3**
KSH				sP	pwP	19 42 41.5	+2.5
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MTN	**Manton Dam**	**51.68**	**195**	P	**P**	**19 42 34.3**	**+0.7**
MTN				IAmb	IAmb	19 42 36.4	
	comp=Z,16nm,1.2s						
M30M	**Minto, Yukon**	**52.77**	**35**	P	**P**	**19 42 43.3**	**+2.0**
M30M				IAmb	IAmb	19 42 59.0	
	comp=Z,8.2nm,1.4s						
HYT	**Haines Junctio**	**52.80**	**37**	P	**P**	**19 42 44.8**	**+3.1**
HYT				IAmb	IAmb	19 42 46.2	
	comp=Z,7.9nm,1.0s						
INK	**Inuvik**	**53.01**	**28**	P	**P**	**19 42 44.3**	**+1.4**
INK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
INK	**Inuvik**	**53.01**	**28**	P	**P**	**19 42 44.3**	**+1.4**
INK				IAmb	IAmb	19 43 01.6	
	comp=Z,6.8nm,1.4s						
KK31	**Karatay Array**	**53.92**	**300**	P	**P**	**19 42 49.2**	**-0.9**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KK31	**Karatay Array**	**53.92**	**300**	P	**P**	**19 42 49.2**	**-0.9**
KK31				IAmb	IAmb	19 42 59.9	
	comp=Z,3.8nm,0.9s						
KKAR	**Karatay Array**	**53.92**	**300**	P	**P**	**19 42 49.2**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KKAR	**Karatay Array**	**53.92**	**300**	P	**P**	**19 42 49.2**	**-0.9**
KKAR				IAmb	IAmb	19 42 59.9	
	comp=Z,3.8nm,0.9s						
KKAR	**Karatay Array**	**53.92**	**300**	P	**P**	**19 42 48.7**	**-1.3**
KNRA	**Kununurra**	**54.94**	**197**	P	**P**	**19 42 58.9**	**+1.4**
SVE	**Sverdlovsk**	**55.46**	**319**	*eP*	**P**	**19 43 02.7**	**+1.8**
NIL	**Nilore**	**55.69**	**288**	P	**P**	**19 43 03.4**	**+0.4**
NIL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NIL	**Nilore**	**55.69**	**288**	P	**P**	**19 43 03.4**	**+0.4**
NIL				IAmb	IAmb	19 43 13.3	
	comp=Z,7.7nm,0.8s						
CHGR	**Chuyangaron**	**56.58**	**296**	P	**P**	**19 43 09.5**	**+0.1**
CHGR				pmax	pmax		
	comp=Z,26nm,0.8s						
CHGR	**Chuyangaron**	**56.58**	**296**	P	**P**	**19 43 09.4**	**+0.1**
ARU	**Arti**	**56.67**	**319**	LR	LR	20 09 54.5	
	comp=Z,133nm,18.9s,baz=74,slow=39						
ARU	**Arti**	**56.67**	**319**	*d* P	**P**	**19 43 09.8**	**+0.2**
ARU						19 44 04.7	
ARU				S	**S**	**19 51 03.2**	**+2.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARU				MLR	MLR		
	comp=Z,175nm,17.0s						
ARU	**Arti**	**56.67**	**319**	P	**P**	**19 43 10.0**	**+0.4**
ARU				IAmb	IAmb	19 43 33.7	
	comp=Z,6.7nm,1.0s						
DLBC	**Dease Lake**	**57.11**	**39**	P	**P**	**19 43 15.3**	**+2.5**
	comp=Z,3.8nm,0.9s,baz=308,slow=26,SNR=2.4						
WB0	**Warramunga Arr**	**57.91**	**190**	P	**P**	**19 43 18.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**58.05**	**200**	P	**P**	**19 43 21.2**	**+1.6**
	comp=Z,2.9nm,0.7s,baz=29,slow=6.4,SNR=11						
FITZ	**Fitzroy Crossi**	**58.05**	**200**	P	**P**	**19 43 19.9**	**+0.3**
FITZ				IAmb	IAmb	19 43 24.1	
	comp=Z,16nm,1.5s						
WRAB	**Tennant Creek**	**58.08**	**190**	*ceP*	**P**	**19 43 19.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,14nm,1.7s						
WRAB	**Tennant Creek**	**58.08**	**190**	P	**P**	**19 43 19.1**	**-0.8**
WRAB				IAmb	IAmb	19 43 21.5	
	comp=Z,9.5nm,0.8s						
WRAB				PcP	**PcP**	**19 44 13.5**	**+1.9**
WR0	**Warramunga Arr**	**58.08**	**190**	P	**P**	**19 43 20.0**	**+0.1**
WR0				IAmb	IAmb	19 43 21.4	
	comp=Z,7.6nm,0.7s						
WB2	**Warramunga Arr**	**58.09**	**190**	P	**P**	**19 43 19.1**	**-0.8**
WB2				PcP	**PcP**	**19 44 12.7**	**+1.1**
WRA	**Warramunga Arr**	**58.09**	**190**	P	**P**	**19 43 20.5**	**+0.6**
	comp=Z,9.8nm,0.8s,baz=7.4,slow=7.2,SNR=76						
WRA				PcP	**PcP**	**19 44 13.2**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=1.7,slow=4.2,SNR=8.1						
WRA	**Warramunga Arr**	**58.09**	**190**	P	**P**	**19 43 19.6**	**-0.4**
WRA				PcP	**PcP**	**19 44 13.4**	**+1.8**
KBL	**Kabul**	**58.42**	**291**	P	**P**	**19 43 22.0**	**-0.6**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBL	**Kabul**	**58.42**	**291**	P	**P**	**19 43 22.0**	**-0.6**
KBL				IAmb	IAmb	19 43 59.0	
	comp=Z,4.2nm,0.9s						
ABKAR	**Akbulak array**	**58.48**	**310**	P	**P**	**19 43 21.9**	**-0.6**
ABKAR				IAmb	IAmb	19 43 23.5	
	comp=Z,2.6nm,0.7s						
ABKAR	**Akbulak array**	**58.48**	**310**	P	**P**	**19 43 21.4**	**-1.0**
KIRV	**Kirov**	**60.43**	**323**	*ceP*	**P**	**19 43 34.8**	**-0.9**
RES	**Resolute Bay**	**61.45**	**15**	P	**P**	**19 43 43.2**	**+0.8**
RES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
RES	**Resolute Bay**	**61.45**	**15**	P	**P**	**19 43 43.2**	**+0.8**
RES				IAmb	IAmb	19 43 44.6	
	comp=Z,6.3nm,1.1s						
AS31	**Alice Springs**	**61.81**	**190**	P	**P**	**19 43 45.2**	**-0.3**
ASAR	**Alice Springs**	**61.81**	**190**	P	**P**	**19 43 46.8**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=12,slow=6.7,SNR=26						
ASAR	**Alice Springs**	**61.81**	**190**	P	**P**	**19 43 46.1**	**+0.6**
YKA	**Yellowknife Ar**	**62.39**	**31**	P	**P**	**19 43 50.5**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=303,slow=6.6,SNR=30						
YKA	**Yellowknife Ar**	**62.39**	**31**	P	**P**	**19 43 49.6**	**+0.7**
ARCES	**ARCESS Array B**	**63.72**	**340**	P	**P**	**19 43 59.4**	**+1.7**
	comp=Z,2.0nm,0.8s,baz=45,slow=7.0,SNR=3.8						
GEYT	**Alibeck**	**64.66**	**299**	P	**P**	**19 44 04.9**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=44,slow=6.4,SNR=3.0						
GEYT	**Alibeck**	**64.66**	**299**	P	**P**	**19 44 04.7**	**+0.3**
GEYT				IAmb	IAmb	19 44 06.1	
	comp=Z,2.7nm,0.8s						
LLLB	**Lillooet**	**64.69**	**45**	P	**P**	**19 44 01.8**	**-2.6**
OBN	**Obninsk**	**68.27**	**324**	⇑*eP*	**P**	**19 44 26.9**	**-0.2**
OBN				*PP	**pP**	**19 44 31.0**	**-0.7**
OBN				*e**SP	**pwP**	**19 44 35.5**	**+0.6**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,73nm,15.0s						
YBH	**Yreka Blue Hor**	**68.73**	**53**	P	**P**	**19 44 33.1**	**+2.7**
	comp=Z,0.9nm,0.4s,baz=40,slow=14,SNR=2.0						
FINES	**FINESS Array B**	**68.73**	**333**	P	**P**	**19 44 30.8**	**+0.9**
	comp=Z,4.8nm,0.6s,baz=35,slow=10,SNR=22						
PINE	**Pine Mountain**	**68.74**	**51**	P	**P**	**19 44 30.4**	**-0.2**
PINE				IAmb	IAmb	19 44 34.4	
	comp=Z,5.1nm,0.9s						
VORR	**Voronezh**	**68.95**	**320**	*eP*	**P**	**19 44 33.2**	**+1.8**
STKA	**Stephens Creek**	**69.39**	**181**	P	**P**	**19 44 35.7**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=352,slow=5.6,SNR=8.2						
KIV	**Kislovodsk**	**71.42**	**311**	*eP*	**P**	**19 44 48.0**	**+1.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV	**Kislovodsk**	**71.42**	**311**	P	**P**	**19 44 47.3**	**+0.5**
KIV				IAmb	IAmb	19 45 11.8	
	comp=Z,8.5nm,1.0s						
KBZ	**Khabaz**	**71.42**	**311**	P	**P**	**19 44 47.9**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=93,slow=4.5,SNR=8.9						
KBZ	**Khabaz**	**71.42**	**311**	*ceP*	**P**	**19 44 47.5**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GNI	**Garni**	**72.33**	**307**	*i* P	**P**	**19 44 52.3**	**-0.2**
GNI				pmax	pmax		
	comp=Z,11nm,1.4s						
NVAR	**Mina Array Bea**	**73.37**	**54**	P	**P**	**19 45 01.5**	**+2.7**
	comp=Z,1.5nm,0.7s,baz=289,slow=6.0,SNR=11						
HFS	**Hagfors**	**73.91**	**336**	LR	LR	20 22 06.8	
	comp=Z,68nm,18.0s,baz=14,slow=40						
NB2	**NORSAR Subarra**	**73.96**	**338**	P	**P**	**19 45 02.6**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**73.96**	**338**	P	**P**	**19 45 02.5**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=38,slow=5.9,SNR=9.7						
NOA				LR	LR	20 20 44.9	
	comp=Z,28nm,19.0s,baz=30,slow=38						
AKASG	**Malin Array Be**	**74.50**	**323**	P	**P**	**19 45 05.6**	**+0.8**
	comp=Z,2.5nm,0.6s,baz=45,slow=6.2,SNR=11						
AKASG				LR	LR	20 23 03.7	
	comp=Z,39nm,18.8s,baz=170,slow=40						
AKBB	**Malin Array Si**	**74.50**	**323**	*ceP*	**P**	**19 45 04.1**	**-0.7**
H17A	**Grant Village**	**74.50**	**46**	P	**P**	**19 45 06.5**	**+1.1**
R11A	**Troy Canyon, C**	**75.15**	**53**	P	**P**	**19 45 10.0**	**+0.9**
QSM	**Queen of Sheba**	**75.74**	**56**	P	**P**	**19 45 13.5**	**+1.2**
QSM				IAmb	IAmb	19 45 15.5	
	comp=Z,7.5nm,1.2s						
PDAR	**Pinedale Array**	**76.09**	**46**	P	**P**	**19 45 16.2**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=267,slow=1.7,SNR=16						
RDMU	**Red Mountain**	**77.47**	**48**	P	**P**	**19 45 22.5**	**+0.3**
RDMU				IAmb	IAmb	19 45 34.7	
	comp=Z,6.9nm,1.3s						
ULM	**Lac du Bonnet**	**78.04**	**34**	P	**P**	**19 45 26.2**	**+1.3**
	comp=Z,1.1nm,0.4s,baz=276,slow=5.6,SNR=3.5						
ULM	**Lac du Bonnet**	**78.04**	**34**	IAmb	IAmb	19 45 26.8	
	comp=Z,3.1nm,0.8s						
BUR08	**Bucovina Ar. S**	**78.51**	**322**	P	**P**	**19 45 28.9**	**+1.1**
BRTR	**Keskin Array B**	**79.34**	**312**	P	**P**	**19 45 33.4**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=130,slow=2.3,SNR=1.4						
DPC	**Dobruska-Polom**	**80.50**	**329**	*eP*	**P**	**19 45 40.2**	**+1.7**
DPC	**Dobruska-Polom**	**80.50**	**329**	*eP*	**P**	**19 45 40.2**	**+1.7**
CLL	**Collm**	**81.07**	**331**	*i* P	**P**	**19 45 41.6**	**+0.2**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CLL	**Collm**	**81.07**	**331**	*i* P	**P**	**19 45 41.6**	**+0.2**
	comp=Z,5.0nm,0.9s						
PRU	**Pruhonice**	**81.50**	**329**	*eP*	P	19 45 54.0	+10
CKRC	**Cesky Krumlov**	**82.51**	**329**	*eP*	**P**	**19 45 50.1**	**+1.0**
KHC	**Kasperske Hory**	**82.56**	**329**	*eP*	**P**	**19 45 50.8**	**+1.4**
KHC				*e*		19 45 59.5	
KHC	**Kasperske Hory**	**82.56**	**329**	*eP*	**P**	**19 45 50.8**	**+1.4**
KHC				*ex*	x	19 45 59.5	
GERES	**GERESS Array B**	**82.74**	**329**	P	**P**	**19 45 51.1**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=61,slow=6.3,SNR=4.3						
ANMO	**Albuquerque**	**82.98**	**51**	P	**P**	**19 45 54.5**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=24,slow=4.2,SNR=3.1						
ANMO	**Albuquerque**	**82.98**	**51**	P	**P**	**19 45 54.5**	**+2.4**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ANMO	**Albuquerque**	**82.98**	**51**	IAmb	IAmb	19 45 58.5	
	comp=Z,2.8nm,1.1s						
TXAR	**Lajitas Array**	**88.51**	**53**	P	**P**	**19 46 20.8**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=328,slow=3.2,SNR=2.5						
ESDC	**Sonseca Array**	**97.15**	**335**	LR	LR	20 34 32.7	
	comp=Z,36nm,18.8s,baz=46,slow=38						
TORD	**Torodi Ar. Bea**	**117.72**	**317**	PKP	**PKiKP**	**19 52 13.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=345,slow=2.2,SNR=2.5						
SNAA	**Sanae**	**141.94**	**197**	PKPdf	**PKPdf**	**19 52 54.1**	**-3.2**
VNA2	**Neumayer--Watz**	**143.49**	**196**	PKPdf	PKPbc	19 52 58.6	+1.3
	baz=118,slow=3.0						
VNA3	**Neumayer Olymp**	**143.72**	**194**	PKPdf	PKPbc	19 52 58.5	+0.5
LPAZ	**La Paz**	**145.07**	**61**	PKPbc	**PKPdf**	**19 53 05.6**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=338,slow=5.7,SNR=5.7						

*IDC **26** 19:43:38.1±2.0,9.°08S×124.°67E,h0km,mb3.2/1, mb1 3.9/4,mb1mx3.3/29,mbtmp3.7/4,ML3.9/3,Error ellipse: s-maj=38.2km s-min=27.4km az=84.0*

ISC 26 19:43:44.4±1.4,9.°7S±0.°1×124.°38E±0.°10,h10km,n13, σ3°14/15,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.85**	**236**	Pg	**Pn**	**19 44 06.0**	**+3.6**
	65nm,0.3s,baz=85,slow=2.6,SNR=170						
BATI				Lg	Lg	19 44 20.9	
	198nm,0.3s,baz=331,slow=19,SNR=44						
MMRI	**Maumere**	**2.38**	**297**	P	**Pn**	**19 44 21.3**	**-2.2**
KNRA	**Kununurra**	**7.29**	**145**	P	**Pn**	**19 45 34.7**	**+3.7**
MTN	**Manton Dam**	**7.31**	**116**	P	**Pn**	**19 45 35.3**	**+4.0**
FITZ	**Fitzroy Crossi**	**8.40**	**172**	Pn	**Pn**	**19 45 48.4**	**+2.1**
	1.0nm,0.3s,baz=357,slow=11,SNR=85						
FITZ				Sn	**Sn**	**19 47 18.3**	**-3.0**
	2.0nm,0.3s,baz=137,slow=19,SNR=13						
FITZ	**Fitzroy Crossi**	**8.40**	**172**	P	**Pn**	**19 45 49.2**	**+2.9**
KDU	**Kakadu**	**8.46**	**111**	P	**Pn**	**19 45 50.2**	**+3.1**
WRA	**Warramunga Arr**	**13.98**	**138**	Pn	**Pn**	**19 47 02.1**	**-0.6**
	0.5nm,0.3s,baz=312,slow=15,SNR=43						
WRA				Sn	**Sn**	**19 49 34.2**	**-3.9**
	0.7nm,0.3s,baz=310,slow=24,SNR=6.9						
WRAB	**Tennant Creek**	**13.98**	**138**	P	**Pn**	**19 47 04.8**	**+2.1**
WRKA	**Warakurna**	**15.67**	**167**	P	**Pn**	**19 47 25.8**	**+0.4**
ASAR	**Alice Springs**	**16.57**	**148**	Pn	**Pn**	**19 47 37.9**	**+0.8**
	0.6nm,0.3s,baz=319,slow=12,SNR=61						
ASAR				Sn	**Sn**	**19 50 37.0**	**-4.2**
	0.2nm,0.3s,baz=317,slow=21,SNR=5.1						
QIS	**Mount Isa**	**18.20**	**128**	P	**P**	**19 47 58.7**	**+1.1**
MKAR	**Makanchi Array**	**67.63**	**330**	P	P	19 54 34.1	-7.5
	0.1nm,0.5s,baz=130,slow=7.8,SNR=1.8						

*GEN **26** 19:43:58.9,44.°46N×10.°37E,h42km±1km,Ml1.8*
*LDG **26** 19:43:59.8,44.°43N×10.°28E,h0km*
*VIE **26** 19:44:01.2±0.9,44.°75N×10.°49E,h3km,mb2.4/5,ml2.2/8, Error ellipse: s-maj=10.9km s-min=7.1km az=98.0 72 km WNW of Bologna*

ROM 26 19:43:59.1±0.2,44.°45N±0.°01×10.°35E±0.°02,h50km±2km, ML2.3/11,1C-1D,Error ellipse: s-maj=1.5km s-min=1.2km az=244.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVI	**Neviano degli**	**0.14**	**351**	P	Pn	19 44 07.3	+0.1
NEVI				S	Sn	19 44 14.1	+1.2
GSCL	**Gusciola**	**0.20**	**120**	P	Pn	19 44 07.5	-0.1
GSCL				S	Sn	19 44 13.6	0.0
GSCL				AML	AML		
	comp=E,343μm,0.4s						
GSCL				AML	AML		
	comp=N,336μm,0.4s						
GSCL				AML	AML		
	comp=N,335μm,0.4s						
GSCL	**Gusciola**	**0.20**	**120**	P	Pn	19 44 07.5	-0.1
GSCL				S	Sn	19 44 13.7	+0.1
GRAM	**Graiana**	**0.20**	**282**	P	Pn	19 44 07.4	-0.3
GRAM				S	Sn	19 44 13.6	-0.1
GRAM				AML	AML		
	comp=E,314μm,0.2s						
GRAM				AML	AML		
	comp=N,265μm,1.2s						
GRAM	**Graiana**	**0.20**	**282**	P	Pn	19 44 07.4	-0.2
GRAM				S	Sn	19 44 13.7	0.0
SARO	**Sassorosso**	**0.27**	**172**	P	Pn	19 44 08.0	-0.2
SARO				S	Sn	19 44 14.3	-0.3
PRMA	**PARMA**	**0.31**	**356**	P	Pn	19 44 08.8	+0.4
PRMA				S	Sn	19 44 16.8	+1.8
PRMA				AML	AML		
	comp=E,614μm,0.3s						
PRMA				AML	AML		
	comp=N,532μm,0.3s						
PRMA				AML	AML		
	comp=N,532μm,0.3s						
PRMA	**PARMA**	**0.31**	**356**	P	Pn	19 44 08.7	+0.3
PRMA				S	Sn	19 44 16.9	+1.8
EQUI	**Equi**	**0.32**	**206**	P	Pn	19 44 08.2	-0.3
EQUI	**Equi**	**0.32**	**206**	P	Pn	19 44 08.2	-0.2
EQUI				S	Sn	19 44 15.0	-0.1
BDI	**Bagni Di Lucca**	**0.43**	**155**	P	Pn	19 44 09.6	0.0
BDI				S	Sn	19 44 17.3	+0.1
CARD	**Cardoso**	**0.43**	**167**	⇑P	Pn	19 44 09.7	0.0
CARD				S	Sn	19 44 17.4	+0.2
CARD				AML	AML		
	comp=E,184μm,0.2s						
CARD				AML	AML		
	comp=E,184μm,0.2s						
CARD				AML	AML		
	comp=N,162μm,0.7s						
CARD	**Cardoso**	**0.43**	**167**	P	Pn	19 44 09.7	+0.1
CARD				S	Sn	19 44 17.4	+0.2
ZCCA	**Zocca**	**0.46**	**102**	P	Pn	19 44 11.2	+1.2
ZCCA	**Zocca**	**0.46**	**102**	P	Pn	19 44 11.2	+1.2
ZCCA				S	Sn	19 44 21.3	+3.5
MAIM	**Mastiano**	**0.55**	**169**	P	Pn	19 44 11.4	+0.4
MAIM				S	Sn	19 44 19.8	+0.4
MAIM	**Mastiano**	**0.55**	**169**	P	Pn	19 44 11.3	+0.4
MAIM				S	Sn	19 44 20.1	+0.7
MSSA	**Maissana**	**0.61**	**258**	P	Pn	19 44 12.6	+0.8
MSSA				S	Sn	19 44 22.3	+1.3
MSSA	**Maissana**	**0.61**	**258**	P	Pn	19 44 12.6	+0.8
MSSA				S	Sn	19 44 22.2	+1.3
FNVD	**Fontana Vidola**	**0.62**	**117**	P	Pn	19 44 13.1	+1.1
CAVE	**Cavezzo**	**0.63**	**48**	P	Pn	19 44 13.0	+1.1
CAVE				AML	AML		
	comp=N,566μm,0.6s						
CAVE				AML	AML		
	comp=E,541μm,0.5s						
CAVE	**Cavezzo**	**0.63**	**48**	P	Pn	19 44 13.0	+1.1
CAVE				S	Sn	19 44 23.2	+2.1
RAVA	**Ravarino**	**0.63**	**61**	S	Sn	19 44 24.9	+3.7
MTCR	**Monte La Croce**	**0.63**	**132**	P	Pn	19 44 13.2	+1.1
MTCR				S	Sn	19 44 22.6	+1.1
MTCR	**Monte La Croce**	**0.63**	**132**	P	Pn	19 44 13.2	+1.1
MTCR				S	Sn	19 44 22.6	+1.1
PII	**Pisa**	**0.74**	**170**	P	Pn	19 44 13.6	+0.3
PII				S	Sn	19 44 23.9	+0.2
PII				AML	AML		
	comp=E,158μm,1.6s						
PII				AML	AML		
	comp=N,128μm,1.2s						
PII	**Pisa**	**0.74**	**170**	P	Pn	19 44 13.6	+0.3
PII				S	Sn	19 44 24.0	+0.3
GORR	**Gorreto**	**0.77**	**282**	P	Pn	19 44 15.2	+1.4
RUFI	**Rufina**	**1.04**	**126**	P	Pn	19 44 18.4	+1.1
RUFI				AML	AML		
	comp=N,112μm,1.6s						
RUFI				AML	AML		
	comp=E,87μm,1.6s						
RUFI	**Rufina**	**1.04**	**126**	P	Pn	19 44 18.4	+1.1
OSSC	**Osservatorio P**	**1.13**	**145**	P	Pn	19 44 19.3	+0.7
SALO	**Salr**	**1.18**	**6**	P	Pn	19 44 19.4	+0.2
SALO				AML	AML		
	comp=E,72μm,1.4s						
SALO				AML	AML		
	comp=N,100μm,1.6s						
CSNT	**Castellina Chi**	**1.19**	**145**	P	Pn	19 44 20.0	+0.6
ROVR	**Rover Verones**	**1.30**	**23**	P	Pn	19 44 20.9	-0.1
MAGA	**Magasa**	**1.34**	**8**	P	Pn	19 44 21.0	-0.5
MAGA				AML	AML		
	comp=E,98μm,0.6s						
MAGA				AML	AML		
	comp=N,79μm,0.6s						
MABI	**Malga Bissina**	**1.61**	**4**	P	Pn	19 44 25.1	-0.2
GAGG	**Gaggia**	**1.69**	**15**	P	Pn	19 44 25.7	-0.6
CTI	**Castel Tesino**	**1.84**	**29**	P	Pn	19 44 27.9	-0.5
CTI				AML	AML		
	comp=N,80μm,1.1s						
CTI				AML	AML		
	comp=E,88μm,0.1s						
PGF	**Pioggiola**	**2.14**	**208**	*e*Pn	Pn	19 44 32.4	0.0
PGF				*e*Sn	Sn	19 44 56.4	-1.4
	comp=E,7.7nm,0.3s						
TUE	**Stuetta**	**2.14**	**341**	P	Pn	19 44 33.2	+0.7
SBF	**Sospel**	**2.18**	**255**	*e*P	Pn	19 44 34.1	+1.2
SBF				*e*Sn	Sn	19 44 57.6	-1.1
	comp=E,3.7nm,0.3s						
MBDF	**Montbardon**	**2.57**	**277**	*e*P	Pn	19 44 39.5	+1.1
MBDF				*e*Sn	Sn	19 45 06.7	-1.8
	comp=E,1.7nm,0.3s						
LPG	**La Plagne**	**2.76**	**294**	*e*P	Pn	19 44 42.9	+1.8
LPG				*e*Sn	Sn	19 45 10.4	-2.9
	comp=E,1.8nm,0.5s						
SQTA	**Sankt Quirin**	**2.83**	**12**	*e*Pn	Pn	19 44 43.5	+1.5
	comp=E,3.6nm,0.3s						
DAVA	**Damuels**	**2.86**	**354**	*e*Pn	Pn	19 44 44.9	+2.6
	comp=E,3.4nm,0.6s						
MOTA	**Moosalm**	**2.94**	**10**	*e*Pn	Pn	19 44 45.5	+2.0
	comp=E,0.6nm,0.1s						
WTTA	**Wattenberg**	**2.96**	**17**	*i* Pn	Pn	19 44 46.3	+2.7
	comp=E,0.5nm,0.1s						
LMR	**La Mourre**	**2.99**	**249**	*e*Pn	Pn	19 44 44.0	0.0
LMR				*e*Sn	Sn	19 45 17.1	-1.5
	comp=E,1.7nm,0.2s						
ROM9	**Roma**	**3.06**	**148**	⇓P	Pn	19 44 44.0	-1.0
ORIF	**Oris-en-Rattie**	**3.22**	**280**	*e*P	Pn	19 44 49.4	+2.2
ORIF				*e*Sn	Sn	19 45 21.3	-3.1
	comp=E,1.2nm,0.4s						
SMRF	**Simiane la Rot**	**3.46**	**264**	*e*P	Pn	19 44 52.4	+1.9
SMRF				*e*Sn	Sn	19 45 27.9	-2.4
	comp=E,0.5nm,0.3s						
CABF	**La Chapelle**	**3.69**	**307**	*e*Pn	Pn	19 44 53.8	+0.1
VIVF	**Saint-Julien-l**	**4.07**	**278**	*e*P	Pn	19 45 01.3	+2.5
VIVF				*e*Sn	Sn	19 45 42.3	-2.9
	comp=E,0.6nm,0.3s						
HINF	**Hinteralfeld**	**4.15**	**325**	*e*Pn	Pn	19 44 59.4	-0.5
HINF				*e*Sn	Sn	19 45 44.8	-2.4
	comp=E,2.3nm,0.4s						
CDF	**Champ du Feu**	**4.50**	**333**	*e*Pn	Pn	19 45 04.1	-0.6
CDF				*e*Sn	Sn	19 45 52.8	-2.9
	comp=E,0.7nm,0.3s						
HAU	**Haudompre**	**4.51**	**323**	*e*Pn	Pn	19 45 04.6	-0.2
HAU				*e*Sn	Sn	19 45 53.0	-3.0
	comp=E,4.1nm,0.4s						
SFTF	**Sexfontaines**	**5.25**	**317**	*e*Pn	Pn	19 45 14.3	-0.7
	baz=139						
SFTF				*e*Sn	Sn	19 46 09.7	-4.5
	comp=E,0.9nm,0.2s						
LOR	**Lormes**	**5.34**	**304**	*e*P	Pn	19 45 18.9	+2.7
	baz=123					

comp=Z,0.6nm,0.3s,baz=345,slow=20,SNR=1.4
CMIG Matias Romero 8.36 308 LR LR 19 53 15.9
comp=Z,42nm,19.6s,baz=46,slow=39
TXAR Lajitas Array 22.57 322 P **P** **19 52 47.8 +1.8**
comp=Z,2.4nm,0.9s,baz=145,slow=11,SNR=10
PDAR Pinedale Array 35.89 332 P **P** **19 54 47.4 +1.5**
comp=Z,0.1nm,0.5s,baz=125,slow=27,SNR=2.6
NVAR Mina Array Bea 37.68 320 P **P** **19 55 04.0 +2.9**
comp=Z,0.7nm,0.5s,baz=140,slow=7.1,SNR=8.4
ULM Lac du Bonnet 38.65 352 P **P** **19 55 08.0 -0.9**
comp=Z,1.4nm,0.5s,baz=174,slow=9.2,SNR=1.6
YKA Yellowknife Ar 53.87 345 P **P** **19 57 08.1 -0.3**
comp=Z,0.2nm,0.6s,baz=139,slow=7.3,SNR=4.3
AFI Afiamalu 86.96 255 LR LR 20 32 55.8
comp=Z,49nm,20.7s,baz=160,slow=31

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*SEA **26** 19:54:43.9±2.0, 47°.509N±0°.010×122°.00W±0°.01, h10km±3km, ML2.4/95, ML2.3/48(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=64.0*
NEIC 26 19:54:43.2±1.2, 47°.509N±0°.010×122°.991W±0°.004, h15km±2km, Error ellipse: s-maj=1.4km s-min=0.4km az=174.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNLK	**Pine Lake Midd**	**0.08**	**340**		Pg	19 54 46.1	-0.2
PNLK					Sg	19 54 48.3	0.0
ELW	**Echo Lake**	**0.08**	**100**		Pg	19 54 45.8	-0.6
ELW					Sg	19 54 47.8	-0.5
MPL	**Maple valley S**	**0.14**	**253**		Pg	19 54 46.6	-0.3
MPL					Sg	19 54 49.5	+0.1
RATT	**Rattlesnake La**	**0.15**	**123**		Pg	19 54 47.1	-0.1
RATT					Sg	19 54 50.0	+0.1
RAW	**Raver**	**0.18**	**167**		Pg	19 54 47.7	+0.2
CDMR	**Cedar Moraine**	**0.18**	**119**		Pg	19 54 47.7	+0.1
CDMR					Sb	19 54 51.2	-0.4
SP2	**Seward Park 2**	**0.18**	**285**		Pg	19 54 47.7	+0.1
SP2					Sb	19 54 51.9	+0.3
FINN	**Finn Hill Juni**	**0.27**	**322**		Sg	19 54 52.8	0.0
TTW	**Tolt Reservoir**	**0.28**	**48**		Pb	19 54 49.5	-0.3
TTW					Sb	19 54 53.9	-0.5
C05A	**Tolt Reservoir**	**0.28**	**48**		Pb	19 54 49.5	-0.3
C05A					Sb	19 54 53.9	-0.5
D05A	**Enumclaw**	**0.32**	**180**		Pb	19 54 50.3	-0.3
D05A	**Enumclaw**	**0.32**	**180**		Sb	19 54 56.0	+0.4
D05A	**Enumclaw**	**0.32**	**180**	IAML		19 54 56.4	
D05A	comp=E,258nm,0.5s			IAML		19 54 56.4	
	comp=N,546nm,0.6s						
HTW	**Haystack Looko**	**0.33**	**27**		Pg	19 54 50.2	+0.1
HTW					Sg	19 54 55.3	+0.5
GSM	**Grass Mountain**	**0.33**	**156**		Pg	19 54 50.2	0.0
GSM					Sg	19 54 55.5	+0.5
MBPA	**Monroe Substat**	**0.40**	**10**		Sb	19 54 57.7	-0.1
GHW	**Garrison Hill**	**0.51**	**202**		Pg	19 54 53.1	-0.1
GMW	**Gold Mountain**	**0.54**	**274**		Pg	19 54 54.0	+0.1
GMW					Sb	19 55 03.1	+1.1
B941	**Kapowsin**	**0.55**	**197**		Pg	19 54 53.5	-0.4
B941					Sg	19 55 01.5	+0.2
RVC	**Mount Rainier-**	**0.57**	**179**		Pg	19 54 54.2	-0.2
RVC					Sb	19 55 02.5	-0.3
GNW	**Green Mountain**	**0.57**	**276**		Pg	19 54 54.2	-0.2
GNW					Sb	19 55 03.0	+0.2
FMW	**Mount Fremont**	**0.62**	**159**		Pg	19 54 54.9	-0.5
FMW					Sg	19 55 03.6	0.0
D04E	**Lakebay**	**0.63**	**238**		Pb	19 54 55.8	0.0
D04E					Sn	19 55 06.4	-0.8
RCS	**Mount Rainier-**	**0.66**	**164**		Pg	19 54 55.9	-0.4
PANH	**Panhandle Gap,**	**0.69**	**160**		Pg	19 54 56.4	-0.4
PANH					Sg	19 55 06.1	+0.1
C04A	**Brinnon**	**0.70**	**288**		Sb	19 55 06.3	0.0
RCM	**Mount Rainier-**	**0.70**	**165**		Pg	19 54 56.5	-0.4
RCM					Sg	19 55 06.2	0.0
REMR	**Mount Rainier-**	**0.70**	**172**		Pg	19 54 56.3	-0.6
REMR					Sg	19 55 06.0	-0.1
HDW	**Hoodsport**	**0.73**	**281**		Pg	19 54 56.9	-0.6
HDW					Sb	19 55 07.7	+0.1
D03D	**Eldon**	**0.74**	**272**		Pg	19 54 57.3	-0.4
B05A	**Bryant**	**0.76**	**355**		Pg	19 54 57.7	-0.3
B05A					Sb	19 55 08.3	+0.1
LON	**Longmire**	**0.77**	**171**		Pg	19 54 57.5	-0.7
WRW	**Wenatchee Ridg**	**0.83**	**65**		Pg	19 54 59.2	-0.1
GPW	**Glacier Peak**	**0.84**	**43**		Pg	19 54 59.4	-0.2
SQM	**Sequim**	**0.91**	**309**		Pb	19 55 00.2	-0.5
LTY	**Liberty**	**0.93**	**105**		Pb	19 55 00.9	-0.2
SMW	**South Mountain**	**0.94**	**259**		Pg	19 55 01.3	-0.1
RPW	**Rockport**	**0.99**	**19**		Pb	19 55 02.3	+0.1
TBM	**Table Mountain**	**1.01**	**109**		Pg	19 55 02.5	-0.1
SLFW	**Sugar Loaf**	**1.02**	**75**		Pg	19 55 03.0	0.0
E04D	**Cinebar**	**1.03**	**203**		Pb	19 55 02.2	-0.5
B06A	**Marblemount**	**1.06**	**18**		Pn	19 55 03.6	+0.1
B06A	**Marblemount**	**1.06**	**18**	IAML		19 55 18.6	
B06A	comp=N,104nm,0.3s			IAML		19 55 19.1	
	comp=E,108nm,0.3s						
NAC	**Naches**	**1.11**	**134**		Pb	19 55 04.1	0.0
ETW	**Entiat**	**1.13**	**85**		Pg	19 55 06.6	+1.6
EBG	**Ellensburg**	**1.14**	**121**		Pg	19 55 05.6	+0.3
B04A	**Port Angeles**	**1.16**	**299**		Pn	19 55 03.8	-1.1
TDL	**Tradedollar La**	**1.17**	**188**		Pn	19 55 04.2	-0.9
B201	**Coldwater, Mou**	**1.22**	**189**		Pn	19 55 05.5	-0.2
ERK	**Elk Rock**	**1.23**	**191**		Pn	19 55 05.2	-0.7
NLW	**Nelson Butte**	**1.25**	**62**		Pb	19 55 06.9	+0.3
SOSW	**Source of Smit**	**1.27**	**185**		Pn	19 55 06.0	-0.5
WISH	**Wishkah**	**1.27**	**253**	Pn	Pn	19 55 06.3	-0.1
WISH				IAML		19 55 14.1	
	comp=E,33nm,3.6s						
WISH				IAML		19 55 40.5	
	comp=N,35nm,2.9s						
MBW	**Mount Baker**	**1.28**	**3**		Pb	19 55 07.3	+0.3
NLWA	**Neilton Lookou**	**1.28**	**265**		Pn	19 55 06.0	-0.5
NLWA				IAML		19 55 28.1	
	comp=N,42nm,0.8s						
STD	**Studebaker Rid**	**1.28**	**187**		Pn	19 55 06.6	-0.1
MCW	**Mount Constitu**	**1.30**	**335**		Pn	19 55 06.8	0.0
BOLM	**Sugar Bowl**	**1.30**	**186**		Pn	19 55 07.2	+0.2
VALT	**Mount Saint He**	**1.30**	**186**		Pn	19 55 06.8	-0.2
SEPW	**September Lobe**	**1.32**	**186**		Pn	19 55 07.3	+0.1
SHW	**Mount Saint He**	**1.33**	**187**		Pn	19 55 07.4	+0.1
FL2	**Flat Top 2**	**1.34**	**191**		Pn	19 55 07.1	-0.3
BMW	**Boistfort Moun**	**1.34**	**220**		Pn	19 55 07.2	-0.2
CBSW	**Chelan Butte S**	**1.35**	**77**		Pb	19 55 08.7	+0.4
B203	**Quarry, Mount**	**1.36**	**190**		Pn	19 55 07.6	-0.1
SHUK	**Shuksan-Mt. Ba**	**1.36**	**9**		Pb	19 55 08.5	0.0
CDFW	**Cedar Flats**	**1.39**	**182**		Pb	19 55 09.2	+0.3
E03A	**Lebam**	**1.44**	**229**	Pn	Pb	19 55 10.3	+0.6
E03A				IAML		19 55 37.5	
	comp=N,30nm,1.1s						
E03A				IAML		19 55 38.5	
	comp=E,32nm,0.6s						
RVW	**Rose Valley**	**1.46**	**201**		Pn	19 55 08.6	-0.3
MTMW	**Mount Mitchell**	**1.49**	**186**		Pn	19 55 09.8	+0.3
PGC	**Sidney**	**1.50**	**320**	Pn	Pn	19 55 09.4	-0.1
PGC				IAML		19 55 29.6	
	comp=N,23nm,0.7s						
PGC				IAML		19 55 29.8	
	comp=E,26nm,0.3s						
TRW	**Toppenish Ridg**	**1.57**	**140**		Pg	19 55 12.7	-0.7
F04A	**Amboy**	**1.60**	**191**	Pn	Pn	19 55 11.2	+0.2
EPH	**Ephrata**	**1.63**	**95**		Pb	19 55 12.8	-0.2
F05D	**White Salmon**	**1.67**	**167**	Pn	Pn	19 55 11.4	-0.4
F05D				IAML		19 55 37.6	
	comp=N,47nm,0.4s						
F05D				IAML		19 55 37.8	
	comp=E,46nm,0.4s						
E07A	**Sunnyside**	**1.74**	**122**	Pn	Pn	19 55 12.5	-0.5
E07A				IAML		19 55 42.3	
	comp=E,36nm,0.5s						
E07A				IAML		19 55 43.5	
	comp=N,35nm,0.4s						
C03A	**Quillayute Air**	**1.79**	**285**	Pn	Pn	19 55 12.0	-1.5
C03A				IAML		19 55 47.6	
	comp=E,64nm,3.8s						
CLRS	**Cowichan Lake**	**1.94**	**313**	Pn	Pn	19 55 15.8	+0.2
CLRS				IAML		19 55 50.1	
	comp=E,17nm,4.0s						
B08A	**Colville Reser**	**1.98**	**64**		Pb	19 55 18.2	-0.7
B08A				IAML		19 55 46.8	
	comp=E,14nm,0.2s						
HAWA	**Hanford**	**2.02**	**123**	Pn	Pb	19 55 18.2	-1.4
HAWA				IAML		19 55 49.6	
	comp=E,18nm,0.8s						
REDWA	**Red Mountain**	**2.13**	**124**		Pn	19 55 16.4	-1.8
D08A	**Wollman Farm,**	**2.14**	**101**	Pn	Pn	19 55 17.5	-0.8
C09A	**Chrisman Ranch**	**2.53**	**82**		Pn	19 55 23.1	-0.6
HEBO	**Mount Hebo**	**2.60**	**209**	Pn	Pn	19 55 26.8	+2.1
OZB	**Mount Ozzard**	**2.75**	**303**	Pn	Pn	19 55 26.5	-0.3
NEW	**Newport**	**3.36**	**75**	Pn	Pn	19 55 34.9	-0.3
NEW				IAML		19 56 24.0	
	comp=E,7.9nm,3.8s						
NEW				IAML		19 56 29.4	
	comp=E,10nm,4.6s						
MOON	**Moon Mountain**	**3.47**	**176**		Pn	19 55 38.5	+1.9
F10A	**Beach Ranch, E**	**3.62**	**113**		Pn	19 55 39.3	+0.5
F10A				IAML		19 57 27.8	
	comp=N,11nm,4.5s						
I07A	**Izee**	**3.84**	**152**		Pn	19 55 41.8	-0.1
PLID	**Pearl Lake**	**4.81**	**118**	Pn	Pn	19 55 57.7	+2.5
JTMT	**Jette**	**5.22**	**85**	Pn	Pn	19 56 01.9	+1.2

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*SJA **26** 19:58:14.8±1.1, 21°.06S×68°.65W, h141km±6km, ML4.4, MW4.2*
*NEIC **26** 19:58:15.6±2.9, 21°.07S±0°.04×68°.71W±0°.07, h133km±6km, mb4.9/73, ML4.7(GUC), Error ellipse: s-maj=9.4km s-min=5.7km az=84.0*
*IDC **26** 19:58:15.5±1.4, 20°.95S×68°.46W, h115km±15km, mb4.2/14, mb1 4.2/18, mb1mx4.0/34, mbtmp4.5/18, MS2.8/1, Ms1 2.8/1, ms1mx2.5/56, Error ellipse: s-maj=16.4km s-min=15.0km az=58.0*
*GUC **26** 19:58:16.7±0.5, 21°.07S×68°.57W, h126km±4km, ML4.7*
*VAO **26** 19:58:16.4±0.5, 20°.98S×68°.65W, h139km±6km, mb4.6*
ISC 26 19:58:15.3±0.5, 21°.08S±0°.03×68°.67W±0°.04, h131km±5km, n240, σ1∀52/272, mb4.8/39, 13C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.77**	**272**		**Pn**	**19 58 36.6**	**+0.2**
PB01				Sn	**Sn**	**19 58 51.9**	**-0.5**
PB01	**IPOC Station P**	**0.77**	**272**	⇑*i* P	**Pn**	**19 58 37.1**	**+0.7**
PB01				*i* S	**Sn**	**19 58 52.1**	**-0.2**
PB01	**IPOC Station P**	**0.77**	**272**	*i* P	**Pn**	**19 58 37.0**	**+0.7**
PB01				*eS*	**Sn**	**19 58 54.6**	**+2.3**
PB01				IAML		19 58 56.0	
	comp=Z,7μm,0.1s						
PB09	**IPOC Station P**	**0.89**	**217**		**Pn**	**19 58 38.4**	**+0.9**
PB09				Sn	**Sn**	**19 58 55.0**	**+0.6**
PB09	**IPOC Station P**	**0.89**	**217**	⇑*i* P	**Pn**	**19 58 38.9**	**+1.4**
PB09				*i* S	**Sn**	**19 58 55.9**	**+1.5**
PB09				IAML		19 58 57.6	
	comp=N,11μm,0.5s						
PB09	**IPOC Station P**	**0.89**	**217**	*i* P	**Pn**	**19 58 39.0**	**+1.4**
PB09				*eS*	**Sn**	**19 58 56.5**	**+2.1**
PB09				IAML		19 58 57.5	
	comp=Z,9μm,0.5s						
PB08	**IPOC Station P**	**1.04**	**334**		**Pn**	**19 58 39.3**	**+0.2**
PB08				Sn	**Sn**	**19 58 57.7**	**+0.7**
PB08	**IPOC Station P**	**1.04**	**334**	⇑*i* P	**Pn**	**19 58 40.2**	**+1.1**
PB08				*i* S	**Sn**	**19 58 58.1**	**+1.0**
PB08				IAML		19 59 00.0	
	comp=E,10μm,0.7s						
PB08	**IPOC Station P**	**1.04**	**334**	*i* P	**Pn**	**19 58 40.3**	**+1.2**
PB08				*eS*	**Sn**	**19 58 58.6**	**+1.5**
PB08				IAML		19 58 58.9	
	comp=Z,5μm,0.3s						
PB02	**IPOC Station P**	**1.17**	**258**		**Pn**	**19 58 41.0**	**+0.9**
PB02				Sn	**Sn**	**19 58 59.9**	**+1.0**
PB02	**IPOC Station P**	**1.17**	**258**	⇑*i* P	**Pn**	**19 58 41.4**	**+1.3**
PB02				*i* S	**Sn**	**19 59 00.1**	**+1.2**
PB02				IAML		19 59 02.4	
	comp=E,21μm,0.4s						
PB07	**IPOC Station P**	**1.31**	**240**		**Pn**	**19 58 42.1**	**+0.5**
PB07				Sn	**Sn**	**19 59 02.1**	**+0.6**
PB07	**IPOC Station P**	**1.31**	**240**	⇑*i* P	**Pn**	**19 58 42.8**	**+1.2**
PB07				*i* S	**Sn**	**19 59 02.5**	**+1.0**
PB07				IAML		19 59 04.7	
	comp=N,12μm,0.3s						
PB07	**IPOC Station P**	**1.31**	**240**	*i* P	**Pn**	**19 58 42.8**	**+1.2**
PB07				*eS*	**Sn**	**19 59 03.0**	**+1.5**
PB07				IAML		19 59 07.5	
	comp=Z,7μm,0.3s						
HMBC	**Humberstone**	**1.39**	**305**	⇑*i* P	**Pn**	**19 58 43.2**	**+0.8**
HMBC				*i* S	**Sn**	**19 59 04.0**	**+1.0**
HMBC				IAML		19 59 05.0	
	comp=N,18μm,0.5s						
PATCX	**Punta Patache**	**1.41**	**280**		**Pn**	**19 58 43.4**	**+0.8**
PATCX				Sn	**Sn**	**19 59 04.5**	**+1.2**
PATCX	**Punta Patache**	**1.41**	**280**	⇑*i* P	**Pn**	**19 58 43.9**	**+1.4**
PATCX				*i* S	**Sn**	**19 59 04.6**	**+1.3**
PATCX				IAML		19 59 07.4	
	comp=N,14μm,0.5s						
PATCX	**Punta Patache**	**1.41**	**280**	*i* P	**Pn**	**19 58 44.0**	**+1.4**
PATCX				*eS*	**Sn**	**19 59 05.5**	**+2.2**
PATCX				IAML		19 59 07.3	
	comp=Z,5μm,0.2s						
GO01	**Chusmiza**	**1.49**	**340**		**Pn**	**19 58 44.7**	**+0.9**
GO01				Sn	**Sn**	**19 59 05.6**	**+0.1**
GO01	**Chusmiza**	**1.49**	**340**	⇑*i* P	**Pn**	**19 58 44.9**	**+1.0**
GO01				*i* S	**Sn**	**19 59 06.2**	**+0.7**
GO01				IAML		19 59 10.2	
	comp=N,12μm,0.1s						
GO01	**Chusmiza**	**1.49**	**340**	*i* P	**Pn**	**19 58 45.0**	**+1.1**
TA01	**Diego Aracena**	**1.50**	**290**	Pn	**Pn**	**19 58 44.3**	**+0.8**
TA01				Sn	**Sn**	**19 59 05.7**	**+0.7**
LVC	**Limon Verde**	**1.54**	**188**	P	**Pn**	**19 58 45.6**	**+1.2**
	comp=N,859nm,0.3s,baz=15,slow=9.7,SNR=3024						
LVC				S	**Sn**	**19 59 08.2**	**+1.8**
	comp=N,416nm,0.3s,baz=240,slow=21,SNR=7.7						
LVC	**Limon Verde**	**1.54**	**188**	Pn	**Pn**	**19 58 45.5**	**+1.2**
LVC				Sn	**Sn**	**19 59 07.6**	**+1.2**
LVC	**Limon Verde**	**1.54**	**188**	*eP*	**Pn**	**19 58 44.9**	**+0.6**
LVC				*eS*	**Sn**	**19 59 07.6**	**+1.2**
LVC	**Limon Verde**	**1.54**	**188**	*i* P	**Pn**	**19 58 45.8**	**+1.5**
LVC				*eS*	**Sn**	**19 59 07.7**	**+1.3**
LVC				IAML		19 59 13.4	
	comp=Z,1μm,0.8s						
LVC	**Limon Verde**	**1.54**	**188**	*eP*	**Pn**	**19 58 45.6**	**+1.2**
TA02	**Huaiquique**	**1.59**	**300**		**Pn**	**19 58 45.2**	**+0.8**
TA02				Sn	**Sn**	**19 59 06.5**	**-0.2**
TA02	**Huaiquique**	**1.59**	**300**	*eP*	**Pn**	**19 58 45.5**	**+1.0**
TA02				*eS*	**Sn**	**19 59 07.7**	**+1.0**
TA02				IAML		19 59 10.6	
	comp=N,11μm,0.2s						
TA02	**Huaiquique**	**1.59**	**300**	*i* P	**Pn**	**19 58 46.0**	**+1.5**
TA02				IAML		19 59 13.4	
	comp=Z,3μm,0.1s						
PB11	**IPOC Station P**	**1.60**	**325**	Pn	**Pn**	**19 58 45.1**	**+0.3**
PB11				Sn	**Sn**	**19 59 07.7**	**+0.4**
PB11	**IPOC Station P**	**1.60**	**325**	⇑*i* P	**Pn**	**19 58 45.6**	**+0.8**
PB11				*i* S	**Sn**	**19 59 08.0**	**+0.7**
PB11				IAML		19 59 09.7	
	comp=E,11μm,0.3s						
PB11	**IPOC Station P**	**1.60**	**325**	*i* P	**Pn**	**19 58 45.6**	**+0.8**
PB11				*eS*	**Sn**	**19 59 08.6**	**+1.2**
PB11				IAML		19 59 09.5	
	comp=Z,4μm,0.4s						
PB06	**IPOC Station P**	**1.82**	**207**		**Pn**	**19 58 48.1**	**+0.8**
PB06				Sn	**Sn**	**19 59 13.0**	**+1.0**
PB06	**IPOC Station P**	**1.82**	**207**	⇑*i* P	**Pn**	**19 58 48.7**	**+1.4**
PB06				*i* S	**Sn**	**19 59 13.1**	**+1.2**
PB06				IAML		19 59 14.0	
	comp=N,7μm,0.4s						
PB06	**IPOC Station P**	**1.82**	**207**	*i* P	**Pn**	**19 58 48.8**	**+1.4**
PB06				*eS*	**Sn**	**19 59 13.4**	**+1.5**
PB06				IAML		19 59 16.6	
	comp=Z,5μm,0.4s						
PB04	**IPOC Station P**	**1.86**	**228**		**Pn**	**19 58 48.6**	**+0.8**
PB04	**IPOC Station P**	**1.86**	**228**	⇑*i* P	**Pn**	**19 58 49.0**	**+1.2**
PB04				*i* S	**Sn**	**19 59 13.3**	**+0.7**
PB04				IAML		19 59 16.4	
	comp=N,6μm,0.3s						
PB04	**IPOC Station P**	**1.86**	**228**	*i* P	**Pn**	**19 58 49.0**	**+1.2**
PB04				*eS*	**Sn**	**19 59 15.1**	**+2.5**
PB04				IAML		19 59 17.6	
	comp=Z,4μm,0.6s						
AF01	**San Pedro de A**	**1.92**	**166**	Pn	**Pn**	**19 58 50.5**	**+1.8**
PB15	**IPOC Station P**	**2.25**	**199**		**Pn**	**19 58 53.6**	**+1.0**
PB15	**IPOC Station P**	**2.25**	**199**	⇑*i* P	**Pn**	**19 58 53.8**	**+1.2**
PB15				*i* S	**Sn**	**19 59 22.7**	**+1.5**
PB15	**IPOC Station P**	**2.25**	**199**	*i* P	**Pn**	**19 58 54.0**	**+1.4**
PB15				*eS*	**Sn**	**19 59 23.3**	**+2.1**
PB15				IAML		19 59 27.0	
	comp=Z,11μm,0.2s						
PB16	**IPOC Station P**	**2.84**	**344**		**Pn**	**19 59 01.5**	**+1.0**
PB12	**IPOC Station P**	**2.91**	**327**	Pn	**Pn**	**19 59 00.6**	**-0.3**
PB10	**IPOC Station P**	**2.99**	**215**	Pn	**Pn**	**19 59 02.1**	**+0.3**
AP01	**Chacalluta**	**3.12**	**329**		**Pn**	**19 59 03.4**	**-0.2**
YJA	**Yavi**	**3.13**	**111**	*i* P	**Pn**	**19 59 05.0**	**+0.9**
YJA				IAML		19 59 44.5	
	comp=Z,71nm,0.8s						
HJA	**Humahuaca**	**3.69**	**126**	*i* P	**Pn**	**19 59 13.0**	**+1.6**
HJA				IAML		19 59 58.6	
	comp=Z,87nm,0.5s						
PB14	**IPOC Station P**	**3.88**	**204**	Pn	**Pn**	**19 59 13.8**	**+0.1**
PB14	**IPOC Station P**	**3.88**	**204**	*i* P	**Pn**	**19 59 15.0**	**+1.2**
PB14				IAML		20 00 10.7	
	comp=Z,606nm,0.3s						
GO02	**Mina Guanaco**	**4.15**	**192**	Pn	**Pn**	**19 59 17.3**	**-0.1**
GO02	**Mina Guanaco**	**4.15**	**192**	⇑*i* P	**Pn**	**19 59 17.4**	**0.0**
GO02	**Mina Guanaco**	**4.15**	**192**	*i* P	**Pn**	**19 59 17.5**	**+0.1**
SLA	**San Lorenzo**	**4.65**	**142**	*i* P	**Pn**	**19 59 26.0**	**+2.1**
SLA				IAML		20 00 22.3	
	comp=Z,28nm,0.9s						
LPAZ	**La Paz**	**4.79**	**6**	P	**Pn**	**19 59 27.9**	**+1.7**
	comp=Z,49nm,0.3s,baz=202,slow=2.7,SNR=482						
LPAZ	**La Paz**	**4.79**	**6**	Pn	**Pn**	**19 59 26.9**	**+0.7**
LPAZ	**La Paz**	**4.79**	**6**	*i* P	**Pn**	**19 59 28.0**	**+1.7**
AC01	**Pan de Azucar**	**5.35**	**199**	Pn	**Pn**	**19 59 31.9**	**-1.2**
FSA	**Cafayete**	**5.58**	**154**	*i* P	**Pn**	**19 59 38.0**	**+1.6**
AC02	**Maricunga**	**5.75**	**184**	Pn	**Pn**	**19 59 38.5**	**-0.3**
AC02	**Maricunga**	**5.75**	**184**	*i* P	**Pn**	**19 59 39.0**	**+0.1**
AC02				IAML		20 01 24.9	
	comp=Z,173nm,1.4s						
AC06	**Mina Casimiro**	**6.44**	**194**	Pn	**Pn**	**19 59 45.4**	**-2.3**
GO03	**Copiap**	**6.64**	**192**		**Pn**	**19 59 48.5**	**-2.1**
GO03	**Copiap**	**6.64**	**192**	*i* P	**Pn**	**19 59 49.0**	**-1.5**
AC04	**Llanos de Chal**	**7.42**	**197**	Pn	**Pn**	**19 59 57.4**	**-3.6**
LCO	**Las Campanas**	**8.11**	**193**	Pn	**Pn**	**20 00 07.0**	**-3.5**
LCO	**Las Campanas**	**8.11**	**193**	*i* P	**Pn**	**20 00 07.0**	**-3.5**
LCO				IAML		20 01 44.4	
	comp=Z,355nm,0.4s						
ACLC	**CERRO LA CRUZ**	**8.46**	**170**	*i* P	**Pn**	**20 00 14.0**	**-1.0**
ACLC				IAML		20 01 54.8	
	comp=Z,20nm,2.3s						
SIV	**San Ignacio**	**8.80**	**56**	P	**Pn**	**20 00 16.5**	**-3.2**
	comp=Z,23nm,0.3s,baz=250,slow=10.0,SNR=169						
SIV				S	Sn	20 01 41.2	-16
	baz=241,slow=17,SNR=3.0						
CO01	**Juntas del Tor**	**8.96**	**188**		**Pn**	**20 00 19.7**	**-2.2**
AROD	**Rodeo**	**9.08**	**184**	*i* P	**Pn**	**20 00 22.0**	**-1.6**
CO05	**La Serena**	**9.10**	**194**	Pn	**Pn**	**20 00 21.4**	**-2.2**
GO04	**Tololo Observa**	**9.26**	**192**		**Pn**	**20 00 22.2**	**-3.7**
APLL	**PUNTA DE LOS L**	**9.48**	**169**	*i* P	**Pn**	**20 00 27.0**	**-1.6**
ACCO	**Cerro Coronel**	**9.48**	**182**	*i* P	**Pn**	**20 00 27.0**	**-1.9**
CO03	**El Pedregal**	**9.89**	**190**	Pn	**Pn**	**20 00 30.3**	**-3.9**
CO06	**Fray Jorge**	**9.92**	**195**	Pn	Pn	20 00 29.6	-5.0
RTLL	**Cerro Villicun**	**10.21**	**179**	*i* P	**Pn**	**20 00 36.0**	**-2.5**
CO02	**Combarbal**	**10.30**	**191**		**Pn**	**20 00 35.5**	**-4.2**
ZON	**Zonda**	**10.43**	**180**		**Pn**	**20 00 39.2**	**-2.1**
CPUP	**Villa Florida**	**11.63**	**119**	P	**Pn**	**20 00 56.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=33,slow=17,SNR=2.1						
CPUP	**Villa Florida**	**11.63**	**119**	Pn	**Pn**	**20 00 56.3**	**-1.0**
VA06	**Catapilco**	**11.68**	**191**	Pn	**Pn**	**20 00 53.5**	**-4.4**
VA03	**San Esteban**	**11.76**	**188**		**Pn**	**20 00 55.4**	**-3.7**
NNA	**Nana**	**11.96**	**318**	P	**Pn**	**20 01 01.9**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=305,slow=18,SNR=1.9						
NNA				S	**Sn**	**20 03 10.8**	**-2.9**
	comp=Z,1.9nm,0.3s,baz=268,slow=19,SNR=1.8						
ROC1	**El Roble**	**12.03**	**190**		Pn	20 00 56.6	-6.2
AQDB	**Aquidauana**	**12.15**	**89**	Pn	**Pn**	**20 01 01.0**	**-3.2**
AQDB	**Aquidauana**	**12.15**	**89**	*eP*	**Pn**	**20 01 03.8**	**-0.3**
MT02	**Curacav**	**12.33**	**190**		Pn	20 01 01.2	-5.3
MT03	**Universidad Ad**	**12.47**	**187**		Pn	20 01 03.9	-4.5
LMEL	**Las Melosas**	**12.79**	**186**	P	**Pn**	**20 01 11.0**	**-1.6**
VA05	**Santo Domingo**	**12.80**	**191**	Pn	**Pn**	**20 01 11.6**	**-0.9**
MT09	**Talagante**	**12.81**	**189**	P	**Pn**	**20 01 10.8**	**-2.1**
MT01	**Popeta**	**12.94**	**190**	P	**Pn**	**20 01 11.2**	**-3.2**
BO04	**La Punta**	**12.98**	**187**		**Pn**	**20 01 13.0**	**-1.8**
SALV	**Santo Antonio**	**13.34**	**69**	*eP*	**Pn**	**20 01 20.4**	**+0.8**
BO01	**Tunca**	**13.43**	**189**		**Pn**	**20 01 18.5**	**-2.2**
**PP1B

ZARC	**Zaragoza, Cauc**	**29.04**	**347**	P		**P**		**20 04 02.3**	**-0.9**
ZARC	**Zaragoza, Cauc**	**29.04**	**347**	*e*P		**P**		**20 04 02.7**	**-0.6**
SDV	**Santo Domingo**	**29.84**	**356**	P		**P**		**20 04 10.7**	**+0.1**
	comp=Z,7.0nm,0.5s,baz=184,slow=8.3,SNR=12								
SDV	**Santo Domingo**	**29.84**	**356**	P		**P**		**20 04 10.3**	**-0.2**
SDV				IAmb		IAmb		20 04 11.6	
	comp=Z,15nm,1.1s								
SDV	**Santo Domingo**	**29.84**	**356**	*e*P		**P**		**20 04 09.4**	**-1.2**
SDV	**Santo Domingo**	**29.84**	**356**	*e*P		**P**		**20 04 10.7**	**+0.1**
BAUV	**El Baul**	**29.84**	**1**	P		P		**20 04 10.4**	**+0.1**
MDP	**Montagnes des**	**30.40**	**33**	P		**P**		**20 04 15.8**	**+0.4**
	comp=Z,12nm,1.1s,baz=238,slow=8.3,SNR=1.7								
NBPS	**Pedro II - PI**	**31.21**	**62**	*e*P		**P**		**20 04 22.4**	**-0.2**
NBLA	**Lagarto - SE**	**31.27**	**76**	*e*P		**P**		**20 04 22.0**	**-1.0**
SJCC	**San Jacinto, C**	**31.44**	**348**	P		**P**		**20 04 23.6**	**-0.9**
SJCC				IAmb		IAmb		20 04 25.6	
	comp=Z,19nm,1.1s								
SJCC	**San Jacinto, C**	**31.44**	**348**	*e*P		**P**		**20 04 23.8**	**-0.7**
BIRV	**Birongo**	**31.45**	**5**	P		**P**		**20 04 24.7**	**+0.3**
BIRV				IAmb		IAmb		20 04 26.2	
	comp=Z,16nm,1.0s								
URIC	**Uribia, Colomb**	**32.74**	**354**	P		**P**		**20 04 33.8**	**-2.0**
URIC				IAmb		IAmb		20 04 37.1	
	comp=Z,35nm,1.6s								
MG03	**Isla Dawson**	**32.74**	**182**	P		**P**		**20 04 35.3**	**-0.1**
TOSP	**Speyside**	**33.15**	**15**	P		**P**		**20 04 39.9**	**+0.5**
SRBA	**San Rafael, Bu**	**33.40**	**333**	P		**P**		**20 04 41.0**	**-0.7**
RCBR	**Riachuelo**	**35.18**	**69**	P		**P**		**20 04 57.1**	**0.0**
	comp=Z,8.4nm,0.8s,baz=197,slow=5.0,SNR=3.6								
RCBR	**Riachuelo**	**35.18**	**69**	P		**P**		**20 04 58.0**	**+1.0**
RCBR				IAmb		IAmb		20 05 04.6	
	comp=Z,31nm,1.3s								
MPOM	**Morne Pois Mar**	**36.12**	**13**	P		**P**		**20 05 04.6**	**-0.3**
BIM	**Bigot**	**36.15**	**13**	P		**P**		**20 05 04.2**	**-1.0**
SVN	**Savane Anatole**	**36.45**	**12**	P		**P**		**20 05 07.2**	**-0.5**
MAGL	**Barre de l'ile**	**37.50**	**12**	P		**P**		**20 05 16.6**	**-0.1**
MLPR	**Magueyes Islan**	**38.84**	**2**	P		**P**		**20 05 27.2**	**-0.5**
MLPR				IAmb		IAmb		20 05 43.2	
	comp=Z,34nm,1.1s								
CRPR	**Cabo Rojo, PR**	**38.87**	**2**	P		**P**		**20 05 27.1**	**-0.9**
CRPR				IAmb		IAmb		20 05 28.4	
	comp=Z,20nm,0.7s								
OBIP	**Obispado Ponce**	**38.93**	**3**	P		**P**		**20 05 26.9**	**-1.7**
PDPR	**Patillas Dam,**	**38.94**	**4**	P		**P**		**20 05 27.5**	**-1.1**
SJG	**San Juan**	**39.03**	**4**	P		**P**		**20 05 28.7**	**-0.6**
	comp=Z,31nm,0.6s,baz=142,slow=4.4,SNR=16								
SJG	**San Juan**	**39.03**	**4**	P		**P**		**20 05 28.0**	**-1.3**
MTP	**Monte Pirata**	**39.05**	**5**	P		**P**		**20 05 27.9**	**-1.7**
MTP				IAmb		IAmb		20 05 28.9	
	comp=Z,12nm,0.7s								
CBYP	**Canovanas**	**39.20**	**4**	P		**P**		**20 05 28.9**	**-1.9**
CBYP				IAmb		IAmb		20 06 03.3	
	comp=Z,20nm,0.9s								
AOPR	**Arecibo Observ**	**39.23**	**3**	P		**P**		**20 05 30.3**	**-0.7**
GCPR	**Guaynabo City**	**39.23**	**4**	P		**P**		**20 05 29.6**	**-1.3**
CUPR	**Culebra, Puert**	**39.28**	**5**	P		**P**		**20 05 30.0**	**-1.5**
CUPR				IAmb		IAmb		20 05 52.6	
	comp=Z,15nm,1.1s								
EMPR	**Esperanza - Ma**	**39.37**	**3**	P		**P**		**20 05 30.0**	**-2.1**
MTDJ	**Mount Denham**	**40.02**	**347**	P		**P**		**20 05 37.9**	**+0.3**
MTDJ				IAmb		IAmb		20 05 44.1	
	comp=Z,42nm,1.4s								
CMIG	**Matias Romero**	**45.83**	**324**	P		**P**		**20 06 27.3**	**+3.0**
	comp=Z,1.6nm,0.6s,baz=133,slow=6.5,SNR=4.1								
656A	**Willston**	**51.91**	**345**	P		**P**		**20 07 11.2**	**+0.6**
656A				IAmb		IAmb		20 07 13.1	
	comp=Z,20nm,0.7s								
X48A	**Hartselle**	**57.92**	**342**	P		**P**		**20 07 52.9**	**-0.9**
X48A				IAmb		IAmb		20 07 55.9	
	comp=Z,6.2nm,0.8s								
W50A	**Signal Mountai**	**58.16**	**344**	P		**P**		**20 07 55.8**	**+0.4**
W50A				IAmb		IAmb		20 07 57.3	
	comp=Z,6.0nm,0.7s								
SWET	**Sewanee**	**58.33**	**343**	P		**P**		**20 07 57.2**	**+0.5**
SWET				IAmb		IAmb		20 07 58.3	
	comp=Z,11nm,0.5s								
T59A	**Double "B" Far**	**58.34**	**352**	P		**P**		**20 07 56.7**	**+0.1**
T59A				IAmb		IAmb		20 07 59.4	
	comp=Z,9.9nm,1.1s								
V52A	**Sevierville**	**58.35**	**346**	P		**P**		**20 07 56.7**	**0.0**
V52A				IAmb		IAmb		20 07 58.9	
	comp=Z,16nm,1.2s								
U54A	**Nelsons Funny**	**58.62**	**348**	P		**P**		**20 07 59.2**	**+0.5**
U54A				IAmb		IAmb		20 08 01.4	
	comp=Z,17nm,1.0s								
V48A	**Smith Brothers**	**59.07**	**343**	P		**P**		**20 08 02.1**	**+0.4**
V48A				IAmb		IAmb		20 08 03.8	
	comp=Z,10nm,0.7s								
U49A	**Red Boiling Sp**	**59.52**	**344**	P		**P**		**20 08 03.0**	**-1.8**
U49A				IAmb		IAmb		20 08 06.6	
	comp=Z,6.1nm,0.6s								
WVT	**Waverly**	**59.72**	**342**	P		**P**		**20 08 06.3**	**+0.1**
WVT				IAmb		IAmb		20 08 07.8	
	comp=Z,11nm,0.7s								
S54A	**Dingess, Beckl**	**59.76**	**348**	P		**P**		**20 08 07.7**	**+1.3**
S54A				IAmb		IAmb		20 08 09.1	
	comp=Z,24nm,1.1s								
T50A	**Nancy**	**59.77**	**345**	P		**P**		**20 08 06.7**	**+0.2**
MIAR	**Mount Ida**	**60.17**	**336**	P		**P**		**20 08 10.7**	**+1.4**
T47A	**Sharon Grove**	**60.32**	**343**	P		**P**		**20 08 09.0**	**-1.2**
T47A				IAmb		IAmb		20 08 12.4	
	comp=Z,12nm,0.8s								
W39A	**Magazine**	**60.83**	**337**	P		**P**		**20 08 14.3**	**+0.5**
W39A				IAmb		IAmb		20 08 17.4	
	comp=Z,7.4nm,0.8s								
P53A	**Whipple**	**61.41**	**349**	P		**P**		**20 08 18.0**	**+0.4**
P53A				IAmb		IAmb		20 08 20.5	
	comp=Z,19nm,1.0s								
U40A	**Yellville**	**61.53**	**338**	P		**P**		**20 08 18.9**	**+0.4**
FVM	**French Village**	**62.21**	**341**	P		**P**		**20 08 21.8**	**-1.1**
FVM				IAmb		IAmb		20 08 25.4	
	comp=Z,12nm,0.8s								
CCM	**Cathedral Cave**	**62.53**	**340**	P		**P**		**20 08 23.6**	**-1.5**
S39A	**Bolivar**	**62.89**	**338**	P		**P**		**20 08 26.7**	**-0.9**
S39A				IAmb		IAmb		20 08 30.0	
	comp=Z,11nm,0.7s								
DBIC	**Dimbokro**	**68.40**	**73**	P		**P**		**20 09 04.0**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=252,slow=6.3,SNR=3.7								
DBIC	**Dimbokro**	**68.40**	**73**	IAmb		IAmb		20 09 29.9	
	comp=Z,34nm,1.6s								
PDAR	**Pinedale Array**	**73.86**	**330**	P		**P**		**20 09 38.6**	**+2.7**
	comp=Z,0.4nm,0.7s,baz=121,slow=5.7,SNR=4.1								
ULM	**Lac du Bonnet**	**74.98**	**342**	P		**P**		**20 09 42.5**	**+0.5**
	comp=Z,3.3nm,0.5s,baz=184,slow=5.4,SNR=4.7								
NVAR	**Mina Array Bea**	**75.30**	**322**	P		**P**		**20 09 47.2**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=165,slow=3.7,SNR=1.9								
SCHQ	**Schefferville**	**75.62**	**1**	P		**P**		**20 09 46.9**	**+1.3**
	comp=Z,3.5nm,0.9s,baz=284,slow=18,SNR=4.0								
TOA0	**Torodi Ar. Sit**	**77.00**	**70**	P		**P**		**20 09 54.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P		**P**		**20 09 54.8**	**+0.6**
	comp=Z,5.6nm,0.7s,baz=248,slow=5.2,SNR=24								
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P		**P**		**20 09 54.5**	**+0.3**
ESDC	**Sonseca Array**	**85.38**	**44**	P		**P**		**20 10 39.9**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=252,slow=4.4,SNR=5.0								
YKA	**Yellowknife Ar**	**90.87**	**341**	P		**P**		**20 11 06.0**	**+2.4**
	comp=Z,0.8nm,0.5s,baz=131,slow=4.5,SNR=20								
ASAR	**Alice Springs**	**130.39**	**208**	PKP		**PKiKP**		**20 17 12.7**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=186,slow=5.0,SNR=4.3								
WRA	**Warramunga Arr**	**133.43**	**210**	PKP		**PKiKP**		**20 17 18.9**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=168,slow=1.7,SNR=8.6								
ZALV	**Zalesovo Beam**	**141.48**	**25**	PKP		**PKiKP**		**20 17 32.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=256,slow=2.4,SNR=2.1								
KSH	**Kashi**	**144.66**	**51**	PKP		**PKPab**		**20 17 34.3**	**-1.6**
KSH				pPKP		pPKPdf		20 18 14.5	+1.0
KSH				sPKP				20 18 32.0	
MKAR	**Makanchi Array**	**145.16**	**36**	PKP		**PKiKP**		**20 17 39.5**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=314,slow=3.3,SNR=34								
MKAR	**Makanchi Array**	**145.16**	**36**			**PKPab**		**20 17 37.3**	**-0.1**
SONM	**Songino Array**	**153.01**	**7**	PKPbc		**PKiKP**		**20 17 57.6**	**0.0**
	comp=Z,0.5nm,0.6s,baz=245,slow=2.7,SNR=3.6								
SONM	**Songino Array**	**153.01**	**7**			**PKPbc**		**20 17 55.3**	**-2.1**
PZH	**PanZhiHua**	**169.69**	**57**	PKP		**PKPdf**		**20 18 07.0**	**-1.0**

KRSC 26 20:26:01.9±2.1, 50.52N×157.15E, h119km±23km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.68**	**285**	*e*P	Pn	20 26 21.9	+1.1
SKR				*e*S	Sn	20 26 35.7	+0.5
PAU	**Pauzhetka**	**0.98**	**348**	*e*P	Pn	20 26 24.9	+1.4
PAU				*e*S	Sn	20 26 41.9	+2.0
KDTR	**Khodutka, Kamc**	**1.42**	**24**	*e*P	Pn	20 26 30.4	+2.2
KDTR				*e*S	Sn	20 26 50.1	+1.8

MIPR	**Malaya Ipel'ka**	**1.78**	**352**	*e*P		Pn		20 26 32.9	+0.4
ASAK	**Asacha**	**1.93**	**14**	*e*P		Pn		20 26 36.5	+2.1
ASAK				*e*S		Sn		20 27 02.3	+3.0
MTVR	**Mutnovka**	**2.07**	**18**	*e*P		Pn		20 26 38.4	+2.1
MTVR				*e*S		Sn		20 27 04.4	+1.8
RUS	**Russkaya**	**2.10**	**23**	*e*P		Pn		20 26 38.3	+1.8
RUS				*e*S		Sn		20 27 04.0	+1.0
GRL	**Gorelyy**	**2.12**	**15**	*e*P		Pn		20 26 39.1	+2.3
GRL				*e*S		Sn		20 27 06.8	+3.2
KRMR	**Karymshinskiy**	**2.40**	**14**	*e*P		Pn		20 26 41.8	+1.6
KRMR				*e*S		Sn		20 27 11.3	+1.6
APC	**Apacha**	**2.41**	**0**	*e*P		Pn		20 26 40.7	+0.3
DALK	**Dalny**	**2.71**	**21**	*e*P		Pn		20 26 46.3	+2.1
DALK				*e*S		Sn		20 27 17.7	+0.8
UGLR	**Uglovaya**	**2.89**	**20**	*e*P		Pn		20 26 49.4	+2.7
AVH	**Avacha**	**2.92**	**19**	*e*P		Pn		20 26 49.8	+2.7
KOK	**Koryaka**	**2.93**	**18**	*e*P		Pn		20 26 49.8	+2.6
SMAR	**Somma**	**2.94**	**20**	*e*P		Pn		20 26 49.9	+2.5
KRER	**Koryakskii**	**2.96**	**19**	*e*P		Pn		20 26 50.1	+2.3
SDLR	**Sedlovina**	**2.97**	**21**	*e*P		Pn		20 26 49.8	+2.0
KRX	**Arik**	**3.00**	**18**	*e*P		Pn		20 26 50.3	+2.2
SPN	**Mys Shipunski**	**3.14**	**34**	*e*P		Pn		20 26 52.3	+2.4
SPN				*e*S		Sn		20 27 26.5	-0.5
GNL	**Ganaly**	**3.22**	**8**	*e*P		Pn		20 26 52.1	+1.0
MKZ	**Mys Kozlova**	**4.92**	**33**	*e*P		Pn		20 27 14.6	+1.0
MKZ				*e*S		Sn		20 28 06.6	-2.8

MOS ***26*** *20:28:38.9±1.0, 62.78N×149.84W, h79km, mb4.8/26, Error ellipse: s-maj=11.0km s-min=4.8km az=105.0*

IDC ***26*** *20:28:39.2±1.2, 62.77N×149.93W, h64km±11km, mb4.1/29, mb1 4.2/32, mb1mx4.2/42, mbtmp4.4/32, MS3.3/33, Ms1 3.3/33, ms1mx3.0/98, Error ellipse: s-maj=9.1km s-min=8.4km az=96.0*

NEIC ***26*** *20:28:40.5±1.4, 62.74N±0.02×149.66W±0.06, h80km±3km, Error ellipse: s-maj=4.3km s-min=2.5km az=84.0*

AEIC ***26*** *20:28:40±1.6, 62.74N±0.03×149.69W±0.06, h73km±1km, ML4.6, mb4.6/186(NEIC), ML4.8/168(NEIC), Mwr4.6/187(NEIC), Error ellipse: s-maj=4.3km s-min=3.9km az=56.0*

NEIC ***26*** *20:28:40, 62.72N×149.70W, h76km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mr=0.73; Mθθ=0.91; Mφφ=0.19; Mrθ=-0.54; Mrφ=0.60; Mθφ=0.19; Fault plane solution: M₀1.18000×10¹⁶ NP1:ϕs288.62000°, δ60.76000°, λ83.52000°. NP2:ϕs121.72000°, δ29.89000°, λ101.40000°. Principal axes: T 0.8893, Plg73.0000°, Azm182.0000°; N 0.4491, Plg6.0000°, Azm292.0000°; P -1.3384, Plg16.0000°, Azm23.0000°;*

ISC 26 20:28:40.2±0.5, 62.75N±0.02×149.71W±0.02, h77km±4km, n730, σ1°19/788, mb4.6/156, 18C-2D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.43**	**217**		**Pn**	**20 28 53.2**	**+0.2**
CUT					**Sn**	**20 29 02.8**	**+0.3**
CUT	**Chulitna**	**0.43**	**217**	P	**Pn**	**20 28 53.3**	**+0.2**
	baz=38,SNR=1000						
CUT				S	**Sn**	**20 29 03.5**	**+1.0**
	baz=38						
WAT1	**Susitna Watana**	**0.54**	**81**		**Pn**	**20 28 54.0**	**0.0**
WAT1					**Sn**	**20 29 04.2**	**0.0**
TRF	**Thorofare Moun**	**0.75**	**340**	Pn	**Pn**	**20 28 57.1**	**+0.8**
TRF				Sn	**Sn**	**20 29 09.1**	**+0.9**
TRF				IAML		20 29 11.0	
	comp=E,40μm,0.3s						
TRF	**Thorofare Moun**	**0.75**	**340**	P	**Pn**	**20 28 57.2**	**+0.8**
	baz=159,SNR=1000						
TRF				S	**Sn**	**20 29 10.0**	**+1.8**
	baz=159						
RND	**Reindeer**	**0.76**	**30**	P	**Pn**	**20 28 56.8**	**+0.4**
RND						20 29 08.5	
RND	**Reindeer**	**0.76**	**30**		**Pn**	**20 28 56.8**	**+0.4**
RND				Sn	**Sn**	**20 29 08.5**	**+0.1**
RND				IAML		20 29 10.1	
	comp=N,25μm,1.0s						
RND				IAML		20 29 10.5	
	comp=E,30μm,0.5s						
WAT6	**Susitna Watana**	**0.93**	**100**		**Pn**	**20 28 57.7**	**-0.6**
WAT6					**Sn**	**20 29 11.3**	**-0.5**
WAT6	**Susitna Watana**	**0.93**	**100**	P	**Pn**	**20 28 57.9**	**-0.4**
	baz=281,SNR=773						
WAT6				S	**Sn**	**20 29 11.2**	**-0.6**
	baz=281						
KTH	**Kantishna Hill**	**0.97**	**326**		**Pn**	**20 28 59.5**	**+0.7**
KTH				Sn	**Sn**	**20 29 14.0**	**+1.4**
KTH				IAML		20 29 15.5	
	comp=E,37μm,1.0s						
M22K	**Willow**	**1.02**	**191**		**Pn**	**20 28 59.1**	**-0.1**
M22K				Sn	**Sn**	**20 29 13.8**	**+0.4**
M22K	**Willow**	**1.02**	**191**	P	**Pn**	**20 28 59.2**	**0.0**
	baz=11,SNR=1000						
M22K				S	**Sn**	**20 29 13.8**	**+0.4**
	baz=11						
MCK	**McKinley**	**1.05**	**19**	P	**Pn**	**20 29 00.4**	**+0.8**
MCK				SN	**Sn**	**20 29 15.3**	**+1.2**
MCK	**McKinley**	**1.05**	**19**		**Pn**	**20 29 00.4**	**+0.8**
MCK				Sn	**Sn**	**20 29 15.3**	**+1.2**
MCK				IAML		20 29 17.8	
	comp=E,22μm,0.6s						
MCK				IAML		20 29 20.2	
	comp=N,15μm,0.6s						
MCK	**McKinley**	**1.05**	**19**	P	**Pn**	**20 29 00.5**	**+0.8**
	baz=199,SNR=1000						
MCK				S	**Sn**	**20 29 15.6**	**+1.5**
	baz=199						
GHO	**Glory Hole Cre**	**1.05**	**159**		**Pn**	**20 28 60.0**	**+0.3**
GHO				IAML		20 29 17.7	
	comp=N,35μm,0.6s						
GHO				IAML		20 29 17.9	
	comp=E,22μm,0.7s						
DHY	**Denali Highway**	**1.12**	**72**	Pn	**Pn**	**20 29 00.7**	**+0.1**
DHY				IAML		20 29 17.8	
	comp=E,25μm,0.8s						
DHY				IAML		20 29 18.3	
	comp=N,22μm,0.5s						
DHY	**Denali Highway**	**1.12**	**72**		**Sn**	**20 29 16.6**	**+0.7**
DHY	**Denali Highway**	**1.12**	**72**	P	**Pn**	**20 29 00.7**	**+0.1**
	baz=253						
DHY				S	**Sn**	**20 29 16.5**	**+0.7**
	baz=253						
SML	**Sawmill**	**1.15**	**145**	P	**Pn**	**20 29 00.5**	**-0.4**
SML				SN	**Sn**	**20 29 16.2**	**-0.2**
SML	**Sawmill**	**1.15**	**145**		**Pn**	**20 29 00.5**	**-0.4**
SML				Sn	**Sn**	**20 29 16.2**	**-0.2**
SML				IAML		20 29 18.2	
	comp=N,30μm,0.6s						
SML				IAML		20 29 18.5	
	comp=E,35μm,0.8s						
SML	**Sawmill**	**1.15**	**145**	P	**Pn**	**20 29 00.9**	**+0.1**
	baz=327,SNR=661						
SML				S	**Sn**	**20 29 16.9**	**+0.5**
	baz=327						
PPLA	**Purkeypile**	**1.15**	**278**	Pn	**Pn**	**20 29 01.6**	**+0.6**
PPLA	**Purkeypile**	**1.15**	**278**		**Sn**	**20 29 18.1**	**+1.6**
PPLA	**Purkeypile**	**1.15**	**278**	P	**Pn**	**20 29 01.7**	**+0.7**
	baz=97,SNR=534						
PPLA				S	**Sn**	**20 29 17.5**	**+0.9**
	baz=97						
PMR	**Palmer**	**1.20**	**167**	P	**Pn**	**20 29 01.4**	**0.0**
PMR				SN	**Sn**	**20 29 17.5**	**+0.2**
PMR	**Palmer**	**1.20**	**167**		**Pn**	**20 29 01.4**	**0.0**
PMR					**Sn**	**20 29 17.5**	**+0.2**
PMR				IAML		20 29 20.3	
	comp=N,21μm,0.6s						
PMR				IAML		20 29 22.3	
	comp=E,16μm,0.5s						
PMR	**Palmer**	**1.20**	**167**	P	**Pn**	**20 29 01.7**	**+0.3**
	baz=348,SNR=1000						
PMR				S	**Sn**	**20 29 17.9**	**+0.6**
	baz=348						
CAST	**Castle Rocks**	**1.27**	**303**		**Pn**	**20 29 02.9**	**+0.4**
CAST				Sn	**Sn**	**20 29 19.2**	**0.0**
CAST	**Castle Rocks**	**1.27**	**303**	P	**Pn**	**20 29 03.1**	**+0.6**
	baz=121,SNR=877						
CAST				S	**Sn**	**20 29 19.6**	**+0.4**
	baz=121						
M23K	**Glacier View**	**1.34**	**135**	P	**Pn**	**20 29 03.4**	**+0.2**
	baz=317,SNR=1000						
M23K				S	**Sn**	**20 29 21.4**	**+0.9**
	baz=317						
BWN	**Browne**	**1.43**	**4**		**Pn**	**20 29 05.2**	**+0.8**
BWN					Sn	**20 29 21.9**	**-0.8**
BWN					IAML	20 29 30.3	
	comp=E,14μm,0.8s						
BWN					IAML	20 29 32.4	
	comp=N,17μm,1.2s						
SCM	**Sheep Creek Mo**	**1.45**	**129**	P	**Pn**	**20 29 04.7**	**0.0**
SCM						20 29 23.5	
SCM	**Sheep Creek Mo**	**1.45**	**129**		**Pn**	**20 29 04.7**	**0.0**
SCM				Sn	**Sn**	**20 29 23.5**	**+0.4**
SCM				IAML		20 29 25.5	
	comp=E,21μm,0.9s						
SCM				IAML		20 29 26.2	
	comp=N,21μm,1.1s						
SCM	**Sheep Creek Mo**	**1.45**	**129**	P	**Pn**	**20 29 05.1**	**+0.4**
	baz=311,SNR=636						
SCM				S	**Sn**	**20 29 23.9**	**+0.8**
	baz=311						
KNK	**Knik Glacier**	**1.47**	**156**		**Pn**	**20 29 05.1**	**+0.2**
KNK				Sn	**Sn**	**20 29 23.5**	**-0.1**
KNK				IAML		20 29 27.4	
	comp=N,18μm,0.6s						
KNK	**Knik Glacier**	**1.47**	**156**	P	**Pn**	**20 29 05.4**	**+0.4**
	baz=337,SNR=1000						
KNK				S	**Sn**	**20 29 24.2**	**+0.6**
	baz=337						
BPAW	**Bear Paw Mtn.**	**1.47**	**338**	Pn	**Pn**	**20 29 05.6**	**+0.7**
BPAW				Sn	**Sn**	**20 29 23.7**	**0.0**
BPAW				IAML		20 29 25.4	
	comp=E,12μm,0.6s						
BPAW	**Bear Paw Mtn.**	**1.47**	**338**	P	**Pn**	**20 29 05.7**	**+0.7**
	baz=156,SNR=676						
BPAW				S	**Sn**	**20 29 24.2**	**+0.5**
	baz=156						
STLK	**Strandline Lak**	**1.60**	**219**		**Pn**	**20 29 07.3**	**+0.5**
FIS	**Fire Island**	**1.63**	**189**		**Pn**	**20 29 07.6**	**+0.6**
CHUM	**Lake Minchumin**	**1.64**	**315**		**Pn**	**20 29 08.2**	**+1.1**
CHUM					**Sn**	**20 29 28.5**	**+1.0**
CHUM	**Lake Minchumin**	**1.64**	**315**	P	**Pn**	**20 29 08.1**	**+1.1**
	baz=133,SNR=1000						
CHUM				S	**Sn**	**20 29 28.4**	**+1.0**
	baz=133						
RC01	**Rabbit Creek A**	**1.67**	**180**		**Pn**	**20 29 07.5**	**-0.1**
RC01				IAML		20 29 33.3	
	comp=E,9μm,0.5s						
RC01	**Rabbit Creek A**	**1.67**	**180**	P	**Pn**	**20 29 07.7**	**+0.2**
	baz=0.9,SNR=405						
RC01				S	**Sn**	**20 29 28.8**	**+0.5**
	baz=0.9						
M24K	**Tolsona, Glenn**	**1.77**	**110**		**Pn**	**20 29 10.0**	**+1.1**
M24K				IAML		20 29 36.5	
	comp=E,16μm,0.8s						
M24K				IAML		20 29 43.0	
	comp=N,9μm,1.0s						
M24K	**Tolsona, Glenn**	**1.77**	**110**	P	**Pn**	**20 29 10.1**	**+1.2**
	baz=293,SNR=659						
SPCG	**Spurr Capps Gl**	**1.83**	**218**		**Pn**	**20 29 10.3**	**+0.5**
NEA2	**Nenana**	**1.87**	**8**		**Pn**	**20 29 10.6**	**+0.4**
NEA2	**Nenana**	**1.87**	**8**	P	**Pn**	**20 29 10.8**	**+0.6**
	baz=189,SNR=1000						
NEA2				S	**Sn**	**20 29 32.3**	**-0.7**
	baz=189						
WRH	**Wood River Hil**	**1.87**	**22**		**Pn**	**20 29 10.7**	**+0.5**
PS10	**TAPS Pump St10**	**1.92**	**68**		**Pn**	**20 29 12.2**	**+1.3**
CKN	**Chakachatna No**	**1.93**	**218**		**Pn**	**20 29 12.6**	**+1.6**
SPU	**Mount Spurr**	**1.93**	**216**		**Pn**	**20 29 11.5**	**+0.5**
L20K	**Farewell, AK**	**1.95**	**264**		**Pn**	**20 29 11.6**	**+0.4**
L20K	**Farewell, AK**	**1.95**	**264**	P	**Pn**	**20 29 11.9**	**+0.6**
	baz=80,SNR=382						
L20K				S	**Sn**	**20 29 35.9**	**+1.0**
	baz=80						
PAX	**Paxson**	**1.96**	**82**	P	**Pn**	**20 29 12.1**	**+0.7**
PAX	**Paxson**	**1.96**	**82**		**Pn**	**20 29 12.1**	**+0.7**
PAX	**Paxson**	**1.96**	**82**	P	**Pn**	**20 29 12.5**	**+1.1**
	baz=265,SNR=802						
PAX				S	**Sn**	**20 29 36.4**	**+1.2**
	baz=265						
SPWE	**Spurr West**	**2.00**	**223**		**Pn**	**20 29 13.4**	**+1.3**
PWL	**Port Wells**	**2.01**	**160**		**Pn**	**20 29 11.8**	**-0.3**
PWL				IAML		20 29 43.8	
	comp=E,8μm,0.7s						
PWL				IAML		20 29 46.0	
	comp=N,11μm,0.8s						
PWL	**Port Wells**	**2.01**	**160**	P	**Pn**	**20 29 12.1**	**+0.1**
	baz=342,SNR=198						
PWL				S	**Sn**	**20 29 36.8**	**+0.4**
	baz=342						
K24K	**Donnelly Dome**	**2.07**	**58**	P	**Pn**	**20 29 14.5**	**+1.7**
	baz=240,SNR=693						
K20K	**Telida**	**2.08**	**289**	

I23K S Sn 20 29 45.8 -0.1
baz=184
RIDG Independent Ri 2.41 64 Pn 20 29 19.2 +1.6
RIDG Independent Ri 2.41 64 P Pn 20 29 19.3 +1.8
baz=248,SNR=1000
J20K Nowinta River 2.45 308 Pn Pn 20 29 18.7 +0.7
J20K Nowinta River 2.45 308 P Pn 20 29 19.1 +1.1
baz=124,SNR=656
J20K S Sn 20 29 47.3 +0.3
baz=124
L19K White Mountain 2.46 259 Pn 20 29 18.5 +0.4
L19K IAML 20 29 49.2
comp=N,3µm,0.8s
L19K IAML 20 29 50.3
comp=E,4µm,0.6s
L19K White Mountain 2.46 259 P Pn 20 29 18.6 +0.4
baz=75,SNR=267
L19K S Sn 20 29 47.8 +0.7
baz=75
DIV Divide 2.47 129 Pn 20 29 17.9 -0.5
PS12 TAPS Pump St12 2.50 119 Pn 20 29 18.4 -0.2
FID Port Fidalgo 2.53 141 Pn 20 29 19.0 0.0
FID IAML 20 29 58.5
comp=N,6µm,0.6s
FID IAML 20 30 02.4
comp=E,6µm,0.9s
POKR Poker Plat Res 2.58 22 Pn 20 29 20.5 +0.8
POKR IAML 20 29 51.5
comp=N,3µm,0.5s
POKR IAML 20 30 12.0
comp=E,3µm,1.1s
POKR Poker Plat Res 2.58 22 P Pn 20 29 21.0 +1.3
baz=204,SNR=716
POKR S Sn 20 29 49.6 -0.4
baz=204
RDJH Redoubt Jeurge 2.62 216 Pn 20 29 21.2 +0.8
I21K Tanana 2.64 339 Pn 20 29 21.4 +1.0
I21K IAML 20 29 54.1
comp=N,3µm,1.1s
I21K IAML 20 29 54.2
comp=E,2µm,0.8s
I21K Tanana 2.64 339 P Pn 20 29 21.9 +1.4
baz=156,SNR=695
I21K S Sn 20 29 51.4 0.0
baz=156
PS07 TAPS Pump Stn7 2.65 13 Pn 20 29 21.9 +1.4
N25K Chitina, Valde 2.66 113 Pn 20 29 21.4 +0.5
N25K Chitina, Valde 2.66 113 P Pn 20 29 21.1 +0.2
baz=298,SNR=314
SEW Seward 2.66 177 Pn 20 29 21.5 +0.7
SEW Seward 2.66 177 P Pn 20 29 21.6 +0.8
baz=358,SNR=45
J25K Salcha River, 2.69 44 Pn 20 29 21.7 +0.5
J25K IAML 20 29 54.4
comp=E,3µm,0.8s
J25K IAML 20 29 55.6
comp=N,5µm,0.6s
J25K Salcha River, 2.69 44 P Pn 20 29 22.1 +0.9
baz=228
DOT Dot Lake 2.71 68 Pn 20 29 22.2 +0.6
RDWB Redoubt West 2.72 215 Pn 20 29 22.4 +0.7
RSO Redoubt South 2.72 214 Pn 20 29 22.1 +0.3
MENT Mentasta 2.75 83 Pn 20 29 22.4 +0.4
MENT IAML 20 30 01.9
comp=E,5µm,0.7s
RED Redoubt Volcan 2.76 213 Pn 20 29 22.9 +0.7
SCRK Sand Creek 2.86 62 Pn 20 29 24.4 +0.9
SCRK IAML 20 30 01.9
comp=N,4µm,1.1s
SCRK IAML 20 30 01.9
comp=E,2µm,0.8s
SCRK Sand Creek 2.86 62 P Pn 20 29 24.4 +0.9
baz=247,SNR=1000
TTA Tatalina 2.90 276 P Pn 20 29 24.4 +0.4
TTA Tatalina 2.90 276 Pn Pn 20 29 24.4 +0.4
TTA Tatalina 2.90 276 P Pn 20 29 24.7 +0.6
baz=91,SNR=432
TTA S Sn 20 29 57.5 -0.3
baz=91
TT01 Tatalina 2.90 276 Pn 20 29 24.4 +0.4
EYAK Cordova Ski Ar 2.91 138 Pn 20 29 24.3 +0.2
EYAK Cordova Ski Ar 2.91 138 P Pn 20 29 23.9 -0.2
baz=321,SNR=57
L26K Log Cabin Wild 2.93 82 Pn 20 29 25.3 +0.9
L26K IAML 20 30 11.0
comp=N,4µm,0.4s
L26K IAML 20 30 19.1
comp=E,4µm,0.5s
L26K Log Cabin Wild 2.93 82 P Pn 20 29 25.5 +1.1
baz=267,SNR=426
N19K Bonanza Creek 2.99 232 Pn 20 29 25.9 +0.6
N19K IAML 20 30 21.9
comp=N,2µm,1.0s
N19K Bonanza Creek 2.99 232 P Pn 20 29 25.8 +0.6
baz=48,SNR=126
BMRM Bremner River 3.01 124 Pn 20 29 25.1 -0.5
BMRM IAML 20 30 10.2
comp=E,4µm,0.9s
BMRM Bremner River 3.01 124 P Pn 20 29 24.7 -0.9
baz=309,SNR=84
BRLK Bradley Lake 3.05 191 Pn 20 29 26.5 +0.4
BRLK IAML 20 30 14.5
comp=E,2µm,0.8s
BRLK IAML 20 30 16.7
comp=N,3µm,0.8s
BRSE Bradley Lake S 3.06 190 Pn 20 29 27.0 +0.7
BRSE Bradley Lake S 3.06 190 P Pn 20 29 27.0 +0.7
baz=9.2,SNR=102
GLB Gilahina Butte 3.07 113 Pn 20 29 26.6 +0.3
GLB IAML 20 30 24.3
comp=N,2µm,0.8s
H23K Yukon River 3.09 1 Pn Pn 20 29 27.5 +0.9
H23K Yukon River 3.09 1 P Pn 20 29 27.8 +1.2
baz=181,SNR=327
H23K S Sn 20 30 02.4 0.0
baz=181
PS06 TAPS Pump Stn6 3.12 360 Pn 20 29 28.2 +1.3
M26K Nabesna, AK 3.13 93 Pn 20 29 27.3 +0.2
M26K IAML 20 30 20.7
comp=E,2µm,0.8s
M26K IAML 20 30 21.8
comp=N,3µm,0.6s
M26K Nabesna, AK 3.13 93 P Pn 20 29 27.5 +0.3
baz=279,SNR=84
H24K Noodor Dome 3.20 14 Pn 20 29 28.8 +0.6
H24K Noodor Dome 3.20 14 P Pn 20 29 29.2 +1.1
baz=195,SNR=218
H24K S Sn 20 30 04.4 -0.8
baz=195
H21K Melozitna Rive 3.22 336 Pn 20 29 29.1 +0.8
H21K Melozitna Rive 3.22 336 P Pn 20 29 29.7 +1.4
baz=154,SNR=935
H21K S Sn 20 30 04.6 -0.9
baz=154
GOAT Goat Mountain 3.22 130 Pn 20 29 27.9 -0.6
SVW2 Sparrevohn 3.23 242 Pn 20 29 28.9 +0.3
HOM Homer 3.24 198 Pn 20 29 30.5 +1.8
HOM Homer 3.24 198 P Pn 20 29 30.1 +1.5
baz=16,SNR=33
J26L Joseph Creek 3.26 55 P Pn 20 29 30.1 +1.2
baz=240,SNR=1000
J26L S Sn 20 30 07.8 +1.2
baz=240
CNPM China Poot 3.32 194 Pn 20 29 30.5 +0.7
VRDI Verde Repeater 3.32 115 Pn 20 29 29.5 -0.4
RAGM Ragged Mountai 3.38 132 Pn 20 29 30.7 +0.1
O19K Port Alsworth 3.39 223 Pn 20 29 31.6 +1.0
O19K Port Alsworth 3.39 223 IAML 20 30 16.6
comp=E,2µm,0.5s
O19K IAML 20 30 34.6
comp=N,2µm,0.5s
O19K Port Alsworth 3.39 223 P Pn 20 29 31.2 +0.6
baz=39,SNR=45
MCARA McCarthy VSAT 3.43 111 Pn 20 29 31.2 0.0
MCARA IAML 20 30 29.5
comp=E,3µm,0.9s
MCARA IAML 20 30 33.4
comp=N,2µm,1.1s
MCARA McCarthy VSAT 3.43 111 P Pn 20 29 31.6 +0.4
baz=296,SNR=106
OPT Oil Point 3.55 210 Pn 20 29 33.9 +1.1
P19K Oil Pt 3.55 210 Pn 20 29 33.5 +0.7
P19K Oil Pt 3.55 210 P Pn 20 29 33.3 +0.4
baz=27,SNR=92
HMT Hamilton 3.56 130 Pn 20 29 32.8 -0.2
N18K Kilae Creek 3.60 238 Pn 20 29 34.1 +0.5

N18K IAML 20 30 35.8
comp=N,1µm,0.7s
N18K IAML 20 30 43.0
comp=E,1µm,0.8s
N18K Kilae Creek 3.60 238 P Pn 20 29 33.8 +0.3
baz=52,SNR=85
L27K Beaver Creek, 3.62 82 Pn 20 29 34.0 +0.2
L27K Beaver Creek, 3.62 82 P Pn 20 29 34.1 +0.2
baz=268,SNR=179
BC03 3.64 82 Pn 20 29 34.3 +0.3
BCAR Beaver Creek A 3.64 82 Pn Pn 20 29 34.3 +0.2
M27K Edge Creek, AK 3.65 93 Pn 20 29 35.3 +1.0
M27K IAML 20 30 46.1
comp=N,1µm,1.1s
M27K Edge Creek, AK 3.65 93 P Pn 20 29 35.4 +1.1
baz=280,SNR=72
K27K Chicken 3.67 66 Pn 20 29 35.2 +0.8
K27K Chicken 3.67 66 IAML 20 30 22.0
comp=N,3µm,1.0s
K27K IAML 20 30 22.5
comp=E,2µm,0.8s
IM03 3.69 333 Pn 20 29 35.8 +1.1
IMAR Indian Mountai 3.69 333 Pn Pn 20 29 35.7 +1.0
Q23K Middleton Isla 3.71 152 Pn Pn 20 29 35.2 +0.2
Q23K IAML 20 30 45.1
comp=E,2µm,0.9s
Q23K IAML 20 30 59.3
comp=N,2µm,1.3s
Q23K Middleton Isla 3.71 152 P Pn 20 29 35.9 +0.9
baz=335
MID Middleton Isla 3.71 152 P Pn 20 29 35.6 +0.5
MID Middleton Isla 3.71 152 Pn Pn 20 29 35.6 +0.5
MID IAML 20 30 45.0
comp=E,2µm,0.9s
MID IAML 20 30 46.2
comp=N,2µm,0.9s
BERG Berg Lake 3.72 127 Pn 20 29 35.0 -0.2
NICHA Nichawak Mount 3.73 130 Pn 20 29 35.2 -0.1
GCSA Galena City Sc 3.76 305 Pn 20 29 37.5 +1.8
GCSA Galena City Sc 3.76 305 P Pn 20 29 37.3 +1.7
baz=119,SNR=44
GCSA S Sn 20 30 18.5 -0.2
baz=119
PTPK Patty Peak 3.76 111 Pn 20 29 36.1 +0.2
AU22 Augustine Moun 3.83 209 Pn 20 29 38.0 +1.4
AUL Augustine Lava 3.83 210 Pn 20 29 38.3 +1.6
TGL Tana Glacier 3.83 118 Pn 20 29 36.1 -0.7
TGL Tana Glacier 3.83 118 IAML 20 30 37.3
comp=E,2µm,0.8s
AUH Augustine H 3.85 210 Pn 20 29 39.1 +2.0
AUQ Augustine Qik' 3.85 210 Pn 20 29 38.8 +1.8
KHIT Khitrov Hills 3.86 124 Pn 20 29 36.5 -0.6
BALM Baldy 3.89 113 Pn 20 29 37.0 -0.5
SUCK Suckling Hills 3.92 131 Pn Pn 20 29 37.6 -0.2
SUCK IAML 20 30 47.6
comp=E,2µm,1.0s
O18K Koktuh Hills 3.93 225 Pn 20 29 38.5 +0.4
O18K Koktuh Hills 3.93 225 IAML 20 30 49.9
comp=N,1µm,0.8s
O18K Koktuh Hills 3.93 225 P Pn 20 29 38.7 +0.6
baz=40
KIAG Kiagna River 3.94 114 Pn 20 29 37.8 -0.5
GRIN Grindle Hills 3.94 126 Pn 20 29 38.0 -0.2
WAX Waxell Ridge 4.01 122 Pn 20 29 38.6 -0.6
BGLC Bering Glacier 4.06 128 P Pn 20 29 40.7 +1.0
baz=313
BGLC S Sn 20 30 26.6 +0.7
baz=313
PS05 TAPS Pump Stn5 4.10 355 Pn 20 29 41.9 +1.6
BVCY Beaver Creek 4.11 91 P Pn 20 29 41.0 +0.6
baz=278
ISLE Juniper Island 4.12 118 Pn 20 29 39.9 -0.9
ISLE Juniper Island 4.12 118 IAML 20 30 44.9
comp=E,2µm,0.9s
ISLE IAML 20 30 58.3
comp=N,2µm,0.9s
BARN Barnard Glacie 4.17 110 Pn 20 29 41.6 +0.2
BARN Barnard Glacie 4.17 110 IAML 20 30 51.8
comp=E,716nm,0.7s
SNH Sunshine Point 4.18 125 Pn 20 29 40.7 -0.8
SNH IAML 20 30 45.6
comp=E,1µm,1.0s
SNH IAML 20 30 59.2
comp=N,1µm,1.6s
YUK2 White River 4.25 99 Pn 20 29 43.1 +0.6
BAGL Bagley Icefiel 4.29 119 Pn 20 29 42.1 -0.7
GRNC Granite Creek 4.29 115 Pn 20 29 42.2 -0.9
GRNC IAML 20 30 53.1
comp=N,764nm,0.7s
Q19K Cape Douglas, 4.29 208 Pn 20 29 44.1 +1.1
Q19K Cape Douglas, 4.29 208 P Pn 20 29 43.7 +0.7
baz=25,SNR=133
EGAK Eagle 4.31 58 Pn 20 29 43.6 +0.5
EGAK Eagle 4.31 58 P Pn 20 29 44.0 +0.9
baz=246,SNR=324
EGAK S Sn 20 30 32.8 +0.8
baz=246
P18K Big Mountain, 4.31 221 Pn 20 29 43.7 +0.5
P18K Big Mountain, 4.31 221 P Pn 20 29 43.4 +0.2
baz=36
CTG Chitna Glacier 4.35 111 P Pn 20 29 44.0 +0.1
baz=298,SNR=37
CTGM Chitina Glacie 4.35 111 Pn 20 29 43.8 -0.1
YUK3 Moose Creek 4.43 99 Pn 20 29 45.7 +0.6
YUK3 Moose Creek 4.43 99 P Pn 20 29 45.8 +0.7
baz=287,SNR=148
COLD Coldfoot 4.50 358 Pn Pn 20 29 46.5 +0.7
COLD Coldfoot 4.50 358 P Pn 20 29 47.3 +1.6
baz=177,SNR=946
COLD S Sn 20 30 36.5 -0.2
baz=177
LOGN Logan Glacier 4.56 111 Pn 20 29 46.6 -0.2
TABL Table Mountain 4.70 116 Pn 20 29 47.9 -0.8
TABL IAML 20 31 09.0
comp=E,508nm,0.9s
TABL IAML 20 31 12.8
comp=N,543nm,0.8s
DAWY Dawson 4.82 70 Pn Pn 20 29 50.1 -0.1
DAWY IAML 20 31 04.8
comp=E,1µm,0.8s
DAWY Dawson 4.82 70 P Pn 20 29 50.8 +0.6
baz=259,SNR=200
DAWY S Sn 20 30 45.8 +1.1
baz=259
SAMH Samovar Hills 5.03 118 Pn 20 29 53.7 +0.7
BM03 Burnt Mountain 5.16 22 Pn 20 29 55.7 +0.9
BMAR Burnt Mountain 5.17 23 Pn 20 29 55.2 +0.3
KDAK Kodiak Island 5.19 197 P Pn 20 29 54.3 -0.9
comp=E,7.4nm,0.3s,baz=61,slow=7.8,SNR=302
KDAK S Sn 20 30 51.3 -2.2
comp=E,34nm,0.3s,baz=305,slow=23,SNR=8.8
KDAK LR LR 20 32 13.5
comp=E,740nm,20.4s,baz=87,slow=41
KDAK Kodiak Island 5.19 197 Pn 20 29 54.5 -0.7
KDAK IAML 20 31 15.2
comp=E,750nm,0.8s
KDAK Kodiak Island 5.19 197 P Pn 20 29 54.3 -0.9
baz=15
YUK4 Talbot Arm 5.39 100 P Pn 20 29 58.6 +0.5
J29M Klondike Camp 5.41 67 P Pn 20 29 58.9 +0.7
baz=257,SNR=100
BCPM Bancas Point 5.60 116 Pn 20 30 00.5 -0.3
I29M Ogilvie Camp, 5.65 57 Pn 20 30 02.9 +1.4
I29M Ogilvie Camp, 5.65 57 P Pn 20 30 02.0 +0.6
baz=247,SNR=278
I29M S Sn 20 31 05.3 +0.4
baz=247
YUK6 Outpost Mounta 5.67 104 Pn 20 30 01.8 -0.1
YUK6 Outpost Mounta 5.67 104 P Pn 20 30 01.9 -0.1
baz=294,SNR=12
OHAK Old Harbor 5.83 200 Pn 20 30 02.7 -1.2
OHAK Old Harbor 5.83 200 P Pn 20 30 02.7 -1.2
baz=16
PNL Peninsula 5.86 117 Pn 20 30 04.0 -0.4
PNL Peninsula 5.86 117 P Pn 20 30 04.5 +0.1
baz=306,SNR=9.3
TOLK Toolik Lake Re 5.92 0 Pn 20 30 06.2 +1.1
TOLK Toolik Lake Re 5.92 0 P Pn 20 30 06.7 +1.6
baz=180,SNR=201
TOLK S Sn 20 31 12.1 +0.8
baz=180
YUK7 Dusty Glacier 5.95 107 Pn 20 30 05.4 -0.3
M30M Minto, Yukon 5.96 86 Pn 20 30 05.9 +0.3
M30M Minto, Yukon 5.96 86 P Pn 20 30 06.1 +0.5

baz=277,SNR=23
HYT Haines Junctio 6.10 103 Pn 20 30 06.9 -0.8
HYT Haines Junctio 6.10 103 P Pn 20 30 07.1 -0.6
baz=294,SNR=28
SII Sitkinak Islan 6.61 202 Pn 20 30 13.9 -0.7
SII Sitkinak Islan 6.61 202 P Pn 20 30 14.3 -0.3
baz=18
N31M Braeburn, Yuko 6.66 95 Pn 20 30 14.4 -0.8
N31M Braeburn, Yuko 6.66 95 P Pn 20 30 15.0 -0.2
baz=287,SNR=8.1
M31M Drury Creek, Y 7.12 88 Pn 20 30 22.8 +1.2
M31M Drury Creek, Y 7.12 88 P Pn 20 30 22.2 +0.7
baz=281,SNR=16
ANM Nome 7.20 292 P Pn 20 30 24.6 +2.0
ANM Nome 7.20 292 Pn 20 30 24.6 +2.0
ANM Nome 7.20 292 P Pn 20 30 22.9 +0.3
baz=98,SNR=12
ANM S Sn 20 31 42.2 -0.5
baz=98
WHY Whitehorse 7.35 100 Pn Pn 20 30 24.3 -0.5
WHY Whitehorse 7.35 100 P Pn 20 30 24.4 -0.4
baz=293,SNR=15
CHIR Chirikof Islan 7.58 206 Pn Pn 20 30 26.1 -1.6
CHIR Chirikof Islan 7.58 206 P Pn 20 30 27.8 0.0
baz=21
FARO Faro, Yukon 7.59 87 P Pn 20 30 28.4 +0.4
baz=281
RDOG Red Dog Mine 7.64 320 Pn 20 30 30.5 +1.8
RDOG Red Dog Mine 7.64 320 P Pn 20 30 29.6 +0.9
baz=128,SNR=20
SKAG Skagway 7.70 109 Pn 20 30 29.2 -0.2
SKAG Skagway 7.70 109 P Pn 20 30 29.1 -0.3
baz=302,SNR=16
VNHG Veniaminof 1 8.12 221 Pn 20 30 36.4 +1.2
BESE Bessie Mountai 8.40 113 Pn 20 30 37.6 -1.4
MMPY Sheldon Lake, 8.48 83 P Pn 20 30 41.1 +1.0
baz=279,SNR=34
INK Inuvik 8.71 43 P Pn 20 30 44.2 +1.2
comp=E,8.5nm,0.3s,baz=226,slow=15,SNR=301
INK S Sn 20 32 16.9 -2.5
comp=E,5.8nm,0.3s,baz=160,slow=30,SNR=4.1
INK LR LR 20 34 15.8
comp=E,365nm,19.2s,baz=216,slow=38
INK Inuvik 8.71 43 Pn 20 30 43.0 0.0
INK Inuvik 8.71 43 P Pn 20 30 43.9 +0.9
baz=238,SNR=138
JIS Juneau Island 8.78 114 Pn 20 30 43.0 -1.1
A21K Barrow 9.01 346 Pn 20 30 48.2 +1.0
A21K Barrow 9.01 346 P Pn 20 30 48.1 +0.9
baz=159
SIT Sitka 9.20 122 P Pn 20 30 48.8 -1.0
SIT Sitka 9.20 122 Pn 20 30 48.8 -1.0
SIT Sitka 9.20 122 P Pn 20 30 49.1 -0.7
baz=314,SNR=7.6
SDPT Sand Point 9.25 222 Pn 20 30 51.6 +1.0
SDPT Sand Point 9.25 222 P Pn 20 30 49.7 -0.9
baz=32
GAMB Gambell 9.95 286 Pn 20 31 00.7 +0.7
GAMB Gambell 9.95 286 P Pn 20 31 00.5 +0.5
baz=86
TGTN Hyland Airport 10.10 87 P Pn 20 31 01.8 -0.3
baz=286,SNR=10
DLBC Dease Lake 10.58 105 P Pn 20 31 08.0 -0.7
comp=E,0.9nm,0.3s,baz=296,slow=12,SNR=15
DLBC LR LR 20 35 05.9
comp=E,127nm,21.7s,baz=336,slow=36
DLBC Dease Lake 10.58 105 Pn 20 31 07.8 -1.0
FALS False Pass 10.62 228 Pn Pn 20 31 08.0 -1.1
FALS False Pass 10.62 228 P Pn 20 31 08.6 -0.5
baz=36
WRAK Wrangell Islan 10.82 118 P Pn 20 31 12.3 +0.3
baz=313
C36M Paulatuk 12.25 46 Pn 20 31 28.9 -2.4
C36M Paulatuk 12.25 46 P Pn 20 31 29.7 -1.6
baz=250,SNR=95
UNV Unalaska Valle 12.52 232 Pn Pn 20 31 33.2 -1.8
A36M Sachs Harbour 13.08 35 Pn 20 31 41.5 -1.0
A36M Sachs Harbour 13.08 35 P Pn 20 31 40.7 -1.7
baz=237,SNR=74
BBB Bella Bella 15.62 123 P P 20 32 20.3 +2.2
comp=E,1.1nm,0.3s,baz=317,slow=11,SNR=6.7
BBB LR LR 20 37 25.5
comp=E,43nm,21.9s,baz=322,slow=34
YKA Yellowknife Ar 16.03 75 P Pn 20 32 19.7 -0.9
comp=E,0.2nm,0.3s,baz=282,slow=11,SNR=37
YKA LR LR 20 38 44.7
comp=E,106nm,19.9s,baz=264,slow=37
YKA ScP ScP 20 40 39.9 +0.7
comp=E,0.1nm,0.3s,baz=289,slow=2.0,SNR=7.1
YKA Yellowknife Ar 16.03 75 P Pn 20 32 20.1 -0.5
BILL Bilibino 18.72 305‖ eP P 20 32 51.6 -0.6
BILL eS Sn 20 36 21.8 -0.4
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL MLR MLR
comp=Z,112nm,19.0s
LLLB Lillooet 19.34 116 P P 20 32 59.3 +0.2
PGC Sidney 20.25 122 P P 20 33 09.0 +0.2
PGC IAmb IAmb 20 33 12.3
comp=Z,39nm,0.9s
A04D Lummi Island 20.48 121 P P 20 33 11.2 -0.2
baz=323
B05A Bryant 21.09 121 P P 20 33 17.0 -0.9
baz=324,SNR=8.6
NLWA Neilton Lookou 21.12 125 P P 20 33 18.6 +0.3
NLWA IAmb IAmb 20 33 21.9
comp=Z,33nm,1.0s
B06A Marblemount 21.13 119 P P 20 33 18.0 -0.3
EDM Edmonton 21.21 100 P P 20 33 18.5 -0.8
EDM pmax pmax
comp=Z,64nm,0.7s
EDM Edmonton 21.21 100 P P 20 33 18.5 -0.8
D03D Eldon 21.30 123 P P 20 33 20.1 -0.1
baz=326
D04E Lakebay 21.71 123 P P 20 33 25.2 +0.6
baz=326
E03A Lebam 21.94 126 P P 20 33 30.0 +3.0
E03A IAmb IAmb 20 33 31.4
comp=Z,39nm,1.1s
D05A Enumclaw 22.01 122 P P 20 33 31.0 +3.2
RES Resolute Bay 22.13 35 P P 20 33 28.9 +0.1
comp=Z,11nm,0.6s,baz=251,slow=10.0,SNR=28
RES LR LR 20 42 32.8
comp=Z,78nm,18.4s,baz=307,slow=38
RES Resolute Bay 22.13 35 P P 20 33 28.1 -0.7
RES pmax pmax
comp=Z,15nm,0.6s
RES Resolute Bay 22.13 35 P P 20 33 28.1 -0.7
RES IAmb IAmb 20 33 43.9
comp=Z,15nm,0.6s
B08A Colville Reser 22.13 116 P P 20 33 29.6 +0.4
E04D Cinebar 22.31 124 P P 20 33 33.8 +2.8
E04D IAmb IAmb 20 33 36.0
comp=Z,30nm,1.0s
E04D Cinebar 22.31 124 P P 20 33 30.6 -0.4
baz=326,SNR=6.0
LTY Liberty 22.47 120 P P 20 33 34.6 +1.8
LTY IAmb IAmb 20 33 35.7
comp=Z,43nm,1.4s
F04A Amboy 22.88 125 P P 20 33 39.2 +2.1
F04A IAmb IAmb 20 33 41.0
comp=Z,18nm,0.8s
NEW Newport 23.13 114 P P 20 33 40.8 +1.3
comp=Z,21nm,0.8s,baz=319,slow=8.4,SNR=27
NEW LR LR 20 42 02.6
comp=Z,77nm,19.4s,baz=326,slow=35
NEW Newport 23.13 114 P P 20 33 39.7 +0.2
NEW pmax pmax
comp=Z,22nm,0.9s
NEW Newport 23.13 114 P P 20 33 39.7 +0.2
NEW IAmb IAmb 20 33 41.8
comp=Z,22nm,0.8s
NEW Newport 23.13 114 P P 20 33 39.6 +0.2
baz=321,SNR=13
D08A Wollman Farm, 23.34 118 P P 20 33 42.9 +1.5
D08A IAmb IAmb 20 33 44.1
comp=Z,33nm,1.1s
F07A Phinny Hill Vi 23.88 121 P P 20 33 46.0 -0.3
G05D Wamic, OR 23.88 124 P P 20 33 46.0 -0.4
baz=327
WALA Waterton Lakes 23.90 108 P P 20 33 48.3 +1.7
WALA IAmb IAmb 20 33 49.0
comp=Z,28nm,1.1s
H04D Lebanon 23.96 127 P P 20 33 49.1 +2.0
H04D IAmb IAmb 20 33 50.9
comp=Z,20nm,0.9s

H04D Lebanon 23.96 127 P **P** **20 33 47.6 +0.6**
baz=329
E09A Wood Farm, Sta 24.09 118 P **P** **20 33 47.7 -0.4**
E09A IAmb IAmb 20 33 51.6
comp=Z,15nm,0.8s
I03D Drain, OR 24.45 129 P **P** **20 33 51.7 +0.2**
baz=330
I05D Terrebonne, OR 24.64 125 P **P** **20 33 52.7 -0.5**
baz=328
I04A Tendick Farm, 24.71 127 P **P** **20 33 54.3 +0.5**
baz=330
J01E Myrtle Point 24.71 130 P **P** **20 33 56.7 +2.9**
J01E IAmb IAmb 20 33 58.1
comp=Z,21nm,1.0s
J01E Myrtle Point 24.71 130 P **P** **20 33 54.9 +1.0**
baz=332
JTMT Jette 24.74 111 P **P** **20 33 54.6 +0.4**
JTMT IAmb IAmb 20 33 56.6
comp=Z,22nm,0.8s
G08A Pilot Rock 24.76 120 P **P** **20 33 56.2 +1.8**
F10A Beach Ranch, E 24.90 117 P **P** **20 33 56.9 +1.2**
F10A IAmb IAmb 20 33 59.8
comp=Z,14nm,0.8s
K02D Willamette Mer 25.22 131 P **P** **20 33 58.2 -0.3**
baz=332,SNR=13
PINE Pine Mountain 25.26 125 P **P** **20 33 58.7 -0.3**
J04D Umpqua Nationa 25.30 128 P **P** **20 34 01.8 +2.4**
J04D IAmb IAmb 20 34 05.0
comp=Z,30nm,1.1s
J04D Umpqua Nationa 25.30 128 P **P** **20 33 58.6 -0.8**
baz=330
HUMO Hull Mountain 25.55 130 P **P** **20 34 01.9 +0.4**
HUMO **PcP** **20 37 32.1 +1.5**
I07A Izee 25.56 123 P **P** **20 34 04.0 +2.4**
J05D Fort Rock, OR 25.58 126 P **P** **20 34 02.2 +0.3**
baz=330,SNR=5.6
MSO Missoula 25.60 112 P **P** **20 34 02.1 +0.1**
MSO Missoula 25.60 112 P **P** **20 34 01.7 -0.3**
baz=322,SNR=7.9
SEY Seymchan 25.67 297 P **P** **20 34 02.0 -0.4**
comp=Z,11nm,0.8s,baz=86,slow=8.0,SNR=34
SEY Seymchan 25.67 297*ce*P **P** **20 34 01.9 -0.4**
SEY pmax pmax
comp=Z,15nm,1.0s
L02E Cave Junction 25.71 131 P **P** **20 34 04.4 +1.4**
baz=332
BMO Blue Mountains 25.79 119 P **P** **20 34 03.8 +0.1**
BMO pmax pmax
comp=Z,13nm,0.9s
BMO Blue Mountains 25.79 119 P **P** **20 34 03.8 +0.1**
L04D Klamath Falls 26.12 129 P **P** **20 34 07.4 +0.6**
L04D Klamath Falls 26.12 129 P **P** **20 34 08.2 +1.4**
baz=331
PLID Pearl Lake 26.12 117 P **P** **20 34 06.7 -0.2**
YBH Yreka Blue Hor 26.40 130 P **P** **20 34 11.1 +1.9**
comp=Z,8.3nm,0.9s,baz=343,slow=3.4,SNR=14
YBH LR LR 20 43 20.4
comp=Z,34nm,21.4s,baz=298,slow=33
YBH Yreka Blue Hor 26.40 130 P **P** **20 34 10.1 +0.8**
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH Yreka Blue Hor 26.40 130 P **P** **20 34 10.1 +0.8**
EGMT Eagleton 26.51 105 P **P** **20 34 11.1 +0.9**
EGMT Eagleton 26.51 105 P **P** **20 34 10.0 -0.2**
baz=319,SNR=21
J08A Circle Bar Ran 26.57 122 P **P** **20 34 12.9 +2.1**
HRY Holter Researc 26.60 109 P **P** **20 34 10.9 -0.2**
M02C Callahan 26.65 131 P **P** **20 34 11.0 -0.5**
baz=332
LRM Limekiln Ridge 27.03 111 P **P** **20 34 16.4 +1.3**
N02D Trinity Center 27.07 131 P **P** **20 34 14.4 -0.9**
N02D IAmb IAmb 20 34 18.9
comp=Z,17nm,0.8s
N02D Trinity Center 27.07 131 P **P** **20 34 15.5 +0.2**
baz=333,SNR=8.8
WVOR Wild Horse Val 27.29 124 P **P** **20 34 19.4 +2.1**
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 27.29 124 P **P** **20 34 19.4 +2.1**
DLMT Dillon 27.33 112 P **P** **20 34 17.1 -0.5**
BOZ Bozeman (W) 27.56 111 P **P** **20 34 21.1 +1.4**
BOZ pmax pmax
comp=Z,10.0nm,1.2s
BOZ Bozeman (W) 27.56 111 P **P** **20 34 21.1 +1.4**
BOZ Bozeman (W) 27.56 111 P **P** **20 34 20.8 +1.1**
baz=322,SNR=8.3
MFID Camas Ranch 27.57 119 P **P** **20 34 19.6 -0.2**
MCMT McKenzie Canyo 27.65 113 P **P** **20 34 19.5 -1.1**
O02D Mt. Diablo Mer 27.75 132 P **P** **20 34 21.9 +0.5**
baz=334
MA2 Magadan 27.99 291*ce*P **P** **20 34 21.6 -1.6**
MA2 pmax pmax
comp=Z,7.0nm,1.0s
O03E Paynes Creek 27.99 130 P **P** **20 34 22.9 -0.6**
O03E IAmb IAmb 20 34 25.7
comp=Z,16nm,0.6s
O03E Paynes Creek 27.99 130 P **P** **20 34 24.2 +0.7**
baz=333
HLID Hailey 28.03 117 P **P** **20 34 25.3 +1.4**
HLID Hailey 28.03 117 P **P** **20 34 23.7 -0.2**
baz=326
QLMT Earthquake Lak 28.25 111 P **P** **20 34 28.3 +2.4**
GCMT Greycliff 28.26 108 P **P** **20 34 28.0 +2.1**
YHL Hebgen Lake 28.34 111 P **P** **20 34 25.8 -1.0**
YHL IAmb IAmb 20 34 30.0
comp=Z,20nm,1.1s
YMR Madison River 28.58 111 P **P** **20 34 31.6 +2.7**
YMR IAmb IAmb 20 34 32.0
comp=Z,25nm,1.0s
YNR Norris Junctio 28.67 111 P **P** **20 34 32.7 +3.0**
YNR IAmb IAmb 20 34 33.2
comp=Z,16nm,1.0s
PETK Petropavlovsk- 28.73 275 P **P** **20 34 29.1 -0.7**
comp=Z,4.5nm,0.8s,baz=64,slow=10,SNR=6.3
PETK LR LR 20 47 32.1
comp=Z,22nm,18.8s,baz=44,slow=40
ORV Oroville 28.76 131 P **P** **20 34 31.4 +1.2**
ORV pmax pmax
comp=Z,6.0nm,0.8s
ORV Oroville 28.76 131 P **P** **20 34 31.4 +1.2**
YMP Mirror Lake Pl 28.87 110 P **P** **20 34 34.2 +2.6**
YMP IAmb IAmb 20 34 34.9
comp=Z,21nm,1.2s
BEKR Beckworth 28.88 129 P **P** **20 34 30.7 -0.9**
LKWY Lake 28.91 110 P **P** **20 34 35.5 +3.7**
LKWY pmax pmax
comp=Z,17nm,1.1s
LKWY Lake 28.91 110 P **P** **20 34 35.5 +3.7**
LKWY IAmb IAmb 20 34 36.0
comp=Z,16nm,1.1s
H17A Grant Village 28.97 111 P **P** **20 34 32.0 -0.3**
H17A Grant Village 28.97 111 P **P** **20 34 34.2 +1.9**
baz=323
LAO LASA Array 29.09 103 P **P** **20 34 34.0 +0.8**
baz=319
FLWY Flagg Ranch 29.16 111 P **P** **20 34 37.0 +3.0**
FLWY IAmb IAmb 20 34 37.8
comp=Z,15nm,0.9s
PAHR Pah Rah Range 29.38 127 P **P** **20 34 37.8 +1.9**
MOOW Moose Ponds 29.41 112 P **P** **20 34 38.7 +2.4**
MPK Martis Peak 29.51 129 P **P** **20 34 35.8 -1.4**
MPK IAmb IAmb 20 34 39.8
comp=Z,12nm,1.0s
TPAW Teton Pass 29.54 112 P **P** **20 34 40.0 +2.7**
TPAW IAmb IAmb 20 34 40.8
comp=Z,11nm,1.0s
REDW Red Top Meadow 29.68 112 P **P** **20 34 38.4 -0.3**
PNTR Pine Nut 29.84 128 P **P** **20 34 42.2 +2.1**
PNTR IAmb IAmb 20 34 47.7
comp=Z,8.0nm,0.8s
ELK Elko 30.06 121 P **P** **20 34 44.0 +2.0**
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 30.06 121 P **P** **20 34 44.0 +2.0**
AHID Auburn Hatcher 30.06 113 P **P** **20 34 44.5 +2.5**
YERR Yerington 30.07 128 P **P** **20 34 41.7 -0.3**
TIXI Tiksi 30.25 322 P **P** **20 34 42.7 -0.4**
comp=Z,4.1nm,0.7s,baz=271,slow=21,SNR=27
TIXI Tiksi 30.25 322*ce*P **P** **20 34 42.0 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 30.25 322 P **P** **20 34 42.2 -0.9**
TIXI **PcP** **20 37 40.6 -0.9**
KVN Kaiserville 30.43 126 P **P** **20 34 47.4 +2.2**
KVN pmax pmax
comp=Z,6.0nm,1.1s
KVN Kaiserville 30.43 126 P **P** **20 34 47.4 +2.2**
BW06 Boulder Array 30.72 112 P **P** **20 34 49.3 +1.5**
BW06 IAmb IAmb 20 34 50.5
comp=Z,11nm,1.1s
PD31 Pinedale Array 30.72 112 P **P** **20 34 49.5 +1.7**
PD31 IAmb IAmb 20 34 50.5
comp=Z,9.2nm,1.0s
PDAR Pinedale Array 30.72 112 P **P** **20 34 49.3 +1.5**
comp=Z,7.4nm,0.9s,baz=316,slow=6.4,SNR=44
PDAR LR LR 20 48 59.0
comp=Z,44nm,18.4s,baz=3.5,slow=40
PDAR Pinedale Array 30.72 112 P **P** **20 34 48.4 +0.6**
HWUT Hardware Ranch 30.82 115 P **P** **20 34 50.4 +1.8**
NVAR Mina Array Bea 30.90 127 P **P** **20 34 51.2 +1.9**
comp=Z,4.0nm,0.6s,baz=314,slow=8.4,SNR=32
NVAR **PcP** **PcP** **20 37 45.4 +1.3**
comp=Z,1.5nm,0.7s,baz=296,slow=2.2,SNR=6.9
NVAR LR LR 20 46 00.9
comp=Z,40nm,20.1s,baz=19,slow=34
NVAR Mina Array Bea 30.90 127 P **P** **20 34 51.1 +1.7**
NV11 Mina Array Sit 30.95 127 P **P** **20 34 51.8 +2.0**
NV11 IAmb IAmb 20 34 52.7
comp=Z,11nm,1.1s
LHV Little Huntoon 30.98 128 P **P** **20 34 52.4 +2.6**
LHV IAmb IAmb 20 34 54.2
comp=Z,10nm,1.1s
ULM Lac du Bonnet 31.23 88 P **P** **20 34 52.7 +0.8**
comp=Z,5.1nm,0.7s,baz=317,slow=7.0,SNR=5.9
ULM Lac du Bonnet 31.23 88 P **P** **20 34 52.7 +0.8**
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM Lac du Bonnet 31.23 88 IAmb IAmb 20 34 53.7
comp=Z,7.2nm,0.9s
OMMB Old Mammoth Mi 31.37 129 P **P** **20 34 54.9 +1.2**
OMMB IAmb IAmb 20 34 57.3
comp=Z,11nm,1.2s
DUG Dugway, Tooele 31.50 118 P **P** **20 34 56.3 +1.8**
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 31.50 118 P **P** **20 34 56.3 +1.8**
DUG Dugway, Tooele 31.50 118 P **P** **20 34 55.0 +0.5**
baz=328
CTU Camp Tracy 31.51 117 P **P** **20 34 56.5 +1.8**
CTU IAmb IAmb 20 34 57.1
comp=Z,11nm,1.1s
TPH Tonopah 31.61 126 P **P** **20 34 56.2 +0.5**
TPH pmax pmax
comp=Z,25nm,0.8s
TPH Tonopah 31.61 126 P **P** **20 34 56.2 +0.5**
R11A Troy Canyon, C 31.99 124 P **P** **20 35 00.2 +1.3**
R11A Troy Canyon, C 31.99 124 P **P** **20 34 59.6 +0.7**
baz=331,SNR=10
RSSD Black Hills 32.05 104 P **P** **20 34 59.6 +0.1**
RSSD pmax pmax
comp=Z,13nm,1.2s
RSSD Black Hills 32.05 104 P **P** **20 34 59.6 +0.1**
RSSD IAmb IAmb 20 35 02.0
comp=Z,13nm,1.2s
RSSD Black Hills 32.05 104 P **P** **20 35 00.9 +1.4**
baz=322
LCH Last Change Ra 32.20 127 P **P** **20 35 02.0 +1.3**
PSUT Pine Spring 32.50 121 P **P** **20 35 01.5 -2.0**
RDMU Red Mountain 32.52 114 P **P** **20 35 05.3 +1.7**
RDMU IAmb IAmb 20 35 06.9
comp=Z,12nm,0.9s
RWWY Rawlins 32.60 110 P **P** **20 35 04.2 -0.1**
RWWY IAmb IAmb 20 35 06.4
comp=Z,15nm,1.1s
AGMN Agassiz Nation 32.63 91 P **P** **20 35 04.3 +0.1**
baz=316
CWC Cottonwood Cre 32.75 129 P **P** **20 35 05.8 +0.2**
baz=334
TPNV Topopah Spring 32.97 126 P **P** **20 35 07.4 -0.1**
baz=332
P18A Preston Nutter 33.03 116 P **P** **20 35 10.4 +2.3**
P18A IAmb IAmb 20 35 11.4
comp=Z,8.6nm,0.9s
MSU Marysvale 33.19 119 P **P** **20 35 12.0 +2.6**
MSU Marysvale 33.19 119 P **P** **20 35 12.0 +2.6**
Q16A Castle Valley 33.25 118 P **P** **20 35 12.3 +2.3**
Q16A IAmb IAmb 20 35 12.9
comp=Z,11nm,0.8s
MPMC Manual Prospec 33.30 128 P **P** **20 35 11.4 +1.0**
baz=334
ISA Isabella, Lake 33.30 130 P **P** **20 35 09.6 -0.7**
ISA pmax pmax
comp=Z,9.0nm,1.1s
ISA Isabella, Lake 33.30 130 P **P** **20 35 09.6 -0.7**
ISA IAmb IAmb 20 35 12.2
comp=Z,9.1nm,1.1s
ISA Isabella, Lake 33.30 130 P **P** **20 35 10.6 +0.3**
baz=334
SRU San Rafael Swe 33.35 117 P **P** **20 35 13.0 +2.2**
SRU pmax pmax
comp=Z,13nm,0.9s
SRU San Rafael Swe 33.35 117 P **P** **20 35 13.0 +2.2**
SRU IAmb IAmb 20 35 13.6
comp=Z,13nm,0.9s
O20A White River Ci 33.44 113 P **P** **20 35 13.2 +1.6**
O20A IAmb IAmb 20 35 14.4
comp=Z,7.2nm,0.9s
O20A White River Ci 33.44 113 P **P** **20 35 12.4 +0.8**
baz=326,SNR=5.8
CCUT Cedar City 33.55 122 P **P** **20 35 14.8 +2.2**
CCUT IAmb IAmb 20 35 15.3
comp=Z,6.3nm,0.8s
MTPU Mount Pierson 33.59 120 P **P** **20 35 15.8 +2.7**
MTPU IAmb IAmb 20 35 16.5
comp=Z,6.9nm,1.1s
QSM Queen of Sheba 33.61 127 P **P** **20 35 15.3 +2.4**
QSM IAmb IAmb 20 35 46.7
comp=Z,9.4nm,1.1s
LRMC Laurel Mtn Rad 33.75 129 P **P** **20 35 14.7 +0.5**
baz=334
N23A Red Feather La 33.80 110 P **P** **20 35 17.1 +2.3**
N23A IAmb IAmb 20 35 51.5
comp=Z,7.6nm,1.1s
N23A Red Feather La 33.80 110 P **P** **20 35 15.4 +0.6**
baz=325
LCMT Little Creek M 34.06 122 P **P** **20 35 18.0 +1.1**
LCMT IAmb IAmb 20 35 19.9
comp=Z,6.1nm,0.8s
GSC Goldstone, Bar 34.23 128 P **P** **20 35 20.3 +2.0**
GSC pmax pmax
comp=Z,9.0nm,1.0s
GSC Goldstone, Bar 34.23 128 P **P** **20 35 20.3 +2.0**
GSC IAmb IAmb 20 35 21.2
comp=Z,8.9nm,0.9s
GSC Goldstone, Bar 34.23 128 P **P** **20 35 18.8 +0.4**
baz=334
FRB Frobisher Bay 34.25 51 LR LR 20 50 28.4
comp=Z,37nm,18.5s,baz=358,slow=38
TUQ Turquoise Moun 34.43 127 P **P** **20 35 19.1 -1.0**
baz=333
PV23 Carpenter Ridg 34.53 115 P **P** **20 35 22.8 +1.6**
PV23 IAmb IAmb 20 35 42.2
comp=Z,9.8nm,1.0s
PV07 Paradox Valley 34.70 115 P **P** **20 35 24.0 +1.5**
PV07 IAmb IAmb 20 35 24.5
comp=Z,7.6nm,0.8s
PV11 David Mesa, Pa 34.72 115 P **P** **20 35 24.4 +1.7**
PV11 IAmb IAmb 20 35 28.4
comp=Z,6.5nm,0.6s
HEC Hector,Ludlow 34.82 128 P **P** **20 35 23.9 +0.5**
baz=334
PV15 Paradox Valley 34.85 115 P **P** **20 35 24.4 +0.6**
PV15 IAmb IAmb 20 35 25.8
comp=Z,10.0nm,0.8s
PV13 Radium Mtn., P 34.86 115 P **P** **20 35 25.6 +1.7**
PV13 IAmb IAmb 20 35 25.8
comp=Z,7.1nm,0.7s
EYMN Ely 34.90 87 P **P** **20 35 22.0 -1.9**
baz=317
U15A North Rim 34.94 121 P **P** **20 35 26.5 +1.7**
U15A IAmb IAmb 20 35 27.4
comp=Z,5.6nm,0.9s
U15A pP **pP** **20 35 45.5 +2.2**
YAK Yakutsk 35.08 306 P **P** **20 35 24.9 -0.4**
comp=Z,2.5nm,0.5s,baz=237,slow=4.6,SNR=5.3
YAK Yakutsk 35.08 306*ce*P **P** **20 35 23.1 -2.2**
YAK pmax pmax
comp=Z,9.0nm,1.0s
YAK Yakutsk 35.08 306 IAmb IAmb 20 35 25.8
comp=Z,8.5nm,0.8s
GMRC Granite Mounta 35.11 127 P **P** **20 35 27.2 +1.2**
baz=334
F36A Milaca 35.51 92 P **P** **20 35 28.3 -0.8**
F36A IAmb IAmb 20 35 31.7
comp=Z,6.9nm,0.8s
BELC Belle Mtn. Jos 35.68 128 P **P** **20 35 30.9 0.0**
baz=334
ECSD EROS Data Cent 35.72 97 P **P** **20 35 29.6 -1.4**
baz=321
MVCO Mesa Verde 35.80 116 P **P** **20 35 33.5 +1.5**
MVCO IAmb IAmb 20 35 33.9
comp=Z,4.4nm,0.7s
MVCO Mesa Verde 35.80 116 P **P** **20 35 32.0 0.0**
baz=329
IRM Iron Mountain 35.86 127 P **P** **20 35 33.0 +0.7**
baz=334
PFO Pinyon Flats O 35.87 129 LR LR 20 48 11.9
comp=Z,37nm,21.3s,baz=222,slow=33
PFO Pinyon Flats O 35.87 129 *i* P **P** **20 35 32.6 +0.1**
PFO pmax pmax
comp=Z,12nm,1.2s
PFO Pinyon Flats O 35.87 129 P **P** **20 35 32.4 -0.1**
baz=335
TPFO Pinon Flats 35.87 129 P **P** **20 35 32.7 +0.2**
baz=335
S22A 4UR Ranch, Cre 36.05 114 P **P** **20 35 35.1 +0.9**
S22A IAmb IAmb 20 35 57.1
comp=Z,6.3nm,0.8s
S22A 4UR Ranch, Cre 36.05 114 P **P** **20 35 35.4 +1.2**
baz=328
BC3 Big Chuckawall 36.19 127 P **P** **20 35 36.5 +1.2**
baz=334
BLYC Blythe 36.45 126 P **P** **20 35 39.5 +2.3**
BLYC IAmb IAmb 20 35 40.1
comp=Z,8.8nm,0.8s
MONP2 Monument Peak 36.53 129 P **P** **20 35 40.2 +2.0**
baz=335
SDCO Great Sand Dun 36.61 112 P **P** **20 35 40.6 +1.6**
SDCO IAmb IAmb 20 35 41.8
comp=Z,16nm,1.6s
SDCO Great Sand Dun 36.61 112 P **P** **20 35 40.1 +1.2**
baz=328
SWSC Sam W. Stewart 36.70 128 P **P** **20 35 40.4 +1.0**
baz=335
Y14A Wickenburg 36.86 124 P **P** **20 35 43.2 +2.4**
Y14A IAmb IAmb 20 35 43.7
comp=Z,4.9nm,0.7s
GLA Glamis 36.96 127 P **P** **20 35 43.0 +1.3**
baz=334
I37A Lemond, Waseca 36.97 93 P **P** **20 35 43.3 +1.6**
X16A Lo Mia Camp, P 37.04 122 P **P** **20 35 45.0 +2.5**
X16A IAmb IAmb 20 35 45.5
comp=Z,7.3nm,0.8s
TYV Tymovskoe 37.09 284 *e*P **P** **20 35 43.0 +0.5**
TYV pmax pmax
comp=Z,12nm,0.9s
TYV pmax pmax
comp=Z,200nm,7.4s
W18A Petrified Fore 37.10 119 P **P** **20 35 43.8 +0.8**
baz=331
DAG Danmarks Havn 37.41 17 *i* P **P** **20 35 44.7 -0.3**
DAG IAmb IAmb 20 35 48.6
comp=Z,12nm,0.6s
G40A Rib Lake 37.48 89 P **P** **20 35 46.5 +0.5**
X18A Snowflake 37.53 120 P **P** **20 35 49.0 +2.4**
X18A IAmb IAmb 20 35 49.6
comp=Z,11nm,1.0s
T25A Trinidad 37.59 111 P **P** **20 35 47.8 +0.6**
baz=328
SFJD Kangerlussuaq 38.02 39 LR LR 20 51 26.7
comp=Z,52nm,19.9s,baz=296,slow=36
CBKS Cedar Bluff 38.24 105 P **P** **20 35 54.1 +1.7**
CBKS pmax pmax
comp=Z,17nm,0.9s
CBKS Cedar Bluff 38.24 105 P **P** **20 35 54.1 +1.7**
CBKS Cedar Bluff 38.24 105 P **P** **20 35 53.4 +0.9**
baz=325
ANMO Albuquerque 38.59 116 LR LR 20 51 31.3
comp=Z,39nm,20.0s,baz=350,slow=36
ANMO Albuquerque 38.59 116*ce*P **P** **20 35 56.5 +0.9**
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 38.59 116 P **P** **20 35 56.2 +0.6**
ANMO Albuquerque 38.59 116 P **P** **20 35 56.5 +0.9**
baz=330
214A Organ Pipe Nat 38.69 125 P **P** **20 35 58.5 +2.2**
214A IAmb IAmb 20 35 59.1
comp=Z,8.6nm,1.0s
214A Organ Pipe Nat 38.69 125 P **P** **20 35 56.9 +0.7**
baz=334
SPA0 Spitsbergen Ar 39.05 5 *e*P **P** **20 35 59.2 +0.4**
SPITS Spitsbergen Ar 39.05 5 LR LR 20 50 42.2
comp=Z,42nm,19.8s,baz=312,slow=34
TUC Tucson 39.15 123 P **P** **20 36 01.3 +1.1**
TUC pmax pmax
comp=Z,8.0nm,1.4s
TUC Tucson 39.15 123 P **P** **20 36 01.3 +1.1**
TUC IAmb IAmb 20 36 03.2
comp=Z,8.3nm,1.4s
TUC Tucson 39.15 123 P **P** **20 36 00.8 +0.6**
baz=333
BNM Barren Site 39.21 116 P **P** **20 36 02.6 +1.8**
DBG Daneborg 39.23 19 *i* P **P** **20 36 02.1 +1.8**
DBG IAmb IAmb 20 36 04.0
comp=Z,8.4nm,0.7s
KSU1 Kansas State U 39.41 101 P **P** **20 36 03.0 +0.9**
baz=325
ICESG Greenland Ices 39.47 32 *i* P **P** **20 36 06.4 +3.7**
ICESG IAmb IAmb 20 36 23.5
comp=Z,8.6nm,0.8s
YSS Yuzh-Sakhalins 39.89 279 *e*P **P** **20 36 06.6 +0.6**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 39.89 279 P **P** **20 36 05.6 -0.5**
121A Cookes Peak, D 40.14 119 P **P** **20 36 10.9 +2.4**
121A IAmb IAmb 20 36 11.1
comp=Z,7.1nm,0.8s
121A Cookes Peak, D 40.14 119 P **P** **20 36 08.9 +0.4**
baz=332
GLMI Grayling 40.39 85 P **P** **20 36 10.5 +0.3**
baz=320
AMTX Amarillo 40.67 110 P **P** **20 36 12.9 +0.2**
baz=328
SCHQ Schefferville 40.79 61 P **P** **20 36 12.9 -0.4**
comp=Z,3.9nm,0.9s,baz=286,slow=9.8,SNR=4.3
SCHQ LR LR 20 53 40.4
comp=Z,67nm,18.2s,baz=160,slow=37
MSTX Muleshoe 40.98 112 P **P** **20 36 16.6 +1.4**
MSTX Muleshoe 40.98 112 P **P** **20 36 13.9 -1.4**
baz=329
P40A Paris 41.13 97 P **P** **20 36 16.1 -0.3**
P40A IAmb IAmb 20 36 26.1
comp=Z,6.6nm,0.6s
ZEA Zeya 41.65 297 *e*P **P** **20 36 19.9 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
S39A Bolivar 42.04 99 **P** **20 36 22.8 -1.0**
S39A IAmb IAmb 20 36 46.4
comp=Z,4.4nm,0.5s
WMOK Wichita Mounta 42.05 107 P **P** **20 36 23.8 -0.2**
baz=328
SOEG Soedalen 42.10 29 *i* P **P** **20 36 27.2 +3.3**
SOEG IAmb IAmb 20 36 29.3
comp=Z,9.3nm,0.6s
ASAJ Asahikawa 42.12 277 LR LR 20 57 00.9
comp=Z,12nm,18.3s,baz=156,slow=40
NRIK Noril'sk 42.13 334 P **P** **20 36 24.3 +0.2**
comp=Z,3.6nm,0.4s,baz=41,slow=8.9,SNR=5.7
NRIK LR LR 20 57 22.5
comp=Z,37nm,18.5s,baz=53,slow=41
NRIK Noril'sk 42.13 334*ce*P **P** **20 36 23.9 -0.2**
NRIK pmax pmax
comp=Z,7.0nm,0.9s
NRIK Noril'sk 42.13 334 P **P** **20 36 24.8 +0.7**
ANGG Ammassalik, Gr 42.62 35 *i* P **P** **20 36 31.1 +3.0**
ANGG IAmb IAmb 20 36 47.5
comp=Z,7.5nm,0.7s
SADO Sadowa 42.93 80 LR LR 20 54 11.9
comp=Z,73nm,19.6s,baz=252,slow=36
KLR Kul'dur 43.08 290 P **P** **20 36 31.5 -0.6**
comp=Z,3.2nm,0.8s,baz=40,slow=6.5,SNR=8.2
KLR Kul'dur 43.08 290*ce*P **P** **20 36 30.8 -1.3**
KLR pmax pmax
comp=Z,9.0nm,1.7s
U40A Yellville 43.35 100 P **P** **20 36 33.7 -0.7**
baz=326
ERM Erimo 43.51 274 *i* P **P** **20 36 36.8 +1.2**

ERM pmax pmax
comp=Z,30nm,1.2s
OLIL Olney 43.58 94 P **P** **20 36 39.4 +3.1**
BOD Bodaibo 43.70 310 *eP* **P** **20 36 36.3 -0.6**
BOD pmax pmax
comp=Z,12nm,1.1s
O48B Farmland 43.71 90 P **P** **20 36 36.0 -1.3**
baz=323
TRQ Mont Tremblant 43.88 76 P **P** **20 36 38.8 +0.2**
TRQ lAmb lAmb 20 36 39.7
comp=Z,8.3nm,0.7s
W39A Magazine 43.90 102 P **P** **20 36 38.4 -0.4**
baz=327
MIAR Mount Ida 44.53 102 P **P** **20 36 44.3 +0.4**
MIAR pmax pmax
comp=Z,6.0nm,0.9s
MIAR Mount Ida 44.53 102 P **P** **20 36 44.3 +0.4**
MIAR Mount Ida 44.53 102 P **P** **20 36 44.1 +0.2**
baz=327
TX31 Lajitas Ar. Si 44.63 117 P **P** **20 36 46.5 +1.7**
TX32 Lajitas Array 44.63 117 P **P** **20 36 44.2 -0.6**
TX32 lAmb lAmb 20 36 46.9
comp=Z,5.4nm,0.8s
TXAR Lajitas Array 44.63 117 P **P** **20 36 46.5 +1.7**
comp=Z,4.6nm,0.7s,baz=326,slow=7.1,SNR=20
TXAR LR LR 20 55 57.3
comp=Z,30nm,18.4s,baz=325,slow=37
TXAR Lajitas Array 44.63 117 P **P** **20 36 46.2 +1.4**
M53A WI Miller and 44.83 85 P **P** **20 36 46.5 +0.3**
baz=322
LONY Lake Ozonia 45.10 77 P **P** **20 36 47.9 -0.4**
baz=321
JCT Junction City 45.25 112 P **P** **20 36 50.7 +1.0**
JCT pmax pmax
comp=Z,18nm,1.0s
JCT Junction City 45.25 112 P **P** **20 36 50.6 +1.0**
JCT Junction City 45.25 112 P **P** **20 36 50.4 +0.7**
baz=330
N53A Lisbon 45.26 85 P **P** **20 36 49.8 +0.2**
M55A Ridgway 45.69 83 P **P** **20 36 52.6 -0.3**
O54A Avella 45.97 86 P **P** **20 36 55.7 +0.5**
BINY Binghamton 46.37 80 P **P** **20 36 58.3 0.0**
baz=322
OXF Oxford 46.45 98 P **P** **20 36 58.6 -0.4**
baz=327
U49A Red Boiling Sp 46.46 93 P **P** **20 36 59.8 +0.7**
T50A Nancy 46.47 92 P **P** **20 36 58.1 -1.1**
T50A lAmb lAmb 20 37 00.6
comp=Z,9.0nm,0.9s
CLTN Cedars of Leba 46.55 94 P **P** **20 37 01.3 +1.5**
CLTN lAmb lAmb 20 37 01.4
comp=Z,11nm,1.1s
PLAL Pickwick Lake 46.67 97 P **P** **20 37 01.7 +1.0**
PLAL lAmb lAmb 20 37 03.0
comp=Z,11nm,0.9s
SSPA Standing Stone 46.75 83 P **P** **20 36 59.7 -1.6**
baz=323
HAMF Hammerfest 46.80 3 *eP* **P** **20 37 00.6 -0.7**
PKME Peaks-Kenny Pk 46.95 72 P **P** **20 37 01.3 -1.5**
baz=322
BORG Borgarnes 47.21 27 LR LR 21 00 51.7
comp=Z,16nm,18.0s,baz=327,slow=41
TZTN Tazewell 47.46 91 P **P** **20 37 07.3 +0.4**
baz=325
X48A Hartselle 47.58 96 P **P** **20 37 08.4 +0.6**
X48A lAmb lAmb 20 37 10.1
comp=Z,5.9nm,0.8s
P57A Homestead Farm 47.62 84 P **P** **20 37 09.0 +1.0**
JETT Jettan, Norway 47.79 5 *eP* **P** **20 37 11.2 +2.1**
ARA0 ARCESS Array S 47.95 2 *eP* **P** **20 37 10.1 -0.2**
ARCES ARCESS Array B 47.95 2 P **P** **20 37 10.2 0.0**
comp=Z,2.7nm,0.6s,baz=355,slow=6.7,SNR=24
ARCES PcP **PcP** **20 38 36.9 -0.3**
comp=Z,1.5nm,0.6s,baz=356,slow=3.6,SNR=4.6
ARCES LR LR 20 59 04.5
comp=Z,26nm,18.9s,baz=302,slow=38
ARCES ARCESS Array B 47.95 2 P **P** **20 37 10.2 0.0**
ARCES pmax pmax
comp=Z,27nm,1.5s
HIA Hailar 48.09 298 P **P** **20 37 11.7 +0.1**
HIA pmax pmax
comp=Z,10.0nm,0.7s
HIA Hailar 48.09 298 P **P** **20 37 11.7 +0.1**
Z47A Carrollton 48.15 98 P **P** **20 37 12.6 +0.4**
FPAL Fort Paine 48.16 95 P **P** **20 37 13.1 +0.8**
Y49A Blount Mountai 48.36 96 P **P** **20 37 15.0 +1.2**
Y49A lAmb lAmb 20 37 16.4
comp=Z,6.5nm,0.7s
KTK1 Kautokeino 48.43 3 *eP* **P** **20 37 15.3 +1.4**
X51A Calhoun 48.49 94 P **P** **20 37 15.6 +0.8**
MSHR Mys Shultsa 48.50 284 *ceP* **P** **20 37 15.3 +0.5**
MSHR pmax pmax
comp=Z,12nm,1.7s
LRAL Lakeview Retre 48.78 97 P **P** **20 37 17.2 +0.1**
baz=327
LOF Lofoten 48.85 8 *eP* **P** **20 37 17.8 +0.7**
STEI Steigen 49.16 7 *eP* **P** **20 37 20.2 +0.8**
Y52A Lilburn 49.43 94 P **P** **20 37 23.2 +1.2**
FAUS Fauske 49.71 8 *eP* **P** **20 37 25.6 +2.0**
250A Grady 50.00 97 P **P** **20 37 27.4 +1.0**
CN2 Changchun 50.04 290 *eP* **P** **20 37 26.8 +0.3**
CN2 pmax pmax
comp=Z,30nm,0.8s
152A Waverly Hall 50.13 95 P **P** **20 37 27.7 +0.4**
MJB9 Matsu-Tunnel 50.18 274 P **P** **20 37 28.3 +0.6**
MAJO Matsushiro 50.18 274 *i* P **P** **20 37 26.8 -0.9**
MAJO pmax pmax
comp=Z,8.0nm,0.7s
MAJO Matsushiro 50.18 274 P **P** **20 37 27.1 -0.6**
MJAR Matsushiro Arr 50.18 274 P **P** **20 37 27.1 -0.6**
comp=Z,4.2nm,0.8s,baz=39,slow=7.1,SNR=10
MJAR PcP **PcP** **20 38 45.2 -0.6**
comp=Z,2.0nm,0.9s,baz=97,slow=6.9,SNR=4.1
MJAR Matsushiro Arr 50.18 274 P **P** **20 37 28.0 +0.3**
MJAR pmax pmax
comp=Z,7.0nm,1.4s
MJAR Matsushiro Arr 50.18 274 P **P** **20 37 28.0 +0.3**
MJAR lAmb lAmb 20 37 29.7
comp=Z,7.2nm,1.4s
MOR8 Moi Rana 50.85 8 *eP* **P** **20 37 32.2 -0.2**
JGF Kuroka 51.35 274 P **P** **20 37 36.0 -0.5**
NSS Namsos 52.30 10 *eP* **P** **20 37 45.9 +2.8**
MOY Mondy 53.14 313 *eP* **P** **20 37 50.0 +0.3**
MOY pmax pmax
comp=Z,11nm,2.4s
KSRS Korea Array 54.11 283 P **P** **20 37 57.9 +1.1**
comp=Z,7.1nm,0.8s,baz=27,slow=6.9,SNR=21
KSAR Wonju Array Be 54.14 283 P **P** **20 37 56.6 -0.3**
KSAR Wonju Array Be 54.14 283 P **P** **20 37 56.6 -0.3**
ULN Ulaanbaatar 54.17 306 P **P** **20 37 56.8 -0.5**
ULN pmax pmax
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 54.17 306 P **P** **20 37 56.8 -0.5**
ULN lAmb lAmb 20 37 58.8
comp=Z,6.1nm,0.6s
SONM Songino Array 54.44 306 P **P** **20 38 00.3 +1.1**
comp=Z,5.1nm,0.8s,baz=18,slow=6.4,SNR=31
SONM LR LR 21 01 28.9
comp=Z,45nm,20.4s,baz=152,slow=36
SONM Songino Array 54.44 306 P **P** **20 38 00.3 +1.1**
SONM lAmb lAmb 20 38 01.2
comp=Z,5.1nm,0.8s
TJN Taejon 55.25 283 *ceP* **P** **20 38 04.3 -0.7**
NB2 NORSAR Subarra 55.68 11 P **P** **20 38 06.3 -1.5**
comp=Z,0.8nm,0.6s,baz=350,slow=7.4
NOA NORSAR Array B 55.68 11 P **P** **20 38 10.1 +2.3**
comp=Z,1.0nm,0.8s,baz=354,slow=7.1,SNR=4.3
NOA LR LR 21 02 17.5
comp=Z,12nm,21.0s,baz=350,slow=36
ZAA0 Zalesovo Array 56.07 325 P **P** **20 38 09.7 -1.0**
ZAA0 lAmb lAmb 20 38 10.8
comp=Z,4.8nm,0.9s
ZALV Zalesovo Beam 56.07 325 P **P** **20 38 10.1 -0.5**
comp=Z,4.6nm,0.7s,baz=28,slow=6.9,SNR=21
ZALV LR LR 21 06 44.0
comp=Z,26nm,19.2s,baz=83,slow=41
ZALV Zalesovo Beam 56.07 325 P **P** **20 38 09.8 -0.8**
FINES FINESS Array B 56.08 2 P **P** **20 38 11.2 +0.6**
comp=Z,2.5nm,0.6s,baz=1.8,slow=6.1,SNR=10
KLMR Klimovskoe 56.52 355 *eP* **P** **20 38 13.2 -0.5**
KLMR pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 56.52 355 *eP* **P** **20 38 13.2 -0.5**
KLMR AMP 20 38 14.9
comp=Z,10.0nm,1.0s

KIRV Kirov 58.10 348 LR LR 21 06 25.9
comp=Z,18nm,18.5s,baz=336,slow=39
KIRV Kirov 58.10 348 *i* P **P** **20 38 22.8 -2.0**
HHC Hu-ho-hao-te 58.30 298 *eP* **P** **20 38 26.8 +0.1**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,68nm,5.1s
SVE Sverdlovsk 58.45 341 *eP* **P** **20 38 27.4 0.0**
SVE pmax pmax
comp=Z,19nm,0.6s
ARU Arti 59.14 342 LR LR 21 07 11.1
comp=Z,41nm,18.6s,baz=340,slow=39
ARU Arti 59.14 342 *c i* P **P** **20 38 31.7 -0.4**
ARU *PP **pP** **20 38 51.7 -0.4**
ARU 20 39 21.0
ARU S **S** **20 46 34.1 +1.0**
ARU pmax pmax
comp=Z,14nm,0.5s
ARU Arti 59.14 342 P **P** **20 38 31.5 -0.6**
EKA Eskdalemuir Ar 59.39 21 LR LR 21 07 05.4
comp=Z,43nm,18.4s,baz=354,slow=39
BRVK Borovoye 60.33 333 *i* P **P** **20 38 39.3 -1.1**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 60.61 327 *ceP* **P** **20 38 40.9 -1.4**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 60.61 327 P **P** **20 38 41.4 -0.8**
KURK lAmb lAmb 20 38 42.4
comp=Z,4.5nm,0.9s
CCIG Comitan 61.03 112 P **P** **20 38 46.7 +1.0**
OBN Obninsk 62.37 356 *ļ eP* **P** **20 38 52.8 -1.2**
OBN pmax pmax
comp=Z,6.0nm,0.9s
NJ2 Nanjing 62.67 287 ⇑P **P** **20 38 56.0 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
MNK Minsk 63.07 2 *i* P **P** **20 38 55.2 -3.5**
MNK *i* *PP **pP** **20 39 15.7 -3.1**
MNK *i* 20 41 16.0
MNK *i* PPP PPP 20 42 46.5
MNK *i* S **S** **20 47 18.3 -4.6**
MNK *i* SS **SS** **20 51 34.0 +5.3**
MNK pmax pmax
comp=N,12nm,1.2s
MNK pmax pmax
comp=E,3.0nm,1.7s
MNK pmax pmax
comp=Z,11nm,1.4s
MNK Minsk 63.07 2 *i* P **P** **20 38 55.2 -3.5**
comp=E,3.0nm,1.8s
MNK *i* P **P** **20 38 55.2 -3.5**
comp=N,12nm,1.2s
MNK *i* P **P** **20 38 55.2 -3.5**
comp=Z,11nm,1.4s,baz=358
MNK *i* pP **pP** **20 39 15.8 -3.1**
MNK *i* PP **PP** **20 41 16.1 -1.5**
MNK *i* PPP PPP 20 42 46.6
MNK *i* S **S** **20 47 18.4 -4.6**
MNK *i* SS **SS** **20 51 34.1 +5.3**
MNK *i* SSS SSS 20 54 34.6
MNK *i* LQ LQ 21 02 15.8
MNK *i* LR LR 21 07 06.7
MK31 Makanchi Array 63.23 323 P **P** **20 38 58.9 -1.1**
MK31 Makanchi Array 63.23 323 P **P** **20 38 58.9 -1.1**
MKAR Makanchi Array 63.23 323 P **P** **20 38 59.0 -1.0**
comp=Z,3.0nm,0.8s,baz=45,slow=6.8,SNR=39
MKAR Makanchi Array 63.23 323 P **P** **20 38 59.0 -1.0**
MKAR Makanchi Array 63.23 323 P **P** **20 38 58.6 -1.4**
MAKZ Makanchi 63.31 323 P **P** **20 38 59.4 -1.1**
MAKZ pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 63.31 323 P **P** **20 38 59.4 -1.1**
MAKZ lAmb lAmb 20 39 00.3
comp=Z,4.6nm,0.7s
MTO3 Montecristo 63.89 110 P **P** **20 39 05.3 +0.4**
MTO3 lAmb lAmb 20 39 06.4
comp=Z,4.5nm,0.7s
GTA Gaotai 64.11 306 ⇑P **P** **20 39 06.5 +0.5**
GTA pP pP 20 39 23.5 -2.7
GTA sP sP 20 39 32.3 -2.6
GTA pmax pmax
comp=Z,9.0nm,0.9s
WMQ Urumqi 64.34 317 *eP* **P** **20 39 10.5 +3.2**
BELG Belogornoye 64.39 348 *c i* P **P** **20 39 06.4 -1.0**
BELG pmax pmax
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 65.04 341 LR LR 21 09 52.7
comp=Z,9.0nm,18.1s,baz=354,slow=38
ABKAR Akbulak array 65.88 339 P **P** **20 39 16.8 -0.3**
ABKAR Akbulak array 65.88 339 P **P** **20 39 16.7 -0.4**
MATH Matagalpa 66.69 108 P **P** **20 39 23.2 +0.3**
AKASG Malin Array Be 66.89 1 P **P** **20 39 23.0 -0.5**
comp=Z,1.9nm,0.5s,baz=1.5,slow=6.7,SNR=9.6
AKASG LR LR 21 11 36.5
comp=Z,9.6nm,19.1s,baz=338,slow=38
AKASG Malin Array Be 66.89 1 P **P** **20 39 23.0 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,1.4s
GERES GERESS Array B 67.97 12 P **P** **20 39 31.5 +1.0**
comp=Z,0.3nm,0.5s,baz=19,slow=8.5,SNR=4.8
ENH Enshi 68.25 294 P **P** **20 39 32.3 -0.2**
ENH lAmb lAmb 20 39 32.6
comp=Z,8.6nm,1.2s
TKM2 Tokmak 2 68.62 326 P **P** **20 39 35.0 +0.2**
SNR=5.1
CHMS Chumysh 68.76 327 P **P** **20 39 35.5 +0.1**
SNR=6.2
GOMU GeErMu 68.78 308 P **P** **20 39 36.3 +0.2**
GOMU pP pP 20 39 49.0 -7.5
GOMU sP PcP 20 40 00.3 0.0
GOMU pmax pmax
comp=Z,9.0nm,0.9s
BOOM Boomskoye usch 68.93 325 P **P** **20 39 36.9 +0.2**
BOOM pmax pmax
comp=Z,3.0nm,0.8s
BOOM Boomskoye usch 68.93 325 P **P** **20 39 36.9 +0.2**
KDJ Kajisay 68.94 324 P **P** **20 39 36.3 -0.5**
KDJ pmax pmax
comp=Z,5.0nm,0.8s
KDJ Kajisay 68.94 324 P **P** **20 39 36.3 -0.5**
KDJ lAmb lAmb 20 39 37.5
comp=Z,5.4nm,0.8s
FRU1 Bishkek 68.97 327 P **P** **20 39 37.5 +0.7**
FRU1 pmax pmax
comp=Z,10.0nm,0.8s
FRU1 Bishkek 68.97 327 P **P** **20 39 37.5 +0.7**
FRU1 lAmb lAmb 20 39 38.0
comp=Z,10nm,0.8s
KBK Karagaybulak 69.03 326 P **P** **20 39 37.8 +0.5**
SNR=7.8
AAK Ala-Archa 69.17 327 P **P** **20 39 38.0 -0.1**
SNR=7.5
EKS2 Erkin-Say 69.32 327 P **P** **20 39 39.2 +0.1**
SNR=14
KK31 Karatay Array 69.69 330 P **P** **20 39 41.0 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KK31 Karatay Array 69.69 330 P **P** **20 39 41.0 -0.2**
KKAR Karatay Array 69.69 330 P **P** **20 39 40.4 -0.8**
KKAR Karatay Array 69.69 330 P **P** **20 39 40.4 -0.8**
KKAR Karatay Array 69.69 330 P **P** **20 39 41.0 -0.2**
KKAR lAmb lAmb 20 39 41.5
comp=Z,3.5nm,0.9s
AML Almayashu 69.84 327 P **P** **20 39 43.1 +0.5**
SNR=8.0
BUR08 Bucovina Ar. S 69.88 4 P **P** **20 39 42.2 -0.2**
KSH Kashi 71.71 324 P **P** **20 39 56.5 +2.9**
KSH pmax pmax
comp=Z,7.0nm,0.8s
BTK Batken 72.51 328 P **P** **20 39 58.3 0.0**
BTK pmax pmax
comp=Z,8.0nm,1.2s
BTK Batken 72.51 328 P **P** **20 39 58.3 0.0**
BTK lAmb lAmb 20 39 59.0
comp=Z,8.3nm,1.1s
GYA Guiyang 72.77 294 ⇑P **P** **20 40 01.0 +0.9**
GYA pmax pmax
comp=Z,7.0nm,0.5s
KIV Kislovodsk 73.18 351 *eP* **P** **20 40 01.4 -0.8**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 73.18 351 P **P** **20 40 01.9 -0.3**
KIV lAmb lAmb 20 40 03.4
comp=Z,6.5nm,0.8s
KBZ Khabaz 73.39 350 P **P** **20 40 03.8 +0.5**
comp=Z,4.6nm,0.8s,baz=336,slow=8.0,SNR=9.9
KBZ Khabaz 73.39 350 *ce* P **P** **20 40 03.4 +0.1**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
CHGR Chuyangaron 74.23 329 P **P** **20 40 08.6 +0.1**
CHGR pmax pmax
comp=Z,35nm,0.8s
CHGR Chuyangaron 74.23 329 P **P** **20 40 08.6 +0.1**
ESDC Sonseca Array 74.28 27 P **P** **20 40 09.6 +0.9**
comp=Z,0.7nm,0.7s,baz=342,slow=5.3,SNR=5.9
PZH PanZhiHua 74.76 298 P **P** **20 40 11.5 -0.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.3s
ZKTA Zakatala 75.14 347 P **P** **20 40 13.1 -0.5**
SEKA Sheki 75.50 347 P **P** **20 40 15.5 -0.2**
MNGR Mingechevir, A 75.94 347 P **P** **20 40 18.1 0.0**
LSA Lhasa 75.96 308 P **P** **20 40 20.6 +1.5**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 75.96 308 P **P** **20 40 20.6 +1.5**
LSA lAmb lAmb 20 40 21.3
comp=Z,6.8nm,0.6s
LSA Lhasa 75.96 308 P **P** **20 40 20.5 +1.5**
GANJ Ganja 76.15 348 P **P** **20 40 18.9 -0.5**
ZARC Zaragoza, Cauc 76.45 100 P **P** **20 40 20.7 -0.6**
GNI Garni 76.79 349 LR LR 21 18 22.1
comp=Z,21nm,18.0s,baz=333,slow=39
GEYT Alibeck 77.20 338 P **P** **20 40 26.1 +0.8**
comp=Z,1.9nm,0.7s,baz=229,slow=8.6,SNR=3.9
NAX Nakhchivan 77.69 348 P **P** **20 40 27.9 -0.2**
LKRN Lenkeran, Azer 77.80 345 P **P** **20 40 28.6 0.0**
BRTR Keskin Array B 77.83 357 P **P** **20 40 29.0 0.0**
comp=Z,1.7nm,0.9s,baz=12,slow=7.5,SNR=4.1
NIL Nilore 77.96 324 P **P** **20 40 28.0 -1.6**
NIL pmax pmax
comp=Z,8.0nm,0.9s
NIL Nilore 77.96 324 P **P** **20 40 28.0 -1.6**
NIL lAmb lAmb 20 40 29.9
comp=Z,8.5nm,0.8s
KBL Kabul 78.19 328 P **P** **20 40 29.3 -1.8**
KBL pmax pmax
comp=Z,3.0nm,0.9s
KBL Kabul 78.19 328 P **P** **20 40 29.3 -1.8**
BAUV El Baul 78.29 93 P **P** **20 40 31.3 -0.3**
BNN Bunyan 78.64 356 P **P** **20 40 34.5 +1.0**
SHL Shillong 79.44 306 P **P** **20 40 37.7 -0.3**
SHL pmax pmax
comp=Z,6.0nm,0.8s
SHL Shillong 79.44 306 P **P** **20 40 37.7 -0.3**
SHL lAmb lAmb 20 40 38.2
comp=Z,5.8nm,0.8s
CMAR Chiang Mai Arr 83.09 297 P **P** **20 40 56.7 -0.5**
comp=Z,3.5nm,0.8s,baz=3.5,slow=6.0,SNR=27
CMAR LR LR 21 24 06.8
comp=Z,12nm,18.4s,baz=190,slow=40
CMAR Chiang Mai Arr 83.09 297 *ce* P **P** **20 40 57.2 0.0**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 83.09 297 P **P** **20 40 55.6 -1.6**
PLCA Paso Flores 120.75 120 PKP **PKiKP** **20 47 22.0 -0.4**
comp=Z,1.3nm,0.7s,baz=240,slow=2.4,SNR=5.0
PLCA Paso Flores 120.75 120 PKiKP **PKiKP** **20 47 22.0 -0.4**
VNDA Vanda 143.14 196 PKhKP PKPpre 20 48 00.2
comp=Z,2.1nm,0.9s,baz=336,slow=3.7,SNR=12
VNDA Vanda 143.14 196 PKiKP PKPbc 20 48 00.9 +0.6
VNDA Vanda 143.14 196 PKPbc 20 48 00.9 +0.6
BOSA Boshof 145.70 8 PKPbc **PKPab** **20 48 09.7 -0.4**
comp=Z,9.1nm,0.8s,baz=353,slow=3.1,SNR=16

KRSC 26 20:40:13.8±1.4, 54°.10N×168°.88E, h59km±43km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**2.02**	**304**	P	Pn	20 40 45.9	+0.5
BKI				S	Sn	20 41 13.2	+3.7
MKZ	**Mys Kozlova**	**4.21**	**279**	P	Pn	20 41 18.7	+3.4
MKZ				S	Sn	20 42 05.9	+2.7
SPN	**Mys Shipunski**	**5.37**	**263**	S	Sn	20 42 35.1	+3.5
NLC	**Nalytchevo**	**5.75**	**265**	S	Sn	20 42 43.9	+3.0
UGLR	**Uglovaya**	**6.04**	**266**	*eP*	Pn	20 41 45.1	+4.5
SMAR	**Simma**	**6.05**	**266**	P	Pn	20 41 44.5	+3.8
AVH	**Avacha**	**6.08**	**266**	*eP*	Pn	20 41 45.4	+4.3
KRX	**Arik**	**6.12**	**267**	P	Pn	20 41 45.6	+4.0
KOK	**Koryaka**	**6.14**	**267**	*eP*	Pn	20 41 45.8	+3.9
KRMR	**Karymshinskiy**	**6.54**	**263**	P	Pn	20 41 51.4	+4.1
KRMR				S	Sn	20 43 04.1	+3.6
MTVR	**Mutnovka**	**6.62**	**260**	*eP*	Pn	20 41 52.7	+4.3
MTVR				*eS*	Sn	20 43 05.5	+3.1
ASAK	**Asacha**	**6.81**	**260**	*eP*	Pn	20 41 55.4	+4.3
ASAK				S	Sn	20 43 10.9	+3.7
KDTR	**Khodutka, Kamc**	**6.92**	**255**	S	Sn	20 43 11.9	+2.3

*IDC **26** 21:07:12.9±0.6, 26°.51N×44°.70W, h0km, mb4.3/25, mb1 4.4/25, mb1mx4.3/38, mbtmp4.3/25, MS4.1/80, Ms1 4.1/80, ms1mx4.0/93, Error ellipse: s-maj=16.1km s-min=14.0km az=156.0*

*NEIC **26** 21:07:15.0±1.3, 26°.5N±0°.1×44°.6W±0°.1, h10km±1km, mb4.8/114, Error ellipse: s-maj=18.4km s-min=15.8km az=140.0*

*GCMT **26** 21:07:16.0±0.2, 26°.72N±0°.02×44°.54W±0°.01, h12km, MW5.0/122, Moment Tensor Solution. s40,c46; s122,c177; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.79±.08; Mθθ0.66±.09; Mϕϕ3.13±.06; Mrθ2.21±.34; Mθϕ0.96±.06; Mϕr-1.09±.25; Best double couple: M0 4.20800×10^16^ NP1:ϕs220.00000°, δ47.00000°, λ-55.00000°. NP2:ϕs355.00000°, δ53.00000°, λ-122.00000°. Principal axes: T 3.4800, Plg3.0000°, Azm106.0000°; N 1.4560, Plg25.0000°, Azm15.0000°; P -4.9370, Plg65.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 21:07:14.5±0.4, 26°.47N±0°.07×44°.63W±0°.06, h11km, n229, σ0 s72/166, mb4.7/83, MS4.1/82, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDSD	**La Dsirade Is**	**18.32**	**240**	P	**Pn**	**21 11 28.7**	**0.0**
SMRT	**St. Maarten**	**19.00**	**248**	P	P	**21 11 36.6**	**+0.3**
SVN	**Savane Anatole**	**19.29**	**236**	P	**Pn**	**21 11 40.7**	**+0.1**
CDVI	**St. Croix**	**20.55**	**249**	P	P	**21 11 53.8**	**+0.6**
MTP	**Monte Pirata**	**21.05**	**251**	P	P	**21 11 59.4**	**+0.7**
PDPR	**Patillas Dam,**	**21.49**	**251**	P	P	**21 12 03.3**	**-0.1**
PDPR				lAmb	lAmb	21 12 07.1	
	comp=Z,44nm,1.1s						
SJG	**San Juan**	**21.55**	**252**	P	**P**	**21 12 06.0**	**+1.9**
	comp=Z,8.2nm,0.3s,baz=34,slow=8.2,SNR=3.3						
SJG				LR	LR	21 18 34.2	
	comp=Z,660nm,21.8s,baz=72,slow=32						
SJG	**San Juan**	**21.55**	**252**	P	**P**	**21 12 04.6**	**+0.5**
OBIP	**Obispado Ponce**	**21.97**	**252**	P	**P**	**21 12 08.6**	**+0.1**
OBIP				lAmb	lAmb	21 12 17.9	
	comp=Z,94nm,1.6s						
MDP	**Montagnes des**	**22.58**	**201**	LR	LR	21 19 05.0	
	comp=Z,208nm,19.9s,baz=62,slow=32						
SDDR	**Presa de Saban**	**25.66**	**259**	P	**P**	**21 12 44.9**	**+0.4**
SDDR				lAmb	lAmb	21 12 55.3	
	comp=Z,41nm,1.4s						
G65A	**Princeton**	**26.21**	**321**	P	**P**	**21 12 51.6**	**+2.4**
BAUV	**El Baul**	**28.21**	**236**	P	**P**	**21 13 07.8**	**+0.3**
BAUV				lAmb	lAmb	21 13 15.0	
	comp=Z,33nm,1.3s						
SDV	**Santo Domingo**	**30.21**	**239**	LR	LR	21 25 22.0	
	comp=Z,106nm,19.6s,baz=62,slow=36						
S57A	**Dark Hollow, R**	**31.01**	**300**	P	**P**	**21 13 32.8**	**+0.6**
S57A				lAmb	lAmb	21 13 36.7	
	comp=Z,20nm,1.2s						
W57A	**Gilead**	**31.45**	**295**	P	**P**	**21 13 35.5**	**-0.5**
BLA	**Blacksburg**	**32.06**	**298**	P	**P**	**21 13 42.2**	**+0.7**
BLA				lAmb	lAmb	21 13 46.3	
	comp=Z,22nm,1.4s						
SCHQ	**Schefferville**	**32.68**	**336**	LR	LR	21 25 29.3	
	comp=Z,229nm,21.3s,baz=138,slow=34						
SADO	**Sadowa**	**33.15**	**312**	LR	LR	21 24 50.0	
	comp=Z,728nm,21.4s,baz=135,slow=32						

RCBR Riachuelo 33.20 164 LR LR 21 24 15.7
comp=Z,286nm,18.2s,baz=134,slow=31
MTE Manteigas 33.67 56 P P 21 13 56.5 +1.0
GOGA Godfrey 34.21 291 P P 21 14 00.3 +0.2
TIGA Tifton 34.32 288 P P 21 14 02.8 +1.6
TIGA IAmb IAmb 21 14 06.3
comp=Z,17nm,1.0s
TZTN Tazewell 34.47 297 P P 21 14 02.9 +0.5
TZTN IAmb IAmb 21 14 15.9
comp=Z,27nm,1.4s
TKL Tuckaleechee C 34.57 295 P P 21 14 03.2 -0.1
comp=Z,6.0nm,0.9s,baz=102,slow=9.5,SNR=4.9
TKL LR LR 21 25 15.5
comp=Z,909nm,21.9s,baz=98,slow=31
TKL Tuckaleechee C 34.57 295 P P 21 14 04.0 +0.6
Q51A Peebles 34.63 301 P P 21 14 04.4 +0.6
MDT Midelt 35.20 70 LR LR 21 25 13.2
comp=Z,595nm,21.4s,baz=290,slow=31
ROSC El Rosal 35.60 238 LR LR 21 28 44.9
comp=Z,366nm,19.8s,baz=48,slow=36
ESDC Sonseca Array 36.23 58 P P 21 14 18.5 +0.9
comp=Z,0.6nm,0.9s,baz=280,slow=8.5,SNR=3.2
ESDC LR LR 21 25 17.0
comp=Z,322nm,21.3s,baz=246,slow=30
WVT Waverly 37.88 296 P P 21 14 32.2 +0.5
WVT IAmb IAmb 21 14 35.3
comp=Z,20nm,1.4s
PLAL Pickwick Lake 38.05 294 P P 21 14 33.2 +0.1
Z47A Carrollton 38.06 291 P P 21 14 33.7 +0.5
ESPN Las Esperanzas 39.85 257 P P 21 14 48.0 -0.4
ESPN IAmb IAmb 21 14 58.0
comp=Z,39nm,1.4s
CVTR Volcan Turrial 40.40 254 P P 21 14 54.1 +0.7
CVTR IAmb IAmb 21 14 57.9
comp=Z,17nm,1.0s
FRB Frobisher Bay 40.41 344 P P 21 14 52.4 +0.1
comp=Z,18nm,0.9s,baz=150,slow=8.0,SNR=15
FRB LR LR 21 30 02.5
comp=Z,357nm,21.9s,baz=158,slow=34
CCM Cathedral Cave 40.69 298 P P 21 14 55.6 +0.5
SFJD Kangerlussuaq 40.71 356 LR LR 21 28 18.0
comp=Z,201nm,19.8s,baz=182,slow=31
BOAB BOACO BROADBAN 40.94 258 P P 21 14 56.9 -0.4
BOAB IAmb IAmb 21 15 20.9
comp=Z,41nm,1.4s
MATN Matagalpa 40.96 259 P P 21 14 57.8 +0.2
MATN IAmb IAmb 21 15 07.2
comp=Z,28nm,1.8s
BORG Borgarnes 41.10 15 P P 21 14 59.0 +1.0
comp=Z,18nm,1.0s,baz=180,slow=1.6,SNR=3.6
BORG LR LR 21 27 41.4
comp=Z,134nm,20.9s,baz=235,slow=30
JTS Las Juntas de 41.30 255 LR LR 21 29 59.8
comp=Z,130nm,20.5s,baz=136,slow=33
FCAR Ozark Folk Cen 41.36 295 P P 21 15 00.7 0.0
W41B Gary Mavity, V 41.48 294 P P 21 15 01.6 +0.1
W41B IAmb IAmb 21 15 04.8
comp=Z,26nm,1.5s
WHAR Wooly Hollow 41.51 294 P P 21 15 01.3 -0.5
WHAR IAmb IAmb 21 15 24.2
comp=Z,32nm,1.7s
EKA Eskdalemuir Ar 41.62 35 LR LR 21 28 21.1
comp=Z,489nm,20.1s,baz=228,slow=30
OTAV Otavalo 41.71 237 P P 21 15 04.4 +0.2
U40A Yellville 41.95 296 P P 21 15 05.6 +0.1
BDFB Brasilia 41.98 185 P P 21 15 06.9 +1.0
comp=Z,2.9nm,0.7s,baz=340,slow=24,SNR=4.0
BDFB LR LR 21 30 24.4
comp=Z,245nm,19.2s,baz=334,slow=33
BDFB Brasilia 41.98 185 P P 21 15 05.8 -0.1
BDFB IAmb IAmb 21 15 24.9
comp=Z,24nm,1.4s
S39A Bolivar 42.33 298 P P 21 15 08.4 -0.1
S39A IAmb IAmb 21 15 16.4
comp=Z,26nm,1.7s
N38A Joes South For 42.39 302 P P 21 15 08.6 -0.4
N38A IAmb IAmb 21 15 16.9
comp=Z,23nm,1.2s
P38A Dawn 42.55 301 P P 21 15 10.4 +0.1
MIAR Mount Ida 42.59 293 P P 21 15 11.3 +0.6
DBIC Dimbokro 42.65 110 LR LR 21 29 42.9
comp=Z,663nm,21.7s,baz=302,slow=32
W39A Magazine 42.73 294 P P 21 15 12.7 +0.9
W39A IAmb IAmb 21 15 20.8
comp=Z,29nm,1.6s
ICESG Greenland Ices 42.75 3 *i* P P 21 15 08.5 -3.4
ICESG IAmb IAmb 21 15 12.9
comp=Z,8.7nm,0.9s
MTO3 Montecristo 43.40 263 P P 21 15 17.9 +0.3
BOSC San Juan Bosco 44.03 233 P P 21 15 21.2 -1.5
TUL1 Leonard 44.34 295 P P 21 15 24.1 -0.7
TUL1 IAmb IAmb 21 15 31.8
comp=Z,9.4nm,0.8s
H10N2 ASCENSION HYDR 44.92 135 T T 22 03 21.7
baz=320,slow=75,SNR=2008
H10N3 ASCENSION HYDR 44.92 135 T T 22 03 21.8
baz=320,slow=75,SNR=2606
H10N1 ASCENSION HYDR 44.94 135 T T 22 03 23.0
baz=320,slow=75,SNR=2606
SIV San Ignacio 45.13 203 LR LR 21 32 42.5
comp=Z,157nm,21.0s,baz=333,slow=34
AGMN Agassiz Nation 45.19 313 P P 21 15 31.6 +0.2
AGMN IAmb IAmb 21 15 38.6
comp=Z,9.1nm,0.7s
TORD Torodi Ar. Bea 45.32 98 P P 21 15 32.4 -0.4
comp=Z,2.3nm,1.1s,baz=304,slow=8.5,SNR=6.5
TORD LR LR 21 33 49.4
comp=Z,708nm,18.6s,baz=274,slow=35
TORD Torodi Ar. Bea 45.32 98 P P 21 15 31.8 -1.0
ULM Lac du Bonnet 45.56 315 P P 21 15 32.9 -1.4
comp=Z,4.2nm,0.8s,baz=98,slow=4.9,SNR=3.9
ULM LR LR 21 32 20.5
comp=Z,207nm,21.7s,baz=88,slow=33
ULM Lac du Bonnet 45.56 315 P P 21 15 33.9 -0.4
H10S3 ASCENSION HYDR 45.68 136 T T 22 04 16.5
baz=319,slow=74,SNR=584
H10S2 ASCENSION HYDR 45.70 136 T T 22 04 19.5
baz=261,slow=74,SNR=218
MCRA Macar, Loja 45.91 233 P P 21 15 36.8 -0.8
SCO Scoresbysund 45.94 10 P P 21 15 37.3 +0.4
SCO IAmb IAmb 21 15 38.7
comp=Z,13nm,0.9s
SCO Scoresbysund 45.94 10 *i* P P 21 15 36.0 -0.9
SCO IAmb IAmb 21 15 38.0
comp=Z,7.1nm,0.8s
KEST Kesra 46.64 65 P P 21 15 44.3 +1.2
comp=Z,7.3nm,1.0s,baz=109,slow=6.0,SNR=3.6
KEST LR LR 21 34 24.8
comp=Z,277nm,18.5s,baz=248,slow=35
KEST Kesra 46.64 65 P P 21 15 43.3 +0.2
FCC Fort Churchill 47.00 327 P P 21 15 45.7 +0.2
FCC IAmb IAmb 21 15 48.7
comp=Z,10nm,0.9s
DAVOX Davos/Dischmat 47.19 50 LR LR 21 31 58.9
comp=Z,197nm,19.9s,baz=262,slow=32
CMIG Matias Romero 47.34 269 LR LR 21 35 07.8
comp=Z,170nm,19.7s,baz=36,slow=35
ABTX Abilene, Hawle 47.81 291 P P 21 15 52.1 -0.1
SQTA Sankt Quirin 48.13 49 *eP* P 21 15 55.4 +0.7
comp=Z,2.3nm,0.5s
LPAZ La Paz 48.25 211 P P 21 15 56.6 +0.3
comp=Z,10nm,1.2s,baz=15,slow=8.5,SNR=9.5
LPAZ LR LR 21 36 06.6
comp=Z,167nm,19.0s,baz=20,slow=36
LPAZ La Paz 48.25 211 P P 21 15 56.2 -0.1
LPAZ IAmb IAmb 21 15 59.2
comp=Z,11nm,1.2s
JCT Junction City 48.26 288 P P 21 15 55.3 -0.5
JCT IAmb IAmb 21 16 03.5
comp=Z,9.2nm,0.9s
WTTA Wattenberg 48.43 49 *eP* P 21 15 56.9 -0.1
comp=Z,2.2nm,0.5s
AMTX Amarillo 49.22 294 P P 21 16 03.2 +0.1
AMTX IAmb IAmb 21 16 11.6
comp=Z,13nm,1.1s
DBG Daneborg 49.56 8 *i* P P 21 16 03.8 -1.2
DBG IAmb IAmb 21 16 08.0
comp=Z,3.7nm,0.8s
CLL Collm 49.74 44 *eS* S 21 23 16.0 +0.4
CLL Lm MLR 21 33 00.0
comp=Z,200nm,21.0s
KHC Kasperske Hory 49.88 47 *eP* P 21 16 07.8 -0.1
GERES GERESS Array B 49.94 47 P P 21 16 08.3 -0.1
comp=Z,0.3nm,0.4s,baz=245,slow=11,SNR=6.6
GERES LR LR 21 34 34.7
comp=Z,71nm,18.0s,baz=272,slow=33

GERES GERESS Array B 49.94 47 P P 21 16 07.9 -0.5
CKRC Cesky Krumlov 50.34 47 *eP* P 21 16 10.9 -0.4
RSSD Black Hills 50.50 307 P P 21 16 12.6 -0.3
VAE Valguarnera 50.55 62 LR LR 21 35 11.2
comp=Z,327nm,19.4s,baz=358,slow=33
NB2 NORSAR Subarra 50.79 31 P P 21 16 15.0 +0.4
comp=Z,1.4nm,0.7s,baz=252,slow=7.9
NOA NORSAR Array B 50.79 31 P P 21 16 14.6 0.0
comp=Z,3.7nm,0.9s,baz=254,slow=7.8,SNR=8.6
NOA LR LR 21 34 09.7
comp=Z,199nm,19.7s,baz=250,slow=32
TULEG Thule 51.50 353 P P 21 16 20.2 +0.6
TULEG IAmb IAmb 21 16 21.4
comp=Z,19nm,1.0s
TULEG Thule 51.50 353 *i* P P 21 16 17.5 -2.1
TULEG IAmb IAmb 21 16 20.6
comp=Z,6.1nm,0.8s
GO01 Chusmiza 51.69 210 P P 21 16 21.2 -1.1
GO01 IAmb IAmb 21 16 23.7
comp=Z,20nm,1.1s
HFS Hagfors 51.73 33 LR LR 21 35 23.4
comp=Z,164nm,18.5s,baz=245,slow=33
TX31 Lajitas Ar. Si 51.77 288 P P 21 16 22.0 -0.6
TX31 IAmb IAmb 21 16 29.5
comp=Z,28nm,1.5s
TXAR Lajitas Array 51.77 288 P P 21 16 21.7 -0.8
comp=Z,0.9nm,0.8s,baz=222,slow=18,SNR=4.5
TXAR LR LR 21 39 07.2
comp=Z,90nm,18.3s,baz=68,slow=37
TXAR Lajitas Array 51.77 288 P P 21 16 21.6 -0.9
VRAC Vranov 51.86 47 LR LR 21 35 17.6
comp=Z,132nm,21.3s,baz=260,slow=32
DAG Danmarks Havn 51.91 7 *i* P P 21 16 21.4 -1.2
DAG IAmb IAmb 21 16 24.5
comp=Z,4.0nm,0.7s
PB11 IPOC Station P 51.97 210 P P 21 16 22.2 -1.9
ZAIG Zacatecas 52.42 279 P P 21 16 27.8 +0.1
ANMO Albuquerque 53.10 295 LR LR 21 37 17.4
comp=Z,530nm,20.1s,baz=87,slow=34
ANMO Albuquerque 53.10 295 P P 21 16 33.6 +1.2
CPUP Villa Florida 53.90 194 LR LR 21 38 37.2
comp=Z,74nm,18.7s,baz=13,slow=35
LVC Limon Verde 54.15 208 LR LR 21 39 31.4
comp=Z,162nm,19.8s,baz=5.0,slow=36
MVCO Mesa Verde 54.40 298 P P 21 16 42.8 +0.9
MVCO IAmb IAmb 21 16 49.3
comp=Z,21nm,1.6s
EGMT Eagleton 54.43 312 P P 21 16 41.4 -0.4
GCMT Greycliff 54.45 309 P P 21 16 42.4 +0.3
PD31 Pinedale Array 54.57 305 P P 21 16 42.9 -0.2
PD31 IAmb IAmb 21 16 54.6
comp=Z,11nm,1.2s
PDAR Pinedale Array 54.57 305 P P 21 16 43.0 -0.2
comp=Z,3.0nm,0.7s,baz=100,slow=7.2,SNR=31
PDAR LR LR 21 38 55.1
comp=Z,269nm,18.9s,baz=98,slow=35
PDAR Pinedale Array 54.57 305 P P 21 16 43.0 -0.2
RES Resolute Bay 54.58 345 P P 21 16 42.5 +0.2
comp=Z,6.2nm,0.9s,baz=82,slow=5.9,SNR=17
RES Resolute Bay 54.58 345 P P 21 16 42.9 +0.5
RES IAmb IAmb 21 16 43.9
comp=Z,9.6nm,1.1s
121A Cookes Peak, D 54.60 292 P P 21 16 43.0 -0.4
YMP Mirror Lake Pl 54.85 308 P P 21 16 45.8 +0.5
YMP IAmb IAmb 21 17 15.2
comp=Z,14nm,1.1s
MOOW Moose Ponds 55.35 306 P P 21 16 48.6 -0.1
TPAW Teton Pass 55.53 306 P P 21 16 49.9 -0.1
TPAW IAmb IAmb 21 17 03.3
comp=Z,20nm,1.6s
SRU San Rafael Swe 55.71 301 P P 21 16 51.7 +0.4
SRU IAmb IAmb 21 16 53.0
comp=Z,6.7nm,0.9s
BOZ Bozeman (W) 55.83 309 P P 21 16 52.1 0.0
BOZ IAmb IAmb 21 16 58.9
comp=Z,12nm,1.6s
NOR Nord 56.30 5 *i* P P 21 16 53.3 -1.4
NOR IAmb IAmb 21 16 54.5
comp=Z,5.3nm,0.8s
EUNU Eureka 56.45 352 P P 21 16 55.8 0.0
EDM Edmonton 56.64 318 P P 21 16 57.2 -0.4
U15A North Rim 57.53 298 P P 21 17 04.9 +0.4
BUR08 Bucovina Ar. S 57.62 49 P P 21 17 05.1 +0.4
BUR08 IAmb IAmb 21 17 15.7
comp=Z,8.0nm,1.2s
BURAR Bucovina Array 57.63 49 P P 21 17 05.8 +1.0
YKA Yellowknife Ar 57.65 329 P P 21 17 03.6 -0.8
comp=Z,3.3nm,0.8s,baz=93,slow=7.7,SNR=38
YKA PcP PcP 21 17 56.9 -0.6
comp=Z,0.6nm,0.7s,baz=95,slow=5.3,SNR=4.7
YKA LR LR 21 40 27.4
comp=Z,612nm,21.4s,baz=95,slow=35
FINES FINESS Array B 57.92 32 P P 21 17 06.5 0.0
comp=Z,4.2nm,0.7s,baz=215,slow=2.6,SNR=11
FINES LR LR 21 38 56.0
comp=Z,178nm,19.2s,baz=226,slow=33
FINES FINESS Array B 57.92 32 P P 21 17 05.7 -0.7
FIA1 FINESS Array S 57.93 32 P P 21 17 06.2 -0.3
HLID Hailey 58.02 306 P P 21 17 07.9 +0.2
CCUT Cedar City 58.16 299 P P 21 17 09.4 +0.6
MLR Muntele Rosu 58.35 51 LR LR 21 41 35.4
comp=Z,158nm,18.2s,baz=275,slow=35
MLR Muntele Rosu 58.35 51 P P 21 17 10.3 +0.4
PSUT Pine Spring 58.37 301 P P 21 17 10.0 -0.2
ARCES ARCESS Array B 58.53 23 P P 21 17 10.3 -0.3
comp=Z,8.2nm,0.7s,baz=254,slow=6.5,SNR=37
ARCES LR LR 21 37 41.7
comp=Z,43nm,21.9s,baz=306,slow=31
ARCES ARCESS Array B 58.53 23 P P 21 17 09.9 -0.7
LPIG La Paz 58.84 283 LR LR 21 41 28.7
comp=Z,157nm,21.1s,baz=52,slow=35
PLID Pearl Lake 58.95 308 P P 21 17 14.2 -0.1
PLID IAmb IAmb 21 17 23.0
comp=Z,4.8nm,0.9s
ELK Elko 59.05 303 LR LR 21 41 14.6
comp=Z,312nm,19.9s,baz=79,slow=35
ELK Elko 59.05 303 P P 21 17 14.9 0.0
IDI Anoyia 59.24 63 LR LR 21 41 35.7
comp=Z,48nm,19.7s,baz=266,slow=35
NEW Newport 59.34 312 LR LR 21 41 13.5
comp=Z,393nm,20.0s,baz=87,slow=34
NEW Newport 59.34 312 P P 21 17 16.3 -0.3
AKASG Malin Array Be 59.96 45 P P 21 17 20.1 -0.7
comp=Z,1.7nm,0.7s,baz=288,slow=5.2,SNR=7.4
AKASG LR LR 21 39 27.0
comp=Z,119nm,21.6s,baz=345,slow=32
AKASG Malin Array Be 59.96 45 P P 21 17 19.6 -1.2
D08A Wollman Farm, 60.70 311 P P 21 17 25.5 -0.4
PFO Pinyon Flats O 61.47 296 LR LR 21 43 31.6
comp=Z,240nm,18.8s,baz=76,slow=36
NVAR Mina Array Bea 61.81 301 P P 21 17 33.1 -0.8
comp=Z,0.7nm,0.7s,baz=95,slow=6.3,SNR=5.7
NVAR LR LR 21 42 28.1
comp=Z,476nm,21.4s,baz=66,slow=34
NVAR Mina Array Bea 61.81 301 P P 21 17 34.0 +0.1
LTY Liberty 61.84 311 P P 21 17 33.4 -0.3
LTY IAmb IAmb 21 17 41.2
comp=Z,14nm,1.4s
A36M Sachs Harbour 62.18 340 P P 21 17 36.2 +0.7
MOD Modoc Plateau 62.58 305 P P 21 17 38.3 -0.5
MOD IAmb IAmb 21 17 52.1
comp=Z,14nm,1.6s
K05A Summer Lake 62.84 306 P P 21 17 41.3 +0.6
ELL Elmali 62.87 60 P P 21 17 40.9 0.0
OBN Obninsk 63.80 39 LR LR 21 43 15.8
comp=Z,41nm,19.0s,baz=212,slow=34
OBN Obninsk 63.80 39 P P 21 17 47.3 +0.9
ORV Oroville 63.98 303 P P 21 17 48.0 0.0
ORV IAmb IAmb 21 17 57.6
comp=Z,8.9nm,1.1s
YBH Yreka Blue Hor 64.37 306 LR LR 21 43 46.8
comp=Z,313nm,21.6s,baz=76,slow=34
BR131 Keskin Array S 65.00 56 P P 21 17 55.0 +0.1
BR131 IAmb IAmb 21 18 04.2
comp=Z,8.2nm,1.1s
BRTR Keskin Array B 65.00 56 P P 21 17 55.2 +0.4
comp=Z,1.8nm,0.6s,baz=275,slow=4.4,SNR=8.4
BRTR LR LR 21 44 02.8
comp=Z,118nm,19.6s,baz=292,slow=34
INK Inuvik 65.30 336 LR LR 21 47 03.4
comp=Z,216nm,18.1s,baz=80,slow=37
INK Inuvik 65.30 336 P P 21 17 55.6 -0.4
INK IAmb IAmb 21 17 56.4
comp=Z,12nm,1.2s
DLBC Dease Lake 65.49 325 LR LR 21 47 28.3

comp=Z,97nm,18.2s,baz=94,slow=37
BBB Bella Bella 65.67 318 LR LR 21 46 11.8
comp=Z,226nm,18.9s,baz=88,slow=36
MMAI Mount Meron Ar 68.24 63 LR LR 21 47 46.0
comp=Z,35nm,20.9s,baz=54,slow=36
EIL Elat 68.94 67 LR LR 21 47 31.9
comp=Z,118nm,21.7s,baz=264,slow=35
BMAR Burnt Mountain 69.56 336 P P 21 18 23.3 +0.1
KIRV Kirov 69.85 34 LR LR 21 45 58.9
comp=Z,113nm,18.9s,baz=282,slow=33
BCAR Beaver Creek A 69.89 331 P P 21 18 25.3 0.0
H09N1 TRISTAN DA CUN 70.13 153 T T 22 34 55.5
SNR=21
H09W1 TRISTAN DA CUN 70.15 153 T T 22 34 57.0
SNR=29
KBZ Khabaz 70.53 50 LR LR 21 49 52.4
comp=Z,59nm,18.4s,baz=290,slow=36
BELG Belogormoye 70.81 40 LR LR 21 47 58.8
comp=Z,110nm,18.5s,baz=318,slow=34
TOLK Toolik Lake Re 70.86 338 P P 21 18 31.6 +0.5
TOLK IAmb IAmb 21 18 32.3
comp=Z,14nm,1.4s
PLCA Paso Flores 71.06 201 P P 21 18 33.4 +0.8
comp=Z,3.7nm,1.1s,baz=342,slow=9.2,SNR=3.6
PLCA LR LR 21 49 28.4
comp=Z,63nm,18.9s,baz=67,slow=36
PLCA Paso Flores 71.06 201 P P 21 18 33.0 +0.4
IL31 71.40 334 P P 21 18 34.6 +0.2
IL31 IAmb IAmb 21 18 35.3
comp=Z,7.4nm,0.8s
ILAR Eielson Array 71.40 334 P P 21 18 34.3 -0.1
comp=Z,5.1nm,0.8s,baz=72,slow=4.8,SNR=35
ILAR LR LR 21 49 13.7
comp=Z,156nm,20.6s,baz=6.0,slow=35
ILAR Eielson Array 71.40 334 P P 21 18 34.6 +0.2
GURO Guroymak-BITLI 71.58 56 P P 21 18 35.8 -0.4
GURO IAmb IAmb 21 18 58.8
comp=Z,12nm,1.8s
COLD Coldfoot 71.66 337 P P 21 18 36.5 +0.5
COLD IAmb IAmb 21 18 38.1
comp=Z,7.0nm,1.1s
H23K Yukon River 72.00 335 P P 21 18 38.8 +0.8
H23K IAmb IAmb 21 18 40.0
comp=Z,12nm,0.9s
GNI Garni 73.01 53 LR LR 21 50 43.9
comp=Z,43nm,19.1s,baz=286,slow=36
GNI Garni 73.01 53 P P 21 18 44.2 -0.5
GNI IAmb IAmb 21 18 49.3
comp=Z,16nm,1.3s
I21K Tanana 73.20 335 P P 21 18 44.0 -1.1
I21K IAmb IAmb 21 18 46.7
comp=Z,15nm,1.2s
IMAR Indian Mountai 73.48 336 P P 21 18 47.2 +0.4
PPLA Purkeypile 74.32 333 P P 21 18 51.4 -0.5
PPLA IAmb IAmb 21 19 23.9
comp=Z,16nm,1.3s
ARU Arti 75.23 34 LR LR 21 48 45.7
comp=Z,97nm,20.4s,baz=306,slow=33
TSUM Tsumeb 75.53 120 LR LR 21 46 14.3
comp=Z,122nm,19.0s,baz=324,slow=31
KDAK Kodiak Island 76.92 328 LR LR 21 54 48.3
comp=Z,234nm,18.0s,baz=76,slow=37
MBAR Mbarara 77.19 97 LR LR 21 52 02.5
comp=Z,389nm,19.8s,baz=278,slow=35
AKTO Aktyubinsk 77.57 40 LR LR 21 51 20.5
comp=Z,153nm,19.4s,baz=301,slow=34
NRIK Noril'sk 78.42 16 P P 21 19 16.2 +1.4
comp=Z,2.0nm,0.6s,baz=334,slow=4.5,SNR=5.9
NRIK Noril'sk 78.42 16 P P 21 19 15.8 +1.0
ABKAR Akbulak array 79.22 40 P P 21 19 19.6 -0.1
ABKAR Akbulak array 79.22 40 P P 21 19 19.7 +0.1
ABKAR IAmb IAmb 21 19 21.2
comp=Z,2.1nm,0.8s
LODK Lodwar 79.53 91 P P 21 19 22.3 +0.2
LODK IAmb IAmb 21 19 39.8
comp=Z,14nm,1.7s
LSZ Lusaka 81.98 111 LR LR 21 54 25.6
comp=Z,112nm,18.2s,baz=318,slow=34
TIXI Tiksi 82.05 2 LR LR 21 52 09.4
comp=Z,35nm,20.8s,baz=347,slow=33
TIXI Tiksi 82.05 2 P P 21 19 34.4 0.0
TIXI IAmb IAmb 21 19 35.8
comp=Z,7.1nm,0.8s
ATD Arta Tunnel 82.72 81 LR LR 21 57 58.3
comp=Z,14nm,18.7s,baz=17,slow=37
BILL Bilibino 83.03 349 P P 21 19 39.5 0.0
BILL IAmb IAmb 21 19 40.8
comp=Z,12nm,1.3s
KMBO Kilima Mbogo 83.23 95 LR LR 21 56 25.2
comp=Z,415nm,19.2s,baz=274,slow=35
GEYT Alibeck 83.40 51 LR LR 21 55 48.4
comp=Z,37nm,21.7s,baz=308,slow=35
LBTB Lobatse 84.91 121 LR LR 21 52 28.1
comp=Z,163nm,20.4s,baz=312,slow=32
SUR Sutherland 85.47 129 LR LR 21 49 51.9
comp=Z,110nm,21.8s,baz=327,slow=30
BOSA Boshof 86.57 124 LR LR 21 53 04.1
comp=Z,182nm,20.3s,baz=344,slow=32
KURBB Kurchatov Arra 88.32 32 LR LR 21 57 35.7
comp=Z,68nm,20.4s,baz=267,slow=34
ZAA0 Zalesovo Array 88.81 27 P P 21 20 08.0 -0.4
ZAA0 IAmb IAmb 21 20 09.4
comp=Z,4.7nm,1.1s
ZALV Zalesovo Beam 88.81 27 P P 21 20 08.1 -0.3
comp=Z,1.8nm,0.8s,baz=290,slow=4.3,SNR=8.8
ZALV LR LR 21 58 14.4
comp=Z,72nm,20.0s,baz=326,slow=34
ZALV Zalesovo Beam 88.81 27 P P 21 20 08.4 0.0
WSAR Wadi Sarin 90.88 64 LR LR 22 03 57.2
comp=Z,59nm,18.2s,baz=308,slow=37
YAK Yakutsk 91.70 3 LR LR 21 58 13.1
comp=Z,39nm,18.5s,baz=267,slow=33
MKAR Makanchi Array 92.75 33 P P 21 20 27.3 +0.4
comp=Z,0.4nm,0.8s,baz=15,slow=6.0,SNR=2.4
MKAR LR LR 22 00 22.7
comp=Z,87nm,20.9s,baz=304,slow=34
KSH Kashi 94.13 42 P P 21 20 34.8 +1.2
KSH pP sP 21 20 38.3 +1.3
KSH pmax pmax
comp=Z,3.0nm,0.8s
SHEM Shemya Is, Ala 94.21 338 LR LR 22 04 13.8
comp=Z,83nm,20.1s,baz=42,slow=36
WMQ Urumqi 97.53 33 *eP* Pdif 21 20 50.8 +1.8
WMQ pP pwP 21 20 54.5 -1.7
WMQ LR LR
comp=Z,130nm,19.9s
PETK Petropavlovsk- 98.41 347 LR LR 22 07 15.8
comp=Z,70nm,20.3s,baz=53,slow=37
OPO Ambohidratompo 99.63 106 LR LR 22 07 04.5
comp=Z,60nm,18.1s,baz=122,slow=36
CMAR Chiang Mai Arr 123.03 42 PKP PKPdf 21 26 11.7 -0.1
comp=Z,1.2nm,0.9s,baz=317,slow=2.6,SNR=7.5
CMAR Chiang Mai Arr 123.03 42 PKPdf 21 26 10.7 -1.1
VNDA Vanda 127.39 187 PKP PKPdf 21 26 18.3 -0.1
comp=Z,1.9nm,0.8s,baz=273,slow=2.1,SNR=11
WRA Warramunga Arr 173.44 8 PKPab PKPab 21 28 52.1 -0.9
comp=Z,1.2nm,0.9s,baz=359,slow=5.3,SNR=5.5

FUNV ***26*** *21:13:03.5, 9.96N×71.97W, h5km, MW3.4*
ISC 26 21:13:03.4±1.3, 9.96N±0.03×72.00W±0.03, h13km±10km,
n22, σ1°41/37, 2D, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.54**	**280**	⇓*i*	*iP*		**Pg**	**21 13 14.0**	**+0.1**
MCQV					*eS*		**Sg**	**21 13 22.4**	**+1.3**
LL6C	**La Loma 6 Bece**	**1.27**	**260**	⇓*i*	*iP*		**Pn**	**21 13 25.4**	**-1.5**
LL6C					*eS*		**Sg**	**21 13 41.5**	**-3.1**
LL6C					*i*			21 13 43.2	
	comp=Z,94nm,0.3s								
CVALL	**Valledupar, Ce**	**1.35**	**294**		*eP*		**Pn**	**21 13 27.7**	**-0.4**
CVALL					*eS*		**Sb**	**21 13 45.3**	**-0.6**
CVALL					*i*			21 13 46.9	
	comp=Z,299nm,0.2s								
CRJC	**Cerrejon, Guaj**	**1.37**	**321**		*eP*		**Pn**	**21 13 28.3**	**-0.1**
CRJC					*eS*		**Sb**	**21 13 46.9**	**+0.5**
CRJC					*i*			21 13 48.6	
	comp=Z,482nm,0.2s								
LL1C	**La Loma 1 Cana**	**1.59**	**255**		*eP*		**Pn**	**21 13 30.6**	**-0.7**
LL1C					*eS*		**Sn**	**21 13 51.0**	**-0.8**
LL1C					*i*			21 13 54.5	
	comp=Z,523nm,0.4s								
DABV	**Dabajuro**	**1.65**	**54**		*eP*		**Pn**	**21 13 33.0**	**+0.8**
DABV					*eS*		**Sg**	**21 13 57.5**	**+1.0**
DABV	**Dabajuro**	**1.65**	**54**		*eP*		**Pn**	**21 13 32.9**	**+0.7**

DABV				*eS*	**Sn**	21 13 54.5	+1.3	
SDV	**Santo Domingo**	**1.72**	**128**	*eP*	**Pn**	21 13 33.3	0.0	
SDV				*eS*	**Sn**	21 13 55.5	+0.3	
SDV				*i*		21 13 57.0		
	comp=Z,63nm,0.5s							
URIC	**Uribia, Colomb**	**1.73**	**0**	*eP*	**Pn**	21 13 32.4	-0.9	
URIC				*eS*	**Sb**	21 13 58.5	+1.6	
SOCV	**Socops**	**2.01**	**146**	*eP*	**Pn**	21 13 37.0	-0.2	
SOCV				*eS*	**Sn**	21 14 02.2	0.0	
SOCV				*i*		21 14 05.7		
	comp=Z,1μm,0.1s							
SOCV	**Socops**	**2.01**	**146**	*eP*	**Pn**	21 13 36.3	-0.8	
SOCV				*eS*	**Sn**	21 14 02.8	+0.6	
CAPV	**Capacho**	**2.10**	**189**	*eP*	**Pn**	21 13 38.9	+0.3	
CAPV				*eS*	**Sn**	21 14 05.9	+1.2	
OCAC	**Ocana**	**2.15**	**217**	*eP*	**Pn**	21 13 38.6	-0.6	
OCAC				*eS*	**Sn**	21 14 06.4	+0.6	
OCAC				*i*		21 14 10.2		
	comp=Z,278nm,0.4s							
SIQV	**Siquisique**	**2.26**	**72**	*eP*	**Pn**	21 13 40.8	+0.1	
SIQV				*eS*	**Sn**	21 14 07.6	-0.9	
SANV	**Sanarito**	**2.47**	**100**	*eP*	**Pn**	21 13 43.8	+0.2	
SANV				*eS*	**Sn**	21 14 12.6	-1.1	
ZARC	**Zaragoza, Cauc**	**3.74**	**229**	*i*	**Sg**	21 15 02.8	-0.8	
	comp=Z,14nm,0.3s							
ZARC	**Zaragoza, Cauc**	**3.74**	**229**	*eS*	**Sb**	21 14 54.4	-0.4	
ZARC	**Zaragoza, Cauc**	**3.74**	**229**	*eP*	**Pn**	21 14 04.7	+3.7	
BAUV	**El Baul**	**4.03**	**104**	*eP*	**Pn**	21 14 03.7	-1.3	
BAUV				*eS*	**Sn**	21 14 48.7	-3.4	
PTBC	**PUERTO BERRIO,**	**4.18**	**216**	*eP*	**Pn**	21 14 10.0	+3.0	
BENV	**Beln**	**4.33**	**90**	*eP*	**Pn**	21 14 08.7	-0.5	
CACV	**CAICARA DEL OR**	**5.90**	**113**	*eP*	Pn	21 14 35.9	+5.3	

*DJA **26** 21:18:58.1±0.4, 1°N±3°×12°5E±°, h234km±4km, M3.9/12, mb4.3/1, MLv3.7/12*
*NEIC **26** 21:18:58.1±1.4, 1.6N±0.1×124.5E±0.09, h243km±10km, mb4.2/15, Error ellipse: s-maj=16.8km s-min=12.7km az=205.0*
*IDC **26** 21:19:12.2±11.0, 1°11N×124°13E, h402km±149km, mb3.3/6, mb1 3.4/7, mb1mx3.1/36, mbtmp4.0/7, Error ellipse: s-maj=86.7km s-min=23.6km az=59.0*

ISC 26 21:18:57.6±0.7, 1°47N±0.07×124°58E±0.05, h235km, n38, σ1§35/44, mb3.9/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.07**	**214**	P	**Pn**	21 19 33.2	+1.7
KMSI				S	**S**	21 19 58.5	+0.5
GTOI	**Gorontalo**	**1.78**	**242**	P	**Pn**	21 19 38.3	+1.5
GTOI				S	**S**	21 20 09.3	+1.9
MRSI	**Marisa**	**2.82**	**250**	P	**Pn**	21 19 48.2	+1.0
MRSI				S	**S**	21 20 26.5	+0.4
TNTI	**Ternate**	**2.87**	**104**		**Pn**	21 19 48.6	+0.9
TNTI	**Ternate**	**2.87**	**104**	P	**Pn**	21 19 48.3	+0.6
LUWI	**Luwuk**	**3.08**	**216**	Pn	**Pn**	21 19 52.4	+2.3
LUWI	**Luwuk**	**3.08**	**216**	P	**Pn**	21 19 49.2	-0.9
LUWI				S	**S**	21 20 28.4	-3.0
LBMI	**Labuha**	**3.59**	**126**	P	**Pn**	21 19 56.6	+0.7
LBMI				S	**S**	21 20 39.6	-2.3
SANI	**Sanana**	**3.76**	**158**	P	**Pn**	21 19 56.8	-1.2
APSI	**Ampana**	**3.77**	**231**	P	**Pn**	21 19 57.7	-0.3
APSI				S	**S**	21 20 44.3	-1.3
TOLI2	**Tolitoli**	**3.82**	**265**		**Pn**	21 19 59.0	+0.4
MPSI	**Mapaga**	**4.82**	**257**	P	**Pn**	21 20 10.4	-0.3
KNRA	**Kununurra**	**17.53**	**167**	P	**P**	21 22 46.8	+0.7
KNRA				IAmb	IAmb	21 23 00.4	
	comp=Z,18nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.47**	**177**	P	**P**	21 23 08.8	+1.7
	comp=Z,0.4nm,0.3s,baz=339,slow=7.8,SNR=14						
FITZ	**Fitzroy Crossi**	**19.47**	**177**	P	**P**	21 23 07.4	+0.4
FITZ				IAmb	IAmb	21 23 13.1	
	comp=Z,8.0nm,1.5s						
TPUB	**Ta-pu**	**22.04**	**350**	P	**P**	21 23 33.5	+0.2
WB0	**Warramunga Arr**	**23.19**	**156**	P	**P**	21 23 43.4	-0.5
WB0				IAmb	IAmb	21 23 44.1	
	comp=Z,6.7nm,0.5s						
WRA	**Warramunga Arr**	**23.33**	**156**	P	**P**	21 23 44.9	-0.2
	comp=Z,5.4nm,0.4s,baz=335,slow=10,SNR=68						
WRA	**Warramunga Arr**	**23.33**	**156**	P	**P**	21 23 43.5	-1.6
WB2	**Warramunga Arr**	**23.33**	**156**	P	**P**	21 23 44.8	-0.4
WB2				IAmb	IAmb	21 23 45.8	
	comp=Z,11nm,0.9s						
AS31	**Alice Springs**	**26.57**	**161**	P	**P**	21 24 14.1	-0.3
AS31				IAmb	IAmb	21 24 16.6	
	comp=Z,0.9nm,0.4s						
ASAR	**Alice Springs**	**26.58**	**161**	P	**P**	21 24 14.4	+0.1
	comp=Z,1.2nm,0.5s,baz=342,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**26.58**	**161**	P	**P**	21 24 14.7	+0.4
BBOO	**Buckleboo**	**35.77**	**163**	P	**P**	21 25 34.1	-0.4
STKA	**Stephens Creek**	**36.88**	**155**	P	**P**	21 25 43.9	+0.1
	comp=Z,1.2nm,0.3s,baz=329,slow=10,SNR=6.5						
STKA	**Stephens Creek**	**36.88**	**155**	P	**P**	21 25 43.9	+0.1
ARMA	**Armidale**	**40.86**	**143**	P	**P**	21 26 17.6	+0.6
ARMA				IAmb	IAmb	21 26 28.7	
	comp=Z,26nm,1.3s						
DZM	**Mont Dzumac**	**47.07**	**122**	P	**P**	21 27 08.8	+2.5
SONM	**Songino Array**	**48.80**	**344**	P	**P**	21 27 20.6	+1.4
	comp=Z,0.9nm,0.7s,baz=163,slow=10.0,SNR=7.2						
SONM	**Songino Array**	**48.80**	**344**	P	**P**	21 27 19.3	+0.1
MK31	**Makanchi Array**	**58.23**	**327**	P	**P**	21 28 26.1	-1.4
MK31				IAmb	IAmb	21 28 27.1	
	comp=Z,1.9nm,1.1s						
MKAR	**Makanchi Array**	**58.23**	**327**	P	**P**	21 28 26.4	-1.1
	comp=Z,0.9nm,0.5s,baz=122,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**58.23**	**327**	P	**P**	21 28 25.5	-1.9
MAKZ	**Makanchi**	**58.41**	**327**	P	**P**	21 28 26.4	-2.3
MAKZ				IAmb	IAmb	21 28 33.4	
	comp=Z,3.3nm,1.2s						
ZALV	**Zalesovo Beam**	**61.66**	**335**	P	**P**	21 28 49.6	-0.9
	comp=Z,0.7nm,0.6s,baz=101,slow=4.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**61.66**	**335**	P	**P**	21 28 49.0	-1.6
KURK	**Kurchatov**	**62.52**	**329**	P	**P**	21 28 55.4	-0.9
KURK				IAmb	IAmb	21 28 57.2	
	comp=Z,3.4nm,0.5s						
ABKAR	**Akbulak array**	**72.56**	**322**	P	**P**	21 29 56.3	-2.8

*UCR **26** 21:21:14.8±1.5, 8.39N×82.78W, h40km±6km, MW3.7*
*UPA **26** 21:21:15.9±1.7, 8.42N×82.81W, h20km±6km, MW4.1*

ISC 26 21:21:15.4±0.9, 8.41N±0.03×82.80W±0.03, h32km±8km, n36, σ0§91/48, 8C-14D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.22**	**201**	⇑*iP*	**Pb**	21 21 22.1	+0.1
PTPM				*i* S	**Sn**	21 21 29.1	+2.3
BAGA3	**Bagala, Chiriq**	**0.28**	**78**	⇓*iP*	**Pn**	21 21 23.0	-0.3
LIMO3	**Limones**	**0.31**	**191**	⇑*iP*	**Pb**	21 21 23.2	0.0
LIMO3				*i* S	**Sn**	21 21 29.0	-0.2
DVD	**David**	**0.35**	**85**	⇑*eP*	**Pb**	21 21 23.4	-0.3
DVD				*eS*	**Sb**	21 21 29.5	+0.1
PEDE3	**Pedregal, Chir**	**0.38**	**94**	⇓*iP*	**Pb**	21 21 23.7	-0.4
MLIR3	**Monte Lirio, C**	**0.38**	**357**	⇓*eP*	**Pb**	21 21 24.6	+0.3
BRU2	**Volcan**	**0.40**	**16**	⇓*iP*	**Pb**	21 21 24.5	-0.1
BRU2				*i* S	**Sn**	21 21 32.2	+0.5
BCO2	**Palmira**	**0.41**	**41**	⇓*iP*	**Pb**	21 21 24.7	-0.1
BCO2				*i* S	**Sn**	21 21 32.6	+0.6
EDSV	**San Vito**	**0.44**	**338**	*eP*	**Pb**	21 21 25.3	+0.1
EDSV				*eS*	**Sn**	21 21 33.9	+1.2
CHIR3	**Chiriqui UPA,**	**0.47**	**91**	⇓*iP*	**Pb**	21 21 24.8	-0.6
CHIR3				*i* S	**Sn**	21 21 32.8	-0.4
GUAL3	**Gualaca, Chiri**	**0.51**	**76**	⇑*iP*	**Pb**	21 21 25.6	-0.6
LNBQ3	**Los Naranjos,**	**0.52**	**43**	*eP*	**Pb**	21 21 25.7	-0.7
LNBQ3				*i* S	**Sb**	21 21 33.9	-0.1
PIRO	**Carate, Puerto**	**0.53**	**270**	*eP*	**Pb**	21 21 25.4	-1.0
PIRO				*eS*	**Sn**	21 21 34.8	+0.2
PIRO	**Carate, Puerto**	**0.53**	**270**	⇓*eP*	**Pb**	21 21 25.4	-1.0
CHGR2	**Aguacate**	**0.84**	**51**	⇓*iP*	**Pn**	21 21 29.9	-1.1
CHGR2				*i* S	**Sb**	21 21 41.6	-0.9
EDPN	**Palmar Norte**	**0.85**	**310**	*eP*	**Pn**	21 21 30.5	-0.7
EDPN				*eS*	**Sn**	21 21 42.5	-0.1
EDBA	**Buenos Aires**	**0.88**	**328**	*eS*	**Sb**	21 21 44.7	+0.8
DRK0	**Durika**	**0.96**	**333**	⇓*iP*	**Pn**	21 21 31.9	-1.0
REME3	**Remedios, Chir**	**0.98**	**101**	⇑*eP*	**Pn**	21 21 32.1	-0.9
REME3				*i* S	**Sb**	21 21 46.2	-0.2
SRBA	**San Rafael, Bu**	**0.99**	**326**	*eP*	**Pn**	21 21 32.0	-1.2
CNI2	**El Empalme, Bo**	**1.06**	**18**	*eP*	**Pn**	21 21 34.4	+0.3
RGM0	**Gandoca**	**1.19**	**9**	⇓*iP*	**Pb**	21 21 37.7	+0.3
PEZE	**Perez Zeledon,**	**1.30**	**318**	*eP*	**Pn**	21 21 37.5	0.0
EDDO	**Dominical**	**1.34**	**309**	*eP*	**Pn**	21 21 38.2	+0.3
SAFE3	**Santa Fe, Vera**	**1.71**	**86**	⇑*iP*	**Pn**	21 21 44.2	+1.2
RIMA	**Rio Macho**	**1.71**	**322**	*eP*	**Pn**	21 21 42.9	-0.3
LCR2	**La Lucha 2**	**1.78**	**318**	*eP*	**Pn**	21 21 44.6	+0.4
CALO3	**Calobre, Verag**	**1.94**	**92**	⇓*eP*	**Pn**	21 21 47.2	+0.9
MARI3	**Mariato, Verag**	**1.95**	**113**	*eP*	**Pn**	21 21 46.3	+0.1
CRIS3	**El Cristo, Coc**	**2.17**	**94**	⇓*eP*	**Pn**	21 21 50.2	+0.8
CACAO	**El Cacao, Vera**	**2.19**	**119**	⇓*eP*	**Pn**	21 21 50.8	+1.2
CACAO				*eS*	**Sb**	21 22 18.6	-2.6
JACO	**JACO, Garabito**	**2.22**	**304**	*eP*	**Pn**	21 21 49.2	-0.8
AZU	**Azuero**	**2.58**	**104**	⇓*eP*	**Pn**	21 21 56.6	+1.7
JTS	**Las Juntas de**	**2.83**	**312**	*eP*	**Pn**	21 21 58.1	-0.4
JTS	**Las Juntas de**	**2.83**	**312**	⇓*eP*	**Pn**	21 22 00.4	+2.0
FRIJ	**El Hiral**	**3.15**	**75**	⇑*eP*	Pn	21 21 56.2	-6.5

*IDC **26** 21:42:45.4±1.2, 0.69N×80.15W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/26, mbtmp3.6/5, Error ellipse: s-maj=54.6km s-min=24.3km az=64.0*
*IGQ **26** 21:42:47±1.0, 1°N±4°×8°0W±°, h8km*

ISC 26 21:42:47.4±1.6, 0.57N±0.05×80.20W±0.06, h13km±10km, n68, σ1§32/72, mb3.6/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMA1	**Acelerografo,**	**0.59**	**52**	P	**Pb**	21 43 00.0	+0.3
AMA1				S	**Sn**	21 43 11.0	-0.1
AV21	**Acelerografo,**	**0.65**	**82**	P	**Pb**	21 43 00.0	-0.7
AV21				S	**Sn**	21 43 12.0	-0.6
MAG1	**Magdalena**	**0.77**	**147**	P	**Pg**	21 43 02.0	-0.3
JAMA	**Jama**	**0.83**	**181**	P	**Pg**	21 43 03.0	-0.5
JAMA				S	**Sg**	21 43 15.0	+0.6
FLF1	**Flavio Alfaro-**	**0.99**	**159**	P	**Pg**	21 43 06.0	-0.5
BV15	**Puerto Quito-O**	**1.05**	**113**	P	**Pg**	21 43 06.0	-1.8
PAC1	**Pacto, Paraso**	**1.44**	**102**	*eP*	**Pn**	21 43 12.9	-0.5
PAC1				*eS*	**Sg**	21 43 36.2	+2.4
PAC1				*i*		21 43 36.4	
	comp=Z,2μm,0.3s						
PAC1	**Pacto, Paraso**	**1.44**	**102**	P	**Pn**	21 43 12.0	-1.3
APR1	**Acelerografo,**	**1.70**	**111**	P	**Pn**	21 43 17.0	-0.1
HPAL	**Hacienda Las P**	**1.73**	**117**	P	**Pn**	21 43 17.0	-0.6
PINO	**Pino**	**1.75**	**115**	P	**Pn**	21 43 17.0	-1.0
TERV	**Terraza Guagua**	**1.75**	**115**	P	**Pn**	21 43 17.0	-1.1
GGPT	**Toaza - Volcan**	**1.76**	**117**	P	**Pn**	21 43 17.0	-1.0
YANA	**Yana**	**1.76**	**113**	P	**Pn**	21 43 18.0	-0.1
JUA2	**San Juan 2**	**1.77**	**116**	P	**Pn**	21 43 18.0	-0.2
CUSE	**Cuicocha Este**	**1.81**	**98**	*eP*	**Pn**	21 43 19.9	-0.9
CUSE				*eS*	**Sg**	21 43 47.1	+1.1
CUSE				*i*		21 43 49.1	
	comp=Z,2μm,0.3s						
CUSE	**Cuicocha Este**	**1.81**	**98**	P	**Pn**	21 43 19.0	+0.2
ALIT	**Ecuador-Imbabu**	**1.85**	**83**	P	**Pn**	21 43 19.0	0.0
CUIC	**Cuicocha-Domo**	**1.85**	**98**	P	**Pn**	21 43 20.0	+0.7
CUSW	**Cuicocha Oeste**	**1.87**	**99**	P	**Pn**	21 43 20.0	+0.6
COTA	**Cotacachi**	**1.87**	**97**	P	**Pn**	21 43 20.0	+0.3
URCU	**Urcuqui**	**1.94**	**94**	P	**Pn**	21 43 21.0	+0.4
ILLI	**Illinizas Sur**	**1.94**	**131**	P	**Pn**	21 43 20.0	-0.6
PAST	**Pastocalle**	**2.00**	**129**	P	**Pn**	21 43 21.0	-0.3
CAMI	**Rancho Maria**	**2.10**	**126**	P	**Pn**	21 43 24.0	+1.3
YAHU	**Yahuarcocha**	**2.13**	**95**	P	**Pb**	21 43 25.0	-1.2
BREF	**Cotopaxi Volca**	**2.14**	**125**	P	**Pn**	21 43 24.0	+0.5
CHMA	**Chilma**	**2.15**	**82**	P	**Pn**	21 43 23.0	-0.3
VC1	**Cotopaxi 1**	**2.16**	**124**	P	**Pn**	21 43 25.0	+1.4
BVC2	**Cotopaxi Volca**	**2.16**	**124**	P	**Pn**	21 43 25.0	+1.3
BMOR	**Cotopaxi Volca**	**2.17**	**127**	P	**Pn**	21 43 24.0	+0.3
BTAM	**Cotopaxi Volca**	**2.18**	**125**	P	**Pn**	21 43 25.0	+1.0
LNGL	**El Angel-Carch**	**2.20**	**86**	P	**Pn**	21 43 25.0	+0.9
ANTG	**Antisana-Guama**	**2.21**	**119**	P	**Pn**	21 43 25.0	+0.6
TAMB	**Tambo**	**2.22**	**125**	P	**Pn**	21 43 26.0	+1.6
ECEN	**Cerro Negro**	**2.24**	**84**	P	**Pn**	21 43 25.0	+0.3
ANGU	**Angureal**	**2.25**	**103**	P	**Pb**	21 43 28.0	-0.3
CAYR	**Refugio Cayamb**	**2.26**	**104**	P	**Pb**	21 43 27.0	-1.5
VCES	**Cotopaxi**	**2.26**	**127**	P	**Pn**	21 43 26.0	+1.0
ANTM	**Antisana-La Mi**	**2.26**	**119**	P	**Pn**	21 43 26.0	+1.0
CHL1	**Volcn Chiles**	**2.26**	**84**	P	**Pn**	21 43 25.0	0.0
ANTI	**Antisana**	**2.27**	**116**	P	**Pn**	21 43 26.0	+0.8
ANTS	**Antisana-Sarah**	**2.29**	**118**	P	**Pn**	21 43 26.0	+0.6
CHL2	**Volcn Chiles**	**2.29**	**84**	P	**Pn**	21 43 26.0	+0.6
TULM	**Tulcn-Chalpat**	**2.41**	**87**	*eP*	**Pn**	21 43 28.8	+1.8
TULM	**Tulcn-Chalpat**	**2.41**	**87**	P	**Pb**	21 43 29.0	-2.0
CHSH	**Refugio Sur-Vo**	**2.44**	**147**	P	**Pn**	21 43 28.0	+0.4
PIAT	**Ana Tenorio**	**2.48**	**129**	P	**Pn**	21 43 29.0	+1.1
TAMH	**Tambohuasha Ch**	**2.53**	**146**	P	**Pn**	21 43 29.0	+0.3
POND	**Pondoa**	**2.64**	**139**	P	**Pn**	21 43 32.0	+2.0
RETU	**Refugio**	**2.66**	**139**	P	**Pn**	21 43 32.0	+1.4
BONI	**La Bonita**	**2.67**	**93**	P	**Pb**	21 43 33.0	-2.3
ARRY	**Arrayan**	**2.70**	**140**	P	**Pn**	21 43 32.0	+1.1
BPAT	**Tungurahua Vol**	**2.71**	**139**	P	**Pn**	21 43 33.0	+1.8
GCUF	**Volcan Galeras**	**2.92**	**77**	*eP*	**Pn**	21 43 35.4	+1.3
GR1C	**Gorgona, Isla**	**3.15**	**40**	*eP*	**Pn**	21 43 33.6	-3.2
SOTA	**Rioblanco**	**3.91**	**67**	*eP*	**Pn**	21 43 49.0	+1.4
POPC	**Popayan, Colom**	**4.03**	**61**	*eP*	**Pn**	21 43 49.9	+0.8
PCON	**Cinco Dias**	**4.18**	**65**	*eP*	**Pn**	21 43 55.4	+3.9
GARC	**Garzon, Huila**	**4.97**	**71**	*eP*	**Pn**	21 44 04.1	+2.1
YOTC	**Yotoco, Valle**	**5.13**	**49**	*eP*	**Pn**	21 44 08.1	+4.0
ORTC	**Ortega, Tolima**	**5.95**	**56**	*eP*	**Pn**	21 44 16.9	+1.5
MACC	**Macarena, Meta**	**6.54**	**75**	*eP*	Pn	21 44 11.3	-12
LPAZ	**La Paz**	**20.55**	**145**	P	**P**	21 47 28.0	+1.4
	comp=Z,1.2nm,0.5s,baz=310,slow=12,SNR=5.9						
PLCA	**Paso Flores**	**42.04**	**169**	P	**P**	21 50 39.0	+0.1
	comp=Z,1.2nm,0.6s,baz=336,slow=8.9,SNR=5.7						
NVAR	**Mina Array Bea**	**51.38**	**322**	P	**P**	21 51 52.9	+0.6
	comp=Z,0.2nm,0.4s,baz=138,slow=11,SNR=2.2						
YKA	**Yellowknife Ar**	**66.93**	**343**	P	**P**	21 53 38.0	-1.3
	comp=Z,0.1nm,0.6s,baz=134,slow=6.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**81.97**	**77**	P	**P**	21 55 07.6	-0.2
	comp=Z,0.6nm,0.5s,baz=283,slow=6.2,SNR=18						

*IGQ **26** 21:58:32±0.5, 0°S±2°×8°1W±°, h10km*
*NEIC **26** 21:58:34.7±1.5, 0.19S±0.05×80.73W±0.05, h10km±1km, mb5.3/212, Ms_20 4.8/101, Mwb5.4/18, Mww5.4, Error ellipse: s-maj=9.3km s-min=8.4km az=268.0*
*NEIC **26** 21:58:34.7, 0.19S×80.73W, h4km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.79; Mθθ-0.07; Mϕϕ-0.72; Mrθ-0.36; Mϕθ-0.05; Mϕr-1.52; Fault plane solution: M₀1.73000×10¹⁷ NP1:ϕs192.36000°, δ77.12000°, λ93.24000°. NP2:ϕs358.10000°, δ13.27000°, λ76.11000°. Principal axes: T 1.7741, Plg58.0000°, Azm107.0000°; N -0.0839, Plg3.0000°, Azm12.0000°; P -1.6902, Plg32.0000°, Azm280.0000°;*
*GCMT **26** 21:58:35.7±0.2, 0.14S±0.01×81.07W±0.01, h12km, MW5.3/124, Moment Tensor Solution. s92,c115; s124,c200; Duration: 1§1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.58±.01; Mθθ0.01±.01; Mϕϕ-0.59±.01; Mrθ-0.41±.03; Mϕθ-0.19±.01; Mϕr-0.86±.03; Best double couple: M₀1.13400×10¹⁷ NP1:ϕs6.00000°, δ17.00000°, λ73.00000°. NP2:ϕs204.00000°, δ74.00000°, λ95.00000°. Principal axes: T 1.1070, Plg61.0000°, Azm121.0000°; N 0.0540, Plg5.0000°, Azm22.0000°; P -1.1610, Plg29.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **26** 21:58:39.1±0.5, 0.42S×80.20W, h10km, mb4.9*
*IDC **26** 21:58:39.7±2.3, 0.10S×80.73W, h53km±20km, mb4.3/19, mb1 4.5/23, mb1mx4.4/33, mbtmp4.6/23, ML3.5/4, MS4.6/54, Ms1 4.6/54, ms1mx4.6/64, Error ellipse: s-maj=19.6km s-min=10.0km az=59.0*
*NEIC **26** 21:58:46, 0.23S×80.75W, h12km, Moment Tensor Solution. Duration: 22s4 Moment tensor: Scale 10¹⁷Nm; Mrr0.54; Mθθ0.09; Mϕϕ-0.63; Mrθ-0.25; Mϕθ-0.33; Mϕr-1.33; Fault plane solution: M₀1.51000×10¹⁷ NP1:ϕs38.00000°, δ14.00000°, λ117.00000°. NP2:ϕs191.00000°, δ77.00000°, λ84.00000°. Principal axes: T 1.4083, Plg57.0000°, Azm93.0000°; N 0.1879, Plg6.0000°, Azm192.0000°; P -1.5962, Plg32.0000°, Azm286.0000°;*

ISC 26 21:58:32.5±1.0, 0.17S±0.03×80.76W±0.04, h1km±5km, n895, σ1§46/885, mb5.3/122, MS4.8/106, 15C-3D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.56**	**99**	P	**Pb**	21 58 46.0	+0.8
JAMA				S	**Sn**	21 58 57.0	-0.7
AMNT	**Manta-Manabi**	**0.77**	**178**	P	**Pg**	21 58 48.0	+0.9
AMNT				S	**Sb**	21 59 00.0	+0.5
CHIS	**Cerro-Chispas-**	**0.87**	**178**	P	**Pg**	21 58 49.0	-0.2
CHIS				S	**Sg**	21 59 02.0	+1.4
FLF1	**Flavio Alfaro-**	**0.94**	**101**	P	**Pn**	21 58 54.0	+1.2
FLF1				S	**Sn**	21 59 11.0	+4.1
MAG1	**Magdalena**	**0.99**	**84**	P	**Pn**	21 58 54.0	+0.5
PPLP	**Puerto Lpez**	**1.36**	**181**	P	**Pn**	21 58 56.0	-2.7
PPLP	**Puerto Lpez**	**1.36**	**181**	P	**Pn**	21 58 57.0	-1.7
AV18	**Acelerografo,**	**1.37**	**69**	P	**Pb**	21 59 00.0	+1.1
AV21	**Acelerografo,**	**1.47**	**56**	P	**Pn**	21 59 00.0	-0.1
BV15	**Puerto Quito-O**	**1.57**	**78**	P	**Pn**	21 59 01.0	-0.5
PAC1	**Pacto, Paraso**	**2.02**	**78**	⇑*iP*	**Pn**	21 59 07.6	-0.2
PAC1	**Pacto, Paraso**	**2.02**	**78**	P	**Pn**	21 59 07.0	-0.8
ACHO	**Acelerografo,**	**2.03**	**78**	P	**Pn**	21 59 08.0	+0.1
ILLI	**Illinizas Sur**	**2.10**	**105**	P	**Pn**	21 59 09.0	-0.3
HPAL	**Hacienda Las P**	**2.11**	**91**	P	**Pn**	21 59 09.0	-0.2
GGPT	**Toaza - Volcan**	**2.14**	**91**	P	**Pn**	21 59 10.0	+0.3
APR1	**Acelerografo,**	**2.15**	**87**	P	**Pn**	21 59 10.0	+0.2
PINO	**Pino**	**2.15**	**90**	P	**Pn**	21 59 10.0	0.0
JUA2	**San Juan 2**	**2.16**	**91**	P	**Pn**	21 59 10.0	0.0
TERV	**Terraza Guagua**	**2.16**	**90**	P	**Pn**	21 59 10.0	0.0
PAST	**Pastocalle**	**2.18**	**104**	P	**Pn**	21 59 11.0	+0.7
YANA	**Yana**	**2.19**	**89**	P	**Pn**	21 59 10.0	-0.5
CHSH	**Refugio Sur-Vo**	**2.30**	**125**	P	**Pn**	21 59 13.0	+0.9
CAMI	**Rancho Maria**	**2.31**	**103**	P	**Pn**	21 59 14.0	+1.9
BNAS	**Cotopaxi Volca**	**2.33**	**102**	P	**Pn**	21 59 14.0	+1.6
NAS2	**Nasa**	**2.34**	**102**	P	**Pn**	21 59 14.0	+1.4
OTAV	**Otavalo**	**2.34**	**80**			21 59 12.6	0.0
OTAV					Sn	21 59 41.3	-1.0
PITA	**Cotopaxi Volc**	**2.36**	**99**	P	**Pn**	21 59 15.0	+2.2
PORT	**Chimborazo Vol**	**2.37**	**123**	P	Pn	21 59 14.2	+1.3
PORT	**Chimborazo Vol**	**2.37**	**123**	P	**Pn**	21 59 14.0	+1.0
BMOR	**Cotopaxi Volca**	**2.37**	**104**	P	**Pn**	21 59 14.0	+1.0
BREF	**Cotopaxi Volca**	**2.37**	**102**	P	**Pn**	21 59 15.0	+1.9
BVC2	**Cotopaxi Volca**	**2.40**	**102**	P	**Pn**	21 59 15.0	+1.6
TAMH	**Tambohuasha Ch**	**2.40**	**125**	P	**Pn**	21 59 15.0	+1.6
CUSE	**Cuicocha Este**	**2.41**	**79**	*i* P	**Pn**	21 59 13.6	+0.1
CUSE	**Cuicocha Este**	**2.41**	**79**	P	**Pn**	21 59 14.0	+0.6
BTAM	**Cotopaxi Volca**	**2.42**	**102**	P	**Pn**	21 59 15.0	+1.4
CUIC	**Cuicocha-Domo**	**2.44**	**79**	P	**Pn**	21 59 14.0	+0.1
VCES	**Cotopaxi**	**2.45**	**105**	P	**Pn**	21 59 15.0	+1.0
TAMB	**Tambo**	**2.45**	**102**	P	**Pn**	21 59 16.0	+1.9
COTA	**Cotacachi**	**2.47**	**78**	P	**Pn**	21 59 15.0	+0.6
IGUA	**Igualata**	**2.49**	**122**	P	**Pn**	21 59 17.0	+2.3
ANTG	**Antisana-Guama**	**2.53**	**97**	P

SDV Santo Domingo 13.52 48 P Pn 22 01 47.6 +1.9
0.7nm,0.3s,baz=219,slow=14,SNR=14
SDV LR LR 22 07 38.0
comp=Z,4µm,19.9s,baz=220,slow=40
SDV Santo Domingo 13.52 48 Pn 22 01 45.8 +0.1
SDV Santo Domingo 13.52 48 eP Pn 22 01 50.0 +4.3
SDV Santo Domingo 13.52 48 eP Pn 22 01 47.1 +1.4
CRJC Cerrejon, Guaj 13.60 35⇑ eP Pn 22 01 44.6 -2.1
CNGN Cerro Negro 13.90 335 Pn Pn 22 01 51.3 +0.5
MATN Matagalpa 13.99 339 Pn 22 01 53.3 +1.2
CRIN San Cristobal 14.23 334 Pn 22 01 56.9 +1.6
URIC Uribia, Colomb 14.66 36 Pn 22 02 00.9 -0.3
URIC Uribia, Colomb 14.66 36 eP Pn 22 01 59.5 -1.7
DABV Dabajuro 14.93 42 eP Pn 22 02 03.8 -0.9
TGUH Tegucigalpa,Un 15.54 336 Pn 22 02 15.1 +2.1
TGUH Tegucigalpa,Un 15.54 336 eP Pn 22 02 15.0 +1.9
BAUV El Baul 15.57 54 Pn 22 02 14.3 +0.9
BAUV IAmb IAmb 22 02 21.8
comp=Z,404nm,2.0s
BAUV El Baul 15.57 54 eP Pn 22 02 12.8 -0.6
MTO3 Montecristo 16.79 330 Pn 22 02 30.6 +1.3
ESQI Esquipulas 16.92 330 P Pn 22 02 32.5 +1.7
ESQI IAmb IAmb 22 02 37.8
comp=Z,546nm,1.7s
HATO Hato, Curacao 16.97 43 Pn 22 02 33.0 +1.7
HATO IAmb IAmb 22 02 50.2
comp=Z,200nm,1.0s
ETMB Extrema 17.36 124 eP Pn 22 02 32.8 -3.4
BIRV Birongo 17.88 53 P Pn 22 02 43.0 +0.3
BIRV IAmb IAmb 22 03 10.1
comp=Z,351nm,2.0s
MTDJ Mount Denham 18.56 10 P P 22 02 51.4 +0.5
MTDJ IAmb IAmb 22 03 03.1
comp=Z,550nm,2.0s
MTDJ Mount Denham 18.56 10⇑ eP Pn 22 02 52.8 +1.8
PETF Flores 19.21 333 P P 22 02 58.8 +0.8
LGNH Logne 20.22 23 P P 22 03 09.2 +0.2
MACA Manacapuru-AM 20.28 99 eP P 22 03 10.6 +0.8
LPAZ La Paz 20.29 143 P P 22 03 11.5 +1.1
comp=Z,23nm,1.0s,baz=326,slow=9.2,SNR=44
LPAZ LR LR 22 12 48.8
comp=Z,4µm,21.2s,baz=310,slow=42
LPAZ La Paz 20.29 143 P P 22 03 10.3 -0.2
LPAZ IAmb IAmb 22 03 17.0
comp=Z,195nm,1.6s
LPAZ La Paz 20.29 143⇑ iP P 22 03 11.6 +1.1
BOAV Boa Vista 20.39 83 eP P 22 03 11.6 +0.6
GTBY Guantanamo Bay 20.73 15 P 22 03 15.7 +1.2
GTBY IAmb IAmb 22 03 22.7
comp=Z,146nm,1.5s
GTBY Guantanamo Bay 20.73 15 eP P 22 03 14.2 -0.3
PB12 IPOC Station P 21.00 151 P P 22 03 17.5 -0.1
PB12 IAmb IAmb 22 03 38.1
comp=Z,311nm,1.9s
PB16 IPOC Station P 21.17 149 P P 22 03 19.3 -0.6
PB16 IAmb IAmb 22 03 26.6
comp=Z,154nm,1.1s
SDDR Presa de Saban 21.18 26 P P 22 03 20.3 +0.7
SDDR IAmb IAmb 22 03 30.0
comp=Z,332nm,1.9s
SDDR Presa de Saban 21.18 26⇑ eP P 22 03 21.5 +2.0
SC01 Santiago de lo 21.82 26 P P 22 03 27.3 +0.9
TRN Trinidad (W) 22.05 60 eP P 22 03 24.9 -4.0
CMIG Matias Romero 22.09 322 LR LR 22 10 24.0
comp=Z,2µm,18.4s,baz=157,slow=32
PB11 IPOC Station P 22.30 151 P P 22 03 32.2 +0.5
PB11 IAmb IAmb 22 03 37.3
comp=Z,145nm,1.1s
GO01 Chusmiza 22.45 150 P P 22 03 34.6 +1.0
GO01 IAmb IAmb 22 04 03.5
comp=Z,205nm,1.2s
MLPR Magueyes Islan 22.52 36 P P 22 03 35.3 +1.5
TA02 Huaiquique 22.52 153 P P 22 03 34.0 +0.1
TA02 IAmb IAmb 22 03 41.4
comp=Z,142nm,1.2s
GRGR Grenville 22.56 57 eP P 22 03 24.0 -10
TA01 Diego Aracena 22.76 154 P P 22 03 36.2 -0.1
TA01 IAmb IAmb 22 03 43.7
comp=Z,222nm,1.4s
OBIP Obispado Ponce 22.83 37 P P 22 03 37.8 +0.6
PB08 IPOC Station P 22.87 151 P P 22 03 38.6 +0.6
PB08 IAmb IAmb 22 03 45.5
comp=Z,115nm,1.3s
CELP Cerrillos 22.88 37 P P 22 03 37.8 +0.2
CELP IAmb IAmb 22 03 46.2
comp=Z,241nm,1.8s
GCMP Grenada, Carri 22.94 56 eP P 22 03 35.6 -2.7
AOPR Arecibo Observ 22.98 36 P P 22 03 39.5 +0.8
AOPR Arecibo Observ 22.98 36 eP P 22 03 34.5 -4.2
PATCX Punta Patache 22.99 154 P P 22 03 39.7 +0.7
TOSP Speyside 23.10 60 eP P 22 03 35.4 -4.6
SJG San Juan 23.16 38 P P 22 03 41.7 +1.1
comp=Z,49nm,1.0s,baz=242,slow=4.9,SNR=12
SJG LR LR 22 15 03.6
comp=Z,2µm,18.6s,baz=207,slow=43
SJG San Juan 23.16 38 P P 22 03 41.0 +0.4
SJG San Juan 23.16 38 eP P 22 03 33.8 -6.8
PDPR Patillas Dam, 23.17 38 P P 22 03 41.0 +0.3
GCPR Guaynabo City 23.35 37 P P 22 03 41.2 -1.3
CBYP Canovanas 23.46 38 P P 22 03 44.1 +0.3
PB01 IPOC Station P 23.49 153 P P 22 03 44.4 +0.4
PB01 IAmb IAmb 22 03 51.8
comp=Z,145nm,1.7s
SVB Belmont 23.50 55 eP P 22 03 40.9 -3.2
MTP Monte Pirata 23.52 39 P P 22 03 44.2 -0.1
MTP IAmb IAmb 22 03 46.7
comp=Z,218nm,1.7s
PB02 IPOC Station P 23.55 154 P P 22 03 45.4 +0.8
PB02 IAmb IAmb 22 03 48.2
comp=Z,99nm,1.2s
CDVI St. Croix 23.77 41 P P 22 03 46.4 -0.3
CDVI St. Croix 23.77 41 eP P 22 03 42.9 -3.8
CUPR Culebra, Puert 23.85 39 P P 22 03 47.3 -0.1
PB07 IPOC Station P 23.91 154 P P 22 03 47.7 -0.5
MCLT Moule a Chique 23.99 54 eP P 22 03 45.8 -3.0
SLBI Saint Lucia, B 24.14 53 eP P 22 03 44.4 -5.8
PB09 IPOC Station P 24.25 153 P P 22 03 50.8 -0.7
PB04 IPOC Station P 24.33 156 P P 22 03 53.5 +1.4
PB04 IAmb IAmb 22 04 39.0
comp=Z,110nm,1.4s
BIM Bigot 24.34 52 eP P 22 03 48.6 -3.6
FDF Fort de France 24.40 52 eP P 22 03 48.7 -4.1
MPOM Morne Pois Mar 24.47 53 IAMs_20 IAMs_20 22 15 03.0
comp=Z,3µm,19.0s
MPOM Morne Pois Mar 24.47 53 eP P 22 03 49.1 -4.1
MDN Morne-Daniel 24.56 50 eP P 22 03 50.0 -4.1
DSLB Salisbury 24.61 50 eP P 22 03 51.0 -3.5
ILAM Ilet Lapin Mar 24.64 52 P P 22 03 54.9 0.0
ILAM IAMs_20 IAMs_20 22 15 16.6
comp=Z,4µm,19.0s
ILAM Ilet Lapin Mar 24.64 52 eP P 22 03 50.0 -4.9
DLPL La Plaine 24.68 51 eP P 22 03 54.3 -0.9
TDBA Terre de Bas, 24.70 49 eP P 22 03 55.8 +0.5
MDVC Dominica, Viel 24.73 50 eP P 22 03 51.3 -4.3
SEUS St. Eustatius 24.79 44 eP P 22 03 47.9 -8.2
BBGH Gun Hill 24.83 57 IAMs_20 IAMs_20 22 15 17.6
comp=Z,4µm,20.0s
BBGH Gun Hill 24.83 57 eP P 22 03 52.6 -4.0
MBFL Flemmings, Mon 24.84 47 eP P 22 03 58.2 +1.6
SKI Saint Kitts 24.85 45 eP P 22 03 58.5 +1.8
CBE Ff, Capester 24.86 49 eP P 22 03 56.8 0.0
GDHS Morne Mazeau, 24.86 48 P P 22 03 57.2 +0.3
GDHS IAmb IAmb 22 04 31.8
comp=Z,114nm,1.2s
SIV San Ignacio 24.99 130 P P 22 03 58.6 +0.6
comp=Z,12nm,0.8s,baz=302,slow=9.0,SNR=30
SIV LR LR 22 15 13.9
comp=Z,3µm,18.8s,baz=314,slow=40
MAGL Barre de l'ile 25.03 49 eP P 22 03 56.8 -1.5
SMRT St. Maarten 25.11 43 eP P 22 03 55.0 -4.1
LVC Limon Verde 25.11 153 P P 22 04 00.8 +1.4
comp=Z,24nm,0.8s,baz=290,slow=7.6,SNR=14
LVC LR LR 22 13 08.3
comp=Z,1µm,21.1s,baz=307,slow=34
LVC Limon Verde 25.11 153 P P 22 03 58.2 -1.2
LVC Limon Verde 25.11 153 eP P 22 04 01.8 +2.4
ABD La Joyeuse, An 25.20 48 eP P 22 03 57.9 -1.9
BPA Boggy Peak 25.29 47 eP P 22 04 03.5 +2.7
ITTB Itaituba 25.35 100 eP P 22 03 59.9 -1.3
ANBD Bethesda, Anti 25.36 47 eP P 22 03 55.7 -5.5
PB15 IPOC Station P 25.39 155 P P 22 04 01.4 -0.4
AF01 San Pedro de A 25.74 152 P P 22 04 04.6 -0.4
ANWB Willy Bob 25.75 46 eP P 22 04 02.4 -2.5

PTLB Pontes e Lacer 26.20 126 eP P 22 04 09.5 +0.5
PB14 IPOC Station P 26.30 158 P P 22 04 10.6 +0.5
PDRB Porto dos Gac 26.43 116 eP P 22 04 11.6 +0.4
UNM Universidad Na 26.50 318 IAMs_20 IAMs_20 22 12 19.9
comp=Z,3µm,19.0s
MALB Monte Alegre 26.54 94 eP P 22 04 12.6 +0.5
CLDB Colider 26.99 114 eP P 22 04 15.6 -0.6
GO02 Mina Guanaco 27.09 157 P P 22 04 16.5 -0.7
GO02 IAmb IAmb 22 04 24.0
comp=Z,70nm,1.4s
DWPF Disney Wildern 28.13 359 P P 22 04 25.5 -0.6
baz=179
MDP Montagnes des 28.57 79 P P 22 04 30.2 -0.1
comp=Z,7.7nm,0.9s,baz=252,slow=7.0,SNR=6.7
MDP LR LR 22 15 59.9
comp=Z,2µm,18.9s,baz=260,slow=36
MCPB Macapa, AP 28.70 90 eP P 22 04 31.4 -0.1
AC02 Maricunga 28.78 158 P P 22 04 32.0 -0.6
AC02 IAmb IAmb 22 04 42.6
comp=Z,93nm,1.8s
PP1B Ponte de Pedra 30.80 126 eP P 22 04 50.2 +0.2
ZAIG Zacatecas 31.15 318 P P 22 04 54.6 +1.2
ZAIG IAmb IAmb 22 05 19.5
comp=Z,65nm,2.0s
PRPB Parauapebas 31.45 102 eP P 22 04 55.3 -0.6
SNDB Serra Nova Dou 31.51 113 eP P 22 04 56.6 +0.2
TIGA Tifton 31.55 355 P P 22 04 56.7 +0.2
baz=175
TIGA S S 22 10 05.3 -0.7
baz=175
AROD Rodeo 31.71 161 iP P 22 05 00.9 +2.7
BRAL Brewton 31.74 350 P P 22 04 58.7 +0.6
baz=168
BRAL S S 22 10 09.0 +0.2
baz=168
AQDB Aquidauana 31.75 131 P P 22 04 57.6 -0.7
AQDB Aquidauana 31.75 131 eP P 22 04 58.1 -0.3
ACLC CERRO LA CRUZ 31.94 157 iP P 22 05 02.5 +2.4
CO02 Combarbal 32.22 164 P P 22 05 03.0 +0.5
CO02 IAmb IAmb 22 05 08.8
comp=Z,63nm,1.2s
ACCO Cerro Coronel 32.23 161 iP P 22 05 05.4 +2.5
250A Grady 32.40 351 P P 22 05 04.7 +0.8
DVLD Doverlandia 32.59 122 eP P 22 05 06.5 +0.6
154A Montrose 32.68 356 P P 22 05 07.1 +0.7
344A Westbrook Farm 32.84 344 P P 22 05 08.9 +1.2
AVFE Valle Fertil 32.85 159 iP P 22 05 09.6 +1.6
APLL PUNTA DE LOS L 32.96 157 iP P 22 05 10.2 +1.3
NHSC New Hope 33.11 1 IAMs_20 IAMs_20 22 20 44.5
comp=Z,1µm,20.0s
NHSC New Hope 33.11 1 P P 22 05 10.5 +0.5
baz=181
ZON Zonda 33.24 161 P P 22 05 11.2 -0.1
ZON IAmb IAmb 22 05 18.0
comp=Z,81nm,1.7s
RTLS Leoncito 33.27 162 iP P 22 05 14.1 +2.1
HAW Hawthorne Fire 33.36 359 P P 22 05 12.7 +0.4
baz=178
833A Chaparral WMA, 33.49 329 P P 22 05 13.2 -0.3
baz=145
833A S S 22 10 35.8 -0.5
baz=145
GOGA Godfrey 33.50 356 P P 22 05 13.4 -0.1
GOGA Godfrey 33.50 356 P P 22 05 13.3 -0.3
baz=175
GOGA Godfrey 33.50 356 P P 22 05 13.8 +0.2
baz=175
GOGA S S 22 10 35.8 -0.5
baz=175
VBMS Vicksburg 33.51 345 P P 22 05 13.8 +0.2
baz=162
LRAL Lakeview Retre 33.55 350 P P 22 05 13.6 -0.3
LRAL IAmb IAmb 22 05 19.2
comp=Z,24nm,0.8s
LRAL Lakeview Retre 33.55 350 P P 22 05 13.6 -0.3
baz=169,SNR=15
LRAL Lakeview Retre 33.55 350 P P 22 05 13.4 -0.6
baz=169,SNR=15
LRAL S S 22 10 34.4 -2.6
baz=169
AUSP Uspallata 33.64 162 iP P 22 05 17.1 +2.0
VA03 San Esteban 33.82 164 P P 22 05 17.2 +0.8
ROC1 El Roble 33.90 165 P P 22 05 15.1 -2.2
ROC1 IAmb IAmb 22 05 21.1
comp=Z,40nm,1.0s
ROC1 El Roble 33.90 165 iP P 22 05 15.7 -1.6
Z47A Carrollton 33.90 349 P P 22 05 16.9 0.0
baz=167,SNR=7.4
Y59A Loris 34.03 3 P P 22 05 18.7 +0.6
Y59A IAmb IAmb 22 05 23.2
comp=Z,46nm,0.9s
MT02 Curacav 34.13 166 P P 22 05 19.5 +0.5
MT02 IAmb IAmb 22 05 25.3
comp=Z,36nm,1.2s
PEL Peldehue 34.14 165 P P 22 05 19.2 0.0
PEL IAmb IAmb 22 05 41.5
comp=Z,37nm,1.2s
SMTB Santa Maria do 34.14 106 eP P 22 05 18.9 -0.5
ASAL Salagasta 34.15 162 iP P 22 05 21.6 +2.2
HODGE Hodges 34.25 358 P P 22 05 19.8 -0.3
HODGE IAmb IAmb 22 05 26.1
comp=Z,58nm,1.5s
PEXB Peixe 34.32 111 eP P 22 05 20.9 -0.1
NATX Nacogdoches 34.38 339 P P 22 05 21.3 +0.1
baz=155
CPUP Villa Florida 34.44 141 P P 22 05 23.1 +1.3
comp=Z,3.0nm,0.9s,baz=322,slow=11,SNR=3.7
CPUP LR LR 22 22 28.7
comp=Z,2µm,18.9s,baz=326,slow=42
CPUP Villa Florida 34.44 141 P P 22 05 22.2 +0.4
MT03 Universidad Ad 34.52 165 P P 22 05 22.6 0.0
MT03 IAmb IAmb 22 05 42.1
comp=Z,31nm,1.0s
TCA Tanti 34.58 155 iP P 22 05 24.0 +1.0
AAGR Agrelo 34.61 162 iP P 22 05 26.2 +2.9
MT09 Talagante 34.66 166 P P 22 05 24.3 +0.5
MT09 IAmb IAmb 22 05 29.7
comp=Z,81nm,1.4s
435B Jarrell 34.69 334 P P 22 05 23.3 -0.6
baz=150
435B S S 22 10 54.6 -0.2
baz=150
FPAL Fort Paine 34.83 353 P P 22 05 24.4 -0.7
FPAL IAmb IAmb 22 05 29.8
comp=Z,28nm,0.9s
Y45A Yeager Farm, C 34.85 347 P P 22 05 25.1 -0.2
baz=165,SNR=7.5
LMEL Las Melosas 34.94 165 P P 22 05 27.2 +1.0
LMEL IAmb IAmb 22 05 32.7
comp=Z,46nm,1.2s
BO04 La Punta 34.96 165 P P 22 05 27.2 +1.0
BO04 IAmb IAmb 22 05 32.2
comp=Z,44nm,1.1s
BG3 Lake Jocassee 35.04 357 P P 22 05 26.7 -0.2
BG3 IAmb IAmb 22 05 33.1
comp=Z,113nm,1.7s
CASEE Lake Jocassee 35.04 357 P P 22 05 27.0 +0.1
baz=176,SNR=10
MRA San Martin 35.08 158 iP P 22 05 27.7 +0.3
Z41A Richland Creek 35.13 342 P P 22 05 28.0 +0.3
baz=159
KMSC Kings Mountain 35.14 359 P P 22 05 27.3 -0.4
baz=179
KMSC Kings Mountain 35.14 359 P P 22 05 27.7 0.0
baz=179
KMSC S S 22 11 00.6 -1.0
baz=179
W57A Gilead 35.15 1 P P 22 05 27.0 -0.8
baz=181
W57A P P 22 05 27.0 -0.8
baz=181
BO01 Tunca 35.23 166 P P 22 05 28.1 -0.4
BO01 IAmb IAmb 22 05 34.4
comp=Z,84nm,1.5s
OXF Oxford 35.44 348 P P 22 05 29.7 -0.7
baz=165
CCAR Cane Creek 35.45 344 P P 22 05 31.2 +0.8
JCT Junction City 35.46 331 P P 22 05 31.1 +0.5
JCT Junction City 35.46 331 P P 22 05 31.5 +0.9
baz=146,SNR=13
JCT Junction City 35.46 331 P P 22 05 30.2 -0.4
baz=146,SNR=13
JCT S S 22 11 07.6 +0.9
baz=146
SWET Sewanee 35.54 353 P P 22 05 30.1 -1.1

ITRB Iturama 35.55 125 eP P 22 05 33.7 +2.1
PLAL Pickwick Lake 35.63 350 P P 22 05 31.5 -0.5
PLAL IAmb IAmb 22 05 38.1
comp=Z,115nm,1.9s
WHTX Lake Whitney, 35.68 335 P P 22 05 31.7 -0.7
baz=151
V53A Saluda 35.71 357 P P 22 05 32.4 -0.3
baz=176,SNR=6.8
V53A P P 22 05 32.4 -0.3
baz=176,SNR=6.8
TKL Tuckaleechee C 35.76 356 LR LR 22 19 18.8
comp=Z,1µm,20.7s,baz=180,slow=35
TKL Tuckaleechee C 35.76 356 P P 22 05 33.2 +0.1
TKL IAmb IAmb 22 05 38.8
comp=Z,72nm,1.4s
TKL Tuckaleechee C 35.76 356 P P 22 05 32.4 -0.6
baz=175,SNR=15
BDFB Brasilia 35.80 117 P P 22 05 34.0 +0.2
comp=Z,5.7nm,0.7s,baz=259,slow=9.6,SNR=9.1
BDFB LR LR 22 19 58.2
comp=Z,1µm,20.0s,baz=299,slow=36
BDFB Brasilia 35.80 117 P P 22 05 33.5 -0.3
BDFB IAmb IAmb 22 05 38.9
comp=Z,49nm,1.6s
PCMB Pacaembu 35.80 128 eP P 22 05 32.9 -0.8
V58A Windy Hill, Pi 35.81 2 P P 22 05 33.1 -0.4
baz=183
V58A P P 22 05 33.1 -0.4
baz=183
V52A Sevierville 35.93 356 P P 22 05 34.0 -0.5
baz=175,SNR=18
V51A Loudon 35.95 355 P P 22 05 34.6 -0.1
baz=174,SNR=15
V48A Smith Brothers 36.17 352 P P 22 05 36.1 -0.5
V48A Smith Brothers 36.17 352 P P 22 05 36.0 -0.7
baz=170,SNR=17
X40A Basin Creek Fa 36.29 343 P P 22 05 37.5 -0.1
baz=159
X40A S S 22 11 16.6 -2.7
baz=159
CLTN Cedars of Leba 36.45 352 P P 22 05 38.3 -0.7
ML02 Panimavida 36.46 167 P P 22 05 39.5 +0.4
ML02 IAmb IAmb 22 05 44.5
comp=Z,120nm,1.6s
MIAR Mount Ida 36.56 342 P P 22 05 40.0 0.0
MIAR IAmb IAmb 22 05 48.5
comp=Z,109nm,1.9s
MIAR Mount Ida 36.56 342 P P 22 05 39.6 -0.3
baz=158
MIAR S S 22 11 21.8 -1.7
baz=158
IPMB Ipameri, GO 36.57 121 eP P 22 05 39.8 -0.5
TXAR Lajitas Array 36.59 325 P P 22 05 41.0 +0.6
comp=Z,2.8nm,0.8s,baz=149,slow=9.9,SNR=15
TXAR PcP PcP 22 08 03.0 -1.0
comp=Z,2.1nm,0.8s,baz=147,slow=7.0,SNR=7.1
TXAR Lajitas Array 36.59 325 P P 22 05 40.9 +0.5
TX31 Lajitas Ar. Si 36.60 325 P P 22 05 41.5 +1.0
baz=139,SNR=7.0
TX32 Lajitas Array 36.60 325 P P 22 05 40.9 +0.4
TZTN Tazewell 36.62 356 P P 22 05 40.2 -0.3
TZTN IAmb IAmb 22 05 46.2
comp=Z,99nm,1.4s
TZTN IAMs_20 IAMs_20 22 19 21.6
comp=Z,2µm,22.0s
TZTN Tazewell 36.62 356 P P 22 05 40.0 -0.5
baz=175
TZTN S S 22 11 21.9 -2.5
baz=175
WVT Waverly 36.71 350 P P 22 05 39.5 -1.7
baz=168,SNR=9.2
WVT Waverly 36.71 350 P P 22 05 39.6 -1.5
baz=168
WVT S S 22 11 19.9 -5.8
baz=168
W41B Gary Mavity, V 36.76 344 P P 22 05 40.9 -0.8
baz=161,SNR=5.7
W41B Gary Mavity, V 36.76 344 P P 22 05 41.7 +0.1
baz=161,SNR=5.7
W41B S S 22 11 23.5 -3.0
baz=161
U49A Red Boiling Sp 36.80 353 P P 22 05 41.2 -0.7
baz=172,SNR=10.0
SLBS Sierra La Lagu 36.95 312 P P 22 05 43.9 +0.4
EDS3 Malargue 36.96 165 iP P 22 05 44.9 +1.3
PTGB Pitanga 36.97 133 eP P 22 05 43.7 0.0
T57A Hurt 37.01 2 P P 22 05 43.6 -0.1
baz=182,SNR=7.4
T57A P P 22 05 43.6 -0.1
baz=182,SNR=7.4
FRBT Francisco Belt 37.03 136 eP P 22 05 44.5 +0.3
ABTX Abilene, Hawle 37.17 333 P P 22 05 46.0 +0.7
ABTX IAmb IAmb 22 05 54.4
comp=Z,101nm,1.4s
ABTX Abilene, Hawle 37.17 333 P P 22 05 46.7 +1.5
baz=148,SNR=5.7
ABTX Abilene, Hawle 37.17 333 P P 22 05 44.4 -0.8
baz=148,SNR=5.7
ABTX S S 22 11 31.1 -1.8
baz=148
BLA Blacksburg 37.20 0 P P 22 05 45.6 +0.2
BLA IAMs_20 IAMs_20 22 23 53.8
comp=Z,1µm,21.0s
BLA Blacksburg 37.20 0 P P 22 05 45.0 -0.4
baz=180
BLA S S 22 11 30.6 -2.6
baz=180
T50A Nancy 37.20 355 P P 22 05 44.4 -1.0
baz=173
T50A P P 22 05 44.4 -1.0
baz=173
W39A Magazine 37.23 342 P P 22 05 46.0 +0.4
baz=158,SNR=10
W39A Magazine 37.23 342 P P 22 05 45.4 -0.2
baz=158,SNR=10
W39A S S 22 11 31.8 -1.8
baz=158
ITQB Itaqui 37.28 144 P P 22 05 45.7 -0.4
ITQB IAmb IAmb 22 05 51.7
comp=Z,105nm,1.3s
ITQB Itaqui 37.28 144 eP P 22 05 47.0 +0.9
LCAR Lake Charles 37.33 346 P P 22 05 45.6 -0.8
baz=163,SNR=33
FCAR Ozark Folk Cen 37.41 345 P P 22 05 46.1 -1.0
LPIG La Paz 37.46 312 LR LR 22 17 27.0
comp=Z,879nm,21.7s,baz=120,slow=30
SDBA SAO DESIDERIO 37.59 110 eP P 22 05 48.4 -0.7
BB19B Bebedouro 37.71 125 eP P 22 05 48.5 -1.5
S51A Beattyville 37.72 356 P P 22 05 49.2 -0.5
baz=175,SNR=10
S51A P P 22 05 49.2 -0.5
baz=175,SNR=10
U40A Yellville 38.04 344 P P 22 05 52.2 -0.3
baz=160,SNR=8.6
U40A P P 22 05 52.2 -0.3
baz=160,SNR=8.6
U40A Yellville 38.04 344 P P 22 05 52.2 -0.3
baz=160,SNR=8.6
U40A S S 22 11 43.0 -3.0
baz=160
FRTB Fartura 38.06 129 eP P 22 05 53.5 +0.6
X34A Smith Ranch, M 38.11 337 P P 22 05 54.4 +1.3
X34A IAmb IAmb 22 06 01.8
comp=Z,150nm,1.9s
HHAR Hobbs 38.28 343 P P 22 05 54.4 -0.2
CBN Corbin Frederi 38.32 4 P P 22 05 54.5 -0.2
baz=185
RPN Rapa Nui 38.37 223 LR LR 22 17 43.8
comp=Z,1µm,18.4s,baz=47,slow=30
ITAB Concordia 38.48 137 P P 22 05 55.7 -0.6
ITAB Concordia 38.48 137 eP P 22 05 55.8 -0.5
S44A Carbondale 38.49 349 P P 22 05 55.4 -0.8
baz=166,SNR=6.3
R49A Shelbyville 38.49 354 P P 22 05 55.2 -1.0
baz=173
R49A P P 22 05 55.2 -1.0
baz=173
TUL1 Leonard 38.53 340 P P 22 05 56.1 -0.5
TUL1 Leonard 38.53 340 P P 22 05 56.3 -0.3
baz=156
TUL1 Leonard 38.53 340 P P 22 05 56.3 -0.3
baz=156
TUL1 S S 22 11 51.4 -1.9
baz=156
WMOK Wichita Mounta 38.60 336 P P 22 05 57.6 +0.3
baz=150
WMOK S S 22 11 53.6 -1.0

JANB Januaria 38.93 114 eP P 22 05 59.5 -0.9
FVM French Village 39.00 348 P P 22 05 59.5 -1.1
baz=165,SNR=15
RCLB Rio Claro- Sao 39.18 127 eP P 22 06 03.8 +1.4
CCM Cathedral Cave 39.25 347 P P 22 06 01.6 -1.0
CCM IAmb IAmb 22 06 08.5
comp=Z,71nm,1.4s
CCM Cathedral Cave 39.25 347 P P 22 06 00.8 -1.8
baz=163,SNR=17
CCM Cathedral Cave 39.25 347 P P 22 06 01.9 -0.7
baz=163
CCM S S 22 11 59.7 -4.4
baz=163
MNTX Cornudas Mount 39.35 326 P P 22 06 03.4 -0.2
MNTX IAmb IAmb 22 06 05.4
comp=Z,99nm,1.9s
MNTX Cornudas Mount 39.35 326 P P 22 06 03.6 +0.1
baz=139,SNR=15
MNTX Cornudas Mount 39.35 326 P P 22 06 02.3 -1.3
baz=139,SNR=15
MNTX S S 22 12 04.4 -1.4
baz=139
LC01 Cunco 39.39 169 P P 22 06 03.0 -0.8
S39A Bolivar 39.42 344 P P 22 06 03.5 -0.6
baz=160,SNR=6.7
NBPS Pedro II - PI 39.50 97 eP P 22 06 06.5 +1.3
TIJ01 Guaruva-PR 39.58 132 eP P 22 06 07.6 +1.9
Q44A Meyer Farm, Va 39.62 350 P P 22 06 03.7 -2.0
baz=167,SNR=8.8
P52A Corning 39.63 358 P P 22 06 05.0 -0.8
baz=178
MCWV Mont Chateau 39.65 1 IAMs_20 IAMs_20 22 25 17.7
comp=Z,2µm,21.0s
MCWV Mont Chateau 39.65 1 P P 22 06 05.3 -0.6
baz=181
P49A Miami Univ. Ec 39.68 355 IAMs_20 IAMs_20 22 21 19.6
comp=Z,2µm,20.0s
P49A Miami Univ. Ec 39.68 355 P P 22 06 04.9 -1.3
baz=174
P49A S S 22 12 06.1 -4.5
baz=174
T35B Sooner Cattle 39.69 340 P P 22 06 06.4 +0.1
baz=155,SNR=10
R40A Maddies Statio 39.72 346 P P 22 06 05.4 -1.1
baz=162,SNR=13
CPSB Cacapava Do Su 39.73 142 eP P 22 06 06.4 -0.4
MSTX Muleshoe 39.75 331 P P 22 06 06.9 -0.1
MSTX IAmb IAmb 22 06 15.8
comp=Z,109nm,1.4s
MSTX Muleshoe 39.75 331 P P 22 06 07.4 +0.3
baz=144,SNR=10
MSTX Muleshoe 39.75 331 P P 22 06 05.1 -1.9
baz=144,SNR=10
MSTX S S 22 12 10.6 -1.4
baz=144
MC01 Montes Claros 39.82 116 eP P 22 06 06.1 -1.7
VAO Valinhos 39.92 127 eP P 22 06 08.3 -0.3
AMTX Amarillo 39.98 333 P P 22 06 09.4 +0.5
baz=146,SNR=9.7
AMTX Amarillo 39.98 333 P P 22 06 07.1 -1.8
baz=146
O53A New Philadelph 40.23 359 IAMs_20 IAMs_20 22 23 05.1
comp=Z,2µm,18.0s
O53A New Philadelph 40.23 359 P P 22 06 10.1 -0.7
baz=179
O53A S S 22 12 15.6 -3.3
baz=179
ACSO Alum Creek Sta 40.26 357 P P 22 06 10.7 -0.4
ACSO Alum Creek Sta 40.26 357 P P 22 06 10.0 -1.1
baz=177
O49A Covington 40.30 356 P P 22 06 12.4 +1.1
O48B Farmland 40.44 355 P P 22 06 10.5 -2.0
baz=173
O48B S S 22 12 16.2 -5.7
baz=173
PLTB Pedras Altas 40.58 143 eP P 22 06 14.9 +1.0
DIAM Diamantina, MG 40.64 118 eP P 22 06 15.3 +0.6
SSPA Standing Stone 40.70 3 P P 22 06 15.2 +0.5
SSPA Standing Stone 40.70 3 IAMs_20 IAMs_20 22 25 36.5
comp=Z,1µm,18.0s
SSPA Standing Stone 40.70 3 P P 22 06 13.3 -1.3
baz=184
SFIN Lafayette 40.77 353 P P 22 06 13.0 -2.2
baz=170
PARB Paraibuna 41.17 127 eP P 22 06 18.2 -0.6
LL04 Puerto Octay 41.25 170 P P 22 06 19.0 -0.2
LL04 IAmb IAmb 22 06 24.3
comp=Z,39nm,0.9s
121A Cookes Peak, D 41.33 324 P P 22 06 20.3 +0.1
121A Cookes Peak, D 41.33 324 P P 22 06 21.7 +1.5
baz=137,SNR=11
121A Cookes Peak, D 41.33 324 P P 22 06 18.0 -2.2
baz=137,SNR=11
121A S S 22 12 37.7 +1.8
baz=137
319A Douglas 41.41 322 P P 22 06 21.0 +0.2
M53A WI Miller and 41.42 0 IAMs_20 IAMs_20 22 26 24.5
comp=Z,2µm,21.0s
M53A WI Miller and 41.42 0 S S 22 12 32.4 -4.1
baz=180
PLCA Paso Flores 41.42 168 P P 22 06 21.6 +0.8
comp=Z,22nm,1.2s,baz=340,slow=9.2,SNR=16
PLCA Paso Flores 41.42 168 P P 22 06 20.9 +0.2
PLCA IAmb IAmb 22 06 26.4
comp=Z,76nm,1.4s
PLCA Paso Flores 41.42 168 eP P 22 06 21.9 +1.2
LL03 Petrohue 41.48 170 P P 22 06 20.2 -0.8
LL03 IAmb IAmb 22 06 35.5
comp=Z,90nm,1.4s
TRQA Tornquist 41.48 157 P P 22 06 20.5 -0.6
NBPN Ponto Novo - B 41.68 106 eP P 22 06 23.7 +0.6
KSU1 Kansas State U 41.70 341 P P 22 06 22.8 -0.1
KSU1 Kansas State U 41.70 341 P P 22 06 23.1 +0.2
baz=156,SNR=8.7
KSU1 Kansas State U 41.70 341 P P 22 06 22.6 -0.3
baz=156,SNR=8.7
KSU1 S S 22 12 38.3 -2.4
baz=156
R32A Long Quarter, 41.81 339 P P 22 06 24.9 +1.1
baz=153,SNR=8.8
ESAR Angra dos Reis 41.97 125 eP P 22 06 26.2 +0.9
Y22D IRIS PASSCAL I 41.98 327 IAMs_20 IAMs_20 22 23 23.9
comp=Z,928nm,19.0s
ERPA Erie 42.10 1 IAMs_20 IAMs_20 22 26 43.6
comp=Z,1µm,20.0s
MAN01 Angra dos Reis 42.29 125 eP P 22 06 28.2 +0.1
AAM Ann Arbor 42.36 357 IAMs_20 IAMs_20 22 22 42.5
comp=Z,2µm,21.0s
AAM Ann Arbor 42.36 357 P P 22 06 28.8 +0.5
baz=176
ANMO Albuquerque 42.39 328 P P 22 06 28.6 -0.3
comp=Z,26nm,0.8s,baz=143,slow=10.0,SNR=60
ANMO LR LR 22 24 05.1
comp=Z,478nm,19.1s,baz=138,slow=36
ANMO Albuquerque 42.39 328 P P 22 06 29.4 +0.6
ANMO IAmb IAmb 22 06 31.6
comp=Z,36nm,0.9s
ANMO Albuquerque 42.39 328 P P 22 06 29.9 +1.0
baz=140,SNR=45
ANMO Albuquerque 42.39 328 P P 22 06 28.9 0.0
baz=140
ANMO S S 22 12 51.3 -0.2
baz=140
BINY Binghamton 42.40 5 P P 22 06 28.7 +0.1
baz=187
NBMA Muriti-CE 42.48 101 eP P 22 06 28.9 -0.8
CBKS Cedar Bluff 42.53 338 P P 22 06 30.2 +0.4
CBKS Cedar Bluff 42.53 338 P P 22 06 30.6 +0.9
baz=151,SNR=6.9
CBKS Cedar Bluff 42.53 338 P P 22 06 29.9 +0.2
baz=151,SNR=6.9
CBKS S S 22 12 54.3 +1.2
baz=151
L44A Lake County Fo 42.65 352 IAMs_20 IAMs_20 22 27 12.2
comp=Z,2µm,19.0s
GDU01 Guandu, BA 42.94 110 eP P 22 06 32.9 -0.4
TUC Tucson 42.98 322 P P 22 06 33.4 -0.1
TUC Tucson 42.98 322 P P 22 06 33.7 +0.1
baz=133
SJMB Sao Joao De Ma 42.98 118 eP P 22 06 34.0 +0.3
L61B Northampton 43.05 9 P P 22 06 34.0 +0.1
baz=192
T25A Trinidad 43.10 332 P P 22 06 35.5 +0.9
T25A IAmb IAmb 22 06 43.9
comp=Z,90nm,1.4s
T25A Trinidad 43.10 332 P P 22 06 34.4 -0.2
baz=144,SNR=21
T25A S S 22 13 04.7 +2.9
baz=144
GO07 Milladeo Hill, 43.22 172 P P 22 06 35.8 +0.6
HRV Adam Dziewonsk 43.29 10 P P 22 06 36.8 +1.0
baz=193
SCIA State Center 43.37 346 P P 22 06 35.9 -0.6
baz=162
CMC01 Camacan, BA 43.43 112 eP P 22 06 37.6 +0.3
N33B J Bar K, Exete 43.45 341 P P 22 06 37.6 +0.5
baz=155,SNR=7.3
GUA01 Guaratinga, BA 43.53 114 eP P 22 06 39.3 +1.2
LL02 Futaleuf 43.57 171 P P 22 06 38.0 0.0
NAN01 Guarapari, ES 43.64 116 eP P 22 06 39.3 +0.3
JFWS Jewell Farm 43.73 350 P P 22 06 38.0 -1.4
baz=166
CAM01 Campos-RJ 43.77 122 eP P 22 06 41.2 +1.2
KSCO Kaye Shedlock' 43.85 335 P P 22 06 40.9 +0.4
KSCO Kaye Shedlock' 43.85 335 P P 22 06 41.0 +0.4
baz=148
KSCO S S 22 13 12.5 -0.2
baz=148
RIB01 Linhares ES 43.90 118 eP P 22 06 41.4 +0.3
X18A Snowflake 44.02 325 P P 22 06 42.7 +0.6
NBLA Lagarto - SE 44.03 106 eP P 22 06 41.4 -0.8
214A Organ Pipe Nat 44.04 320 P P 22 06 42.3 +0.2
baz=130,SNR=14
214A S S 22 13 15.7 +0.3
baz=130
SDCO Great Sand Dun 44.10 332 P P 22 06 43.4 +0.6
SDCO IAmb IAmb 22 06 51.6
comp=Z,83nm,1.5s
SDCO Great Sand Dun 44.10 332 P P 22 06 43.7 +0.9
baz=143,SNR=48
SDCO Great Sand Dun 44.10 332 P P 22 06 43.2 +0.5
baz=143,SNR=48
SDCO S S 22 13 18.2 +1.6
baz=143
BGNE Belgrade 44.28 341 P P 22 06 44.6 +0.8
BGNE Belgrade 44.28 341 P P 22 06 44.5 +0.6
baz=155
BGNE S S 22 13 16.1 -2.6
baz=155
W18A Petrified Fore 44.32 325 P P 22 06 45.0 +0.6
W18A IAmb IAmb 22 06 53.4
comp=Z,56nm,1.2s
W18A Petrified Fore 44.32 325 P P 22 06 44.8 +0.4
baz=136,SNR=13
W18A S S 22 13 21.4 +1.7
baz=136
AY01 Puyuhuapi 44.65 172 P P 22 06 46.4 -0.2
AY01 IAmb IAmb 22 06 51.7
comp=Z,44nm,1.4s
S22A 4UR Ranch, Cre 44.74 330 P P 22 06 48.6 +0.6
baz=142,SNR=20
S22A S S 22 13 28.2 +2.2
baz=142
SADO Sadowa 44.77 2 LR LR 22 25 40.9
comp=Z,526nm,18.9s,baz=193,slow=36
X16A Lo Mia Camp, P 44.82 323 P P 22 06 49.2 +0.7
Q24A Divide 44.91 333 P P 22 06 49.2 -0.1
baz=144
Q24A S S 22 13 28.0 -0.5
baz=144
GLMI Grayling 44.93 356 P P 22 06 49.4 +0.5
baz=174
LONY Lake Ozonia 44.94 6 IAMs_20 IAMs_20 22 25 19.5
comp=Z,932nm,19.0s
RCBR Riachuelo 45.13 98 LR LR 22 27 12.8
comp=Z,3µm,20.8s,baz=64,slow=38
RCBR Riachuelo 45.13 98 eP P 22 06 52.7 +1.6
MVCO Mesa Verde 45.18 328 P P 22 06 51.6 +0.3
MVCO IAmb IAmb 22 25 44.4
comp=Z,1µm,18.0s
MVCO Mesa Verde 45.18 328 P P 22 06 51.4 0.0
baz=139,SNR=11
MVCO S S 22 13 32.1 -0.2
baz=139
OGNE Ogallala 45.26 337 P P 22 06 52.1 +0.4
OGNE IAmb IAmb 22 06 58.7
comp=Z,68nm,1.4s
OGNE Ogallala 45.26 337 P P 22 06 51.5 -0.2
baz=149
OGNE S S 22 13 33.5 +0.6
baz=149
K31A O'Neill 45.58 341 P P 22 06 54.3 +0.1
K31A O'Neill 45.58 341 P P 22 06 54.6 +0.5
baz=154
ISCO Idaho Springs 45.80 333 P P 22 06 56.4 +0.1
ISCO Idaho Springs 45.80 333 P P 22 06 57.0 +0.7
baz=144,SNR=11
ISCO Idaho Springs 45.80 333 P P 22 06 56.7 +0.4
baz=144,SNR=11
ISCO S S 22 13 42.1 +0.8
baz=144
SMCO Snowmass 45.94 331 P P 22 06 58.1 +0.6
SMCO IAmb IAmb 22 07 05.7
comp=Z,41nm,1.4s
SMCO IAMs_20 IAMs_20 22 27 09.6
comp=Z,930nm,22.0s
ECSD EROS Data Cent 45.95 344 P P 22 06 56.1 -0.9
ECSD IAmb IAmb 22 07 09.2
comp=Z,34nm,1.2s
ECSD EROS Data Cent 45.95 344 P P 22 06 56.9 -0.1
baz=158
ECSD S S 22 13 44.6 +1.8
baz=158
GLA Glamis 46.04 319 P P 22 06 57.9 -0.2
baz=129
GLA S S 22 13 45.8 +1.3
baz=129
PV07 Paradox Valley 46.19 329 P P 22 07 00.1 +0.9
PV07 IAmb IAmb 22 07 01.8
comp=Z,25nm,0.9s
BLYC Blythe 46.29 320 P P 22 07 00.4 +0.5
BLYC IAmb IAmb 22 07 18.0
comp=Z,36nm,1.4s
PDMCI Parker Dam,Lak 46.40 321 P P 22 07 00.5 -0.2
baz=131
SPMN Marine on St. 46.45 348 P P 22 07 00.3 -0.6
baz=163
SWSC Sam W. Stewart 46.62 318 P P 22 07 01.9 -0.6
baz=128
IKP In-Ko-Pah, Jac 46.65 318 P P 22 07 02.1 -0.7
baz=128
COWI Conover 46.67 352 IAMs_20 IAMs_20 22 29 21.5
comp=Z,865nm,20.0s
CBX Cerro Bola 46.82 317 P P 22 07 05.3 +1.0
BC3 Big Chuckawall 46.83 319 P P 22 07 03.6 -0.7
baz=129,SNR=11
N23A Red Feather La 46.84 334 P P 22 07 04.1 -0.3
baz=144,SNR=5.8
IRM Iron Mountain 46.95 320 P P 22 07 05.3 +0.2
baz=130,SNR=6.7
MONP2 Monument Peak 47.00 318 P P 22 07 06.0 +0.3
baz=127
NEE2 Needles Airpor 47.00 321 P P 22 07 06.1 +0.6
baz=131
SUSD Miller 47.28 342 P P 22 07 07.2 -0.3
baz=155
O20A White River Ci 47.29 331 P P 22 07 08.1 +0.2
baz=141,SNR=7.9
BELC Belle Mtn. Jos 47.40 319 P P 22 07 09.6 +0.8
baz=129,SNR=7.1
TPFO Pinon Flats 47.46 319 P P 22 07 10.1 +0.9
baz=128
109C Camp Elliot, M 47.46 317 P P 22 07 09.5 +0.4
baz=127
PFO Pinyon Flats O 47.46 319 LR LR 22 25 15.2
comp=Z,921nm,18.6s,baz=130,slow=34
PFO Pinyon Flats O 47.46 319 P P 22 07 10.0 +0.8
PFO IAmb IAmb 22 07 15.6
comp=Z,30nm,1.4s
PFO Pinyon Flats O 47.46 319 P P 22 07 10.4 +1.2
baz=128
SRU San Rafael Swe 47.66 329 P P 22 07 11.2 +0.4
SRU IAmb IAmb 22 07 19.0
comp=Z,45nm,1.3s
GMRC Granite Mounta 47.67 320 P P 22 07 11.3 +0.4
baz=130
LMN Caledonia Moun 47.94 15 P P 22 07 12.7 +0.1
MURC Murrieta 47.95 318 P P 22 07 13.6 +0.7
baz=127
HEC Hector,Ludlow 48.13 320 P P 22 07 14.8 +0.5
baz=129
BBRC Big Bear Solar 48.16 319 P P 22 07 15.3 +0.5
baz=128
TUQ Turquoise Moun 48.25 321 P P 22 07 16.2 +0.9
baz=130
SHPR Sheep Range 48.47 323 P P 22 07 17.8 +0.8
K22A Casper 48.52 335 P P 22 07 18.0 +0.7
K22A IAmb IAmb 22 07 34.7
comp=Z,32nm,1.4s
K22A Casper 48.52 335 P P 22 07 18.6 +1.4
baz=145
RRX Edison Barstow 48.59 320 P P 22 07 18.5 +0.7
baz=128
GO08 Villa O'Higgin 48.62 173 P P 22 07 18.3 +0.5
GO08 IAmb IAmb 22 07 24.3
comp=Z,62nm,1.8s
GSC Goldstone, Bar 48.73 320 P P 22 07 20.1 +1.2
baz=129
RSSD Black Hills 48.74 338 P P 22 07 19.5 +0.5
RSSD IAmb IAmb 22 07 37.0
comp=Z,47nm,1.2s
RSSD Black Hills 48.74 338 P P 22 07 19.9 +0.9
baz=148,SNR=14
RSSD Black Hills 48.74 338 P P 22 07 19.5 +0.5
baz=148
RSSD S S 22 14 25.2 +2.3
baz=148
SHOC Shoshone, Teco 48.77 321 P P 22 07 20.2 +1.1
baz=130
EYMN Ely 48.83 350 IAMs_20 IAMs_20 22 30 53.7
comp=Z,1µm,19.0s
EYMN Ely 48.83 350 P P 22 07 20.5 +1.1
baz=166
DECC Green Verdugo 49.09 318 P P 22 07 21.4 -0.3
baz=126
DECC S S 22 14 29.0 +1.2
baz=126
EDW2 Edwards Air Fo 49.24 319 P P 22 07 22.8 -0.1
baz=127,SNR=6.1
EDW2 S S 22 14 29.6 -0.3
baz=127
SNCC San Nicolas Is 49.32 316 P P 22 07 23.5 +0.1
baz=124
LRMC Laurel Mtn Rad 49.40 320 P P 22 07 23.8 -0.4
baz=128
TPNV Topopah Spring 49.42 322 P P 22 07 24.7 +0.4
TPNV Topopah Spring 49.42 322 P P 22 07 25.4 +1.0
baz=130,SNR=14
FURC Furnace Creek, 49.49 321 P P 22 07 24.4 -0.2
baz=129
OSI Osito Audit: C 49.57 318 P P 22 07 24.8 -0.6
baz=126
MPMC Manual Prospec 49.63 321 P P 22 07 25.7 -0.3
baz=128
DUG Dugway, Tooele 49.66 328 P P 22 07 26.3 +0.2
DUG Dugway, Tooele 49.66 328 P P 22 07 25.9 -0.2
baz=136,SNR=8.5
ARVC Arvin 49.94 319 P P 22 07 27.3 -0.8
baz=126
R11A Troy Canyon, C 49.94 324 P P 22 07 28.7 +0.4
baz=132,SNR=17
BW06 Boulder Array 49.96 332 P P 22 07 28.3 -0.2
BW06 IAMs_20 IAMs_20 22 28 48.1
comp=Z,1µm,19.0s
PDAR Pinedale Array 49.96 332 P P 22 07 27.8 -0.6
comp=Z,1.6nm,0.7s,baz=124,slow=8.6,SNR=19
PDAR PcP PcP 22 08 48.6 -0.1
comp=Z,1.0nm,0.7s,baz=162,slow=5.4,SNR=3.9
PDAR LR LR 22 29 08.7
comp=Z,958nm,18.8s,baz=148,slow=37
AGMN Agassiz Nation 50.02 347 P P 22 07 28.4 -0.1
baz=160
ISA Isabella, Lake 50.02 319 P P 22 07 28.9 0.0
ISA IAmb IAmb 22 07 37.5
comp=Z,39nm,1.4s
ISA Isabella, Lake 50.02 319 P P 22 07 28.7 -0.1
baz=127
GRAC Grapevine Rang 50.14 322 P P 22 07 29.8 +0.1
baz=129
CWC Cottonwood Cre 50.24 321 P P 22 07 30.8 +0.2
baz=128
PKM Mcpherson Peak 50.45 318 P P 22 07 31.8 -0.4
baz=125
VES Vestal, Richgr 50.53 319 P P 22 07 32.3 -0.2
baz=127
MDND Maddock 50.56 344 P P 22 07 33.1 +0.5
MDND Maddock 50.56 344 P P 22 07 32.9 +0.3
baz=155
MDND S S 22 14 53.8 +5.9
baz=155
AHID Auburn Hatcher 50.69 331 P P 22 07 33.6 -0.3
AHID IAmb IAmb 22 07 41.6
comp=Z,79nm,1.9s
AHID IAMs_20 IAMs_20 22 29 03.3
comp=Z,1µm,18.0s
TPH Tonopah 50.74 323 P P 22 07 34.5 +0.2
SMMC Simmler 50.82 318 P P 22 07 34.8 0.0
baz=126
ECR Eagle Creek 51.04 331 P P 22 07 37.4 +0.8
SNOW Snow King Moun 51.05 332 IAMs_20 IAMs_20 22 29 33.0
comp=Z,868nm,18.0s
LOHW Long Hollow 51.10 332 IAMs_20 IAMs_20 22 29 38.2
comp=Z,934nm,18.0s
TPAW Teton Pass 51.17 332 IAMs_20 IAMs_20 22 29 34.0
comp=Z,950nm,18.0s
ELK Elko 51.36 327 LR LR 22 29 16.0
comp=Z,1µm,18.0s,baz=142,slow=36
ELK Elko 51.36 327 P P 22 07 39.0 -0.1
ELK IAmb IAmb 22 07 47.4
comp=Z,54nm,1.6s
MLAC Mammoth, Mammo 51.45 321 P P 22 07 39.2 -0.6
baz=128
FLWY Flagg Ranch 51.51 333 IAMs_20 IAMs_20 22 30 27.9
comp=Z,928nm,18.0s
NV11 Mina Array Sit 51.53 322 P P 22 07 40.3 0.0
NV11 IAmb IAmb 22 07 49.0
comp=Z,67nm,1.6s
NVAR Mina Array Bea 51.62 322 P P 22 07 41.6 +0.6
comp=Z,11nm,0.8s,baz=137,slow=7.7,SNR=68
NVAR LR LR 22 27 21.1
comp=Z,618nm,21.7s,baz=130,slow=33
H17A Grant Village 51.69 333 P P 22 07 42.8 +1.3
H17A IAmb IAmb 22 08 01.3
comp=Z,57nm,1.8s
H17A Grant Village 51.69 333 P P 22 07 42.6 +1.2
baz=141
LAO LASA Array 51.73 338 P P 22 07 41.6 +0.1
LAO LASA Array 51.73 338 P P 22 07 41.9 +0.4
baz=147
LKWY Lake 51.74 333 P P 22 07 43.2 +1.4
YFT Old Faithful 51.85 333 P P 22 07 43.7 +1.0
YFT IAmb IAmb 22 08 12.5
comp=Z,62nm,1.6s
ULM Lac du Bonnet 51.87 348 P P 22 07 41.3 -1.1
comp=Z,9.3nm,0.6s,baz=161,slow=6.8,SNR=12
ULM LR LR 22 30 15.5
comp=Z,296nm,20.5s,baz=144,slow=37
BMN Battle Mountai 52.27 325 P P 22 07 45.7 -0.1
BMN IAmb IAmb 22 07 54.1
comp=Z,61nm,1.3s
GCMT Greycliff 52.38 335 P P 22 07 46.5 0.0
DGMT Dagmar 52.53 341 P P 22 07 47.6 +0.3
DGMT IAmb IAmb 22 08 05.7
comp=Z,49nm,1.4s
DGMT Dagmar 52.53 341 P P 22 07 47.6 +0.3
baz=150
DGMT S S 22 15 19.3 +4.3
baz=150
CMB Columbia Colle 52.67 321 IAMs_20 IAMs_20 22 28 25.1
comp=Z,650nm,19.0s
HLID Hailey 52.91 330 P P 22 07 50.1 -0.4
HLID Hailey 52.91 330 P P 22 07 50.4 -0.1
baz=136,SNR=17
HLID S S 22 15 23.0 +2.3
baz=136
BOZ Bozeman (W) 53.09 333 P P 22 07 51.9 +0.1
BOZ IAMs_20 IAMs_20 22 31 36.9
comp=Z,968nm,18.0s
BOZ Bozeman (W) 53.09 333 P P 22 07 51.9 +0.1
baz=140,SNR=20
MFID Camas Ranch 53.53 329 IAMs_20 IAMs_20 22 29 16.6
comp=Z,733nm,19.0s
LRM Limekiln Ridge 53.64 333 P P 22 07 56.1 +0.3
EGMT Eagleton 54.20 336 P P 22 07 60.0 +0.2
EGMT IAmb IAmb 22 08 17.1
comp=Z,30nm,1.2s
EGMT Eagleton 54.20 336 P P 22 07 59.9 +0.2
baz=143,SNR=9.0
EGMT S S 22 15 38.5 +0.7

baz=143
ORV Oroville 54.28 322 P **P** **22 08 00.7 +0.3**
ORV IAmb IAmb 22 08 09.1
comp=Z,58nm,1.6s
WVOR Wild Horse Val 54.38 326 P **P** **22 08 01.4 +0.1**
O03E Paynes Creek 54.90 322 P **P** **22 08 04.7 -0.3**
O03E IAMs_20 IAMs_20 22 30 34.1
comp=Z,824nm,20.0s
O03E Paynes Creek 54.90 322 P **P** **22 08 04.7 -0.3**
baz=127
MOD Modoc Plateau 54.99 325 P **P** **22 08 05.7 0.0**
MOD IAMs_20 IAMs_20 22 31 10.4
comp=Z,842nm,18.0s
MSO Missoula 55.08 333 P **P** **22 08 06.6 +0.5**
MSO IAmb IAmb 22 08 23.6
comp=Z,38nm,1.3s
MSO Missoula 55.08 333 P **P** **22 08 06.5 +0.4**
baz=138,SNR=6.8
BMO Blue Mountains 55.30 329 P **P** **22 08 07.7 0.0**
BMO IAMs_20 IAMs_20 22 32 19.3
comp=Z,752nm,19.0s
O02D Mt. Diablo Mer 55.44 321 P **P** **22 08 08.3 -0.6**
baz=126
K05A Summer Lake 55.85 325 P **P** **22 08 12.5 +0.6**
N02D Trinity Center 55.86 322 P **P** **22 08 11.0 -0.9**
baz=126
SCHQ Schefferville 56.01 10 P **P** **22 08 11.0 -1.6**
comp=Z,4.9nm,1.1s,baz=271,slow=3.0,SNR=4.9
SCHQ LR LR 22 31 52.0
comp=Z,385nm,21.3s,baz=216,slow=36
SCHQ Schefferville 56.01 10 P **P** **22 08 12.6 0.0**
SCHQ IAmb IAmb 22 08 12.8
comp=Z,54nm,1.7s
M02C Callahan 56.20 323 IAMs_20 IAMs_20 22 27 38.3
comp=Z,644nm,20.0s
M02C Callahan 56.20 323 P **P** **22 08 13.8 -0.5**
baz=126
M02C S **S** **22 16 04.6 -0.3**
baz=126
L04D Klamath Falls 56.36 324 P **P** **22 08 15.8 +0.2**
L04D IAmb IAmb 22 08 23.8
comp=Z,52nm,1.2s
L04D Klamath Falls 56.36 324 P **P** **22 08 15.3 -0.2**
baz=127,SNR=7.5
J05D Fort Rock, OR 56.40 325 P **P** **22 08 15.8 0.0**
baz=129,SNR=16
PINE Pine Mountain 56.55 326 P **P** **22 08 17.5 +0.6**
WALA Waterton Lakes 56.74 335 P **P** **22 08 18.0 -0.1**
J04D Umpqua Nationa 56.87 325 P **P** **22 08 19.4 +0.2**
baz=128,SNR=8.2
L02E Cave Junction 57.10 323 P **P** **22 08 20.4 -0.3**
L02E IAmb IAmb 22 08 28.6
comp=Z,59nm,1.8s
L02E Cave Junction 57.10 323 P **P** **22 08 20.3 -0.3**
baz=126
I05D Terrebonne, OR 57.12 326 P **P** **22 08 20.6 -0.2**
baz=129,SNR=6.6
I04A Tendick Farm, 57.38 325 P **P** **22 08 21.8 -0.9**
baz=128
K02D Willamette Mer 57.45 323 P **P** **22 08 23.1 -0.1**
baz=126,SNR=9.9
HAWA Hanford 57.49 329 P **P** **22 08 23.4 +0.1**
NEW Newport 57.60 332 LR LR 22 33 32.7
comp=Z,681nm,19.6s,baz=150,slow=36
NEW Newport 57.60 332 P **P** **22 08 23.8 -0.3**
NEW Newport 57.60 332 IAMs_20 IAMs_20 22 33 30.1
comp=Z,767nm,18.0s
NEW Newport 57.60 332 P **P** **22 08 23.7 -0.4**
baz=136
NEW S **S** **22 16 23.4 +0.3**
baz=136
G05D Wamic, OR 57.68 327 P **P** **22 08 24.0 -0.7**
baz=130
I03D Drain, OR 57.86 325 P **P** **22 08 25.2 -0.7**
baz=127
J01E Myrtle Point 57.88 324 P **P** **22 08 26.6 +0.5**
baz=126,SNR=7.5
H04D Lebanon 58.02 326 IAMs_20 IAMs_20 22 32 32.4
comp=Z,777nm,20.0s
H04D Lebanon 58.02 326 P **P** **22 08 26.7 -0.3**
baz=128
COR Corvallis 58.37 325 P **P** **22 08 30.6 +1.1**
F04A Amboy 58.72 327 P **P** **22 08 32.3 +0.4**
G03D McMinnville, O 58.73 326 P **P** **22 08 32.1 +0.1**
baz=128
E04D Cinebar 59.19 328 P **P** **22 08 34.5 -0.6**
baz=129
D04E Lakebay 59.69 328 P **P** **22 08 38.7 +0.1**
baz=129
FCC Fort Churchill 59.70 352 P **P** **22 08 37.3 -1.1**
EDM Edmonton 59.72 338 P **P** **22 08 38.1 -0.7**
TAOE Nuku Hiva Isla 59.76 260 eLR LR 22 26 17.9
comp=Z,912nm,23.3s
B05A Bryant 60.03 329 P **P** **22 08 41.1 +0.1**
baz=130
D03D Eldon 60.08 328 P **P** **22 08 41.6 +0.3**
baz=129
NLWA Neilton Lookou 60.41 328 P **P** **22 08 44.4 +0.9**
NLWA IAmb IAmb 22 08 46.3
comp=Z,52nm,1.5s
A04D Lummi Island 60.64 329 P **P** **22 08 45.8 +0.7**
baz=130,SNR=5.0
PGC Sidney 60.97 329 P **P** **22 08 48.4 +1.1**
LLLB Lillooet 61.47 332 P **P** **22 08 51.5 +0.8**
FRB Frobisher Bay 64.41 6 LR LR 22 41 07.2
comp=Z,295nm,18.1s,baz=194,slow=40
BBB Bella Bella 65.50 330 LR LR 22 38 38.4
comp=Z,491nm,19.7s,baz=141,slow=37
YKA Yellowknife Ar 67.48 344 P **P** **22 09 29.0 -0.8**
comp=Z,4.0nm,0.8s,baz=135,slow=6.1,SNR=77
YKA Yellowknife Ar 67.48 344 P **P** **22 09 28.7 -1.1**
PMOZ Porto Moniz, M 68.08 54 eS S 22 18 44.6 +9.2
PPT Papeete 69.78 251 LR LR 22 32 36.8
comp=Z,808nm,18.1s,baz=72,slow=29
PPT2 Papeete2 69.78 251 eS **S** **22 18 58.4 +2.5**
comp=Z,168nm,23.2s
PPT2 eLQ LQ 22 27 59.9
comp=Z,520nm,26.2s
PPT2 eLR LR 22 30 56.3
comp=Z,755nm,23.2s,baz=79
DLBC Dease Lake 70.08 335 LR LR 22 44 44.4
comp=Z,218nm,18.7s,baz=126,slow=40
DLBC Dease Lake 70.08 335 P **P** **22 09 46.8 +0.6**
DLBC IAmb IAmb 22 10 26.8
comp=Z,47nm,1.6s
SFJD Kangerlussuaq 70.30 12 LR LR 22 40 19.1
comp=Z,186nm,21.6s,baz=214,slow=36
TBI Tubuai 70.43 245 eS **S** **22 19 06.9 +3.8**
comp=Z,867nm,27.0s
TBI eLQ LQ 22 28 16.7
comp=Z,268nm,30.8s
TBI eLR LR 22 31 13.7
comp=Z,526nm,27.0s,baz=77
DY2G Dye2 70.85 14 *i* P **P** **22 09 48.8 -2.1**
DY2G IAmb IAmb 22 09 49.8
comp=Z,8.1nm,0.5s
TGTN Hyland Airport 71.27 338 P **P** **22 09 54.3 +1.0**
baz=129
SKAG Skagway 72.93 334 P **P** **22 10 03.3 0.0**
baz=122
MMPY Sheldon Lake, 73.06 338 P **P** **22 10 04.4 +0.3**
baz=126,SNR=5.4
WHY Whitehorse 73.38 335 P **P** **22 10 06.3 +0.2**
baz=122
FARO Faro, Yukon 73.62 337 P **P** **22 10 08.1 +0.7**
baz=124
M31M Drury Creek, Y 74.02 337 P **P** **22 10 10.4 +0.8**
baz=123
N31M Braeburn, Yuko 74.19 336 P **P** **22 10 11.9 +1.2**
baz=122
ICESG Greenland Ices 74.47 14 *i* P **P** **22 10 10.5 -2.1**
ICESG IAmb IAmb 22 10 20.4
comp=Z,9.3nm,0.7s
HYT Haines Junctio 74.57 335 P **P** **22 10 13.3 +0.2**
baz=120
YUK6 Outpost Mounta 74.99 335 P **P** **22 10 15.7 +0.1**
baz=119
M30M Minto, Yukon 75.16 337 P **P** **22 10 16.7 +0.4**
baz=121
RES Resolute Bay 75.24 356 LR LR 22 43 49.0
comp=Z,445nm,19.8s,baz=158,slow=36
YUK4 Talbot Arm 75.31 335 P **P** **22 10 17.9 +0.5**
baz=119
LIC Lamto 75.84 84 eP **P** **22 10 20.3 -0.8**
comp=Z,66nm,1.5s
TIC Toumodi 75.86 83 eP **P** **22 10 22.8 +1.5**
PTEO Sao Teotonio 75.92 51 eP **P** **22 10 22.7 +1.6**
comp=Z,65nm,1.3s
MORF Marmelete 75.93 51 eP **P** **22 10 22.6 +1.3**
MORF IAmb IAmb 22 10 23.8
comp=Z,54nm,1.5s
MORF Marmelete 75.93 51 eP **P** **22 10 22.8 +1.5**
comp=Z,52nm,1.5s
DBIC Dimbokro 76.02 83 P **P** **22 10 22.2 0.0**
comp=Z,9.3nm,1.0s,baz=298,slow=8.2,SNR=4.4
DBIC LR LR 22 43 53.6
comp=Z,252nm,18.9s,baz=256,slow=36
DBIC Dimbokro 76.02 83 P **P** **22 10 22.1 -0.1**
KIC Kosan Boka 76.12 83 eP **P** **22 10 22.8 0.0**
comp=Z,22nm,0.9s
PSBE So Bento 76.25 49 eP **P** **22 10 23.7 +0.6**
comp=Z,57nm,1.6s
YUK3 Moose Creek 76.28 335 P **P** **22 10 23.3 +0.3**
baz=117
CTG Chitna Glacier 76.29 334 P **P** **22 10 23.8 +0.8**
baz=116
PBDV Barranco-do-Ve 76.48 52 eP **P** **22 10 25.6 +1.2**
PCAS Casmilo, Conde 76.59 49 eP **P** **22 10 24.6 -0.3**
comp=Z,54nm,1.9s
PMTG Montargil 76.60 50 eP **P** **22 10 24.9 -0.1**
comp=Z,32nm,1.8s
J29M Klondike Camp 76.67 338 P **P** **22 10 25.4 +0.4**
baz=120
PVAQ Vaqueiros 76.68 52 eP **P** **22 10 27.8 +2.3**
comp=Z,33nm,2.0s
PVAQ Vaqueiros 76.68 52 eLR LR 22 35 13.1
comp=Z,218nm,20.0s
COI Coimbra 76.68 49 eP **P** **22 10 26.2 +0.8**
comp=Z,85nm,1.6s
TULEG Thule 76.92 3 P **P** **22 10 25.5 -0.5**
TULEG IAMs_20 IAMs_20 22 43 01.1
comp=Z,504nm,20.0s
DAWY Dawson 76.92 337 P **P** **22 10 26.5 +0.1**
DAWY Dawson 76.92 337 P **P** **22 10 26.1 -0.2**
baz=113,SNR=5.8
PESTR Estremoz 77.05 50 eP **P** **22 10 28.4 +0.8**
comp=Z,46nm,1.8s
PESTR Estremoz 77.05 50 P **P** **22 10 26.0 -1.5**
M27K Edge Creek, AK 77.14 335 P **P** **22 10 27.6 -0.1**
baz=116
PGAV Gavieira, Arco 77.15 47 eP **P** **22 10 27.8 -0.4**
PGAV eS **S** **22 20 20.7 +2.0**
PGAV Gavieira, Arco 77.15 47 eLR LR 22 35 39.4
comp=Z,198nm,18.0s
I29M Ogilvie Camp, 77.16 339 P **P** **22 10 27.4 -0.2**
baz=120,SNR=8.7
INK Inuvik 77.16 342 LR LR 22 46 52.2
comp=Z,464nm,19.5s,baz=122,slow=38
INK Inuvik 77.16 342 P **P** **22 10 27.8 +0.3**
INK IAmb IAmb 22 10 33.8
comp=Z,44nm,1.3s
INK Inuvik 77.16 342 P **P** **22 10 27.3 -0.2**
baz=125,SNR=14
KOWA Kowa 77.21 75 P **P** **22 10 28.8 -0.1**
KOWA IAmb IAmb 22 10 30.0
comp=Z,20nm,0.9s
PMRV Marv??o 77.30 50 eP **P** **22 10 29.0 0.0**
comp=Z,28nm,1.7s
PMRV eS **S** **22 20 22.6 +2.3**
PMRV Marv??o 77.30 50 eLR LR 22 36 31.0
comp=Z,203nm,22.0s
PCBR Castelo Branco 77.32 49 eP **P** **22 10 30.4 +1.4**
comp=Z,21nm,1.8s
A36M Sachs Harbour 77.34 347 P **P** **22 10 27.6 -0.9**
A36M Sachs Harbour 77.34 347 P **P** **22 10 27.4 -1.1**
baz=134,SNR=22
MTE Manteigas 77.37 49 eS **S** **22 20 25.0 +3.9**
MTE Manteigas 77.37 49 eLR LR 22 35 15.4
comp=Z,248nm,18.0s
POLO Lamas de Olo 77.38 48 eP **P** **22 10 29.3 -0.2**
comp=Z,20nm,1.8s
BCAR Beaver Creek A 77.41 336 P **P** **22 10 29.3 +0.2**
PVRL Vila Real 77.42 48 eP **P** **22 10 30.2 +0.6**
comp=Z,27nm,1.8s
L27K Beaver Creek, 77.43 336 P **P** **22 10 29.3 +0.1**
baz=116,SNR=5.5
M26K Nabesna, AK 77.62 335 P **P** **22 10 29.9 -0.4**
baz=115
BMRM Bremner River 77.73 333 P **P** **22 10 30.4 -0.6**
baz=113
MVO Moncorvo 77.90 48 eS **S** **22 20 25.7 -1.1**
MVO Moncorvo 77.90 48 eLR LR 22 35 47.4
comp=Z,304nm,20.0s
EGAK Eagle 77.94 338 P **P** **22 10 32.2 +0.3**
EGAK IAmb IAmb 22 10 33.7
comp=Z,23nm,1.1s
K27K Chicken 77.96 337 P **P** **22 10 32.3 +0.2**
K27K IAmb IAmb 22 10 39.0
comp=Z,39nm,1.4s
N25K Chitina, Valde 77.99 334 P **P** **22 10 32.6 +0.2**
baz=114
L26K Log Cabin Wild 78.04 336 P **P** **22 10 33.1 +0.5**
baz=115
MDT Midelt 78.47 57 LR LR 22 41 35.9
comp=Z,240nm,21.9s,baz=280,slow=33
KLU Klutina 78.53 334 P **P** **22 10 34.3 -1.1**
baz=112
HARP HAARP 78.54 335 P **P** **22 10 35.9 +0.5**
baz=113
SCRK Sand Creek 78.69 336 P **P** **22 10 36.3 -0.1**
baz=114
J26L Joseph Creek 78.75 337 P **P** **22 10 36.2 -0.4**
baz=115,SNR=9.5
GLI Glacier Island 78.83 333 P **P** **22 10 36.9 -0.1**
baz=111
M24K Tolsona, Glenn 78.87 334 P **P** **22 10 37.7 +0.4**
baz=112
PAX Paxson 78.90 335 P **P** **22 10 37.4 -0.1**
baz=113
RIDG Independent Ri 78.95 336 P **P** **22 10 37.2 -0.5**
baz=114
SCM Sheep Creek Mo 79.28 334 P **P** **22 10 39.3 -0.2**
baz=111
K24K Donnelly Dome 79.35 336 P **P** **22 10 39.7 -0.1**
baz=113
PWL Port Wells 79.39 333 P **P** **22 10 40.4 +0.3**
baz=110
M23K Glacier View 79.44 334 P **P** **22 10 40.5 +0.2**
baz=111
J25K Salcha River, 79.50 337 P **P** **22 10 41.0 +0.3**
J25K IAmb IAmb 22 10 47.6
comp=Z,45nm,1.9s
J25K Salcha River, 79.50 337 P **P** **22 10 40.3 -0.4**
baz=113,SNR=5.8
KNK Knik Glacier 79.64 333 P **P** **22 10 41.5 +0.1**
baz=110
RAR Rarotonga 79.69 249 LR LR 22 39 20.2
comp=Z,322nm,19.1s,baz=104,slow=31
SML Sawmill 79.71 334 P **P** **22 10 41.5 -0.3**
SML Sawmill 79.71 334 P **P** **22 10 41.3 -0.6**
baz=110
WAT6 Susitna Watana 79.72 334 P **P** **22 10 41.6 -0.4**
baz=114,SNR=5.4
ESDC Sonseca Array 79.96 50 P **P** **22 10 43.8 +0.1**
comp=Z,1.7nm,0.9s,baz=270,slow=6.0,SNR=12
ESDC LR LR 22 43 35.0
comp=Z,235nm,20.7s,baz=256,slow=34
ESDC Sonseca Array 79.96 50 P **P** **22 10 43.2 -0.4**
ESBB Sonseca Array 79.96 50 P **P** **22 10 43.7 0.0**
GHO Glory Hole Cre 79.97 333 P **P** **22 10 42.6 -0.6**
GHO IAmb IAmb 22 13 17.2
comp=Z,59nm,1.5s
RC01 Rabbit Creek A 80.11 333 P **P** **22 10 43.9 -0.1**
baz=109
BRSE Bradley Lake S 80.17 331 P **P** **22 10 44.5 +0.2**
baz=108
IL31 80.17 337 P **P** **22 10 43.8 -0.3**
ILAR Eielson Array 80.17 337 P **P** **22 10 44.2 +0.1**
comp=Z,2.3nm,1.0s,baz=128,slow=3.9,SNR=14
ILAR PP **PP** **22 13 48.6 +2.3**
comp=Z,1.0nm,0.8s,baz=112,slow=6.9,SNR=6.4
ILAR LR LR 22 48 37.9
comp=Z,525nm,18.2s,baz=107,slow=37
ILAR Eielson Array 80.17 337 P **P** **22 10 44.0 -0.2**
BMAR Burnt Mountain 80.35 339 P **P** **22 10 45.4 +0.2**
RND Reindeer 80.49 335 P **P** **22 10 46.4 +0.3**
RND IAmb IAmb 22 10 47.6
comp=Z,90nm,1.9s
M22K Willow 80.50 333 P **P** **22 10 46.1 +0.1**
baz=108
POKR Poker Plat Res 80.51 337 P **P** **22 10 46.3 +0.2**
baz=112
KDAK Kodiak Island 80.53 329 LR LR 22 46 38.6
comp=Z,297nm,20.1s,baz=125,slow=36
COLA College 80.59 337 P **P** **22 10 45.8 -0.6**
baz=111
TCOL CIGO, UAF Yank 80.59 337 P **P** **22 10 46.0 -0.4**
baz=111
MCK McKinley 80.63 335 P **P** **22 10 46.2 -0.5**
MCK IAmb IAmb 22 10 47.4
comp=Z,64nm,1.9s
MCK McKinley 80.63 335 P **P** **22 10 45.6 -1.2**
baz=110
CAPN Captain Cook N 80.67 332 P **P** **22 10 46.1 -0.8**
baz=107
OHAK Old Harbor 80.75 328 P **P** **22 10 47.5 +0.1**
baz=105
MDM Murphy Dome 80.77 337 P **P** **22 10 47.0 -0.4**
MDM IAmb IAmb 22 10 53.9
comp=Z,43nm,1.6s
H24K Noodor Dome 80.95 337 P **P** **22 10 47.2 -1.2**
H24K Noodor Dome 80.95 337 P **P** **22 10 47.9 -0.5**
baz=111,SNR=8.1
NEA2 Nenana 80.98 336 P **P** **22 10 48.0 -0.6**
NEA2 IAmb IAmb 22 10 55.8
comp=Z,36nm,1.6s
NEA2 Nenana 80.98 336 P **P** **22 10 48.0 -0.6**
baz=110
TRF Thorofare Moun 81.11 335 P **P** **22 10 48.8 -0.7**
baz=109
I23K Minto, Yukon-K 81.29 337 P **P** **22 10 50.3 +0.1**
I23K Minto, Yukon-K 81.29 337 P **P** **22 10 49.7 -0.4**
baz=110
Q19K Cape Douglas, 81.37 330 P **P** **22 10 50.1 -0.7**
baz=105
BELA Belgrano 2 81.41 171 P **P** **22 10 50.7 +0.1**
BELA IAmb IAmb 22 10 55.9
comp=Z,77nm,1.9s
KTH Kantishna Hill 81.41 335 P **P** **22 10 50.6 -0.4**
H23K Yukon River 81.59 337 P **P** **22 10 51.4 -0.4**
baz=110
BPAW Bear Paw Mtn. 81.61 335 P **P** **22 10 51.7 -0.3**
BPAW IAmb IAmb 22 10 52.9
comp=Z,19nm,1.0s
BPAW Bear Paw Mtn. 81.61 335 P **P** **22 10 51.4 -0.5**
baz=108,SNR=8.7
PPLA Purkeypile 81.77 334 P **P** **22 10 52.8 -0.1**
PPLA Purkeypile 81.77 334 P **P** **22 10 51.8 -1.2**
baz=107
CAST Castle Rocks 81.87 334 P **P** **22 10 52.3 -1.0**
baz=107,SNR=9.1
CHUM Lake Minchumin 82.10 335 P **P** **22 10 54.0 -0.5**
baz=107
N19K Bonanza Creek 82.25 332 P **P** **22 10 54.4 -1.1**
baz=104
COLD Coldfoot 82.30 338 P **P** **22 10 55.5 0.0**
baz=109
I21K Tanana 82.35 336 P **P** **22 10 54.9 -0.8**
baz=107
O18K Koktuh Hills 82.37 331 P **P** **22 10 55.2 -0.8**
baz=104
L20K Farewell, AK 82.40 333 P **P** **22 10 55.4 -0.7**
baz=105
TOLK Toolik Lake Re 82.55 340 P **P** **22 10 56.1 -0.7**
baz=110
TOA0 Torodi Ar. Sit 82.69 77 P **P** **22 10 57.5 -1.1**
TOA0 IAmb IAmb 22 11 09.7
comp=Z,28nm,1.6s
TORD Torodi Ar. Bea 82.69 77 P **P** **22 10 58.0 -0.6**
comp=Z,1.2nm,0.5s,baz=282,slow=4.4,SNR=13
TORD LR LR 22 47 25.1
comp=Z,317nm,19.7s,baz=223,slow=35
TORD Torodi Ar. Bea 82.69 77 P **P** **22 10 57.5 -1.1**
TORD IAmb IAmb 22 10 59.0
comp=Z,30nm,1.8s
K20K Telida 82.71 334 P **P** **22 10 57.3 -0.5**
baz=105,SNR=5.9
L19K White Mountain 82.77 333 P **P** **22 10 57.3 -0.8**
baz=104
H21K Melozitna Rive 82.81 337 P **P** **22 10 57.4 -0.8**
baz=106
N18K Kilae Creek 82.89 331 P **P** **22 10 57.9 -0.8**
baz=103
J20K Nowinta River 82.96 335 P **P** **22 10 58.2 -0.8**
baz=105
ALE Alert 83.01 2 IAMs_20 IAMs_20 22 47 58.1
comp=Z,424nm,20.0s
EKA Eskdalemuir Ar 83.09 34 LR LR 22 44 02.2
comp=Z,127nm,19.4s,baz=256,slow=33
IMAR Indian Mountai 83.28 337 P **P** **22 10 59.7 -0.9**
TTA Tatalina 83.46 334 P **P** **22 11 01.1 -0.6**
baz=103
VNA3 Neumayer Olymp 83.82 162 P **P** **22 11 03.6 +0.3**
DAG Danmarks Havn 83.98 12 *i* P **P** **22 11 02.3 -1.7**
DAG IAmb IAmb 22 11 03.6
comp=Z,2.4nm,0.7s
VNA1 Neumayer--Stat 84.08 161 P **P** **22 11 04.5 -0.1**
VNA2 Neumayer--Watz 84.44 162 P **P** **22 11 06.3 -0.1**
baz=302,slow=5.0
SNAA Sanae 86.04 162 P **P** **22 11 14.5 0.0**
SNAA Sanae 86.04 162 P **P** **22 11 12.9 -1.6**
SNAA IAmb IAmb 22 11 19.4
comp=Z,57nm,1.7s
TROLL Troll, Antarti 87.76 162 P **P** **22 11 22.6 -0.4**
QSPA South Pole Qui 89.88 180 P **P** **22 11 33.2 +0.2**
KEST Kesra 90.19 54 LR LR 22 52 27.5
comp=Z,130nm,19.3s,baz=242,slow=36
AFI Afiamalu 90.95 256 LR LR 22 43 05.2
comp=Z,345nm,20.9s,baz=142,slow=29
SPITS Spitsbergen Ar 91.63 12 LR LR 22 54 21.5
comp=Z,192nm,19.3s,baz=38,slow=36
HFS Hagfors 92.38 30 LR LR 22 50 40.0
comp=Z,220nm,19.5s,baz=267,slow=34
CLL Collm 92.49 39 eP **P** **22 11 47.0 +1.6**
CLL eSKSac **SKSac** **22 22 20.0 -0.1**
CLL eS **ScS** **22 22 57.0 +4.3**
GERES GERESS Array B 93.07 41 LR LR 22 50 36.4
comp=Z,77nm,18.9s,baz=274,slow=34
VAE Valguarnera 94.22 53 LR LR 22 53 38.2
comp=Z,317nm,18.6s,baz=337,slow=35
VRAC Vranov 94.94 41 LR LR 22 53 54.3
comp=Z,162nm,18.9s,baz=280,slow=35
VNDA Vanda 95.58 191 LR LR 22 47 53.3
comp=Z,182nm,18.8s,baz=127,slow=31
ARCES ARCESS Array B 95.81 20 LR LR 22 49 14.0
comp=Z,119nm,21.9s,baz=262,slow=32
OJC Ojcow 96.89 40 IAMs_20 IAMs_20 22 53 20.0
comp=Z,359nm,21.0s
TSUM Tsumeb 97.83 109 LR LR 22 55 20.2
comp=Z,847nm,19.4s,baz=276,slow=35
DIVS Divibare 97.84 46 IAMs_20 IAMs_20 22 54 58.6
comp=Z,271nm,21.0s
FINES FINESS Array B 98.15 28 LR LR 22 51 41.3
comp=Z,161nm,21.7s,baz=284,slow=32
SHEM Shemya Is, Ala 99.28 324 LR LR 22 57 04.3
comp=Z,80nm,18.1s,baz=66,slow=35
URZ Urewera 99.41 231 LR LR 22 49 00.5
comp=Z,366nm,20.0s,baz=211,slow=30
SUR Sutherland 99.68 123 LR LR 22 55 27.3
comp=Z,437nm,19.5s,baz=264,slow=34
NACGM Naroch 100.17 34 eP **Pdif** **22 12 20.4 +0.3**
SYO Syowa Base 100.33 162‖ ePdiff **Pdif** **22 12 19.2 -1.3**
SYO Syowa Base 100.33 162‖ ePP **PP** **22 16 25.0 -1.2**
OBN Obninsk 105.44 32 IAMs_20 IAMs_20 22 58 59.6
comp=Z,343nm,21.0s
MA2 Magadan 108.61 335 IAMs_20 IAMs_20 23 12 09.7
comp=Z,293nm,19.0s
DZM Mont Dzumac 111.00 246 eLR LR 22 50 07.8
comp=Z,222nm,24.9s
KIV Kislovodsk 113.58 41 IAMs_20 IAMs_20 22 49 25.8
comp=Z,320nm,20.0s
YAK Yakutsk 114.15 345 IAMs_20 IAMs_20 23 16 36.3
comp=Z,271nm,18.0s
ZALV Zalesovo Beam 125.09 10 PKP **PKPdf** **22 17 33.7 -1.0**
comp=Z,0.7nm,0.5s,baz=260,slow=5.3,SNR=5.8
ZALV Zalesovo Beam 125.09 10 PKPdf **PKPdf** **22 17 33.8 -0.9**
KURK Kurchatov 126.68 16 **PKPdf** **22 17 35.9 -1.9**
KURK IAMs_20 IAMs_20 23 21 15.3
comp=Z,273nm,20.0s
KURBB Kurchatov Arra 126.73 16 PKP **PKPdf** **22 17 37.0 -1.0**
comp=Z,1.0nm,0.8s,baz=326,slow=2.2,SNR=13
USRK Ussuriysk Ar. 127.37 331 PKP **PKPdf** **22 17 38.2 -1.1**
comp=Z,1.6nm,0.8s,baz=226,slow=3.8,SNR=3.1
USRK Ussuriysk Ar. 127.37 331 **PKPdf** **22 17 38.1 -1.3**
MDJ Mudanjiang 128.20 333 IAMs_20 IAMs_20 23 22 06.9
comp=Z,251nm,20.0s
STKA Stephens Creek 128.84 227 PKP **PKPdf** **22 17 42.0 -0.6**
comp=Z,3.3nm,0.7s,baz=131,slow=6.6,SNR=5.3
STKA Stephens Creek 128.84 227 **PKPdf** **22 17 42.3 -0.2**
MKAR Makanchi Array 131.25 15 PKP **PKPdf** **22 17 45.0 -1.7**
comp=Z,0.5nm,0.8s,baz=28,slow=2.9,SNR=4.5

MKAR	**Makanchi Array**	**131.25**	**15**		**PKPdf**	**22 17 46.0**	**-0.8**
ULN	**Ulaanbaatar**	**132.01**	**353**	IAMs_20	IAMs_20	23 17 56.3	
	comp=Z,282nm,20.0s						
SONM	**Songino Array**	**132.12**	**354**	PKP	**PKPdf**	**22 17 47.0**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=142,slow=26,SNR=2.1						
SONM	**Songino Array**	**132.12**	**354**		**PKPdf**	**22 17 46.6**	**-1.9**
CHGR	**Chuyangaron**	**132.79**	**32**	PKPdf	**PKPdf**	**22 17 49.8**	**-0.2**
KSRS	**Korea Array**	**134.42**	**328**	PKP	**PKPdf**	**22 17 52.1**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=351,slow=1.3,SNR=6.7						
WMQ	**Urumqi**	**135.34**	**12**	*e*PKP	**PKPdf**	**22 17 52.3**	**-2.3**
WMQ				AMB	AMB		
	comp=Z,140nm,4.5s						
WMQ				LR	LR		
	comp=Z,240nm,20.1s						
WMQ				LR	LR		
	comp=Z,130nm,21.9s						
WMQ				LR	LR		
	comp=Z,160nm,21.3s						
KSH	**Kashi**	**135.44**	**26**	PKP	**PKiKP**	**22 17 57.3**	**+0.8**
HHC	**Hu-ho-hao-te**	**137.99**	**346**	*e*PKP	**PKPdf**	**22 17 55.8**	**-3.8**
AS31	**Alice Springs**	**138.85**	**232**	PKPdf	**PKPdf**	**22 17 59.9**	**-1.7**
ASAR	**Alice Springs**	**138.85**	**232**	PKhKP	PKPpre	22 17 53.8	
	comp=Z,1.3nm,0.9s,baz=126,slow=4.1,SNR=7.7						
ASAR				PKP	**PKPdf**	**22 18 00.3**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=113,slow=2.3,SNR=18						
ASAR	**Alice Springs**	**138.85**	**232**	PKPdf	**PKPdf**	**22 18 00.2**	**-1.4**
WB2	**Warramunga Arr**	**140.22**	**238**		**PKPdf**	**22 18 01.7**	**-2.4**
WRA	**Warramunga Arr**	**140.24**	**238**	PKhKP	PKPpre	22 17 58.0	
	comp=Z,4.4nm,0.7s,baz=113,slow=1.9,SNR=18						
WRA				PKP	**PKPdf**	**22 18 03.5**	**-0.7**
	comp=Z,4.4nm,0.7s,baz=110,slow=2.3,SNR=20						
WRA	**Warramunga Arr**	**140.24**	**238**		**PKPdf**	**22 18 02.6**	**-1.5**
WB0	**Warramunga Arr**	**140.27**	**238**		**PKPdf**	**22 18 02.6**	**-1.6**
HNS	**HongShan**	**140.29**	**341**	⇓PKP	**PKiKP**	**22 18 06.5**	**+0.2**
HNS				*e*PP	PP	22 21 08.8	+8.5
HNS				SS	SS	22 39 21.8	-2.4
HNS				LR	LR		
	comp=Z,210nm,18.3s						
HNS				LR	LR		
	comp=Z,280nm,22.4s						
GTA	**Gaotai**	**140.94**	**359**	*e*PKP	**PKPdf**	**22 18 06.8**	**+1.7**
GTA				AMB	AMB		
	comp=Z,97nm,7.6s						
GTA				LR	LR		
	comp=Z,190nm,21.1s						
GTA				LR	LR		
	comp=Z,160nm,21.4s						
GTA				LR	LR		
	comp=Z,290nm,21.4s						
NJ2	**Nanjing**	**143.27**	**332**	*e*PKP	**PKPdf**	**22 18 09.5**	**+0.3**
LZH	**Lanzhou**	**144.01**	**354**	⇑PKP	**PKPab**	**22 18 09.0**	**+1.1**
LZH				LR	LR		
	comp=Z,260nm,18.4s						
LZH				LR	LR		
	comp=Z,170nm,17.9s						
LZH				LR	LR		
	comp=Z,380nm,19.1s						
XAN	**Xi'an**	**145.11**	**346**	⇑PKPbc	**PKPbc**	**22 18 10.3**	**-1.5**
XAN				PP	**PP**	**22 21 31.3**	**+2.0**
XAN				AMB	AMB		
	comp=Z,230nm,8.1s						
XAN				LR	LR		
	comp=Z,250nm,17.8s						
XAN				LR	LR		
	comp=Z,160nm,17.5s						
XAN				LR	LR		
	comp=Z,270nm,17.8s						
KNRA	**Kununurra**	**146.87**	**240**		**PKPdf**	**22 18 16.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**148.32**	**234**	PKPdf	**PKPdf**	**22 18 16.8**	**-1.4**
FITZ				PKPbc	**PKPbc**	**22 18 21.1**	**-0.5**
ENH	**Enshi**	**148.52**	**343**		**PKPdf**	**22 18 16.9**	**-1.4**
CD2	**Chengdu**	**149.13**	**352**	PKPbc	**PKPdf**	**22 18 20.5**	**+1.2**
CD2				pPKP	pPKPdf	22 18 23.5	+3.9
LSA	**Lhasa**	**149.64**	**14**	PKPbc	**PKPdf**	**22 18 22.0**	**+1.3**
GYA	**Guiyang**	**152.90**	**345**	*e*P	**PKPbc**	**22 18 32.5**	**0.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HKPS	**Hong Kong Po S**	**153.66**	**328**	IAMs_20	IAMs_20	23 30 25.9	
	comp=Z,124nm,19.0s						
PZH	**PanZhiHua**	**153.71**	**355**	PKPbc	**PKPdf**	**22 18 25.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**161.83**	**1**	PKP	**PKPdf**	**22 18 37.3**	**+0.8**
CMAR				PKPab	**PKPab**	**22 19 21.4**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=348,slow=4.6,SNR=6.5						

NIED ***26*** *22:07:06.1, 32.69N×130.74E, h12km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.01; Mθθ1.56; Mϕϕ -1.56; Mrθ -1.00; Mθϕ2.67; Mϕr0.52; Fault plane solution: M₀3.28000×10¹⁴ NP1: ϕs196.00000°, δ71.00000°, λ-177.00000°. NP2: ϕs105.00000°, δ87.00000°, λ-19.00000°.*

JMA 26 22:07:06.1, 32.69N×130.74E, h12km±1km, M3.6, 2C Broadband fault plane solution: P waves. NP1: ϕs98.0000°, δ75.00000°, λ-19.00000°. **NP2:** ϕs193.00000°, δ72.00000°, λ-164.00000°. **Principal axes:** T Plg2.0000°, Azm146.0000°; N Plg66.0000°, Azm240.0000°; P Plg24.0000°, Azm55.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**156**	⇑P	Pg	22 07 09.8	+0.1
JIU3				*e*S	Sg	22 07 12.5	+0.3
JTA	**Tamana**	**0.32**	**327**	⇑P	Pg	22 07 12.7	0.0
JTA				S	Sg	22 07 17.4	+0.3

ASRS ***26*** *22:19:27.1±0.2, 51.1°×89.4E±0.9, h10km, MLh3.4/19 Error ellipse: s-maj=2.3km s-min=1.8km az=151.4, confirmed*

NNC ***26*** *22:19:30.5±2.1, 51.29N×89.01E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=17.0km s-min=7.8km az=96.0*

ISC 26 22:19:26.8±0.7, 51.22N±0.02×89.40E±0.02, h10km, n30, σ1s72/58, 12C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUR	**Chagan-Uzun**	**1.31**	**211**	⇓Pg	**Pn**	**22 19 50.6**	**-0.7**
CUR				Sg	**Sb**	**22 20 07.4**	**-0.9**
ARTR	**Artybash**	**1.44**	**294**	⇑Pg	**Pb**	**22 19 53.5**	**-0.3**
ARTR				Sg	**Sb**	**22 20 11.9**	**-0.2**
AKAR	**Aktash**	**1.45**	**232**	Pg	**Pn**	**22 19 53.3**	**+0.2**
AKAR				Sg	**Sn**	**22 20 12.0**	**-0.2**
CHBI	**Chibit, Altay**	**1.51**	**234**	Pg	**Pb**	**22 19 55.4**	**+0.5**
CHBI				Sg	**Sg**	**22 20 14.7**	**-0.6**
TASR	**Tashtagol**	**1.80**	**329**	Pg	**Pb**	**22 20 00.4**	**+0.5**
TASR				Sg	**Sg**	**22 20 25.0**	**+0.3**
DJO	**Djoy, Khakassi**	**1.92**	**35**	⇑Pg	**Pb**	**22 20 02.2**	**+0.2**
DJO				Sg	**Sb**	**22 20 27.4**	**+1.4**
DGZ	**Jazzator, Alta**	**1.98**	**220**	⇑Pg	**Pb**	**22 20 03.2**	**+0.3**
DGZ				Sg	**Sb**	**22 20 27.6**	**0.0**
DJOS	**Djoyskaya Sosn**	**2.00**	**37**	Pg	**Pb**	**22 20 04.4**	**+1.2**
DJOS				Sg	**Sg**	**22 20 31.3**	**+0.2**
CERR	**Cheremushki**	**2.05**	**37**	Pg	**Pg**	**22 20 06.0**	**-0.2**
CERR				Sg	**Sg**	**22 20 32.4**	**-0.4**
GALT	**Gorno-Altaysk,**	**2.28**	**290**	Pg	**Pb**	**22 20 08.7**	**+0.8**
GALT				Sg	**Sg**	**22 20 38.0**	**-1.9**
LUZB	**Luzhba, Kemero**	**2.46**	**353**	Pg	**Pb**	**22 20 11.7**	**+0.6**
LUZB				Sg	**Sg**	**22 20 44.6**	**-1.3**
MALIN	**Malinovka, Kuz**	**2.56**	**330**	Sg	**Sg**	**22 20 48.5**	**-0.4**
ABNR	**Abakan**	**2.80**	**26**	Pg	**Pb**	**22 20 17.6**	**+0.8**
ABNR				Sg	**Sg**	**22 20 55.5**	**-1.2**
ELT	**Eltsovka**	**2.82**	**318**	Pg	**Pb**	**22 20 15.4**	**-1.8**
ELT				Sg	**Sb**	**22 20 50.1**	**-1.6**
ARDR	**Aradan**	**2.84**	**60**	Pg	**Pb**	**22 20 19.0**	**+1.3**
ARDR				Sg	**Sg**	**22 20 56.2**	**-1.8**
UKR	**Ust'-Kan**	**2.93**	**266**	Pg	**Pb**	**22 20 20.1**	**+1.0**
UKR				Sg	**Sg**	**22 20 58.8**	**-2.1**
KZLR	**Kyzyl**	**3.20**	**79**	Pg	**Pb**	**22 20 24.7**	**+1.0**
KZLR				Sg	**Sg**	**22 21 09.4**	**0.0**
VCHU	**Verkh-Chumysh,**	**3.28**	**328**	Pg	**Pb**	**22 20 26.8**	**+1.8**
VCHU				Sg	**Sg**	**22 21 10.8**	**-1.1**
POMOR	**Pomortsevo, Ku**	**3.63**	**332**	Sg	**Sg**	**22 21 23.0**	**-0.4**
ERNS	**Erzin**	**3.78**	**102**	Pg	**Pb**	**22 20 34.7**	**+1.1**
ERNS				Sg	**Sg**	**22 21 24.9**	**-3.3**
ZAA0	**Zalesovo Array**	**3.91**	**316**	⇓Pn	**Pn**	**22 20 29.3**	**+2.6**
	0.3nm,0.7s,baz=139,slow=13						
ZAA0				⇓Sn	**Sn**	**22 21 14.0**	**+1.4**
	63μm,0.1s						
ZAA0				⇑Lg	Lg	22 21 28.2	
	3.1nm,0.8s,baz=130,slow=26						
SALR	**Pechorkino, Sa**	**3.91**	**326**	Pg	**Pb**	**22 20 34.6**	**-1.1**
SALR				Sg	**Sg**	**22 21 28.3**	**-3.8**
BRCR	**Berchikul'**	**4.47**	**352**	Pg	**Pb**	**22 20 46.1**	**+0.8**
BRCR				Sg	**Sg**	**22 21 49.1**	**-1.1**
MINR	**Mina**	**4.69**	**36**	Pg	**Pg**	**22 20 53.2**	**-3.2**
MINR				Sg	**Sg**	**22 21 53.8**	**-3.2**
KNGR	**Kungurtug, Tuv**	**5.17**	**94**	Pg	**Pg**	**22 21 02.4**	**-3.4**
KNGR				Sg	**Sg**	**22 22 13.8**	**+1.0**
NVS	**Novosibirsk**	**5.19**	**317**	Pg	**Pb**	**22 20 59.6**	**+2.0**
NVS				Sg	**Sg**	**22 22 11.9**	**-1.5**
MK31	**Makanchi Array**	**6.44**	**229**	⇑Pn	**Pn**	**22 21 05.1**	**+3.4**
	0.8nm,0.6s,baz=55,slow=13,SNR=20						
MK31				⇑Sn	**Sn**	**22 22 19.1**	**+3.9**
	0.4nm,0.3s						
MK31				⇓Lg	Lg	22 22 48.9	
	2.5nm,0.6s,baz=45,slow=32,SNR=6.8						
MAKZ	**Makanchi**	**6.58**	**231**	⇓Pn	**Pn**	**22 21 05.9**	**+2.3**
	2.4nm,1.1s						
MAKZ				⇑Sn	**Sn**	**22 22 21.8**	**+3.2**
	0.4nm,0.3s						
MAKZ				⇓Lg	Lg	22 22 52.2	
	5.6nm,1.1s						
KURK	**Kurchatov**	**6.83**	**270**	⇑Pn	**Pn**	**22 21 08.7**	**+1.8**
	0.8nm,0.7s						
KURK				⇑Sn	**Sn**	**22 22 23.9**	**-0.7**
	1.9nm,0.7s						
KURK				⇑Lg	Lg	22 22 59.1	
	9.3nm,0.7s						
KURBB	**Kurchatov Arra**	**6.90**	**269**	⇑Pn	**Pn**	**22 21 09.4**	**+1.5**
	0.5nm,0.2s						
KURBB				⇑Sn	**Sn**	**22 22 27.1**	**+0.7**
	3.2nm,0.4s						
KURBB				⇓Lg	Lg	22 23 03.5	
	11nm,0.7s						

IDC 26 22:24:46.0±1.6, 20.07S×66.24W, h301km±16km, mb3.2/1, mb1 3.1/4, mb1mx2.9/24, mbtmpg3.7/4, Error ellipse: s-maj=27.3km s-min=20.7km az=148.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.54**	**224**	P	Pn	22 25 48.0	+0.3
	9.7nm,0.3s,baz=90,slow=19,SNR=0.8						
LPAZ	**La Paz**	**4.17**	**334**	P	Pn	22 25 53.3	-1.6
	2.8nm,0.3s,baz=149,slow=8.6,SNR=60						
LPAZ				S	S	22 26 51.1	+1.1
	baz=134,slow=21,SNR=0.7						
SIV	**San Ignacio**	**6.38**	**51**	P	Pn	22 26 19.7	-0.2
	0.5nm,0.3s,baz=219,slow=11,SNR=8.1						
SIV				S	S	22 27 37.0	+1.2
	baz=213,slow=19,SNR=1.1						
TORD	**Torodi Ar. Bea**	**74.52**	**70**	P	P	22 35 52.6	+0.2
	0.6nm,0.5s,baz=255,slow=5.6,SNR=9.7						
MKAR	**Makanchi Array**	**143.01**	**37**	PKP	PKPdf	22 43 43.3	-0.8
	0.4nm,0.7s,baz=328,slow=2.9,SNR=4.6						

JMA 26 22:32:23.1±0.2, 37.42N×141.95E, h36km±4km, M3.6, 6C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.86**	**267**	⇑P	Pn	22 32 38.9	+0.2
JFK				S	Sn	22 32 49.7	-0.4
JMST	**Minamisoumatoc**	**0.90**	**290**	⇑P	Pn	22 32 39.4	+0.2
JMST				S	Sn	22 32 50.9	0.0
JIKH	**Ishinomakikobu**	**0.97**	**337**	⇓P	Pn	22 32 40.4	+0.3
JIKH				S	Sn	22 32 52.3	-0.3
ONAJ	**Iwakimizuishiy**	**0.97**	**251**	⇑P	Pn	22 32 40.3	+0.1
ONAJ				S	Sn	22 32 52.4	-0.4
JMM	**Marumori**	**1.02**	**296**	⇑P	Pn	22 32 41.4	+0.6
JMM				S	Sn	22 32 54.1	+0.2
JIO	**Ouri**	**1.14**	**335**	⇓P	Pn	22 32 43.0	+0.6
JIO				S	Sn	22 32 56.4	-0.4
JFT	**Otama**	**1.29**	**275**	⇑P	Pn	22 32 46.0	+1.5
JFT				S	Sn	22 33 02.2	+1.7
JOU	**Okura**	**1.39**	**313**	P	Pn	22 32 47.5	+1.6
JOU				S	Sn	22 33 05.0	+2.0
JMK	**Ichinoseki**	**1.63**	**340**	⇑P	Pn	22 32 50.7	+1.4
JMK				S	Sn	22 33 10.2	+1.1
JYS	**Shirataka**	**1.69**	**299**	P	Pn	22 32 52.5	+2.4
JYS				S	Sn	22 33 13.7	+3.2
JFY	**Yanaizu**	**1.79**	**270**	P	Pn	22 32 53.2	+1.8
JFY				S	Sn	22 33 15.2	+2.3
JYK	**Kaneyama**	**1.95**	**321**	P	Pn	22 32 57.3	+3.6

MOS ***26*** *22:39:37.9±0.9, 43.01N×145.84E, h84km, mb4.8/27, Error ellipse: s-maj=7.1km s-min=4.5km az=110.6*

MOS Felt (II) at Malokuril'skoye, Yuzhno-Kuril'sk, Lagunnoye.

NEIC ***26*** *22:39:38.6±1.5, 43.07N±0.04×145.9E±0.1, h69km±6km, mb4.7/119, Error ellipse: s-maj=11.4km s-min=6.6km az=93.0*

SKHL ***26*** *22:39:39.6±0.8, 43.10N×145.90E, h90km±7km, mb5.6/5, msha6.9/3*

NIED ***26*** *22:39:39.9, 43.06N×145.85E, h76km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.98; Mθθ1.11; Mϕϕ -0.12; Mrθ3.28; Mθϕ -0.84; Mϕr1.53; Fault plane solution: M₀3.83000×10¹⁵ NP1: ϕs141.00000°, δ17.00000°, λ-20.00000°. NP2: ϕs251.00000°, δ84.00000°, λ-106.00000°.*

JMA ***26*** *22:39:39.9±0.1, 43.06N×145.85E, h76km±1km, M4.4*

JMA Felt III J1.

IDC ***26*** *22:39:40.4±0.6, 43.05N×145.81E, h89km±5km, mb4.3/24, mb1 4.4/30, mb1mx4.3/44, mbtmp4.6/30, MS3.3/6, Ms1 3.3/6, ms1mx2.9/96, Error ellipse: s-maj=11.0km s-min=8.7km az=18.0*

ISC 26 22:39:38.4±0.4, 43.04N±0.04×145.92E±0.03, h75km±3km, h75km:pP-P, n548, σ1s30/590, mb4.7/139, 22C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.35**	**338**	P	**Pn**	**22 39 51.8**	**+1.4**
NEM2				*e*S	**Sn**	**22 40 00.5**	**+1.3**
NMR	**Nemuro--Hokkai**	**0.35**	**337**	⇓*i*PN	**Pn**	**22 39 51.9**	**+1.4**
NMR				*i* S	**Sn**	**22 40 00.4**	**+1.1**
NMR	**Nemuro--Hokkai**	**0.35**	**337**	*i* P	**Pn**	**22 39 51.9**	**+1.4**
NMR				*i* S	**Sn**	**22 40 00.4**	**+1.1**
JKHN	**Kushirohamanak**	**0.56**	**274**	P	**Pn**	**22 39 53.6**	**+1.4**
JKHN				*e*S	**Sn**	**22 40 03.7**	**+1.4**
JAK	**Akkeshi**	**0.90**	**267**	P	**Pn**	**22 39 56.8**	**+0.9**
JAK				*e*S	**Sn**	**22 40 09.7**	**+0.8**
JNSB	**Nemuroshibetsu**	**0.99**	**318**	P	**Pn**	**22 39 57.9**	**+0.9**
JNSB				*e*S	**Sn**	**22 40 11.5**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**0.99**	**358**	*d* iPN	**Pn**	**22 39 58.0**	**+1.0**
YUK				*i* S	**Sn**	**22 40 11.3**	**+0.4**
YUK				pmax	pmax		
	comp=Z,10μm,0.2s						
YUK				pmax	pmax		
	comp=N,950nm,0.1s						
YUK				pmax	pmax		
	comp=E,2μm,0.1s						
YUK				smax	smax		
	comp=N,37μm,0.6s						
YUK				smax	smax		
	comp=E,61μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.99**	**358**	*i* P	**Pn**	**22 39 58.0**	**+1.0**
YUK				AMB	AMB	22 39 58.8	
	comp=E,8μm,0.2s						
YUK				*i* S	**Sn**	**22 40 11.8**	**+0.9**
YUK				A	A	22 40 13.4	
	comp=E,37μm,0.6s						
YUK				A	A	22 40 13.4	
	comp=E,61μm,0.6s						
JNK	**Nakash**	**1.03**	**302**	P	**Pn**	**22 39 58.2**	**+0.7**
JNK				*e*S	**Sn**	**22 40 11.7**	**-0.1**
SHO	**Shikotan**	**1.06**	**38**	*d* iPN	**Pn**	**22 39 59.0**	**+1.2**
SHO				*i* S	**Sn**	**22 40 12.3**	**-0.1**
SHO				pmax	pmax		
	comp=N,506nm,0.3s						
SHO				pmax	pmax		
	comp=E,765nm,0.3s						
SHO				pmax	pmax		
	comp=Z,1μm,0.3s						
SHO				smax	smax		
	comp=E,15μm,0.4s						
SHO				smax	smax		
	comp=N,31μm,0.2s						
SHO	**Shikotan**	**1.06**	**38**	*i* P	**Pn**	**22 39 59.1**	**+1.2**
SHO				AMB	AMB	22 39 59.4	
	comp=N,510nm,0.3s						
SHO				AMB	AMB	22 39 59.4	
	comp=N,770nm,0.3s						
SHO				AMB	AMB	22 39 59.4	
	comp=N,1μm,0.3s						
SHO				*i* S	**Sn**	**22 40 13.0**	**+0.6**
SHO				A	A	22 40 13.9	
	comp=N,31μm,0.3s						
SHO				A	A	22 40 13.9	
	comp=N,14μm,0.3s						
JRA	**Rausu**	**1.07**	**327**	P	**Pn**	**22 39 59.1**	**+1.2**
JRA				*e*S	**Sn**	**22 40 14.0**	**+1.5**
RUSJ	**Misakicho**	**1.17**	**336**	⇓*i*PN	**Pn**	**22 40 00.7**	**+1.5**
RUSJ				*i* S	**Sn**	**22 40 16.7**	**+1.9**
JOB	**Onbets**	**1.54**	**265**	P	**Pn**	**22 40 05.1**	**+1.1**
JOB				*e*S	**Sn**	**22 40 23.5**	**+0.2**
JAR	**Ashorobuto**	**1.59**	**280**	P	**Pn**	**22 40 06.0**	**+1.3**
JAR				*e*S	**Sn**	**22 40 25.2**	**+0.6**
JTKR	**Abashiri--Toko**	**1.73**	**303**	P	**Pn**	**22 40 07.9**	**+1.4**
JTKR				*e*S	**Sn**	**22 40 29.2**	**+1.3**
JCH	**Churui**	**1.93**	**258**	P	**Pn**	**22 40 10.0**	**+0.8**
JCH				*e*S	**Sn**	**22 40 32.6**	**0.0**
ERM	**Erimo**	**2.29**	**244**	PN	**Pn**	**22 40 15.7**	**+1.8**
ERM						22 40 41.6	
ERM	**Erimo**	**2.29**	**244**		**Pn**	**22 40 15.7**	**+1.8**
ERM				Sn	**Sn**	**22 40 41.6**	**+0.4**
KUR	**Kuril'sk**	**2.60**	**32**	*c* iPN	**Pn**	**22 40 20.4**	**+2.2**
KUR				*e*S	**Sn**	**22 40 49.6**	**+0.9**
KUR				pmax	pmax		
	comp=Z,1μm,0.6s						
KUR				pmax	pmax		
	comp=E,170nm,0.4s						
KUR				pmax	pmax		
	comp=N,379nm,0.7s						
KUR				smax	smax		
	comp=N,5μm,0.4s						
KUR				smax	smax		
	comp=E,3μm,0.4s						
KUR	**Kuril'sk**	**2.60**	**32**	*i* P	**Pn**	**22 40 20.4**	**+2.2**
KUR				AMB	AMB	22 40 21.0	
	comp=E,1μm,0.6s						
KUR				*e*S	**Sn**	**22 40 49.6**	**+0.9**
KUR				A	A	22 40 52.2	
	comp=E,5μm,0.4s						
KUR				A	A	22 40 52.2	
	comp=E,3μm,0.4s						
JKA	**Kamikawa-asahi**	**2.64**	**295**		**Pn**	**22 40 20.4**	**+1.7**
JKA				Sn	**Sn**	**22 40 51.1**	**+1.4**
JKA	**Kamikawa-asahi**	**2.64**	**295**	*e*P	**Pn**	**22 40 20.4**	**+1.7**
ASAJ	**Asahikawa**	**2.64**	**295**	P	**Pn**	**22 40 20.4**	**+1.6**
	comp=E,189nm,0.3s,baz=110,slow=11,SNR=1126						
ASAJ				S	**Sn**	**22 40 51.9**	**+2.1**
	comp=E,60nm,0.3s,baz=200,slow=9.4,SNR=7.9						
JEW	**Eniwo**	**3.29**	**268**	Pn	**Pn**	**22 40 28.9**	**+1.4**
JEW				Sn	**Sn**	**22 41 05.1**	**-0.4**
JTM	**Tenmabayashi**	**4.26**	**240**	Pn	**Pn**	**22 40 41.2**	**+0.4**
YSS	**Yuzh-Sakhalins**	**4.51**	**331**	⇑*e*PN	**Pn**	**22 40 45.5**	**+1.4**
YSS				*e*S	**Sn**	**22 41 35.2**	**0.0**
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				smax	smax		
	comp=N,310nm,1.3s						
YSS				smax	smax		
	comp=E,410nm,1.2s						
YSS				MLR	MLR		
	comp=Z,300nm,12.0s						
YSS	**Yuzh-Sakhalins**	**4.51**	**331**		**Pn**	**22 40 45.0**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.51**	**331**	*e*P	**Pn**	**22 40 45.5**	**+1.4**
YSS				AMB	AMB	22 40 50.8	
	comp=Z,90nm,0.6s						
YSS				*e*S	**Sn**	**22 41 35.2**	**0.0**
JMM	**Marumori**	**6.48**	**219**		**Pn**	**22 41 08.6**	**-2.5**
UGL	**Uglegorsk**	**6.60**	**337**	*e*PN	**Pn**	**22 41 15.0**	**+2.3**
UGL				S	**Sn**	**22 42 27.2**	**+0.8**
UGL				pmax	pmax		
	comp=Z,168nm,0.6s						
UGL	**Uglegorsk**	**6.60**	**337**	*e*P	**Pn**	**22 41 14.9**	**+2.3**
UGL				AMB	AMB	22 41 16.0	
	comp=Z,170nm,0.6s						
UGL				*e*S	**Sn**	**22 42 25.0**	**-1.4**
JSD	**Sado**	**7.68**	**232**	Pn	**Pn**	**22 41 26.6**	**-0.9**
JYT	**Yasato**	**8.11**	**215**	Pn	**Pn**	**22 41 31.9**	**-1.5**
TYV	**Tymovskoe**	**8.13**	**345**	*e*P	**Pn**	**22 41 35.6**	**+2.0**
MJAR	**Matsushiro Arr**	**8.79**	**225**	P	**Pn**	**22 41 42.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=37,slow=13,SNR=18						
MJAR	**Matsushiro Arr**	**8.79**	**225**		**Pn**	**22 41 41.6**	**-1.1**
MJB9	**Matsu-Tunnel**	**8.79**	**225**		**Pn**	**22 41 41.8**	**-0.9**
MAJO	**Matsushiro**	**8.79**	**225**	*i* PN	**Pn**	**22 41 41.8**	**-0.9**
MAJO	**Matsushiro**	**8.79**	**225**	Pn	**Pn**	**22 41 41.8**	**-0.9**
JGF	**Kuroka**	**9.96**	**225**	Pn	**Pn**	**22 41 58.9**	**+0.2**
USA0B	**Ussuriysk Arra**	**10.17**	**281**	PN	**Pn**	**22 42 01.2**	**-0.2**
USA0B	**Ussuriysk Arra**	**10.17**	**281**	Pn	**Pn**	**22 42 01.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**10.17**	**281**	P	**Pn**	**22 42 01.6**	**+0.1**
	baz=140,slow=12,SNR=6.0						
USRK	**Ussuriysk Ar.**	**10.17**	**281**	Pn	**Pn**	**22 42 00.7**	**-0.8**
JHJ2	**Mitsune**	**11.02**	**208**	Pn	**Pn**	**22 42 11.6**	**-1.4**
JHJ	**Hachijo jima 2**	**11.02**	**208**	P	**Pn**	**22 42 12.6**	**-0.5**
	comp=Z,9.6nm,0.3s,baz=77,slow=23,SNR=1.6						
JHJ				S	Sn	22 44 04.8	-10
	comp=Z,15nm,0.3s,baz=90,slow=20,SNR=2.1						
JHJ				LR	LR	22 46 45.7	
	comp=Z,32nm,18.5s,baz=267,slow=39						
PAU	**Pauzhetka**	**11.20**	**37**	*e*P	**Pn**	**22 42 13.4**	**-2.0**
PAU				*e*S	**Sn**	**22 44 13.3**	**-5.5**
PAU				A	A	22 44 16.9	
	comp=Z,30nm,0.3s						
PAU				A	A	22 44 16.9	
	comp=Z,30nm,0.3s						
KLR	**Kul'dur**	**11.61**	**307**	P	**Pn**	**22 42 21.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=98,slow=16,SNR=1.8						
KLR				LR	LR	22 47 15.5	
	comp=Z,138nm,19.1s,baz=114,slow=39						
KLR	**Kul'

YAK *e* 22 48 16.5
YAK *e**SS **sS** **22 48 31.7 -4.0**
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK smax smax
comp=E,9.0nm,1.0s
YAK smax smax
comp=N,7.0nm,0.9s
YAK Yakutsk 21.31 339 P **P** **22 44 15.8 -2.8**
YAK IAmb IAmb 22 44 17.1
comp=Z,36nm,0.8s
BJI Beijing 22.41 272 P **P** **22 44 30.8 +0.1**
BJI pmax pmax
comp=Z,4.0nm,0.6s
BJT Baijiatuau 22.42 272 P **P** **22 44 28.5 -2.3**
BJT pmax pmax
comp=Z,4.0nm,0.7s
BJT Baijiatuau 22.42 272 P **P** **22 44 28.5 -2.3**
NJ2 Nanjing 24.00 252 *e*P **P** **22 44 46.3 +0.3**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
HHC Hu-ho-hao-te 25.54 277 *e*P **P** **22 45 00.5 +0.4**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,94nm,7.1s
BILL Bilibino 27.29 17 *e*P **P** **22 45 15.7 +0.3**
BILL pmax pmax
comp=Z,6.0nm,1.6s
BILL MLR MLR
comp=Z,215nm,18.0s
BILL Bilibino 27.29 17 *e*P **P** **22 45 15.7 +0.3**
ULN Ulaanbaatar 27.48 294 *c e*P **P** **22 45 18.7 +1.1**
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 27.48 294 P **P** **22 45 16.5 -1.0**
ULN Ulaanbaatar 27.48 294 *e*P **P** **22 45 18.7 +1.1**
SONM Songino Array 27.92 294 P **P** **22 45 22.3 +0.8**
comp=Z,19nm,0.6s,baz=81,slow=7.7,SNR=52
SONM pP **pP** **22 45 41.3 +2.3**
comp=Z,6.4nm,0.6s,baz=86,slow=8.0,SNR=3.7
SONM Songino Array 27.92 294 P **P** **22 45 22.1 +0.6**
SONM pmax pmax
comp=Z,19nm,0.6s
SONM Songino Array 27.92 294 P **P** **22 45 22.1 +0.6**
SONM IAmb IAmb 22 45 24.9
comp=Z,19nm,0.6s
H11N2 WAKE ISLAND Hy 29.18 136 T T 23 16 32.9
baz=328,slow=75,SNR=1476
H11N1 WAKE ISLAND Hy 29.19 136 T T 23 16 35.9
baz=328,slow=75,SNR=1988
H11N3 WAKE ISLAND Hy 29.20 136 T T 23 16 39.3
baz=328,slow=75,SNR=2346
ZAK Zakamensk 29.80 299 *e*P **P** **22 45 38.6 +0.5**
ZAK pmax pmax
comp=Z,21nm,1.3s
ZAK Zakamensk 29.80 299 *e*P **P** **22 45 38.6 +0.5**
TIXI Tiksi 29.88 349 P **P** **22 45 34.2 -4.1**
comp=Z,1.4nm,0.3s,baz=270,slow=23,SNR=1.5
TIXI Tiksi 29.88 349 *i* P **P** **22 45 33.7 -4.6**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
XAN Xi'an 30.10 265 P **P** **22 45 41.3 +0.5**
XAN pP pP 22 45 52.3 -6.1
XAN pmax pmax
comp=Z,5.0nm,1.0s
H11S1 WAKE ISLAND Hy 30.12 138 T T 23 17 50.3
baz=329,slow=76,SNR=6074
H11S3 WAKE ISLAND Hy 30.12 138 T T 23 17 45.2
baz=329,slow=76,SNR=1768
H11S2 WAKE ISLAND Hy 30.14 138 T T 23 17 51.6
baz=329,slow=76,SNR=4168
MOY Mondy 31.20 302 *e*P **P** **22 45 51.0 +0.6**
MOY pmax pmax
comp=Z,19nm,1.5s
MOY Mondy 31.20 302 *e*P **P** **22 45 51.0 +0.6**
NIKH Nikolski High 31.36 56 P **P** **22 45 51.7 0.0**
baz=270
LZH Lanzhou 32.90 272 *e*P P 22 46 10.8 +5.3
LZH pP pP 22 46 26.5 +3.3
LZH sP sP 22 46 39.8 +7.9
LZH pmax pmax
comp=Z,16nm,1.4s
GTA Gaotai 34.53 280 *e*P P 22 46 28.0 +8.4
GTA pP sP 22 46 45.0 -1.1
GTA pmax pmax
comp=Z,6.0nm,0.9s
ANM Nome 34.68 35 P **P** **22 46 20.6 +0.2**
baz=256
N18K Kilae Creek 38.54 42 P **P** **22 46 53.3 0.0**
baz=270
TTA Tatalina 38.54 39 P **P** **22 46 54.6 +1.2**
TTA pmax pmax
comp=Z,9.0nm,1.0s
TTA Tatalina 38.54 39 P **P** **22 46 54.6 +1.2**
TTA IAmb IAmb 22 46 56.8
comp=Z,9.1nm,1.0s
TTA Tatalina 38.54 39 P **P** **22 46 53.7 +0.3**
baz=267,SNR=5.7
O18K Koktuh Hills 38.89 43 P **P** **22 46 57.0 +0.8**
baz=272
P18K Big Mountain, 38.89 44 P **P** **22 46 57.2 +0.9**
P18K IAmb IAmb 22 46 59.9
comp=Z,15nm,1.1s
P18K Big Mountain, 38.89 44 P **P** **22 46 56.8 +0.5**
baz=272
CHIR Chirikof Islan 38.93 50 P **P** **22 46 57.4 +0.8**
baz=276
L19K White Mountain 39.05 40 P **P** **22 46 58.9 +1.3**
L19K IAmb IAmb 22 47 17.1
comp=Z,12nm,1.4s
L19K White Mountain 39.05 40 P **P** **22 46 59.3 +1.8**
baz=269
N19K Bonanza Creek 39.23 42 P **P** **22 47 00.3 +1.2**
baz=271
PZH PanZhiHua 39.37 260 P **P** **22 47 01.0 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.9s
NRIK Noril'sk 39.44 332 P **P** **22 46 58.9 -1.8**
comp=Z,2.4nm,0.3s,baz=112,slow=5.4,SNR=4.9
NRIK Noril'sk 39.44 332 *i* P **P** **22 46 58.3 -2.3**
NRIK pmax pmax
comp=Z,2.0nm,0.8s
NRIK Noril'sk 39.44 332 P **P** **22 46 58.9 -1.8**
NRIK IAmb IAmb 22 47 04.6
comp=Z,3.9nm,0.6s
J20K Nowinta River 39.44 37 P **P** **22 47 02.0 +1.2**
J20K IAmb IAmb 22 47 04.1
comp=Z,17nm,0.9s
J20K Nowinta River 39.44 37 P **P** **22 47 01.8 +1.1**
baz=267,SNR=12
K20K Telida 39.44 38 P **P** **22 47 02.0 +1.2**
K20K IAmb IAmb 22 47 04.3
comp=Z,8.1nm,0.9s
K20K Telida 39.44 38 P **P** **22 47 01.5 +0.7**
baz=268,SNR=5.9
GOMU GeErMu 39.45 278 P **P** **22 47 01.3 -0.3**
GOMU pP pP 22 47 21.5 +1.8
GOMU pmax pmax
comp=Z,7.0nm,1.0s
L20K Farewell, AK 39.51 39 P **P** **22 47 01.7 +0.3**
baz=270
Q19K Cape Douglas, 39.73 45 P **P** **22 47 02.8 -0.4**
baz=274
IMAR Indian Mountai 39.73 34 P **P** **22 47 04.1 +0.9**
P19K Oil Pt 39.89 44 P **P** **22 47 04.7 +0.1**
baz=273
H21K Melozitna Rive 40.10 34 P **P** **22 47 07.4 +1.2**
H21K IAmb IAmb 22 47 09.3
comp=Z,12nm,0.6s
H21K Melozitna Rive 40.10 34 P **P** **22 47 07.5 +1.4**
baz=267,SNR=14
CHUM Lake Minchumin 40.24 37 P **P** **22 47 08.1 +0.7**
baz=269
PPLA Purkeypile 40.29 39 P **P** **22 47 07.9 -0.1**
baz=270
CAST Castle Rocks 40.34 38 P **P** **22 47 09.7 +1.5**
CAST IAmb IAmb 22 47 11.0
comp=Z,11nm,0.8s
CAST Castle Rocks 40.34 38 P **P** **22 47 08.3 +0.1**
baz=270,SNR=7.9
KDAK Kodiak Island 40.39 47 P **P** **22 47 08.9 +0.3**
comp=Z,19nm,0.8s,baz=287,slow=5.6,SNR=12
I21K Tanana 40.42 35 P **P** **22 47 09.5 +0.7**
baz=268,SNR=7.5
ZAA0 Zalesovo Array 40.71 307 P **P** **22 47 10.9 -0.4**
ZAA0 IAmb IAmb 22 47 12.8
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 40.71 307 P **P** **22 47 11.2 -0.1**
comp=Z,8.1nm,0.7s,baz=90,slow=8.9,SNR=44
ZALV PcP **PcP** **22 49 11.8 +0.4**
comp=Z,1.7nm,0.7s,baz=123,slow=2.6,SNR=4.1
ZALV Zalesovo Beam 40.71 307 *i* P **P** **22 47 11.1 -0.3**
ZALV pmax pmax
comp=Z,8.0nm,0.7s
ZALV Zalesovo Beam 40.71 307 P **P** **22 47 11.4 0.0**
BPAW Bear Paw Mtn. 40.83 37 P **P** **22 47 13.0 +0.8**
baz=270
TRF Thorofare Moun 41.14 38 P **P** **22 47 15.8 +0.8**
baz=272
BRSE Bradley Lake S 41.15 43 P **P** **22 47 15.3 +0.4**
baz=275
COLD Coldfoot 41.23 32 P **P** **22 47 16.8 +1.3**
COLD Coldfoot 41.23 32 P **P** **22 47 16.1 +0.7**
baz=267,SNR=7.2
H23K Yukon River 41.45 34 P **P** **22 47 17.8 +0.5**
baz=270,SNR=23
WMQ Urumqi 41.52 292 *e*P **P** **22 47 19.8 +1.5**
WMQ pP pP 22 47 38.3 +1.8
WMQ pmax pmax
comp=Z,22nm,1.3s
I23K Minto, Yukon-K 41.52 35 P **P** **22 47 18.3 +0.5**
baz=270,SNR=10
RC01 Rabbit Creek A 41.53 41 P **P** **22 47 18.8 +0.8**
baz=275
TOLK Toolik Lake Re 41.55 30 P **P** **22 47 19.1 +1.0**
TOLK Toolik Lake Re 41.55 30 P **P** **22 47 18.9 +0.8**
baz=266,SNR=5.4
NEA2 Nenana 41.66 36 P **P** **22 47 20.4 +1.5**
NEA2 Nenana 41.66 36 P **P** **22 47 19.3 +0.3**
baz=271,SNR=18
MCK McKinley 41.74 37 P **P** **22 47 20.0 +0.3**
baz=272
SEW Seward 41.76 43 P **P** **22 47 20.2 +0.4**
baz=276
PMR Palmer 41.78 41 P **P** **22 47 20.2 +0.2**
baz=275
RND Reindeer 41.79 38 P **P** **22 47 20.9 +0.7**
RND pmax pmax
comp=Z,7.0nm,0.7s
RND Reindeer 41.79 38 P **P** **22 47 20.9 +0.7**
RND IAmb IAmb 22 47 21.7
comp=Z,7.5nm,0.7s
WAT1 Susitna Watana 41.96 39 P **P** **22 47 21.6 0.0**
baz=274
KNK Knik Glacier 42.11 41 P **P** **22 47 23.3 +0.5**
baz=275
H24K Noodor Dome 42.13 34 P **P** **22 47 24.5 +1.6**
H24K IAmb IAmb 22 47 26.8
comp=Z,11nm,0.8s
H24K Noodor Dome 42.13 34 P **P** **22 47 23.5 +0.6**
baz=271,SNR=14
SML Sawmill 42.14 40 P **P** **22 47 23.6 +0.5**
baz=275
TCOL CIGO, UAF Yank 42.16 36 P **P** **22 47 24.2 +1.1**
TCOL CIGO, UAF Yank 42.16 36 P **P** **22 47 23.8 +0.7**
baz=272
COLA College 42.17 36 *i* P **P** **22 47 21.9 -1.2**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 42.17 36 P **P** **22 47 23.9 +0.8**
baz=272
PWL Port Wells 42.23 42 P **P** **22 47 25.3 +1.6**
baz=276
POKR Poker Plat Res 42.34 35 P **P** **22 47 25.6 +1.1**
POKR IAmb IAmb 22 47 28.6
comp=Z,14nm,0.7s
POKR Poker Plat Res 42.34 35 P **P** **22 47 24.9 +0.4**
baz=272,SNR=7.5
WAT6 Susitna Watana 42.35 39 P **P** **22 47 24.8 0.0**
baz=275
M23K Glacier View 42.43 40 P **P** **22 47 25.6 +0.2**
baz=276
DHY Denali Highway 42.48 38 P **P** **22 47 26.6 +0.7**
DHY IAmb IAmb 22 47 30.8
comp=Z,14nm,1.0s
DHY Denali Highway 42.48 38 P **P** **22 47 26.1 +0.2**
baz=274
IL31 42.59 36 P **P** **22 47 27.4 +0.9**
IL31 IAmb IAmb 22 47 30.3
comp=Z,14nm,0.9s
ILAR Eielson Array 42.59 36 P **P** **22 47 27.1 +0.5**
comp=Z,9.9nm,0.9s,baz=257,slow=5.6,SNR=52
ILAR Eielson Array 42.59 36 P **P** **22 47 27.3 +0.7**
ILAR Eielson Array 42.59 36 P **P** **22 47 27.3 +0.7**
SCM Sheep Creek Mo 42.61 40 P **P** **22 47 27.3 +0.4**
baz=276
GLI Glacier Island 42.83 41 P **P** **22 47 28.8 +0.2**
baz=277
M24K Tolsona, Glenn 43.12 40 P **P** **22 47 31.6 +0.6**
baz=276
K24K Donnelly Dome 43.13 37 P **P** **22 47 30.9 -0.1**
baz=275
J25K Salcha River, 43.25 36 P **P** **22 47 32.9 +1.0**
baz=274
KLU Klutina 43.32 40 P **P** **22 47 32.7 +0.1**
baz=277
PAX Paxson 43.35 38 P **P** **22 47 32.7 -0.2**
baz=276
BMAR Burnt Mountain 43.41 32 P **P** **22 47 35.0 +1.8**
RIDG Independent Ri 43.55 37 P **P** **22 47 34.8 +0.4**
baz=276
HARP HAARP 43.56 39 P **P** **22 47 34.3 -0.1**
baz=277
SCRK Sand Creek 43.91 37 P **P** **22 47 37.8 +0.4**
SCRK IAmb IAmb 22 47 41.6
comp=Z,20nm,1.2s
SCRK Sand Creek 43.91 37 P **P** **22 47 37.4 +0.1**
baz=276,SNR=10
DOT Dot Lake 43.91 37 P **P** **22 47 37.9 +0.6**
DOT IAmb IAmb 22 47 41.8
comp=Z,9.2nm,0.6s
BMRM Bremner River 44.02 41 P **P** **22 47 37.9 -0.3**
baz=279
J26L Joseph Creek 44.03 36 P **P** **22 47 38.6 +0.3**
baz=276,SNR=6.4
MK31 Makanchi Array 44.12 298 P **P** **22 47 39.3 +0.1**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 44.12 298 P **P** **22 47 39.3 +0.1**
MK31 IAmb IAmb 22 47 40.4
comp=Z,10nm,0.8s
MKAR Makanchi Array 44.12 298 P **P** **22 47 39.5 +0.4**
comp=Z,9.0nm,0.6s,baz=80,slow=8.8,SNR=104
MKAR pP **pP** **22 47 59.9 +2.3**
comp=Z,3.1nm,0.7s,baz=86,slow=9.2,SNR=3.9
MKAR Makanchi Array 44.12 298 P **P** **22 47 39.2 +0.1**
L26K Log Cabin Wild 44.31 38 P **P** **22 47 42.2 +1.7**
L26K IAmb IAmb 22 47 43.1
comp=Z,11nm,0.7s
L26K Log Cabin Wild 44.31 38 P **P** **22 47 41.1 +0.6**
baz=278,SNR=5.5
MAKZ Makanchi 44.32 298 P **P** **22 47 41.0 +0.3**
MAKZ pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 44.32 298 P **P** **22 47 41.0 +0.3**
MAKZ IAmb IAmb 22 47 42.1
comp=Z,10nm,0.7s
M26K Nabesna, AK 44.56 39 P **P** **22 47 43.1 +0.6**
baz=279
K27K Chicken 44.74 37 P **P** **22 47 44.4 +0.6**
baz=278
L27K Beaver Creek, 44.99 38 P **P** **22 47 46.4 +0.5**
baz=279,SNR=16
BCAR Beaver Creek A 45.01 38 P **P** **22 47 47.8 +1.8**
EGAK Eagle 45.03 35 P **P** **22 47 46.8 +0.7**
EGAK Eagle 45.03 35 P **P** **22 47 46.4 +0.4**
baz=278
M27K Edge Creek, AK 45.08 39 P **P** **22 47 47.3 +0.6**
baz=280
KURK Kurchatov 45.18 304 P **P** **22 47 47.8 +0.3**
KURK pmax pmax
comp=Z,42nm,1.3s
KURK Kurchatov 45.18 304 P **P** **22 47 47.8 +0.3**
KURK Kurchatov 45.18 304 *e*P **P** **22 47 47.8 +0.3**
BVCY Beaver Creek 45.54 39 P **P** **22 47 50.6 +0.4**
baz=280
CTG Chitna Glacier 45.59 41 P **P** **22 47 51.0 +0.2**
baz=282
YUK3 Moose Creek 45.84 39 P **P** **22 47 52.9 0.0**
baz=282
DAWY Dawson 45.90 36 P **P** **22 47 54.3 +1.2**
DAWY IAmb IAmb 22 47 57.0
comp=Z,3.9nm,0.6s
DAWY Dawson 45.90 36 P **P** **22 47 53.4 +0.4**
baz=280
I29M Ogilvie Camp, 46.13 34 P **P** **22 47 56.1 +1.3**
I29M Ogilvie Camp, 46.13 34 P **P** **22 47 55.6 +0.7**
baz=280
PDGK Podgornoye 47.24 294 *i* P **P** **22 48 03.1 -0.8**
PDGK pmax pmax
comp=Z,6.0nm,1.1s
M30M Minto, Yukon 47.35 38 P **P** **22 48 05.2 +0.8**
baz=284
HYT Haines Junctio 47.45 40 P **P** **22 48 07.5 +2.2**
HYT Haines Junctio 47.45 40 P **P** **22 48 05.8 +0.5**
baz=285,SNR=9.9
INK Inuvik 47.46 30 P **P** **22 48 06.3 +1.2**
comp=Z,5.8nm,0.5s,baz=290,slow=6.9,SNR=54
INK Inuvik 47.46 30 P **P** **22 48 06.1 +1.0**
INK pmax pmax
comp=Z,9.0nm,0.8s
INK Inuvik 47.46 30 P **P** **22 48 06.1 +1.0**
INK IAmb IAmb 22 48 07.2
comp=Z,8.7nm,0.8s
INK Inuvik 47.46 30 P **P** **22 48 06.1 +1.0**
baz=281,SNR=9.3
N31M Braeburn, Yuko 48.09 39 P **P** **22 48 10.7 +0.6**
baz=285
M31M Drury Creek, Y 48.53 38 P **P** **22 48 14.9 +1.4**
baz=286
FARO Faro, Yukon 48.99 38 P **P** **22 48 18.2 +1.2**
baz=287
TARG Taragay, Kyrgy 49.04 293 P **P** **22 48 18.5 +0.3**
KDJ Kajisay 49.29 294 P **P** **22 48 20.2 +0.5**
KDJ pmax pmax
comp=Z,4.0nm,1.0s
KDJ Kajisay 49.29 294 P **P** **22 48 20.2 +0.5**
BRVK Borovoye 49.31 310 P **P** **22 48 19.6 +0.1**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 49.31 310 P **P** **22 48 19.6 +0.1**
BRVK IAmb IAmb 22 48 21.0
comp=Z,8.9nm,0.8s
BRVK Borovoye 49.31 310 *e*P **P** **22 48 19.6 +0.1**
A36M Sachs Harbour 49.38 24 P **P** **22 48 20.8 +1.0**
A36M IAmb IAmb 22 48 22.4
comp=Z,12nm,1.2s
A36M Sachs Harbour 49.38 24 P **P** **22 48 20.5 +0.7**
baz=285
MMPY Sheldon Lake, 49.80 37 P **P** **22 48 23.9 +0.7**
baz=288
OTUK Ortayu 49.88 303 *i* P **P** **22 48 24.1 +0.1**
OTUK pmax pmax
comp=Z,9.0nm,0.6s
BOOM Boomskoye usch 49.96 295 P **P** **22 48 25.1 +0.3**
BOOM pmax pmax
comp=Z,9.0nm,0.7s
BOOM Boomskoye usch 49.96 295 P **P** **22 48 25.1 +0.3**
BOOM IAmb IAmb 22 48 26.6
comp=Z,9.2nm,0.7s
TKM2 Tokmak 2 50.00 295 P **P** **22 48 25.9 +0.7**
SNR=10
TKM2 Tokmak 2 50.00 295 *i* P **P** **22 48 25.5 +0.3**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
C36M Paulatuk 50.52 27 P **P** **22 48 29.3 +0.8**
C36M IAmb IAmb 22 48 29.9
comp=Z,8.1nm,0.7s
C36M Paulatuk 50.52 27 P **P** **22 48 29.1 +0.7**
baz=288
KBK Karagaybulak 50.54 295 P **P** **22 48 30.0 +0.8**
SNR=8.1
USP Ospenovka 50.57 296 P **P** **22 48 29.7 +0.4**
SNR=7.3
FRU1 Bishkek 50.69 296 P **P** **22 48 30.4 +0.2**
FRU1 pmax pmax
comp=Z,6.0nm,0.6s
FRU1 Bishkek 50.69 296 P **P** **22 48 30.4 +0.2**
FRU1 IAmb IAmb 22 48 31.3
comp=Z,5.9nm,0.6s
AAK Ala-Archa 50.85 296 P **P** **22 48 32.0 +0.4**
SNR=5.5
KSH Kashi 51.28 291 P **P** **22 48 39.5 +4.7**
KSH pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 51.31 296 P **P** **22 48 35.5 +0.5**
SNR=10.0
AML Almayahu 51.61 295 P **P** **22 48 38.5 +0.9**
SNR=6.1
DLBC Dease Lake 51.80 42 P **P** **22 48 40.2 +1.9**
comp=Z,3.2nm,0.9s,baz=15,slow=4.1,SNR=3.0
DLBC Dease Lake 51.80 42 P **P** **22 48 39.8 +1.5**
DLBC IAmb IAmb 22 48 41.8
comp=Z,16nm,1.4s
SVE Sverdlovsk 53.04 317 *e*P **P** **22 48 47.4 0.0**
SVE pmax pmax
comp=Z,16nm,0.6s
SVE Sverdlovsk 53.04 317 *e*P **P** **22 48 47.4 0.0**
KK31 Karatay Array 53.25 298 P **P** **22 48 49.0 -0.2**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KK31 Karatay Array 53.25 298 P **P** **22 48 49.0 -0.2**
KK31 IAmb IAmb 22 48 50.0
comp=Z,4.3nm,0.7s
KKAR Karatay Array 53.25 298 P **P** **22 48 48.9 -0.3**
KKAR Karatay Array 53.25 298 P **P** **22 48 48.9 -0.3**
EUNU Eureka 53.71 10 P **P** **22 48 51.6 -0.5**
ARU Arti 54.25 317 *c i* P **P** **22 48 55.9 -0.3**
ARU *PP **pP** **22 49 13.7 -1.4**
ARU 22 50 54.8
ARU S **S** **22 56 30.3 +2.6**
ARU SS **SS** **23 00 13.0 +3.1**
ARU pmax pmax
comp=Z,50nm,1.4s
ARU Arti 54.25 317 *e*P **P** **22 48 55.9 -0.3**
BTK Batken 54.51 294 P **P** **22 48 58.2 -0.2**
BTK pmax pmax
comp=Z,3.0nm,0.8s
BTK Batken 54.51 294 P **P** **22 48 58.2 -0.2**
HOPEN Hopen 55.06 346 *e*P **P** **22 49 02.0 +0.2**
NOR Nord 55.26 357 *i* P **P** **22 49 02.0 -1.2**
NOR IAmb IAmb 22 49 02.9
comp=Z,5.4nm,0.6s
SPA0 Spitsbergen Ar 55.30 349 *e*P **P** **22 49 03.2 -0.4**
SPB2 Spitsbergen Ar 55.30 349 P **P** **22 49 03.0 -0.6**
KBS Kingsbay 55.33 350 *e*P **P** **22 49 04.3 +0.6**
GAR Garm 55.37 293 P **P** **22 49 04.3 -0.4**
GAR IAmb IAmb 22 49 05.8
comp=Z,7.0nm,0.9s
RES Resolute Bay 55.90 16 P **P** **22 49 08.3 +0.5**
comp=Z,59nm,0.6s,baz=309,slow=7.0,SNR=203
RES Resolute Bay 55.90 16 P **P** **22 49 08.0 +0.2**
RES Resolute Bay 55.90 16 P **P** **22 49 08.0 +0.2**
HSPB Hornsund (broa 56.29 348 *e*P **P** **22 49 11.0 +0.4**
CHGR Chuyangaron 56.32 294 P **P** **22 49 11.1 -0.4**
COEN Coen 56.77 183 P **P** **22 49 15.7 +1.0**
AB31 Akbulak array 56.80 309 *i* P **P** **22 49 14.8 +0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 56.80 309 P **P** **22 49 14.9 +0.2**
ABKAR Akbulak array 56.80 309 P **P** **22 49 15.2 +0.6**
ABKAR IAmb IAmb 22 49 17.1
comp=Z,12nm,0.5s
YKA Yellowknife Ar 56.88 33 P **P** **22 49 15.7 +0.7**
comp=Z,2.8nm,0.6s,baz=303,slow=6.9,SNR=33
AKTO Aktyubinsk 57.31 311 *i* P **P** **22 49 18.1 -0.2**
AKTO pmax pmax
comp=Z,5.0nm,0.7s
KIRV Kirov 57.60 322 *c e*P **P** **22 49 19.0 -1.0**
PRGR Permogore 57.66 326 *e*P **P** **22 49 18.7 -1.7**
LVZ Lovozero 58.07 335 P **P** **22 49 23.0 -0.3**
LVZ pmax pmax
comp=Z,68nm,1.5s
LVZ Lovozero 58.07 335 P **P** **22 49 23.0 -0.3**
KBL Kabul 58.58 290 P **P** **22 49 27.1 -0.5**
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 58.58 290 P **P** **22 49 27.1 -0.5**
KBL IAmb IAmb 22 49 49.3
comp=Z,5.1nm,0.8s
TULEG Thule 58.67 9 P **P** **22 49 26.9 -0.3**

TULEG Thule 58.67 9 *i* P P 22 49 24.9 -2.3
TULEG IAmb IAmb 22 49 27.0
comp=Z,7.6nm,0.6s

KEV Kevo 59.06 339 P P 22 49 29.4 -0.7
KEV pmax pmax
comp=Z,17nm,0.8s

KEV Kevo 59.06 339 P P 22 49 29.4 -0.7
HAMF Hammerfest 59.28 341 *e*P P 22 49 31.1 -0.5
ARA0 ARCESS Array S 59.59 339 *e*P P 22 49 33.8 0.0
ARCES ARCESS Array B 59.59 339 P P 22 49 33.6 -0.3
comp=Z,9.7nm,0.9s,baz=50,slow=5.2,SNR=38
ARCES ARCESS Array B 59.59 339 P P 22 49 33.5 -0.3
ARCES pmax pmax
comp=Z,11nm,1.0s
ARCES ARCESS Array B 59.59 339 P P 22 49 33.5 -0.3
DAG Danmarks Havn 60.06 356 *i* P P 22 49 36.0 -0.9
DAG IAmb IAmb 22 49 37.8
comp=Z,2.3nm,0.9s
KNRA Kununurra 60.52 199 P P 22 49 40.9 +0.2
KTK1 Kautokeino 60.54 340 *e*P P 22 49 40.7 +0.4
KLMR Klimovskoe 60.55 327 *e*P P 22 49 38.3 -2.1
KLMR *e* 22 50 23.0
KLMR pmax pmax
comp=Z,23nm,1.2s
KLMR Klimovskoe 60.55 327 *e*P P 22 49 38.4 -2.0
KLMR AMP 22 49 42.0
comp=Z,23nm,1.2s
KLMR *e*PcP PcP 22 50 23.0 -1.2
JETT Jettan, Norway 60.85 341 *e*P P 22 49 42.6 +0.2
TRO Tromso 61.14 341 *e*P P 22 49 44.5 +0.2
G03D McMinnville, O 61.73 53 P P 22 49 49.1 +0.5
baz=304
BELG Belogornoye 61.80 317 *i* P P 22 49 49.1 +0.1
BELG pmax pmax
comp=Z,7.0nm,0.9s
J01E Myrtle Point 62.47 56 P P 22 49 54.1 +0.5
baz=304
I03D Drain, OR 62.52 55 P P 22 49 54.6 +0.6
baz=304
DBG Daneborg 62.57 356 *i* P P 22 49 52.2 -1.6
DBG IAmb IAmb 22 49 53.5
comp=Z,2.7nm,0.9s
I04A Tendick Farm, 63.03 54 P P 22 49 58.1 +0.7
baz=305
L02E Cave Junction 63.24 56 P P 22 49 59.9 +1.1
baz=305
HRA Herat 63.31 293 P P 22 49 59.5 -0.2
WB0 Warramunga Arr 63.39 192 P P 22 50 00.1 +0.2
WB0 IAmb IAmb 22 50 01.7
comp=Z,6.3nm,1.1s
LOF Lofoten 63.55 342 *e*P P 22 49 59.7 -0.6
WB2 Warramunga Arr 63.57 192 P P 22 50 00.6 -0.5
WB2 IAmb IAmb 22 50 29.6
comp=Z,8.1nm,1.1s
WRA Warramunga Arr 63.57 192 P P 22 50 01.1 0.0
comp=Z,2.8nm,1.0s,baz=8.4,slow=6.9,SNR=11
WRA pP pwP 22 50 23.7 +0.9
comp=Z,1.6nm,0.8s,baz=9.4,slow=6.8,SNR=4.2
WRA Warramunga Arr 63.57 192 P P 22 50 01.1 0.0
FITZ Fitzroy Crossi 63.63 202 LR LR 23 17 40.6
comp=Z,141nm,19.6s,baz=146,slow=36
FAUS Fauske 63.74 341 *e*P P 22 50 01.7 +0.1
PINE Pine Mountain 63.90 54 P P 22 50 04.2 +0.8
GEYT Alibeck 63.99 298 P P 22 50 03.9 0.0
comp=Z,2.2nm,0.6s,baz=7.7,slow=12,SNR=3.2
GEYT Alibeck 63.99 298 P P 22 50 03.8 -0.1
L04D Klamath Falls 64.00 56 P P 22 50 04.7 +0.8
baz=306
J05D Fort Rock, OR 64.02 54 P P 22 50 05.0 +0.9
baz=306
M02C Callahan 64.14 57 P P 22 50 05.6 +0.8
baz=306
N02D Trinity Center 64.47 57 P P 22 50 07.8 +0.8
baz=306
K05A Summer Lake 64.55 55 P P 22 50 09.4 +1.8
K05A IAmb IAmb 22 50 30.3
comp=Z,14nm,1.5s
O02D Mt. Diablo Mer 64.89 58 P P 22 50 11.1 +1.4
baz=306
MOR8 Moi Rana 64.90 340 *e*P P 22 50 07.9 -1.4
KONS Konsvik 64.96 341 *e*P P 22 50 09.6 0.0
FIA1 FINESS Array S 65.09 333 P P 22 50 10.5 0.0
FINES FINESS Array B 65.09 333 P P 22 50 10.4 -0.2
comp=Z,29nm,0.5s,baz=45,slow=7.4,SNR=198
FINES FINESS Array B 65.09 333 *ce*P P 22 50 10.3 -0.3
FINES pmax pmax
comp=Z,29nm,0.5s
OBN Obninsk 65.35 323 *d* iP P 22 50 12.3 0.0
OBN *SP pP 22 50 36.0 +4.2
OBN 22 50 42.0
OBN *e*PPP PPP 22 54 19.4
OBN SSS SSS 23 06 05.0
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,78nm,18.0s
OBN Obninsk 65.35 323 *e*P P 22 50 12.3 0.0
O03E Paynes Creek 65.43 57 P P 22 50 14.0 +0.8
baz=306
VRH Novokhopyorsk 65.45 318 *e*P P 22 50 12.1 -0.9
VRH pmax pmax
comp=Z,20nm,0.8s
PLID Pearl Lake 65.98 50 P P 22 50 17.5 +0.6
VORR Voronezh 66.37 319 *e*P P 22 50 19.6 +0.7
VORR pmax pmax
comp=Z,30nm,0.4s
SCO Scoresbysund 66.44 356 P P 22 50 19.9 +0.8
SCO pmax pmax
comp=Z,7.0nm,1.0s
SCO Scoresbysund 66.44 356 P P 22 50 19.9 +0.8
SCO IAmb IAmb 22 50 21.4
comp=Z,7.4nm,1.0s
MEF Metsahovi 66.55 332 *e*P P 22 50 20.2 +0.3
BEKR Beckworth 66.57 57 P P 22 50 21.6 +0.9
VSR Storozhevoye 66.68 319 *e*P P 22 50 20.0 -0.9
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 66.78 319 *e*P P 22 50 21.7 +0.1
VORD pmax pmax
comp=Z,10.0nm,1.1s
RAF Rauma 66.82 334 *e*P P 22 50 22.1 +0.4
NSS Namsos 66.84 340 *e*P P 22 50 21.8 +0.1
VSU Vasula 67.00 330 *i* P P 22 50 23.2 +0.4
VSU pmax pmax
comp=Z,73nm,0.8s
VSU Vasula 67.00 330 *e*P P 22 50 23.4 +0.5
FCC Fort Churchill 67.08 29 P P 22 50 23.5 +0.2
FCC pmax pmax
comp=Z,8.0nm,0.9s
FCC Fort Churchill 67.08 29 P P 22 50 23.5 +0.2
FCC IAmb IAmb 22 50 27.5
comp=Z,7.7nm,0.8s
ASAR Alice Springs 67.30 192 P P 22 50 26.2 +1.1
comp=Z,2.8nm,0.6s,baz=8.6,slow=5.1,SNR=40
ASAR pP pwP 22 50 48.3 +1.2
comp=Z,1.6nm,0.7s,baz=359,slow=5.3,SNR=5.6
ASAR Alice Springs 67.30 192 P P 22 50 25.9 +0.8
EGMT Eagleton 67.52 45 P P 22 50 26.6 +0.1
EGMT Eagleton 67.52 45 P P 22 50 27.4 +0.9
baz=310
YERR Yerington 67.80 57 P P 22 50 30.1 +1.6
YERR IAmb IAmb 22 50 30.9
comp=Z,4.7nm,0.8s
HLID Hailey 67.82 51 P P 22 50 29.0 +0.5
baz=309
MTSE Matsula 67.86 331 *e*P P 22 50 29.4 +1.1
BOZ Bozeman (W) 68.08 48 P P 22 50 31.0 +0.9
BOZ pmax pmax
comp=Z,3.0nm,0.6s
BOZ Bozeman (W) 68.08 48 P P 22 50 31.0 +0.9
BOZ IAmb IAmb 22 50 31.9
comp=Z,3.4nm,0.6s
BOZ Bozeman (W) 68.08 48 P P 22 50 31.2 +1.1
baz=310
ICESG Greenland Ices 68.11 2 *i* P P 22 50 29.8 -0.3
ICESG IAmb IAmb 22 50 31.8
comp=Z,21nm,0.6s
BMN Battle Mountai 68.13 55 P P 22 50 32.0 +1.5
BMN pmax pmax
comp=Z,6.0nm,1.4s
BMN Battle Mountai 68.13 55 P P 22 50 32.0 +1.5
NVAR Mina Array Bea 68.71 57 P P 22 50 35.7 +1.4
comp=Z,3.3nm,0.7s,baz=292,slow=6.4,SNR=7.8
SEKA Sheki 68.75 307 P P 22 50 34.5 +0.3
ZKTA Zakatala 68.81 308 P P 22 50 34.6 0.0

GCMT Greycliff 69.01 47 P P 22 50 37.0 +1.1
UPP Uppsala 69.03 335 *e*P P 22 50 35.6 +0.1
MNGR Mingechevir, A 69.09 307 P P 22 50 36.7 +0.5
IDID Didziasalis 69.29 328 *e*P P 22 50 38.0 +0.8
LKRN Lenkeran, Azer 69.37 304 P P 22 50 38.4 +0.4
MNK Minsk 69.42 327 *i* P P 22 50 39.1 +1.1
MNK *i* *PP pP 22 50 57.7 0.0
MNK *i* 22 53 09.2
MNK *i* PPP PPP 22 54 55.5
MNK *i* S S 22 59 41.0 +1.9
MNK *i* SS SS 23 04 12.7 +6.2
MNK pmax pmax
comp=N,17nm,1.1s
MNK pmax pmax
comp=Z,39nm,1.3s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK Minsk 69.42 327 *i* P P 22 50 39.1 +1.1
comp=E,3.0nm,0.9s
MNK *i* P P 22 50 39.1 +1.1
comp=N,17nm,1.1s
MNK *i* P P 22 50 39.1 +1.1
comp=Z,39nm,1.3s,baz=225
MNK *i* pP pP 22 50 57.7 0.0
MNK *i* PP PP 22 53 09.3 -2.4
MNK *i* PPP PPP 22 54 55.6
MNK *i* S S 22 59 41.1 +1.9
MNK *i* SS SS 23 04 12.8 +6.2
MNK *i* SSS SSS 23 07 30.8
MNK *i* LQ LQ 23 16 29.8
MNK *i* LR LR 23 20 39.2
H17A Grant Village 69.42 48 P P 22 50 40.0 +1.4
baz=311
KIV Kislovodsk 69.56 311 ⇑P P 22 50 40.9 +1.7
KIV Kislovodsk 69.56 311 *e*P P 22 50 40.2 +1.0
KIV pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 69.56 311 P P 22 50 39.9 +0.6
KIV IAmb IAmb 22 50 44.6
comp=Z,9.2nm,0.8s
KIV Kislovodsk 69.56 311 *e*P P 22 50 40.2 +1.0
SFJD Kangerlussuaq 69.56 7 LR LR 23 22 28.7
comp=Z,40nm,18.2s,baz=98,slow=37
SFJD Kangerlussuaq 69.56 7 *i* P P 22 50 37.4 -1.3
SFJD IAmb IAmb 22 50 39.9
comp=Z,4.3nm,0.7s
NACGM Naroch 69.57 327 *e*P P 22 50 40.1 +1.2
MOL Molde 69.57 341 *e*P P 22 50 39.0 +0.2
KBZ Khabaz 69.59 311 P P 22 50 39.7 +0.4
comp=Z,3.7nm,0.6s,baz=28,slow=4.7,SNR=7.4
KBZ Khabaz 69.59 311 *ce*P P 22 50 39.5 +0.2
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 69.59 311 *e*P P 22 50 39.5 +0.2
ZEI Tsey 69.64 310 *e*P P 22 50 39.2 -0.7
ZEI pmax pmax
comp=Z,9.0nm,1.3s
ZEI Tsey 69.64 310 *e*P P 22 50 39.2 -0.7
DOMB Dombas 69.65 340 *e*P P 22 50 39.7 +0.3
NC405 NORSAR Array S 69.74 338 P P 22 50 40.0 +0.1
MOOW Moose Ponds 69.75 49 P P 22 50 42.1 +1.5
NB2 NORSAR Subarra 69.93 338 P P 22 50 41.1 0.0
comp=Z,15nm,0.6s,baz=32,slow=6.5
NB2 NORSAR Subarra 69.93 338 P P 22 50 41.1 0.0
baz=32,slow=6.5
NOA NORSAR Array B 69.93 338 P P 22 50 41.1 0.0
comp=Z,13nm,0.5s,baz=32,slow=6.5,SNR=86
NOA LR LR 23 25 18.3
comp=Z,26nm,19.2s,baz=5.0,slow=39
AKN Aaknes 70.04 341 *e*P P 22 50 43.2 +1.4
NC602 NORSAR Array S 70.10 338 *e*P P 22 50 42.2 +0.1
PABE Paberze 70.21 329 P P 22 50 43.8 +0.9
PABE Paberze 70.21 329 *e*P P 22 50 43.8 +0.9
VIKU Vikbolandet 70.40 334 *e*P P 22 50 44.0 +0.1
DY2G Dye2 70.41 5 *i* P P 22 50 43.3 -1.0
DY2G IAmb IAmb 22 50 45.8
comp=Z,10nm,0.7s
R11A Troy Canyon, C 70.42 56 P P 22 50 45.9 +1.2
R11A Troy Canyon, C 70.42 56 P P 22 50 46.0 +1.2
baz=310
FURC Furnace Creek, 70.84 58 P P 22 50 48.2 +1.2
baz=310
DUG Dugway, Tooele 70.88 53 P P 22 50 48.4 +0.9
baz=311
TPNV Topopah Spring 70.91 57 P P 22 50 48.8 +1.0
baz=310
SKAR Skarslia 71.00 339 *e*P P 22 50 47.8 +0.1
NAX Nakhchivan 71.05 306 P P 22 50 48.7 +0.3
BW06 Boulder Array 71.05 49 P P 22 50 49.1 +0.5
baz=312
PD31 Pinedale Array 71.05 49 P P 22 50 49.0 +0.5
PDAR Pinedale Array 71.05 49 P P 22 50 49.5 +0.9
comp=Z,2.1nm,0.6s,baz=260,slow=1.2,SNR=25
PDAR pP pP 22 51 13.1 +5.0
comp=Z,0.7nm,0.6s,baz=290,slow=3.2,SNR=3.0
KONO Kongsberg 71.54 338 P P 22 50 52.1 +1.2
KONO pmax pmax
comp=Z,20nm,1.2s
KONO Kongsberg 71.54 338 P P 22 50 52.1 +1.2
KONO IAmb IAmb 22 51 16.6
comp=Z,20nm,1.2s
KONO Kongsberg 71.54 338 *e*P P 22 50 51.9 +1.0
AKASG Malin Array Be 71.61 323 P P 22 50 51.2 -0.2
comp=Z,7.4nm,0.5s,baz=38,slow=7.3,SNR=32
AKASG Malin Array Be 71.61 323 P P 22 50 51.7 +0.3
AKBB Malin Array Si 71.61 323 P P 22 50 51.3 -0.1
AKBB pmax pmax
comp=Z,13nm,0.7s
AKBB Malin Array Si 71.61 323 P P 22 50 51.3 -0.1
ASK Askoy 71.95 341 *e*P P 22 50 54.7 +1.4
BER Bergen 72.00 341 *e*P P 22 50 55.7 +2.1
ODD1 Odda 72.09 340 *e*P P 22 50 54.7 +0.4
BLS5 Blasjo 72.56 340 *e*P P 22 50 57.7 +0.6
GMRC Granite Mounta 72.67 59 P P 22 50 58.1 -0.1
baz=311
SRU San Rafael Swe 72.93 52 P P 22 51 01.0 +1.2
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 72.93 52 P P 22 51 01.0 +1.2
KMY Karmoy 73.05 340 *e*P P 22 51 00.2 +0.3
RSSD Black Hills 73.09 45 P P 22 51 00.5 -0.2
baz=314
UOSS Minazif 73.23 289 P P 22 51 01.3 -0.2
SNART Snartemo 73.31 339 *e*P P 22 51 01.3 -0.1
IRM Iron Mountain 73.40 59 P P 22 51 03.1 +0.7
baz=311
GURO Guroymak-BITLI 73.49 307 P P 22 51 03.8 +0.8
GURO IAmb IAmb 22 51 05.4
comp=Z,6.1nm,0.8s
IKP In-Ko-Pah, Jac 73.78 60 P P 22 51 05.1 +0.4
baz=311
SORM Soroca 73.88 322 ⇑P P 22 51 05.3 +0.4
AGMN Agassiz Nation 74.05 38 P P 22 51 05.8 -0.1
baz=318
N23A Red Feather La 74.30 48 P P 22 51 08.1 +0.1
baz=314
MILM Milestii Mici 74.56 321 ⇓P P 22 51 09.0 +0.1
MILM Milestii Mici 74.56 321 *e*P P 22 51 11.0 +2.1
comp=Z,12nm,0.4s
MILM Milestii Mici 74.56 321 *e*P P 22 51 11.0 +2.1
MILM pmax pmax
comp=Z,12nm,0.4s
ISCO Idaho Springs 75.24 49 P P 22 51 13.4 0.0
baz=314
BUR08 Bucovina Ar. S 75.65 323 P P 22 51 15.8 +0.4
BUR08 IAmb IAmb 22 51 21.5
comp=Z,4.9nm,0.7s
BURAR Bucovina Array 75.67 323 ⇑P P 22 51 15.9 +0.5
BURAR Bucovina Array 75.67 323 P P 22 51 16.1 +0.7
BURAR pmax pmax
comp=Z,7.0nm,0.6s
BURAR Bucovina Array 75.67 323 P P 22 51 16.1 +0.7
BURAR IAmb IAmb 22 51 19.9
comp=Z,7.3nm,0.6s
TESR Tescani 75.86 322 ⇑P P 22 51 17.4 +1.0
OJC Ojcow 75.90 328 P P 22 51 16.9 +0.3
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC Ojcow 75.90 328 P P 22 51 16.9 +0.3
OJC IAmb IAmb 22 51 20.8
comp=Z,9.0nm,0.8s
CFR Carcaliu 76.17 320 ⇑P P 22 51 18.5 +0.4
CRVS Cervenica-Dubn 76.27 326 *e*P P 22 51 21.6 +2.9
CRVS Cervenica-Dubn 76.27 326 *e*P P 22 51 21.6 +2.9

OGNE Ogallala 76.38 46 P P 22 51 19.2 -0.3
baz=316
SDCO Great Sand Dun 76.74 51 P P 22 51 21.5 -0.4
baz=315
BNN Bunyan 76.80 311 P P 22 51 22.6 +0.6
BNN IAmb IAmb 22 51 27.9
comp=Z,11nm,0.9s
MORW Morawa 76.83 207 P P 22 51 22.7 +0.7
DOPR Dopca 76.84 322 ⇑P P 22 51 23.4 +1.4
LANS Liptovska Anna 76.88 327 *e*P P 22 51 24.0 +1.8
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 76.88 327 *e*P P 22 51 24.0 +1.8
MLR Muntele Rosu 76.95 321 ⇑P P 22 51 23.2 +0.4
MLR Muntele Rosu 76.95 321 P P 22 51 23.2 +0.4
MLR pmax pmax
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 76.95 321 P P 22 51 23.2 +0.4
CHVC Chvalec 77.03 330 *e*P P 22 51 22.4 -0.6
ECSD EROS Data Cent 77.09 41 P P 22 51 23.2 -0.3
baz=318
ICOR Ion Corvin 77.12 319 ⇑P P 22 51 25.3 +1.8
DPC Dobruska-Polom 77.12 330 *e*P P 22 51 23.8 +0.3
DPC *e* 22 51 45.4
DPC Dobruska-Polom 77.12 330 *e*P P 22 51 23.8 +0.3
DPC *e*pP pP 22 51 45.4 +1.9
MORC Moravsky Berou 77.13 329 ⇑P P 22 51 25.0 +1.5
MORC Moravsky Berou 77.13 329 P P 22 51 24.3 +0.7
MORC pmax pmax
comp=Z,9.0nm,0.8s
MORC Moravsky Berou 77.13 329 P P 22 51 24.3 +0.7
MORC IAmb IAmb 22 51 28.2
comp=Z,9.3nm,0.8s
MORC Moravsky Berou 77.13 329 *e*P P 22 51 24.3 +0.7
KRLC Kraliky 77.17 329 *e*P P 22 51 23.1 -0.7
KRLC *e* 22 51 27.4
KRLC Kraliky 77.17 329 *e*P P 22 51 23.1 -0.7
KRLC *ex* x 22 51 27.4
BR131 Keskin Array S 77.38 313 P P 22 51 25.6 +0.4
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 77.38 313 P P 22 51 25.6 +0.4
BRTR Keskin Array B 77.38 313 P P 22 51 25.7 +0.4
comp=Z,1.5nm,0.7s,baz=61,slow=3.4,SNR=7.6
BRTR Keskin Array B 77.38 313 *ce*P P 22 51 25.8 +0.5
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 77.38 313 P P 22 51 25.4 +0.1
DRGR 77.39 324 ⇑P P 22 51 26.3 +1.2
DRGR 77.39 324 P P 22 51 26.3 +1.2
VOIR 77.40 322 ⇑P P 22 51 26.5 +1.2
VOIR 77.40 322 P P 22 51 26.4 +1.2
CLL Collm 77.52 332 P P 22 51 26.6 +1.0
CLL pmax pmax
comp=Z,13nm,1.0s
CLL Collm 77.52 332 P P 22 51 26.6 +1.0
CLL IAmb IAmb 22 51 29.7
comp=Z,13nm,1.0s
CLL Collm 77.52 332 *e*P P 22 51 25.0 -0.6
comp=Z,10.0nm,0.6s
CLL *e*pP pP 22 51 46.0 +0.4
PVCC Panska Ves 77.62 331 *e*P P 22 51 29.3 +3.1
PVCC Panska Ves 77.62 331 *e*P P 22 51 29.3 +3.1
ARR Arges 77.64 322 ⇑P P 22 51 28.1 +1.5
VYHS Vyhne 77.66 327 *e*P P 22 51 27.7 +1.2
VYHS pmax pmax
comp=Z,4.0nm,0.6s
VYHS Vyhne 77.66 327 *e*P P 22 51 27.7 +1.2
KOLL Kolacno 77.76 327 *e*P P 22 51 29.2 +2.2
JAVC Velka Javorina 77.82 328 *e*P P 22 51 29.2 +1.7
VRAC Vranov 77.87 329 *e*P P 22 51 28.4 +0.7
PRU Pruhonice 78.07 330 *e*P P 22 51 29.7 +0.9
PRU Pruhonice 78.07 330 *e*P P 22 51 29.7 +0.9
KRUC Moravsky 78.15 329 *e*P P 22 51 29.8 +0.6
SMOL Smolenice 78.19 328 *e*P P 22 51 30.7 +1.2
SMOL Smolenice 78.19 328 *e*P P 22 51 30.7 +1.2
GZR Gura Zlata 78.45 323 ⇑P P 22 51 31.5 +0.5
EKA Eskdalemuir Ar 78.53 343 P P 22 51 30.8 -0.4
ESK Eskdalemuir 78.56 343 P P 22 51 31.8 +0.5
ESK pmax pmax
comp=Z,51nm,1.5s
ESK Eskdalemuir 78.56 343 P P 22 51 31.8 +0.5
SCHQ Schefferville 78.58 19 P P 22 51 31.8 +0.3
comp=Z,3.9nm,0.7s,baz=20,slow=8.1,SNR=7.5
SCHQ Schefferville 78.58 19 P P 22 51 31.4 -0.1
SCHQ IAmb IAmb 22 51 54.5
comp=Z,6.8nm,1.1s
BZS Buzias 78.79 324 ⇓P P 22 51 33.9 +1.2
HERR Herculane 79.01 323 ⇓P P 22 51 34.3 +0.3
CKRC Cesky Krumlov 79.13 330 *e*P P 22 51 34.9 +0.3
KHC Kasperske Hory 79.14 330 *i* P P 22 51 33.3 -1.4
KHC pmax pmax
comp=Z,27nm,1.8s
KHC Kasperske Hory 79.14 330 P P 22 51 35.2 +0.5
KHC IAmb IAmb 22 51 39.9
comp=Z,4.5nm,0.6s
KHC Kasperske Hory 79.14 330 *e*P P 22 51 34.8 +0.1
KHC *ex* x 22 51 37.7
KHC *e*pP pP 22 51 55.3 +0.6
CONA Conrad Observa 79.28 328 *e*P P 22 51 36.6 +1.0
comp=Z,2.4nm,0.7s
RONA Rosalia, Austr 79.30 328 *e*P P 22 51 37.4 +1.8
comp=Z,0.4nm,0.2s
GERES GERESS Array B 79.33 330 P P 22 51 35.8 0.0
comp=Z,0.7nm,0.5s,baz=46,slow=5.8,SNR=6.8
VTS Vitosha 80.41 321 ⇑P P 22 51 42.7 +0.9
VTS Vitosha 80.41 321 P P 22 51 42.8 +0.9
VTS pmax pmax
comp=Z,5.0nm,0.9s
VTS Vitosha 80.41 321 P P 22 51 42.8 +0.9
RDO Rodhopi 80.46 319 P P 22 51 42.5 +0.6
RDO IAmb IAmb 22 52 11.2
comp=Z,12nm,1.2s
SOKA Soboth 80.63 328 *e*P P 22 51 43.7 +0.8
comp=Z,2.4nm,0.6s
DIVS Divibare 80.69 324 P P 22 51 43.2 0.0
KBA Koelnbreinsper 80.94 329 *e*P P 22 51 45.8 +1.2
comp=Z,3.5nm,0.4s
WATA Walderalm 81.37 331 *e*P P 22 51 47.2 +0.4
comp=Z,2.6nm,0.4s
WTTA Wattenberg 81.41 330 *e*P P 22 51 47.6 +0.5
comp=Z,2.4nm,0.5s
MOTA Moosalm 81.53 331 *e*P P 22 51 48.1 +0.4
comp=Z,2.0nm,0.4s
SQTA Sankt Quirin 81.60 331 *e*P P 22 51 48.5 +0.4
comp=Z,1.5nm,0.3s
DAVA Damuels 82.02 331 *e*P P 22 51 50.8 +0.5
comp=Z,1.7nm,0.4s
PDG Podgorica 82.35 323 P P 22 51 51.9 0.0
PDG IAmb IAmb 22 52 10.8
comp=Z,12nm,0.9s
WMOK Wichita Mounta 82.66 49 P P 22 51 53.8 +0.1
baz=318
TX31 Lajitas Ar. Si 83.79 55 P P 22 52 00.8 +1.1
TX31 IAmb IAmb 22 52 01.8
comp=Z,10nm,1.1s
TXAR Lajitas Array 83.79 55 P P 22 52 00.7 +1.0
comp=Z,1.1nm,0.7s,baz=316,slow=4.9,SNR=8.9
TXAR Lajitas Array 83.79 55 P P 22 52 00.4 +0.7
CCM Cathedral Cave 84.05 42 P P 22 52 00.7 0.0
baz=322
LMQ La Malbaie 84.28 24 P P 22 52 01.6 -0.1
KEK Kerkira 84.29 321 P P 22 52 01.8 -0.1
U40A Yellville 84.57 44 P P 22 52 03.4 0.0
baz=321
NRCA Norcia 84.59 327 P P 22 52 04.0 +0.5
NRCA IAmb IAmb 22 52 16.1
comp=Z,17nm,1.3s
W39A Magazine 84.99 45 P P 22 52 05.9 +0.4
baz=321
ITM Ithomi 85.30 318 P P 22 52 06.9 -0.2
WHTX Lake Whitney, 85.45 50 P P 22 52 08.0 +0.2
baz=319
MIAR Mount Ida 85.60 46 P P 22 52 08.3 -0.2
baz=321
WHAR Wooly Hollow 85.69 44 P P 22 52 09.5 +0.5
WHAR IAmb IAmb 22 52 10.2
comp=Z,7.6nm,0.9s
W41B Gary Mavity, V 85.80 44 P P 22 52 09.6 +0.1
baz=322
M55A Ridgway 86.73 32 P P 22 52 14.5 +0.4
M55A IAmb IAmb 22 52 42.9
comp=Z,13nm,1.4s
O53A New Philadelph 86.79 34 P P 22 52 15.0 +0.7

	baz=328							
LMN	**Caledonia Moun**	**87.37**	**21**	P	**P**	**22 52 17.5**	**+0.5**	
TKL	**Tuckaleechee C**	**89.51**	**38**	P	**P**	**22 52 27.0**	**-0.3**	
TKL				pmax	pmax			
	comp=Z,5.0nm,0.9s							
TKL	**Tuckaleechee C**	**89.51**	**38**	P	**P**	**22 52 27.0**	**-0.3**	
TKL				IAmb	IAmb	22 52 28.7		
	comp=Z,4.7nm,0.8s							
LRAL	**Lakeview Retre**	**90.13**	**42**	P	**P**	**22 52 29.4**	**-0.9**	
	baz=324							
ESDC	**Sonseca Array**	**93.27**	**337**	P	**P**	**22 52 44.4**	**-0.3**	
	comp=Z,0.6nm,0.5s,baz=14,slow=4.3,SNR=9.6							
ESDC	**Sonseca Array**	**93.27**	**337**	P	**P**	**22 52 44.4**	**-0.3**	
H03N2	**Juan Fernandez**	**143.86**	**90**	T	T	01 40 16.8		
	baz=302,slow=76							
H03N3	**Juan Fernandez**	**143.88**	**90**	T	T	01 40 16.1		
	baz=302,slow=76							
H03N1	**Juan Fernandez**	**143.88**	**90**	T	T	01 40 19.9		
	baz=302,slow=76							
TROLL	**Troll, Antarti**	**146.03**	**199**	P	**PKPab**	**22 59 09.7**	**+0.5**	
SNAA	**Sanae**	**147.51**	**198**	P	**PKPbc**	**22 59 13.4**	**+0.8**	
VNA2	**Neumayer--Watz**	**149.05**	**197**	P	**PKiKP**	**22 59 17.8**	**0.0**	
	baz=100,slow=1.0							
VNA3	**Neumayer Olymp**	**149.26**	**195**	P	**PKiKP**	**22 59 18.0**	**-0.2**	

*IDC **26** 22:54:26.4±5.4, 19.°20S×175.°38W, h221km±36km, mb3.9/4, mb1 3.9/6, mb1mx3.4/35, mbtmp4.4/6, Error ellipse: s-maj=55.1km s-min=26.0km az=62.0*
*NEIC **26** 22:54:29.4±1.2, 19.°3S±0.°3×175.°45W±0.°07, h230km±17km, mb4.3/10, Error ellipse: s-maj=42.3km s-min=6.9km az=188.0*

ISC 26 22:54:28.8±1.0, **19.°4S**±0.°2×**175.°55W**±0.°10, **h223**km, **n20,** σ0**°95**/20, **mb4.1/6, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.32**	**88**	Pn	**Pn**	**22 55 47.7**	**-0.1**
MSVF	**Nonsavu**	**6.28**	**284**	P	**Pn**	**22 55 59.0**	**-1.1**
	0.4nm,0.3s,baz=95,slow=21,SNR=1.3						
MSVF	**Nonsavu**	**6.28**	**284**	Pn	**Pn**	**22 56 01.7**	**+1.6**
PINNC	**Pines Island,**	**16.21**	**255**	P	**Pn**	**22 58 06.0**	**+1.4**
DZM	**Mont Dzumac**	**17.06**	**258**	P	**Pn**	**22 58 14.3**	**-0.5**
	0.6nm,0.3s,baz=67,slow=17,SNR=6.0						
DZM	**Mont Dzumac**	**17.06**	**258**	P	**Pn**	**22 58 16.1**	**+1.3**
DZM				IAmb	IAmb	22 58 30.7	
	comp=Z,28nm,1.3s						
URZ	**Urewera**	**19.90**	**197**	P	**P**	**22 58 42.9**	**-0.4**
	comp=Z,3.7nm,0.3s,baz=21,slow=3.4,SNR=8.9						
URZ	**Urewera**	**19.90**	**197**	P	**P**	**22 58 43.2**	**-0.1**
URZ				IAmb	IAmb	22 58 45.1	
	comp=Z,17nm,1.1s						
LTZ	**Lake Taylor**	**25.53**	**201**	P	**P**	**22 59 37.3**	**+0.3**
CTA	**Charters Tower**	**35.91**	**262**	P	**P**	**23 01 07.3**	**-0.8**
	comp=Z,7.8nm,0.8s,baz=92,slow=9.7,SNR=5.0						
CTAO	**Charters Tower**	**35.91**	**262**	P	**P**	**23 01 07.9**	**-0.2**
CTAO				IAmb	IAmb	23 01 08.6	
	comp=Z,11nm,0.9s						
WR0	**Warramunga Arr**	**46.86**	**260**	P	**P**	**23 02 36.1**	**-0.9**
WR0				IAmb	IAmb	23 02 48.9	
	comp=Z,10.0nm,1.4s						
AS31	**Alice Springs**	**47.03**	**255**	P	**P**	**23 02 37.8**	**-0.5**
ASAR	**Alice Springs**	**47.03**	**255**	P	**P**	**23 02 37.5**	**-0.8**
	comp=Z,5.4nm,0.6s,baz=88,slow=8.2,SNR=46						
ASAR	**Alice Springs**	**47.03**	**255**	P	**P**	**23 02 38.0**	**-0.2**
WRA	**Warramunga Arr**	**47.05**	**260**	P	**P**	**23 02 37.0**	**-1.5**
	comp=Z,2.0nm,0.5s,baz=95,slow=7.6,SNR=30						
WRA	**Warramunga Arr**	**47.05**	**260**	P	**P**	**23 02 37.2**	**-1.3**
KNRA	**Kununurra**	**53.05**	**265**	P	**P**	**23 03 23.2**	**-0.3**
KNRA				IAmb	IAmb	23 03 52.3	
	comp=Z,18nm,1.1s						
QSPA	**South Pole Qui**	**70.72**	**180**	P	**P**	**23 05 20.9**	**+0.5**
QSPA				IAmb	IAmb	23 05 29.3	
	comp=Z,2.9nm,1.1s						
BRTR	**Keskin Array B**	**147.71**	**315**	PKPbc	**PKPdf**	**23 13 45.3**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=53,slow=4.1,SNR=1.6						

*IDC **26** 22:56:09.9±1.7, 19.°87N×70.°27W, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.6/30, mbtmp3.5/6, MS2.6/1, Ms1 2.6/1, ms1mx2.3/52, Error ellipse: s-maj=59.0km s-min=27.5km az=9.0*
*SSNC **26** 22:56:11.1±1.4, 19.°33N×70.°21W, h34km±999km, MD4.0, ML3.9*
*NEIC **26** 22:56:13.1±2.9, 19.°74N±0.°05×70.°33W±0.°05, h21km±10km, mb3.9/4, Error ellipse: s-maj=7.2km s-min=6.5km az=219.0*
*OSPL **26** 22:56:14.8±3.3, 19.°57N×70.°30W, h8km±12km, ML3.8, Fault plane solution: NP1:ϕ±20.00000°, δ65.90000°, λ110.90000°.*

ISC 26 22:56:13.1±0.5, **19.°67N**±0.°03×**70.°33W**±0.°03, **h25**km, **n67,** σ1**°39**/79, **mb3.6/6, 1C-5D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SC01	**Santiago de lo**	**0.44**	**237**		**Pb**	**22 56 21.5**	**-0.9**
SC01	**Santiago de lo**	**0.44**	**237**	ASPG		22 56 21.1	
	comp=Z,2μm,0.3s						
SC01				⇓*i* P	**Pb**	**22 56 21.5**	**-0.9**
SC01				ATPG		22 56 22.5	
	comp=Z,8μm,0.3s						
SC01				ASSG		22 56 29.0	
	comp=Z,3μm,0.2s						
SC01				*e*S	**Sb**	**22 56 29.4**	**+0.7**
SC01				ATSG		22 56 31.4	
	comp=Z,9μm,0.3s						
SC01				IAML		22 56 36.6	
	comp=Z,4μm,0.2s						
LONA1	**Toro Cenizo, N**	**0.53**	**123**	ASPG		22 56 21.9	
	comp=Z,4μm,0.3s						
LONA1				⇓*i* P	**Pb**	**22 56 22.3**	**-1.5**
LONA1				ATPG		22 56 23.8	
	comp=Z,17μm,0.3s						
LONA1				ASSG		22 56 30.4	
	comp=Z,182μm,0.3s						
LONA1				*e*S	**Sb**	**22 56 30.8**	**-0.3**
LONA1				ATSG		22 56 31.4	
	comp=Z,455μm,0.3s						
LONA1				IAML		22 56 34.0	
	comp=Z,11μm,0.4s						
LOPP1	**Punta Rusia, P**	**0.84**	**283**	ASPG		22 56 29.8	
	comp=Z,1μm,0.3s						
LOPP1				*i* P	**Pn**	**22 56 30.2**	**+0.9**
LOPP1				ATPG		22 56 30.7	
	comp=Z,4μm,0.6s						
LOPP1				ASSG		22 56 43.0	
	comp=Z,10μm,0.3s						
LOPP1				*e*S	**Sn**	**22 56 43.5**	**+2.6**
LOPP1				ATSG		22 56 45.5	
	comp=Z,28μm,0.3s						
LOPP1				IAML		22 56 47.5	
	comp=Z,3μm,0.4s						
SDDR	**Presa de Saban**	**1.13**	**233**		**Pn**	**22 56 32.2**	**-1.2**
SDDR				Sg	**Sn**	**22 56 47.6**	**-0.6**
SDDR	**Presa de Saban**	**1.13**	**233**	*e*P	**Pn**	**22 56 32.2**	**-1.2**
SDDR				*e*S	**Sn**	**22 56 48.0**	**-0.2**
SDDR	**Presa de Saban**	**1.13**	**233**	ASPG		22 56 31.8	
	comp=Z,694nm,0.3s						
SDDR				⇓*i* P	**Pn**	**22 56 32.2**	**-1.2**
SDDR				ATPG		22 56 34.1	
	comp=Z,2μm,0.3s						
SDDR				ASSG		22 56 47.9	
	comp=Z,7μm,0.2s						
SDDR				*e*S	**Sb**	**22 56 48.3**	**-0.1**
SDDR				IAML		22 56 49.4	
	comp=Z,990nm,0.3s						
SDDR				ATSG		22 56 50.1	
	comp=Z,21μm,0.3s						
SDD	**Santo Domingo**	**1.27**	**162**	Pn	**Pn**	**22 56 33.5**	**-1.8**
SDD	**Santo Domingo**	**1.27**	**162**	ASPG		22 56 33.0	
	comp=Z,267nm,0.3s						
SDD				⇓*i* P	**Pn**	**22 56 33.5**	**-1.8**
SDD				ATPG		22 56 35.0	
	comp=Z,933nm,0.3s						
SDD				ASSG		22 56 49.0	
	comp=Z,1μm,0.2s						
SDD				*e*S	**Sn**	**22 56 49.4**	**-2.0**
SDD				ATSG		22 56 51.5	
	comp=Z,4μm,0.2s						
LODA1	**ITESIL, Dajabo**	**1.30**	**265**	ASPG		22 56 36.3	
	comp=Z,2μm,0.3s						
LODA1				*i* P	**Pb**	**22 56 36.7**	**-0.2**
LODA1				ATPG		22 56 37.8	
	comp=Z,10μm,0.3s						
LODA1				ASSG		22 56 54.3	
	comp=Z,30μm,0.3s						
LODA1				*e*S	**Sb**	**22 56 54.7**	**+1.5**
LODA1				IAML		22 56 56.5	
	comp=Z,3μm,1.0s						
LODA1				ATSG		22 56 56.5	
	comp=Z,93μm,0.4s						
LOBA2	**Hotel Casa Bon**	**1.73**	**205**	*i* P	**Pn**	**22 56 42.4**	**+0.7**
LOBA2				IAML		22 57 09.7	
	comp=Z,371nm,0.5s						
GRTK	**Grand Turk**	**1.98**	**338**	Pn	**Pb**	**22 56 46.4**	**-2.1**
GRTK	**Grand Turk**	**1.98**	**338**	*e*P	**Pb**	**22 56 47.2**	**-1.3**
GRTK				*e*S	**Sb**	**22 57 11.8**	**-1.0**
GRTK	**Grand Turk**	**1.98**	**338**	ASPG		22 56 46.9	
	comp=Z,291nm,0.3s						
GRTK				*i* P	**Pb**	**22 56 47.3**	**-1.3**
GRTK				ATPG		22 56 48.9	
	comp=Z,975nm,0.3s						
GRTK				ASSG		22 57 12.7	
	comp=Z,1μm,0.3s						
GRTK				*e*S	**Sb**	**22 57 13.1**	**+0.3**
GRTK				ATSG		22 57 14.9	
	comp=Z,4μm,0.3s						
GRTK				IAML		22 57 15.6	
	comp=Z,653nm,0.3s						
LOPE2	**Hotel El Peder**	**2.11**	**220**	*i* P	**Pb**	**22 56 49.9**	**-0.8**
LGNH	**Logne**	**2.44**	**242**		**Pb**	**22 56 53.6**	**-2.7**
LGNH	**Logne**	**2.44**	**242**	*e*P	**Pb**	**22 56 54.6**	**-1.7**
LGNH				*e*S	**Sb**	**22 57 25.8**	**-0.2**
LGNH	**Logne**	**2.44**	**242**	*i* P	**Pb**	**22 56 54.4**	**-1.9**
JAKH	**Jacmel**	**2.51**	**236**		**Pb**	**22 56 55.3**	**-2.2**
JAKH	**Jacmel**	**2.51**	**236**	⇑*i* P	**Pb**	**22 56 55.8**	**-1.8**
AGPR	**Aguadilla, PR**	**3.27**	**111**	Pn	**Pn**	**22 57 04.0**	**+1.1**
PRSN	**Puerto Rico Se**	**3.34**	**115**		**Pn**	**22 57 05.2**	**+1.3**
CRPR	**Cabo Rojo, PR**	**3.47**	**118**		**Pn**	**22 57 07.4**	**+1.8**
MLPR	**Magueyes Islan**	**3.54**	**118**	Pn	**Pn**	**22 57 07.6**	**+1.0**
AOPR	**Arecibo Observ**	**3.63**	**111**		**Pn**	**22 57 08.8**	**+0.9**
MASC	**Masc**	**3.70**	**278**	*e*P	**Pn**	**22 57 08.1**	**-0.7**
MASC				IAML		22 58 07.4	
	comp=E,123nm,0.5s						
MASC				IAML		22 58 11.7	
	comp=N,114nm,0.7s						
OBIP	**Obispado Ponce**	**3.88**	**114**		**Pn**	**22 57 12.2**	**+1.0**
CELP	**Cerrillos**	**3.89**	**113**	Pn	**Pn**	**22 57 12.6**	**+1.2**
GCPR	**Guaynabo City**	**4.24**	**108**		**Pn**	**22 57 16.6**	**+0.4**
SJG	**San Juan**	**4.25**	**111**	LR	LR	22 58 53.8	
	comp=N,77nm,20.4s,baz=308,slow=38						
SJG	**San Juan**	**4.25**	**111**		**Pn**	**22 57 16.8**	**+0.5**
PDPR	**Patillas Dam,**	**4.40**	**111**		**Pn**	**22 57 18.8**	**+0.5**
MOAC	**Moa**	**4.46**	**284**	*e*P	**Pn**	**22 57 18.2**	**-0.9**
MOAC				IAML		22 58 34.3	
	comp=E,32nm,0.7s						
MOAC				IAML		22 58 35.5	
	comp=N,66nm,0.3s						
CBYP	**Canovanas**	**4.46**	**107**		**Pn**	**22 57 19.3**	**+0.1**
GTBY	**Guantanamo Bay**	**4.51**	**274**	Pn	**Pn**	**22 57 18.9**	**-0.9**
GTBY	**Guantanamo Bay**	**4.51**	**274**	*e*P	**Pn**	**22 57 18.9**	**-0.9**
GTBY				*e*S	**Sn**	**22 58 07.9**	**-3.5**
HUMP	**Col San Antoni**	**4.51**	**109**		**Pn**	**22 57 20.1**	**+0.3**
MTP	**Monte Pirata**	**4.79**	**108**	Pn	**Pn**	**22 57 23.8**	**+0.1**
CUPR	**Culebra, Puert**	**4.97**	**105**		**Pn**	**22 57 25.3**	**-0.8**
RCC	**Rio Carpintero**	**5.06**	**275**	*e*P	**Pn**	**22 57 26.2**	**-1.3**
RCC				*e*S	**Sn**	**22 58 23.6**	**-1.5**
RCC				IAML		22 58 37.2	
	comp=N,17nm,0.3s						
RCC				IAML		22 58 39.1	
	comp=E,24nm,0.3s						
STVI	**Saint Thomas**	**5.25**	**104**	Pn	**Pn**	**22 57 29.2**	**-0.9**
HLGC	**Holguin**	**5.51**	**284**	*e*P	**Pn**	**22 57 33.7**	**0.0**
CDVI	**St. Croix**	**5.61**	**109**	Pn	**Pn**	**22 57 35.5**	**+0.5**
LMGC	**Las Mercedes**	**6.29**	**275**	*e*P	**Pn**	**22 57 42.4**	**-2.0**
LMGC				⇓*e*S	**Sn**	**22 58 52.0**	**-3.5**
MTDJ	**Mount Denham**	**6.96**	**259**	Pn	**Pn**	**22 57 53.7**	**0.0**
SMRT	**St. Maarten**	**7.06**	**102**	Pn	**Pn**	**22 57 54.0**	**-1.0**
CCCC	**Cccc**	**7.13**	**284**	*e*P	Pn	22 57 49.0	-6.9
CCCC				*e*S	Sn	22 58 59.2	-17
HATO	**Hato, Curacao**	**7.56**	**170**	Pn	**Pn**	**22 58 02.8**	**+0.9**
URIC	**Uribia, Colomb**	**8.08**	**192**	Pn	**Pn**	**22 58 11.0**	**+2.0**
ANWB	**Willy Bob**	**8.34**	**102**	Pn	**Pn**	**22 58 11.5**	**-1.0**
CBE	**Ff, Capester**	**9.05**	**112**	Pn	**Pn**	**22 58 22.5**	**+0.3**
BIRV	**Birongo**	**9.95**	**156**		**Pn**	**22 58 36.2**	**+1.6**
SDV	**Santo Domingo**	**10.72**	**182**	Pn	**Pn**	**22 58 47.9**	**+2.5**
SVB	**Belmont**	**10.78**	**125**	Pn	**Pn**	**22 58 48.0**	**+1.9**
BAUV	**El Baul**	**10.89**	**168**		**Pn**	**22 58 49.2**	**+1.7**
BBSR	**BB Station**	**13.62**	**21**	Pn	**Pn**	**22 59 25.0**	**+0.2**
BCIP	**Isla Barro Col**	**13.91**	**223**	Pn	**Pn**	**22 59 28.3**	**-0.5**
ACON	**Acoyapa**	**16.19**	**244**	P	**P**	**23 00 03.7**	**+1.6**
ACON				IAmb	IAmb	23 00 06.4	
	comp=Z,11nm,1.0s						
W57A	**Gilead**	**17.63**	**333**		**P**	**23 00 17.6**	**-0.3**
OTAV	**Otavalo**	**20.89**	**203**		**P**	**23 00 55.7**	**+1.6**
TXAR	**Lajitas Array**	**31.73**	**294**	P	**P**	**23 02 35.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=113,slow=9.0,SNR=1.9						
NVAR	**Mina Array Bea**	**45.36**	**305**	P	**P**	**23 04 31.5**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=96,slow=5.5,SNR=2.4						
YKA	**Yellowknife Ar**	**52.44**	**336**	P	**P**	**23 05 23.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=114,slow=7.1,SNR=10						
ESDC	**Sonseca Array**	**59.72**	**55**	P	**P**	**23 06 15.2**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=271,slow=7.5,SNR=2.2						
ILAR	**Eielson Array**	**66.66**	**333**	P	**P**	**23 06 59.7**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=124,slow=4.8,SNR=1.7						
TORD	**Torodi Ar. Bea**	**68.97**	**83**	P	**P**	**23 07 17.8**	**+1.0**
	comp=Z,0.6nm,1.0s,baz=282,slow=7.1,SNR=2.1						
WRA	**Warramunga Arr**	**156.79**	**265**	PKPab	**PKPab**	**23 16 37.0**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=86,slow=4.1,SNR=6.4						

IDC 26 22:56:37.5±5.4, **5.°02S×132.°54E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.4/31, mbtmp3.4/3, ML3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/32, Error ellipse: s-maj=343.4km s-min=32.9km az=75.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.93**	**173**	Pn	Pn	23 00 09.7	-0.3
	0.1nm,0.3s,baz=353,slow=13,SNR=14						
ASAR	**Alice Springs**	**18.58**	**176**	P	P	23 00 56.1	-0.1
	0.3nm,0.3s,baz=350,slow=9.7,SNR=13						
MJAR	**Matsushiro Arr**	**41.69**	**7**	LR	LR	23 18 17.5	
	comp=Z,93nm,21.9s,baz=20,slow=31						
MKAR	**Makanchi Array**	**68.01**	**325**	P	P	23 07 38.7	+0.1
	0.1nm,0.4s,baz=114,slow=7.1,SNR=1.7						

*MEX **26** 22:56:45.6±0.5, 14.°75N×93.°63W, h16km±16km, MD4.0*
*GCG **26** 22:56:47.5±0.7, 14.°98N×93.°40W, h34km±999km, MD4.1*

ISC 26 22:56:41.5±2.7, **14.°80N**±0.°09×**93.°60W**±0.°08, **h5**km±13km, **n12,** σ1**°65**/19, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.97**	**22**	*i* P	**Pg**	**22 57 01.4**	**+1.2**
PCIG				*i* S	**Sg**	**22 57 14.2**	**+1.4**
PATR	**El Naranjo**	**1.35**	**76**	*e*P	Pn	22 57 07.0	-0.2
PATR				*e*S	**Sg**	**22 57 22.9**	**-2.2**
PAVE	**Pavencul**	**1.43**	**74**	*e*P	**Pn**	**22 57 08.2**	**-0.1**
PAVE				*i* S	**Sg**	**22 57 25.8**	**-1.7**
CHUJ	**Union Juarez**	**1.47**	**78**	*e*P	Pn	22 57 08.6	-0.2
CHUJ				*e*S	**Sg**	**22 57 26.5**	**-2.3**
CARR	**Arriaga**	**1.47**	**348**	*e*P	**Pn**	**22 57 08.6**	**-0.1**
CARR				*i* S	**Sg**	**22 57 26.2**	**-2.7**
STG3	**Santiaguito 3,**	**1.96**	**92**	*e*P	**Pn**	**22 57 16.6**	**+1.0**
STG3				*e*S	**Sn**	**22 57 39.4**	**-1.3**
TGIG		**2.02**	**13**	*e*P	**Pn**	**22 57 17.3**	**+1.0**
TGIG				*e*S	**Sn**	**22 57 41.6**	**-0.3**
CCIG	**Comitan**	**2.04**	**43**	*e*P	**Pn**	**22 57 18.7**	**+2.1**
CCIG				*e*S	**Sn**	**22 57 41.5**	**-1.0**
CMIG	**Matias Romero**	**2.59**	**332**	*e*P	**Pn**	**22 57 24.3**	**+0.1**
CMIG				*e*S	Sn	22 57 50.9	-5.1
FUG	**Fuego 3**	**2.69**	**97**	*e*P	**Pn**	**22 57 26.4**	**+0.8**
FUG				*e*S	**Sn**	**22 57 57.8**	**-0.8**
PCG	**Pacaya**	**2.92**	**98**	*e*P	**Pn**	**22 57 30.8**	**+2.0**
NBG	**Las Nubes**	**3.15**	**93**	*e*P	**Pn**	**22 57 33.8**	**+1.8**

*IDC **26** 23:08:35.9±1.6, 0.°59N×79.°83W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/33, mbtmp3.6/5, MS3.4/2, Ms1 3.4/2, ms1mx2.7/46, Error ellipse: s-maj=90.0km s-min=23.2km az=52.0*

ISC 26 23:08:35.4±1.3, **0.°0N**±0.°1×**80.°46W**±0.°08, **h9**km, **n17,** σ1**°47**/15, **mb3.6/4, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAC1	**Pacto, Paraso**	**1.69**	**82**	*e*P	**Pn**	**23 09 03.1**	**-2.1**
PAC1				*e*S	**Sg**	**23 09 30.4**	**+0.6**
PAC1				*i*		23 09 36.6	
	comp=Z,789nm,0.6s						
CUSE	**Cuicocha Este**	**2.08**	**82**	*e*P	**Pn**	**23 09 10.6**	**-0.3**
CUSE				*e*S	**Sn**	**23 09 39.0**	**+1.8**
CUSE				*i*		23 09 44.7	
	comp=Z,783nm,0.4s						
TULM	**Tulcn-Chalpat**	**2.77**	**75**	*e*P	**Pn**	**23 09 21.8**	**+1.5**
GCUF	**Volcan Galeras**	**3.34**	**69**	*e*P	**Pn**	**23 09 28.4**	**+0.1**
GR1C	**Gorgona, Isla**	**3.75**	**38**	*e*P	**Pn**	**23 09 39.9**	**-2.0**
SOTA	**Rioblanco**	**4.39**	**61**	*e*P	**Pn**	**23 09 42.8**	**+0.1**
POPC	**Popayan, Colom**	**4.54**	**56**	*e*P	**Pn**	**23 09 43.7**	**-0.9**
PCON	**Cinco Dias**	**4.67**	**60**	*e*P	**Pn**	**23 09 47.1**	**+0.6**
YOTC	**Yotoco, Valle**	**5.70**	**46**	*e*P	Pb	23 10 08.5	-6.6
ANIL	**Santa Ana**	**6.73**	**49**	*e*P	**Pn**	**23 10 16.7**	**+2.0**
JTS	**Las Juntas de**	**11.14**	**337**	LR	LR	23 14 28.6	
	comp=Z,78nm,18.8s,baz=212,slow=32						
LPAZ	**La Paz**	**20.26**	**144**	P	Pn	23 13 14.8	+0.9
	comp=Z,2.4nm,0.6s,baz=320,slow=10,SNR=11						
SIV	**San Ignacio**	**24.88**	**131**	P	**P**	**23 13 59.7**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=310,slow=11,SNR=4.8						
NVAR	**Mina Array Bea**	**51.65**	**322**	P	**P**	**23 17 44.8**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=138,slow=7.7,SNR=5.0						
YKA	**Yellowknife Ar**	**67.39**	**344**	P	**P**	**23 19 30.0**	**-0.8**
	comp=Z,0.4nm,1.0s,baz=134,slow=6.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**82.36**	**77**	P	**P**	**23 20 57.1**	**-1.3**
	comp=Z,0.6nm,1.1s,baz=274,slow=4.2,SNR=2.2						
JMIC	**Jan Mayen**	**84.16**	**18**	LR	LR	23 54 19.3	
	comp=Z,63nm,21.4s,baz=3.0,slow=33						

IDC 26 23:26:15.4±2.5, **6.°05S×126.°73E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.4/36, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=331.1km s-min=32.5km az=64.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.66**	**153**	Pn	P	23 29 59.8	-2.1
	0.2nm,0.3s,baz=332,slow=12,SNR=22						
ASAR	**Alice Springs**	**18.82**	**159**	P	P	23 30 35.6	-1.3
	0.1nm,0.3s,baz=343,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**65.69**	**328**	P	P	23 37 01.9	+0.1
	0.1nm,0.4s,baz=134,slow=8.3,SNR=1.8						

*NOU **26** 23:34:06.8, 19.°84S×170.°32E, h0km, mb4.5/10, Vanuatu Islands*
*IDC **26** 23:34:08.3±1.8, 19.°70S×169.°87E, h0km, mb4.1/3, mb1 4.2/5, mb1mx3.9/41, mbtmp4.1/5, ML3.9/2, MS3.6/7, Ms1 3.6/7, ms1mx3.1/58, Error ellipse: s-maj=68.0km s-min=24.9km az=151.0*
*NEIC **26** 23:34:14.7±0.9, 19.°9S±0.°1×169.°8E±0.°1, h35km±2km, mb4.4/6, Error ellipse: s-maj=20.3km s-min=17.3km az=51.0*

ISC 26 23:34:12.3±0.9, **19.°82S**±0.°08×**169.°98E**±0.°09, **h30**km, **n35,** σ1**°05**/33, **mb4.4/7, MS3.7/6, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.46**	**227**	Pn	**Pn**	**23 34 49.6**	**-0.8**
DVP	**Devils Point**	**2.68**	**321**	P	**Pn**	**23 34 53.3**	**-0.1**
LIFNC	**LIFOU**	**2.74**	**249**	Pn	**Pn**	**23 34 53.4**	**-0.7**
YATNC	**Mamie plateau,**	**3.64**	**232**	P	**Pn**	**23 35 08.1**	**+1.4**
PINNC	**Pines Island,**	**3.65**	**220**	Pn	**Pn**	**23 35 06.1**	**-0.6**
PINNC	**Pines Island,**	**3.65**	**220**	P	**Pn**	**23 35 06.4**	**-0.3**
OUENC	**Ouen Island, N**	**3.90**	**228**	Pn	**Pn**	**23 35 10.8**	**+0.6**
OUENC	**Ouen Island, N**	**3.90**	**228**	P	**Pn**	**23 35 12.0**	**+1.8**
DZM	**Mont Dzumac**	**3.99**	**235**	Pn	**Pn**	**23 35 11.1**	**-0.4**
	1.0nm,0.3s,baz=76,slow=19,SNR=24						
DZM				Sn	**Sn**	**23 35 58.5**	**+1.2**
	2.8nm,0.3s,baz=127,slow=20,SNR=1.8						
DZM				LR	LR	23 36 29.1	
	comp=Z,287nm,18.1s,baz=91,slow=36						
DZM	**Mont Dzumac**	**3.99**	**235**	*e*Pn	**Pn**	**23 35 11.5**	**0.0**
	12nm,0.2s						
DZM				*e*Sn	**Sn**	**23 35 54.7**	**-2.6**
	15nm,0.2s						
DZM	**Mont Dzumac**	**3.99**	**235**		**Pn**	**23 35 10.6**	**-0.9**
DZM	**Mont Dzumac**	**3.99**	**235**	P	**Pn**	**23 35 12.4**	**+0.9**
NOUC	**Port Laguerre**	**4.11**	**236**	P	**Pn**	**23 35 14.0**	**+0.9**
ONTNC	**Ouen Toro**	**4.12**	**232**	Pn	**Pn**	**23 35 13.9**	**+0.8**
ONTNC	**Ouen Toro**	**4.12**	**232**	P	**Pn**	**23 35 14.2**	**+1.1**
KOUNC	**Koumac, New Ca**	**5.39**	**261**	Pn	**Pn**	**23 35 29.7**	**-1.0**
KOUNC	**Koumac, New Ca**	**5.39**	**261**	P	**Pn**	**23 35 33.0**	**+2.3**

AFI	Afiamalu	4.19	35			Pn	23 55 28.7	+1.0
AFI	Afiamalu	4.19	35	P		Pn	23 55 29.5	+1.8
NIUE	Niue	4.41	113	Pn		Pn	23 55 32.2	+1.7
MSVF	Nonsavu	7.38	266	P		Pn	23 56 19.9	+9.0
	4.1nm,0.3s,baz=100,slow=13,SNR=46							
MSVF				LR		LR	23 58 07.0	
	comp=Z,462nm,18.7s,baz=49,slow=30							
MSVF	Nonsavu	7.38	266	Pn		Pn	23 56 20.1	+9.3
MSVF	Nonsavu	7.38	266	P		Pn	23 56 20.9	+10
FUNA	Funafuti	0.90	323	Pn		Pn	23 57 05.2	+6.6
RAR	Rarotonga	14.16	108	P		P	23 57 45.7	+0.2
	1.3nm,0.3s,baz=264,slow=8.2,SNR=7.0							
RAR	Rarotonga	14.16	108	P		P	23 57 44.7	-0.8
MARNC	Mare, Loyalty	17.22	254	P		Pn	23 58 21.1	+1.4
SANVU	Saraoutou	17.93	274	P		Pn	23 58 29.3	+1.2
SANVU				IAmb		IAmb	23 58 48.4	
	comp=Z,40nm,0.8s							
DZM	Mont Dzumac	18.78	253	P		Pn	23 58 38.8	+0.3
	comp=Z,0.4nm,0.3s,baz=80,slow=18,SNR=5.8							
DZM				LR		LR	00 04 55.4	
	comp=Z,333nm,18.6s,baz=64,slow=34							
DZM	Mont Dzumac	18.78	253	eP		Pn	23 58 37.7	-0.7
	comp=Z,24nm,0.8s							
DZM				eLR		LR	00 02 46.5	
	comp=Z,463nm,25.6s							
DZM	Mont Dzumac	18.78	253	P		Pn	23 58 38.4	-0.1
DZM				IAmb		IAmb	23 58 57.6	
	comp=Z,21nm,0.9s							
ONTNC	Ouen Toro	18.82	252	P		Pn	23 58 37.9	-0.9
URZ	Urewera	22.13	198	P		P	23 59 12.6	+0.1
	comp=Z,14nm,0.6s,baz=76,slow=4.2,SNR=15							
URZ				S		S	00 03 02.9	-6.4
	comp=Z,2.0nm,0.6s,baz=90,slow=20,SNR=1.1							
URZ	Urewera	22.13	198	P		P	23 59 13.2	+0.7
URZ				IAmb		IAmb	23 59 20.8	
	comp=Z,25nm,0.9s							
URZ	Urewera	22.13	198	P		P	23 59 13.5	+1.1
BKZ	Black Stump Fm	23.15	199	P		P	23 59 25.6	+2.9
PPT2	Papeete2	23.50	94	eLR		LR	00 04 39.4	
	comp=Z,677nm,31.0s							
PPT	Papeete	23.50	94	LR		LR	00 06 47.7	
	comp=Z,155nm,18.4s,baz=220,slow=31							
TBI	Tubuai	23.94	108	eLR		LR	00 04 38.6	
	comp=Z,553nm,35.0s							
BFZ	Birch Farm	24.62	198	P		P	23 59 37.8	+1.8
QRZ	Quartz Range	26.00	203	P		P	23 59 51.6	+3.1
QRZ	Quartz Range	26.00	203	P		P	23 59 51.8	+3.4
TUWZ	Tuamarina	26.02	201	P		P	23 59 50.0	+1.4
KHZ	Kahutara	27.04	200	P		P	23 59 58.6	+0.9
RPZ	Rata Peaks	29.04	202	P		P	00 00 14.7	-0.9
	comp=Z,2.2nm,0.3s,baz=74,slow=8.8,SNR=1.4							
EIDS	Eidsvold	33.19	250	P		P	00 00 52.4	+0.1
EIDS				IAmb		IAmb	00 01 02.3	
	comp=Z,20nm,1.3s							
ARMA	Armidale	33.66	241	P		P	00 00 56.4	-0.1
ARMA				IAmb		IAmb	00 01 17.6	
	comp=Z,18nm,1.2s							
CTA	Charters Tower	37.47	260	LR		LR	00 14 14.1	
	comp=Z,150nm,20.9s,baz=82,slow=32							
CTAO	Charters Tower	37.47	260	P		P	00 01 27.2	-1.8
H11S2	WAKE ISLAND Hy	40.30	331	T		T	00 43 36.2	
	baz=146,slow=76,SNR=19							
H11S3	WAKE ISLAND Hy	40.31	331	T		T	00 43 37.2	
	baz=146,slow=76,SNR=16							
H11S1	WAKE ISLAND Hy	40.31	331	T		T	00 43 33.4	
	baz=146,slow=76,SNR=14							
COEN	Coen	41.10	269	P		P	00 01 59.0	-0.3
H11N3	WAKE ISLAND Hy	41.28	332	T		T	00 46 50.8	
	baz=145							
H11N1	WAKE ISLAND Hy	41.28	332	T		T	00 46 43.0	
	baz=145,slow=74							
H11N2	WAKE ISLAND Hy	41.30	332	T		T	00 46 47.2	
	baz=145,slow=74							
STKA	Stephens Creek	42.38	242	P		P	00 02 08.7	-0.8
	comp=Z,10nm,0.9s,baz=85,slow=11,SNR=9.3							
STKA				LR		LR	00 18 03.4	
	comp=Z,105nm,19.2s,baz=17,slow=34							
STKA	Stephens Creek	42.38	242	P		P	00 02 09.7	+0.1
BBOO	Buckleboo	47.15	241	P		P	00 02 46.6	-0.8
BBOO				IAmb		IAmb	00 03 01.6	
	comp=Z,16nm,1.0s							
WR0	Warramunga Arr	48.46	259	P		P	00 02 56.5	-1.2
WR0				IAmb		IAmb	00 02 57.9	
	comp=Z,7.8nm,0.9s							
WB0	Warramunga Arr	48.62	259	P		P	00 02 57.3	-1.6
WB2	Warramunga Arr	48.64	259	P		P	00 02 57.7	-1.4
WRA	Warramunga Arr	48.65	259	P		P	00 02 57.6	-1.5
	comp=Z,11nm,0.7s,baz=96,slow=7.0,SNR=124							
WRA				LR		LR	00 20 58.2	
	comp=Z,114nm,20.9s,baz=10,slow=33							
WRA	Warramunga Arr	48.65	259	P		P	00 02 57.5	-1.6
AS31	Alice Springs	48.77	254	P		P	00 02 59.1	-0.9
ASAR	Alice Springs	48.77	254	P		P	00 02 59.0	-1.1
	comp=Z,54nm,0.7s,baz=88,slow=8.6,SNR=339							
ASAR				ScP		ScP	00 08 07.7	-1.0
	comp=Z,1.0nm,0.9s,baz=118,slow=4.4,SNR=4.7							
ASAR				LR		LR	00 24 42.5	
	comp=Z,66nm,18.1s,baz=9.5,slow=37							
ASAR	Alice Springs	48.77	254	P		P	00 02 59.3	-0.7
GUMO	Guam	50.78	305	LR		LR	00 23 27.2	
	comp=Z,22nm,18.1s,baz=100,slow=34							
MTN	Manton Dam	52.81	267	P		P	00 03 28.8	-1.6
MTN				IAmb		IAmb	00 03 36.4	
	comp=Z,9.5nm,0.9s							
KNRA	Kununurra	54.51	263	P		P	00 03 41.6	-1.2
FITZ	Fitzroy Crossi	57.05	259	LR		LR	00 28 18.5	
	comp=Z,147nm,18.5s,baz=24,slow=36							
FITZ	Fitzroy Crossi	57.05	259	P		P	00 03 59.7	-1.2
FITZ				IAmb		IAmb	00 04 15.4	
	comp=Z,9.9nm,1.4s							
TNTI	Ternate	60.26	281	P		P	00 04 23.7	+0.5
RPN	Rapa Nui	60.27	112	LR		LR	00 26 28.2	
	comp=Z,62nm,18.0s,baz=237,slow=32							
JCJ	Chichijima	61.19	315	LR		LR	00 25 20.5	
	comp=Z,33nm,20.9s,baz=12,slow=30							
SBA	Scott Base	61.21	185	P		P	00 04 30.9	+2.3
SBA				IAmb		IAmb	00 04 33.1	
	comp=Z,6.6nm,0.8s							
VNDA	Vanda	61.32	186	P		P	00 04 30.7	+1.3
	comp=Z,2.6nm,0.9s,baz=1.5,slow=6.5,SNR=13							
VNDA				LR		LR	00 31 43.4	
	comp=Z,35nm,18.0s,baz=291,slow=36							
VNDA	Vanda	61.32	186	P		P	00 04 30.4	+1.0
TOLI2	Tolitoli	66.56	279	P		P	00 05 04.9	+0.1
MJAR	Matsushiro Arr	69.96	321	LR		LR	00 32 46.1	
	comp=Z,16nm,19.0s,baz=136,slow=33							
QSPA	South Pole Qui	72.66	180	P		P	00 05 41.2	-0.3
QSPA				IAmb		IAmb	00 05 44.3	
	comp=Z,12nm,0.8s							
ASAJ	Asahikawa	72.82	329	LR		LR	00 35 57.6	
	comp=Z,11nm,19.4s,baz=10,slow=34							
PEA0B	Petropavlovsk-	74.29	343	P		P	00 05 51.1	+0.2
PEA0B				IAmb		IAmb	00 05 58.8	
	comp=Z,10nm,1.0s							
PETK	Petropavlovsk-	74.29	343	P		P	00 05 50.1	-0.8
	comp=Z,4.0nm,0.7s,baz=154,slow=11,SNR=5.9							
PETK				LR		LR	00 31 06.5	
	comp=Z,39nm,21.5s,baz=137,slow=30							
O02D	Mt. Diablo Mer	74.63	38	P		P	00 05 55.4	+2.1
O02D				IAmb		IAmb	00 06 04.0	
	comp=Z,7.5nm,1.1s							
M02C	Callahan	75.36	37	P		P	00 05 59.5	+2.0
MDPB	Devils Postpil	75.37	42	P		P	00 05 57.4	-0.4
MDPB				IAmb		IAmb	00 06 13.4	
	comp=Z,9.8nm,0.7s							
YBH	Yreka Blue Hor	75.66	37	P		P	00 06 00.2	+1.0
YBH				IAmb		IAmb	00 06 01.7	
	comp=Z,6.0nm,0.8s							
QSM	Queen of Sheba	75.87	45	P		P	00 06 01.0	+0.6
LCH	Last Change Ra	76.07	43	P		P	00 06 02.5	+0.8
HUMO	Hull Mountain	76.08	36	P		P	00 06 02.7	+1.2
HUMO				IAmb		IAmb	00 06 04.3	
	comp=Z,9.9nm,1.4s							
GWY	Greenwater Val	76.13	45	P		P	00 06 02.8	+0.7
RYN	Ryan	76.31	42	P		P	00 06 04.3	+1.3
RYN				IAmb		IAmb	00 06 05.2	
	comp=Z,12nm,1.4s							
NVAR	Mina Array Bea	76.33	42	P		P	00 06 03.7	+0.5
	comp=Z,2.3nm,0.7s,baz=226,slow=8.8,SNR=16							
NVAR	Mina Array Bea	76.33	42	P		P	00 06 04.3	+1.0
NV11	Mina Array Sit	76.43	42	P		P	00 06 04.2	+0.5
NV11				IAmb		IAmb	00 06 10.5	
	comp=Z,12nm,1.4s							
KVN	Kaiserville	76.82	42	P		P	00 06 06.4	+0.4
TPNV	Topopah Spring	76.83	44	P		P	00 06 07.2	+1.1
KSRS	Korea Array	77.04	316	P		P	00 06 08.0	+1.1
	comp=Z,2.0nm,0.6s,baz=130,slow=6.1,SNR=9.0							
MOD	Modoc Plateau	77.17	38	IAmb		IAmb	00 06 10.6	
	comp=Z,11nm,1.3s							
SHPR	Sheep Range	77.32	45	P		P	00 06 09.8	+1.0
K05A	Summer Lake	77.33	37	IAmb		IAmb	00 06 12.1	
	comp=Z,17nm,1.3s							
Y14A	Wickenburg	77.46	48	IAmb		IAmb	00 06 11.6	
	comp=Z,11nm,1.3s							
PINE	Pine Mountain	77.97	36	P		P	00 06 13.7	+1.4
PINE				IAmb		IAmb	00 06 15.5	
	comp=Z,6.3nm,0.9s							
BMN	Battle Mountai	78.17	41	IAmb		IAmb	00 06 16.1	
	comp=Z,14nm,1.4s							
TUC	Tucson	78.26	51	P		P	00 06 15.8	+1.8
TUC				IAmb		IAmb	00 06 16.6	
	comp=Z,5.7nm,0.8s							
WVOR	Wild Horse Val	78.48	39	IAmb		IAmb	00 06 17.7	
	comp=Z,11nm,1.2s							
USRK	Ussuriysk Ar.	78.51	324	LR		LR	00 34 48.5	
	comp=Z,50nm,21.9s,baz=146,slow=31							
J08A	Circle Bar Ran	79.12	38	IAmb		IAmb	00 06 21.2	
	comp=Z,11nm,1.4s							
SZCU	Shurtz Canyon	79.30	45	IAmb		IAmb	00 06 23.1	
	comp=Z,12nm,1.5s							
MTPU	Mount Pierson	80.15	45	IAmb		IAmb	00 06 26.4	
	comp=Z,8.6nm,1.3s							
121A	Cooks Peak, D	80.60	52	IAmb		IAmb	00 06 29.6	
	comp=Z,7.1nm,0.8s							
TMUT	Trail Mountain	81.44	44	IAmb		IAmb	00 06 34.0	
	comp=Z,7.2nm,0.8s							
BMRM	Bremner River	81.63	14	P		P	00 06 31.9	+0.4
HLID	Hailey	81.66	39	P		P	00 06 32.6	+0.4
KLR	Kul'dur	81.76	328	LR		LR	00 37 36.0	
	comp=Z,20nm,20.6s,baz=260,slow=32							
SRU	San Rafael Swe	81.81	45	IAmb		IAmb	00 06 37.9	
	comp=Z,5.1nm,0.7s							
MA2	Magadan	81.82	343	LR		LR	00 37 01.2	
	comp=Z,34nm,20.3s,baz=132,slow=31							
P17A	Butcher Ranch,	81.85	44	IAmb		IAmb	00 06 36.4	
	comp=Z,12nm,1.4s							
MNTX	Cornudas Mount	82.04	53	IAmb		IAmb	00 06 36.6	
	comp=Z,8.9nm,1.1s							
BELA	Belgrano 2	82.14	172	IAmb		IAmb	00 06 35.4	
	comp=Z,11nm,1.0s							
P18A	Preston Nutter	82.25	44	IAmb		IAmb	00 06 43.7	
	comp=Z,11nm,1.4s							
TX31	Lajitas Ar. Si	82.37	56	IAmb		IAmb	00 06 39.4	
	comp=Z,13nm,1.1s							
TXAR	Lajitas Array	82.37	56	P		P	00 06 36.5	+0.4
	comp=Z,2.8nm,0.9s,baz=212,slow=6.9,SNR=12							
TXAR	Lajitas Array	82.37	56	P		P	00 06 36.2	+0.1
HWUT	Hardware Ranch	82.40	42	IAmb		IAmb	00 06 38.2	
	comp=Z,4.5nm,0.7s							
PV13	Radium Mtn., P	82.50	46	IAmb		IAmb	00 06 38.9	
	comp=Z,8.5nm,1.0s							
PV11	David Mesa, Pa	82.53	46	IAmb		IAmb	00 06 40.8	
	comp=Z,13nm,1.2s							
ANMO	Albuquerque	82.68	50	P		P	00 06 38.1	+0.3
	comp=Z,2.2nm,0.7s,baz=227,slow=4.2,SNR=8.9							
ANMO	Albuquerque	82.68	50	P		P	00 06 38.8	+1.1
ANMO				IAmb		IAmb	00 06 40.9	
	comp=Z,9.4nm,1.3s							
PV07	Paradox Valley	82.76	46	IAmb		IAmb	00 06 40.1	
	comp=Z,9.4nm,1.0s							
RND	Reindeer	82.94	11	IAmb		IAmb	00 06 43.9	
	comp=Z,12nm,1.0s							
RDMU	Red Mountain	83.17	44	IAmb		IAmb	00 06 41.9	
	comp=Z,8.0nm,0.8s							
MCK	McKinley	83.22	11	IAmb		IAmb	00 06 41.5	
	comp=Z,11nm,0.8s							
AHID	Auburn Hatcher	83.29	41	IAmb		IAmb	00 06 43.3	
	comp=Z,9.7nm,0.8s							
S22A	4UR Ranch, Cre	83.69	47	IAmb		IAmb	00 06 46.1	
	comp=Z,12nm,0.9s							
DLMT	Dilon	83.73	39	IAmb		IAmb	00 06 45.0	
	comp=Z,6.5nm,0.8s							
REDW	Red Top Meadow	83.75	41	P		P	00 06 43.6	+0.5
REDW				IAmb		IAmb	00 06 45.7	
	comp=Z,8.7nm,0.9s							
DLBC	Dease Lake	83.84	22	P		P	00 06 43.3	+0.3
	comp=Z,1.3nm,0.8s,baz=242,slow=5.5,SNR=3.3							
LOHW	Long Hollow	84.03	41	IAmb		IAmb	00 06 46.3	
	comp=Z,8.7nm,1.2s							
WRH	Wood River Hil	84.05	11	IAmb		IAmb	00 06 52.9	
	comp=Z,15nm,1.1s							
SEY	Seymchan	84.24	345	P		P	00 06 43.5	-1.2
	comp=Z,2.8nm,0.7s,baz=168,slow=5.8,SNR=11							
SMCO	Snowmass	84.26	46	P		P	00 06 45.4	-0.6
SMCO				IAmb		IAmb	00 06 49.2	
	comp=Z,5.5nm,0.8s							
PDAR	Pinedale Array	84.27	42	P		P	00 06 45.5	-0.3
	comp=Z,9.2nm,0.6s,baz=208,slow=3.2,SNR=76							
H21K	Melozitna Rive	84.38	9	IAmb		IAmb	00 06 54.6	
	comp=Z,9.7nm,1.4s							
BOZ	Bozeman (W)	84.43	39	IAmb		IAmb	00 06 48.5	
	comp=Z,7.5nm,0.8s							
H17A	Grant Village	84.45	40	IAmb		IAmb	00 06 49.8	
	comp=Z,7.5nm,0.8s							
COLA	College	84.46	11	P		P	00 06 46.3	+0.5
MDM	Murphy Dome	84.47	11	IAmb		IAmb	00 06 46.0	
	comp=Z,9.9nm,1.2s							
YHH	Holmes Hill	84.48	40	IAmb		IAmb	00 06 49.2	
	comp=Z,5.1nm,0.9s							
IL31		84.55	11	P		P	00 06 44.7	-1.5
IL31				IAmb		IAmb	00 06 55.9	
	comp=Z,9.1nm,1.4s							
ILAR	Eielson Array	84.55	11	P		P	00 06 45.5	-0.8
	comp=Z,2.5nm,0.5s,baz=221,slow=5.8,SNR=35							
LKWY	Lake	84.65	40	IAmb		IAmb	00 06 51.5	
	comp=Z,13nm,1.2s							
J25K	Salcha River,	84.70	12	IAmb		IAmb	00 06 48.8	
	comp=Z,6.1nm,0.6s							
H03S2	Juan Fernandez	84.76	124	T		T	01 40 12.8	
	baz=249							
POKR	Poker Plat Res	84.76	11	IAmb		IAmb	00 06 48.7	
	comp=Z,12nm,0.9s							
H03S1	Juan Fernandez	84.77	124	T		T	01 40 13.8	
	baz=249							
H03S3	Juan Fernandez	84.78	124	T		T	01 40 12.5	
	baz=249							
RWWY	Rawlins	85.27	44	IAmb		IAmb	00 06 52.9	
	comp=Z,9.4nm,0.9s							
DAWY	Dawson	85.54	15	IAmb		IAmb	00 07 01.1	
	comp=Z,11nm,1.3s							
MAW	Mawson	85.66	199	P		P	00 06 52.8	+0.8
	comp=Z,3.5nm,0.8s,baz=181,slow=2.7,SNR=2.7							
MAW	Mawson	85.66	199	P		P	00 06 51.8	-0.1
N23A	Red Feather La	85.75	45	IAmb		IAmb	00 06 54.9	
	comp=Z,4.9nm,1.1s							
COYC	Coyhaique	85.96	136	P		P	00 06 54.4	+0.5
BILL	Bilibino	86.38	353	P		P	00 06 56.0	+0.7
BILL				IAmb		IAmb	00 06 56.7	
	comp=Z,4.8nm,0.8s							
LL02	Futaleuf	86.96	134	P		P	00 06 59.6	+0.7
EDM	Edmonton	87.59	32	IAmb		IAmb	00 07 19.1	
	comp=Z,7.4nm,1.1s							
LAO	LASA Array	88.24	40	IAmb		IAmb	00 07 07.2	
	comp=Z,7.9nm,0.8s							
RSSD	Black Hills	88.46	43	P		P	00 07 04.8	-1.4
RSSD				IAmb		IAmb	00 07 07.2	
	comp=Z,5.7nm,0.8s							
XAN	Xi'an	89.16	306	⇑P		P	00 07 12.0	+2.5
XAN				sP		sP	00 07 54.0	+5.8
XAN				pmax		pmax		
	comp=Z,7.0nm,1.1s							
HHC	Hu-ho-hao-te	89.80	313	eP		P	00 07 14.3	+1.9
HHC				pmax		pmax		
	comp=Z,17nm,1.0s							
HHC				pmax		pmax		
	comp=Z,87nm,5.0s							
INK	Inuvik	90.39	14	P		P	00 07 14.3	0.0
	comp=Z,1.1nm,0.8s,baz=243,slow=5.1,SNR=2.8							
INK	Inuvik	90.39	14	P		P	00 07 13.6	-0.7
INK				IAmb		IAmb	00 07 23.8	
	comp=Z,4.5nm,1.4s							
MT01	Popeta	90.77	126	P		P	00 07 16.9	-0.2
SNAA	Sanae	90.96	177	P		P	00 07 17.1	-0.1
SNAA				IAmb		IAmb	00 07 19.1	
	comp=Z,5.1nm,1.1s							
YKA	Yellowknife Ar	92.23	24	P		P	00 07 22.4	-0.5
	comp=Z,0.2nm,0.4s,baz=235,slow=4.4,SNR=12							
YKA				LR		LR	00 41 32.4	
	comp=Z,71nm,20.7s,baz=340,slow=31							
PZH	PanZhiHua	92.46	297	P		P	00 07 26.0	+0.9
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,40nm,3.5s							
CMAR	Chiang Mai Arr	92.49	288	P		P	00 07 26.4	+1.2
	comp=Z,1.4nm,0.6s,baz=96,slow=2.7,SNR=10							
CMAR	Chiang Mai Arr	92.49	288	P		P	00 07 26.1	+0.9
NNA	Nana	93.36	104	LR		LR	00 40 58.8	
	comp=Z,25nm,19.3s,baz=288,slow=30							
LZH	Lanzhou	93.77	307	eP		P	00 07 22.5	-8.5
LZH				pP		PcP	00 07 30.5	-0.9
LZH				pmax		pmax		
	comp=Z,13nm,1.4s							
MGMO	Mountain Grove	94.12	52	P		P	00 07 30.0	-2.4
LVC	Limon Verde	96.86	116	LR		LR	00 41 21.6	
	comp=Z,59nm,20.8s,baz=228,slow=29							
LPAZ	La Paz	99.86	111	LR		LR	00 44 37.6	
	comp=Z,50nm,19.2s,baz=216,slow=30							
MKAR	Makanchi Array	111.65	314	PKiKP		PKiKP	00 12 46.3	-1.4
	comp=Z,0.4nm,0.6s,baz=50,slow=1.1,SNR=6.7							
MKAR	Makanchi Array	111.65	314			PKiKP	00 12 46.1	-1.5
ARCES	ARCESS Array B	126.46	352	PKP		PKPdf	00 13 15.1	-0.3
	comp=Z,2.1nm,0.8s,baz=329,slow=2.1,SNR=8.3							
ARCES	ARCESS Array B	126.46	352			PKPdf	00 13 14.8	-0.6
KMBO	Kilima Mbogo	143.94	242	PKP		PKPbc	00 13 48.1	+0.2
	comp=Z,1.7nm,0.4s,baz=30,slow=4.9,SNR=5.8							
SORM	Soroca	144.22	334	⇓P		PKPab	00 13 45.8	-1.1
CLL	Collm	145.68	352	i PKPbc		PKPdf	00 13 51.4	+0.1
	comp=Z,10.0nm,0.8s							
CLL				i PKiKP		PKiKP	00 13 55.5	+0.1
CLL				i x		x	00 14 59.9	
OSTC	Ostas	145.88	348	ePKP		PKPbc	00 13 52.6	+0.1
CHVC	Chvalec	145.88	348	ePKP		PKPab	00 13 53.6	+0.5
BURAR	Bucovina Array	145.90	336	⇑P		PKPab	00 13 53.6	+0.2
UPC	Upice	145.96	348	ePKP		PKPab	00 13 54.6	+1.2
BRG	Berggiesshubel	145.97	351	ePKP		PKPdf	00 13 52.4	+0.6
BRG				Amp			00 13 54.1	
	comp=Z,5.0nm,0.9s							
DPC	Dobruska-Polom	146.05	348	ePKP		PKPbc	00 13 53.2	+0.1
DPC				ex		x	00 14 02.0	
PVCC	Panska Ves	146.20	350	ePKP		PKPab	00 13 54.3	0.0
KRLC	Kraliky	146.22	347	ePKP		PKPbc	00 13 53.2	-0.4
GHRR		146.24	332	⇑P		PKPbc	00 13 54.1	+0.4
MORC	Moravsky Berou	146.33	346	ePKP		PKPbc	00 13 54.3	+0.4
TPGR	Topolog	146.69	330	⇑P		PKPab	00 13 56.6	+0.2
PLOR	Plostina	146.73	333	⇑P		PKPbc	00 13 55.2	0.0
PRU	Pruhonice	146.73	350	ePKP		PKPbc	00 13 55.7	+0.7
NKC	Novy Kostel	146.81	352	ePKP		PKPbc	00 14 01.4	+3.6
VRAC	Vranov	146.98	347	⇑P		PKPab	00 13 58.4	+0.2
VRAC	Vranov	146.98	347	ePKP		PKPab	00 13 57.9	+0.5
TLBR	Topalu	147.09	330	⇑P		PKPbc	00 13 56.7	+0.5
BRTR	Keskin Array B	147.16	318	PKPbc		PKPbc	00 13 56.0	-0.7
	comp=Z,4.9nm,0.9s,baz=133,slow=4.5,SNR=16							
BRTR	Keskin Array B	147.16	318			PKPbc	00 13 56.2	-0.5
DOPR	Dopca	147.17	334	⇓P		PKPbc	00 13 56.2	-0.2
CJR	Cluj-Napoca	147.26	337	⇑P		PKPab	00 13 58.0	-0.6
KRUC	Moravsky	147.26	347	ePKP		PKPab	00 13 58.4	0.0
DRGR		147.51	338	⇑P		PKPbc	00 13 57.6	+0.3
KHC	Kasperske Hory	147.72	350	ePKP		PKPbc	00 13 57.9	+0.1
VOIR		147.74	334	⇑P		PKPbc	00 13 58.0	0.0
CKRC	Cesky Krumlov	147.90	349	ePKP		PKPdf	00 13 55.8	+0.6
CKRC				ex		x	00 14 05.7	
ARR	Arges	147.97	335	⇑P		PKPbc	00 13 58.7	+0.1
GERES	GERESS Array B	147.98	350	PKPbc		PKPbc	00 13 58.0	-0.6
	comp=Z,2.4nm,0.8s,baz=17,slow=1.8,SNR=10.0							
GERES	GERESS Array B	147.98	350	PKPbc		PKPbc	00 13 58.7	+0.1
CONA	Conrad Observa	148.45	347	i P		PKPbc	00 14 00.1	+0.3
	comp=Z,1.9nm,0.5s,SNR=4.2							
RONA	Rosalia, Austr	148.57	346	i P		PKPbc	00 14 00.5	+0.4
	comp=Z,6.3nm,1.3s,SNR=4.0							
MOA	Molln	148.84	349	eP		PKPbc	00 14 01.5	+0.7
	comp=Z,1.3nm,0.6s							
BZS	Buzias	148.91	338	⇓P		PKPbc	00 14 00.8	-0.1
HERR	Herculane	149.25	337	⇑P		PKPbc	00 14 01.4	-0.4
MDVR	Moldovita	149.60	337	⇑P		PKPbc	00 14 02.7	-0.1
KBA	Koelnbreinsper	149.75	350	eP		PKPbc	00 14 01.6	-1.6
	comp=Z,1.4nm,0.5s							
WATA	Walderalm	149.76	352	eP		PKPbc	00 14 03.4	+0.2
	comp=Z,1.9nm,0.4s							
MOTA	Moosalm	149.81	353

COTA	Cotacachi	2.72	71	P		Pn	00 08 56.0	-1.0	
ANTS	Antisana-Sarah	2.74	89	P		Pn	00 08 58.0	+0.7	
ANTI	Antisana	2.75	88	P		Pn	00 08 58.0	+0.6	
URCU	Urcuqui	2.83	70	P		Pn	00 08 58.0	-0.4	
ALIT	Ecuador-Imbabu	2.88	62	P		Pn	00 09 00.0	+1.2	
SANGA	Volcan Sangay	2.94	120	P		Pn	00 09 01.0	+1.0	
ANGU	Angureal	2.96	78	P		Pn	00 09 03.0	+2.6	
YAHU	Yahuarcocha	2.98	72	P		Pn	00 09 02.0	+1.5	
ARNL	Arenillas	3.09	164	Pn		Pn	00 09 01.4	-0.2	
ARNL	Arenillas	3.09	164	P		Pn	00 09 04.0	+2.4	
ARDO	Archidona, Ten	3.14	98	P		Pn	00 09 05.0	+2.7	
CHMA	Chilma	3.17	64	P		Pn	00 09 04.0	+1.0	
ECEN	Cerro Negro	3.24	65	P		Pn	00 09 06.0	+1.8	
CHL1	Volc¡n Chiles	3.25	66	P		Pn	00 09 06.0	+1.7	
CHL2	Volc¡n Chiles	3.28	66	P		Pn	00 09 05.0	+0.3	
CONE	Cono NE Rev Vo	3.30	82	P		Pn	00 09 08.0	+3.2	
TULM	Tulcn-Chalpat	3.37	68	Pn		Pn	00 09 07.9	+2.0	
TULM	Tulcn-Chalpat	3.37	68	eP		Pn	00 08 58.9	-6.9	
CMBC	Cumbal	3.42	64	eP		Pn	00 08 53.5	-13	
BONI	La Bonita	3.52	74	P		Pn	00 09 10.0	+2.2	
BOSC	San Juan Bosco	3.53	137	Pn		Pn	00 09 12.0	+4.1	
BOSC	San Juan Bosco	3.53	137	P		Pb	00 09 13.0	-2.5	
CASC	Dorado de Casc	3.63	79	P		Pn	00 09 12.0	+2.8	
MCRA	Macar, Loja	3.91	166	Pn		Pn	00 09 12.9	0.0	
GCUF	Volcan Galeras	3.98	64	eP		Pn	00 09 15.8	+1.6	
GR1C	Gorgona, Isla	4.47	38	eP		Pn	00 09 20.4	-0.2	
ZUMB	Zumba	4.63	158	P		Pn	00 09 23.0	0.0	
SOTA	Rioblanco	5.06	58	eP		Pn	00 09 29.7	+0.5	
POPC	Popayan, Colom	5.23	54	eP		Pn	00 09 30.9	-0.3	
PCON	Cinco Dias	5.34	58	eP		Pn	00 09 35.0	+1.9	
MARP	Paez Belalcaza	5.99	56	eP		Pn	00 09 42.3	+0.5	
YOTC	Yotoco, Valle	6.41	45	eP		Pn	00 09 45.9	-1.5	
PLMC	San Jos del P	7.12	40	eP		Pn	00 09 58.9	+1.7	
ORTC	Ortega, Tolima	7.19	52	eP		Pn	00 10 00.9	+2.9	
ANIL	Santa Ana	7.44	48	eP		Pn	00 10 06.8	+5.1	
MACC	Macarena, Meta	7.55	69	eP		Pn	00 10 04.6	+1.6	
GUY2C	Guyana, Caldas	7.97	44	eP		Pn	00 10 09.9	+0.7	
ROSC	El Rosal	8.49	51	Pn		Pn	00 10 16.5	+0.4	
PAYG	Puerto Ayora	9.38	269	Pn		Pn	00 10 27.6	-0.5	
PTBC	PUERTO BERRIO,	9.54	42	eP		Pn	00 10 33.4	+3.1	
ZARC	Zaragoza, Cauc	10.01	37	Pn		Pn	00 10 39.7	+2.9	
ZARC	Zaragoza, Cauc	10.01	37	eP		Pn	00 10 41.0	+4.2	
RIMA	Rio Macho	10.66	344	Pn		Pn	00 10 46.7	+0.8	
URIC	Uribia, Colomb	15.05	36	P		P	00 11 51.5	+0.4	
URIC				IAmb		IAmb	00 12 16.4		
	comp=Z,8.7nm,0.9s								
BIRV	Birongo	18.22	53	P		Pn	00 12 25.4	-0.6	
LPAZ	La Paz	20.08	142	P		P	00 12 45.8	-1.5	
LPAZ				IAmb		IAmb	00 13 09.5		
	comp=Z,7.1nm,1.4s								
PB16	IPOC Station P	20.92	148	P		P	00 12 57.5	+1.2	
PB16				IAmb		IAmb	00 13 08.3		
	comp=Z,11nm,1.2s								
TA01	Diego Aracena	22.49	153	P		P	00 13 10.1	-2.4	
PB08	IPOC Station P	22.61	150	P		P	00 13 11.7	-2.5	
PB08				IAmb		IAmb	00 13 24.6		
	comp=Z,13nm,1.2s								
ITAB	Concordia	38.30	136	P		P	00 15 33.4	-0.3	

*ISK **27** 00:15:28.2,39˚11N×25˚78E,h11km,ML3.0/25*
*DDA **27** 00:15:28.9±0.0,39˚10N×25˚81E,h6km±2km,ML2.8*
*THE **27** 00:15:29.9,39˚12N×25˚85E,h13km,ML2.7/6,Error ellipse: s-maj=1.3km s-min=0.7km az=69.0*
*ATH **27** 00:15:29.8,39˚14N×25˚79E,h14km±2km,ML2.9/5,Error ellipse: s-maj=3.6km s-min=1.4km az=97.0*

ISC 27 00:15:29.2±1.0,39˚12N±0˚02×25˚80E±0˚03,h16km±8km, n63,σ0s54/99,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.10	24	P	Pb	00 15 32.7	-0.1
SIGR				S	Sb	00 15 34.6	-0.6
SIGR				AML	AML	00 15 35.0	
	comp=E,29875µm,0.2s						
SIGR				AML	AML	00 15 35.1	
	comp=N,17282µm,0.3s						
SIGR	SIGRI	0.10	24	P	Pb	00 15 32.7	-0.1
SIGR				S	Sb	00 15 34.3	-0.9
	comp=N,13µm,0.3s						
PRK	Paraskevi	0.39	71	P	Pb	00 15 37.7	+0.1
PRK				S	Sg	00 15 42.8	+0.4
PRK				AML	AML	00 15 43.6	
	comp=N,3430µm,0.5s						
PRK				AML	AML	00 15 45.9	
	comp=E,3299µm,0.5s						
PRK	Paraskevi	0.39	71	P	Pb	00 15 37.7	+0.1
PRK				S	Sg	00 15 42.0	-0.5
	comp=E,2µm,0.5s						
GPNR	Gulpinar-Canak	0.42	37	PG	Pg	00 15 37.2	-0.6
GPNR				SG	Sg	00 15 43.9	+0.3
KOCA	Canakkale, Ayv	0.46	34	P	Pg	00 15 38.3	-0.2
KOCA				S	Sb	00 15 45.8	+0.1
PSRA	Psara	0.60	198	P	Pb	00 15 41.6	+0.2
PSRA				S	Sb	00 15 51.0	+1.3
PSRA				AML	AML	00 15 54.1	
	comp=N,3472µm,0.2s						
PSRA				AML	AML	00 15 55.1	
	comp=E,3488µm,0.3s						
AYVA	Ayvalik	0.72	74	P	Pb	00 15 43.1	-0.2
AYVA				S	Sb	00 15 52.7	-0.2
AYVA				*i* AML	AML	00 15 54.0	
	comp=E,557nm,0.5s						
AYVA				*i* AML	AML	00 15 55.0	
	comp=E,386nm,0.4s						
BOZC	Bozcaada	0.75	15	PG	Pb	00 15 43.7	-0.1
BOZC				SG	Sg	00 15 54.6	+0.9
BOZC	Bozcaada	0.75	15	P	Pb	00 15 43.2	-0.6
BOZC				S	Sg	00 15 54.4	+0.7
BOZC				*i* AML	AML	00 15 57.0	
	comp=E,235nm,0.3s						
BOZC				*i* AML	AML	00 15 57.0	
	comp=E,317nm,0.2s						
CHOS	Chios island	0.76	165	P	Pb	00 15 43.8	-0.2
CHOS				S	Sn	00 15 55.7	-0.7
CHOS				AML	AML	00 15 56.8	
	comp=N,4820µm,0.2s						
CHOS				AML	AML	00 15 58.0	
	comp=E,7211µm,0.2s						
CHOS	Chios island	0.76	165	P	Pb	00 15 43.8	-0.2
CHOS				S	Sn	00 15 55.7	-0.7
	comp=E,3µm,0.2s						
CAND	Candarli	0.80	102	PG	Pb	00 15 44.4	-0.3
CAND				SG	Sg	00 15 56.0	+0.8
EZN	Ezine	0.81	30	P	Pb	00 15 44.6	-0.4
EZN				S	Sg	00 15 56.4	+0.6
	comp=E,390nm,0.5s						
EZN	Ezine	0.81	30	PG	Pb	00 15 44.7	-0.3
EZN				SG	Sg	00 15 56.6	+0.8
FOCM	Foa	0.83	119	PG	Pb	00 15 44.9	-0.3
FOCM				SG	Sg	00 15 57.0	+0.7
BAYC	CANAKKALE_Bayr	0.85	43	P	Pb	00 15 45.3	-0.3
BAYC				S	Sb	00 15 56.9	+0.2
DKL	Dikili	0.86	93	PG	Pb	00 15 45.6	-0.1
DKL				SG	Sg	00 15 57.9	+0.7
LIA	Limnos Island	0.91	329	P	Pn	00 15 47.5	+0.1
LIA				AML	AML	00 16 02.1	
	comp=N,702µm,0.4s						
LIA				AML	AML	00 16 02.4	
	comp=E,835µm,0.6s						
LIA	Limnos Island	0.91	329	P	Pn	00 15 47.6	+0.2
LIA				S	Sn	00 16 00.1	-0.1
	comp=E,418nm,0.8s						
ECEA	Canakkale, Ece	0.97	17	P	Pn	00 15 47.8	-0.3
ECEA				S	Sn	00 16 02.1	+0.5
ECEA				*i* AML	AML	00 16 03.0	
	comp=E,575nm,0.4s						
ECEA				*i* AML	AML	00 16 03.0	
	comp=E,441nm,0.5s						
URLA	Izmir	0.98	140	PG	Pb	00 15 47.4	-0.4
URLA				SG	Sb	00 16 00.7	+0.2
URLA	Izmir	0.98	140	P	Pb	00 15 47.8	0.0
URLA				S	Sb	00 16 00.7	+0.2
URLA				*i* AML	AML	00 16 02.0	
	comp=E,339nm,0.6s						
URLA				*i* AML	AML	00 16 02.0	
	comp=E,231nm,0.5s						
ZEDA	zmir-Bergama	1.00	98	P	Pb	00 15 48.1	-0.1
ZEDA				S	Sb	00 16 01.1	-0.1
ZEYE	Izmir, Urla-Ze	1.04	148	P	Pb	00 15 48.6	-0.1
ZEYE				S	Sb	00 16 01.4	-0.7
ZEYE				*i* AML	AML	00 16 04.0	
	comp=E,260nm,0.3s						
ZEYE				*i* AML	AML	00 16 07.0	
	comp=E,202nm,0.6s						
GADA	Gvkgeada	1.07	4	PN	Pn	00 15 49.4	-0.2
GADA				SN	Sg	00 16 04.8	+0.8
GOKA	anakkale-Gk	1.07	4	P	Pn	00 15 49.5	-0.1
GOKA				S	Sg	00 16 04.9	+0.8
GOKA				*i* AML	AML	00 16 07.0	
	comp=E,375nm,0.3s						
BLCB	Balcova	1.22	127	P	Pn	00 15 50.8	-0.7
BLCB				S	Sb	00 16 07.0	-0.2
BLCB	Balcova	1.22	127	PN	Pn	00 15 51.3	-0.2
SMTH	Samothraki Isl	1.37	351	P	Pn	00 15 53.8	+0.2
SMTH	Samothraki Isl	1.37	351	P	Pn	00 15 53.7	+0.1
GELI	Tayfur-Gelibol	1.38	22	PN	Pn	00 15 53.9	+0.1
KYMI	Kymi, Euboea I	1.41	250	P	Pn	00 15 54.4	+0.2
ENZZ	Sultanice-Enez	1.51	10	PN	Pn	00 15 55.9	+0.4
ENZZ				SN	Sb	00 16 16.2	+0.5
STEP	BALIKESIR_Sava	1.51	80	P	Pn	00 15 55.8	+0.2
STEP				S	Sg	00 16 18.4	+0.5
STEP				*i* AML	AML	00 16 20.0	
	comp=E,271nm,0.8s						
STEP				*i* AML	AML	00 16 22.0	
	comp=E,283nm,0.4s						
BALY	Balya	1.54	66	P	Pn	00 15 56.1	+0.1
BALY				*i* AML	AML	00 16 22.0	
	comp=E,125nm,0.6s						
AKHS	Akhisar	1.59	98	P	Pb	00 15 58.0	-0.2
CAVK	Edirne/Enez-Ca	1.60	10	P	Pn	00 15 56.8	+0.1
SMG	Samos	1.63	150	P	Pn	00 15 56.6	-0.6
ENEZ	Enez	1.64	9	PN	Pn	00 15 57.9	+0.6
ENEZ				SN	Sb	00 16 19.1	-0.3
ERIK	Erikli-Kesan	1.64	19	PN	Pn	00 15 57.6	+0.2
BALB	Balikesir	1.69	71	PN	Pn	00 15 58.3	+0.2
THAS	Thassos island	1.70	331	P	Pn	00 15 58.9	+0.7
THAS	Thassos island	1.70	331	P	Pn	00 15 58.7	+0.5
KRBG	Karabiga-Canak	1.72	42	PN	Pn	00 15 56.6	-1.8
GONE	Gonen-Balikesi	1.73	57	PN	Pn	00 15 58.8	+0.3
KNL	Balıkesir	1.76	49	P	Pn	00 15 59.3	+0.9
KNL				S	Sb	00 16 23.0	+0.2
KNL				*i* AML	AML	00 16 30.0	
	comp=E,79nm,0.7s						
KNL				*i* AML	AML	00 16 31.0	
	comp=E,89nm,0.4s						
ALN	Alexandroupoli	1.79	6	P	Pn	00 15 59.8	+0.4
ALN				S	Sb	00 16 22.8	-0.9
	comp=E,42nm,0.4s						
ALN	Alexandroupoli	1.79	6	PN	Pn	00 15 59.5	+0.1
ALN				SN	Sb	00 16 22.9	-0.8
GCAM	G?zelcaml?	1.81	141	PN	Pn	00 16 00.0	+0.3
GCAM				SN	Sn	00 16 23.1	+0.9
PAIG	Paliouri	1.83	297	P	Pb	00 16 01.1	-1.2
KESN	Edirne-Kesan	1.83	21	P	Pn	00 15 59.8	-0.6
KESN				S	Sn	00 16 23.2	-0.2
OUR	Ouranopolis	1.86	311	PN	Pn	00 16 00.6	+0.3
RKY	Sarkoy-Tekirda	1.89	34	PN	Pn	00 16 00.5	-0.4
SART	Tekirdag	1.89	34	P	Pb	00 16 03.3	-0.1
SART				S	Sb	00 16 27.5	+0.6
SART				*i* AML	AML	00 16 30.0	
	comp=E,81nm,0.5s						
MAR6	Marsite Statio	1.94	35	PN	Pn	00 16 02.3	+0.8
MAR3	Marsite Statio	1.99	35	PN	Pn	00 16 02.8	+0.7
GZKV	Gazikoy-Tekird	2.01	35	PN	Pn	00 16 03.1	+0.7
EDC	Edincik	2.01	52	PN	Pn	00 16 03.0	+0.6
AYDB	Zeytinkoy-Aydi	2.01	125	PN	Pn	00 16 02.4	-0.2
RDO	Rodhopi	2.04	354	P	Pn	00 16 03.4	+0.6
RDO	Rodhopi	2.04	354	PN	Pn	00 16 03.4	+0.2
UKOP	Uzunkopru-Edir	2.11	17	PN	Pn	00 16 04.6	+0.8

IDC 27 00:18:24.4±422.0,37˚96N×115˚63W,h0km,Error ellipse: s-maj=160.9km s-min=88.2km az=8.0,Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	PINON FLAT INF	4.39	189	*i*		00 46 20.0	
	baz=8.6,slow=322,SNR=3.6						
I56US	NEWPORT INFRAS	10.36	354	*i*		01 25 00.0	
	baz=175,slow=324,SNR=1.9						
I10CA	LAC DU BONNET	18.59	43	*i*		02 11 00.0	
	baz=236,slow=334,SNR=3.1						

*IDC **27** 00:19:22.6±0.7,54˚15N×34˚99W,h0km,mb4.0/19, mb1 4.1/22,mb1mx3.9/65,mbtmp4.0/22,ML3.1/3,MS3.5/33, Ms1 3.5/33,ms1mx3.3/97,Error ellipse: s-maj=21.4km s-min=12.9km az=14.0*
*NEIC **27** 00:19:25.3±2.6,54˚3N±0˚1×35˚0W±0˚2,h10km±1km, mb4.4/18,Error ellipse: s-maj=21.4km s-min=15.6km az=207.0*

ISC 27 00:19:25.1±0.5,54˚2N±0˚1×34˚96W±0˚06,h14km,n71, σ1s06/52,mb4.2/28,MS3.6/28,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	Narsarsuaq	8.92	325	Pn	Pn	00 21 31.3	-2.0
BORG	Borgarnes	12.59	28	LR	LR	00 26 05.9	
	comp=Z,85nm,18.7s,baz=285,slow=32						
SFJD	Kangerlussuaq	14.87	336	Pn	Pn	00 22 53.7	-0.8
	0.2nm,0.3s,baz=163,slow=11,SNR=2.4						
SFJD				LR	LR	00 27 34.0	
	comp=Z,220nm,19.6s,baz=134,slow=33						
EKA	Eskdalemuir Ar	18.30	74	P	Pn	00 23 36.5	-1.8
	baz=284,slow=12,SNR=2.3						
EKA				LR	LR	00 28 26.9	
	comp=Z,100nm,18.8s,baz=215,slow=30						
SCHQ	Schefferville	18.43	285	P	P	00 23 38.3	-1.4
	0.2nm,0.3s,baz=83,slow=5.7,SNR=4.1						
SCHQ				LR	LR	00 29 09.7	
	comp=Z,140nm,20.7s,baz=56,slow=32						
SCHQ	Schefferville	18.43	285	P	P	00 23 38.6	-1.1
FRB	Frobisher Bay	19.52	313	LR	LR	00 29 35.4	
	comp=Z,161nm,20.9s,baz=88,slow=31						
G65A	Princeton	22.75	260	P	P	00 24 25.9	-0.7
G65A				IAmb	IAmb	00 24 54.3	
	comp=Z,18nm,1.2s						
EMMW	East Machias	22.98	259	P	P	00 24 28.6	-0.3
EMMW				IAmb	IAmb	00 24 30.7	
	comp=Z,23nm,1.3s						
NOA	NORSAR Array B	25.18	56	P	P	00 24 49.8	+0.1
	comp=Z,2.6nm,0.9s,baz=276,slow=9.7,SNR=7.2						
NOA				LR	LR	00 33 19.2	
	comp=Z,24nm,18.9s,baz=350,slow=33						
ESDC	Sonseca Array	25.42	112	P	P	00 24 52.6	+0.5
	comp=Z,1.6nm,0.7s,baz=314,slow=8.6,SNR=13						
ESDC				LR	LR	00 33 20.0	
	comp=Z,99nm,18.1s,baz=327,slow=33						
ESDC	Sonseca Array	25.42	112	P	P	00 24 52.4	+0.3
HFS	Hagfors	26.51	57	LR	LR	00 33 40.6	
	comp=Z,40nm,18.2s,baz=266,slow=32						
CLL	Collm	28.73	76	*i* P	P	00 25 22.7	+1.1
	comp=Z,7.0nm,1.0s						
DAVOX	Davos/Dischmat	29.06	86	LR	LR	00 36 34.3	
	comp=Z,120nm,19.0s,baz=263,slow=36						
SADO	Sadowa	29.76	270	LR	LR	00 36 21.3	
	comp=Z,168nm,19.2s,baz=58,slow=34						
GERES	GERESS Array B	30.25	80	P	P	00 25 36.2	+1.0
	comp=Z,0.6nm,0.8s,baz=347,slow=4.1,SNR=4.0						
GERES				LR	LR	00 36 20.6	
	comp=Z,51nm,19.2s,baz=286,slow=34						
RES	Resolute Bay	30.86	333	P	P	00 25 40.5	+0.3
	comp=Z,2.1nm,1.0s,baz=95,slow=7.8,SNR=6.5						
RES				LR	LR	00 37 17.8	
	comp=Z,56nm,18.3s,baz=52,slow=35						
RES	Resolute Bay	30.86	333	P	P	00 25 41.2	+1.1
RES				IAmb	IAmb	00 25 43.8	
	comp=Z,3.0nm,1.0s						
VRAC	Vranov	31.69	77	LR	LR	00 37 42.0	
	comp=Z,61nm,18.8s,baz=352,slow=35						
FINES	FINESS Array B	32.17	52	P	P	00 25 51.6	-0.3
	comp=Z,3.7nm,0.9s,baz=318,slow=14,SNR=5.0						
FINES	FINESS Array B	32.17	52	P	P	00 25 52.1	+0.2
P57A	Homestead Farm	32.36	261	P	P	00 25 55.1	+1.3
KEST	Kesra	35.66	103	P	P	00 26 20.4	-2.1
	comp=Z,3.0nm,0.8s,baz=342,slow=11,SNR=2.6						
ULM	Lac du Bonnet	36.50	289	LR	LR	00 39 44.0	
	comp=Z,113nm,19.7s,baz=74,slow=34						
BURAR	Bucovina Array	37.48	75	P	P	00 26 40.0	+2.0
AKASG	Malin Array Be	38.07	68	P	P	00 26 42.1	-0.7
	comp=Z,1.9nm,0.7s,baz=307,slow=9.5,SNR=6.0						
TKL	Tuckaleechee C	38.31	261	LR	LR	00 40 44.2	
	comp=Z,44nm,21.7s,baz=48,slow=34						
KLMR	Klimovskoe	38.49	49	eP	P	00 26 45.3	-0.9
KLMR				AMP		00 26 48.7	
	comp=Z,31nm,1.4s						
MLR	Muntele Rosu	39.09	77	LR	LR	00 42 11.6	
	comp=Z,41nm,20.4s,baz=291,slow=35						
YKA	Yellowknife Ar	40.02	315	P	P	00 26 58.4	-0.5
	comp=Z,0.6nm,0.7s,baz=63,slow=8.8,SNR=10						
YKA				PcP	PcP	00 29 03.1	-0.5
	comp=Z,1.0nm,0.8s,baz=62,slow=3.6,SNR=13						
YKA	Yellowknife Ar	40.02	315	P	P	00 27 00.8	+1.8
LCAR	Lake Charles	42.34	268	P	P	00 27 18.4	+0.1
LCAR				IAmb	IAmb	00 27 20.3	
	comp=Z,3.0nm,0.7s						
WHAR	Wooly Hollow	43.54	268	P	P	00 27 28.5	+0.4
WHAR				IAmb	IAmb	00 27 36.0	
	comp=Z,11nm,1.4s						
INK	Inuvik	44.04	328	P	P	00 27 31.2	-0.5
	comp=Z,1.7nm,1.0s,baz=47,slow=11,SNR=3.2						
INK				PcP	PcP	00 29 16.8	0.0
	comp=Z,1.6nm,1.1s,baz=63,slow=2.3,SNR=3.2						
INK				LR	LR	00 45 07.3	
	comp=Z,125nm,18.1s,baz=353,slow=35						
W39A	Magazine	44.48	269	P	P	00 27 36.0	+0.3
W39A				IAmb	IAmb	00 27 40.0	
	comp=Z,6.7nm,1.2s						
IDI	Anoyia	45.03	90	LR	LR	00 47 42.7	
	comp=Z,21nm,18.9s,baz=99,slow=38						
BRTR	Keskin Array B	47.12	78	P	P	00 27 57.7	+1.1
	comp=Z,2.2nm,1.0s,baz=306,slow=8.5,SNR=5.5						
BRTR				LR	LR	00 47 15.3	
	comp=Z,34nm,19.5s,baz=259,slow=36						
BRTR	Keskin Array B	47.12	78	P	P	00 27 58.5	+1.9
BMAR	Burnt Mountain	47.89	331	P	P	00 28 02.3	+0.1
TOLK	Toolik Lake Re	48.43	334	P	P	00 28 05.8	-0.4
PDAR	Pinedale Array	48.51	289	LR	LR	00 46 49.1	
	comp=Z,86nm,19.8s,baz=22,slow=34						
DLBC	Dease Lake	48.62	316	LR	LR	00 46 53.5	
	comp=Z,106nm,19.2s,baz=173,slow=34						
NEW	Newport	49.03	299	LR	LR	00 46 51.6	
	comp=Z,84nm,20.4s,baz=28,slow=34						
SCRK	Sand Creek	50.06	327	P	P	00 28 20.6	+1.7
SCRK				IAmb	IAmb	00 28 29.6	
	comp=Z,6.1nm,1.2s						
TOA0	Torodi Ar. Sit	50.07	131	P	P	00 28 19.5	+0.1
TOA0				IAmb	IAmb	00 28 20.5	
	comp=Z,3.7nm,1.1s						
TORD	Torodi Ar. Bea	50.07	131	P	P	00 28 18.8	-0.5
	comp=Z,1.9nm,0.8s,baz=333,slow=7.6,SNR=11						
TORD	Torodi Ar. Bea	50.07	131	P	P	00 28 19.3	-0.1
ILAR	Eielson Array	50.41	329	P	P	00 28 22.5	+1.1
	comp=Z,0.7nm,0.8s,baz=41,slow=5.9,SNR=7.3						
ILAR				PcP	PcP	00 29 38.2	-1.3
	comp=Z,0.7nm,0.8s,baz=5.7,slow=2.7,SNR=5.2						
ILAR				LR	LR	00 47 37.1	
	comp=Z,70nm,19.5s,baz=96,slow=34						
IMAR	Indian Mountai	51.48	333	P	P	00 28 30.9	+1.5
BBB	Bella Bella	51.84	309	LR	LR	00 49 11.2	
	comp=Z,58nm,18.9s,baz=328,slow=34						
ANMO	Albuquerque	52.07	279	LR	LR	00 50 10.5	
	comp=Z,138nm,18.2s,baz=31,slow=36						
LENM	Lemitar	52.93	279	P	P	00 28 42.1	+1.3
AKTO	Aktyubinsk	52.94	53	P	P	00 28 40.9	+0.4
	comp=Z,1.5nm,0.9s,baz=305,slow=6.8,SNR=4.5						
ELK	Elko	53.02	290	LR	LR	00 50 15.8	
	comp=Z,116nm,18.1s,baz=58,slow=35						
GNI	Garni	53.11	71	P	P	00 28 40.6	-1.5
	comp=Z,2.8nm,0.7s,baz=346,slow=4.2,SNR=3.2						
DBIC	Dimbokro	53.27	142	LR	LR	00 48 23.4	
	comp=Z,114nm,20.7s,baz=340,slow=33						
TXAR	Lajitas Array	54.50	272	P	P	00 28 53.1	+0.9
	comp=Z,0.5nm,0.8s,baz=81,slow=7.4,SNR=2.6						
TXAR				LR	LR	00 51 33.0	
	comp=Z,54nm,18.9s,baz=354,slow=35						
NVAR	Mina Array Bea	56.32	290	LR	LR	00 51 15.7	
	comp=Z,80nm,20.8s,baz=258,slow=34						
YBH	Yreka Blue Hor	56.36	296	LR	LR	00 51 59.7	
	comp=Z,60nm,19.2s,baz=45,slow=35						
KDAK	Kodiak Island	57.48	326	LR	LR	00 53 07.2	
	comp=Z,48nm,18.6s,baz=63,slow=35						
ROSC	El Rosal	58.65	228	P	P	00 29 20.9	-1.3
	comp=Z,7.6nm,0.5s,baz=252,slow=22,SNR=2.6						
ZALV	Zalesovo Beam	61.29	36	P	P	00 29 40.1	+0.7
	comp=Z,0.4nm,0.5s,baz=343,slow=8.2,SNR=4.4						
KURK	Kurchatov	61.62	41	P	P	00 29 42.5	+0.9
KURBB	Kurchatov Arra	61.65	42	P	P	00 29 42.0	0.0
	comp=Z,1.7nm,0.8s,baz=323,slow=7.2,SNR=15						
LPIG	La Paz	62.32	273	LR	LR	00 55 40.9	
	comp=Z,37nm,19.2s,baz=349,slow=35						
MA2	Magadan	66.46	357	LR	LR	00 58 18.8	
	comp=Z,18nm,22.0s,baz=136,slow=35						
SONM	Songino Array	73.20	26	P	P	00 30 56.2	+1.0
	comp=Z,1.4nm,0.7s,baz=319,slow=5.9,SNR=4.2						
SONM	Songino Array	73.20	26	P	P	00 30 56.2	+1.0
SONM				IAmb	IAmb	00 30 56.9	
	comp=Z,5.2nm,1.3s						
ULN	Ulaanbaatar	73.34	26	P	P	00 30 55.5	-0.6
ULN				IAmb	IAmb	00 30 58.3	
	comp=Z,3.0nm,0.7s						
ASAR	Alice Springs	148.37	20	PKPbc	PKPbc	00 39 10.9	+0.1
	comp=Z,3.6nm,0.8s,baz=350,slow=2.2,SNR=28						

**OTT 27 00:

NATG				Trac		00 27 48.0	
	comp=Z,10nm,0.4s						
PMAQ	**Port Menier**	**10.23**	**325**	PN	Pn	00 25 56.2	-1.2
PMAQ				SN	Sn	00 27 44.0	-7.6
PMAQ				Trac		00 27 55.3	
	comp=Z,50nm,0.5s						
PKME	**Peaks-Kenny Pk**	**10.73**	**294**	PN	Pn	00 26 01.5	-2.8
PKME				SN	Sn	00 27 52.8	-11
PKME				Trac		00 27 57.8	
	comp=Z,19nm,0.4s						
ICQ	**Pointe Anglais**	**11.41**	**317**	PN	Pn	00 26 11.6	-1.9
ICQ				SN	Sn	00 28 12.3	-8.1
ICQ				Trac		00 28 18.0	
	comp=Z,25nm,0.7s						
SMQ	**Clarke City**	**11.59**	**321**	PN	Pn	00 26 13.4	-2.5
SMQ				SN	Sn	00 28 15.1	-10
SMQ				Trac		00 28 22.7	
	comp=Z,1.9nm,0.2s						

IDC ***27*** *00:26:52.6±0.7, 34°.47N×81°.10E, h0km, mb3.9/11, mb1 4.0/14, mb1mx3.7/50, mbtmp3.8/14, ML3.1/3, MS3.0/1, Ms1 3.2/1, ms1mx2.4/90, Error ellipse: s-maj=27.1km s-min=15.9km az=52.0*
MOS ***27*** *00:26:53.7±1.1, 34°.54N×81°.16E, h18km, mb4.4/4, Error ellipse: s-maj=12.0km s-min=5.7km az=121.4*
BJI ***27*** *00:26:55.0±0.0, 34°.49N×81°.11E, h5km, mb4.2/17, mB4.5/7, ML3.6/4, Ms3.8/1, Ms7 3.7/1*
NEIC ***27*** *00:26:58.3±2.1, 34°.51N±0°.09×81°.12E±0°.10, h34km±4km, mb4.2/12, Error ellipse: s-maj=14.5km s-min=10.8km az=211.0*

ISC 27 00:26:54.8±0.5**, 34°.50N**±0°.05×**81°.10E**±0°.06**, h10**km**, n83,**
σ1**944/86, mb4.1/17, 4C, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMLA	**Simla**	**4.72**	**226**	*e*P	**Pn**	**00 28 08.7**	**+2.6**
SMLA				*e*S	**Sn**	**00 29 05.5**	**+4.6**
SMLA				IAML		00 29 10.3	
	comp=N,75nm,0.9s						
SMLA				IAML		00 29 10.9	
	comp=E,87nm,0.7s						
THN	**Thein Dam**	**4.95**	**247**	*e*P	Pn	00 28 05.2	-4.0
THN				*e*S	**Sn**	**00 29 08.8**	**+2.2**
PTH	**Pithoragarh**	**4.99**	**189**	*e*P	**Pn**	**00 28 13.0**	**+3.0**
PTH				*e*S	**Sb**	**00 29 22.4**	**-0.2**
KSH	**Kashi**	**6.47**	**322**	Pn	**Pn**	**00 28 32.5**	**+2.2**
KSH				Sn	**Sn**	**00 29 47.0**	**+2.7**
CHCP	**Chirah Chowk**	**6.56**	**265**	P	**Pn**	**00 28 32.2**	**+0.8**
NIL	**Nilore**	**6.57**	**265**	P	**Pn**	**00 28 31.7**	**+0.1**
NIL	**Nilore**	**6.57**	**265**	Pn	**Pn**	**00 28 31.7**	**+0.1**
CEP	**Cherat**	**7.65**	**268**	P	**Pn**	**00 28 47.2**	**+0.7**
TARG	**Taragay, Kyrgy**	**7.67**	**341**	Pn	**Pn**	**00 28 50.6**	**+3.6**
KDJ	**Kajisay**	**8.22**	**339**	P	**Pn**	**00 28 55.2**	**+0.9**
KDJ	**Kajisay**	**8.22**	**339**	Pn	**Pn**	**00 28 55.2**	**+0.9**
BOOM	**Boomskoye usch**	**8.94**	**335**	P	**Pn**	**00 29 07.2**	**+3.0**
BOOM	**Boomskoye usch**	**8.94**	**335**	Pn	**Pn**	**00 29 07.2**	**+3.0**
DRK	**Karamyk**	**8.95**	**306**	Pn	**Pn**	**00 29 05.8**	**+1.4**
FRU1	**Bishkek**	**9.72**	**331**	P	**Pn**	**00 29 17.0**	**+2.3**
FRU1	**Bishkek**	**9.72**	**331**	Pn	**Pn**	**00 29 17.0**	**+2.3**
GAR	**Garm**	**9.75**	**301**	Pn	**Pn**	**00 29 14.4**	**-0.8**
LSA	**Lhasa**	**9.77**	**117**	P	**Pn**	**00 29 17.2**	**+1.4**
LSA	**Lhasa**	**9.77**	**117**	Pn	**Pn**	**00 29 17.2**	**+1.4**
BTK	**Batken**	**9.89**	**307**	P	**Pn**	**00 29 17.7**	**+0.5**
BTK	**Batken**	**9.89**	**307**	Pn	**Pn**	**00 29 17.7**	**+0.5**
KBL	**Kabul**	**9.95**	**274**	P	**Pn**	**00 29 18.9**	**+0.8**
KBL	**Kabul**	**9.95**	**274**	Pn	**Pn**	**00 29 18.9**	**+0.8**
CHGR	**Chuyangaron**	**10.46**	**297**	P	**Pn**	**00 29 25.5**	**+0.5**
CHGR	**Chuyangaron**	**10.46**	**297**	Pn	**Pn**	**00 29 25.5**	**+0.5**
WMQ	**Urumqi**	**10.62**	**27**	*e*P	Pn	00 29 33.0	+6.0
WMQ				pP		00 29 39.0	
WMQ				pmax	pmax		
	comp=E,38nm,0.7s						
BHPL	**Bhopal**	**11.67**	**197**	*e*P	**Pn**	**00 29 40.5**	**-1.0**
BHPL				*e*S	**Sn**	**00 31 50.0**	**-1.9**
BHPL				IAML		00 31 54.4	
	comp=N,43nm,0.3s						
KK31	**Karatay Array**	**11.91**	**319**	P	**Pn**	**00 29 43.8**	**-0.9**
KK31	**Karatay Array**	**11.91**	**319**	Pn	**Pn**	**00 29 43.8**	**-0.9**
KKAR	**Karatay Array**	**11.91**	**319**	P	**Pn**	**00 29 43.7**	**-1.0**
KKAR	**Karatay Array**	**11.91**	**319**	Pn	**Pn**	**00 29 43.7**	**-1.0**
MAKZ	**Makanchi**	**12.31**	**3**	P	**Pn**	**00 29 50.2**	**0.0**
MAKZ	**Makanchi**	**12.31**	**3**	Pn	**Pn**	**00 29 50.2**	**0.0**
MK31	**Makanchi Array**	**12.31**	**4**	*i* P	**Pn**	**00 29 50.1**	**-0.1**
MK31	**Makanchi Array**	**12.31**	**4**	Pn	**Pn**	**00 29 49.8**	**-0.4**
MKAR	**Makanchi Array**	**12.31**	**4**	Pn	**Pn**	**00 29 50.0**	**-0.2**
	comp=N,0.2nm,0.3s,baz=182,slow=13,SNR=11						
MKAR	**Makanchi Array**	**12.31**	**4**	*i* P	**Pn**	**00 29 50.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**12.31**	**4**	Pn	**Pn**	**00 29 48.8**	**-1.4**
SHL	**Shillong**	**12.89**	**131**	P	**Pn**	**00 29 56.8**	**-1.6**
SHL	**Shillong**	**12.89**	**131**	Pn	**Pn**	**00 29 56.8**	**-1.6**
GTA	**Gaotai**	**15.73**	**66**	*e*P	P	00 30 42.8	+2.1
GTA				pP	pP	00 30 48.8	+3.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURBB	**Kurchatov Arra**	**16.22**	**354**	Pn	**Pn**	**00 30 40.6**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=178,slow=11,SNR=6.8						
KURK	**Kurchatov**	**16.31**	**354**	*ce*P	**Pn**	**00 30 43.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURK	**Kurchatov**	**16.31**	**354**	P	**Pn**	**00 30 46.7**	**+2.9**
KURK				IAmb	IAmb	00 30 48.0	
	comp=Z,7.5nm,1.1s						
LZH	**Lanzhou**	**18.63**	**79**	*e*P	**P**	**00 31 12.3**	**-0.4**
LZH				pP	pP	00 31 18.8	+1.8
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
GEYT	**Alibeck**	**18.85**	**287**	P	**P**	**00 31 15.1**	**+0.1**
PZH	**PanZhiHua**	**19.46**	**109**	P	**Pn**	**00 31 26.0**	**+2.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
ZAA0	**Zalesovo Array**	**19.62**	**7**	P	**P**	**00 31 22.5**	**-0.7**
ZALV	**Zalesovo Array**	**19.62**	**7**	P	**P**	**00 31 23.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=5.5						
ZALV	**Zalesovo Beam**	**19.62**	**7**	P	**P**	**00 31 21.8**	**-1.5**
BRVK	**Borovoye**	**20.09**	**341**	*i* P	**P**	**00 31 27.9**	**-0.5**
KMI	**Kunming**	**20.94**	**111**	⇑P	**P**	**00 31 39.0**	**+1.0**
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
ABKAR	**Akbulak array**	**21.48**	**320**	P	**P**	**00 31 41.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**22.53**	**131**	P	**P**	**00 31 54.4**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=309,slow=12,SNR=2.9						
CMAR				LR	LR	00 42 10.4	
	comp=Z,33nm,18.6s,baz=180,slow=41						
AKTO	**Aktyubinsk**	**23.17**	**320**	P	**P**	**00 32 00.8**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=113,slow=11,SNR=2.1						
HHC	**Hu-ho-hao-te**	**24.85**	**66**	*e*P	**P**	**00 32 18.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,5.8s						
HHC				LR	LR		
	comp=Z,130nm,11.4s						
HHC				LR	LR		
	comp=Z,130nm,10.8s						
GNI	**Garni**	**29.32**	**292**	*i* P	**P**	**00 32 59.8**	**+2.0**
BELG	**Belogornoye**	**29.81**	**317**	*i* P	**P**	**00 33 02.3**	**+0.6**
BELG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KIRV	**Kirov**	**31.96**	**329**	*ce*P	**P**	**00 33 20.0**	**-0.6**
BR131	**Keskin Array S**	**37.86**	**292**	P	**P**	**00 34 12.6**	**+0.6**
BR131				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BR131	**Keskin Array S**	**37.86**	**292**	P	**P**	**00 34 12.6**	**+0.6**
BR131				IAmb	IAmb	00 34 13.7	
	comp=Z,3.7nm,0.8s						
BRTR	**Keskin Array B**	**37.86**	**292**	P	**P**	**00 34 12.7**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=114,slow=8.7,SNR=7.2						
BRTR	**Keskin Array B**	**37.86**	**292**	*ce*P	**P**	**00 34 13.0**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**37.86**	**292**	P	**P**	**00 34 11.9**	**-0.1**
ELL	**Elmali**	**41.27**	**288**	P	**P**	**00 34 40.9**	**+0.4**
ELL				pmax	pmax		
	comp=Z,49nm,0.9s						
ELL	**Elmali**	**41.27**	**288**	P	**P**	**00 34 40.9**	**+0.4**
MLR	**Muntele Rosu**	**42.89**	**302**	P	**P**	**00 34 53.2**	**-0.4**
MLR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MLR	**Muntele Rosu**	**42.89**	**302**	P	**P**	**00 34 53.2**	**-0.4**
MLR				IAmb	IAmb	00 34 56.2	
	comp=Z,4.8nm,0.8s						
FIA1	**FINESS Array S**	**43.78**	**325**	P	**P**	**00 34 59.6**	**-0.8**
FINES	**FINESS Array B**	**43.79**	**325**	P	**P**	**00 35 00.3**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=100,slow=11,SNR=14						
NC303	**NORSAR Array S**	**50.81**	**324**	P	**P**	**00 35 55.7**	**+0.5**
NB2	**NORSAR Subarra**	**50.90**	**324**	P	**P**	**00 35 55.2**	**-0.6**
NB2	comp=Z,0.5nm,0.6s,baz=87,slow=7.4						
NOA	**NORSAR Array B**	**50.90**	**324**	P	**P**	**00 35 55.3**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=88,slow=7.4,SNR=5.6						
ESDC	**Sonseca Array**	**65.59**	**302**	P	**P**	**00 37 37.4**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=54,slow=6.0,SNR=1.9						
TOLK	**Toolik Lake Re**	**70.56**	**17**	P	**P**	**00 38 09.6**	**-0.1**
TOLK				IAmb	IAmb	00 38 13.8	
	comp=Z,3.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**74.02**	**275**	P	**P**	**00 38 30.1**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=41,slow=5.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**74.02**	**275**	P	**P**	**00 38 31.2**	**0.0**
TORD				IAmb	IAmb	00 38 40.8	
	comp=Z,1.7nm,1.1s						
WRA	**Warramunga Arr**	**74.11**	**128**	P	**P**	**00 38 30.9**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=324,slow=5.8,SNR=8.8						
WB2	**Warramunga Arr**	**74.11**	**128**	P	**P**	**00 38 31.2**	**-0.2**
WB2				IAmb	IAmb	00 38 32.1	
	comp=Z,4.9nm,1.1s						
ASAR	**Alice Springs**	**76.54**	**131**	P	**P**	**00 38 45.2**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=319,slow=5.9,SNR=9.2						
ASAR	**Alice Springs**	**76.54**	**131**	P	**P**	**00 38 44.8**	**-0.7**
BOSA	**Boshof**	**82.01**	**227**	P	**P**	**00 39 14.5**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=24,slow=7.6,SNR=5.1						
YKA	**Yellowknife Ar**	**82.52**	**7**	P	**P**	**00 39 16.1**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=340,slow=5.3,SNR=9.0						

JMA 27 00:27:30.8±0.1**, 25°.31N**×**124°.17E, h132**km±3**km, M3.5,**
Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JISG	**Ishigakijimahi**	**0.73**	**170**	P	Pn	00 27 51.8	+0.2
JISG				*e*S	Sn	00 28 07.6	+0.2
JTJ	**Tarama**	**0.82**	**144**	P	Pn	00 27 52.7	+0.4
JTJ				S	Sn	00 28 09.1	+0.5
JIJ	**Ishigaki jima**	**0.94**	**182**	P	Pn	00 27 53.4	0.0
JIJ				S	Sn	00 28 10.4	-0.1
JIRB	**Irabujima**	**1.03**	**118**	P	Pn	00 27 54.1	0.0
JIRB				*e*S	Sn	00 28 12.0	+0.2
IRIF	**Iriomote-Funau**	**1.05**	**202**	P	Pn	00 27 54.4	0.0
IRIF				S	Sn	00 28 12.8	+0.6
JIKM	**Ikemajima**	**1.05**	**111**	P	Pn	00 27 54.6	+0.3
JIKM				S	Sn	00 28 12.9	+0.7
JKRS	**Kuro-shima**	**1.08**	**188**	P	Pn	00 27 55.0	+0.4
JKRS				S	Sn	00 28 13.5	+0.8
JMJ2	**Miyako jima3**	**1.19**	**118**	P	Pn	00 27 56.2	+0.5
JMJ2				*e*S	Sn	00 28 15.3	+0.6
JOGS	**Gusukube**	**1.25**	**116**	P	Pn	00 27 56.8	+0.5
JOGS				S	Sn	00 28 15.9	+0.2
HATJ	**Hateruma jima**	**1.29**	**195**	P	Pn	00 27 57.1	+0.3
HATJ				S	Sn	00 28 17.6	+1.1
YOJ	**Yonaguni jima**	**1.35**	**232**	P	Pn	00 27 57.8	+0.4
YOJ				S	Sn	00 28 18.5	+0.9
JYNG	**Yonagunijimaku**	**1.40**	**233**	P	Pn	00 27 58.5	+0.5
JYNG				S	Sn	00 28 19.5	+0.9
JKE	**Kume jima 2**	**2.57**	**66**	P	Pn	00 28 10.6	-1.3
JKE				S	Sn	00 28 43.2	-0.3

NEIC ***27*** *00:39:04.0±2.7, 0°.35N±0°.09×80°.5W±0°.1, h10km±2km, Error ellipse: s-maj=21.1km s-min=10.8km az=304.0*
IDC ***27*** *00:39:04.5±1.6, 0°.82N×79°.61W, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/31, mbtmp3.6/5, MS3.1/2, Ms1 3.2/2, ms1mx2.6/45, Error ellipse: s-maj=88.1km s-min=23.2km az=53.0*
IGQ ***27*** *00:39:07.3±0.8, 0°.N±3°×8°.0W±°, h5km*

ISC 27 00:39:05.3±0.9**, 0°.29N**±0°.05×**80°.24W**±0°.06**, h17**km**, n75,**
σ1**958/70, mb3.8/6, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.55**	**176**	P	**Pg**	**00 39 14.0**	**-2.3**
FLF1	**Flavio Alfaro-**	**0.76**	**148**	P	**Pb**	**00 39 20.0**	**-0.1**
AV18	**Acelerografo,**	**0.77**	**88**	P	**Pn**	**00 39 23.0**	**+1.6**
BV15	**Puerto Quito-O**	**1.03**	**97**	P	**Pn**	**00 39 25.0**	**0.0**
PAC1	**Pacto, Paraso**	**1.45**	**91**	*e*P	**Pg**	**00 39 32.4**	**-0.9**
PAC1				*e*S	**Sg**	**00 39 56.8**	**+4.4**
PAC1	**Pacto, Paraso**	**1.45**	**91**	P	**Pb**	**00 39 32.0**	**0.0**
HPAL	**Hacienda Las P**	**1.67**	**108**	P	**Pb**	**00 39 34.0**	**-0.1**
PINO	**Pinto**	**1.69**	**105**	P	**Pb**	**00 39 36.0**	**-0.4**
GGPT	**Toaza - Volcan**	**1.70**	**107**	P	**Pn**	**00 39 35.0**	**+0.4**
JUA2	**San Juan 2**	**1.71**	**107**	P	**Pb**	**00 39 36.0**	**-0.7**
YANA	**Yana**	**1.72**	**104**	P	**Pb**	**00 39 36.0**	**-0.8**
OTAV	**Otavalo**	**1.79**	**92**	Pn	**Pb**	**00 39 37.5**	**-0.5**
ILLI	**Illinizas Sur**	**1.81**	**123**	P	**Pb**	**00 39 38.0**	**-0.4**
CUSE	**Cuicocha Este**	**1.84**	**90**	*e*P	**Pb**	**00 39 39.4**	**+0.5**
CUSE				*e*S	**Sg**	**00 40 04.4**	**-0.5**
CUSE	**Cuicocha Este**	**1.84**	**90**	P	**Pb**	**00 39 39.0**	**+0.1**
PAST	**Pastocalle**	**1.88**	**121**	P	**Pn**	**00 39 38.0**	**+0.9**
CUIC	**Cuicocha-Domo**	**1.88**	**90**	P	**Pb**	**00 39 39.0**	**-0.5**
COTA	**Cotacachi**	**1.91**	**89**	P	**Pb**	**00 39 40.0**	**0.0**
CAMI	**Rancho Maria**	**1.99**	**119**	P	**Pb**	**00 39 41.0**	**-0.3**
URCU	**Urcuqui**	**1.99**	**86**	P	**Pb**	**00 39 41.0**	**-0.4**
PITA	**Cotopaxi Volc**	**2.00**	**115**	P	**Pb**	**00 39 41.0**	**-0.5**
BNAS	**Cotopaxi Volca**	**2.00**	**118**	P	**Pb**	**00 39 41.0**	**-0.7**
BREF	**Cotopaxi Volca**	**2.04**	**118**	P	**Pb**	**00 39 42.0**	**-0.3**
BMOR	**Cotopaxi Volca**	**2.05**	**120**	P	**Pn**	**00 39 41.0**	**+1.4**
BVC2	**Cotopaxi Volca**	**2.06**	**117**	P	**Pb**	**00 39 42.0**	**-0.6**
VC1	**Cotopaxi 1**	**2.06**	**117**	P	**Pb**	**00 39 42.0**	**-0.6**
TAMB	**Tambo**	**2.11**	**118**	P	**Pb**	**00 39 43.0**	**-0.6**
ANTG	**Antisana-Guama**	**2.14**	**112**	P	**Pb**	**00 39 43.0**	**-1.0**
VCES	**Cotopaxi**	**2.14**	**120**	P	**Pb**	**00 39 43.0**	**-1.0**
YAHU	**Yahuarcocha**	**2.17**	**88**	P	**Pb**	**00 39 45.0**	**+0.5**
ANTI	**Antisana**	**2.21**	**109**	P	**Pb**	**00 39 45.0**	**-0.2**
ANTS	**Antisana-Sarah**	**2.21**	**111**	P	**Pb**	**00 39 45.0**	**-0.3**
CHSH	**Refugio Sur-Vo**	**2.24**	**142**	P	**Pn**	**00 39 43.0**	**+0.8**
CAYR	**Refugio Cayamb**	**2.25**	**97**	P	**Pb**	**00 39 46.0**	**0.0**
CHMA	**Chilma**	**2.25**	**75**	P	**Pb**	**00 39 44.0**	**-1.8**
PORT	**Chimborazo Vol**	**2.28**	**140**	Pn	**Pn**	**00 39 43.5**	**+0.8**
PORT	**Chimborazo Vol**	**2.28**	**140**	P	**Pn**	**00 39 43.0**	**+0.3**
LNGL	**El Angel-Carch**	**2.28**	**79**	P	**Pb**	**00 39 45.0**	**-1.4**
ECEN	**Cerro Negro**	**2.33**	**77**	P	**Pb**	**00 39 45.0**	**-2.3**
TAMH	**Tambohuasha Ch**	**2.33**	**141**	P	**Pn**	**00 39 44.0**	**+0.6**
CHL1	**Volcn Chiles**	**2.35**	**78**	P	**Pb**	**00 39 46.0**	**-1.6**
CHL2	**Volcn Chiles**	**2.36**	**78**	P	**Pb**	**00 39 46.0**	**-2.1**
JUI6	**Juive**	**2.46**	**134**	P	**Pn**	**00 39 48.0**	**+3.0**
POND	**Pondoa**	**2.47**	**134**	P	**Pn**	**00 39 48.0**	**+2.9**
TULM	**Tulcn-Chalpat**	**2.49**	**80**	Pn	**Pb**	**00 39 48.5**	**-1.5**
TULM	**Tulcn-Chalpat**	**2.49**	**80**	*e*P	**Pb**	**00 39 49.2**	**-0.8**
TULM				*e*S	**Sg**	**00 40 23.5**	**-2.2**
RETU	**Refugio**	**2.49**	**134**	P	**Pn**	**00 39 48.0**	**+2.3**
BRUN	**Tungurahua Vol**	**2.50**	**133**	P	**Pn**	**00 39 48.0**	**+2.5**
CMBC	**Cumbal**	**2.50**	**75**	*e*P	**Pb**	**00 39 48.5**	**-1.7**
BMAS	**Trigal station**	**2.51**	**135**	P	**Pb**	**00 39 49.0**	**-1.2**
ARRY	**Arrayan**	**2.52**	**135**	P	**Pn**	**00 39 49.0**	**+3.0**
BONI	**La Bonita**	**2.72**	**87**	P	**Pb**	**00 39 53.0**	**-0.7**
GCUF	**Volcan Galeras**	**3.04**	**72**	*e*P	**Pb**	**00 39 56.5**	**-2.9**
ISPG	**Isla Puna-Puer**	**3.24**	**179**	P	**Pn**	**00 39 59.0**	**+3.5**
ARNL	**Arenillas**	**3.82**	**177**	Pn	**Pn**	**00 40 03.6**	**+0.2**
BOSC	**San Juan Bosco**	**3.84**	**153**	Pn	**Pn**	**00 40 06.4**	**+2.6**
SOTA	**Rioblanco**	**4.07**	**63**	*e*P	**Pn**	**00 40 10.4**	**+3.1**
POPC	**Popayan, Colom**	**4.21**	**58**	*e*P	**Pn**	**00 40 12.7**	**+3.7**
PCON	**Cinco Lilas**	**4.34**	**62**	*e*P	**Pn**	**00 40 13.7**	**+2.6**
MCRA	**Macar, Loja**	**4.64**	**176**	Pn	**Pn**	**00 40 14.8**	**+0.1**
MARP	**Paez Belalcaza**	**4.98**	**59**	*e*P	Pn	00 40 08.8	-11
YOTC	**Yotoco, Valle**	**5.35**	**47**	*e*P	**Pn**	**00 40 27.4**	**+2.8**
ORTC	**Ortega, Tolima**	**6.15**	**54**	*e*P	Pn	00 40 39.6	+4.0
MACC	**Macarena, Meta**	**6.65**	**74**	*e*P	Pn	00 40 46.9	+4.5
GUY2C	**Guyana, Caldas**	**6.91**	**45**	*e*P	Pn	00 40 53.6	+7.2
JTS	**Las Juntas de**	**10.98**	**335**	LR	LR	00 44 58.0	
	comp=Z,95nm,19.5s,baz=183,slow=33						
LPAZ	**La Paz**	**20.35**	**145**	P	Pn	00 43 44.6	+0.8
	1.8nm,0.7s,baz=332,slow=11,SNR=9.0						
LPAZ				LR	LR	00 53 45.9	
	comp=Z,53nm,19.5s,baz=80,slow=43						
LPAZ	**La Paz**	**20.35**	**145**	P	Pn	00 43 44.1	+0.3
LPAZ				IAmb	IAmb	00 44 06.8	
	comp=Z,6.1nm,1.4s						
PB16	**IPOC Station P**	**21.31**	**151**	P	**P**	**00 43 52.4**	**+0.3**
PB16				IAmb	IAmb	00 43 57.4	
	comp=Z,12nm,1.4s						
PB11	**IPOC Station P**	**22.47**	**153**	P	**P**	**00 44 05.8**	**+1.7**
PB11				IAmb	IAmb	00 44 25.0	
	comp=Z,18nm,1.1s						
SIV	**San Ignacio**	**24.90**	**131**	P	**P**	**00 44 27.9**	**+0.3**
	comp=Z,0.8nm,0.2s,baz=309,slow=13,SNR=3.7						
PB14	**IPOC Station P**	**26.54**	**160**	P	**P**	**00 44 41.9**	**-0.9**
NVAR	**Mina Array Bea**	**51.58**	**322**	P	**P**	**00 48 12.3**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=129,slow=7.1,SNR=4.6						
YKA	**Yellowknife Ar**	**67.19**	**343**	P	**P**	**00 49 58.3**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=134,slow=6.1,SNR=7.8						
TORD	**Torodi Ar. Bea**	**82.08**	**77**	P	**P**	**00 51 23.9**	**-1.7**
	comp=Z,0.2nm,0.8s,baz=278,slow=6.6,SNR=1.3						

IDC ***27*** *00:44:02.3±2.3, 6°.22S×146°.83E, h98km±24km, mb3.6/5, mb1 3.8/9, mb1mx3.6/38, mbtmp4.0/9, MS3.4/1, Ms1 3.4/1, ms1mx2.4/47, Error ellipse: s-maj=31.9km s-min=14.7km az=111.0*
NEIC ***27*** *00:44:03.9±1.9, 6°.3S±0°.1×146°.9E±0°.1, h106km±5km, mb4.0/11, Error ellipse: s-maj=20.5km s-min=14.5km az=113.0*

ISC 27 00:44:02.7±0.8**, 6°.24S**±0°.08×**146°.8E**±0°.1**, h100**km**, n28,**
σ0**994/29, mb4.0/7, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.16**	**174**	P	**Pn**	**00 44 51.5**	**+0.7**
	10nm,0.3s,baz=326,slow=12,SNR=8.8						
PMG				S	**Sn**	**00 45 27.7**	**0.0**
	18nm,0.3s,baz=282,slow=24,SNR=8.9						
PMG	**Port Moresby**	**3.16**	**174**		**Pn**	**00 44 51.6**	**+0.9**
COEN	**Coen**	**8.47**	**205**	Pn	**Pn**	**00 46 03.2**	**+0.4**
CTA	**Charters Tower**	**13.78**	**182**	P	**Pn**	**00 47 14.9**	**+1.0**
	0.2nm,0.3s,baz=4.3,slow=14,SNR=1.8						
CTAO	**Charters Tower**	**13.78**	**182**	Pn	**Pn**	**00 47 12.4**	**-1.5**
SIJI	**Sorong**	**16.43**	**288**	P	**Pn**	**00 47 48.6**	**+1.1**
	2.5nm,0.3s,baz=89,slow=5.1,SNR=5.6						
MTN	**Manton Dam**	**16.81**	**246**	Pn	**Pn**	**00 47 50.9**	**-1.3**
MTN				IAmb	IAmb	00 48 08.9	
	comp=Z,10.0nm,1.1s						
WB0	**Warramunga Arr**	**18.09**	**221**	P	**P**	**00 48 05.8**	**-0.9**
WR0	**Warramunga Arr**	**18.13**	**220**	P	**P**	**00 48 06.5**	**-0.8**
WR0				IAmb	IAmb	00 48 19.3	
	comp=Z,8.8nm,1.2s						
WB2	**Warramunga Arr**	**18.24**	**221**	P	**P**	**00 48 08.1**	**-0.4**
WB2				IAmb	IAmb	00 48 35.8	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**18.25**	**221**	P	**P**	**00 48 07.8**	**-0.7**
	comp=Z,6.6nm,0.3s,baz=47,slow=12,SNR=23						
WRA	**Warramunga Arr**	**18.25**	**221**	P	**P**	**00 48 07.4**	**-1.1**
KNRA	**Kununurra**	**20.05**	**241**	P	**P**	**00 48 27.2**	**-1.0**
KNRA				IAmb	IAmb	00 48 32.5	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**21.33**	**214**	P	**P**	**00 48 42.0**	**+0.1**
AS31				IAmb	IAmb	00 48 43.0	
	comp=Z,2.9nm,0.3s						
ASAR	**Alice Springs**	**21.33**	**214**	P	**P**	**00 48 41.9**	**0.0**
	comp=Z,1.1nm,0.3s,baz=53,slow=9.0,SNR=26						
ASAR				S	**S**	**00 52 34.3**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=32,slow=20,SNR=4.3				

TBI	Tubuai	37.77	103	eLR		LR		01 07 42.4	
	comp=Z,108nm,29.2s								
H11S2	WAKE ISLAND Hy	38.20	355	T		T		01 37 53.1	
	baz=181,slow=76,SNR=7.3								
H11S3	WAKE ISLAND Hy	38.21	355	T		T		01 37 51.4	
	baz=181,slow=76,SNR=8.2								
H11S1	WAKE ISLAND Hy	38.22	355	T		T		01 37 52.3	
	baz=181,slow=76,SNR=6.4								
PPT2	Papeete2	38.28	94	eLQ		LQ		01 06 27.4	
	comp=Z,254nm,26.0s								
PPT2				eLR		LR		01 08 02.9	
	comp=Z,219nm,29.2s								
H11N1	WAKE ISLAND Hy	39.40	355	T		T		01 39 26.9	
	baz=182,slow=77,SNR=6.4								
H11N3	WAKE ISLAND Hy	39.40	355	T		T		01 39 27.3	
	baz=182,slow=77,SNR=5.8								
H11N2	WAKE ISLAND Hy	39.42	355	T		T		01 39 20.3	
	baz=182,slow=77,SNR=6.9								
GUMO	Guam	41.40	321	LR		LR		01 16 33.8	
	comp=Z,19nm,19.1s,baz=108,slow=38								
FITZ	Fitzroy Crossi	41.91	265	P		P		00 58 07.0	+0.2
	comp=Z,2.3nm,0.8s,baz=81,slow=7.6,SNR=8.8								
FITZ	Fitzroy Crossi	41.91	265	P		P		00 58 07.1	+0.4
PETK	Petropavlovsk-	73.39	352	LR		LR		01 29 39.8	
	comp=Z,34nm,20.4s,baz=159,slow=32								
MAW	Mawson	78.18	202	LR		LR		01 33 03.7	
	comp=Z,68nm,18.1s,baz=199,slow=33								
CMAR	Chiang Mai Arr	79.40	294	P		P		01 02 23.5	+1.2
	comp=Z,0.8nm,0.3s,baz=156,slow=2.5,SNR=1.5								
YBH	Yreka Blue Hor	87.20	44	LR		LR		01 34 13.7	
	comp=Z,39nm,20.6s,baz=272,slow=30								
TROLL	Troll, Antarti	88.02	184	P		P		01 03 16.8	+11
SONM	Songino Array	88.11	323	P		P		01 03 06.9	+0.6
	comp=Z,1.2nm,0.8s,baz=129,slow=5.9,SNR=6.3								
SONM	Songino Array	88.11	323	P		P		01 03 06.4	+0.1
SONM				IAmb		IAmb		01 03 31.3	
	comp=Z,3.4nm,1.2s								
SNAA	Sanae	88.62	182	P		P		01 03 18.6	+10
NVAR	Mina Array Bea	88.64	48	LR		LR		01 33 15.5	
	comp=Z,57nm,21.6s,baz=232,slow=29								
LPIG	La Paz	89.01	64	LR		LR		01 33 13.9	
	comp=Z,55nm,21.1s,baz=244,slow=29								
VNA2	Neumayer--Watz	89.49	181	P		P		01 03 20.7	+8.3
	baz=21,slow=14								
BBB	Bella Bella	89.56	33	LR		LR		01 33 15.6	
	comp=Z,29nm,22.0s,baz=257,slow=29								
VNA1	Neumayer--Stat	89.77	181	P		P		01 03 20.3	+6.6
ILAR	Eielson Array	90.56	17	LR		LR		01 41 04.9	
	comp=Z,38nm,19.1s,baz=260,slow=34								
DIVS	Divibare	145.21	321			PKPdf		01 09 54.0	+0.6
GEC2	GERESS Array S	145.34	332			PKPab		01 09 53.5	+0.1
GERES	GERESS Array B	145.34	332	PKPbc		PKPbc		01 09 52.5	-0.8
	comp=Z,0.5nm,0.8s,baz=5.7,slow=1.0,SNR=5.5								
GERES	GERESS Array B	145.34	332			PKPbc		01 09 52.0	-1.3
ASCN	Ascension	152.10	171	PKPdf		PKPdf		01 10 04.6	-0.8

*IDC **27** 00:50:24.4±0.6,38°.91S×78°.12E,h0km,mb4.3/16, mb1 4.4/16,mb1mx4.2/42,mbtmp4.3/16,MS4.0/41, Ms1 4.0/41,ms1mx3.8/67,Error ellipse: s-maj=20.9km s-min=15.0km az=0.0*

*NEIC **27** 00:50:26.4±1.9,38°.79S±0°.07×78°.0E±0°.2,h10km±1km, mb4.8/19,Error ellipse: s-maj=20.9km s-min=11.3km az=256.0*

*GCMT **27** 00:50:29.4±0.3,38°.80S±0°.02×77°.93E±0°.03,h17km±1km, MW4.9/80,Moment Tensor Solution. s12,c12; s80,c102; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.75±.15; Mθθ=1.58±.10; Mφφ=2.33±.13; Mrθ=-1.12±.33; Mrφ=-1.17±.11; Mθφ=0.95±.29; Best double couple: M=2.73100×10^16^ NP1:ϕs=29.00000°,δ=54.00000°,λ=-10.00000°. NP2: ϕs=124.00000°,δ=82.00000°,λ=144.00000°. Principal axes: T 3.0580, Plg18.0000°, Azm251.0000°; N -0.6520, Plg53.0000°, Azm135.0000°; P -2.4030, Plg31.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 00:50:25.6±0.5,38°.80S±0°.09×78°.1E±0°.1,h10km,n77, σ0s95/42,mb4.6/21,MS4.1/41,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AIS	Amsterdam Isla	1.08	338		Pg	00 50 44.4	-2.0
H01W2	Cape Leeuwin H	29.00	94	T	T	01 26 44.5	
	baz=250,slow=75,SNR=700						
H01W3	Cape Leeuwin H	29.01	94	T	T	01 26 45.4	
	baz=250,slow=75,SNR=646						
H01W1	Cape Leeuwin H	29.02	94	T	T	01 26 41.5	
	baz=250,slow=75,SNR=731						
MAW	Mawson	30.07	192	LR	LR	01 05 34.8	
	comp=Z,261nm,21.4s,baz=358,slow=30						
H08S2	Diego Garcia H	31.42	349	T	T	01 29 53.5	
	baz=172,slow=76						
H08S1	Diego Garcia H	31.43	349	T	T	01 29 55.9	
	baz=172,slow=76						
H08S3	Diego Garcia H	31.44	349	T	T	01 29 56.8	
	baz=172,slow=76						
OPO	Ambohidratompo	33.52	298	LR	LR	01 08 01.3	
	comp=Z,60nm,21.6s,baz=354,slow=31						
LEM	Lembang	41.52	48	LR	LR	01 12 17.7	
	comp=Z,273nm,18.4s,baz=187,slow=32						
BOSA	Boshof	44.56	267	P	P	00 58 38.3	+0.4
	7.2nm,0.9s,baz=118,slow=9.9,SNR=4.4						
BOSA	Boshof	44.56	267	P	P	00 58 37.8	-0.1
PSI	Prapat	45.55	30	LR	LR	01 13 08.9	
	comp=Z,282nm,20.8s,baz=204,slow=30						
PALK	Pallekele	45.90	4	LR	LR	01 14 32.1	
	comp=Z,210nm,19.2s,baz=274,slow=32						
LBTB	Lobatse	46.03	271	P	P	00 58 50.5	+0.9
	10.0nm,1.0s,baz=131,slow=11,SNR=7.2						
LBTB				LR	LR	01 14 54.9	
	comp=Z,326nm,18.1s,baz=121,slow=32						
LBTB	Lobatse	46.03	271	P	P	00 58 50.5	+0.9
LBTB				IAmb	IAmb	00 58 55.2	
	comp=Z,13nm,1.0s						
MATP	Matopo	46.23	279	P	P	00 58 52.6	+1.3
	comp=Z,8.0nm,1.2s,baz=133,slow=7.9,SNR=3.5						
SUR	Sutherland	46.36	260	P	P	00 58 53.2	+1.0
	comp=Z,9.7nm,0.7s,baz=124,slow=10,SNR=1.6						
SUR				LR	LR	01 13 41.5	
	comp=Z,305nm,20.8s,baz=137,slow=30						
SUR	Sutherland	46.36	260	P	P	00 58 52.7	+0.5
ASAR	Alice Springs	49.35	89	P	P	00 59 16.1	+0.7
	comp=Z,3.8nm,0.8s,baz=237,slow=5.9,SNR=23						
ASAR				LR	LR	01 18 07.7	
	comp=Z,224nm,18.5s,baz=170,slow=34						
ASAR	Alice Springs	49.35	89	P	P	00 59 16.5	+1.2
LSZ	Lusaka	49.51	284	LR	LR	01 16 15.2	
	comp=Z,251nm,21.7s,baz=140,slow=31						
KNRA	Kununurra	49.88	77	P	P	00 59 20.5	+1.2
KAPI	Kappang	50.54	59	LR	LR	01 18 52.1	
	comp=Z,155nm,18.6s,baz=222,slow=34						
SNAA	Sanae	50.87	204	P	P	00 59 26.3	0.0
	comp=Z,1.5nm,0.7s,baz=95,slow=5.5,SNR=4.5						
SNAA				LR	LR	01 18 21.3	
	comp=Z,93nm,18.5s,baz=275,slow=33						
SNAA	Sanae	50.87	204	P	P	00 59 26.8	+0.5
VNDA	Vanda	51.13	164	P	P	00 59 27.1	-0.9
	comp=Z,1.8nm,0.9s,baz=272,slow=6.9,SNR=6.6						
VNDA				LR	LR	01 19 33.4	
	comp=Z,429nm,18.3s,baz=286,slow=34						
VNDA	Vanda	51.13	164	P	P	00 59 27.5	-0.6
QSPA	South Pole Qui	51.36	180	P	P	00 59 28.5	-1.6
	comp=Z,5.4nm,1.1s,baz=310,slow=2.5,SNR=6.1						
QSPA				LR	LR	01 19 48.2	
	comp=Z,308nm,18.6s,baz=294,slow=34						
QSPA	South Pole Qui	51.36	180	P	P	00 59 28.5	-1.6
QSPA				IAmb	IAmb	00 59 31.3	
	comp=Z,17nm,1.4s						
STKA	Stephens Creek	51.37	103	P	P	00 59 30.4	0.0
	comp=Z,5.9nm,1.0s,baz=296,slow=6.7,SNR=5.8						
STKA				LR	LR	01 16 50.6	
	comp=Z,234nm,21.3s,baz=219,slow=31						
STKA	Stephens Creek	51.37	103	P	P	00 59 30.2	-0.2
WRA	Warramunga Arr	51.70	86	P	P	00 59 33.6	+0.5
	comp=Z,12nm,1.1s,baz=236,slow=7.3,SNR=29						
WRA				LR	LR	01 18 43.9	
	comp=Z,333nm,21.4s,baz=212,slow=33						
WRA	Warramunga Arr	51.70	86	P	P	00 59 33.3	+0.2
WB2	Warramunga Arr	51.71	86	P	P	00 59 32.9	-0.3
WB2				IAmb	IAmb	00 59 34.8	
	comp=Z,23nm,1.3s						
WB0	Warramunga Arr	51.84	85	P	P	00 59 34.4	+0.2
WR0	Warramunga Arr	51.84	86	P	P	00 59 34.6	+0.4
WR0				IAmb	IAmb	00 59 35.9	
	comp=Z,20nm,1.2s						
KMBO	Kilima Mbogo	52.89	305	P	P	00 59 42.7	+0.5
	comp=Z,0.7nm,0.3s,baz=163,slow=7.4,SNR=1.9						
KMBO				LR	LR	01 17 03.5	
	comp=Z,92nm,20.9s,baz=94,slow=30						
TSUM	Tsumeb	55.41	272	LR	LR	01 20 02.1	
	comp=Z,419nm,20.6s,baz=122,slow=32						
MBAR	Mbarara	57.59	299	LR	LR	01 20 58.1	
	comp=Z,158nm,19.2s,baz=126,slow=32						
CMAR	Chiang Mai Arr	60.22	23	P	P	01 00 34.8	+0.8
	comp=Z,1.3nm,0.7s,baz=209,slow=7.2,SNR=7.3						
CMAR	Chiang Mai Arr	60.22	23	P	P	01 00 33.4	-0.6
CTA	Charters Tower	60.92	93	P	P	01 00 39.0	+0.1
	comp=Z,4.1nm,0.9s,baz=265,slow=6.6,SNR=1.4						
CTA				LR	LR	01 24 34.9	
	comp=Z,250nm,20.4s,baz=260,slow=34						
SIJI	Sorong	61.48	66	LR	LR	01 24 20.4	
	comp=Z,57nm,21.0s,baz=149,slow=33						
DAV	Davao City (W)	63.41	55	LR	LR	01 25 37.1	
	comp=Z,57nm,21.2s,baz=170,slow=33						
WSAR	Wadi Sarin	64.35	340	LR	LR	01 23 36.5	
	comp=Z,56nm,18.3s,baz=158,slow=31						
RPZ	Rata Peaks	66.40	128	LR	LR	01 23 38.3	
	comp=Z,183nm,19.2s,baz=234,slow=30						
PMG	Port Moresby	67.88	84	LR	LR	01 28 41.6	
	comp=Z,76nm,18.5s,baz=257,slow=34						
PMSA	Palmer Station	72.57	196	LR	LR	01 31 10.3	
	comp=Z,123nm,19.2s,baz=142,slow=34						
KBL	Kabul	73.45	352	P	P	01 02 00.1	+1.8
KBL				IAmb	IAmb	01 02 05.9	
	comp=Z,16nm,1.5s						
KRVT	Keravat (AS076	74.81	83	LR	LR	01 34 26.8	
	comp=Z,99nm,19.7s,baz=6.1,slow=35						
DZM	Mont Dzumac	75.30	107	LR	LR	01 30 11.5	
	comp=Z,78nm,19.4s,baz=88,slow=32						
GEYT	Allbeck	78.53	344	LR	LR	01 32 23.2	
	comp=Z,81nm,20.0s,baz=172,slow=32						
BTK	Batken	78.76	354	P	P	01 02 29.3	+1.2
BTK				IAmb	IAmb	01 02 38.0	
	comp=Z,6.4nm,1.0s						
KK31	Karatay Array	81.81	354	P	P	01 02 46.0	+1.6
KK31				IAmb	IAmb	01 02 53.8	
	comp=Z,5.3nm,1.2s						
KKAR	Karatay Array	81.81	354	P	P	01 02 44.8	+0.4
GNI	Garni	84.28	335	LR	LR	01 36 30.6	
	comp=Z,37nm,19.1s,baz=169,slow=33						
MKAR	Makanchi Array	85.30	3	P	P	01 03 02.2	-0.1
	comp=Z,0.7nm,0.8s,baz=157,slow=6.5,SNR=7.4						
MKAR				LR	LR	01 38 36.9	
	comp=Z,114nm,20.1s,baz=170,slow=34						
MKAR	Makanchi Array	85.30	3	P	P	01 03 01.7	-0.6
MSVF	Nonsavu	86.57	110	LR	LR	01 35 43.4	
	comp=Z,81nm,21.9s,baz=163,slow=31						
TORD	Torodi Ar. Bea	87.81	289	P	P	01 03 16.0	+0.7
	comp=Z,0.6nm,1.0s,baz=160,slow=4.6,SNR=2.1						
TORD				LR	LR	01 39 43.9	
	comp=Z,71nm,21.3s,baz=235,slow=34						
TORD	Torodi Ar. Bea	87.81	289	P	P	01 03 15.8	+0.5
TORD				IAmb	IAmb	01 03 30.5	
	comp=Z,4.3nm,0.8s						
KBZ	Khabaz	88.10	335	LR	LR	01 39 34.0	
	comp=Z,45nm,18.1s,baz=160,slow=33						
DBIC	Dimbokro	88.65	280	LR	LR	01 40 58.7	
	comp=Z,89nm,18.4s,baz=140,slow=34						
KSRS	Korea Array	88.68	37	LR	LR	01 43 08.0	
	comp=Z,9.3nm,18.0s,baz=250,slow=36						
AKTO	Aktyubinsk	90.60	347	LR	LR	01 40 31.2	
	comp=Z,41nm,20.2s,baz=146,slow=33						
JHJ	Hachijo jima 2	91.64	48	LR	LR	01 41 51.7	
	comp=Z,17nm,18.8s,baz=92,slow=34						
ZALV	Zalesovo Beam	92.56	4	P	P	01 03 38.4	+1.8
	comp=Z,0.3nm,0.3s,baz=157,slow=7.8,SNR=2.0						
ZALV				LR	LR	01 42 29.2	
	comp=Z,69nm,21.3s,baz=200,slow=34						
MJAR	Matsushiro Arr	93.25	44	LR	LR	01 44 41.1	
	comp=Z,20nm,18.6s,baz=78,slow=35						
AFI	Afiamalu	96.45	113	LR	LR	01 39 26.1	
	comp=Z,41nm,21.0s,baz=172,slow=30						
KLR	Kul'dur	99.66	32	LR	LR	01 46 44.4	
	comp=Z,29nm,21.4s,baz=260,slow=34						
ILAR	Eielson Array	143.21	30	PKP	PKiKP	01 10 01.1	-1.2
	comp=Z,0.5nm,0.8s,baz=205,slow=1.9,SNR=3.5						
INK	Inuvik	145.77	20	PKPbc	PKPdf	01 10 02.4	-0.9
	comp=Z,4.5nm,0.9s,baz=285,slow=2.7,SNR=6.9						
INK	Inuvik	145.77	20		PKPbc	01 10 03.0	-0.8
YKA	Yellowknife Ar	155.05	14	PKPbc		01 10 26.0	
	comp=Z,0.6nm,0.9s,baz=341,slow=2.7,SNR=4.5						
NVAR	Mina Array Bea	167.18	87	PKPab	PKPab	01 11 36.2	-0.3
	comp=Z,0.8nm,0.8s,baz=256,slow=3.6,SNR=3.6						
NVAR	Mina Array Bea	167.18	87	PKPab	PKPab	01 11 36.9	+0.4

*NOU **27** 01:20:29.2,36°.73S×176°.87E,h337km,mb4.1/6,Off E. Coast of N. Island, N.Z.*

*WEL **27** 01:20:39.9±0.9,37°.5±8°.×17°.7E±°,h253km±9km,M3.2/18, MLv3.2/18,Error ellipse: s-maj=0.0km s-min=0.0km az=31.0*

ISC 27 01:20:33.7±2.6,37°.1S±0°.1×176°.65E±0°.09,h305km±14km, n113,σ1s83/124,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUZ	Kuaotunu	0.82	295	P	Pn	01 21 14.9	+1.0
MARZ	Manawahe	0.88	179	P	Pn	01 21 16.1	+2.0
TOZ	Tahuroa Road	1.11	235	P	Pn	01 21 17.0	+2.0
HAZ	Te Kaha	1.11	126	P	Pn	01 21 16.1	+1.1
HAZ				S	S	01 21 44.1	-3.9
RUGZ	Raukumara Rang	1.19	137	P	Pn	01 21 16.2	+0.5
RUGZ				S	S	01 21 45.0	-4.0
MKAZ	Moumakai	1.19	269	P	Pn	01 21 17.2	+1.7
URZ	Urewera	1.21	163	P	Pn	01 21 16.4	+0.8
URZ				S	S	01 21 46.3	-2.5
URZ	Urewera	1.21	163	P	Pn	01 21 16.3	+0.8
MUGZ	Murupara	1.38	176	P	Pn	01 21 17.9	+1.4
MUGZ				S	S	01 21 49.9	-0.7
MXZ	Matakaoa Point	1.40	110	P	Pn	01 21 18.1	+1.4
MWZ	Matawai	1.42	151	P	Pn	01 21 18.2	+1.4
MWZ				S	S	01 21 49.1	-2.0
TWGZ	Tauwhareparae	1.51	136	P	Pn	01 21 19.8	+2.4
TWGZ				S	S	01 21 51.1	-1.0
TLZ	Tolley Road	1.51	215	P	Pn	01 21 19.8	+2.4
RAGZ	Rawiri	1.52	157	P	Pn	01 21 19.3	+1.8
RAGZ				S	S	01 21 51.1	-1.2
RTZ	Ruatahuna	1.54	170	P	Pn	01 21 19.0	+1.5
WMGZ	Waiomatatini S	1.58	118	P	Pn	01 21 19.9	+2.1
PUZ	Puketiti	1.60	128	P	Pn	01 21 19.7	+1.8
AWAZ	Awhitu Peninsu	1.61	271	P	Pn	01 21 19.6	+1.6
TKGZ	Te Karaka	1.64	145	P	Pn	01 21 20.0	+1.9
TKGZ				S	S	01 21 52.0	-1.5
MRHZ	Matea Rd	1.74	186	P	Pn	01 21 20.4	+1.5
MTHZ	Maungataniwha	1.76	175	P	Pn	01 21 20.7	+1.6
WATZ	Wairara	1.76	204	P	Pn	01 21 21.6	+2.5
SNGZ	Shannon Statio	1.77	162	P	Pn	01 21 21.2	+2.1
SNGZ				S	S	01 21 53.2	-2.1
RIGZ	Rimuhau	1.83	152	P	Pn	01 21 21.9	+2.3
RIGZ				S	S	01 21 55.5	-0.6
HATZ	Hinemaiaia	1.84	194	P	Pn	01 21 21.6	+1.9
RAHZ	Arahi	1.85	169	P	Pn	01 21 21.9	+2.2
RAHZ				S	S	01 21 55.5	-0.8
CNGZ	Carnagh Statio	1.85	139	P	Pn	01 21 22.3	+2.6
RATZ	Rangitukua	1.90	201	P	Pn	01 21 22.2	+2.1
RITZ	Rihia Road	1.98	198	P	Pn	01 21 23.0	+2.3
NMHZ	Naumai	2.00	177	P	Pn	01 21 23.5	+2.6
KATZ	Kakaramea	2.02	202	P	Pn	01 21 23.4	+2.3
PRGZ	Paritu Road	2.06	152	P	Pn	01 21 23.7	+2.4
BKZ	Black Stump Fm	2.07	183	P	Pn	01 21 23.0	+1.6
BKZ	Black Stump Fm	2.07	183	P	Pn	01 21 23.1	+1.7
KNZ	Kokohu	2.08	157	P	Pn	01 21 23.4	+2.0
NTVZ	North Tongarir	2.14	201	P	Pn	01 21 24.1	+2.1
TMVZ	Te Maari	2.15	200	P	Pn	01 21 24.1	+2.0
ETVZ	East Tongariro	2.16	200	P	Pn	01 21 24.2	+1.9
ARHZ	Aropaoanui	2.18	173	P	Pn	01 21 24.6	+2.4
WTVZ	West Tongariro	2.18	202	P	Pn	01 21 24.3	+1.9
NNVZ	North Ngauruho	2.19	202	P	Pn	01 21 24.5	+2.0
OTVZ	Oturere	2.20	200	P	Pn	01 21 24.7	+2.1
SNVZ	South Ngauruho	2.23	201	P	Pn	01 21 24.9	+2.0
NGZ	Ngauruhoe	2.23	201	P	Pn	01 21 25.0	+2.2
MHGZ	Mahia Peninsul	2.28	155	P	Pn	01 21 25.6	+2.5
TUVZ	Tukino	2.30	200	P	Pn	01 21 25.5	+2.0
FWVZ	Far West T-bar	2.32	202	P	Pn	01 21 25.8	+2.1
KWHZ	Kaweka Forest	2.33	184	P	Pn	01 21 25.7	+2.1
WHVZ	Whangaehu Hut	2.33	201	P	Pn	01 21 25.9	+2.0
MCHZ	McNeill Hill	2.34	179	P	Pn	01 21 26.0	+2.4
TRVZ	Turoa	2.36	201	P	Pn	01 21 26.0	+1.9
WNVZ	Wahianoa	2.37	200	P	Pn	01 21 26.0	+1.9
MOVZ	Moawhango	2.41	197	P	Pn	01 21 25.8	+1.5
PKVZ	Pokaka	2.42	205	P	Pn	01 21 26.3	+2.0
BHHZ	Black Hill Sta	2.43	191	P	Pn	01 21 26.0	+1.6
MTVZ	Mangateitei	2.46	202	P	Pn	01 21 26.8	+2.0
VRZ	Vera Road	2.51	216	P	Pn	01 21 28.1	+3.0
KRHZ	Kereru	2.55	185	P	Pn	01 21 27.3	+1.8
CKHZ	Cape Kidnapper	2.58	173	P	Pn	01 21 27.9	+2.2
KAHZ	Kahuranaki	2.70	176	P	Pn	01 21 29.1	+2.2
PNHZ	Pukenui	2.83	187	P	Pn	01 21 29.8	+1.7
PXZ	Pawanui	2.93	177	P	Pn	01 21 31.2	+2.2
WAZ	Wanganui	2.96	206	P	Pn	01 21 31.4	+2.1
NEZ	North Egmont	2.96	222	P	Pn	01 21 33.2	+3.8
WPHZ	Waipukurau	2.96	183	P	Pn	01 21 31.5	+2.2
TSZ	Takapari Road	3.00	190	P	Pn	01 21 31.3	+1.5
KHEZ	Kahui Hut	3.02	223	P	Pn	01 21 33.5	+3.6
OUZ	Omahuta	3.10	306	P	Pn	01 21 32.6	+1.8
PRHZ	Porangahau	3.16	180	P	Pn	01 21 33.2	+1.9
DVHZ	Dannevirke	3.22	187	P	Pn	01 21 33.4	+1.5
POWZ	Post Office Ro	3.36	192	P	Pn	01 21 34.9	+1.7
PRWZ	Pori Road	3.49	189	P	Pn	01 21 36.7	+2.1
BFZ	Birch Farm	3.59	185	P	Pn	01 21 37.2	+1.5
BFZ	Birch Farm	3.59	185	P	Pn	01 21 37.4	+1.7
MRZ	Mangatainoka R	3.65	193	P	Pn	01 21 37.4	+1.1
TIWZ	Tintock	3.72	189	P	Pn	01 21 38.8	+1.7
CPWZ	Castlepoint	3.82	185	P	Pn	01 21 40.7	+2.6
OGWZ	Otaki Gorge	3.89	197	P	Pn	01 21 40.1	+1.3
HOWZ	Holdsworth Sta	3.90	193	P	Pn	01 21 39.8	+0.9
KIW	Kapiti Island	3.99	199	P	Pn	01 21 41.0	+1.0
TMWZ	Te Maipa	4.04	188	P	Pn	01 21 42.2	+1.6
MTW	Mount Morrison	4.15	192	P	Pn	01 21 42.5	+0.8
CAW	Cannon Point	4.19	197	P	Pn	01 21 43.2	+1.2
OUWZ	D'Urville Isla	4.26	209	P	Pn	01 21 43.8	+0.8
TRWZ	Traveller	4.36	190	P	Pn	01 21 45.3	+1.2
PAWZ	Paruwai Farm	4.38	192	P	Pn	01 21 45.5	+1.2
WEL	Wellington	4.43	199	P	Pn	01 21 46.0	+1.2
MSWZ	Moikau Station	4.45	194	P	Pn	01 21 45.8	+0.8
SNZO	South Karori	4.47	199	P	Pn	01 21 46.3	+1.1
TCW	Tory Channel	4.50	203	P	Pn	01 21 46.5	+0.9
BHW	Baring Head	4.52	197	P	Pn	01 21 46.8	+1.0
PLWZ	Palliser	4.59	193	P	Pn	01 21 47.5	+0.8
TUWZ	Tuamarina	4.81	205	P	Pn	01 21 49.7	+0.7
NNZ	Nelson	4.83	211	P	Pn	01 21 49.9	+0.5
TKNZ	Takaka Hill	4.87	215	P	Pn	01 21 49.9	+0.1
QRZ	Quartz Range	4.92	220	P	Pn	01 21 50.6	+0.2
QRZ	Quartz Range	4.92	220	P	Pn	01 21 51.9	+1.6
BSWZ	Blackbirch Sta	5.09	204	P	Pn	01 21 53.4	+1.2
MRNZ	Matariki Terra	5.25	214	P	Pn	01 21 54.6	+0.4
THZ	Tophouse	5.49	211	P	Pn	01 21 58.1	+1.0
KHZ	Kahutara	5.83	203	P	Pn	01 22 02.2	+1.3
KHZ	Kahutara	5.83	203	P	Pn	01 22 02.5	+1.6
DSZ	Denniston Nort	5.97	217	P	Pn	01 22 02.4	-0.2
GVZ	Greta Valley S	6.48	204	P	Pn	01 22 09.8	+1.0
LTZ	Lake Taylor	6.60	209	P	Pn	01 22 10.8	+0.6
AMCZ	Amberley	6.80	206	P	Pn	01 22 13.7	+1.1
INZ	Inchbonnie	6.90	214	P	Pn	01 22 14.4	+0.6
OKCZ	Okains Bay	7.16	201	P	Pn	01 22 18.1	+1.1
MQZ	McQueen's Vall	7.27	204	P	Pn	01 22 18.4	+0.2
RACZ	Rakaia	7.46	206	P	Pn	01 22 21.0	+0.4
ARCZ	Arundel	8.01	210	P	Pn	01 22 28.0	+0.7
TMZ	Timaru	8.44	209	P	Pn	01 22 34.0	+1.4
JCZ	Jackson Bay	9.18	218	P	Pn	01 22 42.9	+1.2

*NEIC **27** 01:43:37.8±1.3,54°.56N±0°.09×154°.20W±0°.08,h16km±8km, ML3.6/22,ML3.3/25(AEIC),Error ellipse: s-maj=13.8km s-min=6.0km az=170.0*

*AEIC **27** 01:43:41.5±1.4,54°.57N±0°.09×154°.1W±0°.1,h11km±8km, Error ellipse: s-maj=13.0km s-min=8.6km az=166.0*

ISC 27 01:43:36.5±1.4,54°.63N±0°.10×154°.16W±0°.07,h10km, n114,σ1s49/120,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIR	Chirikof Islan	1.46	326	Pn	Pn	01 44 03.0	0.0
C

KNK	Knik Glacier	7.44	22	Pn	Pn	01 45 25.8	+0.7
EYAK	Cordova Ski Ar	7.46	34	Pn	Pn	01 45 25.5	+0.3
KAIM	Kayak Island	7.48	41	Pn	Pn	01 45 26.3	+0.7
L19K	White Mountain	7.58	358	Pn	Pn	01 45 29.1	+2.1
GHO	Glory Hole Cre	7.68	19	Pn	Pn	01 45 30.1	+1.8
RAGM	Ragged Mountai	7.70	38	Pn	Pn	01 45 29.9	+1.3
HMT	Hamilton	7.82	39	Pn	Pn	01 45 31.2	+1.0
SUCK	Suckling Hills	7.82	42	Pn	Pn	01 45 31.6	+1.3
SML	Sawmill	7.83	21	Pn	Pn	01 45 31.7	+1.4
DIV	Divide	7.90	31	Pn	Pn	01 45 33.9	+2.5
BERG	Berg Lake	8.06	40	Pn	Pn	01 45 34.1	+0.5
SCM	Sheep Creek Mo	8.07	24		Pn	01 45 36.1	+2.4
BMRM	Bremner River	8.14	35	Pn	Pn	01 45 36.5	+1.8
KLU	Klutina	8.14	29	Pn	Pn	01 45 36.6	+0.8
SNH	Sunshine Point	8.26	43	Pn	Pn	01 45 37.9	+1.6
PPLA	Purkeypile	8.36	6	Pn	Pn	01 45 40.7	+3.0
TTA	Tatalina	8.38	354	Pn	Pn	01 45 39.4	+1.4
WAX	Waxell Ridge	8.42	42	Pn	Pn	01 45 39.6	+1.1
M24K	Tolsona, Glenn	8.59	26	Pn	Pn	01 45 43.2	+2.4
N25K	Chitina, Valde	8.62	32	Pn	Pn	01 45 42.0	+0.6
ISLE	Juniper Island	8.71	42	Pn	Pn	01 45 43.8	+1.2
VRDI	Verde Repeater	8.72	36	Pn	Pn	01 45 43.4	+0.7
GLB	Gilahina Butte	8.75	35	Pn	Pn	01 45 44.1	+1.1
K20K	Telida	8.76	0	Pn	Pn	01 45 44.2	+1.2
CAST	Castle Rocks	8.88	6	Pn	Pn	01 45 46.8	+2.0
MCARA	McCarthy VSAT	8.98	37	Pn	Pn	01 45 48.2	+2.1
GRNC	Granite Creek	9.02	42	Pn	Pn	01 45 48.0	+1.1
TRF	Thorofare Moun	9.07	11	Pn	Pn	01 45 49.0	+1.5
TABL	Table Mountain	9.10	45	Pn	Pn	01 45 49.0	+1.1
KTH	Kantishna Hill	9.10	9	Pn	Pn	01 45 48.9	+1.0
DHY	Denali Highway	9.16	20	Pn	Pn	01 45 49.4	+0.6
RND	Reindeer	9.21	15	Pn	Pn	01 45 50.7	+1.3
BARN	Barnard Glacie	9.26	47	Pn	Pn	01 45 51.5	+1.4
PCA	Pinnacle	9.29	48	Pn	Pn	01 45 51.9	+1.5
CTGM	Chitina Glacie	9.33	42	Pn	Pn	01 45 52.5	+1.5
LOGN	Logan Glacier	9.37	43	Pn	Pn	01 45 52.9	+1.3
BCPM	Bancas Point	9.49	50	Pn	Pn	01 45 54.5	+1.4
PAX	Paxson	9.49	25	Pn	Pn	01 45 55.8	+2.6
MCK	McKinley	9.51	14	Pn	Pn	01 45 55.3	+1.9
J20K	Nowinta River	9.58	0	Pn	Pn	01 45 56.0	+1.7
BPAW	Bear Paw Mtn.	9.64	8	Pn	Pn	01 45 57.2	+2.1
M26K	Nabesna, AK	9.72	32	Pn	Pn	01 45 59.3	+3.0
M27K	Edge Creek, AK	10.05	35	Pn	Pn	01 46 02.9	+2.0
RIDG	Independent Ri	10.30	24	Pn	Pn	01 46 06.9	+2.7
NEA2	Nenana	10.32	12	Pn	Pn	01 46 06.2	+1.8
WRH	Wood River Hil	10.34	15	Pn	Pn	01 46 05.6	+1.0
CCB	Clear Creek Bu	10.54	15	Pn	Pn	01 46 08.8	+1.3
L27K	Beaver Creek,	10.58	32	Pn	Pn	01 46 09.8	+1.8
BCAR	Beaver Creek A	10.59	32	Pn	Pn	01 46 09.6	+1.3
SCRK	Sand Creek	10.78	25	Pn	Pn	01 46 12.2	+2.4
MDM	Murphy Dome	10.78	14	Pn	Pn	01 46 12.2	+1.4
IL31		10.81	17	Pn	Pn	01 46 12.7	+1.7
ILAR	Eielson Array	10.81	17	Pn	Pn	01 46 12.3	+1.2
I23K	Minto, Yukon-K	10.82	11	Pn	Pn	01 46 13.2	+2.0
HYT	Haines Junctio	10.84	48	Pn	Pn	01 46 13.6	+1.9
J25K	Salcha River,	10.94	20	Pn	Pn	01 46 14.0	+1.0
H21K	Melozitna Rive	11.09	3	Pn	Pn	01 46 16.4	+1.5
BESE	Bessie Mountai	11.34	62	Pn	Pn	01 46 19.6	+1.2
IMAR	Indian Mountai	11.39	1	Pn	Pn	01 46 20.3	+1.2
H23K	Yukon River	11.46	10	Pn	Pn	01 46 21.1	+1.1
H24K	Noodor Dome	11.66	13	Pn	Pn	01 46 23.8	+1.0
N31M	Braeburn, Yuko	11.88	47	Pn	Pn	01 46 27.4	+1.6
WHY	Whitehorse	11.94	52	Pn	Pn	01 46 27.9	+1.2
M30M	Minto, Yukon	12.02	42	Pn	Pn	01 46 28.7	+0.9
M31M	Drury Creek, Y	12.80	46	Pn	Pn	01 46 40.1	+1.7
BMAR	Burnt Mountain	13.63	16	Pn	Pn	01 46 50.7	+1.1
TOLK	Toolik Lake Re	14.22	7	Pn	Pn	01 46 59.1	+1.3
YKA	Yellowknife Ar	21.76	53	P	P	01 48 28.3	+0.4

TUL ***27*** *01:46:37±0.8, 36˚.48N±0˚.01×98˚.74W±0˚.02, h8km±2km, ML2.9, mb_Lg2.4/19(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=106.0*

NEIC 27 01:46:37.6±0.5, **36˚.48N**±0˚.01×**98˚.73W**±0˚.02, **h6**km±2km, **Error ellipse: s-maj=2.7km s-min=1.3km az=114.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.24**	**247**	Pg	Pg	01 46 42.0	-0.4
U32A				Sg	Sg	01 46 45.7	+0.1
FNO	**Franklin**	**1.62**	**138**	Pn	Pn	01 47 06.0	-0.8
WMOK	**Wichita Mounta**	**1.73**	**182**		Pn	01 47 07.5	-0.8
T35A	**Somer Cattle**	**1.83**	**75**		Pn	01 47 09.9	+0.1
R32A	**Long Quarter,**	**1.94**	**0**	Pn	Pn	01 47 11.7	+0.4
R32A	comp=Z,16nm,1.3s			IAmb_Lg		01 47 37.7	
X34A	**Smith Ranch, M**	**2.01**	**158**	Pn	Pn	01 47 12.2	0.0
TUL1	**Leonard**	**2.44**	**102**	Pn	Pn	01 47 17.7	-0.3
CBKS	**Cedar Bluff**	**2.47**	**341**	Pn	Pn	01 47 19.1	+0.6
CBKS	comp=Z,9.4nm,1.0s			IAmb_Lg		01 47 54.4	
KSU1	**Kansas State U**	**3.11**	**32**	IAmb_Lg		01 48 14.8	
X37A	comp=Z,7.6nm,0.8s **Clayton**	**3.32**	**124**	Pn	Pn	01 47 29.8	-0.4
X37A	comp=Z,15nm,0.8s			IAmb_Lg		01 48 30.7	
HHAR	**Hobbs**	**3.87**	**91**	IAmb_Lg		01 48 49.3	
ABTX	comp=Z,7.5nm,0.8s **Abilene, Hawle**	**3.92**	**191**	Pn	Pn	01 47 36.9	-1.5
MSTX	**Muleshoe**	**4.15**	**234**	Pn	Pn	01 47 43.2	+1.5
Z38A	**Mt. Pleasant**	**4.44**	**135**	IAmb_Lg		01 49 04.9	
S39A	comp=Z,8.6nm,0.8s **Bolivar**	**4.49**	**73**	IAmb_Lg		01 49 03.7	
T25A	comp=Z,9.0nm,0.7s **Trinidad**	**4.61**	**280**	Pn	Pn	01 47 48.7	+0.5
T25A	comp=Z,5.7nm,0.7s			IAmb_Lg		01 49 02.4	
MIAR	**Mount Ida**	**4.62**	**113**	Pn	Pn	01 47 48.1	+0.1
U40A	**Yellville**	**4.74**	**90**	Pn	Pn	01 47 49.0	-0.7
U40A	comp=Z,11nm,1.1s			IAmb_Lg		01 49 14.2	
P38A	**Dawn**	**5.17**	**51**	Pn	Pn	01 47 55.2	-0.3
MGMO	**Mountain Grove**	**5.22**	**81**	Pn	Pn	01 47 55.4	-1.0
FCAR	**Ozark Folk Cen**	**5.37**	**94**	Pn	Pn	01 47 58.8	+0.5
W41B	**Gary Mavity, V**	**5.42**	**102**	Pn	Pn	01 47 58.5	-0.5
R40A	**Maddies Statio**	**5.45**	**69**	Pn	Pn	01 47 59.0	-0.4
R40A	comp=Z,6.4nm,0.7s			IAmb_Lg		01 49 33.4	
SDCO	**Great Sand Dun**	**5.56**	**285**	Pn	Pn	01 48 00.2	-1.0
P40A	**Paris**	**6.09**	**58**	Pn	Pn	01 48 06.8	-1.4
ISCO	**Idaho Springs**	**6.36**	**304**	Pn	Pn	01 48 12.0	-0.3
N23A	**Red Feather La** comp=Z,8.8nm,0.9s	**7.16**	**310**	IAmb_Lg		01 50 31.4	

NOU ***27*** *01:56:35.1, 40˚.02S×174˚.61E, h111km, MLv3.5/7, Cook Strait, New Zealand*

WEL ***27*** *01:56:36.1±1.3, 40˚S±4˚×17˚5E±˚, h94km±19km, M3.3/39, ML3.7/30, MLv3.3/39, Error ellipse: s-maj=0.0km s-min=0.0km az=110.0*

ISC 27 01:56:34.9±1.6, **40˚.01S**±0˚.04×**174˚.61E**±0˚.04, **h112**km, **n104**, **s087**/104, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.38**	**49**	P	Pn	**01 56 51.4**	**+0.1**
LREZ	**Lake Rotokare**	**0.57**	**343**	P	Pn	**01 56 52.7**	**+0.2**
OHWZ	**Ohakea**	**0.57**	**110**	P	Pn	**01 56 53.0**	**+0.5**
PREZ	**Palmer Road**	**0.75**	**332**	P	Pn	**01 56 54.2**	**+0.2**
NMEZ	**Namu Road**	**0.82**	**316**	P	Pn	**01 56 54.5**	**0.0**
NEZ	**North Egmont**	**0.84**	**331**	P	Pn	**01 56 54.9**	**+0.1**
KHEZ	**Kahui Hut**	**0.85**	**327**	P	Pn	**01 56 55.0**	**+0.1**
DREZ	**Durham Road**	**0.88**	**339**	P	Pn	**01 56 55.3**	**+0.2**
KIW	**Kapiti Island**	**0.88**	**165**	P	Pn	**01 56 55.1**	**0.0**
VRZ	**Vera Road**	**0.89**	**7**	P	Pn	**01 56 55.3**	**+0.1**
MTVZ	**Mangateitei**	**0.91**	**47**	P	Pn	**01 56 55.5**	**+0.1**
OGWZ	**Otaki Gorge**	**0.91**	**152**	P	Pn	**01 56 55.7**	**+0.3**
PKVZ	**Pokaka**	**0.92**	**39**	P	Pn	**01 56 55.7**	**+0.1**
NBEZ	**Newall Road No**	**0.94**	**322**	P	Pn	**01 56 55.8**	**+0.2**
PKE	**Pukeiti**	**0.95**	**329**	P	Pn	**01 56 55.8**	**0.0**
DUWZ	**D'Urville Isla**	**0.95**	**213**	P	Pn	**01 56 55.9**	**0.0**
MHEZ	**Mangahewa**	**0.96**	**346**	P	Pn	**01 56 56.5**	**+0.6**
POWZ	**Post Office Ro**	**0.96**	**114**	P	Pn	**01 56 56.0**	**+0.1**
MRZ	**Mangatainoka R**	**0.98**	**132**	P	Pn	**01 56 56.2**	**+0.1**
TRVZ	**Turoa**	**1.01**	**46**	P	Pn	**01 56 56.9**	**+0.2**
WNVZ	**Wahianoa**	**1.02**	**49**	P	Pn	**01 56 57.3**	**+0.6**
TSZ	**Takapari Road**	**1.04**	**93**	P	Pn	**01 56 56.5**	**-0.2**
FWVZ	**Far West T-bar**	**1.05**	**44**	P	Pn	**01 56 57.9**	**+0.9**
WHVZ	**Whangaehu Hut**	**1.05**	**46**	P	Pn	**01 56 58.2**	**+1.2**
MOVZ	**Moawhango**	**1.06**	**56**	P	Pn	**01 56 56.7**	**-0.3**
TUVZ	**Tukino**	**1.09**	**48**	P	Pn	**01 56 57.5**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.12**	**142**	P	Pn	**01 56 57.8**	**+0.2**
NGZ	**Ngauruhoe**	**1.13**	**43**	P	Pn	**01 56 58.2**	**+0.3**
SNVZ	**South Ngauruho**	**1.14**	**44**	P	Pn	**01 56 58.1**	**+0.1**
CAW	**Cannon Point**	**1.15**	**163**	P	Pn	**01 56 58.3**	**+0.5**
NNVZ	**North Ngauruho**	**1.17**	**42**	P	Pn	**01 56 58.6**	**+0.4**
WTVZ	**West Tongariro**	**1.17**	**41**	P	Pn	**01 56 58.2**	**0.0**
OTVZ	**Oturere**	**1.17**	**44**	P	Pn	**01 56 58.3**	**0.0**
PRWZ	**Pori Road**	**1.17**	**118**	P	Pn	**01 56 58.6**	**+0.5**
ETVZ	**East Tongariro**	**1.22**	**45**	P	Pn	**01 56 58.7**	**0.0**
PNHZ	**Pukenui**	**1.22**	**86**	P	Pn	**01 56 58.6**	**-0.1**
NTVZ	**North Tongarir**	**1.23**	**43**	P	Pn	**01 56 59.4**	**+0.6**
DVHZ	**Dannevirke**	**1.23**	**104**	P	Pn	**01 56 58.7**	**0.0**
TMVZ	**Te Maari**	**1.23**	**44**	P	Pn	**01 56 59.0**	**+0.1**
TCW	**Tory Channel**	**1.23**	**192**	P	Pn	**01 56 59.0**	**+0.2**
BHHZ	**Black Hill Sta**	**1.23**	**66**	P	Pn	**01 56 58.5**	**-0.4**
TIWZ	**Tintock**	**1.24**	**129**	P	Pn	**01 56 59.1**	**+0.2**
SNZO	**South Karori**	**1.30**	**177**	P	Pn	**01 57 00.0**	**+0.5**
KATZ	**Kakaramea**	**1.33**	**39**	P	Pn	**01 57 00.9**	**+0.9**
MTW	**Mount Morrison**	**1.33**	**150**	P	Pn	**01 57 00.1**	**+0.2**
KRHZ	**Kereru**	**1.40**	**76**	P	Pn	**01 57 00.6**	**-0.1**
WPHZ	**Waipukurau**	**1.41**	**93**	P	Pn	**01 57 00.8**	**+0.1**
BHW	**Baring Head**	**1.41**	**172**	P	Pn	**01 57 01.1**	**+0.3**
BFZ	**Birch Farm**	**1.42**	**119**	P	Pn	**01 57 00.9**	**0.0**
BFZ	**Birch Farm**	**1.42**	**119**	P	Pn	**01 57 00.9**	**0.0**
TMWZ	**Te Maipa**	**1.47**	**139**	P	Pn	**01 57 01.9**	**+0.4**
MSWZ	**Moikau Station**	**1.49**	**161**	P	Pn	**01 57 02.0**	**+0.3**
ANWZ	**Angora Road**	**1.50**	**108**	P	Pn	**01 57 02.4**	**+0.6**
HIZ	**Hauiti**	**1.50**	**7**	P	Pn	**01 57 01.9**	**0.0**
HIZ	**Hauiti**	**1.50**	**7**	P	Pn	**01 57 02.5**	**+0.6**
PAWZ	**Paruwai Farm**	**1.51**	**156**	P	Pn	**01 57 02.2**	**+0.2**
TUWZ	**Tuamarina**	**1.51**	**199**	P	Pn	**01 57 01.9**	**0.0**
CPWZ	**Castlepoint**	**1.51**	**127**	P	Pn	**01 57 02.8**	**+0.9**
KWHZ	**Kaweka Forest**	**1.51**	**68**	P	Pn	**01 57 02.3**	**+0.3**
NNZ	**Nelson**	**1.53**	**217**	P	Pn	**01 57 02.4**	**+0.2**
WATZ	**Wairara**	**1.56**	**34**	P	Pn	**01 57 03.5**	**+0.9**
PRHZ	**Porangahau**	**1.57**	**100**	P	Pn	**01 57 03.0**	**+0.3**
TRWZ	**Traveller**	**1.61**	**150**	P	Pn	**01 57 03.5**	**+0.3**
TKNZ	**Takaka Hill**	**1.62**	**230**	P	Pn	**01 57 03.2**	**-0.1**
PLWZ	**Palliser**	**1.63**	**163**	P	Pn	**01 57 03.6**	**+0.1**
BKZ	**Black Stump Fm**	**1.68**	**61**	P	Pn	**01 57 03.7**	**-0.4**
BKZ	**Black Stump Fm**	**1.68**	**61**	P	Pn	**01 57 03.7**	**-0.4**
MCHZ	**McNeill Hill**	**1.70**	**71**	P	Pn	**01 57 04.6**	**+0.3**
PXZ	**Pawanui**	**1.73**	**91**	P	Pn	**01 57 04.9**	**+0.3**
KAHZ	**Kahuranaki**	**1.75**	**84**	P	Pn	**01 57 04.9**	**-0.1**
CMWZ	**Cape Campbell**	**1.77**	**190**	P	Pn	**01 57 06.3**	**+1.2**
QRZ	**Quartz Range**	**1.79**	**242**	P	Pn	**01 57 05.0**	**-0.3**
QRZ	**Quartz Range**	**1.79**	**242**	P	Pn	**01 57 05.0**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.79**	**199**	P	Pn	**01 57 05.9**	**+0.5**
TLZ	**Tolley Road**	**1.82**	**24**	P	Pn	**01 57 05.9**	**0.0**
MRHZ	**Matea Rd**	**1.82**	**51**	P	Pn	**01 57 09.1**	**+3.2**
MRNZ	**Matariki Terra**	**1.98**	**225**	P	Pn	**01 57 07.9**	**+0.2**
ARHZ	**Aropaoanui**	**1.98**	**69**	P	Pn	**01 57 07.6**	**-0.1**
THZ	**Tophouse**	**2.18**	**216**	P	Pn	**01 57 10.6**	**+0.2**
RTZ	**Ruatahuna**	**2.30**	**54**	P	Pn	**01 57 12.9**	**+1.0**
TOZ	**Tahuroa Road**	**2.38**	**17**	P	Pn	**01 57 13.1**	**+0.3**
KHZ	**Kahutara**	**2.54**	**198**	P	Pn	**01 57 15.1**	**+0.2**
KHZ	**Kahutara**	**2.54**	**198**	P	Pn	**01 57 15.1**	**+0.2**
URZ	**Urewera**	**2.61**	**49**	P	Pn	**01 57 14.6**	**-1.2**
URZ	**Urewera**	**2.61**	**49**	P	Pn	**01 57 16.3**	**+0.4**
RAGZ	**Rawiri**	**2.65**	**56**	P	Pn	**01 57 20.0**	**+3.5**
MHGZ	**Mahia Peninsul**	**2.69**	**73**	P	Pn	**01 57 16.1**	**-0.7**
DSZ	**Denniston Nort**	**2.75**	**230**	P	Pn	**01 57 17.4**	**-0.3**
PRGZ	**Paritu Road**	**2.75**	**68**	P	Pn	**01 57 16.6**	**-1.1**
MKAZ	**Moumakai**	**2.93**	**9**	P	Pn	**01 57 20.3**	**+0.2**
AWAZ	**Awhitu Peninsu**	**2.94**	**0**	P	Pn	**01 57 20.9**	**+0.7**
RUGZ	**Raukumara Rang**	**3.14**	**50**	P	Pn	**01 57 22.7**	**-0.3**
GVZ	**Greta Valley S**	**3.19**	**201**	P	Pn	**01 57 23.0**	**-0.4**
WIAZ	**Waiheke Island**	**3.24**	**7**	P	Pn	**01 57 24.6**	**+0.5**
LTZ	**Lake Taylor**	**3.28**	**212**	P	Pn	**01 57 23.8**	**-0.9**
HAZ	**Te Kaha**	**3.34**	**49**	P	Pn	**01 57 23.6**	**-1.9**
INZ	**Inchbonnie**	**3.61**	**220**	P	Pn	**01 57 29.1**	**0.0**
OKCZ	**Okains Bay**	**3.89**	**197**	P	Pn	**01 57 31.6**	**-1.2**
MQZ	**McQueen's Vall**	**3.97**	**201**	P	Pn	**01 57 32.0**	**-1.8**
GCSZ	**Gaunt Creek Bo**	**4.61**	**223**	P	Pn	**01 57 47.1**	**+4.7**
FOZ	**Fox Glacier**	**5.03**	**224**	P	Pn	**01 57 49.6**	**+1.5**
TMZ	**Timaru**	**5.13**	**210**	P	Pn	**01 57 48.4**	**-1.0**
JCZ	**Jackson Bay**	**5.94**	**225**	P	Pn	**01 58 01.8**	**+1.3**
CTZ	**Chatham Island**	**7.53**	**122**	P	Pn	**01 58 22.1**	**+0.2**

BJI ***27*** *02:04:01.1±0.0, 53˚.14S×26˚.45E, h3km, mB5.5/6, Ms5.2/10, Ms7 5.0/10*

MOS ***27*** *02:04:02.6±1.2, 52˚.59S×25˚.85E, h10km, mb5.5/23, Error ellipse: s-maj=19.1km s-min=9.9km az=86.8*

IDC ***27*** *02:04:02.3±0.3, 52˚.66S×25˚.98E, h0km, mb5.1/28, mb1 5.1/28, mb1mx4.9/37, mbtmp5.0/28, MS4.9/55, Ms1 4.8/55, ms1mx4.8/57, Error ellipse: s-maj=12.9km s-min=9.6km az=66.0*

NEIC ***27*** *02:04:03.8±1.7, 52˚.61S±0˚.09×25˚.9E±0˚.1, h10km±1km, mb5.6/97, Mww5.4, Error ellipse: s-maj=15.9km s-min=14.3km az=145.0*

NEIC ***27*** *02:04:04, 52˚.81S×26˚.36E, h24km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.03; Mθθ1.38; Mφφ-1.35; Mrθ0.03; Mrφ0.25; Mθr-0.36; Fault plane solution: M₀1.44000×10¹⁷ NP1:φs41.00000°, δ80.00000°, λ-169.00000°. NP2:φs309.00000°, δ80.00000°, λ-10.00000°. Principal axes: T 1.4061, Plg0.0000°, Azm355.0000°; N 0.0575, Plg76.0000°, Azm85.0000°; P -1.4635, Plg14.0000°, Azm265.0000°;*

GCMT ***27*** *02:04:04.8±0.1, 52˚.69S±0˚.01×25˚.87E±0˚.01, h12km, MW5.4/130, Moment Tensor Solution. s99,c157; s130,c246; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.68±.02; Mθθ1.63±.02; Mφφ-0.94±.02; Mrθ0.64±.05; Mθφ0.72±.02; Mφr0.12±.05; Best double couple: M₀1.55800×10¹⁷ NP1:φs29.00000°, δ74.00000°, λ176.00000°. NP2:φs120.00000°, δ86.00000°, λ16.00000°. Principal axes: T 1.9760, Plg14.0000°, Azm346.0000°; N -0.8340, Plg74.0000°, Azm133.0000°; P -1.1410, Plg8.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 02:04:03.7±0.6, **52˚.64S**±0˚.05×**25˚.96E**±0˚.05, **h8**km±3km, **h9**km:**pP-P, n540**, σ1**826**/488, **mb5.5**/114, **MS5.0**/64, **27C-20D, Fault plane solution: NP1:**φs341.30515°, δ82.26447°, λ-12.96305°. **NP2:**φs73.07980°, δ77.15694°, λ-172.06471°. **Principal axes:** T Plg3.5546°, Azm27.6422°; N Plg74.9383°, Azm130.9886°; P Plg14.6168°, Azm296.7140°; **South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.64**	**164**	ieOn		02 08 08.2	
SYO	**Syowa Base**	**17.64**	**164**	*eP*	**Pn**	**02 08 09.0**	**-0.3**
CRZF	**Crozet Islands**	**17.86**	**80**	P	**P**	**02 08 14.1**	**+1.0**
CRZF	comp=Z,880nm,1.3s			IAmb	IAmb	02 08 18.8	
KROM	**Kromhout**	**18.51**	**356**	*eP*	**P**	**02 08 17.2**	**-3.1**
KROM	comp=Z,143nm,1.2s			IAmb	IAmb	02 08 40.5	
ELIM	**Elim**	**18.58**	**344**	*eP*	**P**	**02 08 19.2**	**-1.7**
ELIM	comp=Z,332nm,1.6s			IAmb	IAmb	02 08 22.4	
CER	**Ceres**	**19.86**	**343**	*eP*	**Pn**	**02 08 35.9**	**-0.7**
CER	comp=Z,240nm,1.3s			IAmb	IAmb	02 08 38.7	
SOE	**Somerset East**	**19.92**	**359**	*eP*	**P**	**02 08 36.2**	**+0.4**
SOE	comp=Z,281nm,1.5s			IAmb	IAmb	02 08 38.2	
GRAN	**Grantham**	**20.51**	**351**	*eP*	**P**	**02 08 41.5**	**-0.7**
GRAN	comp=Z,43nm,0.8s			IAmb	IAmb	02 08 54.1	
SUR	**Sutherland**	**20.59**	**348**	P	**P**	**02 08 43.2**	**+0.1**
SUR	comp=Z,171nm,1.1s,baz=153,slow=10,SNR=21			S	S	02 12 21.6	-12
SUR	comp=Z,7.7nm,0.8s,baz=15,slow=23,SNR=1.6			LR	LR	02 14 58.6	
SUR	comp=Z,9μm,20.8s,baz=146,slow=32			IAmb	IAmb	02 08 47.6	
SUR	**Sutherland**	**20.59**	**348**	P	**P**	**02 08 43.3**	**+0.1**
SUR	comp=Z,297nm,1.3s			IAmb	IAmb	02 08 47.6	
CVNA	**Calvinia**	**21.62**	**345**	*eP*	**P**	**02 08 53.7**	**-0.4**
CVNA	comp=Z,181nm,1.2s			IAmb	IAmb	02 09 01.2	
TROLL	**Troll, Antarti**	**21.97**	**199**	P	**P**	**02 08 57.3**	**-0.4**
HVD	**Gariep Dam**	**22.02**	**359**	*eP*	**P**	**02 08 56.9**	**-1.6**
HVD	comp=Z,1μm,2.0s			IAmb	IAmb	02 09 04.1	
KSD	**Kokstad**	**22.23**	**8**	*eP*	**P**	**02 09 00.3**	**-0.4**
KSD	comp=Z,173nm,1.4s			IAmb	IAmb	02 09 12.2	
SNAA	**Sanae**	**22.91**	**203**	P	**P**	**02 09 07.2**	**-0.5**
SNAA	**Sanae**	**22.91**	**203**	P	**P**	**02 09 07.8**	**+0.2**
SNAA	comp=Z,70nm,1.1s,baz=44,slow=9.5,SNR=58			S	S	02 13 05.8	-12
SNAA	comp=Z,3.7nm,0.9s,baz=115,slow=4.3,SNR=2.9			LR	LR	02 15 51.4	
SNAA	comp=Z,2μm,20.1s,baz=46,slow=31						
SNAA	**Sanae**	**22.91**	**203**	*eP*	**P**	**02 09 07.1**	**-0.5**
SNAA	**Sanae**	**22.91**	**203**	P	**P**	**02 09 07.8**	**+0.2**
SNAA	comp=Z,138nm,1.2s			pmax	pmax		
SNAA	**Sanae**	**22.91**	**203**	P	**P**	**02 09 07.8**	**+0.2**
SNAA	comp=Z,138nm,1.2s			IAmb	IAmb	02 09 33.2	
MAW	**Mawson**	**23.21**	**144**	P	**P**	**02 09 10.1**	**-0.5**
MAW	comp=Z,18nm,0.8s,baz=304,slow=11,SNR=12			S	**S**	**02 13 21.8**	**-0.5**
MAW	comp=Z,14nm,0.6s,baz=356,slow=9.3,SNR=6.9			LR	LR	02 16 15.0	
MAW	comp=Z,4μm,21.7s,baz=295,slow=32						
MAW	**Mawson**	**23.21**	**144**	P	**P**	**02 09 10.5**	**-0.1**
VNA2	**Neumayer--Watz**	**23.63**	**207**	P	**P**	**02 09 14.7**	**-0.2**
KOMG	baz=47,slow=9.0 **Komaggas**	**23.66**	**341**	*eP*	**P**	**02 09 15.3**	**-0.1**
KOMG	comp=Z,5μm,2.1s			IAmb	IAmb	02 09 16.6	
VNA1	**Neumayer--Stat**	**23.73**	**208**	P	**P**	**02 09 15.8**	**+0.1**
BOSA	**Boshof**	**24.01**	**358**	P	**P**	**02 09 18.2**	**-0.6**
BOSA	comp=Z,30nm,0.8s,baz=178,slow=9.5,SNR=23			LR	LR	02 16 56.7	
BOSA	comp=Z,6μm,20.9s,baz=176,slow=32						
BOSA	**Boshof**	**24.01**	**358**	*eP*	**P**	**02 09 17.3**	**-1.6**
BOSA	comp=Z,788nm,2.4s			IAmb	IAmb	02 09 28.8	
BOSA	**Boshof**	**24.01**	**358**	P	**P**	**02 09 17.6**	**-1.3**
BOSA	comp=Z,68nm,0.9s			pmax	pmax		
BOSA	**Boshof**	**24.01**	**358**	P	**P**	**02 09 17.6**	**-1.3**
BOSA	**Boshof**	**24.01**	**358**	*i* P	**P**	**02 09 20.1**	**+1.2**
BOSA	**Boshof**	**24.01**	**358**	*i* P	**P**	**02 09 20.1**	**+1.2**
KEIM	**Keimoes**	**24.20**	**349**	*eP*	**P**	**02 09 19.4**	**-1.2**
KEIM	comp=Z,501nm,1.9s			IAmb	IAmb	02 09 21.6	
SNKL	**Senekal, Frees**	**24.38**	**4**	*eP*	**P**	**02 09 23.3**	**+0.9**
SNKL	comp=Z,429nm,1.9s			IAmb	IAmb	02 09 33.1	
VNA3	**Neumayer Olymp**	**24.43**	**207**	P	**P**	**02 09 22.1**	**-0.2**
UPI	**Upington**	**24.50**	**350**	*eP*	**P**	**02 09 22.5**	**-1.0**
UPI	comp=Z,66nm,1.1s			IAmb	IAmb	02 09 24.9	
NWCL	**Newcastle**	**25.05**	**8**	*eP*	**P**	**02 09 29.1**	**+0.7**
NWCL	comp=Z,117nm,1.2s			IAmb	IAmb	02 09 31.7	
POGA	**Pongola**	**25.63**	**12**	*eP*	**P**	**02 09 36.0**	**+2.5**
POGA	comp=Z,148nm,1.7s			IAmb	IAmb	02 09 44.3	
PRYS	**Parys**	**25.71**	**3**	*eP*	**P**	**02 09 34.9**	**+0.5**
PRYS	comp=Z,118nm,1.0s			IAmb	IAmb	02 09 45.0	
WDLM	**Western Deep L**	**26.21**	**3**	*eP*	**P**	**02 09 40.7**	**+1.8**
WDLM	comp=Z,147nm,1.0s			IAmb	IAmb	02 09 50.0	
CNG	**Changalane**	**26.73**	**12**	*eP*	**P**	**02 09 44.7**	**+1.2**
CNG	comp=Z,232nm,2.1s			IAmb	IAmb	02 10 02.1	
CNG	**Changalane**	**26.73**	**12**	*i* P	**P**	**02 09 45.0**	**+1.5**
CNG	**Changalane**	**26.73**	**12**	*i* P	**P**	**02 09 45.0**	**+1.5**
KSR	**Koster**	**26.76**	**2**	*eP*	**P**	**02 09 43.4**	**-0.6**
KSR	comp=Z,74nm,1.2s			IAmb	IAmb	02 09 47.3	
HAGI	**HAGI**	**26.78**	**10**	*eP*	**P**	**02 09 44.3**	**+0.2**
HAGI	comp=Z,137nm,1.4s		

SMAI San Martin Ant 43.71 213 P P 02 12 07.7 -0.8
PMSA Palmer Station 44.25 218 LR LR 02 27 46.7
comp=Z,585nm,18.3s,baz=118,slow=32
VNDA Vanda 47.26 168 P P 02 12 36.4 -0.2
comp=Z,11nm,0.7s,baz=241,slow=7.3,SNR=68
VNDA LR LR 02 32 04.9
comp=Z,3µm,20.3s,baz=204,slow=36
VNDA Vanda 47.26 168 P P 02 12 36.4 -0.2
VNDA pmax pmax
comp=Z,15nm,0.8s
VNDA Vanda 47.26 168 P P 02 12 36.4 -0.2
SBA Scott Base 47.56 170 P P 02 12 40.4 +1.5
SBA pmax pmax
comp=Z,133nm,1.7s
SBA Scott Base 47.56 170 P P 02 12 40.4 +1.5
SBA IAmb IAmb 02 12 59.4
comp=Z,133nm,1.7s
EFI East Falkland 48.71 236 P P 02 12 47.8 -0.3
EFI pmax pmax
comp=Z,102nm,1.6s
EFI East Falkland 48.71 236 P P 02 12 47.8 -0.3
EFI IAmb IAmb 02 14 31.5
comp=Z,102nm,1.6s
USHA Ushuaia 51.71 227 P P 02 13 11.8 +1.0
comp=Z,6.6nm,0.8s,baz=123,slow=11,SNR=4.0
USHA LR LR 02 31 40.3
comp=Z,1µm,18.6s,baz=136,slow=32
MBAR Mbarara 52.01 6 LR LR 02 33 32.7
comp=Z,2µm,21.3s,baz=162,slow=34
MBAR Mbarara 52.01 6 *i* P P 02 13 14.6 +0.9
MBAR pmax pmax
comp=Z,20nm,1.5s
KMBO Kilima Mbogo 52.20 14 P P 02 13 15.9 +0.8
comp=Z,1.1nm,0.5s,baz=180,slow=1.7,SNR=3.7
KMBO LR LR 02 34 03.2
comp=Z,2µm,19.2s,baz=178,slow=34
KMBO Kilima Mbogo 52.20 14 P P 02 13 15.8 +0.6
KMBO pmax pmax
comp=Z,15nm,1.2s
KMBO Kilima Mbogo 52.20 14 P P 02 13 15.8 +0.6
MG03 Isla Dawson 53.25 227 P P 02 13 23.8 +1.6
MG03 IAmb IAmb 02 13 32.1
comp=Z,74nm,1.1s
H10S2 ASCENSION HYDR 54.57 308 T T 03 12 42.3
baz=149,slow=74,SNR=35
H10S3 ASCENSION HYDR 54.58 308 T T 03 12 43.6
baz=71,slow=74,SNR=108
MG05 Puerto Natales 55.63 228 P P 02 13 39.5 0.0
MG05 IAmb IAmb 02 13 48.9
comp=Z,39nm,0.9s
GO09 Cerro Castillo 55.83 229 P P 02 13 40.5 -0.6
GO09 IAmb IAmb 02 13 44.0
comp=Z,134nm,2.0s
LODK Lodwar 56.42 11 P P 02 13 47.1 +1.5
GO08 Villa O'Higgin 57.88 231 P P 02 13 56.0 +0.3
PLTB Pedras Altas 59.38 257 P P 02 14 06.5 +0.1
PLTB Pedras Altas 59.38 257 *e*P P 02 14 08.0 +1.7
CAM01 Campos-RJ 59.43 274 *e*P P 02 14 08.0 +1.3
DUB01 Friburgo-RJ 59.67 273 *e*P P 02 14 09.8 +1.3
COYC Coyhaique 59.70 234 P P 02 14 07.0 -1.4
COYC IAmb IAmb 02 14 11.6
comp=Z,52nm,1.5s
TRQA Tornquist 59.74 246 P P 02 14 09.0 +0.2
TRQA pmax pmax
comp=Z,74nm,1.0s
TRQA Tornquist 59.74 246 P P 02 14 08.9 +0.2
TRQA Tornquist 59.74 246 *e*P P 02 14 10.5 +1.8
ALF01 Guarapari-ES 59.77 275 *e*P P 02 14 10.7 +1.6
MAN01 Angra dos Reis 60.05 271 *e*P P 02 14 11.5 +0.4
VAS01 Vassouras-RJ 60.17 272 *e*P P 02 14 13.5 +1.6
ESAR Angra dos Reis 60.23 271 *e*P P 02 14 13.0 +0.8
CPSB Cacapava Do Su 60.26 258 *e*P P 02 14 13.8 +1.4
RIB01 Linhares ES 60.56 277 *e*P P 02 14 13.8 -0.8
PARB Paraibuna 60.71 269 *e*P P 02 14 15.5 -0.1
AY01 Puyuhuapi 60.81 234 P P 02 14 14.5 -1.5
AY01 IAmb IAmb 02 14 17.6
comp=Z,42nm,1.2s
PET01 Itanhaem-SP 61.01 267 *e*P P 02 14 18.7 +1.1
TIJ01 Guaruva-PR 61.29 265 *e*P P 02 14 20.5 +0.9
LL02 Futaleuf 61.30 236 P P 02 14 18.6 -0.7
LL02 IAmb IAmb 02 14 21.2
comp=Z,45nm,1.4s
SJMB Sao Joao De Ma 61.51 276 *e*P P 02 14 21.7 +0.7
VAO Valinhos 61.78 269 *e*P P 02 14 24.3 +1.4
ITAB Concordia 61.78 261 *e*P P 02 14 24.1 +1.4
H01W2 Cape Leeuwin H 62.12 112 T T 03 22 40.7
baz=223,slow=75,SNR=8.4
H01W3 Cape Leeuwin H 62.14 112 T T 03 22 38.9
baz=223,slow=75,SNR=13
H01W1 Cape Leeuwin H 62.14 112 T T 03 22 45.8
baz=223,slow=75,SNR=10.0
GO07 Milladeo Hill, 62.27 235 P P 02 14 24.3 -1.5
GO07 IAmb IAmb 02 14 26.4
comp=Z,69nm,1.1s
GUA01 Guaratinga, BA 62.31 279 *e*P P 02 14 28.0 +1.6
PLCA Paso Flores 62.43 238 P P 02 14 26.8 -0.2
comp=Z,19nm,1.0s,baz=143,slow=6.8,SNR=22
PLCA LR LR 02 39 27.2
comp=Z,158nm,19.0s,baz=135,slow=34
PLCA Paso Flores 62.43 238 P P 02 14 26.9 -0.2
PLCA pmax pmax
comp=Z,43nm,1.2s
PLCA Paso Flores 62.43 238 P P 02 14 26.9 -0.2
PLCA IAmb IAmb 02 14 28.7
comp=Z,43nm,1.1s
PLCA Paso Flores 62.43 238 *e*P P 02 14 26.9 -0.2
RCLB Rio Claro- Sao 62.56 269 *e*P P 02 14 29.4 +1.3
ITQB Itaqui 62.68 256 P P 02 14 28.7 -0.1
ITQB Itaqui 62.68 256 *e*P P 02 14 28.4 -0.3
CMC01 Camacan, BA 63.09 280 *e*P P 02 14 32.3 +0.7
LL03 Petrohue 63.09 237 P P 02 14 29.8 -1.5
FRTB Fartura 63.10 266 *e*P P 02 14 32.9 +1.2
FRBT Francisco Belt 63.27 262 *e*P P 02 14 34.3 +1.5
DIAM Diamantina, MG 63.33 275 *e*P P 02 14 32.4 -1.0
LL05 Los Muermos 63.43 236 P P 02 14 32.1 -1.5
LL05 IAmb IAmb 02 14 34.3
comp=Z,60nm,1.0s
PTGB Pitanga 63.60 263 *e*P P 02 14 36.0 +1.0
LR03 Panguipulli 64.17 238 P P 02 14 37.7 -0.7
LR03 IAmb IAmb 02 14 41.4
comp=Z,34nm,0.9s
BB19B Bebedouro 64.18 269 *e*P P 02 14 40.2 +1.3
LIC Lamto 64.28 325 *e*P P 02 14 38.8 -0.6
comp=Z,72nm,1.6s
KIC Kosan Boka 64.31 326 *e*P P 02 14 40.1 +0.5
comp=Z,37nm,1.4s
GDU01 Guandu, BA 64.40 281 *e*P P 02 14 39.5 -0.8
LC01 Cunco 64.47 239 P P 02 14 39.8 -0.6
LC01 IAmb IAmb 02 15 23.6
comp=Z,24nm,0.8s
DBIC Dimbokro 64.64 326 P P 02 14 40.2 -1.5
comp=Z,29nm,1.2s,baz=170,slow=7.7,SNR=9.1
DBIC LR LR 02 36 25.9
comp=Z,1µm,21.6s,baz=162,slow=30
DBIC Dimbokro 64.64 326 *e*P P 02 14 39.0 -2.7
DBIC IAmb IAmb 02 14 43.2
comp=Z,50nm,1.3s
DBIC Dimbokro 64.64 326 P P 02 14 39.9 -1.8
DBIC pmax pmax
comp=Z,44nm,1.3s
DBIC Dimbokro 64.64 326 P P 02 14 39.9 -1.8
DBIC IAmb IAmb 02 14 43.6
comp=Z,44nm,1.2s
TIC Toumodi 64.67 326 *e*P P 02 14 40.9 -1.0
NWAO Narrogin (SRO) 65.32 112 P P 02 14 45.6 -0.5
NWAO pmax pmax
comp=Z,47nm,0.7s
NWAO Narrogin (SRO) 65.32 112 P P 02 14 45.6 -0.5
NWAO Narrogin (SRO) 65.32 112 P P 02 14 49.0 +2.9
comp=Z,72nm,0.8s
TRCB Terra Rica 65.38 264 P P 02 14 45.5 -1.1
TRCB IAmb IAmb 02 14 58.0
comp=Z,37nm,0.6s
PCMB Pacaembu 65.44 266 *e*P P 02 14 48.4 +1.4
NBLA Lagarto - SE 65.49 285 *e*P P 02 14 46.5 -0.9
ATD Arta Tunnel 65.54 18 LR LR 02 40 59.1
comp=Z,799nm,21.8s,baz=176,slow=34
CPUP Villa Florida 65.56 258 P P 02 14 46.6 -1.1
comp=Z,16nm,0.8s,baz=139,slow=5.9,SNR=38
CPUP LR LR 02 37 47.0
comp=Z,699nm,21.5s,baz=142,slow=31
CPUP Villa Florida 65.56 258 P P 02 14 46.6 -1.1
CPUP pmax pmax
comp=Z,98nm,1.4s
CPUP Villa Florida 65.56 258 P P 02 14 46.6 -1.1

NBRF Rio Formoso - 65.79 288 *e*P P 02 14 48.3 -0.9
JANB Januaria 66.21 276 *e*P P 02 14 53.1 +1.0
ITRB Iturama 66.33 268 *e*P P 02 14 54.3 +1.6
IPMB Ipameri, GO 66.33 271 *e*P P 02 14 52.0 -0.9
ML02 Panimavida 66.57 242 P P 02 14 52.5 -1.6
ML02 IAmb IAmb 02 15 03.1
comp=Z,64nm,1.2s
NBPN Ponto Novo - B 67.03 283 *e*P P 02 14 56.6 -0.7
LMEL Las Melosas 67.35 244 IAmb IAmb 02 15 09.6
comp=Z,48nm,1.1s
GO05 Huala 67.41 242 IAmb IAmb 02 15 09.3
comp=Z,41nm,0.9s
BO01 Tunca 67.42 243 P P 02 14 57.6 -1.9
BO01 IAmb IAmb 02 15 00.7
comp=Z,30nm,1.2s
BO04 La Punta 67.47 243 IAmb IAmb 02 15 11.7
comp=Z,43nm,1.0s
MORW Morawa 67.51 109 P P 02 15 00.0 -0.1
MORW IAmb IAmb 02 15 10.9
comp=Z,30nm,0.9s
MT03 Universidad Ad 67.78 244 IAmb IAmb 02 15 11.8
comp=Z,36nm,0.9s
MT09 Talagante 67.83 243 IAmb IAmb 02 15 12.7
comp=Z,44nm,0.9s
MT01 Popeta 67.91 243 IAmb IAmb 02 15 12.8
comp=Z,38nm,0.9s
BDFB Brasilia 68.01 273 P P 02 15 03.6 0.0
comp=Z,19nm,0.8s,baz=137,slow=5.5,SNR=20
BDFB LR LR 02 39 03.7
comp=Z,900nm,19.5s,baz=143,slow=31
BDFB Brasilia 68.01 273 P P 02 15 02.7 -0.8
BDFB pmax pmax
comp=Z,109nm,1.4s
BDFB Brasilia 68.01 273 P P 02 15 02.7 -0.8
MT02 Curacav 68.31 243 IAmb IAmb 02 15 14.1
comp=Z,56nm,1.0s
VA03 San Esteban 68.36 244 P P 02 15 05.5 0.0
RCBR Riachuelo 68.54 289 LR LR 02 40 18.5
comp=Z,643nm,18.1s,baz=306,slow=32
RCBR Riachuelo 68.54 289 P P 02 15 04.9 -1.9
RCBR pmax pmax
comp=Z,44nm,1.0s
RCBR Riachuelo 68.54 289 P P 02 15 04.9 -1.9
RCBR IAmb IAmb 02 15 09.2
comp=Z,44nm,0.9s
RCBR Riachuelo 68.54 289 *e*P P 02 15 06.3 -0.5
SDBA SAO DESIDERIO 68.63 278 *e*P P 02 15 07.8 +0.4
TOA0 Torodi Ar. Sit 68.78 335 P P 02 15 07.0 -1.1
TOA0 IAmb IAmb 02 15 18.8
comp=Z,48nm,1.1s
TORD Torodi Ar. Bea 68.78 335 P P 02 15 07.5 -0.5
comp=Z,20nm,1.0s,baz=170,slow=6.6,SNR=92
TORD LR LR 02 39 24.4
comp=Z,898nm,22.0s,baz=194,slow=31
TORD Torodi Ar. Bea 68.78 335 IAmb IAmb 02 15 18.8
comp=Z,42nm,1.1s
VA06 Catapilco 68.92 244 IAmb IAmb 02 15 18.2
comp=Z,52nm,1.0s
NBMA Muriti-CE 68.96 286 *e*P P 02 15 08.8 -0.6
AQDB Aquidauana 68.99 264 P P 02 15 07.7 -1.9
CO01 Juntas del Tor 70.22 246 P P 02 15 17.0 -0.4
PP1B Ponte de Pedra 70.68 266 *e*P P 02 15 21.3 +1.3
NBPB Pedra_Branca-C 70.90 286 *e*P P 02 15 22.3 +1.0
PEXB Peixe 70.92 275 *e*P P 02 15 21.1 -0.4
NBCL Pecasvel-CE 71.22 288 *e*P P 02 15 24.6 +1.4
LCO Las Campanas 71.30 247 P P 02 15 23.7 -0.3
LCO Las Campanas 71.30 247 P P 02 15 23.7 -0.3
KOWA Kowa 71.70 329 P P 02 15 25.1 -0.8
KOWA IAmb IAmb 02 15 37.1
comp=Z,34nm,0.8s
KOWA Kowa 71.70 329 P P 02 15 27.5 +1.6
AC04 Llanos de Chal 72.13 247 P P 02 15 28.8 +0.2
SALV Santo Antonio 72.48 267 *e*P P 02 15 31.1 +0.2
SNDB Serra Nova Dou 72.84 273 *e*P P 02 15 33.6 +0.6
NBPS Pedro II - PI 72.92 286 *e*P P 02 15 32.3 -1.2
NBMO Morrinhos-CE 72.97 287 *e*P P 02 15 34.5 +0.8
SMTB Santa Maria do 73.03 278 *e*P P 02 15 34.4 +0.3
LVC Limon Verde 75.21 252 LR LR 02 45 07.5
comp=Z,192nm,21.1s,baz=152,slow=33
BBOO Buckleboo 75.45 125 P P 02 15 48.0 -0.1
BBOO IAmb IAmb 02 15 58.7
comp=Z,44nm,0.8s
PALK Pallekele 75.56 57 LR LR 02 40 38.8
comp=Z,957nm,21.4s,baz=318,slow=29
SIV San Ignacio 75.68 262 P P 02 15 48.7 -0.8
comp=Z,5.6nm,0.6s,baz=159,slow=5.8,SNR=25
SIV LR LR 02 44 39.2
comp=Z,1µm,18.5s,baz=138,slow=32
MBWA Marble Bar 75.69 106 P P 02 15 49.0 -0.5
TOO Toolangi 75.95 135 P P 02 15 51.6 +0.7
TOO pmax pmax
comp=Z,18nm,0.9s
TOO Toolangi 75.95 135 P P 02 15 51.6 +0.7
PCHI Peechi 76.22 51 *e*P P 02 15 52.5 0.0
PCHI *e*S SKiKP 02 25 24.1 +12
PDRB Porto dos Gac 76.44 269 *e*P P 02 15 54.3 +0.4
CLDB Colider 76.44 270 *e*P P 02 15 54.4 +0.5
PRPB Parauapebas 76.49 278 *e*P P 02 15 54.8 +0.6
VILB Vilhena 77.51 265 *e*P P 02 15 59.5 -0.4
TMAB Tom-Au,PA,Br 78.47 281 *e*P P 02 16 06.0 +0.8
KASI Kota Agung 78.67 84 P P 02 16 06.7 +0.4
comp=Z,130nm,1.0s
CNJI Cibinong 78.87 87 P P 02 16 04.5 -2.9
STKA Stephens Creek 78.91 129 P P 02 16 07.0 -0.4
comp=Z,19nm,0.9s,baz=217,slow=3.8,SNR=14
STKA Stephens Creek 78.91 129 P P 02 16 07.1 -0.4
STKA pmax pmax
comp=Z,9.0nm,1.0s
STKA Stephens Creek 78.91 129 P P 02 16 07.1 -0.4
DBJI Dramaga 79.23 87 P P 02 16 11.5 +2.1
comp=Z,120nm,1.3s
KLI Kotabumi 79.41 84 P P 02 16 13.1 +2.7
comp=Z,9nmcomp=Z,223nm,1.2s
RPZ Rata Peaks 79.42 155 LR LR 02 48 57.7
comp=Z,746nm,21.6s,baz=194,slow=34
LEM Lembang 79.55 88 P P 02 16 13.0 +1.7
comp=Z,108nm,0.8s,baz=165,slow=6.1,SNR=25
LEM LR LR 02 44 56.8
comp=Z,494nm,19.5s,baz=208,slow=31
LPAZ La Paz 79.68 257 P P 02 16 14.0 +1.4
comp=Z,16nm,1.1s,baz=162,slow=5.2,SNR=8.9
LPAZ LR LR 02 48 02.0
comp=Z,322nm,20.3s,baz=116,slow=33
LPAZ La Paz 79.68 257 P P 02 16 14.0 +1.4
LPAZ La Paz 79.68 257 IAmb IAmb 02 16 14.9
comp=Z,102nm,1.9s
LPAZ La Paz 79.68 257 *e*P P 02 16 14.0 +1.4
GSI Gunungsitoli 79.96 74 P P 02 16 13.1 -0.3
GSI IAmb IAmb 02 16 25.4
comp=Z,133nm,1.6s
GSI Gunungsitoli 79.96 74 P P 02 16 13.6 +0.2
comp=Z,45nm,1.6s
LTZ Lake Taylor 80.60 156 P P 02 16 16.0 -0.5
MNSI Mandailing Nat 80.74 76 P P 02 16 18.8 +1.3
WSAR Wadi Sarin 80.75 30 LR LR 02 46 00.1
comp=Z,314nm,21.2s,baz=204,slow=31
PWJI Pagerwojo 81.16 92 P P 02 16 20.7 +0.9
comp=Z,54nm,1.1s
BKNI Bangkinang 81.23 78 P P 02 16 20.9 +0.7
BKNI Bangkinang 81.23 78 P P 02 16 20.9 +0.7
comp=Z,119nm,1.4s
BKNI Bangkinang 81.23 78 P P 02 16 22.6 +2.4
comp=Z,120nm,1.4s
ITTB Itatiuba 81.51 274 *e*P P 02 16 21.0 -0.7
FITZ Fitzroy Crossi 81.53 109 P P 02 16 21.1 -0.6
comp=Z,7.8nm,0.8s,baz=211,slow=7.0,SNR=16
FITZ LR LR 02 48 37.9
comp=Z,338nm,18.6s,baz=229,slow=33
UOSS Minazif 81.64 28 P P 02 16 21.2 -0.8
ASAR Alice Springs 81.70 118 P P 02 16 22.4 -0.3
comp=Z,17nm,0.7s,baz=211,slow=4.6,SNR=94
ASAR LR LR 02 48 00.0
comp=Z,298nm,18.9s,baz=218,slow=32
AS31 Alice Springs 81.70 118 P P 02 16 22.4 -0.3
KCSI Kotacane, Aceh 81.86 73 P P 02 16 24.5 +1.0
comp=Z,818nmcomp=Z,53nm,1.4s
PSI Prapat 81.96 75 LR LR 02 44 57.0
comp=Z,497nm,20.7s,baz=204,slow=30
PPBI Pangkal Pinang 82.32 83 P P 02 16 35.3 +9.4
EIL Elat 82.34 8 LR LR 02 52 11.7
comp=Z,835nm,20.0s,baz=206,slow=35
MCPB Macapa, AP 82.45 279 *e*P P 02 16 27.8 +1.2
BLJI Banyuglugur 82.47 93 P P 02 16 27.9 +1.2
comp=Z,56nm,1.1s
MALB Monte Alegre 82.60 277 *e*P P 02 16 28.5 +1.1

DSRI Dabo 82.71 81 P P 02 16 28.9 +1.0
comp=Z,26nm,0.9s
TPI Tanjungpandan 82.77 85 P P 02 16 29.9 +1.6
comp=Z,16nm,1.3s
ABJI Asem Bagus 82.82 93 P P 02 16 29.1 +0.6
comp=Z,102nm,1.3s
SRBI Singaraja 83.18 94 P P 02 16 29.7 -0.7
comp=Z,51nm,1.0s
KMMI Kalianget 83.24 93 P P 02 16 33.0 +2.3
comp=Z,79nm,1.5s
HYBB Hyderabad (bro 83.25 50 *e*P P 02 16 30.6 0.0
HYBB *ep*P PcP 02 16 34.1 -1.0
HYBB *e*PcP pwP 02 16 34.8 -3.0
HYBB *es*P sP 02 16 35.5 +3.3
HYBB *e*PP PP 02 19 41.7 -0.7
HYBB *e*S S 02 26 50.8 -0.4
TPRI Tanjung Pinang 83.79 80 P P 02 16 32.3 -1.2
IPM Ipoh 84.54 75 P P 02 16 36.7 -0.7
WRA Warramunga Arr 84.95 116 P P 02 16 39.0 -0.4
comp=Z,25nm,1.0s,baz=210,slow=3.7,SNR=45
WRA Warramunga Arr 84.95 116 P P 02 16 39.0 -0.4
WB2 Warramunga Arr 84.95 116 IAmb IAmb 02 16 49.8
comp=Z,46nm,0.9s
WRAB Tennant Creek 84.96 116 P P 02 16 38.8 -0.7
WRAB pmax pmax
comp=Z,45nm,1.0s
WRAB Tennant Creek 84.96 116 P P 02 16 38.8 -0.7
WRAB IAmb IAmb 02 16 49.9
comp=Z,45nm,0.9s
KULM Kulim 84.97 75 P P 02 16 39.2 -0.2
KULM IAmb IAmb 02 16 50.4
comp=Z,38nm,1.2s
ASF Jabal al Asfar 84.99 9 LR LR 02 52 08.4
comp=Z,779nm,21.6s,baz=169,slow=34
WR0 Warramunga Arr 85.04 116 IAmb IAmb 02 16 50.1
comp=Z,36nm,0.9s
WB0 Warramunga Arr 85.12 116 IAmb IAmb 02 16 50.5
comp=Z,38nm,0.8s
PBKI Pangkalan Bun 85.25 88 P P 02 16 40.6 -0.3
MMAI Mount Meron Ar 85.69 8 LR LR 02 54 38.9
comp=Z,896nm,20.1s,baz=0.5,slow=35
URZ Urewera 86.06 158 LR LR 02 52 44.2
comp=Z,2µm,21.6s,baz=211,slow=34
BBKI Banjar Baru 86.59 91 P P 02 16 58.6 +11
BATI Baumata 86.61 102 LR LR 02 48 03.8
comp=Z,668nm,21.8s,baz=238,slow=30
ZGR Zagora 86.91 333 P P 02 16 53.0 +4.2
MMRI Maumere 87.00 100 P P 02 16 51.0 +1.4
comp=Z,81nm,1.5s
MDP Montagnes des 87.14 282 LR LR 02 49 31.3
comp=Z,208nm,21.7s,baz=156,slow=31
STKI Sintang 87.32 86 P P 02 16 51.7 +0.6
comp=Z,9µmcomp=Z,21nm,0.4s
TZRR Tazzarine 87.52 333 P P 02 16 56.0 +4.3
IDI Anoyia 87.57 359 LR LR 02 59 11.1
comp=Z,432nm,18.0s,baz=227,slow=38
FIGM Figuig 87.70 337 P P 02 16 56.0 +3.4
OUZM OUZ 87.97 332 P P 02 16 58.0 +4.1
NNA Nana 88.20 253 LR LR 02 52 54.8
comp=Z,222nm,21.5s,baz=146,slow=33
BKSI Bulukumba 88.34 97 P P 02 16 57.4 +1.4
comp=Z,870nmcomp=Z,43nm,1.3s
KAPI Kappang 88.35 96 P P 02 16 56.8 +0.8
comp=Z,7.9nm,0.7s,baz=242,slow=7.4,SNR=8.0
KAPI LR LR 02 51 35.5
comp=Z,323nm,19.0s,baz=211,slow=32
KAPI Kappang 88.35 96 P P 02 16 55.5 -0.6
KAPI pmax pmax
comp=Z,79nm,1.4s
KAPI Kappang 88.35 96 P P 02 16 55.5 -0.6
KAPI Kappang 88.35 96 P P 02 16 57.6 +1.5
comp=Z,40nm,1.6s
BNSI Bone 89.05 96 P P 02 16 59.3 -0.1
comp=Z,36nm,1.7s
CZSB Cruzeiro do Su 89.14 258 *e*P P 02 17 01.3 +1.5
MDT Midelt 89.19 335 P P 02 17 00.6 +1.1
comp=Z,11nm,1.1s,baz=166,slow=1.1,SNR=11
MDT LR LR 02 55 44.2
comp=Z,522nm,18.1s,baz=154,slow=35
KEST Kesra 89.19 347 P P 02 17 01.3 +1.9
comp=Z,6.3nm,1.0s,baz=120,slow=6.9,SNR=4.5
KEST LR LR 02 56 59.8
comp=Z,2µm,21.3s,baz=142,slow=36
SPSI Sidrap Palu 89.19 95 P P 02 17 00.5 +0.5
comp=Z,1µmcomp=Z,42nm,1.5s
BOAV Boa Vista 89.75 274 *e*P P 02 17 02.8 +0.2
SRHM Skhour des Reh 89.77 332 P P 02 17 07.1 +4.9
JBK JBK 90.12 337 P P 02 17 08.0 +4.0
TBTG Tabatinga, AM 90.27 263 *e*P P 02 17 04.0 -1.0
VAE Valguarnera 90.31 351 LR LR 02 59 37.3
comp=Z,4µm,18.1s,baz=144,slow=37
AKLM AKL 90.61 336 P P 02 17 11.0 +4.9
CTA Charters Tower 91.04 126 LR LR 02 55 46.9
comp=Z,230nm,18.8s,baz=214,slow=34
RPN Rapa Nui 91.52 219 LR LR 02 49 51.9
comp=Z,260nm,21.1s,baz=138,slow=30
BR131 Keskin Array S 92.23 6 P P 02 17 13.6 0.0
BR131 pmax pmax
comp=Z,8.0nm,0.8s
BR131 Keskin Array S 92.23 6 P P 02 17 13.6 0.0
BRTR Keskin Array B 92.23 6 P P 02 17 14.4 +0.9
comp=Z,2.4nm,0.8s,baz=176,slow=9.2,SNR=13
MPSI Mapaga 92.66 93 P P 02 17 18.9 +2.8
comp=Z,830nmcomp=Z,16nm,1.7s
TOLI2 Tolitoli 93.81 93 IAmb IAmb 02 17 32.6
comp=Z,24nm,1.3s
TOLI2 Tolitoli 93.81 93 P P 02 17 22.9 +1.5
comp=Z,16nm,1.4s
GNI Garni 93.84 14 LR LR 02 58 29.6
comp=Z,478nm,21.3s,baz=208,slow=35
SANI Sanana 94.47 99 P P 02 17 27.0 +2.6
SANI Sanana 94.47 99 P P 02 17 26.6 +2.2
comp=Z,23nm,1.1s
CMAR Chiang Mai Arr 94.60 66 P P 02 17 25.4 +0.6
comp=Z,1.1nm,0.3s,baz=220,slow=5.2,SNR=5.6
CMAR LR LR 02 55 36.1
comp=Z,175nm,18.0s,baz=0.0,slow=33
CHTO Chiang Mai 94.89 65 P P 02 17 27.3 +1.1
comp=Z,7.1nm,1.5s
ESDC Sonseca Array 95.54 337 P P 02 17 29.5 +0.8
comp=Z,5.1nm,1.2s,baz=171,slow=4.9,SNR=15
ESDC LR LR 02 57 44.0
comp=Z,292nm,21.4s,baz=154,slow=34
RAO Raoul Island 95.83 159 LR LR 02 57 38.1
comp=Z,836nm,21.9s,baz=152,slow=34
MAK Makhachkala 97.02 16 *e*P P 02 17 31.0 -4.2
MAK *e* 02 28 05.1
MAK *e*SSS SSS 02 39 12.9
MAK pmax pmax
comp=Z,41nm,0.9s
KBZ Khabaz 97.10 12 LR LR 03 05 24.9
comp=Z,193nm,18.3s,baz=202,slow=38
KIV Kislovodsk 97.29 12 *e*P P 02 17 35.7 -0.9
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR 02 180nm,20.0s
KVAR Kislovodsk Arr 97.29 12 LR LR 03 03 50.5
comp=Z,148nm,18.3s,baz=94,slow=37
MLR Muntele Rosu 97.75 360 LR LR 03 05 03.5
comp=Z,2µm,19.3s,baz=183,slow=37
DZM Mont Dzumac 98.04 143 LR LR 02 55 29.2
comp=Z,259nm,20.5s,baz=204,slow=32
DZM Mont Dzumac 98.04 143 *e*PS PS 02 30 28.2 -3.2
comp=Z,163nm,30.1s
DZM *e*SS SS 02 35 46.3 -2.0
comp=Z,231nm,26.8s
DZM Mont Dzumac 98.04 143 *e*LR LR 02 49 28.7
comp=Z,742nm,35.9s
SIJI Sorong 98.56 103 LR LR 02 58 44.4
comp=Z,99nm,19.2s,baz=44,slow=33
MILM Milestii Mici 99.21 2 *e*P Pdif 02 17 43.0 -2.0
comp=Z,180nm,5.1s
MILM *e*L L 02 55 27.0
MILM *e*LR LR 03 04 42.0
comp=Z,500nm,20.0s
QIZ Qiongzhong 101.27 74 P Pdif 02 17 54.0 -0.9
QIZ PP PP 02 22 05.0 +0.7
QIZ S Sdif 02 29 34.0 -0.7
QIZ SS SS 02 36 37.0 +1.7
QIZ LR LR
comp=Z,290nm,19.6s
QIZ LR LR
comp=Z,240nm,19.6s
QIZ LR LR
comp=Z,180nm,15.7s

PZH	PanZhiHua	102.58	63	P		Pdif		02 18 03.0	+2.3	
PZH	comp=Z,80nm,5.9s			pmax		pmax				
CLL	Collm	104.15	352	eSS		SS		02 37 13.0	-1.3	
CLL	comp=N,600nm,20.4s			Lm		MLR		03 07 00.0		
CLL	comp=E,600nm,20.2s			Lm		MLR		03 07 00.0		
CLL	comp=Z,800nm,20.5s			Lm		MLR		03 07 00.0		
TBI	Tubuai	104.23	184	ePS		PS		02 31 32.4	-4.4	
TBI	comp=Z,156nm,28.8s Tubuai	104.23	184	eLR		LR		02 52 20.8		
PPT2	comp=Z,881nm,24.0s,baz=181 Papeete2	109.96	185	ePS		PS		02 32 36.3	+0.4	
PPT2	comp=Z,300nm,26.5s Papeete2	109.96	185	eLR		LR		02 55 02.1		
MKAR	comp=Z,1µm,23.0s,baz=177 Makanchi Array	110.12	38	PKKPbc		PKKPbc		02 33 36.7	+0.5	
ARU	comp=Z,0.9nm,1.0s,baz=42,slow=2.3,SNR=3.9 Arti	111.97	19	i PKIKP		PKiKP		02 22 34.6	-3.5	
ARU								02 29 46.7		
ARU	comp=Z,388nm,20.0s			MLR		MLR				
NJ2	Nanjing	116.41	71	ePKP		PKiKP		02 22 47.5	+0.1	
TAOE	Nuku Hiva Isla comp=Z,602nm,28.0s	117.61	196	eLR		LR		02 58 33.4		
HNS	HongShan	117.96	64	⇓PKP		PKiKP		02 22 59.5	+9.3	
HNS				ePP		PP		02 24 14.3	+9.2	
HNS	HongShan	117.96	64	eSS		SS		02 40 32.5	+13	
HNS	comp=E,240nm,17.2s			LR		LR				
HNS	comp=Z,310nm,18.1s			LR		LR				
HHC	Hu-ho-hao-te	118.76	60	ePKP		PKPdf		02 22 48.0	-3.8	
HHC	comp=Z,230nm,15.9s			LR		LR				
HHC	comp=Z,170nm,16.5s			LR		LR				
HHC	comp=Z,220nm,15.2s			LR		LR				
APA	Apatity	120.02	3	⇓i PKIKP		PKPdf		02 22 48.2	-5.0	
APA	comp=Z,6.0nm,1.1s			pmax		pmax				
SONM	Songino Array	121.17	51	PKP		PKPdf		02 22 55.2	-1.0	
SONM	comp=Z,0.9nm,0.4s,baz=222,slow=1.9,SNR=3.8 Songino Array	121.17	51	PKIKP		PKPdf		02 22 55.4	-0.8	
SONM	Songino Array	121.17	51			PKPdf		02 22 55.4	-0.8	
ZAK	Zakamensk	121.56	47	ePKIKP		PKPdf		02 22 55.7	-1.2	
ZAK	comp=Z,7.0nm,1.5s			pmax		pmax				
ARCES	ARCESS Array B	121.86	360	PKP		PKPdf		02 22 56.0	-0.7	
ARCES	comp=Z,3.4nm,1.0s,baz=204,slow=2.7,SNR=5.2 ARCESS Array B	121.86	360	PKIKP		PKPdf		02 22 56.2	-0.6	
ARCES	ARCESS Array B	121.86	360			PKPdf		02 22 56.2	-0.6	
XLT	XiLinHaoTe	123.28	60	eP		PKPdf		02 22 51.3	-9.1	
XLT	comp=Z,12nm,0.7s			pmax		pmax				
XLT	comp=Z,130nm,4.9s			pmax		pmax				
KSRS	Korea Array	125.49	73	PKP		PKPdf		02 23 04.8	+0.1	
GOGA	comp=Z,0.8nm,0.4s,baz=203,slow=0.9,SNR=5.2 Godfrey	127.17	278	P		PKPdf		02 23 07.7	-0.3	
V55A	baz=134 Taylorsville	127.48	282	PKPdf		PKPdf		02 23 08.2	-0.4	
BG3	Lake Jocassee	127.93	280	PKPdf		PKPdf		02 23 08.8	-0.7	
BINY	Binghamton baz=130	128.64	291	P		PKPdf		02 23 10.7	+0.1	
SSPA	Standing Stone baz=131	128.71	289	P		PKPdf		02 23 10.9	+0.2	
LRAL	Lakeview Retre baz=134	129.04	275	P		PKiKP		02 23 12.1	-0.2	
MCWV	Mont Chateau baz=131	129.21	287	P		PKPdf		02 23 11.9	+0.2	
V51A	Loudon	129.33	280	PKPdf		PKPdf		02 23 10.8	-1.3	
TZTN	Tazewell baz=132	129.34	281	P		PKiKP		02 23 13.0	+0.1	
NRIK	Noril'sk	129.67	24	i PKIKP		PKiKP		02 23 13.2	+0.8	
O53A	New Philadelph baz=130	130.39	286	P		PKiKP		02 23 14.8	0.0	
P52A	Corning baz=130	130.53	285	P		PKiKP		02 23 15.1	0.0	
BOD	Bodaibo	131.19	45	ePKIKP		PKPdf		02 23 14.5	-0.4	
BOD	comp=Z,14nm,2.0s			pmax		pmax				
OXF	Oxford baz=133	131.51	275	P		PKPdf		02 23 16.8	+0.5	
SCHQ	Schefferville comp=Z,3.4nm,0.8s,baz=173,slow=6.6,SNR=6.6	131.60	309	PKP		PKPdf		02 23 16.1	+0.4	
SCHQ	Schefferville	131.60	309	PKPdf		PKiKP		02 23 16.9	+0.1	
WVT	Waverly baz=132	131.64	278	P		PKiKP		02 23 17.1	-0.3	
P49A	Miami Univ. Ec baz=130	132.00	283	P		PKiKP		02 23 17.7	-0.3	
USRK	Ussuriysk Ar. comp=Z,0.5nm,0.3s,baz=191,slow=3.8,SNR=5.0	132.21	69	PKP		PKPdf		02 23 17.2	0.0	
W41B	Gary Mavity, V baz=132	133.68	273	P		PKPdf		02 23 20.8	+0.5	
W39A	Magazine baz=132	134.63	272	P		PKiKP		02 23 23.2	-0.4	
U40A	Yellville baz=131	134.84	274	P		PKiKP		02 23 23.8	-0.1	
CCM	Cathedral Cave	134.96	277	PKiKP		PKPdf		02 23 22.6	0.0	
CCM	Cathedral Cave	134.96	277	PKPdf		PKPdf		02 23 22.6	0.0	
CCM	Cathedral Cave baz=130	134.96	277	P		PKPdf		02 23 23.1	+0.5	
KLR	Kul'dur	135.03	63	i PKIKP		PKPdf		02 23 21.4	-1.0	
TX32	Lajitas Array	136.54	258	PKPdf		PKiKP		02 23 27.1	-0.7	
TXAR	Lajitas Array comp=Z,0.7nm,0.8s,baz=79,slow=4.7,SNR=3.9	136.54	258	PKhKP		PKPpre		02 23 18.6		
TXAR	comp=Z,3.9nm,1.0s,baz=141,slow=4.4,SNR=14			PKP		PKiKP		02 23 27.5	-0.2	
TX31	Lajitas Ar. Si	136.54	258	PKPdf		PKiKP		02 23 27.2	-0.5	
JFWS	Jewell Farm baz=126	137.36	283	P		PKPdf		02 23 27.7	+0.7	
WMOK	Wichita Mounta baz=132	137.37	268	P		PKPdf		02 23 27.6	+0.4	
ANMO	Albuquerque	142.17	261	i PKIKP		PKPdf		02 23 34.6	-1.6	
ANMO	Albuquerque	142.17	261	PKPdf		PKPdf		02 23 33.9	-2.3	
TIXI	Tiksi	142.67	31	PKHKP		PKPpre		02 23 29.7		
TIXI	Tiksi	142.67	31			PKPpre		02 23 29.7		
TUC	Tucson	142.90	254	PKIKP		PKPdf		02 23 35.4	-2.1	
TUC	Tucson	142.90	254	PKPdf		PKPdf		02 23 35.4	-2.1	
TUC	Tucson baz=136	142.90	254	P		PKPdf		02 23 37.5	0.0	
SDCO	Great Sand Dun baz=130	143.44	266	P		PKPdf		02 23 37.9	-0.6	
214A	Organ Pipe Nat baz=137	143.82	252	P		PKPdf		02 23 38.4	-0.7	
Q24A	Divide	143.99	268	PKPdf		PKPbc		02 23 37.7	+0.3	
Q24A	Divide baz=129	143.99	268	P		PKPbc		02 23 38.2	+0.9	
W18A	Petrified Fore baz=133	144.25	259	P		PKPdf		02 23 39.1	-0.8	
ULM	Lac du Bonnet comp=Z,9.0nm,0.7s,baz=100,slow=3.3,SNR=12	144.52	290	PKP		PKPab		02 23 37.1	-0.9	
ULM	Lac du Bonnet	144.52	290	PKPdf		PKPab		02 23 35.5	-2.6	
ISCO	Idaho Springs baz=128	144.79	268	P		PKPab		02 23 39.8	0.0	
MVCO	Mesa Verde baz=131	144.91	262	P		PKPab		02 23 40.0	-0.2	
EUNU	Eureka	145.20	344			PKPbc		02 23 39.1	-0.6	
WUAZ	Wupatki baz=133	145.50	257	P		PKPbc		02 23 42.1	+0.1	
MDND	Maddock baz=119	145.57	284	P		PKPab		02 23 42.2	+0.2	
N23A	Red Feather La baz=127	145.65	270	P		PKPab		02 23 42.9	0.0	
GLA	Glamis baz=137,SNR=17	145.79	251	P		PKPbc		02 23 43.1	+0.2	
PV11	David Mesa, Pa	145.84	263	PKPdf		PKPdf		02 23 42.8	+0.3	
IKP	In-Ko-Pah, Jac baz=138,SNR=7.8	146.23	249	P		PKPbc		02 23 44.0	-0.3	
SWSC	Sam W. Stewart baz=137,SNR=16	146.27	250	P		PKPab		02 23 44.8	-0.3	
PDMCI	Parker Dam,Lak baz=135	146.29	253	P		PKPab		02 23 45.0	-0.1	
RSSD	Black Hills	146.32	276	PKP2		PKPdf		02 23 42.7	-0.5	
RSSD	Black Hills	146.32	276	PKPdf		PKPdf		02 23 42.6	-0.5	
RSSD	Black Hills baz=123	146.32	276	P		PKPbc		02 23 44.8	+0.4	
MONP2	Monument Peak baz=138,SNR=11	146.58	249	P		PKPab		02 23 46.8	+0.2	
BC3	Big Chuckawall baz=136,SNR=18	146.58	251	P		PKPbc		02 23 45.5	+0.2	
O20A	White River Ci	146.60	267	P		PKPbc		02 23 45.8	+0.5	
FCC	Fort Churchill baz=128	146.69	305	PKP2		PKPdf		02 23 43.0	0.0	
FCC	Fort Churchill	146.69	305	PKPdf		PKPdf		02 23 43.0	0.0	
IRM	Iron Mountain baz=136,SNR=51	146.77	252	P		PKPbc		02 23 46.1	+0.3	
109C	Camp Elliot, M baz=138	146.97	248	P		PKPbc		02 23 46.9	+0.5	
K22A	Casper baz=124	147.02	272	P		PKPbc		02 23 47.2	+0.8	
TPFO	Pinon Flats baz=137	147.12	250	P		PKPab		02 23 47.9	-0.7	
PFO	Pinyon Flats O	147.13	250	i PKP2		PKPdf		02 23 44.8	0.0	
PFO	Pinyon Flats O baz=137,SNR=6.2	147.13	250	P		PKPab		02 23 47.9	-0.7	
BELC	Belle Mtn. Jos baz=136,SNR=11	147.15	251	P		PKPbc		02 23 47.5	+0.5	
GMRC	Granite Mounta baz=135,SNR=32	147.51	252	P		PKPbc		02 23 48.7	+0.7	
MURC	Murrieta baz=137	147.54	249	P		PKPbc		02 23 48.9	+0.9	
HEC	Hector,Ludlow baz=136,SNR=7.4	147.93	251	P		PKPbc		02 23 49.4	+0.3	
RES	Resolute Bay	147.93	335	PKIKP		PKPdf		02 23 43.9	-0.7	
RES	Resolute Bay	147.93	335	PKPdf		PKPdf		02 23 43.9	-0.7	
CIS	Catalina Islan baz=138	148.08	247	P		PKPbc		02 23 50.2	+0.7	
TUQ	Turquoise Moun baz=135,SNR=16	148.12	253	P		PKPbc		02 23 50.0	+0.4	
GSC	Goldstone, Bar baz=135,SNR=11	148.54	251	P		PKPbc		02 23 50.6	-0.1	
DGMT	Dagmar	148.58	283	PKPdf		PKPdf		02 23 45.9	-0.7	
DGMT	Dagmar baz=117,SNR=5.7	148.58	283	P		PKPbc		02 23 50.6	+0.4	
SNCC	San Nicolas Is baz=139	148.59	246	P		PKPbc		02 23 51.2	+0.5	
SHOC	Shoshone, Teco baz=134,SNR=8.3	148.65	253	P		PKPbc		02 23 51.1	+0.3	
DECC	Green Verdugo baz=137	148.66	248	P		PKPbc		02 23 51.6	+0.7	
EDW2	Edwards Air Fo baz=136	148.92	250	P		PKPbc		02 23 52.1	+0.5	
BW06	Boulder Array baz=124	148.94	270	P		PKPbc		02 23 52.0	+0.4	
PDAR	Pinedale Array comp=Z,18nm,1.1s,baz=134,slow=5.2,SNR=29	148.94	270	PKPbc SKP		PKPdf		02 23 49.5	+2.0	
PDAR	comp=Z,3.2nm,1.2s,baz=131,slow=2.6,SNR=3.9							02 27 23.8		
LAO	LASA Array baz=119	148.96	278	P		PKPbc		02 23 51.6	+0.3	
PSUT	Pine Spring	148.99	259			PKPdf		02 23 48.2	+0.4	
LRMC	Laurel Mtn Rad baz=135	149.17	251	P		PKPbc		02 23 52.6	+0.3	
MA2	Magadan comp=Z,11nm,0.8s,baz=213,slow=4.9,SNR=14	149.26	55	PKPbc		PKPbc		02 23 50.6	-0.9	
MA2	Magadan	149.26	55	i PKIKP		PKPdf		02 23 48.4	+1.2	
MA2	Magadan	149.26	55			PKPbc		02 23 50.1	-1.4	
TPNV	Topopah Spring baz=133,SNR=29	149.36	254	P		PKiKP		02 23 53.5	-0.4	
FURC	Furnace Creek, baz=134,SNR=18	149.39	253	P		PKiKP		02 23 53.7	+0.1	
DUG	Dugway, Tooele baz=128	149.41	263	P		PKPbc		02 23 53.3	+0.6	
MPMC	Manual Prospec baz=134	149.47	252	P		PKiKP		02 23 53.9	-0.3	
ARVC	Arvin baz=136	149.58	249	P		PKiKP		02 23 53.7	-0.4	
ISA	Isabella, Lake baz=135	149.75	250	P		PKiKP		02 23 54.4	-0.2	
AHID	Auburn Hatcher	149.88	268			PKPdf		02 23 48.9	-0.1	
R11A	Troy Canyon, C baz=131,SNR=10	149.90	257	P		PKiKP		02 23 54.8	-0.2	
PKM	Mcpherson Peak baz=137	149.96	247	P		PKiKP		02 23 54.9	-0.4	
GRAC	Grapevine Rang	150.04	253			PKPbc		02 23 52.2	-2.1	
GRAC	Grapevine Rang baz=133	150.04	253	P		PKiKP		02 23 55.1	0.0	
CWC	Cottonwood Cre baz=134	150.07	252	P		PKiKP		02 23 55.2	-0.2	
MOOW	Moose Ponds	150.20	270	PKPdf		PKPdf		02 23 49.0	-0.5	
VES	Vestal, Richgr baz=135	150.23	250	P		PKPbc		02 23 54.7	+0.1	
SMMC	Simmler baz=136	150.37	248	P		PKiKP		02 23 56.1	+0.2	
H17A	Grant Village baz=122	150.44	271	P		PKiKP		02 23 56.7	+0.7	
SEY	Seymchan comp=Z,20nm,0.9s,baz=262,slow=2.4,SNR=52	150.52	48	PKPbc		PKPbc		02 23 54.2	-0.3	
TIN	Timemaha, Big baz=134	150.59	252	P		PKiKP		02 23 56.4	0.0	
YHH	Holmes Hill	150.82	272			PKPdf		02 23 48.5	-2.1	
PETK	Petropavlovsk- comp=Z,11nm,1.0s,baz=220,slow=3.9,SNR=8.1	151.30	70	PKPbc		PKPbc		02 23 55.9	-0.7	
PETK	comp=Z,22nm,1.0s,baz=183,slow=2.9,SNR=5.2			PKPab		PKPab		02 24 04.2	-0.6	
MLAC	Mammoth, Mammt baz=133	151.33	253	P		PKiKP		02 23 58.4	+0.3	
NVAR	Mina Array Bea comp=Z,2.6nm,1.0s,baz=116,slow=2.1,SNR=13	151.56	254	PKP		PKPdf		02 23 53.3	+1.5	
NVAR				PKPbc		sPKPbc		02 23 58.6	-1.0	
NVAR	comp=Z,9.0nm,0.7s,baz=149,slow=2.6,SNR=38			PKPab		PKPab		02 24 06.5	-0.1	
NVAR	comp=Z,14nm,0.6s,baz=132,slow=2.6,SNR=26 Mina Array Bea	151.56	254			PKPdf		02 23 52.6	+0.8	
NVAR						sPKPbc		02 23 58.9	-0.7	
NVAR						pPKPab		02 24 07.1	-0.7	
BOZ	Bozeman (W) baz=122,SNR=11	151.70	273	P		PKiKP		02 23 58.7	+0.3	
EGMT	Eagleton baz=116	151.71	279	P		PKiKP		02 23 58.2	-0.1	
PET	Petropavlovsk	151.82	70	i PKIKP		PKPdf		02 23 54.2	+2.8	
PET				e				02 24 06.1		
PET	comp=Z,66nm,0.9s			pmax		pmax				
PET	comp=Z,138nm,1.4s			pmax		pmax				
PET	Petropavlovsk	151.82	70			PKPbc		02 23 57.0	-0.8	
PET						PKPab		02 24 06.0	-1.0	
HLID	Hailey baz=123,SNR=13	152.34	267	P		PKiKP		02 24 00.2	+0.4	
MSO	Missoula baz=118	153.70	273	P		PKPbc		02 24 02.2	-0.2	
O03E	Paynes Creek baz=130	154.83	254	P		PKPbc		02 24 04.7	-0.3	
O02D	Mt. Diablo Mer baz=131	155.32	252	P		PKPdf		02 24 06.3	+9.3	
O02D	baz=131			P		PKPab		02 24 22.4	+0.1	
BILL	Bilibino	155.65	36	i PKIKP		PKPdf		02 23 55.7	-0.7	
BILL				i				02 28 06.2		
BILL	comp=Z,10.0nm,1.5s			pmax		pmax				
N02D	Trinity Center baz=129	155.79	254	P		PKPab		02 24 23.5	-0.8	
K04D	Chiloquin, OR baz=126	156.24	258	P		PKPab		02 24 25.7	-0.6	
NEW	Newport baz=115	156.27	274	P		PKPab		02 24 27.1	+1.0	
J05D	Fort Rock, OR baz=125	156.31	260	P		PKPab		02 24 26.9	+0.4	
L04D	Klamath Falls baz=127	156.32	257	P		PKPab		02 24 27.4	+0.8	
J04D	Umpqua Nationa baz=125	156.81	259	P		PKPab		02 24 28.6	-0.2	
A36M	Sachs Harbour baz=48	156.88	338	P		PKPab		02 24 29.2	+1.2	
I05D	Terrebonne, OR baz=123	156.96	262	P		PKPab		02 24 29.8	+0.6	
YKA	Yellowknife Ar comp=Z,1.3nm,1.1s,baz=77,slow=1.8,SNR=9.1	157.04	311	PKP		PKPdf		02 23 53.3	-5.0	
YKA				PKPab		PKPab		02 24 28.7	-0.2	
YKA	comp=Z,8.1nm,0.9s,baz=85,slow=4.7,SNR=13			PP		PP		02 28 08.9	+0.7	
L02E	comp=Z,0.5nm,0.9s,baz=74,slow=6.7,SNR=2.8 Cave Junction baz=128	157.05	255	P		PKPab		02 24 30.2	+0.6	
I04A	Tendick Farm, baz=124	157.30	260	P		PKPab		02 24 30.8	+0.1	
K02D	Willamette Mer baz=127	157.41	256	P		PKPab		02 24 31.6	+0.3	
G05D	Wamic, OR baz=121	157.42	264	P		PKPab		02 24 32.0	+0.8	
I03D	Drain, OR baz=125	157.81	259	P		PKPab		02 24 33.7	+0.9	
H04D	Lebanon baz=123	157.90	261	P		PKPab		02 24 34.0	+0.8	
G03D	McMinnville, O baz=121	158.58	262	P		PKPab		02 24 36.7	+0.6	
E04D	Cinebar baz=118	158.83	266	P		PKPab		02 24 37.8	+0.6	
B05A	Bryant baz=114	159.30	271	P		PKPab		02 24 41.7	+2.5	
D03D	Eldon baz=116	159.59	268	P		PKPab		02 24 42.6	+2.1	
INK	Inuvik baz=42	161.48	336	P		PKPab		02 24 50.8	+2.7	
TGTN	Hyland Airport baz=69	163.52	313	P		PKPab		02 24 57.8	+0.5	
TOLK	Toolik Lake Re baz=10.0	163.81	354	P		PKPab		02 24 59.2	+0.9	
MMPY	Sheldon Lake, baz=61	164.33	319	P		PKPab		02 25 01.6	+0.8	
I29M	Ogilvie Camp, baz=40	164.96	334	P		PKPab		02 25 04.0	+0.5	
COLD	Coldfoot baz=9.4	165.25	354	P		PKPab		02 25 05.4	+0.8	
TNA	Tin City baz=325	165.26	23	P		PKPab		02 25 05.6	+0.9	
FARO	Faro, Yukon baz=58	165.36	319	P		PKPab		02 25 07.8	+2.5	
M31M	Drury Creek, Y baz=57	165.79	320	P		PKPab		02 25 09.2	+2.0	
EGAK	Eagle baz=35	166.15	336	P		PKPab		02 25 09.8	+1.1	
DAWY	Dawson baz=40	166.25	332	P		PKPab		02 25 11.1	+1.8	
H24K	Noodor Dome baz=16	166.40	349	P		PKPab		02 25 12.0	+2.2	
M30M	Minto, Yukon baz=51	166.47	324	P		PKPab		02 25 11.9	+1.7	
H23K	Yukon River baz=12	166.58	352	P		PKPab		02 25 12.4	+1.8	
N31M	Braeburn, Yuko baz=56	166.74	319	P		PKPab		02 25 13.4	+2.0	
WHY	Whitehorse baz=61	166.79	315	P		PKPab		02 25 12.8	+1.0	
H21K	Melozitna Rive baz=3.5	166.93	358	P		PKPab		02 25 13.9	+1.8	
K27K	Chicken baz=34	167.00	336	P		PKPab		02 25 14.5	+2.1	
J25K	Salcha River, baz=25	167.19	343	P		PKPab		02 25 15.6	+2.2	
I23K	Minto, Yukon-K baz=13	167.23	351	P		PKPab		02 25 15.5	+2.1	
ILAR	Eielson Array comp=Z,1.3nm,0.9s,baz=355,slow=2.5,SNR=5.0	167.29	346	PKPab		PKPab		02 25 11.4	-2.3	
ILAR	Eielson Array	167.29	346	PKP2		PKPab		02 25 11.5	-2.2	
I21K	Tanana baz=6.0	167.38	356	P		PKPab		02 25 16.5	+2.5	
NEA2	Nenana baz=15	167.74	350	P		PKPab		02 25 17.1	+1.4	
HYT	Haines Junctio baz=55	167.80	319	P		PKPab		02 25 18.1	+1.9	
RIDG	Independent Ri baz=28	167.88	340	P		PKPab		02 25 18.3	+1.9	
YUK4	Talbot Arm baz=51	167.93	322	P		PKPab		02 25 18.3	+1.4	
YUK6	Outpost Mounta baz=53	168.07	320	P		PKPab		02 25 19.9	+2.3	
L26K	Log Cabin Wild baz=34	168.15	336	P		PKPab		02 25 20.2	+2.6	
YUK3	Moose Creek baz=45	168.28	327	P		PKPab		02 25 20.6	+2.1	
SIT	Sitka baz=76	168.35	300	P		PKPab		02 25 20.9	+2.3	
M26K	Nabesna, AK baz=36	168.58	333	P		PKPab		02 25 20.8	+1.2	
CHUM	Lake Minchumin baz=5.6	168.69	356	P		PKPab		02 25 22.0	+2.1	
PAX	Paxson baz=28	168.69	340	P		PKPab		02 25 21.4	+1.3	
MCARA	McCarthy VSAT baz=39	169.39	330	P		PKPab		02 25 25.1	+2.0	
SCM	Sheep Creek Mo baz=25	170.10	341	P		PKPab		02 25 28.2	+1.9	
EYAK	Cordova Ski Ar baz=34	170.86	333	P		PKPab		02 25 30.6	+1.0	
KAIM	Kayak Island baz=40	170.96	328	P		PKPab		02 25 32.6	+2.6	
SEW	Seward baz=21	172.10	343	P		PKPab		02 25 36.4	+1.4	
P19K	Oil Pt baz=4.4	172.96	357	P		PKPab		02 25 39.2	+0.2	
P18K	Big Mountain, baz=354	173.20	5	P		PKPab		02 25 40.6	+0.5	
Q19K	Cape Douglas, baz=2.7	173.69	358	P		PKPab		02 25 41.4	-0.8	

IDC 27 02:05:26.6±3.2, 4°.19S×133°.46E, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.3/28, mbtmp3.5/5, ML3.4/4 Error ellipse: s-maj=120.4km s-min=26.1km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.96	326	Pn	Pn	02 06 29.4	+0.9
	1.2nm,0.3s,baz=230,slow=23,SNR=1.5						
SIJI				Sn	Sn	02 07 07.2	-8.5
	2.0nm,0.3s,baz=96,slow=12,SNR=3.6						
WRA	Warramunga Arr	15.68	177	Pn	Pn	02 09 07.8	-1.2
	0.2nm,0.3s,baz=360,slow=13,SNR=11						
WRA				Sn	Sn	02 11 57.4	-6.4
	0.1nm,0.3s,baz=357,slow=24,SNR=4.6						
FITZ	Fitzroy Crossi	15.80	208	Pn	Pn	02 09 09.0	-1.6
	0.3nm,0.3s,baz=35,slow=12,SNR=16						
FITZ				Sn	Sn	02 11 55.9	-11
	0.1nm,0.3s,baz=291,slow=20,SNR=2.0						
ASAR	Alice Springs	19.37	179	P	Pn	02 09 55.5	+0.5
	0.1nm,0.3s,baz=9.5,slow=11,SNR=6.1						
MKAR	Makanchi Array	67.85	325	P	P	02 16 26.4	-0.4
	0.4nm,0.7s,baz=123,slow=8.5,SNR=3.5						

GUC ***27*** *02:13:19.9±0.6, 22°.19S×70°.37W, h26km±1km, ML3.6*
IDC ***27*** *02:13:22.6±7.0, 22°.94S×70°.38W, h50km±47km, mb3.4/1, mb1 3.8/3, mb1mx3.5/40, mbtmp3.9/3, ML3.3/2, MS2.7/1, Ms1 2.9/1, ms1mx2.5/24, Error ellipse: s-maj=88.3km s-min=29.8km az=19.0*

ISC 27 02:13:19.8±1.1, 22°.14S±0°.02×70°.36W±0°.05, h22km±8km, n36, σ0°.88/42, 2C-10D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	IPOC Station P	0.27	135	⇓iP	Pb	02 13 26.7	+0.3
PB04				eS	Sb	02 13 30.9	0.0
PB04	comp=N,20µm,0.1s			IAML		02 13 31.3	
PB07	IPOC Station P	0.60	47	⇓iP	Pn	02 13 32.6	-0.5
PB07				eS	Sn	02 13 41.1	-1.1
PB07	comp=N,7µm,0.2s			IAML		02 13 41.4	
PB06	IPOC Station P	0.92	128	⇓iP	Pb	02 13 36.5	-0.7
PB06				iS	Sb	02 13 48.0	-1.0
PB06	comp=N,3µm,0.1s			IAML		02 13 48.3	
PB02	IPOC Station P	0.92	28	⇓iP	Pn	02 13 37.8	+0.2
PB02				eS	Sn	02 13 50.0	-0.1
PB02	comp=E,3µm,0.3s			IAML		02 13 51.4	
PB09	IPOC Station P	1.09	72	⇑iP	Pb	02 13 40.6	+0.5
PB09				eS	Sn	02 13 54.6	+0.2
PB09	comp=N,3µm,0.2s			IAML		02 13 55.9

TA02	**Huaiquique**	**1.87**	**6**	*eP*		**Pb**	**02 13 52.2**	**-1.1**
TA02				*eS*		**Sb**	**02 14 16.6**	**+0.4**
TA02				IAML			02 14 22.8	
	comp=N,464nm,0.2s							
HMBC	**Humberstone**	**1.90**	**13**	*iP*		**Pb**	**02 13 52.6**	**-1.3**
HMBC				*eS*		**Sb**	**02 14 17.6**	**+0.3**
AF01	**San Pedro de A**	**2.17**	**112**	*eP*		**Pb**	**02 13 59.3**	**+0.7**
AF01				*eS*		**Sb**	**02 14 24.8**	**-0.4**
AF01				IAML			02 14 42.4	
	comp=E,2µm,0.6s							
PB08	**IPOC Station P**	**2.28**	**30**	*eP*		**Pb**	**02 13 59.7**	**-0.9**
PB08				*eS*		**Sb**	**02 14 29.1**	**+0.6**
PB08				IAML			02 14 33.8	
	comp=N,295nm,0.2s							
PB11	**IPOC Station P**	**2.46**	**16**	*eP*		**Pb**	**02 14 01.8**	**-1.6**
PB11				*eS*		**Sb**	**02 14 32.5**	**-0.8**
PB11				IAML			02 14 51.1	
	comp=N,221nm,0.4s							
GO01	**Chusmiza**	**2.69**	**24**	*eP*		**Pb**	**02 14 06.0**	**-1.5**
GO01				*eS*		**Sb**	**02 14 39.0**	**-1.2**
GO01				IAML			02 14 43.5	
	comp=E,327nm,0.1s							
GO02	**Mina Guanaco**	**3.09**	**167**	*iP*		**Pn**	**02 14 08.4**	**+0.9**
GO02				*eS*		**Sn**	**02 14 45.9**	**+2.0**
GO02				IAML			02 15 01.4	
	comp=N,383nm,0.3s							
PB12	**IPOC Station P**	**3.51**	**0**	*eP*		**Pn**	**02 14 14.6**	**+1.5**
PB12				*eS*		**Sn**	**02 14 54.5**	**+0.5**
LPAZ	**La Paz**	**6.19**	**20**	P		Pb	02 15 02.2	-5.1
	comp=N,0.2nm,0.3s,baz=215,slow=6.3,SNR=7.3							
LPAZ				LR		LR	02 17 35.8	
	comp=N,67nm,20.3s,baz=238,slow=36							
SIV	**San Ignacio**	**10.70**	**57**	P		Pn	02 15 59.1	+7.3
	comp=N,0.3nm,0.3s,baz=198,slow=8.7,SNR=4.2							
H03N1	**Juan Fernandez**	**13.56**	**212**	T		T	02 30 07.7	
	baz=38,slow=72,SNR=51							
H03N2	**Juan Fernandez**	**13.57**	**212**	T		T	02 30 06.3	
	baz=38,slow=72,SNR=34							
H03N3	**Juan Fernandez**	**13.58**	**212**	T		T	02 30 06.8	
	baz=38,slow=72,SNR=38							
H03S3	**Juan Fernandez**	**13.87**	**211**	T		T	02 30 20.2	
	baz=32							
H03S1	**Juan Fernandez**	**13.88**	**211**	T		T	02 30 21.2	
	baz=32							
H03S2	**Juan Fernandez**	**13.89**	**211**	T		T	02 30 23.7	
	baz=32							
TORD	**Torodi Ar. Bea**	**78.83**	**71**	P		**P**	**02 25 21.4**	**-0.2**
	comp=N,0.6nm,0.9s,baz=250,slow=4.3,SNR=2.9							
H11S2	**WAKE ISLAND Hyl**	**26.62**	**277**	T		T	04 51 52.0	
	baz=103,slow=74,SNR=36							
H11S1	**WAKE ISLAND Hyl**	**26.63**	**277**	T		T	04 51 51.7	
	baz=103,slow=74,SNR=56							
H11S3	**WAKE ISLAND Hyl**	**26.64**	**277**	T		T	04 51 53.3	
	baz=103,slow=74,SNR=43							
H11N3	**WAKE ISLAND Hyl**	**26.72**	**279**	T		T	04 51 58.1	
	baz=104,slow=74,SNR=65							
H11N2	**WAKE ISLAND Hyl**	**26.74**	**279**	T		T	04 51 59.3	
	baz=104,slow=74,SNR=59							
H11N1	**WAKE ISLAND Hyl**	**26.74**	**279**	T		T	04 51 59.3	
	baz=104,slow=74,SNR=31							
MKAR	**Makanchi Array**	**146.93**	**35**	PKPbc		**PKPbc**	**02 33 01.6**	**+1.1**
	comp=N,0.5nm,0.8s,baz=329,slow=3.1,SNR=4.4							

SJA ***27*** *02:16:50.5±0.8, 31°.65S×67°.75W, h9km±3km, ML4.8, MW4.4*

MOS ***27*** *02:16:50.9±1.1, 31°.62S×67°.62W, h29km, mb5.2/20, Error ellipse: s-maj=12.6km s-min=8.4km az=98.2*

NEIC ***27*** *02:16:51.2±2.7, 31°.64S±0°.06×67°.75W±0°.05, h17km±3km, mb5.0/166, Md4.9(SJA), Error ellipse: s-maj=8.2km s-min=6.7km az=183.0*

IDC ***27*** *02:16:51.4±0.4, 31°.64S×67°.58W, h22km±2km, mb4.5/23, mb1 4.5/28, mb1mx4.5/38, mbtmp4.6/28, ML4.3/5, MS4.0/13, Ms1 4.0/13, ms1mx3.7/53, Error ellipse: s-maj=13.8km s-min=9.8km az=82.0*

GUC ***27*** *02:16:52.3±0.6, 31°.70S×67°.75W, h23km±29km, ML5.1*

VAO ***27*** *02:16:52.1±0.4, 31°.655S×67°.63W, h20km, mb4.9*

BJI ***27*** *02:16:54.0±0.0, 31°.60S×67°.60W, h20km, mB5.0/6, Ms5.2/3, Ms7 5.0/3*

ISC 27 02:16:50.7±0.4, 31°.62S±0°.02×67°.73W±0°.02, h18km±1km, n512, σ1s37/524, mb5.0/102, MS4.2/8, 10C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.70**	**294**	*iP*	**Pb**	**02 17 04.9**	**+0.5**
RTLL				*i* S	**Sb**	**02 17 12.9**	**-0.7**
ACAN	**Cantantal**	**0.80**	**145**	*eP*	Pn	02 17 15.9	+8.7
ZON	**Zonda**	**0.81**	**275**	P	**Pb**	**02 17 06.4**	**+0.1**
ZON				S	**Sg**	**02 17 18.0**	**+0.6**
ZON	**Zonda**	**0.81**	**275**		**Pb**	**02 17 06.2**	**-0.1**
ZON					**Sg**	**02 17 18.4**	**+1.0**
AVFE	**Valle Fertil**	**0.98**	**14**	*eP*	**Pg**	**02 17 10.5**	**+0.6**
ACHE	**Chepes**	**1.02**	**64**	*eP*	**Pg**	**02 17 11.0**	**+0.4**
RTLS	**Leoncito**	**1.35**	**262**	*eP*	Pn	02 17 10.2	-4.7
RTLS				*eP*	**Pb**	**02 17 15.9**	**+0.3**
RTLS				*eS*	**Sb**	**02 17 33.1**	**+0.5**
RTLS				IAML		02 17 35.3	
	comp=Z,8µm,1.0s						
ASAL	**Salagasta**	**1.35**	**224**	*eP*	**Pn**	**02 17 10.2**	**-4.6**
ASAL				*eP*	**Pb**	**02 17 15.8**	**+0.3**
ASAL				*eS*	**Sg**	**02 17 34.0**	**-0.5**
AUSP	**Uspallata**	**1.53**	**246**	*eP*	**Pn**	**02 17 13.7**	**-3.8**
AUSP				*eP*	**Pb**	**02 17 19.1**	**+0.3**
AUSP				*eS*	**Sb**	**02 17 38.1**	**+0.1**
ACCO	**Cerro Coronel**	**1.54**	**312**	*eP*	**Pg**	**02 17 20.2**	**-0.2**
ACCO				*eS*	**Sn**	**02 17 32.8**	**-4.4**
ARCO	**CERRO ARCO**	**1.59**	**219**	*eP*	**Pb**	**02 17 20.2**	**+0.5**
ARCO				*eS*	**Sb**	**02 17 40.9**	**+1.4**
ARCO				IAML		02 17 43.8	
	comp=Z,8µm,0.6s						
APLL	**PUNTA DE LOS L**	**1.60**	**41**	*eP*	**Pb**	**02 17 20.6**	**+0.9**
ACDV	**Cuesta del Vie**	**1.87**	**320**	*eP*	**Pn**	**02 17 20.2**	**-1.8**
ACDV				*eP*	**Pb**	**02 17 25.7**	**+1.2**
ACDV				*eS*	**Sg**	**02 17 50.0**	**-1.1**
ACDV				IAML		02 17 53.2	
	comp=Z,6µm,0.7s						
MRA	**San Martin**	**1.89**	**116**	*eP*	**Pb**	**02 17 24.2**	**-0.5**
MRA				*eS*	**Sg**	**02 17 50.8**	**-0.8**
AVIZ	**Vizcacheras**	**1.97**	**199**	*eP*	**Pb**	**02 17 25.5**	**-0.6**
AROD	**Rodeo**	**2.08**	**314**	*eP*	Pn	02 17 20.2	-4.8
AROD				*eP*	**Pn**	**02 17 21.2**	**-3.8**
AROD				*eP*	**Pg**	**02 17 29.3**	**-1.5**
AROD				*eS*	**Sg**	**02 17 56.9**	**-1.0**
ACLC	**CERRO LA CRUZ**	**2.29**	**17**	*eP*	**Pb**	**02 17 31.6**	**0.0**
ACLC				*eS*	**Sg**	**02 18 04.1**	**-0.2**
ACLC				IAML		02 18 08.0	
	comp=Z,13µm,0.5s						
CO01	**Juntas del Tor**	**2.61**	**308**	*iP*	**Pb**	**02 17 37.4**	**+0.3**
CO01				*i* S	**Sb**	**02 18 11.2**	**+2.3**
CO01				IAML		02 18 13.1	
	comp=E,10µm,0.5s						
VA03	**San Esteban**	**2.65**	**244**		**Pn**	**02 17 34.8**	**+2.1**
VA03	**San Esteban**	**2.65**	**244**	*iP*	**Pb**	**02 17 37.0**	**-0.7**
VA03				*i* S	**Sb**	**02 18 11.9**	**+1.9**
VA03				IAML		02 18 14.7	
	comp=E,5µm,0.3s						
VA03	**San Esteban**	**2.65**	**244**	*eP*	**Pb**	**02 17 37.0**	**-0.7**
VA03				*eS*	**Sb**	**02 18 08.7**	**-1.3**
VA03				IAML		02 18 14.8	
	comp=Z,5µm,0.6s						
TCA	**Tanti**	**2.69**	**85**	*eP*	**Pn**	**02 17 35.2**	**+1.9**
TCA				*eS*	**Sb**	**02 18 10.2**	**-1.0**
TCA				IAML		02 18 23.3	
	comp=Z,6µm,0.7s						
FCH	**Farellones**	**2.75**	**231**	*iP*	**Pb**	**02 17 37.8**	**-1.9**
FCH				*i* S	**Sb**	**02 18 15.6**	**+2.4**
CO02	**Combarbal**	**2.83**	**278**	*eP*	**Pb**	**02 17 39.2**	**-1.6**
CO02				*i* S	**Sb**	**02 18 15.3**	**+0.3**
CO02				IAML		02 18 23.3	
	comp=N,14µm,0.5s						
CO02	**Combarbal**	**2.83**	**278**	*eP*	**Pb**	**02 17 39.3**	**-1.4**
CO02				*eS*	**Sb**	**02 18 13.7**	**-1.3**
CO02				*eS*	**Sg**	**02 18 18.2**	**-3.4**
CO02				IAML		02 18 31.7	
	comp=Z,9µm,0.7s						
MT03	**Universidad Ad**	**3.00**	**231**	*eP*	**Pn**	**02 17 40.8**	**+3.3**
MT03				*eS*	**Sb**	**02 18 18.2**	**-1.9**
MT03				*eS*	**Sn**	**02 18 20.2**	**+7.1**
MT03				IAML		02 18 37.6	
	comp=Z,2µm,1.1s						
GO04	**Tololo Observa**	**3.00**	**298**	*iP*	**Pb**	**02 17 41.8**	**-2.1**
GO04				*i* S	**Sb**	**02 18 20.9**	**+0.6**
GO04	**Tololo Observa**	**3.00**	**298**	*eP*	**Pb**	**02 17 42.0**	**-1.9**
GO04				*eS*	**Sb**	**02 18 20.6**	**+0.3**
LMEL	**Las Melosas**	**3.05**	**222**	*eP*	**Pn**	**02 17 41.4**	**+3.3**
ROC1	**El Roble**	**3.09**	**243**		**Pn**	**02 17 39.4**	**+0.5**
ROC1	**El Roble**	**3.09**	**243**	*eP*	**Pn**	**02 17 39.5**	**+0.6**
ROC1				*eS*	**Sn**	**02 18 18.7**	**+3.2**
MT05	**Renca**	**3.10**	**234**		**Pn**	**02 17 41.0**	**+2.2**
MT05	**Renca**	**3.10**	**234**	*eP*	**Pn**	**02 17 42.2**	**+3.4**
MT05				*i* S	**Sb**	**02 18 22.3**	**-0.4**
MT05				IAML		02 18 29.1	
	comp=N,5µm,0.5s						
MT05	**Renca**	**3.10**	**234**	*eP*	**Pn**	**02 17 42.1**	**+3.4**
MT05				*eS*	**Sb**	**02 18 21.2**	**-1.6**
MT05				IAML		02 18 39.7	
	comp=Z,2µm,0.8s						
VA06	**Catapilco**	**3.17**	**252**		**Pn**	**02 17 41.5**	**+1.8**
RFA	**San Rafael**	**3.21**	**191**	*eP*	**Pn**	**02 17 41.2**	**+0.9**
RFA				*eS*	**Sb**	**02 18 24.7**	**-1.2**
RFA				IAML		02 18 33.2	
	comp=Z,2µm,0.3s						
MT02	**Curacav**	**3.31**	**239**		**Pn**	**02 17 44.2**	**+2.6**
MT02	**Curacav**	**3.31**	**239**	*i* P	**Pn**	**02 17 44.2**	**+2.6**
MT02	**Curacav**	**3.31**	**239**	*eP*	**Pn**	**02 17 44.3**	**+2.6**
MT02				*eS*	**Sb**	**02 18 27.2**	**-1.8**
MT02				IAML		02 18 41.3	
	comp=Z,1µm,1.2s						
BO04	**La Punta**	**3.39**	**225**	Pn	**Pn**	**02 17 46.6**	**+3.9**
BO04	**La Punta**	**3.39**	**225**	*eP*	**Pb**	**02 17 46.9**	**-3.4**
BO04				*i* S	**Sb**	**02 18 33.0**	**+1.9**
CO05	**La Serena**	**3.46**	**298**		**Pn**	**02 17 46.7**	**+3.0**
CO05	**La Serena**	**3.46**	**298**	*eP*	**Pn**	**02 17 46.5**	**+2.8**
CO05				*i* S	**Sb**	**02 18 29.4**	**-3.8**
CO06	**Fray Jorge**	**3.48**	**285**	Pn	**Pn**	**02 17 46.2**	**+2.2**
CO06	**Fray Jorge**	**3.48**	**285**	*iP*	**Pn**	**02 17 46.1**	**+2.2**
MT09	**Talagante**	**3.49**	**231**		**Pn**	**02 17 46.6**	**+2.4**
VA01	**Torpederas**	**3.60**	**246**		**Pn**	**02 17 46.9**	**+1.3**
VA01	**Torpederas**	**3.60**	**246**	*eP*	**Pn**	**02 17 47.7**	**+2.1**
LCO	**Las Campanas**	**3.65**	**315**	P	**Pn**	**02 17 50.5**	**+3.9**
LCO	**Las Campanas**	**3.65**	**315**	Pn	**Pn**	**02 17 50.5**	**+3.9**
LCO	**Las Campanas**	**3.65**	**315**	*iP*	**Pn**	**02 17 50.6**	**+3.9**
MT01	**Popeta**	**3.72**	**232**	Pn	**Pn**	**02 17 49.6**	**+2.3**
MT01	**Popeta**	**3.72**	**232**	*eP*	**Pn**	**02 17 49.3**	**+2.0**
VA05	**Santo Domingo**	**3.86**	**237**		**Pn**	**02 17 51.1**	**+2.0**
BO01	**Tunca**	**3.95**	**225**		**Pn**	**02 17 52.5**	**+2.2**
BO01	**Tunca**	**3.95**	**225**	*eP*	**Pn**	**02 17 52.6**	**+2.2**
AC04	**Llanos de Chal**	**4.47**	**319**		**Pn**	**02 18 00.7**	**+3.1**
GO03	**Copiap**	**4.56**	**331**		**Pn**	**02 18 01.8**	**+2.9**
GO03	**Copiap**	**4.56**	**331**	*eP*	**Pn**	**02 18 02.3**	**+3.4**
AC06	**Mina Casimiro**	**4.82**	**331**		**Pn**	**02 18 04.4**	**+1.9**
GO05	**Huala**	**4.88**	**225**		**Pn**	**02 18 04.3**	**+1.1**
AC02	**Maricunga**	**4.92**	**345**		**Pn**	**02 18 08.7**	**+4.5**
ML02	**Panimavida**	**5.15**	**216**		**Pn**	**02 18 09.6**	**+2.7**
AC01	**Pan de Azucar**	**6.00**	**335**		**Pn**	**02 18 20.4**	**+1.7**
GO02	**Mina Guanaco**	**6.64**	**345**		**Pn**	**02 18 29.2**	**+1.6**
TRQA	**Tornquist**	**7.97**	**145**	P	**Pn**	**02 18 45.9**	**+0.1**
TRQA	**Tornquist**	**7.97**	**145**		**Pn**	**02 18 45.9**	**+0.1**
AF01	**San Pedro de A**	**8.64**	**357**	Pn	**Pn**	**02 18 56.9**	**+1.8**
LVC	**Limon Verde**	**9.03**	**353**	Pn	**Pn**	**02 19 02.3**	**+1.7**
	comp=Z,7.9nm,0.3s,baz=178,slow=10,SNR=10						
LVC				Sn	**Sn**	**02 20 43.6**	**+1.5**
	comp=Z,3.0nm,0.3s,baz=298,slow=22,SNR=1.6						
LVC				Lg	Lg	02 21 37.1	
	comp=Z,5.3nm,0.3s,baz=20,slow=9.6,SNR=4.8						
LVC				LR	LR	02 22 58.3	
	comp=Z,3µm,18.2s,baz=183,slow=40						
LVC	**Limon Verde**	**9.03**	**353**	P	**Pn**	**02 19 01.9**	**+1.3**
LVC	**Limon Verde**	**9.03**	**353**	Pn	**Pn**	**02 19 01.9**	**+1.3**
LVC	**Limon Verde**	**9.03**	**353**	*eP*	**Pn**	**02 19 02.7**	**+2.1**
PLCA	**Paso Flores**	**9.38**	**193**	Pn	**Pn**	**02 19 07.3**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=22,slow=19,SNR=8.2						
PLCA				Lg	Lg	02 21 45.1	
	comp=Z,2.2nm,0.3s,baz=229,slow=11,SNR=4.2						
PLCA				LR	LR	02 22 28.2	
	comp=Z,339nm,20.8s,baz=29,slow=36						
PLCA	**Paso Flores**	**9.38**	**193**	P	**Pn**	**02 19 06.8**	**+1.8**
PLCA	**Paso Flores**	**9.38**	**193**		**Pn**	**02 19 06.8**	**+1.8**
PLCA	**Paso Flores**	**9.38**	**193**	*eP*	**Pn**	**02 19 06.9**	**+1.8**
ITQB	**Itaqui**	**9.76**	**81**	Pn	**Pn**	**02 19 09.8**	**-0.5**
ITQB	**Itaqui**	**9.76**	**81**	*eP*	**Pn**	**02 19 10.6**	**+0.3**
LL04	**Puerto Octay**	**10.01**	**201**		**Pn**	**02 19 12.9**	**-0.7**
LL03	**Petrohue**	**10.22**	**200**	Pn	**Pn**	**02 19 18.4**	**+1.9**
PB02	**IPOC Station P**	**10.44**	**349**		**Pn**	**02 19 18.5**	**-1.1**
CPUP	**Villa Florida**	**10.52**	**63**	Pn	**Pn**	**02 19 20.1**	**-0.5**
	comp=Z,2.5nm,0.3s,baz=239,slow=12,SNR=19						
CPUP				Lg	Lg	02 22 21.4	
	comp=Z,11nm,0.3s,baz=112,slow=13,SNR=3.0						
CPUP				LR	LR	02 23 10.0	
	comp=Z,253nm,18.9s,baz=242,slow=36						
CPUP	**Villa Florida**	**10.52**	**63**	P	**Pn**	**02 19 20.4**	**-0.2**
CPUP	**Villa Florida**	**10.52**	**63**	Pn	**Pn**	**02 19 20.4**	**-0.2**
CPUP	**Villa Florida**	**10.52**	**63**	*eP*	**Pn**	**02 19 20.6**	**0.0**
PB01	**IPOC Station P**	**10.65**	**351**	Pn	**Pn**	**02 19 22.1**	**-0.4**
GO01	**Chusmiza**	**11.97**	**353**		**Pn**	**02 19 39.5**	**-1.5**
PLTB	**Pedras Altas**	**12.04**	**94**	Pn	**Pn**	**02 19 39.2**	**-2.1**
PLTB	**Pedras Altas**	**12.04**	**94**	*eP*	**Pn**	**02 19 39.3**	**-2.1**
CPSB	**Cacapava Do Su**	**12.32**	**88**	*eP*	**Pn**	**02 19 45.1**	**-0.2**
PB12	**IPOC Station P**	**13.16**	**349**		**Pn**	**02 19 53.7**	**-3.2**
PB16	**IPOC Station P**	**13.32**	**353**		**Pn**	**02 19 58.2**	**-1.3**
ITAB	**Concordia**	**14.28**	**76**		**Pn**	**02 20 12.0**	**0.0**
LPAZ	**La Paz**	**15.27**	**359**	Pn	**Pn**	**02 20 26.7**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=145,slow=7.1,SNR=11						
LPAZ				LR	LR	02 26 58.9	
	comp=Z,797nm,18.6s,baz=190,slow=40						
LPAZ	**La Paz**	**15.27**	**359**	P	**Pn**	**02 20 26.9**	**+0.9**
LPAZ				pmax	pmax		
	comp=Z,41nm,0.6s						
LPAZ	**La Paz**	**15.27**	**359**		**Pn**	**02 20 26.9**	**+0.9**
LPAZ				IAmb	IAmb	02 20 43.6	
	comp=Z,41nm,0.6s						
LPAZ	**La Paz**	**15.27**	**359**	*eP*	**Pn**	**02 20 26.2**	**+0.3**
PTGB	**Pitanga**	**15.42**	**67**	*eP*	**Pn**	**02 20 27.8**	**+0.2**
AQDB	**Aquidauana**	**15.48**	**47**		**P**	**02 20 30.6**	**-2.0**
TER01	**Tubaro-SC**	**16.39**	**84**	*eP*	**Pn**	**02 20 38.6**	**-1.4**
SIV	**San Ignacio**	**16.70**	**23**	Pn	**Pn**	**02 20 43.0**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=218,slow=11,SNR=16						
SIV				Lg	Lg	02 25 37.3	
	comp=Z,0.4nm,0.3s,baz=81,slow=23,SNR=1.6						
SIV				LR	LR	02 28 25.3	
	comp=Z,254nm,19.8s,baz=288,slow=42						
GO08	**Villa O'Higgin**	**17.22**	**191**		**Pn**	**02 20 50.9**	**+0.7**
TIJ01	**Guaruva-PR**	**17.61**	**74**	*eP*	**Pn**	**02 20 53.3**	**-2.0**
PCMB	**Pacaembu**	**17.76**	**60**	*eP*	**P**	**02 20 58.0**	**+0.1**
PTLB	**Pontes e Lacer**	**17.91**	**28**	*eP*	**P**	**02 20 59.6**	**+0.2**
FRTB	**Fartura**	**18.09**	**67**	*eP*	**P**	**02 21 01.6**	**+0.1**
PP1B	**Ponte de Pedra**	**18.18**	**43**	*eP*	**P**	**02 21 02.6**	**+0.1**
SALV	**Santo Antonio**	**19.11**	**38**	*eP*	**P**	**02 21 13.0**	**+0.3**
ITRB	**Iturama**	**19.61**	**57**	*eP*	**P**	**02 21 18.3**	**+0.1**
VILB	**Vilhena**	**19.83**	**22**	*eP*	**P**	**02 21 20.5**	**-0.1**
GO09	**Cerro Castillo**	**19.93**	**189**	P	**Pn**	**02 21 23.5**	**+0.3**
BB19B	**Bebedouro**	**20.13**	**63**	*eP*	**P**	**02 21 22.8**	**-1.1**
RCLB	**Rio Claro- Sao**	**20.17**	**68**	*eP*	**P**	**02 21 24.0**	**-0.3**
VAO	**Valinhos**	**20.32**	**70**	*eP*	**P**	**02 21 24.8**	**-1.3**
PARB	**Paraibuna**	**21.25**	**73**	*eP*	**P**	**02 21 35.5**	**-0.6**
NNA	**Nana**	**21.27**	**335**	P	**P**	**02 21 37.5**	**+1.3**
	comp=Z,11nm,0.7s,baz=167,slow=13,SNR=4.5						
NNA				LR	LR	02 28 47.4	
	comp=Z,253nm,21.7s,baz=172,slow=34						
NNA	**Nana**	**21.27**	**335**	*i* P	**P**	**02 21 32.1**	**-4.1**
NNA				pmax	pmax		
	comp=Z,42nm,1.0s						
NNA	**Nana**	**21.27**	**335**	P	**P**	**02 21 38.3**	**+2.1**
GO10	**Punta Arenas**	**21.66**	**185**	P	**P**	**02 21 40.8**	**+0.7**
ETMB	**Extrema**	**21.74**	**4**	*eP*	**P**	**02 21 42.7**	**+1.5**
IPMB	**Ipameri, GO**	**22.27**	**57**	*eP*	**P**	**02 21 45.7**	**-1.3**
MG03	**Isla Dawson**	**22.31**	**184**	P	**P**	**02 21 45.9**	**-1.0**
MG03				IAmb	IAmb	02 21 54.1	
	comp=Z,61nm,0.9s						
PDRB	**Porto dos Gac**	**22.35**	**29**	*eP*	**P**	**02 21 47.6**	**-0.2**
MAN01	**Angra dos Reis**	**22.82**	**73**	*eP*	**P**	**02 21 53.5**	**+0.7**
USHA	**Ushuaia**	**23.21**	**181**	P	**P**	**02 21 57.9**	**+1.5**
	comp=Z,4.9nm,0.7s,baz=29,slow=16,SNR=1.9						
USHA	**Ushuaia**	**23.21**	**181**	P	**P**	**02 21 57.9**	**+1.5**
CLDB	**Colider**	**23.41**	**31**	*eP*	**P**	**02 21 57.8**	**-1.0**
BDFB	**Brasilia**	**24.00**	**53**	P	**P**	**02 22 02.8**	**-1.8**
	comp=Z,12nm,0.8s,baz=219,slow=8.1,SNR=13						
BDFB	**Brasilia**	**24.00**	**53**	P	**P**	**02 22 03.3**	**-1.4**
BDFB				pmax	pmax		
	comp=Z,18nm,0.9s						
BDFB	**Brasilia**	**24.00**	**53**	P	**P**	**02 22 03.3**	**-1.4**
CZSB	**Cruzeiro do Su**	**24.21**	**348**	*eP*	**P**	**02 22 07.5**	**+1.0**
SNDB	**Serra Nova Dou**	**24.74**	**41**	*eP*	**P**	**02 22 10.6**	**-0.7**
DIAM	**Diamantina, MG**	**25.46**	**64**	*eP*	**P**	**02 22 18.2**	**+0.3**
PEXB	**Peixe**	**26.42**	**47**	*eP*	**P**	**02 22 26.7**	**+0.2**
JANB	**Januaria**	**27.00**	**58**	*eP*	**P**	**02 22 30.6**	**-1.2**
SJMB	**Sao Joao De Ma**	**27.17**	**68**	*eP*	**P**	**02 22 33.2**	**-0.1**
TBTG	**Tabatinga, AM**	**27.36**	**355**	*eP*	**P**	**02 22 35.9**	**+0.9**
RIB01	**Linhares ES**	**27.47**	**70**	*eP*	**P**	**02 22 36.0**	**+0.1**
SDBA	**SAO DESIDERIO**	**28.41**	**53**	*eP*	**P**	**02 22 43.5**	**-0.9**
NAN01	**Guarapari, ES**	**28.48**	**68**	*eP*	**P**	**02 22 44.2**	**-0.7**
MACA	**Manacapuru-AM**	**29.07**	**15**	*eP*	**P**	**02 22 51.1**	**+0.9**
ITTB	**Itaituba**	**29.36**	**25**	*eP*	**P**	**02 22 52.5**	**-0.2**
SMTB	**Santa Maria do**	**29.38**	**44**	*eP*	**P**	**02 22 52.8**	**-0.2**
GUA01	**Guaratinga, BA**	**29.45**	**66**	*eP*	**P**	**02 22 53.2**	**-0.4**
PRPB	**Parauapebas**	**30.36**	**37**	*eP*	**P**	**02 23 01.2**	**-0.5**
CMC01	**Camacan, BA**	**30.39**	**64**	*eP*	**P**	**02 23 01.5**	**-0.4**
GDU01	**Guandu, BA**	**31.36**	**62**	*eP*	**P**	**02 23 09.2**	**-1.3**
MALB	**Monte Alegre**	**32.22**	**26**	*eP*	**P**	**02 23 18.6**	**+0.6**
NBPN	**Ponto Novo - B**	**32.78**	**57**	*eP*	**P**	**02 23 21.9**	**-1.1**
GARC	**Garzon, Huila**	**34.42**	**346**	*eP*	**P**	**02 23 39.8**	**+2.3**
NBLA	**Lagarto - SE**	**34.44**	**60**	*eP*	**P**	**02 23 35.9**	**-1.6**
MCPB	**Macapa, AP**	**34.45**	**29**	*eP*	**P**	**02 23 38.7**	**+1.3**
TMAB	**Tom-Au,PA,Br**	**34.48**	**36**	*eP*	**P**	**02 23 37.3**	**-0.5**
BOAV	**Boa Vista**	**34.51**	**13**	*eP*	**P**	**02 23 38.5**	**+0.5**
SOTA	**Rioblanco**	**34.61**	**344**	*eP*	**P**	**02 23 42.4**	**+3.0**
PCON	**Cinco Dias**	**34.75**	**345**	*eP*	**P**	**02 23 42.6**	**+1.9**
POPC	**Popayan, Colom**	**35.02**	**344**	*eP*	**P**	**02 23 44.4**	**+1.8**
ORTC	**Ortega, Tolima**	**36.05**	**347**	*eP*	**P**	**02 23 52.9**	**+1.6**
ROSB	**Rosrio**	**36.20**	**43**	*eP*	**P**	**02 23 52.1**	**-0.4**
NBMA	**Muriti-CE**	**36.22**	**54**	*eP*	**P**	**02 23 52.2**	**-0.6**
YOTC	**Yotoco, Valle**	**36.34**	**345**	*eP*	**P**	**02 23 51.9**	**-2.0**
CHIC	**Chingaza**	**36.49**	**350**	*eP*	**P**	**02 23 56.0**	**+0.5**
NBPS	**Pedro II - PI**	**36.64**	**48**	*eP*	**P**	**02 23 55.6**	**-0.8**
ANIL	**Santa Ana**	**36.64**	**347**	*eP*	P	02 23 49.5	-7.2
ROSC	**El Rosal**	**36.79**	**349**	P	**P**	**02 23 59.0**	**+1.0**
	comp=Z,12nm,0.5s,baz=143,slow=18,SNR=5.0						
ROSC	**El Rosal**	**36.79**	**349**	IAmb	IAmb	02 24 02.4	
	comp=Z,13nm,0.6s						
NBPB	**Pedra_Branca-C**	**36.98**	**51**	*eP*	**P**	**02 23 58.9**	**-0.4**
PLMC	**San Jos del P**	**37.22**	**346**	*eP*	**P**	**02 24 02.2**	**+0.9**
GUY2C	**Guyana, Caldas**	**37.35**	**347**	*eP*	**P**	**02 24 03.8**	**+1.0**
SPBC	**San Pablo de B**	**37.55**	**350**	*eP*	**P**	**02 24 04.0**	**-0.2**
NORC	**Norcasia**	**37.59**	**348**	*eP*	**P**	**02 24 04.5**	**+0.1**
RUSC	**La Rusia**	**37.65**	**351**	*eP*	**P**	**02 24 06.1**	**+0.7**
NBRF	**Rio Formoso -**	**37.93**	**60**

V58A P **P** **02 27 48.1 +0.1**
baz=170
W52A Murphy 68.08 346 P **P** **02 27 49.1 -0.1**
baz=165
X48A Hartselle 68.19 343 IAmb IAmb 02 27 50.8
comp=Z,9.1nm,0.9s
X48A Hartselle 68.19 343 P **P** **02 27 49.9 0.0**
baz=162
U59A Littleton 68.27 351 P **P** **02 27 51.0 +0.7**
baz=171
U59A P **P** **02 27 51.0 +0.7**
baz=171
V55A Taylorsville 68.30 348 P **P** **02 27 50.2 -0.3**
V55A IAmb IAmb 02 27 51.6
comp=Z,10nm,0.9s
V55A Taylorsville 68.30 348 P **P** **02 27 50.4 -0.1**
baz=168
V55A P **P** **02 27 50.4 -0.1**
baz=168
V53A Saluda 68.42 347 IAmb IAmb 02 27 52.0
comp=Z,7.2nm,0.8s
V53A Saluda 68.42 347 P **P** **02 27 50.9 -0.4**
baz=166,SNR=5.1
V53A P **P** **02 27 50.9 -0.4**
baz=166,SNR=5.1
W50A Signal Mountai 68.49 345 IAmb IAmb 02 27 52.6
comp=Z,14nm,0.8s
W50A Signal Mountai 68.49 345 P **P** **02 27 51.9 +0.1**
baz=164,SNR=6.0
CPCT Cooper Cave 68.55 345 IAmb IAmb 02 27 52.3
comp=Z,9.0nm,0.9s
TKL Tuckaleechee C 68.60 346 P **P** **02 27 52.0 -0.4**
baz=165
V52A Sevierville 68.74 346 IAmb IAmb 02 27 53.1
comp=Z,9.0nm,0.9s
V52A Sevierville 68.74 346 P **P** **02 27 52.2 -1.1**
baz=166
JCT Junction City 68.85 331 P **P** **02 27 54.0 -0.1**
JCT pmax pmax
comp=Z,45nm,1.6s
JCT Junction City 68.85 331 P **P** **02 27 54.0 -0.1**
JCT Junction City 68.85 331 P **P** **02 27 54.5 +0.4**
baz=151
U54A Nelsons Funny 69.06 348 IAmb IAmb 02 27 56.1
comp=Z,16nm,0.8s
U54A Nelsons Funny 69.06 348 P **P** **02 27 54.7 -0.6**
baz=167
U54A P **P** **02 27 54.7 -0.6**
baz=167
T57A Hurt 69.11 350 P **P** **02 27 55.7 +0.2**
baz=170
T57A P **P** **02 27 55.7 +0.2**
baz=170
V48A Smith Brothers 69.36 343 IAmb IAmb 02 27 57.8
comp=Z,14nm,0.8s
V48A Smith Brothers 69.36 343 P **P** **02 27 57.0 -0.1**
baz=163,SNR=8.2
CLTN Cedars of Leba 69.58 344 IAmb IAmb 02 27 59.1
comp=Z,8.5nm,0.9s
TXAR Lajitas Array 69.58 327 P **P** **02 27 59.6 +0.9**
comp=Z,2.8nm,0.7s,baz=149,slow=7.6,SNR=17
TXAR pP **sP** **02 28 07.6 +0.4**
comp=Z,2.8nm,0.7s,baz=147,slow=7.5,SNR=10
TX31 Lajitas Ar. Si 69.58 327 P **P** **02 27 59.9 +1.1**
TX31 Lajitas Ar. Si 69.58 327 P **P** **02 27 59.6 +0.8**
baz=148,SNR=9.3
TX32 Lajitas Array 69.58 327 IAmb IAmb 02 28 10.0
comp=Z,38nm,2.0s
S57A Dark Hollow, R 69.81 351 IAmb IAmb 02 28 01.4
comp=Z,14nm,0.8s
S57A Dark Hollow, R 69.81 351 P **P** **02 28 00.6 +0.7**
baz=170,SNR=6.0
S57A P **P** **02 28 00.6 +0.7**
baz=170,SNR=6.0
WVT Waverly 69.98 343 P **P** **02 28 00.0 -0.9**
WVT pmax pmax
comp=Z,26nm,0.8s
WVT Waverly 69.98 343 P **P** **02 27 60.0 -0.9**
WVT Waverly 69.98 343 P **P** **02 28 00.4 -0.5**
baz=162
S54A Dingess, Beckl 70.21 349 IAmb IAmb 02 28 03.1
comp=Z,17nm,0.8s
S54A Dingess, Beckl 70.21 349 P **P** **02 28 02.0 -0.4**
baz=168
S54A P **P** **02 28 02.0 -0.4**
baz=168
W41B Gary Mavity, V 70.32 339 P **P** **02 28 03.0 0.0**
baz=158
S51A Beattyville 70.47 347 IAmb IAmb 02 28 04.5
comp=Z,9.8nm,0.8s
S51A Beattyville 70.47 347 P **P** **02 28 03.2 -0.7**
baz=166
S51A P **P** **02 28 03.2 -0.7**
baz=166
R55A Marlinton 70.49 350 P **P** **02 28 05.0 +0.9**
baz=169,SNR=6.6
R55A P **P** **02 28 05.0 +0.9**
baz=169,SNR=6.6
LIC Lamto 70.56 70 *e*P **P** **02 28 05.3 +0.3**
T47A Sharon Grove 70.62 344 IAmb IAmb 02 28 05.2
comp=Z,13nm,0.9s
T47A Sharon Grove 70.62 344 P **P** **02 28 03.9 -0.9**
baz=163
ABTX Abilene, Hawle 70.66 332 IAmb IAmb 02 28 06.7
comp=Z,26nm,1.4s
ABTX Abilene, Hawle 70.66 332 P **P** **02 28 05.6 +0.4**
baz=152
TIC Toumodi 70.82 69 *e*P **P** **02 28 06.2 -0.4**
LCAR Lake Charles 70.83 340 IAmb IAmb 02 28 07.0
comp=Z,12nm,0.9s
LCAR Lake Charles 70.83 340 P **P** **02 28 05.4 -0.7**
baz=159,SNR=6.4
W39A Magazine 70.83 338 IAmb IAmb 02 28 07.8
comp=Z,13nm,0.9s
W39A Magazine 70.83 338 P **P** **02 28 06.8 +0.7**
baz=157,SNR=5.9
W39A Magazine 70.83 338 P **P** **02 28 06.7 +0.5**
baz=157
R53A Hurricane 70.84 348 P **P** **02 28 06.0 -0.2**
baz=167
R53A P **P** **02 28 06.0 -0.2**
baz=167
KIC Kosan Boka 70.87 70 *e*P **P** **02 28 06.7 -0.2**
comp=Z,18nm,0.6s
DBIC Dimbokro 70.96 69 P **P** **02 28 07.5 0.0**
comp=Z,13nm,0.8s,baz=224,slow=5.4,SNR=11
DBIC pP **sP** **02 28 15.1 -0.8**
comp=Z,9.8nm,0.7s,baz=242,slow=5.9,SNR=5.2
DBIC Dimbokro 70.96 69 P **P** **02 28 07.0 -0.5**
DBIC pmax pmax
comp=Z,18nm,1.0s
DBIC Dimbokro 70.96 69 P **P** **02 28 07.0 -0.5**
DBIC IAmb IAmb 02 28 08.4
comp=Z,18nm,0.9s
R50A Paris 71.24 346 IAmb IAmb 02 28 09.0
comp=Z,6.8nm,0.8s
PBMO Poplar Bluff 71.28 341 IAmb IAmb 02 28 09.7
comp=Z,14nm,0.7s
PBMO Poplar Bluff 71.28 341 P **P** **02 28 08.7 -0.1**
baz=160
Q54A Coxs Mills 71.29 349 P **P** **02 28 08.7 -0.1**
baz=168
Q54A P **P** **02 28 08.7 -0.1**
baz=168
Q52A Bidwell 71.51 348 P **P** **02 28 10.0 -0.2**
baz=167
Q52A P **P** **02 28 10.0 -0.2**
baz=167
U40A Yellville 71.60 339 IAmb IAmb 02 28 11.3
comp=Z,6.6nm,0.8s
U40A Yellville 71.60 339 P **P** **02 28 10.7 -0.1**
baz=158,SNR=5.2
U40A P **P** **02 28 10.7 -0.1**
baz=158,SNR=5.2
U40A Yellville 71.60 339 P **P** **02 28 11.3 +0.5**
baz=158
S44A Carbondale 71.82 342 IAmb IAmb 02 28 12.5
comp=Z,8.8nm,0.8s
SIUC Southern Illin 71.83 342 IAmb IAmb 02 28 12.5
comp=Z,14nm,0.9s
P53A Whipple 71.87 349 P **P** **02 28 12.5 +0.1**
baz=168
P53A P **P** **02 28 12.5 +0.1**
baz=168
HHAR Hobbs 71.87 338 IAmb IAmb 02 28 13.5
comp=Z,14nm,1.1s
P52A Corning 72.14 348 P **P** **02 28 13.6 -0.4**
baz=167

TUL1 Leonard 72.15 336 P **P** **02 28 13.4 -0.7**
TUL1 IAmb IAmb 02 28 15.1
comp=Z,11nm,1.0s
TUL1 Leonard 72.15 336 P **P** **02 28 14.2 0.0**
baz=155
P51A Williamsport 72.16 348 IAmb IAmb 02 28 14.5
comp=Z,16nm,1.0s
P51A Williamsport 72.16 348 P **P** **02 28 13.5 -0.6**
baz=166
P51A P **P** **02 28 13.5 -0.6**
baz=166
MNTX Cornudas Mount 72.36 327 P **P** **02 28 15.3 -0.2**
baz=147,SNR=10.0
FVM French Village 72.41 341 IAmb IAmb 02 28 16.4
comp=Z,15nm,0.8s
FVM French Village 72.41 341 P **P** **02 28 15.6 0.0**
baz=160,SNR=6.2
P49A Miami Univ. Ec 72.53 346 IAmb IAmb 02 28 16.5
comp=Z,16nm,0.9s
P49A Miami Univ. Ec 72.53 346 P **P** **02 28 14.8 -1.5**
baz=165,SNR=5.5
P49A Miami Univ. Ec 72.53 346 P **P** **02 28 14.6 -1.7**
baz=165
BLO Bloomington 72.56 345 IAmb IAmb 02 28 16.6
comp=Z,13nm,0.8s
CCM Cathedral Cave 72.70 341 P **P** **02 28 17.0 -0.4**
CCM pmax pmax
comp=Z,15nm,1.1s
CCM Cathedral Cave 72.70 341 P **P** **02 28 17.0 -0.4**
CCM IAmb IAmb 02 28 18.3
comp=Z,15nm,1.1s
CCM Cathedral Cave 72.70 341 P **P** **02 28 17.4 +0.1**
baz=159,SNR=7.6
SUR Sutherland 72.76 118 pP **pP** **02 28 26.5 +2.0**
comp=Z,13nm,0.8s,baz=224,slow=7.1,SNR=4.0
SUR LR LR 02 58 19.4
comp=Z,123nm,18.2s,baz=264,slow=34
ACSO Alum Creek Sta 72.87 348 P **P** **02 28 18.0 -0.3**
baz=166
S39A Bolivar 72.97 339 IAmb IAmb 02 28 20.2
comp=Z,20nm,0.9s
S39A Bolivar 72.97 339 P **P** **02 28 19.2 +0.2**
baz=157,SNR=13
N53A Lisbon 73.08 350 P **P** **02 28 20.1 +0.6**
baz=168
N53A P **P** **02 28 20.1 +0.6**
baz=168
O49A Covington 73.08 347 IAmb IAmb 02 28 20.0
comp=Z,13nm,0.8s
O49A Covington 73.08 347 P **P** **02 28 19.3 -0.3**
baz=165
O49A P **P** **02 28 19.3 -0.3**
baz=165
MSTX Muleshoe 73.12 330 P **P** **02 28 20.9 +0.8**
MSTX IAmb IAmb 02 28 21.3
comp=Z,16nm,0.9s
MSTX Muleshoe 73.12 330 P **P** **02 28 20.7 +0.6**
baz=149,SNR=6.7
MSTX Muleshoe 73.12 330 P **P** **02 28 20.5 +0.4**
baz=149
P46A Rosedale 73.15 344 IAmb IAmb 02 28 19.9
comp=Z,19nm,0.9s
R40A Maddies Statio 73.22 340 IAmb IAmb 02 28 21.3
comp=Z,16nm,0.8s
R40A Maddies Statio 73.22 340 P **P** **02 28 20.4 0.0**
baz=158,SNR=9.0
O48B Farmland 73.31 346 P **P** **02 28 20.3 -0.7**
baz=165
O48B Farmland 73.31 346 P **P** **02 28 20.5 -0.4**
baz=165
M55A Ridgway 73.43 351 P **P** **02 28 21.9 +0.3**
baz=170
M55A P **P** **02 28 21.9 +0.3**
baz=170
AMTX Amarillo 73.45 331 P **P** **02 28 22.6 +0.6**
baz=150
U32A Winter Ranch, 73.72 334 P **P** **02 28 23.9 +0.5**
baz=153
N49A Columbus Grove 73.76 347 P **P** **02 28 23.2 -0.3**
baz=166
N49A P **P** **02 28 23.2 -0.3**
baz=166
L61B Northampton 73.84 356 P **P** **02 28 25.5 +1.5**
baz=176
121A Cookes Peak, D 74.19 326 IAmb IAmb 02 28 29.1
comp=Z,12nm,0.8s
121A Cookes Peak, D 74.19 326 P **P** **02 28 27.7 +1.2**
baz=145,SNR=8.0
121A Cookes Peak, D 74.19 326 P **P** **02 28 28.0 +1.5**
baz=145
P40A Paris 74.30 341 IAmb IAmb 02 28 27.5
comp=Z,14nm,0.8s
P40A Paris 74.30 341 P **P** **02 28 26.8 +0.1**
baz=159,SNR=8.2
WVNY West Valley, N 74.34 352 P **P** **02 28 27.6 +0.7**
baz=170
MAW Mawson 74.39 162 P **P** **02 28 26.7 -0.3**
comp=Z,4.5nm,0.7s,baz=230,slow=14,SNR=3.6
MAW pP **pP** **02 28 33.0 -0.1**
comp=Z,12nm,0.7s,baz=200,slow=7.1,SNR=8.1
MAW LR LR 03 01 18.7
comp=Z,92nm,18.1s,baz=200,slow=36
MAW Mawson 74.39 162 P **P** **02 28 30.0 +3.0**
MAW pmax pmax
comp=Z,5.0nm,0.8s
N41A Harden Midland 75.08 342 IAmb IAmb 02 28 31.5
comp=Z,21nm,0.8s
ANMO Albuquerque 75.56 328 P **P** **02 28 35.2 +0.8**
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO Albuquerque 75.56 328 P **P** **02 28 35.2 +0.8**
ANMO Albuquerque 75.56 328 P **P** **02 28 35.5 +1.1**
baz=147,SNR=9.6
CBKS Cedar Bluff 76.14 335 IAmb IAmb 02 28 39.1
comp=Z,15nm,0.8s
CBKS Cedar Bluff 76.14 335 P **P** **02 28 38.2 +0.8**
baz=152
214A Organ Pipe Nat 76.27 322 P **P** **02 28 40.0 +1.7**
baz=142
TSUM Tsumeb 76.33 104 LR LR 02 56 40.2
comp=Z,149nm,19.6s,baz=50,slow=31
KOWA Kowa 76.34 63 P **P** **02 28 39.2 +0.2**
L40A Anamosa 76.44 342 P **P** **02 28 38.3 -0.7**
baz=160,SNR=9.6
T25A Trinidad 76.52 331 IAmb IAmb 02 28 42.2
comp=Z,14nm,1.2s
T25A Trinidad 76.52 331 P **P** **02 28 41.2 +1.4**
baz=148
JFWS Jewell Farm 77.00 343 IAmb IAmb 02 28 42.9
comp=Z,31nm,1.2s
W18A Petrified Fore 77.23 326 IAmb IAmb 02 28 46.3
comp=Z,13nm,1.1s
W18A Petrified Fore 77.23 326 P **P** **02 28 45.2 +1.4**
baz=144
TRQ Mont Tremblant 77.72 355 IAmb IAmb 02 28 47.3
comp=Z,16nm,0.9s
BOSA Boshof 77.91 116 P **P** **02 28 48.0 +0.1**
comp=Z,5.1nm,0.9s,baz=218,slow=7.3,SNR=5.0
BOSA pP **pP** **02 28 53.4 -0.7**
comp=Z,12nm,0.8s,baz=241,slow=5.4,SNR=8.7
BOSA LR LR 02 59 59.3
comp=Z,157nm,18.5s,baz=226,slow=33
BOSA Boshof 77.91 116 P **P** **02 28 47.6 -0.3**
BOSA pmax pmax
comp=Z,14nm,0.9s
BOSA Boshof 77.91 116 P **P** **02 28 47.6 -0.3**
BOSA IAmb IAmb 02 28 56.2
comp=Z,14nm,0.8s
S22A 4UR Ranch, Cre 78.06 329 P **P** **02 28 49.5 +0.9**
baz=147
D62A Allapoint, All 78.34 359 P **P** **02 28 50.4 +0.9**
baz=179
D62A P **P** **02 28 50.4 +0.9**
baz=179
Q24A Divide 78.37 331 P **P** **02 28 51.8 +1.5**
baz=148
I37B Waseca 78.84 341 P **P** **02 28 51.7 -0.6**
baz=158
BC3 Big Chuckawall 78.99 321 P **P** **02 28 55.1 +1.5**
baz=140
K31A O'Neill 79.19 337 P **P** **02 28 55.0 +0.7**
baz=154
IRM Iron Mountain 79.21 322 P **P** **02 28 55.6 +1.0**
baz=140
ISCO Idaho Springs 79.27 331 P **P** **02 28 55.9 +0.6**
baz=148
TPFO Pinon Flats 79.50 320 P **P** **02 28 57.8 +1.5**
baz=140

PFO Pinyon Flats O 79.50 320 *i* P **P** **02 28 54.3 -2.1**
PFO pmax pmax
comp=Z,15nm,1.3s
ECSD EROS Data Cent 79.51 339 P **P** **02 28 55.4 -0.6**
ECSD IAmb IAmb 02 28 56.8
comp=Z,13nm,0.9s
ECSD EROS Data Cent 79.51 339 P **P** **02 28 55.2 -0.8**
baz=155
BELC Belle Mtn. Jos 79.55 321 P **P** **02 28 58.0 +1.4**
baz=140
LBTB Lobatse 79.95 113 LR LR 03 01 49.8
comp=Z,116nm,18.2s,baz=218,slow=34
LBTB Lobatse 79.95 113 P **P** **02 28 58.4 -0.8**
LBTB pmax pmax
comp=Z,24nm,0.8s
LBTB Lobatse 79.95 113 P **P** **02 28 58.4 -0.8**
GMRC Granite Mounta 79.97 322 P **P** **02 29 00.4 +1.5**
baz=140
TORD Torodi Ar. Bea 79.97 68 P **P** **02 28 59.3 +0.1**
comp=Z,18nm,0.8s,baz=254,slow=4.7,SNR=87
TORD pP **PcP** **02 29 07.0 +0.3**
comp=Z,45nm,0.7s,baz=269,slow=5.1,SNR=43
TORD Torodi Ar. Bea 79.97 68 P **P** **02 28 59.0 -0.2**
N23A Red Feather La 80.33 332 P **P** **02 29 02.2 +1.3**
baz=148
TUQ Turquoise Moun 80.60 322 P **P** **02 29 03.3 +1.0**
baz=140
O20A White River Ci 80.66 330 IAmb IAmb 02 29 04.6
comp=Z,23nm,1.6s
O20A White River Ci 80.66 330 P **P** **02 29 03.6 +1.0**
baz=146
CCUT Cedar City 80.94 325 P **P** **02 29 05.1 +0.9**
GSC Goldstone, Bar 80.97 321 P **P** **02 29 06.0 +1.8**
baz=139
P17A Butcher Ranch, 81.22 328 P **P** **02 29 06.0 +0.4**
RWWY Rawlins 81.52 331 IAmb IAmb 02 29 09.1
comp=Z,18nm,0.9s
LRMC Laurel Mtn Rad 81.57 321 P **P** **02 29 08.8 +1.3**
baz=139
RDMU Red Mountain 81.59 329 IAmb IAmb 02 29 09.2
comp=Z,10nm,0.9s
PRN Pahroc Range 81.66 324 IAmb IAmb 02 29 10.5
comp=Z,9.5nm,1.0s
MPMC Manual Prospec 81.90 321 P **P** **02 29 10.4 +1.1**
baz=139
PKM Mcpherson Peak 82.30 319 P **P** **02 29 12.4 +1.1**
baz=137
RSSD Black Hills 82.34 335 P **P** **02 29 10.6 -0.8**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 82.34 335 P **P** **02 29 10.6 -0.8**
RSSD Black Hills 82.34 335 P **P** **02 29 11.9 +0.5**
baz=150
CASY Casey 82.41 179 P **P** **02 29 10.5 -0.8**
CASY IAmb IAmb 02 29 19.9
comp=Z,13nm,0.9s
VES Vestal, Richgr 82.60 320 P **P** **02 29 13.6 +0.9**
baz=138
R11A Troy Canyon, C 82.66 324 P **P** **02 29 14.7 +1.5**
baz=140
SMMC Simmler 82.72 319 P **P** **02 29 13.9 +0.6**
baz=137
B35A Bob, Littlefor 82.95 343 IAmb IAmb 02 29 14.8
comp=Z,10nm,0.8s
HWUT Hardware Ranch 83.31 328 P **P** **02 29 16.2 -0.3**
PDAR Pinedale Array 83.39 330 P **P** **02 29 17.1 +0.3**
comp=Z,2.5nm,0.8s,baz=136,slow=4.1,SNR=11
PDAR pP **sP** **02 29 24.9 -0.5**
comp=Z,1.3nm,0.8s,baz=124,slow=8.6,SNR=5.2
AGMN Agassiz Nation 83.45 342 IAmb IAmb 02 29 17.5
comp=Z,6.6nm,0.8s
AGMN Agassiz Nation 83.45 342 P **P** **02 29 16.5 -0.2**
baz=156
HVU Hansel Valley 84.00 328 P **P** **02 29 19.4 -0.5**
HVU pmax pmax
comp=Z,5.0nm,0.9s
HVU Hansel Valley 84.00 328 P **P** **02 29 19.4 -0.5**
HVU IAmb IAmb 02 29 21.1
comp=Z,5.2nm,0.9s
NVAR Mina Array Bea 84.11 322 P **P** **02 29 21.3 +0.6**
comp=Z,2.4nm,0.8s,baz=164,slow=5.9,SNR=9.3
NVAR pP **sP** **02 29 29.9 +0.8**
comp=Z,2.0nm,0.9s,baz=155,slow=4.8,SNR=5.9
MDND Maddock 84.12 339 P **P** **02 29 20.8 +0.5**
baz=153
KVN Kaiserville 84.47 323 IAmb IAmb 02 29 24.7
comp=Z,9.4nm,1.4s
ULM Lac du Bonnet 85.24 342 P **P** **02 29 25.2 -0.5**
comp=Z,5.8nm,0.8s,baz=148,slow=3.3,SNR=6.6
ULM Lac du Bonnet 85.24 342 *i* P **P** **02 29 21.1 -4.7**
ULM Lac du Bonnet 85.24 342 IAmb IAmb 02 29 26.3
comp=Z,11nm,1.0s
YMR Madison River 85.53 331 IAmb IAmb 02 29 29.8
comp=Z,12nm,1.1s
YHH Holmes Hill 85.58 331 P **P** **02 29 28.8 +0.8**
YHH IAmb IAmb 02 29 30.0
comp=Z,7.5nm,0.9s
PAHR Pah Rah Range 85.62 323 IAmb IAmb 02 29 29.7
comp=Z,6.5nm,1.0s
SCHQ Schefferville 86.10 1 P **P** **02 29 29.4 -0.5**
comp=Z,8.3nm,1.1s,baz=129,slow=3.1,SNR=5.5
SCHQ Schefferville 86.10 1 P **P** **02 29 29.5 -0.5**
SCHQ IAmb IAmb 02 29 30.7
comp=Z,17nm,1.1s
DGMT Dagmar 86.14 337 IAmb IAmb 02 29 31.8
comp=Z,18nm,1.1s
HLID Hailey 86.15 328 IAmb IAmb 02 29 32.7
comp=Z,8.8nm,1.1s
LSZ Lusaka 87.04 106 P **P** **02 29 35.8 0.0**
LSZ pmax pmax
comp=Z,19nm,1.3s
LSZ Lusaka 87.04 106 P **P** **02 29 35.8 0.0**
LSZ IAmb IAmb 02 29 46.2
comp=Z,19nm,1.2s
MDT Midelt 87.51 49 P **P** **02 29 37.2 -0.3**
comp=Z,2.4nm,0.8s,baz=315,slow=2.9,SNR=4.4
MOD Modoc Plateau 87.71 324 IAmb IAmb 02 29 39.6
comp=Z,5.6nm,0.8s
PLID Pearl Lake 88.05 328 IAmb IAmb 02 29 41.5
comp=Z,8.9nm,0.9s
I07A Izee 88.92 326 IAmb IAmb 02 29 46.0
comp=Z,10nm,1.4s
J05D Fort Rock, OR 89.19 324 P **P** **02 29 46.3 +1.0**
baz=137
PINE Pine Mountain 89.41 325 IAmb IAmb 02 29 48.6
comp=Z,12nm,0.8s
ESDC Sonseca Array 92.33 44 P **P** **02 29 59.5 -0.3**
comp=Z,0.9nm,0.8s,baz=243,slow=3.1,SNR=6.4
FCC Fort Churchill 92.69 347 IAmb IAmb 02 30 01.5
comp=Z,6.0nm,0.8s
YKA Yellowknife Ar 101.03 340 P **Pdif** **02 30 37.5 -1.2**
comp=Z,0.5nm,0.7s,baz=137,slow=4.2,SNR=5.5
BRTR Keskin Array B 117.50 58 PKP **PKPdf** **02 35 34.0 -1.6**
comp=Z,0.8nm,0.8s,baz=270,slow=1.0,SNR=4.2
BRTR Keskin Array B 117.50 58 *c* *i* PKIKP **PKPdf** **02 35 35.2 -0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 117.50 58 **PKPdf** **02 35 35.1 -0.4**
NACGM Naroch 117.69 41 *e*PKP **PKiKP** **02 35 41.1 +6.0**
AKASG Malin Array Be 117.92 46 PKP **PKPdf** **02 35 34.5 -1.2**
comp=Z,0.7nm,0.5s,baz=250,slow=0.9,SNR=1.8
ASAR Alice Springs 121.26 203 PKP **PKPdf** **02 35 42.0 -1.3**
comp=Z,1.5nm,0.8s,baz=130,slow=1.8,SNR=7.6
ASAR pPKP **pPKPdf** **02 35 48.8 -0.9**
comp=Z,1.5nm,0.7s,baz=136,slow=1.8,SNR=5.9
LVZ Lovozero 123.51 26 *c* *i* PKIKP **PKPdf** **02 35 44.5 -1.5**
LVZ pmax pmax
comp=Z,40nm,2.5s
VORR Voronezh 124.26 46 *e*PKIKP **PKPdf** **02 35 47.7 -0.2**
WRA Warramunga Arr 124.53 205 PKP **PKPdf** **02 35 48.6 -1.0**
comp=Z,3.1nm,0.6s,baz=159,slow=1.8,SNR=33
WRA pPKP **pPKPdf** **02 35 55.5 -0.5**
comp=Z,2.4nm,0.5s,baz=166,slow=1.6,SNR=11
WRA Warramunga Arr 124.53 205 PKIKP **PKPdf** **02 35 48.2 -1.4**
WRA Warramunga Arr 124.53 205 **PKPdf** **02 35 48.2 -1.4**
WRAB Tennant Creek 124.54 205 *i* PKIKP **PKPdf** **02 35 48.1 -1.5**
KLMR Klimovskoe 125.36 35 *e*PKIKP **PKPdf** **02 35 48.5 -1.1**
KLMR pmax pmax
comp=Z,17nm,1.4s
KLMR Klimovskoe 125.36 35 *e*PKPdf **PKPdf** **02 35 48.6 -1.1**
KLMR AMP 02 35 51.7
comp=Z,17nm,1.4s
PRGR Permogore 128.31 34 *e*PKIKP **PKPdf** **02 35 52.9 -2.4**
BELG Belogornoye 129.50 46 *i* PKIKP **PKPdf** **02 35 55.8 -2.0**
ARU Arti 135.59 40 *i* PKIKP **PKPdf** **02 36 07.7 -1.5**
ARU 02 38 45.6
ARU SS SS 02 56 34.5 -8.8

GEYT	**Alibeck**	**135.60**	**66**	PKP		**PKPdf**	**02 36 10.3**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=0.2,slow=39,SNR=2.4							
AKTO	**Aktyubinsk**	**136.04**	**48**	PKP		**PKPdf**	**02 36 10.4**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=259,slow=0.6,SNR=6.2							
AKTO	**Aktyubinsk**	**136.04**	**48**	PKIKP		**PKPdf**	**02 36 10.4**	**+0.1**
AKTO	**Aktyubinsk**	**136.04**	**48**			**PKPdf**	**02 36 10.4**	**+0.1**
AB31	**Akbulak array**	**137.37**	**50**	*i* PKIKP		**PKPdf**	**02 36 12.8**	**0.0**
ABKAR	**Akbulak array**	**137.37**	**50**	PKPdf		**PKPdf**	**02 36 12.3**	**-0.4**
TIXI	**Tiksi**	**138.92**	**352**	*i* PKIKP		**PKPdf**	**02 36 12.5**	**-2.5**
SEY	**Seymchan**	**139.67**	**333**	*i* PKIKP		**PKPdf**	**02 36 15.6**	**-1.0**
NRIK	**Noril'sk**	**139.71**	**13**	*i* PKIKP		**PKPdf**	**02 36 14.6**	**-1.9**
IUG	**Iuzhnaya**	**144.94**	**60**	*e*PKIKP		**PKPab**	**02 36 25.2**	**-0.8**
KK31	**Karatay Array**	**145.22**	**59**	*i* PKIKP		**PKPbc**	**02 36 25.9**	**-0.9**
KKAR	**Karatay Array**	**145.22**	**59**	PKIKP		**PKPbc**	**02 36 25.5**	**-1.3**
KKAR	**Karatay Array**	**145.22**	**59**			**PKPbc**	**02 36 25.4**	**-1.3**
OTUK	**Ortayu**	**145.62**	**49**	PKP2		**PKPab**	**02 36 28.2**	**0.0**
HYBB	**Hyderabad (bro**	**146.38**	**107**	*e*PKiKP		**PKiKP**	**02 36 33.7**	**-0.4**
HYBB				*ep*PKiKP		sPKPbc	02 36 39.8	0.0
HYBB				*e*SKPdf		**SKPdf**	**02 40 02.5**	**-0.6**
BTLS	**Baital**	**147.47**	**55**	*e*PKP2		**PKPbc**	**02 36 33.5**	**+0.1**
YAK	**Yakutsk**	**147.55**	**345**	*c i* PKIKP		**PKPdf**	**02 36 29.4**	**-1.0**
YAK				*i*			02 36 33.4	
YAK				pmax		pmax		
	comp=Z,8.0nm,0.4s							
AML	**Almayashu**	**147.65**	**60**	P		**PKPbc**	**02 36 35.3**	**+0.8**
	SNR=9.2							
EKS2	**Erkin-Say**	**147.65**	**59**	P		**PKPbc**	**02 36 33.1**	**-1.0**
	SNR=5.8							
USP	**Ospenovka**	**148.09**	**58**	P		**PKPbc**	**02 36 36.0**	**+0.8**
	SNR=5.3							
SGDS	**Sogindy**	**148.16**	**57**	*e*PKIKP		**PKPdf**	**02 36 32.1**	**0.0**
AAK	**Ala-Archa**	**148.18**	**59**	P		**PKiKP**	**02 36 36.6**	**-0.7**
	SNR=6.8							
UCH	**Uchtor**	**148.25**	**60**	P		**PKiKP**	**02 36 37.5**	**-0.4**
	SNR=15							
KBK	**Karagaybulak**	**148.51**	**59**	P		**PKPbc**	**02 36 36.9**	**+0.5**
	SNR=5.4							
KURBB	**Kurchatov Arra**	**148.66**	**43**	PKP2		**PKPdf**	**02 36 34.2**	**+1.6**
KURK	**Kurchatov**	**148.67**	**43**	*i* PKIKP		**PKPdf**	**02 36 31.9**	**-0.7**
TKM2	**Tokmak 2**	**148.94**	**58**	P		**PKPbc**	**02 36 38.1**	**+0.5**
	SNR=10							
TKM2	**Tokmak 2**	**148.94**	**58**	PKP2		**PKPbc**	**02 36 37.8**	**+0.2**
ULHL	**Ulahol**	**149.51**	**59**	P		**PKiKP**	**02 36 40.2**	**+0.1**
	SNR=16							
KSH	**Kashi**	**149.60**	**65**	PKPbc		**PKiKP**	**02 36 39.8**	**-0.5**
KSH				pPKP		sPKPbc	02 36 47.8	-0.1
KSH				PP		**PP**	**02 40 13.0**	**+0.2**
KSH				AMB		AMB		
	comp=Z,96nm,5.7s							
MDOK	**Medeo**	**149.95**	**57**	PKP2		**PKiKP**	**02 36 40.5**	**-0.4**
ZALV	**Zalesovo Beam**	**150.26**	**33**	PKPbc		**PKiKP**	**02 36 40.7**	**-0.3**
	comp=Z,32nm,0.8s,baz=319,slow=3.5,SNR=51							
ZALV				pPKPbc		**pPKPbc**	**02 36 46.9**	**+0.3**
	comp=Z,23nm,0.8s,baz=309,slow=2.8,SNR=13							
ZALV	**Zalesovo Beam**	**150.26**	**33**	PKIKP		**PKPdf**	**02 36 34.3**	**-0.7**
ZALV							02 36 40.3	
ZALV							02 36 46.7	
ZALV	**Zalesovo Beam**	**150.26**	**33**	PKPdf		**PKPdf**	**02 36 34.3**	**-0.7**
ZALV						**PKPbc**	**02 36 40.3**	**+0.2**
ZALV						**PKPab**	**02 36 46.7**	**+0.3**
ARXS	**Arharly**	**150.28**	**55**	*e*PKIKP		**PKPbc**	**02 36 39.9**	**-0.8**
KPKS	**Kokpek**	**151.05**	**56**	*e*PKIKP		**PKPbc**	**02 36 42.4**	**-0.2**
UZB	**Uzynbulak**	**151.37**	**57**	*e*PKIKP		**PKPbc**	**02 36 42.3**	**-1.1**
PDGK	**Podgornoye**	**151.66**	**56**	PKIKP		**PKiKP**	**02 36 44.4**	**0.0**
SHLS	**Shalkode**	**151.68**	**57**	*e*PKIKP		**PKPbc**	**02 36 42.4**	**-1.7**
MAKZ	**Makanchi**	**152.27**	**48**	PKIKP		**PKPbc**	**02 36 44.5**	**-0.6**
MK31	**Makanchi Array**	**152.47**	**48**	*i* PKIKP		**PKPbc**	**02 36 45.2**	**-0.4**
MKAR	**Makanchi Array**	**152.47**	**48**	PKP		**PKPdf**	**02 36 38.4**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=225,slow=3.3,SNR=5.0							
MKAR				PKPbc		**PKPbc**	**02 36 45.7**	**+0.1**
	comp=Z,10nm,0.7s,baz=297,slow=2.3,SNR=70							
MKAR				pPKPbc		**pPKPbc**	**02 36 52.2**	**+0.2**
	comp=Z,11nm,0.7s,baz=275,slow=2.1,SNR=20							
BOD	**Bodaibo**	**153.77**	**358**	*e*PKIKP		**PKPdf**	**02 36 38.9**	**-1.2**
BOD				pmax		pmax		
	comp=Z,7.0nm,1.2s							
WMQ	**Urumqi**	**157.15**	**51**	*e*PKP		**PKPdf**	**02 36 46.0**	**+0.7**
WMQ				AMB		AMB		
	comp=Z,95nm,5.3s							
MJAR	**Matsushiro Arr**	**157.99**	**290**	PKPab		**PKPab**	**02 37 20.3**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=109,slow=3.8,SNR=4.6							
USRK	**Ussuriysk Ar.**	**160.06**	**315**	PKPab		**PKPab**	**02 37 28.2**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=60,slow=2.4,SNR=9.1							
USRK				pPKPab		**sPKPab**	**02 37 37.5**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=50,slow=6.9,SNR=3.7							
USRK	**Ussuriysk Ar.**	**160.06**	**315**	PKP2		**PKPab**	**02 37 29.4**	**+0.9**
USRK	**Ussuriysk Ar.**	**160.06**	**315**			**PKPab**	**02 37 29.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**162.21**	**134**	PKP		**PKPdf**	**02 36 51.9**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=270,slow=1.8,SNR=4.9							
CMAR	**Chiang Mai Arr**	**162.21**	**134**	PKIKP		**PKPdf**	**02 36 51.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**162.21**	**134**			**PKPdf**	**02 36 51.8**	**+0.1**
SONM	**Songino Array**	**163.19**	**14**	PKPab		**PKPab**	**02 37 42.7**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=332,slow=3.5,SNR=5.7							
SONM				pPKPab		**sPKPab**	**02 37 50.7**	**0.0**
	comp=Z,1.7nm,0.7s,baz=321,slow=3.8,SNR=3.0							
KSRS	**Korea Array**	**165.85**	**299**	PKP		**PKPdf**	**02 36 53.8**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=39,slow=0.8,SNR=4.8							
GTA	**Gaotai**	**167.23**	**49**	*e*PKP		**PKPdf**	**02 36 57.0**	**+1.4**
GTA				pPKP		sPKPdf	02 37 04.3	0.0
GTA				AMB		AMB		
	comp=Z,62nm,5.5s							
GTA				LR		LR		
	comp=Z,170nm,21.1s							
GTA				LR		LR		
	comp=Z,160nm,18.9s							
GTA				LR		LR		
	comp=Z,230nm,21.1s							
KMI	**Kunming**	**169.41**	**125**	PKP		**PKPdf**	**02 36 57.0**	**-0.7**
PZH	**PanZhiHua**	**169.48**	**116**	PKP		**PKPdf**	**02 36 57.5**	**0.0**
HHC	**Hu-ho-hao-te**	**170.77**	**3**	*e*PKP		**PKPdf**	**02 36 56.5**	**-1.3**
HHC				LR		LR		
	comp=Z,210nm,15.2s							
HHC				LR		LR		
	comp=Z,180nm,14.6s							
HHC				LR		LR		
	comp=Z,150nm,14.6s							
NJ2	**Nanjing**	**174.38**	**276**	*e*PKP		**PKPdf**	**02 37 00.5**	**+1.1**

NEIC ***27*** *02:25:21.6±1.5, 37.64S±0.09×177.78E±0.09, h113km±6km, mb4.2/16, Error ellipse: s-maj=15.0km s-min=7.6km az=147.0*

WEL ***27*** *02:25:22.2±0.7, 37.5±4.4×17.8E±., h84km±6km, M4.2/40, ML4.5/38, MLv4.2/40, Error ellipse: s-maj=0.0km s-min=0.0km az=44.5*

NOU ***27*** *02:25:22.3, 37.90S×177.32E, h185km, MLv4.6/7, Off E. Coast of N. Island, N.Z.*

IDC ***27*** *02:25:22.0±1.0, 38.00S×177.63E, h125km±4km, mb3.8/3, mb1 4.0/4, mb1mx3.6/27, mbtmp4.3/4, MS4.3/3, Ms1 4.3/3, ms1mx3.2/53, Error ellipse: s-maj=29.6km s-min=23.1km az=143.0*

ISC 27 02:25:21.4±0.7, 37.54S±0.04×177.65E±0.04, h118km±5km, n160, σ1§51/177, mb4.2/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.24**	**154**	P	**Pn**	**02 25 36.4**	**-1.5**
HAZ				S	**Sn**	**02 25 47.3**	**-3.1**
WIZ	**White Island**	**0.36**	**272**	P	**Pn**	**02 25 36.1**	**-2.3**
RUGZ	**Raukumara Rang**	**0.42**	**177**	P	**Pn**	**02 25 37.4**	**-1.5**
RUGZ				S	**Sn**	**02 25 48.9**	**-3.2**
PKGZ	**Pakihiroa**	**0.48**	**136**	P	**Pn**	**02 25 38.7**	**-0.5**
MXZ	**Matakaoa Point**	**0.52**	**92**	Pn	**Pn**	**02 25 38.3**	**-1.0**
MXZ				Sn	**Sn**	**02 25 51.0**	**-1.8**
MXZ	**Matakaoa Point**	**0.52**	**92**	P	**Pn**	**02 25 38.4**	**-0.9**
MXZ				S	**Sn**	**02 25 51.4**	**-1.4**
WHRZ	**Whale Island**	**0.62**	**239**	P	**Pn**	**02 25 39.0**	**-1.0**
WHRZ				S	**Sn**	**02 25 53.1**	**-0.9**
WMGZ	**Waiomatatini S**	**0.67**	**115**	P	**Pn**	**02 25 40.1**	**-0.2**
WMGZ				S	**Sn**	**02 25 53.8**	**-0.8**
TWGZ	**Tauwhareparae**	**0.69**	**158**	P	**Pn**	**02 25 40.9**	**+0.4**
TWGZ				S	**Sn**	**02 25 55.7**	**+0.6**
PUZ	**Puketiti**	**0.71**	**138**	P	**Pn**	**02 25 40.6**	**-0.2**
PUZ				S	**Sn**	**02 25 54.6**	**-0.7**
MWZ	**Matawai**	**0.80**	**187**	P	**Pn**	**02 25 41.4**	**-0.1**
MWZ				S	**Sn**	**02 25 56.3**	**-0.3**
URZ	**Urewera**	**0.83**	**211**	P	**Pn**	**02 25 41.2**	**-0.5**
	367nm,0.3s,baz=308,slow=1.9,SNR=1387						
URZ				LR	LR	02 25 53.7	
	comp=Z,81nm,19.2s,baz=122,slow=65						
URZ				S	**Sn**	**02 25 55.9**	**-1.2**
	691nm,0.3s,baz=122,slow=20,SNR=16						
URZ	**Urewera**	**0.83**	**211**	P	**Pn**	**02 25 41.4**	**-0.3**
URZ				S	**Sn**	**02 25 56.1**	**-1.0**
MARZ	**Manawahe**	**0.89**	**240**	P	**Pn**	**02 25 41.4**	**-0.8**
TKGZ	**Te Karaka**	**0.91**	**170**	P	**Pn**	**02 25 42.7**	**+0.3**
TKGZ				S	**Sn**	**02 25 58.6**	**+0.2**
EDRZ	**Edgecumbe**	**0.91**	**232**	P	**Pn**	**02 25 42.1**	**-0.5**
OPRZ	**Ohinepanea**	**0.92**	**251**	P	**Pn**	**02 25 41.5**	**-1.0**
OPRZ				S	**Sn**	**02 25 56.2**	**-2.2**
RAGZ	**Rawiri**	**0.97**	**191**	P	**Pn**	**02 25 43.7**	**+0.6**
RAGZ				S	**Sn**	**02 26 00.6**	**+1.1**
CNGZ	**Carnagh Statio**	**1.04**	**155**	P	**Pn**	**02 25 44.4**	**+0.7**
CNGZ				S	**Sn**	**02 26 02.5**	**+2.0**
LIRZ	**Lichensteins R**	**1.10**	**245**	P	**Pn**	**02 25 43.9**	**-0.5**
MKRZ	**Makatiti**	**1.11**	**237**	P	**Pn**	**02 25 44.7**	**+0.2**
TGRZ	**Tauranga**	**1.12**	**260**	P	**Pn**	**02 25 43.5**	**-1.0**
TARZ	**Mount Tarawera**	**1.14**	**232**	P	**Pn**	**02 25 44.8**	**0.0**
MYRZ	**Mayor Island**	**1.15**	**283**	P	**Pn**	**02 25 43.4**	**-1.5**
OMRZ	**Omania**	**1.16**	**241**	P	**Pn**	**02 25 44.6**	**-0.3**
MUGZ	**Murupara**	**1.16**	**216**	P	**Pn**	**02 25 44.9**	**-0.1**
RIGZ	**Rimuhau**	**1.17**	**176**	P	**Pn**	**02 25 45.4**	**+0.3**
RIGZ				S	**Sn**	**02 26 04.0**	**+1.0**
RTZ	**Ruatahuna**	**1.19**	**206**	P	**Pn**	**02 25 45.3**	**-0.1**
RTZ				S	**Sn**	**02 26 03.8**	**+0.2**
RRRZ	**Republican Roa**	**1.20**	**228**	P	**Pn**	**02 25 45.4**	**0.0**
KARZ	**Kaharoa**	**1.21**	**246**	P	**Pn**	**02 25 45.0**	**-0.5**
HLRZ	**Highlands Stat**	**1.25**	**235**	P	**Pn**	**02 25 46.0**	**+0.1**
SNGZ	**Shannon Statio**	**1.26**	**191**	P	**Pn**	**02 25 47.8**	**+1.8**
SNGZ				S	**Sn**	**02 26 06.3**	**+1.5**
NGRZ	**Ngongotaha**	**1.28**	**244**	P	**Pn**	**02 25 46.3**	**-0.1**
UTU	**Utuhina**	**1.31**	**241**	P	**Pn**	**02 25 47.4**	**+0.8**
HSRZ	**Hossack Road**	**1.35**	**235**	P	**Pn**	**02 25 47.6**	**+0.6**
HRRZ	**Handcock Road**	**1.37**	**231**	P	**Pn**	**02 25 47.6**	**+0.3**
PRRZ	**Plateau Road**	**1.38**	**226**	P	**Pn**	**02 25 47.6**	**+0.2**
KMRZ	**Kaimai**	**1.39**	**257**	P	**Pn**	**02 25 46.8**	**-0.7**
PRGZ	**Paritu Road**	**1.39**	**172**	P	**Pn**	**02 25 47.7**	**+0.2**
RAHZ	**Arahi**	**1.44**	**198**	P	**Pn**	**02 25 48.8**	**+0.7**
ALRZ	**Allen Road**	**1.45**	**225**	P	**Pn**	**02 25 48.5**	**+0.3**
MTHZ	**Maungataniwha**	**1.45**	**206**	P	**Pn**	**02 25 48.3**	**+0.1**
GRRZ	**Galatos Road**	**1.46**	**236**	P	**Pn**	**02 25 48.8**	**+0.5**
KNZ	**Kokohu**	**1.48**	**179**	P	**Pn**	**02 25 48.7**	**+0.3**
WPRZ	**Whakapapatarin**	**1.53**	**230**	P	**Pn**	**02 25 49.6**	**+0.6**
MRHZ	**Matea Rd**	**1.61**	**217**	P	**Pn**	**02 25 50.4**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.62**	**173**	P	**Pn**	**02 25 50.8**	**+0.6**
NMHZ	**Naumai**	**1.69**	**203**	P	**Pn**	**02 25 52.0**	**+1.0**
TOZ	**Tahuroa Road**	**1.71**	**263**	P	**Pn**	**02 25 50.8**	**-0.4**
KUTZ	**Kaahu Road**	**1.72**	**236**	P	**Pn**	**02 25 52.1**	**+0.7**
KUZ	**Kuaotunu**	**1.73**	**297**	P	**Pn**	**02 25 49.3**	**-2.3**
WHTZ	**Whakaora**	**1.74**	**229**	P	**Pn**	**02 25 52.9**	**+1.2**
ARHZ	**Aropaoanui**	**1.79**	**196**	P	**Pn**	**02 25 52.8**	**+0.5**
HATZ	**Hinemaiaia**	**1.82**	**222**	P	**Pn**	**02 25 53.1**	**+0.4**
TLZ	**Tolley Road**	**1.84**	**244**	P	**Pn**	**02 25 53.2**	**+0.3**
BKZ	**Black Stump Fm**	**1.86**	**209**	Pn	**Pn**	**02 25 53.0**	**-0.1**
BKZ	**Black Stump Fm**	**1.86**	**209**	P	**Pn**	**02 25 53.1**	**+0.1**
BKZ	**Black Stump Fm**	**1.86**	**209**	P	**Pn**	**02 25 53.3**	**+0.2**
WATZ	**Wairara**	**1.91**	**232**	P	**Pn**	**02 25 54.4**	**+0.7**
RATZ	**Rangitukua**	**1.98**	**228**	P	**Pn**	**02 25 55.5**	**+0.9**
RITZ	**Rihia Road**	**2.01**	**224**	P	**Pn**	**02 25 55.9**	**+1.0**
MKAZ	**Moumakai**	**2.03**	**282**	P	**Pn**	**02 25 54.2**	**-0.9**
MCHZ	**McNeill Hill**	**2.04**	**201**	P	**Pn**	**02 25 55.7**	**+0.4**
KATZ	**Kakaramea**	**2.10**	**226**	P	**Pn**	**02 25 56.8**	**+0.7**
KWHZ	**Kaweka Forest**	**2.11**	**207**	P	**Pn**	**02 25 56.3**	**0.0**
WIAZ	**Waiheke Island**	**2.14**	**290**	P	**Pn**	**02 25 55.6**	**-1.0**
CKHZ	**Cape Kidnapper**	**2.16**	**192**	P	**Pn**	**02 25 56.6**	**-0.2**
GRZ	**Great Barrier**	**2.18**	**265**	P	**Pn**	**02 25 56.1**	**-1.7**
TMVZ	**Te Maari**	**2.19**	**224**	P	**Pn**	**02 25 57.9**	**+0.3**
NTVZ	**North Tongariro**	**2.20**	**224**	P	**Pn**	**02 25 58.0**	**+0.6**
ETVZ	**East Tongariro**	**2.20**	**223**	P	**Pn**	**02 25 57.9**	**+0.4**
OTVZ	**Oturere**	**2.25**	**223**	P	**Pn**	**02 25 58.5**	**+0.4**
ETAZ	**East Tamaki Re**	**2.25**	**284**	P	**Pn**	**02 25 57.5**	**-0.4**
NNVZ	**North Ngauruho**	**2.25**	**225**	P	**Pn**	**02 25 58.9**	**+0.7**
WTVZ	**West Tongariro**	**2.26**	**225**	P	**Pn**	**02 25 58.8**	**+0.6**
SNVZ	**South Ngauruho**	**2.28**	**223**	P	**Pn**	**02 25 58.9**	**+0.4**
NGZ	**Ngauruhoe**	**2.29**	**224**	P	**Pn**	**02 25 59.3**	**+0.6**
BHHZ	**Black Hill Sta**	**2.31**	**212**	P	**Pn**	**02 25 58.7**	**0.0**
KRHZ	**Kereru**	**2.33**	**205**	P	**Pn**	**02 25 58.4**	**-0.5**
KAHZ	**Kahuranaki**	**2.33**	**195**	P	**Pn**	**02 25 58.8**	**-0.1**
TUVZ	**Tukino**	**2.33**	**222**	P	**Pn**	**02 25 59.4**	**+0.3**
FWVZ	**Far West T-bar**	**2.37**	**223**	P	**Pn**	**02 26 00.1**	**+0.4**
WHVZ	**Whangaehu Hut**	**2.37**	**222**	P	**Pn**	**02 25 60.0**	**+0.2**
DRZ	**Dome Shelter**	**2.38**	**223**	P	**Pn**	**02 25 59.8**	**-0.1**
MOVZ	**Moawhango**	**2.38**	**218**	P	**Pn**	**02 25 59.3**	**-0.4**
WNVZ	**Wahianoa**	**2.40**	**221**	P	**Pn**	**02 25 60.0**	**0.0**
TRVZ	**Turoa**	**2.41**	**223**	P	**Pn**	**02 26 00.4**	**+0.2**
HIZ	**Hauiti**	**2.41**	**245**			**02 26 00.8**	**+0.8**
HIZ	**Hauiti**	**2.41**	**245**	P	**Pn**	**02 26 01.0**	**+1.1**
HIZ	**Hauiti**	**2.41**	**245**	P	**Pn**	**02 26 01.1**	**+1.1**
ABAZ	**Army Bay**	**2.44**	**292**	P	**Pn**	**02 25 60.0**	**-0.4**
AWAZ	**Awhitu Peninsu**	**2.44**	**280**	P	**Pn**	**02 26 00.5**	**+0.1**
MTVZ	**Mangateitei**	**2.51**	**222**	P	**Pn**	**02 26 01.7**	**+0.3**
PKVZ	**Pokaka**	**2.51**	**225**	P	**Pn**	**02 26 02.0**	**+0.6**
WTAZ	**Waiatarua**	**2.53**	**283**	P	**Pn**	**02 26 02.2**	**+0.7**
PXZ	**Pawanui**	**2.56**	**194**	P	**Pn**	**02 26 01.0**	**-0.9**
PNHZ	**Pukenui**	**2.62**	**205**	P	**Pn**	**02 26 01.8**	**-1.0**
WPHZ	**Waipukurau**	**2.69**	**200**	P	**Pn**	**02 26 02.6**	**-1.0**
VRZ	**Vera Road**	**2.77**	**234**	P	**Pn**	**02 26 05.9**	**+1.3**
PRHZ	**Porangahau**	**2.83**	**196**	P	**Pn**	**02 26 04.5**	**-1.0**
TSZ	**Takapari Road**	**2.84**	**207**	P	**Pn**	**02 26 04.2**	**-1.3**
MHEZ	**Mangahewa**	**3.03**	**239**	P	**Pn**	**02 26 10.4**	**+2.4**
WAZ	**Wanganui**	**3.04**	**223**	P	**Pn**	**02 26 08.5**	**+0.4**
ANWZ	**Angora Road**	**3.09**	**197**	P	**Pn**	**02 26 07.1**	**-1.2**
DREZ	**Durham Road**	**3.17**	**238**	P	**Pn**	**02 26 11.9**	**+2.0**
LREZ	**Lake Rotokare**	**3.19**	**232**	P	**Pn**	**02 26 11.3**	**+1.2**
POWZ	**Post Office Ro**	**3.20**	**207**	P	**Pn**	**02 26 09.0**	**-1.3**
OHWZ	**Ohakea**	**3.22**	**214**	P	**Pn**	**02 26 10.5**	**0.0**
PREZ	**Palmer Road**	**3.28**	**236**	P	**Pn**	**02 26 13.9**	**+2.5**
PRWZ	**Pori Road**	**3.28**	**203**	P	**Pn**	**02 26 10.0**	**-1.3**
NEZ	**North Egmont**	**3.28**	**237**	P	**Pn**	**02 26 13.2**	**+1.8**
PKE	**Pukeiti**	**3.32**	**239**	P	**Pn**	**02 26 13.2**	**+1.4**
BFZ	**Birch Farm**	**3.32**	**199**	Pn	**Pn**	**02 26 10.1**	**-1.7**
BFZ	**Birch Farm**	**3.32**	**199**	P	**Pn**	**02 26 10.6**	**-1.3**
KHEZ	**Kahui Hut**	**3.35**	**237**	P	**Pn**	**02 26 13.5**	**+1.2**
NBEZ	**Newall Road No**	**3.43**	**239**	P	**Pn**	**02 26 15.2**	**+1.8**
NMEZ	**Namu Road**	**3.50**	**237**	P	**Pn**	**02 26 15.8**	**+1.6**
CPWZ	**Castlepoint**	**3.55**	**198**	P	**Pn**	**02 26 13.6**	**-1.3**
OUZ	**Omahuta**	**4.01**	**304**	P	**Pn**	**02 26 20.4**	**-0.6**
OUZ	**Omahuta**	**4.01**	**304**	P	**Pn**	**02 26 23.7**	**+2.7**
MSIWZ	**Moikau Station**	**4.28**	**305**	Pn	**Pn**	**02 26 21.3**	**-3.5**
SNZO	**South Karori**	**4.40**	**210**	Pn	**Pn**	**02 26 22.9**	**-3.3**
BHW	**Baring Head**	**4.42**	**208**	Pn	**Pn**	**02 26 23.2**	**-3.3**
QRZ	**Quartz Range**	**5.15**	**229**	Pn	**Pn**	**02 26 34.0**	**-2.4**
QRZ	**Quartz Range**	**5.15**	**229**	P	Pn	02 26 31.5	-4.9
KHZ	**Kahutara**	**5.80**	**212**	P	**Pn**	**02 26 41.0**	**-4.1**
CTZ	**Chatham Island**	**7.57**	**147**	P	**Pn**	**02 27 12.7**	**+3.7**
CTZ				S	**Sn**	**02 28 28.6**	**-4.4**
RPZ	**Rata Peaks**	**7.95**	**217**	P	**Pn**	**02 27 09.9**	**-4.2**
	8.6nm,0.3s,baz=270,slow=2.5,SNR=30						
RPZ				S	**Sn**	**02 28 33.9**	**-8.4**
	5.6nm,0.3s,baz=349,slow=22,SNR=8.6						
RPZ	**Rata Peaks**	**7.95**	**217**	Pn	**Pn**	**02 27 10.3**	**-3.8**
RPZ	**Rata Peaks**	**7.95**	**217**	P	**Pn**	**02 27 09.4**	**-4.7**
ARMA	**Armidale**	**22.67**	**281**	P	**P**	**02 30 16.2**	**+3.2**
ARMA				IAmb	IAmb	02 30 16.7	
	comp=Z,8.3nm,1.1s						
EIDS	**Eidsvold**	**25.61**	**291**	P	**P**	**02 30 39.4**	**-0.5**
EIDS				IAmb	IAmb	02 30 54.1	
	comp=Z,16nm,1.1s						
CTA	**Charters Tower**	**32.34**	**294**	P	**P**	**02 31 41.3**	**+1.8**
	comp=Z,4.6nm,0.6s,baz=110,slow=7.8,SNR=6.7						
CTAO	**Charters Tower**	**32.34**	**294**	P	**P**	**02 31 41.9**	**+2.3**
COEN	**Coen**	**38.59**	**298**	P	**P**	**02 32 34.4**	**+1.3**
AS31	**Alice Springs**	**39.76**	**278**	P	**P**	**02 32 44.6**	**+1.8**
ASAR	**Alice Springs**	**39.76**	**278**	P	**P**	**02 32 43.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=123,slow=8.3,SNR=16						
ASAR				PcP	**PcP**	**02 34 46.0**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=122,slow=3.9,SNR=7.3						
ASAR	**Alice Springs**	**39.76**	**278**	P	**P**	**02 32 43.9**	**+1.1**
VNDA	**Vanda**	**40.66**	**185**	P	**P**	**02 32 50.2**	**+0.8**
SBA	**Scott Base**	**40.68**	**184**	P	**P**	**02 32 49.4**	**-0.2**
FORT	**Forrest**	**41.20**	**264**	P	**P**	**02 32 55.2**	**+0.7**
WR0	**Warramunga Arr**	**41.26**	**283**	P	**P**	**02 32 55.0**	**-0.1**
WR0				IAmb	IAmb	02 33 02.2	
	comp=Z,6.5nm,1.2s						
WB2	**Warramunga Arr**	**41.41**	**283**	P	**P**	**02 32 56.7**	**+0.3**
WB2				IAmb	IAmb	02 33 11.7	
	comp=Z,6.9nm,1.2s						
WRAB	**Tennant Creek**	**41.42**	**283**	P	**P**	**02 32 56.2**	**-0.2**
WRAB				IAmb	IAmb	02 32 57.5	
	comp=Z,3.3nm,0.8s						
WRA	**Warramunga Arr**	**41.42**	**283**	P	**P**	**02 32 56.5**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=120,slow=8.9,SNR=21						
WRA				PcP	**PcP**	**02 34 53.4**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=123,slow=3.1,SNR=7.5						
WRA	**Warramunga Arr**	**41.42**	**283**	P	**P**	**02 32 56.3**	**-0.1**
WB0	**Warramunga Arr**	**41.48**	**283**	P	**P**	**02 32 57.3**	**+0.4**
WB0				IAmb	IAmb	02 33 06.4	
	comp=Z,5.6nm,1.1s						
CASY	**Casey**	**47.16**	**211**	P	**P**	**02 33 41.3**	**-0.1**
CASY				IAmb	IAmb	02 33 44.5	
	comp=Z,3.9nm,0.9s						
MTN	**Manton Dam**	**48.12**	**288**	P	**P**	**02 33 50.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**49.25**	**278**	P	**P**	**02 33 58.7**	**+0.5**
FITZ				IAmb	IAmb	02 34 01.6	
	comp=Z,4.0nm,1.1s						
JNU	**Nakatsue**	**82.71**	**322**	LR	LR	03 14 46.8	
	comp=Z,141nm,18.0s,baz=348,slow=36						
USRK	**Ussuriysk Ar.**	**91.26**	**329**	LR	LR	03 16 48.1	
	comp=Z,104nm,20.1s,baz=261,slow=34						
KLR	**Kul'dur**	**95.49**	**332**	LR	LR	03 20 44.4	
	comp=Z,174nm,18.3s,baz=234,slow=35						
YKA	**Yellowknife Ar**	**113.43**	**28**	PKiKP	**PKiKP**	**02 43 44.9**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=262,slow=1.7,SNR=5.4						
ARCES	**ARCESS Array B**	**144.60**	**344**	PKPbc	**PKPdf**	**02 44 42.

NUBE	Las Nubes	4.23	321	*e*P		Pn	02 29 57.3	-0.1
NUBE	Las Nubes	4.23	321	*e*P		Pn	02 29 57.3	-0.1
NUBE				*e*S		Sn	02 30 42.8	-3.3
PIRO	Carate, Puerto	4.26	120	*e*P		Pn	02 29 58.3	+0.5
CDITO	Canoas	4.59	116	*e*P		Pn	02 30 03.5	+1.3
GMAL	Guarumal, Vera	6.40	116	*e*P		Pn	02 30 27.7	+0.6
CACAO	El Cacao, Vera	6.92	117	*e*P		Pn	02 30 35.7	+1.4
AZU	Azuero	7.25	112	*e*P		Pn	02 30 40.5	+1.7
BCIP	Isla Barro Col	7.25	101	Pn		Pn	02 30 39.9	+1.1
BCIP	Isla Barro Col	7.25	101	*e*P		Pn	02 30 39.9	+1.1
CCIG	Comitan	7.51	319			Pn	02 30 44.9	+2.4
CMIG	Matias Romero	9.97	311	Pn		Pn	02 31 16.4	+0.2
	comp=Z,1.1nm,0.3s,baz=110,slow=10,SNR=21							
CMIG				Sn		Sn	02 33 05.2	-2.0
	comp=Z,0.3nm,0.3s,baz=313,slow=21,SNR=1.7							
SJCC	San Jacinto, C	11.71	92	Pn		Pn	02 31 41.2	+1.2
SJCC	San Jacinto, C	11.71	92	*e*P		Pn	02 31 39.9	0.0
UREC	San Jos de Ur	11.72	103	*e*P		Pn	02 31 41.7	+1.6
ZARC	Zaragoza, Cauc	12.43	103	Pn		Pn	02 31 50.5	+0.6
ZARC	Zaragoza, Cauc	12.43	103	*e*P		Pn	02 31 50.5	+0.6
POPC	Popayan, Colom	13.04	127	*e*P		Pn	02 32 02.2	+3.7
TLIG	Tlapa	13.14	303	Pn		Pn	02 32 02.0	+2.4
SOTA	Rioblanco	13.35	128	*e*P		Pn	02 32 05.6	+2.8
PCON	Cinco Dias	13.39	127	*e*P		P	02 32 10.2	-2.5
PORT	Chimborazo Vol	14.54	145	Pn		P	02 32 23.2	-2.4
RUSC	La Rusia	14.59	108	*e*P		P	02 32 30.4	+4.5
URIC	Uribia, Colomb	14.82	84	Pn		Pn	02 32 21.5	-0.9
TAMC	Tame, Arauca	15.65	104	*e*P		P	02 32 40.2	+2.9
BOSC	San Juan Bosco	16.10	148	P		P	02 32 44.5	+2.1
SOCV	Socops	16.14	97	*e*P		Pn	02 32 39.6	-0.2
SDV	Santo Domingo	16.27	95	Pn		Pn	02 32 40.0	-1.6
	comp=Z,0.2nm,0.3s,baz=289,slow=9.7,SNR=4.7							
SDV	Santo Domingo	16.27	95	Pn		Pn	02 32 41.7	+0.1
MCRA	Macar, Loja	16.46	154	Pn		Pn	02 32 43.4	-0.4
BAUV	El Baul	18.81	93	P		P	02 33 11.2	-1.0
BAUV				IAmb		IAmb	02 33 14.4	
	comp=Z,18nm,0.8s							
ZAIG	Zacatecas	19.14	311	P		Pn	02 33 17.7	+0.6
656A	Willston	19.15	12	P		P	02 33 16.3	+0.5
656A				IAmb		IAmb	02 33 25.7	
	comp=Z,40nm,1.2s							
553A	Crawfordville	19.65	7	P		P	02 33 22.3	+1.1
553A				IAmb		IAmb	02 33 36.1	
	comp=Z,52nm,1.1s							
352A	Blakely	20.87	5	P		Pn	02 33 36.5	-0.7
833A	Chaparral WMA,	21.10	328	P		P	02 33 36.7	-0.3
OBIP	Obispado Ponce	21.13	67	P		P	02 33 36.8	-0.8
OBIP				IAmb		IAmb	02 33 42.3	
	comp=Z,29nm,1.1s							
CELP	Cerrillos	21.17	67	P		P	02 33 37.8	-0.1
CELP				IAmb		IAmb	02 33 46.6	
	comp=Z,19nm,0.9s							
250A	Grady	21.29	2	P		P	02 33 39.9	+0.8
250A				IAmb		IAmb	02 33 52.0	
	comp=Z,20nm,1.1s							
SJG	San Juan	21.57	67	P		P	02 33 42.2	0.0
	comp=Z,12nm,0.7s,baz=254,slow=6.1,SNR=6.5							
SJG	San Juan	21.57	67	P		P	02 33 41.4	-0.7
SJG				IAmb		IAmb	02 33 46.3	
	comp=Z,14nm,0.8s							
152A	Waverly Hall	22.07	5	P		P	02 33 47.4	-0.1
152A				IAmb		IAmb	02 33 58.0	
	comp=Z,20nm,0.8s							
LRAL	Lakeview Retre	22.33	0	P		P	02 33 49.9	-0.3
LRAL				IAmb		IAmb	02 34 00.2	
	comp=Z,13nm,1.1s							
Z47A	Carrollton	22.52	358	P		P	02 33 52.0	-0.2
Z47A				IAmb		IAmb	02 34 03.4	
	comp=Z,11nm,0.8s							
GOGA	Godfrey	22.95	8	P		P	02 33 57.4	+0.7
GOGA				IAmb		IAmb	02 34 15.5	
	comp=Z,11nm,0.8s							
JCT	Junction City	23.07	331	P		P	02 33 57.4	-0.7
JCT				IAmb		IAmb	02 34 07.1	
	comp=Z,11nm,1.1s							
Y49A	Blount Mountai	23.16	1	P		P	02 33 58.7	-0.2
Y49A				IAmb		IAmb	02 34 10.6	
	comp=Z,10nm,0.6s							
Y52A	Lilburn	23.32	6	IAmb		IAmb	02 34 11.8	
	comp=Z,13nm,0.8s							
TXAR	Lajitas Array	24.26	323	P		P	02 34 10.9	+1.3
	comp=Z,2.4nm,0.7s,baz=126,slow=9.1,SNR=15							
TXAR	Lajitas Array	24.26	323	P		P	02 34 09.5	-0.1
TX31	Lajitas Ar. Si	24.26	323	IAmb		IAmb	02 34 20.5	
	comp=Z,20nm,1.0s							
MIAR	Mount Ida	24.57	347	IAmb		IAmb	02 34 22.7	
	comp=Z,10nm,0.9s							
BIRD	Birdtown, Kers	24.68	13	IAmb		IAmb	02 34 26.5	
	comp=Z,14nm,1.1s							
ABTX	Abilene, Hawle	24.80	334	IAmb		IAmb	02 34 22.4	
	comp=Z,9.7nm,0.8s							
CPCT	Cooper Cave	24.85	5	IAmb		IAmb	02 34 24.6	
	comp=Z,16nm,0.9s							
KMSC	Kings Mountain	24.98	11	P		P	02 34 15.9	-0.1
KMSC				IAmb		IAmb	02 34 20.7	
	comp=Z,13nm,1.2s							
TKL	Tuckaleechee C	25.13	6	P		P	02 34 17.5	+0.2
	comp=Z,5.4nm,0.9s,baz=187,slow=12,SNR=4.2							
TKL				pP		sP	02 34 26.3	-0.5
	comp=Z,7.5nm,0.7s,baz=167,slow=9.3,SNR=5.3							
TKL				LR		LR	02 43 24.0	
	comp=Z,50nm,21.6s,baz=189,slow=35							
TKL	Tuckaleechee C	25.13	6	P		P	02 34 16.0	-1.3
TKL				IAmb		IAmb	02 34 23.6	
	comp=Z,14nm,1.1s							
V53A	Saluda	25.26	8	P		P	02 34 20.6	+2.1
V53A				IAmb		IAmb	02 34 24.5	
	comp=Z,11nm,0.8s							
U49A	Red Boiling Sp	25.83	2	P		P	02 34 22.7	-0.9
U49A				IAmb		IAmb	02 34 36.0	
	comp=Z,18nm,1.4s							
V58A	Windy Hill, Pi	26.10	15	IAmb		IAmb	02 34 33.9	
	comp=Z,16nm,0.9s							
U40A	Yellville	26.18	349	P		P	02 34 28.2	+1.3
U40A				IAmb		IAmb	02 34 34.4	
	comp=Z,6.4nm,0.8s							
TUL1	Leonard	26.42	344	P		P	02 34 31.9	+2.9
TUL1				IAmb		IAmb	02 34 38.3	
	comp=Z,11nm,0.8s							
S39A	Bolivar	27.56	349	IAmb		IAmb	02 34 46.3	
	comp=Z,8.4nm,0.7s							
AMTX	Amarillo	27.61	333	P		P	02 34 40.9	+1.0
TUC	Tucson	30.76	318	P		P	02 35 08.6	+0.8
TUC				IAmb		IAmb	02 35 10.9	
	comp=Z,5.8nm,1.2s							
SDCO	Great Sand Dun	31.71	331	IAmb		IAmb	02 35 25.5	
	comp=Z,3.9nm,0.9s							
S22A	4UR Ranch, Cre	32.35	330	P		P	02 35 22.9	+0.8
X16A	Lo Mia Camp, P	32.54	321	IAmb		IAmb	02 35 26.8	
	comp=Z,6.3nm,0.9s							
LPAZ	La Paz	32.62	145	P		P	02 35 25.2	+0.3
	comp=Z,1.5nm,0.9s,baz=324,slow=8.7,SNR=3.2							
LPAZ	La Paz	32.62	145	P		P	02 35 24.7	-0.3
LPAZ				IAmb		IAmb	02 35 49.0	
	comp=Z,5.1nm,1.2s							
WUAZ	Wupatki	33.22	322	IAmb		IAmb	02 35 32.9	
	comp=Z,12nm,1.4s							
Y14A	Wickenburg	33.23	318	IAmb		IAmb	02 35 32.4	
	comp=Z,7.4nm,1.2s							
PV13	Radium Mtn., P	33.68	328	IAmb		IAmb	02 35 43.9	
	comp=Z,9.3nm,1.2s							
ECSD	EROS Data Cent	34.04	348	P		P	02 35 37.0	+0.7
W13A	Hualapai Mount	34.52	319	IAmb		IAmb	02 35 44.3	
	comp=Z,12nm,1.1s							
SADO	Sadowa	34.73	10	LR		LR	02 49 56.0	
	comp=Z,52nm,20.5s,baz=197,slow=36							
SRU	San Rafael Swe	35.27	328	IAmb		IAmb	02 35 57.8	
	comp=Z,10nm,1.3s							
MTPU	Mount Pierson	35.42	325	P		P	02 35 50.7	+1.9
P18A	Preston Nutter	35.51	328	IAmb		IAmb	02 35 59.8	
	comp=Z,5.0nm,1.0s							
P17A	Butcher Ranch,	35.65	328	P		P	02 35 51.7	+1.2
P17A				IAmb		IAmb	02 36 00.9	
	comp=Z,13nm,1.2s							
F33A	5 Mile Ranch,	36.00	349	IAmb		IAmb	02 36 01.1	
	comp=Z,8.3nm,0.7s							
TPNV	Topopah Spring	37.16	320	P		P	02 36 05.6	+2.1
TPNV				IAmb		IAmb	02 36 07.3	
	comp=Z,13nm,1.2s							
PD31	Pinedale Array	37.58	332	P		P	02 36 06.9	-0.1
PDAR	Pinedale Array	37.58	332	P		P	02 36 07.2	+0.2
	comp=Z,1.0nm,0.7s,baz=131,slow=11,SNR=11							
PDAR				pP		pP	02 36 14.7	+0.8
	comp=Z,4.0nm,0.9s,baz=131,slow=10,SNR=16							
HWUT	Hardware Ranch	37.65	329	IAmb		IAmb	02 36 18.2	
	comp=Z,9.5nm,1.1s							
LCH	Last Change Ra	38.23	319	P		P	02 36 14.4	+2.0
AGMN	Agassiz Nation	38.30	351	P		P	02 36 13.0	+0.3
AGMN				IAmb		IAmb	02 36 19.0	
	comp=Z,13nm,1.4s							
REDW	Red Top Meadow	38.64	332	IAmb		IAmb	02 36 25.3	
	comp=Z,16nm,1.0s							
SNOW	Snow King Moun	38.67	332	P		P	02 36 16.7	+0.5
SNOW				IAmb		IAmb	02 36 25.8	
	comp=Z,12nm,0.8s							
TPAW	Teton Pass	38.79	332	IAmb		IAmb	02 36 30.7	
	comp=Z,8.8nm,0.9s							
ELK	Elko	38.99	325	P		P	02 36 20.8	+1.8
FLWY	Flagg Ranch	39.13	333	IAmb		IAmb	02 36 29.4	
	comp=Z,6.9nm,0.8s							
NV11	Mina Array Sit	39.26	320	IAmb		IAmb	02 36 24.7	
	comp=Z,16nm,1.2s							
NVAR	Mina Array Bea	39.35	320	P		P	02 36 24.2	+2.2
	comp=Z,3.5nm,0.8s,baz=134,slow=7.8,SNR=27							
NVAR				pP		sP	02 36 32.1	+0.3
	comp=Z,4.9nm,0.9s,baz=142,slow=7.6,SNR=12							
NVAR				PcP		PcP	02 38 31.3	+1.1
	comp=Z,1.3nm,0.9s,baz=139,slow=4.2,SNR=4.7							
LHV	Little Huntoon	39.38	320	IAmb		IAmb	02 36 33.6	
	comp=Z,9.5nm,1.0s							
ULM	Lac du Bonnet	40.20	351	P		P	02 36 28.1	-0.5
	comp=Z,1.5nm,0.3s,baz=181,slow=7.3,SNR=2.3							
ULM	Lac du Bonnet	40.20	351	P		P	02 36 28.0	-0.6
YERR	Yerington	40.27	320	P		P	02 36 30.3	+0.7
YERR				IAmb		IAmb	02 36 32.8	
	comp=Z,18nm,1.5s							
BEKR	Beckworth	41.49	320	P		P	02 36 40.9	+1.3
WVOR	Wild Horse Val	42.02	325	IAmb		IAmb	02 36 46.2	
	comp=Z,8.2nm,1.2s							
ORV	Oroville	42.04	319	P		P	02 36 46.0	+2.1
ORV				IAmb		IAmb	02 36 47.1	
	comp=Z,14nm,1.5s							
PLID	Pearl Lake	42.40	329	P		P	02 36 46.8	-0.3
O03E	Paynes Creek	42.65	320	P		P	02 36 49.9	+1.0
O03E				IAmb		IAmb	02 36 51.3	
	comp=Z,16nm,1.4s							
MSO	Missoula	42.70	333	P		P	02 36 49.8	+0.5
L04D	Klamath Falls	44.05	322	IAmb		IAmb	02 37 18.3	
	comp=Z,15nm,1.2s							
PINE	Pine Mountain	44.19	325	P		P	02 37 02.1	+0.7
PINE				IAmb		IAmb	02 37 03.6	
	comp=Z,5.9nm,0.9s							
BDFB	Brasilia	46.62	123	P		P	02 37 22.5	+1.6
	comp=Z,3.6nm,0.8s,baz=296,slow=7.7,SNR=2.9							
BDFB	Brasilia	46.62	123	P		P	02 37 22.0	+1.1
SCHQ	Schefferville	46.94	16	P		P	02 37 21.2	-1.6
	comp=Z,1.6nm,0.5s,baz=226,slow=9.8,SNR=8.0							
SCHQ	Schefferville	46.94	16	P		P	02 37 20.5	-2.3
SCHQ				IAmb		IAmb	02 37 43.4	
	comp=Z,3.8nm,1.0s							
PLCA	Paso Flores	53.30	164	P		P	02 38 10.2	-1.0
	comp=Z,1.9nm,0.6s,baz=338,slow=8.8,SNR=11							
YKA	Yellowknife Ar	55.49	345	P		P	02 38 25.8	-1.0
	comp=Z,1.7nm,0.8s,baz=136,slow=7.6,SNR=25							
YKA				pP		pP	02 38 33.4	-0.5
	comp=Z,1.8nm,0.9s,baz=142,slow=7.1,SNR=7.1							
YKA				PcP		PcP	02 39 27.3	+0.7
	comp=Z,0.9nm,0.7s,baz=144,slow=4.1,SNR=9.6							
YKA	Yellowknife Ar	55.49	345	P		P	02 38 25.9	-0.9
AY01	Puyuhuapi	56.30	168	P		P	02 38 33.8	+1.1
INK	Inuvik	65.08	343	P		P	02 39 32.6	+0.3
BCAR	Beaver Creek A	65.09	336	P		P	02 39 33.2	+0.7
ILAR	Eielson Array	67.86	336	P		P	02 39 50.3	+0.1
	comp=Z,4.7nm,1.1s,baz=128,slow=3.9,SNR=22							
ILAR				pP		pP	02 39 57.9	+0.5
	comp=Z,4.4nm,1.0s,baz=145,slow=4.4,SNR=12							
BWN	Browne	68.67	335	P		P	02 39 55.6	+0.3
TOLK	Toolik Lake Re	70.35	340	P		P	02 40 06.7	+1.0
J20K	Nowinta River	70.62	335	IAmb		IAmb	02 40 07.8	
	comp=Z,5.6nm,1.1s							
JMIC	Jan Mayen	76.31	19	LR		LR	03 13 30.6	
	comp=Z,428nm,21.7s,baz=98,slow=35							
ESDC	Sonseca Array	78.03	52	P		P	02 40 50.8	-0.2
	comp=Z,0.5nm,0.8s,baz=297,slow=5.6,SNR=2.6							
ESDC	Sonseca Array	78.03	52	P		P	02 40 51.6	+0.6
GAMB	Gambell	78.21	333	P		P	02 40 50.7	-0.7
KOWA	Kowa	80.74	77	P		P	02 41 06.9	+0.7
KOWA				IAmb		IAmb	02 41 30.8	
	comp=Z,7.7nm,1.4s							
TORD	Torodi Ar. Bea	86.43	77	P		P	02 41 34.5	-0.9
	comp=Z,0.2nm,0.5s,baz=294,slow=6.5,SNR=5.3							
KSH	Kashi	127.70	17	PKP		PKiKP	02 48 00.0	+1.4
WRA	Warramunga Arr	139.10	252	PKP		PKPdf	02 48 19.6	-0.1
	comp=Z,1.4nm,1.0s,baz=91,slow=2.4,SNR=5.6							
WRA	Warramunga Arr	139.10	252	PKPpre		PKPpre	02 48 14.4	
WRA						PKPdf	02 48 19.2	-0.5
PZH	PanZhiHua	142.15	347	PKP		PKPdf	02 48 23.3	-2.0
CMAR	Chiang Mai Arr	150.53	348	PKPbc		PKPbc	02 48 44.6	-0.1
	comp=Z,1.2nm,0.3s,baz=335,slow=3.2,SNR=7.6							
CMAR				PKPab		pPKPbc	02 48 52.7	+0.4
	comp=Z,1.5nm,0.3s,baz=199,slow=18,SNR=1.6							
CMAR	Chiang Mai Arr	150.53	348			PKPbc	02 48 43.0	-1.7

*IGQ **27** 02:58:20.2±2.8, 0.7°N±6.6°×8.0°W±2.5°, h11km*
*IDC **27** 02:58:23.7±1.6, 1.3°N×78.6°W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.5/37, mbtmp3.6/5, Error ellipse: s-maj=151.5km s-min=28.3km az=58.0*
ISC 27 02:58:22.5±1.0, **0.1°N**±0.1°×**80.4°W**±0.9°, **h10**km, **n16, σ1§03/14, mb3.6/4, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	Jama	0.39	176	P	Pb	02 58 31.0	-0.5
FLF1	Flavio Alfaro-	0.62	141	P	Pn	02 58 37.0	-0.4
AV18	Acelerografo,	0.78	76	P	Pn	02 58 40.0	+0.4
AMA1	Acelerografo,	0.95	32	P	Pb	02 58 40.0	-1.1
BV15	Puerto Quito-O	1.01	88	P	Pb	02 58 42.0	-0.1
PAC1	Pacto, Paraso	1.45	84	P	Pn	02 58 48.0	-0.9
HPAL	Hacienda Las P	1.62	102	P	Pn	02 58 52.0	+0.5
GGPT	Toaza - Volcan	1.65	102	P	Pn	02 58 52.0	+0.1
PINO	Pino	1.65	100	P	Pn	02 58 52.0	-0.1
YANA	Yana	1.68	98	P	Pn	02 58 53.0	+0.6
URCU	Urcuqui	2.00	81	P	Pn	02 58 58.0	+1.2
LPAZ	La Paz	20.21	144	P	Pn	03 03 03.4	+3.1
	1.3nm,0.7s,baz=326,slow=10,SNR=5.8						
TXAR	Lajitas Array	36.66	324	P	P	03 05 33.8	+4.2
	0.4nm,0.8s,baz=143,slow=9.1,SNR=2.8						
ANMO	Albuquerque	42.42	327	P	P	03 06 19.1	+1.3
	0.6nm,0.5s,baz=148,slow=9.2,SNR=6.8						
NVAR	Mina Array Bea	51.71	322	P	P	03 07 31.4	+1.1
	0.8nm,0.9s,baz=132,slow=8.8,SNR=4.7						
YKA	Yellowknife Ar	67.35	343	P	P	03 09 15.6	-1.9
	0.4nm,0.9s,baz=138,slow=6.5,SNR=6.2						

*SSNC **27** 03:04:36.7±1.2, 19.6°N×78.2°W, h36km±29km, MD3.4, ML3.3, MW3.3*
*JSN **27** 03:04:39.4±0.3, 19.3°N×77.8°W, h11km±3km, MD3.8*
ISC 27 03:04:32.7±1.2, **19.5°N**±0.0°×**78.2°W**±0.0°, **h10**km, **n11, σ1§22/12, 2C-3D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	1.25	64	*e*P	Pn	03 04 56.4	+0.1
LMGC				*e*S	Sb	03 05 10.0	-2.7
LMGC				IAML		03 05 10.7	
	comp=E,491nm,0.1s						
LMGC				IAML		03 05 10.9	
	comp=N,465nm,0.1s						
CVJ	Coleyville	1.43	154	*i*P	Pg	03 05 00.1	-0.1
MTDJ	Mount Denham	1.43	154	*e*P	Pg	03 05 00.2	0.0
MTDJ				IAML		03 05 17.4	
	comp=N,12μm,0.2s						
MTDJ				IAML		03 05 18.8	
	comp=N,14μm,0.2s						
MCJ	Malvern	1.66	163	⇓*i*P	Pb	03 05 04.1	+0.7
MCJ				⇓*i*S	Sn	03 05 22.6	-0.8
CCCC	Cccc	1.72	14	*e*P	Pb	03 05 06.3	+1.9
CCCC				IAML		03 05 35.1	
	comp=N,11nm,0.2s						
CCCC				IAML		03 05 40.4	
	comp=E,13nm,0.5s						
STH	Stony Hill	1.95	137	*i*P	Pn	03 05 06.6	+0.7
GWJ	Greenwich	2.00	136	⇓*i*P	Pn	03 05 07.2	+0.4
RCC	Rio Carpintero	2.41	78	*e*P	Pn	03 05 12.3	+0.1
RCC				IAML		03 05 39.6	
	comp=N,19nm,0.1s						
RCC				IAML		03 05 40.0	
	comp=E,20nm,0.1s						
FSCY	Frank Sound, G	2.82	266	*e*P	Pn	03 05 13.7	-4.1
FSCY				*e*S	Sn	03 05 43.9	-8.0
MGV	Manicaragua	3.07	328	*e*P	Pn	03 05 20.4	-0.8
MASC	Masc	3.80	79	*e*P	Pn	03 05 31.8	+0.6
MASC				IAML		03 06 19.2	
	comp=N,9.2nm,0.3s						
MASC				IAML		03 06 20.2	
	comp=E,16nm,0.2s						

*NOU **27** 03:18:32.8, 37.68°S×176.03°E, h329km, mb4.6/9, North Island, New Zealand*
*WEL **27** 03:18:39.6±0.8, 38.3°S±5.5°×17.6°E±°, h269km±7km, M3.1/56, MLv3.1/56, Error ellipse: s-maj=0.0km s-min=0.0km az=70.0*
ISC 27 03:18:34.3±2.2, **37.87S**±0.09°×**175.92E**±0.07°, **h310**km±12km, **n148, σ1§53/157, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRZ	Kaimai	0.03	38	P	Pn	03 19 14.4	+0.9
KARZ	Kaharoa	0.30	120	P	Pn	03 19 14.6	+1.0
TOZ	Tahuroa Road	0.36	293	P	Pn	03 19 14.9	+1.2
OMRZ	Omania	0.43	123	P	Pn	03 19 14.9	+1.0
GRRZ	Galatos Road	0.50	162	P	Pn	03 19 15.3	+1.3
OPRZ	Ohinepanea	0.51	87	P	Pn	03 19 14.4	+0.4
HSRZ	Hossack Road	0.51	149	P	Pn	03 19 15.5	+1.5
MKRZ	Makatiti	0.51	122	P	Pn	03 19 16.0	+1.9
HLRZ	Highlands Stat	0.51	138	P	Pn	03 19 15.7	+1.7
TLZ	Tolley Road	0.55	213	P	Pn	03 19 15.8	+1.7
TARZ	Mount Tarawera	0.59	128	P	Pn	03 19 15.4	+1.1
HRRZ	Handcock Road	0.59	151	P	Pn	03 19 15.4	+1.2
MARZ	Manawahe	0.61	101	P	Pn	03 19 15.0	+0.7
MYRZ	Mayor Island	0.65	24	P	Pn	03 19 15.3	+0.8
RRRZ	Republican Roa	0.66	135	P	Pn	03 19 15.4	+1.0
PRRZ	Plateau Road	0.73	149	P	Pn	03 19 15.7	+1.1
ALRZ	Allen Road	0.77	154	P	Pn	03 19 16.4	+1.7
WATZ	Wairara	0.85	190	P	Pn	03 19 16.6	+1.5
MUGZ	Murupara	0.91	132	P	Pn	03 19 16.0	+0.7
MKAZ	Moumakai	0.97	322	P	Pn	03 19 16.8	+1.2
URZ	Urewera	1.02	113	P	Pn	03 19 15.9	+0.2
URZ				S	S	03 19 46.0	-2.7
URZ	Urewera	1.02	113	P	Pn	03 19 15.9	+0.2
HATZ	Hinemaiaia	1.03	172	P	Pn	03 19 16.9	+1.1
HIZ	Hauiti	1.05	232	P	Pn	03 19 17.9	+2.0
HIZ	Hauiti	1.05	232	P	Pn	03 19 18.2	+2.4
KATZ	Kakaramea	1.11	189	P	Pn	03 19 17.9	+1.6
RTZ	Ruatahuna	1.12	132	P	Pn	03 19 17.1	+0.8
KUZ	Kuaotunu	1.14	352	P	Pn	03 19 16.8	+0.4
ETAZ	East Tamaki Re	1.21	319	P	Pn	03 19 18.0	+1.2
MTHZ	Maungataniwha	1.22	144	P	Pn	03 19 18.0	+1.2
MTHZ				S	S	03 19 48.4	-2.3
NTVZ	North Tongarir	1.24	189	P	Pn	03 19 18.6	+1.6
WIAZ	Waiheke Island	1.24	330	P	Pn	03 19 18.0	+1.0
TMVZ	Te Maari	1.25	188	P	Pn	03 19 18.7	+1.7
WTVZ	West Tongariro	1.27	192	P	Pn	03 19 18.6	+1.5
ETVZ	East Tongariro	1.27	187	P	Pn	03 19 18.7	+1.6
NNVZ	North Ngauruho	1.28	191	P	Pn	03 19 19.0	+1.7
AWAZ	Awhitu Peninsu	1.29	308	P	Pn	03 19 18.7	+1.4
OTVZ	Oturere	1.30	189	P	Pn	03 19 19.0	+1.6
OTVZ				S	S	03 19 50.5	-1.2
NGZ	Ngauruhoe	1.32	191	P	Pn	03 19 19.1	+1.6
SNVZ	South Ngauruho	1.33	189	P	Pn	03 19 19.1	+1.5
RAGZ	Rawiri	1.34	118	P	Pn	03 19 18.6	+1.2
MWZ	Matawai	1.35	110	P	Pn	03 19 18.1	+0.6
MWZ				S	S	03 19 49.4	-2.6
MBAZ	Motutapu North	1.37	323	P	Pn	03 19 18.7	+1.1
BKZ	Black Stump Fm	1.37	161	P	Pn	03 19 19.0	+1.4
BKZ	Black Stump Fm	1.37	161	P	Pn	03 19 19.0	+1.4
RAHZ	Arahi	1.39	139	P	Pn	03 19 19.6	+1.9
RAHZ				S	S	03 19 51.3	-1.0
RUGZ	Raukumara Rang	1.40	94	P	Pn	03 19 17.3	-0.6
NMHZ	Naumai	1.41	151	P	Pn	03 19 20.4	+2.5
TUVZ	Tukino	1.41	188	P	Pn	03 19 19.6	+1.6
TUVZ				S	S	03 19 52.0	-0.8
FWVZ	Far West T-bar	1.41	192	P	Pn	03 19 19.5	+1.5
WTAZ	Waiatarua	1.42	311	P	Pn	03 19 19.7	+1.7
WHVZ	Whangaehu Hut	1.43	190	P	Pn	03 19 20.0	+1.8
SNGZ	Shannon

OKCZ	**Okains Bay**	**6.23**	**199**	P	**Pn**	**03 20 07.8 +1.3**
MQZ	**McQueen's Vall**	**6.33**	**202**	P	**Pn**	**03 20 07.8 +0.2**
AKCZ	**Akaroa Harbour**	**6.41**	**200**	P	**Pn**	**03 20 09.9 +1.3**
RACZ	**Rakaia**	**6.51**	**205**	P	**Pn**	**03 20 10.3 +0.5**
WVZ	**Waitaha Valley**	**6.53**	**216**	P	**Pn**	**03 20 10.5 +0.6**
WACZ	**Wakanui South**	**6.80**	**206**	P	**Pn**	**03 20 14.5 +1.3**
GCSZ	**Gaunt Creek Bo**	**6.90**	**216**	P	**Pn**	**03 20 15.6 +1.1**
RPZ	**Rata Peaks**	**6.90**	**211**	P	**Pn**	**03 20 15.0 +0.5**
RPZ	**Rata Peaks**	**6.90**	**211**	P	**Pn**	**03 20 15.3 +0.8**
ARCZ	**Arundel**	**7.05**	**209**	P	**Pn**	**03 20 16.8 +0.5**
FOZ	**Fox Glacier**	**7.31**	**217**	P	**Pn**	**03 20 19.3 -0.1**
TMZ	**Timaru**	**7.49**	**208**	P	**Pn**	**03 20 22.4 +0.9**
LBZ	**Lake Benmore**	**7.81**	**212**	P	**Pn**	**03 20 25.9 +0.4**
ODZ	**Otahua Downs**	**8.18**	**207**	P	**Pn**	**03 20 32.0 +2.0**
ODZ	**Otahua Downs**	**8.18**	**207**	P	**Pn**	**03 20 32.1 +2.0**
JCZ	**Jackson Bay**	**8.21**	**219**	P	**Pn**	**03 20 30.0 -0.5**
WKZ	**Wanaka**	**8.67**	**215**	P	**Pn**	**03 20 35.3 -0.6**
TUZ	**Tuapeka**	**9.33**	**208**	P	**Pn**	**03 20 46.2 +2.2**
MLZ	**Mavora Lakes**	**9.49**	**215**	P	**Pn**	**03 20 48.1 +2.1**

KRSC 27 03:29:42.2±1.6, 49°.83N×157°.24E, h51km±24km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.67**	**351**	*eP*	Pn	03 30 10.2	+1.2
PAU				*eS*	Sn	03 30 30.9	+1.7
KDTR	**Khodutka, Kamc**	**2.06**	**15**	*eP*	Pn	03 30 17.1	+2.8
KDTR				*eS*	Sn	03 30 43.1	+4.4
MIPR	**Malaya Ipel'ka**	**2.47**	**353**	*eP*	Pn	03 30 21.6	+1.6
MIPR				*eS*	Sn	03 30 51.2	+2.2
ASAK	**Asacha**	**2.59**	**9**	*eP*	Pn	03 30 24.6	+2.8
MTVR	**Mutnovka**	**2.73**	**12**	*eP*	Pn	03 30 26.8	+3.2
MTVR				*eS*	Sn	03 30 59.6	+4.2
RUS	**Russkaya**	**2.73**	**17**	*eP*	Pn	03 30 26.3	+2.8
RUS				*eS*	Sn	03 30 58.5	+3.2
GRL	**Gorelyy**	**2.78**	**11**	*eP*	Pn	03 30 27.7	+3.4
GRL				*eS*	Sn	03 31 01.2	+4.5
KRMR	**Karymshinskiy**	**3.06**	**10**	*eP*	Pn	03 30 31.5	+3.5
APC	**Apacha**	**3.10**	**359**	*eP*	Pn	03 30 31.4	+2.8
UGLR	**Uglovaya**	**3.53**	**16**	*eP*	Pn	03 30 38.9	+4.3
AVH	**Avacha**	**3.57**	**15**	*eP*	Pn	03 30 39.2	+4.1
SMAR	**Somma**	**3.58**	**15**	*eP*	Pn	03 30 39.0	+3.7
KOK	**Koryaka**	**3.58**	**14**	*eP*	Pn	03 30 39.4	+4.1
NLC	**Nalytchevo**	**3.60**	**21**	*eS*	Sn	03 31 19.7	+3.1
SDLR	**Sedlovina**	**3.61**	**16**	*eP*	Pn	03 30 39.3	+3.6
KRER	**Koryakskii**	**3.61**	**15**	*eP*	Pn	03 30 39.9	+4.1
SPN	**Mys Shipunski**	**3.71**	**27**	*eP*	Pn	03 30 40.5	+3.5
SPN				*eS*	Sn	03 31 23.5	+4.1
GNL	**Ganaly**	**3.90**	**6**	*eP*	Pn	03 30 43.4	+3.7
MKZ	**Mys Kozlova**	**5.48**	**29**	*eP*	Pn	03 31 03.9	+2.7

*IDC **27** 03:30:05.6±1.0, 33°.07N×131°.15E, h0km, mb3.3/6, mb1 3.6/8, mb1mx3.4/56, mbtmp3.4/8, ML3.1/2, MS2.8/3, Ms1 2.9/3, ms1mx2.7/39, Error ellipse: s-maj=19.5km s-min=6.4km az=12.0*
*JMA **27** 03:30:06.0, 33°.06N×131°.12E, h9km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=305.00000°, δ87.00000°, λ-29.00000°. NP2:φs=36.00000°, δ61.00000°, λ-177.00000°. Principal axes: T Plg18.0000°, Azm354.0000°; N Plg61.0000°, Azm120.0000°; P Plg22.0000°, Azm257.0000°;*
JMA Felt III J1.
*NIED **27** 03:30:06.0, 33°.06N×131°.12E, h9km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.03; Mθθ 1.09; Mφφ -1.13; Mrθ -0.39; Mθφ 0.43; Mφr 0.69; Fault plane solution: M0 1.40000×10¹⁵ NP1: φs=218.00000°, δ61.00000°, λ-172.00000°. NP2: φs=124.00000°, δ83.00000°, λ-29.00000°.*

ISC 27 03:30:07.4±0.8, 33°.03N±0°.05×131°.11E±0°.04, h12km, n15, σ1°36/17, mb3.3/6, 3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.21**	**295**	Pg	**Pg**	**03 30 10.1**	**-1.9**
	3μm,0.3s,baz=92,slow=7.1,SNR=3850						
JNU				Lg	Lg	03 30 13.3	
	5μm,0.3s,baz=20,slow=22,SNR=113						
JNU	**Nakatsue**	**0.21**	**295**	⇓P	**Pg**	**03 30 10.4**	**-1.6**
JNU				S	**Sg**	**03 30 13.7**	**-1.4**
JTA	**Tamana**	**0.49**	**262**	⇓P	**Pg**	**03 30 15.8**	**-1.2**
JIU3	**Izumi3**	**0.54**	**207**	P	**Pg**	**03 30 17.0**	**-1.0**
JIU3				S	**Sg**	**03 30 24.9**	**-0.3**
JUS	**Usuki**	**0.54**	**86**	⇓P	**Pg**	**03 30 15.9**	**-2.1**
KSRS	**Korea Array**	**5.12**	**330**	Pn	**Pn**	**03 31 23.4**	**-0.5**
	1.0nm,0.3s,baz=147,slow=14,SNR=7.5						
KSRS				Pg	**Pb**	**03 31 39.4**	**+2.5**
	2.0nm,0.3s,baz=147,slow=16,SNR=13						
KSRS				Sn	**Sn**	**03 32 22.9**	**-0.1**
	1.8nm,0.3s,baz=150,slow=25,SNR=4.9						
KSRS				Lg	Lg	03 32 44.9	
	1.9nm,0.3s,baz=156,slow=30,SNR=5.1						
MJAR	**Matsushiro Arr**	**6.81**	**57**	Pn	**Pn**	**03 31 48.4**	**+1.2**
	0.2nm,0.3s,baz=238,slow=13,SNR=14						
MJAR				LR	LR	03 34 16.0	
	comp=Z,90nm,21.9s,baz=268,slow=37						
JHJ	**Hachijo jima 2**	**7.28**	**87**	LR	LR	03 34 51.5	
	comp=Z,70nm,18.6s,baz=86,slow=39						
SONM	**Songino Array**	**23.79**	**316**	P	**P**	**03 35 20.5**	**+0.5**
	0.8nm,0.6s,baz=133,slow=13,SNR=4.5						
CMAR	**Chiang Mai Arr**	**32.25**	**251**	LR	LR	03 50 31.7	
	comp=Z,18nm,18.1s,baz=285,slow=38						
MKAR	**Makanchi Array**	**39.26**	**305**	P	**P**	**03 37 37.0**	**+1.2**
	0.2nm,0.6s,baz=94,slow=9.1,SNR=1.9						
KURBB	**Kurchatov Arra**	**41.98**	**311**	P	**P**	**03 37 57.9**	**-0.3**
	0.2nm,0.6s,baz=96,slow=9.3,SNR=2.2						
WRA	**Warramunga Arr**	**52.77**	**176**	P	**P**	**03 39 21.7**	**-0.7**
	0.4nm,0.8s,baz=357,slow=7.9,SNR=2.1						
ASAR	**Alice Springs**	**56.45**	**177**	P	**P**	**03 39 49.4**	**+0.3**
	0.7nm,1.0s,baz=5.6,slow=10,SNR=4.1						
YKA	**Yellowknife Ar**	**71.33**	**27**	P	**P**	**03 41 26.1**	**-0.5**
	0.2nm,0.8s,baz=311,slow=5.8,SNR=4.7						

*TRN **27** 03:31:21.6, 10°.13N×62°.21W, h50km, MD3.6*
*FUNV **27** 03:31:22.1, 10°.36N×62°.31W, h8km, MW3.2*

ISC 27 03:31:19.3±1.7, 10°.29N±0°.06×62°.27W±0°.04, h7km±12km, n19, σ1°54/32, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.93**	**67**	*eP*	**Pn**	**03 31 38.0**	**-0.6**
TRN				*eS*	**Sn**	**03 31 51.4**	**-0.8**
CRUV	**Carupano**	**1.02**	**292**	*eP*	**Pg**	**03 31 38.7**	**-0.3**
CRUV				*eS*	**Sg**	**03 31 50.6**	**-1.7**
COAV	**Cumanacoa**	**1.54**	**265**	*eP*	**Pg**	**03 31 49.8**	**+1.0**
COAV				*eS*	**Sb**	**03 32 09.4**	**+1.5**
GRFF	**Grenada Fort F**	**1.83**	**17**	*eP*	**Pb**	**03 31 53.0**	**0.0**
GRFF				*eS*	**Sb**	**03 32 15.6**	**-0.6**
CUMV	**Cumana_UDO**	**1.90**	**274**	*eP*	**Pb**	**03 31 53.8**	**-0.4**
CUMV				*eS*	**Sn**	**03 32 16.9**	**+0.7**
GRGR	**Grenville**	**1.93**	**18**	*eP*	**Pb**	**03 31 54.5**	**-0.3**
GRGR				*eS*	**Sn**	**03 32 17.7**	**+0.6**
TOSP	**Speyside**	**1.98**	**59**	*e*	**Pb**	**03 31 55.8**	**+0.2**
TOSP				*eS*	**Sn**	**03 32 16.7**	**-1.6**
GCMP	**Grenada, Carri**	**2.34**	**21**	*eP*	**Pb**	**03 32 00.2**	**-1.6**
GCMP				*eS*	**Sn**	**03 32 27.5**	**+0.4**
PRGV	**PARIAGUAN**	**2.79**	**237**	*eP*	**Pn**	**03 32 06.3**	**+1.9**
PRGV				*eS*	**Sn**	**03 32 38.9**	**+0.7**
SVB	**Belmont**	**3.13**	**19**	*eP*	**Pn**	**03 32 10.5**	**+1.5**
MCLT	**Moule a Chique**	**3.64**	**21**	*eP*	**Pn**	**03 32 18.3**	**+2.2**
MCLT				*eS*	**Sn**	**03 32 58.7**	**-0.7**
SLBI	**Saint Lucia, B**	**3.92**	**19**	*eP*	**Pn**	**03 32 21.5**	**+1.5**
SLBI				*eS*	**Sn**	**03 33 06.0**	**-0.3**
BIRV	**Birongo**	**3.94**	**273**	*eP*	**Pn**	**03 32 21.7**	**+1.5**
BIRV				*eS*	**Sn**	**03 33 04.2**	**-2.4**
MPOM	**Morne Pois Mar**	**4.36**	**18**	*eP*	**Pn**	**03 32 28.6**	**+2.7**
MPOM	**Morne Pois Mar**	**4.36**	**18**	*eS*	**Sn**	**03 33 16.5**	**-0.5**
BIM	**Bigot**	**4.37**	**15**	*eP*	**Pn**	**03 32 27.6**	**+1.5**
BIM	**Bigot**	**4.37**	**15**	*eS*	**Sn**	**03 33 15.8**	**-1.5**
BAUV	**El Baul**	**5.84**	**257**	*eP*	**Pn**	**03 32 46.6**	**+0.3**
BAUV	**El Baul**	**5.84**	**257**	*eP*	**Pn**	**03 32 46.7**	**+0.3**
BAUV				*eS*	**Sn**	**03 33 49.4**	**-4.3**

*DJA **27** 04:14:05.3±0.4, 4°.1N±3°.1×12°.7E±°.1, h10km, M4.4/6, mb4.6/1, MLv4.3/6*
*IDC **27** 04:14:38.9±4.8, 3°.02N×125°.57E, h387km±70km, mb2.8/4, mb1 3.1/5, mb1mx2.8/42, mbtmp3.7/5, Error ellipse: s-maj=104.9km s-min=18.4km az=72.0*

ISC 27 04:14:00.5±1.2, 3°.99N±0°.10×126°.76E±0°.10, h10km, n9, σ0°.92/9, mb3.5/4, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.27**	**256**	P	**Pg**	**04 14 25.5**	**+0.6**
SGSI				S	**Sb**	**04 14 39.3**	**-1.6**
KCP	**Kidapawan**	**3.43**	**331**	⇓eP	**Pb**	**04 15 01.5**	**0.0**
GTOI	**Gorontalo**	**5.01**	**228**	P	**Pn**	**04 15 16.5**	**+0.7**
MRSI	**Marisa**	**5.95**	**234**	P	**Pn**	**04 15 29.5**	**+0.8**
SIJI	**Sorong**	**6.60**	**137**	P	Pg	04 16 21.1	+14
	6.0nm,0.3s,baz=307,slow=20,SNR=4.9						
FITZ	**Fitzroy Crossi**	**21.97**	**183**	P	**P**	**04 18 54.8**	**+0.1**
	1.0nm,0.7s,baz=354,slow=10,SNR=1.3						
WRA	**Warramunga Arr**	**24.92**	**163**	P	**P**	**04 19 23.1**	**-0.9**
	1.1nm,0.7s,baz=334,slow=11,SNR=14						
ASAR	**Alice Springs**	**28.35**	**166**	P	**P**	**04 19 54.5**	**-0.5**
	0.3nm,0.8s,baz=348,slow=6.8,SNR=1.4						
MKAR	**Makanchi Array**	**57.37**	**325**	P	**P**	**04 23 49.0**	**0.0**
	0.5nm,0.3s,baz=119,slow=7.6,SNR=14						

*IDC **27** 04:15:12.0±0.7, 4°.16N×127°.45E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/41, mbtmp4.0/14, MS3.4/14, Ms1 3.4/14, ms1mx3.1/80, Error ellipse: s-maj=41.1km s-min=14.8km az=75.0*
*DJA **27** 04:15:20.0±1.6, 4°.1N±14°.1×12°.7E±°.1, h50km±5km, M4.4/8, mb4.5/5, mB4.8/4, MLv4.5/8, Mw(mB)4.0/4*
*MAN **27** 04:15:22.1, 3°.54N×126°.20E, h194km, mb5.1, ML4.1, MS4.2, Hypocentre not reviewed by the ISC*
*NEIC **27** 04:15:23.1±1.1, 4°.0N±0°.1×126°.96E±0°.09, h74km±10km, mb4.4/15, Error ellipse: s-maj=17.4km s-min=10.2km az=218.0*

ISC 27 04:15:18.4±0.5, 4°.08N±0°.06×126°.88E±0°.06, h36km, n62, σ1°78/50, mb4.3/22, MS3.3/13, 3C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.41**	**254**	P	**Pn**	**04 15 41.1**	**-0.4**
SGSI				S	**Sn**	**04 15 55.6**	**-3.3**
DAV	**Davao City (W)**	**3.24**	**336**	Lg	Lg	04 16 59.4	
	40nm,0.3s,baz=81,slow=21,SNR=1.5						
TNTI	**Ternate**	**3.32**	**172**		**Pn**	**04 16 09.4**	**+1.4**
TNTI	**Ternate**	**3.32**	**172**	P	**Pn**	**04 16 09.3**	**+1.4**
CTBH	**Cotabato--PC H**	**4.08**	**320**	⇑*i*P	Pn	04 16 25.9	+7.6
LBMI	**Labuha**	**4.73**	**172**	P	**Pn**	**04 16 28.4**	**+1.2**
PAGZ	**Pagadian**	**5.11**	**317**	⇑eP	Pn	04 16 39.4	+6.9
GTOI	**Gorontalo**	**5.17**	**229**	P	**Pn**	**04 16 32.3**	**-0.9**
	0.1nm402nm23nm,0.6s						
ZCP	**Zamboanga City**	**5.56**	**301**	⇑*eP*	**Pn**	**04 16 41.9**	**+3.2**
ZCP				*eS*	**Sn**	**04 17 42.8**	**+1.3**
MRSI	**Marisa**	**6.10**	**234**	P	**Pn**	**04 16 45.5**	**-0.6**
	0.6nm2μm178nm,0.6s						
SANI	**Sanana**	**6.16**	**188**	P	**Pn**	**04 16 46.9**	**0.0**
LUWI	**Luwuk**	**6.54**	**219**	Pn	**Pn**	**04 16 55.0**	**+2.8**
SIJI	**Sorong**	**6.58**	**138**	Pn	**Pn**	**04 16 55.9**	**+3.1**
	11nm,0.3s,baz=340,slow=6.3,SNR=9.9						
SIJI				Sn	**Sn**	**04 18 09.1**	**+2.5**
	2.1nm,0.3s,baz=246,slow=23,SNR=1.4						
MYLDM	**Lahad Datu**	**8.43**	**278**	Pn	Pn	04 17 23.9	+5.8
MYLDM				Sn	**Sn**	**04 18 57.3**	**+5.3**
FAKI	**Fak Fak**	**8.78**	**142**	Pn	Pn	04 17 26.9	+4.0
KAPI	**Kappang**	**11.51**	**218**	LR	LR	04 22 50.6	
	comp=Z,175nm,21.1s,baz=24,slow=38						
KNRA	**Kununurra**	**19.72**	**175**	P	**Pn**	**04 19 45.8**	**-0.8**
KNRA				IAmb	IAmb	04 20 01.5	
	comp=Z,30nm,1.2s						
GUMO	**Guam**	**20.11**	**61**	LR	LR	04 26 28.5	
	comp=Z,101nm,21.4s,baz=224,slow=34						
GUMO	**Guam**	**20.11**	**61**	P	**P**	**04 19 48.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**22.07**	**183**	P	**P**	**04 20 09.0**	**-1.4**
	comp=Z,1.8nm,0.4s,baz=8.1,slow=8.5,SNR=10						
FITZ	**Fitzroy Crossi**	**22.07**	**183**	P	**P**	**04 20 09.8**	**-0.6**
FITZ				IAmb	IAmb	04 20 28.7	
	comp=Z,7.6nm,0.9s						
UBPT	**Khong Chiam**	**23.83**	**299**	P	**P**	**04 20 29.6**	**+1.1**
UBPT				IAmb	IAmb	04 20 35.8	
	comp=Z,14nm,0.9s						
PMG	**Port Moresby**	**24.25**	**124**	LR	LR	04 30 04.5	
	comp=Z,75nm,18.3s,baz=292,slow=38						
WB0	**Warramunga Arr**	**24.82**	**163**		**P**	**04 20 36.8**	**-0.6**
WB0				IAmb	IAmb	04 21 01.4	
	comp=Z,17nm,0.9s						
WRAB	**Tennant Creek**	**24.97**	**163**	P	**P**	**04 20 38.4**	**-0.4**
WRAB				IAmb	IAmb	04 21 04.0	
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**24.97**	**163**	P	**P**	**04 20 37.6**	**-1.2**
	comp=Z,7.5nm,0.7s,baz=343,slow=10,SNR=16						
WRA	**Warramunga Arr**	**24.97**	**163**	P	**P**	**04 20 37.8**	**-1.0**
WB2	**Warramunga Arr**	**24.98**	**163**		**P**	**04 20 38.9**	**0.0**
WB2				IAmb	IAmb	04 21 04.0	
	comp=Z,19nm,0.8s						
WR0	**Warramunga Arr**	**25.05**	**163**		**P**	**04 20 39.4**	**-0.1**
WR0				IAmb	IAmb	04 21 01.2	
	comp=Z,9.6nm,0.8s						
KRVT	**Keravat (AS076**	**26.47**	**108**	LR	LR	04 29 22.9	
	comp=Z,93nm,20.5s,baz=37,slow=33						
JCJ	**Chichijima**	**27.16**	**31**	LR	LR	04 31 36.0	
	comp=Z,36nm,18.9s,baz=258,slow=37						
PSI	**Prapat**	**27.94**	**268**	LR	LR	04 32 29.7	
	comp=Z,144nm,21.9s,baz=89,slow=36						
ASAR	**Alice Springs**	**28.42**	**166**	P	**P**	**04 21 08.9**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=351,slow=7.9,SNR=2.2						
ASAR	**Alice Springs**	**28.42**	**166**	P	**P**	**04 21 10.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P	**P**	**04 21 33.1**	**+1.8**
	comp=Z,1.6nm,0.3s,baz=125,slow=7.8,SNR=4.7						
CMAR				LR	LR	04 35 35.1	
	comp=Z,48nm,18.8s,baz=175,slow=39						
JHJ	**Hachijo jima 2**	**31.30**	**21**	LR	LR	04 34 08.9	
	comp=Z,1.0nm,0.5s,baz=354,slow=12,SNR=1.9						
KSRS	**Korea Array**	**33.23**	**2**	P	**P**	**04 21 48.7**	**-3.4**
	comp=Z,0.6nm,0.4s,baz=176,slow=17,SNR=2.2						
MJAR	**Matsushiro Arr**	**33.94**	**16**	LR	LR	04 34 04.2	
	comp=Z,50nm,21.9s,baz=204,slow=34						
STKA	**Stephens Creek**	**38.40**	**160**	P	**P**	**04 22 32.7**	**-3.8**
	comp=Z,1.0nm,0.5s,baz=354,slow=12,SNR=1.9						
STKA	**Stephens Creek**	**38.40**	**160**	P	**P**	**04 22 36.4**	**-0.1**
SHL	**Shillong**	**39.79**	**306**	P	**P**	**04 22 48.8**	**+0.3**
ASAJ	**Asahikawa**	**42.21**	**17**	LR	LR	04 42 14.6	
	comp=Z,36nm,18.2s,baz=135,slow=39						
KLR	**Kul'dur**	**45.18**	**4**	P	**P**	**04 23 30.5**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=202,slow=5.6,SNR=1.5						
SONM	**Songino Array**	**47.02**	**341**	P	**P**	**04 23 46.4**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=156,slow=7.8,SNR=4.6						
SONM				LR	LR	04 44 16.3	
	comp=Z,56nm,20.1s,baz=172,slow=37						
MK31	**Makanchi Array**	**57.36**	**325**	P	**P**	**04 25 03.7**	**+0.6**
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**04 25 04.1**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=119,slow=7.7,SNR=17						
KDJ	**Kajisay**	**58.19**	**318**	P	**P**	**04 25 10.4**	**+1.1**
KDJ				IAmb	IAmb	04 25 12.6	
	comp=Z,4.1nm,0.7s						
ZALV	**Zalesovo Beam**	**60.35**	**333**	P	**P**	**04 25 24.0**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=134,slow=7.1,SNR=3.5						
KURK	**Kurchatov**	**61.53**	**327**	P	**P**	**04 25 32.5**	**+0.7**
KKAR	**Karatay Array**	**63.08**	**317**	P	**P**	**04 25 43.4**	**+1.0**
ABKAR	**Akbulak array**	**71.98**	**321**	P	**P**	**04 26 38.4**	**0.0**
ABKAR	**Akbulak array**	**71.98**	**321**	P	**P**	**04 26 39.1**	**+0.7**
ABKAR				IAmb	IAmb	04 26 42.4	
	comp=Z,2.2nm,0.7s						
IMAR	**Indian Mountai**	**81.96**	**24**	P	**P**	**04 27 34.5**	**+0.2**
ILAR	**Eielson Array**	**84.72**	**25**	P	**P**	**04 27 44.3**	**-4.2**
	comp=Z,0.3nm,1.0s,baz=230,slow=7.0,SNR=1.2						
KLMR	**Klimovskoe**	**85.18**	**331**	*eP*	**P**	**04 27 52.5**	**+1.7**
	comp=Z,27nm,1.7s						
ARCES	**ARCESS Array B**	**90.17**	**340**	P	**P**	**04 28 15.5**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=81,slow=6.6,SNR=5.6						
FINES	**FINESS Array B**	**91.60**	**332**	P	**P**	**04 28 21.7**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=83,slow=6.0,SNR=4.7						
AKASG	**Malin Array Be**	**91.72**	**321**	P	**P**	**04 28 22.3**	**0.0**
	comp=Z,0.2nm,0.2s,baz=64,slow=4.2,SNR=1.8						
AKASG				LR	LR	05 15 17.6	
	comp=Z,29nm,18.1s,baz=188,slow=39						
IDI	**Anoyia**	**97.41**	**306**	LR	LR	05 18 48.2	
	comp=Z,12nm,18.4s,baz=52,slow=39						
NOA	**NORSAR Array B**	**98.54**	**334**	LR	LR	05 18 45.4	
	comp=Z,9.8nm,19.9s,baz=275,slow=39						
TXAR	**Lajitas Array**	**121.26**	**52**	PKP	**PKPdf**	**04 34 07.5**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=259,slow=8.2,SNR=1.3						
TORD	**Torodi Ar. Bea**	**122.95**	**288**	PKP	**PKiKP**	**04 34 12.8**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=44,slow=2.8,SNR=2.3						

*UCR **27** 04:18:34.8±2.0, 11°.02N×86°.66W, h7km±11km, ML3.9, MW5.0, mb4.5(NEIC)*
*NEIC **27** 04:18:35.5±1.9, 11°.11N±0°.05×86°.50W±0°.07, h21km±5km, mb4.5/122, Mwr4.5/40, Error ellipse: s-maj=11.1km s-min=5.6km az=54.0*
*IDC **27** 04:18:35.0±2.3, 11°.50N×86°.09W, h15km±14km, mb4.0/15, mb1 4.3/16, mb1mx4.0/34, mbtmp4.1/16, ML4.1/1, MS3.6/27, Ms1 3.6/27, ms1mx3.4/69, Error ellipse: s-maj=34.1km s-min=12.6km az=55.0*
*INET **27** 04:18:36.6±1.2, 11°.05N±86°.59W, h15km±7km, MW4.7*
*SNET **27** 04:18:37.6±2.1, 11°.03N×86°.61W, h34km±999km, ML4.3*
*NEIC **27** 04:18:38.1, 11°.12N×86°.49W, h23km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr6.76; Mθθ-3.00; Mφφ-3.76; Mrθ-0.98; Mθφ2.46; Mφr1.93; Fault plane solution: M0 6.72000×10¹⁵ NP1:φs136.07000°, δ35.88000°, λ84.15000°. NP2:φs323.27000°, δ54.33000°, λ94.22000°. Principal axes: T 7.1335, Plg80.0000°, Azm251.0000°; N -0.9272, Plg3.0000°, Azm141.0000°; P -6.2063, Plg9.0000°, Azm50.0000°;*

ISC 27 04:18:36.9±1.1, 11°.13N±0°.04×86°.50W±0°.05, h32km±8km, n261, σ1°39/263, mb4.5/64, MS3.6/24, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.92**	**22**	*eP*	**Pb**	**04 18 54.6**	**+0.1**
HZTE	**Horizontes, Gu**	**0.98**	**115**		**Pn**	**04 18 54.5**	**+0.1**
HZTE				Sn	**Sb**	**04 19 09.4**	**+1.4**
HZTE	**Horizontes, Gu**	**0.98**	**115**	*eP*	**Pn**	**04 18 54.7**	**+0.3**
HZTE	**Horizontes, Gu**	**0.98**	**115**	*eP*	**Pn**	**04 18 54.7**	**+0.3**
HZTE				*eS*	**Sb**	**04 19 09.9**	**+1.8**
MGAN	**Managua**	**1.05**	**14**	*eP*	**Pb**	**04 18 56.5**	**+0.1**
MGAN				*eP*	**Pb**	**04 18 56.6**	**+0.1**
COPN	**Copaltepe**	**1.05**	**355**	*eP*	**Pb**	**04 18 56.2**	**-0.5**
GBS3	**Finca Las Img**	**1.08**	**108**	⇓*i*P	**Pn**	**04 18 56.4**	**+0.5**
GBS3				*i* S	**Sb**	**04 19 13.8**	**+2.7**
APYN	**Apoyeque**	**1.11**	**8**	*eP*	**Pb**	**04 18 57.4**	**-0.3**
BUEV	**Buena Vista**	**1.12**	**107**	*i* P	**Pn**	**04 18 57.1**	**+0.7**
BUEV				*i* S	**Sb**	**04 19 14.4**	**+2.2**
GB1A	**Borinquen Arri**	**1.13**	**106**	*eP*	**Pb**	**04 18 57.5**	**-0.4**
GB1A				*i* S	**Sb**	**04 19 15.5**	**+3.2**
VRLE	**La Escondida,**	**1.17**	**107**	*eP*	**Pn**	**04 18 57.8**	**+0.7**
GPS2	**Hotel Rincn d**	**1.19**	**108**	*i* P	**Pn**	**04 18 58.1**	**+0.7**
HUEN		**1.25**	**15**	*eP*	**Pb**	**04 18 59.4**	**-0.5**
MOMN	**Momotombo**	**1.27**	**358**	*eP*	**Pn**	**04 18 59.1**	**+0.6**
MOMN				*eS*	**Sb**	**04 19 16.7**	**+0.2**
ORTG	**Ortega, Santa**	**1.28**	**126**		**Pn**	**04 18 58.7**	**+0.1**
ORTG				Sn	**Sb**	**04 19 16.0**	**-0.5**
ORTG	**Ortega, Santa**	**1.28**	**126**	*eP*	**Pn**	**04 18 58.7**	**+0.1**
ORTG	**Ortega, Santa**	**1.28**	**126**	*eP*	**Pn**	**04 18 58.7**	**+0.1**
LIM1	**Limonal**	**1.30**	**109**	*i* P	**Pn**	**04 18 59.8**	**+0.9**
SAJU	**San Juanillo,**	**1.31**	**143**	*eP*	**Pn**	**04 18 57.7**	**-1.2**
HORNC	**Hornillas**	**1.36**	**107**	*eP*	**Pn**	**04 19 00.8**	**+1.0**
PLVR	**Palo Verde**	**1.37**	**124**	*eP*	**Pn**	**04 19 00.1**	**+0.2**
DUNO	**Dulce Nombre,**	**1.44**	**136**		**Pn**	**04 19 00.2**	**-0.5**
DUNO	**Dulce Nombre,**	**1.44**	**136**	*eP*	**Pn**	**04 19 00.2**	**-0.5**
DUNO	**Dulce Nombre,**	**1.44**	**136**	*eP*	**Pn**	**04 19 00.4**	**-0.6**
GRZA	**Playa Garza**	**1.48**	**145**	*eP*	**Pn**	**04 19 00.1**	**-1.2**
ACON	**Acoyapa**	**1.55**	**57**	

BOSC	San Juan Bosco	16.27	150	P	Pn	04 22 21.1	-2.2	
MCRA	Macar, Loja	16.72	157	P	Pn	04 22 28.2	-0.7	
BAUV	El Baul	18.31	95		P	04 22 46.5	-2.0	
BAUV				IAmb	IAmb	04 22 55.3		
	comp=Z,36nm,1.5s							
352A	Blakely	20.31	4	P	P	04 23 10.2	0.0	
352A				IAmb	IAmb	04 23 20.7		
	comp=Z,25nm,0.9s							
344A	Westbrook Farm	20.60	350	P	P	04 23 13.3	-0.1	
HKT	Hockley	20.65	336	P	P	04 23 13.0	-0.8	
HKT				IAmb	IAmb	04 23 16.2		
	comp=Z,28nm,1.1s							
SJG	San Juan	20.87	68	LR	LR	04 30 26.9		
	comp=Z,138nm,21.4s,baz=265,slow=35							
833A	Chaparral WMA,	20.94	327	P	P	04 23 16.1	-1.0	
833A				IAmb	IAmb	04 23 26.2		
	comp=Z,16nm,0.7s							
152A	Waverly Hall	21.50	4	P	P	04 23 23.4	+0.3	
152A				IAmb	IAmb	04 23 50.7		
	comp=Z,15nm,0.9s							
154A	Montrose	21.61	8	P	P	04 23 25.3	+1.1	
154A				IAmb	IAmb	04 23 36.2		
	comp=Z,18nm,0.8s							
LRAL	Lakeview Retre	21.81	359	P	P	04 23 26.3	0.0	
NATX	Nacogdoches	21.88	341	P	P	04 23 27.3	+0.2	
Z47A	Carrollton	22.02	356	P	P	04 23 28.8	+0.2	
Z47A				IAmb	IAmb	04 23 31.7		
	comp=Z,34nm,1.5s							
Z41A	Richland Creek	22.77	346	P	P	04 23 36.8	+0.1	
Z41A				IAmb	IAmb	04 23 38.5		
	comp=Z,20nm,0.9s							
CZSB	Cruzeiro do Su	23.23	143	eP	P	04 23 44.8	+3.3	
X48A	Hartselle	23.23	359	P	P	04 23 40.5	-0.8	
WLAR	White Oak Lake	23.26	346	P	P	04 23 41.0	-0.6	
WLAR				IAmb	IAmb	04 23 43.0		
	comp=Z,17nm,0.8s							
FPAL	Fort Paine	23.32	2	P	P	04 23 41.8	-0.5	
OXF	Oxford	23.43	354	P	P	04 23 42.0	-1.3	
OXF				IAmb	IAmb	04 23 44.6		
	comp=Z,23nm,0.8s							
PLAL	Pickwick Lake	23.79	357	P	P	04 23 46.9	+0.1	
X40A	Basin Creek Fa	23.96	347	P	P	04 23 49.0	+0.6	
SWET	Sewanee	23.99	1	P	P	04 23 48.9	+0.2	
SWET				IAmb	IAmb	04 23 49.9		
	comp=Z,7.6nm,0.6s							
W50A	Signal Mountai	23.99	2	P	P	04 23 48.7	0.0	
W50A				IAmb	IAmb	04 23 59.4		
	comp=Z,9.8nm,0.7s							
UALR	University of	24.14	348	P	P	04 23 49.4	-0.6	
UALR				IAmb	IAmb	04 23 50.5		
	comp=Z,17nm,0.7s							
TXAR	Lajitas Array	24.18	321	P	P	04 23 50.7	+0.1	
	comp=Z,6.3nm,0.7s,baz=135,slow=9.8,SNR=80							
TXAR				PcP	PcP	04 27 35.5	+4.6	
	comp=Z,0.5nm,0.8s,baz=188,slow=3.6,SNR=3.1							
TXAR				ScP	ScP	04 31 09.9	+2.6	
	comp=Z,0.0nm,0.3s,baz=140,slow=4.7,SNR=1.4							
TX31	Lajitas Ar. Si	24.18	321	P	P	04 23 51.2	+0.6	
TX32	Lajitas Array	24.18	321	P	P	04 23 51.3	+0.7	
TX32				IAmb	IAmb	04 23 52.0		
	comp=Z,7.7nm,0.7s							
MIAR	Mount Ida	24.19	346	P	P	04 23 50.0	-0.4	
MIAR				IAmb	IAmb	04 23 50.7		
	comp=Z,11nm,0.7s							
Z35A	Perchaven, San	24.20	338	P	P	04 23 49.4	-1.3	
CPCT	Cooper Cave	24.28	4	P	P	04 23 51.2	-0.1	
CPCT				IAmb	IAmb	04 24 03.7		
	comp=Z,10nm,0.7s							
W41B	Gary Mavity, V	24.50	349	P	P	04 23 52.6	-0.7	
W41B				IAmb	IAmb	04 23 53.5		
	comp=Z,12nm,0.8s							
TKL	Tuckaleechee C	24.55	5	P	P	04 23 51.6	-2.1	
	comp=Z,4.9nm,0.9s,baz=164,slow=12,SNR=9.6							
TKL				LR	LR	04 34 36.1		
	comp=Z,115nm,18.1s,baz=188,slow=40							
ABTX	Abilene, Hawle	24.58	333	P	P	04 23 53.2	-0.9	
ABTX				IAmb	IAmb	04 24 03.4		
	comp=Z,14nm,1.1s							
WHAR	Wooly Hollow	24.62	349	P	P	04 23 53.3	-1.1	
WHAR				IAmb	IAmb	04 23 54.9		
	comp=Z,19nm,0.7s							
V51A	Loudon	24.65	4	P	P	04 23 54.8	+0.2	
X37A	Clayton	24.72	342		P	04 23 54.3	-1.0	
X37A				IAmb	IAmb	04 24 01.7		
	comp=Z,15nm,0.7s							
CLTN	Cedars of Leba	24.86	0	P	P	04 23 56.3	-0.2	
CLTN				IAmb	IAmb	04 24 08.3		
	comp=Z,9.8nm,0.9s							
W39A	Magazine	24.86	346	P	P	04 23 56.2	-0.4	
W39A				IAmb	IAmb	04 23 57.2		
	comp=Z,13nm,0.7s							
V55A	Taylorsville	25.08	10	P	P	04 23 59.1	+0.6	
V55A				IAmb	IAmb	04 24 11.9		
	comp=Z,12nm,1.1s							
FCAR	Ozark Folk Cen	25.18	349	P	P	04 23 58.4	-1.0	
FCAR				IAmb	IAmb	04 23 59.5		
	comp=Z,9.8nm,0.6s							
LCAR	Lake Charles	25.19	351	P	P	04 23 58.7	-0.8	
LCAR				IAmb	IAmb	04 23 59.3		
	comp=Z,9.3nm,0.7s							
V58A	Windy Hill, Pi	25.46	14	P	P	04 24 01.3	-0.7	
V58A				IAmb	IAmb	04 24 10.7		
	comp=Z,15nm,0.7s							
X34A	Smith Ranch, M	25.55	338		P	04 24 02.6	-0.3	
X34A				IAmb	IAmb	04 24 20.1		
	comp=Z,22nm,1.0s							
T47A	Sharon Grove	25.76	359	P	P	04 24 04.0	-0.7	
U40A	Yellville	25.77	348	P	P	04 24 03.8	-1.1	
U40A				IAmb	IAmb	04 24 05.3		
	comp=Z,14nm,0.7s							
PBMO	Poplar Bluff	25.79	353	P	P	04 24 04.2	-0.7	
PBMO				IAmb	IAmb	04 24 04.8		
	comp=Z,7.1nm,0.7s							
T45A	Paducah	25.85	356	P	P	04 24 05.0	-0.5	
HHAR	Hobbs	25.93	346	P	P	04 24 05.3	-1.0	
HHAR				IAmb	IAmb	04 24 06.0		
	comp=Z,8.8nm,0.7s							
FNO	Franklin	25.99	339		P	04 24 05.0	-1.8	
WMOK	Wichita Mounta	26.03	336	P	P	04 24 07.0	-0.2	
MGMO	Mountain Grove	26.43	350	P	P	04 24 10.2	-0.6	
MNTX	Cornudas Mount	26.90	322	P	P	04 24 13.9	-1.1	
CCM	Cathedral Cave	27.15	352	P	P	04 24 16.9	-0.3	
CCM				IAmb	IAmb	04 24 31.1		
	comp=Z,16nm,1.4s							
S39A	Bolivar	27.15	348	P	P	04 24 16.1	-1.2	
MSTX	Muleshoe	27.18	329	P	P	04 24 16.1	-1.5	
MSTX				IAmb	IAmb	04 24 29.2		
	comp=Z,7.2nm,0.8s							
AMTX	Amarillo	27.39	332	P	P	04 24 19.8	+0.2	
AMTX				IAmb	IAmb	04 24 24.0		
	comp=Z,19nm,1.1s							
R40A	Maddies Statio	27.54	350	P	P	04 24 19.3	-1.4	
R40A				IAmb	IAmb	04 24 20.1		
	comp=Z,5.9nm,0.7s							
U32A	Winter Ranch,	27.57	338		P	04 24 18.2	-2.9	
U32A				IAmb	IAmb	04 24 33.0		
	comp=Z,13nm,0.7s							
Q44A	Meyer Farm, Va	27.75	356	P	P	04 24 21.4	-1.2	
Q44A				IAmb	IAmb	04 24 22.6		
	comp=Z,11nm,0.8s							
P52A	Corning	28.66	7	P	P	04 24 30.3	-0.4	
P52A				IAmb	IAmb	04 24 40.3		
	comp=Z,8.8nm,0.7s							
O44A	Mansfield	28.96	357	P	P	04 24 32.2	-1.2	
ETMB	Extrema	28.98	135	eP	P	04 24 34.4	+0.5	
P38A	Dawn	29.06	349	P	P	04 24 33.0	-1.3	
MACA	Manacapuru-AM	29.35	117	eP	P	04 24 37.1	-0.1	
O53A	New Philadelph	29.38	8	P	P	04 24 37.3	+0.1	
O53A				IAmb	IAmb	04 24 46.6		
	comp=Z,15nm,0.9s							
ANMO	Albuquerque	29.87	326	P	P	04 24 41.7	0.0	
	comp=Z,1.6nm,0.8s,baz=134,slow=7.1,SNR=6.0							
ANMO	Albuquerque	29.87	326	P	P	04 24 42.2	+0.5	
PAGS	Pennsylvania G	30.25	15	P	P	04 24 45.1	+0.3	
L40A	Anamosa	31.09	353	P	P	04 24 51.5	-0.7	
SDCO	Great Sand Dun	31.52	330	P	P	04 24 56.6	+0.2	
S22A	4UR Ranch, Cre	32.17	329	P	P	04 25 02.2	0.0	

X16A	Lo Mia Camp, P	32.48	320	P	P	04 25 05.0	+0.3	
LPAZ	La Paz	32.75	146	LR	LR	04 39 18.4		
	comp=Z,106nm,18.7s,baz=10,slow=38							
LPAZ	La Paz	32.75	146	eP	P	04 25 09.6	+1.9	
I40A	Norwalk	32.84	355	P	P	04 25 06.6	-0.9	
K31A	O'Neill	33.15	343	P	P	04 25 09.3	-1.0	
I37A	Lemond, Waseca	33.31	351	P	P	04 25 10.5	-1.2	
PV13	Radium Mtn., P	33.52	327	P	P	04 25 14.1	+0.3	
PV13				IAmb	IAmb	04 25 28.5		
	comp=Z,7.5nm,1.2s							
ECSD	EROS Data Cent	33.65	347	P	P	04 25 12.8	-1.9	
ECSD				IAmb	IAmb	04 25 13.5		
	comp=Z,8.1nm,1.1s							
PV11	David Mesa, Pa	33.65	327	P	P	04 25 14.8	-0.2	
MDP	Montagnes des	34.03	97	LR	LR	04 39 30.3		
	comp=Z,41nm,19.9s,baz=312,slow=37							
SADO	Sadowa	34.12	9	LR	LR	04 39 56.1		
	comp=Z,77nm,18.9s,baz=226,slow=38							
PHWY	Pilot Hill	34.37	334	P	P	04 25 21.1	-0.2	
SPMN	Marine on St.	34.41	352	P	P	04 25 19.0	-2.2	
SRU	San Rafael Swe	35.13	327	P	P	04 25 27.5	-0.2	
SRU				IAmb	IAmb	04 25 29.5		
	comp=Z,5.1nm,0.7s							
F36A	Milaca	35.13	351	P	P	04 25 24.6	-2.8	
F36A				IAmb	IAmb	04 25 26.6		
	comp=Z,6.1nm,0.8s							
MTPU	Mount Pierson	35.31	324	P	P	04 25 30.1	+0.6	
P18A	Preston Nutter	35.35	327	P	P	04 25 28.6	-1.2	
P18A				IAmb	IAmb	04 25 49.1		
	comp=Z,5.4nm,1.1s							
PFO	Pinyon Flats O	35.39	314	LR	LR	04 40 44.3		
	comp=Z,78nm,18.0s,baz=123,slow=38							
VILB	Vilhena	35.41	132	eP	P	04 25 31.2	+1.0	
P17A	Butcher Ranch,	35.50	327	P	P	04 25 30.6	-0.4	
P17A				IAmb	IAmb	04 25 32.9		
	comp=Z,5.6nm,0.8s							
F33A	5 Mile Ranch,	35.59	348	P	P	04 25 29.2	-2.2	
RSSD	Black Hills	36.20	338	P	P	04 25 35.3	-1.5	
PDRB	Porto dos Gac	37.22	126	eP	P	04 25 45.3	-0.4	
PD31	Pinedale Array	37.37	332	P	P	04 25 46.2	-0.7	
PDAR	Pinedale Array	37.37	332	P	P	04 25 46.9	0.0	
	comp=Z,1.6nm,0.6s,baz=127,slow=10,SNR=12							
PDAR				PcP	PcP	04 28 08.0	+2.5	
	comp=Z,0.1nm,0.3s,baz=123,slow=4.4,SNR=2.0							
PDAR	Pinedale Array	37.37	332	P	P	04 25 45.9	-1.0	
PTLB	Pontes e Lacer	37.84	134	eP	P	04 25 51.6	+0.7	
AGMN	Agassiz Nation	37.88	350	P	P	04 25 48.8	-2.0	
MDND	Maddock	38.23	346	P	P	04 25 51.8	-2.0	
REDW	Red Top Meadow	38.44	331	P	P	04 25 55.1	-0.8	
REDW				IAmb	IAmb	04 25 56.8		
	comp=Z,7.8nm,0.7s							
SNOW	Snow King Moun	38.47	331	P	P	04 25 55.7	-0.5	
SNOW				IAmb	IAmb	04 26 05.3		
	comp=Z,6.8nm,0.8s							
LOHW	Long Hollow	38.51	332	P	P	04 25 55.8	-0.7	
TPAW	Teton Pass	38.58	331	P	P	04 25 56.5	-0.7	
TPAW				IAmb	IAmb	04 26 10.2		
	comp=Z,5.2nm,0.8s							
MOOW	Moose Ponds	38.68	332	P	P	04 25 57.1	-0.8	
FLWY	Flagg Ranch	38.91	332	P	P	04 25 59.0	-0.9	
LAO	LASA Array	39.19	338	P	P	04 26 00.8	-1.1	
NVAR	Mina Array Bea	39.30	319	P	P	04 26 04.4	+1.2	
	comp=Z,1.4nm,0.6s,baz=133,slow=7.0,SNR=15							
NVAR				PcP	PcP	04 28 12.5	+0.9	
	comp=Z,0.3nm,0.4s,baz=125,slow=4.5,SNR=5.1							
NVAR				LR	LR	04 43 51.1		
	comp=Z,100nm,18.5s,baz=160,slow=39							
NVAR	Mina Array Bea	39.30	319	P	P	04 26 01.8	-1.4	
YMR	Madison River	39.49	332	P	P	04 26 03.3	-1.3	
YMR				IAmb	IAmb	04 26 14.1		
	comp=Z,6.0nm,1.1s							
KVN	Kaiserville	39.54	320	P	P	04 26 05.1	-0.1	
ULM	Lac du Bonnet	39.77	351	P	P	04 26 03.6	-3.0	
	comp=Z,4.4nm,0.5s,baz=164,slow=7.9,SNR=6.2							
ULM				LR	LR	04 43 14.9		
	comp=Z,68nm,18.1s,baz=124,slow=38							
ULM	Lac du Bonnet	39.77	351	P	P	04 26 04.1	-2.5	
ULM				IAmb	IAmb	04 26 12.9		
	comp=Z,14nm,1.3s							
DGMT	Dagmar	40.06	342	P	P	04 26 07.7	-1.5	
HLID	Hailey	40.35	328	P	P	04 26 12.1	+0.3	
MCMT	McKenzie Canyo	40.49	331	P	P	04 26 13.0	0.0	
BOZ	Bozeman (W)	40.50	333	P	P	04 26 12.0	-1.0	
SALV	Santo Antonio	40.63	131	eP	P	04 26 14.6	+0.4	
EGMT	Eagleton	41.63	336	P	P	04 26 21.9	-0.2	
EGMT				IAmb	IAmb	04 26 22.5		
	comp=Z,5.6nm,0.8s							
WVOR	Wild Horse Val	41.91	324	P	P	04 26 23.6	-1.0	
PLID	Pearl Lake	42.23	329	P	P	04 26 26.1	-1.1	
F10A	Beach Ranch, E	43.47	329	P	P	04 26 36.9	-0.2	
AQDB	Aquidauana	43.64	136	eP	P	04 26 39.1	+0.4	
YBH	Yreka Blue Hor	43.95	320	LR	LR	04 47 19.3		
	comp=Z,56nm,19.2s,baz=162,slow=39							
H03N2	Juan Fernandez	44.90	171	T	T	05 14 43.2		
	baz=349,slow=76,SNR=6.0							
H03N1	Juan Fernandez	44.90	171	T	T	05 14 45.7		
	baz=349,slow=76,SNR=6.8							
H03N3	Juan Fernandez	44.92	171	T	T	05 14 44.5		
	baz=349,slow=76,SNR=6.7							
NEW	Newport	45.01	331	LR	LR	04 48 22.3		
	comp=Z,46nm,19.4s,baz=152,slow=40							
SCHQ	Schefferville	46.29	16	P	P	04 26 56.6	-2.7	
	comp=Z,0.9nm,0.4s,baz=227,slow=6.4,SNR=5.6							
SCHQ				LR	LR	04 47 08.8		
	comp=Z,128nm,18.4s,baz=212,slow=37							
SCHQ	Schefferville	46.29	16	P	P	04 26 57.4	-1.9	
SCHQ				IAmb	IAmb	04 27 25.7		
	comp=Z,9.8nm,1.2s							
BDFB	Brasilia	46.47	124	P	P	04 27 01.0	-0.4	
	comp=Z,3.0nm,0.6s,baz=286,slow=8.8,SNR=7.2							
BDFB	Brasilia	46.47	124	P	P	04 27 00.5	-0.9	
BDFB				IAmb	IAmb	04 27 28.7		
	comp=Z,7.6nm,1.3s							
CPUP	Villa Florida	46.81	143	P	P	04 27 04.2	+0.5	
	comp=Z,2.2nm,0.7s,baz=342,slow=8.6,SNR=5.8							
CPUP	Villa Florida	46.81	143	P	P	04 27 03.4	-0.3	
CPUP	Villa Florida	46.81	143	eP	P	04 27 05.7	+1.9	
PCMB	Pacaembu	47.49	133	eP	P	04 27 09.6	+0.4	
IPMB	Ipameri, GO	47.60	127	eP	P	04 27 09.6	-0.6	
PTGB	Pitanga	48.97	137	eP	P	04 27 22.1	+1.4	
DIAM	Diamantina, MG	51.39	124	eP	P	04 27 38.2	-1.0	
CPSB	Cacapava Do Su	52.12	143	eP	P	04 27 43.9	-0.3	
PARB	Paraibuna	52.66	131	eP	P	04 27 49.0	+0.5	
RCBR	Riachuelo	53.10	106	LR	LR	04 52 11.7		
	comp=Z,174nm,18.9s,baz=98,slow=38							
PLCA	Paso Flores	53.67	165	P	P	04 27 57.6	+2.0	
	comp=Z,2.8nm,1.0s,baz=291,slow=3.5,SNR=2.6							
PLCA	Paso Flores	53.67	165	P	P	04 27 55.0	-0.6	
PLCA	Paso Flores	53.67	165	eP	P	04 27 57.7	+2.2	
FRB	Frobisher Bay	54.06	10	LR	LR	04 51 30.0		
	comp=Z,134nm,19.3s,baz=187,slow=37							
YKA	Yellowknife Ar	55.13	345	P	P	04 28 04.0	-1.8	
	comp=Z,1.3nm,0.7s,baz=138,slow=7.4,SNR=32							
YKA				PcP	PcP	04 29 06.2	-0.6	
	comp=Z,0.1nm,0.5s,baz=144,slow=3.8,SNR=1.8							
YKA				ScP	ScP	04 33 05.1	+1.8	
	comp=Z,0.1nm,0.6s,baz=140,slow=4.6,SNR=2.3							
YKA				LR	LR	04 55 54.2		
	comp=Z,34nm,19.0s,baz=308,slow=41							
YKA	Yellowknife Ar	55.13	345	P	P	04 28 04.2	-1.6	
DLBC	Dease Lake	57.49	335	P	P	04 28 21.6	-1.3	
	comp=Z,1.8nm,0.7s,baz=47,slow=10,SNR=1.4							
SFJD	Kangerlussuaq	60.74	15	LR	LR	04 55 31.3		
	comp=Z,142nm,18.2s,baz=208,slow=37							
RES	Resolute Bay	63.71	358	LR	LR	04 58 60.0		
	comp=Z,28nm,18.3s,baz=75,slow=38							
INK	Inuvik	64.74	342	P	P	04 29 10.1	-1.6	
	comp=Z,2.3nm,1.0s,baz=117,slow=5.4,SNR=5.6							
INK				LR	LR	04 59 15.6		
	comp=Z,32nm,18.1s,baz=151,slow=38							
INK	Inuvik	64.74	342	P	P	04 29 11.0	-0.7	
INK				IAmb	IAmb	04 29 15.5		
	comp=Z,4.1nm,1.1s							
IL31		67.60	336	P	P	04 29 28.7	-1.4	
IL31				IAmb	IAmb	04 29 38.2		
	comp=Z,2.1nm,0.7s							
ILAR	Eielson Array	67.60	336	P	P	04 29 28.9	-1.3	
	comp=Z,1.0nm,0.7s,baz=129,slow=4.0,SNR=15							
RND	Reindeer	67.90	335	P	P	04 29 31.8	-0.4	
RND				IAmb	IAmb	04 29 32.8		
	comp=Z,6.4nm,0.8s							
ESDC	Sonseca Array	77.28	52	LR	LR	05 00 44.9		
	comp=Z,43nm,19.8s,baz=259,slow=33							
MDT	Midelt	77.30	59	LR	LR	05 01 57.4		
	comp=Z,79nm,18.7s,baz=300,slow=34							

PMSA	Palmer Station	77.56	170	eP	P	04 30 31.0	+1.8	
NOA	NORSAR Array B	84.07	29	LR	LR	05 03 58.4		
	comp=Z,27nm,22.0s,baz=275,slow=33							
TORD	Torodi Ar. Bea	85.79	77	P	P	04 31 12.0	-1.8	
	comp=Z,0.7nm,1.1s,baz=300,slow=7.2,SNR=2.3							
DAVOX	Davos/Dischmat	86.31	43	LR	LR	05 04 08.7		
	comp=Z,59nm,19.5s,baz=79,slow=32							
FINES	FINESS Array B	90.74	26	LR	LR	05 08 40.0		
	comp=Z,31nm,21.9s,baz=22,slow=33							
TIXI	Tiksi	94.11	349	LR	LR	05 18 29.5		
	comp=Z,36nm,18.9s,baz=183,slow=38							
OBN	Obninsk	98.67	29	LR	LR	05 18 20.4		
	comp=Z,6.3nm,18.1s,baz=42,slow=36							
SONM	Songino Array	120.19	350	PKP	PKiKP	04 37 25.9	+0.8	
	comp=Z,0.3nm,0.4s,baz=350,slow=1.6,SNR=2.1							
MKAR	Makanchi Array	121.48	9	PKP	PKPdf	04 37 25.6	-1.7	
	comp=Z,0.2nm,0.4s,baz=300,slow=3.0,SNR=2.0							
ASAR	Alice Springs	139.62	247	PKP	PKPdf	04 38 03.0	+0.8	
	comp=Z,1.1nm,0.8s,baz=104,slow=1.9,SNR=8.4							
WRA	Warramunga Arr	139.77	252	PKP	PKPdf	04 38 03.2	+0.7	
	comp=Z,1.3nm,0.7s,baz=95,slow=2.5,SNR=15							
WRA	Warramunga Arr	139.77	252		PKPdf	04 38 01.9	-0.6	
CMAR	Chiang Mai Arr	150.12	350	PKPbc	PKPbc	04 38 25.3	-0.1	
	comp=Z,1.0nm,0.3s,baz=323,slow=2.2,SNR=5.5							

TUL ***27*** *05:19:24.7±1.0,35.66N±0.01×97.18W±0.01, h6km±4km, ML3.0,mb_Lg2.3/18(NEIC), Error ellipse: s-maj=2.0km s-min=1.4km az=144.0*

NEIC 27 05:19:25.1±1.1, 35.67N±0.01×97.18W±0.01, h10km±3km, Error ellipse: s-maj=2.0km s-min=1.7km az=173.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	Arcadia Dam	0.16	263	Pg	Pg	05 19 28.1	-0.4
ADOK				Sg	Sg	05 19 30.8	-0.1
OKCFA	Oklahoma City	0.34	221	Pg	Pg	05 19 31.4	-0.4
OKCFA				Sg	Sg	05 19 36.1	-0.2
OKCSW	OKLAHOMA CITY	0.34	218		Pg	05 19 31.4	-0.4
OKCSW				Sg	Sg	05 19 36.3	0.0
FNO	Franklin	0.45	203	Pg	Pg	05 19 33.5	-0.4
FNO				Sg	Sg	05 19 39.8	-0.1
TUL1	Leonard	1.16	78	Sg	Sb	05 20 01.7	-0.5
X34A	Smith Ranch, M	1.19	207	Pn	Pb	05 19 47.2	-0.6
T35A	Soomer Cattle	1.35	23	Pn	Pn	05 19 49.5	-0.6
WMOK	Wichita Mounta	1.61	235		Pn	05 19 53.4	-0.2
X37A	Clayton	1.83	126	Pn	Pn	05 19 57.2	+0.6
Z35A	Perchaven, San	2.34	181	Pn	Pn	05 20 04.6	+1.0
Z35A				IAmb_Lg		05 20 42.4	
	comp=Z,15nm,1.1s						
W39A	Magazine	2.81	99	Pn	Pn	05 20 10.4	+0.3
W39A				IAmb_Lg		05 21 00.7	
	comp=Z,8.9nm,0.8s						
R32A	Long Quarter,	3.01	336	IAmb_Lg		05 21 07.0	
	comp=Z,6.9nm,0.7s						
MIAR	Mount Ida	3.16	110	Pn	Pn	05 20 15.9	+1.0
U40A	Yellville	3.58	78	Pn	Pn	05 20 22.0	+1.4
X40A	Basin Creek Fa	3.76	107	IAmb_Lg		05 21 30.5	
	comp=Z,8.7nm,0.8s						
AMTX	Amarillo	3.76	259	IAmb_Lg		05 21 34.0	
	comp=Z,8.0nm,0.7s						
W41B	Gary Mavity, V	4.06	96	Pn	Pn	05 20 27.6	+0.3
W41B				IAmb_Lg		05 21 39.6	
	comp=Z,8.8nm,0.9s						
FCAR	Ozark Folk Cen	4.12	85	IAmb_Lg		05 21 39.5	
	comp=Z,9.5nm,0.8s						
MGMO	Mountain Grove	4.23	68	IAmb_Lg		05 21 38.0	
	comp=Z,9.8nm,1.1s						
P38A	Dawn	4.89	35	IAmb_Lg		05 22 10.2	
	comp=Z,5.3nm,0.8s						
T25A	Trinidad	6.01	286	IAmb_Lg		05 22 39.1	
	comp=Z,4.7nm,1.0s						

KNET ***27*** *05:21:30.0,38.57N×72.44E, h10km*

NNC 27 05:21:09.5±15.0, 37.20N×70.85E, h0km, mb4.0, mpv4.0, 2C-2D, Error ellipse: s-maj=133.9km s-min=85.7km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.39	23	P	Pn	05 22 29.9	-1.7
	SNR=37						
UCH	Uchtor	5.76	28	P	Pn	05 22 34.2	-2.5
	SNR=10						
EKS2	Erkin-Say	5.90	22	P	Pn	05 22 37.3	-1.0
	SNR=8.3						
KK31	Karatay Array	5.90	358	⇓P	Pn	05 22 39.9	+1.8
	5.5nm,0.3s,baz=174,slow=13,SNR=173						
KK31				⇑S	Sn	05 23 43.9	-2.6
	4.4nm,0.4s,baz=175,slow=22,SNR=9.5						
AAK	Ala-Archa	6.11	26	P	Pn	05 22 39.3	-1.9
	SNR=14						
CHMS	Chumysh	6.52	26	P	Pn	05 22 44.5	-2.2
	SNR=5.8						
USP	Ospenovka	6.67	24	P	Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.55**	**15**	PN	**Pg**	**05 24 40.2**	**+1.1**
AKAS				SN	**Sg**	**05 24 59.6**	**+0.4**
AKAS	**Kas**	**1.55**	**15**	P	**Pg**	**05 24 39.9**	**+0.9**
AKAS				S	**Sg**	**05 24 59.1**	**-0.1**
ARG	**Arkhangelos**	**1.68**	**332**	PN	**Pn**	**05 24 39.7**	**+1.5**
ARG				SN	**Sn**	**05 24 58.8**	**-0.7**
KARP	**Karpathos**	**1.79**	**297**	PN	**Pn**	**05 24 41.2**	**+1.5**
KARP				SN	**Sn**	**05 25 00.6**	**-1.6**
AKUM	**Antalya-Kumluc**	**1.88**	**32**	P	**Pg**	**05 24 44.1**	**-1.2**
FETY	**Fethiye**	**1.90**	**359**	PN	**Pb**	**05 24 43.5**	**-0.1**
FETY				SN	**Sn**	**05 25 05.4**	**+0.5**
DALY	**Dalyan (Mula)**	**2.11**	**350**	PN	**Pb**	**05 24 46.9**	**-0.3**
ELL	**Elmali**	**2.11**	**18**	PN	**Pg**	**05 24 48.5**	**-1.3**
ELL	**Elmali**	**2.11**	**18**	P	**Pg**	**05 24 49.7**	**-0.1**
TURN	**Turunc**	**2.15**	**341**	PN	**Pn**	**05 24 47.0**	**+2.3**
TURN	**Turunc**	**2.15**	**341**	P	**Pn**	**05 24 46.7**	**+2.0**
TURN				S	**Sn**	**05 25 09.7**	**-1.4**
OSC1	**CSNet OBS 1**	**2.18**	**124**	P	**Pg**	**05 24 51.7**	**+0.6**
OSC1				S	**Sg**	**05 25 18.4**	**-1.1**
CAME	**Cameli-Denizli**	**2.21**	**4**	PN	**Pb**	**05 24 49.0**	**0.0**
CAEL	**Denizli, Camel**	**2.39**	**4**	P	**Pb**	**05 24 51.2**	**-0.9**
CAEL				S	**Sn**	**05 25 18.3**	**+1.1**
CAEL				*i* AML	AML	05 25 26.0	
	comp=N,65nm,0.4s						
KORT	**Korkueli**	**2.48**	**24**	PN	**Pb**	**05 24 54.0**	**+0.4**
KORT	**Korkueli**	**2.48**	**24**	P	**Pb**	**05 24 53.9**	**+0.4**
KORT				S	**Sb**	**05 25 23.8**	**-0.2**
YER	**Yerkesik**	**2.48**	**345**	PN	**Pn**	**05 24 51.8**	**+2.5**
GOLH	**Golhisar**	**2.52**	**8**	P	**Pb**	**05 24 54.6**	**+0.3**
GOLH				S	**Sb**	**05 25 24.0**	**-1.3**
MULA	**Mugla, Merkez-**	**2.59**	**346**	P	**Pb**	**05 24 54.4**	**-1.2**
MULA				S	**Sn**	**05 25 22.9**	**+0.7**
MULA				*i* AML	AML	05 25 31.0	
	comp=E,51nm,0.6s						
AKMS	**Akamas**	**2.67**	**83**	P	**Pb**	**05 24 56.0**	**-0.8**
AKMS				S	**Sb**	**05 25 26.4**	**-3.0**
AKMS				AML	AML	05 25 29.0	
	0.4nm,0.3s						
AKMS				AML	AML	05 25 29.0	
	0.4nm,0.3s						
AKMS				AML	AML	05 25 29.1	
	0.8nm,0.4s						
AKMS				AML	AML	05 25 29.1	
	0.8nm,0.4s						
BDRM	**Kayabasi**	**2.69**	**330**	P	**Pn**	**05 24 53.9**	**+1.9**
BDRM				S	**Sn**	**05 25 21.0**	**-3.4**
TAVA	**DENIZLI_Tavas**	**2.73**	**357**	P	**Pb**	**05 24 56.2**	**-1.7**
TAVA				S	**Sn**	**05 25 26.1**	**+0.5**
TAVA				*i* AML	AML	05 25 28.0	
	comp=E,69nm,0.4s						
BODT	**Bodrum**	**2.74**	**328**	PN	**Pn**	**05 24 54.7**	**+1.9**
BUCA	**Burdur, Bucak-**	**2.84**	**24**	P	**Pb**	**05 24 59.6**	**-0.2**
NATA	**Nata**	**2.85**	**88**	P	**Pb**	**05 24 58.9**	**-1.0**
ALFC	**Alefka**	**2.90**	**81**	S	**Sb**	**05 25 31.8**	**-4.3**
KEPZ	**Antalya-Kepez**	**2.96**	**42**	P	**Pb**	**05 25 00.2**	**-1.7**
KEPZ				S	**Sb**	**05 25 34.5**	**-3.5**
AYDN	**Tasoluk**	**3.08**	**342**	P	**Pn**	**05 25 00.3**	**+2.7**
AYDN				S	**Sn**	**05 25 33.1**	**-1.2**
AYDN				*i* AML	AML	05 25 36.0	
	comp=E,39nm,0.3s						
AYDN				*i* AML	AML	05 25 38.0	
	comp=N,34nm,0.4s						
OSC2	**CSNet OBS 4**	**3.11**	**121**	P	**Pb**	**05 25 04.2**	**0.0**
SZAC	**Souni**	**3.11**	**89**	P	**Pb**	**05 25 02.6**	**-1.7**
SZAC				AML	AML	05 25 41.1	
	0.3nm,0.5s						
SZAC				AML	AML	05 25 42.7	
	0.5nm,0.2s						
SUTC	**Sutluce-Ispart**	**3.13**	**29**	PN	**Pb**	**05 25 03.5**	**-1.3**
GCAM	**G?zelcaml?**	**3.32**	**333**	PN	**Pn**	**05 25 03.3**	**+2.5**
AYDB	**Zeytinkoy-Aydi**	**3.35**	**343**	PN	**Pn**	**05 25 03.5**	**+2.2**
ASGA	**Asgata**	**3.41**	**88**	P	**Pb**	**05 25 06.6**	**-2.8**
ASGA				AML	AML	05 25 50.1	
	0.4nm,0.3s						
ASGA				AML	AML	05 25 50.2	
	0.7nm,0.4s						
CSS	**Mathiatis**	**3.48**	**85**	P	**Pb**	**05 25 07.7**	**-3.0**
HDMB	**Hadim**	**3.53**	**50**	PN	**Pb**	**05 25 10.2**	**-1.4**
PASA	**Karahalli, USA**	**3.62**	**5**	P	**Pn**	**05 25 08.5**	**+3.6**
MATC	**Matruh**	**3.73**	**206**	P	**Pn**	**05 25 08.7**	**+2.3**
	baz=205						
MATC				S	**Sn**	**05 25 46.6**	**-3.5**
	baz=205						
KULA	**Kula-Manisa**	**3.79**	**355**	PN	**Pn**	**05 25 09.7**	**+2.4**
YVAC	**Isparta, Yalva**	**3.92**	**25**	P	**Pb**	**05 25 14.4**	**-3.9**
USAK	**Uak-Merkez**	**3.97**	**359**	P	**Pn**	**05 25 11.7**	**+2.0**
USAK				S	**Sn**	**05 25 54.1**	**-2.0**
USAK				*i* AML	AML	05 26 04.0	
	comp=E,29nm,0.3s						
SLUM	**Salum**	**4.60**	**226**	P	**Pn**	**05 25 19.9**	**+1.5**
	baz=227						
SLUM				S	Sn	05 26 06.0	-5.5
	baz=227						
HMYD	**Mayadein**	**5.13**	**163**	P	**Pn**	**05 25 28.9**	**+3.2**
	baz=161						
KOT	**Kottamia**	**5.32**	**154**	P	**Pn**	**05 25 30.8**	**+2.5**
	baz=151						
HHAG	**Hagoal**	**5.40**	**151**	P	**Pn**	**05 25 33.4**	**+4.0**
	baz=149						
HSAF	**As Saff**	**5.51**	**157**	P	**Pn**	**05 25 33.4**	**+2.5**
	baz=155						
GLL	**Jalalah**	**5.60**	**156**	P	**Pn**	**05 25 34.1**	**+2.0**
	baz=154						
RYAN	**Fayoum**	**5.72**	**170**	P	**Pn**	**05 25 35.7**	**+1.9**
	baz=168						
RYAN				S	**Sn**	**05 26 36.5**	**-2.8**
	baz=168						
SUZ	**Suez**	**5.81**	**146**	P	**Pn**	**05 25 38.7**	**+3.7**
	baz=144						
KZIT	**Kziot**	**5.87**	**129**	Pn	**Pn**	**05 25 39.3**	**+3.5**
KZIT				Sn	**Sn**	**05 26 43.3**	**+0.5**
DSI	**Dead Sea**	**6.13**	**119**	Pn	Pn	05 25 44.4	+5.0
DSI				Sn	**Sn**	**05 26 52.0**	**+2.6**
MDBI	**Mazsada**	**6.26**	**121**	Pn	**Pn**	**05 25 45.2**	**+4.1**
MDBI				Sn	**Sn**	**05 26 54.1**	**+1.7**
KRMI	**Paran Flat**	**6.61**	**133**	Pn	**Pn**	**05 25 49.3**	**+3.2**
KRMI				Sn	**Sn**	**05 27 00.1**	**-1.2**
PRNI	**Paran**	**6.62**	**130**	Pn	**Pn**	**05 25 49.5**	**+3.3**
PRNI				Sn	**Sn**	**05 27 01.4**	**-0.1**
MBRI	**Mt Berech**	**6.96**	**133**	Pn	**Pn**	**05 25 54.5**	**+3.6**
MBRI				Sn	**Sn**	**05 27 08.9**	**-1.0**
EIL	**Elat**	**7.07**	**134**	Pn	**Pn**	**05 25 54.9**	**+2.6**
EIL				Sn	**Sn**	**05 27 11.6**	**-0.9**
TAMRE	**El Minia**	**7.20**	**167**	P	**Pn**	**05 25 56.5**	**+2.4**
	baz=165						
HBST	**Basata**	**7.29**	**138**	P	**Pn**	**05 25 58.8**	**+3.5**
	baz=135						
TR2	**Tor 2**	**7.46**	**147**	P	**Pn**	**05 26 00.6**	**+3.0**
	baz=145						
HKAT	**Jabal Katrina**	**7.46**	**145**	P	**Pn**	**05 26 00.8**	**+2.9**
	baz=143						
ASUT		**7.61**	**163**	P	**Pn**	**05 26 02.9**	**+3.1**
	baz=161						
HHRG	**Al Ghardaqah**	**8.41**	**152**	P	**Pn**	**05 26 15.0**	**+4.3**
	baz=150						

*TAP **27** 05:24:59.5,24.°24N×121.°78E,h12km,ML3.6,B*
*JMA **27** 05:24:59.9±0.1,24.°18N×121.°73E,h19km±2km,M3.0*
ISC 27 05:24:59.6±0.8,**24.°22N**±0.°02×**121.°79E**±0.°02,**h14**km±4km,
n88,σ0°**79**/139,**5C-18D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**334**	⇓*i*P	**Pg**	**05 25 02.2**	**-0.5**
	baz=333						
EHP				*i* S	**Sg**	**05 25 04.4**	**-0.5**
	baz=333						
ETL	**Fush Village**	**0.16**	**248**	⇓*i*P	**Pg**	**05 25 03.6**	**0.0**
	baz=240						
ETL				*i* S	**Sb**	**05 25 06.7**	**-1.0**
	baz=240						
NACB	**Ninganchiao**	**0.18**	**255**	⇓*i*P	**Pg**	**05 25 03.7**	**-0.1**
	baz=242						
NACB				*i* S	**Sb**	**05 25 06.9**	**-1.3**
	baz=242						
ENA	**Nanau**	**0.21**	**348**	⇓*i*P	**Pg**	**05 25 03.8**	**-0.5**
	baz=350						
ENA				*i* S	**Sg**	**05 25 06.8**	**-0.7**
	baz=350						
EWUT	**Wuta**	**0.22**	**357**	⇓*i*P	**Pg**	**05 25 04.1**	**-0.4**
	baz=358						
EWUT				S	**Sg**	**05 25 07.3**	**-0.6**
	baz=358						
TWD	**Chiawan**	**0.23**	**232**	⇑*i*P	**Pg**	**05 25 04.5**	**0.0**
	baz=231						
TWD				*i* S	**Sb**	**05 25 08.3**	**-1.1**
	baz=231						
ETLH	**Xiulin Townshi**	**0.28**	**267**	⇑*i*P	**Pg**	**05 25 05.6**	**+0.1**
	baz=263						
ETLH				*i* S	**Sb**	**05 25 09.9**	**-1.3**
	baz=263						
HWA	**Hwalien**	**0.29**	**215**	*e*P	**Pb**	**05 25 07.3**	**+0.7**
	baz=219						
ETM	**Tongmen**	**0.37**	**227**	*e*P	**Pb**	**05 25 07.3**	**-0.7**
	baz=224						
ETM				*e*S	**Sb**	**05 25 12.8**	**-0.8**
	baz=224						
TWC	**Suao**	**0.39**	**8**	⇓*i*P	**Pg**	**05 25 07.1**	**-0.4**
	baz=3.0						
TWC				*i* S	**Sg**	**05 25 12.2**	**-0.6**
	baz=3.0						
TEYL	**Yanliau Villag**	**0.39**	**207**	*e*P	**Pb**	**05 25 08.8**	**+0.5**
	baz=217						
LATG	**Datong**	**0.40**	**323**	⇓*i*P	**Pg**	**05 25 07.5**	**-0.1**
	baz=321						
LATG				*i* S	**Sg**	**05 25 12.8**	**-0.2**
	baz=321						
NDS	**Dongshan**	**0.42**	**351**	⇓*i*P	**Pg**	**05 25 07.7**	**-0.2**
	baz=351						
NDS				*i* S	**Sg**	**05 25 13.3**	**-0.3**
	baz=351						
NNSB	**Datong**	**0.42**	**299**	⇓*i*P	**Pg**	**05 25 08.2**	**+0.1**
	baz=297						
NNSB				*i* S	**Sg**	**05 25 13.5**	**-0.4**
	baz=297						
NNS	**Nan Shan**	**0.44**	**300**	⇓*i*P	**Pg**	**05 25 08.3**	**0.0**
	baz=298						
NNS				*i* S	**Sg**	**05 25 14.3**	**0.0**
	baz=298						
NDT	**Datong Townshi**	**0.46**	**327**	⇓*i*P	**Pg**	**05 25 08.7**	**0.0**
	baz=325						
NDT				*i* S	**Sg**	**05 25 15.2**	**+0.4**
	baz=325						
ENTT	**Nioudou**	**0.47**	**334**	⇓*i*P	**Pg**	**05 25 08.8**	**-0.1**
	baz=334						
ENTT				*i* S	**Sg**	**05 25 15.1**	**0.0**
	baz=334						
WHF	**Hehuan Shan**	**0.48**	**261**	⇑*i*P	**Pb**	**05 25 09.4**	**-0.8**
	baz=258						
WHF				*i* S	**Sb**	**05 25 16.4**	**-1.0**
	baz=258						
TWE	**Neicheng**	**0.51**	**347**	⇓*i*P	**Pg**	**05 25 09.6**	**-0.1**
	baz=349						
TWE				*i* S	**Sg**	**05 25 16.2**	**-0.3**
	baz=349						
ESL	**Shilin**	**0.52**	**219**	⇑P	**Pb**	**05 25 10.2**	**-0.3**
	baz=225						
ESL				S	**Sb**	**05 25 18.6**	**+0.7**
	baz=225						
ILA	**Ilan**	**0.54**	**356**	P	**Pg**	**05 25 10.4**	**+0.1**
	baz=351						
ILA				S	**Sg**	**05 25 18.1**	**+0.5**
	baz=351						
TWT	**Tachien**	**0.56**	**273**	P	**Pb**	**05 25 11.5**	**+0.2**
	baz=271						
TWT				S	**Sb**	**05 25 18.7**	**-0.6**
	baz=271						
FUSB	**Fushanzhiwuyua**	**0.57**	**341**	⇓*i*P	**Pg**	**05 25 10.8**	**0.0**
	baz=340						
FUSB				S	**Sg**	**05 25 18.0**	**-0.3**
	baz=340						
TDCB	**Techi**	**0.58**	**273**	*e*P	**Pb**	**05 25 11.4**	**-0.2**
	baz=271						
TDCB				*e*S	**Sb**	**05 25 18.6**	**-1.1**
	baz=271						
CHGB	**Renai**	**0.58**	**254**	⇓P	**Pb**	**05 25 11.4**	**-0.4**
	baz=244						
CHGB				S	**Sb**	**05 25 19.5**	**-0.5**
	baz=244						
NSK	**Sanguang**	**0.60**	**319**	⇓*i*P	**Pg**	**05 25 11.5**	**+0.1**
	baz=318						
NSK				*i* S	**Sg**	**05 25 19.1**	**-0.3**
	baz=318						
NWLT	**Wulai**	**0.61**	**335**	⇓P	**Pg**	**05 25 11.7**	**0.0**
	baz=334						
NWLT				S	**Sg**	**05 25 19.2**	**-0.5**
	baz=334						
OWD	**Renai**	**0.62**	**245**	P	**Pb**	**05 25 12.0**	**-0.3**
	baz=243						
OWD				*e*S	**Sb**	**05 25 20.8**	**-0.2**
	baz=243						
NTC	**Toucheng**	**0.63**	**3**	P	**Pg**	**05 25 11.7**	**-0.3**
	baz=3.0						
NTC				*e*S	**Sg**	**05 25 19.4**	**-0.9**
	baz=3.0						
EGS		**0.64**	**12**	*e*P	**Pb**	**05 25 12.0**	**0.0**
	baz=21						
EGS				*e*S	**Sg**	**05 25 19.6**	**-0.8**
	baz=21						
EGFH	**Guangfu**	**0.64**	**211**	*e*P	**Pb**	**05 25 12.6**	**0.0**
	baz=217						
EGFH				*e*S	**Sn**	**05 25 22.8**	**-1.5**
	baz=217						
WUSB	**Renai**	**0.66**	**250**	P	**Pb**	**05 25 12.7**	**-0.1**
	baz=241						
WUSB				S	**Sb**	**05 25 21.7**	**-0.3**
	baz=241						
NFF	**Wufeng Townshi**	**0.74**	**304**	P	**Pb**	**05 25 14.3**	**+0.1**
	baz=303						
NFF				*e*S	**Sb**	**05 25 23.8**	**-0.4**
	baz=303						
TIPB	**Shuangxi**	**0.75**	**3**	P	**Pg**	**05 25 13.9**	**-0.3**
	baz=3.0						
TIPB				S	**Sg**	**05 25 22.9**	**-1.1**
	baz=3.0						
VWDT	**VWDT**	**0.75**	**232**	⇑P	**Pn**	**05 25 14.8**	**-1.1**
	baz=231						
VWDT				S	**Sn**	**05 25 26.1**	**-0.9**
	baz=231						
WHP	**Taichung City**	**0.77**	**274**	*e*P	**Pn**	**05 25 15.3**	**-0.9**
	baz=273						
WHP				*e*S	**Sb**	**05 25 25.3**	**0.0**
	baz=273						
NHDH	**Xindian Distri**	**0.78**	**342**	*e*P	**Pg**	**05 25 14.8**	**+0.1**
	baz=341						
HGSD	**Ruisui**	**0.80**	**205**	*e*P	**Pn**	**05 25 16.1**	**-0.4**
	baz=193						
HGSD				*e*S	**Sn**	**05 25 28.2**	**+0.1**
	baz=193						
TATO	**Taipei**	**0.80**	**340**	*e*P	**Pb**	**05 25 15.2**	**-0.1**
	baz=339						
TWB1	**Santiao Chiao**	**0.81**	**13**	P	**Pb**	**05 25 14.7**	**-0.7**
	baz=14						
TWB1				*e*S	**Sb**	**05 25 25.6**	**-0.5**
	baz=14						
WCS	**Beigang Elemen**	**0.82**	**259**	*e*P	**Pn**	**05 25 16.4**	**-0.3**
	baz=257						
LIOB	**Emei**	**0.82**	**301**	P	**Pn**	**05 25 16.4**	**-0.4**
	baz=300						
LIOB				*e*S	**Sn**	**05 25 27.3**	**-1.5**
	baz=300						
NSTT	**Nanjuang**	**0.83**	**300**	P	**Pn**	**05 25 16.2**	**-0.7**
	baz=299						
NSTT				S	**Sb**	**05 25 26.9**	**+0.1**
	baz=299						
EHY	**Hungye**	**0.83**	**211**	*e*P	**Pg**	**05 25 15.7**	**+0.1**
	baz=222						
NWF	**Wu-fen Shan**	**0.85**	**359**	P	**Pb**	**05 25 16.1**	**-0.1**
	baz=352						
NWF				S	**Sb**	**05 25 26.4**	**-1.1**
	baz=352						
SXI1	**Grass Mountain**	**0.87**	**5**	⇓P	**Pb**	**05 25 16.4**	**-0.2**
	baz=351						
SSLB	**Suanglung**	**0.88**	**241**	P	**Pn**	**05 25 16.8**	**-0.7**
	baz=248						
SSLB				S	**Sn**	**05 25 28.4**	**-1.8**
	baz=248						
SMLT	**Sun Moon Lake**	**0.88**	**248**	P	**Pn**	**05 25 17.1**	**-0.5**
	baz=238						
SMLT				*e*S	**Sn**	**05 25 30.0**	**-0.3**
	baz=238						
NCUH	**Zhongli**	**0.93**	**324**	*e*P	**Pn**	**05 25 18.8**	**+0.5**
	baz=317						
NCU	**National Centr**	**0.93**	**324**	*e*P	**Pn**	**05 25 18.3**	**+0.1**
	baz=323						
NCU				*e*S	**Sn**	**05 25 32.7**	**+1.3**
	baz=323						
TNOU	**National Taiwa**	**0.93**	**359**	*e*P	**Pb**	**05 25 17.6**	**+0.1**
	baz=359						
TNOU				*e*S	**Sb**	**05 25 28.5**	**-1.2**
	baz=359						
SBCB	**Hsinchu**	**0.93**	**308**	*e*P	**Pn**	**05 25 19.3**	**+1.1**
	baz=307						
TWQ1	**Liyutan**	**0.94**	**278**	*e*P	**Pn**	**05 25 20.0**	**+1.7**
	baz=276						
TWS1	**Kuangyinshan**	**0.94**	**339**	*e*P	**Pn**	**05 25 18.6**	**+0.2**
	baz=339						
TWS1				*e*S	**Sg**	**05 25 30.7**	**+0.6**
	baz=339						
YULB	**Yu-li**	**0.94**	**209**	*e*P	**Pb**	**05 25 16.9**	**-0.8**
	baz=218						
YM01	**YM01**	**0.94**	**348**	P	**Pg**	**05 25 18.1**	**+0.2**
	baz=347						
NSY	**Sanyi**	**0.96**	**282**	*e*P	**Pn**	**05 25 19.7**	**+1.0**
	baz=280						
NMLH	**Miaoli**	**0.96**	**289**	*e*P	**Pn**	**05 25 20.4**	**+1.7**
	baz=288						
EYUL	**Yuli**	**0.97**	**206**	*e*P	**Pn**	**05 25 19.3**	**+0.5**
	baz=221						
NTST	**Danshui**	**0.99**	**342**	*e*P	**Pn**	**05 25 19.8**	**+0.7**
	baz=341						
NTST				*e*S	**Sn**	**05 25 34.2**	**+1.3**
	baz=341						
TCU	**Taichung**	**1.02**	**266**	*e*P	**Pn**	**05 25 20.9**	**+1.4**
	baz=265						
WJS	**Zhushan**	**1.05**	**248**	*e*P	**Pg**	**05 25 21.2**	**+1.4**
	baz=243						
WJS				*e*S	**Sn**	**05 25 36.8**	**+2.5**
	baz=243						
WDJ	**Dajia District**	**1.06**	**277**	*e*P	**Pg**	**05 25 21.2**	**+1.3**
	baz=276						
YUS	**Yu-Shan**	**1.06**	**227**	*e*P	**Pn**	**05 25 20.4**	**-0.1**
	baz=226						
TWY	**Chenhua**	**1.06**	**351**	*e*P	**Pg**	**05 25 20.5**	**+0.3**
	baz=351						
WNT	**Mingjian**	**1.07**	**252**	*e*P	**Pg**	**05 25 21.1**	**+1.0**
	baz=242						
JYNG	**Yonagunijimaku**	**1.08**	**77**	P	**Pn**	**05 25 20.8**	**+0.5**
FULB	**Fuli**	**1.11**	**204**	*e*P	**Pn**	**05 25 20.7**	**-0.2**
	baz=219						
YOJ	**Yonaguni jima**	**1.14**	**78**	*e*P	**Pn**	**05 25 21.4**	**+0.3**
	baz=67						
ALS	**Alishan**	**1.15**	**232**	P	**Pg**	**05 25 21.8**	**+0.1**
	baz=232						
ALS				*e*S	**Sn**	**05 25 39.7**	**+2.5**
	baz=232						
ELDTW	**Lidau**	**1.25**	**215**	*e*P	**Pn**	**05 25 22.4**	**-0.3**
	baz=200						
WDLH	**Douliu**	**1.26**	**245**	*e*P	**Pg**	**05 25 24.9**	**+1.0**
	baz=245						
WRL	**Guolierlin Hig**	**1.33**	**256**	*e*P	**Pg**	**05 25 24.6**	**-0.5**
	baz=256						
WTK	**Tuku**	**1.39**	**248**	*e*P	**Pg**	**05 25 26.5**	**+0.2**
	baz=234						
CHN4	**Tsaushan**	**1.40**	**232**	*e*P	**Pg**	**05 25 26.6**	**+0.1**
	baz=233						
STYH	**Taoyuan**	**1.40**	**222**	*e*P	**Pg**	**05 25 26.0**	**-0.5**
	baz=223						
WTP	**Ta-pu**	**1.45**	**228**	*e*P	**Pg**	**05 25 27.2**	**-0.3**
	baz=229						
TWK	**Hsinying**	**1.52**	**232**	*e*P	**Pg**	**05 25 28.0**	**-0.9**
	baz=232						
SNST	**Tainan City**	**1.55**	**230**	*e*P	**Pg**	**05 25 29.3**	**0.0**
	baz=231						
CHN1	**Nanshi**	**1.55**	**229**	*e*P	**Pg**	**05 25 28.8**	**-0.6**
	baz=230						
WSL	**Shuilin Townsh**	**1.59**	**244**	*e*P	**Pg**	**05 25 29.6**	**-0.5**
	baz=246						
WSL				*e*S	**Sg**	**05 25 52.4**	**+1.6**
	baz=246						
ICHU	**Yijhu**	**1.63**	**239**	*e*P	**Pg**	**05 25 30.5**	**-0.4**
	baz=239						
IRIF	**Iriomote-Funau**	**1.77**	**86**	P	**Pb**	**05 25 31.4**	**-0.5**
EAST	**Anshuo**	**2.02**	**206**	*e*P	**Pb**	**05 25 34.9**	**-1.3**
	baz=195						
JKRS	**Kuro-shima**	**2.03**	**89**	P	**Pb**	**05 25 35.9**	**-0.3**
JKRS				S	**Sb**	**05 26 01.1**	**-0.2**
JIJ	**Ishigaki jima**	**2.15**	**86**	P	**Pn**	**05 25 35.6**	**+0.5**
JIJ				S	**Sn**	**05 26 03.0**	**+1.4**
VWUC	**VWUC**	**2.26**	**290**	*e*P	**Pn**	**05 25 36.8**	**+0.2**
	baz=290						
JISG	**Ishigakijimahi**	**2.33**	**80**	P	**Pn**	**05 25 39.4**	**+1.9**
JISG				S	**Sn**	**05 26 07.7**	**+1.8**

*IDC **27** 05:40:06.5±7.5,37.°40N×72.°34E,h210km±72km,mb3.2/4,*
mb1 3.3/9,mb1mx3.0/47,mbtmp3.9/9,Error ellipse:
s-maj=45.8km s-min=23.5km az=22.0
*NNC **27** 05:40:12.2±7.9,37.°93N×72.°16E,h204km±99km,mb2.8,*
mpv3.7,Error ellipse: s-maj=84.0km s-min=37.0km az=3.0
ISC 27 05:40:06.1±1.2,**37.°5N**±0.°1×**72.°3E**±0.°1,**h200**km,**n18,**
σ**1°48**/20,**mb3.5**/4,**3C-1D**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.76**	**13**	P	**Pn**	**05 41 19.1**	**+1.3**
	SNR=68						
UCH	**Uchtor**	**5.03**	**20**	P	**Pn**	**05 41 22.8**	**+1.4**
	SNR=16						
EKS2	**Erkin-Say**	**5.29**	**12**	P	**Pn**	**05 41 26.5**	**+2.2**
	SNR=8.5						
AAK	**Ala-Archa**	**5.41**	**18**	P	**Pn**	**05 41 27.6**	**+1.7**
	SNR=6.6						
KK31	**Karatay Array**	**5.75**	**347**	P	**Pn**	**05 41 31.3**	**+1.2**
	3.2nm,0.3s,baz=170,slow=12,SNR=96						
KK31				S	**Sn**	**05 42 32.7**	**-3.9**
	9.3nm,0.3s,baz=163,slow=22,SNR=24						
TKM2	**Tokmak 2**	**5.99**	**24**	P	**Pn**	**05 41 34.9**	**+1.5**
	SNR=6.6						
TKM2	**Tokmak 2**	**5.99**	**24**	⇑P	**Pn**	**05 41 34.0**	**+0.6**
	5.0nm,0.6s						
TKM2				⇑S	**Sn**	**05 42 42.0**	**-0.5**
	5.4nm,0.7s						
MKAR	**Makanchi Array**	**11.90**	**36**	P	**Pn**	**05 42 49.6**	**0.0**
	0.1nm,0.3s,baz=212,slow=14,SNR=4.9						
KURBB	**Kurchatov Arra**	**13.87**	**17**	P	**P**	**05 43 15.6**	**-0.7**
	0.2nm,0.3s,baz=202,slow=11,SNR=16						
AB31	**Akbulak array**	**14.74**	**327**	⇑P	**Pn**	**05 43 25.9**	**+0.9**
	0.6nm,0.4s,baz=137,slow=12,SNR=23						
BVAR	**Borovoye Array**	**15.58**	**356**	P	**Pn**	**05 43 35.9**	**+0.7**
AKTO	**Aktyubinsk**	**16.46**	**326**	P	**Pn**	**05 43 47.0**	**+1.2**
	0.9nm,0.3s,baz=113,slow=10,SNR=12						
AKTO	**Aktyubinsk**	**16.46**	**326**	⇓P	**Pn**	**05 43 46.9**	**+1.2**
	3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**18.60**	**24**	P	**P**	**05 44 08.6**	**+0.4**
	1.6nm,0.3s,baz=221,slow=10,SNR=56						
FINES	**FINESS Array B**	**37.22**	**325**	P	**P**	**05 46 58.0**	**+0.1**
	1.9nm,0.9s,baz=129,slow=11,SNR=1.6						
ARCES	**ARCESS Array B**	**40.61**	**337**	P	**P**	**05 47 26.3**	**+0.3**
	1.1nm,0.6s,baz=126,slow=6

comp=Z,382nm,0.3s
OCAC Ocana 1.42 351 ⇑*i*P **Pn 06 12 49.0 +0.8**
OCAC *e*S **Sn 06 13 10.6 -0.2**
OCAC *i* 06 13 14.3
comp=Z,1μm,0.2s
SPBC San Pablo de B 1.52 220 ⇑*e*P **Pn 06 12 49.6 +0.4**
SPBC *e*S **Sn 06 13 11.7 -0.9**
SPBC *i* 06 13 12.9
comp=Z,499nm,0.2s
ZARC Zaragoza, Cauc 1.87 291 *e*P **Pn 06 12 53.4 +0.5**
ZARC *e*S **Sn 06 13 19.0 -0.1**
ZARC *i* 06 13 25.0
comp=Z,632nm,0.5s
NORC Norcasia 2.17 235 *e*P **Pn 06 12 56.7 +0.3**
NORC *e*S **Sn 06 13 24.8 -0.6**
NORC *i* 06 13 27.9
comp=Z,352nm,0.2s
CHIC Chingaza 2.28 196 *e*P **Pn 06 12 59.0 +1.0**
CHIC *e*S **Sn 06 13 29.8 +1.5**
CHIC *i* 06 13 38.5
comp=Z,99nm,0.4s
ROSC El Rosal 2.33 212 P **Pn 06 13 00.1 +1.5**
comp=Z,17nm,0.3s,baz=108,slow=20,SNR=38
ROSC S **Sn 06 13 30.5 +1.3**
comp=Z,80nm,0.3s,baz=75,slow=20,SNR=11
ROSC El Rosal 2.33 212 *e*P **Pn 06 13 00.1 +1.5**
ROSC *e*S **Sn 06 13 29.8 +0.6**
ROSC *i* 06 13 36.5
comp=Z,248nm,0.3s
HELC Santa Helena 2.50 255 *e*P **Pn 06 13 01.0 +0.3**
HELC *e*S **Sn 06 13 32.5 -0.4**
HELC *i* 06 13 40.7
comp=Z,181nm,0.2s
UREC San Jos de Ur 2.59 291 *e*P **Pn 06 13 00.9 -0.4**
UREC *e*S **Sn 06 13 32.8 -1.4**
UREC *i* 06 13 46.2
comp=Z,250nm,0.3s
SOCV Socops 2.65 57 *e*P **Pn 06 13 03.4 +1.3**
SOCV *e*S **Sn 06 13 35.5 0.0**
LL1C La Loma 1 Cana 2.73 350 *e*P **Pn 06 13 06.5 +3.5**
LL1C *e*S **Sn 06 13 40.0 +2.6**
GUY2C Guyana, Caldas 2.77 235 *e*P **Pn 06 13 05.0 +1.0**
GUY2C *e*S **Sn 06 13 39.1 +0.2**
GUY2C *i* 06 13 47.5
comp=Z,363nm,0.4s
VILC Villavicencio, 2.77 193 *e*P **Pn 06 13 04.6 +0.9**
VILC *e*S **Sn 06 13 39.0 +0.6**
PTGC Puerto Gaitan, 2.79 160 *e*P **Pn 06 13 03.8 0.0**
PTGC *e*S **Sn 06 13 36.8 -1.9**
PTGC *i* 06 13 43.7
comp=Z,60nm,0.3s
LL6C La Loma 6 Bece 2.89 357 *e*P **Pn 06 13 05.4 +0.3**
LL6C *e*S **Sn 06 13 40.7 -0.2**
CBOC Ciudad Bolivar 3.06 252 *e*P **Pn 06 13 08.6 +1.3**
CBOC *e*S **Sn 06 13 44.5 -0.4**
CBOC *i* 06 13 57.6
comp=Z,124nm,0.6s
SDV Santo Domingo 3.18 50 P **Pn 06 13 09.8 +0.9**
comp=Z,39nm,0.3s,baz=218,slow=8.3,SNR=418
SDV S **Sn 06 13 46.9 -0.8**
comp=Z,15nm,0.3s,baz=228,slow=23,SNR=15
SDV Santo Domingo 3.18 50⇓ *e*P **Pn 06 13 10.2 +1.3**
SDV *e*S **Sn 06 13 47.1 -0.5**
SDV *i* 06 13 52.6
comp=Z,48nm,0.5s
ANIL Santa Ana 3.27 225 *e*P **Pn 06 13 11.9 +1.7**
ANIL *e*S **Sn 06 13 51.7 +1.7**
ORTC Ortega, Tolima 3.61 217 *e*P **Pn 06 13 15.3 +1.1**
ORTC *e*S **Sn 06 13 58.8 +1.4**
ORTC *i* 06 14 05.3
comp=Z,116nm,0.4s
SJCC San Jacinto, C 3.68 326 *e*P **Pn 06 13 15.2 +0.1**
SJCC *e*S **Sn 06 13 57.0 -1.9**
PLMC San Jos del P 3.71 239⇓ *e*P **Pn 06 13 16.4 +0.9**
PLMC *e*S **Sn 06 14 00.6 +1.0**
PLMC *i* 06 14 14.1
comp=Z,62nm,0.7s
LCBC Los crdobas, 3.82 302 *e*P **Pn 06 13 17.5 +0.6**
LCBC *e*S **Sn 06 14 02.8 +0.7**
CRJC Cerrejon, Guaj 4.17 3 *e*P **Pn 06 13 21.4 -0.2**
CRJC *e*S **Sn 06 14 07.0 -3.4**
CRJC *i* 06 14 13.0
comp=Z,45nm,0.6s
GUVC San Jose del G 4.29 174 *e*P **Pn 06 13 24.4 +1.4**
GUVC *e*S **Sn 06 14 12.9 -0.1**
YOTC Yotoco, Valle 4.30 229 *e*P **Pn 06 13 23.5 +0.2**
SOLC Bahia Solano 4.33 262 *e*P **Pn 06 13 25.0 +1.4**
MACC Macarena, Meta 4.72 189 *e*P **Pn 06 13 27.8 -0.8**
MACC *e*S **Sn 06 14 19.5 -3.7**
MACC *i* 06 14 24.5
comp=Z,24nm,0.5s
DABV Dabajuro 4.73 31 *e*P **Pn 06 13 29.9 +1.0**
DABV *e*S **Sn 06 14 20.1 -3.4**
GARC Garzon, Huila 5.20 208 *e*P **Pn 06 13 34.8 -0.4**
GARC *e*S **Sn 06 14 32.6 -2.3**
GARC *i* 06 14 36.7
comp=Z,33nm,0.3s
POPC Popayan, Colom 5.56 220 *e*P **Pn 06 13 40.7 +0.7**
POPC *e*S **Sn 06 14 42.9 -0.6**
LPAZ La Paz 23.49 168 P **P 06 17 15.7 +0.4**
comp=Z,0.2nm,0.3s,baz=339,slow=8.6,SNR=1.9
TXAR Lajitas Array 36.48 312 P **P 06 19 10.9 +1.8**
comp=Z,0.1nm,0.4s,baz=122,slow=8.6,SNR=1.4
YKA Yellowknife Ar 63.26 340 P **P 06 22 31.5 +1.1**
comp=Z,0.6nm,0.5s,baz=132,slow=6.6,SNR=31
TORD Torodi Ar. Bea 73.71 78 P **P 06 23 33.2 -3.0**
comp=Z,0.6nm,1.0s,baz=298,slow=9.3,SNR=2.9
ASAR Alice Springs 149.14 234 PKPbc **PKiKP 06 31 49.2 -1.5**
comp=Z,0.7nm,0.6s,baz=161,slow=5.7,SNR=3.7
WRA Warramunga Arr 150.37 241 PKPbc **PKiKP 06 31 52.4 -0.9**
comp=Z,0.8nm,0.4s,baz=102,slow=2.6,SNR=2.8

*IDC **27** 06:17:40.6±1.1,0.°39N×24.°94W,h0km,mb3.9/5,mb1 4.0/5, mb1mx3.6/47,mbtmp3.9/5,MS3.4/17,Ms1 3.4/17, ms1mx3.1/81,Error ellipse: s-maj=42.0km s-min=27.8km az=140.0*

ISC 27 06:17:42.0±1.0,0.°4N×0.°2×24.°9W×0.°2,h10km,n26,σ0s89/7, mb3.9/5,MS3.4/17,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
H10N3	**ASCENSION HYDR**	**13.21**	**128**	T		T	06 34 19.7	
	baz=306,slow=74,SNR=367							
H10N2	**ASCENSION HYDR**	**13.21**	**128**	T		T	06 34 20.0	
	baz=306,slow=74,SNR=452							
H10N1	**ASCENSION HYDR**	**13.23**	**128**	T		T	06 34 21.1	
	baz=306,slow=74,SNR=569							
H10S3	**ASCENSION HYDR**	**13.79**	**132**	T		T	06 35 02.2	
	baz=310,slow=74,SNR=149							
H10S2	**ASCENSION HYDR**	**13.81**	**132**	T		T	06 35 06.6	
	baz=270,slow=74,SNR=55							
DBIC	**Dimbokro**	**21.00**	**72**	LR		LR	06 28 34.8	
	comp=Z,95nm,21.8s,baz=260,slow=31							
MDP	**Montagnes des**	**28.06**	**280**	LR		LR	06 33 25.2	
	comp=Z,23nm,18.7s,baz=94,slow=34							
TORD	**Torodi Ar. Bea**	**29.30**	**63**	P		**P**	**06 23 45.2 +0.2**	
	0.5nm,0.7s,baz=249,slow=9.8,SNR=2.8							
TORD				LR		LR	06 34 20.5	
	comp=Z,128nm,20.2s,baz=272,slow=34							
MDT	**Midelt**	**37.55**	**29**	LR		LR	06 39 46.3	
	comp=Z,56nm,19.8s,baz=204,slow=35							
SIV	**San Ignacio**	**39.18**	**244**	LR		LR	06 40 18.8	
	comp=Z,83nm,18.1s,baz=268,slow=35							
CPUP	**Villa Florida**	**40.96**	**227**	LR		LR	06 41 35.9	
	comp=Z,47nm,19.6s,baz=72,slow=35							
LPAZ	**La Paz**	**45.69**	**247**	P		**P**	**06 26 04.7 +0.4**	
	0.9nm,0.6s,baz=146,slow=5.8,SNR=5.0							
LPAZ				LR		LR	06 44 58.6	
	comp=Z,107nm,18.0s,baz=56,slow=36							
SDV	**Santo Domingo**	**46.28**	**282**	LR		LR	06 42 50.2	
	comp=Z,41nm,18.2s,baz=90,slow=33							
LVC	**Limon Verde**	**48.49**	**239**	LR		LR	06 46 22.4	
	comp=Z,48nm,19.3s,baz=162,slow=36							
ROSC	**El Rosal**	**49.51**	**276**	LR		LR	06 46 05.4	
	comp=Z,56nm,19.0s,baz=97,slow=34							
VAE	**Valguarnera**	**51.77**	**40**	LR		LR	06 51 19.3	
	comp=Z,58nm,19.0s,baz=166,slow=39							
NNA	**Nana**	**52.95**	**255**	LR		LR	06 47 48.2	
	comp=Z,30nm,20.7s,baz=128,slow=34							
DAVOX	**Davos/Dischmat**	**55.35**	**28**	LR		LR	06 50 55.5	
	comp=Z,27nm,19.1s,baz=262,slow=36							
BOSA	**Boshof**	**55.95**	**125**	P		**P**	**06 27 21.4 +0.5**	
	2.8nm,0.7s,baz=324,slow=7.8,SNR=4.6							
IDI	**Anoyia**	**57.92**	**48**	LR		LR	06 52 48.8	
	comp=Z,17nm,20.0s,baz=104,slow=36							
PLCA	**Paso Flores**	**58.15**	**220**	LR		LR	06 50 55.2	
	comp=Z,36nm,18.8s,baz=194,slow=34							
GERES	**GERESS Array B**	**58.64**	**29**	P		**P**	**06 27 40.3 +0.8**	
	0.3nm,0.3s,baz=247,slow=7.3,SNR=1.9							
GERES				LR		LR	06 53 07.6	
	comp=Z,21nm,18.3s,baz=296,slow=36							
AKASG	**Malin Array Be**	**67.86**	**34**	P		**P**	**06 28 39.7 -0.8**	
	0.4nm,0.2s,baz=243,slow=7.8,SNR=4.0							
ARU	**Arti**	**86.11**	**34**	LR		LR	07 09 34.7	
	comp=Z,11nm,19.3s,baz=138,slow=36							
ASAR	**Alice Springs**	**149.03**	**140**	PKPbc		**PKiKP**	**06 37 32.1 -0.6**	
	2.4nm,0.8s,baz=210,slow=2.0,SNR=24							
WRA	**Warramunga Arr**	**151.88**	**135**	PKPbc		**PKPbc**	**06 37 37.2 -1.0**	
	0.9nm,1.0s,baz=239,slow=1.9,SNR=5.5							

*JMA **27** 06:20:07.7±0.4,33.°75N×137.°16E,h366km±4km,M2.8*
*IDC **27** 06:20:08.8±1.0,33.°69N×137.°10E,h353km±10km, mb3.0/11,mb1 3.2/16,mb1mx3.0/57,mbtmp3.8/16,Error ellipse: s-maj=17.7km s-min=14.7km az=173.0*

ISC 27 06:20:08.8±0.8,33.°75N×0.°09×137.°16E±0.°06,h355km±6km, n30,σ0s84/34,mb3.3/11,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.11**	**262**	P		**Pn**	**06 20 53.7 +1.0**	
TTO4	**TONANKAI O.B.S**	**0.41**	**51**	P		**Pn**	**06 20 53.9 +0.9**	
TK02	**Tokai 2**	**0.53**	**68**	P		**Pn**	**06 20 54.2 +0.9**	
JIE	**Ise**	**0.74**	**330**	P		**Pn**	**06 20 54.6 +0.5**	
JIE				S		**S**	**06 21 30.4 -0.1**	
JTNC	**Tanabenakahech**	**1.29**	**273**	P		**Pn**	**06 20 56.3 -0.1**	
JTNC				S		**S**	**06 21 34.3 -0.2**	
JYTA	**Yamagatataniai**	**1.87**	**349**	P		**Pn**	**06 21 00.0 +0.4**	
JWT	**Wachi**	**2.11**	**317**	P		**Pn**	**06 21 01.5 +0.3**	
JWT				S		**S**	**06 21 42.5 -0.9**	
JOD2	**Odawara 2**	**2.19**	**46**	P		**Pn**	**06 21 02.1 +0.2**	
JAI	**Aioi**	**2.26**	**272**	P		**Pn**	**06 21 02.3 -0.1**	
JHJ	**Hachijo jima 2**	**2.28**	**105**	P		**Pn**	**06 21 03.1 +0.5**	
	20nm,0.3s,baz=212,slow=19,SNR=11							
JRY	**Ryogami san**	**2.68**	**32**	P		**Pn**	**06 21 06.1 +0.4**	
JMN	**Monobe**	**2.73**	**270**	P		**Pn**	**06 21 06.3 0.0**	
MJAR	**Matsushiro Arr**	**2.91**	**17**	P		**Pn**	**06 21 07.4 -0.4**	
	0.8nm,0.3s,baz=187,slow=9.6,SNR=28							
MAT	**Matsushiro**	**2.92**	**17**	P		**Pn**	**06 21 07.8 +0.1**	
JAG	**Ashikaga**	**3.26**	**35**	P		**Pn**	**06 21 09.6 -1.3**	
BSO1	**Boso 1**	**3.29**	**73**	P		**Pn**	**06 21 08.6 -1.9**	
BSO1				S		**S**	**06 21 58.7 -1.6**	
JNU	**Nakatsue**	**5.29**	**265**	P		**Pn**	**06 21 31.4 -0.5**	
	0.7nm,0.3s,baz=129,slow=13,SNR=1.9							
KSRS	**Korea Array**	**8.38**	**299**	P		**P**	**06 22 08.3 -1.6**	
	0.9nm,0.3s,baz=112,slow=12,SNR=18							
ASAJ	**Asahikawa**	**11.18**	**21**	P		**P**	**06 22 41.8 +0.8**	
	1.2nm,0.3s,baz=143,slow=5.1,SNR=3.7							
SONM	**Songino Array**	**27.00**	**311**	P		**P**	**06 25 20.5 +0.9**	
	1.1nm,0.6s,baz=113,slow=10,SNR=4.0							
CMAR	**Chiang Mai Arr**	**37.31**	**256**	P		**P**	**06 26 48.5 -0.1**	
	1.1nm,0.3s,baz=56,slow=6.8,SNR=6.3							
ZALV	**Zalesovo Beam**	**41.67**	**315**	P		**P**	**06 27 23.4 -0.3**	
	0.4nm,0.4s,baz=114,slow=9.6,SNR=1.8							
MKAR	**Makanchi Array**	**43.01**	**305**	P		**P**	**06 27 34.6 +0.1**	
	0.5nm,0.4s,baz=88,slow=9.8,SNR=14							
KURBB	**Kurchatov Arra**	**45.37**	**310**	P		**P**	**06 27 52.2 -0.7**	
	0.9nm,0.4s,baz=88,slow=6.9,SNR=10							
WRA	**Warramunga Arr**	**53.46**	**183**	P		**P**	**06 28 52.9 -0.9**	
	0.5nm,0.3s,baz=358,slow=7.6,SNR=4.8							
INK	**Inuvik**	**58.86**	**26**	P		**P**	**06 29 32.2 +1.3**	
	0.6nm,0.7s,baz=358,slow=6.9,SNR=4.1							
YKA	**Yellowknife Ar**	**68.36**	**28**	P		**P**	**06 30 33.0 +0.5**	
	0.2nm,0.8s,baz=304,slow=6.2,SNR=3.3							
FINES	**FINESS Array B**	**70.06**	**332**	P		**P**	**06 30 42.5 -0.4**	
	0.6nm,0.4s,baz=31,slow=7.8,SNR=7.8							
NVAR	**Mina Array Bea**	**79.74**	**51**	P		**P**	**06 31 39.4 +0.8**	
	0.3nm,0.6s,baz=304,slow=1.6,SNR=2.4							
PDAR	**Pinedale Array**	**82.44**	**43**	P		**P**	**06 31 53.5 +0.9**	
	0.3nm,0.6s,baz=318,slow=2.0,SNR=3.8							

IDC 27 06:24:50.0±9.8,8.°25S×129.°05E,h163km±109km,mb2.9/1, mb1 3.2/4,mb1mx2.8/39,mbtmp3.5/4,Error ellipse: s-maj=75.2km s-min=45.2km az=34.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**10.33**	**198**	P		Pn	06 27 14.4	+0.3
	0.3nm,0.3s,baz=26,slow=11,SNR=21							
FITZ				S		S	06 29 09.9	0.0
	1.3nm,0.3s,baz=311,slow=20,SNR=9.3							
WRA	**Warramunga Arr**	**12.70**	**157**	P		Pn	06 27 43.1	-1.8
	0.6nm,0.3s,baz=331,slow=14,SNR=55							
WRA				S		Sn	06 30 01.6	-4.2
	0.9nm,0.3s,baz=340,slow=22,SNR=12							
ASAR	**Alice Springs**	**16.02**	**164**	P		P	06 28 28.2	+1.5
	0.2nm,0.3s,baz=344,slow=10,SNR=16							
ASAR				S		S	06 31 24.4	+0.1
	0.3nm,0.3s,baz=334,slow=23,SNR=6.2							
MKAR	**Makanchi Array**	**68.76**	**328**	P		P	06 35 36.3	0.0
	0.1nm,0.4s,baz=124,slow=6.0,SNR=4.5							

IDC 27 06:28:48.2±2.6,54.°18N×86.°37E,h0km,mb1 2.9/2, mb1mx2.7/44,mbtmp2.9/2,ML2.5/2,Error ellipse: s-maj=19.9km s-min=12.5km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**257**	*i*			06 35 20.0	
	baz=75,slow=324,SNR=2.3							
ZALV	**Zalesovo Beam**	**0.94**	**257**	Pg		Pg	06 29 05.5	-0.7
	2.5nm,0.3s,baz=76,slow=17,SNR=28							
ZALV				Lg		Lg	06 29 19.6	
	3.9nm,0.3s,baz=77,slow=32,SNR=19							
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn		Pn	06 30 18.4	+0.7
	0.1nm,0.3s,baz=55,slow=14,SNR=5.6							
KURBB				Lg		Lg	06 31 56.5	
	0.0nm,0.3s,baz=52,slow=34,SNR=1.1							
MKAR	**Makanchi Array**	**7.83**	**201**	Pn		Pn	06 30 44.5	+1.1
	0.1nm,0.3s,baz=24,slow=14,SNR=6.8							
MKAR				Lg		Lg	06 32 59.2	
	0.1nm,0.3s,baz=24,slow=22,SNR=3.0							

IDC 27 06:38:30.8±2.8,19.°50S×177.°48W,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.6/21,mbtmp3.6/3,Error ellipse: s-maj=290.9km s-min=34.6km az=160.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ASAR	**Alice Springs**	**45.23**	**256**	P		P	06 46 50.3	+0.1
	0.7nm,0.7s,baz=96,slow=8.2,SNR=10							
WRA	**Warramunga Arr**	**45.23**	**261**	P		P	06 46 49.9	-0.3
	0.3nm,0.3s,baz=97,slow=7.6,SNR=13							
TXAR	**Lajitas Array**	**86.11**	**57**	P		P	06 51 14.1	0.0
	0.2nm,0.6s,baz=222,slow=7.6,SNR=3.6							

*IDC **27** 07:07:00.3±1.0,11.°34S×163.°01E,h0km,mb4.1/10, mb1 4.2/10,mb1mx4.0/30,mbtmp4.1/10,MS3.2/11, Ms1 3.2/11,ms1mx2.9/63,Error ellipse: s-maj=39.9km s-min=21.2km az=131.0*

ISC 27 07:07:06.3±0.7,11.°25S×0.°08×163.°1E±0.°1,h35km,n28, σ1s82/17,mb4.0/10,MS3.2/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**3.55**	**300**	Pn		**Pn**	**07 08 02.9 +3.9**	
	19nm,0.3s,baz=266,slow=13,SNR=4.4							
HNR				Sn		**Sn**	**07 08 38.1 -1.8**	
	39nm,0.3s,baz=251,slow=11,SNR=3.7							
DZM	**Mont Dzumac**	**11.23**	**164**	Sn		**Sn**	**07 11 47.4 -1.6**	
	0.6nm,0.3s,baz=286,slow=16,SNR=1.8							
DZM				LR		LR	07 13 27.6	
	comp=Z,96nm,20.6s,baz=2.5,slow=35							
DZM	**Mont Dzumac**	**11.23**	**164**	*e*Pn		**Pn**	**07 09 47.7 +3.1**	
	1.9nm,0.2s							
DZM				*e*Sn		Sn	07 11 37.0	-12
	2.9nm,0.3s							
DZM				*e*LR		LR	07 12 07.0	
	comp=Z,210nm,25.9s							
DZM				*e*LR		LR	07 22 24.2	
	comp=Z,190nm,25.1s							
PMG	**Port Moresby**	**15.75**	**275**	LR		LR	07 17 04.9	
	comp=Z,104nm,18.4s,baz=110,slow=38							
CTA	**Charters Tower**	**18.39**	**239**	P		**Pn**	**07 11 19.9 +1.1**	
	0.5nm,0.3s,baz=75,slow=14,SNR=6.5							
CTA				LR		LR	07 17 23.7	
	comp=Z,105nm,19.0s,baz=87,slow=34							
STKA	**Stephens Creek**	**28.52**	**221**	P		**P**	**07 12 58.1 -0.6**	
	2.2nm,0.6s,baz=43,slow=12,SNR=4.7							
STKA				LR		LR	07 23 32.5	
	comp=Z,74nm,18.6s,baz=22,slow=35							
WRA	**Warramunga Arr**	**28.94**	**249**	P		**P**	**07 13 00.4 -2.2**	
	0.5nm,0.6s,baz=77,slow=8.7,SNR=6.3							
WRA				PcP		**PcP**	**07 16 10.4 -0.8**	
	0.2nm,0.5s,baz=78,slow=3.7,SNR=5.9							
H11S2	**WAKE ISLAND Hy**	**29.77**	**7**	T		T	07 43 58.6	
	baz=188,slow=76,SNR=53							
H11S3	**WAKE ISLAND Hy**	**29.78**	**7**	T		T	07 43 58.7	
	baz=188,slow=76,SNR=55							
H11S1	**WAKE ISLAND Hy**	**29.79**	**7**	T		T	07 43 59.9	
	baz=188,slow=76,SNR=76							
ASAR	**Alice Springs**	**30.35**	**242**	P		**P**	**07 13 12.7 -2.4**	
	0.6nm,0.6s,baz=64,slow=10,SNR=9.4							
ASAR				LR		LR	07 24 49.7	
	comp=Z,83nm,18.8s,baz=100,slow=35							
GUMO	**Guam**	**30.57**	**323**	LR		LR	07 25 47.9	
	comp=Z,15nm,18.8s,baz=130,slow=37							
H11N1	**WAKE ISLAND Hy**	**31.00**	**7**	T		T	07 45 30.8	
	baz=188,slow=76,SNR=39							
H11N3	**WAKE ISLAND Hy**	**31.01**	**7**	T		T	07 45 31.5	
	baz=188,slow=76,SNR=40							
H11N2	**WAKE ISLAND Hy**	**31.02**	**7**	T		T	07 45 32.1	
	baz=188,slow=76,SNR=50							
SIJI	**Sorong**	**33.21**	**286**	LR		LR	07 28 42.1	
	comp=Z,54nm,19.4s,baz=83,slow=39							
JCJ	**Chichijima**	**43.17**	**332**	LR		LR	07 35 27.6	
	comp=Z,19nm,18.3s,baz=350,slow=40							
PPT	**Papeete**	**46.21**	**104**	LR		LR	07 32 38.3	
	comp=Z,18nm,19.2s,baz=307,slow=33							
ASAJ	**Asahikawa**	**58.16**	**343**	LR		LR	07 38 56.5	
	comp=Z,21nm,21.5s,baz=54,slow=33							
USRK	**Ussuriysk Ar.**	**61.99**	**335**	P		**P**	**07 17 23.1 +0.3**	
	4.4nm,0.8s,baz=147,slow=7.4,SNR=8.0							
PETK	**Petropavlovsk-**	**64.27**	**356**	LR		LR	07 41 47.5	
	comp=Z,21nm,20.2s,baz=134,slow=32							
SONM	**Songino Array**	**77.29**	**325**	P		**P**	**07 18 57.7 +0.3**	
	3.7nm,0.8s,baz=134,slow=6.0,SNR=14							
ILAR	**Eielson Array**	**84.56**	**19**	P		**P**	**07 19 35.3 -0.2**	
	0.4nm,0.7s,baz=233,slow=3.4,SNR=9.7							
NVAR	**Mina Array Bea**	**88.18**	**50**	P		**P**	**07 19 54.3 +0.1**	
	0.3nm,0.6s,baz=231,slow=7.6,SNR=3.6							
MKAR	**Makanchi Array**	**91.88**	**317**	P		**P**	**07 20 10.4 -0.7**	
	1.1nm,0.6s,baz=86,slow=6.5,SNR=11							
ZALV	**Zalesovo Beam**	**92.19**	**325**	P		**P**	**07 20 11.1 -1.2**	
	0.5nm,0.4s,baz=133,slow=6.3,SNR=1.8							
YKA	**Yellowknife Ar**	**96.37**	**28**	P		**P**	**07 20 30.5 -0.8**	
	0.4nm,0.7s,baz=261,slow=4.5,SNR=8.5							
SDV	**Santo Domingo**	**127.14**	**87**	PKP		**PKPdf**	**07 26 07.8 -0.4**	
	3.3nm,0.7s,baz=252,slow=3.2,SNR=7.5							

*IDC **27** 07:08:49.7±1.3,1.°51S×81.°56W,h0km,mb3.5/4,mb1 3.9/7, mb1mx3.7/39,mbtmp3.7/7,ML3.1/3,MS2.9/6,Ms1 2.9/6, ms1mx2.7/36,Error ellipse: s-maj=43.2km s-min=22.1km az=48.0*
*IGQ **27** 07:08:49.1±2.2,1.°5S±3.°×81.°1W±1.°0,h5km*

ISC 27 07:08:51.4±0.8,1.°10S±0.°06×81.°03W±0.°09,h10km,n88, σ1s90/77,mb3.5/4,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PPLP	**Puerto Lpez**	**0.51**	**150**	P		**Pg**	**07 09 00.0 -1.5**	
FLF1	**Flavio Alfaro-**	**1.40**	**58**	P		**Pn**	**07 09 17.0 -0.1**	
MAG1	**Magdalena**	**1.62**	**51**	P		**Pn**	**07 09 20.0 -0.1**	
ISPG	**Isla Puna-Puer**	**2.05**	**155**	P		**Pn**	**07 09 26.0 0.0**	
CHSH	**Refugio Sur-Vo**	**2.20**	**100**	P		**Pn**	**07 09 30.0 +1.4**	
PORT	**Chimborazo Vol**	**2.29**	**99**	P		**Pn**	**07 09 30.0 +0.2**	
TAMH	**Tambohuasha Ch**	**2.30**	**101**	P		**Pn**	**07 09 31.0 +1.2**	
ILLI	**Illinizas Sur**	**2.34**	**81**	P		**Pn**	**07 09 30.0 -0.4**	
PAST	**Pastocalle**	**2.43**	**80**	P		**Pn**	**07 09 33.0 +1.4**	
HPAL	**Hacienda Las P**	**2.54**	**70**	P		**Pn**	**07 09 33.0 0.0**	
CAMI	**Rancho Maria**	**2.56**	**81**	P		**Pn**	**07 09 35.0 +1.5**	
GGPT	**Toaza - Volcan**	**2.57**	**70**	P		**Pn**	**07 09 33.0 -0.5**	
JUA2	**San Juan 2**	**2.58**	**70**	P		**Pn**	**07 09 35.0 +1.2**	
BMAS	**Trigal station**	**2.58**	**99**	P		**Pn**	**07 09 35.0 +1.3**	
JUI6	**Juive**	**2.58**	**97**	P		**Pn**	**07 09 36.0 -2.1**	
BNAS	**Cotopaxi Volca**	**2.59**	**81**	P		**Pn**	**07 09 36.0 +2.1**	
TERV	**Terraza Guagua**	**2.60**	**69**	P		**Pn**	**07 09 35.0 +1.0**	
PINO	**Pino**	**2.60**	**69**	P		**Pn**	**07 09 34.0 -0.1**	
BMOR	**Cotopaxi Volca**	**2.60**	**82**	P		**Pn**	**07 09 35.0 +0.9**	
POND	**Pondoa**	**2.60**	**97**	P		**Pn**	**07 09 36.0 +2.1**	
ARRY	**Arrayan**	**2.61**	**99**	P		**Pn**	**07 09 36.0 +2.0**	
RETU	**Refugio**	**2.61**	**98**	P		**Pb**	**07 09 37.0 -1.7**	
ARNL	**Arenillas**	**2.62**	**158**	P		**Pn**	**07 09 32.0 -1.8**	
PAC1	**Pacto, Paraso**	**2.62**	**59**	*e*P		**Pn**	**07 09 32.9 -1.1**	
PAC1	**Pacto, Paraso**	**2.62**	**59**	P		**Pn**	**07 09 33.0 -1.0**	
BREF	**Cotopaxi Volca**	**2.63**	**81**	P		**Pn**	**07 09 36.0 +1.5**	
BPAT	**Tungurahua Vol**	**2.63**	**99**	P		**Pn**	**07 09 36.0 +1.6**	
BRUN	**Tungurahua Vol**	**2.64**	**97**	P		**Pn**	**07 09 36.0 +1.5**	
YANA	**Yana**	**2.65**	**68**	P		**Pn**	**07 09 35.0 +0.3**	
PITA	**Cotopaxi Volc**	**2.66**	**78**	P		**Pn**	**07 09 37.0 +2.2**	
VCES	**Cotopaxi**	**2.66**	**84**	P		**Pn**	**07 09 37.0 +2.2**	
BVC2	**Cotopaxi Volca**	**2.66**	**81**	P		**Pn**	**07

MDP	**Montagnes des**	**29.02**	**77**	LR	LR	07 28 42.5	
	comp=Z,29nm,21.0s,baz=261,slow=40						
H03N2	**Juan Fernandez**	**32.23**	**177**	T	T	07 49 30.0	
	baz=354,slow=76,SNR=6.9						
H03N1	**Juan Fernandez**	**32.23**	**177**	T	T	07 49 20.0	
	baz=354,slow=76,SNR=25						
H03N3	**Juan Fernandez**	**32.25**	**177**	T	T	07 49 18.4	
	baz=354,slow=76,SNR=22						
TXAR	**Lajitas Array**	**37.20**	**326**	P	**P**	**07 16 03.0**	**-0.2**
	0.5nm,0.8s,baz=143,slow=9.2,SNR=6.0						
NVAR	**Mina Array Bea**	**52.19**	**323**	P	**P**	**07 18 03.3**	**+0.5**
	0.4nm,0.6s,baz=126,slow=6.0,SNR=4.8						
YKA	**Yellowknife Ar**	**68.29**	**344**	P	**P**	**07 19 53.9**	**+1.5**
	0.4nm,1.0s,baz=136,slow=6.4,SNR=5.3						
ASAR	**Alice Springs**	**138.06**	**232**	PKP	**PKPdf**	**07 28 15.1**	**-2.5**
	0.9nm,0.7s,baz=116,slow=4.3,SNR=3.3						

JMA ***27*** *07:12:39.6±0.3, 44.05N×148.05E, h0km, M4.1*
SKHL ***27*** *07:12:40.8±0.5, 44.40N×148.20E, h34km±5km, mb4.3/3*
ISC 27 07:12:37.1±2.8, 44.34N±0.09×148.3E±0.2, h15km±18km**, n18,** σ1**§51/28, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**0.95**	**340**	*eP*		**Pg**	**07 12 55.1**	**-0.4**
KUR				AMB		AMB	07 12 55.9	
	260nm,0.3s							
KUR				*eS*		**Sb**	**07 13 06.2**	**-1.5**
KUR				A		A	07 13 07.1	
	640nm,0.2s							
KUR				A		A	07 13 07.1	
	2μm,0.2s							
SHO	**Shikotan**	**1.17**	**247**	*eP*		**Pb**	**07 12 59.5**	**+0.5**
SHO				AMB		AMB	07 13 01.3	
	40nm,0.3s							
SHO				*eS*		**Sb**	**07 13 13.2**	**-0.7**
SHO				A		A	07 13 15.2	
	320nm,0.3s							
SHO				A		A	07 13 15.2	
	410nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.79**	**261**	*eP*		**Pb**	**07 13 08.6**	**-1.0**
YUK				AMB		AMB	07 13 09.4	
	170nm,0.3s							
YUK				*eS*		**Sn**	**07 13 28.8**	**-1.1**
YUK				A		A	07 13 33.3	
	430nm,0.4s							
YUK				A		A	07 13 33.3	
	710nm,0.4s							
NEM2	**Nemuro 2**	**2.10**	**243**	P		**Pn**	**07 13 12.3**	**+0.6**
NEM2				*eS*		**Sn**	**07 13 36.1**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.11**	**244**	*eP*		**Pn**	**07 13 12.4**	**+0.6**
NMR				*eS*		**Sn**	**07 13 36.1**	**-1.6**
JRA	**Rausu**	**2.33**	**261**	*eS*		**Sn**	**07 13 44.2**	**+0.9**
JNSB	**Nemuroshibetsu**	**2.45**	**258**	P		**Pn**	**07 13 18.5**	**+1.9**
JKHN	**Kushirohamanak**	**2.61**	**242**	P		**Pn**	**07 13 19.8**	**+1.1**
JNK	**Nakash**	**2.71**	**255**	P		**Pn**	**07 13 21.7**	**+1.7**
AKK	**Akkeshi**	**2.85**	**244**	*eP*		**Pn**	**07 13 23.1**	**+1.2**
AKK				*eS*		**Sn**	**07 13 55.5**	**-0.4**
JAK	**Akkeshi**	**2.95**	**244**	P		**Pn**	**07 13 24.5**	**+1.1**
JTKR	**Abashiri--Toko**	**3.19**	**265**	P		**Pn**	**07 13 29.3**	**+2.6**
JAR	**Ashorobuto**	**3.45**	**254**	P		**Pn**	**07 13 32.7**	**+2.4**
JAR				*eS*		**Sn**	**07 14 11.7**	**+0.8**
JOB	**Onbets**	**3.56**	**248**	*eS*		**Sn**	**07 14 13.5**	**+0.1**
JMP	**Maruseppu**	**3.58**	**266**	P		**Pn**	**07 13 34.4**	**+2.3**
JCH	**Churui**	**4.00**	**246**	P		**Pn**	**07 13 39.8**	**+2.0**
JCH				*eS*		**Sn**	**07 14 24.0**	**-0.3**
JNBK	**Urakawa-nobuka**	**4.55**	**245**	P		**Pn**	**07 13 46.6**	**+1.2**
JNBK				*eS*		**Sn**	**07 14 36.2**	**-1.8**
JOT	**Ohata**	**6.10**	**244**	P		**Pn**	**07 14 08.1**	**+1.4**
JOT				*eS*		**Sn**	**07 15 14.4**	**-1.8**

NOU ***27*** *07:17:17.6, 23.33S×179.61W, h569km, mb4.7/19, South of Fiji Islands*
NEIC ***27*** *07:17:19.6±1.5, 23.50S±0.08×179.96W±0.10, h542km±5km, mb4.5/88, Error ellipse: s-maj=15.2km s-min=8.6km az=51.0*
IDC ***27*** *07:17:19.5±0.8, 23.46S×180.00W, h538km±8km, mb4.0/27, mb1 4.1/30, mb1mx4.0/40, mbtmp4.9/30, Error ellipse: s-maj=9.5km s-min=8.8km az=69.0*
ISC 27 07:17:18.3±0.3, 23.55S±0.05×179.95W±0.06, h532km**, n187,** σ1**§73/175, mb4.5/69, 8C-10D, Fault plane solution: NP1:**$\phi_6$76.93065°, δ42.36361°, λ137.33434°. **NP2:** $\phi_6$201.18561°, δ62.82759°, λ56.15481°. **Principal axes:** T Plg57.7131°, Azm63.6856°; N Plg29.7017°, Azm218.2121°; P Plg11.5110°, Azm314.8831°; **Fault plane solution: NP1:**$\phi_8$186.94240°, δ64.35889°, λ90.67400°. **NP2:**$\phi_8$5.38518°, δ25.64937°, λ88.59617°. **Principal axes:** T Plg70.6335°, Azm98.3797°; N Plg0.6076°, Azm6.6507°; P Plg19.3562°, Azm276.4373°;
South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RIZ	**Raoul Island**	**5.95**	**163**	P		**P**	**07 18 56.6**	**+1.1**
RAO	**Raoul Island**	**5.96**	**163**	P		**P**	**07 18 57.0**	**+1.4**
	204nm,0.3s,baz=84,slow=22,SNR=7.3							
RAO	**Raoul Island**	**5.96**	**163**	P		**P**	**07 18 57.0**	**+1.4**
RAO	**Raoul Island**	**5.96**	**163**	P		**P**	**07 18 57.2**	**+1.6**
GLKZ	**Green Lake**	**5.97**	**163**	P		**P**	**07 18 55.3**	**-0.3**
GLKZ				S		**S**	**07 20 12.0**	**-3.4**
MSVF	**Nonsavu**	**6.08**	**342**	P		**P**	**07 18 57.2**	**+0.2**
	6.1nm,0.3s,baz=182,slow=7.8,SNR=16							
MSVF				S		**S**	**07 20 17.9**	**+0.3**
	baz=187,slow=24,SNR=7.8							
MSVF	**Nonsavu**	**6.08**	**342**	P		**P**	**07 18 57.6**	**+0.7**
MSVF	**Nonsavu**	**6.08**	**342**	P		**P**	**07 18 57.7**	**+0.7**
MARNC	**Mare, Loyalty**	**11.30**	**278**	P		**P**	**07 19 50.5**	**+1.0**
MARNC	**Mare, Loyalty**	**11.30**	**278**	P		**P**	**07 19 52.5**	**+3.0**
LIFNC	**LIFOU**	**12.18**	**281**	P		**P**	**07 19 59.9**	**+1.1**
LIFNC	**LIFOU**	**12.18**	**281**	P		**P**	**07 19 59.9**	**+1.1**
RTV	**Rentapao**	**12.29**	**296**	P		**P**	**07 20 01.5**	**+1.6**
DVP	**Devils Point**	**12.52**	**295**	P		**P**	**07 20 03.8**	**+1.5**
DZM	**Mont Dzumac**	**12.63**	**274**	P		**P**	**07 20 04.9**	**+1.3**
	0.9nm,0.3s,baz=81,slow=12,SNR=6.9							
DZM	**Mont Dzumac**	**12.63**	**274**	P		**P**	**07 20 05.0**	**+1.5**
DZM	**Mont Dzumac**	**12.63**	**274**	P		**P**	**07 20 06.1**	**+2.6**
NOUC	**Port Laguerre**	**12.76**	**274**	P		**P**	**07 20 06.9**	**+2.2**
OUZ	**Omahuta**	**12.91**	**204**	P		**P**	**07 20 08.6**	**+2.4**
OUZ	**Omahuta**	**12.91**	**204**	P		**P**	**07 20 09.3**	**+3.2**
WCZ	**Waipu Caves**	**13.30**	**201**	P		**P**	**07 20 12.0**	**+1.9**
KUZ	**Kuaotunu**	**13.67**	**195**	P		**P**	**07 20 15.6**	**+1.6**
WIAZ	**Waiheke Island**	**13.86**	**197**	P		**P**	**07 20 17.6**	**+1.6**
MXZ	**Matakaoa Point**	**14.05**	**186**	P		**P**	**07 20 19.9**	**+2.0**
MXZ				S		**S**	**07 22 46.5**	**+0.6**
MKAZ	**Moumakai**	**14.15**	**196**	P		**P**	**07 20 20.2**	**+1.3**
AWAZ	**Awhitu Peninsu**	**14.25**	**198**	P		**P**	**07 20 21.6**	**+1.6**
WMGZ	**Waiomatatini S**	**14.29**	**185**	P		**P**	**07 20 22.2**	**+1.7**
WMGZ				S		**S**	**07 22 51.0**	**+0.3**
HAZ	**Te Kaha**	**14.29**	**187**	P		**P**	**07 20 18.7**	**-1.8**
HAZ				S		**S**	**07 22 45.1**	**-5.5**
PKGZ	**Pakihiroa**	**14.39**	**186**	P		**P**	**07 20 22.5**	**+1.0**
TGRZ	**Tauranga**	**14.50**	**192**	P		**P**	**07 20 24.5**	**+1.9**
RUGZ	**Raukumara Rang**	**14.51**	**187**	P		**P**	**07 20 21.5**	**-1.4**
RUGZ				S		**S**	**07 22 51.6**	**-3.5**
SANVU	**Saraoutou**	**14.54**	**301**	P		**P**	**07 20 22.1**	**-1.2**
SANVU	**Saraoutou**	**14.54**	**301**	P		**P**	**07 20 23.1**	**-0.2**
PUZ	**Puketiti**	**14.56**	**186**	P		**P**	**07 20 21.2**	**-2.0**
PUZ				S		**S**	**07 22 51.3**	**-4.5**
TOZ	**Tahuroa Road**	**14.66**	**194**	P		**P**	**07 20 25.3**	**+1.0**
TWGZ	**Tauwhareparae**	**14.69**	**186**	P		**P**	**07 20 24.9**	**+0.3**
TWGZ				S		**S**	**07 22 56.7**	**-1.6**
URZ	**Urewera**	**14.88**	**189**	P		**P**	**07 20 24.0**	**-2.5**
	4.5nm,0.3s,baz=327,slow=1.4,SNR=22							
URZ				S		**S**	**07 22 57.0**	**-4.7**
	0.9nm,0.3s,baz=14,slow=22,SNR=3.4							
URZ	**Urewera**	**14.88**	**189**	P		**P**	**07 20 24.4**	**-2.1**
URZ	**Urewera**	**14.88**	**189**	P		**P**	**07 20 24.1**	**-2.5**
URZ				S		**S**	**07 22 55.8**	**-5.9**
MWZ	**Matawai**	**14.89**	**188**	P		**P**	**07 20 26.0**	**-0.8**
MWZ				S		**S**	**07 22 59.0**	**-3.2**
CNGZ	**Carnagh Statio**	**14.97**	**186**	P		**P**	**07 20 26.0**	**-1.5**
CNGZ				S		**S**	**07 23 03.3**	**-0.2**
RAGZ	**Rawiri**	**15.07**	**188**	P		**P**	**07 20 29.1**	**+0.4**
MUGZ	**Murupara**	**15.14**	**190**	P		**P**	**07 20 28.2**	**-1.1**
MUGZ				S		**S**	**07 23 05.5**	**-1.3**
RIGZ	**Rimuhau**	**15.23**	**187**	P		**P**	**07 20 27.2**	**-3.1**
RIGZ				S		**S**	**07 23 03.7**	**-4.8**
RTZ	**Ruatahuna**	**15.24**	**189**	S		**S**	**07 23 05.8**	**-2.9**
SNGZ	**Shannon Statio**	**15.36**	**188**	P		**P**	**07 20 29.9**	**-1.7**
SNGZ				S		**S**	**07 23 08.4**	**-2.2**
PRGZ	**Paritu Road**	**15.44**	**186**	P		**P**	**07 20 35.0**	**+2.6**
MTHZ	**Maungataniwha**	**15.50**	**189**	P		**P**	**07 20 30.9**	**-2.2**
RAHZ	**Arahi**	**15.52**	**189**	P		**P**	**07 20 33.9**	**+0.6**
WATZ	**Wairara**	**15.55**	**193**	P		**P**	**07 20 37.0**	**+3.4**
HIZ	**Hauiti**	**15.56**	**195**	P		**P**	**07 20 34.8**	**+1.2**
HIZ	**Hauiti**	**15.56**	**195**	P		**P**	**07 20 35.0**	**+1.4**
RATZ	**Rangitukua**	**15.70**	**192**	P		**P**	**07 20 38.4**	**+3.3**
NMHZ	**Naumai**	**15.74**	**189**	P		**P**	**07 20 37.1**	**+1.5**
BKZ	**Black Stump Fm**	**15.86**	**190**	P		**P**	**07 20 34.1**	**-2.6**
NTVZ	**North Tongariro**	**15.94**	**192**	P		**P**	**07 20 37.2**	**-0.5**
TMVZ	**Te Maari**	**15.95**	**192**	P		**P**	**07 20 36.8**	**-1.0**
ETVZ	**East Tongariro**	**15.97**	**192**	P		**P**	**07 20 36.3**	**-1.7**
NNVZ	**North Ngauruho**	**15.98**	**193**	P		**P**	**07 20 39.6**	**+1.4**
OTVZ	**Oturere**	**16.00**	**192**	P		**P**	**07 20 36.0**	**-2.4**
NGZ	**Ngauruhoe**	**16.03**	**193**	P		**P**	**07 20 41.5**	**+2.9**
SNVZ	**South Ngauruho**	**16.03**	**192**	P		**P**	**07 20 38.1**	**-0.5**
KWHZ	**Kaweka Forest**	**16.12**	**190**	P		**P**	**07 20 37.0**	**-2.4**
WNVZ	**Wahianoa**	**16.18**	**192**	P		**P**	**07 20 41.3**	**+1.3**
BHHZ	**Black Hill Sta**	**16.25**	**191**	P		**P**	**07 20 37.1**	**-3.5**
KAHZ	**Kahuranaki**	**16.42**	**189**	P		**P**	**07 20 41.7**	**-0.5**
BFZ	**Birch Farm**	**17.38**	**190**	P		**P**	**07 20 49.5**	**-1.7**
SNZO	**South Karori**	**18.27**	**193**	P		**P**	**07 20 58.5**	**-0.7**
QRZ	**Quartz Range**	**18.35**	**198**	P		**P**	**07 21 01.7**	**+1.7**
TUWZ	**Tuamarina**	**18.55**	**195**	P		**P**	**07 21 02.3**	**+0.6**
RAR	**Rarotonga**	**18.81**	**87**	P		**P**	**07 21 05.7**	**+1.2**
	1.3nm,0.3s,baz=235,slow=2.6,SNR=3.7							
KHZ	**Kahutara**	**19.58**	**195**	P		**P**	**07 21 12.2**	**+1.1**
LTZ	**Lake Taylor**	**20.23**	**197**	P		**P**	**07 21 18.3**	**+1.1**
OXZ	**Oxford**	**20.80**	**197**	P		**P**	**07 21 23.6**	**+1.3**
RPZ	**Rata Peaks**	**21.43**	**198**	P		**P**	**07 21 30.1**	**+2.1**
	8.0nm,0.5s,baz=245,slow=1.9,SNR=11							
RPZ	**Rata Peaks**	**21.43**	**198**	IAmb		IAmb	07 21 32.2	
	comp=Z,34nm,1.4s							
RPZ	**Rata Peaks**	**21.43**	**198**	P		**P**	**07 21 28.4**	**+0.4**
HNR	**Honiara**	**23.80**	**303**	P		**P**	**07 21 49.6**	**+0.1**
	comp=Z,78nm,0.5s,baz=241,slow=8.3,SNR=4.0							
PPT	**Papeete**	**29.02**	**84**	P		**P**	**07 22 36.1**	**+0.6**
	comp=Z,34nm,1.0s,baz=251,slow=22,SNR=4.4							
CTA	**Charters Tower**	**31.52**	**270**	P		**P**	**07 22 58.1**	**+1.2**
	comp=Z,76nm,0.5s,baz=96,slow=10,SNR=128							
CTAO	**Charters Tower**	**31.52**	**270**	P		**P**	**07 22 58.2**	**+1.2**
KRVT	**Keravat (AS076**	**33.12**	**301**	P		**P**	**07 23 10.9**	**+0.3**
	comp=Z,40nm,0.5s,baz=274,slow=20,SNR=4.6							
PMG	**Port Moresby**	**34.42**	**289**	P		**P**	**07 23 22.0**	**+0.5**
	comp=Z,75nm,0.7s,baz=103,slow=3.5,SNR=17							
PMG	**Port Moresby**	**34.42**	**289**	P		**P**	**07 23 21.8**	**+0.3**
STKA	**Stephens Creek**	**34.89**	**248**	P		**P**	**07 23 26.2**	**+0.9**
	comp=Z,8.1nm,0.6s,baz=98,slow=11,SNR=20							
STKA	**Stephens Creek**	**34.89**	**248**	P		**P**	**07 23 25.7**	**+0.4**
PATS	**Pohnpei**	**36.92**	**322**	P		**P**	**07 23 40.2**	**-2.0**
AS31	**Alice Springs**	**42.13**	**260**	P		**P**	**07 24 24.6**	**+0.4**
AS31				IAmb		IAmb	07 24 25.8	
	comp=Z,8.0nm,0.5s							
ASAR	**Alice Springs**	**42.13**	**260**	P		**P**	**07 24 24.6**	**+0.4**
	comp=Z,26nm,0.8s,baz=101,slow=7.0,SNR=199							
ASAR				ScP		**ScP**	**07 29 06.8**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=111,slow=4.1,SNR=17							
ASAR				S		**S**	**07 30 04.4**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=100,slow=16,SNR=6.5							
ASAR	**Alice Springs**	**42.13**	**260**	P		**P**	**07 24 24.8**	**+0.6**
WR0	**Warramunga Arr**	**42.28**	**266**	P		**P**	**07 24 25.1**	**-0.3**
WR0				IAmb		IAmb	07 24 25.9	
	comp=Z,22nn,0.9s							
WB2	**Warramunga Arr**	**42.46**	**266**	P		**P**	**07 24 26.7**	**-0.1**
WB0	**Warramunga Arr**	**42.47**	**266**	P		**P**	**07 24 26.7**	**-0.2**
WRAB	**Tennant Creek**	**42.47**	**266**	P		**P**	**07 24 26.7**	**-0.1**
WRA	**Warramunga Arr**	**42.47**	**266**	P		**P**	**07 24 26.7**	**-0.2**
	comp=Z,18nn,0.4s,baz=91,slow=8.3,SNR=675							
WRA				ScP		**ScP**	**07 29 08.2**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=96,slow=4.3,SNR=10							
WRA				S		**S**	**07 30 07.2**	**-3.4**
	comp=Z,1.3nm,0.7s,baz=100,slow=14,SNR=5.1							
WRA	**Warramunga Arr**	**42.47**	**266**	P		**P**	**07 24 25.6**	**-1.3**
GUMO	**Guam**	**50.46**	**313**	P		**P**	**07 25 27.2**	**-0.1**
	comp=Z,67nm,0.6s,baz=146,slow=7.1,SNR=4.9							
GUMO	**Guam**	**50.46**	**313**	IAmb		IAmb	07 25 27.6	
	comp=Z,214nm,1.4s							
FAKI	**Fak Fak**	**50.52**	**287**	P		**P**	**07 25 27.4**	**-0.5**
FAKI				IAmb		IAmb	07 25 28.2	
	comp=Z,43nm,1.3s							
SBA	**Scott Base**	**54.73**	**183**	P		**P**	**07 25 59.9**	**+3.0**
VNDA	**Vanda**	**54.73**	**185**	P		**P**	**07 25 58.7**	**+1.7**
	comp=Z,2.2nn,0.6s,baz=9.6,slow=5.5,SNR=25							
VNDA				ScP		**ScP**	**07 29 58.6**	**-0.2**
	comp=Z,1.2nn,0.8s,baz=357,slow=2.5,SNR=6.3							
VNDA	**Vanda**	**54.73**	**185**	P		**P**	**07 25 59.0**	**+2.0**
MBWA	**Marble Bar**	**55.48**	**260**	P		**P**	**07 26 03.0**	**-0.1**
MBWA				IAmb		IAmb	07 26 03.3	
	comp=Z,15nn,0.7s							
JCJ	**Chichijima**	**62.23**	**322**	P		**P**	**07 26 47.8**	**-0.5**
	comp=Z,60nn,0.9s,baz=276,slow=17,SNR=4.7							
JCJ	**Chichijima**	**62.23**	**322**	P		**P**	**07 26 47.1**	**-1.2**
TOLI2	**Tolitoli**	**62.53**	**284**	P		**P**	**07 26 49.7**	**-0.9**
QSPA	**South Pole Qui**	**66.53**	**180**	P		**P**	**07 27 16.6**	**+1.4**
	comp=Z,20nn,0.6s,baz=353,slow=0.6,SNR=94							
QSPA	**South Pole Qui**	**66.53**	**180**	P		**P**	**07 27 16.7**	**+1.5**
UGM	**Wanagama**	**68.14**	**271**	P		**P**	**07 27 24.8**	**-1.0**
MJAR	**Matsushiro Arr**	**71.63**	**326**	P		**P**	**07 27 45.5**	**-0.6**
	comp=Z,5.8nm,0.9s,baz=148,slow=8.0,SNR=10.0							
ADK	**Adak**	**75.16**	**2**	P		**P**	**07 28 04.4**	**-1.3**
ASAJ	**Asahikawa**	**75.57**	**333**	P		**P**	**07 28 09.6**	**+1.3**
	comp=Z,8.0nn,0.7s,baz=219,slow=12,SNR=6.4							
SMAI	**San Martin Ant**	**76.42**	**159**	P		**P**	**07 28 13.8**	**+1.2**
SMAI				IAmb		IAmb	07 28 14.8	
	comp=Z,20nn,0.7s							
BELA	**Belgrano 2**	**76.78**	**173**	P		**P**	**07 28 14.5**	**0.0**
BELA				IAmb		IAmb	07 28 15.5	
	comp=Z,16nn,0.8s							
KSRS	**Korea Array**	**78.01**	**320**	P		**P**	**07 28 22.7**	**+1.0**
	comp=Z,2.3nn,0.7s,baz=126,slow=5.4,SNR=5.2							
MAW	**Mawson**	**78.09**	**200**	P		**P**	**07 28 22.7**	**+1.0**
	comp=Z,9.8nn,0.9s,baz=148,slow=5.7,SNR=7.1							
MAW	**Mawson**	**78.09**	**200**	IAmb		IAmb	07 28 23.3	
	comp=Z,2.1nn,0.8s							
PEA0B	**Petropavlovsk-**	**78.77**	**346**	P		**P**	**07 28 25.4**	**-0.1**
PEA0B				IAmb		IAmb	07 28 26.2	
	comp=Z,16nn,0.9s							
PETK	**Petropavlovsk-**	**78.77**	**346**	P		**P**	**07 28 25.5**	**+0.1**
	comp=Z,9.9nn,0.9s,baz=161,slow=9.2,SNR=11							
PETK	**Petropavlovsk-**	**78.77**	**346**	P		**P**	**07 28 25.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**80.50**	**327**	P		**P**	**07 28 35.3**	**+0.6**
	comp=Z,5.9nn,0.9s,baz=109,slow=3.6,SNR=8.8							
USRK	**Ussuriysk Ar.**	**80.50**	**327**	P		**P**	**07 28 35.1**	**+0.4**
ISA	**Isabella, Lake**	**82.75**	**46**	IAmb		IAmb	07 28 48.1	
	comp=Z,8.3nn,0.8s							
CMB	**Columbia Colle**	**82.92**	**43**	P		**P**	**07 28 47.8**	**+0.5**
GSC	**Goldstone, Bar**	**83.66**	**47**	IAmb		IAmb	07 28 53.6	
	comp=Z,14nn,1.5s							
PNTR	**Pine Nut**	**84.04**	**43**	IAmb		IAmb	07 28 55.1	
	comp=Z,10nn,0.9s							
NVAR	**Mina Array Bea**	**84.47**	**44**	P		**P**	**07 28 55.7**	**+0.4**
	comp=Z,2.1nn,0.8s,baz=220,slow=7.1,SNR=14							
TROLL	**Troll, Antarti**	**84.68**	**181**	P		**P**	**07 28 55.5**	**-0.1**
TPH	**Tonopah**	**84.96**	**45**	IAmb		IAmb	07 28 58.4	
	comp=Z,21nn,0.9s							
SNAA	**Sanae**	**85.01**	**179**	P		**P**	**07 28 56.6**	**-0.6**
VNA3	**Neumayer Olymp**	**85.22**	**177**	P		**P**	**07 28 57.7**	**-0.5**
SHPR	**Sheep Range**	**85.44**	**47**	P		**P**	**07 28 59.7**	**-0.2**
VNA2	**Neumayer--Watz**	**85.64**	**178**	P		**P**	**07 28 59.7**	**-0.4**
	baz=187,slow=4.0							
PINE	**Pine Mountain**	**86.09**	**38**	IAmb		IAmb	07 29 04.3	
	comp=Z,7.3nn,0.9s							
MA2	**Magadan**	**86.25**	**346**	P		**P**	**07 29 02.7**	**-0.3**
	comp=Z,5.8nn,0.8s,baz=144,slow=4.1,SNR=4.7							
MA2	**Magadan**	**86.25**	**346**	IAmb		IAmb	07 29 03.4	
	comp=Z,7.1nn,0.9s							
TUC	**Tucson**	**86.27**	**52**	P		**P**	**07 29 04.9**	**+1.0**
TUC				IAmb		IAmb	07 29 06.3	
	comp=Z,8.9nn,0.9s							
LL02	**Futaleuf**	**86.42**	**136**	P		**P**	**07 29 04.6**	**+0.1**
319A	**Douglas**	**86.91**	**54**	IAmb		IAmb	07 29 09.4	
	comp=Z,19nn,1.2s							
I07A	**Izee**	**87.09**	**39**	P		**P**	**07 29 08.4**	**+0.9**
I07A				IAmb		IAmb	07 29 09.3	
	comp=Z,6.1nn,1.0s							
J08A	**Circle Bar Ran**	**87.26**	**40**	IAmb		IAmb	07 29 09.9	
	comp=Z,17nn,1.3s							
U15A	**North Rim**	**87.34**	**48**	IAmb		IAmb	07 29 10.9	
	comp=Z,7.7nn,0.8s							
WUAZ	**Wupatki**	**87.50**	**49**	IAmb		IAmb	07 29 11.9	
	comp=Z,8.1nn,1.4s							
HPIG		**87.54**	**59**	IAmb		IAmb	07 29 11.5	
	comp=Z,9.0nn,1.0s							
D05A	**Enumclaw**	**87.62**	**35**	P		**P**	**07 29 10.2**	**+0.4**
D05A				IAmb		IAmb	07 29 12.4	
	comp=Z,15nn,1.1s							
PKCU	**Pink Cliffs**	**87.86**	**47**	IAmb		IAmb	07 29 13.9	
	comp=Z,10nn,1.0s							
X18A	**Snowflake**	**88.00**	**51**	IAmb		IAmb	07 29 13.7	
	comp=Z,3.1nn,0.6s							
G08A	**Pilot Rock**	**88.13**	**38**	P		**P**	**07 29 12.1**	**-0.2**
G08A				IAmb		IAmb	07 29 13.8	
	comp=Z,11nn,1.1s							
ZAIG	**Zacatecas**	**88.16**	**64**	IAmb		IAmb	07 29 15.3	
	comp=Z,5.2nn,1.0s							
MTPU	**Mount Pierson**	**88.26**	**47**	IAmb		IAmb	07 29 15.7	
	comp=Z,4.9nn,0.8s							
PLCA	**Paso Flores**	**88.48**	**134**	P		**P**	**07 29 15.4**	**+1.2**
	comp=Z,2.2nn,0.6s,baz=232,slow=6.0,SNR=4.9							
PLCA	**Paso Flores**	**88.48**	**134**	IAmb		IAmb	07 29 16.3	
	comp=Z,4.7nn,0.9s							
LC01	**Cunco**	**88.50**	**132**	P		**P**	**07 29 14.3**	**0.0**
121A	**Cookes Peak, D**	**88.58**	**54**	IAmb		IAmb	07 29 17.0	
	comp=Z,5.1nn,0.8s							
MFID	**Camas Ranch**	**88.87**	**41**	IAmb		IAmb	07 29 17.2	
	comp=Z,6.9nn,0.9s							
SEY	**Seymchan**	**88.94**	**348**	P		**P**	**07 29 15.4**	**-0.1**
	comp=Z,2.0nn,0.5s,baz=157,slow=5.1,SNR=9.0							
Q16A	**Castle Valley**	**89.40**	**47**	IAmb		IAmb	07 29 21.3	
	comp=Z,4.1nn,0.9s							
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P		**P**	**07 29 20.6**	**+1.6**
	comp=Z,1.5nn,0.5s,baz=133,slow=3.1,SNR=15							
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P		**P**	**07 29 18.5**	**-0.5**
F10A	**Beach Ranch, E**	**89.51**	**38**	IAmb		IAmb	07 29 19.4	
	comp=Z,3.7nn,0.9s							
HLID	**Hailey**	**89.81**	**41**	IAmb		IAmb	07 29 21.9	
	comp=Z,4.5nn,1.1s							
HVU	**Hansel Valley**	**89.86**	**44**	IAmb		IAmb	07 29 21.8	
	comp=Z,5.2nn,0.8s							
SRU	**San Rafael Swe**	**89.93**	**47**	IAmb		IAmb	07 29 22.2	
	comp=Z,9.2nn,0.8s							
CTU	**Camp Tracy**	**89.94**	**45**	IAmb		IAmb	07 29 22.1	
	comp=Z,5.0nn,0.8s							
P17A	**Butcher Ranch,**	**89.97**	**46**	IAmb		IAmb	07 29 22.7	
	comp=Z,4.8nn,0.9s							
MNTX	**Cornudas Mount**	**89.98**	**55**	IAmb		IAmb	07 29 22.7	
	comp=Z,4.8nn,0.9s							
TX32	**Lajitas Array**	**90.21**	**58**	IAmb		IAmb	07 29 24.2	
	comp=Z,4.9nn,0.8s							
TXAR	**Lajitas Array**	**90.21**	**58**	P		**P**	**07 29 23.4**	**+1.0**
	comp=Z,4.0nn,0.7s,baz=213,slow=6.6,SNR=57							
P18A	**Preston Nutter**	**90.38**	**46**

comp=Z,0.3nm,0.8s,baz=48,slow=8.6,SNR=2.2
QSPA South Pole Qui 150.53 180 PKPbc **PKiKP 07 37 47.8 -1.4**
comp=Z,0.9nm,0.7s,baz=3.8,slow=0.5,SNR=5.2

*IDC **27** 07:25:23.9±1.9,54.21N×169.50E,h0km,mb3.3/4, mb1 3.5/6,mb1mx3.2/61,mbtmp3.3/6,ML3.1/2,Error ellipse: s-maj=43.6km s-min=25.2km az=10.0*
*KRSC **27** 07:25:27.8±1.5,53.93N×168.67E,h25km±42km,ML4.1*
ISC 27 07:25:24.9±0.9,54.0N±0.1×169.29E±0.0,h17km,n27, σ2s11/27,mb3.4/4,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.26**	**303**	*eP*		**Pn**		**07 25 59.9**	**-1.5**
SHEM	**Shemya Is, Ala**	**3.16**	**112**	Pn		**Pn**		**07 26 14.8**	**+1.1**
	7.4nm,0.3s,baz=91,slow=20,SNR=1.4								
SHEM				Sn		**Sn**		**07 26 50.2**	**-0.8**
	18nm,0.3s,baz=239,slow=22,SNR=6.9								
MKZ	**Mys Kozlova**	**4.46**	**280**	*eP*		**Pn**		**07 26 33.0**	**+1.4**
MKZ				*eS*		**Sn**		**07 27 21.5**	**-1.6**
SPN	**Mys Shipunski**	**5.60**	**264**	*eS*		**Sn**		**07 27 49.4**	**-1.8**
SDLR	**Sedlovina**	**6.23**	**267**	*eP*		**Pn**		**07 26 57.9**	**+1.8**
SDLR				*eS*		**Sn**		**07 28 04.6**	**-2.3**
UGLR	**Uglovaya**	**6.28**	**267**	*eP*		**Pn**		**07 26 59.5**	**+2.8**
SMAR	**Somma**	**6.29**	**267**	*eP*		**Pn**		**07 26 57.6**	**+0.7**
KRER	**Koryakskii**	**6.31**	**268**	*eP*		**Pn**		**07 26 58.9**	**+1.7**
AVH	**Avacha**	**6.32**	**267**	*eP*		**Pn**		**07 26 59.6**	**+2.3**
KRX	**Arik**	**6.36**	**268**	*eP*		**Pn**		**07 26 59.5**	**+1.7**
KRX				*eS*		**Sn**		**07 28 07.3**	**-2.7**
KOK	**Koryaka**	**6.38**	**268**	*eP*		**Pn**		**07 27 00.0**	**+2.0**
GNL	**Ganaly**	**6.72**	**272**	*eP*		**Pn**		**07 27 06.4**	**+3.6**
KRMR	**Karymshinskiy**	**6.78**	**264**	*eS*		**Sn**		**07 28 18.5**	**-1.6**
MTVR	**Mutnovka**	**6.84**	**261**	*eP*		**Pn**		**07 27 06.1**	**+1.6**
MTVR				*eS*		**Sn**		**07 28 19.8**	**-2.1**
PETK	**Petropavlovsk-**	**6.97**	**267**	Pn		**Pn**		**07 27 09.4**	**+3.4**
	0.6nm,0.3s,baz=78,slow=15,SNR=9.4								
ASAK	**Asacha**	**7.04**	**261**	*eP*		**Pn**		**07 27 09.5**	**+2.4**
KDTR	**Khodutka, Kamc**	**7.13**	**256**	*eP*		**Pn**		**07 27 10.8**	**+2.5**
KDTR				*eS*		**Sn**		**07 28 26.0**	**-2.9**
ILAR	**Eielson Array**	**24.23**	**46**	P		**P**		**07 30 39.9**	**-0.4**
	0.4nm,0.6s,baz=254,slow=6.5,SNR=6.6								
TIXI	**Tiksi**	**24.76**	**331**	P		**P**		**07 30 45.6**	**+0.5**
	1.1nm,0.4s,baz=90,slow=23,SNR=5.9								
H11N2	**WAKE ISLAND Hy**	**34.28**	**184**	T		T		08 08 39.8	
	baz=2.2,slow=76,SNR=35								
H11N3	**WAKE ISLAND Hy**	**34.30**	**184**	T		T		08 08 54.8	
	baz=2.2,slow=76,SNR=31								
H11N1	**WAKE ISLAND Hy**	**34.30**	**184**	T		T		08 08 37.5	
	baz=2.2,slow=76,SNR=39								
H11S1	**WAKE ISLAND Hy**	**35.51**	**184**	T		T		08 10 04.6	
	baz=2.4,slow=76,SNR=15								
H11S3	**WAKE ISLAND Hy**	**35.52**	**184**	T		T		08 10 11.3	
	baz=2.4,slow=76,SNR=5.9								
H11S2	**WAKE ISLAND Hy**	**35.52**	**184**	T		T		08 10 14.0	
	baz=2.4,slow=76,SNR=14								
YKA	**Yellowknife Ar**	**38.66**	**46**	P		**P**		**07 32 46.7**	**-0.3**
	0.2nm,0.6s,baz=292,slow=8.7,SNR=5.7								
TXAR	**Lajitas Array**	**65.16**	**74**	P		**P**		**07 36 05.5**	**+0.6**
	0.2nm,0.5s,baz=303,slow=5.2,SNR=4.1								

*NORS **27** 07:38:51.2±0.0,43.23N×46.23E,h8km,MPVA3.7*
*DRS **27** 07:38:53.1±0.0,43.19N×46.04E,h16km*
MOS 27 07:38:51.3±0.0,43.20N×46.21E,h8km,MPVA3.5,3C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.30**	**272**	⇓*e*	P	G	Pn	07 39 01.2	-0.9
GROC				*i*	S		Sb	07 39 06.9	+2.8
GROC					pmax		pmax		
	comp=Z,125nm,0.4s								
GROC	**Groznyy**	**0.30**	**272**	*e*	P	g	Pb	07 38 58.5	-0.5
GROC				*e*	S	g	Sb	07 39 04.2	+0.1
DLMR	**Dylym**	**0.33**	**112**	*e*	P	G	Pn	07 39 01.1	-1.4
DLMR				*e*	S		Sb	07 39 06.8	+1.7
DLMR					pmax		pmax		
	comp=Z,62nm,0.2s								
DLMR					smax		smax		
	comp=N,753nm,0.4s								
DLMR					smax		smax		
	comp=E,584nm,0.4s								
DLMR					smax		smax		
	comp=N,641nm,0.2s								
DLMR	**Dylym**	**0.33**	**112**	*e*	P	g	Pn	07 39 01.2	-1.3
DLMR				*e*	S	g	Sb	07 39 06.9	+1.8
DBC	**Dubki**	**0.49**	**111**	*e*	P	G	Pb	07 39 03.2	+1.0
DBC				*e*	S		Sb	07 39 11.3	+1.7
DBC					pmax		pmax		
	comp=Z,37nm,0.6s								
DBC					smax		smax		
	comp=E,150nm,0.4s								
DBC	**Dubki**	**0.49**	**111**	*e*	P	g	Pb	07 39 03.2	+1.0
DBC				*e*	S	g	Sb	07 39 11.2	+1.6
BTLR	**Botlikh**	**0.53**	**179**	⇓*i*	P	G	Pb	07 39 03.6	+0.7
BTLR				*e*	S		Sb	07 39 11.9	+1.1
BTLR					pmax		pmax		
	comp=Z,73nm,0.1s								
BTLR					smax		smax		
	comp=E,429nm,0.2s								
BTLR	**Botlikh**	**0.53**	**179**	*i*	P	g	Pb	07 39 03.7	+0.7
BTLR				*e*	S	g	Sb	07 39 11.8	+1.0
KRNR	**Karanay**	**0.63**	**125**	*e*	P	G	Pb	07 39 05.5	+0.8
KRNR				*e*	S		Sb	07 39 15.3	+1.6
KRNR					pmax		pmax		
	comp=Z,13nm,0.4s								
KRNR					smax		smax		
	comp=E,87nm,0.3s								
KRNR	**Karanay**	**0.63**	**125**	*e*	P	g	Pb	07 39 05.6	+0.9
KRNR				*e*	S	g	Sb	07 39 15.2	+1.5
UNCR	**Uncukul**	**0.65**	**138**	⇑*i*	P	G	Pn	07 39 06.0	-0.9
UNCR				*e*	S		Sn	07 39 16.2	-1.1
UNCR					pmax		pmax		
	comp=Z,33nm,0.2s								
UNCR					smax		smax		
	comp=N,290nm,0.4s								
UNCR	**Uncukul**	**0.65**	**138**	*i*	P	g	Pn	07 39 06.0	-0.8
UNCR				*e*	S	g	Sn	07 39 16.0	-1.4
XNZR	**Khunzakh**	**0.75**	**151**	*e*	P	G	Pn	07 39 08.2	-0.2
XNZR				*e*	S		Sn	07 39 19.4	-0.6
XNZR					pmax		pmax		
	comp=Z,74nm,0.3s								
XNZR					smax		smax		
	comp=N,187nm,0.3s								
XNZR	**Khunzakh**	**0.75**	**151**	*e*	P	g	Pn	07 39 08.2	-0.2
XNZR				*e*	S	g	Sn	07 39 19.3	-0.8
BUJR	**Buynaksk**	**0.76**	**119**	*e*	P	G	Pn	07 39 09.2	+0.8
BUJR				*e*	S		Sn	07 39 20.9	+0.8
BUJR					pmax		pmax		
	comp=Z,57nm,0.2s								
BUJR					smax		smax		
	comp=N,253nm,0.4s								
BUJR	**Buynaksk**	**0.76**	**119**	*e*	P	g	Pn	07 39 09.2	+0.8
BUJR				*e*	S	g	Sn	07 39 20.7	+0.7
ARKR	**Arakani**	**0.83**	**135**	*e*	P	G	Pn	07 39 09.5	+0.1
ARKR				*e*	S		Sn	07 39 22.1	+0.3
ARKR					pmax		pmax		
	comp=Z,21nm,0.3s								
ARKR					smax		smax		
	comp=N,85nm,0.4s								
ARKR	**Arakani**	**0.83**	**135**	*e*	P	g	Pn	07 39 09.6	+0.2
ARKR				*e*	S	g	Sn	07 39 22.0	+0.2
GNBR	**Gunib**	**0.98**	**145**	*e*	P	G	Pn	07 39 13.1	+1.6
GNBR				*e*	S		Sn	07 39 27.6	+2.0
GNBR					pmax		pmax		
	comp=Z,42nm,0.4s								
GNBR					smax		smax		
	comp=E,278nm,0.2s								
GNBR					smax		smax		
	comp=N,182nm,0.3s								
GNBR					smax		smax		
	comp=E,230nm,0.2s								
GNBR	**Gunib**	**0.98**	**145**	*e*	P	g	Pn	07 39 12.3	+0.8
GNBR				*e*	S	g	Sn	07 39 27.2	+1.6
MAK	**Makhachkala**	**0.98**	**103**	⇑*i*	P	G	Pn	07 39 11.8	+0.4
MAK				*e*				07 39 25.5	
MAK					pmax		pmax		
	comp=Z,108nm,0.3s								
MAK					smax		smax		
	comp=E,274nm,0.4s								
MAK					smax		smax		
	comp=E,386nm,0.4s								
MAK	**Makhachkala**	**0.98**	**103**	*e*	P	g	Pb	07 39 10.8	+0.3
MAK				*e*	S	g	Sn	07 39 26.1	+0.6
KMGR	**Komgaron**	**0.99**	**262**	*e*	P	G	Pn	07 39 13.9	+2.3
KMGR				*e*	S		Sn	07 39 28.1	+2.2
KMGR	**Komgaron**	**0.99**	**262**	*e*	P	g	Pn	07 39 13.9	+2.2
KMGR				*e*	S	g	Sn	07 39 28.1	+2.2
VLKR	**Vladikavkaz**	**1.13**	**263**	*e*	P	G	Pn	07 39 15.7	+2.2
VLKR				*e*	S		Sn	07 39 32.1	+2.8
VLKR	**Vladikavkaz**	**1.13**	**263**	*e*	P	g	Pn	07 39 15.7	+2.2
VLKR				*e*	S	g	Sn	07 39 32.4	+3.1
TRKR	**Terskaya**	**1.20**	**297**	*e*	P	G	Pn	07 39 15.8	+1.4
TRKR				*e*	S		Sn	07 39 33.0	+2.2
TRKR	**Terskaya**	**1.20**	**297**	*e*	P	g	Pn	07 39 15.8	+1.4
TRKR				*e*	S	g	Sn	07 39 33.0	+2.2
BTKR	**Batakoyurt**	**1.23**	**279**	*e*	P	G	Pn	07 39 16.6	+1.7
BTKR				*e*	S		Sn	07 39 35.7	+4.0
BTKR	**Batakoyurt**	**1.23**	**279**	*e*	P	g	Pn	07 39 16.6	+1.7
BTKR				*e*	S	g	Sn	07 39 35.7	+4.0
KMKR	**Kumukh**	**1.25**	**148**	*e*	P	G	Pn	07 39 16.3	+1.0
KMKR				*e*	S		Sn	07 39 34.3	+1.8
KMKR					pmax		pmax		
	comp=Z,84nm,0.2s								
KMKR					smax		smax		
	comp=N,417nm,0.5s								
KMKR	**Kumukh**	**1.25**	**148**	*e*	P	g	Pn	07 39 16.3	+1.0
KMKR				*e*	S	g	Sn	07 39 34.1	+1.6
SGKR	**Sergokala**	**1.30**	**124**	*e*	P	G	Pn	07 39 18.2	+2.0
SGKR				*e*	S		Sn	07 39 37.0	+3.6
SGKR					pmax		pmax		
	comp=Z,2.0nm,0.2s								
SGKR					smax		smax		
	comp=E,131nm,0.6s								
SGKR	**Sergokala**	**1.30**	**124**	*e*	P	g	Pg	07 39 18.2	+2.1
SGKR				*e*	S	g	Sn	07 39 36.8	+3.5
ARNR	**Ardon**	**1.41**	**270**	*e*	P	G	Pg	07 39 18.5	+0.2
ARNR				*e*	S	g	Sg	07 39 39.2	+2.7
ARNR	**Ardon**	**1.41**	**270**	*e*	P	g	Pg	07 39 18.5	+0.2
ARNR				*e*	S	g	Sg	07 39 39.2	+2.7
LACR	**Lac**	**1.45**	**256**	*e*	P	G	Pg	07 39 19.0	-0.1
LACR				*e*	S	g	Sg	07 39 38.5	+0.6
LACR	**Lac**	**1.45**	**256**	*e*	P	g	Pg	07 39 18.9	-0.2
LACR				*e*	S	g	Sg	07 39 38.1	+0.3
URKR	**Urkarakh**	**1.47**	**134**	*e*	P	G	Pg	07 39 20.9	+1.4
URKR				*e*	S	g	Sg	07 39 41.6	+3.0
URKR					pmax		pmax		
	comp=Z,33nm,0.1s								
URKR					smax		smax		
	comp=N,69nm,0.5s								
URKR	**Urkarakh**	**1.47**	**134**	*e*	P	g	Pg	07 39 21.6	+2.1
URKR				*e*	S	g	Sg	07 39 43.2	+4.6
PRTR	**Priterechnaya**	**1.51**	**292**	*e*	P	G	Pg	07 39 21.5	+1.3
PRTR				*e*	S	g	Sg	07 39 41.3	+1.6
PRTR	**Priterechnaya**	**1.51**	**292**	*e*	P	g	Pg	07 39 21.5	+1.3
PRTR				*e*	S	g	Sg	07 39 41.3	+1.6
KORR	**Kora**	**1.57**	**267**	*e*	P	G	Pg	07 39 21.5	+0.1
KORR				*e*	S	g	Sg	07 39 43.8	+2.1
KORR	**Kora**	**1.57**	**267**	*e*	P	g	Pg	07 39 21.6	+0.2
KORR				*e*	S	g	Sg	07 39 43.8	+2.1
STDR	**Stavd-Durt**	**1.57**	**277**	*e*	P	G	Pg	07 39 23.8	+2.3
STDR				*e*	S	g	Sg	07 39 45.0	+3.1
STDR	**Stavd-Durt**	**1.57**	**277**	*e*	P	g	Pg	07 39 23.8	+2.3
STDR				*e*	S	g	Sg	07 39 45.0	+3.1
ZEI	**Tsey**	**1.74**	**257**	*e*	P	N	Pb	07 39 23.7	+0.1
ZEI				*e*	S		Sg	07 39 47.4	+0.2
ZEI	**Tsey**	**1.74**	**257**	*e*	P	g	Pb	07 39 23.7	+0.1
ZEI				*e*	S	g	Sg	07 39 47.4	+0.2
DIGR	**Digorskoe uzhe**	**1.95**	**262**	*e*	P	N	Pb	07 39 27.4	+0.2
DIGR	**Digorskoe uzhe**	**1.95**	**262**	*e*	P	g	Pb	07 39 27.4	+0.2
DIGR				*e*	S	g	Sb	07 39 52.8	+1.1
AKT	**Akhty**	**2.05**	**146**	*e*	P	N	Pb	07 39 29.6	+0.7
AKT				*e*	S		Sg	07 39 57.7	+0.5
AKT					pmax		pmax		
	comp=Z,16nm,0.3s								
AKT					smax		smax		
	comp=E,64nm,0.3s								
AKT	**Akhty**	**2.05**	**146**	*e*	P	g	Pb	07 39 28.1	-0.9
AKT				*e*	S	g	Sg	07 39 56.9	-0.3
ONI	**Oni**	**2.11**	**254**	*e*	P	N	Pb	07 39 29.6	-0.3
ONI				*e*	S		Sg	07 39 58.5	-0.7
ONI	**Oni**	**2.11**	**254**	*e*	P	g	Pb	07 39 29.6	-0.3
ONI				*e*	S	g	Sg	07 39 58.5	-0.6
PYA1	**Pyatigorsk**	**2.42**	**292**	*e*	P	N	Pn	07 39 32.5	+1.3
PYA1				*e*	S		Sb	07 40 04.0	-1.1
PYA1	**Pyatigorsk**	**2.42**	**292**	*e*	P	n	Pn	07 39 32.5	+1.3
PYA1				*e*	S	n	Sb	07 40 04.0	-1.2
KBZ	**Khabaz**	**2.47**	**284**	*e*	P	N	Pn	07 39 31.3	-0.5
KBZ				*e*	S		Sn	07 40 02.3	+0.1
NEY	**Neytrino**	**2.55**	**272**	*e*	P	N	Pb	07 39 37.4	0.0
NEY				*e*	S		Sb	07 40 09.5	+0.5
NEY	**Neytrino**	**2.55**	**272**	*e*	P	n	Pb	07 39 37.4	0.0
NEY				*e*	S	n	Sb	07 40 09.5	+0.5
SHA1	**Shidzhatmaz**	**2.64**	**283**	*e*	P	N	Pn	07 39 33.8	-0.7
SHA1	**Shidzhatmaz**	**2.64**	**283**	*e*	P	n	Pn	07 39 33.8	-0.7
SHA1				*e*	S	n	Sn	07 40 05.7	-1.2
KIV0	**Kislovodsk Arr**	**2.66**	**288**	*e*	P	n	Pn	07 39 36.9	+2.3
KIV	**Kislovodsk**	**2.67**	**288**	*e*	P	N	Pn	07 39 36.9	+2.2
KIV	**Kislovodsk**	**2.67**	**288**	*e*	P	n	Pn	07 39 35.0	+0.3
KIV				*e*	S	n	Sn	07 40 05.9	-1.4
ALER	**Alexandrovskoy**	**2.85**	**305**	*e*	P	N	Pg	07 39 47.3	+1.5
ALER				*e*	S		Sg	07 40 21.3	-1.4
ALER	**Alexandrovskoy**	**2.85**	**305**	*e*	P	n	Pg	07 39 47.3	+1.5
ALER				*e*	S	n	Sg	07 40 21.3	-1.5
GOF	**Gofitskoye**	**2.94**	**310**	⇑*e*	P	N	Pb	07 39 44.8	+0.8
GOF				*e*	S		Sb	07 40 20.1	0.0
GOF					pmax		pmax		
	comp=Z,17nm,0.3s								
GOF					smax		smax		
	comp=N,56nm,0.4s								
GOF					smax		smax		
	comp=E,35nm,0.4s								
GOF	**Gofitskoye**	**2.94**	**310**	*e*	S	n	Sn	07 40 15.8	+1.8
GNI	**Garni**	**3.23**	**200**	*e*	P	N	Pb	07 39 46.6	-2.5
GNI	**Garni**	**3.23**	**200**	*e*	P	n	Pb	07 39 46.6	-2.5

*IDC **27** 07:48:25.9±1.6,16.91S×173.06W,h0km,mb3.8/6, mb1 4.2/7,mb1mx3.8/44,mbtmp3.8/7,ML3.8/1,Error ellipse: s-maj=81.6km s-min=21.4km az=146.0*
ISC 27 07:48:31.0±0.8,16.9S±0.1×173.1W±0.3,h41km,n29, σ1s87/25,mb3.7/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.19**	**23**	Pn			**Pn**	**07 49 16.7**	**-2.1**
	9.7nm,0.3s,baz=93,slow=22,SNR=6.1								
AFI					Sn		**Sn**	**07 49 53.7**	**-2.0**
	15nm,0.3s,baz=246,slow=14,SNR=4.4								
HAZ	**Te Kaha**	**22.31**	**199**	P			**P**	**07 53 23.1**	**-1.9**
HAZ				S			**S**	**07 57 26.6**	**-1.2**
RUGZ	**Raukumara Rang**	**22.54**	**199**	P			**P**	**07 53 24.8**	**-2.8**
TWGZ	**Tauwhareparae**	**22.64**	**199**	P			**P**	**07 53 27.3**	**-1.2**
MKAZ	**Moumakai**	**22.68**	**205**	P			**P**	**07 53 26.5**	**-2.5**
MWZ	**Matawai**	**22.92**	**199**	P			**P**	**07 53 30.7**	**-0.8**
URZ	**Urewera**	**22.99**	**200**	P			**P**	**07 53 29.2**	**-2.9**
TOZ	**Tahuroa Road**	**23.09**	**204**	P			**P**	**07 53 32.4**	**-0.7**
RTZ	**Ruatahuna**	**23.35**	**200**	P			**P**	**07 53 33.4**	**-2.5**
SNGZ	**Shannon Statio**	**23.39**	**199**	P			**P**	**07 53 35.4**	**-0.7**
RAHZ	**Arahi**	**23.59**	**200**	P			**P**	**07 53 38.7**	**+0.6**
NMHZ	**Naumai**	**23.85**	**200**	P			**P**	**07 53 40.5**	**0.0**
BKZ	**Black Stump Fm**	**24.01**	**200**	P			**P**	**07 53 39.5**	**-2.5**
HIZ	**Hauiti**	**24.02**	**204**	P			**P**	**07 53 41.4**	**-0.6**
OTVZ	**Oturere**	**24.29**	**202**	P			**P**	**07 53 43.1**	**-1.7**
SNVZ	**South Ngauruho**	**24.32**	**202**	P			**P**	**07 53 43.5**	**-1.5**
BFZ	**Birch Farm**	**25.47**	**199**	P			**P**	**07 53 58.2**	**+3.0**
H11S2	**WAKE ISLAND Hy**	**40.40**	**330**	T			T	08 38 40.0	
	baz=141,slow=76,SNR=17								
H11S3	**WAKE ISLAND Hy**	**40.41**	**330**	T			T	08 38 38.7	
	baz=141,slow=76,SNR=17								
H11S1	**WAKE ISLAND Hy**	**40.41**	**330**	T			T	08 38 43.4	
	baz=141,slow=76,SNR=17								
H11N3	**WAKE ISLAND Hy**	**41.35**	**331**	T			T	08 39 40.2	
	baz=147								
H11N1	**WAKE ISLAND Hy**	**41.36**	**331**	T			T	08 39 46.0	
	baz=147								
H11N2	**WAKE ISLAND Hy**	**41.37**	**331**	T			T	08 39 46.0	
	baz=147								
WRA	**Warramunga Arr**	**49.85**	**258**	P			**P**	**07 57 20.9**	**+0.4**
	0.7nm,0.5s,baz=96,slow=7.2,SNR=10								
ASAR	**Alice Springs**	**49.99**	**253**	P			**P**	**07 57 22.0**	**+0.5**
	3.9nm,0.6s,baz=90,slow=8.0,SNR=41								
NVAR	**Mina Array Bea**	**75.20**	**42**	P			**P**	**08 00 10.8**	**+1.2**
	0.5nm,0.7s,baz=215,slow=10,SNR=4.5								
TXAR	**Lajitas Array**	**81.16**	**56**	P			**P**	**08 00 43.6**	**+0.9**
	0.5nm,1.0s,baz=238,slow=5.7,SNR=3.8								
PDAR	**Pinedale Array**	**83.14**	**42**	P			**P**	**08 00 54.4**	**+1.4**
	0.7nm,0.9s,baz=270,slow=1.5,SNR=4.5								
ILAR	**Eielson Array**	**83.82**	**11**	P			**P**	**08 00 58.0**	**+2.3**
	0.6nm,0.9s,baz=217,slow=5.4,SNR=6.0								

*NIED **27** 07:49:08.6,37.39N×141.69E,h43km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.32; Mθθ0.16; Mϕϕ-3.48; Mrθ-0.25; Mθϕ-1.14; Mϕr2.90; Fault plane solution: M₀4.61000×10¹⁴ NP1: ϕs211.00000°,δ28.00000°,λ116.00000°. NP2:ϕs2.00000°, δ65.00000°,λ77.00000°.*
*JMA **27** 07:49:08.5±0.1,37.39N×141.69E,h43km±2km,M3.8*
*IDC **27** 07:49:10.5±3.8,37.26N×141.65E,h53km±34km,mb3.5/5, mb1 3.7/7,mb1mx3.3/49,mbtmp3.8/7,ML3.3/2,MS2.6/2, Ms1 2.6/2,ms1mx2.2/64,Error ellipse: s-maj=27.6km s-min=16.2km az=64.0*
ISC 27 07:49:07.2±1.8,37.36N±0.04×141.78E±0.07,h24km±12km, n26,σ1s26/31,mb3.7/5,7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.72**	**271**	⇓P			**Pb**	**07 49 21.4**	**+0.3**
JFK				*S*			**Sb**	**07 49 30.3**	**-0.3**
JMST	**Minamisoumatoc**	**0.80**	**297**	⇓P			**Pb**	**07 49 22.2**	**-0.1**
JMST				*S*			**Sb**	**07 49 32.0**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.82**	**252**	⇓P			**Pb**	**07 49 22.9**	**0.0**
ONAJ				*S*			**Sb**	**07 49 32.4**	**-1.2**
JMM	**Marumori**	**0.93**	**303**	⇓P			**Pn**	**07 49 24.4**	**-0.3**
JMM				*S*			**Sb**	**07 49 35.3**	**-1.3**
JIKH	**Ishinomakikobu**	**0.98**	**345**	P			**Pn**	**07 49 25.2**	**-0.2**
JIKH				*S*			**Sb**	**07 49 36.9**	**-1.1**
JFFD	**Fukushimafurud**	**1.01**	**255**	⇓P			**Pn**	**07 49 25.5**	**-0.3**
JFFD				*S*			**Sn**	**07 49 37.7**	**-1.6**
JIO	**Ouri**	**1.14**	**343**	P			**Pn**	**07 49 27.6**	**0.0**
JIO				*S*			**Sn**	**07 49 40.9**	**-1.6**
JFT	**Otama**	**1.16**	**278**	⇓P			**Pn**	**07 49 28.4**	**+0.5**
JFT				*eS*			**Sn**	**07 49 42.2**	**-0.8**
JOU	**Okura**	**1.33**	**319**	P			**Pn**	**07 49 30.5**	**+0.2**
JYS	**Shirataka**	**1.60**	**303**	P			**Pn**	**07 49 34.6**	**+0.6**
JMK	**Ichinoseki**	**1.65**	**345**	⇓P			**Pn**	**07 49 35.3**	**+0.7**
JMK				*S*			**Sn**	**07 49 54.5**	**-0.5**
JFY	**Yanaizu**	**1.65**	**272**	P			**Pn**	**07 49 35.2**	**+0.5**
MJAR	**Matsushiro Arr**	**2.97**	**255**	P			**Pn**	**07 49 54.3**	**+1.4**
	1.5nm,0.3s,baz=81,slow=16,SNR=17								
MJAR				*S*			**Sn**	**07 50 26.7**	**-1.1**
	0.8nm,0.3s,baz=83,slow=14,SNR=5.3								
MJAR				*LR*			LR	07 51 19.1	
	comp=Z,114nm,21.5s,baz=158,slow=45								
JHJ	**Hachijo jima 2**	**4.54**	**202**	P			**Pn**	**07 50 14.8**	**+0.4**
	15nm,0.3s,baz=331,slow=21,SNR=8.2								
JHJ				*S*			**Sn**	**07 51 04.7**	**-1.7**
	15nm,0.3s,baz=241,slow=24,SNR=1.7								
JHJ				*LR*			LR	07 52 17.6	
	comp=Z,76nm,19.1s,baz=297,slow=42								
KSRS	**Korea Array**	**11.02**	**275**	P			**Pn**	**07 51 48.0**	**+4.7**
	0.2nm,0.3s,baz=90,slow=15,SNR=5.0								
SONM	**Songino Array**	**27.85**	**303**	P			**P**	**07 54 54.7**	**-0.1**
	0.9nm,0.5s,baz=104,slow=9.8,SNR=4.0								
H11N2	**WAKE ISLAND Hy**	**28.07**	**122**	T			T	08 25 17.9	
	baz=316,slow=76,SNR=46								
H11N1	**WAKE ISLAND Hy**	**28.08**	**122**	T			T	08 25 34.7	
	baz=316,slow=76,SNR=52								
H11N3	**WAKE ISLAND Hy**	**28.09**	**122**	T			T	08 25 21.9	
	baz=316,slow=76,SNR=38								
H11S1	**WAKE ISLAND Hy**	**28.80**	**124**	T			T	08 25 31.1	
	baz=316,slow=76,SNR=18								
H11S3	**WAKE ISLAND Hy**	**28.80**	**124**	T			T	08 25 31.1	
	baz=316,slow=76,SNR=21								
H11S2	**WAKE ISLAND Hy**	**28.81**	**124**	T			T	08 25 32.2	
	baz=316,slow=76,SNR=13								
MKAR	**Makanchi Array**	**44.19**	**302**	P			**P**	**07 57 13.5**	**-0.6**
	1.3nm,0.7s,baz=89,slow=10,SNR=16								
ILAR	**Eielson Array**	**49.

baz=215
TWC Suao 0.22 10⇑*i*P Pb 08 23 03.2 -0.3
baz=18
TWC *i*S Sb 08 23 06.6 -0.7
baz=18
NDS Dongshan 0.25 340⇑*i*P Pb 08 23 04.0 -0.2
baz=342
NDS *i*S Sb 08 23 07.9 -0.4
baz=342
ETL Fush Village 0.29 216⇓*i*P Pg 08 23 03.9 -0.3
baz=218
ETL *i*S Sg 08 23 08.2 -0.2
baz=218
LATG Datong 0.29 298⇑*i*P Pb 08 23 04.5 -0.4
baz=302
LATG S Sg 08 23 08.0 -0.6
baz=302
NACB Ninganchiao 0.29 222⇓*i*P Pg 08 23 03.8 -0.4
baz=219
NACB *i*S Sg 08 23 08.1 -0.4
baz=219
ENTT Nioudou 0.33 318⇑*i*P Pb 08 23 05.2 -0.3
baz=321
ENTT *e*S Sb 08 23 09.7 -0.9
baz=321
NDT Datong Townshi 0.34 307⇑*i*P Pb 08 23 05.3 -0.3
baz=310
NDT *i*S Sb 08 23 10.2 -0.6
baz=310
TWE Neicheng 0.35 338⇑*i*P Pb 08 23 05.5 -0.3
baz=342
TWE *i*S Sb 08 23 10.5 -0.6
baz=342
ETLH Xiulin Townshi 0.35 238⇓*i*P Pg 08 23 05.0 -0.3
baz=241
ETLH *i*S Sg 08 23 09.6 -0.6
baz=241
TWD Chiawan 0.37 212⇑*i*P Pg 08 23 05.1 -0.4
baz=217
TWD S Sg 08 23 09.9 -0.8
baz=217
ILA Ilan 0.37 351 P Pb 08 23 06.2 0.0
baz=353
ILA S Sb 08 23 11.8 0.0
baz=353
NNSB Datong 0.39 275⇓*i*P Pb 08 23 06.1 -0.5
baz=285
NNSB *i*S Sg 08 23 11.1 -0.3
baz=285
NNS Nan Shan 0.40 276⇓*i*P Pb 08 23 06.2 -0.5
baz=279
NNS *i*S Sb 08 23 11.6 -1.1
baz=279
FUSB Fushanzhiwuyua 0.41 331⇑*i*P Pb 08 23 06.9 -0.1
baz=326
FUSB S Sb 08 23 12.9 -0.2
baz=326
HWA Hwalien 0.46 204 P Pb 08 23 07.4 -0.2
baz=214
HWA *e*S Sg 08 23 13.7 +0.4
baz=214
NTC Toucheng 0.46 2⇑P Pb 08 23 07.6 0.0
baz=3.0
NTC S Sb 08 23 13.4 -0.8
baz=3.0
EGS 0.46 14 *e*P Pb 08 23 07.9 +0.2
baz=18
EGS *e*S Sb 08 23 14.2 -0.1
baz=18
NWLT Wulai 0.47 324 P Pb 08 23 07.8 -0.1
baz=322
NWLT S Sb 08 23 14.0 -0.7
baz=322
YHNB Yeheng 0.48 305⇑*i*P Pb 08 23 07.9 -0.1
baz=307
YHNB S Sb 08 23 14.0 -1.0
baz=307
NSK Sanguang 0.50 304⇑*i*P Pb 08 23 08.1 -0.2
baz=307
NSK S Sb 08 23 14.7 -0.8
baz=307
ETM Tongmen 0.52 214⇓*i*P Pg 08 23 07.7 -0.5
baz=225
ETM S Sg 08 23 14.4 -0.7
baz=225
WHF Hehuan Shan 0.56 243⇓*i*P Pg 08 23 08.8 -0.3
baz=253
WHF S Sg 08 23 16.1 -0.5
baz=253
TEYL Yanliau Villag 0.56 200 *e*P Pg 08 23 08.8 -0.2
baz=211
TEYL *e*S Sb 08 23 18.5 +1.4
baz=211
TIPB Shuangxi 0.57 1⇑*i*P Pb 08 23 09.8 +0.1
baz=2.0
TIPB *i*S Sb 08 23 17.1 -0.5
baz=2.0
TWT Tachien 0.59 256 P Pb 08 23 10.0 -0.1
baz=258
TWT *e*S Sb 08 23 17.8 -0.5
baz=258
TDCB Techi 0.61 257 ⇓P Pb 08 23 10.1 -0.3
baz=254
TDCB *e*S Sg 08 23 17.7 -0.5
baz=254
TWA Mucha 0.62 341⇑*i*P Pb 08 23 10.6 +0.2
baz=342
TWA S Sb 08 23 18.9 +0.1
baz=342
NHDH Xindian Distri 0.62 335 *e*P Pb 08 23 10.6 +0.2
baz=336
NHDH S Sb 08 23 19.2 +0.3
baz=336
TWB1 Santiao Chiao 0.63 15⇓*i*P Pb 08 23 10.6 0.0
baz=15
TWB1 *i*S Sb 08 23 18.5 -0.7
baz=15
TATO Taipei 0.65 333 *e*P Pb 08 23 10.9 0.0
baz=334
TATO *e*S Sb 08 23 19.7 0.0
baz=334
CHGB Renai 0.67 240⇓*i*P Pg 08 23 10.8 -0.3
baz=251
CHGB S Sg 08 23 19.8 -0.2
baz=251
NFF Wufeng Townshi 0.67 291 *e*P Pb 08 23 11.6 +0.3
baz=299
NFF S Sb 08 23 19.8 -0.6
baz=299
ESL Shilin 0.67 211⇑*i*P Pg 08 23 10.3 -0.8
baz=218
ESL *e*S Sg 08 23 19.4 -0.7
baz=218
NWF Wu-fen Shan 0.67 358 ⇑P Pn 08 23 11.8 -1.1
baz=350
NWF S Sb 08 23 20.4 -0.1
baz=350
WFSB Wu-fen Shan 0.67 358 *e*P Pn 08 23 11.9 -1.0
baz=352
WFSB *e*S Sb 08 23 20.2 -0.2
baz=352
SXI1 Grass Mountain 0.70 5 P Pb 08 23 12.2 +0.4
baz=9.0
SXI1 S Sb 08 23 20.8 -0.4
baz=9.0
OWD Renai 0.73 233 P Pg 08 23 11.7 -0.5
baz=235
OWD S Sg 08 23 20.7 -1.1
baz=235
TEGC Jichi Village 0.73 200 *e*P Pb 08 23 12.5 +0.3
baz=188
WUSB Renai 0.75 238 ⇓P Pg 08 23 12.3 -0.3
baz=248
WUSB *e*S Sg 08 23 21.9 -0.6
baz=248
TNOU National Taiwa 0.75 357 *e*P Pn 08 23 13.1 -0.8
baz=6.0
LIOB Emei 0.77 289 *e*P Pn 08 23 13.5 -0.6
baz=281
LIOB *e*S Sb 08 23 23.4 +0.3
baz=281
NSTT Nanjuang 0.77 288 P Pn 08 23 13.4 -0.8
baz=280
NSTT S Sb 08 23 23.1 -0.2
baz=280
YM01 YM01 0.78 344 ⇑P Pn 08 23 13.8 -0.5
baz=344
YM01 *e*S Sb 08 23 23.9 +0.4
baz=344
TWS1 Kuangyinshan 0.79 333⇑*i*P Pn 08 23 14.3 -0.1
baz=334
TWS1 *e*S Sn 08 23 25.6 -0.2
baz=334
WHP Taichung City 0.80 262 P Pb 08 23 13.7 +0.3
baz=264
WHP *e*S Sb 08 23 24.1 0.0
baz=264
EGFH Guangfu 0.80 206 *e*P Pg 08 23 13.0 -0.5
baz=220
EGFH *e*S Sb 08 23 24.5 +0.3
baz=220
NCU National Centr 0.81 315 *e*P Pn 08 23 14.7 0.0
baz=313
NCU *e*S Sn 08 23 26.9 +0.6
baz=313
NCUH Zhongli 0.81 315 *e*P Pn 08 23 14.8 +0.1
baz=316
ANP Anpu 0.83 342 *e*P Pn 08 23 14.8 -0.3
baz=342
WPL Puli Township 0.87 244 *i*P Pn 08 23 15.1 -0.4
baz=245
VWDT VWDT 0.88 224 *e*P Pg 08 23 14.6 -0.5
baz=226
VWDT *e*S Sb 08 23 26.9 +0.4
baz=226
WCS Beigang Elemen 0.89 248 *e*P Pb 08 23 15.1 +0.1
baz=250
WCS *e*S Sg 08 23 25.9 -0.9
baz=250
TWY Chenhua 0.90 348 *e*P Pn 08 23 17.4 +1.5
baz=349
TWY *e*S Sn 08 23 29.1 +0.6
baz=349
NMLH Miaoli 0.94 279 *e*P Pn 08 23 17.7 +1.2
baz=287
NMLH *e*S Sn 08 23 29.7 +0.1
baz=287
TWQ1 Liyutan 0.95 267 *e*P Pn 08 23 18.4 +1.8
baz=268
NSY Sanyi 0.96 271 *e*P Pn 08 23 18.1 +1.4
baz=272
HGSD Ruisui 0.97 201 *e*P Pg 08 23 16.6 0.0
baz=220
HGSD *e*S Sn 08 23 33.2 +3.0
baz=220
SMLT Sun Moon Lake 0.97 239 ⇓P Pb 08 23 16.4 -0.2
baz=240
SMLT *e*S Sb 08 23 28.9 -0.3
baz=240
SSLB Suanglung 0.99 232 ⇑P Pb 08 23 16.4 -0.3
baz=234
SSLB *e*S Sb 08 23 29.0 -0.6
baz=234
EHY Hungye 0.99 207 *e*P Pb 08 23 15.7 -1.1
baz=218
JYNG Yonagunijimaku 1.04 87 P Pb 08 23 17.4 -0.1
JYNG S Sb 08 23 31.4 +0.5
YOJ Yonaguni jima 1.10 86 P Pb 08 23 18.1 -0.4
YOJ *e*S Sb 08 23 32.7 +0.1
YOJ Yonaguni jima 1.10 86 *e*P Pb 08 23 18.2 -0.4
baz=73
YOJ *e*S Sb 08 23 31.8 -0.8
baz=73
YULB Yu-li 1.10 205 *e*P Pb 08 23 16.3 -2.4
baz=216
EYUL Yuli 1.14 203 *e*P Pb 08 23 18.0 -1.2
baz=215
TWF1 Yuli 1.14 204 P Pn 08 23 19.7 +0.4
baz=216
WJS Zhushan 1.14 240 *e*P Pg 08 23 20.4 +0.5
baz=235
WNT Mingjian 1.15 244 *e*P Pg 08 23 21.0 +0.8
baz=236
YUS Yu-Shan 1.20 221 *e*P Pb 08 23 20.0 -0.5
baz=211
ALS Alishan 1.27 226 *e*P Pb 08 23 21.7 0.0
baz=214
FULB Fuli 1.28 202 *e*P Pn 08 23 21.0 -0.2
baz=215
WDLH Douliu 1.36 239 *e*P Pb 08 23 23.0 0.0
baz=254
WDLH *e*S Sg 08 23 43.4 +1.6
baz=254
WRL Guolierlin Hig 1.40 250 *e*P Pg 08 23 24.3 -0.6
baz=265
WRL *e*S Sg 08 23 42.8 -0.3
baz=265
ELDTW Lidau 1.40 211 *e*P Pn 08 23 21.6 -1.4
baz=199
WTK Tuku 1.48 242 *e*P Pb 08 23 25.4 +0.3
baz=243
EDH Donghe 1.49 198 *e*P Pn 08 23 22.9 -1.2
baz=186
CHN4 Tsaushan 1.52 227 *e*P Pb 08 23 26.2 +0.4
baz=217
CHN4 *e*S Sg 08 23 48.9 +1.8
baz=217
TPUB Ta-pu 1.54 225 *e*P Pb 08 23 26.3 +0.3
baz=217
TPUB *e*S Sg 08 23 47.4 -0.1
baz=217
STYH Taoyuan 1.54 218 *e*P Pb 08 23 25.7 -0.5
baz=220
WTP Ta-pu 1.58 224 P Pb 08 23 27.2 +0.3
baz=216
WTP *e*S Sg 08 23 50.4 +1.4
baz=216
TWK Hsinying 1.65 227 *e*P Pb 08 23 28.0 -0.1
baz=215
TWK *e*S Sg 08 23 50.6 -0.6
baz=215
CHN1 Nanshi 1.68 225 *e*P Pb 08 23 28.9 +0.4
baz=228
CHN1 *e*S Sg 08 23 52.5 +0.4
baz=228
WSL Shuilin Townsh 1.69 239 *e*P Pb 08 23 28.9 +0.3
baz=241
LDUT Ludao 1.74 190 *e*P Pn 08 23 25.1 -2.4
baz=193
IRIF Iriomote-Funau 1.75 92 *e*S Sn 08 23 49.9 +0.2
HATJ Hateruma jima 1.85 100 P Pn 08 23 30.5 +1.4
JKRS Kuro-shima 2.01 94 P Pn 08 23 31.8 +0.5
JKRS S Sn 08 23 56.2 +0.1
MASBT Mashibuluo 2.08 212 *e*P Pn 08 23 32.8 +0.6
baz=214
JIJ Ishigaki jima 2.13 90 P Pn 08 23 33.1 +0.3
WDGT Dungji 2.27 241 *e*P Pn 08 23 35.9 +1.1
baz=251
JISG Ishigakijimahi 2.29 85 P Pn 08 23 34.4 -0.6
JISG *e*S Sn 08 24 03.2 +0.3
JTJ Tarama 2.65 84 P Pn 08 23 40.9 +0.9

NNC 27 08:26:38.1±3.2, 53°.47N×87°.70E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=24.4km s-min=14.4km az=73.0, Suspected Mining explosion.

IDC 27 08:26:35.7±2.8, 53°.61N×88°.09E, h0km, mb1 3.4/2, mb1mx3.1/49, mbtmp3.4/2, ML2.9/2, 8C-3D, Error ellipse: s-maj=27.1km s-min=18.5km az=84.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**281**	*i*		08 38 51.7	
	baz=98,slow=333,SNR=2.8						
ZAA0	**Zalesovo Array**	**1.97**	**281**	⇑Pn	Pn	08 27 09.2	-1.1
	1.5nm,0.4s						
ZAA0				⇑Sn	Sn	08 27 35.0	-0.6
	4.7nm,0.5s						
ZALV	**Zalesovo Beam**	**1.97**	**281**	Pn	Pn	08 27 09.8	-0.5
	5.0nm,0.3s,baz=101,slow=14,SNR=72						
ZALV				Sn	Sn	08 27 36.1	+0.5
	5.2nm,0.3s,baz=99,slow=26,SNR=28						
KURK	**Kurchatov**	**6.50**	**247**	⇑Pn	Pn	08 28 12.3	-0.3
	1.9nm,0.6s						
KURK				⇑Sn	Sn	08 29 21.7	-5.7
	1.4nm,0.7s						
KURK				⇑Lg	Lg	08 29 58.0	
	6.3nm,0.7s						
KURBB	**Kurchatov Arra**	**6.60**	**247**	Pn	Pn	08 28 14.2	+0.4
	0.2nm,0.3s,baz=62,slow=14,SNR=24						
KURBB				Sn	Sn	08 29 29.6	-0.2
	0.1nm,0.3s,baz=59,slow=26,SNR=2.2						
KURBB				Lg	Lg	08 30 04.5	
	0.1nm,0.3s,baz=68,slow=30,SNR=3.6						
KURBB	**Kurchatov Arra**	**6.60**	**247**	⇓Pn	Pn	08 28 13.2	-0.7
	4.5nm,0.5s						
KURBB				⇓Sn	Sn	08 29 26.9	-2.8
	11nm,0.6s						
KURBB				⇑Lg	Lg	08 30 02.8	
	21nm,0.3s						
MK31	**Makanchi Array**	**7.77**	**211**	⇑Pn	Pn	08 28 31.5	+1.6
	0.4nm,0.5s,baz=28,slow=14,SNR=6.8						
MK31				⇑Sn	Sn	08 29 56.7	-1.9
	0.5nm,0.5s						
MK31				⇓Lg	Lg	08 30 39.4	
	1.0nm,0.5s,baz=35,slow=31,SNR=4.3						
MKAR	**Makanchi Array**	**7.77**	**211**	Pn	Pn	08 28 31.4	+1.4
	0.2nm,0.3s,baz=28,slow=14,SNR=10.0						
MKAR				Sn	Sn	08 29 57.9	-0.6
	0.2nm,0.3s,baz=30,slow=27,SNR=3.2						
MKAR				Lg	Lg	08 30 41.7	
	0.2nm,0.3s,baz=34,slow=31,SNR=6.5						

IDC 27 08:42:18.2±3.2, 53°.45N×87°.56E, h0km, mb1 2.9/2, mb1mx2.7/50, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=28.1km s-min=14.9km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**288**	*i*		08 53 01.4	
	baz=106,slow=331,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.70**	**288**	Pg	Pn	08 42 49.0	-0.2
	0.8nm,0.3s,baz=108,slow=14,SNR=7.2						
ZALV				Lg	Lg	08 43 12.1	
	0.7nm,0.3s,baz=112,slow=27,SNR=4.3						
KURBB	**Kurchatov Arra**	**6.25**	**247**	Pn	Pn	08 43 52.2	+0.6
	0.1nm,0.3s,baz=61,slow=14,SNR=4.6						
KURBB				Lg	Lg	08 45 36.2	
	0.0nm,0.3s,baz=61,slow=33,SNR=5.4						
MKAR	**Makanchi Array**	**7.47**	**209**	Pn	Pn	08 44 09.6	+1.1
	0.1nm,0.3s,baz=28,slow=13,SNR=4.6						
MKAR				Sn	Sn	08 45 34.1	+0.2
	0.1nm,0.3s,baz=34,slow=24,SNR=2.6						
MKAR				Lg	Lg	08 46 15.2	
	0.1nm,0.3s,baz=29,slow=27,SNR=5.0						

IDC 27 08:55:16.3±0.8, 0°.32N×80°.23W, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.8/28, mbtmp3.6/9, MS3.3/5, Ms1 3.3/5, ms1mx2.8/55, Error ellipse: s-maj=48.0km s-min=16.6km az=57.0

ISC 27 08:55:17.5±0.7, 0°.18N±0°.09×80°.42W±0°.07, h9km, n30, σ1ŝ24/31, mb3.7/8, MS3.3/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUSE	**Cuicocha Este**	**2.03**	**86**	*e*P	**Pn**	**08 55 50.9**	**-1.3**
CUSE				*e*S	**Sn**	**08 56 18.8**	**+0.9**
CUSE				*i*		08 56 26.2	
	comp=Z,3μm,0.6s						
TULM	**Tulcn-Chalpat**	**2.69**	**78**	*e*P	**Pn**	**08 56 02.7**	**+1.3**
TULM				*e*S	**Sb**	**08 56 37.8**	**-1.6**
TULM				*i*		08 56 52.5	
	comp=Z,220nm,0.7s						
CCUFI	**Cufio, Nario**	**3.25**	**71**	*e*P	**Pn**	**08 56 10.2**	**+1.1**
GCUF	**Volcan Galeras**	**3.25**	**71**	*e*P	**Pn**	**08 56 10.5**	**+1.4**
CPAS2	**Pasto**	**3.34**	**72**	*e*P	**Pn**	**08 56 12.2**	**+2.0**
GR1C	**Gorgona, Isla**	**3.60**	**39**	*e*P	**Pb**	**08 56 19.7**	**-1.7**
SOTA	**Rioblanco**	**4.28**	**63**	*e*P	**Pn**	**08 56 23.6**	**+0.3**
SOTA				*e*S	**Sn**	**08 57 15.8**	**+2.2**
POPC	**Popayan, Colom**	**4.42**	**58**	*e*P	**Pn**	**08 56 24.5**	**-0.5**
PCON	**Cinco Dias**	**4.56**	**62**	*e*P	**Pn**	**08 56 27.9**	**+0.8**
MARP	**Paez Belalcaza**	**5.19**	**59**	*e*P	**Pn**	**08 56 36.0**	**+0.4**
GARC	**Garzon, Huila**	**5.32**	**68**	*e*P	**Pn**	**08 56 38.3**	**+1.0**
YOTC	**Yotoco, Valle**	**5.56**	**47**	*e*P	**Pn**	**08 56 40.3**	**-0.2**
MACC	**Macarena, Meta**	**6.86**	**73**	*e*P	**Pn**	**08 56 59.1**	**+0.8**
ROSC	**El Rosal**	**7.66**	**53**	Pn	**Pn**	**08 57 12.9**	**+3.3**
	comp=Z,2.1nm,0.3s,baz=33,slow=19,SNR=2.3						
JTS	**Las Juntas de**	**11.01**	**336**	LR	LR	09 01 12.3	
	comp=Z,135nm,21.5s,baz=208,slow=32						
SDV	**Santo Domingo**	**13.04**	**48**	Pn	**Pn**	**08 58 24.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=18,slow=22,SNR=2.0						
LPAZ	**La Paz**	**20.36**	**144**	P	**P**	**08 59 56.2**	**+1.0**
	comp=Z,4.4nm,0.6s,baz=322,slow=10,SNR=20						
SIV	**San Ignacio**	**24.96**	**131**	P	**P**	**09 00 41.4**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=298,slow=8.1,SNR=11						
SIV				LR	LR	09 12 08.8	
	comp=Z,81nm,18.2s,baz=273,slow=41						
TKL	**Tuckaleechee C**	**35.44**	**355**	LR	LR	09 15 51.9	
	comp=Z,47nm,20.1s,baz=188,slow=35						
TXAR	**Lajitas Array**	**36.51**	**325**	P	**P**	**09 02 23.8**	**+0.3**
	comp=Z,0.1nm,0.6s,baz=149,slow=11,SNR=2.5						
TXAR				PcP	**PcP**	**09 04 48.0**	**+0.6**
	comp=Z,0.6nm,1.1s,baz=134,slow=5.4,SNR=3.5						
PLCA	**Paso Flores**	**41.69**	**169**	P	**P**	**09 03 07.5**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=338,slow=14,SNR=7.1						
PFO	**Pinyon Flats O**	**47.43**	**318**	LR	LR	09 23 55.8	
	comp=Z,33nm,18.8s,baz=146,slow=36						
PDAR	**Pinedale Array**	**49.81**	**332**	P	**P**	**09 04 11.3**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=129,slow=8.6,SNR=1.9						
PDAR				LR	LR	09 26 19.7	
	comp=Z,27nm,19.2s,baz=94,slow=37						
NVAR	**Mina Array Bea**	**51.55**	**322**	P	**P**	**09 04 25.2**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=132,slow=7.2,SNR=8.9						
YKA	**Yellowknife Ar**	**67.25**	**344**	P	**P**	**09 06 11.2**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=133,slow=6.3,SNR=8.9						
ILAR	**Eielson Array**	**79.99**	**336**	P	**P**	**09 07 26.9**	**0.0**
	comp=Z,0.4nm,0.9s,baz=110,slow=5.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**82.28**	**77**	P	**P**	**09 07 39.1**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=280,slow=5.8,SNR=5.3						
ASAR	**Alice Springs**	**139.32**	**232**	PKP	**PKPdf**	**09 14 45.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=127,slow=2.0,SNR=4.4						
WRA	**Warramunga Arr**	**140.71**	**238**	PKP	**PKPdf**	**09 14 47.7**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=110,slow=2.2,SNR=8.1						
FITZ	**Fitzroy Crossi**	**148.80**	**234**	PKPbc	**PKPbc**	**09 15 06.2**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=134,slow=5.8,SNR=2.3						

NOU 27 09:00:28.8, 20°.67S×169°.64E, h69km, MLv4.3/15, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.71**	**241**	P	Pn	09 00 56.1	-0.4
LIFNC	**LIFOU**	**2.25**	**267**	P	Pn	09 01 02.8	-1.0
PINNC	**Pines Island,**	**2.81**	**226**	P	Pn	09 01 11.2	-0.2
YATNC	**Mamie plateau,**	**2.91**	**241**	P	Pn	09 01 12.0	-0.8
RTV	**Rentapao**	**3.08**	**338**	P	Pn	09 01 15.4	+0.2
OUENC	**Ouen Island, N**	**3.13**	**236**	P	Pn	09 01 16.2	+0.4
DVP	**Devils Point**	**3.23**	**335**	P	Pn	09 01 16.6	-0.6
DZM	**Mont Dzumac**	**3.29**	**244**	P	Pn	09 01 18.3	+0.3
ONTNC	**Ouen Toro**	**3.38**	**241**	P	Pn	09 01 19.4	+0.2
NOUC	**Port Laguerre**	**3.42**	**245**	P	Pn	09 01 19.9	+0.2
KOUNC	**Koumac, New Ca**	**5.02**	**270**	P	Pn	09 01 42.4	+0.8
SANVU	**Saraoutou**	**5.69**	**336**	P	Pn	09 01 50.6	-0.2

IDC 27 09:10:49.5±2.5, 53°.60N×86°.78E, h0km, mb1 2.7/2, mb1mx2.7/46, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=22.3km s-min=12.2km az=77.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**288**	*i*		09 19 00.0	
	baz=104,slow=333,SNR=5.7						
ZALV	**Zalesovo Beam**	**1.22**	**288**	Pg	Pg	09 11 11.9	-0.8
	0.5nm,0.3s,baz=107,slow=18,SNR=14						
ZALV				Lg	Lg	09 11 29.1	
	1.1nm,0.3s,baz=109,slow=28,SNR=9.6						
KURBB	**Kurchatov Arra**	**5.89**	**243**	Pn	Pn	09 12 19.0	+1.1
	0.1nm,0.3s,baz=58,slow=14,SNR=4.6						
KURBB				Lg	Lg	09 13 55.7	
	baz=55,slow=31,SNR=1.3						
MKAR	**Makanchi Array**	**7.39**	**205**	Pn	Pn	09 12 39.9	+1.3
	0.1nm,0.3s,baz=21,slow=11,SNR=4.6						
MKAR				Sn	Sn	09 14 02.6	-0.6
	0.1nm,0.3s,baz=26,slow=27,SNR=3.1						
MKAR				Lg	Lg	09 14 44.8	
	baz=23,slow=30,SNR=3.9						

IDC 27 09:13:38.5±1.3, 9°.93S×115°.09E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.7/50, mbtmp4.0/10, ML3.9/2, MS3.4/12, Ms1 3.4/12, ms1mx3.0/76, Error ellipse: s-maj=49.8km s-min=12.8km az=51.0

DJA 27 09:13:47.0±1.2, 10°.5S±4°×11°.5E±°, h19km±11km, M4.3/14, mb4.2/3, mB4.6/1, MLv4.3/14, Mw(mB)3.9/1

NEIC ***27*** *09:13:48.4±1.4, 9.5S±0.2, 115.6E±0.2, h57km±8km, mb4.2/15, Error ellipse: s-maj=32.3km s-min=9.6km az=223.0*

ISC 27 09:13:46.3±1.2, 9.87S±0.07, 115.35E±0.05, h55km±10km, n58, σ1♀77/59, mb4.2/13, MS3.3/10, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**1.06**	**349**	P	**Pn**	**09 14 04.3**	**-0.7**
IGBI				S	**Sn**	**09 14 18.4**	**-0.4**
DNP	**Denpasar**	**1.19**	**353**	P	**Pn**	**09 14 06.7**	**0.0**
DNP				S	**Sn**	**09 14 22.4**	**+0.5**
SRBI	**Singaraja**	**1.78**	**356**	P	**Pn**	**09 14 15.9**	**+1.3**
SRBI				S	**Sn**	**09 14 38.1**	**+2.0**
JAGI	**Jajag, Banyuwa**	**1.82**	**319**		**Pn**	**09 14 15.3**	**0.0**
JAGI				Sn	**Sn**	**09 14 36.7**	**-0.6**
JAGI	**Jajag, Banyuwa**	**1.82**	**319**	P	**Pn**	**09 14 15.2**	**-0.1**
JAGI				S	**Sn**	**09 14 36.3**	**-1.0**
ABJI	**Asem Bagus**	**2.34**	**332**	P	**Pn**	**09 14 24.0**	**+1.7**
GMJI	**Gumukmas**	**2.46**	**310**	P	**Pn**	**09 14 24.3**	**+0.3**
PLAI	**Plampang**	**2.61**	**67**	P	**Pn**	**09 14 27.7**	**+1.7**
PLAI				S	**Sn**	**09 14 56.5**	**0.0**
BLJI	**Banyuglugur**	**2.73**	**320**	P	**Pn**	**09 14 29.3**	**+1.6**
BLJI				S	**Sn**	**09 15 02.5**	**+3.0**
KMMI	**Kalianget**	**3.12**	**334**	P	**Pn**	**09 14 35.5**	**+2.5**
KMMI				S	**Sn**	**09 15 11.6**	**+2.6**
PWJI	**Pagerwojo**	**3.96**	**297**	P	**Pn**	**09 14 45.3**	**+0.8**
PCJI	**Pacitan**	**4.45**	**292**	P	**Pn**	**09 14 52.4**	**+1.2**
UGM	**Wanagama**	**5.15**	**292**	Pn	**Pn**	**09 15 03.2**	**+2.3**
BSSI	**Bau Bau, Buton**	**6.29**	**54**	P	**Pn**	**09 15 18.6**	**+2.1**
	0.2nm502nm24nm,1.0s						
KAPI	**Kappang**	**6.50**	**42**	Pn	**Pn**	**09 15 20.2**	**+0.8**
	2.9nm,0.3s,baz=195,slow=4.8,SNR=6.3						
KAPI				Sn	**Sn**	**09 16 31.7**	**-0.5**
	2.8nm,0.3s,baz=37,slow=19,SNR=12						
KAPI				LR	LR	09 17 59.8	
	comp=Z,222nm,21.9s,baz=224,slow=39						
BKSI	**Bulukumba**	**6.54**	**47**	P	**Pn**	**09 15 21.3**	**+1.4**
BKSI				S	**Sn**	**09 16 34.4**	**+1.2**
MBWA	**Marble Bar**	**11.99**	**160**		Pn	09 16 29.1	-5.4
FITZ	**Fitzroy Crossi**	**12.90**	**130**	Pn	**Pn**	**09 16 44.2**	**-2.7**
	0.5nm,0.3s,baz=306,slow=10,SNR=11						
FITZ				Sn	Sn	09 18 59.5	-10
	baz=188,slow=19						
FITZ				LR	LR	09 21 42.5	
	comp=Z,126nm,21.2s,baz=300,slow=37						
WB0	**Warramunga Arr**	**20.85**	**120**	P	**P**	**09 18 25.1**	**+1.4**
WB0				IAmb	IAmb	09 18 28.9	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**20.88**	**121**	P	**P**	**09 18 25.3**	**+1.2**
	comp=Z,3.5nm,0.9s,baz=293,slow=12,SNR=15						
WRA				S	**S**	**09 22 08.3**	**-5.7**
	comp=Z,0.6nm,0.7s,baz=293,slow=21,SNR=3.1						
WRA				LR	LR	09 27 18.6	
	comp=Z,100nm,18.2s,baz=247,slow=39						
WRA	**Warramunga Arr**	**20.88**	**121**	P	Pn	09 18 26.0	-1.1
WRAB	**Tennant Creek**	**20.89**	**121**	P	**P**	**09 18 25.5**	**+1.4**
WRAB				IAmb	IAmb	09 18 40.6	
	comp=Z,13nm,1.2s						
WB2	**Warramunga Arr**	**20.89**	**121**	P	**P**	**09 18 25.3**	**+1.1**
WR0	**Warramunga Arr**	**21.06**	**121**	P	**P**	**09 18 27.8**	**+1.8**
WR0				IAmb	IAmb	09 18 43.0	
	comp=Z,9.9nm,1.0s						
AS31	**Alice Springs**	**22.41**	**130**	P	**P**	**09 18 43.8**	**+3.4**
ASAR	**Alice Springs**	**22.41**	**130**	P	**P**	**09 18 41.3**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=303,slow=10.0,SNR=14						
ASAR				S	**S**	**09 22 49.4**	**+6.2**
	comp=Z,1.0nm,0.9s,baz=306,slow=24,SNR=6.1						
ASAR				LR	LR	09 27 07.8	
	comp=Z,67nm,20.4s,baz=312,slow=36						
PMG	**Port Moresby**	**31.36**	**92**	LR	LR	09 34 07.8	
	comp=Z,46nm,18.5s,baz=243,slow=39						
CTA	**Charters Tower**	**31.48**	**112**	LR	LR	09 33 50.9	
	comp=Z,59nm,18.7s,baz=289,slow=38						
CM31	**Chiang Mai Arr**	**32.47**	**330**	P	**P**	**09 20 11.7**	**0.0**
CMAR	**Chiang Mai Arr**	**32.47**	**330**	P	**P**	**09 20 12.8**	**+1.2**
	comp=Z,5.5nm,0.9s,baz=160,slow=7.7,SNR=27						
CMAR				LR	LR	09 35 04.1	
	comp=Z,54nm,18.9s,baz=180,slow=40						
CMAR	**Chiang Mai Arr**	**32.47**	**330**	P	**P**	**09 20 11.0**	**-0.7**
STKA	**Stephens Creek**	**32.71**	**136**	P	**P**	**09 20 15.0**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=320,slow=9.4,SNR=4.1						
STKA				LR	LR	09 33 22.5	
	comp=Z,84nm,22.0s,baz=339,slow=36						
CHTO	**Chiang Mai**	**32.77**	**330**	P	**P**	**09 20 13.6**	**-0.7**
CHTO				IAmb	IAmb	09 20 17.2	
	comp=Z,4.9nm,0.8s						
SHL	**Shillong**	**41.98**	**327**	P	**P**	**09 21 32.2**	**-0.1**
H08S2	**Diego Garcia H**	**42.40**	**269**	T	T	10 06 52.2	
	baz=94						
H08S3	**Diego Garcia H**	**42.41**	**269**	T	T	10 06 52.2	
	baz=94						
H08S1	**Diego Garcia H**	**42.41**	**269**	T	T	10 07 12.1	
	baz=94						
JCJ	**Chichijima**	**45.03**	**35**	LR	LR	09 40 34.5	
	comp=Z,10nm,20.2s,baz=222,slow=36						
BJT	**Baijiatuau**	**49.64**	**1**	P	**P**	**09 22 29.9**	**-2.3**
BJT				IAmb	IAmb	09 22 30.3	
	comp=Z,4.2nm,0.7s						
DZM	**Mont Dzumac**	**50.38**	**110**	LR	LR	09 43 49.0	
	comp=Z,40nm,19.8s,baz=213,slow=36						
SONM	**Songino Array**	**57.99**	**353**	P	**P**	**09 23 33.0**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=174,slow=7.5,SNR=8.4						
SONM	**Songino Array**	**57.99**	**353**	P	**P**	**09 23 32.9**	**-0.4**
SONM				IAmb	IAmb	09 23 33.9	
	comp=Z,1.7nm,0.8s						
MK31	**Makanchi Array**	**63.66**	**335**	P	**P**	**09 24 11.7**	**-0.1**
MK31				IAmb	IAmb	09 24 11.8	
	comp=Z,2.1nm,1.2s						
MKAR	**Makanchi Array**	**63.66**	**335**	P	**P**	**09 24 11.5**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=153,slow=7.5,SNR=13						
MKAR	**Makanchi Array**	**63.66**	**335**	P	**P**	**09 24 11.7**	**-0.1**
ZAA0	**Zalesovo Array**	**68.63**	**341**	P	**P**	**09 24 42.9**	**-0.5**
ZAA0				IAmb	IAmb	09 24 43.3	
	comp=Z,1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**68.63**	**341**	P	**P**	**09 24 43.1**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=133,slow=6.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**68.63**	**341**	P	**P**	**09 24 42.4**	**-1.0**
VNDA	**Vanda**	**71.72**	**170**	LR	LR	09 55 19.0	
	comp=Z,62nm,18.4s,baz=254,slow=35						
PETK	**Petropavlovsk-**	**72.35**	**25**	P	**P**	**09 25 06.8**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=248,slow=7.8,SNR=3.8						
PET	**Petropavlovsk**	**72.69**	**26**	P	**P**	**09 25 07.1**	**-1.0**
ABKAR	**Akbulak array**	**76.24**	**326**	P	**P**	**09 25 28.5**	**-0.3**
TIXI	**Tiksi**	**81.84**	**4**	P	**P**	**09 25 58.4**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=270,slow=22,SNR=4.8						
TIXI	**Tiksi**	**81.84**	**4**	P	**P**	**09 25 58.2**	**-0.8**
TIXI				IAmb	IAmb	09 25 58.7	
	comp=Z,4.9nm,1.1s						
ARCES	**ARCESS Array B**	**99.12**	**339**	LR	LR	10 16 46.4	
	comp=Z,27nm,18.1s,baz=200,slow=38						
YKA	**Yellowknife Ar**	**116.43**	**23**	PKP	**PKiKP**	**09 32 24.3**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=308,slow=1.9,SNR=6.2						
YKA	**Yellowknife Ar**	**116.43**	**23**		**PKiKP**	**09 32 24.9**	**+1.4**
TXAR	**Lajitas Array**	**138.72**	**56**	PKP	**PKiKP**	**09 33 08.4**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=336,slow=2.0,SNR=2.5						

NNC ***27*** *09:15:15.7±4.7, 53.48N×87.66E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=37.8km s-min=24.1km az=66.0, Suspected Mining explosion.*

IDC 27 09:15:12.2±3.0, 53.62N×87.95E, h0km, mb1 3.0/2, mb1mx2.9/42, mbtmp3.0/2, ML2.7/2, 8C-1D, Error ellipse: s-maj=25.9km s-min=15.2km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**281**	*i*		09 27 23.4	
	baz=98,slow=339,SNR=3.9						
ZAA0	**Zalesovo Array**	**1.89**	**281**	⇑Pn	Pn	09 15 45.9	+0.2
	0.5nm,0.3s						
ZAA0				⇑Sn	Sb	09 16 12.1	+0.5
	3.3nm,0.4s						
ZALV	**Zalesovo Beam**	**1.89**	**281**	Pg	Pn	09 15 46.1	+0.4
	3.8nm,0.3s,baz=96,slow=16,SNR=29						
ZALV				Lg	Lg	09 16 11.9	
	10nm,0.3s,baz=103,slow=26,SNR=31						
KURK	**Kurchatov**	**6.43**	**247**	⇑Pn	Pn	09 16 53.5	+5.4
	3.0nm,1.1s						
KURK				⇓Sn	Sn	09 18 00.2	-1.9
	0.7nm,0.5s						
KURK				⇑Lg	Lg	09 18 32.0	
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**6.53**	**246**	Pn	Pn	09 16 50.2	+0.8
	0.1nm,0.3s,baz=61,slow=14,SNR=5.6						
KURBB				Lg	Lg	09 18 39.8	
	0.1nm,0.3s,baz=63,slow=30,SNR=2.8						
KURBB	**Kurchatov Arra**	**6.53**	**246**	⇑Pn	Pn	09 16 49.1	-0.3
	1.5nm,0.4s						
KURBB				⇑Lg	Lg	09 18 32.8	
	5.6nm,0.7s						
MK31	**Makanchi Array**	**7.73**	**210**	⇑Pn	Pn	09 17 07.0	+1.0
	0.3nm,0.6s,baz=28,slow=13,SNR=6.7						
MK31				Sn	Sn	09 18 35.2	+1.1
	0.2nm,0.3s,baz=35,slow=26,SNR=4.2						
MK31				⇑Lg	Lg	09 19 12.7	
	1.1nm,0.7s,baz=26,slow=30,SNR=5.4						
MKAR	**Makanchi Array**	**7.73**	**210**	Pn	Pn	09 17 07.0	+1.1
	0.2nm,0.3s,baz=30,slow=14,SNR=6.3						
MKAR				Sn	Sn	09 18 33.8	-0.4
	0.2nm,0.3s,baz=28,slow=22,SNR=6.2						
MKAR				Lg	Lg	09 19 17.3	
	0.3nm,0.3s,baz=24,slow=30,SNR=6.5						

IDC ***27*** *09:20:13.3±1.1, 36.62N×143.93E, h0km, mb3.3/7, mb1 3.6/8, mb1mx3.4/63, mbtmp3.4/8, ML2.8/1, Error ellipse: s-maj=31.0km s-min=23.1km az=124.0*

NIED ***27*** *09:20:17.4, 36.81N×143.62E, h55km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=1.50; Mθθ0.51; Mφφ0.99; Mrθ 1.11; Mθφ 1.53; Mφr1.22; Fault plane solution: M₀2.52000×10¹⁴ NP1:φ₁37.00000°, δ25.00000°, λ-95.00000°. NP2:φ₂222.00000°, δ66.00000°, λ-88.00000°.*

JMA ***27*** *09:20:17.4±0.2, 36.81N×143.62E, h55km, M3.8*

ISC 27 09:20:18.2±0.9, 36.83N±0.05×143.73E±0.07, h35km, n24, σ1♀76/39, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.33**	**310**	P	**Pn**	**09 20 53.3**	**-0.7**
JIKH				*e*S	**Sn**	**09 21 19.7**	**-1.7**
JFK	**Kawauchi**	**2.35**	**284**	P	**Pn**	**09 20 53.6**	**-0.7**
JFK				*e*S	**Sn**	**09 21 19.8**	**-2.1**
ONAJ	**Iwakimizuishiy**	**2.37**	**278**	P	**Pn**	**09 20 53.6**	**-0.9**
ONAJ				*e*S	**Sn**	**09 21 20.2**	**-2.2**
JMST	**Minamisoumatoc**	**2.44**	**292**	P	**Pn**	**09 20 54.8**	**-0.7**
JMST				S	**Sn**	**09 21 22.6**	**-1.5**
JIO	**Ouri**	**2.49**	**311**	P	**Pn**	**09 20 55.8**	**-0.4**
JIO				*e*S	**Sn**	**09 21 24.1**	**-1.3**
JFT	**Otama**	**2.80**	**285**	P	**Pn**	**09 21 00.6**	**+0.1**
JFT				*e*S	**Sn**	**09 21 32.4**	**-0.6**
JMK	**Ichinoseki**	**2.91**	**318**	P	**Pn**	**09 21 01.4**	**-0.5**
JMK				*e*S	**Sn**	**09 21 34.8**	**-0.8**
BSO1	**Boso 1**	**3.12**	**227**	P	**Pn**	**09 21 03.3**	**-1.0**
JOM	**Ohasama**	**3.27**	**325**	P	**Pn**	**09 21 06.4**	**-0.5**
JOM				*e*S	**Sn**	**09 21 43.1**	**-1.4**
JYK	**Kaneyama**	**3.39**	**309**	P	**Pn**	**09 21 08.6**	**+0.1**
JYK				*e*S	**Sn**	**09 21 47.2**	**-0.3**
JAG	**Ashikaga**	**3.47**	**265**	P	**Pn**	**09 21 09.3**	**-0.3**
JAG				*e*S	**Sn**	**09 21 46.5**	**-2.9**
JRY	**Ryogami san**	**3.98**	**260**	P	**Pn**	**09 21 15.9**	**-0.8**
JRY				*e*S	**Sn**	**09 21 58.7**	**-3.4**
JOD2	**Odawara 2**	**4.07**	**249**	P	**Pn**	**09 21 17.3**	**-0.7**
JOD2				*e*S	**Sn**	**09 22 01.5**	**-3.0**
MJAR	**Matsushiro Arr**	**4.45**	**268**	Pn	**Pn**	**09 21 23.7**	**+0.6**
	0.5nm,0.3s,baz=86,slow=14,SNR=12						
MJAR				Sn	**Sn**	**09 22 14.0**	**+0.3**
	baz=114,slow=27,SNR=1.4						
JOT	**Ohata**	**5.00**	**336**	P	**Pn**	**09 21 31.0**	**+0.3**
JOT				*e*S	**Sn**	**09 22 24.1**	**-3.2**
JCH	**Churui**	**5.79**	**357**	P	**Pn**	**09 21 39.7**	**-1.8**
JCH				*e*S	**Sn**	**09 22 41.3**	**-5.3**
JOSM	**Okushiri--Mats**	**6.20**	**329**	P	**Pn**	**09 21 47.1**	**0.0**
MKAR	**Makanchi Array**	**45.80**	**303**	P	**P**	**09 28 38.3**	**+1.9**
	0.1nm,0.7s,baz=81,slow=9.5,SNR=1.6						
KURBB	**Kurchatov Arra**	**47.59**	**308**	P	**P**	**09 28 52.9**	**+2.6**
	1.0nm,0.7s,baz=82,slow=7.4,SNR=3.9						
ILAR	**Eielson Array**	**48.67**	**32**	P	**P**	**09 28 59.5**	**+1.1**
	0.4nm,0.6s,baz=259,slow=6.3,SNR=5.1						
INK	**Inuvik**	**53.72**	**27**	P	**P**	**09 29 37.7**	**+1.5**
	0.5nm,0.5s,baz=260,slow=6.1,SNR=4.7						
WRA	**Warramunga Arr**	**57.16**	**191**	P	**P**	**09 30 00.6**	**-0.9**
	0.5nm,1.0s,baz=9.3,slow=7.1,SNR=2.1						
ASAR	**Alice Springs**	**60.88**	**190**	P	**P**	**09 30 26.6**	**-0.7**
	0.3nm,0.7s,baz=12,slow=9.5,SNR=2.4						
YKA	**Yellowknife Ar**	**63.05**	**31**	P	**P**	**09 30 42.0**	**+0.7**
	0.1nm,0.7s,baz=296,slow=6.2,SNR=3.9						

IDC ***27*** *09:24:24.4±3.3, 32.98N×140.17E, h143km±32km, mb3.2/3, mb1 3.2/5, mb1mx2.8/67, mbtmp3.7/5, MS2.4/2, Ms1 2.4/2, ms1mx2.1/31, Error ellipse: s-maj=63.6km s-min=27.7km az=64.0*

JMA ***27*** *09:24:25.4±0.1, 33.00N×140.08E, h147km±1km, M3.2*

ISC 27 09:24:25.2±1.0, 32.96N±0.06×140.04E±0.09, h149km±7km, n23, σ0♀63/30, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.23**	**299**	P	**Pn**	**09 24 45.5**	**+0.1**
JHCJ				*e*S	**Sn**	**09 25 00.8**	**+0.1**
JHJ2	**Mitsune**	**0.24**	**309**	P	**Pn**	**09 24 45.4**	**0.0**
JHJ2				S	**Sn**	**09 25 01.1**	**+0.4**
JAOM	**Aogashimamukai**	**0.55**	**205**	P	**Pn**	**09 24 47.0**	**+0.3**
JAOM				*e*S	**Sn**	**09 25 03.3**	**+0.3**
JMKN	**Mikurajimanish**	**1.00**	**338**	P	**Pn**	**09 24 49.7**	**-0.1**
JMKN				*e*S	**Sn**	**09 25 08.3**	**-0.4**
JKO	**Kozu shima**	**1.43**	**329**	P	**Pn**	**09 24 54.3**	**+0.4**
JIM2	**Oshima 3**	**1.82**	**344**	P	**Pn**	**09 24 58.5**	**+0.3**
JIM2				*e*S	**Sn**	**09 25 22.8**	**-0.8**
BSO1	**Boso 1**	**1.86**	**25**	P	**Pn**	**09 24 58.7**	**+0.7**
BSO1				*e*S	**Sn**	**09 25 24.3**	**+0.9**
BSO3	**Boso 3**	**1.88**	**12**	P	**Pn**	**09 24 59.0**	**+0.5**
BSO3				S	**Sn**	**09 25 24.7**	**+0.5**
JIZS	**Izushimoda**	**2.00**	**332**	P	**Pn**	**09 25 00.7**	**+0.5**
TK02	**Tokai 2**	**2.14**	**298**	P	**Pn**	**09 25 02.5**	**+0.8**
TK04	**Tokai 4**	**2.29**	**309**	P	**Pn**	**09 25 04.4**	**+0.8**
JOD2	**Odawara 2**	**2.42**	**341**	P	**Pn**	**09 25 05.9**	**+0.6**
JOD2				*e*S	**Sn**	**09 25 36.8**	**+0.5**
SHZ3	**Shizuoka 3**	**2.59**	**325**	P	**Pn**	**09 25 08.3**	**+0.9**
JYN	**Shimob**	**2.81**	**334**	P	**Pn**	**09 25 11.2**	**+1.0**
JIE	**Ise**	**3.12**	**298**	P	**Pn**	**09 25 14.3**	**+0.3**
JRY	**Ryogami san**	**3.19**	**343**	P	**Pn**	**09 25 15.4**	**+0.5**
MJAR	**Matsushiro Arr**	**3.87**	**338**	P	**Pn**	**09 25 23.0**	**-0.7**
	0.4nm,0.3s,baz=124,slow=14,SNR=11						
MJAR				S	**Sn**	**09 26 08.6**	**-0.7**
	0.1nm,0.3s,baz=208,slow=21,SNR=1.4						
KSRS	**Korea Array**	**10.87**	**298**	LR	LR	09 31 29.5	
	comp=Z,13nm,20.8s,baz=185,slow=39						
ASAJ	**Asahikawa**	**11.31**	**9**	P	**Pn**	**09 27 01.1**	**-1.4**
	0.4nm,0.3s,baz=200,slow=16,SNR=5.7						
JOW	**Kunigami**	**11.89**	**242**	LR	LR	09 31 30.8	
	comp=Z,35nm,21.0s,baz=292,slow=36						
MKAR	**Makanchi Array**	**45.43**	**305**	P	**P**	**09 32 29.2**	**+0.1**
	1.2nm,0.6s,baz=89,slow=9.8,SNR=14						
KURBB	**Kurchatov Arra**	**47.71**	**311**	P	**P**	**09 32 47.0**	**+0.3**
	0.7nm,0.5s,baz=90,slow=6.9,SNR=9.4						
WRA	**Warramunga Arr**	**52.89**	**187**	P	**P**	**09 33 25.8**	**-0.1**
	0.1nm,0.3s,baz=4.7,slow=7.7,SNR=1.3						

WEL 27 09:31:51.3±1.2, 33.5S±15.17.9W±3.4, h33km, M4.0/6, mB4.6/5, ML4.4/14, MLv4.2/6, Mw(mB)3.8/5, Error ellipse: s-maj=0.0km s-min=0.0km az=111.7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.26**	**202**	P	Pn	09 33 07.4	-0.2
WMGZ	**Waiomatatini S**	**5.47**	**200**	P	Pn	09 33 11.7	+1.3
WMGZ				S	Sn	09 34 14.9	+2.8
HAZ	**Te Kaha**	**5.62**	**205**	P	Pn	09 33 12.2	-0.3
PKGZ	**Pakihiroa**	**5.64**	**202**	P	Pn	09 33 13.4	+0.6
PKGZ				S	Sn	09 34 16.1	-0.3
RUGZ	**Raukumara Rang**	**5.84**	**205**	P	Pn	09 33 16.5	+0.8
RUGZ				S	Sn	09 34 21.6	+0.1
OPRZ	**Ohinepanea**	**6.19**	**213**	P	Pn	09 33 22.4	+2.0
MWZ	**Matawai**	**6.22**	**204**	P	Pn	09 33 20.2	-0.6
MWZ				S	Sn	09 34 32.2	+1.4
URZ	**Urewera**	**6.31**	**207**	P	Pn	09 33 21.7	-0.2
URZ				S	Sn	09 34 33.9	+1.1
RIGZ	**Rimuhau**	**6.48**	**201**	P	Pn	09 33 23.4	-1.0
RIGZ				S	Sn	09 34 37.1	-0.2
MUGZ	**Murupara**	**6.63**	**208**	P	Pn	09 33 26.8	+0.4
MUGZ				S	Sn	09 34 41.4	+0.6
RTZ	**Ruatahuna**	**6.67**	**206**	P	Pn	09 33 25.8	-1.1
SNGZ	**Shannon Statio**	**6.69**	**204**	P	Pn	09 33 27.6	+0.4
SNGZ				S	Sn	09 34 41.3	-0.9
RAHZ	**Arahi**	**6.90**	**205**	P	Pn	09 33 29.9	-0.2
NMHZ	**Naumai**	**7.16**	**206**	P	Pn	09 33 33.3	-0.4
NMHZ				S	Sn	09 34 56.0	+2.1
BKZ	**Black Stump Fm**	**7.33**	**207**	P	Pn	09 33 34.8	-1.3
NTVZ	**North Tongarir**	**7.61**	**211**	P	Pn	09 33 39.9	-0.1
TMVZ	**Te Maari**	**7.62**	**211**	P	Pn	09 33 39.3	-0.7
OTVZ	**Oturere**	**7.67**	**211**	P	Pn	09 33 41.1	+0.3

NNC 27 09:49:17.5±5.2, 54.33N×86.05E, h0km, mb3.6, mpv2.8, 6C-5D, Error ellipse: s-maj=59.9km s-min=26.2km az=164.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.82**	**243**	⇓P	Pg	09 49 32.1	-1.0
	0.2nm,0.3s						
ZAA0				⇑S	Sg	09 49 44.8	+1.1
	1.9nm,0.4s						
KURK	**Kurchatov**	**5.80**	**234**	⇑Pn	Pb	09 50 52.1	-7.3
	0.7nm,0.4s						
KURK				⇑Sn	Sn	09 51 56.8	+5.0
	0.3nm,0.4s						
KURK				⇑Lg	Lg	09 52 24.5	
	5.4nm,1.0s						
KURBB	**Kurchatov Arra**	**5.91**	**234**	⇓Pn	Pn	09 50 48.8	+2.6
	2.3nm,0.6s						
KURBB				⇓Sn	Sn	09 51 54.0	-0.5
	1.3nm,0.6s						
KURBB				⇓Lg	Lg	09 52 24.1	
	3.8nm,0.8s						
MK31	**Makanchi Array**	**7.91**	**199**	⇑Pn	Pn	09 51 15.2	+1.5
	0.8nm,0.5s,baz=26,slow=14,SNR=15						
MK31				⇓Sn	Sn	09 52 41.3	-2.6
	0.3nm,0.5s,baz=30,slow=28,SNR=3.8						
MK31				⇑Lg	Lg	09 53 24.1	
	3.9nm,1.0s,baz=26,slow=29,SNR=5.7						

SOME ***27*** *09:50:39.9, 43.58N×69.47E*

KRNET ***27*** *09:50:41.1±0.1, 43.55N×69.65E, mb2.9*

NNC ***27*** *09:50:42.9±4.2, 43.45N×69.57E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=32.0km s-min=9.2km az=119.0, Suspected Mining explosion.*

ISC 27 09:50:40.0±2.5, 43.59N±0.10×69.6E±0.1, h0km, n9, σ0♀90/16, 9C, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**0.59**	**162**	P	**Pn**	**09 50 55.0**	**-0.7**
	4.4nm,0.3s						
BRLS				S	**Sn**	**09 51 06.2**	**+0.3**
	7.1nm,0.4s						
KK31	**Karatay Array**	**0.83**	**126**	⇑P	**Pg**	**09 50 56.0**	**+0.2**
	2.5nm,0.3s,baz=292,slow=16,SNR=30						
KK31				S	**Sg**	**09 51 07.0**	**+0.4**
	2.2nm,0.3s,baz=294,slow=27,SNR=12						
KKAR	**Karatay Array**	**0.83**	**126**	⇑*i*P	**Pb**	**09 50 56.1**	**-1.2**
	baz=25						
KKAR				⇑*i*S	**Sg**	**09 51 07.1**	**+0.5**
	baz=25						
IUG	**Iuzhnay**	**1.48**	**167**	P	**Pb**	**09 51 08.5**	**+0.1**
	223nm,0.3s						
IUG				S	**Sn**	**09 51 29.3**	**+1.2**
	16nm,0.5s						
TRKS	**Terek-Say**	**2.35**	**150**	⇑*i*P	**Pb**	**09 51 23.3**	**-0.1**
	baz=51						
TRKS				⇑*i*S	**Sg**	**09 51 54.6**	**-1.0**
	baz=51						
ARK	**Arkit**	**2.50**	**135**	⇑*i*P	**Pb**	**09 51 25.0**	**-0.9**
	baz=35						
ARK				⇑*i*S	**Sb**	**09 51 56.8**	**-0.4**
	baz=35						
MRKS	**Merke**	**2.79**	**106**	Pg	**Pg**	**09 51 33.4**	**0.0**
	2.0nm,0.7s						
MRKS				Lg	Lg	09 52 12.0	
	3.0nm,0.6s						
SGDS	**Sogindy**	**3.67**	**90**	Pg	**Pg**	**09 51 49.3**	**-1.0**
	1.4nm,0.3s						
SGDS				Lg	Lg	09 52 39.2	
	1.1nm,0.3s						
UCH	**Uchtor**	**3.86**	**109**	⇑*i*P	**Pn**	**09 51 42.9**	**+1.8**
	baz=9.0						
UCH				⇑*i*S	**Sn**	**09 52 27.9**	**+0.5**
	baz=9.0						

IDC ***27*** *09:54

comp=Z,1.0nm,0.7s,baz=263,slow=5.0,SNR=9.9
FINES FINESS Array B 91.79 335 P **P 10 07 09.2 -1.1**
comp=Z,2.1nm,1.0s,baz=66,slow=4.6,SNR=4.8

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*BJI **27** 10:13:49.0±0.0,23˙60S×66˙67W,h167km,mB5.1/13*
*MOS **27** 10:13:50.9±1.3,24˙13S×66˙88W,h191km,mb5.2/22, Error ellipse: s-maj=11.9km s-min=6.9km az=106.6*
*NEIC **27** 10:13:50.3±2.4,24˙13S±0˙05×66˙78W±0˙07,h173km±4km, mb5.1/405,Md5.3(SJA),ML5.3(GUC),Error ellipse: s-maj=9.7km s-min=7.2km az=101.0*
*VAO **27** 10:13:50.7±0.3,24˙07S×66˙86W,h177km,mb5.3*
*GUC **27** 10:13:51.6±0.6,24˙09S×67˙24W,h231km±5km,ML5.4*
*IDC **27** 10:13:51.1±0.7,24˙05S×66˙76W,h182km±5km,mb4.5/22, mb1 4.7/29,mb1mx4.6/39,mbtmp5.1/29,MS3.7/7, Ms1 3.7/7,ms1mx3.2/60,Error ellipse: s-maj=10.3km s-min=7.8km az=50.0*
*GCMT **27** 10:13:55.3±0.2,24˙19S±0˙02×67˙01W±0˙02,h208km±1km, MW5.2/111,Moment Tensor Solution. s74,c92; s111,c156; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.94±.14; Mθθ-0.83±.18; Mϕϕ5.78±.22; Mrθ0.90±.12; Mθϕ0.90±.16; Mϕr-4.89±.15; Best double couple: M₀7.38100×10¹⁶ NP1:ϕs203.00000°,δ26.00000°, λ-64.00000°. NP2:ϕs355.00000°,δ67.00000°, λ-102.00000°. Principal axes: T 7.7070, Plg21.0000°, Azm94.0000°; N -0.6450, Plg11.0000°, Azm359.0000°; P -7.0540, Plg66.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 10:13:51.1±0.4,24˚10S±0˙03×66˚87W±0˙04,h187km±3km, h187km;pP-P,n862,σ1°15/757,mb5.1/217,121C-108D, Fault plane solution: NP1:ϕs346.92502°,δ85.52519°, λ-103.70883°. **NP2:ϕs239.18864°,δ14.40737°,** λ-18.27453°. **Principal axes:** T Plg39.0280°, Azm89.3825°; N Plg13.6662°, Azm348.0154°; P Plg47.7347°, Azm242.4973°; **Salta Province**

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
		Op		ISC	h m s	ISC
SLA	**San Lorenzo**	**1.39 117**	*i*P	**Pn**	**10 14 24.8**	**+2.0**
SLA			*i* S	**Sn**	**10 14 50.3**	**+2.9**
AF01	**San Pedro de A**	**1.66 313**		**Pn**	**10 14 27.2**	**+1.7**
AF01	**San Pedro de A**	**1.66 313**	*i*P	**Pn**	**10 14 27.1**	**+1.7**
AF01			*i* S	**Sn**	**10 14 54.9**	**+2.9**
AF01			IAML		10 15 02.1	
	comp=E,8μm,0.2s					
LVC	**Limon Verde**	**2.39 308**	P	**Pn**	**10 14 34.1**	**+0.8**
	comp=E,293nm,0.3s,baz=130,slow=5.9,SNR=1033					
LVC			LR	LR	10 14 59.7	
	comp=E,965nm,20.7s,baz=156,slow=28					
LVC			S	**Sn**	**10 15 06.4**	**+0.3**
	comp=E,1μm,0.3s,baz=327,slow=20,SNR=37					
LVC	**Limon Verde**	**2.39 308**	*i*P	**Pn**	**10 14 34.1**	**+0.8**
LVC			*i* S	**Sn**	**10 15 06.0**	**-0.1**
LVC	**Limon Verde**	**2.39 308**	*e*P	**Pn**	**10 14 33.5**	**+0.2**
PB15	**IPOC Station P**	**2.54 290**	Pn	**Pn**	**10 14 35.5**	**+0.6**
PB15	**IPOC Station P**	**2.54 290**	*i*P	**Pn**	**10 14 35.5**	**+0.6**
PB15			*i* S	**Sn**	**10 15 08.1**	**-0.8**
GO02	**Mina Guanaco**	**2.69 246**		**Pn**	**10 14 36.8**	**+0.1**
GO02			Sn	**Sn**	**10 15 11.5**	**-0.6**
GO02	**Mina Guanaco**	**2.69 246**	*i*P	**Pn**	**10 14 36.8**	**+0.1**
GO02			*e*S	**Sn**	**10 15 11.6**	**-0.6**
GO02			IAML		10 15 12.7	
	comp=E,14μm,0.2s					
PB06	**IPOC Station P**	**2.84 299**	Pn	**Pn**	**10 14 38.7**	**+0.4**
PB06			Sn	**Sn**	**10 15 13.8**	**-1.3**
PB06	**IPOC Station P**	**2.84 299**	*i*P	**Pn**	**10 14 38.8**	**+0.4**
PB06			*i* S	**Sn**	**10 15 13.6**	**-1.5**
PB06			IAML		10 15 17.4	
	comp=N,13μm,0.4s					
PB09	**IPOC Station P**	**3.17 316**		**Pn**	**10 14 43.1**	**+0.8**
PB09			Sn	**Sn**	**10 15 21.1**	**-1.1**
PB09	**IPOC Station P**	**3.17 316**	*i*P	**Pn**	**10 14 43.1**	**+0.8**
PB09			*i* S	**Sn**	**10 15 21.6**	**-0.7**
PB09			IAML		10 15 25.6	
	comp=N,4μm,0.5s					
PB14	**IPOC Station P**	**3.26 260**	Pn	**Pn**	**10 14 42.9**	**-0.6**
PB14	**IPOC Station P**	**3.26 260**	*i*P	**Pn**	**10 14 43.0**	**-0.6**
PB14			*i* S	**Sn**	**10 15 21.2**	**-3.3**
PB14			IAML		10 15 22.4	
	comp=E,3μm,0.3s					
AC02	**Maricunga**	**3.40 216**	Pn	**Pn**	**10 14 45.7**	**+0.3**
AC02	**Maricunga**	**3.40 216**	*i*P	**Pn**	**10 14 45.8**	**+0.4**
AC02			*i* S	**Sn**	**10 15 28.0**	**+0.1**
PB10	**IPOC Station P**	**3.42 279**	Pn	**Pn**	**10 14 45.1**	**0.0**
PB10	**IPOC Station P**	**3.42 279**	*i*P	**Pn**	**10 14 45.0**	**-0.2**
PB10			*e*S	**Sn**	**10 15 24.2**	**-3.2**
PB04	**IPOC Station P**	**3.49 300**	Pn	**Pn**	**10 14 46.1**	**-0.1**
PB04	**IPOC Station P**	**3.49 300**	*i*P	**Pn**	**10 14 45.8**	**-0.4**
PB04			*i* S	**Sn**	**10 15 26.3**	**-3.0**
PB07	**IPOC Station P**	**3.65 310**		**Pn**	**10 14 47.9**	**-0.3**
PB07	**IPOC Station P**	**3.65 310**	*i*P	**Pn**	**10 14 47.9**	**-0.3**
PB07			*i* S	**Sn**	**10 15 30.2**	**-2.7**
PB01	**IPOC Station P**	**3.88 321**		**Pn**	**10 14 50.7**	**-0.4**
PB01	**IPOC Station P**	**3.88 321**	*i*P	**Pn**	**10 14 50.7**	**-0.4**
PB01			*e*S	**Sn**	**10 15 35.0**	**-3.1**
PB02	**IPOC Station P**	**3.93 314**		**Pn**	**10 14 51.1**	**-0.5**
PB02	**IPOC Station P**	**3.93 314**	*i*P	**Pn**	**10 14 51.0**	**-0.7**
PB02			*e*S	**Sn**	**10 15 35.7**	**-3.4**
AC01	**Pan de Azucar**	**3.94 238**	Pn	**Pn**	**10 14 50.0**	**-1.6**
AC01	**Pan de Azucar**	**3.94 238**	*i*P	**Pn**	**10 14 50.1**	**-1.6**
AC01			*e*S	**Sn**	**10 15 35.5**	**-3.7**
PATCX	**Punta Patache**	**4.46 316**		**Pn**	**10 14 57.2**	**-1.1**
PATCX	**Punta Patache**	**4.46 316**	*i*P	**Pn**	**10 14 56.8**	**-1.6**
PB08	**IPOC Station P**	**4.47 331**		**Pn**	**10 14 59.2**	**+0.3**
PB08	**IPOC Station P**	**4.47 331**	*i*P	**Pn**	**10 14 59.1**	**+0.3**
PB08			*e*S	**Sn**	**10 15 50.8**	**-1.1**
AC06	**Mina Casimiro**	**4.51 223**	Pn	**Pn**	**10 14 57.3**	**-1.6**
AC06	**Mina Casimiro**	**4.51 223**	*i*P	**Pn**	**10 14 57.2**	**-1.7**
AC06			*i* S	**Sn**	**10 15 48.6**	**-3.6**
GO03	**Copiap**	**4.61 220**		**Pn**	**10 14 58.6**	**-1.6**
GO03	**Copiap**	**4.61 220**	*i*P	**Pn**	**10 14 58.4**	**-1.8**
TA01	**Diego Aracena**	**4.66 318**	Pn	**Pn**	**10 14 59.2**	**-1.7**
TA01	**Diego Aracena**	**4.66 318**	*e*P	**Pn**	**10 14 58.9**	**-2.0**
TA02	**Huaiquique**	**4.86 321**		**Pn**	**10 15 02.0**	**-1.5**
TA02	**Huaiquique**	**4.86 321**	*e*P	**Pn**	**10 15 01.5**	**-1.9**
GO01	**Chusmiza**	**4.91 334**		**Pn**	**10 15 04.0**	**-0.5**
GO01	**Chusmiza**	**4.91 334**	*i*P	**Pn**	**10 15 04.1**	**-0.5**
PB11	**IPOC Station P**	**5.03 329**	Pn	**Pn**	**10 15 04.4**	**-1.5**
PB11	**IPOC Station P**	**5.03 329**	*i*P	**Pn**	**10 15 04.3**	**-1.5**
AC04	**Llanos de Chal**	**5.56 222**	Pn	**Pn**	**10 15 09.8**	**-2.6**
AC04	**Llanos de Chal**	**5.56 222**	*i*P	**Pn**	**10 15 09.8**	**-2.6**
LCO	**Las Campanas**	**5.97 214**	P	**Pn**	**10 15 15.9**	**-2.1**
LCO	**Las Campanas**	**5.97 214**	Pn	**Pn**	**10 15 15.9**	**-2.1**
PB12	**IPOC Station P**	**6.34 329**	Pn	**Pn**	**10 15 20.8**	**-1.9**
CO01	**Juntas del Tor**	**6.52 205**		**Pn**	**10 15 23.7**	**-1.4**
CO05	**La Serena**	**6.98 213**		**Pn**	**10 15 29.4**	**-1.5**
GO04	**Tololo Observa**	**6.99 209**		**Pn**	**10 15 29.0**	**-2.2**
ZON	**Zonda**	**7.59 192**	P	**Pn**	**10 15 37.6**	**-1.3**
ZON	**Zonda**	**7.59 192**		**Pn**	**10 15 37.6**	**-1.3**
CO06	**Fray Jorge**	**7.79 212**	Pn	**Pn**	**10 15 39.5**	**-2.1**
LPAZ	**La Paz**	**7.86 351**	P	**Pn**	**10 15 43.3**	**+0.1**
	comp=E,33nm,0.3s,baz=156,slow=7.4,SNR=236					
LPAZ			S	**Sn**	**10 17 09.7**	**-2.3**
	comp=E,5.9nm,0.3s,baz=42,slow=18,SNR=2.1					
LPAZ			ScP	**ScP**	**10 25 17.3**	**+0.7**
	comp=E,0.1nm,0.3s,baz=215,slow=2.1,SNR=3.3					
LPAZ	**La Paz**	**7.86 351**	Pn	**Pn**	**10 15 43.8**	**+0.6**
LPAZ	**La Paz**	**7.86 351**	*e*P	**Pn**	**10 15 43.2**	**0.0**
CO02	**Combarbal**	**7.96 206**		**Pn**	**10 15 42.4**	**-1.6**
CPUP	**Villa Florida**	**8.92 106**	P	**Pn**	**10 15 55.9**	**-0.6**
	comp=E,2.1nm,0.3s,baz=289,slow=12,SNR=36					
CPUP			ScP	**ScP**	**10 25 17.3**	**+0.5**
	comp=E,0.3nm,0.3s,baz=226,slow=0.9,SNR=5.6					
CPUP	**Villa Florida**	**8.92 106**	Pn	**Pn**	**10 15 55.7**	**-0.8**
CPUP	**Villa Florida**	**8.92 106**	*e*P	**Pn**	**10 15 56.8**	**+0.3**
VA03	**San Esteban**	**9.22 200**		**Pn**	**10 15 59.3**	**-1.1**
VA06	**Catapilco**	**9.28 204**		**Pn**	**10 15 57.8**	**-3.3**
ROC1	**El Roble**	**9.56 201**		**Pn**	**10 16 01.0**	**-4.0**
SIV	**San Ignacio**	**9.73 35**	P	**Pn**	**10 16 06.0**	**-1.1**
	comp=E,15nm,0.3s,baz=217,slow=11,SNR=302					
SIV			S	**Sn**	**10 17 54.3**	**-1.6**
	comp=E,0.3nm,0.3s,baz=111,slow=17,SNR=3.2					
MT05	**Renca**	**9.86 199**	Pn	**Pn**	**10 16 08.0**	**-0.7**
MT02	**Curacav**	**9.86 201**		**Pn**	**10 16 05.2**	**-3.5**
MT03	**Universidad Ad**	**9.89 198**		**Pn**	**10 16 08.2**	**-0.9**
LMEL	**Las Melosas**	**10.14 196**		**Pn**	**10 16 12.2**	**-0.3**
MT09	**Talagante**	**10.29 200**		**Pn**	**10 16 12.0**	**-2.3**
BO04	**La Punta**	**10.38 197**	Pn	**Pn**	**10 16 14.3**	**-1.1**
VA05	**Santo Domingo**	**10.39 202**		**Pn**	**10 16 14.3**	**-1.2**
MT01	**Popeta**	**10.45 200**		**Pn**	**10 16 14.4**	**-2.0**
ITQB	**Itaqui**	**10.70 123**	Pn	**Pn**	**10 16 17.7**	**-1.8**
ITQB	**Itaqui**	**10.70 123**	*e*P	**Pn**	**10 16 18.4**	**-1.1**
BO01	**Tunca**	**10.89 199**	Pn	**Pn**	**10 16 20.6**	**-1.4**
AQDB	**Aquidauana**	**10.96 73**	Pn	**Pn**	**10 16 21.4**	**-1.5**
AQDB	**Aquidauana**	**10.96 73**	*e*P	**Pn**	**10 16 21.8**	**-1.2**
PTLB	**Pontes e Lacer**	**11.27 42**	*e*P	**Pn**	**10 16 26.3**	**-0.7**
GO05	**Huala**	**11.72 201**		**Pn**	**10 16 30.5**	**-2.3**
ML02	**Panimavida**	**12.27 198**	Pn	**Pn**	**10 16 38.5**	**-1.2**
VILB	**Vilhena**	**12.76 31**	*e*P	**Pn**	**10 16 45.9**	**-0.3**
PP1B	**Ponte de Pedra**	**12.94 62**	*e*P	**Pn**	**10 16 47.5**	**-0.8**
TRCB	**Terra Rica**	**13.14 87**	P	**Pn**	**10 16 51.5**	**+0.7**
TRCB	**Terra Rica**	**13.14 87**	*e*P	**Pn**	**10 16 50.9**	**+0.1**
SALV	**Santo Antonio**	**13.30 54**	*e*P	**Pn**	**10 16 52.1**	**-0.7**
CPSB	**Cacapava Do Su**	**13.49 121**	*e*P	**Pn**	**10 16 54.1**	**-1.1**
PTGB	**Pitanga**	**13.51 96**	*e*P	**Pn**	**10 16 56.5**	**+1.0**
ITAB	**Concordia**	**13.66 106**	Pn	**Pn**	**10 16 55.9**	**-1.4**
ITAB	**Concordia**	**13.66 106**	*e*P	**Pn**	**10 16 56.7**	**-0.5**
BI05	**Punta Hualpn**	**13.73 202**	Pn	**Pn**	**10 16 56.5**	**-1.5**
PLTB	**Pedras Altas**	**13.99 126**	Pn	**Pn**	**10 16 59.7**	**-1.6**
PLTB	**Pedras Altas**	**13.99 126**	*e*P	**Pn**	**10 17 00.1**	**-1.2**
ETMB	**Extrema**	**14.22 3**	*e*P	**Pn**	**10 17 03.1**	**-1.2**
TRQA	**Tornquist**	**14.53 164**	P	**Pn**	**10 17 05.1**	**-2.9**
TRQA	**Tornquist**	**14.53 164**	Pn	**Pn**	**10 17 05.1**	**-2.9**
PCMB	**Pacaembu**	**14.61 83**	*e*P	**Pn**	**10 17 08.5**	**-0.6**
NNA	**Nana**	**15.32 320**	P	**P**	**10 17 18.7**	**+0.3**
	comp=E,4.6nm,0.3s,baz=174,slow=17,SNR=8.9					
NNA	**Nana**	**15.32 320**	P	**P**	**10 17 18.8**	**+0.3**
NNA			pmax	pmax		
	comp=Z,34nm,1.1s					
NNA	**Nana**	**15.32 320**	P	**P**	**10 17 18.8**	**+0.3**
LC01	**Cunco**	**15.35 195**		**Pn**	**10 17 16.8**	**-1.3**
LC01			IAmb	IAmb	10 17 22.7	
	comp=Z,83nm,1.2s					
PDRB	**Porto dos Gac**	**15.72 40**	*e*P	**Pn**	**10 17 22.1**	**-0.7**
FRTB	**Fartura**	**15.87 91**	*e*P	**P**	**10 17 23.9**	**-0.7**
ITRB	**Iturama**	**15.94 77**	*e*P	**P**	**10 17 25.1**	**-0.2**
LR03	**Panguipulli**	**16.16 195**	P	**P**	**10 17 26.9**	**-0.7**
LR03			IAmb	IAmb	10 17 28.7	
	comp=Z,110nm,0.9s					
TIJ01	**Guaruva-PR**	**16.29 98**	*e*P	**P**	**10 17 29.1**	**-0.1**
TER01	**Tubaro-SC**	**16.51 109**	*e*P	**P**	**10 17 31.5**	**0.0**
CLDB	**Colider**	**16.86 41**	*e*P	**P**	**10 17 35.1**	**-0.4**
PLCA	**Paso Flores**	**16.87 190**	P	**P**	**10 17 35.8**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=12,slow=13,SNR=68					
PLCA			PcP	**PcP**	**10 22 13.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=208,slow=3.7,SNR=3.7					
PLCA			ScP	**ScP**	**10 25 29.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=326,slow=3.6,SNR=7.6					
PLCA			PKKP	**PKKPdf**	**10 45 12.6**	**-3.9**
	comp=Z,0.0nm,0.3s,baz=254,slow=7.5,SNR=3.0					
PLCA	**Paso Flores**	**16.87 190**	IAmb	IAmb	10 17 43.9	
	comp=Z,75nm,0.8s					
PLCA	**Paso Flores**	**16.87 190**	*e*P	**P**	**10 17 35.7**	**+0.3**
BB19B	**Bebedouro**	**17.21 84**	*e*P	**P**	**10 17 39.5**	**+0.2**
CZSB	**Cruzeiro do Su**	**17.21 340**	*e*P	**P**	**10 17 38.9**	**-0.4**
LL04	**Puerto Octay**	**17.39 194**	P	**P**	**10 17 40.6**	**-0.4**
RCLB	**Rio Claro- Sao**	**17.85 89**	*e*P	**P**	**10 17 46.0**	**-0.3**
PET01	**Itanhaem-SP**	**17.88 95**	*e*P	**P**	**10 17 46.2**	**-0.3**
LL05	**Los Muermos**	**18.12 196**	P	**P**	**10 17 47.9**	**-1.0**
VAO	**Valinhos**	**18.29 91**	*e*P	**P**	**10 17 51.0**	**0.0**
IPMB	**Ipameri, GO**	**18.45 74**	*e*P	**P**	**10 17 52.6**	**-0.2**
SNDB	**Serra Nova Dou**	**19.08 54**	*e*P	**P**	**10 17 59.2**	**-0.4**
PARB	**Paraibuna**	**19.48 92**	*e*P	**P**	**10 18 03.4**	**-0.5**
BDFB	**Brasilia**	**19.62 68**	P	**P**	**10 18 05.8**	**+0.2**
	comp=Z,26nm,0.3s,baz=243,slow=12,SNR=471					
BDFB			ScP	**ScP**	**10 25 35.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=224,slow=7.6,SNR=5.7					
BDFB	**Brasilia**	**19.62 68**	P	**P**	**10 18 05.0**	**-0.5**
GO07	**Milladeo Hill,**	**19.77 195**	P	**P**	**10 18 05.8**	**-1.0**
TBTG	**Tabatinga, AM**	**20.01 351**	*e*P	**P**	**10 18 11.0**	**+1.4**
ESAR	**Angra dos Reis**	**20.59 92**	*e*P	**P**	**10 18 15.0**	**-0.7**
BSCB	**Bom Sucesso**	**20.64 86**	*e*P	**P**	**10 18 15.8**	**-0.6**
AY01	**Puyuhuapi**	**20.81 192**	P	**P**	**10 18 17.3**	**-0.6**
AY01			IAmb	IAmb	10 18 19.2	
	comp=Z,68nm,0.8s					
MAN01	**Angra dos Reis**	**21.05 91**	*e*P	**P**	**10 18 20.0**	**-0.7**
PEXB	**Peixe**	**21.28 59**	*e*P	**P**	**10 18 22.0**	**-1.1**
VAS01	**Vassouras-RJ**	**21.61 90**	*e*P	**P**	**10 18 26.0**	**-0.6**
MACA	**Manacapuru-AM**	**21.66 17**	*e*P	**P**	**10 18 25.4**	**-1.7**
DIAM	**Diamantina, MG**	**22.38 79**	*e*P	**P**	**10 18 33.4**	**-0.8**
DUB01	**Friburgo-RJ**	**22.62 90**	*e*P	**P**	**10 18 35.8**	**-0.5**
JANB	**Januaria**	**23.06 71**	*e*P	**P**	**10 18 39.2**	**-1.1**
MCRA	**Macar, Loja**	**23.32 325**	IAmb	IAmb	10 18 45.9	
	comp=Z,80nm,1.2s					
CAM01	**Campos-RJ**	**23.32 89**	*e*P	**P**	**10 18 42.0**	**-0.6**
BOSC	**San Juan Bosco**	**23.66 330**	IAmb	IAmb	10 18 59.3	
	comp=Z,50nm,0.8s					
SDBA	**SAO DESIDERIO**	**23.85 65**	*e*P	**P**	**10 18 46.6**	**-0.9**
SMTB	**Santa Maria do**	**23.86 54**	*e*P	**P**	**10 18 46.4**	**-1.2**
PRPB	**Parauapebas**	**24.21 45**	*e*P	**P**	**10 18 48.6**	**-2.2**
ALF01	**Guarapari-ES**	**24.42 87**	*e*P	**P**	**10 18 52.0**	**-0.6**
SJMB	**Sao Jose De Ma**	**24.50 82**	*e*P	**P**	**10 18 52.6**	**-0.7**
RIB01	**Linhares ES**	**25.04 84**	*e*P	**P**	**10 18 57.6**	**-0.7**
MALB	**Monte Alegre**	**25.26 31**	*e*P	**P**	**10 18 59.2**	**-1.0**
NAN01	**Guarapari, ES**	**25.72 81**	*e*P	**P**	**10 19 03.4**	**-1.0**
GUA01	**Guaratinga, BA**	**26.43 79**	*e*P	**P**	**10 19 10.2**	**-0.6**
OTAV	**Otavalo**	**26.67 333**	P	**P**	**10 19 14.8**	**+1.4**
OTAV			pmax	pmax		
	comp=Z,8.0nm,1.0s					
OTAV	**Otavalo**	**26.67 333**	P	**P**	**10 19 14.8**	**+1.4**
TULM	**Tulcn-Chalpat**	**26.85 335**	*e*P	**P**	**10 19 17.0**	**+2.0**
MACC	**Macarena, Meta**	**26.95 344**	*e*P	**P**	**10 19 14.1**	**-1.3**
BOAV	**Boa Vista**	**27.05 14**	*e*P	**P**	**10 19 16.3**	**+0.1**
CMC01	**Camacan, BA**	**27.14 76**	*e*P	**P**	**10 19 16.5**	**-0.5**
GARC	**Garzon, Huila**	**27.44 341**	*e*P	**P**	**10 19 19.9**	**-0.1**
GO09	**Cerro Castillo**	**27.45 187**	IAmb	IAmb	10 19 20.8	
	comp=Z,35nm,0.8s					
MCPB	**Mapa, AP**	**27.63 33**	*e*P	**P**	**10 19 20.3**	**-1.1**
SOTA	**Rioblanco**	**27.74 339**	*e*P	**P**	**10 19 24.7**	**+1.7**
GDU01	**Guandu, BA**	**27.76 73**	*e*P	**P**	**10 19 21.1**	**-1.5**
PCON	**Cinco Dias**	**27.86 339**	*e*P	**P**	**10 19 24.7**	**+0.7**
POPC	**Popayan, Colom**	**28.14 339**	*e*P	**P**	**10 19 27.6**	**+1.3**
EFI	**East Falkland**	**28.35 168**	*i*P	**P**	**10 19 27.8**	**+0.4**
EFI			pmax	pmax		
	comp=Z,41nm,0.9s					
EFI	**East Falkland**	**28.35 168**	P	**P**	**10 19 27.8**	**+0.4**
NBPN	**Ponto Novo - B**	**28.59 67**	*e*P	**P**	**10 19 28.7**	**-1.3**
ORTC	**Ortega, Tolima**	**29.01 343**	*e*P	**P**	**10 19 33.4**	**-0.3**
CHIC	**Chingaza**	**29.33 346**	*e*P	**P**	**10 19 36.3**	**-0.6**
YOTC	**Yotoco, Valle**	**29.40 340**	*e*P	**P**	**10 19 35.3**	**-1.9**
ROSC	**El Rosal**	**29.67 345**	LR	LR	10 32 26.1	
	comp=Z,145nm,19.0s,baz=150,slow=38					
MG03	**Isla Dawson**	**29.83 184**	P	**P**	**10 19 39.6**	**-0.8**
PLMC	**San Jos del P**	**30.25 341**	*e*P	**P**	**10 19 44.0**	**-0.7**
GUY2C	**Guyana, Caldas**	**30.30 343**	*e*P	**P**	**10 19 44.0**	**-1.5**
SPBC	**San Pablo de B**	**30.39 346**	*e*P	**P**	**10 19 44.0**	**-1.9**
RUSC	**La Rusia**	**30.42 348**	*e*P	**P**	**10 19 46.9**	**+0.3**
ROSB	**Rosrio**	**30.45 50**	*e*P	**P**	**10 19 46.7**	**+0.3**
NORC	**Norcasia**	**30.50 344**	*e*P	**P**	**10 19 45.0**	**-1.9**
NBLA	**Lagarto - SE**	**30.56 70**	*e*P	**P**	**10 19 45.6**	**-1.8**
USHA	**Ushuaia**	**30.71 182**	P	**P**	**10 19 48.5**	**+0.3**
	comp=Z,21nm,0.8s,baz=16,slow=7.9,SNR=12					
CBOC	**Ciudad Bolivar**	**31.09 342**	*e*P	**P**	**10 19 52.7**	**+0.5**
HELC	**Santa Helena**	**31.27 343**	*e*P	P	10 19 48.8	-5.1
PTBC	**PUERTO BERRIO,**	**31.34 345**	*e*P	**P**	**10 19 50.8**	**-3.4**
NBPS	**Pedro II - PI**	**31.37 55**	*e*P	**P**	**10 19 53.0**	**-1.6**
NBMA	**Muriti-CE**	**31.66 63**	*e*P	**P**	**10 19 56.3**	**-0.8**
NBPB	**Pedra_Branca-C**	**32.08 59**	*e*P	**P**	**10 20 00.1**	**-0.6**
ZARC	**Zaragoza, Cauc**	**32.35 345**	*e*P	**P**	**10 20 01.4**	**-1.6**
SOCV	**Socops**	**32.42 353**	*e*P	**P**	**10 20 01.4**	**-2.3**
PAYG	**Puerto Ayora**	**32.51 312**	P	**P**	**10 20 06.8**	**+2.4**
PAYG			pP	**pP**	**10 20 40.8**	**-3.2**
UREC	**San Jos de Ur**	**32.77 344**	*e*P	**P**	**10 20 03.3**	**-3.3**
SDV	**Santo Domingo**	**32.99 353**	P	**P**	**10 20 07.4**	**-1.4**
SDV	**Santo Domingo**	**32.99 353**	*e*P	**P**	**10 20 07.1**	**-1.6**
SDV	**Santo Domingo**	**32.99 353**	*e*P	**P**	**10 20 07.7**	**-1.1**
SDV	**Santo Domingo**	**32.99 353**	P	**P**	**10 20 07.5**	**-1.2**
NBMO	**Morrinhos-CE**	**33.13 56**	*e*P	**P**	**10 20 08.2**	**-1.7**
NBCL	**Cascavel-CE**	**33.90 59**	*e*P	**P**	**10 20 15.6**	**-0.9**
SJCC	**San Jacinto, C**	**34.75 346**	*e*P	**P**	**10 20 22.6**	**-1.2**
RCBR	**Riachuelo**	**34.87 64**	P	**P**	**10 20 24.3**	**-0.5**
RCBR			pmax	pmax		
	comp=Z,95nm,1.0s					
RCBR	**Riachuelo**	**34.87 64**	P	**P**	**10 20 24.3**	**-0.5**
RCBR	**Riachuelo**	**34.87 64**	*e*P	**P**	**10 20 24.6**	**-0.3**
RCBR	**Riachuelo**	**34.87 64**	P	**P**	**10 20 24.7**	**-0.1**
NBPV	**Pedro Velho**	**35.04 65**	*e*P	**P**	**10 20 25.5**	**-0.8**
BCIP	**Isla Barro Col**	**35.41 338**	P	**P**	**10 20 30.1**	**+0.8**
BCIP			pmax	pmax		
	comp=Z,50nm,1.1s					
BCIP	**Isla Barro Col**	**35.41 338**	P	**P**	**10 20 30.1**	**+0.8**
BCIP			IAmb	IAmb	10 20 32.4	
	comp=Z,50nm,1.1s					
CDITO	**Canoas**	**36.04 332**	IAmb	IAmb	10 20 38.4	
	comp=Z,50nm,1.2s					
SRBA	**San Rafael, Bu**	**36.84 332**	IAmb	IAmb	10 20 45.0	
	comp=Z,41nm,1.1s					
HOPE	**Hope Point**	**37.70 151**	P	**P**	**10 20 48.3**	**0.0**
HOPE			pmax	pmax		
	comp=Z,96nm,0.9s					
HOPE	**Hope Point**	**37.70 151**	P	**P**	**10 20 48.3**	**0.0**
HOPE	**Hope Point**	**37.70 151**	P	**P**	**10 20 48.3**	**0.0**
HOPE			pP	**pP**	**10 21 26.7**	**-2.0**
JTS	**Las Juntas de**	**38.48 331**	ScP	**ScP**	**10 26 35.1**	**+0.4**
	comp=E,8.3nm,0.9s,baz=28,slow=5.3,SNR=3.9					
JTS	**Las Juntas de**	**38.48 331**	P	**P**	**10 20 56.4**	**+1.1**
JTS			pmax	pmax		
	comp=E,38nm,1.1s					
JTS	**Las Juntas de**	**38.48 331**	P	**P**	**10 20 56.4**	**+1.1**
JTS			IAmb	IAmb	10 20 58.8	
	comp=E,38nm,1.1s					
JTS	**Las Juntas de**	**38.48 331**	⇓P	**P**	**10 20 57.7**	**+2.5**
ORTG	**Ortega, Santa**	**38.77 330**	IAmb	IAmb	10 21 01.2	
	comp=Z,43nm,0.9s					
MATN	**Matagalpa**	**41.25 331**	P	**P**	**10 21 18.6**	**+0.4**
CELP	**Cerrillos**	**41.92 0**	P	**P**	**10 21 22.5**	**-0.9**
TGUH	**Tegucigalpa,Un**	**42.84 330**	P	**P**	**10 21 31.8**	**+0.7**
TGUH			IAmb	IAmb	10 21 33.0	
	comp=Z,62nm,0.9s					
SDDR	**Presa de Saban**	**43.04 354**	P	**P**	**10 21 33.1**	**+0.7**
MTO3	**Montecristo**	**44.12 328**	IAmb	IAmb	10 21 43.5	
	comp=Z,38nm,0.9s					
ESQI	**Esquipulas**	**44.25 328**	IAmb	IAmb	10 21 44.8	
	comp=Z,47nm,1.0s					
SOR	**Soroa**	**49.18 340**	IAmb	IAmb	10 22 21.6	
	comp=Z,49nm,0.9s					
CMIG	**Matias Romero**	**49.23 324**	P	**P**	**10 22 21.3**	**+0.5**
	comp=Z,7.4nm,0.8s,baz=153,slow=6.6,SNR=9.2					
DWPF	**Disney Wildern**	**53.77 344**	P	**P**	**10 22 53.9**	**-0.4**
	baz=163					
BELA	**Belgrano 2**	**55.92 172**	P	**P**	**10 23 09.8**	**+0.7**
VNA3	**Neumayer Olymp**	**57.02 161**	P	**P**	**10 23 17.5**	**+0.6**
VNA3	**Neumayer Olymp

baz=161,SNR=21
X51A P P 10 23 43.5 +0.2
baz=161,SNR=21
833A Chaparral WMA, 60.81 327 P P 10 23 44.5 +0.9
baz=146,SNR=40
833A Chaparral WMA, 60.81 327 P P 10 23 44.1 +0.5
baz=146,SNR=40
TROLL Troll, Antarti 60.93 161 P P 10 23 44.0 0.0
TROLL Troll, Antarti 60.93 161 PcP PcP 10 24 26.9 +1.4
TROLL Troll, Antarti 60.93 161 ScP ScP 10 28 09.8 +0.7
FPAL Fort Paine 60.97 342 IAmb IAmb 10 23 45.0
comp=Z,25nm,0.8s
W52A Murphy 61.05 344 IAmb IAmb 10 23 46.0
comp=Z,27nm,1.1s
W52A Murphy 61.05 344 P P 10 23 44.9 -0.2
baz=162,SNR=5.5
143A Socs Landing, 61.15 336 P P 10 23 46.0 +0.4
baz=154,SNR=7.1
V55A Taylorsville 61.15 347 IAmb IAmb 10 23 47.1
comp=Z,38nm,0.9s
V55A Taylorsville 61.15 347 P P 10 23 46.5 +0.9
baz=165,SNR=11
V55A P P 10 23 46.5 +0.9
baz=165,SNR=11
X48A Hartselle 61.30 341 P P 10 23 46.9 +0.1
baz=159,SNR=21
V53A Saluda 61.33 345 P P 10 23 47.0 0.0
baz=163,SNR=7.8
V53A P P 10 23 47.0 0.0
baz=163,SNR=7.8
U56A King 61.46 348 IAmb IAmb 10 23 49.6
comp=Z,42nm,1.4s
W50A Signal Mountai 61.51 343 P P 10 23 48.2 0.0
baz=161,SNR=13
CPCT Cooper Cave 61.54 344 IAmb IAmb 10 23 48.9
comp=Z,20nm,0.9s
Y45A Yeager Farm, C 61.55 339 P P 10 23 48.2 -0.2
baz=156,SNR=7.7
TKL Tuckaleechee C 61.55 344 P P 10 23 48.0 -0.4
comp=Z,18nm,0.8s,baz=166,slow=6.5,SNR=18
TKL Tuckaleechee C 61.55 344 IAmb IAmb 10 23 48.8
comp=Z,40nm,1.1s
TKL Tuckaleechee C 61.55 344 P P 10 23 47.2 -1.2
baz=162,SNR=9.3
NATX Nacogdoches 61.58 333 P P 10 23 49.9 +1.3
baz=151
NATX Nacogdoches 61.58 333 P P 10 23 49.2 +0.6
baz=151
V52A Sevierville 61.68 345 IAmb IAmb 10 23 49.8
comp=Z,32nm,1.1s
V52A Sevierville 61.68 345 P P 10 23 49.0 -0.3
baz=163,SNR=7.0
V51A Loudon 61.83 344 P P 10 23 49.7 -0.5
baz=162
U54A Nelsons Funny 61.92 346 IAmb IAmb 10 23 52.0
comp=Z,30nm,0.9s
U54A Nelsons Funny 61.92 346 P P 10 23 50.8 -0.1
baz=164,SNR=8.2
U54A P P 10 23 50.8 -0.1
baz=164,SNR=8.2
435B Jarrell 62.01 330 P P 10 23 51.9 +0.4
baz=148
OXF Oxford 62.10 339 P P 10 23 51.3 -0.7
OXF pmax pmax
comp=Z,77nm,1.1s
OXF Oxford 62.10 339 P P 10 23 51.3 -0.7
OXF Oxford 62.10 339 P P 10 23 50.6 -1.4
baz=157
PLAL Pickwick Lake 62.11 340 P P 10 23 51.5 -0.6
PLAL IAmb IAmb 10 23 52.2
comp=Z,31nm,0.9s
Z41A Richland Creek 62.16 336 P P 10 23 53.4 +0.9
Z41A IAmb IAmb 10 23 55.1
comp=Z,38nm,1.3s
Z41A Richland Creek 62.16 336 P P 10 23 52.5 0.0
baz=153
BLA Blacksburg 62.30 348 P P 10 23 53.5 +0.1
BLA pmax pmax
comp=Z,51nm,1.6s
BLA Blacksburg 62.30 348 P P 10 23 53.5 +0.1
BLA IAmb IAmb 10 24 02.8
comp=Z,51nm,1.6s
BLA Blacksburg 62.30 348 P P 10 23 54.0 +0.5
baz=166
TZTN Tazewell 62.34 345 P P 10 23 53.0 -0.6
baz=163
V48A Smith Brothers 62.44 342 P P 10 23 54.1 -0.1
baz=159,SNR=15
W45A Hickory Valley 62.62 339 P P 10 23 54.5 -1.0
baz=157,SNR=13
CLTN Cedars of Leba 62.63 342 IAmb IAmb 10 23 56.0
comp=Z,31nm,0.9s
JCT Junction City 62.79 328 P P 10 23 57.6 +0.8
baz=146,SNR=25
JCT Junction City 62.79 328 P P 10 23 56.7 0.0
baz=146,SNR=25
U49A Red Boiling Sp 62.87 343 P P 10 23 56.4 -0.8
baz=161,SNR=8.0
WHTX Lake Whitney, 62.97 331 IAmb IAmb 10 23 59.1
comp=Z,26nm,0.8s
WHTX Lake Whitney, 62.97 331 P P 10 23 58.4 +0.5
baz=149,SNR=9.4
WHTX Lake Whitney, 62.97 331 P P 10 23 57.8 0.0
baz=149,SNR=9.4
Z38A Mt. Pleasant 63.02 334 IAmb IAmb 10 23 59.9
comp=Z,38nm,1.1s
S54A Dingess, Beckl 63.05 347 IAmb IAmb 10 23 59.3
comp=Z,24nm,0.8s
S54A Dingess, Beckl 63.05 347 P P 10 23 58.6 +0.3
baz=165,SNR=6.7
S54A P P 10 23 58.6 +0.3
baz=165,SNR=6.7
HPIG 63.07 321 IAmb IAmb 10 24 01.1
comp=Z,32nm,1.2s
WVT Waverly 63.09 341 P P 10 23 57.7 -0.9
WVT pmax pmax
comp=Z,59nm,0.8s
WVT Waverly 63.09 341 P P 10 23 57.7 -0.9
WVT Waverly 63.09 341 P P 10 23 57.7 -0.9
baz=158,SNR=47
WVT Waverly 63.09 341 P P 10 23 57.7 -0.9
baz=158
WVT Waverly 63.09 341 P P 10 23 57.8 -0.8
T50A Nancy 63.11 344 P P 10 23 57.7 -1.0
baz=162
T50A P P 10 23 57.7 -1.0
baz=162
X40A Basin Creek Fa 63.27 336 P P 10 23 59.0 -0.8
baz=153
UALR University of 63.35 337 IAmb IAmb 10 24 01.0
comp=Z,20nm,1.0s
MIAR Mount Ida 63.60 336 IAmb IAmb 10 24 03.1
comp=Z,26nm,0.9s
MIAR Mount Ida 63.60 336 P P 10 24 02.2 +0.3
baz=153,SNR=17
MIAR Mount Ida 63.60 336 P P 10 24 01.7 -0.3
baz=153,SNR=17
W41B Gary Mavity, V 63.67 337 P P 10 24 02.2 -0.1
baz=154,SNR=7.9
W41B Gary Mavity, V 63.67 337 P P 10 24 01.9 -0.5
baz=154,SNR=7.9
T47A Sharon Grove 63.69 342 P P 10 24 02.0 -0.5
baz=159,SNR=22
R53A Hurricane 63.69 347 IAmb IAmb 10 24 03.3
comp=Z,17nm,0.9s
R53A Hurricane 63.69 347 P P 10 24 02.7 +0.2
baz=165
R53A P P 10 24 02.7 +0.2
baz=165
WHAR Wooly Hollow 63.79 337 IAmb IAmb 10 24 03.9
comp=Z,22nm,1.1s
TX31 Lajitas Ar. Si 63.83 324 IAmb IAmb 10 24 05.4
comp=Z,32nm,0.9s
TX31 Lajitas Ar. Si 63.83 324 P P 10 24 04.6 +0.9
baz=142,SNR=20
TXAR Lajitas Array 63.83 324 P P 10 24 04.5 +0.8
comp=Z,8.3nm,0.8s,baz=152,slow=8.5,SNR=72
Z35A Perchaven, San 64.03 332 P P 10 24 05.5 +0.7
baz=149,SNR=11
LCAR Lake Charles 64.10 338 P P 10 24 03.7 -1.5
baz=155,SNR=13
T45B Paducah 64.16 341 P P 10 24 05.4 -0.2
baz=158,SNR=5.7
W39A Magazine 64.25 336 P P 10 24 06.9 +0.7
baz=153,SNR=21
W39A Magazine 64.25 336 P P 10 24 05.9 -0.3
baz=153,SNR=21
FCAR Ozark Folk Cen 64.27 337 IAmb IAmb 10 24 06.7
comp=Z,19nm,1.0s
X37A Clayton 64.33 334 IAmb IAmb 10 24 08.4
comp=Z,33nm,0.9s
X37A Clayton 64.33 334 P P 10 24 07.7 +1.0
baz=151,SNR=15
Q52A Bidwell 64.37 347 IAmb IAmb 10 24 07.5
comp=Z,21nm,1.0s
Q52A Bidwell 64.37 347 P P 10 24 06.7 -0.1
baz=164
Q52A P P 10 24 06.7 -0.1
baz=164
R49A Shelbyville 64.40 344 P P 10 24 06.1 -1.0
baz=161
R49A P P 10 24 06.1 -1.0
baz=161
ABTX Abilene, Hawle 64.50 330 IAmb IAmb 10 24 09.2
comp=Z,35nm,1.1s
ABTX Abilene, Hawle 64.50 330 P P 10 24 08.2 +0.3
baz=147,SNR=15
ABTX Abilene, Hawle 64.50 330 P P 10 24 07.7 -0.2
baz=147,SNR=15
PBMO Poplar Bluff 64.50 339 P P 10 24 07.8 0.0
baz=156,SNR=35
MCWV Mont Chateau 64.57 349 P P 10 24 08.3 +0.1
baz=167
P53A Whipple 64.69 348 IAmb IAmb 10 24 10.1
comp=Z,28nm,0.9s
P53A Whipple 64.69 348 P P 10 24 08.8 -0.2
baz=165,SNR=8.2
P53A P P 10 24 08.8 -0.2
baz=165,SNR=8.2
U40A Yellville 64.94 337 IAmb IAmb 10 24 11.5
comp=Z,23nm,0.9s
U40A Yellville 64.94 337 P P 10 24 10.7 +0.1
baz=154,SNR=17
U40A P P 10 24 10.7 +0.1
baz=154,SNR=17
U40A Yellville 64.94 337 P P 10 24 10.3 -0.4
baz=154,SNR=17
S44A Carbondale 64.97 341 IAmb IAmb 10 24 11.0
comp=Z,26nm,1.0s
S44A Carbondale 64.97 341 P P 10 24 09.7 -1.1
baz=157,SNR=7.9
SIUC Southern Illin 64.98 341 IAmb IAmb 10 24 11.0
comp=Z,36nm,1.1s
P52A Corning 64.99 347 IAmb IAmb 10 24 11.4
comp=Z,29nm,1.1s
P52A Corning 64.99 347 P P 10 24 10.1 -0.8
baz=165,SNR=5.9
P51A Williamsport 65.04 346 IAmb IAmb 10 24 11.5
comp=Z,26nm,1.1s
PAL Palisades 65.10 354 P P 10 24 12.5 +0.9
baz=173
HHAR Hobbs 65.27 336 P P 10 24 12.9 +0.1
baz=153
O53A New Philadelph 65.40 348 P P 10 24 12.9 -0.6
baz=166
MGMO Mountain Grove 65.46 338 IAmb IAmb 10 24 14.9
comp=Z,40nm,1.1s
P49A Miami Univ. Ec 65.46 345 IAmb IAmb 10 24 13.9
comp=Z,40nm,1.1s
P49A Miami Univ. Ec 65.46 345 P P 10 24 12.9 -1.0
baz=162
P48A Milroy 65.56 344 IAmb IAmb 10 24 14.2
comp=Z,21nm,1.1s
P48A Milroy 65.56 344 P P 10 24 12.8 -1.8
baz=161,SNR=5.1
P48A P P 10 24 12.8 -1.8
baz=161,SNR=5.1
BLO Bloomington 65.57 343 IAmb IAmb 10 24 14.6
comp=Z,23nm,0.8s
FVM French Village 65.60 340 P P 10 24 14.2 -0.6
baz=156,SNR=18
TUL1 Leonard 65.65 334 IAmb IAmb 10 24 16.4
comp=Z,46nm,1.1s
TUL1 Leonard 65.65 334 P P 10 24 15.5 +0.3
baz=151,SNR=7.8
TUL1 Leonard 65.65 334 P P 10 24 14.9 -0.3
baz=151,SNR=7.8
ACSO Alum Creek Sta 65.74 347 IAmb IAmb 10 24 16.2
comp=Z,27nm,1.0s
ACSO Alum Creek Sta 65.74 347 P P 10 24 15.8 +0.1
baz=164
ACSO Alum Creek Sta 65.74 347 P P 10 24 15.4 -0.3
baz=164
CCM Cathedral Cave 65.93 339 P P 10 24 17.0 +0.1
baz=156,SNR=37
CCM Cathedral Cave 65.93 339 P P 10 24 16.5 -0.5
baz=156
CCM Cathedral Cave 65.93 339 P P 10 24 16.7 -0.2
CCM pP PcP 10 24 45.2 -1.0
CCM sP pP 10 25 04.1 +1.9
O49A Covington 66.00 345 IAmb IAmb 10 24 17.6
comp=Z,30nm,1.1s
O49A Covington 66.00 345 P P 10 24 16.8 -0.5
baz=162
O49A P P 10 24 16.8 -0.5
baz=162
Q44A Meyer Farm, Va 66.02 341 IAmb IAmb 10 24 17.1
comp=Z,21nm,0.9s
Q44A Meyer Farm, Va 66.02 341 P P 10 24 16.8 -0.7
baz=158
QSPA South Pole Qui 66.10 180 P P 10 24 19.3 +1.4
QSPA X 10 24 27.4
O48B Farmland 66.25 345 P P 10 24 18.5 -0.4
baz=162,SNR=5.9
O48B Farmland 66.25 345 P P 10 24 17.9 -1.1
baz=162,SNR=5.9
N51A Ashland 66.27 347 P P 10 24 18.5 -0.6
baz=164
N51A P P 10 24 18.5 -0.6
baz=164
S39A Bolivar 66.31 337 P P 10 24 19.3 -0.1
baz=154,SNR=38
HRV Adam Dziewonsk 66.41 356 P P 10 24 20.3 +0.4
baz=175
L61B Northampton 66.43 355 P P 10 24 20.9 +0.8
baz=174
M53A Wt Miller and 66.45 349 P P 10 24 19.8 -0.4
baz=166
R40A Maddies Statio 66.48 338 P P 10 24 20.1 -0.3
baz=155,SNR=20
BINY Binghamton 66.50 353 P P 10 24 21.1 +0.5
baz=171
MNTX Cornudas Mount 66.59 325 IAmb IAmb 10 24 22.3
comp=Z,30nm,1.0s
MNTX Cornudas Mount 66.59 325 P P 10 24 21.6 +0.3
baz=142,SNR=47
MNTX Cornudas Mount 66.59 325 P P 10 24 20.9 -0.4
baz=142,SNR=47
N49A Columbus Grove 66.66 346 IAmb IAmb 10 24 21.9
comp=Z,41nm,1.0s
N49A Columbus Grove 66.66 346 P P 10 24 21.4 -0.1
baz=163,SNR=6.2
N49A P P 10 24 21.4 -0.1
baz=163,SNR=6.2
P43A Skaggs, Pawnee 66.85 341 IAmb IAmb 10 24 22.7
comp=Z,37nm,0.8s
P43A Skaggs, Pawnee 66.85 341 P P 10 24 21.5 -1.2
baz=158,SNR=10
SFIN Lafayette 66.86 343 IAmb IAmb 10 24 22.4
comp=Z,26nm,0.8s
SFIN Lafayette 66.86 343 P P 10 24 21.7 -1.1
baz=160,SNR=5.9
SFIN Lafayette 66.86 343 P P 10 24 21.5 -1.3
baz=160,SNR=5.9
N47A Urbana 66.97 345 IAmb IAmb 10 24 23.5
comp=Z,36nm,1.1s
N47A Urbana 66.97 345 P P 10 24 22.6 -0.9
baz=161,SNR=5.6
N47A P P 10 24 22.6 -0.9
baz=161,SNR=5.6
ERPA Erie 66.99 349 IAmb IAmb 10 24 24.7
comp=Z,34nm,0.9s
ERPA Erie 66.99 349 P P 10 24 23.4 -0.1
baz=167
O44A Mansfield 67.02 342 IAmb IAmb 10 24 23.3
comp=Z,22nm,0.9s
MSTX Muleshoe 67.08 328 P P 10 24 24.7 +0.2
baz=144,SNR=30
MSTX Muleshoe 67.08 328 P P 10 24 24.6 +0.1
baz=144,SNR=30
AMTX Amarillo 67.31 329 IAmb IAmb 10 24 53.2
comp=Z,17nm,0.6s
AMTX Amarillo 67.31 329 P P 10 24 25.9 0.0
baz=146
AMTX Amarillo 67.31 329 P P 10 24 25.4 -0.5
baz=146
LIC Lamto 67.36 72 eP P 10 24 24.5 -2.0
comp=Z,15nm,0.7s
P40A Paris 67.53 339 P P 10 24 27.0 0.0
baz=155,SNR=24
TIC Toumodi 67.57 71 eP P 10 24 26.4 -1.5
J59A Piesco 67.60 354 IAmb IAmb 10 24 29.1
comp=Z,42nm,1.2s
HDIL Hopedale 67.63 342 P P 10 24 26.9 -0.7
baz=158,SNR=5.8
HDIL Hopedale 67.63 342 P P 10 24 26.5 -1.1
baz=158,SNR=5.8
KIC Kosan Boka 67.67 72 eP P 10 24 27.3 -1.2
comp=Z,49nm,0.6s
L48A N Adams 67.69 346 IAmb IAmb 10 24 28.1
comp=Z,27nm,0.8s
DBIC Dimbokro 67.72 71 P P 10 24 28.0 -0.8
comp=Z,17nm,0.6s,baz=241,slow=6.6,SNR=24
HSIG 67.73 319 P P 10 24 29.9 +1.4
HSIG IAmb IAmb 10 24 31.0
comp=Z,45nm,1.0s
P38A Dawn 68.11 338 P P 10 24 30.1 -0.6
baz=154,SNR=30
LBNH Lisbon 68.16 356 P P 10 24 31.6 +0.7
baz=175
N41A Harden Midland 68.23 341 P P 10 24 30.7 -0.7
baz=156,SNR=16
319A Douglas 68.48 322 IAmb IAmb 10 24 35.9
comp=Z,38nm,0.8s
121A Cookes Peak, D 68.53 324 IAmb IAmb 10 24 36.5
comp=Z,45nm,0.9s
121A Cookes Peak, D 68.53 324 P P 10 24 35.7 +2.0
baz=140,SNR=22
121A Cookes Peak, D 68.53 324 P P 10 24 35.2 +1.5
baz=140,SNR=22
KSU1 Kansas State U 68.75 336 IAmb IAmb 10 24 35.6
comp=Z,43nm,1.1s
KSU1 Kansas State U 68.75 336 P P 10 24 34.1 -0.6
baz=151
N38A Joes South For 69.06 339 IAmb IAmb 10 24 37.0
comp=Z,38nm,0.9s
N38A Joes South For 69.06 339 P P 10 24 36.3 -0.2
baz=154,SNR=5.4
PKME Peaks-Kenny Pk 69.06 358 P P 10 24 36.7 +0.3
baz=178
L42A Oliver, Polo 69.07 342 IAmb IAmb 10 24 36.8
comp=Z,39nm,0.8s
SADO Sadowa 69.45 351 P P 10 24 38.6 -0.2
comp=Z,4.1nm,0.4s,baz=152,slow=3.6,SNR=3.6
SADO LR LR 10 58 05.6
comp=Z,31nm,19.0s,baz=232,slow=38
L40A Anamosa 69.58 341 P P 10 24 39.4 -0.2
baz=156,SNR=21
ANMO Albuquerque 69.69 326 P P 10 24 42.1 +1.3
comp=Z,19nm,0.8s,baz=141,slow=7.3,SNR=78
ANMO Albuquerque 69.69 326 P P 10 24 41.7 +0.9
ANMO pmax pmax
comp=Z,29nm,1.0s
ANMO Albuquerque 69.69 326 P P 10 24 41.7 +0.9
ANMO IAmb IAmb 10 24 43.3
comp=Z,28nm,0.9s
ANMO Albuquerque 69.69 326 P P 10 24 42.4 +1.6
baz=142,SNR=40
ANMO Albuquerque 69.69 326 P P 10 24 41.8 +1.0
baz=142
ANMO Albuquerque 69.69 326 P P 10 24 42.5 +1.7
ANMO pP pP 10 25 14.4 -1.2
CBKS Cedar Bluff 69.75 333 P P 10 24 41.8 +1.0
CBKS pmax pmax
comp=Z,43nm,0.9s
CBKS Cedar Bluff 69.75 333 P P 10 24 41.8 +1.0
CBKS Cedar Bluff 69.75 333 P P 10 24 41.0 +0.2
baz=148
N35A Tabor 69.94 337 P P 10 24 42.0 +0.1
N35A Tabor 69.94 337 P P 10 24 42.0 +0.1
baz=152
TUC Tucson 70.03 321 P P 10 24 43.6 +0.8
TUC pmax pmax
comp=Z,31nm,1.2s
TUC Tucson 70.03 321 P P 10 24 43.6 +0.8
TUC IAmb IAmb 10 24 45.4
comp=Z,31nm,1.1s
TUC Tucson 70.03 321 P P 10 24 43.9 +1.1
baz=138
TUC Tucson 70.03 321 P P 10 24 44.4 +1.6
TUC sP pP 10 25 31.6 +3.0
TUC X 10 25 41.6
JFWS Jewell Farm 70.08 342 P P 10 24 42.5 -0.2
baz=157,SNR=15
JFWS Jewell Farm 70.08 342 P P 10 24 42.2 -0.4
baz=157,SNR=15
T25A Trinidad 70.43 329 P P 10 24 46.5 +1.2
baz=144,SNR=24
GLMI Grayling 70.48 347 P P 10 24 45.3 +0.1
baz=163
N33B J Bar K, Exete 70.50 336 P P 10 24 45.7 +0.4
baz=150,SNR=10
K38A Parkersburg 70.58 340 IAmb IAmb 10 24 46.3
comp=Z,45nm,1.1s
K38A Parkersburg 70.58 340 P P 10 24 45.4 -0.3
baz=155,SNR=5.3
I42A Draeger Farm, 70.62 343 IAmb IAmb 10 24 46.7
comp=Z,32nm,0.8s
I42A Draeger Farm, 70.62 343 P P 10 24 45.8 -0.2
baz=159,SNR=7.4
214A Organ Pipe Nat 70.95 320 IAmb IAmb 10 24 51.2
comp=Z,51nm,1.3s
214A Organ Pipe Nat 70.95 320 P P 10 24 50.0 +1.7
baz=136,SNR=13
I40A Norwalk 71.08 342 IAmb IAmb 10 24 49.2
comp=Z,44nm,1.3s
I40A Norwalk 71.08 342 P P 10 24 48.4 -0.3
baz=157,SNR=6.2
KSCO Kaye Shedlock' 71.14 331 P P 10 24 50.3 +0.9
baz=146
BGNE Belgrade 71.34 336 P P 10 24 51.1 +0.7
baz=150,SNR=21
BGNE Belgrade 71.34 336 P P 10 24 50.7 +0.3
baz=150,SNR=21
SDCO Great Sand Dun 71.43 329 P P 10 24 51.9 +0.5
SDCO Great Sand Dun 71.43 329 P P 10 24 53.0 +1.6
baz=143,SNR=34
SDCO Great Sand Dun 71.43 329 P P 10 24 52.5 +1.1
baz=143,SNR=34
SFX San Felipe 71.53 318 IAmb IAmb 10 24 54.2
comp=Z,28nm,0.9s
W18A Petrified Fore 71.54 324 P P 10 24 52.8 +0.8
baz=139
E46A Sault Ste Mari 71.89 347 IAmb IAmb 10 24 54.1
comp=Z,37nm,0.9s
E46A Sault Ste Mari 71.89 347 P P 10 24 53.4 -0.1
baz=163,SNR=7.3
X16A Lo Mia Camp, P 71.95 322 IAmb IAmb 10 24 57.3
comp=Z,34nm,1.1s
I37B Waseca 72.02 340 P P 10 24 54.6 +0.3
baz=155,SNR=9.0
S22A 4UR Ranch, Cre 72.08 328 P P 10 24 56.4 +1.2
baz=142
Q24A Divide 72.24 330 IAmb IAmb 10 24 58.6
comp=Z,36nm,1.0s
Q24A Divide 72.24 330 P P 10 24 57.2 +1.1
baz=144,SNR=8.3
KOWA Kowa 72.38 65 P P 10 24 56.4 -0.6
KOWA IAmb IAmb 10 24 58.3
comp=Z,19nm,0.7s
E43A Lone Tree Farm 72.48 346 P P 10 24 57.0 0.0
baz=161
OGNE Ogallala 72.49 333 P P 10 24 58.3 +0.9
baz=147
MVCO Mesa Verde 72.49 326 IAmb IAmb 10 25 00.1
comp=Z,30nm,1.0s
MVCO Mesa Verde 72.49 326 P P 10 24 58.9 +1.3
baz=140,SNR=18
K31A O'Neill 72.62 336 P P 10 24 58.5 +0.6
baz=150,SNR=6.2
WUAZ Wupatki 72.73 323 IAmb IAmb 10 25 01.9
comp=Z,39nm,0.9s
WUAZ Wupatki 72.73 323 P P 10 25 00.6 +1.7
baz=138,SNR=22
COWI Conover 72.73 344 P P 10 24 58.3 -0.2
baz=159
ECSD EROS Data Cent 72.82 338 IAmb IAmb 10 25 00.1
comp=Z,54nm,1.1s
ECSD EROS Data Cent 72.82 338 P P 10 24 59.0 -0.1
baz=152,SNR=22
ECSD EROS Data Cent 72.82 338 P P 10 24 58.7 -0.4
baz=152,SNR=22
GLA Glamis 72.93 319 IAmb IAmb 10 25 02.6
comp=Z,24nm,0.8s

GLA	**Glamis**	**72.93**	**319**	P	**P**	**10 25**	**01.4 +1.4**
	baz=135,SNR=7.0						
SPMN	**Marine on St.**	**72.93**	**341**	IAmb	IAmb	10 25	00.2
	comp=Z,42nm,1.1s						
SPMN	**Marine on St.**	**72.93**	**341**	P	**P**	**10 24**	**59.2 -0.5**
	baz=155,SNR=7.3						
SPMN	**Marine on St.**	**72.93**	**341**	P	**P**	**10 24**	**58.8 -0.9**
	baz=155,SNR=7.3						
ISCO	**Idaho Springs**	**73.13**	**330**	P	**P**	**10 25**	**02.9 +1.5**
	baz=143,SNR=18						
ISCO	**Idaho Springs**	**73.13**	**330**	P	**P**	**10 25**	**02.6 +1.2**
	baz=143,SNR=18						
BLYC	**Blythe**	**73.24**	**320**	IAmb	IAmb	10 25	04.7
	comp=Z,44nm,1.1s						
PV15	**Paradox Valley**	**73.36**	**327**	IAmb	IAmb	10 25	05.6
	comp=Z,40nm,1.2s						
PDMCI	**Parker Dam,Lak**	**73.41**	**321**	P	**P**	**10 25**	**04.3 +1.5**
	baz=136						
SYO	**Syowa Base**	**73.41**	**159**	*eP*	**P**	**10 25**	**01.0 -1.3**
SYO	**Syowa Base**	**73.41**	**159**	*eP*	**PcP**	**10 25**	**16.3 -1.2**
IKP	**In-Ko-Pah, Jac**	**73.42**	**318**	P	**P**	**10 25**	**04.8 +1.9**
	baz=134,SNR=6.5						
SWSC	**Sam W. Stewart**	**73.44**	**319**	P	**P**	**10 25**	**04.7 +1.8**
	baz=134						
D41A	**Chassel**	**73.49**	**345**	P	**P**	**10 25**	**03.7 +0.8**
	baz=159,SNR=9.7						
SBA	**Scott Base**	**73.62**	**190**	P	**P**	**10 25**	**04.6 +1.2**
SBA				pmax	pmax		
	comp=Z,65nm,1.5s						
SBA	**Scott Base**	**73.62**	**190**	P	**P**	**10 25**	**04.5 +1.2**
SBA				IAmb	IAmb	10 25	06.7
	comp=Z,65nm,1.5s						
TKX	**Tecate**	**73.67**	**318**	IAmb	IAmb	10 25	07.1
	comp=Z,34nm,0.9s						
BC3	**Big Chuckawall**	**73.72**	**319**	P	**P**	**10 25**	**06.2 +1.5**
	baz=134,SNR=23						
F36A	**Milaca**	**73.72**	**341**	IAmb	IAmb	10 25	04.9
	comp=Z,35nm,0.8s						
F36A	**Milaca**	**73.72**	**341**	P	**P**	**10 25**	**04.3 0.0**
	baz=155,SNR=24						
MONP2	**Monument Peak**	**73.78**	**318**	P	**P**	**10 25**	**06.5 +1.2**
	baz=134,SNR=7.8						
BAR	**Barrett**	**73.78**	**318**	IAmb	IAmb	10 25	07.6
	comp=Z,33nm,0.9s						
E38A	**The Farm, Brul**	**73.84**	**343**	IAmb	IAmb	10 25	05.7
	comp=Z,27nm,0.9s						
E38A	**The Farm, Brul**	**73.84**	**343**	P	**P**	**10 25**	**04.8 -0.2**
	baz=157,SNR=5.8						
IRM	**Iron Mountain**	**73.89**	**320**	P	**P**	**10 25**	**07.2 +1.5**
	baz=135,SNR=23						
U15A	**North Rim**	**73.90**	**323**	IAmb	IAmb	10 25	09.1
	comp=Z,30nm,0.9s						
N23A	**Red Feather La**	**74.16**	**330**	P	**P**	**10 25**	**08.5 +1.2**
	baz=143,SNR=15						
109C	**Camp Elliot, M**	**74.19**	**318**	P	**P**	**10 25**	**08.3 +0.9**
	baz=133						
SUSD	**Miller**	**74.26**	**337**	IAmb	IAmb	10 25	08.5
	comp=Z,46nm,0.8s						
SUSD	**Miller**	**74.26**	**337**	P	**P**	**10 25**	**07.7 +0.2**
	baz=150,SNR=13						
SUSD	**Miller**	**74.26**	**337**	P	**P**	**10 25**	**07.4 -0.1**
	baz=150,SNR=13						
BELC	**Belle Mtn. Jos**	**74.29**	**319**	P	**P**	**10 25**	**09.6 +1.5**
	baz=134,SNR=13						
TPFO	**Pinon Flats**	**74.29**	**319**	P	**P**	**10 25**	**09.9 +1.8**
	baz=134,SNR=11						
PFO	**Pinyon Flats O**	**74.30**	**319**	P	**P**	**10 25**	**09.6 +1.5**
	comp=Z,18nm,0.9s,baz=116,slow=5.4,SNR=19						
PFO	**Pinyon Flats O**	**74.30**	**319**	*iP*	**P**	**10 25**	**08.8 +0.7**
PFO				pmax	pmax		
	comp=Z,39nm,1.0s						
PFO	**Pinyon Flats O**	**74.30**	**319**	P	**P**	**10 25**	**09.7 +1.6**
	baz=134,SNR=12						
F33A	**5 Mile Ranch,**	**74.57**	**339**	P	**P**	**10 25**	**08.9 -0.3**
	baz=152,SNR=6.6						
VNDA	**Vanda**	**74.62**	**190**	P	**P**	**10 25**	**11.0 +1.8**
	comp=Z,15nm,0.9s,baz=137,slow=5.1,SNR=68						
VNDA	**Vanda**	**74.62**	**190**	P	**P**	**10 25**	**10.3 +1.1**
VNDA				pmax	pmax		
	comp=Z,27nm,1.1s						
VNDA	**Vanda**	**74.62**	**190**	P	**P**	**10 25**	**10.2 +1.1**
O20A	**White River Ci**	**74.63**	**328**	IAmb	IAmb	10 25	12.5
	comp=Z,38nm,0.9s						
O20A	**White River Ci**	**74.63**	**328**	P	**P**	**10 25**	**11.4 +1.5**
	baz=141,SNR=27						
GMRC	**Granite Mounta**	**74.63**	**320**	P	**P**	**10 25**	**11.9 +1.9**
	baz=135,SNR=36						
MURC	**Murrieta**	**74.73**	**318**	P	**P**	**10 25**	**12.0 +1.5**
	baz=133,SNR=7.0						
ELS	**Elsinore Mount**	**74.91**	**318**	IAmb	IAmb	10 25	14.2
	comp=Z,32nm,0.9s						
SRU	**San Rafael Swe**	**74.97**	**326**	IAmb	IAmb	10 25	14.2
	comp=Z,28nm,0.9s						
BBRC	**Big Bear Solar**	**75.02**	**319**	P	**P**	**10 25**	**14.4 +2.0**
	baz=134,SNR=5.9						
EYMN	**Ely**	**75.05**	**343**	P	**P**	**10 25**	**11.7 -0.3**
	baz=157						
EYMN	**Ely**	**75.05**	**343**	P	**P**	**10 25**	**11.4 -0.5**
	baz=157						
HEC	**Hector,Ludlow**	**75.06**	**320**	P	**P**	**10 25**	**14.4 +2.0**
	baz=134,SNR=15						
SCI2	**San Clemente I**	**75.15**	**317**	P	**P**	**10 25**	**14.6 +1.8**
	baz=132						
Q16A	**Castle Valley**	**75.16**	**326**	IAmb	IAmb	10 25	15.9
	comp=Z,39nm,1.3s						
SZCU	**Shurtz Canyon**	**75.19**	**324**	IAmb	IAmb	10 25	16.3
	comp=Z,49nm,1.6s						
P18A	**Preston Nutter**	**75.22**	**327**	IAmb	IAmb	10 25	16.2
	comp=Z,28nm,1.0s						
TUQ	**Turquoise Moun**	**75.24**	**320**	P	**P**	**10 25**	**15.3 +1.8**
	baz=134						
CCUT	**Cedar City**	**75.31**	**323**	IAmb	IAmb	10 25	17.4
	comp=Z,43nm,0.9s						
CIS	**Catalina Islan**	**75.35**	**317**	P	**P**	**10 25**	**14.9 +0.9**
	baz=132						
P17A	**Butcher Ranch,**	**75.35**	**326**	IAmb	IAmb	10 25	16.6
	comp=Z,33nm,1.0s						
RWWY	**Rawlins**	**75.36**	**330**	IAmb	IAmb	10 25	16.6
	comp=Z,27nm,0.8s						
BFSC	**Mount Baldy Ra**	**75.45**	**318**	P	**P**	**10 25**	**16.1 +1.4**
	baz=133,SNR=7.3						
RRX	**Edison Barstow**	**75.49**	**319**	P	**P**	**10 25**	**16.1 +1.3**
	baz=134						
TCRU	**Three Creeks R**	**75.59**	**325**	IAmb	IAmb	10 25	18.4
	comp=Z,74nm,2.0s						
VAH	**Vaihoa**	**75.65**	**260**	*eP*	**P**	**10 25**	**18.2 +2.1**
	comp=Z,83nm,1.1s						
GSC	**Goldstone, Bar**	**75.67**	**320**	IAmb	IAmb	10 25	18.7
	comp=Z,29nm,1.1s						
GSC	**Goldstone, Bar**	**75.67**	**320**	P	**P**	**10 25**	**17.5 +1.7**
	baz=134,SNR=15						
PASC	**Pasadena Art C**	**75.72**	**318**	IAmb	IAmb	10 25	18.8
	comp=Z,42nm,1.1s						
SHOC	**Shoshone, Teco**	**75.77**	**321**	P	**P**	**10 25**	**17.7 +1.3**
	baz=134						
K22A	**Casper**	**75.82**	**331**	IAmb	IAmb	10 25	19.2
	comp=Z,53nm,1.4s						
K22A	**Casper**	**75.82**	**331**	P	**P**	**10 25**	**18.2 +1.5**
	baz=143,SNR=16						
K22A	**Casper**	**75.82**	**331**	P	**P**	**10 25**	**17.8 +1.1**
	baz=143,SNR=16						
RSSD	**Black Hills**	**75.95**	**333**	P	**P**	**10 25**	**18.0 +0.6**
RSSD				pmax	pmax		
	comp=Z,18nm,0.9s						
RSSD	**Black Hills**	**75.95**	**333**	P	**P**	**10 25**	**18.0 +0.6**
RSSD	**Black Hills**	**75.95**	**333**	P	**P**	**10 25**	**18.7 +1.3**
	baz=145,SNR=16						
RSSD	**Black Hills**	**75.95**	**333**	P	**P**	**10 25**	**18.3 +0.9**
	baz=145						
PMOR	**Pomariorio Ree**	**75.98**	**260**	*eP*	**P**	**10 25**	**20.0 +2.0**
	comp=Z,88nm,1.0s						
B35A	**Bob, Littlefor**	**76.04**	**342**	IAmb	IAmb	10 25	18.4
	comp=Z,41nm,0.8s						
B35A	**Bob, Littlefor**	**76.04**	**342**	P	**P**	**10 25**	**17.7 +0.1**
	baz=155,SNR=23						
EDW2	**Edwards Air Fo**	**76.09**	**319**	P	**P**	**10 25**	**19.4 +1.2**
	baz=133						
PRN	**Pahroc Range**	**76.14**	**322**	IAmb	IAmb	10 25	21.8
	comp=Z,38nm,1.1s						
GWY	**Greenwater Val**	**76.20**	**320**	IAmb	IAmb	10 25	21.4
	comp=Z,32nm,0.9s						
CCAC	**Calif City Air**	**76.29**	**319**	IAmb	IAmb	10 25	21.9
	comp=Z,75nm,1.4s						
LRMC	**Laurel Mtn Rad**	**76.31**	**319**	P	**P**	**10 25**	**20.8 +1.2**
	baz=133,SNR=8.2						
OSI	**Osito Audit: C**	**76.35**	**318**	P	**P**	**10 25**	**20.6 +0.9**
	baz=132						
NLU	**North Lily Min**	**76.39**	**326**	IAmb	IAmb	10 25	22.9
	comp=Z,41nm,1.6s						
TPNV	**Topopah Spring**	**76.49**	**321**	P	**P**	**10 25**	**22.3 +1.8**
	baz=135,SNR=27						
TOA0	**Torodi Ar. Sit**	**76.50**	**69**	IAmb	IAmb	10 25	21.1
	comp=Z,34nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P	**P**	**10 25**	**20.4 -0.4**
	comp=Z,25nm,0.6s,baz=256,slow=5.5,SNR=259						
TORD				S	**S**	**10 34**	**45.4 -6.1**
	comp=Z,1.3nm,1.0s,baz=240,slow=11,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P	**P**	**10 25**	**19.8 -1.1**
TORD				IAmb	IAmb	10 25	21.1
	comp=Z,25nm,0.7s						
FURC	**Furnace Creek,**	**76.51**	**321**	P	**P**	**10 25**	**22.1 +1.6**
	baz=134,SNR=16						
PAE	**Paea**	**76.52**	**257**	*eP*	**P**	**10 25**	**23.1 +2.1**
	comp=Z,15nm,1.4s						
PPT2	**Papeete2**	**76.55**	**257**	*eP*	**P**	**10 25**	**23.3 +2.0**
	comp=Z,68nm,1.4s						
JLU	**Jordanelle**	**76.56**	**327**	IAmb	IAmb	10 25	23.6
	comp=Z,73nm,1.6s						
MPMC	**Manual Prospec**	**76.59**	**320**	P	**P**	**10 25**	**22.4 +1.2**
	baz=134,SNR=15						
AGMN	**Agassiz Nation**	**76.61**	**341**	IAmb	IAmb	10 25	21.8
	comp=Z,25nm,0.9s						
AGMN	**Agassiz Nation**	**76.61**	**341**	P	**P**	**10 25**	**20.8 +0.1**
	baz=153,SNR=18						
AGMN	**Agassiz Nation**	**76.61**	**341**	P	**P**	**10 25**	**20.6 -0.2**
	baz=153,SNR=18						
E28A	**Huff**	**76.72**	**337**	P	**P**	**10 25**	**22.2 +0.8**
	baz=148,SNR=21						
ARVC	**Arvin**	**76.76**	**318**	P	**P**	**10 25**	**23.3 +1.4**
	baz=132						
ISA	**Isabella, Lake**	**76.91**	**319**	IAmb	IAmb	10 25	25.6
	comp=Z,30nm,0.9s						
ISA	**Isabella, Lake**	**76.91**	**319**	P	**P**	**10 25**	**24.4 +1.6**
	baz=133,SNR=15						
DUG	**Dugway, Tooele**	**76.95**	**326**	P	**P**	**10 25**	**24.5 +1.4**
	baz=138,SNR=19						
BCW	**Bitter Crk WRg**	**76.99**	**318**	IAmb	IAmb	10 25	26.2
	comp=Z,48nm,1.1s						
R11A	**Troy Canyon, C**	**77.10**	**323**	IAmb	IAmb	10 25	27.1
	comp=Z,40nm,1.3s						
R11A	**Troy Canyon, C**	**77.10**	**323**	P	**P**	**10 25**	**25.6 +1.6**
	baz=135,SNR=44						
GRAC	**Grapevine Rang**	**77.17**	**321**	P	**P**	**10 25**	**25.8 +1.6**
	baz=134						
PKM	**Mcpherson Peak**	**77.20**	**318**	P	**P**	**10 25**	**26.1 +1.5**
	baz=132,SNR=9.8						
PDAR	**Pinedale Array**	**77.29**	**329**	P	**P**	**10 25**	**25.8 +0.8**
	comp=Z,3.3nm,0.6s,baz=131,slow=7.8,SNR=37						
PDAR				LR	LR	11 02	13.5
	comp=Z,29nm,20.1s,baz=90,slow=38						
PDAR	**Pinedale Array**	**77.29**	**329**	P	**P**	**10 25**	**25.0 0.0**
VES	**Vestal, Richgr**	**77.39**	**319**	P	**P**	**10 25**	**26.8 +1.4**
	baz=132,SNR=17						
MDND	**Maddock**	**77.43**	**338**	P	**P**	**10 25**	**26.4 +1.1**
	baz=150,SNR=28						
MDND	**Maddock**	**77.43**	**338**	P	**P**	**10 25**	**25.7 +0.4**
	baz=150,SNR=28						
TSUM	**Tsumeb**	**77.52**	**106**	P	**P**	**10 25**	**25.8 -1.0**
TSUM				IAmb	IAmb	10 25	27.2
	comp=Z,22nm,0.7s						
SMMC	**Simmler**	**77.59**	**318**	P	**P**	**10 25**	**28.4 +1.8**
	baz=132,SNR=8.2						
BGU	**Big Grassy Mou**	**77.60**	**326**	IAmb	IAmb	10 25	29.1
	comp=Z,37nm,1.4s						
TIN	**Tinemaha, Big**	**77.71**	**320**	P	**P**	**10 25**	**28.8 +1.5**
	baz=133,SNR=5.0						
AHID	**Auburn Hatcher**	**78.02**	**328**	IAmb	IAmb	10 25	31.1
	comp=Z,42nm,0.9s						
PAGB	**Antelope Grade**	**78.03**	**318**	IAmb	IAmb	10 25	31.7
	comp=Z,40nm,1.0s						
ULM	**Lac du Bonnet**	**78.36**	**341**	P	**P**	**10 25**	**30.5 +0.1**
	comp=Z,21nm,0.7s,baz=150,slow=7.1,SNR=21						
ULM	**Lac du Bonnet**	**78.36**	**341**	IAmb	IAmb	10 25	31.2
	comp=Z,74nm,1.4s						
MLAC	**Mammoth, Mammo**	**78.45**	**320**	P	**P**	**10 25**	**33.0 +1.5**
	baz=133,SNR=9.6						
OMMB	**Old Mammoth Mi**	**78.54**	**320**	IAmb	IAmb	10 25	34.5
	comp=Z,31nm,0.9s						
MOOW	**Moose Ponds**	**78.60**	**329**	IAmb	IAmb	10 25	34.7
	comp=Z,74nm,1.9s						
SCHQ	**Schefferville**	**78.61**	**0**	P	**P**	**10 25**	**31.9 +0.3**
	comp=Z,9.6nm,0.8s,baz=174,slow=3.0,SNR=16						
SCHQ	**Schefferville**	**78.61**	**0**	P	**P**	**10 25**	**31.3 -0.3**
ELK	**Elko**	**78.62**	**325**	P	**P**	**10 25**	**33.5 +1.1**
	comp=Z,12nm,0.9s,baz=138,slow=2.7,SNR=34						
LHV	**Little Huntoon**	**78.68**	**321**	IAmb	IAmb	10 25	35.4
	comp=Z,35nm,1.3s						
NVAR	**Mina Array Bea**	**78.69**	**321**	P	**P**	**10 25**	**34.1 +1.3**
	comp=Z,10nm,1.0s,baz=153,slow=6.7,SNR=48						
FLWY	**Flagg Ranch**	**78.84**	**329**	IAmb	IAmb	10 25	36.3
	comp=Z,45nm,1.1s						
LAO	**LASA Array**	**78.93**	**334**	IAmb	IAmb	10 25	35.6
	comp=Z,47nm,1.0s						
LAO	**LASA Array**	**78.93**	**334**	P	**P**	**10 25**	**34.8 +1.1**
	baz=144,SNR=23						
LAO	**LASA Array**	**78.93**	**334**	P	**P**	**10 25**	**33.8 +0.1**
	baz=144,SNR=23						
KVN	**Kaiserville**	**79.00**	**322**	IAmb	IAmb	10 25	36.6
	comp=Z,34nm,0.9s						
H17A	**Grnt Village**	**79.02**	**330**	P	**P**	**10 25**	**36.2 +1.7**
	baz=140,SNR=8.5						
BBGB	**Big Mountain B**	**79.06**	**318**	IAmb	IAmb	10 25	37.3
	comp=Z,44nm,1.0s						
LKWY	**Lake**	**79.07**	**330**	IAmb	IAmb	10 25	39.2
	comp=Z,86nm,1.9s						
YMR	**Madison River**	**79.41**	**330**	IAmb	IAmb	10 25	39.6
	comp=Z,45nm,1.0s						
YHH	**Holmes Hill**	**79.44**	**330**	IAmb	IAmb	10 25	39.7
	comp=Z,42nm,1.0s						
DGMT	**Dagmar**	**79.60**	**336**	P	**P**	**10 25**	**39.0 +1.7**
	baz=146,SNR=21						
DGMT	**Dagmar**	**79.60**	**336**	P	**P**	**10 25**	**38.2 +1.0**
	baz=146,SNR=21						
YERR	**Yerington**	**79.60**	**321**	IAmb	IAmb	10 25	40.4
	comp=Z,46nm,1.3s						
CMB	**Columbia Colle**	**79.63**	**320**	P	**P**	**10 25**	**38.0 +0.3**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMB	**Columbia Colle**	**79.63**	**320**	P	**P**	**10 25**	**38.0 +0.3**
YHL	**Hebgen Lake**	**79.65**	**330**	IAmb	IAmb	10 25	40.8
	comp=Z,73nm,1.6s						
PNTR	**Pine Nut**	**79.88**	**321**	IAmb	IAmb	10 25	42.0
	comp=Z,46nm,0.9s						
VCNR	**Virginia City**	**80.05**	**321**	IAmb	IAmb	10 25	42.8
	comp=Z,30nm,1.2s						
PAHR	**Pah Rah Range**	**80.17**	**322**	IAmb	IAmb	10 25	43.4
	comp=Z,53nm,1.0s						
RUBR	**Ruby Mtn Trail**	**80.17**	**321**	IAmb	IAmb	10 25	43.6
	comp=Z,32nm,1.0s						
HLID	**Hailey**	**80.23**	**327**	IAmb	IAmb	10 25	43.9
	comp=Z,42nm,0.9s						
HLID	**Hailey**	**80.23**	**327**	P	**P**	**10 25**	**42.6 +1.6**
	baz=137,SNR=70						
MPK	**Martis Peak**	**80.27**	**321**	IAmb	IAmb	10 25	44.2
	comp=Z,55nm,1.2s						
BOZ	**Bozeman (W)**	**80.42**	**330**	P	**P**	**10 25**	**42.7 +0.9**
	baz=139,SNR=14						
BOSA	**Boshof**	**80.58**	**117**	P	**P**	**10 25**	**43.0 -0.3**
	comp=Z,7.5nm,0.6s,baz=262,slow=3.4,SNR=34						
BOSA	**Boshof**	**80.58**	**117**	P	**P**	**10 25**	**42.7 -0.6**
BOSA				pmax	pmax		
	comp=Z,49nm,1.6s						
BOSA	**Boshof**	**80.58**	**117**	P	**P**	**10 25**	**42.6 -0.6**
BOSA				IAmb	IAmb	10 25	43.6
	comp=Z,49nm,1.6s						
BOSA	**Boshof**	**80.58**	**117**	*i* P	**P**	**10 25**	**42.5 -0.8**
BOSA	**Boshof**	**80.58**	**117**	*i* P	**P**	**10 25**	**42.5 -0.8**
DLMT	**Dillon**	**80.69**	**329**	IAmb	IAmb	10 25	45.8
	comp=Z,49nm,1.3s						
ORV	**Oroville**	**81.29**	**320**	IAmb	IAmb	10 25	48.9
	comp=Z,44nm,1.1s						
MAW	**Mawson**	**81.31**	**163**	P	**P**	**10 25**	**46.9 +0.8**
	comp=Z,57nm,0.9s,baz=219,slow=6.0,SNR=38						
MAW	**Mawson**	**81.31**	**163**	P	**P**	**10 25**	**46.2 +0.1**
MAW				pmax	pmax		
	comp=Z,11nm,0.8s						
MAW	**Mawson**	**81.31**	**163**	P	**P**	**10 25**	**46.2 +0.1**
EGMT	**Eagleton**	**81.46**	**332**	IAmb	IAmb	10 25	48.7
	comp=Z,46nm,1.1s						
EGMT	**Eagleton**	**81.46**	**332**	P	**P**	**10 25**	**47.6 +0.4**
	baz=141,SNR=20						
O03E	**Paynes Creek**	**81.95**	**321**	P	**P**	**10 25**	**49.4 -0.5**
	baz=131,SNR=8.1						
MDT	**Midelt**	**82.00**	**49**	P	**P**	**10 25**	**51.3 +0.8**
	comp=Z,15nm,1.1s,baz=273,slow=4.3,SNR=17						
PLID	**Pearl Lake**	**82.12**	**327**	IAmb	IAmb	10 25	53.1
	comp=Z,40nm,0.8s						
MOD	**Modoc Plateau**	**82.17**	**323**	IAmb	IAmb	10 25	53.4
	comp=Z,28nm,1.1s						
J08A	**Circle Bar Ran**	**82.17**	**325**	IAmb	IAmb	10 25	53.5
	comp=Z,63nm,1.2s						
LBTB	**Lobatse**	**82.24**	**114**	P	**P**	**10 25**	**51.7 -0.3**
LBTB				pmax	pmax		
	comp=Z,18nm,0.6s						
LBTB	**Lobatse**	**82.24**	**114**	P	**P**	**10 25**	**51.7 -0.3**
LBTB				IAmb	IAmb	10 25	55.3
	comp=Z,18nm,0.6s						
LBTB	**Lobatse**	**82.24**	**114**	*i* P	**P**	**10 25**	**49.3 -2.7**
LBTB	**Lobatse**	**82.24**	**114**	*i* P	**P**	**10 25**	**49.3 -2.7**
MSO	**Missoula**	**82.40**	**330**	P	**P**	**10 25**	**53.1 +0.9**
	baz=138,SNR=9.9						
O02D	**Mt. Diablo Mer**	**82.45**	**320**	P	**P**	**10 25**	**53.0 +0.5**
	baz=130						
BMO	**Blue Mountains**	**82.61**	**326**	IAmb	IAmb	10 25	55.4
	comp=Z,71nm,1.9s						
N02D	**Trinity Center**	**82.91**	**321**	P	**P**	**10 25**	**54.7 -0.2**
	baz=130,SNR=5.3						
KMRM	**Mail Ridge**	**83.02**	**320**	IAmb	IAmb	10 25	58.0
	comp=Z,31nm,1.1s						
M02C	**Callahan**	**83.27**	**321**	P	**P**	**10 25**	**57.1 +0.4**
	baz=130						
F10A	**Beach Ranch, E**	**83.36**	**327**	IAmb	IAmb	10 26	00.4
	comp=Z,42nm,1.4s						
KMPM	**Mount Pierce**	**83.38**	**320**	IAmb	IAmb	10 25	59.8
	comp=Z,31nm,1.0s						
YBH	**Yreka Blue Hor**	**83.41**	**321**	P	**P**	**10 25**	**57.4 -0.1**
	comp=Z,6.6nm,0.8s,baz=104,slow=5.1,SNR=12						
K04D	**Chiloquin, OR**	**83.45**	**323**	P	**P**	**10 25**	**58.1 +0.4**
	baz=131,SNR=5.9						
L04D	**Klamath Falls**	**83.49**	**322**	P	**P**	**10 25**	**59.0 +1.0**
	baz=131						
J05D	**Fort Rock, OR**	**83.60**	**323**	P	**P**	**10 25**	**59.6 +1.1**
	baz=132,SNR=15						
PINE	**Pine Mountain**	**83.78**	**324**	IAmb	IAmb	10 26	02.0
	comp=Z,37nm,0.9s						
J04D	**Umpqua Nationa**	**84.05**	**323**	IAmb	IAmb	10 26	02.8
	comp=Z,33nm,0.8s						
J04D	**Umpqua Nationa**	**84.05**	**323**	P	**P**	**10 26**	**01.6 +0.7**
	baz=131,SNR=6.0						
I05D	**Terrebonne, OR**	**84.36**	**324**	P	**P**	**10 26**	**03.2 +1.0**
	baz=132,SNR=10						
K02D	**Willamette Mer**	**84.57**	**322**	P	**P**	**10 26**	**04.3 +1.0**
	baz=130,SNR=5.4						
I04A	**Tendick Farm,**	**84.58**	**323**	P	**P**	**10 26**	**03.4 +0.1**
	baz=131						
HAWA	**Hanford**	**84.80**	**326**	IAmb	IAmb	10 26	06.4
	comp=Z,29nm,1.0s						
NEW	**Newport**	**84.93**	**329**	P	**P**	**10 26**	**05.3 +0.3**
	comp=Z,5.3nm,0.8s,baz=137,slow=4.5,SNR=7.0						
NEW	**Newport**	**84.93**	**329**	P	**P**	**10 26**	**04.8 -0.1**
	baz=135,SNR=7.1						
G05D	**Wamic, OR**	**84.95**	**325**	P	**P**	**10 26**	**06.3 +1.2**
	baz=132,SNR=5.2						
D08A	**Wollman Farm,**	**84.95**	**327**	IAmb	IAmb	10 26	07.0
	comp=Z,40nm,1.2s						
J01E	**Myrtle Point**	**85.02**	**322**	P	**P**	**10 26**	**06.3 +1.0**
	baz=130						
I03D	**Drain, OR**	**85.03**	**323**	P	**P**	**10 26**	**06.2 +0.8**
	baz=130						
BUCK	**Buck Mountain**	**85.16**	**323**	IAmb	IAmb	10 26	08.0
	comp=Z,33nm,0.8s						
F05D	**White Salmon**	**85.45**	**325**	P	**P**	**10 26**	**08.4 +0.9**
	baz=132						
I02E	**Swisshome, OR**	**85.58**	**323**	P	**P**	**10 26**	**09.3 +1.2**
	baz=130						
FCC	**Fort Churchill**	**85.58**	**346**	IAmb	IAmb	10 26	09.2
	comp=Z,36nm,0.9s						
LTY	**Liberty**	**85.96**	**327**	IAmb	IAmb	10 26	11.6
	comp=Z,53nm,1.5s						
G03D	**McMinnville, O**	**85.97**	**324**	P	**P**	**10 26**	**11.0 +1.0**
	baz=130						
F04A	**Amboy**	**85.98**	**325**	P	**P**	**10 26**	**10.5 +0.4**
F04A				IAmb	IAmb	10 26	11.7
	comp=Z,36nm,1.0s						
B08A	**Colville Reser**	**86.05**	**328**	P	**P**	**10 26**	**10.4 -0.1**
B08A				IAmb	IAmb	10 26	12.5
	comp=Z,48nm,1.6s						
PAB	**San Pablo**	**86.07**	**43**	P	**P**	**10 26**	**11.1 +0.3**
PAB				pmax	pmax		
	comp=Z,27nm,1.2s						
PAB	**San Pablo**	**86.07**	**43**	P	**P**	**10 26**	**11.1 +0.3**
PAB				IAmb	IAmb	10 26	14.2
	comp=Z,27nm,1.2s						
ESDC	**Sonseca Array**	**86.39**	**44**	P	**P**	**10 26**	**12.9 +0.5**
	comp=Z,9.0nm,1.1s,baz=244,slow=4.8,SNR=24						
ESDC				LR	LR	11 02	26.3
	comp=Z,56nm,20.2s,baz=208,slow=34						
E04D	**Cinebar**	**86.47**	**325**	IAmb	IAmb	10 26	14.9
	comp=Z,34nm,1.4s						
E04D	**Cinebar**	**86.47**	**325**	P	**P**	**10 26**	**13.3 +0.8**
	baz=131						
MATP	**Matopo**	**86.53**	**111**	*i* P	**P**	**10 26**	**09.4 -4.2**
MATP	**Matopo**	**86.53**	**111**	*i* P	**P**	**10 26**	**09.4 -4.2**
D05A	**Enumclaw**	**86.59**	**326**	IAmb	IAmb	10 26	14.5
	comp=Z,37nm,1.0s						
D04E	**Lakebay**	**86.98**	**326**	P	**P**	**10 26**	**16.1 +1.1**
	baz=131						
MSNA	**Messina**	**87.03**	**113**	*i* P	P	10 26	10.8 -5.2
MSNA	**Messina**	**87.03**	**113**	*i* P	P	10 26	10.8 -5.2
B06A	**Marblemount**	**87.22**	**327**	IAmb	IAmb	10 26	16.9
	comp=Z,30nm,0.9

baz=105
CAST Castle Rocks 109.17 332 P PKiKP 10 31 58.5 +0.5
baz=105
CHUM Lake Minchumin 109.39 332 P PKiKP 10 31 59.0 +0.6
baz=105
COLD Coldfoot 109.43 336 P PKiKP 10 31 59.5 +1.1
baz=106
I21K Tanana 109.59 333 P PKiKP 10 31 59.1 +0.4
baz=105
TOLK Toolik Lake Re 109.59 337 P PKiKP 10 31 59.0 +0.3
baz=106
H21K Melozitna Rive 110.04 334 P PKiKP 10 32 00.4 +0.8
baz=104
N18K Kilae Creek 110.23 328 P PKiKP 10 32 01.0 +0.9
baz=103
TTA Tatalina 110.78 331 P PKiKP 10 32 02.1 +1.0
baz=102
SDPT Sand Point 111.48 322 P PKiKP 10 32 03.6 +1.0
baz=101
AKASG Malin Array Be 112.03 43 PKiKP PKiKP 10 32 03.2 -0.6
comp=Z,0.7nm,0.3s,baz=266,slow=2.5,SNR=7.1
ARCES ARCESS Array B 113.17 22 PKKPbc PKKPbc 10 42 52.5 -1.7
comp=Z,2.0nm,0.7s,baz=60,slow=4.8,SNR=5.3
SIM Simferopol' 114.18 50 *e*PKIKP PKiKP 10 32 22.4 +14
SIM pmax pmax
comp=Z,10.0nm,0.1s
OBN Obninsk 117.03 39 *i* PKIKP **PKPdf 10 32 13.0 -0.2**
OBN *i* 10 33 24.9
OBN pmax pmax
comp=Z,10.0nm,1.1s
VORR Voronezh 118.38 43 *e*PKIKP **PKPdf 10 32 15.6 -0.3**
VORR pmax pmax
comp=Z,100nm,0.4s
KLMR Klimovskoe 118.71 32 *e*PKIKP **PKPdf 10 32 14.5 -1.8**
KLMR pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 118.71 32 *e*PKPdf **PKPdf 10 32 14.5 -1.8**
KLMR AMP 10 32 17.8
comp=Z,6.0nm,0.8s
KIV Kislovodsk 120.12 52 *e*PKIKP **PKiKP 10 32 21.3 +1.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 120.25 52 PKP PKiKP 10 32 20.2 +0.4
comp=Z,4.7nm,0.9s,baz=144,slow=1.2,SNR=7.2
BILL Bilibino 125.62 338 *i* PKIKP **PKPdf 10 32 27.8 -1.6**
BILL *i* 10 33 20.1
BILL *i* 10 34 21.1
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 125.62 338 PKPdf PKPdf 10 32 29.6 +0.2
ASAR Alice Springs 128.41 205 PKhKP PKPpre 10 32 22.9
comp=Z,0.3nm,0.6s,baz=149,slow=2.5,SNR=4.3
ASAR PKP **PKPdf 10 32 36.3 +0.1**
comp=Z,14nm,0.7s,baz=138,slow=1.9,SNR=106
ASAR SKPbc SKPbc 10 35 37.5
comp=Z,2.0nm,0.5s,baz=146,slow=3.6,SNR=20
ASAR Alice Springs 128.41 205 PKPdf PKPdf 10 32 36.0 -0.2
ARU Arti 129.20 36 PKP **PKPdf 10 32 36.7 +0.2**
comp=Z,2.3nm,0.2s,baz=308,slow=3.0,SNR=6.8
ARU SKPbc SKPbc 10 35 40.3 +0.1
comp=Z,3.3nm,0.2s,baz=307,slow=2.2,SNR=8.7
ARU Arti 129.20 36 *i* PKIKP **PKiKP 10 32 37.5 +0.2**
ARU 10 34 49.9
ARU SS SS 10 51 57.0 +4.2
WB2 Warramunga Arr 131.58 207 PKPdf PKPdf 10 32 42.6 +0.3
TIXI Tiksi 131.59 353 SKPbc SKPbc 10 35 48.1 -0.5
comp=Z,9.2nm,0.8s,baz=92,slow=21,SNR=17
TIXI Tiksi 131.59 353 PKIKP PKPdf 10 32 39.9 -0.7
TIXI Tiksi 131.59 353 PKPdf PKPdf 10 32 39.9 -0.7
WRA Warramunga Arr 131.59 207 PKhKP PKPpre 10 32 24.9
comp=Z,0.6nm,0.8s,baz=222,slow=1.3,SNR=8.8
WRA PKP **PKPdf 10 32 42.5 +0.2**
comp=Z,8.5nm,0.6s,baz=152,slow=1.8,SNR=94
WRA SKPbc **SKPbc 10 35 49.6 -0.7**
comp=Z,8.8nm,0.6s,baz=153,slow=3.4,SNR=31
WRAB Tennant Creek 131.59 207 *c i* PKIKP **PKPdf 10 32 42.7 +0.4**
WRAB pmax pmax
comp=Z,15nm,1.0s
ABKAR Akbulak array 131.73 45 PKPdf PKiKP 10 32 42.3 -0.3
NRIK Noril'sk 132.24 12 PKP PKiKP 10 32 43.1 +0.1
comp=Z,1.6nm,0.4s,baz=31,slow=4.6,SNR=4.9
SEY Seymchan 133.22 337 PKhKP PKPpre 10 32 34.4
comp=Z,0.4nm,0.3s,baz=27,slow=2.3,SNR=1.9
SEY PKP **PKiKP 10 32 45.0 -0.2**
comp=Z,7.6nm,0.8s,baz=97,slow=2.5,SNR=9.4
SEY SKPbc **SKPbc 10 35 54.6 +0.2**
comp=Z,4.2nm,0.7s,baz=95,slow=4.9,SNR=15
SEY Seymchan 133.22 337 *c i* PKIKP **PKiKP 10 32 44.7 -0.5**
SEY pmax pmax
comp=Z,21nm,1.3s
PETK Petropavlovsk- 135.76 323 PKhKP PKPpre 10 32 40.7
comp=Z,0.4nm,0.3s,baz=164,slow=30,SNR=4.0
PETK PKP **PKiKP 10 32 49.8 -0.8**
comp=Z,4.8nm,0.8s,baz=141,slow=5.4,SNR=9.9
PETK SKPbc **SKPbc 10 36 02.9 -0.1**
comp=Z,6.2nm,1.0s,baz=90,slow=2.9,SNR=6.1
BRVK Borovoye 136.73 37 *c i* PKIKP **PKiKP 10 32 52.1 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 143.43 28 PKPdf PKPbc 10 33 00.8 +0.2
ZALV Zalesovo Beam 143.43 28 PKP PKPbc 10 33 01.4 +0.8
comp=Z,12nm,0.6s,baz=301,slow=4.7,SNR=73
ZALV SKPbc **SKPbc 10 36 24.2 +0.5**
comp=Z,5.0nm,0.7s,baz=305,slow=3.0,SNR=10
NIL Nilore 144.00 65 PKIKP PKPab 10 33 02.6 +0.1
NIL Nilore 144.00 65 PKPdf PKPab 10 33 02.6 +0.1
BATI Baumata 144.38 198 PKP PKPdf 10 33 05.8 0.0
comp=Z,72nm,0.6s,baz=218,slow=2.0,SNR=13
TYV Tymovskoe 144.89 327 *e*PKIKP **PKPdf 10 33 06.0 +0.5**
TYV pmax pmax
comp=Z,300nm,3.8s
TYV pmax pmax
comp=Z,65nm,1.1s
KSH Kashi 145.16 55 PKP PKPab 10 33 07.0 +0.2
KSH pPKP pPKPab 10 33 52.0 -3.5
KSH PP **PP 10 36 29.5 +1.9**
KSH AMB AMB
comp=Z,57nm,3.8s
BOD Bodaibo 146.31 359 *e*PKIKP **PKPdf 10 33 07.6 -0.1**
BOD pmax pmax
comp=Z,38nm,1.3s
MAKZ Makanchi 146.34 40 PKIKP PKPdf 10 33 08.7 +0.5
MAKZ Makanchi 146.34 40 PKPdf PKPdf 10 33 08.7 +0.5
MK31 Makanchi Array 146.53 40 PKIKP PKPdf 10 33 09.2 +0.6
MK31 Makanchi Array 146.53 40 PKPdf PKPdf 10 33 09.2 +0.6
MKAR Makanchi Array 146.53 40 PKPbc PKPbc 10 33 09.7 -0.7
comp=Z,24nm,0.8s,baz=311,slow=1.5,SNR=93
MKAR SKPbc **SKiKP 10 36 31.7 +0.3**
comp=Z,2.2nm,0.8s,baz=305,slow=2.7,SNR=4.1
MKAR Makanchi Array 146.53 40 PKPdf PKPdf 10 33 09.2 +0.6
HYBB Hyderabad (bro 147.06 95 *e*PKiKP **PKPdf 10 33 11.2 +1.0**
HYBB *es*PKiKP **sPKPab 10 34 24.6 +1.4**
HYBB *e*PP **PP 10 36 35.6 -3.7**
YSS Yuzh-Sakhalins 147.14 321 *e*PKIKP **PKPdf 10 33 10.3 +0.9**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS Yuzh-Sakhalins 147.14 321 PKPdf 10 33 10.3 +0.9
GUMO Guam 148.26 257 PKPbc PKPbc 10 33 15.9 +0.1
comp=Z,198nm,0.9s,baz=192,slow=5.7,SNR=11
ZEA Zeya 148.55 344 *e*PKP2 **PKiKP 10 33 16.2 -0.7**
ZEA pmax pmax
comp=Z,30nm,1.2s
JKA Kamikawa-asahi 148.73 317 PKPdf PKPdf 10 33 12.8 +0.6
JKA PKPbc **PKiKP 10 33 17.2 -0.3**
ASAJ Asahikawa 148.73 317 PKPbc PKPbc 10 33 16.7 +0.4
comp=Z,26nm,0.9s,baz=260,slow=6.7,SNR=13
ASAJ Asahikawa 148.73 317 PKIKP PKPdf 10 33 12.8 +0.6
ASAJ 10 33 17.2
ERM Erimo 149.36 313 *c i* PKP2 **PKiKP 10 33 19.7 +0.8**
ERM pmax pmax
comp=Z,71nm,1.3s
SIJI Sorong 149.56 218 PKPbc PKiKP 10 33 19.9 -0.3
comp=Z,74nm,0.8s,baz=39,slow=3.3,SNR=16
KAPI Kappang 150.35 193 PKPbc PKiKP 10 33 21.8 0.0
comp=Z,27nm,0.6s,baz=186,slow=3.3,SNR=17
KAPI PKPab **PKPab 10 33 28.4 +0.5**
comp=Z,40nm,0.8s,baz=172,slow=8.7,SNR=12
MOY Mondy 150.94 16 *e*PKIKP **PKPdf 10 33 17.4 +1.8**
MOY pmax pmax
comp=Z,66nm,1.4s
KLR Kul'dur 150.97 334 PKPbc PKiKP 10 33 21.8 -0.2
comp=Z,32nm,0.9s,baz=36,slow=3.2,SNR=68
WMQ Urumqi 151.35 40 *e*PKPbc **PKPdf 10 33 17.3 +0.9**
TEY Ternei 151.72 323 ⇓ *e*PKIKP **PKPbc 10 33 23.0 -0.3**
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.8s
ZAK Zakamensk 152.67 14 *e*PKIKP **PKPdf 10 33 19.1 +0.9**
ZAK pmax pmax
comp=Z,11nm,1.4s
USA0B Ussuriysk Arra 154.70 327 PKIKP **PKPdf 10 33 20.7 -0.5**
USA0B 10 33 46.0
USA0B Ussuriysk Arra 154.70 327 PKPdf **PKPdf 10 33 20.7 -0.5**
USA0B PKPbc **PKiKP 10 33 30.5 +0.7**
USA0B PKPab **PKPab 10 33 46.0 +0.5**
USRK Ussuriysk Ar. 154.70 327 PKP **PKPdf 10 33 21.5 +0.4**
comp=Z,2.3nm,0.9s,baz=318,slow=2.6,SNR=9.8
USRK PKPbc **PKiKP 10 33 30.5 +0.6**
comp=Z,3.2nm,0.6s,baz=318,slow=0.9,SNR=14
USRK PKPab **PKPab 10 33 45.4 -0.1**
comp=Z,1.7nm,0.7s,baz=24,slow=2.3,SNR=5.2
USRK Ussuriysk Ar. 154.70 327 PKIKP **PKPdf 10 33 21.8 +0.6**
USRK 10 33 46.3
USRK Ussuriysk Ar. 154.70 327 PKPdf **PKPdf 10 33 21.8 +0.6**
USRK **PKiKP 10 33 30.1 +0.3**
USRK PKPab **PKPab 10 33 46.3 +0.8**
PSI Prapat 154.77 145 PKPab **PKPab 10 33 46.0 -0.7**
comp=Z,9.1nm,0.7s,baz=176,slow=9.0,SNR=4.8
PSI Prapat 154.77 145 PKP2 **PKPab 10 33 46.0 -0.7**
MJAR Matsushiro Arr 155.13 306 PKPbc PKPdf 10 33 31.7 +10
comp=Z,5.6nm,0.8s,baz=99,slow=3.4,SNR=6.7
MJAR PKPab **PKPab 10 33 48.1 +0.4**
comp=Z,19nm,0.9s,baz=106,slow=5.8,SNR=16
MJAR Matsushiro Arr 155.13 306 PKIKP **PKPdf 10 33 22.5 +0.5**
MJAR Matsushiro Arr 155.13 306 PKPdf **PKPdf 10 33 22.5 +0.5**
MJAR PKPdf 10 33 31.7 +10
MJAR PKPab **PKPab 10 33 49.2 +1.5**
MAJO Matsushiro 155.13 306 PKIKP PKPdf 10 33 31.4 +9.4
MAJO 10 33 48.5
MAJO Matsushiro 155.13 306 PKPdf 10 33 31.4 +9.4
MAJO PKPab **PKPab 10 33 48.5 +0.8**
MJB9 Matsu-Tunnel 155.13 306 PKPdf 10 33 31.4 +9.4
MJB9 **PKPab 10 33 48.8 +1.1**
SONM Songino Array 155.72 11 PKP **PKPdf 10 33 23.6 +0.9**
comp=Z,3.6nm,0.9s,baz=335,slow=1.5,SNR=16
SONM PKPab **PKPab 10 33 50.3 +0.5**
comp=Z,2.8nm,0.6s,baz=326,slow=4.2,SNR=6.9
ULN Ulaanbaatar 155.80 10 PKIKP **PKPdf 10 33 23.5 +0.7**
ULN 10 33 51.6
ULN Ulaanbaatar 155.80 10 PKPdf 10 33 23.4 +0.7
ULN PKPab **PKPab 10 33 51.6 +1.4**
XLT XiLinHaoTe 160.10 354 *e*PKP **PKPdf 10 33 27.3 -0.7**
XLT AMB AMB
comp=Z,96nm,4.5s
GOMU GeErMu 160.14 48 PKP **PKPdf 10 33 29.5 +0.8**
GTA Gaotai 161.03 33 ⇓ PKP **PKPdf 10 33 30.3 +1.0**
GTA pPKP PKPab 10 34 13.5 +0.3
KSRS Korea Array 161.63 320 PKP **PKPdf 10 33 30.6 +0.9**
comp=Z,5.8nm,1.1s,baz=345,slow=0.2,SNR=12
KSRS PKPab **PKPab 10 34 16.8 +1.1**
comp=Z,4.0nm,1.0s,baz=34,slow=3.2,SNR=6.6
KSAR Wonju Array Be 161.66 320 PKIKP **PKPdf 10 33 28.3 -1.5**
KSAR 10 34 16.8
KSAR Wonju Array Be 161.66 320 PKPdf **PKPdf 10 33 28.2 -1.5**
KSAR PKPab **PKPab 10 34 16.8 +1.0**
HHC Hu-ho-hao-te 163.25 4 *e*PKP **PKPdf 10 33 32.8 +1.4**
LZH Lanzhou 165.62 32 *e*PKP **PKPdf 10 33 35.3 +1.6**
CMAR Chiang Mai Arr 165.64 110 PKP **PKPdf 10 33 34.3 +0.3**
comp=Z,0.9nm,0.3s,baz=263,slow=2.4,SNR=17
CMAR PKPab **PKPab 10 34 34.0 0.0**
comp=Z,7.4nm,0.8s,baz=255,slow=5.0,SNR=27
PZH PanZhiHua 169.43 75 PKP **PKPdf 10 33 37.8 +1.1**
XAN Xi'an 169.44 19 ⇑ PKP **PKPdf 10 33 37.5 +1.1**
LYN LuoYang 169.57 3 *e*PKP **PKPdf 10 33 37.3 +1.0**
NJ2 Nanjing 170.60 329 *e*PKP **PKPdf 10 33 38.0 +1.0**
GYA Guiyang 173.70 67 PKP **PKPdf 10 33 39.3 +0.6**

*TUL **27** 10:28:17.3±0.6,35°.518N±0°.009×97°.09W±0°.02, h7km±3km, ML2.8,mb_Lg2.4/21(NEIC) Error ellipse: s-maj=2.1km s-min=1.2km az=93.0*
NEIC 27 10:28:18.2±0.7,35°.53N±0°.01×97°.10W±0°.02, h7km±3km, Error ellipse: s-maj=2.2km s-min=1.8km az=136.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK001	**Jones High Sch**	**0.16**	**281**	Pg	Pg	10 28 21.1	-0.3
OK001				Sg	Sg	10 28 23.9	+0.2
OKCSW	**OKLAHOMA CITY**	**0.30**	**246**		Pg	10 28 23.6	-0.5
OKCSW				Sg	Sg	10 28 28.1	0.0
OKCFA	**Oklahoma City**	**0.31**	**248**	Pg	Pg	10 28 23.8	-0.5
OKCFA				Sg	Sg	10 28 28.4	+0.1
FNO	**Franklin**	**0.37**	**222**	Pg	Pg	10 28 24.7	-0.6
FNO				Sg	Sg	10 28 30.0	-0.1
X34A	**Smith Ranch, M**	**1.10**	**213**	Pg	Pg	10 28 38.6	-0.8
TUL1	**Leonard**	**1.13**	**70**		Pg	10 28 37.9	-2.0
T35A	**Sooner Cattle**	**1.46**	**19**		Pn	10 28 43.8	-1.2
WMOK	**Wichita Mounta**	**1.59**	**241**		Pn	10 28 45.8	-1.0
WMOK				Pn	Pb	10 28 45.9	-2.0
X37A	**Clayton**	**1.70**	**123**	Pn	Pn	10 28 48.1	-0.2
U32A	**Winter Ranch,**	**1.76**	**299**	Pn	Pn	10 28 49.1	-0.1
Z35A	**Perchaven, San**	**2.20**	**183**	Pn	Pn	10 28 55.5	+0.4
HHAR	**Hobbs**	**2.67**	**73**	Pn	Pn	10 29 01.4	-0.2
W39A	**Magazine**	**2.73**	**96**	Pn	Pn	10 29 01.6	-0.8
W39A				lAmb_Lg		10 29 49.2	
comp=Z,17nm,1.0s							
Z38A	**Mt. Pleasant**	**2.86**	**142**	Pn	Pn	10 29 04.6	+0.4
MIAR	**Mount Ida**	**3.05**	**108**	Pn	Pn	10 29 07.2	+0.3
U40A	**Yellville**	**3.54**	**75**	Pn	Pn	10 29 13.7	+0.1
X40A	**Basin Creek Fa**	**3.65**	**105**	Pn	Pn	10 29 14.9	-0.2
X40A				lAmb_Lg		10 30 14.4	
comp=Z,12nm,0.8s							
237A	**Washetta, Mont**	**3.68**	**163**	Pn	Pn	10 29 14.9	-0.6
S39A	**Bolivar**	**3.73**	**54**	Pn	Pn	10 29 16.4	+0.3
S39A				lAmb_Lg		10 30 21.8	
comp=Z,6.2nm,0.9s							
AMTX	**Amarillo**	**3.81**	**262**	Pn	Pn	10 29 16.6	-0.7
WHAR	**Wooly Hollow**	**3.94**	**92**	Pn	Pn	10 29 17.8	-1.3
UALR	**University of**	**3.97**	**100**	lAmb_Lg		10 30 29.2	
comp=Z,14nm,1.1s							
W41B	**Gary Mavity, V**	**3.98**	**94**	Pn	Pn	10 29 19.5	-0.2
MGMO	**Mountain Grove**	**4.22**	**66**	lAmb_Lg		10 30 29.8	
comp=Z,7.0nm,0.9s							
NATX	**Nacogdoches**	**4.28**	**151**	lAmb_Lg		10 30 34.5	
comp=Z,11nm,0.8s							
R40A	**Maddies Statio**	**4.75**	**53**	lAmb_Lg		10 30 46.5	
comp=Z,8.2nm,1.1s							
P38A	**Dawn**	**4.97**	**34**	lAmb_Lg		10 31 02.0	
comp=Z,7.6nm,0.8s							

*NEIC **27** 10:34:47.9±1.3, 16°.69S±0°.07×69°.56W±0°.05, h194km±7km, mb4.1/8, Error ellipse: s-maj=11.1km s-min=5.4km az=212.0*
*IDC **27** 10:34:48.2±1.1, 16°.64S×69°.41W, h201km±7km, mb3.3/4, mb1 3.5/7, mb1mx3.2/49, mbtmp3.9/7, Error ellipse: s-maj=26.1km s-min=16.7km az=11.0*
ISC 27 10:34:46.8±0.6, 16°.71S±0°.06×69°.57W±0°.06, h189km, n40, σ1§56/45, mb3.5/4, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.44**	**73**	P	**Pn**	**10 35 21.4**	**+1.6**
	173nm,0.3s,baz=292,slow=6.5,SNR=3035			S			
LPAZ					**Sn**	**10 35 46.2**	**+1.1**
	6.6nm,0.3s,baz=113,slow=19,SNR=7.2						
LPAZ	**La Paz**	**1.44**	**73**		**Pn**	**10 35 21.4**	**+1.6**
LPAZ				Sn	**Sn**	**10 35 45.9**	**+0.8**
PB16	**IPOC Station P**	**1.61**	**178**		**Pn**	**10 35 24.3**	**+3.0**
AP01	**Chacalluta**	**1.81**	**204**	Pn	**Pn**	**10 35 24.2**	**+1.7**
PB12	**IPOC Station P**	**2.02**	**201**		**Pn**	**10 35 26.0**	**+1.1**
GO01	**Chusmiza**	**2.96**	**173**		**Pn**	**10 35 38.4**	**+2.5**
PB11	**IPOC Station P**	**3.03**	**182**		**Pn**	**10 35 38.6**	**+2.1**
PB08	**IPOC Station P**	**3.43**	**174**		**Pn**	**10 35 44.3**	**+2.8**
TA02	**Huaiquique**	**3.58**	**189**	Pn	**Pn**	**10 35 44.3**	**+1.3**
TA01	**Diego Aracena**	**3.88**	**189**	Pn	**Pn**	**10 35 47.7**	**+1.1**
PATCX	**Punta Patache**	**4.12**	**188**	Pn	**Pn**	**10 35 51.1**	**+1.3**
PB01	**IPOC Station P**	**4.31**	**179**		**Pn**	**10 35 53.4**	**+1.2**
PB02	**IPOC Station P**	**4.59**	**184**	Pn	**Pn**	**10 35 57.2**	**+1.4**
PB07	**IPOC Station P**	**5.00**	**183**	Pn	**Pn**	**10 36 02.5**	**+1.4**
PB09	**IPOC Station P**	**5.07**	**177**	Pn	**Pn**	**10 36 03.7**	**+1.8**
LVC	**Limon Verde**	**5.90**	**174**	P	**Pn**	**10 36 14.8**	**+1.9**
	1.6nm,0.3s,baz=40,slow=7.8,SNR=8.7						
LVC				S	**Sn**	**10 37 18.8**	**-2.1**
	6.9nm,0.3s,baz=164,slow=16,SNR=20						
LVC	**Limon Verde**	**5.90**	**174**		**Pn**	**10 36 14.7**	**+1.8**
PB06	**IPOC Station P**	**5.96**	**180**	Pn	**Pn**	**10 36 14.8**	**+1.3**
PB15	**IPOC Station P**	**6.46**	**179**		**Pn**	**10 36 21.3**	**+1.2**
PB10	**IPOC Station P**	**6.83**	**188**	Pn	**Pn**	**10 36 25.3**	**+0.6**
SIV	**San Ignacio**	**8.19**	**86**	P	**Pn**	**10 36 40.9**	**-1.7**
	0.8nm,0.3s,baz=267,slow=8.5,SNR=9.7						
SIV				S	**Sn**	**10 38 10.9**	**-3.7**
	0.2nm,0.3s,baz=168,slow=13,SNR=5.3						
GO02	**Mina Guanaco**	**8.41**	**180**	Pn	**Pn**	**10 36 45.8**	**+0.1**
NNA	**Nana**	**8.47**	**303**	P	**Pn**	**10 36 46.9**	**+0.6**
	5.5nm,0.3s,baz=150,slow=8.7,SNR=6.9						
NNA				S	**Sn**	**10 38 18.1**	**-3.4**
	1.7nm,0.3s,baz=222,slow=16,SNR=2.0						
NNA	**Nana**	**8.47**	**303**		**Pn**	**10 36 46.8**	**+0.4**
AC01	**Pan de Azucar**	**9.44**	**186**	Pn	**Pn**	**10 36 58.5**	**-0.4**
AC02	**Maricunga**	**10.08**	**178**	Pn	**Pn**	**10 37 08.7**	**+0.9**
MCRA	**Macar, Loja**	**15.95**	**319**		**P**	**10 38 21.6**	**+0.6**
BOSC	**San Juan Bosco**	**16.08**	**326**	P	**P**	**10 38 22.0**	**-0.7**
BOSC				lAmb	lAmb	10 38 22.2	
comp=Z,4.9nm,0.5s							
ITAB	**Concordia**	**19.24**	**126**	P	**P**	**10 38 57.6**	**+0.7**
BDFB	**Brasilia**	**20.73**	**90**	P	**P**	**10 39 12.7**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=234,slow=13,SNR=3.7						
BDFB	**Brasilia**	**20.73**	**90**	P	**P**	**10 39 12.8**	**-0.3**
BDFB				lAmb	lAmb	10 39 41.0	
comp=Z,7.4nm,1.2s							
PLTB	**Pedras Altas**	**20.85**	**139**	P	**P**	**10 39 13.7**	**-0.3**
PLTB				lAmb	lAmb	10 39 37.1	
comp=Z,26nm,1.4s							
VBMS	**Vicksburg**	**52.63**	**338**	P	**P**	**10 43 41.3**	**-0.2**
SNAA	**Sanae**	**66.99**	**162**	P	**P**	**10 45 19.5**	**+0.5**
SNAA				lAmb	lAmb	10 45 42.6	
comp=Z,3.5nm,1.1s							
PDAR	**Pinedale Array**	**69.68**	**330**	P	**P**	**10 45 37.0**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=120,slow=8.4,SNR=2.1						
PDAR	**Pinedale Array**	**69.68**	**330**	P	**P**	**10 45 36.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**76.39**	**72**	P	**P**	**10 46 14.8**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=277,slow=5.3,SNR=17						
TORD	**Torodi Ar. Bea**	**76.39**	**72**	P	**P**	**10 46 15.0**	**-0.9**
TORD				lAmb	lAmb	10 46 16.3	
comp=Z,1.6nm,1.0s							
YKA	**Yellowknife Ar**	**86.49**	**341**	P	**P**	**10 47 08.2**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=132,slow=4.5,SNR=7.4						
WRA	**Warramunga Arr**	**136.66**	**214**	PKP	**PKPdf**	**10 53 48.7**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=134,slow=1.6,SNR=5.8						

*IDC **27** 10:40:25.4±4.2, 19°.56S×178°.27W, h568km±30km, mb2.8/4, mb1 3.1/5, mb1mx2.9/28, mbtmp3.7/5, Error ellipse: s-maj=117.2km s-min=23.4km az=149.0*
ISC 27 10:40:22.7±1.8, 20°.0S±0°.5×178°.0W±0°.2, h550km, n6, σ0§80/6, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.38**	**300**	P	**P**	**10 41 48.3**	**+0.6**
	2.1nm,0.3s,baz=19,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**44.66**	**256**	P	**P**	**10 47 47.1**	**0.0**
	2.3nm,0.8s,baz=87,slow=7.8,SNR=31						
WRA	**Warramunga Arr**	**44.70**	**262**	P	**P**	**10 47 47.0**	**-0.4**
	0.7nm,0.3s,baz=98,slow=8.3,SNR=64						
TXAR	**Lajitas Array**	**86.76**	**57**	P	**P**	**10 52 09.9**	**+0.7**
	0.1nm,0.5s,baz=230,slow=7.0,SNR=1.5						
ILAR	**Eielson Array**	**87.80**	**13**	P	**P**	**10 52 12.2**	**-0.9**
	0.3nm,0.9s,baz=223,slow=4.6,SNR=4.7						
GERES	**GERESS Array B**	**149.71**	**345**	PKPbc	**PKPbc**	**10 59 10.5**	**-0.2**
	0.3nm,0.5s,baz=60,slow=4.0,SNR=3.6						

*JMA **27** 10:53:45.7±0.2, 24°.21N×121°.50E, h36km±2km, M3.0*
*IASPEI **27** 10:53:47.4±0.9, 24°.32N±0°.02×121°.67E±0°.02, h24km±4km, Error ellipse: s-maj=3.0km s-min=2.0km az=111.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*TAP **27** 10:53:47.4, 24°.34N×121°.64E, h23km, ML3.8, B*
ISC 27 10:53:47.2±0.8, 24°.32N±0°.01×121°.64E±0°.02, h24km±4km, n133, σ1§42/226, 13C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.09**	**97**	⇑ *i* P	**Pb**	**10 53 52.2**	**+0.6**
	baz=104						
EHP				S	**Sb**	**10 53 55.4**	**+0.8**
	baz=104						
ENA	**Nanau**	**0.14**	**40**	⇑ *i* P	**Pb**	**10 53 52.4**	**+0.3**
	baz=48						
ENA				S	**Sb**	**10 53 55.6**	**+0.3**
	baz=48						
NACB	**Ninganchiao**	**0.15**	**197**	⇑ *i* P	**Pn**	**10 53 52.5**	**-1.6**
	baz=194						
NACB				S	**Sb**	**10 53 56.0**	**+0.4**
	baz=194						
ETL	**Fush Village**	**0.16**	**187**	⇑ *i* P	**Pn**	**10 53 52.6**	**-1.6**
	baz=185						
ETL				S	**Sb**	**10 53 56.6**	**+0.8**
	baz=185						
EWUT	**Wuta**	**0.17**	**45**	P	**Pb**	**10 53 52.7**	**+0.3**
	baz=48						
EWUT				S	**Sb**	**10 53 56.1**	**+0.1**
	baz=48						
ETLH	**Xiulin Townshi**	**0.19**	**233**	⇑ *i* P	**Pn**	**10 53 53.2**	**-1.4**
	baz=228						
ETLH				S	**Sb**	**10 53 57.0**	**+0.6**
	baz=228						
LATG	**Datong**	**0.24**	**333**	⇑ *i* P	**Pb**	**10 53 53.4**	**0.0**
	baz=333						
LATG				S	**Sb**	**10 53 57.3**	**-0.3**
	baz=333						
TWD	**Chiawan**	**0.24**	**190**	⇑ *i* P	**Pn**	**10 53 53.6**	**-1.7**
	baz=181						
TWD				S	**Sb**	**10 53 58.2**	**+0.8**
	baz=181						
NNSB	**Datong**	**0.26**	**294**	⇓ *i* P	**Pn**	**10 53 53.9**	**-1.8**
	baz=297						
NNSB				*i* S	**Sb**	**10 53 58.0**	**0.0**
	baz=297						
NNS	**Nan Shan**	**0.27**	**296**	⇓ *i* P	**Pn**	**10 53 54.1**	**-1.8**
	baz=299						
NNS				S	**Sb**	**10 53 58.4**	**0.0**
	baz=299						
NDT	**Datong Townshi**	**0.30**	**337**	P	**Pb**	**10 53 54.4**	**+0.2**
	baz=341						
NDT				S	**Sb**	**10 53 59.0**	**0.0**
	baz=341						
NDS	**Dongshan**	**0.32**	**12**	P	**Pb**	**10 53 54.5**	**+0.1**
	baz=12						
NDS				S	**Sb**	**10 53 58.8**	**-0.5**
	baz=12						
ENTT	**Nioudou**	**0.33**	**347**	⇑ *i* P	**Pb**	**10 53 54.7**	**+0.1**
	baz=353						
ENTT				*i* S	**Sb**	**10 53 59.5**	**-0.1**
	baz=353						
TWC	**Suao**	**0.34**	**33**	⇑ *i* P	**Pb**	**10 53 55.0**	**+0.2**
	baz=36						
TWC				*i* S	**Sb**	**10 54 00.2**	**+0.2**
	baz=36						
HWA	**Hwalien**	**0.34**	**186**	P	**Pn**	**10 53 55.8**	**-0.9**
	baz=191	

FUSB				S		**Sb**	**10 54 02.8 0.0**	NHW				*e*S		**Sn**	**10 54 17.3 +1.4**		baz=243							
	baz=353								baz=321							**MATB**	**Ma-tsu**	**2.38**	**320**	*e*P	**Pn**	**10 54 24.3 -0.5**
TDCB	**Techi**	**0.45**	**261**	⇓*i*P	**Pn**	**10 53 57.2 -1.1**	**TCU**	**Taichung**	**0.90**	**259**	*e*P	**Pb**	**10 54 06.2 +2.1**		baz=320							
	baz=257								baz=259							**JISG**	**Ishigakijimahi**	**2.44**	**83**	P	**Pn**	**10 54 25.7 +0.1**
TDCB				*i* S	**Sn**	**10 54 03.1 -2.5**	TCU				*e*S	**Sn**	**10 54 19.6 +3.0**			JISG				*e*S	**Sn**	**10 54 55.2 +0.4**
	baz=257								baz=259							**LYJJ**	**Jianjiangzhen**	**2.80**	**323**	*e*P	**Pn**	**10 54 29.9 -0.6**
TEYL	**Yanliau Villag**	**0.45**	**185**	P	**Pn**	**10 53 57.0 -1.2**	**WWF**	**Wufeng**	**0.91**	**252**	P	**Pb**	**10 54 06.6 +2.3**		baz=323							
	baz=191								baz=245							**JTJ**	**Tarama**	**2.81**	**83**	*e*S	**Sn**	**10 55 04.0 +0.4**
TEYL				*e*S	**Sn**	**10 54 04.4 -1.1**	WWF				*e*S	**Sn**	**10 54 20.3 +3.5**	**XPSS**	**Dashiqiu**	**2.91**	**334**	*e*P	**Pn**	**10 54 31.8 -0.3**
	baz=191								baz=245								baz=334					
ILA	**Ilan**	**0.45**	**12**	*e*P	**Pb**	**10 53 56.9 +0.3**	**WDJ**	**Dajia District**	**0.92**	**272**	*e*P	**Pb**	**10 54 06.0 +1.6**	**KNM**	**Kinmen**	**2.93**	**273**	*e*P	**Pb**	**10 54 34.4 -4.3**
	baz=10.0								baz=271								baz=272					
ILA				*e*S	**Sb**	**10 54 03.3 +0.3**	WDJ				*e*S	**Sn**	**10 54 18.4 +1.4**	**MHZQ**	**Yeshan**	**2.96**	**307**	*e*P	**Pn**	**10 54 32.3 -0.3**
	baz=10.0								baz=271								baz=308					
NWLT	**Wulai**	**0.47**	**344**	P	**Pb**	**10 53 56.9 0.0**	**TWY**	**Chenhua**	**0.95**	**358**	*e*P	**Pb**	**10 54 06.2 +1.1**	**KNMB**	**Chin-men Tao**	**2.97**	**273**	*e*P	**Pn**	**10 54 33.1 +0.2**
	baz=338								baz=346								baz=273					
NWLT				*e*S	**Sb**	**10 54 03.0 -0.6**	**WJS**	**Zhushan**	**0.97**	**240**	*e*P	**Pb**	**10 54 07.1 +1.7**	**AXDP**	**Jialang**	**3.39**	**281**	*e*P	**Pn**	**10 54 39.1 +0.4**
	baz=338								baz=239								baz=280					
CHGB	**Renai**	**0.50**	**239**	P	**Pn**	**10 53 58.0 -1.1**	WJS				*e*S	**Sb**	**10 54 22.3 +4.5**	**ZPLA**	**Ao Xicun**	**3.58**	**265**	*e*P	**Pn**	**10 54 41.5 +0.3**
	baz=238								baz=239								baz=264					
CHGB				S	**Sn**	**10 54 05.5 -1.6**	**YULB**	**Yu-li**	**0.98**	**199**	*e*P	**Pb**	**10 54 04.2 -1.2**									
	baz=238								baz=199													
ESL	**Shilin**	**0.54**	**201**	P	**Pn**	**10 53 57.6 -1.8**	YULB				*e*S	**Sb**	**10 54 19.0 +1.0**									
	baz=194								baz=199													
ESL				*e*S	**Sn**	**10 54 05.9 -1.8**	**WNT**	**Mingjian**	**0.98**	**244**	P	**Pb**	**10 54 07.4 +1.9**									
	baz=194								baz=256													
NTC	**Toucheng**	**0.56**	**18**	*e*P	**Pb**	**10 53 58.6 +0.2**	WNT				S	**Sb**	**10 54 21.8 +3.8**									
	baz=18								baz=256													
NTC				*e*S	**Sb**	**10 54 05.7 -0.3**	**EYUL**	**Yuli**	**1.01**	**197**	*e*P	**Pb**	**10 54 06.7 +0.7**									
	baz=18								baz=197													
OWD	**Renai**	**0.56**	**230**	⇓P	**Pn**	**10 53 59.0 -0.9**	**TWF1**	**Yuli**	**1.01**	**198**	P	**Pb**	**10 54 06.1 0.0**									
	baz=229								baz=197													
OWD				S	**Sn**	**10 54 06.6 -1.9**	**WCHH**	**Zhanghua**	**1.02**	**257**	*e*P	**Pb**	**10 54 07.7 +1.5**									
	baz=229								baz=256													
NFF	**Wufeng Townshi**	**0.57**	**303**	⇓*i*P	**Pn**	**10 53 58.8 -1.1**	WCHH				*e*S	**Sb**	**10 54 22.0 +2.8**									
	baz=307								baz=256													
NFF				S	**Sn**	**10 54 06.2 -2.4**	**YUS**	**Yu-Shan**	**1.04**	**218**	*e*P	**Pb**	**10 54 07.0 +0.2**									
	baz=307								baz=224													
WUSB	**Renai**	**0.58**	**236**	⇑*i*P	**Pn**	**10 53 59.4 -0.7**	**ALS**	**Alishan**	**1.11**	**224**	*e*P	**Pb**	**10 54 08.7 +0.7**									
	baz=230								baz=210													
WUSB				S	**Sn**	**10 54 07.6 -1.4**	**CHN5**	**Tsauling**	**1.14**	**231**	*e*P	**Pb**	**10 54 09.4 +1.1**									
	baz=230								baz=241													
EGS		**0.58**	**27**	*e*P	**Pb**	**10 53 59.4 +0.5**	CHN5				*e*S	**Sb**	**10 54 24.9 +2.2**									
	baz=28								baz=241													
EGS				*e*S	**Sb**	**10 54 07.4 +0.7**	**FULB**	**Fuli**	**1.16**	**196**	*e*P	**Pb**	**10 54 08.2 -0.4**									
	baz=28								baz=196													
WHP	**Taichung City**	**0.64**	**266**	⇓*i*P	**Pn**	**10 54 00.5 -0.4**	**WDLH**	**Douliu**	**1.19**	**238**	*e*P	**Pb**	**10 54 10.7 +1.6**									
	baz=265								baz=250													
WHP				S	**Sn**	**10 54 09.1 -1.2**	WDLH				*e*S	**Sb**	**10 54 27.1 +3.0**									
	baz=265								baz=250													
NHDH	**Xindian Distri**	**0.65**	**350**	*e*P	**Pn**	**10 54 00.3 -0.6**	**JYNG**	**Yonagunijimaku**	**1.19**	**83**	P	**Pn**	**10 54 08.8 +0.4**									
	baz=355						JYNG				S	**Sn**	**10 54 24.8 +0.9**									
NHDH				*e*S	**Sb**	**10 54 08.7 +0.2**	**WRL**	**Guolierlin Hig**	**1.23**	**250**	*e*P	**Pb**	**10 54 10.3 +0.5**									
	baz=355								baz=262													
LIOB	**Emei**	**0.66**	**300**	⇓*i*P	**Pn**	**10 54 00.8 -0.2**	WRL				*e*S	**Sb**	**10 54 26.7 +1.5**									
	baz=292								baz=262													
LIOB				*e*S	**Sn**	**10 54 09.8 -0.9**	**CHKT**	**Chengkung**	**1.24**	**192**	*e*P	**Pb**	**10 54 08.4 -1.5**									
	baz=292								baz=191													
TWA	**Mucha**	**0.66**	**355**	P	**Pn**	**10 54 00.5 -0.6**	**YOJ**	**Yonaguni jima**	**1.25**	**83**	P	**Pb**	**10 54 10.1 -0.1**									
	baz=2.0						YOJ				*e*S	**Sb**	**10 54 27.1 +1.2**									
TWA				S	**Sb**	**10 54 09.3 +0.5**	**YOJ**	**Yonaguni jima**	**1.25**	**83**	*e*P	**Pn**	**10 54 09.9 +0.7**									
	baz=2.0								baz=85													
NSTT	**Nanjuang**	**0.66**	**298**	⇓*i*P	**Pn**	**10 54 00.7 -0.4**	**ELDTW**	**Lidau**	**1.26**	**207**	*e*P	**Pb**	**10 54 09.6 -0.8**									
	baz=297								baz=193													
NSTT				*i* S	**Sn**	**10 54 09.5 -1.3**	**WTK**	**Tuku**	**1.31**	**241**	*e*P	**Pb**	**10 54 11.7 +0.6**									
	baz=297								baz=255													
TATO	**Taipei**	**0.67**	**348**	P	**Pn**	**10 54 00.6 -0.6**	WTK				*e*S	**Sb**	**10 54 30.3 +2.8**									
	baz=352								baz=255													
TATO				*e*S	**Sb**	**10 54 08.8 -0.3**	**WTCT**	**Ta-ch'eng**	**1.33**	**250**	*e*S	**Sb**	**10 54 29.9 +1.9**									
	baz=352								baz=263													
TIPB	**Shuangxi**	**0.67**	**14**	P	**Pb**	**10 54 00.4 +0.1**	**CHN2**	**Minshiung**	**1.33**	**234**	*e*P	**Pb**	**10 54 12.5 +1.1**									
	baz=7.0								baz=234													
TIPB				*e*S	**Sb**	**10 54 08.7 -0.5**	CHN2				*e*S	**Sb**	**10 54 31.6 +3.6**									
	baz=7.0								baz=234													
EGFH	**Guangfu**	**0.68**	**197**	*e*P	**Pn**	**10 54 00.8 -0.5**	**CHN4**	**Tsaushan**	**1.36**	**225**	*e*P	**Pb**	**10 54 13.1 +1.1**									
	baz=197								baz=239													
EGFH				*e*S	**Sn**	**10 54 10.4 -0.7**	CHN4				*e*S	**Sb**	**10 54 32.3 +3.3**									
	baz=197								baz=239													
WPL	**Puli Township**	**0.70**	**244**	P	**Pn**	**10 54 01.4 -0.2**	**TPUB**	**Ta-pu**	**1.38**	**223**	*e*P	**Pb**	**10 54 12.8 +0.6**									
	baz=243								baz=211													
TAP	**Taipei**	**0.73**	**350**	*e*P	**Pb**	**10 54 02.1 +0.9**	TPUB				*e*S	**Sb**	**10 54 31.9 +2.5**									
	baz=350								baz=211													
TAP				*e*S	**Sb**	**10 54 11.5 +0.7**	**EDH**	**Donghe**	**1.38**	**193**	*e*P	**Pb**	**10 54 10.5 -1.7**									
	baz=350								baz=193													
VWDT	**VWDT**	**0.73**	**219**	P	**Pn**	**10 54 01.6 -0.4**	**CHY**	**Chiayi**	**1.39**	**234**	*e*P	**Pb**	**10 54 13.5 +1.1**									
	baz=223								baz=234													
VWDT				S	**Sn**	**10 54 12.5 +0.1**	CHY				*e*S	**Sb**	**10 54 32.1 +2.5**									
	baz=223								baz=234													
HSN1	**Hsinchu**	**0.73**	**309**	*i* P	**Pn**	**10 54 02.7 +0.7**	**STYH**	**Taoyuan**	**1.39**	**215**	*e*P	**Pb**	**10 54 13.2 +0.7**									
	baz=301								baz=206													
TWB1	**Santiao Chiao**	**0.75**	**25**	P	**Pn**	**10 54 01.7 -0.6**	STYH				*e*S	**Sb**	**10 54 31.1 +1.2**									
	baz=25								baz=206													
TWB1				S	**Sb**	**10 54 11.4 -0.1**	**STYT**	**Tauyuan**	**1.41**	**215**	*e*P	**Pb**	**10 54 14.9 +2.1**									
	baz=25								baz=203													
NWF	**Wu-fen Shan**	**0.76**	**9**	⇑*i*P	**Pb**	**10 54 02.3 +0.5**	**WTP**	**Ta-pu**	**1.43**	**222**	*e*P	**Pb**	**10 54 13.6 +0.4**									
	baz=9.0								baz=207													
NWF				S	**Sb**	**10 54 12.5 +0.7**	WTP				*e*S	**Sb**	**10 54 34.1 +3.2**									
	baz=9.0								baz=207													
WFSB	**Wu-fen Shan**	**0.76**	**9**	*i* P	**Pb**	**10 54 02.5 +0.7**	**WSF**	**Szhu**	**1.47**	**243**	*e*P	**Pb**	**10 54 12.3 -1.5**									
	baz=9.0								baz=254													
WFSB				*e*S	**Sb**	**10 54 12.5 +0.9**	WSF				*e*S	**Sb**	**10 54 34.1 +2.1**									
	baz=9.0								baz=254													
SBCB	**Hsinchu**	**0.76**	**308**	*e*P	**Pn**	**10 54 03.0 +0.5**	**LONT**	**Longtian**	**1.48**	**199**	*e*P	**Pb**	**10 54 11.9 -2.2**									
	baz=322								baz=186													
NCUH	**Zhongli**	**0.77**	**327**	*e*P	**Pb**	**10 54 02.7 +0.8**	**TWK**	**Hsinying**	**1.49**	**225**	*e*P	**Pb**	**10 54 14.7 +0.5**									
	baz=326								baz=225													
NCUH				*e*S	**Sn**	**10 54 13.3 -0.1**	TWK				*e*S	**Sb**	**10 54 35.4 +2.7**									
	baz=326								baz=225													
NCU	**National Centr**	**0.77**	**327**	*e*P	**Pb**	**10 54 02.8 +0.9**	**SNST**	**Tainan City**	**1.52**	**224**	*e*P	**Pb**	**10 54 13.9 -0.7**									
	baz=327								baz=224													
NCU				*e*S	**Sn**	**10 54 13.9 +0.5**	SNST				*e*S	**Sb**	**10 54 35.7 +2.2**									
	baz=327								baz=224													
TWQ1	**Liyutan**	**0.80**	**272**	*e*P	**Pn**	**10 54 03.3 +0.3**	**WSL**	**Shuilin Townsh**	**1.52**	**239**	*e*P	**Pb**	**10 54 15.0 +0.3**									
	baz=271								baz=251													
SXI1	**Grass Mountain**	**0.80**	**15**	*e*P	**Pn**	**10 54 02.6 -0.4**	WSL				*e*S	**Sb**	**10 54 35.6 +2.1**									
	baz=9.0								baz=251													
SXI1				*e*S	**Sb**	**10 54 13.1 +0.2**	**CHN1**	**Nanshi**	**1.52**	**222**	*e*P	**Pb**	**10 54 15.4 +0.6**									
	baz=9.0								baz=210													
TWS1	**Kuangyinshan**	**0.80**	**345**	P	**Pb**	**10 54 03.3 +0.8**	CHN1				*e*S	**Sb**	**10 54 36.5 +2.8**									
	baz=352								baz=210													
TWS1				S	**Sn**	**10 54 14.5 +0.2**	**SGST**	**Jiashian**	**1.57**	**218**	*e*P	**Pb**	**10 54 14.8 -0.8**									
	baz=352								baz=205													
NMLH	**Miaoli**	**0.81**	**286**	*e*P	**Pn**	**10 54 03.9 +0.8**	SGST				*e*S	**Sb**	**10 54 36.3 +1.3**									
	baz=285								baz=205													
NMLH				*e*S	**Sn**	**10 54 14.4 +0.1**	**ICHU**	**Yijhu**	**1.57**	**233**	*e*P	**Pb**	**10 54 16.3 +0.7**									
	baz=285								baz=234													
SMLT	**Sun Moon Lake**	**0.81**	**238**	P	**Pn**	**10 54 03.4 +0.2**	ICHU				*e*S	**Sb**	**10 54 37.7 +2.6**									
	baz=237								baz=234													
SMLT				S	**Sn**	**10 54 13.5 -1.0**	**TWG**	**Pinlang**	**1.58**	**199**	*e*P	**Pb**	**10 54 15.0 -0.7**									
	baz=237								baz=186													
NSY	**Sanyi**	**0.81**	**277**	P	**Pn**	**10 54 04.2 +1.0**	**TWGBT**	**Beinan**	**1.58**	**199**	*e*P	**Pb**	**10 54 13.1 -2.7**									
	baz=276								baz=186													
NSY				*e*S	**Sn**	**10 54 15.1 +0.7**	**LDUT**	**Ludao**	**1.65**	**186**	*e*P	**Pb**	**10 54 14.3 -2.5**									
	baz=276								baz=185													
SSLB	**Suanglung**	**0.82**	**230**	P	**Pn**	**10 54 03.1 -0.3**	**SHHT**	**Tainan City**	**1.76**	**223**	*e*P	**Pb**	**10 54 20.8 +2.1**									
	baz=230								baz=221													
SSLB				*e*S	**Sn**	**10 54 14.6 -0.2**	**SCST**	**Cishan**	**1.78**	**217**	*e*P	**Pb**	**10 54 19.1 0.0**									
	baz=230								baz=215													
YM01	**YM01**	**0.82**	**355**	*e*P	**Pb**	**10 54 03.4 +0.5**	**SSD**	**Sandimen**	**1.82**	**211**	*e*P	**Pb**	**10 54 19.6 -0.3**									
	baz=343								baz=209													
YM01				*e*S	**Sb**	**10 54 13.9 +0.3**	**TSMG**	**Majia**	**1.85**	**210**	*e*P	**Pb**	**10 54 19.3 -1.0**									
	baz=343								baz=209													
TYC	**Yuchr**	**0.83**	**240**	P	**Pn**	**10 54 03.8 +0.4**	**IRIF**	**Iriomote-Funau**	**1.90**	**89**	P	**Pn**	**10 54 18.1 -0.1**									
	baz=239						IRIF				*e*S	**Sn**	**10 54 41.6 +0.2**									
TYC				*e*S	**Sn**	**10 54 14.2 -0.7**	**MASBT**	**Mashibuluo**	**1.94**	**209**	*e*P	**Pb**	**10 54 21.4 -0.4**									
	baz=239								baz=193													
TNOU	**National Taiwa**	**0.83**	**8**	*i* P	**Pb**	**10 54 03.7 +0.6**	**HATJ**	**Hateruma jima**	**1.99**	**97**	*e*S	**Sn**	**10 54 44.6 +1.1**									
	baz=11						**PNG**	**Penghu**	**2.05**	**249**	*e*P	**Pb**	**10 54 20.7 -3.1**									
TNOU				*e*S	**Sn**	**10 54 14.2 -0.8**		baz=247														
	baz=11						**PHUB**	**P'eng-hu**	**2.06**	**247**	*e*P	**Pb**	**10 54 20.9 -2.9**									
HGSD	**Ruisui**	**0.85**	**194**	*e*P	**Pb**	**10 54 02.7 -0.6**		baz=265														
	baz=203						PHUB				*e*S	**Sb**	**10 54 45.8 -3.3**									
NTST	**Danshui**	**0.86**	**348**	*e*P	**Pb**	**10 54 04.4 +1.0**		baz=265														
	baz=359						**EAST**	**Anshuo**	**2.06**	**201**	*e*P	**Pb**	**10 54 22.9 -1.1**									
NTST				*e*S	**Sb**	**10 54 15.8 +1.3**		baz=190														
	baz=359						**WDGT**	**Dungji**	**2.10**	**240**	*e*P	**Pb**	**10 54 22.1 -2.5**									
EHY	**Hungye**	**0.86**	**200**	*e*P	**Pb**	**10 54 01.8 -1.7**		baz=251														
	baz=191						WDGT				*e*S	**Sb**	**10 54 48.4 -1.9**									
EHY				*e*S	**Sn**	**10 54 16.2 +0.5**		baz=251														
	baz=191						**VWUC**	**VWUC**	**2.10**	**289**	*e*P	**Pn**	**10 54 20.9 -0.1**									
YM08	**YM08**	**0.86**	**357**	*i* P	**Pb**	**10 54 04.3 +0.7**		baz=288														
	baz=344						**JKRS**	**Kuro-shima**	**2.16**	**92**	P	**Pn**	**10 54 22.9 +1.2**									
ANP	**Anpu**	**0.87**	**353**	*e*P	**Pb**	**10 54 04.0 +0.3**	JKRS				*e*S	**Sn**	**10 54 49.1 +1.4**									
	baz=352						**JIJ**	**Ishigaki jima**	**2.28**	**88**	P	**Pn**	**10 54 24.0 +0.7**									
ANP				*e*S	**Sn**	**10 54 14.8 -1.2**	JIJ				*e*S	**Sn**	**10 54 51.3 +0.6**									
	baz=352						**VCHM**	**Qimei**	**2.31**	**242**	*e*P	**Pb**	**10 54 24.7 -3.4**									
NHW	**Xinwu Township**	**0.87**	**322**	*i* P	**Pb**	**10 54 04.7 +1.0**		baz=243														
	baz=321						VCHM				*e*S	**Sb**	**10 54 53.0 -3.3**									

*IDC **27** 10:54:29.2±3.9, 37.°07N×72.°17E, h121km±33km, mb3.6/13, mb1 3.8/16, mb1mx3.6/43, mbtmp4.1/16, Error ellipse: s-maj=24.1km s-min=15.8km az=170.0*
*NNC **27** 10:54:32.9±2.9, 37.°44N×71.°81E, h128km±40km, mb3.8, mpv4.5, Error ellipse: s-maj=27.5km s-min=14.7km az=160.0*
*MOS **27** 10:54:32.6±0.8, 37.°38N×72.°10E, h150km, mb4.2/13, Error ellipse: s-maj=9.2km s-min=3.6km az=76.6*
*NEIC **27** 10:54:33.9±1.3, 37.°35N±0.°05×72.°06E±0.°08, h149km±4km, mb4.1/19, Error ellipse: s-maj=10.5km s-min=3.8km az=125.0*

ISC 27 10:54:31.3±0.4, **37.°35N**±0.°04×**72.°05E**±0.°04, **h130**km, **n180**, σ2ˢ**45**/197, **mb4.0**/31, **11C-11D**, **Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**2.14**	**355**		**Pn**	**10 55 09.3**	**+2.1**
DRK				Sn	**Sn**	**10 55 39.1**	**+4.3**
GAR	**Garm**	**2.14**	**321**		**Pn**	**10 55 10.4**	**+3.3**
GAR				Sn	**Sn**	**10 55 37.5**	**+3.0**
CHGR	**Chuyangaron**	**2.63**	**301**		**Pn**	**10 55 16.1**	**+2.9**
CHGR				Sn	**Sn**	**10 55 47.7**	**+2.2**
BTK	**Batken**	**2.87**	**341**	PN	**Pn**	10 55 21.0	+4.7
BTK	**Batken**	**2.87**	**341**		Pn	10 55 21.0	+4.7
CEP	**Cherat**	**3.52**	**182**	P	**Pn**	**10 55 27.7**	**+2.9**
KBL	**Kabul**	**3.72**	**222**	PN	**Pn**	**10 55 30.9**	**+3.5**
KBL	**Kabul**	**3.72**	**222**	Pn	**Pn**	**10 55 30.9**	**+3.5**
KSH	**Kashi**	**3.76**	**54**	P	**Pn**	**10 55 26.5**	**-1.5**
KSH				S	**Sn**	**10 56 05.0**	**-6.9**
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=E,2μm,0.6s						
CHCP	**Chirah Chowk**	**3.81**	**165**	P	**Pn**	**10 55 31.6**	**+3.0**
CHCP				S	**Sn**	**10 56 15.0**	**+2.0**
NIL	**Nilore**	**3.82**	**165**	PN	**Pn**	**10 55 31.6**	**+2.9**
NIL	**Nilore**	**3.82**	**165**		**Pn**	**10 55 31.6**	**+2.9**
TAS	**Tashkent**	**4.51**	**333**	PN	**Pn**	**10 55 40.9**	**+3.1**
TAS	**Tashkent**	**4.51**	**333**	Pn	**Pn**	**10 55 40.9**	**+3.1**
THW	**Thamme Wali**	**4.55**	**183**	P	**Pn**	**10 55 40.2**	**+1.8**
AML	**Almayashu**	**4.94**	**14**	P	**Pn**	**10 55 46.7**	**+2.8**
	SNR=348						
IUG	**Iuzhnay**	**5.04**	**343**	*e*PN	**Pn**	**10 55 46.9**	**+2.0**
IUG	**Iuzhnay**	**5.04**	**343**	*e*P	**Pn**	**10 55 47.0**	**+2.0**
	baz=341						
IUG				*e*S	**Sn**	**10 56 42.5**	**+0.2**
	baz=341						
UCH	**Uchtor**	**5.23**	**20**	P	**Pn**	**10 55 50.6**	**+2.8**
	SNR=255						
EKS2	**Erkin-Say**	**5.47**	**13**	P	**Pn**	**10 55 53.9**	**+3.2**
	SNR=23						
DZA	**Taraz**	**5.56**	**355**	*e*PN	**Pn**	**10 55 54.9**	**+3.0**
DZA	**Taraz**	**5.56**	**355**	*e*P	**Pn**	**10 55 54.9**	**+3.0**
	baz=353						
DZA				*e*S	**Sn**	**10 56 55.2**	**+0.4**
	baz=353						
AAK	**Ala-Archa**	**5.61**	**19**	P	**Pn**	**10 55 55.8**	**+3.2**
	SNR=89						
KBK	**Karagaybulak**	**5.75**	**22**	P	**Pn**	**10 55 57.9**	**+3.5**
	SNR=23						
THN	**Thein Dam**	**5.75**	**147**	*e*P	**Pn**	**10 55 56.3**	**+1.9**
THN				*e*S	**Sn**	**10 56 56.2**	**-3.1**
FRU1	**Bishkek**	**5.80**	**19**	PN	**Pn**	**10 55 58.8**	**+3.7**
FRU1	**Bishkek**	**5.80**	**19**		**Pn**	**10 55 58.8**	**+3.7**
KK31	**Karatay Array**	**5.87**	**349**	*i* PN	**Pn**	**10 55 58.6**	**+2.7**
KK31	**Karatay Array**	**5.87**	**349**	Pn	**Pn**	**10 55 58.8**	**+2.8**
KK31	**Karatay Array**	**5.87**	**349**	⇑P	**Pn**	**10 55 58.6**	**+2.7**
	37nm,0.7s,baz=180,slow=14,SNR=331						
KK31				⇓S	**Sn**	**10 57 01.0**	**-1.0**
	53nm,0.4s,baz=171,slow=22,SNR=28						
KKAR	**Karatay Array**	**5.87**	**349**	PN	**Pn**	**10 55 58.8**	**+2.9**
KKAR	**Karatay Array**	**5.87**	**349**	Pn	**Pn**	**10 55 58.8**	**+2.9**
KKAR	**Karatay Array**	**5.87**	**349**		**Pn**	**10 55 59.0**	**+3.1**
BRLS	**Borolday**	**5.92**	**344**	*e*PN	**Pn**	**10 55 56.2**	**-0.5**
BRLS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRLS	**Borolday**	**5.92**	**344**	*e*P	**Pn**	**10 55 56.2**	**-0.5**
	comp=Z,4.5nm,0.9s,baz=340						
BRLS				*e*S	**Sn**	**10 56 58.7**	**-4.7**
	baz=340						
BOOM	**Boomskoye usch**	**5.94**	**29**	PN	**Pn**	**10 55 59.7**	**+2.6**
BOOM	**Boomskoye usch**	**5.94**	**29**		**Pn**	**10 55 59.7**	**+2.6**
CHMS	**Chumysh**	**6.01**	**19**	P	**Pn**	**10 56 00.7**	**+2.9**
	SNR=41						
CHMS	**Chumysh**	**6.01**	**19**	PN	**Pn**	**10 56 00.6**	**+2.7**
CHMS	**Chumysh**	**6.01**	**19**	⇓P	**Pn**	**10 56 00.6**	**+2.7**
	comp=Z,73nm,0.6s						
CHMS				⇑S	**Sn**	**10 57 05.8**	**+0.3**
	comp=Z,40nm,0.9s						
TKM2	**Tokmak 2**	**6.19**	**25**	P	**Pn**	**10 56 03.0**	**+2.5**
	SNR=18						
TKM2	**Tokmak 2**	**6.19**	**25**	PN	**Pn**	**10 56 02.4**	**+1.9**
TKM2				S	**Sn**	**10 57 11.9**	**+1.8**
TKM2	**Tokmak 2**	**6.19**	**25**	⇓P	**Pn**	**10 56 02.4**	**+1.9**
	comp=Z,13nm,0.6s						
TKM2				⇑S	**Sn**	**10 57 11.9**	**+1.8**
	comp=Z,28nm,1.0s						
KDJ	**Kajisay**	**6.20**	**38**	PN	**Pn**	**10 56 03.0**	**+2.5**
KDJ	**Kajisay**	**6.20**	**38**	Pn	**Pn**	**10 56 03.0**	**+2.5**
USP	**Ospenovka**	**6.20**	**17**	P	**Pn**	**10 56 02.7**	**+2.3**
	SNR=12						
TARG	**Taragay, Kyrgy**	**6.24**	**44**	Pn	**Pn**	**10 56 03.7**	**+2.4**
**SGDS

ZHN	**Zhinishke**	**7.59**	**38**	*e*P		**Pn**	**10 56 20.8**	**+1.6**
	baz=39							
BTLS	**Baital**	**7.83**	**10**	*e*PN		**Pn**	**10 56 23.5**	**+1.2**
BTLS	**Baital**	**7.83**	**10**	*e*P		**Pn**	**10 56 23.5**	**+1.2**
	baz=10							
UZB	**Uzynbulak**	**7.87**	**40**	*e*PN		**Pn**	**10 56 23.9**	**+0.9**
UZB					pmax	pmax		
	comp=Z,3.0nm,0.6s							
UZB	**Uzynbulak**	**7.87**	**40**	*e*P		**Pn**	**10 56 23.9**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=41							
KPKS	**Kokpek**	**7.93**	**38**	*e*PN		**Pn**	**10 56 24.5**	**+0.8**
KPKS					pmax	pmax		
	comp=Z,7.0nm,0.7s							
KPKS	**Kokpek**	**7.93**	**38**	*e*P		**Pn**	**10 56 24.6**	**+0.8**
	comp=Z,7.1nm,0.7s,baz=38							
SHLS	**Shalkode**	**8.11**	**42**	*e*PN		Pn	10 56 31.3	+5.2
SHLS	**Shalkode**	**8.11**	**42**	*e*P		Pn	10 56 31.4	+5.2
	baz=44							
ARXS	**Arharly**	**8.13**	**31**	*e*PN		**Pn**	**10 56 27.3**	**+0.8**
PDGK	**Podgornoye**	**8.24**	**41**	PN		**Pn**	**10 56 28.9**	**+0.9**
PDGK	**Podgornoye**	**8.24**	**41**	⇓P		**Pn**	**10 56 28.9**	**+0.9**
	comp=Z,6.5nm,0.6s							
HRA	**Herat**	**8.49**	**253**	Pn		**Pn**	**10 56 34.1**	**+2.6**
DDI	**Dehra Dun**	**8.60**	**143**	*e*S		**Sn**	**10 58 02.2**	**-6.1**
DDI					IAML		10 58 08.5	
	comp=E,244nm,0.5s							
DDI					IAML		10 58 09.8	
	comp=N,281nm,0.4s							
TDK	**Taldyqorghan**	**9.02**	**30**	*e*PN		**Pn**	**10 56 39.0**	**+0.7**
TDK	**Taldyqorghan**	**9.02**	**30**	*e*P		**Pn**	**10 56 39.0**	**+0.7**
	baz=30							
NDI	**New Delhi**	**9.66**	**152**	*e*S		Sn	10 58 24.8	-9.2
KUDL	**Kundal**	**9.91**	**157**	*e*S		Sn	10 58 30.9	-8.9
SONA	**Sohna**	**10.01**	**154**	*e*S		Sn	10 58 33.1	-9.1
PTH	**Pithoragarh**	**10.34**	**136**	*e*P		**Pn**	**10 56 53.6**	**-2.7**
PTH				*e*S		Sn	10 58 38.5	-12
LGTI	**Lohaghat**	**10.43**	**137**	*e*S		Sn	10 58 42.2	-10
GEYT	**Alibeck**	**11.07**	**277**	P		**Pn**	**10 57 04.8**	**-1.0**
	comp=N,3.5nm,0.3s,baz=125,slow=9.3,SNR=14							
GEYT				S		**Sn**	**10 59 02.2**	**-5.5**
	comp=N,3.8nm,0.3s,baz=132,slow=22,SNR=8.5							
GEYT	**Alibeck**	**11.07**	**277**			**Pn**	**10 57 04.7**	**-1.2**
GYA0	**ALIBECK ARRAY**	**11.07**	**277**	P		**Pn**	**10 57 04.2**	**-1.6**
GYA0				S		**Sn**	**10 59 01.4**	**-6.4**
GYA0B	**ALIBECK ARRAY**	**11.07**	**277**			**Pn**	**10 57 04.7**	**-1.2**
GYA0B	**ALIBECK ARRAY**	**11.07**	**277**	⇑P		**Pn**	**10 57 04.3**	**-1.5**
GYA0B				⇓S		**Sn**	**10 59 01.4**	**-6.4**
MAKZ	**Makanchi**	**11.98**	**35**	P		**Pn**	**10 57 17.8**	**+0.1**
MAKZ	**Makanchi**	**11.98**	**35**	Pn		**Pn**	**10 57 17.8**	**+0.1**
MK31	**Makanchi Array**	**12.11**	**36**	⇑*e*P		**Pn**	**10 57 20.2**	**+0.7**
MK31	**Makanchi Array**	**12.11**	**36**			**Pn**	**10 57 19.8**	**+0.3**
MK31	**Makanchi Array**	**12.11**	**36**	⇑P		**Pn**	**10 57 19.9**	**+0.4**
	comp=N,2.2nm,0.5s,baz=200,slow=8.1,SNR=18							
MKAR	**Makanchi Array**	**12.11**	**36**	P		**Pn**	**10 57 19.7**	**+0.2**
	comp=N,0.3nm,0.3s,baz=238,slow=11,SNR=19							
MKAR	**Makanchi Array**	**12.11**	**36**	*c*e*e*P		**Pn**	**10 57 19.7**	**+0.2**
MKAR					pmax	pmax		
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**12.11**	**36**	Pn		**Pn**	**10 57 20.0**	**+0.6**
BRZS	**Berezniki**	**12.64**	**2**	*e*P		**Pn**	**10 57 26.1**	**-0.2**
BRZS	**Berezniki**	**12.64**	**2**	*e*P		**Pn**	**10 57 26.1**	**-0.2**
	baz=1.5							
JHNI	**Jhansi**	**13.07**	**153**	*e*P		**Pn**	**10 57 30.3**	**-1.8**
JHNI				*e*S		Sn	10 59 42.6	-14
KURBB	**Kurchatov Arra**	**14.06**	**17**	P		**Pn**	**10 57 43.2**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=208,slow=10.0,SNR=8.8							
KURBB	**Kurchatov Arra**	**14.06**	**17**	P		**P**	**10 57 48.1**	**0.0**
KURBB	**Kurchatov Arra**	**14.06**	**17**	⇓P		**P**	**10 57 48.2**	**0.0**
	comp=Z,2.0nm,0.8s							
KURK	**Kurchatov**	**14.16**	**17**	*i* P		**Pn**	**10 57 46.2**	**+0.4**
SEM	**Semipalatinsk**	**14.32**	**22**	*e*P		**P**	**10 57 49.2**	**-2.1**
SEM	**Semipalatinsk**	**14.32**	**22**	*e*P		**P**	**10 57 49.3**	**-2.1**
	baz=22							
AB31	**Akbulak array**	**14.79**	**327**	*e*P		**Pn**	**10 57 54.6**	**+0.9**
AB31	**Akbulak array**	**14.79**	**327**	⇓P		**Pn**	**10 57 54.7**	**+0.9**
	comp=Z,3.1nm,0.3s,baz=140,slow=12,SNR=98							
ABKAR	**Akbulak array**	**14.79**	**327**			**P**	**10 57 54.9**	**-1.4**
ABKAR	**Akbulak array**	**14.79**	**327**			**Pn**	**10 57 54.2**	**+0.5**
BHPL	**Bhopal**	**14.80**	**160**	*e*P		**P**	**10 57 56.2**	**-0.5**
BHPL				*e*S		Sn	11 00 25.4	-13
BRVK	**Borovoye**	**15.76**	**356**	*i* P		**P**	**10 58 06.7**	**-0.3**
BRVK	**Borovoye**	**15.76**	**356**	P		**P**	**10 58 06.6**	**-0.4**
AKTO	**Aktyubinsk**	**16.50**	**327**	P		**P**	**10 58 16.7**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=149,slow=12,SNR=6.1							
AKTO				S		**Sn**	**11 01 09.3**	**-9.1**
	comp=Z,0.3nm,0.3s,baz=51,slow=23,SNR=8.4							
AKTO	**Aktyubinsk**	**16.50**	**327**	P		**P**	**10 58 16.6**	**+1.4**
AKTO				S		**Sn**	**11 01 08.4**	**-10**
AKTO	**Aktyubinsk**	**16.50**	**327**	⇓P		**P**	**10 58 16.6**	**+1.4**
	comp=Z,6.8nm,0.8s							
UOSS	**Minazif**	**18.32**	**232**	P		**P**	**10 58 36.6**	**+1.1**
UOSS				IAmb		IAmb	10 58 39.8	
	comp=Z,6.6nm,0.7s							
ZAA0	**Zalesovo Array**	**18.80**	**24**	P		**Pn**	**10 58 40.6**	**-1.7**
ZAA0				IAmb		IAmb	10 58 42.3	
	comp=Z,19nm,1.1s							
ZAA0	**Zalesovo Array**	**18.80**	**24**	⇑P		**Pn**	**10 58 41.4**	**-0.9**
	comp=Z,2.5nm,0.9s							
ZALV	**Zalesovo Beam**	**18.80**	**24**	P		**Pn**	**10 58 41.6**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=217,slow=11,SNR=45							
ZALV	**Zalesovo Beam**	**18.80**	**24**	P		**Pn**	**10 58 41.1**	**-1.2**
ARU	**Arti**	**21.12**	**339**	P		**P**	**10 59 07.3**	**+1.8**
	comp=Z,2.3nm,0.2s,baz=166,slow=8.9,SNR=5.2							
ARU	**Arti**	**21.12**	**339**	*d* iP		**P**	**10 59 06.5**	**+1.1**
ARU							10 59 38.2	
ARU				S		**S**	**11 02 51.5**	**-1.4**
ARU					pmax	pmax		
	comp=Z,4.0nm,0.7s							
ARU	**Arti**	**21.12**	**339**	P		**P**	**10 59 06.7**	**+1.3**
ARU				IAmb		IAmb	10 59 07.6	
	comp=Z,4.5nm,0.6s							
GNI	**Garni**	**21.45**	**286**	*i* P		**P**	**10 59 13.4**	**+4.1**
GNI					pmax	pmax		
	comp=Z,19nm,1.5s							
GTA	**Gaotai**	**21.83**	**76**	*e*P		**P**	**10 59 15.5**	**+2.2**
GTA					pmax	pmax		
	comp=Z,6.0nm,1.0s							
ZEI	**Tsey**	**22.16**	**293**	*e*P		**P**	**10 59 21.7**	**+4.9**
ZEI					pmax	pmax		
	comp=Z,7.0nm,1.0s							
KNGR	**Kungurtug, Tuv**	**22.48**	**46**	⇓*i*P		**P**	**10 59 21.4**	**+1.7**
KBZ	**Khabaz**	**22.98**	**295**	*i* P		**P**	**10 59 25.4**	**+1.0**
KBZ					pmax	pmax		
	comp=Z,2.0nm,0.7s							
KIV	**Kislovodsk**	**23.16**	**296**	*e*P		**P**	**10 59 29.4**	**+3.2**
KIV				*e*S		**S**	**11 03 29.4**	**+1.6**
KIV					pmax	pmax		
	comp=Z,12nm,1.1s							
MOY	**Mondy**	**24.91**	**46**	*e*P		**P**	**10 59 44.3**	**+2.2**
ZAK	**Zakamensk**	**25.80**	**50**	*e*P		**P**	**10 59 51.7**	**+1.6**
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.3s							
ANN	**Anapa**	**26.99**	**297**	*e*P		**P**	**10 59 57.2**	**-3.5**
ANN				*e*			11 00 55.2	
ANN				*e*S		**S**	**11 04 20.4**	**-7.9**
BRTR	**Keskin Array B**	**29.99**	**287**	P		**P**	**11 00 29.1**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=103,slow=9.3,SNR=2.9							
AKASG	**Malin Array Be**	**33.08**	**308**	P		**P**	**11 00 56.1**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=330,slow=11,SNR=1.8							
NRIK	**Noril'sk**	**33.14**	**10**	P		**P**	**11 00 56.8**	**+2.1**
	comp=Z,4.7nm,0.8s,baz=202,slow=6.6,SNR=4.4							
NRIK	**Noril'sk**	**33.14**	**10**	*i* P		**P**	**11 00 55.6**	**+0.9**
NRIK					pmax	pmax		
	comp=Z,3.0nm,0.6s							
NRIK	**Noril'sk**	**33.14**	**10**	P		**P**	**11 00 55.8**	**+1.1**
FINES	**FINESS Array B**	**37.26**	**325**	P		**P**	**11 01 31.3**	**+1.3**
	comp=Z,1.0nm,0.4s,baz=126,slow=9.7,SNR=7.6							
FINES	**FINESS Array B**	**37.26**	**325**			**P**	**11 01 31.1**	**+1.1**
ARCES	**ARCESS Array B**	**40.69**	**337**	P		**P**	**11 01 59.8**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=114,slow=9.0,SNR=12							
ARCES	**ARCESS Array B**	**40.69**	**337**	P		**P**	**11 01 59.7**	**+1.3**
ARCES					pmax	pmax		
	comp=Z,21nm,1.4s							
ARCES	**ARCESS Array B**	**40.69**	**337**	P		**P**	**11 01 59.7**	**+1.3**
ZEA	**Zeya**	**40.88**	**48**	*e*P		**P**	**11 02 02.5**	**+2.3**
YAK	**Yakutsk**	**42.79**	**36**	*i* P		**P**	**11 02 16.4**	**+0.8**
YAK					pmax	pmax		
	comp=Z,6.0nm,0.8s							
TJN	**Taejon**	**43.72**	**74**	⇑*e*P		**P**	**11 02 24.9**	**+1.5**
KLR	**Kul'dur**	**43.96**	**55**	*i* P		**P**	**11 02 26.2**	**+1.0**
NOA	**NORSAR Array B**	**44.22**	**322**	P		**P**	**11 02 27.9**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=95,slow=7.7,SNR=3.5							
TIXI	**Tiksi**	**44.67**	**22**	⇑*i*P		**P**	**11 02 31.1**	**+0.6**
TIXI					pmax	pmax		
	comp=Z,6.0nm,0.7s							
TIXI	**Tiksi**	**44.67**	**22**	P		**P**	**11 02 31.1**	**+0.6**
MJAR	**Matsushiro Arr**	**51.86**	**69**	P		**P**	**11 03 25.6**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=309,slow=6.6,SNR=4.5							
SEY	**Seymchan**	**53.24**	**34**	*i* P		**P**	**11 03 35.8**	**-0.1**
SEY					pmax	pmax		
	comp=Z,4.0nm,1.7s							
BILL	**Bilibino**	**57.48**	**26**	*i* P		**P**	**11 04 07.0**	**+0.8**
BILL				*i*			11 05 01.6	
BILL					pmax	pmax		
	comp=Z,3.0nm,0.8s							
ESDC	**Sonseca Array**	**57.81**	**298**	P		**P**	**11 04 09.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=71,slow=6.4,SNR=4.4							
TOA0	**Torodi Ar. Sit**	**66.58**	**269**	P		**P**	**11 05 06.6**	**-1.1**
TOA0				IAmb		IAmb	11 05 07.4	
	comp=Z,4.3nm,1.4s							
TORD	**Torodi Ar. Bea**	**66.58**	**269**	P		**P**	**11 05 06.7**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=49,slow=5.3,SNR=13							
TORD	**Torodi Ar. Bea**	**66.58**	**269**	P		**P**	**11 05 06.9**	**-0.9**
RES	**Resolute Bay**	**67.91**	**356**	P		**P**	**11 05 16.5**	**+1.3**
RES					pmax	pmax		
	comp=Z,1.0nm,1.1s							
RES	**Resolute Bay**	**67.91**	**356**	P		**P**	**11 05 16.5**	**+1.3**
TOLK	**Toolik Lake Re**	**69.89**	**15**	P		**P**	**11 05 28.4**	**+0.8**
COLD	**Coldfoot**	**70.92**	**16**	P		**P**	**11 05 34.4**	**+0.6**
COLD				IAmb		IAmb	11 05 35.3	
	comp=Z,2.6nm,1.0s							
IMAR	**Indian Mountai**	**71.11**	**18**	P		**P**	**11 05 35.1**	**+0.1**
H21K	**Melozitna Rive**	**71.60**	**18**	P		**P**	**11 05 38.5**	**+0.5**
H21K				IAmb		IAmb	11 05 39.3	
	comp=Z,3.1nm,1.1s							
BMAR	**Burnt Mountain**	**71.92**	**14**	P		**P**	**11 05 41.1**	**+1.2**
INK	**Inuvik**	**72.93**	**10**	P		**P**	**11 05 46.7**	**+0.9**
INK					pmax	pmax		
	comp=Z,9.0nm,1.5s							
INK	**Inuvik**	**72.93**	**10**	P		**P**	**11 05 46.7**	**+0.9**
INK				IAmb		IAmb	11 06 03.4	
	comp=Z,8.7nm,1.5s							
TTA	**Tatalina**	**72.93**	**21**	P		**P**	**11 05 46.7**	**+0.7**
TTA					pmax	pmax		
	comp=Z,4.0nm,1.2s							
TTA	**Tatalina**	**72.93**	**21**	P		**P**	**11 05 46.7**	**+0.7**
TTA				IAmb		IAmb	11 06 14.8	
	comp=Z,4.1nm,1.2s							
K20K	**Telida**	**73.13**	**20**	P		**P**	**11 05 48.0**	**+0.9**
K20K				IAmb		IAmb	11 05 48.2	
	comp=Z,2.3nm,0.6s							
ILAR	**Eielson Array**	**73.73**	**16**	P		**P**	**11 05 50.1**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=322,slow=5.6,SNR=11							
SCRK	**Sand Creek**	**75.06**	**16**	P		**P**	**11 05 58.9**	**+0.5**
BCAR	**Beaver Creek A**	**76.33**	**15**	P		**P**	**11 06 06.4**	**+0.8**
YKA	**Yellowknife Ar**	**80.36**	**3**	P		**P**	**11 06 27.9**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=351,slow=5.4,SNR=59							
YKA	**Yellowknife Ar**	**80.36**	**3**	P		**P**	**11 06 27.6**	**0.0**
WRA	**Warramunga Arr**	**81.73**	**123**	P		**P**	**11 06 34.0**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=324,slow=5.2,SNR=6.7							
WRA	**Warramunga Arr**	**81.73**	**123**	P		**P**	**11 06 34.0**	**-1.5**
WB2	**Warramunga Arr**	**81.74**	**123**	P		**P**	**11 06 34.5**	**-1.0**
WB2				IAmb		IAmb	11 06 36.9	
	comp=Z,4.0nm,1.2s							
WR0	**Warramunga Arr**	**81.88**	**123**	P		**P**	**11 06 36.0**	**-0.2**
WR0				IAmb		IAmb	11 06 39.1	
	comp=Z,6.1nm,1.3s							

ISC 27 10:59:56.1±1.0,**49°00N**±0°.05×**18°04E**±0°.04,**h10**km,**n6,**
σ0**°76**/10,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAVC	**Velka Javorina**	**0.28**	**240**	*e*PG		**Pg**	**11 00 02.5**	**+0.6**
JAVC				*e*SG		**Sb**	**11 00 07.0**	**-1.2**
VYHS	**Vyhne**	**0.73**	**134**	*e*PG		**Pg**	**11 00 09.4**	**-0.8**
VYHS				*e*SG		**Sg**	**11 00 20.6**	**+0.8**
MORC	**Moravsky Berou**	**0.84**	**337**	*e*PG		**Pg**	**11 00 12.4**	**+0.1**
MORC				*e*SG		**Sg**	**11 00 22.7**	**-0.6**
LANS	**Liptovska Anna**	**0.95**	**81**	*e*PG		**Pb**	**11 00 15.3**	**+0.7**
VRAC	**Vranov**	**1.00**	**288**	*e*PG		**Pn**	**11 00 16.1**	**-0.1**
VRAC				*e*SG		**Sb**	**11 00 28.7**	**0.0**
KRUC	**Moravsky**	**1.09**	**274**	*e*PG		**Pb**	**11 00 17.2**	**+0.2**

IDC 27 11:01:08.4±3.2,**55°39S**×**28°47W,h0**km,**mb3.8**/2,
mb1 4.0/2,**mb1mx3.7**/20,**mbtmp3.8**/2,**Error ellipse:**
s-maj=119.6km s-min=52.4km az=170.0,South
Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**49.40**	**306**	P		P	11 10 00.3	-0.1
	0.4nm,0.5s,baz=159,slow=8.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**72.85**	**31**	P		P	11 12 38.8	0.0
	0.9nm,0.7s,baz=194,slow=5.5,SNR=5.8							
YKA	**Yellowknife Ar**	**135.19**	**319**	PKP		PKPdf	11 20 27.8	-0.5
	0.3nm,0.8s,baz=125,slow=2.0,SNR=3.8							
ILAR	**Eielson Array**	**149.13**	**313**	PKPbc		PKPbc	11 20 56.5	-0.5
	1.8nm,0.7s,baz=128,slow=2.1,SNR=24							

TUL ***27*** *11:31:20.9*±*1.0,35°.52N*±*0°.02*×*97°.09W*±*0°.04,h6km*±*5km, ML3.0,mb_Lg2.7/40(NEIC),Error ellipse: s-maj=4.1km s-min=3.1km az=110.0*
NEIC ***27*** *11:31:21.4*±*1.0,35°.54N*±*0°.02*×*97°.09W*±*0°.02,h5km*±*1km, Error ellipse: s-maj=3.8km s-min=3.0km az=127.0*
ANF ***27*** *11:31:21.2*±*0.3,35°.55N*×*97°.09W,h6km, ML3.4/7, Error ellipse: s-maj=3.2km s-min=2.1km az=166.0*

ISC 27 11:31:21.1±1.2,**35°52N**±0°.03×**97°08W**±0°.02,**h5**km±10km,
n44,σ0**°85/46,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK009	**Oakdale Elemen**	**0.29**	**282**	Pg		**Pg**	**11 31 26.8**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**0.32**	**248**			**Pg**	**11 31 27.2**	**0.0**
OKCSW				Sg		**Sg**	**11 31 31.8**	**+0.4**
OKCFA	**Oklahoma City**	**0.32**	**250**	Pg		**Pg**	**11 31 27.3**	**0.0**
OKCFA				Sg		**Sg**	**11 31 31.9**	**+0.4**
OKCFA	**Oklahoma City**	**0.32**	**250**	P		**Pg**	**11 31 27.3**	**0.0**
	baz=70							
OKCFA				S		**Sg**	**11 31 32.0**	**+0.4**
	baz=70							
FNO	**Franklin**	**0.37**	**225**	Pg		**Pg**	**11 31 28.2**	**-0.1**
X34A	**Smith Ranch, M**	**1.11**	**214**	Pg		**Pg**	**11 31 42.1**	**-0.3**
TUL1	**Leonard**	**1.12**	**69**			**Pg**	**11 31 41.5**	**-1.1**
TUL1	**Leonard**	**1.12**	**69**	P		**Pg**	**11 31 41.5**	**-1.1**
	baz=250							
TUL1				S		**Sb**	**11 31 58.6**	**+0.9**
	baz=250							
T35A	**Sooner Cattle**	**1.46**	**18**	Pn		**Pn**	**11 31 47.5**	**-0.7**
T35A				Sn		**Sn**	**11 32 07.7**	**-0.1**
T35B	**Sooner Cattle**	**1.46**	**18**	P		**Pn**	**11 31 47.5**	**-0.8**
	baz=199							
T35B				S		**Sn**	**11 32 07.7**	**-0.1**
	baz=199							
WMOK	**Wichita Mounta**	**1.60**	**241**			**Pn**	**11 31 49.4**	**-0.7**
WMOK				Sn		**Sn**	**11 32 11.0**	**-0.1**
WMOK	**Wichita Mounta**	**1.60**	**241**	P		**Pn**	**11 31 49.3**	**-0.8**
	baz=60							
X37A	**Clayton**	**1.68**	**123**	Pn		**Pn**	**11 31 51.6**	**+0.3**
X37A	**Clayton**	**1.68**	**123**	P		**Pn**	**11 31 51.5**	**+0.3**
	baz=304							
X37A				Sb		**Sg**	**11 32 15.4**	**+0.2**
	baz=304							
U32A	**Winter Ranch,**	**1.78**	**299**			**Pn**	**11 31 52.5**	**0.0**
U32A	**Winter Ranch,**	**1.78**	**299**	P		**Pn**	**11 31 52.5**	**0.0**
	baz=119							
U32A				S		**Sb**	**11 32 17.1**	**+0.2**
	baz=119							
Z35A	**Perchaven, San**	**2.19**	**184**			**Pn**	**11 31 55.2**	**-3.1**
Z35A	**Perchaven, San**	**2.19**	**184**	P		**Pn**	**11 31 59.0**	**+0.7**
	baz=3.4							
Z35A				S		**Sb**	**11 32 28.4**	**-0.3**
	baz=3.4							
HHAR	**Hobbs**	**2.66**	**73**			**Pn**	**11 32 04.4**	**-0.3**
W39A	**Magazine**	**2.71**	**96**			**Pn**	**11 32 05.4**	**0.0**
W39A				IAmb_Lg			11 32 51.2	
	comp=Z,41nm,0.8s							
W39A	**Magazine**	**2.71**	**96**	P		**Pn**	**11 32 05.6**	**+0.2**
	baz=278							
W39A				S		**Sn**	**11 32 40.0**	**+1.4**
	baz=278							
Z38A	**Mt. Pleasant**	**2.85**	**142**			**Pn**	**11 32 07.3**	**+0.1**
Z38A				IAmb_Lg			11 32 51.2	
	comp=Z,18nm,0.8s							
MIAR	**Mount Ida**	**3.04**	**108**			**Pn**	**11 32 11.2**	**+1.4**
MIAR				IAmb_Lg			11 33 05.0	
	comp=Z,18nm,0.8s							
U40A	**Yellville**	**3.53**	**75**	Pn		**Pn**	**11 32 17.1**	**+0.4**
WHTX	**Lake Whitney,**	**3.54**	**185**			**Pn**	**11 32 15.7**	**-1.0**
KSU1	**Kansas State U**	**3.59**	**6**			**Pn**	**11 32 17.8**	**+0.4**
ABTX	**Abilene, Hawle**	**3.59**	**217**			**Pn**	**11 32 17.9**	**+0.4**
ABTX				IAmb_Lg			11 33 16.5	
	comp=Z,14nm,0.8s							
X40A	**Basin Creek Fa**	**3.63**	**105**			**Pn**	**11 32 19.4**	**+1.4**
X40A				IAmb_Lg			11 33 22.2	
	comp=Z,31nm,0.8s							
237A	**Washetta, Mont**	**3.67**	**163**	Pn		**Pn**	**11 32 18.7**	**+0.1**
S39A	**Bolivar**	**3.72**	**53**	Pn		**Pn**	**11 32 19.5**	**+0.3**
S39A				IAmb_Lg			11 33 23.6	
	comp=Z,23nm,1.0s							
WLAR	**White Oak Lake**	**3.75**	**118**	IAmb_Lg			11 33 24.0	
	comp=Z,23nm,0.8s							
AMTX	**Amarillo**	**3.82**	**262**			**Pn**	**11 32 20.2**	**-0.6**
AMTX				IAmb_Lg			11 33 24.1	
	comp=Z,23nm,0.7s							
CBKS	**Cedar Bluff**	**3.91**	**328**	IAmb_Lg			11 33 29.4	
	comp=Z,18nm,0.8s							
WHAR	**Wooly Hollow**	**3.92**	**92**			**Pn**	**11 32 21.4**	**-0.5**
WHAR				IAmb_Lg			11 33 33.9	
	comp=Z,15nm,0.7s							
UALR	**University of**	**3.95**	**100**	Pn		**Pn**	**11 32 20.1**	**-2.3**
W41B	**Gary Mavity, V**	**3.96**	**94**			**Pn**	**11 32 23.2**	**+0.6**
W41B				IAmb_Lg			11 33 31.1	
	comp=Z,25nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.05**	**83**			**Pn**	**11 32 23.0**	**-0.8**
Z41A	**Richland Creek**	**4.20**	**121**	IAmb_Lg			11 33 38.3	
	comp=Z,16nm,0.8s							
MGMO	**Mountain Grove**	**4.21**	**66**	IAmb_Lg			11 33 34.1	
	comp=Z,16nm,0.7s							
R40A	**Maddies Statio**	**4.74**	**53**	IAmb_Lg			11 34 01.7	
	comp=Z,20nm,1.1s							
LCAR	**Lake Charles**	**4.85**	**82**	IAmb_Lg			11 34 01.5	
	comp=Z,11nm,0.9s							
P38A	**Dawn**	**4.97**	**33**	IAmb_Lg			11 33 59.4	
	comp=Z,15nm,0.7s							
CCM	**Cathedral Cave**	**5.32**	**60**	IAmb_Lg			11 34 08.6	
	comp=Z,9.1nm,0.7s							
P40A	**Paris**	**5.65**	**44**	IAmb_Lg			11 34 25.3	
	comp=Z,17nm,0.8s							

TIR ***27*** *12:25:11.3,41°.90N*×*19°.51E,h3km*±*1km,Md0.6,Ml0.4*
PDG ***27*** *12:25:11.2*±*0.1,41°.88N*×*19°.52E,h14km,MD2.5/1, ML2.5/11,Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
BEO ***27*** *12:25:14.1*±*0.3,41°.94N*×*19°.55E,h5km,2km,ML2.1/12*
RHSSO ***27*** *12:25:14.0*±*0.9,41°.92N*×*19°.59E,h4km,3km,ML2.3/6*

ISC 27 12:25:12.4±1.0,**41°91N**±0°.02×**19°53E**±0°.02,**h7**km±8km,
n48,σ0**°99/94,7C-2D,Albania**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULC	**Ulcinj**	**0.22**	**285**	*e*Pg		**Pg**	**12 25 16.0**	**-0.8**
ULC				*i* Sg		**Sg**	**12 25 20.2**	**+0.5**
LACI	**Lac**	**0.30**	**153**	P		**Pb**	**12 25 21.5**	**+1.3**
	baz=149							
LACI				S		**Sb**	**12 25 24.4**	**-1.0**
	baz=149							
DRME	**Dracevica, Mon**	**0.38**	**318**	*e*Pg		**Pg**	**12 25 19.7**	**-0.1**
DRME				*e*Sg		**Sg**	**12 25 26.8**	**+2.0**
DRME	**Dracevica, Mon**	**0.38**	**318**	*i*Pg		**Pg**	**12 25 18.9**	**-0.9**
DRME				*i* Sg		**Sg**	**12 25 25.7**	**+0.9**
PDG	**

MORI				Sn	**Sn**	**12 26 47.5**	**+0.5**
DUGI	**Dugi Otok**	**3.89**	**304**	*e*Pn	**Pn**	**12 26 12.0**	**-0.6**
DUGI				Sn	**Sn**	**12 26 57.4**	**-1.1**

DDA ***27*** *12:26:50.9±0.0,35°.77N×31°.65E, h34km±1km, ML2.8*
ISK ***27*** *12:26:50.5,35°.64N×31°.74E, h31km, ML3.5/34*
NIC ***27*** *12:26:52.2±0.0,35°.72N×32°.03E, h61km±5km, Ml3.3/4*
GII ***27*** *12:26:53.3±0.0,35°.44N×31°.86E, h30km, Mm3.0/4*
ISC 27 12:26:50.4±1.4**,35°.64N**±0°.03×**31°.75E**±0°.03**, h34**km±3km**, n68,σ1s23/93,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAZI	**Gazipasa**	**0.76**	**38**	P	PG	**Pb**	**12 27 05.3**	**+0.1**
GAZI					SG	**Sb**	**12 27 15.7**	**+0.4**
GAZI	**Gazipasa**	**0.76**	**38**	P		**Pb**	**12 27 05.4**	**+0.1**
GAZI				S		**Sb**	**12 27 15.6**	**+0.4**
GAZI				*i* AML		AML	12 27 16.0	
	comp=N,763nm,0.3s							
GAZI				*i* AML		AML	12 27 16.0	
	comp=E,453nm,0.4s							
AKMS	**Akamas**	**0.78**	**142**	P		**Pn**	**12 27 06.9**	**+1.8**
AKMS				S		**Sb**	**12 27 18.8**	**+2.8**
AKMS				AML		AML	12 27 20.0	
	3.4nm,0.2s							
AKMS				AML		AML	12 27 20.0	
	3.4nm,0.2s							
AKMS				AML		AML	12 27 21.2	
	3.8nm,0.5s							
AKMS				AML		AML	12 27 21.2	
	3.8nm,0.5s							
ALFC	**Alefka**	**0.85**	**124**	P		**Pn**	**12 27 06.9**	**+1.0**
ALFC				S		**Sn**	**12 27 18.8**	**+1.6**
ALFC				AML		AML	12 27 20.0	
	4.9nm,0.3s							
ALFC				AML		AML	12 27 20.0	
	4.9nm,0.3s							
ALFC				AML		AML	12 27 20.4	
	9.5nm,0.3s							
ALFC				AML		AML	12 27 20.4	
	9.5nm,0.3s							
NATA	**Nata**	**1.09**	**141**	P		**Pn**	**12 27 10.9**	**+1.6**
TEKE	**Tekeli-Mersin**	**1.22**	**65**	PN		**Pn**	**12 27 11.4**	**+0.3**
TEKE				SN		**Sb**	**12 27 26.8**	**-1.6**
KEPZ	**Antalya-Kepez**	**1.27**	**355**	P		**Pn**	**12 27 12.2**	**+0.4**
KEPZ				S		**Sn**	**12 27 27.9**	**+0.2**
KEPZ				*i* AML		AML	12 27 28.0	
	comp=N,190nm,0.2s							
KEPZ				*i* AML		AML	12 27 29.0	
	comp=E,138nm,0.2s							
SZAC	**Souni**	**1.28**	**133**	P		**Pn**	**12 27 13.3**	**+1.4**
SZAC				AML		AML	12 27 36.0	
	1.3nm,0.5s							
SZAC				AML		AML	12 27 39.6	
	1.6nm,0.4s							
AKUM	**Antalya-Kumluc**	**1.33**	**301**	P		**Pn**	**12 27 13.4**	**+0.9**
ERMK	**Ermenek**	**1.38**	**43**	P		**Pb**	**12 27 14.8**	**-1.0**
ERMK				S		**Sb**	**12 27 34.1**	**+1.0**
ERMK				*i* AML		AML	12 27 35.0	
	comp=N,160nm,0.3s							
ERMK				*i* AML		AML	12 27 40.0	
	comp=E,182nm,0.3s							
BERE	**Bereket-Mersin**	**1.39**	**59**	PN		**Pn**	**12 27 14.3**	**+0.7**
BERE				SN		**Sb**	**12 27 31.9**	**-1.6**
HDMB	**Hadim**	**1.45**	**24**	PN		**Pn**	**12 27 15.3**	**+0.8**
CSS	**Mathiatis**	**1.46**	**117**	PN		**Pn**	**12 27 15.3**	**+0.9**
CSS	**Mathiatis**	**1.46**	**117**	P		**Pn**	**12 27 15.4**	**+1.1**
CSS				S		**Sn**	**12 27 31.7**	**-0.6**
ASGA	**Asgata**	**1.50**	**124**	P		**Pn**	**12 27 15.9**	**+1.1**
LFK	**Lefkose**	**1.50**	**103**	PN		**Pn**	**12 27 15.9**	**+0.9**
OREN	**Orenkoy-Mersin**	**1.50**	**67**	PN		**Pn**	**12 27 15.8**	**+0.9**
AKIN	**Akıncılar- Kıb**	**1.54**	**113**	PN		**Pn**	**12 27 16.5**	**+1.1**
AKK1	**Akkuyu-Mersin**	**1.54**	**70**	PN		**Pn**	**12 27 16.4**	**+0.9**
AKK2	**Akkuyu-Mersin**	**1.55**	**71**	PN		**Pn**	**12 27 16.5**	**+1.0**
AKKU	**Akkuyu-Mersin**	**1.56**	**70**	PN		**Pn**	**12 27 16.5**	**+0.8**
GULN	**MERSIN_Gulnar**	**1.56**	**69**	P		**Pn**	**12 27 16.2**	**+0.5**
GULN				S		**Sn**	**12 27 34.9**	**+0.2**
GULN				*i* AML		AML	12 27 36.0	
	comp=E,140nm,0.3s							
GULN				*i* AML		AML	12 27 37.0	
	comp=N,231nm,0.2s							
TEVE	**Tevekalti-Mers**	**1.59**	**59**	PN		**Pn**	**12 27 17.2**	**+1.0**
DEMR	**Demre-Antalya**	**1.61**	**292**	PN		**Pn**	**12 27 17.4**	**+1.0**
YESI	**Yesilovacik-Me**	**1.64**	**70**	PN		**Pn**	**12 27 17.8**	**+1.0**
TISA	**Tisan-Mersin**	**1.66**	**71**	PN		**Pn**	**12 27 18.0**	**+1.0**
MVOU	**Mavrovouni**	**1.66**	**111**	P		**Pn**	**12 27 17.0**	**-0.1**
MVOU				S		**Sn**	**12 27 36.2**	**-1.1**
MVOU				AML		AML	12 27 38.0	
	0.7nm,0.2s							
MVOU				AML		AML	12 27 38.0	
	0.7nm,0.2s							
MVOU				AML		AML	12 27 41.1	
	0.6nm,0.3s							
MVOU				AML		AML	12 27 41.1	
	0.6nm,0.3s							
IKL	**Isikli**	**1.69**	**69**	PN		**Pn**	**12 27 18.4**	**+1.0**
KARG	**Kargicak-Mersi**	**1.69**	**70**	PN		**Pn**	**12 27 18.7**	**+1.2**
KORT	**Korkueli**	**1.77**	**321**	PN		**Pn**	**12 27 19.7**	**+1.0**
SEYD	**Seydisehir-KON**	**1.77**	**2**	PN		**Pn**	**12 27 19.7**	**+1.0**
KEBE	**Keben-Mersin**	**1.79**	**63**	PN		**Pn**	**12 27 20.0**	**+1.1**
SEDI	**Konya, Seydise**	**1.81**	**0**	P		**Pn**	**12 27 21.2**	**+1.9**
SEDI				S		**Sb**	**12 27 43.3**	**-2.0**
SEDI				*i* AML		AML	12 27 47.0	
	comp=N,107nm,0.8s							
SEDI				*i* AML		AML	12 27 48.0	
	comp=E,152nm,0.4s							
AKAS	**Kas**	**1.83**	**290**	PN		**Pn**	**12 27 20.6**	**+1.0**
KKBE	**Karaman, Kazim**	**1.85**	**31**	P		**Pn**	**12 27 21.6**	**+1.8**
KKBE				S		**Sn**	**12 27 42.1**	**0.0**
ELL	**Elmali**	**1.85**	**307**	PN		**Pn**	**12 27 20.9**	**+1.0**
SILI	**Silifke-Mersin**	**1.91**	**67**	PN		**Pn**	**12 27 21.7**	**+1.2**
KRMN	**Karaman**	**1.96**	**38**	PN		**Pn**	**12 27 22.4**	**+1.0**
EREN	**Erenkoy**	**1.98**	**92**	PN		**Pn**	**12 27 22.5**	**+1.0**
BCK	**Bucak**	**2.04**	**333**	PN		**Pn**	**12 27 23.5**	**+1.0**
KONT	**Konya--Tatoy**	**2.36**	**12**	PN		**Pn**	**12 27 28.2**	**+1.5**
FETY	**Fethiye**	**2.37**	**296**	PN		**Pn**	**12 27 28.0**	**+1.1**
ISP	**Isparta**	**2.39**	**336**	PN		**Pn**	**12 27 28.6**	**+1.3**
DOGA	**KONYA_Doganhis**	**2.46**	**359**	P		**Pn**	**12 27 27.9**	**-0.4**
DOGA				S		**Sn**	**12 27 57.3**	**0.0**
DOGA				*i* AML		AML	12 28 09.0	
	comp=E,41nm,0.5s							
BAGO	**Egridir - ISPA**	**2.47**	**342**	P		**Pn**	**12 27 29.3**	**+1.0**
BAGO				S		**Sn**	**12 27 57.5**	**+0.1**
MERS	**Mersin**	**2.56**	**61**	PN		**Pn**	**12 27 30.9**	**+1.4**
LADK	**Ladik-KONYA**	**2.61**	**11**	PN		**Pn**	**12 27 31.5**	**+1.3**
YVAC	**Isparta, Yalva**	**2.66**	**351**	P		**Pn**	**12 27 32.1**	**+1.2**
YVAC				S		**Sn**	**12 27 59.2**	**-2.9**
DALY	**Dalyan (Mula)**	**2.76**	**296**	PN		**Pn**	**12 27 33.1**	**+0.9**
ARG	**Arkhangelos**	**2.99**	**282**	PN		**Pn**	**12 27 36.2**	**+0.8**
TURN	**Turunc**	**3.05**	**293**	PN		**Pn**	**12 27 37.8**	**+1.6**
SHUT	**Suhut-Afyon**	**3.06**	**342**	PN		**Pn**	**12 27 38.3**	**+1.8**
YER	**Yerkesik**	**3.17**	**299**	PN		**Pn**	**12 27 39.5**	**+1.6**
KIZT	**Kizilcal**	**3.24**	**2**	PN		**Pn**	**12 27 40.6**	**+1.7**
CMRD	**Camardi-Nigde**	**3.30**	**51**	PN		**Pn**	**12 27 41.5**	**+1.7**
TAHT	**Tahtakopru-Hat**	**3.67**	**77**	PN		**Pn**	**12 27 47.0**	**+2.2**
KOZT	**Kozan**	**3.77**	**60**	PN		**Pn**	**12 27 48.2**	**+2.1**
MMA0B	**Mount Meron ar**	**4.00**	**130**	Pn		**Pn**	**12 27 50.0**	**+0.6**
MMA0B				Sn		**Sn**	**12 28 33.4**	**-1.7**
OFRI	**`Ofer**	**4.03**	**137**	Pn		**Pn**	**12 27 49.4**	**-0.4**
OFRI				Sn		**Sn**	**12 28 35.1**	**-0.8**
GEM	**Giv'at Ha'Em**	**4.04**	**126**	Pn		**Pn**	**12 27 50.1**	**+0.2**
GEM				Sn		**Sn**	**12 28 34.4**	**-1.7**
BLGI	**Bet Lehem HaGe**	**4.07**	**134**	Pn		**Pn**	**12 27 51.0**	**+0.8**
BLGI				Sn		**Sn**	**12 28 36.1**	**-0.6**
MMLI	**Mount Malkishu**	**4.42**	**135**	Pn		**Pn**	**12 27 55.5**	**+0.5**
MMLI				Sn		**Sn**	**12 28 43.9**	**-1.4**
HMDT	**Nahal Hemdat**	**4.61**	**136**	Pn		**Pn**	**12 27 58.8**	**+1.1**
HMDT				Sn		**Sn**	**12 28 49.4**	**-0.7**
DSI	**Dead Sea**	**5.07**	**142**	Pn		**Pn**	**12 28 04.8**	**+0.9**
DSI				Sn		**Sn**	**12 29 00.1**	**-1.1**
KZIT	**Kziot**	**5.21**	**154**	Pn		**Pn**	**12 28 06.8**	**+0.8**
KZIT				Sn		**Sn**	**12 29 02.4**	**-2.6**
MSBI	**Mazada**	**5.26**	**144**	Pn		**Pn**	**12 28 07.6**	**+1.0**
PRNI	**Paran**	**5.94**	**152**	Pn		**Pn**	**12 28 16.2**	**+0.2**
PRNI				Sn		**Sn**	**12 29 21.1**	**-1.7**
KRMI	**Paran Flat**	**6.05**	**155**	Pn		**Pn**	**12 28 17.6**	**+0.1**

INET ***27*** *12:51:09.6±2.4,15°.12N×93°.85W, h15km±14km, MW5.3*
IDC ***27*** *12:51:15.3±0.4,14°.52N×92°.80W, h0km, mb5.2/45,*
mb1 5.3/48, mb1mx5.3/54, mbtmp5.2/48, ML5.1/3, MS5.6/65, Ms1 5.6/65, ms1mx5.6/71, Error ellipse: s-maj=15.5km s-min=9.2km az=49.0
MEX ***27*** *12:51:18.2±3.0, 14°.29N×93°.39W, h20km, MD6.0*
NEIC ***27*** *12:51:19.4±2.6, 14°.52N±0°.05×93°.09W±0°.04, h16km±1km, mb5.8/658, Ms_20 5.7/202, Mwb5.8/55, Mwc6.0/74, Mww6.0, Md6.0/159(MEX), Error ellipse: s-maj=8.1km s-min=6.9km az=204.0*
SNET ***27*** *12:51:19.8±1.1, 14°.27N×93°.05W, h4km±11km, ML5.9*
MOS ***27*** *12:51:20.1±1.0, 14°.64N×92°.89W, h33km, mb5.8/55, MS5.7/42, Error ellipse: s-maj=7.2km s-min=4.7km az=96.0*
GCMT ***27*** *12:51:22.4±0.1, 14°.55N×93°.39W, h22km, MW6.0/159, Moment Tensor Solution. s159,c336; s154,c511; Duration: 28s4 Moment tensor: Scale 1018Nm; Mrr0.95±.01; Mθθ-0.70±.01; Mφφ-0.25±.01; Mrθ0.57±.01; Mθφ0.34±.00; Mφr-0.50±.01; Best double couple: M0 1.19100×1018 NP1:φs292.00000°,δ26.00000°, λ77.00000°. NP2:φs126.00000°,δ65.00000°,λ96.00000°. Principal axes: T 1.2310, Plg70.0000°, Azm48.0000°; N -0.0800, Plg5.0000°, Azm303.0000°; P -1.1520, Plg20.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***27*** *12:51:22.9,14.62N×92.93W, h23km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr6.09; Mθθ-4.74; Mφφ-1.35; Mrθ1.84; Mθφ2.54; Mφr-1.37; Fault plane solution: M0 6.51000×1017 NP1:φs121.14000°, δ55.29000°,λ93.43000°. NP2:φs295.14000°,δ34.86000°, λ85.07000°. Principal axes: T 6.5132, Plg79.0000°, Azm44.0000°; N -0.0072, Plg3.0000°, Azm299.0000°; P -6.5059, Plg10.0000°, Azm209.0000°;*
GCG ***27*** *12:51:25.0±1.5, 14°.57N×92°.78W, h17km±187km, MD5.6*
NEIC ***27*** *12:51:27, 14°.57N×93°.07W, h30km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 1018Nm; Mrr0.87; Mθθ-0.54; Mφφ-0.34; Mrθ0.89; Mθφ0.31; Mφr-0.39; Fault plane solution: M0 1.27000×1018 NP1: φs312.00000°,δ21.00000°,λ104.00000°. NP2: φs117.00000°,δ70.00000°,λ85.00000°. Principal axes: T 1.3316, Plg65.0000°, Azm18.0000°; N -0.1322, Plg5.0000°, Azm119.0000°; P -1.1994, Plg25.0000°, Azm211.0000°;*
NEIC ***27*** *12:51:37.5, 14°.56N×92°.77W, h24km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr0.97; Mθθ-0.76; Mφφ-0.21; Mrθ0.47; Mθφ0.32; Mφr-0.57; Fault plane solution: M0 1.19000×1018 NP1:φs283.23000°, δ28.40000°,λ66.60000°. NP2:φs129.43000°,δ64.12000°, λ102.12000°. Principal axes: T 1.2547, Plg69.0000°, Azm63.0000°; N -0.1221, Plg11.0000°, Azm304.0000°; P -1.1325, Plg18.0000°, Azm210.0000°;*
ISC 27 12:51:19.5±0.4,**14°.46N**±0°.03×**93°.15W**±0°.02**, h27**km±2km**, h28**km**:pP-P,n1900,σ2s16**/1902**, mb5.7**/366**, MS5.7**/229**, 224C-148D,Fault plane solution: NP1:**φs161.70520°, δ33.74787°,λ128.07109°. **NP2:**φs298.41510°,δ64.06532°, λ67.60875°. **Principal axes:** T Plg63.7928°, Azm170.8305°; N Plg20.0333°, Azm308.6292°; P Plg16.1827°, Azm44.7034°**; Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**0.96**	**63**			**Pn**	**12 51 37.3**	**+0.2**
THIG						**Sn**	**12 51 49.9**	**0.0**
THIG						**Sb**	**12 51 52.9**	**+3.1**
THIG		**0.96**	**63**	*e*P		**Pn**	**12 51 37.3**	**+0.2**
THIG				*i* S		**Sn**	**12 51 51.9**	**+1.9**
PATR	**El Naranjo**	**1.09**	**54**	*e*P		**Pn**	**12 51 39.0**	**-0.3**
PATR				*i* S		**Sn**	**12 51 55.6**	**+1.9**
CHUJ	**Union Juarez**	**1.18**	**58**	*e*P		**Pb**	**12 51 40.6**	**-0.9**
CHUJ				*e*S		**Sn**	**12 51 57.7**	**+1.9**
PAVE	**Pavencul**	**1.19**	**52**	*e*P		**Pb**	**12 51 40.5**	**-1.0**
PAVE				*i* S		**Sn**	**12 51 58.3**	**+2.5**
PCIG		**1.23**	**357**			**Pn**	**12 51 40.2**	**-0.8**
PCIG						**Sn**	**12 51 56.2**	**-0.5**
PCIG		**1.23**	**357**	*e*P		**Pn**	**12 51 40.2**	**-0.8**
PCIG				*e*S		**Sn**	**12 51 56.2**	**-0.5**
RTAL	**Retalhuleu**	**1.41**	**87**			**Pn**	**12 51 43.5**	**+0.1**
RTAL					Sn	**Sb**	**12 52 03.5**	**+0.8**
RTAL	**Retalhuleu**	**1.41**	**87**	*e*P		**Pb**	**12 51 43.9**	**-1.2**
RTAL				*e*S		**Sb**	**12 52 03.3**	**+0.6**
STG3	**Santiaguito 3,**	**1.54**	**81**	*e*P		**Pn**	**12 51 46.0**	**+0.6**
HUEH	**Huehuetenango**	**1.80**	**62**			**Pb**	**12 51 50.9**	**-1.1**
HUEH	**Huehuetenango**	**1.80**	**62**	*e*P		**Pb**	**12 51 51.5**	**-0.5**
HUEH				*e*S		**Sb**	**12 52 18.3**	**+4.1**
CARR	**Arriaga**	**1.92**	**337**	*e*P		**Pn**	**12 51 49.9**	**-0.5**
CARR				*i* S		**Sn**	**12 52 12.3**	**-1.3**
CCIG	**Comitan**	**2.05**	**28**			**Pn**	**12 51 55.1**	**-1.2**
CCIG					Sn	**Sn**	**12 52 10.0**	**-7.2**
CCIG	**Comitan**	**2.05**	**28**			**Sb**	**12 52 23.6**	**+2.2**
CCIG	**Comitan**	**2.05**	**28**	*e*P		**Pb**	**12 51 55.0**	**-1.2**
CCIG	**Comitan**	**2.05**	**28**	*e*P		**Pb**	**12 51 55.3**	**-0.9**
CCIG				*i* S		**Sb**	**12 52 23.6**	**+2.2**
FUG	**Fuego 3**	**2.23**	**90**	*e*P		**Pn**	**12 51 55.8**	**+0.9**
FUG				*e*S		**Sb**	**12 52 27.8**	**+1.2**
TGBT	**Tuxtla Gutierr**	**2.30**	**1**			**Pb**	**12 51 57.8**	**-2.6**
TGBT						**Sb**	**12 52 27.4**	**-0.9**
TGBT	**Tuxtla Gutierr**	**2.30**	**1**	*e*P		**Pb**	**12 51 57.8**	**-2.6**
TGBT				*i* S		**Sb**	**12 52 27.4**	**-0.9**
TGIG		**2.30**	**1**			**Pb**	**12 51 57.6**	**-2.8**
TGIG						**Sb**	**12 52 25.8**	**-2.7**
TGIG		**2.30**	**1**	*e*P		**Pn**	**12 51 57.4**	**+1.7**
TGIG				*i* S		**Sb**	**12 52 25.8**	**-2.7**
PCG	**Pacaya**	**2.46**	**91**	*i* P		**Pn**	**12 51 59.7**	**+1.6**
NBG	**Las Nubes**	**2.71**	**87**	*e*P		**Pn**	**12 52 04.3**	**-3.2**
UXUV	**UXUV**	**3.00**	**341**	*e*P		**Pn**	**12 52 06.7**	**+1.5**
UXUV				*i* S		**Sn**	**12 52 39.8**	**-0.5**
CMIG	**Matias Romero**	**3.10**	**328**	Pn		**Pn**	**12 52 05.5**	**-1.2**
	277nm,0.3s,baz=145,slow=11,SNR=395							
CMIG					Sn	**Sn**	**12 52 42.8**	**-0.1**
	846nm,0.3s,baz=102,slow=20,SNR=8.8							
CMIG					LR	LR	12 53 21.4	
	comp=Z,49μm,21.7s,baz=140,slow=39							
CMIG	**Matias Romero**	**3.10**	**328**			**Pn**	**12 52 06.1**	**-0.5**
CMIG						**Sn**	**12 52 38.5**	**-4.3**
CMIG	**Matias Romero**	**3.10**	**328**	*e*P		**Pn**	**12 52 05.9**	**-0.8**
CMIG				*e*S		**Sn**	**12 52 38.5**	**-4.3**
HUIG	**Huatulco**	**3.14**	**295**			**Pn**	**12 52 05.6**	**-1.6**
HUIG						**Sn**	**12 52 38.1**	**-5.8**
HUIG	**Huatulco**	**3.14**	**295**	*e*P		**Pn**	**12 52 05.6**	**-1.6**
HUIG				*e*S		**Sn**	**12 52 36.0**	**-7.9**
SLOZ	**Alcaldia de Sa**	**3.29**	**97**	*e*P		**Pn**	**12 52 11.0**	**+1.7**
SLOZ				*e*S		**Sn**	**12 52 49.9**	**+2.4**
NUBE	**Las Nubes**	**3.31**	**99**	*e*P		**Pn**	**12 52 11.0**	**+1.3**
NUBE				*e*S		**Sn**	**12 52 50.3**	**+2.0**
MRL	**Marmol**	**3.40**	**79**	*e*P		**Pn**	**12 52 13.5**	**+2.5**
PANG	**Puerto Angel**	**3.43**	**291**			**Pn**	**12 52 10.6**	**-0.6**
PANG	**Puerto Angel**	**3.43**	**291**	*e*P		**Pn**	**12 52 10.6**	**-0.6**
SBLS	**San Blas**	**3.47**	**100**	*e*P		**Pn**	**12 52 13.2**	**+1.2**
CEVE	**Cerro Verde**	**3.47**	**100**	*e*P		**Pn**	**12 52 13.1**	**+1.1**
CEVE					IAML		12 53 11.1	
	comp=Z,39μm,0.8s							
SNJE	**San Jose**	**3.48**	**99**	*e*P		**Pn**	**12 52 13.8**	**+1.7**
VHSA	**Villahermosa**	**3.50**	**3**	*e*P		**Pn**	**12 52 15.1**	**+2.9**
VHSA				*i* S		**Sn**	**12 52 57.2**	**+4.4**
MTO3	**Montecristo**	**3.67**	**91**			**Pn**	**12 52 15.1**	**+0.4**
MTO3	**Montecristo**	**3.67**	**91**	*e*P		**Pn**	**12 52 16.6**	**+2.0**
JAYA	**Jayaque - finc**	**3.68**	**102**	*e*P		**Pn**	**12 52 14.6**	**-0.2**
ESQI	**Esquipulas**	**3.69**	**88**			**Pn**	**12 52 16.0**	**+1.2**
ESQI	**Esquipulas**	**3.69**	**88**	*e*P		**Pn**	**12 52 17.3**	**+2.5**
CEDA	**San Andres**	**3.70**	**100**	*e*P		**Pn**	**12 52 16.2**	**+1.3**
CEDA				*e*S		**Sn**	**12 53 00.1**	**+2.5**
CEDA					IAML		12 53 23.2	
	comp=Z,16μm,0.6s							
MIHL	**Minatitlan**	**3.75**	**339**	*i* P		**Pn**	**12 52 19.1**	**+3.5**
MIHL				*e*S		**Sn**	**12 52 50.5**	**-8.4**
TUIG	**Tuzandepetl**	**3.76**	**341**			**Pn**	**12 52 16.8**	**+1.2**
TUIG						**Sb**	**12 53 05.5**	**-4.7**
TUIG	**Tuzandepetl**	**3.76**	**341**	*e*P		**Pn**	**12 52 16.8**	**+1.2**
TUIG				*e*S		**Sb**	**12 53 05.5**	**-4.7**
BOQS	**Boqueron**	**3.82**	**100**	*e*P		**Pn**	**12 52 18.7**	**+2.0**
LALI	**Alcalda de L**	**3.84**	**104**	*e*P		**Pn**	**12 52 18.1**	**+1.3**
LALI				*e*S		**Sn**	**12 53 02.3**	**+1.3**
UEES	**Universidad Ev**	**3.86**	**101**	*e*P		**Pn**	**12 52 18.9**	**+1.7**
SNET	**Serv Nac Est T**	**3.88**	**101**	*e*P		**Pn**	**12 52 19.0**	**+1.6**
PETF	**Flores**	**3.99**	**52**			**Pn**	**12 52 21.1**	**+2.3**
LFRS	**El Faro**	**4.05**	**101**	*e*P		**Pn**	**12 52 21.0**	**+1.1**
PAVA	**Las Pavas**	**4.15**	**100**	*e*P		**Pn**	**12 52 22.3**	**+1.1**
PEIG	**Puerto Escondi**	**4.15**	**292**	*e*P		**Pn**	**12 52 20.5**	**-0.7**
PEIG				*i* S		**Sn**	**12 53 03.1**	**-5.8**
COEG	**Centro de Oper**	**4.22**	**101**	*e*P		**Pn**	**12 52 24.1**	**+1.9**
OXLC	**Oaxaca**	**4.29**	**308**	*e*P		**Pn**	**12 52 25.2**	**+2.0**
OXLC				*e*S		**Sn**	**12 53 10.2**	**-2.4**
OXBJ	**Oaxaca**	**4.31**	**307**			**Pn**	**12 52 23.6**	**+0.2**
OXBJ						**Sn**	**12 53 17.2**	**+4.2**
OXBJ	**Oaxaca**	**4.31**	**307**	*e*P		**Pn**	**12 52 23.6**	**+0.2**
OXBJ				*e*S		**Sn**	**12 53 10.2**	**-2.8**
VHO	**Vista Hermosa**	**4.32**	**307**	*e*P		**Pn**	**12 52 25.7**	**+2.1**
VHO				*i* S		**Sn**	**12 53 10.5**	**-2.7**
SCLA	**Alcaldia de Sa**	**4.35**	**99**	*e*P		**Pn**	**12 52 25.2**	**+1.3**
COEB	**Comit de Eme**	**4.58**	**102**	*e*P		**Pn**	**12 52 28.2**	**+1.1**
CAHU	**Cacacuatique**	**4.84**	**98**	*e*P		**Pn**	**12 52 32.9**	**+2.2**
SCIG	**Sabancuy**	**4.86**	**22**			**Pn**	**12 52 32.8**	**+2.0**
SCIG						**Sn**	**12 53 28.6**	**+2.5**
SCIG	**Sabancuy**	**4.86**	**22**	*e*P		**Pn**	**12 52 32.8**	**+2.0**
SCIG				*i* S		**Sn**	**12 53 28.6**	**+2.5**
YOIG	**Yosondua**	**4.86**	**300**	*e*P		**Pn**	**12 52 32.4**	**+1.3**
YOIG				*e*S		**Sn**	**12 53 22.4**	**-4.2**
PNIG	**Pinotepa**	**5.17**	**292**			**Pn**	**12 52 35.2**	**0.0**
PNIG						**Sn**	**12 53 34.6**	**+0.6**
PNIG	**Pinotepa**	**5.17**	**292**	*e*P		**Pn**	**12 52 35.2**	**0.0**
PNIG				*e*S		**Sn**	**12 53 34.6**	**+0.6**
TOIG	**Toxpalan**	**5.21**	**314**	*e*P		**Pn**	**12 52 37.4**	**+1.6**
TOIG				*e*S		**Sn**	**12 53 35.1**	**-0.1**
LCND	**La Caada**	**5.23**	**102**	*e*P		**Pn**	**12 52 37.5**	**+1.5**
TXIG	**Tlaxiaco**	**5.24**	**303**	*e*P		**Pn**	**12 52 38.4**	**+2.0**
TXIG				*e*S		**Sn**	12 53 23.1	-13
CNCH	**Conchagua**	**5.29**	**102**	*e*P		**Pn**	**12 52 38.2**	**+1.9**
HLIG	**Huajuapan de L**	**5.59**	**307**	*e*P		**Pn**	**12 52 45.1**	**+4.1**
HLIG				*e*S		**Sn**	**12 53 41.3**	**-3.2**
CSGN	**Cosiguina Volc**	**5.63**	**105**	*e*P		**Pn**	**12 52 42.4**	**+0.9**
TPIG	**Tehuac#an**	**5.64**	**315**			**Pn**	**12 52 44.4**	**+2.7**
TPIG						**Sn**	**12 53 37.8**	**-8.0**
TPIG	**Tehuac#an**	**5.64**	**315**	*e*P		**Pn**	**12 52 44.4**	**+2.7**
TPIG				*e*S		**Sn**	**12 53 37.8**	**-8.0**
THEZ	**Tehuacan**	**5.70**	**315**	*e*P		**Pn**	**12 52 45.8**	**+3.2**
THEZ				*e*S		**Sn**	**12 53 43.4**	**-3.7**
TGUH	**Tegucigalpa,Un**	**5.71**	**93**	Pn		**Pn**	**12 52 42.9**	**+0.3**
TGUH	**Tegucigalpa,Un**	**5.71**	**93**	P		**Pn**	**12 52 42.9**	**+0.3**
FTIG	**Fresnillo de T**	**5.89**	**306**	*e*P		**Pn**	**12 52 48.4**	**+3.3**
FTIG				*i* S		**Sn**	**12 53 54.7**	**+2.9**
MGIG	**Malinaltepec**	**5.96**	**298**	*e*P		**Pn**	**12 52 48.6**	**+2.5**
MGIG				*e*S		**Sn**	**12 53 55.5**	**+1.9**
JAUV	**Jalcomulco**	**6.00**	**325**	*i* P		**Pn**	**12 52 45.2**	**-1.4**
JAUV				*e*P		**Pn**	**12 52 45.2**	**-1.4**
TLIG	**Tlapa**	**6.05**	**301**			**Sn**	12 53 45.8	-10
TLIG	**Tlapa**	**6.05**	**301**	Pn		**Pn**	**12 52 50.9**	**+3.5**
TLIG	**Tlapa**	**6.05**	**301**	P		**Pn**	**12 52 50.4**	**+3.0**
TLIG	**Tlapa**	**6.05**	**301**	*e*P		**Pn**	**12 52 50.3**	**+3.0**
TLIG				*e*S		**Sn**	12 53 45.8	-10
LVIG	**Laguna Verde**	**6.09**	**330**			**Pn**	**12 52 46.5**	**-1.3**
LVIG						**Sn**	**12 53 55.2**	**-1.4**
LVIG	**Laguna Verde**	**6.09**	**330**	*e*P		**Pn**	**12 52 46.5**	**-1.3**
LVIG				*i* S		**Sn**	**12 53 55.2**	**-1.4**
HMTT	**Tlapaneco**	**6.17**	**303**			**Pn**	12 52

DUNO	Dulce Nombre,	8.65	119			Pn		12 53 25.5	+2.5
ESPN	Las Esperanzas	8.90	104			Pn		12 53 23.8	-2.5
ESPN	Las Esperanzas	8.90	104		eP	Pn		12 53 27.2	+0.8
ESPN					eS	Sn		12 55 15.7	+10
JTS	Las Juntas de	9.01	116		Pn	Pn		12 53 29.3	+1.3
	comp=Z,2.4nm,0.3s,baz=2.2,slow=16,SNR=5.9								
JTS					Sn	Sn		12 55 06.4	-2.2
	baz=6.4,slow=19,SNR=0.7								
JTS	Las Juntas de	9.01	116	c	iP	Pn		12 53 29.7	+1.7
JTS	Las Juntas de	9.01	116	⇑	P	Pn		12 53 30.7	+2.8
CAO2	Cobano, Puntar	9.18	120			Pn		12 53 30.5	+0.3
MOIG	Morelia	9.27	305			Pn		12 53 36.2	+4.5
MOIG						Sn		12 55 20.9	+5.6
MOIG	Morelia	9.27	305		eP	Pn		12 53 36.2	+4.5
MOIG					eS	Sn		12 55 10.9	-4.4
JACO	JACO, Garabito	9.57	119		Pn	Pn		12 53 36.7	+1.1
RPIG	Rio Verde	9.83	320	⇑	eP	Pn		12 53 43.6	+4.4
RPIG					i S	Sn		12 55 27.1	-1.7
HDC	Heredia	9.88	116			Pn		12 53 41.9	+2.0
HDC	Heredia	9.88	116	⇑	P	Pn		12 53 41.5	+1.6
CVTR	Volcan Turrial	10.18	115			Pn		12 53 46.7	+2.4
RIMA	Rio Macho	10.21	116			Pn		12 53 46.4	+1.9
GTIG	Gomez Farias	10.28	327		eP	Pn		12 53 44.3	-1.0
GTIG					i S	Sn		12 55 40.8	+1.1
MMIG	Aquila	10.50	293			Pn		12 53 51.5	+3.2
MMIG						Sn		12 55 42.8	-2.3
MMIG	Aquila	10.50	293		i P	Pn		12 53 51.5	+3.2
MMIG					eS	Sn		12 55 42.8	-2.3
PEZE	Perez Zeledon,	10.55	118			Pn		12 53 50.6	+1.5
SRBA	San Rafael, Bu	10.90	117			Pn		12 53 55.5	+1.7
RIOS	Rincon, Osa	11.04	120			Pn		12 53 57.2	+1.6
COIG	Colima	11.13	296	⇓	eP	Pn		12 54 01.1	+4.1
JUBC	Volcan de Coli	11.16	298	⇓	eP	Pn		12 54 02.5	+4.8
EZ5V		11.18	298			Pn		12 54 02.7	+4.9
EZ5V		11.18	298	⇓	eP	Pn		12 54 02.7	+4.9
MNGA	Volcan de Coli	11.19	298	⇓	eP	Pn		12 54 02.7	+4.8
INCO	Volcan de Coli	11.20	298	⇓	eP	Pn		12 54 03.1	+4.9
CDAR	Ciudad de Arme	11.32	295		eP	Pn		12 53 60.0	+0.4
PIRO	Carate, Puerto	11.34	121		eP	Pn		12 54 04.8	+5.0
R15V		11.38	296			Pn		12 54 04.6	+4.2
R15V		11.38	296	⇑	iP	Pn		12 54 04.6	+4.2
RGM0	Gandoca	11.39	114			Pn		12 54 01.3	+0.9
PRVC	Isla de Provid	11.49	94	⇑	eP	Pn		12 53 59.8	-2.0
AAIG	Aguscalientes	11.52	312	⇑	eP	Pn		12 54 04.1	+1.7
CDITO	Canoas	11.64	119			Pn		12 54 09.1	+5.1
BRU2	Volcan	11.69	118		Pn	Pn		12 54 05.2	+0.5
LNIG	Linares	11.96	331			Pn		12 54 11.1	+2.8
LNIG	Linares	11.96	331	⇑	iP	Pn		12 54 11.1	+2.8
ZAIG	Zacatecas	12.16	314		Pn	Pn		12 54 12.6	+1.4
ZAIG	Zacatecas	12.16	314	⇑	P	Pn		12 54 16.2	+5.0
ZAIG	Zacatecas	12.16	314		i P	Pn		12 54 16.0	+4.7
FSCY	Frank Sound, G	12.42	66		Pn	Pn		12 54 08.2	-6.4
CJM	Chamela	12.43	295	⇓	iP	Pn		12 54 11.9	-2.9
ANIG	Ahuacatlan	12.66	303			Pn		12 54 22.8	+4.9
ANIG	Ahuacatlan	12.66	303		i P	Pn		12 54 22.8	+4.9
SOR	Soroa	12.68	48		P	Pn		12 54 17.2	-0.9
SOR	Soroa	12.68	48		Pn	Pn		12 54 17.2	-0.9
KVTX	Kingsville	13.75	342			P		12 54 38.4	-2.6
CBCY	The Bluff, Cay	13.83	66			Pn		12 54 28.6	-5.2
CACAO	El Cacao, Vera	13.98	119		eP	P		12 54 40.7	-2.9
BCIP	Isla Barro Col	14.05	111		P	Pn		12 54 36.9	0.0
BCIP	Isla Barro Col	14.05	111		Pn	Pn		12 54 36.9	0.0
BCIP	Isla Barro Col	14.05	111	⇑	eP	Pn		12 54 37.8	+1.0
AZU	Azuero	14.26	116		eP	P		12 54 43.5	-3.2
735A	Kenedy	14.96	344		P	Pn		12 54 49.8	+0.6
	baz=162,SNR=20								
833A	Chaparral WMA,	14.96	338		P	Pn		12 54 50.7	+1.5
	baz=156,SNR=100								
833A	Chaparral WMA,	14.96	338		P	Pn		12 54 49.2	0.0
	baz=156,SNR=100								
MCJ	Malvern	15.24	75		i P	P		12 54 59.4	+1.7
MAIG	Mazatlaan	15.27	307		P	P		12 54 56.6	-1.2
MAIG	Mazatlaan	15.27	307	⇑	iP	P		12 54 56.6	-1.2
PAYG	Puerto Ayora	15.30	169		Pn	Pn		12 54 55.2	+1.4
PAYG					IAmb	IAmb		12 55 09.2	
	comp=Z,686nm,2.0s								
PAYG	Puerto Ayora	15.30	169	⇓	P	P		12 54 58.1	-0.3
MTDJ	Mount Denham	15.44	74	⇑	P	Pn		12 54 54.0	-1.6
PDIG	Papasquiaro	15.60	314	⇑	eP	P		12 55 02.4	+0.7
HKT	Hockley	15.61	351		P	Pn		12 54 57.5	-0.1
HKT					pmax	pmax			
	comp=Z,797nm,1.7s								
HKT	Hockley	15.61	351		Pn	Pn		12 54 57.5	-0.1
HKT					IAmb	IAmb		12 55 52.2	
	comp=Z,797nm,1.6s								
HKT	Hockley	15.61	351	⇑	P	P		12 55 00.8	-0.7
HKT	Hockley	15.61	351		P	P		12 54 59.7	-1.9
	baz=170								
STH	Stony Hill	16.09	75		i P	P		12 55 08.4	+1.4
061Z	Ochoppi	16.13	43		P	Pn		12 55 04.1	-0.3
	baz=228,SNR=56								
HOJ	Hope	16.13	75		i P	P		12 55 26.5	+19
441A	DeRidder	16.21	360		IAmb	IAmb		12 55 12.6	
	comp=Z,558nm,0.9s								
441A	DeRidder	16.21	360		P	P		12 55 06.9	-1.3
	baz=180,SNR=5.8								
SSIG	Sanalona	16.71	310	⇓	iP	P		12 55 17.8	+3.8
435B	Jarrell	16.75	347		P	P		12 55 13.7	-0.5
	baz=165,SNR=23								
435B	Jarrell	16.75	347		P	Pn		12 55 12.6	+0.4
	baz=165								
342A	Flagon Creek P	16.85	2		IAmb	IAmb		12 55 44.3	
	comp=Z,946nm,1.3s								
342B	Flagon Creek P	16.85	2		P	P		12 55 14.7	-0.6
	baz=183,SNR=13								
HPIG		17.05	319		P	P		12 55 18.7	+0.9
HPIG		17.05	319	⇑	P	P		12 55 18.8	+1.0
HPIG		17.05	319	⇑	eP	P		12 55 20.0	+2.2
344A	Westbrook Farm	17.05	7		IAmb	IAmb		12 55 39.4	
	comp=Z,870nm,1.1s								
344A	Westbrook Farm	17.05	7		P	P		12 55 16.7	-1.0
	baz=188,SNR=20								
JCT	Junction City	17.08	340	⇑	P	P		12 55 17.6	-0.4
JCT	Junction City	17.08	340		P	P		12 55 18.1	+0.1
	baz=157,SNR=83								
JCT	Junction City	17.08	340		P	P		12 55 17.4	-0.6
	baz=157,SNR=83								
346A	Big Creek Wild	17.18	11		P	Pn		12 55 17.0	-0.6
346A					IAmb	IAmb		12 55 44.8	
	comp=Z,588nm,0.9s								
346A	Big Creek Wild	17.18	11		P	Pn		12 55 17.4	-0.2
	baz=192,SNR=8.2								
NATX	Nacogdoches	17.27	356			Pn		12 55 18.2	-0.5
NATX	Nacogdoches	17.27	356		P	Pn		12 55 18.9	+0.1
	baz=175,SNR=10								
NATX	Nacogdoches	17.27	356		P	P		12 55 19.3	-0.7
	baz=175,SNR=10								
060A	Indiantown	17.28	42		IAmb	IAmb		12 55 24.1	
	comp=Z,814nm,0.7s								
060A	Indiantown	17.28	42		P	Pn		12 55 18.1	-0.8
	baz=226,SNR=13								
DWPF	Disney Wildern	17.40	37		P	Pn		12 55 19.8	-0.6
DWPF					IAmb	IAmb		12 55 24.8	
	comp=Z,845nm,1.1s								
DWPF	Disney Wildern	17.40	37	⇑	P	Pn		12 55 20.2	-0.2
DWPF	Disney Wildern	17.40	37		P	Pn		12 55 20.1	-0.3
	baz=221,SNR=14								
DWPF	Disney Wildern	17.40	37		P	Pn		12 55 19.5	-0.9
	baz=221								
451A	Vernon	17.46	22		P	Pn		12 55 20.4	-0.7
451A					IAmb	IAmb		12 55 28.8	
	comp=Z,659nm,1.0s								
451A	Vernon	17.46	22		P	P		12 55 22.5	+0.4
	baz=204,SNR=25								
BRAL	Brewton	17.54	18		P	Pn		12 55 22.0	-0.1
BRAL					IAmb	IAmb		12 55 31.5	
	comp=Z,790nm,0.8s								
BRAL	Brewton	17.54	18	⇑	P	P		12 55 22.8	-0.2
BRAL	Brewton	17.54	18		P	P		12 55 22.9	-0.2
	baz=200,SNR=18								
BRAL	Brewton	17.54	18		P	P		12 55 22.9	-0.2
	baz=200,SNR=18								
553A	Crawfordville	17.59	26		IAmb	IAmb		12 55 29.4	
	comp=Z,1μm,0.9s								
553A	Crawfordville	17.59	26		P	P		12 55 23.2	-0.4
	baz=209,SNR=66								
237A	Washetta, Mont	17.63	353		IAmb	IAmb		12 55 39.5	
	comp=Z,644nm,1.2s								
237A	Washetta, Mont	17.63	353		P	P		12 55 25.1	+1.1
	baz=171,SNR=12								
TXAR	Lajitas Array	17.71	328		P	P		12 55 27.1	+2.0
	comp=Z,1.3nm,0.3s,baz=151,slow=9.6,SNR=232								
TXAR					PcP	PcP		13 00 02.5	+0.5
	comp=Z,0.3nm,0.3s,baz=169,slow=5.2,SNR=4.1								
TXAR					LR	LR		13 03 01.4	
	comp=Z,11μm,18.4s,baz=132,slow=40								
TXAR					P3KP			13 30 51.3	
	comp=Z,0.0nm,0.3s,baz=336,slow=2.0,SNR=3.7								
TX31	Lajitas Ar. Si	17.71	328		P	P		12 55 27.8	+2.8
	baz=144,SNR=284								
656A	Willston	17.78	32		IAmb	IAmb		12 55 50.4	
	comp=Z,1μm,1.1s								
656A	Willston	17.78	32		P	Pn		12 55 25.0	-0.1
	baz=216,SNR=40								
VBMS	Vicksburg	17.84	7		P	P		12 55 25.9	-0.3
VBMS					IAmb	IAmb		12 55 53.7	
	comp=Z,824nm,0.9s								
VBMS	Vicksburg	17.84	7		P	P		12 55 26.2	-0.1
	baz=188,SNR=22								
VBMS	Vicksburg	17.84	7		P	P		12 55 26.5	+0.2
	baz=188,SNR=22								
WHTX	Lake Whitney,	17.89	348		P	P		12 55 28.1	+1.2
	baz=166,SNR=46								
WHTX	Lake Whitney,	17.89	348		P	P		12 55 28.0	+1.2
	baz=166,SNR=46								
GTBY	Guantanamo Bay	18.06	70			Pn		12 55 27.8	-0.8
GTBY	Guantanamo Bay	18.06	70	⇑	P	Pn		12 55 28.3	-0.3
SJCC	San Jacinto, C	18.14	102		eP	Pn		12 55 27.2	-2.4
143A	Socs Landing,	18.23	5		P	P		12 55 30.5	-0.1
143A					IAmb	IAmb		12 55 37.2	
	comp=Z,986nm,1.1s								
143A	Socs Landing,	18.23	5		P	P		12 55 30.8	+0.3
	baz=166,SNR=28								
SLBS	Sierra La Lagu	18.32	303			Pn		12 55 33.9	+2.0
SLBS	Sierra La Lagu	18.32	303	⇑	P	Pn		12 55 36.3	+4.5
146A	Union	18.47	11		IAmb	IAmb		12 55 59.9	
	comp=Z,766nm,1.1s								
146A	Union	18.47	11		P	Pn		12 55 33.7	+0.2
	baz=192,SNR=22								
UREC	San Jos de Ur	18.52	109	⇑	eP	P		12 55 33.9	-0.1
250A	Grady	18.53	19		P	Pn		12 55 34.4	+0.1
	baz=201,SNR=62								
352A	Blakely	18.54	23		P	Pn		12 55 35.3	+1.0
	baz=206,SNR=58								
TSIG	Topolobampo	18.57	309	⇑	iP	Pn		12 55 38.5	+3.7
Z41A	Richland Creek	18.71	1		IAmb	IAmb		12 56 08.7	
	comp=Z,1μm,1.3s								
Z41A	Richland Creek	18.71	1		P	Pn		12 55 36.9	+0.5
	baz=181,SNR=27								
Z41A					P	Pn		12 55 36.9	+0.5
	baz=181,SNR=27								
Z41A	Richland Creek	18.71	1		P	Pn		12 55 37.1	+0.7
	baz=181,SNR=27								
Z38A	Mt. Pleasant	18.79	355		IAmb	IAmb		12 56 11.5	
	comp=Z,494nm,1.1s								
Z38A	Mt. Pleasant	18.79	355		P	Pn		12 55 37.8	+0.5
	baz=174,SNR=31								
CSIG	Choix	18.80	313	⇑	iP	Pn		12 55 40.4	+2.9
LPIG	La Paz	18.81	303		P	Pn		12 55 40.7	+3.0
	comp=Z,3.8nm,0.3s,baz=96,slow=2.5,SNR=23								
CBOC	Ciudad Bolivar	18.89	115		eP	Pn		12 55 38.6	-0.4
ABTX	Abilene, Hawle	19.02	343		IAmb	IAmb		12 56 07.1	
	comp=Z,2μm,1.9s								
ABTX	Abilene, Hawle	19.02	343		P	Pn		12 55 40.5	+0.3
	baz=160,SNR=71								
ABTX	Abilene, Hawle	19.02	343		P	Pn		12 55 40.9	+0.7
	baz=160,SNR=71								
TIGA	Tifton	19.03	26		P	P		12 55 39.5	0.0
	baz=209,SNR=85								
TIGA	Tifton	19.03	26		P	Pn		12 55 39.7	-0.6
	baz=209,SNR=85								
PLMC	San Jos del P	19.13	118	⇑	eP	Pn		12 55 41.5	-0.3
WLAR	White Oak Lake	19.14	0			P		12 55 40.8	+0.2
WLAR					IAmb	IAmb		12 55 59.6	
	comp=Z,645nm,1.0s								
456A	Hilliard	19.14	30		IAmb	IAmb		12 56 17.7	
	comp=Z,968nm,1.1s								
456A	Hilliard	19.14	30		P	Pn		12 55 41.0	-0.6
	baz=214,SNR=5.7								
Z35A	Perchaven, San	19.15	349		IAmb	IAmb		12 55 49.5	
	comp=Z,746nm,1.1s								
Z35A	Perchaven, San	19.15	349		P	Pn		12 55 41.5	-0.2
	baz=168,SNR=75								
HELC	Santa Helena	19.17	114		eP	Pn		12 55 44.3	+1.8
Z47A	Carrollton	19.21	13		IAmb	IAmb		12 56 09.9	
	comp=Z,780nm,1.1s								
Z47A	Carrollton	19.21	13		P	Pn		12 55 41.8	-0.7
	baz=195,SNR=18								
ZARC	Zaragoza, Cauc	19.23	109		eP	P		12 55 39.6	-2.3
LRAL	Lakeview Retre	19.32	16		P	P		12 55 42.1	-0.4
LRAL	Lakeview Retre	19.32	16		P	Pn		12 55 43.5	-0.2
	baz=198,SNR=95								
LRAL	Lakeview Retre	19.32	16		P	P		12 55 41.8	-0.8
	baz=198,SNR=95								
CCAR	Cane Creek	19.41	3		P	Pn		12 55 44.1	-0.7
CCAR					IAmb	IAmb		12 55 53.0	
	comp=Z,843nm,1.1s								
CCAR	Cane Creek	19.41	3		P	Pn		12 55 44.5	-0.3
	baz=184,SNR=22								
YOTC	Yotoco, Valle	19.56	121		eP	P		12 55 45.3	-0.3
Y45A	Yeager Farm, C	19.59	9		P	P		12 55 45.0	-0.6
Y45A	Yeager Farm, C	19.59	9		P	Pn		12 55 46.5	-0.5
	baz=190,SNR=24								
152A	Waverly Hall	19.68	22		P	P		12 55 46.2	-0.4
152A					IAmb	IAmb		12 55 53.4	
	comp=Z,687nm,1.1s								
152A	Waverly Hall	19.68	22		P	Pn		12 55 47.4	-0.7
	baz=205,SNR=214								
GUY2C	Guyana, Caldas	19.76	116		eP	Pn		12 55 51.0	+1.3
255A	Hazlehurst	19.93	28		IAmb	IAmb		12 55 60.0	
	comp=Z,460nm,0.8s								
255A	Hazlehurst	19.93	28		P	Pn		12 55 50.2	-0.9
	baz=212,SNR=18								
X40A	Basin Creek Fa	19.94	1		IAmb	IAmb		12 56 18.6	
	comp=Z,774nm,1.6s								
X40A	Basin Creek Fa	19.94	1		P	P		12 55 49.3	0.0
	baz=181,SNR=21								
X40A					P	P		12 55 49.3	0.0
	baz=181,SNR=21								
X40A	Basin Creek Fa	19.94	1		P	P		12 55 48.7	-0.6
	baz=181,SNR=21								
PTBC	PUERTO BERRIO,	19.98	111		eP	P		12 55 50.0	0.0
MIAR	Mount Ida	20.00	359		P	P		12 55 50.2	+0.2
MIAR					pmax	pmax			
	comp=Z,782nm,1.0s								
MIAR	Mount Ida	20.00	359		P	P		12 55 50.2	+0.2
MIAR					IAmb	IAmb		12 56 00.0	
	comp=Z,782nm,1.0s								
MIAR	Mount Ida	20.00	359	⇓	P	P		12 55 50.0	0.0
MIAR	Mount Ida	20.00	359		P	P		12 55 50.0	0.0
	baz=179,SNR=116								
MIAR	Mount Ida	20.00	359		P	P		12 55 49.1	-0.9
	baz=179,SNR=116								
NORC	Norcasia	20.04	114		eP	Pn		12 55 51.9	-0.6
LGNH	Logne	20.10	76		P	P		12 55 50.5	-0.7
LGNH					IAmb	IAmb		12 56 21.1	
	comp=Z,446nm,1.2s								
POPC	Popayan, Colom	20.12	125	⇑	eP	Pn		12 55 52.9	-0.8
Z51A	Franklin	20.12	20		P	P		12 55 51.9	+0.5
	baz=203,SNR=11								
X37A	Clayton	20.14	355		IAmb	IAmb		12 56 51.9	
	comp=Z,889nm,1.2s								
X37A	Clayton	20.14	355		P	Pn		12 55 52.9	-0.6
	baz=174,SNR=78								
JAKH	Jacmel	20.14	76		P	P		12 55 51.1	-0.6
UALR	University of	20.24	2		P	P		12 55 52.5	-0.1
UALR					IAmb	IAmb		12 56 23.6	
	comp=Z,789nm,1.2s								
OXF	Oxford	20.25	9		P	P		12 55 52.5	-0.2
OXF					pmax	pmax			
	comp=Z,1μm,1.1s								
OXF	Oxford	20.25	9		P	P		12 55 52.5	-0.2
OXF	Oxford	20.25	9		P	P		12 55 51.8	-0.8
	baz=190,SNR=30								
OXF	Oxford	20.25	9		P	P		12 55 51.3	-1.3
	baz=190,SNR=30								
Y49A	Blount Mountai	20.25	16		IAmb	IAmb		12 56 16.9	
	comp=Z,325nm,1.1s								
Y49A	Blount Mountai	20.25	16		P	P		12 55 52.0	-0.8
	baz=199,SNR=49								
154A	Montrose	20.25	25		P	P		12 55 52.4	-0.4
154A	Montrose	20.25	25		P	P		12 55 53.3	+0.5
	baz=209,SNR=55								
OTAV	Otavalo	20.28	133		P	P		12 55 53.6	0.0
OTAV					pmax	pmax			
	comp=Z,121nm,1.4s								
OTAV					MLR	MLR			
	comp=Z,7μm,20.0s								
OTAV	Otavalo	20.28	133		P	P		12 55 53.6	0.0
OCAC	Ocana	20.39	106		eP	P		12 55 52.9	-1.7
SOTA	Rioblanco	20.42	125		eP	Pn		12 55 56.7	-0.7
GCUF	Volcan Galeras	20.42	129		eP	P		12 55 55.7	+0.5
PCON	Cinco Dias	20.47	125		eP	P		12 55 56.6	+0.8
MNTX	Cornudas Mount	20.49	329		IAmb	IAmb		12 56 02.7	
	comp=Z,506nm,1.4s								
MNTX	Cornudas Mount	20.49	329		P	Pn		12 55 56.9	-0.8
	baz=144,SNR=336								
MNTX	Cornudas Mount	20.49	329		P	Pn		12 55 56.9	-0.7
	baz=144,SNR=336								
X34A	Smith Ranch, M	20.49	349		IAmb	IAmb		12 56 13.0	
	comp=Z,538nm,1.0s								
MARP	Paez Belalcaza	20.52	123		eP	Pn		12 56 00.5	+2.0
ORTC	Ortega, Tolima	20.53	119		eP	Pn		12 55 58.5	+0.3
W41B	Gary Mavity, V	20.64	2		P	P		12 55 57.0	+0.1
	baz=182,SNR=81								
W41B	Gary Mavity, V	20.64	2		P	P		12 55 57.0	+0.1
	baz=182,SNR=81								
X48A	Hartselle	20.65	14		IAmb	IAmb		12 56 05.4	
	comp=Z,529nm,1.1s								
X48A	Hartselle	20.65	14		P	P		12 55 56.2	-0.9
	baz=197,SNR=86								
W39A	Magazine	20.65	359		P	P		12 55 57.8	+0.7
	baz=178,SNR=32								
W39A	Magazine	20.65	359		P	P		12 55 57.0	-0.1
	baz=178,SNR=32								
257A	Skidaway Islan	20.65	30		P	P		12 55 56.3	-0.8
257A	Skidaway Islan	20.65	30		P	P		12 55 57.9	+0.8
	baz=215								
SPBC	San Pablo de B	20.70	113		eP	P		12 55 57.6	-0.3
URIC	Uribia, Colomb	20.79	95		eP	P		12 55 55.7	-3.0
GOGA	Godfrey	20.81	23		P	P		12 55 58.2	-0.6
GOGA					pmax	pmax			
	comp=Z,1μm,1.1s								
GOGA	Godfrey	20.81	23		P	P		12 55 58.2	-0.6
GOGA	Godfrey	20.81	23		P	P		12 55 59.0	+0.2
	baz=207,SNR=122								
GOGA	Godfrey	20.81	23		P	P		12 55 58.2	-0.6
	baz=207,SNR=122								
WMOK	Wichita Mounta	20.82	347	⇑	P	Pn		12 55 60.0	-1.5
WMOK	Wichita Mounta	20.82	347		P	P		12 55 59.2	+0.3
	baz=164,SNR=112								
WMOK	Wichita Mounta	20.82	347		P	P		12 55 58.7	-0.2
	baz=164,SNR=112								
ROSC	El Rosal	20.86	115		P	Pn		12 56 01.9	-0.6
	comp=Z,403nm,1.0s,baz=6.8,slow=3.0,SNR=120								
ROSC	El Rosal	20.86	115		eP	Pn		12 56 03.3	+0.8
CGIG		20.90	322		P	Pn		12 56 04.2	+1.6
CGIG		20.90	322	⇑	iP	Pn		12 56 04.2	+1.6
W45A	Hickory Valley	20.91	9		P	Pn		12 56 03.7	+1.2
	baz=191,SNR=47								
PLAL	Pickwick Lake	20.93	12		P	P		12 56 00.6	+0.5
PLAL					IAmb	IAmb		12 56 10.1	
	comp=Z,508nm,0.9s								
Y52A	Lilburn	21.00	22		P	P		12 56 01.1	+0.3
	baz=205,SNR=190								
Y52A					P	P		12 56 01.1	+0.3
	baz=205,SNR=190								
FNO	Franklin	21.06	350			P		12 56 01.6	+0.1
FNO					IAmb	IAmb		12 56 11.7	
	comp=Z,456nm,0.7s								
BARC	Barichara	21.11	110		eP	P		12 56 05.2	+2.7
FPAL	Fort Paine	21.12	17		IAmb	IAmb		12 56 09.8	
	comp=Z,497nm,0.9s								
HBAR	Harrisburg	21.12	6		P	P		12 56 03.1	+1.0
	baz=186,SNR=8.6								
KIDD	KIDD Seismic O	21.12	327		P	P		12 56 04.8	+2.5
	baz=142,SNR=12								
OKCFA	Oklahoma City	21.22	350		IAmb	IAmb		12 56 45.4	
	comp=Z,759nm,1.2s								
OKCFA	Oklahoma City	21.22	350		P	P		12 56 03.7	+0.5
	baz=168,SNR=14								
PAMC	Pamplona, Colo	21.28	107		eP	P		12 56 05.2	+0.7
GARC	Garzon, Huila	21.28	123		eP	P		12 56 05.2	+0.9
PORT	Chimborazo Vol	21.28	137		IAmb	IAmb		12 56 35.1	
	comp=Z,406nm,1.3s								
MSTX	Muleshoe	21.29	337		P	P		12 56 04.5	+0.4
MSTX					IAmb	IAmb		12 56 11.1	
	comp=Z,819nm,1.4s								
MSTX	Muleshoe	21.29	337		P	P		12 56 04.8	+0.7

comp=Z,353nm,0.9s
WVT Waverly 22.09 12 P **P** **12 56 12.7 +0.1**
WVT IAmb IAmb 12 56 23.6
comp=Z,353nm,0.8s
WVT Waverly 22.09 12 ⇑P **P** **12 56 10.3 -2.3**
WVT Waverly 22.09 12 P **P** **12 56 13.0 +0.4**
baz=194,SNR=28
WVT Waverly 22.09 12 P **P** **12 56 12.8 +0.1**
baz=194
WVT S **S** **13 00 11.9 -2.8**
baz=194
ARNL Arenillas 22.10 143 P **P** **12 56 15.3 +2.5**
UTMT University of 22.12 9 P **P** **12 56 12.8 -0.1**
W52A Murphy 22.16 20 IAmb IAmb 12 57 10.7
comp=Z,348nm,1.1s
W52A Murphy 22.16 20 P **P** **12 56 14.5 +1.2**
baz=204,SNR=30
DABV Dabajuro 22.24 96 *e*P **P** **12 56 14.7 +0.4**
CPCT Cooper Cave 22.29 19 P **P** **12 56 13.8 -0.9**
CPCT IAmb IAmb 12 56 35.7
comp=Z,344nm,1.1s
PBMO Poplar Bluff 22.36 6 IAmb IAmb 12 56 55.5
comp=Z,388nm,1.0s
PBMO Poplar Bluff 22.36 6 P **P** **12 56 14.8 -0.6**
baz=187,SNR=33
121A Cookes Peak, D 22.40 326 P **P** **12 56 19.1 +3.0**
baz=140,SNR=562
121A Cookes Peak, D 22.40 326 P **P** **12 56 18.7 +2.6**
baz=140,SNR=562
121A S **S** **13 00 25.0 +4.2**
baz=140
319A Douglas 22.41 321 IAmb IAmb 12 56 46.5
comp=Z,478nm,1.0s
BG3 Lake Jocassee 22.42 22 IAmb IAmb 12 56 44.0
comp=Z,630nm,1.1s
CASEE Lake Jocassee 22.42 22 P **P** **12 56 16.0 -0.1**
baz=207,SNR=39
U32A Winter Ranch, 22.45 348 IAmb IAmb 12 57 10.2
comp=Z,562nm,1.1s
U32A Winter Ranch, 22.45 348 P **P** **12 56 17.4 +1.0**
baz=165,SNR=27
JSC Jenkinsville 22.47 27 P **P** **12 56 16.5 -0.1**
baz=211,SNR=31
T42A Van Buren 22.55 4 P **P** **12 56 16.2 -1.3**
baz=185
T35A Sooner Cattle 22.56 353 IAmb IAmb 12 56 55.9
comp=Z,441nm,1.1s
T35B Sooner Cattle 22.56 353 P **P** **12 56 16.7 -0.9**
baz=171,SNR=35
MGMO Mountain Grove 22.61 2 IAmb IAmb 12 56 45.4
comp=Z,564nm,1.2s
Y57A Sumter 22.64 28 P **P** **12 56 18.5 +0.2**
baz=214,SNR=6.4
Y57A P **P** **12 56 18.5 +0.2**
baz=214,SNR=6.4
MACC Macarena, Meta 22.65 121 *e*P **P** **12 56 23.2 +4.5**
V51A Loudon 22.67 19 IAmb IAmb 12 56 30.1
comp=Z,385nm,1.0s
V51A Loudon 22.67 19 P **P** **12 56 18.1 -0.6**
baz=202,SNR=20
SOCV Socops 22.69 103 *e*P **P** **12 56 19.4 +0.3**
PAULI Pauline 22.70 25 IAmb IAmb 12 56 30.9
comp=Z,425nm,0.9s
PAULI Pauline 22.70 25 P **P** **12 56 18.9 -0.1**
baz=209,SNR=40
TKL Tuckaleechee C 22.72 20 P **P** **12 56 18.8 -0.5**
comp=Z,67nm,1.1s,baz=196,slow=11,SNR=29
TKL Tuckaleechee C 22.72 20 IAmb IAmb 12 56 38.6
comp=Z,333nm,1.0s
TKL Tuckaleechee C 22.72 20 P **P** **12 56 19.3 -0.1**
baz=204,SNR=36
SDV Santo Domingo 22.72 102 P **P** **12 56 16.6 -3.1**
comp=Z,34nm,0.5s,baz=284,slow=5.1,SNR=23
SDV LR LR 13 06 06.4
comp=Z,13µm,20.4s,baz=284,slow=40
SDV Santo Domingo 22.72 102 P **P** **12 56 17.0 -2.8**
SDV IAmb IAmb 12 56 24.0
comp=Z,188nm,0.8s
SDV Santo Domingo 22.72 102 *e*P **P** **12 56 20.4 +0.7**
SDV Santo Domingo 22.72 102 *e*P **P** **12 56 17.7 -2.0**
T45B Paducah 22.82 9 P **P** **12 56 20.8 +0.5**
baz=191,SNR=8.0
U49A Red Boiling Sp 22.92 15 IAmb IAmb 12 56 43.0
comp=Z,294nm,1.0s
U49A Red Boiling Sp 22.92 15 P **P** **12 56 20.1 -1.3**
baz=198,SNR=39
V52A Sevierville 22.95 20 P **P** **12 56 22.9 +1.2**
baz=204,SNR=22
V53A Saluda 23.07 22 P **P** **12 56 23.5 +0.6**
baz=206,SNR=39
V53A P **P** **12 56 23.5 +0.6**
baz=206,SNR=39
T47A Sharon Grove 23.07 12 IAmb IAmb 12 56 51.9
comp=Z,318nm,1.1s
T47A Sharon Grove 23.07 12 P **P** **12 56 23.2 +0.3**
baz=195,SNR=45
Y22A Socorro 23.08 330 P **P** **12 56 25.4 +2.2**
baz=144,SNR=194
PTGC Puerto Gaitan, 23.08 114 ⇑*e*P **P** **12 56 23.2 0.0**
BIRD Birdtown, Kers 23.13 27 IAmb IAmb 12 56 44.2
comp=Z,523nm,1.1s
BIRD Birdtown, Kers 23.13 27 P **P** **12 56 22.9 -0.6**
baz=213,SNR=24
S39A Bolivar 23.13 360 IAmb IAmb 12 56 46.9
comp=Z,618nm,1.4s
S39A Bolivar 23.13 360 P **P** **12 56 22.9 -0.6**
baz=179,SNR=126
Y22D IRIS PASSCAL I 23.17 330 P **P** **12 56 26.3 +2.2**
baz=144,SNR=15
Y22D IRIS PASSCAL I 23.17 330 P **P** **12 56 26.2 +2.1**
baz=144,SNR=15
Y22D S **S** **13 00 40.9 +6.8**
baz=144
KMSC Kings Mountain 23.18 25 IAmb IAmb 12 56 46.4
comp=Z,475nm,1.2s
KMSC Kings Mountain 23.18 25 P **P** **12 56 23.5 -0.5**
baz=210,SNR=38
KMSC Kings Mountain 23.18 25 P **P** **12 56 22.5 -1.5**
baz=210,SNR=38
KMSC S **S** **13 00 32.2 -1.8**
baz=210
Y59A Loris 23.34 31 IAmb IAmb 12 56 54.5
comp=Z,297nm,0.8s
Y59A Loris 23.34 31 P **P** **12 56 25.6 -0.1**
baz=217,SNR=8.4
Y59A P **P** **12 56 25.6 -0.1**
baz=217,SNR=8.4
S44A Carbondale 23.39 8 P **P** **12 56 24.7 -1.4**
baz=189,SNR=36
FVM French Village 23.55 5 IAmb IAmb 12 57 23.6
comp=Z,384nm,1.5s
FVM French Village 23.55 5 P **P** **12 56 26.3 -1.4**
baz=186,SNR=15
CCM Cathedral Cave 23.56 4 P **P** **12 56 26.7 -1.0**
CCM pmax pmax
comp=Z,537nm,1.3s
CCM Cathedral Cave 23.56 4 P **P** **12 56 26.7 -1.0**
CCM IAmb IAmb 12 56 29.7
comp=Z,537nm,1.3s
CCM Cathedral Cave 23.56 4 ⇑P **P** **12 56 26.1 -1.6**
CCM Cathedral Cave 23.56 4 P **P** **12 56 26.2 -1.6**
baz=184,SNR=165
CCM Cathedral Cave 23.56 4 P **P** **12 56 26.4 -1.3**
baz=184
CCM S **S** **13 00 37.5 -2.6**
baz=184
X58A Rowland 23.57 30 IAmb IAmb 12 56 48.6
comp=Z,342nm,1.0s
X58A Rowland 23.57 30 P **P** **12 56 26.9 -0.9**
baz=215,SNR=8.1
X58A P **P** **12 56 26.9 -0.9**
baz=215,SNR=8.1
TZTN Tazewell 23.60 20 P **P** **12 56 27.3 -0.9**
baz=204,SNR=15
TZTN Tazewell 23.60 20 P **P** **12 56 26.0 -2.2**
baz=204,SNR=15
TZTN S **S** **13 00 41.1 +0.1**
baz=204
HATO Hato, Curacao 23.64 93 IAMs_20 IAMs_20 13 06 30.5
comp=Z,19µm,20.0s
T50A Nancy 23.65 17 P **P** **12 56 28.3 -0.4**
T50A Nancy 23.65 17 P **P** **12 56 26.3 -2.4**
baz=200
T50A P **P** **12 56 26.3 -2.4**
baz=200
ANMO Albuquerque 23.66 332 P **P** **12 56 30.3 +1.3**
comp=Z,30nm,0.8s,baz=144,slow=11,SNR=71
ANMO LR LR 13 06 57.3
comp=Z,11µm,18.5s,baz=134,slow=40
ANMO Albuquerque 23.66 332 *c i*P **P** **12 56 30.3 +1.3**
ANMO pmax pmax
comp=Z,96nm,1.3s
ANMO MLR MLR
comp=Z,12µm,18.0s
ANMO Albuquerque 23.66 332 P **P** **12 56 30.7 +1.7**
ANMO Albuquerque 23.66 332 ⇑P **P** **12 56 30.2 +1.3**
ANMO Albuquerque 23.66 332 P **P** **12 56 30.6 +1.5**
baz=146,SNR=157
ANMO Albuquerque 23.66 332 P **P** **12 56 30.5 +1.5**
baz=146
ANMO S **S** **13 00 47.8 +5.5**
baz=146
Y60A Bolivia 23.69 32 IAmb IAmb 12 57 04.0
comp=Z,252nm,0.9s
R40A Maddies Statio 23.75 2 IAmb IAmb 12 57 10.9
comp=Z,259nm,1.1s
R40A Maddies Statio 23.75 2 P **P** **12 56 27.9 -1.6**
baz=182,SNR=67
W57A Gilead 23.76 28 IAmb IAmb 12 56 43.1
comp=Z,375nm,0.9s
W57A Gilead 23.76 28 P **P** **12 56 27.7 -2.0**
baz=213,SNR=23
W57A P **P** **12 56 27.7 -2.0**
baz=213,SNR=23
V55A Taylorsville 23.84 25 IAmb IAmb 12 56 48.2
comp=Z,323nm,1.1s
V55A Taylorsville 23.84 25 P **P** **12 56 30.7 +0.3**
baz=210,SNR=34
V55A P **P** **12 56 30.7 +0.3**
baz=210,SNR=34
USIN University of 23.91 11 P **P** **12 56 29.3 -1.7**
USIN IAmb IAmb 12 57 10.4
comp=Z,380nm,0.9s
TUC Tucson 23.97 321 P **P** **12 56 34.0 +2.1**
TUC pmax pmax
comp=Z,662nm,1.4s
TUC MLR MLR
comp=Z,28µm,19.0s
TUC Tucson 23.97 321 P **P** **12 56 34.0 +2.1**
TUC Tucson 23.97 321 IAMs_20 IAMs_20 13 07 02.3
comp=Z,28µm,19.0s
TUC Tucson 23.97 321 ⇑P **P** **12 56 33.7 +1.8**
TUC Tucson 23.97 321 P **P** **12 56 33.6 +1.8**
baz=134
TUC S **S** **13 00 53.0 +5.9**
baz=134
U54A Nelsons Funny 24.19 23 P **P** **12 56 33.9 +0.2**
baz=208,SNR=25
U54A P **P** **12 56 33.9 +0.2**
baz=208,SNR=25
SLM Saint Louis 24.21 6 IAmb IAmb 12 56 59.2
comp=Z,247nm,0.9s
SLM Saint Louis 24.21 6 P **P** **12 56 34.6 +0.7**
baz=187,SNR=10
R32A Long Quarter, 24.37 349 P **P** **12 56 35.9 +0.6**
baz=167,SNR=31
ELOV Elorza 24.39 105 *e*P **P** **12 56 34.6 -1.1**
OLIL Olney 24.58 10 IAmb IAmb 12 57 13.7
comp=Z,353nm,0.9s
OLIL Olney 24.58 10 P **P** **12 56 36.6 -0.7**
baz=192,SNR=14
S51A Beattyville 24.59 18 IAmb IAmb 12 57 02.5
comp=Z,330nm,1.1s
S51A Beattyville 24.59 18 P **P** **12 56 36.9 -0.4**
baz=203,SNR=12
S51A P **P** **12 56 36.9 -0.4**
baz=203,SNR=12
U56A King 24.60 25 IAmb IAmb 12 56 53.6
comp=Z,335nm,1.1s
U56A King 24.60 25 P **P** **12 56 37.6 +0.1**
baz=211,SNR=27
U56A P **P** **12 56 37.6 +0.1**
baz=211,SNR=27
Q44A Meyer Farm, Va 24.61 8 IAmb IAmb 12 57 21.5
comp=Z,249nm,0.9s
Q44A Meyer Farm, Va 24.61 8 P **P** **12 56 36.3 -1.3**
baz=190,SNR=16
V58A Windy Hill, Pi 24.69 28 IAmb IAmb 12 57 19.7
comp=Z,323nm,1.1s
V58A Windy Hill, Pi 24.69 28 P **P** **12 56 37.0 -1.3**
baz=214,SNR=41
V58A P **P** **12 56 37.0 -1.3**
baz=214,SNR=41
T25A Trinidad 24.71 338 P **P** **12 56 40.6 +1.9**
baz=153,SNR=330
T25A S **S** **13 01 06.7 +7.4**
baz=153
KSU1 Kansas State U 24.73 354 IAmb IAmb 12 57 02.2
comp=Z,260nm,0.9s
KSU1 Kansas State U 24.73 354 ⇑P **P** **12 56 37.1 -1.5**
KSU1 Kansas State U 24.73 354 P **P** **12 56 38.8 +0.2**
baz=172,SNR=27
KSU1 Kansas State U 24.73 354 P **P** **12 56 37.5 -1.1**
baz=172,SNR=27
KSU1 S **S** **13 01 00.0 +1.0**
baz=172
R49A Shelbyville 24.76 15 IAmb IAmb 12 57 05.7
comp=Z,390nm,1.1s
R49A Shelbyville 24.76 15 P **P** **12 56 37.6 -1.2**
baz=199,SNR=11
R49A P **P** **12 56 37.6 -1.2**
baz=199,SNR=11
CNNC Cliffs of the 24.83 31 IAmb IAmb 12 57 19.7
comp=Z,231nm,0.9s
CNNC Cliffs of the 24.83 31 ⇑P **P** **12 56 38.9 -0.6**
CNNC Cliffs of the 24.83 31 P **P** **12 56 38.9 -0.6**
baz=217,SNR=8.4
CNNC Cliffs of the 24.83 31 P **P** **12 56 38.6 -0.8**
baz=217,SNR=8.4
CBKS Cedar Bluff 24.94 348 IAmb IAmb 12 56 44.8
comp=Z,429nm,1.1s
CBKS Cedar Bluff 24.94 348 ⇑P **P** **12 56 40.5 -0.1**
CBKS Cedar Bluff 24.94 348 P **P** **12 56 41.7 +1.1**
baz=165,SNR=32
CBKS Cedar Bluff 24.94 348 P **P** **12 56 40.5 -0.1**
baz=165,SNR=32
CBKS S **S** **13 01 02.8 +0.3**
baz=165
R50A Paris 24.98 17 P **P** **12 56 39.9 -0.9**
baz=200,SNR=12
R50A P **P** **12 56 39.9 -0.9**
baz=200,SNR=12
P40A Paris 24.99 2 IAmb IAmb 12 57 04.0
comp=Z,468nm,1.4s
P40A Paris 24.99 2 P **P** **12 56 40.0 -0.9**
baz=182,SNR=102
214A Organ Pipe Nat 25.02 317 IAmb IAmb 12 56 47.7
comp=Z,435nm,1.8s
214A Organ Pipe Nat 25.02 317 P **P** **12 56 43.0 +1.6**
baz=130,SNR=36
214A S **S** **13 01 10.5 +6.6**
baz=130
P38A Dawn 25.07 359 IAmb IAmb 12 57 04.6
comp=Z,315nm,1.2s
P38A Dawn 25.07 359 P **P** **12 56 40.9 -0.8**
baz=179,SNR=37
X18A Snowflake 25.09 326 IAmb IAmb 12 57 09.5
comp=Z,191nm,1.1s
P43A Skaggs, Pawnee 25.28 7 IAmb IAmb 12 57 06.2
comp=Z,433nm,1.4s
P43A Skaggs, Pawnee 25.28 7 P **P** **12 56 43.1 -0.5**
baz=188,SNR=15
BLO Bloomington 25.30 12 IAmb IAmb 12 57 38.8
comp=Z,257nm,1.1s
BLA Blacksburg 25.33 24 P **P** **12 56 43.7 -0.4**
baz=210,SNR=16
BLA Blacksburg 25.33 24 P **P** **12 56 42.6 -1.5**
baz=210,SNR=16
W18A Petrified Fore 25.42 327 IAmb IAmb 12 57 35.7
comp=Z,289nm,1.2s
W18A Petrified Fore 25.42 327 P **P** **12 56 46.0 +0.9**
baz=140,SNR=45
W18A S **S** **13 01 14.7 +4.2**
baz=140
S54A Dingess, Beckl 25.51 22 IAmb IAmb 12 57 23.8
comp=Z,137nm,0.9s
S54A Dingess, Beckl 25.51 22 P **P** **12 56 44.8 -0.9**
baz=207,SNR=16
S54A P **P** **12 56 44.8 -0.9**
baz=207,SNR=16
P46A Rosedale 25.59 11 P **P** **12 56 45.0 -1.4**
baz=193,SNR=13
T57A Hurt 25.63 26 IAmb IAmb 12 57 04.6
comp=Z,308nm,1.2s
T57A Hurt 25.63 26 P **P** **12 56 46.3 -0.5**
baz=212,SNR=10
T57A P **P** **12 56 46.3 -0.5**
baz=212,SNR=10
SDCO Great Sand Dun 25.65 337 P **P** **12 56 48.9 +1.6**
SDCO Great Sand Dun 25.65 337 P **P** **12 56 49.0 +1.7**
baz=151,SNR=461
SDCO Great Sand Dun 25.65 337 P **P** **12 56 48.9 +1.6**
baz=151,SNR=461
SDCO S **S** **13 01 17.4 +3.0**
baz=151
R53A Hurricane 25.75 21 IAmb IAmb 12 57 31.8
comp=Z,268nm,1.1s
R53A Hurricane 25.75 21 P **P** **12 56 47.2 -0.7**
baz=206,SNR=13
R53A P **P** **12 56 47.2 -0.7**
baz=206,SNR=13
U59A Littleton 25.76 29 IAmb IAmb 12 57 12.3
comp=Z,412nm,1.4s
U59A Littleton 25.76 29 P **P** **12 56 46.9 -1.1**
baz=216,SNR=11
U59A P **P** **12 56 46.9 -1.1**
baz=216,SNR=11
P48A Milroy 25.81 14 IAmb IAmb 12 57 17.4
comp=Z,261nm,1.2s
P48A Milroy 25.81 14 P **P** **12 56 46.5 -1.9**
baz=197,SNR=14
P48A P **P** **12 56 46.5 -1.9**
baz=197,SNR=14
KSCO Kaye Shedlock' 25.84 343 IAmb IAmb 12 56 52.8
comp=Z,280nm,0.9s
KSCO Kaye Shedlock' 25.84 343 P **P** **12 56 50.5 +1.7**
baz=158,SNR=28
KSCO Kaye Shedlock' 25.84 343 P **P** **12 56 49.1 +0.3**
baz=158,SNR=28
KSCO S **S** **13 01 21.1 +4.1**
baz=158
SFX San Felipe 25.86 313 P **P** **12 56 51.0 +2.1**
O44A Mansfield 25.92 8 IAmb IAmb 12 57 30.6
comp=Z,261nm,1.1s
V61A Roper 25.92 32 P **P** **12 56 49.9 +0.5**
baz=219
V61A P **P** **12 56 49.9 +0.5**
baz=219
Q51A Peebles 25.95 18 IAmb IAmb 12 57 34.1
comp=Z,309nm,1.0s
Q51A Peebles 25.95 18 P **P** **12 56 49.5 -0.2**
baz=202,SNR=16
Q51A P **P** **12 56 49.5 -0.2**
baz=202,SNR=16
P49A Miami Univ. Ec 26.05 15 IAmb IAmb 12 57 22.9
comp=Z,334nm,1.2s
P49A Miami Univ. Ec 26.05 15 P **P** **12 56 49.1 -1.4**
baz=199,SNR=10
P49A Miami Univ. Ec 26.05 15 P **P** **12 56 48.8 -1.8**
baz=199,SNR=10
P49A S **S** **13 01 27.9 +7.9**
baz=199
SJG San Juan 26.15 78 P **P** **12 56 49.4 -2.3**
comp=Z,23nm,0.8s,baz=259,slow=5.4,SNR=9.2
SJG PcP **PcP** **13 00 19.2 +0.5**
comp=Z,26nm,0.8s,baz=333,slow=4.9,SNR=4.2
SJG LR LR 13 07 00.9
comp=Z,16µm,21.9s,baz=230,slow=37
SJG San Juan 26.15 78 P **P** **12 56 51.5 -0.2**
SJG pmax pmax
comp=Z,144nm,1.3s
SJG MLR MLR
comp=Z,17µm,22.0s
SJG San Juan 26.15 78 P **P** **12 56 51.5 -0.2**
113A Mohawk Valley, 26.16 318 IAmb IAmb 12 56 56.3
comp=Z,242nm,1.5s
S22A 4UR Ranch, Cre 26.18 335 P **P** **12 56 53.9 +1.8**
baz=149,SNR=200
S22A S **S** **13 01 27.2 +4.5**
baz=149
HDIL Hopedale 26.21 7 P **P** **12 56 50.8 -1.2**
HDIL IAmb IAmb 12 57 39.2
comp=Z,337nm,1.1s
HDIL Hopedale 26.21 7 P **P** **12 56 51.3 -0.7**
baz=188,SNR=8.7
HDIL Hopedale 26.21 7 P **P** **12 56 50.5 -1.5**
baz=188,SNR=8.7
Q52A Bidwell 26.22 19 IAmb IAmb 12 57 37.2
comp=Z,309nm,1.1s
Q52A Bidwell 26.22 19 P **P** **12 56 51.8 -0.3**
baz=204,SNR=14
Q52A P **P** **12 56 51.8 -0.3**
baz=204,SNR=14
N41A Harden Midland 26.22 4 IAmb IAmb 12 57 14.8
comp=Z,351nm,1.2s
N41A Harden Midland 26.22 4 P **P** **12 56 51.1 -1.0**
baz=185,SNR=23
N38A Joes South For 26.23 360 P **P** **12 56 50.9 -1.3**
baz=180,SNR=92
SFIN Lafayette 26.36 10 IAmb IAmb 12 57 35.8
comp=Z,208nm,0.9s
SFIN Lafayette 26.36 10 P **P** **12 56 52.3 -1.0**
baz=193,SNR=6.1
SFIN Lafayette 26.36 10 P **P** **12 56 50.8 -2.5**
baz=193,SNR=6.1
T59A Double "B" Far 26.38 29 IAmb IAmb 12 56 54.4
comp=Z,199nm,1.1s
T59A Double "B" Far 26.38 29 P **P** **12 56 52.7 -0.8**
baz=216,SNR=28
T59A P **P** **12 56 52.7 -0.8**
baz=216,SNR=28
R55A Marlinton 26.38 24 IAmb IAmb 12 57 50.7
comp=Z,279nm,1.1s
R55A Marlinton 26.38 24 P **P** **12 56 53.1 -0.5**
baz=209,SNR=28
R55A P **P** **12 56 53.1 -0.5**
baz=209,SNR=28
N35A Tabor 26.39 356 P **P** **12 56 54.1 +0.5**
baz=174,SNR=13
S57A Dark Hollow, R 26.40 26 IAmb IAmb 12 57 18.7
comp=Z,207nm,1.1s
S57A Dark Hollow, R 26.40 26 P **P** **12 56 53.4 -0.4**
baz=212,SNR=11
S57A P **P** **12 56 53.4 -0.4**
baz=212,SNR=11
N33B J Bar K, Exete 26.44 353 P **P** **12 56 54.9 +0.8**
baz=170,SNR=12
N33A J Bar K, Exete 26.45 353 IAmb IAmb 12 57 35.8
comp=Z,307nm,1.0s
MVCO Mesa Verde 26.46 332 IAmb IAmb 12 56 59.4
comp=Z,433nm,1.4s
MVCO Mesa Verde 26.46 332 P **P** **12 56 55.7 +1.1**
baz=145,SNR=134
MVCO S **S** **13 01 31.8 +4.8**
baz=145
WUAZ Wupatki 26.60 325 IAMs_20 IAMs_20 13 09 03.0
comp=Z,24µm,18.0s
WUAZ Wupatki 26.60 325 ⇑P **P** **12 56 58.0 +2.2**
WUAZ Wupatki 26.60 325 P **P** **12 56 58.0 +2.2**
baz=137,SNR=88
Q24A Divide 26.60 339 P **P** **12 56 57.5 +1.6**
baz=153,SNR=25
Q24A S **S** **13 01 30.9 +1.6**
baz=153
O48B Farmland 26.63 14 P **P** **12 56 54.2 -1.6**
baz=197,SNR=14
O48B Farmland 26.63 14 P **P** **12 56 52.8 -3.0**
baz=197,SNR=14
O48B S **S** **13 01 39.7 +11**
baz=197
Q54A Coxs Mills 26.73 22 P **P** **12 56 56.0 -0.7**
baz=207,SNR=27
Q54A P **P** **12 56 56.0 -0.7**
baz=207,SNR=27
O49A Covington 26.76 15 IAmb IAmb 12 57 33.5
comp=Z,270nm,1.3s
O49A Covington 26.76 15 P **P** **12 56 55.9 -1.1**
baz=199,SNR=9.5
O49A P **P** **12 56 55.9 -1.1**
baz=199,SNR=9.5
P52A Corning 26.88 19 IAmb IAmb 12 57 33.5
comp=Z,430nm,1.2s
P52A Corning 26.88 19 P **P** **12 56 56.1 -1.9**
baz=204
T60A Surry 26.90 30 IAmb IAmb 12 57 36.5
comp=Z,333nm,1.0s
T60A Surry 26.90 30 P **P** **12 56 57.6 -0.7**
baz=217,SNR=8.8
T60A P **P** **12 56 57.6 -0.7**
baz=217,SNR=8.8
CPBX Cerro Prieto 26.97 315 IAmb IAmb 12 57 03.8
comp=Z,237nm,1.5s
P53A Whipple 26.98 20 IAmb IAmb 12 57 35.0
comp=Z,258nm,1.0s

P53A	**Whipple**	**26.98**	**20**	P	**P**	**12 56 58.7**	**-0.3**		
	baz=206								
P53A				P	**P**	**12 56 58.7**	**-0.3**		
	baz=206								
GLA	**Glamis**	**27.03**	**317**	IAmb	IAmb	12 57 04.3			
	comp=Z,366nm,1.5s								
GLA	**Glamis**	**27.03**	**317**	P	**P**	**12 57 01.4**	**+1.8**		
	baz=128,SNR=50								
GLA				S	**S**	**13 01 42.3**	**+6.6**		
	baz=128								
R58B	**Mineral**	**27.04**	**27**	IAmb	IAmb	12 57 46.1			
	comp=Z,354nm,1.5s								
R58B	**Mineral**	**27.04**	**27**	P	**P**	**12 56 58.5**	**-0.9**		
	baz=214,SNR=11								
R58B				P	**P**	**12 56 58.5**	**-0.9**		
	baz=214,SNR=11								
N47A	**Urbana**	**27.11**	**12**	IAmb	IAmb	12 57 23.1			
	comp=Z,313nm,1.1s								
N47A	**Urbana**	**27.11**	**12**	P	**P**	**12 56 58.8**	**-1.3**		
	baz=196,SNR=8.6								
N47A				P	**P**	**12 56 58.8**	**-1.3**		
	baz=196,SNR=8.6								
ACSO	**Alum Creek Sta**	**27.17**	**17**	IAmb	IAmb	12 57 54.0			
	comp=Z,356nm,1.1s								
ACSO	**Alum Creek Sta**	**27.17**	**17**	P	**P**	**12 56 59.1**	**-1.5**		
	baz=202								
BGNE	**Belgrade**	**27.20**	**352**	P	**P**	**12 57 01.2**	**+0.3**		
BGNE				IAmb	IAmb	12 57 34.1			
	comp=Z,301nm,1.1s								
BGNE	**Belgrade**	**27.20**	**352**	P	**P**	**12 57 02.4**	**+1.5**		
	baz=169								
BGNE	**Belgrade**	**27.20**	**352**	P	**P**	**12 57 00.7**	**-0.2**		
	baz=169								
SCIA	**State Center**	**27.34**	**360**	IAmb	IAmb	12 57 27.1			
	comp=Z,197nm,1.1s								
SCIA	**State Center**	**27.34**	**360**	P	**P**	**12 57 00.9**	**-1.3**		
	baz=180								
PV13	**Radium Mtn., P**	**27.38**	**332**	IAmb	IAmb	12 57 21.4			
	comp=Z,288nm,1.2s								
PV15	**Paradox Valley**	**27.38**	**333**	IAmb	IAmb	12 57 08.2			
	comp=Z,440nm,1.4s								
PDMCI	**Parker Dam,Lak**	**27.39**	**320**	P	**P**	**12 57 04.2**	**+1.5**		
	baz=131,SNR=80								
PDMCI				S	**S**	**13 01 46.2**	**+5.0**		
	baz=131								
Q56A	**Snyder Ridge,**	**27.40**	**24**	IAmb	IAmb	12 57 54.3			
	comp=Z,178nm,1.1s								
Q56A	**Snyder Ridge,**	**27.40**	**24**	P	**P**	**12 57 03.2**	**+0.5**		
	baz=210,SNR=6.6								
Q56A				P	**P**	**12 57 03.2**	**+0.5**		
	baz=210,SNR=6.6								
O52A	**Adamsville**	**27.41**	**19**	IAmb	IAmb	12 57 49.7			
	comp=Z,296nm,1.1s								
O52A	**Adamsville**	**27.41**	**19**	P	**P**	**12 57 02.8**	**-0.1**		
	baz=204,SNR=13								
O52A				P	**P**	**12 57 02.8**	**-0.1**		
	baz=204,SNR=13								
CBN	**Corbin Frederi**	**27.46**	**28**	P	**P**	**12 57 03.7**	**+0.4**		
	baz=215								
CBN	**Corbin Frederi**	**27.46**	**28**	P	**P**	**12 57 02.8**	**-0.5**		
	baz=215								
SMCO	**Snowmass**	**27.47**	**336**	IAmb	IAmb	12 57 12.9			
	comp=Z,325nm,1.2s								
SMCO	**Snowmass**	**27.47**	**336**	⇑P	**P**	**12 57 05.3**	**+1.5**		
N49A	**Columbus Grove**	**27.49**	**15**	IAmb	IAmb	12 57 43.9			
	comp=Z,250nm,1.1s								
N49A	**Columbus Grove**	**27.49**	**15**	P	**P**	**12 57 02.3**	**-1.2**		
	baz=199								
N49A				P	**P**	**12 57 02.3**	**-1.2**		
	baz=199								
OGNE	**Ogallala**	**27.50**	**345**	P	**P**	**12 57 05.3**	**+1.6**		
	baz=161,SNR=23								
OGNE	**Ogallala**	**27.50**	**345**	P	**P**	**12 57 04.5**	**+0.8**		
	baz=161,SNR=23								
ISCO	**Idaho Springs**	**27.51**	**339**	P	**P**	**12 57 05.6**	**+1.5**		
ISCO				pmax	pmax				
	comp=Z,94nm,1.1s								
ISCO	**Idaho Springs**	**27.51**	**339**	P	**P**	**12 57 05.6**	**+1.5**		
ISCO	**Idaho Springs**	**27.51**	**339**	P	**P**	**12 57 05.7**	**+1.5**		
	baz=153,SNR=57								
ISCO	**Idaho Springs**	**27.51**	**339**	P	**P**	**12 57 05.3**	**+1.3**		
	baz=153,SNR=57								
ISCO				S	**S**	**13 01 47.0**	**+3.4**		
	baz=153								
YUH	**Yuha Desert**	**27.53**	**315**	IAmb	IAmb	12 57 09.1			
	comp=Z,220nm,1.6s								
PV07	**Paradox Valley**	**27.54**	**333**	IAmb	IAmb	12 57 09.3			
	comp=Z,399nm,1.4s								
L34A	**Svendsen Farm,**	**27.55**	**355**	P	**P**	**12 57 04.9**	**+0.8**		
	baz=173								
L40A	**Anamosa**	**27.55**	**3**	IAmb	IAmb	12 57 30.8			
	comp=Z,270nm,1.1s								
L40A	**Anamosa**	**27.55**	**3**	P	**P**	**12 57 03.8**	**-0.2**		
	baz=184,SNR=44								
L42A	**Oliver, Polo**	**27.61**	**6**	IAmb	IAmb	12 57 54.0			
	comp=Z,246nm,1.1s								
L42A	**Oliver, Polo**	**27.61**	**6**	P	**P**	**12 57 03.1**	**-1.4**		
	baz=187,SNR=16								
SWSC	**Sam W. Stewart**	**27.62**	**316**	P	**P**	**12 57 06.9**	**+2.1**		
	baz=126,SNR=19								
IKP	**In-Ko-Pah, Jac**	**27.66**	**315**	P	**P**	**12 57 08.0**	**+2.8**		
	baz=126,SNR=27								
IKP				S	**S**	**13 01 52.3**	**+6.5**		
	baz=126								
PV10	**Paradox Valley**	**27.66**	**332**	IAmb	IAmb	12 57 32.2			
	comp=Z,256nm,1.1s								
MCWV	**Mont Chateau**	**27.68**	**22**	P	**P**	**12 57 06.1**	**+0.8**		
	baz=208								
MCWV	**Mont Chateau**	**27.68**	**22**	P	**P**	**12 57 04.6**	**-0.7**		
	baz=208								
O53A	**New Philadelph**	**27.73**	**20**	P	**P**	**12 57 04.5**	**-1.1**		
	baz=205								
W13A	**Hualapai Mount**	**27.76**	**321**	IAmb	IAmb	12 57 11.4			
	comp=Z,212nm,1.3s								
BC3	**Big Chuckawall**	**27.82**	**317**	P	**P**	**12 57 08.4**	**+1.7**		
	baz=128,SNR=114								
BC3				S	**S**	**13 01 53.6**	**+5.4**		
	baz=128								
IRM	**Iron Mountain**	**27.93**	**318**	P	**P**	**12 57 09.7**	**+2.1**		
	baz=129,SNR=84								
IRM				S	**S**	**13 01 54.6**	**+4.8**		
	baz=129								
O54A	**Avella**	**27.95**	**21**	IAmb	IAmb	12 57 47.4			
	comp=Z,163nm,1.1s								
O54A	**Avella**	**27.95**	**21**	P	**P**	**12 57 08.2**	**+0.5**		
	baz=207								
O54A				P	**P**	**12 57 08.2**	**+0.5**		
	baz=207								
TKX	**Tecate**	**27.96**	**314**	IAmb	IAmb	12 57 12.7			
	comp=Z,187nm,1.5s								
L44A	**Lake County Fo**	**27.98**	**8**	P	**P**	**12 57 08.2**	**+0.3**		
	baz=191								
L44A	**Lake County Fo**	**27.98**	**8**	P	**P**	**12 57 06.0**	**-1.9**		
	baz=191								
NEE2	**Needles Airpor**	**27.99**	**320**	P	**P**	**12 57 10.0**	**+2.0**		
	baz=131,SNR=13								
NEE2				S	**S**	**13 01 55.1**	**+4.4**		
	baz=131								
MONP2	**Monument Peak**	**28.01**	**315**	P	**P**	**12 57 10.6**	**+2.1**		
	baz=125,SNR=14								
MONP2				S	**S**	**13 01 57.6**	**+6.0**		
	baz=125								
K38A	**Parkersburg**	**28.09**	**1**	IAmb	IAmb	12 57 59.9			
	comp=Z,128nm,0.9s								
K38A	**Parkersburg**	**28.09**	**1**	P	**P**	**12 57 10.5**	**+1.7**		
	baz=181								
P57A	**Homestead Farm**	**28.25**	**25**	P	**P**	**12 57 09.9**	**-0.4**		
	baz=212,SNR=8.9								
P57A				P	**P**	**12 57 09.9**	**-0.4**		
	baz=212,SNR=8.9								
BELC	**Belle Mtn. Jos**	**28.39**	**317**	P	**P**	**12 57 13.4**	**+1.6**		
	baz=128,SNR=39								
BELC				S	**S**	**13 02 04.5**	**+7.2**		
	baz=128								
L48A	**N Adams**	**28.40**	**14**	IAmb	IAmb	12 57 57.1			
	comp=Z,260nm,1.2s								
L48A	**N Adams**	**28.40**	**14**	P	**P**	**12 57 10.2**	**-1.5**		
	baz=198,SNR=11								
L48A				P	**P**	**12 57 10.2**	**-1.5**		
	baz=198,SNR=11								
TPFO	**Pinon Flats**	**28.45**	**316**	P	**P**	**12 57 14.1**	**+1.7**		
	baz=126,SNR=17								
TPFO				S	**S**	**13 02 05.1**	**+6.8**		
	baz=126								
PFO	**Pinyon Flats O**	**28.46**	**316**	P	**P**	**12 57 14.7**	**+2.3**		
	comp=Z,29nm,1.1s,baz=115,slow=6.8,SNR=23								
PFO				PcP	**PcP**	**13 00 25.7**	**+1.6**		
	comp=Z,16nm,1.1s,baz=138,slow=4.7,SNR=3.5								
PFO				LR	LR	13 10 20.8			
	comp=Z,11µm,18.4s,baz=132,slow=40								
PFO	**Pinyon Flats O**	**28.46**	**316**	*c i*P	**P**	**12 57 15.3**	**+2.9**		
PFO				pmax	pmax				
	comp=Z,138nm,1.4s								
PFO				MLR	MLR				
	comp=Z,22µm,15.0s								
PFO	**Pinyon Flats O**	**28.46**	**316**	P	**P**	**12 57 13.7**	**+1.2**		
PFO	**Pinyon Flats O**	**28.46**	**316**	P	**P**	**12 57 13.8**	**+1.4**		
	baz=126,SNR=19								
PFO				S	**S**	**13 02 06.6**	**+8.2**		
	baz=126								
JFWS	**Jewell Farm**	**28.46**	**4**	IAmb	IAmb	12 57 41.6			
	comp=Z,211nm,1.0s								
JFWS	**Jewell Farm**	**28.46**	**4**	P	**P**	**12 57 11.9**	**-0.2**		
	baz=186,SNR=15								
JFWS	**Jewell Farm**	**28.46**	**4**	P	**P**	**12 57 10.5**	**-1.6**		
	baz=186,SNR=15								
K31A	**O'Neill**	**28.47**	**351**	P	**P**	**12 57 13.4**	**+1.1**		
	baz=168,SNR=19								
109C	**Camp Elliot, M**	**28.48**	**314**	P	**P**	**12 57 14.8**	**+2.3**		
109C				IAmb	IAmb	12 57 17.2			
	comp=Z,184nm,1.5s								
109C	**Camp Elliot, M**	**28.48**	**314**	P	**P**	**12 57 14.3**	**+1.8**		
	baz=124								
109C				S	**S**	**13 02 06.4**	**+7.9**		
	baz=124								
N23A	**Red Feather La**	**28.60**	**339**	P	**P**	**12 57 14.7**	**+1.0**		
	baz=153,SNR=31								
N23A				S	**S**	**13 02 07.1**	**+6.4**		
	baz=153								
GMRC	**Granite Mounta**	**28.66**	**319**	P	**P**	**12 57 16.5**	**+2.4**		
	baz=129,SNR=60								
GMRC				S	**S**	**13 02 05.7**	**+4.3**		
	baz=129								
SDMD	**Soldier's Deli**	**28.69**	**27**	P	**P**	**12 57 14.2**	**-0.1**		
SDMD	**Soldier's Deli**	**28.69**	**27**	P	**P**	**12 57 13.8**	**-0.4**		
	baz=214,SNR=5.5								
O20A	**White River Ci**	**28.79**	**336**	IAmb	IAmb	12 57 20.3			
	comp=Z,457nm,1.7s								
O20A	**White River Ci**	**28.79**	**336**	P	**P**	**12 57 17.0**	**+1.7**		
	baz=148,SNR=84								
M52A	**Chesterland**	**28.86**	**19**	IAmb	IAmb	12 58 01.2			
	comp=Z,182nm,1.0s								
M52A	**Chesterland**	**28.86**	**19**	P	**P**	**12 57 15.2**	**-0.5**		
	baz=204								
M52A				P	**P**	**12 57 15.2**	**-0.5**		
	baz=204								
MTPU	**Mount Pierson**	**28.91**	**328**	IAmb	IAmb	12 57 22.0			
	comp=Z,326nm,1.7s								
MURC	**Murrieta**	**28.95**	**315**	P	**P**	**12 57 18.7**	**+2.1**		
	baz=125,SNR=12								
MURC				S	**S**	**13 02 12.0**	**+6.0**		
	baz=125								
M53A	**Wf Miller and**	**28.98**	**20**	P	**P**	**12 57 17.7**	**+0.9**		
	baz=205								
SZCU	**Shurtz Canyon**	**29.06**	**326**	IAmb	IAmb	12 57 23.1			
	comp=Z,282nm,1.4s								
SMRT	**St. Maarten**	**29.07**	**79**	*e*P	P	12 57 11.8	-6.1		
Q16A	**Castle Valley**	**29.09**	**330**	IAmb	IAmb	12 57 23.0			
	comp=Z,210nm,1.3s								
HEC	**Hector,Ludlow**	**29.12**	**318**	P	**P**	**12 57 20.6**	**+2.4**		
	baz=128,SNR=22								
HEC				S	**S**	**13 02 12.3**	**+3.7**		
	baz=128								
SEUS	**St. Eustatius**	**29.14**	**80**	IAMs_20	IAMs_20	13 07 46.7			
	comp=Z,19µm,21.0s								
SEUS	**St. Eustatius**	**29.14**	**80**	*e*P	**P**	**12 57 17.5**	**-1.0**		
BBRC	**Big Bear Solar**	**29.15**	**317**	P	**P**	**12 57 21.0**	**+2.3**		
	baz=127,SNR=13								
BBRC				S	**S**	**13 02 15.9**	**+6.4**		
	baz=127								
CCUT	**Cedar City**	**29.18**	**326**	IAmb	IAmb	12 57 24.4			
	comp=Z,209nm,1.3s								
P18A	**Preston Nutter**	**29.22**	**332**	IAmb	IAmb	12 57 36.2			
	comp=Z,180nm,1.4s								
TUQ	**Turquoise Moun**	**29.24**	**320**	P	**P**	**12 57 21.5**	**+2.1**		
	baz=130,SNR=28								
TUQ				S	**S**	**13 02 16.6**	**+6.0**		
	baz=130								
SSPA	**Standing Stone**	**29.28**	**24**	P	**P**	**12 57 18.8**	**-0.7**		
SSPA				IAmb	IAmb	12 58 22.8			
	comp=Z,186nm,1.3s								
SSPA	**Standing Stone**	**29.28**	**24**	IAMs_20	IAMs_20	13 10 25.4			
	comp=Z,23µm,18.0s								
SSPA	**Standing Stone**	**29.28**	**24**	⇑P	**P**	**12 57 18.7**	**-0.8**		
SSPA	**Standing Stone**	**29.28**	**24**	P	**P**	**12 57 18.2**	**-1.3**		
	baz=211,SNR=8.9								
SSPA	**Standing Stone**	**29.28**	**24**	P	**P**	**12 57 17.6**	**-1.8**		
	baz=211								
ECSD	**EROS Data Cent**	**29.32**	**355**	P	**P**	**12 57 18.9**	**-1.0**		
ECSD				IAmb	IAmb	12 57 26.9			
	comp=Z,119nm,0.9s								
ECSD	**EROS Data Cent**	**29.32**	**355**	P	**P**	**12 57 19.8**	**-0.1**		
	baz=173,SNR=89								
ECSD	**EROS Data Cent**	**29.32**	**355**	P	**P**	**12 57 18.9**	**-1.0**		
	baz=173,SNR=89								
I40A	**Norwalk**	**29.41**	**4**	P	**P**	**12 57 20.5**	**-0.1**		
	baz=185								
I37A	**Lemond, Waseca**	**29.45**	**360**	IAmb	IAmb	12 58 21.7			
	comp=Z,156nm,1.1s								
SHPR	**Sheep Range**	**29.47**	**322**	IAmb	IAmb	12 57 26.5			
	comp=Z,181nm,1.3s								
I42A	**Draeger Farm,**	**29.55**	**6**	P	**P**	**12 57 21.3**	**-0.5**		
	baz=188,SNR=10								
GEDE	**Greenville**	**29.56**	**28**	P	**P**	**12 57 21.5**	**-0.4**		
	baz=216,SNR=5.5								
TBTG	**Tabatinga, AM**	**29.57**	**127**	*e*P	**P**	**12 57 24.1**	**+1.8**		
RRX	**Edison Barstow**	**29.57**	**318**	P	**P**	**12 57 24.8**	**+2.6**		
	baz=127								
K50A	**Casco**	**29.63**	**16**	P	**P**	**12 57 21.3**	**-1.3**		
K50A				IAmb	IAmb	12 58 25.1			
	comp=Z,135nm,1.0s								
BFSC	**Mount Baldy Ra**	**29.63**	**316**	P	**P**	**12 57 24.8**	**+1.9**		
	baz=126,SNR=15								
M55A	**Ridgway**	**29.66**	**22**	IAmb	IAmb	12 58 17.2			
	comp=Z,174nm,1.1s								
M55A	**Ridgway**	**29.66**	**22**	P	**P**	**12 57 21.7**	**-1.2**		
	baz=209								
M55A				P	**P**	**12 57 21.7**	**-1.2**		
	baz=209								
CIS	**Catalina Islan**	**29.68**	**314**	P	**P**	**12 57 25.0**	**+1.8**		
	baz=123								
CIS				S	**S**	**13 02 25.2**	**+7.8**		
	baz=123								
GSC	**Goldstone, Bar**	**29.71**	**319**	IAmb	IAmb	12 57 28.6			
	comp=Z,218nm,1.9s								
GSC	**Goldstone, Bar**	**29.71**	**319**	P	**P**	**12 57 25.9**	**+2.4**		
	baz=128,SNR=14								
SHOC	**Shoshone, Teco**	**29.75**	**320**	P	**P**	**12 57 26.4**	**+2.6**		
	baz=130,SNR=16								
SHOC				S	**S**	**13 02 25.1**	**+6.6**		
	baz=130								
FMP	**Fort Macarthur**	**29.77**	**314**	P	**P**	**12 57 25.8**	**+1.9**		
	baz=124								
MLYT	**Lee's Yard**	**29.89**	**82**	*e*P	**P**	**12 57 21.1**	**-4.0**		
N58A	**Sunbury**	**29.93**	**25**	P	**P**	**12 57 24.4**	**-0.8**		
	baz=213								
N58A				P	**P**	**12 57 24.4**	**-0.8**		
	baz=213								
PASC	**Pasadena Art C**	**29.95**	**315**	IAmb	IAmb	12 57 30.5			
	comp=Z,139nm,1.4s								
CZSB	**Cruzeiro do Su**	**29.96**	**136**	*e*P	**P**	**12 57 27.1**	**+1.4**		
PRN	**Pahroc Range**	**30.02**	**324**	⇑P	**P**	**12 57 28.6**	**+2.4**		
TUPA	**Temple Univers**	**30.05**	**28**	P	**P**	**12 57 25.6**	**-0.7**		
	baz=216								
QSM	**Queen of Sheba**	**30.16**	**319**	IAmb	IAmb	12 57 32.3			
	comp=Z,157nm,1.4s								
M57A	**Sunshine Farm,**	**30.18**	**24**	IAmb	IAmb	12 58 25.4			
	comp=Z,138nm,1.2s								
M57A	**Sunshine Farm,**	**30.18**	**24**	P	**P**	**12 57 26.4**	**-1.1**		
	baz=212,SNR=7.7								
M57A				P	**P**	**12 57 26.4**	**-1.1**		
	baz=212,SNR=7.7								
GWY	**Greenwater Val**	**30.18**	**320**	IAmb	IAmb	12 57 32.6			
	comp=Z,194nm,1.6s								
BPA	**Boggy Peak**	**30.21**	**81**	*e*P	**P**	**12 57 26.8**	**-1.1**		
EDW2	**Edwards Air Fo**	**30.23**	**317**	P	**P**	**12 57 30.0**	**+1.9**		
	baz=126,SNR=10								
ANWB	**Willy Bob**	**30.28**	**80**	*e*P	P	12 57 22.4	-6.2		
SUSD	**Miller**	**30.29**	**352**	P	**P**	**12 57 28.2**	**-0.2**		
SUSD				IAmb	IAmb	12 58 20.9			
	comp=Z,299nm,1.3s								
SUSD	**Miller**	**30.29**	**352**	P	**P**	**12 57 28.5**	**+0.1**		
	baz=169								
ANBD	**Bethesda, Anti**	**30.29**	**81**	*e*P	P	12 57 23.6	-5.1		
GDHS	**Morne Mazeau,**	**30.30**	**82**	IAMs_20	IAMs_20	13 08 29.4			
	comp=Z,27µm,22.0s								
NLU	**North Lily Min**	**30.33**	**330**	IAmb	IAmb	12 57 34.1			
	comp=Z,194nm,1.7s								
K22A	**Casper**	**30.36**	**340**	IAmb	IAmb	12 57 33.1			
	comp=Z,222nm,1.1s								
K22A	**Casper**	**30.36**	**340**	P	**P**	**12 57 30.7**	**+1.5**		
	baz=154,SNR=78								
K22A	**Casper**	**30.36**	**340**	P	**P**	**12 57 30.2**	**+1.0**		
	baz=154,SNR=78								
K22A				S	**S**	**13 02 32.3**	**+4.1**		
	baz=154								
LRMC	**Laurel Mtn Rad**	**30.39**	**318**	P	**P**	**12 57 31.4**	**+1.9**		
	baz=127,SNR=28								
TPNV	**Topopah Spring**	**30.42**	**322**	IAMs_20	IAMs_20	13 11 17.4			
	comp=Z,21µm,18.0s								
TPNV	**Topopah Spring**	**30.42**	**322**	⇑P	**P**	**12 57 32.5**	**+2.7**		
TPNV	**Topopah Spring**	**30.42**	**322**	P	**P**	**12 57 31.9**	**+2.1**		
	baz=131,SNR=59								
TPNV				S	**S**	**13 02 34.5**	**+5.3**		
	baz=131								
TDBA	**Terre de Bas,**	**30.43**	**83**	IAMs_20	IAMs_20	13 08 32.0			
	comp=Z,29µm,21.0s								
TDBA	**Terre de Bas,**	**30.43**	**83**	*e*P	**P**	**12 57 25.2**	**-4.7**		
PANJ	**Princeton**	**30.44**	**28**	P	**P**	**12 57 28.9**	**-0.8**		
	baz=217,SNR=6.5								
CBE	**Ff, Capester**	**30.45**	**83**	*e*P	**P**	**12 57 28.4**	**-1.8**		
FURC	**Furnace Creek,**	**30.48**	**320**	P	**P**	**12 57 32.4**	**+2.3**		
	baz=130,SNR=35								
ABD	**La Joyeuse, An**	**30.56**	**82**	IAMs_20	IAMs_20	13 08 48.4			
	comp=Z,24µm,21.0s								
ABD	**La Joyeuse, An**	**30.56**	**82**	*e*P	**P**	**12 57 27.4**	**-3.6**		
OSI	**Osito Audit: C**	**30.57**	**316**	P	**P**	**12 57 33.4**	**+2.3**		
	baz=125								
OSI				S	**S**	**13 02 39.1**	**+7.7**		
	baz=125								
MPMC	**Manual Prospec**	**30.61**	**319**	P	**P**	**12 57 32.6**	**+1.0**		
	baz=128,SNR=56								
MPMC				S	**S**	**13 02 40.6**	**+8.2**		
	baz=128								
DSLB	**Salisbury**	**30.65**	**84**	*e*P	P	12 57 26.1	-5.8		
SPMN	**Marine on St.**	**30.66**	**0**	IAmb	IAmb	12 57 54.9			
	comp=Z,339nm,1.4s								
SPMN	**Marine on St.**	**30.66**	**0**	P	**P**	**12 57 31.4**	**-0.2**		
	baz=180,SNR=22								
SPMN	**Marine on St.**	**30.66**	**0**	P	**P**	**12 57 31.2**	**-0.5**		
	baz=180,SNR=22								
MDN	**Morne-Daniel**	**30.68**	**84**	*e*P	**P**	**12 57 31.1**	**-1.1**		
L56A	**Greenwood**	**30.69**	**23**	P	**P**	**12 57 31.1**	**-0.9**		
	baz=210								
L56A				P	**P**	**12 57 31.1**	**-0.9**		
	baz=210								
GRGR	**Grenville**	**30.72**	**91**	*e*P	**P**	**12 57 29.3**	**-3.2**		
BRNJ	**Basking Ridge**	**30.74**	**28**	IAmb	IAmb	12 58 36.2			
	comp=Z,135nm,1.1s								
BRNJ	**Basking Ridge**	**30.74**	**28**	P	**P**	**12 57 31.8**	**-0.6**		
	baz=217								
MAGL	**Barre de l'ile**	**30.77**	**83**	IAMs_20	IAMs_20	13 08 30.9			
	comp=Z,30µm,22.0s								
MAGL	**Barre de l'ile**	**30.77**	**83**	*e*P	P	12 57 27.0	-5.9		
G40A	**Rib Lake**	**30.81**	**4**	P	**P**	**12 57 32.1**	**-0.8**		
G40A	**Rib Lake**	**30.81**	**4**	P	**P**	**12 57 32.0**	**-0.9**		
	baz=186								
DLPL	**La Plaine**	**30.82**	**84**	*e*P	P	12 57 41.5	+8.0		
NNA	**Nana**	**30.85**	**148**	LR	LR	13 07 38.4			
	comp=Z,13µm,21.8s,baz=324,slow=32								
DUG	**Dugway, Tooele**	**30.88**	**330**	IAMs_20	IAMs_20	13 12 18.7			
	comp=Z,18µm,18.0s								
DUG	**Dugway, Tooele**	**30.88**	**330**	P	**P**	**12 57 35.9**	**+2.1**		
	baz=140,SNR=35								
DUG				S	**S**	**13 02 42.0**	**+5.8**		
	baz=140								
GCMP	**Grenada, Carri**	**30.90**	**90**	*e*P	P	12 57 29.2	-4.9		
KSPA	**Keystone Colle**	**30.92**	**26**	P	**P**	**12 57 33.8**	**-0.2**		
KSPA				IAmb	IAmb	12 58 28.9			
	comp=Z,309nm,1.8s								
KSPA	**Keystone Colle**	**30.92**	**26**	P	**P**	**12 57 33.8**	**-0.2**		
	baz=214								
ARVC	**Arvin**	**30.93**	**316**	P	**P**	**12 57 36.6**	**+2.4**		
	baz=125,SNR=8.3								
FDF	**Fort de France**	**30.95**	**85**	*e*P	**P**	**12 57 30.0**	**-4.5**		
GDSD	**La Dsirade Is**	**30.97**	**82**	IAMs_20	IAMs_20	13 08 50.2			
	comp=Z,24µm,22.0s								
SVB	**Belmont**	**30.97**	**88**	*e*P	P	12 57 29.3	-5.5		
R11A	**Troy Canyon, C**	**30.98**	**324**	IAmb	IAmb	12 57 40.1			
	comp=Z,140nm,1.4s								
R11A	**Troy Canyon, C**	**30.98**	**324**	P	**P**	**12 57 36.3**	**+1.6**		
	baz=134,SNR=146								
R11A				S	**S**	**13 02 45.5**	**+7.5**		
	baz=134								
RSSD	**Black Hills**	**30.99**	**345**	P	**P**	**12 57 35.8**	**+1.0**		
RSSD				pmax	pmax				
	comp=Z,108nm,1.2s								
RSSD				MLR	MLR				
	comp=Z,3µm,21.0s								
RSSD	**Black Hills**	**30.99**	**345**	P	**P**	**12 57 35.8**	**+1.0**		
RSSD	**Black Hills**	**30.99**	**345**	⇑P	**P**	**12 57 35.6**	**+0.8**		
RSSD	**Black Hills**	**30.99**	**345**	P	**P**	**12 57 35.8**	**+1.0**		
	baz=159,SNR=56								
RSSD	**Black Hills**	**30.99**	**345**	P	**P**	**12

PDAR PcP **PcP** **13 00 31.9 -0.2**
comp=Z,7.5nm,0.8s,baz=160,slow=4.4,SNR=5.1
PDAR LR LR 13 12 42.0
comp=Z,5µm,18.1s,baz=154,slow=41
J55A Hilton 31.57 22 P **P** **12 57 39.8 +0.1**
baz=209
J55A P **P** **12 57 39.8 +0.1**
baz=209
BRNY Black Rk. Fore 31.58 28 P **P** **12 57 39.0 -0.8**
baz=217,SNR=11
K57A Scipio Center 31.60 24 IAmb IAmb 12 58 13.5
comp=Z,130nm,1.2s
K57A Scipio Center 31.60 24 P **P** **12 57 39.2 -0.7**
baz=212,SNR=6.8
TIN Tinemaha, Big 31.70 320 P **P** **12 57 43.4 +2.3**
baz=129,SNR=15
COWI Conover 31.72 5 IAmb IAmb 12 58 40.4
comp=Z,101nm,1.2s
COWI Conover 31.72 5 P **P** **12 57 39.7 -1.3**
baz=187
L59A Walton 31.75 26 IAmb IAmb 12 58 31.4
comp=Z,148nm,1.3s
L59A Walton 31.75 26 P **P** **12 57 40.6 -0.7**
baz=215,SNR=9.4
L59A P **P** **12 57 40.6 -0.7**
baz=215,SNR=9.4
NPNY Mohonk Preserv 31.79 28 P **P** **12 57 40.8 -0.9**
baz=217
SMMC Simmler 31.83 316 P **P** **12 57 44.4 +2.3**
baz=124,SNR=8.3
J56A Wolcott 31.93 23 IAmb IAmb 12 58 00.2
comp=Z,138nm,1.1s
J56A Wolcott 31.93 23 P **P** **12 57 42.1 -0.7**
baz=211,SNR=7.8
J56A P **P** **12 57 42.1 -0.7**
baz=211,SNR=7.8
VOG Valley Oaks Go 31.99 318 P **P** **12 57 44.9 +1.4**
baz=126
KSCT Kent School, K 32.07 28 P **P** **12 57 43.3 -0.7**
KSCT IAmb IAmb 12 57 44.6
comp=Z,121nm,1.1s
E38A The Farm, Brul 32.07 2 IAmb IAmb 12 58 49.6
comp=Z,78nm,0.9s
E38A The Farm, Brul 32.07 2 P **P** **12 57 43.3 -0.7**
baz=183,SNR=8.8
HVU Hansel Valley 32.09 332 IAmb IAmb 12 57 50.6
comp=Z,231nm,1.4s
J57A Williamstown 32.38 24 IAmb IAmb 12 58 20.4
comp=Z,112nm,1.2s
MLAC Mammoth, Mammo 32.44 320 P **P** **12 57 50.0 +2.3**
baz=128,SNR=12
HCNY Howe Caverns 32.44 26 P **P** **12 57 47.9 +0.5**
baz=215
SADO Sadowa 32.47 19 P **P** **12 57 46.0 -1.5**
comp=Z,23nm,1.1s,baz=234,slow=8.3,SNR=7.4
SADO LR LR 13 12 17.5
comp=Z,9µm,20.7s,baz=229,slow=39
SADO Sadowa 32.47 19 ⇑P **P** **12 57 46.8 -0.7**
M63A Gales Ferry 32.50 30 P **P** **12 57 47.1 -0.8**
baz=220,SNR=22
M63A P **P** **12 57 47.1 -0.8**
baz=220,SNR=22
ELK Elko 32.51 328 P **P** **12 57 49.3 +1.1**
comp=Z,62nm,1.2s,baz=144,slow=5.7,SNR=81
ELK PcP **PcP** **13 00 35.5 +0.7**
comp=Z,12nm,0.8s,baz=176,slow=3.3,SNR=7.4
ELK LR LR 13 13 25.4
comp=Z,17µm,18.4s,baz=156,slow=41
ELK Elko 32.51 328 IAmb IAmb 12 57 52.5
comp=Z,111nm,1.2s
ELK IAMs_20 IAMs_20 13 12 35.0
comp=Z,16µm,19.0s
OMMB Old Mammoth Mi 32.53 320 IAmb IAmb 12 57 53.8
comp=Z,207nm,1.5s
MDPB Devils Postpil 32.59 320 IAmb IAmb 12 57 54.2
comp=Z,261nm,1.5s
J58A Remsen 32.62 25 P **P** **12 57 48.0 -0.8**
baz=213,SNR=5.7
J58A P **P** **12 57 48.0 -0.8**
baz=213,SNR=5.7
NVAR Mina Array Bea 32.62 322 P **P** **12 57 51.9 +2.7**
comp=Z,90nm,0.8s,baz=138,slow=7.8,SNR=309
NVAR PcP **PcP** **13 00 36.7 +1.6**
comp=Z,35nm,1.0s,baz=132,slow=3.4,SNR=5.8
NVAR LR LR 13 12 45.7
comp=Z,31µm,18.1s,baz=136,slow=40
NVAR P3KPbc 13 29 12.3
comp=Z,0.1nm,0.3s,baz=289,slow=3.3,SNR=3.5
LHV Little Huntoon 32.62 321 IAmb IAmb 12 57 54.9
comp=Z,299nm,1.5s
BBGH Gun Hill 32.63 88 IAMs_20 IAMs_20 13 11 36.4
comp=Z,20µm,19.0s
E28A Huff 32.63 350 P **P** **12 57 49.6 +0.6**
baz=166,SNR=36
E46A Sault Ste Mari 32.66 11 P **P** **12 57 48.3 -0.9**
baz=196
UCCT U. Connecticut 32.71 30 IAmb IAmb 12 57 49.4
comp=Z,157nm,1.1s
MOOW Moose Ponds 32.84 336 IAmb IAmb 12 57 55.4
comp=Z,267nm,1.4s
FXWY Fox Creek 32.86 336 IAmb IAmb 12 57 55.7
comp=Z,189nm,1.3s
RYN Ryan 32.88 322 IAmb IAmb 12 57 56.8
comp=Z,218nm,1.6s
KVN Kaiserville 32.90 323 IAmb IAmb 12 57 56.8
comp=Z,207nm,1.3s
L61B Northampton 33.01 28 IAMs_20 IAMs_20 13 12 23.0
comp=Z,19µm,19.0s
L61B Northampton 33.01 28 P **P** **12 57 50.6 -1.7**
baz=218
J59A Piesco 33.02 25 P **P** **12 57 51.2 -1.2**
baz=214
J59A P **P** **12 57 51.2 -1.2**
baz=214
FLWY Flagg Ranch 33.10 337 IAmb IAmb 12 58 13.0
comp=Z,124nm,0.9s
BBGB Big Mountain B 33.23 317 IAmb IAmb 12 58 13.4
comp=Z,201nm,1.6s
YPP Pitchstone Pla 33.30 337 IAmb IAmb 12 58 14.0
comp=Z,95nm,1.1s
ACCN Adirondack Com 33.31 26 P **P** **12 57 53.7 -1.2**
baz=216
H17A Grant Village 33.32 337 P **P** **12 57 57.8 +2.4**
baz=148,SNR=129
H17A S **S** **13 03 20.1 +5.6**
baz=148
BMN Battle Mountai 33.34 325 IAmb IAmb 12 58 00.4
comp=Z,188nm,1.3s
LKWY Lake 33.40 337 IAmb IAmb 12 58 01.3
comp=Z,234nm,1.3s
LKWY IAMs_20 IAMs_20 13 12 39.8
comp=Z,11µm,20.0s
EYMN Ely 33.41 2 P **P** **12 57 55.2 -0.6**
EYMN Ely 33.41 2 P **P** **12 57 54.9 -0.9**
baz=183,SNR=8.6
EYMN Ely 33.41 2 P **P** **12 57 54.5 -1.3**
baz=183,SNR=8.6
L64A Middleborough 33.49 31 P **P** **12 57 55.9 -0.6**
baz=222,SNR=17
L64A P **P** **12 57 55.9 -0.6**
baz=222,SNR=17
YERR Yerington 33.54 322 IAmb IAmb 12 58 02.5
comp=Z,267nm,1.5s
NCB Newcomb 33.55 25 P **P** **12 57 55.9 -1.2**
baz=214,SNR=6.9
HRV Adam Dziewonsk 33.58 29 P **P** **12 57 56.2 -1.0**
HRV pmax pmax
comp=Z,66nm,1.2s
HRV MLR MLR
comp=Z,22µm,18.0s
HRV Adam Dziewonsk 33.58 29 P **P** **12 57 56.2 -1.0**
HRV Adam Dziewonsk 33.58 29 P **P** **12 57 56.5 -0.7**
baz=220
HRV Adam Dziewonsk 33.58 29 P **P** **12 57 55.5 -1.7**
baz=220
SAO San Andreas Ge 33.61 317 IAmb IAmb 12 58 02.1
comp=Z,124nm,1.5s
YNR Norris Junctio 33.63 337 IAmb IAmb 12 58 21.4
comp=Z,113nm,1.1s
CMB Columbia Colle 33.66 319 P **P** **12 57 59.3 +1.2**
CMB pmax pmax
comp=Z,74nm,1.3s
CMB MLR MLR
comp=Z,11µm,20.0s
CMB Columbia Colle 33.66 319 P **P** **12 57 59.3 +1.2**
CMB IAMs_20 IAMs_20 13 12 21.1
comp=Z,11µm,20.0s
MDND Maddock 33.72 352 P **P** **12 57 58.8 +0.4**
baz=169,SNR=42
MDND Maddock 33.72 352 P **P** **12 57 57.6 -0.8**
baz=169,SNR=42
MDND S **S** **13 03 21.8 +1.8**
baz=169
YHH Holmes Hill 33.76 337 IAmb IAmb 12 58 03.9
comp=Z,242nm,1.4s
B35A Bob, Littlefor 33.80 359 IAmb IAmb 12 58 21.6
comp=Z,109nm,1.1s
B35A Bob, Littlefor 33.80 359 P **P** **12 57 57.7 -1.4**
baz=179,SNR=35
AGMN Agassiz Nation 33.81 357 IAmb IAmb 12 58 02.4
comp=Z,134nm,1.1s
AGMN Agassiz Nation 33.81 357 P **P** **12 57 58.2 -1.1**
baz=175,SNR=56
AGMN Agassiz Nation 33.81 357 P **P** **12 57 58.1 -1.1**
baz=175,SNR=56
LAO LASA Array 33.94 344 P **P** **12 58 01.7 +1.2**
baz=157,SNR=55
LAO LASA Array 33.94 344 P **P** **12 58 00.2 -0.3**
baz=157,SNR=55
LONY Lake Ozonia 33.95 24 IAmb IAmb 12 58 18.0
comp=Z,88nm,1.1s
LONY IAMs_20 IAMs_20 13 13 07.9
comp=Z,17µm,18.0s
LONY Lake Ozonia 33.95 24 P **P** **12 57 58.0 -2.5**
baz=213,SNR=8.9
VCNR Virginia City 33.98 322 IAmb IAmb 12 58 06.3
comp=Z,131nm,1.4s
MCVT Middlebury Col 34.06 26 P **P** **12 58 00.9 -0.5**
baz=216
PAHR Pah Rah Range 34.08 323 IAmb IAmb 12 58 07.0
comp=Z,160nm,1.3s
BMNY Brushton-Moira 34.16 24 P **P** **12 58 01.6 -0.7**
baz=213
HLID Hailey 34.24 332 IAmb IAmb 12 58 09.1
comp=Z,149nm,1.2s
HLID IAMs_20 IAMs_20 13 14 30.6
comp=Z,12µm,19.0s
HLID Hailey 34.24 332 P **P** **12 58 04.6 +1.3**
baz=141,SNR=189
HLID S **S** **13 03 34.2 +5.6**
baz=141
UNH University of 34.35 29 P **P** **12 58 02.8 -1.1**
baz=220
BOAV Boa Vista 34.36 107 *e*P **P** **12 58 04.1 -0.4**
FRNY Flat Rock 34.52 25 P **P** **12 58 04.0 -1.4**
baz=215
I62A Tamworth 34.73 28 P **P** **12 58 06.7 -0.5**
baz=219
I62A P **P** **12 58 06.7 -0.5**
baz=219
BOZ Bozeman (W) 34.74 337 IAmb IAmb 12 58 18.4
comp=Z,97nm,0.9s
BOZ Bozeman (W) 34.74 337 P **P** **12 58 08.9 +1.4**
baz=147,SNR=120
BOZ S **S** **13 03 39.8 +3.7**
baz=147
LBNH Lisbon 34.75 27 P **P** **12 58 06.6 -0.9**
baz=218
BEKR Beckworth 34.76 322 IAmb IAmb 12 58 12.9
comp=Z,190nm,1.4s
MFID Camas Ranch 34.79 330 IAmb IAmb 12 58 35.8
comp=Z,142nm,1.5s
MFID IAMs_20 IAMs_20 13 14 19.2
comp=Z,15µm,19.0s
DGMT Dagmar 35.12 347 IAmb IAmb 12 58 16.9
comp=Z,157nm,1.1s
DGMT Dagmar 35.12 347 P **P** **12 58 11.6 +1.1**
baz=161,SNR=36
DGMT Dagmar 35.12 347 P **P** **12 58 10.6 0.0**
baz=161,SNR=36
I63A Otisfield 35.22 29 P **P** **12 58 10.4 -1.1**
baz=220,SNR=5.8
I63A P **P** **12 58 10.4 -1.1**
baz=220,SNR=5.8
ORV Oroville 35.26 321 IAmb IAmb 12 58 17.2
comp=Z,121nm,1.4s
ORV IAMs_20 IAMs_20 13 13 06.5
comp=Z,11µm,21.0s
TRQ Mont Tremblant 35.30 23 P **P** **12 58 12.2 -0.1**
TRQ IAmb IAmb 12 58 47.4
comp=Z,217nm,1.6s
MCCM Marconi Confer 35.33 317 IAmb IAmb 12 58 17.4
comp=Z,230nm,1.4s
H62A Milan 35.36 28 P **P** **12 58 11.6 -1.1**
baz=219
H62A P **P** **12 58 11.6 -1.1**
baz=219
WVOR Wild Horse Val 35.49 327 IAMs_20 IAMs_20 13 14 44.2
comp=Z,12µm,19.0s
WVOR Wild Horse Val 35.49 327 ⇑P **P** **12 58 15.5 +1.5**
ULM Lac du Bonnet 35.76 357 P **P** **12 58 14.3 -1.7**
comp=Z,74nm,0.9s,baz=179,slow=8.7,SNR=35
ULM PcP **PcP** **13 00 44.8 +1.3**
comp=Z,12nm,0.6s,baz=138,slow=3.1,SNR=3.9
ULM LR LR 13 15 27.7
comp=Z,7µm,20.7s,baz=174,slow=41
ULM Lac du Bonnet 35.76 357 IAmb IAmb 12 58 18.4
comp=Z,85nm,0.9s
ULM Lac du Bonnet 35.76 357 ⇓P **P** **12 58 14.7 -1.3**
O03E Paynes Creek 35.90 321 P **P** **12 58 18.2 +0.8**
baz=128,SNR=9.7
HOPS Hopland Field 35.92 318 IAmb IAmb 12 58 22.1
comp=Z,138nm,1.5s
HOPS IAMs_20 IAMs_20 13 12 16.3
comp=Z,15µm,20.0s
KAPO Kapuskasing 35.96 12 ⇓P **P** **12 58 16.9 -0.9**
ETMB Extrema 35.99 131 *e*P **P** **12 58 18.6 +0.2**
WVL Waterville 36.04 29 P **P** **12 58 17.1 -1.4**
baz=221
MOD Moc Plateau 36.04 325 IAmb IAmb 12 58 22.9
comp=Z,192nm,1.4s
G62A West of Eustis 36.14 27 P **P** **12 58 18.0 -1.3**
baz=219,SNR=5.9
G62A P **P** **12 58 18.0 -1.3**
baz=219,SNR=5.9
PLID Pearl Lake 36.14 332 IAMs_20 IAMs_20 13 15 38.9
comp=Z,13µm,19.0s
EGMT Eagleton 36.18 341 P **P** **12 58 20.9 +1.1**
baz=152,SNR=213
EGMT S **S** **13 04 00.0 +1.8**
baz=152
O02D Mt. Diablo Mer 36.43 320 IAMs_20 IAMs_20 13 13 30.4
comp=Z,11µm,20.0s
O02D Mt. Diablo Mer 36.43 320 P **P** **12 58 22.2 +0.2**
baz=126,SNR=11
BMO Blue Mountains 36.57 331 IAmb IAmb 12 58 26.6
comp=Z,146nm,1.4s
BMO IAMs_20 IAMs_20 13 14 43.3
comp=Z,14µm,20.0s
MACA Manacapuru-AM 36.63 116 *e*P **P** **12 58 24.1 +0.2**
KCPM Cahto Peak 36.64 319 IAmb IAmb 12 58 29.4
comp=Z,224nm,1.5s
MSO Missoula 36.65 336 IAmb IAmb 12 58 27.7
comp=Z,197nm,1.3s
MSO Missoula 36.65 336 P **P** **12 58 24.5 +0.6**
baz=145,SNR=118
MSO S **S** **13 04 09.1 +3.6**
baz=145
PKME Peaks-Kenny Pk 36.73 29 IAMs_20 IAMs_20 13 14 53.7
comp=Z,12µm,18.0s
PKME Peaks-Kenny Pk 36.73 29 P **P** **12 58 22.8 -1.6**
baz=221
N02D Trinity Center 36.86 321 IAMs_20 IAMs_20 13 15 21.8
comp=Z,13µm,18.0s
N02D Trinity Center 36.86 321 P **P** **12 58 26.5 +0.9**
baz=127,SNR=5.8
F63A Nahmakanta, Br 37.15 28 P **P** **12 58 26.3 -1.7**
baz=221
F63A P **P** **12 58 26.3 -1.7**
baz=221
M02C Callahan 37.20 322 P **P** **12 58 29.6 +1.1**
baz=127,SNR=7.0
YBH Yreka Blue Hor 37.32 322 P **P** **12 58 29.1 -0.5**
comp=Z,12nm,0.7s,baz=149,slow=3.9,SNR=41
YBH PcP **PcP** **13 00 49.2 +0.6**
comp=Z,13nm,1.1s,baz=192,slow=3.7,SNR=3.1
YBH LR LR 13 15 52.7
comp=Z,20µm,18.8s,baz=150,slow=39
K04D Chiloquin, OR 37.33 324 P **P** **12 58 30.1 +0.5**
baz=130
K04D S **S** **13 04 20.7 +4.8**
baz=130
F10A Beach Ranch, E 37.38 332 ⇑P **P** **12 58 31.0 +1.0**
L04D Klamath Falls 37.39 323 IAmb IAmb 12 58 34.1
comp=Z,312nm,1.6s
L04D Klamath Falls 37.39 323 P **P** **12 58 31.1 +0.9**
baz=129,SNR=16
KMPM Mount Pierce 37.40 320 IAmb IAmb 12 58 36.7
comp=Z,163nm,1.3s
KHMM Horse Mountain 37.42 321 IAmb IAmb 12 58 35.1
comp=Z,323nm,1.5s
J05D Fort Rock, OR 37.47 326 P **P** **12 58 31.9 +1.0**
baz=131,SNR=23
J05D S **S** **13 04 24.0 +5.9**
baz=131
G65A Princeton 37.51 30 IAmb IAmb 12 58 56.4
comp=Z,136nm,1.1s
G65A Princeton 37.51 30 P **P** **12 58 29.3 -1.6**
baz=223,SNR=12
G65A P **P** **12 58 29.3 -1.6**
baz=223,SNR=12
JTMT Jette 37.54 336 IAmb IAmb 12 58 35.1
comp=Z,245nm,1.3s
JCC Jacoby Creek, 37.57 320 IAMs_20 IAMs_20 13 13 14.7
comp=Z,13µm,21.0s
F64A Sherman 37.62 29 P **P** **12 58 30.4 -1.6**
baz=222,SNR=5.6
F64A P **P** **12 58 30.4 -1.6**
baz=222,SNR=5.6
J04D Umpqua Nationa 37.93 325 P **P** **12 58 36.6 +1.8**
J04D IAMs_20 IAMs_20 13 16 18.8
comp=Z,13µm,21.0s
J04D Umpqua Nationa 37.93 325 P **P** **12 58 36.2 +1.4**
baz=130,SNR=29
HUMO Hull Mountain 38.01 323 ⇓P **P** **12 58 37.2 +1.9**
L02E Cave Junction 38.11 322 P **P** **12 58 37.7 +1.6**
baz=127
D62A Allapoint, All 38.23 27 P **P** **12 58 35.9 -1.2**
baz=220,SNR=12
D62A P **P** **12 58 35.9 -1.2**
baz=220,SNR=12
I05D Terrebonne, OR 38.23 327 P **P** **12 58 38.2 +1.0**
baz=132,SNR=14
I05D S **S** **13 04 35.0 +5.7**
baz=132
I04A Tendick Farm, 38.45 325 P **P** **12 58 40.0 +1.0**
baz=130,SNR=22
I04A S **S** **13 04 36.2 +3.5**
baz=130
K02D Willamette Mer 38.47 323 P **P** **12 58 40.2 +0.9**
baz=128
WALA Waterton Lakes 38.49 338 P **P** **12 58 40.8 +1.4**
WALA IAmb IAmb 12 58 43.5
comp=Z,279nm,1.4s
WALA Waterton Lakes 38.49 338 ⇓P **P** **12 58 41.2 +1.9**
HAWA Hanford 38.76 331 P **P** **12 58 42.5 +0.9**
HAWA Hanford 38.76 331 ⇑P **P** **12 58 43.0 +1.4**
G05D Wamic, OR 38.83 328 P **P** **12 58 44.1 +1.9**
baz=133,SNR=19
J01E Myrtle Point 38.91 323 IAmb IAmb 12 58 47.5
comp=Z,436nm,1.3s
J01E Myrtle Point 38.91 323 P **P** **12 58 44.5 +1.6**
baz=128,SNR=12
I03D Drain, OR 38.91 324 P **P** **12 58 43.8 +0.9**
baz=129,SNR=28
NEW Newport 39.10 334 P **P** **12 58 44.6 +0.2**
comp=Z,34nm,1.0s,baz=146,slow=8.6,SNR=26
NEW PcP **PcP** **13 00 54.3 +0.4**
comp=Z,50nm,1.1s,baz=170,slow=3.2,SNR=2.4
NEW LR LR 13 17 15.0
comp=Z,13µm,19.2s,baz=143,slow=40
NEW Newport 39.10 334 IAMs_20 IAMs_20 13 17 03.8
comp=Z,13µm,18.0s
NEW Newport 39.10 334 P **P** **12 58 45.3 +0.9**
baz=141,SNR=26
NEW S **S** **13 04 46.8 +4.5**
baz=141
H04D Lebanon 39.10 326 IAmb IAmb 12 58 47.7
comp=Z,333nm,1.4s
H04D IAMs_20 IAMs_20 13 17 01.9
comp=Z,12µm,18.0s
H04D Lebanon 39.10 326 P **P** **12 58 45.4 +0.9**
baz=131,SNR=20
LPAZ La Paz 39.30 140 P **P** **12 58 46.0 -1.1**
comp=Z,4.9nm,0.7s,baz=326,slow=7.4,SNR=10
LPAZ LR LR 13 14 30.6
comp=Z,6µm,20.4s,baz=322,slow=36
LPAZ La Paz 39.30 140 P **P** **12 58 46.9 -0.1**
LPAZ pmax pmax
comp=Z,14nm,0.9s
LPAZ La Paz 39.30 140 P **P** **12 58 46.9 -0.1**
LPAZ La Paz 39.30 140 ⇓P **P** **12 58 47.0 -0.1**
LPAZ La Paz 39.30 140 *e*P **P** **12 58 48.2 +1.1**
F05D White Salmon 39.35 328 IAmb IAmb 12 58 52.8
comp=Z,236nm,1.3s
F05D White Salmon 39.35 328 P **P** **12 58 47.8 +1.3**
baz=134,SNR=18
F05D S **S** **13 04 51.8 +5.8**
baz=134
I02E Swisshome, OR 39.45 325 IAmb IAmb 12 58 52.0
comp=Z,422nm,1.4s
COR Corvallis 39.45 326 P **P** **12 58 48.7 +1.4**
COR pmax pmax
comp=Z,438nm,1.3s
COR MLR MLR
comp=Z,8µm,19.0s
COR Corvallis 39.45 326 P **P** **12 58 48.7 +1.4**
COR IAmb IAmb 12 58 51.6
comp=Z,438nm,1.3s
COR Corvallis 39.45 326 IAMs_20 IAMs_20 13 17 05.1
comp=Z,9µm,19.0s
COR Corvallis 39.45 326 ⇑P **P** **12 58 50.0 +2.7**
G03D McMinnville, O 39.84 326 IAMs_20 IAMs_20 13 16 21.2
comp=Z,13µm,20.0s
G03D McMinnville, O 39.84 326 P **P** **12 58 51.9 +1.4**
baz=131,SNR=19
G03D S **S** **13 04 58.4 +5.0**
baz=131
F04D Rainier, OR 40.28 328 P **P** **12 58 55.4 +1.2**
baz=132,SNR=9.3
E04D Cinebar 40.37 328 IAMs_20 IAMs_20 13 17 46.1
comp=Z,12µm,18.0s
E04D Cinebar 40.37 328 P **P** **12 58 56.5 +1.6**
baz=133,SNR=9.0
E04D S **S** **13 05 04.9 +3.7**
baz=133
C06D Leavenworth 40.51 331 P **P** **12 58 58.0 +1.8**
baz=136
C06D S **S** **13 05 08.2 +4.8**
baz=136
D04E Lakebay 40.89 329 P **P** **12 59 01.0 +1.8**
baz=133,SNR=6.8
MDP Montagnes des 40.92 99 LR LR 13 16 16.4
comp=Z,7µm,21.8s,baz=292,slow=37
PNT Penticton 40.96 334 ⇓P **P** **12 59 01.8 +2.0**
D03D Eldon 41.30 329 P **P** **12 59 04.4 +1.9**
baz=133,SNR=17
B05A Bryant 41.32 331 P **P** **12 59 03.5 +0.8**
baz=135,SNR=17
B05A S **S** **13 05 19.8 +4.5**
baz=135
ITTB Itaituba 41.54 114 *e*P **P** **12 59 03.4 -1.7**
NLWA Neilton Lookou 41.59 328 P **P** **12 59 07.1 +2.0**
NLWA IAmb IAmb 12 59 09.6
comp=Z,358nm,1.4s
NLWA Neilton Lookou 41.59 328 ⇑P **P** **12 59 07.5 +2.5**
MALB Monte Alegre 41.78 110 *e*P **P** **12 59 06.5 -0.4**
A04D Lummi Island 41.93 331 P **P** **12 59 08.8 +1.1**
baz=134,SNR=15
PGC Sidney 42.23 330 P **P** **12 59 11.3 +1.1**
PGC IAmb IAmb 12 59 14.2
comp=Z,233nm,1.3s
CLRS Cowichan Lake 42.68 330 P **P** **12 59 14.8 +1.0**
CLRS IAmb IAmb 12 59 18.1
comp=Z,182nm,1.4s
LLLB Lillooet 42.90 333 IAmb IAmb 12 59 19.7
comp=Z,176nm,1.2s
MCPB Macapa, AP 43.24 106 *e*P **P** **12 59 18.3 -0.5**
SIV San Ignacio 43.82 132 LR LR 13 16 57.4
comp=Z,11µm,19.5s,baz=322,slow=35
LVC Limon Verde 43.83 147 LR LR 13 16 59.6
comp=Z,6µm,19.9s,baz=326,slow=35
LVC Limon Verde 43.83 147 P **P** **12 59 24.8 +0.9**
LVC pmax pmax
comp=Z,46nm,1.3s
LVC Limon Verde 43.83 147 P **P** **12 59 24.8 +0.9**
LVC Limon Verde 43.83 147 ⇑P **P** **12 59 25.7 +1.8**
LVC Limon Verde 43.83 147 *e*P **P** **12 59 24.6 +0.8**
CBB Campbell River 44.09 330 IAmb IAmb 12 59 29.7
comp=Z,204nm,1.2s
FCC Fort Churchill 44.23 359 P **P** **12 59 25.6 -0.5**
FCC pmax pmax
comp=Z,142nm,1.5s

FCC	**Fort Churchill**	**44.23 359**	P	**P**	**12 59 25.6**	**-0.5**
FCC			IAmb	IAmb	12 59 28.0	
	comp=Z,142nm,1.4s					
RPN	**Rapa Nui**	**44.23 201**	LR	LR	13 13 08.0	
	comp=Z,8µm,21.3s,baz=47,slow=30					
PDRB	**Porto dos Gac**	**44.43 124**	*e*P	**P**	**12 59 27.0**	**-1.4**
CLDB	**Colider**	**44.77 122**	*e*P	**P**	**12 59 30.6**	**-0.5**
PTLB	**Pontes e Lacer**	**44.87 130**	*e*P	**P**	**12 59 32.5**	**+0.6**
SCHQ	**Schefferville**	**45.18 21**	P	**P**	**12 59 32.1**	**-1.7**
	comp=Z,18nm,0.9s,baz=233,slow=6.8,SNR=16					
SCHQ			PcP	**PcP**	**13 01 13.7**	**-0.1**
	comp=Z,60nm,1.0s,baz=220,slow=4.6,SNR=7.1					
SCHQ			LR	LR	13 20 46.4	
	comp=Z,16µm,18.0s,baz=216,slow=39					
SCHQ	**Schefferville**	**45.18 21**	P	**P**	**12 59 33.1**	**-0.8**
SCHQ			IAmb	IAmb	13 01 16.2	
	comp=Z,102nm,1.1s					
SCHQ	**Schefferville**	**45.18 21**	⇓P	**P**	**12 59 32.8**	**-1.1**
DRLN	**Deer Lake**	**45.31 32**	P	**P**	**12 59 32.8**	**-2.2**
DRLN			IAmb	IAmb	13 01 16.5	
	comp=Z,119nm,1.3s					
DRLN	**Deer Lake**	**45.31 32**	⇓P	**P**	**12 59 33.0**	**-1.9**
BBB	**Bella Bella**	**46.82 331**	P	**P**	**12 59 49.3**	**+2.6**
	comp=Z,28nm,1.1s,baz=118,slow=11,SNR=4.8					
BBB			LR	LR	13 21 34.5	
	comp=Z,4µm,18.6s,baz=160,slow=39					
BBB	**Bella Bella**	**46.82 331**	IAmb	IAmb	13 01 08.8	
	comp=Z,127nm,1.4s					
PRPB	**Parauapebas**	**47.62 113**	*e*P	**P**	**12 59 53.2**	**-0.3**
TMAB	**Tom-Au,PA,Br**	**47.65 107**	*e*P	**P**	**12 59 54.9**	**+1.0**
SALV	**Santo Antonio**	**47.75 128**	*e*P	**P**	**12 59 54.1**	**-0.3**
LCO	**Las Campanas**	**48.36 153**	IAMs_20	IAMs_20	13 15 24.1	
	comp=Z,6µm,20.0s					
HG4B	**Hotspring**	**48.37 330**	IAmb	IAmb	13 00 02.4	
	comp=Z,115nm,1.3s					
GRNB	**Grenville Isla**	**48.74 332**	IAmb	IAmb	13 00 05.9	
	comp=Z,88nm,1.4s					
SNDB	**Serra Nova Dou**	**49.09 120**	*e*P	**P**	**13 00 04.2**	**-0.6**
RUBB	**Prince Rupert**	**49.18 332**	IAmb	IAmb	13 00 09.1	
	comp=Z,140nm,1.4s					
GO04	**Tololo Observa**	**49.33 154**	IAmb	IAmb	13 01 47.6	
	comp=Z,55nm,0.4s					
PP1B	**Ponte de Pedra**	**49.40 129**	*e*P	**P**	**13 00 08.0**	**+0.8**
H03N2	**Juan Fernandez**	**49.53 164**	T	T	13 53 33.3	
	baz=347,slow=77,SNR=9.9					
DIB	**Dawson Inlet,**	**49.53 330**	IAmb	IAmb	13 00 13.9	
	comp=Z,126nm,1.2s					
H03N1	**Juan Fernandez**	**49.53 164**	T	T	13 53 31.5	
	baz=347,slow=77,SNR=12					
H03N3	**Juan Fernandez**	**49.55 164**	T	T	13 53 27.0	
	baz=347,slow=77,SNR=9.2					
YKA	**Yellowknife Ar**	**50.33 347**	P	**P**	**13 00 13.6**	**0.0**
	comp=Z,159nm,0.9s,baz=148,slow=7.7,SNR=500					
YKA			LR	LR	13 25 58.3	
	comp=Z,3µm,18.3s,baz=162,slow=41					
YKA			PKPPKP	**P'P'df**	**13 31 02.5**	**-3.6**
	comp=Z,0.7nm,0.9s,baz=12,slow=3.2,SNR=3.9					
YKA			P4KPbc		13 37 44.9	
	comp=Z,0.8nm,0.7s,baz=146,slow=4.4,SNR=15					
YKA	**Yellowknife Ar**	**50.33 347**	P	**P**	**13 00 14.3**	**+0.7**
YKA	**Yellowknife Ar**	**50.33 347**	P	**P**	**13 00 14.3**	**+0.7**
AQDB	**Aquidauana**	**50.60 132**	P	**P**	**13 00 14.8**	**-1.4**
AQDB	**Aquidauana**	**50.60 132**	*e*P	**P**	**13 00 16.4**	**+0.1**
SMTB	**Santa Maria do**	**50.78 114**	*e*P	**P**	**13 00 18.2**	**+0.4**
WRAK	**Wrangell Islan**	**51.43 333**	P	**P**	**13 00 23.8**	**+1.9**
WRAK	**Wrangell Islan**	**51.43 333**	P	**P**	**13 00 24.2**	**+2.3**
	baz=128,SNR=6.0					
ROSB	**Rosrio**	**51.54 106**	*e*P	**P**	**13 00 22.4**	**-1.1**
PEXB	**Peixe**	**51.68 118**	*e*P	**P**	**13 00 24.4**	**-0.1**
DLBC	**Dease Lake**	**51.78 336**	P	**P**	**13 00 26.4**	**+1.7**
	comp=Z,154nm,1.0s,baz=135,slow=6.1,SNR=93					
DLBC			LR	LR	13 25 58.6	
	comp=Z,7µm,18.4s,baz=133,slow=40					
TAOE	**Nuku Hiva Isla**	**52.06 246**	*e*S	**S**	**13 07 46.6**	**-3.4**
	comp=Z,5µm,25.0s					
TAOE			*e*LQ	LQ	13 13 14.4	
	comp=Z,4µm,27.4s					
TAOE			*e*LR	LR	13 15 25.0	
	comp=Z,8µm,25.0s,baz=60					
TAOE	**Nuku Hiva Isla**	**52.06 246**	*e*T	T	13 56 08.9	
	comp=Z,93nm,0.2s					
FRB	**Frobisher Bay**	**52.12 14**	P	**P**	**13 00 25.3**	**-1.7**
	comp=Z,44nm,0.9s,baz=216,slow=7.7,SNR=28					
FRB			LR	LR	13 24 20.6	
	comp=Z,5µm,18.7s,baz=190,slow=38					
FRB	**Frobisher Bay**	**52.12 14**	⇑P	**P**	**13 00 26.4**	**-0.6**
WTLY	**Watson Lake, Y**	**52.48 338**	P	**P**	**13 00 31.6**	**+1.8**
	baz=135,SNR=12					
WTLY			S	**S**	**13 07 58.8**	**+4.3**
	baz=135					
BO04	**La Punta**	**52.75 156**	IAmb	IAmb	13 00 42.5	
	comp=Z,147nm,1.9s					
BO01	**Tunca**	**52.92 157**	P	**P**	**13 00 34.1**	**+0.8**
SIT	**Sitka**	**53.12 333**	P	**P**	**13 00 36.5**	**+1.9**
	baz=126					
WRGLY	**Wrigley**	**53.13 343**	S	**S**	**13 08 06.7**	**+3.6**
	baz=142					
GO05	**Huala**	**53.16 158**	IAmb	IAmb	13 00 48.3	
	comp=Z,199nm,1.9s					
TGTN	**Hyland Airport**	**53.31 340**	P	**P**	**13 00 37.7**	**+1.7**
	baz=136,SNR=51					
TGTN			S	**S**	**13 08 09.8**	**+4.1**
	baz=136					
CPUP	**Villa Florida**	**53.45 139**	P	**P**	**13 00 35.2**	**-2.2**
	comp=Z,10.0nm,0.9s,baz=326,slow=8.3,SNR=10.0					
CPUP			LR	LR	13 24 46.1	
	comp=Z,5µm,18.3s,baz=332,slow=38					
CPUP	**Villa Florida**	**53.45 139**	IAmb	IAmb	13 00 38.6	
	comp=Z,146nm,1.8s					
CPUP	**Villa Florida**	**53.45 139**	⇑P	**P**	**13 00 36.3**	**-1.1**
CPUP	**Villa Florida**	**53.45 139**	*e*P	**P**	**13 00 37.5**	**+0.1**
BDFB	**Brasilia**	**53.71 122**	P	**P**	**13 00 38.6**	**-1.0**
	comp=Z,41nm,0.8s,baz=286,slow=9.1,SNR=31					
BDFB			LR	LR	13 24 15.6	
	comp=Z,5µm,20.5s,baz=310,slow=37					
BDFB	**Brasilia**	**53.71 122**	P	**P**	**13 00 39.1**	**-0.5**
BDFB			pmax	pmax		
	comp=Z,67nm,1.0s					
BDFB	**Brasilia**	**53.71 122**	P	**P**	**13 00 39.1**	**-0.5**
BDFB			IAmb	IAmb	13 00 40.9	
	comp=Z,67nm,1.0s					
BESE	**Bessie Mountai**	**53.82 334**	IAmb	IAmb	13 00 44.5	
	comp=Z,168nm,1.4s					
ITRB	**Iturama**	**54.08 128**	*e*P	**P**	**13 00 42.8**	**+0.6**
PCMB	**Pacaembu**	**54.53 130**	*e*P	**P**	**13 00 45.0**	**-0.4**
SKAG	**Skagway**	**54.55 335**	P	**P**	**13 00 46.4**	**+1.4**
SKAG			IAmb	IAmb	13 00 49.5	
	comp=Z,155nm,1.5s					
SKAG	**Skagway**	**54.55 335**	⇑P	**P**	**13 00 47.7**	**+2.8**
SKAG	**Skagway**	**54.55 335**	P	**P**	**13 00 46.4**	**+1.4**
	baz=127,SNR=12					
SKAG			S	**S**	**13 08 26.1**	**+3.7**
	baz=127					
NBPS	**Pedro II - PI**	**54.57 106**	*e*P	**P**	**13 00 45.2**	**-0.7**
SDBA	**SAO DESIDERIO**	**54.74 117**	*e*P	**P**	**13 00 47.4**	**+0.3**
IPMB	**Ipameri, GO**	**54.79 125**	*e*P	**P**	**13 00 47.2**	**-0.2**
MMPY	**Sheldon Lake,**	**55.08 340**	P	**P**	**13 00 51.0**	**+2.2**
	baz=133,SNR=131					
MMPY			S	**S**	**13 08 33.8**	**+4.2**
	baz=133					
WHY	**Whitehorse**	**55.11 336**	IAmb	IAmb	13 00 52.3	
	comp=Z,88nm,1.3s					
WHY	**Whitehorse**	**55.11 336**	⇑P	**P**	**13 00 50.0**	**+0.9**
WHY	**Whitehorse**	**55.11 336**	P	**P**	**13 00 50.8**	**+1.7**
	baz=128,SNR=26					
NBMO	**Morrinhos-CE**	**55.50 104**	*e*P	**P**	**13 00 52.3**	**-0.3**
FARO	**Faro, Yukon**	**55.54 338**	P	**P**	**13 00 53.4**	**+1.3**
	baz=131,SNR=41					
PTGB	**Pitanga**	**55.88 134**	*e*P	**P**	**13 00 54.7**	**-0.5**
M31M	**Drury Creek, Y**	**55.90 338**	IAmb	IAmb	13 00 58.9	
	comp=Z,120nm,1.4s					
M31M			IAMs_20	IAMs_20	13 28 47.7	
	comp=Z,7µm,19.0s					
M31M	**Drury Creek, Y**	**55.90 338**	P	**P**	**13 00 56.4**	**+1.7**
	baz=130,SNR=47					
M31M			S	**S**	**13 08 44.3**	**+3.8**
	baz=130					
N31M	**Braeburn, Yuko**	**55.96 337**	P	**P**	**13 00 56.6**	**+1.4**
	baz=128,SNR=46					
N31M			S	**S**	**13 08 45.9**	**+4.5**
	baz=128					
HYT	**Haines Junctio**	**56.24 336**	P	**P**	**13 00 59.1**	**+1.8**
	baz=125,SNR=44					
BB19B	**Bebedouro**	**56.27 128**	*e*P	**P**	**13 00 58.5**	**+0.6**
PNL	**Peninsula**	**56.37 334**	P	**P**	**13 00 59.8**	**+1.7**
	baz=123,SNR=9.1					
JANB	**Januaria**	**56.50 119**	*e*P	**P**	**13 00 59.9**	**+0.2**
YUK6	**Outpost Mounta**	**56.65 335**	P	**P**	**13 01 02.0**	**+1.6**
	baz=125,SNR=35					
LC01	**Cunco**	**56.69 160**	P	**P**	**13 01 00.8**	**+0.3**
NBPB	**Pedra_Branca-C**	**56.71 107**	*e*P	**P**	**13 01 01.8**	**+0.5**
FRTB	**Fartura**	**56.83 131**	*e*P	**P**	**13 01 02.4**	**+0.5**
YUK4	**Talbot Arm**	**56.99 336**	P	**P**	**13 01 03.9**	**+1.1**
	baz=125,SNR=25					
YUK4			S	**S**	**13 09 00.1**	**+4.7**
	baz=125					
M30M	**Minto, Yukon**	**57.01 338**	IAmb	IAmb	13 01 06.5	
	comp=Z,177nm,1.2s					
M30M			IAMs_20	IAMs_20	13 29 05.1	
	comp=Z,6µm,18.0s					
M30M	**Minto, Yukon**	**57.01 338**	P	**P**	**13 01 03.3**	**+0.7**
	baz=127,SNR=86					
M30M			S	**S**	**13 08 58.3**	**+3.0**
	baz=127					
NBCL	**Cascavel-CE**	**57.45 105**	*e*P	**P**	**13 01 07.2**	**+0.7**
ITAB	**Concordia**	**57.46 136**	IAmb	IAmb	13 01 07.8	
	comp=Z,212nm,1.6s					
ITAB	**Concordia**	**57.46 136**	*e*P	**P**	**13 01 07.6**	**+1.3**
RCLB	**Rio Claro- Sao**	**57.80 129**	*e*P	**P**	**13 01 09.6**	**+0.8**
CTG	**Chitna Glacier**	**57.88 335**	P	**P**	**13 01 10.8**	**+1.9**
	baz=122,SNR=32					
YUK3	**Moose Creek**	**57.95 336**	P	**P**	**13 01 11.0**	**+1.5**
	baz=123,SNR=35					
NBMA	**Muriti-CE**	**58.13 108**	*e*P	**P**	**13 01 12.4**	**+1.2**
NBPN	**Ponto Novo - B**	**58.20 113**	*e*P	**P**	**13 01 11.0**	**-0.7**
C36M	**Paulatuk**	**58.20 348**	IAmb	IAmb	13 01 13.5	
	comp=Z,168nm,1.4s					
C36M	**Paulatuk**	**58.20 348**	P	**P**	**13 01 10.7**	**-0.1**
	baz=144,SNR=28					
C36M			S	**S**	**13 09 14.0**	**+3.4**
	baz=144					
BVCY	**Beaver Creek**	**58.46 336**	P	**P**	**13 01 13.7**	**+0.9**
	baz=123,SNR=26					
BVCY			S	**S**	**13 09 18.5**	**+4.2**
	baz=123					
VAO	**Valinhos**	**58.56 129**	*e*P	**P**	**13 01 15.1**	**+0.9**
DIAM	**Diamantina, MG**	**58.63 122**	*e*P	**P**	**13 01 14.3**	**-0.5**
J29M	**Klondike Camp**	**58.65 339**	P	**P**	**13 01 15.0**	**+0.8**
	baz=126					
CPSB	**Cacapava Do Su**	**58.74 140**	*e*P	**P**	**13 01 15.5**	**+0.3**
PLCA	**Paso Flores**	**58.78 160**	P	**P**	**13 01 14.8**	**-0.5**
	comp=Z,14nm,0.9s,baz=332,slow=8.4,SNR=16					
PLCA			LR	LR	13 21 49.7	
	comp=Z,6µm,18.1s,baz=3.0,slow=31					
PLCA			PKP2bc		13 31 04.3	
	comp=Z,2.6nm,1.0s,baz=134,slow=4.2,SNR=3.6					
PLCA	**Paso Flores**	**58.78 160**	P	**P**	**13 01 16.2**	**+0.9**
PLCA			pmax	pmax		
	comp=Z,49nm,1.3s					
PLCA	**Paso Flores**	**58.78 160**	P	**P**	**13 01 16.2**	**+0.9**
PLCA	**Paso Flores**	**58.78 160**	⇑P	**P**	**13 01 15.9**	**+0.6**
PLCA	**Paso Flores**	**58.78 160**	*e*P	**P**	**13 01 17.1**	**+1.7**
MCARA	**McCarthy VSAT**	**58.80 335**	P	**P**	**13 01 17.0**	**+1.8**
	baz=120,SNR=34					
MCARA			S	**S**	**13 09 23.7**	**+5.1**
	baz=120					
M27K	**Edge Creek, AK**	**58.83 336**	P	**P**	**13 01 17.1**	**+1.6**
M27K	**Edge Creek, AK**	**58.83 336**	P	**P**	**13 01 16.6**	**+1.1**
	baz=122,SNR=26					
DAWY	**Dawson**	**58.84 338**	P	**P**	**13 01 16.0**	**+0.5**
DAWY	**Dawson**	**58.84 338**	⇑P	**P**	**13 01 16.8**	**+1.3**
DAWY	**Dawson**	**58.84 338**	P	**P**	**13 01 15.8**	**+0.4**
	baz=125,SNR=32					
DAWY			S	**S**	**13 09 24.2**	**+5.1**
	baz=125					
BSCB	**Bom Sucesso**	**59.15 126**	*e*P	**P**	**13 01 18.7**	**+0.5**
BCAR	**Beaver Creek A**	**59.17 337**	P	**P**	**13 01 18.9**	**+1.1**
L27K	**Beaver Creek,**	**59.19 337**	P	**P**	**13 01 19.0**	**+1.1**
	baz=122,SNR=120					
L27K			S	**S**	**13 09 27.4**	**+3.7**
	baz=122					
I29M	**Ogilvie Camp,**	**59.22 340**	IAmb	IAmb	13 01 23.9	
	comp=Z,81nm,0.9s					
I29M	**Ogilvie Camp,**	**59.22 340**	P	**P**	**13 01 18.4**	**+0.3**
	baz=127,SNR=77					
BMRM	**Bremner River**	**59.26 334**	IAmb	IAmb	13 01 22.9	
	comp=Z,135nm,1.1s					
BMRM	**Bremner River**	**59.26 334**	P	**P**	**13 01 19.7**	**+1.2**
	baz=118,SNR=21					
BMRM			S	**S**	**13 09 29.8**	**+5.0**
	baz=118					
M26K	**Nabesna, AK**	**59.30 336**	IAmb	IAmb	13 01 22.8	
	comp=Z,146nm,1.2s					
M26K			IAMs_20	IAMs_20	13 28 22.0	
	comp=Z,6µm,20.0s					
M26K	**Nabesna, AK**	**59.30 336**	P	**P**	**13 01 19.8**	**+1.1**
	baz=120,SNR=68					
M26K			S	**S**	**13 09 30.4**	**+5.1**
	baz=120					
PUH	**Pauahi**	**59.32 284**	P	**P**	**13 01 20.3**	**+0.6**
EPYK	**Eagle Plains**	**59.33 341**	IAmb	IAmb	13 02 09.1	
	comp=Z,94nm,1.1s					
EPYK			IAMs_20	IAMs_20	13 31 21.2	
	comp=Z,5µm,18.0s					
EPYK	**Eagle Plains**	**59.33 341**	P	**P**	**13 01 19.8**	**+1.0**
	baz=129,SNR=44					
SFJD	**Kangerlussuaq**	**59.41 18**	P	**P**	**13 01 18.3**	**-1.0**
	comp=Z,8.4nm,0.9s,baz=238,slow=13,SNR=3.6					
SFJD			LR	LR	13 28 46.2	
	comp=Z,13µm,18.3s,baz=226,slow=38					
SFJD	**Kangerlussuaq**	**59.41 18**	P	**P**	**13 01 18.1**	**-1.2**
SFJD			pmax	pmax		
	comp=Z,29nm,1.1s					
SFJD			MLR	MLR		
	comp=Z,12µm,18.0s					
SFJD	**Kangerlussuaq**	**59.41 18**	P	**P**	**13 01 18.1**	**-1.2**
N25K	**Chitina, Valde**	**59.56 334**	IAMs_20	IAMs_20	13 31 43.1	
	comp=Z,5µm,18.0s					
N25K	**Chitina, Valde**	**59.56 334**	P	**P**	**13 01 22.0**	**+1.4**
	baz=118,SNR=44					
EYAK	**Cordova Ski Ar**	**59.57 333**	P	**P**	**13 01 22.1**	**+1.7**
	baz=117,SNR=16					
PLTB	**Pedras Altas**	**59.58 141**	IAmb	IAmb	13 01 22.5	
	comp=Z,110nm,1.5s					
PLTB	**Pedras Altas**	**59.58 141**	*e*P	**P**	**13 01 21.1**	**+0.1**
POHA	**Pohakuloa**	**59.58 285**	P	**P**	**13 01 23.5**	**+1.9**
POHA	**Pohakuloa**	**59.58 285**	IAMs_20	IAMs_20	13 20 08.3	
	comp=Z,5µm,21.0s					
INK	**Inuvik**	**59.68 344**	P	**P**	**13 01 21.6**	**+0.5**
	comp=Z,46nm,0.6s,baz=122,slow=7.5,SNR=90					
INK			LR	LR	13 31 26.3	
	comp=Z,5µm,18.5s,baz=132,slow=40					
INK	**Inuvik**	**59.68 344**	P	**P**	**13 01 21.8**	**+0.7**
INK			pmax	pmax		
	comp=Z,257nm,1.3s					
INK	**Inuvik**	**59.68 344**	P	**P**	**13 01 21.8**	**+0.7**
INK	**Inuvik**	**59.68 344**	⇑P	**P**	**13 01 21.6**	**+0.5**
INK	**Inuvik**	**59.68 344**	P	**P**	**13 01 21.9**	**+0.8**
	baz=133,SNR=106					
INK			S	**S**	**13 09 31.1**	**+1.3**
	baz=133					
L26K	**Log Cabin Wild**	**59.76 336**	IAmb	IAmb	13 01 25.8	
	comp=Z,149nm,1.2s					
L26K	**Log Cabin Wild**	**59.76 336**	P	**P**	**13 01 23.1**	**+1.3**
	baz=120,SNR=46					
L26K			S	**S**	**13 09 35.6**	**+4.6**
	baz=120					
MENT	**Mentasta**	**59.86 336**	IAmb	IAmb	13 01 26.4	
	comp=Z,126nm,1.3s					
TRQA	**Tornquist**	**59.87 152**	P	**P**	**13 01 23.1**	**+0.2**
TRQA			pmax	pmax		
	comp=Z,132nm,1.7s					
TRQA	**Tornquist**	**59.87 152**	P	**P**	**13 01 23.1**	**+0.2**
TRQA			IAmb	IAmb	13 01 32.8	
	comp=Z,132nm,1.6s					
TRQA			IAMs_20	IAMs_20	13 22 52.9	
	comp=Z,8µm,21.0s					
EGAK	**Eagle**	**59.87 338**	IAmb	IAmb	13 01 25.4	
	comp=Z,136nm,1.2s					
EGAK			IAMs_20	IAMs_20	13 32 02.8	
	comp=Z,6µm,18.0s					
EGAK	**Eagle**	**59.87 338**	P	**P**	**13 01 23.0**	**+0.5**
	baz=124,SNR=78					
EGAK			S	**S**	**13 09 36.0**	**+3.7**
	baz=124					
GDU01	**Guandu, BA**	**59.96 115**	*e*P	**P**	**13 01 25.2**	**+1.2**
KLU	**Klutina**	**60.07 334**	P	**P**	**13 01 24.6**	**+0.6**
	baz=117,SNR=41					
HARP	**HAARP**	**60.17 335**	P	**P**	**13 01 25.4**	**+0.8**
	baz=118,SNR=26					
RES	**Resolute Bay**	**60.23 359**	P	**P**	**13 01 24.2**	**-0.6**
	comp=Z,125nm,1.1s,baz=185,slow=9.6,SNR=156					
RES			LR	LR	13 30 27.0	
	comp=Z,3µm,21.4s,baz=174,slow=39					
RES	**Resolute Bay**	**60.23 359**	P	**P**	**13 01 24.6**	**-0.1**
RES			pmax	pmax		
	comp=Z,181nm,1.1s					
RES	**Resolute Bay**	**60.23 359**	P	**P**	**13 01 24.6**	**-0.1**
RES	**Resolute Bay**	**60.23 359**	⇑P	**P**	**13 01 23.9**	**-0.8**
RCBR	**Riachuelo**	**60.24 105**	LR	LR	13 28 24.9	
	comp=Z,7µm,21.2s,baz=84,slow=37					
RCBR	**Riachuelo**	**60.24 105**	P	**P**	**13 01 25.9**	**0.0**
RCBR			pmax	pmax		
	comp=Z,406nm,1.4s					
RCBR			MLR	MLR		
	comp=Z,6µm,21.0s					
RCBR	**Riachuelo**	**60.24 105**	P	**P**	**13 01 25.9**	**0.0**
RCBR	**Riachuelo**	**60.24 105**	IAMs_20	IAMs_20	13 28 13.8	
	comp=Z,6µm,21.0s					
RCBR	**Riachuelo**	**60.24 105**	⇑P	**P**	**13 01 26.0**	**+0.1**
RCBR	**Riachuelo**	**60.24 105**	*e*P	**P**	**13 01 26.9**	**+1.1**
GLI	**Glacier Island**	**60.31 333**	P	**P**	**13 01 26.5**	**+0.9**
	baz=116					
TER01	**Tubaro-SC**	**60.33 135**	*e*P	**P**	**13 01 25.5**	**-0.7**
NBLA	**Lagarto - SE**	**60.42 112**	*e*P	**P**	**13 01 27.4**	**+0.3**
DY2G	**Dye2**	**60.45 20**	*i* P	**P**	**13 01 24.9**	**-1.9**
M24K	**Tolsona, Glenn**	**60.46 334**	P	**P**	**13 01 27.4**	**+0.7**
	baz=117,SNR=38					
SCRK	**Sand Creek**	**60.49 337**	P	**P**	**13 01 28.0**	**+1.1**
	baz=120,SNR=82					
SCRK			S	**S**	**13 09 45.3**	**+4.7**
	baz=120					
ESAR	**Angra dos Reis**	**60.50 127**	*e*P	**P**	**13 01 29.2**	**+1.8**
PAX	**Paxson**	**60.58 335**	P	**P**	**13 01 28.4**	**+0.9**
	baz=118,SNR=86					
PAX			S	**S**	**13 09 45.9**	**+4.2**
	baz=118					
A36M	**Sachs Harbour**	**60.58 349**	IAMs_20	IAMs_20	13 31 39.5	
	comp=Z,4µm,20.0s					
A36M	**Sachs Harbour**	**60.58 349**	P	**P**	**13 01 27.2**	**-0.1**
	baz=144,SNR=139					
A36M			S	**S**	**13 09 43.2**	**+2.0**
	baz=144					
J26L	**Joseph Creek**	**60.60 337**	P	**P**	**13 01 28.9**	**+1.2**
	baz=121,SNR=167					
J26L			S	**S**	**13 09 44.9**	**+3.0**
	baz=121					
RIDG	**Independent Ri**	**60.70 336**	P	**P**	**13 01 29.3**	**+1.1**
	baz=119,SNR=98					
RIDG			S	**S**	**13 09 47.4**	**+4.2**
	baz=119					
CMC01	**Camacan, BA**	**60.73 117**	*e*P	**P**	**13 01 30.4**	**+1.3**
MAN01	**Angra dos Reis**	**60.78 127**	*e*P	**P**	**13 01 30.8**	**+1.4**
SCM	**Sheep Creek Mo**	**60.83 334**	P	**P**	**13 01 30.2**	**+1.0**
	baz=116,SNR=17					
SCM			S	**S**	**13 09 49.0**	**+4.2**
	baz=116					
PWL	**Port Wells**	**60.85 333**	P	**P**	**13 01 29.9**	**+0.7**
	baz=114					
VAS01	**Vassouras-RJ**	**60.87 126**	*e*P	**P**	**13 01 30.6**	**+0.6**
SJMB	**Sao Joao De Ma**	**60.88 121**	*e*P	**P**	**13 01 31.4**	**+1.3**
M23K	**Glacier View**	**60.98 334**	P	**P**	**13 01 30.9**	**+0.8**
	baz=115,SNR=30					
M23K			S	**S**	**13 09 51.8**	**+5.2**
	baz=115					
NBPV	**Pedro Velho**	**61.01 106**	*e*P	**P**	**13 01 32.8**	**+1.7**
GUA01	**Guaratinga, BA**	**61.04 118**	*e*P	**P**	**13 01 31.2**	**0.0**
SEW	**Seward**	**61.05 332**	P	**P**	**13 01 32.0**	**+1.4**
	baz=113,SNR=7.1					
K24K	**Donnelly Dome**	**61.09 336**	P	**P**	**13 01 32.0**	**+1.1**
	baz=118,SNR=65					
K24K			S	**S**	**13 09 51.5**	**+3.4**
	baz=118					
KNK	**Knik Glacier**	**61.13 333**	P	**P**	**13 01 32.6**	**+1.3**
	baz=114,SNR=23					
KNK			S	**S**	**13 09 51.5**	**+2.8**
	baz=114					
SML	**Sawmill**	**61.24 334**	P	**P**	**13 01 32.8**	**+0.8**
	baz=115,SNR=39					
O22K	**Cooper Landing**	**61.32 332**	IAMs_20	IAMs_20	13 27 20.9	
	comp=Z,6µm,20.0s					
O22K	**Cooper Landing**	**61.32 332**	P	**P**	**13 01 33.4**	**+1.0**
	baz=113,SNR=9.5					
WAT6	**Susitna Watana**	**61.33 335**	P	**P**	**13 01 33.3**	**+0.6**
	baz=116,SNR=126					
J25K	**Salcha River,**	**61.33 337**	IAmb	IAmb	13 01 36.2	
	comp=Z,126nm,1.2s					
J25K	**Salcha River,**	**61.33 337**	P	**P**	**13 01 33.3**	**+0.8**
	baz=119,SNR=75					
J25K			S	**S**	**13 09 55.9**	**+4.8**
	baz=119					
DHY	**Denali Highway**	**61.40 335**	P	**P**	**13 01 33.8**	**+0.7**
	baz=116,SNR=32					
DHY			S	**S**	**13 09 56.1**	**+3.8**
	baz=116					
PMR	**Palmer**	**61.50 333**	P	**P**	**13 01 33.8**	**+0.2**
	baz=114,SNR=31					
PMR			S	**S**	**13 09 57.9**	**+4.7**
	baz=114					
AY01	**Puyuhuapi**	**61.51 163**	P	**P**	**13 01 34.0**	**+0.2**
BRSE	**Bradley Lake S**	**61.52 331**	P	**P**	**13 01 35.3**	**+1.5**
	baz=111,SNR=10.0					
BRSE			S	**S**	**13 09 59.1**	**+5.5**
	baz=111					
PMOR	**Pomariorio Ree**	**61.55 244**	*e*T	T	14 08 01.2	
	comp=Z,7.7nm,0.2s					
RC01	**Rabbit Creek A**	**61.57 333**	P	**P**	**13 01 35.3**	**+1.1**
	baz=113,SNR=29					
RC01			S	**S**	**13 09 58.3**	**+4.2**
	baz=113					
DUB01	**Friburgo-RJ**	**61.61 125**	*e*P	**P**	**13 01 35.4**	**+0.4**
KDAK	**Kodiak Island**	**61.74 328**	P	**P**	**13 01 36.0**	**+0.7**
	comp=Z,30nm,0.7s,baz=144,slow=2.6,SNR=13					
KDAK			LR	LR	13 29

COLA College 62.39 337 P **P** 13 01 39.3 -0.3
baz=117
COLA S **S** 13 10 08.1 +3.7
baz=117
TCOL CIGO, UAF Yank 62.40 337 IAMs_20 IAMs_20 13 30 43.7
comp=Z,6µm,19.0s
TCOL CIGO, UAF Yank 62.40 337 P **P** 13 01 39.8 +0.2
baz=117,SNR=35
TCOL S **S** 13 10 07.4 +2.9
baz=117
Q19K Cape Douglas, 62.64 329 P **P** 13 01 42.3 +1.0
baz=108,SNR=7.9
Q19K S **S** 13 10 10.5 +2.8
baz=108
P19K Oil Pt 62.67 330 P **P** 13 01 42.3 +0.7
baz=109,SNR=5.2
P19K S **S** 13 10 10.4 +2.2
baz=109
COYC Coyhaique 62.72 163 P **P** 13 01 42.3 +0.3
COYC IAmb IAmb 13 01 51.7
comp=Z,67nm,1.2s
NEA2 Nenana 62.74 336 P **P** 13 01 42.3 +0.4
baz=115,SNR=46
NEA2 S **S** 13 10 10.4 +1.6
baz=115
TRF Thorofare Moun 62.75 335 P **P** 13 01 42.8 +0.6
baz=114,SNR=131
TRF S **S** 13 10 12.3 +2.9
baz=114
CHIR Chirikof Islan 62.77 326 P **P** 13 01 43.4 +1.2
baz=105
H24K Noodor Dome 62.84 338 P **P** 13 01 43.3 +0.7
baz=117,SNR=148
H24K S **S** 13 10 13.5 +3.3
baz=117
I23K Minto, Yukon-K 63.09 337 IAMs_20 IAMs_20 13 32 56.0
comp=Z,7µm,18.0s
I23K Minto, Yukon-K 63.09 337 P **P** 13 01 44.9 +0.7
baz=115,SNR=162
I23K S **S** 13 10 15.6 +2.4
baz=115
BPAW Bear Paw Mtn. 63.29 335 P **P** 13 01 45.7 0.0
baz=113,SNR=75
BPAW S **S** 13 10 17.6 +1.8
baz=113
PPLA Purkeypile 63.33 334 P **P** 13 01 46.1 0.0
baz=112,SNR=44
PPLA S **S** 13 10 19.0 +2.4
baz=112
O19K Port Alsworth 63.36 331 IAMs_20 IAMs_20 13 26 50.9
comp=Z,4µm,21.0s
O19K Port Alsworth 63.36 331 P **P** 13 01 46.0 -0.1
baz=108,SNR=24
O19K S **S** 13 10 20.0 +3.3
baz=108
TULEG Thule 63.38 6 IAmb IAmb 13 01 48.6
comp=Z,118nm,1.1s
TULEG Thule 63.38 6 *i* P **P** 13 01 46.0 +0.1
TULEG IVmB_BB 13 01 47.5
comp=Z,2µm,1.8s
TULEG Thule 63.38 6 ⇓P **P** 13 01 45.5 -0.4
H23K Yukon River 63.45 337 IAMs_20 IAMs_20 13 31 21.5
comp=Z,6µm,19.0s
H23K Yukon River 63.45 337 P **P** 13 01 46.9 +0.2
baz=116,SNR=49
H23K S **S** 13 10 21.5 +3.7
baz=116
CAST Castle Rocks 63.48 334 P **P** 13 01 47.0 +0.1
baz=112,SNR=125
CAST S **S** 13 10 21.7 +3.6
baz=112
P18K Big Mountain, 63.56 330 P **P** 13 01 47.7 +0.3
baz=107,SNR=12
P18K S **S** 13 10 22.7 +3.4
baz=107
N19K Bonanza Creek 63.63 331 P **P** 13 01 48.2 +0.2
baz=108,SNR=51
N19K S **S** 13 10 22.1 +1.8
baz=108
O18K Koktuh Hills 63.68 330 IAMs_20 IAMs_20 13 27 58.5
comp=Z,4µm,20.0s
O18K Koktuh Hills 63.68 330 P **P** 13 01 48.5 +0.2
baz=107,SNR=21
O18K S **S** 13 10 24.6 +3.8
baz=107
CHUM Lake Minchumin 63.75 335 P **P** 13 01 48.3 -0.2
baz=112,SNR=39
CHUM S **S** 13 10 23.1 +1.7
baz=112
L20K Farewell, AK 63.91 333 P **P** 13 01 49.7 -0.1
baz=110,SNR=75
L20K S **S** 13 10 24.9 +1.4
baz=110
ICESG Greenland Ices 63.99 19 *i* P **P** 13 01 46.9 -3.7
I21K Tanana 64.11 336 IAMs_20 IAMs_20 13 32 06.1
comp=Z,6µm,19.0s
I21K Tanana 64.11 336 P **P** 13 01 51.2 +0.2
baz=113,SNR=52
I21K S **S** 13 10 29.4 +3.5
baz=113
PPT Papeete 64.12 242 LR LR 13 22 43.3
comp=Z,3µm,18.4s,baz=68,slow=29
PPT2 Papeete2 64.13 242 *e*S **S** 13 10 26.6 -1.0
comp=Z,8µm,32.2s
PPT2 *e*LQ LQ 13 18 17.3
comp=Z,4µm,30.2s
PPT2 *e*LR LR 13 20 49.3
comp=Z,8µm,26.8s,baz=57
SVW2 Sparrevohn 64.23 331 IAmb IAmb 13 01 53.8
comp=Z,127nm,1.4s
L19K White Mountain 64.24 333 IAmb IAmb 13 01 54.2
comp=Z,97nm,1.2s
L19K IAMs_20 IAMs_20 13 30 11.9
comp=Z,5µm,20.0s
L19K White Mountain 64.24 333 P **P** 13 01 52.3 +0.4
baz=109,SNR=33
L19K S **S** 13 10 29.3 +1.6
baz=109
N18K Kilae Creek 64.25 331 P **P** 13 01 53.0 +1.0
N18K IAmb IAmb 13 01 55.2
comp=Z,130nm,1.2s
N18K Kilae Creek 64.25 331 P **P** 13 01 52.5 +0.5
baz=107,SNR=23
N18K S **S** 13 10 30.1 +2.2
baz=107
K20K Telida 64.29 334 IAMs_20 IAMs_20 13 31 50.1
comp=Z,4µm,19.0s
K20K Telida 64.29 334 P **P** 13 01 52.4 +0.1
baz=110,SNR=101
K20K S **S** 13 10 30.3 +2.0
baz=110
COLD Coldfoot 64.30 339 P **P** 13 01 53.6 +1.4
baz=116,SNR=122
COLD S **S** 13 10 31.3 +3.2
baz=116
J20K Nowinta River 64.61 335 IAMs_20 IAMs_20 13 31 25.3
comp=Z,4µm,20.0s
J20K Nowinta River 64.61 335 P **P** 13 01 54.3 +0.1
baz=110,SNR=73
J20K S **S** 13 10 33.8 +1.7
baz=110
H21K Melozitna Rive 64.61 337 IAmb IAmb 13 01 56.9
comp=Z,88nm,1.2s
H21K IAMs_20 IAMs_20 13 34 19.3
comp=Z,5µm,19.0s
H21K Melozitna Rive 64.61 337 P **P** 13 01 54.0 -0.3
baz=112,SNR=47
H21K S **S** 13 10 32.0 -0.2
baz=112
TOLK Toolik Lake Re 64.71 340 IAmb IAmb 13 01 58.5
comp=Z,89nm,0.9s
TOLK IAMs_20 IAMs_20 13 33 43.4
comp=Z,7µm,18.0s
TOLK Toolik Lake Re 64.71 340 P **P** 13 01 55.7 +0.8
baz=117,SNR=91
TOLK S **S** 13 10 34.0 +0.7
baz=117
TTA Tatalina 64.99 333 ⇑P **P** 13 01 56.5 -0.3
TTA ⇓P **P** 13 01 56.9 0.0
TTA Tatalina 64.99 333 P **P** 13 01 56.7 -0.2
baz=108,SNR=65
TTA S **S** 13 10 40.9 +4.0
baz=108
GO08 Villa O'Higgin 65.27 165 P **P** 13 01 59.8 +1.2
SDPT Sand Point 65.36 325 P **P** 13 02 00.0 +0.8
baz=100
EUNU Eureka 65.69 1 P **P** 13 02 01.5 +0.4
GCSA Galena City Sc 65.91 335 P **P** 13 02 03.0 +0.3
baz=108,SNR=9.1
GCSA S **S** 13 10 54.0 +6.0
baz=108
SOEG Soedalen 66.33 21 *i* P **P** 13 02 03.5 -1.8
SOEG IAmb IAmb 13 02 31.9
comp=Z,9.1nm,0.8s
TBI Tubuai 66.67 236 *e*S **S** 13 10 57.7 -0.7
comp=Z,4µm,40.0s
TBI *e*LQ LQ 13 19 23.8
comp=Z,2µm,25.8s
TBI *e*LR LR 13 22 11.9
comp=Z,7µm,28.0s,baz=60
TBI Tubuai 66.67 236 *e*T T 14 14 26.2
comp=Z,7.9nm,0.2s
FALS False Pass 66.95 324 P **P** 13 02 10.2 +0.8
baz=98
A21K Barrow 68.02 342 IAMs_20 IAMs_20 13 36 20.6
comp=Z,4µm,18.0s
A21K Barrow 68.02 342 P **P** 13 02 16.2 +0.3
baz=111,SNR=7.9
A21K S **S** 13 11 16.4 +3.3
baz=111
UNV Unalaska Valle 68.63 322 P **P** 13 02 21.2 +1.1
baz=95,SNR=7.7
RDOG Red Dog Mine 69.15 338 P **P** 13 02 22.7 -0.4
baz=103,SNR=14
BORG Borgarnes 69.28 26 LR LR 13 32 53.7
comp=Z,4µm,18.1s,baz=266,slow=36
ANM Nome 69.42 334 P **P** 13 02 25.7 +0.9
baz=100
ANM S **S** 13 11 32.4 +2.4
baz=100
NIKH Nikolski High 69.98 321 P **P** 13 02 29.4 +0.9
baz=92
PMOZ Porto Moniz, M 70.61 60 *e*LQ LQ 13 19 53.7
PMOZ *e*LR LR 13 24 39.0
comp=Z,3µm,22.0s
TNA Tin City 70.64 335 IAmb IAmb 13 02 35.9
comp=Z,100nm,1.2s
SPIA Saint Paul Isl 70.98 326 P **P** 13 02 36.2 +1.7
baz=93
DBG Daneborg 71.56 16 *i* P **P** 13 02 35.2 -2.6
DBG IVmB_BB 13 02 41.4
comp=Z,808nm,13.1s
GAMB Gambell 72.08 333 P **P** 13 02 41.9 +1.0
baz=94
USHA Ushuaia 72.14 165 LR LR 13 29 08.0
comp=Z,7µm,18.1s,baz=324,slow=32
DAG Danmarks Havn 72.47 13 *i* P **P** 13 02 42.0 -1.1
DAG IVmB_BB 13 02 42.8
comp=Z,1µm,5.1s
MBO M'Bour 73.42 79 IAMs_20 IAMs_20 13 30 05.9
comp=Z,6µm,20.0s
NOR Nord 73.81 9 *i* P **P** 13 02 51.0 0.0
NOR IVmB_BB 13 02 52.6
comp=Z,2µm,2.6s
RAR Rarotonga 74.38 243 LR LR 13 28 18.4
comp=Z,2µm,18.3s,baz=58,slow=30
JMIC Jan Mayen 74.68 20 LR LR 13 36 18.5
comp=Z,5µm,20.0s,baz=258,slow=36
JMIC Jan Mayen 74.68 20 *e*P **P** 13 02 55.5 -0.7
PMAFR Mafra 76.34 53 *e*P **P** 13 03 06.1 -0.3
comp=Z,126nm,1.6s
LIS Lisbon 76.47 53 *e*P **P** 13 03 05.7 -1.5
LIS IAMs_20 IAMs_20 13 34 57.2
comp=Z,4µm,16.9s
LIS Lisbon 76.47 53 *e*P **P** 13 03 05.6 -1.5
PGAV Gavieira, Arco 76.71 50 *e*P **P** 13 03 06.4 -2.1
comp=Z,61nm,1.0s
PGAV Gavieira, Arco 76.71 50 *e*LQ LQ 13 23 55.0
PGAV *e*LR LR 13 27 12.5
comp=Z,5µm,20.0s
PACT Alcochete 76.71 53 *e*P **P** 13 03 06.7 -1.7
comp=Z,137nm,1.0s
PCAS Casmilo, Conde 76.79 52 *e*P **P** 13 03 07.4 -1.5
comp=Z,77nm,1.0s
PCAB Cabril 76.92 50 *e*P **P** 13 03 09.0 -0.7
comp=Z,49nm,1.7s
PFVI Vila Bisbo 76.95 55 *e*P **P** 13 03 08.3 -1.5
comp=Z,88nm,1.1s
PFVI Vila Bisbo 76.95 55 IAmb IAmb 13 03 10.9
comp=Z,80nm,1.0s
PFVI Vila Bisbo 76.95 55 P **P** 13 03 09.6 -0.2
PTEO Sao Teotonio 76.97 54 *e*P **P** 13 03 05.9 -4.0
comp=Z,40nm,1.9s
PNCL Nicolau / Gran 77.04 54 *e*P **P** 13 03 08.8 -1.5
comp=Z,32nm,1.1s
MORF Marmelete 77.06 55 *e*P **P** 13 03 09.1 -1.4
MORF *e*S **S** 13 12 55.0 -2.8
MORF IAMs_20 IAMs_20 13 32 05.6
comp=Z,4µm,23.2s
MORF Marmelete 77.06 55 *e*P **P** 13 03 08.9 -1.6
comp=Z,50nm,1.0s
MORF Marmelete 77.06 55 *e*P **P** 13 03 09.1 -1.4
MORF *e*S **S** 13 12 55.0 -2.8
CGR Cap Guir 77.07 61 P **P** 13 03 10.1 -0.6
PMTG Montargil 77.14 53 *e*P **P** 13 03 08.9 -2.0
comp=Z,54nm,1.0s
POLO Lamas de Olo 77.14 50 *e*P **P** 13 03 09.1 -1.9
comp=Z,17nm,1.1s
PVIS Viseu 77.16 51 *e*P **P** 13 03 08.7 -2.3
comp=Z,45nm,0.9s
PVRL Vila Real 77.22 50 *e*P **P** 13 03 10.7 -0.6
comp=Z,28nm,1.4s
EVO Evora 77.38 53 P **P** 13 03 10.6 -1.7
MTE Manteigas 77.47 51 *e*P **P** 13 03 10.8 -2.0
comp=Z,58nm,1.1s
MTE Manteigas 77.47 51 *e*LQ LQ 13 23 50.2
MTE *e*LR LR 13 28 51.6
comp=Z,4µm,22.0s
PCVE Castro Verde 77.50 54 *e*P **P** 13 03 11.9 -1.0
comp=Z,42nm,1.1s
PBEJ Beja 77.57 54 *e*P **P** 13 03 13.4 +0.1
comp=Z,7.0nm,1.2s
PCBR Castelo Branco 77.60 52 *e*P **P** 13 03 11.6 -1.8
comp=Z,43nm,1.0s
PBDV Banco-do-Ve 77.64 54 *e*P **P** 13 03 12.4 -1.4
comp=Z,72nm,1.2s
PESTR Estremoz 77.66 53 *e*P **P** 13 03 12.3 -1.6
comp=Z,46nm,1.2s
PESTR Estremoz 77.66 53 P **P** 13 03 12.2 -1.6
PESTR Estremoz 77.66 53 P **P** 13 03 12.5 -1.3
PMRV Marv??o 77.73 52 *e*P **P** 13 03 12.1 -2.1
comp=Z,38nm,0.9s
PMRV Marv??o 77.73 52 *e*LR LR 13 27 54.9
comp=Z,4µm,22.0s
MVO Moncorvo 77.74 50 *e*P **P** 13 03 12.2 -2.1
comp=Z,76nm,0.9s
MVO Moncorvo 77.74 50 *e*LQ LQ 13 23 57.1
MVO *e*LR LR 13 28 56.7
comp=Z,4µm,20.0s
PVAQ Vaqueiros 77.78 54 *e*P **P** 13 03 13.2 -1.3
comp=Z,50nm,1.1s
PVAQ Vaqueiros 77.78 54 *e*LR LR 13 26 36.7
comp=Z,3µm,22.0s
PVAQ Vaqueiros 77.78 54 P **P** 13 03 12.9 -1.6
PBRG Bragança 77.86 50 *e*P **P** 13 03 13.2 -1.7
comp=Z,49nm,2.1s
EKA Eskdalemuir Ar 78.24 36 P **P** 13 03 14.6 -2.1
comp=Z,18nm,0.9s,baz=286,slow=4.9,SNR=23
EKA LR LR 13 38 45.5
comp=Z,5µm,18.0s,baz=276,slow=36
TTIG Tnine Tigouga, 78.31 61 P **P** 13 03 17.0 -0.8
SRHM Skhour des Reh 78.44 59 P **P** 13 03 19.0 +0.6
OUK Oukaimeden 78.68 61 P **P** 13 03 20.0 -0.1
AVE Averroes 78.70 58 P **P** 13 03 17.4 -2.3
AVE Averroes 78.70 58 P **P** 13 03 19.1 -0.5
KBS Kingsbay 78.77 11 *c i* P **P** 13 03 21.3 +2.1
KBS pmax pmax
comp=Z,254nm,2.5s
KBS MLR MLR
comp=Z,6µm,18.0s
KBS Kingsbay 78.77 11 P **P** 13 03 20.9 +1.7
KBS IAmb IAmb 13 03 23.3
comp=Z,161nm,1.4s
KBS Kingsbay 78.77 11 *i* P **P** 13 03 20.0 +0.8
KBS IVmB_BB 13 03 22.4
comp=Z,4µm,2.1s
KBS Kingsbay 78.77 11 *e*P **P** 13 03 20.4 +1.2
KBS IVmB_BB 13 03 22.4
comp=Z,2µm,2.1s
KBS *e*S **S** 13 13 10.6 -4.1
KBS IVMs_BB IVMs_BB 13 41 45.7
comp=Z,2µm,15.1s
SFS San Fernando 79.13 55 P **P** 13 03 19.6 -2.3
ZHG ZHG 79.31 58 P **P** 13 03 22.1 -1.0
OUZM OUZ 79.67 61 P **P** 13 03 25.0 -0.2

SPA0 Spitsbergen Ar 79.86 11 *e*P **P** 13 03 26.2 +1.0
SPA0 IVmB_BB 13 03 27.4
comp=Z,2µm,3.6s
SPA0 *e*S **S** 13 13 24.5 -1.9
SPA0 IVMs_BB IVMs_BB 13 42 28.7
comp=Z,2µm,20.0s
SPITS Spitsbergen Ar 79.86 11 P **P** 13 03 24.1 -1.1
comp=Z,21nm,0.8s,baz=222,slow=1.1,SNR=22
SPITS LR LR 13 40 05.3
comp=Z,5µm,20.9s,baz=29,slow=37
SPB2 Spitsbergen Ar 79.86 11 P **P** 13 03 25.6 +0.4
SPB2 IAmb IAmb 13 03 28.4
comp=Z,138nm,1.5s
CEU Ceuta 79.89 55 P **P** 13 03 24.5 -1.6
PAB San Pablo 80.03 52 P **P** 13 03 25.3 -1.6
PAB pmax pmax
comp=Z,37nm,1.1s
PAB San Pablo 80.03 52 P **P** 13 03 25.3 -1.6
PAB San Pablo 80.03 52 P **P** 13 03 26.1 -0.8
HSPB Hornsund (broa 80.12 13 *e*P **P** 13 03 26.5 -0.1
HSPB *e*S **S** 13 13 35.2 +6.2
HSPB *e*L L 13 37 56.8
comp=Z,5µm,25.1s
HSPB Hornsund (broa 80.12 13 *e*P **P** 13 03 27.4 +0.8
SHEM Shemya Is, Ala 80.29 322 LR LR 13 36 44.9
comp=Z,829nm,21.4s,baz=68,slow=34
ESDC Sonseca Array 80.30 52 P **P** 13 03 26.1 -2.3
comp=Z,30nm,0.9s,baz=290,slow=5.7,SNR=87
ESDC LR LR 13 33 46.1
comp=Z,6µm,21.5s,baz=289,slow=32
IFR Ifrane 80.54 58 P **P** 13 03 25.4 -4.5
BILL Bilibino 80.62 338 *d i* P **P** 13 03 29.9 +0.5
BILL *i* 13 03 47.1
BILL *i* 13 06 33.1
BILL *i* S S 13 13 25.3 -9.3
BILL pmax pmax
comp=Z,168nm,1.1s
BILL Bilibino 80.62 338 P **P** 13 03 30.2 +0.8
TZRR Tazzarine 80.70 61 P **P** 13 03 31.0 +0.3
CZD Col de Zad 80.70 58 P **P** 13 03 31.0 +0.1
UCM Universidad Co 80.72 51 P **P** 13 03 27.6 -3.0
LCRM LCR 80.73 58 P **P** 13 03 31.0 +0.1
ZGR Zagora 80.78 61 P **P** 13 03 31.0 -0.2
PVLZ Peæn de 80.89 56 P **P** 13 03 28.9 -2.6
MDT Midelt 81.10 58 P **P** 13 03 30.9 -1.9
comp=Z,34nm,0.9s,baz=305,slow=5.1,SNR=49
MDT LR LR 13 35 14.2
comp=Z,3µm,19.9s,baz=297,slow=33
PALE Palemas 81.17 56 P **P** 13 03 33.0 -0.1
FOO Floro 81.26 29 *e*P **P** 13 03 32.2 -0.7
FOO *e*S **S** 13 13 39.0 -2.3
FOO IVMs_BB IVMs_BB 13 37 17.0
comp=Z,1µm,4.5s
ASK Askoy 81.60 30 *e*P **P** 13 03 34.7 -0.1
MFF Saint Martin d 81.67 44 *e*P **P** 13 03 34.0 -1.4
MFF pmax pmax
comp=Z,19nm,0.9s
BER Bergen 81.69 30 ⇑*i* P **P** 13 03 34.7 -0.5
BER IVmB_BB 13 03 41.9
comp=Z,794nm,3.1s
BER *e*S **S** 13 13 42.4 -3.6
BER IVMs_BB IVMs_BB 13 35 56.4
comp=Z,2µm,25.4s
HYA Hoyanger 81.90 29 *e*P **P** 13 03 35.7 -0.6
BJO1 Bjornoya 81.90 15 ⇑*i* P **P** 13 03 36.6 +0.5
BJO1 IVmB_BB 13 03 40.1
comp=Z,3µm,2.3s
BJO1 *e*S **S** 13 13 46.8 -0.9
BJO1 IVMs_BB IVMs_BB 13 41 19.8
comp=Z,3µm,11.8s
WMELI Melilla 81.94 56 P **P** 13 03 33.5 -3.5
WMELI S S 13 14 54.5 +65
AKN Aaknes 82.00 28 *e*P **P** 13 03 36.3 -0.6
PMSA Palmer Station 82.04 168 LR LR 13 32 14.0
comp=Z,3µm,20.0s,baz=332,slow=30
MOL Molde 82.14 27 *e*P **P** 13 03 35.9 -1.6
HOPEN Hopen 82.30 12 *e*P **P** 13 03 38.3 +0.2
HOPEN IVmB_BB 13 03 40.5
comp=Z,3µm,1.6s
HOPEN *e*S **S** 13 13 48.7 -3.0
HOPEN IVMs_BB IVMs_BB 13 44 51.7
comp=Z,3µm,12.5s
JBK JBK 82.46 57 P **P** 13 03 39.0 -1.1
BLS5 Blasjo 82.49 31 ⇑*i* P **P** 13 03 40.0 +0.5
BLS5 IVmB_BB 13 03 41.3
comp=Z,2µm,4.5s
BLS5 *e*S **S** 13 13 50.5 -3.8
BLS5 IVMs_BB IVMs_BB 13 37 22.8
comp=Z,2µm,21.7s
LFF La Frestale 82.64 46 *e*P **P** 13 03 39.1 -1.4
LFF pmax pmax
comp=Z,26nm,0.8s
AFI Afiamalu 82.75 254 LR LR 13 31 16.5
comp=Z,2µm,20.6s,baz=74,slow=29
LOF Lofoten 82.77 21 *e*P **P** 13 03 40.7 0.0
LOF IVmB_BB 13 03 42.4
comp=Z,1µm,4.4s
LOF *e*S **S** 13 13 52.5 -4.2
LOF IVMs_BB IVMs_BB 13 40 57.8
comp=Z,1µm,16.3s
DOMB Dombas 82.97 28 ⇑*i* P **P** 13 03 43.8 +1.9
DOMB *e*S **S** 13 13 55.7 -3.4
DOMB IVMs_BB IVMs_BB 13 37 01.7
comp=Z,1µm,24.5s
CART Cartagena 83.00 53 P **P** 13 03 39.0 -3.5
SKAR Skarslia 83.03 29 ⇑*i* P **P** 13 03 41.8 -0.5
SKAR *e*S **S** 13 13 55.0 -4.7
SKAR IVMs_BB IVMs_BB 13 38 15.8
comp=Z,2µm,23.8s
TBLU Trondheim 83.12 26 *e*P **P** 13 03 43.9 +1.2
TBLU *e*SKSac **S** 13 13 58.2 -2.3
TDRA Tendrara 83.17 58 P **P** 13 03 44.0 +0.2
KONS Konsvik 83.19 23 *e*P **P** 13 03 42.9 0.0
STOK Stokkvaagen 83.21 23 *e*P **P** 13 03 42.9 -0.1
NSS Namsos 83.42 25 *e*P **P** 13 03 43.9 -0.2
STEI Steigen 83.44 21 *e*P **P** 13 03 44.0 -0.1
STEI IVmB_BB 13 03 45.4
comp=Z,2µm,4.6s
STEI *e*S **S** 13 13 59.9 -3.6
STEI IVMs_BB IVMs_BB 13 36 14.7
comp=Z,1µm,29.6s
CAF Calviac 83.56 45 *e*P **P** 13 03 43.7 -1.6
CAF pmax pmax
comp=Z,34nm,1.3s
FAUS Fauske 83.66 22 *e*P **P** 13 03 45.7 +0.3
FAUS IVmB_BB 13 03 46.5
comp=Z,2µm,4.6s
FAUS *e*SKSac **S** 13 13 58.0 -7.8
FAUS IVMs_BB IVMs_BB 13 41 17.7
comp=Z,1µm,12.1s
MOR8 Moi Rana 83.81 23 *e*P **P** 13 03 46.5 +0.4
MOR8 *e*SKSac **SKSac** 13 14 03.2 -3.9
MOR8 IVMs_BB IVMs_BB 13 42 21.6
comp=Z,2µm,15.8s
HOMB Homborsund 83.84 31 *e*P **P** 13 03 47.8 +1.4
HOMB *e*SKSac **SKSac** 13 14 01.5 -5.9
HOMB IVMs_BB IVMs_BB 13 37 47.2
comp=Z,1µm,20.7s
DOU Dourbes 83.92 40 *d*P **P** 13 03 46.4 -0.7
comp=Z,6.9nm,1.0s
KONO Kongsberg 83.95 30 IAMs_20 IAMs_20 13 38 41.4
comp=Z,5µm,21.0s
KONO Kongsberg 83.95 30 ⇑*i* P **P** 13 03 45.4 -1.6
KONO *e*SKSac **SKSac** 13 14 01.7 -6.5
KONO IVMs_BB IVMs_BB 13 38 41.2
comp=Z,2µm,19.5s
TRO Tromso 83.97 19 *e*P **P** 13 03 48.3 +1.4
TRO IVMs_BB IVMs_BB 13 41 21.2
comp=Z,2µm,13.5s
BMRD Maredsous 83.98 40 *d*P **P** 13 03 46.8 -0.5
comp=Z,12nm,1.1s
NC204 NORSAR Array S 83.98 28 IAmb IAmb 13 05 07.1
comp=Z,88nm,1.6s
FIGM Figuig 84.01 58 P **P** 13 03 48.0 -0.1
NBO00 NORSAR Array S 84.07 28 IAmb IAmb 13 03 50.1
comp=Z,70nm,1.1s
BGES Gesves 84.15 40 *b*P **P** 13 03 47.2 -1.0
BGES *d*PcP **PcP** 13 03 51.5 -0.5
NB2 NORSAR Subarra 84.27 28 P **P** 13 03 48.5 -0.1
comp=Z,19nm,0.9s,baz=290,slow=5.6
NB2 NORSAR Subarra 84.27 28 P **P** 13 03 48.5 -0.1
baz=290,slow=5.6
NOA NORSAR Array B 84.27 28 P **P** 13 03 48.5 -0.1
comp=Z,15nm,0.9s,baz=290,slow=5.1,SNR=36

NOA LR LR 13 39 52.1
comp=Z,4µm,20.9s,baz=285,slow=35
NB201 NORSAR Array S 84.30 28 IAmb IAmb 13 03 51.9
comp=Z,106nm,1.2s
RCHB Rochefort 84.30 40 *d*P **P 13 03 49.0 +0.1**
BSTI Sart Tilman 84.39 39 *d*P **P 13 03 49.2 -0.2**
JETT Jettan, Norway 84.47 19 *e*P **P 13 03 50.1 +0.7**
NC405 NORSAR Array S 84.47 28 IAmb IAmb 13 03 52.5
comp=Z,107nm,1.1s
NC602 NORSAR Array S 84.52 29⇑ *i*P **P 13 03 49.2 -0.7**
NC602 *e*SKSac **SKSac 13 14 07.2 -4.6**
NC602 IVMs_BB IVMs_BB 13 39 24.1
comp=Z,2µm,18.4s
MEM Membach 84.66 39 *d*P **P 13 03 50.0 -0.7**
BHOU Houvegnez 84.73 39 *d*P **P 13 03 51.0 -0.1**
BTNL Ternell 84.74 39 *d*P **P 13 03 51.4 +0.2**
HAMF Hammerfest 84.94 17 *e*P **P 13 03 51.1 -0.6**
HAMF *e*SKSac **SKSac 13 14 08.0 -6.2**
HAMF IVMs_BB IVMs_BB 13 42 57.2
comp=Z,1µm,18.6s
WLF Walferdange 85.01 40 *d*P **P 13 03 53.0 +0.4**
KTK1 Kautokeino 85.61 19 *e*P **P 13 03 53.8 -1.4**
KTK1 *e*SKSac **SKSac 13 14 13.2 -5.3**
KTK1 IVMs_BB IVMs_BB 13 43 31.4
comp=Z,1µm,15.0s
KOWA Kowa 85.64 76 P **P 13 03 55.6 -0.7**
KOWA IAmb IAmb 13 03 58.9
comp=Z,87nm,1.0s
KOWA IAMs_20 IAMs_20 13 38 44.6
comp=Z,4µm,20.0s
HFS Hagfors 85.73 29 P **P 13 03 55.0 -0.9**
comp=Z,5.2nm,0.8s,baz=277,slow=12,SNR=7.9
HFS LR LR 13 40 13.5
comp=Z,5µm,21.2s,baz=278,slow=34
HFS Hagfors 85.73 29 P **P 13 03 55.0 -0.9**
ARA0 ARCESS Array S 86.04 18 *e*P **P 13 03 57.5 +0.2**
ARA0 *e*SKSac **SKSac 13 14 17.1 -4.2**
ARA0 IVMs_BB IVMs_BB 13 43 05.1
comp=Z,2µm,19.2s
ARCES ARCESS Array B 86.04 18 P **P 13 03 57.0 -0.4**
comp=Z,18nm,0.9s,baz=284,slow=4.8,SNR=30
ARCES LR LR 13 43 45.4
comp=Z,3µm,18.3s,baz=307,slow=37
ARCES ARCESS Array B 86.04 18 P **P 13 03 57.7 +0.4**
ARCES pmax pmax
comp=Z,52nm,1.2s
ARCES ARCESS Array B 86.04 18 P **P 13 03 57.7 +0.4**
ARCES IAmb IAmb 13 03 59.6
comp=Z,52nm,1.2s
KEV Kevo 86.37 18 P **P 13 03 59.2 +0.3**
KEV pmax pmax
comp=Z,61nm,1.0s
KEV MLR MLR
comp=Z,3µm,20.0s
KEV Kevo 86.37 18 P **P 13 03 59.2 +0.3**
KEV IAmb IAmb 13 04 01.0
comp=Z,60nm,1.0s
KEV IAMs_20 IAMs_20 13 42 43.6
comp=Z,3µm,20.0s
MAHO Mahon 86.42 50 P **P 13 03 58.4 -1.4**
TIC Toumodi 86.56 84 *e*PKP2 **P 13 03 59.9 -1.1**
LPL La Plagne 86.58 44 *e*P **P 13 04 00.5 -0.2**
LPL pmax pmax
comp=Z,70nm,1.6s
LIC Lamto 86.65 84 *e*PKP2 **P 13 04 01.1 -0.3**
comp=Z,186nm,1.1s
SENIN Lac Senin/Sane 86.71 43 P **P 13 04 00.6 -0.7**
SENIN IAmb IAmb 13 04 03.8
comp=Z,89nm,1.5s
SENIN IAMs_20 IAMs_20 13 40 44.0
comp=Z,4µm,20.0s
DBIC Dimbokro 86.71 84 P **P 13 04 00.7 -1.0**
comp=Z,47nm,0.8s,baz=293,slow=4.3,SNR=34
DBIC LR LR 13 37 48.2
comp=Z,2µm,21.3s,baz=288,slow=32
DBIC Dimbokro 86.71 84 P **P 13 04 01.1 -0.6**
DBIC pmax pmax
comp=Z,81nm,1.0s
DBIC Dimbokro 86.71 84 P **P 13 04 01.1 -0.6**
DBIC IAmb IAmb 13 04 03.6
comp=Z,81nm,0.9s
KIC Kosan Boka 86.90 84 *e*PKP2 **P 13 04 01.5 -1.1**
comp=Z,97nm,0.7s
SEY Seymchan 87.87 335 LR LR 13 46 39.6
comp=Z,2µm,20.1s,baz=66,slow=38
SEY Seymchan 87.87 335*c i*P **P 13 04 08.2 +1.9**
SEY pmax pmax
comp=Z,141nm,2.5s
SEY MLR MLR
comp=Z,2µm,20.0s
DAVA Damuels 88.10 42 *i* P **P 13 04 08.0 0.0**
comp=Z,58nm,1.2s,SNR=11
GRFO Grafenberg 88.13 39 P **P 13 04 07.5 -0.3**
GRFO pmax pmax
comp=Z,42nm,1.1s
GRFO Grafenberg 88.13 39 P **P 13 04 07.5 -0.3**
GRFO IAmb IAmb 13 04 10.6
comp=Z,42nm,1.1s
GRFO IAMs_20 IAMs_20 13 40 47.3
comp=Z,4µm,21.0s
DAVOX Davos/Dischmat 88.27 42 P **P 13 04 08.4 -0.4**
comp=Z,16nm,1.0s,baz=307,slow=7.8,SNR=12
DAVOX LR LR 13 38 33.2
comp=Z,3µm,21.9s,baz=274,slow=32
RETA Reutte 88.60 41 *e*P **P 13 04 09.7 -0.5**
comp=Z,27nm,1.1s
CLL Collm 88.62 37 *i* P **P 13 04 08.6 -1.5**
CLL pmax pmax
comp=Z,22nm,1.5s
CLL MLR MLR
comp=Z,3µm,21.3s
CLL Collm 88.62 37 *i* P **P 13 04 10.7 +0.6**
comp=Z,22nm,1.5s
CLL *e*Plp 13 04 11.0
comp=Z,1µm,14.5s
CLL *e*Pmax 13 04 11.0
CLL *i* sP **pP 13 04 18.7 -0.3**
CLL *e*PP **PP 13 07 41.0 +2.7**
CLL *e*SKSac **SKSac 13 14 36.0 -1.5**
CLL *e*S **S 13 14 58.0 +3.2**
CLL *e*PS **PS 13 16 12.0 +10**
CLL *e*SS **SS 13 20 48.0 +2.6**
CLL *e*SSS SSS 13 24 36.0
CLL LmV 13 41 00.0
comp=Z,3µm,21.3s
NKC Novy Kostel 88.68 38 *e*P **P 13 04 09.7 -0.8**
NKC MLR MLR
comp=Z,4µm,17.2s
NKC Novy Kostel 88.68 38 *e*P **P 13 04 09.7 -0.8**
NKC AMS AMS 13 47 40.0
comp=Z,4µm,17.2s
FETA Feichten 88.73 42 *e*P **P 13 04 11.0 +0.1**
comp=Z,23nm,1.5s
MOTA Moosalm 88.86 41 *e*P **P 13 04 12.8 +1.3**
comp=Z,25nm,1.2s
SQTA Sankt Quirin 88.97 41 *e*P **P 13 04 13.0 +1.0**
comp=Z,28nm,1.6s
PET Petropavlovsk 89.14 325*c i*P **P 13 04 12.2 -0.3**
PET *e* 13 07 41.8
PET *e*S **S 13 14 55.0 -4.6**
PET *e*PS **PnS 13 16 02.6 -3.7**
PET pmax pmax
comp=Z,34nm,1.8s
PET pmax pmax
comp=Z,2µm,13.8s
PET pmax pmax
comp=Z,1µm,10.7s
PET pmax pmax
comp=Z,600nm,12.9s
PET pmax pmax
comp=Z,600nm,13.5s
PET MLR MLR
comp=Z,2µm,21.0s
PET Petropavlovsk 89.14 325 P **P 13 04 13.8 +1.4**
WATA Walderalm 89.17 41 *e*P **P 13 04 13.0 +0.1**
comp=Z,18nm,1.4s
WTTA Wattenberg 89.23 41 *e*P **P 13 04 14.4 +1.1**
comp=Z,5.8nm,1.1s
BRG Berggiesshubel 89.33 37 *e*P **P 13 04 13.6 +0.1**
BRG Amp 13 04 15.8
comp=Z,23nm,1.3s
BRG *ex* x 13 04 24.4
BRG Amp 13 04 27.1
comp=Z,14nm,1.1s
BRG *ex* x 13 05 06.9
BRG Amp 13 05 11.4
comp=Z,21nm,1.3s
BRG Berggiesshubel 89.33 37 PP PP 13 07 45.0 +1.0
BRG Berggiesshubel 89.33 37 *e*P **P 13 04 13.6 +0.1**
BRG *e* 13 04 24.3
BRG 13 07 45.0
BRG 13 14 43.0
BRG pmax pmax
comp=Z,23nm,1.3s
APA Apatity 89.55 18⇓ *i*P **P 13 04 10.0 -4.1**
APA pmax pmax
comp=Z,14nm,1.0s
APA MLR MLR
comp=Z,4µm,18.0s
TIXI Tiksi 89.57 348 IAMs_20 IAMs_20 13 48 06.9
comp=Z,3µm,21.0s
PEA0B Petropavlovsk- 89.63 325 P **P 13 04 16.2 +1.3**
PEA0B pmax pmax
comp=Z,72nm,1.3s
PEA0B Petropavlovsk- 89.63 325 P **P 13 04 16.1 +1.3**
PEA0B IAmb IAmb 13 04 18.2
comp=Z,72nm,1.2s
PETK Petropavlovsk- 89.63 325 P **P 13 04 15.2 +0.3**
comp=Z,23nm,1.1s,baz=70,slow=13,SNR=22
PETK LR LR 13 44 12.8
comp=Z,872nm,20.4s,baz=53,slow=35
PETK Petropavlovsk- 89.63 325 P **P 13 04 15.7 +0.9**
PETK Petropavlovsk- 89.63 325 P **P 13 04 15.7 +0.9**
LVZ Lovozero 89.71 17*c i*P **P 13 04 15.2 +0.3**
LVZ pmax pmax
comp=Z,66nm,1.0s
LVZ MLR MLR
comp=Z,4µm,18.0s
KHC Kasperske Hory 89.77 39*c i*P **P 13 04 15.3 -0.3**
KHC pmax pmax
comp=Z,35nm,1.1s
KHC MLR MLR
comp=Z,6µm,18.0s
KHC Kasperske Hory 89.77 39 *e*P **P 13 04 14.5 -1.1**
KHC *e*pP **sP 13 04 25.0 -2.6**
KHC *e*PP **PP 13 07 42.4 -5.2**
KHC AMS AMS 13 43 20.0
comp=Z,4µm,19.4s
ZCCA Zocca 89.81 44 P **P 13 04 16.4 +0.5**
PVCC Panska Ves 89.83 37 *e*P **P 13 04 15.5 -0.3**
PVCC MLR MLR
comp=Z,4µm,22.5s
PVCC Panska Ves 89.83 37 *e*P **P 13 04 15.5 -0.3**
PVCC AMS AMS 13 44 20.0
comp=Z,4µm,22.5s
GERES GERESS Array B 89.95 39 P **P 13 04 15.7 -0.9**
comp=Z,8.0nm,1.0s,baz=298,slow=2.9,SNR=25
GERES LR LR 13 40 38.4
comp=Z,3µm,21.9s,baz=286,slow=33
GERES GERESS Array B 89.95 39 P **P 13 04 16.0 -0.6**
GERES GERESS Array B 89.95 39 P **P 13 04 16.0 -0.6**
ABTA Abfaltersbach 89.98 41 *i* P **P 13 04 18.0 +1.3**
comp=Z,30nm,1.2s,SNR=5.6
PRU Pruhonice 90.02 38 *e*P **P 13 04 16.3 -0.4**
PRU MLR MLR
comp=Z,4µm,18.0s
PRU Pruhonice 90.02 38 *e*P **P 13 04 16.3 -0.4**
PRU AMS AMS 13 45 50.0
comp=Z,4µm,18.0s
MA2 Magadan 90.18 333*ce*P **P 13 04 17.8 +0.6**
MA2 pmax pmax
comp=Z,101nm,1.4s
MA2 MLR MLR
comp=Z,2µm,19.0s
MA2 Magadan 90.18 333 P **P 13 04 18.3 +1.0**
MA2 IAmb IAmb 13 04 19.9
comp=Z,89nm,1.3s
CKRC Cesky Krumlov 90.33 39 *e*P **P 13 04 17.1 -1.1**
CKRC AMS AMS 13 40 20.0
comp=Z,4µm,21.6s
BIOA Bad Ischl, Aus 90.34 40 *e*P **P 13 04 20.1 +1.8**
comp=Z,5.4nm,0.7s
KBA Koelnbreinsper 90.39 41 *e*P **P 13 04 19.7 +1.0**
comp=Z,22nm,1.4s
FINES FINESS Array B 90.55 25 P **P 13 04 18.8 -0.1**
comp=Z,25nm,1.1s,baz=275,slow=2.0,SNR=18
FINES PKKPbc **PKKPbc 13 21 47.3 -0.7**
comp=Z,1.0nm,0.6s,baz=196,slow=2.6,SNR=4.7
FINES LR LR 13 46 47.2
comp=Z,3µm,18.4s,baz=290,slow=37
FINES FINESS Array B 90.55 25 P **P 13 04 18.5 -0.4**
MOA Molln 90.67 40 *e*P **P 13 04 21.1 +1.2**
comp=Z,11nm,0.9s
CHVC Chvalec 90.68 37 *e*P **P 13 04 19.6 -0.2**
UPC Upice 90.69 37 *e*P **P 13 04 20.1 +0.3**
UPC MLR MLR
comp=Z,3µm,20.2s
UPC Upice 90.69 37 *e*P **P 13 04 20.1 +0.3**
UPC AMS AMS 13 42 00.0
comp=Z,3µm,20.2s
KSP Ksiaz 90.71 37 *e*P **P 13 04 18.2 -1.7**
KSP *e*PP **PP 13 07 50.4 -4.6**
KSP *e*S **SKSac 13 14 44.6 -5.2**
KSP *e*L L 13 45 31.3
comp=Z,5µm,20.9s
MYKA Terra Mystica 90.74 41 *e*P **P 13 04 20.9 +0.6**
comp=Z,15nm,1.1s
OSTC Ostas 90.78 37 *e*P **P 13 04 20.1 -0.2**
OSTC AMS AMS 13 44 50.0
comp=Z,4µm,20.6s
ROBS Robic 90.80 42 *i* P **P 13 04 19.6 -0.8**
TREC Trest 90.86 38 *e*P **P 13 04 19.9 -0.8**
TREC MLR MLR
comp=Z,4µm,18.0s
TREC Trest 90.86 38 *e*P **P 13 04 19.9 -0.8**
TREC AMS AMS 13 46 30.0
comp=Z,4µm,18.0s
DPC Dobruska-Polom 90.93 37 *e*P **P 13 04 21.6 +0.6**
DPC MLR MLR
comp=Z,3µm,20.3s
DPC Dobruska-Polom 90.93 37 *e*P **P 13 04 21.6 +0.6**
DPC AMS AMS 13 42 00.0
comp=Z,3µm,20.3s
CADS Cadrg 90.95 42 *i* P **P 13 04 20.8 -0.5**
KLNR Kaliningrad 91.23 32*ce*P **P 13 04 22.1 -0.1**
KLNR MLR MLR
comp=Z,3µm,19.0s
KRLC Kraliky 91.31 37 *e*P **P 13 04 23.1 +0.3**
KRLC MLR MLR
comp=Z,3µm,16.7s
KRLC Kraliky 91.31 37 *e*P **P 13 04 23.1 +0.3**
KRLC AMS AMS 13 49 10.0
comp=Z,3µm,16.7s
TOA0 Torodi Ar. Sit 91.35 76 P **P 13 04 22.5 -1.1**
TORD Torodi Ar. Bea 91.35 76 P **P 13 04 21.6 -2.0**
comp=Z,6.0nm,0.8s,baz=291,slow=4.8,SNR=29
TORD PKKPbc **PKKPbc 13 21 46.3 +1.7**
comp=Z,1.0nm,0.9s,baz=76,slow=2.0,SNR=4.1
TORD LR LR 13 42 38.4
comp=Z,4µm,20.4s,baz=286,slow=34
TORD Torodi Ar. Bea 91.35 76 P **P 13 04 22.2 -1.4**
OBKA Obir 91.37 41 *e*P **P 13 04 22.9 -0.3**
comp=Z,17nm,1.0s
KEST Kesra 91.50 53 P **P 13 04 22.8 -1.2**
comp=Z,23nm,0.9s,baz=218,slow=0.9,SNR=17
KEST Kesra 91.50 53 P **P 13 04 23.0 -1.0**
KEST IAmb IAmb 13 04 34.2
comp=Z,34nm,0.9s
KRUC Moravsky 91.50 38 *e*P **P 13 04 24.4 +0.8**
VRAC Vranov 91.52 38 P **P 13 04 23.2 -0.5**
comp=Z,15nm,1.1s,baz=289,slow=5.7,SNR=11
VRAC LR LR 13 47 03.4
comp=Z,4µm,18.6s,baz=296,slow=37
VRAC Vranov 91.52 38 *e*P **P 13 04 24.6 +0.9**
SKR Severo-Kuril's 91.53 323 *e*P P 13 04 15.9 -7.8
SKR *e*S **SKSac 13 14 55.7 +1.3**
SKR pmax pmax
comp=Z,55nm,1.6s
SKR pmax pmax
comp=Z,600nm,9.7s
SKR pmax pmax
comp=Z,300nm,10.3s
SKR MLR MLR
comp=Z,200nm,19.0s
SOKA Soboth 91.61 41 *e*P **P 13 04 24.6 +0.4**
comp=Z,17nm,1.3s
CONA Conrad Observa 91.63 40 *i* P **P 13 04 25.4 +1.1**
comp=Z,14nm,1.2s,SNR=7.3
ARSA Arzberg 91.69 40 *e*P **P 13 04 25.4 +0.8**
comp=Z,18nm,1.5s
MORC Moravsky Berou 91.88 37 *e*P **P 13 04 24.9 -0.5**
RONA Rosalia, Austr 91.99 40 *i* P **P 13 04 27.2 +1.2**
comp=Z,23nm,1.5s,SNR=6.0
OKC Ostrava-Krasne 92.21 37 *e*P **P 13 04 26.6 -0.3**
OKC MLR MLR
comp=Z,3µm,17.5s
OKC Ostrava-Krasne 92.21 37 *e*P **P 13 04 26.6 -0.3**
OKC AMS AMS 13 49 30.0
comp=Z,3µm,17.5s
ZST Bratislava 92.28 39 *e*P **P 13 04 29.1 +1.9**
ZST pmax pmax
comp=Z,88nm,1.2s
ZST Bratislava 92.28 39 *e*P **P 13 04 29.1 +1.9**
MODS Modra-Piesok 92.32 39 *e*P **P 13 04 29.0 +1.6**
MODS pmax pmax
comp=Z,79nm,1.3s
MODS Modra-Piesok 92.32 39 *e*P **P 13 04 29.0 +1.6**
JAVC Velka Javorina 92.35 38 *e*P **P 13 04 28.0 +0.4**
SMOL Smolenice 92.35 39 *e*P **P 13 04 29.7 +2.1**
SMOL pmax pmax
comp=Z,13nm,1.2s
SMOL Smolenice 92.35 39 *e*P **P 13 04 29.7 +2.1**
RAO Raoul Island 92.50 241 LR LR 13 35 49.5
comp=Z,927nm,21.7s,baz=126,slow=29
BEL Belsk 92.82 35 *e*P **P 13 04 30.0 +0.3**
BEL *e*S **SKSac 13 15 03.0 +1.4**
BEL *e*L L 13 44 47.9
comp=Z,5µm,21.2s
OJC Ojcow 93.00 36 *e*P **P 13 04 27.7 -2.8**
OJC *e*S **SKSac 13 15 00.5 -2.3**
OJC *e*L L 13 41 25.1
comp=Z,4µm,24.1s
SUW Suwalki 93.05 32 *e*P **P 13 04 30.4 -0.2**
SUW *e*PP **PP 13 08 18.8 +5.6**
SUW *e*L L 13 41 33.6
comp=Z,2µm,24.9s
MSVF Nonsavu 93.20 253 LR LR 13 38 58.1
comp=Z,2µm,18.1s,baz=61,slow=31
MSVF Nonsavu 93.20 253⇑ *e*P **P 13 04 35.1 +3.0**
MSVF pmax pmax
comp=Z,37nm,1.4s
MSVF MLR MLR
comp=Z,2µm,16.0s
VYHS Vyhne 93.20 38 *e*P **P 13 04 33.3 +1.8**
VYHS pmax pmax
comp=Z,12nm,1.2s
VYHS Vyhne 93.20 38 *e*P **P 13 04 33.3 +1.8**
TARA Tarawa 93.47 272 IAMs_20 IAMs_20 13 37 33.2
comp=Z,4µm,20.0s
NIE Niedzica 93.65 37 *e*P **P 13 04 32.4 -1.2**
NIE *e*S **SKSac 13 15 03.9 -2.6**
PSZ Piszkesteto 94.09 38 P **P 13 04 36.0 +0.4**
KECS Kecovo 94.19 38 *e*P **P 13 04 39.5 +3.5**
KECS pmax pmax
comp=Z,16nm,1.0s
KECS Kecovo 94.19 38 *e*P **P 13 04 39.5 +3.5**
NACGM Naroch 94.39 30 *e*P **P 13 04 36.5 -0.3**
CRVS Cervenica-Dubn 94.57 37 *e*P **P 13 04 39.8 +2.0**
CRVS pmax pmax
comp=Z,26nm,1.1s
CRVS Cervenica-Dubn 94.57 37 *e*P **P 13 04 39.8 +2.0**
VAE Valguarnera 94.71 50 LR LR 13 41 58.4
comp=Z,7µm,21.7s,baz=344,slow=32
MNK Minsk 95.14 30 *i* P **P 13 04 38.3 -1.9**
MNK *i* 13 08 25.5
MNK *i* PPP PPP 13 10 30.1
MNK *i* S **SKSac 13 15 10.9 -3.3**
MNK *i* SS **SS 13 22 13.6 -5.2**
MNK *i* SSS SSS 13 25 57.8
MNK pmax pmax
comp=N,32nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,34nm,1.0s
MNK MLR MLR
comp=E,260nm,18.0s
MNK MLR MLR
comp=Z,3µm,20.0s
MNK Minsk 95.14 30 *i* P **P 13 04 38.4 -1.9**
comp=E,4.0nm,0.8s
MNK *i* P **P 13 04 38.4 -1.9**
comp=N,32nm,0.8s
MNK *i* P **P 13 04 38.4 -1.9**
comp=Z,34nm,1.0s,baz=303
MNK *i* PP **PP 13 08 25.5 -4.0**
MNK *i* PPP PPP 13 10 30.2
MNK *i* S **SKSac 13 15 10.9 -3.3**
MNK *i* SS **SS 13 22 13.6 -5.2**
MNK *i* SSS SSS 13 25 57.8
MNK *i* LQ LQ 13 41 11.8
MNK *i* LR LR 13 46 28.3
MNK *i* LRM MLR 13 50 57.9
comp=E,260nm,18.4s
MNK *i* LRM MLR 13 51 05.6
comp=Z,3µm,19.7s
MNK *i* LRM MLR 13 51 49.5
comp=N,1µm,14.0s
UZH Uzhgorod 95.18 37⇑ *i*P **P 13 04 40.7 +0.2**
UZH *i* S **S 13 15 47.3 -6.8**
UZH *i* 13 17 21.8
UZH *e* 13 17 51.8
UZH MLR MLR
comp=Z,400nm,18.0s
LVV L'vov 95.59 35 *e*P **P 13 04 42.4 0.0**
KLMR Klimovskoe 96.02 21 *e*P **P 13 04 42.3 -1.8**
KLMR *e* 13 08 34.4
KLMR *e*SS SS 13 22 29.9 -1.0
KLMR pmax pmax
comp=Z,44nm,1.3s
KLMR MLR MLR
comp=Z,2µm,16.0s
KLMR Klimovskoe 96.02 21 *e*P **P 13 04 42.4 -1.7**
KLMR AMP 13 04 45.8
comp=Z,44nm,1.3s
KLMR *e*PP **PP 13 08 34.4 -1.7**
KLMR *e*SS **SS 13 22 29.9 -1.0**
KLMR *e*SS **SS 13 22 29.9 -1.0**
KLMR LQ LQ 13 38 36.5
KLMR LQ LQ 13 38 36.5
KLMR LR LR 13 41 58.0
KLMR AMP 13 49 31.4
comp=Z,2µm,16.1s
NRIK Noril'sk 96.42 360 P **P 13 04 45.5 -0.2**
comp=Z,4.6nm,0.5s,baz=359,slow=3.2,SNR=21
NRIK LR LR 13 51 42.7
comp=Z,3µm,20.1s,baz=11,slow=38
NRIK Noril'sk 96.42 360*c i*P **P 13 04 46.4 +0.7**
NRIK pmax pmax
comp=Z,47nm,1.7s
NRIK Noril'sk 96.42 360 IAmb IAmb 13 04 48.2
comp=Z,84nm,1.8s
YAK Yakutsk 96.67 341 LR LR 13 53 52.9
comp=Z,2µm,20.1s,baz=43,slow=39
YAK Yakutsk 96.67 341 *e*P **P 13 04 47.4 +0.4**
YAK *e* 13 04 54.0
YAK *e**PP **sP 13 05 04.5 +5.4**
YAK *e* 13 08 40.7
YAK *e*S **SKSac 13 15 18.6 -3.3**
YAK *e* 13 16 10.0
YAK *e*SS **SS 13 22 38.6 -1.2**
YAK *e*SSS SSS 13 26 20.3
YAK pmax pmax
comp=Z,31nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=Z,122nm,1.8s
YAK pmax pmax
comp=N,109nm,2.0s
YAK pmax pmax
comp=E,68nm,2.0s
YAK smax smax
comp=N,61nm,3.7s
YAK smax smax
comp=E,57nm,3.0s
YAK Yakutsk 96.67 341 P **P 13 04 47.8 +0.9**
YAK IAmb IAmb 13 04 52.9
comp=Z,42nm,1.0s
YAK IAMs_20 IAMs_20 13 51 50.8
comp=Z,3µm,20.0s
PRGR Permogore 97.46 19 *e*P **P 13 04 47.5 -3.1**
MXZ Matakaoa Point 97.54 233 IAMs_20 IAMs_20 13 44 29.2
comp=Z,3µm,18.0s
AKASG Malin Array Be 97.95 33 P **P 13 04 50.9 -2.1**

comp=Z,0.3nm,0.3s,baz=305,slow=5.3,SNR=5.5
AKASG LR LR 13 52 06.7
comp=Z,2μm,18.0s,baz=305,slow=37
AKASG Malin Array Be 97.95 33 *i* P **P 13 04 52.0 -1.0**
AKBB Malin Array Si 97.95 33 *i* P Pdif 13 04 53.0 -0.1
AKBB pmax pmax
comp=Z,19nm,2.3s
NKL Nikolayevsk 98.41 331 *e*P Pdif 13 04 55.1 +0.1
NKL *e* 13 08 59.6
NKL *e* 13 15 32.0
NKL pmax pmax
comp=E,4.0nm,0.8s
NKL pmax pmax
comp=N,1.0nm,1.6s
NKL pmax pmax
comp=Z,33nm,1.6s
URZ Urewera 98.61 233 LR LR 13 39 19.6
comp=Z,1μm,21.8s,baz=31,slow=29
URZ Urewera 98.61 233 IAMs_20 IAMs_20 13 48 07.5
comp=Z,3μm,18.0s
OBN Obninsk 98.77 27 P **P 13 04 56.2 -0.4**
comp=Z,4.2nm,0.4s,baz=320,slow=2.7,SNR=5.5
OBN LR LR 13 48 43.9
comp=Z,984nm,20.6s,baz=303,slow=35
OBN Obninsk 98.77 27*c i*P **P 13 04 55.9 -0.7**
OBN *e* 13 05 12.0
OBN pmax pmax
comp=Z,17nm,1.0s
OBN MLR MLR
comp=Z,4μm,21.0s
TYV Tymovskoe 98.80 328 *e*P Pdif 13 04 58.2 +1.3
TYV pmax pmax
comp=Z,16nm,1.2s
MOS Moscow 98.81 26 *e*P **P 13 04 55.8 -0.9**
MOS *e*PS **PS 13 17 47.0 -6.3**
MOS MLR MLR
comp=Z,4μm,21.0s
MLR Muntele Rosu 98.91 38 P **P 13 04 56.9 -0.8**
comp=Z,9.1nm,0.9s,baz=323,slow=23,SNR=6.8
MLR LR LR 13 51 04.9
comp=Z,2μm,19.3s,baz=312,slow=36
KUR Kuril'sk 98.98 321 *e*P Pdif 13 04 58.7 +0.9
KUR *i* 13 09 00.0
KUR *e*PPP PPP 13 11 06.8
KUR S **SKSac 13 15 34.2 -0.1**
KUR *e*SS **SS 13 23 20.7 +7.3**
KUR *e*SSS SSS 13 27 03.8
BKZ Black Stump Fm 99.26 232 IAMs_20 IAMs_20 13 41 23.7
comp=Z,3μm,19.0s
KIS Kishinev 99.79 36 *e*P **Pdif 13 05 02.0 +0.6**
KIS *e*LR LR 13 45 02.0
comp=Z,600nm,18.5s
KIS Kishinev 99.79 36 *e*P **Pdif 13 05 02.0 +0.6**
MILM Milestii Mici 99.83 36 *e*P **Pdif 13 05 00.0 -1.5**
comp=Z,370nm,5.5s
MILM Milestii Mici 99.83 36 *e*P **Pdif 13 05 00.0 -1.5**
MILM *e* 13 09 09.0
MILM pmax pmax
comp=Z,400nm,5.5s
HIZ Hauiti 100.39 233 IAMs_20 IAMs_20 13 44 52.8
comp=Z,2μm,18.0s
OUZ Omahuta 100.81 236 IAMs_20 IAMs_20 13 46 14.0
comp=Z,2μm,18.0s
YSS Yuzh-Sakhalins 101.02 325 *e*P **Pdif 13 05 07.1 +0.3**
YSS *e*S **Sdif 13 16 40.0 -3.8**
YSS *e*PS **PS 13 18 19.8 +2.4**
YSS pmax pmax
comp=Z,300nm,4.8s
YSS MLR MLR
comp=Z,800nm,17.0s
YSS MLR MLR
comp=N,1μm,19.0s
KIRV Kirov 101.04 19 P **Pdif 13 05 06.0 -0.6**
comp=N,8.9nm,0.5s,baz=286,slow=1.5,SNR=7.3
LPSR Galich'ya Gora 101.49 28 *e*P **Pdif 13 05 09.2 +0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR MLR MLR
comp=Z,3μm,22.0s
GRNR Gornyy 101.96 330 *e*P **Pdif 13 05 11.3 +0.3**
KHZ Kahutara 102.02 229 IAMs_20 IAMs_20 13 40 51.7
comp=Z,3μm,21.0s
VORR Voronezh 102.25 28 *e*P **Pdif 13 05 13.8 +1.6**
VORR pmax pmax
comp=Z,50nm,0.4s
VSR Storozhevoye 102.54 28 *e*P **Pdif 13 05 11.8 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR MLR MLR
comp=Z,4μm,23.0s
MQZ McQueen's Vall 102.85 228 IAMs_20 IAMs_20 13 42 21.4
comp=Z,3μm,20.0s
VRH Novokhopyorsk 103.71 27 *e*P **Pdif 13 05 19.2 +0.5**
VRH pmax pmax
comp=Z,20nm,1.2s
VRH MLR MLR
comp=Z,5μm,21.0s
ZEA Zeya 103.81 337 *e*P **Pdif 13 05 20.1 +1.0**
ZEA *e* 13 09 37.5
ZEA pmax pmax
comp=Z,200nm,7.7s
ZEA pmax pmax
comp=E,200nm,8.1s
ZEA pmax pmax
comp=N,200nm,7.5s
ZEA pmax pmax
comp=Z,400nm,9.0s
SIM Simferopol' 103.99 36 *e*P **Pdif 13 05 22.0 +1.9**
SIM *e*PPP PPP 13 11 51.0
SIM pmax pmax
comp=Z,50nm,0.4s
SIM MLR MLR
comp=Z,2μm,18.0s
RPZ Rata Peaks 104.00 228 IAMs_20 IAMs_20 13 43 04.9
comp=Z,3μm,21.0s
QSPA South Pole Qui 104.41 180 IAMs_20 IAMs_20 13 45 33.9
comp=Z,3μm,18.0s
ODZ Otahua Downs 104.44 227 IAMs_20 IAMs_20 13 43 28.5
comp=Z,3μm,21.0s
BOD Bodaibo 104.57 345 *e*P **Pdif 13 05 21.9 -0.5**
BOD pmax pmax
comp=Z,12nm,1.6s
DZM Mont Dzumac 104.78 251 *e*PP **PP 13 09 45.2 +0.8**
comp=Z,199nm,24.7s
DZM Mont Dzumac 104.78 251 *e*PS PS 13 18 55.5 -3.3
comp=Z,1μm,26.8s
DZM *e*SS SS 13 24 34.2 -2.1
comp=Z,5μm,27.1s
DZM Mont Dzumac 104.78 251 *e*LQ LQ 13 35 25.0
comp=Z,3μm,34.4s
DZM *e*LR LR 13 39 49.5
comp=Z,4μm,23.1s,baz=101
FOZ Fox Glacier 104.87 228 IAMs_20 IAMs_20 13 43 04.1
comp=Z,2μm,20.0s
ARU Arti 105.52 16 Pdiff **Pdif 13 05 26.2 -0.4**
comp=Z,0.8nm,0.4s,baz=328,slow=4.6,SNR=6.2
ARU PP **PP 13 09 44.3 -3.5**
comp=Z,0.7nm,0.3s,baz=337,slow=7.7,SNR=3.5
ARU Arti 105.52 16 P **Pdif 13 05 26.0 -0.6**
ARU S **SKSac 13 16 03.0 -1.9**
ARU MLR MLR
comp=Z,3μm,19.0s
ANTO Ankara 106.21 40 IAMs_20 IAMs_20 13 54 32.8
comp=Z,2μm,21.0s
KOUNC Koumac, New Ca 106.51 253 IAMs_20 IAMs_20 13 43 54.3
comp=Z,3μm,20.0s
VNDA Vanda 107.27 193 Pdiff **Pdif 13 05 34.3 +0.4**
comp=Z,0.6nm,0.6s,baz=177,slow=4.8,SNR=6.7
VNDA PKKPbc **PKKPbc 13 20 59.9 -1.8**
comp=Z,0.6nm,0.7s,baz=332,slow=0.9,SNR=3.6
HNR Honiara 108.56 265 IAMs_20 IAMs_20 13 52 38.6
comp=Z,2μm,18.0s
KIV Kislovodsk 109.28 32 *e*P **Pdif 13 05 41.6 -2.2**
KIV *e* 13 10 13.6
KIV *e*PS **PS 13 19 41.4 -2.2**
KIV *e*SS SS 13 25 31.0 -3.7
HIA Hailar 110.20 338 IAMs_20 IAMs_20 14 06 04.2
comp=Z,3μm,20.0s
AKTO Aktyubinsk 110.60 19 PKiKP **PKiKP 13 09 51.2 +1.5**
comp=Z,1.2nm,0.8s,baz=18,slow=3.2,SNR=4.1
BRVK Borovoye 111.25 11 ⇓*i*PKIKP **PKiKP 13 09 51.2 +0.4**
ZALV Zalesovo Beam 111.84 1 Pdiff **Pdif 13 05 58.6 +3.8**
comp=Z,0.3nm,0.4s,baz=2.7,slow=6.1,SNR=2.0
ZALV PKiKP **PKiKP 13 09 51.6 -0.2**
comp=Z,1.6nm,0.4s,baz=338,slow=1.1,SNR=7.0
ZALV PP **PP 13 10 33.5 -0.1**
comp=Z,27nm,1.2s,baz=350,slow=7.3,SNR=18
ZALV PKKPab **PKKPab 13 20 53.0 -3.2**
comp=Z,0.5nm,0.6s,baz=147,slow=2.9,SNR=4.1
CN2 Changchun 112.15 331 *e*PKP **PKiKP 13 09 56.8 +4.0**
CN2 PP **PP 13 10 39.5 +3.1**
CN2 AMB AMB
comp=Z,300nm,8.2s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,1μm,17.2s
MAK Makhachkala 112.42 30 *e*P **Pdif 13 05 56.9 -0.7**
MAK *i* 13 09 53.4
MAK *e* 13 10 36.2
MAK *e*PPP PPP 13 12 56.7
MAK *e* 13 16 28.8
MAK *e*PS **PS 13 20 10.9 -2.0**
MAK *e*SS SS 13 26 12.7 -3.6
MAK *e*SSS SSS 13 30 23.4
MAK pmax pmax
comp=Z,79nm,0.6s
MOY Mondy 113.01 350 *e*PKIKP **PKiKP 13 09 53.9 -0.4**
MOY *e* 13 10 41.4
MOY pmax pmax
comp=Z,212nm,1.9s
ZAK Zakamensk 113.84 349 *e*PKIKP **PKiKP 13 09 52.6 -3.3**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
KNGR Kungurtug, Tuv 114.54 353 ⇓*i*PKIKP PKPdf 13 09 58.5 +1.2
SNY Shenyang 114.54 331 ⇑PKP PKPdf 13 10 06.0 +8.6
SNY PP **PP 13 10 55.0 +1.6**
BRZS Berezniki 114.63 10 *e*PKIKP **PKiKP 13 09 56.1 -1.2**
BRZS Berezniki 114.63 10 *e*PKP **PKiKP 13 09 56.2 -1.2**
baz=10
KURK Kurchatov 114.70 6*c i*PKIKP PKPdf 13 09 58.2 +0.8
KURK MLR MLR
comp=Z,3μm,29.0s
KURK Kurchatov 114.70 6 P PKPdf 13 09 58.5 +1.1
SEM Semipalatinsk 115.15 5 *e*PKIKP **PKiKP 13 09 57.4 -1.2**
SEM Semipalatinsk 115.15 5 *e*PKP **PKiKP 13 09 57.4 -1.2**
baz=4.8
ULN Ulaanbaatar 115.38 345 ⇓*i*PKIKP **PKiKP 13 09 58.0 -1.1**
ULN pmax pmax
comp=Z,9.0nm,1.7s
ULN MLR MLR
comp=Z,2μm,22.0s
ULN Ulaanbaatar 115.38 345 PKiKP **PKPdf 13 09 59.3 +0.2**
ULN Ulaanbaatar 115.38 345 IAMs_20 IAMs_20 14 06 50.3
comp=Z,2μm,21.0s
KSRS Korea Array 115.53 325 PKP **PKPdf 13 09 59.5 +0.1**
comp=Z,3.5nm,0.7s,baz=20,slow=1.7,SNR=14
KSAR Wonju Array Be 115.56 325 PKiKP **PKPdf 13 10 00.2 +0.7**
KSAR Wonju Array Be 115.56 325 **PKPdf 13 10 00.2 +0.7**
SONM Songino Array 115.57 346 PKP **PKPdf 13 09 59.5 +0.1**
comp=Z,4.8nm,1.0s,baz=70,slow=1.7,SNR=13
SONM PP **PP 13 11 02.3 +1.9**
comp=Z,17nm,1.2s,baz=8.3,slow=6.3,SNR=14
SONM PKKPbc **PKKPbc 13 20 33.1 -0.8**
comp=Z,0.5nm,0.3s,baz=191,slow=1.5,SNR=4.0
SONM Songino Array 115.57 346 **PKiKP 13 09 59.2 -0.1**
XLT XiLinHaoTe 116.08 337 *e*PKP **PKPdf 13 10 00.5 +0.1**
XLT PP **PP 13 11 07.5 +3.3**
XLT PKS **PKSdf 13 13 37.0 -0.2**
XLT SKKS 13 18 00.3
XLT SS **SS 13 27 00.8 -3.6**
XLT AMB AMB
comp=Z,770nm,14.7s
XLT LR LR
comp=Z,210nm,19.8s
XLT LR LR
comp=Z,1μm,18.5s
XLT LR LR
comp=Z,3μm,19.4s
ZSN Zaisan 118.34 2 *e*PKIKP **PKPdf 13 10 03.9 -0.7**
ZSN Zaisan 118.34 2 *e*PKP **PKPdf 13 10 04.0 -0.7**
baz=1.7
MAKZ Makanchi 118.86 4 IAMs_20 IAMs_20 14 05 35.0
comp=Z,3μm,21.0s
MK31 Makanchi Array 118.89 4*d i*PKIKP **PKiKP 13 10 06.2 +0.5**
MK31 Makanchi Array 118.89 4 **PKPdf 13 10 05.4 -0.3**
MKAR Makanchi Array 118.89 4 PKP **PKPdf 13 10 04.9 -0.8**
comp=Z,3.5nm,0.6s,baz=7.6,slow=1.8,SNR=26
MKAR PP **PP 13 11 24.1 +0.8**
comp=Z,5.7nm,0.9s,baz=3.7,slow=5.2,SNR=5.9
MKAR PKKPbc **PKKPbc 13 20 20.4 -1.5**
comp=Z,0.6nm,0.7s,baz=163,slow=4.6,SNR=4.4
MKAR Makanchi Array 118.89 4 PKiKP **PKPdf 13 10 05.1 -0.6**
MKAR Makanchi Array 118.89 4 PKPdf **PKPdf 13 10 05.1 -0.6**
BJI Beijing 119.30 334 PKP **PKPdf 13 10 06.5 -0.1**
BJI PP **PP 13 11 29.5 +3.0**
BJI SS SS 13 27 45.5 -0.6
BJI AMB AMB
comp=Z,660nm,10.4s
BJI LR LR
comp=Z,720nm,23.4s
BJI LR LR
comp=Z,1μm,19.6s
BJI LR LR
comp=Z,2μm,17.7s
BJT Baijiatuau 119.32 334 IAMs_20 IAMs_20 14 11 19.1
comp=Z,2μm,20.0s
BTLS Baital 119.65 10 *e*PKIKP **PKPdf 13 10 06.8 -0.3**
BTLS Baital 119.65 10 *e*PKP **PKPdf 13 10 06.9 -0.3**
baz=11
TDK Taldyqorghan 120.32 7 *e*PKIKP **PKPdf 13 10 08.2 -0.3**
TDK Taldyqorghan 120.32 7 *e*PKP **PKPdf 13 10 08.2 -0.3**
baz=7.1
HHC Hu-ho-hao-te 120.39 338 *e*PKP **PKiKP 13 10 10.0 +1.1**
HHC PP **PP 13 11 35.5 +1.5**
HHC SS SS 13 27 57.5 -2.7
HHC AMB AMB
comp=Z,880nm,10.3s
HHC LR LR
comp=Z,3μm,19.7s
HHC LR LR
comp=Z,2μm,19.0s
HHC LR LR
comp=Z,4μm,20.3s
BRLS Borolday 120.69 14 *e*PKIKP **PKiKP 13 10 09.5 +0.1**
BRLS Borolday 120.69 14 *e*PKP **PKiKP 13 10 09.5 +0.1**
baz=15
KKAR Karatay Array 120.79 14 PKIKP **PKiKP 13 10 09.6 +0.1**
KKAR Karatay Array 120.79 14 PKPdf **PKiKP 13 10 09.6 +0.1**
PMG Port Moresby 120.92 268 IAMs_20 IAMs_20 13 50 49.9
comp=Z,2μm,21.0s
KUU Kurty 121.14 9 *e*PKIKP **PKPdf 13 10 09.3 -0.7**
KUU Kurty 121.14 9 *e*PKP **PKPdf 13 10 09.4 -0.7**
baz=9.1
BTO Baotou 121.14 340 PKP **PKPdf 13 10 05.0 -5.3**
BTO LR LR
comp=Z,9μm,20.4s
BTO LR LR
comp=Z,3μm,22.0s
CHKK Chushkaly 121.27 8 *e*PKIKP **PKPdf 13 10 09.8 -0.5**
CHKK Chushkaly 121.27 8 *e*PKP **PKPdf 13 10 09.8 -0.5**
baz=8.5
SGDS Sogindy 121.29 10 *e*PKIKP **PKPdf 13 10 09.7 -0.7**
SGDS Sogindy 121.29 10 *e*PKP **PKPdf 13 10 09.8 -0.7**
baz=11
GEYT Alibeck 121.31 26 PKP **PKiKP 13 10 11.0 +0.2**
comp=Z,9.9nm,1.0s,baz=270,slow=7.2,SNR=9.3
GEYT Alibeck 121.31 26 PKPdf **PKiKP 13 10 10.9 +0.1**
GYA0B ALIBECK ARRAY 121.31 26 PKPdf **PKPdf 13 10 10.4 -0.2**
USP Ospenovka 121.45 11 P **PKiKP 13 10 11.8 +0.9**
SNR=19
BOSA Boshof 121.56 115 PKP **PKPdf 13 10 10.9 -0.4**
comp=Z,18nm,1.1s,baz=9.6,slow=1.5,SNR=8.8
BOSA Boshof 121.56 115 PKIKP **PKiKP 13 10 11.6 +0.1**
BOSA Boshof 121.56 115 PKPdf **PKiKP 13 10 11.6 +0.1**
IUG luzhnay 121.58 15 *i* PKIKP **PKPdf 13 10 10.8 -0.3**
IUG luzhnay 121.58 15 *i* PKP **PKPdf 13 10 10.8 -0.3**
baz=15
LBTB Lobatse 121.80 111 PKIKP **PKiKP 13 10 12.0 0.0**
LBTB Lobatse 121.80 111 PKPdf **PKiKP 13 10 12.0 0.0**
KPKS Kokpek 121.87 7 *e*PKIKP **PKPdf 13 10 11.0 -0.6**
KPKS Kokpek 121.87 7 *e*PKP **PKPdf 13 10 11.1 -0.6**
baz=7.2
AAA Alma-Ata 121.89 9 *e*PKIKP **PKPdf 13 10 11.5 -0.1**
AAA Alma-Ata 121.89 9 *e*PKP **PKPdf 13 10 11.6 -0.1**
baz=8.8
EKS2 Erkin-Say 121.90 11 P **PKiKP 13 10 13.0 +1.1**
SNR=7.2
MDOK Medeo 121.96 8 *e*PKIKP **PKPdf 13 10 11.1 -0.7**
MDOK Medeo 121.96 8 *e*PKP **PKPdf 13 10 11.2 -0.7**
baz=8.7
TKM2 Tokmak 2 121.97 10 P **PKiKP 13 10 12.6 +0.5**
SNR=16
WMQ Urumqi 122.00 359 *e*PKP **PKiKP 13 10 12.8 +0.8**
WMQ PP **PP 13 11 46.5 +1.9**
WMQ AMB AMB
comp=Z,1μm,4.3s
WMQ LR LR
comp=Z,3μm,16.7s
WMQ LR LR
comp=Z,2μm,14.9s
WMQ LR LR
comp=Z,3μm,17.5s
TIA Tai'an 122.05 331 *e*PKP **PKPdf 13 10 11.5 -0.5**
TIA LR LR
comp=Z,540nm,20.6s
TIA LR LR
comp=Z,720nm,24.5s
TIA LR LR
comp=Z,920nm,27.5s
AAK Ala-Archa 122.06 11 P **PKiKP 13 10 13.6 +1.4**
SNR=8.9
AAK Ala-Archa 122.06 11*c i*PKIKP **PKiKP 13 10 13.3 +1.1**
AAK pmax pmax
comp=Z,30nm,1.7s
AAK Ala-Archa 122.06 11 PKPdf **PKiKP 13 10 12.9 +0.7**
AAK Ala-Archa 122.06 11 P **PKiKP 13 10 14.0 +1.8**
AAK Ala-Archa 122.06 11 *i* PKiKP **PKiKP 13 10 12.7 +0.4**
SNR=10.0
TNSS Tian-Shan 122.06 9 *e*PKIKP **PKPdf 13 10 11.9 -0.5**
TNSS Tian-Shan 122.06 9 *e*PKP **PKPdf 13 10 11.9 -0.5**
baz=8.8
KBK Karagaybulak 122.12 10 P **PKiKP 13 10 14.2 +1.8**
SNR=8.0
ZHN Zhinishke 122.13 7 *e*PKIKP **PKPdf 13 10 11.5 -0.7**
ZHN Zhinishke 122.13 7 *e*PKP **PKPdf 13 10 11.5 -0.7**
baz=7.5
HNS HongShan 122.14 334 ⇓PKP **PKiKP 13 10 12.8 +0.5**
HNS SS SS 13 28 29.0 +6.4
HNS AMB AMB
comp=Z,1μm,10.8s
HNS LR LR
comp=Z,1μm,19.8s
HNS LR LR
comp=Z,740nm,20.2s
HNS LR LR
comp=Z,2μm,20.4s
UZB Uzynbulak 122.22 7 *e*PKIKP **PKPdf 13 10 11.8 -0.6**
UZB Uzynbulak 122.22 7 *e*PKP **PKPdf 13 10 11.8 -0.6**
baz=7.0
SATY Saty 122.24 7 *e*PKIKP **PKPdf 13 10 11.9 -0.4**
SATY Saty 122.24 7 *e*PKP **PKPdf 13 10 11.9 -0.4**
baz=7.5
SHLS Shalkode 122.26 6 *e*PKIKP **PKPdf 13 10 11.8 -0.6**
SHLS Shalkode 122.26 6 *e*PKP **PKPdf 13 10 11.9 -0.6**
baz=6.2
AML Almayashu 122.39 12 P **PKiKP 13 10 14.2 +1.0**
SNR=26
AML Almayashu 122.39 12 P **PKiKP 13 10 14.0 +0.8**
AML Almayashu 122.39 12 *i* PKiKP **PKiKP 13 10 13.7 +0.5**
SNR=26
BOOM Boomskoye usch 122.45 10 PKIKP **PKiKP 13 10 13.5 +0.5**
BOOM Boomskoye usch 122.45 10 PKPdf **PKiKP 13 10 13.5 +0.5**
UCH Uchtor 122.46 11 P **PKiKP 13 10 14.6 +1.2**
SNR=33
ULHL Ulahol 122.73 9 P **PKiKP 13 10 15.2 +1.5**
SNR=24
MBAR Mbarara 122.86 81 *i* PKIKP **PKPdf 13 10 14.1 -0.3**
MBAR MLR MLR
comp=Z,2μm,19.0s
MBAR Mbarara 122.86 81 **PKiKP 13 10 15.1 +0.6**
MBAR Mbarara 122.86 81 P **PKiKP 13 10 15.7 +1.1**
KDJ Kajisay 122.99 9 PKIKP **PKiKP 13 10 14.9 +0.8**
KDJ Kajisay 122.99 9 PKPdf **PKiKP 13 10 14.9 +0.8**
LSZ Lusaka 123.45 99 PKIKP **PKPdf 13 10 15.0 -0.3**
LSZ Lusaka 123.45 99 **PKPdf 13 10 15.0 -0.3**
LSZ Lusaka 123.45 99 IAMs_20 IAMs_20 14 07 15.7
comp=Z,2μm,20.0s
TARG Taragay, Kyrgy 123.47 8 **PKiKP 13 10 15.8 +0.4**
BTK Batken 123.74 15 PKIKP **PKiKP 13 10 15.8 +0.2**
BTK Batken 123.74 15 PKPdf **PKiKP 13 10 15.8 +0.2**
SSE Sheshan 123.96 324 PKP **PKPdf 13 10 15.0 -0.8**
SSE PP **PP 13 11 59.3 +0.7**
SSE SS SS 13 28 47.3 +1.0
SSE AMB AMB
comp=Z,190nm,9.1s
SSE LR LR
comp=Z,530nm,20.6s
SSE LR LR
comp=Z,340nm,20.4s
NJ2 Nanjing 124.51 327 PKP **PKiKP 13 10 17.3 +0.2**
NJ2 LR LR
comp=Z,870nm,22.7s
NJ2 LR LR
comp=Z,660nm,18.9s
NJ2 LR LR
comp=Z,1μm,22.7s
GAR Garm 124.61 16 **PKiKP 13 10 18.1 +0.8**
CHGR Chuyangaron 124.62 17 PKPdf **PKiKP 13 10 17.9 +0.5**
MAW Mawson 124.64 169 PKP **PKPdf 13 10 15.8 -0.1**
comp=Z,5.0nm,0.7s,baz=300,slow=3.5,SNR=3.6
MAW Mawson 124.64 169 PKIKP **PKiKP 13 10 16.1 -0.1**
MAW Mawson 124.64 169 **PKiKP 13 10 16.1 -0.1**
GTA Gaotai 125.06 348 ⇑PKP **PKiKP 13 10 18.8 +0.6**
GTA PP **PP 13 12 11.5 +6.0**
GTA SS SS 13 29 00.0 +0.8
GTA AMB AMB
comp=Z,640nm,10.5s
GTA LR LR
comp=Z,2μm,20.0s
GTA LR LR
comp=Z,1μm,18.5s
GTA LR LR
comp=Z,2μm,20.7s
KSH Kashi 125.35 10 PKP **PKiKP 13 10 20.5 +1.7**
KSH sPKP 13 10 37.3
KSH PP **PP 13 12 11.0 +3.6**
KSH PKS **PKSdf 13 13 59.0 +3.8**
KSH AMB AMB
comp=Z,440nm,10.3s
KSH LR LR
comp=Z,2μm,18.6s
KSH LR LR
comp=Z,2μm,20.6s
KSH LR LR
comp=Z,4μm,19.2s
LYN LuoYang 125.51 334 ⇑PKP **PKiKP 13 10 19.5 +0.4**
LYN SS SS 13 29 08.3 +3.0
LYN AMB AMB
comp=Z,1μm,12.6s
LYN LR LR
comp=Z,2μm,19.2s
LYN LR LR
comp=Z,840nm,20.0s
LYN LR LR
comp=Z,3μm,19.8s
CASY Casey 125.86 192 PKPdf **PKiKP 13 10 19.4 +0.7**
LODK Lodwar 125.97 75 PKPdf **PKiKP 13 10 20.6 0.0**
LODK Lodwar 125.97 75 P **PKiKP 13 10 21.8 +1.2**
SNR=6.9
HRA Herat 126.07 25 PKPdf **PKiKP 13 10 20.5 0.0**
SAKB Bahrain 126.47 42 P **PKiKP 13 10 21.6 +0.4**
LZH Lanzhou 127.22 343 ⇑PKP **PKiKP 13 10 22.8 +0.1**
LZH PP **PP 13 12 26.0 +6.0**
LZH SS SS 13 29 29.0 +2.5
LZH AMB AMB
comp=Z,400nm,4.9s
LZH LR LR
comp=Z,940nm,20.6s
LZH LR LR
comp=Z,2μm,20.6s
LZH LR LR
comp=Z,2μm,19.5s
STKA Stephens Creek 127.31 241 PKP **PKPdf 13 10 22.0 -0.1**
comp=Z,16nm,0.8s,baz=49,slow=2.0,SNR=25
STKA Stephens Creek 127.31 241*ce*PKIKP **PKiKP 13 10 23.1 +0.4**
STKA Stephens Creek 127.31 241 PKPdf **PKPdf 13 10 22.2 0.0**
XAN Xi'an 127.39 337 ⇑PKP **PKiKP 13 10 23.0 +0.1**
XAN sPKP 13 10 38.5
XAN PP **PP 13 12 21.8 +0.7**
XAN AMB AMB
comp=Z,860nm,8.9s
XAN LR LR
comp=Z,2μm,19.7s

XAN					LR	LR		
	comp=Z,2μm,19.7s							
XAN					LR	LR		
	comp=Z,3μm,22.8s							
TRNA	**Turayna**	**127.78**	**42**		P	**PKPdf**	**13 10 22.2**	**-1.1**
WHN	**Wuhan**	**128.01**	**330**	⇑	PKP	**PKiKP**	**13 10 24.5**	**+0.4**
WHN					AMB	AMB		
	comp=Z,2μm,12.0s							
WHN					LR	LR		
	comp=Z,3μm,15.5s							
WHN					LR	LR		
	comp=Z,2μm,18.9s							
WHN					LR	LR		
	comp=Z,3μm,19.9s							
KBL	**Kabul**	**128.41**	**19**		PKIKP	**PKPdf**	**13 10 24.8**	**+0.3**
KBL	**Kabul**	**128.41**	**19**		PKPdf	**PKPdf**	**13 10 24.8**	**+0.3**
KBL	**Kabul**	**128.41**	**19**		P	**PKiKP**	**13 10 26.6**	**+1.4**
	SNR=8.9							
JRN	**Qarnain Island**	**128.68**	**41**		P	**PKiKP**	**13 10 25.7**	**+0.1**
GOMU	**GeErMu**	**129.05**	**352**		PKP	**PKiKP**	**13 10 27.0**	**+0.4**
GOMU					PP	**PP**	**13 12 32.0**	**-0.1**
GOMU					SS	SS	13 29 53.3	+3.9
GOMU					AMB	AMB		
	comp=Z,250nm,5.3s							
GOMU					LR	LR		
	comp=Z,2μm,21.9s							
GOMU					LR	LR		
	comp=Z,740nm,22.1s							
GOMU					LR	LR		
	comp=Z,2μm,22.3s							
KMBO	**Kilima Mbogo**	**129.24**	**79**		PKP	**PKPdf**	**13 10 26.2**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=316,slow=3.3,SNR=9.8							
KMBO	**Kilima Mbogo**	**129.24**	**79**		PKIKP	**PKPdf**	**13 10 26.7**	**+0.1**
KMBO	**Kilima Mbogo**	**129.24**	**79**		PKPdf	**PKPdf**	**13 10 26.7**	**+0.1**
KMBO	**Kilima Mbogo**	**129.24**	**79**		IAMs_20	IAMs_20	14 02 35.3	
	comp=Z,2μm,22.0s							
KMBO	**Kilima Mbogo**	**129.24**	**79**		PKiKP	**PKiKP**	**13 10 28.8**	**+1.5**
SSLB	**Suanglung**	**129.44**	**318**		PKPdf	**PKiKP**	**13 10 27.0**	**-0.3**
SHME	**Shamm**	**129.85**	**37**		P	**PKiKP**	**13 10 28.0**	**0.0**
	SNR=15							
SHME	**Shamm**	**129.85**	**37**	*i*	PKiKP	**PKPdf**	**13 10 26.9**	**-0.3**
	SNR=11							
BANOM	**Banah**	**130.04**	**37**		P	**PKiKP**	**13 10 28.4**	**0.0**
	SNR=8.4							
BANOM	**Banah**	**130.04**	**37**	*i*	PKiKP	**PKiKP**	**13 10 28.2**	**-0.2**
	SNR=8.6							
QZH	**Quanzhou**	**130.08**	**321**	*i*	PKP	**PKiKP**	**13 10 28.3**	**-0.1**
QZH					AMB	AMB		
	comp=Z,340nm,17.1s							
QZH					LR	LR		
	comp=Z,890nm,17.5s							
QZH					LR	LR		
	comp=Z,370nm,16.1s							
QZH					LR	LR		
	comp=Z,1μm,18.0s							
MZWR	**Madinat Zayed**	**130.18**	**41**		P	**PKiKP**	**13 10 29.5**	**+0.8**
AJN	**Ajban**	**130.28**	**39**		P	**PKPdf**	**13 10 26.7**	**-1.3**
KIBK	**Kibwezi**	**130.35**	**81**		P	**PKiKP**	**13 10 30.5**	**+1.0**
	SNR=7.5							
NAZ	**Nazwa, Dubai**	**130.37**	**38**		P	**PKiKP**	**13 10 28.9**	**-0.1**
	SNR=9.4							
NAZ	**Nazwa, Dubai**	**130.37**	**38**	*i*	PKiKP	**PKiKP**	**13 10 30.0**	**+0.9**
	SNR=8.3							
MASF	**Masafi**	**130.38**	**37**		P	**PKiKP**	**13 10 28.8**	**-0.3**
	SNR=27							
MSFE	**Esma-Masafi**	**130.38**	**37**	*i*	PKiKP	**PKPdf**	**13 10 28.5**	**+0.2**
	SNR=15							
ASUD	**Al Ashush, Dub**	**130.44**	**39**		P	**PKiKP**	**13 10 29.9**	**+0.7**
	SNR=9.1							
ASUD	**Al Ashush, Dub**	**130.44**	**39**	*i*	PKiKP	**PKiKP**	**13 10 29.6**	**+0.4**
	SNR=9.1							
MZR	**Muzera**	**130.46**	**42**		P	**PKiKP**	**13 10 29.8**	**+0.5**
	SNR=17							
MZR	**Muzera**	**130.46**	**42**	*i*	PKiKP	**PKiKP**	**13 10 29.5**	**+0.2**
	SNR=7.9							
ENH	**Enshi**	**130.47**	**334**			**PKPdf**	**13 10 28.5**	**+0.2**
FAQ	**Al Faqa, Dubai**	**130.51**	**38**		P	**PKiKP**	**13 10 29.5**	**+0.2**
	SNR=5.8							
FAQ	**Al Faqa, Dubai**	**130.51**	**38**	*i*	PKiKP	**PKiKP**	**13 10 29.7**	**+0.4**
	SNR=5.6							
CNSH	**ChangSha**	**130.65**	**329**	⇑	PKP	**PKiKP**	**13 10 35.8**	**+6.3**
CNSH					PP	**PP**	**13 12 36.5**	**-6.1**
CNSH	**ChangSha**	**130.65**	**329**		SS	SS	13 29 57.0	-12
CNSH					LR	LR		
	comp=N,1μm,22.0s							
CNSH					LR	LR		
	comp=E,970nm,20.3s							
CNSH					LR	LR		
	comp=Z,1μm,19.8s							
UOSS	**Minazif**	**130.72**	**38**		PKPdf	**PKPdf**	**13 10 28.1**	**-0.8**
UOSS	**Minazif**	**130.72**	**38**		P	**PKiKP**	**13 10 29.7**	**-0.1**
UOSS	**Minazif**	**130.72**	**38**	*i*	PKiKP	**PKPdf**	**13 10 29.0**	**+0.1**
	SNR=5.5							
HATD	**Hatta, Dubai**	**130.77**	**38**		P	**PKiKP**	**13 10 29.5**	**-0.4**
	SNR=18							
HATD	**Hatta, Dubai**	**130.77**	**38**	*i*	PKiKP	**PKPdf**	**13 10 29.3**	**+0.3**
	SNR=13							
ASHO	**Ashiyiah**	**130.84**	**38**		P	**PKPdf**	**13 10 29.4**	**+0.2**
	SNR=14							
ASHO	**Ashiyiah**	**130.84**	**38**	*i*	PKiKP	**PKPdf**	**13 10 29.1**	**0.0**
	SNR=14							
ALNE	**Al Ain**	**131.12**	**39**		P	**PKiKP**	**13 10 30.6**	**0.0**
	SNR=16							
ALNE	**Al Ain**	**131.12**	**39**	*i*	PKiKP	**PKiKP**	**13 10 30.9**	**+0.2**
	SNR=6.7							
SOHO	**SOHO**	**131.53**	**38**		P	**PKPdf**	**13 10 30.6**	**+0.2**
SOHO	**SOHO**	**131.53**	**38**	*i*	PKiKP	**PKPdf**	**13 10 30.3**	**-0.1**
	SNR=11							
UMZA	**Um Al Zommool**	**131.74**	**41**		P	**PKiKP**	**13 10 32.1**	**+0.2**
CD2	**Chengdu**	**132.05**	**340**		PKP	**PKiKP**	**13 10 32.0**	**-0.4**
CD2					PP	**PP**	**13 12 54.0**	**+2.6**
CD2					SS	SS	13 30 29.5	+3.6
CD2					AMB	AMB		
	comp=Z,870nm,9.8s							
CD2					LR	LR		
	comp=Z,2μm,15.5s							
CD2					LR	LR		
	comp=Z,2μm,17.9s							
ARQ	**Araqi**	**132.12**	**39**		P	**PKiKP**	**13 10 33.0**	**+0.3**
	SNR=8.6							
HOQ	**Hoqain**	**132.41**	**38**		P	**PKPdf**	**13 10 32.3**	**+0.1**
HOQ					P	**PKPdf**	**13 10 32.3**	**+0.1**
	SNR=5.5							
BIDO	**Bidbid**	**132.94**	**37**		P	**PKPdf**	**13 10 33.2**	**+0.1**
	SNR=8.0							
BSY	**Bisya**	**132.98**	**39**		P	**PKPdf**	**13 10 33.7**	**+0.5**
	SNR=12							
SMDO	**Samad**	**133.25**	**38**		P	**PKiKP**	**13 10 35.0**	**-0.1**
	SNR=21							
WSAR	**Wadi Sarin**	**133.45**	**37**		P	**PKiKP**	**13 10 35.1**	**-0.2**
	SNR=7.4							
JMDO	**Jabal Madar**	**133.81**	**38**		P	**PKPdf**	**13 10 34.6**	**-0.2**
	SNR=7.4							
DOK	**Doka**	**133.95**	**45**		P	**PKPdf**	**13 10 35.2**	**+0.1**
SIJI	**Sorong**	**134.08**	**283**		PKP	**PKiKP**	**13 10 36.4**	**-0.4**
	comp=Z,17nm,1.1s,baz=52,slow=3.9,SNR=14							
SWI	**Sorong**	**134.08**	**283**		PKP	**PKPdf**	**13 10 35.9**	**+0.4**
WBK	**Wadi Bani Khal**	**134.13**	**37**		P	**PKPdf**	**13 10 34.7**	**-0.7**
WHFO	**Wadi Hawf**	**134.18**	**46**		P	**PKiKP**	**13 10 36.3**	**-0.6**
ABTO	**Aybut**	**134.22**	**47**		P	**PKiKP**	**13 10 36.5**	**-0.6**
	SNR=5.8							
WR0	**Warramunga Arr**	**134.24**	**256**		PKPdf	**PKPdf**	**13 10 35.3**	**-0.3**
WRAB	**Tennant Creek**	**134.42**	**256**	*c i*	PKIKP	**PKiKP**	**13 10 37.0**	**-0.3**
WRAB					MLR	MLR		
	comp=Z,839nm,17.0s							
WRAB	**Tennant Creek**	**134.42**	**256**			**PKPdf**	**13 10 36.4**	**+0.4**
WRA	**Warramunga Arr**	**134.43**	**256**		PKhKP	PKPpre	13 10 26.0	
	comp=Z,1.7nm,0.8s,baz=94,slow=3.3,SNR=13							
WRA					PKP	**PKPdf**	**13 10 35.6**	**-0.3**
	comp=Z,10nm,0.7s,baz=88,slow=2.8,SNR=11							
JLN	**Jalan Bani Buh**	**134.75**	**37**		P	**PKPdf**	**13 10 35.2**	**-1.3**
	SNR=5.4							
MHTO	**MHTO**	**134.77**	**39**		P	**PKPdf**	**13 10 35.9**	**-0.6**
	SNR=5.8							
ASAR	**Alice Springs**	**134.77**	**251**		PKhKP	PKPpre	13 10 20.5	
	comp=Z,0.4nm,0.7s,baz=77,slow=3.1,SNR=6.8							
ASAR					PKP	**PKPdf**	**13 10 36.2**	**-0.3**
	comp=Z,6.1nm,0.8s,baz=90,slow=1.6,SNR=24							
ASAR					PKKP	**PKKPdf**	**13 20 20.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=288,slow=1.5,SNR=5.5							
GYA	**Guiyang**	**134.99**	**335**	⇑	PKP	**PKiKP**	**13 10 37.8**	**-0.7**
GYA					PP	**PP**	**13 13 11.0**	**+0.6**
GYA					SS	SS	13 31 04.5	+2.5
GYA					AMB	AMB		
	comp=Z,1μm,12.6s							
GYA					LR	LR		
	comp=Z,1μm,24.5s							
GYA					LR	LR		
	comp=Z,1μm,22.2s							
GYA					LR	LR		
	comp=Z,2μm,25.2s							
LSA	**Lhasa**	**135.90**	**355**		IAMs_20	IAMs_20	14 22 34.4	
	comp=Z,1μm,19.0s							
LSA	**Lhasa**	**135.90**	**355**		PKP	**PKiKP**	**13 10 40.5**	**-0.2**
LSA					LR	LR		
	comp=Z,850nm,18.0s							
LSA					LR	LR		
	comp=Z,660nm,15.5s							
LSA	**Lhasa**	**135.90**	**355**		PKiKP	**PKiKP**	**13 10 41.0**	**+0.3**
PZH	**PanZhiHua**	**136.78**	**340**		PKP	**PKPdf**	**13 10 40.8**	**+0.4**
PZH					PP	**PP**	**13 13 24.0**	**+2.5**
PZH					PKS	**PKSdf**	**13 14 12.5**	**-4.4**
PZH					SKKS		13 20 11.0	
PZH					SS	**SS**	**13 31 21.8**	**-1.3**
PZH					AMB	AMB		
	comp=Z,880nm,7.4s							
PZH					LR	LR		
	comp=Z,1μm,19.6s							
PZH					LR	LR		
	comp=Z,730nm,19.8s							
PZH					LR	LR		
	comp=Z,1μm,20.2s							
KMI	**Kunming**	**137.71**	**338**	⇑	PKP	**PKPdf**	**13 10 42.5**	**+0.2**
KMI					sPKP		13 10 58.5	
KMI					PP	**PP**	**13 13 27.3**	**-0.2**
KMI					PKS	**PKSdf**	**13 14 17.5**	**-1.3**
KMI					SS	SS	13 31 36.0	+1.5
KMI					AMB	AMB		
	comp=Z,690nm,17.6s							
KMI					LR	LR		
	comp=Z,1μm,22.6s							
KMI					LR	LR		
	comp=Z,1μm,21.2s							
KMI					LR	LR		
	comp=Z,2μm,19.7s							
SANI	**Sanana**	**139.44**	**284**		PKP	**PKPdf**	**13 10 44.2**	**-1.2**
QIZ	**Qiongzhong**	**139.75**	**325**		IAMs_20	IAMs_20	14 23 51.8	
	comp=Z,1μm,20.0s							
QIZ	**Qiongzhong**	**139.75**	**325**		PKP	**PKPdf**	**13 10 45.5**	**-0.3**
QIZ					PP	**PP**	**13 13 40.5**	**+0.2**
QIZ					SS	SS	13 32 00.3	+1.4
QIZ					AMB	AMB		
	comp=Z,330nm,4.5s							
QIZ					LR	LR		
	comp=Z,900nm,21.2s							
QIZ					LR	LR		
	comp=Z,900nm,21.0s							
QIZ					LR	LR		
	comp=Z,1μm,19.4s							
SHL	**Shillong**	**139.91**	**353**		P	**PKiKP**	**13 10 41.5**	**-4.7**
	SNR=19							
GTOI	**Gorontalo**	**141.20**	**290**		PKP	**PKPdf**	**13 10 44.3**	**-4.3**
VOI	**Vohitsoka**	**141.31**	**107**		P	**PKPdf**	**13 10 47.3**	**-1.5**
VOI	**Vohitsoka**	**141.31**	**107**		PKP	**PKPdf**	**13 10 45.6**	**-3.1**
OPO	**Ambohidratompo**	**141.81**	**102**		PKP	**PKPdf**	**13 10 47.0**	**-2.7**
	comp=Z,7.2nm,0.8s,baz=276,slow=4.0,SNR=6.6							
MRSI	**Marisa**	**142.24**	**290**		PKP	**PKPdf**	**13 10 44.3**	**-6.2**
FITZ	**Fitzroy Crossi**	**142.64**	**259**		PKhKP	PKPpre	13 10 48.0	
	baz=89,slow=2.7							
MYLDM	**Lahad Datu**	**143.04**	**300**		PKPdf	**PKPdf**	**13 10 51.7**	**-0.1**
BATI	**Baumata**	**143.82**	**272**		PKP	**PKPdf**	**13 10 53.8**	**+0.5**
	comp=Z,22nm,0.6s,baz=77,slow=5.7,SNR=7.4							
SBV	**Sambava**	**144.17**	**93**		P	**PKPdf**	**13 10 54.0**	**+0.3**
	SNR=5.8							
SBV	**Sambava**	**144.17**	**93**		PKP	**PKPdf**	**13 10 54.5**	**+0.7**
POO	**Poona**	**144.80**	**22**	*i*	P	**PKPab**	**13 10 49.0**	**-4.7**
	comp=Z,190nm,1.4s							
CHTO	**Chiang Mai**	**144.85**	**340**		PKIKP	**PKPab**	**13 10 53.5**	**-0.4**
CHTO	**Chiang Mai**	**144.85**	**340**		PKPdf	**PKPab**	**13 10 53.5**	**-0.4**
CHTO	**Chiang Mai**	**144.85**	**340**		IAMs_20	IAMs_20	14 26 31.3	
	comp=Z,1μm,20.0s							
MMRI	**Maumere**	**144.88**	**276**			**PKPab**	**13 10 52.9**	**-1.3**
CM31	**Chiang Mai Arr**	**145.18**	**340**			**PKPab**	**13 10 55.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**145.18**	**340**		PKPbc	**PKPbc**	**13 10 54.8**	**-0.2**
	comp=Z,96nm,1.0s,baz=348,slow=3.7,SNR=226							
KAPI	**Kappang**	**146.29**	**283**		PKPbc	**PKPbc**	**13 10 58.6**	**0.0**
	comp=Z,17nm,0.3s,baz=167,slow=0.3,SNR=18							
KAPI	**Kappang**	**146.29**	**283**			**PKPbc**	**13 10 58.4**	**-0.2**
NWAO	**Narrogin (SRO)**	**146.84**	**231**		PKIKP	**PKPbc**	**13 10 59.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**146.84**	**231**		PKPdf	**PKPbc**	**13 10 59.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**146.84**	**231**		IAMs_20	IAMs_20	14 07 06.9	
	comp=Z,2μm,20.0s							
HYBB	**Hyderabad (bro**	**147.28**	**15**	*e*	PKPbc	**PKPbc**	**13 11 01.3**	**-0.1**
HYBB				*e*	PKPab	**PKiKP**	**13 11 03.4**	**-0.3**
HYBB				*e*	PKiKP	**PKPab**	**13 11 04.1**	**+1.0**
HYBB				*e*	PP	**PP**	**13 14 27.8**	**+2.8**
HYBB				*e*	SKiKP	**SKiKP**	**13 14 39.2**	**+0.9**
HYBB				*e*	SKSdf	**SKSdf**	**13 18 06.1**	**-0.3**
HYBB				*e*	SKKPdf	**SKKPdf**	**13 23 30.9**	**+0.7**
HYBB				*e*	PKKSdf	PKKSdf	13 23 33.4	-0.5
HYBB				*e*	SKKSac	SKKSdf	13 26 16.9	-50
MSEY	**Mahe Island**	**147.61**	**76**		PKIKP	**PKPdf**	**13 11 00.7**	**+0.9**
MSEY	**Mahe Island**	**147.61**	**76**			**PKPdf**	**13 11 00.7**	**+0.9**
MSEY	**Mahe Island**	**147.61**	**76**	*i*	PKiKP	**PKPbc**	**13 11 02.7**	**+0.2**
	SNR=32							
WBSI	**Waikabubak, Su**	**147.84**	**275**		PKP	**PKPdf**	**13 10 59.6**	**-0.5**
MBWA	**Marble Bar**	**148.04**	**253**			**PKPdf**	**13 11 01.0**	**+0.8**
MBWA						**PKiKP**	**13 11 04.6**	**-0.6**
MBWA	**Marble Bar**	**148.04**	**253**		IAMs_20	IAMs_20	14 10 01.7	
	comp=Z,1μm,20.0s							
PLAI	**Plampang**	**149.22**	**277**		PKP	**PKPdf**	**13 11 01.7**	**-0.6**
SBUM	**Sibu**	**149.77**	**302**		PKPdf	**PKPdf**	**13 11 03.2**	**-0.1**
SBUM					PKPbc	**PKiKP**	**13 11 09.5**	**+0.5**
KSM	**Kuching**	**151.89**	**302**		PKPdf	**PKPdf**	**13 11 06.6**	**+0.1**
KSM					PKPbc	**pPKPdf**	**13 11 14.8**	**-0.9**
KSM					PKPab	**sPKPbc**	**13 11 24.2**	**-1.0**
JAGI	**Jajag, Banyuwa**	**152.61**	**280**		PKPdf	**PKPdf**	**13 11 06.8**	**-0.8**
PCHI	**Peechi**	**153.07**	**23**	‖ *e*	P	**PKPdf**	**13 11 09.7**	**+1.5**
PCHI				*ex*		x	13 25 18.6	
KULM	**Kulim**	**156.07**	**324**		PKPdf	**PKPdf**	**13 11 12.4**	**-0.1**
KULM					PKPab	**PKPab**	**13 11 40.3**	**+0.6**
TPI	**Tanjungpandan**	**156.41**	**298**		PKP	**PKPdf**	**13 11 13.9**	**+1.0**
IPM	**Ipoh**	**156.51**	**322**		PKPdf	**PKPdf**	**13 11 13.4**	**+0.3**
IPM						**pPKPdf**	**13 11 13.5**	**-8.7**
IPM					PKPab	**PKPab**	**13 11 42.9**	**+1.3**
PALK	**Pallekele**	**157.56**	**16**		PKP	**PKPdf**	**13 11 14.9**	**+0.5**
	comp=Z,14nm,0.9s,baz=52,slow=4.6,SNR=9.9							
PALK					PKPab	**PKPab**	**13 11 46.4**	**+0.4**
	comp=Z,15nm,0.9s,baz=77,slow=4.9,SNR=5.3							
PALK	**Pallekele**	**157.56**	**16**		PKPdf	**PKPdf**	**13 11 14.2**	**-0.1**
PALK					PKPab	**PKPab**	**13 11 46.7**	**+0.7**
LEM	**Lembang**	**158.24**	**288**		PKP	**PKPdf**	**13 11 15.2**	**-0.2**
KCSI	**Kotacane, Aceh**	**159.11**	**328**		PKP	**PKPdf**	**13 11 15.2**	**-1.0**
GSI	**Gunungsitoli**	**161.07**	**325**		PKPdf	**PKPdf**	**13 11 18.2**	**-0.2**
GSI					PKPab	**PKPab**	**13 12 02.7**	**+1.4**

DDA ***27*** *13:04:09.1±0.0,41.°19N×44.°54E,h33km±2km, ML2.0*
TIF ***27*** *13:04:12.0,41.°14N×44.°40E,h10km± 1km*
NORS ***27*** *13:04:13.5±0.0,41.°35N×44.°36E,h1km, MPVA3.3*

ISC 27 13:04:11.6±1.0,41.°13N±0.°02×44.°48E±0.°03,h15km±8km, n23,σ1°59/46,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KZRT	**Kazreti**	**0.26**	**347**		P	**Pg**	**13 04 17.9**	**+0.7**
KZRT					S	**Sg**	**13 04 21.4**	**+0.3**
KZRT	**Kazreti**	**0.26**	**347**		P	**Pg**	**13 04 17.5**	**+0.3**
KZRT					S	**Sg**	**13 04 21.1**	**0.0**
DMNI	**Dmanisi**	**0.29**	**312**		P	**Pg**	**13 04 18.1**	**+0.3**
DMNI					S	**Sg**	**13 04 21.8**	**-0.4**
TRLG	**Trialeti**	**0.50**	**325**		P	**Pg**	**13 04 21.8**	**+0.3**
TRLG					S	**Sg**	**13 04 28.2**	**0.0**
BTNK	**Botanikuri**	**0.60**	**23**		P	**Pb**	**13 04 20.2**	**-3.7**
BTNK					S	**Sg**	**13 04 28.9**	**-2.5**
BTNK	**Botanikuri**	**0.60**	**23**		P	**Pb**	**13 04 20.0**	**-3.9**
BTNK					S	**Sg**	**13 04 27.8**	**-3.6**
BTNK				*i*	AML	AML	13 04 29.0	
	comp=E,537nm,0.5s							
AKH	**Akhalkalaki**	**0.79**	**291**		P	**Pb**	**13 04 27.0**	**-0.3**
AKH					S	**Sb**	**13 04 37.1**	**-0.8**
EAK	**Akyaka**	**0.80**	**236**		P	**Pb**	**13 04 26.0**	**-1.3**
EAK					S	**Sg**	**13 04 37.4**	**-0.3**
EAK				*i*	AML	AML	13 04 48.0	
	comp=E,56nm,0.9s							
EAK				*i*	AML	AML	13 04 58.0	
	comp=N,56nm,0.8s							
BKRG	**Bakuriani**	**0.95**	**311**		P	**Pb**	**13 04 30.3**	**+0.3**
BKRG					S	**Sb**	**13 04 42.9**	**+0.4**
DIGO	**Kars**	**1.10**	**230**		P	**Pb**	**13 04 30.9**	**-1.7**
DIGO					S	**Sg**	**13 04 47.0**	**-0.3**
DIGO				*i*	AML	AML	13 04 48.0	
	comp=N,132nm,0.3s							
DIGO				*i*	AML	AML	13 04 49.0	
	comp=E,119nm,0.4s							
DDFL	**Dedoflistskaro**	**1.27**	**75**		P	**Pg**	**13 04 39.8**	**+3.6**
DDFL					S	**Sg**	**13 04 53.8**	**+1.0**
DDFL				*i*	AML	AML	13 05 05.0	
	comp=E,39nm,0.4s							
DDFL				*i*	AML	AML	13 05 06.0	
	comp=N,32nm,0.4s							
IGDI	**IGDIR**	**1.30**	**194**		P	**Pn**	**13 04 33.8**	**-1.6**
IGDI					S	**Sg**	**13 04 54.2**	**+0.7**
IGDI				*i*	AML	AML	13 04 55.0	
	comp=E,25nm,0.4s							
IGDI				*i*	AML	AML	13 04 56.0	
	comp=N,26nm,0.2s							
EPOS	**Posof**	**1.37**	**286**		P	**Pn**	**13 04 35.8**	**-0.6**
EPOS					S	**Sb**	**13 04 54.7**	**+0.2**
EPOS				*i*	AML	AML	13 04 57.0	
	comp=N,29nm,0.4s							
ABS	**Abastumani**	**1.40**	**297**		P	**Pb**	**13 04 38.0**	**+0.4**
ABS					S	**Sb**	**13 04 56.1**	**+0.8**
LGD	**Lagodekhi**	**1.50**	**61**		P	**Pg**	**13 04 41.0**	**+0.6**
LGD					S	**Sg**	**13 05 02.7**	**+2.7**
KOTA	**Agri, Merkez-K**	**1.65**	**217**		P	**Pg**	**13 04 42.5**	**-0.7**
KOTA					S	**Sg**	**13 05 07.9**	**+3.2**
ONI	**Oni**	**1.65**	**333**	*e*	Pg	**Pb**	**13 04 42.5**	**+0.8**
ONI				*e*	Sg	**Sb**	**13 05 04.6**	**+2.3**
TKB	**Tkibuli**	**1.65**	**318**		P	**Pb**	**13 04 42.8**	**+1.0**
TKB					S	**Sb**	**13 05 04.0**	**+1.6**
LACR	**Lac**	**1.70**	**355**	*e*	Pg	**Pb**	**13 04 44.1**	**+1.5**
LACR				*e*	Sg	**Sg**	**13 05 07.2**	**+0.8**
ZEI	**Tsey**	**1.71**	**346**	*e*	Pg	**Pb**	**13 04 43.5**	**+0.6**
ZEI				*e*	Sg	**Sg**	**13 05 06.8**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.89**	**340**	*e*	Pg	**Pg**	**13 04 47.7**	**-0.2**
DIGR				*e*	Sg	**Sg**	**13 05 12.9**	**+0.5**
DAGI	**Agillar**	**1.94**	**269**		P	**Pb**	**13 04 46.1**	**-0.6**
DAGI					S	**Sb**	**13 05 11.0**	**+0.3**
DAGI				*i*	AML	AML	13 05 56.0	
	comp=E,8.3nm,2.5s							
DBAD	**Bademkaya**	**2.11**	**268**		P	**Pb**	**13 04 50.2**	**+0.6**
DBAD					S	**Sb**	**13 05 15.2**	**-0.5**
DBAD				*i*	AML	AML	13 05 59.0	
	comp=N,10nm,1.1s							
DBAD				*i*	AML	AML	13 06 09.0	
	comp=E,11nm,1.6s							

MEX ***27*** *13:33:16.2±0.8,14.°60N×93.°14W,h82km±32km,MD4.0*
GCG ***27*** *13:33:19.0±0.7,14.°76N×92.°84W,h16km±4km,MD4.1*

ISC 27 13:33:11.8±2.0,14.°56N±0.°08×93.°12W±0.°06,h8km±11km, n14,σ1°83/27,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.89**	**67**	*i*	P	**Pn**	**13 33 32.4**	**+1.7**
THIG				*e*	S	**Sn**	**13 33 45.4**	**+1.5**
PATR	**El Naranjo**	**1.01**	**57**	*e*	P	**Pn**	**13 33 34.0**	**+1.4**
PATR				*i*	S	**Sn**	**13 33 48.5**	**+1.3**
PAVE	**Pavencul**	**1.10**	**55**	*e*	P	**Pn**	**13 33 35.5**	**+1.7**
PAVE				*e*	S	**Sn**	**13 33 50.2**	**+0.8**
CHUJ	**Union Juarez**	**1.11**	**61**	*i*	P	**Pn**	**13 33 35.7**	**+1.8**
CHUJ				*i*	S	**Sn**	**13 33 51.2**	**+1.7**
PCIG		**1.14**	**355**	*e*	P	**Pg**	**13 33 35.7**	**+2.0**
PCIG				*i*	S	**Sn**	**13 33 49.6**	**-0.3**
STG3	**Santiaguito 3,**	**1.50**	**84**	*e*	P	**Pg**	**13 33 41.4**	**+0.7**
STG3				*e*	S	**Sg**	**13 33 58.5**	**-1.7**
CARR	**Arriaga**	**1.84**	**335**	*i*	P	**Pn**	**13 33 45.5**	**+1.7**
CARR				*e*	S	**Sn**	**13 34 06.0**	**-1.3**
CCIG	**Comitan**	**1.95**	**29**	*i*	P	**Pg**	**13 33 51.1**	**+1.8**
CCIG				*e*	S	**Sg**	**13 34 11.2**	**-3.5**
TGIG		**2.20**	**360**	*i*	P	**Pb**	**13 33 53.1**	**+1.1**
TGIG				*e*	S	**Sn**	**13 34 14.8**	**-1.5**
FUG	**Fuego 3**	**2.21**	**93**	*e*	P	**Pb**	**13 33 51.1**	**-1.0**
FUG				*e*	S	**Sb**	**13 34 17.8**	**-1.9**
PCG	**Pacaya**	**2.44**	**94**	*e*	P	**Pn**	**13 33 53.6**	**+1.4**
PCG				*e*	S	**Sb**	**13 34 23.9**	**-2.5**
NBG	**Las Nubes**	**2.68**

WRA	**Warramunga Arr**	**14.26**	**162**		**Pn**	**14 11 01.5**	**-3.5**
WB2	**Warramunga Arr**	**14.26**	**162**		**Pn**	**14 11 01.7**	**-3.3**
WR0	**Warramunga Arr**	**14.34**	**161**		**Pn**	**14 11 02.6**	**-3.3**
JAGI	**Jajag, Banyuwa**	**15.58**	**261**	P	**P**	**14 11 19.5**	**-1.6**
PMG	**Port Moresby**	**17.55**	**101**	P	**Pn**	**14 11 46.2**	**+1.6**
	4.3nm,0.3s,baz=278,slow=7.7,SNR=23						
PMG				S	**S**	**14 14 52.6**	**-2.3**
	0.6nm,0.3s,baz=188,slow=20,SNR=1.5						
MBWA	**Marble Bar**	**17.63**	**212**	P	**Pn**	**14 11 43.4**	**-2.1**
MBWA				IAmb	IAmb	14 11 45.4	
	comp=Z,26nm,0.8s						
AS31	**Alice Springs**	**17.70**	**167**	P	**Pn**	**14 11 45.6**	**-0.8**
ASAR	**Alice Springs**	**17.70**	**167**	P	**Pn**	**14 11 46.1**	**-0.3**
	comp=Z,17nm,0.3s,baz=348,slow=11,SNR=1219						
ASAR				S	**S**	**14 14 56.8**	**-1.1**
	comp=Z,2.3nm,0.3s,baz=348,slow=26,SNR=6.0						
ASAR				ScP	**ScP**	**14 19 31.1**	**+2.0**
	comp=Z,0.0nm,0.3s,baz=352,slow=1.9,SNR=3.0						
ASAR	**Alice Springs**	**17.70**	**167**	P	**Pn**	**14 11 46.0**	**-0.4**
CTA	**Charters Tower**	**21.10**	**132**	P	**P**	**14 12 23.1**	**+2.1**
	comp=Z,12nm,1.2s,baz=325,slow=12,SNR=2.4						
CTAO	**Charters Tower**	**21.10**	**132**	P	**P**	**14 12 22.7**	**+1.8**
CTAO				IAmb	IAmb	14 12 47.0	
	comp=Z,37nm,1.6s						
LEM	**Lembang**	**21.95**	**267**	P	**P**	**14 12 30.5**	**+0.6**
	comp=Z,30nm,0.7s,baz=71,slow=9.4,SNR=5.6						
KRVT	**Keravat (AS076**	**22.31**	**86**	P	**P**	**14 12 33.8**	**+0.7**
	comp=Z,22nm,0.4s,baz=237,slow=1.4,SNR=9.2						
GUMO	**Guam**	**24.86**	**37**	P	**P**	**14 12 56.6**	**+0.5**
STKA	**Stephens Creek**	**27.74**	**158**	P	**P**	**14 13 23.3**	**+1.5**
	comp=Z,1.6nm,0.4s,baz=342,slow=9.7,SNR=7.3						
STKA	**Stephens Creek**	**27.74**	**158**	P	**P**	**14 13 22.5**	**+0.8**
NWAO	**Narrogin (SRO)**	**28.90**	**202**	P	**P**	**14 13 33.5**	**+1.5**
HNR	**Honiara**	**30.10**	**98**	P	P	14 13 33.9	-9.0
CAN	**Canberra**	**33.88**	**151**	P	P	14 14 17.9	+2.3
CAN				IAmb	IAmb	14 14 20.5	
	comp=Z,9.8nm,0.9s						
NJ2	**Nanjing**	**39.55**	**345**	*e*P	**P**	**14 15 04.5**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
PZH	**PanZhiHua**	**42.43**	**321**	P	P	14 15 29.8	+2.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MAJO	**Matsushiro**	**43.38**	**10**	P	**P**	**14 15 33.5**	**-1.0**
MAJO				IAmb	IAmb	14 15 34.8	
	comp=Z,8.5nm,0.9s						
MJAR	**Matsushiro Arr**	**43.38**	**10**	P	**P**	**14 15 33.1**	**-1.4**
	comp=Z,5.3nm,0.8s,baz=170,slow=10,SNR=9.8						
MJAR	**Matsushiro Arr**	**43.38**	**10**	P	**P**	**14 15 33.0**	**-1.4**
MJB9	**Matsu-Tunnel**	**43.39**	**10**	P	**P**	**14 15 33.5**	**-1.0**
MJB9				IAmb	IAmb	14 15 34.7	
	comp=Z,8.1nm,0.9s						
JYT	**Yasato**	**43.46**	**12**	P	**P**	**14 15 33.9**	**-1.2**
JYT				IAmb	IAmb	14 15 46.0	
	comp=Z,18nm,1.0s						
KSRS	**Korea Array**	**43.59**	**358**	P	**P**	**14 15 36.6**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=173,slow=7.9,SNR=5.0						
JMM	**Marumori**	**45.16**	**12**	P	**P**	**14 15 49.4**	**+0.9**
HHC	**Hu-ho-hao-te**	**49.82**	**342**	*e*P	P	14 16 28.0	+3.5
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,610nm,4.8s						
USRK	**Ussuriysk Ar.**	**50.34**	**2**	P	**P**	**14 16 28.9**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=168,slow=7.4,SNR=4.1						
USRK	**Ussuriysk Ar.**	**50.34**	**2**	P	**P**	**14 16 28.8**	**+0.6**
RPZ	**Rata Peaks**	**51.94**	**143**	P	P	14 16 42.9	+2.7
TUWZ	**Tuamarina**	**52.57**	**139**	P	**P**	**14 16 46.5**	**+1.7**
BKZ	**Black Stump Fm**	**53.27**	**135**	P	**P**	**14 16 51.1**	**+1.0**
BKZ				IAmb	IAmb	14 17 07.8	
	comp=Z,28nm,1.6s						
YSS	**Yuzh-Sakhalins**	**54.30**	**11**	P	**P**	**14 16 56.6**	**-0.6**
YSS				IAmb	IAmb	14 16 58.3	
	comp=Z,5.8nm,0.6s						
CASY	**Casey**	**61.32**	**189**	P	**P**	**14 17 47.2**	**+1.4**
CASY				IAmb	IAmb	14 18 01.7	
	comp=Z,9.4nm,1.4s						
WMQ	**Urumqi**	**62.68**	**327**	*e*P	P	14 17 58.3	+3.0
PEA0B	**Petropavlovsk-**	**63.78**	**18**	P	**P**	**14 18 03.4**	**+1.1**
PETK	**Petropavlovsk-**	**63.78**	**18**	P	**P**	**14 18 02.9**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=172,slow=3.9,SNR=19						
PETK	**Petropavlovsk-**	**63.78**	**18**	P	**P**	**14 18 02.7**	**+0.4**
PET	**Petropavlovsk**	**64.01**	**19**	P	**P**	**14 18 04.1**	**+0.4**
KSH	**Kashi**	**67.33**	**317**	P	**P**	**14 18 23.0**	**-2.5**
KSH				pP	PcP	14 18 55.3	+3.7
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31	**Makanchi Array**	**67.51**	**327**	P	**P**	**14 18 27.7**	**+1.4**
MKAR	**Makanchi Array**	**67.51**	**327**	P	**P**	**14 18 27.6**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=124,slow=8.0,SNR=26						
MAKZ	**Makanchi**	**67.69**	**327**	P	**P**	**14 18 28.3**	**+0.8**
MAKZ				IAmb	IAmb	14 18 37.4	
	comp=Z,2.1nm,0.7s						
YAK	**Yakutsk**	**68.16**	**360**	P	**P**	**14 18 30.9**	**+0.9**
YAK				IAmb	IAmb	14 18 31.4	
	comp=Z,11nm,0.7s						
ZALV	**Zalesovo Beam**	**70.86**	**334**	P	**P**	**14 18 46.7**	**0.0**
	comp=Z,1.2nm,0.5s,baz=127,slow=5.2,SNR=6.5						
ZALV				pP	**pP**	**14 19 26.6**	**-5.8**
	comp=Z,0.3nm,0.3s,baz=118,slow=5.2,SNR=1.3						
ZALV	**Zalesovo Beam**	**70.86**	**334**	P	**P**	**14 18 47.3**	**+0.6**
KURK	**Kurchatov**	**71.80**	**329**	P	**P**	**14 18 53.5**	**+1.2**
VNDA	**Vanda**	**73.14**	**173**	P	**P**	**14 19 01.3**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=326,slow=6.4,SNR=12						
VNDA	**Vanda**	**73.14**	**173**	P	**P**	**14 19 01.5**	**+1.6**
SBA	**Scott Base**	**74.03**	**172**	P	P	14 19 08.0	+3.0
HRA	**Herat**	**75.32**	**308**	P	**P**	**14 19 14.4**	**+0.9**
MAW	**Mawson**	**75.47**	**201**	P	**P**	**14 19 15.9**	**+2.5**
MAW				IAmb	IAmb	14 19 31.8	
	comp=Z,7.6nm,1.6s						
TIXI	**Tiksi**	**77.82**	**360**	P	**P**	**14 19 26.1**	**-0.3**
TIXI				IAmb	IAmb	14 19 27.7	
	comp=Z,4.3nm,0.5s						
NRIK	**Noril'sk**	**80.84**	**346**	P	**P**	**14 19 43.6**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=143,slow=5.1,SNR=2.2						
QSPA	**South Pole Qui**	**83.64**	**180**	P	**P**	**14 19 59.0**	**+1.3**
QSPA				IAmb	IAmb	14 19 59.4	
	comp=Z,3.2nm,0.9s						
ILAR	**Eielson Array**	**92.86**	**25**	P	**P**	**14 20 40.7**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=279,slow=4.4,SNR=6.1						

IDC ***27*** *14:30:52.5±0.8, 35°.46N×140°.99E, h0km, mb3.5/8, mb1 3.7/11, mb1mx3.6/48, mbtmp3.6/11, ML3.1/3, Error ellipse: s-maj=22.4km s-min=16.2km az=96.0*
JMA ***27*** *14:30:54.8±0.2, 35°.61N×141°.04E, h17km±1km, M3.9 JMA Felt I J1.*

ISC 27 14:30:53.6±1.5, 35°.54N±0°.05×141°.05E±0°.07, h10km±9km, n31, σ1°19/28, mb3.6/8, 4C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.23**	**317**	⇑P	**Pg**	**14 30 59.3**	**+1.0**
CHOJ				S	**Sg**	**14 31 02.4**	**+0.9**
JSMT	**Sammumatsuo**	**0.50**	**282**	⇑P	**Pb**	**14 31 04.8**	**+0.3**
JIHU	**Itakohorinouch**	**0.60**	**315**	P	**Pb**	**14 31 06.2**	**-0.1**
JCN	**Nagara**	**0.70**	**261**	⇑P	**Pn**	**14 31 09.2**	**-0.4**
KTR	**Katsuura**	**0.71**	**237**	P	**Pn**	**14 31 09.0**	**-0.7**
KTR				S	**Sn**	**14 31 19.2**	**-1.5**
BSO4	**Boso 4**	**0.80**	**227**	P	**Pn**	**14 31 11.3**	**+0.5**
BSO3	**Boso 3**	**0.86**	**211**	⇓P	**Pn**	**14 31 11.7**	**+0.2**
BSO1	**Boso 1**	**0.88**	**184**	⇑P	**Pn**	**14 31 11.7**	**+0.1**
JYT	**Yasato**	**0.98**	**315**	⇓P	**Pg**	**14 31 11.4**	**-1.1**
JYT				S	**Sg**	**14 31 23.4**	**-1.8**
JHO	**Hitachi**	**1.14**	**340**	⇓P	**Pg**	**14 31 13.8**	**-1.8**
MJAR	**Matsushiro Arr**	**2.51**	**294**	Pn	**Pn**	**14 31 34.4**	**-0.1**
	1.3nm,0.3s,baz=95,slow=9.6,SNR=25						
MJAR				Sn	**Sn**	**14 32 07.1**	**+2.0**
	1.8nm,0.3s,baz=117,slow=20,SNR=5.9						
JHJ	**Hachijo jima 2**	**2.63**	**204**	Pn	**Pn**	**14 31 35.5**	**-0.7**
	3.5nm,0.3s,baz=331,slow=5.5,SNR=2.1						
JHJ				Sn	**Sn**	**14 32 06.7**	**-1.4**
	22nm,0.3s,baz=69,slow=21,SNR=1.6						
JCJ	**Chichijima**	**8.47**	**173**	Pn	**Pn**	**14 32 55.2**	**-1.1**
	2.2nm,0.3s,baz=93,slow=24,SNR=2.1						
ASAJ	**Asahikawa**	**8.65**	**7**	Pn	**Pn**	**14 32 56.8**	**-2.0**
	0.7nm,0.3s,baz=240,slow=8.4,SNR=12						
ASAJ				Sn	**Sn**	**14 34 34.6**	**-1.7**
	baz=155,slow=16,SNR=2.0						
H11N2	**WAKE ISLAND Hy 27.67**	**118**		T	T	15 05 36.4	
	baz=311,slow=75,SNR=144						
H11N1	**WAKE ISLAND Hy 27.68**	**118**		T	T	15 05 33.6	
	baz=311,slow=75,SNR=106						
H11N3	**WAKE ISLAND Hy 27.69**	**118**		T	T	15 05 34.3	
	baz=311,slow=75,SNR=116						
SEY	**Seymchan**	**28.31**	**11**	P	**P**	**14 36 48.5**	**+1.4**
	0.5nm,0.5s,baz=163,slow=19,SNR=1.8						
H11S1	**WAKE ISLAND Hy 28.33**	**120**		T	T	15 06 24.0	
	baz=312,slow=75,SNR=573						
H11S3	**WAKE ISLAND Hy 28.33**	**120**		T	T	15 06 22.2	
	baz=312,slow=75,SNR=434						
H11S2	**WAKE ISLAND Hy 28.35**	**120**		T	T	15 06 23.6	
	baz=312,slow=75,SNR=351						
ZALV	**Zalesovo Beam**	**42.72**	**314**	P	**P**	**14 38 50.1**	**-0.5**
	0.9nm,0.6s,baz=90,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**44.68**	**303**	P	**P**	**14 39 06.8**	**+0.2**
	0.8nm,0.8s,baz=88,slow=9.0,SNR=7.7						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**14 39 55.8**	**+1.2**
	0.6nm,0.8s,baz=275,slow=6.4,SNR=7.7						
WRA	**Warramunga Arr**	**55.54**	**188**	P	**P**	**14 40 28.7**	**-0.4**
	0.3nm,0.4s,baz=3.4,slow=7.6,SNR=7.9						
ASAR	**Alice Springs**	**59.27**	**188**	P	**P**	**14 40 55.4**	**0.0**
	0.3nm,0.9s,baz=7.6,slow=7.7,SNR=1.8						
YKA	**Yellowknife Ar**	**65.25**	**30**	P	**P**	**14 41 35.9**	**+0.8**
	0.4nm,0.9s,baz=296,slow=6.1,SNR=5.2						
PDAR	**Pinedale Array**	**78.93**	**45**	P	**P**	**14 42 59.0**	**+1.4**
	0.1nm,0.5s,baz=321,slow=2.4,SNR=1.9						
H03N2	**Juan Fernandez**	**147.13**	**98**	T	T	17 34 57.4	
	baz=290,slow=76,SNR=25						
H03N3	**Juan Fernandez**	**147.14**	**98**	T	T	17 34 57.0	
	baz=290,slow=76,SNR=20						
H03N1	**Juan Fernandez**	**147.15**	**98**	T	T	17 35 01.1	
	baz=290,slow=76,SNR=23						

IDC ***27*** *14:34:22.8±1.2, 43°.82N×28°.99W, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/44, mbtmp3.6/9, ML4.1/1, Error ellipse: s-maj=42.8km s-min=20.1km az=19.0*

ISC 27 14:34:24.2±1.1, 43°.8N±0°.3×29°.0W±0°.1, h10km, n9, σ0°55/9, mb3.7/8, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**19.11**	**94**	P	**Pn**	**14 38 49.0**	**+1.0**
	0.1nm,0.3s,baz=285,slow=10,SNR=1.6						
TORD	**Torodi Ar. Bea**	**40.32**	**130**	P	**P**	**14 42 01.4**	**-0.5**
	0.6nm,0.8s,baz=315,slow=6.4,SNR=2.9						
BRTR	**Keskin Array B**	**45.92**	**72**	P	**P**	**14 42 46.9**	**-0.2**
	1.2nm,0.8s,baz=282,slow=7.2,SNR=3.7						
YKA	**Yellowknife Ar**	**50.47**	**323**	P	**P**	**14 43 21.9**	**+0.2**
	0.4nm,0.8s,baz=68,slow=7.6,SNR=5.3						
INK	**Inuvik**	**55.06**	**334**	P	**P**	**14 43 55.1**	**-0.5**
	1.9nm,0.9s,baz=76,slow=9.5,SNR=3.3						
PDAR	**Pinedale Array**	**56.36**	**299**	P	**P**	**14 44 05.9**	**+0.3**
	0.8nm,1.0s,baz=74,slow=7.9,SNR=4.6						
TXAR	**Lajitas Array**	**59.78**	**283**	P	**P**	**14 44 29.8**	**+0.2**
	0.7nm,0.7s,baz=71,slow=6.8,SNR=8.3						
ILAR	**Eielson Array**	**61.45**	**334**	P	**P**	**14 44 40.5**	**+0.1**
	0.4nm,0.9s,baz=54,slow=4.7,SNR=2.8						
MKAR	**Makanchi Array**	**71.31**	**43**	P	**P**	**14 45 43.4**	**-0.4**
	0.6nm,0.8s,baz=316,slow=6.7,SNR=6.4						

PGC 27 14:43:25.3±0.1, 49°.28N×127°.98W, h10km, MLSn2.8/32, Mw3.5/32, 143km Wsw of Gold R., Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDB	**Eliza Dome**	**0.81**	**43**	P	Pg	14 43 40.0	-1.0
EDB				S	Sg	14 43 50.0	-1.6
BPBC	**Brooks Peninsu**	**0.88**	**9**	P	Pg	14 43 41.4	-1.0
ETB	**Estevan Point**	**0.95**	**84**	P	Pg	14 43 42.2	-1.3
PACB	**Port Alice, BC**	**1.20**	**15**	P	Pb	14 43 45.8	-2.2
PACB				S	Sb	14 43 59.9	-3.5
MAYB	**Maynard**	**1.24**	**25**	P	Pn	14 43 46.8	-2.0
WOSB	**Woss**	**1.27**	**46**	P	Pn	14 43 47.2	-1.9
HOLB	**Holberg**	**1.36**	**356**	P	Pn	14 43 48.1	-2.2
HOLB				S	Sb	14 44 04.0	-4.4
GDR	**Gold River**	**1.36**	**68**	P	Pn	14 43 47.9	-2.4
TOFB	**Tofino**	**1.36**	**95**	P	Pn	14 43 47.7	-2.7
TOFB				S	Sb	14 44 03.3	-5.1
PHC	**Port Hardy**	**1.47**	**14**	P	Pn	14 43 49.9	-1.9
PHC				S	Sn	14 44 07.5	-3.5
BTB	**Buttle Lake**	**1.62**	**83**	Pn	Pn	14 43 51.8	-2.2
BTB				Sn	Sn	14 44 11.3	-3.7
SPLB	**Strathcona Par**	**1.63**	**67**	Pn	Pn	14 43 52.4	-1.6
OZB	**Mount Ozzard**	**1.67**	**100**	Pn	Pn	14 43 51.8	-2.8
OZB				Sn	Sn	14 44 09.7	-6.3
NCRB	**Newcastle Ridg**	**1.68**	**47**	Pn	Pn	14 43 53.4	-1.4
MWAB	**Mount Washingt**	**1.80**	**74**	Pn	Pn	14 43 54.8	-1.7
MWAB				Sn	Sn	14 44 16.3	-3.2
CBB	**Campbell River**	**1.86**	**65**	Pn	Pn	14 43 55.6	-1.5
CBB				Sn	Sn	14 44 17.0	-3.7
BFSB	**Bamfield**	**1.92**	**102**	Pn	Pn	14 43 56.5	-1.6
B928	**Bamfield**	**1.93**	**102**	Pn	Pn	14 43 56.4	-1.6
B928				Sn	Sn	14 44 17.1	-5.1
MGB	**Mount Grey**	**2.18**	**96**	Pn	Pn	14 43 59.1	-2.6
TXB	**Texada**	**2.35**	**79**	Pn	Pn	14 44 02.2	-1.7
OCP	**Olym-Cheeka Pk**	**2.43**	**113**	Pn	Pn	14 44 02.9	-2.1
PFB	**Port Renfrew**	**2.44**	**106**	Pn	Pn	14 44 03.2	-2.0
CLRS	**Cowichan Lake**	**2.57**	**99**	Pn	Pn	14 44 06.0	-1.0
NLLB	**Nanaimo Lost L**	**2.62**	**99**	Pn	Pn	14 44 06.6	-1.0
SHB	**Sechelt**	**2.70**	**82**	Pn	Pn	14 44 07.3	-1.5
SHB				Sn	Sn	14 44 38.3	-3.2
BBB	**Bella Bella**	**2.91**	**358**	Pn	Pn	14 44 10.2	-1.3
BBB				Sn	Sn	14 44 42.5	-4.0
BIB	**Bowen Island**	**3.06**	**86**	Pn	Pn	14 44 12.8	-0.8
WSLR	**Whistler**	**3.39**	**74**	Pn	Pn	14 44 18.5	+0.2
HNBB	**Haney**	**3.54**	**88**	Pn	Pn	14 44 19.5	-0.8
HG4B	**Hotspring**	**3.64**	**327**	Pn	Pn	14 44 21.1	-0.5
BUTB	**Butedale**	**3.80**	**356**	Pn	Pn	14 44 22.7	-1.1
VDB	**Vedder Mountai**	**3.87**	**92**	Pn	Pn	14 44 24.4	-0.4
A05A	**Maple Falls**	**3.88**	**92**	Pn	Pn	14 44 24.7	-0.2
MBW	**Mount Baker**	**4.03**	**95**	Pn	Pn	14 44 27.1	-0.1
LLLB	**Lillooet**	**4.16**	**69**	Pn	Pn	14 44 28.2	-0.6
BNKB	**Banks Island**	**4.23**	**344**	Pn	Pn	14 44 28.5	-1.3
RPW	**Rockport**	**4.35**	**99**	Pn	Pn	14 44 31.6	+0.1
HWKB	**Hawksbury Isla**	**4.38**	**351**	Pn	Pn	14 44 31.1	-0.8
BNAB	**Bonilla**	**4.53**	**339**	Pn	Pn	14 44 32.8	-1.1
GRNB	**Gren ville Isla**	**4.73**	**346**	Pn	Pn	14 44 35.9	-0.8
KITB	**Kitimat**	**4.82**	**355**	Pn	Pn	14 44 37.8	0.0
RUBB	**Prince Rupert**	**5.24**	**345**	Pn	Pn	14 44 43.5	-0.1
PNT	**Penticton**	**5.47**	**86**	Pn	Pn	14 44 46.2	-0.6
FSJB	**Fort St James**	**5.66**	**22**	Pn	Pn	14 44 49.8	+0.4
FSB	**Fort Saint Jam**	**5.67**	**22**	Pn	Pn	14 44 49.9	+0.3
LIB	**Langara Island**	**5.89**	**330**	Pn	Pn	14 44 52.0	-0.5
NBC5	**NorthernBC 5**	**8.84**	**19**	Pn	Pn	14 45 34.0	+1.0

NNC ***27*** *14:44:21.7±0.6, 42°.85N×78°.69E, h0km, mb2.5, mpv2.4, Error ellipse: s-maj=4.9km s-min=2.1km az=167.0*
SOME ***27*** *14:44:22.5, 42°.88N×78°.68E, h10km*
KRNET ***27*** *14:44:22.1±0.1, 42°.86N×78°.68E, h17km, mb2.4*

ISC 27 14:44:22.0±1.1, 42°.85N±0°.04×78°.68E±0°.03, h12km±9km, n36, σ0°61/68, 9C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.29**	**316**	*e*P	**Pg**	**14 44 28.0**	**-0.1**
	baz=15						
SATY				*e*S	**Sg**	**14 44 31.9**	**-0.3**
	baz=15						
SATY	**Saty**	**0.29**	**316**	*e*P	**Pg**	**14 44 28.0**	**-0.1**
	5.9nm,0.1s						
SATY				*e*S	**Sg**	**14 44 31.8**	**-0.3**
	58nm,0.1s						
SATY	**Saty**	**0.29**	**316**	P	**Pg**	**14 44 28.0**	**-0.1**
	5.9nm,0.1s						
SATY				S	**Sg**	**14 44 31.8**	**-0.3**
	58nm,0.1s						
ZHN	**Zhinishke**	**0.37**	**331**	*e*P	**Pg**	**14 44 29.4**	**0.0**
	baz=30						
ZHN				*e*S	**Sg**	**14 44 34.5**	**+0.1**
	baz=30						
ZHN	**Zhinishke**	**0.37**	**331**	*e*P	**Pg**	**14 44 29.4**	**0.0**
	11nm,0.1s						
ZHN				*e*S	**Sg**	**14 44 34.5**	**+0.1**
	26nm,0.1s						
ZHN	**Zhinishke**	**0.37**	**331**	P	**Pg**	**14 44 29.4**	**0.0**
	11nm,0.1s						
ZHN				S	**Sg**	**14 44 34.5**	**+0.1**
	26nm,0.1s						
UZB	**Uzynbulak**	**0.39**	**40**	*e*P	**Pg**	**14 44 29.7**	**-0.1**
	baz=41						
UZB				*e*S	**Sg**	**14 44 35.0**	**-0.1**
	baz=41						
UZB	**Uzynbulak**	**0.39**	**40**	*e*P	**Pg**	**14 44 29.7**	**-0.1**
	0.6nm,0.1s						
UZB				*e*S	**Sg**	**14 44 35.0**	**-0.1**
	30nm,0.1s						
UZB	**Uzynbulak**	**0.39**	**40**	P	**Pg**	**14 44 29.7**	**-0.1**
	0.6nm,0.1s						
UZB				S	**Sg**	**14 44 35.0**	**-0.1**
	30nm,0.1s						
KPKS	**Kokpek**	**0.62**	**0**	*e*P	**Pg**	**14 44 33.9**	**-0.2**
	baz=0.0						
KPKS				*e*S	**Sg**	**14 44 42.2**	**-0.1**
	baz=0.0						
KPKS	**Kokpek**	**0.62**	**0**	*e*P	**Pg**	**14 44 33.9**	**-0.2**
	23nm,0.1s						
KPKS				*e*S	**Sg**	**14 44 42.1**	**-0.1**
	10nm,0.2s						
ANVS	**Anan'yevo**	**0.75**	**265**	⇑*i*P	**Pg**	**14 44 36.5**	**0.0**
	baz=65						
ANVS				⇑*i*S	**Sg**	**14 44 46.9**	**+0.5**
	baz=65						
PDGK	**Podgornoye**	**0.76**	**51**	P	**Pg**	**14 44 36.4**	**-0.4**
	0.3nm,0.1s						
PDGK				S	**Sg**	**14 44 46.6**	**-0.2**
	2.0nm,0.2s						
PDGK	**Podgornoye**	**0.76**	**51**	⇓P	**Pg**	**14 44 36.5**	**-0.2**
	0.1nm,0.2s						
PDGK				⇑S	**Sg**	**14 44 46.1**	**-0.7**
	2.0nm,0.4s						
KOTS	**Kotyrbulak**	**1.22**	**289**	*e*P	**Pb**	**14 44 45.1**	**+0.1**
	baz=89						
KOTS				*e*S	**Sg**	**14 45 01.2**	**0.0**
	baz=89						
KOTS	**Kotyrbulak**	**1.22**	**289**	*e*P	**Pb**	**14 44 45.1**	**+0.1**
	0.8nm,0.2s						
KOTS				*e*S	**Sg**	**14 45 01.2**	**0.0**
	5.7nm,0.2s						
KOTS	**Kotyrbulak**	**1.22**	**289**	P	**Pb**	**14 44 45.1**	**+0.1**
	0.8nm,0.2s						
KOTS				S	**Sg**	**14 45 01.2**	**0.0**
	5.7nm,0.2s						
MDOK	**Medeo**	**1.24**	**285**	*e*P	**Pn**	**14 44 45.2**	**-0.1**
	baz=85						
MDOK				*e*S	**Sb**	**14 45 01.5**	**+0.1**
	baz=85						
MDOK	**Medeo**	**1.24**	**285**	*e*P	**Pn**	**14 44 45.2**	**-0.1**
	0.5nm,0.2s						
MDOK				*e*S	**Sb**	**14 45 01.5**	**+0.1**
	4.9nm,0.5s						
MDOK	**Medeo**	**1.24**	**285**	P	**Pn**	**14 44 45.1**	**-0.1**
	0.1nm,0.2s						
MDOK				S	**Sb**	**14 45 00.5**	**-0.9**
	2.5nm,0.6s						
MDOK	**Medeo**	**1.24**	**285**	Pg	**Pn**	**14 44 45.2**	**-0.1**
	0.5nm,0.2s						
MDOK				Lg	Lg	14 45 01.5	
	4.9nm,0.5s						
KDJ	**Kajisay**	**1.32**	**238**	⇑*i*P	**Pn**	**14 44 46.5**	**+0.1**
	baz=37						
KDJ				⇑*i*S	**Sb**	**14 45 04.1**	**+0.3**
	baz=37						
ARXS	**Arharly**	**1.50**	**336**	*e*P	**Pb**	**14 44 49.8**	**0.0**
	2.3nm,0.2s						
ARXS				*e*S	**Sb**	**14 45 09.5**	**+0.6**
	3.9nm,0.1s						
ARXS	**Arharly**	**1.50**	**336**	P	**Pb**	**14 44 49.8**	**0.0**
	2.3nm,0.2s						
ARXS				S	**Sb**	**14 45 09.5**	**+0.6**
	3.9nm,0.1s						
KTBS	**Karatobe**	**1.70**	**301**	*e*P	**Pb**	**14 44 53.6**	**+0.4**
	baz=1.0						
KTBS				*e*S	**Sg**	**14 45 15.8**	**-0.8**
	baz=1.0						
KTBS	**Karatobe**	**1.70**	**301**	*e*P	**Pb**	**14 44 53.6**	**+0.4**
	1.7nm,0.2s						
KTBS				*e*S	**Sg**	**14 45 15.7**	**-0.8**
	9.0nm,0.2s						
KTBS	**Karatobe**	**1.70**	**301**	P	**Pb**	**14 44 53.6**	**+0.4**
	1.7nm,0.2s						
KTBS				S	**Sg**	**14 45 15.7**	**-0.8**
	9.0nm,0.2s						
ULHL	**Ulahol**	**1.90**	**252**	⇑*i*P	**Pb

HATJ S Sn 14 55 34.7 -3.4
TATO Taipei 4.18 4 Pn 14 54 54.0 +0.9
IRIF Iriomote-Funau 4.25 33 P Pn 14 54 53.0 -1.2
IRIF eS Sn 14 55 39.2 -3.5
JKRS Kuro-shima 4.33 37 P Pn 14 54 54.1 -1.1
JKRS eS Sn 14 55 41.2 -3.3
JIJ Ishigaki jima 4.50 37 P Pn 14 54 55.9 -1.7
JIJ eS Sn 14 55 45.6 -3.2
BOLP Bolinao 4.54 195 eP Pn 14 54 58.6 +0.4
SMPP San Manuel, Pa 4.63 186 eP Pn 14 54 58.9 -0.7
QZH Quanzhou 4.76 331 ⇑iPn Pn 14 54 58.0 -3.2
QZH Sn Sn 14 55 47.8 -7.4
QZH LR LR
comp=N,1μm,16.1s
QZH LR LR
comp=E,2μm,18.0s
QZH LR LR
comp=Z,2μm,17.5s
JISG Ishigakijimahi 4.77 37 P Pn 14 54 59.4 -1.9
JISG eS Sn 14 55 51.2 -4.2
BALP Baler 5.04 175 eP Pn 14 55 05.2 +0.2
JTJ Tarama 5.04 40 P Pn 14 55 04.0 -1.0
JTJ eS Sn 14 55 58.8 -3.2
SCZP Santa Cruz 5.12 194 eP Pn 14 55 06.0 -0.2
PCPH Palayan 5.20 181⇓eP Pn 14 55 08.2 +1.0
PCPH eS Sn 14 56 07.8 +1.8
JIRB Irabujima 5.47 42 P Pn 14 55 08.9 -2.0
JIRB S Sn 14 56 08.7 -3.8
JMJ Miyako jima 2 5.53 43 P Pn 14 55 12.2 +0.4
JOGS Gusukube 5.57 44 P Pn 14 55 11.5 -0.8
JOGS eS Sn 14 56 12.0 -3.0
MACP Maragondon, Ca 6.50 184 eP Pn 14 55 25.3 +0.1
JCNP Jose Panganiba 6.63 167 eP Pn 14 55 26.7 -0.2
LQP Lukban 6.65 177⇓eP Pn 14 55 27.1 -0.3
TGY Tagaytay City 6.65 182 Pn Pn 14 55 27.2 0.0
28nm,0.3s,baz=339,slow=8.6,SNR=4.8
PGP Puerto Galera 7.25 182⇑eP Pn 14 55 35.7 +0.3
PVCP Virac 7.70 158 eP Pn 14 55 47.1 +5.4
JOW Kunigami 8.87 46 Pn Pn 14 55 56.0 -1.5
1.7nm,0.3s,baz=243,slow=6.8,SNR=2.9
JOW Sn Sn 14 57 33.4 -2.9
0.3nm,0.3s,baz=358,slow=23,SNR=1.5
JOW Kunigami 8.87 46 P Pn 14 55 58.4 +0.8
SSE Sheshan 10.27 0 P Pn 14 56 16.5 -0.2
SSE S Sn 14 58 12.3 +1.8
SSE pmax pmax
comp=Z,20nm,0.7s
SSE pmax pmax
comp=Z,130nm,4.2s
SSE LR LR
comp=N,570nm,17.4s
SSE LR LR
comp=E,470nm,17.5s
QIZ Qiongzhong 10.79 263 Pn Pn 14 56 23.1 -0.9
QIZ Qiongzhong 10.79 263 P Pn 14 56 23.2 -0.8
CNOP Candoni, Negro 10.99 172⇑eP Pn 14 56 28.8 +2.1
MSLP Maasin 11.18 161⇓eP Pn 14 56 38.7 +9.4
PPR Puerto Princes 11.20 192⇑iP Pn 14 56 28.8 -0.8
TBP Tagbilaran 11.34 166 eP Pn 14 56 33.1 +1.6
SNPH Sibulan 11.55 170 eP Pn 14 56 36.9 +2.4
JSU Suzuyama 13.54 36 Pn Pn 14 57 04.0 +2.4
ENH Enshi 14.14 314 Pn Pn 14 57 10.9 +1.2
KCP Kidapawan 14.22 164⇓eP P 14 57 15.8 -2.0
DAV Davao City (W) 14.29 162 LR LR 15 02 40.4
comp=Z,836nm,20.3s,baz=340,slow=37
GYA Guiyang 14.43 296 ⇑P Pn 14 57 11.5 -2.3
GYA pmax pmax
comp=Z,26nm,1.3s
DLV T Lat 15.00 236 Pn Pn 14 57 20.7 -0.9
DLV T Lat 15.00 236 P Pn 14 57 20.0 -1.6
JNU Nakatsue 15.02 33 LR LR 15 03 40.5
comp=Z,458nm,19.1s,baz=210,slow=39
LYN LuoYang 15.71 333 ⇑P P 14 57 35.5 +1.3
LYN pmax pmax
comp=Z,40nm,0.9s
LYN LR LR
comp=N,1μm,13.1s
LYN LR LR
comp=E,450nm,10.8s
LYN LR LR
comp=Z,1μm,12.6s
MYLDM Lahad Datu 15.73 190 P Pn 14 57 32.6 +1.7
TIA Tai'an 15.77 348 eP Pn 14 57 29.3 -2.0
TIA pmax pmax
comp=Z,35nm,0.9s
TIA LR LR
comp=Z,840nm,17.7s
TIA LR LR
comp=Z,1μm,20.6s
TIA LR LR
comp=Z,1μm,21.6s
UBPT Khong Chiam 15.89 252 P Pn 14 57 34.4 +1.4
XAN Xi'an 17.07 323 ⇑P Pn 14 57 47.0 -0.9
XAN pP pP 14 57 56.5 -1.8
XAN sP sP 14 58 00.3 -2.4
XAN pmax pmax
comp=Z,17nm,1.3s
XAN LR LR
comp=Z,2μm,16.2s
XAN LR LR
comp=Z,2μm,15.2s
XAN LR LR
comp=Z,2μm,14.9s
HNS HongShan 17.48 343 ⇓P P 14 57 54.3 +0.6
HNS eS Sn 15 01 05.3 -1.0
HNS pmax pmax
comp=Z,120nm,1.1s
HNS LR LR
comp=Z,540nm,16.1s
HNS LR LR
comp=Z,1μm,18.1s
HNS LR LR
comp=Z,1μm,18.0s
KSRS Korea Array 17.62 18 P P 14 57 54.0 -1.3
comp=Z,0.3nm,0.3s,baz=197,slow=11,SNR=15
JHS Saijyo 17.64 34 P P 14 57 55.3 -0.4
KS19 Wonju Array Si 17.64 18 P P 14 57 55.1 -0.5
KS19 IAmb IAmb 14 57 59.6
comp=Z,136nm,1.9s
CD2 Chengdu 18.60 306 P P 14 58 05.5 -0.8
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 LR LR
comp=Z,1μm,13.1s
CD2 LR LR
comp=Z,1μm,15.5s
PZH PanZhiHua 18.67 291 P Pn 14 58 07.8 +0.1
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,90nm,6.5s
PZH LR LR
comp=Z,2μm,15.1s
PZH LR LR
comp=Z,860nm,14.7s
PZH LR LR
comp=Z,990nm,15.1s
TOLI2 Tolitoli 19.56 181 P Pn 14 58 18.5 +0.2
BJT Baijiatuau 19.64 349 P Pn 14 58 17.7 -1.4
BJT IAmb IAmb 14 58 18.9
comp=Z,36nm,0.9s
GTOI Gorontalo 20.11 175 P P 14 58 22.3 -0.5
comp=Z,300nmcomp=Z,33nm,0.7s
INU Inuyama 20.11 41 Pn 14 58 24.1 -0.7
INU IAmb IAmb 14 58 38.9
comp=Z,39nm,0.8s
MRSI Marisa 20.20 178 P P 14 58 25.2 +1.4
comp=Z,1μmcomp=Z,116nm,0.8s
SBUM Sibu 20.20 207 P 14 58 23.7 -0.1
SBUM IAmb IAmb 14 58 25.5
comp=Z,83nm,1.3s
MPSI Mapaga 20.36 184 P P 14 58 26.5 +1.0
comp=Z,461nmcomp=Z,30nm,0.8s
JGF Kuroka 20.49 41 P Pn 14 58 27.8 -1.4
JGF IAmb IAmb 14 59 03.4
comp=Z,25nm,0.9s
CHTO Chiang Mai 20.99 268 P P 14 58 32.4 0.0
CM31 Chiang Mai Arr 21.05 268 P P 14 58 32.3 -0.7
CMAR Chiang Mai Arr 21.05 268 P P 14 58 33.8 +0.7
comp=Z,6.9nm,0.9s,baz=74,slow=9.3,SNR=38
CMAR LR LR 15 07 53.1
comp=Z,472nm,18.6s,baz=100,slow=40
CMAR Chiang Mai Arr 21.05 268 P P 14 58 32.5 -0.5
SMKI Samarinda 21.45 191 P P 14 58 36.9 -0.4
comp=Z,200nm,1.0s

LZH Lanzhou 21.49 319 ⇑P P 14 58 38.8 +1.0
LZH sP sP 14 58 50.0 -1.1
LZH pmax pmax
comp=Z,13nm,1.5s
LZH pmax pmax
comp=Z,210nm,4.9s
LZH LR LR
comp=Z,1μm,15.7s
LZH LR LR
comp=Z,740nm,14.1s
LZH LR LR
comp=Z,1μm,14.6s
APSI Ampana 21.57 179 P P 14 58 39.4 +0.8
comp=Z,1μmcomp=Z,144nm,1.2s
MAJO Matsushiro 21.63 40 P P 14 58 39.5 +0.4
MJB9 Matsu-Tunnel 21.63 40 P P 14 58 39.6 +0.5
MJB9 IAmb IAmb 14 59 11.4
comp=Z,28nm,1.1s
MJAR Matsushiro Arr 21.63 40 P P 14 58 38.6 -0.5
comp=Z,2.0nm,0.7s,baz=234,slow=11,SNR=3.9
MJAR Matsushiro Arr 21.63 40 P P 14 58 39.6 +0.5
LUWI Luwuk 21.75 176 P P 14 58 40.8 +0.3
comp=Z,3μmcomp=Z,306nm,1.0s
LUWI pP pP 14 58 46.3 -2.7
comp=Z,3μmcomp=Z,306nm,1.0s
LUWI Luwuk 21.75 176 P P 14 58 42.1 +1.6
BTO Baotou 21.92 337 eP P 14 58 43.3 +1.1
KSM Kuching 21.93 210 P P 14 58 41.1 -1.3
KSM IAmb IAmb 14 58 56.3
comp=Z,30nm,0.8s
KSM Kuching 21.93 210 P P 14 58 43.6 +1.2
comp=Z,45nm,1.1s
LBMI Labuha 22.18 163 P P 14 58 44.9 -0.2
comp=Z,592nmcomp=Z,65nm,0.9s
MTKI Muara Teweh, K 22.45 197 P P 14 58 48.6 +0.6
comp=Z,64nm,0.8s
STKI Sintang 22.67 206 P P 14 58 49.7 -0.6
comp=Z,44nm,0.9s
SANI Sanana 23.18 168 P P 14 58 55.3 -0.3
comp=Z,63nm,0.9s
SANI Sanana 23.18 168 P P 14 58 56.0 +0.4
XLT XiLinHaoTe 23.43 351 eP P 14 58 56.5 -1.5
XLT pmax pmax
comp=Z,43nm,1.4s
XLT pmax pmax
comp=Z,400nm,4.4s
SWI Sorong 23.68 154 P P 14 58 59.2 -1.3
comp=Z,493nmcomp=Z,28nm,0.9s
SIJI Sorong 23.69 154 P P 14 58 59.4 -1.2
comp=Z,15nm,0.6s,baz=1.8,slow=12,SNR=12
TTSI Tana Toraja 23.72 183 P P 14 59 01.6 +0.8
comp=Z,47nm,0.8s
GUMO Guam 23.74 104 P P 14 59 01.4 +0.4
comp=Z,42nm,0.7s,baz=24,slow=4.2,SNR=3.6
GUMO LR LR 15 06 46.6
comp=Z,150nm,20.7s,baz=236,slow=33
SRIT Nakonsritamara 24.08 243 P P 14 59 04.2 0.0
SPSI Sidrap Palu 24.64 183 P P 14 59 09.1 -0.2
comp=Z,896nmcomp=Z,65nm,0.9s
MDJ Mudanjiang 24.77 14 P P 14 59 11.7 +1.4
MDJ IAmb IAmb 14 59 21.5
comp=Z,16nm,1.1s
MDJ Mudanjiang 24.77 14 P P 14 59 12.0 +1.7
MDJ pmax pmax
comp=Z,8.0nm,0.8s
MDJ pmax pmax
comp=Z,260nm,4.9s
BBKI Banjar Baru 24.88 195 P P 14 59 12.8 +1.3
comp=Z,102nm,1.0s
USRK Uruisyk Ar. 25.02 19 P P 14 59 12.4 -0.1
comp=Z,2.2nm,0.7s,baz=201,slow=7.7,SNR=4.1
USRK LR LR 15 10 53.1
comp=Z,286nm,18.8s,baz=194,slow=41
BNSI Bone 25.05 182 P P 14 59 14.4 +1.4
comp=Z,1μmcomp=Z,62nm,0.9s
MSAI Masohi 25.17 161 P P 14 59 15.1 +1.0
comp=Z,408nmcomp=Z,18nm,0.5s
KULM Kulim 25.18 235 P P 14 59 14.2 0.0
KULM IAmb IAmb 14 59 59.2
comp=Z,20nm,1.2s
AAI Ambon 25.28 163 P P 14 59 15.4 +0.3
comp=Z,1μmcomp=Z,78nm,0.8s
MYKOM Kota Tinggi 25.33 224 P P 14 59 14.8 -0.8
MYKOM IAmb IAmb 14 59 17.4
comp=Z,27nm,0.8s
IPM Ipoh 25.41 233 P P 14 59 14.5 -1.9
IPM Ipoh 25.41 233 P P 14 59 15.7 -0.7
KAPI Kappang 25.68 183 P P 14 59 18.9 +0.2
comp=Z,50nm,0.7s,baz=355,slow=6.2,SNR=14
KAPI LR LR 15 10 32.0
comp=Z,317nm,19.9s,baz=1.0,slow=39
BKSI Bulukumba 25.97 182 P P 14 59 21.1 -0.2
comp=Z,37nm,0.9s
GTA Gaotai 26.07 320 ⇑P P 14 59 22.3 0.0
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,170nm,5.6s
GTA LR LR
comp=Z,620nm,16.0s
GTA LR LR
comp=Z,610nm,16.0s
GTA LR LR
comp=Z,580nm,16.0s
BBSI Bau Bau 26.15 177 P P 14 59 24.1 +1.1
comp=Z,74nmcomp=Z,9.5nm,0.9s
DSRI Dabo 26.64 220 P P 14 59 28.7 +1.2
comp=Z,17nm,1.1s
BSSI Bau Bau, Buton 26.77 181 P P 14 59 29.1 +0.5
comp=Z,19nm,1.2s
TPI Tanjungpandan 26.88 211 P P 14 59 31.0 +1.4
comp=Z,6.4nm,1.0s
PPBI Pangkal Pinang 27.14 215 P P 14 59 31.3 -0.7
GOMU GeErMu 27.66 309 P P 14 59 37.8 +0.9
GOMU sP pP 14 59 42.5 -4.3
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU LR LR
comp=Z,530nm,17.1s
GOMU LR LR
comp=Z,510nm,16.2s
GOMU LR LR
comp=Z,710nm,15.8s
PSI Prapat 28.09 233 P P 14 59 40.3 -0.3
comp=Z,9.8nm,0.8s,baz=18,slow=4.0,SNR=20
PSI LR LR 15 11 06.8
comp=Z,370nm,18.6s,baz=42,slow=37
RPSI Rantau Prapat 28.16 233 P P 14 59 40.3 -0.8
HIA Hailar 28.44 358 P P 14 59 43.8 +0.5
HIA IAmb IAmb 14 59 45.5
comp=Z,12nm,1.0s
LSA Lhasa 28.49 294 P P 14 59 45.6 +1.1
LSA IAmb IAmb 15 00 02.5
comp=Z,11nm,0.9s
MNSI Mandailing Nat 28.97 229 P P 14 59 48.1 -0.2
comp=Z,32nm,0.4s
MMRI Maumere 29.26 178 P P 14 59 51.4 +0.6
comp=Z,66nm,1.5s
PPI Pangkalpinang 29.30 226 P P 14 59 51.5 +0.3
comp=Z,340nmcomp=Z,18nm,1.1s
ASAJ Asahikawa 29.30 33 P P 14 59 51.9 +0.9
comp=Z,1.9nm,0.6s,baz=197,slow=8.7,SNR=7.4
ASAJ LR LR 15 12 25.6
comp=Z,350nm,21.0s,baz=258,slow=38
JKA Kamikawa-asahi 29.30 33 P P 14 59 51.9 +0.9
ULN Ulaanbaatar 29.32 340 P P 14 59 51.9 +0.6
ULN IAmb IAmb 14 59 59.7
comp=Z,8.7nm,0.8s
SONM Songino Array 29.50 340 P P 14 59 53.1 +0.3
comp=Z,7.4nm,0.8s,baz=156,slow=8.9,SNR=15
SONM LR LR 15 13 14.3
comp=Z,766nm,18.0s,baz=175,slow=39
SONM Songino Array 29.50 340 P P 14 59 53.5 +0.7
LEM Lembang 30.50 207 LR LR 15 12 38.4
comp=Z,128nm,18.5s,baz=9.0,slow=37
BATI Baumata 30.90 175 LR LR 15 14 12.2
comp=Z,295nm,19.4s,baz=332,slow=40
BATI Baumata 30.90 175 P P 15 00 05.2 -0.2
comp=Z,56nm,0.7s
WMQ Urumqi 36.05 317 eP P 15 00 49.5 -0.6
WMQ pP pP 15 00 52.5 -7.7
WMQ pmax pmax
comp=Z,55nm,0.7s
WMQ LR LR
comp=Z,470nm,14.1s
WMQ LR LR
comp=Z,230nm,14.7s

MK31 Makanchi Array 40.81 319 P P 15 01 30.2 +0.3
MKAR Makanchi Array 40.81 319 P P 15 01 30.3 +0.4
comp=Z,4.3nm,0.8s,baz=113,slow=10,SNR=53
MKAR Makanchi Array 40.81 319 P P 15 01 29.9 0.0
MAKZ Makanchi 41.01 319 P P 15 01 31.7 +0.1
PSA00 Pilbara Seismi 42.12 182 P P 15 01 39.8 -1.1
PSA00 IAmb IAmb 15 01 47.3
comp=Z,18nm,0.9s
WB0 Warramunga Arr 42.34 161 P P 15 01 41.1 -1.6
WRA Warramunga Arr 42.49 161 P P 15 01 42.1 -1.7
comp=Z,16nm,0.6s,baz=343,slow=9.1,SNR=110
WRA PcP PcP 15 03 36.0 -0.3
comp=Z,2.3nm,0.7s,baz=338,slow=3.5,SNR=3.1
WRA S S 15 07 58.7 -5.0
comp=Z,4.5nm,1.0s,baz=347,slow=15,SNR=14
WRA Warramunga Arr 42.49 161 P P 15 01 42.3 -1.6
KDJ Kajisay 42.55 310 P P 15 01 46.3 +1.8
PETK Petropavlovsk- 42.72 32 P P 15 01 45.4 0.0
comp=Z,1.2nm,0.7s,baz=208,slow=5.9,SNR=2.0
KSH Kashi 42.80 306 P P 15 01 50.8 +4.3
KSH sP sP 15 02 01.5 +1.1
KSH pmax pmax
comp=Z,4.0nm,0.6s
H11N1 WAKE ISLAND Hy 42.81 83 T T 15 47 12.7
baz=282,slow=74
H11N2 WAKE ISLAND Hy 42.81 83 T T 15 47 12.2
baz=282,slow=74
H11N3 WAKE ISLAND Hy 42.83 83 T T 15 47 49.8
baz=282
H11S3 WAKE ISLAND Hy 42.84 85 T T 15 47 40.6
baz=281,slow=74,SNR=25
H11S1 WAKE ISLAND Hy 42.84 85 T T 15 47 49.8
baz=281,slow=74,SNR=19
H11S2 WAKE ISLAND Hy 42.85 85 T T 15 47 56.7
baz=281,slow=74,SNR=18
ZAA0 Zalesovo Array 43.10 329 P P 15 01 48.0 -0.6
ZAA0 IAmb IAmb 15 02 05.2
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 43.10 329 P P 15 01 48.2 -0.3
comp=Z,1.2nm,0.4s,baz=126,slow=7.1,SNR=6.8
ZALV Zalesovo Beam 43.10 329 P P 15 01 48.0 -0.6
MA2 Magadan 44.13 21 P P 15 01 59.9 +3.2
comp=Z,1.4nm,0.4s,baz=262,slow=5.7,SNR=4.1
AAK Ala-Archa 44.60 310 P P 15 02 02.0 +1.0
comp=Z,1.4nm,0.7s,baz=180,slow=4.7,SNR=6.1
AAK Ala-Archa 44.60 310 P P 15 02 01.6 +0.6
KURK Kurchatov 44.71 322 P P 15 02 01.4 -0.1
KURBB Kurchatov Arra 44.72 322 P P 15 02 02.0 +0.5
comp=Z,4.2nm,0.8s,baz=123,slow=7.4,SNR=25
ASAR Alice Springs 45.90 164 P P 15 02 10.8 -0.4
comp=Z,10nm,0.4s,baz=346,slow=6.8,SNR=361
ASAR ScP ScP 15 07 39.6 +1.2
comp=Z,0.6nm,0.8s,baz=345,slow=3.3,SNR=4.0
ASAR S S 15 08 53.8 +0.4
comp=Z,2.5nm,0.9s,baz=348,slow=18,SNR=13
ASAR Alice Springs 45.90 164 P P 15 02 10.6 -0.6
BTK Batken 46.80 306 P P 15 02 19.3 +1.0
BTK IAmb IAmb 15 02 39.5
comp=Z,8.5nm,1.1s
GAR Garm 47.04 304 P P 15 02 20.3 +0.1
KK31 Karatay Array 47.56 310 P P 15 02 25.0 +0.9
KK31 IAmb IAmb 15 02 42.6
comp=Z,5.5nm,0.9s
KKAR Karatay Array 47.56 310 P P 15 02 24.9 +0.8
KBL Kabul 47.67 298 P P 15 02 26.1 +0.9
NRIK Noril'sk 52.67 346 P P 15 03 02.4 0.0
comp=Z,7.5nm,0.7s,baz=129,slow=6.7,SNR=11
NRIK Noril'sk 52.67 346 P P 15 03 02.2 -0.1
ABKAR Akbulak array 55.82 316 P P 15 03 25.9 +0.3
ABKAR Akbulak array 55.82 316 P P 15 03 25.5 -0.1
ABKAR IAmb IAmb 15 03 38.9
comp=Z,4.7nm,1.0s
STKA Stephens Creek 55.91 159 P P 15 03 25.7 -0.7
comp=Z,7.2nm,0.8s,baz=331,slow=7.5,SNR=11
GEYT Alibeck 56.54 302 P P 15 03 31.6 +0.6
comp=Z,1.6nm,0.4s,baz=142,slow=10,SNR=2.1
AKTO Aktyubinsk 57.21 317 P P 15 03 39.2 +3.7
comp=Z,1.0nm,0.6s,baz=110,slow=11,SNR=2.1
ARU Arti 57.82 324 P P 15 03 40.8 +1.1
comp=Z,0.7nm,0.4s,baz=101,slow=2.2,SNR=1.5
KIRV Kirov 62.99 326 P P 15 04 16.9 +2.0
comp=Z,6.1nm,0.5s,baz=49,slow=3.4,SNR=3.7
KBZ Khabaz 67.60 310 P P 15 04 45.9 +0.9
comp=Z,2.1nm,0.7s,baz=114,slow=7.2,SNR=4.3
KLMR Klimovskoe 68.02 329 eP P 15 04 51.7 +4.3
KLMR AMP 15 04 57.2
comp=Z,16nm,1.4s
TTA Tatalina 68.46 29 P P 15 04 50.6 +0.4
TTA IAmb IAmb 15 05 14.4
comp=Z,16nm,1.5s
SVW2 Sparrevohn 68.79 31 P P 15 04 52.9 +0.6
L19K White Mountain 69.05 30 P P 15 04 55.7 +1.9
J20K Nowinta River 69.20 28 P P 15 04 55.8 +1.1
J20K IAmb IAmb 15 05 23.6
comp=Z,7.4nm,0.9s
IMAR Indian Mountai 69.23 26 P P 15 04 56.5 +1.7
H21K Melozitna Rive 69.64 26 P P 15 04 58.1 +0.7
TOLK Toolik Lake Re 70.57 23 P P 15 05 04.3 +1.2
TOLK IAmb IAmb 15 05 16.8
comp=Z,8.1nm,0.9s
H23K Yukon River 70.96 26 P P 15 05 07.0 +1.5
H23K IAmb IAmb 15 05 19.9
comp=Z,8.8nm,0.8s
ILAR Eielson Array 72.23 27 P P 15 05 12.3 -0.9
comp=Z,0.5nm,0.6s,baz=276,slow=5.0,SNR=7.9
BMAR Burnt Mountain 72.62 24 P P 15 05 16.3 +0.8
ARCES ARCESS Array B 72.67 338 P P 15 05 16.8 +1.1
comp=Z,4.5nm,0.8s,baz=71,slow=6.8,SNR=3.1
FINES FINESS Array B 74.36 330 P P 15 05 26.8 +1.1
comp=Z,1.2nm,0.7s,baz=83,slow=4.5,SNR=1.6
K27K Chicken 74.44 27 P P 15 05 27.4 +1.2
K27K IAmb IAmb 15 05 32.0
comp=Z,18nm,1.4s
M26K Nabesna, AK 74.46 29 P P 15 05 27.2 +0.8
M26K IAmb IAmb 15 06 05.9
comp=Z,18nm,1.4s
BCAR Beaver Creek A 74.82 28 P P 15 05 30.2 +1.7
AKASG Malin Array Be 75.39 319 P P 15 05 33.7 +1.8
comp=Z,0.2nm,0.3s,baz=63,slow=7.0,SNR=4.3
NACGM Naroch 75.71 324 eP P 15 05 21.7 -12
INK Inuvik 76.37 22 P P 15 05 37.9 +0.7
comp=Z,1.8nm,1.0s,baz=313,slow=4.8,SNR=3.7
INK Inuvik 76.37 22 IAmb IAmb 15 05 50.0
comp=Z,6.7nm,1.1s
NOA NORSAR Array B 81.20 332 P P 15 06 04.5 +0.6
comp=Z,0.5nm,0.7s,baz=83,slow=5.1,SNR=2.3
KMBO Kilima Mbogo 84.70 267 P P 15 06 23.6 +0.4
comp=Z,0.7nm,0.3s,baz=16,slow=3.5,SNR=3.7
CLL Collm 84.74 323 *i* P P 15 06 23.9 +1.6
CLL *es*P pP 15 06 30.0 -2.6
GERES GERESS Array B 85.44 321 P P 15 06 26.4 +0.4
comp=Z,0.4nm,0.5s,baz=71,slow=5.3,SNR=4.6
YKA Yellowknife Ar 86.10 23 P P 15 06 28.6 -0.3
comp=Z,0.9nm,0.6s,baz=311,slow=4.7,SNR=20
YKA PKKPbc PKKPbc 15 24 26.2 -3.3
comp=Z,0.2nm,0.5s,baz=133,slow=2.4,SNR=5.2
VNDA Vanda 100.96 172 P Pdif 15 07 36.7 -0.2
comp=Z,1.0nm,0.9s,baz=297,slow=5.9,SNR=6.5
TXAR Lajitas Array 114.05 42 PKP PKPdf 15 12 27.6 -0.5
comp=Z,0.1nm,0.5s,baz=326,slow=0.7,SNR=1.8
SDV Santo Domingo 148.31 23 PKPbc **PKPbc** 15 13 34.5 -1.0
comp=Z,3.6nm,0.9s,baz=350,slow=3.8,SNR=1.1
SIV San Ignacio 174.78 24 PKP **PKPdf** 15 13 58.8 -0.1
comp=Z,1.6nm,0.8s,baz=34,slow=7.6,SNR=4.0

IDC ***27*** *15:12:52.7±1.6, 14°.85S×54°.26W, h0km, mb3.4/1, mb1 3.7/5, mb1mx3.5/40, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=37.7km s-min=19.7km az=165.0*
VAO ***27*** *15:12:53.8±0.2, 14°.84S×54°.18W, h0km, mbR3.7*
ISC 27 15:12:54.1±0.7, 14°.88S±0°.06×54°.18W±0°.05, h10km, n24, σ1°.09/27, Brazil

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SALV	**Santo Antonio**	**1.78**	**235**	*eP*		**Pb**	**15 13 26.9**	**0.0**
SALV				*eS*		**Sb**	**15 13 49.8**	**+0.5**
PP1B	**Ponte de Pedra**	**2.79**	**194**	*eP*		**Pn**	**15 13 40.6**	**+1.6**
SNDB	**Serra Nova Dou**	**4.03**	**45**	*eP*		**Pn**	**15 13 57.1**	**+1.2**
PDRB	**Porto dos Gac**	**4.08**	**322**	*eP*		**Pn**	**15 13 57.4**	**+0.7**
CLDB	**Colider**	**4.28**	**338**	*eS*		**Sn**	**15 14 49.8**	**+0.3**
PTLB	**Pontes e Lacer**	**4.82**	**263**	*eP*		**Pn**	**15 14 08.3**	**+1.5**
AQDB	**Aquidauana**	**5.75**	**194**	*eP*		**Pn**	**15 14 20.9**	**+1.2**
BDFB	**Brasilia**	**6.00**	**98**	Pn		**Pn**	**15 14 24.9**	**+1.7**
	0.3nm,0.3s,baz=303,slow=17,SNR=1.2							

BDFB			Sn	**Sn**	**15 15 30.5**	**-1.6**
	2.9nm,0.3s,baz=82,slow=16,SNR=5.9						
BDFB			Lg	Lg	15 15 58.4		
	4.1nm,0.3s,baz=158,slow=22,SNR=5.6						
PEXB	**Peixe**	**6.35**	**65** *eP*	**Pn**	**15 14 28.7**	**+0.8**
IPMB	**Ipameri, GO**	**6.51**	**119** *eP*	**Pn**	**15 14 31.2**	**+1.1**
SIV	**San Ignacio**	**6.74**	**260** Pn	**Pn**	**15 14 33.0**	**-0.3**
	2.8nm,0.3s,baz=81,slow=13,SNR=17						
SIV			Sn	**Sn**	**15 15 48.7**	**-1.4**
	4.5nm,0.3s,baz=327,slow=13,SNR=6.1						
SIV			Lg	Lg	15 16 17.5		
	4.2nm,0.3s,baz=155,slow=23,SNR=4.5						
PCMB	**Pacaembu**	**7.25**	**158** *eP*	**Pn**	**15 14 40.6**	**+0.4**
TRCB	**Terra Rica**	**8.01**	**170** *eP*	**Pn**	**15 14 51.9**	**+1.1**
BB19B	**Bebedouro**	**8.17**	**140** *eP*	**Pn**	**15 14 53.9**	**+0.9**
SMTB	**Santa Maria do**	**8.79**	**48** *eP*	**Pn**	**15 15 02.5**	**+1.0**
SDBA	**SAO DESIDERIO**	**9.35**	**76** *eP*	**Pn**	**15 15 10.0**	**+0.9**
FRTB	**Fartura**	**9.48**	**153** *eP*	**Pn**	**15 15 10.3**	**-0.7**
JANB	**Januaria**	**9.54**	**92** *eP*	**Pn**	**15 15 12.6**	**+0.9**
ITTB	**Itaituba**	**10.55**	**352** *eP*	**Pn**	**15 15 24.2**	**-1.4**
DIAM	**Diamantina, MG**	**10.63**	**110** *eP*	**Pn**	**15 15 27.7**	**+0.9**
CPUP	**Villa Florida**	**11.77**	**194** Pn	**Pn**	**15 15 42.1**	**0.0**
	0.3nm,0.3s,baz=15,slow=9.6,SNR=5.5						
CPUP			Sn	Sn	15 17 43.8	-10	
	0.1nm,0.3s,baz=11,slow=18,SNR=1.4						
CPUP			Lg	Lg	15 19 06.4		
	0.1nm,0.3s,baz=165,slow=19,SNR=1.8						
LPAZ	**La Paz**	**13.51**	**262** Pn	**Pn**	**15 16 05.5**	**-1.2**
	0.1nm,0.3s,baz=90,slow=9.1,SNR=1.2						
LPAZ			Sn	**Sn**	**15 18 38.2**	**+0.9**
	0.2nm,0.3s,baz=206,slow=22,SNR=1.6						
LPAZ			Lg	Lg	15 20 00.5		
	0.1nm,0.3s,baz=342,slow=25,SNR=2.5						
TORD	**Torodi Ar. Bea**	**61.92**	**66** P	**P**	**15 23 14.9**	**+0.4**
	0.2nm,0.3s,baz=256,slow=5.8,SNR=1.7						
WRA	**Warramunga Arr**	**144.40**	**194** PKP	PKPbc	15 32 30.2	+0.3	
	0.3nm,0.6s,baz=160,slow=2.9,SNR=6.1						

IDC ***27*** *15:17:12.2±0.3,24˚.26N×121˚.89E,h0km,mb5.0/49, mb1 5.0/53,mb1mx4.9/60,mbtmp5.0/53,ML4.1/4,MS5.1/87, Ms1 5.1/87,ms1mx5.1/95,Error ellipse: s-maj=10.6km s-min=8.9km az=56.0*

JMA ***27*** *15:17:13.8±0.1,24˚.13N×121˚.68E,h23km±1km,M5.9*

NIED ***27*** *15:17:13.9,24˚.13N×121˚.68E,h23km,MW5.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr-0.06; Mθθ-0.81; Mφφ0.87; Mrθ0.70; Mθφ0.02; Mφr0.26; Fault plane solution: M₀1.10000×10¹⁷ NP1: φs321.00000°,δ53.00000°,λ-170.00000°. NP2: φs225.00000°,δ82.00000°,λ-37.00000°.*

NEIC ***27*** *15:17:13.9,24˚.19N×121˚.81E,h11km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.03; Mθθ-1.30; Mφφ0.27; Mrθ1.30; Mθφ-0.29; Mφr0.69; Fault plane solution: M₀1.92000×10¹⁷ NP1:φs279.92000°, δ22.45000°,λ123.05000°. NP2:φs64.77000°,δ71.33000°, λ77.30000°. Principal axes: T 1.7930, Plg62.0000°, Azm316.0000°; N 0.2259, Plg12.0000°, Azm69.0000°; P -2.0189, Plg25.0000°, Azm165.0000°;*

MOS ***27*** *15:17:13.2±1.2,24˚.22N×121˚.83E,h18km,mb5.5/87, MS5.4/35 Error ellipse: s-maj=5.9km s-min=3.6km az=116.5*

NEIC ***27*** *15:17:13.9,24˚.19N×121˚.81E,h14km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.69; Mθθ-1.16; Mφφ0.47; Mrθ1.50; Mθφ-0.03; Mφr0.32; Fault plane solution: M₀1.83000×10¹⁷ NP1:φs76.90000°, δ75.08000°,λ80.02000°. NP2:φs291.25000°,δ17.88000°, λ123.04000°. Principal axes: T 1.5877, Plg59.0000°, Azm333.0000°; N 0.4167, Plg10.0000°, Azm79.0000°; P -2.0044, Plg29.0000°, Azm175.0000°;*

BJI ***27*** *15:17:14.0±0.0,24˚.23N×121˚.71E,h8km,mb5.0/70, mB5.6/66,ML6.0/11,Ms5.9/94,Ms7 5.9/88*

NEIC ***27*** *15:17:14.4±1.7,24˚.23N±0˚.06×121˚.80E±0˚.04,h13km±1km, mb5.3/163,Ms_20 5.4/134,Mwb5.5/21,Mwr5.4/15,Mww5.5, ML5.6(TAP),Error ellipse: s-maj=10.9km s-min=5.5km az=345.0*

TAP ***27*** *15:17:14.4,24˚.24N×121˚.78E,h12km,ML5.7,B*

GCMT ***27*** *15:17:15.4±0.1,24˚.17N±0˚.01×121˚.69E±0˚.01,h17km, MW5.5/133,Moment Tensor Solution. s110,c198; s133,c260; Duration: 1ˢ4 Moment tensor: Scale 10¹⁷ Nm; Mrr1.22±.03; Mθθ-1.55±.03; Mφφ0.32±.02; Mrθ2.02±.10; Mθφ-0.38±.02; Mφr0.42±.07; Best double couple: M₀2.50600×10¹⁷ NP1:φs260.00000°,δ17.00000°, λ92.00000°. NP2:φs78.00000°,δ73.00000°,λ89.00000°. Principal axes: T 2.3040, Plg62.0000°, Azm348.0000°; N 0.3990, Plg0.0000°, Azm78.0000°; P -2.7080, Plg28.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ASIES ***27*** *15:17:15.0,24˚.25N×121˚.81E,h19km,MW5.5*

NEIC ***27*** *15:17:16,24˚.32N×121˚.61E,h16km,Moment Tensor Solution. Duration: 6ˢ0 Moment tensor: Scale 10¹⁷Nm; Mrr1.29; Mθθ-1.22; Mφφ-0.07; Mrθ1.56; Mθφ-0.65; Mφr0.20; Fault plane solution: M₀2.12000×10¹⁷ NP1: φs230.00000°,δ23.00000°,λ63.00000°. NP2:φs79.00000°, δ70.00000°,λ101.00000°. Principal axes: T 2.0437, Plg64.0000°, Azm6.0000°; N 0.1448, Plg10.0000°, Azm255.0000°; P -2.1885, Plg24.0000°, Azm161.0000°;*

ISC 27 15:17:15.0±0.3,24˚.24N±0˚.01×121˚.82E±0˚.01,h15km±1km, h15km:pP-P,n1149,σ1ˢ67/1286,mb5.2/253,MS5.3/185, 91C-168D,Fault plane solution: NP1:φs226.46457°, δ68.90691°,λ-68.49374°. **NP2:**φs358.87085°,δ29.76841°, λ-133.54370°. **Principal axes:** T Plg21.0584°, Azm300.3369°; N Plg20.0012°, Azm38.3934°; P Plg60.2586°, Azm167.9677°; **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**			**0.10**	**314** ⇓ *i* P		**Pg**	**15 17 17.1**	**-1.2**
	baz=335								
EHP					*i* S		**Sg**	**15 17 19.2**	**-1.3**
	baz=335								
ETL	**Fush Village**			**0.20**	**246** ⇑ *i* P		**Pg**	**15 17 18.5**	**-1.1**
	baz=242								
ETL					S		**Sg**	**15 17 21.6**	**-1.1**
	baz=242								
ENA	**Nanau**			**0.20**	**339** ⇓ *i* P		**Pg**	**15 17 18.8**	**-0.9**
	baz=350								
ENA					*e* S		**Sg**	**15 17 22.1**	**-0.7**
	baz=350								
EWUT	**Wuta**			**0.21**	**349** ⇓ *i* P		**Pg**	**15 17 18.9**	**-0.8**
	baz=359								
EWUT					*e* S		**Sg**	**15 17 23.1**	**0.0**
	baz=359								
NACB	**Ninganchiao**			**0.22**	**253** Pg		**Pg**	**15 17 18.0**	**-1.9**
NACB	**Ninganchiao**			**0.22**	**253** ⇓ *i* P		**Pg**	**15 17 18.6**	**-1.3**
	baz=250								
NACB					*e* S		**Sg**	**15 17 21.3**	**-1.9**
	baz=250								
TWD	**Chiawan**			**0.26**	**233** ⇑ *i* P		**Pg**	**15 17 19.4**	**-1.2**
	baz=227								
TWD					*e* S		**Sg**	**15 17 23.5**	**-0.9**
	baz=227								
ETLH	**Xiulin Townshi**			**0.31**	**264** ⇓ *i* P		**Pg**	**15 17 20.3**	**-1.3**
	baz=264								
ETLH					*e* S		**Sg**	**15 17 25.7**	**-0.3**
	baz=264								
HWA	**Hwalien**			**0.33**	**217** *i* P		**Pg**	**15 17 21.2**	**-0.5**
	baz=211								
TWC	**Suao**			**0.37**	**4** ⇓ *i* P		**Pg**	**15 17 22.0**	**-0.5**
	baz=11								
TWC					*i* S		**Sg**	**15 17 27.7**	**0.0**
	baz=11								
LATG	**Datong**			**0.40**	**318** ⇓ *i* P		**Pg**	**15 17 22.3**	**-0.8**
	baz=322								
LATG					*e* S		**Sg**	**15 17 28.1**	**-0.5**
	baz=322								
ETM	**Tongmen**			**0.41**	**228** ⇑ *i* P		**Pg**	**15 17 22.0**	**-1.2**
	baz=225								
ETM					*e* S		**Sg**	**15 17 29.0**	**+0.3**
	baz=225								
NDS	**Dongshan**			**0.41**	**346** ⇓ *i* P		**Pg**	**15 17 22.6**	**-0.6**
	baz=351								
NDS					*i* S		**Sg**	**15 17 28.5**	**-0.3**
	baz=351								
TEYL	**Yanliau Villag**			**0.42**	**209** P		**Pg**	**15 17 22.9**	**-0.5**
	baz=207								
TEYL					*e* S		**Sb**	**15 17 31.4**	**+1.0**
	baz=207								
NNSB	**Datong**			**0.44**	**295** ⇓ *i* P		**Pg**	**15 17 23.1**	**-0.8**
	baz=297								
NNSB					*e* S		**Sg**	**15 17 28.7**	**-1.2**
	baz=297								
NNS	**Nan Shan**			**0.46**	**296** ⇓ *i* P		**Pg**	**15 17 23.2**	**-0.9**
	baz=298								
NNS					*e* S		**Sg**	**15 17 29.8**	**-0.6**
	baz=298								
NDT	**Datong Townshi**			**0.46**	**322** ⇓ *i* P		**Pg**	**15 17 23.6**	**-0.6**
	baz=326								
NDT					*e* S		**Sg**	**15 17 30.2**	**-0.2**
	baz=326								
ENTT	**Nioudou**			**0.46**	**330** ⇓ *i* P		**Pg**	**15 17 23.6**	**-0.6**
	baz=334								
ENTT					*e* S		**Sg**	**15 17 30.7**	**+0.2**
	baz=334								
TWE	**Neicheng**			**0.50**	**344** ⇓ *i* P		**Pg**	**15 17 24.5**	**-0.5**
	baz=349								
TWE					*e* S		**Sg**	**15 17 31.8**	**+0.1**
	baz=349								
WHF	**Hehuan Shan**			**0.52**	**260** ⇓ *i* P		**Pg**	**15 17 24.2**	**-1.2**
	baz=259								
WHF					*e* S		**Sb**	**15 17 33.0**	**-0.5**
	baz=259								
FUSS	**Fushou**			**0.53**	**271** ⇓ *i* P		**Pg**	**15 17 23.5**	**-2.0**
	baz=271								
FUSS					*e* S		**Sg**	**15 17 31.6**	**-1.0**
	baz=271								
ILA	**Ilan**			**0.53**	**353** ⇓ *i* P		**Pg**	**15 17 25.3**	**-0.2**
	baz=357								
ILA					*e* S		**Sg**	**15 17 32.9**	**+0.3**
	baz=357								
ESL	**Shilin**			**0.55**	**220** *eP*		**Pg**	**15 17 24.8**	**-1.1**
	baz=217								
FUSB	**Fushanzhiwuyua**			**0.56**	**338** ⇓ *i* P		**Pg**	**15 17 25.7**	**-0.4**
	baz=341								
FUSB					S		**Sg**	**15 17 33.6**	**0.0**
	baz=341								
TEGC	**Jichi Village**			**0.59**	**206** ⇓ P		**Pg**	**15 17 26.6**	**0.0**
	baz=202								
TWT	**Tachien**			**0.59**	**272** ⇓ P		**Pg**	**15 17 26.2**	**-0.5**
	baz=271								
TWT					*e* S		**Sg**	**15 17 34.5**	**-0.1**
	baz=271								
YHNB	**Yeheng**			**0.59**	**317**		**Pg**	**15 17 25.3**	**-1.3**
YHNB						Sg	**Sg**	**15 17 34.6**	**+0.1**
YHNB	**Yeheng**			**0.59**	**317** P		**Pg**	**15 17 26.5**	**-0.2**
YHNB	**Yeheng**			**0.59**	**317** ⇓ *i* P		**Pg**	**15 17 26.2**	**-0.5**
	baz=319								
YHNB					*e* S		**Sg**	**15 17 34.1**	**-0.4**
	baz=319								
TDCB	**Techi**			**0.61**	**272** ⇓ *e* P		**Pg**	**15 17 26.2**	**-0.8**
	baz=271								
TDCB					*e* S		**Sg**	**15 17 33.8**	**-1.3**
	baz=271								
NSK	**Sanguang**			**0.61**	**316** ⇓ *i* P		**Pg**	**15 17 26.4**	**-0.6**
	baz=319								
NSK					*e* S		**Sg**	**15 17 34.4**	**-0.6**
	baz=319								
NWLT	**Wulai**			**0.61**	**332** ⇓ *i* P		**Pg**	**15 17 26.6**	**-0.5**
	baz=334								
NWLT					*e* S		**Sg**	**15 17 34.9**	**-0.3**
	baz=334								
EGS				**0.61**	**9** ⇓ *i* P		**Pg**	**15 17 26.8**	**-0.2**
	baz=14								
EGS					*e* S		**Sb**	**15 17 35.8**	**-0.1**
	baz=14								
NTC	**Toucheng**			**0.61**	**1** ⇓ *i* P		**Pg**	**15 17 26.6**	**-0.4**
	baz=4.0								
NTC					*e* S		**Sg**	**15 17 34.9**	**-0.3**
	baz=4.0								
CHGB	**Renai**			**0.62**	**253** ⇓ *i* P		**Pg**	**15 17 26.3**	**-0.9**
	baz=252								
CHGB					*e* S		**Sg**	**15 17 35.2**	**-0.2**
	baz=252								
OWD	**Renai**			**0.65**	**245** P		**Pg**	**15 17 26.7**	**-1.2**
	baz=243								
OWD					*e* S		**Sg**	**15 17 36.3**	**-0.2**
	baz=243								
EGFH	**Guangfu**			**0.67**	**213** *eP*		**Pg**	**15 17 27.2**	**-1.0**
	baz=210								
EGFH					*e* S		**Sb**	**15 17 38.7**	**+1.1**
	baz=210								
WUSB	**Renai**			**0.69**	**249** ⇓ *i* P		**Pg**	**15 17 27.6**	**-0.9**
	baz=248								
WUSB					*e* S		**Sb**	**15 17 38.8**	**+0.6**
	baz=248								
TIPB	**Shuangxi**			**0.73**	**0** ⇓ *i* P		**Pg**	**15 17 28.8**	**-0.5**
	baz=3.0								
TIPB					*e* S		**Sg**	**15 17 38.5**	**-0.4**
	baz=3.0								
NFF	**Wufeng Townshi**			**0.75**	**302** P		**Pg**	**15 17 29.2**	**-0.5**
	baz=303								
NFF					*e* S		**Sg**	**15 17 38.5**	**-1.1**
	baz=303								
NHDH	**Xindian Distri**			**0.77**	**340** ⇓ *e* P		**Pg**	**15 17 29.5**	**-0.5**
	baz=342								
NHDH					*e* S		**Sb**	**15 17 40.4**	**0.0**
	baz=342								
TWA	**Mucha**			**0.77**	**344** ⇓ *i* P		**Pg**	**15 17 29.6**	**-0.4**
	baz=347								
TWA					*e* S		**Sb**	**15 17 40.3**	**-0.2**
	baz=347								
TWB1	**Santiao Chiao**			**0.78**	**11** ⇓ P		**Pg**	**15 17 29.6**	**-0.6**
	baz=14								
TWB1					*e* S		**Sb**	**15 17 40.7**	**0.0**
	baz=14								
VWDT	**VWDT**			**0.79**	**232** ⇓ P		**Pg**	**15 17 29.4**	**-0.9**
	baz=231								
VWDT					*e* S		**Sb**	**15 17 41.8**	**+0.9**
	baz=231								
TATO	**Taipei**			**0.79**	**338**		**Pg**	**15 17 30.0**	**-0.4**
TATO						Sg	**Sg**	**15 17 39.7**	**-1.2**
TATO	**Taipei**			**0.79**	**338** ⇓ P		**Pg**	**15 17 30.0**	**-0.4**
	baz=340								
TATO					*e* S		**Sg**	**15 17 40.3**	**-0.6**
	baz=340								
WHP	**Taichung City**			**0.80**	**273** ⇓ *e* P		**Pg**	**15 17 29.9**	**-0.7**
	baz=273								
WHP					*e* S		**Sg**	**15 17 40.2**	**-0.9**
	baz=273								
WPL	**Puli Township**			**0.82**	**254** *eP*		**Pg**	**15 17 30.0**	**-1.0**
	baz=254								
WPL					*e* S		**Sg**	**15 17 40.3**	**-1.4**
	baz=254								
HGSD	**Ruisui**			**0.83**	**206** ⇓ P		**Pg**	**15 17 30.5**	**-0.6**
	baz=204								
HGSD					*e* S		**Sn**	**15 17 48.5**	**+4.3**
	baz=204								
NHY	**Taipei**			**0.83**	**344** *eP*		**Pg**	**15 17 30.9**	**-0.3**
	baz=346								
NWF	**Wu-fen Shan**			**0.83**	**357** ⇓ P		**Pg**	**15 17 30.9**	**-0.2**
	baz=360								
NWF					*e* S		**Sg**	**15 17 41.8**	**-0.3**
	baz=360								
WFSB	**Wu-fen Shan**			**0.83**	**357** ⇓ P		**Pg**	**15 17 31.0**	**-0.2**
	baz=360								
WFSB					*e* S		**Sb**	**15 17 42.2**	**+0.1**
	baz=360								
BACT	**New Taipei Cit**			**0.83**	**336** *eP*		**Pb**	**15 17 31.4**	**+0.2**
	baz=338								
BACT					*e* S		**Sb**	**15 17 42.7**	**+0.5**
	baz=338								
NJD	**Zhudong**			**0.83**	**307** *eP*		**Pb**	**15 17 31.5**	**+0.3**
	baz=308								
NJD					*e* S		**Sb**	**15 17 43.0**	**+0.8**
	baz=308								
LIOB	**Emei**			**0.84**	**299** ⇑ P		**Pg**	**15 17 31.1**	**-0.2**
	baz=300								
LIOB					*e* S		**Sg**	**15 17 42.1**	**-0.2**
	baz=300								
TAP1	**Taipei**			**0.84**	**341** *eP*		**Pg**	**15 17 31.5**	**+0.1**
	baz=343								
DPDB	**Guoxing**			**0.84**	**256** ⇓ P		**Pg**	**15 17 30.6**	**-0.8**
	baz=255								
DPDB					*e* S		**Sg**	**15 17 41.6**	**-0.9**
	baz=255								
NSTT	**Nanjuang**			**0.84**	**298** ⇑ *e* P		**Pb**	**15 17 31.0**	**-0.4**
	baz=299								
NSTT					*e* S		**Sg**	**15 17 41.9**	**-0.6**
	baz=299								
TAP	**Taipei**			**0.85**	**340** *eP*		**Pb**	**15 17 31.2**	**-0.2**
	baz=343								
WCS	**Beigang Elemen**			**0.85**	**258** ⇓ *i* P		**Pb**	**15 17 30.7**	**-0.8**
	baz=257								
WCS					*e* S		**Sg**	**15 17 42.5**	**-0.2**
	baz=257								
SXI1	**Grass Mountain**			**0.85**	**3** ⇓ P		**Pb**	**15 17 31.3**	**-0.3**
	baz=6.0								
SXI1					*e* S		**Sg**	**15 17 42.6**	**-0.3**
	baz=6.0								
EHY	**Hungye**			**0.86**	**212** ⇓ P		**Pb**	**15 17 29.9**	**-1.8**
	baz=210								
NTY	**Taoyuan**			**0.90**	**328** *eP*		**Pn**	**15 17 33.0**	**-0.1**
	baz=330								
NTY					*e* S		**Sg**	**15 17 44.5**	**+0.3**
	baz=330								
HSN1	**Hsinchu**			**0.91**	**306** *eP*		**Pn**	**15 17 33.0**	**-0.3**
	baz=308								
HSN1					*e* S		**Sn**	**15 17 45.4**	**-0.8**
	baz=308								
TNOU	**National Taiwa**			**0.91**	**357** ⇓ *e* P		**Pb**	**15 17 32.3**	**-0.2**
	baz=359								
TNOU					*e* S		**Sb**	**15 17 43.9**	**-0.6**
	baz=359								
SSLB	**Suanglung**			**0.91**	**241**		**Pb**	**15 17 31.2**	**-1.3**
SSLB						Sg	**Sb**	**15 17 43.5**	**-1.0**
SSLB	**Suanglung**			**0.91**	**241** P		**Pb**	**15 17 32.0**	**-0.6**
SSLB	**Suanglung**			**0.91**	**241** ⇓ P		**Pb**	**15 17 31.4**	**-1.1**
	baz=239								
SSLB					*e* S		**Sb**	**15 17 43.6**	**-1.0**
	baz=239								
SMLT	**Sun Moon Lake**			**0.91**	**247** *eP*		**Pb**	**15 17 31.7**	**-0.9**
	baz=246								
SMLT					*e* S		**Sg**	**15 17 44.7**	**0.0**
	baz=246								
NCUH	**Zhongli**			**0.93**	**322** *eP*		**Pb**	**15 17 33.2**	**+0.2**
	baz=323								
NCUH					*e* S		**Sg**	**15 17 45.8**	**+0.5**
	baz=323								
NCU	**National Centr**			**0.93**	**322** *eP*		**Pg**	**15 17 33.1**	**+0.1**
	baz=324								
NCU					*e* S		**Sn**	**15 17 46.4**	**-0.2**
	baz=324								
YM01	**YM01**			**0.93**	**346** ⇓ *e* P		**Pb**	**15 17 32.9**	**-0.1**
	baz=348								
YM01					*e* S		**Sn**	**15 17 46.2**	**-0.6**
	baz=348								
TWS1	**Kuangyinshan**			**0.93**	**337** *eP*		**Pg**	**15 17 33.2**	**+0.1**
	baz=339								
TWS1					*e* S		**Sn**	**15 17 47.1**	**+0.4**
	baz=339								
SBCB	**Hsinchu**			**0.94**	**306** *eP*		**Pn**	**15 17 33.5**	**-0.2**
	baz=307								
SBCB					*e* S		**Sn**	**15 17 46.9**	**0.0**
	baz=307								
TYC	**Yuchr**			**0.94**	**250** ⇓ *e* P		**Pb**	**15 17 32.1**	**-1.0**
	baz=248								
TYC					*e* S		**Sb**	**15 17 44.0**	**-1.3**
	baz=248								
HSN	**Hsinchu**			**0.96**	**306** *eP*		**Pn**	**15 17 33.8**	**-0.2**
	baz=310								
TWQ1	**Liyutan**			**0.96**	**277** *eP*		**Pg**	**15 17 33.6**	**0.0**
	baz=277								
YM08	**YM08**			**0.97**	**347** ⇓ *e* P		**Pb**	**15 17 33.2**	**-0.3**
	baz=349								
YM08					*e* S		**Sb**	**15 17 46.1**	**-0.1**
	baz=349								
YULB	**Yu-li**			**0.97**	**210**		**Pb**	**15 17 31.4**	**-2.1**
YULB						Sg	**Sb**	**15 17 45.9**	**-0.3**
YULB	**Yu-li**			**0.97**	**210** ⇓ *e* P		**Pb**	**15 17 31.4**	**-2.1**
	baz=208								
YULB					*e* S		**Sb**	**15 17 46.2**	**0.0**
	baz=208								
NWRT	**Kuosheng**			**0.97**	**351** *eP*		**Pb**	**15 17 33.6**	**0.0**
	baz=353								
NJN	**Zhunan**			**0.97**	**297** *eP*		**Pn**	**15 17 34.1**	**0.0**
	baz=298								
ECBN	**Changbin**			**0.98**	**200** *eP*		**Pb**	**15 17 32.8**	**-0.9**
	baz=198								
NTST	**Danshui**			**0.98**	**340** *eP*		**Pn**	**15 17 34.2**	**-0.1**
	baz=342								
NTST					*e* S		**Sn**	**15 17 48.5**	**+0.6**
	baz=342								
ANP	**Anpu**			**0.98**	**344** *eP*		**Pb**	**15 17 33.6**	**-0.2**
	baz=346								
ANP					*e* S		**Sn**	**15 17 47.6**	**-0.5**
	baz=346								
NSY	**Sanyi**			**0.98**	**281** *eP*		**Pn**	**15 17 34.4**	**0.0**
	baz=281								
NSY					*e* S		**Sn**	**15 17 47.5**	**-0.5**
	baz=281								
NMLH	**Miaoli**			**0.99**	**288** *eP*		**Pn**	**15 17 34.3**	**-0.1**
	baz=288								
NMLH					*e* S		**Sn**	**15 17 48.4**	**+0.4**
	baz=288								
EYUL	**Yuli**			**1.00**	**208** ⇓ *e* P		**Pb**	**15 17 32.1**	**-1.9**
	baz=206								
EYUL					*e* S		**Sn**	**15 17 49.1**	**+0.7**
	baz=206								
TWF1	**Yuli**			**1.00**	**209** ⇓ *e* P		**Pb**	**15 17 32.0**	**-2.1**
	baz=206								
NHW	**Xinwu Township**			**1.04**	**318** *eP**		**Pb**	**15 17 34.8**	**+0.1**
	baz=319								
NHW					*e* S		**Sn**	**15 17 50.0**	**+0.6**
	baz=319								
WWF	**Wufeng**			**1.04**	**259** *eP*		**Pg**	**15 17 35.8**	**+0.7**
	baz=259								
WWF					*e* S		**Sn**	**15 17 51.8**	**+2.3**
	baz=259								
JYNG	**Yonagunijimaku**			**1.05**	**78** P		**Pg**	**15 17 35.5**	**+0.3**
JYNG						*e* S	**Sn**	**15 17 51.0**	**+1.5**
TCU	**Taichung**			**1.05**	**265** ⇑ *e* P		**Pg**	**15 17 35.9**	**+0.6**
	baz=265								
TCU					*e* S		**Sn**	**15 17 51.2**	**+1.6**
	baz=265								
TWY	**Chenhua**			**1.05**	**349** *eP*		**Pn**	**15 17 35.1**	**-0.1**
	baz=351								
NSM	**Shimen**			**1.07**	**349** *eP*		**Pg**	**15 17 36.2**	**+0.6**
	baz=350								
WDJ	**Dajia District**			**1.08**	**276** ⇑ *e* P		**Pg**	**15 17 36.4**	**+0.5**
	baz=276								
WDJ					*e* S		**Sn**	**15 17 51.4**	**+1.0**
	baz=276								
WJS	**Zhushan**			**1.08**	**248** ⇓ *e* P		**Pg**	**15 17 35.7**	**-0.2**
	baz=247								
WJS					*e* S		**Sn**	**15 17 51.7**	**+1.3**
	baz=247								
YUS	**Yu-Shan**			**1.09**	**227** ⇓ *e* P		**Pb**	**15 17 35.0**	**-0.8**
	baz=225								
WNT1	**Nantou City**			**1.09**	**253** *eP*		**Pg**	**15 17 36.3**	**+0.2**
	baz=252								
WNT1					*e* S		**Sn**	**15 17 52.3**	**+1.6**
	baz=252								
WNT	**Mingjian**			**1.10**	**251** *eP*		**Pg**	**15 17 36.2**	**-0.1**

baz=214
WDLH Douliu 1.29 245 eP Pb 15 17 39.1 0.0
baz=244
EDH Donghe 1.35 201⇓eP Pn 15 17 37.3 -2.0
baz=199
EDH eS Sg 15 17 58.8 +0.3
baz=199
WRL Guolierlin Hig 1.36 256⇓eP Pb 15 17 40.0 -0.2
baz=255
WRL eS Sg 15 17 58.6 -0.4
baz=255
CHN2 Minshiung 1.42 241 eP Pg 15 17 41.7 -0.6
baz=240
CHN2 eS Sg 15 18 02.1 +1.3
baz=240
WTK Tuku 1.42 248⇓eP Pb 15 17 40.8 -0.4
baz=247
WTK eS Sg 15 18 01.4 +0.5
baz=247
CHN4 Tsaushan 1.43 232 eP Pb 15 17 40.9 -0.5
baz=231
STYH Taoyuan 1.43 222⇓eP Pn 15 17 40.0 -0.4
baz=221
STYH eS Sg 15 18 02.2 +1.0
baz=221
TPUB Ta-pu 1.44 230 Pn 15 17 40.7 +0.2
TPUB Ta-pu 1.44 230 P Pg 15 17 42.9 +0.2
TPUB Ta-pu 1.44 230⇓eP Pn 15 17 40.9 +0.3
baz=229
STYT Tauyuan 1.45 223⇓eP Pn 15 17 40.5 -0.2
baz=221
STYT eS Sg 15 18 02.8 +1.1
baz=221
WTCT Ta-ch'eng 1.46 255 eP Pb 15 17 41.6 -0.2
baz=255
LONT Longtian 1.47 206⇓eP Pn 15 17 38.4 -2.6
baz=204
CHY Chiayi 1.48 240 eP Pb 15 17 41.6 -0.6
baz=239
WTP Ta-pu 1.48 228⇓eP Pn 15 17 41.6 +0.4
baz=227
WTP eS Sg 15 18 02.4 -0.5
baz=227
WMLT Mailiao 1.52 254 eP Pb 15 17 43.0 0.0
baz=253
TWK Hsinying 1.56 232⇓eP Pn 15 17 42.8 +0.5
baz=231
TWK eS Sg 15 18 04.7 -0.5
baz=231
TWG Pinlang 1.57 206 Pn 15 17 39.8 -2.6
TWG Pinlang 1.57 206 eP Pn 15 17 39.9 -2.5
baz=205
TWGBT Beinan 1.57 206⇓eP Pn 15 17 39.9 -2.5
baz=205
SNST Tainan City 1.58 230⇓eP Pn 15 17 43.0 +0.4
baz=229
WSF Szhu 1.58 248⇓eP Pb 15 17 43.4 -0.6
baz=247
CHN1 Nanshi 1.58 229⇓eP Pn 15 17 43.1 +0.5
baz=228
CHN1 eS Sg 15 18 08.0 +1.9
baz=228
LDUT Ludao 1.59 192⇓eP Pn 15 17 39.8 -2.9
baz=191
LDUT eS Sn 15 18 01.8 -1.1
baz=191
TTN Taitung 1.60 203 eP Pn 15 17 41.5 -1.4
baz=201
SGST Jiashian 1.62 225⇓eP Pn 15 17 42.7 -0.3
baz=224
SGST eS Sg 15 18 08.3 +1.2
baz=224
WSL Shuilin Townsh 1.62 244⇓eP Pb 15 17 43.8 -0.8
baz=243
WSL eS Sg 15 18 07.2 -0.2
baz=243
SLGT Liugui 1.64 221⇓eP Pb 15 17 44.2 -0.8
baz=220
SLGT eS Sg 15 18 09.2 +1.3
baz=220
ICHU Yijhu 1.66 239⇓eP Pn 15 17 44.2 +0.6
baz=238
ICHU eS Sg 15 18 07.6 -0.9
baz=238
CHN8 Yiju 1.72 239 eP Pn 15 17 45.2 +0.8
baz=238
CHN8 eS Sg 15 18 10.7 +0.2
baz=238
IRIF Iriomote-Funau 1.74 86 P Pn 15 17 45.0 +0.2
IRIF eS Sb 15 18 08.8 +0.3
CHN3 Shinhua 1.77 229 eP Pb 15 17 46.5 -0.6
baz=228
SHHT Tainan City 1.81 228 eP Pb 15 17 47.2 -0.7
baz=227
SCST Cishan 1.82 222 eP Pb 15 17 47.2 -0.8
baz=221
SCST eS Sg 15 18 14.0 +0.6
baz=221
ECL Taimali 1.82 206 eP Pn 15 17 43.4 -2.4
baz=205
HATJ Hateruma jima 1.82 95 P Pn 15 17 46.5 +0.7
SCLT Jiali 1.83 235 eP Pb 15 17 47.2 -1.0
baz=234
SSD Sandimen 1.84 217 eP Pn 15 17 45.4 -0.7
baz=215
SSD eS Sb 15 18 12.8 +1.4
baz=215
TSMG Majia 1.87 216 eP Pn 15 17 45.9 -0.6
baz=214
TSMG eS Sb 15 18 12.2 +0.2
baz=214
TAI1 Yung-k'ang 1.89 231 eP Pb 15 17 48.1 -1.0
baz=230
TWM1 Shoushan 1.91 223⇓eP Pb 15 17 48.8 -0.8
baz=221
SGLT Jiouru 1.94 219 eP Pb 15 17 49.3 -0.8
baz=218
MASBT Mashibuluo 1.95 214⇓eP Pn 15 17 47.0 -0.6
baz=213
MASBT eS Sb 15 18 15.7 +1.2
baz=213
TSPT Pingtung City 1.97 218 eP Pb 15 17 50.0 -0.7
baz=217
JKRS Kuro-shima 2.00 90 P Pn 15 17 49.3 +1.1
EAST Anshuo 2.05 206 eP Pn 15 17 47.0 -2.1
baz=205
TAW Tawu 2.06 205 eP Pn 15 17 47.1 -1.9
baz=203
TAWH Dawu Township 2.08 205 eP Pn 15 17 47.4 -1.9
baz=204
SSPT Xinbi 2.09 214 eP Pn 15 17 50.8 +1.2
baz=213
JIJ Ishigaki jima 2.12 86 P Pn 15 17 50.3 +0.3
JIJ eS Sn 15 18 17.2 +1.1
SCZT Fangliau 2.16 211 eP Pn 15 17 50.2 -0.3
baz=210
PNG Penghu 2.18 253 eP Pn 15 17 50.7 -0.1
baz=252
PNG eS Sb 15 18 19.4 -1.6
baz=252
PHUB P'eng-hu 2.18 251 eP Pn 15 17 50.7 -0.1
baz=250
LAY Lan-yu 2.20 187 eP Pn 15 17 48.3 -2.8
baz=185
LAY eS Sn 15 18 17.1 -1.0
baz=185
WDGT Dungji 2.21 244 eP Pn 15 17 51.6 +0.5
baz=243
WDGT eS Sb 15 18 21.2 -0.6
baz=243
SLIU Shizi 2.22 205⇓eP Pn 15 17 49.8 -1.6
baz=204
LYUB Lan-yu 2.24 186 eP Pn 15 17 48.1 -3.4
baz=185
LYUB eS Sn 15 18 18.1 -0.8
baz=185
JISG Ishigakijimahi 2.30 81 P Pn 15 17 52.6 +0.3
JISG eS Sn 15 18 20.7 +0.3
TWP Hsiaoliuchiu 2.31 216 eP Pn 15 17 54.4 +1.8
baz=215
VCHM Qimei 2.42 245 eP Pn 15 17 53.9 -0.2
baz=245
HEN Hengchun 2.44 204 eP Pn 15 17 55.6 +1.4
baz=203
TWK1 Hengchun 2.47 202 eP Pn 15 17 54.3 -0.4
baz=201
TSEB Hengchuen, Pin 2.48 200 eP Pn 15 17 54.6 -0.2
baz=200

MATB Ma-tsu 2.55 319⇑eP Pn 15 17 54.8 -1.1
baz=318
MSUT Lienchiang 2.58 319 eP Pn 15 17 56.0 -0.3
baz=319
PTMZ Houxiangcun 2.58 289⇑eP Pn 15 17 53.8 -2.6
baz=288
PTMZ eS Sn 15 18 25.3 -2.2
baz=288
JTJ Tarama 2.66 81 P Pn 15 17 58.6 +1.3
LYJJ Jianjiangzhen 2.96 321⇑eP Pn 15 18 00.4 -1.1
baz=322
QZH Quanzhou 3.02 284⇑iPn Pn 15 18 01.5 -0.8
QZH Sn Sn 15 18 35.8 -2.5
XPSS Dashiqiu 3.06 332⇑eP Pn 15 18 01.7 -1.2
baz=332
KNM Kinmen 3.10 274 eP Pn 15 18 04.8 +1.5
baz=273
JIRB Irabujima 3.11 78 P Pn 15 18 05.6 +2.1
MHZQ Yeshan 3.14 307⇑eP Pn 15 18 02.9 -1.0
baz=307
KNMB Chin-men Tao 3.14 275 Pn Pn 15 18 03.0 -0.9
KNMB Sn Sn 15 18 39.9 -1.3
KNMB Chin-men Tao 3.14 275 eP Pn 15 18 03.3 -0.7
baz=274
JIKM Ikemajima 3.19 77 P Pn 15 18 06.7 +2.0
JMJ Miyako jima 2 3.21 79 P Pn 15 18 08.2 +3.2
JMJ2 Miyako jima3 3.23 80 P Pn 15 18 07.7 +2.5
JOGS Gusukube 3.31 80 P Pn 15 18 09.2 +2.9
APYP Conner 6.37 185⇓eP Pn 15 18 48.5 +0.2
APYP eS Sn 15 20 03.8 +2.9
JOW Kunigami 6.38 65 Pn Pn 15 18 48.7 +0.2
13nm,0.3s,baz=182,slow=28,SNR=21
JOW Sn Sn 15 20 01.9 +0.9
baz=177,slow=27,SNR=1.1
JOW Kunigami 6.38 65 Pn Pn 15 18 48.2 -0.2
JOW Kunigami 6.38 65 P Pn 15 18 50.3 +1.8
303nm,1.1s
SSE Sheshan 6.85 355 Pn Pn 15 18 55.5 +0.5
SSE Sn Sn 15 20 17.0 +4.2
HKPS Hong Kong Po S 7.33 256 Pn 15 19 00.3 -1.2
GZH Guangzhou 7.86 263 Pn Pn 15 19 04.0 -4.8
GZH Sn Sn 15 20 31.8 -5.7
GZH smax smax
comp=N,3μm,1.5s
GZH smax smax
comp=E,2μm,1.3s
MCO Taipa Grande 7.89 256 P Pn 15 19 12.0 +2.7
NJ2 Nanjing 8.21 342 eP Pn 15 19 12.5 -1.2
NJ2 S Sn 15 20 45.3 -0.9
NJ2 pmax pmax
comp=Z,120nm,0.7s
NJ2 smax smax
comp=N,2μm,0.9s
NJ2 smax smax
comp=E,3μm,1.1s
NJ2 LR LR
comp=N,84μm,12.0s
NJ2 LR LR
comp=E,42μm,9.8s
NJ2 LR LR
comp=Z,102μm,11.8s
JMZ Minamidaito 2 8.67 78 Pn Pn 15 19 21.5 +1.5
CNSH ChangSha 8.90 298 ⇑P Pn 15 19 19.5 -3.6
CNSH S Sn 15 20 58.8 -4.3
CNSH smax smax
comp=N,4μm,1.0s
CNSH smax smax
comp=E,3μm,0.9s
WHN Wuhan 9.14 315 P Pn 15 19 26.5 +0.2
WHN S Sn 15 21 04.8 -4.2
WHN LR LR
comp=E,209μm,8.7s
WHN LR LR
comp=E,155μm,7.9s
WHN LR LR
comp=E,301μm,9.7s
TGY Tagaytay City 10.12 185 Pn Pn 15 19 40.8 +0.9
comp=E,91nm,0.3s,baz=190,slow=13,SNR=2.0
TGY LR LR 15 23 52.9
comp=E,8μm,21.9s,baz=343,slow=40
GULI GuiLin 10.46 278 P Pn 15 19 46.5 +1.9
GULI S Sn 15 21 43.0 +1.4
GULI pmax pmax
comp=E,30nm,0.8s
GULI LR LR
comp=E,38μm,9.3s
GULI LR LR
comp=E,53μm,9.2s
GULI LR LR
comp=E,61μm,9.2s
JSU Suzuyama 10.52 45 Pn Pn 15 19 49.2 +3.9
PGP Puerto Galera 10.71 185⇑eP Pn 15 19 51.7 +3.7
JNU Nakatsue 11.89 40 Pn Pn 15 20 07.5 +3.4
comp=E,0.1nm,0.3s,baz=201,slow=9.2,SNR=9.3
JNU LR LR 15 25 19.9
comp=E,15μm,18.8s,baz=218,slow=41
JNU Nakatsue 11.89 40 Pn 15 20 07.9 +3.8
JTU Tsushima 12.19 31 Pn Pn 15 20 07.2 -0.9
QIZ Qiongzhong 12.28 247 P Pn 15 20 11.5 +2.0
QIZ S Sn 15 22 28.0 +1.7
QIZ pmax pmax
comp=E,19nm,1.1s
QIZ pmax pmax
comp=E,390nm,3.9s
QIZ LR LR
comp=E,12μm,14.5s
QIZ LR LR
comp=E,8μm,13.5s
QIZ Qiongzhong 12.28 247 P Pn 15 20 12.1 +2.6
ENH Enshi 12.51 301 Pn Pn 15 20 13.6 +1.0
TIA Tai'an 12.60 342 eP Pn 15 20 13.8 0.0
TIA S Sn 15 22 34.8 +0.9
TIA pmax pmax
comp=E,8.0nm,0.6s
TIA LR LR
comp=E,43μm,10.2s
TIA LR LR
comp=E,21μm,10.4s
TIA LR LR
comp=E,67μm,11.2s
TJN Taejon 13.01 20 P Pn 15 20 21.2 +1.9
TJN Taejon 13.01 20 Pn 15 20 21.2 +1.9
TJN Taejon 13.01 20 P Pn 15 20 20.9 +1.6
LYN LuoYang 13.11 324 eP Pn 15 20 21.5 +0.8
LYN PP P 15 20 32.8 +1.9
LYN S Sn 15 22 47.3 +1.0
LYN pmax pmax
comp=E,2μm,10.6s
LYN LR LR
comp=E,114μm,8.8s
LYN LR LR
comp=E,42μm,10.0s
LYN LR LR
comp=E,110μm,9.9s
INCN Inchon 13.83 16 P Pn 15 20 32.4 +1.8
INCN Inchon 13.83 16 Pn Pn 15 20 32.4 +1.8
INCN Inchon 13.83 16 P Pn 15 20 33.6 +3.1
GYA Guiyang 13.88 282⇑iP Pn 15 20 33.5 +2.0
GYA S Sn 15 23 11.0 +5.5
GYA pmax pmax
comp=E,86nm,0.8s
GYA pmax pmax
comp=E,880nm,6.3s
GYA LR LR
comp=E,20μm,11.7s
GYA LR LR
comp=E,36μm,12.9s
GYA LR LR
comp=E,46μm,12.8s
KSAR Wonju Array Be 14.15 20 P Pn 15 20 33.7 -1.2
KSAR Wonju Array Be 14.15 20 Pn Pn 15 20 33.7 -1.2
HJU Haeju 14.16 13 P Pn 15 20 37.0 +2.0
HJU sP P 15 20 45.3 +2.8
HJU S S 15 23 29.1 -3.7
HJU AMS AMS
comp=N,94μm,11.8s
HJU AMS AMS
comp=E,70μm,8.8s
HJU AMS AMS
comp=Z,83μm,10.4s
KSRS Korea Array 14.17 20 Pn Pn 15 20 36.8 +1.6
comp=Z,3.6nm,0.3s,baz=205,slow=14,SNR=50
KSRS Sn Sn 15 23 12.6 +0.4
comp=Z,1.1nm,0.3s,baz=155,slow=17,SNR=1.4
KSRS LR LR 15 26 55.3

comp=Z,9μm,19.8s,baz=205,slow=41
KS19 Wonju Array Si 14.20 20 Pn Pn 15 20 36.2 +0.6
MSLP Maasin 14.32 168⇑eP P 15 20 41.4 -3.1
CNOP Candoni, Negro 14.35 177⇓eP Pn 15 20 37.4 -0.4
HNS HongShan 14.46 337 ⇓P P 15 20 44.3 -1.6
HNS pmax pmax
comp=Z,36nm,1.4s
HNS pmax pmax
comp=Z,3μm,9.1s
HNS LR LR
comp=Z,46μm,12.7s
HNS LR LR
comp=Z,33μm,13.0s
HNS LR LR
comp=Z,57μm,14.1s
JHS Saijyo 14.53 40 Pn 15 20 40.6 +0.4
TBP Tagbilaran 14.60 172⇓eP Pn 15 20 40.0 -1.1
DL2 Dalian 14.62 359⇑iP Pn 15 20 39.5 -1.9
DL2 S Sn 15 23 26.8 +3.6
DL2 pmax pmax
comp=Z,29nm,1.2s
DL2 pmax pmax
comp=Z,2μm,6.9s
DL2 LR LR
comp=Z,29μm,16.6s
DL2 LR LR
comp=Z,9μm,16.1s
DL2 LR LR
comp=Z,51μm,13.7s
PPR Puerto Princes 14.68 192⇑iP P 15 20 46.9 -1.6
SNPH Sibulan 14.87 175 eP P 15 20 48.7 -2.0
XAN Xi'an 14.90 314 ⇑P Pn 15 20 44.3 -0.9
XAN pP P 15 20 48.8 -2.1
XAN sP 15 20 51.3
XAN sS S 15 23 41.0 -7.1
XAN SS SnSn 15 23 53.5 +11
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,1μm,6.8s
XAN LR LR
comp=Z,31μm,8.6s
XAN LR LR
comp=Z,63μm,10.8s
XAN LR LR
comp=Z,92μm,10.5s
PYAG Pyongyang 15.14 12 P Pn 15 20 50.0 +1.6
PYAG sP P 15 20 54.8 +1.4
PYAG S Sn 15 23 40.2 +4.4
PYAG AMS AMS
comp=N,58μm,11.3s
PYAG AMS AMS
comp=E,26μm,5.0s
PYAG AMS AMS
comp=Z,67μm,13.0s
TIY Taiyuan 15.64 331 ⇓P P 15 21 00.0 +0.8
TIY PP pwP 15 21 11.0 +5.8
TIY S Sn 15 23 50.3 +2.1
TIY pmax pmax
comp=Z,22nm,1.0s
TIY pmax pmax
comp=Z,3μm,6.7s
TIY LR LR
comp=Z,40μm,12.7s
TIY LR LR
comp=Z,17μm,13.7s
TIY LR LR
comp=Z,38μm,14.0s
SUJ Sinuiju 15.98 7 P P 15 21 01.6 -1.1
SUJ pP pP 15 21 04.6 -1.7
SUJ S Sn 15 23 59.8 +3.7
SUJ AMS AMS
comp=N,103μm,14.5s
SUJ AMS AMS
comp=E,38μm,5.3s
SUJ AMS AMS
comp=Z,96μm,13.5s
HHU Hamhung 16.37 16 P P 15 21 07.1 0.0
HHU pP pP 15 21 09.8 -0.6
HHU S Sn 15 24 01.1 -4.5
HHU AMS AMS
comp=N,50μm,12.8s
HHU AMS AMS
comp=E,50μm,12.7s
HHU AMS AMS
comp=Z,46μm,11.6s
BJT Baijiatuau 16.44 344 P P 15 21 06.8 -1.1
BJT pmax pmax
comp=Z,73nm,1.2s
BJT Baijiatuau 16.44 344 P P 15 21 06.8 -1.1
BJI Beijing 16.46 345 P Pn 15 21 06.5 +1.1
BJI S Sn 15 24 13.0 +5.2
BJI pmax pmax
comp=Z,21nm,1.6s
BJI pmax pmax
comp=Z,4μm,9.7s
BJI LR LR
comp=Z,28μm,13.6s
BJI LR LR
comp=Z,11μm,12.5s
BJI LR LR
comp=Z,36μm,13.0s
INU Inuyama 17.20 46 P P 15 21 16.9 +0.6
CD2 Chengdu 17.33 297 P P 15 21 18.0 +0.1
CD2 S Sn 15 24 30.0 +0.8
CD2 pmax pmax
comp=Z,80nm,0.8s
CD2 pmax pmax
comp=Z,2μm,10.5s
CD2 LR LR
comp=Z,32μm,12.7s
CD2 LR LR
comp=Z,42μm,12.4s
KMI Kunming 17.37 277 ⇑P P 15 21 18.0 -0.5
KMI sP pP 15 21 20.3 -2.3
KMI PP PnPn 15 21 36.8 +9.5
KMI S S 15 24 36.8 -2.2
KMI SS SnSn 15 24 52.8 +9.0
KMI pmax pmax
comp=Z,17nm,1.5s
KMI pmax pmax
comp=Z,1μm,8.6s
KMI LR LR
comp=Z,7μm,11.7s
KMI LR LR
comp=Z,36μm,9.5s
KMI LR LR
comp=Z,39μm,10.6s
KCP Kidapawan 17.42 169⇑eP Pn 15 21 18.1 +0.4
DAV Davao City (W) 17.45 167 LR LR 15 28 10.1
comp=Z,8μm,19.0s,baz=348,slow=38
DAV Davao City (W) 17.45 167 P Pn 15 21 18.2 +0.2
DAV IAmb IAmb 15 21 44.2
comp=Z,152nm,0.6s
JGF Kuroka 17.57 46 P P 15 21 21.1 +0.6
DLV T Lat 17.59 228 P P 15 21 21.0 0.0
SNY Shenyang 17.60 4 ⇑P P 15 21 22.0 +1.3
SNY pmax pmax
comp=Z,7μm,7.1s
SNY LR LR
comp=Z,59μm,11.5s
SNY LR LR
comp=Z,20μm,10.4s
SNY LR LR
comp=Z,84μm,12.2s
UBPT Khong Chiam 17.77 243 P P 15 21 22.3 -0.4
JHJ Hachijo jima 2 18.05 57 P Pn 15 21 24.8 -0.7
comp=Z,2.5nm,0.3s,baz=160,slow=5.2,SNR=3.0
JHJ LR LR 15 28 18.2
comp=Z,4μm,20.1s,baz=265,slow=37
JHJ2 Mitsune 18.08 57 P Pn 15 21 24.7 -1.0
JHJ2 IAmb IAmb 15 21 40.8
comp=Z,382nm,1.0s
PZH PanZhiHua 18.29 281 P P 15 21 28.5 0.0
PZH sP sP 15 21 34.5 -0.4
PZH PP PnPn 15 21 45.5 +5.7
PZH S Sn 15 24 54.8 +2.3
PZH sS sS 15 25 01.0 -2.6
PZH SS SnSn 15 25 14.8 +8.6
PZH pmax pmax
comp=Z,50nm,1.0s
PZH pmax pmax
comp=Z,2μm,9.5s
PZH LR LR
comp=Z,9μm,9.8s

PZH LR LR
comp=Z,23µm,10.0s
PZH LR LR
comp=Z,24µm,13.1s
JCJ Chichijima 18.57 77 P **P 15 21 30.5 -1.0**
comp=Z,1.7nm,0.3s,baz=267,slow=20,SNR=3.0
JCJ LR LR 15 28 05.3
comp=Z,3µm,20.8s,baz=277,slow=35
JCJ Chichijima 18.57 77 P **P 15 21 28.7 -2.9**
JCJ IAmb IAmb 15 21 37.1
comp=Z,228nm,1.1s
JCJ Chichijima 18.57 77 P **Pn 15 21 34.2 +2.4**
comp=Z,212nm,0.9s
HHC Hu-ho-hao-te 18.66 335 *e*P **Pn 15 21 35.0 +2.1**
HHC S **Sn 15 25 01.5 +0.2**
HHC SS **SnSn 15 25 23.8 +8.4**
HHC pmax pmax
comp=Z,140nm,1.8s
HHC LR LR
comp=Z,33µm,13.6s
HHC LR LR
comp=Z,14µm,12.4s
HHC LR LR
comp=Z,37µm,13.4s
MAJO Matsushiro 18.68 45 P **P 15 21 32.0 -0.7**
MAJO pmax pmax
comp=Z,21nm,0.9s
MAJO Matsushiro 18.68 45 P **P 15 21 32.0 -0.7**
MJB9 Matsu-Tunnel 18.68 45 P **P 15 21 31.1 -1.6**
MJAR Matsushiro Arr 18.68 45 P **P 15 21 31.9 -0.8**
comp=Z,0.1nm,0.3s,baz=224,slow=8.5,SNR=6.3
MJAR LR LR 15 29 30.0
comp=Z,8µm,19.1s,baz=227,slow=40
MJAR Matsushiro Arr 18.68 45 P **P 15 21 31.9 -0.8**
MJAR pmax pmax
comp=Z,16nm,1.2s
MJAR Matsushiro Arr 18.68 45 P **P 15 21 31.9 -0.8**
BTO Baotou 19.09 332 *e*P **Pn 15 21 39.8 +1.8**
BTO LR LR
comp=Z,163µm,12.9s
BTO LR LR
comp=Z,57µm,12.0s
MYLDM Lahad Datu 19.22 190 P **P 15 21 37.9 -0.7**
MYLDM IAmb IAmb 15 22 14.5
comp=Z,411nm,1.6s
LZH Lanzhou 19.48 311 ⇑P **Pn 15 21 43.8 +0.9**
LZH pP sP 15 21 50.8 +2.6
LZH sP pP 15 21 54.8 +8.7
LZH pmax pmax
comp=Z,110nm,1.5s
LZH pmax pmax
comp=Z,3µm,5.4s
LZH LR LR
comp=Z,18µm,9.8s
LZH LR LR
comp=Z,18µm,9.2s
LZH LR LR
comp=Z,34µm,9.2s
JSD Sado 19.64 42 P **P 15 21 40.1 -3.0**
CN2 Changchun 19.74 8 *e*P **P 15 21 44.8 +0.6**
CN2 *e*S **Sn 15 25 27.0 -0.2**
CN2 pmax pmax
comp=Z,2µm,10.0s
CN2 LR LR
comp=Z,41µm,14.0s
CN2 LR LR
comp=Z,11µm,14.0s
CN2 LR LR
comp=Z,40µm,14.4s
JYT Yasato 19.83 49 P **P 15 21 42.2 -3.0**
MSHR Mys Shultsa 19.86 21*c e*P **Pn 15 21 48.0 +0.9**
MSHR pmax pmax
comp=Z,69nm,1.0s
SPMM Sapulut 20.09 196 P Pn 15 21 52.0 +1.9
XLT XiLinHaoTe 20.17 348 *e*P Pn 15 21 50.0 -0.9
XLT pP pP 15 21 53.5 +0.7
XLT sP sP 15 21 57.8 +3.2
XLT PP **PnPn 15 22 06.0 +0.4**
XLT S Sn 15 25 37.5 -0.2
XLT sS sS 15 25 42.0 +0.7
XLT SS **SnSn 15 25 57.0 +4.6**
XLT PcP **PcP 15 26 03.8 +0.4**
XLT pmax pmax
comp=Z,87nm,1.1s
XLT pmax pmax
comp=Z,2µm,5.8s
XLT LR LR
comp=Z,2µm,13.1s
XLT LR LR
comp=Z,14µm,12.6s
XLT LR LR
comp=Z,32µm,12.6s
VLA Vladivostok 20.58 21*c i*P Pn 15 21 55.3 -0.3
VLA pmax pmax
comp=Z,142nm,1.2s
JMM Marumori 21.13 46 P **P 15 21 56.0 -3.3**
JMM IAmb IAmb 15 22 40.5
comp=Z,218nm,2.0s
MDJ Mudanjiang 21.30 15 IAMs_20 IAMs_20 15 31 11.2
comp=Z,12µm,20.0s
MDJ Mudanjiang 21.30 15 P **P 15 22 02.8 +1.8**
MDJ pP pP 15 22 05.0 +0.6
MDJ S **S 15 26 00.3 +3.1**
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,2µm,11.4s
MDJ LR LR
comp=Z,27µm,15.9s
MDJ LR LR
comp=Z,27µm,13.3s
MDJ LR LR
comp=Z,44µm,14.9s
USA0B Ussuriysk Arra 21.58 20 P **P 15 22 02.9 -1.2**
USA0B pmax pmax
comp=Z,33nm,0.8s
USA0B Ussuriysk Arra 21.58 20 P **P 15 22 02.9 -1.2**
USRK Ussuriysk Ar. 21.58 20 P **P 15 22 04.5 +0.4**
comp=Z,17nm,0.9s,baz=206,slow=8.8,SNR=33
USRK LR LR 15 31 08.8
comp=Z,6µm,18.1s,baz=185,slow=39
USRK Ussuriysk Ar. 21.58 20 P **P 15 22 01.3 -2.8**
USRK Ussuriysk Ar. 21.58 20 P **P 15 22 01.3 -2.8**
BNX BinXian 21.92 11 ⇓P **P 15 22 08.5 +0.7**
BNX pP **pP 15 22 11.8 +0.7**
BNX sP **sP 15 22 16.3 +3.6**
BNX PP **PnPn 15 22 34.0 +4.6**
BNX S **S 15 26 05.5 -3.9**
BNX sS **sS 15 26 12.0 -3.7**
BNX pmax pmax
comp=Z,63nm,1.1s
BNX pmax pmax
comp=Z,2µm,7.7s
BNX LR LR
comp=Z,26µm,11.8s
BNX LR LR
comp=Z,25µm,13.5s
BNX LR LR
comp=Z,57µm,12.3s
CHTO Chiang Mai 21.95 260 P **P 15 22 06.8 -1.5**
CHTO pmax pmax
comp=Z,71nm,1.1s
CHTO MLR MLR
comp=Z,6µm,18.0s
CHTO Chiang Mai 21.95 260 P **P 15 22 06.8 -1.5**
CHTO Chiang Mai 21.95 260 P **P 15 22 10.9 +2.6**
CM31 Chiang Mai Arr 22.06 259 P **P 15 22 11.1 +1.6**
CM31 Chiang Mai Arr 22.06 259 P **P 15 22 14.0 +4.5**
SNR=27
CMAR Chiang Mai Arr 22.06 259 P **P 15 22 11.5 +2.0**
comp=Z,26nm,0.9s,baz=60,slow=7.5,SNR=28
CMAR PcP **PcP 15 26 06.8 -0.6**
comp=Z,3.8nm,0.9s,baz=75,slow=0.6,SNR=8.2
CMAR LR LR 15 32 13.9
comp=Z,3µm,20.0s,baz=110,slow=41
CMAR Chiang Mai Arr 22.06 259 *i* P **P 15 22 06.6 -2.9**
CMAR pmax pmax
comp=Z,4.0nm,0.3s
JTM Tenmabayashi 23.06 40 P **P 15 22 15.6 -4.3**
GTOI Gorontalo 23.49 177 P **P 15 22 24.9 +0.5**
comp=Z,4µmcomp=Z,721nmcomp=Z,31nm,1.0s
SBUM Sibu 23.57 205 P **P 15 22 23.5 -1.7**
SBUM IAmb IAmb 15 22 29.0
comp=Z,83nm,1.0s
SBUM Sibu 23.57 205 P **P 15 22 25.0 -0.1**

MRSI Marisa 23.62 180 P **P 15 22 26.3 +0.6**
comp=Z,3µmcomp=Z,1µmcomp=Z,54nm,0.9s
MPSI Mapaga 23.83 185 P **P 15 22 26.8 -0.9**
comp=Z,4µmcomp=Z,940nmcomp=Z,49nm,0.9s
TNTI Ternate 23.94 166 P **P 15 22 28.2 -0.5**
comp=Z,2µmcomp=Z,2µmcomp=Z,69nm,1.6s
GTA Gaotai 23.96 314 ⇑P **P 15 22 29.0 0.0**
GTA pP pP 15 22 32.0 -1.0
GTA sP pwP 15 22 35.5 +0.5
GTA S **S 15 26 47.8 +2.5**
GTA sS sS 15 26 53.3 +0.1
GTA pmax pmax
comp=Z,1µm,6.9s
GTA LR LR
comp=Z,14µm,9.5s
GTA LR LR
comp=Z,28µm,11.6s
GTA LR LR
comp=Z,30µm,12.4s
TEY Ternei 23.98 26 *e*P **P 15 22 28.1 -0.7**
TEY *e* 15 22 32.8
TEY *e* 15 26 37.4
TEY MLR MLR
comp=E,100nm,10.0s
TEY MLR MLR
comp=N,300nm,12.0s
TEY MLR MLR
comp=Z,300nm,12.0s
GUMO Guam 24.20 112 P **P 15 22 30.8 -0.4**
comp=Z,263nm,1.1s,baz=358,slow=17,SNR=5.6
GUMO LR LR 15 31 46.0
comp=Z,3µm,19.4s,baz=298,slow=36
GUMO Guam 24.20 112 P **P 15 22 30.5 -0.7**
GUMO pmax pmax
comp=Z,363nm,1.2s
GUMO MLR MLR
comp=Z,3µm,20.0s
GUMO Guam 24.20 112 P **P 15 22 30.5 -0.7**
GUMO Guam 24.20 112 P **P 15 22 33.6 +2.4**
comp=Z,315nm,1.2s
JEW Eniwo 24.63 36 P **P 15 22 33.5 -1.4**
APSI Ampana 25.00 180 P **P 15 22 40.1 +1.7**
comp=Z,2µmcomp=Z,1µmcomp=Z,84nm,1.2s
HIA Hailar 25.04 357 IAMs_20 IAMs_20 15 33 46.0
comp=Z,13µm,20.0s
HIA Hailar 25.04 357 IAmb IAmb 15 22 51.1
comp=Z,47nm,0.9s
ERM Erimo 25.06 40 P **P 15 22 35.6 -3.1**
ERM pmax pmax
comp=Z,29nm,0.8s
ERM Erimo 25.06 40 P **P 15 22 35.6 -3.1**
LUWI Luwuk 25.15 178 P **P 15 22 41.0 +1.3**
comp=Z,4µmcomp=Z,3µmcomp=Z,134nm,0.9s
KSM Kuching 25.23 208 P **P 15 22 39.1 -1.3**
KSM Kuching 25.23 208 P **P 15 22 41.0 +0.5**
KSM Kuching 25.23 208 P **P 15 22 41.6 +1.1**
comp=Z,105nm,1.4s
LBMI Labuha 25.34 167 P **P 15 22 39.4 -2.1**
comp=Z,2µmcomp=Z,2µmcomp=Z,72nm,1.1s
MTKI Muara Teweh, K 25.92 196 P **P 15 22 48.1 +1.3**
STKI Sintang 26.04 204 P **P 15 22 50.1 +2.2**
ASAJ Asahikawa 26.11 35 P **P 15 22 46.6 -1.7**
comp=Z,5.3nm,0.4s,baz=236,slow=11,SNR=25
ASAJ LR LR 15 33 53.0
comp=Z,12µm,18.1s,baz=240,slow=38
ASAJ Asahikawa 26.11 35 P **P 15 22 47.6 -0.7**
ASAJ pmax pmax
comp=Z,23nm,0.8s
JKA Kamikawa-asahi 26.11 35 P **P 15 22 47.6 -0.7**
GOMU GeErMu 26.11 303 P **P 15 22 51.0 +2.1**
GOMU sP pP 15 22 53.5 +0.6
GOMU S **S 15 27 23.3 +3.1**
GOMU pmax pmax
comp=Z,39nm,1.1s
GOMU LR LR
comp=Z,4µm,12.4s
GOMU LR LR
comp=Z,6µm,13.8s
GOMU LR LR
comp=Z,7µm,14.2s
KLR Kul'dur 26.14 15*c i*P **P 15 22 49.0 +0.5**
KLR pmax pmax
comp=Z,36nm,0.8s
SRIT Nakonsritamara 26.32 238 P **P 15 22 50.1 -0.4**
SRIT IAmb IAmb 15 22 55.4
comp=Z,83nm,1.4s
ULN Ulaanbaatar 26.34 337 P **P 15 22 50.0 -0.5**
ULN pmax pmax
comp=Z,47nm,1.0s
ULN MLR MLR
comp=Z,8µm,21.0s
ULN Ulaanbaatar 26.34 337 P **P 15 22 50.0 -0.5**
ULN IAmb IAmb 15 22 54.3
comp=Z,47nm,0.9s
ULN Ulaanbaatar 26.34 337 P **P 15 22 51.9 +1.4**
ULN P **P 15 22 51.9 +1.4**
ULN P **P 15 22 51.9 +1.4**
SANI Sanana 26.44 171 P **P 15 22 50.0 -1.5**
comp=Z,2µmcomp=Z,888nmcomp=Z,28nm,1.0s
SANI Sanana 26.44 171 P **P 15 22 54.8 +3.3**
comp=Z,28nm,0.9s
SONM Songino Array 26.55 336 P **P 15 22 53.0 +0.6**
comp=Z,15nm,0.6s,baz=153,slow=8.6,SNR=31
SONM ScP **ScP 15 29 56.9 +0.6**
comp=Z,0.7nm,0.4s,baz=151,slow=3.3,SNR=1.8
SONM LR LR 15 34 51.2
comp=Z,14µm,18.5s,baz=161,slow=40
SONM Songino Array 26.55 336 P **P 15 22 52.5 +0.1**
SONM pmax pmax
comp=Z,52nm,1.0s
SONM Songino Array 26.55 336 P **P 15 22 52.5 +0.1**
SONM IAmb IAmb 15 22 59.3
comp=Z,52nm,1.0s
SWI Sorong 26.58 159 P **P 15 22 53.5 +0.7**
comp=Z,3µmcomp=Z,640nmcomp=Z,34nm,0.9s
SIJI Sorong 26.59 158 P **P 15 22 52.8 -0.1**
comp=Z,11nm,0.7s,baz=24,slow=2.8,SNR=8.0
SIJI LR LR 15 32 39.0
comp=Z,2µm,20.6s,baz=352,slow=35
JRMM Jerantut 27.52 226 P **P 15 23 01.0 -0.2**
KULM Kulim 27.74 231 P **P 15 23 02.0 -1.3**
KULM IAmb IAmb 15 23 07.5
comp=Z,96nm,1.5s
KULM Kulim 27.74 231 P **P 15 23 04.0 +0.8**
LSA Lhasa 27.82 288 P **P 15 23 04.5 0.0**
LSA pmax pmax
comp=Z,33nm,0.7s
LSA MLR MLR
comp=Z,5µm,19.0s
LSA Lhasa 27.82 288 P **P 15 23 04.5 0.0**
LSA IAmb IAmb 15 23 19.1
comp=Z,33nm,0.7s
LSA Lhasa 27.82 288 P **P 15 23 06.5 +2.1**
LSA LR LR
comp=Z,4µm,14.2s
LSA LR LR
comp=Z,13µm,13.2s
LSA Lhasa 27.82 288 P **P 15 23 08.6 +4.2**
LSA Lhasa 27.82 288 *i* P **P 15 23 08.0 +3.5**
SNR=9.7
IPM Ipoh 28.05 229 P **P 15 23 04.9 -1.1**
IPM IAmb IAmb 15 23 09.4
comp=Z,92nm,1.3s
IPM Ipoh 28.05 229 P **P 15 23 07.0 +0.9**
YSS Yuzh-Sakhalins 28.18 31 *e*P **P 15 23 08.7 +1.9**
YSS *e*S **S 15 27 55.3 +3.6**
YSS *e*SS SS 15 29 30.3 -21
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,600nm,7.3s
YSS MLR MLR
comp=N,3µm,14.0s
YSS MLR MLR
comp=Z,6µm,14.0s
YSS MLR MLR
comp=E,5µm,13.0s
YSS Yuzh-Sakhalins 28.18 31 P **P 15 23 05.6 -1.2**
MYKOM Kota Tinggi 28.29 221 P **P 15 23 05.7 -2.4**
MYKOM Kota Tinggi 28.29 221 P **P 15 23 09.0 +0.9**
BBKI Banjar Baru 28.36 195 P **P 15 23 09.7 +1.0**
comp=E,3µmcomp=E,36nm,0.9s
AAI Ambon 28.44 167 P **P 15 23 09.0 -0.4**
comp=E,45nm,1.3s
CIT Chita 28.45 349 *e*P **P 15 23 08.3 -1.0**
CIT *e* 15 23 18.9

CIT *e* 15 24 20.0
CIT *e* 15 27 53.9
CIT *e* 15 29 24.7
CIT pmax pmax
comp=Z,79nm,2.4s
TPRI Tanjung Pinang 28.60 218 P **P 15 23 13.1 +2.2**
comp=Z,60nm,1.0s
KAPI Kappang 29.14 184 P **P 15 23 15.4 -0.3**
comp=Z,5.6nm,0.3s,baz=8.1,slow=8.5,SNR=5.9
KAPI LR LR 15 35 06.6
comp=Z,3µm,21.6s,baz=358,slow=37
KAPI Kappang 29.14 184 P **P 15 23 13.4 -2.3**
KAPI Kappang 29.14 184 P **P 15 23 13.4 -2.3**
BKSI Bulukumba 29.43 183 P **P 15 23 20.6 +2.4**
comp=Z,8.6nm,0.9s
SRPI Serui, Papua 29.49 150 P **P 15 23 19.1 +0.3**
comp=Z,64nm,0.9s
DSRI Dabo 29.73 217 P **P 15 23 22.8 +1.9**
comp=Z,8.9nm,1.0s
KUR Kuril'sk 29.73 39 P **P 15 23 21.7 +1.1**
KUR *e* 15 24 16.9
KUR *e*PPP PPP 15 24 27.2
KUR *e*S **S 15 28 18.1 +2.0**
KUR pmax pmax
comp=Z,77nm,1.2s
KUR MLR MLR
comp=E,6µm,16.0s
KUR MLR MLR
comp=Z,6µm,16.0s
KUR MLR MLR
comp=N,4µm,17.0s
ZEA Zeya 29.74 7 *e*P **P 15 23 21.0 +0.4**
ZEA *e* 15 24 32.8
ZEA *e*S **S 15 28 12.5 -3.7**
ZEA pmax pmax
comp=N,300nm,7.7s
ZEA pmax pmax
comp=Z,300nm,8.0s
ZEA pmax pmax
comp=Z,40nm,1.1s
ZEA pmax pmax
comp=E,100nm,5.6s
ZEA pmax pmax
comp=N,200nm,10.2s
ZEA pmax pmax
comp=Z,400nm,10.7s
ZEA smax smax
comp=E,600nm,8.4s
ZEA MLR MLR
comp=E,3µm,11.0s
ZEA MLR MLR
comp=N,15µm,14.0s
ZEA MLR MLR
comp=Z,14µm,13.0s
ZAK Zakamensk 29.81 336 *e*P **P 15 23 23.1 +1.7**
ZAK *e* 15 29 53.5
ZAK pmax pmax
comp=Z,20nm,1.3s
PPBI Pangkal Pinang 30.35 212 P **P 15 23 28.6 +2.2**
TSI Tuntungan 30.47 231 P **P 15 23 29.0 +1.5**
comp=Z,113nm,0.6s
PSI Prapat 30.71 230 LR LR 15 35 21.2
comp=Z,3µm,21.0s,baz=36,slow=35
SMPI Sarmi 30.81 145 P **P 15 23 30.5 +0.1**
comp=Z,966nmcomp=Z,47nm,1.2s
TAPN Taplejung 30.81 283 *e*P **P 15 23 33.7 +2.9**
comp=Z,170nm,1.1s
IRK Irkutsk 31.00 339 *e*P **P 15 23 32.4 +0.5**
IRK pmax pmax
comp=Z,85nm,2.3s
KCSI Kotacane, Aceh 31.02 232 P **P 15 23 34.1 +1.7**
comp=Z,589nmcomp=Z,30nm,1.3s
TYV Tymovskoe 31.08 26 *e*P P 15 23 39.9 +7.4
TYV pmax pmax
comp=Z,200nm,7.5s
TYV pmax pmax
comp=Z,18nm,1.2s
TYV MLR MLR
comp=N,8µm,12.0s
TYV MLR MLR
comp=Z,10µm,12.0s
ODAN Odare 31.12 282 *e*P **P 15 23 36.8 +3.4**
BKNI Bangkinang 31.16 223 P **P 15 23 34.8 +1.3**
comp=Z,1µmcomp=Z,75nm,0.9s
JMBI JAMBI 31.20 217 P **P 15 23 36.2 +2.3**
comp=Z,64nm,0.4s
MOY Mondy 31.70 335 *e*P **P 15 23 36.8 -1.3**
MOY *e* 15 34 00.5
MOY pmax pmax
comp=Z,43nm,2.7s
MNSI Mandailing Nat 31.73 226 P **P 15 23 39.0 +0.4**
comp=Z,1µmcomp=Z,68nm,1.3s
RAMN Ramite 31.82 282 *e*P **P 15 23 43.3 +3.7**
comp=Z,18nm,0.6s
GUN Gumba 32.42 284 *e*P **P 15 23 48.0 +3.0**
comp=Z,76nm,0.8s
MMRI Maumere 32.68 179 P **P 15 23 49.0 +2.2**
comp=Z,2µmcomp=Z,90nm,1.0s
GSI Gunungsitoli 32.72 229 P **P 15 23 49.3 +2.0**
comp=Z,18nm,0.6s
GSI Gunungsitoli 32.72 229 P **P 15 23 50.4 +3.1**
comp=Z,18nm,0.7s
SRBI Singaraja 32.77 192 P **P 15 23 47.4 -0.2**
comp=Z,42nm,1.0s
BLJI Banyuglugur 32.79 195 P **P 15 23 47.4 -0.4**
comp=Z,43nm,0.7s
KRJI Kerinci 32.81 220 P **P 15 23 49.3 +1.1**
comp=Z,2µmcomp=Z,177nm,1.0s
PKI Pulchoki 32.85 284 *e*P **P 15 23 51.3 +2.6**
PKIN Phulchoki 32.86 284 *e*P **P 15 23 51.1 +2.3**
KKN Kakani 32.95 284 *e*P **P 15 23 52.2 +2.7**
DMN Daman 33.12 284 *e*P **P 15 23 53.7 +2.7**
GKN Gorkha 33.51 285 *e*P **P 15 23 56.8 +2.4**
comp=Z,74nm,0.9s
PWJI Pagerwojo 33.52 198 P **P 15 23 56.4 +2.2**
comp=Z,101nm,0.8s
SISI Saibi 33.66 224 P **P 15 23 57.5 +2.0**
comp=Z,33nm,1.0s
LWLI Liwa 33.84 213 P **P 15 23 58.5 +1.3**
comp=Z,173nm,0.8s
LEM Lembang 33.84 206 P **P 15 23 57.1 -0.1**
comp=Z,9.5nm,0.4s,baz=142,slow=22,SNR=1.8
BOD Bodaibo 34.02 353 *e*P **P 15 23 56.5 -1.6**
BOD pmax pmax
comp=Z,15nm,1.7s
WMQ Urumqi 34.04 313 *e*P **P 15 23 57.5 -1.1**
WMQ sP pwP 15 24 05.3 +2.6
WMQ PP **PnPn 15 25 08.8 -3.2**
WMQ S **S 15 29 22.3 -1.4**
WMQ pmax pmax
comp=Z,46nm,1.3s
WMQ pmax pmax
comp=Z,800nm,7.3s
WMQ LR LR
comp=Z,14µm,9.7s
WMQ LR LR
comp=Z,24µm,10.7s
WMQ LR LR
comp=Z,5µm,12.1s
KASI Kota Agung 34.06 212 P **P 15 23 59.5 +0.5**
comp=Z,68nm,1.1s
DANN Dangsing 34.27 285 *e*P **P 15 24 04.0 +2.9**
comp=Z,102nm,0.8s
BATI Baumata 34.28 177 LR LR 15 40 27.4
comp=Z,1µm,18.6s,baz=352,slow=41
BATI Baumata 34.28 177 P **P 15 24 01.4 +0.5**
comp=Z,46nm,1.0s
KOLN Koldanda 34.44 284 *e*P **P 15 24 05.2 +2.7**
comp=Z,78nm,0.9s
PYUN Piuthan 34.96 285 *e*P **P 15 24 09.4 +2.4**
comp=Z,85nm,1.0s
ZSN Zaisan 37.35 318 *e*P **P 15 24 26.5 -0.5**
ZSN *e* 15 25 51.2
ZSN pmax pmax
comp=Z,45nm,2.9s
ZSN Zaisan 37.35 318 *e*P **P 15 24 26.5 -0.5**
comp=Z,46nm,2.9s,baz=318
ZSN *e*PP **PP 15 25 51.3 -0.9**
baz=318
YAK Yakutsk 38.15 6 P **P 15 24 31.3 -2.2**
comp=Z,8.4nm,0.4s,baz=200,slow=1.6,SNR=8.7
YAK PcP **PcP 15 26 45.8 -2.1**
comp=Z,6.3nm,0.4s,baz=47,slow=0.4,SNR=4.7
YAK LR LR 15 41 52.6
comp=Z,7µm,18.2s,baz=182,slow=39
YAK Yakutsk 38.15 6 *e*P **P 15 24 31.4 -2.1**
YAK *e**PP **sP 15 24 39.9 +0.2**

YAK e 15 26 02.3
YAK e 15 26 46.3
YAK eS **S** **15 30 25.8 -0.2**
YAK e*SS **sS** **15 30 33.9 +0.6**
YAK eSS **SnSn** **15 33 10.7 +1.1**
YAK eSSS SSS 15 33 29.7
YAK e 15 34 37.2
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=Z,58nm,1.7s
YAK pmax pmax
comp=N,54nm,1.8s
YAK pmax pmax
comp=E,13nm,1.7s
YAK smax smax
comp=N,31nm,2.0s
YAK smax smax
comp=E,15nm,2.2s
YAK MLR MLR
comp=Z,10µm,13.0s
YAK MLR MLR
comp=N,7µm,15.0s
YAK MLR MLR
comp=E,3µm,14.0s
YAK Yakutsk 38.15 6 P **P** **15 24 31.6 -1.8**
YAK IAmb IAmb 15 24 47.0
comp=Z,46nm,0.9s
YAK IAMs_20 IAMs_20 15 41 42.0
comp=Z,9µm,22.0s
JBP Jabalpur 38.22 277 eP **P** **15 24 37.1 +2.6**
JBP ex x 15 24 37.1
JBP IVmB_BB 15 24 37.9
comp=Z,509nm,3.6s
JBP eS **S** **15 30 27.2 -0.7**
MK31 Makanchi Array 38.70 316 *i* P **P** **15 24 38.1 -0.3**
MK31 pmax pmax
comp=Z,80nm,1.0s
MK31 Makanchi Array 38.70 316 P **P** **15 24 37.9 -0.5**
MK31 IAmb IAmb 15 24 50.6
comp=Z,55nm,1.1s
MKAR Makanchi Array 38.70 316 P **P** **15 24 38.5 +0.1**
comp=Z,21nm,0.9s,baz=100,slow=7.8,SNR=39
MKAR PcP **PcP** **15 26 48.9 -1.2**
comp=Z,6.2nm,0.9s,baz=111,slow=4.6,SNR=3.4
MKAR ScP **ScP** **15 30 40.1 +2.2**
comp=Z,1.6nm,0.7s,baz=120,slow=5.7,SNR=4.1
MKAR LR LR 15 41 50.1
comp=Z,7µm,18.5s,baz=102,slow=38
MKAR Makanchi Array 38.70 316 *i* P **P** **15 24 38.2 -0.2**
MKAR pmax pmax
comp=Z,21nm,0.9s
MKAR Makanchi Array 38.70 316 P **P** **15 24 37.5 -0.9**
MAKZ Makanchi 38.91 316 P **P** **15 24 39.2 -0.9**
MAKZ pmax pmax
comp=Z,104nm,1.2s
MAKZ MLR MLR
comp=Z,5µm,22.0s
MAKZ Makanchi 38.91 316 P **P** **15 24 39.2 -0.9**
MAKZ IAmb IAmb 15 24 52.5
comp=Z,104nm,1.1s
MAKZ IAMs_20 IAMs_20 15 41 37.6
comp=Z,5µm,22.0s
SHLS Shalkode 39.48 309 eP **P** **15 24 41.7 -3.3**
SHLS eS **S** **15 30 42.3 -4.4**
SHLS pmax pmax
comp=Z,21nm,1.2s
SHLS Shalkode 39.48 309 eP **P** **15 24 41.7 -3.3**
comp=Z,21nm,1.2s,baz=309
SHLS eS **S** **15 30 42.4 -4.4**
baz=309
PEA0B Petropavlovsk- 39.50 34 P **P** **15 24 43.8 -1.1**
PEA0B pmax pmax
comp=Z,39nm,1.5s
PEA0B Petropavlovsk- 39.50 34 P **P** **15 24 43.8 -1.1**
PETK Petropavlovsk- 39.50 34 P **P** **15 24 44.5 -0.4**
comp=Z,1.8nm,0.7s,baz=200,slow=4.3,SNR=4.7
PETK PcP **PcP** **15 26 51.7 -0.7**
comp=Z,6.2nm,1.1s,baz=190,slow=5.3,SNR=3.8
PETK LR LR 15 42 11.8
comp=Z,5µm,18.1s,baz=223,slow=38
PETK Petropavlovsk- 39.50 34 P **P** **15 24 42.8 -2.1**
PETK Petropavlovsk- 39.50 34 P **P** **15 24 42.8 -2.1**
PDGK Podgornoye 39.50 309 P **P** **15 24 44.7 -0.6**
UZB Uzynbulak 39.79 309 eP **P** **15 24 47.0 -0.6**
UZB eS **S** **15 30 51.5 +0.1**
UZB pmax pmax
comp=Z,41nm,1.6s
UZB Uzynbulak 39.79 309 eP **P** **15 24 47.0 -0.6**
comp=Z,41nm,1.6s,baz=309
UZB eS **S** **15 30 51.6 +0.1**
baz=309
UZB LR LR 15 41 15.4
baz=309
PET Petropavlovsk 39.94 34 eP **P** **15 24 47.4 -1.1**
PET eS **S** **15 30 51.1 -2.0**
PET pmax pmax
comp=Z,400nm,14.2s
PET pmax pmax
comp=Z,18nm,1.0s
PET MLR MLR
comp=Z,7µm,17.0s
PET MLR MLR
comp=Z,6µm,17.0s
PET Petropavlovsk 39.94 34 P **P** **15 24 47.5 -1.1**
PET IAMs_20 IAMs_20 15 43 03.6
comp=Z,5µm,18.0s
KPKS Kokpek 40.11 309 eP **P** **15 24 49.3 -0.9**
KPKS pmax pmax
comp=Z,24nm,1.1s
KPKS Kokpek 40.11 309 eP **P** **15 24 49.3 -0.9**
comp=Z,24nm,1.1s,baz=310
SATY Saty 40.20 309 eP **P** **15 24 50.0 -1.1**
SATY eS **S** **15 30 57.2 -0.5**
SATY pmax pmax
comp=Z,28nm,1.3s
SATY MLR MLR
comp=Z,836nm,11.0s
SATY Saty 40.20 309 eP **P** **15 24 50.0 -1.1**
comp=Z,28nm,1.3s,baz=309
SATY eS **S** **15 30 57.3 -0.5**
baz=309
SATY LR LR 15 41 30.3
comp=Z,836nm,11.0s,baz=309
ZHN Zhinishke 40.21 309 eP **P** **15 24 50.0 -1.1**
ZHN eS **S** **15 30 57.2 -0.5**
ZHN Zhinishke 40.21 309 eP **P** **15 24 50.0 -1.1**
baz=309
ZHN eS **S** **15 30 57.3 -0.5**
baz=309
ZAA0 Zalesovo Array 40.52 327 P **P** **15 24 52.2 -1.1**
ZALV Zalesovo Beam 40.52 327 P **P** **15 24 52.4 -1.0**
comp=Z,17nm,0.5s,baz=112,slow=8.2,SNR=36
ZALV PcP **PcP** **15 26 55.1 -0.5**
comp=Z,4.0nm,0.7s,baz=122,slow=5.2,SNR=2.3
ZALV ScP **ScP** **15 30 47.7 +3.0**
comp=Z,2.3nm,0.7s,baz=104,slow=1.8,SNR=4.4
ZALV LR LR 15 42 41.1
comp=Z,7µm,18.1s,baz=124,slow=38
ZALV Zalesovo Beam 40.52 327 *i* P **P** **15 24 53.0 -0.3**
ZALV pmax pmax
comp=Z,17nm,0.5s
ZALV Zalesovo Beam 40.52 327 P **P** **15 24 51.2 -2.1**
ZALV PcP **PcP** **15 26 55.5 -0.2**
TDK Taldyqorghan 40.70 312 eP **P** **15 24 54.5 -0.5**
TDK eS **S** **15 31 04.6 -0.1**
TDK pmax pmax
comp=Z,51nm,1.2s
TDK MLR MLR
comp=Z,3µm,12.0s
TDK Taldyqorghan 40.70 312 eP **P** **15 24 54.5 -0.5**
comp=Z,52nm,1.2s,baz=312
TDK eS **S** **15 31 04.7 -0.1**
baz=312
TDK LR LR 15 42 50.0
comp=Z,3µm,11.9s,baz=312
MA2 Magadan 40.71 22 P **P** **15 24 54.4 -0.5**
comp=Z,5.6nm,0.6s,baz=224,slow=9.8,SNR=12
MA2 PcP **PcP** **15 26 56.2 0.0**
comp=Z,4.1nm,0.5s,baz=171,slow=4.3,SNR=5.8
MA2 ScP **ScP** **15 30 49.2 +3.8**
comp=Z,1.0nm,0.3s,baz=106,slow=6.8,SNR=3.7
MA2 LR LR 15 42 59.3
comp=Z,6µm,19.0s,baz=214,slow=38
MA2 Magadan 40.71 22 *ce*P **P** **15 24 55.6 +0.7**
MA2 pmax pmax
comp=Z,19nm,1.3s
MA2 Magadan 40.71 22 P **P** **15 24 53.1 -1.8**
MA2 IAMs_20 IAMs_20 15 42 37.9
comp=Z,6µm,20.0s
KRVT Karavat (AS076 40.86 130 LR LR 15 39 07.0
comp=Z,2µm,20.4s,baz=102,slow=32
HYBB Hyderabad (bro 40.88 269 *e*P **P** **15 24 57.5 +0.7**
HYBB IVmB_BB 15 25 00.1
comp=Z,106nm,1.0s
HYBB *ep*P **pP** **15 25 00.1 -0.8**
HYBB *e*PcP **PcP** **15 26 57.7 +0.2**
HYBB *e*ScP **ScP** **15 30 47.1 +0.3**
HYBB *e*PcS **PcS** **15 30 48.3 -0.4**
HYBB *e*S **S** **15 31 09.3 +1.2**
HYBB IVMs_BB IVMs_BB 15 46 18.6
comp=Z,500nm,8.8s
KDJ Kajisay 40.89 307 P **P** **15 24 56.6 -0.2**
KDJ pmax pmax
comp=Z,20nm,0.7s
KDJ Kajisay 40.89 307 P **P** **15 24 56.6 -0.2**
ARXS Arharly 40.89 310 *i* P **P** **15 24 56.5 -0.2**
MDOK Medeo 41.20 309 *e*P **P** **15 24 58.5 -0.8**
MDOK *e*S **S** **15 31 12.2 -0.3**
MDOK MLR MLR
comp=Z,5µm,13.0s
MDOK Medeo 41.20 309 *e*P **P** **15 24 58.5 -0.8**
baz=309
MDOK *e*S **S** **15 31 12.3 -0.3**
baz=309
MDOK LR LR 15 44 28.2
comp=Z,5µm,12.8s,baz=309
AAA Alma-Ata 41.30 309 *e*P **P** **15 24 59.5 -0.5**
AAA Alma-Ata 41.30 309 *e*P **P** **15 24 59.6 -0.5**
baz=309
SEM Semipalatinsk 41.35 320 *e*P **P** **15 24 58.9 -1.6**
SEM *e*S **S** **15 31 13.5 -1.1**
SEM MLR MLR
comp=Z,1µm,13.0s
SEM Semipalatinsk 41.35 320 *e*P **P** **15 24 58.9 -1.6**
baz=320
SEM *e*S **S** **15 31 13.6 -1.1**
baz=320
SEM LR LR 15 42 37.1
comp=Z,1µm,12.6s,baz=320
KSH Kashi 41.36 303 P P 15 25 05.8 +5.1
KSH pP pwP 15 25 07.5 +2.7
KSH PP **PnPn** **15 26 42.0 +1.2**
KSH PcP **PcP** **15 27 00.3 +1.4**
KSH S S 15 31 25.5 +11
KSH pmax pmax
comp=Z,32nm,1.1s
KSH LR LR
comp=Z,6µm,12.0s
KSH LR LR
comp=Z,11µm,13.7s
KSH LR LR
comp=Z,12µm,14.4s
CHKK Chushkaly 41.39 310 *e*P **P** **15 24 59.6 -1.2**
CHKK Chushkaly 41.39 310 *e*P **P** **15 24 59.6 -1.2**
baz=310
ULHL Ulahol 41.59 307 P **P** **15 25 03.5 +0.9**
SNR=36
PMG Port Moresby 41.60 141 P **P** **15 25 02.3 -0.3**
comp=Z,19nm,0.8s,baz=253,slow=22,SNR=2.7
PMG LR LR 15 42 07.9
comp=Z,3µm,18.9s,baz=308,slow=36
PMG Port Moresby 41.60 141 P **P** **15 25 03.1 +0.5**
PMG pmax pmax
comp=Z,53nm,1.0s
PMG MLR MLR
comp=Z,2µm,19.0s
PMG Port Moresby 41.60 141 P **P** **15 25 03.1 +0.5**
PMG IAmb IAmb 15 25 19.0
comp=Z,53nm,1.0s
KUU Kurty 41.86 309 *e*P **P** **15 25 03.0 -1.6**
KUU *e*S **S** **15 31 21.9 -0.2**
KUU pmax pmax
comp=Z,22nm,0.8s
KUU MLR MLR
comp=Z,1µm,10.0s
KUU Kurty 41.86 309 *e*P **P** **15 25 03.0 -1.6**
comp=Z,22nm,0.8s,baz=310
KUU *e*S **S** **15 31 21.9 -0.2**
baz=310
KUU LR LR 15 42 27.9
comp=Z,1µm,10.1s,baz=310
H11N1 WAKE ISLAND Hy 41.90 87 T T 16 10 30.5
baz=284
H11N2 WAKE ISLAND Hy 41.90 87 T T 16 10 23.1
baz=284
H11N3 WAKE ISLAND Hy 41.92 87 T T 16 10 36.4
baz=284
H11S3 WAKE ISLAND Hy 42.04 89 T T 16 10 34.5
baz=283,slow=74
H11S1 WAKE ISLAND Hy 42.04 89 T T 16 10 33.2
baz=283,slow=74
H11S2 WAKE ISLAND Hy 42.05 89 T T 16 10 41.8
baz=283,slow=74
TKM2 Tokmak 2 42.19 308 P **P** **15 25 08.5 +1.0**
SNR=46
TKM2 Tokmak 2 42.19 308 *i* P **P** **15 25 09.2 +1.7**
TKM2 pmax pmax
comp=Z,48nm,0.9s
KURK Kurchatov 42.42 320 *ce*P **P** **15 25 09.1 +0.1**
KURK pmax pmax
comp=Z,71nm,2.5s
KURBB Kurchatov Arra 42.44 320 P **P** **15 25 08.6 -0.6**
comp=Z,6.5nm,0.6s,baz=112,slow=7.4,SNR=31
KURBB ScP **ScP** **15 30 54.2 +1.8**
comp=Z,1.3nm,0.9s,baz=118,slow=4.7,SNR=4.7
KURBB LR LR 15 44 30.2
comp=Z,2µm,19.3s,baz=95,slow=39
KURBB Kurchatov Arra 42.44 320 P **P** **15 25 07.9 -1.3**
KBK Karagaybulak 42.61 307 P **P** **15 25 13.5 +2.6**
SNR=22
PALK Pallekele 42.81 254 P **P** **15 25 11.7 -1.0**
comp=Z,8.6nm,0.9s,baz=118,slow=10.0,SNR=2.5
PALK PcP **PcP** **15 27 05.6 +1.7**
comp=Z,3.9nm,0.8s,baz=118,slow=6.1,SNR=4.3
PALK LR LR 15 43 55.2
comp=Z,1µm,19.9s,baz=162,slow=37
PALK Pallekele 42.81 254 P **P** **15 25 15.8 +3.1**
PALK P **P** **15 25 15.8 +3.1**
PALK P **P** **15 25 15.8 +3.1**
CHMS Chumysh 42.81 308 P **P** **15 25 15.8 +3.4**
SNR=19
CHMS Chumysh 42.81 308 *i* P **P** **15 25 14.3 +1.9**
CHMS pmax pmax
comp=Z,56nm,1.1s
UCH Uchtor 42.85 307 P **P** **15 25 14.4 +1.2**
SNR=77
FRU1 Bishkek 42.87 307 P **P** **15 25 11.9 -1.0**
FRU1 pmax pmax
comp=Z,32nm,1.0s
FRU1 Bishkek 42.87 307 P **P** **15 25 11.9 -1.0**
AAK Ala-Archa 42.94 307 P **P** **15 25 15.8 +2.3**
SNR=15
AAK Ala-Archa 42.94 307 P **P** **15 25 13.7 +0.2**
comp=Z,11nm,0.8s,baz=132,slow=6.1,SNR=25
AAK LR LR 15 45 26.7
comp=Z,5µm,18.8s,baz=88,slow=39
AAK Ala-Archa 42.94 307 *ce*P **P** **15 25 14.1 +0.6**
AAK pmax pmax
comp=Z,31nm,1.0s
AAK Ala-Archa 42.94 307 P **P** **15 25 15.9 +2.3**
AAK Ala-Archa 42.94 307 *i* P **P** **15 25 15.9 +2.3**
SNR=22
SGDS Sogindy 42.98 308 *e*P **P** **15 25 13.5 -0.3**
SGDS Sogindy 42.98 308 *e*P **P** **15 25 13.5 -0.3**
baz=308
USP Ospenovka 43.04 308 P **P** **15 25 18.4 +4.1**
SNR=6.2
NIL Nilore 43.20 294 P **P** **15 25 19.4 +3.8**
AML Almayashu 43.44 306 P **P** **15 25 19.1 +1.2**
SNR=52
AML Almayashu 43.44 306 P **P** **15 25 20.7 +2.8**
AML Almayashu 43.44 306 *i* P **P** **15 25 20.4 +2.5**
SNR=53
EKS2 Erkin-Say 43.46 307 P **P** **15 25 18.5 +0.8**
SNR=21
BTLS Baital 43.71 311 *e*P **P** **15 25 19.3 -0.2**
BTLS *e*S **S** **15 31 49.6 +0.5**
BTLS pmax pmax
comp=Z,20nm,1.2s
BTLS Baital 43.71 311 *e*P **P** **15 25 19.3 -0.2**
comp=Z,20nm,1.2s,baz=311
BTLS *e*S **S** **15 31 49.7 +0.5**
baz=311
SEY Seymchan 43.73 20 LR LR 15 44 49.9
comp=Z,2µm,19.4s,baz=214,slow=38
SEY Seymchan 43.73 20 *ce*P **P** **15 25 19.6 +0.2**
SEY pmax pmax
comp=Z,6.0nm,0.9s
DRK Karamyk 44.56 302 P **P** **15 25 27.3 +0.4**
DRK IAmb IAmb 15 25 32.2
comp=Z,102nm,1.6s
POO Poona 44.86 272 *e*P **P** **15 25 26.0 -3.1**
DZA Taraz 45.28 307 *e*P **P** **15 25 31.4 -0.7**
DZA pmax pmax
comp=Z,12nm,0.9s
DZA Taraz 45.28 307 *e*P **P** **15 25 31.5 -0.7**
comp=Z,12nm,0.9s,baz=307
PCHI Peechi 45.28 261⇑ *e*P **P** **15 25 35.5 +3.1**
PCHI *e*S **S** **15 32 16.1 +3.4**
WB0 Warramunga Arr 45.42 163 P **P** **15 25 31.7 -1.7**
WRAB Tennant Creek 45.57 163 *ce*P **P** **15 25 33.3 -1.3**
WRAB pmax pmax
comp=Z,27nm,1.0s
WRA Warramunga Arr 45.58 163 P **P** **15 25 32.9 -1.7**
comp=Z,16nm,0.8s,baz=346,slow=8.7,SNR=46
WRA LR LR 15 44 48.0
comp=Z,916nm,21.8s,baz=358,slow=36
WRA Warramunga Arr 45.58 163 *i* P **P** **15 25 33.7 -0.9**
WRA pmax pmax
comp=Z,16nm,0.8s
WRA Warramunga Arr 45.58 163 P **P** **15 25 32.8 -1.9**
WB2 Warramunga Arr 45.58 163 P **P** **15 25 32.6 -2.0**
WB2 IAmb IAmb 15 25 50.6
comp=Z,27nm,0.9s
WR0 Warramunga Arr 45.65 163 P **P** **15 25 34.2 -1.0**
WR0 IAmb IAmb 15 25 41.8
comp=Z,20nm,0.7s
BRZS Berezniki 45.79 317 *e*P **P** **15 25 35.7 -0.4**
BRZS Berezniki 45.79 317 *e*P **P** **15 25 35.7 -0.4**
baz=317
KK31 Karatay Array 45.90 307 P **P** **15 25 37.5 +0.4**
KK31 Karatay Array 45.90 307 P **P** **15 25 36.2 -0.9**
KK31 PcP **PcP** **15 27 13.3 -0.7**
KKAR Karatay Array 45.90 307 P **P** **15 25 36.1 -1.0**
KKAR 15 27 12.7
KKAR Karatay Array 45.90 307 P **P** **15 25 36.1 -1.0**
KKAR PcP **PcP** **15 27 12.7 -1.4**
IUG Iuzhnay 46.15 306 *e*P **P** **15 25 38.4 -0.7**
IUG Iuzhnay 46.15 306 *e*P **P** **15 25 38.5 -0.7**
baz=306
KBL Kabul 46.67 295 P **P** **15 25 43.2 -0.2**
KBL 15 27 15.8
KBL pmax pmax
comp=Z,86nm,1.2s
KBL Kabul 46.67 295 P **P** **15 25 43.2 -0.2**
KBL PcP **PcP** **15 27 15.8 -1.3**
KBL Kabul 46.67 295 P **P** **15 25 45.8 +2.4**
SNR=43
KBL P **P** **15 25 45.8 +2.4**
SNR=43
KBL P **P** **15 25 45.8 +2.4**
SNR=43
TIXI Tiksi 47.61 3 LR LR 15 48 02.8
comp=Z,6µm,20.4s,baz=181,slow=39
TIXI Tiksi 47.61 3⇑ *i* P **P** **15 25 48.4 -1.5**
TIXI pmax pmax
comp=Z,108nm,1.5s
TIXI Tiksi 47.61 3 P **P** **15 25 47.8 -2.2**
TIXI PcP **PcP** **15 27 19.6 +0.2**
BVAR Borovoye Array 48.00 321 P **P** **15 25 52.7 -0.6**
comp=Z,6.0nm,0.5s
BVAR PcP **PcP** **15 27 21.4 +0.1**
BRVK Borovoye 48.07 321 *i* P **P** **15 25 52.9 -0.9**
BRVK pmax pmax
comp=Z,38nm,1.3s
SHEM Shemya Is, Ala 48.41 40 LR LR 15 45 17.8
comp=Z,2µm,22.0s,baz=246,slow=35
AS31 Alice Springs 49.04 165 P **P** **15 26 00.4 -1.2**
ASAR Alice Springs 49.04 165 P **P** **15 26 00.8 -0.8**
comp=Z,5.3nm,0.8s,baz=342,slow=6.5,SNR=29
ASAR ScP **ScP** **15 31 18.8 -1.3**
comp=Z,1.3nm,0.9s,baz=348,slow=4.7,SNR=4.5
ASAR LR LR 15 47 16.1
comp=Z,945nm,21.5s,baz=350,slow=37
ASAR Alice Springs 49.04 165 P **P** **15 26 00.3 -1.3**
ASAR Alice Springs 49.04 165 P **P** **15 26 00.3 -1.3**
NRIK Noril'sk 49.50 345 P **P** **15 26 03.0 -1.5**
comp=Z,23nm,0.8s,baz=130,slow=8.1,SNR=25
NRIK ScP **ScP** **15 31 22.3 +1.0**
comp=Z,4.6nm,0.8s,baz=156,slow=9.3,SNR=2.1
NRIK LR LR 15 48 41.2
comp=Z,5µm,20.1s,baz=136,slow=38
NRIK Noril'sk 49.50 345 *ce*P **P** **15 26 02.7 -1.9**
NRIK pmax pmax
comp=Z,36nm,1.0s
NRIK Noril'sk 49.50 345 IAmb IAmb 15 26 05.9
comp=Z,29nm,0.9s
HNR Honiara 50.05 127 P **P** **15 26 08.4 -1.1**
comp=Z,24nm,0.5s,baz=200,slow=14,SNR=1.1
HNR LR LR 15 46 06.9
comp=Z,999nm,19.5s,baz=274,slow=35
CTA Charters Tower 50.08 150 LR LR 15 45 23.5
comp=Z,3µm,21.8s,baz=330,slow=34
CTAO Charters Tower 50.08 150 IAMs_20 IAMs_20 15 45 10.8
comp=Z,3µm,21.0s
BILL Bilibino 51.44 20 *i* P **P** **15 26 17.1 -2.1**
BILL *i* 15 27 33.8
BILL pmax pmax
comp=Z,10.0nm,0.7s
BILL MLR MLR
comp=Z,4µm,14.0s
BILL Bilibino 51.44 20 P **P** **15 26 18.6 -0.6**
BILL IAMs_20 IAMs_20 15 50 10.2
comp=Z,4µm,19.0s
HRA Herat 52.28 296 P **P** **15 26 25.6 -0.7**
HRA IAmb IAmb 15 26 29.9
comp=Z,30nm,1.1s
HRA PcP **PcP** **15 27 36.6 -1.0**
AB31 Akbulak array 53.82 314 *i* P **P** **15 26 36.4 -0.8**
ABKAR Akbulak array 53.82 314 P **P** **15 26 36.5 -0.6**
ABKAR PcP **PcP** **15 27 41.6 -1.2**
SVE Sverdlovsk 54.34 324‖ *e*P **P** **15 26 41.4 +0.5**
SVE *e*S **S** **15 34 18.1 -0.2**
SVE pmax pmax
comp=Z,50nm,1.1s
SVE MLR MLR
comp=Z,7µm,15.0s
AKTO Aktyubinsk 55.14 316 P **P** **15 26 46.5 -0.2**
comp=Z,26nm,1.0s,baz=91,slow=5.8,SNR=35
AKTO LR LR 15 50 26.8
comp=Z,1µm,19.9s,baz=99,slow=36
AKTO Aktyubinsk 55.14 316 P **P** **15 26 45.6 -1.2**
GEYT Alibeck 55.27 300 P **P** **15 26 48.5 +0.6**
comp=Z,47nm,0.8s,baz=116,slow=3.4,SNR=39
GEYT LR LR 15 53 05.4
comp=Z,2µm,19.3s,baz=95,slow=39
GYA0 ALIBECK ARRAY 55.27 300 P **P** **15 26 48.5 +0.5**
ARU Arti 55.41 323 P **P** **15 26 48.0 -0.6**
comp=Z,8.2nm,0.6s,baz=78,slow=5.6,SNR=17
ARU LR LR 15 54 02.8
comp=Z,2µm,18.1s,baz=90,slow=40
ARU Arti 55.41 323 *c i* P **P** **15 26 47.9 -0.7**
ARU 15 27 45.9
ARU PPP PPP 15 30 03.7
ARU S **S** **15 34 33.7 +1.1**
ARU pmax pmax
comp=Z,69nm,1.4s
ARU MLR MLR
comp=Z,2µm,18.0s
ARU Arti 55.41 323 P **P** **15 26 47.7 -0.9**
JLN Jalan Bani Buh 56.98 281 P **P** **15 27 02.3 +2.0**
NWAO Narrogin (SRO) 57.01 185 P **P** **15 27 01.0 +0.8**
WBK Wadi Bani Khal 57.25 282 P **P** **15 27 04.8 +2.5**
SNR=6.0
WSAR Wadi Sarin 57.39 283 P **P** **15 27 03.2 0.0**
comp=Z,5.6nm,0.6s,baz=104,slow=7.2,SNR=9.9
WSAR LR LR 15 53 56.9
comp=Z,1µm,20.5s,baz=92,slow=38
WSAR Wadi Sarin 57.39 283 P **P** **15 27 05.1 +1.9**
SNR=6.6
SMDO Samad 57.96 283 P **P** **15 27 11.0 +3.6**
SNR=7.8

JMDO **Jabal Madar** 58.09 282 P P 15 27 10.4 +2.2
HOQ **Hoqain** 58.48 284 P P 15 27 12.9 +2.0
SNR=6.5
MHTO **MHTO** 58.58 281 P P 15 27 12.6 +0.9
MHTO P P 15 27 12.6 +0.9
BANOM **Banah** 58.79 287 P P 15 27 15.8 +2.7
SNR=6.0
BANOM **Banah** 58.79 287 *i* P P 15 27 15.8 +2.7
SNR=7.2
BSY **Bisya** 58.79 283 P P 15 27 15.2 +2.1
SNR=5.5
SHME **Shamm** 58.90 287 P P 15 27 16.9 +3.2
SNR=7.6
SHME **Shamm** 58.90 287 *i* P P 15 27 16.0 +2.2
SNR=5.6
STKA **Stephens Creek** 58.92 160 P P 15 27 12.2 -1.4
comp=Z,8.9nm,0.7s,baz=334,slow=10,SNR=9.0
STKA LR LR 15 53 34.5
comp=Z,936nm,20.4s,baz=341,slow=37
MASF **Masafi** 59.05 286 P P 15 27 18.1 +3.2
MSFE **Esma-Masafi** 59.05 286 P P 15 27 17.7 +2.8
HATD **Hatta, Dubai** 59.21 285 P P 15 27 18.9 +3.0
SNR=6.7
HATD P P 15 27 18.9 +3.0
SNR=6.7
HATD **Hatta, Dubai** 59.21 285 *i* P P 15 27 18.7 +2.8
SNR=6.0
ASHO **Ashiyiah** 59.31 285 P P 15 27 20.0 +3.3
SNR=6.8
ASHO **Ashiyiah** 59.31 285 *i* P P 15 27 18.8 +2.1
SNR=7.6
SANVU **Saraoutou** 59.32 127 P P 15 27 16.4 -0.2
FAQ **Al Faqa, Dubai** 59.70 285 P P 15 27 21.1 +1.7
FAQ **Al Faqa, Dubai** 59.70 285 P P 15 27 21.1 +1.7
ALNE **Al Ain** 59.74 285 P P 15 27 22.5 +2.9
SNR=11
ALNE **Al Ain** 59.74 285 *i* P P 15 27 21.9 +2.3
SNR=6.9
ASUD **Al Ashush, Dub** 59.96 285 P P 15 27 22.5 +1.3
KIRV **Kirov** 60.51 325 P P 15 27 23.8 -0.5
comp=Z,43nm,0.7s,baz=92,slow=3.2,SNR=15
KIRV LR LR 15 55 28.1
comp=Z,4µm,18.1s,baz=94,slow=38
KIRV **Kirov** 60.51 325 *ce* P P 15 27 23.2 -1.1
UMZA **Um Al Zommool** 60.62 283 P P 15 27 26.6 +1.0
KOUNC **Koumac, New Ca** 60.75 134 IAMs_20 IAMs_20 15 48 20.4
comp=Z,2µm,22.0s
MZWR **Madinat Zayed** 61.47 285 P P 15 27 32.6 +1.2
BELG **Belogornoye** 61.64 318 P P 15 27 31.3 -0.8
comp=Z,79nm,1.0s,baz=281,slow=3.6,SNR=9.0
BELG LR LR 15 55 15.8
comp=Z,1µm,22.0s,baz=77,slow=37
BELG **Belogornoye** 61.64 318 ⇓ *i* P P 15 27 31.9 -0.2
BELG pmax pmax
comp=Z,17nm,1.1s
MZR **Muzera** 62.03 284 P P 15 27 36.2 +1.0
SNR=5.2
MZR **Muzera** 62.03 284 *i* P P 15 27 35.5 +0.3
SNR=9.0
JRN **Qarnain Island** 62.06 286 P P 15 27 35.3 0.0
RDOG **Red Dog Mine** 62.25 24 P P 15 27 35.2 -0.8
baz=266
PRGR **Permogore** 62.44 328 *e* P P 15 27 35.3 -2.0
LKRN **Lenkeran, Azer** 62.45 302 P P 15 27 39.1 +1.4
MAK **Makhachkala** 62.72 307 *e* P P 15 27 33.2 -6.3
MAK *e* S S 15 35 57.8 -10
MAK *e* SS SS 15 40 06.9 -5.2
MAK *e* SSS SSS 15 43 02.6
MAK pmax pmax
comp=Z,95nm,1.0s
MAK MLR MLR
comp=Z,2µm,13.0s
DOK **Doka** 62.73 279 P P 15 27 40.2 +0.3
SEKA **Sheki** 63.22 305 P P 15 27 43.9 +0.9
DZM **Mont Dzumac** 63.24 133 LR LR 15 50 42.1
comp=Z,2µm,21.5s,baz=310,slow=32
DZM **Mont Dzumac** 63.24 133 *e* P P 15 27 45.0 +1.7
comp=Z,111nm,1.4s
DZM *e* S S 15 36 13.0 -1.9
comp=Z,1µm,27.2s
DZM *e* SS SS 15 40 19.5 -2.2
comp=Z,1µm,24.5s
DZM *e* LR LR 15 46 26.6
comp=Z,6µm,23.9s,baz=289
WHFO **Wadi Hawf** 63.27 279 P P 15 27 44.3 +0.7
SLWR **Sila** 63.31 286 P P 15 27 45.8 +2.0
SLWR P P 15 27 45.8 +2.0
MNGR **Mingechevir, A** 63.38 305 P P 15 27 45.9 +2.0
SHMA **Al-Shehemyia** 63.46 288 P P 15 27 46.3 +1.6
TRNA **Turayna** 63.55 287 P P 15 27 46.8 +1.5
ZKTA **Zakatala** 63.58 306 P P 15 27 46.9 +1.6
SAKB **Bahrain** 63.80 288 P P 15 27 48.2 +1.2
ABTO **Aybut** 63.88 278 P P 15 27 48.8 +1.2
SMRA **Abu-Samra** 63.88 287 P P 15 27 49.4 +1.9
GROC **Groznyy** 63.92 308 *e* P P 15 27 48.1 +0.7
GROC *e* 15 28 23.7
GROC *e* S S 15 36 20.8 -1.9
GROC *e* 15 37 39.0
GROC pmax pmax
comp=Z,50nm,0.6s
GROC MLR MLR
comp=Z,591nm,11.0s
GANJ **Ganja** 63.97 305 P P 15 27 48.9 +1.0
A21K **Barrow** 64.56 21 P P 15 27 50.6 -0.5
baz=270
GCSA **Galena City Sc** 64.66 28 P P 15 27 51.2 -0.7
baz=273
NAX **Nakhchivan** 64.88 303 P P 15 27 56.3 +2.4
TTA **Tatalina** 65.17 30 P P 15 27 55.4 0.0
TTA **Tatalina** 65.17 30 P P 15 27 55.4 0.0
TTA **Tatalina** 65.17 30 P P 15 27 54.2 -1.2
baz=275,SNR=12
GNI **Garni** 65.25 305 P P 15 27 56.7 +0.3
comp=Z,18nm,0.8s,baz=327,slow=3.1,SNR=13
GNI LR LR 15 59 20.1
comp=Z,646nm,19.6s,baz=90,slow=39
GNI **Garni** 65.25 305 P P 15 27 56.5 0.0
GNI pmax pmax
comp=Z,54nm,1.1s
GNI MLR MLR
comp=Z,700nm,22.0s
GNI **Garni** 65.25 305 P P 15 27 56.5 0.0
GNI **Garni** 65.25 305 P P 15 27 59.3 +2.8
GNI **Garni** 65.25 305 P P 15 27 58.3 +1.9
ZEI **Tsey** 65.36 308 *e* P P 15 27 55.7 -1.4
ZEI pmax pmax
comp=Z,74nm,1.0s
VRH **Novokhopyorsk** 65.41 317 *e* P P 15 27 56.2 -0.8
VRH pmax pmax
comp=Z,70nm,0.8s
VRH MLR MLR
comp=Z,1µm,12.0s
KLMR **Klimovskoe** 65.43 328 *e* P P 15 27 53.5 -3.4
KLMR *e* 15 30 18.1
KLMR pmax pmax
comp=Z,70nm,1.2s
KLMR MLR MLR
comp=Z,6µm,14.0s
KLMR **Klimovskoe** 65.43 328 *e* P P 15 27 53.6 -3.4
KLMR AMP 15 28 03.3
comp=Z,70nm,1.2s
KLMR *e* PP PP 15 30 18.2 -2.4
KLMR LQ LQ 15 52 10.9
KLMR LQ LQ 15 52 10.9
KLMR LR LR 15 56 18.4
KLMR AMP 15 59 27.0
comp=Z,6µm,14.2s
N18K **Kilae Creek** 65.44 32 P P 15 27 56.3 -0.8
baz=276
SVW2 **Sparrevohn** 65.55 32 P P 15 27 57.3 -0.5
SVW2 IAmb IAmb 15 28 07.9
comp=Z,20nm,1.1s
GOF **Gofitskoye** 65.55 310 ⇑ *e* P P 15 27 57.6 -0.5
GOF pmax pmax
comp=Z,126nm,1.0s
L19K **White Mountain** 65.78 31 P P 15 27 58.8 -0.4
L19K IAmb IAmb 15 28 10.7
comp=Z,22nm,1.1s
L19K **White Mountain** 65.78 31 P P 15 27 57.4 -1.9
baz=276,SNR=6.8
O18K **Koktuh Hills** 65.87 33 IAmb IAmb 15 28 02.6
comp=Z,27nm,1.1s
O18K **Koktuh Hills** 65.87 33 P P 15 27 58.9 -1.0
baz=277
IMAR **Indian Mountai** 65.87 27 P P 15 27 59.0 -0.8

J20K **Nowinta River** 65.88 29 P P 15 27 59.2 -0.6
J20K IAmb IAmb 15 28 02.9
comp=Z,42nm,1.4s
J20K **Nowinta River** 65.88 29 P P 15 27 59.6 -0.3
baz=276,SNR=16
KBZ **Khabaz** 65.90 309 P P 15 28 00.3 0.0
comp=Z,45nm,0.9s,baz=110,slow=4.3,SNR=60
KBZ LR LR 16 01 24.1
comp=Z,1µm,19.5s,baz=74,slow=40
KBZ **Khabaz** 65.90 309 *ce* P P 15 28 00.2 -0.1
KBZ pmax pmax
comp=Z,64nm,0.9s
P18K **Big Mountain,** 65.92 34 P P 15 27 59.3 -0.9
baz=277
AKH **Akhalkalaki** 65.93 306 ⇓ P P 15 28 02.3 +1.5
AKH **Akhalkalaki** 65.93 306 P P 15 28 02.3 +1.5
K20K **Telida** 66.01 29 P P 15 28 00.5 -0.2
K20K IAmb IAmb 15 28 03.9
comp=Z,33nm,1.3s
K20K IAMs_20 IAMs_20 15 56 22.6
comp=Z,2µm,21.0s
K20K **Telida** 66.01 29 P P 15 27 59.9 -0.8
baz=276,SNR=8.4
KIV **Kislovodsk** 66.01 309 *e* P P 15 28 01.0 -0.2
KIV *e* 15 30 26.2
KIV *e* S S 15 36 49.1 +0.5
KIV *e* SS SS 15 41 05.4 +1.8
KIV pmax pmax
comp=Z,62nm,3.9s
KIV pmax pmax
comp=Z,79nm,1.0s
KIV MLR MLR
comp=Z,1µm,17.0s
KIV **Kislovodsk** 66.01 309 P P 15 28 00.7 -0.4
KIV **Kislovodsk** 66.01 309 P P 15 28 02.7 +1.5
KIV **Kislovodsk** 66.01 309 *i* P P 15 28 02.4 +1.3
SNR=14
M19K **Big River Lodg** 66.02 31 IAmb IAmb 15 28 22.3
comp=Z,18nm,0.9s
M19K **Big River Lodg** 66.02 31 P P 15 28 00.1 -0.7
baz=277
N19K **Bonanza Creek** 66.11 32 P P 15 28 01.8 +0.2
N19K IAmb IAmb 15 28 34.7
comp=Z,15nm,0.9s
N19K **Bonanza Creek** 66.11 32 P P 15 28 00.7 -0.8
baz=277
NEY **Neytrino** 66.12 308 *i* P P 15 28 01.7 -0.3
NEY pmax pmax
comp=Z,9.0nm,0.7s
L20K **Farewell, AK** 66.19 30 P P 15 28 01.1 -0.8
baz=277,SNR=10
O19K **Port Alsworth** 66.27 33 P P 15 28 01.4 -0.9
O19K IAmb IAmb 15 28 09.2
comp=Z,14nm,0.8s
O19K **Port Alsworth** 66.27 33 P P 15 28 01.6 -0.8
baz=278
H21K **Melozitna Rive** 66.29 27 P P 15 28 01.6 -0.9
H21K IAmb IAmb 15 28 05.4
comp=Z,23nm,0.7s
H21K **Melozitna Rive** 66.29 27 P P 15 28 01.4 -1.1
baz=276,SNR=30
I21K **Tanana** 66.69 27 P P 15 28 04.7 -0.3
I21K IAmb IAmb 15 28 08.1
comp=Z,38nm,1.2s
I21K **Tanana** 66.69 27 P P 15 28 04.1 -1.0
baz=277,SNR=14
CHUM **Lake Minchumin** 66.72 29 P P 15 28 04.7 -0.5
baz=278,SNR=13
SII **Sitkinak Islan** 66.87 37 P P 15 28 05.8 -0.6
baz=279
CAST **Castle Rocks** 66.89 29 P P 15 28 05.4 -1.0
baz=278,SNR=15
P19K **Oil Pt** 66.89 33 P P 15 28 05.6 -0.8
baz=279
VORR **Voronezh** 66.89 318 *e* P P 15 28 06.1 -0.4
VORR pmax pmax
comp=Z,89nm,1.7s
LPSR **Galich'ya Gora** 66.90 319 *e* P P 15 28 05.1 -1.4
LPSR pmax pmax
comp=Z,90nm,0.9s
LPSR MLR MLR
comp=Z,1µm,11.0s
PPLA **Purkeypile** 66.91 30 P P 15 28 05.6 -1.1
baz=278
VORD **Divnogorie** 66.96 317 *e* P P 15 28 07.1 +0.1
VORD pmax pmax
comp=Z,20nm,0.6s
VSR **Storozhevoye** 67.00 317 *e* P P 15 28 06.7 -0.5
VSR pmax pmax
comp=Z,60nm,1.0s
MOS **Moscow** 67.11 322 *e* P P 15 28 05.7 -2.2
MOS *e* 15 28 34.1
MOS *e* S S 15 36 59.4 -2.0
MOS pmax pmax
comp=Z,87nm,1.2s
MOS MLR MLR
comp=Z,5µm,15.0s
COLD **Coldfoot** 67.13 25 IAmb IAmb 15 28 10.5
comp=Z,41nm,1.6s
COLD **Coldfoot** 67.13 25 P P 15 28 07.1 -0.8
baz=278,SNR=10
TOLK **Toolik Lake Re** 67.17 23 P P 15 28 07.4 -0.7
TOLK IAmb IAmb 15 28 10.5
comp=Z,23nm,0.8s
TOLK **Toolik Lake Re** 67.17 23 P P 15 28 07.0 -1.1
baz=278,SNR=24
OHAK **Old Harbor** 67.25 36 P P 15 28 07.8 -0.9
baz=280
APA **Apatity** 67.25 335 ⇓ *i* P P 15 28 09.2 +0.7
APA pmax pmax
comp=Z,16nm,0.9s
APA MLR MLR
comp=Z,6µm,14.0s
BPAW **Bear Paw Mtn.** 67.27 28 P P 15 28 07.6 -1.2
baz=279,SNR=15
KDAK **Kodiak Island** 67.53 35 LR LR 15 58 07.9
comp=Z,1µm,21.8s,baz=281,slow=36
KDAK **Kodiak Island** 67.53 35 P P 15 28 09.2 -1.2
baz=280
H23K **Yukon River** 67.61 26 P P 15 28 10.4 -0.5
baz=279,SNR=50
TRF **Thorofare Moun** 67.68 29 P P 15 28 10.4 -1.1
baz=280,SNR=8.5
CAPN **Captain Cook N** 67.73 32 P P 15 28 10.1 -1.6
baz=280
I23K **Minto, Yukon-K** 67.79 27 IAmb IAmb 15 28 53.2
comp=Z,19nm,1.0s
I23K **Minto, Yukon-K** 67.79 27 P P 15 28 10.4 -1.5
baz=280,SNR=20
OBN **Obninsk** 67.82 322 P P 15 28 10.5 -1.8
comp=Z,3.9nm,0.5s,baz=78,slow=3.2,SNR=9.8
OBN LR LR 16 00 18.9
comp=Z,598nm,19.3s,baz=65,slow=38
OBN **Obninsk** 67.82 322 *i* P P 15 28 11.9 -0.4
OBN *i* 15 28 23.8
OBN *i* 15 28 35.3
OBN *i* 15 30 38.9
OBN pmax pmax
comp=Z,92nm,1.8s
OBN MLR MLR
comp=Z,2µm,18.0s
OBN **Obninsk** 67.82 322 P P 15 28 10.8 -1.5
NEA2 **Nenana** 68.01 28 P P 15 28 13.0 -0.5
baz=280,SNR=36
M22K **Willow** 68.05 31 P P 15 28 13.0 -0.7
baz=280
BRSE **Bradley Lake S** 68.12 33 P P 15 28 12.8 -1.4
baz=281
SOC **Sochi** 68.19 309 *e* P P 15 28 12.6 -2.3
SOC *e* 15 30 41.9
SOC *e* PPP PPP 15 32 21.6
SOC *e* S S 15 37 13.0 -1.7
SOC pmax pmax
comp=Z,46nm,0.6s
SOC MLR MLR
comp=Z,2µm,15.0s
MCK **McKinley** 68.22 29 P P 15 28 13.5 -1.3
baz=281,SNR=11
H24K **Noodor Dome** 68.28 26 IAmb IAmb 15 28 18.1
comp=Z,33nm,1.2s
H24K **Noodor Dome** 68.28 26 P P 15 28 14.5 -0.6
baz=281,SNR=14
RC01 **Rabbit Creek A** 68.35 32 P P 15 28 14.5 -1.1
baz=281
TCOL **CIGO, UAF Yank** 68.47 27 IAmb IAmb 15 28 19.5
comp=Z,27nm,1.1s

TCOL **CIGO, UAF Yank** 68.47 27 P P 15 28 15.7 -0.5
baz=281
COLA **College** 68.47 27 P P 15 28 16.8 +0.5
COLA pmax pmax
comp=Z,30nm,1.2s
COLA MLR MLR
comp=Z,2µm,19.0s
COLA **College** 68.47 27 P P 15 28 16.8 +0.5
COLA IAmb IAmb 15 28 19.5
comp=Z,30nm,1.2s
COLA **College** 68.47 27 IAMs_20 IAMs_20 16 03 01.7
comp=Z,2µm,19.0s
COLA **College** 68.47 27 P P 15 28 15.5 -0.8
baz=281
O22K **Cooper Landing** 68.48 32 IAMs_20 IAMs_20 15 57 38.1
comp=Z,2µm,19.0s
O22K **Cooper Landing** 68.48 32 P P 15 28 15.7 -0.7
baz=281
WAT1 **Susitna Watana** 68.57 30 P P 15 28 16.0 -1.0
baz=281
POKR **Poker Plat Res** 68.60 27 P P 15 28 16.2 -0.9
baz=281,SNR=17
GHO **Glory Hole Cre** 68.61 31 IAmb IAmb 15 28 55.3
comp=Z,26nm,1.0s
SEW **Seward** 68.69 33 P P 15 28 16.8 -0.8
baz=282
SML **Sawmill** 68.87 31 P P 15 28 17.9 -1.0
baz=282
KNK **Knik Glacier** 68.90 31 P P 15 28 17.9 -1.1
baz=282
MSVF **Nonsavu** 68.90 122 LR LR 15 54 56.7
comp=Z,593nm,20.8s,baz=292,slow=33
ILAR **Eielson Array** 68.90 27 P P 15 28 17.9 -1.1
comp=Z,3.6nm,0.5s,baz=265,slow=5.5,SNR=49
ILAR LR LR 16 00 16.9
comp=Z,1µm,20.0s,baz=350,slow=38
WAT6 **Susitna Watana** 68.98 30 P P 15 28 18.6 -1.2
baz=282,SNR=13
DHY **Denali Highway** 69.04 29 P P 15 28 18.4 -1.7
baz=282,SNR=9.4
PWL **Port Wells** 69.07 32 P P 15 28 18.7 -1.5
baz=282
KEV **Kevo** 69.14 338 IAMs_20 IAMs_20 16 04 22.8
comp=Z,2µm,19.0s
M23K **Glacier View** 69.16 31 P P 15 28 19.2 -1.5
baz=282,SNR=7.8
SCM **Sheep Creek Mo** 69.33 30 P P 15 28 20.2 -1.7
baz=283,SNR=8.6
ANN **Anapa** 69.50 311 *e* P P 15 28 14.7 -8.3
ANN *e* *PP P 15 28 17.9 -5.1
ANN *e* 15 28 40.0
ANN pmax pmax
comp=Z,201nm,1.1s
SPB2 **Spitsbergen Ar** 69.55 348 IAmb IAmb 15 28 48.1
comp=Z,34nm,1.0s
SPITS **Spitsbergen Ar** 69.55 348 P P 15 28 22.5 -0.3
comp=Z,6.6nm,0.6s,baz=105,slow=9.7,SNR=25
SPITS LR LR 16 02 40.3
comp=Z,3µm,20.1s,baz=235,slow=39
SPITS **Spitsbergen Ar** 69.55 348 P P 15 28 21.3 -1.5
SPITS pmax pmax
comp=Z,63nm,1.4s
J25K **Salcha River,** 69.57 27 P P 15 28 22.2 -1.0
baz=283,SNR=7.1
K24K **Donnelly Dome** 69.58 28 P P 15 28 22.9 -0.3
baz=283,SNR=17
GLI **Glacier Island** 69.66 31 P P 15 28 22.8 -0.9
baz=283
ARCES **ARCESS Array B** 69.71 338 P P 15 28 24.4 +0.5
comp=Z,11nm,0.9s,baz=65,slow=6.7,SNR=13
ARCES LR LR 16 01 56.2
comp=Z,1µm,19.0s,baz=76,slow=38
ARCES **ARCESS Array B** 69.71 338 IAmb IAmb 15 30 21.2
comp=Z,42nm,1.5s
M24K **Tolsona, Glenn** 69.80 30 P P 15 28 23.8 -0.8
baz=284,SNR=9.8
PAX **Paxson** 69.91 29 P P 15 28 24.4 -1.0
baz=284,SNR=7.4
RIDG **Independent Ri** 70.00 28 P P 15 28 24.7 -1.2
baz=284,SNR=8.7
KLU **Klutina** 70.06 31 P P 15 28 25.2 -1.1
baz=284,SNR=7.3
HARP **HAARP** 70.19 30 P P 15 28 26.2 -0.8
baz=284
DIV **Divide** 70.22 31 P P 15 28 26.7 -0.6
SCRK **Sand Creek** 70.31 28 P P 15 28 27.2 -0.7
baz=285,SNR=15
J26L **Joseph Creek** 70.35 27 P P 15 28 26.9 -1.2
baz=285,SNR=32
EYAK **Cordova Ski Ar** 70.38 32 P P 15 28 27.3 -0.9
baz=284
MSEY **Mahe Island** 70.61 255 P P 15 28 30.5 +0.2
MSEY **Mahe Island** 70.61 255 *i* P P 15 28 31.3 +0.9
SNR=6.2
N25K **Chitina, Valde** 70.65 30 IAmb IAmb 15 28 38.8
comp=Z,23nm,1.1s
N25K **Chitina, Valde** 70.65 30 P P 15 28 28.7 -1.2
baz=285
MENT **Mentasta** 70.70 29 IAmb IAmb 15 28 34.0
comp=Z,22nm,0.8s
BMRM **Bremner River** 70.81 31 IAmb IAmb 15 28 40.0
comp=Z,38nm,1.0s
BMRM **Bremner River** 70.81 31 P P 15 28 29.6 -1.3
baz=285,SNR=5.8
L26K **Log Cabin Wild** 70.84 29 IAmb IAmb 15 28 58.7
comp=Z,21nm,1.0s
L26K IAMs_20 IAMs_20 16 00 28.3
comp=Z,2µm,19.0s
L26K **Log Cabin Wild** 70.84 29 P P 15 28 30.0 -0.9
baz=286,SNR=5.4
K27K **Chicken** 71.11 28 P P 15 28 32.7 +0.2
K27K IAmb IAmb 15 28 35.1
comp=Z,26nm,0.8s
K27K **Chicken** 71.11 28 P P 15 28 32.1 -0.4
baz=286
M26K **Nabesna, AK** 71.16 29 IAMs_20 IAMs_20 16 00 10.0
comp=Z,1µm,20.0s
M26K **Nabesna, AK** 71.16 29 P P 15 28 32.3 -0.7
baz=286,SNR=30
KAIM **Kayak Island** 71.18 32 P P 15 28 32.2 -0.9
baz=286
EGAK **Eagle** 71.27 27 IAmb IAmb 15 28 35.3
comp=Z,24nm,0.8s
EGAK **Eagle** 71.27 27 P P 15 28 32.9 -0.6
baz=287,SNR=23
MCARA **McCarthy VSAT** 71.44 30 P P 15 28 33.1 -1.5
baz=286,SNR=9.4
L27K **Beaver Creek,** 71.49 29 IAmb IAmb 15 28 37.8
comp=Z,22nm,0.8s
L27K IAMs_20 IAMs_20 16 01 16.6
comp=Z,2µm,20.0s
L27K **Beaver Creek,** 71.49 29 P P 15 28 34.1 -0.8
baz=287,SNR=26
BCAR **Beaver Creek A** 71.51 29 P P 15 28 34.8 -0.3
M27K **Edge Creek, AK** 71.67 29 IAmb IAmb 15 28 38.5
comp=Z,17nm,0.9s
M27K IAMs_20 IAMs_20 15 59 41.5
comp=Z,2µm,20.0s
M27K **Edge Creek, AK** 71.67 29 P P 15 28 35.1 -1.1
baz=287,SNR=9.9
FINES **FINESS Array B** 71.69 330 P P 15 28 35.8 -0.3
comp=Z,14nm,0.7s,baz=52,slow=5.6,SNR=53
FINES LR LR 16 02 56.2
comp=Z,6µm,18.7s,baz=76,slow=38
FINES **FINESS Array B** 71.69 330 *i* P P 15 28 36.5 +0.4
FINES pmax pmax
comp=Z,14nm,0.7s
SIM **Simferopol'** 71.74 312 *e* P P 15 28 37.0 +0.3
SIM *e* 15 31 15.0
SIM *e* S S 15 37 46.0 -10
SIM pmax pmax
comp=Z,35nm,0.4s
BVCY **Beaver Creek** 72.11 29 P P 15 28 37.9 -0.7
baz=288,SNR=7.1
DAWY **Dawson** 72.22 27 P P 15 28 38.0 -1.4
DAWY IAmb IAmb 15 28 41.4
comp=Z,27nm,0.8s
DAWY **Dawson** 72.22 27 P P 15 28 38.6 -0.7
baz=289,SNR=33
I29M **Ogilvie Camp,** 72.24 26 IAmb IAmb 15 28 41.5
comp=Z,27nm,1.1s
I29M **Ogilvie Camp,** 72.24 26 P P 15 28 38.4 -1.0
baz=289,SNR=16
VSU **Vasula** 72.26 327 *i* P P 15 28 37.6 -1.9
VSU pmax pmax
comp=Z,161nm,1.1s
VSU **Vasula** 72.26 327 *e* P P 15 28 40.1 +0.6

CTG	**Chitna Glacier**	**72.34**	**31**	P		**P**	**15 28 38.9**	**-1.3**
	baz=288,SNR=12								
NOR	**Nord**	**72.35**	**354**	*i* P		**P**	**15 28 36.5**	**-3.2**
NOR				IAmb		IAmb	15 28 40.6		
	comp=Z,6.6nm,0.7s								
YUK3	**Moose Creek**	**72.49**	**30**	P		**P**	**15 28 40.3**	**-0.9**
	baz=288,SNR=5.9								
EPYK	**Eagle Plains**	**72.51**	**24**	IAmb		IAmb	15 28 42.6		
	comp=Z,36nm,1.0s								
EPYK				IAMs_20		IAMs_20	16 01 02.4		
	comp=Z,2µm,22.0s								
EPYK	**Eagle Plains**	**72.51**	**24**	P		**P**	**15 28 40.3**	**-0.7**
	baz=290,SNR=22								
J29M	**Klondike Camp**	**72.58**	**27**	P		**P**	**15 28 41.4**	**-0.1**
	baz=290,SNR=6.1								
BZK	**Bozkurt**	**72.67**	**309**	⇓P		**P**	**15 28 43.4**	**+1.1**
MNK	**Minsk**	**72.84**	**322**	*i* P		**P**	**15 28 40.7**	**-2.4**
MNK				*i*			15 31 23.5		
MNK				*i* PPP		PPP	15 33 07.3		
MNK				*i* S		**S**	**15 38 07.3**	**-1.3**
MNK				*i* SS		**SS**	**15 42 47.5**	**-0.5**
MNK				*i* SSS		SSS	15 46 05.1		
MNK				pmax		pmax			
	comp=N,20nm,0.9s								
MNK				pmax		pmax			
	comp=Z,71nm,0.9s								
MNK				pmax		pmax			
	comp=E,6.0nm,0.8s								
MNK				MLR		MLR			
	comp=Z,3µm,11.0s								
MNK				MLR		MLR			
	comp=E,356nm,13.0s								
MNK				MLR		MLR			
	comp=N,978nm,11.0s								
MNK	**Minsk**	**72.84**	**322**	*i* P		**P**	**15 28 40.7**	**-2.4**
	comp=E,6.0nm,0.8s								
MNK				*i* P		**P**	**15 28 40.7**	**-2.4**
	comp=N,20nm,0.9s								
MNK				*i* P		**P**	**15 28 40.7**	**-2.4**
	comp=Z,71nm,0.9s,baz=72								
MNK				*i* PP		**PP**	**15 31 23.6**	**-1.3**
MNK				*i* PPP		PPP	15 33 07.3		
MNK				*i* S		**S**	**15 38 07.3**	**-1.3**
MNK				*i* SS		**SS**	**15 42 47.6**	**-0.5**
MNK				*i* SSS		SSS	15 46 05.1		
MNK				*i* LQ		LQ	15 55 44.8		
MNK				*i* LR		LR	16 01 17.4		
MNK				*i* LRM		MLR	16 03 18.6		
	comp=Z,3µm,11.3s								
MNK				*i* LRM		MLR	16 03 19.6		
	comp=E,356nm,13.2s								
MNK				*i* LRM		MLR	16 03 20.9		
	comp=N,978nm,10.9s								
MEF	**Metsahovi**	**72.85**	**329**	*e*P		**P**	**15 28 44.4**	**+1.4**
INK	**Inuvik**	**72.95**	**22**	LR		LR	16 04 08.9		
	comp=N,1µm,19.1s,baz=278,slow=39								
INK	**Inuvik**	**72.95**	**22**	P		**P**	**15 28 42.0**	**-1.5**
INK				pmax		pmax			
	comp=Z,35nm,1.1s								
INK	**Inuvik**	**72.95**	**22**	P		**P**	**15 28 42.0**	**-1.5**
INK				IAmb		IAmb	15 28 45.1		
	comp=Z,35nm,1.1s								
INK	**Inuvik**	**72.95**	**22**	P		**P**	**15 28 42.4**	**-1.1**
	baz=293,SNR=25								
AKASG	**Malin Array Be**	**73.22**	**318**	P		**P**	**15 28 44.8**	**-0.6**
	comp=Z,15nm,0.8s,baz=59,slow=6.5,SNR=8.0								
AKASG				LR		LR	16 03 21.0		
	comp=Z,1µm,19.0s,baz=62,slow=38								
AKASG	**Malin Array Be**	**73.22**	**318**	*i* P		**P**	**15 28 43.5**	**-1.9**
AKASG				pmax		pmax			
	comp=Z,18nm,0.8s								
AKASG	**Malin Array Be**	**73.22**	**318**	IAmb		IAmb	15 28 47.4		
	comp=Z,32nm,1.1s								
AKBB	**Malin Array Si**	**73.22**	**318**	*ce*P		**P**	**15 28 44.4**	**-1.0**
AKBB	**Malin Array Si**	**73.22**	**318**	IAmb		IAmb	15 28 47.1		
	comp=Z,47nm,1.1s								
IDID	**Didziasalis**	**73.22**	**324**	*e*P		**P**	**15 28 45.4**	**+0.1**
NACGM	**Naroch**	**73.32**	**323**	*e*P		**P**	**15 28 45.7**	**-0.2**
ASF	**Jabal al Asfar**	**73.45**	**298**	P		**P**	**15 28 47.5**	**+0.3**
	comp=Z,26nm,0.9s,baz=78,slow=2.2,SNR=20								
ASF				LR		LR	16 06 11.9		
	comp=Z,958nm,18.6s,baz=86,slow=40								
YUK4	**Talbot Arm**	**73.45**	**30**	P		**P**	**15 28 46.0**	**-0.9**
	baz=290								
ISAL	**Salakas**	**73.47**	**324**	*e*P		**P**	**15 28 47.3**	**+0.5**
BR131	**Keskin Array S**	**73.61**	**307**	*i* P		**P**	**15 28 47.9**	**-0.2**
BR131	**Keskin Array S**	**73.61**	**307**	P		**P**	**15 28 49.3**	**+1.2**
	SNR=21								
BRTR	**Keskin Array B**	**73.61**	**307**	P		**P**	**15 28 48.1**	**+0.1**
	comp=Z,36nm,0.9s,baz=104,slow=5.2,SNR=64								
BRTR				LR		LR	16 05 38.6		
	comp=Z,743nm,18.0s,baz=93,slow=40								
BRTR	**Keskin Array B**	**73.61**	**307**	*i* P		**P**	**15 28 48.2**	**+0.1**
BRTR				pmax		pmax			
	comp=Z,37nm,0.9s								
BRTR	**Keskin Array B**	**73.61**	**307**	P		**P**	**15 28 47.5**	**-0.7**
MTSE	**Matsula**	**73.63**	**327**	*e*P		**P**	**15 28 48.2**	**+0.5**
PNL	**Peninsula**	**73.68**	**32**	P		**P**	**15 28 47.1**	**-0.9**
	baz=290								
YUK6	**Outpost Mounta**	**73.72**	**30**	P		**P**	**15 28 47.5**	**-1.0**
	baz=290,SNR=7.6								
RAF	**Rauma**	**73.80**	**330**	*e*P		**P**	**15 28 49.1**	**+0.5**
M30M	**Minto, Yukon**	**73.83**	**28**	IAmb		IAmb	15 28 51.8		
	comp=Z,47nm,1.2s								
M30M				IAMs_20		IAMs_20	16 02 49.5		
	comp=Z,2µm,19.0s								
M30M	**Minto, Yukon**	**73.83**	**28**	P		**P**	**15 28 48.5**	**-0.4**
	baz=291,SNR=22								
A36M	**Sachs Harbour**	**73.90**	**17**	IAmb		IAmb	15 28 50.2		
	comp=Z,26nm,1.0s								
A36M				IAMs_20		IAMs_20	16 04 55.8		
	comp=Z,1µm,20.0s								
A36M	**Sachs Harbour**	**73.90**	**17**	P		**P**	**15 28 47.6**	**-1.4**
	baz=299,SNR=10								
HYT	**Haines Junctio**	**74.16**	**30**	IAmb		IAmb	15 28 53.7		
	comp=Z,30nm,1.1s								
HYT	**Haines Junctio**	**74.16**	**30**	P		**P**	**15 28 50.0**	**-0.9**
	baz=291,SNR=12								
ANTO	**Ankara**	**74.18**	**307**	P		**P**	**15 28 51.2**	**-0.2**
ANTO				pmax		pmax			
	comp=Z,79nm,0.8s								
ANTO	**Ankara**	**74.18**	**307**	P		**P**	**15 28 51.2**	**-0.2**
MMAI	**Mount Meron Ar**	**74.38**	**299**	LR		LR	16 06 31.7		
	comp=Z,1µm,18.1s,baz=228,slow=40								
SORM	**Soroca**	**74.57**	**316**	⇑P		**P**	**15 28 53.7**	**+0.3**
KIS	**Kishinev**	**74.64**	**315**	*e*P		**P**	**15 28 52.0**	**-1.8**
KIS				*e*LR		LR	16 02 47.0		
	comp=Z,700nm,18.0s								
KIS	**Kishinev**	**74.64**	**315**	*e*P		**P**	**15 28 52.0**	**-1.8**
KIS				MLR		MLR			
	comp=Z,700nm,18.0s								
KIS				MLR		MLR			
	comp=E,700nm,15.0s								
PABE	**Paberze**	**74.65**	**324**	*e*P		**P**	**15 28 54.4**	**+0.7**
MILM	**Milestii Mici**	**74.67**	**315**	*e*P		**P**	**15 28 49.5**	**-4.5**
MILM				*e*S		**S**	**15 38 25.0**	**-4.5**
MILM	**Milestii Mici**	**74.67**	**315**	*e*LR		LR	15 59 35.0		
	comp=E,1µm,14.0s								
MILM	**Milestii Mici**	**74.67**	**315**	*e*P		P	15 28 49.0	-5.0
MILM				*e*S		**S**	**15 38 25.0**	**-4.5**
MILM				*e*PS		**PnS**	**15 38 57.0**	**-7.1**
MILM				pmax		pmax			
	comp=Z,230nm,7.4s								
MILM				MLR		MLR			
	comp=Z,2µm,17.0s								
MILM	**Milestii Mici**	**74.67**	**315**	*e*PS			15 38 57.0		
N31M	**Braeburn, Yuko**	**74.69**	**29**	IAmb		IAmb	15 28 56.8		
	comp=Z,36nm,1.1s								
N31M	**Braeburn, Yuko**	**74.69**	**29**	P		**P**	**15 28 53.0**	**-0.9**
	baz=292,SNR=11								
M31M	**Drury Creek, Y**	**75.01**	**28**	IAMs_20		IAMs_20	16 03 45.7		
	comp=Z,2µm,21.0s								
M31M	**Drury Creek, Y**	**75.01**	**28**	P		**P**	**15 28 55.4**	**-0.3**
	baz=293,SNR=15								
AFI	**Afiamalu**	**75.09**	**113**	LR		LR	16 00 56.6		
	comp=Z,308nm,19.6s,baz=266,slow=35								
JURR	**Jurilovca**	**75.34**	**313**	⇓P		**P**	**15 28 59.3**	**+1.4**
ATD	**Arta Tunnel**	**75.39**	**276**	LR		LR	16 02 14.8		
	comp=Z,306nm,18.4s,baz=42,slow=36								
WHY	**Whitehorse**	**75.41**	**30**	IAmb		IAmb	15 29 00.9		
	comp=Z,32nm,1.1s								
WHY	**Whitehorse**	**75.41**	**30**	P		**P**	**15 28 57.4**	**-0.8**
	baz=293,SNR=7.6								
FARO	**Faro, Yukon**	**75.45**	**28**	P		**P**	**15 28 57.4**	**-0.9**
	baz=294,SNR=10								
C36M	**Paulatuk**	**75.56**	**20**	IAmb		IAmb	15 28 59.8		
	comp=Z,50nm,1.2s								
C36M				IAMs_20		IAMs_20	16 05 53.7		
	comp=Z,1µm,21.0s								
C36M	**Paulatuk**	**75.56**	**20**	P		**P**	**15 28 57.2**	**-1.5**
	baz=301,SNR=14								
SUW	**Suwalki**	**75.60**	**323**	*e*P		**P**	**15 28 59.3**	**+0.1**
TPGR	**Topolog**	**75.61**	**313**	⇓P		**P**	**15 28 59.5**	**0.0**
SCTR	**Scanteiesti**	**75.62**	**314**	⇓P		**P**	**15 28 59.3**	**-0.1**
SKAG	**Skagway**	**75.68**	**31**	P		**P**	**15 28 58.8**	**-0.7**
	baz=293,SNR=11								
CFR	**Carcaliu**	**75.69**	**313**	⇓P		**P**	**15 28 59.8**	**-0.1**
TIRR	**Tirgusor**	**75.75**	**312**	⇓P		**P**	**15 29 01.8**	**+1.6**
EIL	**Elat**	**75.85**	**296**	P		**P**	**15 29 01.3**	**+0.2**
	comp=Z,20nm,1.1s,baz=161,slow=1.9,SNR=5.5								
EIL				LR		LR	16 08 03.5		
	comp=Z,715nm,18.4s,baz=88,slow=40								
HARR	**Harsova**	**76.00**	**313**	⇓P		**P**	**15 29 02.3**	**+0.6**
UPP	**Uppsala**	**76.14**	**330**	*e*P		**P**	**15 29 02.4**	**+0.3**
MMPY	**Sheldon Lake,**	**76.16**	**27**	P		**P**	**15 29 01.0**	**-1.4**
	baz=296,SNR=5.3								
TESR	**Tescani**	**76.21**	**315**	⇑P		**P**	**15 29 04.0**	**+1.2**
VRI	**Vrincioaia**	**76.38**	**314**	⇑P		**P**	**15 29 04.8**	**+0.9**
VRI	**Vrincioaia**	**76.38**	**314**	P		**P**	**15 29 04.8**	**+0.9**
DAG	**Danmarks Havn**	**76.40**	**351**	*i* P		**P**	**15 29 02.5**	**-0.8**
DAG				IAmb		IAmb	15 29 20.3		
	comp=Z,3.4nm,0.7s								
PLOR	**Plostina**	**76.44**	**314**	⇓P		**P**	**15 29 04.6**	**+0.3**
PLOR	**Plostina**	**76.44**	**314**	P		**P**	**15 29 04.5**	**+0.3**
SIT	**Sitka**	**76.65**	**33**	P		**P**	**15 29 04.3**	**-0.7**
	baz=294								
LVV	**L'vov**	**76.65**	**319**	*e*P		**P**	**15 29 04.9**	**-0.4**
BURAR	**Bucovina Array**	**76.73**	**316**	⇓P		**P**	**15 29 06.5**	**+0.6**
BURAR	**Bucovina Array**	**76.73**	**316**	P		**P**	**15 29 05.1**	**-0.8**
BURAR				pmax		pmax			
	comp=Z,24nm,1.1s								
BURAR	**Bucovina Array**	**76.73**	**316**	P		**P**	**15 29 04.7**	**-1.2**
BURAR				IAmb		IAmb	15 29 09.3		
	comp=Z,24nm,1.1s								
COVR	**Voineasa-Covas**	**76.73**	**314**	⇑P		**P**	**15 29 07.3**	**+1.5**
PRD	**Provadia**	**76.88**	**312**	*e*P		**P**	**15 29 07.7**	**+1.0**
MLR	**Muntele Rosu**	**77.03**	**314**	⇑P		**P**	**15 29 07.5**	**-0.2**
MLR	**Muntele Rosu**	**77.03**	**314**	P		**P**	**15 29 06.8**	**-0.9**
	comp=Z,26nm,0.9s,baz=34,slow=3.7,SNR=28								
MLR				LR		LR	16 06 54.5		
	comp=Z,2µm,19.9s,baz=58,slow=39								
DOPR	**Dopca**	**77.22**	**315**	⇓P		**P**	**15 29 09.7**	**+1.1**
RAZG	**Razgrad**	**77.36**	**312**	⇓P		**P**	**15 29 11.3**	**+2.0**
HFS	**Hagfors**	**77.80**	**331**	LR		LR	16 06 36.2		
	comp=Z,6µm,19.8s,baz=64,slow=38								
TGTN	**Hyland Airport**	**77.92**	**27**	P		**P**	**15 29 11.4**	**-0.8**
	baz=299,SNR=9.2								
ARR	**Arges**	**77.93**	**314**	⇓P		**P**	**15 29 13.7**	**+1.0**
HUMR	**Humele**	**78.02**	**313**	⇓P		**P**	**15 29 14.1**	**+1.1**
KOLS	**Kolonicke sedl**	**78.05**	**318**	*e*P		**P**	**15 29 14.8**	**+1.6**
KOLS				pmax		pmax			
	comp=Z,14nm,0.8s								
KOLS	**Kolonicke sedl**	**78.05**	**318**	*e*P		**P**	**15 29 14.8**	**+1.6**
UZH	**Uzhgorod**	**78.16**	**318**	⇑*i*P		**P**	**15 29 11.7**	**-2.0**
UZH				*i*			15 29 15.4		
UZH				*i*			15 29 20.4		
UZH				*e*			15 32 09.1		
UZH				*i* S		**S**	**15 39 02.9**	**-4.8**
UZH				*e*			15 40 00.7		
UZH				MLR		MLR			
	comp=Z,250nm,13.0s								
NC405	**NORSAR Array S**	**78.20**	**332**	P		**P**	**15 29 12.5**	**-1.3**
WTLY	**Watson Lake, Y**	**78.37**	**29**	P		**P**	**15 29 14.1**	**-0.6**
	baz=298								
WRAK	**Wrangell Islan**	**78.40**	**33**	P		**P**	**15 29 14.1**	**-0.8**
	baz=296								
NB201	**NORSAR Array S**	**78.41**	**332**	P		**P**	**15 29 14.0**	**-0.9**
NB2	**NORSAR Subarra**	**78.45**	**332**	P		**P**	**15 29 14.3**	**-0.8**
	comp=Z,24nm,1.2s,baz=59,slow=5.6								
NB2	**NORSAR Subarra**	**78.45**	**332**	P		**P**	**15 29 14.3**	**-0.8**
	baz=59,slow=5.6								
NOA	**NORSAR Array B**	**78.45**	**332**	P		**P**	**15 29 14.3**	**-0.8**
	comp=Z,8.3nm,1.0s,baz=57,slow=5.5,SNR=14								
NOA				LR		LR	16 06 44.8		
	comp=Z,3µm,19.9s,baz=60,slow=38								
LOT	**Lotru**	**78.47**	**315**	⇑P		**P**	**15 29 15.9**	**+0.3**
RES	**Resolute Bay**	**78.52**	**9**	LR		LR	16 08 22.0		
	comp=Z,1µm,18.8s,baz=323,slow=39								
RER	**Riviere de l'E**	**78.52**	**241**	P		**P**	**15 29 18.4**	**+2.2**
CRVS	**Cervenica-Dubn**	**78.56**	**319**	*e*P		**P**	**15 29 16.7**	**+0.7**
CRVS				pmax		pmax			
	comp=Z,130nm,2.2s								
CRVS	**Cervenica-Dubn**	**78.56**	**319**	*e*P		**P**	**15 29 16.7**	**+0.7**
DLBC	**Dease Lake**	**78.60**	**31**	LR		LR	16 04 25.7		
	comp=Z,1µm,21.0s,baz=312,slow=36								
DLBC	**Dease Lake**	**78.60**	**31**	IAmb		IAmb	15 29 19.1		
	comp=Z,27nm,1.0s								
DRGR		**78.62**	**316**	⇑P		**P**	**15 29 16.2**	**-0.2**
DRGR		**78.62**	**316**	P		**P**	**15 29 16.2**	**-0.2**
DBG	**Daneborg**	**78.64**	**350**	*i* P		**P**	**15 29 14.4**	**-1.6**
DBG				IAmb		IAmb	15 29 23.9		
	comp=Z,3.4nm,0.7s								
KDZ	**Kurdzhali**	**78.81**	**311**	*e*P		**P**	**15 29 17.1**	**-0.4**
JMIC	**Jan Mayen**	**78.93**	**345**	LR		LR	16 07 19.1		
	comp=Z,1µm,18.4s,baz=72,slow=38								
GZR	**Gura Zlata**	**79.13**	**315**	⇑P		**P**	**15 29 20.2**	**+1.0**
PLD	**Plovdiv**	**79.13**	**311**	*e*P		**P**	**15 29 19.8**	**+0.6**
TULEG	**Thule**	**79.24**	**3**	IAMs_20		IAMs_20	16 08 30.5		
	comp=Z,1µm,19.0s								
RZN	**Rozhen**	**79.28**	**311**	*e*P		**P**	**15 29 20.5**	**+0.2**
KECS	**Kecovo**	**79.32**	**318**	*e*P		**P**	**15 29 21.5**	**+1.4**
KECS				pmax		pmax			
	comp=Z,26nm,1.0s								
KECS	**Kecovo**	**79.32**	**318**	*e*P		**P**	**15 29 21.5**	**+1.4**
PGB	**Panagyurishte**	**79.33**	**312**	*e*P		**P**	**15 29 21.3**	**+0.9**
PUNG	**Punghina**	**79.47**	**314**	⇓P		**P**	**15 29 21.6**	**+0.5**
HERR	**Herculane**	**79.57**	**315**	⇑P		**P**	**15 29 21.3**	**-0.3**
DJES	**Djerdap**	**79.59**	**314**	⇑P		**P**	**15 29 22.2**	**+0.5**
LANS	**Liptovska Anna**	**79.65**	**319**	*e*P		**P**	**15 29 25.1**	**+3.1**
LANS				pmax		pmax			
	comp=Z,7.0nm,1.2s								
LANS	**Liptovska Anna**	**79.65**	**319**	*e*P		**P**	**15 29 25.1**	**+3.1**
PSZ	**Piszkesteto**	**79.91**	**318**	⇑P		**P**	**15 29 24.0**	**+0.6**
PSZ	**Piszkesteto**	**79.91**	**318**	P		**P**	**15 29 22.8**	**-0.6**
VTS	**Vitosha**	**79.93**	**312**	⇑P		**P**	**15 29 23.5**	**-0.3**
VTS	**Vitosha**	**79.93**	**312**	P		**P**	**15 29 23.1**	**-0.7**
VTS				pmax		pmax			
	comp=Z,54nm,1.2s								
VTS	**Vitosha**	**79.93**	**312**	P		**P**	**15 29 23.1**	**-0.7**
VTS				IAmb		IAmb	15 29 27.6		
	comp=Z,54nm,1.2s								
VTS	**Vitosha**	**79.93**	**312**	*e*P		**P**	**15 29 23.3**	**-0.5**
MMB	**Musomiste**	**80.00**	**311**	*e*P		**P**	**15 29 24.1**	**0.0**
MDVR	**Moldovita**	**80.07**	**315**	⇑P		**P**	**15 29 24.3**	**-0.1**
OKC	**Ostrava-Krasne**	**80.13**	**320**	*e*P		**P**	**15 29 25.2**	**+0.7**
OKC				MLR		MLR			
	comp=Z,2µm,15.4s								
OKC	**Ostrava-Krasne**	**80.13**	**320**	*e*P		**P**	**15 29 25.2**	**+0.7**
OKC				AMS		AMS	16 08 20.0		
	comp=Z,2µm,15.4s								
VYHS	**Vyhne**	**80.31**	**319**	*e*P		**P**	**15 29 26.5**	**+1.0**
VYHS				pmax		pmax			
	comp=Z,20nm,1.0s								
VYHS	**Vyhne**	**80.31**	**319**	*e*P		**P**	**15 29 26.5**	**+1.0**
KKB	**Krupnik**	**80.34**	**312**	*e*P		**P**	**15 29 26.2**	**+0.4**
MORC	**Moravsky Berou**	**80.51**	**320**	⇑P		**P**	**15 29 26.5**	**-0.2**
MORC	**Moravsky Berou**	**80.51**	**320**	P		**P**	**15 29 26.4**	**-0.2**
MORC	**Moravsky Berou**	**80.51**	**320**	*e*P		**P**	**15 29 26.5**	**-0.2**
GRNB	**Grenville Isla**	**80.81**	**35**	IAmb		IAmb	15 29 37.2		
	comp=Z,28nm,1.1s								
KRLC	**Kraliky**	**80.82**	**321**	*e*P		**P**	**15 29 29.0**	**+0.7**
KRLC				*e*S		**S**	**15 39 35.9**	**-0.1**
KRLC				MLR		MLR			
	comp=Z,3µm,13.2s								
KRLC	**Kraliky**	**80.82**	**321**	*e*P		**P**	**15 29 29.0**	**+0.7**
KRLC				*e*S		**S**	**15 39 35.9**	**-0.1**
KRLC				AMS		AMS	16 08 10.0		
	comp=Z,3µm,13.2s								
JAVC	**Velka Javorina**	**80.84**	**320**	*e*P		**P**	**15 29 29.7**	**+1.3**
OSTC	**Ostas**	**80.92**	**322**	*e*P		**P**	**15 29 31.0**	**+2.2**
OSTC				*e*S		**S**	**15 39 37.9**	**+0.9**
OSTC				AMS		AMS	16 10 00.0		
	comp=Z,4µm,15.6s								
URZ	**Urewera**	**80.94**	**139**	LR		LR	16 01 28.4		
	comp=Z,698nm,20.4s,baz=31,slow=33								
DPC	**Dobruska-Polom**	**80.96**	**321**	*e*P		**P**	**15 29 29.3**	**+0.3**
DPC				*e*S		**S**	**15 39 34.8**	**-2.7**
DPC				MLR		MLR			
	comp=Z,3µm,15.7s								
DPC	**Dobruska-Polom**	**80.96**	**321**	*e*P		**P**	**15 29 29.3**	**+0.3**
DPC				*e*S		**S**	**15 39 34.8**	**-2.7**
DPC				AMS		AMS	16 09 50.0		
	comp=Z,3µm,15.7s								
UPC	**Upice**	**81.06**	**322**	*e*P		**P**	**15 29 30.9**	**+1.4**
UPC				*e*S		**S**	**15 39 38.6**	**+0.2**
UPC				MLR		MLR			
	comp=Z,4µm,14.7s								
UPC	**Upice**	**81.06**	**322**	*e*P		**P**	**15 29 30.9**	**+1.4**
UPC				*e*S		**S**	**15 39 38.6**	**+0.2**
UPC				AMS		AMS	16 10 00.0		
	comp=Z,4µm,14.7s								
FRGS	**Fruska Gora**	**81.14**	**316**	⇓P		**P**	**15 29 29.6**	**-0.4**
VRAC	**Vranov**	**81.27**	**320**	LR		LR	16 08 01.4		
	comp=Z,797nm,19.1s,baz=60,slow=38								
VRAC	**Vranov**	**81.27**	**320**	*e*P		**P**	**15 29 30.8**	**+0.1**
MODS	**Modra-Piesok**	**81.29**	**319**	*e*P		**P**	**15 29 31.8**	**+1.0**
MODS				pmax		pmax			
	comp=Z,52nm,1.4s								
MODS	**Modra-Piesok**	**81.29**	**319**	*e*P		**P**	**15 29 31.8**	**+1.0**
RPZ	**Rata Peaks**	**81.31**	**146**	LR		LR	16 03 23.1		
	comp=Z,808nm,20.2s,baz=324,slow=34								
MORH	**Mrgy, Hungar**	**81.42**	**317**	⇑P		**P**	**15 29 31.5**	**+0.1**
MORH	**Mrgy, Hungar**	**81.42**	**317**	P		**P**	**15 29 31.8**	**+0.3**
KRUC	**Moravsky**	**81.50**	**320**	*e*P		**P**	**15 29 31.0**	**-0.9**
MPLH	**Magyarpolny**	**81.67**	**318**	P		**P**	**15 29 34.3**	**+1.5**
IDI	**Anoyia**	**81.68**	**305**	⇓P		**P**	**15 29 33.1**	**-0.1**
IDI	**Anoyia**	**81.68**	**305**	P		**P**	**15 29 32.6**	**-0.6**
	comp=Z,14nm,1.0s,baz=47,slow=4.7,SNR=4.8								
IDI				LR		LR	16 12 10.6		
	comp=Z,474nm,19.1s,baz=69,slow=40								
KOVH	**Kovagotottos**	**81.81**	**317**	P		**P**	**15 29 32.5**	**-1.1**
PVCC	**Panska Ves**	**81.87**	**322**	AMS		AMS	16 10 40.0		
	comp=Z,3µm,15.1s								
TREC	**Trest**	**81.92**	**321**	AMS		AMS	16 09 10.0		
	comp=Z,3µm,14.4s								
BRG	**Berggiesshubel**	**82.05**	**322**	*e*P		**P**	**15 29 34.4**	**-0.3**
BRG				Amp			15 29 37.1		
	comp=Z,13nm,1.2s								
BRG	**Berggiesshubel**	**82.05**	**322**	*e*P		**P**	**15 29 34.4**	**-0.3**
BRG				S		**S**	**15 39 50.0**	**+1.3**
BRG				pmax		pmax			
	comp=Z,13nm,1.2s								
PRU	**Pruhonice**	**82.14**	**322**	*e*P		**P**	**15 29 36.3**	**+1.1**
PRU				*e*S		**S**	**15 39 42.7**	**-6.9**
PRU				MLR		MLR			
	comp=Z,4µm,16.3s								
PRU	**Pruhonice**	**82.14**	**322**	*e*P		**P**	**15 29 36.3**	**+1.1**
PRU				*e*S		**S**	**15 39 42.7**	**-6.9**
PRU				AMS		AMS	16 10 20.0		
	comp=Z,4µm,16.3s								
RONA	**Rosalia, Austr**	**82.19**	**319**	*e*P		**P**	**15 29 37.2**	**+1.6**
	comp=Z,11nm,1.3s								
CONA	**Conrad Observa**	**82.34**	**319**	*i* P		**P**	**15 29 38.8**	**+2.4**
	comp=Z,29nm,1.6s,SNR=8.7								
CLL	**Collm**	**82.36**	**323**	⇓*i*P		**P**	**15 29 37.6**	**+1.3**
CLL				*e*S		**S**	**15 39 50.0**	**-1.8**
CLL				pmax		pmax			
	comp=Z,22nm,1.2s								
CLL				MLR		MLR			
	comp=Z,6µm,17.5s								
CLL	**Collm**	**82.36**	**323**	⇓*i*P		**P**	**15 29 37.6**	**+1.3**
	comp=Z,22nm,1.2s								
CLL				*e*Plp			15 29 40.0		
	comp=Z,300nm,11.1s								
CLL				*i* sP		**PcP**	**15 29 42.0**	**+0.5**
CLL				*e*PP		**PP**	**15 32 47.0**	**+2.4**
CLL				*e*S		**S**	**15 39 50.0**	**-1.8**
CLL				*e*SKSac		**SKSac**	**15 39 55.0**	**-1.7**
CLL				*ex*		x	15 46 00.0		
CLL				*e*(SSS)			15 49 12.0		
KBN	**Korca**	**82.43**	**311**	P		**P**	**15 29 34.8**	**-2.2**
KBN	**Korca**	**82.43**	**311**	P		**P**	**15 29 34.8**	**-2.2**
BBB	**Bella Bella**	**82.60**	**36**	LR		LR	16 08 38.5		

baz=306
SFJD Kangerlussuaq 88.87 357 P **P** 15 30 08.5 +0.2
comp=Z,2.1nm,0.5s,baz=338,slow=8.9,SNR=2.0
SFJD LR LR 16 11 26.3
comp=Z,483nm,20.0s,baz=353,slow=37
LPL La Plagne 88.96 320 *e*P **P** 15 30 09.6 +0.1
LPL pmax pmax
comp=Z,17nm,0.9s
G03D McMinnville, O 89.03 40 P **P** 15 30 08.9 -0.6
baz=304
EDM Edmonton 89.27 30 IAmb IAmb 15 30 13.1
comp=Z,26nm,0.9s
F05D White Salmon 89.69 39 P **P** 15 30 12.0 -0.7
baz=306
H04D Lebanon 89.73 40 P **P** 15 30 11.7 -1.1
baz=305
J01E Myrtle Point 89.77 42 P **P** 15 30 12.3 -0.8
baz=304
I03D Drain, OR 89.83 41 P **P** 15 30 12.7 -0.6
baz=304
SSF Saint Saulge 89.89 323 *e*P **P** 15 30 13.2 -0.4
SSF pmax pmax
comp=Z,12nm,1.1s
G05D Wamic, OR 90.14 39 P **P** 15 30 14.2 -0.6
baz=306
K02D Willamette Mer 90.19 42 P **P** 15 30 14.5 -0.7
baz=304
I04A Tendick Farm, 90.33 41 P **P** 15 30 14.6 -1.2
baz=305,SNR=6.8
HAWA Hanford 90.47 37 IAmb IAmb 15 30 20.1
comp=Z,28nm,0.9s
L02E Cave Junction 90.53 43 P **P** 15 30 15.7 -0.9
baz=304
NEW Newport 90.63 35 LR LR 16 11 00.8
comp=Z,539nm,20.5s,baz=335,slow=36
NEW Newport 90.63 35 IAmb IAmb 15 30 20.5
comp=Z,29nm,1.1s
NEW Newport 90.63 35 P **P** 15 30 16.4 -0.6
baz=309
I05D Terrebonne, OR 90.65 40 P **P** 15 30 16.5 -0.8
baz=306
J04D Umpqua Nationa 90.83 41 P **P** 15 30 17.1 -1.2
baz=305,SNR=7.9
MBAR Mbarara 91.23 270 P **P** 15 30 22.7 +2.1
L04D Klamath Falls 91.30 42 P **P** 15 30 19.4 -1.0
baz=305
YBH Yreka Blue Hor 91.32 43 LR LR 16 06 53.9
comp=Z,425nm,21.7s,baz=327,slow=33
J05D Fort Rock, OR 91.33 41 P **P** 15 30 19.7 -0.8
baz=306,SNR=7.6
M02C Callahan 91.43 43 P **P** 15 30 20.1 -0.8
baz=304
N02D Trinity Center 91.75 43 P **P** 15 30 20.4 -2.1
baz=305
FRB Frobisher Bay 91.93 5 LR LR 16 14 38.8
comp=Z,1µm,20.5s,baz=350,slow=38
CAF Calviac 91.98 322 *e*P **P** 15 30 23.9 +0.5
CAF pmax pmax
comp=Z,30nm,1.0s
FCC Fort Churchill 92.11 18 P **P** 15 30 22.2 -1.4
FCC pmax pmax
comp=Z,43nm,1.5s
FCC Fort Churchill 92.11 18 P **P** 15 30 22.1 -1.4
O02D Mt. Diablo Mer 92.15 44 P **P** 15 30 23.8 -0.5
baz=304
BMO Blue Mountains 92.65 38 IAmb IAmb 15 30 33.0
comp=Z,13nm,1.1s
KEST Kesra 92.67 311 P **P** 15 30 26.2 -0.6
comp=Z,8.6nm,1.0s,baz=151,slow=3.9,SNR=6.3
KEST LR LR 16 19 07.8
comp=Z,889nm,18.6s,baz=351,slow=40
KEST Kesra 92.67 311 P **P** 15 30 27.4 +0.6
O03E Paynes Creek 92.71 43 P **P** 15 30 26.2 -0.6
baz=305
LFF La Frestale 92.71 322 *e*P **P** 15 30 27.7 +1.0
LFF pmax pmax
comp=Z,5.0nm,0.6s
MSO Missoula 93.20 35 IAmb IAmb 15 30 33.8
comp=Z,22nm,1.2s
MSO IAMs_20 IAMs_20 16 19 41.1
comp=Z,1µm,20.0s
MSO Missoula 93.20 35 P **P** 15 30 28.2 -0.9
baz=311
PLID Pearl Lake 93.22 37 P **P** 15 30 29.3 0.0
ORV Oroville 93.32 44 IAmb IAmb 15 30 42.7
comp=Z,8.5nm,0.9s
BEKR Beckworth 93.86 43 P **P** 15 30 32.4 0.0
BEKR IAmb IAmb 15 30 35.5
comp=Z,12nm,0.8s
MFID Camas Ranch 94.38 38 IAmb IAmb 15 30 40.8
comp=Z,9.7nm,1.1s
MPK Martis Peak 94.40 43 IAmb IAmb 15 30 38.9
comp=Z,20nm,1.1s
EGMT Eagleton 94.49 32 IAmb IAmb 15 30 39.6
comp=Z,23nm,1.1s
EGMT IAMs_20 IAMs_20 16 14 24.9
comp=Z,1µm,22.0s
EGMT Eagleton 94.49 32 P **P** 15 30 33.9 -1.0
baz=314
PAHR Pah Rah Range 94.56 43 IAmb IAmb 15 30 39.3
comp=Z,12nm,0.9s
CMB Columbia Colle 94.91 45 P **P** 15 30 36.2 -0.8
CMB pmax pmax
comp=Z,17nm,1.2s
CMB Columbia Colle 94.91 45 P **P** 15 30 36.2 -0.8
CMB IAmb IAmb 15 30 41.2
comp=Z,17nm,1.1s
HLID Hailey 95.08 37 IAmb IAmb 15 30 50.3
comp=Z,8.2nm,0.8s
HLID Hailey 95.08 37 P **P** 15 30 36.8 -1.1
baz=310
BOZ Bozeman (W) 95.22 34 IAmb IAmb 15 30 42.9
comp=Z,14nm,1.6s
BOZ IAMs_20 IAMs_20 16 16 43.5
comp=Z,1µm,22.0s
BOZ Bozeman (W) 95.22 34 P **P** 15 30 37.6 -0.8
baz=313
KVN Kaiserville 95.74 43 P **P** 15 30 40.5 -0.5
KVN pmax pmax
comp=Z,17nm,1.2s
KVN Kaiserville 95.74 43 P **P** 15 30 40.5 -0.5
KVN IAmb IAmb 15 30 46.2
comp=Z,18nm,1.2s
PPT Papeete 95.81 107 LR LR 16 05 39.1
comp=Z,422nm,21.5s,baz=288,slow=30
PPT2 Papeete2 95.82 107 *e*S **S** 15 41 55.0 -4.4
comp=Z,1µm,24.5s
PPT2 Papeete2 95.82 107 *e*LR LR 16 01 38.7
comp=Z,1µm,23.5s,baz=291
NVAR Mina Array Bea 95.99 43 P **P** 15 30 42.3 +0.1
comp=Z,4.7nm,0.9s,baz=284,slow=4.3,SNR=19
NVAR LR LR 16 11 15.7
comp=Z,280nm,20.3s,baz=326,slow=34
LKWY Lake 96.56 35 IAMs_20 IAMs_20 16 17 35.0
comp=Z,1µm,20.0s
DGMT Dagmar 96.73 29 IAMs_20 IAMs_20 16 18 48.0
comp=Z,1µm,19.0s
DGMT Dagmar 96.73 29 P **P** 15 30 43.9 -1.2
baz=319
RLMT Red Lodge 96.75 34 IAMs_20 IAMs_20 16 16 05.0
comp=Z,1µm,20.0s
LOHW Long Hollow 97.11 35 IAMs_20 IAMs_20 16 23 10.5
comp=Z,806nm,18.0s
LAO LASA Array 97.12 31 IAMs_20 IAMs_20 16 17 45.6
comp=Z,1µm,20.0s
REDW Red Top Meadow 97.15 36 IAMs_20 IAMs_20 16 21 02.6
comp=Z,912nm,19.0s
R11A Troy Canyon, C 97.72 42 P **P** 15 30 48.7 -1.3
baz=309
HWUT Hardware Ranch 97.95 37 IAMs_20 IAMs_20 16 19 20.9
comp=Z,959nm,20.0s
MPMC Manual Prospec 97.95 45 P **P** 15 30 49.4 -1.7
baz=308
TBI Tubuai 98.17 112 *e*S **S** 15 42 15.2 -4.0
comp=Z,631nm,25.5s
TBI Tubuai 98.17 112 *e*LR LR 16 02 36.4
comp=Z,376nm,25.0s
LRMC Laurel Mtn Rad 98.17 45 P **P** 15 30 51.1 -0.9
baz=308
DUG Dugway, Tooele 98.18 39 IAMs_20 IAMs_20 16 22 55.2
comp=Z,878nm,20.0s
DUG Dugway, Tooele 98.18 39 P **P** 15 30 51.2 -0.7
baz=311
TPNV Topopah Spring 98.19 43 P **P** 15 30 51.3 -0.7
baz=309
BW06 Boulder Array 98.24 36 IAMs_20 IAMs_20 16 23 13.6
comp=Z,820nm,19.0s
BW06 Boulder Array 98.24 36 P **P** 15 30 51.2 -1.1
baz=314
PDAR Pinedale Array 98.24 36 P **P** 15 30 52.0 -0.3
comp=Z,0.3nm,0.5s,baz=5.7,slow=0.9,SNR=4.1
PDAR LR LR 16 16 24.7
comp=Z,308nm,20.8s,baz=349,slow=36
SNCC San Nicolas Is 98.28 48 P **P** 15 30 51.1 -1.2
baz=306
ULM Lac du Bonnet 98.67 23 LR LR 16 18 34.3
comp=Z,482nm,18.7s,baz=328,slow=37
ESDC Sonseca Array 98.77 321 PP **PP** 15 34 55.1 +0.1
comp=Z,0.4nm,0.3s,baz=49,slow=6.6,SNR=2.0
ESDC LR LR 16 19 48.2
comp=Z,764nm,18.4s,baz=41,slow=38
PAB San Pablo 99.07 321 IAMs_20 IAMs_20 16 20 36.0
comp=Z,984nm,20.0s
LSZ Lusaka 99.36 257 LR LR 16 13 23.7
comp=Z,474nm,18.6s,baz=81,slow=34
RSSD Black Hills 100.06 32 IAMs_20 IAMs_20 16 24 13.3
comp=Z,1µm,19.0s
AGMN Agassiz Nation 100.28 25 IAMs_20 IAMs_20 16 20 51.7
comp=Z,1µm,20.0s
TAOE Nuku Hiva Isla 100.86 95 *e*LQ LQ 15 59 27.9
comp=Z,666nm,28.8s
TAOE *e*LR LR 16 03 53.8
comp=Z,511nm,21.4s,baz=284
PHWY Pilot Hill 101.43 34 IAMs_20 IAMs_20 16 23 54.8
comp=Z,960nm,19.0s
ISCO Idaho Springs 102.44 36 IAMs_20 IAMs_20 16 19 59.7
comp=Z,1µm,21.0s
OGNE Ogallala 103.42 33 IAMs_20 IAMs_20 16 20 51.4
comp=Z,890nm,20.0s
ECSD EROS Data Cent 103.72 28 IAMs_20 IAMs_20 16 26 04.7
comp=Z,1µm,19.0s
SDCO Great Sand Dun 103.99 37 IAMs_20 IAMs_20 16 20 42.7
comp=Z,931nm,20.0s
VNDA Vanda 104.27 172 PP **PP** 15 35 36.5 0.0
comp=Z,0.7nm,0.9s,baz=357,slow=6.0,SNR=3.7
COWI Conover 104.57 22 IAMs_20 IAMs_20 16 24 07.8
comp=Z,1µm,21.0s
KSU1 Kansas State U 107.46 30 IAMs_20 IAMs_20 16 29 29.0
comp=Z,1µm,18.0s
MNTX Cornudas Mount 108.37 41 P **PKiKP** 15 35 42.2 -1.2
baz=315
SYO Syowa Base 109.66 202⇑ *e*Pdiff **Pdif** 15 31 41.6 -0.3
WMOK Wichita Mounta 109.83 35 IAMs_20 IAMs_20 16 28 22.2
comp=Z,1µm,18.0s
CCM Cathedral Cave 110.69 27 IAMs_20 IAMs_20 16 27 51.3
comp=Z,1µm,19.0s
TORD Torodi Ar. Bea 110.74 296 PKiKP **PKiKP** 15 35 48.0 -0.1
comp=Z,0.8nm,0.6s,baz=32,slow=2.3,SNR=4.6
TORD PP **PP** 15 36 25.2 +0.4
comp=Z,1.3nm,0.8s,baz=60,slow=7.5,SNR=5.2
TORD PKKPbc **PKKPbc** 15 46 44.3 -1.6
comp=Z,1.1nm,0.9s,baz=234,slow=3.0,SNR=4.7
TXAR Lajitas Array 111.09 42 Pdiff **Pdif** 15 31 49.1 -0.5
comp=Z,0.1nm,0.7s,baz=321,slow=2.6,SNR=1.3
TXAR PKiKP **PKiKP** 15 35 48.1 -0.6
comp=Z,1.4nm,0.9s,baz=250,slow=1.3,SNR=11
U40A Yellville 111.41 30 P **PKiKP** 15 35 47.6 -1.4
baz=326
BINY Binghamton 111.88 14 IAMs_20 IAMs_20 16 22 44.8
comp=Z,1µm,22.0s
JCT Junction City 112.52 38 IAMs_20 IAMs_20 16 31 16.9
comp=Z,868nm,20.0s
MIAR Mount Ida 112.57 31 P **PKiKP** 15 35 50.2 -1.0
baz=325
P52A Corning 112.64 20 IAMs_20 IAMs_20 16 25 30.2
comp=Z,1µm,22.0s
W41B Gary Mavity, V 112.67 30 P **PKiKP** 15 35 50.8 -0.5
baz=326
SSPA Standing Stone 112.90 16 P **PKiKP** 15 35 51.3 -0.4
baz=341
WVT Waverly 113.74 26 P **PKiKP** 15 35 52.6 -0.8
baz=331
OXF Oxford 114.48 28 IAMs_20 IAMs_20 16 30 45.6
comp=Z,1µm,20.0s
TZTN Tazewell 114.97 22 P **PKiKP** 15 35 55.8 0.0
baz=335
BLA Blacksburg 115.39 20 IAMs_20 IAMs_20 16 26 18.0
comp=Z,1µm,21.0s
LRAL Lakeview Retre 116.77 27 IAMs_20 IAMs_20 16 30 38.0
comp=Z,1µm,20.0s
KMSC Kings Mountain 117.00 21 P **PKPdf** 15 35 59.0 -0.8
baz=336
NHSC New Hope 119.24 21 IAMs_20 IAMs_20 16 30 54.2
comp=Z,1µm,20.0s
DBIC Dimbokro 119.64 294 PKP **PKPdf** 15 36 05.3 0.0
comp=Z,2.9nm,0.8s,baz=242,slow=17,SNR=2.7
DBIC PKKPab **PKKPab** 15 46 17.8 -0.8
comp=Z,8.2nm,1.0s,baz=290,slow=5.1,SNR=4.2
DBIC Dimbokro 119.64 294 PKiKP **PKPdf** 15 36 04.9 -0.4
DBIC Dimbokro 119.64 294 PKPdf **PKPdf** 15 36 04.9 -0.4
TROLL Troll, Antarti 121.79 199 PKPdf **PKiKP** 15 36 07.9 -0.1
DWPF Disney Wildern 123.33 25 IAMs_20 IAMs_20 16 36 41.9
comp=Z,904nm,19.0s
SNAA Sanae 123.47 198 PKPdf **PKPdf** 15 36 10.8 -0.3
VNA2 Neumayer--Watz 125.12 198 PKPdf **PKPdf** 15 36 12.8 -1.3
BELA Belgrano 2 125.16 186 PKPdf **PKPdf** 15 36 13.3 -0.8
VNA1 Neumayer--Stat 125.51 198 PKPdf **PKPdf** 15 36 13.7 -1.1
VNA3 Neumayer Olymp 125.59 197 PKPdf **PKPdf** 15 36 14.8 -0.2
TGUH Tegucigalpa,Un 132.50 40 IAMs_20 IAMs_20 16 35 04.2
comp=Z,529nm,20.0s
MTDJ Mount Denham 133.76 26 IAMs_20 IAMs_20 16 41 14.3
comp=Z,708nm,20.0s
SJG San Juan 137.19 11 IAMs_20 IAMs_20 16 40 04.2
comp=Z,787nm,22.0s
CVTR Volcan Turrial 137.77 39 PKPdf **PKPdf** 15 36 36.2 -4.0
PMSA Palmer Station 139.29 176 *e*P **PKiKP** 15 36 47.8 +4.7
MPOM Morne Pois Mar 141.46 4 IAMs_20 IAMs_20 16 44 17.9
comp=Z,803nm,20.0s
SJCC San Jacinto, C 142.23 28 *e*P **PKPdf** 15 36 45.0 -2.9
DBBC Dabeiba 144.30 32⇑ *e*P **PKPab** 15 36 49.1 -0.4
ZARC Zaragoza, Cauc 144.51 29 *e*P **PKPab** 15 36 49.1 -1.0
SDV Santo Domingo 144.90 22 PKPdf **PKPab** 15 36 50.6 -1.2
SDV Santo Domingo 144.90 22 IAMs_20 IAMs_20 16 45 40.1
comp=Z,828nm,21.0s
SDV Santo Domingo 144.90 22 *e*P PKPbc 15 36 51.8 0.0
SOCV Socops 145.39 22 *e*P **PKPbc** 15 36 51.8 -1.4
CBOC Ciudad Bolivar 145.40 32⇑ *e*P **PKPbc** 15 36 51.8 -1.6
PTBC PUERTO BERRIO 145.53 29⇑ *e*P **PKPdf** 15 36 53.1 -0.5
PAMC Pamplona, Colo 145.56 26 *e*P **PKPdf** 15 36 53.1 -1.1
PLMC San Jos del P 146.09 34⇑ *e*P **PKPab** 15 36 57.2 +1.2
NORC Norcasia 146.21 31 *e*P **PKPdf** 15 36 54.5 -0.3
GUY2C Guyana, Caldas 146.26 32 *e*P **PKPdf** 15 36 54.5 -1.0
SPBC San Pablo de B 146.49 30 *e*P **PKPab** 15 36 57.2 -0.4
RUSC La Rusia 146.71 28⇑ *e*P **PKPbc** 15 36 57.2 -0.6
YOTC Yotoco, Valle 146.84 35 *e*P **PKPbc** 15 36 57.2 -0.5
ROSC El Rosal 147.10 31 PKPbc **PKPdf** 15 36 57.1 +0.4
comp=Z,21nm,0.5s,baz=106,slow=5.3,SNR=17
ROSC El Rosal 147.10 31⇑ *e*P **PKPab** 15 36 59.9 -0.4
ORTC Ortega, Tolima 147.46 33 *e*P **PKPbc** 15 36 58.5 -0.8
CHIC Chingaza 147.55 30 *e*P **PKPdf** 15 36 58.5 +1.0
POPC Popayan, Colom 147.88 37⇑ *e*P **PKPdf** 15 36 58.5 +0.7
MARP Paez Belalcaza 148.01 35 *e*P **PKPdf** 15 36 58.5 +0.4
VILC Villavicencio, 148.03 30 *e*P **PKPdf** 15 36 58.5 +0.6
PCON Cinco Dias 148.20 36 *e*P **PKPbc** 15 37 02.6 +0.6
SOTA Rioblanco 148.25 37 *e*P **PKPbc** 15 37 01.2 -0.8
BETC Betania 148.41 34 *e*P **PKPbc** 15 37 01.2 -0.7
GCUF Volcan Galeras 148.58 39 *e*P **PKPbc** 15 37 02.6 -0.4
GARC Garzon, Huila 148.80 35⇑ *e*P **PKPdf** 15 36 58.5 -0.8
PORT Chimborazo Vol 149.84 44 PKPbc **PKPdf** 15 37 03.3 +1.9
BOSC San Juan Bosco 151.29 46 PKPbc **PKPdf** 15 37 04.0 +0.8
MCPB Macapa, AP 155.53 345 *e*P **PKPdf** 15 37 13.7 +4.7
BDFB Brasilia 167.18 310 PKPab **PKPab** 15 38 23.2 -2.4
comp=Z,6.1nm,0.9s,baz=131,slow=1.9,SNR=4.3
BDFB Brasilia 167.18 310 PKP2 **PKPab** 15 38 23.0 -2.6
BDFB Brasilia 167.18 310 **PKPab** 15 38 23.0 -2.6
LPAZ La Paz 167.77 52 PKP **PKPdf** 15 37 22.6 +0.3
comp=Z,8.3nm,1.1s,baz=11,slow=3.7,SNR=15
LPAZ PKPab **PKPab** 15 38 27.6 -1.2
comp=Z,2.6nm,0.9s,baz=296,slow=5.1,SNR=1.5
TIJ01 Guaruva-PR 171.59 261 *e*P **PKPdf** 15 37 29.9 +6.1

TAP 27 15:17:37.9, 24.31N×121.79E, h11km, ML4.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EHP	**Heping Village** baz=264	**0.05**	**269**	*i* P		Pg	15 17 40.3	+0.3
EHP				*i* S		Sg	15 17 42.3	+0.7
ENA	**Nanau** baz=341	**0.13**	**338**	*i* P		Pb	15 17 41.6	-0.7
ENA				*i* S		Sg	15 17 44.1	+1.0
EWUT	**Wuta** baz=354	**0.13**	**354**	*i* P		Pg	15 17 41.7	+0.6
EWUT				*e*S		Sg	15 17 44.6	+1.2
ETL	**Fush Village** baz=225	**0.22**	**226**	*e*P		Pb	15 17 43.3	-0.6

TAP 27 15:18:14.4, 24.28N×121.77E, h13km, ML4.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EHP	**Heping Village** baz=325	**0.04**	**317**	*i* P		Pg	15 18 16.8	0.0
EHP				*i* S		Sg	15 18 18.8	+0.3
ENA	**Nanau** baz=353	**0.15**	**350**	*i* P		Pg	15 18 18.1	+0.1
ENA				*i* S		Sg	15 18 20.8	+0.2
EWUT	**Wuta** baz=3.0	**0.16**	**3**	*i* P		Pg	15 18 18.3	0.0
EWUT				*e*S		Sg	15 18 21.2	+0.3
ETL	**Fush Village** baz=227	**0.18**	**227**	*i* P		Pg	15 18 18.7	+0.1
ETL				S		Sg	15 18 22.1	+0.6
NACB	**Ninganchiao** baz=235	**0.19**	**236**	P		Pg	15 18 18.9	+0.2
TWD	**Chiawan** baz=216	**0.26**	**218**	*e*P		Pg	15 18 19.9	+0.1
TWD				*e*S		Sb	15 18 25.0	-0.2
ETLH	**Xiulin Townshi** baz=254	**0.27**	**254**	P		Pg	15 18 20.6	+0.4
ETLH				*e*S		Sb	15 18 25.3	-0.4
TWC	**Suao** baz=15	**0.33**	**13**	P		Pg	15 18 21.1	0.0
NDS	**Dongshan** baz=352	**0.35**	**352**	*e*P		Pg	15 18 22.0	+0.4
NDS				*e*S		Sb	15 18 27.5	-0.5
NNSB	**Datong** baz=292	**0.38**	**292**	*e*P		Pb	15 18 23.0	-0.1
NNSB				*e*S		Sb	15 18 28.4	-0.6
NDT	**Datong Townshi** baz=324	**0.39**	**324**	*e*P		Pb	15 18 23.1	-0.1
ENTT	**Nioudou** baz=333	**0.40**	**333**	*e*P		Pb	15 18 23.1	-0.3
ENTT				*e*S		Sb	15 18 28.8	-0.6
ETM	**Tongmen** baz=218	**0.40**	**219**	*e*P		Pg	15 18 22.7	+0.3

TAP 27 15:20:27.7, 24.29N×121.76E, h13km, ML3.5, 3C-11D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EHP	**Heping Village** baz=326	**0.03**	**317**	⇓*i* P		Pg	15 20 30.1	0.0
EHP				*i* S		Sg	15 20 32.0	+0.3
ENA	**Nanau** baz=355	**0.14**	**352**	⇓*i* P		Pg	15 20 31.4	+0.1
ENA				*i* S		Sg	15 20 33.9	+0.2
EWUT	**Wuta** baz=5.0	**0.16**	**5**	⇓*i* P		Pg	15 20 31.5	+0.1
EWUT				*i* S		Sg	15 20 34.1	+0.1
ETL	**Fush Village** baz=225	**0.18**	**225**	⇑*i* P		Pg	15 20 32.0	+0.1
ETL				S		Sg	15 20 35.2	+0.5
NACB	**Ninganchiao** baz=234	**0.19**	**234**	⇑*i* P		Pg	15 20 32.1	+0.1
NACB				*i* S		Sg	15 20 35.6	+0.7
TWD	**Chiawan** baz=215	**0.26**	**216**	⇑*i* P		Pg	15 20 33.0	-0.1
TWD				S		Sg	15 20 37.5	+0.8
ETLH	**Xiulin Townshi** baz=253	**0.27**	**253**	*i* P		Pg	15 20 33.8	+0.4
ETLH				*i* S		Sb	15 20 38.2	-0.8
LATG	**Datong** baz=319	**0.33**	**319**	⇓*i* P		Pb	15 20 35.1	-0.4
LATG				*e*S		Sb	15 20 40.1	-0.6
TWC	**Suao** baz=15	**0.33**	**14**	⇓*i* P		Pg	15 20 34.4	0.0
TWC				*i* S		Sg	15 20 38.8	-0.2
HWA	**Hwalien** baz=204	**0.34**	**205**	*e*P		Pb	15 20 35.8	+0.1
NDS	**Dongshan** baz=353	**0.35**	**353**	⇓*i* P		Pg	15 20 35.1	+0.4
NDS				*i* S		Sg	15 20 39.9	+0.5
NNSB	**Datong** baz=292	**0.37**	**292**	P		Pb	15 20 36.1	-0.1
NNSB				*e*S		Sb	15 20 41.7	-0.4
NDT	**Datong Townshi** baz=324	**0.39**	**324**	⇓*i* P		Pb	15 20 36.3	-0.1
NDT				*e*S		Sb	15 20 42.6	+0.2
NNS	**Nan Shan** baz=293	**0.39**	**293**	*e*P		Pb	15 20 36.5	0.0
NNS				*e*S		Sb	15 20 42.0	-0.4
ENTT	**Nioudou** baz=334	**0.39**	**333**	⇓*i* P		Pb	15 20 36.3	-0.3
ENTT				*e*S		Sb	15 20 41.9	-0.6
ETM	**Tongmen** baz=218	**0.41**	**218**	P		Pg	15 20 35.8	0.0
ETM				*e*S		Sg	15 20 41.6	+0.4
TWE	**Neicheng** baz=350	**0.44**	**349**	⇓P		Pb	15 20 37.0	-0.4
TWE				*e*S		Sg	15 20 42.9	+0.6
TEYL	**Yanliau Villag** baz=201	**0.44**	**200**	*e*P		Pb	15 20 37.6	+0.2
TEYL				*e*S		Sn	15 20 46.3	-1.4
FUSS	**Fushou** baz=265	**0.48**	**265**	*e*P		Pg	15 20 36.9	-0.2
FUSS				*e*S		Sg	15 20 43.7	+0.2
ILA	**Ilan** baz=359	**0.48**	**358**	P		Pb	15 20 37.7	-0.3
ILA				*e*S		Sb	15 20 44.6	-0.3
WHF	**Hehuan Shan** baz=252	**0.48**	**253**	⇓P		Pb	15 20 37.8	-0.4
WHF				*e*S		Sb	15 20 44.5	-0.8
FUSB	**Fushanzhiwuyua** baz=341	**0.50**	**341**	*e*P		Pb	15 20 38.3	-0.1
YHNB	**Yeheng** baz=317	**0.52**	**317**	⇓*i* P		Pb	15 20 38.9	+0.1
YHNB				*e*S		Sb	15 20 46.5	+0.3
NSK	**Sanguang** baz=317	**0.53**	**316**	P		Pb	15 20 39.0	0.0
NSK				*e*S		Sb	15 20 46.5	-0.1
TWT	**Tachien** baz=266	**0.54**	**266**	*e*P		Pg	15 20 38.1	-0.1
TWT				*e*S		Sb	15 20 47.0	+0.2
NWLT	**Wulai** baz=334	**0.54**	**334**	*e*P		Pb	15 20 39.2	+0.1
NWLT				*e*S		Sb	15 20 46.4	-0.4
TDCB	**Techi** baz=266	**0.55**	**267**	*e*P		Pb	15 20 39.5	+0.1
TDCB				*e*S		Sb	15 20 46.9	-0.4
ESL	**Shilin** baz=212	**0.56**	**213**	*e*P		Pg	15 20 38.5	-0.1

CHGB	**Renai** baz=247	**0.58**	**247**	*e*P	Pb	15 20 39.8	-0.1
CHGB				*e*S	Sb	15 20 48.5	+0.3
TEGC	**Jichi Village** baz=199	**0.61**	**200**	*e*P	Pb	15 20 40.3	0.0
OWD	**Renai** baz=238	**0.63**	**238**	*e*P	Pb	15 20 40.4	-0.2
OWD				*e*S	Sb	15 20 49.7	+0.2
WUSB	**Renai** baz=243	**0.66**	**244**	*e*P	Pb	15 20 41.3	+0.1
NFF	**Wufeng Townshi** baz=300	**0.68**	**300**	*e*P	Pb	15 20 42.1	+0.7
TIPB	**Shuangxi** baz=5.0	**0.68**	**5**	*e*P	Pg	15 20 41.2	+0.2
EGFH	**Guangfu** baz=206	**0.69**	**207**	*e*P	Pb	15 20 41.6	+0.1
NHDH	**Xindian Distri** baz=342	**0.71**	**342**	*e*P	Pb	15 20 42.3	+0.4
TWA	**Mucha** baz=347	**0.71**	**347**	*e*P	Pb	15 20 42.3	+0.4
TWB1	**Santiao Chiao** baz=17	**0.75**	**16**	*e*P	Pb	15 20 42.4	-0.2
WHP	**Taichung City** baz=269	**0.75**	**269**	*e*P	Pn	15 20 43.5	-0.5
WHP				*e*S	Sb	15 20 53.4	+0.6
LIOB	**Emei** baz=298	**0.77**	**298**	*e*P	Pn	15 20 44.0	-0.2
VWDT	**VWDT** baz=227	**0.78**	**227**	*e*P	Pn	15 20 43.8	-0.6
NWF	**Wu-fen Shan** baz=1.0	**0.78**	**1**	*e*P	Pb	15 20 43.4	+0.2
NWF				*e*S	Sg	15 20 53.1	0.0
WFSB	**Wu-fen Shan** baz=1.0	**0.78**	**1**	*e*P	Pb	15 20 43.4	+0.3
WFSB				*e*S	Sg	15 20 53.1	0.0
SXI1	**Grass Mountain** baz=7.0	**0.81**	**7**	*e*P	Pb	15 20 43.7	0.0
YOJ	**Yonaguni jima** baz=81	**1.15**	**81**	*e*P	Pn	15 20 49.6	+0.1

JMA 27 15:21:05.5, 32.60N×130.70E, h10km±1km, M3.5, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.11**	**118**	⇑P	Pg	15 21 08.2	0.0
JIU3				S	Sg	15 21 10.3	+0.2
JTA	**Tamana**	**0.39**	**339**	⇑P	Pg	15 21 13.3	+0.1
JTA				S	Sg	15 21 18.7	+0.3
JZO	**Okuchi**	**0.47**	**191**	⇑P	Pg	15 21 14.6	0.0
JZO				*e*S	Sg	15 21 20.8	0.0
JTZ	**Takazaki**	**0.77**	**155**	⇑P	Pb	15 21 20.9	-0.1
JTZ				S	Sb	15 21 31.3	-0.2

JMA 27 15:21:29.4, 32.60N×130.70E, h9km±1km, M3.8, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.11**	**118**	⇑P	Pg	15 21 32.1	+0.1
JIU3				S	Sg	15 21 34.0	+0.2
JTA	**Tamana**	**0.39**	**339**	⇑P	Pg	15 21 37.2	+0.1
JTA				*e*S	Sg	15 21 42.6	+0.4
JZO	**Okuchi**	**0.47**	**191**	P	Pg	15 21 38.5	0.0
JZO				*e*S	Sg	15 21 44.8	+0.2
JTZ	**Takazaki**	**0.77**	**155**	⇑P	Pb	15 21 44.8	-0.2
JTZ				S	Sb	15 21 55.0	-0.5

GCMT ***27*** *15:27:35.5±0.4, 23.91N±0.03×121.77E±0.03, h31km±1km, MW5.0/65, Moment Tensor Solution. s11,c14; s65,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.17±.42; $M_{\theta\theta}$-3.12±.23; $M_{\phi\phi}$-1.05±.23; $M_{r\theta}$2.35±.18; $M_{\theta\phi}$-0.85±.11; $M_{\phi r}$0.35±.23; Best double couple: M_o4.47400×10^{16} NP1:ϕ_s247.00000°, δ29.00000°, λ82.00000°. NP2: ϕ_s76.00000°, δ61.00000°, λ94.00000°. Principal axes: T 4.8630, Plg74.0000°, Azm357.0000°; N -0.7790, Plg4.0000°, Azm254.0000°; P -4.0840, Plg16.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

JMA ***27*** *15:27:36.9±0.1, 24.06N×121.58E, h28km±1km, M5.1*

MOS ***27*** *15:27:37.6±1.0, 24.23N×121.81E, h21km, mb4.9/40, Error ellipse: s-maj=7.8km s-min=5.2km az=107.5*

NEIC ***27*** *15:27:38.5, 24.19N×121.77E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.43; $M_{\theta\theta}$-0.75; $M_{\phi\phi}$0.32; $M_{r\theta}$1.34; $M_{\theta\phi}$-0.35; $M_{\phi r}$0.66; Fault plane solution: M_o1.67000×10^{16} NP1:ϕ_s62.62000°, δ78.83000°, λ82.24000°. NP2:ϕ_s277.76000°, δ13.57000°, λ124.38000°. Principal axes: T 1.4381, Plg56.0000°, Azm323.0000°; N 0.3927, Plg8.0000°, Azm64.0000°; P -1.8308, Plg33.0000°, Azm159.0000°;*

TAP ***27*** *15:27:38.6, 24.25N×121.75E, h13km, ML5.1, B*

NEIC ***27*** *15:27:38.5±1.9, 24.20N±0.02×121.78E±0.03, h11km±2km, mb4.8/78, Mwr4.7/14, ML4.7(TAP), Error ellipse: s-maj=4.7km s-min=2.7km az=114.0*

ASIES ***27*** *15:27:39.0, 24.26N×121.74E, h14km, MW4.7*

BJI ***27*** *15:27:39.0±0.0, 24.26N×121.80E, h10km, mb4.6/25, ML5.0/9, Ms5.1/14, Ms7 5.1/14*

IDC ***27*** *15:27:40.9±2.5, 24.26N×121.89E, h33km±19km, mb4.2/33, mb1 4.2/36, mb1mx4.1/63, mbtmp4.3/36, ML3.4/3, MS4.3/2, Ms1 4.3/2, ms1mx3.7/93, Error ellipse: s-maj=12.9km s-min=11.5km az=70.0*

ISC 27 15:27:37.7±0.8, 24.23N±0.01×121.88E±0.01, h11km±4km, n398, σ1ᵍ37/500, mb4.7/104, MS4.3/3, 36C-77D, Fault plane solution: NP1:ϕ_s285.09457°, δ36.80924°, λ93.76734°. **NP2:**ϕ_s100.39292°, δ53.28336°, λ87.18502°. **Principal axes:** T Plg81.4489°, Azm356.8868°; N Plg2.2562°, Azm102.0768°; P Plg8.2438°, Azm192.4038°;

Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.15**	**304**	*i* P	**Pg**	**15 27 41.0**	**-0.1**
EHP				*i* S	**Sg**	**15 27 43.3**	**-0.3**
ENA	**Nanau**	**0.24**	**328**	⇓*i*P	**Pb**	**15 27 42.7**	**-1.3**
ENA				*i* S	**Sg**	**15 27 46.0**	**0.0**
EWUT	**Wuta** baz=8.0	**0.24**	**337**	⇓*i*P	**Pb**	**15 27 43.0**	**-1.1**
EWUT				*i* S	**Sg**	**15 27 46.2**	**+0.2**
ETL	**Fush Village** baz=231	**0.24**	**254**	⇓*i*P	**Pg**	**15 27 42.5**	**-0.2**
ETL				*i* S	**Sg**	**15 27 45.5**	**-0.6**
NACB	**Ninganchiao**	**0.26**	**259**	Pg	**Pg**	**15 27 42.6**	**-0.5**
NACB				Sg	**Sg**	**15 27 45.5**	**-1.3**
NACB	**Ninganchiao** baz=241	**0.26**	**259**	⇓*i*P	**Pg**	**15 27 42.6**	**-0.5**
NACB				*i* S	**Sg**	**15 27 45.6**	**-1.1**
TWD	**Chiawan** baz=218	**0.29**	**241**	*i* P	**Pg**	**15 27 43.4**	**-0.3**
TWD				S	**Sg**	**15 27 46.9**	**-0.8**
HWA	**Hwalien** baz=204	**0.35**	**225**	⇑*e*P	**Pb**	**15 27 45.5**	**-0.5**
HWA				*e*S	**Sb**	**15 27 53.4**	**+1.9**
ETLH	**Xiulin Townshi** baz=259	**0.36**	**267**	⇓*i*P	**Pg**	**15 27 44.3**	**-0.7**
ETLH				*i* S	**Sg**	**15 27 48.5**	**-1.3**
TWC	**Suao** baz=16	**0.38**	**356**	⇓*i*P	**Pb**	**15 27 46.0**	**-0.5**
TWC				*e*S	**Sb**	**15 27 51.4**	**-1.1**
NDS	**Dongshan** baz=356	**0.43**	**340**	⇓*i*P	**Pb**	**15 27 46.6**	**-0.8**
NDS				S	**Sg**	**15 27 52.0**	**0.0**
ETM	**Tongmen** baz=219	**0.44**	**234**	⇑*i*P	**Pb**	**15 27 46.2**	**-1.3**
ETM				*e*S	**Sg**	**15 27 51.6**	**-0.5**
TEYL	**Yanliau Villag** baz=201	**0.44**	**216**	⇓*e*P	**Pb**	**15 27 47.3**	**-0.2**
TEYL				*e*S	**Sb**	**15 27 56.0**	**+1.9**
LATG	**Datong** baz=324	**0.44**	**314**	⇓*i*P	**Pg**	**15 27 46.3**	**-0.2**
LATG				*e*S	**Sg**	**15 27 51.5**	**-0.9**
NNSB	**Datong** baz=298	**0.49**	**294**	⇓*e*P	**Pg**	**15 27 47.0**	**-0.5**
NNSB				*e*S	**Sg**	**15 27 52.2**	**-1.8**
ENTT	**Nioudou** baz=337	**0.50**	**325**	⇓*i*P	**Pb**	**15 27 47.6**	**-1.0**
ENTT				*e*S	**Sg**	**15 27 54.0**	**-0.2**
NDT	**Datong Townshi** baz=328	**0.50**	**318**	⇓*i*P	**Pb**	**15 27 47.5**	**-1.0**
NDT				*e*S	**Sg**	**15 27 54.0**	**-0.2**
NNS	**Nan Shan** baz=299	**0.51**	**295**	⇓*i*P	**Pg**	**15 27 47.1**	**-0.5**
NNS				*e*S	**Sg**	**15 27 53.0**	**-1.4**
TWE	**Neicheng** baz=353	**0.53**	**339**	⇓*i*P	**Pb**	**15 27 48.5**	**-0.6**
TWE				*e*S	**Sb**	**15 27 55.6**	**-1.1**
ILA	**Ilan** baz=1.0	**0.55**	**348**	⇓*e*P	**Pb**	**15 27 49.2**	**-0.2**
ILA				*e*S	**Sb**	**15 27 57.3**	**0.0**
WHF	**Hehuan Shan** baz=256	**0.56**	**262**	⇓*i*P	**Pg**	**15 27 48.2**	**-0.7**
WHF				*e*S	**Sg**	**15 27 54.5**	**-1.9**
ESL	**Shilin** baz=213	**0.58**	**225**	P	**Pb**	**15 27 48.8**	**-1.0**
ESL				*e*S	**Sb**	**15 27 58.3**	**+0.2**
FUSS	**Fushou** baz=269	**0.58**	**272**	⇓*i*P	**Pg**	**15 27 47.5**	**-1.6**
FUSS				S	**Sg**	**15 27 54.1**	**-2.6**
FUSB	**Fushanzhiwuyua** baz=344	**0.59**	**334**	⇓P	**Pb**	**15 27 49.6**	**-0.6**
FUSB				*e*S	**Sg**	**15 27 57.3**	**+0.2**
TEGC	**Jichi Village** baz=199	**0.60**	**211**	*e*P	**Pn**	**15 27 50.8**	**-1.4**
TEGC				*e*S	**Sn**	**15 28 01.0**	**-0.9**
EGS	baz=17	**0.62**	**5**	*e*P	**Pn**	**15 27 51.0**	**-1.5**
NTC	**Toucheng** baz=7.0	**0.63**	**356**	⇓P	**Pb**	**15 27 50.6**	**-0.1**
NTC				*e*S	**Sb**	**15 27 58.1**	**-1.4**
YHNB	**Yeheng**	**0.64**	**314**		**Pb**	**15 27 50.0**	**-0.9**
YHNB				Sg	**Sg**	**15 27 57.2**	**-1.3**
YHNB	**Yeheng**	**0.64**	**314**	P	**Pb**	**15 27 50.3**	**-0.6**
YHNB	**Yeheng** baz=321	**0.64**	**314**	⇓*e*P	**Pb**	**15 27 50.1**	**-0.9**
YHNB				*e*S	**Sg**	**15 27 57.8**	**-0.7**
TWT	**Tachien** baz=270	**0.64**	**273**	⇓*e*P	**Pg**	**15 27 50.1**	**-0.1**
NWLT	**Wulai** baz=337	**0.65**	**328**	⇓P	**Pb**	**15 27 50.3**	**-0.8**
NWLT				*e*S	**Sg**	**15 27 58.2**	**-0.6**
NSK	**Sanguang** baz=320	**0.65**	**314**	⇓*i*P	**Pb**	**15 27 50.3**	**-0.9**
NSK				*e*S	**Sg**	**15 27 58.3**	**-0.7**
TDCB	**Techi** baz=270	**0.66**	**272**	⇓P	**Pg**	**15 27 50.2**	**-0.3**
TDCB				*e*S	**Sg**	**15 27 57.2**	**-1.9**
CHGB	**Renai** baz=250	**0.66**	**256**	*e*P	**Pg**	**15 27 50.3**	**-0.3**
CHGB				*e*S	**Sg**	**15 27 58.3**	**-1.1**
EGFH	**Guangfu** baz=207	**0.69**	**217**	⇓*e*P	**Pn**	**15 27 51.8**	**-1.7**
EGFH				*e*S	**Sb**	**15 28 01.5**	**+0.1**
OWD	**Renai** baz=240	**0.70**	**247**	⇓P	**Pg**	**15 27 50.7**	**-0.5**
OWD				*e*S	**Sg**	**15 27 59.0**	**-1.3**
WUSB	**Renai** baz=246	**0.73**	**252**	*e*P	**Pg**	**15 27 51.6**	**-0.3**
WUSB				*e*S	**Sg**	**15 27 59.9**	**-1.6**
TIPB	**Shuangxi** baz=6.0	**0.74**	**356**	⇓*i*P	**Pn**	**15 27 52.8**	**-1.4**
TIPB				*e*S	**Sb**	**15 28 02.6**	**-0.3**
TWB1	**Santiao Chiao** baz=17	**0.79**	**7**	⇓P	**Pn**	**15 27 53.6**	**-1.2**
TWA	**Mucha** baz=349	**0.80**	**340**	⇓*i*P	**Pn**	**15 27 53.6**	**-1.4**
TWA				*e*S	**Sb**	**15 28 04.3**	**-0.1**
NHDH	**Xindian Distri** baz=344	**0.80**	**336**	⇓*e*P	**Pb**	**15 27 53.5**	**-0.2**
NHDH				*e*S	**Sb**	**15 28 03.8**	**-0.7**
NFF	**Wufeng Townshi** baz=303	**0.80**	**300**	⇓P	**Pb**	**15 27 53.1**	**-0.7**
NFF				*e*S	**Sg**	**15 28 02.4**	**-1.3**
VWDT	**VWDT** baz=228	**0.82**	**235**	⇓*e*P	**Pb**	**15 27 53.3**	**-0.7**
VWDT				*e*S	**Sb**	**15 28 05.4**	**+0.3**
TATO	**Taipei**	**0.83**	**335**		**Pb**	**15 27 54.0**	**-0.2**
TATO				Sg	**Sg**	**15 28 03.4**	**-1.1**
TATO	**Taipei** baz=342	**0.83**	**335**	⇓P	**Pb**	**15 27 53.9**	**-0.2**
TATO				*e*S	**Sb**	**15 28 04.8**	**-0.5**
HGSD	**Ruisui** baz=201	**0.84**	**210**	⇓*e*P	**Pn**	**15 27 54.7**	**-0.8**
NWF	**Wu-fen Shan** baz=2.0	**0.85**	**354**	⇓P	**Pn**	**15 27 55.0**	**-0.7**
NWF				*e*S	**Sb**	**15 28 06.0**	**+0.1**
WFSB	**Wu-fen Shan** baz=2.0	**0.85**	**354**	⇓P	**Pn**	**15 27 55.0**	**-0.6**
WFSB				*e*S	**Sb**	**15 28 05.8**	**0.0**
WHP	**Taichung City** baz=272	**0.85**	**274**	⇓*e*P	**Pb**	**15 27 54.0**	**-0.7**
WHP				*e*S	**Sg**	**15 28 03.7**	**-1.7**
NHY	**Taipei** baz=348	**0.86**	**341**	*e*P	**Pb**	**15 27 54.4**	**-0.3**
BACT	**New Taipei Cit** baz=339	**0.86**	**333**	*e*P	**Pn**	**15 27 55.5**	**-0.3**
SXI1	**Grass Mountain** baz=8.0	**0.86**	**360**	⇓P	**Pn**	**15 27 55.3**	**-0.6**
SXI1				*e*S	**Sb**	**15 28 05.8**	**-0.7**
WPL	**Puli Township** baz=252	**0.87**	**256**	⇓*e*P	**Pg**	**15 27 54.1**	**-0.4**
WPL				*e*S	**Sg**	**15 28 04.1**	**-1.7**
TAP1	**Taipei** baz=345	**0.87**	**338**	*e*P	**Pn**	**15 27 55.4**	**-0.5**
TAP	**Taipei** baz=345	**0.88**	**337**	*e*P	**Pn**	**15 27 55.4**	**-0.7**
EHY	**Hungye** baz=207	**0.88**	**215**	*e*P	**Pb**	**15 27 54.1**	**-0.9**
EHY				*e*S	**Sb**	**15 28 06.7**	**-0.1**
NJD	**Zhudong** baz=309	**0.88**	**305**	*e*P	**Pn**	**15 27 55.5**	**-0.6**
DPDB	**Guoxing** baz=254	**0.89**	**258**	⇓*e*P	**Pb**	**15 27 54.6**	**-0.6**
DPDB				*e*S	**Sg**	**15 28 05.2**	**-1.3**
LIOB	**Emei** baz=300	**0.89**	**298**	⇓P	**Pb**	**15 27 55.0**	**-0.2**
LIOB				*e*S	**Sg**	**15 28 05.6**	**-0.9**
NSTT	**Nanjuang** baz=299	**0.90**	**297**	⇓*e*P	**Pb**	**15 27 54.9**	**-0.4**
NSTT				*e*S	**Sg**	**15 28 05.2**	**-1.4**
WCS	**Beigang Elemen** baz=256	**0.90**	**259**	⇓*e*P	**Pg**	**15 27 54.6**	**-0.4**
WCS				*e*S	**Sg**	**15 28 05.2**	**-1.6**
TNOU	**National Taiwa** baz=1.0	**0.93**	**354**	⇓*e*P	**Pn**	**15 27 56.4**	**-0.3**
TNOU				*e*S	**Sb**	**15 28 08.0**	**-0.1**
NTY	**Taoyuan** baz=331	**0.93**	**326**	*e*P	**Pn**	**15 27 57.2**	**+0.4**
SSLB	**Suanglung**	**0.95**	**243**	Pg	**Pg**	**15 27 55.3**	**-0.8**
SSLB				Sg	**Sg**	**15 28 05.7**	**-2.8**
SSLB	**Suanglung**	**0.95**	**243**	P	**Pb**	**15 27 55.7**	**-0.6**
SSLB	**Suanglung** baz=238	**0.95**	**243**	⇓*e*P	**Pg**	**15 27 55.2**	**-0.8**
SSLB				*e*S	**Sg**	**15 28 06.3**	**-2.2**
HSN1	**Hsinchu** baz=308	**0.96**	**305**	*e*P	**Pn**	**15 27 56.7**	**-0.4**
HSN1				*e*S	**Sb**	**15 28 09.2**	**+0.2**
SMLT	**Sun Moon Lake** baz=244	**0.96**	**249**	*e*P	**Pg**	**15 27 55.6**	**-0.6**
SMLT				*e*S	**Sg**	**15 28 07.0**	**-1.7**
YM01	**YM01** baz=350	**0.96**	**343**	⇓*e*P	**Pn**	**15 27 56.8**	**-0.4**
TWS1	**Kuangyinshan** baz=341	**0.97**	**334**	⇓*e*P	**Pn**	**15 27 57.2**	**-0.1**
TWS1				*e*S	**Sn**	**15 28 10.7**	**-0.3**
NCU	**National Centr** baz=325	**0.97**	**320**	*e*P	**Pn**	**15 27 57.2**	**-0.2**
NCU				*e*S	**Sb**	**15 28 09.8**	**+0.3**
NCUH	**Zhongli** baz=324	**0.97**	**320**	⇓*e*P	**Pn**	**15 27 57.1**	**-0.2**
NCUH				*e*S	**Sb**	**15 28 09.9**	**+0.4**
ECBN	**Changbin** baz=196	**0.99**	**203**	⇓*e*P	**Pn**	**15 27 57.1**	**-0.4**
ECBN				*e*S	**Sn**	**15 28 10.7**	**-0.8**
TYC	**Yuchr** baz=247	**0.99**	**251**	⇓*e*P	**Pg**	**15 27 56.0**	**-0.7**
TYC				*e*S	**Sg**	**15 28 07.4**	**-2.1**
YULB	**Yu-li**	**0.99**	**213**		**Pg**	**15 27 55.1**	**-1.6**
YULB				Sg	**Sg**	**15 28 06.7**	**-2.8**
YULB	**Yu-li** baz=206	**0.99**	**213**	*e*P	**Pb**	**15 27 55.7**	**-1.1**
SBCB	**Hsinchu** baz=308	**0.99**	**305**	⇓*e*P	**Pn**	**15 27 57.4**	**-0.2**
SBCB				*e*S	**Sg**	**15 28 09.9**	**+0.2**
NWRT	**Kuosheng** baz=355	**0.99**	**349**	*e*P	**Pn**	**15 27 57.8**	**+0.2**
YM08	**YM08** baz=351	**0.99**	**345**	*e*P	**Pn**	**15 27 57.3**	**-0.4**
YM08				*e*S	**Sn**	**15 28 11.3**	**-0.4**
JYNG	**Yonagunijimaku**	**1.00**	**77**	P	**Pn**	**15 27 59.8**	**+2.1**
JYNG				*e*S	**Sn**	**15 28 16.5**	**+4.7**
HSN	**Hsinchu** baz=311	**1.01**	**305**	*e*P	**Pn**	**15 27 57.6**	**-0.2**
HSN				*e*S	**Sb**	**15 28 10.6**	**+0.2**
ANP	**Anpu** baz=348	**1.01**	**341**	⇓*e*P	**Pn**	**15 27 57.7**	**-0.3**
ANP				*e*S	**Sb**	**15 28 11.1**	**+0.4**
NTST	**Danshui** baz=343	**1.01**	**337**	*e*P	**Pn**	**15 27 58.3**	**+0.4**
NTST				*e*S	**Sn**	**15 28 11.8**	**-0.3**
EYUL	**Yuli** baz=204	**1.01**	**210**	*e*P	**Pn**	**15 27 57.6**	**-0.3**
TWQ1	**Liyutan** baz=276	**1.01**	**277**	⇓*e*P	**Pn**	**15 27 57.5**	**-0.5**
TWQ1				*e*S	**Sg**	**15 28 10.7**	**+0.2**
TWF1	**Yuli** baz=204	**1.02**	**212**	*e*P	**Pb**	**15 27 56.3**	**-1.1**
TWF1				*e*S	**Sn**	**15 28 12.2**	**-0.2**
NSY	**Sanyi** baz=280	**1.04**	**281**	⇓*e*P	**Pn**	**15 27 58.2**	**0.0**
NSY				*e*S	**Sg**	**15 28 11.2**	**0.0**
NMLH	**Miaoli** baz=288	**1.04**	**288**	⇓*e*P	**Pn**	**15 27 58.2**	**-0.1**
NMLH				*e*S	**Sg**	**15 28 10.9**	**-0.3**
YOJ	**Yonaguni jima**	**1.06**	**77**	P	**Pn**	**15 28 00.7**	**+2.2**
YOJ				*e*S	**Sn**	**15 28 17.1**	**+3.8**
YOJ	**Yonaguni jima**	**1.06**	**77**	P	**Pn**	**15 28 00.4**	**+1.9**
YOJ						15 28 16.3	
YOJ	**Yonaguni jima**	**1.06**	**77**		**Pn**	**15 28 00.4**	**+1.9**
YOJ					**Sn**	**15 28 16.3**	**+3.0**
YOJ	**Yonaguni jima**	**1.06**	**77**	P	Pn	15 28 01.7	+3.2
YOJ	**Yonaguni jima** baz=79	**1.06**	**77**	⇓*e*P	**Pn**	**15 28 00.7**	**+2.2**
YOJ				*e*S	**Sn**	**15 28 16.9**	**+3.6**
TWY	**Chenhua** baz=353	**1.07**	**346**	*e*P	**Pn**	**15 27 59.5**	**+0.7**
NHW	**Xinwu Township** baz=320	**1.08**	**316**	*e*P	**Pn**	**15 27 58.7**	**-0.2**
NHW				*e*S	**Sb**	**15 28 13.1**	**+0.4**
WWF	**Wufeng** baz=258	**1.09**	**261**	⇑*e*P	**Pn**	**15 27 59.9**	**+0.9**
WWF				*e*S	**Sb**	**15 28 13.7**	**+0.8**
TCU	**Taichung** baz=264	**1.10**	**266**	*e*P	**Pn**	**15 27 59.7**	**+0.6**
TCU				*e*S	**Sb**	**15 28 13.8**	**+0.6**
YUS	**Yu-Shan** baz=224	**1.12**	**229**	*e*P	**Pn**	**15 27 59.2**	**-0.7**
YUS				*e*S	**Sb**	**15 28 14.0**	**-0.2**
WJS	**Zhushan** baz=245	**1.13**	**249**	*e*P	**Pn**	**15 27 59.8**	**+0.4**
WJS				*e*S	**Sb**	**15 28 14.4**	**+0.5**
WDJ	**Dajia District** baz=275	**1.14**	**276**	⇑*e*P	**Pn**	**15 28 00.6**	**+1.0**
WDJ				*e*S	**Sg**	**15 28 13.2**	**-1.2**
WNT1	**Nantou City** baz=251	**1.14**	**254**	*e*P	**Pn**	**15 28 00.6**	**+0.9**
WNT1				*e*S	**Sn**	**15 28 16.3**	**+1.0**
WNT	**Mingjian** baz=249	**1.15**	**253**	⇓*e*P	**Pn**	**15 28 00.2**	**+0.5**
WNT				*e*S	**Sn**	**15 28 15.8**	**+0.4**
FULB	**Fuli** baz=202	**1.15**	**208**	*e*P	**Pn**	**15 27 59.5**	**-0.4**
ALS	**Alishan** baz=229	**1.21**	**234**	⇓*e*P	**Pn**	**15 28 00.8**	**-0.1**
ALS				*e*S	**Sb**	**15 28 17.1**	**+0.4**
WCHH	**Zhanghua** baz=261	**1.21**	**263**	⇑*e*P	**Pg**	**15 28 01.5**	**+0.4**
WCHH				*e*S	**Sn**	**15 28 18.8**	**+1.7**
WYL	**Yuanlin Townsh** baz=255	**1.22**	**258**	*e*P	**Pg**	**15 28 01.7**	**+0.6**
WYL				*e*S	**Sn**	**15 28 17.7**	**+0.6**
CHKT	**Chengkung** baz=197	**1.22**	**203**	*e*P	**Pb**	**15 27 59.4**	**-1.4**
CHKT				*e*S	**Sn**	**15 28 18.5**	**+1.3**
CHN5	**Tsauling** baz=236	**1.26**	**241**	⇓*e*P	**Pg**	**15 28 02.2**	**+0.1**
CHN5				*e*S	**Sn**	**15 28 19.3**	**+0.9**
ECS	**Chishang** baz=203	**1.28**	**208**	*e*P	**Pg**	**15 28 01.2**	**-1.0**
ELDTW	**Lidau** baz=212	**1.30**	**218**	*e*P	**Pn**	**15 28 00.8**	**-1.1**

ELDTW eS Sn 15 28 19.0 -0.4
baz=212
WGK Gukeng 1.32 246 eP Pg 15 28 03.1 0.0
baz=242
WGK eS Sg 15 28 21.0 +0.8
baz=242
WDLH Douliu 1.34 247 eP Pg 15 28 03.5 +0.1
baz=243
WDLH eS Sg 15 28 21.4 +0.7
baz=243
EDH Donghe 1.35 203 eP Pn 15 28 01.8 -0.8
baz=198
EDH eS Sb 15 28 19.6 -0.9
baz=198
WRL Guolierlin Hig 1.41 257⇑eP Pg 15 28 04.3 -0.5
baz=254
WRL eS Sg 15 28 23.3 +0.2
baz=254
CHN2 Minshiung 1.46 242 eP Pg 15 28 05.8 0.0
baz=238
CHN2 eS Sg 15 28 27.3 +2.6
baz=238
STYH Taoyuan 1.46 224⇓eP Pb 15 28 04.4 -0.5
baz=220
STYH eS Sn 15 28 22.4 -0.7
baz=220
CHN4 Tsaushan 1.46 234⇓eP Pg 15 28 05.5 -0.3
baz=230
CHN4 eS Sg 15 28 26.5 +1.7
baz=230
WTK Tuku 1.46 249⇑eP Pg 15 28 05.3 -0.5
baz=246
WTK eS Sb 15 28 23.8 +0.2
baz=246
TPUB Ta-pu 1.47 231 Pn Pg 15 28 05.0 -0.9
TPUB Ta-pu 1.47 231 P Pg 15 28 06.1 +0.2
TPUB Ta-pu 1.47 231⇓eP Pg 15 28 05.2 -0.7
baz=227
TPUB eS Sg 15 28 24.8 -0.2
baz=227
STYT Tauyuan 1.48 224⇓eP Pb 15 28 04.7 -0.5
baz=220
STYT eS Sb 15 28 23.9 -0.1
baz=220
LONT Longtian 1.48 208 eP Pn 15 28 03.2 -1.2
baz=203
WTCT Ta-ch'eng 1.50 256 eP Pb 15 28 04.9 -0.8
baz=254
WTCT eS Sg 15 28 26.2 +0.1
baz=254
WTP Ta-pu 1.51 230 eP Pg 15 28 06.0 -0.8
baz=226
WTP eS Sg 15 28 26.7 +0.2
baz=226
CHY Chiayi 1.52 242 eP Pg 15 28 06.4 -0.4
baz=238
TWG Pinlang 1.58 208 Pn 15 28 04.3 -1.5
TWG Pinlang 1.58 208 eP Pn 15 28 04.5 -1.2
baz=203
TWGBT Beinan 1.58 208 eP Pn 15 28 04.6 -1.2
baz=203
TWGBT eS Sn 15 28 24.4 -1.8
baz=203
LDUT Ludao 1.59 194 eP Pn 15 28 04.5 -1.3
baz=189
TWK Hsinying 1.59 233 eP Pg 15 28 07.1 -1.2
baz=229
TWK eS Sb 15 28 27.7 +0.4
baz=229
TTN Taitung 1.61 205 eP Pb 15 28 06.1 -1.4
baz=200
CHN1 Nanshi 1.61 230 eP Pg 15 28 08.0 -0.7
baz=226
CHN1 eS Sg 15 28 29.9 +0.3
baz=226
SNST Tainan City 1.61 232 eP Pg 15 28 08.7 0.0
baz=228
WSF Szhu 1.62 249 eP Pb 15 28 07.4 -0.3
baz=246
WSF eS Sg 15 28 29.5 -0.5
baz=246
SGST Jiashian 1.65 226 eP Pb 15 28 07.2 -0.9
baz=222
SGST eS Sg 15 28 30.8 +0.1
baz=222
WSL Shuilin Townsh 1.67 245 eP Pb 15 28 08.3 -0.1
baz=242
WSL eS Sg 15 28 30.9 -0.4
baz=242
SLGT Liugui 1.67 223 eP Pg 15 28 08.5 -1.2
baz=219
IRIF Iriomote-Funau 1.69 86 P Pg 15 28 09.5 -0.7
IRIF S Sg 15 28 33.4 +1.2
ICHU Yijhu 1.70 240 eP Pb 15 28 08.9 0.0
baz=237
CHN8 Yiju 1.76 240 eP Pb 15 28 09.8 -0.2
baz=237
HATJ Hateruma jima 1.77 95 P Pg 15 28 10.9 -0.8
HATJ eS Sg 15 28 36.0 +1.4
CHN3 Shinhua 1.80 231 eP Pg 15 28 11.4 -0.8
baz=227
ECL Taimali 1.83 208 eP Pn 15 28 07.7 -1.4
baz=204
SSD Sandimen 1.86 218 eP Pn 15 28 05.5 -4.1
baz=214
TSMG Majia 1.89 217 eP Pb 15 28 10.6 -1.7
baz=213
JKRS Kuro-shima 1.95 89 P Pg 15 28 14.0 -1.1
JKRS eS Sg 15 28 41.6 +1.3
MASBT Mashibuluo 1.97 216 eP Pb 15 28 11.7 -1.9
baz=212
JIJ Ishigaki jima 2.07 86 P Pg 15 28 14.8 -2.7
JIJ S Sg 15 28 40.8 -3.5
JISG Ishigakijimahi 2.25 80 P Pb 15 28 16.6 -1.8
JTJ Tarama 2.61 80 P Pb 15 28 22.8 -1.7
JTJ eS Sg 15 28 56.6 -4.9
JIRB Irabujima 3.06 78 P Pb 15 28 29.7 -2.5
JIRB eS Sb 15 29 08.6 -1.0
QZH Quanzhou 3.08 284⇑*i*Pn Pn 15 28 25.8 -0.5
QZH Sn Sn 15 29 00.8 -2.3
QZH smax smax
comp=N,2μm,1.5s
QZH smax smax
comp=E,920nm,0.9s
JIKM Ikemajima 3.15 77 eS Sb 15 29 10.4 -1.7
JMJ Miyako jima 2 3.17 79 P Pb 15 28 32.3 -1.7
JMJ2 Miyako jima3 3.19 80 P Pb 15 28 32.0 -2.3
KNMB Chin-men Tao 3.19 275 Pn Pn 15 28 27.1 -0.8
JOGS Gusukube 3.26 80 P Pb 15 28 32.3 -3.3
JOGS eS Sb 15 29 12.5 -2.8
JOW Kunigami 6.33 64 Pn Pn 15 29 11.6 +0.4
3.7nm,0.3s,baz=186,slow=27,SNR=11
JOW Sn Sn 15 30 25.3 +1.8
baz=244,slow=23,SNR=1.0
JOW Kunigami 6.33 64 Pn Pn 15 29 12.7 +1.6
APYP Conner 6.36 185⇑eP Pn 15 29 12.8 +1.3
APYP eS Sn 15 30 24.3 +0.2
HKPS Hong Kong Po S 7.37 256 Pn Pn 15 29 24.9 -0.5
GZH Guangzhou 7.91 263 Pn Pn 15 29 29.0 -3.7
GZH Sn Sn 15 30 54.0 -8.2
GZH smax smax
comp=N,880nm,1.2s
GZH smax smax
comp=E,690nm,1.1s
NJ2 Nanjing 8.24 342 eP Pn 15 29 36.8 -0.4
NJ2 S Sn 15 31 10.0 -0.3
NJ2 pmax pmax
comp=Z,51nm,0.8s
NJ2 smax smax
comp=N,340nm,1.4s
NJ2 smax smax
comp=E,350nm,1.4s
NJ2 LR LR
comp=N,6μm,13.8s
NJ2 LR LR
comp=E,5μm,9.3s
NJ2 LR LR
comp=Z,7μm,10.0s
CNSH ChangSha 8.95 298 ⇑P Pn 15 29 53.3 +6.3
CNSH smax smax
comp=N,650nm,1.2s
CNSH smax smax
comp=E,860nm,1.0s
WHN Wuhan 9.18 315 ⇑P Pn 15 29 50.3 +0.1
WHN S Sn 15 31 28.5 -5.0
WHN LR LR
comp=N,13μm,7.8s
WHN LR LR
comp=E,15μm,7.4s
WHN LR LR
comp=Z,21μm,9.6s
TGY Tagaytay City 10.11 185 Pn Pn 15 30 03.7 +0.7
30nm,0.3s,baz=185,slow=7.2,SNR=1.4
JNU Nakatsue 11.87 40 Pn Pn 15 30 34.5 +7.5
0.2nm,0.3s,baz=263,slow=11,SNR=4.1
LYN LuoYang 13.15 324 eP Pn 15 30 46.0 +1.5
LYN LR LR
comp=N,10μm,8.6s
LYN LR LR
comp=E,6μm,8.4s
LYN LR LR
comp=Z,13μm,10.2s
GYA Guiyang 13.94 282 ⇑P Pn 15 30 56.8 +1.4
GYA S Sn 15 33 35.8 +5.6
GYA pmax pmax
comp=Z,41nm,0.9s
GYA LR LR
comp=N,3μm,7.2s
GYA LR LR
comp=E,4μm,13.8s
GYA LR LR
comp=Z,7μm,13.2s
KSAR Wonju Array Be 14.14 20 P Pn 15 30 59.0 +1.0
KSAR Wonju Array Be 14.14 20 Pn Pn 15 30 59.0 +1.0
KSRS Korea Array 14.16 20 Pn Pn 15 30 58.7 +0.4
0.2nm,0.3s,baz=199,slow=13,SNR=3.6
KS19 Wonju Array Si 14.19 20 Pn P 15 31 01.6 -4.6
HNS HongShan 14.49 337 ⇑P P 15 31 13.8 +4.2
HNS pmax pmax
comp=Z,22nm,1.2s
PPR Puerto Princes 14.68 192⇑*i*P P 15 31 14.2 +2.4
XAN Xi'an 14.95 314 P P 15 31 13.0 -1.7
XAN pP Pn 15 31 20.3 +11
XAN pmax pmax
comp=Z,28nm,1.6s
KCP Kidapawan 17.39 169⇑eP P 15 31 45.5 +3.6
PZH PanZhiHua 18.34 281 P P 15 31 55.3 +2.9
PZH pmax pmax
comp=Z,10.0nm,1.0s
MJAR Matsushiro Arr 18.65 45 P Pn 15 31 56.8 +0.8
comp=Z,0.0nm,0.3s,baz=220,slow=9.7,SNR=2.0
MYLDM Lahad Datu 19.21 190 P Pn 15 32 02.2 -0.7
LZH Lanzhou 19.53 311 ⇓P Pn 15 32 11.8 +5.1
LZH pP pwP 15 32 16.0 +7.5
LZH sP sP 15 32 18.3 +8.3
LZH pmax pmax
comp=Z,49nm,1.4s
CN2 Changchun 19.75 8 eP Pn 15 32 08.0 -1.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
MSHR Mys Shultsa 19.85 21⇓eP Pn 15 32 10.8 +0.5
MSHR pmax pmax
comp=Z,16nm,1.0s
VLA Vladivostok 20.57 21⇑eP Pn 15 32 20.0 +1.2
VLA pmax pmax
comp=Z,37nm,1.2s
MDJ Mudanjiang 21.29 15 P P 15 32 26.0 +1.7
USA0B Ussuriysk Arra 21.57 20 P P 15 32 28.8 +1.5
USA0B pmax pmax
comp=Z,12nm,1.1s
USA0B Ussuriysk Arra 21.57 20 P P 15 32 28.8 +1.5
USRK Ussuriysk Ar. 21.57 20 P P 15 32 28.1 +0.7
comp=Z,3.5nm,0.9s,baz=210,slow=16,SNR=3.7
USRK LR LR 15 41 19.2
comp=Z,704nm,19.2s,baz=175,slow=38
USRK Ussuriysk Ar. 21.57 20 P P 15 32 28.4 +1.1
USRK Ussuriysk Ar. 21.57 20 P P 15 32 28.4 +1.1
CMAR Chiang Mai Arr 22.11 259 P P 15 32 33.4 +0.1
comp=Z,3.3nm,0.9s,baz=62,slow=7.6,SNR=14
CMAR Chiang Mai Arr 22.11 259 *i*P P 15 32 35.2 +1.9
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 22.11 259 P P 15 32 33.0 -0.3
GTOI Gorontalo 23.48 177 P P 15 32 52.6 +5.0
comp=Z,17nm,1.8s
SBUM Sibu 23.57 205 P P 15 32 47.4 -1.1
SBUM IAmb IAmb 15 32 57.1
comp=Z,19nm,1.0s
MRSI Marisa 23.61 180 P P 15 32 55.8 +6.9
comp=Z,24nm,1.0s
MPSI Mapaga 23.82 185 P P 15 32 54.8 +3.8
GTA Gaotai 24.01 314 eP P 15 32 53.8 +1.1
GTA sP pwP 15 33 00.0 +1.1
GTA pmax pmax
comp=Z,17nm,1.4s
GUMO Guam 24.15 112 P P 15 32 53.9 -0.2
comp=Z,73nm,1.1s,baz=14,slow=22,SNR=3.5
GUMO Guam 24.15 112 P P 15 32 52.4 -1.7
GUMO pmax pmax
comp=Z,164nm,1.3s
GUMO Guam 24.15 112 P P 15 32 52.4 -1.7
APSI Ampana 24.99 181 P P 15 33 02.5 +0.9
comp=Z,34nm,1.1s
HIA Hailar 25.05 357 P P 15 33 02.7 +0.7
HIA pmax pmax
comp=Z,9.0nm,0.7s
HIA Hailar 25.05 357 P P 15 33 02.7 +0.7
LUWI Luwuk 25.13 178 P P 15 33 07.5 +4.6
comp=Z,41nm,0.8s
KSM Kuching 25.24 208 P P 15 33 01.1 -2.8
KSM IAmb IAmb 15 33 10.9
comp=Z,20nm,1.1s
KSM Kuching 25.24 208 P P 15 33 06.0 +2.1
LBMI Labuha 25.31 167 P P 15 33 11.3 +6.7
comp=Z,40nm,1.0s
MTKI Muara Teweh, K 25.92 196 P P 15 33 11.1 +1.0
comp=Z,2μmcomp=Z,17nm,0.6s
STKI Sintang 26.05 204 P P 15 33 16.7 +5.4
ASAJ Asahikawa 26.09 35 P P 15 33 10.9 -0.5
comp=Z,3.0nm,0.8s,baz=310,slow=16,SNR=5.8
ASAJ LR LR 15 42 54.9
comp=Z,819nm,19.0s,baz=204,slow=35
ASAJ Asahikawa 26.09 35 P P 15 33 10.5 -0.9
ASAJ pmax pmax
comp=Z,23nm,1.3s
JKA Kamikawa-asahi 26.09 35 P P 15 33 10.5 -1.0
JKA IAmb IAmb 15 33 38.5
comp=Z,23nm,1.3s
KLR Kul'dur 26.14 15⇓eP P 15 33 12.9 +1.1
ULN Ulaanbaatar 26.37 337 P P 15 33 13.6 -0.5
ULN pmax pmax
comp=Z,17nm,1.1s
ULN Ulaanbaatar 26.37 337 P P 15 33 13.6 -0.5
ULN IAmb IAmb 15 33 22.0
comp=Z,17nm,1.1s
SONM Songino Array 26.58 336 P P 15 33 15.8 -0.2
comp=Z,7.2nm,0.9s,baz=134,slow=6.2,SNR=4.8
SONM Songino Array 26.58 336 P P 15 33 15.5 -0.5
SONM pmax pmax
comp=Z,24nm,1.2s
SONM Songino Array 26.58 336 P P 15 33 15.5 -0.5
SONM IAmb IAmb 15 33 43.1
comp=Z,24nm,1.2s
SHL Shillong 27.21 279 P P 15 33 24.6 +2.6
SHL pmax pmax
comp=Z,17nm,1.2s
LSA Lhasa 27.88 288 P P 15 33 29.5 +1.3
LSA pmax pmax
comp=Z,4.0nm,0.4s
YSS Yuzh-Sakhalins 28.16 31 eP P 15 33 38.3 +8.3
YSS *e* 15 33 47.2
YSS pmax pmax
comp=Z,10.0nm,1.0s
ZEA Zeya 29.75 6 eP P 15 33 44.4 +0.4
PSI Prapat 30.74 230 P P 15 33 54.2 +0.8
comp=Z,5.3nm,0.7s,baz=18,slow=4.1,SNR=7.6
RPSI Rantau Prapat 30.82 230 P P 15 33 54.2 +0.3
WMQ Urumqi 34.08 313 eP P 15 34 24.3 +1.9
WMQ sP pwP 15 34 31.8 +3.2
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ LR LR
comp=Z,2μm,11.1s
WMQ LR LR
comp=Z,1μm,9.7s
WMQ LR LR
comp=Z,670nm,12.5s
YAK Yakutsk 38.16 6 P P 15 34 54.8 -2.1
comp=Z,3.3nm,0.4s,baz=50,slow=0.4,SNR=1.9
YAK Yakutsk 38.16 6⇓eP P 15 34 56.8 0.0
YAK pmax pmax
comp=Z,11nm,1.0s
YAK Yakutsk 38.16 6 P P 15 34 55.0 -1.9
YAK IAmb IAmb 15 35 06.8
comp=Z,13nm,0.5s
MK31 Makanchi Array 38.75 316 P P 15 35 01.2 -0.9
MK31 pmax pmax
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 38.75 316 P P 15 35 01.2 -0.9
MKAR Makanchi Array 38.75 316 P P 15 35 01.9 -0.2
comp=Z,3.8nm,0.8s,baz=109,slow=9.6,SNR=29
MKAR PcP PcP 15 37 12.8 -0.9
comp=Z,1.6nm,0.9s,baz=117,slow=5.5,SNR=2.8
MKAR ScP S 15 40 58.5 -0.8
comp=Z,0.5nm,0.9s,baz=129,slow=3.9,SNR=2.1
MKAR Makanchi Array 38.75 316 P P 15 35 01.2 -0.9
MAKZ Makanchi 38.95 316 P P 15 35 04.1 +0.3
MAKZ pmax pmax
comp=Z,18nm,1.2s
MAKZ Makanchi 38.95 316 P P 15 35 04.1 +0.3
MAKZ IAmb IAmb 15 35 15.7
comp=Z,18nm,1.2s
PDGK Podgornoye 39.55 309 P P 15 35 09.3 +0.3
TARG Taragay, Kyrgy 40.40 307 P P 15 35 16.1 -0.3
TARG pmax pmax
comp=Z,17nm,1.5s
TARG Taragay, Kyrgy 40.40 307 P P 15 35 16.1 -0.3
ZAA0 Zalesovo Array 40.55 327 P P 15 35 15.8 -1.2
ZAA0 IAmb IAmb 15 35 27.8
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 40.55 327 P P 15 35 16.3 -0.7
comp=Z,5.4nm,0.8s,baz=108,slow=7.3,SNR=13
MA2 Magadan 40.71 22 PcP PcP 15 37 19.2 -0.3
comp=Z,1.2nm,0.2s,baz=201,slow=6.9,SNR=5.4
KDJ Kajisay 40.94 307 P P 15 35 20.9 +0.4
KDJ pmax pmax
comp=Z,13nm,1.4s
KDJ Kajisay 40.94 307 P P 15 35 20.9 +0.4
MDOK Medeo 41.24 309 P P 15 35 24.1 +1.0
KSH Kashi 41.41 303 P P 15 35 28.3 +3.9
KSH pP pwP 15 35 31.3 +0.6
KSH pmax pmax
comp=Z,8.0nm,0.5s
KURK Kurchatov 42.47 320⇓*i*P P 15 35 32.8 +0.1
KURK pmax pmax
comp=Z,23nm,2.5s
KURBB Kurchatov Arra 42.48 320 P P 15 35 32.2 -0.7
comp=Z,3.9nm,0.8s,baz=109,slow=7.5,SNR=23
KURBB Kurchatov Arra 42.48 320 P P 15 35 32.8 -0.1
PALK Pallekele 42.86 254 P P 15 35 36.2 -0.2
comp=Z,1.7nm,0.6s,baz=298,slow=12,SNR=2.4
AAK Ala-Archa 42.98 307 P P 15 35 36.6 -0.6
comp=Z,2.2nm,0.8s,baz=129,slow=6.7,SNR=2.7
AAK Ala-Archa 42.98 307⇑eP P 15 35 40.1 +2.8
AAK pmax pmax
comp=Z,9.0nm,1.1s
SEY Seymchan 43.72 20⇑*i*P P 15 35 43.1 +0.4
SEY pmax pmax
comp=Z,2.0nm,0.9s
WB0 Warramunga Arr 45.40 163 P P 15 35 56.3 -0.3
WB0 IAmb IAmb 15 36 20.9
comp=Z,17nm,1.4s
BTK Batken 45.41 303 P P 15 35 56.7 0.0
BTK pmax pmax
comp=Z,12nm,1.5s
BTK Batken 45.41 303 P P 15 35 56.7 0.0
BTK IAmb IAmb 15 36 06.0
comp=Z,12nm,1.4s
WRAB Tennant Creek 45.54 163⇓eP P 15 35 59.6 +1.9
WRAB pmax pmax
comp=Z,19nm,1.4s
WRA Warramunga Arr 45.55 163 P P 15 35 57.5 -0.3
comp=Z,3.2nm,0.8s,baz=344,slow=8.6,SNR=14
WRA Warramunga Arr 45.55 163 P P 15 35 57.8 0.0
WB2 Warramunga Arr 45.55 163 P P 15 35 56.4 -1.4
WB2 IAmb IAmb 15 36 07.9
comp=Z,20nm,1.4s
WR0 Warramunga Arr 45.62 163 P P 15 35 59.4 +1.1
WR0 IAmb IAmb 15 36 15.1
comp=Z,9.1nm,0.8s
GAR Garm 45.73 302 P P 15 35 58.9 -0.4
KK31 Karatay Array 45.95 307 P P 15 36 00.7 -0.1
KK31 pmax pmax
comp=Z,9.0nm,1.3s
KK31 Karatay Array 45.95 307 P P 15 36 00.7 -0.1
KKAR Karatay Array 45.95 307 P P 15 36 00.9 +0.1
KKAR pmax pmax
comp=Z,9.0nm,1.3s
KKAR Karatay Array 45.95 307 P P 15 36 01.2 +0.4
KKAR Karatay Array 45.95 307 P P 15 36 00.9 +0.1
KKAR IAmb IAmb 15 36 21.1
comp=Z,9.1nm,1.3s
KBL Kabul 46.72 295 P P 15 36 07.0 -0.2
KBL pmax pmax
comp=Z,16nm,1.1s
KBL Kabul 46.72 295 P P 15 36 07.0 -0.2
TIXI Tiksi 47.62 3 P P 15 36 11.7 -1.7
comp=Z,9.0nm,0.8s,baz=270,slow=24,SNR=16
TIXI Tiksi 47.62 3⇑*i*P P 15 36 12.1 -1.3
TIXI pmax pmax
comp=Z,22nm,1.3s
TIXI Tiksi 47.62 3 P P 15 36 11.7 -1.7
BRVK Borovoye 48.11 321⇓*i*P P 15 36 18.0 +0.5
BRVK pmax pmax
comp=Z,11nm,0.8s
AS31 Alice Springs 49.02 165 P P 15 36 26.5 +1.8
ASAR Alice Springs 49.02 165 P P 15 36 25.1 +0.3
comp=Z,1.2nm,0.6s,baz=338,slow=6.7,SNR=18
ASAR ScP **ScP** 15 41 39.6 -4.2
comp=Z,0.8nm,1.0s,baz=343,slow=2.9,SNR=3.9
ASAR Alice Springs 49.02 165 P P 15 36 26.3 +1.5
NRIK Noril'sk 49.53 345 P P 15 36 27.0 -1.1
comp=Z,4.2nm,0.9s,baz=128,slow=9.4,SNR=6.3
NRIK Noril'sk 49.53 345*ce*P P 15 36 26.9 -1.2
NRIK pmax pmax
comp=Z,7.0nm,1.0s
NRIK Noril'sk 49.53 345 P P 15 36 26.4 -1.8
BILL Bilibino 51.43 20⇑*i*P P 15 36 42.8 +0.3
BILL *i* 15 37 56.0
BILL *i* 15 38 41.3
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 51.43 20 P P 15 36 41.7 -0.9
HRA Herat 52.33 296 P P 15 36 49.0 -1.0
AB31 Akbulak array 53.87 314 P P 15 37 01.0 +0.2
ABKAR Akbulak array 53.87 314 P P 15 37 00.7 -0.2
AKTO Aktyubinsk 55.19 316 P P 15 37 11.2 +0.8
comp=Z,6.1nm,0.9s,baz=97,slow=6.2,SNR=14
GEYT Alibeck 55.32 300 P P 15 37 12.8 +1.2
comp=Z,11nm,0.9s,baz=79,slow=9.4,SNR=14
GEYT Alibeck 55.32 300 P P 15 37 12.1 +0.4
GYA0B ALIBECK ARRAY 55.32 300 P P 15 37 11.5 -0.2
ARU Arti 55.45 323 P P 15 37 11.7 -0.5
comp=Z,1.0nm,0.4s,baz=122,slow=4.5,SNR=6.4
ARU Arti 55.45 323*c i*P P 15 37 11.8 -0.5
ARU 15 38 12.0
ARU 15 39 12.7
ARU S S 15 44 59.1 +2.1
ARU pmax pmax
comp=Z,23nm,2.0s
STKA Stephens Creek 58.89 160 P P 15 37 36.7 -0.1
comp=Z,1.5nm,0.8s,baz=350,slow=17,SNR=2.9
STKA Stephens Creek 58.89 160 P P 15 37 37.1 +0.3
STKA pmax pmax
comp=Z,3.0nm,1.3s
STKA Stephens Creek 58.89 160 P P 15 37 37.1 +0.3
KIRV Kirov 60.55 325 P P 15 37 46.7 -1.2
comp=Z,10nm,0.6s,baz=72,slow=7.5,SNR=7.6
KIRV Kirov 60.55 325⇓*i*P P 15 37 47.9 0.0
TTA Tatalina 65.15 30 P P 15 38 19.4 +0.7
TTA Tatalina 65.15 30 P P 15 38 19.4 +0.7
ZEI Tsey 65.41 308 eP P 15 38 20.3 -0.5
ZEI pmax pmax
comp=Z,14nm,0.8s
VRH Novokhopyorsk 65.46 317 eP P 15 38 19.8 -0.9
VRH pmax pmax
comp=Z,20nm,0.8s
KLMR Klimovskoe 65.47 328 eP P 15 38 18.7 -1.8
KLMR pmax pmax
comp=Z,25nm,1.3s
KLMR Klimovskoe 65.47 328 eP P 15 38 18.8 -1.8
KLMR AMP 15 38 21.0
comp=Z,25nm,1.3s
GOF Gofitskoye 65.60 310⇑eP P 15 38 22.3 +0.6
L19K White Mountain 65.76 31 P P 15 38 22.7 +0.2
L19K IAmb IAmb 15 38 42.2

comp=Z,6.7nm,1.0s
ONI **Oni** **65.77** **308** P **P** **15 38 23.6 +0.6**
ONI pmax pmax
comp=Z,15nm,0.9s
ONI **Oni** **65.77** **308** P **P** **15 38 23.6 +0.6**
IMAR **Indian Mountai** **65.86** **27** P **P** **15 38 22.6 -0.5**
KBZ **Khabaz** **65.95** **309** P **P** **15 38 24.3 +0.3**
comp=Z,10nm,0.8s,baz=95,slow=4.3,SNR=19
KBZ **Khabaz** **65.95** **309** *c iP* **P** **15 38 24.4 +0.4**
KBZ pmax pmax
comp=Z,16nm,1.0s
K20K **Telida** **65.99** **29** P **P** **15 38 25.9 +1.9**
K20K IAmb IAmb 15 38 29.0
comp=Z,5.9nm,1.1s
KIV **Kislovodsk** **66.05** **309** *eP* **P** **15 38 24.9 +0.1**
KIV pmax pmax
comp=Z,17nm,1.0s
H21K **Melozitna Rive** **66.28** **27** P **P** **15 38 26.9 +1.1**
H21K IAmb IAmb 15 38 29.3
comp=Z,7.3nm,0.9s
PPLA **Purkeypile** **66.90** **30** P **P** **15 38 31.4 +1.4**
VORR **Voronezh** **66.93** **318** *eP* **P** **15 38 29.9 -0.3**
LPSR **Galich'ya Gora** **66.94** **319** *eP* **P** **15 38 28.6 -1.6**
LPSR pmax pmax
comp=Z,30nm,1.0s
VORD **Divnogorie** **67.01** **317** *eP* **P** **15 38 28.7 -1.9**
VORD pmax pmax
comp=Z,7.0nm,0.8s
VSR **Storozhevoye** **67.04** **317** *eP* **P** **15 38 29.1 -1.8**
VSR pmax pmax
comp=Z,10.0nm,1.1s
TOLK **Toolik Lake Re** **67.16** **23** IAmb IAmb 15 38 35.8
comp=Z,5.9nm,0.9s
I23K **Minto, Yukon-K** **67.78** **27** P **P** **15 38 35.5 +0.2**
I23K IAmb IAmb 15 38 41.8
comp=Z,5.8nm,1.1s
OBN **Obninsk** **67.86** **322** *i* P **P** **15 38 35.2 -0.7**
OBN *i* 15 39 03.7
OBN pmax pmax
comp=Z,8.0nm,0.6s
H24K **Noodor Dome** **68.27** **26** IAmb IAmb 15 38 43.4
COLA **College** **68.46** **27** ⇑ *eP* **P** **15 38 42.8 +3.3**
COLA pmax pmax
comp=Z,13nm,2.3s
POKR **Poker Plat Res** **68.59** **27** P **P** **15 38 40.4 0.0**
POKR IAmb IAmb 15 38 44.4
comp=Z,6.9nm,0.8s
ILAR **Eielson Array** **68.89** **27** P **P** **15 38 42.2 -0.1**
comp=Z,1.0nm,0.8s,baz=283,slow=4.7,SNR=6.8
MARD **Mardin** **68.97** **302** P **P** **15 38 42.7 -0.7**
BMAR **Burnt Mountain** **69.23** **24** P **P** **15 38 44.9 +0.5**
K27K **Chicken** **71.09** **28** IAmb IAmb 15 38 59.1
comp=Z,6.2nm,0.8s
M26K **Nabesna, AK** **71.15** **29** IAmb IAmb 15 38 58.8
comp=Z,8.5nm,0.9s
L27K **Beaver Creek,** **71.48** **29** IAmb IAmb 15 39 01.3
comp=Z,5.6nm,0.9s
BCAR **Beaver Creek A** **71.50** **29** P **P** **15 38 58.5 +0.2**
DAWY **Dawson** **72.21** **27** P **P** **15 39 02.4 -0.2**
DAWY IAmb IAmb 15 39 06.6
comp=Z,6.4nm,0.9s
EPYK **Eagle Plains** **72.50** **24** IAmb IAmb 15 39 06.0
comp=Z,7.0nm,0.9s
INK **Inuvik** **72.95** **22** IAmb IAmb 15 39 08.9
comp=Z,5.6nm,0.8s
AKASG **Malin Array Be** **73.26** **318** P **P** **15 39 08.1 -0.9**
comp=Z,3.7nm,0.8s,baz=60,slow=7.1,SNR=10
AKASG **Malin Array Be** **73.26** **318** IAmb IAmb 15 39 09.6
comp=Z,7.6nm,1.1s
AKBB **Malin Array Si** **73.26** **318** ⇓ *iP* **P** **15 39 08.4 -0.6**
AKBB pmax pmax
comp=Z,14nm,1.1s
AKBB **Malin Array Si** **73.26** **318** IAmb IAmb 15 39 09.3
comp=Z,13nm,1.1s
NACGM **Naroch** **73.36** **323** *eP* **P** **15 39 09.9 +0.4**
ASF **Jabal al Asfar** **73.50** **298** P **P** **15 39 11.0 +0.1**
comp=Z,2.8nm,0.9s,baz=54,slow=7.8,SNR=4.2
BR131 **Keskin Array S** **73.66** **307** *c iP* **P** **15 39 11.6 -0.2**
BRTR **Keskin Array B** **73.66** **307** P **P** **15 39 11.4 -0.4**
comp=Z,7.5nm,0.8s,baz=114,slow=6.1,SNR=21
BRTR **Keskin Array B** **73.66** **307** *i* P **P** **15 39 12.1 +0.3**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR **Keskin Array B** **73.66** **307** P **P** **15 39 11.8 0.0**
M30M **Minto, Yukon** **73.82** **28** IAmb IAmb 15 39 39.5
comp=Z,12nm,1.2s
A36M **Sachs Harbour** **73.89** **17** IAmb IAmb 15 39 15.8
comp=Z,6.7nm,0.8s
HYT **Haines Junctio** **74.14** **30** IAmb IAmb 15 39 39.8
comp=Z,11nm,1.2s
ANTO **Ankara** **74.23** **307** P **P** **15 39 14.6 -0.4**
ANTO pmax pmax
comp=Z,16nm,0.8s
ANTO **Ankara** **74.23** **307** P **P** **15 39 14.6 -0.4**
BR231 **Keskin MP Arra** **74.25** **307** P **P** **15 39 15.6 +0.3**
SUW **Suwalki** **75.64** **323** *eP* **P** **15 39 22.9 +0.1**
SKAG **Skagway** **75.67** **31** IAmb IAmb 15 39 26.0
comp=Z,11nm,0.9s
VRI **Vrincioaia** **76.43** **314** P **P** **15 39 28.2 +0.7**
VRI pmax pmax
comp=Z,14nm,1.0s
BURAR **Bucovina Array** **76.77** **316** P **P** **15 39 29.4 -0.1**
MLR **Muntele Rosu** **77.08** **314** P **P** **15 39 31.7 +0.4**
comp=Z,5.7nm,0.8s,baz=109,slow=2.5,SNR=8.6
KWP **Kalwaria Pacla** **77.56** **319** *eP* **P** **15 39 34.4 +0.6**
HFS **Hagfors** **77.84** **331** P **P** **15 39 34.9 -0.2**
comp=Z,2.2nm,0.8s,baz=18,slow=42,SNR=2.9
NC405 **NORSAR Array S** **78.23** **332** P **P** **15 39 36.9 -0.4**
NB2 **NORSAR Subarra** **78.48** **332** P **P** **15 39 37.6 -1.1**
comp=Z,16nm,1.7s,baz=62,slow=5.6
NOA **NORSAR Array B** **78.48** **332** P **P** **15 39 38.0 -0.7**
comp=Z,2.0nm,0.8s,baz=60,slow=5.6,SNR=7.6
OJC **Ojcow** **79.05** **320** *eP* **P** **15 39 42.5 +0.5**
NIE **Niedzica** **79.08** **319** *eP* **P** **15 39 43.7 +1.5**
VTS **Vitosha** **79.98** **312** P **P** **15 39 46.9 -0.5**
VTS pmax pmax
comp=Z,14nm,1.2s
VTS **Vitosha** **79.98** **312** P **P** **15 39 46.9 -0.5**
VTS IAmb IAmb 15 39 49.0
comp=Z,14nm,1.2s
VYHS **Vyhne** **80.35** **319** *eP* **P** **15 39 49.5 +0.4**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS **Vyhne** **80.35** **319** *eP* **P** **15 39 49.5 +0.4**
OSTC **Ostas** **80.96** **322** *eP* P 15 39 56.8 +4.4
DPC **Dobruska-Polom** **81.00** **321** *eP* **P** **15 39 52.9 +0.3**
DPC **Dobruska-Polom** **81.00** **321** *eP* **P** **15 39 52.9 +0.3**
VRAC **Vranov** **81.31** **320** P **P** **15 39 53.5 -0.7**
comp=Z,1.4nm,0.4s,baz=66,slow=7.0,SNR=3.5
CLL **Collm** **82.40** **323** *i* P **P** **15 39 59.9 0.0**
YKA **Yellowknife Ar** **82.68** **23** P **P** **15 40 00.8 -0.3**
comp=Z,4.3nm,0.8s,baz=314,slow=4.7,SNR=49
CKRC **Cesky Krumlov** **82.87** **321** *eP* **P** **15 40 02.8 +0.3**
KHC **Kasperske Hory** **83.14** **321** *eP* **P** **15 40 04.2 +0.3**
KHC *e* 15 40 13.1
KHC **Kasperske Hory** **83.14** **321** *eP* **P** **15 40 04.2 +0.3**
KHC *ex* x 15 40 13.1
GERES **GERESS Array B** **83.21** **321** P **P** **15 40 04.0 -0.3**
comp=Z,1.8nm,0.8s,baz=46,slow=5.8,SNR=10
GERES **GERESS Array B** **83.21** **321** P **P** **15 40 03.6 -0.7**
BMO **Blue Mountains** **92.63** **38** IAmb IAmb 15 41 03.8
comp=Z,6.8nm,1.4s
PLID **Pearl Lake** **93.20** **37** IAmb IAmb 15 40 55.7
comp=Z,3.7nm,1.2s
BEKR **Beckworth** **93.83** **43** P **P** **15 40 56.5 +0.9**
BEKR IAmb IAmb 15 40 59.8
comp=Z,3.5nm,0.9s
EMB **Emerald Bay** **94.51** **44** P **P** **15 40 58.6 -0.2**
EMB IAmb IAmb 15 41 06.9
comp=Z,5.0nm,0.9s
KVN **Kaiserville** **95.72** **43** P **P** **15 41 05.3 +1.0**
KVN pmax pmax
comp=Z,4.0nm,1.4s
KVN **Kaiserville** **95.72** **43** P **P** **15 41 05.3 +1.0**
KVN IAmb IAmb 15 41 06.7
comp=Z,4.4nm,1.4s
NVAR **Mina Array Bea** **95.97** **43** P **P** **15 41 05.7 +0.3**
comp=Z,1.1nm,0.8s,baz=279,slow=6.5,SNR=7.5
NVAR **Mina Array Bea** **95.97** **43** P **P** **15 41 05.2 -0.3**
SDV **Santo Domingo** **144.90** **22** ⇑ *eP* **PKPdf** **15 47 15.3 -0.8**
SOCV **Socops** **145.38** **23** *eP* **PKPdf** **15 47 16.3 -0.4**
PTBC **PUERTO BERRIO** **145.52** **30** ⇑ *eP* **PKPab** **15 47 16.3 -0.9**
PAMC **Pamplona, Colo** **145.55** **26** *eP* **PKPab** **15 47 17.3 -0.6**
NORC **Norcasia** **146.19** **31** *eP* **PKPdf** **15 47 17.3 -0.9**
GUY2C **Guyana, Caldas** **146.25** **32** *eP* **PKiKP** **15 47 21.1 -1.9**
SPBC **San Pablo de B** **146.48** **30** *eP* **PKPdf** **15 47 18.2 -0.5**
RUSC **La Rusia** **146.70** **28** *eP* **PKiKP** **15 47 23.1 -1.0**
ROSC **El Rosal** **147.08** **31** PKPbc **PKPbc** **15 47 21.4 -0.8**
comp=Z,6.7nm,0.4s,baz=87,slow=14,SNR=4.4
ROSC **El Rosal** **147.08** **31** PKP2 **PKPab** **15 47 22.8 -0.8**
ROSC **El Rosal** **147.08** **31** **PKPab** **15 47 22.8 -0.8**
ORTC **Ortega, Tolima** **147.44** **33** *eP* **PKiKP** **15 47 25.0 0.0**
VILC **Villavicencio,** **148.01** **30** *eP* **PKPab** **15 47 25.9 -1.0**
SOTA **Rioblanco** **148.23** **37** ⇑ *eP* **PKPbc** **15 47 24.0 -1.4**

TAP 27 15:28:24.8, 24.26N × 121.74E, h11 km, ML3.8, 1C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=13	**0.05**	**4**	*i* P	Pg	15 28 27.0	0.0
EHP				*i* S	Sg	15 28 28.9	+0.3
ETL	**Fush Village** baz=225	**0.15**	**225**	*i* P	Pg	15 28 28.4	+0.2
ETL				S	Sg	15 28 31.1	+0.5
NACB	**Ninganchiao** baz=236	**0.16**	**236**	*eP*	Pg	15 28 28.6	+0.3
NACB				S	Sg	15 28 31.4	+0.6
ENA	**Nanau** baz=4.0	**0.17**	**1**	⇓ *iP*	Pg	15 28 28.6	+0.1
ENA				*eS*	Sg	15 28 31.5	+0.4
EWUT	**Wuta** baz=12	**0.19**	**12**	*i* P	Pg	15 28 28.8	0.0
EWUT				*i* S	Sg	15 28 32.1	+0.4
TWD	**Chiawan** baz=214	**0.22**	**215**	*i* P	Pg	15 28 29.5	+0.1
TWD				*eS*	Sg	15 28 33.3	+0.7
ETLH	**Xiulin Townshi** baz=257	**0.24**	**257**	*i* P	Pg	15 28 30.4	+0.6
ETLH				*eS*	Sg	15 28 34.3	+1.1
LATG	**Datong** baz=325	**0.33**	**325**	*eP*	Pb	15 28 32.2	-0.6
LATG				*eS*	Sb	15 28 37.4	-0.8
TWC	**Suao** baz=18	**0.36**	**16**	P	Pg	15 28 31.9	0.0
NNSB	**Datong** baz=297	**0.36**	**297**	*eP*	Pb	15 28 33.3	0.0
NNSB				*eS*	Sg	15 28 37.9	+0.9
ETM	**Tongmen** baz=217	**0.37**	**217**	P	Pg	15 28 32.3	+0.2
ETM				*eS*	Sg	15 28 37.8	+0.7
NDS	**Dongshan** baz=357	**0.37**	**357**	*i* P	Pg	15 28 32.6	+0.4
NDS				*eS*	Sg	15 28 38.0	+0.9
NNS	**Nan Shan** baz=298	**0.38**	**298**	*eP*	Pb	15 28 33.5	0.0
NNS				*eS*	Sg	15 28 38.2	+0.8
NDT	**Datong Townshi** baz=329	**0.40**	**329**	*eP*	Pb	15 28 33.4	-0.4
NDT				*eS*	Sb	15 28 39.1	-0.7
ENTT	**Nioudou** baz=338	**0.41**	**338**	⇑ *iP*	Pb	15 28 33.5	-0.5
ENTT				*eS*	Sb	15 28 39.5	-0.7
TEYL	**Yanliau Villag** baz=199	**0.41**	**198**	*eP*	Pb	15 28 34.2	+0.1
TWE	**Neicheng** baz=354	**0.46**	**352**	*eP*	Pg	15 28 34.4	+0.5
FUSB	**Fushanzhiwuyua** baz=345	**0.51**	**345**	*eP*	Pb	15 28 35.5	-0.3
NSK	**Sanguang** baz=321	**0.54**	**320**	*eP*	Pb	15 28 36.4	+0.2
NWLT	**Wulai** baz=337	**0.56**	**337**	*eP*	Pb	15 28 36.4	-0.1
NWLT				*eS*	Sb	15 28 44.0	-0.5
	baz=337						

*IDC **27** 15:32:22.8, 1.2, 24.23N, 122.25E, h0 km, mb3.4/5, mb1 3.6/5, mb1mx3.4/54, mbtmp3.4/5, Error ellipse: s-maj=69.6km s-min=25.0km az=67.0*
*TAP **27** 15:32:25.9, 24.26N, 121.78E, h13 km, ML4.1, B*
*JMA **27** 15:32:25.3, 0.2, 24.24N, 121.81E, h0 km, M3.4*
*NEIC **27** 15:32:25.7, 1.1, 24.24N, 0.02, 121.83E, 0.05, h11 km, 3km, mb4.5/8, ML4.2(TAP), Error ellipse: s-maj=6.7km s-min=2.1km az=109.0*

ISC 27 15:32:25.6, 0.8, 24.24N, 0.02, 121.84E, 0.02, h11 km, 5 km, n123, s0 74/183, mb3.7/9, 3C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=334	**0.12**	**308**	*i* P	**Pg**	**15 32 28.5**	**0.0**
EHP				S	**Sg**	**15 32 30.6**	**0.0**
ENA	**Nanau** baz=352	**0.21**	**334**	⇓ *iP*	**Pg**	**15 32 30.0**	**0.0**
ENA				*i* S	**Sg**	**15 32 33.0**	**-0.1**
EWUT	**Wuta** baz=1.0	**0.21**	**345**	*i* P	**Pg**	**15 32 30.1**	**+0.1**
EWUT				S	**Sg**	**15 32 33.2**	**0.0**
ETL	**Fush Village** baz=234	**0.21**	**248**	*i* P	**Pg**	**15 32 30.0**	**-0.1**
ETL				S	**Sg**	**15 32 33.4**	**+0.2**
NACB	**Ninganchiao**	**0.23**	**254**		**Pg**	**15 32 30.2**	**-0.2**
NACB				Sg	**Sg**	**15 32 33.5**	**-0.2**
NACB	**Ninganchiao** baz=242	**0.23**	**254**	⇑ *iP*	**Pg**	**15 32 30.2**	**-0.2**
NACB				*i* S	**Sg**	**15 32 33.7**	**0.0**
TWD	**Chiawan** baz=221	**0.27**	**235**	⇑ *iP*	**Pg**	**15 32 31.1**	**-0.1**
TWD				*i* S	**Sg**	**15 32 35.1**	**+0.2**
ETLH	**Xiulin Townshi** baz=259	**0.33**	**264**	⇑ *iP*	**Pg**	**15 32 31.9**	**-0.3**
ETLH				*i* S	**Sg**	**15 32 36.6**	**0.0**
HWA	**Hwalien** baz=207	**0.34**	**219**	P	**Pb**	**15 32 33.8**	**+0.1**
HWA				*eS*	**Sb**	**15 32 39.9**	**+0.8**
TWC	**Suao** baz=13	**0.37**	**1**	⇓ *iP*	**Pg**	**15 32 33.1**	**+0.2**
TWC				S	**Sg**	**15 32 37.9**	**0.0**
NDS	**Dongshan** baz=352	**0.41**	**344**	⇓ *iP*	**Pg**	**15 32 33.8**	**+0.1**
NDS				*eS*	**Sg**	**15 32 39.2**	**+0.1**
LATG	**Datong** baz=320	**0.41**	**316**	⇓ *iP*	**Pg**	**15 32 33.7**	**0.0**
LATG				S	**Sg**	**15 32 38.8**	**-0.4**
ETM	**Tongmen** baz=221	**0.42**	**229**	*i* P	**Pg**	**15 32 33.9**	**0.0**
ETM				*eS*	**Sg**	**15 32 39.5**	**+0.2**
TEYL	**Yanliau Villag** baz=204	**0.43**	**211**	P	**Pb**	**15 32 35.5**	**+0.3**
TEYL				*eS*	**Sb**	**15 32 43.7**	**+2.0**
NNSB	**Datong** baz=295	**0.46**	**294**	⇓ *iP*	**Pg**	**15 32 34.6**	**0.0**
NNSB				*eS*	**Sg**	**15 32 40.3**	**-0.4**
NDT	**Datong Townshi** baz=325	**0.47**	**321**	⇓ *iP*	**Pg**	**15 32 35.0**	**+0.2**
NDT				*eS*	**Sg**	**15 32 41.1**	**+0.1**
ENTT	**Nioudou** baz=334	**0.47**	**328**	⇓ *iP*	**Pg**	**15 32 35.0**	**+0.2**
ENTT				S	**Sg**	**15 32 41.3**	**+0.2**
NNS	**Nan Shan** baz=296	**0.47**	**295**	⇓ *iP*	**Pg**	**15 32 34.8**	**-0.1**
NNS				*eS*	**Sg**	**15 32 40.5**	**-0.6**
TWE	**Neicheng** baz=350	**0.51**	**342**	⇓ *iP*	**Pg**	**15 32 35.7**	**+0.2**
TWE				*eS*	**Sg**	**15 32 42.5**	**+0.3**
ILA	**Ilan** baz=358	**0.53**	**351**	⇓ *iP*	**Pg**	**15 32 36.3**	**+0.4**
ILA				*eS*	**Sb**	**15 32 44.1**	**-0.5**
WHF	**Hehuan Shan** baz=256	**0.53**	**260**	P	**Pg**	**15 32 36.0**	**-0.1**
WHF				*eS*	**Sg**	**15 32 42.9**	**-0.3**
FUSS	**Fushou** baz=269	**0.54**	**271**	P	**Pg**	**15 32 35.2**	**-1.0**
FUSS				*eS*	**Sg**	**15 32 42.1**	**-1.4**
ESL	**Shilin** baz=214	**0.56**	**221**	*eP*	**Pg**	**15 32 36.6**	**+0.1**
ESL				*eS*	**Sb**	**15 32 45.2**	**-0.3**
FUSB	**Fushanzhiwuyua** baz=341	**0.57**	**336**	⇓ *iP*	**Pg**	**15 32 36.9**	**+0.3**
FUSB				*eS*	**Sg**	**15 32 44.2**	**+0.1**
TEGC	**Jichi Village** baz=201	**0.59**	**208**	*eP*	**Pb**	**15 32 38.5**	**+0.5**
TEGC				*eS*	**Sn**	**15 32 48.8**	**-0.8**
YHNB	**Yeheng**	**0.60**	**315**		**Pg**	**15 32 37.4**	**+0.1**
YHNB				Sg	**Sg**	**15 32 44.9**	**-0.4**
YHNB	**Yeheng** baz=318	**0.60**	**315**	⇓ *eP*	**Pg**	**15 32 37.5**	**+0.1**
YHNB				*eS*	**Sg**	**15 32 45.1**	**-0.2**
TWT	**Tachien** baz=269	**0.61**	**271**	*eP*	**Pb**	**15 32 37.9**	**-0.5**
TWT				*eS*	**Sg**	**15 32 45.7**	**+0.3**
EGS	baz=15	**0.61**	**8**	*i* P	**Pb**	**15 32 38.0**	**-0.2**
EGS				*eS*	**Sg**	**15 32 43.6**	**-1.8**
NTC	**Toucheng** baz=5.0	**0.61**	**359**	⇓ *iP*	**Pg**	**15 32 37.7**	**+0.2**
NTC				*eS*	**Sg**	**15 32 45.5**	**0.0**
NWLT	**Wulai** baz=334	**0.62**	**330**	⇓ *iP*	**Pg**	**15 32 37.8**	**+0.2**
NWLT				S	**Sg**	**15 32 45.6**	**-0.1**
NSK	**Sanguang** baz=318	**0.62**	**315**	⇓ *iP*	**Pg**	**15 32 37.7**	**+0.1**
NSK				*eS*	**Sg**	**15 32 45.6**	**-0.2**
TDCB	**Techi** baz=269	**0.62**	**271**	*eP*	**Pg**	**15 32 38.0**	**+0.3**
TDCB				*eS*	**Sg**	**15 32 45.4**	**-0.5**
CHGB	**Renai** baz=250	**0.63**	**254**	*eP*	**Pg**	**15 32 38.1**	**+0.2**
CHGB				*eS*	**Sg**	**15 32 46.7**	**+0.3**
OWD	**Renai** baz=241	**0.67**	**245**	P	**Pg**	**15 32 38.5**	**-0.1**
OWD				*eS*	**Sg**	**15 32 47.3**	**-0.1**
EGFH	**Guangfu** baz=208	**0.68**	**214**	*eP*	**Pb**	**15 32 39.5**	**0.0**
WUSB	**Renai** baz=246	**0.70**	**250**	*eP*	**Pg**	**15 32 39.5**	**+0.2**
WUSB				*eS*	**Sg**	**15 32 48.7**	**+0.2**
TIPB	**Shuangxi** baz=4.0	**0.73**	**359**	⇓ *eP*	**Pg**	**15 32 39.9**	**+0.2**
TIPB				*eS*	**Sg**	**15 32 48.5**	**-0.7**
NFF	**Wufeng Townshi** baz=302	**0.77**	**301**	⇓ *eP*	**Pg**	**15 32 40.6**	**+0.2**
NFF				*eS*	**Sg**	**15 32 50.0**	**-0.4**
TWA	**Mucha** baz=347	**0.77**	**342**	⇓ P	**Pg**	**15 32 40.8**	**+0.3**
TWA				*eS*	**Sg**	**15 32 50.2**	**-0.5**
NHDH	**Xindian Distri** baz=342	**0.78**	**338**	*eP*	**Pb**	**15 32 41.0**	**-0.2**
TWB1	**Santiao Chiao** baz=15	**0.78**	**10**	*eP*	**Pg**	**15 32 40.7**	**+0.1**
TATO	**Taipei**	**0.80**	**336**		**Pg**	**15 32 41.2**	**+0.2**
TATO				Sg	**Sg**	**15 32 51.2**	**-0.3**
TATO	**Taipei** baz=340	**0.80**	**336**	⇓ *eP*	**Pg**	**15 32 41.3**	**+0.2**
TATO				*eS*	**Sg**	**15 32 49.8**	**-1.7**
VWDT	**VWDT** baz=229	**0.80**	**233**	*eP*	**Pg**	**15 32 41.2**	**+0.2**
VWDT				*eS*	**Sb**	**15 32 53.0**	**+0.7**
WHP	**Taichung City** baz=271	**0.82**	**273**	*eP*	**Pb**	**15 32 41.8**	**0.0**
WHP				*eS*	**Sg**	**15 32 52.0**	**-0.1**
NWF	**Wu-fen Shan**	**0.83**	**356**	⇓ *eP*	**Pb**	**15 32 42.1**	**0.0**
NWF				*eS*	**Sg**	**15 32 52.5**	**0.0**
WFSB	**Wu-fen Shan**	**0.83**	**356**	⇓ *eP*	**Pb**	**15 32 42.1**	**+0.1**
WFSB				*eS*	**Sg**	**15 32 52.7**	**+0.2**
HGSD	**Ruisui** baz=203	**0.84**	**207**	*eP*	**Pb**	**15 32 42.7**	**+0.6**
BACT	**New Taipei Cit** baz=338	**0.84**	**334**	*eP*	**Pn**	**15 32 42.8**	**-0.5**
WPL	**Puli Township** baz=252	**0.84**	**255**	*eP*	**Pb**	**15 32 41.9**	**-0.2**
WPL				*eS*	**Sb**	**15 32 53.1**	**-0.4**
TAP1	**Taipei** baz=343	**0.85**	**340**	*eP*	**Pb**	**15 32 42.8**	**+0.4**
SXI1	**Grass Mountain** baz=6.0	**0.85**	**2**	⇓ P	**Pb**	**15 32 42.4**	**0.0**
TAP	**Taipei** baz=343	**0.85**	**339**	*eP*	**Pg**	**15 32 41.7**	**-0.4**
LIOB	**Emei** baz=299	**0.85**	**298**	*eP*	**Pb**	**15 32 42.6**	**+0.1**
LIOB				*eS*	**Sb**	**15 32 53.5**	**-0.5**
NSTT	**Nanjuang** baz=298	**0.86**	**297**	⇓ *eP*	**Pb**	**15 32 42.5**	**-0.1**
NSTT				*eS*	**Sg**	**15 32 53.5**	**+0.1**
DPDB	**Guoxing** baz=254	**0.86**	**256**	*eP*	**Pb**	**15 32 42.4**	**-0.2**
WCS	**Beigang Elemen** baz=256	**0.87**	**258**	*eP*	**Pb**	**15 32 42.7**	**0.0**
EHY	**Hungye** baz=208	**0.87**	**213**	*eP*	**Pg**	**15 32 41.9**	**-0.5**
NTY	**Taoyuan** baz=329	**0.90**	**327**	*eP*	**Pn**	**15 32 44.4**	**+0.2**
TNOU	**National Taiwa** baz=360	**0.91**	**356**	*eP*	**Pb**	**15 32 43.5**	**+0.2**
HSN1	**Hsinchu** baz=307	**0.92**	**306**	*eP*	**Pb**	**15 32 44.0**	**+0.4**
SSLB	**Suanglung**	**0.93**	**241**		**Pg**	**15 32 43.0**	**-0.4**
SSLB				Sg	**Sg**	**15 32 55.3**	**-0.3**
SSLB	**Suanglung** baz=238	**0.93**	**241**	*eP*	**Pg**	**15 32 43.3**	**-0.1**
SMLT	**Sun Moon Lake** baz=245	**0.93**	**248**	*eP*	**Pb**	**15 32 43.8**	**0.0**
SMLT				*eS*	**Sb**	**15 32 56.6**	**+0.4**
YM01	**YM01** baz=348	**0.94**	**345**	*eP*	**Pb**	**15 32 44.1**	**+0.2**
NCU	**National Centr** baz=323	**0.94**	**321**	*eP*	**Pb**	**15 32 44.1**	**+0.2**
NCU				*eS*	**Sn**	**15 33 00.1**	**+1.9**
NCUH	**Zhongli** baz=323	**0.94**	**321**	*eP*	**Pb**	**15 32 44.3**	**+0.4**
TWS1	**Kuangyinshan** baz=339	**0.94**	**336**	*eP*	**Pn**	**15 32 44.7**	**-0.1**
TWS1				*eS*	**Sb**	**15 32 56.6**	**+0.3**
SBCB	**Hsinchu** baz=306	**0.95**	**305**	*eP*	**Pn**	**15 32 44.5**	**-0.4**
TYC	**Yuchr**	**0.96**	**250**	*eP*	**Pb**	**15 32 44.2**	**0.0**

TYC				*e*S		**Sb**	**15 32 56.8**	**-0.2**
	baz=247							
HSN	**Hsinchu**	**0.97**	**305**	*e*P		**Pn**	**15 32 45.0**	**-0.2**
	baz=309							
YM08	**YM08**	**0.97**	**346**	*e*P		**Pb**	**15 32 44.5**	**0.0**
	baz=350							
YULB	**Yu-li**	**0.98**	**211**	Pg		**Pg**	**15 32 44.0**	**-0.4**
YULB	**Yu-li**	**0.98**	**211**	*e*P		**Pg**	**15 32 43.4**	**-1.1**
	baz=207							
TWQ1	**Liyutan**	**0.98**	**277**	*e*P		**Pn**	**15 32 45.7**	**+0.4**
	baz=275							
TWQ1				*e*S		**Sg**	**15 32 57.0**	**-0.3**
	baz=275							
ECBN	**Changbin**	**0.98**	**201**	*e*P		**Pb**	**15 32 44.9**	**+0.2**
	baz=198							
ANP	**Anpu**	**0.99**	**343**	*e*P		**Pb**	**15 32 45.0**	**+0.2**
	baz=346							
NTST	**Danshui**	**0.99**	**339**	*e*P		**Pn**	**15 32 45.5**	**+0.1**
	baz=342							
NSY	**Sanyi**	**1.00**	**280**	*e*P		**Pn**	**15 32 46.1**	**+0.5**
	baz=280							
NMLH	**Miaoli**	**1.00**	**287**	*e*P		**Pn**	**15 32 46.0**	**+0.4**
	baz=287							
EYUL	**Yuli**	**1.01**	**208**	*e*P		**Pn**	**15 32 46.0**	**+0.3**
	baz=205							
TWF1	**Yuli**	**1.01**	**210**	*e*P		**Pg**	**15 32 43.9**	**-1.2**
	baz=205							
JYNG	**Yonagunijimaku**	**1.03**	**78**	P		**Pn**	**15 32 46.3**	**+0.3**
JYNG				*e*S		**Sn**	**15 33 01.8**	**+1.4**
NHW	**Xinwu Township**	**1.05**	**317**	*e*P		**Pn**	**15 32 46.6**	**+0.4**
	baz=318							
TWY	**Chenhua**	**1.05**	**348**	*e*P		**Pn**	**15 32 46.7**	**+0.4**
	baz=351							
WWF	**Wufeng**	**1.06**	**260**	*e*P		**Pn**	**15 32 47.5**	**+1.1**
	baz=258							
WWF				*e*S		**Sn**	**15 33 03.4**	**+2.2**
	baz=258							
TCU	**Taichung**	**1.07**	**265**	*e*P		**Pn**	**15 32 47.7**	**+1.3**
	baz=263							
YOJ	**Yonaguni jima**	**1.09**	**78**	P		**Pn**	**15 32 47.3**	**+0.6**
YOJ				*e*S		**Sn**	**15 33 03.6**	**+1.7**
YOJ	**Yonaguni jima**	**1.09**	**78**			**Pn**	**15 32 47.4**	**+0.6**
YOJ	**Yonaguni jima**	**1.09**	**78**	P		**Pn**	**15 32 47.4**	**+0.6**
	baz=79							
YOJ				*e*S		**Sn**	**15 33 05.3**	**+3.4**
	baz=79							
WJS	**Zhushan**	**1.10**	**248**	*e*P		**Pn**	**15 32 47.8**	**+0.8**
	baz=245							
WJS				*e*S		**Sn**	**15 33 04.4**	**+2.3**
	baz=245							
WDJ	**Dajia District**	**1.10**	**276**	*e*P		**Pn**	**15 32 48.2**	**+1.3**
	baz=275							
WDJ				*e*S		**Sn**	**15 33 03.7**	**+1.6**
	baz=275							
YUS	**Yu-Shan**	**1.10**	**228**	*e*P		**Pg**	**15 32 46.8**	**-0.1**
	baz=224							
WNT1	**Nantou City**	**1.11**	**253**	*e*P		**Pn**	**15 32 48.4**	**+1.3**
	baz=251							
WNT	**Mingjian**	**1.12**	**251**	*e*P		**Pn**	**15 32 48.2**	**+1.1**
	baz=249							
WCHH	**Zhanghua**	**1.18**	**263**	*e*P		**Pg**	**15 32 49.4**	**+1.1**
	baz=261							
ALS	**Alishan**	**1.19**	**233**	*e*P		**Pb**	**15 32 48.3**	**-0.1**
	baz=230							
CHKT	**Chengkung**	**1.22**	**201**	*e*P		**Pn**	**15 32 48.4**	**-0.1**
	baz=198							
CHN5	**Tsauling**	**1.24**	**239**	*e*P		**Pg**	**15 32 49.8**	**+0.4**
	baz=237							
WDLH	**Douliu**	**1.31**	**246**	*e*P		**Pg**	**15 32 51.3**	**+0.6**
	baz=243							
TPUB	**Ta-pu**	**1.45**	**230**	Pn		**Pg**	**15 32 53.1**	**-0.4**
TWG	**Pinlang**	**1.58**	**207**	Pn		**Pn**	**15 32 54.0**	**+0.5**
IRIF	**Iriomote-Funau**	**1.73**	**86**	P		**Pn**	**15 32 56.6**	**+1.0**
HATJ	**Hateruma jima**	**1.80**	**95**	*e*S		**Sn**	**15 33 20.7**	**+1.2**
JKRS	**Kuro-shima**	**1.98**	**90**	P		**Pb**	**15 33 01.1**	**-0.5**
JIJ	**Ishigaki jima**	**2.10**	**86**	P		**Pn**	**15 33 02.5**	**+1.7**
KNMB	**Chin-men Tao**	**3.16**	**275**	Pn		**Pn**	**15 33 14.7**	**-0.5**
JMM	**Marumori**	**21.11**	**46**	P		**P**	**15 37 10.8**	**+0.5**
JMM				IAmb		IAmb	15 37 36.5	
	comp=Z,38nm,1.2s							
MK31	**Makanchi Array**	**38.72**	**316**	P		**P**	**15 39 50.8**	**+1.2**
MKAR	**Makanchi Array**	**38.72**	**316**	P		**P**	**15 39 50.7**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=105,slow=9.4,SNR=2.8							
MKAR	**Makanchi Array**	**38.72**	**316**	P		**P**	**15 39 50.0**	**+0.4**
ZALV	**Zalesovo Beam**	**40.52**	**327**	P		**P**	**15 40 05.2**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=105,slow=8.9,SNR=2.1							
WB0	**Warramunga Arr**	**45.42**	**163**	P		**P**	**15 40 43.8**	**-0.8**
WB0				IAmb		IAmb	15 40 57.3	
	comp=Z,8.6nm,1.5s							
WRA	**Warramunga Arr**	**45.57**	**163**	P		**P**	**15 40 43.9**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=344,slow=8.8,SNR=2.5							
PSA00	**Pilbara Seismi**	**45.58**	**183**	P		**P**	**15 40 45.5**	**-0.3**
WR0	**Warramunga Arr**	**45.64**	**163**	P		**P**	**15 40 44.5**	**-1.9**
WR0				IAmb		IAmb	15 40 45.0	
	comp=Z,10nm,1.5s							
ASAR	**Alice Springs**	**49.04**	**165**	P		**P**	**15 41 10.6**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=2.5,slow=8.6,SNR=1.9							
ABKAR	**Akbulak array**	**53.83**	**314**	P		**P**	**15 41 49.2**	**+0.8**
H21K	**Melozitna Rive**	**66.29**	**27**	P		**P**	**15 43 14.1**	**+0.5**
H21K				IAmb		IAmb	15 43 37.6	
	comp=Z,2.5nm,1.1s							
BMAR	**Burnt Mountain**	**69.23**	**24**	P		**P**	**15 43 32.0**	**-0.2**
ARCES	**ARCESS Array B**	**69.71**	**338**	P		**P**	**15 43 34.2**	**-0.9**
YKA	**Yellowknife Ar**	**82.69**	**23**	P		**P**	**15 44 47.1**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=313,slow=4.6,SNR=4.4							

TAP 27 15:33:09.0, 24.29N×121.76E, h13km, ML3.8, 18D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.03**	**316**	⇓*i*P	Pg	15 33 11.3	0.0
	baz=326						
EHP				*i* S	Sg	15 33 13.3	+0.4
	baz=326						
ENA	**Nanau**	**0.14**	**353**	⇓*i*P	Pg	15 33 12.6	+0.1
	baz=356						
ENA				*i* S	Sg	15 33 15.2	+0.3
	baz=356						
EWUT	**Wuta**	**0.15**	**6**	⇓*i*P	Pg	15 33 12.7	0.0
	baz=6.0						
EWUT				*i* S	Sg	15 33 15.2	-0.1
	baz=6.0						
ETL	**Fush Village**	**0.18**	**223**	*i* P	Pg	15 33 13.4	+0.2
	baz=223						
ETL				*i* S	Sg	15 33 16.6	+0.5
	baz=223						
NACB	**Ninganchiao**	**0.19**	**232**	*i* P	Pg	15 33 13.5	+0.2
	baz=232						
NACB				*i* S	Sg	15 33 16.9	+0.6
	baz=232						
TWD	**Chiawan**	**0.26**	**215**	*i* P	Pg	15 33 14.6	+0.1
	baz=214						
TWD				*i* S	Sg	15 33 18.7	+0.6
	baz=214						
ETLH	**Xiulin Townshi**	**0.27**	**252**	⇓*i*P	Pg	15 33 15.0	+0.4
	baz=251						
ETLH				*i* S	Sg	15 33 19.4	+0.9
	baz=251						
LATG	**Datong**	**0.32**	**319**	⇓*i*P	Pb	15 33 16.3	-0.4
	baz=319						
LATG				S	Sb	15 33 21.2	-0.7
	baz=319						
TWC	**Suao**	**0.33**	**14**	⇓*i*P	Pg	15 33 15.6	-0.1
	baz=16						
TWC				*i* S	Sg	15 33 19.9	-0.2
	baz=16						
NDS	**Dongshan**	**0.34**	**353**	⇓*i*P	Pg	15 33 16.2	+0.3
	baz=353						
NDS				*i* S	Sg	15 33 21.0	+0.4
	baz=353						
HWA	**Hwalien**	**0.34**	**204**	*e*P	Pb	15 33 16.9	-0.1
	baz=203						
NNSB	**Datong**	**0.37**	**292**	⇓P	Pb	15 33 17.3	-0.2
	baz=291						
NNSB				*e*S	Sb	15 33 22.6	-0.7
	baz=291						
NNS	**Nan Shan**	**0.38**	**293**	⇓*i*P	Pb	15 33 17.5	-0.3
	baz=293						
NNS				S	Sb	15 33 23.0	-0.6
	baz=293						
NDT	**Datong Townshi**	**0.38**	**324**	⇓*i*P	Pb	15 33 17.4	-0.3
	baz=324						
NDT				*e*S	Sg	15 33 22.7	+0.8
	baz=324						
ENTT	**Nioudou**	**0.39**	**333**	⇓*i*P	Pb	15 33 17.5	-0.3
	baz=334						
ENTT				*i* S	Sb	15 33 23.2	-0.6
	baz=334						
ETM	**Tongmen**	**0.41**	**217**	P	Pg	15 33 17.3	+0.2
	baz=217						
ETM				*e*S	Sg	15 33 22.9	+0.3
	baz=217						
TWE	**Neicheng**	**0.44**	**349**	⇓*i*P	Pg	15 33 18.1	+0.5
	baz=351						
TWE				*e*S	Sg	15 33 24.1	+0.6
	baz=351						
TEYL	**Yanliau Villag**	**0.45**	**199**	*e*P	Pb	15 33 19.1	+0.4
	baz=200						
TEYL				*e*S	Sn	15 33 27.9	-1.2
	baz=200						
ILA	**Ilan**	**0.47**	**359**	⇓*i*P	Pb	15 33 18.9	-0.3
	baz=360						
ILA				S	Sb	15 33 25.6	-0.5
	baz=360						
FUSS	**Fushou**	**0.47**	**265**	⇓P	Pg	15 33 18.1	-0.3
	baz=265						
FUSS				*e*S	Sg	15 33 25.1	+0.3
	baz=265						
WHF	**Hehuan Shan**	**0.47**	**252**	⇓P	Pb	15 33 19.0	-0.5
	baz=252						
WHF				*e*S	Sb	15 33 26.0	-0.6
	baz=252						
FUSB	**Fushanzhiwuyua**	**0.49**	**341**	*e*P	Pb	15 33 19.3	-0.3
	baz=341						
FUSB				*e*S	Sg	15 33 25.9	+0.7
	baz=341						
YHNB	**Yeheng**	**0.51**	**317**	⇓P	Pb	15 33 20.0	0.0
	baz=317						
YHNB				*e*S	Sb	15 33 27.2	-0.2
	baz=317						
NSK	**Sanguang**	**0.53**	**316**	⇓P	Pb	15 33 20.2	0.0
	baz=317						
NSK				*e*S	Sb	15 33 27.6	-0.3
	baz=317						
TWT	**Tachien**	**0.54**	**266**	*e*P	Pb	15 33 20.7	+0.4
	baz=266						
NWLT	**Wulai**	**0.54**	**334**	*e*P	Pb	15 33 20.3	0.0
	baz=334						
NWLT				*e*S	Sb	15 33 27.4	-0.6
	baz=334						
TDCB	**Techi**	**0.55**	**266**	*e*P	Pb	15 33 20.8	+0.2
	baz=266						
TDCB				*e*S	Sb	15 33 28.1	-0.4
	baz=266						
ESL	**Shilin**	**0.56**	**212**	*e*P	Pg	15 33 20.1	+0.1
	baz=211						
ESL				*e*S	Sb	15 33 28.1	-0.6
	baz=211						
NTC	**Toucheng**	**0.56**	**6**	⇓P	Pg	15 33 20.1	+0.1
	baz=6.0						
NTC				*e*S	Sg	15 33 27.2	-0.4
	baz=6.0						
EGS		**0.57**	**16**	*e*P	Pg	15 33 20.4	+0.1
	baz=17						
TIPB	**Shuangxi**	**0.68**	**5**	*e*P	Pg	15 33 22.4	+0.1
	baz=5.0						
TIPB				*e*S	Sg	15 33 30.8	-0.4
	baz=5.0						
EGFH	**Guangfu**	**0.69**	**206**	*e*P	Pb	15 33 23.1	+0.1
	baz=206						
NHDH	**Xindian Distri**	**0.70**	**342**	*e*P	Pb	15 33 23.4	+0.3
	baz=342						
TWA	**Mucha**	**0.70**	**347**	*e*P	Pb	15 33 23.5	+0.3
	baz=347						
TWA				*e*S	Sb	15 33 32.5	-0.3
	baz=347						
TWB1	**Santiao Chiao**	**0.74**	**16**	*e*P	Pb	15 33 23.7	-0.1
	baz=17						
NWF	**Wu-fen Shan**	**0.78**	**1**	*e*P	Pb	15 33 24.5	+0.1
	baz=1.0						
SXI1	**Grass Mountain**	**0.81**	**7**	*e*P	Pb	15 33 24.9	0.0
	baz=7.0						
TWS1	**Kuangyinshan**	**0.86**	**339**	*e*P	Pn	15 33 27.0	+0.1
	baz=339						
YM01	**YM01**	**0.87**	**349**	*e*P	Pn	15 33 26.6	-0.4
	baz=349						
EHY	**Hungye**	**0.88**	**207**	*e*P	Pb	15 33 26.4	+0.2
	baz=207						

IDC 27 15:35:15.6±4.6, 22.30N×94.72E, h121km±38km, mb2.9/3, mb1 3.0/4, mb1mx2.8/53, mbtmp3.2/4, Error ellipse: s-maj=106.6km s-min=26.3km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.50**	**133**	P	Pn	15 36 35.4	0.0
	0.3nm,0.3s,baz=304,slow=13,SNR=6.9						
CMAR				S	Sn	15 37 49.4	+12
	baz=304,slow=16,SNR=1.6						
KURBB	**Kurchatov Arra**	**30.98**	**340**	P	P	15 41 21.2	0.0
	0.2nm,0.6s,baz=164,slow=7.2,SNR=2.2						
WRA	**Warramunga Arr**	**57.10**	**134**	P	P	15 44 49.1	-0.5
	0.2nm,0.7s,baz=328,slow=7.1,SNR=1.8						
ASAR	**Alice Springs**	**59.50**	**138**	P	P	15 45 06.6	+0.3
	0.3nm,0.8s,baz=321,slow=6.2,SNR=4.8						

TAP 27 15:35:16.4, 24.33N×121.63E, h33km, ML2.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.14**	**44**	*e*P	Pb	15 35 22.5	+0.1
	baz=47						
NACB	**Ninganchiao**	**0.15**	**193**	*e*P	Pn	15 35 21.8	-0.6
	baz=193						
NACB				*e*S	Sn	15 35 26.3	+0.4
	baz=193						
ETL	**Fush Village**	**0.17**	**183**	*e*P	Pn	15 35 21.5	-1.1
	baz=183						
EWUT	**Wuta**	**0.18**	**48**	*e*P	Pn	15 35 22.9	+0.1
	baz=48						
LATG	**Datong**	**0.23**	**335**	*e*P	Pb	15 35 23.1	-0.3
	baz=335						
TWD	**Chiawan**	**0.25**	**188**	*e*P	Pb	15 35 23.4	-0.1
	baz=186						
TWD				*e*S	Sn	15 35 28.6	+0.3
	baz=186						
NNSB	**Datong**	**0.25**	**294**	*e*P	Pb	15 35 23.7	+0.1
	baz=294						
ENTT	**Nioudou**	**0.32**	**349**	*e*P	Pb	15 35 24.5	+0.1
	baz=354						
ENTT				*e*S	Sn	15 35 30.6	+0.3
	baz=354						
TWE	**Neicheng**	**0.40**	**5**	*e*P	Pb	15 35 25.4	0.0
	baz=9.0						
TWE				*e*S	Sn	15 35 32.1	-0.2
	baz=9.0						
CHGB	**Renai**	**0.49**	**238**	*e*P	Pb	15 35 25.6	-1.4
	baz=234						
WUSB	**Renai**	**0.58**	**235**	*e*S	Sb	15 35 36.4	0.0
	baz=244						

*IDC **27** 15:44:55.1±1.4, 35.80N×97.29W, h0km, mb3.4/2, mb1 3.9/7, mb1mx3.6/46, mbtmp3.6/7, ML3.8/4, Error ellipse: s-maj=22.1km s-min=11.9km az=105.0*

*NEIC **27** 15:44:55.5±1.4, 35.74N±0.01×97.18W±0.02, h6km±7km, mb_Lg4.1/125, Mwr3.7/43, Error ellipse: s-maj=2.5km s-min=1.6km az=130.0*

*ANF **27** 15:44:55.6±0.2, 35.80N×97.12W, h10km, ML4.9/15, Error ellipse: s-maj=3.2km s-min=1.7km az=172.0*

*NEIC **27** 15:44:56.1, 35.76N×97.14W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.86; $M_{\theta\theta}$=4.91; $M_{\phi\phi}$=-4.06; $M_{r\theta}$=1.06; $M_{\theta\phi}$=0.24; $M_{r\phi}$=-0.39; Fault plane solution: M_0=4.69000×10^{14} NP1:ϕ_s=133.43000°, δ=88.25000°, λ=12.47000°. NP2:ϕ_s=43.04000°, δ=77.54000°, λ=178.21000°. Principal axes: T 5.1032, Plg=10.0000°, Azm=359.0000°; N -0.9868, Plg=77.0000°, Azm=141.0000°; P -4.1165, Plg=8.0000°, Azm=268.0000°;*

ISC 27 15:44:54.5±1.1, 35.78N±0.03×97.17W±0.02, h8km±8km, n=224, σ=1.36/247, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK001	**Jones High Sch**	**0.24**	**205**	Pg	**Pg**	**15 44 59.6**	**+0.2**
OK001				Sg	**Sg**	**15 45 02.7**	**+0.1**
OK009	**Oakdale Elemen**	**0.29**	**227**	Pg	**Pb**	**15 45 00.8**	**-1.1**
OK009				Sg	**Sb**	**15 45 04.7**	**-2.2**
OKCFA	**Oklahoma City**	**0.43**	**213**		**Pb**	**15 45 03.3**	**-1.1**
OKCFA				Sg	**Sg**	**15 45 08.9**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**0.43**	**211**		**Pg**	**15 45 03.2**	**+0.2**
OKCSW				Sg	**Sg**	**15 45 09.0**	**+0.3**
FNO	**Franklin**	**0.56**	**200**		**Pg**	**15 45 05.3**	**0.0**
FNO				Sg	**Sg**	**15 45 12.6**	**+0.1**
TUL1	**Leonard**	**1.12**	**83**		**Pg**	**15 45 15.9**	**-0.2**
TUL1	**Leonard**	**1.12**	**83**	P	**Pg**	**15 45 15.9**	**-0.2**
	baz=262,SNR=849						
TUL1				S	**Sg**	**15 45 31.2**	**+0.5**
	baz=262						
TUL1	**Leonard**	**1.12**	**83**	P	**Pg**	**15 45 15.6**	**-0.5**
	baz=262,SNR=339						
TUL1				S	**Sg**	**15 45 31.6**	**+0.9**
	baz=262						
T35A	**Sooner Cattle**	**1.25**	**25**		**Pn**	**15 45 19.2**	**+0.9**
T35B	**Sooner Cattle**	**1.25**	**25**	P	**Pn**	**15 45 19.2**	**+0.9**
	baz=205,SNR=472						
T35B				S	**Sn**	**15 45 36.9**	**+1.6**
	baz=205						
X34A	**Smith Ranch, M**	**1.30**	**205**		**Pb**	**15 45 19.0**	**-0.2**
U32A	**Winter Ranch,**	**1.60**	**292**		**Pg**	**15 45 25.0**	**-0.3**
U32A	**Winter Ranch,**	**1.60**	**292**	P	**Pg**	**15 45 24.8**	**-0.4**
	baz=113						
U32A				S	**Sg**	**15 45 46.9**	**+0.8**
	baz=113						
WMOK	**Wichita Mounta**	**1.68**	**232**		**Pb**	**15 45 25.4**	**-0.3**
WMOK	**Wichita Mounta**	**1.68**	**232**	P	**Pb**	**15 45 25.3**	**-0.3**
	baz=52,SNR=90						
WMOK				S	**Sg**	**15 45 47.2**	**-1.4**
	baz=52						
WMOK	**Wichita Mounta**	**1.68**	**232**	P	**Pb**	**15 45 25.4**	**-0.3**
	baz=52						
WMOK				S	**Sg**	**15 45 47.2**	**-1.4**
	baz=52						
X37A	**Clayton**	**1.89**	**128**		**Pn**	**15 45 28.5**	**+1.5**
X37A				IAmb_Lg		15 45 55.1	
	comp=Z,796nm,0.7s						
X37A	**Clayton**	**1.89**	**128**	P	**Pn**	**15 45 28.3**	**+1.3**
	baz=308,SNR=521						
X37A				S	**Sn**	**15 45 52.1**	**+1.1**
	baz=308						
Z35A	**Perchaven, San**	**2.44**	**182**	Pn	**Pn**	**15 45 35.3**	**+0.7**
Z35A	**Perchaven, San**	**2.44**	**182**	P	**Pn**	**15 45 35.9**	**+1.2**
	baz=1.4,SNR=51						
Z35A				S	**Sn**	**15 46 06.6**	**+1.9**
	baz=1.4						
HHAR	**Hobbs**	**2.66**	**78**		**Pn**	**15 45 39.1**	**+1.4**
W39A	**Magazine**	**2.82**	**101**		**Pn**	**15 45 41.1**	**+1.2**
W39A				IAmb_Lg		15 46 32.0	
	comp=Z,483nm,0.8s						
W39A	**Magazine**	**2.82**	**101**	P	**Pn**	**15 45 41.0**	**+1.2**
	baz=282,SNR=520						
W39A				S	**Sn**	**15 46 15.5**	**+1.5**
	baz=282						
W39A	**Magazine**	**2.82**	**101**	P	**Pn**	**15 45 41.1**	**+1.2**
	baz=282,SNR=276						
W39A				S	**Sn**	**15 46 15.6**	**+1.6**
	baz=282						
R32A	**Long Quarter,**	**2.91**	**335**	Pn	**Pn**	**15 45 43.1**	**+2.0**
R32A	**Long Quarter,**	**2.91**	**335**	P	**Pn**	**15 45 43.0**	**+1.8**
	baz=155						
R32A				S	**Sn**	**15 46 19.2**	**+2.9**
	baz=155						
Z38A	**Mt. Pleasant**	**3.09**	**144**	Pn	**Pn**	**15 45 44.6**	**+1.0**
Z38A				IAmb_Lg		15 46 40.4	
	comp=Z,584nm,0.8s						
Z38A	**Mt. Pleasant**	**3.09**	**144**	P	**Pn**	**15 45 44.6**	**+1.0**
	baz=325,SNR=21						
Z38A				S	**Sn**	**15 46 21.9**	**+1.2**
	baz=325						
MIAR	**Mount Ida**	**3.19**	**112**	Pn	**Pn**	**15 45 46.1**	**+1.2**
MIAR				IAmb_Lg		15 46 41.5	
	comp=Z,717nm,1.1s						
MIAR	**Mount Ida**	**3.19**	**112**	P	**Pn**	**15 45 46.3**	**+1.4**
	baz=293,SNR=178						
MIAR				S	**Sn**	**15 46 24.4**	**+1.3**
	baz=293						
MIAR	**Mount Ida**	**3.19**	**112**	P	**Pn**	**15 45 46.5**	**+1.6**
	baz=293,SNR=95						
MIAR				S	**Sn**	**15 46 24.8**	**+1.7**
	baz=293						
KSU1	**Kansas State U**	**3.34**	**7**	Pn	**Pn**	**15 45 49.2**	**+2.1**
KSU1				IAmb_Lg		15 46 47.4	
	comp=Z,382nm,0.7s						
KSU1	**Kansas State U**	**3.34**	**7**	P	**Pn**	**15 45 48.9**	**+1.8**
	baz=188						
KSU1				S	**Sn**	**15 46 29.7**	**+2.7**
	baz=188						
KSU1	**Kansas State U**	**3.34**	**7**	P	**Pn**	**15 45 48.4**	**+1.3**
	baz=188						
U40A	**Yellville**	**3.54**	**79**	Pn	**Pn**	**15 45 50.5**	**+0.7**
U40A				IAmb_Lg		15 46 49.5	
	comp=Z,357nm,0.7s						
U40A	**Yellville**	**3.54**	**79**	P	**Pn**	**15 45 50.9**	**+1.1**
	baz=261,SNR=255						
U40A				P	**Pn**	**15 45 50.9**	**+1.1**
	baz=261,SNR=255						
U40A				S	**Sn**	**15 46 33.4**	**+1.6**
	baz=261						
U40A				S	**Sn**	**15 46 33.4**	**+1.6**
	baz=261						
U40A	**Yellville**	**3.54**	**79**	P	**Pn**	**15 45 50.6**	**+0.8**
	baz=261,SNR=118						
S39A	**Bolivar**	**3.63**	**57**	Pn	**Pn**	**15 45 52.6**	**+1.6**
S39A				IAmb_Lg		15 47 00.4	
	comp=Z,393nm,1.0s						
S39A	**Bolivar**	**3.63**	**57**	P	**Pn**	**15 45 52.6**	**+1.6**
	baz=239,SNR=23						
S39A				S	**Sn**	**15 46 35.8**	**+1.9**
	baz=239						
CBKS	**Cedar Bluff**	**3.66**	**327**	Pn	**Pn**	**15 45 53.0**	**+1.6**
CBKS				IAmb_Lg		15 46 54.6	
	comp=Z,267nm,0.7s						
CBKS	**Cedar Bluff**	**3.66**	**327**	P	**Pn**	**15 45 53.4**	**+1.9**
	baz=146,SNR=16						
CBKS				S	**Sn**	**15 46 36.8**	**+2.1**
	baz=146						
CBKS	**Cedar Bluff**	**3.66**	**327**	P	**Pn**	**15 45 53.2**	**+1.8**
	baz=146						
ABTX	**Abilene, Hawle**	**3.76**	**214**	Pn	**Pn**	**15 45 53.5**	**+0.6**
ABTX				IAmb_Lg		15 46 54.3	
	comp=Z,595nm,1.2s						
ABTX	**Abilene, Hawle**	**3.76**	**214**	P	**Pn**	**15 45 53.4**	**+0.6**
	baz=32						
ABTX				S	**Sn**	**15 46 38.3**	**+1.1**
	baz=32						
ABTX	**Abilene, Hawle**	**3.76**	**214**	P	**Pn**	**15 45 53.4**	**+0.6**
	baz=32						
X40A	**Basin Creek Fa**	**3.78**	**109**		**Pn**	**15 45 53.8**	**+0.8**
X40A				IAmb_Lg		15 46 58.5	
	comp=Z,811nm,1.1s						
X40A	**Basin Creek Fa**	**3.78**	**109**	P	**Pn**	**15 45 54.1**	**+1.1**
	baz=291,SNR=47						
X40A				P	**Pn**	**15 45 54.1**	**+1.1**
	baz=291,SNR=47						
X40A				S	**Sn**	**15 46 38.7**	**+1.1**
	baz=291						
X40A				S	**Sn**	**15 46 38.7**	**+1.1**
	baz=291						
X40A	**Basin Creek Fa**	**3.78**	**109**	P	**Pn**	**15 45 54.3**	**+1.3**
	baz=291,SNR=17						
WHTX	**Lake Whitney,**	**3.79**	**184**	Pn	**Pn**	**15 45 53.6**	**+0.5**
WHTX	**Lake Whitney,**	**3.79**	**184**	P	**Pn**	**15 45 53.7**	**+0.5**
	ba

W41B	**Gary Mavity, V**	**4.06**	**97**	P	**Pn**	**15 45 58.2**	**+1.3**
	baz=280,SNR=104							
W41B	**Gary Mavity, V**	**4.06**	**97**	P	**Pn**	**15 45 58.1**	**+1.2**
	baz=280,SNR=64							
W41B				S	**Sn**	**15 46 46.3**	**+1.8**
	baz=280							
UALR	**University of**	**4.07**	**103**	Pn	**Pn**	**15 45 58.5**	**+1.4**
UALR				lAmb_Lg		15 47 07.1		
	comp=Z,424nm,0.9s							
FCAR	**Ozark Folk Cen**	**4.10**	**87**	Pn	**Pn**	**15 45 58.0**	**+0.6**
FCAR				lAmb_Lg		15 47 04.2		
	comp=Z,492nm,0.9s							
MGMO	**Mountain Grove**	**4.18**	**69**	Pn	**Pn**	**15 45 59.1**	**+0.6**
Z41A	**Richland Creek**	**4.39**	**124**	Pn	**Pn**	**15 46 02.2**	**+0.7**
Z41A				lAmb_Lg		15 47 21.3		
	comp=Z,376nm,0.8s							
Z41A	**Richland Creek**	**4.39**	**124**	P	**Pn**	**15 46 02.0**	**+0.6**
	baz=306							
Z41A				P	**Pn**	**15 46 02.0**	**+0.6**
	baz=306							
Z41A	**Richland Creek**	**4.39**	**124**	P	**Pn**	**15 46 02.1**	**+0.7**
	baz=306							
R40A	**Maddies Statio**	**4.65**	**56**	Pn	**Pn**	**15 46 06.4**	**+1.4**
R40A				lAmb_Lg		15 47 24.8		
	comp=Z,523nm,0.7s							
R40A	**Maddies Statio**	**4.65**	**56**	P	**Pn**	**15 46 06.4**	**+1.4**
	baz=238,SNR=29							
P38A	**Dawn**	**4.80**	**36**	Pn	**Pn**	**15 46 08.7**	**+1.7**
P38A				lAmb_Lg		15 47 41.4		
	comp=Z,276nm,0.8s							
P38A	**Dawn**	**4.80**	**36**	P	**Pn**	**15 46 08.5**	**+1.4**
	baz=218,SNR=7.3							
CCAR	**Cane Creek**	**4.81**	**111**	Pn	**Pn**	**15 46 08.0**	**+0.8**
CCAR				lAmb_Lg		15 47 39.5		
	comp=Z,379nm,0.8s							
LCAR	**Lake Charles**	**4.89**	**85**	Pn	**Pn**	**15 46 08.8**	**+0.6**
LCAR				lAmb_Lg		15 47 36.9		
	comp=Z,323nm,1.0s							
N33A	**J Bar K, Exete**	**4.96**	**357**	Pn	**Pn**	**15 46 10.2**	**+1.0**
N33A				lAmb_Lg		15 47 48.1		
	comp=Z,219nm,0.7s							
435B	**Jarrell**	**5.00**	**184**	Pn	**Pn**	**15 46 09.5**	**-0.3**
435B				lAmb_Lg		15 47 37.3		
	comp=Z,241nm,0.7s							
435B	**Jarrell**	**5.00**	**184**	P	**Pn**	**15 46 11.2**	**+1.4**
	baz=3.8							
T42A	**Van Buren**	**5.05**	**74**	Pn	**Pn**	**15 46 11.4**	**+0.9**
T42A				lAmb_Lg		15 47 46.5		
	comp=Z,313nm,0.8s							
T42A	**Van Buren**	**5.05**	**74**	P	**Pn**	**15 46 11.4**	**+0.9**
	baz=257							
N35A	**Tabor**	**5.21**	**13**	Pn	**Pn**	**15 46 13.8**	**+1.1**
N35A	**Tabor**	**5.21**	**13**	P	**Pn**	**15 46 13.9**	**+1.2**
	baz=194,SNR=5.7							
CCM	**Cathedral Cave**	**5.26**	**63**	Pn	**Pn**	**15 46 14.8**	**+1.5**
CCM				lAmb_Lg		15 47 42.6		
	comp=Z,595nm,1.0s							
CCM	**Cathedral Cave**	**5.26**	**63**	P	**Pn**	**15 46 14.4**	**+1.0**
	baz=246							
CCM	**Cathedral Cave**	**5.26**	**63**	P	**Pn**	**15 46 13.9**	**+0.6**
	baz=246							
KSCO	**Kaye Shedlock'**	**5.41**	**308**	Pn	**Pn**	**15 46 18.2**	**+2.6**
KSCO				lAmb_Lg		15 47 56.3		
	comp=Z,324nm,0.7s							
KSCO	**Kaye Shedlock'**	**5.41**	**308**	P	**Pn**	**15 46 17.0**	**+1.4**
	baz=125,SNR=8.5							
KSCO	**Kaye Shedlock'**	**5.41**	**308**	S	**Sn**	**15 47 16.6**	**-1.6**
	baz=125							
P40A	**Paris**	**5.52**	**46**	Pn	**Pn**	**15 46 18.4**	**+1.5**
P40A				lAmb_Lg		15 47 53.1		
	comp=Z,630nm,0.8s							
PBMO	**Poplar Bluff**	**5.53**	**78**	Pn	**Pn**	**15 46 18.1**	**+1.0**
PBMO				lAmb_Lg		15 47 56.3		
	comp=Z,420nm,0.8s							
143A	**Socs Landing,**	**5.67**	**121**	Pn	**Pn**	**15 46 19.7**	**+0.7**
143A				lAmb_Lg		15 48 07.2		
	comp=Z,228nm,0.8s							
BGNE	**Belgrade**	**5.67**	**352**	Pn	**Pn**	**15 46 20.2**	**+1.1**
BGNE				lAmb_Lg		15 48 11.7		
	comp=Z,503nm,0.7s							
BGNE	**Belgrade**	**5.67**	**352**	P	**Pn**	**15 46 20.4**	**+1.3**
	baz=172							
BGNE	**Belgrade**	**5.67**	**352**	P	**Pn**	**15 46 20.2**	**+1.1**
	baz=172							
JCT	**Junction City**	**5.73**	**203**	lAmb_Lg		15 48 04.4		
	comp=Z,358nm,0.8s							
JCT	**Junction City**	**5.73**	**203**	P	**Pn**	**15 46 21.0**	**+1.1**
	baz=22							
JCT	**Junction City**	**5.73**	**203**	Pb	**Pb**	**15 46 37.2**	**+2.4**
	baz=22,SNR=15							
GNAR	**Gosnell**	**5.81**	**86**	Pn	**Pn**	**15 46 22.2**	**+1.3**
FVM	**French Village**	**5.83**	**66**	Pn	**Pn**	**15 46 22.3**	**+1.0**
FVM				lAmb_Lg		15 48 02.6		
	comp=Z,332nm,0.7s							
FVM	**French Village**	**5.83**	**66**	P	**Pn**	**15 46 22.1**	**+0.8**
	baz=250							
N38A	**Joes South For**	**5.88**	**31**	Pn	**Pn**	**15 46 23.2**	**+1.3**
N38A	**Joes South For**	**5.88**	**31**	P	**Pn**	**15 46 23.1**	**+1.1**
	baz=213,SNR=16							
MET	**Memphis--Engin**	**5.94**	**94**	lAmb_Lg		15 48 13.4		
	comp=Z,260nm,0.7s							
342A	**Flagon Creek P**	**5.97**	**136**	Pn	**Pn**	**15 46 23.5**	**+0.4**
342A				lAmb_Lg		15 48 00.9		
	comp=Z,199nm,1.2s							
T25A	**Trinidad**	**5.99**	**285**	Pn	**Pn**	**15 46 25.0**	**+1.4**
T25A				lAmb_Lg		15 48 13.2		
	comp=Z,273nm,0.8s							
T25A	**Trinidad**	**5.99**	**285**	P	**Pn**	**15 46 24.6**	**+0.9**
	baz=101							
PVMO	**Portageville**	**6.08**	**82**	lAmb_Lg		15 48 17.5		
	comp=Z,443nm,0.8s							
L34A	**Svendsen Farm,**	**6.21**	**5**	lAmb_Lg		15 48 20.4		
	comp=Z,467nm,0.8s							
SLM	**Saint Louis**	**6.22**	**61**	lAmb_Lg		15 48 10.8		
	comp=Z,532nm,0.8s							
HALT	**Halls**	**6.36**	**87**	lAmb_Lg		15 48 20.7		
	comp=Z,282nm,0.7s							
GLAT	**Glass**	**6.40**	**83**	Pn	**Pn**	**15 46 28.9**	**-0.2**
OGNE	**Ogallala**	**6.42**	**325**	Pn	**Pn**	**15 46 29.8**	**+0.4**
OGNE	**Ogallala**	**6.42**	**325**	P	**Pn**	**15 46 30.8**	**+1.4**
	baz=142,SNR=5.6							
OGNE	**Ogallala**	**6.42**	**325**	P	**Pn**	**15 46 30.2**	**+0.8**
	baz=142							
HICK	**Hickman**	**6.47**	**81**	Pn	**Pn**	**15 46 30.3**	**+0.4**
OXF	**Oxford**	**6.48**	**99**	Pn	**Pn**	**15 46 30.5**	**+0.4**
OXF				lAmb_Lg		15 48 32.5		
	comp=Z,162nm,0.7s							
OXF	**Oxford**	**6.48**	**99**	P	**Pn**	**15 46 30.7**	**+0.5**
	baz=283,SNR=9.2							
OXF	**Oxford**	**6.48**	**99**	P	**Pn**	**15 46 30.5**	**+0.4**
	baz=283,SNR=13							
W45A	**Hickory Valley**	**6.54**	**93**	Pn	**Pn**	**15 46 31.0**	**0.0**
W45A				lAmb_Lg		15 48 35.9		
	comp=Z,254nm,0.8s							
Y45A	**Yeager Farm, C**	**6.55**	**105**	Pn	**Pn**	**15 46 31.7**	**+0.6**
Y45A				lAmb_Lg		15 48 41.5		
	comp=Z,140nm,0.8s							
S44A	**Carbondale**	**6.63**	**71**	Pn	**Pn**	**15 46 32.6**	**+0.3**
SIUC	**Southern Illin**	**6.67**	**71**		**Pn**	**15 46 33.3**	**+0.6**
SCIA	**State Center**	**6.85**	**26**		**Pn**	**15 46 36.8**	**+1.6**
SCIA				lAmb_Lg		15 48 36.4		
	comp=Z,366nm,0.7s							
SCIA	**State Center**	**6.85**	**26**	P	**Pn**	**15 46 36.7**	**+1.5**
	baz=208,SNR=10							
SCIA	**State Center**	**6.85**	**26**	P	**Pn**	**15 46 36.7**	**+1.5**
	baz=208,SNR=5.8							
SCIA				S	**Sn**	**15 47 51.4**	**-1.9**
	baz=208							
735A	**Kenedy**	**6.93**	**185**	Pn	**Pn**	**15 46 37.6**	**+1.3**
K31A	**O'Neill**	**6.94**	**350**	Pn	**Pn**	**15 46 36.5**	**0.0**
K31A				lAmb_Lg		15 48 56.2		
	comp=Z,373nm,0.8s							
SDCO	**Great Sand Dun**	**6.97**	**289**	Pn	**Pn**	**15 46 39.8**	**+2.6**
SDCO				lAmb_Lg		15 48 46.6		
	comp=Z,126nm,1.0s							
SDCO	**Great Sand Dun**	**6.97**	**289**	P	**Pn**	**15 46 39.6**	**+2.4**
	baz=104							
T45A	**Paducah**	**6.98**	**77**	Pn	**Pn**	**15 46 38.3**	**+1.2**
N41A	**Harden Midland**	**6.99**	**43**	Pn	**Pn**	**15 46 39.8**	**+2.7**
Q24A	**Divide**	**7.11**	**299**	Pn	**Pn**	**15 46 39.7**	**+0.7**
Q24A				lAmb_Lg		15 48 55.9		
	comp=Z,153nm,0.7s							
Q24A	**Divide**	**7.11**	**299**	P	**Pn**	**15 46 38.2**	**-0.8**
	baz=114							
P43A	**Skaggs, Pawnee**	**7.18**	**55**	Pn	**Pn**	**15 46 41.0**	**+1.3**
Q44A	**Meyer Farm, Va**	**7.20**	**62**	Pn	**Pn**	**15 46 42.7**	**+2.7**
PLAL	**Pickwick Lake**	**7.47**	**93**	Pn	**Pn**	**15 46 43.9**	**+0.1**
WVT	**Waverly**	**7.58**	**85**		**Pn**	**15 46 44.9**	**-0.3**
WVT	**Waverly**	**7.58**	**85**	P	**Pn**	**15 46 44.8**	**-0.5**
	baz=270							
ANMO	**Albuquerque**	**7.64**	**266**	Pn	**Pn**	**15 46 47.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=84,slow=16,SNR=1.7							
ANMO				Pg	Pb	15 47 13.0	+5.7	
	comp=Z,1.4nm,0.3s,baz=84,slow=17,SNR=10							
ANMO				Lg	Lg	15 48 53.2		
	comp=Z,4.1nm,0.3s,baz=352,slow=15,SNR=2.9							
K38A	**Parkersburg**	**7.66**	**25**		**Pn**	**15 46 47.1**	**+0.8**
K38A				lAmb_Lg		15 49 10.8		
	comp=Z,325nm,0.7s							
833A	**Chaparral WMA,**	**7.67**	**195**	Pn	**Pn**	**15 46 45.0**	**-1.5**
833A	**Chaparral WMA,**	**7.67**	**195**	P	**Pn**	**15 46 44.9**	**-1.6**
	baz=14							
L40A	**Anamosa**	**7.80**	**35**	Pn	**Pn**	**15 46 48.7**	**+0.5**
L40A				lAmb_Lg		15 49 20.6		
	comp=Z,238nm,0.7s							
ISCO	**Idaho Springs**	**7.80**	**303**	Pn	**Pn**	**15 46 48.7**	**+0.2**
ISCO				lAmb_Lg		15 49 11.1		
	comp=Z,144nm,0.8s							
ISCO	**Idaho Springs**	**7.80**	**303**	P	**Pn**	**15 46 49.3**	**+0.7**
	baz=119							
HDIL	**Hopedale**	**7.82**	**50**	Pn	**Pn**	**15 46 49.4**	**+0.9**
Z47A	**Carrollton**	**7.94**	**106**	Pn	**Pn**	**15 46 51.3**	**+1.1**
ECSD	**EROS Data Cent**	**7.96**	**3**	Pn	**Pn**	**15 46 50.6**	**+0.2**
ECSD	**EROS Data Cent**	**7.96**	**3**	P	**Pn**	**15 46 50.3**	**-0.1**
	baz=183,SNR=42							
MNTX	**Cornudas Mount**	**7.96**	**242**	Pn	**Pn**	**15 46 50.6**	**+0.1**
MNTX				lAmb_Lg		15 49 15.2		
	comp=Z,103nm,0.8s							
MNTX	**Cornudas Mount**	**7.96**	**242**	P	**Pn**	**15 46 50.8**	**+0.3**
	baz=57							
S22A	**4UR Ranch, Cre**	**8.00**	**287**	Pn	**Pn**	**15 46 53.4**	**+2.1**
S22A	**4UR Ranch, Cre**	**8.00**	**287**	P	**Pn**	**15 46 53.6**	**+2.3**
	baz=102							
Y22D	**IRIS PASSCAL I**	**8.19**	**261**	lAmb_Lg		15 49 29.5		
	comp=Z,363nm,1.0s							
T47A	**Sharon Grove**	**8.20**	**79**		**Pn**	**15 46 52.6**	**-1.2**
X48A	**Hartselle**	**8.40**	**96**	Pn	**Pn**	**15 46 56.4**	**0.0**
TXAR	**Lajitas Array**	**8.45**	**222**	Pn	**Pn**	**15 46 56.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=42,slow=15,SNR=18							
TXAR				Lg	Lg	15 49 15.8		
	comp=Z,4.1nm,0.3s,baz=37,slow=23,SNR=7.8							
TXAR	**Lajitas Array**	**8.45**	**222**	Pn	**Pn**	**15 46 57.8**	**+0.5**
TX31	**Lajitas Ar. Si**	**8.45**	**222**	Pn	**Pn**	**15 46 57.9**	**+0.6**
TX32	**Lajitas Array**	**8.45**	**222**	Pn	**Pn**	**15 46 57.7**	**+0.4**
PHWY	**Pilot Hill**	**8.52**	**313**	Pn	**Pn**	**15 46 59.9**	**+1.5**
PHWY				lAmb_Lg		15 49 35.7		
	comp=Z,122nm,0.8s							
L42A	**Oliver, Polo**	**8.53**	**41**		**Pn**	**15 46 59.9**	**+1.6**
N23A	**Red Feather La**	**8.58**	**309**	Pn	**Pn**	**15 47 02.0**	**+2.8**
N23A				lAmb_Lg		15 49 40.3		
	comp=Z,258nm,0.8s							
N23A	**Red Feather La**	**8.58**	**309**	P	**Pn**	**15 47 01.5**	**+2.3**
	baz=124							
I37A	**Lemond, Waseca**	**8.72**	**18**	lAmb_Lg		15 49 35.1		
	comp=Z,168nm,0.9s							
SUSD	**Miller**	**8.76**	**352**	Pn	**Pn**	**15 47 03.1**	**+1.6**
SUSD				lAmb_Lg		15 49 41.1		
	comp=Z,205nm,0.8s							
P46A	**Rosedale**	**8.77**	**61**	Pn	**Pn**	**15 47 03.5**	**+1.9**
LRAL	**Lakeview Retre**	**8.84**	**105**	Pn	**Pn**	**15 47 01.8**	**-0.7**
LRAL	**Lakeview Retre**	**8.84**	**105**	P	**Pn**	**15 47 02.5**	**+0.1**
	baz=291							
JFWS	**Jewell Farm**	**8.91**	**35**	Pn	**Pn**	**15 47 04.5**	**+1.1**
JFWS				lAmb_Lg		15 49 41.4		
	comp=Z,327nm,0.8s							
JFWS	**Jewell Farm**	**8.91**	**35**	P	**Pn**	**15 47 03.9**	**+0.4**
	baz=219							
Y49A	**Blount Mountai**	**9.05**	**99**	Pn	**Pn**	**15 47 05.3**	**-0.1**
BLO	**Bloomington**	**9.11**	**65**	Pn	**Pn**	**15 47 06.6**	**+0.4**
SFIN	**Lafayette**	**9.17**	**57**	P	**Pn**	**15 47 06.1**	**-0.9**
	baz=343							
SWET	**Sewanee**	**9.18**	**90**	Pn	**Pn**	**15 47 08.7**	**+1.5**
U49A	**Red Boiling Sp**	**9.24**	**82**	Pn	**Pn**	**15 47 08.4**	**+0.4**
121A	**Cookes Peak, D**	**9.38**	**253**	Pn	**Pn**	**15 47 09.6**	**-0.5**
PV15	**Paradox Valley**	**9.40**	**289**	Pn	**Pn**	**15 47 11.7**	**+1.3**
I40A	**Norwalk**	**9.54**	**30**		**Pn**	**15 47 12.2**	**+0.1**
I40A				lAmb_Lg		15 50 03.9		
	comp=Z,231nm,1.0s							
PV13	**Radium Mtn., P**	**9.62**	**288**	Pn	**Pn**	**15 47 15.3**	**+1.8**
W50A	**Signal Mountai**	**9.69**	**90**	Pn	**Pn**	**15 47 15.9**	**+1.7**
PV11	**David Mesa, Pa**	**9.69**	**288**	Pn	**Pn**	**15 47 15.0**	**+0.6**
K43A	**Burlington**	**9.73**	**42**	Pn	**Pn**	**15 47 15.2**	**+0.5**
RWWY	**Rawlins**	**9.81**	**310**	Pn	**Pn**	**15 47 18.6**	**+2.4**
PV23	**Carpenter Ridg**	**9.83**	**289**	Pn	**Pn**	**15 47 17.7**	**+1.3**
RSSD	**Black Hills**	**9.86**	**330**		**Pn**	**15 47 17.8**	**+1.2**
RSSD				lAmb_Lg		15 50 32.5		
	comp=Z,96nm,0.9s							
RSSD	**Black Hills**	**9.86**	**330**	P	**Pn**	**15 47 17.5**	**+0.8**
	baz=146							
K22A	**Casper**	**9.98**	**316**	Pn	**Pn**	**15 47 18.0**	**-0.4**
SPMN	**Marine on St.**	**10.00**	**18**		**Pn**	**15 47 18.0**	**-0.4**
SPMN	**Marine on St.**	**10.00**	**18**	P	**Pn**	**15 47 18.2**	**-0.2**
	baz=201							
F33A	**5 Mile Ranch,**	**10.07**	**3**	Pn	**Pn**	**15 47 19.1**	**-0.3**
Z51A	**Franklin**	**10.19**	**100**	Pn	**Pn**	**15 47 20.7**	**-0.4**
CPCT	**Cooper Cave**	**10.30**	**88**	Pn	**Pn**	**15 47 22.6**	**0.0**
V51A	**Loudon**	**10.41**	**86**	Pn	**Pn**	**15 47 24.8**	**+0.7**
F36A	**Milaca**	**10.44**	**14**	Pn	**Pn**	**15 47 23.7**	**-0.7**
R50A	**Paris**	**10.56**	**73**	Pn	**Pn**	**15 47 26.9**	**+0.7**
152A	**Waverly Hall**	**10.76**	**103**	Pn	**Pn**	**15 47 29.6**	**+0.7**
TZTN	**Tazewell**	**11.04**	**82**	Pn	**Pn**	**15 47 31.3**	**-1.3**
P18A	**Preston Nutter**	**11.05**	**294**	Pn	**Pn**	**15 47 35.2**	**+2.1**
S51A	**Beattyville**	**11.05**	**76**	Pn	**Pn**	**15 47 33.1**	**+0.3**
E28A	**Huff**	**11.11**	**347**	Pn	**Pn**	**15 47 33.7**	**+0.1**
H43A	**Windswept, Lux**	**11.26**	**37**	Pn	**Pn**	**15 47 35.4**	**-0.3**
GOGA	**Godfrey**	**11.54**	**98**	Pn	**Pn**	**15 47 38.8**	**-0.6**
V53A	**Saluda**	**11.67**	**86**	Pn	**Pn**	**15 47 41.5**	**+0.1**
BW06	**Boulder Array**	**11.86**	**310**	Pn	**Pn**	**15 47 43.5**	**-0.7**
BW06	**Boulder Array**	**11.86**	**310**	P	**Pn**	**15 47 45.0**	**+0.8**
	baz=122							
PD31	**Pinedale Array**	**11.86**	**310**	Pn	**Pn**	**15 47 42.5**	**-1.6**
PDAR	**Pinedale Array**	**11.86**	**310**	Pn	**Pn**	**15 47 45.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=128,slow=14,SNR=8.1							
PDAR				Lg	Lg	15 51 02.3		
	comp=Z,0.8nm,0.3s,baz=122,slow=32,SNR=2.1							
PDAR	**Pinedale Array**	**11.86**	**310**	Pn	**Pn**	**15 47 44.8**	**+0.7**
COWI	**Conover**	**11.96**	**28**	Pn	**Pn**	**15 47 45.4**	**+0.2**
AGMN	**Agassiz Nation**	**12.55**	**4**	P	**Pn**	**15 47 50.5**	**-2.7**
	baz=185							
B35A	**Bob, Littlefor**	**12.83**	**10**	Pn	**Pn**	**15 47 55.2**	**-1.8**
LAO	**LASA Array**	**12.84**	**331**	Pn	**Pn**	**15 47 55.3**	**-2.1**
EYMN	**Ely**	**12.87**	**17**	Pn	**Pn**	**15 47 55.0**	**-2.6**
EYMN	**Ely**	**12.87**	**17**	P	**Pn**	**15 47 54.1**	**-3.4**
	baz=201							
S54A	**Dingess, Beckl**	**12.87**	**76**	Pn	**Pn**	**15 47 55.8**	**-2.0**
V55A	**Taylorsville**	**12.95**	**85**	Pn	**Pn**	**15 47 58.0**	**-0.8**
D41A	**Chassel**	**12.98**	**27**	Pn	**Pn**	**15 47 57.2**	**-1.9**
E43A	**Lone Tree Farm**	**13.06**	**33**	Pn	**Pn**	**15 47 57.8**	**-2.5**
DGMT	**Dagmar**	**13.70**	**340**	Pn	**Pn**	**15 48 07.8**	**-1.3**
R55A	**Marlinton**	**13.85**	**75**	Pn	**Pn**	**15 48 09.7**	**-1.4**
ULM	**Lac du Bonnet**	**14.49**	**3**	Pn	Pn	15 48 15.6	-4.2
	comp=Z,1.7nm,0.3s,baz=181,slow=12,SNR=8.1							
ULM				Lg	Lg	15 52 21.7		
	comp=Z,0.3nm,0.3s,baz=261,slow=19,SNR=1.5							
SADO	**Sadowa**	**16.40**	**51**	Sn	**Sn**	**15 51 40.0**	**-7.0**
	comp=Z,0.7nm,0.3s,baz=263,slow=19,SNR=2.3							
SADO				Lg	Lg	15 53 21.7		
	comp=Z,1.1nm,0.3s,baz=337,slow=20,SNR=2.0							
CMIG	**Matias Romero**	**18.73**	**173**	P	**Pn**	**15 49 14.7**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=343,slow=13,SNR=2.1							
YKA	**Yellowknife Ar**	**28.87**	**343**	P	**P**	**15 50 54.1**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=145,slow=9.2,SNR=6.1							
YKA				Lg	Lg	15 59 60.0		
	comp=Z,1.2nm,1.0s,baz=140,slow=29,SNR=3.7							
ILAR	**Eielson Array**	**41.30**	**330**	P	**P**	**15 52 42.3**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=107,slow=6.9,SNR=5.9							

TAP 27 16:07:52.0,24°35N×121°77E,h14km,ML1.3,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.04**	**216**	*e*P	Pg	16 07 54.9	+0.2
	baz=206						
EHP				*e*S	Sg	16 07 57.0	+0.6
	baz=206						
ENA	**Nanau**	**0.09**	**342**	*i* P	Pg	16 07 55.3	+0.3
	baz=346						
ENA				*i* S	Sg	16 07 58.0	+1.0
	baz=346						
EWUT	**Wuta**	**0.10**	**4**	*e*P	Pg	16 07 55.5	+0.3
	baz=4.0						
EWUT				*e*S	Sg	16 07 58.3	+1.0
	baz=4.0						
ETL	**Fush Village**	**0.23**	**216**	P	Pb	16 07 57.9	-0.1
	baz=215						
ETL				*i* S	Sb	16 08 01.9	-0.1
	baz=215						
NACB	**Ninganchiao**	**0.23**	**223**	P	Pb	16 07 58.5	+0.4
	baz=223						
NACB				S	Sb	16 08 02.1	0.0
	baz=223						
TWC	**Suao**	**0.27**	**15**	P	Pg	16 07 58.2	+0.4
	baz=17						
TWC				*e*S	Sb	16 08 03.0	-0.2
	baz=17						
LATG	**Datong**	**0.29**	**310**	P	Pb	16 07 59.3	+0.2
	baz=310						
NDS	**Dongshan**	**0.29**	**350**	*e*P	Pb	16 07 59.0	0.0
	baz=350						
NDS				S	Sb	16 08 04.2	+0.5
	baz=350						
ETLH	**Xiulin Townshi**	**0.30**	**242**	*e*P	Pb	16 07 59.0	-0.2
	baz=242						
ETLH				*e*S	Sb	16 08 04.5	+0.4
	baz=242						
NNSB	**Datong**	**0.36**	**283**	*e*P	Pb	16 07 59.9	-0.4
	baz=283						
NNSB				*e*S	Sb	16 08 06.0	0.0
	baz=283						
TWE	**Neicheng**	**0.39**	**346**	*e*P	Pb	16 08 00.8	+0.1
	baz=347						
HWA	**Hwalien**	**0.40**	**202**	*e*P	Pb	16 08 00.5	-0.4
	baz=201						
HWA				*e*S	Sb	16 08 07.5	+0.7
	baz=201						
ILA	**Ilan**	**0.42**	**357**	*e*S	Sb	16 08 08.1	+0.6
	baz=358						
FUSB	**Fushanzhiwuyua**	**0.44**	**338**	*e*P	Pb	16 08 01.9	+0.2
	baz=338						
FUSB				*e*S	Sb	16 08 08.9	+0.6
	baz=338						
YHNB	**Yeheng**	**0.48**	**312**	*e*S	Sb	16 08 09.5	+0.1
	baz=311						
NWLT	**Wulai**	**0.49**	**330**	*e*P	Pb	16 08 02.5	0.0
	baz=330						
NSK	**Sanguang**	**0.50**	**311**	*e*S	Sb	16 08 09.9	+0.1
	baz=311						
NTC	**Toucheng**	**0.51**	**6**	*e*P	Pb	16 08 02.7	-0.1
	baz=6.0						
NTC				*e*S	Sb	16 08 10.5	+0.5
	baz=6.0						

PRU **27** *16:12:06.8±0.0,51°.46N×16°.17E,h0km*
IPEC **27** *16:12:06.3±0.3,51°.47N×16°.22E,h1km,ML2.2/3,Error ellipse: s-maj=2.1km s-min=1.1km az=38.0*
VIE **27** *16:12:08.7±1.8,51°.30N×16°.03E,h0km,mb2.5/3,ml2.7/5, Error ellipse: s-maj=10.6km s-min=8.4km az=166.0 72 km WNW of Wroclaw Suspected Mining induced.*

ISC 27 16:12:03.9±0.8,51°.59N±0°.03×16°.22E±0°.03,h0km,n31, σ1§40/60,1C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.75**	**176**	*e*Pg	**Pg**	**16 12 18.6**	**+0.3**
KSP				*e*Sg	**Sg**	**16 12 26.8**	**-1.2**
CHVC	**Chvalec**	**1.01**	**186**	*e*PG	**Pg**	**16 12 23.4**	**+0.2**
CHVC				*e*SG	**Sg**	**16 12 35.3**	**-1.0**
	comp=Z,54nm,0.5s						
OSTC	**Ostas**	**1.04**	**180**	*e*PG	**Pg**	**16 12 24.1**	**+0.3**
OSTC				*e*SG	**Sg**	**16 12 36.2**	**-1.0**
	comp=Z,58nm,0.6s						
UPC	**Upice**	**1.09**	**187**	*e*PG	**Pg**	**16 12 24.8**	**0.0**
UPC				*e*SG	**Sg**	**16 12 38.1**	**-0.9**
DPC	**Dobruska-Polom**	**1.25**	**177**	*e*PG	**Pg**	**16 12 27.5**	**-0.2**
DPC				*e*SG	**Sg**	**16 12 42.3**	**-1.6**
	comp=Z,38nm,0.3s						
PVCC	**Panska Ves**	**1.49**	**225**	*e*PG	**Pb**	**16 12 32.8**	**+0.4**
PVCC				*e*SG	**Sb**	**16 12 51.9**	**0.0**
	comp=Z,80nm,0.3s						
KRLC	**Kraliky**	**1.56**	**167**	*e*PG	**Pn**	**16 12 33.1**	**+0.2**
KRLC				*e*SG	**Sn**	**16 12 52.2**	**-1.7**
	comp=Z

THIG				*e*S		Sn	16 18 46.1 -0.2
PATR	**El Naranjo**	**1.06**	**59**	*e*P		Pb	16 18 33.8 +0.2
PATR				*i* S		Sn	16 18 48.2 -1.4
PCIG		**1.14**	**358**	*e*P		Pn	16 18 35.3 +0.1
PCIG				*e*S		Sn	16 18 49.5 -1.5
PAVE	**Pavencul**	**1.15**	**57**	*e*P		Pb	16 18 35.4 +0.2
PAVE				*e*S		Sn	16 18 51.8 0.0
CHUJ	**Union Juarez**	**1.16**	**63**	*e*P		Pb	16 18 35.5 +0.2
CHUJ				*i* S		Sn	16 18 51.8 -0.2
STG3	**Santiaguito 3,**	**1.56**	**84**	*e*P		Pn	16 18 41.2 +0.1
STG3				*e*S		Sn	16 19 00.4 -1.4
CARR	**Arriaga**	**1.82**	**337**	*e*P		Pn	16 18 44.0 -0.5
CARR				*e*S		Sb	16 19 09.2 -0.2
CCIG	**Comitan**	**1.98**	**30**	*e*P		Pg	16 18 50.5 -0.2
CCIG				*e*S		Sg	16 19 16.5 0.0
TGIG		**2.21**	**1**	*e*P		Pb	16 18 52.6 -0.4
TGIG				*e*S		Sb	16 19 17.7 -2.9
FUG	**Fuego 3**	**2.26**	**93**	*e*P		Pn	16 18 51.2 +0.4
FUG				*e*S		Sn	16 19 16.2 -2.9
PCG	**Pacaya**	**2.49**	**94**	*e*S		Sn	16 19 24.7 -0.2
UXUV	**UXUV**	**2.90**	**341**	*e*P		Pn	16 19 02.0 +2.7
UXUV				*e*S		Sb	16 19 36.6 -3.9
CMIG	**Matias Romero**	**3.01**	**327**	Pn		Pn	16 19 01.7 +0.8
	4.3nm,0.3s,baz=138,slow=13,SNR=27						
CMIG				Sn		Sn	16 19 39.1 +1.9
	8.8nm,0.3s,baz=307,slow=22,SNR=4.1						
CMIG	**Matias Romero**	**3.01**	**327**	*e*P		Pn	16 19 01.8 +1.0
CMIG				*e*S		Sn	16 19 38.4 +1.2
HUIG	**Huatulco**	**3.08**	**293**	*e*P		Pn	16 19 00.7 -1.1
HUIG				*e*S		Sn	16 19 35.6 -3.3
TXAR	**Lajitas Array**	**17.61**	**328**	P		Pn	16 22 20.1 +1.2
	0.0nm,0.3s,baz=150,slow=15,SNR=2.6						
NVAR	**Mina Array Bea**	**32.52**	**322**	P		P	16 24 47.2 +2.5
	0.4nm,0.7s,baz=137,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	**50.23**	**347**	P		P	16 27 08.8 -0.5
	0.8nm,0.7s,baz=150,slow=7.3,SNR=16						

IDC ***27*** *16:20:28.9±1.1,24.°18N×121.°87E,h0km,mb3.5/6, mb1 3.6/8,mb1mx3.4/54,mbtmp3.6/8,ML3.2/1,Error ellipse: s-maj=36.7km s-min=22.1km az=69.0*
JMA ***27*** *16:20:31.8±0.1,24.°14N×121.°61E,h26km±1km,M3.6*
ASIES ***27*** *16:20:31.9,24.°26N×121.°75E,h19km,MW3.8*
TAP ***27*** *16:20:32.4,24.°27N×121.°76E,h12km,ML4.0,B*
ISC 27 16:20:31.9±0.7,24.°25N±0.°01×121.°79E±0.°02,h13km±4km, n182,σ0s89/260,mb3.5/7,13C-23D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.08**	**323**	*i* P			**Pg**	**16 20 34.8**	**+0.1**
	baz=343								
EHP				*i* S			**Sg**	**16 20 36.6**	**-0.2**
	baz=343								
ETL	**Fush Village**	**0.18**	**240**	P			**Pg**	**16 20 36.4**	**+0.3**
	baz=224								
ETL				S			**Sg**	**16 20 38.8**	**-0.2**
	baz=224								
ENA	**Nanau**	**0.19**	**345**	⇓*i* P			**Pg**	**16 20 36.3**	**0.0**
	baz=355								
ENA				*i* S			**Sg**	**16 20 39.2**	**0.0**
	baz=355								
NACB	**Ninganchiao**	**0.20**	**248**	⇑*i* P			**Pg**	**16 20 36.4**	**0.0**
	baz=233								
NACB				*i* S			**Sg**	**16 20 39.3**	**0.0**
	baz=233								
EWUT	**Wuta**	**0.20**	**356**	⇓*i* P			**Pg**	**16 20 36.6**	**+0.2**
	baz=4.0								
EWUT				*i* S			**Sg**	**16 20 39.7**	**+0.2**
	baz=4.0								
TWD	**Chiawan**	**0.24**	**227**	⇑*i* P			**Pg**	**16 20 37.4**	**+0.2**
	baz=219								
TWD				*i* S			**Sg**	**16 20 40.9**	**+0.2**
	baz=219								
ETLH	**Xiulin Townshi**	**0.29**	**262**	P			**Pg**	**16 20 38.0**	**0.0**
	baz=258								
ETLH				S			**Sg**	**16 20 42.1**	**+0.1**
	baz=258								
HWA	**Hwalien**	**0.32**	**213**	P			**Pb**	**16 20 39.8**	**+0.3**
	baz=214								
TWC	**Suao**	**0.36**	**8**	⇓*i* P			**Pg**	**16 20 39.6**	**+0.3**
	baz=6.0								
TWC				*i* S			**Sg**	**16 20 44.6**	**+0.3**
	baz=6.0								
LATG	**Datong**	**0.38**	**320**	⇓*i* P			**Pg**	**16 20 39.8**	**+0.2**
	baz=321								
LATG				*i* S			**Sg**	**16 20 44.5**	**-0.2**
	baz=321								
NDS	**Dongshan**	**0.39**	**350**	⇓*i* P			**Pb**	**16 20 40.2**	**-0.5**
	baz=353								
NDS				S			**Sg**	**16 20 45.6**	**+0.5**
	baz=353								
ETM	**Tongmen**	**0.39**	**224**	⇑P			**Pg**	**16 20 39.9**	**+0.1**
	baz=220								
ETM				S			**Sg**	**16 20 45.5**	**+0.4**
	baz=220								
NNSB	**Datong**	**0.41**	**296**	⇓*i* P			**Pg**	**16 20 40.5**	**+0.2**
	baz=295								
NNSB				*i* S			**Sg**	**16 20 45.8**	**-0.1**
	baz=295								
TEYL	**Yanliau Villag**	**0.42**	**205**	*e*P			**Pb**	**16 20 41.0**	**-0.2**
	baz=209								
NNS	**Nan Shan**	**0.43**	**297**	⇓*i* P			**Pg**	**16 20 40.7**	**+0.1**
	baz=296								
NNS				*i* S			**Sg**	**16 20 46.0**	**-0.3**
	baz=296								
NDT	**Datong Townshi**	**0.44**	**324**	P			**Pg**	**16 20 40.9**	**+0.3**
	baz=326								
NDT				S			**Sg**	**16 20 47.0**	**+0.5**
	baz=326								
ENTT	**Nioudou**	**0.44**	**332**	⇓*i* P			**Pg**	**16 20 41.1**	**+0.3**
	baz=335								
ENTT				*i* S			**Sg**	**16 20 46.9**	**+0.2**
	baz=335								
TWE	**Neicheng**	**0.48**	**346**	⇓P			**Pb**	**16 20 42.0**	**-0.4**
	baz=350								
TWE				S			**Sg**	**16 20 48.6**	**+0.6**
	baz=350								
WHF	**Hehuan Shan**	**0.49**	**258**	⇑*i* P			**Pg**	**16 20 41.9**	**+0.1**
	baz=256								
WHF				*e*S			**Sg**	**16 20 48.3**	**-0.2**
	baz=256								
ILA	**Ilan**	**0.52**	**355**	P			**Pb**	**16 20 42.7**	**-0.1**
	baz=353								
ILA				S			**Sb**	**16 20 50.3**	**0.0**
	baz=353								
ESL	**Shilin**	**0.54**	**217**	⇑*i* P			**Pg**	**16 20 42.7**	**+0.1**
	baz=221								
ESL				*e*S			**Sb**	**16 20 50.8**	**-0.2**
	baz=221								
FUSB	**Fushanzhiwuyua**	**0.54**	**340**	⇓*i* P			**Pb**	**16 20 43.1**	**-0.3**
	baz=342								
FUSB				*i* S			**Sg**	**16 20 49.8**	**-0.1**
	baz=342								
TWT	**Tachien**	**0.56**	**271**	⇑*i* P			**Pb**	**16 20 43.9**	**+0.2**
	baz=269								
TWT				S			**Sg**	**16 20 50.9**	**+0.4**
	baz=269								
YHNB	**Yeheng**	**0.57**	**318**	⇓*i* P			**Pb**	**16 20 43.5**	**-0.3**
	baz=319								
YHNB				S			**Sg**	**16 20 50.7**	**+0.1**
	baz=319								
TDCB	**Techi**	**0.58**	**271**	P			**Pb**	**16 20 43.9**	**-0.1**
	baz=269								
TDCB				S			**Sg**	**16 20 50.1**	**-0.9**
	baz=269								
NSK	**Sanguang**	**0.58**	**317**	⇓*i* P			**Pb**	**16 20 43.7**	**-0.3**
	baz=318								
NSK				S			**Sg**	**16 20 51.0**	**-0.1**
	baz=318								
TEGC	**Jichi Village**	**0.58**	**203**	*e*P			**Pb**	**16 20 44.8**	**+0.8**
	baz=190								
NWLT	**Wulai**	**0.59**	**333**	⇓P			**Pb**	**16 20 44.0**	**-0.2**
	baz=335								
NWLT				S			**Sg**	**16 20 51.1**	**-0.3**
	baz=335								
CHGB	**Renai**	**0.59**	**252**	⇑*i* P			**Pb**	**16 20 44.0**	**-0.3**
	baz=242								
CHGB				S			**Sb**	**16 20 52.3**	**-0.4**
	baz=242								
NTC	**Toucheng**	**0.60**	**3**	P			**Pb**	**16 20 44.3**	**-0.1**
	baz=5.0								
NTC				S			**Sb**	**16 20 52.6**	**-0.2**
	baz=5.0								
EGS		**0.61**	**12**	*e*P			**Pb**	**16 20 44.5**	**+0.1**
	baz=23								
OWD	**Renai**	**0.64**	**243**	*e*P			**Pb**	**16 20 44.6**	**-0.3**
	baz=235								
EGFH	**Guangfu**	**0.67**	**210**	*e*P			**Pb**	**16 20 45.6**	**+0.2**
	baz=215								
EGFH				*e*S			**Sb**	**16 20 55.9**	**+1.4**
	baz=215								
WUSB	**Renai**	**0.67**	**248**	⇑P			**Pb**	**16 20 45.3**	**-0.2**
	baz=239								
WUSB				S			**Sb**	**16 20 54.7**	**0.0**
	baz=239								
TIPB	**Shuangxi**	**0.72**	**2**	P			**Pb**	**16 20 46.4**	**0.0**
	baz=4.0								
TIPB				*e*S			**Sg**	**16 20 55.3**	**-0.3**
	baz=4.0								
NFF	**Wufeng Townshi**	**0.72**	**302**	*e*P			**Pb**	**16 20 46.6**	**+0.1**
	baz=309								
NFF				*e*S			**Sg**	**16 20 55.6**	**0.0**
	baz=309								
NHDH	**Xindian Distri**	**0.75**	**341**	*e*P			**Pb**	**16 20 47.2**	**+0.3**
	baz=342								
TWA	**Mucha**	**0.75**	**345**	⇓*i* P			**Pb**	**16 20 47.1**	**+0.2**
	baz=347								
TWA				S			**Sb**	**16 20 57.2**	**+0.1**
	baz=347								
VWDT	**VWDT**	**0.77**	**231**	⇑*i* P			**Pb**	**16 20 47.1**	**-0.1**
	baz=229								
VWDT				S			**Sb**	**16 20 58.0**	**+0.4**
	baz=229								
WHP	**Taichung City**	**0.77**	**272**	⇑P			**Pb**	**16 20 47.7**	**+0.5**
	baz=271								
WHP				S			**Sb**	**16 20 57.6**	**-0.1**
	baz=271								
TATO	**Taipei**	**0.78**	**339**	P			**Pb**	**16 20 47.5**	**+0.2**
	baz=340								
TATO				S			**Sg**	**16 20 56.4**	**-0.9**
	baz=340								
TWB1	**Santiao Chiao**	**0.78**	**13**	⇓P			**Pb**	**16 20 47.3**	**0.0**
	baz=15								
TWB1				S			**Sg**	**16 20 57.3**	**0.0**
	baz=15								
WPL	**Puli Township**	**0.80**	**253**	*e*P			**Pb**	**16 20 47.9**	**+0.3**
	baz=252								
WPL				*e*S			**Sb**	**16 20 58.6**	**+0.2**
	baz=252								
NJD	**Zhudong**	**0.81**	**307**	*e*P			**Pn**	**16 20 48.8**	**-0.2**
	baz=313								
BACT	**New Taipei Cit**	**0.81**	**337**	*e*P			**Pb**	**16 20 48.2**	**+0.3**
	baz=338								
BACT				*e*S			**Sn**	**16 21 00.6**	**-0.3**
	baz=338								
LIOB	**Emei**	**0.81**	**299**	*e*P			**Pb**	**16 20 48.5**	**+0.6**
	baz=299								
LIOB				*e*S			**Sb**	**16 20 59.5**	**+0.7**
	baz=299								
NHY	**Taipei**	**0.81**	**346**	*e*P			**Pb**	**16 20 48.3**	**+0.4**
	baz=347								
NSTT	**Nanjuang**	**0.82**	**298**	⇓*i* P			**Pb**	**16 20 48.3**	**+0.4**
	baz=298								
NSTT				S			**Sb**	**16 20 59.0**	**+0.1**
	baz=298								
DPDB	**Guoxing**	**0.82**	**255**	*e*P			**Pb**	**16 20 48.5**	**+0.4**
	baz=253								
NWF	**Wu-fen Shan**	**0.82**	**359**	⇓*i* P			**Pb**	**16 20 48.5**	**+0.4**
	baz=353								
NWF				*i* S			**Sg**	**16 20 58.6**	**-0.1**
	baz=353								
WFSB	**Wu-fen Shan**	**0.82**	**359**	⇓*i* P			**Pb**	**16 20 48.4**	**+0.4**
	baz=353								
WFSB				*i* S			**Sg**	**16 20 58.5**	**-0.1**
	baz=353								
HGSD	**Ruisui**	**0.82**	**204**	*i* P			**Pn**	**16 20 49.1**	**-0.1**
	baz=190								
HGSD				S			**Sn**	**16 21 02.8**	**+1.6**
	baz=190								
TAP1	**Taipei**	**0.82**	**343**	*e*P			**Pb**	**16 20 48.8**	**+0.7**
	baz=332								
WCS	**Beigang Elemen**	**0.83**	**257**	*e*P			**Pb**	**16 20 48.2**	**+0.1**
	baz=255								
TAP	**Taipei**	**0.83**	**342**	*e*P			**Pb**	**16 20 48.6**	**+0.4**
	baz=343								
TAP				*e*S			**Sb**	**16 20 59.1**	**-0.1**
	baz=343								
SXI1	**Grass Mountain**	**0.85**	**5**	⇓*i* P			**Pb**	**16 20 48.9**	**+0.4**
	baz=352								
SXI1				*e*S			**Sg**	**16 20 58.9**	**-0.6**
	baz=352								
EHY	**Hungye**	**0.85**	**210**	*e*P			**Pg**	**16 20 48.2**	**-0.3**
	baz=214								
EHY				*e*S			**Sn**	**16 21 01.9**	**-0.1**
	baz=214								
NTY	**Taoyuan**	**0.87**	**329**	*e*P			**Pn**	**16 20 49.9**	**-0.1**
	baz=330								
HSN1	**Hsinchu**	**0.88**	**307**	*e*P			**Pn**	**16 20 50.1**	**+0.1**
	baz=297								
HSN1				*e*S			**Sn**	**16 21 02.3**	**-0.4**
	baz=297								
SMLT	**Sun Moon Lake**	**0.89**	**246**	*e*P			**Pb**	**16 20 49.6**	**+0.3**
	baz=236								
SMLT				*e*S			**Sg**	**16 21 00.1**	**-0.9**
	baz=236								
SSLB	**Suanglung**	**0.89**	**239**	⇑*i* P			**Pg**	**16 20 49.2**	**0.0**
	baz=238								
SSLB				S			**Sg**	**16 21 00.0**	**-0.9**
	baz=238								
TNOU	**National Taiwa**	**0.90**	**359**	*e*P			**Pb**	**16 20 49.8**	**+0.4**
NCU	**National Centr**	**0.91**	**323**	*e*P			**Pn**	**16 20 50.3**	**-0.1**
	baz=323								
NCU				*e*S			**Sb**	**16 21 02.2**	**+0.8**
	baz=323								
NCUH	**Zhongli**	**0.91**	**322**	*e*P			**Pn**	**16 20 50.6**	**+0.3**
	baz=317								
SBCB	**Hsinchu**	**0.91**	**307**	*e*P			**Pn**	**16 20 50.8**	**+0.3**
	baz=307								
SBCB				*e*S			**Sb**	**16 21 03.0**	**+1.3**
	baz=307								
TWS1	**Kuangyinshan**	**0.92**	**338**	*e*P			**Pn**	**16 20 50.7**	**+0.2**
	baz=339								
TWS1				S			**Sn**	**16 21 03.3**	**-0.2**
	baz=339								
YM01	**YM01**	**0.92**	**347**	P			**Pb**	**16 20 50.4**	**+0.6**
	baz=348								
YM01				*e*S			**Sg**	**16 21 01.5**	**-0.2**
	baz=348								
TYC	**Yuchr**	**0.92**	**248**	*e*P			**Pb**	**16 20 49.9**	**+0.1**
	baz=238								
TYC				*e*S			**Sb**	**16 21 02.8**	**+1.0**
	baz=238								
HSN	**Hsinchu**	**0.93**	**307**	*e*P			**Pn**	**16 20 50.9**	**+0.2**
	baz=297								
TWQ1	**Liyutan**	**0.94**	**276**	*e*P			**Pn**	**16 20 51.4**	**+0.6**
	baz=275								
NJN	**Zhunan**	**0.95**	**298**	*e*P			**Pn**	**16 20 50.9**	**+0.1**
	baz=290								
YM08	**YM08**	**0.95**	**349**	*e*P			**Pb**	**16 20 50.5**	**+0.2**
	baz=350								
NSY	**Sanyi**	**0.96**	**280**	*e*P			**Pn**	**16 20 51.6**	**+0.5**
	baz=280								
NSY				*e*S			**Sn**	**16 21 04.4**	**-0.1**
	baz=280								
NMLH	**Miaoli**	**0.96**	**288**	*e*P			**Pn**	**16 20 52.1**	**+1.1**
	baz=287								
NTST	**Danshui**	**0.96**	**341**	*e*P			**Pn**	**16 20 51.7**	**+0.6**
	baz=342								
YULB	**Yu-li**	**0.96**	**208**	*e*P			**Pg**	**16 20 49.8**	**-0.8**
	baz=216								
YULB				*e*S			**Sb**	**16 21 03.8**	**+0.6**
	baz=216								
ANP	**Anpu**	**0.97**	**345**	*e*P			**Pb**	**16 20 51.0**	**+0.4**
	baz=347								
ECBN	**Changbin**	**0.98**	**199**	*e*P			**Pb**	**16 20 50.8**	**+0.1**
	baz=197								
ECBN				*e*S			**Sn**	**16 21 06.1**	**+1.1**
	baz=197								
EYUL	**Yuli**	**1.00**	**206**	*e*P			**Pb**	**16 20 51.6**	**+0.6**
	baz=218								
TWF1	**Yuli**	**1.00**	**207**	P			**Pb**	**16 20 51.6**	**+0.5**
	baz=216								
TWF1				*e*S			**Sn**	**16 21 07.0**	**+1.4**
	baz=216								
NHW	**Xinwu Township**	**1.02**	**318**	*e*P			**Pn**	**16 20 52.8**	**+1.0**
	baz=319								
NHW				*e*S			**Sn**	**16 21 07.0**	**+1.0**
	baz=319								
WWF	**Wufeng**	**1.02**	**259**	*e*P			**Pn**	**16 20 53.5**	**+1.6**
	baz=251								
TCU	**Taichung**	**1.02**	**265**	*e*P			**Pn**	**16 20 53.0**	**+1.1**
	baz=263								
TWY	**Chenhua**	**1.04**	**350**	*e*P			**Pn**	**16 20 52.6**	**+0.5**
	baz=352								
WDJ	**Dajia District**	**1.06**	**276**	*e*P			**Pn**	**16 20 54.2**	**+1.8**
	baz=275								
WDJ				*e*S			**Sn**	**16 21 08.6**	**+1.7**
	baz=275								
WJS	**Zhushan**	**1.06**	**247**	*e*P			**Pn**	**16 20 53.5**	**+1.1**
	baz=238								
JYNG	**Yonagunijimaku**	**1.07**	**79**	P			**Pn**	**16 20 54.2**	**+1.6**
JYNG				S			**Sn**	**16 21 10.8**	**+3.5**
WNT1	**Nantou City**	**1.07**	**252**	*e*P			**Pn**	**16 20 54.2**	**+1.6**
	baz=240								
WNT	**Mingjian**	**1.08**	**250**	P			**Pn**	**16 20 53.8**	**+1.0**
	baz=245								
WNT				*e*S			**Sn**	**16 21 09.3**	**+1.8**
	baz=245								
YUS	**Yu-Shan**	**1.08**	**226**	*e*P			**Pb**	**16 20 52.9**	**+0.2**
	baz=234								
YOJ	**Yonaguni jima**	**1.13**	**79**	P			**Pn**	**16 20 55.0**	**+1.6**
YOJ				*e*S			**Sn**	**16 21 11.4**	**+2.6**
YOJ	**Yonaguni jima**	**1.13**	**79**	*e*P			**Pn**	**16 20 54.6**	**+1.2**
	baz=68								
YOJ				S			**Sn**	**16 21 11.3**	**+2.6**
	baz=68								
FULB	**Fuli**	**1.14**	**204**	*e*P			**Pg**	**16 20 53.5**	**-0.4**
	baz=216								
WCHH	**Zhanghua**	**1.14**	**262**	*e*P			**Pn**	**16 20 54.9**	**+1.4**
	baz=260								
WYL	**Yuanlin Townsh**	**1.14**	**256**	*e*P			**Pn**	**16 20 55.5**	**+1.9**
	baz=255								
ALS	**Alishan**	**1.16**	**231**	⇑*i* P			**Pn**	**16 20 54.6**	**+0.4**
	baz=230								
ALS				*e*S			**Sn**	**16 21 10.9**	**+0.8**
	baz=230								
CHKT	**Chengkung**	**1.21**	**199**	*e*P			**Pb**	**16 20 53.4**	**-1.2**
	baz=190								
CHKT				*e*S			**Sg**	**16 21 10.9**	**0.0**
	baz=190								
CHN5	**Tsauling**	**1.21**	**238**	*e*P			**Pn**	**16 20 55.9**	**+1.3**
	baz=238								
CHN5				*e*S			**Sn**	**16 21 13.8**	**+2.9**
	baz=238								
WGK	**Gukeng**	**1.26**	**244**	*e*P			**Pg**	**16 20 56.6**	**+0.5**
	baz=242								
ECS	**Chishang**	**1.26**	**205**	*e*P			**Pn**	**16 20 55.1**	**-0.1**
	baz=217								
ELDTW	**Lidau**	**1.27**	**214**	*e*P			**Pn**	**16 20 55.0**	**-0.4**
	baz=213								
WDLH	**Douliu**	**1.27**	**244**	*e*P			**Pg**	**16 20 57.1**	**+0.6**
	baz=243								
EDH	**Donghe**	**1.35**	**200**	*e*P			**Pn**	**16 20 56.0**	**-0.4**
	baz=186								
WTK	**Tuku**	**1.40**	**247**	*e*P			**Pg**	**16 20 59.3**	**+0.4**
	baz=234								
CHN2	**Minshiung**	**1.40**	**240**	*e*P			**Pg**	**16 21 00.1**	**+1.2**
	baz=240								
CHN2				*e*S			**Sg**	**16 21 19.1**	**+1.9**
	baz=240								
CHN4	**Tsaushan**	**1.42**	**231**	⇓*e*P			**Pg**	**16 20 59.1**	**-0.1**
	baz=232								
CHN4				*e*S			**Sg**	**16 21 19.9**	**+2.3**
	baz=232								
STYH	**Taoyuan**	**1.42**	**221**	*e*P			**Pg**	**16 20 58.8**	**-0.5**
	baz=221								
TPUB	**Ta-pu**	**1.42**	**229**	⇓*i* P			**Pg**	**16 20 59.1**	**-0.2**
	baz=229								
TPUB				S			**Sg**	**16 21 18.2**	**+0.4**
	baz=229								
WTCT	**Ta-ch'eng**	**1.43**	**255**	*e*P			**Pb**	**16 20 58.9**	**+0.4**
	baz=254								
STYT	**Tauyuan**	**1.44**	**222**	*e*P			**Pb**	**16 20 58.8**	**+0.2**
	baz=221								
STYT				*e*S			**Sg**	**16 21 19.1**	**+0.8**
	baz=221								
CHY	**Chiayi**	**1.46**	**239**	*e*P			**Pg**	**16 21 00.9**	**+0.9**
	baz=239								
LONT	**Longtian**	**1.47**	**205**	*e*P			**Pn**	**16 20 57.8**	**-0.3**
	baz=205								
WTP	**Ta-pu**	**1.47**	**228**	⇓*i* P			**Pg**	**16 20 59.8**	**-0.5**
	baz=228								
WTP				*e*S			**Sg**	**16 21 20.0**	**+0.7**
	baz=228								
TWK	**Hsinying**	**1.54**	**231**	*e*P			**Pg**	**16 21 01.2**	**-0.4**
	baz=232								
TWK				*e*S			**Sg**	**16 21 22.4**	**+0.7**
	baz=232								
WSF	**Szhu**	**1.56**	**247**	*e*P			**Pb**	**16 21 01.2**	**+0.5**
	baz=257								
WSF				*e*S			**Sg**	**16 21 22.9**	**+0.6**
	baz=257								
SNST	**Tainan City**	**1.57**	**230**	*e*P			**Pg**	**16 21 01.6**	**-0.5**
	baz=231								
SNST				*e*S			**Sg**	**16 21 23.5**	**+1.1**
	baz=231								
TWG	**Pinlang**	**1.57**	**205**	*e*P			**Pn**	**16 20 58.5**	**-1.0**
	baz=189								
TWGBT	**Beinan**	**1.57**	**205**	*e*P			**Pn**	**16 20 58.5**	**-0.9**
	baz=189								
CHN1	**Nanshi**	**1.57**	**228**	*e*P			**Pg**	**16 21 02.2**	**+0.1**
	baz=229								
CHN1				*e*S			**Sg**	**16 21 22.9**	**+0.4**
	baz=229								
LDUT	**Ludao**	**1.59**	**191**	*e*P			**Pn**	**16 20 58.6**	**-1.2**
	baz=192								
WSL	**Shuilin Townsh**	**1.60**	**244**	*e*P			**Pb**	**16 21 01.6**	**+0.2**
	baz=255								
SGST	**Jiashian**	**1.60**	**224**	*e*P			**Pg**	**16 21 01.5**	**0.0**
	baz=224								
SLGT	**Liugui**	**1.63**	**220**	*e*P			**Pg**	**16 21 02.9**	**-0.5**
	baz=221								
ICHU	**Yijhu**	**1.64**	**238**	*e*P			**Pg**	**16 21 03.3**	**-0.2**
	baz=237								
CHN8	**Yiju**	**1.70**	**239**	*e*P			**Pb**	**16 21 03.1**	**0.0**
	baz=224								
CHN8				*e*S			**Sg**	**16 21 26.5**	**-0.3**
	baz=224								
CHN3	**Shinhua**	**1.75**	**229**	*e*P			**Pb**	**16 21 04.6**	**+0.6**
	baz=230								
IRIF	**Iriomote-Funau**	**1.77**	**87**	P			**Pn**	**16 21 03.5**	**+1.3**
IRIF				*e*S			**Sb**	**16 21 27.1**	**+0.8**
SHHT	**Tainan City**	**1.80**	**228**	*e*P			**Pg**	**16 21 05.7**	**-0.9**
	baz=229								
SCST	**Cishan**	**1.81**	**222**	*e*P			**Pb**	**16 21 05.5**	**+0.7**
	baz=223								
SCLT	**Jiali**	**1.81**	**234**	*e*P			**Pg**	**16 21 07.0**	**+0.3**
	baz=235								
ECL	**Taimali**	**1.81**	**205**	*e*P			**Pn**	**16 21 02.6**	**-0.2**
	baz=192								
SSD	**Sandimen**	**1.84**

baz=231
HEN Hengchun 2.43 204 *e*P **Pb 16 21 14.8 -0.7**
baz=194
TWK1 Hengchun 2.47 202 *e*P **Pn 16 21 12.4 +0.6**
baz=191
MATB Ma-tsu 2.53 319 *e*P **Pn 16 21 13.2 +0.5**
baz=318
MSUT Lienchiang 2.56 319 *e*P **Pn 16 21 14.0 +1.0**
baz=318
JTJ Tarama 2.68 81 *e*S **Sb 16 21 50.9 -1.6**
LYJJ Jianjiangzhen 2.94 322 *e*P **Pn 16 21 19.0 +0.7**
baz=321
QZH Quanzhou 3.00 284 ⇓Pn **Pn 16 21 20.0 +0.9**
QZH Sn **Sn 16 21 55.0 +0.2**
QZH smax smax
comp=N,120nm,0.8s
QZH smax smax
comp=E,93nm,1.0s
XPSS Dashiqiu 3.04 332 *e*P **Pn 16 21 20.0 +0.3**
baz=332
KNM Kinmen 3.07 274 *e*P **Pn 16 21 22.8 +2.7**
baz=272
MHZQ Yeshan 3.11 307 *e*P **Pn 16 21 21.4 +0.8**
baz=306
KNMB Chin-men Tao 3.11 275 *e*P **Pn 16 21 21.4 +0.7**
baz=274
JMJ Miyako jima 2 3.24 79 *e*P **Pn 16 21 25.8 +3.4**
baz=77
AXDP Jialang 3.54 281 *e*P **Pn 16 21 27.8 +1.2**
baz=280
ZPLA Ao Xicun 3.71 266 *e*P **Pn 16 21 29.9 +1.0**
baz=264
SXFK Yanhouchang 4.32 301 *e*P **Pn 16 21 38.4 +1.0**
baz=299
APYP Conner 6.37 185⇑*e*P **Pn 16 22 07.3 +1.8**
JOW Kunigami 6.39 65 Pn **Pn 16 22 04.5 -1.4**
baz=303,slow=29,SNR=1.4
KSRS Korea Array 14.17 20 Pn **Pn 16 23 50.3 -2.0**
comp=E,0.1nm,0.3s,baz=198,slow=12,SNR=1.9
GTA Gaotai 23.94 314 *e*P **P 16 25 47.5 +1.6**
GTA pP pwP 16 25 51.5 +1.3
GTA sP sP 16 25 54.5 +3.5
GTA pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 26.53 336 P **P 16 26 09.5 +0.1**
comp=Z,1.0nm,0.4s,baz=164,slow=5.8,SNR=2.2
MKAR Makanchi Array 38.68 316 P **P 16 27 55.0 -0.3**
comp=Z,0.5nm,0.8s,baz=98,slow=1.1,SNR=5.0
ZALV Zalesovo Beam 40.49 327 P **P 16 28 09.9 -0.4**
comp=Z,0.6nm,0.6s,baz=111,slow=7.9,SNR=2.7
H11N1 WAKE ISLAND Hy 41.93 87 T T 17 13 49.0
baz=282
H11N2 WAKE ISLAND Hy 41.93 87 T T 17 13 37.3
baz=282
H11N3 WAKE ISLAND Hy 41.94 87 T T 17 13 38.1
baz=282
H11S3 WAKE ISLAND Hy 42.06 89 T T 17 14 23.7
baz=279
H11S1 WAKE ISLAND Hy 42.07 89 T T 17 13 45.6
baz=279
H11S2 WAKE ISLAND Hy 42.08 89 T T 17 13 57.5
baz=279
WRA Warramunga Arr 45.59 163 P **P 16 28 49.1 -2.8**
comp=Z,0.4nm,0.9s,baz=344,slow=8.8,SNR=2.3
ASAR Alice Springs 49.06 165 P **P 16 29 18.2 -0.7**
comp=Z,0.1nm,0.6s,baz=344,slow=5.7,SNR=1.2
YKA Yellowknife Ar 82.69 23 P **P 16 32 54.2 -0.7**
comp=Z,0.4nm,0.5s,baz=314,slow=4.8,SNR=12

NOU 27 16:21:15.7, 17.72S×168.26E, h18km, MLv2.9/4, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.07**	**266**	P	Pg	16 21 19.8	+0.7

*IDC **27** 16:26:13.3±1.2, 36.26N×143.36E, h0km, mb3.4/4, mb1 3.7/8, mb1mx3.4/67, mbtmp3.7/8, ML3.7/3, Error ellipse: s-maj=34.6km s-min=21.1km az=95.0*
*JMA **27** 16:26:20.4±0.1, 36.36N×142.87E, h64km, M3.2*
ISC 27 16:26:19.2±1.1, 36.29N±0.06×143.11E±0.09, h50km, n23, σ1.972/23, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.92**	**253**	P	**Pn**	**16 26 49.2**	**-0.2**
CHOJ				*e*S	**Sn**	**16 27 10.8**	**-1.6**
ONAJ	**Iwakimizuishiy**	**2.03**	**294**	P	**Pn**	**16 26 50.3**	**-0.6**
JHYU	**Hitachinakayam**	**2.04**	**272**	P	**Pn**	**16 26 50.6**	**-0.4**
JHYU				*e*S	**Sn**	**16 27 13.0**	**-2.3**
JHO	**Hitachi**	**2.08**	**280**	P	**Pn**	**16 26 50.8**	**-0.7**
JAG	**Ashikaga**	**2.96**	**274**	P	**Pn**	**16 27 03.5**	**-0.1**
JYK	**Kaneyama**	**3.41**	**321**	P	**Pn**	**16 27 09.9**	**+0.1**
JYK				*e*S	**Sn**	**16 27 48.0**	**-1.0**
JRY	**Ryogami san**	**3.42**	**267**	P	**Pn**	**16 27 09.7**	**-0.3**
JOD2	**Odawara 2**	**3.43**	**254**	P	**Pn**	**16 27 10.6**	**+0.5**
JOM	**Ohasama**	**3.48**	**336**	P	**Pn**	**16 27 10.6**	**-0.2**
JOM				S	**Sn**	**16 27 49.1**	**-1.7**
MJAR	**Matsushiro Arr**	**3.96**	**275**	Pn	**Pn**	**16 27 17.3**	**-0.1**
	0.2nm,0.3s,baz=246,slow=11,SNR=8.5						
MJAR				Sn	**Sn**	**16 28 02.2**	**-0.4**
	0.3nm,0.3s,baz=136,slow=8.6,SNR=4.6						
JHJ	**Hachijo jima 2**	**4.19**	**222**	Pn	**Pn**	**16 27 19.1**	**-1.4**
	24nm,0.3s,baz=98,slow=21,SNR=11						
JHJ				Sn	**Sn**	**16 28 04.2**	**-4.0**
	15nm,0.3s,baz=82,slow=23,SNR=6.4						
ASAJ	**Asahikawa**	**7.82**	**357**	Pn	**Pn**	**16 28 08.3**	**-1.9**
	0.5nm,0.3s,baz=268,slow=9.7,SNR=8.8						
ASAJ				Sn	**Sn**	**16 29 33.6**	**-3.8**
	0.5nm,0.3s,baz=171,slow=24,SNR=2.2						
JCJ	**Chichijima**	**9.21**	**185**	Pn	Pn	16 28 26.0	-3.3
	2.1nm,0.3s,baz=275,slow=17,SNR=1.4						
JCJ				Sn	Sn	16 30 00.5	-11
	3.7nm,0.3s,baz=324,slow=14,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**26.60**	**122**	T	T	16 59 34.3	
	baz=313,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.61**	**122**	T	T	16 59 27.3	
	baz=313,slow=74,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**26.61**	**122**	T	T	16 59 28.1	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**27.31**	**124**	T	T	17 00 24.4	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**27.31**	**124**	T	T	17 00 26.6	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**27.33**	**124**	T	T	17 00 29.3	
	baz=316						
MKAR	**Makanchi Array**	**45.67**	**303**	P	**P**	**16 34 37.5**	**+2.7**
	0.2nm,0.5s,baz=91,slow=8.6,SNR=2.5						
WRA	**Warramunga Arr**	**56.54**	**190**	P	**P**	**16 35 57.0**	**+0.5**
	0.6nm,0.9s,baz=9.5,slow=7.4,SNR=6.7						
ASAR	**Alice Springs**	**60.27**	**190**	P	**P**	**16 36 24.2**	**+1.7**
	0.6nm,0.8s,baz=2.8,slow=7.3,SNR=12						
YKA	**Yellowknife Ar**	**63.76**	**30**	P	**P**	**16 36 45.8**	**+0.4**
	0.2nm,0.6s,baz=306,slow=7.9,SNR=3.0						

*IDC **27** 16:33:06.5±0.9, 23.61N×122.45E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.6/59, mbtmp3.6/10, ML2.9/1, MS3.6/10, Ms1 3.6/10, ms1mx3.2/83, Error ellipse: s-maj=26.3km s-min=19.6km az=71.0*
*JMA **27** 16:33:13.7±0.1, 24.15N×121.66E, h24km±1km, M3.7*
*ASIES **27** 16:33:13.5, 24.29N×121.76E, h25km, MW4.1*
*TAP **27** 16:33:14.2, 24.27N×121.77E, h12km, ML4.4, B*
*BJI **27** 16:33:14.0±0.0, 24.24N×121.94E, h6km, mb4.0/10, mB4.4/7, ML4.0/5, Ms4.2/8, Ms7 4.0/10*
*NEIC **27** 16:33:14.4±1.3, 24.29N±0.07×121.9E±0.2, h10km±1km, mb4.3/13, ML4.3(TAP), Error ellipse: s-maj=26.3km s-min=3.6km az=245.0*
ISC 27 16:33:14.0±0.8, 24.27N±0.01×121.83E±0.02, h11km±4km, n222, σ0.997/310, mb4.0/17, MS3.6/7, 16C-38D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.09**	**294**	⇓*i*P	**Pg**	**16 33 16.6**	**0.0**
	baz=337						
EHP				*i* S	**Sg**	**16 33 18.4**	**-0.1**
	baz=337						
ENA	**Nanau**	**0.18**	**332**	⇓*i*P	**Pg**	**16 33 18.1**	**+0.3**
	baz=354						
ENA				S	**Sg**	**16 33 20.8**	**+0.3**
	baz=354						
EWUT	**Wuta**	**0.18**	**344**	⇓*i*P	**Pg**	**16 33 18.4**	**+0.6**
	baz=3.0						
EWUT				*i* S	**Sg**	**16 33 21.2**	**+0.6**
	baz=3.0						
ETL	**Fush Village**	**0.22**	**239**	P	**Pg**	**16 33 18.0**	**-0.6**
	baz=224						
ETL				S	**Sg**	**16 33 20.8**	**-1.0**
	baz=224						
NACB	**Ninganchiao**	**0.24**	**246**	⇑*i*P	**Pg**	**16 33 18.2**	**-0.7**
	baz=233						
NACB				*i* S	**Sg**	**16 33 21.2**	**-1.0**
	baz=233						
TWD	**Chiawan**	**0.29**	**228**	⇑*i*P	**Pg**	**16 33 19.2**	**-0.6**
	baz=219						
TWD				*i* S	**Sg**	**16 33 23.2**	**-0.6**
	baz=219						
ETLH	**Xiulin Townshi**	**0.33**	**258**	⇓*i*P	**Pg**	**16 33 19.9**	**-0.7**
	baz=257						
ETLH				*e*S	**Sg**	**16 33 23.6**	**-1.4**
	baz=257						
TWC	**Suao**	**0.34**	**3**	⇓*i*P	**Pb**	**16 33 21.4**	**-0.6**
	baz=5.0						
TWC				*i* S	**Sb**	**16 33 26.1**	**-1.3**
	baz=5.0						
HWA	**Hwalien**	**0.36**	**215**	P	**Pg**	**16 33 21.5**	**+0.4**
	baz=214						
NDS	**Dongshan**	**0.38**	**344**	⇓*i*P	**Pb**	**16 33 22.0**	**-0.6**
	baz=352						
NDS				*i* S	**Sb**	**16 33 27.2**	**-1.3**
	baz=352						
LATG	**Datong**	**0.38**	**313**	⇓*i*P	**Pb**	**16 33 21.6**	**-1.2**
	baz=320						
LATG				*i* S	**Sg**	**16 33 26.3**	**-0.4**
	baz=320						
ENTT	**Nioudou**	**0.44**	**326**	⇓*i*P	**Pb**	**16 33 22.9**	**-0.8**
	baz=334						
ENTT				*i* S	**Sb**	**16 33 28.6**	**-1.8**
	baz=334						
NNSB	**Datong**	**0.44**	**291**	⇓*i*P	**Pg**	**16 33 22.4**	**-0.3**
	baz=295						
NNSB				*i* S	**Sg**	**16 33 27.4**	**-1.0**
	baz=295						
NNS	**Nan Shan**	**0.45**	**292**	⇓*i*P	**Pg**	**16 33 22.5**	**-0.4**
	baz=296						
NNS				*i* S	**Sg**	**16 33 28.2**	**-0.7**
	baz=296						
TWE	**Neicheng**	**0.47**	**341**	⇓*i*P	**Pb**	**16 33 23.7**	**-0.6**
	baz=350						
TWE				*i* S	**Sb**	**16 33 30.1**	**-1.1**
	baz=350						
ILA	**Ilan**	**0.50**	**351**	⇓*i*P	**Pb**	**16 33 24.6**	**-0.1**
	baz=353						
ILA				*i* S	**Sb**	**16 33 31.6**	**-0.4**
	baz=353						
FUSB	**Fushanzhiwuyua**	**0.53**	**335**	⇓*i*P	**Pb**	**16 33 24.8**	**-0.6**
	baz=341						
FUSB				*i* S	**Sb**	**16 33 31.7**	**-1.5**
	baz=341						
WHF	**Hehuan Shan**	**0.53**	**256**	*i* P	**Pg**	**16 33 23.7**	**-0.8**
	baz=255						
WHF				S	**Sg**	**16 33 30.9**	**-0.7**
	baz=255						
YHNB	**Yeheng**	**0.57**	**314**	⇓*i*P	**Pb**	**16 33 25.3**	**-0.8**
	baz=318						
YHNB				S	**Sg**	**16 33 32.0**	**-0.8**
	baz=318						
EGS		**0.58**	**9**	*e*P	**Pb**	**16 33 26.2**	**+0.1**
	baz=23						
NTC	**Toucheng**	**0.58**	**360**	⇓*i*P	**Pb**	**16 33 25.9**	**-0.2**
	baz=5.0						
NTC				*e*S	**Sb**	**16 33 34.1**	**-0.3**
	baz=5.0						
ESL	**Shilin**	**0.58**	**219**	⇑P	**Pg**	**16 33 24.4**	**-1.0**
	baz=222						
ESL				S	**Sg**	**16 33 33.1**	**+0.1**
	baz=222						
NWLT	**Wulai**	**0.58**	**329**	⇓*i*P	**Pb**	**16 33 25.8**	**-0.5**
	baz=334						
NWLT				S	**Sg**	**16 33 32.7**	**-0.4**
	baz=334						
NSK	**Sanguang**	**0.59**	**313**	⇓*i*P	**Pb**	**16 33 25.5**	**-0.9**
	baz=318						
NSK				S	**Sg**	**16 33 33.0**	**-0.3**
	baz=318						
TWT	**Tachien**	**0.60**	**268**	⇓P	**Pg**	**16 33 25.5**	**-0.1**
	baz=269						
TWT				S	**Sg**	**16 33 33.0**	**-0.6**
	baz=269						
TDCB	**Techi**	**0.62**	**268**	⇓*i*P	**Pg**	**16 33 25.6**	**-0.3**
	baz=269						
TDCB				*e*S	**Sg**	**16 33 31.5**	**-2.6**
	baz=269						
CHGB	**Renai**	**0.64**	**251**	⇑P	**Pg**	**16 33 25.8**	**-0.6**
	baz=242						
CHGB				S	**Sg**	**16 33 34.0**	**-0.8**
	baz=242						
OWD	**Renai**	**0.68**	**242**	⇑*e*P	**Pg**	**16 33 26.3**	**-0.9**
	baz=240						
OWD				*e*S	**Sg**	**16 33 35.5**	**-0.6**
	baz=240						
TIPB	**Shuangxi**	**0.70**	**359**	⇓*i*P	**Pb**	**16 33 28.1**	**-0.1**
	baz=4.0						
TIPB				S	**Sb**	**16 33 36.7**	**-1.1**
	baz=4.0						
EGFH	**Guangfu**	**0.71**	**212**	⇑*e*P	**Pg**	**16 33 27.1**	**-0.6**
	baz=223						
EGFH				*e*S	**Sb**	**16 33 38.4**	**+0.3**
	baz=223						
WUSB	**Renai**	**0.71**	**247**	⇑*i*P	**Pg**	**16 33 27.1**	**-0.7**
	baz=239						
WUSB				S	**Sg**	**16 33 35.9**	**-1.2**
	baz=239						
TWA	**Mucha**	**0.74**	**342**	⇓*i*P	**Pb**	**16 33 28.8**	**-0.1**
	baz=347						
TWA				*e*S	**Sb**	**16 33 38.4**	**-0.7**
	baz=347						
NHDH	**Xindian Distri**	**0.74**	**338**	*e*P	**Pb**	**16 33 28.9**	**0.0**
	baz=342						
NHDH				*e*S	**Sb**	**16 33 38.6**	**-0.5**
	baz=342						
NFF	**Wufeng Townshi**	**0.74**	**299**	*e*P	**Pb**	**16 33 28.2**	**-0.8**
	baz=308						
NFF				S	**Sg**	**16 33 37.6**	**-0.6**
	baz=308						
TWB1	**Santiao Chiao**	**0.75**	**11**	⇓*e*P	**Pb**	**16 33 28.9**	**-0.1**
	baz=15						
TWB1				*e*S	**Sb**	**16 33 39.1**	**0.0**
	baz=15						
TATO	**Taipei**	**0.77**	**336**	Pg	**Pb**	**16 33 29.4**	**+0.1**
TATO				Sg	**Sb**	**16 33 38.7**	**-1.1**
TATO	**Taipei**	**0.77**	**336**	*e*P	**Pb**	**16 33 29.4**	**+0.1**
	baz=340						
TATO				*e*S	**Sb**	**16 33 38.9**	**-0.9**
	baz=340						
NWF	**Wu-fen Shan**	**0.80**	**357**	⇓*i*P	**Pn**	**16 33 30.2**	**-1.0**
	baz=353						
NWF				S	**Sb**	**16 33 39.8**	**-0.9**
	baz=353						
WFSB	**Wu-fen Shan**	**0.80**	**357**	⇓*i*P	**Pn**	**16 33 30.1**	**-1.0**
	baz=353						
WFSB				S	**Sb**	**16 33 40.0**	**-0.7**
	baz=353						
NHY	**Taipei**	**0.80**	**343**	*e*P	**Pn**	**16 33 30.2**	**-1.0**
	baz=346						
BACT	**New Taipei Cit**	**0.81**	**334**	*e*P	**Pn**	**16 33 30.2**	**-1.0**
	baz=338						
WHP	**Taichung City**	**0.81**	**271**	P	**Pg**	**16 33 29.4**	**-0.2**
	baz=271						
WHP				*i* S	**Sg**	**16 33 39.4**	**-0.9**
	baz=271						
TAP1	**Taipei**	**0.81**	**340**	*e*P	**Pn**	**16 33 30.6**	**-0.8**
	baz=332						
VWDT	**VWDT**	**0.82**	**231**	⇑*i*P	**Pg**	**16 33 28.9**	**-0.9**
	baz=229						
VWDT				*e*S	**Sb**	**16 33 41.1**	**-0.1**
	baz=229						
SXI1	**Grass Mountain**	**0.82**	**3**	⇓*i*P	**Pn**	**16 33 30.5**	**-1.1**
	baz=12						
SXI1				*e*S	**Sb**	**16 33 41.1**	**-0.2**
	baz=12						
TAP	**Taipei**	**0.82**	**339**	*e*P	**Pn**	**16 33 30.7**	**-0.8**
	baz=343						
TAP				*e*S	**Sb**	**16 33 41.0**	**-0.3**
	baz=343						
NJD	**Zhudong**	**0.82**	**304**	*e*P	**Pn**	**16 33 30.6**	**-0.9**
	baz=313						
LIOB	**Emei**	**0.83**	**297**	*e*P	**Pb**	**16 33 30.2**	**-0.3**
	baz=299						
LIOB				S	**Sb**	**16 33 41.0**	**-0.7**
	baz=299						
NSTT	**Nanjuang**	**0.84**	**295**	⇓P	**Pb**	**16 33 30.0**	**-0.6**
	baz=298						
NSTT				S	**Sg**	**16 33 40.2**	**-0.9**
	baz=298						
WPL	**Puli Township**	**0.84**	**252**	P	**Pg**	**16 33 29.7**	**-0.5**
	baz=252						
WPL				*e*S	**Sb**	**16 33 41.7**	**-0.2**
	baz=252						
DPDB	**Guoxing**	**0.86**	**254**	⇑*e*P	**Pg**	**16 33 30.0**	**-0.6**
	baz=254						
DPDB				*e*S	**Sg**	**16 33 42.0**	**+0.1**
	baz=254						
HGSD	**Ruisui**	**0.86**	**206**	⇓*i*P	**Pg**	**16 33 30.4**	**-0.2**
	baz=190						
HGSD				S	**Sn**	**16 33 44.3**	**-0.3**
	baz=190						
WCS	**Beigang Elemen**	**0.87**	**256**	⇑*e*P	**Pg**	**16 33 30.2**	**-0.5**
	baz=255						
NTY	**Taoyuan**	**0.87**	**326**	*e*P	**Pn**	**16 33 31.6**	**-0.6**
	baz=330						
TNOU	**National Taiwa**	**0.88**	**356**	P	**Pn**	**16 33 31.6**	**-0.6**
	baz=360						
TNOU				S	**Sb**	**16 33 42.8**	**-0.1**
	baz=360						
EHY	**Hungye**	**0.90**	**212**	P	**Pg**	**16 33 29.7**	**-1.6**
	baz=214						
EHY				*e*S	**Sb**	**16 33 43.7**	**+0.2**
	baz=214						
HSN1	**Hsinchu**	**0.90**	**304**	*e*P	**Pb**	**16 33 31.6**	**0.0**
	baz=307						
HSN1				S	**Sn**	**16 33 44.3**	**-1.2**
	baz=307						
YM01	**YM01**	**0.90**	**345**	*e*P	**Pn**	**16 33 32.1**	**-0.6**
	baz=348						
TWS1	**Kuangyinshan**	**0.91**	**335**	*e*P	**Pn**	**16 33 32.6**	**0.0**
	baz=339						
TWS1				*e*S	**Sn**	**16 33 44.6**	**-1.1**
	baz=339						
NCUH	**Zhongli**	**0.91**	**320**	*e*P	**Pn**	**16 33 32.6**	**-0.1**
	baz=322						
NCU	**National Centr**	**0.91**	**320**	*e*P	**Pn**	**16 33 32.5**	**-0.2**
	baz=323						
NCU				S	**Sn**	**16 33 45.3**	**-0.5**
	baz=323						
SBCB	**Hsinchu**	**0.93**	**304**	*e*P	**Pn**	**16 33 33.0**	**0.0**
	baz=306						
SBCB				*e*S	**Sb**	**16 33 44.6**	**+0.2**
	baz=306						
SMLT	**Sun Moon Lake**	**0.94**	**246**	⇑*i*P	**Pg**	**16 33 31.1**	**-0.9**
	baz=236						
SMLT				S	**Sg**	**16 33 43.2**	**-1.1**
	baz=236						
SSLB	**Suanglung**	**0.94**	**239**	⇑*i*P	**Pg**	**16 33 30.9**	**-1.1**
	baz=238						
SSLB				S	**Sg**	**16 33 42.7**	**-1.5**
	baz=238						
YM08	**YM08**	**0.94**	**346**	*e*P	**Pn**	**16 33 32.5**	**-0.6**
	baz=350						
NWRT	**Kuosheng**	**0.94**	**350**	*e*P	**Pn**	**16 33 33.2**	**+0.1**
	baz=354						
HSN	**Hsinchu**	**0.95**	**304**	*e*P	**Pn**	**16 33 32.8**	**-0.4**
	baz=309						
ANP	**Anpu**	**0.95**	**343**	*e*P	**Pn**	**16 33 32.7**	**-0.7**
	baz=346						
NTST	**Danshui**	**0.95**	**339**	*e*P	**Pn**	**16 33 33.4**	**+0.1**
	baz=342						
NTST				*e*S	**Sn**	**16 33 47.3**	**+0.4**
	baz=342						
TYC	**Yuchr**	**0.96**	**248**	⇑P	**Pg**	**16 33 31.6**	**-0.9**
	baz=238						
TYC				S	**Sg**	**16 33 44.3**	**-0.9**
	baz=238						
NJN	**Zhunan**	**0.97**	**295**	*e*P	**Pn**	**16 33 33.2**	**-0.3**
	baz=290						
TWQ1	**Liyutan**	**0.97**	**275**	*e*P	**Pb**	**16 33 32.8**	**-0.1**
	baz=276						
TWQ1				*e*S	**Sb**	**16 33 45.6**	**0.0**
	baz=276						
NMLH	**Miaoli**	**0.98**	**286**	*e*P	**Pn**	**16 33 33.5**	**-0.2**
	baz=286						
NSY	**Sanyi**	**0.99**	**279**	*e*P	**Pn**	**16 33 33.4**	**-0.5**
	baz=280						
NSY				*e*S	**Sg**	**16 33 45.6**	**-0.3**
	baz=280						
YULB	**Yu-li**	**1.00**	**209**	*e*P	**Pg**	**16 33 31.8**	**-1.5**
	baz=216						
YULB				*e*S	**Sg**	**16 33 45.6**	**-0.8**
	baz=216						
ECBN	**Changbin**	**1.01**	**200**	*e*P	**Pg**	**16 33 32.8**	**-0.7**
	baz=198						
TWY	**Chenhua**	**1.02**	**348**	*e*P	**Pn**	**16 33 34.7**	**+0.4**
	baz=344						
TWY				*e*S	**Sn**	**16 33 49.6**	**+1.0**
	baz=344						
NHW	**Xinwu Township**	**1.02**	**316**	*e*P	**Pn**	**16 33 34.0**	**-0.3**
	baz=318						
NHW				*e*S	**Sn**	**16 33 48.8**	**+0.2**
	baz=318						
JYNG	**Yonagunijimaku**	**1.03**	**80**	P	**Pn**	**16 33 35.1**	**+0.8**
JYNG				*e*S	**Sn**	**16 33 50.7**	**+1.9**
EYUL	**Yuli**	**1.03**	**207**	*e*P	**Pb**	**16 33 33.9**	**0.0**
	baz=218						
TWF1	**Yuli**	**1.04**	**208**	*e*P	**Pg**	**16 33 31.9**	**-2.1**
	baz=216						
TWF1				*e*S	**Sb**	**16 33 48.7**	**+1.1**
	baz=216						
WWF	**Wufeng**	**1.06**	**258**	*e*P	**Pn**	**16 33 35.3**	**+0.5**
	baz=253						
WWF				*e*S	**Sn**	**16 33 49.7**	**+0.1**
	baz=253						
TCU	**Taichung**	**1.06**	**264**	*e*P	**Pn**	**16 33 35.3**	**+0.5**
	baz=263						
WDJ	**Dajia District**	**1.09**	**274**	*e*P	**Pn**	**16 33 34.9**	**-0.3**
	baz=275						
WDJ				*e*S	**Sn**	**16 33 50.0**	**-0.3**
	baz=275						
YOJ	**Yonaguni jima**	**1.09**	**80**	P	**Pn**	**16 33 36.3**	**+1.1**
YOJ				S	**Sn**	**16 33 52.6**	**+2.3**
YOJ	**Yonaguni jima**	**1.09**	**80**	*e*P	**Pn**	**16 33 36.0**	**+0.8**
	baz=68						
YOJ				*e*S	**Sn**	**16 33 51.3**	**+1.0**
	baz=68						
WJS	**Zhushan**	**1.10**	**246**	*e*P	**Pn**	**16 33 35.3**	**-0.1**
	baz=241						
WJS				*e*S	**Sn**	**16 33 50.9**	**+0.3**
	baz=241						
WNT1	**Nantou City**	**1.11**	**251**	*e*P	**Pn**	**16 33 36.0**	**+0.5**
	baz=246						
WNT1				*e*S	**Sn**	**16 33 51.5**	**+0.6**
	baz=246						
WNT	**Mingjian**	**1.12**	**250**	*e*P	**Pn**	**16 33 35.5**	**-0.1**
	baz=239						
YUS	**Yu-Shan**	**1.12**	**226**	*e*P	**Pn**	**16 33 34.7**	**-0.9**
	baz=225						
YUS				*e*S	**Sg**	**16 33 49.8**	**-0.5**
	baz=225						
FULB	**Fuli**	**1.18**	**205**	*e*P	**Pb**	**16 33 35.6**	**-0.8**
	baz=221						
FULB				*e*S	**Sn**	**16 33 53.5**	**+1.1**
	baz=221						
WCHH	**Zhanghua**	**1.18**	**261**	*e*P	**Pn**	**16 33 36.8**	**+0.4**
	baz=261						
WCHH				*e*S	**Sn**	**16 33 53.3**	**+0.9**
	baz=261						
WYL	**Yuanlin Townsh**	**1.19**	**255**	*e*P	**Pn**	**16 33 37.2**	**+0.7**
	baz=256						
WYL				*e*S	**Sn**	**16 33 53.0**	**+0.4**
	baz=256						
ALS	**Alishan**	**1.21**	**231**	⇑*i*P	**Pg**	**16 33 36.3**	**-0.9**
	baz=217						
ALS				S	**Sg**	**16 33 52.2**	**-0.7**
	baz=217						
CHKT	**Chengkung**	**1.24**	**200**	*e*P	**Pn**	**16 33 35.6**	**-1.7**
	baz=218						
CHKT				*e*S	**Sb**	**16 33 53.1**	**-0.4**
	baz=218						
CHN5	**Tsauling**	**1.25**	**238**	⇓P	**Pn**	**16 33 37.4**	**-0.1**
	baz=238						
CHN5				S	**Sn**	**16 33 55.1**	**+0.7**
	baz=238						
ECS	**Chishang**	**1.30**	**206**	*e*P	**Pn**	**16 33 37.0**	**-1.1**
	baz=205						
WGK	**Gukeng**	**1.30**	**244**	*e*P	**Pg**	**16 33 38.8**	**-0.2**
	baz=244						
WGK				S	**Sn**	**16 33 56.8**	**+1.3**
	baz=244						
ELDTW	**Lidau**	**1.31**	**215**	*e*P	**Pn**	**16 33 36.4**	**-2.0**
	baz=226						

ELDTW					*e*S		**Sb**	**16 33 55.0**	**-0.6**	
	baz=226									
WDLH	**Douliu**	**1.32**	**244**		*e*P		**Pg**	**16 33 39.2**	**-0.1**	
	baz=244									
WDLH					*e*S		**Sg**	**16 33 56.8**	**+0.4**	
	baz=244									
WRL	**Guolierlin Hig**	**1.38**	**255**		*e*P		**Pb**	**16 33 39.8**	**0.0**	
	baz=254									
EDH	**Donghe**	**1.38**	**201**		*e*P		**Pn**	**16 33 37.8**	**-1.4**	
	baz=183									
EDH					*e*S		**Sb**	**16 33 57.2**	**-0.3**	
	baz=247									
WTK	**Tuku**	**1.44**	**247**		*e*P		**Pb**	**16 33 40.5**	**-0.4**	
	baz=247									
CHN2	**Minshiung**	**1.45**	**240**		*e*P		**Pg**	**16 33 42.0**	**+0.3**	
	baz=240									
CHN2					*e*S		**Sb**	**16 33 59.9**	**+0.6**	
	baz=240									
CHN4	**Tsaushan**	**1.46**	**231**	⇓	*i*P		**Pb**	**16 33 40.7**	**-0.4**	
	baz=232									
CHN4					*e*S		**Sg**	**16 34 01.0**	**0.0**	
	baz=232									
STYH	**Taoyuan**	**1.46**	**222**	⇓	*e*P		**Pn**	**16 33 40.2**	**-0.1**	
	baz=221									
STYH					*e*S		**Sn**	**16 33 59.5**	**0.0**	
	baz=221									
TPUB	**Ta-pu**	**1.47**	**229**	⇓	*i*P		**Pn**	**16 33 40.6**	**+0.3**	
	baz=229									
TPUB					S		**Sn**	**16 34 00.2**	**+0.6**	
	baz=229									
WTCT	**Ta-ch'eng**	**1.48**	**254**		*e*P		**Pb**	**16 33 41.0**	**-0.4**	
	baz=270									
WTCT					S		**Sg**	**16 34 00.9**	**-0.6**	
	baz=270									
STYT	**Tauyuan**	**1.48**	**222**	⇓	*i*P		**Pn**	**16 33 40.3**	**-0.3**	
	baz=222									
STYT					*e*S		**Sb**	**16 34 00.8**	**+0.4**	
	baz=222									
CHY	**Chiayi**	**1.50**	**239**		*e*P		**Pg**	**16 33 42.2**	**-0.6**	
	baz=225									
LONT	**Longtian**	**1.50**	**206**		*e*P		**Pn**	**16 33 38.8**	**-2.1**	
	baz=205									
WTP	**Ta-pu**	**1.51**	**228**	⇓	P		**Pn**	**16 33 41.4**	**+0.3**	
	baz=228									
WTP					*e*S		**Sg**	**16 34 02.9**	**+0.2**	
	baz=228									
TWK	**Hsinying**	**1.59**	**231**	⇓	P		**Pn**	**16 33 42.4**	**+0.3**	
	baz=232									
TWK					*e*S		**Sn**	**16 34 03.3**	**+0.7**	
	baz=232									
WSF	**Szhu**	**1.60**	**247**		*e*P		**Pn**	**16 33 42.5**	**+0.2**	
	baz=257									
WSF					*e*S		**Sb**	**16 34 03.8**	**-0.1**	
	baz=257									
TWG	**Pinlang**	**1.60**	**206**		*e*P		**Pn**	**16 33 40.2**	**-2.1**	
	baz=190									
TWGBT	**Beinan**	**1.60**	**206**		*e*P		**Pn**	**16 33 40.0**	**-2.3**	
	baz=190									
SNST	**Tainan City**	**1.61**	**230**		*e*P		**Pb**	**16 33 43.4**	**-0.4**	
	baz=230									
CHN1	**Nanshi**	**1.61**	**228**		*e*P		**Pn**	**16 33 43.0**	**+0.6**	
	baz=228									
LDUT	**Ludao**	**1.63**	**192**		*e*P		**Pn**	**16 33 40.0**	**-2.5**	
	baz=192									
TTN	**Taitung**	**1.64**	**203**		*e*P		**Pn**	**16 33 43.4**	**+0.7**	
	baz=203									
SGST	**Jiashian**	**1.65**	**224**	⇓	*e*P		**Pn**	**16 33 42.6**	**-0.3**	
	baz=224									
WSL	**Shuilin Townsh**	**1.65**	**243**		*e*P		**Pn**	**16 33 43.2**	**+0.4**	
	baz=244									
SLGT	**Liugui**	**1.68**	**221**		*e*P		**Pn**	**16 33 44.0**	**+0.7**	
	baz=222									
SLGT					*e*S		**Sb**	**16 34 06.2**	**+0.2**	
	baz=222									
ICHU	**Yijhu**	**1.69**	**238**		*e*P		**Pb**	**16 33 44.9**	**-0.1**	
	baz=223									
ICHU					*e*S		**Sb**	**16 34 06.4**	**+0.2**	
	baz=223									
IRIF	**Iriomote-Funau**	**1.73**	**88**	P			**Pb**	**16 33 45.4**	**-0.4**	
IRIF					*e*S		**Sg**	**16 34 08.9**	**-0.8**	
CHN8	**Yiju**	**1.75**	**238**		*e*P		**Pn**	**16 33 44.9**	**+0.7**	
	baz=225									
CHN8					*e*S		**Sb**	**16 34 08.5**	**+0.4**	
	baz=225									
CHN3	**Shinhua**	**1.80**	**229**		*e*P		**Pb**	**16 33 47.1**	**+0.2**	
	baz=231									
HATJ	**Hateruma jima**	**1.81**	**96**	P			**Pb**	**16 33 46.4**	**-0.8**	
SHHT	**Tainan City**	**1.84**	**228**		*e*P		**Pn**	**16 33 46.4**	**+0.8**	
	baz=230									
SCST	**Cishan**	**1.85**	**222**		*e*P		**Pb**	**16 33 47.4**	**-0.3**	
	baz=224									
ECL	**Taimali**	**1.85**	**206**		*e*P		**Pn**	**16 33 44.9**	**-0.8**	
	baz=193									
SCLT	**Jiali**	**1.86**	**234**		*e*P		**Pn**	**16 33 46.8**	**+1.1**	
	baz=236									
SCLT					*e*S		**Sb**	**16 34 10.6**	**-0.5**	
	baz=236									
SSD	**Sandimen**	**1.88**	**216**		*e*P		**Pn**	**16 33 46.2**	**+0.1**	
	baz=229									
SSD					*e*S		**Sn**	**16 34 10.7**	**+0.9**	
	baz=229									
TSMG	**Majia**	**1.90**	**215**		*e*P		**Pn**	**16 33 47.5**	**+1.1**	
	baz=229									
TSMG					*e*S		**Sn**	**16 34 11.0**	**+0.6**	
	baz=229									
TWM1	**Shoushan**	**1.94**	**222**		*e*P		**Pb**	**16 33 48.7**	**-0.6**	
	baz=222									
SGLT	**Jiouru**	**1.97**	**219**		*e*P		**Pb**	**16 33 49.0**	**-0.9**	
	baz=221									
JKRS	**Kuro-shima**	**1.99**	**91**	P			**Pb**	**16 33 49.5**	**-0.6**	
JKRS					*e*S		**Sb**	**16 34 15.2**	**+0.3**	
MASBT	**Mashibuluo**	**1.99**	**214**		*e*P		**Pn**	**16 33 47.7**	**+0.1**	
	baz=216									
TSPT	**Pingtung City**	**2.01**	**218**		*e*P		**Pb**	**16 33 49.6**	**-0.9**	
	baz=220									
EAST	**Anshuo**	**2.09**	**206**		*e*P		**Pn**	**16 33 50.3**	**+1.4**	
	baz=194									
TAW	**Tawu**	**2.09**	**204**		*e*P		**Pn**	**16 33 49.5**	**+0.6**	
	baz=192									
JIJ	**Ishigaki jima**	**2.11**	**87**	P			**Pn**	**16 33 50.1**	**+0.9**	
JIJ					*e*S		**Sb**	**16 34 17.4**	**-1.0**	
TAWH	**Dawu Township**	**2.11**	**204**		*e*P		**Pn**	**16 33 50.4**	**+1.1**	
	baz=193									
SSPT	**Xinbi**	**2.13**	**213**		*e*P		**Pn**	**16 33 50.9**	**+1.4**	
	baz=198									
SCZT	**Fangliau**	**2.20**	**211**		*e*P		**Pn**	**16 33 51.4**	**+1.0**	
	baz=214									
SCZT					*e*S		**Sn**	**16 34 19.6**	**+2.0**	
	baz=214									
PNG	**Penghu**	**2.20**	**252**		*e*P		**Pn**	**16 33 50.9**	**+0.5**	
	baz=254									
PNG					*e*S		**Sn**	**16 34 16.8**	**-0.8**	
	baz=254									
PHUB	**P'eng-hu**	**2.20**	**250**		*e*P		**Pn**	**16 33 51.2**	**+0.7**	
	baz=252									
PHUB					*e*S		**Sn**	**16 34 16.8**	**-1.0**	
	baz=252									
WDGT	**Dungji**	**2.23**	**244**	⇓	*i*P		**Pn**	**16 33 51.4**	**+0.5**	
	baz=246									
WDGT					*e*S		**Sn**	**16 34 18.1**	**-0.3**	
	baz=246									
SLIU	**Shizi**	**2.26**	**205**		*e*P		**Pn**	**16 33 51.9**	**+0.7**	
	baz=194									
LYUB	**Lan-yu**	**2.27**	**186**		*e*P		**Pn**	**16 33 49.4**	**-2.1**	
	baz=186									
JISG	**Ishigakijimahi**	**2.28**	**82**	P			**Pb**	**16 33 52.9**	**-2.2**	
JISG					*e*S		**Sb**	**16 34 22.2**	**-1.2**	
VWUC	**VWUC**	**2.28**	**289**	⇑	*e*P		**Pn**	**16 33 51.0**	**-0.6**	
	baz=289									
VCHM	**Qimei**	**2.44**	**245**		*e*P		**Pn**	**16 33 54.4**	**+0.6**	
	baz=231									
HEN	**Hengchun**	**2.47**	**204**		*e*P		**Pb**	**16 33 57.2**	**-1.2**	
	baz=195									
TWK1	**Hengchun**	**2.50**	**202**		*e*P		**Pn**	**16 33 55.8**	**+1.2**	
	baz=191									
TSEB	**Hengchuen, Pin**	**2.51**	**200**		*e*P		**Pn**	**16 33 55.2**	**+0.4**	
	baz=190									
MATB	**Ma-tsu**	**2.53**	**318**		*e*P		**Pn**	**16 33 54.9**	**-0.1**	
	baz=318									
MSUT	**Lienchiang**	**2.56**	**318**		*e*P		**Pn**	**16 33 54.5**	**-0.9**	
	baz=318									
PTMZ	**Houxiangcun**	**2.58**	**288**		*e*P		**Pn**	**16 33 53.9**	**-1.9**	
	baz=288									
JTJ	**Tarama**	**2.64**	**81**	P			**Pb**	**16 33 58.5**	**-2.8**	
JTJ					*e*S		**Sb**	**16 34 31.5**	**-2.2**	
LYJJ	**Jianjiangzhen**	**2.94**	**321**		*e*P		**Pn**	**16 34 01.3**	**+0.6**	
	baz=321									
QZH	**Quanzhou**	**3.02**	**283**	⇓	*i*Pn		**Pn**	**16 34 01.5**	**-0.3**	
QZH					Sn		**Sn**	**16 34 36.3**	**-1.7**	
QZH					smax		smax			
	comp=N,240nm,0.8s									
QZH					smax		smax			
	comp=E,220nm,1.0s									
QZH					LR		LR			
	comp=Z,1μm,9.5s									
XPSS	**Dashiqiu**	**3.03**	**331**		*e*P		**Pn**	**16 34 02.1**	**+0.2**	
	baz=331									
KNM	**Kinmen**	**3.10**	**273**		*e*P		**Pn**	**16 34 04.5**	**+1.7**	
	baz=273									
MHZQ	**Yeshan**	**3.12**	**306**		*e*P		**Pn**	**16 34 03.1**	**-0.1**	
	baz=306									
KNMB	**Chin-men Tao**	**3.15**	**274**		*e*P		**Pn**	**16 34 03.6**	**+0.2**	
	baz=274									
JMJ	**Miyako jima 2**	**3.20**	**80**		*e*P		**Pb**	**16 34 07.2**	**-3.6**	
	baz=76									
JMJ2	**Miyako jima3**	**3.22**	**81**		P		**Pn**	**16 34 07.0**	**+2.5**	
AXDP	**Jialang**	**3.57**	**281**		*e*P		**Pn**	**16 34 09.5**	**+0.2**	
	baz=280									
ZPLA	**Ao Xicun**	**3.75**	**266**		*e*P		**Pn**	**16 34 11.4**	**-0.3**	
	baz=265									
SXFK	**Yanhouchang**	**4.34**	**300**		*e*P		**Pn**	**16 34 20.3**	**+0.4**	
	baz=300									
JOW	**Kunigami**	**6.35**	**65**		Pn		Pn	16 34 37.7	-10	
	0.6nm,0.3s,baz=242,slow=16,SNR=2.2									
APYP	**Conner**	**6.40**	**185**	⇓	*e*P		**Pn**	**16 34 48.7**	**+0.5**	
KSAR	**Wonju Array Be**	**14.11**	**20**		P		**P**	**16 36 42.9**	**+1.3**	
KSRS	**Korea Array**	**14.14**	**20**		Pn		**P**	**16 36 39.3**	**-2.5**	
	0.1nm,0.3s,baz=197,slow=11,SNR=2.4									
KSRS					LR		LR	16 42 54.5		
	comp=Z,177nm,19.0s,baz=235,slow=40									
XAN	**Xi'an**	**14.88**	**314**	⇑	P		**Pn**	**16 36 46.5**	**+2.1**	
XAN					pP		P	16 36 57.3	+7.1	
XAN					pmax		pmax			
	comp=Z,4.0nm,0.7s									
XAN					pmax		pmax			
	comp=Z,57nm,6.0s									
XAN					LR		LR			
	comp=N,370nm,9.2s									
XAN					LR		LR			
	comp=E,770nm,10.8s									
XAN					LR		LR			
	comp=Z,1μm,10.2s									
DAV	**Davao City (W)**	**17.48**	**168**		LR		LR	16 44 06.7		
	comp=Z,119nm,18.7s,baz=350,slow=40									
MJAR	**Matsushiro Arr**	**18.65**	**45**		LR		LR	16 45 32.0		
	comp=Z,97nm,18.1s,baz=222,slow=40									
USRK	**Ussuriysk Ar.**	**21.55**	**20**		P		**P**	**16 38 01.6**	**-1.6**	
	0.3nm,0.5s,baz=198,slow=8.9,SNR=1.7									
CM31	**Chiang Mai Arr**	**22.07**	**259**		P		**P**	**16 38 09.2**	**0.0**	
CMAR	**Chiang Mai Arr**	**22.07**	**259**		P		**P**	**16 38 08.9**	**-0.3**	
	0.6nm,0.8s,baz=68,slow=8.0,SNR=3.4									
CMAR	**Chiang Mai Arr**	**22.07**	**259**				**P**	**16 38 09.9**	**+0.7**	
GTA	**Gaotai**	**23.95**	**314**		*e*P		**P**	**16 38 33.3**	**+5.0**	
GTA					pP		sP	16 38 38.8	+6.1	
GTA					sP		pP	16 38 41.8	+11	
GTA					pmax		pmax			
	comp=Z,3.0nm,1.3s									
ASAJ	**Asahikawa**	**26.08**	**36**		LR		LR	16 49 23.7		
	comp=Z,199nm,18.3s,baz=314,slow=37									
ULN	**Ulaanbaatar**	**26.31**	**337**		P		**P**	**16 38 50.7**	**+0.9**	
ULN					IAmb		IAmb	16 39 09.3		
	comp=Z,3.6nm,1.1s									
SONM	**Songino Array**	**26.52**	**336**		P		**P**	**16 38 53.5**	**+1.9**	
	comp=Z,1.8nm,0.8s,baz=151,slow=6.6,SNR=2.4									
SONM					LR		LR	16 50 24.0		
	comp=Z,176nm,18.9s,baz=256,slow=38									
SONM	**Songino Array**	**26.52**	**336**		P		**P**	**16 38 53.7**	**+2.0**	
SONM					IAmb		IAmb	16 38 58.8		
	comp=Z,7.5nm,1.4s									
SIJI	**Sorong**	**26.62**	**159**		LR		LR	16 48 38.3		
	comp=Z,46nm,20.2s,baz=358,slow=36									
WMQ	**Urumqi**	**34.02**	**313**		*e*P		**P**	**16 39 59.5**	**+1.5**	
YAK	**Yakutsk**	**38.12**	**6**		LR		LR	16 57 30.3		
	comp=Z,116nm,18.2s,baz=259,slow=38									
MK31	**Makanchi Array**	**38.69**	**316**		P		**P**	**16 40 37.8**	**0.0**	
MKAR	**Makanchi Array**	**38.69**	**316**		P		**P**	**16 40 37.9**	**+0.1**	
	comp=Z,0.7nm,0.6s,baz=104,slow=10,SNR=7.8									
MKAR	**Makanchi Array**	**38.69**	**316**		P		**P**	**16 40 37.6**	**-0.2**	
MAKZ	**Makanchi**	**38.89**	**315**		P		**P**	**16 40 39.5**	**0.0**	
MAKZ					IAmb		IAmb	16 40 45.5		
	comp=Z,7.1nm,1.4s									
PETK	**Petropavlovsk-**	**39.46**	**34**		LR		LR	16 57 05.7		
	comp=Z,66nm,18.3s,baz=288,slow=36									
ZALV	**Zalesovo Beam**	**40.49**	**327**		P		**P**	**16 40 50.6**	**-2.1**	
	comp=Z,0.5nm,0.6s,baz=111,slow=7.9,SNR=1.8									
ZALV	**Zalesovo Beam**	**40.49**	**327**		P		**P**	**16 40 52.6**	**-0.1**	
H11N1	**WAKE ISLAND Hy**	**41.89**	**87**		T		T	17 26 16.5		
	baz=283									
H11N2	**WAKE ISLAND Hy**	**41.89**	**87**		T		T	17 26 17.2		
	baz=283									
H11N3	**WAKE ISLAND Hy**	**41.91**	**87**		T		T	17 26 19.4		
	baz=283									
H11S3	**WAKE ISLAND Hy**	**42.02**	**89**		T		T	17 26 31.0		
	baz=284,slow=74									
H11S1	**WAKE ISLAND Hy**	**42.03**	**89**		T		T	17 26 26.4		
	baz=284,slow=74									
H11S2	**WAKE ISLAND Hy**	**42.04**	**89**		T		T	17 26 25.3		
	baz=284									
WRA	**Warramunga Arr**	**45.61**	**163**		P		P	16 41 21.0	-13	
	comp=Z,0.8nm,0.8s,baz=343,slow=9.9,SNR=29									
KKAR	**Karatay Array**	**45.89**	**307**		P		**P**	**16 41 36.2**	**-0.3**	
KBL	**Kabul**	**46.66**	**295**		P		**P**	**16 41 42.1**	**-0.8**	
KBL					IAmb		IAmb	16 41 56.2		
	comp=Z,6.5nm,1.4s									
TIXI	**Tiksi**	**47.57**	**3**		P		**P**	**16 41 48.0**	**-1.2**	
TIXI					IAmb		IAmb	16 41 48.6		
	comp=Z,4.9nm,1.1s									
AS31	**Alice Springs**	**49.07**	**165**		P		**P**	**16 42 02.4**	**+0.9**	
ASAR	**Alice Springs**	**49.07**	**165**		P		P	16 41 50.8	-11	
	comp=Z,0.2nm,0.9s,baz=343,slow=8.7,SNR=2.0									
CTA	**Charters Tower**	**50.10**	**150**		LR		LR	17 01 19.1		
	comp=Z,68nm,21.4s,baz=349,slow=34									
ABKAR	**Akbulak array**	**53.80**	**314**		P		**P**	**16 42 37.1**	**+0.5**	
AKTO	**Aktyubinsk**	**55.12**	**316**		P		**P**	**16 42 46.4**	**+0.2**	
	comp=Z,0.9nm,0.6s,baz=27,slow=3.5,SNR=3.7									
GEYT	**Alibeck**	**55.26**	**300**		P		**P**	**16 42 47.1**	**-0.3**	
GEYT					IAmb		IAmb	16 42 56.1		
	comp=Z,5.3nm,1.2s									
GYAOB	**ALIBECK ARRAY**	**55.26**	**300**		P		**P**	**16 42 47.8**	**+0.3**	
IMAR	**Indian Mountai**	**65.84**	**27**		P		**P**	**16 43 58.1**	**-1.0**	
J20K	**Nowinta River**	**65.85**	**29**		P		**P**	**16 43 59.4**	**+0.2**	
KBZ	**Khabaz**	**65.89**	**309**		P		**P**	**16 43 59.9**	**+0.1**	
	comp=Z,2.4nm,0.8s,baz=110,slow=5.0,SNR=4.2									
H21K	**Melozitna Rive**	**66.26**	**27**		P		**P**	**16 44 01.5**	**-0.4**	
SPITS	**Spitsbergen Ar**	**69.52**	**348**		LR		LR	17 19 05.0		
	comp=Z,103nm,18.0s,baz=42,slow=39									
BCAR	**Beaver Creek A**	**71.47**	**29**		P		**P**	**16 44 35.2**	**+0.8**	
M31M	**Drury Creek, Y**	**74.98**	**28**				**P**	**16 44 55.5**	**+0.4**	
M31M					IAmb		IAmb	16 45 07.9		
	comp=Z,6.1nm,1.4s									
YKA	**Yellowknife Ar**	**82.66**	**23**		P		**P**	**16 45 34.9**	**-2.3**	
	comp=Z,0.7nm,0.8s,baz=315,slow=4.9,SNR=12									

PRU ***27*** *16:35:13.1±0.0,50.2°21N×18.2°55E,h0km*
IPEC ***27*** *16:35:13.0±0.2,50.2°19N×18.2°63E,h1km±2km,ML2.5/3,*
Error ellipse: s-maj=1.9km s-min=1.1km az=166.0
MCSM ***27*** *16:35:13.0±0.3,50°N±5°×1°9E±°,h3km±3km,ML2.8*
IDC ***27*** *16:35:14.0±1.0,50.2°09N×18.2°59E,h0km,mb1 3.4/4,*
mb1mx3.1/50,mbtmp3.3/4,ML2.9/4,Error ellipse:
s-maj=20.4km s-min=7.5km az=144.0

ISC 27 16:35:11.6±0.6,50°25N±0.03×18°60E±0.02,h0km,n57,
σ1§20/96,2C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.31**	**238**	*e*PG	**Pb**	**16 35 19.7**	**-0.3**
RAC				*e*SG	**Sb**	**16 35 24.8**	**-0.8**
OKC	**Ostrava-Krasne**	**0.50**	**216**	*e*PG	**Pg**	**16 35 22.5**	**+1.3**
OKC				*e*SG	**Sg**	**16 35 28.2**	**+0.5**
	comp=Z,178nm,0.4s						
OJC	**Ojcow**	**0.77**	**91**	*e*Pg	**Pg**	**16 35 27.3**	**+0.9**
OJC				*e*Sg	**Sg**	**16 35 38.2**	**+1.9**
OJC	**Ojcow**	**0.77**	**91**	Pg	**Pg**	**16 35 27.3**	**+0.9**
OJC				Sg	**Sg**	**16 35 38.3**	**+1.9**
MORC	**Moravsky Berou**	**0.83**	**236**	⇑P	**Pg**	**16 35 28.3**	**+0.8**
MORC				⇓S	**Sg**	**16 35 39.3**	**+1.1**
MORC	**Moravsky Berou**	**0.83**	**236**	*e*Pg	**Pg**	**16 35 28.3**	**+0.8**
	baz=59						
MORC				*e*Sg	**Sg**	**16 35 38.7**	**+0.5**
	81nm,0.2s,baz=59						
MORC	**Moravsky Berou**	**0.83**	**236**	Pg	**Pg**	**16 35 28.3**	**+0.8**
MORC				Sg	**Sg**	**16 35 39.3**	**+1.1**
KRLC	**Kraliky**	**1.18**	**262**	*e*PG	**Pg**	**16 35 34.5**	**+0.2**
KRLC				*e*SG	**Sg**	**16 35 50.0**	**+0.4**
	comp=Z,104nm,0.3s						
KRLC	**Kraliky**	**1.18**	**262**	Pg	**Pg**	**16 35 34.5**	**+0.2**
KRLC				Sg	**Sg**	**16 35 50.0**	**+0.4**
LANS	**Liptovska Anna**	**1.23**	**152**	*e*PG	**Pg**	**16 35 35.6**	**+0.3**
LANS				*e*SG	**Sb**	**16 35 53.1**	**+0.8**
LANS				*e*LG	Lg	16 35 54.2	
NIE	**Niedzica**	**1.38**	**126**	*e*Pg	**Pg**	**16 35 38.6**	**+0.6**
NIE				*e*Sg	**Sb**	**16 35 57.2**	**+0.7**
DPC	**Dobruska-Polom**	**1.46**	**275**	*e*PG	**Pn**	**16 35 40.2**	**+0.8**
DPC				*e*SG	**Sb**	**16 35 59.6**	**+0.7**
	comp=Z,94nm,0.7s						
JAVC	**Velka Javorina**	**1.51**	**204**	*e*Pg	**Pn**	**16 35 39.8**	**-0.3**
	baz=25						
JAVC	**Velka Javorina**	**1.51**	**204**	*e*PG	**Pn**	**16 35 39.9**	**-0.2**
OSTC	**Ostas**	**1.56**	**282**	*e*PG	**Pb**	**16 35 42.0**	**+0.7**
OSTC				*e*SG	**Sg**	**16 36 03.1**	**+1.5**
	comp=Z,49nm,0.7s						
OSTC	**Ostas**	**1.56**	**282**	Pn	**Pn**	**16 35 41.6**	**+1.0**
KSP	**Ksiaz**	**1.59**	**293**	*e*Pg	**Pn**	**16 35 42.2**	**+1.2**
KSP				*e*Sg	**Sg**	**16 36 03.5**	**+0.9**
KSP	**Ksiaz**	**1.59**	**293**	Pn	**Pn**	**16 35 41.9**	**+0.9**
KSP				Sn	**Sg**	**16 36 04.1**	**+1.5**
VRAC	**Vranov**	**1.60**	**235**	⇑P	**Pn**	**16 35 41.7**	**+0.5**
VRAC				⇓S	**Sn**	**16 36 01.9**	**-0.7**
VRAC	**Vranov**	**1.60**	**235**	Pg	**Pn**	**16 35 42.0**	**+0.7**
	6.3nm,0.3s,baz=59,slow=14,SNR=59						
VRAC				Lg	Lg	16 36 02.0	
	17nm,0.3s,baz=304,slow=22,SNR=26						
VRAC	**Vranov**	**1.60**	**235**	*e*Pg	**Pn**	**16 35 41.9**	**+0.7**
	baz=56						
VRAC				*e*Sg	**Sn**	**16 36 02.5**	**-0.1**
	50nm,0.3s,baz=56						
CHVC	**Chvalec**	**1.66**	**283**	*e*PG	**Pn**	**16 35 43.4**	**+1.3**
CHVC				*e*SG	**Sn**	**16 36 05.0**	**+0.9**
CHVC	**Chvalec**	**1.66**	**283**	Pn	**Pn**	**16 35 43.2**	**+1.1**
CHVC				Sn	**Sg**	**16 36 06.4**	**+1.4**
UPC	**Upice**	**1.68**	**280**	*e*PG	**Pb**	**16 35 44.2**	**+0.8**
UPC				*e*SG	**Sg**	**16 36 06.3**	**+0.8**
UPC	**Upice**	**1.68**	**280**	Pn	**Pn**	**16 35 43.2**	**+1.0**
VYHS	**Vyhne**	**1.76**	**175**	*e*PN	**Pn**	**16 35 43.2**	**-0.2**
VYHS				*e*SN	**Sn**	**16 36 06.2**	**-0.3**
VYHS				*e*LG	Lg	16 36 09.4	
KRUC	**Moravsky**	**1.86**	**231**	*e*Pn	**Pn**	**16 35 45.8**	**+1.1**
	baz=51						
KRUC				*e*Sg	**Sb**	**16 36 10.3**	**+0.1**
	29nm,0.2s,baz=51						
KRUC	**Moravsky**	**1.86**	**231**	*e*PN	**Pn**	**16 35 45.9**	**+1.2**
KRUC				*e*SG	**Sb**	**16 36 10.4**	**+0.2**
MODS	**Modra-Piesok**	**2.06**	**205**	*e*PN	**Pn**	**16 35 48.1**	**+0.5**
MODS				*e*PG	**Pg**	**16 35 51.8**	**+0.6**
KECS	**Kecovo**	**2.15**	**144**	*e*PN	**Pn**	**16 35 48.3**	**-0.5**
KECS				*e*LG	Lg	16 36 22.9	
TREC	**Trest**	**2.23**	**246**	*e*SG	**Sb**	**16 36 20.7**	**-0.3**
CRVS	**Cervenica-Dubn**	**2.30**	**125**	*e*PG	**Pb**	**16 35 54.8**	**+0.8**
CRVS				*e*SG	**Sg**	**16 36 26.4**	**+1.0**
PSZ	**Piszkesteto**	**2.48**	**159**	⇓P	**Pn**	**16 35 53.7**	**+0.4**
PSZ	**Piszkesteto**	**2.48**	**159**	P	**Pn**	**16 35 54.1**	**+0.7**
PVCC	**Panska Ves**	**2.59**	**278**	*e*SG	**Sg**	**16 36 35.4**	**+0.4**
	comp=Z,46nm,0.3s						
PRU	**Pruhonice**	**2.62**	**266**	*e*PN	**Pn**	**16 35 55.7**	**+0.4**
PRU				*e*PG	**Pb**	**16 36 00.3**	**+0.8**
PRU				*e*SG	**Sb**	**16 36 34.0**	**+1.7**
	comp=Z,27nm,0.6s						
KOLS	**Kolonicke sedl**	**2.73**	**117**	*e*PN	**Pn**	**16 35 58.0**	**+1.3**
KOLS				*e*PG	**Pg**	**16 36 05.4**	**+1.5**
KOLS				*e*SN	**Sn**	**16 36 30.1**	**-0.3**
CONA	**Conrad Observa**	**2.94**	**219**	*i*Pn	**Pn**	**16 36 00.5**	**+0.9**
	0.7nm,0.2s						
CONA				*

	baz=356								
EWUT				*i* S		Sg	16 44 53.5	-0.1	
	baz=356								
ETLH	**Xiulin Townshi**	**0.26**	**270**	⇓P		**Pb**	**16 44 51.2**	**-0.6**	
	baz=266								
ETLH				S		**Sb**	**16 44 55.4**	**-0.8**	
	baz=266								
HWA	**Hwalien**	**0.27**	**213**	*e*P		**Pb**	**16 44 52.3**	**+0.4**	
	baz=223								
ETM	**Tongmen**	**0.35**	**226**	P		**Pb**	**16 44 52.7**	**-0.5**	
	baz=231								
TEYL	**Yanliau Villag**	**0.37**	**205**	*e*P		**Pn**	**16 44 53.8**	**-2.4**	
	baz=220								
LATG	**Datong**	**0.39**	**326**	⇓*i*P		**Pg**	**16 44 53.3**	**+0.2**	
	baz=321								
LATG				S		**Sg**	**16 44 58.9**	**+0.5**	
	baz=321								
TWC	**Suao**	**0.41**	**11**	⇓*i*P		**Pg**	**16 44 53.0**	**-0.3**	
	baz=9.0								
TWC				S		**Sg**	**16 44 58.3**	**-0.5**	
	baz=9.0								
NNSB	**Datong**	**0.41**	**302**	⇓*i*P		**Pb**	**16 44 53.9**	**-0.5**	
	baz=298								
NNSB				S		**Sg**	**16 44 59.2**	**+0.1**	
	baz=298								
NDS	**Dongshan**	**0.43**	**354**	⇓*i*P		**Pg**	**16 44 53.7**	**+0.1**	
	baz=350								
NDS				S		**Sg**	**16 44 59.2**	**-0.2**	
	baz=350								
NNS	**Nan Shan**	**0.43**	**303**	⇓*i*P		**Pb**	**16 44 54.1**	**-0.5**	
	baz=299								
NNS				S		**Sb**	**16 45 00.3**	**-0.8**	
	baz=299								
NDT	**Datong Townshi**	**0.46**	**330**	⇓*i*P		**Pg**	**16 44 54.6**	**+0.4**	
	baz=325								
NDT				*i* S		**Sg**	**16 45 01.2**	**+0.9**	
	baz=325								
WHF	**Hehuan Shan**	**0.46**	**262**	⇓P		**Pb**	**16 44 55.0**	**-0.5**	
	baz=261								
WHF				S		**Sb**	**16 45 01.9**	**-0.5**	
	baz=261								
ENTT	**Nioudou**	**0.47**	**337**	⇓*i*P		**Pg**	**16 44 54.7**	**+0.3**	
	baz=334								
ENTT				*i* S		**Sg**	**16 45 01.2**	**+0.5**	
	baz=334								
ESL	**Shilin**	**0.50**	**218**	⇑*e*P		**Pb**	**16 44 55.3**	**-0.5**	
	baz=227								
ESL				*e*S		**Sn**	**16 45 04.9**	**-1.6**	
	baz=227								
TWE	**Neicheng**	**0.52**	**350**	⇓*i*P		**Pg**	**16 44 55.5**	**+0.1**	
	baz=348								
TWE				S		**Sg**	**16 45 02.0**	**-0.3**	
	baz=348								
TEGC	**Jichi Village**	**0.54**	**203**	*e*P		**Pn**	**16 44 57.4**	**-1.1**	
	baz=195								
TEGC				*e*S		**Sn**	**16 45 07.0**	**-0.5**	
	baz=195								
TWT	**Tachien**	**0.54**	**275**	*e*P		**Pn**	**16 44 57.0**	**-1.8**	
	baz=272								
ILA	**Ilan**	**0.56**	**358**	*e*P		**Pg**	**16 44 56.1**	**0.0**	
	baz=350								
ILA				*e*S		**Sg**	**16 45 03.3**	**-0.1**	
	baz=350								
TDCB	**Techi**	**0.56**	**275**	*e*P		**Pn**	**16 44 57.0**	**-1.9**	
	baz=273								
TDCB				S		**Sb**	**16 45 04.5**	**-0.4**	
	baz=273								
CHGB	**Renai**	**0.56**	**255**	⇓*i*P		**Pn**	**16 44 57.0**	**-2.1**	
	baz=247								
CHGB				S		**Sb**	**16 45 04.9**	**-0.1**	
	baz=247								
FUSB	**Fushanzhiwuyua**	**0.57**	**343**	P		**Pg**	**16 44 56.6**	**+0.2**	
	baz=330								
FUSB				S		**Sg**	**16 45 03.8**	**-0.3**	
	baz=330								
YHNB	**Yeheng**	**0.58**	**322**	⇓*i*P		**Pb**	**16 44 57.1**	**-0.2**	
	baz=319								
YHNB				*i* S		**Sg**	**16 45 04.7**	**+0.3**	
	baz=319								
OWD	**Renai**	**0.60**	**245**	P		**Pn**	**16 44 57.6**	**-1.8**	
	baz=245								
OWD				*e*S		**Sn**	**16 45 06.8**	**-2.3**	
	baz=245								
NSK	**Sanguang**	**0.60**	**321**	⇓*i*P		**Pb**	**16 44 57.3**	**-0.3**	
	baz=319								
NSK				*i* S		**Sg**	**16 45 05.2**	**+0.4**	
	baz=319								
NWLT	**Wulai**	**0.62**	**337**	⇓P		**Pg**	**16 44 57.6**	**+0.4**	
	baz=334								
NWLT				S		**Sg**	**16 45 05.7**	**+0.3**	
	baz=334								
EGFH	**Guangfu**	**0.62**	**210**	*e*P		**Pn**	**16 44 58.4**	**-1.3**	
	baz=219								
EGFH				*e*S		**Sn**	**16 45 08.7**	**-0.8**	
	baz=219								
WUSB	**Renai**	**0.63**	**250**	P		**Pn**	**16 44 58.3**	**-1.7**	
	baz=243								
WUSB				S		**Sb**	**16 45 06.5**	**-0.5**	
	baz=243								
NTC	**Toucheng**	**0.65**	**5**	*e*P		**Pb**	**16 44 57.7**	**-0.7**	
	baz=3.0								
NTC				*e*S		**Sb**	**16 45 06.4**	**-0.9**	
	baz=3.0								
EGS		**0.65**	**13**	*e*P		**Pb**	**16 44 58.1**	**-0.3**	
	baz=20								
NFF	**Wufeng Townshi**	**0.73**	**306**	P		**Pn**	**16 45 00.1**	**-1.1**	
	baz=303								
NFF				S		**Sg**	**16 45 09.6**	**+0.7**	
	baz=303								
VWDT	**VWDT**	**0.73**	**232**	P		**Pn**	**16 44 59.8**	**-1.3**	
	baz=233								
VWDT				*e*S		**Sn**	**16 45 11.6**	**-0.5**	
	baz=233								
WHP	**Taichung City**	**0.75**	**276**	*e*P		**Pn**	**16 45 00.9**	**-0.7**	
	baz=274								
WHP				*e*S		**Sn**	**16 45 11.1**	**-1.9**	
	baz=274								
TIPB	**Shuangxi**	**0.76**	**4**	P		**Pb**	**16 44 59.8**	**-0.5**	
	baz=2.0								
TIPB				*i* S		**Sb**	**16 45 09.0**	**-1.7**	
	baz=2.0								
WPL	**Puli Township**	**0.77**	**255**	P		**Pn**	**16 45 01.0**	**-0.7**	
	baz=255								
WPL				S		**Sn**	**16 45 11.3**	**-1.8**	
	baz=255								
HGSD	**Ruisui**	**0.78**	**204**	P		**Pn**	**16 45 01.4**	**-0.4**	
	baz=196								
NHDH	**Xindian Distri**	**0.78**	**344**	*e*P		**Pg**	**16 45 00.7**	**+0.4**	
	baz=341								
DPDB	**Guoxing**	**0.79**	**257**	*e*P		**Pn**	**16 45 01.4**	**-0.6**	
	baz=257								
TWA	**Mucha**	**0.79**	**348**	P		**Pb**	**16 45 00.7**	**-0.1**	
	baz=346								
TWA				S		**Sb**	**16 45 10.8**	**-0.5**	
	baz=346								
WCS	**Beigang Elemen**	**0.80**	**259**	*e*P		**Pn**	**16 45 01.6**	**-0.5**	
	baz=259								
TATO	**Taipei**	**0.81**	**342**	⇓P		**Pb**	**16 45 00.9**	**-0.1**	
	baz=339								
TATO				S		**Sb**	**16 45 11.9**	**0.0**	
	baz=339								
EHY	**Hungye**	**0.81**	**210**	*e*P		**Pn**	**16 45 01.3**	**-1.0**	
	baz=224								
LIOB	**Emei**	**0.81**	**303**	*e*P		**Pn**	**16 45 02.1**	**-0.3**	
	baz=300								
NJD	**Zhudong**	**0.81**	**311**	*e*P		**Pn**	**16 45 02.5**	**+0.1**	
	baz=314								
NSTT	**Nanjuang**	**0.82**	**301**	*e*P		**Pn**	**16 45 01.9**	**-0.5**	
	baz=299								
NSTT				*e*S		**Sg**	**16 45 12.2**	**+0.5**	
	baz=299								
TWB1	**Santiao Chiao**	**0.82**	**14**	*e*P		**Pb**	**16 45 00.9**	**-0.4**	
	baz=13								
TWB1				*e*S		**Sb**	**16 45 10.7**	**-1.6**	
	baz=13								
NHY	**Taipei**	**0.85**	**348**	*e*P		**Pg**	**16 45 02.2**	**+0.6**	
	baz=345								
SSLB	**Suanglung**	**0.85**	**241**	*e*P		**Pn**	**16 45 02.2**	**-0.8**	
	baz=250								
SSLB				*e*S		**Sn**	**16 45 13.5**	**-1.9**	
	baz=250								
SMLT	**Sun Moon Lake**	**0.86**	**248**	*e*P		**Pn**	**16 45 02.8**	**-0.3**	
	baz=248								
SMLT				*e*S		**Sn**	**16 45 13.9**	**-1.6**	
	baz=248								
TAP1	**Taipei**	**0.86**	**345**	*e*P		**Pn**	**16 45 03.0**	**0.0**	
	baz=342								
TAP1				*e*S		**Sg**	**16 45 14.0**	**+1.0**	
	baz=342								
NWF	**Wu-fen Shan**	**0.86**	**1**	*e*P		**Pb**	**16 45 02.1**	**+0.1**	
	baz=351								
NWF				S		**Sb**	**16 45 12.3**	**-1.2**	
	baz=351								
WFSB	**Wu-fen Shan**	**0.86**	**1**	⇓P		**Pb**	**16 45 02.0**	**0.0**	
	baz=351								
WFSB				*i* S		**Sb**	**16 45 12.5**	**-0.9**	
	baz=351								
TAP	**Taipei**	**0.86**	**344**	*e*P		**Pb**	**16 45 01.9**	**-0.1**	
	baz=342								
TAP				S		**Sg**	**16 45 13.9**	**+0.7**	
	baz=342								
TYC	**Yuchr**	**0.89**	**250**	*e*P		**Pn**	**16 45 03.0**	**-0.3**	
	baz=242								
TYC				*e*S		**Sn**	**16 45 14.6**	**-1.5**	
	baz=242								
HSN1	**Hsinchu**	**0.89**	**310**	*e*P		**Pn**	**16 45 03.4**	**0.0**	
	baz=313								
SXI1	**Grass Mountain**	**0.89**	**6**	*e*P		**Pb**	**16 45 02.4**	**-0.1**	
	baz=4.0								
SXI1				*e*S		**Sb**	**16 45 13.1**	**-1.3**	
	baz=4.0								
NTY	**Taoyuan**	**0.90**	**332**	*e*P		**Pn**	**16 45 03.6**	**+0.1**	
	baz=330								
TWQ1	**Liyutan**	**0.92**	**279**	*e*P		**Pn**	**16 45 05.0**	**+1.2**	
	baz=277								
YULB	**Yu-li**	**0.92**	**208**	*e*P		**Pn**	**16 45 02.9**	**-0.9**	
	baz=219								
SBCB	**Hsinchu**	**0.92**	**309**	*e*P		**Pn**	**16 45 04.9**	**+1.1**	
	baz=312								
NCU	**National Centr**	**0.93**	**325**	*e*P		**Pn**	**16 45 04.5**	**+0.6**	
	baz=323								
NCU				*e*S		**Sn**	**16 45 18.4**	**+1.3**	
	baz=323								
NCUH	**Zhongli**	**0.93**	**325**	*e*P		**Pn**	**16 45 04.7**	**+0.8**	
	baz=318								
ECBN	**Changbin**	**0.93**	**198**	*e*P		**Pn**	**16 45 03.8**	**-0.2**	
	baz=200								
HSN	**Hsinchu**	**0.94**	**309**	*e*P		**Pn**	**16 45 05.5**	**+1.4**	
	baz=299								
TNOU	**National Taiwa**	**0.94**	**0**	*e*P		**Pb**	**16 45 03.2**	**-0.1**	
	baz=358								
NSY	**Sanyi**	**0.94**	**283**	*e*P		**Pn**	**16 45 04.4**	**+0.3**	
	baz=281								
TWS1	**Kuangyinshan**	**0.94**	**340**	*e*P		**Pg**	**16 45 04.4**	**+1.0**	
	baz=339								
TWS1				*e*S		**Sn**	**16 45 16.8**	**-0.7**	
	baz=339								
EYUL	**Yuli**	**0.95**	**206**	*e*P		**Pn**	**16 45 04.5**	**+0.3**	
	baz=223								
NMLH	**Miaoli**	**0.95**	**290**	*e*P		**Pn**	**16 45 05.8**	**+1.6**	
	baz=288								
YM01	**YM01**	**0.95**	**349**	*e*P		**Pg**	**16 45 04.1**	**+0.6**	
	baz=347								
TWF1	**Yuli**	**0.95**	**207**	*e*P		**Pn**	**16 45 03.4**	**-0.9**	
	baz=221								
TWF1				*e*S		**Sn**	**16 45 18.4**	**+0.6**	
	baz=221								
WWF	**Wufeng**	**0.99**	**261**	*e*P		**Pg**	**16 45 06.3**	**+2.1**	
	baz=254								
YM08	**YM08**	**0.99**	**351**	*e*P		**Pn**	**16 45 04.4**	**-0.5**	
	baz=349								
NTST	**Danshui**	**1.00**	**343**	*e*P		**Pn**	**16 45 04.5**	**-0.4**	
	baz=341								
TCU	**Taichung**	**1.00**	**267**	*e*P		**Pg**	**16 45 06.5**	**+2.1**	
	baz=266								
ANP	**Anpu**	**1.00**	**347**	*e*P		**Pn**	**16 45 04.5**	**-0.5**	
	baz=345								
WJS	**Zhushan**	**1.02**	**248**	*e*P		**Pg**	**16 45 06.7**	**+1.8**	
	baz=242								
NHW	**Xinwu Township**	**1.03**	**321**	*e*P		**Pg**	**16 45 05.8**	**+0.8**	
	baz=327								
YUS	**Yu-Shan**	**1.03**	**226**	*e*P		**Pn**	**16 45 06.1**	**+0.3**	
	baz=227								
YUS				S		**Sn**	**16 45 21.3**	**+0.9**	
	baz=227								
WDJ	**Dajia District**	**1.04**	**278**	*e*P		**Pg**	**16 45 07.5**	**+2.3**	
	baz=277								
WNT1	**Nantou City**	**1.04**	**253**	*e*P		**Pg**	**16 45 06.8**	**+1.7**	
	baz=254								
WNT	**Mingjian**	**1.04**	**252**	*e*P		**Pg**	**16 45 07.2**	**+1.9**	
	baz=248								
WNT				*e*S		**Sn**	**16 45 22.3**	**+2.3**	
	baz=248								
TWY	**Chenhua**	**1.07**	**352**	*e*P		**Pg**	**16 45 06.5**	**+0.6**	
	baz=350								
FULB	**Fuli**	**1.09**	**203**	*e*P		**Pg**	**16 45 06.7**	**+0.5**	
	baz=194								
JYNG	**Yonagunijimaku**	**1.10**	**77**	P		**Pb**	**16 45 06.2**	**+0.1**	
JYNG				*e*S		**Sg**	**16 45 22.2**	**+1.4**	
WCHH	**Zhanghua**	**1.11**	**264**	*e*P		**Pg**	**16 45 07.9**	**+1.3**	
	baz=283								
WYL	**Yuanlin Townsh**	**1.11**	**258**	*e*P		**Pg**	**16 45 07.6**	**+1.1**	
	baz=258								
ALS	**Alishan**	**1.12**	**232**	*e*P		**Pg**	**16 45 07.6**	**+0.8**	
	baz=233								
ALS				*e*S		**Sn**	**16 45 23.9**	**+1.6**	
	baz=233								
YOJ	**Yonaguni jima**	**1.16**	**77**	P		**Pb**	**16 45 07.4**	**+0.3**	
YOJ				*e*S		**Sg**	**16 45 24.0**	**+1.3**	
YOJ	**Yonaguni jima**	**1.16**	**77**	*e*P		**Pn**	**16 45 06.6**	**-0.5**	
	baz=63								
CHKT	**Chengkung**	**1.16**	**199**	*e*P		**Pg**	**16 45 06.9**	**-0.6**	
	baz=200								
CHKT				*e*S		**Sg**	**16 45 23.6**	**+0.9**	
	baz=200								
CHN5	**Tsauling**	**1.17**	**239**	*e*P		**Pg**	**16 45 09.0**	**+1.4**	
	baz=240								
CHN5				*e*S		**Sg**	**16 45 26.6**	**+3.8**	
	baz=240								
ECS	**Chishang**	**1.22**	**205**	*e*P		**Pg**	**16 45 08.6**	**+0.1**	
	baz=207								
WGK	**Gukeng**	**1.22**	**245**	*e*P		**Pg**	**16 45 10.1**	**+1.5**	
	baz=246								
ELDTW	**Lidau**	**1.23**	**214**	*e*P		**Pb**	**16 45 07.6**	**-0.7**	
	baz=200								
WDLH	**Douliu**	**1.24**	**246**	*e*P		**Pg**	**16 45 09.8**	**+0.8**	
	baz=247								
EDH	**Donghe**	**1.30**	**199**	*e*P		**Pg**	**16 45 09.1**	**-1.1**	
	baz=201								
WRL	**Guolierlin Hig**	**1.31**	**257**	*e*P		**Pg**	**16 45 11.0**	**+0.7**	
	baz=258								
CHN2	**Minshiung**	**1.36**	**241**	*e*P		**Pg**	**16 45 11.9**	**+0.6**	
	baz=242								
WTK	**Tuku**	**1.36**	**248**	*e*P		**Pg**	**16 45 11.8**	**+0.5**	
	baz=234								
CHN4	**Tsaushan**	**1.37**	**232**	*e*P		**Pg**	**16 45 12.1**	**+0.6**	
	baz=234								
CHN4				*e*S		**Sg**	**16 45 33.5**	**+4.1**	
	baz=234								
STYH	**Taoyuan**	**1.38**	**222**	*e*P		**Pg**	**16 45 11.8**	**+0.2**	
	baz=224								
TPUB	**Ta-pu**	**1.38**	**229**	*e*P		**Pg**	**16 45 11.5**	**-0.2**	
	baz=231								
STYT	**Tauyuan**	**1.39**	**222**	*e*P		**Pg**	**16 45 11.3**	**-0.6**	
	baz=224								
WTCT	**Ta-ch'eng**	**1.40**	**256**	*e*P		**Pg**	**16 45 11.6**	**-0.5**	
	baz=257								
CHY	**Chiayi**	**1.42**	**240**	*e*P		**Pg**	**16 45 13.1**	**+0.7**	
	baz=242								
LONT	**Longtian**	**1.42**	**204**	*e*P		**Pb**	**16 45 10.6**	**-1.0**	
	baz=207								
WTP	**Ta-pu**	**1.43**	**228**	*e*P		**Pg**	**16 45 12.8**	**+0.2**	
	baz=230								
WTP				*e*S		**Sg**	**16 45 34.0**	**+2.9**	
	baz=230								
TWK	**Hsinying**	**1.50**	**232**	*e*P		**Pg**	**16 45 13.8**	**-0.2**	
	baz=234								
TWK				*e*S		**Sg**	**16 45 36.2**	**+2.8**	
	baz=234								
TWG	**Pinlang**	**1.52**	**205**	*e*P		**Pg**	**16 45 14.9**	**+0.5**	
	baz=207								
TWGBT	**Beinan**	**1.52**	**205**	*e*P		**Pg**	**16 45 14.6**	**+0.2**	
	baz=207								
SNST	**Tainan City**	**1.52**	**230**	*e*P		**Pg**	**16 45 13.7**	**-0.7**	
	baz=233								
WSF	**Szhu**	**1.52**	**248**	*e*P		**Pg**	**16 45 14.5**	**+0.1**	
	baz=250								
CHN1	**Nanshi**	**1.52**	**228**	*e*P		**Pg**	**16 45 14.2**	**-0.3**	
	baz=231								
LDUT	**Ludao**	**1.55**	**190**	*e*P		**Pb**	**16 45 13.3**	**-0.4**	
	baz=180								
SGST	**Jiashian**	**1.56**	**224**	*e*P		**Pg**	**16 45 13.9**	**-1.2**	
	baz=227								
SGST				*e*S		**Sg**	**16 45 37.2**	**+1.8**	
	baz=227								
WSL	**Shuilin Townsh**	**1.56**	**245**	*e*P		**Pg**	**16 45 14.1**	**-1.1**	
	baz=246								
SLGT	**Liugui**	**1.59**	**221**	*e*P		**Pg**	**16 45 14.9**	**-0.7**	
	baz=224								
ICHU	**Yijhu**	**1.60**	**239**	*e*P		**Pg**	**16 45 15.5**	**-0.5**	
	baz=242								
CHN8	**Yiju**	**1.66**	**239**	*e*P		**Pg**	**16 45 16.1**	**-0.9**	
	baz=242								
SHHT	**Tainan City**	**1.76**	**228**	*e*P		**Pg**	**16 45 18.1**	**-0.8**	
	baz=231								
SCST	**Cishan**	**1.76**	**222**	*e*P		**Pg**	**16 45 18.3**	**-0.6**	
	baz=225								
ECL	**Taimali**	**1.77**	**205**	*e*P		**Pb**	**16 45 16.6**	**-0.9**	
	baz=193								
SSD	**Sandimen**	**1.79**	**216**	*e*P		**Pb**	**16 45 17.0**	**-0.9**	
	baz=232								
IRIF	**Iriomote-Funau**	**1.80**	**86**	P		**Pn**	**16 45 16.0**	**+0.1**	
IRIF				S		**Sb**	**16 45 39.5**	**-0.9**	
TSMG	**Majia**	**1.82**	**215**	*e*P		**Pb**	**16 45 17.4**	**-0.9**	
	baz=231								
HATJ	**Hateruma jima**	**1.87**	**94**	*e*S		**Sb**	**16 45 42.2**	**-0.2**	
MASBT	**Mashibuluo**	**1.90**	**214**	*e*P		**Pb**	**16 45 17.9**	**-1.8**	
	baz=205								
EAST	**Anshuo**	**2.00**	**205**	*e*P		**Pb**	**16 45 20.9**	**-0.6**	
	baz=195								
TAW	**Tawu**	**2.01**	**204**	*e*P		**Pb**	**16 45 20.7**	**-0.9**	
	baz=206								
TAWH	**Dawu Township**	**2.03**	**204**	*e*P		**Pb**	**16 45 21.1**	**-0.8**	
	baz=193								
SSPT	**Xinbi**	**2.04**	**213**	*e*P		**Pb**	**16 45 21.5**	**-0.6**	
	baz=206								
JKRS	**Kuro-shima**	**2.05**	**89**	P		**Pn**	**16 45 20.3**	**+1.0**	
JKRS				S		**Sn**	**16 45 45.6**	**+0.8**	
SCZT	**Fangliau**	**2.11**	**210**	*e*P		**Pb**	**16 45 22.1**	**-1.2**	
	baz=198								
PNG	**Penghu**	**2.12**	**253**	*e*P		**Pb**	**16 45 21.9**	**-1.5**	
	baz=256								
PHUB	**P'eng-hu**	**2.12**	**251**	*e*P		**Pb**	**16 45 21.6**	**-1.9**	
	baz=255								
WDGT	**Dungji**	**2.15**	**244**	*e*P		**Pb**	**16 45 22.6**	**-1.3**	
	baz=248								
JIJ	**Ishigaki jima**	**2.17**	**85**	P		**Pn**	**16 45 21.2**	**+0.1**	
JIJ				*e*S		**Sn**	**16 45 47.9**	**0.0**	
SLIU	**Shizi**	**2.17**	**204**	*e*P		**Pb**	**16 45 22.7**	**-1.7**	
	baz=195								
LYUB	**Lan-yu**	**2.20**	**184**	*e*P		**Pb**	**16 45 22.7**	**-2.1**	
	baz=187								
VWUC	**VWUC**	**2.25**	**291**	*e*P		**Pn**	**16 45 22.5**	**+0.4**	
	baz=277								
JISG	**Ishigakijimahi**	**2.35**	**80**	P		**Pn**	**16 45 24.1**	**+0.6**	
JISG				*e*S		**Sn**	**16 45 53.1**	**+0.9**	
VCHM	**Qimei**	**2.36**	**246**	*e*P		**Pb**	**16 45 26.1**	**-1.4**	
	baz=233								
VCHM				*e*S		**Sb**	**16 45 56.0**	**-0.7**	
	baz=233								
MATB	**Ma-tsu**	**2.54**	**320**	*e*P		**Pn**	**16 45 26.7**	**+0.5**	
	baz=318								
PTMZ	**Houxiangcun**	**2.55**	**290**	*e*P		**Pn**	**16 45 24.9**	**-1.3**	
	baz=289								
JTJ	**Tarama**	**2.71**	**80**	P		**Pn**	**16 45 29.7**	**+1.3**	
JTJ				*e*S		**Sn**	**16 46 02.1**	**+1.0**	
LYJJ	**Jianjiangzhen**	**2.96**	**323**	*e*P		**Pn**	**16 45 33.3**	**+1.4**	
	baz=321								
XPSS	**Dashiqiu**	**3.06**	**333**	*e*P		**Pn**	**16 45 34.1**	**+0.8**	
	baz=331								
KNMB	**Chin-men Tao**	**3.09**	**275**	*e*P		**Pn**	**16 45 34.6**	**+0.9**	
	baz=275								
MHZQ	**Yeshan**	**3.12**	**308**	*e*P		**Pn**	**16 45 35.7**	**+1.7**	
	baz=307								
AXDP	**Jialang**	**3.53**	**282**	*e*P		**Pn**	**16 45 40.9**	**+1.2**	
	baz=281								
ZPLA	**Ao Xicun**	**3.68**	**267**	*e*P		**Pn**	**16 45 43.0**	**+1.2**	
	baz=269								

JMA ***27*** *16:46:46.1±0.1,24.°09N×121.°64E,h30km±1km,M2.5*
TAP ***27*** *16:46:47.5,24.°27N×121.°79E,h11km,ML3.2,B*
ISC 27 16:46:47.5±0.8,**24.°26N**±0.°01×**121.°83E**±0.°02,**h9**km±6km,
n136,d0**58**/187,**1C-12D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**302**	*i* P		**Pg**	**16 46 49.9**	**0.0**
	baz=316							
EHP				*i* S		**Sg**	**16 46 51.9**	**+0.3**
	baz=316							
ENA	**Nanau**	**0.18**	**335**	⇓*i*P		**Pg**	**16 46 51.5**	**+0.1**
	baz=353							
ENA				*i* S		**Sg**	**16 46 54.2**	**+0.2**
	baz=353							
EWUT	**Wuta**	**0.19**	**347**	⇓*i*P		**Pg**	**16 46 51.7**	**+0.3**
	baz=356							
EWUT				*i* S		**Sg**	**16 46 54.7**	**+0.6**
	baz=356							
ETL	**Fush Village**	**0.21**	**241**	P		**Pg**	**16 46 51.6**	**-0.3**
	baz=235							
ETL				S		**Sg**	**16 46 55.1**	**+0.3**
	baz=235							
NACB	**Ninganchiao**	**0.23**	**247**	⇑*i*P		**Pg**	**16 46 51.8**	**-0.4**
	baz=237							
NACB				*i* S		**Sg**	**16 46 55.0**	**-0.4**
	baz=237							
TWD	**Chiawan**	**0.28**	**229**	P		**Pg**	**16 46 52.7**	**-0.4**
	baz=223							
TWD				S		**Sg**	**16 46 56.5**	**-0.4**
	baz=223							
ETLH	**Xiulin Townshi**	**0.32**	**260**	*e*P		**Pg**	**16 46 53.5**	**-0.4**
	baz=258							
ETLH				S		**Sg**	**16 46 58.1**	**0.0**
	baz=258							
TWC	**Suao**	**0.35**	**4**	⇓*i*P		**Pg**	**16 46 54.6**	**+0.2**
	baz=2.0							
TWC				S		**Sg**	**16 46 59.1**	**+0.1**
	baz=2.0							
HWA	**Hwalien**	**0.35**	**215**	*e*P		**Pg**	**16 46 55.3**	**+0.9**
	baz=217							
NDS	**Dongshan**	**0.38**	**345**	⇓*i*P		**Pg**	**16 46 55.4**	**+0.3**
	baz=349							
NDS				S		**Sg**	**16 47 00.6**	**+0.5**
	baz=349							
LATG	**Datong**	**0.38**	**315**	⇓*i*P		**Pg**	**16 46 55.2**	**+0.1**
	baz=318							
LATG				*i* S		**Sg**	**16 47 00.3**	**0.0**
	baz=318							
ETM	**Tongmen**	**0.42**	**226**	*e*P		**Pg**	**16 46 55.2**	**-0.7**
	baz=226							
NNSB	**Datong**	**0.43**

NTC	**Toucheng** baz=13	**0.59**	**0**	*e*P	**Pg**	**16 46 59.2**	**+0.2**
NWLT	**Wulai** baz=332	**0.59**	**330**	⇓P	**Pg**	**16 46 59.3**	**+0.3**
NWLT	baz=332			*e*S	**Sg**	**16 47 06.8**	**0.0**
NSK	**Sanguang** baz=316	**0.59**	**314**	P	**Pg**	**16 46 59.2**	**+0.2**
NSK	baz=316			*e*S	**Sg**	**16 47 06.6**	**-0.2**
TWT	**Tachien** baz=268	**0.59**	**269**	*e*P	**Pg**	**16 46 59.5**	**+0.4**
TWT	baz=268			*e*S	**Sg**	**16 47 06.8**	**0.0**
TDCB	**Techi** baz=269	**0.61**	**269**	P	**Pg**	**16 46 59.3**	**-0.1**
TDCB	baz=269			S	**Sg**	**16 47 06.7**	**-0.7**
TEGC	**Jichi Village** baz=192	**0.61**	**205**	*e*P	**Pb**	**16 47 00.2**	**-0.2**
CHGB	**Renai** baz=243	**0.63**	**251**	*e*P	**Pg**	**16 46 59.6**	**-0.2**
CHGB	baz=243			S	**Sg**	**16 47 08.9**	**+0.9**
OWD	**Renai** baz=241	**0.67**	**243**	*e*P	**Pg**	**16 47 00.2**	**-0.3**
OWD	baz=241			*e*S	**Sg**	**16 47 09.8**	**+0.5**
EGFH	**Guangfu** baz=216	**0.69**	**212**	*e*P	**Pg**	**16 47 01.6**	**+0.7**
WUSB	**Renai** baz=239	**0.70**	**247**	*e*P	**Pg**	**16 47 00.8**	**-0.3**
WUSB	baz=239			*e*S	**Sb**	**16 47 11.1**	**-0.7**
TIPB	**Shuangxi** baz=2.0	**0.71**	**0**	*e*P	**Pg**	**16 47 01.3**	**+0.1**
TIPB	baz=2.0			*e*S	**Sg**	**16 47 10.7**	**+0.3**
NFF	**Wufeng Townshi** baz=301	**0.74**	**300**	*e*P	**Pg**	**16 47 02.0**	**+0.1**
NFF	baz=301			*e*S	**Sg**	**16 47 11.5**	**-0.1**
TWA	**Mucha** baz=345	**0.75**	**343**	P	**Pb**	**16 47 02.5**	**-0.2**
TWA	baz=345			*e*S	**Sb**	**16 47 12.3**	**-0.7**
NHDH	**Xindian Distri** baz=332	**0.75**	**339**	*i* P	**Pb**	**16 47 02.6**	**-0.1**
TWB1	**Santiao Chiao** baz=14	**0.76**	**11**	P	**Pb**	**16 47 02.6**	**-0.3**
TWB1	baz=14			*e*S	**Sb**	**16 47 12.6**	**-0.7**
TATO	**Taipei** baz=338	**0.77**	**337**	*e*P	**Pb**	**16 47 02.7**	**-0.5**
TATO	baz=338			*e*S	**Sg**	**16 47 12.2**	**-0.3**
WHP	**Taichung City** baz=271	**0.80**	**271**	*e*P	**Pb**	**16 47 03.4**	**-0.4**
WHP	baz=271			*e*S	**Sg**	**16 47 13.5**	**0.0**
VWDT	**VWDT** baz=230	**0.81**	**231**	*e*P	**Pg**	**16 47 03.0**	**0.0**
VWDT	baz=230			*e*S	**Sb**	**16 47 14.7**	**0.0**
NWF	**Wu-fen Shan** baz=359	**0.81**	**357**	*e*P	**Pb**	**16 47 03.5**	**-0.3**
WFSB	**Wu-fen Shan** baz=359	**0.81**	**357**	⇓P	**Pb**	**16 47 03.6**	**-0.2**
NJD	**Zhudong** baz=306	**0.82**	**305**	*e*P	**Pb**	**16 47 04.0**	**0.0**
TAP1	**Taipei** baz=332	**0.82**	**341**	*e*P	**Pn**	**16 47 04.8**	**-0.4**
TAP	**Taipei** baz=332	**0.83**	**340**	*e*P	**Pb**	**16 47 04.4**	**+0.3**
SXI1	**Grass Mountain** baz=10.0	**0.83**	**3**	P	**Pb**	**16 47 03.8**	**-0.4**
SXI1	baz=10.0			*e*S	**Sn**	**16 47 17.5**	**-0.4**
LIOB	**Emei** baz=298	**0.83**	**297**	*e*P	**Pb**	**16 47 04.1**	**-0.1**
LIOB	baz=298			*e*S	**Sb**	**16 47 15.6**	**+0.2**
WPL	**Puli Township** baz=252	**0.83**	**253**	*e*P	**Pg**	**16 47 03.4**	**-0.1**
WPL	baz=252			*e*S	**Sg**	**16 47 14.6**	**+0.2**
NSTT	**Nanjuang** baz=297	**0.83**	**296**	*e*P	**Pb**	**16 47 03.9**	**-0.3**
NSTT	baz=297			*e*S	**Sb**	**16 47 14.8**	**-0.7**
HGSD	**Ruisui** baz=193	**0.85**	**206**	*e*P	**Pb**	**16 47 04.5**	**+0.1**
HGSD	baz=193			*e*S	**Sn**	**16 47 18.8**	**+0.6**
DPDB	**Guoxing** baz=254	**0.85**	**255**	*e*P	**Pg**	**16 47 04.0**	**0.0**
WCS	**Beigang Elemen** baz=255	**0.86**	**256**	*e*P	**Pg**	**16 47 03.8**	**-0.3**
EHY	**Hungye** baz=223	**0.88**	**212**	*e*P	**Pg**	**16 47 04.5**	**0.0**
TNOU	**National Taiwa** baz=359	**0.88**	**357**	*e*P	**Pg**	**16 47 04.6**	**0.0**
YM01	**YM01** baz=347	**0.91**	**345**	*e*P	**Pb**	**16 47 05.6**	**+0.1**
NCU	**National Centr** baz=316	**0.91**	**321**	*e*P	**Pn**	**16 47 06.5**	**-0.1**
NCUH	**Zhongli** baz=316	**0.91**	**320**	*e*P	**Pn**	**16 47 06.5**	**-0.1**
TWS1	**Kuangyinshan** baz=328	**0.91**	**336**	*e*P	**Pb**	**16 47 05.8**	**+0.2**
SMLT	**Sun Moon Lake** baz=236	**0.93**	**246**	P	**Pg**	**16 47 05.2**	**-0.2**
SMLT	baz=236			*e*S	**Sb**	**16 47 18.2**	**0.0**
SSLB	**Suanglung** baz=238	**0.93**	**239**	P	**Pg**	**16 47 04.8**	**-0.6**
SSLB	baz=238			S	**Sg**	**16 47 16.5**	**-0.9**
SBCB	**Hsinchu** baz=305	**0.93**	**305**	*e*P	**Pn**	**16 47 06.4**	**-0.4**
YM08	**YM08** baz=348	**0.94**	**347**	*e*P	**Pb**	**16 47 06.1**	**0.0**
HSN	**Hsinchu** baz=296	**0.95**	**305**	*e*P	**Pn**	**16 47 07.0**	**0.0**
TYC	**Yuchr** baz=239	**0.95**	**248**	*e*P	**Pg**	**16 47 05.9**	**0.0**
TYC	baz=239			*e*S	**Sb**	**16 47 19.5**	**+0.5**
ANP	**Anpu** baz=345	**0.96**	**343**	*e*P	**Pb**	**16 47 06.1**	**-0.3**
NTST	**Danshui** baz=341	**0.96**	**339**	*e*P	**Pn**	**16 47 06.7**	**-0.5**
TWQ1	**Liyutan** baz=275	**0.96**	**275**	*e*P	**Pb**	**16 47 06.2**	**-0.2**
NMLH	**Miaoli** baz=286	**0.98**	**286**	*e*P	**Pn**	**16 47 08.6**	**+1.1**
NSY	**Sanyi** baz=279	**0.98**	**279**	*e*P	**Pn**	**16 47 07.3**	**-0.3**
YULB	**Yu-li** baz=220	**0.99**	**209**	*e*P	**Pg**	**16 47 05.8**	**-0.8**
ECBN	**Changbin** baz=199	**1.00**	**200**	*e*P	**Pg**	**16 47 06.1**	**-0.7**
EYUL	**Yuli** baz=220	**1.02**	**207**	*e*P	**Pg**	**16 47 06.0**	**-1.2**
NHW	**Xinwu Township** baz=317	**1.02**	**316**	*e*P	**Pn**	**16 47 08.1**	**0.0**
TWF1	**Yuli** baz=220	**1.03**	**208**	*e*P	**Pg**	**16 47 06.0**	**-1.3**
TWY	**Chenhua** baz=350	**1.03**	**349**	*e*P	**Pb**	**16 47 07.3**	**-0.2**
JYNG	**Yonagunijimaku**	**1.04**	**79**	P	**Pb**	**16 47 07.9**	**+0.2**
JYNG				S	**Sn**	**16 47 23.1**	**+0.2**
WWF	**Wufeng** baz=251	**1.05**	**258**	*e*P	**Pn**	**16 47 08.8**	**+0.3**
TCU	**Taichung** baz=263	**1.05**	**264**	*e*P	**Pn**	**16 47 09.1**	**+0.6**
WDJ	**Dajia District** baz=274	**1.08**	**275**	*e*P	**Pn**	**16 47 09.8**	**+0.9**
WJS	**Zhushan** baz=238	**1.09**	**247**	*e*P	**Pn**	**16 47 09.3**	**+0.3**
YOJ	**Yonaguni jima**	**1.10**	**79**	P	**Pb**	**16 47 08.8**	**+0.1**
YOJ				*e*S	**Sn**	**16 47 25.7**	**+1.3**
YOJ	**Yonaguni jima** baz=68	**1.10**	**79**	P	**Pb**	**16 47 08.5**	**-0.2**
WNT1	**Nantou City** baz=241	**1.10**	**252**	*e*P	**Pn**	**16 47 11.1**	**+1.9**
YUS	**Yu-Shan** baz=225	**1.11**	**226**	*e*P	**Pg**	**16 47 08.3**	**-0.6**
YUS	baz=225			*e*S	**Sb**	**16 47 24.3**	**+0.3**
WNT	**Mingjian** baz=245	**1.11**	**250**	*e*P	**Pn**	**16 47 09.9**	**+0.6**
WNT	baz=245			*e*S	**Sn**	**16 47 26.1**	**+1.4**
FULB	**Fuli** baz=218	**1.17**	**205**	*e*P	**Pb**	**16 47 09.7**	**-0.2**
WCHH	**Zhanghua** baz=261	**1.17**	**261**	*e*P	**Pg**	**16 47 10.6**	**+0.5**
WYL	**Yuanlin Townsh** baz=255	**1.18**	**255**	*e*P	**Pb**	**16 47 09.3**	**-0.7**
ALS	**Alishan** baz=230	**1.20**	**231**	*e*P	**Pb**	**16 47 10.6**	**0.0**
CHKT	**Chengkung** baz=199	**1.23**	**200**	*e*P	**Pn**	**16 47 10.0**	**-1.0**
CHKT	baz=199			*e*S	**Sn**	**16 47 28.2**	**+0.6**
CHN5	**Tsauling** baz=238	**1.24**	**238**	*e*P	**Pb**	**16 47 11.3**	**+0.1**
CHN5	baz=238			*e*S	**Sn**	**16 47 30.0**	**+1.9**
ECS	**Chishang** baz=205	**1.29**	**206**	*e*P	**Pn**	**16 47 12.0**	**+0.2**
WGK	**Gukeng** baz=243	**1.29**	**244**	*e*P	**Pn**	**16 47 11.6**	**-0.1**
ELDTW	**Lidau** baz=214	**1.30**	**215**	*e*P	**Pn**	**16 47 10.7**	**-1.3**
WDLH	**Douliu** baz=244	**1.31**	**244**	*e*P	**Pg**	**16 47 12.6**	**0.0**
EDH	**Donghe** baz=199	**1.37**	**201**	*e*P	**Pb**	**16 47 11.6**	**-1.2**
WRL	**Guolierlin Hig** baz=255	**1.37**	**255**	*e*P	**Pb**	**16 47 13.5**	**+0.1**
WTK	**Tuku** baz=233	**1.43**	**247**	*e*P	**Pn**	**16 47 13.8**	**+0.1**
CHN4	**Tsaushan** baz=232	**1.45**	**231**	*e*P	**Pb**	**16 47 14.9**	**+0.3**
CHN4	baz=232			*e*S	**Sg**	**16 47 35.5**	**+1.4**
STYH	**Taoyuan** baz=221	**1.45**	**222**	*e*P	**Pb**	**16 47 14.5**	**-0.2**
TPUB	**Ta-pu** baz=229	**1.46**	**229**	*e*P	**Pn**	**16 47 14.4**	**+0.3**
STYT	**Tauyuan** baz=221	**1.47**	**222**	*e*P	**Pn**	**16 47 14.0**	**-0.3**
LONT	**Longtian** baz=205	**1.49**	**205**	*e*P	**Pn**	**16 47 12.8**	**-1.7**
WTP	**Ta-pu** baz=228	**1.50**	**228**	*e*P	**Pb**	**16 47 15.5**	**-0.2**
TWK	**Hsinying** baz=231	**1.58**	**231**	*e*P	**Pn**	**16 47 16.4**	**+0.7**
WSF	**Szhu** baz=247	**1.59**	**247**	*e*P	**Pn**	**16 47 15.4**	**-0.4**
SNST	**Tainan City** baz=230	**1.60**	**230**	*e*P	**Pb**	**16 47 16.9**	**-0.3**
CHN1	**Nanshi** baz=229	**1.60**	**228**	*e*P	**Pb**	**16 47 17.0**	**-0.3**
SGST	**Jiashian** baz=224	**1.64**	**224**	*e*P	**Pn**	**16 47 16.9**	**+0.3**
WSL	**Shulin Townsh** baz=243	**1.64**	**244**	*e*P	**Pb**	**16 47 17.3**	**-0.6**
SLGT	**Liugui** baz=221	**1.66**	**221**	*e*P	**Pb**	**16 47 17.9**	**-0.4**
ICHU	**Yijhu** baz=238	**1.68**	**238**	*e*P	**Pb**	**16 47 18.4**	**-0.1**
IRIF	**Iriomote-Funau**	**1.74**	**87**	P	**Pn**	**16 47 17.5**	**-0.4**
IRIF				S	**Sb**	**16 47 42.4**	**+0.8**
HATJ	**Hateruma jima**	**1.82**	**96**	*e*S	**Sn**	**16 47 41.2**	**-1.0**
SCST	**Cishan** baz=224	**1.84**	**222**	*e*P	**Pb**	**16 47 20.6**	**-0.7**
ECL	**Taimali** baz=193	**1.84**	**206**	*e*P	**Pn**	**16 47 19.5**	**+0.2**
SSD	**Sandimen** baz=229	**1.86**	**216**	*e*P	**Pn**	**16 47 20.5**	**+0.9**
TSMG	**Majia** baz=205	**1.89**	**215**	*e*P	**Pn**	**16 47 20.7**	**+0.7**
MASBT	**Mashibuluo** baz=216	**1.98**	**214**	*e*P	**Pn**	**16 47 22.1**	**+0.9**
JKRS	**Kuro-shima**	**1.99**	**90**	*e*S	**Sn**	**16 47 47.8**	**+1.3**
EAST	**Anshuo** baz=194	**2.08**	**206**	*e*P	**Pn**	**16 47 23.6**	**+1.0**
JIJ	**Ishigaki jima**	**2.12**	**87**	S	**Sn**	**16 47 50.5**	**+0.9**
SCZT	**Fangliau** baz=196	**2.18**	**211**	*e*P	**Pn**	**16 47 24.3**	**+0.2**
PNG	**Penghu** baz=253	**2.19**	**252**	*e*P	**Pn**	**16 47 24.0**	**-0.1**
PHUB	**P'eng-hu** baz=252	**2.19**	**251**	*e*P	**Pn**	**16 47 23.9**	**-0.3**
WDGT	**Dungji** baz=245	**2.22**	**244**	*e*P	**Pn**	**16 47 24.8**	**+0.3**
VWUC	**VWUC** baz=289	**2.28**	**289**	*e*P	**Pn**	**16 47 24.5**	**-0.8**
JISG	**Ishigakijimahi**	**2.29**	**81**	P	**Pn**	**16 47 26.6**	**+1.1**
JISG				S	**Sb**	**16 47 56.0**	**-1.4**
VCHM	**Qimei** baz=231	**2.43**	**245**	*e*P	**Pn**	**16 47 27.4**	**0.0**
MATB	**Ma-tsu** baz=318	**2.54**	**318**	*e*P	**Pn**	**16 47 28.7**	**-0.2**
XPSS	**Dashiqiu** baz=331	**3.04**	**331**	*e*P	**Pn**	**16 47 35.4**	**-0.4**
KNMB	**Chin-men Tao** baz=274	**3.14**	**274**	*e*P	**Pn**	**16 47 37.1**	**-0.1**
AXDP	**Jialang** baz=280	**3.57**	**281**	*e*P	**Pn**	**16 47 42.6**	**-0.4**
ZPLA	**Ao Xicun** baz=265	**3.74**	**266**	*e*P	**Pn**	**16 47 45.2**	**-0.2**

***TAP* 27 16:49:23.3, 24°26N × 121°78E, h11 km, ML1.8, C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ENA	**Nanau** baz=351	**0.17**	**349**	P		Pg	16 49 27.4	+0.2
ENA	baz=351			S		Sg	16 49 30.3	+0.4
ETL	**Fush Village** baz=229	**0.17**	**235**	*e*P		Pg	16 49 27.2	0.0
ETL	baz=229			*e*S		Sg	16 49 30.2	+0.3
EWUT	**Wuta** baz=360	**0.18**	**0**	P		Pg	16 49 27.6	+0.2
EWUT	baz=360			S		Sg	16 49 30.4	+0.2
NACB	**Ninganchiao** baz=237	**0.19**	**243**	*e*P		Pg	16 49 27.5	+0.1
NACB	baz=237			S		Sg	16 49 30.4	+0.1
TWD	**Chiawan** baz=222	**0.24**	**223**	*e*P		Pg	16 49 28.5	+0.1
TWD	baz=222			*e*S		Sg	16 49 32.3	+0.5
ETLH	**Xiulin Townshi** baz=259	**0.28**	**259**	*e*P		Pg	16 49 29.0	0.0
ETLH	baz=259			*e*S		Sg	16 49 33.6	+0.7
TWC	**Suao** baz=3.0	**0.35**	**11**	*e*S		Sg	16 49 35.9	+0.7
LATG	**Datong** baz=320	**0.36**	**320**	*e*P		Pg	16 49 31.0	+0.5
LATG	baz=320			*e*S		Sg	16 49 36.1	+0.7
NDS	**Dongshan** baz=351	**0.38**	**351**	*e*P		Pg	16 49 31.2	+0.4
NDS	baz=351			*e*S		Sg	16 49 36.8	+0.9
NNSB	**Datong** baz=295	**0.40**	**295**	*e*P		Pg	16 49 31.4	+0.1
NNSB	baz=295			*e*S		Sg	16 49 37.4	+0.8
NNS	**Nan Shan** baz=296	**0.41**	**296**	*e*P		Pg	16 49 31.6	+0.1
NNS	baz=296			*e*S		Sg	16 49 37.6	+0.5
ENTT	**Nioudou** baz=333	**0.43**	**333**	*e*P		Pg	16 49 31.9	+0.1
ENTT	baz=333			*e*S		Sb	16 49 38.5	-0.9
TWE	**Neicheng** baz=349	**0.47**	**348**	*e*P		Pg	16 49 32.9	+0.3
TWE	baz=349			*e*S		Sg	16 49 39.6	+0.7
WHF	**Hehuan Shan** baz=257	**0.48**	**256**	*e*P		Pg	16 49 32.9	0.0
FUSB	**Fushanzhiwuyua** baz=340	**0.53**	**341**	*e*P		Pg	16 49 33.5	-0.2
ESL	**Shilin** baz=223	**0.54**	**216**	*e*P		Pb	16 49 34.6	-0.3
YHNB	**Yeheng** baz=318	**0.55**	**318**	*e*P		Pb	16 49 34.8	-0.2
NSK	**Sanguang** baz=318	**0.56**	**317**	*e*P		Pg	16 49 34.6	+0.2
NWLT	**Wulai** baz=334	**0.57**	**334**	*e*P		Pg	16 49 34.6	0.0
CHGB	**Renai** baz=243	**0.59**	**250**	*e*P		Pg	16 49 35.0	+0.2
WUSB	**Renai** baz=240	**0.66**	**246**	*e*P		Pg	16 49 35.7	-0.4
WUSB	baz=240			*e*S		Sg	16 49 45.2	+0.3
TIPB	**Shuangxi** baz=3.0	**0.71**	**3**	*e*P		Pg	16 49 37.1	0.0
TIPB	baz=3.0			*e*S		Sg	16 49 46.7	+0.2
WHP	**Taichung City** baz=272	**0.76**	**272**	*e*S		Sb	16 49 48.9	-0.1
LIOB	**Emei** baz=299	**0.79**	**299**	*e*S		Sb	16 49 50.2	+0.3
SXI1	**Grass Mountain** baz=11	**0.84**	**6**	*e*S		Sg	16 49 50.7	+0.2

IDC ***27*** *16:55:27.7±1.2, 24°27N × 121°81E, h0 km, mb3.4/5, mb1 3.5/6, mb1mx3.3/41, mbtmp3.4/6, ML3.1/1, Error ellipse: s-maj=41.9km s-min=24.1km az=79.0*
JMA ***27*** *16:55:30.3±0.1, 24°13N × 121°62E, h27 km±1km, M3.4*
TAP ***27*** *16:55:31.2, 24°27N × 121°76E, h12 km, ML4.1, B*
ASIES ***27*** *16:55:31.0, 24°28N × 121°74E, h19 km, MW3.7*

ISC 27 16:55:30.5±0.8, 24°23N±0°01 × 121°83E±0°02, h13 km±5km, n174, σ0s91/247, mb3.3/5, 11C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=345	**0.11**	**313**	*i* P		Pg	**16 55 33.7**	**+0.1**
EHP	baz=345			*i* S		Sg	**16 55 35.5**	**-0.3**
ETL	**Fush Village** baz=223	**0.20**	**249**	*i* P		Pg	**16 55 35.2**	**+0.2**
ETL	baz=223			S		Sg	**16 55 37.9**	**-0.2**
ENA	**Nanau** baz=356	**0.21**	**337**	*i* P		Pg	**16 55 35.2**	**+0.1**
ENA	baz=356			*i* S		Sg	**16 55 37.9**	**-0.4**
EWUT	**Wuta** baz=5.0	**0.22**	**347**	*i* P		Pb	**16 55 35.5**	**-0.8**
EWUT	baz=5.0			*i* S		Sg	**16 55 38.4**	**-0.1**
NACB	**Ninganchiao** baz=232	**0.22**	**255**	⇑*i* P		Pg	**16 55 35.3**	**-0.1**
NACB	baz=232			*i* S		Sg	**16 55 38.5**	**-0.1**
TWD	**Chiawan** baz=218	**0.26**	**235**	⇑*i* P		Pg	**16 55 36.3**	**+0.3**
TWD	baz=218			*i* S		Sg	**16 55 39.7**	**0.0**
ETLH	**Xiulin Townshi** baz=258	**0.32**	**265**	*i* P		Pg	**16 55 37.0**	**0.0**
ETLH	baz=258			*i* S		Sg	**16 55 41.0**	**-0.6**
HWA	**Hwalien** baz=213	**0.33**	**219**	P		Pb	**16 55 38.7**	**+0.4**
TWC	**Suao** baz=6.0	**0.37**	**2**	⇓*i* P		Pb	**16 55 38.5**	**-0.5**
TWC	baz=6.0			*i* S		Sg	**16 55 43.3**	**+0.2**
ETM	**Tongmen** baz=220	**0.41**	**229**	⇓*i* P		Pb	**16 55 39.0**	**-0.6**
ETM	baz=220			S		Sg	**16 55 44.5**	**+0.4**
LATG	**Datong** baz=321	**0.41**	**317**	⇓*i* P		Pg	**16 55 38.7**	**0.0**
LATG	baz=321			*i* S		Sg	**16 55 43.6**	**-0.7**
NDS	**Dongshan** baz=353	**0.41**	**345**	⇓*i* P		Pb	**16 55 39.1**	**-0.6**
NDS	baz=353			*i* S		Sg	**16 55 44.3**	**0.0**
TEYL	**Yanliau Villag** baz=209	**0.42**	**210**	P		Pb	**16 55 40.0**	**+0.2**
NNSB	**Datong** baz=295	**0.45**	**295**	⇓*i* P		Pg	**16 55 39.4**	**-0.1**
NNSB	baz=295			*i* S		Sg	**16 55 44.5**	**-1.1**
NNS	**Nan Shan** baz=297	**0.47**	**296**	⇓*i* P		Pg	**16 55 39.6**	**-0.1**
NNS	baz=297			S		Sg	**16 55 44.9**	**-1.1**
NDT	**Datong Townshi** baz=326	**0.47**	**322**	⇓*i* P		Pg	**16 55 39.9**	**+0.1**
NDT	baz=326			*i* S		Sg	**16 55 45.8**	**-0.3**
ENTT	**Nioudou** baz=335	**0.47**	**329**	⇓*i* P		Pg	**16 55 39.9**	**+0.1**
ENTT	baz=335			*i* S		Sg	**16 55 45.7**	**-0.4**
TWE	**Neicheng** baz=351	**0.51**	**343**	⇓*i* P		Pb	**16 55 40.8**	**-0.6**
TWE	baz=351			*i* S		Sg	**16 55 47.0**	**-0.3**
WHF	**Hehuan Shan** baz=256	**0.53**	**260**	P		Pg	**16 55 40.8**	**-0.1**
WHF	baz=256			S		Sg	**16 55 47.3**	**-0.7**
ILA	**Ilan** baz=353	**0.54**	**352**	⇓*i* P		Pb	**16 55 41.6**	**-0.1**
ILA	baz=353			S		Sb	**16 55 49.1**	**-0.3**
ESL	**Shilin** baz=221	**0.55**	**221**	*i* P		Pb	**16 55 41.7**	**-0.4**
ESL	baz=221			*e*S		Sb	**16 55 49.6**	**-0.3**
FUSB	**Fushanzhiwuyua** baz=342	**0.57**	**337**	⇓*i* P		Pb	**16 55 41.9**	**-0.5**
FUSB	baz=342			*i* S		Sg	**16 55 48.6**	**-0.6**
TEGC	**Jichi Village** baz=189	**0.59**	**207**	*e*P		Pb	**16 55 43.4**	**+0.7**
TWT	**Tachien** baz=269	**0.60**	**272**	*e*P		Pb	**16 55 42.7**	**-0.2**
TWT	baz=269			S		Sg	**16 55 49.9**	**-0.4**
YHNB	**Yeheng** baz=319	**0.60**	**316**	⇓*i* P		Pb	**16 55 42.4**	**-0.5**
YHNB	baz=319			S		Sg	**16 55 49.6**	**-0.7**
TDCB	**Techi** baz=269	**0.61**	**272**	⇑*i* P		Pb	**16 55 42.8**	**-0.4**
TDCB	baz=269			S		Sg	**16 55 49.6**	**-1.1**
EGS	baz=24	**0.62**	**9**	*e*P		Pb	**16 55 42.9**	**-0.2**
NSK	**Sanguang** baz=319	**0.62**	**316**	⇓*i* P		Pg	**16 55 42.6**	**0.0**
NSK	baz=319			*i* S		Sg	**16 55 50.1**	**-0.7**
NTC	**Toucheng** baz=6.0	**0.62**	**360**	P		Pb	**16 55 42.9**	**-0.3**
NTC	baz=6.0			S		Sg	**16 55 51.0**	**+0.3**
NWLT	**Wulai** baz=335	**0.62**	**331**	P		Pb	**16 55 42.9**	**-0.4**
NWLT	baz=335			S		Sg	**16 55 50.1**	**-0.7**
CHGB	**Renai** baz=242	**0.62**	**254**	⇑*i* P		Pb	**16 55 42.8**	**-0.6**
CHGB	baz=242			S		Sg	**16 55 51.2**	**+0.1**
OWD	**Renai** baz=235	**0.66**	**245**	P		Pb	**16 55 43.6**	**-0.4**
EGFH	**Guangfu** baz=217	**0.67**	**213**	P		Pb	**16 55 44.4**	**+0.3**
EGFH	baz=217			*e*S		Sn	**16 55 55.0**	**-1.2**
WUSB	**Renai** baz=238	**0.69**	**250**	⇑*i* P		Pb	**16 55 44.2**	**-0.4**
WUSB	baz=238			S		Sb	**16 55 53.7**	**-0.5**
TIPB	**Shuangxi** baz=4.0	**0.73**	**360**	⇓*i* P		Pb	**16 55 45.1**	**-0.1**
TIPB	baz=4.0			S		Sg	**16 55 54.0**	**-0.5**
NFF	**Wufeng Townshi** baz=309	**0.76**	**302**	P		Pb	**16 55 45.7**	**0.0**

NFF				S		Sg	16 55 54.4	-1.0	
	baz=309								
TWA	**Mucha**	**0.78**	**343**	⇓*i*P		**Pb**	**16 55 45.8**	**-0.1**	
TWA	baz=347			S		**Sg**	**16 55 55.2**	**-0.6**	
	baz=347								
NHDH	**Xindian Distri**	**0.78**	**339**	*e*P		**Pb**	**16 55 45.8**	**-0.1**	
	baz=343								
TWB1	**Santiao Chiao**	**0.78**	**10**	⇓*i*P		**Pb**	**16 55 46.0**	**0.0**	
TWB1	baz=16			*e*S		**Sg**	**16 55 55.9**	**-0.1**	
	baz=16								
VWDT	**VWDT**	**0.79**	**233**	⇑*i*P		**Pb**	**16 55 46.0**	**-0.2**	
	baz=228								
VWDT				*e*S		**Sb**	**16 55 57.4**	**+0.6**	
	baz=228								
TATO	**Taipei**	**0.80**	**337**	P		**Pb**	**16 55 46.3**	**0.0**	
	baz=340								
TATO				S		**Sg**	**16 55 55.8**	**-0.8**	
	baz=340								
WHP	**Taichung City**	**0.81**	**273**	⇑P		**Pb**	**16 55 46.5**	**-0.1**	
	baz=271								
WHP				*i* S		**Sg**	**16 55 56.6**	**-0.3**	
	baz=271								
HGSD	**Ruisui**	**0.83**	**207**	P		**Pn**	**16 55 47.5**	**-0.4**	
	baz=217								
HGSD				S		**Sn**	**16 56 02.4**	**+2.5**	
	baz=217								
WPL	**Puli Township**	**0.83**	**255**	P		**Pb**	**16 55 46.8**	**0.0**	
	baz=252								
WPL				S		**Sg**	**16 55 57.2**	**-0.2**	
	baz=252								
NWF	**Wu-fen Shan**	**0.83**	**357**	⇓*i*P		**Pb**	**16 55 47.3**	**+0.3**	
	baz=353								
NWF				*i* S		**Sg**	**16 55 57.4**	**-0.2**	
	baz=353								
WFSB	**Wu-fen Shan**	**0.83**	**357**	⇓*i*P		**Pb**	**16 55 47.3**	**+0.4**	
	baz=353								
WFSB				S		**Sg**	**16 55 57.3**	**-0.3**	
	baz=353								
NHY	**Taipei**	**0.84**	**343**	*e*P		**Pb**	**16 55 47.3**	**+0.4**	
	baz=347								
NHY				*e*S		**Sb**	**16 55 58.4**	**+0.3**	
	baz=347								
BACT	**New Taipei Cit**	**0.84**	**335**	*e*P		**Pn**	**16 55 47.5**	**-0.5**	
	baz=338								
BACT				*e*S		**Sb**	**16 55 58.2**	**+0.1**	
	baz=338								
NJD	**Zhudong**	**0.84**	**307**	*e*P		**Pn**	**16 55 47.6**	**-0.5**	
	baz=313								
LIOB	**Emei**	**0.85**	**299**	*e*P		**Pb**	**16 55 47.6**	**+0.4**	
	baz=300								
LIOB				*e*S		**Sg**	**16 55 57.8**	**-0.3**	
	baz=300								
TAP1	**Taipei**	**0.85**	**341**	*e*P		**Pn**	**16 55 47.7**	**-0.5**	
	baz=332								
DPDB	**Guoxing**	**0.85**	**257**	*e*P		**Pb**	**16 55 47.5**	**+0.3**	
	baz=253								
NSTT	**Nanjuang**	**0.85**	**298**	⇓P		**Pb**	**16 55 47.4**	**+0.2**	
	baz=298								
NSTT				S		**Sg**	**16 55 57.6**	**-0.6**	
	baz=298								
TAP	**Taipei**	**0.85**	**340**	*e*P		**Pn**	**16 55 47.8**	**-0.5**	
	baz=343								
TAP				*e*S		**Sb**	**16 55 58.4**	**-0.2**	
	baz=343								
SXI1	**Grass Mountain**	**0.86**	**3**	⇓*i*P		**Pb**	**16 55 47.7**	**+0.3**	
	baz=12								
SXI1				S		**Sg**	**16 55 57.8**	**-0.6**	
	baz=12								
EHY	**Hungye**	**0.86**	**213**	P		**Pb**	**16 55 47.5**	**+0.2**	
	baz=213								
EHY				S		**Sn**	**16 56 00.7**	**-0.1**	
	baz=213								
NTY	**Taoyuan**	**0.90**	**328**	*e*P		**Pn**	**16 55 48.9**	**-0.1**	
	baz=330								
TNOU	**National Taiwa**	**0.91**	**357**	P		**Pb**	**16 55 48.6**	**+0.3**	
TNOU				*e*S		**Sg**	**16 55 59.9**	**-0.2**	
SSLB	**Suanglung**	**0.92**	**241**	⇑*i*P		**Pb**	**16 55 48.0**	**-0.3**	
	baz=238								
SSLB				S		**Sg**	**16 55 59.9**	**-0.3**	
	baz=238								
HSN1	**Hsinchu**	**0.92**	**306**	*e*P		**Pn**	**16 55 49.2**	**0.0**	
	baz=307								
HSN1				S		**Sb**	**16 56 01.2**	**+0.7**	
	baz=307								
SMLT	**Sun Moon Lake**	**0.92**	**248**	*e*P		**Pb**	**16 55 48.6**	**+0.2**	
	baz=236								
SMLT				*e*S		**Sb**	**16 56 00.3**	**-0.3**	
	baz=236								
NCU	**National Centr**	**0.94**	**321**	P		**Pn**	**16 55 49.7**	**+0.3**	
	baz=324								
NCU				*e*S		**Sn**	**16 56 01.9**	**-0.8**	
	baz=324								
NCUH	**Zhongli**	**0.94**	**321**	*e*P		**Pn**	**16 55 49.8**	**+0.4**	
	baz=323								
YM01	**YM01**	**0.94**	**345**	*e*P		**Pn**	**16 55 49.1**	**-0.3**	
	baz=348								
YM01				*e*S		**Sg**	**16 56 00.4**	**-0.5**	
	baz=348								
TWS1	**Kuangyinshan**	**0.94**	**337**	⇑P		**Pn**	**16 55 49.5**	**+0.1**	
	baz=339								
TWS1				S		**Sb**	**16 56 01.8**	**+0.7**	
	baz=339								
TYC	**Yuchr**	**0.95**	**250**	*e*P		**Pb**	**16 55 48.9**	**0.0**	
	baz=246								
SBCB	**Hsinchu**	**0.95**	**306**	*e*P		**Pn**	**16 55 50.1**	**+0.5**	
	baz=307								
SBCB				*e*S		**Sb**	**16 56 02.1**	**+0.7**	
	baz=307								
HSN	**Hsinchu**	**0.97**	**306**	*e*P		**Pn**	**16 55 50.1**	**+0.3**	
	baz=309								
YULB	**Yu-li**	**0.97**	**210**	*e*P		**Pb**	**16 55 49.3**	**+0.1**	
	baz=216								
YULB				*e*S		**Sn**	**16 56 03.3**	**-0.2**	
	baz=216								
TWQ1	**Liyutan**	**0.97**	**277**	*e*P		**Pn**	**16 55 50.8**	**+0.9**	
	baz=275								
YM08	**YM08**	**0.97**	**347**	*e*P		**Pb**	**16 55 49.4**	**+0.1**	
	baz=350								
ECBN	**Changbin**	**0.98**	**201**	*e*P		**Pn**	**16 55 50.0**	**+0.1**	
	baz=198								
NWRT	**Kuosheng**	**0.98**	**351**	*e*P		**Pn**	**16 55 50.1**	**+0.1**	
	baz=354								
NJN	**Zhunan**	**0.98**	**297**	*e*P		**Pn**	**16 55 50.3**	**+0.3**	
	baz=290								
ANP	**Anpu**	**0.99**	**343**	*e*P		**Pn**	**16 55 49.9**	**-0.4**	
	baz=347								
NTST	**Danshui**	**0.99**	**340**	*e*P		**Pn**	**16 55 50.9**	**+0.8**	
	baz=342								
NSY	**Sanyi**	**0.99**	**281**	*e*P		**Pn**	**16 55 50.6**	**+0.4**	
	baz=280								
NSY				*e*S		**Sb**	**16 56 03.2**	**+0.6**	
	baz=280								
NMLH	**Miaoli**	**1.00**	**288**	*e*P		**Pn**	**16 55 51.5**	**+1.2**	
	baz=287								
EYUL	**Yuli**	**1.00**	**208**	*e*P		**Pn**	**16 55 50.6**	**+0.3**	
	baz=218								
TWF1	**Yuli**	**1.00**	**209**	*e*P		**Pn**	**16 55 50.2**	**-0.2**	
	baz=216								
TWF1				*e*S		**Sn**	**16 56 05.7**	**+1.3**	
	baz=216								
JYNG	**Yonagunijimaku**	**1.04**	**78**	P		**Pn**	**16 55 52.1**	**+1.3**	
JYNG				S		**Sn**	**16 56 09.2**	**+4.0**	
NHW	**Xinwu Township**	**1.05**	**317**	*e*P		**Pn**	**16 55 51.4**	**+0.5**	
	baz=319								
NHW				*e*S		**Sb**	**16 56 04.8**	**+0.6**	
	baz=319								
WWF	**Wufeng**	**1.05**	**260**	*e*P		**Pn**	**16 55 52.3**	**+1.4**	
	baz=251								
TCU	**Taichung**	**1.06**	**266**	*e*P		**Pn**	**16 55 52.3**	**+1.2**	
	baz=263								
TWY	**Chenhua**	**1.06**	**349**	*e*P		**Pn**	**16 55 51.5**	**+0.4**	
	baz=344								
TWY				*e*S		**Sn**	**16 56 05.7**	**0.0**	
	baz=344								
WJS	**Zhushan**	**1.09**	**248**	*e*P		**Pn**	**16 55 52.5**	**+1.0**	
	baz=238								
WDJ	**Dajia District**	**1.09**	**276**	*e*P		**Pn**	**16 55 52.7**	**+1.2**	
	baz=274								
YUS	**Yu-Shan**	**1.09**	**228**	*e*P		**Pb**	**16 55 51.7**	**+0.1**	
	baz=224								
YUS				*e*S		**Sn**	**16 56 07.0**	**-0.3**	
	baz=224								
YOJ	**Yonaguni jima**	**1.10**	**78**	P		**Pn**	**16 55 53.3**	**+1.7**	
YOJ				*e*S		**Sn**	**16 56 10.4**	**+3.7**	
YOJ	**Yonaguni jima**	**1.10**	**78**	*e*P		**Pn**	**16 55 53.3**	**+1.7**	
	baz=68								
YOJ				S		**Sn**	**16 56 10.3**	**+3.6**	
	baz=68								
WNT1	**Nantou City**	**1.10**	**253**	*e*P		**Pn**	**16 55 53.1**	**+1.4**	
	baz=240								
WNT	**Mingjian**	**1.11**	**252**	*e*P		**Pn**	**16 55 53.0**	**+1.3**	
	baz=238								
FULB	**Fuli**	**1.14**	**206**	*e*P		**Pn**	**16 55 52.4**	**+0.2**	
	baz=216								
WCHH	**Zhanghua**	**1.17**	**263**	*e*P		**Pg**	**16 55 54.0**	**+0.9**	
	baz=260								
WYL	**Yuanlin Townsh**	**1.18**	**257**	*e*P		**Pg**	**16 55 53.8**	**+0.6**	
	baz=255								
ALS	**Alishan**	**1.18**	**233**	*e*P		**Pn**	**16 55 53.5**	**+0.5**	
	baz=216								
ALS				*e*S		**Sn**	**16 56 09.6**	**+0.4**	
	baz=216								
CHKT	**Chengkung**	**1.21**	**201**	*e*P		**Pn**	**16 55 52.8**	**-0.3**	
	baz=184								
CHN5	**Tsauling**	**1.23**	**239**	*e*P		**Pg**	**16 55 55.0**	**+0.8**	
	baz=238								
CHN5				S		**Sn**	**16 56 12.5**	**+2.4**	
	baz=238								
ECS	**Chishang**	**1.27**	**206**	*e*P		**Pn**	**16 55 53.9**	**0.0**	
	baz=217								
ELDTW	**Lidau**	**1.28**	**216**	*e*P		**Pn**	**16 55 53.9**	**-0.3**	
	baz=225								
ELDTW				*e*S		**Sn**	**16 56 13.0**	**+1.7**	
	baz=225								
WGK	**Gukeng**	**1.28**	**245**	*e*P		**Pg**	**16 55 55.4**	**+0.2**	
	baz=226								
WDLH	**Douliu**	**1.30**	**246**	*e*P		**Pg**	**16 55 56.0**	**+0.4**	
	baz=227								
EDH	**Donghe**	**1.34**	**201**	*e*P		**Pn**	**16 55 55.0**	**-0.1**	
	baz=186								
CHN2	**Minshiung**	**1.43**	**241**	*e*P		**Pg**	**16 55 58.1**	**+0.2**	
	baz=225								
WTK	**Tuku**	**1.43**	**248**	*e*P		**Pb**	**16 55 57.1**	**+0.1**	
	baz=246								
STYH	**Taoyuan**	**1.43**	**223**	*e*P		**Pb**	**16 55 57.2**	**+0.1**	
	baz=221								
CHN4	**Tsaushan**	**1.44**	**232**	⇑P		**Pg**	**16 55 58.2**	**+0.2**	
	baz=232								
CHN4				*e*S		**Sg**	**16 56 18.4**	**+1.7**	
	baz=232								
TPUB	**Ta-pu**	**1.44**	**230**	⇓*i*P		**Pg**	**16 55 57.6**	**-0.6**	
	baz=229								
TPUB				S		**Sg**	**16 56 16.9**	**-0.1**	
	baz=229								
STYT	**Tauyuan**	**1.45**	**223**	*e*P		**Pb**	**16 55 57.6**	**+0.1**	
	baz=221								
STYT				*e*S		**Sg**	**16 56 17.5**	**+0.2**	
	baz=221								
WTCT	**Ta-ch'eng**	**1.47**	**256**	*e*P		**Pb**	**16 55 57.2**	**-0.4**	
	baz=254								
LONT	**Longtian**	**1.47**	**206**	*e*P		**Pn**	**16 55 56.8**	**+0.1**	
	baz=205								
WTP	**Ta-pu**	**1.49**	**229**	*e*P		**Pg**	**16 55 58.8**	**-0.3**	
	baz=227								
TWK	**Hsinying**	**1.56**	**232**	*e*P		**Pg**	**16 55 59.7**	**-0.8**	
	baz=232								
TWK				*e*S		**Sg**	**16 56 20.6**	**-0.3**	
	baz=232								
TWGBT	**Beinan**	**1.57**	**206**	*e*P		**Pn**	**16 55 57.0**	**-1.1**	
	baz=189								
TWG	**Pinlang**	**1.57**	**207**	*e*P		**Pn**	**16 55 57.5**	**-0.6**	
	baz=189								
SNST	**Tainan City**	**1.58**	**231**	*e*P		**Pb**	**16 55 59.7**	**0.0**	
	baz=229								
CHN1	**Nanshi**	**1.59**	**229**	*e*P		**Pg**	**16 56 00.6**	**-0.4**	
	baz=229								
CHN1				*e*S		**Sg**	**16 56 21.8**	**+0.2**	
	baz=229								
LDUT	**Ludao**	**1.59**	**192**	*e*P		**Pn**	**16 55 57.3**	**-1.0**	
	baz=192								
WSF	**Szhu**	**1.59**	**248**	*e*P		**Pb**	**16 56 00.1**	**+0.3**	
	baz=257								
WSF				*e*S		**Sg**	**16 56 21.7**	**+0.1**	
	baz=257								
SGST	**Jiashian**	**1.62**	**225**	*e*P		**Pb**	**16 56 00.1**	**-0.2**	
	baz=224								
WSL	**Shuilin Townsh**	**1.63**	**245**	*e*P		**Pb**	**16 56 00.4**	**0.0**	
	baz=243								
SLGT	**Liugui**	**1.65**	**222**	*e*P		**Pg**	**16 56 01.2**	**-0.9**	
	baz=221								
ICHU	**Yijhu**	**1.67**	**239**	*e*P		**Pg**	**16 56 01.7**	**-0.8**	
	baz=238								
CHN8	**Yiju**	**1.73**	**240**	*e*P		**Pn**	**16 56 00.9**	**+0.6**	
	baz=223								
IRIF	**Iriomote-Funau**	**1.73**	**86**	P		**Pb**	**16 56 02.0**	**-0.2**	
IRIF				*e*S		**Sg**	**16 56 25.7**	**-0.7**	
ECL	**Taimali**	**1.82**	**207**	*e*P		**Pn**	**16 56 00.4**	**-1.1**	
	baz=192								
SHHT	**Tainan City**	**1.82**	**229**	*e*P		**Pg**	**16 56 04.5**	**-0.9**	
	baz=229								
SSD	**Sandimen**	**1.84**	**217**	*e*P		**Pb**	**16 56 03.6**	**-0.5**	
	baz=228								
SSD				*e*S		**Sb**	**16 56 27.5**	**+0.3**	
	baz=228								
TSMG	**Majia**	**1.87**	**216**	*e*P		**Pb**	**16 56 04.5**	**-0.1**	
	baz=217								
TWM1	**Shoushan**	**1.91**	**223**	*e*P		**Pb**	**16 56 05.2**	**0.0**	
	baz=222								
SGLT	**Jiouru**	**1.94**	**220**	*e*P		**Pn**	**16 56 04.3**	**+1.0**	
	baz=221								
MASBT	**Mashibuluo**	**1.95**	**215**	*e*P		**Pn**	**16 56 04.3**	**+0.9**	
	baz=217								
MASBT				*e*S		**Sb**	**16 56 30.3**	**0.0**	
	baz=217								
JKRS	**Kuro-shima**	**1.99**	**89**	P		**Pb**	**16 56 06.2**	**-0.3**	
JKRS				S		**Sg**	**16 56 33.1**	**-1.4**	
EAST	**Anshuo**	**2.05**	**206**	*e*P		**Pn**	**16 56 04.0**	**-0.8**	
	baz=194								
TAWH	**Dawu Township**	**2.08**	**205**	*e*P		**Pn**	**16 56 05.3**	**+0.3**	
	baz=193								
SSPT	**Xinbi**	**2.09**	**214**	*e*P		**Pb**	**16 56 08.2**	**-0.2**	
	baz=198								
JIJ	**Ishigaki jima**	**2.11**	**86**	P		**Pb**	**16 56 07.3**	**-1.4**	
JIJ				*e*S		**Sb**	**16 56 34.0**	**-0.8**	
SCZT	**Fangliau**	**2.16**	**211**	*e*P		**Pn**	**16 56 07.6**	**+1.4**	
	baz=196								
PNG	**Penghu**	**2.19**	**253**	*e*P		**Pn**	**16 56 07.8**	**+1.2**	
	baz=252								
PHUB	**P'eng-hu**	**2.19**	**251**	*e*P		**Pn**	**16 56 08.0**	**+1.4**	
	baz=250								
WDGT	**Dungji**	**2.21**	**244**	*e*P		**Pn**	**16 56 08.2**	**+1.2**	
	baz=243								
SLIU	**Shizi**	**2.22**	**206**	*e*P		**Pn**	**16 56 08.2**	**+1.1**	
	baz=194								
LYUB	**Lan-yu**	**2.23**	**186**	*e*P		**Pn**	**16 56 05.4**	**-1.8**	
	baz=186								
JISG	**Ishigakijimahi**	**2.29**	**81**	P		**Pn**	**16 56 09.6**	**+1.6**	
VCHM	**Qimei**	**2.43**	**246**	*e*P		**Pn**	**16 56 10.8**	**+0.9**	
	baz=231								
HEN	**Hengchun**	**2.44**	**205**	*e*P		**Pb**	**16 56 12.3**	**-1.8**	
	baz=194								
TWK1	**Hengchun**	**2.47**	**203**	*e*P		**Pn**	**16 56 11.8**	**+1.4**	
	baz=191								
MATB	**Ma-tsu**	**2.56**	**319**	*e*P		**Pn**	**16 56 11.5**	**-0.3**	
	baz=318								
JTJ	**Tarama**	**2.65**	**81**	P		**Pb**	**16 56 15.7**	**-2.1**	
JTJ				S		**Sb**	**16 56 48.5**	**-1.7**	
LYJJ	**Jianjiangzhen**	**2.97**	**321**	*e*P		**Pn**	**16 56 18.0**	**+0.6**	
	baz=321								
XPSS	**Dashiqiu**	**3.07**	**331**	*e*P		**Pn**	**16 56 18.9**	**+0.2**	
	baz=332								
JIRB	**Irabujima**	**3.10**	**78**	P		**Pn**	**16 56 22.2**	**+3.0**	
KNM	**Kinmen**	**3.10**	**274**	*e*P		**Pn**	**16 56 21.6**	**+2.4**	
	baz=272								
MHZQ	**Yeshan**	**3.15**	**307**	*e*P		**Pn**	**16 56 19.8**	**0.0**	
	baz=306								
KNMB	**Chin-men Tao**	**3.15**	**275**	*e*P		**Pn**	**16 56 19.9**	**0.0**	
	baz=274								
JMJ2	**Miyako jima3**	**3.23**	**80**	P		**Pb**	**16 56 24.6**	**-3.1**	
AXDP	**Jialang**	**3.58**	**281**	*e*P		**Pn**	**16 56 26.1**	**+0.4**	
	baz=280								
ZPLA	**Ao Xicun**	**3.74**	**266**	*e*P		**Pn**	**16 56 28.7**	**+0.7**	
	baz=264								
SXFK	**Yanhouchang**	**4.36**	**301**	*e*P		**Pn**	**16 56 37.1**	**+0.6**	
	baz=299								
APYP	**Conner**	**6.36**	**185**	⇑*e*P		**Pn**	**16 57 06.1**	**+2.0**	
JOW	**Kunigami**	**6.37**	**65**	Pn		**Pn**	**16 57 04.0**	**-0.1**	
	1.0nm,0.3s,baz=280,slow=20,SNR=1.4								
JOW	**Kunigami**	**6.37**	**65**	*e*P		**Pn**	**16 57 05.5**	**+1.4**	
	baz=59								
KSRS	**Korea Array**	**14.17**	**20**	Pn		**Pn**	**16 58 53.6**	**+2.7**	
	0.1nm,0.3s,baz=202,slow=12,SNR=2.0								
MKAR	**Makanchi Array**	**38.72**	**316**	P		**P**	**17 02 53.5**	**-0.8**	
	0.6nm,1.0s,baz=97,slow=9.2,SNR=3.0								
H11N1	**WAKE ISLAND Hy**	**41.89**	**87**	T		T	17 48 44.4		
	baz=282								
H11N2	**WAKE ISLAND Hy**	**41.90**	**87**	T		T	17 48 43.3		
	baz=282								
H11N3	**WAKE ISLAND Hy**	**41.91**	**87**	T		T	17 48 37.5		
	baz=282								
H11S3	**WAKE ISLAND Hy**	**42.03**	**89**	T		T	17 48 49.0		
	baz=278								
H11S1	**WAKE ISLAND Hy**	**42.03**	**89**	T		T	17 49 11.6		
	baz=278								
H11S2	**WAKE ISLAND Hy**	**42.04**	**89**	T		T	17 49 24.6		
	baz=278								
WRA	**Warramunga Arr**	**45.57**	**163**	P		**P**	**17 03 49.1**	**-1.3**	
	0.3nm,0.8s,baz=345,slow=8.7,SNR=2.1								
TIXI	**Tiksi**	**47.61**	**3**	P		**P**	**17 04 04.0**	**-1.8**	
	0.8nm,0.2s,baz=270,slow=23,SNR=6.5								
ASAR	**Alice Springs**	**49.03**	**165**	P		**P**	**17 04 17.4**	**0.0**	
	0.1nm,0.6s,baz=348,slow=6.6,SNR=4.3								
YKA	**Yellowknife Ar**	**82.69**	**23**	P		**P**	**17 07 52.8**	**-0.9**	
	0.3nm,0.5s,baz=313,slow=5.2,SNR=7.7								

*IDC **27** 17:04:34.6±1.4,24.°03N×121.°77E,h0km,mb3.2/3, mb1 3.5/5,mb1mx3.3/43,mbtmp3.4/5,ML3.2/2,MS2.7/1, Ms1 2.7/1,ms1mx2.3/35,Error ellipse: s-maj=32.2km s-min=26.1km az=72.0*

*NIED **27** 17:04:34.0,23.°97N×121.°58E,h24km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr-0.44; Mθθ1.42; Mϕϕ-0.98; Mrθ7.10; Mϕθ-2.36; Mϕr3.11; Fault plane solution: M₀8.15000×10¹⁴ NP1: ϕs159.00000°,δ18.00000°,λ-1.00000°. NP2:ϕs250.00000°, δ90.00000°,λ-108.00000°.*

*JMA **27** 17:04:34.0±0.1,23.°97N×121.°58E,h24km±1km,M3.6*

*TAP **27** 17:04:36.5,24.°23N×121.°78E,h11km,ML4.1,B*

ISC 27 17:04:36.7±0.8,24°22N±0.′01×121°81E±0.′02,h9km±6km, n173,₀0°81/266,mb3.3/3,15C-35D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.11**	**326**	⇓*i*P	**Pg**	**17 04 39.3**	**-0.1**
	baz=342						
EHP				*i* S	**Sg**	**17 04 41.4**	**+0.2**
	baz=342						
ETL	**Fush Village**	**0.18**	**251**	⇓*i*P	**Pg**	**17 04 40.3**	**-0.1**
	baz=243						
ETL				*i* S	**Sg**	**17 04 43.2**	**+0.1**
	baz=243						
NACB	**Ninganchiao**	**0.20**	**257**	⇓*i*P	**Pg**	**17 04 40.5**	**-0.3**
	baz=245						
NACB				*i* S	**Sg**	**17 04 43.2**	**-0.4**
	baz=245						
ENA	**Nanau**	**0.22**	**344**	⇓*i*P	**Pg**	**17 04 41.0**	**-0.2**
	baz=359						
ENA				S	**Sg**	**17 04 43.8**	**-0.3**
	baz=359						
EWUT	**Wuta**	**0.23**	**353**	⇓*i*P	**Pg**	**17 04 41.3**	**0.0**
EWUT				*i* S	**Sg**	**17 04 44.7**	**+0.2**
TWD	**Chiawan**	**0.24**	**235**	⇑P	**Pg**	**17 04 41.3**	**-0.2**
	baz=232						
TWD				S	**Sg**	**17 04 44.8**	**+0.1**
	baz=232						
ETLH	**Xiulin Townshi**	**0.30**	**268**	⇓*i*P	**Pg**	**17 04 42.3**	**-0.3**
	baz=265						
ETLH				S	**Sg**	**17 04 46.8**	**+0.1**
	baz=265						
HWA	**Hwalien**	**0.30**	**218**	*e*P	**Pb**	**17 04 43.5**	**-0.8**
	baz=220						
ETM	**Tongmen**	**0.38**	**229**	⇑*i*P	**Pg**	**17 04 44.1**	**-0.1**
	baz=225						
ETM				S	**Sg**	**17 04 49.2**	**-0.1**
	baz=225						
TWC	**Suao**	**0.39**	**6**	⇑*i*P	**Pg**	**17 04 44.4**	**0.0**
	baz=4.0						
TWC				S	**Sg**	**17 04 49.3**	**-0.2**
	baz=4.0						
TEYL	**Yanliau Villag**	**0.40**	**209**	*e*P	**Pg**	**17 04 45.0**	**+0.5**
	baz=217						
LATG	**Datong**	**0.41**	**321**	⇓*i*P	**Pg**	**17 04 44.5**	**-0.2**
	baz=323						
LATG				*i* S	**Sg**	**17 04 49.9**	**-0.2**
	baz=323						
NDS	**Dongshan**	**0.42**	**349**	⇓*i*P	**Pg**	**17 04 45.0**	**0.0**
	baz=352						
NDS				*i* S	**Sg**	**17 04 50.6**	**+0.1**
	baz=352						
NNSB	**Datong**	**0.44**	**298**	⇓*i*P	**Pg**	**17 04 45.1**	**-0.2**
	baz=299						
NNSB				S	**Sg**	**17 04 50.7**	**-0.4**
	baz=299						
NNS	**Nan Shan**	**0.45**	**299**	⇓*i*P	**Pg**	**17 04 45.3**	**-0.3**
	baz=300						
NNS				*i* S	**Sg**	**17 04 51.7**	**+0.1**
	baz=300						
NDT	**Datong Townshi**	**0.47**	**325**	⇓*i*P	**Pg**	**17 04 45.8**	**0.0**
	baz=327						
NDT				*i* S	**Sg**	**17 04 52.3**	**+0.3**
	baz=327						
ENTT	**Nioudou**	**0.47**	**332**	⇓*i*P	**Pg**	**17 04 45.9**	**-0.1**
	baz=335						
ENTT				*i* S	**Sg**	**17 04 52.2**	**0.0**
	baz=335						
WHF	**Hehuan Shan**	**0.50**	**262**	⇓*i*P	**Pg**	**17 04 46.1**	**-0.4**
	baz=260						
WHF				*i* S	**Sg**	**17 04 52.7**	**-0.4**
	baz=260						
TWE	**Neicheng**	**0.52**	**346**	⇓*i*P	**Pg**	**17 04 46.8**	**0.0**
	baz=350						
TWE				S	**Sg**	**17 04 52.7**	**-0.9**
	baz=350						
ESL	**Shilin**	**0.53**	**220**	P	**Pg**	**17 04 46.6**	**-0.3**
	baz=225						
ESL				S	**Sg**	**17 04 54.4**	**+0.5**
	baz=225						
ILA	**Ilan**	**0.55**	**354**	P	**Pg**	**17 04 47.4**	**+0.1**
	baz=352						
ILA				S	**Sg**	**17 04 54.5**	**0.0**
	baz=352						
TEGC	**Jichi Village**	**0.56**	**206**	*e*P	**Pb**	**17 04 48.1**	**-0.6**
	baz=193						
TEGC				*e*S	**Sb**	**17 04 57.8**	**+1.0**
	baz=193						
FUSB	**Fushanzhiwuy

	baz=242							
TIPB	**Shuangxi**	**0.75**	**1**⇑	*i*P	**Pg**	**17 04 51.1**	**-0.1**
	baz=3.0							
TIPB				S	**Sg**	**17 05 00.4**	**-0.6**
	baz=3.0							
NFF	**Wufeng Townshi**	**0.75**	**303**	⇓P	**Pg**	**17 04 51.1**	**-0.1**
	baz=304							
NFF				S	**Sg**	**17 05 00.9**	**-0.1**
	baz=304							
VWDT	**VWDT**	**0.77**	**233**	⇓*i*P	**Pg**	**17 04 51.1**	**-0.3**
	baz=231							
VWDT				*e*S	**Sb**	**17 05 02.8**	**+0.1**
	baz=231							
NHDH	**Xindian Distri**	**0.79**	**341**	*e*P	**Pg**	**17 04 51.8**	**-0.1**
	baz=342							
TWA	**Mucha**	**0.79**	**345**⇑	*i*P	**Pg**	**17 04 51.8**	**-0.1**
	baz=347							
TWA				S	**Sg**	**17 05 02.1**	**0.0**
	baz=347							
WHP	**Taichung City**	**0.79**	**274**	⇓*i*P	**Pg**	**17 04 52.0**	**0.0**
	baz=274							
WHP				*i* S	**Sg**	**17 05 02.0**	**-0.2**
	baz=274							
HGSD	**Ruisui**	**0.80**	**206**	*e*P	**Pb**	**17 04 52.6**	**-0.2**
	baz=194							
TWB1	**Santiao Chiao**	**0.80**	**12**	*e*P	**Pg**	**17 04 51.7**	**-0.4**
	baz=14							
TWB1				*e*S	**Sg**	**17 05 02.3**	**-0.3**
	baz=14							
WPL	**Puli Township**	**0.80**	**255**	⇓*i*P	**Pg**	**17 04 52.0**	**-0.2**
	baz=254							
WPL				S	**Sg**	**17 05 02.5**	**-0.2**
	baz=254							
TATO	**Taipei**	**0.81**	**339**	⇑P	**Pb**	**17 04 52.2**	**-0.7**
	baz=340							
TATO				*e*S	**Sg**	**17 05 01.3**	**-1.5**
	baz=340							
DPDB	**Guoxing**	**0.83**	**257**	⇓P	**Pg**	**17 04 52.5**	**-0.1**
	baz=256							
DPDB				S	**Sg**	**17 05 03.3**	**0.0**
	baz=256							
NJD	**Zhudong**	**0.83**	**308**	*e*P	**Pb**	**17 04 53.2**	**-0.1**
	baz=315							
NJD				*e*S	**Sb**	**17 05 05.3**	**+0.5**
	baz=315							
WCS	**Beigang Elemen**	**0.83**	**259**	⇓*e*P	**Pg**	**17 04 52.5**	**-0.2**
	baz=258							
EHY	**Hungye**	**0.84**	**212**	*e*P	**Pg**	**17 04 51.8**	**-1.0**
	baz=223							
LIOB	**Emei**	**0.84**	**301**	⇓*i*P	**Pb**	**17 04 53.1**	**-0.4**
	baz=301							
LIOB				S	**Sg**	**17 05 04.0**	**+0.2**
	baz=301							
NSTT	**Nanjuang**	**0.84**	**299**	⇓*i*P	**Pg**	**17 04 53.0**	**0.0**
	baz=300							
NSTT				*i* S	**Sg**	**17 05 03.4**	**-0.5**
	baz=300							
BACT	**New Taipei Cit**	**0.84**	**337**	*e*P	**Pb**	**17 04 53.1**	**-0.4**
	baz=338							
NHY	**Taipei**	**0.85**	**345**	*e*P	**Pb**	**17 04 53.4**	**-0.2**
	baz=347							
NWF	**Wu-fen Shan**	**0.85**	**358**⇑	*i*P	**Pb**	**17 04 53.2**	**-0.5**
	baz=353							
NWF				S	**Sg**	**17 05 03.7**	**-0.4**
	baz=353							
WFSB	**Wu-fen Shan**	**0.85**	**358**⇑	*i*P	**Pb**	**17 04 53.2**	**-0.4**
	baz=353							
WFSB				*i* S	**Sg**	**17 05 03.5**	**-0.7**
	baz=353							
TAP1	**Taipei**	**0.86**	**342**	*e*P	**Pb**	**17 04 53.5**	**-0.2**
	baz=334							
TAP	**Taipei**	**0.86**	**341**	*e*P	**Pg**	**17 04 53.2**	**-0.1**
	baz=343							
TAP				*e*S	**Sb**	**17 05 04.7**	**-0.8**
	baz=343							
SXI1	**Grass Mountain**	**0.87**	**4**⇑	*i*P	**Pb**	**17 04 53.6**	**-0.5**
	baz=13							
SXI1				*e*S	**Sg**	**17 05 04.5**	**-0.4**
	baz=13							
SSLB	**Suanglung**	**0.89**	**241**	⇓*i*P	**Pg**	**17 04 53.3**	**-0.5**
	baz=249							
SSLB				S	**Sg**	**17 05 04.2**	**-1.2**
	baz=249							
SMLT	**Sun Moon Lake**	**0.89**	**248**	⇓*i*P	**Pg**	**17 04 53.6**	**-0.3**
	baz=238							
SMLT				*i* S	**Sg**	**17 05 05.5**	**-0.1**
	baz=238							
NTY	**Taoyuan**	**0.91**	**329**	*e*P	**Pn**	**17 04 55.0**	**-0.6**
	baz=330							
HSN1	**Hsinchu**	**0.91**	**308**	*e*P	**Pb**	**17 04 54.6**	**-0.1**
	baz=308							
HSN1				*e*S	**Sb**	**17 05 07.3**	**+0.4**
	baz=308							
TYC	**Yuchr**	**0.92**	**250**	⇓*i*P	**Pg**	**17 04 54.0**	**-0.5**
	baz=241							
TYC				S	**Sg**	**17 05 05.4**	**-1.1**
	baz=241							
TNOU	**National Taiwa**	**0.93**	**358**	*e*P	**Pg**	**17 04 54.3**	**-0.3**
	baz=360							
NCUH	**Zhongli**	**0.94**	**323**	*e*P	**Pn**	**17 04 55.5**	**-0.6**
	baz=324							
NCUH				*e*S	**Sn**	**17 05 08.8**	**-0.8**
	baz=324							
NCU	**National Centr**	**0.94**	**323**	*e*P	**Pn**	**17 04 55.5**	**-0.6**
	baz=324							
NCU				S	**Sn**	**17 05 09.6**	**-0.1**
	baz=324							
SBCB	**Hsinchu**	**0.94**	**308**	*e*P	**Pn**	**17 04 55.6**	**-0.5**
	baz=308							
SBCB				*e*S	**Sn**	**17 05 09.2**	**-0.5**
	baz=308							
YULB	**Yu-li**	**0.95**	**210**	*e*P	**Pg**	**17 04 53.2**	**-1.7**
	baz=218							
TWS1	**Kuangyinshan**	**0.95**	**338**	*e*P	**Pb**	**17 04 55.4**	**+0.1**
	baz=339							
TWS1				*e*S	**Sb**	**17 05 08.7**	**+0.7**
	baz=339							
YM01	**YM01**	**0.95**	**347**	⇑P	**Pb**	**17 04 55.0**	**-0.4**
	baz=348							
TWQ1	**Liyutan**	**0.95**	**278**	*e*P	**Pb**	**17 04 55.3**	**-0.1**
	baz=278							
TWQ1				*e*S	**Sn**	**17 05 09.4**	**-0.6**
	baz=278							
ECBN	**Changbin**	**0.95**	**200**	*e*P	**Pg**	**17 04 54.7**	**-0.4**
	baz=187							
HSN	**Hsinchu**	**0.96**	**307**	*e*P	**Pb**	**17 04 55.7**	**+0.2**
	baz=301							
HSN				*e*S	**Sn**	**17 05 09.6**	**-0.5**
	baz=301							
NJN	**Zhunan**	**0.97**	**299**	*e*P	**Pb**	**17 04 55.9**	**+0.2**
	baz=292							
NSY	**Sanyi**	**0.97**	**282**	*e*P	**Pn**	**17 04 56.1**	**-0.4**
	baz=281							
EYUL	**Yuli**	**0.98**	**207**	*e*P	**Pg**	**17 04 55.3**	**-0.2**
	baz=222							
NMLH	**Miaoli**	**0.98**	**289**	*e*P	**Pn**	**17 04 56.3**	**-0.3**
	baz=288							
TWF1	**Yuli**	**0.98**	**209**	*e*P	**Pg**	**17 04 53.9**	**-1.6**
	baz=218							
TWF1				*e*S	**Sb**	**17 05 09.4**	**+0.5**
	baz=218							
YM08	**YM08**	**0.99**	**348**	*e*P	**Pb**	**17 04 55.6**	**-0.4**
	baz=350							
NTST	**Danshui**	**1.00**	**341**	*e*P	**Pn**	**17 04 56.5**	**-0.4**
	baz=342							
NTST				*e*S	**Sn**	**17 05 10.5**	**-0.6**
	baz=342							
ANP	**Anpu**	**1.00**	**345**	*e*P	**Pg**	**17 04 55.6**	**-0.3**
	baz=346							
WWF	**Wufeng**	**1.03**	**260**	*e*P	**Pn**	**17 04 57.5**	**+0.2**
	baz=255							
WWF				*e*S	**Sn**	**17 05 12.9**	**+1.0**
	baz=255							
TCU	**Taichung**	**1.04**	**266**	*e*P	**Pn**	**17 04 58.2**	**+0.8**
	baz=266							
NHW	**Xinwu Township**	**1.05**	**319**	*e*P	**Pb**	**17 04 57.1**	**+0.1**
	baz=319							
NHW				*e*S	**Sn**	**17 05 11.7**	**-0.6**
	baz=319							
WJS	**Zhushan**	**1.06**	**248**	*e*P	**Pb**	**17 04 57.4**	**+0.1**
	baz=243							
WJS				*e*S	**Sb**	**17 05 11.3**	**0.0**
	baz=243							
YUS	**Yu-Shan**	**1.07**	**227**	*e*P	**Pg**	**17 04 56.7**	**-0.5**
	baz=226							
YUS				*e*S	**Sb**	**17 05 12.0**	**+0.1**
	baz=226							
TWY	**Chenhua**	**1.07**	**350**	*e*P	**Pn**	**17 04 57.7**	**-0.2**
	baz=344							
TWY				*e*S	**Sn**	**17 05 13.1**	**+0.2**
	baz=344							
WDJ	**Dajia District**	**1.07**	**277**	*e*P	**Pn**	**17 04 58.3**	**+0.3**
	baz=277							
WDJ				*e*S	**Sn**	**17 05 13.5**	**+0.5**
	baz=277							
WNT1	**Nantou City**	**1.08**	**253**	*e*P	**Pn**	**17 04 58.1**	**+0.2**
	baz=248							
WNT1				*e*S	**Sn**	**17 05 13.6**	**+0.6**
	baz=248							
WNT	**Mingjian**	**1.08**	**252**	*e*P	**Pn**	**17 04 58.1**	**+0.1**
	baz=247							
WNT				*e*S	**Sn**	**17 05 13.1**	**-0.1**
	baz=247							
NSM	**Shimen**	**1.08**	**349**	*e*P	**Pn**	**17 04 58.2**	**+0.1**
	baz=336							
FULB	**Fuli**	**1.12**	**205**	*e*P	**Pg**	**17 04 57.4**	**-0.8**
	baz=193							
YOJ	**Yonaguni jima**	**1.12**	**77**	P	**Pn**	**17 04 58.4**	**-0.2**
YOJ				*e*S	**Sn**	**17 05 15.3**	**+1.1**
YOJ	**Yonaguni jima**	**1.12**	**77**	⇓P	**Pn**	**17 04 58.4**	**-0.2**
	baz=66							
YOJ				*e*S	**Sn**	**17 05 13.9**	**-0.3**
	baz=66							
WCHH	**Zhanghua**	**1.15**	**263**	*e*P	**Pn**	**17 04 59.4**	**+0.4**
	baz=263							
WCHH				*e*S	**Sn**	**17 05 17.0**	**+2.1**
	baz=263							
WYL	**Yuanlin Townsh**	**1.15**	**257**	*e*P	**Pn**	**17 04 59.1**	**+0.1**
	baz=257							
WYL				*e*S	**Sn**	**17 05 15.6**	**+0.7**
	baz=257							
ALS	**Alishan**	**1.16**	**233**	⇓*e*P	**Pg**	**17 04 58.5**	**-0.5**
	baz=218							
ALS				*e*S	**Sn**	**17 05 15.3**	**-0.1**
	baz=218							
CHKT	**Chengkung**	**1.19**	**200**	*e*P	**Pb**	**17 04 57.9**	**-1.4**
	baz=189							
CHN5	**Tsauling**	**1.21**	**239**	P	**Pn**	**17 05 00.1**	**+0.3**
	baz=239							
CHN5				*e*S	**Sn**	**17 05 16.7**	**+0.3**
	baz=239							
ECS	**Chishang**	**1.24**	**206**	*e*P	**Pn**	**17 04 58.9**	**-1.3**
	baz=206							
ELDTW	**Lidau**	**1.25**	**215**	*e*P	**Pn**	**17 04 58.5**	**-2.0**
	baz=215							
WGK	**Gukeng**	**1.26**	**245**	*e*P	**Pg**	**17 05 00.6**	**-0.2**
	baz=245							
WGK				*e*S	**Sn**	**17 05 19.4**	**+1.9**
	baz=245							
WDLH	**Douliu**	**1.27**	**246**	*e*P	**Pg**	**17 05 01.6**	**+0.4**
	baz=246							
WDLH				*e*S	**Sn**	**17 05 19.5**	**+1.6**
	baz=246							
EDH	**Donghe**	**1.32**	**201**	*e*P	**Pn**	**17 04 60.0**	**-1.4**
	baz=200							
WRL	**Guolierlin Hig**	**1.34**	**257**	*e*P	**Pg**	**17 05 02.4**	**-0.1**
	baz=257							
CHN2	**Minshiung**	**1.40**	**241**	*e*P	**Pg**	**17 05 03.8**	**+0.3**
	baz=227							
WTK	**Tuku**	**1.40**	**248**	*e*P	**Pg**	**17 05 03.5**	**-0.1**
	baz=260							
WTK				*e*S	**Sg**	**17 05 22.8**	**+1.0**
	baz=260							
CHN4	**Tsaushan**	**1.41**	**232**	*e*P	**Pg**	**17 05 03.4**	**-0.3**
	baz=233							
STYH	**Taoyuan**	**1.41**	**222**	*e*P	**Pn**	**17 05 02.5**	**0.0**
	baz=223							
TPUB	**Ta-pu**	**1.41**	**230**	⇑P	**Pb**	**17 05 03.1**	**-0.2**
	baz=231							
TPUB				S	**Sg**	**17 05 22.4**	**+0.2**
	baz=231							
STYT	**Tauyuan**	**1.43**	**223**	*e*P	**Pn**	**17 05 02.5**	**-0.3**
	baz=223							
STYT				S	**Sn**	**17 05 21.9**	**+0.2**
	baz=223							
WTCT	**Ta-ch'eng**	**1.44**	**256**	*e*P	**Pn**	**17 05 03.2**	**+0.2**
	baz=256							
LONT	**Longtian**	**1.45**	**206**	*e*P	**Pn**	**17 05 01.0**	**-2.1**
	baz=206							
CHY	**Chiayi**	**1.46**	**241**	*e*P	**Pb**	**17 05 04.2**	**+0.2**
	baz=241							
WTP	**Ta-pu**	**1.46**	**229**	*e*P	**Pb**	**17 05 03.9**	**-0.2**
	baz=229							
WTP				*e*S	**Sg**	**17 05 25.3**	**+1.6**
	baz=229							
TWK	**Hsinying**	**1.54**	**232**⇑	*e*P	**Pb**	**17 05 05.1**	**-0.3**
	baz=233							
TWK				*e*S	**Sg**	**17 05 27.7**	**+1.6**
	baz=233							
TWG	**Pinlang**	**1.55**	**206**	*e*P	**Pn**	**17 05 02.3**	**-2.1**
	baz=190							
TWGBT	**Beinan**	**1.55**	**206**	*e*P	**Pn**	**17 05 01.8**	**-2.6**
	baz=190							
SNST	**Tainan City**	**1.56**	**231**	*e*P	**Pn**	**17 05 04.9**	**+0.3**
	baz=232							
CHN1	**Nanshi**	**1.56**	**229**	*e*P	**Pb**	**17 05 05.5**	**-0.3**
	baz=230							
CHN1				*e*S	**Sg**	**17 05 27.7**	**+0.9**
	baz=230							
WSF	**Szhu**	**1.56**	**249**	*e*P	**Pb**	**17 05 05.3**	**-0.4**
	baz=259							
WSF				*e*S	**Sg**	**17 05 27.1**	**+0.2**
	baz=259							
LDUT	**Ludao**	**1.57**	**191**	*e*P	**Pn**	**17 05 01.9**	**-2.8**
	baz=178							
TTN	**Taitung**	**1.58**	**203**	*e*P	**Pb**	**17 05 05.7**	**-0.4**
	baz=196							
SGST	**Jiashian**	**1.59**	**225**	*e*P	**Pn**	**17 05 05.2**	**+0.1**
	baz=226							
WSL	**Shuilin Townsh**	**1.60**	**245**	*e*P	**Pn**	**17 05 05.8**	**+0.6**
	baz=246							
ICHU	**Yijhu**	**1.64**	**239**	*e*P	**Pb**	**17 05 06.8**	**-0.3**
	baz=241							
ICHU				*e*S	**Sg**	**17 05 30.5**	**+1.0**
	baz=241							
CHN8	**Yiju**	**1.70**	**240**	*e*P	**Pb**	**17 05 07.5**	**-0.7**
	baz=226							
CHN8				*e*S	**Sg**	**17 05 31.2**	**-0.2**
	baz=226							
CHN3	**Shinhua**	**1.74**	**230**	*e*P	**Pb**	**17 05 08.5**	**-0.3**
	baz=232							
IRIF	**Iriomote-Funau**	**1.76**	**86**	P	**Pn**	**17 05 06.9**	**-0.4**
SHHT	**Tainan City**	**1.79**	**229**	*e*P	**Pb**	**17 05 09.8**	**+0.1**
	baz=231							
SCST	**Cishan**	**1.79**	**223**	*e*P	**Pb**	**17 05 09.4**	**-0.3**
	baz=225							
ECL	**Taimali**	**1.79**	**206**	*e*P	**Pn**	**17 05 06.2**	**-1.6**
	baz=193							
SCLT	**Jiali**	**1.81**	**235**	*e*P	**Pn**	**17 05 08.6**	**+0.6**
	baz=238							
SSD	**Sandimen**	**1.82**	**217**	*e*P	**Pn**	**17 05 08.4**	**+0.2**
	baz=231							
SSD				*e*S	**Sb**	**17 05 32.7**	**-0.4**
	baz=231							
HATJ	**Hateruma jima**	**1.83**	**95**	P	**Pn**	**17 05 08.9**	**+0.5**
TSMG	**Majia**	**1.85**	**216**	*e*P	**Pn**	**17 05 09.1**	**+0.5**
	baz=206							
TWM1	**Shoushan**	**1.88**	**223**	*e*P	**Pn**	**17 05 09.9**	**+0.8**
	baz=223							
SGLT	**Jiouru**	**1.92**	**219**	*e*P	**Pb**	**17 05 11.2**	**-0.6**
	baz=210							
MASBT	**Mashibuluo**	**1.93**	**214**	*e*P	**Pn**	**17 05 09.4**	**-0.3**
	baz=216							
MASBT				*e*S	**Sb**	**17 05 36.0**	**-0.3**
	baz=216							
JKRS	**Kuro-shima**	**2.01**	**89**	P	**Pn**	**17 05 11.1**	**+0.3**
EAST	**Anshuo**	**2.03**	**206**	*e*P	**Pn**	**17 05 11.7**	**+0.6**
	baz=195							
TAW	**Tawu**	**2.03**	**205**	*e*P	**Pn**	**17 05 12.3**	**+1.2**
	baz=192							
TAWH	**Dawu Township**	**2.05**	**205**	*e*P	**Pn**	**17 05 11.3**	**-0.1**
	baz=193							
SSPT	**Xinbi**	**2.07**	**214**	*e*P	**Pn**	**17 05 12.9**	**+1.2**
	baz=198							
JIJ	**Ishigaki jima**	**2.14**	**86**	P	**Pn**	**17 05 12.3**	**-0.2**
JIJ				S	**Sn**	**17 05 39.5**	**+0.3**
SCZT	**Fangliau**	**2.14**	**211**	*e*P	**Pn**	**17 05 13.1**	**+0.5**
	baz=196							
PNG	**Penghu**	**2.16**	**253**	*e*P	**Pn**	**17 05 12.7**	**-0.2**
	baz=256							
PHUB	**P'eng-hu**	**2.16**	**252**	*e*P	**Pn**	**17 05 12.4**	**-0.5**
	baz=255							
PHUB				S	**Sn**	**17 05 40.9**	**+1.1**
	baz=255							
WDGT	**Dungji**	**2.19**	**245**	*e*P	**Pn**	**17 05 13.3**	**0.0**
	baz=249							
WDGT				*e*S	**Sn**	**17 05 41.6**	**+1.2**
	baz=249							
SLIU	**Shizi**	**2.20**	**205**	*e*P	**Pn**	**17 05 14.1**	**+0.7**
	baz=194							
LYUB	**Lan-yu**	**2.22**	**185**	*e*P	**Pn**	**17 05 10.9**	**-2.7**
	baz=186							
VWUC	**VWUC**	**2.28**	**290**	*e*P	**Pn**	**17 05 13.7**	**-0.8**
	baz=291							
VWUC				*e*S	**Sn**	**17 05 41.1**	**-1.7**
	baz=291							
JISG	**Ishigakijimahi**	**2.31**	**80**	P	**Pn**	**17 05 14.4**	**-0.6**
VCHM	**Qimei**	**2.40**	**246**	*e*P	**Pn**	**17 05 16.8**	**+0.7**
	baz=234							
VCHM				*e*S	**Sn**	**17 05 46.1**	**+0.3**
	baz=234							
HEN	**Hengchun**	**2.41**	**204**	*e*P	**Pn**	**17 05 16.8**	**+0.5**
	baz=195							
TWK1	**Hengchun**	**2.44**	**202**	*e*P	**Pn**	**17 05 16.8**	**0.0**
	baz=191							
MATB	**Ma-tsu**	**2.56**	**319**	*e*P	**Pn**	**17 05 17.5**	**-0.9**
	baz=318							
MSUT	**Lienchiang**	**2.59**	**319**	*e*P	**Pn**	**17 05 17.8**	**-0.9**
	baz=318							
JTJ	**Tarama**	**2.67**	**80**	P	**Pn**	**17 05 21.3**	**+1.4**
LYJJ	**Jianjiangzhen**	**2.97**	**322**	*e*P	**Pn**	**17 05 23.5**	**-0.5**
	baz=321							
XPSS	**Dashiqiu**	**3.07**	**332**	*e*P	**Pn**	**17 05 24.8**	**-0.6**
	baz=331							
KNM	**Kinmen**	**3.08**	**274**	*e*P	**Pn**	**17 05 27.0**	**+1.4**
	baz=273							
KNMB	**Chin-men Tao**	**3.13**	**275**	*e*P	**Pn**	**17 05 26.0**	**-0.2**
	baz=275							
MHZQ	**Yeshan**	**3.14**	**307**	*e*P	**Pn**	**17 05 26.4**	**+0.1**
	baz=306							
JMJ	**Miyako jima 2**	**3.23**	**79**	*e*P	**Pn**	**17 05 29.3**	**+1.7**
	baz=76							
AXDP	**Jialang**	**3.56**	**282**	*e*P	**Pn**	**17 05 32.2**	**0.0**
	baz=281							
AXDP				*e*S	**Sn**	**17 06 12.6**	**-1.7**
	baz=281							
ZPLA	**Ao Xicun**	**3.72**	**266**	*e*P	**Pn**	**17 05 34.0**	**-0.3**
	baz=267							
SXFK	**Yanhouchang**	**4.35**	**301**	*e*P	**Pn**	**17 05 42.5**	**-0.5**
	baz=300							
APYP	**Conner**	**6.35**	**185**⇑	*e*P	**Pn**	**17 06 11.9**	**+1.4**
JOW	**Kunigami**	**6.39**	**65**	Pn	**Pn**	**17 06 10.2**	**-0.9**
	1.2nm,0.3s,baz=113,slow=16,SNR=1.6							
JOW				Sn	**Sn**	**17 07 28.9**	**+4.6**
	1.3nm,0.3s,baz=43,slow=24,SNR=1.0							
KSRS	**Korea Array**	**14.20**	**20**	Pn	**Pn**	**17 08 01.1**	**+3.2**
	0.1nm,0.3s,baz=207,slow=13,SNR=2.6							
KSRS				LR	LR	17 14 11.8		
	comp=Z,26nm,18.3s,baz=325,slow=40							
MKAR	**Makanchi Array**	**38.71**	**316**	P	**P**	**17 12 01.0**	**0.0**
	0.9nm,0.7s,baz=108,slow=10,SNR=10							
WRA	**Warramunga Arr**	**45.56**	**163**	P	**P**	**17 12 53.9**	**-3.2**
	0.2nm,0.5s,baz=337,slow=8.1,SNR=1.9							
ASAR	**Alice Springs**	**49.03**	**165**	P	**P**	**17 13 23.2**	**-0.9**
	0.2nm,0.6s,baz=348,slow=8.8,SNR=1.6							

TAP 27 17:04:56.5, 24.24N×121.74E, h11km, ML3.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EHP	**Heping Village**	**0.07**	**3**	*i* P		Pg	17 04 59.5	+0.7
	baz=9.0							
EHP				*i* S		Sg	17 05 01.4	+1.0
	baz=9.0							
ETL	**Fush Village**	**0.13**	**232**	*i* P		Pg	17 05 00.3	+0.7
	baz=231							
ETL				S		Sg	17 05 03.0	+1.1
	baz=231							
NACB	**Ninganchiao**	**0.15**	**242**	*e*P		Pb	17 05 00.6	-0.7
	baz=242							
NACB				*i* S		Sg	17 05 03.4	+1.2
	baz=242							
ENA	**Nanau**	**0.18**	**1**	*i* P		Pb	17 05 01.3	-0.7
	baz=3.0							
ENA				*i* S		Sg	17 05 04.5	+1.2
	baz=3.0							
EWUT	**Wuta**	**0.21**	**11**	*i* P		Pb	17 05 01.7	-0.7
	baz=10.0							
EWUT				*i* S		Sg	17 05 05.0	+1.2
	baz=10.0							
TWD	**Chiawan**	**0.21**	**219**	P		Pg	17 05 01.5	+0.6
	baz=216							
TWD				*i* S		Sg	17 05 04.6	+0.8
	baz=216							
ETLH	**Xiulin Townshi**	**0.24**	**261**	*e*P		Pb	17 05 02.6	-0.3
	baz=261							
ETLH				S		Sg	17 05 06.6	+1.9
	baz=261							
LATG	**Datong**	**0.35**	**327**	*e*P		Pb	17 05 04.8	-0.1
	baz=326							
NNSB	**Datong**	**0.37**	**300**	P		Pb	17 05 05.7	+0.4
	baz=299							
NNSB				S		Sb	17 05 11.0	-0.1
	baz=299							
TWC	**Suao**	**0.38**	**16**	P		Pb	17 05 05.7	+0.4
	baz=17							
TWC				S		Sb	17 05 10.2	-1.0
	baz=17							
NNS	**Nan Shan**	**0.39**	**301**	*e*P		Pb	17 05 06.3	+0.9
	baz=300							
NNS				S		Sb	17 05 11.1	-0.4
	baz=300							
NDS	**Dongshan**	**0.39**	**357**	P		Pb	17 05 05.5	0.0
	baz=357							
NDS				S		Sb	17 05 11.1	-0.5
	baz=357							
ENTT	**Nioudou**	**0.43**	**339**	P		Pb	17 05 06.2	+0.1
	baz=339							
ENTT				*i* S		Sb	17 05 12.7	+0.1
	baz=339							
WHF	**Hehuan Shan**	**0.44**	**257**	*e*P		Pb	17 05 06.1	-0.5
	baz=256							
WHF				*e*S		Sb	17 05 12.6	-0.8
	baz=256							
TWE	**Neicheng**	**0.48**	**352**	*i* P		Pb	17 05 07.4	+0.4
	baz=354							
TWE				S		Sb	17 05 13.3	-0.9
	baz=354							
ESL	**Shilin**	**0.51**	**213**	*e*P		Pb	17 05 07.7	+0.2
	baz=212							
ILA	**Ilan**	**0.52**	**1**	*e*P		Pb	17 05 08.3	+0.7
	baz=1.0							
TDCB	**Techi**	**0.53**	**271**	*e*P		Pn	17 05 09.4	-0.7
	baz=271							
FUSB	**Fushanzhiwuyua**	**0.53**	**345**	*e*P		Pn	17 05 09.1	-1.1
	baz=345							
FUSB				S		Sb	17 05 15.7	0.0
	baz=345							
YHNB	**Yeheng**	**0.54**	**322**	*e*P		Pn	17 05 09.2	-1.1
	baz=322							
YHNB				*e*S		Sb	17 05 16.2	+0.3
	baz=322							
CHGB	**Renai**	**0.55**	**251**	*e*P		Pb	17 05 08.7	+0.5
	baz=250							
NSK	**Sanguang**	**0.55**	**321**	*e*P		Pn	17 05 09.4	-1.1
	baz=321							
NSK				S		Sb	17 05 16.4	+0.2
	baz=321							
NWLT	**Wulai**	**0.57**	**338**	*e*P		Pb	17 05 09.2	+0.6
	baz=338							
NWLT				*i* S		Sb	17 05 16.9	+0.1
	baz=338							
OWD	**Renai**	**0.59**	**241**	*e*P		Pb	17 05 08.9	0.0
	baz=240		

*INMG **27** 17:06:43.2±1.3, 37.°51N×7.°61W, h18km±2km, ML2.0, Error ellipse: s-maj=2.1km s-min=1.5km az=120.0*
*IGIL **27** 17:06:43.6, 37.°52N×7.°62W, h17km, ML2.1*
ISC 27 17:06:42.5±1.0**, 37.°52N**±0.°02×**7.°60W**±0.°02**, h19**km±2km**,**
n36, σ1.69/76**, 5C, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRO	**El Granado**	**0.10**	**80**	Pg	**Pg**	**17 06 47.1**	**+0.8**
EGRO				Sg	**Sg**	**17 06 49.4**	**+0.5**
EGRO				*i* Vmb_Lg		17 06 49.9	
PVAQ	**Vaqueiros**	**0.14**	**219**⇑	*i*Pg	**Pg**	**17 06 47.4**	**+0.6**
PVAQ				*e*Sg	**Sg**	**17 06 50.1**	**+0.4**
PVAQ				A	A	17 06 50.9	
	323nm,0.1s						
PVAQ	**Vaqueiros**	**0.14**	**219**	P	**Pg**	**17 06 47.6**	**+0.7**
PVAQ				S	**Sg**	**17 06 50.1**	**+0.4**
PCVE	**Castro Verde**	**0.36**	**289**⇑	*i*Pg	**Pg**	**17 06 50.4**	**+0.2**
PCVE				*e*Sg	**Sg**	**17 06 55.1**	**-0.4**
PCVE				A	A	17 06 55.6	
	66nm,0.3s						
PBDV	**Barranco-do-Ve**	**0.38**	**224**⇑	*i*Pg	**Pg**	**17 06 50.7**	**+0.2**
PBDV				*e*Sg	**Sg**	**17 06 55.6**	**-0.3**
PBDV				A	A	17 06 56.8	
	42nm,0.2s						
PBEJ	**Beja**	**0.55**	**338**⇑	*e*Pg	**Pg**	**17 06 53.7**	**+0.1**
PBEJ				*e*Sg	**Sg**	**17 07 01.1**	**+0.1**
PBEJ				A	A	17 07 03.1	
	18nm,0.2s						
EMIN	**Mina Concepcio**	**0.78**	**71**	Pg	**Pb**	**17 06 57.6**	**+0.1**
EMIN				Sg	**Sb**	**17 07 08.1**	**+0.4**
EMIN				*i* Vmb_Lg		17 07 09.4	
PBAR	**Barrancos**	**0.80**	**34**	*e*P	**Pg**	**17 06 58.5**	**+0.4**
PBAR				*e*S	**Sb**	**17 07 08.8**	**+0.7**
MORF	**Marmelete**	**0.86**	**256**	*e*P	**Pb**	**17 06 58.7**	**-0.2**
MORF				*e*S	**Sb**	**17 07 09.6**	**-0.4**
MORF				IAML		17 07 10.8	
	comp=E,53nm,0.2s						
MORF	**Marmelete**	**0.86**	**256**⇑	*e*P	**Pb**	**17 06 58.7**	**-0.2**
MORF				*e*S	**Sb**	**17 07 09.9**	**-0.1**
MORF				A	A	17 07 10.9	
	comp=E,25nm,0.2s						
PTEO	**Sao Teotonio**	**0.89**	**272**	*e*P	**Pb**	**17 06 59.4**	**+0.1**
PTEO				*e*S	**Sb**	**17 07 11.3**	**+0.5**
PTEO				A	A	17 07 14.3	
	comp=E,28nm,0.4s						
PNCL	**Nicolau / Gran**	**0.94**	**309**	*e*P	**Pb**	**17 07 00.1**	**-0.1**
PNCL				*e*S	**Sb**	**17 07 12.9**	**+0.6**
PNCL				A	A	17 07 13.5	
	comp=E,26nm,0.2s						
PFVI	**Vila Bisbo**	**1.05**	**249**	*e*P	**Pb**	**17 07 01.7**	**-0.3**
PFVI				*e*S	**Sn**	**17 07 16.5**	**+0.3**
PFVI				A	A	17 07 17.2	
	comp=E,13nm,0.1s						
PFVI	**Vila Bisbo**	**1.05**	**249**	S	**Sg**	**17 07 24.3**	**+7.6**
EVO	**Evora**	**1.06**	**342**	P	**Pb**	**17 07 01.9**	**-0.4**
EVO				S	**Sn**	**17 07 17.3**	**+0.7**
EBAD	**Badajoz**	**1.32**	**20**	Pn	**Pn**	**17 07 05.3**	**-0.7**
EBAD				Pg	**Pb**	**17 07 07.1**	**+0.4**
EBAD				Sn	**Sn**	**17 07 21.5**	**-1.5**
EBAD				Sg	**Sb**	**17 07 24.3**	**+1.1**
EBAD				*i* Vmb_Lg		17 07 25.6	
PESTR	**Estremoz**	**1.35**	**0**	*e*P	**Pb**	**17 07 07.4**	**+0.2**
PESTR				*e*S	**Sn**	**17 07 24.3**	**+0.6**
PESTR				A	A	17 07 26.3	
	comp=E,7.6nm,0.4s						
PESTR	**Estremoz**	**1.35**	**0**	P	**Pn**	**17 07 06.2**	**-0.1**
ESPR	**Espera**	**1.54**	**114**	Pn	**Pn**	**17 07 08.0**	**-0.9**
ESPR				Pg	**Pb**	**17 07 10.4**	**+0.1**
ESPR				Sn	**Sn**	**17 07 25.9**	**-2.5**
ESPR				Sg	**Sb**	**17 07 30.8**	**+1.3**
ESPR				*i* Vmb_Lg		17 07 36.1	
PMTG	**Montargil**	**1.62**	**343**	*e*Pn	**Pn**	**17 07 09.6**	**-0.5**
PMTG	**Montargil**	**1.62**	**343**	*e*Pg	**Pb**	**17 07 11.8**	**-0.1**
PMTG				*e*Sg	**Sb**	**17 07 32.9**	**+0.9**
PMTG				A	A	17 07 39.6	
	comp=E,7.6nm,0.4s						
ECAB	**El Cabril**	**1.82**	**71**	Pn	**Pn**	**17 07 12.1**	**-0.7**
ECAB				Pg	**Pb**	**17 07 15.1**	**-0.1**
ECAB				Sn	**Sn**	**17 07 33.0**	**-2.3**
ECAB				Sg	**Sb**	**17 07 39.1**	**+1.5**
ECAB				*i* Vmb_Lg		17 07 39.8	
PMRV	**Marv??o**	**1.92**	**5**	*e*Pn	**Pn**	**17 07 13.7**	**-0.4**
PMRV	**Marv??o**	**1.92**	**5**	*e*Pg	**Pb**	**17 07 17.2**	**+0.4**
PMRV				*e*Sn	**Sn**	**17 07 36.9**	**-0.8**
PMRV				*e*Sg	**Sb**	**17 07 40.6**	**+0.2**
PMRV				A	A	17 07 46.7	
	comp=E,8.5nm,0.4s						
PMAFR	**Mafra**	**1.95**	**318**	*e*Pg	**Pg**	**17 07 19.6**	**-0.4**
PMAFR				*e*Sg	**Sg**	**17 07 44.3**	**-1.1**
PMAFR				A	A	17 07 46.2	
	comp=E,18nm,0.6s						
PSBE	**So Bento**	**2.20**	**335**	*e*Pg	**Pg**	**17 07 23.9**	**-0.9**
PSBE				*e*Sg	**Sg**	**17 07 52.7**	**-0.7**
PCBR	**Castelo Branco**	**2.32**	**2**	*e*Sg	**Sb**	**17 07 54.1**	**+2.1**
EADA	**Adamuz**	**2.48**	**74**	Pn	**Pn**	**17 07 20.6**	**-1.3**
EADA				Pg	**Pb**	**17 07 27.1**	**+0.6**
EADA				Sn	**Sn**	**17 07 49.9**	**-1.8**
EADA				Sg	**Sb**	**17 07 59.0**	**+2.4**
EADA				*i* Vmb_Lg		17 08 05.2	
PCAS	**Casmilo, Conde**	**2.63**	**345**	*e*Sg	**Sg**	**17 08 07.7**	**+0.7**
EPLA	**Plasencia**	**2.81**	**25**	Pn	**Pn**	**17 07 26.0**	**-0.4**
EPLA				Sn	**Sn**	**17 07 57.7**	**-2.0**
EPLA				Sg	**Sb**	**17 08 09.0**	**+2.9**
EPLA				*i* Vmb_Lg		17 08 12.5	
MTE	**Manteigas**	**2.88**	**1**	*e*Sg	**Sb**	**17 08 10.3**	**+2.2**
PAB	**San Pablo**	**3.26**	**51**	Pn	**Pn**	**17 07 31.9**	**-0.7**
PAB				Sn	**Sn**	**17 08 08.6**	**-2.3**
PAB				Sg	**Sb**	**17 08 22.7**	**+3.6**
PAB				*i* Vmb_Lg		17 08 27.4	
ESDC	**Sonseca Array**	**3.57**	**52**	Pn	**Pn**	**17 07 35.4**	**-1.5**
ESDC				Sn	**Sn**	**17 08 15.5**	**-3.1**
ESDC				Sg	**Sb**	**17 08 32.0**	**+3.9**
PVRL	**Vila Real**	**3.75**	**359**	*e*Sn	**Sn**	**17 08 22.1**	**-1.0**
GUD	**Guadarrama**	**4.12**	**40**	Pn	**Pn**	**17 07 43.6**	**-0.9**
GUD				Sn	**Sn**	**17 08 28.5**	**-3.7**
GUD				Sg	**Sb**	**17 08 48.1**	**+4.3**
MD31	**MD31**	**5.19**	**153**	P	**Pn**	**17 07 57.3**	**-1.9**

*ATH **27** 17:11:24.5, 38.°97N×26.°07E, h28km±1km, ML3.4/14, Error ellipse: s-maj=1.9km s-min=1.0km az=93.0*
*DDA **27** 17:11:24.4±0.0, 38.°97N×26.°09E, h19km±2km, MW3.8*
*ISK **27** 17:11:24.0, 38.°95N×26.°02E, h8km, ML3.8/11*
*THE **27** 17:11:25.5, 38.°95N×26.°06E, h10km, ML3.6/4, Error ellipse: s-maj=0.9km s-min=0.4km az=60.0*
ISC 27 17:11:25.4±0.9**, 38.°96N**±0.°02×**26.°06E**±0.°02**, h17**km±6km**,**
n110, σ1.29/157**, 13C-18D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.29**	**328**	P	**Pg**	**17 11 31.5**	**-0.3**
SIGR				S	**Sg**	**17 11 36.8**	**+0.7**
SIGR				AML	AML	17 11 37.0	
	comp=E,68376µm,0.5s						
SIGR				AML	AML	17 11 38.6	
	comp=N,41019µm,0.5s						
SIGR	**SIGRI**	**0.29**	**328**	P	**Pg**	**17 11 31.5**	**-0.3**
SIGR				S	**Sg**	**17 11 36.0**	**-0.1**
	comp=N,27µm,0.5s						
PRK	**Paraskevi**	**0.33**	**31**	P	**Pg**	**17 11 32.3**	**-0.1**
PRK				S	**Sg**	**17 11 37.1**	**0.0**
PRK				AML	AML	17 11 37.5	
	comp=N,41108µm,0.5s						
PRK				AML	AML	17 11 39.7	
	comp=E,30832µm,0.6s						
PRK	**Paraskevi**	**0.33**	**31**	P	**Pg**	**17 11 32.3**	**-0.1**
PRK				S	**Sg**	**17 11 37.0**	**-0.2**
	comp=E,18µm,0.7s						
GPNR	**Gulpinar-Canak**	**0.50**	**7**	PG	**Pg**	**17 11 34.2**	**-1.2**
GPNR				SG	**Sg**	**17 11 42.0**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.54**	**7**	P	**Pb**	**17 11 35.4**	**-1.1**
KOCA				S	**Sb**	**17 11 43.1**	**-0.8**
KOCA				*i* AML	AML	17 11 48.0	
	comp=E,2µm,0.6s						
KOCA				*i* AML	AML	17 11 49.0	
	comp=E,2µm,0.5s						
KOCA				*i* AML	AML	17 11 52.0	
	comp=E,1µm,0.5s						
PSRA	**Psara**	**0.57**	**223**	P	**Pb**	**17 11 37.3**	**+0.5**
PSRA				S	**Sb**	**17 11 45.3**	**+0.7**
CHOS	**Chios island**	**0.57**	**180**	P	**Pb**	**17 11 36.0**	**-1.0**
CHOS				S	**Sb**	**17 11 45.4**	**+0.5**
CHOS				AML	AML	17 11 49.5	
	comp=E,10540µm,0.5s						
CHOS				AML	AML	17 11 49.5	
	comp=N,9528µm,0.7s						
CHOS	**Chios island**	**0.57**	**180**	P	**Pb**	**17 11 36.3**	**-0.7**
CHOS	**Chios island**	**0.57**	**180**	PG	**Pb**	**17 11 35.6**	**-1.4**
CHOS				SG	**Sb**	**17 11 44.0**	**-0.9**
CAND	**Candarli**	**0.58**	**91**	PG	**Pb**	**17 11 36.3**	**-0.8**
CAND				SG	**Sb**	**17 11 45.1**	**+0.1**
FOCM	**Foa**	**0.58**	**115**	PG	**Pb**	**17 11 35.9**	**-1.2**
FOCM				SG	**Sb**	**17 11 44.9**	**-0.1**
AYVA	**Ayvalik**	**0.60**	**55**	P	**Pb**	**17 11 35.9**	**-1.5**
AYVA				S	**Sb**	**17 11 44.2**	**-1.4**
AYVA				*i* AML	AML	17 11 45.0	
	comp=N,2µm,0.8s						
AYVA				*i* AML	AML	17 11 48.0	
	comp=N,1µm,0.4s						
AYVA				*i* AML	AML	17 11 48.0	
	comp=N,3µm,0.6s						
URLA	**Izmir**	**0.73**	**145**	P	**Pb**	**17 11 38.4**	**-1.3**
URLA				S	**Sg**	**17 11 50.7**	**+1.1**
URLA				*i* AML	AML	17 11 52.0	
	comp=N,844nm,1.0s						
URLA				*i* AML	AML	17 11 52.0	
	comp=N,2µm,0.5s						
URLA				*i* AML	AML	17 11 59.0	
	comp=N,3µm,0.8s						
ZEDA	**zmir-Bergama**	**0.80**	**89**	P	**Pb**	**17 11 39.7**	**-1.0**
ZEDA				S	**Sb**	**17 11 51.6**	**+0.4**
ZEDA				*i* AML	AML	17 11 53.0	
	comp=N,1µm,0.7s						
ZEDA				*i* AML	AML	17 11 53.0	
	comp=N,629nm,0.4s						
ZEDA				*i* AML	AML	17 11 54.0	
	comp=N,483nm,0.7s						
ZEYE	**Izmir, Urla-Ze**	**0.80**	**154**	P	**Pb**	**17 11 39.8**	**-1.1**
ZEYE				S	**Sb**	**17 11 51.5**	**+0.1**
ZEYE				*i* AML	AML	17 11 53.0	
	comp=N,1µm,0.9s						
ZEYE				*i* AML	AML	17 11 54.0	
	comp=N,848nm,0.6s						
ZEYE				*i* AML	AML	17 11 55.0	
	comp=N,1µm,0.6s						
BAYC	**CANAKKALE_Bayr**	**0.87**	**26**	P	**Pb**	**17 11 40.3**	**-1.6**
BAYC				S	**Sb**	**17 11 53.8**	**+0.6**
BAYC				*i* AML	AML	17 11 55.0	
	comp=N,1µm,0.7s						
BAYC				*i* AML	AML	17 11 55.0	
	comp=N,942nm,0.6s						
BAYC				*i* AML	AML	17 11 55.0	
	comp=N,2µm,0.6s						
BOZC	**Bozcaada**	**0.88**	**360**	P	**Pb**	**17 11 41.4**	**-0.7**
BOZC				P	**Pg**	**17 11 41.7**	**-0.8**
BOZC				S	**Sb**	**17 11 53.0**	**-0.5**
BOZC				S	**Sg**	**17 11 53.1**	**-1.0**
BOZC				*i* AML	AML	17 11 56.0	
	comp=N,2µm,0.8s						
BOZC				*i* AML	AML	17 11 56.0	
	comp=N,2µm,1.1s						
BOZC				*i* AML	AML	17 11 56.0	
	comp=N,3µm,0.8s						
BOZC				*i* AML	AML	17 11 57.0	
	comp=N,1µm,0.5s						
BOZC				*i* AML	AML	17 11 58.0	
	comp=N,487nm,0.7s						
BOZC				*i* AML	AML	17 11 58.0	
	comp=N,556nm,0.7s						
EZN	**Ezine**	**0.89**	**14**	P	**Pb**	**17 11 41.2**	**-1.1**
BUHA	**Balikesir, Bur**	**0.96**	**56**	P	**Pb**	**17 11 42.7**	**-0.8**
BUHA				S	**Sb**	**17 11 55.2**	**-0.7**
BUHA				*i* AML	AML	17 11 57.0	
	comp=N,2µm,0.7s						
BUHA				*i* AML	AML	17 11 57.0	
	comp=N,2µm,0.5s						
BUHA				*i* AML	AML	17 12 01.0	
	comp=N,992nm,0.7s						
BLCB	**Balcova**	**0.96**	**126**	P	**Pb**	**17 11 43.4**	**-0.2**
EFSA	**Agios Efstrati**	**1.01**	**305**	P	**Pn**	**17 11 45.4**	**+0.7**
EFSA				AML	AML	17 12 04.3	
	comp=E,5794µm,0.6s						
EFSA				AML	AML	17 12 06.2	
	comp=N,4560µm,0.6s						
ECEA	**Canakkale, Ece**	**1.08**	**5**	P	**Pb**	**17 11 45.6**	**0.0**
ECEA				S	**Sb**	**17 12 00.0**	**+0.5**
ECEA				*i* AML	AML	17 12 02.0	
	comp=N,7µm,0.6s						
ECEA				*i* AML	AML	17 12 02.0	
	comp=N,3µm,0.5s						
ECEA				*i* AML	AML	17 12 03.0	
	comp=N,2µm,0.9s						
DGB	**zmir**	**1.12**	**144**	P	**Pn**	**17 11 45.5**	**-0.7**
DGB				S	**Sb**	**17 12 00.4**	**0.0**
DGB				*i* AML	AML	17 12 02.0	
	comp=N,590nm,0.6s						
DGB				*i* AML	AML	17 12 02.0	
	comp=N,472nm,0.6s						
DGB				*i* AML	AML	17 12 04.0	
	comp=N,392nm,1.3s						
LIA	**Limnos Island**	**1.15**	**324**	P	**Pn**	**17 11 46.9**	**+0.3**
LIA				S	**Sn**	**17 12 02.8**	**+0.7**
LIA				AML	AML	17 12 04.1	
	comp=E,5308µm,0.7s						
LIA				AML	AML	17 12 04.5	
	comp=N,4969µm,0.5s						
LIA	**Limnos Island**	**1.15**	**324**	P	**Pn**	**17 11 47.0**	**+0.3**
LIA				S	**Sn**	**17 12 02.9**	**+0.9**
	comp=N,3µm,0.6s						
GOKA	**anakkale-Gk**	**1.23**	**355**	P	**Pn**	**17 11 47.9**	**+0.1**
GOKA				S	**Sb**	**17 12 03.9**	**+0.1**
GOKA				*i* AML	AML	17 12 07.0	
	comp=N,1µm,0.6s						
GOKA				*i* AML	AML	17 12 07.0	
	comp=N,3µm,0.6s						
GOKA				*i* AML	AML	17 12 35.0	
	comp=N,0.6nm,1.6s						
STEP	**BALIKESIR_Sava**	**1.36**	**72**	P	**Pn**	**17 11 49.3**	**-0.2**
STEP				S	**Sg**	**17 12 08.9**	**-0.4**
STEP				*i* AML	AML	17 12 10.0	
	comp=N,1µm,1.0s						
STEP				*i* AML	AML	17 12 10.0	
	comp=N,1µm,0.7s						
STEP				*i* AML	AML	17 12 16.0	
	comp=N,804nm,0.7s						
AKS	**Akhisar**	**1.37**	**93**	PN	**Pn**	**17 11 50.3**	**+0.6**
AKHS	**Akhisar**	**1.37**	**93**	P	**Pn**	**17 11 49.5**	**-0.3**
AKHS				S	**Sb**	**17 12 08.0**	**+0.2**
AKHS				*i* AML	AML	17 12 13.0	
	comp=N,0.9nm,0.4s						
AKHS				*i* AML	AML	17 12 19.0	
	comp=N,247nm,1.4s						
AKHS				*i* AML	AML	17 12 24.0	
	comp=N,400nm,0.8s						
SMG	**Samos**	**1.40**	**154**	P	**Pn**	**17 11 50.4**	**+0.3**
SMG				AML	AML	17 12 13.0	
	comp=E,2074µm,0.5s						
SMG				AML	AML	17 12 14.8	
	comp=N,3404µm,0.6s						
SMG	**Samos**	**1.40**	**154**	P	**Pn**	**17 11 50.0**	**0.0**
SMG				S	**Sn**	**17 12 08.5**	**+0.5**
	comp=N,1µm,0.8s						
BALY	**Balya**	**1.44**	**57**	P	**Pn**	**17 11 50.3**	**-0.3**
BALY				S	**Sn**	**17 12 08.1**	**-1.1**
BALY				*i* AML	AML	17 12 12.0	
	comp=N,1µm,0.8s						
BALY				*i* AML	AML	17 12 13.0	
	comp=N,402nm,0.7s						
BALY				*i* AML	AML	17 12 15.0	
	comp=N,549nm,0.9s						
SMTH	**Samothraki Isl**	**1.56**	**345**	P	**Pn**	**17 11 52.5**	**+0.2**
SMTH				AML	AML	17 12 16.0	
	comp=E,2408µm,0.7s						
SMTH				AML	AML	17 12 17.7	
	comp=N,1978µm,0.7s						
SMTH	**Samothraki Isl**	**1.56**	**345**	P	**Pn**	**17 11 52.5**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.56**	**258**	P	**Pn**	**17 11 52.4**	**0.0**
KYMI				AML	AML	17 12 21.7	
	comp=E,648µm,0.8s						
KYMI				AML	AML	17 12 23.1	
	comp=N,890µm,0.6s						
KYMI	**Kymi, Euboea I**	**1.56**	**258**	P	**Pn**	**17 11 52.4**	**0.0**
GCAM	**G?zelcaml?**	**1.56**	**143**	P	**Pb**	**17 11 54.2**	**+0.4**
GCAM				S	**Sb**	**17 12 13.6**	**+0.3**
GCAM				*i* AML	AML	17 12 19.0	
	comp=N,768nm,0.9s						
GCAM				*i* AML	AML	17 12 21.0	
	comp=N,234nm,0.9s						
GCAM				*i* AML	AML	17 12 26.0	
	comp=N,419nm,0.7s						
KARY	**Karystos**	**1.57**	**234**	P	**Pn**	**17 11 52.5**	**+0.1**
ENZZ	**Sultanice-Enez**	**1.64**	**2**	PN	**Pn**	**17 11 54.1**	**+0.7**
GONE	**Gonen-Balikesi**	**1.66**	**49**	PN	**Pn**	**17 11 54.2**	**+0.5**
CAVK	**Edirne/Enez-Ca**	**1.73**	**3**	P	**Pn**	**17 11 55.0**	**+0.3**
CAVK				S	**Sn**	**17 12 15.6**	**-0.6**
CAVK				*i* AML	AML	17 12 26.0	
	comp=N,654nm,0.8s						
CAVK				*i* AML	AML	17 12 32.0	
	comp=N,378nm,0.7s						
CAVK				*i* AML	AML	17 12 33.0	
	comp=N,544nm,0.6s						
KNL	**Balıkesir**	**1.73**	**41**	P	**Pn**	**17 11 55.0**	**+0.3**
KNL				S	**Sn**	**17 12 16.8**	**+0.5**
KNL				*i* AML	AML	17 12 25.0	
	comp=N,334nm,0.9s						
KNL				*i* AML	AML	17 12 30.0	
	comp=N,590nm,0.8s						
KNL				*i* AML	AML	17 12 31.0	
	comp=N,456nm,0.7s						
DDIM	**Aydin, Didim**	**1.77**	**148**	P	**Pg**	**17 11 59.6**	**+0.2**
DDIM				S	**Sb**	**17 12 19.3**	**+0.1**
DDIM				*i* AML	AML	17 12 37.0	
	comp=N,297nm,1.0s						
DDIM				*i* AML	AML	17 12 37.0	
	comp=N,363nm,0.7s						
DDIM				*i* AML	AML	17 12 37.0	
	comp=N,378nm,0.7s						
ENEZ	**Enez**	**1.77**	**2**	P	**Pn**	**17 11 55.6**	**+0.4**
DION	**Dionisos Attik**	**1.89**	**243**	P	**Pn**	**17 11 57.2**	**+0.4**
DION				AML	AML	17 12 31.1	
	comp=N,1380µm,0.9s						
DION				AML	AML	17 12 35.6	
	comp=E,1774µm,0.8s						
KESN	**Edirne-Kesan**	**1.92**	**14**	P	**Pn**	**17 11 57.4**	**-0.2**
KESN				S	**Sn**	**17 12 22.9**	**+1.4**
KESN				*i* AML	AML	17 12 31.0	
	comp=E,556nm,0.5s						
KESN				*i* AML	AML	17 12 35.0	
	comp=E,424nm,0.6s						
KESN				*i* AML	AML	17 12 39.0	
	comp=E,203nm,1.1s						
SART	**Tekirdag**	**1.93**	**26**	P	**Pn**	**17 11 57.6**	**+0.2**
SART				S	**Sn**	**17 12 22.1**	**+0.8**
SART				*i* AML	AML	17 12 26.0	
	comp=E,419nm,0.5s						
SART				*i* AML	AML	17 12 28.0	
	comp=E,296nm,0.7s						
SART				*i* AML	AML	17 12 28.0	
	comp=E,498nm,0.5s						
ALN	**Alexandroupoli**	**1.93**	**360**	P	**Pn**	**17 11 57.9**	**+0.4**
ALN				AML	AML	17 12 27.4	
	comp=E,1155µm,0.6s						
ALN				AML	AML	17 12 29.0	
	comp=N,726µm,0.6s						
ALN	**Alexandroupoli**	**1.93**	**360**	P	**Pn**	**17 11 57.8**	**+0.4**
ALN	**Alexandroupoli**	**1.93**	**360**	PN	**Pn**	**17 11 57.8**	**+0.4**
APE	**Apeiranthos**	**1.94**	**193**	P	**Pn**	**17 11 57.3**	**-0.2**
APE	**Apeiranthos**	**1.94**	**193**	P	**Pn**	**17 11 57.3**	**-0.2**
APE	**Apeiranthos**	**1.94**	**193**	PN	**Pn**	**17 11 57.0**	**-0.5**
AYDN	**Tasoluk**	**1.94**	**132**	P	**Pb**	**17 12 01.1**	**+0.9**
AYDN				S	**Sg**	**17 12 26.7**	**-1.1**
AYDN				*i* AML	AML	17 12 30.0	
	comp=N,290nm,1.0s						
AYDN				*i* AML	AML	17 12 31.0	
	comp=N,470nm,0.9s						
AYDN				*i* AML	AML	17 12 34.0	
	comp=N,338nm,0.8s						
THAS	**Thassos island**	**1.94**	**328**	P	**Pn**	**17 11 57.7**	**+0.2**
THAS				AML	AML	17 12 33.9	
	comp=E,596µm,1.0s						
THAS				AML	AML	17 12 34.1	
	comp=N,781µm,0.8s						
THAS	**Thassos island**	**1.94**	**328**	P	**Pn**	**17 11 57.9**	**+0.4**
PTL	**Penteli**	**1.95**	**243**	P	**Pn**	**17 11 58.1**	**+0.4**
PTL				AML	AML	17 12 31.5	
	comp=N,861µm,0.5s						
PTL				AML	AML	17 12 32.3	
	comp=E,720µm,0.6s						
MAR6	**Marsite Statio**	**1.97**	**28**	PN	**Pn**	**17 11 58.7**	**+0.7**
DURS	**Dursunbey**	**1.98**	**70**	P	**Pn**	**17 11 58.0**	**-0.1**
DURS				S	**Sn**	**17 12 23.4**	**+0.7**
DURS				*i* AML	AML	17 12 30.0	
	comp=E,279nm,0.6s						
DURS				*i* AML	AML	17 12 34.0	
	comp=E,129nm,1.0s						
DURS				*i* AML	AML	17 12 34.0	
	comp=E,166nm,0.4s						
MAR3	**Marsite Statio**	**2.02**	**28**	PN	**Pn**	**17 11 59.4**	**+0.8**
GZKV	**Gazikoy-Tekird**	**2.03**	**28**	PN	**Pn**	**17 11 59.6**	**+0.8**
DEMI	**Demirci**	**2.07**	**87**	P	**Pn**	**17 11 59.0**	**-0.4**
DEMI				S	**Sb**	**17 12 27.3**	**-0.7**
DEMI				*i* AML	AML	17 12 33.0	
	comp=E,138nm,0.7s						
DEMI				*i* AML	AML	17 12 37.0	
	comp=E,220nm,0.8s						
DEMI				*i* AML	AML	17 12 42.0	
	comp=E,223nm,0.8s						
PAIG	**Paliouri**	**2.08**	**298**	P	**Pn**	**17 11 59.6**	**+0.2**
PAIG	**Paliouri**	**2.08**	**298**	P	**Pn**	**17 12 00.1**	**+0.7**
DST	**Dursunbey**	**2.09**	**71**	PN	**Pn**	**17 12 00.5**	**+0.9**
OUR	**Ouranopolis**	**2.11**	**311**	PN	**Pn**	**17 12 00.1**	**+0.3**
UKOP	**Uzunkopru-Edir**	**2.21**	**11**	PN	**Pn**	**17 12 02.3**	**+1.1**
RDO	**Rodhopi**	**2.22**	**350**	P	**Pn**	**17 12 02.1**	**+0.8**
RDO				AML	AML	17 12 35.0	
	comp=N,322µm,0.7s						
RDO				AML	AML	17 12 48.1	
	comp=E,618µm,0.9s						
RDO	**Rodhopi**	**2.22**	**350**	P	**Pn**	**17 12 02.0**	**+0.6**
RDO	**Rodhopi**	**2.22**	**350**	PN	**Pn**	**17 12 01.9**	**+0.6**
XOR	**Xorichti**	**2.26**	**281**	P	**Pn**	**17 12 02.3**	**+0.3**
USAK	**Uak-Merkez**	**2.33**	**95**	P	**Pn**	**17 12 03.0**	**+0.1**
USAK				*i* AML	AML	17 12 31.0	
	comp=E,50nm,1.2s						
USAK				S	**Sg**	**17 12 39.1**	**-1.1**
USAK				*i* AML	AML	17 12 53.0	
	comp=E,50nm,0.8s						
USAK				*i* AML	AML	17 12 54.0	
	comp=E,86nm,1.0s						
KAVA	**Kavala**	**2.35**	**330**	P	**Pn**	**17 12 03.8**	**+0.6**
ATAL	**Atalanti**	**2.39**	**264**	P	**Pn**	**17 12 04.1**	**+0.5**
ATAL				AML	AML	17 12 57.4	
	comp=E,282µm,1.0s						
ATAL				AML	AML	17 13 01.8	
	comp=N,167µm,1.1s						
KOKK	**Kokkinochori,**	**2.44**	**320**	P	**Pn**	**17 12 04.8**	**+0.5**
ULDT	**Uludag**	**2.66**	**63**	P	**Pn**	**17 12 06.9**	**-0.6**
ULDT				S	**Sb**	**17 12 46.7**	**+1.8**
ULDT				*i* AML	AML	17 12 50.0	
	comp=N,93nm,0.8s						
ULDT				*i* AML	AML	17 12 51.0	
	comp=N,220nm,0.6s						
ULDT				*i* AML	AML	17 13 04.0	
	comp=N,251nm,0.8s						
STBT	**Saitabat**	**2.73**	**63**	P	**Pb**	**17 12 14.6**	**+0.9**
STBT				S	**Sb**	**17 12 48.7**	**+1.8**
STBT				*i* AML	AML	17 12 54.0	
	comp=N,241nm,0.6s						
STBT				*i* AML	AML	17 13 01.0	
	comp=N,266nm,0.6s						
STBT				*i* AML	AML	17 13 02.0	
	comp=N,179nm,0.7s						
ESNK	**Esenk¶y**	**2.80**	**53**	P	**Pb**	**17 12 15.0**	**+0.2**
ELBA	**Catalca**	**2.84**	**39**	P	**Pn**	**17 12 11.0**	**+1.0**
ELBA				S	**Sn**	**17 12 42.7**	**-1.0**
ELBA				*i* AML	AML	17 13 03.0	
	comp=N,111nm,0.7s						
ELBA				*i* AML	AML	17 13 03.0	
	comp=N,140nm,0.6s						
ELBA				*i* AML	AML	17 13 08.0	
	comp=N,66nm,0.7s						
KIRK	**Kırklareli**	**2.93**	**15**	P	**Pn**	**17 12 11.3**	**+0.3**
KIRK				S	**Sb**	**17 12 53.9**	**+1.4**
KIRK				*i* AML	AML	17 12 59.0	
	comp=N,70nm,0.6s						
KIRK				*i* AML	AML	17 13 00.0	
	comp=N,55nm,0.6s						
KIRK				*i* AML	AML	17 13 02.0	
	comp=N,93nm,0.9s						
EDRB	**Edirne**	**2.93**	**10**	P	**Pn**	**17 12 11.6**	**+0.5**
ARMN	**Kirklareli, Me**	**3.08**	**19**	P	**Pn**	**17 12 13.1**	**-0.1**
ARMN				S	**Sb**	**17 12 59.9**	**+2.9**

ARMN				*i* AML	AML	17 13 01.0			
	comp=N,103nm,0.9s								
ARMN				*i* AML	AML	17 13 06.0			
	comp=N,46nm,0.6s								
ARMN				*i* AML	AML	17 13 06.0			
	comp=N,43nm,0.6s								
VAY	**Valandovo**	**3.56**	**313**	*i* Pn	**Pg**	**17 12 33.1**	**-0.5**		
IDI	**Anoyia**	**3.78**	**195**	⇓P	**Pn**	**17 12 22.9**	**0.0**		
STIP	**Stip**	**4.02**	**314**	*i* Pn	**Pn**	**17 12 27.0**	**+0.9**		
VTS	**Vitosha**	**4.23**	**331**	⇑P	**Pn**	**17 12 32.5**	**+3.3**		
VTS				⇑S	**Sb**	**17 13 26.8**	**-3.5**		
RAZG	**Razgrad**	**4.61**	**4**	⇓P	**Pn**	**17 12 35.8**	**+1.5**		
BLKB	**Belogradchik**	**5.31**	**332**	⇓S	**Sg**	**17 14 14.6**	**-1.0**		
ICOR	**Ion Corvin**	**5.31**	**14**	⇑P	**Pn**	**17 12 45.5**	**+1.6**		
BOVS	**Bovan**	**5.70**	**326**	⇓P	**Pn**	**17 12 52.7**	**+3.5**		
TIRR	**Tirgusor**	**5.77**	**17**	⇓P	**Pn**	**17 12 50.7**	**+0.7**		
TPGR	**Topolog**	**6.15**	**16**	⇑P	**Pn**	**17 12 58.5**	**+3.2**		
CFR	**Carcaliu**	**6.40**	**13**	⇓P	**Pn**	**17 13 00.9**	**+2.2**		
ARR	**Arges**	**6.49**	**351**	⇓P	**Pn**	**17 13 02.8**	**+2.8**		
ARR				⇑S	**Sn**	**17 14 10.9**	**-2.8**		
HERR	**Herculane**	**6.51**	**337**	⇓P	**Pn**	**17 13 01.0**	**+0.8**		
VOIR		**6.51**	**354**	⇓P	**Pn**	**17 13 03.7**	**+3.3**		
VOIR				⇑S	**Sn**	**17 14 12.7**	**-1.6**		
MLR	**Muntele Rosu**	**6.52**	**359**	⇑P	**Pn**	**17 13 04.3**	**+3.6**		
BISRR	**Bisoca**	**6.60**	**4**	⇑P	**Pn**	**17 13 05.4**	**+3.8**		
MDVR	**Moldovita**	**6.66**	**332**	⇓P	**Pn**	**17 13 00.9**	**-1.5**		
LOT	**Lotru**	**6.70**	**346**	⇓P	**Pn**	**17 13 04.3**	**+1.3**		
LOT				⇑S	**Sn**	**17 14 16.5**	**-2.5**		
GZR	**Gura Zlata**	**6.87**	**340**	⇓P	**Pn**	**17 13 06.1**	**+0.8**		
GZR				⇓S	**Sn**	**17 14 22.0**	**-1.1**		
COVR	**Voineasa-Covas**	**6.88**	**1**	⇓P	**Pn**	**17 13 09.4**	**+4.0**		
PLOR	**Plostina**	**6.90**	**3**	⇑P	**Pn**	**17 13 08.4**	**+2.7**		
VRI	**Vrincioaia**	**6.92**	**4**	⇓P	Pn	17 13 11.2	+5.3		
DOPR	**Dopca**	**7.02**	**356**	⇓P	**Pn**	**17 13 11.7**	**+4.4**		
DOPR				⇑S	**Sn**	**17 14 26.2**	**-0.4**		
OZUR		**7.13**	**358**	⇑P	Pn	17 13 13.5	+4.7		
BZS	**Buzias**	**7.42**	**335**	⇑P	**Pn**	**17 13 15.6**	**+2.8**		
TESR	**Tescani**	**7.56**	**3**	⇓P	**Pn**	**17 13 17.5**	**+2.8**		
DRGR		**8.20**	**344**	⇓P	Pn	17 13 32.2	+8.6		

*IDC **27** 17:14:11.8±3.8, 1.°43S×13.°64W, h0km, mb4.4/4, mb1 4.7/5, mb1mx4.1/36, mbtmp4.5/5, ML4.7/1, Error ellipse: s-maj=130.9km s-min=36.9km az=152.0*

ISC 27 17:14:14.6±0.6, **1.°3S**±0.°1×**13.°74W**±0.°09, **h18**km, **n69,** σ1§**78**/55, **mb4.8**/15, **1D, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIC	**Lamto**	**11.44**	**49**	*e*P	**Pn**	**17 16 57.6**	**+0.4**
	26nm,0.5s						
TIC	**Toumodi**	**11.71**	**48**	*e*P	**Pn**	**17 16 59.7**	**-1.3**
KIC	**Kosan Boka**	**11.74**	**50**	*e*P	**Pn**	**17 17 00.7**	**-0.7**
	12nm,0.2s						
DBIC	**Dimbokro**	**11.85**	**48**	Pn	**Pn**	**17 17 02.4**	**-0.6**
	4.3nm,0.3s,baz=268,slow=14,SNR=54						
DBIC				Sn	Sn	17 19 05.8	-9.0
	7.2nm,0.3s,baz=175,slow=19,SNR=3.2						
DBIC	**Dimbokro**	**11.85**	**48**	Pn	**Pn**	**17 17 01.3**	**-1.6**
KOWA	**Kowa**	**18.37**	**31**	IAmb	IAmb	17 18 34.4	
	comp=Z,77nm,0.8s						
KOWA	**Kowa**	**18.37**	**31**	Pn	**P**	**17 18 26.1**	**-2.5**
TOA0	**Torodi Ar. Sit**	**20.95**	**46**	IAmb	IAmb	17 19 06.5	
	comp=Z,24nm,0.7s						
TOA0	**Torodi Ar. Sit**	**20.95**	**46**	P	**P**	**17 18 57.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**20.95**	**46**	P	**P**	**17 18 57.0**	**+0.2**
	comp=Z,11nm,0.6s,baz=229,slow=11,SNR=48						
TORD				S	**S**	**17 22 42.5**	**-7.3**
	comp=Z,8.1nm,0.7s,baz=240,slow=23,SNR=5.2						
TORD	**Torodi Ar. Bea**	**20.95**	**46**	P	**P**	**17 18 56.9**	**+0.1**
KEST	**Kesra**	**42.64**	**28**	P	**P**	**17 22 07.3**	**-3.0**
MBAR	**Mbarara**	**44.47**	**90**		**P**	**17 22 26.1**	**+0.6**
BOSA	**Boshof**	**46.09**	**130**	IAmb	IAmb	17 23 04.4	
	comp=Z,13nm,1.1s						
BOSA	**Boshof**	**46.09**	**130**	P	**P**	**17 22 37.3**	**-0.8**
CPUP	**Villa Florida**	**48.75**	**235**	IAmb	IAmb	17 23 04.9	
	comp=Z,7.1nm,0.8s						
CPUP	**Villa Florida**	**48.75**	**235**	P	**P**	**17 22 57.7**	**-0.9**
FETA	**Feichten**	**52.65**	**21**	*e*P	**P**	**17 23 28.9**	**+1.0**
	comp=Z,2.6nm,0.6s						
BGES	**Gesves**	**53.91**	**15**	*d*P	**P**	**17 23 37.8**	**+0.9**
BAUV	**El Baul**	**55.04**	**282**	IAmb	IAmb	17 23 56.0	
	comp=Z,14nm,1.0s						
BAUV	**El Baul**	**55.04**	**282**	P	**P**	**17 23 46.3**	**+0.5**
GEC2	**GERESS Array S**	**55.26**	**22**	IAmb	IAmb	17 23 52.5	
	comp=Z,14nm,1.0s						
GEC2	**GERESS Array S**	**55.26**	**22**	P	**P**	**17 23 46.1**	**-0.7**
GERES	**GERESS Array B**	**55.26**	**22**	P	**P**	**17 23 47.9**	**+1.0**
	comp=Z,4.9nm,0.8s,baz=208,slow=6.1,SNR=16						
GERES	**GERESS Array B**	**55.26**	**22**	P	**P**	**17 23 46.2**	**-0.7**
RONA	**Rosalia, Austr**	**55.34**	**24**	*e*P	**P**	**17 23 48.7**	**+1.2**
	comp=Z,17nm,1.3s						
KHC	**Kasperske Hory**	**55.45**	**21**	*e*P	**P**	**17 23 49.6**	**+1.4**
KHC	**Kasperske Hory**	**55.45**	**21**	*e*S	**S**	**17 31 36.2**	**+3.9**
CKRC	**Cesky Krumlov**	**55.47**	**22**	*e*S	**S**	**17 31 36.0**	**+3.5**
CKRC	**Cesky Krumlov**	**55.47**	**22**	*e*P	**P**	**17 23 49.6**	**+1.3**
LPAZ	**La Paz**	**55.59**	**251**	P	**P**	**17 23 48.5**	**-2.0**
CLL	**Collm**	**57.08**	**20**	*e*S	**S**	**17 31 52.0**	**-1.7**
DPC	**Dobruska-Polom**	**57.48**	**22**	*e*P	**P**	**17 24 04.2**	**+1.6**
PB15	**IPOC Station P**	**58.24**	**243**	P	**P**	**17 24 08.6**	**-0.1**
GO02	**Mina Guanaco**	**58.82**	**241**	P	**P**	**17 24 13.2**	**+0.3**
AC02	**Maricunga**	**58.86**	**239**	IAmb	IAmb	17 24 35.8	
	comp=Z,10.0nm,1.1s						
AC02	**Maricunga**	**58.86**	**239**	P	**P**	**17 24 13.7**	**+0.4**
BURAR	**Bucovina Array**	**59.34**	**30**	P	**P**	**17 24 14.9**	**-0.9**
BUR08	**Bucovina Ar. S**	**59.35**	**30**	P	**P**	**17 24 16.1**	**+0.3**
BRTR	**Keskin Array B**	**59.45**	**41**	P	**P**	**17 24 18.9**	**+2.1**
SDDR	**Presa de Saban**	**59.96**	**293**	P	**P**	**17 24 20.6**	**0.0**
BNN	**Bunyan**	**60.49**	**43**	P	**P**	**17 24 26.3**	**+2.4**
VA03	**San Esteban**	**61.79**	**233**	P	**P**	**17 24 31.3**	**-1.5**
MT09	**Talagante**	**62.45**	**232**	IAmb	IAmb	17 24 48.5	
	comp=Z,7.3nm,0.8s						
MT09	**Talagante**	**62.45**	**232**	P	**P**	**17 24 35.3**	**-2.0**
AKASG	**Malin Array Be**	**63.35**	**29**	P	**P**	**17 24 42.2**	**-0.5**
AKBB	**Malin Array Si**	**63.35**	**29**	P	**P**	**17 24 42.6**	**-0.1**
GURO	**Guroymak-BITLI**	**64.69**	**46**	IAmb	IAmb	17 25 05.8	
	comp=Z,7.8nm,1.2s						
GURO	**Guroymak-BITLI**	**64.69**	**46**		**P**	**17 24 52.4**	**+0.4**
FINES	**FINESS Array B**	**69.52**	**19**	P	**P**	**17 25 23.1**	**+1.1**
	comp=Z,5.3nm,0.8s,baz=212,slow=4.9,SNR=4.4						
UOSS	**Minazif**	**72.41**	**63**	IAmb	IAmb	17 25 54.2	
	comp=Z,12nm,1.0s						
UOSS	**Minazif**	**72.41**	**63**	P	**P**	**17 25 41.4**	**+1.1**
BG3	**Lake Jocassee**	**73.79**	**307**	IAmb	IAmb	17 25 56.6	
	comp=Z,21nm,1.4s						
BG3	**Lake Jocassee**	**73.79**	**307**	P	**P**	**17 25 47.2**	**-1.1**
KLMR	**Klimovskoe**	**74.11**	**24**	*e*P	**P**	**17 25 51.9**	**+2.4**
KLMR				AMP		17 25 56.1	
	comp=Z,11nm,1.3s						
ABKAR	**Akbulak array**	**80.35**	**40**	P	**P**	**17 26 26.8**	**+1.9**
ABKAR	**Akbulak array**	**80.35**	**40**	IAmb	IAmb	17 26 49.6	
	comp=Z,1.9nm,0.8s						
ABKAR	**Akbulak array**	**80.35**	**40**	P	**P**	**17 26 25.1**	**+0.3**
CCM	**Cathedral Cave**	**80.95**	**309**	IAmb	IAmb	17 26 35.0	
	comp=Z,5.9nm,0.8s						
CCM	**Cathedral Cave**	**80.95**	**309**	P	**P**	**17 26 27.0**	**-1.4**
AGMN	**Agassiz Nation**	**85.68**	**318**	P	**P**	**17 26 51.3**	**-1.3**
TXAR	**Lajitas Array**	**90.55**	**299**	P	**P**	**17 27 17.0**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=114,slow=5.6,SNR=4.8						
KSH	**Kashi**	**90.56**	**51**	P	**P**	**17 27 18.0**	**+1.8**
KSH	**Kashi**	**90.56**	**51**	pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSH	**Kashi**	**90.56**	**51**	sP	sP	17 27 24.0	+1.1
YKA	**Yellowknife Ar**	**96.13**	**333**	P	**P**	**17 27 42.0**	**+0.9**
WMQ	**Urumqi**	**99.11**	**46**	*e*P	**Pdif**	**17 27 56.8**	**+1.6**
ASAR	**Alice Springs**	**139.96**	**130**	PKP	**PKPdf**	**17 33 42.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=224,slow=2.7,SNR=9.3						
ASAR	**Alice Springs**	**139.96**	**130**		**PKPdf**	**17 33 42.0**	**-0.9**

*NEIC **27** 17:14:14.5±2.5, 1.°11S±0.°07×13.°83W±0.°09, h10km±1km, mb4.8/36, Error ellipse: s-maj=15.2km s-min=11.6km az=89.0*

*IDC **27** 17:14:15.9±0.7, 1.°28S×13.°84W, h0km, mb4.4/18, mb1 4.5/18, mb1mx4.3/35, mbtmp4.4/18, MS4.1/3, Ms1 4.1/3, ms1mx3.7/21, Error ellipse: s-maj=19.7km s-min=17.7km az=19.0*

*GCMT **27** 17:14:19.5±0.2, 0.°76S±0.°01×13.°94W±0.°01, h25km, MW5.1/123, Moment Tensor Solution. s58,c73; s123,c190; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.57±.17; Mθθ2.84±.16; Mϕϕ-2.27±.15; Mrθ0.27±.29; Mθϕ-5.08±.12; Mϕr2.04±.32; Best double couple: Mo6.06700×10^16^ NP1:ϕs258.00000°, δ71.00000°, λ-172.00000°. NP2:ϕs165.00000°, δ82.00000°, λ-19.00000°. Principal axes: T 6.0820, Plg8.0000°, Azm213.0000°; N -0.0270, Plg69.0000°, Azm323.0000°; P -6.0520, Plg19.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 17:14:18.0±0.5, **1.°31S**±0.°08×**13.°83W**±0.°10, **h17**km, **n80,** σ1§**21**/51, **mb4.5**/25, **MS4.4**/13, **North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.51**	**186**	T	T	17 22 37.2	
	baz=3.9,slow=74,SNR=134						
H10N3	**ASCENSION HYDR**	**6.52**	**186**	T	T	17 22 51.0	
	baz=3.9,slow=74,SNR=134						
H10N1	**ASCENSION HYDR**	**6.53**	**186**	T	T	17 22 48.3	
	baz=3.9,slow=74,SNR=162						
ASCN	**Ascension**	**6.60**	**185**	Pn	**Pn**	**17 15 53.1**	**-1.2**
H10S3	**ASCENSION HYDR**	**7.64**	**186**	T	T	17 24 08.3	
	baz=216,slow=74,SNR=126						
H10S2	**ASCENSION HYDR**	**7.64**	**186**	T	T	17 24 09.2	
	baz=3.5,slow=74,SNR=33						
DBIC	**Dimbokro**	**11.96**	**48**	Sn	**Sn**	**17 19 19.2**	**-1.8**
	7.5nm,0.3s,baz=140,slow=17,SNR=5.2						
TORD	**Torodi Ar. Bea**	**21.06**	**47**	P	**P**	**17 19 01.2**	**-0.3**
	13nm,0.5s,baz=236,slow=13,SNR=22						
RCBR	**Riachuelo**	**22.48**	**258**	P	**P**	**17 19 16.5**	**-0.3**
	8.9nm,0.9s,baz=214,slow=13,SNR=1.9						
RCBR	**Riachuelo**	**22.48**	**258**	IAmb	IAmb	17 19 26.0	
	comp=Z,28nm,1.0s						
KEST	**Kesra**	**42.73**	**28**	P	**P**	**17 22 13.7**	**-0.8**
	comp=Z,16nm,1.1s,baz=232,slow=9.7,SNR=5.2						
LSZ	**Lusaka**	**43.72**	**111**	P	**P**	**17 22 23.6**	**+0.8**
	comp=Z,6.7nm,0.7s,baz=302,slow=7.0,SNR=13						
LSZ	**Lusaka**	**43.72**	**111**	P	**P**	**17 22 23.3**	**+0.4**
LSZ				IAmb	IAmb	17 22 24.5	
	comp=Z,13nm,1.1s						
MBAR	**Mbarara**	**44.57**	**90**	P	**P**	**17 22 30.7**	**+0.9**
	comp=Z,2.9nm,0.4s,baz=270,slow=7.6,SNR=15						
LBTB	**Lobatse**	**44.75**	**125**	P	**P**	**17 22 31.2**	**+0.2**
	comp=Z,5.7nm,0.9s,baz=254,slow=8.3,SNR=4.2						
LBTB	**Lobatse**	**44.75**	**125**	P	**P**	**17 22 31.0**	**0.0**
BOSA	**Boshof**	**46.13**	**130**	P	**P**	**17 22 42.0**	**+0.1**
	comp=Z,5.1nm,0.8s,baz=296,slow=7.0,SNR=7.2						
KMBO	**Kilima Mbogo**	**51.07**	**90**	P	**P**	**17 23 21.4**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=284,slow=7.7,SNR=5.0						
KMBO	**Kilima Mbogo**	**51.07**	**90**	P	**P**	**17 23 21.9**	**+1.6**
IDI	**Anoyia**	**51.31**	**41**	LR	LR	17 48 14.4	
	comp=Z,96nm,18.1s,baz=237,slow=40						
DAVA	**Damuels**	**52.66**	**20**	*e*P	**P**	**17 23 31.0**	**-0.5**
	comp=Z,21nm,0.9s						
MOTA	**Moosalm**	**53.14**	**21**	*e*P	**P**	**17 23 34.4**	**-0.6**
	comp=Z,8.8nm,1.0s						
ABTA	**Abfaltersbach**	**53.16**	**22**	*e*P	**P**	**17 23 37.0**	**+1.9**
	comp=Z,2.1nm,0.5s						
SOKA	**Soboth**	**54.10**	**24**	*e*P	**P**	**17 23 43.7**	**+1.7**
	comp=Z,3.4nm,0.9s						
GERES	**GERESS Array B**	**55.35**	**22**	P	**P**	**17 23 51.3**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=206,slow=8.7,SNR=21						
GERES				PP	**PP**	**17 25 53.2**	**-1.7**
	comp=Z,1.8nm,0.8s,baz=194,slow=7.9,SNR=4.3						
CONA	**Conrad Observa**	**55.44**	**24**	*e*P	**P**	**17 23 53.2**	**+1.4**
	comp=Z,11nm,1.2s						
LPAZ	**La Paz**	**55.49**	**251**	P	**P**	**17 23 54.3**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=237,slow=12,SNR=3.9						
KHC	**Kasperske Hory**	**55.54**	**22**	*e*pP	**pP**	**17 23 53.2**	**-3.5**
KHC				AMS	AMS	17 47 30.0	
	comp=Z,300nm,16.6s						
CKRC	**Cesky Krumlov**	**55.55**	**22**	*ex*	**P**	**17 23 52.8**	**+0.3**
CKRC				AMS	AMS	17 48 30.0	
	comp=Z,200nm,12.7s						
MODS	**Modra-Piesok**	**56.37**	**24**	*e*P	**P**	**17 23 59.4**	**+1.1**
TREC	**Trest**	**56.39**	**23**	AMS	AMS	17 48 50.0	
	comp=Z,300nm,14.6s						
PRU	**Pruhonice**	**56.60**	**22**	AMS	AMS	17 48 40.0	
	comp=Z,300nm,16.3s						
VRAC	**Vranov**	**56.83**	**23**	LR	LR	17 49 23.6	
	comp=Z,141nm,18.1s,baz=220,slow=37						
VRAC	**Vranov**	**56.83**	**23**	*e*P	**P**	**17 24 01.6**	**0.0**
KOLL	**Kolacno**	**57.00**	**25**	*e*P	**P**	**17 24 04.7**	**+1.9**
BRG	**Berggiesshubel**	**57.12**	**21**	Amp		17 47 45.0	
	comp=N,0.3nm,16.1s						
BRG	**Berggiesshubel**	**57.12**	**21**	*e*P	**P**	**17 24 02.7**	**-0.8**
BRG	**Berggiesshubel**	**57.12**	**21**	Amp		17 24 06.4	
	comp=Z,10nm,1.4s						
BRG	**Berggiesshubel**	**57.12**	**21**	*ex*	x	17 24 16.5	
BRG	**Berggiesshubel**	**57.12**	**21**	Amp		17 24 18.9	
	comp=Z,9.0nm,1.4s						
BRG	**Berggiesshubel**	**57.12**	**21**	Amp		17 47 37.0	
	comp=E,0.3nm,15.9s						
BRG	**Berggiesshubel**	**57.12**	**21**	Amp		17 47 42.0	
	comp=Z,0.2nm,15.7s						
VYHS	**Vyhne**	**57.12**	**25**	*e*P	**P**	**17 24 05.2**	**+1.6**
CLL	**Collm**	**57.16**	**20**	LmH		17 47 00.0	
	comp=E,100nm,20.1s						
CLL	**Collm**	**57.16**	**20**	LmH		17 47 00.0	
	comp=N,200nm,19.3s						
CLL	**Collm**	**57.16**	**20**	LmV		17 49 00.0	
	comp=Z,200nm,18.8s						
KRLC	**Kraliky**	**57.52**	**23**	*e*P	**P**	**17 24 06.9**	**+0.4**
KRLC				AMS	AMS	17 49 40.0	
	comp=Z,200nm,13.9s						
DPC	**Dobruska-Polom**	**57.56**	**22**	*e*pP	pP	17 24 07.6	-3.5
MORC	**Moravsky Berou**	**57.58**	**24**	*e*P	**P**	**17 24 06.9**	**0.0**
CHVC	**Chvalec**	**57.65**	**22**	*e*P	**P**	**17 24 07.9**	**+0.5**
OSTC	**Ostas**	**57.69**	**22**	*e*P	**P**	**17 24 09.0**	**+1.4**
OSTC				AMS	AMS	17 49 30.0	
	comp=Z,200nm,14.9s						
LANS	**Liptovska Anna**	**57.89**	**25**	*e*P	P	17 24 12.8	+3.7
CRVS	**Cervenica-Dubn**	**58.58**	**27**	*e*P	**P**	**17 24 15.5**	**+1.7**
BRTR	**Keskin Array B**	**59.55**	**41**	P	**P**	**17 24 22.9**	**+2.0**
	comp=Z,3.7nm,0.8s,baz=232,slow=6.1,SNR=8.3						
BO01	**Tunca**	**62.62**	**232**	P	**P**	**17 24 41.0**	**-0.7**
BO01				IAmb	IAmb	17 24 49.5	
	comp=Z,10nm,1.1s						
AKASG	**Malin Array Be**	**63.45**	**29**	P	**P**	**17 24 47.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=236,slow=4.5,SNR=5.6						
NB2	**NORSAR Subarra**	**65.10**	**13**	P	**P**	**17 24 57.5**	**-0.1**
	comp=Z,8.6nm,1.1s,baz=209,slow=6.9						
NOA	**NORSAR Array B**	**65.10**	**13**	P	**P**	**17 24 57.9**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=208,slow=6.7,SNR=9.1						
FINES	**FINESS Array B**	**69.60**	**19**	P	**P**	**17 25 26.4**	**+0.4**
	comp=Z,6.0nm,0.8s,baz=224,slow=4.3,SNR=7.4						
VNA2	**Neumayer--Watz**	**69.63**	**178**	P	**P**	**17 25 26.7**	**+0.6**
	baz=344,slow=7.0						
VNA2	**Neumayer--Watz**	**69.63**	**178**	PP	PP	17 27 59.0	-1.1
VNA3	**Neumayer Olymp**	**69.88**	**179**	P	**P**	**17 25 28.2**	**+0.6**
VNA3	**Neumayer Olymp**	**69.88**	**179**	PP	PP	17 28 01.8	-0.4
SNAA	**Sanae**	**70.61**	**176**	P	**P**	**17 25 32.8**	**+0.6**
TROLL	**Troll, Antarti**	**71.36**	**175**	P	**P**	**17 25 36.8**	**0.0**
ARCES	**ARCESS Array B**	**75.48**	**13**	P	**P**	**17 26 01.7**	**+0.8**
	comp=Z,4.7nm,1.0s,baz=316,slow=5.1,SNR=4.4						
BELA	**Belgrano 2**	**77.31**	**184**	P	**P**	**17 26 10.2**	**-0.9**
BELA				IAmb	IAmb	17 26 17.3	
	comp=Z,7.0nm,1.0s						
DAG	**Dannarks Havn**	**78.03**	**359**	*i* P	**P**	**17 26 15.0**	**-0.2**
TXAR	**Lajitas Array**	**90.49**	**299**	P	**P**	**17 27 20.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=119,slow=7.7,SNR=5.6						
KSH	**Kashi**	**90.67**	**51**	LR	LR		
	comp=Z,190nm,14.4s						
KSH	**Kashi**	**90.67**	**51**	LR	LR		
	comp=E,270nm,15.5s						
KSH	**Kashi**	**90.67**	**51**	LR	LR		
	comp=N,210nm,16.5s						
MKAR	**Makanchi Array**	**95.15**	**43**	P	**P**	**17 27 41.6**	**+0.9**
	comp=N,0.7nm,0.8s,baz=276,slow=3.4,SNR=5.9						
YKA	**Yellowknife Ar**	**96.14**	**333**	P	**P**	**17 27 45.2**	**+0.5**
	comp=N,2.6nm,0.9s,baz=80,slow=5.3,SNR=31						
NEW	**Newport**	**99.81**	**319**	LR	LR	18 07 21.7	
	comp=N,122nm,21.6s,baz=107,slow=32						
TAOE	**Nuku Hiva Isla**	**125.57**	**258**	*e*LR	LR	18 12 26.8	
	comp=N,108nm,22.1s						
TBI	**Tubuai**	**130.38**	**238**	*e*LR	LR	18 14 43.3	
	comp=N,72nm,24.0s						
PPT2	**Papeete2**	**132.55**	**245**	*e*LR	LR	18 15 42.8	
	comp=N,107nm,23.0s						
ASAR	**Alice Springs**	**140.00**	**130**	PKP	**PKiKP**	**17 33 46.9**	**-2.1**
	comp=N,0.6nm,0.6s,baz=222,slow=2.8,SNR=10.0						
WRA	**Warramunga Arr**	**142.31**	**126**	PKP	**PKiKP**	**17 33 51.1**	**-2.6**
	comp=N,0.8nm,0.7s,baz=238,slow=2.7,SNR=8.3						

*MOS **27** 17:24:27.7±0.0, 42.°74N×44.°51E, h13km, MPVA3.5*

*TIF **27** 17:24:27.5, 42.°87N×44.°53E, h2km*

*NORS **27** 17:24:28.0±0.0, 42.°66N×44.°54E, h7km, MPVA3.6*

ISC 27 17:24:29.5±0.9, **42.°80N**±0.°02×**44.°54E**±0.°02, **h9**km±7km, **n42,** σ1§**22**/74, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTEO	**Meteo**	**0.12**	**184**	P	**Pg**	**17 24 31.9**	**-0.7**
MTEO				S	**Sg**	**17 24 35.7**	**+0.9**
LACR	**Lac**	**0.18**	**278**	*i* Pg	**Pg**	**17 24 32.8**	**-0.6**
LACR				*e*Sg	**Sg**	**17 24 37.7**	**+1.6**
VLKR	**Vladikavkaz**	**0.26**	**22**	*e*Pg	**Pb**	**17 24 36.7**	**+0.2**
VLKR				*e*Sg	**Sb**	**17 24 41.3**	**+0.1**
GUDG	**Gudauri**	**0.34**	**188**	P	**Pb**	**17 24 36.2**	**-1.7**
GUDG	**Gudauri**	**0.34**	**188**	*e*Pg	**Pb**	**17 24 36.2**	**-1.7**
KMGR	**Komgaron**	**0.35**	**43**	*e*Pg	**Pg**	**17 24 36.9**	**+0.5**
KMGR				*e*Sg	**Sb**	**17 24 44.7**	**+1.1**
ARNR	**Ardon**	**0.42**	**333**	*e*Pg	**Pb**	**17 24 39.3**	**0.0**
ARNR				*e*Sg	**Sb**	**17 24 47.2**	**+1.4**
KORR	**Kora**	**0.45**	**309**	*e*Pg	**Pb**	**17 24 39.2**	**-0.5**
KORR				*e*Sg	**Sb**	**17 24 48.0**	**+1.5**
ZEI	**Tsey**	**0.47**	**268**	*e*Pg	**Pg**	**17 24 37.9**	**-0.9**
ZEI				*e*Sg	**Sg**	**17 24 45.1**	**+0.1**
BTKR	**Batakoyurt**	**0.57**	**360**	*e*Pg	**Pn**	**17 24 42.9**	**-1.1**
BTKR				*e*Sg	**Sn**	**17 24 56.3**	**+2.8**
STDR	**Stavd-Durt**	**0.67**	**328**	*e*Pg	**Pn**	**17 24 44.4**	**-0.8**
STDR				*e*Sg	**Sn**	**17 24 54.5**	**-1.4**
LSNR	**Lesken**	**0.71**	**312**	*e*Pg	**Pb**	**17 24 44.0**	**-0.1**
LSNR				*e*Sg	**Sn**	**17 24 56.5**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.71**	**278**	*e*Pg	**Pg**	**17 24 42.4**	**-0.9**
DIGR				*e*Sg	**Sg**	**17 24 52.6**	**-0.1**
DIGR	**Digorskoe uzhe**	**0.71**	**278**	*e*Pg	**Pg**	**17 24 42.2**	**-1.1**
DIGR				*e*Sg	**Sg**	**17 24 52.6**	**-0.1**
ONI	**Oni**	**0.83**	**256**	P	**Pg**	**17 24 44.1**	**-1.4**
ONI				S	**Sb**	**17 24 57.3**	**-0.3**
ONI	**Oni**	**0.83**	**256**	*i* Pg	**Pg**	**17 24 45.1**	**-0.5**
ONI				*e*Sg	**Sg**	**17 24 56.0**	**-0.4**
ONI	**Oni**	**0.83**	**256**	*i* Pg	**Pg**	**17 24 45.0**	**-0.5**
ONI				*e*Sg	**Sg**	**17 24 56.0**	**-0.4**
GROC	**Groznyy**	**1.00**	**66**	*e*Pg	**Pn**	**17 24 49.2**	**-0.6**
GROC				*e*Sg	**Sn**	**17 25 04.3**	**+0.2**
BTLR	**Botlikh**	**1.24**	**96**	*e*Pg	**Pg**	**17 24 52.5**	**-0.9**
BTLR				*e*Sg	**Sg**	**17 25 10.0**	**+0.5**
BKRG	**Bakuriani**	**1.29**	**216**	P	**Pg**	**17 24 54.2**	**0.0**
BKRG	**Bakuriani**	**1.29**	**216**	*e*Pg	**Pg**	**17 24 54.2**	**0.0**
TRLG	**Trialeti**	**1.30**	**195**	P	**Pg**	**17 24 54.7**	**+0.1**
TRLG	**Trialeti**	**1.30**	**195**	*e*Pg	**Pg**	**17 24 54.7**	**+0.1**
**N

n20,σ1$21/20, mb3.7/9, MS3.9/3, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.15**	**101**	⇓P	**Pg**	**17 38 08.1**	**-0.3**
JIU3				*e*S	**Sg**	**17 38 10.5**	**+0.1**
JTA	**Tamana**	**0.40**	**347**	⇑P	**Pg**	**17 38 13.0**	**-0.1**
JTA				*e*S	**Sg**	**17 38 18.4**	**+0.1**
JZO	**Okuchi**	**0.44**	**185**	⇑P	**Pg**	**17 38 13.9**	**0.0**
JZO				*e*S	**Sg**	**17 38 20.0**	**+0.4**
JNU	**Nakatsue**	**0.58**	**20**	Pg	**Pg**	**17 38 15.8**	**-0.8**
	496nm,0.3s,baz=208,slow=11,SNR=164						
JNU				Lg	Lg	17 38 23.7	
	2μm,0.3s,baz=276,slow=4.3,SNR=40						
KSRS	**Korea Array**	**5.35**	**336**	Pn	**Pn**	**17 39 25.6**	**-0.4**
	0.6nm,0.3s,baz=155,slow=14,SNR=7.3						
KSRS				Lg	Lg	17 40 51.6	
	3.4nm,0.3s,baz=160,slow=31,SNR=14						
KSRS				LR	LR	17 41 33.2	
	comp=Z,131nm,18.6s,baz=150,slow=39						
MJAR	**Matsushiro Arr**	**7.39**	**56**	Pn	**Pn**	**17 39 54.9**	**+0.9**
	0.3nm,0.3s,baz=241,slow=13,SNR=12						
MJAR				LR	LR	17 42 41.9	
	comp=Z,160nm,21.2s,baz=226,slow=38						
USRK	**Ussuriysk Ar.**	**11.65**	**5**	LR	LR	17 45 01.4	
	comp=Z,85nm,19.2s,baz=164,slow=36						
KLR	**Kulʹdur**	**16.66**	**3**	Pn	**P**	**17 42 04.5**	**+2.5**
	0.2nm,0.3s,baz=164,slow=7.3,SNR=6.3						
KLR				LR	LR	17 48 57.4	
	comp=Z,55nm,18.4s,baz=183,slow=39						
CMAR	**Chiang Mai Arr**	**31.73**	**251**	P	**P**	**17 44 30.9**	**+0.4**
	0.6nm,0.8s,baz=53,slow=6.5,SNR=4.3						
CMAR				LR	LR	17 59 06.1	
	comp=Z,52nm,18.7s,baz=205,slow=40						
MKAR	**Makanchi Array**	**39.21**	**306**	P	**P**	**17 45 34.9**	**+0.3**
	0.4nm,0.7s,baz=98,slow=9.0,SNR=3.1						
WRA	**Warramunga Arr**	**52.34**	**176**	P	**P**	**17 47 16.0**	**-2.5**
	0.5nm,0.9s,baz=354,slow=8.0,SNR=2.8						
ASAR	**Alice Springs**	**56.02**	**176**	P	**P**	**17 47 44.2**	**-1.0**
	0.2nm,0.5s,baz=7.4,slow=14,SNR=5.4						
ILAR	**Eielson Array**	**57.89**	**30**	P	**P**	**17 47 58.0**	**-0.1**
	0.5nm,0.6s,baz=285,slow=7.4,SNR=4.3						
FINES	**FINESS Array B**	**68.41**	**330**	P	**P**	**17 49 06.1**	**-1.8**
	0.8nm,0.6s,baz=35,slow=4.7,SNR=7.8						
AKASG	**Malin Array Be**	**72.10**	**319**	P	**P**	**17 49 29.6**	**-1.1**
	1.1nm,0.5s,baz=59,slow=6.8,SNR=5.4						
JMIC	**Jan Mayen**	**72.72**	**347**	LR	LR	18 25 55.9	
	comp=Z,108nm,18.5s,baz=329,slow=40						
NB2	**NORSAR Subarra**	**74.56**	**334**	P	**P**	**17 49 46.0**	**+0.9**
	comp=Z,3.7nm,1.1s,baz=51,slow=5.6						
NOA	**NORSAR Array B**	**74.56**	**334**	P	**P**	**17 49 46.0**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=48,slow=5.8,SNR=5.5						
BRTR	**Keskin Array B**	**74.83**	**308**	P	**P**	**17 49 48.5**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=50,slow=12,SNR=4.6						
PPT	**Papeete**	**91.03**	**110**	LR	LR	18 22 35.1	
	comp=Z,51nm,20.7s,baz=76,slow=29						

*JMA **27** 17:47:57.9±0.1, 24.04N×121.55E, h25km±1km, M2.8*
*TAP **27** 17:48:00.2, 24.25N×121.74E, h10km, ML3.5, B*
ISC 27 17:47:58.6±0.8, 24°20N±0.02°×121°83E±0.02°, h12km±6km, n104,σ1$52/163, 6C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.14**	**324**	*i* P	**Pg**	**17 48 02.5**	**+0.6**
	baz=12						
EHP				S	**Sb**	**17 48 04.5**	**+0.2**
	baz=12						
ETL	**Fush Village**	**0.19**	**259**	*i* P	**Pg**	**17 48 03.6**	**+0.8**
	baz=230						
ETL				*i* S	**Sb**	**17 48 06.2**	**+0.4**
	baz=230						
NACB	**Ninganchiao**	**0.22**	**264**	⇓*i*P	**Pg**	**17 48 03.8**	**+0.6**
	baz=241						
NACB				*i* S	**Sg**	**17 48 06.5**	**+0.2**
	baz=241						
TWD	**Chiawan**	**0.24**	**242**	⇓*i*P	**Pb**	**17 48 04.6**	**-0.4**
	baz=216						
TWD				*i* S	**Sg**	**17 48 07.9**	**+0.9**
	baz=216						
ENA	**Nanau**	**0.24**	**341**	⇓*i*P	**Pb**	**17 48 04.3**	**-0.8**
	baz=4.0						
ENA				*i* S	**Sg**	**17 48 07.2**	**0.0**
	baz=4.0						
EWUT	**Wuta**	**0.25**	**349**	⇓*i*P	**Pb**	**17 48 04.5**	**-0.6**
	baz=11						
EWUT				*i* S	**Sg**	**17 48 07.6**	**+0.2**
	baz=11						
HWA	**Hwalien**	**0.30**	**223**	*e*P	**Pn**	**17 48 07.2**	**-1.6**
	baz=202						
ETLH	**Xiulin Townshi**	**0.32**	**272**	⇓*i*P	**Pg**	**17 48 05.4**	**+0.4**
	baz=260						
ETLH				S	**Sg**	**17 48 09.0**	**-0.4**
	baz=260						
ETM	**Tongmen**	**0.38**	**233**	P	**Pb**	**17 48 07.2**	**-0.1**
	baz=218						
ETM				S	**Sg**	**17 48 12.6**	**+1.3**
	baz=218						
TEYL	**Yanliau Villag**	**0.39**	**213**	*e*P	**Pn**	**17 48 08.7**	**-1.4**
	baz=200						
TEYL				*e*S	**Sn**	**17 48 17.1**	**+5.6**
	baz=200						
TWC	**Suao**	**0.41**	**2**	⇓*i*P	**Pb**	**17 48 07.6**	**-0.2**
	baz=17						
TWC				*i* S	**Sb**	**17 48 12.8**	**-1.3**
	baz=17						
LATG	**Datong**	**0.44**	**321**	⇓*i*P	**Pg**	**17 48 07.7**	**+0.4**
	baz=327						
LATG				*i* S	**Sg**	**17 48 12.9**	**-0.2**
	baz=327						
NDS	**Dongshan**	**0.45**	**347**	⇓*i*P	**Pb**	**17 48 08.1**	**-0.4**
	baz=358						
NDS				*i* S	**Sg**	**17 48 13.6**	**+0.2**
	baz=358						
NNSB	**Datong**	**0.47**	**300**	⇓P	**Pg**	**17 48 08.2**	**+0.4**
	baz=299						
NNSB				S	**Sg**	**17 48 13.6**	**-0.5**
	baz=299						
NNS	**Nan Shan**	**0.48**	**300**	⇓P	**Pg**	**17 48 08.4**	**+0.3**
	baz=301						
NNS				*e*S	**Sg**	**17 48 14.1**	**-0.4**
	baz=301						
NDT	**Datong Townshi**	**0.50**	**325**	⇓*i*P	**Pb**	**17 48 09.0**	**-0.3**
	baz=330						
NDT				*i* S	**Sg**	**17 48 15.0**	**0.0**
	baz=330						
ENTT	**Nioudou**	**0.50**	**331**	⇓*i*P	**Pb**	**17 48 09.1**	**-0.4**
	baz=339						
ENTT				*i* S	**Sg**	**17 48 15.4**	**+0.2**
	baz=339						
WHF	**Hehuan Shan**	**0.52**	**265**	P	**Pb**	**17 48 09.4**	**-0.6**
	baz=256						
WHF				*e*S	**Sg**	**17 48 15.6**	**-0.2**
	baz=256						
ESL	**Shilin**	**0.53**	**224**	*e*P	**Pg**	**17 48 09.9**	**+1.1**
	baz=212						
ESL				*e*S	**Sg**	**17 48 17.5**	**+1.6**
	baz=212						
FUSS	**Fushou**	**0.54**	**276**	⇑*i*P	**Pb**	**17 48 08.7**	**-1.4**
	baz=270						
FUSS				*e*S	**Sb**	**17 48 14.8**	**-3.2**
	baz=270						
TWE	**Neicheng**	**0.54**	**344**	⇓*i*P	**Pg**	**17 48 10.0**	**+0.8**
	baz=354						
TWE				*i* S	**Sb**	**17 48 16.9**	**-1.0**
	baz=354						
TEGC	**Jichi Village**	**0.55**	**209**	*e*P	**Pn**	**17 48 12.3**	**0.0**
	baz=198						
TEGC				*e*S	**Sn**	**17 48 22.4**	**+0.9**
	baz=198						
ILA	**Ilan**	**0.57**	**352**	P	**Pn**	**17 48 11.1**	**-1.6**
	baz=2.0						
ILA				*e*S	**Sg**	**17 48 18.6**	**+1.2**
	baz=2.0						
TWT	**Tachien**	**0.60**	**276**	*e*P	**Pg**	**17 48 11.3**	**+1.0**
	baz=270						
TWT				*e*S	**Sb**	**17 48 18.6**	**-1.1**
	baz=270						
FUSB	**Fushanzhiwuyua**	**0.60**	**339**	⇓*i*P	**Pg**	**17 48 11.2**	**+0.8**
	baz=345						
FUSB				*e*S	**Sb**	**17 48 18.3**	**-1.4**
	baz=345						
CHGB	**Renai**	**0.61**	**257**	*e*P	**Pg**	**17 48 11.4**	**+0.8**
	baz=250						
CHGB				*e*S	**Sb**	**17 48 18.7**	**-1.4**
	baz=250						
TDCB	**Techi**	**0.62**	**275**	*e*P	**Pg**	**17 48 11.4**	**+0.7**
	baz=271						
TDCB				*e*S	**Sb**	**17 48 18.3**	**-1.9**
	baz=271						
YHNB	**Yeheng**	**0.63**	**319**	⇑*i*P	**Pg**	**17 48 11.5**	**+0.7**
	baz=322						
YHNB				*e*S	**Sb**	**17 48 18.8**	**-1.6**
	baz=322						
EGFH	**Guangfu**	**0.64**	**215**	*e*P	**Pn**	**17 48 12.9**	**-0.6**
	baz=206						
NSK	**Sanguang**	**0.64**	**318**	⇑P	**Pg**	**17 48 11.7**	**+0.6**
	baz=322						
NSK				*e*S	**Sb**	**17 48 19.1**	**-1.7**
	baz=322						
OWD	**Renai**	**0.64**	**248**	*e*P	**Pg**	**17 48 11.9**	**+0.7**
	baz=240						
OWD				*e*S	**Sb**	**17 48 19.8**	**-1.1**
	baz=240						
NWLT	**Wulai**	**0.65**	**333**	⇓*i*P	**Pg**	**17 48 12.0**	**+0.7**
	baz=338						
NWLT				S	**Sb**	**17 48 19.6**	**-1.5**
	baz=338						
EGS		**0.65**	**8**	*e*P	**Pn**	**17 48 12.9**	**-0.8**
	baz=18						
NTC	**Toucheng**	**0.66**	**360**	⇓*i*P	**Pn**	**17 48 12.2**	**-1.5**
	baz=8.0						
NTC				*e*S	**Sb**	**17 48 19.8**	**-1.3**
	baz=8.0						
WUSB	**Renai**	**0.68**	**253**	⇓P	**Pg**	**17 48 12.7**	**+0.9**
	baz=246						
WUSB				*e*S	**Sb**	**17 48 21.0**	**-1.0**
	baz=246						
VWDT	**VWDT**	**0.77**	**235**	*e*P	**Pn**	**17 48 14.5**	**-0.8**
	baz=228						
VWDT				*e*S	**Sn**	**17 48 25.5**	**-1.3**
	baz=228						
TIPB	**Shuangxi**	**0.77**	**360**	P	**Pn**	**17 48 14.4**	**-1.0**
	baz=6.0						
TIPB				*e*S	**Sg**	**17 48 23.8**	**+0.1**
	baz=6.0						
NFF	**Wufeng Townshi**	**0.78**	**304**	*e*P	**Pg**	**17 48 14.3**	**+0.6**
	baz=304						
NFF				*e*S	**Sb**	**17 48 23.3**	**-1.5**
	baz=304						
HGSD	**Ruisui**	**0.79**	**208**	*e*P	**Pn**	**17 48 16.4**	**+0.8**
	baz=201						
HGSD				*e*S	**Sn**	**17 48 30.5**	**+3.1**
	baz=201						
WHP	**Taichung City**	**0.81**	**276**	⇑*e*P	**Pg**	**17 48 15.1**	**+0.8**
	baz=273						
WHP				*e*S	**Sb**	**17 48 24.6**	**-1.1**
	baz=273						
NHDH	**Xindian Distri**	**0.81**	**340**	*e*P	**Pn**	**17 48 15.5**	**-0.4**
	baz=345						
NHDH				*e*S	**Sb**	**17 48 24.8**	**-0.9**
	baz=345						
TWA	**Mucha**	**0.81**	**344**	*e*P	**Pn**	**17 48 15.3**	**-0.7**
	baz=350						
WPL	**Puli Township**	**0.82**	**257**	*e*P	**Pn**	**17 48 15.3**	**-0.7**
	baz=252						
TWB1	**Santiao Chiao**	**0.82**	**10**	*e*P	**Pn**	**17 48 15.6**	**-0.5**
	baz=17						
EHY	**Hungye**	**0.83**	**214**	*e*P	**Pn**	**17 48 15.6**	**-0.6**
	baz=207						
TATO	**Taipei**	**0.84**	**338**	*e*P	**Pn**	**17 48 15.1**	**-1.2**
	baz=343						
WCS	**Beigang Elemen**	**0.85**	**261**	*e*P	**Pg**	**17 48 15.7**	**+0.7**
	baz=256						
WCS				*e*S	**Sb**	**17 48 25.9**	**-0.9**
	baz=256						
LIOB	**Emei**	**0.87**	**301**	*e*P	**Pn**	**17 48 16.4**	**-0.3**
	baz=301						
LIOB				*e*S	**Sb**	**17 48 27.2**	**0.0**
	baz=301						
NSTT	**Nanjuang**	**0.87**	**300**	*e*P	**Pn**	**17 48 16.3**	**-0.4**
	baz=300						
NSTT				*e*S	**Sb**	**17 48 26.6**	**-0.8**
	baz=300						
NWF	**Wu-fen Shan**	**0.87**	**357**	*e*P	**Pn**	**17 48 16.8**	**-0.1**
	baz=3.0						
NWF				*e*S	**Sg**	**17 48 27.1**	**+0.2**
	baz=3.0						
WFSB	**Wu-fen Shan**	**0.87**	**357**	*e*P	**Pn**	**17 48 16.6**	**-0.1**
	baz=3.0						
WFSB				*e*S	**Sg**	**17 48 27.1**	**+0.2**
	baz=3.0						
TAP1	**Taipei**	**0.89**	**342**	*e*P	**Pn**	**17 48 18.4**	**+1.4**
	baz=346						
SXI1	**Grass Mountain**	**0.90**	**3**	*e*P	**Pn**	**17 48 17.0**	**-0.2**
	baz=9.0						
SXI1				*e*S	**Sb**	**17 48 26.5**	**-1.7**
	baz=9.0						
SSLB	**Suanglung**	**0.90**	**243**	⇑*e*P	**Pg**	**17 48 16.6**	**+0.7**
	baz=237						
SSLB				*e*S	**Sb**	**17 48 27.5**	**-0.7**
	baz=237						
SMLT	**Sun Moon Lake**	**0.91**	**250**	*e*P	**Pg**	**17 48 16.9**	**+0.8**
	baz=244						
SMLT				*e*S	**Sb**	**17 48 28.4**	**-0.1**
	baz=244						
TYC	**Yuchr**	**0.94**	**252**	*e*P	**Pg**	**17 48 17.4**	**+0.8**
	baz=247						
YULB	**Yu-li**	**0.94**	**212**	*e*P	**Pg**	**17 48 17.1**	**+0.5**
	baz=205						
EYUL	**Yuli**	**0.97**	**209**	*e*P	**Pg**	**17 48 19.1**	**+1.9**
	baz=203						
NCU	**National Centr**	**0.97**	**323**	*e*P	**Pg**	**17 48 19.5**	**+2.2**
	baz=326						
SBCB	**Hsinchu**	**0.97**	**308**	*e*P	**Pg**	**17 48 18.9**	**+1.5**
	baz=309						
TWS1	**Kuangyinshan**	**0.98**	**337**	*e*P	**Pg**	**17 48 19.2**	**+1.8**
	baz=342						
YM01	**YM01**	**0.98**	**346**	*e*P	**Pg**	**17 48 18.8**	**+1.4**
	baz=350						
TWQ1	**Liyutan**	**0.98**	**279**	*e*P	**Pg**	**17 48 19.8**	**+2.4**
	baz=277						
TWQ1				*e*S	**Sn**	**17 48 31.3**	**-0.7**
	baz=277						
HSN	**Hsinchu**	**0.99**	**308**	*e*P	**Pg**	**17 48 20.0**	**+2.3**
	baz=311						
NSY	**Sanyi**	**1.00**	**283**	*e*P	**Pg**	**17 48 19.6**	**+1.8**
	baz=281						
NMLH	**Miaoli**	**1.01**	**290**	*e*P	**Pg**	**17 48 20.2**	**+2.2**
	baz=289						
NTST	**Danshui**	**1.02**	**340**	*e*P	**Pg**	**17 48 20.4**	**+2.1**
	baz=344						
JYNG	**Yonagunijimaku**	**1.05**	**76**	P	**Pg**	**17 48 21.3**	**+2.5**
JYNG				*e*S	**Sn**	**17 48 37.9**	**+4.1**
TCU	**Taichung**	**1.05**	**268**	*e*P	**Pg**	**17 48 21.7**	**+2.8**
	baz=264						
YUS	**Yu-Shan**	**1.07**	**229**	*e*P	**Pg**	**17 48 20.6**	**+1.4**
	baz=223						
WJS	**Zhushan**	**1.07**	**250**	*e*P	**Pg**	**17 48 21.2**	**+1.9**
	baz=245						
WNT	**Mingjian**	**1.09**	**253**	*e*P	**Pg**	**17 48 21.6**	**+2.0**
	baz=249						
WDJ	**Dajia District**	**1.10**	**278**	*e*P	**Pg**	**17 48 22.3**	**+2.6**
	baz=276						
WDJ				*e*S	**Sg**	**17 48 37.5**	**+3.5**
	baz=276						
FULB	**Fuli**	**1.11**	**206**	*e*P	**Pg**	**17 48 21.2**	**+1.3**
	baz=201						
YOJ	**Yonaguni jima**	**1.11**	**76**	P	**Pg**	**17 48 22.5**	**+2.6**
YOJ				*e*S	**Sg**	**17 48 40.0**	**+5.6**
YOJ	**Yonaguni jima**	**1.11**	**76**	⇑P	**Pg**	**17 48 22.6**	**+2.6**
	baz=79						
YOJ				*e*S	**Sg**	**17 48 38.2**	**+3.8**
	baz=79						
ALS	**Alishan**	**1.16**	**234**	*e*P	**Pg**	**17 48 21.9**	**+0.9**
	baz=229						
ALS				*e*S	**Sg**	**17 48 38.1**	**+2.0**
	baz=229						
WCHH	**Zhanghua**	**1.17**	**265**	*e*P	**Pg**	**17 48 23.4**	**+2.3**
	baz=261						
CHKT	**Chengkung**	**1.17**	**201**	*e*P	**Pg**	**17 48 21.8**	**+0.6**
	baz=196						
CHN5	**Tsauling**	**1.21**	**241**	*e*P	**Pg**	**17 48 23.5**	**+1.6**
	baz=236						
CHN5				*e*S	**Sg**	**17 48 40.4**	**+2.7**
	baz=236						
ELDTW	**Lidau**	**1.25**	**217**	*e*P	**Pg**	**17 48 22.3**	**-0.3**
	baz=212						
WDLH	**Douliu**	**1.28**	**247**	*e*P	**Pg**	**17 48 24.9**	**+1.6**
	baz=243						
EDH	**Donghe**	**1.31**	**202**	*e*P	**Pg**	**17 48 23.1**	**-0.6**
	baz=197						
WRL	**Guolierlin Hig**	**1.36**	**258**	*e*P	**Pg**	**17 48 25.5**	**+0.8**
	baz=255						
STYH	**Taoyuan**	**1.41**	**224**	*e*P	**Pg**	**17 48 26.0**	**+0.4**
	baz=219						
STYH				*e*S	**Sg**	**17 48 44.6**	**+0.8**
	baz=219						
CHN4	**Tsaushan**	**1.41**	**234**	*e*P	**Pg**	**17 48 27.1**	**+1.4**
	baz=230						
CHN4				*e*S	**Sg**	**17 48 47.7**	**+3.6**
	baz=230						
WTK	**Tuku**	**1.41**	**249**	*e*P	**Pg**	**17 48 26.5**	**+0.7**
	baz=246						
WTK				*e*S	**Sg**	**17 48 45.6**	**+1.5**
	baz=246						
TPUB	**Ta-pu**	**1.42**	**231**	*e*P	**Pg**	**17 48 26.8**	**+1.0**
	baz=227						
TPUB				*e*S	**Sg**	**17 48 45.9**	**+1.7**
	baz=227						
WTP	**Ta-pu**	**1.46**	**230**	*e*P	**Pg**	**17 48 27.9**	**+1.2**
	baz=226						
LDUT	**Ludao**	**1.55**	**192**	*e*P	**Pb**	**17 48 25.8**	**-1.4**
	baz=189						
CHN1	**Nanshi**	**1.56**	**230**	*e*P	**Pg**	**17 48 29.4**	**+0.8**
	baz=226						
WSF	**Szhu**	**1.57**	**250**	*e*P	**Pg**	**17 48 29.2**	**+0.4**
	baz=246						
WSL	**Shuilin Townsh**	**1.61**	**246**	*e*P	**Pg**	**17 48 29.8**	**+0.3**
	baz=242						
ICHU	**Yijhu**	**1.65**	**240**	*e*P	**Pg**	**17 48 30.3**	**+0.1**
	baz=237						
IRIF	**Iriomote-Funau**	**1.74**	**85**	P	**Pg**	**17 48 31.5**	**-0.5**
IRIF				*e*S	**Sg**	**17 48 54.9**	**+0.3**
HATJ	**Hateruma jima**	**1.81**	**94**	*e*S	**Sg**	**17 48 57.2**	**+0.4**
SSD	**Sandimen**	**1.81**	**218**	*e*P	**Pg**	**17 48 32.5**	**-0.9**
	baz=214						
TSMG	**Majia**	**1.84**	**217**	*e*P	**Pg**	**17 48 33.4**	**-0.5**
	baz=213						
MASBT	**Mashibuluo**	**1.92**	**215**	*e*P	**Pg**	**17 48 34.6**	**-0.9**
	baz=212						
JKRS	**Kuro-shima**	**1.99**	**88**	P	**Pg**	**17 48 35.2**	**-1.6**
JIJ	**Ishigaki jima**	**2.12**	**85**	P	**Pg**	**17 48 36.5**	**-2.7**
JIJ				*e*S	**Sg**	**17 49 03.4**	**-3.3**
WDGT	**Dungji**	**2.20**	**245**	*e*P	**Pb**	**17 48 37.3**	**-1.0**
	baz=243						
JISG	**Ishigakijimahi**	**2.29**	**80**	P	**Pb**	**17 48 38.9**	**-1.1**
VWUC	**VWUC**	**2.31**	**291**	*e*P	**Pn**	**17 48 37.3**	**+0.8**
	baz=290						

*IDC **27** 18:05:17.4±1.3, 40.06N×52.17E, h0km, mb3.6/8, mb1 3.9/17, mb1mx3.7/45, mbtmp3.8/17, ML3.2/6, Error ellipse: s-maj=22.6km s-min=9.7km az=179.0*
*MOS **27** 18:05:19.1±1.5, 40.38N×52.49E, h16km, mb4.1/6, Error ellipse: s-maj=7.3km s-min=5.7km az=43.6*
*AZER **27** 18:05:23.3±0.4, 40.01N×52.21E, h62km±5km, Error ellipse: s-maj=6.4km s-min=4.0km az=354.0*
*NNC **27** 18:05:28.6±4.7, 40.73N×53.54E, h0km, mb3.8, Error ellipse: s-maj=57.0km s-min=12.3km az=71.0*
ISC 27 18:05:18.5±0.6, 40.23N±0.05°×52.46E±0.04, h10km, n91, σ2$82/131, mb3.7/11, 3C-3D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**1.92**	**281**	Pg	**Pg**	**18 05 56.0**	**+0.7**
NDR				Sg	**Sg**	**18 06 23.0**	**+2.8**
GOBA	**Gobu**	**2.09**	**276**	Sg	**Sg**	**18 06 26.9**	**+1.2**
ALIB	**Äli-Bayra**	**2.67**	**265**	Pn	**Pn**	**18 06 02.3**	**+0.9**
ALIB				Sg	**Sb**	**18 06 40.2**	**+1.2**
ATGJ	**Altiaghaj**	**2.76**	**284**	Sn	**Sn**	**18 06 37.5**	**+1.3**
SIZA	**Siyzn**	**2.84**	**288**	Pn	**Pb**	**18 06 07.3**	**-1.9**
	SNR=13						
SIZA				Sn	**Sn**	**18 06 40.2**	**+1.9**
PQL	**Pirkuli**	**3.00**	**282**	Pn	**Pn**	**18 06 08.6**	**+2.4**
PQL				Sn	**Sn**	**18 06 44.2**	**+1.9**
SAAT	**Saatly**	**3.12**	**265**	Pn	**Pn**	**18 06 10.4**	**+2.7**
SAAT				Sn	**Sn**	**18 06 45.3**	**+0.3**
QUBA	**Quba, Azerbaij**	**3.22**	**292**	Pn	**Pn**	**18 06 12.2**	**+3.2**
QUBA				Sn	**Sn**	**18 06 50.0**	**+2.6**
LKRN	**Lenkeran, Azer**	**3.23**	**243**	P	**Pn**	**18 06 10.2**	**+1.1**
LKRN	**Lenkeran, Azer**	**3.23**	**243**	Pn	**Pn**	**18 06 10.3**	**+1.1**
	SNR=11						
LKRN				Sn	**Sn**	**18 06 44.9**	**-2.8**
KDMR	**Kurdemir**	**3.27**	**274**	Sn	**Sn**	**18 06 49.6**	**+0.8**
GLBA	**Clilabad**	**3.29**	**254**	Pn	**Pn**	**18 06 11.2**	**+1.2**
	SNR=80						
GLBA				Sn	**Sn**	**18 06 46.8**	**-2.3**
ASTR	**Astara**	**3.30**	**241**	Pn	**Pn**	**18 06 10.8**	**+0.7**
	SNR=16						
ASTR				S	**Sn**	**18 06 46.1**	**-3.3**
IML	**Ismayilli**	**3.31**	**281**	Sn	**Sn**	**18 06 50.4**	**+0.6**
XNQ	**Khinaliq**	**3.42**	**287**	Pn	**Pn**	**18 06 14.4**	**+2.5**
	SNR=12						
XNQ				Sn	**Sn**	**18 06 53.1**	**+0.4**
QSAR	**Qusar**	**3.43**	**293**	Pn	**Pn**	**18 06 15.1**	**+3.0**
	SNR=6.5						
QSAR				Sn	**Sn**	**18 06 53.6**	**+0.8**
YRD	**Yardimli**	**3.52**	**249**	Pn	**Pn**	**18 06 13.5**	**+0.2**
	SNR=9.7						
YRD				Sn	**Sn**	**18 06 51.6**	**-3.4**
LRK	**Lerik**	**3.56**	**245**	Pn	**Pn**	**18 06 15.0**	**+1.0**
	SNR=9.1						
LRK				Sn	**Sn**	**18 06 52.3**	**-3.9**
QBL	**Gabala**	**3.59**	**283**	Pn	**Pn**	**18 06 15.7**	**+1.4**
QBL				Sn	**Sn**	**18 06 55.9**	**-0.9**
ZRD	**Zardab**	**3.66**	**272**	Pn	**Pn**	**18 06 17.2**	**+2.2**
	SNR=16						
ZRD				Sn	**Sn**	**18 06 59.4**	**+1.2**
BLQ	**Beylaqan**	**3.80**	**264**	Pn	**Pn**	**18 06 17.4**	**+0.3**
	SNR=3.1						
BLQ				Sn	**Sn**	**18 06 59.5**	**-2.3**
QRD	**Qoradiz**	**4.03**	**261**	Pn	**Pn**	**18 06 21.2**	**+0.9**
	SNR=2.8						
QRD				Sn	**Sn**	**18 07 04.6**	**-2.9**
BRDA	**Brd**	**4.04**	**272**	Pn	**Pn**	**18 06 22.6**	**+2.2**
BRDA				Sn	**Sn**	**18 07 07.9**	**+0.2**
AGDM	**Agdam**	**4.10**	**270**	Pn	**Pn**	**18 06 22.2**	**+1.0**
	SNR=14						
AGDM				Sn	**Sn**	**18 07 07.5**	**-1.8**
SEKA	**Sheki**	**4.12**	**285**	P	**Pn**	**18 06 23.5**	**+2.0**
SEKA	**Sheki**	**4.12**	**285**	Pn	**Pn**	**18 06 23.6**	**+2.0**
	SNR=11						
SEKA				Sn	**Sn**	**18 07 09.3**	**-0.4**
MNGR	**Mingechevir, A**	**4.13**	**279**	P	**Pn**	**18 06 25.8**	**+4.2**
MNGR	**Mingechevir, A**	**4.13**	**279**	Pn	**Pn**	**18 06 26.0**	**+4.4**
MNGR				Sn	**Sn**	**18 07 09.5**	**-0.6**
MAK	**Makhachkala**	**4.61**	**308**	*e*P	**Pn**	**18 06 27.2**	**-1.0**
MAK				*e*S	**Sn**	**18 07 19.5**	**-2.2**
MAK				pmax	pmax		
	comp=Z,33nm,0.5s						
MAK				MLR	MLR		
	comp=

GROC					smax	smax		
	comp=E,44nm,0.7s							
GROC					MLR	MLR		
	comp=Z,14nm,2.0s							
HYR	**Heyderabad**	**5.87**	**267**		Sn	**Sn**	**18 07 52.0**	**-0.8**
GNI	**Garni**	**5.91**	**272**		Pn	**Pn**	**18 06 46.6**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=0.9,slow=22,SNR=2.2							
GNI					Sn	**Sn**	**18 07 52.8**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=23,slow=18,SNR=2.1							
NCK	**Nalchik**	**7.38**	**299**	*i* P		**Pn**	**18 07 08.4**	**+2.2**
KBZ	**Khabaz**	**7.94**	**299**		Pn	**Pn**	**18 07 13.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=101,slow=8.3,SNR=2.2							
KBZ					Sn	**Sn**	**18 08 41.3**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=86,slow=11,SNR=3.8							
PYA1	**Pyatigorsk**	**7.94**	**302**	*i* P		**Pn**	**18 07 14.9**	**+0.9**
SHA1	**Shidzhatmaz**	**8.10**	**299**	*i* P		**Pn**	**18 07 18.3**	**+2.0**
KVAR	**Kislovodsk Arr**	**8.16**	**300**		Pn	**Pn**	**18 07 18.0**	**+1.0**
	baz=293,slow=22,SNR=2.2							
KVAR					Sn	**Sn**	**18 08 44.0**	**-5.4**
	baz=233,slow=11,SNR=3.6							
KIV	**Kislovodsk**	**8.17**	**300**	*e*P		**Pn**	**18 07 19.4**	**+2.3**
KIV					*e*S	**Sn**	**18 08 49.9**	**+0.5**
KIV					pmax	pmax		
	comp=Z,7.0nm,1.1s							
AB31	**Akbulak array**	**10.47**	**28**		P	**Pn**	**18 07 49.8**	**+1.3**
AB31					SN	**Sn**	**18 09 38.7**	**-7.1**
AB31	**Akbulak array**	**10.47**	**28**		Pn	**Pn**	**18 07 49.8**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=211,slow=13,SNR=33							
AB31				⇑	Sn	**Sn**	**18 09 38.7**	**-7.1**
	comp=Z,2.1nm,0.3s,baz=204,slow=23,SNR=13							
AKTO	**Aktyubinsk**	**10.93**	**19**		Pn	**Pn**	**18 07 55.6**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=209,slow=11,SNR=14							
AKTO					Sn	**Sn**	**18 09 50.4**	**-6.6**
	comp=Z,1.8nm,0.3s,baz=206,slow=23,SNR=11							
AKTO	**Aktyubinsk**	**10.93**	**19**		P	**Pn**	**18 07 55.4**	**+0.6**
AKTO					SN	**Sn**	**18 09 49.9**	**-7.1**
AKTO	**Aktyubinsk**	**10.93**	**19**	⇓	Pn	**Pn**	**18 07 55.0**	**+0.3**
	comp=Z,2.1nm,0.5s							
AKTO				⇑	Sn	**Sn**	**18 09 49.1**	**-7.9**
	comp=Z,8.3nm,0.4s							
BELG	**Belogormoye**	**12.61**	**346**		Pn	**Pn**	**18 08 18.4**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=336,slow=23,SNR=7.6							
BELG					Sn	Sn	18 10 27.6	-11
	comp=Z,2.1nm,0.3s,baz=356,slow=22,SNR=12							
KK31	**Karatay Array**	**13.80**	**72**		P	**Pn**	**18 08 35.9**	**+1.9**
KK31	**Karatay Array**	**13.80**	**72**		P	**Pn**	**18 08 36.0**	**+1.9**
	comp=Z,0.3nm,0.2s,baz=123,slow=36,SNR=12							
VORR	**Voronezh**	**14.67**	**326**	*e*P		Pn	18 08 40.3	-5.5
VORR					pmax	pmax		
	comp=Z,30nm,0.4s							
OTUK	**Ortayu**	**16.31**	**54**		P	**Pn**	**18 09 07.6**	**+0.1**
OTUK	**Ortayu**	**16.31**	**54**	⇓	P	**Pn**	**18 09 07.6**	**+0.1**
	comp=Z,2.9nm,0.5s							
AAK	**Ala-Archa**	**16.69**	**75**		Pn	**Pn**	**18 09 13.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=236,slow=7.8,SNR=1.6							
ARU	**Arti**	**16.70**	**12**		Pn	**Pn**	**18 09 11.0**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=166,slow=7.5,SNR=3.8							
ARU					Sn	**Sn**	**18 12 07.5**	**-10**
	comp=Z,0.0nm,0.3s,baz=106,slow=22,SNR=6.8							
ARU	**Arti**	**16.70**	**12**	*c*i	P	**Pn**	**18 09 08.9**	**-3.4**
ARU					S	**Sn**	**18 12 10.3**	**-7.4**
ARU					pmax	pmax		
	comp=Z,2.0nm,0.6s							
BRVK	**Borovoye**	**17.66**	**37**	*i* P		**P**	**18 09 24.2**	**-1.2**
BVA1	**Borovoye Array**	**17.69**	**38**	⇓	P	**P**	**18 09 26.6**	**+0.9**
	comp=Z,2.0nm,0.5s							
OBN	**Obninsk**	**18.27**	**330**	*i* P		**P**	**18 09 32.7**	**+0.7**
OBN					pmax	pmax		
	comp=Z,4.0nm,0.9s							
KIRV	**Kirov**	**18.48**	**355**		P	**P**	**18 09 36.8**	**+2.5**
	comp=Z,3.1nm,0.3s,baz=192,slow=6.6,SNR=7.6							
AKASG	**Malin Array Be**	**19.29**	**311**		P	**P**	**18 09 43.1**	**-0.2**
	comp=Z,4.0nm,0.3s,baz=91,slow=8.7,SNR=20							
KURBB	**Kurchatov Arra**	**20.94**	**52**		P	Pn	18 10 04.5	+0.8
	comp=Z,1.0nm,0.8s,baz=256,slow=13,SNR=6.3							
KURK	**Kurchatov**	**21.02**	**51**	*i* P		**P**	**18 10 00.6**	**-1.5**
KURK					pmax	pmax		
	comp=Z,3.0nm,0.8s							
KLMR	**Klimovskoe**	**22.15**	**343**	*e*P		**P**	**18 10 12.9**	**-1.2**
KLMR					pmax	pmax		
	comp=Z,6.0nm,0.8s							
KLMR	**Klimovskoe**	**22.15**	**343**	*e*P		**P**	**18 10 12.9**	**-1.2**
KLMR					AMP		18 10 18.2	
	comp=Z,6.0nm,0.8s							
MK31	**Makanchi Array**	**22.52**	**63**	*i* P		**P**	**18 10 21.5**	**+3.3**
MK31	**Makanchi Array**	**22.52**	**63**		P	**P**	**18 10 21.4**	**+3.1**
	comp=Z,0.1nm,0.2s,baz=270,slow=5.8,SNR=5.7							
MKAR	**Makanchi Array**	**22.52**	**63**		P	**P**	**18 10 22.0**	**+3.8**
	comp=Z,0.3nm,0.4s,baz=251,slow=8.2,SNR=6.3							
ZALV	**Zalesovo Beam**	**25.69**	**47**		P	**P**	**18 10 51.2**	**+2.8**
	comp=Z,0.4nm,0.5s,baz=273,slow=10,SNR=2.7							
FINES	**FINESS Array B**	**26.65**	**322**		P	**P**	**18 10 57.1**	**0.0**
	comp=Z,2.7nm,0.4s,baz=139,slow=10,SNR=20							
GERES	**GERESS Array B**	**28.68**	**300**		P	**P**	**18 11 16.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=93,slow=8.5,SNR=2.3							
ARCES	**ARCESS Array B**	**32.62**	**343**		P	**P**	**18 11 50.0**	**+0.1**
	comp=Z,3.1nm,1.0s,baz=134,slow=8.7,SNR=5.0							
ARCES	**ARCESS Array B**	**32.62**	**343**	*e*P		**P**	**18 11 52.0**	**+2.0**
ARCES					pmax	pmax		
	comp=Z,3.0nm,1.0s							
NB2	**NORSAR Subarra**	**32.63**	**323**		P	**P**	**18 11 49.6**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=112,slow=9.3							
NOA	**NORSAR Array B**	**32.63**	**323**		P	**P**	**18 11 49.8**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=113,slow=8.3,SNR=4.8							
NOA	**NORSAR Array B**	**32.63**	**323**	*e*P		**P**	**18 11 50.0**	**-0.2**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.4s							
BILL	**Bilibino**	**61.33**	**23**	*i* P		**P**	**18 15 32.7**	**-1.1**
BILL				*i*			18 16 20.2	
BILL					pmax	pmax		
	comp=Z,2.0nm,1.4s							
YKA	**Yellowknife Ar**	**77.10**	**354**		P	**P**	**18 17 11.4**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=8.8,slow=6.0,SNR=4.5							

IDC 27 18:10:31.0±4.8, 28°.53S×177°.79W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/34, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=92.2km s-min=58.1km az=85.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.59**	**202**		Op	Pn	18 13 04.1	+0.1
	0.3nm,0.3s,baz=114,slow=17,SNR=1.3							
URZ					Sn	Sn	18 14 52.0	-11
	1.2nm,0.3s,baz=314,slow=22,SNR=2.8							
ASAR	**Alice Springs**	**43.42**	**265**	P		P	18 18 34.5	-1.2
	0.2nm,0.5s,baz=103,slow=7.2,SNR=11							
WRA	**Warramunga Arr**	**44.24**	**270**	P		P	18 18 43.2	+0.8
	0.3nm,0.3s,baz=109,slow=7.4,SNR=18							
FINES	**FINESS Array B**	**143.45**	**341**	PKP		PKPdf	18 30 06.6	-0.3
	0.6nm,0.4s,baz=48,slow=4.1,SNR=9.2							

WEL 27 18:17:40.8±0.9, 35°S±14°×177°.9E±2°2, h282km±12km, M3.7/9, mB5.3/2, ML4.0/11, MLv3.7/9, Mw(mB)4.7/2, Error ellipse: s-maj=0.0km s-min=0.0km az=118.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.57**	**187**	P		Pn	18 18 30.7	-0.3
MXZ				S		S	18 19 09.0	-2.0
WMGZ	**Waiomatatini S**	**2.81**	**185**	S		S	18 19 16.0	+0.7
HAZ	**Te Kaha**	**2.84**	**195**	P		Pn	18 18 33.6	0.0
HAZ				S		S	18 19 15.1	-0.6
PKGZ	**Pakihiroa**	**2.92**	**190**	P		Pn	18 18 34.0	-0.5
PKGZ				S		S	18 19 16.3	-1.0
RUGZ	**Raukumara Rang**	**3.06**	**195**	P		Pn	18 18 36.1	+0.1
RUGZ				S		S	18 19 21.5	+1.4
PUZ	**Puketiti**	**3.08**	**187**	S		S	18 19 19.4	-0.8
TWGZ	**Tauwhareparae**	**3.21**	**190**	S		S	18 19 23.2	+0.4
MWZ	**Matawai**	**3.45**	**195**	S		S	18 19 29.1	+1.8
URZ	**Urewera**	**3.49**	**201**	P		Pn	18 18 41.1	+0.8
URZ				S		S	18 19 29.8	+1.9
TKGZ	**Te Karaka**	**3.49**	**191**	S		S	18 19 28.4	+0.4
RIGZ	**Rimuhau**	**3.77**	**191**	S		S	18 19 34.4	+0.9
MUGZ	**Murupara**	**3.79**	**204**	P		Pn	18 18 43.1	-0.6
MUGZ				S		S	18 19 33.2	-0.8
RTZ	**Ruatahuna**	**3.85**	**200**	P		Pn	18 18 44.4	-0.1
RTZ				S		S	18 19 36.7	+1.3
SNGZ	**Shannon Statio**	**3.92**	**196**	P		Pn	18 18 45.8	+0.6
SNGZ				S		S	18 19 38.7	+2.1
RAHZ	**Arahi**	**4.11**	**198**	P		Pn	18 18 47.7	+0.4
RAHZ				S		S	18 19 40.7	+0.3
MTHZ	**Maungataniwha**	**4.12**	**201**	P		Pn	18 18 48.4	+1.1
MTHZ				S		S	18 19 42.6	+2.0
BKZ	**Black Stump Fm**	**4.51**	**202**	P		Pn	18 18 52.6	+0.7
BKZ				S		S	18 19 48.8	0.0
BHHZ	**Black Hill Sta**	**4.94**	**204**	P		Pn	18 18 57.4	+0.4
BHHZ				S		S	18 19 57.2	-0.8
KAHZ	**Kahuranaki**	**4.99**	**196**	P		Pn	18 18 55.1	-2.4
KAHZ				S		S	18 20 01.6	+2.6
TSZ	**Takapari Road**	**5.49**	**203**	P		Pn	18 19 03.3	-0.2
TSZ				S		S	18 20 07.4	-2.4
ANWZ	**Angora Road**	**5.72**	**197**	P		Pn	18 19 06.4	+0.3
BFZ	**Birch Farm**	**5.99**	**198**	P		Pn	18 19 09.6	+0.3
BFZ				S		S	18 20 22.4	+1.7
MRZ	**Mangatainoka R**	**6.16**	**203**	P		Pn	18 19 11.2	-0.3
MRZ				S		S	18 20 22.6	-1.8
TIWZ	**Tintock**	**6.17**	**200**	P		Pn	18 19 11.7	0.0
TIWZ				S		S	18 20 24.3	-0.5

JMA ***27*** *18:19:00.2±0.5, 23°.25N×121°.07E, h0km, M4.7*

NIED ***27*** *18:19:00.2, 23°.25N×121°.07E, h0km, MW5.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^16Nm; Mrr0.23; Mθθ-1.33; Mφφ 1.09; Mrθ0.16; Mθφ-2.82; Mφr-1.25; Fault plane solution: M0 3.33000×10^16 NP1: φs100.00000°, δ69.00000°, λ172.00000°. NP2: φs193.00000°, δ83.00000°, λ21.00000°.*

MOS ***27*** *18:19:04.3±0.9, 23°.33N×121°.55E, h21km, mb5.4/43, MS4.7/17 Error ellipse: s-maj=6.4km s-min=3.6km az=118.5*

NEIC ***27*** *18:19:05.1, 23°.32N×121°.38E, h23km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.45; Mθθ-2.22; Mφφ 1.77; Mrθ0.25; Mθφ-2.16; Mφr-1.38; Fault plane solution: M0 3.28000×10^16 NP1: φs204.02000°, δ76.47000°, λ22.32000°. NP2: φs108.54000°, δ68.34000°, λ165.42000°. Principal axes: T 3.3577, Plg25.0000°, Azm68.0000°; N -0.1662, Plg64.0000°, Azm234.0000°; P -3.1915, Plg5.0000°, Azm335.0000°;*

NEIC ***27*** *18:19:05.1±2.3, 23°.32N±0°.06×121°.39E±0°.04, h10km±1km, mb5.0/181, Mwr4.9/20, Mww5.0, ML5.5(TAP) Error ellipse: s-maj=9.9km s-min=6.5km az=185.0*

BJI ***27*** *18:19:05.0±0.0, 23°.26N×121°.28E, h10km, mb4.6/75, mB4.9/62, ML5.1/12, Ms5.0/90, Ms7 4.9/86*

TAP ***27*** *18:19:06.2, 23°.28N×121°.23E, h15km, ML5.5, B*

GCMT ***27*** *18:19:08.1±0.2, 23°.27N±0°.01×121°.29E±0°.01, h17km±1km, MW5.0/106, Moment Tensor Solution. s34,c43; s106,c170; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.65±.11; Mθθ-1.55±.09; Mφφ 0.90±.07; Mrθ1.21±.23; Mθφ-2.33±.06; Mφr-2.08±.28; Best double couple: M0 3.49100×10^16 NP1: φs98.00000°, δ65.00000°, λ154.00000°. NP2: φs200.00000°, δ66.00000°, λ27.00000°. Principal axes: T 4.0240, Plg35.0000°, Azm59.0000°; N -1.0670, Plg55.0000°, Azm237.0000°; P -2.9570, Plg1.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***27*** *18:19:09.3±2.1, 23°.26N×121°.54E, h46km±20km, mb4.5/36, mb1 4.5/41, mb1mx4.4/59, mbtmp4.7/41, ML4.4/5, MS4.2/72, Ms1 4.2/72, ms1mx4.1/97 Error ellipse: s-maj=11.4km s-min=9.2km az=80.0*

NEIC ***27*** *18:19:10, 23°.31N×121°.39E, h22km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^16Nm; Mrr1.29; Mθθ-1.68; Mφφ 0.39; Mrθ0.58; Mθφ-2.35; Mφr-2.19; Fault plane solution: M0 3.60000×10^16 NP1: φs93.00000°, δ53.00000°, λ155.00000°. NP2: φs199.00000°, δ70.00000°, λ39.00000°. Principal axes: T 3.8160, Plg41.0000°, Azm62.0000°; N -0.4706, Plg47.0000°, Azm221.0000°; P -3.3454, Plg11.0000°, Azm322.0000°;*

ISC 27 18:19:06.1±0.3, 23°.27N±0°.01×121°.37E±0°.01, h17km±1km, h17km:pP-P, n810, σ1°.61/938, mb5.0/224, MS4.4/100, 75C-87D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EYUL	**Yuli**	**0.09**	**332**	⇑	*i*P	**Pb**	**18 19 09.6**	**0.0**
	baz=51							
EYUL					*e*S	**Sb**	**18 19 12.0**	**+0.1**
	baz=51							
ECBN	**Changbin**	**0.09**	**58**	⇑	*i*P	**Pg**	**18 19 11.9**	**+2.3**
	baz=81							
ECBN					S	**Sg**	**18 19 16.9**	**+4.9**
	baz=81							
FULB	**Fuli**	**0.09**	**224**	⇓	*i*P	**Pb**	**18 19 10.0**	**+0.4**
	baz=146							
FULB					S	**Sb**	**18 19 13.7**	**+1.7**
	baz=146							
TWF1	**Yuli**	**0.10**	**324**	⇑	*i*P	**Pg**	**18 19 09.5**	**-0.2**
	baz=45							
TWF1					S	**Sg**	**18 19 11.9**	**-0.3**
	baz=45							
YULB	**Yu-li**	**0.14**	**334**	Pg		**Pg**	**18 19 09.4**	**-0.8**
YULB				Sg		**Sg**	**18 19 12.5**	**-0.4**
YULB	**Yu-li**	**0.14**	**334**	⇑	*i*P	**Pg**	**18 19 09.9**	**-0.3**
	baz=28							
CHKT	**Chengkung**	**0.17**	**180**	⇓	*i*P	**Pb**	**18 19 11.7**	**+1.0**
	baz=145							
CHKT					S	**Sb**	**18 19 16.7**	**+2.9**
	baz=145							
ECS	**Chishang**	**0.22**	**218**	*i*	P	**Pg**	**18 19 10.9**	**-0.3**
	baz=184							
ECS				*i*	S	**Sg**	**18 19 15.3**	**+0.6**
	baz=184							
HGSD	**Ruisui**	**0.23**	**14**	⇑	*i*P	**Pb**	**18 19 12.7**	**+0.9**
	baz=40							
HGSD					S	**Sb**	**18 19 17.8**	**+2.2**
	baz=40							
EHY	**Hungye**	**0.24**	**351**	⇑	*i*P	**Pg**	**18 19 11.6**	**0.0**
	baz=22							
EHY				*i*	S	**Sg**	**18 19 15.0**	**-0.4**
	baz=22							
EDH	**Donghe**	**0.30**	**191**	⇓	*i*P	**Pb**	**18 19 13.1**	**+0.1**
	baz=168							
EDH					S	**Sb**	**18 19 18.9**	**+1.3**
	baz=168							
ELDTW	**Lidau**	**0.33**	**256**	⇑	*i*P	**Pg**	**18 19 11.3**	**-1.9**
	baz=243							
ELDTW				*i*	S	**Sg**	**18 19 15.0**	**-3.0**
	baz=243							
EGFH	**Guangfu**	**0.40**	**8**	⇑	*i*P	**Pb**	**18 19 14.3**	**-0.5**
	baz=25							
EGFH				*i*	S	**Sb**	**18 19 20.8**	**+0.1**
	baz=25							
LONT	**Longtian**	**0.42**	**211**	⇓	*i*P	**Pg**	**18 19 13.7**	**-0.9**
	baz=194							
LONT					*e*S	**Sg**	**18 19 20.4**	**0.0**
	baz=194							
YUS	**Yu-Shan**	**0.44**	**300**	⇓	*i*P	**Pg**	**18 19 13.8**	**-1.4**
	baz=309							
YUS				*i*	S	**Sg**	**18 19 18.9**	**-2.5**
	baz=309							
TEGC	**Jichi Village**	**0.47**	**20**	⇑	*i*P	**Pb**	**18 19 16.6**	**+0.7**
	baz=34							
TEGC					*e*S	**Sn**	**18 19 25.6**	**-0.3**
	baz=34							
TWGBT	**Beinan**	**0.52**	**210**	⇓	*i*P	**Pg**	**18 19 15.1**	**-1.4**
	baz=197							
TWGBT					*e*S	**Sg**	**18 19 23.1**	**-0.4**
	baz=197							
TWG	**Pinlang**	**0.52**	**211**	Pg		**Pg**	**18 19 14.8**	**-1.8**
TWG	**Pinlang**	**0.52**	**211**	⇓	*i*P	**Pg**	**18 19 15.1**	**-1.4**
	baz=197							
TWG					*e*S	**Sg**	**18 19 23.1**	**-0.5**
	baz=197							
VWDT	**VWDT**	**0.53**	**337**	⇓	*i*P	**Pg**	**18 19 16.3**	**-0.3**
	baz=350							
VWDT					*e*S	**Sg**	**18 19 22.8**	**-1.0**
	baz=350							
ESL	**Shilin**	**0.55**	**7**	⇑	*i*P	**Pg**	**18 19 16.3**	**-0.7**
	baz=20							
ESL					*e*S	**Sb**	**18 19 24.8**	**0.0**
	baz=20							
TTN	**Taitung**	**0.55**	**202**	⇓	*i*P	**Pg**	**18 19 16.7**	**-0.3**
	baz=188							
TTN					*e*S	**Sn**	**18 19 27.6**	**-0.2**
	baz=188							
STYH	**Taoyuan**	**0.55**	**260**	⇑	*i*P	**Pg**	**18 19 15.3**	**-1.7**
	baz=256							
STYH					*e*S	**Sg**	**18 19 21.6**	**-2.9**
	baz=256							
ALS	**Alishan**	**0.57**	**295**	⇓	*i*P	**Pg**	**18 19 16.2**	**-1.3**
	baz=300							
ALS					*e*S	**Sg**	**18 19 23.2**	**-2.1**
	baz=300							
STYT	**Tauyuan**	**0.57**	**260**	⇑	*i*P	**Pg**	**18 19 15.7**	**-1.7**
	baz=254							
STYT					S	**Sg**	**18 19 22.2**	**-2.9**
	baz=254							
LDUT	**Ludao**	**0.60**	**171**	⇓	*i*P	**Pb**	**18 19 17.8**	**-0.3**
	baz=160							
LDUT					*e*S	**Sb**	**18 19 27.1**	**+0.8**
	baz=160							
TEYL	**Yanliau Villag**	**0.64**	**20**	⇑	*i*P	**Pb**	**18 19 19.1**	**+0.3**
	baz=29							
TEYL					*e*S	**Sn**	**18 19 30.9**	**+0.9**
	baz=29							
SSLB	**Suanglung**	**0.64**	**324**	Pg		**Pg**	**18 19 16.2**	**-2.6**
SSLB	**Suanglung**	**0.64**	**324**	P		**Pg**	**18 19 17.9**	**-0.9**
SSLB	**Suanglung**	**0.64**	**324**	⇓	*i*P	**Pg**	**18 19 17.6**	**-1.1**
	baz=333							
SSLB					*i* S	**Sg**	**18 19 24.6**	**-2.8**
	baz=333							
TPUB	**Ta-pu**	**0.68**	**273**	Pg		**Pg**	**18 19 18.2**	**-1.2**
TPUB				Sg		**Sg**	**18 19 26.1**	**-2.4**
TPUB	**Ta-pu**	**0.68**	**273**	P		**Pg**	**18 19 18.8**	**-0.6**
TPUB	**Ta-pu**	**0.68**	**273**	⇑	*i*P	**Pg**	**18 19 18.1**	**-1.3**
	baz=272							
TPUB					*e*S	**Sg**	**18 19 26.2**	**-2.2**
	baz=272							
WTP	**Ta-pu**	**0.69**	**268**	⇑	*i*P	**Pg**	**18 19 18.5**	**-1.2**
	baz=266							
WTP					S	**Sg**	**18 19 26.8**	**-2.1**
	baz=266							
ETM	**Tongmen**	**0.70**	**10**	⇑	*i*P	**Pg**	**18 19 18.7**	**-1.2**
	baz=19							
ETM					*e*S	**Sb**	**18 19 29.3**	**0.0**
	baz=19							
OWD	**Renai**	**0.71**	**346**	⇑	*i*P	**Pg**	**18 19 19.3**	**-0.7**
	baz=356							
OWD					S	**Sg**	**18 19 27.5**	**-2.0**
	baz=356							
CHN5	**Tsauling**	**0.71**	**298**	⇓	*i*P	**Pg**	**18 19 19.2**	**-0.9**
	baz=302							
CHN5					*e*S	**Sg**	**18 19 28.1**	**-1.5**
	baz=302							
CHN4	**Tsaushan**	**0.71**	**277**	⇑	*i*P	**Pg**	**18 19 19.1**	**-1.0**
	baz=277							
CHN4					*e*S	**Sg**	**18 19 28.0**	**-1.6**
	baz=277							
SLGT	**Liugui**	**0.71**	**248**		P	**Pg**	**18 19 19.1**	**-1.0**
	baz=242							
SLGT					S	**Sg**	**18 19 28.6**	**-1.1**
	baz=242							
HWA	**Hwalien**	**0.74**	**17**	*e*P		**Pb**	**18 19 20.1**	**-0.4**
	baz=27							
HWA					*e*S	**Sn**	**18 19 32.8**	**+0.3**
	baz=27							
SGST	**Jiashian**	**0.74**	**256**	⇑	*e*P	**Pg**	**18 19 18.7**	**-2.0**
	baz=251							
SGST					*e*S	**Sg**	**18 19 28.2**	**-2.3**
	baz=251							
SMLT	**Sun Moon Lake**	**0.75**	**325**	⇓	*i*P	**Pg**	**18 19 19.9**	**-0.8**
	baz=333							
SMLT					S	**Sg**	**18 19 28.8**	**-1.9**
	baz=333							
WUSB	**Renai**	**0.76**	**343**	*i*	P	**Pg**	**18 19 20.4**	**-0.6**
	baz=351							
WUSB					*e*S	**Sg**	**18 19 29.1**	**-1.9**
	baz=351							
ECL	**Taimali**	**0.77**	**210**	⇓	P	**Pg**	**18 19 18.5**	**-2.6**
	baz=200							
ECL					*e*S	**Sg**	**18 19 29.4**	**-1.9**
	baz=200							
CHN1	**Nanshi**	**0.77**	**264**	⇑	*i*P	**Pb**	**18 19 20.4**	**-0.7**
	baz=261							
CHN1					*e*S	**Sb**	**18 19 30.4**	**-0.9**
	baz=261							
TYC	**Yuchr**	**0.79**	**324**	⇓	*i*P	**Pb**	**18 19 20.7**	**-0.6**
	baz=332							
TYC					*e*S	**Sb**	**18 19 30.5**	**-1.1**
	baz=332							
SNST	**Tainan City**	**0.80**	**267**	⇑	P	**Pb**	**18 19 20.6**	**-0.9**
	baz=265							
SNST					*e*S	**Sb**	**18 19 30.7**	**-1.3**
	baz=265							
WJS	**Zhushan**	**0.80**	**313**	⇓	*i*P	**Pb**	**18 19 21.8**	**+0.2**
	baz=319							
WJS					S	**Sb**	**18 19 32.5**	**+0.3**
	baz=319							
TWK	**Hsinying**	**0.81**	**270**	⇑	P	**Pb**	**18 19 20.7**	**-1.0**
	baz=268							
TWK					*e*S	**Sb**	**18 19 30.9**	**-1.4**
	baz=268							
CHGB	**Renai**	**0.81**	**348**	*e*S		**Sg**	**18 19 31.2**	**-1.5**
	baz=356							
WPL	**Puli Township**	**0.83**	**333**	⇓	*i*P	**Pb**	**18 19 21.6**	**-0.5**
	baz=340							
WPL					*e*S	**Sb**	**18 19 31.1**	**-1.8**
	baz=340							
TWD	**Chiawan**	**0.84**	**15**	⇑	*e*P	**Pb**	**18 19 20.8**	**-1.3**
	baz=23							
TWD					*e*S	**Sn**	**18 19 34.0**	**-0.9**
	baz=23							
WGK	**Gukeng**	**0.85**	**300**	⇓	P	**Pb**	**18 19 22.2**	**-0.1**
	baz=303							
WGK					*e*S	**Sb**	**18 19 33.7**	**+0.3**
	baz=303							
SSD	**Sandimen**	**0.85**	**233**		P	**Pb**	**18 19 20.7**	**-1.7**
	baz=226							
SSD					*e*S	**Sb**	**18 19 31.3**	**-2.2**
	baz=226							
CHN2	**Minshiung**	**0.86**	**288**	⇓	P	**Pb**	**18 19 22.5**	**0.0**
	baz=290							
CHN2					*e*S	**Sb**	**18 19 33.8**	**+0.1**
	baz=290							
DPDB	**Guoxing**	**0.86**	**332**	⇓

TWM1 **Shoushan** 0.97 243⇑*e*P Pb 18 19 25.0 +0.5
baz=238
TWM1 *e*S Sn 18 19 41.7 +3.3
baz=238
WWF Wufeng 0.98 322⇓*e*P Pn 18 19 25.2 +0.1
baz=327
WWF *e*S Sn 18 19 39.3 +0.7
baz=327
WTK Tuku 0.99 295⇓*e*P Pb 18 19 24.2 -0.6
baz=297
WTK *e*S Sb 18 19 36.9 -0.6
baz=297
TDCB Techi 1.00 349⇑*i*P Pb 18 19 24.7 -0.3
baz=356
TDCB *e*S Sb 18 19 36.4 -1.5
baz=356
EAST Anshuo 1.00 209 ⇓P Pb 18 19 22.5 -2.5
baz=201
EAST *e*S Sb 18 19 37.3 -0.6
baz=201
ICHU Yijhu 1.00 276⇓*e*P Pb 18 19 24.4 -0.5
baz=275
ICHU *e*S Sb 18 19 37.3 -0.6
baz=275
TAW Tawu 1.00 206⇓*e*P Pb 18 19 22.4 -2.5
baz=198
TAW *e*S Sb 18 19 37.0 -0.9
baz=198
TAWH Dawu Township 1.02 206⇓*e*P Pb 18 19 22.7 -2.6
baz=199
TAWH *e*S Sb 18 19 38.1 -0.4
baz=199
CHN8 Yiju 1.06 274⇓*e*P Pb 18 19 25.4 -0.6
baz=274
CHN8 *e*S Sb 18 19 40.1 +0.5
baz=274
TAI1 Yung-k'ang 1.07 258 *e*P Pb 18 19 26.4 +0.3
baz=255
SSPT Xinbi 1.07 223 ⇓P Pb 18 19 25.1 -1.0
baz=218
SSPT *e*S Sb 18 19 39.4 -0.4
baz=218
WSL Shuilin Townsh 1.07 284⇓*e*P Pb 18 19 25.4 -0.8
baz=284
WSL *e*S Sb 18 19 39.3 -0.6
baz=284
WHP Taichung City 1.08 339⇓*e*P Pb 18 19 26.4 0.0
baz=345
WHP *e*S Sn 18 19 41.5 +0.4
baz=345
SNJT Kaohsiung City 1.08 242 *e*P Pb 18 19 26.3 +0.1
baz=237
TCU Taichung 1.08 324⇓*e*P Pn 18 19 26.8 +0.4
baz=330
TCU *e*S Sg 18 19 41.7 +0.5
baz=330
SCLT Jiali 1.08 265 *e*P Pb 18 19 26.2 -0.1
baz=263
SCLT *e*S Sb 18 19 41.3 +1.2
baz=263
EHP Heping Village 1.09 18 *e*S Sn 18 19 41.5 +0.1
baz=25
WCHH Zhanghua 1.10 318⇓*e*P Pb 18 19 26.4 -0.2
baz=322
WCHH *e*S Sn 18 19 42.2 +0.9
baz=322
WRL Guolierlin Hig 1.10 305⇓*e*P Pn 18 19 25.9 -0.8
baz=308
WRL *e*S Sb 18 19 40.5 -0.3
baz=308
WSF Szhu 1.11 290⇓*e*P Pn 18 19 25.9 -0.9
baz=291
WSF *e*S Sb 18 19 40.8 -0.2
baz=291
SCZT Fangliau 1.12 218⇓*e*P Pn 18 19 25.4 -1.6
baz=212
SCZT *e*S Sb 18 19 40.6 -0.8
baz=212
NNSB Datong 1.16 1 *e*S Sb 18 19 42.5 0.0
baz=7.0
WTCT Ta-ch'eng 1.16 301⇓*e*P Pn 18 19 26.8 -0.6
baz=304
WTCT *e*S Sb 18 19 42.6 +0.2
baz=304
NNS Nan Shan 1.17 0 *e*S Sb 18 19 42.9 +0.1
baz=7.0
SLIU Shizi 1.17 207⇓*e*P Pn 18 19 25.0 -2.6
baz=201
SLIU *e*S Sg 18 19 46.5 +2.4
baz=201
WSSB Gushan 1.19 239 *e*P Pg 18 19 29.3 +0.1
baz=235
WSSB *e*S Sg 18 19 46.5 +1.8
baz=235
KAU Kaohsiung 1.20 235 *e*P Pg 18 19 29.7 +0.4
baz=230
TWQ1 Liyutan 1.21 333⇓*e*P Pg 18 19 29.4 -0.1
baz=338
TWQ1 *e*S Sg 18 19 45.4 +0.2
baz=338
ENA Nanau 1.21 17 *e*S Sg 18 19 45.6 +0.4
baz=23
EWUT Wuta 1.23 18 *e*S Sg 18 19 45.4 -0.6
baz=23
LAY Lan-yu 1.23 172 ⇓P Pn 18 19 26.6 -1.9
baz=166
LAY *e*S Sg 18 19 45.4 -0.7
baz=166
WDJ Dajia District 1.26 328⇓*e*P Pb 18 19 30.1 +0.6
baz=333
WDJ *e*S Sn 18 19 46.7 +1.1
baz=333
NSY Sanyi 1.27 334⇓*e*P Pg 18 19 30.7 0.0
baz=339
NSY *e*S Sg 18 19 47.9 +0.6
baz=339
LATG Datong 1.27 7 *e*S Sg 18 19 46.5 -0.9
baz=12
LYUB Lan-yu 1.27 171⇓*e*P Pn 18 19 26.3 -2.8
baz=166
LYUB *e*S Sb 18 19 44.8 -0.9
baz=166
WLCH Liuqiu 1.29 225 *e*P Pg 18 19 31.6 +0.7
baz=220
SMST Manzhou Townsh 1.33 202 *e*P Pn 18 19 30.2 +0.3
baz=196
NMLH Miaoli 1.37 338⇓*e*P Pg 18 19 32.0 -0.6
baz=342
NMLH *e*S Sg 18 19 50.0 -0.5
baz=342
NFF Wufeng Townshi 1.38 351⇑*e*P Pb 18 19 31.1 -0.3
baz=355
NFF *e*S Sg 18 19 50.5 -0.2
baz=355
ENTT Nioudou 1.38 8 *e*S Sg 18 19 50.6 -0.1
baz=13
HEN Hengchun 1.38 205 *e*P Pn 18 19 29.6 -1.0
baz=199
YHNB Yeheng 1.40 0 Pn 18 19 27.8 -3.0
YHNB Yeheng 1.40 0 *e*S Sn 18 19 48.7 -0.2
baz=5.0
NDS Dongshan 1.40 13 *e*S Sg 18 19 50.4 -0.9
baz=18
NSTT Nanjuang 1.40 346⇑*e*P Pb 18 19 32.1 +0.3
baz=351
NSTT *e*S Sb 18 19 49.5 +0.2
baz=351
NSK Sanguang 1.40 360 *e*S Sn 18 19 48.9 -0.2
baz=5.0
TWC Suao 1.41 18 *e*S Sg 18 19 52.2 +0.6
baz=23
LIOB Emei 1.41 347⇑*e*P Pb 18 19 32.4 +0.5
baz=352
LIOB *e*S Sb 18 19 49.8 +0.2
baz=352
TWK1 Hengchun 1.42 202 *e*P Pn 18 19 29.2 -1.8
baz=196
TSEB Hengchuen, Pin 1.43 198 *e*P Pn 18 19 29.7 -1.5
baz=194
TWE Neicheng 1.47 11 *e*S Sg 18 19 54.2 +0.4
baz=16
FUSB Fushanzhiwuyua 1.50 8 *e*S Sg 18 19 53.1 -1.5
baz=12
NWLT Wulai 1.51 5 *e*S Sg 18 19 53.5 -1.4
baz=9.0
ILA Ilan 1.53 13 *e*S Sg 18 19 57.1 +1.5
baz=18
SBCB Hsinchu 1.56 347 *e*P Pb 18 19 34.4 -0.1
baz=351
SBCB *e*S Sb 18 19 55.1 +1.2
baz=351
WDGT Dungji 1.57 270⇓*e*P Pn 18 19 32.2 -0.9
baz=269
WDGT *e*S Sn 18 19 51.4 -1.6
baz=269
HSN Hsinchu 1.57 347 *e*P Pb 18 19 34.9 +0.2
baz=353
NTC Toucheng 1.64 15 *e*S Sg 18 19 58.2 -0.7
baz=19
PHUB P'eng-hu 1.67 279⇓*e*P Pn 18 19 33.4 -1.0
baz=279
PHUB *e*S Sn 18 19 53.0 -2.4
baz=279
PNG Penghu 1.69 281⇓*e*P Pn 18 19 33.9 -0.8
baz=280
PNG *e*S Sn 18 19 54.9 -1.1
baz=280
NCUH Zhongli 1.70 354 *e*P Pb 18 19 36.2 -0.7
baz=358
NCU National Centr 1.70 355 *e*P Pb 18 19 36.2 -0.7
baz=359
TATO Taipei 1.70 4 Pn 18 19 33.2 -1.8
TIPB Shuangxi 1.75 14 *e*S Sg 18 20 01.6 -0.9
baz=18
TWB1 Santiao Chiao 1.82 18 *e*S Sb 18 20 02.4 +0.8
baz=22
TWS1 Kuangyinshan 1.83 1 *e*P Pn 18 19 36.6 0.0
baz=5.0
JYNG Yonagunijimaku 1.87 51 P Pb 18 19 38.1 -1.6
NTST Danshui 1.89 2 *e*P Pn 18 19 37.6 +0.1
baz=6.0
YOJ Yonaguni jima 1.92 51 P Pb 18 19 38.9 -1.7
YOJ Yonaguni jima 1.92 51 P Pb 18 19 38.8 -1.7
YOJ Yonaguni jima 1.92 51 Pb 18 19 38.8 -1.7
YOJ Yonaguni jima 1.92 51 P Pb 18 19 39.3 -1.3
YOJ Yonaguni jima 1.92 51⇑*i*P Pb 18 19 39.0 -1.7
baz=54
YOJ *e*S Sb 18 20 04.0 -0.3
baz=54
HATJ Hateruma jima 2.37 70 P Pn 18 19 45.0 +0.8
HATJ S Sb 18 20 14.6 -2.7
IRIF Iriomote-Funau 2.41 63 P Pn 18 19 45.7 +1.0
IRIF S Sb 18 20 15.9 -2.6
JKRS Kuro-shima 2.61 68 P Pn 18 19 48.6 +1.2
JKRS *e*S Sb 18 20 22.9 -1.2
JIJ Ishigaki jima 2.77 66 P Pn 18 19 50.2 +0.6
JIJ *e*S Sn 18 20 23.1 +0.5
KNMB Chin-men Tao 2.97 294 Pn Pn 18 19 51.2 -1.3
KNMB Chin-men Tao 2.97 294⇓*e*P Pn 18 19 51.4 -1.1
baz=294
KNMB *e*S Sn 18 20 25.1 -2.6
baz=294
JISG Ishigakijimahi 3.00 63 P Pn 18 19 53.2 +0.4
JISG *e*S Sn 18 20 27.0 -1.3
QZH Quanzhou 3.03 304⇓*i*Pn Pn 18 19 52.3 -1.0
QZH Sn Sn 18 20 28.8 -0.4
QZH smax smax
comp=N,3μm,0.7s
QZH smax smax
comp=E,3μm,0.9s
MATB Ma-tsu 3.15 336 *e*P Pn 18 19 54.7 -0.1
baz=337
MATB *e*S Sn 18 20 29.8 -2.2
baz=337
JTJ Tarama 3.34 65 P Pn 18 19 58.2 +0.7
JTJ S Sn 18 20 37.9 +1.0
JIRB Irabujima 3.81 65 P Pn 18 20 04.4 +0.4
JIRB S Sn 18 20 49.5 +1.1
JMJ2 Miyako jima3 3.91 67 P Pn 18 20 06.3 +1.0
JMJ2 *e*S Sn 18 20 52.9 +2.1
JIKM Ikemajima 3.91 64 P Pn 18 20 05.9 +0.5
JIKM *e*S Sn 18 20 51.8 +0.9
JOGS Gusukube 3.98 67 P Pn 18 20 07.4 +1.1
JOGS *e*S Sn 18 20 53.6 +1.0
APYP Conner 5.38 181⇓*e*P Pn 18 20 25.5 0.0
HKPS Hong Kong Po S 6.74 263 Pn 18 20 43.9 -0.3
JOW Kunigami 7.20 59 P Pn 18 20 49.4 -1.1
25nm,0.3s,baz=228,slow=8.9,SNR=37
JOW S Sn 18 22 10.1 -1.9
baz=128,slow=28,SNR=0.9
JOW Kunigami 7.20 59 Pn Pn 18 20 49.1 -1.5
JOW Kunigami 7.20 59 P Pn 18 20 49.6 -1.0
MCO Taipa Grande 7.30 263 P Pn 18 20 54.0 +2.1
GZH Guangzhou 7.38 270 P Pn 18 20 49.3 -3.8
GZH S Sn 18 22 11.3 -5.1
GZH smax smax
comp=N,2μm,1.2s
GZH smax smax
comp=E,1μm,1.1s
PCPH Palayan 7.67 182⇓*e*P Pn 18 20 58.4 +1.4
SSE Sheshan 7.80 359 P Pn 18 20 59.8 +1.0
SSE S Sn 18 22 28.3 +1.7
SSE pmax pmax
comp=Z,110nm,0.9s
SSE pmax pmax
comp=Z,230nm,3.5s
SSE LR LR
comp=N,1μm,16.7s
SSE LR LR
comp=E,3μm,16.9s
NJ2 Nanjing 9.03 346 ⇓P Pn 18 21 15.0 -0.6
NJ2 S Sn 18 22 51.8 -5.1
NJ2 pmax pmax
comp=Z,56nm,0.7s
NJ2 pmax pmax
comp=Z,330nm,3.7s
NJ2 smax smax
comp=N,560nm,0.9s
NJ2 smax smax
comp=E,720nm,1.2s
NJ2 LR LR
comp=N,5μm,11.8s
NJ2 LR LR
comp=E,7μm,9.5s
NJ2 LR LR
comp=Z,6μm,14.7s
CNSH ChangSha 9.04 305 ⇓P Pn 18 21 13.3 -2.5
CNSH S Sn 18 22 54.5 -2.7
CNSH smax smax
comp=N,2μm,0.9s
CNSH smax smax
comp=E,2μm,1.1s
LQP Lukban 9.11 179⇓*e*P Pn 18 21 20.0 +3.0
WHN Wuhan 9.57 321 ⇓P Pn 18 21 22.8 -0.3
WHN S Sn 18 23 12.5 +2.2
WHN LR LR
comp=N,20μm,10.5s
WHN LR LR
comp=E,14μm,8.5s
WHN LR LR
comp=Z,26μm,11.5s
PGP Puerto Galera 9.72 182⇑*e*P Pn 18 21 28.5 +3.3
GULI GuiLin 10.23 284 ⇑P Pn 18 21 31.8 -0.4
GULI S Sn 18 23 27.8 +1.2
GULI pmax pmax
comp=Z,10.0nm,1.3s
GULI LR LR
comp=N,3μm,7.9s
GULI LR LR
comp=E,7μm,10.0s
GULI LR LR
comp=Z,8μm,10.8s
QIZ Qiongzhong 11.55 251 P Pn 18 21 52.8 +2.6
QIZ S Sn 18 24 03.3 +4.5
QIZ pmax pmax
comp=Z,25nm,1.1s
QIZ LR LR
comp=N,4μm,18.3s
QIZ LR LR
comp=E,3μm,19.4s
QIZ LR LR
comp=Z,3μm,18.3s
ENH Enshi 12.69 306 Pn Pn 18 22 06.2 +0.3
JNU Nakatsue 12.90 38 P Pn 18 22 10.0 +1.3
0.9nm,0.3s,baz=198,slow=3.9,SNR=7.8
JNU Nakatsue 12.90 38 Pn Pn 18 22 07.7 -1.0
TIA Tai'an 13.41 345 *e*P Pn 18 22 15.5 -0.1
TIA pmax pmax
comp=Z,24nm,1.7s
TIA LR LR
comp=N,3μm,9.1s
TIA LR LR
comp=E,2μm,8.6s
TIA LR LR
comp=Z,5μm,11.6s
PPR Puerto Princes 13.65 191 *e*P Pn 18 22 23.2 +4.2
LYN LuoYang 13.67 327 *e*P Pn 18 22 20.0 +0.9
LYN sP P 18 22 24.5 -3.3
LYN PP PnPn 18 22 31.3 +4.1
LYN S Sn 18 24 56.0 +5.4
LYN SS SnSn 18 25 06.8 +3.6
LYN pmax pmax
comp=Z,30nm,0.6s
LYN pmax pmax
comp=Z,270nm,5.1s
LYN LR LR
comp=N,14μm,9.8s
LYN LR LR
comp=E,6μm,9.2s
LYN LR LR
comp=Z,13μm,10.3s
GYA Guiyang 13.72 286⇑*i*P Pn 18 22 20.3 +0.3
GYA S Sn 18 24 54.0 +2.0
GYA pmax pmax
comp=Z,27nm,1.0s
GYA pmax pmax
comp=Z,250nm,4.1s
GYA LR LR
comp=N,4μm,6.2s
GYA LR LR
comp=E,8μm,10.8s
GYA LR LR
comp=Z,9μm,10.5s
TJN Taejon 14.06 20 *i*P Pn 18 22 24.7 +0.3
INCN Inchon 14.88 17 P Pn 18 22 31.9 -3.7
INCN Inchon 14.88 17 Pn 18 22 31.9 -3.7
KSAR Wonju Array Be 15.20 20 P Pn 18 22 37.8 -2.1
KSAR Wonju Array Be 15.20 20 Pn 18 22 37.8 -2.1
HNS HongShan 15.21 339 ⇑P Pn 18 22 40.3 +0.3
HNS S Sn 18 25 36.0 +8.0
HNS SS S 18 25 47.3 +2.6
HNS pmax pmax
comp=Z,100nm,1.5s
HNS LR LR
comp=N,3μm,13.7s
HNS LR LR
comp=E,7μm,13.7s
HNS LR LR
comp=Z,5μm,13.4s
KSRS Korea Array 15.22 20 P Pn 18 22 41.5 +1.4
1.9nm,0.3s,baz=199,slow=12,SNR=33
KSRS LR LR 18 29 01.1
comp=Z,461nm,19.1s,baz=190,slow=39
KS19 Wonju Array Si 15.25 20 Pn 18 22 39.6 -1.0
XAN Xi'an 15.30 317 ⇑P Pn 18 22 40.8 -0.5
XAN pP P 18 22 46.0 0.0
XAN sP pP 18 22 49.0 -2.1
XAN SS S 18 25 48.5 +1.7
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN pmax pmax
comp=Z,170nm,6.2s
XAN LR LR
comp=N,7μm,10.5s
XAN LR LR
comp=E,7μm,14.0s
XAN LR LR
comp=Z,12μm,12.4s
PAGZ Pagadian 15.45 172⇓*e*P P 18 22 52.1 +4.3
DL2 Dalian 15.59 1 P Pn 18 22 46.8 +1.8
DL2 S Sn 18 25 40.8 +3.4
DL2 pmax pmax
comp=Z,25nm,0.9s
DL2 pmax pmax
comp=Z,190nm,3.9s
DL2 LR LR
comp=N,980nm,14.2s
DL2 LR LR
comp=E,2μm,11.4s
DL2 LR LR
comp=Z,2μm,12.6s
SLVN Son La 16.27 267 Pn 18 22 54.2 +0.3
TIY Taiyuan 16.31 334 ⇑P P 18 22 58.8 +1.5
TIY PP sP 18 23 10.5 +6.0
TIY S S 18 26 03.5 -4.0
TIY SS SnSn 18 26 15.8 +7.5
TIY pmax pmax
comp=Z,38nm,1.0s
TIY pmax pmax
comp=Z,410nm,5.0s
TIY LR LR
comp=N,9μm,11.7s
TIY LR LR
comp=E,5μm,11.7s
TIY LR LR
comp=Z,9μm,12.9s
KCP Kidapawan 16.56 167⇓*e*P Pn 18 22 58.0 +0.4
DAV Davao City (W) 16.61 165 LR LR 18 29 37.4
comp=Z,886nm,18.8s,baz=334,slow=38
DLV T Lat 16.64 230 Pn 18 22 58.4 -0.4
UBPT Khong Chiam 16.97 245 P P 18 23 07.3 +2.7
KMI Kunming 17.09 280 ⇑P P 18 23 07.5 +1.3
KMI pP sP 18 23 13.3 -0.3
KMI PP PnPn 18 23 20.0 +5.7
KMI SS S 18 26 33.0 +9.1
KMI pmax pmax
comp=Z,16nm,1.0s
KMI pmax pmax
comp=Z,230nm,4.8s
KMI LR LR
comp=N,5μm,13.0s
KMI LR LR
comp=E,1μm,14.5s
KMI LR LR
comp=Z,4μm,14.0s
BJT Baijiatuau 17.27 346 P P 18 23 09.0 +1.2
BJT pmax pmax
comp=Z,57nm,1.1s
BJT Baijiatuau 17.27 346 P P 18 23 09.0 +1.2
BJI Beijing 17.29 346 P P 18 23 07.5 -0.5
BJI S Sn 18 26 22.8 +4.2
BJI pmax pmax
comp=Z,33nm,1.7s
BJI pmax pmax
comp=Z,320nm,3.5s
BJI LR LR
comp=Z,3μm,13.6s
BJI LR LR
comp=Z,880nm,13.6s
BJI LR LR
comp=Z,3μm,14.1s
CD2 Chengdu 17.42 300 P Pn 18 23 08.5 +0.2
CD2 S Sn 18 26 22.5 +0.6
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,200nm,8.4s
CD2 LR LR
comp=Z,5μm,8.1s
CD2 LR LR
comp=Z,5μm,12.2s
PZH PanZhiHua 18.09 284 P P 18 23 20.0 +2.9
PZH PP PnPn 18 23 36.8 +8.9
PZH S Sn 18 26 41.0 +2.6
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.0s
PZH LR LR
comp=Z,2μm,11.6s
PZH LR LR
comp=Z,2μm,13.1s
PZH LR LR
comp=Z,990nm,13.7s
INU Inuyama 18.17 45 P Pn 18 23 15.8 -1.8
MYLDM Lahad Datu 18.19 189 P P 18 23 18.6 +0.5
JGF Kuroka 18.55 45 P 18 23 20.1 -1.9
SNY Shenyang 18.60 5 ⇑P Pn 18 23 23.5 +0.8
SNY S Sn 18 26 52.0 +1.7
SNY pmax pmax
comp=Z,15nm,0.8s
SNY pmax pmax
comp=Z,340nm,5.0s
SNY LR LR
comp=Z,2μm,13.5s
SNY LR LR
comp=Z,2μm,13.3s
SNY LR LR
comp=Z,3μm,14.0s

SPMM **Sapulut** 19.05 195 P **Pn** **18 23 32.0 +3.6**
JCJ **Chichijima** 19.22 74 P **P** **18 23 29.1 -0.2**
comp=Z,6.7nm,0.3s,baz=209,slow=3.2,SNR=11
JCJ LR LR 18 30 21.3
comp=Z,333nm,19.7s,baz=130,slow=35
JCJ **Chichijima** 19.22 74 **Pn** **18 23 30.1 -0.2**
HHC **Hu-ho-hao-te** 19.38 337 *e*P **Pn** **18 23 34.0 +1.8**
HHC S **S** **18 27 13.0 +3.3**
HHC SS **SnSn** **18 27 32.3 +8.7**
HHC pmax pmax
comp=Z,90nm,1.0s
HHC pmax pmax
comp=Z,420nm,4.9s
HHC LR LR
comp=Z,3µm,11.4s
HHC LR LR
comp=Z,4µm,10.5s
HHC LR LR
comp=Z,3µm,11.8s
MAJO **Matsushiro** 19.66 44 *i* P **P** **18 23 32.5 -1.7**
MAJO **Matsushiro** 19.66 44 P **P** **18 23 31.9 -2.3**
MJB9 **Matsu-Tunnel** 19.66 44 P **P** **18 23 32.1 -2.1**
MJAR **Matsushiro Arr** 19.66 44 P **P** **18 23 32.3 -1.8**
comp=Z,0.1nm,0.3s,baz=232,slow=8.6,SNR=13
MJAR LR LR 18 32 20.0
comp=Z,885nm,19.2s,baz=228,slow=40
MJAR **Matsushiro Arr** 19.66 44 P **P** **18 23 32.4 -1.8**
MJAR pmax pmax
comp=Z,19nm,1.1s
MJAR **Matsushiro Arr** 19.66 44 P **P** **18 23 32.4 -1.7**
BTO **Baotou** 19.75 334 *e*P **Pn** **18 23 37.8 +1.0**
LZH **Lanzhou** 19.83 314 ⇓P **Pn** **18 23 38.0 +0.2**
LZH pP sP 18 23 44.3 +0.6
LZH sP pP 18 23 49.3 +8.0
LZH PP **PnPn** **18 23 55.8 +4.0**
LZH S **Sn** **18 27 21.0 +0.6**
LZH pmax pmax
comp=Z,31nm,1.5s
LZH pmax pmax
comp=Z,260nm,4.9s
LZH LR LR
comp=Z,2µm,10.8s
LZH LR LR
comp=Z,3µm,9.2s
LZH LR LR
comp=Z,3µm,9.8s
JSD **Sado** 20.64 41 P **P** **18 23 42.8 -1.9**
CN2 **Changchun** 20.76 8 *e*P **P** **18 23 45.8 -0.1**
CN2 *e*S **S** **18 27 35.0 -2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,4µm,18.0s
CN2 LR LR
comp=Z,2µm,16.0s
MSHR **Mys Shultsa** 20.91 21 *c**e*P **P** **18 23 47.1 -0.5**
MSHR pmax pmax
comp=Z,10.0nm,0.7s
XLT **XiLinHaoTe** 21.04 349 *e*P **P** **18 23 49.5 +0.4**
XLT pP pP 18 23 53.5 -0.7
XLT sP sP 18 23 55.3 -1.1
XLT PP **PnPn** **18 24 12.3 +4.1**
XLT S **S** **18 27 44.8 +2.1**
XLT sS pS 18 27 51.5 -2.0
XLT SS **SnSn** **18 28 10.8 +6.6**
XLT pmax pmax
comp=Z,100nm,1.0s
XLT pmax pmax
comp=Z,390nm,4.7s
XLT LR LR
comp=Z,2µm,17.7s
XLT LR LR
comp=Z,2µm,14.3s
CHTO **Chiang Mai** 21.38 262 P **P** **18 23 54.2 +1.2**
CHTO pmax pmax
comp=Z,40nm,1.0s
CHTO **Chiang Mai** 21.38 262 P **P** **18 23 54.2 +1.2**
CHTO IAmb IAmb 18 23 58.8
comp=Z,40nm,0.9s
CM31 **Chiang Mai Arr** 21.48 261 P **P** **18 23 53.6 -0.4**
CMAR **Chiang Mai Arr** 21.48 261 P **P** **18 23 56.2 +2.2**
comp=Z,18nm,1.1s,baz=66,slow=8.9,SNR=37
CMAR PcP **PcP** **18 27 57.2 +0.4**
comp=Z,2.1nm,0.8s,baz=63,slow=0.5,SNR=10
CMAR LR LR 18 32 58.5
comp=Z,1µm,20.1s,baz=75,slow=38
CMAR **Chiang Mai Arr** 21.48 261 P **P** **18 23 55.3 +1.3**
CMAR **Chiang Mai Arr** 21.48 261 P **P** **18 23 55.3 +1.3**
TOLI2 **Tolitoli** 22.03 182 P **P** **18 23 59.3 -0.6**
JMM **Marumori** 22.11 44 P **P** **18 23 57.3 -3.2**
JMM IAmb IAmb 18 24 12.7
comp=Z,82nm,1.4s
MDJ **Mudanjiang** 22.34 16 P **P** **18 24 01.1 -1.8**
MDJ IAmb IAmb 18 24 05.2
comp=Z,39nm,1.0s
MDJ **Mudanjiang** 22.34 16 P **P** **18 24 02.0 -0.9**
MDJ S **S** **18 28 08.5 +0.7**
MDJ SS **SnSn** **18 28 43.3 +7.3**
MDJ pmax pmax
comp=Z,24nm,1.0s
MDJ pmax pmax
comp=Z,240nm,5.5s
MDJ LR LR
comp=Z,2µm,17.1s
MDJ LR LR
comp=Z,5µm,17.5s
MDJ LR LR
comp=Z,2µm,13.2s
SBUM **Sibu** 22.51 205 P **P** **18 24 04.1 -0.9**
SBUM **Sibu** 22.51 205 P **P** **18 24 06.0 +1.0**
GTOI **Gorontalo** 22.55 176 P **P** **18 24 05.0 -0.4**
comp=Z,233nmcomp=Z,22nm,0.9s
USRK **Ussuriysk Ar.** 22.63 20 P **P** **18 24 05.3 -0.8**
comp=Z,5.4nm,0.6s,baz=217,slow=14,SNR=13
USRK LR LR 18 33 06.3
comp=Z,570nm,19.3s,baz=187,slow=37
USRK **Ussuriysk Ar.** 22.63 20 P **P** **18 24 03.9 -2.2**
USRK **Ussuriysk Ar.** 22.63 20 P **P** **18 24 03.9 -2.2**
USA0B **Ussuriysk Arra** 22.63 20 P **P** **18 24 04.2 -1.9**
USA0B pmax pmax
comp=Z,17nm,1.1s
USA0B **Ussuriysk Arra** 22.63 20 P **P** **18 24 04.2 -1.9**
MRSI **Marisa** 22.66 179 P **P** **18 24 08.9 +2.3**
comp=Z,749nmcomp=Z,72nm,0.9s
MPSI **Mapaga** 22.84 184 P **P** **18 24 08.9 +0.5**
comp=Z,24nm,1.1s
BNX **BinXian** 22.95 11 ⇓P **P** **18 24 08.5 -0.9**
BNX pP **pP** **18 24 12.3 -2.2**
BNX sP **sP** **18 24 14.8 -2.0**
BNX PP **PnPn** **18 24 37.5 +3.2**
BNX S **S** **18 28 12.3 -6.5**
BNX pmax pmax
comp=Z,29nm,1.2s
BNX pmax pmax
comp=Z,280nm,3.6s
BNX LR LR
comp=Z,1µm,9.1s
BNX LR LR
comp=Z,1µm,10.8s
BNX LR LR
comp=Z,3µm,13.7s
APSI **Ampana** 24.03 179 P **P** **18 24 23.8 +3.5**
comp=Z,566nmcomp=Z,67nm,1.1s
KSM **Kuching** 24.18 208 P **P** **18 24 20.2 -1.4**
LUWI **Luwuk** 24.20 177 P **P** **18 24 21.2 -0.7**
LUWI **Luwuk** 24.20 177 P **P** **18 24 23.7 +1.9**
comp=Z,1µmcomp=Z,126nm,1.0s
GUMO **Guam** 24.25 109 P **P** **18 24 21.7 -0.6**
comp=Z,57nm,0.8s,baz=218,slow=9.5,SNR=5.3
GUMO LR LR 18 32 03.2
comp=Z,396nm,21.5s,baz=280,slow=32
GUMO **Guam** 24.25 109 P **P** **18 24 21.9 -0.5**
GUMO pmax pmax
comp=Z,82nm,0.9s
GUMO **Guam** 24.25 109 P **P** **18 24 21.9 -0.5**
GUMO IAmb IAmb 18 24 34.6
comp=Z,82nm,0.9s
GTA **Gaotai** 24.36 316 ⇑P **P** **18 24 23.8 +0.5**
GTA pP pP 18 24 28.8 0.0
GTA sP sP 18 24 32.8 +1.7
GTA PcP **PcP** **18 28 07.3 +4.7**
GTA S **S** **18 28 45.0 +3.0**
GTA sS sS 18 28 52.8 +1.7
GTA pmax pmax
comp=Z,22nm,1.5s
GTA pmax pmax
comp=Z,160nm,4.0s
GTA LR LR
comp=Z,2µm,14.2s
GTA LR LR
comp=Z,3µm,14.5s
GTA LR LR
comp=Z,4µm,13.8s
LBMI **Labuha** 24.50 165 P **P** **18 24 24.9 +0.3**
comp=Z,484nmcomp=Z,41nm,1.1s
MTKI **Muara Teweh, K** 24.87 196 P **P** **18 24 29.8 +1.8**
comp=Z,1µmcomp=Z,22nm,0.7s
STKI **Sintang** 24.98 204 P **P** **18 24 32.2 +3.2**
comp=Z,20nm,1.5s
SRIT **Nakonsritamara** 25.45 239 P **P** **18 24 33.4 +0.1**
SANI **Sanana** 25.56 169 P **P** **18 24 37.4 +3.2**
comp=Z,19nm,0.6s
JEW **Eniwo** 25.66 36 P **P** **18 24 35.1 +0.2**
HIA **Hailar** 25.98 358 P **P** **18 24 37.7 -0.1**
HIA pmax pmax
comp=Z,15nm,0.9s
HIA **Hailar** 25.98 358 P **P** **18 24 37.7 -0.1**
ERM **Erimo** 26.07 39 *c**e*P **P** **18 24 37.5 -1.1**
ERM pmax pmax
comp=Z,11nm,0.6s
ERM **Erimo** 26.07 39 P **P** **18 24 36.4 -2.2**
ERM IAmb IAmb 18 24 40.4
comp=Z,31nm,1.0s
GOMU **GeErMu** 26.32 305 P **P** **18 24 42.8 +1.4**
GOMU pP pP 18 24 45.0 -1.8
GOMU S **S** **18 29 18.0 +4.2**
GOMU pmax pmax
comp=Z,16nm,1.0s
GOMU pmax pmax
comp=Z,150nm,4.3s
GOMU LR LR
comp=Z,880nm,13.9s
GOMU LR LR
comp=Z,2µm,14.3s
GOMU LR LR
comp=Z,2µm,13.9s
ULN **Ulaanbaatar** 27.07 339 *c**e*P **P** **18 24 47.8 0.0**
ULN pmax pmax
comp=Z,75nm,1.1s
ULN **Ulaanbaatar** 27.07 339 P **P** **18 24 47.2 -0.6**
ULN IAmb IAmb 18 24 50.2
comp=Z,70nm,1.1s
IPM **Ipoh** 27.11 230 P **P** **18 24 49.3 +1.1**
SPSI **Sidrap Palu** 27.11 183 P **P** **18 24 50.4 +2.2**
comp=Z,14nm,1.2s
ASAJ **Asahikawa** 27.14 35 P **P** **18 24 47.1 -1.1**
comp=Z,16nm,0.8s,baz=263,slow=9.2,SNR=13
ASAJ LR LR 18 36 36.0
comp=Z,773nm,18.6s,baz=238,slow=39
ASAJ **Asahikawa** 27.14 35 P **P** **18 24 47.1 -1.1**
ASAJ pmax pmax
comp=Z,17nm,0.8s
JKA **Kamikawa-asahi** 27.14 35 P **P** **18 24 47.1 -1.2**
JKA IAmb IAmb 18 24 52.0
comp=Z,17nm,0.8s
KLR **Kul'dur** 27.18 15 P **P** **18 24 48.3 -0.2**
comp=Z,8.3nm,0.8s,baz=226,slow=9.0,SNR=24
KLR LR LR 18 35 31.6
comp=Z,576nm,18.9s,baz=200,slow=36
KLR **Kul'dur** 27.18 15 *c**e*P **P** **18 24 47.7 -0.8**
KLR pmax pmax
comp=Z,8.0nm,0.8s
SONM **Songino Array** 27.27 338 P **P** **18 24 49.4 -0.2**
comp=Z,20nm,0.7s,baz=156,slow=9.9,SNR=37
SONM LR LR 18 37 07.6
comp=Z,2µm,18.2s,baz=136,slow=39
SONM **Songino Array** 27.27 338 P **P** **18 24 49.1 -0.5**
SONM pmax pmax
comp=Z,31nm,0.9s
SONM **Songino Array** 27.27 338 P **P** **18 24 49.0 -0.5**
SONM IAmb IAmb 18 24 51.9
comp=Z,31nm,0.9s
MYKOM **Kota Tinggi** 27.28 221 P **P** **18 24 51.1 +1.3**
MYKOM IAmb IAmb 18 25 03.5
comp=Z,27nm,1.2s
LSA **Lhasa** 27.74 290 P **P** **18 24 56.2 +1.8**
LSA pmax pmax
comp=Z,33nm,0.7s
LSA **Lhasa** 27.74 290 P **P** **18 24 56.2 +1.8**
LSA IAmb IAmb 18 25 00.9
comp=Z,33nm,0.7s
LSA **Lhasa** 27.74 290 P **P** **18 24 57.1 +2.7**
KAPI **Kappang** 28.15 183 P **P** **18 24 58.2 +0.7**
comp=Z,3.0nm,0.3s,baz=138,slow=8.2,SNR=1.6
KAPI LR LR 18 36 49.9
comp=Z,264nm,21.1s,baz=55,slow=38
KAPI **Kappang** 28.15 183 P **P** **18 24 58.2 +0.7**
KAPI pmax pmax
comp=Z,10.0nm,1.0s
TPI **Tanjungpandan** 29.11 209 P **P** **18 25 09.0 +2.9**
comp=Z,6.4nm,1.2s
YSS **Yuzh-Sakhalins** 29.22 31 ⇑ *e*P **P** **18 25 07.4 +0.6**
YSS *e*S **S** **18 29 58.9 +0.3**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=E,400nm,15.0s
YSS MLR MLR
comp=Z,700nm,15.0s
YSS MLR MLR
comp=N,300nm,14.0s
YSS **Yuzh-Sakhalins** 29.22 31 P **P** **18 25 06.7 -0.1**
YSS IAmb IAmb 18 25 13.6
comp=Z,24nm,0.9s
PPBI **Pangkal Pinang** 29.31 212 P **P** **18 25 09.7 +1.9**
comp=Z,4µmcomp=Z,17nm,1.3s
CIT **Chita** 29.33 350 *e*P **P** **18 25 08.4 +0.6**
CIT *e* 18 26 20.6
CIT *e* 18 35 38.8
CIT pmax pmax
comp=Z,36nm,3.1s
PSI **Prapat** 29.77 230 P **P** **18 25 12.7 +0.6**
comp=Z,2.2nm,0.4s,baz=13,slow=6.0,SNR=13
PSI LR LR 18 37 59.7
comp=Z,633nm,18.1s,baz=59,slow=38
ZAK **Zakamensk** 30.52 337 *e*P **P** **18 25 16.9 -1.5**
ZAK pmax pmax
comp=Z,16nm,1.2s
TAPN **Taplejung** 30.64 285 *e*P **P** **18 25 21.5 +1.5**
comp=Z,148nm,1.3s
ZEA **Zeya** 30.75 7 *e*P **P** **18 25 19.1 -1.1**
ZEA *e*S **S** **18 30 15.7 -6.7**
ZEA 18 35 47.5
ZEA pmax pmax
comp=Z,100nm,6.0s
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA smax smax
comp=E,100nm,8.2s
ZEA MLR MLR
comp=N,900nm,15.0s
ZEA MLR MLR
comp=Z,800nm,14.0s
ODAN **Odare** 30.93 284 *e*P **P** **18 25 24.3 +1.8**
comp=Z,59nm,0.8s
PPI **Padang Panjang** 31.17 224 P **P** **18 25 26.4 +2.0**
RAMN **Ramite** 31.63 284 *e*P **P** **18 25 30.6 +1.9**
MMRI **Maumere** 31.72 178 P **P** **18 25 29.8 +0.7**
MMRI **Maumere** 31.72 178 P **P** **18 25 30.0 +0.9**
comp=Z,62nm,1.0s
IRK **Irkutsk** 31.76 340 *e*P **P** **18 25 28.1 -1.1**
IRK *e* 18 36 01.3
JIRN **Jiri** 31.99 285 *e*P **P** **18 25 33.9 +2.0**
comp=Z,13nm,1.0s
GUN **Gumba** 32.27 286 *e*P **P** **18 25 35.8 +1.5**
comp=Z,150nm,1.0s
MOY **Mondy** 32.41 336 *e*P **P** **18 25 34.8 -0.2**
MOY pmax pmax
comp=Z,43nm,2.2s
PKI **Pulchoki** 32.68 285 *e*P **P** **18 25 39.0 +1.0**
comp=Z,106nm,1.3s
PKIN **Phulchoki** 32.70 285 *e*P **P** **18 25 38.9 +0.9**
comp=Z,87nm,1.3s
LEM **Lembang** 32.79 206 P **P** **18 25 39.9 +1.1**
comp=Z,14nm,0.7s,baz=336,slow=21,SNR=2.6
LEM LR LR 18 38 34.4
comp=Z,178nm,18.9s,baz=347,slow=36
KKN **Kakani** 32.80 286 *e*P **P** **18 25 39.8 +1.0**
comp=Z,95nm,1.0s
LWLI **Liwa** 32.80 213 P **P** **18 25 40.8 +2.0**
comp=Z,84nm,0.9s
DMN **Daman** 32.95 285 *e*P **P** **18 25 41.2 +0.9**
comp=Z,82nm,1.0s
KNGR **Kungurtug, Tuv** 33.00 332 *i* P **P** **18 25 40.4 +0.2**
BATI **Baumata** 33.34 176 LR LR 18 41 26.2
comp=Z,180nm,18.9s,baz=356,slow=40
GKN **Gorkha** 33.37 286 *e*P **P** **18 25 44.6 +0.9**
comp=Z,106nm,1.1s
DANN **Dangsing** 34.14 287 *e*P **P** **18 25 51.7 +1.1**
comp=Z,110nm,0.8s
KOLN **Koldanda** 34.28 286 *e*P **P** **18 25 52.7 +0.9**
comp=Z,152nm,1.0s
WMQ **Urumqi** 34.41 315 *e*P **P** **18 25 54.8 +2.3**
WMQ sP sP 18 26 04.5 +4.1
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ pmax pmax
comp=Z,110nm,4.5s
WMQ LR LR
comp=Z,1µm,12.9s
WMQ LR LR
comp=Z,2µm,11.7s
WMQ LR LR
comp=Z,820nm,14.5s
PYUN **Piuthan** 34.82 286 *e*P **P** **18 25 57.5 +1.1**
comp=Z,116nm,1.0s
BOD **Bodaibo** 34.92 353 *e*P **P** **18 25 56.4 -0.3**
BOD pmax pmax
comp=Z,7.0nm,1.1s
ZSN **Zaisan** 37.80 319 *e*P **P** **18 26 21.3 -0.1**
ZSN **Zaisan** 37.80 319 *e*P **P** **18 26 21.4 -0.1**
baz=319
MK31 **Makanchi Array** 39.11 317 *i* P **P** **18 26 32.7 +0.2**
MK31 pmax pmax
comp=Z,20nm,0.7s
MK31 **Makanchi Array** 39.11 317 P **P** **18 26 32.5 0.0**
MK31 IAmb IAmb 18 26 34.4
comp=Z,20nm,0.8s
MKAR **Makanchi Array** 39.11 317 P **P** **18 26 33.1 +0.7**
comp=Z,24nm,0.8s,baz=110,slow=10,SNR=212
MKAR LR LR 18 45 35.6
comp=Z,95nm,19.8s,baz=111,slow=40
MKAR **Makanchi Array** 39.11 317 P **P** **18 26 32.8 +0.3**
MKAR **Makanchi Array** 39.11 317 P **P** **18 26 32.8 +0.3**
YAK **Yakutsk** 39.16 6 P **P** **18 26 31.0 -1.6**
comp=Z,3.8nm,0.4s,baz=16,slow=3.1,SNR=8.9
YAK LR LR 18 44 15.7
comp=Z,585nm,18.1s,baz=180,slow=38
YAK **Yakutsk** 39.16 6 *e*P **P** **18 26 29.6 -3.0**
YAK *e**PP **pP** **18 26 37.8 -0.3**
YAK *e* 18 28 42.7
YAK *e*S **S** **18 32 30.0 -1.5**
YAK *e**SS **sS** **18 32 39.8 -0.8**
YAK *e*SSS SSS 18 35 45.4
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=N,44nm,3.5s
YAK smax smax
comp=E,41nm,3.1s
YAK MLR MLR
comp=Z,617nm,15.0s
YAK MLR MLR
comp=N,401nm,15.0s
YAK MLR MLR
comp=E,97nm,15.0s
YAK **Yakutsk** 39.16 6 P **P** **18 26 30.6 -2.0**
MAKZ **Makanchi** 39.32 317 P **P** **18 26 34.5 +0.3**
MAKZ pmax pmax
comp=Z,28nm,0.8s
MAKZ **Makanchi** 39.32 317 P **P** **18 26 34.5 +0.3**
MAKZ IAmb IAmb 18 26 36.2
comp=Z,28nm,0.8s
SHLS **Shalkode** 39.77 310 *e*P **P** **18 26 36.4 -1.8**
SHLS *e*S **S** **18 32 39.8 -1.8**
SHLS **Shalkode** 39.77 310 *e*P **P** **18 26 36.4 -1.8**
baz=310
SHLS *e*S **S** **18 32 39.8 -1.8**
baz=310
PDGK **Podgornoye** 39.80 310 P **P** **18 26 38.5 +0.1**
UZB **Uzynbulak** 40.08 310 *e*P **P** **18 26 41.3 +0.6**
UZB **Uzynbulak** 40.08 310 *e*P **P** **18 26 41.4 +0.6**
baz=310
KPKS **Kokpek** 40.41 310 *e*P **P** **18 26 43.7 +0.3**
KPKS **Kokpek** 40.41 310 *e*P **P** **18 26 43.8 +0.3**
baz=310
HYBB **Hyderabad (bro** 40.45 270 *e*P **P** **18 26 43.8 -0.2**
HYBB *e*pP **pP** **18 26 49.0 -0.6**
HYBB *e*PcP **PcP** **18 28 45.5 -1.3**
HYBB *e*PcS **PcS** **18 32 36.1 -1.6**
HYBB *e*S **S** **18 32 51.7 -0.4**
HYBB *e*SS **SnSn** **18 35 58.5 +1.4**
HYBB IVMs_BB IVMs_BB 18 41 35.8
comp=Z,90nm,4.4s
SATY **Saty** 40.49 310 *e*P **P** **18 26 44.3 +0.2**
SATY **Saty** 40.49 310 *e*P **P** **18 26 44.4 +0.2**
baz=310
ZHN **Zhinishke** 40.50 310 *e*P **P** **18 26 45.0 +0.8**
ZHN **Zhinishke** 40.50 310 *e*P **P** **18 26 45.0 +0.8**
baz=310
PETK **Petropavlovsk-** 40.53 33 P **P** **18 26 44.4 +0.2**
comp=Z,6.2nm,0.8s,baz=221,slow=11,SNR=12
PETK LR LR 18 43 41.4
comp=Z,441nm,21.5s,baz=227,slow=36
PETK **Petropavlovsk-** 40.53 33 P **P** **18 26 43.5 -0.7**
PETK **Petropavlovsk-** 40.53 33 P **P** **18 26 43.5 -0.7**
KRVT **Keravat (AS076** 40.57 129 LR LR 18 39 53.8
comp=Z,278nm,20.7s,baz=99,slow=31
PET **Petropavlovsk** 40.98 34 *e*P **P** **18 26 46.9 -0.9**
PET *e*S **S** **18 32 56.6 -2.4**
PET pmax pmax
comp=Z,50nm,0.7s
PET pmax pmax
comp=Z,300nm,3.5s
PET pmax pmax
comp=Z,200nm,6.8s
PET MLR MLR
comp=Z,400nm,16.0s
PET MLR MLR
comp=Z,600nm,18.0s
PET **Petropavlovsk** 40.98 34 P **P** **18 26 46.6 -1.2**
PET IAmb IAmb 18 26 58.6
comp=Z,62nm,1.3s
TDK **Taldyqorghan** 41.04 313 *e*P **P** **18 26 49.4 +0.9**
TDK pmax pmax
comp=Z,55nm,1.7s
TDK **Taldyqorghan** 41.04 313 *e*P **P** **18 26 49.4 +0.9**
comp=Z,55nm,1.7s,baz=312
ZAA0 **Zalesovo Array** 41.10 328 P **P** **18 26 48.1 -0.8**
ZAA0 IAmb IAmb 18 26 50.4
comp=Z,44nm,0.8s
ZALV **Zalesovo Beam** 41.10 328 P **P** **18 26 48.4 -0.4**
comp=Z,40nm,0.8s,baz=114,slow=7.6,SNR=106
ZALV LR LR 18 43 38.1
comp=Z,182nm,19.2s,baz=126,slow=36
ZALV **Zalesovo Beam** 41.10 328 P **P** **18 26 47.9 -0.9**
ZALV **Zalesovo Beam** 41.10 328 P **P** **18 26 47.9 -0.9**
PMG **Port Moresby** 41.13 139 LR LR 18 43 11.3
comp=Z,204nm,19.2s,baz=296,slow=35
KDJ **Kajisay** 41.14 308 P **P** **18 26 50.3 +0.7**
KDJ pmax pmax
comp=Z,21nm,0.8s
KDJ **Kajisay** 41.14 308 P **P** **18 26 50.3 +0.7**
KDJ IAmb IAmb 18 26 52.4
comp=Z,22nm,0.8s
FITZ **Fitzroy Crossi** 41.32 174 P **P** **18 26 49.0 -1.9**
comp=Z,2.1nm,0.7s,baz=342,slow=3.8,SNR=5.2
MDOK **Medeo** 41.48 309 P **P** **18 26 53.3 +0.9**
MDOK **Medeo** 41.48 309 *e*P **P** **18 26 53.2 +0.9**
baz=309
TNSS **Tian-Shan** 41.52 309 *e*P **P** **18 26 54.1 +1.2**
TNSS **Tian-Shan** 41.52 309 *e*P **P** **18 26 54.1 +1.2**
baz=309
KSH **Kashi** 41.54 304 P **P** **18 26 57.5 +4.7**
KSH sP sP 18 27 03.8 +3.1
KSH pmax pmax
comp=Z,35nm,1.1s

KSH LR LR
comp=Z,750nm,18.4s
KSH LR LR
comp=Z,1μm,17.8s
KSH LR LR
comp=Z,2μm,12.7s
CHKK Chushkaly 41.70 310 *e*P **P 18 26 54.0 +0.1**
CHKK Chushkaly 41.70 310 *e*P **P 18 26 54.0 +0.1**
baz=310
MA2 Magadan 41.77 22 LR LR 18 45 13.5
comp=Z,298nm,19.4s,baz=223,slow=38
MA2 Magadan 41.77 22*ce*P **P 18 26 53.0 -1.2**
MA2 pmax pmax
comp=Z,20nm,1.1s
MA2 Magadan 41.77 22 P **P 18 26 53.5 -0.7**
SEM Semipalatinsk 41.83 321 *e*P **P 18 26 54.7 -0.4**
SEM pmax pmax
comp=Z,31nm,1.0s
SEM Semipalatinsk 41.83 321 *e*P **P 18 26 54.8 -0.4**
comp=Z,31nm,1.0s,baz=321
ULHL Ulahol 41.85 308 P **P 18 26 57.5 +2.0**
SNR=5.1
PALK Pallekele 42.15 254 LR LR 18 44 34.2
comp=Z,564nm,21.6s,baz=157,slow=36
KUU Kurty 42.16 310 *e*P **P 18 26 58.3 +0.6**
KUU pmax pmax
comp=Z,22nm,0.8s
KUU Kurty 42.16 310 *e*P **P 18 26 58.4 +0.6**
comp=Z,22nm,0.8s,baz=310
H11N1 WAKE ISLAND Hy 42.38 86 T T 19 12 12.0
baz=283,slow=74,SNR=264
H11N2 WAKE ISLAND Hy 42.38 86 T T 19 12 14.2
baz=283,slow=74,SNR=240
H11N3 WAKE ISLAND Hy 42.40 86 T T 19 12 15.4
baz=283,slow=74,SNR=289
TKM2 Tokmak 2 42.46 309 P **P 18 27 02.1 +1.7**
SNR=32
TKM2 Tokmak 2 42.46 309 *i*P **P 18 27 01.4 +1.0**
TKM2 pmax pmax
comp=Z,32nm,0.8s
H11S3 WAKE ISLAND Hy 42.48 88 T T 19 12 20.7
baz=284,slow=75,SNR=302
H11S1 WAKE ISLAND Hy 42.49 88 T T 19 12 17.6
baz=284,slow=75,SNR=149
H11S2 WAKE ISLAND Hy 42.50 88 T T 19 12 21.1
baz=284,slow=75,SNR=152
KBK Karagaybulak 42.87 308 P **P 18 27 05.5 +1.8**
SNR=16
KURK Kurchatov 42.90 321 P **P 18 27 03.7 +0.1**
KURK pmax pmax
comp=Z,46nm,1.1s
KURK Kurchatov 42.90 321 P **P 18 27 03.6 +0.1**
KURK IAmb IAmb 18 27 05.2
comp=Z,46nm,1.1s
KURBB Kurchatov Arra 42.92 321 P **P 18 27 04.1 +0.4**
comp=Z,25nm,0.9s,baz=119,slow=7.1,SNR=107
KURBB LR LR 18 45 25.1
comp=Z,186nm,19.0s,baz=98,slow=37
CHMS Chumysh 43.08 309 P **P 18 27 07.0 +1.7**
SNR=16
CHMS Chumysh 43.08 309 *i*P **P 18 27 06.1 +0.9**
CHMS pmax pmax
comp=Z,34nm,1.1s
UCH Uchtor 43.10 308 P **P 18 27 08.1 +2.2**
SNR=37
FRU1 Bishkek 43.13 308 P **P 18 27 06.6 +0.9**
FRU1 pmax pmax
comp=Z,21nm,0.9s
FRU1 Bishkek 43.13 308 P **P 18 27 06.6 +0.9**
FRU1 IAmb IAmb 18 27 08.2
comp=Z,21nm,0.9s
AAK Ala-Archa 43.20 308 P **P 18 27 08.2 +1.9**
SNR=11
AAK Ala-Archa 43.20 308 P **P 18 27 07.7 +1.4**
comp=Z,7.3nm,0.8s,baz=115,slow=6.1,SNR=17
AAK LR LR 18 47 50.6
comp=Z,690nm,18.7s,baz=99,slow=40
AAK Ala-Archa 43.20 308 P **P 18 27 07.7 +1.4**
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 43.20 308 P **P 18 27 07.7 +1.4**
AAK Ala-Archa 43.20 308 *i*P **P 18 27 07.9 +1.6**
SNR=14
NIL Nilore 43.21 295 P **P 18 27 06.9 +0.5**
NIL pmax pmax
comp=Z,79nm,1.1s
NIL Nilore 43.21 295 P **P 18 27 06.9 +0.5**
SGDS Sogindy 43.27 309 *e*P **P 18 27 07.1 +0.4**
SGDS Sogindy 43.27 309 *e*P **P 18 27 07.1 +0.4**
baz=309
USP Ospenovka 43.32 309 P **P 18 27 08.7 +1.5**
SNR=6.5
AML Almayashu 43.68 307 P **P 18 27 12.5 +2.0**
SNR=24
AML Almayashu 43.68 307 *i*P **P 18 27 12.8 +2.3**
SNR=25
EKS2 Erkin-Say 43.72 308 P **P 18 27 12.4 +1.9**
SNR=12
BTLS Baital 44.03 311 *e*P **P 18 27 13.0 +0.3**
BTLS Baital 44.03 311 *e*P **P 18 27 13.1 +0.3**
baz=311
WB0 Warramunga Arr 44.62 162 P **P 18 27 16.1 -1.7**
DRK Karamyk 44.74 303 P **P 18 27 20.1 +1.2**
DRK IAmb IAmb 18 27 21.9
comp=Z,31nm,1.0s
WRAB Tennant Creek 44.77 163 P **P 18 27 17.7 -1.2**
WRAB pmax pmax
comp=Z,10.0nm,1.0s
WRAB Tennant Creek 44.77 163 P **P 18 27 17.7 -1.2**
WRA Warramunga Arr 44.77 163 P **P 18 27 17.2 -1.7**
comp=Z,4.8nm,0.8s,baz=346,slow=8.9,SNR=30
WRA Warramunga Arr 44.77 163 P **P 18 27 17.6 -1.3**
WRA Warramunga Arr 44.77 163 P **P 18 27 17.6 -1.3**
WB2 Warramunga Arr 44.78 163 P **P 18 27 16.7 -2.2**
WB2 IAmb IAmb 18 27 27.2
comp=Z,11nm,0.9s
SEY Seymchan 44.78 20*ce*P **P 18 27 18.3 -0.2**
SEY pmax pmax
comp=Z,3.0nm,0.7s
WR0 Warramunga Arr 44.85 162 P **P 18 27 17.6 -1.9**
WR0 IAmb IAmb 18 27 26.0
comp=Z,8.8nm,0.7s
DZA Taraz 45.53 308 *e*P **P 18 27 25.7 +0.9**
DZA pmax pmax
comp=Z,24nm,1.7s
DZA Taraz 45.53 308 *e*P **P 18 27 25.8 +0.9**
comp=Z,24nm,1.7s,baz=308
BTK Batken 45.55 304 P **P 18 27 25.7 +0.6**
BTK pmax pmax
comp=Z,47nm,1.5s
BTK Batken 45.55 304 P **P 18 27 25.7 +0.6**
BTK IAmb IAmb 18 27 27.5
comp=Z,47nm,1.5s
GAR Garm 45.84 302 P **P 18 27 28.6 +1.2**
OTUK Ortayu 45.96 315 P **P 18 27 28.6 +0.5**
KK31 Karatay Array 46.16 308 P **P 18 27 30.4 +0.6**
KK31 pmax pmax
comp=Z,31nm,1.3s
KK31 Karatay Array 46.16 308 P **P 18 27 30.4 +0.6**
KK31 IAmb IAmb 18 27 32.0
comp=Z,31nm,1.3s
KKAR Karatay Array 46.16 308 P **P 18 27 30.2 +0.4**
KKAR pmax pmax
comp=Z,31nm,1.3s
KKAR Karatay Array 46.16 308 P **P 18 27 30.2 +0.4**
KKAR Karatay Array 46.16 308 P **P 18 27 30.4 +0.6**
KKAR IAmb IAmb 18 27 32.0
comp=Z,31nm,1.3s
BRZS Berezniki 46.22 318 *e*P **P 18 27 30.3 +0.2**
BRZS pmax pmax
comp=Z,18nm,1.2s
BRZS Berezniki 46.22 318 *e*P **P 18 27 30.3 +0.2**
comp=Z,18nm,1.2s,baz=318
IUG Iuzhnay 46.38 307 *e*P **P 18 27 32.4 +0.8**
IUG Iuzhnay 46.38 307 *e*P **P 18 27 32.5 +0.8**
baz=307
KBL Kabul 46.71 296 P **P 18 27 35.4 +0.9**
KBL pmax pmax
comp=Z,94nm,1.2s
KBL Kabul 46.71 296 P **P 18 27 35.4 +0.9**
CHGR Chuyangaron 46.72 302 P **P 18 27 34.8 +0.5**
CHGR pmax pmax
comp=Z,44nm,0.9s
CHGR Chuyangaron 46.72 302 P **P 18 27 34.8 +0.5**
TAS Tashkent 46.83 305 P **P 18 27 35.1 0.0**
TAS pmax pmax
comp=Z,73nm,1.1s
TAS Tashkent 46.83 305 P **P 18 27 35.1 0.0**
AS31 Alice Springs 48.22 165 P **P 18 27 46.7 +0.7**
ASAR Alice Springs 48.22 165 P **P 18 27 44.8 -1.2**
comp=Z,1.8nm,0.8s,baz=342,slow=6.9,SNR=24
ASAR PcP **PcP 18 29 11.6 -1.5**
comp=Z,2.7nm,0.8s,baz=341,slow=3.2,SNR=5.0
ASAR LR LR 18 48 15.5
comp=Z,105nm,21.1s,baz=350,slow=36
ASAR Alice Springs 48.22 165 P **P 18 27 45.0 -0.9**
BVAR Borovoye Array 48.49 321 P **P 18 27 48.8 +1.0**
comp=Z,9.8nm,0.9s
BRVK Borovoye 48.56 321 *i*P **P 18 27 48.4 +0.1**
BRVK pmax pmax
comp=Z,46nm,1.1s
BRVK Borovoye 48.56 321 P **P 18 27 48.4 +0.1**
TIXI Tiksi 48.60 3 LR LR 18 50 15.2
comp=Z,685nm,18.9s,baz=181,slow=38
TIXI Tiksi 48.60 3 *i*P **P 18 27 46.1 -2.1**
TIXI pmax pmax
comp=Z,13nm,1.2s
TIXI Tiksi 48.60 3 P **P 18 27 44.5 -3.7**
TIXI IAmb IAmb 18 28 05.5
comp=Z,8.8nm,0.7s
SHEM Shemya Is, Ala 49.42 40 LR LR 18 48 02.0
comp=Z,112nm,22.0s,baz=277,slow=35
CTA Charters Tower 49.46 149 LR LR 18 46 47.1
comp=Z,308nm,21.9s,baz=329,slow=34
NRIK Noril'sk 50.33 345 P **P 18 28 01.1 -0.4**
comp=Z,17nm,0.9s,baz=131,slow=8.0,SNR=17
NRIK LR LR 18 49 33.3
comp=Z,245nm,18.4s,baz=152,slow=36
NRIK Noril'sk 50.33 345*ce*P **P 18 27 59.7 -1.8**
NRIK pmax pmax
comp=Z,21nm,0.9s
NRIK Noril'sk 50.33 345 P **P 18 27 59.6 -1.8**
NRIK IAmb IAmb 18 28 02.5
comp=Z,20nm,0.9s
HRA Herat 52.33 296 P **P 18 28 17.9 +0.6**
HRA IAmb IAmb 18 28 20.2
comp=Z,30nm,1.2s
BILL Bilibino 52.49 20 *i*P **P 18 28 16.2 -1.5**
BILL *i* 18 28 27.2
BILL *i* 18 29 31.8
BILL *i*S S 18 35 32.5 -11
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,311nm,16.0s
BILL Bilibino 52.49 20 P **P 18 28 16.5 -1.2**
AB31 Akbulak array 54.20 315 *i*P **P 18 28 31.1 +0.5**
ABKAR Akbulak array 54.20 315 P **P 18 28 30.4 -0.2**
ABKAR Akbulak array 54.20 315 P **P 18 28 30.9 +0.3**
ABKAR IAmb IAmb 18 28 33.3
comp=Z,61nm,1.2s
SVE Sverdlovsk 54.88 324 *e*P **P 18 28 35.7 +0.3**
SVE pmax pmax
comp=Z,45nm,1.0s
GEYT Alibeck 55.41 301 P **P 18 28 41.1 +1.5**
comp=Z,36nm,1.0s,baz=117,slow=5.0,SNR=49
GEYT Alibeck 55.41 301 P **P 18 28 40.1 +0.5**
GYA0 ALIBECK ARRAY 55.41 301 P **P 18 28 40.4 +0.8**
GYA0 pmax pmax
comp=Z,55nm,1.0s
GYA0B ALIBECK ARRAY 55.41 301 P **P 18 28 40.4 +0.8**
AKTO Aktyubinsk 55.54 316 P **P 18 28 40.8 +0.4**
comp=Z,14nm,1.0s,baz=84,slow=7.9,SNR=30
AKTO LR LR 18 53 57.7
comp=Z,464nm,18.4s,baz=106,slow=38
ARU Arti 55.94 323 P **P 18 28 43.0 0.0**
comp=Z,6.3nm,0.6s,baz=114,slow=2.1,SNR=40
ARU LR LR 18 54 50.7
comp=Z,288nm,18.2s,baz=96,slow=38
ARU Arti 55.94 323*c i*P **P 18 28 42.6 -0.4**
ARU 18 29 40.5
ARU 18 30 45.4
ARU PPP PPP 18 31 59.8
ARU S **S 18 36 32.2 +2.2**
ARU SS **SS 18 40 19.0 +3.3**
ARU pmax pmax
comp=Z,64nm,1.5s
ARU MLR MLR
comp=Z,416nm,16.0s
ARU Arti 55.94 323 P **P 18 28 42.4 -0.6**
ARU IAmb IAmb 18 28 44.4
comp=Z,23nm,0.7s
WSAR Wadi Sarin 57.21 283 LR LR 18 55 40.2
comp=Z,278nm,21.4s,baz=88,slow=38
STKA Stephens Creek 58.15 160 P **P 18 28 57.9 -1.0**
comp=Z,5.3nm,0.7s,baz=359,slow=3.9,SNR=9.0
STKA LR LR 18 55 08.3
comp=Z,92nm,21.8s,baz=16,slow=37
STKA Stephens Creek 58.15 160 P **P 18 28 57.7 -1.2**
STKA pmax pmax
comp=Z,6.0nm,1.4s
STKA Stephens Creek 58.15 160 P **P 18 28 57.7 -1.2**
BANOM Banah 58.67 287 P **P 18 29 05.0 +2.1**
MSFE Esma-Masafi 58.92 286 P **P 18 29 06.2 +1.5**
UOSS Minazif 58.97 286 P **P 18 29 06.3 +1.3**
HATD Hatta, Dubai 59.06 286 P **P 18 29 06.6 +1.0**
ASHO Ashiyiah 59.16 286 P **P 18 29 06.8 +0.4**
NAZ Nazwa, Dubai 59.44 286 P **P 18 29 08.2 0.0**
FAQ Al Faqa, Dubai 59.56 286 P **P 18 29 09.9 +0.9**
KIRV Kirov 61.06 325 LR LR 18 57 56.6
comp=Z,552nm,19.3s,baz=95,slow=38
KIRV Kirov 61.06 325*ce*P **P 18 29 17.9 -0.8**
SHAO Shalim 61.29 278 P **P 18 29 19.6 -1.4**
MZR Muzera 61.86 285 P **P 18 29 25.2 +0.4**
BELG Belogornoye 62.08 318 LR LR 19 00 01.9
comp=Z,151nm,19.7s,baz=133,slow=39
BELG Belogornoye 62.08 318 *i*P **P 18 29 25.0 -0.7**
BELG pmax pmax
comp=Z,7.0nm,1.2s
LKRN Lenkeran, Azer 62.62 303 P **P 18 29 31.0 +1.5**
DZM Mont Dzumac 62.90 132 LR LR 18 54 06.7
comp=Z,131nm,19.4s,baz=232,slow=33
DZM Mont Dzumac 62.90 132 *e*LR LR 18 48 17.4
comp=Z,594nm,24.6s
MAK Makhachkala 62.98 308 *e*P P 18 29 26.7 -5.1
MAK *e*S **S 18 37 54.1 -7.2**
MAK *e*SS **SS 18 42 07.6 +1.0**
MAK pmax pmax
comp=Z,16nm,0.3s
MAK MLR MLR
comp=Z,637nm,14.0s
PRGR Permogore 63.05 329 *e*P **P 18 29 31.0 -1.0**
SEKA Sheki 63.44 306 P **P 18 29 35.9 +0.8**
MNGR Mingechevir, A 63.59 305 P **P 18 29 38.9 +2.9**
ZKTA Zakatala 63.81 306 P **P 18 29 38.9 +1.4**
GROC Groznyy 64.18 308 *e*P **P 18 29 40.5 +0.7**
GROC *e* 18 30 14.3
GROC *e* 18 32 01.2
GROC pmax pmax
comp=Z,21nm,0.6s
GANJ Ganja 64.19 305 P **P 18 29 41.0 +1.0**
SOCY Socotra 64.64 273 P **P 18 29 42.2 -1.2**
NAX Nakhchivan 65.06 304 P **P 18 29 48.2 +2.4**
GNI Garni 65.46 305 LR LR 19 02 32.8
comp=Z,188nm,21.1s,baz=86,slow=40
GNI Garni 65.46 305 *i*P **P 18 29 49.6 +1.1**
GNI pmax pmax
comp=Z,70nm,1.5s
GNI Garni 65.46 305 P **P 18 29 48.7 +0.2**
ZEI Tsey 65.62 308 *e*P **P 18 29 48.6 -0.9**
ZEI pmax pmax
comp=Z,44nm,1.5s
VRH Novokhopyorsk 65.84 317 *e*P **P 18 29 50.3 -0.1**
VRH pmax pmax
comp=Z,50nm,1.0s
GOF Gofitskoye 65.86 310⇑ *e*P **P 18 29 52.5 +1.8**
ONI Oni 65.98 308 P **P 18 29 53.0 +1.4**
ONI pmax pmax
comp=Z,46nm,1.0s
ONI Oni 65.98 308 P **P 18 29 53.0 +1.4**
KLMR Klimovskoe 66.02 328 *e*P **P 18 29 49.6 -1.9**
KLMR pmax pmax
comp=Z,30nm,1.2s
KLMR Klimovskoe 66.02 328 *e*P **P 18 29 49.6 -1.9**
KLMR AMP 18 29 53.1
comp=Z,30nm,1.2s
AKH Akhalkalaki 66.16 306 ⇑P **P 18 29 54.7 +1.7**
KBZ Khabaz 66.18 309 P **P 18 29 53.7 +0.9**
KBZ pmax pmax
comp=Z,20nm,0.9s,baz=104,slow=4.5,SNR=29
KBZ LR LR 19 03 18.4
comp=Z,296nm,18.4s,baz=77,slow=40
KBZ Khabaz 66.18 309*ce*P **P 18 29 53.7 +0.9**
KBZ pmax pmax
comp=Z,38nm,1.0s
TTA Tatalina 66.22 30 P **P 18 29 52.7 -0.1**
TTA pmax pmax
comp=Z,6.0nm,0.9s
TTA Tatalina 66.22 30 P **P 18 29 52.7 -0.1**
KIV Kislovodsk 66.29 309 ⇑P **P 18 29 54.3 +0.6**
KIV Kislovodsk 66.29 309 *e*P **P 18 29 54.2 +0.5**
KIV pmax pmax
comp=Z,52nm,1.1s
KIV MLR MLR
comp=Z,202nm,17.0s
KIV Kislovodsk 66.29 309 P **P 18 29 54.4 +0.8**
KIV Kislovodsk 66.29 309 *i*P **P 18 29 54.7 +1.0**
SNR=12
SVW2 Sparrevohn 66.59 32 P **P 18 29 55.2 0.0**
SVW2 IAmb IAmb 18 30 08.6
comp=Z,20nm,1.3s
KARS Kars 66.62 306 P **P 18 29 54.8 -1.1**
KARS pmax pmax
comp=Z,95nm,1.1s
KARS Kars 66.62 306 P **P 18 29 54.8 -1.1**
L19K White Mountain 66.82 30 P **P 18 29 56.5 -0.1**
L19K IAmb IAmb 18 30 17.4
comp=Z,23nm,1.2s
IMAR Indian Mountai 66.92 26 P **P 18 29 57.0 -0.2**
J20K Nowinta River 66.93 28 P **P 18 29 56.9 -0.3**
J20K IAmb IAmb 18 30 16.0
comp=Z,14nm,1.1s
K20K Telida 67.05 29 P **P 18 29 58.2 +0.2**
K20K IAmb IAmb 18 30 13.8
comp=Z,24nm,1.5s
M19K Big River Lodg 67.07 31 P **P 18 29 59.2 +1.0**
M19K IAmb IAmb 18 30 11.3
comp=Z,14nm,1.1s
GEVA Gevas 67.10 303 P **P 18 30 01.1 +2.1**
VORR Voronezh 67.33 318 *e*P **P 18 29 59.9 -0.1**
VORR pmax pmax
comp=Z,53nm,1.7s
H21K Melozitna Rive 67.35 27 P **P 18 29 59.9 +0.1**
H21K IAmb IAmb 18 30 14.1
comp=Z,13nm,0.8s
LPSR Galich'ya Gora 67.35 319 *e*P **P 18 30 00.1 0.0**
LPSR pmax pmax
comp=Z,40nm,1.0s
VORD Divnogorie 67.39 317 *e*P **P 18 29 59.7 -0.6**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 67.43 318 *e*P **P 18 30 00.0 -0.6**
VSR pmax pmax
comp=Z,30nm,1.0s
MOS Moscow 67.63 323 *e*P **P 18 30 00.2 -1.6**
MOS pmax pmax
comp=Z,43nm,0.8s
I21K Tanana 67.74 27 P **P 18 30 02.5 +0.1**
I21K IAmb IAmb 18 30 15.6
comp=Z,8.0nm,0.8s
GURO Guroymak-BITLI 67.84 304 P **P 18 30 04.8 +1.2**
CAST Castle Rocks 67.93 29 P **P 18 30 03.7 0.0**
CAST IAmb IAmb 18 30 16.3
comp=Z,11nm,1.0s
APA Apatity 67.96 336⇓ *i*P **P 18 30 01.3 -2.4**
APA pmax pmax
comp=Z,14nm,0.9s
APA MLR MLR
comp=Z,700nm,10.0s
PPLA Purkeypile 67.96 30 **P 18 30 06.2 +2.3**
PPLA IAmb IAmb 18 30 28.6
comp=Z,12nm,0.8s
COLD Coldfoot 68.19 25 P **P 18 30 05.0 -0.2**
COLD IAmb IAmb 18 30 16.3
comp=Z,16nm,1.5s
TOLK Toolik Lake Re 68.22 23 P **P 18 30 05.0 -0.4**
TOLK IAmb IAmb 18 30 15.5
comp=Z,8.3nm,0.9s
BPAW Bear Paw Mtn. 68.32 28 P **P 18 30 06.6 +0.6**
BPAW IAmb IAmb 18 30 27.4
comp=Z,21nm,1.5s
OBN Obninsk 68.32 322⇑ *i*P **P 18 30 04.6 -1.5**
OBN *i* 18 30 25.4
OBN pmax pmax
comp=Z,59nm,1.7s
OBN MLR MLR
comp=Z,251nm,15.0s
OBN Obninsk 68.32 322 P **P 18 30 05.1 -1.1**
KTH Kantishna Hill 68.43 29 P **P 18 30 07.2 +0.4**
KTH IAmb IAmb 18 30 29.6
comp=Z,7.9nm,0.9s
KDAK Kodiak Island 68.56 35 LR LR 19 01 11.7
comp=Z,82nm,20.2s,baz=283,slow=37
H23K Yukon River 68.66 26 P **P 18 30 08.5 +0.3**
H23K IAmb IAmb 18 30 19.1
comp=Z,15nm,0.9s
KOPT Kop Dagi 68.67 306 P **P 18 30 10.9 +1.9**
TRF Thorofare Moun 68.73 29 P **P 18 30 09.6 +0.8**
TRF IAmb IAmb 18 30 38.3
comp=Z,13nm,1.3s
MSVF Nonsavu 68.75 121 LR LR 18 56 56.7
comp=Z,125nm,20.2s,baz=276,slow=33
I23K Minto, Yukon-K 68.84 27 P **P 18 30 09.9 +0.7**
I23K IAmb IAmb 18 30 24.7
comp=Z,10nm,1.1s
NEA2 Nenana 69.06 28 P **P 18 30 10.3 -0.3**
NEA2 IAmb IAmb 18 30 14.4
comp=Z,8.8nm,0.7s
MARD Mardin 69.08 303 P **P 18 30 11.9 +0.5**
M22K Willow 69.09 31 P **P 18 30 10.2 -0.6**
MCK McKinley 69.27 28 P **P 18 30 11.9 -0.1**
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 69.27 28 P **P 18 30 11.9 -0.1**
MCK IAmb IAmb 18 30 24.5
comp=Z,13nm,1.0s
H24K Noodor Dome 69.33 26 P **P 18 30 12.4 0.0**
H24K IAmb IAmb 18 30 21.4
comp=Z,9.4nm,1.1s
MDM Murphy Dome 69.35 27 P **P 18 30 11.8 -0.7**
MDM IAmb IAmb 18 30 27.7
comp=Z,26nm,1.2s
RND Reindeer 69.37 29 P **P 18 30 11.5 -1.2**
RND pmax pmax
comp=Z,19nm,0.7s
RND Reindeer 69.37 29 P **P 18 30 11.5 -1.2**
WRH Wood River Hil 69.50 28 P **P 18 30 13.6 +0.2**
WRH IAmb IAmb 18 30 24.0
comp=Z,14nm,1.2s
PMR Palmer 69.59 31 P **P 18 30 12.9 -1.0**
PMR pmax pmax
comp=Z,7.0nm,0.6s
PMR Palmer 69.59 31 P **P 18 30 12.9 -1.0**
PMR IAmb IAmb 18 30 21.2
comp=Z,7.2nm,0.6s
POKR Poker Plat Res 69.65 27 P **P 18 30 11.8 -2.4**
POKR IAmb IAmb 18 30 24.5
comp=Z,11nm,0.8s
ANN Anapa 69.82 311 *e*P **P 18 30 13.5 -2.1**
ANN *e**PP **pP 18 30 17.1 -4.4**
ANN *e*S **S 18 39 23.9 -0.4**
ANN pmax pmax
comp=Z,211nm,1.2s
KNK Knik Glacier 69.94 31 P **P 18 30 15.1 -1.1**
KNK IAmb IAmb 18 30 28.5
comp=Z,29nm,1.2s
IL31 69.95 27 P **P 18 30 16.2 +0.2**
ILAR Eielson Array 69.95 27 P **P 18 30 14.8 -1.4**
comp=Z,0.7nm,0.4s,baz=266,slow=4.6,SNR=12
ILAR LR LR 19 03 17.4
comp=Z,69nm,19.7s,baz=2.0,slow=38
ILAR Eielson Array 69.95 27 P **P 18 30 13.8 -2.3**
ILAR Eielson Array 69.95 27 P **P 18 30 13.8 -2.3**
MSEY Mahe Island 69.96 256 P **P 18 30 15.0 -2.0**
MSEY pmax pmax
comp=Z,14nm,1.1s
MSEY Mahe Island 69.96 256 P **P 18 30 15.0 -2.0**
MSEY IAmb IAmb 18 30 19.2
comp=Z,14nm,1.1s
MSEY Mahe Island 69.96 256 P **P 18 30 17.8 +0.8**
DHY Denali Highway 70.09 29 P **P 18 30 16.7 -0.5**
PWL Port Wells 70.11 31 P **P 18 30 16.6 -0.7**
PWL IAmb IAmb 18 30 29.3
comp=Z,22nm,1.0s
BMAR Burnt Mountain 70.29 24 P **P 18 30 18.1 -0.1**
SCM Sheep Creek Mo 70.38 30 P **P 18 30 18.5 -0.4**
SCM pmax pmax

comp=Z,16nm,0.7s
SCM Sheep Creek Mo 70.38 30 P **P** **18 30 18.4 -0.4**
SCM IAmb IAmb 18 30 35.6
comp=Z,16nm,0.7s
SPB2 Spitsbergen Ar 70.41 348 P **P** **18 30 18.8 0.0**
SPITS Spitsbergen Ar 70.41 348 LR LR 19 06 38.2
comp=Z,351nm,18.1s,baz=241,slow=40
SPITS Spitsbergen Ar 70.41 348 P **P** **18 30 18.2 -0.6**
SPITS pmax pmax
comp=Z,52nm,1.4s
ARCES ARCESS Array B 70.45 338 P **P** **18 30 18.7 -0.4**
comp=Z,4.0nm,0.6s,baz=72,slow=9.2,SNR=14
ARCES LR LR 19 04 11.8
comp=Z,287nm,19.6s,baz=52,slow=38
ARCES ARCESS Array B 70.45 338 P **P** **18 30 18.2 -0.9**
ARCES pmax pmax
comp=Z,16nm,1.2s
ARCES ARCESS Array B 70.45 338 P **P** **18 30 18.2 -0.9**
ARCES IAmb IAmb 18 30 21.2
comp=Z,16nm,1.1s
J25K Salcha River, 70.62 27 P **P** **18 30 19.7 -0.6**
GLI Glacier Island 70.70 31 P **P** **18 30 21.6 +0.8**
GLI IAmb IAmb 18 30 41.4
comp=Z,13nm,0.8s
M24K Tolsona, Glenn 70.85 30 P **P** **18 30 21.8 0.0**
PAX Paxson 70.96 29 P **P** **18 30 21.9 -0.6**
PAX pmax pmax
comp=Z,5.0nm,0.9s
PAX Paxson 70.96 29 P **P** **18 30 21.9 -0.6**
RIDG Independent Ri 71.05 28 P **P** **18 30 22.7 -0.2**
RIDG IAmb IAmb 18 30 36.4
comp=Z,17nm,1.2s
KLU Klutina 71.11 30 P **P** **18 30 23.5 +0.1**
KLU IAmb IAmb 18 30 46.7
comp=Z,26nm,1.5s
SCRK Sand Creek 71.36 28 P **P** **18 30 24.4 -0.5**
MENT Mentasta 71.75 29 P **P** **18 30 27.2 +0.1**
MENT IAmb IAmb 18 30 53.5
comp=Z,8.5nm,0.9s
SIM Simferopol' 72.07 312 *e*P **P** **18 30 30.0 +0.7**
SIM *e*PPP PPP 18 34 50.0
SIM *e*S **S** **18 39 51.0 +0.5**
SIM *e*SS **SS** **18 44 28.0 +0.8**
SIM *e*SSS SSS 18 47 42.0
SIM pmax pmax
comp=Z,37nm,0.5s
GLB Gilahina Butte 72.10 30 P **P** **18 30 26.7 -2.6**
GLB IAmb IAmb 18 30 31.8
comp=Z,21nm,1.5s
M26K Nabesna, AK 72.21 29 P **P** **18 30 29.0 -0.9**
M26K IAmb IAmb 18 30 41.2
comp=Z,7.2nm,0.8s
FIA1 FINESS Array S 72.32 330 P **P** **18 30 29.8 -0.7**
FIA1 IAmb IAmb 18 30 30.8
comp=Z,17nm,0.8s
FINES FINESS Array B 72.32 330 P **P** **18 30 30.1 -0.4**
comp=Z,13nm,0.8s,baz=90,slow=7.6,SNR=35
FINES LR LR 19 05 07.9
comp=Z,407nm,18.2s,baz=71,slow=38
FINES FINESS Array B 72.32 330 P **P** **18 30 29.5 -1.0**
FINES FINESS Array B 72.32 330 P **P** **18 30 29.5 -1.0**
EGAK Eagle 72.33 26 P **P** **18 30 29.8 -0.7**
EGAK IAmb IAmb 18 30 43.1
comp=Z,9.6nm,1.1s
BNN Bunyan 72.45 305 P **P** **18 30 33.5 +1.5**
MCARA McCarthy VSAT 72.48 30 P **P** **18 30 31.8 +0.2**
MCARA IAmb IAmb 18 30 55.9
comp=Z,13nm,1.0s
L27K Beaver Creek, 72.54 28 P **P** **18 30 31.8 -0.1**
L27K IAmb IAmb 18 30 53.5
comp=Z,9.3nm,0.9s
BCAR Beaver Creek A 72.56 28 P **P** **18 30 31.5 -0.5**
VSU Vasula 72.83 327 ⇑*i*P **P** **18 30 33.4 -0.2**
VSU pmax pmax
comp=Z,81nm,0.9s
VSU Vasula 72.83 327 *e*P **P** **18 30 33.6 0.0**
BARN Barnard Glacie 73.21 30 P **P** **18 30 37.1 +1.0**
BARN IAmb IAmb 18 30 51.4
comp=Z,7.7nm,0.8s
NOR Nord 73.27 354 *i* P **P** **18 30 33.4 -2.4**
NOR IAmb IAmb 18 30 43.4
comp=Z,2.3nm,0.9s
DAWY Dawson 73.27 27 P **P** **18 30 35.2 -1.0**
I29M Ogilvie Camp, 73.29 26 P **P** **18 30 33.8 -2.5**
MNK Minsk 73.35 323 *i* P **P** **18 30 36.6 -0.2**
MNK *i* 18 33 18.9
MNK *i* PPP PPP 18 35 02.5
MNK *i* S **S** **18 40 05.9 +1.1**
MNK *i* SS **SS** **18 44 48.2 +1.9**
MNK pmax pmax
comp=Z,25nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,11nm,1.2s
MNK MLR MLR
comp=Z,280nm,15.0s
MNK MLR MLR
comp=E,58nm,22.0s
MNK MLR MLR
comp=N,146nm,17.0s
MNK Minsk 73.35 323 *i* P **P** **18 30 36.6 -0.2**
comp=E,3.0nm,1.0s
MNK *i* P **P** **18 30 36.6 -0.2**
comp=N,11nm,1.2s
MNK *i* P **P** **18 30 36.6 -0.2**
comp=Z,25nm,1.0s,baz=73
MNK *i* PP **PP** **18 33 19.0 -0.9**
MNK *i* PPP PPP 18 35 02.6
MNK *i* S **S** **18 40 05.9 +1.1**
MNK *i* SS **SS** **18 44 48.3 +1.9**
MNK *i* SSS SSS 18 48 08.6
MNK *i* LQ LQ 18 57 54.1
MNK *i* LR LR 19 03 08.3
MNK *i* LRM MLR 19 07 17.7
comp=Z,280nm,14.8s
MNK *i* LRM MLR 19 07 23.5
comp=E,58nm,21.9s
MNK *i* LRM MLR 19 07 28.1
comp=N,146nm,17.4s
CTGM Chitina Glacie 73.39 30 P **P** **18 30 37.0 -0.1**
CTGM IAmb IAmb 18 30 44.0
comp=Z,17nm,1.2s
EPYK Eagle Plains 73.57 24 P **P** **18 30 37.3 -0.6**
EPYK IAmb IAmb 18 30 43.7
comp=Z,16nm,1.2s
AKASG Malin Array Be 73.66 319 P **P** **18 30 38.0 -0.7**
comp=Z,3.9nm,0.7s,baz=59,slow=7.1,SNR=16
AKASG Malin Array Be 73.66 319 P **P** **18 30 37.6 -1.0**
AKASG Malin Array Be 73.66 319 P **P** **18 30 37.6 -1.0**
AKBB Malin Array Si 73.66 319 P **P** **18 30 37.2 -1.5**
AKBB pmax pmax
comp=Z,34nm,1.5s
AKBB Malin Array Si 73.66 319 P **P** **18 30 37.2 -1.5**
AKBB IAmb IAmb 18 30 40.0
comp=Z,34nm,1.4s
IDID Didziasalis 73.75 324 *e*P **P** **18 30 39.5 +0.5**
NACGM Naroch 73.85 323 *e*P **P** **18 30 40.0 +0.4**
BR131 Keskin Array S 73.85 307 P **P** **18 30 39.5 -0.7**
BR131 pmax pmax
comp=Z,44nm,1.1s
BR131 Keskin Array S 73.85 307 P **P** **18 30 39.5 -0.7**
BRTR Keskin Array B 73.85 307 P **P** **18 30 40.5 +0.3**
comp=Z,22nm,1.1s,baz=115,slow=4.3,SNR=41
BRTR LR LR 19 07 14.0
comp=Z,97nm,18.9s,baz=90,slow=39
BRTR Keskin Array B 73.85 307 P **P** **18 30 39.6 -0.7**
BRTR Keskin Array B 73.85 307 P **P** **18 30 39.6 -0.6**
INK Inuvik 74.01 22 P **P** **18 30 39.0 -1.3**
comp=Z,5.0nm,0.9s,baz=275,slow=5.3,SNR=5.3
INK LR LR 19 07 14.0
comp=Z,122nm,18.3s,baz=310,slow=39
INK Inuvik 74.01 22 P **P** **18 30 41.5 +1.1**
INK pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 74.01 22 P **P** **18 30 41.5 +1.1**
INK IAmb IAmb 18 30 55.9
comp=Z,9.7nm,0.9s
MTSE Matsula 74.22 327 *e*P **P** **18 30 41.7 0.0**
ANTO Ankara 74.43 307 P **P** **18 30 44.8 +1.3**
ANTO pmax pmax
comp=Z,39nm,1.0s
ANTO Ankara 74.43 307 P **P** **18 30 44.8 +1.3**
RAF Rauma 74.43 330 *e*P **P** **18 30 41.4 -1.5**
BR231 Keskin MP Arra 74.45 307 P **P** **18 30 42.8 -0.8**
BR231 IAmb IAmb 18 30 46.0
comp=Z,29nm,0.9s
MMAI Mount Meron Ar 74.49 300 LR LR 19 10 06.2
comp=Z,203nm,18.7s,baz=232,slow=41
M30M Minto, Yukon 74.88 28 P **P** **18 30 45.2 -0.5**
A36M Sachs Harbour 74.95 17 P **P** **18 30 44.7 -1.1**
A36M IAmb IAmb 18 31 04.3
comp=Z,12nm,0.8s
SORM Soroca 74.97 316 ⇓P **P** **18 30 45.6 -0.8**
SORM Soroca 74.97 316 ⇓P **P** **18 30 45.6 -0.8**
ATD Arta Tunnel 75.08 276 LR LR 19 02 13.6
comp=Z,79nm,21.7s,baz=136,slow=34
PABE Paberze 75.19 324 P **P** **18 30 46.9 -0.5**
PABE Paberze 75.19 324 *e*P **P** **18 30 47.5 +0.1**
HYT Haines Junctio 75.20 30 P **P** **18 30 47.4 -0.2**
HYT IAmb IAmb 18 30 51.6
comp=Z,11nm,1.1s
MDUB Mudurnu 75.41 308 P **P** **18 30 49.8 +0.6**
N31M Braeburn, Yuko 75.73 29 P **P** **18 30 50.1 -0.5**
N31M IAmb IAmb 18 30 54.0
comp=Z,13nm,1.1s
VLDR Vladesti 75.87 314 ⇑P **P** **18 30 50.4 -1.1**
TPGR Topolog 75.97 313 ⇓P **P** **18 30 52.4 +0.2**
CFR Carcaliu 76.05 313 ⇓P **P** **18 30 52.8 +0.2**
CFR Carcaliu 76.05 313 ⇓P **P** **18 30 52.8 +0.2**
M31M Drury Creek, Y 76.06 28 P **P** **18 30 52.1 -0.3**
PBUR Paburge 76.09 325 *e*P **P** **18 30 52.0 -0.6**
TIRR Tirgusor 76.10 313 ⇓P **P** **18 30 53.6 +0.8**
TIRR Tirgusor 76.10 313 ⇓P **P** **18 30 53.6 +0.8**
SUW Suwalki 76.12 323 *e*P **P** **18 30 52.6 -0.2**
SUW Suwalki 76.12 323 P **P** **18 30 52.0 -0.8**
SUW pmax pmax
comp=Z,77nm,1.2s
SUW Suwalki 76.12 323 P **P** **18 30 52.0 -0.8**
SUW Suwalki 76.12 323 *e*P **P** **18 30 52.6 -0.2**
BORA Eskisehir 76.14 308 P **P** **18 30 52.9 -0.4**
TLBR Topalu 76.32 313 ⇓P **P** **18 30 55.4 +1.3**
HARR Harsova 76.35 313 ⇑P **P** **18 30 55.0 +0.7**
HARR Harsova 76.35 313 ⇑P **P** **18 30 55.0 +0.7**
WHY Whitehorse 76.46 29 P **P** **18 30 54.7 -0.1**
TESR Tescani 76.59 315 ⇓P **P** **18 30 55.5 -0.2**
C36M Paulatuk 76.61 19 P **P** **18 30 53.8 -1.5**
C36M IAmb IAmb 18 31 10.9
comp=Z,13nm,1.1s
ISP Isparta 76.75 306 P **P** **18 30 56.2 -0.7**
ISP pmax pmax
comp=Z,31nm,1.0s
ISP Isparta 76.75 306 P **P** **18 30 56.2 -0.7**
VRI Vrincioaia 76.76 314 ⇑P **P** **18 30 57.2 +0.6**
VRI Vrincioaia 76.76 314 ⇑P **P** **18 30 57.2 +0.6**
UPP Uppsala 76.77 330 *e*P **P** **18 30 55.9 -0.5**
PLOR Plostina 76.82 314 ⇑P **P** **18 30 56.6 -0.4**
PLOR Plostina 76.82 314 ⇑P **P** **18 30 56.6 -0.4**
COVR Voineasa-Covas 77.11 314 ⇑P **P** **18 30 59.5 +0.9**
BUR08 Bucovina Ar. S 77.14 316 P **P** **18 30 58.4 -0.5**
BURAR Bucovina Array 77.14 316 ⇑P **P** **18 30 59.4 +0.5**
BURAR Bucovina Array 77.14 316 ⇑P **P** **18 30 59.4 +0.5**
BURAR Bucovina Array 77.14 316 P **P** **18 30 58.4 -0.5**
DAG Danmarks Havn 77.30 351 *i* P **P** **18 30 57.0 -2.0**
DAG IAmb IAmb 18 31 02.9
comp=Z,2.0nm,0.8s
OZUR 77.30 315 ⇓P **P** **18 31 00.3 +0.6**
MLR Muntele Rosu 77.40 314 ⇑P **P** **18 30 59.9 -0.5**
MLR Muntele Rosu 77.40 314 LR LR 19 09 47.9
comp=Z,376nm,18.4s,baz=64,slow=39
MLR Muntele Rosu 77.40 314 P **P** **18 30 59.6 -0.8**
MLR pmax pmax
comp=Z,17nm,1.0s
MLR Muntele Rosu 77.40 314 P **P** **18 30 59.6 -0.8**
MLR IAmb IAmb 18 31 02.7
comp=Z,17nm,1.0s
DOPR Dopca 77.60 315 ⇓P **P** **18 31 01.6 +0.2**
VIKU Vikbolandet 77.76 329 *e*P **P** **18 31 01.6 -0.3**
KWP Kalwaria Pacla 77.97 319 *e*P **P** **18 31 03.5 +0.1**
BALB Balikesir 78.09 308 P **P** **18 31 04.0 -0.2**
BMR Baia Mare 78.20 317 ⇓P **P** **18 31 05.5 +0.8**
BMR Baia Mare 78.20 317 ⇓P **P** **18 31 05.5 +0.8**
ARR Arges 78.31 314 ⇑P **P** **18 31 06.4 +1.0**
HUMR Humele 78.38 313 ⇓P **P** **18 31 05.8 +0.1**
HFS Hagfors 78.44 331 LR LR 19 08 57.9
comp=Z,1μm,18.5s,baz=54,slow=38
UZH Uzhgorod 78.60 318 *e*P **P** **18 31 04.7 -2.1**
UZH *i* 18 31 14.7
TRPA Tarpa 78.63 318 ⇓P **P** **18 31 07.0 0.0**
NC405 NORSAR Array S 78.86 332 P **P** **18 31 06.8 -1.3**
NC303 NORSAR Array S 78.95 332 P **P** **18 31 06.9 -1.7**
NC303 IAmb IAmb 18 31 07.9
comp=Z,20nm,0.9s
ALN Alexandroupoli 78.96 310 P **P** **18 31 07.5 -1.4**
ALN pmax pmax
comp=Z,15nm,1.2s
ALN Alexandroupoli 78.96 310 P **P** **18 31 07.5 -1.4**
ALN IAmb IAmb 18 31 10.8
comp=Z,15nm,1.2s
CRVS Cervenica-Dubn 79.00 319 *e*P **P** **18 31 09.1 0.0**
CRVS pmax pmax
comp=Z,103nm,2.3s
CRVS Cervenica-Dubn 79.00 319 *e*P **P** **18 31 09.1 0.0**
NB201 NORSAR Array S 79.07 332 P **P** **18 31 08.1 -1.2**
NB2 NORSAR Subarra 79.11 332 P **P** **18 31 07.9 -1.5**
comp=Z,11nm,0.7s,baz=58,slow=5.6
NB2 NORSAR Subarra 79.11 332 P **P** **18 31 07.9 -1.5**
baz=58,slow=5.6
NOA NORSAR Array B 79.11 332 P **P** **18 31 08.1 -1.4**
comp=Z,11nm,0.8s,baz=59,slow=5.5,SNR=52
NOA PP **PP** **18 34 09.8 +1.6**
comp=Z,1.4nm,0.9s,baz=64,slow=8.3,SNR=3.2
NOA LR LR 19 08 54.5
comp=Z,509nm,18.5s,baz=65,slow=38
NC602 NORSAR Array S 79.11 332 P **P** **18 31 07.7 -1.7**
NC602 IAmb IAmb 18 31 18.5
comp=Z,37nm,1.2s
NC204 NORSAR Array S 79.19 333 P **P** **18 31 08.6 -1.3**
NC204 IAmb IAmb 18 31 27.1
comp=Z,22nm,1.0s
NAO01 NORSAR Array S 79.34 332 P **P** **18 31 09.3 -1.4**
NAO01 IAmb IAmb 18 31 10.6
comp=Z,14nm,0.8s
OJC Ojcow 79.48 320 *e*P **P** **18 31 11.4 -0.3**
OJC Ojcow 79.48 320 P **P** **18 31 11.0 -0.6**
OJC pmax pmax
comp=Z,13nm,0.7s
OJC Ojcow 79.48 320 P **P** **18 31 11.0 -0.6**
OJC IAmb IAmb 18 31 13.4
comp=Z,13nm,0.7s
NIE Niedzica 79.50 319 *e*P **P** **18 31 12.2 +0.4**
DBG Daneborg 79.52 350 *i* P **P** **18 31 10.1 -1.3**
DBG IAmb IAmb 18 31 11.0
comp=Z,3.9nm,0.9s
RES Resolute Bay 79.54 9 LR LR 19 07 22.3
comp=Z,126nm,22.0s,baz=289,slow=36
RES Resolute Bay 79.54 9 P **P** **18 31 10.2 -1.3**
RES pmax pmax
comp=Z,8.0nm,1.2s
RES Resolute Bay 79.54 9 P **P** **18 31 10.2 -1.3**
DLBC Dease Lake 79.65 30 LR LR 19 07 59.0
comp=Z,111nm,19.2s,baz=262,slow=37
PGB Panagyurishte 79.66 312 *e*P **P** **18 31 12.0 -0.8**
TULEG Thule 80.22 2 *i* P **P** **18 31 14.7 -0.4**
TULEG IAmb IAmb 18 32 23.1
comp=Z,4.5nm,0.6s
VTS Vitosha 80.27 312 ⇑P **P** **18 31 16.5 +0.3**
VTS Vitosha 80.27 312 P **P** **18 31 15.9 -0.3**
VTS pmax pmax
comp=Z,23nm,1.0s
VTS Vitosha 80.27 312 P **P** **18 31 15.9 -0.3**
VTS IAmb IAmb 18 31 18.9
comp=Z,23nm,1.0s
VTS Vitosha 80.27 312 *e*P **P** **18 31 16.0 -0.3**
PSZ Piszkesteto 80.35 318 P **P** **18 31 15.8 -0.7**
PSZ pmax pmax
comp=Z,12nm,1.3s
PSZ Piszkesteto 80.35 318 P **P** **18 31 15.8 -0.7**
MDVR Moldovita 80.45 315 ⇓P **P** **18 31 17.4 +0.3**
URZ Urewera 80.49 139 LR LR 19 05 20.2
comp=Z,85nm,19.8s,baz=31,slow=34
WKZ Wanaka 80.51 148 P **P** **18 31 17.5 +0.4**
OKC Ostrava-Krasne 80.61 320 AMS AMS 19 12 10.0
comp=Z,300nm,13.3s
RPZ Rata Peaks 80.74 146 LR LR 19 06 20.6
comp=Z,112nm,18.6s,baz=305,slow=35
VYHS Vyhne 80.76 319 *e*P **P** **18 31 18.6 0.0**
VYHS pmax pmax
comp=Z,8.0nm,0.9s
VYHS Vyhne 80.76 319 *e*P **P** **18 31 18.6 0.0**
KOLL Kolacno 80.99 319 *e*P **P** **18 31 20.7 +0.9**
MORC Moravsky Berou 80.99 320 ⇓P **P** **18 31 20.1 +0.3**
MORC Moravsky Berou 80.99 320 P **P** **18 31 19.9 0.0**
MORC pmax pmax
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 80.99 320 P **P** **18 31 19.9 0.0**
MORC Moravsky Berou 80.99 320 *e*P **P** **18 31 19.5 -0.3**
KSP Ksiaz 81.25 322 *e*P **P** **18 31 21.1 -0.1**
KRLC Kraliky 81.30 321 *e*P **P** **18 31 21.5 0.0**
KRLC MLR MLR
comp=Z,300nm,11.9s
KRLC Kraliky 81.30 321 *e*P **P** **18 31 21.5 0.0**
KRLC AMS AMS 19 11 20.0
comp=Z,300nm,11.9s
JAVC Velka Javorina 81.31 320 *e*P **P** **18 31 22.4 +0.8**
OSTC Ostas 81.42 321 *e*P **P** **18 31 22.8 +0.7**
DPC Dobruska-Polom 81.45 321 *e*P **P** **18 31 22.0 -0.3**
DPC MLR MLR
comp=Z,300nm,16.2s
DPC Dobruska-Polom 81.45 321 *e*P **P** **18 31 22.0 -0.3**
DPC AMS AMS 19 12 20.0
comp=Z,300nm,16.2s
CHVC Chvalec 81.50 322 *e*P **P** **18 31 22.8 +0.3**
CHVC AMS AMS 19 12 20.0
comp=Z,500nm,16.4s
UPC Upice 81.56 322 AMS AMS 19 12 20.0
comp=Z,500nm,14.3s
VRAC Vranov 81.75 320 ⇑P **P** **18 31 24.3 +0.5**
VRAC Vranov 81.75 320 ⇑P **P** **18 31 24.3 +0.5**
VRAC Vranov 81.75 320 *e*P **P** **18 31 23.9 +0.1**
MORH Mrgy, Hungar 81.83 317 ⇓P **P** **18 31 24.3 0.0**
IDI Anoyia 81.89 305 LR LR 19 13 33.5
comp=Z,74nm,20.5s,baz=104,slow=40
KRUC Moravsky 81.97 320 *e*P **P** **18 31 24.9 -0.1**
PVCC Panska Ves 82.37 322 AMS AMS 19 13 00.0
comp=Z,400nm,18.4s
TREC Trest 82.40 321 AMS AMS 19 12 50.0
comp=Z,300nm,16.7s
PRU Pruhonice 82.63 321 *e*P **P** **18 31 28.5 +0.1**
PRU MLR MLR
comp=Z,500nm,13.4s
PRU Pruhonice 82.63 321 *e*P **P** **18 31 28.5 +0.1**
PRU AMS AMS 19 13 00.0
comp=Z,500nm,13.4s
CONA Conrad Observa 82.80 319 *e*P **P** **18 31 29.9 +0.5**
comp=Z,2.5nm,0.8s
CLL Collm 82.88 323 ⇑*i*P **P** **18 31 28.8 -0.9**
CLL pmax pmax
comp=Z,12nm,0.9s
CLL MLR MLR
comp=Z,600nm,16.4s
CLL Collm 82.88 323 P **P** **18 31 29.2 -0.4**
CLL IAmb IAmb 18 31 30.1
comp=Z,9.9nm,0.8s
CLL Collm 82.88 323 ⇑*i*P **P** **18 31 28.8 -0.9**
comp=Z,12nm,0.9s
CLL *e*PP **PP** **18 34 42.0 +2.4**
CKRC Cesky Krumlov 83.31 320 *e*P **P** **18 31 32.3 +0.3**
CKRC AMS AMS 19 13 40.0
comp=Z,300nm,15.1s
ITM Ithomi 83.34 308 P **P** **18 31 31.4 -1.0**
OPO Ambohidratompo 83.48 247 LR LR 19 06 36.9
comp=Z,108nm,19.4s,baz=202,slow=34
KHC Kasperske Hory 83.59 321 P **P** **18 31 32.7 -0.8**
KHC pmax pmax
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 83.59 321 P **P** **18 31 32.6 -0.8**
KHC IAmb IAmb 18 31 34.4
comp=Z,6.3nm,0.9s
KHC Kasperske Hory 83.59 321 *e*P **P** **18 31 33.1 -0.4**
KHC AMS AMS 19 13 40.0
comp=Z,400nm,13.1s
GEC2 GERESS Array S 83.65 321 P **P** **18 31 33.4 -0.5**
GEC2 IAmb IAmb 18 31 34.6
comp=Z,10.0nm,0.9s
GERES GERESS Array B 83.65 321 P **P** **18 31 33.8 0.0**
comp=Z,6.9nm,0.8s,baz=65,slow=6.3,SNR=46
GERES GERESS Array B 83.65 321 P **P** **18 31 33.1 -0.8**
GERES GERESS Array B 83.65 321 P **P** **18 31 33.1 -0.8**
NKC Novy Kostel 83.71 322 *e*P **P** **18 31 34.4 +0.4**
NKC MLR MLR
comp=Z,600nm,12.9s
NKC Novy Kostel 83.71 322 *e*P **P** **18 31 34.4 +0.4**
NKC AMS AMS 19 13 30.0
comp=Z,600nm,12.9s
YKA Yellowknife Ar 83.75 23 P **P** **18 31 32.5 -1.4**
comp=Z,1.6nm,0.6s,baz=314,slow=4.9,SNR=37
YKA LR LR 19 11 58.4
comp=Z,123nm,18.2s,baz=296,slow=38
MOA Molln 83.79 320 *e*P **P** **18 31 34.7 +0.3**
comp=Z,7.7nm,0.7s
SOKA Soboth 83.87 318 *i* P **P** **18 31 35.3 +0.3**
comp=Z,5.1nm,0.7s,SNR=4.7
OBKA Obir 84.24 318 *e*P **P** **18 31 37.0 +0.1**
comp=Z,4.7nm,0.7s
KMBO Kilima Mbogo 85.03 267 P **P** **18 31 42.2 +0.6**
comp=Z,5.3nm,0.9s,baz=38,slow=6.3,SNR=8.6
KMBO LR LR 19 07 17.4
comp=Z,73nm,21.7s,baz=90,slow=34
KMBO Kilima Mbogo 85.03 267 P **P** **18 31 42.4 +0.8**
KMBO pmax pmax
comp=Z,17nm,1.3s
KMBO Kilima Mbogo 85.03 267 P **P** **18 31 42.4 +0.8**
KMBO IAmb IAmb 18 31 44.6
comp=Z,17nm,1.2s
KMBO Kilima Mbogo 85.03 267 *i* P **P** **18 31 43.5 +1.9**
SNR=6.7
VOI Vohitsoka 85.33 244 P P 18 31 55.3 +13
ABTA Abfaltersbach 85.36 319 *e*P **P** **18 31 41.5 -1.1**
comp=Z,4.6nm,0.9s
NUUG Nuugaatsiaq 85.37 358 *i* P P 18 31 36.4 -5.6
NUUG IAmb IAmb 18 31 39.8
comp=Z,7.8nm,0.9s
WATA Walderalm 85.63 320 *e*P **P** **18 31 43.5 -0.4**
comp=Z,0.1nm,0.1s
WTTA Wattenberg 85.63 320 *e*P **P** **18 31 43.8 -0.2**
MOTA Moosalm 85.91 320 *e*P **P** **18 31 44.6 -0.7**
comp=Z,3.3nm,0.7s
SQTA Sankt Quirin 85.91 320 *e*P **P** **18 31 44.9 -0.3**
comp=Z,1.7nm,0.3s
FETA Feichten 86.29 320 *e*P **P** **18 31 45.1 -2.2**
comp=Z,2.5nm,0.6s
SOEG Soedalen 86.61 350 *i* P **P** **18 31 46.5 -1.7**
SOEG IAmb IAmb 18 31 50.9
comp=Z,6.4nm,0.6s
DAVA Damuels 86.65 321 *e*P **P** **18 31 48.7 -0.3**
comp=Z,1.2nm,0.5s
ICESG Greenland Ices 86.88 353 *i* P **P** **18 31 48.2 -1.7**
ICESG IAmb IAmb 18 31 57.5
comp=Z,6.0nm,0.9s
DAVOX Davos/Dischmat 86.91 320 LR LR 19 16 00.8
comp=Z,158nm,18.2s,baz=76,slow=39
WLF Walferdange 87.48 324 *d*P **P** **18 31 53.3 +0.5**
comp=Z,7.2nm,1.1s
BORG Borgarnes 87.65 345 LR LR 19 14 22.4
comp=Z,200nm,20.1s,baz=49,slow=38
BMRD Maredsous 87.86 325 *d*P **P** **18 31 53.9 -0.6**
comp=Z,8.1nm,1.0s
DOU Dourbes 88.07 325 *d*P **P** **18 31 54.6 -0.9**
comp=Z,5.3nm,0.9s
EKA Eskdalemuir Ar 88.59 332 LR LR 19 15 50.8
comp=Z,603nm,19.9s,baz=43,slow=38
SENIN Lac Senin/Sane 88.64 321 P **P** **18 31 58.0 -0.7**
SENIN IAmb IAmb 18 31 59.3
comp=Z,5.9nm,0.9s
SFJD Kangerlussuaq 89.81 357 LR LR 19 14 31.6
comp=Z,88nm,18.7s,baz=356,slow=37
DY2G Dye2 90.05 355 *i* P **P** **18 32 03.2 -1.6**
DY2G IAmb IAmb 18 32 08.3
comp=Z,12nm,0.5s
MBAR Mbarara 90.81 270 LR LR 19 12 59.4
comp=Z,122nm,20.5s,baz=52,slow=36
FRB Frobisher Bay 92.93 4 LR LR 19 18 39.8
comp=Z,89nm,18.1s,baz=360,slow=38
KEST Kesra 92.99 311 LR LR 19 21 13.0
comp=Z,58nm,18.6s,baz=306,slow=40
PPT Papeete 95.94 106 LR LR 19 07 44.0
comp=Z,83nm,19.5s,baz=322,slow=30
PPT2 Papeete2 95.94 106 *e*LR LR 19 03 33.3
comp=Z,145nm,22.2s
NVAR Mina Array Bea 96.99 43 P **P** **18 32 37.5 +0.1**
comp=Z,0.7nm,0.9s,baz=92,slow=40,SNR=2.0
NVAR LR LR 19 13 58.7
comp=Z,58nm,20.9s,baz=272,slow=34
ELK Elko 97.42 40 LR LR 19 10 03.2

comp=Z,60nm,21.6s,baz=342,slow=31
TBI Tubuai 98.20 112 *e*LR LR 19 04 36.9
comp=Z,70nm,33.2s
LSZ Lusaka 98.75 257 LR LR 19 15 07.2
comp=Z,193nm,19.4s,baz=98,slow=34
ESDC Sonseca Array 99.25 320 LR LR 19 22 22.4
comp=Z,131nm,18.2s,baz=41,slow=38
ULM Lac du Bonnet 99.72 23 LR LR 19 21 52.6
comp=Z,113nm,19.1s,baz=65,slow=38
TAOE Nuku Hiva Isla 101.20 95 *e*LR LR 19 05 58.1
comp=Z,88nm,23.5s
TROLL Troll, Antarti 120.74 198 PKPdf **PKPdf 18 37 55.7 -0.8**
VNA2 Neumayer--Watz 124.07 198 PKPdf **PKPdf 18 38 01.8 -0.9**
VNA3 Neumayer Olymp 124.54 197 PKPdf **PKPdf 18 38 02.6 -1.1**
ZARC Zaragoza, Cauc 145.56 29 PKPdf **PKPdf 18 38 41.3 -3.0**
SDV Santo Domingo 145.96 22 PKPbc **PKPdf 18 38 44.1 -1.1**
comp=Z,20nm,0.7s,baz=28,slow=1.7,SNR=31
BAUV El Baul 146.69 17 PKPdf **PKPdf 18 38 44.2 -2.0**
PEXB Peixe 165.17 317 *e*P **PKPdf 18 39 15.7 +5.4**
LPAZ La Paz 168.69 54 PKP **PKPdf 18 39 13.8 +0.2**
comp=Z,2.2nm,0.8s,baz=40,slow=3.1,SNR=5.9
SIV San Ignacio 172.41 18 PKP **PKPdf 18 39 13.7 -1.2**
comp=Z,1.7nm,0.5s,baz=234,slow=2.2,SNR=7.5

TAP ***27*** *18:19:17.0,24.°21N×121.°76E,h12km,ML4.4,C*
ISC 27 18:19:16.1±1.5,24.°17N±0.°06×121.°82E±0.°08,h13km±10km, n16,σ0ş23/23,6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=354	**0.16**	**334**	*i* P	**Pg**	**18 19 19.9**	**+0.1**
EHP				*e*S	**Sg**	**18 19 22.3**	**-0.2**
ETL	**Fush Village** baz=248	**0.18**	**268**	*i* P	**Pg**	**18 19 20.5**	**+0.3**
ETL				*i* S	**Sg**	**18 19 23.3**	**+0.3**
NACB	**Ninganchiao**	**0.20**	**272**	Pg	**Pg**	**18 19 20.3**	**-0.3**
NACB	**Ninganchiao** baz=257	**0.20**	**272**	*e*P	**Pg**	**18 19 20.7**	**+0.1**
NACB				*e*S	**Sg**	**18 19 23.8**	**+0.1**
ENA	**Nanau** baz=357	**0.27**	**345**	⇓*i*P	**Pg**	**18 19 21.8**	**0.0**
ENA				*i* S	**Sg**	**18 19 25.4**	**-0.1**
EWUT	**Wuta** baz=4.0	**0.28**	**353**	⇓*i*P	**Pg**	**18 19 22.0**	**+0.1**
EWUT				*e*S	**Sg**	**18 19 25.6**	**-0.2**
TWC	**Suao** baz=13	**0.44**	**4**	*i* P	**Pg**	**18 19 25.1**	**+0.3**
TWC				*e*S	**Sg**	**18 19 30.9**	**+0.1**
LATG	**Datong** baz=327	**0.45**	**324**	*e*P	**Pg**	**18 19 25.2**	**+0.1**
NDS	**Dongshan** baz=355	**0.47**	**349**	⇓P	**Pg**	**18 19 25.8**	**+0.3**
NDS				*e*S	**Sg**	**18 19 31.9**	**+0.1**
NDT	**Datong Townshi** baz=330	**0.52**	**327**	⇓P	**Pg**	**18 19 26.5**	**+0.2**
ENTT	**Nioudou** baz=338	**0.52**	**334**	⇓P	**Pg**	**18 19 26.6**	**+0.2**
TWE	**Neicheng** baz=352	**0.57**	**346**	⇓*e*P	**Pb**	**18 19 27.6**	**-0.4**
ILA	**Ilan** baz=360	**0.60**	**354**	*e*P	**Pb**	**18 19 28.6**	**+0.1**
FUSB	**Fushanzhiwuyua** baz=344	**0.63**	**340**	*e*P	**Pb**	**18 19 28.7**	**-0.3**
YHNB	**Yeheng**	**0.64**	**321**	P	**Pb**	**18 19 29.3**	**0.0**
JMJ	**Miyako jima 2**	**3.23**	**78**	P	**Pn**	**18 20 06.5**	**-0.1**

TUL ***27*** *18:35:44.9±1.0,35.°73N±0.°02×97.°16W±0.°02,h5km±6km, ML2.9,mb_Lg2.3/14(NEIC),Error ellipse: s-maj=3.0km s-min=1.8km az=143.0*
NEIC 27 18:35:45.1±0.8,35.°75N±0.°02×97.°18W±0.°02,h9km±7km, Error ellipse: s-maj=3.4km s-min=1.5km az=134.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.40**	**214**	Pg	Pg	18 35 52.8	-0.2
OKCSW	**OKLAHOMA CITY**	**0.40**	**212**	Pg	Pg	18 35 52.4	-0.6
FNO	**Franklin**	**0.52**	**201**	Pg	Pg	18 35 54.8	-0.4
TUL1	**Leonard**	**1.14**	**81**		Pb	18 36 05.4	-1.6
X34A	**Smith Ranch, M**	**1.26**	**205**	Pg	Pn	18 36 08.3	-0.6
T35A	**Sooner Cattle**	**1.28**	**25**	Pn	Pn	18 36 08.8	-0.5
WMOK	**Wichita Mounta**	**1.66**	**233**	Pn	Pn	18 36 14.5	+0.1
X37A	**Clayton**	**1.88**	**127**		Pn	18 36 17.8	+0.5
HHAR	**Hobbs**	**2.68**	**78**		Pn	18 36 28.5	+0.1
R32A	**Long Quarter,**	**2.94**	**336**	Pn	Pn	18 36 32.4	+0.4
MIAR	**Mount Ida**	**3.19**	**111**	Pn	Pn	18 36 36.2	+0.8
X40A	**Basin Creek Fa** comp=Z,7.8nm,0.8s	**3.77**	**108**	IAmb_Lg		18 37 46.5	
AMTX	**Amarillo** comp=Z,8.4nm,0.9s	**3.78**	**258**	IAmb_Lg		18 37 48.8	
MGMO	**Mountain Grove** comp=Z,7.0nm,0.7s	**4.20**	**69**	IAmb_Lg		18 38 06.7	
P38A	**Dawn** comp=Z,4.6nm,0.8s	**4.83**	**36**	IAmb_Lg		18 38 17.6	
P40A	**Paris** comp=Z,7.9nm,0.8s	**5.55**	**46**	IAmb_Lg		18 38 44.0	
JCT	**Junction City** comp=Z,7.6nm,0.9s	**5.70**	**203**	IAmb_Lg		18 38 50.8	

TAP 27 18:36:43.5,24.°25N×121.°73E,h7km,ML1.5,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=13	**0.06**	**7**	*e*P	Pg	18 36 45.7	+0.4
ETL	**Fush Village** baz=228	**0.13**	**229**	P	Pg	18 36 47.1	+0.7
ETL				*e*S	Sg	18 36 50.0	+1.6
NACB	**Ninganchiao** baz=239	**0.15**	**240**	*e*P	Pg	18 36 47.3	+0.7
NACB				*e*S	Sg	18 36 50.3	+1.6
ENA	**Nanau** baz=4.0	**0.18**	**2**	*e*P	Pg	18 36 48.3	+1.1
ENA				*e*S	Sg	18 36 51.7	+2.1
EWUT	**Wuta** baz=11	**0.20**	**12**	P	Pg	18 36 48.5	+0.9
EWUT				S	Sg	18 36 52.0	+1.7
TWD	**Chiawan** baz=215	**0.21**	**217**	*e*P	Pg	18 36 48.0	+0.2
TWD				*e*S	Sg	18 36 51.3	+0.8
ETLH	**Xiulin Townshi** baz=259	**0.23**	**260**	*e*P	Pg	18 36 49.2	+1.0
ETLH				*e*S	Sg	18 36 53.4	+2.0
LATG	**Datong** baz=326	**0.34**	**327**	*e*P	Pb	18 36 51.9	-0.1
LATG				*e*S	Sb	18 36 57.2	-0.6
NNSB	**Datong** baz=299	**0.37**	**299**	*e*P	Pb	18 36 52.3	-0.2
NNSB				*e*S	Sb	18 36 57.7	-0.8
TWC	**Suao** baz=17	**0.38**	**16**	*e*P	Pb	18 36 52.3	-0.3
TWC				*e*S	Sb	18 36 57.3	-1.3
NDS	**Dongshan** baz=357	**0.38**	**358**	*e*P	Pb	18 36 52.4	-0.4
NDS				*e*S	Sb	18 36 57.9	-1.0
ENTT	**Nioudou** baz=339	**0.42**	**339**	*e*P	Pb	18 36 53.5	+0.2
ENTT				*e*S	Sb	18 36 60.0	+0.1
WHF	**Hehuan Shan** baz=256	**0.44**	**257**	*e*P	Pb	18 36 53.2	-0.7
WHF				*e*S	Sb	18 36 59.5	-1.4
TWE	**Neicheng** baz=354	**0.47**	**353**	*e*P	Pb	18 36 54.2	0.0
TWE				*e*S	Sb	18 37 01.4	-0.1
FUSB	**Fushanzhiwuyua** baz=345	**0.53**	**345**	*e*P	Pb	18 36 55.5	+0.3
FUSB				*e*S	Sb	18 37 03.0	-0.1
YHNB	**Yeheng** baz=322	**0.53**	**322**	*e*P	Pb	18 36 55.7	+0.4
YHNB				*e*S	Sb	18 37 03.2	0.0
CHGB	**Renai** baz=249	**0.54**	**250**	*e*P	Pb	18 36 55.3	-0.3
CHGB				*e*S	Sb	18 37 03.8	+0.2
NSK	**Sanguang** baz=321	**0.55**	**321**	*e*P	Pb	18 36 55.7	+0.2
NWLT	**Wulai** baz=338	**0.57**	**338**	*e*P	Pb	18 36 55.8	0.0
NWLT				*e*S	Sb	18 37 04.1	-0.1
WUSB	**Renai** baz=245	**0.62**	**246**	*e*P	Pb	18 36 56.4	-0.3
WUSB				*e*S	Sb	18 37 05.3	-0.4

JMA ***27*** *18:52:19.0±0.1,24.°10N×121.°63E,h23km±1km,M2.7*
TAP ***27*** *18:52:19.8,24.°23N×121.°76E,h9km,ML3.3,C*
ISC 27 18:52:19.1±0.9,24.°21N±0.°01×121.°81E±0.°02,h8km±6km, n151,σ1ş02/226,3C-24D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=354	**0.12**	**327**	⇓*i*P	**Pg**	**18 52 22.4**	**+0.7**
EHP				S	**Sg**	**18 52 24.4**	**+0.8**
ETL	**Fush Village** baz=241	**0.18**	**253**	⇑*i*P	**Pg**	**18 52 23.3**	**+0.5**
ETL				*i* S	**Sg**	**18 52 25.8**	**+0.5**
NACB	**Ninganchiao** baz=243	**0.20**	**259**	⇓*i*P	**Pg**	**18 52 23.5**	**+0.4**
NACB				*i* S	**Sg**	**18 52 26.0**	**0.0**
ENA	**Nanau** baz=357	**0.22**	**343**	*i* P	**Pg**	**18 52 23.5**	**-0.1**
EWUT	**Wuta** baz=5.0	**0.23**	**353**	⇓*i*P	**Pg**	**18 52 24.6**	**+0.8**
EWUT				*i* S	**Sg**	**18 52 28.1**	**+1.1**
TWD	**Chiawan** baz=231	**0.24**	**236**	⇑*i*P	**Pg**	**18 52 24.2**	**+0.4**
TWD				S	**Sg**	**18 52 27.3**	**+0.3**
ETLH	**Xiulin Townshi** baz=266	**0.30**	**269**	⇓*e*P	**Pg**	**18 52 25.3**	**+0.3**
ETLH				S	**Sg**	**18 52 29.1**	**0.0**
HWA	**Hwalien** baz=218	**0.30**	**219**	*e*P	**Pb**	**18 52 26.7**	**0.0**
ETM	**Tongmen** baz=228	**0.38**	**230**	*e*P	**Pg**	**18 52 26.9**	**+0.4**
TEYL	**Yanliau Villag** baz=216	**0.39**	**210**	*e*P	**Pb**	**18 52 28.4**	**+0.1**
TWC	**Suao** baz=6.0	**0.40**	**5**	⇓*i*P	**Pb**	**18 52 27.6**	**-0.7**
TWC				*i* S	**Sg**	**18 52 33.0**	**+0.9**
LATG	**Datong** baz=325	**0.41**	**321**	⇓*i*P	**Pg**	**18 52 27.6**	**+0.5**
LATG				*i* S	**Sg**	**18 52 33.0**	**+0.4**
NDS	**Dongshan** baz=354	**0.43**	**348**	⇓*i*P	**Pb**	**18 52 28.3**	**-0.7**
NDS				S	**Sg**	**18 52 34.4**	**+1.3**
NNSB	**Datong** baz=300	**0.45**	**299**	⇓*i*P	**Pg**	**18 52 28.2**	**+0.4**
NNSB				*i* S	**Sg**	**18 52 33.6**	**-0.1**
NNS	**Nan Shan** baz=301	**0.46**	**300**	⇓*i*P	**Pg**	**18 52 28.4**	**+0.4**
NNS				S	**Sg**	**18 52 34.2**	**+0.1**
NDT	**Datong Townshi** baz=329	**0.47**	**325**	⇓*e*P	**Pg**	**18 52 29.0**	**+0.7**
NDT				*e*S	**Sg**	**18 52 35.7**	**+1.2**
ENTT	**Nioudou** baz=337	**0.48**	**332**	⇓*i*P	**Pg**	**18 52 29.1**	**+0.7**
ENTT				S	**Sg**	**18 52 35.3**	**+0.6**
WHF	**Hehuan Shan** baz=260	**0.50**	**262**	⇓*i*P	**Pg**	**18 52 29.1**	**+0.2**
WHF				*i* S	**Sg**	**18 52 35.3**	**-0.3**
TWE	**Neicheng** baz=352	**0.52**	**345**	⇓*i*P	**Pb**	**18 52 30.1**	**-0.5**
TWE				*e*S	**Sg**	**18 52 36.7**	**+0.6**
ESL	**Shilin** baz=224	**0.53**	**221**	*e*P	**Pg**	**18 52 29.7**	**+0.5**
ESL				*e*S	**Sg**	**18 52 37.1**	**+1.0**
ILA	**Ilan** baz=360	**0.55**	**354**	*e*P	**Pb**	**18 52 30.8**	**-0.2**
ILA				S	**Sb**	**18 52 38.9**	**-0.3**
TEGC	**Jichi Village** baz=202	**0.56**	**206**	*e*P	**Pn**	**18 52 32.0**	**-1.3**
FUSB	**Fushanzhiwuyua** baz=343	**0.58**	**340**	⇓*i*P	**Pb**	**18 52 31.1**	**-0.4**
FUSB				S	**Sg**	**18 52 38.6**	**+0.6**
TWT	**Tachien** baz=273	**0.58**	**274**	*e*P	**Pg**	**18 52 31.4**	**+1.0**
TWT				*e*S	**Sg**	**18 52 37.6**	**-0.4**
TDCB	**Techi** baz=273	**0.60**	**274**	P	**Pg**	**18 52 31.4**	**+0.7**
TDCB				S	**Sg**	**18 52 38.1**	**-0.3**
CHGB	**Renai** baz=246	**0.60**	**256**	⇓*i*P	**Pg**	**18 52 31.2**	**+0.5**
CHGB				*i* S	**Sg**	**18 52 38.5**	**-0.2**
YHNB	**Yeheng** baz=321	**0.60**	**319**	⇓*i*P	**Pg**	**18 52 31.5**	**+0.8**
YHNB				S	**Sg**	**18 52 38.6**	**-0.1**
NSK	**Sanguang** baz=321	**0.62**	**318**	⇓*i*P	**Pg**	**18 52 31.7**	**+0.6**
NSK				*i* S	**Sg**	**18 52 39.6**	**+0.4**
NWLT	**Wulai** baz=337	**0.63**	**333**	⇓P	**Pb**	**18 52 32.0**	**-0.3**
NWLT				S	**Sg**	**18 52 40.0**	**+0.5**
OWD	**Renai** baz=244	**0.64**	**246**	*e*P	**Pg**	**18 52 31.8**	**+0.4**
OWD				*e*S	**Sg**	**18 52 39.6**	**0.0**
EGS		**0.64**	**10**	*e*P	**Pb**	**18 52 32.5**	**0.0**
NTC	**Toucheng** baz=6.0	**0.64**	**2**	⇓P	**Pb**	**18 52 32.2**	**-0.3**
NTC				*e*S	**Sb**	**18 52 41.0**	**-0.6**
EGFH	**Guangfu** baz=216	**0.65**	**213**	*e*P	**Pb**	**18 52 32.6**	**+0.1**
WUSB	**Renai** baz=241	**0.67**	**251**	⇓*i*P	**Pg**	**18 52 32.5**	**+0.5**
WUSB				S	**Sg**	**18 52 40.8**	**0.0**
TIPB	**Shuangxi** baz=4.0	**0.76**	**1**	⇓P	**Pb**	**18 52 34.5**	**-0.1**
TIPB				*e*S	**Sg**	**18 52 43.2**	**-0.3**
NFF	**Wufeng Townshi** baz=304	**0.76**	**304**	*e*P	**Pg**	**18 52 34.4**	**+0.7**
NFF				S	**Sg**	**18 52 43.8**	**+0.2**
VWDT	**VWDT** baz=231	**0.76**	**233**	*e*P	**Pg**	**18 52 34.2**	**+0.5**
VWDT				*e*S	**Sb**	**18 52 45.1**	**-0.1**
NHDH	**Xindian Distri** baz=344	**0.79**	**341**	*e*P	**Pb**	**18 52 35.1**	**0.0**
TWA	**Mucha** baz=348	**0.79**	**345**	P	**Pb**	**18 52 35.2**	**+0.1**
TWA				*e*S	**Sb**	**18 52 45.5**	**-0.5**
WHP	**Taichung City** baz=274	**0.79**	**275**	*e*P	**Pg**	**18 52 35.0**	**+0.6**
WHP				S	**Sg**	**18 52 45.0**	**+0.3**
HGSD	**Ruisui** baz=190	**0.80**	**206**	⇑*e*P	**Pn**	**18 52 35.9**	**-0.8**
HGSD				S	**Sn**	**18 52 48.2**	**-0.6**
WPL	**Puli Township** baz=244	**0.81**	**256**	*e*P	**Pb**	**18 52 35.0**	**-0.4**
WPL				*e*S	**Sg**	**18 52 44.8**	**-0.2**
TWB1	**Santiao Chiao** baz=8.0	**0.81**	**11**	*e*P	**Pn**	**18 52 36.2**	**-0.5**
TATO	**Taipei** baz=341	**0.81**	**339**	P	**Pg**	**18 52 35.6**	**+0.8**
TATO				S	**Sg**	**18 52 45.5**	**+0.1**
DPDB	**Guoxing** baz=257	**0.83**	**258**	*e*P	**Pg**	**18 52 35.8**	**+0.8**
EHY	**Hungye** baz=210	**0.83**	**213**	*e*P	**Pb**	**18 52 35.4**	**-0.5**
WCS	**Beigang Elemen** baz=259	**0.84**	**260**	*e*P	**Pb**	**18 52 35.8**	**-0.1**
NJD	**Zhudong** baz=317	**0.84**	**308**	*e*P	**Pn**	**18 52 37.1**	**-0.1**
LIOB	**Emei** baz=302	**0.84**	**301**	*e*P	**Pg**	**18 52 36.4**	**+1.1**
LIOB				*e*S	**Sb**	**18 52 46.9**	**-0.6**
NSTT	**Nanjuang** baz=300	**0.85**	**300**	*e*P	**Pg**	**18 52 36.3**	**+0.9**
NSTT				S	**Sb**	**18 52 46.5**	**-1.1**
NHY	**Taipei** baz=348	**0.85**	**345**	*e*P	**Pg**	**18 52 36.1**	**+0.6**
NHY				*e*S	**Sn**	**18 52 48.4**	**-1.7**
NWF	**Wu-fen Shan** baz=352	**0.85**	**358**	⇓P	**Pn**	**18 52 36.4**	**-1.1**
NWF				S	**Sb**	**18 52 46.7**	**-1.3**
WFSB	**Wu-fen Shan** baz=1.0	**0.85**	**358**	⇓*e*P	**Pn**	**18 52 36.7**	**-0.8**
TAP1	**Taipei** baz=344	**0.86**	**342**	*e*P	**Pn**	**18 52 36.9**	**-0.6**
TAP	**Taipei** baz=344	**0.87**	**341**	*e*P	**Pn**	**18 52 36.6**	**-1.0**
SXI1	**Grass Mountain** baz=353	**0.88**	**4**	*e*P	**Pn**	**18 52 37.1**	**-0.7**
SXI1				*e*S	**Sg**	**18 52 48.1**	**+0.6**
SSLB	**Suanglung** baz=240	**0.89**	**242**	*e*P	**Pb**	**18 52 36.3**	**-0.5**
SSLB				*e*S	**Sb**	**18 52 46.6**	**-2.3**
SMLT	**Sun Moon Lake** baz=238	**0.90**	**249**	*e*P	**Pb**	**18 52 36.9**	**0.0**
SMLT				*e*S	**Sb**	**18 52 48.2**	**-0.9**
NTY	**Taoyuan** baz=332	**0.91**	**329**	*e*P	**Pn**	**18 52 38.7**	**+0.5**
HSN1	**Hsinchu** baz=309	**0.92**	**308**	*e*P	**Pn**	**18 52 38.3**	**0.0**
TYC	**Yuchr** baz=240	**0.93**	**251**	*e*P	**Pb**	**18 52 36.9**	**-0.4**
TYC				*e*S	**Sb**	**18 52 47.7**	**-2.1**
TNOU	**National Taiwa** baz=1.0	**0.93**	**358**	*e*P	**Pn**	**18 52 38.1**	**-0.4**
YULB	**Yu-li** baz=220	**0.94**	**210**	*e*P	**Pb**	**18 52 36.8**	**-0.9**
NCUH	**Zhongli** baz=317	**0.94**	**323**	*e*P	**Pn**	**18 52 38.3**	**-0.3**
NCU	**National Centr** baz=325	**0.94**	**323**	*e*P	**Pn**	**18 52 39.0**	**+0.4**
NCU				*e*S	**Sn**	**18 52 52.5**	**+0.1**
SBCB	**Hsinchu** baz=308	**0.95**	**308**	*e*P	**Pn**	**18 52 39.8**	**+1.1**
ECBN	**Changbin** baz=185	**0.95**	**200**	*e*P	**Pn**	**18 52 38.1**	**-0.6**
TWS1	**Kuangyinshan** baz=340	**0.95**	**338**	*e*P	**Pn**	**18 52 38.7**	**-0.1**
TWS1				*e*S	**Sn**	**18 52 51.8**	**-0.8**
YM01	**YM01** baz=349	**0.96**	**347**	⇓P	**Pn**	**18 52 38.3**	**-0.5**
TWQ1	**Liyutan** baz=278	**0.96**	**278**	*e*P	**Pn**	**18 52 39.2**	**+0.4**
TWQ1				*e*S	**Sg**	**18 52 51.5**	**+1.6**
EYUL	**Yuli** baz=220	**0.97**	**208**	*e*P	**Pn**	**18 52 38.5**	**-0.5**
TWF1	**Yuli** baz=217	**0.98**	**209**	*e*P	**Pb**	**18 52 37.4**	**-0.8**
TWF1				*e*S	**Sn**	**18 52 52.3**	**-0.9**
NJN	**Zhunan** baz=292	**0.98**	**299**	*e*P	**Pn**	**18 52 40.4**	**+1.3**
NSY	**Sanyi** baz=282	**0.98**	**282**	*e*P	**Pn**	**18 52 39.5**	**+0.3**
NSY				*e*S	**Sb**	**18 52 50.7**	**-0.8**
NMLH	**Miaoli** baz=290	**0.98**	**289**	*e*P	**Pn**	**18 52 40.0**	**+0.8**
YM08	**YM08** baz=351	**0.99**	**348**	*e*P	**Pn**	**18 52 39.0**	**-0.3**
NTST	**Danshui** baz=343	**1.00**	**341**	*e*P	**Pn**	**18 52 39.6**	**+0.2**
ANP	**Anpu** baz=347	**1.01**	**345**	*e*P	**Pn**	**18 52 39.2**	**-0.4**
WWF	**Wufeng** baz=256	**1.03**	**261**	*e*P	**Pg**	**18 52 41.1**	**+2.2**
TCU	**Taichung** baz=266	**1.04**	**267**	*e*P	**Pg**	**18 52 41.6**	**+2.6**
NHW	**Xinwu Township** baz=320	**1.05**	**319**	*e*P	**Pg**	**18 52 40.2**	**+0.9**
NHW				*e*S	**Sn**	**18 52 56.1**	**+1.1**
JYNG	**Yonagunijimaku**	**1.06**	**77**	P	**Pg**	**18 52 41.4**	**+1.9**
JYNG				*e*S	**Sn**	**18 52 57.5**	**+2.3**
WJS	**Zhushan** baz=241	**1.06**	**249**	*e*P	**Pg**	**18 52 41.1**	**+1.6**
YUS	**Yu-Shan** baz=226	**1.07**	**228**	P	**Pn**	**18 52 40.3**	**-0.4**
YUS				*e*S	**Sg**	**18 52 54.8**	**+1.3**
TWY	**Chenhua** baz=352	**1.08**	**350**	*e*P	**Pg**	**18 52 41.6**	**+1.9**
WDJ	**Dajia District** baz=278	**1.08**	**277**	*e*P	**Pg**	**18 52 41.3**	**+1.5**
WNT1	**Nantou City** baz=253	**1.08**	**254**	*e*P	**Pg**	**18 52 41.8**	**+2.0**
WNT	**Mingjian** baz=243	**1.08**	**252**	*e*P	**Pg**	**18 52 41.3**	**+1.4**
FULB	**Fuli** baz=219	**1.11**	**205**	*e*P	**Pn**	**18 52 40.6**	**-0.4**
YOJ	**Yonaguni jima**	**1.12**	**77**	P	**Pg**	**18 52 42.3**	**+1.7**
YOJ				S	**Sn**	**18 52 59.4**	**+2.7**
YOJ	**Yonaguni jima** baz=71	**1.12**	**77**	P	**Pg**	**18 52 42.3**	**+1.7**
YOJ				*e*S	**Sn**	**18 52 58.7**	**+2.0**
WCHH	**Zhanghua** baz=264	**1.15**	**264**	*e*P	**Pg**	**18 52 42.5**	**+1.3**
ALS	**Alishan** baz=219	**1.16**	**233**	*e*P	**Pg**	**18 52 41.8**	**+0.5**
CHKT	**Chengkung** baz=189	**1.18**	**200**	*e*P	**Pn**	**18 52 40.6**	**-1.3**
CHN5	**Tsauling** baz=239	**1.21**	**240**	*e*P	**Pg**	**18 52 43.2**	**+1.0**
CHN5				*e*S	**Sg**	**18 53 00.5**	**+2.6**
ECS	**Chishang** baz=219	**1.24**	**206**	*e*P	**Pb**	**18 52 42.7**	**0.0**
ELDTW	**Lidau** baz=224	**1.25**	**216**	*e*P	**Pn**	**18 52 42.2**	**-0.8**
ELDTW				*e*S	**Sg**	**18 53 01.0**	**+1.6**
WGK	**Gukeng** baz=246	**1.26**	**246**	*e*P	**Pg**	**18 52 44.1**	**+0.9**
WDLH	**Douliu** baz=246	**1.28**	**246**	*e*P	**Pg**	**18 52 45.5**	**+1.9**

EDH	**Donghe**	**1.32**	**201**	*e*P		**Pn**	**18 52 43.1**	**-0.7**
	baz=200								
EDH				*e*S		**Sg**	**18 53 02.1**	**+0.6**
	baz=200								
WRL	**Guolierlin Hig**	**1.35**	**257**	*e*P		**Pg**	**18 52 46.2**	**+1.3**
	baz=257								
CHN2	**Minshiung**	**1.40**	**241**	*e*P		**Pg**	**18 52 47.6**	**+1.7**
	baz=241								
CHN2				*e*S		**Sg**	**18 53 07.3**	**+3.3**
	baz=241								
WTK	**Tuku**	**1.40**	**248**	*e*P		**Pg**	**18 52 46.8**	**+0.8**
	baz=235								
STYH	**Taoyuan**	**1.41**	**223**	*e*P		**Pb**	**18 52 45.0**	**-0.6**
	baz=222								
STYH				*e*S		**Sg**	**18 53 05.7**	**+1.4**
	baz=222								
CHN4	**Tsaushan**	**1.41**	**233**	*e*P		**Pg**	**18 52 46.7**	**+0.7**
	baz=233								
CHN4				*e*S		**Sg**	**18 53 07.1**	**+2.8**
	baz=233								
TPUB	**Ta-pu**	**1.41**	**230**	*e*P		**Pg**	**18 52 46.5**	**+0.3**
	baz=218								
TPUB				S		**Sg**	**18 53 05.9**	**+1.4**
	baz=218								
STYT	**Tauyuan**	**1.42**	**223**	*e*P		**Pb**	**18 52 46.0**	**+0.1**
	baz=223								
CHY	**Chiayi**	**1.46**	**241**	*e*P		**Pg**	**18 52 47.6**	**+0.6**
	baz=241								
WTP	**Ta-pu**	**1.46**	**229**	*e*P		**Pg**	**18 52 47.2**	**+0.2**
	baz=229								
WTP				*e*S		**Sg**	**18 53 07.7**	**+1.7**
	baz=229								
TWK	**Hsinying**	**1.54**	**232**	*e*P		**Pg**	**18 52 49.0**	**+0.5**
	baz=233								
TWK				*e*S		**Sg**	**18 53 10.4**	**+2.0**
	baz=233								
TWG	**Pinlang**	**1.54**	**206**	*e*P		**Pn**	**18 52 45.4**	**-1.5**
	baz=206								
TWGBT	**Beinan**	**1.54**	**206**	*e*P		**Pb**	**18 52 47.2**	**-0.7**
	baz=206								
SNST	**Tainan City**	**1.56**	**231**	*e*P		**Pg**	**18 52 49.6**	**+0.6**
	baz=232								
SNST				*e*S		**Sg**	**18 53 10.8**	**+1.6**
	baz=232								
CHN1	**Nanshi**	**1.56**	**229**	*e*P		**Pg**	**18 52 49.0**	**0.0**
	baz=230								
CHN1				*e*S		**Sg**	**18 53 11.1**	**+1.8**
	baz=230								
WSF	**Szhu**	**1.56**	**249**	*e*P		**Pg**	**18 52 49.4**	**+0.3**
	baz=260								
WSF				*e*S		**Sg**	**18 53 10.4**	**+1.1**
	baz=260								
LDUT	**Ludao**	**1.56**	**192**	*e*P		**Pn**	**18 52 45.3**	**-1.9**
	baz=177								
SGST	**Jiashian**	**1.59**	**225**	*e*P		**Pb**	**18 52 49.1**	**+0.4**
	baz=226								
WSL	**Shuilin Townsh**	**1.60**	**245**	*e*P		**Pg**	**18 52 49.9**	**+0.1**
	baz=245								
SLGT	**Liugui**	**1.62**	**222**	*e*P		**Pg**	**18 52 50.4**	**+0.4**
	baz=223								
ICHU	**Yijhu**	**1.64**	**239**	*e*P		**Pb**	**18 52 50.2**	**+0.6**
	baz=240								
CHN8	**Yiju**	**1.70**	**240**	*e*P		**Pb**	**18 52 50.9**	**+0.3**
	baz=240								
CHN8				*e*S		**Sg**	**18 53 14.7**	**+0.9**
	baz=240								
IRIF	**Iriomote-Funau**	**1.75**	**86**	P		**Pb**	**18 52 51.3**	**-0.2**
IRIF				*e*S		**Sg**	**18 53 14.4**	**-1.1**
ECL	**Taimali**	**1.79**	**206**	*e*P		**Pn**	**18 52 50.1**	**-0.2**
	baz=192								
SCST	**Cishan**	**1.79**	**223**	*e*P		**Pb**	**18 52 52.8**	**+0.7**
	baz=225								
SHHT	**Tainan City**	**1.79**	**229**	*e*P		**Pg**	**18 52 53.7**	**+0.3**
	baz=231								
SSD	**Sandimen**	**1.82**	**217**	*e*P		**Pb**	**18 52 52.2**	**-0.4**
	baz=230								
SSD				*e*S		**Sg**	**18 53 17.9**	**+0.4**
	baz=230								
HATJ	**Hateruma jima**	**1.83**	**94**	*e*S		**Sb**	**18 53 14.5**	**-1.3**
TSMG	**Majia**	**1.84**	**216**	*e*P		**Pb**	**18 52 53.2**	**+0.1**
	baz=230								
TWM1	**Shoushan**	**1.88**	**223**	*e*P		**Pb**	**18 52 53.6**	**-0.1**
	baz=223								
MASBT	**Mashibuluo**	**1.93**	**214**	*e*P		**Pb**	**18 52 54.1**	**-0.3**
	baz=216								
MASBT				*e*S		**Sb**	**18 53 19.1**	**+0.5**
	baz=216								
JKRS	**Kuro-shima**	**2.01**	**89**	P		**Pb**	**18 52 55.3**	**-0.5**
EAST	**Anshuo**	**2.02**	**206**	*e*P		**Pb**	**18 52 54.5**	**-1.6**
	baz=194								
TAWH	**Dawu Township**	**2.05**	**205**	*e*P		**Pb**	**18 52 55.2**	**-1.3**
	baz=193								
SSPT	**Xinbi**	**2.06**	**214**	*e*P		**Pb**	**18 52 56.6**	**-0.2**
	baz=198								
JIJ	**Ishigaki jima**	**2.13**	**85**	P		**Pb**	**18 52 56.0**	**-2.0**
JIJ				*e*S		**Sb**	**18 53 23.3**	**-1.3**
SCZT	**Fangliau**	**2.13**	**211**	*e*P		**Pb**	**18 52 57.2**	**-0.8**
	baz=213								
SCZT				*e*S		**Sb**	**18 53 25.5**	**+0.8**
	baz=213								
PNG	**Penghu**	**2.16**	**253**	*e*P		**Pn**	**18 52 56.4**	**+1.0**
	baz=255								
PNG				*e*S		**Sb**	**18 53 24.6**	**-0.8**
	baz=255								
PHUB	**P'eng-hu**	**2.17**	**252**	*e*P		**Pb**	**18 52 57.1**	**-1.4**
	baz=253								
PHUB				*e*S		**Sb**	**18 53 24.0**	**-1.5**
	baz=253								
WDGT	**Dungji**	**2.19**	**245**	*e*P		**Pb**	**18 52 57.3**	**-1.6**
	baz=247								
SLIU	**Shizi**	**2.19**	**205**	*e*P		**Pb**	**18 52 58.2**	**-0.8**
	baz=195								
LYUB	**Lan-yu**	**2.21**	**185**	*e*P		**Pn**	**18 52 55.8**	**-0.2**
	baz=187								
VWUC	**VWUC**	**2.29**	**290**	*e*P		**Pn**	**18 52 57.1**	**0.0**
	baz=277								
JISG	**Ishigakijimahi**	**2.31**	**80**	P		**Pb**	**18 52 59.3**	**-1.7**
JISG				*e*S		**Sb**	**18 53 27.7**	**-2.0**
VCHM	**Qimei**	**2.40**	**246**	*e*P		**Pb**	**18 53 00.8**	**-1.7**
	baz=233								
MATB	**Ma-tsu**	**2.57**	**319**	*e*P		**Pn**	**18 53 01.3**	**+0.3**
	baz=318								
LYJJ	**Jianjiangzhen**	**2.98**	**322**	*e*P		**Pn**	**18 53 07.2**	**+0.6**
	baz=322								
XPSS	**Dashiqiu**	**3.08**	**332**	*e*P		**Pn**	**18 53 08.5**	**+0.5**
	baz=332								
KNMB	**Chin-men Tao**	**3.13**	**275**	*e*P		**Pn**	**18 53 08.7**	**0.0**
	baz=276								
MHZQ	**Yeshan**	**3.14**	**307**	*e*P		**Pb**	**18 53 12.4**	**-2.8**
	baz=306								
AXDP	**Jialang**	**3.56**	**282**	*e*P		**Pn**	**18 53 15.0**	**+0.3**
	baz=281								
AXDP				*e*S		**Sn**	**18 53 56.2**	**-0.8**
	baz=281								
ZPLA	**Ao Xicun**	**3.72**	**266**	*e*P		**Pn**	**18 53 17.3**	**+0.4**
	baz=266								

DRS **27** *18:53:10.8±0.0, 43.01N×44.04E, h21km*
MOS **27** *18:53:11.9±0.0, 42.79N×44.48E, h14km, MPVA4.3*
NORS **27** *18:53:11.1±0.0, 42.72N×44.51E, h10km, MPVA4.2*
TIF **27** *18:53:12.2, 42.80N×44.54E, h2km*
IDC **27** *18:53:12.2±0.8, 42.86N×44.44E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/41, mbtmp3.6/6, ML2.8/2, MS3.8/1, Ms1 3.8/1, ms1mx2.6/67, Error ellipse: s-maj=13.8km s-min=8.2km az=51.0*
AZER **27** *18:53:13.4±0.8, 42.77N×43.89E, h40km±999km, Error ellipse: s-maj=23.2km s-min=10.9km az=3.0*

ISC 27 18:53:13.9±0.9, **42.80N**±0.01×**44.50E**±0.01, **h4**km±7km, **n180**, σ=**46**/303, **mb3.5**/4, **5C, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID	Time h m s	Res ISC
MTEO	**Meteo**	**0.12**	**169**	**Pg**	**18 53 15.3**	**-1.2**
MTEO				**Sg**	**18 53 18.3**	**+0.1**
LACR	**Lac**	**0.15**	**280**	**Pg**	**18 53 16.4**	**-0.6**
LACR				**Sg**	**18 53 21.8**	**+2.8**
LACR	**Lac**	**0.15**	**280**	**Pg**	**18 53 16.0**	**-1.0**
LACR				**Sg**	**18 53 20.4**	**+1.4**
VLKR	**Vladikavkaz**	**0.28**	**28**	**Pg**	**18 53 18.8**	**-0.5**
VLKR				**Sg**	**18 53 24.5**	**+1.6**
VLKR	**Vladikavkaz**	**0.28**	**28**	**Pg**	**18 53 18.4**	**-0.9**
VLKR				**Sg**	**18 53 24.2**	**+1.2**
GUDG	**Gudauri**	**0.34**	**183**	**Pg**	**18 53 19.9**	**-0.5**
GUDG				**Sg**	**18 53 25.4**	**+0.5**
GUDG	**Gudauri**	**0.34**	**183**	**Pg**	**18 53 19.9**	**-0.5**
GUDG				**Sg**	**18 53 25.4**	**+0.5**
GUDG	**Gudauri**	**0.34**	**183**	**Pg**	**18 53 19.9**	**-0.5**
GUDG				**Sg**	**18 53 25.4**	**+0.5**
KMGR	**Komgaron**	**0.37**	**46**	**Pg**	**18 53 20.4**	**-0.6**
KMGR				**Sg**	**18 53 28.2**	**+2.3**
KMGR	**Komgaron**	**0.37**	**46**	**Pg**	**18 53 19.7**	**-1.4**
KMGR				**Sg**	**18 53 27.1**	**+1.2**
ARNR	**Ardon**	**0.41**	**337**	**Pg**	**18 53 21.8**	**0.0**
ARNR				**Sb**	**18 53 31.0**	**+0.7**
ARNR	**Ardon**	**0.41**	**337**	**Pg**	**18 53 21.8**	**0.0**
ARNR				**Sb**	**18 53 29.6**	**-0.7**
KORR	**Kora**	**0.43**	**312**	**Pg**	**18 53 22.9**	**+0.8**
KORR				**Sb**	**18 53 31.6**	**+0.8**
KORR	**Kora**	**0.43**	**312**	**Pg**	**18 53 22.5**	**+0.4**
KORR				**Sb**	**18 53 31.6**	**+0.8**
ZEI	**Tsey**	**0.44**	**269**	**Pg**	**18 53 21.4**	**-1.0**
ZEI				**Sg**	**18 53 29.3**	**+1.1**
ZEI	**Tsey**	**0.44**	**269**	**Pg**	**18 53 21.2**	**-1.3**
ZEI				**Sg**	**18 53 29.3**	**+1.1**
BTKR	**Batakoyurt**	**0.57**	**3**	**Pb**	**18 53 26.4**	**-0.1**
BTKR				**Sn**	**18 53 38.0**	**-0.7**
BTKR	**Batakoyurt**	**0.57**	**3**	**Pb**	**18 53 26.4**	**-0.1**
STDR	**Stavd-Durt**	**0.65**	**331**	**Pb**	**18 53 28.3**	**+0.5**
STDR				**Sn**	**18 53 42.5**	**+1.9**
STDR	**Stavd-Durt**	**0.65**	**331**	**Pg**	**18 53 27.1**	**+0.7**
STDR				**Sb**	**18 53 38.7**	**+1.5**
DIGR	**Digorskoe uzhe**	**0.69**	**279**	**Pg**	**18 53 25.9**	**-1.1**
DIGR				**Sg**	**18 53 36.6**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.69**	**279**	**Pg**	**18 53 25.6**	**-1.4**
DIGR				**Sg**	**18 53 35.7**	**-0.2**
LSNR	**Lesken**	**0.69**	**314**	**Pg**	**18 53 27.2**	**+0.1**
LSNR				**Sb**	**18 53 37.3**	**+1.3**
LSNR	**Lesken**	**0.69**	**314**	**Pg**	**18 53 27.2**	**+0.1**
LSNR				**Sg**	**18 53 37.3**	**+1.3**
ONI	**Oni**	**0.80**	**255**	**Pg**	**18 53 28.3**	**-0.9**
ONI				**Sg**	**18 53 40.7**	**+1.1**
ONI	**Oni**	**0.80**	**255**	**Pg**	**18 53 28.5**	**-0.8**
ONI				**Sg**	**18 53 40.8**	**+1.1**
ONI	**Oni**	**0.80**	**255**	**Pg**	**18 53 28.3**	**-0.9**
ONI				**Sg**	**18 53 40.9**	**+1.1**
TRKR	**Terskaya**	**0.94**	**10**	**Pg**	**18 53 32.7**	**+0.9**
TRKR				**Sb**	**18 53 47.4**	**+2.0**
TRKR	**Terskaya**	**0.94**	**10**	**Pg**	**18 53 32.3**	**+0.5**
TRKR				**Sg**	**18 53 45.4**	**+1.4**
NCK	**Nalchik**	**0.96**	**317**	**Pg**	**18 53 32.5**	**+0.2**
NCK				**Sn**	**18 53 49.5**	**+1.2**
NCK	**Nalchik**	**0.96**	**317**	**Pg**	**18 53 31.7**	**-0.6**
NCK				**Sg**	**18 53 45.8**	**+1.0**
PRTR	**Priterechnaya**	**0.96**	**350**	**Pg**	**18 53 33.1**	**+0.7**
PRTR				**Sn**	**18 53 48.7**	**+0.4**
PRTR	**Priterechnaya**	**0.96**	**350**	**Pg**	**18 53 32.7**	**+0.4**
GROC	**Groznyy**	**1.03**	**67**	**Pg**	**18 53 33.2**	**-0.4**
GROC				**Sb**	**18 53 49.0**	**+0.9**
GROC	**Groznyy**	**1.03**	**67**	**Pg**	**18 53 33.2**	**-0.4**
GROC				**Sb**	**18 53 49.0**	**+0.9**
SEAG	**Tbilisi Sea**	**1.06**	**168**	**Pb**	**18 53 35.1**	**+0.4**
SEAG	**Tbilisi Sea**	**1.06**	**168**	**Pb**	**18 53 35.1**	**+0.4**
SEAG	**Tbilisi Sea**	**1.06**	**168**	**Pb**	**18 53 35.1**	**+0.4**
BTNK	**Botanikuri**	**1.14**	**169**	Pg	18 53 30.3	-5.4
BTNK	**Botanikuri**	**1.14**	**169**	Pg	18 53 30.3	-5.4
TKB	**Tkibuli**	**1.20**	**249**	**Pg**	**18 53 36.4**	**-0.5**
TKB				**Sn**	**18 53 55.0**	**+0.8**
TKB	**Tkibuli**	**1.20**	**249**	**Pg**	**18 53 36.4**	**-0.5**
TKB				**Sn**	**18 53 54.9**	**+0.8**
TKB	**Tkibuli**	**1.20**	**249**	**Pg**	**18 53 36.4**	**-0.5**
DVE	**Vedeno**	**1.20**	**82**	**Pg**	**18 53 35.6**	**-1.3**
DVE				**Sn**	**18 53 54.6**	**+0.5**
DVE	**Vedeno**	**1.20**	**82**	**Pg**	**18 53 35.6**	**-1.3**
DVE				**Sn**	**18 53 54.8**	**+0.5**
BKRG	**Bakuriani**	**1.27**	**215**	**Pg**	**18 53 37.8**	**-0.4**
BKRG	**Bakuriani**	**1.27**	**215**	**Pg**	**18 53 37.8**	**-0.4**
BKRG	**Bakuriani**	**1.27**	**215**	**Pg**	**18 53 37.8**	**-0.4**
BTLR	**Botlikh**	**1.27**	**96**	*c i*PG	**Pg**	**18 53 36.5**	**-1.8**
BTLR				**Sg**	**18 53 54.9**	**+0.1**
BTLR				pmax	pmax	
	comp=Z,265nm,0.9s					
BTLR				smax	smax	
	comp=Z,387nm,0.9s					
BTLR	**Botlikh**	**1.27**	**96**	*e*Pg	**Pg**	**18 53 37.2**	**-1.0**
	comp=Z,200nm,0.6s					
BTLR				*e*Sg	**Sn**	**18 53 57.5**	**+1.5**
	comp=Z,2μm,0.5s					
BRNG	**Burnasheti**	**1.28**	**203**	P	**Pg**	**18 53 38.9**	**+0.5**
BRNG				S	**Sb**	**18 53 56.3**	**+0.9**
TRLG	**Trialeti**	**1.29**	**193**	P	**Pg**	**18 53 38.4**	**-0.3**
TRLG	**Trialeti**	**1.29**	**193**	PG	**Pg**	**18 53 38.4**	**-0.3**
TRLG	**Trialeti**	**1.29**	**193**	*e*Pg	**Pg**	**18 53 38.4**	**-0.3**
NEY	**Neytrino**	**1.38**	**290**	*e*PG	**Pg**	**18 53 39.1**	**-1.2**
NEY				*e*S	**Sg**	**18 53 58.9**	**+0.7**
NEY	**Neytrino**	**1.38**	**290**	*e*Pg	**Pg**	**18 53 39.1**	**-1.2**
NEY				*e*Sg	**Sg**	**18 53 58.9**	**+0.7**
KZRT	**Kazreti**	**1.42**	**183**	P	**Pn**	**18 53 39.7**	**-0.7**
KZRT	**Kazreti**	**1.42**	**183**	PG	**Pn**	**18 53 39.7**	**-0.7**
KZRT	**Kazreti**	**1.42**	**183**	*e*Pg	**Pn**	**18 53 39.7**	**-0.7**
DMNI	**Dmanisi**	**1.49**	**189**	P	**Pn**	**18 53 41.6**	**+0.1**
DMNI	**Dmanisi**	**1.49**	**189**	PG	**Pn**	**18 53 41.6**	**+0.1**
KBZ	**Khabaz**	**1.50**	**309**	Pg	**Pn**	**18 53 40.7**	**-0.8**
	comp=Z,24nm,0.3s,baz=124,slow=9.0,SNR=264					
KBZ				Lg	Lg	18 53 59.5	
	comp=Z,12nm,0.3s,baz=340,slow=14,SNR=15					
KBZ	**Khabaz**	**1.50**	**309**	*e*Pg	**Pn**	**18 53 40.6**	**-0.8**
KBZ				*e*Sg	**Sb**	**18 54 02.3**	**+0.8**
DGRG	**David-gareji**	**1.50**	**154**	P	**Pn**	**18 53 41.7**	**+0.2**
DGRG				S	**Sn**	**18 54 02.4**	**+1.0**
DGRG	**David-gareji**	**1.50**	**154**	PG	**Pn**	**18 53 41.7**	**+0.2**
DGRG				S	**Sn**	**18 54 02.4**	**+1.0**
DGRG	**David-gareji**	**1.50**	**154**	*e*Pg	**Pn**	**18 53 41.7**	**+0.2**
DGRG				*e*Sg	**Sn**	**18 54 02.4**	**+1.0**
AKH	**Akhalkalaki**	**1.58**	**209**	P	**Pn**	**18 53 43.1**	**+0.4**
AKH				S	**Sg**	**18 54 06.2**	**+1.6**
AKH	**Akhalkalaki**	**1.58**	**209**	PN	**Pn**	**18 53 43.1**	**+0.4**
AKH				S	**Sg**	**18 54 06.2**	**+1.6**
AKH	**Akhalkalaki**	**1.58**	**209**	*e*Pg	**Pn**	**18 53 43.1**	**+0.4**
AKH				*e*Sg	**Sg**	**18 54 06.2**	**+1.6**
DLMR	**Dylym**	**1.58**	**80**	*e*PG	**Pn**	**18 53 41.9**	**-0.8**
DLMR				*e*S	**Sg**	**18 54 06.1**	**+1.3**
DLMR	**Dylym**	**1.58**	**80**	*e*Pg	**Pn**	**18 53 41.9**	**-0.8**
	comp=Z,504nm,0.4s					
DLMR				*e*Sg	**Sg**	**18 54 06.1**	**+1.3**
	comp=Z,210nm,0.5s					
LGD	**Lagodekhi**	**1.61**	**126**	P	**Pn**	**18 53 42.6**	**-0.4**
LGD	**Lagodekhi**	**1.61**	**126**	PN	**Pn**	**18 53 42.6**	**-0.4**
LGD	**Lagodekhi**	**1.61**	**126**	*e*Pg	**Pn**	**18 53 42.6**	**-0.4**
PYA1	**Pyatigorsk**	**1.62**	**321**	*e*PG	**Pn**	**18 53 42.0**	**-1.3**
PYA1				*e*S	**Sn**	**18 54 05.0**	**+0.3**
PYA1	**Pyatigorsk**	**1.62**	**321**	*e*Pg	**Pn**	**18 53 42.0**	**-1.3**
PYA1				*e*Sg	**Sn**	**18 54 05.0**	**+0.3**
ABS	**Abastumani**	**1.63**	**231**	P	**Pn**	**18 53 43.9**	**+0.4**
ABS	**Abastumani**	**1.63**	**231**	PN	**Pn**	**18 53 43.9**	**+0.4**
SHA1	**Shidzhatmaz**	**1.64**	**305**	*e*PN	**Pn**	**18 53 43.4**	**-0.3**
SHA1				*e*S	**Sg**	**18 54 07.5**	**+0.9**
SHA1	**Shidzhatmaz**	**1.64**	**305**	*e*Pg	**Pn**	**18 53 43.4**	**-0.3**
SHA1				*e*Sg	**Sg**	**18 54 07.5**	**+0.9**
XNZR	**Khunzakh**	**1.65**	**98**	*e*PN	**Pn**	**18 53 43.8**	**+0.1**
XNZR				*e*S	**Sg**	**18 54 07.3**	**+0.6**
XNZR	**Khunzakh**	**1.65**	**98**	*e*Pg	**Pn**	**18 53 43.4**	**-0.3**
	comp=Z,144nm,0.5s					
XNZR				*e*Sg	**Sg**	**18 54 08.2**	**+1.5**
	comp=Z,711nm,0.6s					
UNCR	**Uncukul**	**1.69**	**92**	*e*PN	**Pn**	**18 53 43.4**	**-0.7**
UNCR				*e*S	**Sg**	**18 54 09.6**	**+1.4**
UNCR				pmax	pmax	
	comp=Z,345nm,0.5s					
UNCR				smax	smax	
	comp=N,786nm,0.7s					
UNCR	**Uncukul**	**1.69**	**92**	*e*Pg	**Pn**	**18 53 43.5**	**-0.7**
	comp=N,344nm,0.5s					
UNCR				*e*Sg	**Sg**	**18 54 08.8**	**+0.6**
	comp=N,331nm,0.6s					
UNCR	**Uncukul**	**1.69**	**92**	*e*Pg	**Pn**	**18 53 43.2**	**-0.9**
UNCR				*e*Sg	**Sg**	**18 54 08.8**	**+0.6**
DBC	**Dubki**	**1.72**	**82**	*e*PN	**Pn**	**18 53 43.7**	**-0.9**
DBC				*e*S	**Sg**	**18 54 11.2**	**+2.0**
DBC				pmax	pmax	
	comp=Z,99nm,0.6s					
DBC				smax	smax	
	comp=N,275nm,0.6s					
DBC	**Dubki**	**1.72**	**82**	*e*Pg	**Pn**	**18 53 43.8**	**-0.9**
	comp=N,98nm,0.6s					
DBC				*e*Sg	**Sg**	**18 54 10.0**	**+0.8**
	comp=N,272nm,0.6s					
BEYR	**Belyy Ugol+**	**1.73**	**315**	*e*PN	**Pn**	**18 53 44.0**	**-0.6**
BEYR				*e*S	**Sn**	**18 54 08.5**	**+1.4**
BEYR	**Belyy Ugol+**	**1.73**	**315**	*e*Pg	**Pn**	**18 53 44.0**	**-0.6**
BEYR				*e*Sg	**Sn**	**18 54 08.5**	**+1.4**
KVAR	**Kislovodsk Arr**	**1.75**	**312**	Pn	**Pn**	**18 53 44.2**	**-0.9**
	baz=287,slow=24,SNR=17							
KVAR				Lg	Lg	18 54 06.3	
	baz=289,slow=22,SNR=6.5							
KIV	**Kislovodsk**	**1.76**	**312**	*e*PN	**Pn**	**18 53 45.1**	**-0.1**
KIV				*e*S	**Sb**	**18 54 10.4**	**+1.3**
KIV	**Kislovodsk**	**1.76**	**312**	*e*Pg	**Pn**	**18 53 45.1**	**-0.1**
KIV				*e*Sg	**Sb**	**18 54 10.4**	**+1.3**
KRNR	**Karanay**	**1.77**	**88**	*e*PN	**Pn**	**18 53 44.3**	**-1.0**
KRNR				*e*S	**Sg**	**18 54 11.5**	**+0.8**
KRNR				pmax	pmax	
	comp=Z,258nm,0.5s					
KRNR				smax	smax	
	comp=N,283nm,0.6s					
KRNR	**Karanay**	**1.77**	**88**	*e*Pg	**Pn**	**18 53 44.4**	**-1.0**
	comp=N,257nm,0.5s					
KRNR				*e*Sg	**Sb**	**18 54 10.7**	**+1.2**
	comp=N,224nm,0.6s					
CHVG	**Ch'k'valeri**	**1.78**	**268**	P	**Pg**	**18 53 48.2**	**+0.2**
CHVG	**Ch'k'valeri**	**1.78**	**268**	PN	**Pg**	**18 53 48.2**	**+0.2**
DDFL	**Dedoflistskaro**	**1.81**	**138**	P	**Pg**	**18 53 48.9**	**+0.4**
DDFL				S	**Sg**	**18 54 19.5**	**+7.5**
DDFL	**Dedoflistskaro**	**1.81**	**138**	PN	**Pg**	**18 53 48.9**	**+0.4**
DDFL				S	**Sg**	**18 54 19.5**	**+7.5**
DDFL	**Dedoflistskaro**	**1.81**	**138**	*e*Pn	**Pg**	**18 53 48.9**	**+0.4**
DDFL				*e*Sn	**Sg**	**18 54 19.5**	**+7.5**
ARKR	**Arakani**	**1.85**	**95**	*e*PN	**Pn**	**18 53 46.0**	**-0.3**
ARKR				*e*S	**Sg**	**18 54 13.6**	**+0.4**
ARKR				pmax	pmax	
	comp=Z,117nm,0.4s					
ARKR				smax	smax	
	comp=N,210nm,0.7s					
ARKR	**Arakani**	**1.85**	**95**	*e*Pg	**Pn**	**18 53 46.0**	**-0.3**
	comp=N,116nm,0.4s					
ARKR				*e*Sg	**Sg**	**18 54 13.2**	**-0.1**
	comp=N,670nm,0.6s					
ARKR	**Arakani**	**1.85**	**95**	*e*Pg	**Pn**	**18 53 45.7**	**-0.6**
ARKR				*e*Sg	**Sg**	**18 54 13.2**	**-0.1**
QZX	**Qazax, Azerbai**	**1.86**	**159**	P	**Pn**	**18 53 46.6**	**+0.2**
	SNR=9.0							
QZX				S	**Sn**	**18 54 11.9**	**+1.6**
GNBR	**Gunib**	**1.86**	**102**	*e*PN	**Pn**	**18 53 46.9**	**+0.3**
GNBR				*e*S	**Sb**	**18 54 13.2**	**+1.1**
GNBR	**Gunib**	**1.86**	**102**	*e*Pg	**Pn**	**18 53 47.2**	**+0.7**
	comp=N,152nm,0.6s					
GNBR				*e*Sg	**Sg**	**18 54 15.1**	**+1.4**
	comp=N,259nm,0.6s					
GNBR	**Gunib**	**1.86**	**102**	*e*Pg	**Pn**	**18 53 46.9**	**+0.3**
GNBR				*e*Sg	**Sb**	**18 54 13.2**	**+1.1**
BUJR	**Buynaksk**	**1.92**	**88**	*e*PN	**Pn**	**18 53 46.5**	**-0.7**
BUJR				*e*S	**Sb**	**18 54 15.1**	**+1.5**
BUJR				pmax	pmax	
	comp=Z,324nm,0.5s					
BUJR				smax	smax	
	comp=E,840nm,0.7s					
BUJR	**Buynaksk**	**1.92**	**88**	*e*Pn	**Pn**	**18 53 46.6**	**-0.7**
	comp=E,324nm,0.5s					
BUJR				*e*Sn	**Sb**	**18 54 14.2**	**+0.6**
	comp=E,224nm,0.7s					
BUJR	**Buynaksk**	**1.92**	**88**	*e*Pg	**Pn**	**18 53 48.3**	**+1.0**
BUJR				*e*Sg	**Sg**	**18 54 16.1**	**+0.7**
ZKTA	**Zakatala**	**1.96**	**126**	P	**Pb**	**18 53 50.2**	**+0.2**
ZKTA				S	**Sg**	**18 54 17.3**	**+0.6**
KMKR	**Kumukh**	**2.03**	**108**	*e*PN	**Pn**	**18 53 49.1**	**+0.1**
KMKR				*e*S	**Sg**	**18 54 19.4**	**+0.2**
KMKR				pmax	pmax	
	comp=Z,168nm,0.4s					
KMKR				smax	smax	
	comp=N,278nm,0.6s					
KMKR	**Kumukh**	**2.03**	**108**	*e*Pn	**Pn**	**18 53 49.1**	**+0.1**
	comp=N,167nm,0.4s					
KMKR				*e*Sn	**Sg**	**18 54 18.9**	**-0.3**
KMKR	**Kumukh**	**2.03**	**108**	*e*Pg	**Pn**	**18 53 49.1**	**+0.1**
KMKR				*e*Sg	**Sg**	**18 54 18.9**	**-0.3**
DOMR	**Dombai**	**2.17**	**284**	*e*PN	**Pn**	**18 53 51.1**	**+0.3**
MAK	**Makhachkala**	**2.21**	**85**	*e*PN	**Pn**	**18 53 52.1**	**+0.8**
MAK				*e*S	**Sb**	**18 54 23.2**	**+1.1**
MAK	**Makhachkala**	**2.21**	**85**	*e*Pg	**Pn**	**18 53 52.1**	**+0.8**
MAK				*e*Sg	**Sb**	**18 54 23.2**	**+1.1**
KANR	**Karaman**	**2.23**	**79**	*e*PN	**Pn**	**18 53 51.4**	**-0.1**
KANR				*e*S	**Sb**	**18 54 22.2**	**-0.3**
**KAN

GUZR				*e*Sn		**Sb**	**18 54 56.8**	**+0.1**
ZRD	**Zardab**	**3.47**	**135**	P		**Pn**	**18 54 09.8**	**+1.2**
	SNR=3.4								
ZRD				S		**Sn**	**18 54 53.6**	**+3.5**
SBZ	**Shahbuz**	**3.49**	**167**	P		**Pn**	**18 54 07.7**	**-1.3**
	SNR=14								
SBZ				S		**Sn**	**18 54 48.6**	**-2.2**
PQL	**Pirkuli**	**3.66**	**122**	P		**Pn**	**18 54 14.0**	**+2.7**
	SNR=9.2								
PQL				S		**Sb**	**18 55 00.7**	**-3.2**
NAX	**Nakhchivan**	**3.70**	**168**	PN		**Pn**	**18 54 10.8**	**-1.0**
NAX	**Nakhchivan**	**3.70**	**168**	P		**Pn**	**18 54 10.9**	**-1.0**
	SNR=5.7								
NAX				S		**Sn**	**18 54 55.9**	**0.0**
SIZA	**Siyzn**	**3.71**	**116**	P		**Pn**	**18 54 15.3**	**+3.4**
	SNR=4.7								
SIZA				S		**Sb**	**18 55 01.7**	**-3.4**
ATGJ	**Altiaghaj**	**3.84**	**119**	P		**Pn**	**18 54 16.7**	**+2.9**
	SNR=5.5								
ATGJ				S		**Sb**	**18 55 05.9**	**-3.1**
ORD	**Ordubad**	**4.03**	**163**	P		**Pn**	**18 54 16.7**	**+0.3**
	SNR=7.9								
ORD				S		**Sn**	**18 55 02.9**	**-1.2**
ERBR	**Yeremizino-Bor**	**4.10**	**317**	*e*PN		**Pn**	**18 54 18.1**	**+0.8**
ERBR				*e*S		**Sn**	**18 55 05.6**	**-0.1**
ERBR	**Yeremizino-Bor**	**4.10**	**317**	*e*Pn		**Pn**	**18 54 18.1**	**+0.8**
ERBR				*e*Sn		**Sn**	**18 55 05.6**	**-0.1**
YRD	**Yardimli**	**4.80**	**143**	P		**Pn**	**18 54 28.2**	**+1.1**
	SNR=2.9								
YRD				S		**Sn**	**18 55 25.9**	**+2.5**
LRK	**Lerik**	**5.07**	**144**	P		**Pn**	**18 54 31.9**	**+1.1**
	SNR=3.8								
ANN	**Anapa**	**5.49**	**294**	*e*P		**Pn**	**18 54 34.3**	**-2.1**
ANN				*e*S		**Sn**	**18 55 39.5**	**-0.4**
ANN				pmax	pmax				
	comp=Z,85nm,1.2s								
VORR	**Voronezh**	**9.57**	**340**	*e*P		**Pn**	**18 55 33.7**	**+1.4**
VORR				pmax	pmax				
	comp=Z,60nm,0.5s								
AKTO	**Aktyubinsk**	**12.01**	**46**	Pn		**Pn**	**18 56 03.1**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=243,slow=10,SNR=7.9								
AKTO	**Aktyubinsk**	**12.01**	**46**	P		**Pn**	**18 56 03.4**	**-2.3**
AKTO	**Aktyubinsk**	**12.01**	**46**	⇑P		**Pn**	**18 56 03.0**	**-2.7**
	comp=Z,2.0nm,0.6s								
AKTO				⇑S		Sn	18 58 06.7	-13	
	comp=Z,2.4nm,0.8s								
AB31	**Akbulak array**	**12.51**	**54**	P		Pn	18 56 08.6	-3.9	
AB31	**Akbulak array**	**12.51**	**54**	P		Pn	18 56 08.6	-3.9	
	comp=Z,0.8nm,0.5s,baz=248,slow=11,SNR=23								
AB31				⇑S		Sn	18 58 11.3	-21	
	comp=Z,0.2nm,0.2s,baz=349,slow=29,SNR=4.6								
FINES	**FINESS Array B**	**21.68**	**336**	P		**P**	**18 58 04.5**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=138,slow=15,SNR=12								
AAK	**Ala-Archa**	**21.99**	**80**	P		**P**	**18 58 07.1**	**-1.9**
	comp=Z,1.2nm,0.6s,baz=267,slow=5.4,SNR=6.5								
MKAR	**Makanchi Array**	**26.93**	**68**	P		**P**	**18 58 54.2**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=272,slow=8.8,SNR=6.0								
MKAR	**Makanchi Array**	**26.93**	**68**	*i* P		**P**	**18 58 57.2**	**+1.1**
DBIC	**Dimbokro**	**56.34**	**245**	LR		LR	19 30 10.4		
	comp=Z,82nm,20.8s,baz=61,slow=39								
YKA	**Yellowknife Ar**	**73.72**	**350**	P		**P**	**19 04 47.6**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=16,slow=6.4,SNR=5.9								
YKA	**Yellowknife Ar**	**73.72**	**350**	*i* P		**P**	**19 04 49.2**	**+0.8**

IDC 27 18:57:56.0±4.5,**30°40S**×**178°59W**,**h0**km,**mb3.4**/2, **mb1 3.7**/2,**mb1mx3.1**/38,**mbtmp3.4**/2,**Error ellipse: s-maj=223.9km s-min=69.6km az=166.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.60**	**267**	P		P	19 05 53.3	-0.8
	0.3nm,0.5s,baz=108,slow=7.5,SNR=9.0							
WRA	**Warramunga Arr**	**43.59**	**272**	P		P	19 06 02.6	+0.5
	0.2nm,0.3s,baz=112,slow=7.9,SNR=12							
FINES	**FINESS Array B**	**144.97**	**340**	PKP		PKPbc	19 17 33.7	0.0
	2.8nm,1.0s,baz=35,slow=3.4,SNR=4.0							

NORS ***27*** *18:59:25.2*±*0.0,42°.66N*×*44°.51E,h10km,MPVA4.0*
MOS ***27*** *18:59:25.9*±*0.0,42°.69N*×*44°.47E,h12km,MPVA4.1*
TIF ***27*** *18:59:26.7,42°.84N*×*44°.53E,h2km*
DRS ***27*** *18:59:27.7*±*0.0,42°.70N*×*44°.20E,h20km*
IDC ***27*** *18:59:27.5*±*0.8,42°.87N*×*44°.47E,h0km,mb3.4/4, mb1 3.6/6,mb1mx3.3/52,mbtmp3.5/6,ML2.4/2,Error ellipse: s-maj=14.3km s-min=8.3km az=52.0*
AZER ***27*** *18:59:30.4*±*1.0,42°.84N*×*44°.08E,h40km*±*999km,Error ellipse: s-maj=24.1km s-min=16.1km az=318.0*

ISC 27 18:59:28.7±0.9,**42°.82N**±0°.01×**44°.52E**±0°.01,**h6**km±7km, **n152,**σ**1s59/264,mb3.4/4,6C-2D,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MTEO	**Meteo**	**0.14**	**175**	P		**Pg**	**18 59 30.9**	**-0.9**
MTEO				S		**Sg**	**18 59 33.1**	**-0.8**
LACR	**Lac**	**0.16**	**273**	⇓*i*PG		**Pg**	**18 59 31.6**	**-0.4**
LACR	**Lac**	**0.16**	**273**	*i* Pg		**Pg**	**18 59 31.4**	**-0.6**
LACR				*e*Sg		**Sg**	**18 59 35.5**	**+1.2**
VLKR	**Vladikavkaz**	**0.26**	**27**	*e*PG		**Pg**	**18 59 34.2**	**+0.4**
VLKR				*e*S		**Sg**	**18 59 40.7**	**+3.5**
VLKR	**Vladikavkaz**	**0.26**	**27**	*e*Pg		**Pg**	**18 59 34.1**	**+0.4**
VLKR				*e*Sg		**Sg**	**18 59 40.8**	**+3.5**
KMGR	**Komgaron**	**0.35**	**47**	⇑*i*PG		**Pg**	**18 59 35.9**	**+0.4**
KMGR				*e*S		**Sb**	**18 59 44.2**	**+1.0**
KMGR	**Komgaron**	**0.35**	**47**	*e*Pg		**Pg**	**18 59 35.4**	**-0.1**
KMGR				*e*Sg		**Sb**	**18 59 43.8**	**+0.6**
GUDG	**Gudauri**	**0.35**	**185**	P		**Pg**	**18 59 35.3**	**-0.4**
GUDG				S		**Sg**	**18 59 41.4**	**+1.0**
GUDG	**Gudauri**	**0.35**	**185**	PG		**Pg**	**18 59 35.3**	**-0.4**
GUDG	**Gudauri**	**0.35**	**185**	*e*Pg		**Pg**	**18 59 35.3**	**-0.4**
GUDG				*e*Sg		**Sg**	**18 59 41.4**	**+1.0**
ARNR	**Ardon**	**0.40**	**335**	*e*PG		**Pb**	**18 59 37.3**	**-0.9**
ARNR				*e*S		**Sb**	**18 59 46.5**	**+1.9**
ARNR	**Ardon**	**0.40**	**335**	*e*Pg		**Pg**	**18 59 36.9**	**+0.4**
ARNR				*e*Sg		**Sb**	**18 59 46.5**	**+1.9**
KORR	**Kora**	**0.42**	**309**	⇑*i*PG		**Pb**	**18 59 37.8**	**-0.8**
KORR				*e*S		**Sb**	**18 59 47.0**	**+1.7**
KORR	**Kora**	**0.42**	**309**	*i* Pg		**Pb**	**18 59 37.8**	**-0.8**
KORR				*e*Sg		**Sb**	**18 59 47.0**	**+1.7**
ZEI	**Tsey**	**0.45**	**266**	⇓*i*PG		**Pg**	**18 59 36.7**	**-0.8**
ZEI				*e*S		**Sg**	**18 59 43.7**	**+0.2**
ZEI	**Tsey**	**0.45**	**266**	*i* Pg		**Pg**	**18 59 36.5**	**-1.0**
ZEI				*e*Sg		**Sg**	**18 59 43.7**	**+0.2**
BTKR	**Batakoyurt**	**0.55**	**2**	*e*PG		**Pb**	**18 59 41.8**	**+1.0**
BTKR	**Batakoyurt**	**0.55**	**2**	*e*Pg		**Pb**	**18 59 41.8**	**+1.0**
BTKR				*e*Sg		**Sn**	**18 59 54.3**	**+1.6**
STDR	**Stavd-Durt**	**0.64**	**329**	*e*PG		**Pb**	**18 59 43.3**	**+1.0**
STDR	**Stavd-Durt**	**0.64**	**329**	*e*Pg		**Pb**	**18 59 42.9**	**+0.6**
STDR				*e*Sg		**Sn**	**18 59 55.6**	**+0.8**
LSNR	**Lesken**	**0.68**	**312**	*e*PG		**Pb**	**18 59 42.8**	**-0.2**
LSNR				*e*S		**Sn**	**18 59 55.1**	**-0.8**
LSNR	**Lesken**	**0.68**	**312**	*e*Pg		**Pb**	**18 59 42.6**	**-0.4**
LSNR				*e*Sg		**Sn**	**18 59 55.1**	**-0.8**
DIGR	**Digorskoe uzhe**	**0.69**	**277**	⇑*i*PG		**Pg**	**18 59 41.2**	**-0.8**
DIGR				*e*S		**Sg**	**18 59 51.5**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.69**	**277**	*e*Pg		**Pg**	**18 59 41.0**	**-1.0**
DIGR				*e*Sg		**Sg**	**18 59 51.5**	**+0.4**
TRKR	**Terskaya**	**0.92**	**10**	*e*PG		**Pb**	**18 59 47.4**	**+0.4**
TRKR				*e*S		**Sn**	**19 00 03.6**	**+2.0**
TRKR	**Terskaya**	**0.92**	**10**	*e*Pg		**Pb**	**18 59 47.4**	**+0.4**
TRKR				*e*Sg		**Sn**	**19 00 03.6**	**+2.0**
PRTR	**Priterechnaya**	**0.95**	**350**	*e*PG		**Pn**	**18 59 48.2**	**-0.3**
PRTR				*e*S		**Sn**	**19 00 05.6**	**+3.3**
PRTR	**Priterechnaya**	**0.95**	**350**	*e*Pg		**Pn**	**18 59 48.2**	**-0.3**
PRTR				*e*Sg		**Sn**	**19 00 05.6**	**+3.3**
NCK	**Nalchik**	**0.96**	**315**	*e*PG		**Pb**	**18 59 47.3**	**-0.3**
NCK				*e*S		**Sn**	**19 00 03.6**	**+1.0**
NCK	**Nalchik**	**0.96**	**315**	*e*Pg		**Pb**	**18 59 47.3**	**-0.3**
NCK				*e*Sg		**Sn**	**19 00 03.6**	**+1.0**
GROC	**Groznyy**	**1.01**	**67**	*e*PG		**Pb**	**18 59 48.5**	**-0.1**
GROC				*e*S		**Sb**	**19 00 02.9**	**+0.7**
GROC				pmax	pmax			
	comp=Z,222nm,0.5s							
GROC				smax	smax			
	comp=E,339nm,0.6s							
GROC				smax	smax			
	comp=N,518nm,0.8s							
GROC				smax	smax			
	comp=N,598nm,0.7s							
GROC	**Groznyy**	**1.01**	**67**	*e*Pg		**Pb**	**18 59 48.8**	**+0.2**
GROC				*e*Sg		**Sn**	**19 00 05.4**	**+1.4**
SEAG	**Tbilisi Sea**	**1.07**	**168**	P		**Pn**	**18 59 51.6**	**+1.3**
SEAG	**Tbilisi Sea**	**1.07**	**168**	PG		**Pn**	**18 59 51.6**	**+1.3**
BTNK	**Botanikuri**	**1.15**	**169**	P		Pg	18 59 45.7	-5.1
BTNK	**Botanikuri**	**1.15**	**169**	PG		Pg	18 59 45.7	-5.1
BTNK	**Botanikuri**	**1.15**	**169**	*e*Pg		Pg	18 59 45.7	-5.1
DVE	**Vedeno**	**1.19**	**83**	*ce*PG		**Pg**	**18 59 50.2**	**-1.3**
DVE				*e*S		**Sn**	**19 00 09.3**	**+0.9**
DVE				pmax	pmax			
	comp=Z,447nm,0.6s							
DVE				smax	smax			
	comp=Z,1.0nm,0.8s							
DVE	**Vedeno**	**1.19**	**83**	*e*Pg		**Pg**	**18 59 50.7**	**-0.9**
DVE				*e*Sg		**Sn**	**19 00 09.5**	**+1.1**
TKB	**Tkibuli**	**1.22**	**248**	P		**Pg**	**18 59 51.9**	**-0.1**
TKB				S		**Sn**	**19 00 09.4**	**+0.4**
TKB	**Tkibuli**	**1.22**	**248**	PG		**Pg**	**18 59 51.9**	**-0.1**
TKB				S		**Sn**	**19 00 09.4**	**+0.4**
TKB	**Tkibuli**	**1.22**	**248**	*e*Pg		**Pg**	**18 59 51.9**	**-0.1**
TKB				*e*Sg		**Sn**	**19 00 09.4**	**+0.4**
BTLR	**Botlikh**	**1.27**	**96**	⇑*i*PG		**Pg**	**18 59 51.3**	**-1.6**
BTLR				pmax	pmax			
	comp=Z,149nm,0.5s							
BTLR	**Botlikh**	**1.27**	**96**	*e*Pg		**Pg**	**18 59 51.6**	**-1.4**
BTLR				*e*Sg		**Sn**	**19 00 10.6**	**+0.3**
BKRG	**Bakuriani**	**1.29**	**215**	P		**Pg**	**18 59 52.9**	**-0.5**
BKRG	**Bakuriani**	**1.29**	**215**	PG		**Pg**	**18 59 52.9**	**-0.5**
BRNG	**Burnasheti**	**1.30**	**203**	P		**Pn**	**18 59 54.0**	**+0.5**
BRNG				S		**Sn**	**19 00 13.4**	**+2.2**
TRLG	**Trialeti**	**1.31**	**194**	P		**Pg**	**18 59 53.8**	**-0.1**
TRLG				S		**Sn**	**19 00 18.1**	**+6.5**
TRLG	**Trialeti**	**1.31**	**194**	PG		**Pg**	**18 59 53.8**	**-0.1**
TRLG				S		**Sn**	**19 00 18.1**	**+6.5**
NEY	**Neytrino**	**1.39**	**289**	*e*PG		**Pn**	**18 59 54.2**	**-0.5**
NEY				*e*S		**Sn**	**19 00 13.9**	**+0.5**
NEY	**Neytrino**	**1.39**	**289**	*e*Pg		**Pn**	**18 59 54.2**	**-0.5**
NEY				*e*Sg		**Sn**	**19 00 13.9**	**+0.5**
KZRT	**Kazreti**	**1.43**	**184**	P		**Pn**	**18 59 55.0**	**-0.3**
KZRT				S		**Sn**	**19 00 16.2**	**+1.9**
KZRT	**Kazreti**	**1.43**	**184**	PG		**Pn**	**18 59 54.9**	**-0.3**
KZRT				S		**Sn**	**19 00 16.2**	**+1.9**
KBZ	**Khabaz**	**1.49**	**308**	Pg		**Pn**	**18 59 56.0**	**0.0**
	comp=Z,11nm,0.3s,baz=236,slow=1.4,SNR=90							
KBZ				Lg		Lg	19 00 15.2		
	comp=Z,4.7nm,0.3s,baz=174,slow=8.7,SNR=5.2							
KBZ	**Khabaz**	**1.49**	**308**	PG		**Pn**	**18 59 56.0**	**0.0**
KBZ	**Khabaz**	**1.49**	**308**	*e*Pg		**Pn**	**18 59 55.3**	**-0.6**
KBZ				*e*Sg		**Sg**	**19 00 17.5**	**+0.8**
DGRG	**David-gareji**	**1.51**	**155**	P		**Pb**	**18 59 57.2**	**+0.2**
DGRG				S		**Sg**	**19 00 21.5**	**+4.4**
DGRG	**David-gareji**	**1.51**	**155**	PG		**Pb**	**18 59 57.2**	**+0.2**
DGRG				S		**Sg**	**19 00 21.5**	**+4.4**
DLMR	**Dylym**	**1.57**	**80**	*e*PG		**Pn**	**18 59 57.1**	**0.0**
DLMR				*e*S		**Sg**	**19 00 20.4**	**+1.2**
DLMR				pmax	pmax			
	comp=Z,342nm,0.5s							
DLMR				smax	smax			
	comp=E,1μm,0.6s							
DLMR	**Dylym**	**1.57**	**80**	*e*Pg		**Pn**	**18 59 57.1**	**0.0**
DLMR				*e*Sg		**Sg**	**19 00 20.0**	**+0.9**
AKH	**Akhalkalaki**	**1.60**	**209**	P		**Pb**	**18 59 58.9**	**+0.2**
AKH				S		**Sg**	**19 00 22.1**	**+2.0**
AKH	**Akhalkalaki**	**1.60**	**209**	PN		**Pb**	**18 59 58.9**	**+0.2**
AKH				S		**Sg**	**19 00 22.1**	**+2.0**
AKH	**Akhalkalaki**	**1.60**	**209**	*e*Pg		**Pb**	**18 59 58.9**	**+0.2**
AKH				*e*Sg		**Sg**	**19 00 22.1**	**+2.0**
LGD	**Lagodekhi**	**1.61**	**127**	P		**Pn**	**18 59 57.9**	**+0.3**
LGD				S		**Sg**	**19 00 21.2**	**+0.7**
LGD	**Lagodekhi**	**1.61**	**127**	PN		**Pn**	**18 59 57.9**	**+0.3**
LGD				S		**Sg**	**19 00 21.2**	**+0.7**
LGD	**Lagodekhi**	**1.61**	**127**	*e*Pg		**Pn**	**18 59 57.9**	**+0.3**
PYA1	**Pyatigorsk**	**1.62**	**321**	*e*PG		**Pn**	**18 59 57.3**	**-0.5**
PYA1				*e*S		**Sg**	**19 00 20.3**	**-0.4**
PYA1	**Pyatigorsk**	**1.62**	**321**	*e*Pg		**Sg**	**18 59 57.3**	**-0.5**
PYA1				*e*Sg		**Sg**	**19 00 20.4**	**-0.4**
XNZR	**Khunzakh**	**1.64**	**99**	*e*PN		**Pn**	**18 59 58.1**	**0.0**
XNZR				*e*S		**Sg**	**19 00 23.0**	**+1.7**
XNZR				pmax	pmax			
	comp=Z,94nm,0.6s							
XNZR				smax	smax			
	comp=N,199nm,0.6s							
XNZR	**Khunzakh**	**1.64**	**99**	*e*Pg		**Pn**	**18 59 58.1**	**0.0**
XNZR				*e*Sg		**Sg**	**19 00 22.1**	**+0.8**
SHA1	**Shidzhatmaz**	**1.64**	**305**	*e*PG		**Pn**	**18 59 58.0**	**-0.2**
SHA1				*e*S		**Sg**	**19 00 22.3**	**+0.9**
SHA1	**Shidzhatmaz**	**1.64**	**305**	*e*Pg		**Pn**	**18 59 58.0**	**-0.2**
SHA1				*e*Sg		**Sg**	**19 00 22.3**	**+0.9**
ABS	**Abastumani**	**1.65**	**231**	P		**Pn**	**18 59 59.2**	**+0.9**
ABS				S		**Sg**	**19 00 25.5**	**+3.8**
ABS	**Abastumani**	**1.65**	**231**	PN		**Pn**	**18 59 59.2**	**+0.9**
ABS				S		**Sg**	**19 00 25.5**	**+3.8**
UNCR	**Uncukul**	**1.68**	**93**	*e*PN		**Pn**	**18 59 59.0**	**+0.4**
UNCR				*e*S		**Sg**	**19 00 25.1**	**+2.4**
UNCR				pmax	pmax			
	comp=Z,268nm,0.5s							
UNCR				smax	smax			
	comp=E,1μm,0.8s							
UNCR	**Uncukul**	**1.68**	**93**	*e*Pg		**Pn**	**18 59 59.1**	**+0.4**
UNCR				*e*Sg		**Sg**	**19 00 24.1**	**+1.5**
DBC	**Dubki**	**1.71**	**82**	*e*PN		**Pn**	**18 59 59.3**	**+0.3**
DBC				*e*S		**Sg**	**19 00 24.8**	**+1.1**
DBC				pmax	pmax			
	comp=Z,82nm,0.4s							
DBC				smax	smax			
	comp=E,387nm,0.8s							
DBC	**Dubki**	**1.71**	**82**	*e*Pg		**Pn**	**18 59 59.3**	**+0.3**
DBC				*e*Sg		**Sg**	**19 00 24.3**	**+0.6**
BEYR	**Belyy Ugol+**	**1.72**	**315**	*e*PN		**Pn**	**18 59 58.8**	**-0.4**
BEYR				*e*S		**Sg**	**19 00 23.5**	**-0.5**
BEYR	**Belyy Ugol+**	**1.72**	**315**	*e*Pg		**Pn**	**18 59 58.8**	**-0.4**
BEYR				*e*Sg		**Sg**	**19 00 23.5**	**-0.5**
KVAR	**Kislovodsk Arr**	**1.75**	**311**	Pn		**Pn**	**19 00 00.2**	**+0.6**
	baz=74,slow=24,SNR=12							
KVAR				Lg		Lg	19 00 22.4		
	baz=113,slow=19,SNR=9.5							
KIV	**Kislovodsk**	**1.75**	**311**	*e*PN		**Pn**	**18 59 59.3**	**-0.4**
KIV				*e*S		**Sg**	**19 00 25.3**	**+0.3**
KIV	**Kislovodsk**	**1.75**	**311**	*e*Pg		**Pn**	**18 59 59.3**	**-0.4**
KIV				*e*Sg		**Sg**	**19 00 25.3**	**+0.3**
KRNR	**Karanay**	**1.76**	**89**	*e*PN		**Pn**	**19 00 00.3**	**+0.6**
KRNR				*e*S		**Sg**	**19 00 26.9**	**+1.7**
KRNR				pmax	pmax			
	comp=Z,128nm,0.5s							
KRNR				smax	smax			
	comp=E,191nm,0.7s							
KRNR	**Karanay**	**1.76**	**89**	*e*Pg		**Pn**	**19 00 00.3**	**+0.6**
KRNR				*e*Sg		**Sg**	**19 00 26.3**	**+1.1**
DDFL	**Dedoflistskaro**	**1.82**	**138**	P		**Pg**	**19 00 04.3**	**+0.8**
DDFL	**Dedoflistskaro**	**1.82**	**138**	PN		**Pg**	**19 00 04.3**	**+0.8**
ARKR	**Arakani**	**1.84**	**96**	*e*PN		**Pn**	**19 00 01.0**	**+0.3**
ARKR				*e*S		**Sg**	**19 00 28.5**	**+0.8**
ARKR				pmax	pmax			
	comp=Z,56nm,0.4s							
ARKR				smax	smax			
	comp=N,239nm,0.8s							
ARKR	**Arakani**	**1.84**	**96**	*e*Pg		**Pn**	**19 00 01.1**	**+0.3**
ARKR				*e*Sg		**Sg**	**19 00 27.8**	**+0.1**
GNBR	**Gunib**	**1.86**	**103**	*e*PN		**Pn**	**19 00 00.9**	**-0.1**
GNBR				*e*S		**Sg**	**19 00 27.6**	**-0.7**
GNBR				pmax	pmax			
	comp=Z,92nm,0.6s							
GNBR				smax	smax			
	comp=E,370nm,0.7s							
GNBR	**Gunib**	**1.86**	**103**	*e*Pg		**Pn**	**19 00 01.7**	**+0.7**
GNBR				*e*Sg		**Sn**	**19 00 24.8**	**0.0**
QZX	**Qazax, Azerbai**	**1.87**	**160**	P		**Pn**	**19 00 02.1**	**+0.8**
	SNR=5.6							
QZX				S		**Sg**	**19 00 28.7**	**0.0**
BUJR	**Buynaksk**	**1.91**	**89**	*e*PN		**Pn**	**19 00 02.5**	**+0.8**
BUJR				*e*S		**Sg**	**19 00 30.3**	**+0.4**
BUJR				pmax	pmax			
	comp=Z,316nm,0.6s							
BUJR				smax	smax			
	comp=E,768nm,0.7s							
BUJR	**Buynaksk**	**1.91**	**89**	*e*Pg		**Pn**	**19 00 02.5**	**+0.8**
BUJR				*e*Sg		**Sg**	**19 00 29.8**	**-0.1**
ZKTA	**Zakatala**	**1.96**	**126**	PN		**Pb**	**19 00 05.3**	**+0.6**
ZKTA	**Zakatala**	**1.96**	**126**	P		**Pb**	**19 00 05.4**	**+0.6**
	SNR=19							
ZKTA				S		**Sg**	**19 00 32.5**	**+1.0**
KMKR	**Kumukh**	**2.03**	**109**	*e*PN		**Pn**	**19 00 04.9**	**+1.4**
KMKR	**Kumukh**	**2.03**	**109**	*e*Pg		**Pn**	**19 00 04.9**	**+1.4**
MAK	**Makhachkala**	**2.20**	**85**	⇑*i*PN		**Pn**	**19 00 07.2**	**+1.5**
MAK				*e*			19 00 12.1		
MAK				*e*S		**Sb**	**19 00 37.6**	**+1.3**
MAK				*e*S		**Sg**	**19 00 40.6**	**+1.3**
MAK				*e*			19 00 46.4		
MAK				pmax	pmax			
	comp=Z,91nm,0.6s							
MAK				smax	smax			
	comp=N,446nm,0.9s							
MAK				smax	smax			
	comp=N,403nm,0.6s							
MAK				MLR	MLR			
	comp=Z,193nm,2.0s							
MAK	**Makhachkala**	**2.20**	**85**	*e*Pn		**Pn**	**19 00 05.7**	**0.0**
MAK				*e*Sn		**Sb**	**19 00 37.2**	**+1.0**
KANR	**Karaman**	**2.21**	**79**	*e*PN		**Pn**	**19 00 04.7**	**-1.1**
KANR				*e*S		**Sn**	**19 00 34.0**	**+0.6**
KANR	**Karaman**	**2.21**	**79**	*e*Pn		**Pn**	**19 00 04.7**	**-1.1**
KANR				*e*Sn		**Sn**	**19 00 34.0**	**+0.6**
ALER	**Alexandrovskoy**	**2.27**	**330**	*e*PN		**Pn**	**19 00 07.6**	**+1.0**
ALER				*e*S		**Sn**	**19 00 36.7**	**+1.8**
ALER	**Alexandrovskoy**	**2.27**	**330**	*e*Pn		**Pn**	**19 00 07.6**	**+1.0**
ALER				*e*Sn		**Sn**	**19 00 36.7**	**+1.8**
GDB	**GEDABAY**	**2.29**	**156**	P		**Pn**	**19 00 08.0**	**+0.9**
	SNR=28							
GDB				S		**Sb**	**19 00 38.3**	**-0.8**
URKR	**Urkarakh**	**2.40**	**105**	*e*PN		**Pb**	**19 00 11.6**	**-0.6**
URKR				*e*S		**Sb**	**19 00 43.1**	**+1.1**
URKR	**Urkarakh**	**2.40**	**105**	*e*Pn		**Pb**	**19 00 11.6**	**-0.6**
URKR				*e*Sn		**Sb**	**19 00 43.1**	**+1.1**
GOF	**Gofitskoye**	**2.48**	**335**	*e*PN		**Pb**	**19 00 11.9**	**-1.7**
GOF				*e*S		**Sb**	**19 00 44.9**	**+0.5**
GOF	**Gofitskoye**	**2.48**	**335**	*e*Pn		**Pb**	**19 00 11.9**	**-1.7**
GOF				*e*Sn		**Sb**	**19 00 44.9**	**+0.5**
ARXR	**Arkhyz**	**2.48**	**289**	*i* PN		**Pb**	**19 00 12.1**	**-1.7**
GANJ	**Ganja**	**2.56**	**147**	PN		**Pn**	**19 00 12.7**	**+2.1**
GANJ	**Ganja**	**2.56**	**147**	P		**Pn**	**19 00 12.7**	**+2.1**
	SNR=7.6							
GANJ				S		**Sb**	**19 00 47.1**	**+0.5**
SEKA	**Sheki**	**2.56**	**128**	PN		**Pb**	**19 00 14.3**	**-0.7**
SEKA	**Sheki**	**2.56**	**128**	P		**Pb**	**19 00 14.4**	**-0.7**
	SNR=13							
SEKA				S		**Sb**	**19 00 48.6**	**+1.8**
NVNR	**Nevinnomyssk**	**2.58**	**315**	*e*PN		**Pg**	**19 00 18.0**	**-0.1**
NVNR				*e*S		**Sg**	**19 00 52.0**	**+0.5**
NVNR	**Nevinnomyssk**	**2.58**	**315**	*e*Pn		**Pg**	**19 00 18.0**	**-0.1**
NVNR				*e*Sn		**Sg**	**19 00 52.0**	**+0.5**
GNI	**Garni**	**2.67**	**176**	Pn		**Pb**	**19 00 16.2**	**-0.8**
	comp=Z,5.9nm,0.3s,baz=288,slow=4.0,SNR=15							
GNI				Lg	Lg		19 00 54.4		
	comp=Z,10nm,0.3s,baz=265,slow=8.4,SNR=11							
GNI	**Garni**	**2.67**	**176**	*e*Pn		**Pn**	**19 00 09.7**	**-2.7**
AKT	**Akhty**	**2.74**	**118**	*e*PN		**Pb**	**19 00 18.3**	**+0.2**
AKT				*e*S		**Sg**	**19 00 54.3**	**-2.3**
AKT	**Akhty**	**2.74**	**118**	*e*Pn		**Pb**	**19 00 18.3**	**+0.2**
AKT				*e*Sn		**Sg**	**19 00 54.3**	**-2.3**
AHMR	**Akhmetovskaya**	**2.86**	**299**	*e*PN		**Pb**	**19 00 19.9**	**-0.2**
AHMR				*e*S		**Sg**	**19 00 59.4**	**-1.1**
QSAR	**

	baz=223						
HWA				*e*S	**Sb**	**19 02 04.6**	**+0.8**
	baz=223						
ETLH	**Xiulin Townshi**	**0.35**	**275**	⇓*i*P	**Pg**	**19 01 58.5**	**-0.4**
	baz=272						
ETLH				*e*S	**Sg**	**19 02 02.7**	**-1.0**
	baz=272						
TWC	**Suao**	**0.43**	**358**	⇓*i*P	**Pb**	**19 02 01.0**	**+0.1**
	baz=4.0						
TWC				*e*S	**Sg**	**19 02 06.0**	**-0.1**
	baz=4.0						
LATG	**Datong**	**0.47**	**319**	⇓*i*P	**Pg**	**19 02 01.1**	**0.0**
	baz=326						
LATG				*e*S	**Sg**	**19 02 06.6**	**-0.8**
	baz=326						
NDS	**Dongshan**	**0.47**	**343**	⇓*i*P	**Pg**	**19 02 01.7**	**+0.7**
	baz=353						
NDS				*e*S	**Sg**	**19 02 07.8**	**+0.4**
	baz=353						
NNSB	**Datong**	**0.51**	**300**	⇓*i*P	**Pb**	**19 02 01.6**	**-0.8**
	baz=303						
NNSB				S	**Sb**	**19 02 07.4**	**-2.3**
	baz=303						
NNS	**Nan Shan**	**0.52**	**300**	⇓*i*P	**Pb**	**19 02 01.8**	**-0.8**
	baz=304						
NNS				S	**Sb**	**19 02 07.6**	**-2.4**
	baz=304						
ESL	**Shilin**	**0.54**	**228**	*e*P	**Pb**	**19 02 02.5**	**-0.2**
	baz=229						
ENTT	**Nioudou**	**0.54**	**329**	⇓*i*P	**Pb**	**19 02 02.5**	**-0.3**
	baz=337						
ENTT				*e*S	**Sb**	**19 02 09.9**	**-0.5**
	baz=337						
WHF	**Hehuan Shan**	**0.55**	**267**	⇓*i*P	**Pb**	**19 02 02.2**	**-1.0**
	baz=264						
WHF				*e*S	**Sb**	**19 02 08.9**	**-2.2**
	baz=264						
TWE	**Neicheng**	**0.57**	**342**	⇓*i*P	**Pg**	**19 02 03.5**	**+0.7**
	baz=351						
TWE				*e*S	**Sb**	**19 02 10.0**	**-1.3**
	baz=351						
ILA	**Ilan**	**0.60**	**350**	*e*P	**Pg**	**19 02 04.4**	**+1.1**
	baz=353						
ILA				*e*S	**Sg**	**19 02 12.0**	**+0.8**
	baz=353						
FUSB	**Fushanzhiwuyua**	**0.63**	**336**	⇓*i*P	**Pb**	**19 02 04.6**	**+0.1**
	baz=343						
FUSB				*e*S	**Sb**	**19 02 12.0**	**-1.2**
	baz=343						
TWT	**Tachien**	**0.64**	**277**	P	**Pb**	**19 02 04.5**	**-0.1**
	baz=276						
TWT				*e*S	**Sb**	**19 02 11.6**	**-1.7**
	baz=276						
CHGB	**Renai**	**0.64**	**260**	*i* P	**Pb**	**19 02 04.3**	**-0.4**
	baz=248						
CHGB				*e*S	**Sb**	**19 02 12.3**	**-1.3**
	baz=248						
EGFH	**Guangfu**	**0.65**	**219**	*e*P	**Pg**	**19 02 05.0**	**+0.8**
	baz=221						
EGFH				*e*S	**Sn**	**19 02 15.0**	**-1.3**
	baz=221						
TDCB	**Techi**	**0.65**	**277**	P	**Pb**	**19 02 04.3**	**-0.5**
	baz=276						
TDCB				*e*S	**Sb**	**19 02 11.1**	**-2.7**
	baz=276						
YHNB	**Yeheng**	**0.66**	**318**	⇓*i*P	**Pb**	**19 02 04.8**	**-0.2**
	baz=322						
YHNB				*e*S	**Sb**	**19 02 12.7**	**-1.4**
	baz=322						
EGS		**0.67**	**5**	*e*P	**Pg**	**19 02 05.5**	**+0.9**
	baz=20						
OWD	**Renai**	**0.67**	**251**	*e*P	**Pb**	**19 02 04.7**	**-0.4**
	baz=247						
OWD				*e*S	**Sb**	**19 02 12.8**	**-1.5**
	baz=247						
NTC	**Toucheng**	**0.68**	**357**	*e*P	**Pg**	**19 02 05.4**	**+0.6**
	baz=4.0						
NSK	**Sanguang**	**0.68**	**317**	⇓*i*P	**Pb**	**19 02 05.1**	**-0.2**
	baz=322						
NSK				*e*S	**Sb**	**19 02 12.0**	**-2.6**
	baz=322						
NWLT	**Wulai**	**0.68**	**331**	*e*P	**Pb**	**19 02 05.4**	**+0.1**
	baz=337						
NWLT				*e*S	**Sb**	**19 02 13.9**	**-0.8**
	baz=337						
WUSB	**Renai**	**0.71**	**255**	⇓*i*P	**Pb**	**19 02 05.5**	**-0.3**
	baz=244						
WUSB				*e*S	**Sb**	**19 02 14.2**	**-1.3**
	baz=244						
VWDT	**VWDT**	**0.79**	**238**	*e*P	**Pb**	**19 02 07.1**	**+0.1**
	baz=233						
VWDT				*e*S	**Sb**	**19 02 17.7**	**+0.3**
	baz=233						
HGSD	**Ruisui**	**0.79**	**211**	*e*P	**Pn**	**19 02 08.4**	**+0.1**
	baz=195						
TIPB	**Shuangxi**	**0.79**	**357**	*e*P	**Pn**	**19 02 07.8**	**-0.5**
	baz=3.0						
TIPB				*e*S	**Sb**	**19 02 16.8**	**-0.9**
	baz=3.0						
NFF	**Wufeng Townshi**	**0.82**	**304**	P	**Pb**	**19 02 07.8**	**+0.2**
	baz=306						
NFF				*e*S	**Sb**	**19 02 17.1**	**-1.4**
	baz=306						
EHY	**Hungye**	**0.83**	**217**	*e*P	**Pb**	**19 02 07.1**	**-0.7**
	baz=225						
TWB1	**Santiao Chiao**	**0.84**	**8**	*e*P	**Pn**	**19 02 09.3**	**+0.4**
	baz=7.0						
TWA	**Mucha**	**0.84**	**342**	*e*P	**Pn**	**19 02 08.7**	**-0.3**
	baz=348						
TWA				*e*S	**Sb**	**19 02 18.3**	**-0.9**
	baz=348						
NHDH	**Xindian Distri**	**0.84**	**338**	*e*P	**Pn**	**19 02 08.7**	**-0.3**
	baz=344						
WHP	**Taichung City**	**0.85**	**277**	*e*P	**Pb**	**19 02 08.2**	**+0.1**
	baz=277						
WHP				*e*S	**Sb**	**19 02 18.2**	**-1.2**
	baz=277						
WCS	**Beigang Elemen**	**0.88**	**262**	*e*P	**Pb**	**19 02 08.7**	**+0.1**
	baz=253						
WCS				*e*S	**Sb**	**19 02 18.9**	**-1.4**
	baz=253						
NWF	**Wu-fen Shan**	**0.89**	**355**	*e*P	**Pn**	**19 02 10.0**	**+0.2**
	baz=353						
NWF				*e*S	**Sg**	**19 02 21.1**	**+0.3**
	baz=353						
LIOB	**Emei**	**0.91**	**301**	P	**Pn**	**19 02 09.8**	**-0.1**
	baz=303						
LIOB				*e*S	**Sb**	**19 02 20.8**	**-0.2**
	baz=303						
NSTT	**Nanjuang**	**0.91**	**300**	*e*P	**Pb**	**19 02 09.4**	**+0.3**
	baz=302						
NSTT				*e*S	**Sb**	**19 02 20.3**	**-0.8**
	baz=302						
SXI1	**Grass Mountain**	**0.91**	**1**	P	**Pn**	**19 02 10.6**	**+0.5**
	baz=11						
SSLB	**Suanglung**	**0.92**	**245**	P	**Pb**	**19 02 09.3**	**0.0**
	baz=251						
SSLB				*e*S	**Sb**	**19 02 19.7**	**-1.7**
	baz=251						
TAP	**Taipei**	**0.92**	**339**	*e*P	**Pg**	**19 02 10.2**	**+0.8**
	baz=344						
TAP				*e*S	**Sg**	**19 02 22.0**	**+0.6**
	baz=344						
SMLT	**Sun Moon Lake**	**0.93**	**252**	*e*P	**Pb**	**19 02 10.0**	**+0.5**
	baz=250						
YULB	**Yu-li**	**0.94**	**214**	*e*P	**Pb**	**19 02 09.2**	**-0.5**
	baz=220						
TYC	**Yuchr**	**0.96**	**254**	*e*P	**Pb**	**19 02 10.3**	**+0.3**
	baz=243						
TYC				*e*S	**Sb**	**19 02 21.4**	**-1.1**
	baz=243						
EYUL	**Yuli**	**0.97**	**211**	*e*P	**Pn**	**19 02 10.2**	**-0.5**
	baz=224						
NCU	**National Centr**	**1.00**	**322**	*e*P	**Pg**	**19 02 12.1**	**+1.1**
	baz=321						
NCUH	**Zhongli**	**1.00**	**322**	*e*P	**Pg**	**19 02 12.3**	**+1.3**
	baz=325						
NCUH				*e*S	**Sg**	**19 02 25.8**	**+1.7**
	baz=325						
YM01	**YM01**	**1.00**	**344**	*e*P	**Pg**	**19 02 11.9**	**+0.9**
	baz=333						
TWS1	**Kuangyinshan**	**1.01**	**336**	*e*P	**Pg**	**19 02 12.3**	**+1.3**
	baz=340						
TWS1				*e*S	**Sn**	**19 02 24.6**	**-0.7**
	baz=340						
SBCB	**Hsinchu**	**1.01**	**308**	*e*P	**Pg**	**19 02 12.6**	**+1.5**
	baz=311						
TWQ1	**Liyutan**	**1.01**	**280**	*e*P	**Pg**	**19 02 12.0**	**+0.8**
	baz=281						
JYNG	**Yonagunijimaku**	**1.02**	**74**	P	**Pg**	**19 02 14.0**	**+2.7**
JYNG				*e*S	**Sg**	**19 02 30.8**	**+6.1**
HSN	**Hsinchu**	**1.03**	**308**	*e*P	**Pg**	**19 02 12.4**	**+1.0**
	baz=302						
NSY	**Sanyi**	**1.04**	**284**	*e*P	**Pg**	**19 02 12.5**	**+0.9**
	baz=285						
NMLH	**Miaoli**	**1.04**	**290**	*e*P	**Pg**	**19 02 13.3**	**+1.5**
	baz=292						
ANP	**Anpu**	**1.05**	**343**	P	**Pg**	**19 02 12.9**	**+0.9**
	baz=347						
NTST	**Danshui**	**1.05**	**339**	*e*P	**Pg**	**19 02 13.4**	**+1.4**
	baz=343						
YUS	**Yu-Shan**	**1.08**	**231**	*e*P	**Pn**	**19 02 12.8**	**0.0**
	baz=229						
YOJ	**Yonaguni jima**	**1.08**	**75**	P	**Pg**	**19 02 14.8**	**+2.3**
YOJ				*e*S	**Sg**	**19 02 31.8**	**+5.2**
YOJ	**Yonaguni jima**	**1.08**	**75**	*e*P	**Pg**	**19 02 14.6**	**+2.1**
	baz=63						
TCU	**Taichung**	**1.09**	**269**	*e*P	**Pg**	**19 02 14.0**	**+1.5**
	baz=268						
TCU				*e*S	**Sg**	**19 02 28.9**	**+2.1**
	baz=268						
WJS	**Zhushan**	**1.10**	**252**	*e*P	**Pg**	**19 02 13.7**	**+0.8**
	baz=244						
WJS				*e*S	**Sg**	**19 02 29.0**	**+1.9**
	baz=244						
FULB	**Fuli**	**1.11**	**208**	*e*P	**Pb**	**19 02 12.9**	**+0.4**
	baz=221						
TWY	**Chenhua**	**1.12**	**348**	*e*P	**Pg**	**19 02 14.9**	**+1.7**
	baz=352						
WNT	**Mingjian**	**1.12**	**255**	*e*P	**Pg**	**19 02 14.5**	**+1.3**
	baz=245						
WDJ	**Dajia District**	**1.13**	**279**	*e*P	**Pg**	**19 02 14.8**	**+1.3**
	baz=280						
WDJ				*e*S	**Sg**	**19 02 29.2**	**+1.0**
	baz=280						
CHKT	**Chengkung**	**1.17**	**203**	*e*P	**Pn**	**19 02 12.7**	**-0.7**
	baz=187						
ALS	**Alishan**	**1.18**	**236**	P	**Pb**	**19 02 14.1**	**+0.3**
	baz=234						
WCHH	**Zhanghua**	**1.20**	**266**	*e*P	**Pg**	**19 02 15.7**	**+1.0**
	baz=265						
WCHH				*e*S	**Sg**	**19 02 32.5**	**+2.2**
	baz=265						
CHN5	**Tsauling**	**1.23**	**242**	*e*P	**Pg**	**19 02 16.2**	**+0.8**
	baz=242						
CHN5				*e*S	**Sg**	**19 02 33.1**	**+1.7**
	baz=242						
ELDTW	**Lidau**	**1.25**	**219**	*e*P	**Pn**	**19 02 14.2**	**-0.6**
	baz=202						
EDH	**Donghe**	**1.30**	**203**	*e*P	**Pn**	**19 02 14.6**	**-0.8**
	baz=188						
WDLH	**Douliu**	**1.31**	**248**	*e*P	**Pg**	**19 02 17.4**	**+0.7**
	baz=231						
WRL	**Guolierlin Hig**	**1.39**	**259**	*e*P	**Pb**	**19 02 18.4**	**+1.1**
	baz=260						
STYH	**Taoyuan**	**1.42**	**225**	*e*P	**Pb**	**19 02 18.1**	**+0.3**
	baz=225						
STYH				*e*S	**Sg**	**19 02 39.0**	**+1.8**
	baz=225						
CHN2	**Minshiung**	**1.43**	**244**	*e*P	**Pg**	**19 02 20.2**	**+1.2**
	baz=244						
CHN4	**Tsaushan**	**1.43**	**235**	*e*P	**Pb**	**19 02 18.9**	**+1.0**
	baz=235						
CHN4				*e*S	**Sg**	**19 02 39.8**	**+2.2**
	baz=235						
TPUB	**Ta-pu**	**1.43**	**233**	*e*P	**Pb**	**19 02 18.7**	**+0.7**
	baz=220						
TPUB				*e*S	**Sg**	**19 02 39.1**	**+1.4**
	baz=220						
LONT	**Longtian**	**1.43**	**208**	*e*P	**Pn**	**19 02 16.8**	**-0.3**
	baz=208						
WTK	**Tuku**	**1.44**	**251**	*e*P	**Pb**	**19 02 19.1**	**+1.0**
	baz=251						
WTK				*e*S	**Sg**	**19 02 40.1**	**+2.2**
	baz=251						
WTP	**Ta-pu**	**1.48**	**231**	*e*P	**Pg**	**19 02 20.0**	**0.0**
	baz=231						
WTP				*e*S	**Sg**	**19 02 40.1**	**+0.9**
	baz=231						
CHY	**Chiayi**	**1.48**	**243**	*e*P	**Pb**	**19 02 20.0**	**+1.1**
	baz=244						
TWGBT	**Beinan**	**1.53**	**208**	*e*P	**Pn**	**19 02 17.6**	**-1.0**
	baz=191						
TWG	**Pinlang**	**1.53**	**209**	*e*P	**Pn**	**19 02 18.2**	**-0.3**
	baz=191						
LDUT	**Ludao**	**1.54**	**194**	*e*P	**Pn**	**19 02 17.8**	**-0.8**
	baz=178						
TWK	**Hsinying**	**1.55**	**235**	*e*P	**Pb**	**19 02 20.9**	**+0.7**
	baz=235						
TWK				*e*S	**Sg**	**19 02 42.5**	**+0.9**
	baz=235						
CHN1	**Nanshi**	**1.57**	**231**	*e*P	**Pb**	**19 02 21.5**	**+1.0**
	baz=232						
CHN1				*e*S	**Sg**	**19 02 42.6**	**+0.3**
	baz=232						
SNST	**Tainan City**	**1.57**	**233**	*e*P	**Pb**	**19 02 21.4**	**+0.9**
	baz=234						
SNST				*e*S	**Sg**	**19 02 42.1**	**-0.2**
	baz=234						
WSF	**Szhu**	**1.60**	**251**	*e*P	**Pb**	**19 02 21.6**	**+0.7**
	baz=262						
WSF				*e*S	**Sg**	**19 02 43.5**	**+0.4**
	baz=262						
SGST	**Jiashian**	**1.60**	**227**	*e*P	**Pb**	**19 02 20.7**	**-0.2**
	baz=228						
SGST				*e*S	**Sg**	**19 02 43.9**	**+0.7**
	baz=228						
WSL	**Shuilin Townsh**	**1.64**	**247**	*e*P	**Pb**	**19 02 22.2**	**+0.7**
	baz=247						
WSL				*e*S	**Sg**	**19 02 46.2**	**+1.9**
	baz=247						
ICHU	**Yijhu**	**1.67**	**241**	*e*P	**Pb**	**19 02 22.4**	**+0.4**
	baz=242						
ICHU				*e*S	**Sg**	**19 02 45.3**	**+0.1**
	baz=242						
IRIF	**Iriomote-Funau**	**1.71**	**84**	P	**Pg**	**19 02 23.4**	**-1.0**
IRIF				*e*S	**Sg**	**19 02 47.6**	**+1.0**
CHN8	**Yiju**	**1.73**	**242**	*e*P	**Pb**	**19 02 23.2**	**+0.1**
	baz=243						
CHN8				*e*S	**Sb**	**19 02 45.3**	**+0.7**
	baz=243						
CHN3	**Shinhua**	**1.76**	**232**	*e*P	**Pg**	**19 02 26.6**	**+1.2**
	baz=233						
HATJ	**Hateruma jima**	**1.78**	**93**	P	**Pg**	**19 02 24.2**	**-1.5**
HATJ				S	**Sg**	**19 02 48.4**	**-0.4**
ECL	**Taimali**	**1.78**	**208**	*e*P	**Pb**	**19 02 22.9**	**-1.1**
	baz=194						
SCST	**Cishan**	**1.80**	**225**	*e*P	**Pb**	**19 02 25.1**	**+0.8**
	baz=225						
SCST				*e*S	**Sg**	**19 02 50.5**	**+1.0**
	baz=225						
SSD	**Sandimen**	**1.82**	**219**	*e*P	**Pb**	**19 02 24.2**	**-0.4**
	baz=202						
TSMG	**Majia**	**1.84**	**218**	*e*P	**Pb**	**19 02 24.6**	**-0.5**
	baz=202						
TWM1	**Shoushan**	**1.89**	**225**	*e*P	**Pb**	**19 02 26.9**	**+1.1**
	baz=225						
JKRS	**Kuro-shima**	**1.96**	**88**	P	**Pb**	**19 02 27.3**	**+0.3**
JKRS				*e*S	**Sg**	**19 02 54.4**	**-0.2**
EAST	**Anshuo**	**2.02**	**208**	*e*P	**Pn**	**19 02 24.8**	**-0.4**
	baz=196						
JIJ	**Ishigaki jima**	**2.09**	**84**	P	**Pb**	**19 02 28.6**	**-0.6**
JIJ				S	**Sg**	**19 02 55.7**	**-3.0**
SCZT	**Fangliau**	**2.13**	**213**	*e*P	**Pb**	**19 02 28.6**	**-1.3**
	baz=197						
SLIU	**Shizi**	**2.18**	**207**	*e*P	**Pn**	**19 02 26.9**	**-0.6**
	baz=196						
PNG	**Penghu**	**2.20**	**254**	*e*P	**Pn**	**19 02 28.7**	**+1.0**
	baz=257						
PHUB	**P'eng-hu**	**2.20**	**253**	*e*P	**Pn**	**19 02 26.9**	**-0.8**
	baz=256						
WDGT	**Dungji**	**2.22**	**246**	*e*P	**Pn**	**19 02 29.5**	**+1.5**
	baz=249						
JISG	**Ishigakijimahi**	**2.27**	**79**	P	**Pb**	**19 02 30.5**	**-1.8**
JISG				*e*S	**Sg**	**19 03 01.4**	**-3.1**
VWUC	**VWUC**	**2.34**	**291**	*e*P	**Pn**	**19 02 29.6**	**-0.1**
	baz=280						
VCHM	**Qimei**	**2.43**	**247**	*e*P	**Pn**	**19 02 32.4**	**+1.6**
	baz=235						
JTJ	**Tarama**	**2.63**	**79**	S	**Sb**	**19 03 11.2**	**+0.7**
KNM	**Kinmen**	**3.14**	**275**	*e*P	**Pn**	**19 02 42.8**	**+2.1**
	baz=276						
KNMB	**Chin-men Tao**	**3.19**	**276**	*e*P	**Pn**	**19 02 41.4**	**+0.2**
	baz=277						

*IDC **27** 19:09:09.4±0.8,59°.60S×26°.65W,h0km,mb4.1/7, mb1 4.2/8,mb1mx4.0/28,mbtmp4.1/8,ML4.6/1,Error ellipse: s-maj=32.8km s-min=20.2km az=67.0*
*NEIC **27** 19:09:11.7±2.6,59°.6S±0°.1×26°.3W±0°.3,h10km±1km, mb4.3/11,Error ellipse: s-maj=30.6km s-min=19.2km az=62.0*

ISC 27 19:09:11.1±0.7,59°.6S±0°.1×26°.3W±0°.2,h10km,n28, σ1°.31/26,mb4.1/9,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.35**	**153**	P	**Pn**	**19 12 19.4**	**-0.8**
VNA1				S	Sn	19 14 35.9	-13
VNA3	**Neumayer Olymp**	**13.50**	**157**	P	**Pn**	**19 12 20.8**	**-1.5**
VNA3				S	Sn	19 14 35.4	-17
VNA2	**Neumayer--Watz**	**13.75**	**153**	P	**Pn**	**19 12 23.9**	**-1.8**
	baz=308,slow=15						
VNA2				S	Sn	19 14 42.9	-15
SNAA	**Sanae**	**15.34**	**152**	P	**Pn**	**19 12 45.8**	**-1.4**
SNAA				S	Sn	19 15 19.8	-17
SNAA	**Sanae**	**15.34**	**152**	Pn	**Pn**	**19 12 46.0**	**-1.3**
	2.2nm,0.3s,baz=340,slow=4.7,SNR=65						
SNAA				Sn	Sn	19 15 20.0	-17
	0.2nm,0.3s,baz=174,slow=11,SNR=2.0						
SNAA	**Sanae**	**15.34**	**152**		**Pn**	**19 12 45.9**	**-1.4**
SNAA				IAmb	IAmb	19 12 48.9	
	comp=Z,6.4nm,0.5s						
TROLL	**Troll, Antarti**	**16.89**	**149**	P	**Pn**	**19 13 06.3**	**-1.0**
TROLL				S	Sn	19 15 59.5	-15
BELA	**Belgrano 2**	**18.56**	**185**		**Pn**	**19 13 28.9**	**+1.2**
GO09	**Cerro Castillo**	**26.89**	**267**	P	**P**	**19 14 51.9**	**+0.1**
QSPA	**South Pole Qui**	**30.63**	**180**	P	**P**	**19 15 26.6**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=80,slow=4.7,SNR=3.2						
QSPA	**South Pole Qui**	**30.63**	**180**	P	**P**	**19 15 26.5**	**+1.4**
QSPA				IAmb	IAmb	19 15 36.3	
	comp=Z,5.2nm,1.4s						
TRQA	**Tornquist**	**31.27**	**298**	P	**P**	**19 15 32.4**	**+1.6**
PLCA	**Paso Flores**	**33.21**	**285**	P	**P**	**19 15 46.9**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=140,slow=7.4,SNR=5.7						
PLCA	**Paso Flores**	**33.21**	**285**	P	**P**	**19 15 46.9**	**-1.0**
PLCA	**Paso Flores**	**33.21**	**285**	IAmb	IAmb	19 15 56.4	
	comp=Z,6.4nm,1.2s						
MAW	**Mawson**	**37.05**	**141**	P	**P**	**19 16 21.8**	**+1.2**
	comp=Z,7.4nm,0.9s,baz=278,slow=12,SNR=3.6						
MAW	**Mawson**	**37.05**	**141**	IAmb	IAmb	19 16 26.6	
	comp=Z,9.5nm,1.4s						
MT09	**Talagante**	**38.94**	**291**	P	**P**	**19 16 38.3**	**+1.2**
MT09				IAmb	IAmb	19 16 40.8	
	comp=Z,8.5nm,0.8s						
MT02	**Curacav**	**39.44**	**292**	P	**P**	**19 16 42.7**	**+1.6**
MT02				IAmb	IAmb	19 16 57.4	
	comp=Z,20nm,1.5s						
CPUP	**Villa Florida**	**39.55**	**313**	P	**P**	**19 16 40.0**	**-2.0**
	comp=Z,1.2nm,0.6s,baz=155,slow=5.0,SNR=2.0						
VNDA	**Vanda**	**43.03**	**183**	P	**P**	**19 17 10.1**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=197,slow=6.4,SNR=8.4						
TORD	**Torodi Ar. Bea**	**75.97**	**28**	P	**P**	**19 20 59.2**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=199,slow=6.2,SNR=13						
TORD	**Torodi Ar. Bea**	**75.97**	**28**	P	**P**	**19 20 58.8**	**+0.9**
TORD				IAmb	IAmb	19 21 10.0	
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**95.45**	**162**	P	**P**	**19 22 34.9**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=186,slow=4.1,SNR=10						
ARCES	**ARCESS Array B**	**134.08**	**23**	PKP	**PKPdf**	**19 28 27.1**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=219,slow=1.2,SNR=4.1						
YKA	**Yellowknife Ar**	**139.07**	**315**	PKP	**PKPdf**	**19 28 36.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=131,slow=2.2,SNR=4.9						
SONM	**Songino Array**	**150.32**	**92**	PKPbc	**PKPbc**	**19 29 00.0**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=222,slow=1.7,SNR=2.3						
ILAR	**Eielson Array**	**152.72**	**306**	PKPbc	**PKPbc**	**19 29 05.4**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=206,slow=3.2,SNR=4.2						

IDC 27 19:15:45.7±443.0,55°.59N×0°.57E,h0km,Error ellipse: s-maj=332.7km s-min=184.0km az=120.0,North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**10.50**	**125**	*i*		20 20 20.0	
	baz=319,slow=349,SNR=0.5						
I43RU	**DUBNA INFRASON**	**20.29**	**72**	*i*		21 27 20.0	
	baz=283,slow=328,SNR=1.1						
I48TN	**KESRA INFRASON**	**20.68**	**160**	*i*		21 18 40.0	
	baz=344,slow=326,SNR=0.6						

*JMA **27** 19:47:10.5±0.1,24°.03N×121°.61E,h21km±1km,M2.6*
*TAP **27** 19:47:12.1,24°.20N×121°.78E,h11km,ML3.2,B*

ISC 27 19:47:12.3±0.8,24°.19N±0°.02×121°.78E±0°.02,h10km±6km, n79,σ0°.54/135,18D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.13**	**343**	P	**Pg**	**19 47 15.1**	**-0.2**
	baz=344						
EHP				*e*S	**Sg**	**19 47 17.5**	**+0.2**
	baz=344						
ETL	**Fush Village**	**0.15**	**258**	⇓*i*P	**Pg**	**19 47 15.7**	**+0.1**
	baz=255						
ETL				S	**Sg**	**19 47 18.5**	**+0.5**
	baz=255						
NACB	**Ninganchiao**	**0.17**	**265**	⇓*i*P	**Pg**	**19 47 16.0**	**-0.1**
	baz=262						
NACB				*i* S	**Sg**	**19 47 18.8**	**+0.2**
	baz=262						
TWD	**Chiawan**	**0.20**	**238**	*e*P	**Pg**	**19 47 16.6**	**+0.1**
	baz=241						
TWD				S	**Sg**	**19 47 19.8**	**+0.4**
	baz=241						
ENA	**Nanau**	**0.24**	**351**	⇓*i*P	**Pg**	**19 47 17.1**	**-0.2**
	baz=352						
ENA				*e*S	**Sg**	**19 47 20.6**	**0.0**
	baz=352						
EWUT	**Wuta**	**0.26**	**359**	⇓*i*P	**Pg**	**19 47 17.4**	**-0.1**
	baz=359						
EWUT				S	**Sg**	**19 47 21.2**	**+0.1**
	baz=359						
HWA	**Hwalien**	**0.27**	**218**	*e*P	**Pb**	**19 47 18.8**	**-0.5**
	baz=225						
ETLH	**Xiulin Townshi**	**0.28**	**274**	*e*P	**Pg**	**19 47 17.4**	**-0.5**
	baz=272						
ETLH				*e*S	**Sg**	**19 47 21.6**	**0.0**
	baz=272						
LATG	**Datong**	**0.42**	**326**	⇓*i*P	**Pg**	**19 47 20.4**	**-0.1**
	baz=326						
LATG				*e*S	**Sb**	**19 47 27.0**	**-1.3**
	baz=326						
TWC	**Suao**	**0.42**	**8**	⇓*i*P	**Pg**	**19 47 20.5**	**-0.2**
	baz=10.0						
TWC				*e*S	**Sg**	**19 47 25.7**	**-0.6**
	baz=10.0						
NNSB	**Datong**	**0.44**	**303**	⇓*i*P	**Pg**	**19 47 20.9**	**0.0**
	baz=303						
NNSB				*e*S	**Sg**	**19 47 26.7**	**0.0**
	baz=303						
NDS	**Dongshan**	**0.45**	**352**	⇓*i*P	**Pg**	**19 47 21.1**	**0.0**
	baz=352						
NDS				*e*S	**Sg**	**19 47 26.5**	**-0.5**
	baz=352						
NNS	**Nan Shan**	**0.45**	**304**	⇓*i*P	**Pg**	**19 47 21.1**	**0.0**
	ba

TDCB	**Techi**	**0.57**	**277**	*eP*	**Pg**	**19 47 23.6**	**+0.1**
	baz=276							
TDCB				*eS*	**Sg**	**19 47 31.3**	**+0.3**
	baz=276							
ILA	**Ilan**	**0.57**	**357**	*eP*	**Pg**	**19 47 23.2**	**-0.3**
	baz=352							
ILA				*eS*	**Sg**	**19 47 30.8**	**-0.3**
	baz=352							
FUSB	**Fushanzhiwuyua**	**0.59**	**343**	⇓*iP*	**Pg**	**19 47 24.0**	**0.0**
	baz=342							
FUSB				*eS*	**Sg**	**19 47 31.6**	**-0.2**
	baz=342							
OWD	**Renai**	**0.60**	**247**	*eP*	**Pg**	**19 47 24.0**	**-0.1**
	baz=247							
OWD				*eS*	**Sg**	**19 47 32.3**	**+0.4**
	baz=247							
YHNB	**Yeheng**	**0.61**	**322**	⇓*iP*	**Pg**	**19 47 24.3**	**+0.2**
	baz=322							
YHNB				*eS*	**Sg**	**19 47 32.0**	**-0.1**
	baz=322							
EGFH	**Guangfu**	**0.61**	**212**	*eP*	**Pg**	**19 47 24.7**	**+0.5**
	baz=229							
EGFH				*eS*	**Sb**	**19 47 34.6**	**+0.8**
	baz=229							
NSK	**Sanguang**	**0.62**	**322**	⇓*iP*	**Pg**	**19 47 24.5**	**+0.1**
	baz=322							
NSK				*eS*	**Sg**	**19 47 32.8**	**+0.3**
	baz=322							
NWLT	**Wulai**	**0.64**	**337**	⇓P	**Pg**	**19 47 24.8**	**0.0**
	baz=336							
NWLT				*eS*	**Sg**	**19 47 33.1**	**0.0**
	baz=336							
WUSB	**Renai**	**0.64**	**252**	*eP*	**Pg**	**19 47 24.8**	**0.0**
	baz=245							
WUSB				*eS*	**Sg**	**19 47 33.1**	**0.0**
	baz=245							
NTC	**Toucheng**	**0.66**	**4**	*eP*	**Pg**	**19 47 24.8**	**-0.4**
	baz=4.0							
EGS		**0.67**	**12**	*eP*	**Pg**	**19 47 25.4**	**+0.1**
	baz=20							
VWDT	**VWDT**	**0.73**	**234**	*eP*	**Pg**	**19 47 26.6**	**+0.2**
	baz=234							
VWDT				*eS*	**Sg**	**19 47 36.5**	**+0.6**
	baz=234							
NFF	**Wufeng Townshi**	**0.75**	**306**	*eP*	**Pg**	**19 47 26.9**	**+0.1**
	baz=306							
NFF				*eS*	**Sb**	**19 47 37.0**	**-0.9**
	baz=306							
HGSD	**Ruisui**	**0.77**	**205**	*eP*	**Pb**	**19 47 28.2**	**+0.4**
	baz=194							
HGSD				*eS*	**Sb**	**19 47 39.3**	**+1.0**
	baz=194							
WHP	**Taichung City**	**0.77**	**277**	*eP*	**Pb**	**19 47 27.6**	**-0.3**
	baz=277							
WHP				*eS*	**Sb**	**19 47 37.8**	**-0.7**
	baz=277							
TIPB	**Shuangxi**	**0.78**	**3**	*eP*	**Pg**	**19 47 27.3**	**-0.1**
	baz=3.0							
TIPB				*eS*	**Sg**	**19 47 37.7**	**+0.1**
	baz=3.0							
EHY	**Hungye**	**0.80**	**212**	*eP*	**Pg**	**19 47 27.7**	**0.0**
	baz=224							
NHDH	**Xindian Distri**	**0.81**	**343**	*eP*	**Pg**	**19 47 27.8**	**-0.1**
	baz=343							
NHDH				*eS*	**Sg**	**19 47 38.0**	**-0.4**
	baz=343							
WCS	**Beigang Elemen**	**0.81**	**261**	*eP*	**Pg**	**19 47 28.0**	**+0.1**
	baz=254							
WCS				*eS*	**Sg**	**19 47 38.2**	**-0.2**
	baz=254							
TWA	**Mucha**	**0.81**	**347**	*eP*	**Pg**	**19 47 27.8**	**-0.1**
	baz=347							
TWA				*eS*	**Sb**	**19 47 38.8**	**-0.8**
	baz=347							
LIOB	**Emei**	**0.83**	**303**	*eP*	**Pb**	**19 47 28.9**	**-0.1**
	baz=303							
LIOB				*eS*	**Sg**	**19 47 39.4**	**+0.1**
	baz=303							
NSTT	**Nanjuang**	**0.84**	**302**	*eP*	**Pb**	**19 47 28.8**	**-0.2**
	baz=302							
NSTT				*eS*	**Sb**	**19 47 40.0**	**-0.4**
	baz=302							
TWB1	**Santiao Chiao**	**0.84**	**13**	*eP*	**Pg**	**19 47 27.9**	**-0.6**
	baz=13							
TWB1				*eS*	**Sg**	**19 47 39.4**	**0.0**
	baz=13							
SSLB	**Suanglung**	**0.86**	**242**	⇓*iP*	**Pg**	**19 47 28.6**	**-0.2**
	baz=252							
SSLB				*eS*	**Sg**	**19 47 39.4**	**-0.6**
	baz=252							
SMLT	**Sun Moon Lake**	**0.86**	**250**	*eP*	**Pg**	**19 47 29.0**	**+0.1**
	baz=250							
SMLT				*eS*	**Sg**	**19 47 40.2**	**0.0**
	baz=250							
NWF	**Wu-fen Shan**	**0.88**	**360**	*eP*	**Pb**	**19 47 29.4**	**-0.3**
	baz=353							
NWF				*eS*	**Sg**	**19 47 40.6**	**-0.1**
	baz=353							
TAP	**Taipei**	**0.88**	**344**	*eP*	**Pb**	**19 47 30.1**	**+0.3**
	baz=344							
TAP				*eS*	**Sb**	**19 47 41.4**	**-0.3**
	baz=344							
TYC	**Yuchr**	**0.89**	**252**	*eP*	**Pg**	**19 47 29.5**	**0.0**
	baz=245							
TYC				*eS*	**Sg**	**19 47 41.1**	**0.0**
	baz=245							
SXI1	**Grass Mountain**	**0.91**	**5**	*eP*	**Pg**	**19 47 29.7**	**-0.1**
	baz=352							
YULB	**Yu-li**	**0.91**	**209**	*eP*	**Pg**	**19 47 29.3**	**-0.5**
	baz=221							
TWQ1	**Liyutan**	**0.94**	**280**	*eP*	**Pb**	**19 47 30.8**	**+0.1**
	baz=281							
EYUL	**Yuli**	**0.94**	**207**	*eP*	**Pg**	**19 47 30.1**	**-0.3**
	baz=224							
SBCB	**Hsinchu**	**0.94**	**310**	*eP*	**Pn**	**19 47 31.5**	**-0.2**
	baz=311							
NCUH	**Zhongli**	**0.95**	**325**	*eP*	**Pg**	**19 47 30.5**	**-0.1**
	baz=325							
NCUH				*eS*	**Sn**	**19 47 45.6**	**+0.2**
	baz=325							
NCU	**National Centr**	**0.95**	**325**	*eP*	**Pg**	**19 47 29.9**	**-0.7**
	baz=325							
NCU				*eS*	**Sn**	**19 47 46.1**	**+0.7**
	baz=325							
NSY	**Sanyi**	**0.96**	**284**	*eP*	**Pn**	**19 47 31.9**	**0.0**
	baz=285							
HSN	**Hsinchu**	**0.96**	**310**	*eP*	**Pg**	**19 47 29.9**	**-0.9**
	baz=302							
TWS1	**Kuangyinshan**	**0.97**	**340**	*eP*	**Pg**	**19 47 30.8**	**-0.2**
	baz=340							
TWS1				*eS*	**Sn**	**19 47 46.2**	**+0.4**
	baz=340							
NMLH	**Miaoli**	**0.97**	**291**	*eP*	**Pn**	**19 47 32.3**	**+0.2**
	baz=292							
YM01	**YM01**	**0.97**	**349**	P	**Pb**	**19 47 31.3**	**-0.1**
	baz=349							
TCU	**Taichung**	**1.01**	**268**	*eP*	**Pn**	**19 47 33.5**	**+0.9**
	baz=268							
TCU				*eS*	**Sn**	**19 47 48.5**	**+1.5**
	baz=268							
NTST	**Danshui**	**1.02**	**343**	*eP*	**Pn**	**19 47 32.6**	**-0.1**
	baz=343							
NTST				*eS*	**Sn**	**19 47 48.0**	**+1.0**
	baz=343							
ANP	**Anpu**	**1.02**	**347**	*eP*	**Pb**	**19 47 32.1**	**-0.1**
	baz=347							
WJS	**Zhushan**	**1.03**	**249**	*eP*	**Pn**	**19 47 33.1**	**+0.2**
	baz=245							
WJS				*eS*	**Sn**	**19 47 47.0**	**-0.5**
	baz=245							
WNT	**Mingjian**	**1.05**	**253**	*eP*	**Pn**	**19 47 33.7**	**+0.6**
	baz=249							
WNT				*eS*	**Sn**	**19 47 47.9**	**0.0**
	baz=249							
WDJ	**Dajia District**	**1.05**	**279**	*eP*	**Pb**	**19 47 32.5**	**-0.2**
	baz=280							
WDJ				*eS*	**Sn**	**19 47 49.8**	**+1.8**
	baz=280							
FULB	**Fuli**	**1.08**	**205**	*eP*	**Pb**	**19 47 32.7**	**-0.5**
	baz=222							
JYNG	**Yonagunijimaku**	**1.09**	**76**	P	**Pb**	**19 47 33.4**	**+0.1**
JYNG				*eS*	**Sn**	**19 47 50.7**	**+1.8**
TWY	**Chenhua**	**1.09**	**351**	*eP*	**Pn**	**19 47 34.3**	**+0.5**
	baz=352							
WCHH	**Zhanghua**	**1.12**	**265**	*eP*	**Pn**	**19 47 35.1**	**+1.0**
	baz=266							
CHKT	**Chengkung**	**1.15**	**200**	*eP*	**Pb**	**19 47 32.6**	**-1.8**
	baz=181							
YOJ	**Yonaguni jima**	**1.15**	**76**	P	**Pb**	**19 47 34.4**	**0.0**
YOJ				*eS*	**Sn**	**19 47 51.3**	**+0.9**
YOJ	**Yonaguni jima**	**1.15**	**76**	*eP*	**Pb**	**19 47 34.2**	**-0.1**
	baz=62							
ELDTW	**Lidau**	**1.22**	**215**	*eP*	**Pn**	**19 47 34.3**	**-1.2**
	baz=202							
EDH	**Donghe**	**1.29**	**200**	*eP*	**Pn**	**19 47 34.5**	**-1.9**
	baz=188							
WRL	**Guoliierlin Hig**	**1.32**	**258**	*eP*	**Pb**	**19 47 37.4**	**+0.2**
	baz=260							
IRIF	**Iriomote-Funau**	**1.78**	**85**	P	**Pn**	**19 47 43.3**	**+0.1**
IRIF				*eS*	**Sb**	**19 48 07.6**	**0.0**
JKRS	**Kuro-shima**	**2.03**	**88**	P	**Pn**	**19 47 47.1**	**+0.4**
JKRS				*eS*	**Sn**	**19 48 13.5**	**+1.3**
JIJ	**Ishigaki jima**	**2.16**	**85**	S	**Sn**	**19 48 15.2**	**-0.1**
JISG	**Ishigakijimahi**	**2.34**	**80**	P	**Pn**	**19 47 51.3**	**+0.4**
JISG				*eS*	**Sn**	**19 48 19.9**	**+0.2**

TAP 27 19:47:28.9, 23.41N×120.63E, h6km, ML2.4, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHN4	**Tsaushan**	**0.06**	**212**	⇑*iP*	Pg	19 47 31.1	+0.5
	baz=209						
CHN4				*i* S	Sg	19 47 32.7	+0.9
	baz=209						
TPUB	**Ta-pu**	**0.10**	**180**	*i* P	Pg	19 47 31.8	+0.6
	baz=178						
TPUB				*i* S	Sg	19 47 34.5	+1.7
	baz=178						
WTP	**Ta-pu**	**0.16**	**185**	*i* P	Pg	19 47 33.1	+0.9
	baz=181						
WTP				S	Sg	19 47 36.3	+2.0
	baz=181						
TWK	**Hsinying**	**0.19**	**223**	*i* P	Pg	19 47 33.8	+1.1
	baz=211						
TWK				*i* S	Sg	19 47 37.2	+2.0
	baz=211						
CHN2	**Minshiung**	**0.19**	**312**	*eP*	Pg	19 47 34.1	+1.4
	baz=312						
CHN2				*eS*	Sg	19 47 37.7	+2.4
	baz=312						
ALS	**Alishan**	**0.19**	**57**	*i* P	Pg	19 47 34.0	+1.1
	baz=66						
ALS				S	Sg	19 47 37.9	+2.3
	baz=66						
CHY	**Chiayi**	**0.21**	**296**	*eP*	Pg	19 47 34.2	+1.2
	baz=297						
CHY				*eS*	Sg	19 47 38.4	+2.5
	baz=297						
SNST	**Tainan City**	**0.22**	**213**	*i* P	Pg	19 47 34.5	+1.2
	baz=206						
SNST				S	Sg	19 47 38.6	+2.4
	baz=206						
CHN1	**Nanshi**	**0.24**	**203**	*i* P	Pg	19 47 34.7	+1.1
	baz=201						
CHN1				S	Sg	19 47 39.3	+2.5
	baz=201						
STYH	**Taoyuan**	**0.27**	**150**	*i* P	Pg	19 47 35.0	+0.8
	baz=140						
STYH				*i* S	Sb	19 47 39.5	-1.5
	baz=140						
WDLH	**Douliu**	**0.29**	**344**	*eP*	Pb	19 47 36.4	-0.1
	baz=249						
WDLH	**Douliu**	**0.29**	**344**	*eP*	Pb	19 47 36.5	-0.1
	baz=344						
WDLH				*eS*	Sb	19 47 42.1	+0.4
	baz=344						
YUS	**Yu-Shan**	**0.31**	**74**	*eP*	Pb	19 47 36.2	-0.9
	baz=76						
YUS				*eS*	Sb	19 47 41.8	-0.8
	baz=76						
ICHU	**Yijhu**	**0.32**	**262**	*eP*	Pb	19 47 36.9	-0.2
	baz=261						
ICHU				*eS*	Sb	19 47 43.2	+0.7
	baz=261						
SGST	**Jiashian**	**0.32**	**188**	P	Pg	19 47 35.5	+0.3
	baz=185						
SGST				*eS*	Sb	19 47 41.2	-1.3
	baz=185						
WTK	**Tuku**	**0.36**	**322**	*eP*	Pb	19 47 37.0	-0.6
	baz=237						
WTK	**Tuku**	**0.36**	**322**	*eP*	Pb	19 47 37.5	-0.2
	baz=322						
WSL	**Shuilin Townsh**	**0.39**	**288**	*eP*	Pg	19 47 36.9	+0.4
	baz=287						
CHN8	**Yiju**	**0.39**	**261**	*eP*	Pb	19 47 37.9	-0.3
	baz=261						
WSF	**Szhu**	**0.44**	**302**	*eP*	Pb	19 47 38.7	-0.3
	baz=302						

NEIC ***27*** *20:11:58.1±1.4, 20.7S±0.2×176.8W±0.1, h296km±8km, mb4.1/9, Error ellipse: s-maj=24.4km s-min=15.7km az=150.0*
IDC ***27*** *20:11:59.1±2.8, 20.85S×176.82W, h311km±26km, mb3.2/7, mb1 3.5/10, mb1mx3.3/23, mbtmp4.0/10, Error ellipse: s-maj=24.0km s-min=13.8km az=111.0*

ISC 27 20:11:57.9±0.8, 20.8S±0.1×176.8W±0.1, h300km, n21, σ0°82/21, mb3.6/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.75**	**301**	P	**Pn**	**20 13 24.5**	**+0.1**
	1.4nm,0.3s,baz=123,slow=21,SNR=4.9						
MSVF	**Nonsavu**	**5.75**	**301**		**Pn**	**20 13 24.0**	**-0.4**
MARNC	**Mare, Loyalty**	**14.18**	**265**		**Pn**	**20 15 07.8**	**+1.1**
DZM	**Mont Dzumac**	**15.67**	**262**	P	**Pn**	**20 15 24.5**	**+0.3**
	1.2nm,0.3s,baz=91,slow=21,SNR=8.1						
URZ	**Urewera**	**18.18**	**196**	P	**P**	**20 15 49.7**	**+0.4**
	1.6nm,0.3s,baz=296,slow=22,SNR=8.7						
URZ				S	**S**	**20 18 59.8**	**-1.7**
	0.5nm,0.3s,baz=349,slow=20,SNR=1.5						
URZ	**Urewera**	**18.18**	**196**	P	**P**	**20 15 49.5**	**+0.2**
URZ				IAmb	IAmb	20 16 13.6	
	comp=Z,22nm,1.4s						
QRZ	**Quartz Range**	**21.93**	**202**	P	**P**	**20 16 28.3**	**+1.1**
RPZ	**Rata Peaks**	**25.00**	**201**	P	**P**	**20 16 55.7**	**+0.8**
	comp=Z,6.1nm,1.0s,baz=34,slow=7.3,SNR=2.0						
CTAO	**Charters Tower**	**34.59**	**265**	P	**P**	**20 18 19.1**	**-0.2**
CTAO				IAmb	IAmb	20 18 50.1	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**38.68**	**245**	P	**P**	**20 18 53.3**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=62,slow=7.5,SNR=4.4						
STKA	**Stephens Creek**	**38.68**	**245**	IAmb	IAmb	20 18 57.0	
	comp=Z,0.9nm,1.0s						
WR0	**Warramunga Arr**	**45.49**	**262**	P	**P**	**20 19 48.0**	**-0.3**
WR0				IAmb	IAmb	20 20 17.7	
	comp=Z,34nm,2.0s						
AS31	**Alice Springs**	**45.55**	**257**	P	**P**	**20 19 49.3**	**+0.6**
AS31				IAmb	IAmb	20 21 21.6	
	comp=Z,3.6nm,1.9s						
ASAR	**Alice Springs**	**45.56**	**257**	P	**P**	**20 19 48.9**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=95,slow=8.3,SNR=28						
WRAB	**Tennant Creek**	**45.68**	**262**	P	**P**	**20 19 49.5**	**-0.2**
WRAB				IAmb	IAmb	20 19 52.3	
	comp=Z,8.1nm,1.2s						
WRA	**Warramunga Arr**	**45.68**	**262**	P	**P**	**20 19 49.4**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=93,slow=7.8,SNR=37						
NVAR	**Mina Array Bea**	**80.47**	**43**	P	**P**	**20 23 37.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=226,slow=6.1,SNR=3.7						
TXAR	**Lajitas Array**	**86.27**	**57**	P	**P**	**20 24 07.8**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=208,slow=5.1,SNR=3.6						
ILAR	**Eielson Array**	**88.36**	**12**	P	**P**	**20 24 14.3**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=234,slow=6.3,SNR=4.6						
EKA	**Eskdalemuir Ar**	**145.19**	**6**	PKPbc	**PKPab**	**20 30 59.4**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=324,slow=2.5,SNR=8.6						
GERES	**GERESS Array B**	**150.79**	**346**	PKPbc	**PKPbc**	**20 31 14.0**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=5.7,slow=3.9,SNR=2.8						

TUL ***27*** *20:12:04.3±0.6, 35.73N±0.01×97.16W±0.01, h4km±7km, ML2.9, mb_Lg2.7/42(NEIC), Error ellipse: s-maj=1.9km s-min=1.6km az=136.0*
ANF ***27*** *20:12:04.3±0.3, 35.76N×97.14W, h4km, ML3.3/7, Error ellipse: s-maj=2.6km s-min=2.0km az=146.0*
NEIC ***27*** *20:12:05.0±0.6, 35.73N±0.02×97.17W±0.04, h6km±7km, Error ellipse: s-maj=5.3km s-min=1.3km az=126.0*

ISC 27 20:12:04.5±1.3, 35.74N±0.03×97.14W±0.03, h1km±14km, n42, σ0°73/33, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK001	**Jones High Sch**	**0.22**	**214**	Pg	**Pg**	**20 12 08.7**	**0.0**
OK001				Sg	**Sg**	**20 12 11.6**	**+0.2**
OKCFA	**Oklahoma City**	**0.41**	**218**	Pg	**Pg**	**20 12 12.3**	**-0.1**
OKCFA				Sg	**Sg**	**20 12 17.7**	**0.0**
OKCFA	**Oklahoma City**	**0.41**	**218**	S	**Sg**	**20 12 18.1**	**+0.3**
	baz=37						
OKCSW	**OKLAHOMA CITY**	**0.41**	**216**		**Pg**	**20 12 12.4**	**0.0**
FNO	**Franklin**	**0.53**	**204**	Pg	**Pg**	**20 12 14.4**	**-0.3**
FNO				Sg	**Sg**	**20 12 21.7**	**+0.3**
TUL1	**Leonard**	**1.11**	**81**		**Pg**	**20 12 24.9**	**-0.9**
TUL1	**Leonard**	**1.11**	**81**	P	**Pg**	**20 12 24.9**	**-0.9**
	baz=261						
TUL1				S	**Sg**	**20 12 40.6**	**+0.3**
	baz=261						
X34A	**Smith Ranch, M**	**1.27**	**207**	Pg	**Pb**	**20 12 28.0**	**-1.3**
T35A	**Sooner Cattle**	**1.28**	**23**		**Pn**	**20 12 28.1**	**-1.5**
T35B	**Sooner Cattle**	**1.28**	**23**	P	**Pn**	**20 12 28.3**	**-1.3**
	baz=204						
T35B				S	**Sb**	**20 12 46.0**	**-0.4**
	baz=204						
U32A	**Winter Ranch,**	**1.64**	**293**		**Pn**	**20 12 34.0**	**-0.4**
U32A	**Winter Ranch,**	**1.64**	**293**	P	**Pn**	**20 12 33.8**	**-0.7**
	baz=113						
U32A				S	**Sb**	**20 12 56.5**	**-0.2**
	baz=113						
WMOK	**Wichita Mounta**	**1.67**	**234**		**Pn**	**20 12 34.3**	**-0.7**
X37A	**Clayton**	**1.85**	**128**		**Pn**	**20 12 37.5**	**+0.1**
X37A	**Clayton**	**1.85**	**128**	P	**Pn**	**20 12 37.3**	**-0.1**
	baz=308						
X37A				Sb	**Sb**	**20 13 03.7**	**+0.9**
	baz=308						
Z35A	**Perchaven, San**	**2.41**	**182**	Pn	**Pn**	**20 12 44.9**	**-0.2**
W39A	**Magazine**	**2.79**	**100**		**Pn**	**20 12 50.2**	**-0.1**
W39A				IAmb_Lg		20 13 38.7	
	comp=Z,22nm,1.1s						
R32A	**Long Quarter,**	**2.96**	**335**	IAmb_Lg		20 13 44.3	
	comp=Z,20nm,0.7s						
R32A	**Long Quarter,**	**2.96**	**335**	P	**Pb**	**20 12 59.6**	**+1.6**
	baz=155						
MIAR	**Mount Ida**	**3.16**	**111**	Pn	**Pn**	**20 12 55.8**	**+0.5**
MIAR	**Mount Ida**	**3.16**	**111**	P	**Pn**	**20 12 55.8**	**+0.5**
	baz=293						
KSU1	**Kansas State U**	**3.38**	**7**	P	**Pb**	**20 13 06.8**	**+1.6**
	baz=188						
S39A	**Bolivar**	**3.63**	**56**		**Pn**	**20 13 01.6**	**-0.4**
CBKS	**Cedar Bluff**	**3.70**	**327**	IAmb_Lg		20 14 03.6	
	comp=Z,16nm,0.9s						
ABTX	**Abilene, Hawle**	**3.74**	**214**	IAmb_Lg		20 14 02.7	
	comp=Z,10nm,0.8s						
X40A	**Basin Creek Fa**	**3.75**	**108**		**Pn**	**20 13 04.0**	**+0.5**
X40A				IAmb_Lg		20 14 10.9	
	comp=Z,15nm,0.7s						
AMTX	**Amarillo**	**3.81**	**258**	IAmb_Lg		20 14 10.0	
	comp=Z,22nm,0.8s						
237A	**Washetta, Mont**	**3.89**	**163**	IAmb_Lg		20 14 12.6	
	comp=Z,14nm,0.7s						
WHAR	**Wooly Hollow**	**3.98**	**95**		**Pn**	**20 13 06.8**	**0.0**
WHAR				IAmb_Lg		20 14 14.5	
	comp=Z,16nm,0.8s						
W41B	**Gary Mavity, V**	**4.04**	**97**		**Pn**	**20 13 07.4**	**0.0**
W41B				IAmb_Lg		20 14 13.3	
	comp=Z,12nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.08**	**86**	IAmb_Lg		20 14 18.5	
	comp=Z,17nm,0.7s						
R40A	**Maddies Statio**	**4.66**	**55**	IAmb_Lg		20 14 40.9	
	comp=Z,15nm,0.8s						
LCAR	**Lake Charles**	**4.87**	**84**	IAmb_Lg		20 14 42.7	
	comp=Z,7.1nm,0.8s						
CCM	**Cathedral Cave**	**5.26**	**62**	IAmb_Lg		20 14 51.4	
	comp=Z,26nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.45**	**308**	IAmb_Lg		20 15 12.8	
	comp=Z,16nm,0.8s						
P40A	**Paris**	**5.54**	**45**	IAmb_Lg		20 15 03.2	
	comp=Z,22nm,0.7s						
JCT	**Junction City**	**5.70**	**204**	IAmb_Lg		20 15 12.0	
	comp=Z,14nm,0.8s						
FVM	**French Village**	**5.83**	**65**	IAmb_Lg		20 15 11.3	
	comp=Z,14nm,0.8s						
T25A	**Trinidad**	**6.02**	**286**	IAmb_Lg		20 15 19.9	
	comp=Z,10nm,0.8s						
SIUC	**Southern Illin**	**6.66**	**70**	IAmb_Lg		20 15 46.7	
	comp=Z,19nm,0.9s						
K31A	**O'Neill**	**6.99**	**350**	IAmb_Lg		20 16 05.9	
	comp=Z,17nm,0.7s						
SDCO	**Great Sand Dun**	**7.00**	**289**	Pn	**Pn**	**20 13 48.4**	**-0.1**

OTT 27 20:43:35.1±0.5, 41.71N×55.34W, h18km, ML3.5/1, Atlantic Ocean. 598km southeast from Louisbourg, Ns, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GBN	**Guysborough**	**5.82**	**312**	PN	Pn	20 44 59.5	-0.9
GBN				SN	Sn	20 46 03.0	-3.6
GBN				Trac		20 46 12.6	
	comp=Z,7.7nm,0.3s						
DRLN	**Deer Lake**	**7.70**	**349**	PN	Pn	20 45 25.2	-1.1
DRLN				SN	Sn	20 46 47.1	-5.9
DRLN				Trac		20 46 49.7	
	comp=Z,866nm,3.1s						
LMN	**Caledonia Moun**	**8.01**	**304**	PN	Pn	20 45 29.5	-1.0
LMN				SN	Sn	20 46 53.9	-6.7
LMN				Trac		20 46 59.1	
	comp=Z,37nm,0.8s						
ELNB	**Elgin, New Bru**	**8.22**	**304**	PN	Pn	20 45 32.9	-0.6
ELNB				SN	Sn	20 46 59.2	-6.6
ELNB				Trac		20 47 07.7	
	comp=Z,0.7nm,0.2s						
SRNB	**Snider Mountai**	**8.52**	**302**	PN	Pn	20 45 36.2	-1.3
GGN	**Saint George**	**9.04**	**296**	SN	Sn	20 47 17.1	-8.8

SNET ***27*** *20:58:14.3±1.2, 13.77N×90.81W, h30km±5km, ML3.7*
UCR ***27*** *20:58:14.4±1.1, 13.78N×90.81W, h30km±4km, ML3.7*
GCG ***27*** *20:58:18.5±0.7, 14.05N×90.88W, h51km±19km, MD3.8*

ISC 27 20:58:12.7±1.8, 13.63N±0.08×90.87W±0.05, h23km±16km, n33, σ0°82/49, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.80**	**18**	*eP*	**Pn**	**20 58 29.6**	**+0.7**
FUG	**Fuego 3**	**0.82**	**2**	*eP*	**Pn**	**20 58 29.5**	**+0.5**
NBG	**Las Nubes**	**1.08**	**28**	*eP*	**Pb**	**20 58 34.0**	**+1.1**
NBG				*eS*	**Sb**	**20 58 48.8**	**+2.1**
NUBE	**Las Nubes**	**1.09**	**75**	*eP*	**Pn**	**20 58 32.5**	**-0.3**
NUBE				*eS*	**Sb**	**20 58 46.4**	**-0.5**
NUBE				IAML		20 58 48.6	
	comp=Z,910nm,0.3s						
NUBE	**Las Nubes**	**1.09**	**75**	*eP*	**Pn**	**20 58 32.5**	**-0.3**
NUBE				*eS*	**Sb**	**20 58 46.4**	**-0.5**
NUBE				IAML		20 58 48.6	
	comp=Z,910nm,0.3s						
SLOZ	**Alcaldia de Sa**	**1.12**	**69**	*eP*	**Pb**	**20 58 33.4**	**-0.1**
SLOZ				*eS*	**Sb**	**20 58 47.6**	**-0.1**
SLOZ				IAML		20 58 54.2	
	comp=Z,1μm,0.4s

LALI				*e*S		**Sb**	**20 58 58.5**	**-0.3**
LALI	**Alcalda de L**	**1.51**	**95**	*e*P		**Pn**	**20 58 38.6**	**+0.2**
LALI				*e*S		**Sb**	**20 58 58.5**	**-0.3**
BOQS	**Boqueron**	**1.55**	**86**	*e*P		**Pn**	**20 58 39.0**	**-0.1**
BOQS	**Boqueron**	**1.55**	**86**	*e*P		**Pn**	**20 58 39.0**	**-0.1**
MTO3	**Montecristo**	**1.65**	**62**	*e*P		**Pn**	**20 58 40.0**	**-0.6**
MTO3				*e*S		**Sb**	**20 59 01.0**	**-2.2**
MTO3	**Montecristo**	**1.65**	**62**	*e*P		**Pn**	**20 58 40.0**	**-0.6**
MTO3				*e*S		**Sb**	**20 59 01.0**	**-2.2**
ESQI	**Esquipulas**	**1.75**	**58**	*e*P		**Pn**	**20 58 41.3**	**-0.4**
LFRS	**El Faro**	**1.76**	**90**	*e*P		**Pn**	**20 58 42.6**	**+0.7**
LFRS	**El Faro**	**1.76**	**90**	*e*P		**Pn**	**20 58 42.6**	**+0.7**
SJTE	**Alcalda de S**	**1.81**	**90**	*e*P		**Pn**	**20 58 43.0**	**+0.4**
SJTE	**Alcalda de S**	**1.81**	**90**	*e*P		**Pn**	**20 58 43.0**	**+0.4**
PAVA	**Las Pavas**	**1.88**	**87**	*e*P		**Pn**	**20 58 44.8**	**+1.3**
PAVA	**Las Pavas**	**1.88**	**87**	*e*P		**Pn**	**20 58 44.8**	**+1.3**
SCLA	**Alcaldia de Sa**	**2.08**	**88**	*e*P		**Pn**	**20 58 48.0**	**+1.7**
SCLA	**Alcaldia de Sa**	**2.08**	**88**	*e*P		**Pn**	**20 58 48.0**	**+1.7**

TUL ***27*** *21:03:24.1±0.7,36°.52N±0°.02×98°.98W±0°.02,h5km±4km, ML2.9,mb_Lg2.5/29(NEIC),Error ellipse: s-maj=2.7km s-min=1.7km az=167.0*

NEIC 27 21:03:24.7±0.6,36°.52N±0°.02×98°.99W±0°.03,h6km±4km, Error ellipse: s-maj=4.1km s-min=2.7km az=89.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.14**	**183**		Pg	Pg	21 03 27.3	-0.2
OKCFA	**Oklahoma City**	**1.67**	**131**		IAmb_Lg		21 04 19.2	
	comp=Z,30nm,0.8s							
WMOK	**Wichita Mounta**	**1.78**	**174**			Pn	21 03 55.7	-0.3
WMOK					IAmb_Lg		21 04 23.5	
	comp=Z,31nm,0.8s							
FNO	**Franklin**	**1.80**	**134**			Pn	21 03 55.6	-0.6
FNO					IAmb_Lg		21 04 23.0	
	comp=Z,38nm,0.8s							
R32A	**Long Quarter,**	**1.92**	**7**	Pn		Pn	21 03 58.0	+0.2
T35A	**Sooner Cattle**	**2.03**	**78**			Pn	21 03 59.8	+0.4
T35A					IAmb_Lg		21 04 32.3	
	comp=Z,15nm,0.8s							
X34A	**Smith Ranch, M**	**2.13**	**153**			Pn	21 04 01.9	+1.1
CBKS	**Cedar Bluff**	**2.37**	**346**	Pn		Pn	21 04 04.4	+0.3
CBKS					IAmb_Lg		21 04 42.7	
	comp=Z,17nm,0.7s							
TUL1	**Leonard**	**2.66**	**102**		IAmb_Lg		21 04 52.0	
	comp=Z,9.8nm,0.8s							
AMTX	**Amarillo**	**2.73**	**234**			Pn	21 04 09.1	0.0
AMTX					IAmb_Lg		21 04 51.5	
	comp=Z,17nm,0.7s							
X37A	**Clayton**	**3.52**	**122**	Pn		Pn	21 04 19.8	-0.1
MSTX	**Muleshoe**	**4.00**	**232**		IAmb_Lg		21 05 39.8	
	comp=Z,6.8nm,0.9s							
T25A	**Trinidad**	**4.39**	**280**		IAmb_Lg		21 05 47.9	
	comp=Z,8.2nm,0.8s							
W39A	**Magazine**	**4.43**	**106**		IAmb_Lg		21 05 53.4	
	comp=Z,14nm,0.8s							
S39A	**Bolivar**	**4.68**	**74**		IAmb_Lg		21 05 52.2	
	comp=Z,8.3nm,0.9s							
U40A	**Yellville**	**4.95**	**90**		IAmb_Lg		21 06 12.7	
	comp=Z,5.4nm,0.8s							
P38A	**Dawn**	**5.31**	**53**	Pn		Pn	21 04 45.1	+0.7
WHAR	**Wooly Hollow**	**5.58**	**101**	Pn		Pn	21 04 46.3	-1.9
K31A	**O'Neill**	**6.10**	**2**		IAmb_Lg		21 06 44.6	
	comp=Z,9.9nm,0.7s							

JMA ***27*** *21:15:03.9±0.1,24°.02N×121°.53E,h25km±1km,M4.2*
IDC ***27*** *21:15:03.1±0.8,24°.24N×121°.86E,h0km,mb3.9/15, mb1 4.0/16,mb1mx3.9/58,mbtmp3.9/16,ML3.4/1,MS3.3/15, Ms1 3.3/15,ms1mx3.0/95,Error ellipse: s-maj=21.1km s-min=18.3km az=71.0*
NIED ***27*** *21:15:03.9,24°.02N×121°.53E,h25km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-1.93; Mθθ 0.60; Mφφ 1.33; Mrθ 0.59; Mθφ 0.86; Mφr-0.24; Fault plane solution: M₀2.01000×10¹⁵ NP1:ϕs18.00000°, δ45.00000°,λ-113.00000°. NP2:ϕs229.00000°, δ49.00000°,λ-68.00000°.*
TAP ***27*** *21:15:06.5,24°.24N×121°.74E,h12km,ML4.3,B*
NIED ***27*** *21:15:06.2±1.9,24°.20N±0°.02×121°.79E±0°.03,h14km, mb4.2/15,ML4.5(TAP),Error ellipse: s-maj=4.6km s-min=3.4km az=100.0*
BJI ***27*** *21:15:06.0±0.0,24°.27N×121°.81E,h6km,mb3.9/15, mB4.3/10,ML4.1/7,Ms4.1/13,Ms7 3.9/14*

ISC 27 21:15:05.8±0.7,24°.23N±0°.01×121°.80E±0°.02,h14km±4km, n210,σ0s98/277,mb4.0/24,MS3.3/14,8C-37D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**329**	*e*P		**Pg**	**21 15 09.2**	**+0.2**
	baz=5.0							
EHP				*i* S		**Sg**	**21 15 11.3**	**+0.3**
	baz=5.0							
ETL	**Fush Village**	**0.17**	**247**	P		**Pg**	**21 15 09.9**	**0.0**
	baz=226							
ETL				*i* S		**Sg**	**21 15 12.5**	**-0.2**
	baz=226							
NACB	**Ninganchiao**	**0.19**	**254**	Pg		**Pg**	**21 15 10.1**	**-0.1**
NACB				Sg		**Sg**	**21 15 12.9**	**-0.2**
NACB	**Ninganchiao**	**0.19**	**254**	⇓*i*P		**Pg**	**21 15 10.1**	**-0.1**
	baz=237							
NACB				*i* S		**Sg**	**21 15 12.9**	**-0.2**
	baz=237							
ENA	**Nanau**	**0.21**	**346**	⇓*i*P		**Pg**	**21 15 10.8**	**+0.4**
	baz=2.0							
ENA				*i* S		**Sg**	**21 15 13.4**	**-0.2**
	baz=2.0							
EWUT	**Wuta**	**0.22**	**356**	⇓*i*P		**Pb**	**21 15 11.2**	**-0.3**
	baz=9.0							
EWUT				S		**Sb**	**21 15 14.7**	**-0.7**
	baz=9.0							
TWD	**Chiawan**	**0.23**	**232**	⇑*i*P		**Pg**	**21 15 10.9**	**+0.1**
	baz=219							
TWD				*i* S		**Sg**	**21 15 14.3**	**+0.1**
	baz=219							
ETLH	**Xiulin Townshi**	**0.29**	**266**	⇓*i*P		**Pg**	**21 15 11.8**	**-0.1**
	baz=263							
ETLH				*e*S		**Sg**	**21 15 15.6**	**-0.4**
	baz=263							
HWA	**Hwalien**	**0.30**	**215**	*e*P		**Pb**	**21 15 13.0**	**+0.1**
	baz=214							
TWC	**Suao**	**0.39**	**7**	⇓*i*P		**Pb**	**21 15 14.3**	**-0.1**
	baz=8.0							
TWC				*i* S		**Sb**	**21 15 19.6**	**-0.6**
	baz=8.0							
LATG	**Datong**	**0.39**	**322**	⇓*i*P		**Pg**	**21 15 14.1**	**+0.3**
	baz=326							
LATG				*i* S		**Sg**	**21 15 19.2**	**0.0**
	baz=326							
NDS	**Dongshan**	**0.41**	**350**	⇓*i*P		**Pb**	**21 15 14.8**	**-0.1**
	baz=356							
NDS				*i* S		**Sg**	**21 15 20.0**	**+0.3**
	baz=356							
NNSB	**Datong**	**0.43**	**298**	⇓*i*P		**Pg**	**21 15 14.6**	**+0.2**
	baz=300							
NNSB				S		**Sg**	**21 15 19.7**	**-0.5**
	baz=300							
NNS	**Nan Shan**	**0.44**	**299**	⇓*i*P		**Pg**	**21 15 14.8**	**+0.2**
	baz=301							
NNS				*i* S		**Sg**	**21 15 20.1**	**-0.5**
	baz=301							
ENTT	**Nioudou**	**0.46**	**333**	⇓*i*P		**Pb**	**21 15 15.6**	**-0.2**
	baz=339							
ENTT				*i* S		**Sg**	**21 15 21.5**	**+0.3**
	baz=339							
WHF	**Hehuan Shan**	**0.49**	**261**	⇓*i*P		**Pg**	**21 15 15.5**	**-0.1**
	baz=258							
WHF				*i* S		**Sg**	**21 15 21.8**	**-0.5**
	baz=258							
TWE	**Neicheng**	**0.51**	**347**	⇓*i*P		**Pb**	**21 15 16.5**	**+0.1**
	baz=359							
TWE				*e*S		**Sb**	**21 15 23.4**	**-0.3**
	baz=359							
ESL	**Shilin**	**0.53**	**219**	⇑P		**Pg**	**21 15 16.1**	**0.0**
	baz=222							
ESL				*e*S		**Sg**	**21 15 23.0**	**-0.2**
	baz=222							
ILA	**Ilan**	**0.54**	**355**	⇓*i*P		**Pb**	**21 15 17.4**	**+0.4**
	baz=356							
ILA				*e*S		**Sb**	**21 15 25.2**	**+0.6**
	baz=356							
FUSB	**Fushanzhiwuyua**	**0.56**	**340**	⇓*i*P		**Pb**	**21 15 17.5**	**0.0**
	baz=345							
FUSB				*i* S		**Sg**	**21 15 24.9**	**+0.4**
	baz=345							
TWT	**Tachien**	**0.57**	**273**	⇓*i*P		**Pb**	**21 15 17.4**	**-0.1**
	baz=272							
TWT				*e*S		**Sg**	**21 15 24.9**	**+0.4**
	baz=272							
TDCB	**Techi**	**0.58**	**273**	⇓*i*P		**Pg**	**21 15 17.5**	**+0.3**
	baz=272							
TDCB				*e*S		**Sg**	**21 15 24.6**	**-0.4**
	baz=272							
YHNB	**Yeheng**	**0.58**	**319**	Pg		**Pg**	**21 15 17.7**	**-0.1**
YHNB				Sg		**Sg**	**21 15 25.4**	**+0.3**
YHNB	**Yeheng**	**0.58**	**319**	P		**Pb**	**21 15 18.0**	**+0.2**
YHNB	**Yeheng**	**0.58**	**319**	⇓*i*P		**Pb**	**21 15 17.8**	**-0.1**
	baz=322							
YHNB				*i* S		**Sb**	**21 15 25.6**	**-0.4**
	baz=322							
CHGB	**Renai**	**0.59**	**254**	⇓*i*P		**Pg**	**21 15 17.7**	**+0.2**
	baz=244							
CHGB				S		**Sg**	**21 15 25.2**	**-0.2**
	baz=244							
NSK	**Sanguang**	**0.60**	**318**	⇓*i*P		**Pb**	**21 15 18.0**	**-0.1**
	baz=322							
NSK				*i* S		**Sg**	**21 15 25.7**	**+0.2**
	baz=322							
NWLT	**Wulai**	**0.61**	**334**	⇓*i*P		**Pb**	**21 15 18.5**	**+0.2**
	baz=338							
NWLT				*i* S		**Sg**	**21 15 26.0**	**+0.2**
	baz=338							
NTC	**Toucheng**	**0.63**	**3**	⇓*i*P		**Pb**	**21 15 18.9**	**+0.4**
	baz=7.0							
NTC				*i* S		**Sb**	**21 15 27.6**	**+0.5**
	baz=7.0							
OWD	**Renai**	**0.63**	**245**	⇓*i*P		**Pg**	**21 15 18.1**	**0.0**
	baz=242							
OWD				*e*S		**Sg**	**21 15 26.0**	**-0.4**
	baz=242							
EGS		**0.63**	**11**	*e*P		**Pb**	**21 15 19.1**	**+0.6**
	baz=24							
EGFH	**Guangfu**	**0.65**	**211**	*e*P		**Pb**	**21 15 19.0**	**+0.2**
	baz=214							
EGFH				*e*S		**Sb**	**21 15 28.2**	**+0.5**
	baz=214							
WUSB	**Renai**	**0.66**	**250**	⇓*i*P		**Pg**	**21 15 18.9**	**+0.2**
	baz=240							
WUSB				*e*S		**Sg**	**21 15 26.9**	**-0.6**
	baz=240							
NFF	**Wufeng Townshi**	**0.74**	**303**	⇓*i*P		**Pb**	**21 15 20.6**	**+0.1**
	baz=305							
NFF				*e*S		**Sg**	**21 15 29.6**	**-0.3**
	baz=305							
TIPB	**Shuangxi**	**0.74**	**2**	⇓*i*P		**Pb**	**21 15 21.0**	**+0.5**
	baz=6.0							
TIPB				*e*S		**Sg**	**21 15 28.9**	**-1.2**
	baz=6.0							
VWDT	**VWDT**	**0.76**	**232**	⇓*i*P		**Pg**	**21 15 20.6**	**+0.1**
	baz=229							
VWDT				*e*S		**Sb**	**21 15 31.5**	**+0.5**
	baz=229							
NHDH	**Xindian Distri**	**0.78**	**342**	*e*P		**Pb**	**21 15 21.5**	**+0.5**
	baz=345							
NHDH				*e*S		**Sb**	**21 15 31.8**	**+0.4**
	baz=345							
TWA	**Mucha**	**0.78**	**346**	*e*P		**Pb**	**21 15 21.7**	**+0.7**
	baz=349							
WHP	**Taichung City**	**0.78**	**274**	⇓*i*P		**Pb**	**21 15 21.3**	**+0.2**
	baz=273							
WHP				S		**Sg**	**21 15 30.4**	**-0.7**
	baz=273							
TATO	**Taipei**	**0.80**	**339**	Pg		**Pb**	**21 15 21.9**	**+0.5**
TWB1	**Santiao Chiao**	**0.80**	**13**	⇓*i*P		**Pb**	**21 15 21.9**	**+0.5**
	baz=16							
TWB1				*e*S		**Sg**	**21 15 31.5**	**-0.3**
	baz=16							
HGSD	**Ruisui**	**0.81**	**205**	⇓*i*P		**Pb**	**21 15 22.0**	**+0.5**
	baz=189							
HGSD				*e*S		**Sn**	**21 15 35.9**	**+1.5**
	baz=189							
LIOB	**Emei**	**0.82**	**301**	*e*P		**Pb**	**21 15 22.4**	**+0.5**
	baz=302							
LIOB				*e*S		**Sb**	**21 15 33.2**	**+0.4**
	baz=302							
WCS	**Beigang Elemen**	**0.82**	**258**	*e*P		**Pb**	**21 15 21.9**	**+0.1**
	baz=257							
NSTT	**Nanjuang**	**0.83**	**299**	⇓*i*P		**Pb**	**21 15 22.3**	**+0.4**
	baz=300							
NSTT				*e*S		**Sg**	**21 15 32.6**	**-0.2**
	baz=300							
EHY	**Hungye**	**0.84**	**211**	*e*P		**Pb**	**21 15 22.2**	**+0.1**
	baz=221							
NWF	**Wu-fen Shan**	**0.84**	**359**	⇓*i*P		**Pn**	**21 15 23.0**	**-0.3**
	baz=355							
NWF				*e*S		**Sg**	**21 15 33.3**	**0.0**
	baz=355							
TAP	**Taipei**	**0.85**	**342**	⇑*i*P		**Pn**	**21 15 23.7**	**+0.4**
	baz=334							
SXI1	**Grass Mountain**	**0.87**	**5**	⇓*i*P		**Pn**	**21 15 23.5**	**-0.2**
	baz=354							
SSLB	**Suanglung**	**0.89**	**241**	Pg		**Pg**	**21 15 22.7**	**-0.2**
SSLB	**Suanglung**	**0.89**	**241**	P		**Pb**	**21 15 23.1**	**+0.2**
SSLB	**Suanglung**	**0.89**	**241**	⇓*i*P		**Pg**	**21 15 22.7**	**-0.2**
	baz=239							
SSLB				*e*S		**Sg**	**21 15 33.5**	**-1.0**
	baz=239							
SMLT	**Sun Moon Lake**	**0.89**	**248**	⇓P		**Pg**	**21 15 22.9**	**-0.1**
	baz=236							
SMLT				*e*S		**Sg**	**21 15 33.7**	**-1.0**
	baz=236							
TYC	**Yuchr**	**0.92**	**250**	⇓*i*P		**Pg**	**21 15 23.3**	**-0.2**
	baz=248							
NCUH	**Zhongli**	**0.93**	**323**	*e*P		**Pn**	**21 15 24.8**	**+0.5**
	baz=325							
NCUH				*e*S		**Sn**	**21 15 37.7**	**+0.2**
	baz=325							
NCU	**National Centr**	**0.93**	**323**	*e*P		**Pn**	**21 15 24.2**	**-0.1**
	baz=325							
NCU				*e*S		**Sn**	**21 15 38.8**	**+1.3**
	baz=325							
SBCB	**Hsinchu**	**0.93**	**308**	*e*P		**Pn**	**21 15 25.0**	**+0.6**
	baz=309							
SBCB				*e*S		**Sb**	**21 15 36.6**	**+0.7**
	baz=309							
TWS1	**Kuangyinshan**	**0.94**	**339**	*e*P		**Pn**	**21 15 25.0**	**+0.5**
	baz=350							
TWS1				*e*S		**Sn**	**21 15 37.7**	**0.0**
	baz=350							
YM01	**YM01**	**0.94**	**347**	*e*P		**Pn**	**21 15 24.6**	**+0.1**
	baz=350							
YM01				*e*S		**Sb**	**21 15 36.9**	**+0.6**
	baz=350							
TWQ1	**Liyutan**	**0.94**	**278**	*e*P		**Pn**	**21 15 24.7**	**+0.1**
	baz=277							
HSN	**Hsinchu**	**0.95**	**308**	*e*P		**Pn**	**21 15 25.1**	**+0.5**
	baz=301							
HSN				*e*S		**Sn**	**21 15 37.6**	**-0.3**
	baz=301							
YULB	**Yu-li**	**0.95**	**209**	Pg		**Pb**	**21 15 23.1**	**-0.8**
YULB	**Yu-li**	**0.95**	**209**	*e*P		**Pb**	**21 15 23.3**	**-0.7**
	baz=216							
YULB				*e*S		**Sn**	**21 15 37.6**	**-0.4**
	baz=216							
NMLH	**Miaoli**	**0.97**	**289**	*e*P		**Pn**	**21 15 25.9**	**+1.0**
	baz=289							
EYUL	**Yuli**	**0.98**	**207**	*e*P		**Pn**	**21 15 25.1**	**+0.1**
	baz=215							
EYUL				*e*S		**Sn**	**21 15 39.9**	**+1.2**
	baz=215							
ANP	**Anpu**	**0.99**	**345**	*e*P		**Pn**	**21 15 25.6**	**+0.3**
	baz=348							
TCU	**Taichung**	**1.03**	**266**	*e*P		**Pn**	**21 15 27.4**	**+1.6**
	baz=265							
TCU				*e*S		**Sn**	**21 15 42.2**	**+2.3**
	baz=265							
WJS	**Zhushan**	**1.06**	**248**	⇑P		**Pn**	**21 15 27.4**	**+1.3**
	baz=242							
WJS				*e*S		**Sn**	**21 15 41.5**	**+0.9**
	baz=242							
TWY	**Chenhua**	**1.06**	**350**	*e*P		**Pn**	**21 15 27.0**	**+0.8**
	baz=4.0							
WDJ	**Dajia District**	**1.06**	**277**	⇑P		**Pn**	**21 15 27.8**	**+1.6**
	baz=277							
WDJ				*e*S		**Sn**	**21 15 41.1**	**+0.3**
	baz=277							
YUS	**Yu-Shan**	**1.06**	**227**	*e*P		**Pb**	**21 15 26.4**	**+0.1**
	baz=235							
JYNG	**Yonagunijimaku**	**1.07**	**78**	P		**Pn**	**21 15 27.7**	**+1.4**
JYNG				*e*S		**Sn**	**21 15 44.8**	**+3.8**
WNT	**Mingjian**	**1.07**	**251**	⇑*e*P		**Pn**	**21 15 27.6**	**+1.2**
	baz=245							
WNT				*e*S		**Sn**	**21 15 43.0**	**+2.0**
	baz=245							
FULB	**Fuli**	**1.12**	**204**	*e*P		**Pb**	**21 15 26.9**	**0.0**
	baz=217							
YOJ	**Yonaguni jima**	**1.13**	**78**	P		**Pg**	**21 15 28.7**	**+1.1**
YOJ				*e*S		**Sn**	**21 15 45.8**	**+3.3**
YOJ	**Yonaguni jima**	**1.13**	**78**			**Pg**	**21 15 28.2**	**+0.6**
YOJ	**Yonaguni jima**	**1.13**	**78**	P		**Pg**	**21 15 29.0**	**+1.4**
YOJ	**Yonaguni jima**	**1.13**	**78**	⇓P		**Pg**	**21 15 28.4**	**+0.7**
	baz=67							
YOJ				*e*S		**Sn**	**21 15 45.2**	**+2.7**
	baz=67							
WCHH	**Zhanghua**	**1.14**	**263**	P		**Pg**	**21 15 28.8**	**+1.1**
	baz=262							
ALS	**Alishan**	**1.15**	**232**	*e*P		**Pg**	**21 15 28.2**	**+0.1**
	baz=217							
ALS				*e*S		**Sn**	**21 15 43.7**	**+0.3**
	baz=217							
CHKT	**Chengkung**	**1.19**	**199**	*e*P		**Pn**	**21 15 27.2**	**-0.7**
	baz=190							
CHKT				*e*S		**Sg**	**21 15 46.3**	**+2.1**
	baz=190							
ELDTW	**Lidau**	**1.25**	**215**	*e*P		**Pn**	**21 15 28.1**	**-0.8**
	baz=214							
WDLH	**Douliu**	**1.27**	**245**	*e*P		**Pg**	**21 15 30.7**	**+0.5**
	baz=245							
WDLH				*e*S		**Sg**	**21 15 48.4**	**+1.7**
	baz=245							
EDH	**Donghe**	**1.33**	**200**	*e*P		**Pn**	**21 15 29.3**	**-0.6**
	baz=185							
WRL	**Guolierlin Hig**	**1.34**	**256**	*e*P		**Pg**	**21 15 31.2**	**-0.3**
	baz=256							
WRL				*e*S		**Sg**	**21 15 49.4**	**+0.6**
	baz=256							
CHN2	**Minshiung**	**1.39**	**241**	*e*P		**Pg**	**21 15 33.3**	**+0.8**
	baz=240							
CHN2				*e*S		**Sg**	**21 15 53.5**	**+2.8**
	baz=240							
WTK	**Tuku**	**1.39**	**248**	*e*P		**Pg**	**21 15 32.2**	**-0.4**
	baz=259							
WTK				*e*S		**Sg**	**21 15 51.1**	**+0.3**
	baz=259							
CHN4	**Tsaushan**	**1.40**	**232**	*e*P		**Pg**	**21 15 33.0**	**+0.2**
	baz=232							
STYH	**Taoyuan**	**1.41**	**222**	*e*P		**Pb**	**21 15 32.2**	**+0.4**
	baz=222							
TPUB	**Ta-pu**	**1.41**	**229**			**Pg**	**21 15 32.6**	**-0.3**
TPUB					Sn	**Sg**	**21 15 51.5**	**+0.3**
TPUB	**Ta-pu**	**1.41**	**229**	P		**Pg**	**21 15 33.2**	**+0.3**
TPUB	**Ta-pu**	**1.41**	**229**	*e*P		**Pg**	**21 15 32.7**	**-0.2**
	baz=218							
TPUB				*e*S		**Sg**	**21 15 52.2**	**+1.0**
	baz=218							
WTCT	**Ta-ch'eng**	**1.43**	**256**	*e*P		**Pg**	**21 15 33.1**	**-0.2**
	baz=255							
LONT	**Longtian**	**1.45**	**205**	*e*P		**Pb**	**21 15 32.5**	**0.0**
	baz=205							
CHY	**Chiayi**	**1.45**	**240**	*e*P		**Pg**	**21 15 33.5**	**-0.1**
	baz=240							
CHY				*e*S		**Sg**	**21 15 53.5**	**+1.0**
	baz=240							
WTP	**Ta-pu**	**1.46**	**228**	*e*P		**Pg**	**21 15 33.8**	**0.0**
	baz=228							
TWK	**Hsinying**	**1.53**	**232**	*e*P		**Pb**	**21 15 34.7**	**+0.7**
	baz=232							
TWK				*e*S		**Sg**	**21 15 56.1**	**+0.9**
	baz=232							
TWG	**Pinlang**	**1.55**	**206**			**Pn**	**21 15 31.9**	**-1.0**
TWG	**Pinlang**	**1.55**	**206**	*e*P		**Pn**	**21 15 31.8**	**-1.1**
	baz=205							
TWGBT	**Beinan**	**1.55**	**205**	*e*P		**Pn**	**21 15 31.5**	**-1.4**
	baz=205							
WSF	**Szhu**	**1.55**	**248**	*e*P		**Pb**	**21 15 33.9**	**-0.4**
	baz=258							
WSF				*e*S		**Sg**	**21 15 56.7**	**+0.8**
	baz=258							
SNST	**Tainan City**	**1.56**	**230**	*e*P		**Pg**	**21 15 35.4**	**-0.2**
	baz=230							
CHN1	**Nanshi**	**1.56**	**229**	*e*P		**Pg**	**21 15 35.3**	**-0.4**
	baz=229							
LDUT	**Ludao**	**1.57**	**191**	*e*P		**Pn**	**21 15 31.4**	**-1.9**
	baz=191							
SGST	**Jiashian**	**1.59**	**225**	*e*P		**Pb**	**21 15 34.6**	**-0.4**
	baz=225							
WSL	**Shuilin Townsh**	**1.60**	**244**	*e*P		**Pb**	**21 15 35.7**	**+0.7**
	baz=244							
ICHU	**Yijhu**	**1.63**	**239**	*e*P		**Pg**	**21 15 36.9**	**-0.3**
	baz=238							
CHN8	**Yiju**	**1.69**	**239**	*e*P		**Pb**	**21 15 36.9**	**+0.2**
	baz=224							
CHN3	**Shinhua**	**1.74**	**229**	*e*P		**Pg**	**21 15 38.9**	**-0.3**
	baz=231							
IRIF	**Iriomote-Funau**	**1.77**	**86**	P		**Pb**	**21 15 37.3**	**-0.7**
IRIF				*e*S		**Sg**	**21 16 02.3**	**-0.4**
SHHT	**Tainan City**	**1.79**	**228**	*e*P		**Pg**	**21 15 40.0**	**-0.1**
	baz=230							
SCST	**Cishan**	**1.79**	**222**	*e*P		**Pn**	**21 15 37.4**	**+1.2**
	baz=224							
ECL	**Taimali**	**1.80**	**206**	*e*P		**Pn**	**21 15 35.3**	**-1.0**
	baz=192							
SSD	**Sandimen**	**1.82**	**216**	*e*P		**Pb**	**21 15 38.3**	**-0.5**
	baz=228							
HATJ	**Hateruma jima**	**1.84**	**95**	P		**Pb**	**21 15 38.6**	**-0.6**
HATJ				*e*S		**Sg**	**21 16 04.0**	**-1.1**
TSMG	**Majia**	**1.85**	**215**	*e*P		**Pb**	**21 15 39.1**	**-0.1**
	baz=206							
TWM1	**Shoushan**	**1.88**	**222**	*e*P		**Pb**	**21 15 40.5**	**+0.6**
	baz=222							
MASBT	**Mashibuluo**	**1.93**	**214**	*e*P		**Pn**	**21 15 38.8**	**+0.7**
	baz=216							
JKRS	**Kuro-shima**	**2.02**	**89**	P		**Pb**	**21 15 41.4**	**-0.9**
EAST	**Anshuo**	**2.03**	**206**	*e*P		**Pn**	**21 15 39.6**	**0.0**
	baz=193							
TAW	**Tawu**	**2.04**	**204**	*e*P		**Pb**	**21 15 41.9**	**-0.6**
	baz=192							
TAWH	**Dawu Township**	**2.05**	**204**	*e*P		**Pn**	**21 15 41.5**	**+1.6**
	baz=193							
SCZT	**Fangliau**	**2.14**	**211**	*e*P		**Pb**	**21 15 43.2**	**-1.1**
	baz=196							
JIJ	**Ishigaki jima**	**2.15**	**86**	P		**Pn**	**21 15 42.5**	**+1.4**
JIJ				*e*S		**Sb**	**21 16

KNM	**Kinmen**	**3.07**	**274**	*eP*		**Pn**	**21 15 55.9**	**+2.0**
	baz=273							
KNMB	**Chin-men Tao**	**3.12**	**275**			**Pn**	**21 15 54.7**	**+0.2**
KNMB	**Chin-men Tao**	**3.12**	**275**	*eP*		**Pn**	**21 15 54.6**	**+0.1**
	baz=274							
MHZQ	**Yeshan**	**3.12**	**307**	*eP*		**Pn**	**21 15 54.5**	**-0.1**
	baz=307							
JMJ	**Miyako jima 2**	**3.24**	**79**	P		**Pn**	**21 15 59.4**	**+3.2**
AXDP	**Jialang**	**3.55**	**282**	*eP*		**Pn**	**21 16 00.5**	**+0.1**
	baz=280							
ZPLA	**Ao Xicun**	**3.71**	**266**	*eP*		**Pn**	**21 16 03.2**	**+0.6**
	baz=265							
SXFK	**Yanhouchang**	**4.33**	**301**	*eP*		**Pn**	**21 16 11.2**	**-0.1**
	baz=300							
JOW	**Kunigami**	**6.40**	**65**	Pn		**Pn**	**21 16 39.4**	**-0.3**
	2.1nm,0.3s,baz=165,slow=22,SNR=5.2							
JOW				Sn		**Sn**	**21 17 48.2**	**-4.4**
	0.7nm,0.3s,baz=123,slow=24,SNR=1.7							
JOW	**Kunigami**	**6.40**	**65**			**Pn**	**21 16 39.8**	**+0.1**
HKPS	**Hong Kong Po S**	**7.30**	**256**	Pn		**Pn**	**21 16 52.4**	**+0.3**
NJ2	**Nanjing**	**8.22**	**342**	*eP*		**Pn**	**21 17 05.5**	**+0.9**
NJ2				S		**Sn**	**21 18 39.0**	**+1.8**
NJ2				pmax	pmax			
	comp=Z,22nm,0.7s							
NJ2				smax	smax			
	comp=N,65nm,0.9s							
NJ2				smax	smax			
	comp=E,65nm,0.9s							
NJ2				LR	LR			
	comp=N,580nm,9.2s							
NJ2				LR	LR			
	comp=E,310nm,10.0s							
NJ2				LR	LR			
	comp=Z,540nm,10.4s							
CNSH	**ChangSha**	**8.88**	**298**	⇓P		**Pn**	**21 17 12.0**	**-1.7**
CNSH				S		**Sn**	**21 18 51.3**	**-2.3**
CNSH				smax	smax			
	comp=N,140nm,1.0s							
CNSH				smax	smax			
	comp=E,140nm,1.0s							
WHN	**Wuhan**	**9.13**	**315**	⇑P		**Pn**	**21 17 18.5**	**+1.4**
WHN				S		**Sn**	**21 18 57.0**	**-2.7**
WHN				LR	LR			
	comp=E,2μm,10.5s							
WHN				LR	LR			
	comp=E,1μm,6.3s							
WHN				LR	LR			
	comp=E,2μm,8.9s							
GYA	**Guiyang**	**13.86**	**282**	*eP*		**Pn**	**21 18 23.8**	**+1.8**
GYA				pmax	pmax			
	comp=E,9.0nm,1.1s							
GYA				LR	LR			
	comp=E,200nm,3.8s							
GYA				LR	LR			
	comp=E,280nm,6.1s							
GYA				LR	LR			
	comp=E,480nm,8.9s							
KSRS	**Korea Array**	**14.19**	**20**	Pn		**P**	**21 18 32.0**	**-1.7**
	comp=E,0.4nm,0.3s,baz=200,slow=12,SNR=16							
KSRS				LR	LR		21 23 46.7	
	comp=E,37nm,20.0s,baz=205,slow=37							
MJAR	**Matsushiro Arr**	**18.71**	**45**	LR	LR		21 27 21.5	
	comp=E,71nm,18.6s,baz=242,slow=40							
LZH	**Lanzhou**	**19.48**	**312**	*eP*		Pn	21 19 41.3	+7.7
LZH				pmax	pmax			
	comp=E,19nm,1.6s							
CMAR	**Chiang Mai Arr**	**22.03**	**259**	P		**P**	**21 20 01.2**	**+1.1**
	comp=E,1.2nm,0.9s,baz=66,slow=6.5,SNR=6.9							
CMAR				LR	LR		21 28 39.3	
	comp=E,17nm,19.5s,baz=190,slow=37							
CMAR	**Chiang Mai Arr**	**22.03**	**259**	P		**P**	**21 20 00.3**	**+0.2**
ASAJ	**Asahikawa**	**26.13**	**36**	LR	LR		21 31 26.5	
	comp=E,55nm,18.8s,baz=258,slow=38							
KLR	**Kul'dur**	**26.15**	**15**	P		**P**	**21 20 40.4**	**+0.9**
	comp=E,3.7nm,0.7s,baz=213,slow=4.6,SNR=14							
KLR				LR	LR		21 31 54.0	
	comp=E,54nm,19.0s,baz=192,slow=39							
ULN	**Ulaanbaatar**	**26.34**	**337**	P		**P**	**21 20 40.5**	**-0.9**
ULN				IAmb	IAmb		21 20 43.4	
	comp=Z,2.6nm,0.8s							
SONM	**Songino Array**	**26.55**	**336**	LR	LR		21 31 43.8	
	comp=Z,54nm,21.6s,baz=274,slow=38							
KAPI	**Kappang**	**29.13**	**184**	LR	LR		21 33 07.3	
	comp=Z,55nm,19.5s,baz=342,slow=37							
WMQ	**Urumqi**	**34.03**	**314**	*eP*		**P**	**21 21 52.5**	**+3.1**
WMQ				LR	LR			
	comp=Z,200nm,10.7s							
WMQ				LR	LR			
	comp=Z,190nm,9.7s							
YAK	**Yakutsk**	**38.17**	**6**	LR	LR		21 38 51.0	
	comp=Z,43nm,18.5s,baz=270,slow=37							
MK31	**Makanchi Array**	**38.70**	**316**	P		**P**	**21 22 29.9**	**+0.7**
MK31				IAmb	IAmb		21 22 34.9	
	comp=Z,3.9nm,1.3s							
MKAR	**Makanchi Array**	**38.70**	**316**	P		**P**	**21 22 29.7**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=109,slow=9.5,SNR=22							
MAKZ	**Makanchi**	**38.90**	**316**	P		**P**	**21 22 29.9**	**-1.0**
MAKZ				IAmb	IAmb		21 22 34.5	
	comp=Z,2.3nm,0.8s							
ZAA0	**Zalesovo Array**	**40.52**	**327**	P		**P**	**21 22 44.2**	**0.0**
ZALV	**Zalesovo Beam**	**40.52**	**327**	P		**P**	**21 22 42.5**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=108,slow=7.4,SNR=6.7							
ZALV				LR	LR		21 39 52.9	
	comp=Z,27nm,21.0s,baz=51,slow=37							
ZALV	**Zalesovo Beam**	**40.52**	**327**	P		**P**	**21 22 43.7**	**-0.5**
KURK	**Kurchatov**	**42.42**	**320**	P		**P**	**21 22 59.7**	**-0.1**
WB0	**Warramunga Arr**	**45.42**	**163**	P		**P**	**21 23 22.4**	**-1.9**
WB0				IAmb	IAmb		21 23 36.7	
	comp=Z,4.5nm,1.0s							
WRA	**Warramunga Arr**	**45.57**	**163**	P		**P**	**21 23 24.1**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=346,slow=8.8,SNR=8.5							
WRA	**Warramunga Arr**	**45.57**	**163**	P		**P**	**21 23 25.8**	**+0.4**
KKAR	**Karatay Array**	**45.89**	**307**	P		**P**	**21 23 27.9**	**+0.1**
TIXI	**Tiksi**	**47.62**	**3**	P		**P**	**21 23 39.0**	**-1.9**
	comp=Z,2.8nm,0.7s,baz=86,slow=23,SNR=25							
TIXI	**Tiksi**	**47.62**	**3**	P		**P**	**21 23 39.4**	**-1.5**
ASAR	**Alice Springs**	**49.04**	**165**	P		**P**	**21 23 52.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=333,slow=5.8,SNR=5.8							
CTA	**Charters Tower**	**50.08**	**150**	LR	LR		21 46 29.9	
	comp=Z,33nm,18.1s,baz=284,slow=38							
ABKAR	**Akbulak array**	**53.81**	**314**	P		**P**	**21 24 28.5**	**+0.5**
ABKAR				IAmb	IAmb		21 24 31.6	
	comp=Z,2.5nm,0.9s							
ABKAR	**Akbulak array**	**53.81**	**314**	P		**P**	**21 24 28.9**	**+0.9**
GEYT	**Alibeck**	**55.26**	**300**	P		**P**	**21 24 38.5**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=116,slow=3.4,SNR=2.3							
KIRV	**Kirov**	**60.51**	**325**	LR	LR		21 51 31.5	
	comp=Z,51nm,21.3s,baz=169,slow=36							
KBZ	**Khabaz**	**65.89**	**309**	P		**P**	**21 25 51.2**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=105,slow=5.1,SNR=6.0							
IMAR	**Indian Mountai**	**65.89**	**27**	P		**P**	**21 25 51.7**	**+0.9**
J20K	**Nowinta River**	**65.91**	**29**	P		**P**	**21 25 52.2**	**+1.3**
TOLK	**Toolik Lake Re**	**67.19**	**23**	P		**P**	**21 25 59.7**	**+0.6**
TOLK				IAmb	IAmb		21 26 03.5	
	comp=Z,2.4nm,1.0s							
ILAR	**Eielson Array**	**68.92**	**27**	P		**P**	**21 26 09.2**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=268,slow=5.5,SNR=4.7							
BMAR	**Burnt Mountain**	**69.26**	**24**	P		**P**	**21 26 13.4**	**+1.3**
SPITS	**Spitsbergen Ar**	**69.56**	**348**	LR	LR		22 00 31.3	
	comp=Z,22nm,18.1s,baz=312,slow=39							
BCAR	**Beaver Creek A**	**71.53**	**28**	P		**P**	**21 26 27.1**	**+1.0**
FINES	**FINESS Array B**	**71.69**	**330**	P		**P**	**21 26 26.7**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=79,slow=7.2,SNR=8.5							
FINES				LR	LR		22 01 05.0	
	comp=Z,51nm,19.8s,baz=325,slow=38							
FINES	**FINESS Array B**	**71.69**	**330**	P		**P**	**21 26 27.0**	**+0.1**
EPYK	**Eagle Plains**	**72.53**	**24**	P		**P**	**21 26 31.6**	**-0.4**
INK	**Inuvik**	**72.98**	**22**	P		**P**	**21 26 34.1**	**-0.3**
INK				IAmb	IAmb		21 26 37.1	
	comp=Z,4.1nm,1.2s							
AKASG	**Malin Array Be**	**73.21**	**318**	P		**P**	**21 26 35.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=50,slow=8.5,SNR=4.6							
BRTR	**Keskin Array B**	**73.60**	**307**	P		**P**	**21 26 39.0**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=140,slow=6.0,SNR=5.5							
BURAR	**Bucovina Array**	**76.72**	**316**	P		**P**	**21 26 57.4**	**+0.6**
BURAR				IAmb	IAmb		21 26 59.4	
	comp=Z,1.0nm,0.9s							
MLR	**Muntele Rosu**	**77.02**	**314**	P		**P**	**21 26 58.4**	**-0.1**
MLR				IAmb	IAmb		21 27 01.9	
	comp=Z,4.1nm,1.0s							
HFS	**Hagfors**	**77.80**	**331**	LR	LR		22 04 35.6	
	comp=Z,85nm,18.6s,baz=110,slow=38							
NOA	**NORSAR Array B**	**78.45**	**332**	LR	LR		22 04 36.4	
	comp=Z,24nm,19.1s,baz=60,slow=38							
LANS	**Liptovska Anna**	**79.64**	**319**	*eP*		**P**	**21 27 12.5**	**-0.3**
KOLL	**Kolacno**	**80.52**	**319**	*eP*		**P**	**21 27 16.8**	**-0.7**
YKA	**Yellowknife Ar**	**82.71**	**23**	P		**P**	**21 27 28.2**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=313,slow=4.8,SNR=20							
GERES	**GERESS Array B**	**83.17**	**321**	P		**P**	**21 27 31.8**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=81,slow=6.1,SNR=4.4							

TUL ***27*** *21:18:23.2±0.6, 35.73N±0.01×97.16W±0.02, h5km±7km, ML3.0, mb_Lg2.8/57(NEIC), Error ellipse: s-maj=2.6km s-min=1.1km az=137.0*
NEIC ***27*** *21:18:24.0±0.6, 35.73N±0.01×97.16W±0.02, h6km±6km, Error ellipse: s-maj=3.3km s-min=0.6km az=129.0*
ANF ***27*** *21:18:23.3±0.3, 35.76N×97.13W, h5km, ML3.1/7, Error ellipse: s-maj=2.8km s-min=2.2km az=149.0*

ISC 27 21:18:23.0±1.4, 35.75N±0.05×97.14W±0.03, h4km±15km, n51, σ0s68/39, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ADOK	**Arcadia Dam**	**0.21**	**242**	Pg		**Pg**	**21 18 27.3**	**+0.2**
OK001	**Jones High Sch**	**0.23**	**212**	Pg		**Pg**	**21 18 27.6**	**+0.1**
OK009	**Oakdale Elemen**	**0.29**	**234**			**Pg**	**21 18 28.6**	**+0.1**
OKCFA	**Oklahoma City**	**0.42**	**217**	Pg		**Pg**	**21 18 31.2**	**+0.1**
OKCFA				Sg		**Sg**	**21 18 36.9**	**+0.3**
OKCFA	**Oklahoma City**	**0.42**	**217**	S		**Sg**	**21 18 37.0**	**+0.3**
	baz=37							
OKCSW	**OKLAHOMA CITY**	**0.42**	**215**			**Pg**	**21 18 31.1**	**0.0**
OKCSW				Sg		**Sg**	**21 18 36.9**	**+0.3**
FNO	**Franklin**	**0.54**	**203**	Pg		**Pg**	**21 18 33.3**	**-0.1**
FNO				Sg		**Sg**	**21 18 40.7**	**+0.3**
TUL1	**Leonard**	**1.11**	**81**			**Pb**	**21 18 43.7**	**-1.1**
TUL1	**Leonard**	**1.11**	**81**	P		**Pb**	**21 18 43.7**	**-1.1**
	baz=261							
TUL1				S		**Sb**	**21 18 59.1**	**-0.5**
	baz=261							
T35A	**Sooner Cattle**	**1.27**	**23**			**Pn**	**21 18 47.1**	**-0.5**
T35B	**Sooner Cattle**	**1.27**	**23**	P		**Pn**	**21 18 47.1**	**-0.5**
	baz=204							
T35B				S		**Sb**	**21 19 04.8**	**+0.6**
	baz=204							
X34A	**Smith Ranch, M**	**1.28**	**206**			**Pn**	**21 18 46.9**	**-0.9**
U32A	**Winter Ranch,**	**1.63**	**293**			**Pn**	**21 18 52.7**	**+0.1**
U32A	**Winter Ranch,**	**1.63**	**293**	P		**Pn**	**21 18 52.7**	**+0.1**
	baz=113							
U32A				S		**Sb**	**21 19 15.3**	**+0.6**
	baz=113							
WMOK	**Wichita Mounta**	**1.68**	**233**			**Pn**	**21 18 53.2**	**-0.1**
WMOK	**Wichita Mounta**	**1.68**	**233**	P		**Pn**	**21 18 53.5**	**+0.2**
	baz=53							
X37A	**Clayton**	**1.86**	**128**			**Pn**	**21 18 56.2**	**+0.6**
X37A	**Clayton**	**1.86**	**128**	P		**Pn**	**21 18 56.3**	**+0.6**
	baz=308							
X37A				Sb		**Sg**	**21 19 22.5**	**-0.2**
	baz=308							
HHAR	**Hobbs**	**2.65**	**78**			**Pn**	**21 19 07.7**	**+1.2**
W39A	**Magazine**	**2.80**	**100**			**Pn**	**21 19 09.2**	**+0.6**
W39A				IAmb_Lg			21 19 56.4	
	comp=Z,21nm,0.8s							
W39A	**Magazine**	**2.80**	**100**	P		**Pn**	**21 19 09.4**	**+0.9**
	baz=282							
MIAR	**Mount Ida**	**3.16**	**111**			**Pn**	**21 19 14.3**	**+0.8**
MIAR				IAmb_Lg			21 20 08.1	
	comp=Z,21nm,0.8s							
MIAR	**Mount Ida**	**3.16**	**111**	P		**Pn**	**21 19 14.7**	**+1.2**
	baz=293							
KSU1	**Kansas State U**	**3.37**	**7**	IAmb_Lg			21 20 11.6	
	comp=Z,17nm,0.8s							
U40A	**Yellville**	**3.53**	**79**			**Pn**	**21 19 19.7**	**+1.1**
U40A				IAmb_Lg			21 20 17.6	
	comp=Z,20nm,0.8s							
S39A	**Bolivar**	**3.63**	**57**			**Pn**	**21 19 20.8**	**+0.8**
CBKS	**Cedar Bluff**	**3.69**	**327**	IAmb_Lg			21 20 24.0	
	comp=Z,22nm,0.7s							
ABTX	**Abilene, Hawle**	**3.75**	**214**	IAmb_Lg			21 20 25.8	
	comp=Z,18nm,0.9s							
X40A	**Basin Creek Fa**	**3.75**	**108**			**Pn**	**21 19 22.1**	**+0.4**
X40A				IAmb_Lg			21 20 25.2	
	comp=Z,18nm,0.8s							
AMTX	**Amarillo**	**3.81**	**258**			**Pn**	**21 19 23.3**	**+0.7**
AMTX				IAmb_Lg			21 20 30.7	
	comp=Z,17nm,0.7s							
WLAR	**White Oak Lake**	**3.91**	**121**	IAmb_Lg			21 20 29.3	
	comp=Z,28nm,1.1s							
WHAR	**Wooly Hollow**	**3.98**	**95**			**Pn**	**21 19 25.5**	**+0.6**
WHAR				IAmb_Lg			21 20 37.0	
	comp=Z,28nm,1.0s							
W41B	**Gary Mavity, V**	**4.04**	**97**			**Pn**	**21 19 26.4**	**+0.8**
W41B				IAmb_Lg			21 20 32.1	
	comp=Z,15nm,0.8s							
UALR	**University of**	**4.04**	**103**	IAmb_Lg			21 20 34.8	
	comp=Z,20nm,0.9s							
FCAR	**Ozark Folk Cen**	**4.08**	**87**			**Pn**	**21 19 26.2**	**0.0**
FCAR				IAmb_Lg			21 20 31.9	
	comp=Z,22nm,0.9s							
MGMO	**Mountain Grove**	**4.17**	**69**	IAmb_Lg			21 20 44.6	
	comp=Z,20nm,0.7s							
R40A	**Maddies Statio**	**4.65**	**56**	Pn		**Pn**	**21 19 35.4**	**+1.3**
R40A				IAmb_Lg			21 20 52.5	
	comp=Z,24nm,0.7s							
LCAR	**Lake Charles**	**4.87**	**85**	Pn		**Pn**	**21 19 36.6**	**-0.5**
CCM	**Cathedral Cave**	**5.25**	**62**	IAmb_Lg			21 21 14.2	
	comp=Z,17nm,0.7s							
KSCO	**Kaye Shedlock'**	**5.45**	**308**	IAmb_Lg			21 21 24.2	
	comp=Z,18nm,0.7s							
PBMO	**Poplar Bluff**	**5.52**	**77**	IAmb_Lg			21 21 33.3	
	comp=Z,16nm,0.7s							
P40A	**Paris**	**5.53**	**45**	IAmb_Lg			21 21 20.8	
	comp=Z,26nm,0.8s							
JCT	**Junction City**	**5.71**	**204**	IAmb_Lg			21 21 32.7	
	comp=Z,21nm,1.0s							
FVM	**French Village**	**5.83**	**66**	IAmb_Lg			21 21 30.6	
	comp=Z,17nm,0.8s							
T25A	**Trinidad**	**6.02**	**285**	IAmb_Lg			21 21 44.5	
	comp=Z,12nm,0.8s							
SLM	**Saint Louis**	**6.22**	**60**	IAmb_Lg			21 21 43.9	
	comp=Z,22nm,0.8s							
L34A	**Svendsen Farm,**	**6.23**	**5**	IAmb_Lg			21 21 58.7	
	comp=Z,18nm,0.9s							
SIUC	**Southern Illin**	**6.66**	**71**	IAmb_Lg			21 21 55.5	
	comp=Z,22nm,0.8s							
SCIA	**State Center**	**6.87**	**25**	IAmb_Lg			21 22 04.5	
	comp=Z,17nm,0.7s							
PHWY	**Pilot Hill**	**8.55**	**313**	IAmb_Lg			21 22 57.3	
	comp=Z,6.0nm,0.7s							
JFWS	**Jewell Farm**	**8.92**	**35**	IAmb_Lg			21 23 08.7	
	comp=Z,15nm,0.9s							

IDC 27 21:33:16.7±7.8, 7.62S×128.82E, h138km±82km, mb3.2/1, mb1 3.6/5, mb1mx3.1/33, mbtmp3.9/5, MS3.2/2, Ms1 3.2/2, ms1mx2.6/26, Error ellipse: s-maj=72.7km s-min=24.4km az=35.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**5.71**	**243**	P		Pn	21 34 40.9	+1.5
	5.2nm,0.3s,baz=166,slow=1.6,SNR=4.3							
BATI				S		Sn	21 35 43.9	-0.1
	11nm,0.3s,baz=52,slow=21,SNR=15							
FITZ	**Fitzroy Crossi**	**10.87**	**196**	P		Pn	21 35 47.5	-1.0
	1.3nm,0.3s,baz=17,slow=10,SNR=62							
FITZ				S		Sn	21 37 43.0	-5.5
	0.8nm,0.3s,baz=272,slow=23,SNR=7.7							
FITZ				LR		LR	21 41 15.0	
	comp=Z,37nm,18.1s,baz=212,slow=44							
WRA	**Warramunga Arr**	**13.37**	**157**	P		Pn	21 36 20.1	-0.9
	1.5nm,0.3s,baz=341,slow=14,SNR=41							
WRA				S		Sn	21 38 41.9	-7.0
	0.7nm,0.3s,baz=334,slow=22,SNR=4.2							
ASAR	**Alice Springs**	**16.69**	**164**	P		Pn	21 37 04.0	+1.5
	0.4nm,0.3s,baz=334,slow=9.8,SNR=15							
ASAR				S		Sn	21 40 02.7	-5.9
	0.1nm,0.3s,baz=345,slow=23,SNR=2.1							
PSI	**Prapat**	**31.57**	**288**	LR		LR	21 52 27.8	
	comp=Z,109nm,18.1s,baz=138,slow=36							
MKAR	**Makanchi Array**	**68.11**	**327**	P		P	21 44 01.6	-0.1
	0.4nm,0.5s,baz=124,slow=8.2,SNR=9.2							

TAP ***27*** *21:48:46.5, 24.27N×121.77E, h11km, ML3.8, C*

ISC 27 21:48:46.6±1.3, 24.26N±0.03×121.77E±0.06, h13km±6km, n20, σ0s43/37, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EHP	**Heping Village**	**0.06**	**331**	*i* P		**Pg**	**21 48 48.9**	**-0.3**
	baz=339							
EHP				S		**Sg**	**21 48 50.9**	**-0.1**
	baz=339							
ETL	**Fush Village**	**0.17**	**234**	*eP*		**Pg**	**21 48 50.5**	**-0.1**
	baz=224							
ETL				*eS*		**Sg**	**21 48 53.4**	**+0.1**
	baz=224							
ENA	**Nanau**	**0.17**	**350**	*i* P		**Pg**	**21 48 50.5**	**0.0**
	baz=1.0							
ENA				*i* S		**Sg**	**21 48 53.1**	**-0.3**
	baz=1.0							
NACB	**Ninganchiao**	**0.18**	**243**	*eP*		**Pg**	**21 48 50.5**	**-0.2**
	baz=233							
NACB				S		**Sg**	**21 48 53.8**	**+0.2**
	baz=233							
EWUT	**Wuta**	**0.19**	**2**	*i* P		**Pg**	**21 48 50.8**	**0.0**
	baz=3.0							
EWUT				*i* S		**Sg**	**21 48 53.8**	**+0.1**
	baz=3.0							
TWD	**Chiawan**	**0.24**	**222**	*eP*		**Pg**	**21 48 51.6**	**-0.1**
	baz=219							
TWD				*eS*		**Sg**	**21 48 55.4**	**+0.3**
	baz=219							
ETLH	**Xiulin Townshi**	**0.27**	**259**	*eP*		**Pg**	**21 48 52.6**	**+0.3**
	baz=257							
ETLH				*eS*		**Sg**	**21 48 56.9**	**+0.8**
	baz=257							
LATG	**Datong**	**0.36**	**321**	*eP*		**Pg**	**21 48 53.5**	**-0.3**
	baz=321							
LATG				*eS*		**Sg**	**21 48 59.2**	**+0.5**
	baz=321							
TWC	**Suao**	**0.36**	**11**	P		**Pg**	**21 48 53.7**	**-0.1**
	baz=5.0							
TWC				*eS*		**Sg**	**21 48 58.6**	**0.0**
	baz=5.0							
NDS	**Dongshan**	**0.38**	**352**	P		**Pg**	**21 48 54.3**	**+0.1**
	baz=353							
NDS				S		**Sg**	**21 48 59.6**	**+0.3**
	baz=353							
NNSB	**Datong**	**0.39**	**296**	*eP*		**Pg**	**21 48 54.0**	**-0.5**
	baz=295							
NNSB				*eS*		**Sg**	**21 48 59.5**	**-0.4**
	baz=295							
NNS	**Nan Shan**	**0.41**	**297**	*eP*		**Pg**	**21 48 54.3**	**-0.4**
	baz=296							
NNS				*eS*		**Sg**	**21 48 60.0**	**-0.3**
	baz=296							
ENTT	**Nioudou**	**0.42**	**334**	P		**Pb**	**21 48 55.5**	**-0.4**
	baz=334							
ENTT				*i* S		**Sb**	**21 49 01.6**	**-0.7**
	baz=334							
TWE	**Neicheng**	**0.47**	**348**	*i* P		**Pg**	**21 48 55.8**	**-0.1**
	baz=350							
TWE				S		**Sg**	**21 49 02.1**	**-0.1**
	baz=350							
WHF	**Hehuan Shan**	**0.48**	**256**	*eP*		**Pg**	**21 48 55.4**	**-0.7**
	baz=255							
ILA	**Ilan**	**0.51**	**357**	*eP*		**Pg**	**21 48 56.0**	**-0.5**
	baz=350							
FUSB	**Fushanzhiwuyua**	**0.53**	**341**	*eP*		**Pg**	**21 48 57.1**	**+0.2**
	baz=341							
FUSB				*eS*		**Sb**	**21 49 04.7**	**-0.6**
	baz=341							
ESL	**Shilin**	**0.54**	**215**	*eP*		**Pg**	**21 48 56.4**	**-0.8**
	baz=221							
NSK	**Sanguang**	**0.56**	**318**	*eP*		**Pg**	**21 48 57.8**	**+0.2**
	baz=318							
NSK				*eS*		**Sb**	**21 49 05.8**	**-0.5**
	baz=318							
QZH	**Quanzhou**	**2.97**	**284**	Pn		**Pn**	**21 49 34.5**	**+1.1**
QZH				Sn		**Sn**	**21 50 09.3**	**+0.3**
QZH				smax	smax			
	comp=N,230nm,1.2s							
QZH				smax	smax			
	comp=E,160nm,1.0s							
QZH				LR	LR			
	comp=Z,580nm,9.9s							

IDC ***27*** *21:48:56.0±1.0, 24.20N×121.84E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/51, mbtmp3.6/8, ML3.3/1, MS3.5/11, Ms1 3.5/11, ms1mx3.0/70, Error ellipse: s-maj=27.8km s-min=22.7km az=75.0*
JMA ***27*** *21:48:58.9±0.1, 24.17N×121.72E, h23km±2km, M3.3*
TAP ***27*** *21:48:58.9, 24.26N×121.78E, h12km, ML4.4, C*

ISC 27 21:48:58.4±0.9, 24.23N±0.02×121.86E±0.02, h9km±6km, n123, σ0s84/169, mb3.5/7, MS3.4/7, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EHP	**Heping Village**	**0.14**	**305**	*i* P		**Pg**	**21 49 01.3**	**-0.1**
	baz=328							
EHP				*i* S		**Sg**	**21 49 03.4**	**0.0**
	baz=328							
ENA	**Nanau**	**0.22**	**330**	*i* P		**Pg**	**21 49 02.9**	**0.0**
	baz=350							
ENA				S		**Sg**	**21 49 05.8**	**-0.2**
	baz=350							
EWUT	**Wuta**	**0.23**	**340**	*i* P		**Pg**	**21 49 03.2**	**+0.2**
	baz=359							
EWUT				*i* S		**Sg**	**21 49 06.2**	**+0.2**
	baz=359							
ETL	**Fush Village**	**0.23**	**251**	P		**Pg**	**21 49 03.1**	**+0.1**
	baz=229							
ETL				*eS*		**Sg**	**21 49 06.2**	**-0.1**
	baz=229							
NACB	**Ninganchiao**	**0.25**	**256**	*i* P		**Pg**	**21 49 03.0**	**-0.4**
	baz=237							
NACB				S		**Sg**	**21 49 06.3**	**-0.5**
	baz=237							
TWD	**Chiawan**	**0.29**	**238**	P	

EGS eS Sg 21 49 19.2 +0.9
baz=21
NTC Toucheng 0.62 357 eP Pg 21 49 10.7 +0.3
baz=4.0
NTC eS Sg 21 49 19.3 +0.8
baz=4.0
TWT Tachien 0.63 272 eP Pg 21 49 10.9 +0.4
baz=269
TWT eS Sg 21 49 18.8 0.0
baz=269
NWLT Wulai 0.63 329 P Pg 21 49 10.8 +0.1
baz=334
NWLT eS Sg 21 49 18.3 -0.7
baz=334
NSK Sanguang 0.64 314 eP Pg 21 49 10.3 -0.5
baz=318
NSK eS Sg 21 49 18.0 -1.1
baz=318
TDCB Techi 0.64 272 eP Pg 21 49 10.7 -0.1
baz=269
TDCB eS Sg 21 49 18.6 -0.7
baz=269
CHGB Renai 0.65 255 eP Pg 21 49 11.6 +0.5
baz=243
CHGB eS Sg 21 49 19.4 -0.2
baz=243
OWD Renai 0.69 246 eP Pg 21 49 12.5 +0.9
baz=242
OWD eS Sg 21 49 21.2 +0.6
baz=242
EGFH Guangfu 0.69 215 eP Pb 21 49 12.4 -0.1
baz=216
EGFH eS Sb 21 49 22.2 0.0
baz=216
WUSB Renai 0.72 251 eP Pg 21 49 12.2 -0.1
baz=240
WUSB eS Sg 21 49 22.0 +0.2
baz=240
TIPB Shuangxi 0.74 357 P Pg 21 49 12.9 +0.3
baz=3.0
TIPB S Sg 21 49 22.0 -0.2
baz=3.0
TWB1 Santiao Chiao 0.78 8 eP Pg 21 49 13.7 +0.3
baz=8.0
TWA Mucha 0.79 341 eP Pg 21 49 13.6 +0.1
baz=346
TWA eS Sg 21 49 24.6 +0.8
baz=346
VWDT VWDT 0.81 234 eP Pg 21 49 13.7 -0.3
baz=230
VWDT eS Sg 21 49 25.4 +0.7
baz=230
NWF Wu-fen Shan 0.84 355 eP Pg 21 49 14.6 +0.1
baz=352
NWF eS Sg 21 49 25.6 +0.1
baz=352
WHP Taichung City 0.84 273 eP Pg 21 49 13.2 -1.4
baz=272
WHP eS Sg 21 49 24.6 -0.8
baz=272
HGSD Ruisui 0.84 209 eP Pg 21 49 14.6 +0.1
baz=194
SXI1 Grass Mountain 0.86 1 eP Pg 21 49 15.3 +0.4
baz=352
TAP Taipei 0.87 338 eP Pg 21 49 14.8 -0.2
baz=342
TAP eS Sg 21 49 26.8 +0.4
baz=342
LIOB Emei 0.87 298 eP Pg 21 49 14.1 -1.1
baz=299
EHY Hungye 0.88 214 eP Pb 21 49 16.2 +0.4
baz=223
NSTT Nanjuang 0.88 297 eP Pg 21 49 14.5 -0.8
baz=298
NSTT eS Sg 21 49 26.3 -0.4
baz=298
WCS Beigang Elemen 0.89 259 eP Pg 21 49 15.1 -0.3
baz=256
SSLB Suanglung 0.94 242 eP Pg 21 49 16.3 -0.2
baz=239
SSLB eS Sg 21 49 28.0 -0.8
baz=239
SMLT Sun Moon Lake 0.95 249 eP Pg 21 49 17.3 +0.7
baz=245
YM01 YM01 0.95 344 eP Pg 21 49 16.6 0.0
baz=347
TWS1 Kuangyinshan 0.95 335 eP Pg 21 49 16.2 -0.5
baz=338
NCU National Centr 0.96 320 eP Pg 21 49 17.1 +0.3
baz=317
NCUH Zhongli 0.96 320 eP Pb 21 49 18.3 +1.1
baz=317
SBCB Hsinchu 0.97 305 eP Pb 21 49 18.7 +1.2
baz=306
SBCB eS Sg 21 49 29.8 0.0
baz=306
TYC Yuchr 0.97 251 eP Pg 21 49 17.4 +0.3
baz=239
TYC eS Sg 21 49 29.4 -0.4
baz=239
YULB Yu-li 0.98 212 eP Pg 21 49 17.2 -0.1
baz=217
YULB eS Sg 21 49 30.2 +0.1
baz=217
HSN Hsinchu 0.99 305 eP Pg 21 49 18.0 +0.5
baz=297
ANP Anpu 1.00 342 eP Pg 21 49 18.2 +0.6
baz=346
NTST Danshui 1.00 338 eP Pb 21 49 18.6 +0.7
baz=341
JYNG Yonagunijimaku 1.01 77 P Pn 21 49 19.4 +0.6
NSY Sanyi 1.02 280 eP Pn 21 49 19.8 +0.9
baz=279
TWY Chenhua 1.06 347 eP Pg 21 49 19.3 +0.4
baz=351
YOJ Yonaguni jima 1.07 78 P Pn 21 49 20.7 +1.1
YOJ S Sn 21 49 36.9 +2.3
YOJ Yonaguni jima 1.07 78 eP Pn 21 49 20.4 +0.8
baz=68
YOJ eS Sn 21 49 36.3 +1.7
baz=68
TCU Taichung 1.09 266 eP Pn 21 49 21.2 +1.4
baz=264
YUS Yu-Shan 1.11 229 eP Pg 21 49 20.1 +0.3
baz=225
WDJ Dajia District 1.12 276 eP Pg 21 49 19.9 0.0
baz=275
WNT Mingjian 1.13 252 eP Pn 21 49 21.4 +1.0
baz=239
FULB Fuli 1.15 207 eP Pb 21 49 21.2 +0.6
baz=218
WCHH Zhanghua 1.20 263 eP Pb 21 49 22.2 +0.9
baz=262
WCHH eS Sn 21 49 39.4 +1.5
baz=262
ALS Alishan 1.21 234 eP Pg 21 49 21.7 +0.2
baz=230
CHKT Chengkung 1.22 202 eP Pg 21 49 21.4 -0.3
baz=191
CHKT eS Sn 21 49 40.4 +2.2
baz=191
CHN5 Tsauling 1.25 240 eP Pg 21 49 24.0 +1.8
baz=238
ELDTW Lidau 1.30 217 eP Pg 21 49 23.1 -0.2
baz=202
ELDTW eS Sb 21 49 40.9 +1.0
baz=202
WDLH Douliu 1.33 246 eP Pb 21 49 24.7 +1.2
baz=245
WDLH eS Sn 21 49 42.8 +1.9
baz=245
EDH Donghe 1.35 202 eP Pn 21 49 23.8 +0.3
baz=199
WRL Guolierlin Hig 1.40 257 eP Pn 21 49 25.1 +1.0
baz=256
WRL eS Sn 21 49 44.4 +1.7
baz=256
CHN2 Minshiung 1.45 241 eP Pg 21 49 26.9 +0.7
baz=225
STYH Taoyuan 1.45 223 eP Pn 21 49 25.8 +1.0
baz=222
WTK Tuku 1.45 248 eP Pn 21 49 25.6 +0.8
baz=233
CHN4 Tsaushan 1.46 233 eP Pg 21 49 26.7 +0.4
baz=232
TPUB Ta-pu 1.46 231 eP Pn 21 49 26.1 +1.1
baz=229
LONT Longtian 1.48 207 eP Pn 21 49 26.1 +0.9
baz=205
CHY Chiayi 1.51 241 eP Pg 21 49 28.0 +0.8
baz=239
WTP Ta-pu 1.51 230 eP Pg 21 49 27.6 +0.2
baz=228
TWK Hsinying 1.58 233 eP Pb 21 49 28.1 +0.3
baz=232
CHN1 Nanshi 1.61 230 eP Pg 21 49 29.3 +0.1
baz=229
SNST Tainan City 1.61 231 eP Pb 21 49 28.9 +0.7
baz=232
SNST eS Sg 21 49 51.9 +1.9
baz=232
WSF Szhu 1.61 249 eP Pn 21 49 28.3 +1.2
baz=259
WSF eS Sg 21 49 51.7 +1.4
baz=259
WSL Shuilin Townsh 1.66 245 eP Pn 21 49 28.1 +0.5
baz=245
WSL eS Sg 21 49 52.5 +0.9
baz=245
ICHU Yijhu 1.69 239 eP Pb 21 49 30.2 +0.6
baz=238
IRIF Iriomote-Funau 1.71 86 P Pb 21 49 30.1 +0.1
CHN8 Yiju 1.75 240 eP Pn 21 49 30.4 +1.5
baz=225
CHN8 eS Sg 21 49 55.5 +0.7
baz=225
CHN3 Shinhua 1.79 230 eP Pb 21 49 31.7 +0.3
baz=231
SCST Cishan 1.84 223 eP Pb 21 49 32.5 +0.4
baz=224
SHHT Tainan City 1.84 229 eP Pb 21 49 32.5 +0.3
baz=230
SSD Sandimen 1.86 218 eP Pb 21 49 32.4 -0.2
baz=228
TSMG Majia 1.89 217 eP Pb 21 49 33.0 0.0
baz=229
TSMG eS Sb 21 49 58.2 +1.4
baz=229
TWM1 Shoushan 1.93 224 eP Pb 21 49 34.3 +0.5
baz=223
SGLT Jiouru 1.96 220 eP Pn 21 49 33.4 +1.6
baz=221
JKRS Kuro-shima 1.96 89 P Pn 21 49 33.4 +1.6
JKRS eS Sg 21 50 00.3 -1.1
MASBT Mashibuluo 1.97 215 eP Pn 21 49 32.6 +0.6
baz=216
TAW Tawu 2.07 206 eP Pn 21 49 33.8 +0.5
baz=193
JIJ Ishigaki jima 2.08 86 P Pb 21 49 35.6 -0.8
JIJ eS Sb 21 50 01.7 -0.7
SCZT Fangliau 2.18 212 eP Pn 21 49 36.2 +1.4
baz=196
PHUB P'eng-hu 2.22 252 eP Pn 21 49 35.7 +0.3
baz=252
LYUB Lan-yu 2.24 187 eP Pn 21 49 35.0 -0.6
baz=187
JISG Ishigakijimahi 2.26 81 eS Sb 21 50 07.3 -0.2
JTJ Tarama 2.62 81 P Pn 21 49 43.5 +2.6
JOW Kunigami 6.34 65 Pn Pn 21 50 32.9 +0.8
1.5nm,0.3s,baz=129,slow=23,SNR=5.4
CNSH ChangSha 8.93 298 ⇑P Pn 21 51 05.8 -1.8
CNSH S Sn 21 52 46.5 -1.9
CNSH smax smax
comp=N,100nm,0.8s
CNSH smax smax
comp=E,77nm,0.8s
JNU Nakatsue 11.87 40 LR LR 21 57 30.8
comp=E,329nm,19.3s,baz=98,slow=43
KSRS Korea Array 14.16 20 Pn P 21 52 28.0 +1.2
comp=E,0.2nm,0.3s,baz=191,slow=13,SNR=4.1
KSRS LR LR 21 58 40.2
comp=E,103nm,19.4s,baz=195,slow=41
DAV Davao City (W) 17.43 168 LR LR 21 59 50.4
comp=E,106nm,18.4s,baz=335,slow=38
MJAR Matsushiro Arr 18.66 45 LR LR 22 00 57.7
comp=E,110nm,19.8s,baz=230,slow=39
CMAR Chiang Mai Arr 22.09 259 P P 21 53 53.0 -1.1
comp=E,0.5nm,0.5s,baz=77,slow=9.7,SNR=1.0
KLR Kul'dur 26.13 15 P P 21 54 32.0 -0.7
comp=E,0.4nm,0.5s,baz=225,slow=7.1,SNR=1.6
KLR LR LR 22 04 57.6
comp=E,87nm,19.8s,baz=198,slow=37
SIJI Sorong 26.57 159 LR LR 22 03 39.8
comp=E,32nm,21.2s,baz=178,slow=33
MKAR Makanchi Array 38.73 316 P P 21 56 22.4 -0.5
comp=E,1.1nm,1.0s,baz=107,slow=9.7,SNR=6.7
PETK Petropavlovsk- 39.48 34 LR LR 22 14 33.4
comp=E,49nm,18.0s,baz=207,slow=39
ZALV Zalesovo Beam 40.54 327 P P 21 56 36.9 -1.0
comp=E,0.6nm,0.6s,baz=97,slow=4.6,SNR=2.1
MA2 Magadan 40.70 22 LR LR 22 14 55.0
comp=E,67nm,18.2s,baz=251,slow=38
WRA Warramunga Arr 45.56 163 P P 21 57 17.1 -1.7
comp=E,0.7nm,0.7s,baz=345,slow=8.7,SNR=3.8
ASAR Alice Springs 49.03 165 P P 21 57 44.9 -0.9
comp=E,0.1nm,0.3s,baz=342,slow=7.1,SNR=2.6
CTA Charters Tower 50.05 150 LR LR 22 19 36.9
comp=E,37nm,18.4s,baz=269,slow=37
HFS Hagfors 77.83 331 LR LR 22 38 31.4
comp=E,84nm,18.6s,baz=66,slow=38
NOA NORSAR Array B 78.47 332 LR LR 22 38 54.8
comp=E,90nm,19.9s,baz=65,slow=38
YKA Yellowknife Ar 82.68 23 P P 22 01 20.7 -1.4
comp=E,0.4nm,0.7s,baz=314,slow=4.6,SNR=6.9

*IDC **27** 21:56:12.1±2.0, 17.05S×179.29W, h538km±19km, mb2.9/6, mb1 3.2/7, mb1mx3.0/33, mbtmp3.8/7, Error ellipse: s-maj=92.0km s-min=20.0km az=149.0*

ISC 27 21:56:12.8±1.4, **17.0S**±0.6×**179.4W**±0.4, **h550**km, **n7, σ0.93/7, mb3.3/6, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.55**	**254**	P		**P**		**21 57 24.1**	**-1.2**
	1.5nm,0.3s,baz=92,slow=3.9,SNR=8.2								
STKA	**Stephens Creek**	**38.24**	**240**	P		**P**		**22 02 46.3**	**0.0**
	0.9nm,0.4s,baz=83,slow=5.8,SNR=4.8								
WRA	**Warramunga Arr**	**43.88**	**259**	P		**P**		**22 03 31.8**	**+0.6**
	0.3nm,0.6s,baz=98,slow=7.5,SNR=8.6								
ASAR	**Alice Springs**	**44.14**	**253**	P		**P**		**22 03 34.1**	**+0.9**
	4.1nm,0.5s,baz=90,slow=8.1,SNR=78								
ILAR	**Eielson Array**	**85.26**	**13**	P		**P**		**22 07 51.3**	**+0.1**
	0.4nm,0.4s,baz=223,slow=5.5,SNR=7.8								
TXAR	**Lajitas Array**	**86.32**	**58**	P		**P**		**22 07 57.9**	**+0.7**
	0.3nm,0.6s,baz=198,slow=5.4,SNR=2.9								
PDAR	**Pinedale Array**	**87.37**	**44**	P		**P**		**22 08 01.4**	**-0.6**
	0.2nm,0.4s,baz=258,slow=8.0,SNR=2.7								

IDC 27 22:17:15.0±4.0, **24.59N**×**95.01E**, **h120**km±47km, **mb3.1/2, mb1 3.2/3, mb1mx2.9/30, mbtmp3.4/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/30, Error ellipse: s-maj=177.5km s-min=24.8km az=59.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.12**	**148**	P		P	Pn	22 18 56.6	0.0
	0.3nm,0.3s,baz=326,slow=13,SNR=5.1								
MKAR	**Makanchi Array**	**24.38**	**338**	P		P	P	22 22 22.0	0.0
	0.9nm,0.4s,baz=148,slow=9.9,SNR=19								
KURBB	**Kurchatov Arra**	**28.95**	**338**	LR		LR	LR	22 37 43.2	
WRA	**Warramunga Arr**	**58.52**	**136**	P		P	P	22 26 59.1	0.0
	0.1nm,0.3s,baz=322,slow=7.6,SNR=1.5								

RSNC 27 22:45:57.0±1.1, **6.83N**×**73.14W**, **h145**km±4km, **ML3.2, Mw3.6, 5C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**190**	⇑*i*P		P	Pn	22 46 16.8	-0.3
BARC				*e*S		S	Sn	22 46 31.8	-0.6
BARC				*i*				22 46 33.1	
	comp=Z,587nm,0.2s								
PAMC	**Pamplona, Colo**	**0.67**	**41**	⇓*i*P		P	Pn	22 46 19.6	+0.2
PAMC				*e*S		S	Sn	22 46 36.9	+0.5
PAMC				*i*				22 46 39.2	
	comp=Z,227nm,0.6s								
RUSC	**La Rusia**	**0.93**	**177**	⇑*i*P		P	Pn	22 46 20.7	-0.6
RUSC				*e*S		S	Sn	22 46 39.2	-0.6
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	*e*P		P	Pn	22 46 23.4	-1.2
PTBC				*e*S		S	Sn	22 46 44.7	-0.9
PTBC				*i*				22 46 52.0	
	comp=Z,235nm,0.4s								
TAMC	**Tame, Arauca**	**1.40**	**106**	⇓*i*P		P	Pn	22 46 25.1	-0.1
TAMC				*e*S		S	Sn	22 46 46.8	+0.1
TAMC				*i*				22 46 47.3	
	comp=Z,87nm,0.3s								
OCAC	**Ocana**	**1.41**	**353**	*e*P		P	Pn	22 46 24.9	-0.5
OCAC				*e*S		S	Sn	22 46 46.7	-0.5
OCAC				*i*				22 46 50.1	
	comp=Z,355nm,0.2s								
SPBC	**San Pablo de B**	**1.49**	**218**	*e*P		P	Pn	22 46 25.7	-0.6
SPBC				*e*S		S	Sn	22 46 47.7	-0.9
SPBC				*i*				22 46 53.5	
	comp=Z,280nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*P		P	Pn	22 46 29.4	-0.4
ZARC				*e*S		S	Sn	22 46 55.1	+0.1
ZARC				*i*				22 47 00.9	
	comp=Z,172nm,0.3s								
NORC	**Norcasia**	**2.13**	**234**	*e*P		P	Pn	22 46 32.7	-0.8
NORC				*e*S		S	Sn	22 47 00.8	-0.6
NORC				*i*				22 47 06.0	
	comp=Z,168nm,0.4s								
CHIC	**Chingaza**	**2.27**	**195**	*e*P		P	Pn	22 46 34.8	-0.7
CHIC				*e*S		S	Sn	22 47 04.3	-0.7
CHIC				*i*				22 47 07.5	
	comp=Z,72nm,0.2s								
ROSC	**El Rosal**	**2.30**	**211**	⇑*e*P		P	Pn	22 46 36.4	+0.5
ROSC				⇑*i*P				22 46 36.5	
ROSC				*e*S		S	Sn	22 47 09.1	+3.4
ROSC				*i*				22 47 12.7	
	comp=Z,205nm,0.3s								
HELC	**Santa Helena**	**2.46**	**255**	*e*P		P	Pn	22 46 38.3	+0.6
HELC				*e*S		S	Sn	22 47 10.5	+1.5
HELC				*i*				22 47 16.6	
	comp=Z,97nm,0.3s								
UREC	**San Jos de Ur**	**2.54**	**291**	*e*P		P	Pn	22 46 37.5	-1.0
UREC				*e*S		S	Sn	22 47 08.1	-2.3
UREC				*i*				22 47 18.1	
	comp=Z,85nm,0.3s								
SOCV	**Socops**	**2.69**	**57**	*e*P		P	Pn	22 46 39.4	-0.8
SOCV				*e*S		S	Sn	22 47 11.9	-1.6
GUY2C	**Guyana, Caldas**	**2.73**	**234**	*e*P		P	Pn	22 46 41.7	+0.5
GUY2C				*e*S		S	Sn	22 47 14.4	-0.9
GUY2C				*i*				22 47 23.1	
	comp=Z,150nm,0.3s								
VILC	**Villavicencio,**	**2.76**	**192**	*e*P		P	Pn	22 46 40.5	-0.8
VILC				*e*S		S	Sn	22 47 15.0	-0.4
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇑*i*P		P	Pn	22 46 39.0	-1.9
PTGC				*e*S		S	Sn	22 47 12.9	-3.3
PTGC				*i*				22 47 20.9	
	comp=Z,64nm,0.2s								
CBOC	**Ciudad Bolivar**	**3.01**	**252**	*e*P		P	Pn	22 46 44.8	+0.3
CBOC				*e*S		S	Sn	22 47 20.7	-0.5
CBOC				*i*				22 47 27.2	
	comp=Z,36nm,0.6s								
SDV	**Santo Domingo**	**3.21**	**50**	*e*P		P	Pn	22 46 46.3	-0.8
SDV				*e*S		S	Sn	22 47 23.9	-2.0
SDV				*i*				22 47 25.4	
	comp=Z,22nm,0.5s								
ANIL	**Santa Ana**	**3.24**	**224**	*e*P		P	Pn	22 46 47.9	+0.3
ANIL				*e*S		S	Sn	22 47 26.9	+0.4
ANIL				*i*				22 47 37.5	
	comp=Z,143nm,0.4s								
ORTC	**Ortega, Tolima**	**3.58**	**216**	*e*P		P	Pn	22 46 51.0	-0.8
ORTC				*e*S		S	Sn	22 47 34.3	+0.1
ORTC				*i*				22 47 40.7	
	comp=Z,66nm,0.7s								
SJCC	**San Jacinto, C**	**3.65**	**327**	*e*P		P	Pn	22 46 51.0	-1.7
SJCC				*e*S		S	Sn	22 47 31.6	-4.2
SJCC				*i*				22 47 35.4	
	comp=Z,19nm,0.2s								
PLMC	**San Jos del P**	**3.67**	**239**	*e*P		P	Pn	22 46 52.5	-0.4
PLMC				*e*S		S	Sn	22 47 34.0	-2.2
PLMC				*i*				22 47 41.3	
	comp=Z,45nm,0.5s								
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P		P	Pn	22 46 57.2	-2.3
CRJC				*e*S		S	Sn	22 47 44.2	-3.8
CRJC				*i*				22 47 48.7	
	comp=Z,25nm,0.3s								
YOTC	**Yotoco, Valle**	**4.26**	**229**	*e*P		P	Pn	22 46 59.8	-1.0
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P		P	Pn	22 47 02.1	-0.8
SMRC				*e*S		S	Sn	22 47 49.4	-4.8
SMRC				*i*				22 47 52.9	
	comp=Z,14nm,0.2s								
GARC	**Garzon, Huila**	**5.17**	**207**	*e*P		P	Pn	22 47 10.9	-2.0
GARC				*e*S		S	Sn	22 48 07.2	-5.0
GARC				*i*				22 48 16.4	
	comp=Z,21nm,0.2s								

*IDC **27** 22:53:37.4±4.6, 4.73S×105.03E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.3/32, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=107.9km s-min=65.2km az=41.0*
*DJA **27** 22:53:48.7±0.4, 6°S±5°×10°5E±°, h10km, M3.9/13, MLv3.9/13*

ISC 27 22:53:48.4±1.0, **6°19S**±0.07×**105°29E**±0.06, **h10**km, **n18, σ1.73/21, mb3.5/3, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.82**	**357**	P		P	**Pg**	**22 54 03.1**	**-1.1**
KASI	**Kota Agung**	**1.03**	**310**	P		P	**Pg**	**22 54 08.7**	**+0.4**
TNG	**Tangerang**	**1.35**	**89**	P		P	**Pn**	**22 54 11.8**	**-1.5**
TNG				P		P	**Pb**	**22 54 13.4**	**-0.4**
TNG				S		S	**Sb**	**22 54 30.0**	**-1.1**
KLI	**Kotabumi**	**1.39**	**342**	P		P	**Pn**	**22 54 14.2**	**+0.4**
DBJI	**Dramaga**	**1.50**	**104**	P		P	**Pn**	**22 54 14.1**	**-1.3**
SKJI	**Sukabumi**	**1.50**	**123**	P		P	**Pn**	**22 54 15.0**	**-0.4**
CBJI	**Citeko**	**1.57**	**99**	P		P	**Pn**	**22 54 17.9**	**+1.6**
LWLI	**Liwa**	**1.69**	**313**	P		P	**Pn**	**22 54 18.2**	**+0.1**
CNJI	**Cibinong**	**2.14**	**121**	P		P	**Pn**	**22 54 24.3**	**+0.1**
LEM	**Lembang**	**2.40**	**105**	Pn		Pn	**Pn**	**22 54 31.4**	**+3.5**
	9.7nm,0.3s,baz=300,slow=20,SNR=32								
LEM				Sn			**Sg**	**22 55 10.6**	**+5.0**
	2.7nm,0.3s,baz=307,slow=22,SNR=1.3								
LEM	**Lembang**	**2.40**	**105**	P		P	**Pn**	**22 54 28.8**	**+0.9**
JCJI	**Jatiwangi**	**2.98**	**96**	P		P	**Pn**	**22 54 35.0**	**-0.8**
PMBI	**Palembang**	**3.28**	**351**	P		P	**Pn**	**22 54 41.2**	**+1.3**
CMJI	**Cimerak**	**3.51**	**117**	P		P	**Pn**	**22 54 41.7**	**-1.4**
PPBI	**Pangkal Pinang**	**4.09**	**12**	P		P	**Pn**	**22 54 51.1**	**0.0**
WRA	**Warramunga Arr**	**31.35**	**119**	P		P	**P**	**23 00 08.2**	**-1.4**
	0.4nm,0.6s,baz=295,slow=10,SNR=4.1								
ASAR	**Alice Springs**	**32.54**	**125**	P		P	**P**	**23 00 19.6**	**-0.4**
	0.4nm,0.8s,baz=300,slow=7.4,SNR=1.6								
STKA	**Stephens Creek**	**42.44**	**132**	P		P	**P**	**23 01 43.5**	**-0.2**
	1.6nm,0.7s,baz=328,slow=9.5,SNR=3.5								

*IDC **27** 23:02:12.7±1.3, 1.20S×81.39W, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/36, mbtmp3.6/6, ML3.3/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/37, Error ellipse: s-maj=50.8km s-min=24.2km az=65.0*
*IGQ **27** 23:02:12±1.0, 1°S±3°×8°1W±°, h10km*
*NEIC **27** 23:02:13.5±1.3, 1.34S±0.06×80.97W±0.06, h10km±2km, mb4.2/9, Error ellipse: s-maj=10.7km s-min=10.3km az=225.0*

ISC 27 23:02:13.0±0.7, **1.27S**±0.03×**81.01W**±0.06, **h11**km, **n81, σ1.31/82, mb3.8/6, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.36**	**53**	P		P	**Pg**	**23 02 19.0**	**-1.2**
PPLP	**Puerto Lpez**	**0.37**	**139**	P		P	**Pg**	**23 02 18.0**	**-2.3**
PPLP				S		S	**Sb**	**23 02 27.0**	**-0.3**
PPLP	**Puerto Lpez**	**0.37**	**139**	P		P	**Pg**	**23 02 19.0**	**-1.3**
PPLP				S		S	**Sb**	**23 02 27.0**	**-0.3**
AMNT	**Manta-Manabi**	**0.43**	**41**	P		P	**Pg**	**23 02 20.0**	**-1.4**
FLF1	**Flavio Alfaro-**	**1.48**	**52**	P		P	**Pn**	**23 02 38.0**	**-1.6**
MAG1	**Magdalena**	**1.72**	**46**	P		P	**Pn**	**23 02 42.0**	**-0.8**
ISPG	**Isla Puna-Puer**	**1.89**	**153**	P		P	**Pn**	**23 02 45.0**	**-0.3**
COHC	**Cochancay**	**2.12**	**124**				**Pn**	**23 02 47.5**	**-0.9**
COHC							**Sn**	**23 03 14.0**	**-0.8**
CHSH	**Refugio Sur-Vo**	**2.16**	**96**	P		P	**Pn**	**23 02 49.0**	**-0.4**
PORT	**Chimborazo Vol**	**2.25**	**95**	Pn		Pn	**Pn**	**23 02 50.5**	**-0.1**
PORT	**Chimborazo Vol**	**2.25**	**95**	P		P	**Pn**	**23 02 50.0**	**-0.7**
TAMH	**Tambohuasha Ch**	**2.25**	**97**	P		P	**Pn**	**23 02 50.0**	**-0.6**
ILLI	**Illinizas Sur**	**2.35**	**77**	P		P	**Pn**	**23 02 51.0**	**-1.0**
IGUA	**Igualata**	**2.38**	**95**	P		P	**Pn**	**23 02 53.0**	**+0.5**
PAST	**Pastocalle**	**2.44**	**77**	P		P	**Pn**	**23 02 53.0**	**-0.2**
ARNL	**Arenillas**	**2.46**	**157**	Pn		Pn	**Pn**	**23 02 50.8**	**-2.2**
BBIL	**Ulba Tungurahu**	**2.53**	**94**	P		P	**Pn**	**23 02 56.0**	**+1.6**
BMAS	**Trigal station**	**2.54**	**95**	P		P	**Pn**	**23 02 55.0**	**+0.4**
JUI6	**Juive**	**2.55**	**94**	P		P	**Pn**	**23 02 55.0**	**+0.4**

POND	**Pondoa**	**2.57**	**93**	P		**Pn**	**23 02 56.0**	**+1.2**
ARRY	**Arrayan**	**2.57**	**95**	P		**Pn**	**23 02 56.0**	**+1.1**
RETU	**Refugio**	**2.57**	**94**	P		**Pn**	**23 02 56.0**	**+0.9**
CAMI	**Rancho Maria**	**2.58**	**77**	P		**Pn**	**23 02 56.0**	**+0.9**
HPAL	**Hacienda Las P**	**2.58**	**66**	P		**Pn**	**23 02 54.0**	**-1.1**
BPAT	**Tungurahua Vol**	**2.59**	**95**	P		**Pn**	**23 02 56.0**	**+0.7**
BNAS	**Cotopaxi Volca**	**2.60**	**77**	P		**Pn**	**23 02 56.0**	**+0.5**
GGPT	**Toaza - Volcan**	**2.61**	**67**	P		**Pn**	**23 02 55.0**	**-0.5**
BMOR	**Cotopaxi Volca**	**2.61**	**78**	P		**Pn**	**23 02 56.0**	**+0.4**
JUA2	**San Juan 2**	**2.63**	**67**	P		**Pn**	**23 02 55.0**	**-0.8**
BREF	**Cotopaxi Volca**	**2.64**	**77**	P		**Pn**	**23 02 56.0**	**-0.1**
TERV	**Terraza Guagua**	**2.64**	**66**	P		**Pn**	**23 02 55.0**	**-1.1**
PINO	**Pino**	**2.65**	**65**	P		**Pn**	**23 02 55.0**	**-1.2**
VCES	**Cotopaxi**	**2.66**	**80**	P		**Pn**	**23 02 57.0**	**+0.7**
BVC2	**Cotopaxi Volca**	**2.67**	**77**	P		**Pn**	**23 02 57.0**	**+0.5**
PITA	**Cotopaxi Volc**	**2.67**	**75**	P		**Pn**	**23 02 57.0**	**+0.6**
BTAM	**Cotopaxi Volca**	**2.68**	**77**	P		**Pn**	**23 02 57.0**	**+0.4**
VC1	**Cotopaxi 1**	**2.68**	**77**	P		**Pn**	**23 02 57.0**	**+0.4**
PAC1	**Pacto, Paraso**	**2.69**	**56**	*e*P		**Pn**	**23 02 54.5**	**-1.9**
PAC1				*e*S		**Sn**	**23 03 24.7**	**-4.4**
PAC1				*i*			23 03 41.8	
	comp=Z,1μm,0.3s							
YANA	**Yana**	**2.69**	**65**	P		**Pn**	**23 02 56.0**	**-0.7**
TAMB	**Tambo**	**2.71**	**78**	P		**Pn**	**23 02 57.0**	**+0.1**
SANGA	**Volcan Sangay**	**2.75**	**106**	P		**Pn**	**23 02 58.0**	**+0.5**
PIAT	**Ana Tenorio**	**2.77**	**84**	P		**Pn**	**23 02 58.0**	**+0.4**
ANTG	**Antisana-Guama**	**2.86**	**75**	P		**Pn**	**23 03 00.0**	**+0.9**
ANTS	**Antisana-Sarah**	**2.94**	**75**	P		**Pn**	**23 03 01.0**	**+0.7**
ANTI	**Antisana**	**2.97**	**74**	P		**Pn**	**23 03 01.0**	**+0.5**
OTAV	**Otavalo**	**2.97**	**60**	P		**Pn**	**23 02 59.6**	**-0.8**
CUSE	**Cuicocha Este**	**3.04**	**59**	*e*P		**Pn**	**23 03 00.8**	**-0.7**
CUSE				*e*S		**Sn**	**23 03 40.3**	**+2.1**
CUSE				*i*			23 03 55.1	
	comp=Z,929nm,0.3s							
CUSE	**Cuicocha Este**	**3.04**	**59**	P		**Pn**	**23 03 00.0**	**-1.5**
CUIC	**Cuicocha-Domo**	**3.08**	**60**	P		**Pn**	**23 03 01.0**	**-0.9**
BOSC	**San Juan Bosco**	**3.14**	**127**	Pn		**Pn**	**23 03 03.8**	**+1.3**
URCU	**Urcuqui**	**3.24**	**58**	P		**Pn**	**23 03 03.0**	**-1.1**
MCRA	**Macar, Loja**	**3.26**	**161**	Pn		**Pn**	**23 03 02.2**	**-2.0**
YAHU	**Yahuarcocha**	**3.36**	**61**	P		**Pn**	**23 03 06.0**	**+0.2**
LNGL	**El Angel-Carch**	**3.61**	**57**	P		**Pn**	**23 03 10.0**	**+0.6**
ECEN	**Cerro Negro**	**3.68**	**56**	P		**Pn**	**23 03 10.0**	**-0.4**
CHL1	**Volc¡n Chiles**	**3.69**	**56**	P		**Pn**	**23 03 10.0**	**-0.4**
CHL2	**Volc¡n Chiles**	**3.71**	**56**	P		**Pn**	**23 03 11.0**	**+0.2**
TULM	**Tulcn-Chalpat**	**3.78**	**59**	Pn		**Pn**	**23 03 11.7**	**0.0**
CMBC	**Cumbal**	**3.87**	**56**	*e*P		**Pn**	**23 03 2**[illegible]	**-2.2**
GCUF	**Volcan Galeras**	**4.43**	**56**	*e*P		**Pn**	**23 03 24.7**	**+4.1**
PCON	**Cinco Dias**	**5.83**	**52**	*e*P		**Pn**	**23 03 39.8**	**-0.3**
ORTC	**Ortega, Tolima**	**7.72**	**48**	*e*P		**Pn**	**23 04 06.4**	**+0.9**
PAYG	**Puerto Ayora**	**9.29**	**274**	Pn		**Pn**	**23 04 28.3**	**+1.4**
SDV	**Santo Domingo**	**14.45**	**46**	Pn		**P**	**23 05 43.5**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=276,slow=21,SNR=2.3							
URIC	**Uribia, Colomb**	**15.70**	**35**	Pn		**Pn**	**23 05 54.8**	**+0.6**
URIC				IAmb		IAmb	23 06 01.0	
	comp=Z,9.0nm,1.0s							
BAUV	**El Baul**	**16.43**	**52**	Pn		**Pn**	**23 06 03.8**	**+0.1**
BAUV				IAmb		IAmb	23 06 08.6	
	comp=Z,24nm,1.5s							
LPAZ	**La Paz**	**19.60**	**140**	P		**Pn**	**23 06 46.3**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=335,slow=9.4,SNR=4.1							
PB16	**IPOC Station P**	**20.38**	**147**	P		**P**	**23 06 49.8**	**-0.8**
PB16				IAmb		IAmb	23 07 18.2	
	comp=Z,3.9nm,0.9s							
SJG	**San Juan**	**24.18**	**37**	LR		LR	23 16 39.0	
	comp=Z,24nm,21.8s,baz=274,slow=36							
GCPR	**Guaynabo City**	**24.38**	**36**	P		**P**	**23 07 31.9**	**+0.5**
GCPR				IAmb		IAmb	23 07 33.2	
	comp=Z,14nm,0.8s							
CBYP	**Canovanas**	**24.48**	**37**	P		**P**	**23 07 32.1**	**-0.3**
TXAR	**Lajitas Array**	**37.35**	**326**	P		**P**	**23 09 23.9**	**-2.0**
	comp=Z,0.3nm,1.0s,baz=142,slow=7.5,SNR=2.1							
PLTB	**Pedras Altas**	**39.87**	**142**	P		**P**	**23 09 46.2**	**-0.7**
PLTB				IAmb		IAmb	23 09 53.1	
	comp=Z,29nm,1.4s							
PLCA	**Paso Flores**	**40.41**	**168**	P		**P**	**23 09 54.2**	**+2.9**
	comp=Z,1.5nm,0.8s,baz=6.3,slow=9.2,SNR=3.8							
PLCA	**Paso Flores**	**40.41**	**168**	P		**P**	**23 09 50.5**	**-0.9**
YKA	**Yellowknife Ar**	**68.45**	**344**	P		**P**	**23 13 16.1**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=135,slow=6.1,SNR=6.2							
TORD	**Torodi Ar. Bea**	**83.19**	**77**	P		**P**	**23 14 42.5**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=266,slow=4.5,SNR=3.2							
H11S2	**WAKE ISLAND Hyl**	**11.51**	**289**	T		T	01 21 29.3	
	baz=86,slow=75,SNR=78							
H11S1	**WAKE ISLAND Hyl**	**11.51**	**289**	T		T	01 21 29.8	
	baz=86,slow=75,SNR=43							
H11S3	**WAKE ISLAND Hyl**	**11.53**	**289**	T		T	01 21 32.5	
	baz=86,slow=75,SNR=62							
PZH	**PanZhiHua**	**154.77**	**354**	PKPbc		**PKPdf**	**23 22 06.5**	**-0.3**

*IDC **27** 23:23:41.3±2.0, 18°.79S×178°.11W, h581km±22km, mb3.0/6, mb1 3.3/7, mb1mx3.0/27, mbtmp4.0/7, Error ellipse: s-maj=30.1km s-min=21.7km az=149.0*

ISC 27 23:23:42.5±1.0, 18°.7S±0°.2×178°.2W±0°.2, h600km, n8, σ1$13/8, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MSVF	**Nonsavu**	**3.68**	**285**	P	**P**	**23**	**25 04.1**	**-1.8**
	3.0nm,0.3s,baz=132,slow=12,SNR=7.6							
CTA	**Charters Tower**	**33.51**	**267**	P	**P**	**23**	**29 35.3**	**+1.2**
	11nm,1.0s,baz=91,slow=9.6,SNR=6.8							
WRA	**Warramunga Arr**	**44.68**	**260**	P	**P**	**23**	**31 04.0**	**+0.3**
	1.7nm,0.6s,baz=97,slow=7.7,SNR=33							
ASAR	**Alice Springs**	**44.76**	**255**	P	**P**	**23**	**31 04.4**	**+0.1**
	2.7nm,0.6s,baz=90,slow=7.7,SNR=30							
VNDA	**Vanda**	**59.67**	**185**	P	**P**	**23**	**32 49.5**	**-0.2**
	0.7nm,0.8s,baz=12,slow=7.8,SNR=6.6							
TXAR	**Lajitas Array**	**86.26**	**58**	P	**P**	**23**	**35 21.9**	**-0.3**
	0.3nm,0.7s,baz=217,slow=6.0,SNR=4.5							
ILAR	**Eielson Array**	**86.62**	**13**	P	**P**	**23**	**35 23.9**	**+1.1**
	0.3nm,0.6s,baz=209,slow=4.8,SNR=2.1							
GERES	**GERESS Array B**	**148.43**	**345**	PKPbc	**PKiKP**	**23**	**42 23.1**	**-0.5**
	1.1nm,0.7s,baz=46,slow=3.9,SNR=9.0							

*NIED **27** 23:29:44.4, 32°.70N×130°.71E, h14km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=2.27; Mθθ 3.21; Mφφ -0.94; Mrθ -1.88; Mθφ-0.14; Mφr-0.82; Fault plane solution: M0 3.48000×10^14^ NP1: φs295.00000°, δ32.00000°, λ-52.00000°. NP2: φs73.00000°, δ65.00000°, λ-111.00000°.*

JMA 27 23:29:44.3, 32.70N×130.71E, h14km±1km, M3.5, 3C Broadband fault plane solution: P waves. NP1: φs93.00000°, δ53.00000°, λ-89.00000°. **NP2:** φs271.00000°, δ37.00000°, λ-92.00000°. **Principal axes:** T Plg8.0000°, Azm182.0000°; N Plg1.0000°, Azm272.0000°; P Plg82.0000°, Azm9.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JIU3	**Izumi3**	**0.17**	**150**	↑P	Pg	23	29 48.4	0.0
JIU3				eS	Sg	23	29 51.4	+0.2
JTA	**Tamana**	**0.30**	**330**	↑P	Pg	23	29 50.7	+0.1
JTZ	**Takazaki**	**0.86**	**158**	↑P	Pb	23	30 01.1	+0.1

*TUL **27** 23:37:39.9±0.6, 35°.98N±0°.01×97°.20W±0°.01, h6km±4km, ML2.6, mb_Lg2.3/3(NEIC) Error ellipse: s-maj=1.8km s-min=1.0km az=148.0*

NEIC 27 23:37:40.5±0.5, 35°.99N±0°.01×97°.20W±0°.01, h3km±5km, Error ellipse: s-maj=1.9km s-min=1.3km az=152.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
OKCFA	**Oklahoma City**	**0.61**	**200**	Pg	Pg	23	37 51.5	-0.7
OKCFA				Sg	Sg	23	38 00.1	+0.1
OKCSW	**OKLAHOMA CITY**	**0.61**	**198**		Pg	23	37 51.6	-0.7
OKCSW				Sg	Sg	23	38 00.3	+0.1
FNO	**Franklin**	**0.75**	**193**	Pg	Pg	23	37 54.0	-0.9
FNO				IAmb_Lg		23	38 04.3	
	comp=Z,15nm,0.9s							
FNO				Sg	Sg	23	38 04.4	-0.1
T35A	**Sooner Cattle**	**1.08**	**31**		Pg	23	38 00.3	-1.0
TUL1	**Leonard**	**1.15**	**93**		Pg	23	38 00.9	-1.6
X34A	**Smith Ranch, M**	**1.48**	**201**		Pn	23	38 07.0	-1.0
U32A	**Winter Ranch,**	**1.51**	**286**		Pn	23	38 07.4	-1.0
WMOK	**Wichita Mounta**	**1.79**	**226**		Pn	23	38 12.1	-0.3
X37A	**Clayton**	**2.05**	**132**	Pn	Pn	23	38 15.6	-0.3
HHAR	**Hobbs**	**2.66**	**83**		Pn	23	38 23.7	-0.5
W39A	**Magazine**	**2.90**	**105**	Pn	Pn	23	38 27.0	-0.5
MIAR	**Mount Ida**	**3.30**	**115**	Pn	Pn	23	38 32.9	-0.1
U40A	**Yellville**	**3.54**	**83**		Pn	23	38 35.3	-1.0
S39A	**Bolivar**	**3.54**	**60**	Pn	Pn	23	38 36.1	-0.4
WHAR	**Wooly Hollow**	**4.06**	**98**	Pn	Pn	23	38 42.7	-0.8
W41B	**Gary Mavity, V**	**4.12**	**100**	Pn	Pn	23	38 43.5	-0.8
W41B				IAmb_Lg		23	40 02.7	
	comp=Z,4.0nm,0.8s							
R40A	**Maddies Statio**	**4.56**	**58**	Pn	Pn	23	38 48.9	-1.5

*DJA **27** 23:39:51.2±0.9, 3°.S±6°×14°.2E±°, h20km±4km, M4.3/6, mb4.3/6, MLv4.4/3*

*IDC **27** 23:39:53.9±1.1, 3°.12S×141°.04E, h0km, mb3.8/5, mb1 4.2/6, mb1mx3.8/23, mbtmp3.9/6, ML3.8/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/64, Error ellipse: s-maj=38.4km s-min=23.7km az=98.0*

*NEIC **27** 23:39:56.0±2.1, 3°.2S±0°.1×141°.0E±0°.1, h10km±1km, mb4.2/14, Error ellipse: s-maj=20.0km s-min=16.0km az=306.0*

ISC 27 23:39:56.9±0.6, 3°.20S±0°.07×141°.02E±0°.06, h23km, n42, σ1$93/39, mb4.2/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GENI	**Genyem**	**1.04**	**305**	P	**Pn**	**23**	**40 14.5**	**-1.6**
GENI				S	Sn	23	40 38.4	+8.4
WAMI	**Wamena**	**2.41**	**253**	P	**Pb**	**23**	**40 38.2**	**-1.3**
WAMI				S	**Sb**	**23**	**41 15.1**	**+6.3**
SMPI	**Sarmi**	**2.60**	**297**	P	**Pb**	**23**	**40 40.9**	**-2.0**
MANU	**Manus Island**	**6.44**	**80**	Pn	**Pn**	**23**	**41 31.6**	**+1.1**
PMG	**Port Moresby**	**8.68**	**136**	LR	LR	23	45 46.4	
	comp=Z,51nm,21.8s,baz=328,slow=40							
MTN	**Manton Dam**	**13.70**	**225**	Pn	**Pn**	**23**	**43 10.0**	**+0.1**
GUMO	**Guam**	**17.11**	**13**	LR	LR	23	50 47.1	
	comp=Z,59nm,18.7s,baz=112,slow=38							
KNRA	**Kununurra**	**17.31**	**223**		**Pn**	**23**	**43 56.5**	**-0.6**
KNRA				IAmb	IAmb	23	44 12.5	
	comp=Z,13nm,0.9s							
CTA	**Charters Tower**	**17.55**	**163**	LR	LR	23	52 01.8	
	comp=Z,79nm,19.2s,baz=268,slow=41							
WB0	**Warramunga Arr**	**17.70**	**201**		**Pn**	**23**	**44 00.8**	**-1.3**
WB0				IAmb	IAmb	23	44 17.5	
	comp=Z,22nm,1.2s							
WR0	**Warramunga Arr**	**17.82**	**200**	P	**Pn**	**23**	**44 03.9**	**+0.3**
WR0				IAmb	IAmb	23	44 20.7	
	comp=Z,18nm,1.0s							
WRA	**Warramunga Arr**	**17.88**	**201**	P	**Pn**	**23**	**44 04.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=18,slow=14,SNR=21							
WRA				S	**Sn**	**23**	**47 17.1**	**-6.0**
	comp=Z,0.1nm,0.3s,baz=2.3,slow=23,SNR=3.3							
WRA				LR	LR	23	51 15.3	
	comp=Z,116nm,19.4s,baz=332,slow=38							
WRA	**Warramunga Arr**	**17.88**	**201**	P	**P**	**23**	**44 06.1**	**+1.3**
BATI	**Baumata**	**18.58**	**247**	P	**Pn**	**23**	**44 17.6**	**+4.7**
	comp=Z,1.4nm,0.3s,baz=155,slow=5.4,SNR=4.4							
BSSI	**Bau Bau, Buton**	**20.67**	**261**	P	Pn	23	44 39.6	+1.8
	comp=Z,16nm,1.1s							
BNSI	**Bone**	**20.90**	**266**	P	Pn	23	44 41.6	+1.1
	comp=Z,12nm,0.8s							
BKSI	**Bulukumba**	**20.95**	**263**	P	Pn	23	44 42.0	+1.0
FITZ	**Fitzroy Crossi**	**21.13**	**224**	P	**P**	**23**	**44 41.6**	**+1.3**
	comp=Z,5.0nm,1.2s,baz=39,slow=12,SNR=4.2							
FITZ				S	**S**	**23**	**48 34.2**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=126,slow=8.4,SNR=3.6							
AS31	**Alice Springs**	**21.48**	**198**	P	**P**	**23**	**44 45.2**	**+1.1**
ASAR	**Alice Springs**	**21.48**	**198**	P	**P**	**23**	**44 44.1**	**0.0**
	comp=Z,1.2nm,0.7s,baz=30,slow=10,SNR=17							
ASAR	**Alice Springs**	**21.48**	**198**	P	**P**	**23**	**44 44.4**	**+0.2**
MYKOM	**Kota Tinggi**	**37.48**	**277**	P	**P**	**23**	**47 07.3**	**-2.0**
CMAR	**Chiang Mai Arr**	**46.68**	**299**	P	**P**	**23**	**48 23.9**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=122,slow=6.1,SNR=6.3							
CMAR	**Chiang Mai Arr**	**46.68**	**299**	P	**P**	**23**	**48 24.4**	**+0.1**
MK31	**Makanchi Array**	**71.59**	**322**	P	**P**	**23**	**51 16.4**	**0.0**
MK31				IAmb	IAmb	23	51 19.4	
	comp=Z,2.7nm,1.1s							
MKAR	**Makanchi Array**	**71.59**	**322**	P	**P**	**23**	**51 17.6**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=111,slow=6.6,SNR=10							
MKAR	**Makanchi Array**	**71.59**	**322**	P	**P**	**23**	**51 17.1**	**+0.7**
MAKZ	**Makanchi**	**71.79**	**322**	P	**P**	**23**	**51 17.9**	**+0.2**
BOOM	**Boomskoye usch**	**74.10**	**316**	P	**P**	**23**	**51 33.5**	**+1.8**
BOOM				IAmb	IAmb	23	51 50.0	
	comp=Z,3.6nm,1.1s							
VNDA	**Vanda**	**75.11**	**175**	P	**P**	**23**	**51 34.4**	**-2.2**
KURK	**Kurchatov**	**75.44**	**324**	P	**P**	**23**	**51 39.0**	**0.0**
KURK				IAmb	IAmb	23	51 43.4	
	comp=Z,2.6nm,1.1s							
KK31	**Karatay Array**	**78.09**	**315**	P	**P**	**23**	**51 54.8**	**+0.6**
KK31				IAmb	IAmb	23	51 56.9	
	comp=Z,2.9nm,1.4s							
KKAR	**Karatay Array**	**78.09**	**315**	P	**P**	**23**	**51 54.8**	**+0.5**
J20K	**Nowinta River**	**82.17**	**24**	P	**P**	**23**	**52 16.5**	**+0.8**
IMAR	**Indian Mountai**	**83.07**	**22**	P	**P**	**23**	**52 20.8**	**+0.4**
ILAR	**Eielson Array**	**85.32**	**24**	P	**P**	**23**	**52 30.8**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=275,slow=5.2,SNR=6.1							
QSPA	**South Pole Qui**	**86.75**	**180**	P	**P**	**23**	**52 39.2**	**+0.2**
QSPA				IAmb	IAmb	23	52 52.4	
	comp=Z,1.7nm,1.0s							
BMAR	**Burnt Mountain**	**86.98**	**22**	P	**P**	**23**	**52 41.7**	**+1.6**
BCAR	**Beaver Creek A**	**87.05**	**26**	P	**P**	**23**	**52 40.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**138.61**	**286**	PKP	**PKiKP**	**23**	**59 24.3**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=78,slow=2.0,SNR=4.6							
LPAZ	**La Paz**	**145.29**	**125**	PKPbc	**PKPdf**	**23**	**59 35.5**	**+0.9**
	comp=Z,3.6nm,0.9s,baz=220,slow=1.9,SNR=11							
LPAZ	**La Paz**	**145.29**	**125**		**PKPab**	**23**	**59 34.1**	**-0.4**

*IDC **27** 23:50:45.2±0.7, 3°.16S×141°.15E, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.2/37, mbtmp4.3/15, ML4.5/2, MS3.5/7, Ms1 3.5/7, ms1mx3.1/43, Error ellipse: s-maj=27.1km s-min=15.4km az=93.0*

*NEIC **27** 23:50:47.8±1.9, 3°.21S±0°.07×140°.96E±0°.06, h10km±1km, mb4.6/47, Error ellipse: s-maj=14.7km s-min=5.8km az=224.0*

*DJA **27** 23:50:48.7±1.1, 3°.S±4°×14°.1E±°, h12km±7km, M4.5/19, mB5.1/4, mb4.5/19, MLv4.4/4, Mw(mB)4.5/4*

ISC 27 23:50:49.0±0.4, 3°.23S±0°.05×141°.06E±0°.07, h23km, n112, σ1$29/108, mb4.6/46, 2C-4D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GENI	**Genyem**	**1.09**	**305**	P	**Pn**	**23**	**51 06.1**	**-2.9**
GENI				S	**Sn**	**23**	**51 27.2**	**+3.8**
WAMI	**Wamena**	**2.44**	**254**	P	**Pn**	**23**	**51 26.8**	**-0.7**
SMPI	**Sarmi**	**2.65**	**298**	P	**Pn**	**23**	**51 31.9**	**+1.5**
BAKI	**Biak**	**5.35**	**292**	P	**Pn**	**23**	**52 07.8**	**+0.2**
	114nm,0.8s							
MANU	**Manus Island**	**6.40**	**80**	Pn	**Pn**	**23**	**52 22.4**	**+0.3**
PMG	**Port Moresby**	**8.62**	**136**	Pn	**Pn**	**23**	**52 55.2**	**+2.7**
	1.4nm,0.3s,baz=318,slow=22,SNR=2.1							
PMG				LR	LR	23	56 50.6	
	comp=Z,202nm,21.2s,baz=290,slow=42							
PMG	**Port Moresby**	**8.62**	**136**	Pn	**Pn**	**23**	**52 54.5**	**+1.9**
COEN	**Coen**	**10.86**	**169**	Pn	**Pn**	**23**	**53 25.5**	**+2.3**
KRVT	**Keravat (AS076**	**10.99**	**96**	Pn	Pn	23	53 31.0	+6.0
	2.9nm,0.3s,baz=222,slow=17,SNR=1.3							
MTN	**Manton Dam**	**13.70**	**225**	Pn	**Pn**	**23**	**54 00.3**	**-1.8**
TNTI	**Ternate**	**14.26**	**286**		**P**	**23**	**54 13.5**	**-3.2**
GUMO	**Guam**	**17.13**	**13**	LR	LR	00	00 51.5	
	comp=Z,191nm,20.5s,baz=193,slow=36							
KNRA	**Kununurra**	**17.31**	**224**	Pn	**Pn**	**23**	**54 47.9**	**-1.5**
KNRA				IAmb	IAmb	23	55 02.1	
	comp=Z,28nm,0.7s							
CTA	**Charters Tower**	**17.51**	**164**	LR	LR	00	02 06.0	
	comp=Z,220nm,18.6s,baz=22,slow=39							
WB0	**Warramunga Arr**	**17.68**	**201**		**Pn**	**23**	**54 53.0**	**-1.0**
WB0				IAmb	IAmb	23	55 04.3	
	comp=Z,92nm,1.5s							
WR0	**Warramunga Arr**	**17.81**	**200**		**Pn**	**23**	**54 54.4**	**-1.2**
WR0				IAmb	IAmb	23	55 06.0	
	comp=Z,50nm,1.1s							
WB2	**Warramunga Arr**	**17.86**	**201**	P	**Pn**	**23**	**54 56.0**	**-0.2**
WB2				IAmb	IAmb	23	55 05.6	
	comp=Z,107nm,1.5s							
WRA	**Warramunga Arr**	**17.86**	**201**	P	**Pn**	**23**	**54 56.1**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=18,slow=14,SNR=35							
WRA				S	**Sn**	**23**	**58 11.8**	**-3.1**
	baz=23,slow=22,SNR=1.9							
WRA				LR	LR	00	02 08.3	
	comp=Z,367nm,20.8s,baz=4.0,slow=38							
WRA	**Warramunga Arr**	**17.86**	**201**	P	**Pn**	**23**	**54 55.6**	**-0.6**
GTOI	**Gorontalo**	**18.45**	**282**	P	**Pn**	**23**	**55 05.9**	**+2.4**
	comp=Z,12nm,1.0s							
DAV	**Davao City (W)**	**18.53**	**304**	LR	LR	00	03 28.9	
	comp=Z,51nm,18.1s,baz=124,slow=41							
BATI	**Baumata**	**18.61**	**247**	P	**Pn**	**23**	**55 06.7**	**+1.2**
	comp=Z,7.5nm,0.3s,baz=188,slow=4.5,SNR=12							
BATI	**Baumata**	**18.61**	**247**	P	**Pn**	**23**	**55 06.4**	**+0.9**
	comp=Z,43nm,0.6s							
BSSI	**Bau Bau, Buton**	**20.71**	**261**	P	Pn	23	55 30.3	-0.1
	comp=Z,930nmcomp=Z,53nm,2.0s							
TOLI2	**Tolitoli**	**20.73**	**282**	P	**P**	**23**	**55 26.9**	**-1.3**
BNSI	**Bone**	**20.94**	**266**	P	Pn	23	55 33.5	+0.4
	comp=Z,32nm,0.8s							
BKSI	**Bulukumba**	**20.99**	**264**	P	Pn	23	55 32.2	-1.4
	comp=Z,19nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.14**	**225**	P	**P**	**23**	**55 32.5**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=38,slow=11,SNR=19							
FITZ				LR	LR	00	04 28.7	
	comp=Z,242nm,19.1s,baz=49,slow=39							
TTSI	**Tana Toraja**	**21.21**	**270**	P	**P**	**23**	**55 32.4**	**-1.0**
	comp=Z,19nm,0.4s							
SPSI	**Sidrap Palu**	**21.27**	**267**	P	**P**	**23**	**55 35.6**	**+1.6**
	comp=Z,17nm,1.3s							
KAPI	**Kappang**	**21.33**	**265**	P	**P**	**23**	**55 32.9**	**-1.8**
MPSI	**Mapaga**	**21.45**	**279**	P	**P**	**23**	**55 37.5**	**+1.5**
	comp=Z,11nm,1.1s							
AS31	**Alice Springs**	**21.46**	**198**	P	**P**	**23**	**55 35.1**	**-1.0**
ASAR	**Alice Springs**	**21.47**	**198**	P	**P**	**23**	**55 35.9**	**-0.2**
	comp=Z,4.4nm,0.6s,baz=30,slow=10,SNR=69							
ASAR	**Alice Springs**	**21.47**	**198**	P	**P**	**23**	**55 34.7**	**-1.4**
EIDS	**Eidsvold**	**24.03**	**157**	P	**P**	**23**	**56 02.5**	**0.0**
EIDS				IAmb	IAmb	23	56 14.5	
	comp=Z,25nm,1.1s							
MYLDM	**Lahad Datu**	**24.04**	**290**	P	**P**	**23**	**56 01.6**	**-1.1**
MYLDM				IAmb	IAmb	23	56 26.5	
	comp=Z,15nm,1.0s							
MBWA	**Marble Bar**	**27.36**	**228**	P	**P**	**23**	**56 32.2**	**-0.5**
MBWA				IAmb	IAmb	23	56 49.6	
	comp=Z,18nm,1.2s							
STKA	**Stephens Creek**	**28.50**	**179**	P	**P**	**23**	**56 44.0**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=335,slow=14,SNR=2.0							
FORT	**Forrest**	**30.03**	**203**	P	**P**	**23**	**56 57.6**	**+1.2**
MORW	**Morawa**	**35.01**	**220**	P	**P**	**23**	**57 40.0**	**0.0**
NJ2	**Nanjing**	**40.94**	**331**	*e*P	**P**	**23**	**58 30.5**	**+0.5**
NJ2				pmax	pmax			
	comp=Z,12nm,0.6s							
WHN	**Wuhan**	**42.17**	**325**	⇑P	**P**	**23**	**58 37.0**	**-3.1**
WHN				pP	**pP**	**23**	**58 41.8**	**-5.5**
LYN	**LuoYang**	**46.21**	**327**	⇓P	**P**	**23**	**59 13.5**	**+1.1**
LYN				pmax	pmax			
	comp=Z,20nm,0.7s							
CM31	**Chiang Mai Arr**	**46.74**	**299**	P	**P**	**23**	**59 16.8**	**0.0**
CM31				IAmb	IAmb	23	59 28.3	
	comp=Z,6.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**46.74**	**299**	P	**P**	**23**	**59 17.1**	**+0.2**
	comp=Z,2.1nm,0.7s,baz

	comp=Z,6.6nm,1.2s							
ILAR	**Eielson Array**	**85.33**	**24**	P		**P**	**00 03 22.1**	**-1.9**
	comp=Z,2.1nm,0.8s,baz=257,slow=4.8,SNR=13							
GEYT	**Alibeck**	**86.40**	**308**	P		**P**	**00 03 29.1**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=203,slow=19,SNR=3.6							
GEYT	**Alibeck**	**86.40**	**308**	P		**P**	**00 03 30.8**	**+0.8**
GEYT				IAmb		IAmb	00 03 31.9	
	comp=Z,2.4nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**86.40**	**308**	P		**P**	**00 03 30.4**	**+0.3**
GYA0B				IAmb		IAmb	00 03 37.2	
	comp=Z,3.3nm,0.8s							
ABKAR	**Akbulak array**	**86.63**	**320**	P		**P**	**00 03 29.4**	**-1.4**
QSPA	**South Pole Qui**	**86.72**	**180**	P		**P**	**00 03 29.4**	**-1.7**
	comp=Z,2.8nm,1.0s,baz=307,slow=1.5,SNR=6.8							
QSPA	**South Pole Qui**	**86.72**	**180**	P		**P**	**00 03 30.5**	**-0.6**
M27K	**Edge Creek, AK**	**86.86**	**27**	P		**P**	**00 03 31.4**	**-0.4**
M27K				IAmb		IAmb	00 03 44.6	
	comp=Z,4.9nm,1.1s							
BMAR	**Burnt Mountain**	**87.00**	**22**	P		**P**	**00 03 32.9**	**+0.6**
BCAR	**Beaver Creek A**	**87.06**	**26**	P		**P**	**00 03 32.7**	**0.0**
SOCY	**Socotra**	**87.82**	**282**	P		**P**	**00 03 37.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**138.66**	**286**	PKP		**PKPdf**	**00 10 14.5**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=79,slow=1.9,SNR=8.7							
LPAZ	**La Paz**	**145.23**	**125**	PKPbc		**PKPdf**	**00 10 27.0**	**+0.2**
	comp=Z,8.9nm,1.0s,baz=286,slow=1.4,SNR=22							
LPAZ	**La Paz**	**145.23**	**125**			**PKPab**	**00 10 26.5**	**0.0**
CPUP	**Villa Florida**	**145.65**	**150**	PKPbc		**PKPab**	**00 10 26.9**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=176,slow=7.4,SNR=4.6							
DBIC	**Dimbokro**	**145.88**	**277**	PKPbc		**PKPbc**	**00 10 27.8**	**0.0**
	comp=Z,7.8nm,0.7s,baz=82,slow=2.6,SNR=9.3							

*IDC **27** 23:51:51.7±1.3,3°.02S×141°.35E, h0km, mb4.0/4, mb1 4.3/5, mb1mx3.9/37, mbtmp4.1/5, ML3.9/1, Error ellipse: s-maj=53.1km s-min=27.8km az=108.0*
*NEIC **27** 23:51:55.4±2.1,3°.2S±0°.1×141°.0E±0°.1, h10km±1km, mb4.5/9, Error ellipse: s-maj=25.6km s-min=20.3km az=108.0*

ISC 27 23:51:55.5±0.8,**3°.10S**±0°.10×**141°.2E**±0°.2,**h23**km,**n22**, σ1**908**/22,**mb4.3**/8,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**13.88**	**225**	Pn	**Pn**	**23 55 10.5**	**-0.5**
WB2	**Warramunga Arr**	**18.03**	**201**	P	**Pn**	**23 56 05.2**	**+0.6**
WB2				IAmb	IAmb	23 56 13.4	
	comp=Z,21nm,0.9s						
WRA	**Warramunga Arr**	**18.03**	**201**	P	**Pn**	**23 56 04.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=18,slow=14,SNR=1.9						
WRA	**Warramunga Arr**	**18.03**	**201**	P	**P**	**23 56 05.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**21.32**	**225**	P	**P**	**23 56 43.3**	**+2.4**
	comp=Z,5.5nm,0.8s,baz=49,slow=11,SNR=3.3						
EIDS	**Eidsvold**	**24.10**	**158**	P	**P**	**23 57 10.0**	**+0.4**
EIDS				IAmb	IAmb	23 57 16.9	
	comp=Z,26nm,1.1s						
MORW	**Morawa**	**35.19**	**220**	P	**P**	**23 58 46.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**46.79**	**299**	P	**P**	**00 00 22.4**	**-1.3**
USRK	**Ussuriysk Ar.**	**47.80**	**351**	P	**P**	**00 00 31.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=96,slow=12,SNR=1.1						
USRK	**Ussuriysk Ar.**	**47.80**	**351**	P	**P**	**00 00 31.9**	**+0.8**
ULN	**Ulaanbaatar**	**58.88**	**334**	P	**P**	**00 01 53.5**	**+0.8**
ULN				IAmb	IAmb	00 01 57.2	
	comp=Z,4.4nm,1.2s						
MK31	**Makanchi Array**	**71.62**	**322**	P	**P**	**00 03 13.7**	**-1.5**
MK31				IAmb	IAmb	00 03 16.9	
	comp=Z,5.7nm,1.4s						
MKAR	**Makanchi Array**	**71.62**	**322**	P	**P**	**00 03 15.2**	**0.0**
	comp=Z,1.4nm,0.8s,baz=94,slow=8.7,SNR=4.2						
MKAR	**Makanchi Array**	**71.62**	**322**	P	**P**	**00 03 13.3**	**-1.9**
ZAA0	**Zalesovo Array**	**73.53**	**329**	P	**P**	**00 03 27.7**	**+1.4**
BOOM	**Boomskoye usch**	**74.15**	**316**	P	**P**	**00 03 31.4**	**+0.9**
BOOM				IAmb	IAmb	00 03 35.0	
	comp=Z,2.8nm,0.7s						
GAR	**Garm**	**77.22**	**311**	P	**P**	**00 03 48.7**	**+0.6**
ILAR	**Eielson Array**	**85.16**	**24**	P	**P**	**00 04 28.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=264,slow=4.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**138.74**	**286**	PKP	**PKPdf**	**00 11 20.9**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=63,slow=2.6,SNR=2.6						
LPAZ	**La Paz**	**145.20**	**125**	PKPbc	**PKPbc**	**00 11 32.4**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=304,slow=3.8,SNR=4.1						
LPAZ	**La Paz**	**145.20**	**125**		**PKPab**	**00 11 32.9**	**+0.1**
DBIC	**Dimbokro**	**145.99**	**277**	PKPbc	**PKPdf**	**00 11 33.9**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=159,slow=2.1,SNR=4.9						

IDC 27 23:53:16.9±2.3,**32°.11N**×**40°.40W**,**h0**km,**mb3.7**/3, **mb1 3.9**/3,**mb1mx3.5**/41,**mbtmp3.7**/3,**MS3.4**/6,**Ms1 3.4**/6, **ms1mx2.8**/94,**Error ellipse: s-maj=118.3km s-min=32.2km az=24.0**,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**29.21**	**206**	LR	LR	00 08 45.4	
	comp=Z,46nm,19.5s,baz=130,slow=32						
SCHQ	**Schefferville**	**29.41**	**328**	LR	LR	00 09 53.2	
	comp=Z,119nm,19.1s,baz=140,slow=34						
MDT	**Midelt**	**30.12**	**79**	LR	LR	00 09 40.3	
	comp=Z,43nm,19.4s,baz=232,slow=33						
TKL	**Tuckaleechee C**	**35.97**	**288**	LR	LR	00 12 34.0	
	comp=Z,57nm,18.4s,baz=90,slow=32						
DBIC	**Dimbokro**	**41.67**	**120**	LR	LR	00 16 01.3	
	comp=Z,39nm,20.6s,baz=327,slow=33						
TORD	**Torodi Ar. Bea**	**42.86**	**106**	P	P	00 01 17.1	-0.1
	1.7nm,1.0s,baz=303,slow=7.8,SNR=8.5						
H10N2	**ASCENSION HYDR**	**46.79**	**144**	T	T	00 51 44.7	
	baz=329,slow=75,SNR=246						
H10N3	**ASCENSION HYDR**	**46.79**	**144**	T	T	00 51 45.5	
	baz=329,slow=75,SNR=207						
H10N1	**ASCENSION HYDR**	**46.81**	**144**	T	T	00 51 46.2	
	baz=329,slow=75,SNR=239						
H10S3	**ASCENSION HYDR**	**47.66**	**145**	T	T	00 52 51.3	
	baz=329,slow=74,SNR=487						
H10S2	**ASCENSION HYDR**	**47.68**	**145**	T	T	00 52 52.3	
	baz=251,slow=74,SNR=222						
PDAR	**Pinedale Array**	**54.53**	**302**	P	P	00 02 46.9	-0.1
	0.5nm,0.8s,baz=83,slow=9.3,SNR=4.3						
DLBC	**Dease Lake**	**63.08**	**324**	LR	LR	00 29 06.0	
	comp=Z,90nm,20.3s,baz=83,slow=34						
H09N1	**TRISTAN DA CUN**	**73.66**	**157**	T	T	01 25 30.4	
	SNR=3.3						
H09W1	**TRISTAN DA CUN**	**73.68**	**157**	T	T	01 25 30.7	
MKAR	**Makanchi Array**	**86.02**	**35**	P	P	00 05 59.4	0.0
	0.7nm,1.0s,baz=332,slow=5.7,SNR=3.7						

IDC 28 00:00:58.1±144.0,**52°.00N**×**159°.47E**,**h0**km,**Error ellipse: s-maj=358.2km s-min=14.9km az=129.0**,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N2	**WAKE ISLAND Hy**	**32.72**	**167**	H	H	00 41 57.0	
	baz=352,slow=76,SNR=1133						
H11N3	**WAKE ISLAND Hy**	**32.73**	**167**	H	H	00 41 58.5	
	baz=352,slow=76,SNR=2387						
H11N1	**WAKE ISLAND Hy**	**32.74**	**167**	H	H	00 41 58.4	
	baz=352,slow=76,SNR=1758						
H11S1	**WAKE ISLAND Hy**	**33.90**	**168**	H	H	00 43 25.5	
	baz=352,slow=76,SNR=199						
H11S3	**WAKE ISLAND Hy**	**33.91**	**168**	H	H	00 43 26.9	
	baz=352,slow=76,SNR=1759						
H11S2	**WAKE ISLAND Hy**	**33.92**	**168**	H	H	00 43 27.4	
	baz=352,slow=76,SNR=157						
H03N2	**Juan Fernandez**	**134.58**	**90**	H	H	02 49 32.4	
	baz=314,slow=77,SNR=47						
H03N1	**Juan Fernandez**	**134.60**	**90**	H	H	02 49 33.7	
	baz=314,slow=77,SNR=86						
H03N3	**Juan Fernandez**	**134.60**	**90**	H	H	02 49 33.0	
	baz=314,slow=77,SNR=435						

*HLW **28** 00:07:47.2,26°.71N×30°.44E, h12km±2km, Md3.4, Ml4.0*
*GII **28** 00:07:58.4±0.0,27°.51N×30°.94E, h1km±2km*

ISC 28 00:07:46.7±0.9,**26°.70N**±0°.04×**30°.35E**±0°.05,**h10**km,**n36**, σ0**966**/40,**Egypt**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAMRE	**El Minia**	**1.10**	**27**	P	**Pb**	**00 08 07.5**	**-0.3**
	baz=23						
TAMRE				S	**Sn**	**00 08 23.1**	**-0.4**
	baz=23						
AKRG	**Al Kharijah**	**1.20**	**174**	P	**Pg**	**00 08 10.2**	**+0.3**
	baz=177						
AKRG				S	**Sn**	**00 08 26.6**	**+0.6**
	baz=177						

GTR	**Jabal at Tayr**	**1.20**	**171**	P		**Pg**	**00 08 10.0**	**+0.1**
	baz=174							
GTR				S		**Sn**	**00 08 26.6**	**+0.6**
	baz=174							
ASUT		**1.28**	**57**	P		**Pb**	**00 08 10.9**	**-0.1**
	baz=55							
HDK1	**Dakhla**	**1.43**	**217**	P		**Pg**	**00 08 13.7**	**-0.5**
	baz=219							
HDK1				S		**Sg**	**00 08 33.9**	**+0.9**
	baz=219							
HFRF	**Wahat Farafira**	**1.88**	**284**	P		**Pb**	**00 08 19.7**	**-1.4**
	baz=284							
NBNS	**Bani Suef**	**2.09**	**23**	P		**Pn**	**00 08 22.2**	**+0.3**
	baz=21							
RYAN	**Fayoum**	**2.37**	**358**	P		**Pn**	**00 08 26.5**	**+0.8**
	baz=357							
GRB	**Gharib**	**2.67**	**54**	P		**Pn**	**00 08 29.3**	**-0.5**
	baz=52							
HHRG	**Al Ghardaqah**	**2.92**	**79**	P		**Pn**	**00 08 32.2**	**-1.0**
	baz=82							
HNAT	**Natroun**	**2.93**	**5**	P		**Pn**	**00 08 34.4**	**+1.0**
	baz=3.0							
HSAF	**As Saff**	**3.09**	**20**	P		**Pn**	**00 08 35.9**	**+0.2**
	baz=18							
GLL	**Jalalah**	**3.11**	**22**	P		**Pn**	**00 08 35.6**	**-0.2**
	baz=21							
HMYD	**Mayadein**	**3.11**	**7**	P		**Pn**	**00 08 36.9**	**+1.0**
	baz=5.0							
KOT	**Kottamia**	**3.47**	**22**	P		**Pn**	**00 08 41.2**	**+0.4**
	baz=20							
AKUR	**Kurkur**	**3.55**	**141**	P		**Pn**	**00 08 40.5**	**-1.5**
	baz=142							
HHAG	**Hagoal**	**3.59**	**25**	P		**Pn**	**00 08 42.5**	**+0.1**
	baz=23							
ASHG	**Umm Shaghir**	**3.62**	**161**	P		**Pn**	**00 08 43.5**	**+0.5**
	baz=161							
NGMR	**NGMR**	**3.67**	**149**	P		**Pn**	**00 08 44.4**	**+0.7**
	baz=150							
HKAT	**Jabal Katrina**	**3.71**	**60**	P		**Pn**	**00 08 43.1**	**-1.1**
	baz=59							
NGWR	**NGWR**	**3.74**	**143**	P		**Pn**	**00 08 44.8**	**+0.3**
	baz=144							
AWKL	**West Kalabsha**	**3.78**	**149**	P		**Pn**	**00 08 45.8**	**+0.8**
	baz=150							
SUZ	**Suez**	**3.82**	**34**	P		**Pn**	**00 08 45.9**	**+0.3**
	baz=33							
KASR	**Kasr**	**3.95**	**141**	P		**Pn**	**00 08 47.7**	**+0.2**
	baz=141							
NADB	**Abo Dabab**	**3.97**	**109**	P		**Pn**	**00 08 47.5**	**-0.3**
	baz=109							
HMSM	**Jabal Masmas**	**4.05**	**159**	P		**Pn**	**00 08 49.4**	**+0.5**
	baz=160							
MABD	**Mabed**	**4.12**	**154**	P		**Pn**	**00 08 50.3**	**+0.4**
	baz=154							
HKFR	**Khafra**	**4.18**	**168**	P		**Pn**	**00 08 51.3**	**+0.6**
	baz=168							
EIL	**Elat**	**5.02**	**53**	Pn		**Pn**	**00 09 02.4**	**+0.2**
MBRI	**Mt Berech**	**5.07**	**52**	Pn		**Pn**	**00 09 03.7**	**+0.8**
KRMI	**Paran Flat**	**5.14**	**48**	Pn		**Pn**	**00 09 04.0**	**+0.2**
PRNI	**Paran**	**5.48**	**47**	Pn		**Pn**	**00 09 09.1**	**+0.7**
KZIT	**Kziot**	**5.49**	**39**	Pn		**Pn**	**00 09 08.4**	**-0.2**
HMDT	**Nahal Hemdat**	**7.14**	**38**	Pn		**Pn**	**00 09 31.1**	**-0.1**
GEM	**Giv'at Ha'Em**	**7.96**	**34**	Pn		**Pn**	**00 09 43.0**	**+0.5**
NATI	**Neve Ativ**	**8.03**	**34**	Pn		**Pn**	**00 09 43.5**	**0.0**

IDC 28 00:17:38.8±52.0,**15°.83S**×**175°.81W**,**h0**km,**mb4.0**/3, **mb1 4.2**/3,**mb1mx3.7**/30,**mbtmp4.0**/3,**Error ellipse: s-maj=972.9km s-min=176.3km az=77.0**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.82**	**240**	P	P	00 25 31.0	+0.5
	1.4nm,0.8s,baz=86,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**47.49**	**257**	P	P	00 26 16.0	-0.1
	0.5nm,0.5s,baz=94,slow=7,SNR=17						
ASAR	**Alice Springs**	**47.77**	**252**	P	P	00 26 17.6	-0.6
	3.0nm,0.5s,baz=88,slow=8.3,SNR=46						

*TEH **28** 00:18:59.9,32°.78N×45°.56E, h9km, ML3.0*
*ISN **28** 00:19:00.1±1.1,32°.78N×45°.54E, h24km±9km, ML3.3*

ISC 28 00:18:59.4±1.9,**32°.72N**±0°.05×**45°.48E**±0°.05,**h4**km±14km, **n30**, σ1**903**/30,**Iraq**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.55**	**44**	IAML		00 19 27.0	
	comp=N,3μm,0.5s						
IBDR	**Badra**	**0.55**	**44**	*e*Pg	**Pg**	**00 19 10.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**00 19 16.0**	**-1.0**
IBDR				AML	AML	00 19 27.4	
	comp=E,3μm,0.6s						
IBDR				AML	AML	00 19 27.4	
	comp=N,2μm,0.7s						
IBDR	**Badra**	**0.55**	**44**	*i* P	**Pg**	**00 19 10.6**	**+0.7**
IBDR	**Badra**	**0.55**	**44**	IAML		00 19 27.1	
	comp=E,4μm,0.6s						
BHD	**Baghdad**	**1.07**	**301**	IAML		00 19 50.4	
	comp=E,690nm,0.6s						
BHD	**Baghdad**	**1.07**	**301**	*e*Pn	**Pn**	**00 19 22.0**	**+0.9**
BHD				*e*Sn	**Sn**	**00 19 37.0**	**+0.5**
BHD				AML	AML	00 19 45.5	
	comp=E,636nm,0.6s						
BHD	**Baghdad**	**1.07**	**301**	*i* P	**Pn**	**00 19 21.9**	**+0.7**
BHD	**Baghdad**	**1.07**	**301**	*i* S	**Sn**	**00 19 36.5**	**0.0**
BHD	**Baghdad**	**1.07**	**301**	IAML		00 19 48.4	
	comp=N,818nm,0.7s						
RAFI	**Al-Rafai**	**1.13**	**151**	IAML		00 19 45.8	
	comp=N,335nm,0.4s						
RAFI	**Al-Rafai**	**1.13**	**151**	*e*Pn	**Pn**	**00 19 23.0**	**+1.0**
RAFI				*e*Sn	**Sn**	**00 19 39.0**	**+1.1**
RAFI				AML	AML	00 19 45.9	
	comp=E,623nm,0.4s						
RAFI	**Al-Rafai**	**1.13**	**151**	*i* P	**Sb**	**00 19 34.7**	**-1.8**
RAFI	**Al-Rafai**	**1.13**	**151**	IAML		00 19 45.8	
	comp=E,608nm,0.4s						
IGHG	**Ghaleghazi**	**1.85**	**29**	*e*Pn	**Pb**	**00 19 32.9**	**-0.9**
IGHG				*e*Sg	**Sg**	**00 19 59.6**	**+0.8**
KCHF	**Cheshme Sefid,**	**2.03**	**40**	*e*Pn	**Pn**	**00 19 34.8**	**+0.3**
KCHF				*e*		00 20 10.7	
	comp=Z,1μm,0.7s						
IDHR	**Dehrash**	**2.12**	**21**	*e*Pn	**Pn**	**00 19 36.5**	**+0.8**
IDHR				*e*Sg	**Sg**	**00 20 07.7**	**+0.3**
IDHR				*e*		00 20 18.5	
	comp=Z,2μm,0.4s						
IKFM	**Kafar-mosalman**	**2.15**	**67**	*e*Pn	**Pb**	**00 19 37.5**	**-1.3**
IKFM				*e*		00 20 32.4	
	comp=Z,1μm,0.8s						
KER	**Kermanshah**	**2.16**	**39**	*e*Pn	**Pn**	**00 19 37.3**	**+1.0**
IDOB	**Doab**	**2.50**	**64**	*e*Pn	**Pn**	**00 19 42.2**	**+1.2**
ILIN	**Lien**	**2.52**	**29**	*e*Pn	**Pn**	**00 19 42.9**	**+1.6**
ILIN				*e*		00 19 43.3	
	comp=Z,799nm,0.2s						
IBZA	**Bozab**	**2.65**	**48**	*e*Pn	**Pn**	**00 19 44.5**	**+1.4**
IKRK	**Kirkuk**	**2.83**	**341**	*e*Pn	**Pn**	**00 19 46.0**	**+0.6**
IKRK				*e*Sn	**Sn**	**00 20 19.0**	**-1.0**
HSAM	**Samen**	**3.01**	**60**	*e*Pn	**Pn**	**00 19 48.6**	**+0.6**
HSAM				*e*		00 20 00.1	
	comp=Z,198nm,0.4s						
IRAZ	**Razeghan**	**4.56**	**53**	*e*Pn	**Pn**	**00 20 10.8**	**+1.4**
IPIR	**Pirpir**	**4.57**	**89**	*e*Pn	**Pn**	**00 20 10.4**	**+0.9**
IQOM	**Qom**	**5.12**	**64**	*e*Pn	**Pn**	**00 20 17.5**	**+0.5**
IKLH	**Kolahrood**	**5.16**	**82**	*e*Pn	**Pn**	**00 20 18.7**	**+1.0**
KLNJ	**Kolanjah**	**5.48**	**107**	*e*Pn	**Pn**	**00 20 22.8**	**+0.7**
KRSH	**Karshahi**	**5.71**	**76**	*e*Pn	**Pn**	**00 20 25.8**	**+0.7**
ISFB	**Sefidab**	**5.88**	**72**	*e*Pn	**Pn**	**00 20 28.4**	**+1.0**

*SEA **28** 00:45:16.0±1.7,47°.660N×0°.009×121°.89W±0°.01, h13km, ML2.1/62, ML2.1/24(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=94.0*
*PNSN **28** 00:45:16.0,47°.66N×121°.89W, h13km, MD2.0, Fault plane solution: NP1:␣s75.00000°,δ50.00000°,λ80.00000°.*

NEIC 28 00:45:15.4±2.8,**47°.67N**±0°.01×**121°.97W**±0°.04,**h21**km±6km, **Error ellipse: s-maj=3.5km s-min=1.7km az=92.0**, **Washington**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALCT	**Alcott Element**	**0.05**	**241**		Pb	00 45 19.1	-0.1
ALCT					Sb	00 45 22.1	+0.3
EARN	**East Ridge Ele**	**0.08**	**324**		Pb	00 45 19.6	+0.2
EARN					Sb	00 45 22.8	+0.7
PNLK	**Pine Lake Midd**	**0.10**	**204**		Pb	00 45 18.9	-3.1

MARYW	**Marymoor Park**	**0.10**	**264**			Pb	00 45 20.2	-1.7
MARYW						Sb	00 45 24.3	-2.3
LEOT	**Leota Junior H**	**0.14**	**314**			Pb	00 45 20.6	-0.9
LEOT						Sb	00 45 24.6	-1.2
FINN	**Finn Hill Juni**	**0.18**	**285**			Pb	00 45 27.1	+1.8
NIHS	**Ingelmoor High**	**0.18**	**292**			Sb	00 45 27.0	+1.7
HTW	**Haystack Looko**	**0.19**	**46**			Pb	00 45 19.7	-1.6
HTW						Sb	00 45 22.4	-3.1
TTW	**Tolt Reservoir**	**0.19**	**83**			Pb	00 45 19.4	-1.9
TTW						Sb	00 45 21.9	-3.5
C05A	**Tolt Reservoir**	**0.19**	**83**			Pb	00 45 19.4	-1.9
C05A						Sb	00 45 21.9	-3.5
ELW	**Echo Lake**	**0.19**	**160**			Pb	00 45 19.7	-1.5
ELW						Sb	00 45 22.9	-2.4
NOWS	**NOAA--Sand Poi**	**0.20**	**274**			Sb	00 45 27.7	+2.4
EVGW	**Everett Gatewa**	**0.22**	**325**			Pb	00 45 21.6	+0.2
SP2	**Seward Park 2**	**0.22**	**238**			Pb	00 45 21.8	+0.5
SP2						Sb	00 45 26.9	+1.5
MBPA	**Monroe Substat**	**0.23**	**13**			Pb	00 45 20.9	-0.5
MBPA						Sb	00 45 24.8	-0.8
RATT	**Rattlesnake La**	**0.27**	**156**			Pb	00 45 20.9	-0.9
RATT						Sb	00 45 24.9	-1.3
CDMR	**Cedar Moraine**	**0.29**	**150**			Pb	00 45 21.1	-0.9
ALKI	**Alki Wastewate**	**0.32**	**252**			Pn	00 45 24.2	-0.5
GSM	**Grass Mountain**	**0.48**	**166**			Pb	00 45 24.5	-0.8
D05A	**Enumclaw**	**0.49**	**182**			Pb	00 45 25.2	0.0
D05A				IAML			00 45 32.7	
	comp=N,99nm,0.3s							
D05A	**Enumclaw**	**0.49**	**182**			Sb	00 45 32.4	+0.6
GMW	**Gold Mountain**	**0.57**	**258**			Pb	00 45 26.9	+0.2
GNW	**Green Mountain**	**0.59**	**260**			Pb	00 45 27.3	+0.2
GNW						Sn	00 45 36.6	-0.8
B05A	**Bryant**	**0.60**	**352**			Pb	00 45 27.3	+0.1
B05A						Sb	00 45 35.9	+0.6
B013	**Quilcene**	**0.65**	**283**			Pb	00 45 28.1	+0.1
B013						Sb	00 45 37.7	+1.0
B013	**Quilcene**	**0.65**	**283**			Pb	00 45 28.2	+0.1
GHW	**Garrison Hill**	**0.67**	**198**			Pb	00 45 27.8	-0.5
C04A	**Brinnon**	**0.68**	**274**			Pb	00 45 28.7	+0.1
C04A						Sn	00 45 38.6	-1.0
B941	**Kapowsin**	**0.71**	**194**			Pb	00 45 28.2	-0.8
B941						Sb	00 45 37.9	-0.3
GPW	**Glacier Peak**	**0.71**	**51**			Pb	00 45 28.7	-0.6
RVC	**Mount Rainier-**	**0.73**	**180**			Pb	00 45 28.7	-0.7
WRW	**Wenatchee Ridg**	**0.76**	**76**			Pb	00 45 29.0	-0.9
C06D	**Leavenworth**	**0.77**	**71**			Pb	00 45 29.3	-0.7
FMW	**Mount Fremont**	**0.77**	**165**			Pb	00 45 29.1	-1.0
D03D	**Eldon**	**0.77**	**260**			Pb	00 45 30.3	+0.3
D03D						Sn	00 45 41.6	-0.4
OBSR	**Observation Ro**	**0.78**	**172**			Pb	00 45 29.7	-0.7
RCS	**Mount Rainier-**	**0.82**	**169**			Pb	00 45 29.1	-1.9
RPW	**Rockport**	**0.83**	**21**			Pb	00 45 31.4	+0.2
PANH	**Panhandle Gap,**	**0.84**	**165**			Pb	00 45 30.1	-1.4
RCM	**Mount Rainier-**	**0.85**	**169**			Pb	00 45 31.3	-0.4
REMR	**Mount Rainier-**	**0.86**	**174**			Pb	00 45 29.8	-1.9
B06A	**Marblemount**	**0.91**	**21**	Pg		Pb	00 45 32.6	+0.2
TWW	**Teanaway**	**0.92**	**125**			Pn	00 45 32.9	-0.2
LON	**Longmire**	**0.93**	**173**			Pb	00 45 31.8	-1.0
LTY	**Liberty**	**0.97**	**115**			Pb	00 45 33.0	-0.6
LTY	**Liberty**	**0.97**	**115**	IAML			00 45 45.5	
	comp=N,78nm,0.4s							
LTY				IAML			00 45 45.7	
	comp=E,55nm,0.3s							
TBM	**Table Mountain**	**1.06**	**118**			Pb	00 45 34.8	-0.2
B04A	**Port Angeles**	**1.10**	**291**			Pn	00 45 35.5	-0.1
B04A	**Port Angeles**	**1.10**	**291**			Pn	00 45 35.5	0.0
ETW	**Entiat**	**1.11**	**93**			Pn	00 45 35.3	-0.5
MBW	**Mount Baker**	**1.11**	**2**			Pb	00 45 36.5	+0.5
MCW	**Mount Constitu**	**1.16**	**330**			Pb	00 45 37.3	+0.5
NLW	**Nelson Butte**	**1.17**	**69**			Pn	00 45 36.6	0.0
VGZ	**Gonzales**	**1.17**	**310**			Pn	00 45 36.5	0.0
SHUK	**Shuksan-Mt. Ba**	**1.20**	**9**			Pb	00 45 37.8	+0.4
NAC	**Naches**	**1.22**	**140**			Pn	00 45 37.4	+0.2
EBG	**Ellensburg**	**1.22**	**128**			Pb	00 45 38.0	+0.2
NLWA	**Neilton Lookou**	**1.32**	**258**	Pn		Pb	00 45 40.1	+0.7
NLWA				IAML			00 46 18.2	
	comp=E,22nm,3.0s							
NLWA				IAML			00 46 23.6	
	comp=E,26nm,5.0s						

PB06 eS Sn 00 47 54.1 +0.5
PB06 IAML 00 47 54.9
comp=E,928nm,0.4s
PB08 IPOC Station P 1.64 339 Pn 00 47 37.7 +1.3
PB08 IPOC Station P 1.64 339 *eP* **Pn 00 47 37.1 +0.7**
PB08 *i* S Sn 00 47 59.6 +0.8
PB08 IAML 00 48 02.0
comp=E,361nm,0.2s
PB04 IPOC Station P 1.65 246 Pn 00 47 36.2 +0.1
PB04 IPOC Station P 1.65 246 *eP* **Pn 00 47 36.0 -0.1**
PB04 eS Sn 00 47 58.5 +0.1
PB04 IAML 00 48 03.0
comp=N,634nm,0.3s
PATCX Punta Patache 1.75 299 Pn 00 47 38.0 +0.7
PATCX Punta Patache 1.75 299 *eP* **Pn 00 47 37.5 +0.1**
PATCX eS Sn 00 48 00.3 -0.2
PB15 IPOC Station P 1.76 210 Pn 00 47 38.2 +0.6
PB15 IPOC Station P 1.76 210 *eP* **Pn 00 47 37.8 +0.2**
PB15 eS Sn 00 48 01.0 +0.1
HMBC Humberstone 1.89 317 *eP* **Pn 00 47 39.2 0.0**
HMBC eS Sn 00 48 03.6 -0.1
HMBC IAML 00 48 07.4
comp=N,862nm,0.5s
TA01 Diego Aracena 1.91 305 Pn **Pn 00 47 39.4 +0.2**
TA01 Diego Aracena 1.91 305 *eP* **Pn 00 47 39.2 0.0**
TA01 eS Sn 00 48 03.5 -0.4
TA02 Huaiquique 2.06 313 Pn 00 47 40.8 -0.2
GO01 Chusmiza 2.10 342 Pn 00 47 42.8 +0.7
GO01 Chusmiza 2.10 342 *eP* **Pn 00 47 42.8 +0.7**
GO01 eS Sn 00 48 09.5 +0.6
GO01 IAML 00 48 14.6
comp=E,704nm,0.2s
PB11 IPOC Station P 2.19 331 Pn **Pn 00 47 43.2 +0.3**
PB11 IPOC Station P 2.19 331 *eP* **Pn 00 47 43.2 +0.3**
PB11 eS Sn 00 48 10.4 0.0
PB11 IAML 00 48 12.1
comp=N,370nm,0.3s
PB10 IPOC Station P 2.62 226 Pn **Pn 00 47 49.6 +1.4**
PB10 IPOC Station P 2.62 226 *eP* **Pn 00 47 49.4 +1.2**
PB10 eS Sn 00 48 20.4 +0.4
PB10 IAML 00 48 30.6
comp=E,181nm,0.4s
PB14 IPOC Station P 3.41 210 Pn **Pn 00 48 01.0 +2.1**
PB16 IPOC Station P 3.46 344 Pn 00 48 00.2 +0.4
PB12 IPOC Station P 3.49 331 Pn **Pn 00 47 58.7 -1.1**
GO02 Mina Guanaco 3.60 196 Pn **Pn 00 48 01.5 0.0**
AC01 Pan de Azucar 4.84 203 Pn **Pn 00 48 15.6 -2.1**
AC02 Maricunga 5.16 186 Pn **Pn 00 48 21.8 -0.7**
LPAZ La Paz 5.38 4 Pn 00 48 27.3 +1.7
LPAZ La Paz 5.38 4 *eP* **Pn 00 48 24.0 -1.6**
AC06 Mina Casimiro 5.89 196 Pn **Pn 00 48 29.7 -2.2**
AC04 Llanos de Chal 6.89 199 Pn **Pn 00 48 41.4 -4.0**
SIV San Ignacio 9.04 52 P Pn 00 49 01.0 -14
comp=E,4.8nm,0.3s,baz=237,slow=10,SNR=52
SIV S Sn 00 50 34.6 -20
comp=E,0.4nm,0.3s,baz=314,slow=20,SNR=2.5
VILB Vilhena 11.76 44 *eP* **Pn 00 49 49.6 -1.6**
AQDB Aquidauana 12.03 87 *eP* **Pn 00 49 55.2 +0.7**
ITQB Itaqui 13.35 129 *eP* **Pn 00 50 11.8 +0.1**
CZSB Cruzeiro do Su 14.45 343 *eP* Pn 00 50 20.6 -5.3
TRCB Terra Rica 14.75 97 Pn **Pn 00 50 30.8 +1.0**
TRCB Terra Rica 14.75 97 *eP* **Pn 00 50 30.5 +0.7**
PDRB Porto dos Gac 15.09 50 *eP* **Pn 00 50 33.0 -1.0**
PTGB Pitanga 15.43 104 *eP* **P 00 50 40.6 +0.4**
ITAB Concordia 15.91 114 Pn 00 50 44.7 +0.5
ITAB IAmb IAmb 00 50 45.4
comp=Z,52nm,1.5s
ITAB Concordia 15.91 114 *eP* **Pn 00 50 45.2 +1.1**
PCMB Pacaembu 16.05 93 *eP* **P 00 50 47.9 +0.9**
CPSB Cacapava Do Su 16.08 126 *eP* **P 00 50 47.4 0.0**
CLDB Colider 16.25 51 *eP* **Pn 00 50 48.8 +0.3**
TRQA Tornquist 17.27 162 P **P 00 50 59.7 -0.6**
TRQA IAmb IAmb 00 51 28.6
comp=Z,15nm,1.4s
IPMB Ipameri, GO 19.45 83 *eP* **P 00 51 24.7 +0.2**
ITTB Itaituba 21.22 38 *eP* **P 00 51 41.3 -2.1**
PRPB Parauapebas 23.77 52 *eP* **P 00 52 06.8 -2.0**
MALB Monte Alegre 24.11 37 *eP* **P 00 52 11.3 -0.4**
DBIC Dimbokro 68.44 73 P **P 00 57 55.6 -0.9**
comp=Z,2.8nm,0.6s,baz=248,slow=6.4,SNR=3.8
DBIC Dimbokro 68.44 73 P **P 00 57 56.1 -0.5**
QSPA South Pole Qui 68.51 180 P **P 00 57 58.1 +1.8**
KOWA Kowa 72.76 66 P **P 00 58 22.2 -0.5**
KOWA IAmb IAmb 00 58 29.9
comp=Z,5.7nm,1.3s
TORD Torodi Ar. Bea 77.08 70 P **P 00 58 47.1 -0.4**
comp=Z,1.0nm,0.5s,baz=250,slow=5.4,SNR=18
YKA Yellowknife Ar 91.48 340 P **P 01 00 00.4 +1.1**
comp=Z,0.2nm,0.7s,baz=134,slow=4.6,SNR=3.3

*IDC **28** 00:52:09.7±1.6, 18°.05S×177°.99W, h636km±19km, mb3.2/8, mb1 3.4/9, mb1mx3.0/42, mbtmp4.3/9, Error ellipse: s-maj=25.7km s-min=16.7km az=167.0*

ISC 28 00:52:10.6±1.0, 17°.9S±0°.2×178°.0W±0°.2, h650km, n10, σ1§17/11, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.73**	**272**	P	**P**	**00 53 36.3**	**-1.9**
	7.3nm,0.3s,baz=120,slow=6.2,SNR=35						
CTA	**Charters Tower**	**33.79**	**261**	P	**P**	**00 58 02.2**	**+0.2**
	2.9nm,0.6s,baz=117,slow=9.0,SNR=2.1						
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**00 59 30.9**	**0.0**
	2.6nm,0.4s,baz=95,slow=7.0,SNR=64						
ASAR	**Alice Springs**	**45.12**	**254**	P	**P**	**00 59 32.1**	**+0.1**
	4.4nm,0.5s,baz=90,slow=7.8,SNR=46						
ASAR				S	**S**	**01 05 27.6**	**+1.2**
	1.3nm,0.7s,baz=91,slow=16,SNR=7.1						
SIJI	**Sorong**	**52.58**	**283**	P	**P**	**01 00 27.3**	**+0.6**
	9.5nm,0.4s,baz=55,slow=11,SNR=3.7						
FITZ	**Fitzroy Crossi**	**53.37**	**260**	P	**P**	**01 00 33.1**	**+0.9**
	0.5nm,0.3s,baz=94,slow=6.6,SNR=9.1						
QSPA	**South Pole Qui**	**72.13**	**180**	P	**P**	**01 02 30.8**	**-0.5**
	3.2nm,0.6s,baz=10,slow=1.0,SNR=18						
TXAR	**Lajitas Array**	**85.71**	**57**	P	**P**	**01 03 45.1**	**+1.8**
	0.2nm,0.7s,baz=209,slow=6.4,SNR=4.2						
ILAR	**Eielson Array**	**85.83**	**13**	P	**P**	**01 03 42.1**	**-0.8**
	0.3nm,0.4s,baz=219,slow=5.2,SNR=5.0						
GERES	**GERESS Array B**	**147.72**	**345**	PKPbc	**PKiKP**	**01 10 44.6**	**-0.9**
	0.5nm,0.7s,baz=45,slow=5.7,SNR=2.8						

*IDC **28** 00:53:02.4±0.9, 64°.43S×175°.62E, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.0/35, mbtmp4.4/5, MS4.1/7, Ms1 4.0/7, ms1mx3.6/42, Error ellipse: s-maj=42.3km s-min=22.2km az=62.0*

*GCMT **28** 00:53:03.8±0.4, 64°.45S±0°.02×175°.53E±0°.08, h15km±2km, MW4.9/51, Moment Tensor Solution. s9,c9; s51,c63; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.02±.24; Mθθ=2.19±.19; Mϕϕ-1.17±.14; Mrθ-2.12±.53; Mϕϕ-0.26±.14; Mϕr-0.12±.36; Best double couple: M=2.69000×10¹⁶ NP1:ϕs301.00000°, δ22.00000°, λ-53.00000°. NP2: ϕs82.00000°, δ73.00000°, λ-104.00000°. Principal axes: T 3.2520, Plg26.0000°, Azm183.0000°; N -1.1230, Plg13.0000°, Azm86.0000°; P -2.1280, Plg60.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 00:53:03.8±1.9, 64°.6S±0°.1×175°.5E±0°.3, h10km±1km, mb4.8/12 Error ellipse: s-maj=21.4km s-min=15.4km az=122.0*

ISC 28 00:53:03.4±0.6, 64°.58S±0°.08×175°.4E±0°.2, h10km, n54, σ0§94/28, mb4.4/7, MS4.0/10, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**13.60**	**188**	Pn	**Pn**	**00 56 14.5**	**-1.4**
VNDA	**Vanda**	**13.66**	**192**	Pn	**Pn**	**00 56 15.5**	**-1.2**
	0.8nm,0.3s,baz=39,slow=17,SNR=70						
VNDA				LR	LR	01 00 21.8	
	comp=Z,701nm,18.5s,baz=29,slow=32						
VNDA	**Vanda**	**13.66**	**192**		**Pn**	**00 56 15.0**	**-1.7**
WHZ	**Wether Hill Ro**	**19.17**	**344**	P	**Pn**	**00 57 27.1**	**-0.5**
WHZ				IAmb	IAmb	00 57 31.0	
	comp=Z,130nm,1.8s						
LBZ	**Lake Benmore**	**20.44**	**349**	P	Pn	00 57 41.9	-0.9
LBZ				IAmb	IAmb	00 57 44.3	
	comp=Z,89nm,1.6s						
RPZ	**Rata Peaks**	**21.05**	**351**	P	**P**	**00 57 46.1**	**-1.1**
	comp=Z,8.6nm,0.8s,baz=180,slow=9.1,SNR=4.3						
RPZ				LR	LR	01 04 19.1	
	comp=Z,346nm,20.0s,baz=186,slow=32						
RPZ	**Rata Peaks**	**21.05**	**351**	P	**P**	**00 57 46.0**	**-1.1**
BFZ	**Birch Farm**	**23.94**	**2**	P	**P**	**00 58 17.0**	**-0.4**
BFZ				IAmb	IAmb	00 58 34.9	
	comp=Z,22nm,0.7s						
QSPA	**South Pole Qui**	**25.51**	**180**	P	**P**	**00 58 33.8**	**+2.1**
	comp=Z,35nm,0.9s,baz=22,slow=3.8,SNR=57						
QSPA				LR	LR	01 07 16.1	
	comp=Z,416nm,18.7s,baz=36,slow=33						
QSPA	**South Pole Qui**	**25.51**	**180**	P	**P**	**00 58 33.0**	**+1.4**
QSPA				IAmb	IAmb	00 58 36.7	
	comp=Z,40nm,0.9s						
URZ	**Urewera**	**26.37**	**3**	LR	LR	01 07 04.6	
	comp=Z,311nm,21.9s,baz=211,slow=32						
MAW	**Mawson**	**39.66**	**214**	LR	LR	01 15 37.7	
	comp=Z,122nm,18.4s,baz=136,slow=34						
DZM	**Mont Dzumac**	**42.90**	**348**	eLR	LR	01 12 41.8	
	comp=Z,475nm,29.7s						
DZM	**Mont Dzumac**	**42.90**	**348**	P	**P**	**01 01 02.1**	**+0.2**
SNAA	**Sanae**	**44.01**	**181**	LR	LR	01 18 35.6	
	comp=Z,192nm,19.5s,baz=174,slow=35						
SNAA	**Sanae**	**44.01**	**181**	P	**P**	**01 01 10.3**	**-0.1**
H01W1	**Cape Leeuwin H**	**46.80**	**279**	T	T	01 52 24.2	
	baz=149						
H01W2	**Cape Leeuwin H**	**46.81**	**279**	T	T	01 52 20.9	
	baz=149						
H01W3	**Cape Leeuwin H**	**46.82**	**279**	T	T	01 52 26.8	
	baz=149						
TBI	**Tubuai**	**47.17**	**46**	eLR	LR	01 14 28.0	
	comp=Z,233nm,30.0s						
TBI	**Tubuai**	**47.17**	**46**	*eT*	T	01 51 40.7	
	comp=Z,72nm,0.3s						
AS31	**Alice Springs**	**48.96**	**306**	P	**P**	**01 01 49.5**	**-0.1**
ASAR	**Alice Springs**	**48.96**	**306**	P	**P**	**01 01 50.4**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=154,slow=6.9,SNR=16						
WR0	**Warramunga Arr**	**52.17**	**309**	P	**P**	**01 02 14.6**	**+0.7**
WR0				IAmb	IAmb	01 02 16.1	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**52.25**	**309**	P	**P**	**01 02 14.2**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=158,slow=6.6,SNR=12						
PAE	**Paea**	**52.48**	**44**	*eT*	T	01 58 19.9	
	comp=Z,2.1nm,0.3s						
PPT2	**Papeete2**	**52.55**	**44**	eLR	LR	01 16 53.5	
	comp=Z,220nm,27.2s						
PPT2	**Papeete2**	**52.55**	**44**	*eT*	T	01 58 20.2	
	comp=Z,6.4nm,0.3s						
PPTF	**Pamatai, Papee**	**52.56**	**44**	P	**P**	**01 02 16.3**	**-0.6**
VAH	**Vaihoa**	**55.36**	**45**	*eT*	T	02 01 53.9	
	comp=Z,487nm,0.3s						
PMOR	**Pomariorio Ree**	**55.50**	**45**	*eT*	T	02 02 01.2	
	comp=Z,5.3nm,0.3s						
KNRA	**Kununurra**	**58.14**	**304**	P	**P**	**01 02 57.5**	**+0.5**
TAOE	**Nuku Hiva Isla**	**63.75**	**51**	eLR	LR	01 22 03.5	
	comp=Z,105nm,28.9s						
H03S2	**Juan Fernandez**	**66.25**	**119**	T	T	02 16 13.6	
	baz=202						
H03S1	**Juan Fernandez**	**66.25**	**119**	T	T	02 16 12.5	
	baz=202						
H03S3	**Juan Fernandez**	**66.27**	**119**	T	T	02 16 22.6	
	baz=202						
H03N3	**Juan Fernandez**	**66.59**	**119**	T	T	02 16 34.6	
	baz=226,slow=77						
H03N2	**Juan Fernandez**	**66.60**	**119**	T	T	02 16 30.5	
	baz=226						
H03N1	**Juan Fernandez**	**66.61**	**119**	T	T	02 16 31.4	
	baz=226,slow=77						
LPAZ	**La Paz**	**86.19**	**121**	P	**P**	**01 05 45.7**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=191,slow=6.9,SNR=3.8						
LPAZ	**La Paz**	**86.19**	**121**	P	**P**	**01 05 44.8**	**-0.7**
LPAZ				IAmb	IAmb	01 05 49.0	
	comp=Z,6.2nm,1.4s						
H08S2	**Diego Garcia H**	**88.63**	**255**	T	T	02 45 03.3	
	baz=154,slow=76,SNR=28						
H08S1	**Diego Carcia H**	**88.64**	**255**	T	T	02 44 58.9	
	baz=154,slow=76,SNR=6.9						
H08S3	**Diego Garcia H**	**88.65**	**255**	T	T	02 45 00.2	
	baz=154,slow=76,SNR=50						
TSUM	**Tsumeb**	**94.75**	**201**	LR	LR	01 46 13.9	
	comp=Z,196nm,20.7s,baz=156,slow=34						
H02S1	**DAWSON INLET TI**	**24.14**	**35**	T	T	03 28 10.0	
ILAR	**Eielson Array**	**131.97**	**21**	PKP	**PKPdf**	**01 12 15.0**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=240,slow=3.5,SNR=7.4						
YKA	**Yellowknife Ar**	**136.92**	**40**	PKP	**PKPdf**	**01 12 24.5**	**0.0**
	comp=Z,0.1nm,0.6s,baz=227,slow=3.1,SNR=3.6						
BRTR	**Keskin Array B**	**146.68**	**240**	PKPbc	**PKPdf**	**01 12 44.0**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=164,slow=6.4,SNR=3.7						
BRTR	**Keskin Array B**	**146.68**	**240**		**PKPdf**	**01 12 43.0**	**+0.1**
NRIK	**Noril'sk**	**146.88**	**320**	PKPbc	**PKPab**	**01 12 46.0**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=130,slow=5.3,SNR=5.6						
NRIK	**Noril'sk**	**146.88**	**320**		**PKPbc**	**01 12 44.2**	**+0.3**
SCHQ	**Schefferville**	**148.45**	**78**	PKPbc	**PKPbc**	**01 12 48.1**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=210,slow=7.4,SNR=6.7						
SCHQ	**Schefferville**	**148.45**	**78**		**PKPdf**	**01 12 46.4**	**+1.3**
SCHQ				PKPbc	**PKPbc**	**01 12 49.4**	**+0.7**

*SJA **28** 00:56:02.7±0.7, 32°.30S×72°.14W, h30km±4km, ML4.1, MW4.3*

*IDC **28** 00:56:03.6±2.7, 32°.17S×70°.98W, h0km, mb3.8/1, mb1 3.8/5, mb1mx3.7/26, mbtmp3.7/5, ML3.9/4, MS3.1/5, Ms1 3.1/5, ms1mx2.9/47, Error ellipse: s-maj=115.5km s-min=29.1km az=97.0*

*NEIC **28** 00:56:05.7±1.8, 32°.29S±0°.04×71°.89W±0°.09, h22km±2km, mb4.3/9, Mwr3.9/36, ML4.2(GUC), Error ellipse: s-maj=10.5km s-min=5.0km az=82.0*

*NEIC **28** 00:56:05.6, 32°.27S×71°.85W, h25km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr2.02; Mθθ3.97; Mϕϕ-5.99; Mrθ2.77; Mϕϕ-2.16; Mϕr-4.60; Fault plane solution: M=7.83000×10¹⁴ NP1:ϕs52.84000°, δ43.46000°, λ165.86000°. NP2:ϕs153.20000°, δ80.33000°, λ47.42000°. Principal axes: T 7.4824, Plg39.0000°, Azm25.0000°; N 0.6579, Plg42.0000°, Azm162.0000°; P -8.1403, Plg23.0000°, Azm275.0000°;*

*GUC **28** 00:56:06.7±0.9, 32°.40S×71°.77W, h35km±3km, ML4.2*

ISC 28 00:56:03.2±1.2, 32°.33S±0°.02×71°.89W±0°.04, h11km±8km, n112, σ1§54/146, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.55**	**115**		**Pn**	**00 56 16.4**	**-0.5**
VA06					**Sb**	**00 56 23.3**	**+0.6**
VA06	**Catapilco**	**0.55**	**115**	*i* P	**Pn**	**00 56 16.5**	**-0.5**
VA06				eS	Sn	00 56 23.8	-2.4
VA06				IAML		00 56 24.9	
	comp=E,22μm,0.4s						
VA01	**Torpederas**	**0.72**	**164**		**Pn**	**00 56 19.7**	**+0.4**
VA01				Sn	**Sn**	**00 56 29.8**	**-0.6**
VA01	**Torpederas**	**0.72**	**164**	*eP*	**Pn**	**00 56 19.6**	**+0.4**
VA01				*eS*	**Sn**	**00 56 29.2**	**-1.2**
VA01	**Torpederas**	**0.72**	**164**	*eP*	**Pn**	**00 56 19.0**	**-0.3**
VA01				IAML		00 56 34.8	
	comp=Z,3μm,0.5s						
ROC1	**El Roble**	**0.98**	**132**		**Pb**	**00 56 21.2**	**-1.1**
ROC1	**El Roble**	**0.98**	**132**	*eP*	**Pb**	**00 56 21.0**	**-1.3**
ROCH	**El Roble**	**0.98**	**131**	*i* P	**Pn**	**00 56 23.7**	**+0.6**
ROCH				*i* P	**Pb**	**00 56 23.7**	**-1.1**
ROCH				eS	**Sb**	**00 56 33.2**	**-2.1**
ROCH				eS	**Sn**	**00 56 36.2**	**-0.9**
ROCH				IAML		00 56 40.7	
	comp=E,9μm,0.5s						
MT02	**Curacav**	**1.12**	**146**		**Pg**	**00 56 25.7**	**+1.0**
MT02				Sn	**Sn**	**00 56 40.5**	**+0.2**
MT02	**Curacav**	**1.12**	**146**	*i* P	**Pg**	**00 56 25.8**	**+1.0**
MT02				eS	**Sn**	**00 56 39.9**	**-0.4**
MT02	**Curacav**	**1.12**	**146**	*eP*	**Pg**	**00 56 26.0**	**+1.2**
MT02				IAML		00 56 44.9	
	comp=Z,1μm,0.5s						
VA03	**San Esteban**	**1.21**	**111**		**Pg**	**00 56 26.8**	**+0.4**
VA03	**San Esteban**	**1.21**	**111**	*i* P	**Pg**	**00 56 27.0**	**+0.6**
VA03				eS	**Sg**	**00 56 42.4**	**+0.2**
VA03				IAML		00 56 46.0	
	comp=E,15μm,0.3s						
VA03	**San Esteban**	**1.21**	**111**	*eP*	**Pg**	**00 56 27.0**	**+0.6**
VA03				eS	**Sg**	**00 56 44.9**	**+2.7**
VA03				IAML		00 56 45.9	
	comp=Z,5μm,0.2s						
VA05	**Santo Domingo**	**1.35**	**170**		**Pg**	**00 56 29.5**	**+0.5**
VA05	**Santo Domingo**	**1.35**	**170**	*eP*	**Pg**	**00 56 29.3**	**+0.3**
VA05				eS	**Sg**	**00 56 46.3**	**-0.2**
VA05				IAML		00 56 53.5	
	comp=E,12μm,0.6s						
CO02	**Combarbal**	**1.35**	**34**		**Pb**	**00 56 28.7**	**+0.1**
CO02	**Combarbal**	**1.35**	**34**	*i* P	**Pb**	**00 56 28.8**	**+0.2**
CO02				eS	**Sn**	**00 56 45.6**	**-0.4**
CO02				IAML		00 56 49.3	
	comp=E,15μm,0.3s						
CO02	**Combarbal**	**1.35**	**34**	*eP*	**Pn**	**00 56 28.0**	**-0.1**
CO02				eS	**Sg**	**00 56 47.8**	**+1.1**
CO02				IAML		00 56 51.1	
	comp=Z,4μm,0.4s						
MT05	**Renca**	**1.44**	**138**	Pn	**Pg**	**00 56 30.9**	**+0.1**
MT05	**Renca**	**1.44**	**138**	*eP*	**Pg**	**00 56 30.4**	**-0.3**
MT05				eS	**Sg**	**00 56 49.5**	**+0.1**
MT05				IAML		00 56 54.0	
	comp=E,11μm,0.2s						
MT05	**Renca**	**1.44**	**138**	*eP*	**Pg**	**00 56 31.1**	**+0.4**
MT05				eS	**Sg**	**00 56 51.5**	**+2.1**
MT05				IAML		00 56 55.2	
	comp=Z,2μm,0.7s						
MT01	**Popeta**	**1.62**	**161**		**Pb**	**00 56 33.6**	**+0.5**
MT01	**Popeta**	**1.62**	**161**	*eP*	**Pb**	**00 56 33.6**	**+0.5**
MT01				eS	**Sb**	**00 56 53.6**	**0.0**
MT01	**Popeta**	**1.62**	**161**	*eP*	**Pb**	**00 56 33.0**	**-0.2**
MT01				eS	**Sg**	**00 56 54.8**	**-0.7**
MT01				IAML		00 57 00.1	
	comp=Z,2μm,0.5s						
MT09	**Talagante**	**1.63**	**153**		**Pg**	**00 56 34.4**	**-0.1**
MT09	**Talagante**	**1.63**	**153**	*i* P	**Pg**	**00 56 34.3**	**-0.1**
MT09				eS	**Sb**	**00 56 52.9**	**-1.1**
MT09				IAML		00 56 58.1	
	comp=N,4μm,0.3s						
MT03	**Universidad Ad**	**1.64**	**136**		**Pb**	**00 56 34.0**	**+0.5**
MT03	**Universidad Ad**	**1.64**	**136**	*eP*	**Pb**	**00 56 33.9**	**+0.3**
MT03				eS	**Sg**	**00 56 54.9**	**-1.1**
MT03				IAML		00 57 02.0	
	comp=E,6μm,0.2s						
MT03	**Universidad Ad**	**1.64**	**136**	*eP*	**Pb**	**00 56 34.0**	**+0.5**
MT03				eP	**Pg**	**00 56 34.1**	**-0.5**
MT03				eS	**Sg**	**00 56 57.2**	**+1.2**
MT03				IAML		00 57 04.5	
	comp=Z,3μm,0.7s						
CO06	**Fray Jorge**	**1.66**	**7**	Pn	**Pn**	**00 56 32.5**	**+0.3**
CO06	**Fray Jorge**	**1.66**	**7**	*i* P	**Pn**	**00 56 32.4**	**+0.1**
CO06				IAML		00 57 01.2	
	comp=E,2μm,0.5s						
FCH	**Farellones**	**1.67**	**127**	*eP*	**Pb**	**00 56 34.3**	**+0.1**
FCH				eS	**Sb**	**00 56 54.7**	**-0.7**
FCH				IAML		00 56 59.0	
	comp=E,4μm,0.3s						
BO04	**La Punta**	**1.97**	**147**	Pn	**Pb**	**00 56 39.5**	**+0.2**
BO04	**La Punta**	**1.97**	**147**	*eP*	**Pb**	**00 56 39.4**	**+0.2**
BO04				eS	**Sb**	**00 57 04.1**	**+0.4**
BO04				IAML		00 57 12.7	
	comp=N,3μm,0.5s						
LMEL	**Las Melosas**	**2.07**	**138**		**Pb**	**00 56 40.7**	**-0.2**
LMEL	**Las Melosas**	**2.07**	**138**	*eP*	**Pb**	**00 56 40.5**	**-0.4**
LMEL				eS	**Sg**	**00 57 08.1**	**-1.8**
LMEL				IAML		00 57 15.6	
	comp=N,3μm,0.2s						
AUSP	**Uspallata**	**2.12**	**88**	*eP*	**Pg**	**00 56 42.9**	**-0.9**
AUSP				eS	**Sg**	**00 57 12.4**	**+1.0**
BO03	**Pichilemu**	**2.16**	**182**	*eP*	**Pn**	**00 56 40.3**	**+1.1**
BO01	**Tunca**	**2.17**	**162**	Pn	**Pb**	**00 56 41.9**	**-0.5**
BO01	**Tunca**	**2.17**	**162**	*eP*	**Pb**	**00 56 41.2**	**-1.2**
BO01				eS	**Sb**	**00 57 08.2**	**-1.0**
BO01	**Tunca**	**2.17**	**162**	*eP*	**Pb**	**00 56 41.0**	**-1.4**
BO01				eS	**Sn**	**00 57 04.5**	**-1.5**
BO01				IAML		00 57 16.2	
	comp=Z,1μm,0.3s						
RTLS	**Leoncito**	**2.26**	**77**	*eP*	**Pb**	**00 56 45.0**	**+0.8**
RTLS				eS	**Sg**	**00 57 16.2**	**+0.3**
RTLS				IAML		00 57 17.4	
	comp=Z,950nm,0.5s						
GO04	**Tololo Observa**	**2.34**	**24**		**Pn**	**00 56 42.9**	**+1.1**
GO04	**Tololo Observa**	**2.34**	**24**	*i* P	**Pn**	**00 56 42.6**	**+0.8**
GO04				eS	**Sb**	**00 57 14.9**	**+0.4**
GO04	**Tololo Observa**	**2.34**	**24**	*eP*	**Pn**	**00 56 42.9**	**+1.1**
GO04				eS	**Sn**	**00 57 12.5**	**+1.8**
CO05	**La Serena**	**2.46**	**13**		**Pn**	**00 56 43.6**	**+0.4**
CO05	**La Serena**	**2.46**	**13**	*eP*	**Pn**	**00 56 44.0**	**+0.7**
CO05				eS	**Sb**	**00 57 17.4**	**-0.5**
CO05				IAML		00 57 24.7	
	comp=E,1μm,0.6s						
ARCO	**CERRO ARCO**	**2.54**	**102**	*eP*	**Pn**	**00 56 45.0**	**+0.4**
ARCO				eP	**Pb**	**00 56 50.0**	**+1.0**
ARCO				eS	**Sg**	**00 57 25.0**	**0.0**
ARCO				IAML		00 57 37.5	
	comp=Z,580nm,0.4s						
ASAL	**Salagasta**	**2.59**	**97**	*eP*	**Pb**	**00 56 50.8**	**+1.1**
ASAL				eS	**Sg**	**00 57 25.0**	**-1.5**
GO05	**Huala**	**2.68**	**181**		**Pn**	**00 56 47.3**	**+1.0**
GO05	**Huala**	**2.68**	**181**	*eP*	**Pn**	**00 56 47.2**	**+1.0**
GO05				IAML		00 57 38.9	
	comp=N,650nm,0.8s						
GO05	**Huala**	**2.68**	**181**	*eP*	**Pn**	**00 56 47.0**	**+0.8**
AAGR	**Agrelo**	**2.69**	**107**	*eP*	**Pb**	**00 56 52.4**	**+1.0**
AAGR				eS	**Sg**	**00 57 34.2**	**+4.7**
AAGR				IAML		00 57 35.7	
	comp=Z,466nm,3.9s						
CO01	**Juntas del Tor**	**2.80**	**34**		**Pn**	**00 56 49.7**	**+1.5**
CO01	**Juntas del Tor**	**2.80**	**34**	*eP*	**Pn**	**00 56 50.3**	**+2.1**
CO01				eS	**Sb**	**00 57 26.7**	**-1.1**
CO01				IAML		00 57 32.2	
	comp=N,711nm,0.3s						
CO01	**Juntas del Tor**	**2.80**	**34**	*eP*	**Pn**	**00 56 45.0**	**-3.2**
CO01				eP	**Pb**	**00 56 50.0**	**-3.4**
CO01				eS	**Sn**	**00 57 22.0**	**-0.1**
CO01				eS	**Sb**	**00 57 24.5**	**-3.3**
CO01				IAML		00 57 31.1	
	comp=Z,760nm,0.5s						
ZON	**Zonda**	**2.83**	**75**		**Pn**	**00 56 50.0**	**+1.6**
ZON	**Zonda**	**2.83**	**75**	*eP*	**Pb**	**00 56 53.5**	**-0.4**
ZON				eS	**Sg**	**00 57 34.1**	**-0.2**
ZON				IAML		00 57 41.8	
	comp=

H03S2	**Juan Fernandez**	**6.10**	**254**	T	T		01 04 03.8	
	baz=83							
AC01	**Pan de Azucar**	**6.26**	**11**			**Pn**	**00 57 35.1**	**-0.4**
LC01	**Cunco**	**6.56**	**180**	Pn		**Pn**	**00 57 40.4**	**+0.9**
LC01	**Cunco**	**6.56**	**180**	*e*P		**Pn**	**00 57 41.0**	**+1.5**
LC01				IAML			00 59 57.3	
	comp=Z,106nm,0.5s							
PLCA	**Paso Flores**	**8.46**	**173**	Pn		**Pn**	**00 58 08.5**	**+2.8**
	comp=Z,0.6nm,0.3s,baz=327,slow=11,SNR=13							
PLCA				LR	LR		01 01 59.1	
	comp=Z,87nm,18.8s,baz=5.5,slow=42							
PLCA	**Paso Flores**	**8.46**	**173**	Pn		**Pn**	**00 58 07.9**	**+2.2**
LL04	**Puerto Octay**	**8.58**	**183**	Pn		**Pn**	**00 58 08.8**	**+1.5**
TRQA	**Tornquist**	**9.91**	**128**	Pn		**Pn**	**00 58 28.1**	**+2.4**
LVC	**Limon Verde**	**10.03**	**16**	Pn		**Pn**	**00 58 24.0**	**-3.6**
	comp=Z,1.1nm,0.3s,baz=166,slow=11,SNR=3.2							
LVC				LR	LR		01 02 37.0	
	comp=Z,91nm,21.9s,baz=214,slow=41							
CPUP	**Villa Florida**	**14.03**	**69**	LR	LR		01 05 10.6	
	comp=Z,89nm,19.8s,baz=235,slow=41							
LPAZ	**La Paz**	**16.33**	**13**	Pn		**Pn**	**00 59 52.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=174,slow=7.0,SNR=9.6							
LPAZ	**La Paz**	**16.33**	**13**			**Pn**	**00 59 53.6**	**+0.5**
ITAB	**Concordia**	**17.88**	**79**	P		**P**	**01 00 14.4**	**+1.9**
ITAB				IAmb	IAmb		01 00 40.9	
	comp=Z,23nm,1.3s							
SIV	**San Ignacio**	**19.00**	**34**	P		**P**	**01 00 19.9**	**-5.1**
	comp=Z,0.3nm,0.3s,baz=206,slow=7.0,SNR=3.5							
SIV				LR	LR		01 08 37.0	
	comp=Z,77nm,19.7s,baz=206,slow=41							
EFI	**East Falkland**	**21.82**	**156**	P		**P**	**01 00 56.7**	**+1.4**
BDFB	**Brasilia**	**27.32**	**58**	LR	LR		01 13 36.5	
	comp=Z,93nm,21.1s,baz=274,slow=40							
BDFB	**Brasilia**	**27.32**	**58**	P		**P**	**01 01 47.6**	**-0.6**
BDFB				IAmb	IAmb		01 02 16.8	
	comp=Z,14nm,1.4s							
SNAA	**Sanae**	**53.09**	**158**	P		**P**	**01 05 22.3**	**+2.1**
QSPA	**South Pole Qui**	**57.91**	**180**	P		**P**	**01 05 56.4**	**+1.3**
TORD	**Torodi Ar. Bea**	**83.52**	**70**	P		**P**	**01 08 30.1**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=242,slow=3.2,SNR=4.7							
H11S2	**WAKE ISLAND Hyl**	**25.91**	**270**	T		T	03 34 07.3	
	baz=118,slow=74,SNR=21							
H11S1	**WAKE ISLAND Hyl**	**25.92**	**270**	T		T	03 34 12.3	
	baz=118,slow=74,SNR=20							
H11S3	**WAKE ISLAND Hyl**	**25.92**	**270**	T		T	03 34 07.4	
	baz=118,slow=74,SNR=18							
H11N3	**WAKE ISLAND Hyl**	**26.28**	**272**	T		T	03 34 39.7	
	baz=117,slow=74							
H11N1	**WAKE ISLAND Hyl**	**26.29**	**272**	T		T	03 34 43.9	
	baz=117							
H11N2	**WAKE ISLAND Hyl**	**26.30**	**272**	T		T	03 34 38.0	
	baz=117,slow=74							
ZALV	**Zalesovo Beam**	**152.74**	**31**	PKPbc		**PKiKP**	**01 16 00.4**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=326,slow=3.8,SNR=2.4							

IDC 28 00:57:15.9±7.5, 3°50.5S×141°49.E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.1/28, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=277.9km s-min=34.8km az=91.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.77**	**203**	P	P	01 01 25.6	-0.2
	0.2nm,0.3s,baz=22,slow=13,SNR=5.2						
ASAR	**Alice Springs**	**21.35**	**199**	P	P	01 02 04.6	-0.3
	0.4nm,0.5s,baz=28,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**72.12**	**322**	P	P	01 08 42.4	0.0
	0.1nm,0.4s,baz=102,slow=7.3,SNR=2.3						

*DJA **28** 01:07:12.6±0.2, 3°S×14°1E±°, h10km, M4.6/30, mB5.0/7, mb4.6/30, MLv5.0/5, Mw(mB)4.3/7*
*NEIC **28** 01:07:15.9±1.4, 3°.28S±0°.09×141°.10E±0°.08, h46km±6km, mb4.8/56, Error ellipse: s-maj=12.6km s-min=11.3km az=198.0*
*IDC **28** 01:07:17.1±2.2, 3°.27S×141°.01E, h54km±20km, mb4.1/19, mb1 4.3/24, mb1mx4.2/43, mbtmp4.5/24, ML4.3/3, MS4.0/5, Ms1 4.0/5, ms1mx3.3/67, Error ellipse: s-maj=14.8km s-min=9.3km az=107.0*

ISC 28 01:07:13.3±0.4, 3°22S±0°.05×141°.06E±0°.06, h23km, n143, σ1§34/146, mb4.8/49, MS4.3/5, 3C-6D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.08**	**305**	P	**Pn**	**01 07 30.7**	**-2.4**
GENI	**Genyem**	**1.08**	**305**	P	**Pn**	**01 07 31.4**	**-1.7**
WAMI	**Wamena**	**2.44**	**254**	P	**Pn**	**01 07 53.0**	**+1.2**
SMPI	**Sarmi**	**2.65**	**297**	P	**Pn**	**01 07 55.1**	**+0.5**
MMPI	**Merauke**	**5.26**	**187**	P	**Pn**	**01 08 34.7**	**+4.1**
MANU	**Manus Island**	**6.41**	**80**		**Pn**	**01 08 45.6**	**-0.7**
PMG	**Port Moresby**	**8.63**	**136**	P	**Pn**	**01 09 21.1**	**+4.1**
	1.2nm,0.3s,baz=311,slow=13,SNR=6.8						
PMG	**Port Moresby**	**8.63**	**136**	Pn	**Pn**	**01 09 17.4**	**+0.5**
SIJI	**Sorong**	**10.06**	**283**	P	**Pn**	**01 09 39.0**	**+2.4**
	2.8nm,0.3s,baz=91,slow=8.1,SNR=4.3						
SIJI				LR	LR	01 14 55.0	
	comp=Z,523nm,18.9s,baz=22,slow=46						
COEN	**Coen**	**10.88**	**169**	P	**Pn**	**01 09 51.5**	**+3.8**
KRVT	**Keravat (AS076**	**10.99**	**96**	P	**Pn**	**01 09 53.8**	**+4.4**
	2.8nm,0.3s,baz=12,slow=20,SNR=2.6						
RABL	**Rabaul**	**11.12**	**95**	Pn	**Pn**	**01 09 53.0**	**+1.9**
KDU	**Kakadu**	**12.68**	**222**	P	**Pn**	**01 10 12.6**	**+0.2**
MTN	**Manton Dam**	**13.71**	**225**	Pn	**Pn**	**01 10 26.3**	**-0.2**
MTN	**Manton Dam**	**13.71**	**225**	P	**Pn**	**01 10 26.3**	**-0.2**
SANI	**Sanana**	**15.10**	**274**	P	**Pn**	**01 10 45.2**	**-0.2**
	26nm,1.1s						
QIS	**Mount Isa**	**17.30**	**185**	P	**P**	**01 11 15.7**	**+0.9**
KNRA	**Kununurra**	**17.32**	**224**	Pn	**Pn**	**01 11 11.3**	**-2.4**
KNRA				IAmb	IAmb	01 11 22.4	
	comp=Z,55nm,0.9s						
KNRA	**Kununurra**	**17.32**	**224**	P	**Pn**	**01 11 14.0**	**+0.2**
WB0	**Warramunga Arr**	**17.69**	**201**	P	**Pn**	**01 11 18.1**	**-0.3**
WB0				IAmb	IAmb	01 11 33.1	
	comp=Z,94nm,1.2s						
WR0	**Warramunga Arr**	**17.82**	**200**		**Pn**	**01 11 19.4**	**-0.5**
WR0				IAmb	IAmb	01 11 33.3	
	comp=Z,68nm,1.1s						
WRAB	**Tennant Creek**	**17.86**	**201**		**Pn**	**01 11 20.0**	**-0.5**
WRAB				IAmb	IAmb	01 11 29.9	
	comp=Z,108nm,1.2s						
WRAB	**Tennant Creek**	**17.86**	**201**	P	**P**	**01 11 21.7**	**+0.7**
WB2	**Warramunga Arr**	**17.87**	**201**	P	**Pn**	**01 11 20.4**	**-0.2**
WB2				IAmb	IAmb	01 11 30.1	
	comp=Z,108nm,1.2s						
WRA	**Warramunga Arr**	**17.87**	**201**	P	**Pn**	**01 11 20.4**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=25,slow=12,SNR=37						
WRA				S	**Sn**	**01 14 35.4**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=21,slow=19,SNR=2.7						
WRA				LR	LR	01 18 41.8	
	comp=Z,562nm,19.3s,baz=356,slow=38						
WRA	**Warramunga Arr**	**17.87**	**201**	P	**Pn**	**01 11 19.9**	**-0.8**
GTOI	**Gorontalo**	**18.44**	**282**	P	**Pn**	**01 11 30.3**	**+2.6**
	comp=Z,187nmcomp=Z,11nm,0.8s						
BATI	**Baumata**	**18.61**	**247**	P	**P**	**01 11 29.3**	**-0.1**
	comp=Z,5.9nm,0.3s,baz=122,slow=3.7,SNR=5.0						
BATI	**Baumata**	**18.61**	**247**	P	**Pn**	**01 11 30.3**	**+0.5**
	comp=Z,55nm,1.1s						
KCP	**Kidapawan**	**18.90**	**303**	*e*P	**Pn**	**01 11 34.1**	**+0.8**
MRSI	**Marisa**	**19.46**	**281**	P	**P**	**01 11 38.9**	**+0.2**
BSSI	**Bau Bau, Buton**	**20.70**	**261**	P	**P**	**01 11 53.4**	**+1.2**
	comp=Z,1μmcomp=Z,62nm,1.1s						
PAGZ	**Pagadian**	**20.78**	**302**	*e*P	Pn	01 11 55.6	+0.1
BNSI	**Bone**	**20.94**	**266**	P	**P**	**01 11 55.4**	**+0.6**
	comp=Z,40nm,1.0s						
BKSI	**Bulukumba**	**20.98**	**264**	P	**P**	**01 11 56.4**	**+1.2**
	comp=Z,419nmcomp=Z,25nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.14**	**225**	P	**P**	**01 11 56.2**	**-0.7**
	comp=Z,11nm,1.0s,baz=41,slow=12,SNR=14						
FITZ				S	**S**	**01 15 49.4**	**-1.9**
	baz=90,slow=20						
FITZ				LR	LR	01 20 53.7	
	comp=Z,269nm,21.7s,baz=23,slow=39						
FITZ	**Fitzroy Crossi**	**21.14**	**225**	P	**P**	**01 11 56.7**	**-0.2**
TTSI	**Tana Toraja**	**21.21**	**270**	P	**P**	**01 11 58.6**	**+0.9**
	comp=Z,41nm,1.0s						
SPSI	**Sidrap Palu**	**21.26**	**267**	P	**P**	**01 11 58.8**	**+0.5**
	comp=Z,721nmcomp=Z,22nm,1.9s						
KAPI	**Kappang**	**21.33**	**264**	P	**P**	**01 11 58.1**	**-0.9**
	comp=Z,4.5nm,0.2s,baz=171,slow=22,SNR=1.0						
KAPI	**Kappang**	**21.33**	**264**	P	**P**	**01 11 59.0**	**0.0**
TBP	**Tagbilaran**	**21.40**	**307**	*e*P	**P**	**01 12 00.9**	**+1.2**
MPSI	**Mapaga**	**21.45**	**279**	P	**P**	**01 12 01.3**	**+1.1**
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**21.48**	**198**	P	**P**	**01 11 59.9**	**-0.6**
ASAR	**Alice Springs**	**21.48**	**198**	P	**P**	**01 12 00.1**	**-0.4**
	comp=Z,4.0nm,0.7s,baz=31,slow=9.6,SNR=52						
ASAR				S	**S**	**01 15 55.5**	**-2.3**
	comp=Z,2.1nm,1.0s,baz=14,slow=24,SNR=1.6						
ASAR				LR	LR	01 20 54.6	
	comp=Z,398nm,18.9s,baz=340,slow=38						
ASAR	**Alice Springs**	**21.48**	**198**	P	**P**	**01 11 59.6**	**-0.9**
WBSI	**Waikabubak, Su**	**22.45**	**252**	P	**P**	**01 12 11.1**	**0.0**
	comp=Z,54nm,0.9s						
RCP	**Roxas**	**23.39**	**309**	*e*P	**P**	**01 12 21.7**	**+0.9**
EIDS	**Eidsvold**	**24.05**	**157**	P	**P**	**01 12 27.1**	**+0.2**
WRKA	**Warakurna**	**24.94**	**208**	P	**P**	**01 12 36.0**	**+0.9**
OOD	**Oodnadatta**	**24.98**	**191**	P	**P**	**01 12 37.8**	**+2.5**
JCNP	**Jose Panganiba**	**25.18**	**314**	*e*P	**P**	**01 12 37.4**	**+0.2**
ARMA	**Armidale**	**28.85**	**161**	P	**P**	**01 13 09.0**	**-1.2**
FORT	**Forrest**	**30.04**	**203**	P	**P**	**01 13 22.2**	**+1.4**
CAN	**Canberra**	**32.78**	**168**	P	**P**	**01 13 42.9**	**-2.0**
CAN				IAmb	IAmb	01 13 51.7	
	comp=Z,23nm,1.1s						
MORW	**Morawa**	**35.02**	**220**		**P**	**01 14 03.2**	**-1.1**
WHN	**Wuhan**	**42.16**	**325**	P	**P**	**01 15 06.5**	**+2.2**
WHN				pmax	pmax			
	comp=Z,44nm,0.9s							
KSRS	**Korea Array**	**42.27**	**344**	P	**P**	**01 15 05.4**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=157,slow=9.5,SNR=7.1							
TIA	**Tai'an**	**45.15**	**332**	P	**P**	**01 15 28.8**	**+0.5**
TIA				pmax	pmax			
	comp=Z,14nm,0.8s							
LYN	**LuoYang**	**46.20**	**327**	*i*P	**P**	**01 15 37.3**	**+0.7**
LYN				pmax	pmax			
	comp=Z,20nm,0.8s							
CMAR	**Chiang Mai Arr**	**46.73**	**299**	P	**P**	**01 15 41.5**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=118,slow=5.9,SNR=17							
CMAR	**Chiang Mai Arr**	**46.73**	**299**	P	**P**	**01 15 40.6**	**-0.4**
JKA	**Kamikawa-asahi**	**47.14**	**2**	P	**P**	**01 15 44.2**	**+0.5**
ASAJ	**Asahikawa**	**47.14**	**2**	P	**P**	**01 15 43.8**	**0.0**
	comp=Z,6.2nm,0.6s,baz=210,slow=16,SNR=3.9							
XAN	**Xi'an**	**47.85**	**323**	P	**P**	**01 15 50.0**	**+0.4**
XAN				pP	sP	01 16 02.5	+2.6
XAN				sP	pP	01 16 07.3	+10
XAN				pmax	pmax			
	comp=Z,20nm,0.8s							
XAN				pmax	pmax			
	comp=Z,130nm,5.2s							
XAN				LR	LR			
	comp=N,310nm,7.9s							
XAN				LR	LR			
	comp=E,500nm,10.2s							
XAN				LR	LR			
	comp=Z,700nm,9.5s							
USRK	**Ussuriysk Ar.**	**47.90**	**351**	P	**P**	**01 15 48.6**	**-1.1**
	comp=Z,5.1nm,0.9s,baz=139,slow=7.3,SNR=4.4							
USRK	**Ussuriysk Ar.**	**47.90**	**351**	P	**P**	**01 15 49.7**	**0.0**
RPZ	**Rata Peaks**	**48.29**	**151**	P	**P**	**01 15 52.5**	**-0.3**
	comp=Z,11nm,0.8s,baz=30,slow=9.8,SNR=5.4							
RPZ	**Rata Peaks**	**48.29**	**151**	P	**P**	**01 15 51.7**	**-1.1**
CD2	**Chengdu**	**49.15**	**316**	P	**P**	**01 16 00.5**	**+0.8**
CD2				pmax	pmax			
	comp=Z,20nm,0.7s							
LZH	**Lanzhou**	**52.31**	**322**	*e*P	**P**	**01 16 25.5**	**+1.9**
LZH				pP	sP	01 16 33.8	-0.1
LZH				sP	pP	01 16 41.8	+11
LZH				pmax	pmax			
	comp=Z,22nm,1.1s							
LZH				LR	LR			
	comp=N,330nm,10.3s							
LZH				LR	LR			
	comp=E,320nm,10.0s							
LZH				LR	LR			
	comp=Z,430nm,11.7s							
KLR	**Kul'dur**	**52.85**	**352**	P	**P**	**01 16 26.8**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=144,slow=3.4,SNR=11							
PETK	**Petropavlovsk-**	**57.84**	**12**	P	**P**	**01 17 02.7**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=181,slow=5.9,SNR=3.9							
PETK	**Petropavlovsk-**	**57.84**	**12**	P	**P**	**01 17 00.8**	**-2.2**
SONM	**Songino Array**	**59.20**	**334**	P	**P**	**01 17 13.8**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=150,slow=6.1,SNR=3.0							
SONM	**Songino Array**	**59.20**	**334**	P	**P**	**01 17 11.8**	**-0.9**
MK31	**Makanchi Array**	**71.63**	**322**	P	**P**	**01 18 33.5**	**+0.3**
MKAR	**Makanchi Array**	**71.63**	**322**	P	**P**	**01 18 34.0**	**+0.8**
	comp=Z,5.6nm,1.0s,baz=118,slow=7.4,SNR=34							
MKAR	**Makanchi Array**	**71.63**	**322**	P	**P**	**01 18 32.8**	**-0.3**
MAKZ	**Makanchi**	**71.83**	**322**	P	**P**	**01 18 33.5**	**-0.9**
MAKZ				IAmb	IAmb	01 18 36.0		
	comp=Z,12nm,1.1s							
KSH	**Kashi**	**73.14**	**313**	P	**P**	**01 18 45.3**	**+2.8**
KSH				pP	pP	01 18 48.8	-1.3	
KSH				sP	sP	01 18 55.3	+2.3	
KSH				PcP	**PcP**	**01 19 00.5**	**+1.4**	
KSH				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KDJ	**Kajisay**	**73.16**	**316**	P	**P**	**01 18 42.0**	**-0.5**
NIL	**Nilore**	**73.51**	**306**	P	**P**	**01 18 43.5**	**-1.1**
NIL				IAmb	IAmb	01 18 48.8		
	comp=Z,12nm,1.1s							
ZAA0	**Zalesovo Array**	**73.56**	**329**	P	**P**	**01 18 43.2**	**-1.2**
ZALV	**Zalesovo Beam**	**73.56**	**329**	P	**P**	**01 18 44.1**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=97,slow=4.9,SNR=7.5							
ZALV	**Zalesovo Beam**	**73.56**	**329**	P	**P**	**01 18 43.8**	**-0.6**
BOOM	**Boomskoye usch**	**74.14**	**316**	P	**P**	**01 18 47.4**	**-1.0**
AAK	**Ala-Archa**	**75.20**	**316**	P	**P**	**01 18 55.2**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=141,slow=5.5,SNR=7.5							
AAK	**Ala-Archa**	**75.20**	**316**	P	**P**	**01 18 54.2**	**-0.3**
KURK	**Kurchatov**	**75.48**	**324**	P	**P**	**01 18 54.2**	**-1.5**
KURK				IAmb	IAmb	01 18 59.8		
	comp=Z,15nm,1.4s							
KURBB	**Kurchatov Arra**	**75.50**	**324**	P	**P**	**01 18 56.1**	**+0.4**
	comp=Z,3.1nm,1.0s,baz=110,slow=5.5,SNR=20							
GAR	**Garm**	**77.19**	**311**	P	**P**	**01 19 05.5**	**-0.3**
CHGR	**Chuyangaron**	**77.98**	**310**	P	**P**	**01 19 09.2**	**-1.2**
KKAR	**Karatay Array**	**78.14**	**315**	P	**P**	**01 19 11.2**	**+0.4**
NRIK	**Noril'sk**	**80.87**	**343**	P	**P**	**01 19 25.1**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=169,slow=3.4,SNR=7.2							
NRIK	**Noril'sk**	**80.87**	**343**	P	**P**	**01 19 24.6**	**-0.5**
NRIK				IAmb	IAmb	01 19 29.2		
	comp=Z,13nm,1.3s							
TTA	**Tatalina**	**80.89**	**24**		**P**	**01 19 25.1**	**-0.3**
TTA				IAmb	IAmb	01 19 26.7		
	comp=Z,8.4nm,1.0s							
L19K	**White Mountain**	**81.05**	**25**		**P**	**01 19 26.6**	**+0.3**
L19K				IAmb	IAmb	01 19 27.8		
	comp=Z,8.7nm,0.9s							
BRVK	**Borovoye**	**81.14**	**325**	P	**P**	**01 19 27.2**	**+0.3**
BRVK				IAmb	IAmb	01 19 31.3		
	comp=Z,12nm,1.0s							
K20K	**Telida**	**81.87**	**24**		**P**	**01 19 31.0**	**+0.4**
K20K				IAmb	IAmb	01 19 32.1		
	comp=Z,11nm,0.9s							
J20K	**Nowinta River**	**82.17**	**24**		**P**	**01 19 32.6**	**+0.4**
CAST	**Castle Rocks**	**82.72**	**25**	P	**P**	**01 19 34.1**	**-0.9**
CAST				IAmb	IAmb	01 19 40.8		
	comp=Z,9.6nm,1.3s							
IMAR	**Indian Mountai**	**83.07**	**22**		**P**	**01 19 36.3**	**-0.5**
KTH	**Kantishna Hill**	**83.25**	**25**	P	**P**	**01 19 36.3**	**-1.6**
KTH				IAmb	IAmb	01 19 37.7		
	comp=Z,15nm,1.2s							
H21K	**Melozitna Rive**	**83.30**	**22**	P	**P**	**01 19 37.8**	**-0.2**
I21K	**Tanana**	**83.43**	**23**	P	**P**	**01 19 38.2**	**-0.4**
I21K				IAmb	IAmb	01 19 40.0		
	comp=Z,9.3nm,1.1s							
RND	**Reindeer**	**84.07**	**25**	P	**P**	**01 19 41.4**	**-0.6**
MCK	**McKinley**	**84.14**	**25**	P	**P**	**01 19 41.4**	**-1.0**
MCK				IAmb	IAmb	01 19 42.2		
	comp=Z,7.8nm,0.9s							
I23K	**Minto, Yukon-K**	**84.45**	**23**	P	**P**	**01 19 43.5**	**-0.4**
DHY	**Denali Highway**	**84.60**	**26**	P	**P**	**01 19 44.3**	**-0.6**
DHY				IAmb	IAmb	01 19 45.3		
	comp=Z,9.2nm,0.9s							
H23K	**Yukon River**	**84.61**	**23**	P	**P**	**01 19 44.6**	**-0.1**
H23K				IAmb	IAmb	01 19 47.5		
	comp=Z,7.7nm,1.2s							
COLD	**Coldfoot**	**84.86**	**21**		**P**	**01 19 46.1**	**+0.2**
COLD				IAmb	IAmb	01 19 48.5		
	comp=Z,9.4nm,1.2s							
CCB	**Clear Creek Bu**	**84.91**	**24**	P	**P**	**01 19 44.4**	**-1.7**
H24K	**Noodor Dome**	**85.26**	**23**	P	**P**	**01 19 47.7**	**-0.3**
H24K				IAmb	IAmb	01 20 19.1		
	comp=Z,10nm,1.4s							
IL31		**85.32**	**24**	P	**P**	**01 19 46.0**	**-2.2**
ILAR	**Eielson Array**	**85.32**	**24**	P	**P**	**01 19 46.6**	**-1.7**
	comp=Z,3.3nm,0.8s,baz=256,slow=4.8,SNR=26							
J25K	**Salcha River,**	**85.90**	**24**	P	**P**	**01 19 49.9**	**-1.3**
J25K				IAmb	IAmb	01 19 51.7		
	comp=Z,6.5nm,1.2s							
GEYT	**Alibeck**	**86.39**	**308**	P	**P**	**01 19 55.6**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=54,slow=6.1,SNR=3.3							
GEYT	**Alibeck**	**86.39**	**308**		**P**	**01 19 53.7**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**86.39**	**308**	P	**P**	**01 19 53.5**	**-0.7**
QSPA	**South Pole Qui**	**86.73**	**180**	LR	LR	01 57 14.3		
	comp=Z,122nm,21.4s,baz=346,slow=35							
M27K	**Edge Creek, AK**	**86.85**	**27**	P	**P**	**01 19 53.6**	**-2.4**
M27K				IAmb	IAmb	01 20 08.7		
	comp=Z,6.7nm,1.0s							
BMAR	**Burnt Mountain**	**86.99**	**22**		**P**	**01 19 55.0**	**-1.6**
L27K	**Beaver Creek,**	**87.03**	**26**	P	**P**	**01 19 54.0**	**-2.8**
L27K				IAmb	IAmb	01 20 00.4		
	comp=Z,8.3nm,1.4s							
K27K	**Chicken**	**87.14**	**25**	P	**P**	**01 19 57.6**	**+0.3**
SOCY	**Socotra**	**87.81**	**282**	P	**P**	**01 19 59.9**	**-1.7**
DAWY	**Dawson**	**88.30**	**26**	P	**P**	**01 20 02.4**	**-0.5**
DAWY				IAmb	IAmb	01 20 04.0		
	comp=Z,7.5nm,0.9s							
I29M	**Ogilvie Camp,**	**88.99**	**24**	P	**P**	**01 20 05.3**	**-0.8**
YKA	**Yellowknife Ar**	**99.44**	**27**	P	**Pdif**	**01 20 52.9**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=280,slow=4.4,SNR=8.4							
NVAR	**Mina Array Bea**	**100.32**	**52**	P	**Pdif**	**01 20 57.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=269,slow=12,SNR=2.5							
GERES	**GERESS Array B**	**116.23**	**324**	PKP	**PKPdf**	**01 25 53.2**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=100,slow=4.1,SNR=2.4							
SCHQ	**Schefferville**	**123.78**	**19**	PKP	**PKPdf**	**01 26 07.7**	**-1.7**
	comp=Z,2.4nm,0.7s,baz=275,slow=9.0,SNR=3.8							
SCHQ	**Schefferville**	**123.78**	**19**		**PKPdf**	**01 26 09.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**138.65**	**286**	PKP	**PKPdf**	**01 26 39.5**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=83,slow=2.9,SNR=13							
TORD				PP	**PP**	**01 29 31.3**	**+1.7**	
	comp=Z,1.2nm,1.2s,baz=147,slow=8.3,SNR=3.9							
ROSC	**El Rosal**	**144.67**	**86**	PKP	**PKPab**	**01 26 48.4**	**-0.2**
	comp=Z,4.4nm,0.3s,baz=289,slow=23,SNR=3.7							
LPAZ	**La Paz**	**145.24**	**125**	PKPbc	**PKPdf**	**01 26 51.3**	**+0.3**
	comp=Z,16nm,1.0s,baz=259,slow=2.1,SNR=42							
LPAZ	**La Paz**	**145.24**	**125**		**PKPbc**	**01 26 48.8**	**-1.9**
CPUP	**Villa Florida**	**145.66**	**150**	PKPbc	**PKPdf**	**01 26 50.7**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=238,slow=2.8,SNR=7.2							
CPUP	**Villa Florida**	**145.66**	**150**	PKPdf	**PKPdf**	**01 26 49.8**	**-1.0**
KIC	**Kosan Boka**	**145.78**	**277**	*e*PKIKP	**PKPab**	**01 26 52.7**	**+0.5**
	comp=Z,19nm,1.1s							
DBIC	**Dimbokro**	**145.88**	**277**	PKPbc	**PKPbc**	**01 26 52.1**	**+0.1**
	comp=Z,13nm,1.0s,baz=106,slow=2.7,SNR=8.7							
TIC	**Toumodi**	**146.04**	**277**	*e*PKIKP	**PKPbc**	**01 26 52.5**	**-0.1**
LIC	**Lamto**	**146.08**	**276**	*e*PKIKP	**PKPbc**	**01 26 52.9**	**+0.2**
	comp=Z,22nm,1.1s							

*IDC **28** 01:14:26.8±1.6, 17°.87S×178°.79W, h546km±19km, mb3.5/12, mb1 3.7/14, mb1mx3.4/51, mbtmp4.3/14, Error ellipse: s-maj=23.9km s-min=14.5km az=134.0*
*NEIC **28** 01:14:27.5±1.6, 17°.7S±0°.1×178°.9W±0°.1, h548km±8km, mb4.2/10, Error ellipse: s-maj=19.4km s-min=17.1km az=129.0*

ISC 28 01:14:26.4±0.5, 17°.6S±0°.1×178°.9W±0°.1, h539km, n35, σ1§39/35, mb4.1/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.94**	**268**	P	**P**	**01 15 42.5**	**+2.2**
	3.6nm,0.3s,baz=114,slow=13,SNR=18						
MSVF	**Nonsavu**	**2.94**	**268**	P	**P**	**01 15 41.9**	**+1.6**
AFI	**Afiamalu**	**7.77**	**63**	P	**P**	**01 16 17.8**	**-3.9**
	7.4nm,0.3s,baz=268,slow=6.0,SNR=5.8						
NIUE	**Niue**	**8.62**	**101**	P	**P**	**01 16 31.7**	**+1.6**
**D

NACB Sg **Sg** 01 14 54.5 -0.4
NACB Ninganchiao 0.25 246⇑*i*P Pg 01 14 51.5 -0.1
baz=234
NACB S **Sg** 01 14 55.0 0.0
baz=234
TWD Chiawan 0.30 230⇑*i*P Pg 01 14 52.4 -0.1
baz=221
TWD *i* S **Sg** 01 14 56.8 +0.4
baz=221
TWC Suao 0.33 1⇓*i*P Pg 01 14 53.6 +0.6
baz=9.0
TWC *i* S **Sg** 01 14 58.0 +0.5
baz=9.0
ETLH Xiulin Townshi 0.34 258⇓*i*P Pg 01 14 53.1 -0.1
baz=255
ETLH S **Sg** 01 14 57.4 -0.3
baz=255
HWA Hwalien 0.37 217 P Pb 01 14 54.8 -0.2
baz=216
NDS Dongshan 0.38 342⇓*i*P Pg 01 14 54.4 +0.5
baz=347
NDS S **Sg** 01 14 59.1 +0.3
baz=347
LATG Datong 0.39 312⇓*i*P Pg 01 14 54.4 +0.2
baz=315
LATG S **Sg** 01 14 59.1 -0.2
baz=315
ENTT Nioudou 0.44 325⇓*i*P Pg 01 14 55.5 +0.4
baz=330
ENTT *i* S **Sg** 01 15 01.1 +0.1
baz=330
ETM Tongmen 0.45 226 P Pg 01 14 55.0 -0.1
baz=221
NNSB Datong 0.45 290⇓*i*P Pg 01 14 55.3 +0.1
baz=291
NNSB *i* S **Sg** 01 15 00.8 -0.4
baz=291
NNS Nan Shan 0.46 291⇓*i*P Pg 01 14 55.5 0.0
baz=292
NNS *i* S **Sg** 01 15 01.1 -0.5
baz=292
TEYL Yanliau Villag 0.46 209 *e*P Pb 01 14 56.2 -0.4
baz=215
TWE Neicheng 0.47 340⇓*i*P Pg 01 14 56.1 +0.5
baz=346
TWE *i* S **Sg** 01 15 02.2 +0.3
baz=346
ILA Ilan 0.50 350 P Pb 01 14 56.7 -0.5
baz=349
ILA S **Sb** 01 15 03.6 -0.8
baz=349
FUSB Fushanzhiwuyua 0.54 334⇓*i*P Pg 01 14 57.4 +0.5
baz=330
FUSB *i* S **Sg** 01 15 04.0 0.0
baz=330
WHF Hehuan Shan 0.55 256⇑*i*P Pg 01 14 56.9 -0.2
baz=255
WHF *i* S **Sg** 01 15 04.0 -0.4
baz=255
EGS 0.57 8 *e*P Pb 01 14 58.5 0.0
baz=21
NTC Toucheng 0.58 359 P Pb 01 14 58.2 -0.3
baz=2.0
NTC S **Sg** 01 15 05.1 -0.1
baz=2.0
YHNB Yeheng 0.58 313 Pg Pg 01 14 57.9 +0.2
YHNB Sg **Sg** 01 15 05.1 -0.3
YHNB Yeheng 0.58 313⇓*i*P Pg 01 14 58.0 +0.3
baz=315
YHNB S **Sg** 01 15 05.2 -0.2
baz=315
NWLT Wulai 0.59 328 P Pg 01 14 58.2 +0.3
baz=331
NWLT S **Sg** 01 15 05.4 -0.2
baz=331
ESL Shilin 0.59 219⇑*i*P Pg 01 14 57.7 -0.3
baz=223
ESL S **Sg** 01 15 06.6 +0.8
baz=223
NSK Sanguang 0.60 312⇓*i*P Pg 01 14 58.2 +0.2
baz=315
NSK *i* S **Sg** 01 15 05.5 -0.4
baz=315
TWT Tachien 0.61 268⇓*i*P Pg 01 14 58.8 +0.5
baz=267
TWT *i* S **Sg** 01 15 06.5 +0.1
baz=267
TDCB Techi 0.63 268⇓*i*P Pg 01 14 58.8 +0.2
baz=267
TDCB *i* S **Sg** 01 15 06.4 -0.5
baz=267
TEGC Jichi Village 0.63 206 *e*P Pb 01 14 59.9 +0.4
baz=192
TEGC *e*S **Sn** 01 15 11.6 +0.2
baz=192
CHGB Renai 0.65 251 ⇑P Pg 01 14 59.0 0.0
baz=242
CHGB S **Sg** 01 15 06.7 -0.9
baz=242
OWD Renai 0.69 243 *e*P Pg 01 14 59.7 -0.1
baz=234
OWD *e*S **Sg** 01 15 08.4 -0.4
baz=234
TIPB Shuangxi 0.69 359 ⇓P Pg 01 15 00.3 +0.5
baz=1.0
TIPB S **Sg** 01 15 08.6 -0.4
baz=1.0
EGFH Guangfu 0.71 212 ⇑P Pg 01 15 00.2 0.0
baz=224
EGFH *e*S **Sn** 01 15 12.5 -1.0
baz=224
WUSB Renai 0.72 247 ⇑P Pg 01 15 00.3 -0.1
baz=239
WUSB *e*S **Sg** 01 15 09.2 -0.6
baz=239
TWA Mucha 0.74 341⇓*i*P Pb 01 15 01.3 -0.1
baz=344
TWA *e*S **Sb** 01 15 11.3 -0.2
baz=344
TWB1 Santiao Chiao 0.74 10⇓*i*P Pb 01 15 01.2 -0.2
baz=13
TWB1 *e*S **Sg** 01 15 10.4 -0.1
baz=13
NHDH Xindian Distri 0.74 337 P Pb 01 15 01.3 -0.1
baz=339
NHDH *e*S **Sg** 01 15 09.9 -0.6
baz=339
NFF Wufeng Townshi 0.75 298 P Pg 01 15 01.3 +0.3
baz=306
NFF *e*S **Sg** 01 15 10.3 -0.5
baz=306
TATO Taipei 0.77 335 Pg Pg 01 15 01.4 +0.1
TATO Sg **Sg** 01 15 11.1 -0.3
TATO Taipei 0.77 335 P Pg 01 15 01.6 +0.3
baz=337
TATO *e*S **Sg** 01 15 11.5 +0.2
baz=337
NWF Wu-fen Shan 0.79 356⇓*i*P Pb 01 15 02.5 +0.2
baz=351
NWF S **Sg** 01 15 12.0 -0.2
baz=351
WFSB Wu-fen Shan 0.79 356 ⇓P Pb 01 15 02.5 +0.2
baz=351
WFSB *e*S **Sg** 01 15 12.4 +0.3
baz=351
NHY Taipei 0.80 342 P Pb 01 15 02.9 +0.5
baz=344
NHY *e*S **Sn** 01 15 14.9 -0.7
baz=344
BACT New Taipei Cit 0.81 333 *e*P Pb 01 15 02.6 +0.1
baz=335
SXI1 Grass Mountain 0.82 2 ⇓P Pb 01 15 02.9 +0.2
baz=10.0
SXI1 *e*S **Sg** 01 15 12.8 0.0
baz=10.0
TAP Taipei 0.82 338 *e*P Pb 01 15 03.1 +0.4
baz=341
TAP *e*S **Sb** 01 15 13.6 -0.2
baz=341
WHP Taichung City 0.82 270 P Pb 01 15 02.8 0.0
baz=270
WHP S **Sg** 01 15 12.6 -0.4
baz=270
VWDT VWDT 0.83 231⇑*i*P Pg 01 15 02.1 -0.2
baz=229
VWDT S **Sb** 01 15 14.6 +0.7
baz=229
LIOB Emei 0.84 296 ⇓P Pb 01 15 03.2 +0.1
baz=297
LIOB *e*S **Sg** 01 15 13.8 +0.2
baz=297
NSTT Nanjuang 0.85 295⇓*i*P Pb 01 15 03.1 -0.1
baz=296
NSTT *i* S **Sg** 01 15 13.4 -0.4
baz=296
WPL Puli Township 0.85 252 P Pg 01 15 03.0 +0.1
baz=251
WPL *e*S **Sn** 01 15 16.4 -0.6
baz=251
HGSD Ruisui 0.87 206⇓*i*P Pb 01 15 03.8 +0.3
baz=194
HGSD *e*S **Sn** 01 15 18.7 +1.4
baz=194
NTY Taoyuan 0.88 325 *e*P Pn 01 15 04.7 0.0
baz=335
NTY *e*S **Sn** 01 15 17.2 -0.3
baz=335
WCS Beigang Elemen 0.88 256 *e*P Pb 01 15 03.7 0.0
baz=255
WCS *e*S **Sg** 01 15 14.3 -0.6
baz=255
EHY Hungye 0.90 212 P Pg 01 15 03.0 -0.8
baz=222
EHY *e*S **Sb** 01 15 17.1 +0.9
baz=222
YM01 YM01 0.90 344⇓*i*P Pb 01 15 04.5 +0.4
baz=346
YM01 *e*S **Sg** 01 15 15.6 0.0
baz=346
HSN1 Hsinchu 0.91 304 P Pb 01 15 04.4 +0.3
baz=295
HSN1 *e*S **Sn** 01 15 18.1 -0.1
baz=295
TWS1 Kuangyinshan 0.91 335⇓*i*P Pn 01 15 04.9 -0.3
baz=337
TWS1 S **Sb** 01 15 17.3 +0.9
baz=337
NCU National Centr 0.92 319 *e*P Pb 01 15 04.8 +0.4
baz=316
NCU *e*S **Sn** 01 15 18.4 0.0
baz=316
NCUH Zhongli 0.92 319 *e*P Pn 01 15 05.0 -0.3
baz=315
NCUH *e*S **Sb** 01 15 17.1 +0.6
baz=315
SBCB Hsinchu 0.94 304 *e*P Pn 01 15 05.5 -0.1
baz=305
SBCB *e*S **Sb** 01 15 17.8 +0.6
baz=305
SMLT Sun Moon Lake 0.95 246 P Pg 01 15 04.8 +0.1
baz=236
SMLT *e*S **Sb** 01 15 18.0 +0.4
baz=236
SSLB Suanglung 0.95 239 Pg Pg 01 15 03.9 -0.8
SSLB Suanglung 0.95 239 ⇑P Pg 01 15 04.2 -0.5
baz=238
SSLB S **Sg** 01 15 15.4 -1.6
baz=238
ANP Anpu 0.95 342 *e*P Pb 01 15 05.3 +0.2
baz=344
ANP *e*S **Sg** 01 15 17.3 +0.1
baz=344
HSN Hsinchu 0.95 304 *e*P Pn 01 15 05.7 -0.1
baz=297
HSN *e*S **Sn** 01 15 19.3 -0.2
baz=297
NTST Danshui 0.96 338 *e*P Pn 01 15 05.7 -0.1
baz=340
NTST *e*S **Sn** 01 15 18.9 -0.6
baz=340
TYC Yuchr 0.98 248 P Pg 01 15 05.0 -0.2
baz=246
NJN Zhunan 0.98 295 *e*P Pb 01 15 05.5 +0.2
baz=296
NJN *e*S **Sn** 01 15 20.2 +0.2
baz=296
TWQ1 Liyutan 0.98 274 *e*P Pn 01 15 06.2 0.0
baz=274
NMLH Miaoli 1.00 285 *e*P Pn 01 15 06.5 +0.1
baz=285
NSY Sanyi 1.00 278 *e*P Pn 01 15 06.7 +0.2
baz=279
NSY *e*S **Sb** 01 15 19.7 +0.8
baz=279
YULB Yu-li 1.01 210 Pg 01 15 05.6 -0.3
YULB Yu-li 1.01 210 *e*P Pg 01 15 04.8 -1.1
baz=219
YULB *e*S **Sg** 01 15 18.8 -0.3
baz=219
JYNG Yonagunijimaku 1.02 80 P Pn 01 15 07.4 +0.7
JYNG *e*S **Sn** 01 15 22.7 +1.7
TWY Chenhua 1.02 347 *e*P Pb 01 15 06.5 +0.4
baz=349
TWY *e*S **Sn** 01 15 21.7 +0.6
baz=349
NHW Xinwu Township 1.03 315 P Pn 01 15 06.9 0.0
baz=316
NHW *e*S **Sn** 01 15 21.8 +0.5
baz=316
EYUL Yuli 1.04 208 *e*P Pg 01 15 06.0 -0.5
baz=220
TWF1 Yuli 1.05 209 *e*P Pg 01 15 05.7 -0.8
baz=217
TWF1 *e*S **Sn** 01 15 21.7 0.0
baz=217
WWF Wufeng 1.07 258 *e*P Pg 01 15 07.1 +0.1
baz=253
WWF *e*S **Sn** 01 15 22.9 +0.5
baz=253
TCU Taichung 1.07 263 *e*P Pn 01 15 08.8 +1.3
baz=264
TCU *e*S **Sn** 01 15 23.5 +1.1
baz=264
YOJ Yonaguni jima 1.08 80 P Pn 01 15 08.0 +0.5
YOJ *e*S **Sn** 01 15 25.5 +3.0
YOJ Yonaguni jima 1.08 80 Pb 01 15 07.2 +0.1
YOJ Yonaguni jima 1.08 80 *e*P Pn 01 15 08.2 +0.7
baz=68
YOJ *e*S **Sn** 01 15 24.7 +2.2
baz=68
WDJ Dajia District 1.10 274 *e*P Pn 01 15 08.9 +1.1
baz=274
WDJ *e*S **Sn** 01 15 23.4 +0.3
baz=274
WJS Zhushan 1.12 246 *e*P Pn 01 15 08.8 +0.8
baz=241
WJS *e*S **Sn** 01 15 25.8 +2.4
baz=241
WNT1 Nantou City 1.13 251 *e*P Pb 01 15 08.0 +0.1
baz=246
WNT1 *e*S **Sn** 01 15 24.4 +0.8
baz=246
YUS Yu-Shan 1.13 226 *e*P Pg 01 15 07.9 -0.3
baz=226
YUS *e*S **Sg** 01 15 23.1 +0.1
baz=226
WNT Mingjian 1.13 250 *e*P Pn 01 15 09.5 +1.3
baz=245
WNT *e*S **Sn** 01 15 26.8 +3.0
baz=245
FULB Fuli 1.19 205 *e*P Pb 01 15 08.6 -0.3
baz=224
FULB *e*S **Sn** 01 15 25.9 +0.7
baz=224
WCHH Zhanghua 1.19 261 *e*P Pg 01 15 10.6 +1.3
baz=261
WCHH *e*S **Sn** 01 15 28.0 +2.8
baz=261
WYL Yuanlin Townsh 1.20 255 *e*P Pn 01 15 09.2 +0.1
baz=256
WYL *e*S **Sn** 01 15 26.6 +1.2
baz=256
ALS Alishan 1.22 232 *e*P Pb 01 15 09.8 +0.1
baz=232
ALS *e*S **Sn** 01 15 26.6 +0.3
baz=232
CHKT Chengkung 1.25 201 *e*P Pn 01 15 08.7 -1.1
baz=220
CHKT *e*S **Sn** 01 15 27.9 +1.1
baz=220
CHN5 Tsauling 1.26 238 *e*P Pg 01 15 10.9 +0.3
baz=239
CHN5 *e*S **Sn** 01 15 28.4 +1.2
baz=239
ELDTW Lidau 1.32 215 *e*P Pn 01 15 10.1 -0.9
baz=201
ELDTW *e*S **Sg** 01 15 29.6 +0.7
baz=201
WDLH Douliu 1.33 244 *e*P Pg 01 15 12.5 +0.6
baz=245
WDLH *e*S **Sg** 01 15 33.2 +3.9
baz=245
EDH Donghe 1.39 201 *e*P Pn 01 15 10.7 -1.0
baz=201
EDH *e*S **Sn** 01 15 30.6 +0.4
baz=201
WRL Guolierlin Hig 1.39 255 P Pg 01 15 13.0 -0.2
baz=255
WRL S **Sg** 01 15 32.0 +0.8
baz=255
WTK Tuku 1.46 247 *e*P Pb 01 15 13.7 +0.2
baz=249
WTK *e*S **Sg** 01 15 33.9 +0.7
baz=249
CHN2 Minshiung 1.46 240 *e*P Pg 01 15 14.7 +0.3
baz=241
CHN2 *e*S **Sg** 01 15 35.8 +2.6
baz=241
CHN4 Tsaushan 1.47 232 P Pb 01 15 14.2 +0.4
baz=233
CHN4 *e*S **Sg** 01 15 34.3 +0.6
baz=233
STYH Taoyuan 1.47 222 ⇑P Pb 01 15 13.6 -0.2
baz=222
STYH S **Sn** 01 15 32.4 +0.2
baz=222
TPUB Ta-pu 1.48 229 Pn 01 15 12.2 -0.8
TPUB Ta-pu 1.48 229 P Pb 01 15 13.8 -0.2
baz=231
TPUB S **Sg** 01 15 34.7 +0.8
baz=231
WTCT Ta-ch'eng 1.49 254 *e*S Sg 01 15 35.8 +1.6
baz=270
STYT Tauyuan 1.49 222 *e*P Pn 01 15 13.4 +0.2
baz=223
STYT *e*S **Sb** 01 15 33.8 +0.7
baz=223
LONT Longtian 1.51 206 *e*P Pn 01 15 12.6 -0.9
baz=206
CHY Chiayi 1.51 240 *e*P Pg 01 15 15.8 +0.3
baz=240
CHY *e*S **Sg** 01 15 36.6 +1.5
baz=240
WTP Ta-pu 1.52 228 P Pb 01 15 15.2 +0.5
baz=229
WTP *e*S **Sg** 01 15 37.4 +1.9
baz=229
TWK Hsinying 1.60 231 P Pb 01 15 15.9 -0.1
baz=234
TWK *e*S **Sb** 01 15 36.6 +0.4
baz=234
TWG Pinlang 1.61 206 Pn 01 15 12.9 -1.9
TWG Pinlang 1.61 206 *e*P Pn 01 15 13.5 -1.4
baz=208
TWG *e*S **Sb** 01 15 36.9 +0.2
baz=208
TWGBT Beinan 1.61 206 *e*P Pn 01 15 13.1 -1.8
baz=191
WSF Szhu 1.61 247 *e*P Pn 01 15 15.4 +0.5
baz=257
WSF *e*S **Sg** 01 15 39.7 +1.3
baz=257
SNST Tainan City 1.62 230 *e*P Pg 01 15 17.1 -0.5
baz=233
SNST *e*S **Sg** 01 15 40.1 +1.5
baz=233
CHN1 Nanshi 1.62 228 *e*P Pb 01 15 16.6 +0.2
baz=231
CHN1 *e*S **Sb** 01 15 37.2 +0.3
baz=231
LDUT Ludao 1.63 192 *e*P Pn 01 15 13.2 -1.9
baz=180
LDUT *e*S **Sn** 01 15 35.0 -1.2
baz=180
SGST Jiashian 1.66 225 *e*P Pn 01 15 16.3 +0.8
baz=225
SGST *e*S **Sg** 01 15 39.9 +0.2
baz=225
WSL Shuilin Townsh 1.66 243 *e*P Pb 01 15 17.3 +0.3
baz=246
WSL *e*S **Sg** 01 15 41.0 +1.2
baz=246
ICHU Yijhu 1.70 238 *e*P Pb 01 15 17.5 -0.2
baz=225
ICHU *e*S **Sg** 01 15 40.9 -0.2
baz=225
IRIF Iriomote-Funau 1.72 88 P Pb 01 15 18.1 0.0
IRIF S **Sg** 01 15 41.3 -0.5
CHN8 Yiju 1.76 239 *e*P Pn 01 15 17.2 +0.4
baz=227
CHN8 *e*S **Sg** 01 15 43.7 +0.7
baz=227
HATJ Hateruma jima 1.80 97 S Sb 01 15 42.7 +0.6
SHHT Tainan City 1.86 228 *e*P Pb 01 15 21.2 +0.9
baz=233
SHHT *e*S **Sg** 01 15 48.9 +2.8
baz=233
SCST Cishan 1.86 222 *e*P Pb 01 15 20.4 0.0
baz=227
SCST *e*S **Sb** 01 15 44.9 +1.2
baz=227
ECL Taimali 1.86 206 *e*P Pn 01 15 18.4 +0.1
baz=194
SCLT Jiali 1.87 234 *e*S Sg 01 15 47.1 +0.6
baz=238
SSD Sandimen 1.89 216 P Pb 01 15 20.2 -0.7
baz=230
SSD S **Sb** 01 15 45.9 +1.4
baz=230
TSMG Majia 1.91 215 *e*P Pn 01 15 20.1 +1.1
baz=231
TSMG *e*S **Sb** 01 15 45.6 +0.4
baz=231
TWM1 Shoushan 1.95 222 *e*P Pn 01 15 20.0 +0.5
baz=224
JKRS Kuro-shima 1.98 91 P Pb 01 15 21.8 -0.6
JKRS *e*S **Sb** 01 15 47.0 -0.1
MASBT Mashibuluo 2.00 214 *e*P Pn 01 15 20.9 +0.8
baz=220
MASBT *e*S **Sb** 01 15 48.4 +0.7
baz=220
EAST Anshuo 2.10 206 *e*P Pb 01 15 23.7 -0.7
baz=195
JIJ Ishigaki jima 2.10 87 P Pn 01 15 22.5 +1.0
JIJ *e*S **Sn** 01 15 48.8 +1.1
TAW Tawu 2.10 205 *e*P Pn 01 15 22.2 +0.7
baz=194
TAWH Dawu Township 2.12 205 *e*P Pn 01 15 21.6 -0.2
baz=194
SSPT Xinbi 2.13 214 *e*P Pb 01 15 24.8 -0.3
baz=200
SCZT Fangliau 2.20 211 *e*P Pn 01 15 23.6 +0.6
baz=218
SCZT *e*S **Sn** 01 15 51.5 +1.2
baz=218
PNG Penghu 2.21 252 *e*P Pn 01 15 23.8 +0.7
baz=255
PNG *e*S **Sn** 01 15 51.5 +1.1
baz=255
PHUB P'eng-hu 2.21 250 *e*P Pn 01 15 23.4 +0.3
baz=254
PHUB *e*S **Sn** 01 15 51.6 +1.1
baz=254
LAY Lan-yu 2.24 187 *e*P Pn 01 15 21.8 -1.8
baz=188
WDGT Dungji 2.24 244 P Pn 01 15 24.6 +1.1
baz=248
WDGT S **Sn** 01 15 52.9 +1.7
baz=248
SLIU Shizi 2.26 205 *e*P Pn 01 15 25.3 +1.4
baz=198
JISG Ishigakijimahi 2.27 82 P Pn 01 15 24.6 +0.7
LYUB Lan-yu 2.28 186 *e*P Pn 01 15 21.4 -2.6
baz=176
LYUB *e*S **Sn** 01 15 49.3 -2.7
baz=176
VWUC VWUC 2.29 289 *e*P Pn 01 15 24.0 -0.2
baz=289
VCHM Qimei 2.46 245 *e*P Pn 01 15 27.1 +0.6
baz=247
HEN Hengchun 2.48 204 *e*P Pn 01 15 28.9 +2.1
baz=196
TWK1 Hengchun 2.51 203 *e*P Pn 01 15 27.4 +0.2
baz=193

TSEB	**Hengchuen, Pin**	**2.52 200**	*eP*		**Pn**	**01 15 28.2**	**+0.9**
	baz=192							
MATB	**Ma-tsu**	**2.54 318**	*eP*		**Pn**	**01 15 27.5**	**-0.1**
	baz=317							
JTJ	**Tarama**	**2.63 81**	P		**Pn**	**01 15 31.0**	**+2.2**
JTJ			S		**Sb**	**01 16 04.8**	**-1.1**
LYJJ	**Jianjiangzhen**	**2.95 321**	*eP*		**Pn**	**01 15 32.9**	**-0.3**
	baz=320							
QZH	**Quanzhou**	**3.04 283**	⇓*i*	Pn	**Pn**	**01 15 34.5**	**+0.1**
QZH				Sn	**Sn**	**01 16 09.0**	**-1.8**
QZH				smax	smax			
	comp=N,300nm,0.6s							
QZH				smax	smax			
	comp=E,170nm,0.4s							
QZH				LR	LR			
	comp=Z,940nm,9.7s							
XPSS	**Dashiqiu**	**3.04 331**	*eP*		**Pn**	**01 15 34.2**	**-0.3**
	baz=330							
KNM	**Kinmen**	**3.12 273**	*eP*		**Pn**	**01 15 37.5**	**+2.0**
	baz=273							
MHZQ	**Yeshan**	**3.13 306**	*eP*		**Pn**	**01 15 35.7**	**-0.1**
	baz=306							
KNMB	**Chin-men Tao**	**3.16 274**			**Pn**	**01 15 36.0**	**-0.1**
KNMB	**Chin-men Tao**	**3.16 274**	*eP*		**Pn**	**01 15 35.9**	**-0.2**
	baz=275							
JMJ2	**Miyako jima3**	**3.21 81**	P		**Pn**	**01 15 38.6**	**+1.8**
JMJ2			*eS*		**Sn**	**01 16 18.2**	**+3.2**
AXDP	**Jialang**	**3.58 281**	*eP*		**Pn**	**01 15 42.1**	**+0.1**
	baz=281							
ZPLA	**Ao Xicun**	**3.76 266**	*eP*		**Pn**	**01 15 44.3**	**-0.1**
	baz=265							
SXFK	**Yanhouchang**	**4.35 300**	*eP*		**Pn**	**01 15 52.8**	**+0.3**
	baz=300							
APYP	**Conner**	**6.41 185**⇑	*eP*		**Pn**	**01 16 22.1**	**+1.3**
APYP			*eS*		**Sn**	**01 17 33.7**	**-0.3**
NJ2	**Nanjing**	**8.18 342**	*eP*		**Pn**	**01 16 45.5**	**+0.3**
NJ2			S		**Sn**	**01 18 13.5**	**-4.2**
NJ2			pmax	pmax			
	comp=Z,9.0nm,0.5s							
NJ2			smax	smax				
	comp=N,56nm,0.4s							
NJ2			smax	smax				
	comp=E,67nm,0.6s							
NJ2			LR	LR				
	comp=N,630nm,7.1s							
NJ2			LR	LR				
	comp=E,420nm,7.6s							
NJ2			LR	LR				
	comp=Z,790nm,8.5s							
LYN	**LuoYang**	**13.09 324**	*eP*		**Pn**	**01 17 53.5**	**+1.1**
LYN			S		**Sn**	**01 20 27.0**	**+8.9**
LYN			LR	LR				
	comp=N,890nm,8.5s							
LYN			LR	LR				
	comp=E,420nm,9.3s							
LYN			LR	LR				
	comp=Z,920nm,10.1s							
KSRS	**Korea Array**	**14.13 20**	P		**P**	**01 18 12.5**	**-1.7**
	0.6nm,0.3s,baz=198,slow=12,SNR=7.3							
CMAR	**Chiang Mai Arr**	**22.09 250**	P		P	01 19 53.1	+11	
	1.1nm,0.7s,baz=57,slow=8.4,SNR=6.3							
GTA	**Gaotai**	**23.95 314**	*eP*		**P**	**01 20 01.5**	**+0.6**
GTA			pP		sP	01 20 07.3	+2.2	
GTA			sP		pP	01 20 10.3	+6.5	
GTA			pmax	pmax				
	comp=Z,4.0nm,1.1s							
KLR	**Kul'dur**	**26.09 15**	P		**P**	**01 20 18.7**	**-1.4**
	1.8nm,0.8s,baz=254,slow=6.2,SNR=4.4							
SONM	**Songino Array**	**26.52 336**	P		**P**	**01 20 24.1**	**0.0**
	2.6nm,0.6s,baz=153,slow=10.0,SNR=3.6							
SONM	**Songino Array**	**26.52 336**	P		**P**	**01 20 23.3**	**-0.9**
SONM			IAmb		IAmb	01 20 34.7		
	comp=Z,2.8nm,0.9s							
WMQ	**Urumqi**	**34.03 313**	*eP*		**P**	**01 21 33.0**	**+2.4**
MKAR	**Makanchi Array**	**38.69 316**	P		**P**	**01 22 10.2**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=104,slow=8.6,SNR=8.8							
MKAR			PcP		**PcP**	**01 24 21.5**	**-0.7**	
	comp=Z,0.3nm,0.7s,baz=110,slow=2.1,SNR=2.3							
MKAR	**Makanchi Array**	**38.69 316**	P		**P**	**01 22 09.6**	**-0.8**
ZALV	**Zalesovo Beam**	**40.50 327**	P		**P**	**01 22 23.9**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=125,slow=8.0,SNR=4.9							
ZALV	**Zalesovo Beam**	**40.50 327**	P		**P**	**01 22 24.0**	**-1.2**
KSH	**Kashi**	**41.36 303**	P		**P**	**01 22 33.0**	**+0.3**
KSH			pP		sP	01 22 39.0	+2.0	
KSH			PcP		**PcP**	**01 24 28.8**	**-2.2**
KSH			pmax	pmax				
	comp=Z,2.0nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**41.88 87**	T		T	02 07 51.0		
	baz=283,slow=75,SNR=8.0							
H11N2	**WAKE ISLAND Hy**	**41.88 87**	T		T	02 07 49.3		
	baz=283,slow=75,SNR=5.3							
H11N3	**WAKE ISLAND Hy**	**41.90 87**	T		T	02 07 49.8		
	baz=283,slow=75,SNR=5.0							
KURK	**Kurchatov**	**42.41 320**	P		**P**	**01 22 40.2**	**-0.7**
KURK			IAmb		IAmb	01 22 46.4		
	comp=Z,1.4nm,0.6s							
KURBB	**Kurchatov Arra**	**42.43 320**	P		**P**	**01 22 40.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=109,slow=10.0,SNR=4.5							
KBZ	**Khabaz**	**65.89 309**	P		**P**	**01 25 32.4**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=138,slow=0.9,SNR=5.7							
ILAR	**Eielson Array**	**68.86 27**	P		**P**	**01 25 49.6**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=299,slow=7.4,SNR=5.8							
ILAR	**Eielson Array**	**68.86 27**	P		**P**	**01 25 50.8**	**0.0**
FINES	**FINESS Array B**	**71.67 330**	P		**P**	**01 26 07.4**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=41,slow=5.5,SNR=10							
FINES	**FINESS Array B**	**71.67 330**	P		**P**	**01 26 07.5**	**-0.5**
AKASG	**Malin Array Be**	**73.20 318**	P		**P**	**01 26 16.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=68,slow=3.6,SNR=1.5							
AKASG	**Malin Array Be**	**73.20 318**	P		**P**	**01 26 16.6**	**-0.8**
AKASG			IAmb		IAmb	01 26 22.9		
	comp=Z,2.2nm,1.1s							
BRTR	**Keskin Array B**	**73.60 307**	P		**P**	**01 26 20.6**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=131,slow=6.7,SNR=5.4							
NOA	**NORSAR Array B**	**78.42 332**	P		**P**	**01 26 46.3**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=56,slow=5.9,SNR=2.5							
YKA	**Yellowknife Ar**	**82.65 23**	P		**P**	**01 27 08.4**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=312,slow=5.0,SNR=43							
YKA	**Yellowknife Ar**	**82.65 23**	P		**P**	**01 27 08.6**	**-1.0**

BJI ***28*** *01:17:11.0±0.0, 6.00S×155.00E, h136km, mb5.6/82, mB5.4/56*

NEIC ***28*** *01:17:12.3, 6.10S×155.00E, h118km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=1.33; $M_{\theta\theta}$1.00; $M_{\phi\phi}$0.33; $M_{r\theta}$-1.37; $M_{\theta\phi}$0.67; $M_{\theta r}$-1.17; Fault plane solution: $M_0$2.27000×10^{17} NP1:ϕ_s51.21000°, δ71.50000°, λ-94.89000°. NP2:ϕ_s246.31000°, δ19.11000°, λ-75.69000°. Principal axes: T 2.2958, Plg26.0000°, Azm145.0000°; N -0.0622, Plg5.0000°, Azm53.0000°; P -2.2337, Plg63.0000°, Azm314.0000°;*

IDC ***28*** *01:17:12.4±0.4, 6.09S×154.93E, h128km±3km, mb5.3/44, mb1 5.4/47, mb1mx5.3/56, mbtmp5.7/47, MS4.1/30, Ms1 4.1/30, ms1mx3.9/59 Error ellipse: s-maj=8.2km s-min=6.8km az=71.0*

NEIC ***28*** *01:17:12.6±1.3, 6.08S±0.07×155.01E±0.04, h122km±1km, mb5.6/416, Mwb5.5/16, Mww5.4, Error ellipse: s-maj=12.1km s-min=7.1km az=184.0*

MOS ***28*** *01:17:12.2±0.9, 5.99S×154.81E, h135km, mb5.6/61, Error ellipse: s-maj=7.5km s-min=4.8km az=105.8*

GCMT ***28*** *01:17:13.6±0.1, 6.18S±0.01×154.96E±0.01, h127km, MW5.4/143, Moment Tensor Solution. s143,c251; s139,c274; Duration: 1½2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.31±.02; $M_{\theta\theta}$0.36±.03; $M_{\phi\phi}$0.95±.03; $M_{r\theta}$-1.15±.02; $M_{\theta\phi}$0.08±.03; $M_{\theta r}$-0.68±.02; Best double couple: $M_0$1.69200×10^{17} NP1:ϕ_s190.00000°, δ24.00000°, λ-123.00000°. NP2:ϕ_s45.00000°, δ70.00000°, λ-77.00000°. Principal axes: T 1.3760, Plg24.0000°, Azm125.0000°; N 0.6290, Plg13.0000°, Azm221.0000°; P -2.0080, Plg62.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***28*** *01:17:13.9±0.4, 6.5S±2.1×155.5E±1.1, h149km±4km, M5.7/113, mB6.0/77, mb5.9/113, MLv6.1/4, Mw(mB)5.7/77, MwMwp5.2/6, Mwp5.4/6*

NEIC ***28*** *01:17:14, 6.08S×154.97E, h120km, Moment Tensor Solution. Duration: 3¾2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.12; $M_{\theta\theta}$0.18; $M_{\phi\phi}$0.94; $M_{r\theta}$-1.13; $M_{\theta\phi}$-0.00; $M_{\theta r}$-0.70; Fault plane solution: $M_0$1.69000×10^{17} NP1: ϕ_s176.00000°, δ25.00000°, λ-132.00000°. NP2: ϕ_s41.00000°, δ72.00000°, λ-72.00000°. Principal axes: T 1.3106, Plg25.0000°, Azm118.0000°; N 0.5912, Plg17.0000°, Azm216.0000°; P -1.9018, Plg59.0000°, Azm336.0000°;*

ISC 28 01:17:12.6±0.2, 6.09S±0.03×154.94E±0.03, h133km±1km, h133km:pP-P,n1598,σ1§28/1676,mb5.6/391,75C-216D, Fault plane solution: NP1:ϕ_s149.06535°, δ30.58278°, λ-129.25287°. NP2:ϕ_s12.57092°, δ66.79753°, λ-69.49686°. Principal axes: T Plg19.2783°, Azm87.3594°; N Plg18.7796°, Azm184.1899°; P Plg62.5398°, Azm315.0569°; **Fault plane solution: NP1:ϕ_s234.56546°, δ33.20648°, λ-74.84669°. NP2:** ϕ_s36.63002°, δ58.08803°, λ-99.70925°. **Principal axes:** T Plg12.5828°, Azm133.6484°; N Plg8.2307°, Azm41.7981°; P Plg74.8897°, Azm279.4061°;

Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.35**	**304**		**Pn**	**01 18 04.4**	**+0.5**
RABL				Sn	**Sn**	**01 18 44.7**	**+1.1**
RABL	**Rabaul**	**3.35**	**304**	P	**Pn**	**01 18 06.2**	**+2.3**
KRVT	**Keravat (AS076**	**3.40**	**301**	P	**Pn**	**01 18 05.1**	**+0.5**
	304nm,0.3s,baz=125,slow=2.1,SNR=107						
KRVT				S	**Sn**	**01 18 45.9**	**+1.1**
	433nm,0.3s,baz=314,slow=19,SNR=2.5						
HNR	**Honiara**	**5.96**	**124**	P	**Pn**	**01 18 38.5**	**-0.2**
	61nm,0.3s,baz=223,slow=3.4,SNR=36						
HNR	**Honiara**	**5.96**	**124**	P	**Pn**	**01 18 37.5**	**-1.2**
HNR	**Honiara**	**5.96**	**124**		**Pn**	**01 18 37.5**	**-1.2**
HNR	**Honiara**	**5.96**	**124**	P	**Pn**	**01 18 38.9**	**+0.2**
PMG	**Port Moresby**	**8.39**	**246**	P	**Pn**	**01 19 13.7**	**+2.5**
	55nm,0.3s,baz=57,slow=6.8,SNR=58						
PMG				S	**Sn**	**01 20 47.6**	**+3.2**
	baz=40,slow=6.2,SNR=1.5						
PMG	**Port Moresby**	**8.39**	**246**	P	**Pn**	**01 19 13.2**	**+1.9**
PMG	**Port Moresby**	**8.39**	**246**	Pn	**Pn**	**01 19 13.2**	**+1.9**
PMG	**Port Moresby**	**8.39**	**246**	P	**Pn**	**01 19 14.1**	**+2.8**
PMG	**Port Moresby**	**8.39**	**246**	P	**Pn**	**01 19 13.9**	**+2.6**
MANU	**Manus Island**	**8.56**	**298**		**Pn**	**01 19 13.7**	**0.0**
PATS	**Pohnpei**	**13.28**	**15**	P	**Pn**	**01 20 18.0**	**+2.0**
	baz=13,SNR=5.0						
PATS	**Pohnpei**	**13.28**	**15**	Pn	**Pn**	**01 20 16.2**	**+0.2**
PATS	**Pohnpei**	**13.28**	**15**	P	**Pn**	**01 20 16.6**	**+0.6**
COEN	**Coen**	**13.97**	**235**	P	**P**	**01 20 28.4**	**-0.3**
	baz=14,SNR=21						
COEN	**Coen**	**13.97**	**235**	Pn	**Pn**	**01 20 25.1**	**+0.2**
COEN	**Coen**	**13.97**	**235**	P	**P**	**01 20 28.3**	**-0.3**
GENI	**Genyem**	**15.14**	**283**	P	**Pn**	**01 20 40.3**	**+0.7**
	16µm353nm,0.9s						
GENI	**Genyem**	**15.14**	**283**	P	**P**	**01 20 41.1**	**-0.5**
MTSU	**Mount Surprise**	**15.84**	**220**	P	**P**	**01 20 51.8**	**+2.5**
	baz=16,SNR=43						
MTSU	**Mount Surprise**	**15.84**	**220**	P	**P**	**01 20 51.9**	**+2.5**
CTA	**Charters Tower**	**16.27**	**210**	P	**P**	**01 20 56.2**	**+2.0**
	3.5nm,0.3s,baz=28,slow=12,SNR=49						
CTA	**Charters Tower**	**16.27**	**210**	P	**P**	**01 20 56.8**	**+2.6**
CTAO	**Charters Tower**	**16.27**	**210**	P	**P**	**01 20 55.1**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,136nm,0.9s						
CTAO	**Charters Tower**	**16.27**	**210**	P	**P**	**01 20 55.1**	**+0.9**
SMPI	**Sarmi**	**16.70**	**283**	P	**P**	**01 21 00.1**	**+1.2**
	comp=Z,4µmcomp=Z,360nm,0.9s						
KOUNC	**Koumac, New Ca**	**16.99**	**149**	P	**Pn**	**01 21 02.7**	**+0.3**
KOUNC				IAmb	IAmb	01 21 07.8	
	comp=Z,230nm,0.7s						
KOUNC	**Koumac, New Ca**	**16.99**	**149**	P	**Pn**	**01 21 03.7**	**+1.3**
	comp=Z,360nm,1.0s						
DVP	**Devils Point**	**17.35**	**133**	P	**Pn**	**01 21 06.9**	**+0.2**
RTV	**Rentapao**	**17.57**	**133**	P	**Pn**	**01 21 09.3**	**0.0**
RK1H	**Rockhampton Ha**	**17.72**	**194**	P	**Pn**	**01 21 12.7**	**+1.6**
LIFNC	**LIFOU**	**18.85**	**142**	P	**P**	**01 21 22.8**	**+0.4**
LIFNC	**LIFOU**	**18.85**	**142**	P	**Pn**	**01 21 23.6**	**-0.9**
	comp=Z,2µm,1.3s						
NOUC	**Port Laguerre**	**19.33**	**147**	P	**P**	**01 21 28.8**	**+1.1**
DZM	**Mont Dzumac**	**19.39**	**146**	P	**P**	**01 21 29.4**	**+1.1**
	comp=Z,157nm,0.3s,baz=252,slow=10,SNR=940						
DZM				S	**S**	**01 24 59.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=290,slow=16,SNR=2.0						
DZM	**Mont Dzumac**	**19.39**	**146**	*eP*	**P**	**01 21 29.5**	**+1.1**
	comp=Z,3µm,1.1s						
DZM				*e*LR	LR	01 26 11.3	
	comp=Z,3µm,32.2s						
DZM	**Mont Dzumac**	**19.39**	**146**	P	**P**	**01 21 29.6**	**+1.2**
DZM	**Mont Dzumac**	**19.39**	**146**	P	**P**	**01 21 29.6**	**+1.2**
BAKI	**Biak**	**19.41**	**284**	P	**Pn**	**01 21 30.0**	**-1.2**
	comp=Z,6µmcomp=Z,558nm,1.2s						
EIDS	**Eidsvold**	**19.52**	**191**	P	**Pn**	**01 21 31.9**	**-0.4**
	baz=20,SNR=90						
EIDS	**Eidsvold**	**19.52**	**191**	P	**P**	**01 21 30.0**	**+0.3**
EIDS	**Eidsvold**	**19.52**	**191**	P	**Pn**	**01 21 31.9**	**-0.4**
ONTNC	**Ouen Toro**	**19.58**	**147**	P	**P**	**01 21 29.4**	**-0.9**
ONTNC	**Ouen Toro**	**19.58**	**147**	P	**P**	**01 21 31.0**	**+0.6**
	comp=Z,2µm,1.0s						
YATNC	**Mamie plateau,**	**19.63**	**145**	P	**P**	**01 21 31.4**	**+0.5**
	comp=Z,727nm,0.8s						
MARNC	**Mare, Loyalty**	**19.86**	**142**	P	**P**	**01 21 33.8**	**+0.4**
MARNC	**Mare, Loyalty**	**19.86**	**142**	P	**P**	**01 21 33.9**	**+0.5**
	comp=Z,19nm,0.6s						
OUENC	**Ouen Island, N**	**19.89**	**146**	P	**P**	**01 21 34.6**	**+1.0**
OUENC	**Ouen Island, N**	**19.89**	**146**	P	**P**	**01 21 34.4**	**+0.8**
	comp=Z,1µm,0.8s						
PINNC	**Pines Island,**	**20.38**	**145**	P	**P**	**01 21 39.3**	**+0.4**
PINNC				IAmb	IAmb	01 21 54.0	
	comp=Z,364nm,0.9s						
PINNC	**Pines Island,**	**20.38**	**145**	P	**P**	**01 21 40.0**	**+1.1**
	comp=Z,434nm,1.2s						
QIS	**Mount Isa**	**20.69**	**225**	P	**P**	**01 21 44.0**	**+1.6**
	baz=21,SNR=71						
QIS	**Mount Isa**	**20.69**	**225**	P	**P**	**01 21 44.2**	**+1.8**
RMQ	**Roma**	**21.12**	**196**	P	**P**	**01 21 48.9**	**+2.0**
	baz=21,SNR=117						
RMQ	**Roma**	**21.12**	**196**	P	**P**	**01 21 48.9**	**+2.0**
GUMO	**Guam**	**21.96**	**333**	P	**P**	**01 21 56.2**	**+0.3**
	comp=Z,373nm,0.8s,baz=180,slow=8.4,SNR=22						
GUMO	**Guam**	**21.96**	**333**	P	**P**	**01 21 55.6**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,497nm,0.9s						
GUMO	**Guam**	**21.96**	**333**	P	**P**	**01 21 55.6**	**-0.3**
GUMO	**Guam**	**21.96**	**333**	P	**P**	**01 21 56.6**	**+0.7**
	comp=Z,786nm,1.1s						
QLP	**Quilpie**	**22.79**	**205**	P	**P**	**01 22 05.1**	**+1.1**
	baz=23,SNR=27						
QLP	**Quilpie**	**22.79**	**205**	P	**P**	**01 22 05.8**	**+1.8**
FAKI	**Fak Fak**	**22.84**	**277**	P	**P**	**01 22 04.5**	**-0.1**
FAKI	**Fak Fak**	**22.84**	**277**	P	**P**	**01 22 05.0**	**+0.4**
KDU	**Kakadu**	**23.11**	**252**	P	**P**	**01 22 07.0**	**0.0**
	baz=23,SNR=285						
KDU	**Kakadu**	**23.11**	**252**	P	**P**	**01 22 07.8**	**+0.8**
SAUI	**Saumlaki**	**23.54**	**264**	P	**P**	**01 22 12.2**	**+1.2**
WR0	**Warramunga Arr**	**24.14**	**233**	P	**P**	**01 22 17.6**	**+1.1**
WB0	**Warramunga Arr**	**24.16**	**234**	P	**P**	**01 22 17.8**	**+1.1**
FUNA	**Funafuti**	**24.18**	**97**	P	**P**	**01 22 16.3**	**-0.5**
FUNA				IAmb	IAmb	01 22 45.6	
	comp=Z,361nm,1.2s						
FUNA	**Funafuti**	**24.18**	**97**	P	**P**	**01 22 16.8**	**0.0**
SIJI	**Sorong**	**24.19**	**281**	P	**P**	**01 22 17.1**	**+0.1**
	comp=Z,223nm,0.5s,baz=111,slow=1.7,SNR=68						
SWI	**Sorong**	**24.20**	**281**	P	**P**	**01 22 17.6**	**+0.6**
	comp=Z,3µmcomp=Z,6µmcomp=Z,649nm,0.7s						
WRAB	**Tennant Creek**	**24.28**	**234**	*ce*P	**P**	**01 22 18.8**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,522nm,1.3s						
WRAB	**Tennant Creek**	**24.28**	**234**	P	**P**	**01 22 15.9**	**-1.8**
WRAB	**Tennant Creek**	**24.28**	**234**	P	**P**	**01 22 18.9**	**+1.2**
WB2	**Warramunga Arr**	**24.29**	**234**	P	**P**	**01 22 19.0**	**+1.2**
WRA	**Warramunga Arr**	**24.30**	**234**	P	**P**	**01 22 18.6**	**+0.8**
	comp=Z,248nm,0.4s,baz=57,slow=10,SNR=380						
WRA				pP	**pP**	**01 22 46.0**	**+2.4**
	comp=Z,270nm,1.0s,baz=59,slow=9.5,SNR=6.8						
WRA				PcP	**PcP**	**01 25 54.8**	**+0.3**
	comp=Z,21nm,0.8s,baz=52,slow=2.7,SNR=5.0						
WRA				S	**S**	**01 26 22.8**	**-4.7**
	comp=Z,15nm,0.9s,baz=52,slow=16,SNR=3.7						
WRA				ScP	**ScP**	**01 29 21.7**	**+0.7**
	comp=Z,11nm,0.9s,baz=53,slow=2.8,SNR=4.8						
WRA				LR	LR	01 31 56.6	
	comp=Z,518nm,18.6s,baz=355,slow=36						
WRA				PKiKP	**PKiKP**	**01 33 34.9**	**-2.1**
	comp=Z,1.0nm,0.7s,baz=335,slow=0.9,SNR=6.0						
WRA				P3KPbc		01 55 28.7	
	comp=Z,1.3nm,1.0s,baz=224,slow=2.6,SNR=4.9						
WRA	**Warramunga Arr**	**24.30**	**234**	P	**P**	**01 22 19.2**	**+1.4**
WRA				pmax	pmax		
	comp=Z,42nm,0.8s						
WRA	**Warramunga Arr**	**24.30**	**234**	P	**P**	**01 22 19.2**	**+1.4**
ARMA	**Armidale**	**24.40**	**187**	P	**P**	**01 22 20.4**	**+1.6**
	baz=25,SNR=113						
ARMA	**Armidale**	**24.40**	**187**	P	**P**	**01 22 20.3**	**+1.6**
ARMA				IAmb	IAmb	01 22 21.4	
	comp=Z,208nm,0.8s						
ARMA	**Armidale**	**24.40**	**187**	P	**P**	**01 22 20.1**	**+1.3**
MTN	**Manton Dam**	**24.41**	**252**	P	**P**	**01 22 19.6**	**+0.7**
	baz=24,SNR=65						
MTN	**Manton Dam**	**24.41**	**252**	P	**P**	**01 22 19.7**	**+0.8**
MTN				IAmb	IAmb	01 22 21.3	
	comp=Z,255nm,0.8s						
MTN	**Manton Dam**	**24.41**	**252**	P	**P**	**01 22 19.8**	**+0.8**
MTN	**Manton Dam**	**24.41**	**252**	P	**P**	**01 22 20.0**	**+1.1**
BNDI	**Bandanaira**	**24.98**	**272**	P	**P**	**01 22 26.0**	**+1.9**
MSVF	**Nonsavu**	**25.36**	**119**	P	**P**	**01 22 28.0**	**+0.4**
	comp=Z,18nm,0.7s,baz=270,slow=10.0,SNR=11						
MSVF				ScP	**ScP**	**01 29 24.3**	**+0.3**
	comp=Z,14nm,0.8s,baz=198,slow=20,SNR=6.0						
MSVF				LR	LR	01 32 07.8	
	comp=Z,321nm,19.1s,baz=55,slow=35						
MSVF	**Nonsavu**	**25.36**	**119**	P	**P**	**01 22 25.9**	**-1.7**
MSVF				pmax	pmax		
	comp=Z,42nm,1.0s						
MSVF	**Nonsavu**	**25.36**	**119**	P	**P**	**01 22 25.9**	**-1.7**
MSVF	**Nonsavu**	**25.36**	**119**	P	**P**	**01 22 26.2**	**-1.4**
INKA	**Innaminka**	**25.41**	**210**	P	**P**	**01 22 28.6**	**+0.8**
LHI	**Lord Howe Isla**	**25.59**	**172**	P	**P**	**01 22 30.3**	**+0.9**
	baz=26,SNR=3.9						
LHI	**Lord Howe Isla**	**25.59**	**172**	P	**P**	**01 22 30.2**	**+0.8**
LHI				IAmb	IAmb	01 22 31.0	
	comp=Z,273nm,0.8s						
LHI	**Lord Howe Isla**	**25.59**	**172**	P	**P**	**01 22 30.7**	**+1.3**
NFK	**Norfolk Island**	**25.92**	**153**	P	**P**	**01 22 33.0**	**+0.5**
	baz=26,SNR=3.9						
MSAI	**Masohi**	**26.07**	**275**	P	**P**	**01 22 34.0**	**0.0**
	comp=Z,732nmcomp=Z,32nm,0.6s						
AS31	**Alice Springs**	**26.74**	**227**	P	**P**	**01 22 40.6**	**+0.7**
ASAR	**Alice Springs**	**26.74**	**227**	P	**P**	**01 22 40.0**	**+0.1**
	comp=Z,32nm,0.5s,baz=57,slow=9.0,SNR=180						
ASAR				PcP	**PcP**	**01 26 00.3**	**+0.3**
	comp=Z,27nm,0.7s,baz=57,slow=2.7,SNR=8.2						
ASAR				S	**S**	**01 27 02.7**	**-3.3**
	comp=Z,9.1nm,0.9s,baz=59,slow=12,SNR=2.1						
ASAR				ScP	**ScP**	**01 29 29.1**	**+1.1**
	comp=Z,9.2nm,0.9s,baz=64,slow=2.4,SNR=5.5						
ASAR				LR	LR	01 32 39.6	
	comp=Z,692nm,19.0s,baz=46,slow=35						
ASAR				ScS	**ScS**	**01 33 18.5**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=72,slow=3.0,SNR=4.1						
ASAR				P3KPbc		01 55 19.0	
	comp=Z,1.5nm,0.9s,baz=224,slow=3.8,SNR=9.1						
ASAR	**Alice Springs**	**26.74**	**227**	P	**P**	**01 22 40.5**	**+0.6**
AAI	**Ambon**	**26.76**	**274**	P	**P**	**01 22 42.1**	**+1.9**
	comp=Z,3µmcomp=Z,256nm,0.8s						
CMSA	**Cobar Meteorol**	**26.76**	**198**	P	**P**	**01 22 40.9**	**+0.9**
	baz=27,SNR=52						
CMSA	**Cobar Meteorol**	**26.76**	**198**	P	**P**	**01 22 41.0**	**+1.1**
NTLH	**Newcastle Hard**	**26.84**	**186**	P	**P**	**01 22 42.2**	**+1.6**
H11S3	**WAKE ISLAND Hy**	**27.04**	**25**	T	T	01 51 29.2	
	baz=208,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**27.04**	**25**	T	T	01 51 31.5	
	baz=208,slow=76,SNR=420						
H11S1	**WAKE ISLAND Hy**	**27.06**	**25**	T	T	01 51 30.3	
	baz=208,slow=76,SNR=208						
MGCD	**Mangrove Creek**	**27.22**	**187**	P	**P**	**01 22 45.5**	**+1.5**
	baz=27,SNR=37						
MGCD	**Mangrove Creek**	**27.22**	**187**	P	**P**	**01 22 45.7**	**+1.7**
KNRA	**Kununurra**	**27.38**	**248**	P	**P**	**01 22 46.2**	**+0.4**
	baz=28,SNR=24						
KNRA	**Kununurra**	**27.38**	**248**	P	**P**	**01 22 46.4**	**+0.6**
KNRA				IAmb	IAmb	01 22 47.2	
	comp=Z,104nm,1.0s						
KNRA	**Kununurra**	**27.38**	**248**	P	**P**	**01 22 46.3**	**+0.6**
SYDH	**Sydney Hard Ro**	**27.81**	**188**	P	**P**	**01 22 50.8**	**+1.6**
RIV	**Riverview**	**27.82**	**187**	P	**P**	**01 22 50.9**	**+1.5**
	baz=28,SNR=6.3						
LBMI	**Labuha**	**27.92**	**280**	P	**P**	**01 22 52.4**	**+1.9**
	comp=Z,12µmcomp=Z,1µm,1.0s						
OOD	**Oodnadatta**	**28.29**	**218**	P	**P**	**01 22 54.1**	**+0.5**
TNTI	**Ternate**	**28.36**	**283**

GTOI Gorontalo 32.57 281 P P 01 23 33.0 +1.4
comp=Z,5µmcomp=Z,684nm,0.8s
ARPS Mount Arapiles 32.80 200 P P 01 23 34.7 +1.4
baz=33,SNR=30
ARPS Mount Arapiles 32.80 200 P P 01 23 34.5 +1.2
BUKP Musuan 32.88 295⇓*i* P P 01 23 44.6 +10
BRAT Ballarat 32.88 196 P P 01 23 35.6 +1.7
MRSI Marisa 33.59 280 P P 01 23 39.7 -0.7
comp=Z,3µmcomp=Z,407nm,1.0s
APSI Ampana 33.62 278 P P 01 23 41.9 +1.2
comp=Z,7µmcomp=Z,689nm,1.1s
AFI Afiamalu 33.65 106 P P 01 23 39.9 -1.1
comp=Z,52nm,0.8s,baz=87,slow=22,SNR=3.9
AFI Afiamalu 33.65 106 P P 01 23 39.9 -1.1
AFI IAmb IAmb 01 23 41.4
comp=Z,77nm,1.1s
AFI Afiamalu 33.65 106 P P 01 23 39.8 -1.2
AFI pP pP 01 24 07.8 -2.0
OUZ Omahuta 33.70 152 P P 01 23 42.0 +0.9
OUZ IAmb IAmb 01 23 43.9
comp=Z,161nm,0.9s
MSLP Maasin 34.03 298⇑*i* P P 01 23 44.8 +0.6
BASI Baing, Sumba 34.25 261 P P 01 23 46.9 +0.8
comp=Z,1µm,1.0s
BSSI Bau Bau, Buton 34.25 268 P P 01 23 46.6 +0.4
comp=Z,2µmcomp=Z,112nm,1.2s
PAGZ Pagadian 34.39 293⇓*eP* P 01 23 48.3 +1.0
BKSI Bulukumba 34.65 269 P P 01 23 49.4 -0.2
comp=Z,703nmcomp=Z,64nm,0.9s
TBP Tagbilaran 34.71 297 *eP* P 01 23 37.0 -13
BNSI Bone 34.73 271 P P 01 23 50.9 +0.7
comp=Z,2µmcomp=Z,100nm,0.7s
TOLI2 Tolitoli 34.85 281 P P 01 23 50.9 -0.4
TOLI2 Tolitoli 34.85 281 P P 01 23 50.9 -0.4
KAPI Kappang 35.04 270 P P 01 23 53.3 +0.4
comp=Z,60nm,0.6s,baz=105,slow=3.5,SNR=52
KAPI S S 01 29 12.4 -3.2
comp=Z,0.9nm,0.3s,baz=108,slow=22,SNR=0.9
KAPI ScP ScP 01 29 55.4 -0.2
comp=Z,22nm,1.0s,baz=160,slow=5.4,SNR=6.9
KAPI Kappang 35.04 270*d i* P P 01 23 53.3 +0.4
KAPI pmax pmax
comp=Z,89nm,0.8s
KAPI Kappang 35.04 270 P P 01 23 53.3 +0.4
KAPI IAmb IAmb 01 23 56.0
comp=Z,228nm,1.4s
KAPI ScP ScP 01 29 55.4 -0.2
KAPI Kappang 35.04 270 P P 01 23 53.4 +0.4
KAPI Kappang 35.04 270 ⇓P P 01 23 53.5 +0.5
KAPI pP pwP 01 24 26.6 -1.6
KAPI sP sP 01 24 39.6 +5.0
KAPI ScP ScP 01 29 55.3 -0.3
SPSI Sidrap Palu 35.10 272 P P 01 23 53.0 -0.4
comp=Z,1µmcomp=Z,102nm,0.9s
TTSI Tana Toraja 35.14 273 P P 01 23 56.2 +2.4
comp=Z,2µmcomp=Z,114nm,1.0s
FORT Forrest 35.21 222 P P 01 23 54.4 +0.2
baz=35,SNR=41
FORT Forrest 35.21 222 P P 01 23 54.3 +0.1
FORT Forrest 35.21 222 P P 01 23 54.5 +0.3
GLAD Gladstone 35.29 189 P P 01 23 56.6 +1.9
WBSI Waikabubak, Su 35.38 262 P P 01 23 55.6 -0.3
comp=Z,6µmcomp=Z,684nm,0.8s
MPSI Mapaga 35.56 279 P P 01 23 56.8 -0.6
comp=Z,9µmcomp=Z,1µm,0.9s
CNOP Candoni, Negro 35.86 296⇓*eP* P 01 23 59.6 -0.3
CORO Coronation Par 35.89 190 P P 01 24 02.4 +2.6
RCP Roxas 36.52 299⇓*eP* P 01 24 05.9 +0.4
MOO Moorlands 36.85 190 P P 01 24 09.1 +1.2
baz=37,SNR=3.8
PLAI Plampang 36.94 263 P P 01 24 07.8 -1.3
comp=Z,5µmcomp=Z,556nm,0.7s
PLAI Plampang 36.94 263 P P 01 24 08.1 -1.0
HIZ Hauiti 36.98 154 P P 01 24 09.6 +0.5
MBWA Marble Bar 37.23 243 P P 01 24 11.6 +0.1
MBWA IAmb IAmb 01 24 12.3
comp=Z,99nm,0.8s
MBWA Marble Bar 37.23 243 ⇓P P 01 24 11.3 -0.2
MBWA X 01 24 33.1
PSA00 Pilbara Seismi 37.27 242 P P 01 24 11.8 0.0
TAU Tasmania Unive 37.28 189 P P 01 24 13.1 +1.5
TAU pmax pmax
comp=Z,104nm,1.0s
TAU Tasmania Unive 37.28 189 P P 01 24 13.1 +1.5
TAU IAmb IAmb 01 24 14.5
comp=Z,104nm,1.0s
TAU Tasmania Unive 37.28 189 P P 01 24 13.9 +2.3
TAU Tasmania Unive 37.28 189 P P 01 24 13.5 +1.9
TAU pP pwP 01 24 43.2 -3.1
TAU pwP sP 01 24 49.7 -4.0
SGKI Sangatta, Kali 37.67 277 P P 01 24 18.7 +3.4
comp=Z,8µmcomp=Z,905nm,1.0s
URZ Urewera 37.81 151 P P 01 24 16.6 +0.4
comp=Z,82nm,0.4s,baz=253,slow=8.6,SNR=86
URZ S S 01 29 53.5 -3.8
comp=Z,13nm,0.9s,baz=129,slow=9.7,SNR=3.2
URZ Urewera 37.81 151 P P 01 24 16.9 +0.7
URZ Urewera 37.81 151 P P 01 24 17.2 +1.1
MXZ Matakaoa Point 37.87 149 P P 01 24 17.4 +0.8
MXZ IAmb IAmb 01 24 18.9
comp=Z,66nm,0.6s
QRZ Quartz Range 38.00 158 P P 01 24 17.9 +0.3
QRZ Quartz Range 38.00 158 P P 01 24 19.6 +1.9
MYLDM Lahad Datu 38.07 286 P P 01 24 20.0 +1.4
SMKI Samarinda 38.07 277 P P 01 24 20.7 +2.0
comp=Z,9µmcomp=Z,728nm,1.0s
BKZ Black Stump Fm 38.25 153 P P 01 24 20.6 +0.8
BKZ Black Stump Fm 38.25 153 P P 01 24 20.6 +0.8
NNZ Nelson 38.66 158 P P 01 24 23.9 +0.8
NNZ IAmb IAmb 01 24 26.8
comp=Z,117nm,0.9s
THZ Tophouse 38.95 158 P P 01 24 26.4 +0.7
TUWZ Tuamarina 39.05 157 P P 01 24 27.6 +1.1
SNZO South Karori 39.25 156 P P 01 24 28.1 0.0
SNZO South Karori 39.25 156 P P 01 24 28.5 +0.5
SNZO South Karori 39.25 156 P P 01 24 28.6 +0.5
SNZO ScP S 01 30 18.0 -0.8
TGY Tagaytay City 39.26 301 P P 01 24 28.6 +0.1
comp=Z,202nm,0.4s,baz=107,slow=2.1,SNR=7.3
BSWZ Blackbirch Sta 39.27 157 P P 01 24 29.2 +0.9
BFZ Birch Farm 39.37 154 P P 01 24 28.6 -0.5
BFZ Birch Farm 39.37 154 P P 01 24 29.5 +0.4
PPR Puerto Princes 39.37 293⇓*iP* P 01 24 31.0 +1.5
BHW Baring Head 39.40 156 P P 01 24 29.6 +0.2
CMWZ Cape Campbell 39.43 157 P P 01 24 30.4 +0.8
SRBI Singaraja 39.47 265 P P 01 24 29.9 -0.4
comp=Z,2µmcomp=Z,82nm,1.1s
DNP Denpasar 39.48 264 P P 01 24 31.7 +1.3
comp=Z,23µmcomp=Z,740nm,1.1s
FOZ Fox Glacier 39.52 163 P P 01 24 31.2 +1.0
FOZ IAmb IAmb 01 24 34.2
comp=Z,138nm,1.0s
IGBI Denpasar 39.54 264 P P 01 24 30.0 -0.9
comp=Z,7µmcomp=Z,434nm,0.5s
MSWZ Moikau Station 39.56 156 P P 01 24 31.0 +0.3
LTZ Lake Taylor 39.62 160 P P 01 24 31.9 +0.6
PLWZ Palliser 39.69 156 P P 01 24 32.0 +0.1
KHZ Kahutara 39.75 158 P P 01 24 32.4 +0.2
KHZ Kahutara 39.75 158 P P 01 24 32.5 +0.2
OXZ Oxford 40.03 161 P P 01 24 34.6 +0.1
BBKI Banjar Baru 40.04 272 P P 01 24 36.2 +1.1
comp=Z,206nm,0.7s
RPZ Rata Peaks 40.06 162 P P 01 24 35.2 +0.4
comp=Z,227nm,0.8s,baz=276,slow=0.8,SNR=120
RPZ S S 01 30 27.4 -3.4
comp=Z,5.0nm,0.7s,baz=164,slow=23,SNR=1.7
RPZ LR LR 01 39 56.4
comp=Z,659nm,19.6s,baz=329,slow=34
RPZ Rata Peaks 40.06 162 P P 01 24 35.0 +0.2
MEEK Meekatharra 40.17 235 P P 01 24 36.3 +0.2
baz=40,SNR=64
MEEK Meekatharra 40.17 235 P P 01 24 36.4 +0.4
MTKI Muara Teweh, K 40.28 276 P P 01 24 37.6 +0.5
comp=Z,304nm,0.9s
LBZ Lake Benmore 40.41 163 P P 01 24 37.9 +0.2
LBZ IAmb IAmb 01 24 39.9
comp=Z,171nm,1.1s
ABJI Asem Bagus 40.44 265 P P 01 24 38.0 -0.3
comp=Z,84nm,0.6s
WKZ Wanaka 40.49 165 P P 01 24 38.7 +0.3
WKZ IAmb IAmb 01 24 41.8
comp=Z,73nm,0.9s
JAGI Jajag, Banyuwa 40.52 264 P P 01 24 37.4 -1.6
JAGI Jajag, Banyuwa 40.52 264 P P 01 24 37.4 -1.6
comp=Z,4µmcomp=Z,332nm,0.8s
JAGI Jajag, Banyuwa 40.52 264 P P 01 24 37.3 -1.6
MQZ McQueen's Vall 40.57 160 P P 01 24 39.5 +0.6
MQZ IAmb IAmb 01 24 39.9
comp=Z,110nm,0.9s
DCZ Deep Cove 40.63 167 P P 01 24 39.8 +0.4
KMMI Kalianget 40.71 266 P P 01 24 41.4 +0.8
comp=Z,109nm,1.5s
MLZ Mavora Lakes 40.77 166 P P 01 24 40.8 +0.2
MLZ IAmb IAmb 01 24 42.3
comp=Z,202nm,1.0s
BLJI Banyuglugur 41.07 265 P P 01 24 42.7 -0.8
comp=Z,999nmcomp=Z,72nm,0.6s
ODZ Otahua Downs 41.15 163 P P 01 24 44.2 +0.5
ODZ IAmb IAmb 01 24 45.0
comp=Z,141nm,1.5s
WHZ Wether Hill Ro 41.22 166 P P 01 24 44.2 0.0
JOW Kunigami 41.70 323 P P 01 24 49.4 +1.0
comp=Z,128nm,0.8s,baz=158,slow=7.7,SNR=11
JOW Kunigami 41.70 323 P P 01 24 49.0 +0.6
JOW Kunigami 41.70 323 P P 01 24 49.9 +1.5
GIRL Giralia 42.55 243 P P 01 24 55.5 +0.1
baz=43,SNR=8.4
GIRL Giralia 42.55 243 P P 01 24 56.5 +1.1
GIRL Giralia 42.55 243 P P 01 24 56.8 +1.4
PWJI Pagerwojo 42.84 265 P P 01 24 57.0 -0.9
comp=Z,4µmcomp=Z,383nm,0.8s
KLBR Kellerberrin 43.03 229 P P 01 24 58.9 -0.3
baz=43,SNR=47
KLBR Kellerberrin 43.03 229 P P 01 24 59.0 -0.2
MORW Morawa 43.24 233 P P 01 25 00.7 -0.3
baz=43,SNR=29
MORW Morawa 43.24 233 P P 01 25 01.1 +0.2
MORW IAmb IAmb 01 25 01.8
comp=Z,82nm,0.9s
MORW Morawa 43.24 233 P P 01 25 00.7 -0.3
PBKI Pangkalan Bun 43.27 273 P P 01 25 03.3 +2.0
comp=Z,18µmcomp=Z,14µmcomp=Z,2µm,1.0s
MIDW Midway 43.32 37 P P 01 25 01.7 +0.2
MIDW Midway 43.32 37 P P 01 25 03.8 +2.3
MIDW Midway 43.32 37 P P 01 25 03.6 +2.1
BLDU Ballidu 43.38 231 P P 01 25 01.8 -0.2
baz=44,SNR=18
BLDU Ballidu 43.38 231 P P 01 25 02.1 +0.1
PCJI Pacitan 43.46 265 P P 01 25 02.7 -0.2
comp=Z,8µmcomp=Z,733nm,1.1s
YOJ Yonaguni jima 43.48 316 P P 01 25 03.4 +0.6
YOJ pmax pmax
comp=Z,192nm,0.8s
YOJ Yonaguni jima 43.48 316 P P 01 25 03.4 +0.6
YOJ Yonaguni jima 43.48 316 P P 01 25 03.8 +1.0
SBUM Sibu 43.50 280 P P 01 25 03.8 +0.6
SBUM IAmb IAmb 01 25 05.9
comp=Z,126nm,1.0s
STKI Simang 43.81 276 P P 01 25 06.9 +1.2
comp=Z,14µmcomp=Z,288nm,0.9s
TWG Pinlang 43.85 312 P P 01 25 06.2 +0.4
TWG IAmb IAmb 01 25 08.4
comp=Z,82nm,1.0s
YULB Yu-li 44.03 313 P P 01 25 07.7 +0.4
NWAO Narrogin (SRO) 44.05 228 P P 01 25 07.2 -0.2
NWAO pmax pmax
comp=Z,51nm,1.0s
NWAO Narrogin (SRO) 44.05 228 P P 01 25 07.2 -0.2
NWAO Narrogin (SRO) 44.05 228 P P 01 25 07.4 0.0
NWAO pP pP 01 25 38.2 +2.7
JSU Suzuyama 44.10 329 P P 01 25 07.5 -0.2
JSU IAmb IAmb 01 25 09.2
comp=Z,76nm,0.9s
UGM Wanagama 44.11 265 P P 01 25 08.7 +0.6
UGM Wanagama 44.11 265 P P 01 25 08.4 +0.3
comp=Z,4µmcomp=Z,280nm,1.0s
UGM Wanagama 44.11 265 P P 01 25 08.2 +0.1
SMRI Semarang 44.21 266 P P 01 25 09.0 +0.1
SMRI Semarang 44.21 266 P P 01 25 09.4 +0.5
comp=Z,6µmcomp=Z,394nm,1.0s
SMRI Semarang 44.21 266 P P 01 25 09.8 +0.9
NACB Ninganchiao 44.30 314 P P 01 25 09.3 0.0
JYT Yasato 44.31 343 P P 01 25 09.9 +0.6
YOGI Yogyakarta 44.34 265 P P 01 25 10.4 +0.5
comp=Z,9µmcomp=Z,542nm,0.8s
MUN Mundaring 44.37 229 P P 01 25 10.2 +0.2
baz=44,SNR=15
MUN Mundaring 44.37 229 P P 01 25 10.6 +0.7
SSLB Suanglung 44.52 313 P P 01 25 11.8 +0.6
SSLB Suanglung 44.52 313 P P 01 25 12.0 +0.8
INU Inuyama 44.54 339 P P 01 25 11.7 +0.6
INU Inuyama 44.54 339 P P 01 25 11.8 +0.6
INU Inuyama 44.54 339 P P 01 25 11.2 0.0
JGF Kuroka 44.65 339 P P 01 25 12.3 +0.2
YHNB Yeheng 44.76 314 P P 01 25 12.8 -0.3
YHNB Yeheng 44.76 314 P P 01 25 14.6 +1.5
TATO Tatei 44.87 315 P P 01 25 14.5 +0.6
RKGY Rocky Gully 45.07 226 P P 01 25 16.6 +1.1
baz=45,SNR=21
RKGY Rocky Gully 45.07 226 P P 01 25 16.5 +1.1
KSM Kuching 45.19 278 P P 01 25 17.1 +0.5
KSM Kuching 45.19 278 P P 01 25 17.2 +0.5
JNU Nakatsue 45.20 331 P P 01 25 16.4 -0.1
comp=Z,127nm,0.7s,baz=171,slow=1.1,SNR=38
JNU Nakatsue 45.20 331 P P 01 25 16.7 +0.3
JNU Nakatsue 45.20 331 P P 01 25 17.1 +0.7
MJAR Matsushiro Arr 45.22 341 P P 01 25 16.3 -0.2
comp=Z,48nm,0.7s,baz=160,slow=9.2,SNR=61
MJAR LR LR 01 40 49.9
comp=Z,120nm,20.0s,baz=167,slow=31
MJAR Matsushiro Arr 45.22 341 P P 01 25 16.3 -0.2
MAJO Matsushiro 45.22 341 P P 01 25 16.3 -0.2
MAJO pmax pmax
comp=Z,68nm,0.7s
MAJO Matsushiro 45.22 341 P P 01 25 16.3 -0.2
MAJO IAmb IAmb 01 25 17.7
comp=Z,68nm,0.7s
MAJO Matsushiro 45.22 341 P P 01 25 16.9 +0.4
MAJO Matsushiro 45.22 341 P P 01 25 16.9 +0.4
MJB9 Matsu-Tunnel 45.22 341 P P 01 25 16.4 -0.1
MJB9 IAmb IAmb 01 25 17.7
comp=Z,67nm,0.7s
JMM Marumori 45.68 344 P P 01 25 20.6 +0.6
JMM IAmb IAmb 01 25 21.9
comp=Z,266nm,1.4s
JHS Saijyo 45.76 335 P P 01 25 21.2 +0.4
JHS IAmb IAmb 01 25 22.3
comp=Z,118nm,1.1s
CMJI Cimerak 46.17 265 P P 01 25 23.7 -0.6
comp=Z,4µmcomp=Z,488nm,1.0s
RAR Rarotonga 46.31 114 LR LR 01 41 27.9
comp=Z,426nm,20.8s,baz=280,slow=31
JCJI Jatiwangi 46.38 267 P P 01 25 26.4 +0.4
comp=Z,15µmcomp=Z,1µm,0.9s
JSD Sado 46.57 342 P P 01 25 27.8 +0.8
JSD IAmb IAmb 01 25 29.2
comp=Z,142nm,1.2s
KNMB Chin-men Tao 46.80 312 P P 01 25 30.2 +1.1
KNMB IAmb IAmb 01 25 32.7
comp=Z,133nm,0.8s
QZH Quanzhou 46.93 313⇓*iP* P 01 25 31.0 +0.9
QZH S S 01 32 11.3 0.0
QZH pmax pmax
comp=Z,160nm,0.8s
QZH LR LR
comp=Z,370nm,31.3s
TPI Tanjungpandan 47.25 272 P P 01 25 33.3 +0.5
comp=Z,2µmcomp=Z,238nm,1.0s
CNJI Cibinong 47.49 266 P P 01 25 33.8 -0.8
comp=Z,25µmcomp=Z,3µm,1.0s
CBJI Citeko 47.79 267 P P 01 25 35.9 -1.1
comp=Z,12µmcomp=Z,473nm,0.9s
DBJI Dramaga 47.89 267 P P 01 25 37.0 -0.7
comp=Z,326nm,1.0s
SKJI Sukabumi 48.06 266 P P 01 25 38.2 -0.9
comp=Z,10µmcomp=Z,1µm,0.6s
XMAS Kiritimati 48.22 82 P P 01 25 41.8 +1.5
XMAS ScP ScP 01 30 46.3 -1.6
JTM Tenmabayashi 48.36 346 P P 01 25 41.7 +0.8
JTM IAmb IAmb 01 25 42.7
comp=Z,112nm,0.7s
PPBI Pangkal Pinang 48.82 272 P P 01 25 45.0 +0.1
comp=Z,242nm,0.8s
HKPS Hong Kong Po S 48.89 307 P P 01 25 46.2 +1.0
HKPS IAmb IAmb 01 25 47.9
comp=Z,98nm,0.8s
XMI Christmas Isla 48.90 261 P P 01 25 46.5 +1.1
XMIS Christmas Isla 48.93 261 P P 01 25 46.2 +0.5
XMIS Christmas Isla 48.93 261 P P 01 25 46.7 +1.0
ERM Erimo 49.07 348 *i* P P 01 25 47.4 +1.2
ERM pmax pmax
comp=Z,71nm,1.9s
ERM Erimo 49.07 348 P P 01 25 47.4 +1.2
BLSI Bandar Lampung 49.44 268 P P 01 25 49.5 -0.1
comp=Z,161nm,0.5s
TJN Taejon 49.53 331 P P 01 25 50.4 +0.6
TJN pmax pmax
comp=Z,526nm,0.8s
TJN Taejon 49.53 331 P P 01 25 50.4 +0.6
TJN Taejon 49.53 331 P P 01 25 50.5 +0.6
KLI Kotabumi 49.86 269 P P 01 25 52.4 -0.4
comp=Z,242nm,1.4s
KSRS Korea Array 50.12 332 P P 01 25 54.5 +0.2
comp=Z,45nm,0.8s,baz=147,slow=7.6,SNR=92
KSAR Wonju Array Be 50.13 332 P P 01 25 54.9 +0.5
KSAR Wonju Array Be 50.13 332 P P 01 25 54.9 +0.5
KASI Kota Agung 50.18 268 P P 01 25 52.7 -2.4
comp=Z,5µmcomp=Z,666nm,1.1s
KS19 Wonju Array Si 50.19 332 P P 01 25 54.9 +0.1
KS19 IAmb IAmb 01 25 56.1
comp=Z,69nm,0.9s
JEW Eniwo 50.22 347 P P 01 25 56.0 +1.1
DSRI Dabo 50.57 274 P P 01 25 57.9 -0.2
comp=Z,2µmcomp=Z,208nm,1.1s
LWLI Liwa 50.64 269 P P 01 25 57.4 -1.4
comp=Z,821nm,0.9s
INCN Inchon 50.76 331 P P 01 26 00.1 +1.0
INCN pmax pmax
comp=Z,202nm,0.8s
INCN Inchon 50.76 331 P P 01 26 00.1 +1.0
INCN Inchon 50.76 331 P P 01 26 00.2 +1.1
INCN Inchon 50.76 331 P P 01 25 59.9 +0.7
INCN pP pP 01 26 29.3 -0.4
INCN sP sP 01 26 42.5 -1.8
TPRI Tanjung Pinang 50.81 276 P P 01 26 00.5 +0.6
comp=Z,185nm,1.1s
QIZ Qiongzhong 50.96 300 P P 01 26 01.8 +0.9
QIZ IAmb IAmb 01 26 03.4
comp=Z,128nm,0.9s
QIZ Qiongzhong 50.96 300 P P 01 26 02.3 +1.4
QIZ sP sP 01 26 43.3 -2.9
QIZ S S 01 33 10.0 +2.1
QIZ sS sS 01 34 02.5 +1.2
QIZ pmax pmax
comp=Z,130nm,0.8s
QIZ pmax pmax
comp=Z,320nm,5.9s
QIZ Qiongzhong 50.96 300 P P 01 26 02.6 +1.7
QIZ Qiongzhong 50.96 300 ⇓P P 01 26 02.3 +1.4
QIZ X 01 26 11.7
QIZ pP pP 01 26 32.5 +1.0
NJ2 Nanjing 51.19 320⇓*iP* P 01 26 03.5 +1.1
NJ2 pmax pmax
comp=Z,77nm,1.5s
JKA Kamikawa-asahi 51.20 349 P P 01 26 03.6 +1.3
JKA IAmb IAmb 01 26 05.3
comp=Z,117nm,0.8s
ASAJ Asahikawa 51.20 349 P P 01 26 03.6 +1.3
comp=Z,84nm,0.7s,baz=207,slow=9.0,SNR=70
ASAJ Asahikawa 51.20 349 P P 01 26 03.6 +1.3
ASAJ pmax pmax
comp=Z,117nm,0.8s
JMBI JAMBI 51.36 273 P P 01 26 05.8 +1.8
comp=Z,256nm,1.1s
KUR Kuril'sk 51.49 354 *eP* P 01 26 05.6 +1.3
KUR *e* 01 27 17.0
KUR *e* 01 28 02.2
KUR PPP PPP 01 29 08.2
KUR pmax pmax
comp=Z,969nm,3.6s
KUR pmax pmax
comp=Z,461nm,1.2s
KUR pmax pmax
comp=N,154nm,1.3s
KUR pmax pmax
comp=E,74nm,1.2s
MYKOM Kota Tinggi 51.61 277 P P 01 26 06.3 +0.4
MNAI Manna 51.78 269 P P 01 26 05.7 -1.5
MNAI Manna 51.78 269 P P 01 26 06.6 -0.6
comp=E,371nm,1.1s
MNAI Manna 51.78 269 P P 01 26 06.1 -1.1
CNSH ChangSha 52.94 312 ⇓P P 01 26 17.0 +1.6
CNSH S S 01 33 37.5 +2.8
CNSH pmax pmax
comp=E,99nm,0.9s
CNSH LR LR
comp=E,310nm,21.3s
CNSH LR LR
comp=E,290nm,23.9s
MSHR Mys Shultsa 53.06 338*ceP* P 01 26 17.3 +1.3
MSHR pmax pmax
comp=Z,54nm,1.1s
WHN Wuhan 53.26 316⇓*iP* P 01 26 18.5 +0.7
WHN pP pP 01 26 44.8 -3.7
WHN sP sP 01 27 02.5 -0.6
WHN pmax pmax
comp=Z,180nm,0.9s
WHN pmax pmax
comp=Z,980nm,4.1s
WHN LR LR
comp=Z,810nm,22.4s
KRJI Kerinci 53.47 272 P P 01 26 19.1 -0.7
comp=Z,23µmcomp=Z,1µm,1.0s
TEY Ternei 53.49 344⇓*eP* P 01 26 19.3 +0.2
TEY pmax pmax
comp=N,30nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.8s
KIP Kipapa 53.62 58 *i* P P 01 26 22.0 +1.5
KIP pmax pmax
comp=Z,554nm,3.8s
KIP Kipapa 53.62 58 P P 01 26 22.1 +1.5
KIP Kipapa 53.62 58 P P 01 26 22.2 +1.7
YSS Yuzh-Sakhalins 53.91 350*κ iP* P 01 26 23.2 +1.1
YSS *e* 01 27 27.6
YSS *eS* S 01 33 45.4 -1.8
YSS pmax pmax
comp=Z,600nm,4.3s
YSS pmax pmax
comp=N,300nm,3.7s
YSS pmax pmax
comp=Z,140nm,0.7s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS Yuzh-Sakhalins 53.91 350 P P 01 26 23.3 +1.1
YSS Yuzh-Sakhalins 53.91 350 P P 01 26 23.3 +1.1
YSS Yuzh-Sakhalins 53.91 350 P P 01 26 23.1 +0.9
USA0B Ussuriysk Arra 54.17 340 P P 01 26 24.8 +0.7
USA0B pmax pmax
comp=Z,186nm,1.0s
USA0B Ussuriysk Arra 54.17 340 P P 01 26 24.8 +0.7
USRK Ussuriysk Ar. 54.17 340 P P 01 26 24.7 +0.6
comp=Z,108nm,0.8s,baz=168,slow=8.1,SNR=169
USRK Ussuriysk Ar. 54.17 340 P P 01 26 25.2 +1.1
USRK Ussuriysk Ar. 54.17 340 P P 01 26 25.2 +1.1
BKNI Bangkinang 54.18 275 P P 01 26 24.4 -0.4
BKNI Bangkinang 54.18 275 P P 01 26 24.4 -0.4
comp=Z,325nm,1.1s
BKNI Bangkinang 54.18 275 P P 01 26 24.5 -0.3
DL2 Dalian 54.38 328 P P 01 26 26.3 +0.6
DL2 pmax pmax
comp=Z,130nm,0.8s
HUH Hualalai 54.78 61 P P 01 26 28.2 -1.1
IPM Ipoh 54.85 280 P P 01 26 29.6 -0.1
IPM Ipoh 54.85 280 P P 01 26 29.5 -0.1
TIA Tai'an 55.02 323 ⇓P P 01 26 30.0 -0.4
TIA pmax pmax
comp=Z,39nm,0.8s
HMH Humu'ula Sheep 55.06 61 P P 01 26 31.0 -0.3
POHA Pohakuloa 55.07 61 P P 01 26 31.2 -0.1
POHA Pohakuloa 55.07 61 P P 01 26 33.4 +2.0
POHA Pohakuloa 55.07 61 ⇓P P 01 26 32.7 +1.4
POHA pP pP 01 27 00.7 -1.0
POHA pwP pwP 01 27 08.3 +2.8
POHA sP sP 01 27 21.8 +5.4
POHA ScP ScP 01 31 16.5 -1.2
PPT2 Papeete2 55.31 107 *eS* S 01 34 11.0 +3.9
comp=Z,476nm,26.5s
KULM Kulim 55.37 281 P P 01 26 33.3 -0.1
KULM IAmb IAmb 01 26 34.1
comp=Z,108nm,0.9s

MDJ	**Mudanjiang**	**55.39**	**338**	P	**P**	**01 26 33.5 +0.6**
MDJ	**Mudanjiang**	**55.39**	**338**	P	**P**	**01 26 34.3 +1.4**
MDJ				pmax	pmax	
	comp=Z,450nm,9.4s					
MDJ	**Mudanjiang**	**55.39**	**338**	P	**P**	**01 26 33.9 +1.0**
MDJ	**Mudanjiang**	**55.39**	**338**	P	**P**	**01 26 33.5 +0.6**
SNY	**Shenyang**	**55.63**	**332**	⇑P	**P**	**01 26 35.3 +0.7**
SNY				S	**S**	**01 34 04.3 -6.0**
SNY				pmax	pmax	
	comp=Z,52nm,0.8s					
SNY				LR	LR	
	comp=Z,290nm,14.0s					
SNY				LR	LR	
	comp=Z,330nm,21.1s					
SNY				LR	LR	
	comp=Z,370nm,20.4s					
MNSI	**Mandailing Nat**	**55.69**	**275**	P	**P**	**01 26 34.2 -1.4**
	comp=Z,5μmcomp=Z,172nm,0.9s					
SISI	**Saibi**	**55.91**	**273**	P	**P**	**01 26 36.7 -0.5**
	comp=Z,2μmcomp=Z,134nm,1.3s					
TBI	**Tubuai**	**56.09**	**114**	*e*S	**S**	**01 34 20.5 +3.4**
	comp=Z,255nm,27.5s					
TBI				*e*LQ	LQ	01 40 57.5
	comp=Z,467nm,41.8s					
TBI				*e*LR	LR	01 43 20.2
	comp=Z,1μm,35.0s,baz=282					
CN2	**Changchun**	**56.36**	**335**	*e*P	**P**	**01 26 38.5 -1.3**
CN2				sP	sP	01 27 28.3 +2.4
CN2				S	**S**	**01 34 18.5 -1.5**
CN2				sS	sS	01 35 16.0 +3.1
CN2				SS	**SS**	**01 38 09.0 -0.2**
CN2				pmax	pmax	
	comp=Z,100nm,1.4s					
CN2				LR	LR	
	comp=Z,190nm,19.0s					
CN2				LR	LR	
	comp=Z,270nm,19.0s					
CN2				LR	LR	
	comp=Z,180nm,20.0s					
SKR	**Severo-Kuril's**	**56.56**	**1**	*d*/*e*P	**P**	**01 26 42.4 +1.4**
SKR				*e**PP	**pP**	**01 27 14.8 +2.8**
SKR				*e*S	**S**	**01 34 25.9 +3.7**
SKR				pmax	pmax	
	comp=Z,600nm,5.2s					
SKR				pmax	pmax	
	comp=Z,200nm,5.0s					
SKR				pmax	pmax	
	comp=Z,226nm,1.3s					
SKR				MLR	MLR	
	comp=Z,200nm,18.0s					
SKR				MLR	MLR	
	comp=Z,100nm,18.0s					
ENH	**Enshi**	**56.59**	**312**	P	**P**	**01 26 42.0 +0.2**
ENH				IAmb	IAmb	01 26 43.0
	comp=Z,87nm,0.9s					
ENH	**Enshi**	**56.59**	**312**	⇓P	**P**	**01 26 41.9 +0.1**
PSI	**Prapat**	**56.63**	**277**	P	**P**	**01 26 40.8 -1.7**
	comp=Z,14nm,0.4s,baz=136,slow=3.3,SNR=43					
GYA	**Guiyang**	**56.87**	**307**	⇓P	**P**	**01 26 44.8 +0.9**
GYA				pP	pP	01 27 14.5 -0.8
GYA				S	**S**	**01 34 31.8 +4.2**
GYA				sS	sS	01 35 21.0 -0.3
GYA				pmax	pmax	
	comp=Z,50nm,1.0s					
GYA				pmax	pmax	
	comp=Z,370nm,3.5s					
LYN	**LuoYang**	**56.92**	**318**	⇓*i*P	**P**	**01 26 44.0 +0.1**
LYN				sP	sP	01 27 32.8 +3.4
LYN				S	**S**	**01 34 29.3 +1.7**
LYN				pmax	pmax	
	comp=Z,40nm,0.7s					
LYN				pmax	pmax	
	comp=Z,510nm,5.9s					
SLVN	**Son La**	**56.99**	**300**	P	**P**	**01 26 45.9 +1.1**
TSI	**Tuntungan**	**57.10**	**278**	P	**P**	**01 26 46.0 +0.4**
	comp=Z,204nm,0.6s					
BNX	**BinXian**	**57.16**	**337**	⇓P	**P**	**01 26 45.3 -0.1**
BNX				pmax	pmax	
	comp=Z,680nm,1.2s					
BNX				pmax	pmax	
	comp=Z,990nm,10.4s					
HNS	**HongShan**	**57.26**	**322**	⇓P	**P**	**01 26 46.5 +0.2**
HNS				sP	**sP**	**01 27 30.8 -1.4**
HNS				S	**S**	**01 34 37.0 +5.0**
HNS				pmax	pmax	
	comp=Z,120nm,1.5s					
HNS				LR	LR	
	comp=Z,150nm,16.2s					
HNS				LR	LR	
	comp=Z,250nm,21.7s					
COCO	**West Island**	**57.60**	**259**	P	**P**	**01 26 49.5 +0.4**
COCO				pmax	pmax	
	comp=Z,507nm,1.0s					
COCO	**West Island**	**57.60**	**259**	P	**P**	**01 26 49.5 +0.4**
TYV	**Tymovskoe**	**57.71**	**351**	*e*P	**P**	**01 26 50.6 +1.4**
TYV				*e*S	**S**	**01 34 41.3 +3.9**
TYV				pmax	pmax	
	comp=Z,120nm,0.8s					
TYV				pmax	pmax	
	comp=Z,500nm,5.4s					
TYV				smax	smax	
	comp=N,13nm,1.6s					
TYV				smax	smax	
	comp=N,200nm,7.3s					
TYV				smax	smax	
	comp=E,600nm,7.3s					
GSI	**Gunungsitoli**	**57.74**	**275**	P	**P**	**01 26 49.1 -1.0**
GSI	**Gunungsitoli**	**57.74**	**275**	P	**P**	**01 26 48.8 -1.4**
	comp=E,248nm,0.8s					
GSI	**Gunungsitoli**	**57.74**	**275**	P	**P**	**01 26 49.1 -1.0**
KCSI	**Kotacane, Aceh**	**57.88**	**278**	P	**P**	**01 26 49.4 -1.7**
	comp=E,74nm,1.0s					
BJT	**Baijiatuan**	**58.14**	**326**	P	**P**	**01 26 51.9 -0.5**
BJT				pmax	pmax	
	comp=Z,29nm,0.9s					
BJT	**Baijiatuan**	**58.14**	**326**	P	**P**	**01 26 51.9 -0.5**
BJT	**Baijiatuan**	**58.14**	**326**	P	**P**	**01 26 52.5 +0.1**
BJI	**Beijing**	**58.15**	**326**	P	**P**	**01 26 52.3 -0.2**
BJI				pP	**pP**	**01 27 21.5 -2.3**
BJI				PcP	**PcP**	**01 27 41.3 -1.3**
BJI				S	**S**	**01 34 41.8 -1.7**
BJI				sS	**sS**	**01 35 40.0 +3.1**
BJI				ScS	**ScS**	**01 36 26.5 -2.7**
BJI				pmax	pmax	
	comp=Z,34nm,1.3s					
BJI				pmax	pmax	
	comp=Z,270nm,7.7s					
BJI				LR	LR	
	comp=Z,160nm,17.5s					
BJI				LR	LR	
	comp=Z,190nm,17.4s					
BJI				LR	LR	
	comp=Z,240nm,19.1s					
KLR	**Kul'dur**	**58.70**	**342**	P	**P**	**01 26 56.9 +0.8**
	comp=Z,146nm,0.9s,baz=155,slow=5.0,SNR=199					
KLR	**Kul'dur**	**58.70**	**342**	*d*/*i*P	**P**	**01 26 56.7 +0.6**
KLR				pmax	pmax	
	comp=Z,261nm,1.1s					
GRNR	**Gornyy**	**58.85**	**346**	⇓*i*P	**P**	**01 26 58.0 +0.9**
GRNR				pmax	pmax	
	comp=Z,60nm,0.9s					
TIY	**Taiyuan**	**58.86**	**321**	⇓P	**P**	**01 26 57.8 +0.2**
TIY				S	**S**	**01 34 52.3 -0.7**
TIY				pmax	pmax	
	comp=Z,31nm,0.7s					
TIY				pmax	pmax	
	comp=Z,190nm,5.2s					
TIY				LR	LR	
	comp=Z,130nm,8.2s					
TIY				LR	LR	
	comp=Z,78nm,6.9s					
TIY				LR	LR	
	comp=Z,110nm,16.5s					
PET	**Petropavlovsk**	**58.98**	**3**	*de*P	**P**	**01 26 59.1 +1.2**
PET				*e**SP	**sP**	**01 27 43.2 -0.9**
PET				*e*S	**S**	**01 34 55.1 +1.4**
PET				*e*		01 36 32.7
PET				pmax	pmax	
	comp=Z,900nm,8.5s					
PET				pmax	pmax	
	comp=Z,406nm,1.2s					
PET				pmax	pmax	
	comp=Z,400nm,17.5s					
PET				MLR	MLR	
	comp=Z,200nm,16.0s					

PET	**Petropavlovsk**	**58.98**	**3**	P	**P**	**01 26 59.0 +1.2**
PET	**Petropavlovsk**	**58.98**	**3**	P	**P**	**01 26 59.4 +1.5**
PET	**Petropavlovsk**	**58.98**	**3**	P	**P**	**01 26 59.2 +1.2**
PET				X		01 27 18.6
PET				pP	**pP**	**01 27 27.5 -2.0**
LHMI	**Lhok Sumawe**	**58.98**	**280**	P	**P**	**01 26 58.4 -0.4**
LHMI	**Lhok Sumawe**	**58.98**	**280**	P	**P**	**01 26 58.4 -0.4**
	comp=Z,4μmcomp=Z,431nm,1.0s					
LHMI	**Lhok Sumawe**	**58.98**	**280**	P	**P**	**01 26 58.4 -0.4**
PEA0B	**Petropavlovsk-**	**59.02**	**2**	P	**P**	**01 26 59.6 +1.3**
PEA0B				pmax	pmax	
	comp=Z,1μm,1.3s					
PEA0B	**Petropavlovsk-**	**59.02**	**2**	P	**P**	**01 26 59.6 +1.3**
PETK	**Petropavlovsk-**	**59.02**	**2**	P	**P**	**01 26 59.0 +0.7**
	comp=Z,354nm,0.9s,baz=167,slow=7.4,SNR=224					
PETK				PcP	**PcP**	**01 27 45.6 -0.1**
	comp=Z,36nm,0.8s,baz=145,slow=5.3,SNR=1.7					
PETK	**Petropavlovsk-**	**59.02**	**2**	P	**P**	**01 26 59.5 +1.3**
XAN	**Xi'an**	**59.03**	**316**	⇓P	**P**	**01 26 58.5 -0.2**
XAN				pP	pP	01 27 30.5 +0.3
XAN				pmax	pmax	
	comp=Z,170nm,0.8s					
XAN				pmax	pmax	
	comp=Z,430nm,7.5s					
XAN				LR	LR	
	comp=Z,140nm,15.6s					
XAN				LR	LR	
	comp=Z,170nm,17.1s					
XAN				LR	LR	
	comp=Z,230nm,18.1s					
XAN	**Xi'an**	**59.03**	**316**	⇓P	**P**	**01 26 58.8 0.0**
XAN				pP	**pP**	**01 27 30.3 +0.1**
KMI	**Kunming**	**59.47**	**304**	⇓P	**P**	**01 27 03.5 +1.3**
KMI				pP	pP	01 27 33.3 -0.4
KMI				sP	sP	01 27 46.0 -2.2
KMI				S	**S**	**01 34 59.5 -2.2**
KMI				ScS	**ScS**	**01 36 36.5 -3.6**
KMI				SS	**SS**	**01 38 56.3 -3.0**
KMI				pmax	pmax	
	comp=Z,78nm,1.0s					
KMI				pmax	pmax	
	comp=Z,330nm,6.5s					
KMI				LR	LR	
	comp=Z,140nm,10.5s					
KMI				LR	LR	
	comp=Z,210nm,21.0s					
KMI				LR	LR	
	comp=Z,340nm,18.8s					
KMI	**Kunming**	**59.47**	**304**	P	**P**	**01 27 03.5 +1.3**
KMI				pP	**pP**	**01 27 32.6 -1.1**
KMI				sP	**sP**	**01 27 47.2 -1.0**
NKL	**Nikolayevsk**	**60.24**	**350**	*e*P	**P**	**01 27 06.1 -0.5**
NKL				*e*		01 27 51.3
NKL				*e*S	**S**	**01 35 07.7 -2.3**
NKL				pmax	pmax	
	comp=N,1.0nm,0.8s					
NKL				pmax	pmax	
	comp=E,4.0nm,0.8s					
NKL				pmax	pmax	
	comp=Z,73nm,0.9s					
NKL				pmax	pmax	
	comp=Z,122nm,2.5s					
NKL				smax	smax	
	comp=E,3.0nm,1.0s					
NKL				smax	smax	
	comp=N,2.0nm,3.1s					
CM31	**Chiang Mai Arr**	**60.35**	**295**	P	**P**	**01 27 09.3 +1.3**
CMAR	**Chiang Mai Arr**	**60.35**	**295**	P	**P**	**01 27 09.1 +1.0**
	comp=N,68nm,0.8s,baz=118,slow=5.2,SNR=46					
CMAR				S	**S**	**01 35 15.0 +2.3**
	comp=N,0.6nm,0.3s,baz=111,slow=12,SNR=1.4					
CMAR				PKPPKP	**P'P'df**	**01 56 28.1 -2.5**
	comp=N,0.9nm,0.3s,baz=289,slow=4.1,SNR=5.0					
CMAR	**Chiang Mai Arr**	**60.35**	**295**	*ce*P	**P**	**01 27 08.0 -0.1**
CMAR				pmax	pmax	
	comp=Z,76nm,0.8s					
CMAR	**Chiang Mai Arr**	**60.35**	**295**	P	**P**	**01 27 09.2 +1.1**
CHTO	**Chiang Mai**	**60.47**	**296**	P	**P**	**01 27 09.8 +0.9**
CHTO				pmax	pmax	
	comp=Z,205nm,1.5s					
CHTO	**Chiang Mai**	**60.47**	**296**	P	**P**	**01 27 09.8 +0.9**
CHTO	**Chiang Mai**	**60.47**	**296**	P	**P**	**01 27 09.7 +0.9**
CHTO	**Chiang Mai**	**60.47**	**296**	⇓P	**P**	**01 27 09.6 +0.8**
CHTO				pP	**pP**	**01 27 41.9 +1.3**
CHTO				sP	**sP**	**01 27 53.8 -1.2**
SHEM	**Shemya Is, Ala**	**60.82**	**13**	P	**P**	**01 27 11.5 +1.0**
	comp=Z,218nm,0.7s,baz=283,slow=1.9,SNR=14					
SHEM				LR	LR	01 49 52.1
	comp=Z,196nm,21.9s,baz=122,slow=32					
SMY	**Shemya**	**60.82**	**13**	P	**P**	**01 27 10.7 +0.2**
SMY				pmax	pmax	
	comp=Z,988nm,1.4s					
SMY	**Shemya**	**60.82**	**13**	P	**P**	**01 27 10.7 +0.2**
PZH	**PanZhiHua**	**60.86**	**305**	⇓P	**P**	**01 27 11.8 +0.3**
PZH				pP	**pP**	**01 27 41.8 -1.3**
PZH				PcP	**sP**	**01 27 56.3 -1.3**
PZH				S	**S**	**01 35 19.8 +0.7**
PZH				sS	**sS**	**01 36 13.0 -0.3**
PZH				SS	**SS**	**01 39 18.8 -1.9**
PZH				pmax	pmax	
	comp=Z,30nm,1.1s					
PZH				pmax	pmax	
	comp=Z,340nm,6.3s					
PZH				LR	LR	
	comp=Z,270nm,18.4s					
PZH				LR	LR	
	comp=Z,230nm,16.3s					
PZH				LR	LR	
	comp=Z,390nm,21.6s					
XLT	**XiLinHaoTe**	**60.86**	**329**	⇓*i*P	**P**	**01 27 11.8 +0.6**
XLT				pP	pP	01 27 42.3 -0.7
XLT				PcP	**PcP**	**01 27 53.5 0.0**
XLT				sP	sP	01 27 56.0 -1.5
XLT				sS	sS	01 36 18.8 +6.7
XLT				pmax	pmax	
	comp=Z,170nm,0.7s					
CD2	**Chengdu**	**61.20**	**310**	⇓P	**P**	**01 27 13.8 +0.2**
CD2				S	**S**	**01 35 21.8 -1.3**
CD2				pmax	pmax	
	comp=Z,150nm,0.7s					
CD2				pmax	pmax	
	comp=Z,480nm,4.9s					
HHC	**Hu-ho-hao-te**	**61.34**	**324**	*e*P	**P**	**01 27 15.0 +0.5**
HHC				pmax	pmax	
	comp=Z,49nm,0.9s					
HHC				pmax	pmax	
	comp=Z,210nm,7.3s					
DRV	**Dumont d'Urvil**	**61.35**	**187**	P	**P**	**01 27 15.0 +1.1**
DRV				X		01 27 38.6
DRV				pP	**pP**	**01 27 45.3 0.0**
DRV				pwP	**PcP**	**01 27 49.8 -5.1**
BTO	**Baotou**	**62.11**	**323**	*e*P	**P**	**01 27 21.0 +1.4**
BTO				S	**S**	**01 35 35.8 +1.4**
BTO				LR	LR	
	comp=Z,580nm,12.7s					
BTO				LR	LR	
	comp=Z,670nm,15.5s					
KIWB	**Kanaga Island**	**62.46**	**19**	P	**P**	**01 27 22.7 +1.2**
ADK	**Adak**	**62.64**	**19**	P	**P**	**01 27 23.8 +1.1**
ADK				pmax	pmax	
	comp=Z,352nm,0.8s					
ADK	**Adak**	**62.64**	**19**	P	**P**	**01 27 23.8 +1.1**
ADK	**Adak**	**62.64**	**19**	P	**P**	**01 27 24.6 +1.9**
ADK	**Adak**	**62.64**	**19**	⇓P	**P**	**01 27 24.3 +1.6**
ADK				X		01 27 36.1
ADK				sP	**PcP**	**01 28 04.0 +3.7**
GSTR	**Great Sitkin T**	**63.02**	**20**	P	**P**	**01 27 26.3 +1.0**
HIA	**Hailar**	**63.09**	**335**	P	**P**	**01 27 26.4 +0.6**
HIA				pmax	pmax	
	comp=Z,63nm,0.8s					
HIA	**Hailar**	**63.09**	**335**	P	**P**	**01 27 26.4 +0.6**
HIA				IAmb	IAmb	01 27 27.8
	comp=Z,63nm,0.8s					
HIA	**Hailar**	**63.09**	**335**	⇓P	**P**	**01 27 26.4 +0.6**
HIA				pP	**pP**	**01 27 57.8 -0.1**
LZH	**Lanzhou**	**63.64**	**315**	⇓*i*P	**P**	**01 27 31.0 +1.1**
LZH				pP	PcP	01 28 03.8 -1.3
LZH				sP	sP	01 28 22.3 +5.9
LZH				*e*S	**S**	**01 35 52.8 -1.0**
LZH				sS	sS	01 36 45.3 -1.9
LZH				pmax	pmax	
	comp=Z,130nm,1.1s					
LZH				pmax	pmax	
	comp=Z,560nm,4.6s					

ATKA	**Atka Island**	**63.75**	**21**	P	**P**	**01 27 31.3 +1.3**
ZEA	**Zeya**	**64.01**	**342**	*de*P	**P**	**01 27 32.7 +1.0**
ZEA				pmax	pmax	
	comp=N,200nm,1.4s					
ZEA				pmax	pmax	
	comp=Z,200nm,1.4s					
ZEA				pmax	pmax	
	comp=E,40nm,0.9s					
ZEA				pmax	pmax	
	comp=N,120nm,1.0s					
ZEA				pmax	pmax	
	comp=Z,210nm,1.1s					
PBA	**Port Blair**	**64.33**	**286**	*e*P	**P**	**01 27 33.6 -1.0**
PBA				IAmb	IAmb	01 27 34.8
	comp=Z,28nm,0.8s					
TAOE	**Nuku Hiva Isla**	**64.35**	**97**	*e*S	**S**	**01 36 07.5 +4.3**
	comp=Z,127nm,29.1s					
TAOE	**Nuku Hiva Isla**	**64.35**	**97**	*e*LR	LR	01 46 39.5
	comp=Z,298nm,33.0s					
DGPR	**DIGLIPUR**	**64.49**	**288**	*e*P	**P**	**01 27 34.0 -1.6**
DGPR				IAmb	IAmb	01 27 36.5
	comp=Z,53nm,0.7s					
MA2	**Magadan**	**65.54**	**358**	P	**P**	**01 27 42.2 +0.6**
	comp=Z,207nm,0.7s,baz=162,slow=6.8,SNR=154					
MA2	**Magadan**	**65.54**	**358**	*d*/*i*P	**P**	**01 27 42.1 +0.6**
MA2				pmax	pmax	
	comp=Z,296nm,0.8s					
MA2	**Magadan**	**65.54**	**358**	P	**P**	**01 27 42.4 +0.8**
MA2	**Magadan**	**65.54**	**358**	P	**P**	**01 27 42.5 +0.9**
MA2	**Magadan**	**65.54**	**358**	⇓P	**P**	**01 27 42.2 +0.6**
MA2				pP	**pP**	**01 28 14.1 +0.5**
MA2				sP	**sP**	**01 28 30.5 +2.6**
NIKH	**Nikolski High**	**66.34**	**23**	P	**P**	**01 27 46.4 -0.4**
NIKH	**Nikolski High**	**66.34**	**23**	P	**P**	**01 27 47.5 +0.7**
	baz=220					
MOKO	**MOKOCHONG**	**66.80**	**302**	*e*P	**P**	**01 27 50.3 -0.2**
MOKO				IAmb	IAmb	01 27 51.4
	comp=Z,84nm,1.1s					
KOHI	**KOHIMA**	**66.94**	**301**	*e*P	**P**	**01 27 50.5 -0.9**
KOHI				IAmb	IAmb	01 27 52.1
	comp=Z,91nm,0.7s					
CASY	**Casey**	**67.43**	**198**	P	**P**	**01 27 53.9 +0.4**
CASY	**Casey**	**67.43**	**198**	P	**P**	**01 27 53.9 +0.4**
CASY				pP	**pP**	**01 28 24.9 -0.7**
UNV	**Unalaska Valle**	**67.92**	**23**	P	**P**	**01 27 57.5 +0.8**
UNV				IAmb	IAmb	01 27 58.3
	comp=Z,79nm,0.8s					
UNV	**Unalaska Valle**	**67.92**	**23**	P	**P**	**01 27 57.3 +0.6**
	baz=222					
GTA	**Gaotai**	**68.05**	**317**	⇓P	**P**	**01 27 59.0 +0.9**
GTA				pP	pP	01 28 30.5 +0.1
GTA				sP	sP	01 28 44.0 -0.7
GTA				S	**S**	**01 36 49.5 +2.4**
GTA				sS	SKSac	01 37 43.8 -0.5
GTA				pmax	pmax	
	comp=Z,75nm,1.5s					
GTA				pmax	pmax	
	comp=Z,480nm,5.1s					
GTA				LR	LR	
	comp=Z,130nm,19.3s					
GTA				LR	LR	
	comp=Z,130nm,20.0s					
GTA				LR	LR	
	comp=Z,200nm,20.4s					
ULN	**Ulaanbaatar**	**68.22**	**327**	*d*/*i*P	**P**	**01 27 59.8 +0.8**
ULN				pmax	pmax	
	comp=Z,142nm,1.7s					
ULN	**Ulaanbaatar**	**68.22**	**327**	P	**P**	**01 27 60.0 +1.0**
ULN				pP	**pP**	**01 28 31.1 -0.4**
ULN				sP	**sP**	**01 28 43.6 -2.2**
AKUT	**Akutan**	**68.43**	**24**	P	**P**	**01 28 00.9 +1.0**
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**01 28 01.8 +0.8**
	comp=Z,43nm,0.6s,baz=130,slow=6.0,SNR=98					
SONM				LR	LR	01 58 58.4
	comp=Z,47nm,19.3s,baz=136,slow=37					
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**01 28 02.0 +1.0**
SONM				pmax	pmax	
	comp=Z,97nm,1.1s					
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**01 28 02.0 +1.0**
SONM				IAmb	IAmb	01 28 03.1
	comp=Z,97nm,1.1s					
SHL	**Shillong**	**68.80**	**300**	*e*P	**P**	**01 28 02.9 -0.2**
SHL				IAmb	IAmb	01 28 05.0
	comp=Z,70nm,0.7s					
SEY	**Seymchan**	**68.86**	**359**	P	**P**	**01 28 03.3 +0.9**
	comp=Z,84nm,0.9s,baz=169,slow=6.4,SNR=109					
SEY				PP	**PP**	**01 30 34.2 -2.1**
	comp=Z,14nm,1.1s,baz=168,slow=3.9,SNR=4.8					
SEY	**Seymchan**	**68.86**	**359**	*ce*P	**P**	**01 28 03.0 +0.6**
SEY				pmax	pmax	
	comp=Z,87nm,0.9s					
SPIA	**Saint Paul Isl**	**69.13**	**19**	P	**P**	**01 28 05.4 +1.3**
SPIA	**Saint Paul Isl**	**69.13**	**19**	P	**P**	**01 28 05.4 +1.3**
	baz=217					
GUWA	**GUWAHATI**	**69.16**	**301**	*e*P	**P**	**01 28 04.3 -0.7**
GUWA				IAmb	IAmb	01 28 06.2
	comp=Z,87nm,0.7s					
FALS	**False Pass**	**69.90**	**24**	P	**P**	**01 28 09.3 +0.4**
FALS	**False Pass**	**69.90**	**24**	P	**P**	**01 28 09.7 +0.7**
	baz=225					
FALS	**False Pass**	**69.90**	**24**	P	**P**	**01 28 09.9 +1.0**
TURI	**Tura**	**70.13**	**300**	*e*P	**P**	**01 28 11.5 +0.5**
TURI				IAmb	IAmb	01 28 15.1
	comp=Z,74nm,0.6s					
GOMU	**GeErMu**	**70.21**	**312**	P	**P**	**01 28 12.5 +0.8**
GOMU				pP	pP	01 28 45.5 +1.2
GOMU				sP	sP	01 28 55.3 -3.3
GOMU				S	**S**	**01 37 15.5 +2.4**
GOMU				sS	sS	01 38 06.0 -1.1
GOMU				pmax	pmax	
	comp=Z,19nm,0.9s					
GOMU				pmax	pmax	
	comp=Z,280nm,4.9s					
GOMU				LR	LR	
	comp=Z,130nm,22.7s					
GOMU				LR	LR	
	comp=Z,140nm,21.2s					
GOMU				LR	LR	
	comp=Z,210nm,21.4s					
YAK	**Yakutsk**	**70.67**	**348**	P	**P**	**01 28 14.4 +0.9**
	comp=Z,51nm,0.4s,baz=149,slow=1.5,SNR=26					
YAK				S	**S**	**01 37 21.0 +4.4**
	comp=Z,15nm,0.4s,baz=45,slow=4.0,SNR=2.0					
YAK				LR	LR	01 58 43.4
	comp=Z,27nm,20.6s,baz=98,slow=35					
YAK	**Yakutsk**	**70.67**	**348**	*e*P	**P**	**01 28 13.8 +0.3**
YAK				*e*		01 28 35.0
YAK				*e**PP	**pP**	**01 28 46.6 +0.4**
YAK				*e*S	**S**	**01 37 17.6 +0.9**
YAK				*e*		01 37 55.9
YAK				*e*SS	**SS**	**01 41 55.6 +4.2**
YAK				pmax	pmax	
	comp=Z,249nm,0.9s					
YAK				pmax	pmax	
	comp=N,57nm,1.2s					
YAK				pmax	pmax	
	comp=E,24nm,1.0s					
YAK				smax	smax	
	comp=E,82nm,2.3s					
YAK				smax	smax	
	comp=N,38nm,2.3s					
YAK	**Yakutsk**	**70.67**	**348**	P	**P**	**01 28 14.2 +0.7**
YAK	**Yakutsk**	**70.67**	**348**	P	**P**	**01 28 14.0 +0.5**
LSA	**Lhasa**	**70.72**	**304**	P	**P**	**01 28 15.9 +0.8**
LSA				pmax	pmax	
	comp=Z,37nm,0.7s					
LSA	**Lhasa**	**70.72**	**304**	P	**P**	**01 28 15.9 +0.8**
LSA	**Lhasa**	**70.72**	**304**	P	**P**	**01 28 16.0 +0.8**
LSA				pmax	pmax	
	comp=Z,50nm,1.2s					
LSA	**Lhasa**	**70.72**	**304**	P	**P**	**01 28 16.1 +0.9**
LSA				pP	**pP**	**01 28 48.4 +0.7**
CCD	**Concordia, Ant**	**71.29**	**188**	⇓P	**P**	**01 28 18.8 +1.1**
CCD				pP	**pP**	**01 28 49.6 -0.6**
CCD				sP	**sP**	**01 29 11.9 +7.4**
SDPT	**Sand Point**	**71.46**	**25**	P	**P**	**01 28 18.7 +0.4**
	baz=227					
VNDA	**Vanda**	**71.48**	**178**	P	**P**	**01 28 19.3 +1.1**
	comp=Z,16nm,0.9s,baz=335,slow=6.5,SNR=98					
VNDA				pP	**pP**	**01 28 50.1 -0.9**
	comp=Z,15nm,1.0s,baz=333,slow=8.4,SNR=4.1					
VNDA				LR	LR	01 55 29.6
	comp=Z,159nm,19.8s,baz=5.5,slow=32					
VNDA	**Vanda**	**71.48**	**178**	P	**P**	**01 28 19.6 +1.4**
VNDA				pmax	pmax	

comp=Z,42nm,1.3s
VNDA Vanda 71.48 178 P **P** **01 28 19.6 +1.4**
ZAK Zakamensk 71.70 328 *e*P **P** **01 28 20.8 +0.7**
ZAK *e* 01 28 50.5
ZAK pmax pmax
comp=Z,138nm,1.4s
BOD Bodaibo 71.76 338 *e*P **P** **01 28 19.5 -0.7**
BOD pmax pmax
comp=Z,81nm,1.6s
SBA Scott Base 71.99 177 P **P** **01 28 23.1 +1.8**
SBA pmax pmax
comp=Z,32nm,1.1s
SBA Scott Base 71.99 177 P **P** **01 28 23.1 +1.8**
SBA Scott Base 71.99 177 P **P** **01 28 23.7 +2.4**
SBA pP **pP** **01 28 52.8 -1.2**
IRK Irkutsk 72.28 330 *e*P **P** **01 28 22.9 -0.5**
IRK pmax pmax
comp=Z,125nm,2.2s
BWNR Bhubaneshwar 72.78 293 *e*P **P** **01 28 27.6 +0.7**
TAPN Taplejung 72.90 301 *e*P **P** **01 28 28.2 +0.2**
ODAN Odare 73.03 300 *e*P **P** **01 28 28.8 +0.1**
BOK Bokaro 73.54 297 *e*P **P** **01 28 32.3 +0.8**
BOK IAmb IAmb 01 28 33.7
comp=Z,49nm,0.6s
MOY Mondy 73.62 328 *e*P **P** **01 28 31.8 +0.3**
MOY pmax pmax
comp=Z,105nm,2.0s
RAMN Ramite 73.74 300 *e*P **P** **01 28 32.7 -0.1**
comp=Z,83nm,0.5s
GAMB Gambell 74.06 15 P **P** **01 28 34.9 +1.3**
GAMB IAmb IAmb 01 28 36.4
comp=Z,183nm,1.2s
GAMB Gambell 74.06 15 P **P** **01 28 35.1 +1.6**
comp=Z,215,SNR=14
JIRN Jiri 74.28 301 *e*P **P** **01 28 36.2 +0.1**
BILL Bilibino 74.39 4*c i*P **P** **01 28 36.8 +1.4**
BILL *e**PP **pP** **01 29 09.1 +0.6**
BILL *i* S **pS** **01 38 41.6 +4.1**
BILL pmax pmax
comp=Z,377nm,1.1s
GUN Gumba 74.61 301 *e*P **P** **01 28 38.2 +0.2**
comp=Z,235nm,0.7s
RAGD RAYAGADA 74.71 292 *e*P **P** **01 28 38.7 +0.4**
PKI Pulchoki 74.92 301 *e*P **P** **01 28 39.5 -0.3**
KNGR Kungurtug, Tuv 74.94 326*d i*P **P** **01 28 39.9 +0.8**
PKIN Phulchoki 74.94 301 *e*P **P** **01 28 39.5 -0.3**
SII Sitkinak Islan 74.95 26 P **P** **01 28 39.9 +0.9**
SII IAmb IAmb 01 28 41.0
comp=Z,143nm,0.8s
SII Sitkinak Islan 74.95 26 P **P** **01 28 40.1 +1.1**
baz=233
SII Sitkinak Islan 74.95 26 P **P** **01 28 39.9 +0.9**
KKN Kakani 75.09 301 *e*P **P** **01 28 40.4 -0.2**
DMN Daman 75.19 300 *e*P **P** **01 28 41.4 +0.1**
comp=Z,223nm,0.7s
PALK Pallekele 75.25 279 P **P** **01 28 42.3 +0.7**
PALK pmax pmax
comp=Z,128nm,0.9s
PALK Pallekele 75.25 279 P **P** **01 28 42.3 +0.7**
PALK IAmb IAmb 01 28 43.1
comp=Z,128nm,0.8s
GKN Gorkha 75.70 301 *e*P **P** **01 28 43.8 -0.2**
OHAK Old Harbor 75.74 26 P **P** **01 28 43.8 +0.5**
OHAK IAmb IAmb 01 28 45.6
comp=Z,87nm,0.9s
OHAK Old Harbor 75.74 26 P **P** **01 28 44.4 +1.0**
baz=234,SNR=7.9
VLK Valmikinagar 76.18 300⇑ *e*P **P** **01 28 47.1 +0.5**
AIS Amsterdam Isla 76.32 233 P **P** **01 28 48.1 +1.0**
KDAK Kodiak Island 76.38 26 P **P** **01 28 48.0 +1.0**
comp=Z,77nm,1.1s,baz=268,slow=3.5,SNR=9.8
KDAK LR LR 01 55 41.9
comp=Z,138nm,20.3s,baz=239,slow=30
KDAK Kodiak Island 76.38 26 P **P** **01 28 47.3 +0.3**
KDAK pmax pmax
comp=Z,74nm,1.0s
KDAK Kodiak Island 76.38 26 P **P** **01 28 47.3 +0.3**
KDAK IAmb IAmb 01 28 49.2
comp=Z,74nm,0.9s
KDAK Kodiak Island 76.38 26 P **P** **01 28 48.1 +1.0**
baz=234
ANM Nome 76.39 16 P **P** **01 28 48.3 +1.4**
ANM pmax pmax
comp=Z,253nm,1.3s
ANM Nome 76.39 16 P **P** **01 28 48.3 +1.4**
ANM IAmb IAmb 01 28 49.9
comp=Z,253nm,1.3s
ANM Nome 76.39 16 P **P** **01 28 48.7 +1.8**
baz=221,SNR=23
TNA Tin City 76.47 15 P **P** **01 28 48.1 +0.8**
TNA IAmb IAmb 01 28 49.9
comp=Z,97nm,1.2s
TNA Tin City 76.47 15 P **P** **01 28 48.7 +1.4**
baz=218
KOLN Koldanda 76.53 300 *e*P **P** **01 28 48.2 -0.6**
comp=Z,251nm,0.9s
DANN Dangsing 76.53 301 *e*P **P** **01 28 48.3 -0.6**
comp=Z,135nm,0.6s
O18K Koktuh Hills 76.55 23 P **P** **01 28 48.6 +0.7**
O18K Koktuh Hills 76.55 23 P **P** **01 28 48.4 +0.5**
baz=231
Q19K Cape Douglas, 76.61 25 P **P** **01 28 48.7 +0.3**
Q19K IAmb IAmb 01 28 49.5
comp=Z,174nm,1.1s
Q19K Cape Douglas, 76.61 25 P **P** **01 28 49.0 +0.7**
baz=233
VJD Vijayawada 76.80 288 *e*P **P** **01 28 50.2 +0.1**
N18K Kilae Creek 76.81 22 P **P** **01 28 50.5 +1.1**
N18K Kilae Creek 76.81 22 P **P** **01 28 51.3 +1.9**
baz=230,SNR=34
O19K Port Alsworth 77.11 23 P **P** **01 28 51.8 +0.8**
O19K Port Alsworth 77.11 23 P **P** **01 28 51.1 +0.1**
baz=232
PYUN Piuthan 77.13 301 *e*P **P** **01 28 51.3 -0.9**
comp=Z,264nm,0.9s
SVW2 Sparrevohn 77.19 22 P **P** **01 28 52.8 +1.3**
SVW2 IAmb IAmb 01 28 55.6
comp=Z,169nm,1.2s
P19K Oil Pt 77.22 24 P **P** **01 28 52.2 +0.5**
baz=233,SNR=6.5
N19K Bonanza Creek 77.43 23 P **P** **01 28 53.7 +0.7**
N19K Bonanza Creek 77.43 23 P **P** **01 28 54.0 +1.0**
baz=232,SNR=10
ALBI Allahabad 77.51 297 *e*P **P** **01 28 54.2 +0.2**
HOM Homer 77.87 25 P **P** **01 28 56.1 +0.8**
HOM Homer 77.87 25 P **P** **01 28 56.5 +1.2**
baz=235,SNR=7.5
RSO Redoubt South 77.89 24 P **P** **01 28 56.0 +0.4**
CNPM China Poot 77.97 25 P **P** **01 28 56.8 +0.9**
WMQ Urumqi 78.13 317 ⇓P **P** **01 28 57.5 +0.3**
WMQ pP pP 01 29 29.3 -1.2
WMQ pmax pmax
comp=Z,55nm,1.7s
WMQ pmax pmax
comp=Z,500nm,4.9s
WMQ LR LR
comp=Z,170nm,17.7s
WMQ LR LR
comp=Z,190nm,20.7s
WMQ LR LR
comp=Z,240nm,20.7s
M19K Big River Lodg 78.14 22 P **P** **01 28 57.9 +1.1**
M19K Big River Lodg 78.14 22 P **P** **01 28 58.7 +2.0**
baz=232
L19K White Mountain 78.14 22 P **P** **01 28 58.1 +1.4**
L19K IAmb IAmb 01 28 59.8
comp=Z,172nm,1.1s
L19K White Mountain 78.14 22 P **P** **01 28 58.5 +1.7**
baz=231,SNR=59
TTA Tatalina 78.20 21 P **P** **01 28 57.8 +0.6**
TTA pmax pmax
comp=Z,103nm,1.1s
TTA Tatalina 78.20 21 P **P** **01 28 57.8 +0.6**
TTA IAmb IAmb 01 28 59.9
comp=Z,103nm,1.1s
TTA Tatalina 78.20 21 P **P** **01 28 58.6 +1.4**
baz=230,SNR=48
BRLK Bradley Lake 78.25 25 P **P** **01 28 58.4 +0.9**
BRLK IAmb IAmb 01 28 59.5
comp=Z,116nm,1.0s
BRSE Bradley Lake S 78.30 25 P **P** **01 28 58.6 +1.0**
baz=236,SNR=6.5
SALM Salem 78.33 283 *e*P **P** **01 28 59.3 +0.5**
SPCR Spurr Chakacha 78.55 23 P **P** **01 28 58.7 -0.4**
baz=234,SNR=6.4

L20K Farewell, AK 78.68 22 P **P** **01 29 01.4 +1.6**
baz=232,SNR=58
CAPN Captain Cook N 78.71 24 P **P** **01 29 01.4 +1.6**
baz=235
KOD Kodaikanal 78.83 282 *e*P **P** **01 29 02.4 +0.5**
HYB Hyderabad 78.93 289 *e*P **P** **01 29 01.1 -0.9**
HYB IAmb IAmb 01 29 02.7
comp=Z,50nm,0.6s
HYBB Hyderabad (bro 78.93 289 *e*P **P** **01 29 01.3 -0.8**
HYBB *e*pP **pP** **01 29 32.4 -2.7**
HYBB *e*sP **sP** **01 29 46.9 -2.3**
HYBB *e*PP **PP** **01 32 04.0 +1.2**
HYBB *e*SKSac **SKSac** **01 39 04.0 -1.9**
HYBB *e*ScS **ScS** **01 39 13.8 +1.1**
SEW Seward 79.04 25 P **P** **01 29 02.8 +1.1**
SEW IAmb IAmb 01 29 03.9
comp=Z,138nm,1.1s
SEW Seward 79.04 25 P **P** **01 29 02.4 +0.7**
baz=237,SNR=7.0
TRD Trivandrum 79.09 280 *e*P **P** **01 29 03.5 +0.5**
TRD IAmb IAmb 01 29 04.0
comp=Z,87nm,0.8s
GCSA Galena City Sc 79.09 19 P **P** **01 29 03.1 +1.3**
baz=229,SNR=34
O22K Cooper Landing 79.13 25 P **P** **01 29 03.0 +0.8**
baz=236
K20K Telida 79.16 21 P **P** **01 29 03.6 +1.3**
K20K IAmb IAmb 01 29 05.4
comp=Z,150nm,1.2s
K20K Telida 79.16 21 P **P** **01 29 03.8 +1.5**
baz=232,SNR=38
TIXI Tiksi 79.46 352 P **P** **01 29 04.3 +0.5**
comp=Z,20nm,0.7s,baz=270,slow=24,SNR=29
TIXI PP **PP** **01 32 04.6 -1.3**
comp=Z,5.0nm,0.9s,baz=270,slow=23,SNR=4.5
TIXI Tiksi 79.46 352*d i*P **P** **01 29 03.4 -0.3**
TIXI pmax pmax
comp=Z,95nm,1.7s
TIXI Tiksi 79.46 352 P **P** **01 29 03.6 -0.1**
RC01 Rabbit Creek A 79.47 24 P **P** **01 29 04.6 +0.6**
RC01 IAmb IAmb 01 29 06.1
comp=Z,212nm,1.2s
RC01 Rabbit Creek A 79.47 24 P **P** **01 29 04.8 +0.7**
baz=236,SNR=25
PPLA Purkeypile 79.56 22 P **P** **01 29 05.5 +0.9**
PPLA IAmb IAmb 01 29 07.3
comp=Z,170nm,1.5s
PPLA Purkeypile 79.56 22 P **P** **01 29 04.7 0.0**
baz=234,SNR=16
J20K Nowinta River 79.64 20 P **P** **01 29 06.1 +1.2**
J20K IAmb IAmb 01 29 08.0
comp=Z,171nm,1.2s
J20K Nowinta River 79.64 20 P **P** **01 29 06.5 +1.6**
baz=232,SNR=50
RDOG Red Dog Mine 79.66 15 P **P** **01 29 05.4 +0.4**
RDOG Red Dog Mine 79.66 15 P **P** **01 29 05.5 +0.6**
baz=223
M22K Willow 79.69 23 P **P** **01 29 05.3 +0.1**
M22K Willow 79.69 23 P **P** **01 29 05.2 +0.1**
baz=236,SNR=19
LGTI Lohaghat 79.79 301 *e*P **P** **01 29 06.3 -0.1**
PTH Pithoragarh 79.83 301 *e*P **P** **01 29 07.0 +0.1**
CAST Castle Rocks 79.91 21 P **P** **01 29 06.7 +0.4**
CAST IAmb IAmb 01 29 08.1
comp=Z,120nm,1.2s
CAST Castle Rocks 79.91 21 P **P** **01 29 06.6 +0.2**
baz=234,SNR=62
PWL Port Wells 79.91 25 P **P** **01 29 07.5 +1.1**
PWL Port Wells 79.91 25 P **P** **01 29 07.5 +1.1**
baz=238
PCHI Peechi 79.97 282⇓ *e*P **P** **01 29 07.0 -0.8**
PMR Palmer 79.99 24 P **P** **01 29 07.1 +0.3**
PMR pmax pmax
comp=Z,122nm,1.1s
PMR Palmer 79.99 24 P **P** **01 29 07.1 +0.3**
PMR IAmb IAmb 01 29 08.8
comp=Z,122nm,1.1s
PMR Palmer 79.99 24 P **P** **01 29 07.4 +0.6**
baz=237,SNR=26
CUT Chulitna 80.00 23 P **P** **01 29 06.8 0.0**
CUT IAmb IAmb 01 29 08.8
comp=Z,235nm,1.2s
CUT Chulitna 80.00 23 P **P** **01 29 06.8 0.0**
baz=236,SNR=11
Q23K Middleton Isla 80.02 26 P **P** **01 29 07.4 +0.5**
baz=240
CHUM Lake Minchumin 80.10 21 P **P** **01 29 08.4 +1.0**
baz=233,SNR=60
KNK Knik Glacier 80.16 24 P **P** **01 29 08.8 +1.0**
baz=237,SNR=17
GHO Glory Hole Cre 80.17 24 P **P** **01 29 08.7 +0.8**
GHO IAmb IAmb 01 29 10.0
comp=Z,111nm,1.1s
KTH Kantishna Hill 80.41 22 P **P** **01 29 09.1 0.0**
KTH IAmb IAmb 01 29 10.4
comp=Z,113nm,1.2s
SML Sawmill 80.43 24 P **P** **01 29 10.2 +0.9**
baz=237,SNR=54
JHNI Jhansi 80.43 297 *e*P **P** **01 29 07.7 -2.4**
GLI Glacier Island 80.44 25 P **P** **01 29 10.2 +0.9**
GLI IAmb IAmb 01 29 11.5
comp=Z,132nm,1.0s
GLI Glacier Island 80.44 25 P **P** **01 29 10.2 +0.9**
baz=239,SNR=16
TRF Thorofare Moun 80.58 22 P **P** **01 29 09.7 -0.5**
TRF Thorofare Moun 80.58 22 P **P** **01 29 09.9 -0.3**
baz=235,SNR=15
FID Port Fidalgo 80.63 25 P **P** **01 29 10.9 +0.7**
FID IAmb IAmb 01 29 12.4
comp=Z,140nm,1.1s
M23K Glacier View 80.66 24 P **P** **01 29 11.2 +0.7**
baz=238,SNR=11
BPAW Bear Paw Mtn. 80.70 21 P **P** **01 29 09.8 -0.8**
BPAW Bear Paw Mtn. 80.70 21 P **P** **01 29 10.5 -0.1**
baz=235,SNR=24
EYAK Cordova Ski Ar 80.84 25 P **P** **01 29 11.2 -0.2**
EYAK Cordova Ski Ar 80.84 25 P **P** **01 29 12.4 +1.0**
baz=240,SNR=5.1
SCM Sheep Creek Mo 80.84 24 P **P** **01 29 12.5 +1.0**
SCM pmax pmax
comp=Z,203nm,1.2s
SCM Sheep Creek Mo 80.84 24 P **P** **01 29 12.5 +1.0**
SCM IAmb IAmb 01 29 14.0
comp=Z,203nm,1.2s
SCM Sheep Creek Mo 80.84 24 P **P** **01 29 12.6 +1.1**
baz=238,SNR=19
WAT1 Susitna Watana 80.89 23 P **P** **01 29 12.1 +0.4**
baz=237
IMAR Indian Mountai 80.90 19 P **P** **01 29 12.9 +1.3**
AKL Akola 80.93 292 *e*P **P** **01 29 11.9 -0.8**
LATR Latur 80.97 290 *e*P **P** **01 29 12.0 -1.0**
I21K Tanana 80.99 20 P **P** **01 29 13.2 +1.1**
I21K IAmb IAmb 01 29 14.9
comp=Z,152nm,1.4s
I21K Tanana 80.99 20 P **P** **01 29 13.4 +1.4**
baz=234,SNR=38
H21K Melozitna Rive 81.00 19 P **P** **01 29 13.0 +0.8**
H21K IAmb IAmb 01 29 14.9
comp=Z,115nm,1.4s
H21K Melozitna Rive 81.00 19 P **P** **01 29 13.4 +1.3**
baz=233,SNR=34
BHPL Bhopal 81.01 295 *e*P **P** **01 29 12.0 -1.2**
BHPL IAmb IAmb 01 29 13.6
comp=Z,44nm,0.7s
WAT6 Susitna Watana 81.08 23 P **P** **01 29 13.4 +0.6**
baz=238,SNR=38
RND Reindeer 81.09 22 P **P** **01 29 13.1 +0.3**
RND pmax pmax
comp=Z,119nm,1.2s
RND Reindeer 81.09 22 P **P** **01 29 13.1 +0.3**
RND IAmb IAmb 01 29 14.3
comp=Z,119nm,1.2s
DIV Divide 81.12 25 P **P** **01 29 14.1 +1.1**
DIV IAmb IAmb 01 29 15.5
comp=Z,91nm,1.0s
RAGM Ragged Mountai 81.22 26 P **P** **01 29 14.7 +1.3**
RAGM IAmb IAmb 01 29 16.2
comp=Z,214nm,1.4s
ZSN Zaisan 81.23 320 *e*P **P** **01 29 13.2 -0.5**
ZSN *e*S **S** **01 39 13.0 -0.1**
ZSN Zaisan 81.23 320 *e*P **P** **01 29 13.3 -0.5**
baz=320
ZSN *e*S **S** **01 39 13.1 -0.1**
KLU Klutina 81.24 25 P **P** **01 29 14.5 +0.9**
KLU IAmb IAmb 01 29 16.3

comp=Z,145nm,1.0s
KLU Klutina 81.24 25 P **P** **01 29 14.9 +1.3**
baz=240,SNR=36
MCK McKinley 81.24 22 P **P** **01 29 13.9 +0.4**
MCK pmax pmax
comp=Z,252nm,1.2s
MCK McKinley 81.24 22 P **P** **01 29 13.9 +0.4**
MCK McKinley 81.24 22 P **P** **01 29 13.6 +0.1**
baz=237,SNR=76
BWN Browne 81.29 21 P **P** **01 29 14.2 +0.5**
HMT Hamilton 81.38 26 P **P** **01 29 15.8 +1.5**
HMT IAmb IAmb 01 29 16.9
comp=Z,121nm,1.1s
M24K Tolsona, Glenn 81.45 24 P **P** **01 29 15.3 +0.6**
M24K Tolsona, Glenn 81.45 24 P **P** **01 29 16.2 +1.5**
baz=239,SNR=24
DHY Denali Highway 81.48 23 P **P** **01 29 15.8 +0.9**
DHY IAmb IAmb 01 29 17.1
comp=Z,144nm,1.4s
DHY Denali Highway 81.48 23 P **P** **01 29 15.7 +0.7**
baz=238,SNR=28
BMRM Bremner River 81.54 25 P **P** **01 29 16.0 +0.8**
BMRM IAmb IAmb 01 29 17.6
comp=Z,169nm,1.3s
BMRM Bremner River 81.54 25 P **P** **01 29 16.1 +1.0**
baz=241,SNR=18
BERG Berg Lake 81.65 26 P **P** **01 29 16.6 +0.9**
BERG IAmb IAmb 01 29 18.4
comp=Z,190nm,1.1s
NEA2 Nenana 81.67 21 P **P** **01 29 15.7 -0.1**
NEA2 IAmb IAmb 01 29 17.0
comp=Z,122nm,1.3s
NEA2 Nenana 81.67 21 P **P** **01 29 15.6 -0.1**
baz=236,SNR=37
H08S2 Diego Garcia H 81.75 263 P **P** **01 29 17.6 +0.7**
baz=30,slow=5.7,SNR=12
H08S3 Diego Garcia H 81.76 263 P **P** **01 29 17.5 +0.6**
baz=30,slow=5.7,SNR=7.9
H08S1 Diego Carcia H 81.77 263 P **P** **01 29 17.7 +0.7**
baz=30,slow=5.7,SNR=3.7
DGAR Diego Garcia 81.81 263 P **P** **01 29 17.5 0.0**
DGAR Diego Garcia 81.81 263 P **P** **01 29 17.5 0.0**
N25K Chitina, Valde 81.85 25 P **P** **01 29 17.9 +1.1**
N25K IAmb IAmb 01 29 19.6
comp=Z,113nm,1.1s
N25K Chitina, Valde 81.85 25 P **P** **01 29 18.2 +1.4**
baz=241,SNR=24
I23K Minto, Yukon-K 81.88 21 P **P** **01 29 16.7 -0.1**
I23K Minto, Yukon-K 81.88 21 P **P** **01 29 17.1 +0.4**
baz=236
SNH Sunshine Point 81.93 27 P **P** **01 29 18.6 +1.4**
SNH IAmb IAmb 01 29 20.2
comp=Z,187nm,1.2s
WRH Wood River Hil 81.96 22 P **P** **01 29 16.8 -0.4**
WRH IAmb IAmb 01 29 18.5
comp=Z,129nm,1.3s
HARP HAARP 82.01 24 P **P** **01 29 18.7 +1.1**
baz=240,SNR=5.3
KAAM Kaadhehdhoo 82.05 271 P **P** **01 29 19.0 +0.2**
KAAM IAmb IAmb 01 29 20.8
comp=Z,185nm,1.0s
WAX Waxell Ridge 82.05 26 IAmb IAmb 01 29 20.7
comp=Z,152nm,1.1s
GLB Gilahina Butte 82.10 25 IAmb IAmb 01 29 20.6
comp=Z,204nm,1.2s
VRDI Verde Repeater 82.15 25 IAmb IAmb 01 29 21.0
comp=Z,138nm,1.2s
CCB Clear Creek Bu 82.16 21 IAmb IAmb 01 29 19.4
comp=Z,103nm,1.3s
PAX Paxson 82.17 23 P **P** **01 29 19.0 +0.6**
baz=240,SNR=15
MDM Murphy Dome 82.17 21 IAmb IAmb 01 29 19.6
comp=Z,103nm,1.3s
H23K Yukon River 82.19 20 IAmb IAmb 01 29 21.0
comp=Z,156nm,1.4s
H23K Yukon River 82.19 20 P **P** **01 29 19.5 +1.1**
baz=236,SNR=38
TGL Tana Glacier 82.20 26 IAmb IAmb 01 29 21.2
comp=Z,122nm,1.2s
NDI New Delhi 82.22 300 *e*P **P** **01 29 18.8 -0.6**
AYAN Aya Nagar 82.26 300 *e*P **P** **01 29 17.4 -2.1**
TCOL CIGO, UAF Yank 82.26 21 IAmb IAmb 01 29 19.9
comp=Z,95nm,1.1s
TCOL CIGO, UAF Yank 82.26 21 P **P** **01 29 18.5 -0.2**
baz=238,SNR=9.0
COLA College 82.26 21 P **P** **01 29 18.8 0.0**
COLA pmax pmax
comp=Z,94nm,1.1s
COLA College 82.26 21 P **P** **01 29 18.8 0.0**
COLA IAmb IAmb 01 29 19.9
comp=Z,94nm,1.1s
COLA College 82.26 21 P **P** **01 29 18.5 -0.2**
baz=238
ISLE Juniper Island 82.35 26 IAmb IAmb 01 29 21.8
comp=Z,110nm,1.2s
MCARA McCarthy VSAT 82.41 25 IAmb IAmb 01 29 22.9
comp=Z,137nm,1.1s
MCARA McCarthy VSAT 82.41 25 P **P** **01 29 20.7 +1.1**
baz=242,SNR=22
K24K Donnelly Dome 82.47 23 P **P** **01 29 20.7 +0.8**
baz=240,SNR=16
POKR Poker Plat Res 82.54 21 P **P** **01 29 19.9 -0.4**
baz=238,SNR=12
IL31 82.56 22 IAmb IAmb 01 29 21.3
comp=Z,77nm,1.2s
ILAR Eielson Array 82.56 22 P **P** **01 29 19.8 -0.6**
comp=Z,24nm,1.0s,baz=255,slow=4.3,SNR=93
ILAR pP **pP** **01 29 52.5 -1.3**
comp=Z,13nm,0.9s,baz=261,slow=4.7,SNR=5.0
ILAR LR LR 02 00 18.1
comp=Z,126nm,20.8s,baz=184,slow=31
GRNC Granite Creek 82.66 26 IAmb IAmb 01 29 23.7
comp=Z,70nm,1.2s
MK31 Makanchi Array 82.70 319*d i*P **P** **01 29 21.5 0.0**
MK31 Makanchi Array 82.70 319 IAmb IAmb 01 29 23.1
comp=Z,109nm,0.8s
MKAR Makanchi Array 82.70 319 P **P** **01 29 21.4 0.0**
comp=Z,148nm,0.7s,baz=104,slow=5.3,SNR=825
MKAR S **S** **01 39 22.3 -5.9**
comp=Z,0.1nm,0.6s,baz=81,slow=18,SNR=1.0
MKAR PKKPbc **PKKPbc** **01 47 44.4 -3.0**
comp=Z,0.7nm,0.8s,baz=283,slow=2.1,SNR=4.4
MKAR LR LR 02 04 21.5
comp=Z,64nm,21.3s,baz=86,slow=34
SMLA Simla 82.74 302 *e*P **P** **01 29 21.2 -0.8**
SMLA IAmb IAmb 01 29 24.2
comp=Z,66nm,0.7s
KUDL Kundal 82.75 299 *e*P **P** **01 29 20.4 -1.6**
H24K Noodor Dome 82.77 20 P **P** **01 29 21.3 -0.2**
baz=237,SNR=10.0
COLD Coldfoot 82.78 19 IAmb IAmb 01 29 24.4
comp=Z,106nm,1.4s
COLD Coldfoot 82.78 19 P **P** **01 29 22.7 +1.3**
baz=235,SNR=40
RIDG Independent Ri 82.80 23 IAmb IAmb 01 29 23.9
comp=Z,175nm,1.3s
RIDG Independent Ri 82.80 23 P **P** **01 29 22.4 +0.8**
baz=240,SNR=44
TABL Table Mountain 82.81 27 IAmb IAmb 01 29 24.5
comp=Z,176nm,1.2s
BARN Barnard Glacie 82.85 26 IAmb IAmb 01 29 24.9
comp=Z,176nm,1.3s
MENT Mentasta 82.85 24 IAmb IAmb 01 29 24.6
comp=Z,85nm,1.5s
M26K Nabesna, AK 82.89 24 IAmb IAmb 01 29 24.8
comp=Z,102nm,1.4s
M26K Nabesna, AK 82.89 24 P **P** **01 29 23.0 +0.8**
baz=242,SNR=18
MAKZ Makanchi 82.91 319 P **P** **01 29 22.7 +0.1**
MAKZ pmax pmax
comp=Z,178nm,0.8s
MAKZ Makanchi 82.91 319 P **P** **01 29 22.7 +0.1**
MNCY Minicoy 82.91 279 IAmb IAmb 01 29 42.4
comp=Z,29nm,1.1s
MNCY Minicoy 82.91 279 *e*P P 01 29 39.2 +16
CTG Chitna Glacier 82.95 26 P **P** **01 29 23.9 +1.3**
baz=244,SNR=29
KAD Karad 83.03 288 *e*P **P** **01 29 23.0 -0.9**
LOGN Logan Glacier 83.03 26 IAmb IAmb 01 29 25.7
comp=Z,90nm,1.1s
J25K Salcha River, 83.04 22 P **P** **01 29 23.5 +0.7**
baz=240,SNR=97
L26K Log Cabin Wild 83.05 24 P **P** **01 29 23.9 +1.0**
baz=242,SNR=6.5
PCA Pinnacle 83.06 27 IAmb IAmb 01 29 25.7
comp=Z,133nm,1.1s
PINM Pinnacle 83.06 27 P **P** **01 29 24.6 +1.5**

baz=245
GOA Goa 83.11 286 *e*P P **01 29 24.1 0.0**
GOA IAmb IAmb 01 29 25.8
comp=Z,41nm,0.6s
SCRK Sand Creek 83.25 23 IAmb IAmb 01 29 26.4
comp=Z,117nm,1.4s
SCRK Sand Creek 83.25 23 P P **01 29 24.7 +0.7**
baz=241,SNR=35
PNL Peninsula 83.27 28 P P **01 29 25.5 +1.4**
baz=246,SNR=7.4
BCPM Bancas Point 83.28 27 IAmb IAmb 01 29 26.9
comp=Z,178nm,1.2s
KHET Khetri 83.33 299 *e*P P **01 29 23.9 -1.2**
M27K Edge Creek, AK 83.34 25 P P **01 29 26.2 +1.6**
baz=243,SNR=81
ZAA0 Zalesovo Array 83.41 326 IAmb IAmb 01 29 25.1
comp=Z,88nm,0.8s
ZALV Zalesovo Beam 83.41 326 P P **01 29 23.9 -1.0**
comp=Z,82nm,0.7s,baz=112,slow=5.7,SNR=345
ZALV LR LR 02 08 32.4
comp=Z,43nm,18.9s,baz=106,slow=37
ZALV Zalesovo Beam 83.41 326 *i* P P **01 29 24.0 -0.9**
ZALV pmax pmax
comp=Z,83nm,0.7s
POO Poona 83.53 289 *e*P P **01 29 25.5 -0.9**
POO IAmb IAmb 01 29 27.2
comp=Z,43nm,0.8s
POO ⇓*i*P **PcP 01 29 29.0 -1.4**
comp=Z,100nm,0.2s
A21K Barrow 83.53 14 P P **01 29 26.1 +1.0**
baz=228
SHLS Shalkode 83.65 315 *e*P P **01 29 24.5 -2.1**
SHLS Shalkode 83.65 315 *e*P P **01 29 24.6 -2.1**
baz=315
J26L Joseph Creek 83.66 23 P P **01 29 27.1 +1.0**
baz=242,SNR=27
PDGK Podgornoye 83.67 315 P P **01 29 25.6 -1.1**
L27K Beaver Creek, 83.68 24 IAmb IAmb 01 29 29.1
comp=Z,90nm,1.3s
L27K Beaver Creek, 83.68 24 P P **01 29 27.5 +1.3**
baz=243,SNR=31
YUK3 Moose Creek 83.68 26 P P **01 29 27.9 +1.4**
baz=245,SNR=30
TOLK Toolik Lake Re 83.78 18 IAmb IAmb 01 29 29.2
comp=Z,111nm,1.4s
TOLK Toolik Lake Re 83.78 18 P P **01 29 27.8 +1.2**
baz=236
BVCY Beaver Creek 83.79 25 P P **01 29 28.5 +1.7**
baz=244,SNR=22
QSPA South Pole Qui 83.88 180 PKKPbc PKKPbc 01 47 41.0 -4.8
comp=Z,2.4nm,0.9s,baz=250,slow=0.7,SNR=11
QSPA South Pole Qui 83.88 180 P P **01 29 27.9 +0.6**
QSPA IAmb IAmb 01 29 28.3
comp=Z,49nm,0.8s
UZB Uzynbulak 83.96 314 *e*P P **01 29 27.5 -0.7**
UZB Uzynbulak 83.96 314 *e*P P **01 29 27.5 -0.7**
baz=314
K27K Chicken 84.02 23 IAmb IAmb 01 29 31.1
comp=Z,112nm,1.4s
K27K Chicken 84.02 23 P P **01 29 29.6 +1.8**
baz=243
AJM Ajmer 84.06 297 *e*P P **01 29 26.2 -2.8**
THN Thein Dam 84.21 303 *e*P P **01 29 28.9 -0.5**
YUK6 Outpost Mounta 84.26 27 P P **01 29 30.9 +1.5**
baz=247,SNR=17
SIT Sitka 84.27 31 P P **01 29 30.7 +1.6**
baz=250
KPKS Kokpek 84.28 315 *e*P P **01 29 29.0 -0.7**
KPKS *e*S S **01 39 38.9 -5.5**
KPKS Kokpek 84.28 315 *e*P P **01 29 29.1 -0.7**
baz=315
KPKS *e*S S **01 39 38.9 -5.5**
baz=315
YUK4 Talbot Arm 84.29 26 P P **01 29 31.7 +2.1**
baz=246,SNR=30
SATY Saty 84.38 314 *e*P P **01 29 29.8 -0.5**
SATY pmax pmax
comp=Z,20nm,0.9s
SATY Saty 84.38 314 *e*P P **01 29 29.8 -0.5**
comp=Z,20nm,0.9s,baz=314
ZHN Zhinishke 84.38 314 *e*P P **01 29 29.1 -1.2**
ZHN Zhinishke 84.38 314 *e*P P **01 29 29.1 -1.2**
baz=314
DIB Dawson Inlet, 84.56 35 IAmb IAmb 01 29 35.7
comp=Z,74nm,1.1s
H02S1 DAWSON INLET T 84.56 35 P P **01 29 30.6 -0.1**
SNR=4.4
HYT Haines Junctio 84.60 27 P P **01 29 32.8 +1.8**
baz=247,SNR=38
EGAK Eagle 84.71 23 IAmb IAmb 01 29 34.0
comp=Z,106nm,1.4s
EGAK Eagle 84.71 23 P P **01 29 32.6 +1.3**
baz=244,SNR=17
TDK Taldyqorghan 84.84 316 *e*P P **01 29 31.9 -0.5**
TDK pmax pmax
comp=Z,61nm,0.8s
TDK Taldyqorghan 84.84 316 *e*P P **01 29 31.9 -0.5**
comp=Z,61nm,0.8s,baz=316
CRAG Craig 84.90 33 P P **01 29 34.0 +1.6**
baz=252
SEM Semipalatinsk 85.01 322 *e*P P **01 29 31.4 -2.0**
SEM pmax pmax
comp=Z,22nm,0.7s
SEM Semipalatinsk 85.01 322 *e*P P **01 29 31.5 -2.0**
comp=Z,22nm,0.7s,baz=322
BESE Bessie Mountai 85.03 30 IAmb IAmb 01 29 36.1
comp=Z,134nm,1.3s
HG4B Hotspring 85.03 36 IAmb IAmb 01 29 36.0
comp=Z,70nm,0.9s
KDJ Kajisay 85.05 313 IAmb IAmb 01 29 35.2
comp=Z,87nm,0.8s
ARXS Arharly 85.06 315 *e*P P **01 29 31.9 -1.7**
DAWY Dawson 85.10 24 P P **01 29 34.9 +1.6**
baz=245,SNR=39
SKAG Skagway 85.11 29 IAmb IAmb 01 29 36.4
comp=Z,80nm,1.2s
SKAG Skagway 85.11 29 P P **01 29 34.8 +1.4**
baz=249,SNR=6.5
MAW Mawson 85.20 203 P P **01 29 34.2 +0.4**
comp=Z,106nm,0.9s,baz=95,slow=6.3,SNR=46
MAW Mawson 85.20 203 P P **01 29 34.4 +0.7**
baz=85,SNR=31
MAW Mawson 85.20 203 P P **01 29 34.1 +0.4**
MAW pmax pmax
comp=Z,24nm,0.9s
MAW Mawson 85.20 203 P P **01 29 34.1 +0.4**
MDOK Medeo 85.37 314 P P **01 29 34.7 -0.6**
MDOK Medeo 85.37 314 *e*P P **01 29 34.5 -0.8**
baz=314
KSH Kashi 85.39 310 P P **01 29 37.5 +2.1**
KSH pP pP 01 30 08.5 -0.7
KSH PP **PP 01 32 57.0 +1.5**
KSH S S **01 39 59.5 +3.9**
KSH pmax pmax
comp=Z,49nm,1.0s
TNSS Tian-Shan 85.42 314 *e*P P **01 29 35.1 -0.7**
TNSS Tian-Shan 85.42 314 *e*P P **01 29 35.2 -0.6**
baz=314
AAA Alma-Ata 85.47 314 *e*P P **01 29 35.3 -0.4**
AAA pmax pmax
comp=Z,28nm,0.7s
AAA Alma-Ata 85.47 314 *e*P P **01 29 35.3 -0.4**
comp=Z,28nm,0.7s,baz=314
CHKK Chushkaly 85.56 315 *e*P P **01 29 34.8 -1.3**
CHKK Chushkaly 85.56 315 *e*P P **01 29 34.8 -1.3**
baz=315
M30M Minto, Yukon 85.58 26 IAmb IAmb 01 29 38.7
comp=Z,108nm,1.4s
M30M Minto, Yukon 85.58 26 P P **01 29 37.1 +1.4**
baz=248,SNR=47
BHV Bhavnagar 85.58 292 *e*P P **01 29 35.6 -1.0**
WRAK Wrangell Islan 85.61 32 P P **01 29 37.0 +1.2**
baz=252,SNR=12
N31M Braeburn, Yuko 85.62 27 P P **01 29 37.6 +1.7**
baz=249,SNR=30
J29M Klondike Camp 85.72 24 P P **01 29 38.2 +1.8**
baz=246,SNR=16
WHY Whitehorse 85.74 28 IAmb IAmb 01 29 39.3
comp=Z,62nm,1.2s
WHY Whitehorse 85.74 28 P P **01 29 37.8 +1.2**
baz=250,SNR=14
ULHL Ulahol 85.75 313 P P **01 29 37.5 +0.2**
SNR=17
BOOM Boomskoye usch 86.02 313 IAmb IAmb 01 29 44.4
comp=Z,38nm,0.7s
KUU Kurty 86.03 315 *e*P P **01 29 37.4 -1.0**
KUU pmax pmax
comp=Z,61nm,0.8s
KUU Kurty 86.03 315 *e*P P **01 29 37.4 -1.0**
comp=Z,61nm,0.8s,baz=315
I29M Ogilvie Camp, 86.05 23 IAmb IAmb 01 29 40.5
comp=Z,138nm,1.4s
I29M Ogilvie Camp, 86.05 23 P P **01 29 39.0 +1.1**
baz=246,SNR=46
KURK Kurchatov 86.10 322 *ce*P P **01 29 37.5 -1.0**
KURK pmax pmax
comp=Z,86nm,1.7s
KURK Kurchatov 86.10 322 P P **01 29 37.7 -0.7**
KURBB Kurchatov Arra 86.13 322 P P **01 29 37.7 -0.9**
comp=Z,19nm,0.6s,baz=106,slow=4.3,SNR=111
KURBB Kurchatov Arra 86.13 322 P P **01 29 37.1 -1.5**
RUBB Prince Rupert 86.14 35 IAmb IAmb 01 29 41.4
comp=Z,66nm,1.0s
GRNB Grenville Isla 86.18 35 IAmb IAmb 01 29 41.6
comp=Z,59nm,1.1s
TKM2 Tokmak 2 86.36 314 P P **01 29 40.0 -0.3**
SNR=48
TKM2 Tokmak 2 86.36 314 *i* P P **01 29 39.7 -0.5**
TKM2 pmax pmax
comp=Z,26nm,0.6s
NIL Nilore 86.46 304 P P **01 29 39.6 -1.1**
NIL pmax pmax
comp=Z,36nm,0.9s
NIL Nilore 86.46 304 P P **01 29 39.6 -1.1**
M31M Drury Creek, Y 86.49 26 IAmb IAmb 01 29 42.5
comp=Z,96nm,1.4s
M31M Drury Creek, Y 86.49 26 P P **01 29 41.2 +1.0**
baz=250,SNR=39
KBK Karagaybulak 86.78 313 P P **01 29 41.8 -0.4**
SNR=23
FARO Faro, Yukon 86.96 26 P P **01 29 43.4 +0.9**
baz=251,SNR=27
CHMS Chumysh 86.98 314 P P **01 29 42.7 -0.4**
SNR=28
CHMS Chumysh 86.98 314 *i* P P **01 29 42.3 -0.8**
CHMS pmax pmax
comp=Z,35nm,0.7s
UCH Uchtor 87.01 313 P P **01 29 43.8 +0.1**
SNR=16
EPYK Eagle Plains 87.05 22 P P **01 29 44.0 +1.2**
baz=248,SNR=70
AAK Ala-Archa 87.10 313 P P **01 29 43.6 -0.2**
SNR=29
AAK Ala-Archa 87.10 313 P P **01 29 43.3 -0.5**
comp=Z,22nm,0.7s,baz=136,slow=4.7,SNR=68
AAK Ala-Archa 87.10 313 P P **01 29 43.6 -0.2**
AAK pmax pmax
comp=Z,21nm,0.7s
AAK Ala-Archa 87.10 313 P P **01 29 43.6 -0.2**
SGDS Sogindy 87.16 314 *e*P P **01 29 42.6 -1.3**
SGDS Sogindy 87.16 314 *e*P P **01 29 42.6 -1.3**
baz=314
USP Ospenovka 87.22 314 P P **01 29 43.9 -0.3**
SNR=41
DLBC Dease Lake 87.39 31 LR LR 02 03 16.6
comp=Z,140nm,20.2s,baz=259,slow=32
DLBC Dease Lake 87.39 31 IAmb IAmb 01 29 47.8
comp=Z,144nm,1.3s
AML Almayashu 87.59 313 P P **01 29 46.6 +0.1**
SNR=81
EKS2 Erkin-Say 87.62 313 P P **01 29 46.1 -0.1**
SNR=30
J01E Myrtle Point 87.69 46 P P **01 29 47.5 +1.2**
baz=260
L02E Cave Junction 87.74 47 P P **01 29 48.8 +2.1**
baz=260
K02D Willamette Mer 87.79 47 P P **01 29 49.1 +2.1**
baz=260
BTLS Baital 87.87 316 *e*P P **01 29 46.0 -1.2**
BTLS Baital 87.87 316 *e*P P **01 29 46.0 -1.2**
baz=316
NRIK Noril'sk 87.87 341 P P **01 29 45.8 -0.9**
comp=Z,24nm,0.6s,baz=119,slow=4.7,SNR=43
NRIK LR LR 02 08 11.8
comp=Z,77nm,20.7s,baz=112,slow=35
NRIK Noril'sk 87.87 341 *ce*P P **01 29 45.5 -1.1**
NRIK pmax pmax
comp=Z,40nm,0.8s
MMPY Sheldon Lake, 88.00 26 P P **01 29 48.9 +1.4**
baz=253,SNR=17
O02D Mt. Diablo Mer 88.01 49 P P **01 29 50.2 +2.1**
baz=260
CBB Campbell River 88.04 39 IAmb IAmb 01 29 50.0
comp=Z,56nm,0.9s
M02C Callahan 88.16 48 P P **01 29 50.3 +1.6**
baz=260
YBH Yreka Blue Hor 88.33 48 P P **01 29 49.8 +0.3**
comp=Z,8.2nm,0.8s,baz=212,slow=2.5,SNR=12
WTLY Watson Lake, Y 88.45 29 P P **01 29 51.4 +1.7**
baz=255
NLWA Neilton Lookou 88.50 42 IAmb IAmb 01 29 53.3
comp=Z,48nm,1.2s
G03D McMinnville, O 88.52 44 P P **01 29 51.6 +1.4**
baz=260
CLRS Cowichan Lake 88.59 41 IAmb IAmb 01 29 53.8
comp=Z,45nm,1.1s
L04D Klamath Falls 88.70 47 P P **01 29 52.2 +0.8**
baz=261
O03E Paynes Creek 88.77 49 P P **01 29 52.5 +0.8**
baz=261,SNR=8.8
H04D Lebanon 88.77 45 P P **01 29 52.3 +0.9**
baz=260
B04A Port Angeles 88.86 42 IAmb IAmb 01 29 54.2
comp=Z,75nm,1.4s
INK Inuvik 88.90 21 P P **01 29 51.9 +0.5**
comp=Z,23nm,1.1s,baz=262,slow=7.1,SNR=29
INK LR LR 02 10 05.0
comp=Z,82nm,18.5s,baz=189,slow=36
INK Inuvik 88.90 21 IAmb IAmb 01 29 52.7
comp=Z,54nm,1.4s
INK Inuvik 88.90 21 P P **01 29 52.0 +0.5**
baz=251,SNR=21
PGC Sidney 89.01 41 IAmb IAmb 01 29 54.4
comp=Z,41nm,1.1s
J04D Umpqua Nationa 89.01 46 IAmb IAmb 01 29 56.2
comp=Z,30nm,0.8s
J04D Umpqua Nationa 89.01 46 P P **01 29 53.9 +1.1**
baz=261,SNR=6.1
D03D Eldon 89.05 42 P P **01 29 53.8 +1.2**
baz=260,SNR=8.8
TGTN Hyland Airport 89.06 28 P P **01 29 53.9 +1.4**
baz=256,SNR=5.8
K04D Chiloquin, OR 89.17 47 P P **01 29 54.5 +1.0**
baz=261
D04E Lakebay 89.20 43 P P **01 29 54.7 +1.4**
baz=260
F04A Amboy 89.23 44 IAmb IAmb 01 29 57.8
comp=Z,46nm,1.1s
E04D Cinebar 89.23 43 IAmb IAmb 01 29 56.0
comp=Z,85nm,1.4s
E04D Cinebar 89.23 43 P P **01 29 54.8 +1.2**
baz=260,SNR=7.1
PAGB Antelope Grade 89.32 54 IAmb IAmb 01 29 58.8
comp=Z,62nm,1.1s
DZA Taraz 89.44 313 *e*P P **01 29 53.5 -1.2**
DZA Taraz 89.44 313 *e*P P **01 29 53.5 -1.2**
baz=313
SMMC Simmler 89.47 55 P P **01 29 57.3 +2.3**
baz=262
A04D Lummi Island 89.50 41 P P **01 29 55.8 +1.1**
baz=260,SNR=6.5
PKM Mcpherson Peak 89.56 55 P P **01 29 57.8 +2.2**
baz=262,SNR=8.8
OTUK Ortayu 89.59 318 P P **01 29 53.2 -2.0**
GAR Garm 89.63 309 IAmb IAmb 01 29 57.8
comp=Z,26nm,0.7s
J05D Fort Rock, OR 89.65 47 P P **01 29 57.1 +1.4**
baz=261,SNR=15
BRZS Berezniki 89.66 320 *e*P P **01 29 53.1 -2.4**
BRZS Berezniki 89.66 320 *e*P P **01 29 53.1 -2.4**
baz=320
D05A Enumclaw 89.73 43 IAmb IAmb 01 29 59.2
comp=Z,113nm,1.4s
I05D Terrebonne, OR 89.73 46 P P **01 29 57.0 +1.0**
baz=261,SNR=7.2
BEKR Beckworth 89.80 50 P P **01 29 56.6 0.0**
BEKR IAmb IAmb 01 29 59.2
comp=Z,37nm,1.1s
B05A Bryant 89.83 42 P P **01 29 57.3 +1.0**
baz=261,SNR=9.6
F05D White Salmon 89.89 44 P P **01 29 57.7 +1.1**
baz=261
G05D Wamic, OR 89.89 45 P P **01 29 57.8 +1.1**
baz=261
PINE Pine Mountain 89.94 46 IAmb IAmb 01 29 59.7
comp=Z,55nm,1.4s
MPK Martis Peak 89.98 51 IAmb IAmb 01 30 00.6
comp=Z,61nm,1.1s
KK31 Karatay Array 90.06 313 P P **01 29 56.3 -1.3**
VCNR Virginia City 90.27 51 IAmb IAmb 01 30 01.7
comp=Z,39nm,1.1s
VES Vestal, Richgr 90.27 54 P P **01 29 59.6 +1.0**
baz=263,SNR=9.5
IUG Iuzhnay 90.28 312 *e*P P **01 29 57.4 -1.3**
IUG Iuzhnay 90.28 312 *e*P P **01 29 57.4 -1.3**
baz=312
PNTR Pine Nut 90.28 51 IAmb IAmb 01 30 01.9
comp=Z,42nm,0.9s
ARVC Arvin 90.39 55 P P **01 30 01.2 +2.0**
baz=263,SNR=5.3
OSI Osito Audit: C 90.41 55 P P **01 30 01.3 +1.9**
baz=263
CHGR Chuyangaron 90.48 309 IAmb IAmb 01 30 00.2
comp=Z,44nm,1.0s
CIS Catalina Islan 90.52 57 P P **01 30 01.6 +1.7**
baz=263
PAHR Pah Rah Range 90.53 50 IAmb IAmb 01 30 02.7
comp=Z,48nm,1.1s
DECC Green Verdugo 90.69 56 P P **01 30 02.3 +1.6**
baz=263
ISA Isabella, Lake 90.74 54 P P **01 30 02.3 +1.4**
baz=263,SNR=8.7
PASC Pasadena Art C 90.80 56 IAmb IAmb 01 30 04.2
comp=Z,78nm,1.1s
F07A Phinny Hill Vi 90.94 44 IAmb IAmb 01 30 03.8
comp=Z,36nm,1.2s
I07A Izee 91.00 46 IAmb IAmb 01 30 04.3
comp=Z,50nm,1.5s
LHV Little Huntoon 91.03 52 IAmb IAmb 01 30 05.4
comp=Z,62nm,1.0s
EDW2 Edwards Air Fo 91.04 55 P P **01 30 04.4 +2.0**
baz=263,SNR=14
RYN Ryan 91.06 51 IAmb IAmb 01 30 05.3
comp=Z,49nm,1.0s
CWC Cottonwood Cre 91.15 54 P P **01 30 04.6 +1.7**
baz=263
NVAR Mina Array Bea 91.20 52 P P **01 30 04.7 +1.5**
comp=Z,49nm,1.0s,baz=252,slow=6.3,SNR=155
NVAR pP **pP 01 30 37.1 -0.2**
comp=Z,21nm,1.1s,baz=255,slow=5.0,SNR=3.9
NVAR PP **PP 01 33 40.6 -1.5**
comp=Z,0.8nm,0.8s,baz=264,slow=8.8,SNR=2.1
NVAR PKKPbc **PKKPdf 01 47 23.4 +0.1**
comp=Z,1.1nm,0.7s,baz=120,slow=2.2,SNR=6.6
NVAR LR LR 02 05 33.5
comp=Z,64nm,20.3s,baz=280,slow=32
BFSC Mount Baldy Ra 91.24 56 P P **01 30 04.9 +1.5**
baz=264,SNR=15
HAWA Hanford 91.28 44 IAmb IAmb 01 30 05.2
comp=Z,38nm,1.1s
NV11 Mina Array Sit 91.32 52 IAmb IAmb 01 30 06.5
comp=Z,73nm,1.1s
LRMC Laurel Mtn Rad 91.36 55 P P **01 30 05.7 +1.8**
baz=264,SNR=7.6
ELS Elsinore Mount 91.37 56 IAmb IAmb 01 30 07.0
comp=Z,43nm,1.2s
KVN Kaiserville 91.44 51 IAmb IAmb 01 30 07.0
comp=Z,56nm,1.1s
G08A Pilot Rock 91.54 45 IAmb IAmb 01 30 06.5
comp=Z,42nm,1.3s
109C Camp Elliot, M 91.55 57 IAmb IAmb 01 30 08.7
comp=Z,58nm,1.1s
109C Camp Elliot, M 91.55 57 P P **01 30 06.6 +1.9**
baz=264,SNR=6.0
MURC Murrieta 91.55 57 P P **01 30 06.3 +1.6**
baz=264,SNR=5.9
MPMC Manual Prospec 91.58 54 P P **01 30 06.7 +1.7**
baz=264,SNR=24
BRVK Borovoye 91.62 323 *i* P P **01 30 02.3 -2.2**
BRVK pmax pmax
comp=Z,31nm,0.9s
E08A Dider Farm, El 91.62 44 IAmb IAmb 01 30 06.8
comp=Z,82nm,1.5s
B08A Colville Reser 91.67 42 IAmb IAmb 01 30 06.5
comp=Z,52nm,1.4s
GRAC Grapevine Rang 91.78 53 IAmb IAmb 01 30 08.1
comp=Z,30nm,1.1s
GRAC Grapevine Rang 91.78 53 P P **01 30 07.4 +1.7**
baz=264,SNR=14
D08A Wollman Farm, 91.78 43 IAmb IAmb 01 30 07.4
comp=Z,49nm,1.3s
BBRC Big Bear Solar 91.85 56 P P **01 30 07.9 +1.5**
baz=264
RRX Edison Barstow 91.85 55 P P **01 30 07.8 +1.7**
baz=264
BAR Barrett 91.89 58 IAmb IAmb 01 30 09.5
comp=Z,83nm,1.4s
GSC Goldstone, Bar 92.05 55 IAmb IAmb 01 30 10.1
comp=Z,29nm,1.0s
GSC Goldstone, Bar 92.05 55 P P **01 30 08.7 +1.6**
baz=264,SNR=12
QSM Queen of Sheba 92.07 54 IAmb IAmb 01 30 10.0
comp=Z,54nm,1.0s
MONP2 Monument Peak 92.12 57 P P **01 30 09.7 +2.1**
baz=264,SNR=14
FURC Furnace Creek, 92.13 54 P P **01 30 09.2 +1.9**
baz=264
PFO Pinyon Flats O 92.17 57 P P **01 30 09.6 +1.9**
comp=Z,32nm,0.9s,baz=264,slow=3.8,SNR=25
PFO LR LR 02 04 49.0
comp=Z,134nm,20.6s,baz=258,slow=31
PFO Pinyon Flats O 92.17 57 P P **01 30 07.9 +0.2**
PFO pmax pmax
comp=Z,42nm,1.0s
PFO Pinyon Flats O 92.17 57 P P **01 30 07.9 +0.2**
PFO IAmb IAmb 01 30 10.7
comp=Z,42nm,0.9s
PFO Pinyon Flats O 92.17 57 P P **01 30 09.5 +1.9**
baz=264
TPFO Pinon Flats 92.17 57 P P **01 30 09.3 +1.6**
baz=264,SNR=7.3
E09A Wood Farm, Sta 92.25 44 IAmb IAmb 01 30 09.6
comp=Z,48nm,1.1s
GWY Greenwater Val 92.25 54 IAmb IAmb 01 30 10.8
comp=Z,34nm,1.0s
BMN Battle Mountai 92.26 50 IAmb IAmb 01 30 10.7
comp=Z,58nm,1.2s
C09A Chrisman Ranch 92.31 42 IAmb IAmb 01 30 09.5
comp=Z,45nm,1.3s
RPN Rapa Nui 92.32 117 LR LR 02 03 51.0
comp=Z,39nm,19.1s,baz=279,slow=30
IKP In-Ko-Pah, Jac 92.36 58 P P **01 30 10.5 +2.0**
baz=264
HEC Hector Ludlow 92.39 55 P P **01 30 10.2 +1.5**
baz=264,SNR=8.2
C36M Paulatuk 92.48 21 IAmb IAmb 01 30 09.8
comp=Z,69nm,1.5s
C36M Paulatuk 92.48 21 P P **01 30 08.2 +0.2**
baz=259,SNR=7.8
YUH Yuha Desert 92.52 58 IAmb IAmb 01 30 12.5
comp=Z,39nm,1.1s
SHOC Shoshone, Teco 92.54 54 P P **01 30 10.8 +1.5**
baz=264,SNR=9.5
BELC Belle Mtn. Jos 92.59 56 P P **01 30 11.5 +1.9**
baz=264,SNR=11
A36M Sachs Harbour 92.61 18 IAmb IAmb 01 30 10.2
comp=Z,57nm,1.4s
A36M Sachs Harbour 92.61 18 P P **01 30 09.1 +0.5**
baz=258
SWSC Sam W. Stewart 92.65 57 P P **01 30 11.6 +1.9**
baz=264,SNR=5.6
BMO Blue Mountains 92.66 45 IAmb IAmb 01 30 11.5
comp=Z,52nm,1.5s
TPNV Topopah Spring 92.67 53 IAmb IAmb 01 30 12.9
comp=Z,27nm,1.1s
TPNV Topopah Spring 92.67 53 P P **01 30 11.6 +1.6**
baz=264,SNR=21
TUQ Turquoise Moun 92.78 55 P P **01 30 12.2 +1.7**
baz=264,SNR=5.6
F10A Beach Ranch, E 92.83 44 IAmb IAmb 01 30 12.0
comp=Z,39nm,1.1s
GMRC Granite Mounta 92.94 56 P P **01 30 13.0 +1.8**
baz=265,SNR=34
BC3 Big Chuckawall 93.00 57 P P **01 30 13.4 +1.9**
baz=265,SNR=16
NEW Newport 93.12 42 LR LR 02 06 00.1
comp=Z,282nm,21.1s,baz=268,slow=31
NEW Newport 93.12 42 IAmb IAmb 01 30 13.2
comp=Z,37nm,1.1s
NEW Newport 93.12 42 P P **01 30 12.1 +0.5**
baz=264,SNR=16
S11A Rachel 93.13 53 IAmb IAmb 01 30 14.3
comp=Z,21nm,0.9s

SYO	Syowa Base	93.16	199	⇑	eP		P	01 30 11.6	+0.3
SYO	Syowa Base	93.16	199	⇓	eP		pP	01 30 44.2	-1.0
IRM	Iron Mountain	93.31	56		P		P	01 30 14.9	+2.1
	baz=265,SNR=37								
R11A	Troy Canyon, C	93.32	52		IAmb	IAmb		01 30 15.8	
	comp=Z,41nm,1.1s								
R11A	Troy Canyon, C	93.32	52		P	P		01 30 14.3	+1.3
	baz=265,SNR=56								
GLA	Glamis	93.47	57		P	P		01 30 15.9	+2.3
	baz=265								
SHPR	Sheep Range	93.50	54		IAmb	IAmb		01 30 17.1	
	comp=Z,46nm,1.0s								
PLID	Pearl Lake	93.60	45		P	P		01 30 14.4	+0.2
PRN	Pahroc Range	93.66	53		IAmb	IAmb		01 30 17.8	
	comp=Z,55nm,1.1s								
BLYC	Blythe	93.78	57		IAmb	IAmb		01 30 18.4	
	comp=Z,61nm,1.3s								
NEE2	Needles Airpor	93.79	56		P	P		01 30 16.7	+1.8
	baz=265,SNR=5.1								
ELK	Elko	93.79	50		LR	LR		02 08 02.3	
	comp=Z,70nm,18.8s,baz=271,slow=32								
ELK	Elko	93.79	50		IAmb	IAmb		01 30 17.7	
	comp=Z,36nm,1.3s								
PDMCI	Parker Dam,Lak	94.15	56		P	P		01 30 18.1	+1.5
	baz=266,SNR=17								
W13A	Hualapai Mount	94.42	55		IAmb	IAmb		01 30 21.3	
	comp=Z,33nm,0.9s								
HLID	Hailey	94.62	47		P	P		01 30 19.7	+0.9
	baz=266,SNR=10.0								
PSUT	Pine Spring	94.69	52		IAmb	IAmb		01 30 22.3	
	comp=Z,52nm,1.3s								
CCUT	Cedar City	95.01	53		IAmb	IAmb		01 30 23.6	
	comp=Z,19nm,1.1s								
LCMT	Little Creek M	95.07	53		IAmb	IAmb		01 30 25.1	
	comp=Z,28nm,1.3s								
214A	Organ Pipe Nat	95.09	59		P	P		01 30 23.1	+2.1
	baz=266								
WALA	Waterton Lakes	95.31	41		IAmb	IAmb		01 30 24.0	
	comp=Z,48nm,1.1s								
YKA	Yellowknife Ar	95.57	28		P	P		01 30 23.1	+0.7
	comp=Z,27nm,0.9s,baz=267,slow=4.6,SNR=192								
YKA					pP	pP		01 30 55.1	-1.5
	comp=Z,13nm,1.1s,baz=266,slow=4.6,SNR=2.9								
YKA					PP	PP		01 34 11.3	-3.9
	comp=Z,3.3nm,1.0s,baz=264,slow=7.0,SNR=5.4								
YKA					PKiKP	PKiKP		01 35 00.9	-0.8
	comp=Z,0.7nm,0.7s,baz=276,slow=1.4,SNR=6.4								
YKA					PKKPbc	PKKPdf		01 47 11.9	-3.9
	comp=Z,0.8nm,0.7s,baz=84,slow=2.7,SNR=9.9								
DUG	Dugway, Tooele	95.60	50		P	P		01 30 24.3	+1.0
	baz=267,SNR=6.1								
HVU	Hansel Valley	95.72	49		IAmb	IAmb		01 30 26.1	
	comp=Z,19nm,1.0s								
U15A	North Rim	95.80	54		IAmb	IAmb		01 30 27.9	
	comp=Z,22nm,0.9s								
MTPU	Mount Pierson	95.97	52		IAmb	IAmb		01 30 29.1	
	comp=Z,28nm,1.0s								
NLU	North Lily Min	96.15	51		IAmb	IAmb		01 30 28.4	
	comp=Z,16nm,1.2s								
WUAZ	Wupatki	96.49	55		IAmb	IAmb		01 30 30.9	
	comp=Z,17nm,1.0s								
WUAZ	Wupatki	96.49	55		P	P		01 30 29.2	+1.7
	baz=267								
JLU	Jordanelle	96.66	50		IAmb	IAmb		01 30 30.5	
	comp=Z,21nm,1.3s								
BOZ	Bozeman (W)	96.71	45		P	P		01 30 28.7	+0.4
	baz=268,SNR=9.3								
LPIG	La Paz	96.78	67		LR	LR		02 06 42.5	
	comp=Z,175nm,20.4s,baz=226,slow=31								
TMUT	Trail Mountain	96.79	51		IAmb	IAmb		01 30 31.8	
	comp=Z,18nm,0.9s								
TUC	Tucson	96.82	58		P	P		01 30 31.3	+2.3
	baz=267								
SVE	Sverdlovsk	97.42	326		eP	P		01 30 29.2	-1.7
H17A	Grant Village	97.42	46		P	Pdif		01 30 33.4	+1.8
	baz=269,SNR=6.8								
W18A	Petrified Fore	97.81	55		IAmb	IAmb		01 30 36.9	
	comp=Z,22nm,1.0s								
W18A	Petrified Fore	97.81	55		P	Pdif		01 30 35.4	+1.9
	baz=268								
AB31	Akbulak array	97.84	319		P	P		01 30 29.3	-3.7
EGMT	Eagleton	98.04	42		IAmb	IAmb		01 30 34.9	
	comp=Z,12nm,0.9s								
EGMT	Eagleton	98.04	42		Pdiff	Pdif		01 30 34.4	+0.4
	baz=270								
RDMU	Red Mountain	98.09	50		IAmb	IAmb		01 30 37.3	
	comp=Z,29nm,1.0s								
BW06	Boulder Array	98.14	48		Pdiff	P		01 30 34.7	-0.1
	baz=269								
PDAR	Pinedale Array	98.14	48		P	P		01 30 34.8	0.0
	comp=Z,3.6nm,0.7s,baz=251,slow=2.7,SNR=31								
PDAR					pP	pP		01 31 07.3	-1.7
	comp=Z,2.8nm,1.0s,baz=249,slow=2.9,SNR=2.9								
PDAR					PP	PP		01 34 28.8	-7.0
	comp=Z,1.6nm,0.9s,baz=266,slow=4.5,SNR=4.8								
PDAR					PKKPbc	PKKPbc		01 47 00.4	-8.0
	comp=Z,0.5nm,0.5s,baz=88,slow=4.6,SNR=5.1								
PDAR					LR	LR		02 09 16.3	
	comp=Z,66nm,21.8s,baz=277,slow=32								
PV23	Carpenter Ridg	98.48	52		IAmb	IAmb		01 30 39.2	
	comp=Z,34nm,1.2s								
ARU	Arti	98.57	326		LR	LR		02 17 05.4	
	comp=Z,58nm,19.4s,baz=90,slow=36								
ARU	Arti	98.57	326	*d*	iP	P		01 30 33.6	-2.5
ARU					*PP	pP		01 31 07.8	-2.5
ARU								01 34 34.5	
ARU					PPP	PPP		01 36 41.8	
ARU					S	SKSac		01 40 58.8	-2.7
ARU					SP	SP		01 43 15.0	-3.9
ARU					pmax	pmax			
	comp=Z,13nm,0.8s								
PV11	David Mesa, Pa	98.59	52		IAmb	IAmb		01 30 39.7	
	comp=Z,36nm,1.3s								
PV13	Radium Mtn., P	98.63	52		IAmb	IAmb		01 30 39.8	
	comp=Z,21nm,1.4s								
PV07	Paradox Valley	98.77	52		IAmb	IAmb		01 30 40.2	
	comp=Z,10.0nm,0.9s								
MVCO	Mesa Verde	98.87	53		Pdiff	Pdif		01 30 39.4	+1.1
	baz=269								
PV15	Paradox Valley	98.90	52		IAmb	IAmb		01 30 41.7	
	comp=Z,13nm,1.1s								
AKTO	Aktyubinsk	99.08	320		LR	LR		02 14 55.4	
	comp=Z,40nm,21.9s,baz=90,slow=35								
GEYT	Alibeck	99.09	307		PP	PP		01 34 36.5	-6.5
	comp=Z,1.1nm,0.5s,baz=292,slow=5.3,SNR=4.2								
GEYT					LR	LR		02 18 29.9	
	comp=Z,34nm,19.5s,baz=136,slow=37								
O20A	White River Ci	99.10	50		IAmb	IAmb		01 30 41.4	
	comp=Z,17nm,1.1s								
O20A	White River Ci	99.10	50		Pdiff	Pdif		01 30 40.2	+1.1
	baz=270								
121A	Cookes Peak, D	99.37	58		Pdiff	Pdif		01 30 41.5	+1.0
	baz=269								
TROLL	Troll, Antarti	100.00	188		Pdiff	Pdif		01 30 42.2	-0.3
S22A	4UR Ranch, Cre	100.20	53		Pdiff	Pdif		01 30 45.3	+1.0
	baz=270								
K22A	Casper	100.37	48		P	Pdif		01 30 45.3	+0.6
	baz=271								
K22A	Casper	100.37	48		Pdiff	Pdif		01 30 45.0	+0.3
	baz=271								
LAO	LASA Array	100.46	44		P	Pdif		01 30 46.1	+1.3
	baz=272								
LAO	LASA Array	100.46	44		Pdiff	Pdif		01 30 45.7	+0.8
	baz=272								
ANMO	Albuquerque	100.50	56		Pdiff	Pdif		01 30 47.0	+1.5
	baz=270								
N23A	Red Feather La	100.84	50		Pdiff	Pdif		01 30 48.2	+1.2
	baz=271								
SNAA	Sanae	101.03	187		Pdiff	Pdif		01 30 51.7	+4.8
ISCO	Idaho Springs	101.12	51		P	Pdif		01 30 49.7	+1.5
	baz=271								
ISCO	Idaho Springs	101.12	51		Pdiff	Pdif		01 30 49.8	+1.5
	baz=271								
SDCO	Great Sand Dun	101.25	53		Pdiff	Pdif		01 30 50.2	+1.3
	baz=271								
MNTX	Cornudas Mount	101.39	59		Pdiff	Pdif		01 30 50.2	+0.9
	baz=270								
Q24A	Divide	101.50	52		Pdiff	Pdif		01 30 50.7	+0.7
	baz=272								
DGMT	Dagmar	101.73	42		P	Pdif		01 30 51.0	+0.6
	baz=274								
DGMT	Dagmar	101.73	42		Pdiff	Pdif		01 30 51.0	+0.6
	baz=274								
RSSD	Black Hills	102.13	46		P	Pdif		01 30 52.4	-0.1
	baz=273								
RSSD	Black Hills	102.13	46		Pdiff	Pdif		01 30 52.9	+0.4
	baz=273								
VNA3	Neumayer Olymp	102.15	185		Pdiff	Pdif		01 30 51.1	-0.7
VNA2	Neumayer--Watz	102.24	186		Pdiff	Pdif		01 30 51.8	-0.4
	baz=164,slow=3.0								
VNA1	Neumayer--Stat	102.59	186		Pdiff	Pdif		01 30 54.3	+0.6
TXAR	Lajitas Array	102.88	61		P	Pdif		01 30 58.9	+2.8
	comp=Z,0.7nm,0.9s,baz=228,slow=5.8,SNR=7.3								
TXAR					PP	PP		01 35 09.8	-2.1
	comp=Z,0.8nm,0.9s,baz=278,slow=8.5,SNR=3.5								
TXAR					PKiKP	PKiKP		01 35 15.8	-0.1
	comp=Z,2.0nm,1.1s,baz=265,slow=5.8,SNR=6.5								
TXAR					PKKPbc	PKKPbc		01 46 54.0	-0.1
	comp=Z,3.0nm,0.8s,baz=105,slow=3.6,SNR=27								
PRGR	Permogore	104.46	332		eP	Pdif		01 30 58.3	-3.9
PRGR					e			01 35 17.6	
PRGR					pmax	pmax			
	comp=Z,26nm,0.9s								
ABTX	Abilene, Hawle	106.24	58		PKiKP	PKiKP		01 35 22.3	+0.4
	baz=273								
WMOK	Wichita Mounta	106.82	56		P	PKiKP		01 35 23.1	+0.2
	baz=274								
WMOK	Wichita Mounta	106.82	56		PKiKP	PKiKP		01 35 23.1	+0.2
	baz=274								
MAK	Makhachkala	106.88	313		eP	Pdif		01 31 09.9	-3.5
MAK					e			01 35 37.1	
ULM	Lac du Bonnet	106.89	39		Pdiff	Pdif		01 31 12.9	-0.3
	comp=Z,1.1nm,0.3s,baz=330,slow=5.8,SNR=3.8								
ULM					PKiKP	PKiKP		01 35 21.5	-1.0
	comp=Z,3.4nm,0.6s,baz=170,slow=1.3,SNR=4.9								
ULM					PKKP	PKKPab		01 46 55.6	-0.9
	comp=Z,4.1nm,1.0s,baz=114,slow=6.6,SNR=3.9								
APA	Apatity	107.28	340	⇓	iP	Pdif		01 31 05.7	-8.9
APA					pmax	pmax			
	comp=Z,7.0nm,0.9s								
ECSD	EROS Data Cent	107.50	46		P	PKiKP		01 35 23.1	-0.7
	baz=278								
ECSD	EROS Data Cent	107.50	46		PKiKP	PKiKP		01 35 24.2	+0.4
	baz=278								
KLMR	Klimovskoe	107.51	332		eP	Pdif		01 31 13.1	-2.7
KLMR					e			01 35 43.2	
KLMR					pmax	pmax			
	comp=Z,16nm,1.2s								
KLMR	Klimovskoe	107.51	332		ePdif	Pdif		01 31 13.2	-2.6
KLMR					AMP			01 31 15.4	
	comp=Z,16nm,1.2s								
KLMR					ePP	PP		01 35 43.2	-1.6
KSU1	Kansas State U	108.12	51		PKiKP	PKiKP		01 35 25.1	0.0
	baz=277								
WHTX	Lake Whitney,	108.12	58		PKiKP	PKiKP		01 35 24.8	-0.6
	baz=274								
ARCES	ARCESS Array B	108.72	343		PKiKP	PKiKP		01 35 24.8	-0.6
	comp=Z,4.2nm,0.8s,baz=59,slow=1.1,SNR=9.9								
F36A	Milaca	109.30	44		P	PKiKP		01 35 26.6	-0.5
	baz=282								
KBZ	Khabaz	110.07	314		PP	PP		01 36 02.9	-1.1
	comp=Z,2.7nm,0.8s,baz=109,slow=4.9,SNR=4.3								
P38A	Dawn	110.41	50		P	PKiKP		01 35 29.3	-0.1
	baz=279								
NATX	Nacogdoches	110.51	58		PKiKP	PKiKP		01 35 29.9	0.0
	baz=276								
VORR	Voronezh	110.57	323		ePKiKP	PKiKP		01 35 27.6	-1.8
VORR					pmax	pmax			
	comp=Z,10.0nm,0.4s								
W39A	Magazine	110.85	55		PKiKP	PKiKP		01 35 30.6	+0.2
	baz=277								
S39A	Bolivar	110.87	52		P	PKiKP		01 35 30.0	-0.4
	baz=279								
OBN	Obninsk	110.97	327	*c*	iPKiKP	PKiKP		01 35 29.6	-0.4
OBN					e			01 36 04.8	
OBN					e			01 36 09.8	
OBN					eSS	SS		01 51 21.9	-8.7
OBN					pmax	pmax			
	comp=Z,23nm,1.8s								
MIAR	Mount Ida	111.11	55		PKiKP	PKiKP		01 35 31.0	+0.1
	baz=277								
U40A	Yellville	111.44	53		P	PKiKP		01 35 31.3	-0.2
	baz=278								
U40A					P	PKiKP		01 35 31.3	-0.2
	baz=278								
U40A	Yellville	111.44	53		PKiKP	PKiKP		01 35 31.2	-0.4
	baz=278								
R40A	Maddies Statio	111.60	51		P	PKiKP		01 35 31.0	-0.8
	baz=280								
W41B	Gary Mavity, V	112.10	55		P	PKiKP		01 35 32.8	0.0
	baz=278,SNR=5.3								
W41B	Gary Mavity, V	112.10	55		PKiKP	PKiKP		01 35 32.5	-0.3
	baz=278								
JFWS	Jewell Farm	112.21	46		P	PKiKP		01 35 31.9	-0.9
	baz=283								
JFWS	Jewell Farm	112.21	46		PKiKP	PKiKP		01 35 32.4	-0.4
	baz=283								
SOC	Sochi	112.36	315	*i*	PKiKP	PKiKP		01 35 31.1	-1.9
SOC					e			01 36 16.9	
SOC					e			01 41 58.2	
SOC					ePS	PS		01 45 50.3	-5.9
SOC					eSS	SS		01 51 45.7	-4.3
CCM	Cathedral Cave	112.44	51		P	PKiKP		01 35 32.5	-0.8
	baz=280								
CCM	Cathedral Cave	112.44	51		PKiKP	PKiKP		01 35 32.8	-0.6
	baz=280								
L42A	Oliver, Polo	112.84	47		P	PKiKP		01 35 33.2	-0.8
	baz=283								
LCAR	Lake Charles	112.84	53		P	PKiKP		01 35 33.7	-0.5
	baz=280								
FINES	FINESS Array B	113.10	336		Pdiff	Pdif		01 31 37.8	-2.8
	comp=Z,1.4nm,0.8s,baz=70,slow=6.3,SNR=5.1								
FINES					PKiKP	PKiKP		01 35 32.5	-1.4
	comp=Z,2.1nm,0.8s,baz=99,slow=8.3,SNR=5.8								
FINES					PP	PP		01 36 24.9	+0.1
	comp=Z,14nm,1.1s,baz=74,slow=8.1,SNR=10								
FINES					PKKP	PKKPdf		01 46 51.8	+8.6
	comp=Z,2.8nm,0.7s,baz=108,slow=2.4,SNR=7.5								
FINES	FINESS Array B	113.10	336	*c*	iPKiKP	PKiKP		01 35 33.4	-0.5
FINES					pmax	pmax			
	comp=Z,2.0nm,0.8s								
HDIL	Hopedale	113.43	48		PKiKP	PKiKP		01 35 35.4	+0.3
	baz=283								
P43A	Skaggs, Pawnee	113.45	49		P	PKiKP		01 35 35.3	0.0
	baz=282								
Y45A	Yeager Farm, C	114.51	56		P	PKPdf		01 35 37.4	0.0
	baz=280								
OXF	Oxford	114.51	55		PKiKP	PKPdf		01 35 37.2	-0.2
	baz=280								
OLIL	Olney	114.73	50		P	PKiKP		01 35 37.7	0.0
	baz=283								
SFIN	Lafayette	115.10	48		PKiKP	PKPdf		01 35 38.4	0.0
	baz=284								
P46A	Rosedale	115.20	49		P	PKiKP		01 35 38.4	-0.2
	baz=284								
E46A	Sault Ste Mari	115.35	41		P	PKiKP		01 35 38.4	-0.3
	baz=289								
WVT	Waverly	115.48	53		PKiKP	PKiKP		01 35 38.6	-0.6
WVT	Waverly	115.48	53			PKiKP		01 35 38.5	-0.6
WVT	Waverly	115.48	53		P	PKiKP		01 35 38.6	-0.6
	baz=282,SNR=6.2								
WVT	Waverly	115.48	53		PKiKP	PKiKP		01 35 38.7	-0.6
	baz=282								
GLMI	Grayling	115.63	43		PKiKP	PKiKP		01 35 39.2	-0.1
	baz=288								
MNK	Minsk	115.80	329	*i*	PKiKP	PKiKP		01 35 38.7	-0.5
MNK				*i*				01 36 13.5	
MNK				*i*				01 36 25.0	
MNK				*i*				01 36 43.6	
MNK				*i*				01 39 15.5	
MNK				*i*				01 42 38.5	
MNK				*i*	SP	SP		01 46 14.3	+3.6
MNK				*i*	PS	PKKPab		01 46 26.6	+10
MNK				*i*	SS	SS		01 52 35.3	+1.1
MNK					pmax	pmax			
	comp=N,3.0nm,0.8s								
MNK					pmax	pmax			
	comp=Z,6.0nm,0.8s								
MNK					MLR	MLR			
	comp=E,7.0nm,19.0s								
MNK					MLR	MLR			
	comp=Z,104nm,19.0s								
MNK					MLR	MLR			
	comp=N,22nm,19.0s								
MNK	Minsk	115.80	329	*i*	PKP	PKiKP		01 35 38.8	-0.5
MNK				*i*	PKP	PKiKP		01 35 38.8	-0.5
	comp=N,3.0nm,0.8s								
MNK				*i*	PKP	PKiKP		01 35 38.8	-0.5
	comp=Z,6.0nm,0.8s,baz=62								
MNK				*i*	pPKP	pPKiKP		01 36 13.6	-1.5
MNK				*i*	sPKP			01 36 25.0	
MNK				*i*	PP	PP		01 36 43.6	-0.5
MNK				*i*	PPP	PPP		01 39 10.1	
MNK				*i*	SKS	SKSdf		01 42 38.5	-0.4
MNK				*i*	SP	SP		01 46 14.4	+3.7
MNK				*i*	PS	PKKPab		01 46 26.7	+10
MNK				*i*	SS	SS		01 52 35.3	+1.1
MNK				*i*	SSS	SSS		01 57 12.6	
MNK				*i*	LR	LR		02 19 27.4	
MNK				*i*	LRM	MLR		02 26 27.9	
	comp=E,7.0nm,19.3s								
MNK				*i*	LRM	MLR		02 26 29.2	
	comp=Z,104nm,19.3s								
MNK				*i*	LRM	MLR		02 26 29.9	
	comp=N,22nm,19.3s								
Z47A	Carrollton	115.84	56		P	PKPdf		01 35 39.4	-0.6
	baz=280								
T47A	Sharon Grove	115.87	52		P	PKPdf		01 35 39.7	-0.2
	baz=283,SNR=14								
J47A	Sunmer	115.97	45		P	PKiKP		01 35 40.1	+0.1
	baz=287								
J47A					P	PKiKP		01 35 40.1	+0.1
	baz=287								
N47A	Urbana	116.01	47		P	PKPdf		01 35 39.8	-0.3
	baz=285								
N47A					P	PKPdf		01 35 39.8	-0.3
	baz=285								
V48A	Smith Brothers	116.36	53		P	PKPdf		01 35 39.7	-1.2
	baz=282,SNR=5.3								
KIBK	Kibwezi	116.44	264			PKiKP		01 35 41.9	+0.1
X48A	Hartselle	116.44	55		P	PKPdf		01 35 40.1	-1.1
	baz=281								
O48B	Farmland	116.57	48		P	PKPdf		01 35 40.9	-0.3
	baz=286								
O48B	Farmland	116.57	48		PKiKP	PKPdf		01 35 40.8	-0.4
	baz=286								
P48A	Milroy	116.57	49		P	PKPdf		01 35 40.5	-0.8
	baz=285								
P48A					P	PKPdf		01 35 40.5	-0.8
	baz=285								
L48A	N Adams	116.62	46		P	PKPdf		01 35 41.1	-0.2
	baz=287								
L48A					P	PKPdf		01 35 41.1	-0.2
	baz=287								
LRAL	Lakeview Retre	116.75	56		P	PKPdf		01 35 41.5	-0.3
	baz=281,SNR=10								
LRAL	Lakeview Retre	116.75	56		PKiKP	PKPdf		01 35 41.2	-0.5
	baz=281								
AKASG	Malin Array Be	116.78	325		PKP	PKPdf		01 35 40.1	-1.1
	comp=N,5.6nm,0.7s,baz=63,slow=2.5,SNR=22								
AKASG					PP	PP		01 36 51.0	-0.1
	comp=N,0.8nm,0.6s,baz=55,slow=8.3,SNR=6.1								
AKASG					PKKP	PKKPdf		01 46 39.5	+3.4
	comp=N,0.3nm,0.2s,baz=260,slow=3.2,SNR=5.7								
AKBB	Malin Array Si	116.78	325	*c*	iPKiKP	PKPdf		01 35 40.8	-0.5
U49A	Red Boiling Sp	117.02	52		P	PKPdf		01 35 41.3	-0.9
	baz=283,SNR=8.5								
BRAL	Brewton	117.04	58		PKiKP	PKPdf		01 35 41.9	-0.5
	baz=280								
R49A	Shelbyville	117.06	50		P	PKPdf		01 35 41.8	-0.4
	baz=284								
R49A					P	PKPdf		01 35 41.8	-0.4
	baz=284								
AAM	Ann Arbor	117.07	45		PKiKP	PKPdf		01 35 42.0	-0.1
	baz=288								
Y49A	Blount Mountai	117.08	55		P	PKPdf		01 35 41.5	-0.9
	baz=282								
P49A	Miami Univ. Ec	117.08	49		P	PKPdf		01 35 41.3	-0.9
	baz=286								
P49A	Miami Univ. Ec	117.08	49		PKiKP	PKPdf		01 35 41.6	-0.7
	baz=286								
N49A	Columbus Grove	117.10	47		P	PKPdf		01 35 42.1	-0.1
	baz=287								
N49A					P	PKPdf		01 35 42.1	-0.1
	baz=287								
O49A	Covington	117.19	48		P	PKPdf		01 35 41.6	-0.9
	baz=286								
O49A					P	PKPdf		01 35 41.6	-0.9
	baz=286								
KMBO	Kilima Mbogo	117.39	266		PKP	PKPdf		01 35 43.1	-0.8
	comp=N,3.7nm,0.9s,baz=39,slow=6.6,SNR=6.6								
KMBO					PP	PP		01 36 56.2	-0.8
	comp=N,0.5nm,0.3s,baz=123,slow=9.7,SNR=4.1								
PLCA	Paso Flores	117.46	142		PKP	PKPdf		01 35 42.5	-0.6
	comp=N,2.3nm,0.7s,baz=249,slow=2.6,SNR=7.1								
PLCA					PKKPbc	PKKPbc		01 46 06.3	-1.1
	comp=N,2.2nm,0.7s,baz=32,slow=5.5,SNR=3.9								
250A	Grady	117.55	57		P	PKPdf		01 35 43.3	0.0
	baz=281								
T50A	Nancy	117.63	51		P	PKPdf		01 35 42.9	-0.4
	baz=284								
T50A					P	PKPdf		01 35 42.9	-0.4
	baz=284								
W50A	Signal Mountai	117.68	53		P	PKPdf		01 35 42.9	-0.6
	baz=283								
R50A	Paris	117.71	50		P	PKPdf		01 35 43.0	-0.5
	baz=285,SNR=7.3								
R50A					P	PKPdf		01 35 43.0	-0.5
	baz=285,SNR=7.3								
BRTR	Keskin Array B	117.75	312		PKP	PKPdf		01 35 42.6	-1.1
	comp=N,2.7nm,0.7s,baz=123,slow=2.5,SNR=11								
BRTR					PP	PP		01 36 54.0	-4.6
	comp=N,2.3nm,0.9s,baz=59,slow=4.8,SNR=3.6								
M50A	Fremont	117.78	46		P	PKPdf		01 35 43.3	-0.2
	baz=288								
M50A					P	PKPdf		01 35 43.3	-0.2
	baz=288								
ACSO	Alum Creek Sta	118.17	47		P	PKPdf		01 35 43.9	-0.4
	baz=287,SNR=5.6								
ACSO	Alum Creek Sta	118.17	47		PKiKP	PKPdf		01 35 43.7	-0.6
	baz=287								
Z51A	Franklin	118.20	55		P	PKP

M53A	**WI Miller and**	**119.45**	**45**	PKiKP	**PKPdf**	01 35 46.3	-0.5	
	baz=290							
O53A	**New Philadelph**	**119.45**	**47**	PKiKP	**PKPdf**	01 35 46.3	-0.5	
	baz=288							
R53A	**Hurricane**	**119.49**	**49**	P	**PKPdf**	01 35 46.1	-0.8	
	baz=287							
R53A				P	**PKPdf**	01 35 46.1	-0.8	
	baz=287							
N53A	**Lisbon**	**119.55**	**46**	P	**PKiKP**	01 35 47.0	0.0	
	baz=289,SNR=12							
N53A				P	**PKiKP**	01 35 47.0	0.0	
	baz=289,SNR=12							
V53A	**Saluda**	**119.55**	**52**	P	**PKiKP**	01 35 47.4	+0.1	
	baz=285,SNR=8.7							
V53A				P	**PKiKP**	01 35 47.4	+0.1	
	baz=285,SNR=8.7							
P53A	**Whipple**	**119.56**	**48**	P	**PKPdf**	01 35 47.0	-0.1	
	baz=288,SNR=14							
P53A				P	**PKPdf**	01 35 47.0	-0.1	
	baz=288,SNR=14							
GOGA	**Godfrey**	**119.57**	**55**	P	**PKPdf**	01 35 47.1	-0.1	
	baz=283,SNR=5.9							
GOGA	**Godfrey**	**119.57**	**55**	PKiKP	**PKPdf**	01 35 47.0	-0.1	
	baz=283							
CASEE	**Lake Jocassee**	**119.63**	**53**	P	**PKiKP**	01 35 47.6	+0.2	
	baz=284							
TPGR	**Topolog**	**119.67**	**319**	⇑P	**PKPdf**	01 35 46.1	-0.9	
ERPA	**Erie**	**119.70**	**45**	P	**PKPdf**	01 35 46.8	-0.4	
	baz=290							
ERPA	**Erie**	**119.70**	**45**	PKiKP	**PKiKP**	01 35 47.4	+0.1	
	baz=290							
CFR	**Carcaliu**	**119.73**	**319**	⇑P	**PKPdf**	01 35 47.0	-0.1	
CFR	**Carcaliu**	**119.73**	**319**	⇑PKiKP	**PKPdf**	01 35 47.0	-0.1	
TIGA	**Tifton**	**119.90**	**57**	P	**PKiKP**	01 35 48.3	+0.4	
	baz=282							
TIGA	**Tifton**	**119.90**	**57**	PKiKP	**PKiKP**	01 35 48.0	+0.1	
	baz=282							
TLBR	**Topalu**	**120.04**	**319**	⇑P	**PKPdf**	01 35 47.7	-0.1	
O54A	**Avella**	**120.08**	**47**	P	**PKiKP**	01 35 48.3	+0.2	
	baz=289,SNR=12							
O54A				P	**PKiKP**	01 35 48.3	+0.2	
	baz=289,SNR=12							
U54A	**Nelsons Funny**	**120.10**	**51**	P	**PKPdf**	01 35 48.1	-0.1	
	baz=286							
U54A				P	**PKPdf**	01 35 48.1	-0.1	
	baz=286							
S54A	**Dingess, Beckl**	**120.13**	**50**	P	**PKiKP**	01 35 48.2	0.0	
	baz=287,SNR=6.8							
S54A				P	**PKiKP**	01 35 48.2	0.0	
	baz=287,SNR=6.8							
Q54A	**Coxs Mills**	**120.13**	**48**	P	**PKPdf**	01 35 47.9	-0.2	
	baz=288,SNR=14							
Q54A				P	**PKPdf**	01 35 47.9	-0.2	
	baz=288,SNR=14							
VRI	**Vrincioaia**	**120.35**	**320**	⇓P	**PKPdf**	01 35 48.0	-0.3	
VRI	**Vrincioaia**	**120.35**	**320**	⇓PKiKP	**PKPdf**	01 35 48.0	-0.3	
HODGE	**Hodges**	**120.35**	**54**	P	**PKiKP**	01 35 48.8	+0.1	
	baz=284							
BISRR	**Bisoca**	**120.50**	**320**	⇓P	**PKiKP**	01 35 49.2	+0.4	
BURAR	**Bucovina Array**	**120.51**	**323**	⇓P	**PKiKP**	01 35 49.3	+0.5	
BURAR	**Bucovina Array**	**120.51**	**323**	⇓PKiKP	**PKiKP**	01 35 49.3	+0.5	
BOSA	**Boshof**	**120.54**	**232**	PKP	**PKPdf**	01 35 49.2	-0.1	
	comp=Z,11nm,0.7s,baz=129,slow=1.8,SNR=25							
BOSA				PKKPbc	**PKKPbc**	01 45 52.9	-3.0	
	comp=Z,3.4nm,0.9s,baz=314,slow=3.5,SNR=5.6							
PAULI	**Pauline**	**120.56**	**53**	P	**PKiKP**	01 35 49.2	0.0	
	baz=285							
WVNY	**West Valley, N**	**120.56**	**44**	P	**PKPdf**	01 35 48.1	-0.8	
	baz=292							
JTS	**Las Juntas de**	**120.64**	**82**	PKiKP	**PKPdf**	01 35 47.8	-2.0	
JTS	**Las Juntas de**	**120.64**	**82**		**PKPdf**	01 35 47.8	-2.0	
JTS	**Las Juntas de**	**120.64**	**82**	*e*P	**PKPdf**	01 35 49.1	-0.7	
MCWV	**Mont Chateau**	**120.64**	**47**	P	**PKPdf**	01 35 48.7	-0.3	
	baz=289							
MCWV	**Mont Chateau**	**120.64**	**47**	PKiKP	**PKiKP**	01 35 49.5	+0.3	
	baz=289							
255A	**Hazlehurst**	**120.72**	**56**	P	**PKPdf**	01 35 49.3	-0.1	
	baz=283							
V55A	**Taylorsville**	**120.76**	**52**	P	**PKiKP**	01 35 49.9	+0.3	
	baz=286,SNR=11							
V55A				P	**PKiKP**	01 35 49.9	+0.3	
	baz=286,SNR=11							
M55A	**Ridgway**	**120.79**	**45**	P	**PKPdf**	01 35 49.2	-0.2	
	baz=291,SNR=5.8							
M55A				P	**PKPdf**	01 35 49.2	-0.2	
	baz=291,SNR=5.8							
NEHR	**Nehoiu**	**120.81**	**320**	⇑P	**PKPdf**	01 35 49.0	-0.3	
KMSC	**Kings Mountain**	**120.86**	**53**	P	**PKiKP**	01 35 50.0	+0.3	
	baz=286,SNR=9.1							
KMSC	**Kings Mountain**	**120.86**	**53**	PKiKP	**PKiKP**	01 35 49.7	0.0	
	baz=286							
R55A	**Marlinton**	**120.88**	**49**	P	**PKPdf**	01 35 49.5	-0.2	
	baz=288,SNR=15							
R55A				P	**PKPdf**	01 35 49.5	-0.2	
	baz=288,SNR=15							
MT01	**Popeta**	**120.95**	**136**		**PKPdf**	01 35 49.2	-0.7	
BLA	**Blacksburg**	**120.98**	**50**	P	**PKPdf**	01 35 49.8	-0.1	
	baz=287,SNR=9.0							
BLA	**Blacksburg**	**120.98**	**50**	PKiKP	**PKPdf**	01 35 49.5	-0.4	
	baz=287							
SCHQ	**Schefferville**	**121.00**	**27**	PKP	**PKPdf**	01 35 49.0	-0.3	
	comp=Z,4.0nm,0.8s,baz=247,slow=1.5,SNR=12							
SCHQ				PKKPbc	**PKKPab**	01 45 53.0	-1.0	
	comp=Z,8.1nm,0.8s,baz=109,slow=2.8,SNR=14							
MLR	**Muntele Rosu**	**121.01**	**320**	⇑P	**PKPdf**	01 35 49.4	-0.4	
MLR	**Muntele Rosu**	**121.01**	**320**	⇑PKiKP	**PKPdf**	01 35 49.4	-0.4	
HAW	**Hawthorne Fire**	**121.09**	**55**	P	**PKPdf**	01 35 50.1	0.0	
	baz=284							
JSC	**Jenkinsville**	**121.14**	**54**	P	**PKiKP**	01 35 50.8	+0.5	
	baz=285							
DOPR	**Dopca**	**121.15**	**321**	⇑P	**PKPdf**	01 35 49.9	0.0	
656A	**Willston**	**121.20**	**59**	P	**PKiKP**	01 35 50.6	+0.1	
	baz=281							
U56A	**King**	**121.26**	**51**	P	**PKPdf**	01 35 50.3	-0.1	
	baz=287							
U56A				P	**PKPdf**	01 35 50.3	-0.1	
	baz=287							
Q56A	**Snyder Ridge,**	**121.33**	**48**	P	**PKPdf**	01 35 50.0	-0.4	
	baz=289,SNR=5.8							
Q56A				P	**PKPdf**	01 35 50.0	-0.4	
	baz=289,SNR=5.8							
L56A	**Greenwood**	**121.38**	**44**	P	**PKPdf**	01 35 50.1	-0.4	
	baz=292,SNR=6.8							
L56A				P	**PKPdf**	01 35 50.1	-0.4	
	baz=292,SNR=6.8							
J56A	**Wolcott**	**121.41**	**42**	P	**PKPdf**	01 35 49.6	-0.8	
	baz=294,SNR=6.4							
J56A				P	**PKPdf**	01 35 49.6	-0.8	
	baz=294,SNR=6.4							
RAZG	**Razgrad**	**121.45**	**318**	⇓P	**PKPdf**	01 35 50.2	-0.3	
KOLS	**Kolonicke sedl**	**121.58**	**325**	*e*PKiKP	**PKiKP**	01 35 51.7	+0.9	
KOLS	**Kolonicke sedl**	**121.58**	**325**	*e*PKP	**PKiKP**	01 35 51.7	+0.9	
VOIR		**121.60**	**321**	⇑P	**PKiKP**	01 35 52.1	+1.1	
VOIR		**121.60**	**321**	⇑PKiKP	**PKiKP**	01 35 52.1	+1.1	
BIRD	**Birdtown, Kers**	**121.68**	**53**	P	**PKPdf**	01 35 51.3	+0.1	
	baz=286							
MTUR	**Matau**	**121.68**	**320**	⇑P	PKiKP	01 36 02.4	+11	
SSPA	**Standing Stone**	**121.71**	**45**	PKPdf	**PKPdf**	01 35 51.0	-0.1	
SSPA	**Standing Stone**	**121.71**	**45**	P	**PKPdf**	01 35 50.7	-0.4	
	baz=291,SNR=13							
SSPA	**Standing Stone**	**121.71**	**45**	PKiKP	**PKPdf**	01 35 51.0	-0.1	
	baz=291							
TRPA	**Tarpa**	**121.84**	**324**	⇑P	**PKPdf**	01 35 51.1	0.0	
K57A	**Scipio Center**	**121.86**	**43**	P	**PKPdf**	01 35 50.4	-0.9	
	baz=294,SNR=7.3							
ARR	**Arges**	**121.89**	**321**	⇑P	**PKiKP**	01 35 51.5	0.0	
Y57A	**Sumter**	**121.91**	**54**	P	**PKiKP**	01 35 52.0	+0.2	
	baz=286							
Y57A				P	**PKiKP**	01 35 52.0	+0.2	
	baz=286							
W57A	**Gilead**	**121.91**	**52**	P	**PKiKP**	01 35 51.9	+0.1	
	baz=287,SNR=9.6							
W57A				P	**PKiKP**	01 35 51.9	+0.1	
	baz=287,SNR=9.6							
WCNY	**West Carthage**	**121.91**	**41**	P	**PKPdf**	01 35 50.6	-0.8	
	baz=295,SNR=5.0							
T57A	**Hurt**	**121.93**	**50**	P	**PKPdf**	01 35 51.2	-0.4	
	baz=288,SNR=6.3							
T57A				P	**PKPdf**	01 35 51.2	-0.4	
	baz=288,SNR=6.3							
SZH	**Strazhica**	**121.95**	**318**	*e*P	**PKPdf**	01 35 50.0	-1.5	
M57A	**Sunshine Farm,**	**121.98**	**44**	P	**PKiKP**	01 35 51.8	0.0	
	baz=292,SNR=7.3							
M57A				P	**PKiKP**	01 35 51.8	0.0	
	baz=292,SNR=7.3							
SUR	**Sutherland**	**121.98**	**226**	PKP	**PKiKP**	01 35 52.9	+0.6	
	comp=Z,7.8nm,0.7s,baz=212,slow=4.7,SNR=7.4							
SUR	**Sutherland**	**121.98**	**226**		**PKPdf**	01 35 50.5	-1.6	
P57A	**Homestead Farm**	**122.03**	**47**	P	**PKPdf**	01 35 51.4	-0.3	
	baz=291,SNR=6.1							
P57A				P	**PKPdf**	01 35 51.4	-0.3	
	baz=291,SNR=6.1							
HUMR	**Humele**	**122.04**	**320**	⇑P	**PKPdf**	01 35 50.1	-1.5	
CRVS	**Cervenica-Dubn**	**122.06**	**326**	*e*PKiKP	**PKiKP**	01 35 51.8	+0.1	
CRVS	**Cervenica-Dubn**	**122.06**	**326**	*e*PKP	**PKiKP**	01 35 51.8	+0.1	
BMNY	**Brushton-Moira**	**122.28**	**40**	P	**PKPdf**	01 35 51.7	-0.3	
	baz=297,SNR=7.2							
NHSC	**New Hope**	**122.32**	**55**	PKiKP	**PKiKP**	01 35 52.7	+0.1	
	baz=285							
LONY	**Lake Ozonia**	**122.33**	**40**	PKiKP	**PKPdf**	01 35 51.6	-0.5	
	baz=296							
V58A	**Windy Hill, Pi**	**122.41**	**51**	P	**PKPdf**	01 35 52.3	-0.3	
	baz=288							
V58A				P	**PKPdf**	01 35 52.3	-0.3	
	baz=288							
J58A	**Remsen**	**122.42**	**42**	P	**PKPdf**	01 35 52.3	-0.1	
	baz=295,SNR=8.7							
J58A				P	**PKPdf**	01 35 52.3	-0.1	
	baz=295,SNR=8.7							
BINY	**Binghamton**	**122.43**	**43**	P	**PKPdf**	01 35 52.4	-0.1	
	baz=294,SNR=5.2							
BINY	**Binghamton**	**122.43**	**43**	PKiKP	**PKPdf**	01 35 52.5	+0.1	
	baz=294							
N58A	**Sunbury**	**122.46**	**45**	P	**PKPdf**	01 35 52.5	-0.1	
	baz=292,SNR=14							
N58A				P	**PKPdf**	01 35 52.5	-0.1	
	baz=292,SNR=14							
LTVH	**Ltavrtes, Hu**	**122.59**	**324**	⇑P	**PKPdf**	01 35 52.6	+0.1	
X58A	**Rowland**	**122.59**	**53**	P	**PKiKP**	01 35 53.2	0.0	
	baz=287							
X58A				P	**PKiKP**	01 35 53.2	0.0	
	baz=287							
R58B	**Mineral**	**122.65**	**48**	P	**PKPdf**	01 35 52.0	-0.9	
	baz=290,SNR=6.3							
R58B				P	**PKPdf**	01 35 52.0	-0.9	
	baz=290,SNR=6.3							
DIM	**Dimitrovgrad**	**122.72**	**317**	*e*P	**PKPdf**	01 35 52.0	-1.0	
BRU2	**Volcan**	**122.83**	**83**	*e*P	**PKiKP**	01 35 54.9	+0.5	
KSPA	**Keystone Colle**	**122.84**	**44**	P	**PKPdf**	01 35 53.2	0.0	
	baz=294,SNR=5.2							
NCB	**Newcomb**	**122.85**	**41**	P	**PKPdf**	01 35 53.0	-0.2	
	baz=296,SNR=5.4							
FRNY	**Flat Rock**	**122.86**	**39**		**PKPdf**	01 35 53.0	-0.1	
FRNY	**Flat Rock**	**122.86**	**39**	P	**PKPdf**	01 35 52.4	-0.7	
	baz=298,SNR=8.1							
J59A	**Piesco**	**122.89**	**41**	P	**PKPdf**	01 35 52.7	-0.6	
	baz=296,SNR=8.9							
J59A				P	**PKPdf**	01 35 52.7	-0.6	
	baz=296,SNR=8.9							
SDMD	**Soldier's Deli**	**122.91**	**46**	P	**PKPdf**	01 35 53.4	0.0	
	baz=292,SNR=8.0							
CBN	**Corbin Frederi**	**122.95**	**48**	PKiKP	**PKPdf**	01 35 53.2	-0.3	
	baz=290							
KDZ	**Kurdzhali**	**122.96**	**316**	*e*P	**PKPdf**	01 35 52.0	-1.5	
LANS	**Liptovska Anna**	**123.03**	**327**	*e*PKiKP	**PKiKP**	01 35 54.7	+1.1	
LANS	**Liptovska Anna**	**123.03**	**327**	*e*PKP	**PKiKP**	01 35 54.7	+1.1	
GZR	**Gura Zlata**	**123.04**	**321**	⇑P	**PKPdf**	01 35 53.2	-0.4	
GZR	**Gura Zlata**	**123.04**	**321**	⇑PKiKP	**PKPdf**	01 35 53.2	-0.4	
LSZ	**Lusaka**	**123.14**	**247**	PKiKP	**PKPdf**	01 35 53.8	-0.9	
LSZ	**Lusaka**	**123.14**	**247**		**PKPdf**	01 35 53.8	-0.9	
T59A	**Double "B" Far**	**123.23**	**49**	P	**PKPdf**	01 35 53.9	-0.2	
	baz=290,SNR=8.3							
T59A				P	**PKPdf**	01 35 53.9	-0.2	
	baz=290,SNR=8.3							
HCNY	**Howe Caverns**	**123.29**	**42**	P	**PKPdf**	01 35 53.9	-0.2	
	baz=296,SNR=6.9							
SIRR	**Siria**	**123.29**	**323**	⇓P	**PKPdf**	01 35 53.7	-0.2	
OKC	**Ostrava-Krasne**	**123.34**	**328**	*e*PKiKP	**PKPdf**	01 35 53.8	-0.1	
OKC	**Ostrava-Krasne**	**123.34**	**328**	*e*PKP	**PKPdf**	01 35 53.8	-0.1	
RZN	**Rozhen**	**123.43**	**317**	*e*P	**PKPdf**	01 35 53.0	-1.6	
PSZ	**Piszkesteto**	**123.46**	**325**	⇑P	**PKPdf**	01 35 52.9	-1.4	
PSZ	**Piszkesteto**	**123.46**	**325**	⇑PKiKP	**PKPdf**	01 35 52.9	-1.4	
CNNC	**Cliffs of the**	**123.53**	**51**	P	**PKiKP**	01 35 55.1	+0.2	
	baz=288							
CNNC	**Cliffs of the**	**123.53**	**51**	PKiKP	**PKiKP**	01 35 55.0	0.0	
	baz=288							
GEDE	**Greenville**	**123.62**	**46**	P	**PKPdf**	01 35 54.7	-0.1	
	baz=293,SNR=5.8							
BZS	**Buzias**	**123.64**	**322**	⇓P	**PKPdf**	01 35 54.3	-0.3	
BZS	**Buzias**	**123.64**	**322**	⇓PKiKP	**PKPdf**	01 35 54.3	-0.3	
MCVT	**Middlebury Col**	**123.65**	**40**	P	**PKiKP**	01 35 55.0	0.0	
	baz=298							
MORC	**Moravsky Berou**	**123.70**	**328**	⇓P	**PKPdf**	01 35 54.8	+0.1	
MORC	**Moravsky Berou**	**123.70**	**328**	⇓PKiKP	**PKPdf**	01 35 54.8	+0.1	
MORC	**Moravsky Berou**	**123.70**	**328**	*e*PKP	**PKPdf**	01 35 54.6	-0.1	
VYHS	**Vyhne**	**123.74**	**326**	*e*PKiKP	**PKiKP**	01 35 55.1	+0.1	
VYHS	**Vyhne**	**123.74**	**326**	*e*PKP	**PKiKP**	01 35 55.1	+0.1	
ODNJ	**Ogdensburg**	**123.83**	**44**	P	**PKPdf**	01 35 54.6	-0.5	
	baz=294,SNR=8.8							
CO01	**Juntas del Tor**	**123.87**	**132**		**PKPdf**	01 35 54.9	-1.0	
OSTC	**Ostas**	**123.91**	**330**	*e*PKP	**PKiKP**	01 35 55.2	-0.1	
KRLC	**Kraliky**	**123.92**	**329**	*e*PKiKP	**PKPdf**	01 35 55.0	-0.1	
KRLC	**Kraliky**	**123.92**	**329**	*e*PKP	**PKPdf**	01 35 55.0	-0.1	
LCO	**Las Campanas**	**123.92**	**131**	PKiKP	**PKPdf**	01 35 55.4	-0.7	
LCO	**Las Campanas**	**123.92**	**131**	PKPdf	**PKPdf**	01 35 55.4	-0.7	
CHVC	**Chvalec**	**123.97**	**330**	*e*PKP	**PKPdf**	01 35 55.1	-0.1	
DPC	**Dobruska-Polom**	**123.98**	**329**	*e*PKiKP	**PKPdf**	01 35 55.2	0.0	
DPC	**Dobruska-Polom**	**123.98**	**329**	*e*PKP	**PKPdf**	01 35 55.2	0.0	
MDVR	**Moldovita**	**123.99**	**321**	⇓P	**PKiKP**	01 35 55.6	-0.1	
BRNJ	**Basking Ridge**	**124.02**	**44**	P	**PKPdf**	01 35 55.5	0.0	
	baz=294							
VTS	**Vitosha**	**124.02**	**318**	⇓P	**PKPdf**	01 35 55.1	-0.6	
VTS	**Vitosha**	**124.02**	**318**	⇓PKiKP	**PKPdf**	01 35 55.1	-0.6	
VTS	**Vitosha**	**124.02**	**318**	*e*P	**PKPdf**	01 35 54.0	-1.7	
BANR	**Banloc**	**124.05**	**322**	⇓P	**PKiKP**	01 35 56.3	+0.6	
MMB	**Musomiste**	**124.14**	**317**	*e*P	**PKPdf**	01 35 54.0	-1.8	
JAVC	**Velka Javorina**	**124.17**	**327**	*e*PKP	**PKiKP**	01 35 56.5	+0.6	
LBNH	**Lisbon**	**124.19**	**39**	PKiKP	**PKPdf**	01 35 55.6	-0.2	
LBNH	**Lisbon**	**124.19**	**39**		**PKPdf**	01 35 55.6	-0.2	
LBNH	**Lisbon**	**124.19**	**39**	PKiKP	**PKiKP**	01 35 56.1	+0.1	
	baz=299							
J61A	**Chester**	**124.21**	**41**	P	**PKiKP**	01 35 56.4	+0.3	
	baz=298,SNR=5.6							
J61A				P	**PKiKP**	01 35 56.4	+0.3	
	baz=298,SNR=5.6							
PAL	**Palisades**	**124.34**	**44**	P	**PKiKP**	01 35 56.4	0.0	
	baz=295							
PAL	**Palisades**	**124.34**	**44**	PKiKP	**PKPdf**	01 35 56.2	+0.1	
	baz=295							
SRO	**Srobarova**	**124.41**	**326**	*e*PKiKP	**PKiKP**	01 35 56.4	+0.1	
SRO	**Srobarova**	**124.41**	**326**	*e*PKP	**PKiKP**	01 35 56.3	0.0	
KKB	**Krupnik**	**124.45**	**318**	*e*P	**PKPdf**	01 35 53.0	-3.4	
D62A	**Allapoint, All**	**124.46**	**35**	P	**PKPdf**	01 35 56.0	-0.1	
	baz=303,SNR=5.7							
D62A				P	**PKPdf**	01 35 56.0	-0.1	
	baz=303,SNR=5.7							
VRAC	**Vranov**	**124.47**	**328**	*e*PKP	**PKPdf**	01 35 56.1	-0.1	
L61B	**Northampton**	**124.54**	**42**	PKiKP	**PKPdf**	01 35 56.4	0.0	
	baz=297							
BOVS	**Bovan**	**124.55**	**320**	⇑P	**PKPdf**	01 35 55.7	-0.7	
F62A	**Pittston Farm,**	**124.56**	**37**	P	**PKiKP**	01 35 56.8	0.0	
	baz=302							
F62A				P	**PKiKP**	01 35 56.8	0.0	
	baz=302							
G62A	**West of Eustis**	**124.57**	**38**	P	**PKPdf**	01 35 56.5	0.0	
	baz=301							
G62A				P	**PKPdf**	01 35 56.5	0.0	
	baz=301							
MODS	**Modra-Piesok**	**124.66**	**327**	*e*PKiKP	**PKiKP**	01 35 57.1	+0.2	
MODS	**Modra-Piesok**	**124.66**	**327**	*e*PKP	**PKiKP**	01 35 57.0	+0.2	
KRUC	**Moravsky**	**124.73**	**328**	*e*PKP	**PKPdf**	01 35 56.5	-0.1	
PVCC	**Panska Ves**	**124.75**	**330**	*e*PKiKP	**PKPdf**	01 35 56.7	+0.1	
PVCC	**Panska Ves**	**124.75**	**330**	*e*PKP	**PKPdf**	01 35 56.7	+0.1	
BRG	**Berggiesshubel**	**124.83**	**331**	*i* PKP	**PKiKP**	01 35 57.2	0.0	
BRG				Amp		01 35 57.9		
	comp=Z,14nm,0.9s							
BRG				pPKP	**sPKPdf**	01 36 44.4	-1.9	
BRG				Amp		01 36 47.0		
	comp=Z,12nm,1.2s							
BRG				*ex*	x	01 37 46.0		
BRG				Amp		01 37 49.2		
	comp=Z,30nm,2.0s							
BRG	**Berggiesshubel**	**124.83**	**331**	*i* PKiKP	**PKiKP**	01 35 57.1	0.0	
BRG						01 36 44.4		
BRG				*e*		01 37 45.9		
BRG				pmax	pmax			
	comp=Z,14nm,0.9s							
BRG				pmax	pmax			
	comp=Z,30nm,2.0s							
FRGS	**Fruska Gora**	**124.97**	**322**	⇑P	**PKPdf**	01 35 56.4	-0.9	
CLL	**Collm**	**125.00**	**332**	⇓*i* PKiKP	**PKPdf**	01 35 56.8	-0.3	
CLL				pmax	pmax			
	comp=Z,17nm,0.8s							
CLL	**Collm**	**125.00**	**332**	⇓*i* PKPdf	**PKPdf**	01 35 56.8	-0.3	
	comp=Z,17nm,0.8s							
CLL				*e*PP	**PP**	01 37 49.0	+2.2	
CLL				*e*PS	**PS**	01 47 42.0	-7.1	
CLL				*e*PPS	PPS	01 49 18.0		
CLL				*e*SS	SS	01 54 36.0	+4.2	
GO03	**Copiap**	**125.00**	**130**		**PKiKP**	01 35 58.2	-0.1	
TREC	**Trest**	**125.06**	**329**	*e*PKiKP	**PKPdf**	01 35 57.3	0.0	
TREC	**Trest**	**125.06**	**329**	*e*PKP	**PKPdf**	01 35 57.3	0.0	
PRU	**Pruhonice**	**125.11**	**330**	*e*PKiKP	**PKiKP**	01 35 57.5	-0.2	
PRU	**Pruhonice**	**125.11**	**330**	*e*PKP	**PKiKP**	01 35 57.5	-0.2	
F63A	**Nahmakanta, Br**	**125.18**	**37**	P	**PKPdf**	01 35 57.7	+0.1	
	baz=302							
F63A				P	**PKPdf**	01 35 57.7	+0.1	
	baz=302							
HRV	**Adam Dziewonsk**	**125.25**	**41**	PKiKP	**PKPdf**	01 35 57.9	+0.1	
	baz=298							
PKME	**Peaks-Kenny Pk**	**125.30**	**37**	PKiKP	**PKiKP**	01 35 58.1	-0.1	
	baz=302							
WVL	**Waterville**	**125.44**	**38**	P	**PKPdf**	01 35 57.9	-0.2	
	baz=301							
NNA	**Nana**	**125.46**	**109**	PKP	**PKPdf**	01 35 59.0	-0.1	
	comp=Z,6.0nm,0.4s,baz=284,slow=5.6,SNR=5.3							
NNA	**Nana**	**125.46**	**109**	*c i* PKiKP	**PKiKP**	01 35 59.8	+0.3	
NNA				pmax	pmax			
	comp=Z,71nm,1.7s							
F64A	**Sherman**	**125.53**	**36**	P	**PKPdf**	01 35 58.3	0.0	
	baz=303							
F64A				P	**PKPdf**	01 35 58.3	0.0	
	baz=303							
RONA	**Rosalia, Austr**	**125.59**	**327**	*e*P	**PKPdf**	01 35 58.5	+0.1	
	comp=Z,13nm,1.0s							
CONA	**Conrad Observa**	**125.69**	**327**	*i* P	**PKPdf**	01 35 58.7	+0.1	
	comp=Z,6.3nm,0.7s,SNR=7.3							
IDI	**Anoyia**	**125.74**	**310**	⇓P	**PKPdf**	01 35 58.9	-0.2	
CKRC	**Cesky Krumlov**	**125.96**	**329**	*e*PKP	**PKiKP**	01 35 59.3	-0.2	
NKC	**Novy Kostel**	**125.98**	**331**	*e*PKiKP	**PKPdf**	01 35 59.0	0.0	
NKC	**Novy Kostel**	**125.98**	**331**	*e*PKP	**PKPdf**	01 35 59.0	0.0	
FNA	**Florina**	**126.09**	**317**	PKiKP	**PKPdf**	01 35 58.2	-1.4	
FNA	**Florina**	**126.09**	**317**		**PKPdf**	01 35 58.2	-1.4	
KHC	**Kasperske Hory**	**126.14**	**329**	*e*PKiKP	**PKPdf**	01 35 58.4	-1.0	
KHC				*e*		01 36 46.5		
KHC	**Kasperske Hory**	**126.14**	**329**	*e*PKP	**PKPdf**	01 35 58.4	-1.0	
KHC				*ex*	x	01 36 46.5		
GEC2	**GERESS Array S**	**126.26**	**329**		**PKiKP**	01 35 59.9	-0.2	
GERES	**GERESS Array B**	**126.26**	**329**	PKP	**PKPdf**	01 35 59.5	-0.1	
	comp=Z,8.0nm,0.7s,baz=64,slow=3.1,SNR=66							
GERES				SKP		01 39 24.3		
	comp=Z,1.6nm,0.8s,baz=66,slow=3.2,SNR=4.3							
ARSA	**Arzberg**	**126.28**	**327**	*e*P	**PKPdf**	01 35 59.3	-0.3	
	comp=Z,12nm,1.6s							

comp=Z,4.3nm,0.9s,baz=210,slow=7.4,SNR=4.0
CPUP Villa Florida 135.08 137 *e*P **PKiKP 01 36 19.9 +1.5**
LFF La Frestale 135.24 334 *e*PKiKP **PKiKP 01 36 20.7 +2.5**
LFF pmax pmax
comp=Z,4.0nm,0.7s
ETMB Extrema 136.06 111 *e*P **PKPdf 01 36 18.6 -0.5**
KEST Kesra 136.79 318 PKP **PKPdf 01 36 20.2 +0.3**
comp=Z,6.6nm,1.0s,baz=107,slow=4.2,SNR=3.8
KEST SKPbc **SKPbc 01 39 41.0 +0.4**
comp=Z,9.5nm,1.0s,baz=308,slow=3.8,SNR=3.6
KEST Kesra 136.79 318 PKPdf 01 36 20.0 0.0
BAUV El Baul 137.31 83 *e* **PKPdf 01 36 21.2 -0.2**
FRBT Francisco Belt 138.10 141 *e*P **PKiKP 01 36 24.0 -0.7**
SIV San Ignacio 138.14 122 PKhKP PKPpre 01 36 03.4
comp=Z,1.0nm,0.3s,baz=245,slow=4.5,SNR=7.5
SJG San Juan 138.19 70 SKPbc **SKPbc 01 39 45.2 +0.2**
comp=Z,45nm,0.9s,baz=13,slow=1.3,SNR=12
SJG San Juan 138.19 70 PKIKP **PKPdf 01 36 22.2 -0.7**
SJG San Juan 138.19 70 PKPdf 01 36 22.2 -0.7
SJG San Juan 138.19 70 *e*P PKPdf 01 36 13.8 -9.0
TER01 Tubaro-SC 138.49 147 *e*P **PKiKP 01 36 26.2 +0.8**
AQDB Aquidauana 139.95 132 *e*P **PKPdf 01 36 25.8 -0.3**
PTLB Pontes e Lacer 140.03 123 *e*P **PKiKP 01 36 29.2 +0.4**
PTLB Pontes e Lacer 140.03 123 *e*P **PKPdf 01 36 26.3 0.0**
VILB Vilhena 140.29 119 *e*P **PKPdf 01 36 27.3 +0.5**
TRCB Terra Rica 140.61 138 PKPdf 01 36 26.8 -0.5
TRCB Terra Rica 140.61 138 *e*P **PKiKP 01 36 30.5 +0.6**
TRCB Terra Rica 140.61 138 *e*P **PKPdf 01 36 27.1 -0.2**
MVO Moncorvo 141.54 338 *e*PKP **PKPdf 01 36 29.2 +0.7**
ESDC Sonseca Array 141.55 333 PKP **PKPdf 01 36 27.1 -1.4**
comp=Z,1.7nm,0.8s,baz=42,slow=2.4,SNR=7.5
ESDC PP PP 01 39 22.3 -10
comp=Z,1.9nm,0.8s,baz=28,slow=6.3,SNR=6.2
POLO Lamas de Olo 141.64 339 *e*PKP **PKPdf 01 36 27.8 -0.9**
PAB San Pablo 141.82 334 ↑PKIKP **PKPdf 01 36 29.9 +0.9**
PAB San Pablo 141.82 334 PKPdf **PKPdf 01 36 29.4 +0.4**
FRTB Fartura 142.19 142 *e*P **PKiKP 01 36 32.4 -0.7**
FRTB Fartura 142.19 142 *e*P **PKPdf 01 36 30.7 +0.6**
PVIS Viseu 142.25 339 *e*PKP **PKPdf 01 36 24.7 -5.0**
PP1B Ponte de Pedra 142.29 129 *e*P **PKPdf 01 36 30.4 0.0**
PCMB Pacaembu 142.34 138 *e*P **PKPdf 01 36 31.7 +1.3**
MTE Manteigas 142.40 338 *e*PKP **PKPdf 01 36 29.6 -0.4**
SALV Santo Antonio 142.62 126 *e*P **PKPdf 01 36 30.9 0.0**
PET01 Itanhaem-SP 142.84 145 *e*P **PKPdf 01 36 30.8 -0.4**
PCBR Castelo Branco 142.86 337 *e*PKP **PKPdf 01 36 26.7 -4.0**
PCAS Casmilo, Conde 143.06 339 *e*PKP **PKPdf 01 36 31.2 +0.1**
PMRV Marv??o 143.18 337 *e*PKP PKPab 01 36 27.9 +0.7
MACA Manacapuru-AM 143.25 104 *e*P **PKPdf 01 36 32.6 +0.4**
MACA Manacapuru-AM 143.25 104 *e*P **PKPdf 01 36 31.4 -0.7**
FDF Fort de France 143.53 73 PKIKP **PKPdf 01 36 31.8 -0.8**
FDF Fort de France 143.53 73 PKPdf 01 36 31.8 -0.8
PSBE So Bento 143.64 339 *e*PKP PKPbc 01 36 29.6 -0.3
PESTR Estremoz 143.75 337 *e*PKP PKPab 01 36 29.7 +0.3
TRN Trinidad (W) 143.78 80 PKP PKPab 01 36 30.0 -0.2
PMTG Montargil 143.82 338 *e*PKP PKPbc 01 36 30.1 -0.3
PDRB Porto dos Gac 143.91 119 *e*P **PKPdf 01 36 34.1 +0.8**
PDRB Porto dos Gac 143.91 119 *e*P PKPbc 01 36 31.4 0.0
BOAV Boa Vista 144.45 94 *e*P **PKPdf 01 36 34.6 +0.3**
BOAV Boa Vista 144.45 94 *e*P **PKPab 01 36 32.7 -0.1**
BB19B Bebedouro 144.51 140 *e*P **PKiKP 01 36 37.0 -0.9**
TOSP Speyside 144.57 79 *e* PKPbc 01 36 33.7 +0.3
PNCL Nicolau / Gran 144.77 337 *e*PKP **PKPab 01 36 33.0 -0.3**
PCVE Castro Verde 144.99 336 *e*PKP **PKPab 01 36 34.1 0.0**
JBK JBK 145.04 326 P **PKPdf 01 36 35.0 0.0**
PVAQ Vaqueiros 145.05 336 *e*PKP **PKPdf 01 36 34.6 0.0**
PVAQ Vaqueiros 145.05 336 P **PKPdf 01 36 34.6 0.0**
CLDB Colider 145.06 119 *e*P **PKPbc 01 36 34.3 -0.7**
PALE Palemas 145.09 329 P **PKPbc 01 36 34.0 -0.6**
PBDV Barranco-do-Ve 145.28 336 *e*PKP **PKPab 01 36 35.4 +0.1**
PTEO Sao Teotonio 145.34 337 *e*PKP **PKPab 01 36 35.3 -0.1**
MORF Marmelete 145.51 337 *e*PKPdf **PKPbc 01 36 35.9 0.0**
MORF Marmelete 145.51 337 *e*PKP **PKPab 01 36 36.4 +0.2**
AKLM AKL 145.60 328 P **PKPdf 01 36 36.0 +0.2**
TDRA Tendrara 145.68 324 P **PKPab 01 36 38.0 +0.8**
PFVI Vila Bisbo 145.73 337 *e*PKP **PKPdf 01 36 30.1 -5.7**
FIGM Figuig 145.87 322 P **PKPbc 01 36 37.0 -0.2**
CHEFC Chefchaouen 145.88 330 P **PKPbc 01 36 37.1 +0.1**
H07N1 FLORES T-PHASB 146.11 8 PKPbc **PKPab 01 36 38.1 -0.1**
H07N1 FLORES T-PHASB 146.11 8 *e*PKP **PKPab 01 36 38.4 +0.1**
H07S1 FLORES T-PHASB 146.40 9 PKPbc **PKPbc 01 36 38.5 +0.2**
SNR=6.1
LCRM LCR 146.76 328 P **PKPbc 01 36 40.0 +0.2**
IPMB Ipameri, GO 146.91 137 *e*P **PKPbc 01 36 39.9 -0.6**
PGRA Graciosa 147.10 4 *e*PKP **PKPdf 01 36 36.0 -2.1**
PMAN Manadas 147.49 4 *e*PKP **PKiKP 01 36 42.6 -0.9**
ADH Angra Heroismo 147.53 3 *e*PKP **PKiKP 01 36 43.0 -0.6**
PICO Pico 147.59 5 *e*PKP **PKiKP 01 36 44.0 -0.2**
PPNO Prainha do Nor 147.64 5 *e*PKP **PKPbc 01 36 41.9 0.0**
ITTB Itaituba 147.65 108 *e*P **PKPbc 01 36 42.4 -0.2**
ITTB Itaituba 147.65 108 *e*P **PKPdf 01 36 40.5 +0.7**
PID Ribeirinha 147.68 4 *e*PKP **PKPab 01 36 44.8 +0.3**
CAM01 Campos-RJ 147.83 150 *e*P **PKPdf 01 36 40.7 +0.9**
SNDB Serra Nova Dou 148.33 125 *e*P **PKPbc 01 36 42.9 -1.4**
SNDB Serra Nova Dou 148.33 125 *e*P **PKPdf 01 36 41.0 +0.2**
PSET Sete Cidades 148.41 1 *e*PKP **PKiKP 01 36 45.2 -0.3**
PDA Ponta Delgada 148.49 1 *e*PKP **PKPdf 01 36 42.1 +1.7**
BDFB Brasilia 148.64 134 PKP **PKPdf 01 36 41.7 +0.3**
comp=Z,16nm,0.8s,baz=201,slow=2.3,SNR=20
BDFB PKPbc **PKPbc 01 36 44.7 -0.5**
comp=Z,14nm,0.7s,baz=196,slow=4.2,SNR=8.8
BDFB pPKPbc **pPKPbc 01 37 20.2 -0.6**
comp=Z,28nm,0.8s,baz=303,slow=3.0,SNR=7.0
BDFB Brasilia 148.64 134 PKPdf **PKPdf 01 36 41.1 -0.3**
TZRR Tazzarine 149.37 326 P **PKPdf 01 36 43.0 +0.8**
DIAM Diamantina, MG 149.59 143 *e*P **PKPdf 01 36 44.4 +1.4**
MALB Monte Alegre 149.79 104 *e*P **PKPdf 01 36 45.3 +2.2**
MALB Monte Alegre 149.79 104 *e*P **PKPdf 01 36 45.1 +1.9**
PEXB Peixe 150.66 128 *e*P **PKPdf 01 36 45.5 +0.9**
PEXB Peixe 150.66 128 *e*P **PKPdf 01 36 44.5 0.0**
PMPST Porto Santo, M 151.95 344 *e*PKP **PKiKP 01 36 53.3 +0.4**
MCPB Macapa, AP 152.30 102 *e*P **PKPdf 01 36 49.3 +2.3**
MCPB Macapa, AP 152.30 102 *e*P **PKPdf 01 36 47.4 +0.4**
PMOZ Porto Moniz, M 152.41 346 *e*PKP **PKiKP 01 36 54.2 +0.2**
PMAR Madeira 152.44 345 *e*PKP **PKiKP 01 36 54.5 +0.4**
PRPB Parauapebas 152.45 116 *e*P **PKPdf 01 36 48.4 +1.2**
MDP Montagnes des 152.53 91 PKP **PKPdf 01 36 48.0 +0.6**
comp=Z,22nm,0.8s,baz=240,slow=3.5,SNR=6.2
MDP PKPbc **PKiKP 01 36 54.9 +0.2**
comp=Z,107nm,0.6s,baz=253,slow=3.6,SNR=83
TORD Torodi Ar. Bea 152.73 287 PKP **PKPdf 01 36 46.4 -1.2**
comp=Z,5.2nm,0.7s,baz=49,slow=1.8,SNR=39
TORD PKPbc **PKPbc 01 36 53.9 -0.8**
comp=Z,30nm,0.7s,baz=69,slow=2.1,SNR=49
TORD pPKPbc **pPKPbc 01 37 29.2 -1.1**
comp=Z,25nm,1.0s,baz=50,slow=1.9,SNR=3.9
TORD SKKPbc 01 47 27.1
comp=Z,1.1nm,0.7s,baz=272,slow=4.2,SNR=5.1
SDBA SAO DESIDERIO 153.03 133 *e*P **PKPdf 01 36 48.9 +0.8**
SMTB Santa Maria do 153.07 123 *e*P **PKPdf 01 36 50.0 +1.9**
SMTB Santa Maria do 153.07 123 *e*P **PKPdf 01 36 48.2 0.0**
GUA01 Guaratinga, BA 153.16 147 *e*P **PKPdf 01 36 49.9 +1.7**
TMAB Tom-Au,PA,Br 155.51 109 *e*P **PKPdf 01 36 53.6 +2.0**
NBPN Ponto Novo - B 157.41 138 *e*P **PKPdf 01 36 54.1 +0.1**
NBPN Ponto Novo - B 157.41 138 *e*P **PKPdf 01 36 54.1 +0.1**
KOWA Kowa 157.70 294 PKPdf 01 36 54.1 -0.2
NBLA Lagarto - SE 158.82 143 *e*P **PKPdf 01 36 57.5 +1.8**
NBLA Lagarto - SE 158.82 143 *e*P **PKPdf 01 36 55.9 +0.2**
ROSB Rosrio 158.97 115 *e*P **PKPdf 01 36 56.1 +0.2**
KIC Kosan Boka 159.80 272 *e*P **PKPab 01 37 36.1 -0.4**
comp=Z,24nm,0.7s
DBIC Dimbokro 159.92 273 PKP **PKPdf 01 36 56.3 -0.7**
comp=Z,6.3nm,1.0s,baz=359,slow=2.7,SNR=4.8
DBIC PKPab **PKPab 01 37 36.5 -0.5**
comp=Z,12nm,0.8s,baz=98,slow=5.4,SNR=7.1
DBIC pPKPab **pPKPab 01 38 09.0 -2.2**
comp=Z,16nm,0.9s,baz=121,slow=6.6,SNR=4.0
DBIC PP **PP 01 41 22.3 +2.8**
comp=Z,10.0nm,1.0s,baz=98,slow=7.2,SNR=4.1
DBIC Dimbokro 159.92 273 PKPab **PKPab 01 37 36.7 -0.3**
TIC Toumodi 160.08 273 *e*P **PKPab 01 37 37.2 -0.6**
LIC Lamto 160.09 271 *e*P **PKPab 01 37 37.9 +0.1**
comp=Z,63nm,1.5s
NBPS Pedro II - PI 160.60 122 *e*P **PKPdf 01 36 57.9 0.0**
NBMA Muriti-CE 160.88 134 *e*P **PKPdf 01 36 58.7 +0.6**
NBPB Pedra_Branca-C 161.46 128 *e*P **PKPdf 01 36 59.5 +0.8**
NBRF Rio Formoso - 162.22 146 *e*P **PKPdf 01 37 00.7 +1.3**
RCBR Riachuelo 163.96 137 PKP **PKPdf 01 37 01.0 -0.2**
comp=Z,14nm,0.8s,baz=311,slow=1.3,SNR=4.4
RCBR Riachuelo 163.96 137 PKIKP **PKPdf 01 37 01.0 -0.2**

TAP 28 01:24:52.9,24.27N×121.75E,h8km,ML1.9,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.04**	**345**	*e*P	Pg	01 24 55.0	+0.3
	baz=353						
ETL	**Fush Village**	**0.16**	**228**	P	Pg	01 24 57.0	+0.7
ETL	baz=228			S	Sg	01 25 00.2	+1.6
	baz=228						
ENA	**Nanau**	**0.16**	**356**	*i* P	Pg	01 24 57.4	+1.1
	baz=358						
ENA	baz=358			*i* S	Sg	01 25 00.1	+1.4
NACB	**Ninganchiao**	**0.17**	**238**	P	Pg	01 24 57.5	+1.0
NACB	baz=237			*i* S	Sg	01 25 00.6	+1.6
	baz=237						
EWUT	**Wuta**	**0.18**	**7**	P	Pg	01 24 57.5	+0.9
	baz=7.0						
EWUT	baz=7.0			*i* S	Sg	01 25 00.5	+1.3
TWD	**Chiawan**	**0.23**	**218**	P	Pg	01 24 58.4	+0.8
	baz=216						
TWD	baz=216			S	Sg	01 25 02.1	+1.2
ETLH	**Xiulin Townshi**	**0.26**	**257**	P	Pb	01 24 59.1	-0.7
	baz=256						
ETLH	baz=256			*i* S	Sb	01 25 03.3	-1.1
LATG	**Datong**	**0.34**	**322**	*i* P	Pb	01 25 00.9	-0.4
	baz=322						
LATG	baz=322			*i* S	Sb	01 25 06.2	-0.6
TWC	**Suao**	**0.35**	**14**	*i* P	Pb	01 25 00.8	-0.6
	baz=15						
TWC	baz=15			*e*S	Sg	01 25 05.5	+0.9
NDS	**Dongshan**	**0.37**	**355**	P	Pb	01 25 01.2	-0.5
	baz=354						
NDS	baz=354			S	Sb	01 25 06.3	-1.2
NNSB	**Datong**	**0.38**	**296**	P	Pb	01 25 02.1	+0.3
	baz=295						
NNSB	baz=295			*i* S	Sb	01 25 07.4	-0.5
ENTT	**Nioudou**	**0.41**	**335**	P	Pb	01 25 02.5	+0.1
	baz=336						
ENTT	baz=336			S	Sb	01 25 08.3	-0.5
FUSB	**Fushanzhiwuyua**	**0.51**	**343**	P	Pb	01 25 04.3	+0.1
	baz=342						
FUSB	baz=342			*e*S	Sb	01 25 12.0	+0.1
YHNB	**Yeheng**	**0.53**	**319**	P	Pb	01 25 05.0	+0.5
	baz=319						
YHNB	baz=319			*e*S	Sg	01 25 11.2	+1.0
NWLT	**Wulai**	**0.56**	**336**	P	Pb	01 25 05.4	+0.4
	baz=335						
NWLT	baz=335			S	Sb	01 25 12.5	-0.6
YOJ	**Yonaguni jima**	**1.16**	**80**	*e*P	Pb	01 25 15.1	-0.2
	baz=79						

TAP 28 01:24:55.7,23.21N×120.80E,h50km±1km,ML2.4,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYH	**Taoyuan**	**0.04**	**212**	P	Pn	01 25 04.1	+0.8
	baz=213						
STYH	baz=213			*i* S	Sn	01 25 09.3	+0.6
STYT	**Tauyuan**	**0.06**	**222**	*e*P	Pn	01 25 05.0	+1.5
	baz=215						
STYT	baz=215			*i* S	Sn	01 25 09.4	+0.5
WTP	**Ta-pu**	**0.18**	**282**	P	Pn	01 25 04.4	+0.4
	baz=281						
WTP	baz=281			S	Sn	01 25 10.8	+1.0
TPUB	**Ta-pu**	**0.18**	**300**	P	Sn	01 25 10.9	+1.1
TPUB	**Ta-pu**	**0.18**	**300**	P	Pn	01 25 04.4	+0.4
	baz=299						
TPUB	baz=299			*e*S	Sn	01 25 10.8	+1.0
ELDTW	**Lidau**	**0.20**	**96**	*e*P	Pn	01 25 03.4	-0.8
	baz=96						
ELDTW	baz=96			*e*S	Sn	01 25 09.3	-0.9
SGST	**Jiashian**	**0.24**	**238**	*e*P	Pn	01 25 04.3	+0.1
	baz=236						
SGST	baz=236			*e*S	Sn	01 25 09.3	-1.1
CHN4	**Tsaushan**	**0.24**	**306**	*e*P	Pn	01 25 03.4	-0.9
	baz=306						
CHN4	baz=306			S	Sn	01 25 11.4	+1.0
CHN1	**Nanshi**	**0.25**	**265**	*e*P	Pn	01 25 04.9	+0.4
	baz=264						
CHN1	baz=264			S	Sn	01 25 10.9	+0.2
TWK	**Hsinying**	**0.29**	**281**	*e*P	Pn	01 25 05.1	+0.3
	baz=281						
TWK	baz=281			S	Sn	01 25 11.6	+0.3
ALS	**Alishan**	**0.30**	**1**	P	Pn	01 25 05.4	+0.2
	baz=1.0						
ALS	baz=1.0			*e*S	Sn	01 25 11.8	-0.1
YUS	**Yu-Shan**	**0.31**	**26**	*e*S	Sn	01 25 12.2	-0.2
	baz=27						
LONT	**Longtian**	**0.43**	**135**	P	Pn	01 25 06.2	+0.2
	baz=134						
LONT	baz=134			S	Sn	01 25 14.8	+1.3
CHY	**Chiayi**	**0.45**	**310**	*e*P	Pn	01 25 06.1	-0.2
	baz=310						
CHY	baz=310			*e*S	Sn	01 25 13.4	-0.6
TWGBT	**Beinan**	**0.47**	**147**	*e*P	Pn	01 25 06.6	+0.1
	baz=146						
SSD	**Sandimen**	**0.49**	**199**	*e*P	Pn	01 25 07.9	+1.1
	baz=197						
SSD	baz=197			*e*S	Sn	01 25 15.6	+0.9
EDH	**Donghe**	**0.52**	**117**	*e*P	Pn	01 25 05.7	-1.4
	baz=117						
EDH	baz=117			S	Sn	01 25 16.2	+0.9
TSMG	**Majia**	**0.52**	**196**	*e*P	Pn	01 25 07.5	+0.3
	baz=196						
MASBT	**Mashibuluo**	**0.61**	**195**	*e*P	Pn	01 25 07.3	-1.1
	baz=194						

IDC 28 01:50:26.9±9.8,19.38S×178.25W,h574km±50km, mb3.0/2,mb1 3.2/3,mb1mx2.8/27,mbtmp3.8/3,Error ellipse: s-maj=252.2km s-min=101.0km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.88**	**294**	P	P	01 51 49.7	-0.1
	1.7nm,0.3s,baz=131,slow=19,SNR=5.4						
WRA	**Warramunga Arr**	**44.53**	**261**	P	P	01 57 48.7	0.0
	0.6nm,0.3s,baz=97,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**44.56**	**256**	P	P	01 57 48.7	-0.2
	1.5nm,0.5s,baz=94,slow=7.8,SNR=20						
AKASG	**Malin Array Be**	**141.92**	**332**	PKP	PKPdf	02 08 52.2	-1.6
	0.2nm,0.3s,baz=52,slow=4.8,SNR=5.2						

IDC 28 02:01:22.4±2.4,6.56S×130.21E,h0km,mb3.3/1, mb1 3.4/4,mb1mx3.3/41,mbtmp3.3/4,ML3.2/3,Error ellipse: s-maj=89.4km s-min=30.5km az=78.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.31**	**201**	Pn	Pn	02 04 19.5	+0.4
	0.2nm,0.3s,baz=28,slow=13,SNR=23						
FITZ					Sn	02 06 30.1	-6.9
	0.1nm,0.3s,baz=45,slow=7.1,SNR=1.5						
WRA	**Warramunga Arr**	**13.89**	**164**	Pn	Pn	02 04 39.2	-1.5
	0.1nm,0.3s,baz=346,slow=14,SNR=8.7						
WRA					Sn	02 07 06.5	-9.4
	0.1nm,0.3s,baz=341,slow=23,SNR=1.5						
ASAR	**Alice Springs**	**17.38**	**169**	P	P	02 05 27.3	-0.6
	0.1nm,0.3s,baz=345,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	02 12 23.4	0.0
	0.2nm,0.5s,baz=116,slow=5.0,SNR=2.0						

*NEIC **28** 02:08:23.5±1.6,6.04S±0.09×155.17E±0.10,h125km±7km, mb4.6/23,Error ellipse: s-maj=14.6km s-min=12.9km az=62.0*
*IDC **28** 02:08:24.6±0.7,6.08S×154.93E,h125km±5km,mb4.2/21, mb1 4.3/23,mb1mx4.3/35,mbtmp4.6/23,MS3.1/1, Ms1 3.1/1,ms1mx2.4/62,Error ellipse: s-maj=11.9km s-min=10.5km az=63.0*
*DJA **28** 02:08:26.5±1.5,6.S±8.×15.5E±1.4,h162km±10km,M5.3/7, mb4.7/7,mB5.5/4,MLv5.7/2,Mw(mB)4.9/4*

ISC 28 02:08:26.3±0.4,5.99S±0.06×154.97E±0.07,h150km,n84, σ1♀44/92,mb4.5/30,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.32**	**302**	P	**Pn**	**02 09 18.9**	**+1.1**
KRVT	**Keravat (AS076**	**3.38**	**300**	P	**Pn**	**02 09 17.1**	**-1.5**
	44nm,0.3s,baz=210,slow=3.2,SNR=12						
KRVT				S	**Sn**	**02 09 57.0**	**-2.0**
	41nm,0.3s,baz=119,slow=21,SNR=1.3						
KRVT				LR	LR	02 10 30.2	
	comp=Z,318nm,20.9s,baz=28,slow=37						
PMG	**Port Moresby**	**8.45**	**246**	P	**Pn**	**02 10 28.3**	**+2.5**
	1.0nm,0.3s,baz=329,slow=9.3,SNR=3.7						
PMG				S	**Sn**	**02 11 58.1**	**-1.8**
	1.2nm,0.3s,baz=20,slow=14,SNR=1.5						
PMG	**Port Moresby**	**8.45**	**246**	Pn	**Pn**	**02 10 22.6**	**-3.2**
PMG					**Sn**	**02 11 59.0**	**-0.9**
PMG	**Port Moresby**	**8.45**	**246**	P	Pn	02 10 31.8	+6.0
COEN	**Coen**	**14.05**	**235**	Pn	**Pn**	**02 11 36.0**	**-3.0**
COEN	**Coen**	**14.05**	**235**	P	**P**	**02 11 44.5**	**+2.3**
NOUC	**Port Laguerre**	**19.40**	**147**	P	**P**	**02 12 41.0**	**+0.1**
DZM	**Mont Dzumac**	**19.46**	**146**	P	**P**	**02 12 42.2**	**+0.6**
	2.8nm,0.3s,baz=278,slow=10,SNR=24						
DZM	**Mont Dzumac**	**19.46**	**146**	P	**P**	**02 12 37.3**	**-4.4**
DZM				IAmb	IAmb	02 12 46.3	
	comp=Z,30nm,1.0s						
DZM	**Mont Dzumac**	**19.46**	**146**	P	**P**	**02 12 42.9**	**+1.3**
YATNC	**Mamie plateau,**	**19.70**	**145**	P	**P**	**02 12 44.9**	**+0.8**
	comp=Z,44nm,1.1s						
QIS	**Mount Isa**	**20.79**	**224**	P	**P**	**02 12 56.6**	**+0.7**
RMQ	**Roma**	**21.23**	**196**	P	**P**	**02 13 01.4**	**+0.9**
QLP	**Quilpie**	**22.90**	**205**	P	**P**	**02 13 18.7**	**+1.5**
KDU	**Kakadu**	**23.16**	**252**	P	**P**	**02 13 19.6**	**-0.2**
SIJI	**Sorong**	**24.20**	**281**	P	**P**	**02 13 29.6**	**+0.3**
	comp=Z,11nm,0.5s,baz=24,slow=23,SNR=5.0						
WR0	**Warramunga Arr**	**24.23**	**233**	P	**P**	**02 13 29.9**	**+0.4**
WB0	**Warramunga Arr**	**24.25**	**234**	P	**P**	**02 13 30.4**	**+0.8**
WRAB	**Tennant Creek**	**24.37**	**233**	P	**P**	**02 13 31.5**	**+0.8**
WRAB				IAmb	IAmb	02 13 33.1	
	comp=Z,46nm,1.0s						
WB2	**Warramunga Arr**	**24.37**	**233**	P	**P**	**02 13 31.4**	**+0.6**
WRA	**Warramunga Arr**	**24.38**	**233**	P	**P**	**02 13 31.5**	**+0.6**
	comp=Z,32nm,0.3s,baz=56,slow=9.8,SNR=143						
WRA				PcP	**PcP**	**02 17 06.9**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=49,slow=2.8,SNR=4.2						
WRA	**Warramunga Arr**	**24.38**	**233**	P	**P**	**02 13 29.9**	**-1.0**
MTN	**Manton Dam**	**24.47**	**252**	P	**P**	**02 13 32.6**	**+0.9**
MTN				IAmb	IAmb	02 13 33.4	
	comp=Z,17nm,0.6s						
ARMA	**Armidale**	**24.50**	**187**	P	**P**	**02 13 33.0**	**+1.1**
AS31	**Alice Springs**	**26.83**	**227**	P	**P**	**02 13 53.1**	**+0.2**
ASAR	**Alice Springs**	**26.83**	**227**	P	**P**	**02 13 52.5**	**-0.4**
	comp=Z,5.2nm,0.5s,baz=57,slow=9.0,SNR=74						
ASAR				PcP	**PcP**	**02 17 12.8**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=55,slow=2.6,SNR=6.9						
ASAR	**Alice Springs**	**26.83**	**227**	P	**P**	**02 13 52.4**	**-0.5**
ASAR					**PcP**	**02 17 11.1**	**-0.8**
CMSA	**Cobar Meteorol**	**26.86**	**198**	P	**P**	**02 13 53.4**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**26.93**	**25**	T	T	02 42 51.9	
	baz=208,slow=76,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**26.94**	**25**	T	T	02 42 51.1	
	baz=208,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**26.95**	**25**	T	T	02 42 51.9	
	baz=208,slow=76,SNR=10						
KNRA	**Kununurra**	**27.45**	**247**	P	**P**	**02 13 58.6**	**+0.1**
KNRA				IAmb	IAmb	02 14 07.1	
	comp=Z,8.0nm,0.8s						
OOD	**Oodnadatta**	**28.38**	**218**	P	**P**	**02 14 06.5**	**-0.2**
STKA	**Stephens Creek**	**28.63**	**204**	P	**P**	**02 14 08.0**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=11,slow=9.4,SNR=5.7						
STKA	**Stephens Creek**	**28.63**	**204**	P	**P**	**02 14 08.8**	**0.0**
LCRK	**Leigh Creek**	**28.99**	**211**	P	**P**	**02 14 11.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**31.05**	**245**	P	**P**	**02 14 29.6**	**-0.7**
	comp=Z,14nm,0.6s,baz=69,slow=8.0,SNR=76						
FITZ				PcP	**PcP**	**02 17 23.4**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=132,slow=12,SNR=2.5						
FITZ	**Fitzroy Crossi**	**31.05**	**245**	P	**P**	**02 14 29.9**	**-0.4**
BATI	**Baumata**	**31.27**	**260**	P	**P**	**02 14 32.4**	**0.0**
	comp=Z,23nm,0.4s,baz=159,slow=12,SNR=3.6						
TOLI2	**Tolitoli**	**34.86**	**281**	P	**P**	**02 15 03.4**	**-0.1**
KAPI	**Kappang**	**35.07**	**270**	P	**P**	**02 15 05.3**	**0.0**
	comp=Z,4.2nm,0.4s,baz=59,slow=2.9,SNR=3.7						
KAPI	**Kappang**	**35.07**	**270**	P	**P**	**02 15 04.8**	**-0.5**
KAPI				IAmb	IAmb	02 15 07.3	
	comp=Z,4.8nm,0.5s						
URZ	**Urewera**	**37.89**	**151**	P	**P**	**02 15 30.3**	**+1.4**
	comp=Z,3.2nm,0.5s,baz=297,slow=6.8,SNR=3.3						
URZ	**Urewera**	**37.89**	**151**	P	**P**	**02 15 27.1**	**-1.8**
URZ				IAmb	IAmb	02 15 34.7	
	comp=Z,26nm,1.5s						
MJAR	**Matsushiro Arr**	**45.13**	**341**	P	**P**	**02 16 28.9**	**+1.1**
	comp=Z,1.5nm,0.4s,baz=156,slow=9.3,SNR=1.3						
KSRS	**Korea Array**	**50.05**	**332**	P	**P**	**02 17 06.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=144,slow=7.9,SNR=2.6						
USRK	**Ussuriysk Ar.**	**54.09**	**340**	P	**P**	**02 17 37.5**	**+2.1**
	comp=Z,2.6nm,0.7s,baz=160,slow=6.1,SNR=5.8						
USRK	**Ussuriysk Ar.**	**54.09**	**340**	P	**P**	**02 17 35.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**58.92**	**2**	P	**P**	**02 18 09.2**	**-0.4**
PETK	**Petropavlovsk-**	**58.92**	**2**	P	**P**	**02 18 12.1**	**+2.6**
	comp=Z,8.2nm,0.9s,baz=168,slow=7.6,SNR=13						
PETK	**Petropavlovsk-**	**58.92**	**2**	P	**P**	**02 18 09.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**60.34**	**

comp=Z,1.0nm,0.9s,baz=267,slow=4.7,SNR=11
YKA pP **pP** 02 22 07.2 -3.9
comp=Z,0.4nm,0.8s,baz=262,slow=4.8,SNR=3.0
YKA PKKPbc **PKKPdf** 02 38 23.6 -4.0
comp=Z,0.2nm,0.8s,baz=84,slow=2.5,SNR=5.5
YKA Yellowknife Ar 95.46 28 P **P** 02 21 32.5 -1.3
TXAR Lajitas Array 102.80 61 PKKPbc PKKPbc 02 38 05.6 -0.5
comp=Z,0.1nm,0.5s,baz=142,slow=6.3,SNR=4.4
NOA NORSAR Array B 118.75 341 PKP **PKiKP** 02 26 56.8 +0.2
comp=Z,0.4nm,0.7s,baz=51,slow=2.1,SNR=1.8
BOSA Boshof 120.62 232 PKP **PKPdf** 02 27 01.4 +0.1
comp=Z,1.9nm,0.8s,baz=117,slow=4.5,SNR=1.6
GERES GERESS Array B 126.18 329 PKP **PKiKP** 02 27 12.3 +0.6
comp=Z,0.3nm,0.5s,baz=73,slow=4.5,SNR=3.8
GERES GERESS Array B 126.18 329 **PKPdf** 02 27 11.1 -0.2
ROSC El Rosal 130.93 89 PKP **PKiKP** 02 27 22.6 0.0
comp=Z,10nm,0.5s,baz=101,slow=23,SNR=2.9
LPAZ La Paz 131.95 118 PKP **PKiKP** 02 27 24.8 0.0
comp=Z,0.6nm,0.4s,baz=284,slow=0.4,SNR=5.4
LPAZ La Paz 131.95 118 **PKPdf** 02 27 22.2 -1.5
TORD Torodi Ar. Bea 152.72 287 PKP **PKPdf** 02 27 59.5 +0.3
comp=Z,0.4nm,0.8s,baz=80,slow=1.4,SNR=2.4
TORD PKPbc **PKPbc** 02 28 06.2 -0.3
comp=Z,1.4nm,0.6s,baz=56,slow=2.2,SNR=25
TORD pPKPbc **pPKPdf** 02 28 40.7 +1.3
comp=Z,0.8nm,0.8s,baz=65,slow=2.4,SNR=2.6

DDA ***28*** *02:09:35.9±0.0, 40.˝88N×39.˝96E, h8km±3km, ML2.6*
ISK ***28*** *02:09:35.2, 40.˝95N×39.˝89E, h15km, ML2.6/9*
ISC 28 02:09:34.7±1.0, **41.˝03N**±0.˝05×**39.˝92E**±0.˝03, **h16**km±7km, **n21**, σ1§**08**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTUT	**Trabzon**	**0.13**	**250**		PG		**Pb**	**02 09 39.3**	**+0.6**
KTUT					SG		**Sg**	**02 09 41.3**	**+0.4**
MACK	**Trabzon**	**0.15**	**234**	P	P		**Pb**	**02 09 39.8**	**+0.8**
MACK				S			**Sg**	**02 09 42.0**	**+0.5**
MACK				*i* AML	AML			02 09 43.0	
	comp=Z,3µm,0.2s								
MACK				*i* AML	AML			02 09 43.0	
	comp=N,5µm,0.2s								
MACK				*i* AML	AML			02 09 43.0	
	comp=E,3µm,0.1s								
CHOM	**Cayeli-Rize**	**0.64**	**84**	PG			**Pn**	**02 09 48.9**	**-0.2**
CHOM				SG			**Sn**	**02 09 58.5**	**-0.3**
BAYT	**Aydıntepe-Bayb**	**0.66**	**165**	PG			**Pg**	**02 09 47.5**	**-0.2**
BAYT				SG			**Sg**	**02 09 56.1**	**-0.3**
GUMT	**Gumushane**	**0.66**	**211**	PG			**Pg**	**02 09 46.5**	**-1.2**
GUMT				SG			**Sg**	**02 09 55.3**	**-1.2**
ESPY	**Espiye-Giresun**	**0.91**	**263**	PG			**Pb**	**02 09 52.3**	**+0.1**
KELT	**Kelkit**	**1.02**	**210**	P			**Pg**	**02 09 54.2**	**-0.2**
KELT				S			**Sg**	**02 10 06.8**	**-0.9**
KRIK	**Erzurum-spir**	**1.03**	**132**	P			**Pg**	**02 09 53.2**	**-1.5**
KRIK				S			**Sg**	**02 10 06.6**	**-1.6**
KOPT	**Kop Dagi**	**1.10**	**156**	P			**Pn**	**02 09 56.7**	**+1.0**
KOPT				S			**Sb**	**02 10 10.6**	**+0.9**
ALUC	**Giresun/Alucra**	**1.11**	**232**	P			**Pn**	**02 09 56.2**	**+0.4**
ALUC				S			**Sb**	**02 10 10.5**	**+0.5**
HOPA	**Hopa-Artvin**	**1.20**	**72**	PN			**Pg**	**02 09 58.7**	**+0.8**
EMRE	**Erzurum,Aziziy**	**1.28**	**141**	P			**Pg**	**02 10 00.6**	**+1.2**
DBAD	**Bademkaya**	**1.34**	**90**	P			**Pg**	**02 09 59.9**	**-0.7**
DBAD				S			**Sg**	**02 10 17.0**	**-1.0**
DBAD				*i* AML	AML			02 10 18.0	
	comp=N,38nm,0.3s								
DBAD				*i* AML	AML			02 10 19.0	
	comp=E,44nm,0.4s								
DBOC	**Borcka**	**1.35**	**76**	P			**Pg**	**02 09 60.0**	**-0.8**
DBOC				S			**Sn**	**02 10 16.8**	**+0.2**
DDEM	**Demirkent**	**1.39**	**95**	P			**Pg**	**02 10 01.2**	**-0.3**
DDEM				S			**Sg**	**02 10 18.4**	**-1.2**
DDEM				*i* AML	AML			02 10 22.0	
	comp=N,184nm,0.3s								
DDEM				*i* AML	AML			02 10 22.0	
	comp=E,142nm,0.3s								
ERZN	**Erzincan**	**1.45**	**186**	PN			**Pn**	**02 10 00.9**	**+0.6**
DAGI	**Agillar**	**1.51**	**88**	P			**Pg**	**02 10 03.1**	**-0.6**
DAGI				S			**Sg**	**02 10 22.4**	**-0.9**
SUSE	**Susehri**	**1.55**	**239**	P			**Pb**	**02 10 03.4**	**+0.4**
SUSE				S			**Sb**	**02 10 23.2**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.90**	**103**	PN			**Pn**	**02 10 07.6**	**+1.0**
CUZAR	**Zara_SIVAS**	**2.00**	**236**	P			**Pn**	**02 10 04.2**	**-3.7**
CUZAR				S			**Sb**	**02 10 36.5**	**+1.0**
RSDY	**Resadiye-TOKAT**	**2.07**	**253**	PN			**Pn**	**02 10 09.8**	**+1.0**

TUL ***28*** *02:12:59.6±1.0, 36.˝21N±0.˝02×97.˝32W±0.˝02, h5km±7km, ML3.0, mb_Lg3.0/60(NEIC), Error ellipse: s-maj=2.5km s-min=1.8km az=220.0*
NEIC ***28*** *02:12:59.7±0.9, 36.˝22N±0.˝02×97.˝32W±0.˝02, h5km±7km, Error ellipse: s-maj=2.4km s-min=1.9km az=224.0*
ANF ***28*** *02:13:00.1±0.4, 36.˝22N×97.˝31W, h11km, ML3.5/13, Error ellipse: s-maj=4.1km s-min=3.2km az=111.0*
ISC 28 02:13:00.2±0.9, **36.˝23N**±0.˝03×**97.˝32W**±0.˝03, **h10**km, **n65**, σ0§**75**/52, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.82**	**188**	Pg			**Pg**	**02 13 14.9**	**-1.0**
OKCFA	**Oklahoma City** baz=7.6	**0.82**	**188**	S			**Sg**	**02 13 25.9**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**0.82**	**187**				**Pg**	**02 13 15.0**	**-1.0**
T35A	**Sooner Cattle**	**0.94**	**43**				**Pg**	**02 13 17.8**	**-0.6**
T35B	**Sooner Cattle** baz=223,SNR=163	**0.94**	**43**	P			**Pg**	**02 13 17.8**	**-0.5**
T35B				S			**Sg**	**02 13 30.4**	**-0.2**
	baz=223								
FNO	**Franklin**	**0.97**	**184**	Pg			**Pg**	**02 13 17.5**	**-1.3**
TUL1	**Leonard**	**1.27**	**104**	Pg			**Pn**	**02 13 22.8**	**-1.2**
TUL1	**Leonard** baz=284,SNR=125	**1.27**	**104**	P			**Pn**	**02 13 22.8**	**-1.2**
TUL1				S			**Sb**	**02 13 39.9**	**-0.8**
	baz=284								
U32A	**Winter Ranch,**	**1.37**	**277**				**Pn**	**02 13 24.8**	**-0.6**
U32A	**Winter Ranch,** baz=96,SNR=70	**1.37**	**277**	P			**Pn**	**02 13 24.7**	**-0.6**
U32A				S			**Sn**	**02 13 43.7**	**+0.1**
	baz=96								
X34A	**Smith Ranch, M**	**1.68**	**195**				**Pn**	**02 13 29.4**	**-0.2**
WMOK	**Wichita Mounta**	**1.91**	**219**				**Pn**	**02 13 32.8**	**0.0**
WMOK	**Wichita Mounta** baz=38,SNR=60	**1.91**	**219**	P			**Pn**	**02 13 33.2**	**+0.4**
X37A	**Clayton**	**2.28**	**135**	Pn			**Pn**	**02 13 37.9**	**+0.1**
X37A				IAmb_Lg				02 14 16.2	
	comp=Z,49nm,0.7s								
X37A	**Clayton** baz=316,SNR=28	**2.28**	**135**	P			**Pn**	**02 13 38.5**	**+0.7**
X37A				Sb			**Sb**	**02 14 10.9**	**+1.4**
	baz=316								
R32A	**Long Quarter,**	**2.46**	**334**	Pn			**Pn**	**02 13 40.4**	**+0.1**
R32A	**Long Quarter,** baz=153	**2.46**	**334**	S			**Sn**	**02 14 11.9**	**+1.4**
HHAR	**Hobbs**	**2.73**	**88**	Pn			**Pn**	**02 13 43.5**	**-0.5**
Z35A	**Perchaven, San** baz=359,SNR=5.8	**2.89**	**179**	P			**Pn**	**02 13 47.0**	**+0.8**
KSU1	**Kansas State U**	**2.92**	**11**	Pn			**Pn**	**02 13 46.2**	**-0.6**
W39A	**Magazine**	**3.05**	**109**	Pn			**Pn**	**02 13 48.6**	**+0.1**
W39A				IAmb_Lg				02 14 41.7	
	comp=Z,37nm,0.9s								
W39A	**Magazine** baz=290,SNR=12	**3.05**	**109**	P			**Pn**	**02 13 49.0**	**+0.6**
CBKS	**Cedar Bluff**	**3.22**	**324**	Pn			**Pn**	**02 13 50.1**	**-0.7**
MIAR	**Mount Ida**	**3.48**	**118**	Pn			**Pn**	**02 13 53.8**	**-0.6**
MIAR	**Mount Ida** baz=300,SNR=17	**3.48**	**118**	P			**Pn**	**02 13 55.4**	**+1.0**
S39A	**Bolivar**	**3.52**	**64**	Pn			**Pn**	**02 13 55.5**	**+0.6**
S39A	**Bolivar** baz=246,SNR=26	**3.52**	**64**	P			**Pn**	**02 13 55.8**	**+0.9**
Z38A	**Mt. Pleasant**	**3.53**	**146**				**Pn**	**02 13 54.7**	**-0.3**
U40A	**Yellville**	**3.61**	**87**	Pn			**Pn**	**02 13 56.2**	**+0.1**
AMTX	**Amarillo**	**3.80**	**251**	Pn			**Pn**	**02 13 59.5**	**+0.6**
X40A	**Basin Creek Fa**	**4.05**	**114**	Pn			**Pn**	**02 14 03.0**	**+0.8**
X40A				IAmb_Lg				02 15 09.6	
	comp=Z,27nm,0.8s								
ABTX	**Abilene, Hawle**	**4.08**	**209**	Pn			**Pn**	**02 14 02.7**	**+0.1**
MGMO	**Mountain Grove**	**4.16**	**76**	Pn			**Pn**	**02 14 04.1**	**+0.3**
MGMO				IAmb_Lg				02 15 10.6	
	comp=Z,47nm,0.8s								
WHAR	**Wooly Hollow**	**4.19**	**101**	Pn			**Pn**	**02 14 04.1**	**-0.1**
WHAR				IAmb_Lg				02 15 18.6	
	comp=Z,42nm,0.9s								
FCAR	**Ozark Folk Cen**	**4.22**	**93**	Pn			**Pn**	**02 14 04.7**	**+0.2**
WHTX	**Lake Whitney,**	**4.23**	**182**	Pn			**Pn**	**02 14 05.2**	**+0.6**
WHTX				IAmb_Lg				02 15 19.0	
	comp=Z,19nm,1.3s								
WHTX	**Lake Whitney,** baz=1.5,SNR=9.0	**4.23**	**182**	P			**Pn**	**02 14 05.3**	**+0.6**
WHTX				Sb			**Sb**	**02 15 07.7**	**+2.0**
	baz=1.5								
W41B	**Gary Mavity, V**	**4.25**	**103**	Pn			**Pn**	**02 14 05.1**	**+0.1**
W41B				IAmb_Lg				02 15 23.3	
	comp=Z,36nm,1.2s								
237A	**Washetta, Mont** baz=344	**4.39**	**163**	S			**Sn**	**02 14 58.0**	**-0.1**
P38A	**Dawn**	**4.52**	**40**	Pn			**Pn**	**02 14 09.2**	**+0.5**
P38A				IAmb_Lg				02 15 22.7	
	comp=Z,22nm,0.7s								
R40A	**Maddies Statio**	**4.52**	**61**	Pn			**Pn**	**02 14 08.8**	**+0.2**
R40A	**Maddies Statio** baz=244,SNR=13	**4.52**	**61**	P			**Pn**	**02 14 09.3**	**+0.7**
N35A	**Tabor**	**4.81**	**15**	Pn			**Pn**	**02 14 13.0**	**+0.4**
MSTX	**Muleshoe**	**5.01**	**245**	Pn			**Pn**	**02 14 15.3**	**-0.2**
KSCO	**Kaye Shedlock'**	**5.05**	**305**	IAmb_Lg				02 15 51.7	
	comp=Z,18nm,0.7s								
CCAR	**Cane Creek**	**5.10**	**115**	IAmb_Lg				02 15 50.0	
	comp=Z,31nm,1.2s								
CCM	**Cathedral Cave**	**5.18**	**68**	Pn			**Pn**	**02 14 18.2**	**+0.5**
CCM				IAmb_Lg				02 15 47.2	
	comp=Z,19nm,0.7s								
P40A	**Paris**	**5.31**	**50**	Pn			**Pn**	**02 14 20.7**	**+1.1**
P40A				IAmb_Lg				02 15 55.7	
	comp=Z,20nm,0.7s								
N38A	**Joes South For**	**5.57**	**34**	IAmb_Lg				02 16 01.9	
	comp=Z,33nm,0.7s								
PBMO	**Poplar Bluff**	**5.57**	**82**	IAmb_Lg				02 16 04.5	
	comp=Z,24nm,1.0s								
FVM	**French Village**	**5.78**	**70**	IAmb_Lg				02 16 02.7	
	comp=Z,22nm,0.8s								
L34A	**Svendsen Farm,**	**5.78**	**7**	IAmb_Lg				02 16 07.7	
	comp=Z,32nm,0.8s								
PEBM	**Pemiscott Bayo**	**6.03**	**89**	IAmb_Lg				02 16 06.5	
	comp=Z,28nm,0.8s								
JCT	**Junction City**	**6.10**	**201**	Pn			**Pn**	**02 14 30.2**	**-0.1**
JCT				IAmb_Lg				02 16 16.8	
	comp=Z,20nm,1.0s								
SCIA	**State Center**	**6.51**	**28**	IAmb_Lg				02 16 29.1	
	comp=Z,24nm,0.9s								
S44A	**Carbondale**	**6.62**	**75**	IAmb_Lg				02 16 28.8	
	comp=Z,27nm,0.9s								
SIUC	**Southern Illin**	**6.65**	**75**	IAmb_Lg				02 16 30.6	
	comp=Z,28nm,0.8s								
OXF	**Oxford**	**6.68**	**103**	IAmb_Lg				02 16 32.2	
	comp=Z,15nm,1.0s								
Q24A	**Divide**	**6.79**	**296**	IAmb_Lg				02 16 44.2	
	comp=Z,12nm,0.8s								
L40A	**Anamosa**	**7.51**	**37**	IAmb_Lg				02 17 02.5	
	comp=Z,16nm,0.8s								
USIN	**University of**	**7.90**	**74**	IAmb_Lg				02 17 09.0	
	comp=Z,22nm,1.0s								
O44A	**Mansfield**	**7.99**	**58**	IAmb_Lg				02 17 14.7	
	comp=Z,21nm,0.8s								
N23A	**Red Feather La**	**8.21**	**307**	IAmb_Lg				02 17 33.9	
	comp=Z,13nm,0.9s								
L42A	**Oliver, Polo**	**8.28**	**44**	IAmb_Lg				02 17 26.5	
	comp=Z,16nm,0.8s								
JFWS	**Jewell Farm**	**8.62**	**37**	IAmb_Lg				02 17 35.5	
	comp=Z,19nm,0.7s								

JMA ***28*** *02:26:12.3±0.1, 24.˝06N×121.˝64E, h25km±1km, M2.8*
TAP ***28*** *02:26:13.8, 24.˝20N×121.˝77E, h10km, ML3.5, B*
ISC 28 02:26:13.2±0.8, **24.˝20N**±0.˝02×**121.˝79E**±0.˝02, **h11**km±5km, **n110**, σ1§**03**/149, **1C-20D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.12**	**337**	*i* P			**Pg**	**02 26 16.5**	**+0.3**
EHP				S			**Sg**	**02 26 18.8**	**+0.5**
	baz=351								
ETL	**Fush Village**	**0.16**	**255**	*i* P			**Pg**	**02 26 17.3**	**+0.5**
ETL				*i* S			**Sg**	**02 26 20.0**	**+0.6**
	baz=245								
NACB	**Ninganchiao**	**0.18**	**261**	⇓*i* P			**Pg**	**02 26 17.5**	**+0.3**
NACB				*i* S			**Sg**	**02 26 20.2**	**+0.3**
	baz=247								
TWD	**Chiawan**	**0.22**	**236**	P			**Pg**	**02 26 18.2**	**+0.5**
TWD				*i* S			**Sg**	**02 26 21.5**	**+0.7**
	baz=233								
ENA	**Nanau**	**0.23**	**348**	⇓*i* P			**Pg**	**02 26 18.4**	**+0.3**
ENA				*i* S			**Sg**	**02 26 21.7**	**+0.4**
	baz=356								
EWUT	**Wuta**	**0.24**	**357**	⇓P			**Pg**	**02 26 18.7**	**+0.4**
EWUT	baz=3.0			*i* S			**Sg**	**02 26 22.4**	**+0.7**
	baz=3.0								
HWA	**Hwalien**	**0.28**	**217**	*e*P			**Pb**	**02 26 20.7**	**+0.4**
ETLH	**Xiulin Townshi** baz=268	**0.28**	**271**	⇓P			**Pg**	**02 26 19.3**	**+0.3**
ETLH				S			**Sg**	**02 26 23.5**	**+0.6**
	baz=268								
TWC	**Suao** baz=5.0	**0.41**	**7**	P			**Pg**	**02 26 21.7**	**+0.3**
TWC				*e*S			**Sg**	**02 26 26.5**	**-0.3**
	baz=5.0								
LATG	**Datong**	**0.41**	**324**	⇓*i* P			**Pg**	**02 26 21.8**	**+0.4**
LATG	baz=325			*i* S			**Sg**	**02 26 27.3**	**+0.4**
	baz=325								
NDS	**Dongshan** baz=354	**0.44**	**351**	⇓P			**Pg**	**02 26 22.4**	**+0.6**
NDS				*i* S			**Sg**	**02 26 28.0**	**+0.4**
	baz=354								
NNSB	**Datong** baz=301	**0.44**	**301**	⇓*i* P			**Pg**	**02 26 22.4**	**+0.5**
NNSB				S			**Sg**	**02 26 27.8**	**+0.1**
	baz=301								
NNS	**Nan Shan** baz=302	**0.45**	**302**	⇓*i* P			**Pg**	**02 26 22.5**	**+0.4**
NNS				*i* S			**Sg**	**02 26 28.8**	**+0.7**
	baz=302								
ENTT	**Nioudou** baz=337	**0.48**	**335**	⇓*i* P			**Pg**	**02 26 23.2**	**+0.5**
ENTT				S			**Sg**	**02 26 29.0**	**-0.1**
	baz=337								
WHF	**Hehuan Shan** baz=261	**0.48**	**263**	⇓*i* P			**Pb**	**02 26 23.2**	**-0.9**
WHF				*i* S			**Sg**	**02 26 29.6**	**+0.3**
	baz=261								
ESL	**Shilin** baz=226	**0.51**	**220**	P			**Pb**	**02 26 23.9**	**-0.3**
ESL				S			**Sb**	**02 26 30.9**	**-0.7**
	baz=226								
TWE	**Neicheng** baz=351	**0.53**	**348**	⇓*i* P			**Pg**	**02 26 24.1**	**+0.5**
TWE				*i* S			**Sg**	**02 26 30.2**	**-0.4**
	baz=351								
ILA	**Ilan** baz=354	**0.56**	**356**	*e*P			**Pb**	**02 26 25.1**	**-0.1**
ILA				*e*S			**Sg**	**02 26 32.5**	**+0.8**
	baz=354								
TWT	**Tachien** baz=274	**0.56**	**275**	⇓P			**Pb**	**02 26 25.2**	**-0.1**
TDCB	**Techi** baz=274	**0.58**	**275**	⇓*i* P			**Pb**	**02 26 25.4**	**-0.2**
TDCB				*i* S			**Sg**	**02 26 32.3**	**0.0**
	baz=274								
CHGB	**Renai** baz=247	**0.58**	**256**	⇓*i* P			**Pb**	**02 26 25.2**	**-0.4**
CHGB				*i* S			**Sb**	**02 26 32.9**	**-1.1**
	baz=247								
FUSB	**Fushanzhiwuyua** baz=343	**0.59**	**342**	⇓*i* P			**Pg**	**02 26 25.3**	**+0.6**
FUSB				*e*S			**Sg**	**02 26 32.5**	**0.0**
	baz=343								
YHNB	**Yeheng**	**0.60**	**321**	P			**Pb**	**02 26 25.8**	**-0.1**
YHNB	**Yeheng** baz=322	**0.60**	**321**	⇓*i* P			**Pb**	**02 26 25.6**	**-0.2**
OWD	**Renai** baz=245	**0.61**	**247**	*e*P			**Pb**	**02 26 25.9**	**-0.2**
OWD				S			**Sb**	**02 26 34.5**	**-0.4**
	baz=245								
NSK	**Sanguang** baz=321	**0.62**	**320**	⇓*i* P			**Pb**	**02 26 25.8**	**-0.3**
NSK				S			**Sg**	**02 26 33.8**	**+0.4**
	baz=321								
EGFH	**Guangfu** baz=217	**0.63**	**212**	*e*P			**Pn**	**02 26 26.6**	**-1.5**
NWLT	**Wulai** baz=337	**0.63**	**335**	⇓P			**Pg**	**02 26 26.1**	**+0.5**
NWLT				S			**Sg**	**02 26 33.8**	**-0.1**
	baz=337								
WUSB	**Renai** baz=242	**0.65**	**251**	⇓P			**Pb**	**02 26 26.4**	**-0.4**
WUSB				*e*S			**Sb**	**02 26 34.5**	**-1.3**
	baz=242								
NTC	**Toucheng** baz=5.0	**0.65**	**3**	*e*P			**Pg**	**02 26 26.4**	**+0.5**
VWDT	**VWDT** baz=238	**0.74**	**233**	*e*P			**Pn**	**02 26 28.4**	**-1.3**
NFF	**Wufeng Townshi** baz=305	**0.75**	**305**	*e*P			**Pb**	**02 26 28.5**	**+0.2**
NFF				*e*S			**Sb**	**02 26 38.3**	**-0.3**
	baz=305								
TIPB	**Shuangxi** baz=4.0	**0.77**	**2**	*e*P			**Pg**	**02 26 28.7**	**+0.6**
TIPB				*e*S			**Sg**	**02 26 37.7**	**-0.4**
	baz=4.0								
WHP	**Taichung City** baz=275	**0.78**	**276**	P			**Pn**	**02 26 29.1**	**-1.2**
WHP				*i* S			**Sb**	**02 26 39.4**	**0.0**
	baz=275								
HGSD	**Ruisui** baz=194	**0.78**	**206**	*e*P			**Pn**	**02 26 29.5**	**-0.7**
NHDH	**Xindian Distri** baz=344	**0.80**	**342**	*e*P			**Pn**	**02 26 30.3**	**-0.1**
TWA	**Mucha** baz=348	**0.80**	**346**	*e*P			**Pg**	**02 26 29.4**	**+0.7**
TWA				S			**Sb**	**02 26 39.2**	**-0.8**
	baz=348								
WCS	**Beigang Elemen** baz=260	**0.82**	**260**	*e*P			**Pg**	**02 26 29.4**	**+0.4**
TWB1	**Santiao Chiao** baz=7.0	**0.82**	**13**	*e*P			**Pg**	**02 26 29.7**	**+0.6**
LIOB	**Emei** baz=302	**0.83**	**302**	*e*P			**Pn**	**02 26 30.3**	**-0.7**
LIOB				*e*S			**Sn**	**02 26 41.9**	**-1.4**
	baz=302								
NSTT	**Nanjuang** baz=301	**0.84**	**301**	*e*P			**Pn**	**02 26 30.2**	**-0.9**
NSTT				*e*S			**Sn**	**02 26 41.8**	**-1.6**
	baz=301								
NWF	**Wu-fen Shan** baz=353	**0.87**	**359**	*e*P			**Pg**	**02 26 30.7**	**+0.7**
NWF				*i* S			**Sb**	**02 26 41.5**	**-0.5**
	baz=353								
SSLB	**Suanglung**	**0.87**	**242**	P			**Pn**	**02 26 30.6**	**-0.9**
SSLB	**Suanglung** baz=241	**0.87**	**242**	⇓P			**Pn**	**02 26 30.3**	**-1.2**
SMLT	**Sun Moon Lake** baz=239	**0.88**	**249**	P			**Pn**	**02 26 30.8**	**-0.8**
SMLT				S			**Sg**	**02 26 41.8**	**+0.3**
	baz=239								
SXI1	**Grass Mountain** baz=358	**0.89**	**5**	*e*P			**Pn**	**02 26 31.3**	**-0.6**
YULB	**Yu-li** baz=220	**0.92**	**209**	*e*P			**Pg**	**02 26 30.8**	**-0.2**
TWQ1	**Liyutan** baz=279	**0.94**	**279**	*e*P			**Pn**	**02 26 33.5**	**+1.1**
NCU	**National Centr** baz=320	**0.94**	**324**	*e*P			**Pn**	**02 26 33.3**	**+0.8**
NCUH	**Zhongli** baz=320	**0.94**	**324**	*e*P			**Pn**	**02 26 32.9**	**+0.4**
EYUL	**Yuli** baz=222	**0.95**	**207**	*e*P			**Pn**	**02 26 32.6**	**0.0**
HSN	**Hsinchu** baz=301	**0.96**	**309**	*e*P			**Pn**	**02 26 34.6**	**+1.9**
TWS1	**Kuangyinshan** baz=340	**0.96**	**339**	*e*P			**Pn**	**02 26 33.5**	**+0.8**
TWF1	**Yuli** baz=218	**0.96**	**208**	*e*P			**Pg**	**02 26 31.5**	**-0.2**
TWF1				*e*S			**Sn**	**02 26 46.9**	**+0.5**
	baz=218								
YM01	**YM01** baz=349	**0.96**	**348**	*e*P			**Pn**	**02 26 32.7**	**-0.1**
YM01				*e*S			**Sb**	**02 26 44.2**	**-0.6**
	baz=349								
NSY	**Sanyi** baz=283	**0.96**	**283**	*e*P			**Pn**	**02 26 33.4**	**+0.6**
NMLH	**Miaoli** baz=291	**0.97**	**290**	*e*P			**Pn**	**02 26 33.8**	**+0.9**
YM08	**YM08** baz=350	**1.00**	**349**	*e*P			**Pg**	**02 26 33.2**	**+0.7**
NTST	**Danshui** baz=343	**1.01**	**342**	*e*P			**Pg**	**02 26 33.9**	**+1.2**
ANP	**Anpu** baz=347	**1.01**	**346**	*e*P			**Pg**	**02 26 33.5**	**+0.7**
WWF	**Wufeng** baz=256	**1.01**	**261**	*e*P			**Pn**	**02 26 35.0**	**+1.5**
TCU	**Taichung** baz=267	**1.02**	**267**	*e*P			**Pg**	**02 26 35.1**	**+2.2**
WJS	**Zhushan** baz=241	**1.04**	**249**	*e*P			**Pg**	**02 26 34.9**	**+1.5**
YUS	**Yu-Shan** baz=227	**1.05**	**227**	*e*P			**Pn**	**02 26 34.1**	**-0.3**
WNT1	**Nantou City** baz=254	**1.06**	**254**	*e*P			**Pg**	**02 26 35.9**	**+2.3**
WDJ	**Dajia District** baz=278	**1.06**	**278**	*e*P			**Pg**	**02 26 35.8**	**+2.1**
WNT	**Mingjian** baz=247	**1.06**	**253**	*e*P			**Pg**	**02 26 35.4**	**+1.7**
WNT				*e*S			**Sn**	**02 26 50.7**	**+1.8**
	baz=247								
JYNG	**Yonaguni jima**	**1.08**	**76**	P			**Pn**	**02 26 34.2**	**-0.2**
TWY	**Chenhua** baz=352	**1.08**	**351**	*e*P			**Pg**	**02 26 36.4**	**+2.2**
FULB	**Fuli** baz=219	**1.10**	**205**	*e*P			**Pg**	**02 26 34.3**	**-0.1**
YOJ	**Yonaguni jima**	**1.14**	**77**	P			**Pg**	**02 26 35.6**	**+0.4**
YOJ				*e*S			**Sg**	**02 26 52.8**	**+2.7**
YOJ	**Yonaguni jima**	**1.14**	**77**	P			**Pg**	**02 26 35.8**	**+0.6**
YOJ	**Yonaguni jima** baz=70	**1.14**	**77**	*e*P			**Pg**	**02 26 35.6**	**+0.4**
YOJ				S			**Sg**	**02 26 52.8**	**+2.7**
	baz=70								
CHKT	**Chengkung** baz=189	**1.17**	**200**	*e*P			**Pg**	**02 26 35.7**	**+0.1**
CHN5	**Tsauling** baz=240	**1.18**	**240**	*e*P			**Pg**	**02 26 37.1**	**+1.1**
CHN5				*e*S			**Sg**	**02 26 53.6**	**+2.2**
	baz=240								
ELDTW	**Lidau** baz=216	**1.23**	**215**	*e*P			**Pg**	**02 26 37.4**	**+0.4**
WGK	**Gukeng** baz=246	**1.24**	**246**	*e*P			**Pg**	**02 26 39.0**	**+2.0**
**

	baz=232							
MASBT	**Mashibuluo**	**1.91**	**214**	*e*P		**Pb**	**02 26 48.2**	**+0.1**
	baz=217							
SCZT	**Fangliau**	**2.12**	**211**	*e*P		**Pb**	**02 26 51.2**	**-0.4**
	baz=196							
PNG	**Penghu**	**2.14**	**253**	*e*P		**Pb**	**02 26 51.5**	**-0.5**
	baz=256							
PHUB	**P'eng-hu**	**2.15**	**252**	*e*P		**Pb**	**02 26 51.9**	**-0.2**
	baz=255							
JIJ	**Ishigaki jima**	**2.15**	**85**	*e*S		**Sn**	**02 27 16.7**	**+0.9**
WDGT	**Dungji**	**2.17**	**245**	*e*P		**Pb**	**02 26 51.3**	**-1.2**
	baz=246							
LYUB	**Lan-yu**	**2.20**	**185**	*e*P		**Pn**	**02 26 49.6**	**-0.1**
	baz=187							
VWUC	**VWUC**	**2.27**	**291**	*e*P		**Pn**	**02 26 51.2**	**+0.4**
	baz=279							
JISG	**Ishigakijimahi**	**2.33**	**80**	S		**Sb**	**02 27 22.1**	**-2.0**
VCHM	**Qimei**	**2.38**	**246**	*e*P		**Pb**	**02 26 54.8**	**-1.3**
	baz=234							
MATB	**Ma-tsu**	**2.56**	**320**	*e*P		**Pb**	**02 26 57.2**	**-2.0**
	baz=318							
KNM	**Kinmen**	**3.07**	**275**	*e*P		**Pb**	**02 27 04.4**	**-3.6**
	baz=275							
AXDP	**Jialang**	**3.55**	**282**	*e*P		**Pn**	**02 27 09.6**	**+1.2**
	baz=282							

IDC ***28*** *02:48:19.8±1.3, 55°.30S×27°.30W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/25, mbtmp3.7/3, Error ellipse: s-maj=58.2km s-min=34.9km az=86.0*

ISC 28 02:48:21.3±1.0, 55°.3S±0°.2×27°.4W±0°.3, h10km, n8, σ0s59/8, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.52**	**159**	P	**P**	**02 52 27.1**	**+0.7**
VNA3	**Neumayer Olymp**	**17.72**	**161**	P	**Pn**	**02 52 27.2**	**-0.6**
VNA2	**Neumayer--Watz**	**17.92**	**159**	P	**P**	**02 52 31.2**	**+0.4**
	baz=315,slow=14						
VNDA	**Vanda**	**47.31**	**183**	P	**P**	**02 56 54.4**	**+0.1**
	0.6nm,0.8s,baz=182,slow=6.1,SNR=5.8						
LPAZ	**La Paz**	**49.87**	**305**	P	**P**	**02 57 15.7**	**+0.2**
	0.7nm,0.7s,baz=149,slow=5.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**72.45**	**30**	P	**P**	**02 59 47.9**	**+0.1**
	0.9nm,1.1s,baz=202,slow=5.2,SNR=2.7						
YKA	**Yellowknife Ar**	**135.56**	**319**	PKP	**PKPdf**	**03 07 40.2**	**+0.1**
	0.3nm,0.9s,baz=125,slow=2.5,SNR=2.9						
ILAR	**Eielson Array**	**149.55**	**313**	PKPbc	**PKPbc**	**03 08 08.5**	**-0.8**
	0.4nm,0.8s,baz=115,slow=2.6,SNR=3.6						

IDC ***28*** *03:07:55.9±4.6, 21°.02S×178°.48W, h464km±37km, mb2.8/6, mb1 3.2/8, mb1mx3.0/24, mbtmp3.7/8, Error ellipse: s-maj=91.1km s-min=20.1km az=146.0*

ISC 28 03:07:54.1±1.0, 21°.2S±0°.1×178°.3W±0°.1, h450km, n11, σ0s86/10, mb3.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.91**	**315**	P	**P**	**03 09 17.2**	**-0.6**
	4.0nm,0.3s,baz=125,slow=17,SNR=8.3						
DZM	**Mont Dzumac**	**14.23**	**264**	P	**P**	**03 10 58.4**	**+1.3**
	0.5nm,0.3s,baz=150,slow=16,SNR=1.1						
URZ	**Urewera**	**17.43**	**192**	S	**S**	**03 14 28.8**	**-0.6**
	0.3nm,0.3s,baz=112,slow=13,SNR=1.8						
STKA	**Stephens Creek**	**37.24**	**245**	P	**P**	**03 14 25.8**	**-0.2**
	0.8nm,0.5s,baz=66,slow=6.4,SNR=3.5						
ASAR	**Alice Springs**	**44.10**	**257**	P	**P**	**03 15 21.6**	**+0.3**
	0.7nm,0.6s,baz=96,slow=8.0,SNR=8.3						
WRA	**Warramunga Arr**	**44.24**	**263**	P	**P**	**03 15 21.0**	**-1.4**
	0.2nm,0.3s,baz=96,slow=7.8,SNR=15						
TXAR	**Lajitas Array**	**87.67**	**57**	P	**P**	**03 19 55.0**	**+0.9**
	0.2nm,0.8s,baz=246,slow=5.8,SNR=2.2						
ILAR	**Eielson Array**	**89.08**	**13**	P	**P**	**03 19 59.7**	**0.0**
	0.2nm,0.4s,baz=216,slow=5.2,SNR=6.2						
PDAR	**Pinedale Array**	**89.67**	**43**	P	**P**	**03 20 02.9**	**-0.5**
	0.1nm,0.3s,baz=258,slow=4.5,SNR=2.3						
AKASG	**Malin Array Be**	**143.52**	**330**	PKP	PKPab	03 26 34.8	+0.2
	2.6nm,0.5s,baz=39,slow=4.5,SNR=9.4						
GERES	**GERESS Array B**	**150.83**	**344**	PKPbc	**PKPbc**	**03 26 54.9**	**0.0**
	0.4nm,0.7s,baz=45,slow=2.1,SNR=4.8						

IDC ***28*** *03:21:06.9±1.7, 13°.22N×124°.87E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/38, mbtmp3.7/4, ML5.6/1, Error ellipse: s-maj=143.3km s-min=25.2km az=75.0*

MAN ***28*** *03:22:17.5, 6°.35N×126°.47E, h12km, mb4.3, ML3.1, MS2.9, Hypocentre not reviewed by the ISC*

ISC 28 03:22:14.1±1.2, 6°.27N±0°.07×126°.75E±0°.09, h35km, n9, σ1s27/12, mb3.5/3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.84**	**324**	*e*P	**Pn**	**03 22 29.5**	**+0.1**
DDMP	**Don Marcelino,**	**1.04**	**261**	⇓*e*P	**Pn**	**03 22 32.4**	**+0.2**
DDMP				*e*S	**Sn**	**03 22 46.4**	**+0.7**
DAV	**Davao City (W)**	**1.41**	**305**	Pn	**Pn**	**03 22 39.0**	**+1.7**
	136nm,0.3s,baz=16,slow=6.0,SNR=3.9						
KCP	**Kidapawan**	**1.81**	**294**	⇑*i*P	**Pn**	**03 22 41.5**	**-1.3**
KCP				*i* S	**Sn**	**03 23 02.6**	**-2.0**
BIPH	**Bislig**	**1.95**	**349**	⇓*e*P	**Pn**	**03 22 44.3**	**-0.3**
BIPH				*e*S	**Sn**	**03 23 07.9**	**0.0**
BUKP	**Musuan**	**2.32**	**314**	*e*P	**Pn**	**03 22 51.8**	**+1.9**
FITZ	**Fitzroy Crossi**	**24.23**	**183**	P	**P**	**03 27 28.2**	**+0.4**
	1.0nm,0.5s,baz=5.1,slow=9.0,SNR=8.6						
WRA	**Warramunga Arr**	**27.09**	**164**	P	**P**	**03 27 54.6**	**+0.8**
	0.2nm,0.5s,baz=344,slow=11,SNR=15						
ASAR	**Alice Springs**	**30.56**	**167**	P	**P**	**03 28 23.7**	**-0.9**
	0.3nm,0.3s,baz=340,slow=6.2,SNR=4.9						

JMA ***28*** *03:22:45.3±0.2, 24°.28N×121°.70E, h36km±4km, M2.7*

TAP ***28*** *03:22:46.1, 24°.40N×121°.80E, h10km, ML3.4, B*

ISC 28 03:22:45.8±0.8, 24°.39N±0°.01×121°.82E±0°.02, h12km±5km, n109, σ0s48/163, 15C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.07**	**322**	*i* P	**Pg**	**03 22 48.4**	**+0.1**
	baz=340						
EWUT				*i* S	**Sg**	**03 22 49.7**	**-0.4**
	baz=340						
ENA	**Nanau**	**0.08**	**296**	⇑*i*P	**Pg**	**03 22 48.5**	**0.0**
	baz=299						
ENA				*i* S	**Sg**	**03 22 49.8**	**-0.7**
	baz=299						
EHP	**Heping Village**	**0.11**	**222**	*i* P	**Pg**	**03 22 49.1**	**+0.3**
	baz=204						
TWC	**Suao**	**0.22**	**6**	⇓*i*P	**Pg**	**03 22 50.8**	**+0.3**
	baz=9.0						
TWC				*i* S	**Sg**	**03 22 53.6**	**0.0**
	baz=9.0						
NDS	**Dongshan**	**0.26**	**338**	⇑*i*P	**Pg**	**03 22 51.6**	**+0.4**
	baz=342						
NDS				S	**Sg**	**03 22 55.2**	**+0.3**
	baz=342						
ETL	**Fush Village**	**0.29**	**218**	*i* P	**Pg**	**03 22 52.2**	**+0.4**
	baz=213						
ETL				*i* S	**Sg**	**03 22 56.6**	**+0.6**
	baz=213						
NACB	**Ninganchiao**	**0.30**	**224**	⇓*i*P	**Pg**	**03 22 52.1**	**+0.2**
	baz=209						
NACB				*i* S	**Sg**	**03 22 56.4**	**+0.3**
	baz=209						
LATG	**Datong**	**0.31**	**298**	⇑*i*P	**Pg**	**03 22 52.4**	**+0.4**
	baz=299						
LATG				*i* S	**Sg**	**03 22 55.9**	**-0.4**
	baz=299						
ENTT	**Nioudou**	**0.34**	**317**	⇑*i*P	**Pg**	**03 22 53.1**	**+0.5**
	baz=319						
ENTT				S	**Sg**	**03 22 57.6**	**+0.3**
	baz=319						
NDT	**Datong Townshi**	**0.35**	**307**	⇑*i*P	**Pb**	**03 22 53.3**	**-0.6**
	baz=308						
NDT				*e*S	**Sg**	**03 22 58.0**	**+0.4**
	baz=308						
TWE	**Neicheng**	**0.36**	**337**	⇑*i*P	**Pg**	**03 22 53.4**	**+0.4**
	baz=342						
TWE				S	**Sg**	**03 22 57.1**	**-0.7**
	baz=342						
ETLH	**Xiulin Townshi**	**0.36**	**239**	⇓P	**Pg**	**03 22 53.2**	**+0.2**
	baz=236						
ETLH				*e*S	**Sg**	**03 22 57.8**	**-0.2**
	baz=236						
TWD	**Chiawan**	**0.37**	**214**	⇓*i*P	**Pg**	**03 22 53.5**	**+0.2**
	baz=209						
TWD				S	**Sg**	**03 22 58.5**	**+0.2**
	baz=209						
ILA	**Ilan**	**0.38**	**350**	P	**Pb**	**03 22 54.1**	**-0.3**
	baz=350						
ILA				S	**Sg**	**03 22 59.4**	**+0.9**
	baz=350						
NNSB	**Datong**	**0.40**	**275**	⇑*i*P	**Pg**	**03 22 54.1**	**+0.3**
	baz=274						
NNSB				S	**Sg**	**03 22 58.9**	**-0.4**
	baz=274						
NNS	**Nan Shan**	**0.41**	**277**	P	**Pg**	**03 22 54.3**	**+0.2**
	baz=276						
NNS				S	**Sg**	**03 22 59.5**	**-0.1**
	baz=276						
FUSB	**Fushanzhiwuyua**	**0.42**	**330**	⇑*i*P	**Pb**	**03 22 54.8**	**-0.5**
	baz=322						
FUSB				*i* S	**Sg**	**03 22 59.8**	**-0.2**
	baz=322						
HWA	**Hwalien**	**0.46**	**206**	*e*P	**Pb**	**03 22 55.9**	**+0.1**
	baz=201						
NTC	**Toucheng**	**0.46**	**1**	*e*P	**Pg**	**03 22 55.3**	**+0.4**
	baz=4.0						
NTC				*e*S	**Sg**	**03 23 01.2**	**+0.2**
	baz=4.0						
EGS		**0.46**	**12**	*e*P	**Pb**	**03 22 55.8**	**0.0**
	baz=27						
NWLT	**Wulai**	**0.48**	**323**	⇑*i*P	**Pb**	**03 22 55.9**	**-0.4**
	baz=325						
NWLT				*e*S	**Sg**	**03 23 01.6**	**-0.1**
	baz=325						
YHNB	**Yeheng**	**0.49**	**304**	⇑*i*P	**Pb**	**03 22 56.1**	**-0.3**
	baz=311						
YHNB				S	**Sg**	**03 23 01.7**	**-0.3**
	baz=311						
NSK	**Sanguang**	**0.51**	**304**	⇑*i*P	**Pb**	**03 22 56.2**	**-0.4**
	baz=305						
NSK				*e*S	**Sg**	**03 23 02.4**	**-0.2**
	baz=305						
ETM	**Tongmen**	**0.52**	**215**	*i* P	**Pg**	**03 22 55.9**	**0.0**
	baz=213						
ETM				*e*S	**Sg**	**03 23 03.1**	**+0.2**
	baz=213						
TEYL	**Yanliau Villag**	**0.56**	**202**	*e*P	**Pg**	**03 22 57.0**	**+0.2**
	baz=207						
WHF	**Hehuan Shan**	**0.57**	**244**	⇓*i*P	**Pg**	**03 22 57.1**	**+0.2**
	baz=242						
WHF				S	**Sg**	**03 23 04.2**	**-0.3**
	baz=242						
TIPB	**Shuangxi**	**0.58**	**0**	*e*P	**Pb**	**03 22 57.7**	**-0.2**
	baz=3.0						
TIPB				S	**Sg**	**03 23 04.3**	**-0.5**
	baz=3.0						
TWT	**Tachien**	**0.61**	**257**	*e*P	**Pb**	**03 22 58.4**	**0.0**
	baz=255						
TWT				*e*S	**Sb**	**03 23 06.5**	**-0.5**
	baz=255						
TDCB	**Techi**	**0.62**	**257**	P	**Pb**	**03 22 58.5**	**-0.2**
	baz=248						
TDCB				S	**Sg**	**03 23 05.8**	**-0.3**
	baz=248						
TWA	**Mucha**	**0.62**	**340**	P	**Pb**	**03 22 58.5**	**-0.1**
	baz=342						
TWA				*e*S	**Sg**	**03 23 06.4**	**+0.2**
	baz=342						
NHDH	**Xindian Distri**	**0.63**	**335**	*e*P	**Pb**	**03 22 58.8**	**+0.1**
	baz=328						
TWB1	**Santiao Chiao**	**0.63**	**14**	*e*P	**Pg**	**03 22 58.2**	**+0.1**
	baz=17						
TWB1				*e*S	**Sg**	**03 23 06.1**	**-0.3**
	baz=17						
TATO	**Taipei**	**0.66**	**332**	⇑*i*P	**Pb**	**03 22 59.2**	**+0.1**
	baz=334						
TATO				*i* S	**Sg**	**03 23 07.1**	**-0.1**
	baz=334						
ESL	**Shilin**	**0.68**	**212**	⇓P	**Pg**	**03 22 58.8**	**-0.2**
	baz=218						
ESL				*e*S	**Sg**	**03 23 07.5**	**-0.3**
	baz=218						
NWF	**Wu-fen Shan**	**0.68**	**357**	*e*P	**Pb**	**03 22 59.7**	**+0.1**
	baz=350						
NWF				S	**Sg**	**03 23 08.1**	**+0.2**
	baz=350						
WFSB	**Wu-fen Shan**	**0.68**	**357**	*e*P	**Pb**	**03 22 59.8**	**+0.3**
	baz=350						
WFSB				*e*S	**Sg**	**03 23 08.2**	**+0.3**
	baz=350						
CHGB	**Renai**	**0.68**	**241**	⇓*i*P	**Pb**	**03 22 59.3**	**-0.3**
	baz=239						
CHGB				S	**Sg**	**03 23 08.0**	**0.0**
	baz=239						
NFF	**Wufeng Townshi**	**0.69**	**291**	⇑P	**Pb**	**03 22 59.7**	**0.0**
	baz=300						
NFF				*e*S	**Sg**	**03 23 07.7**	**-0.5**
	baz=300						
SXI1	**Grass Mountain**	**0.70**	**4**	*e*P	**Pb**	**03 22 60.0**	**0.0**
	baz=12						
SXI1				*e*S	**Sg**	**03 23 08.3**	**-0.4**
	baz=12						
TAP	**Taipei**	**0.71**	**336**	*e*P	**Pb**	**03 23 00.4**	**+0.4**
	baz=338						
TAP				*e*S	**Sb**	**03 23 09.4**	**-0.3**
	baz=338						
OWD	**Renai**	**0.73**	**234**	*e*P	**Pg**	**03 23 00.1**	**0.0**
	baz=223						
OWD				*e*S	**Sg**	**03 23 09.7**	**0.0**
	baz=223						
TNOU	**National Taiwa**	**0.76**	**357**	*e*P	**Pb**	**03 23 01.3**	**+0.4**
	baz=352						
TNOU				*e*S	**Sg**	**03 23 10.1**	**-0.3**
	baz=352						
WUSB	**Renai**	**0.76**	**238**	⇓*i*P	**Pb**	**03 23 00.8**	**-0.2**
	baz=230						
LIOB	**Emei**	**0.78**	**289**	*e*P	**Pb**	**03 23 01.7**	**+0.5**
	baz=295						
YM01	**YM01**	**0.79**	**343**	⇑*i*P	**Pb**	**03 23 02.0**	**+0.6**
	baz=344						
YM01				*e*S	**Sg**	**03 23 11.5**	**+0.2**
	baz=344						
NSTT	**Nanjuang**	**0.79**	**288**	⇑*i*P	**Pb**	**03 23 01.9**	**+0.5**
	baz=276						
NSTT				S	**Sb**	**03 23 11.7**	**-0.3**
	baz=276						
TWS1	**Kuangyinshan**	**0.80**	**333**	*e*P	**Pn**	**03 23 02.4**	**-0.4**
	baz=322						
EGFH	**Guangfu**	**0.81**	**207**	*e*P	**Pb**	**03 23 01.7**	**0.0**
	baz=210						
WHP	**Taichung City**	**0.81**	**262**	*e*P	**Pb**	**03 23 02.3**	**+0.5**
	baz=261						
WHP				*e*S	**Sb**	**03 23 12.3**	**-0.4**
	baz=261						
NCU	**National Centr**	**0.82**	**315**	*e*P	**Pn**	**03 23 03.3**	**+0.3**
	baz=316						
NCUH	**Zhongli**	**0.82**	**315**	*e*P	**Pn**	**03 23 03.1**	**0.0**
	baz=315						
YM08	**YM08**	**0.82**	**345**	*e*P	**Pb**	**03 23 02.2**	**+0.2**
	baz=346						
SBCB	**Hsinchu**	**0.86**	**298**	*e*P	**Pn**	**03 23 04.1**	**+0.4**
	baz=297						
WPL	**Puli Township**	**0.88**	**245**	*e*P	**Pb**	**03 23 03.3**	**+0.4**
	baz=243						
WPL				*e*S	**Sg**	**03 23 14.0**	**-0.2**
	baz=243						
HSN	**Hsinchu**	**0.88**	**298**	*e*P	**Pb**	**03 23 03.3**	**+0.4**
	baz=295						
VWDT	**VWDT**	**0.89**	**225**	⇓P	**Pb**	**03 23 02.9**	**-0.2**
	baz=216						
VWDT				S	**Sb**	**03 23 15.6**	**+0.6**
	baz=216						
DPDB	**Guoxing**	**0.89**	**247**	P	**Pb**	**03 23 03.7**	**+0.5**
	baz=245						
DPDB				*e*S	**Sb**	**03 23 14.7**	**-0.4**
	baz=245						
WCS	**Beigang Elemen**	**0.90**	**248**	*e*P	**Pb**	**03 23 03.4**	**+0.1**
	baz=246						
TWY	**Chenhua**	**0.90**	**347**	*e*P	**Pn**	**03 23 04.7**	**+0.5**
	baz=340						
TWY				*e*S	**Sn**	**03 23 17.3**	**0.0**
	baz=340						
NHW	**Xinwu Township**	**0.93**	**311**	*e*P	**Pn**	**03 23 04.5**	**-0.2**
	baz=311						
NMLH	**Miaoli**	**0.95**	**279**	*e*P	**Pn**	**03 23 05.7**	**+0.8**
	baz=278						
TWQ1	**Liyutan**	**0.96**	**268**	*e*P	**Pn**	**03 23 05.3**	**+0.3**
	baz=267						
TWQ1				*e*S	**Sn**	**03 23 17.9**	**-0.7**
	baz=267						
HGSD	**Ruisui**	**0.97**	**202**	*e*P	**Pn**	**03 23 05.0**	**-0.1**
	baz=215						
NSY	**Sanyi**	**0.97**	**272**	*e*P	**Pn**	**03 23 05.3**	**+0.1**
	baz=271						
NSY				*e*S	**Sn**	**03 23 18.4**	**-0.4**
	baz=271						
SMLT	**Sun Moon Lake**	**0.98**	**239**	⇓*i*P	**Pb**	**03 23 05.0**	**+0.2**
	baz=238						
SMLT				S	**Sb**	**03 23 17.9**	**+0.1**
	baz=238						
EHY	**Hungye**	**0.99**	**208**	P	**Pg**	**03 23 04.8**	**-0.2**
	baz=205						
SSLB	**Suanglung**	**1.00**	**233**	⇓*i*P	**Pb**	**03 23 04.9**	**-0.1**
	baz=232						
SSLB				S	**Sg**	**03 23 16.9**	**-1.1**
	baz=232						
JYNG	**Yonagunijimaku**	**1.02**	**86**	P	**Pg**	**03 23 05.1**	**-0.4**
JYNG				S	**Sg**	**03 23 19.3**	**+0.4**
WDJ	**Dajia District**	**1.08**	**268**	*e*P	**Pn**	**03 23 07.7**	**+1.0**
	baz=275						
WWF	**Wufeng**	**1.08**	**252**	*e*P	**Pn**	**03 23 08.1**	**+1.3**
	baz=241						
YOJ	**Yonaguni jima**	**1.08**	**86**	P	**Pb**	**03 23 06.7**	**+0.2**
YOJ				S	**Sb**	**03 23 21.6**	**+1.0**
YOJ	**Yonaguni jima**	**1.08**	**86**	*e*P	**Pb**	**03 23 06.5**	**0.0**
	baz=74						
YOJ				*e*S	**Sg**	**03 23 20.6**	**-0.3**
	baz=74						
YULB	**Yu-li**	**1.10**	**206**	*e*P	**Pb**	**03 23 06.4**	**-0.4**
	baz=215						
TWF1	**Yuli**	**1.14**	**205**	*e*P	**Pn**	**03 23 07.8**	**+0.3**
	baz=213						
WJS	**Zhushan**	**1.15**	**241**	*e*P	**Pn**	**03 23 08.8**	**+1.1**
	baz=230						
WNT1	**Nantou City**	**1.15**	**245**	*e*P	**Pn**	**03 23 09.0**	**+1.4**
	baz=243						
WNT	**Mingjian**	**1.16**	**244**	*e*P	**Pn**	**03 23 08.9**	**+1.2**
	baz=239						
WNT				*e*S	**Sn**	**03 23 25.3**	**+1.7**
	baz=239						
YUS	**Yu-Shan**	**1.20**	**222**	*e*P	**Pb**	**03 23 08.7**	**0.0**
	baz=229						
ALS	**Alishan**	**1.28**	**227**	*e*P	**Pb**	**03 23 09.9**	**-0.1**
	baz=224						
FULB	**Fuli**	**1.28**	**202**	*e*P	**Pg**	**03 23 11.0**	**+0.6**
	baz=212						
CHN5	**Tsauling**	**1.31**	**233**	*e*P	**Pg**	**03 23 11.4**	**+0.4**
	baz=231						
WDLH	**Douliu**	**1.37**	**239**	*e*P	**Pg**	**03 23 12.6**	**+0.5**
	baz=237						
ELDTW	**Lidau**	**1.41**	**212**	*e*P	**Pn**	**03 23 11.7**	**+0.4**
	baz=209						
EDH	**Donghe**	**1.49**	**199**	*e*P	**Pn**	**03 23 12.7**	**+0.3**
	baz=181						
CHN4	**Tsaushan**	**1.53**	**228**	*e*P	**Pg**	**03 23 15.4**	**+0.3**
	baz=210						
TPUB	**Ta-pu**	**1.54**	**225**	*e*P	**Pg**	**03 23 15.7**	**+0.3**
	baz=208						
STYH	**Taoyuan**	**1.55**	**218**	*e*P	**Pb**	**03 23 14.1**	**-0.3**
	baz=216						
STYT	**Tauyuan**	**1.56**	**219**	*e*P	**Pg**	**03 23 15.3**	**-0.5**
	baz=216						
WTP	**Ta-pu**	**1.59**	**224**	*e*P	**Pg**	**03 23 16.3**	**-0.1**
	baz=207						
CHN1	**Nanshi**	**1.69**	**225**	*e*P	**Pg**	**03 23 18.1**	**-0.1**
	baz=208						
WSL	**Shuilin Townsh**	**1.70**	**240**	*e*P	**Pb**	**03 23 16.9**	**0.0**
	baz=252						
TWG	**Pinlang**	**1.71**	**204**	*e*P	**Pb**	**03 23 17.3**	**+0.2**
	baz=186						
TWGBT	**Beinan**	**1.71**	**204**	*e*P	**Pb**	**03 23 17.2**	**+0.1**
	baz=186						
IRIF	**Iriomote-Funau**	**1.74**	**91**	P	**Pn**	**03 23 16.2**	**+0.4**
IRIF				S	**Sn**	**03 23 37.7**	**-0.2**
ICHU	**Yijhu**	**1.75**	**234**	*e*P	**Pb**	**03 23 17.7**	**0.0**
	baz=232						
JKRS	**Kuro-shima**	**2.00**	**94**	*e*S	**Sn**	**03 23 44.5**	**+0.2**
MASBT	**Mashibuluo**	**2.08**	**212**	*e*P	**Pb**	**03 23 23.5**	**0.0**
	baz=210						
JIJ	**Ishigaki jima**	**2.12**	**90**	*e*S	**Sn**	**03 23 46.4**	**-0.8**
PHUB	**P'eng-hu**	**2.24**	**247**	*e*P	**Pb**	**03 23 24.4**	**-1.7**
	baz=245						
VWUC	**VWUC**	**2.24**	**286**	*e*P	**Pn**	**03 23 22.5**	**-0.2**
	baz=284						
JISG	**Ishigakijimahi**	**2.27**	**85**	P	**Pn**	**03 23 23.0**	**-0.1**
JISG				*e*S	**Sn**	**03 23 50.4**	**-0.7**
WDGT	**Dungji**	**2.28**	**241**	*e*P	**Pb**	**03 23 25.4**	**-1.4**
	baz=251						
SCZT	**Fangliau**	**2.29**	**209**	*e*P	**Pb**	**03 23 26.8**	**-0.3**
	baz=207						
LYUB	**Lan-yu**	**2.39**	**185**	*e*P	**Pn**	**03 23 23.9**	**-0.9**
	baz=185						
MATB	**Ma-tsu**	**2.44**	**316**	*e*P	**Pn**	**03 23 24.8**	**-0.6**
	baz=314						
MSUT	**Lienchiang**	**2.47**	**316**	*e*P	**Pn**	**03 23 24.9**	**-0.9**
	baz=314						
XPSS	**Dashiqiu**	**2.93**	**330**	*e*P	**Pn**	**03 23 32.0**	**-0.1**
	baz=326						
KNMB	**Chin-men Tao**	**3.13**	**272**	*e*P	**Pn**	**03 23 35.5**	**+0.6**
	baz=270						
AXDP	**Jialang**	**3.54**	**279**	*e*P	**Pn**	**03 23 41.1**	**+0.5**
	baz=277						

ISK ***28*** *03:28:47.5, 40°.96N×39°.84E, h22km±1km, ML2.6/3*

DDA ***28*** *03:28:49.9±0.0, 40°.90N×39°.84E, h14km, ML2.6*

ISC 28 03:28:47.6±1.2, 41°.02N±0°.05×39°.94E±0°.02, h16km±9km, n17, σ0s98/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTUT	**Trabzon**	**0.13**	**257**	PG	**Pb**	**03 28 52.3**	**+0.6**
KTUT				SG	**Sb**	**03 28 54.5**	**0.0**
MACK	**Trabzon**	**0.15**	**240**	P	**Pb**	**03 28 52.8**	**+0.7**
MACK				S	**Sb**	**03 28 54.9**	**0.0**
MACK				*i* AML	AML	03 28 56.0	
	comp=Z,2μm,0.2s						
MACK				*i* AML	AML	03 28 56.0	
	comp=N,3μm,0.2s						
MACK				*i* AML	AML	03 28 56.0	
	comp=E,2μm,0.1s						
CHAY	**Cayeli-Rize**	**0.60**	**83**	PG	**Pn**	**03 29 01.3**	**-0.2**
CHOM	**Cayeli-Rize**	**0.63**	**82**	PG	**Pn**	**03 29 01.8**	**-0.1**
CHOM				SG	**Sn**	**03 29 12.6**	**+0.9**
BAYT	**Aydıntepe-Bayb**	**0.64**	**166**	PG	**Pg**	**03 29 00.1**	**-0.2**
BAYT				SG	**Sg**	**03 29 09.2**	**+0.4**
GUMT	**Gumushane**	**0.66**	**212**	PG	**Pg**	**03 28 58.8**	**-1.7**
GUMT				SG	**Sg**	**03 29 08.0**	**-1.2**
ESPY	**Espiye-Giresun**	**0.92**	**264**	PG	**Pb**	**03 29 04.8**	**-0.4**
ESPY				SG	**Sb**	**03 29 16.6**	**-0.6**
KELT	**Kelkit**	**1.01**	**211**	P	**Pb**	**03 29 07.1**	**+0.2**
KELT				S	**Sb**	**03 29 19.6**	**-0.4**
KRIK	**Erzurum-spir**	**1.01**	**132**	P	**Pb**	**03 29 06.2**	**-0.9**
KRIK				S	**Sb**	**03 29 17.9**	**-2.2**
KOPT	**Kop Dagi**	**1.08**	**157**	P	**Pg**	**03 29 09.5**	**+0.9**
KOPT				S	**Sn**	**03 29 23.7**	**+0.4**
ALUC	**Giresun/Alucra**	**1.11**	**233**	P	**Pg**	**03 29 09.0**	**-0.1**
ALUC				S	**Sn**	**03 29 23.5**	**-0.3**
EMRE	**Erzurum,Aziziy**	**1.27**	**141**	P	**Pg**	**03 29 13.6**	**+1.5**
EMRE				S	**Sg**

σ1ᵍ63/26, mb4.3/8, MS3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**0.73**	**248**		**Pb**	**03 45 36.8**	**+0.8**
TOLI2					Sn	**03 45 45.1**	**-1.0**
MRSI	**Marisa**	**1.02**	**152**	P	**Pb**	**03 45 43.1**	**+2.1**
MRSI				S	**Sg**	**03 45 55.3**	**+1.1**
GTOI	**Gorontalo**	**1.72**	**116**	P	**Pn**	**03 45 49.8**	**-1.3**
GTOI				S	Sn	03 46 07.9	-5.3
MPSI	**Mapaga**	**1.88**	**236**	P	**Pn**	**03 45 52.9**	**-0.4**
APSI	**Ampana**	**2.29**	**175**	P	**Pn**	**03 46 01.8**	**+2.8**
LUWI	**Luwuk**	**2.75**	**151**	Pn	**Pn**	**03 46 05.7**	**+0.5**
LUWI	**Luwuk**	**2.75**	**151**	P	**Pn**	**03 46 05.2**	**-0.1**
TTSI	**Tana Toraja**	**4.70**	**200**	P	**Pn**	**03 46 34.5**	**+2.4**
MYLDM	**Lahad Datu**	**4.79**	**322**		**Pn**	**03 46 33.6**	**+0.3**
SPSI	**Sidrap Palu**	**5.58**	**198**	P	**Pn**	**03 46 43.9**	**-0.3**
BNSI	**Bone**	**5.91**	**193**	P	**Pn**	**03 46 48.4**	**-0.3**
BKSI	**Bulukumba**	**6.80**	**191**	P	**Pb**	**03 47 16.8**	**-2.6**
FITZ	**Fitzroy Crossi**	**19.80**	**168**	P	**P**	**03 49 51.9**	**+0.1**
	0.5nm,0.3s,baz=8.0,slow=10,SNR=30						
WB0	**Warramunga Arr**	**24.56**	**150**	P	**P**	**03 50 40.2**	**-1.2**
WB0				IAmb	IAmb	03 50 41.4	
	comp=Z,5.7nm,0.8s						
WRAB	**Tennant Creek**	**24.68**	**150**	P	**P**	**03 50 38.8**	**-3.6**
WRAB				IAmb	IAmb	03 51 12.6	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**24.68**	**150**	P	**P**	**03 50 41.7**	**-0.8**
	comp=Z,4.0nm,0.5s,baz=325,slow=11,SNR=94						
WRA	**Warramunga Arr**	**24.68**	**150**	P	**P**	**03 50 40.7**	**-1.7**
WB2	**Warramunga Arr**	**24.68**	**150**	P	**P**	**03 50 41.7**	**-0.8**
WB2				IAmb	IAmb	03 50 42.5	
	comp=Z,4.1nm,0.6s						
WR0	**Warramunga Arr**	**24.79**	**149**	P	**P**	**03 50 42.3**	**-1.2**
WR0				IAmb	IAmb	03 50 43.9	
	comp=Z,7.3nm,0.6s						
ASAR	**Alice Springs**	**27.69**	**155**	P	**P**	**03 51 08.8**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=342,slow=14,SNR=43						
ASAR	**Alice Springs**	**27.69**	**155**	P	**P**	**03 51 07.3**	**-2.4**
CMAR	**Chiang Mai Arr**	**27.85**	**309**	LR	LR	04 02 42.2	
	comp=Z,28nm,18.9s,baz=55,slow=36						
STKA	**Stephens Creek**	**38.20**	**152**	P	**P**	**03 52 40.6**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=329,slow=8.4,SNR=9.4						
STKA	**Stephens Creek**	**38.20**	**152**	P	**P**	**03 52 40.3**	**-0.8**
STKA				IAmb	IAmb	03 52 41.4	
	comp=Z,2.1nm,1.1s						
SONM	**Songino Array**	**48.07**	**346**	LR	LR	04 16 04.4	
	comp=Z,71nm,18.4s,baz=216,slow=38						
MKAR	**Makanchi Array**	**56.63**	**329**	P	P	03 55 13.2	+8.7
	comp=Z,0.2nm,0.5s,baz=142,slow=8.8,SNR=2.0						
NRIK	**Norilʼsk**	**71.52**	**348**	LR	LR	04 28 38.9	
	comp=Z,48nm,19.8s,baz=134,slow=36						
ARU	**Arti**	**74.16**	**329**	LR	LR	04 34 17.1	
	comp=Z,32nm,18.6s,baz=190,slow=39						
RIDG	**Independent Ri**	**90.41**	**26**	P	**P**	**03 58 24.5**	**+1.8**
ARCES	**ARCESS Array B**	**90.80**	**340**	LR	LR	04 42 23.8	
	comp=Z,35nm,20.1s,baz=82,slow=37						

*IDC **28** 03:48:37.8±3.0, 6.71S×102.90E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.5/45, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=94.3km s-min=26.1km az=45.0*
*NEIC **28** 03:48:43.3±0.4, 6.75S±0.2×103.05E±0.2, h34km±11km, mb4.2/4, Error ellipse: s-maj=30.8km s-min=10.0km az=48.0*

ISC 28 03:48:41.2±1.4, 6.75S±0.1×103.05E±0.2, h21km, n22, σ0ᵍ65/18, mb4.0/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.28**	**358**	Pn	**Pn**	**03 49 18.4**	**+0.7**
MNAI				Sn	**Sn**	**03 49 45.1**	**-0.1**
LEM	**Lembang**	**4.55**	**92**	Pn	**Pn**	**03 49 49.7**	**+0.6**
	5.8nm,0.3s,baz=339,slow=23,SNR=1.3						
UGM	**Wanagama**	**7.53**	**100**	Pn	**Pn**	**03 50 31.0**	**+1.1**
UGM				Sn	**Sn**	**03 51 53.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**25.28**	**351**	P	**P**	**03 54 06.4**	**+0.1**
	1.2nm,0.3s,baz=186,slow=8.1,SNR=7.0						
CMAR	**Chiang Mai Arr**	**25.28**	**351**	P	**P**	**03 54 05.6**	**-0.7**
H01W3	**Cape Leeuwin H**	**29.89**	**161**	T	T	04 26 00.3	
	baz=337						
H01W2	**Cape Leeuwin H**	**29.91**	**162**	T	T	04 25 55.4	
	baz=337						
H01W1	**Cape Leeuwin H**	**29.91**	**161**	T	T	04 25 56.3	
	baz=337						
H08S2	**Diego Garcia H**	**30.32**	**266**	T	T	04 26 55.2	
	baz=91,slow=74						
H08S3	**Diego Garcia H**	**30.33**	**266**	T	T	04 26 53.5	
	baz=91,slow=74						
H08S1	**Diego Garcia H**	**30.34**	**266**	T	T	04 26 53.5	
	baz=91						
WB0	**Warramunga Arr**	**33.11**	**116**	P	**P**	**03 55 15.6**	**-0.4**
WRA	**Warramunga Arr**	**33.12**	**117**	P	**P**	**03 55 16.6**	**+0.5**
	0.5nm,1.0s,baz=285,slow=12,SNR=2.6						
WB2	**Warramunga Arr**	**33.13**	**117**	P	**P**	**03 55 16.8**	**+0.5**
WB2				IAmb	IAmb	03 55 38.3	
	comp=Z,4.2nm,1.1s						
SONM	**Songino Array**	**54.34**	**3**	P	**P**	**03 58 07.0**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=179,slow=12,SNR=4.5						
SONM	**Songino Array**	**54.34**	**3**	P	**P**	**03 58 05.9**	**-0.5**
SONM				IAmb	IAmb	03 58 09.4	
	comp=Z,2.4nm,1.3s						
MK31	**Makanchi Array**	**56.32**	**343**	P	**P**	**03 58 20.1**	**-0.4**
MKAR	**Makanchi Array**	**56.32**	**343**	P	**P**	**03 58 19.9**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=171,slow=8.6,SNR=4.6						
MKAR	**Makanchi Array**	**56.32**	**343**	P	**P**	**03 58 20.1**	**-0.4**
ZALV	**Zalesovo Beam**	**62.30**	**348**	P	**P**	**03 59 01.7**	**0.0**
	comp=Z,0.7nm,0.5s,baz=179,slow=6.8,SNR=3.9						
TXAR	**Lajitas Array**	**146.20**	**45**	PKPbc	**PKPab**	**04 08 21.1**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=202,slow=1.3,SNR=7.4						
TXAR	**Lajitas Array**	**146.20**	**45**	PKPab	**PKPbc**	**04 08 20.8**	**0.0**

*IDC **28** 03:56:31.5±1.6, 32.69N×130.56E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.2/59, mbtmp3.6/3, ML2.7/1, MS3.1/6, Ms1 3.2/6, ms1mx2.7/90, Error ellipse: s-maj=30.4km s-min=11.1km az=122.0*
*NIED **28** 03:56:32.5, 32.66N×130.70E, h9km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.82; Mθθ8.43; Mφφ-5.62; Mrθ-1.06; Mθφ-1.61; Mφr-0.21; Fault plane solution: M₀7.27000×10¹⁴ NP1: φs322.00000°, δ82.00000°, λ-1.00000°. NP2:φs52.00000°, δ89.00000°, λ-172.00000°.*
*JMA **28** 03:56:32.5, 32.66N×130.70E, h9km±1km, M3.7*
JMA Felt IV J1.

ISC 28 03:56:33.2±1.0, 32.64N±0.03×130.70E±0.07, h9km±8km, n15, σ1ᵍ28/12, MS3.1/5, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.13**	**132**	↑↑P	**Pg**	**03 56 35.8**	**-0.3**
JIU3				eS	**Sg**	**03 56 38.2**	**+0.1**
JTA	**Tamana**	**0.35**	**337**	↑↑P	**Pg**	**03 56 39.4**	**-0.7**
JTA				eS	**Sg**	**03 56 44.0**	**-0.8**
JZO	**Okuchi**	**0.50**	**189**	↑↑P	**Pg**	**03 56 42.7**	**-0.2**
JZO				eS	**Sg**	**03 56 49.7**	**+0.2**
JNU	**Nakatsue**	**0.51**	**18**	Pg	**Pg**	**03 56 41.9**	**-1.2**
	233nm,0.3s,baz=210,slow=8.2,SNR=628						
JNU				Lg	Lg	03 56 47.9	
	822nm,0.3s,baz=163,slow=18,SNR=30						
JTZ	**Takazaki**	**0.81**	**156**	↑↑P	**Pb**	**03 56 48.9**	**-0.5**
KSRS	**Korea Array**	**5.32**	**335**	Pg	**Pb**	**03 58 08.3**	**+2.0**
	0.4nm,0.3s,baz=150,slow=15,SNR=3.3						
MJAR	**Matsushiro Arr**	**7.32**	**56**	Pn	**Pn**	**03 58 22.1**	**+1.8**
	0.1nm,0.3s,baz=238,slow=11,SNR=2.3						
USRK	**Ussuriysk Ar.**	**11.59**	**5**	LR	LR	04 03 06.2	
	comp=Z,64nm,20.0s,baz=178,slow=34						
YAK	**Yakutsk**	**29.42**	**359**	LR	LR	04 14 07.0	
	comp=Z,31nm,19.8s,baz=269,slow=36						
MA2	**Magadan**	**30.08**	**20**	LR	LR	04 15 03.7	
	comp=Z,38nm,18.3s,baz=61,slow=37						
CMAR	**Chiang Mai Arr**	**31.80**	**251**	LR	LR	04 18 22.3	
	comp=Z,29nm,18.1s,baz=180,slow=41						
PMG	**Port Moresby**	**44.66**	**157**	LR	LR	04 23 30.8	
	comp=Z,50nm,18.0s,baz=162,slow=36						
WRA	**Warramunga Arr**	**52.40**	**176**	P	**P**	**04 05 45.8**	**-0.1**
	0.2nm,0.5s,baz=356,slow=7.7,SNR=1.8						
OBN	**Obninsk**	**66.14**	**321**	LR	LR	04 36 21.6	
	comp=Z,13nm,21.5s,baz=336,slow=36						
FINES	**FINESS Array B**	**68.38**	**330**	P	**P**	**04 07 33.1**	**-1.7**
	1.5nm,0.9s,baz=87,slow=5.8,SNR=4.3						

*IDC **28** 03:59:16.6±1.7, 32.39N×47.89E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.4/56, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=40.3km s-min=29.3km az=162.0*
*ISN **28** 03:59:18.2±1.3, 32.39N×47.92E, h9km±27km, ML3.6*
*TEH **28** 03:59:20.6, 32.55N×48.01E, h8km, ML3.1*

ISC 28 03:59:21.1±1.5, 32.50N±0.04×47.94E±0.05, h7km±11km, n59, σ1ᵍ33/63, mb3.8/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.02**	**356**	*e*Pg	**Pg**	**03 59 39.3**	**-1.5**
IKFM				*e*Sg	**Sg**	**03 59 54.0**	**-0.1**
IKFM				*e*		03 59 59.6	
	comp=Z,20μm,0.6s						
IDOB	**Doab**	**1.30**	**9**	*e*Pg	**Pn**	**03 59 45.1**	**-0.7**
AHWZ	**Ahwaz**	**1.31**	**153**	*e*Pg	**Pn**	**03 59 45.8**	**0.0**
AHWZ				*e*Sg	**Sg**	**04 00 06.0**	**+2.8**
AMIS	**Naft Sefid**	**1.41**	**126**	*e*Pg	**Pn**	**03 59 47.4**	**+0.2**
AMIS				*e*Sg	**Sg**	**04 00 08.2**	**+1.7**
RAFI	**Al-Rafai**	**1.73**	**244**	*e*Pn	**Pn**	**03 59 51.5**	**-0.1**
RAFI				*e*Sn	**Sn**	**04 00 14.0**	**+0.1**
HSAM	**Samen**	**1.79**	**18**	*e*Pn	**Pn**	**03 59 52.2**	**-0.5**
HSAM				*e*		03 59 57.6	
	comp=Z,4μm,0.4s						
IBDR	**Badra**	**1.80**	**290**	*e*Pn	**Pn**	**03 59 52.4**	**-0.1**
IBDR				*e*Sn	**Sn**	**04 00 17.5**	**+1.9**
KCHF	**Cheshme Sefid,**	**1.92**	**337**	*e*Pn	**Pn**	**03 59 56.1**	**+1.7**
KCHF				*e*		04 00 28.2	
	comp=Z,4μm,0.5s						
IBZA	**Bozab**	**1.96**	**358**	*e*Pn	**Pn**	**03 59 56.1**	**+1.1**
IBZA				*e*		03 59 58.8	
	comp=Z,3μm,0.8s						
KER	**Kermanshah**	**2.00**	**340**	*e*Pn	**Pn**	**03 59 56.3**	**+0.9**
KHMZ	**Khomeyn**	**2.10**	**53**	*e*Pn	**Pn**	**03 59 58.8**	**+2.0**
IGHG	**Ghaleghazi**	**2.15**	**328**	*e*Pn	**Pn**	**03 59 59.3**	**+1.7**
SHK1	**Shahrekord**	**2.49**	**93**	*e*Pn	**Pn**	**04 00 02.3**	**0.0**
SHK1				*e*		04 00 53.9	
	comp=Z,2μm,0.6s						
IPIR	**Pirpir**	**2.50**	**85**	*e*Pn	**Pn**	**04 00 04.2**	**+1.8**
IPIR				*e*		04 00 48.1	
	comp=Z,2μm,0.5s						
HAGD	**Aghdareh**	**2.52**	**23**	*e*Pn	**Pn**	**04 00 02.6**	**-0.1**
ILIN	**Lien**	**2.55**	**342**	*e*Pn	**Pn**	**04 00 04.5**	**+1.5**
ILIN				*e*		04 00 48.9	
	comp=Z,1μm,0.5s						
IDHR	**Dehrash**	**2.55**	**330**	*e*		04 00 07.9	
	comp=Z,2μm,0.4s						
IDHR				*e*Pn	**Pn**	**04 00 02.7**	**-0.3**
SNGE	**Sanandaj**	**2.63**	**349**	*e*Pn	**Pn**	**04 00 04.2**	**0.0**
ASAO	**Ashtian**	**2.68**	**40**	*e*Pn	**Pn**	**04 00 07.0**	**+2.1**
IBRJ	**Brojen**	**2.87**	**101**	*e*Pn	**Pn**	**04 00 07.6**	**+0.1**
BHD	**Baghdad**	**3.09**	**285**	*e*Pn	**Pn**	**04 00 10.5**	**+0.2**
BHD				*e*Sn	**Sn**	**04 00 49.0**	**+1.5**
BHD				AML	AML	04 00 55.1	
	comp=E,264nm,0.5s						
QAMS	**Qamsar**	**3.15**	**66**	*e*Pn	**Pn**	**04 00 12.3**	**+1.0**
QAMS				*e*		04 01 06.8	
	comp=Z,2μm,0.5s						
IKLH	**Kolahrood**	**3.17**	**74**	*e*Pn	**Pn**	**04 00 12.5**	**+1.0**
IKLH				*e*		04 01 18.8	
	comp=Z,1μm,0.6s						
IRAZ	**Razeghan**	**3.33**	**29**	*e*Pn	**Pn**	**04 00 15.8**	**+2.0**
IRAZ				*e*		04 00 19.9	
	comp=Z,2μm,0.5s						
GHVR	**GHOM**	**3.43**	**54**	*e*Pn	**Pn**	**04 00 16.9**	**+1.9**
KLNJ	**Kolanjah**	**3.45**	**115**	*e*Pn	**Pn**	**04 00 15.6**	**+0.1**
IGAR	**Gharneh**	**3.47**	**91**	*e*Pn	**Pn**	**04 00 16.2**	**+0.5**
IGAR				*e*		04 01 13.8	
	comp=Z,642nm,0.6s						
QABG	**Abgarm-Qazvin**	**3.48**	**23**	*e*Pn	**Pn**	**04 00 16.0**	**+0.2**
IQOM	**Qom**	**3.50**	**47**	*e*Pn	**Pn**	**04 00 17.4**	**+1.2**
IQOM				*e*		04 00 26.4	
	comp=Z,950nm,0.9s						
IZEF	**Zefreh**	**3.72**	**83**	*e*Pn	**Pn**	**04 00 20.0**	**+0.8**
KRSH	**Karshahi**	**3.81**	**66**	*e*Pn	**Pn**	**04 00 21.3**	**+1.0**
IRAM	**Ramesheh**	**3.83**	**99**	*e*Pn	**Pn**	**04 00 20.8**	**+0.2**
IRAM				*e*		04 01 40.8	
	comp=Z,548nm,1.0s						
IMHD	**Mahdasht**	**3.90**	**35**	*e*Pn	**Pn**	**04 00 22.8**	**+1.3**
IVRN	**Varamin**	**4.02**	**51**	*e*Pn	**Pn**	**04 00 24.0**	**+0.9**
ISFB	**Sefidab**	**4.04**	**62**	*e*Pn	**Pn**	**04 00 23.9**	**+0.5**
ISFB				*e*		04 01 39.2	
	comp=Z,223nm,0.8s						
NASN	**Naʼin**	**4.12**	**85**	*e*Pn	**Pn**	**04 00 25.7**	**+1.0**
IKRK	**Kirkuk**	**4.16**	**315**	*e*Pn	**Pn**	**04 00 25.5**	**+0.5**
IKRK				*e*Sn	**Sn**	**04 01 16.0**	**+2.1**
ZNJK	**Zanjan**	**4.20**	**8**	*e*Pn	**Pn**	**04 00 28.4**	**+2.6**
CHTH	**Charan**	**4.30**	**37**	*e*Pn	**Pn**	**04 00 29.3**	**+2.1**
DAMV	**Damavand**	**4.57**	**46**	*e*Pn	**Pn**	**04 00 32.6**	**+1.7**
IDMV	**Damavand**	**4.58**	**47**	*e*Pn	**Pn**	**04 00 31.2**	**+0.2**
ISAD	**Sadrabad**	**4.90**	**95**	*e*Pn	**Pn**	**04 00 36.0**	**+0.5**
ANAR	**Anarak**	**4.92**	**80**	*e*Pn	**Pn**	**04 00 35.8**	**+0.3**
ILAS	**Lasjerd**	**5.06**	**54**	*e*Pn	**Pn**	**04 00 38.2**	**+0.6**
IFIR	**Firoozkooh**	**5.07**	**51**	*e*Pn	**Pn**	**04 00 38.8**	**+1.0**
ISHM	**Shahmirzad**	**5.53**	**52**	*e*Pn	**Pn**	**04 00 45.3**	**+1.3**
YZKH	**Yazd**	**5.62**	**89**	*e*Pn	**Pn**	**04 00 46.8**	**+1.6**
IANJ	**Anjilo**	**5.78**	**58**	*e*Pn	**Pn**	**04 00 47.9**	**+0.5**
IGLO	**Ghaloghah**	**6.29**	**49**	*e*Pn	**Pn**	**04 00 56.6**	**+2.2**
TPRV	**Parvadeh(Tabas**	**7.38**	**84**	*e*Pn	**Pn**	**04 01 09.2**	**-0.2**
TNSJ	**Nastanj**	**7.41**	**76**	*e*Pn	**Pn**	**04 01 09.4**	**-0.3**
SHRO	**Shahrood**	**7.53**	**60**	*e*Pn	**Pn**	**04 01 13.1**	**+1.7**
TKDS	**Koohdasht(Taba**	**7.79**	**79**	*e*Pn	**Pn**	**04 01 14.7**	**-0.2**
TABS	**Tabas**	**7.79**	**79**	*e*Pn	**Pn**	**04 01 16.5**	**+1.6**
WSAR	**Wadi Sarin**	**13.20**	**132**	Pn	Pn	04 02 24.3	-4.7
	comp=Z,0.4nm,0.3s,baz=318,slow=15,SNR=4.4						
WSAR				Sn	Sn	04 04 44.7	-11
	comp=Z,0.2nm,0.3s,baz=297,slow=15,SNR=2.1						
MKAR	**Makanchi Array**	**29.79**	**51**	P	**P**	**04 05 25.9**	**-2.5**
	comp=Z,0.9nm,0.7s,baz=248,slow=8.1,SNR=8.2						
FINES	**FINESS Array B**	**32.24**	**340**	P	P	04 05 46.7	-3.0
	comp=Z,1.5nm,1.0s,baz=151,slow=6.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**33.81**	**40**	P	**P**	**04 06 01.5**	**-2.1**
	comp=Z,1.3nm,0.5s,baz=232,slow=8.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**46.36**	**256**	P	P	04 07 44.3	-3.8
	comp=Z,0.2nm,0.7s,baz=51,slow=8.0,SNR=1.8						

*ARE **28** 04:04:16.1±1.5, 13.26S±0.06×76.18W±0.2, h64km±9km, Error ellipse: s-maj=27.3km s-min=5.5km az=76.0*

NEIC 28 04:04:16.2±1.7, 13.27S±0.06×76.18W±0.2, h58km±18km, mb4.0/2, ML4.2(ARE), Error ellipse: s-maj=25.7km s-min=5.3km az=76.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.27**	**359**		**Pn**	**04 04 39.2**	**+1.3**
NNA				Sn	Sn	04 04 53.8	-0.1
PB12	**IPOC Station P**	**8.20**	**131**	Pn	Pn	04 06 11.7	-1.0
PB16	**IPOC Station P**	**8.65**	**127**	Pn	Pn	04 06 19.2	-0.2
LPAZ	**La Paz**	**8.92**	**111**	Pn	Pn	04 06 21.2	-1.8
MCRA	**Macar, Loja**	**9.37**	**340**	Pn	Pn	04 06 28.3	-0.3
PB11	**IPOC Station P**	**9.43**	**134**	Pn	Pn	04 06 28.5	-1.0
TA01	**Diego Aracena**	**9.64**	**140**	Pn	Pn	04 06 31.8	-0.6
GO01	**Chusmiza**	**9.70**	**132**	Pn	Pn	04 06 31.9	-1.5
PATCX	**Punta Patache**	**9.85**	**141**	Pn	Pn	04 06 34.1	-1.1
PB08	**IPOC Station P**	**10.03**	**134**	Pn	Pn	04 06 37.0	-1.0
PB01	**IPOC Station P**	**10.43**	**139**	Pn	Pn	04 06 42.8	-0.5
PB09	**IPOC Station P**	**11.14**	**141**	Pn	Pn	04 06 53.8	+0.8
GO02	**Mina Guanaco**	**13.66**	**151**	Pn	Pn	04 07 28.8	+1.4
ROC1	**El Roble**	**20.32**	**166**	P	P	04 08 47.6	-0.3
ROC1				IAmb	IAmb	04 08 50.4	
	comp=Z,9.4nm,1.1s						

IDC 28 04:10:57.6±3.2, 2.53S×138.99E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/31, mbtmp3.8/5, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/65, Error ellipse: s-maj=119.9km s-min=24.1km az=91.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.90**	**282**	LR	LR	04 16 07.0	
	comp=Z,56nm,20.1s,baz=186,slow=39						
WRA	**Warramunga Arr**	**17.89**	**194**	P	P	04 15 08.7	-0.1
	0.3nm,0.3s,baz=12,slow=12,SNR=16						
FITZ	**Fitzroy Crossi**	**20.27**	**219**	P	P	04 15 33.5	-1.4
	2.2nm,0.9s,baz=40,slow=12,SNR=2.0						
FITZ				S	S	04 19 08.2	-15
	1.1nm,0.7s,baz=352,slow=20,SNR=2.0						
ASAR	**Alice Springs**	**21.58**	**193**	P	P	04 15 49.6	+0.5
	2.7nm,0.7s,baz=24,slow=10,SNR=30						
MKAR	**Makanchi Array**	**69.82**	**322**	P	P	04 22 10.3	+0.2
	0.7nm,0.5s,baz=112,slow=7.9,SNR=11						
ZALV	**Zalesovo Beam**	**71.93**	**330**	P	P	04 22 22.4	-0.3
	0.6nm,0.4s,baz=123,slow=5.3,SNR=2.2						

*IDC **28** 04:22:36.0±1.0, 4.52S×125.45E, h488km±12km, mb3.4/11, mb1 3.7/15, mb1mx3.4/38, mbtmp4.5/15, Error ellipse: s-maj=15.6km s-min=10.5km az=68.0*
*DJA **28** 04:22:36.6±0.4, 5.3S×12.5E, h476km±7km, M4.5/22, mb4.8/19, mB4.9/16, MLv4.9/22, Mw(mB)4.2/16, MwMwp4.8/1, Mwp5.1/1*
*NEIC **28** 04:22:36.1±1.5, 4.5S±0.1×125.4E±0.2, h496km±12km, mb4.8/10, Error ellipse: s-maj=23.5km s-min=14.8km az=75.0*

ISC 28 04:22:36.5±0.5, 4.54S±0.05×125.41E±0.06, h500km, n94, σ1ᵍ24/100, mb3.8/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**2.54**	**13**	P	**P**	**04 23 42.5**	**-2.1**
SANI	**Sanana**	**2.54**	**13**	P	**P**	**04 23 42.5**	**-2.1**
AAI	**Ambon**	**2.90**	**73**	P	**P**	**04 23 43.8**	**-3.0**
BBSI	**Bau Bau**	**2.98**	**251**	P	**P**	**04 23 46.9**	**-0.5**
MSAI	**Masohi**	**3.70**	**71**	P	**P**	**04 23 50.1**	**-2.5**
LUWI	**Luwuk**	**4.36**	**323**	P	**P**	**04 23 57.3**	**-0.7**
LBMI	**Labuha**	**4.40**	**28**	P	**P**	**04 23 57.5**	**-0.8**
MMRI	**Maumere**	**5.15**	**218**	P	**P**	**04 24 04.8**	**0.0**
MMRI	**Maumere**	**5.15**	**218**	P	**P**	**04 24 05.0**	**+0.1**
	0.7nm164nm,0.6s						
BSSI	**Bau Bau, Buton**	**5.15**	**252**	P	**P**	**04 24 04.8**	**-0.1**
	0.8nm2μm269nm,0.7s						
APSI	**Ampana**	**5.21**	**314**	P	**P**	**04 24 05.3**	**-0.1**
	0.2nm777nm45nm,0.7s						
KMSI	**Cibinong**	**5.28**	**344**	P	**P**	**04 24 06.0**	**0.0**
	1.5nm231nm,0.6s						
BNSI	**Bone**	**5.29**	**271**	P	**P**	**04 24 05.6**	**-0.6**
	2.8nm4μm8μm697nm,0.7s						
BKSI	**Bulukumba**	**5.33**	**261**	P	**P**	**04 24 05.7**	**-0.8**
	1.1nm3μm291nm,0.6s						
TNTI	**Ternate**	**5.62**	**20**	P	**P**	**04 24 07.6**	**-1.7**
TNTI	**Ternate**	**5.62**	**20**	P	**P**	**04 24 07.9**	**-1.4**
	0.8nm3μm108nm,0.8s						
TNTI	**Ternate**	**5.62**	**20**	P	**P**	**04 24 08.1**	**-1.2**
SPSI	**Sidrap Palu**	**5.66**	**276**	P	**P**	**04 24 08.6**	**-1.0**
	0.7nm3μm218nm,0.6s						
KAPI	**Kappang**	**5.66**	**265**	P	**P**	**04 24 09.3**	**-0.3**
	30nm,0.3s,baz=91,slow=6.2,SNR=54						
KAPI	**Kappang**	**5.66**	**265**	P	**P**	**04 24 08.8**	**-0.8**
KAPI	**Kappang**	**5.66**	**265**	P	**P**	**04 24 09.4**	**-0.3**
TTSI	**Tana Toraja**	**5.78**	**285**	P	**P**	**04 24 11.1**	**+0.4**
	0.4nm1μm80nm,0.7s						
BATI	**Baumata**	**5.89**	**197**	P	**P**	**04 24 10.8**	**-1.0**
	146nm,0.3s,baz=39,slow=2.3,SNR=39						
BATI				S	**S**	**04 25 25.1**	**-4.7**
	62nm,0.3s,baz=300,slow=20,SNR=20						
BATI	**Baumata**	**5.89**	**197**	P	**P**	**04 24 10.7**	**-1.2**
	1.5nm5μm435nm,0.8s						
MRSI	**Marisa**	**6.07**	**325**	P	**P**	**04 24 12.4**	**-1.2**
	0.3nm34nm,0.7s						
SWI	**Sorong**	**6.89**	**58**	P	**P**	**04 24 21.2**	**-0.4**
	0.6nm2μm160nm,0.8s						
SIJI	**Sorong**	**6.89**	**58**	P	**P**	**04 24 21.1**	**-0.5**
	18nm,0.3s,baz=288,slow=6.3,SNR=31						
SIJI				S	**S**	**04 25 44.7**	**-3.0**
	3.1nm,0.3s,baz=170,slow=19,SNR=14						
TOLI2	**Tolitoli**	**7.27**	**320**	P	**P**	**04 24 24.9**	**-0.7**
TOLI2					**S**	**04 25 51.9**	**-2.9**
TOLI2	**Tolitoli**	**7.27**	**320**	P	**P**	**04 24 25.1**	**-0.4**
SGSI	**Sangihe**	**8.17**	**1**	P	**P**	**04 24 34.5**	**-0.2**
	3.0nm498nm,0.6s						
PLAI	**Plampang**	**8.70**	**240**	P	**P**	**04 24 38.7**	**-1.5**
SMKI	**Samarinda**	**9.15**	**296

ILAR	**Eielson Array**	**93.09**	**25**	P		**P**	**04 34 55.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=238,slow=5.2,SNR=15							
PDAR	**Pinedale Array**	**118.33**	**43**	PKP		**PKiKP**	**04 40 28.3**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=259,slow=0.9,SNR=2.6							
TORD	**Torodi Ar. Bea**	**123.84**	**283**	PKP		**PKiKP**	**04 40 38.3**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=85,slow=1.3,SNR=5.4							
TXAR	**Lajitas Array**	**127.48**	**56**	PKP		**PKPdf**	**04 40 44.5**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=257,slow=3.5,SNR=2.8							

JMA ***28*** *04:35:16.7±0.2,24.02N×121.59E,h26km±1km,M3.0*
TAP ***28*** *04:35:18.6,24.23N×121.77E,h11km,ML3.7,C*
ISC 28 04:35:17.8±0.9**,24.21N**±0.01×**121.84E**±0.02**,h8**km±7km**,**
n112,σ0.92/197,3C-22D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.14**	**317**	*i*P		**Pg**		**04 35 21.3**	**+0.5**
	baz=345								
EHP				*i*S		**Sg**		**04 35 23.6**	**+0.8**
	baz=345								
ETL	**Fush Village**	**0.21**	**256**	⇓*i*P		**Pg**		**04 35 22.2**	**+0.2**
	baz=244								
ETL				*i*S		**Sg**		**04 35 24.9**	**+0.1**
	baz=244								
NACB	**Ninganchiao**	**0.23**	**261**	⇓*i*P		**Pg**		**04 35 22.5**	**0.0**
	baz=246								
NACB				*i*S		**Sg**		**04 35 25.3**	**-0.2**
	baz=246								
ENA	**Nanau**	**0.24**	**337**	⇓*i*P		**Pg**		**04 35 22.8**	**+0.3**
	baz=354								
ENA				*i*S		**Sg**		**04 35 26.5**	**+0.7**
	baz=354								
EWUT	**Wuta**	**0.24**	**346**	⇓*i*P		**Pg**		**04 35 23.4**	**+0.7**
	baz=1.0								
EWUT				*i*S		**Sg**		**04 35 26.8**	**+0.9**
	baz=1.0								
TWD	**Chiawan**	**0.26**	**240**	⇓*i*P		**Pg**		**04 35 23.2**	**+0.1**
	baz=233								
TWD				*i*S		**Sg**		**04 35 26.7**	**+0.2**
	baz=233								
HWA	**Hwalien**	**0.32**	**223**	*e*P		**Pb**		**04 35 25.5**	**-0.3**
	baz=220								
HWA				*e*S		**Sb**		**04 35 31.4**	**+0.3**
	baz=220								
ETLH	**Xiulin Townshi**	**0.33**	**269**	P		**Pg**		**04 35 24.3**	**0.0**
	baz=267								
ETLH				S		**Sg**		**04 35 28.2**	**-0.5**
	baz=267								
TWC	**Suao**	**0.40**	**1**	⇓*i*P		**Pb**		**04 35 26.4**	**-0.8**
	baz=4.0								
TWC				*i*S		**Sb**		**04 35 31.9**	**-1.6**
	baz=4.0								
ETM	**Tongmen**	**0.40**	**233**	*e*P		**Pg**		**04 35 26.1**	**+0.4**
	baz=229								
TEYL	**Yanliau Villag**	**0.41**	**213**	P		**Pb**		**04 35 27.6**	**+0.3**
	baz=218								
LATG	**Datong**	**0.43**	**318**	⇓*i*P		**Pb**		**04 35 26.7**	**-1.2**
	baz=324								
LATG				*i*S		**Sg**		**04 35 31.7**	**-0.3**
	baz=324								
NDS	**Dongshan**	**0.44**	**345**	P		**Pb**		**04 35 27.1**	**-0.7**
	baz=353								
NDS				S		**Sg**		**04 35 32.7**	**+0.6**
	baz=353								
NNSB	**Datong**	**0.47**	**297**	⇓*i*P		**Pg**		**04 35 27.2**	**+0.1**
	baz=300								
NNSB				S		**Sg**		**04 35 32.8**	**-0.5**
	baz=300								
NNS	**Nan Shan**	**0.49**	**298**	⇓*i*P		**Pg**		**04 35 27.4**	**+0.1**
	baz=301								
NNS				*i*S		**Sg**		**04 35 33.2**	**-0.5**
	baz=301								
ENTT	**Nioudou**	**0.50**	**329**	⇓*i*P		**Pb**		**04 35 28.1**	**-0.8**
	baz=336								
ENTT				*i*S		**Sg**		**04 35 34.4**	**+0.4**
	baz=336								
WHF	**Hehuan Shan**	**0.53**	**263**	⇓*i*P		**Pg**		**04 35 28.1**	**-0.1**
	baz=261								
WHF				*i*S		**Sg**		**04 35 34.8**	**-0.5**
	baz=261								
TWE	**Neicheng**	**0.53**	**342**	⇓*i*P		**Pb**		**04 35 29.0**	**-0.5**
	baz=350								
TWE				S		**Sg**		**04 35 35.6**	**+0.4**
	baz=350								
ESL	**Shilin**	**0.55**	**224**	P		**Pg**		**04 35 28.7**	**+0.3**
	baz=226								
ILA	**Ilan**	**0.56**	**351**	*e*P		**Pb**		**04 35 29.9**	**0.0**
	baz=353								
ILA				S		**Sb**		**04 35 37.5**	**-0.6**
	baz=353								
TEGC	**Jichi Village**	**0.57**	**209**	*e*S		**Sn**		**04 35 40.4**	**-1.6**
	baz=193								
FUSB	**Fushanzhiwuyua**	**0.59**	**337**	P		**Pb**		**04 35 30.1**	**-0.5**
	baz=342								
FUSB				S		**Sg**		**04 35 37.5**	**+0.3**
	baz=342								
TWT	**Tachien**	**0.61**	**274**	P		**Pb**		**04 35 30.1**	**-0.8**
	baz=273								
TWT				S		**Sg**		**04 35 37.4**	**-0.3**
	baz=273								
YHNB	**Yeheng**	**0.62**	**317**	⇓*i*P		**Pb**		**04 35 30.5**	**-0.6**
	baz=321								
YHNB				*i*S		**Sg**		**04 35 38.3**	**+0.2**
	baz=321								
TDCB	**Techi**	**0.63**	**274**	⇓*i*P		**Pg**		**04 35 30.2**	**+0.3**
	baz=273								
TDCB				S		**Sg**		**04 35 37.2**	**-1.0**
	baz=273								
CHGB	**Renai**	**0.63**	**256**	⇓*i*P		**Pg**		**04 35 30.2**	**+0.1**
	baz=246								
CHGB				S		**Sg**		**04 35 38.5**	**+0.2**
	baz=246								
EGS		**0.64**	**7**	*e*P		**Pn**		**04 35 32.6**	**-0.6**
	baz=21								
NSK	**Sanguang**	**0.64**	**316**	P		**Pb**		**04 35 30.8**	**-0.6**
	baz=320								
NSK				S		**Sg**		**04 35 38.2**	**-0.4**
	baz=320								
NTC	**Toucheng**	**0.64**	**359**	P		**Pb**		**04 35 31.1**	**-0.2**
	baz=4.0								
NTC				S		**Sb**		**04 35 39.3**	**-1.2**
	baz=4.0								
NWLT	**Wulai**	**0.64**	**331**	P		**Pb**		**04 35 30.7**	**-0.7**
	baz=336								
NWLT				S		**Sg**		**04 35 38.9**	**+0.1**
	baz=336								
EGFH	**Guangfu**	**0.66**	**215**	P		**Pb**		**04 35 31.5**	**-0.1**
	baz=217								
EGFH				S		**Sb**		**04 35 41.2**	**+0.2**
	baz=217								
OWD	**Renai**	**0.66**	**247**	⇓*i*P		**Pg**		**04 35 30.5**	**-0.1**
	baz=244								
OWD				S		**Sg**		**04 35 38.5**	**-0.7**
	baz=244								
WUSB	**Renai**	**0.70**	**252**	⇓*i*P		**Pg**		**04 35 31.4**	**+0.1**
	baz=242								
WUSB				*i*S		**Sg**		**04 35 40.1**	**-0.3**
	baz=242								
TIPB	**Shuangxi**	**0.76**	**359**	P		**Pb**		**04 35 33.3**	**-0.1**
	baz=3.0								
TIPB				S		**Sb**		**04 35 42.4**	**-1.5**
	baz=3.0								
NFF	**Wufeng Townshi**	**0.78**	**303**	⇓*i*P		**Pb**		**04 35 33.5**	**-0.3**
	baz=304								
NFF				*i*S		**Sg**		**04 35 42.2**	**-0.9**
	baz=304								
VWDT	**VWDT**	**0.79**	**235**	P		**Pb**		**04 35 33.2**	**-0.6**
	baz=232								
VWDT				S		**Sb**		**04 35 44.9**	**+0.2**
	baz=232								
NHDH	**Xindian Distri**	**0.80**	**339**	*e*P		**Pn**		**04 35 34.6**	**-1.0**
	baz=343								
NHDH				*e*S		**Sg**		**04 35 43.2**	**-0.5**
	baz=343								
TWB1	**Santiao Chiao**	**0.81**	**9**	*e*P		**Pn**		**04 35 34.2**	**-1.4**
	baz=14								
TWB1				*e*S		**Sb**		**04 35 44.7**	**-0.5**
	baz=14								
HGSD	**Ruisui**	**0.81**	**208**	⇑*i*P		**Pb**		**04 35 34.5**	**+0.3**
	baz=193								
HGSD				*e*S		**Sn**		**04 35 46.9**	**-1.0**
	baz=193								
WHP	**Taichung City**	**0.82**	**275**	*e*P		**Pb**		**04 35 34.3**	**-0.1**
	baz=274								
WHP				S		**Sg**		**04 35 44.4**	**0.0**
	baz=274								
WPL	**Puli Township**	**0.83**	**256**	P		**Pb**		**04 35 34.3**	**-0.3**
	baz=247								
WPL				*e*S		**Sg**		**04 35 44.4**	**-0.3**
	baz=247								
EHY	**Hungye**	**0.85**	**214**	P		**Pg**		**04 35 33.8**	**-0.3**
	baz=220								
EHY				*e*S		**Sn**		**04 35 48.5**	**-0.3**
	baz=220								
NWF	**Wu-fen Shan**	**0.86**	**356**	⇓*i*P		**Pn**		**04 35 35.6**	**-0.8**
	baz=353								
NWF				*i*S		**Sb**		**04 35 46.5**	**-0.3**
	baz=353								
WCS	**Beigang Elemen**	**0.86**	**260**	*e*P		**Pb**		**04 35 34.8**	**-0.3**
	baz=259								
LIOB	**Emei**	**0.87**	**300**	P		**Pn**		**04 35 35.7**	**-0.8**
	baz=301								
LIOB				S		**Sg**		**04 35 46.1**	**+0.2**
	baz=301								
NSTT	**Nanjuang**	**0.88**	**299**	⇑*i*P		**Pn**		**04 35 35.6**	**-0.9**
	baz=300								
NSTT				*i*S		**Sg**		**04 35 45.9**	**-0.2**
	baz=300								
SXI1	**Grass Mountain**	**0.88**	**2**	P		**Pn**		**04 35 36.4**	**-0.3**
	baz=13								
SXI1				S		**Sb**		**04 35 47.4**	**-0.1**
	baz=13								
SSLB	**Suanglung**	**0.92**	**243**	⇓*i*P		**Pg**		**04 35 35.2**	**-0.2**
	baz=250								
SSLB				S		**Sg**		**04 35 47.5**	**+0.1**
	baz=250								
SMLT	**Sun Moon Lake**	**0.92**	**249**	⇓*i*P		**Pg**		**04 35 35.5**	**0.0**
	baz=239								
SMLT				S		**Sg**		**04 35 47.4**	**-0.1**
	baz=239								
YULB	**Yu-li**	**0.96**	**212**	P		**Pg**		**04 35 35.4**	**-0.8**
	baz=218								
YULB				*e*S		**Sb**		**04 35 49.4**	**-0.2**
	baz=218								
NCUH	**Zhongli**	**0.96**	**322**	*e*P		**Pn**		**04 35 37.7**	**-0.1**
	baz=324								
NCUH				*e*S		**Sb**		**04 35 49.0**	**-0.8**
	baz=324								
NCU	**National Centr**	**0.96**	**322**	*e*P		**Pn**		**04 35 37.7**	**-0.1**
	baz=324								
NCU				*e*S		**Sn**		**04 35 52.5**	**+0.9**
	baz=324								
YM01	**YM01**	**0.96**	**345**	⇑P		**Pn**		**04 35 37.7**	**-0.1**
	baz=348								
YM01				*e*S		**Sb**		**04 35 48.8**	**-1.0**
	baz=348								
TWS1	**Kuangyinshan**	**0.97**	**336**	*e*P		**Pn**		**04 35 38.0**	**+0.2**
	baz=340								
TWS1				*e*S		**Sb**		**04 35 50.2**	**+0.4**
	baz=340								
SBCB	**Hsinchu**	**0.97**	**307**	*e*P		**Pn**		**04 35 38.0**	**+0.1**
	baz=308								
SBCB				*e*S		**Sn**		**04 35 52.3**	**+0.4**
	baz=308								
EYUL	**Yuli**	**0.98**	**209**	*e*P		**Pn**		**04 35 38.1**	**+0.1**
	baz=222								
TWQ1	**Liyutan**	**0.99**	**278**	P		**Pn**		**04 35 37.8**	**-0.3**
	baz=278								
TWQ1				*e*S		**Sb**		**04 35 51.2**	**+0.8**
	baz=278								
TWF1	**Yuli**	**0.99**	**210**	P		**Pb**		**04 35 37.2**	**-0.1**
	baz=218								
TWF1				*e*S		**Sn**		**04 35 53.5**	**+1.1**
	baz=218								
NSY	**Sanyi**	**1.01**	**282**	*e*P		**Pn**		**04 35 38.4**	**+0.1**
	baz=282								
NSY				*e*S		**Sn**		**04 35 53.1**	**+0.3**
	baz=282								
NMLH	**Miaoli**	**1.01**	**289**	*e*P		**Pn**		**04 35 39.2**	**+0.8**
	baz=289								
NTST	**Danshui**	**1.01**	**339**	*e*P		**Pn**		**04 35 39.1**	**+0.7**
	baz=350								
NTST				*e*S		**Sn**		**04 35 54.1**	**+1.2**
	baz=350								
JYNG	**Yonagunijimaku**	**1.03**	**76**	P		**Pn**		**04 35 39.5**	**+0.8**
JYNG				S		**Sn**		**04 35 56.5**	**+3.1**
WWF	**Wufeng**	**1.06**	**261**	*e*P		**Pn**		**04 35 40.8**	**+1.8**
	baz=256								
TCU	**Taichung**	**1.07**	**267**	*e*P		**Pn**		**04 35 40.4**	**+1.3**
	baz=266								
TCU				*e*S		**Sn**		**04 35 55.3**	**+1.1**
	baz=266								
NHW	**Xinwu Township**	**1.07**	**318**	*e*P		**Pn**		**04 35 40.4**	**+1.1**
	baz=320								
NHW				*e*S		**Sn**		**04 35 55.7**	**+1.3**
	baz=320								
TWY	**Chenhua**	**1.08**	**348**	*e*P		**Pn**		**04 35 40.1**	**+0.7**
	baz=351								
YUS	**Yu-Shan**	**1.09**	**229**	⇓P		**Pb**		**04 35 39.0**	**-0.3**
	baz=227								
YUS				S		**Sn**		**04 35 54.9**	**-0.5**
	baz=227								
WJS	**Zhushan**	**1.09**	**249**	*e*P		**Pn**		**04 35 40.2**	**+0.8**
	baz=242								
WJS				*e*S		**Sn**		**04 35 54.7**	**-0.1**
	baz=242								
YOJ	**Yonaguni jima**	**1.09**	**77**	P		**Pn**		**04 35 40.8**	**+1.3**
YOJ				*e*S		**Sn**		**04 35 57.6**	**+2.7**
YOJ	**Yonaguni jima**	**1.09**	**77**	*e*P		**Pn**		**04 35 40.3**	**+0.8**
	baz=66								
YOJ				*e*S		**Sn**		**04 35 57.3**	**+2.4**
	baz=66								
WDJ	**Dajia District**	**1.11**	**277**	*e*P		**Pn**		**04 35 39.8**	**+0.1**
	baz=277								
WDJ				*e*S		**Sn**		**04 35 56.8**	**+1.6**
	baz=277								
FULB	**Fuli**	**1.13**	**207**	*e*P		**Pn**		**04 35 39.5**	**-0.5**
	baz=220								
FULB				*e*S		**Sn**		**04 35 57.3**	**+1.6**
	baz=220								
ALS	**Alishan**	**1.18**	**234**	P		**Pn**		**04 35 40.6**	**-0.4**
	baz=232								
ALS				*e*S		**Sn**		**04 35 57.0**	**-0.4**
	baz=232								
CHKT	**Chengkung**	**1.19**	**202**	*e*P		**Pb**		**04 35 40.3**	**-0.4**
	baz=179								
ELDTW	**Lidau**	**1.27**	**217**	*e*P		**Pn**		**04 35 40.6**	**-1.5**
	baz=215								
WDLH	**Douliu**	**1.30**	**247**	*e*P		**Pg**		**04 35 43.2**	**+0.4**
	baz=246								
WDLH				*e*S		**Sn**		**04 36 02.5**	**+2.5**
	baz=246								
EDH	**Donghe**	**1.33**	**202**	*e*P		**Pn**		**04 35 42.0**	**-0.7**
	baz=200								
EDH				*e*S		**Sn**		**04 36 01.4**	**+0.7**
	baz=200								
WRL	**Guolierlin Hig**	**1.38**	**257**	*e*P		**Pg**		**04 35 44.5**	**+0.2**
	baz=257								
WRL				*e*S		**Sg**		**04 36 02.0**	**-0.1**
	baz=257								
CHN2	**Minshiung**	**1.42**	**242**	*e*S		**Sg**		**04 36 07.2**	**+3.6**
	baz=242								
STYH	**Taoyuan**	**1.43**	**224**	*e*P		**Pn**		**04 35 44.0**	**0.0**
	baz=223								
STYH				*e*S		**Sg**		**04 36 03.6**	**-0.1**
	baz=223								
WTK	**Tuku**	**1.43**	**249**	*e*P		**Pg**		**04 35 45.2**	**-0.1**
	baz=250								
WTK				*e*S		**Sg**		**04 36 05.1**	**+1.3**
	baz=250								
TPUB	**Ta-pu**	**1.43**	**231**	*e*P		**Pg**		**04 35 45.2**	**-0.1**
	baz=231								
TPUB				*e*S		**Sg**		**04 36 04.3**	**+0.3**
	baz=231								
LONT	**Longtian**	**1.45**	**207**	*e*P		**Pn**		**04 35 42.0**	**-2.5**
	baz=206								
WTP	**Ta-pu**	**1.48**	**230**	P		**Pb**		**04 35 45.3**	**-0.4**
	baz=230								
WTP				*e*S		**Sg**		**04 36 06.5**	**+1.0**
	baz=230								
CHY	**Chiayi**	**1.48**	**242**	*e*P		**Pg**		**04 35 46.5**	**+0.3**
	baz=241								
CHY				*e*S		**Sg**		**04 36 06.5**	**+1.1**
	baz=241								
TWGBT	**Beinan**	**1.55**	**207**	*e*P		**Pn**		**04 35 44.2**	**-1.7**
	baz=190								
TWG	**Pinlang**	**1.55**	**207**	*e*P		**Pn**		**04 35 44.0**	**-1.8**
	baz=190								
TWK	**Hsinying**	**1.56**	**233**	P		**Pb**		**04 35 46.9**	**-0.1**
	baz=233								
TWK				*e*S		**Sg**		**04 36 08.0**	**+0.1**
	baz=233								
LDUT	**Ludao**	**1.57**	**193**	*e*P		**Pn**		**04 35 43.8**	**-2.2**
	baz=178								
SNST	**Tainan City**	**1.58**	**232**	*e*P		**Pg**		**04 35 48.0**	**-0.2**
	baz=232								
SNST				*e*S		**Sg**		**04 36 10.1**	**+1.5**
	baz=232								
CHN1	**Nanshi**	**1.58**	**230**	*e*P		**Pb**		**04 35 47.5**	**+0.1**
	baz=230								
CHN1				*e*S		**Sg**		**04 36 09.4**	**+0.7**
	baz=230								
WSF	**Szhu**	**1.59**	**249**	*e*P		**Pg**		**04 35 47.8**	**-0.5**
	baz=260								
WSF				*e*S		**Sg**		**04 36 10.1**	**+1.1**
	baz=260								
SGST	**Jiashian**	**1.61**	**226**	*e*P		**Pb**		**04 35 47.0**	**-0.9**
	baz=226								
SGST				*e*S		**Sg**		**04 36 11.3**	**+1.6**
	baz=226								
WSL	**Shuilin Townsh**	**1.63**	**245**	*e*P		**Pb**		**04 35 48.3**	**+0.1**
	baz=246								
WSL				*e*S		**Sg**		**04 36 11.1**	**+0.8**
	baz=246								
ICHU	**Yijhu**	**1.66**	**240**	*e*P		**Pb**		**04 35 48.7**	**0.0**
	baz=241								
ICHU				*e*S		**Sg**		**04 36 13.1**	**+1.7**
	baz=241								
IRIF	**Iriomote-Funau**	**1.73**	**86**	P		**Pb**		**04 35 49.1**	**-0.7**
IRIF				S		**Sg**		**04 36 13.1**	**-0.3**
ECL	**Taimali**	**1.80**	**207**	*e*P		**Pn**		**04 35 48.7**	**-0.6**
	baz=193								
SCST	**Cishan**	**1.81**	**223**	*e*P		**Pb**		**04 35 51.6**	**+0.3**
	baz=224								
SCST				*e*S		**Sg**		**04 36 17.0**	**+1.0**
	baz=224								
SSD	**Sandimen**	**1.83**	**218**	*e*P		**Pb**		**04 35 51.2**	**-0.5**
	baz=230								
TSMG	**Majia**	**1.86**	**217**	*e*P		**Pb**		**04 35 50.9**	**-1.3**
	baz=201								
MASBT	**Mashibuluo**	**1.94**	**215**	*e*P		**Pn**		**04 35 51.3**	**+0.1**
	baz=216								
MASBT				*e*S		**Sb**		**04 36 18.0**	**+0.1**
	baz=216								
EAST	**Anshuo**	**2.04**	**207**	*e*P		**Pn**		**04 35 51.5**	**-1.1**
	baz=195								
JIJ	**Ishigaki jima**	**2.10**	**85**	P		**Pb**		**04 35 54.5**	**-1.8**
JIJ				*e*S		**Sn**		**04 36 20.1**	**+0.3**
SCZT	**Fangliau**	**2.15**	**212**	*e*P		**Pb**		**04 35 55.6**	**-1.5**
	baz=196								
PNG	**Penghu**	**2.19**	**253**	*e*P		**Pb**		**04 35 56.1**	**-1.6**
	baz=256								
PNG				*e*S		**Sn**		**04 36 22.8**	**+0.8**
	baz=256								
PHUB	**P'eng-hu**	**2.19**	**252**	*e*P		**Pn**		**04 35 55.1**	**+0.5**
	baz=255								
PHUB				*e*S		**Sn**		**04 36 22.7**	**+0.7**
	baz=255								
SLIU	**Shizi**	**2.21**	**206**	*e*P		**Pn**		**04 35 55.3**	**+0.5**
	baz=198								
WDGT	**Dungji**	**2.21**	**245**	*e*P		**Pn**		**04 35 55.7**	**+0.8**
	baz=248								
JISG	**Ishigakijimahi**	**2.28**	**80**	P		**Pb**		**04 35 57.5**	**-1.8**
VWUC	**VWUC**	**2.31**	**290**	*e*P		**Pn**		**04 35 55.8**	**-0.5**
	baz=278								
VCHM	**Qimei**	**2.43**	**246**	*e*P		**Pb**		**04 35 59.8**	**-2.0**
	baz=234								
VCHM				*e*S		**Sn**		**04 36 29.0**	**+1.2**
	baz=234								
MATB	**Ma-tsu**	**2.59**	**319**	*e*P		**Pn**		**04 35 59.8**	**-0.3**
	baz=318								

NEIC ***28*** *05:00:44.6±1.1,17.75S±0.1×178.5W±0.1,h550km±8km,*
mb4.3/33,Error ellipse: s-maj=18.3km s-min=15.6km
az=140.0
IDC ***28*** *05:00:44.8±0.8,17.89S×178.45W,h559km±9km,mb3.4/13,*
mb1 3.6/16,mb1mx3.5/25,mbtmp4.3/16,Error ellipse:
s-maj=16.2km s-min=11.7km az=142.0
ISC 28 05:00:45.8±0.4**,17.79S**±0.09×**178.45W**±0.07**,h579**km**,**
n87,σ1.52/91,mb4.2/29,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.34**	**270**	P		**P**		**05 02 02.6**	**-2.8**
	20nm,0.3s,baz=94,slow=4.6,SNR=95								
MSVF				S		**S**		**05 03 08.3**	**-1.9**
	baz=3.4,slow=23,SNR=6.5								
MSVF	**Nonsavu**	**3.34**	**270**	P		**P**		**05 02 03.2**	**-2.2**
AFI	**Afiamalu**	**7.49**	**60**	P		**P**		**05 02 37.3**	**-2.4**
	4.1nm,0.3s,baz=79,slow=2.6,SNR=4.9								
AFI				S		**S**		**05 04 05.5**	**-7.5**
	2.3nm,0.3s,baz=152,slow=23,SNR=1.4								
NIUE	**Niue**	**8.19**	**100**	P		**P**		**05 02 44.8**	**-1.5**
PINNC	**Pines Island,**	**14.08**	**248**	P		**P**		**05 03 43.1**	**-2.6**
DZM	**Mont Dzumac**	**14.83**	**251**	P		**P**		**05 03 50.3**	**-2.8**
	1.0nm,0.3s,baz=286,slow=22,SNR=7.8								
DZM	**Mont Dzumac**	**14.83**	**251**	P		**P**		**05 03 50.5**	**-2.7**
KNTN	**Kanton**	**16.32**	**25**	P		**P**		**05 04 05.9**	**-1.3**
KOUNC	**Koumac, New Ca**	**16.54**	**258**	P		**P**		**05 04 08.3**	**-0.8**
URZ	**Urewera**	**20.76**	**190**	P		**P**		**05 04 44.4**	**-2.7**
	4.7nm,0.5s,baz=299,slow=3.0,SNR=9.2								
URZ	**Urewera**	**20.76**	**190**	P		**P**		**05 04 44.7**	**-2.4**
URZ					IAmb	IAmb		05 04 53.8	
	comp=Z,7.4nm,0.7s								
PPT	**Papeete**	**27.50**	**94**	P		**P**		**05 05 45.4**	**-1.8**
	comp=Z,12nm,0.6s,baz=72,slow=7.5,SNR=2.7								
COEN	**Coen**	**37.07**	**270**	P		**P**		**05 07 07.8**	**-0.3**
COEN					IAmb	IAmb		05 07 08.2	
	comp=Z,5.7nm,0.8s								
TOO	**Toolangi**	**37.21**	**231**	P		**P**		**05 07 10.0**	**+0.9**
TOO					IAmb	IAmb		05 07 10.5	
	comp=Z,6.1nm,0.8s								
STKA	**Stephens Creek**	**38.65**	**241**	P		**P**		**05 07 21.1**	**+0.2**
	comp=Z,3.5nm,0.5s,baz=92,slow=10,SNR=15								
STKA	**Stephens Creek**	**38.65**	**241**	P		**P**		**05 07 21.3**	**+0.5**
BBOO	**Buckleboo**	**43.43**	**241**	P		**P**		**05 07 58.8**	**+0.2**
WR0	**Warramunga Arr**	**44.42**	**259**	P		**P**		**05 08 05.1**	**-1.4**
WR8	**Warramunga Arr**	**44.46**	**259**	P		**P**		**05 08 05.8**	**-1.0**
WR8					IAmb	IAmb		05 08 16.8	
	comp=Z,14nm,1.5s								
WR7	**Warramunga Arr**	**44.49**	**259**	P		**P**		**05 08 06.0**	**-1.0**
WR7					IAmb	IAmb		05 08 08.7	
	comp=Z,5.3nm,1.1s								
WB0	**Warramunga Arr**	**44.58**	**260**	P		**P**		**05 08 06.8**	**-0.8**
WB7	**Warramunga Arr**	**44.59**	**260**	P		**P**		**05 08 06.4**	**-1.3**
WB7					IAmb	IAmb		05 08 23.9	
	comp=Z,8.1nm,1.4s								
WB2	**Warramunga Arr**	**44.60**	**259**	P		**P**		**05 08 06.9**	**-1.0**
WB2					IAmb	IAmb		05 08 07.6	
	comp=Z,4.1nm,0.6s					

GIRL	**Giralia**	**62.89**	**253**	P		**P**		**05 10 17.5**	**+0.9**
MJAR	**Matsushiro Arr**	**67.79**	**323**	P		**P**		**05 10 46.6**	**-0.3**
	comp=Z,2.7nm,0.4s,baz=134,slow=7.2,SNR=5.6								
JHS	**Saijyo**	**69.78**	**319**	P		**P**		**05 10 59.7**	**+0.8**
QSPA	**South Pole Qui**	**72.26**	**180**	P		**P**		**05 11 14.7**	**+1.6**
PES2	**Petropavlovsk-**	**73.55**	**345**	P		**P**		**05 11 21.2**	**+0.9**
PEA0	**Petropavlovsk-**	**73.56**	**345**	P		**P**		**05 11 21.5**	**+1.1**
PETK	**Petropavlovsk-**	**73.56**	**345**	P		**P**		**05 11 21.1**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=135,slow=8.8,SNR=6.6								
PETK	**Petropavlovsk-**	**73.56**	**345**	P		**P**		**05 11 21.4**	**+1.0**
NVAR	**Mina Aray Bea**	**79.37**	**44**	P		**P**		**05 11 54.4**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=235,slow=6.3,SNR=2.2								
O18K	**Koktuh Hills**	**79.65**	**12**	P		**P**		**05 11 54.3**	**+0.8**
N18K	**Kilae Creek**	**80.29**	**11**	P		**P**		**05 11 57.8**	**+1.0**
N18K				IAmb		IAmb		05 12 01.9	
	comp=Z,21nm,1.4s								
BELA	**Belgrano 2**	**82.28**	**173**	P		**P**		**05 12 07.8**	**+0.9**
K20K	**Telida**	**83.10**	**11**	P		**P**		**05 12 12.5**	**+1.4**
K20K				IAmb		IAmb		05 12 29.9	
	comp=Z,13nm,1.4s								
N25K	**Chitina, Valde**	**83.60**	**16**	P		**P**		**05 12 15.1**	**+1.4**
GLB	**Gilahina Butte**	**83.67**	**16**	P		**P**		**05 12 15.2**	**+1.3**
GLB				IAmb		IAmb		05 12 37.8	
	comp=Z,18nm,1.4s								
IMAR	**Indian Mountai**	**85.57**	**10**	P		**P**		**05 12 24.2**	**+1.1**
ILAR	**Eielson Array**	**85.78**	**13**	P		**P**		**05 12 24.6**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=223,slow=5.4,SNR=20								
TXAR	**Lajitas Array**	**85.97**	**58**	P		**P**		**05 12 28.8**	**+2.9**
	comp=Z,0.5nm,0.7s,baz=206,slow=6.0,SNR=8.8								
TXAR	**Lajitas Array**	**85.97**	**58**	P		**P**		**05 12 29.5**	**+3.6**
PDAR	**Pinedale Array**	**87.29**	**43**	P		**P**		**05 12 33.4**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=204,slow=2.0,SNR=6.9								
PDAR	**Pinedale Array**	**87.29**	**43**	P		**P**		**05 12 33.8**	**+1.8**
BM03	**Burnt Mountain**	**88.54**	**12**	P		**P**		**05 12 38.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**88.81**	**290**	P		**P**		**05 12 41.0**	**+1.6**
	comp=Z,3.7nm,0.3s,baz=116,slow=2.1,SNR=9.5								
MT09	**Talagante**	**94.02**	**127**			pwP		05 15 09.3	-2.5
YKA	**Yellowknife Ar**	**94.24**	**25**	P		**P**		**05 13 04.2**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=240,slow=4.3,SNR=7.9								
YKA	**Yellowknife Ar**	**94.24**	**25**	P		**P**		**05 13 04.1**	**+0.8**
HOPE	**Hope Point**	**101.18**	**158**			pP		05 15 30.9	-10
ARCES	**ARCESS Array B**	**126.19**	**350**	PKP		**PKiKP**		**05 18 43.2**	**+0.3**
	comp=Z,4.6nm,1.0s,baz=73,slow=4.2,SNR=5.7								
ARCES	**ARCESS Array B**	**126.19**	**350**			**PKiKP**		**05 18 44.2**	**+1.2**
FINES	**FINESS Array B**	**133.07**	**344**	PKP		**PKPdf**		**05 18 55.6**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=62,slow=3.3,SNR=1.4								
BRTR	**Keskin Array B**	**144.68**	**315**	PKP		**PKPab**		**05 19 19.3**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=152,slow=1.9,SNR=13								
OSTC	**Ostas**	**145.27**	**344**	*e*PKP		**PKPab**		**05 19 21.6**	**+1.0**
CHVC	**Chvalec**	**145.28**	**344**	*e*PKP		**PKiKP**		**05 19 21.9**	**-0.5**
CLL	**Collm**	**145.34**	**347**	*i* PKPbc		**PKPab**		**05 19 20.4**	**-0.4**
	comp=Z,10.0nm,0.6s								
DPC	**Dobruska-Polom**	**145.43**	**343**	*e*PKP		**PKPab**		**05 19 21.8**	**+0.6**
KRLC	**Kraliky**	**145.55**	**343**	*e*PKP		**PKPab**		**05 19 21.8**	**+0.1**
PRU	**Pruhonice**	**146.22**	**345**	*e*PKP		**PKiKP**		**05 19 24.2**	**-0.1**
KHC	**Kasperske Hory**	**147.25**	**345**	*e*PKP		**PKiKP**		**05 19 26.5**	**0.0**
CKRC	**Cesky Krumlov**	**147.36**	**344**	*e*PKP		**PKiKP**		**05 19 26.7**	**0.0**
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc		**PKiKP**		**05 19 26.9**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=37,slow=3.3,SNR=20								
GERES	**GERESS Array B**	**147.49**	**345**			**PKiKP**		**05 19 27.3**	**+0.2**
CONA	**Conrad Observa**	**147.74**	**342**	*e*P		**PKiKP**		**05 19 28.1**	**+0.5**
	comp=Z,2.8nm,0.5s								
RONA	**Rosalia, Austr**	**147.81**	**341**	*e*P		**PKiKP**		**05 19 28.0**	**+0.3**
	comp=Z,1.4nm,0.3s								
WTTA	**Wattenberg**	**149.46**	**346**	*e*P		**PKiKP**		**05 19 31.9**	**+0.6**
	comp=Z,4.1nm,0.3s								
MYKA	**Terra Mystica**	**149.55**	**343**	*e*P		**PKiKP**		**05 19 31.3**	**-0.1**
	comp=Z,3.0nm,0.4s								
FETA	**Feichten**	**149.88**	**347**	*e*P		**PKiKP**		**05 19 33.1**	**+0.9**
	comp=Z,1.1nm,0.4s								
TORD	**Torodi Ar. Bea**	**175.38**	**182**	PKP		**PKPdf**		**05 19 50.4**	**-0.4**
	comp=Z,1.2nm,1.1s,baz=329,slow=2.4,SNR=3.7								
TORD				PKPab		**PKPab**		**05 21 32.4**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=181,slow=4.7,SNR=2.2								

IDC 28 05:06:05.1±3.4, 22°56S×148°54E, h0km, mb1 3.5/2, mb1mx3.4/18, mbtmp3.3/2, ML3.6/1, Error ellipse: s-maj=62.7km s-min=46.4km az=19.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**11.15**	**212**	Pn	Pn	05 08 46.0	+0.2
	0.2nm,0.3s,baz=48,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**13.49**	**278**	Pn	Pn	05 09 17.7	-0.2
	baz=98,slow=12,SNR=1.2						
WRA				Lg	Lg	05 13 13.9	
	0.1nm,0.3s,baz=106,slow=28,SNR=5.5						
ASAR	**Alice Springs**	**13.51**	**262**	Lg	Lg	05 13 10.9	
	0.1nm,0.3s,baz=86,slow=29,SNR=4.2						
I22FR	**PORTLAGUERRE I16.94**	**92**	*i*			06 53 10.0	
	baz=266,slow=310,SNR=3.2						
TORD	**Torodi Ar. Bea**	**147.15**	**259**	PKPbc	PKPbc	05 25 50.2	-0.8
	0.3nm,0.7s,baz=88,slow=2.4,SNR=2.0						

IDC 28 05:30:04.9±3.0, 54°39N×87°02E, h0km, mb1 2.8/2, mb1mx2.8/38, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.9km s-min=19.1km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**252**	*i*		05 38 50.7	
	baz=71,slow=329,SNR=4.9						
ZALV	**Zalesovo Beam**	**1.37**	**252**	Pg	Pg	05 30 29.5	-1.6
	1.3nm,0.3s,baz=66,slow=16,SNR=10						
ZALV				Lg	Lg	05 30 49.1	
	1.1nm,0.3s,baz=73,slow=29,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.41**	**237**	Pn	Pn	05 31 41.5	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=6.0						
KURBB				Sn	Sn	05 32 52.0	-2.4
	0.0nm,0.3s,baz=229,slow=9.8,SNR=1.3						
KURBB				Lg	Lg	05 33 31.6	
	0.1nm,0.3s,baz=53,slow=33,SNR=4.3						
MKAR	**Makanchi Array**	**8.18**	**203**	Pn	Pn	05 32 06.2	+1.3
	0.1nm,0.3s,baz=26,slow=13,SNR=4.3						

*IDC **28** 05:54:14.4±6.3, 2°73N×128°67E, h230km±63km, mb3.6/12, mb1 3.7/12, mb1mx3.4/48, mbtmp4.1/12, Error ellipse: s-maj=45.3km s-min=12.3km az=63.0*
*NEIC **28** 05:54:14.2±1.2, 2°8N±0°1×128°7E±0°2, h221km±9km, mb4.3/16, Error ellipse: s-maj=26.0km s-min=15.4km az=86.0*
*DJA **28** 05:54:16.3±0.5, 2°N±5°×12°8E±°, h213km±4km, M4.0/6, mB4.8/1, mb3.9/6, MLv4.0/5, Mw(mB)4.1/1*
ISC 28 05:54:16.5±0.6, 2°55N±0°06×128°4E±0°1, h250km, n50, σ1°30/53, mb4.1/20, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.05**	**211**	Pn	**Pn**	**05 54 58.0**	**-1.4**
TNTI				Sn	**S**	**05 55 32.8**	**-0.5**
TNTI	**Ternate**	**2.05**	**211**	P	**Pn**	**05 54 57.4**	**-2.0**
SANI	**Sanana**	**5.17**	**208**	P	**Pn**	**05 55 33.0**	**-1.4**
	0.5nm2µm84nm,0.7s						
SANI				S	**S**	**05 56 31.1**	**-5.4**
	0.5nm2µm84nm,0.7s						
KCP	**Kidapawan**	**5.53**	**323**	*i* P	**Pn**	**05 55 36.3**	**-2.6**
GTOI	**Gorontalo**	**5.72**	**251**	P	**Pn**	**05 55 41.9**	**+0.7**
	0.0nm9.3nm,0.5s						
LUWI	**Luwuk**	**6.67**	**238**	Pn	**Pn**	**05 55 53.9**	**+0.8**
KNRA	**Kununurra**	**18.11**	**179**	P	**Pn**	**05 58 12.5**	**-0.9**
KNRA				IAmb	IAmb	05 58 13.0	
	comp=Z,12nm,0.7s						
PWJI	**Pagerwojo**	**19.61**	**237**	P	**P**	**05 58 27.4**	**+0.9**
	comp=Z,36nm,1.7s						
FITZ	**Fitzroy Crossi**	**20.70**	**187**	P	**P**	**05 58 39.2**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=27,slow=6.2,SNR=12						
WB0	**Warramunga Arr**	**22.94**	**165**	P	**P**	**05 58 59.9**	**+0.7**
WB0				IAmb	IAmb	05 59 01.2	
	comp=Z,9.3nm,1.1s						
WB9	**Warramunga Arr**	**22.96**	**165**	P	**P**	**05 59 00.1**	**+0.7**
WB9				IAmb	IAmb	05 59 02.0	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**23.09**	**166**	P	**P**	**05 59 00.6**	**0.0**
	comp=Z,1.9nm,0.6s,baz=342,slow=10,SNR=46						
WRA	**Warramunga Arr**	**23.09**	**166**	P	**P**	**05 59 00.8**	**+0.2**
AS06	**Alice Springs**	**26.59**	**169**	P	**P**	**05 59 33.3**	**+1.1**
AS31	**Alice Springs**	**26.60**	**169**	P	**P**	**05 59 33.5**	**+1.3**
AS31				IAmb	IAmb	05 59 33.9	
	comp=Z,1.8nm,0.3s						
ASAR	**Alice Springs**	**26.60**	**169**	P	**P**	**05 59 33.2**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=354,slow=8.0,SNR=54						
ASAR				PcP	**PcP**	**06 02 50.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=357,slow=2.4,SNR=5.0						
ASAR	**Alice Springs**	**26.60**	**169**	P	**P**	**05 59 33.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**32.91**	**301**	P	**P**	**06 00 29.0**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=114,slow=6.9,SNR=8.6						
FORT	**Forrest**	**33.14**	**181**	P	**P**	**06 00 31.1**	**+1.6**
TJN	**Taejon**	**33.68**	**358**	P	**P**	**06 00 32.6**	**-1.5**
BBOO	**Buckleboo**	**35.90**	**169**	P	**P**	**06 00 54.5**	**+1.3**
STKA	**Stephens Creek**	**36.45**	**161**	P	**P**	**06 00 58.5**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=78,slow=6.5,SNR=8.6						
STKA	**Stephens Creek**	**36.45**	**161**	P	**P**	**06 00 58.7**	**+0.9**
RAMN	**Ramite**	**46.80**	**305**	*e*P	**P**	**06 02 23.5**	**+1.6**
	comp=Z,17nm,0.4s						
GUN	**Gumba**	**47.77**	**306**	*e*P	**P**	**06 02 30.5**	**+1.0**
	comp=Z,18nm,0.7s						
SONM	**Songino Array**	**48.96**	**340**	P	**P**	**06 02 37.5**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=141,slow=5.7,SNR=4.1						
SONM	**Songino Array**	**48.96**	**340**	P	**P**	**06 02 38.3**	**+0.5**
KOLN	**Koldanda**	**49.57**	**305**	*e*P	**P**	**06 02 44.2**	**+1.2**
DANN	**Dangsing**	**49.66**	**306**	*e*P	**P**	**06 02 44.5**	**+0.7**
PYUN	**Piuthan**	**50.20**	**305**	*e*P	**P**	**06 02 48.9**	**+1.2**
	comp=Z,2nm,0.8s						
MK02	**Makanchi Array**	**59.46**	**325**	P	**P**	**06 03 53.8**	**+0.5**
MKAR	**Makanchi Array**	**59.48**	**325**	P	**P**	**06 03 53.6**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=119,slow=8.1,SNR=13						
MKAR	**Makanchi Array**	**59.48**	**325**	P	**P**	**06 03 53.7**	**+0.3**
MAKZ	**Makanchi**	**59.67**	**325**	P	**P**	**06 03 55.1**	**+0.4**
MAKZ				IAmb	IAmb	06 03 55.5	
	comp=Z,2.2nm,0.5s						
LBZ	**Lake Benmore**	**59.77**	**146**	P	**P**	**06 03 57.0**	**+1.6**
ZALV	**Zalesovo Beam**	**62.40**	**333**	P	**P**	**06 04 11.7**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=128,slow=7.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**62.40**	**333**	P	**P**	**06 04 11.9**	**-0.9**
KURBB	**Kurchatov Arra**	**63.64**	**327**	P	**P**	**06 04 20.6**	**-0.4**
	comp=Z,3.2nm,0.5s,baz=126,slow=6.1,SNR=16						
KURK	**Kurchatov**	**63.64**	**327**	P	**P**	**06 04 20.7**	**-0.3**
KURK				IAmb	IAmb	06 04 21.6	
	comp=Z,4.4nm,0.7s						
GAR	**Garm**	**63.95**	**313**	P	**P**	**06 04 23.9**	**+0.4**
GAR				IAmb	IAmb	06 04 25.0	
	comp=Z,6.5nm,1.1s						
KK06	**Karatay Array**	**65.22**	**317**	P	**P**	**06 04 31.8**	**+0.3**
KKAR	**Karatay Array**	**65.24**	**317**	P	**P**	**06 04 31.3**	**-0.3**
TIXI	**Tiksi**	**69.00**	**0**	P	**P**	**06 04 53.4**	**-1.2**
	comp=Z,1.5nm,0.4s,baz=282,slow=23,SNR=5.5						
TIXI	**Tiksi**	**69.00**	**0**	P	**P**	**06 04 53.3**	**-1.2**
BRVK	**Borovoye**	**69.29**	**327**	P	**P**	**06 04 56.5**	**-0.2**
BRVK				IAmb	IAmb	06 04 57.3	
	comp=Z,2.8nm,0.8s						
AB06	**Akbulak array**	**74.11**	**321**	P	**P**	**06 05 25.0**	**-0.5**
ABKAR	**Akbulak array**	**74.12**	**321**	P	**P**	**06 05 25.1**	**-0.5**
ARCES	**ARCESS Array B**	**92.13**	**340**	P	**P**	**06 06 56.1**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=84,slow=5.2,SNR=8.4						
YKA	**Yellowknife Ar**	**99.87**	**25**	P	**Pdif**	**06 07 31.8**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=294,slow=4.6,SNR=1.5						
TORD	**Torodi Ar. Bea**	**124.88**	**288**	PKP	**PKiKP**	**06 12 47.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=76,slow=1.7,SNR=2.0						

IDC 28 05:59:47.6±2.6, 54°23N×86°11E, h0km, mb1 2.9/2, mb1mx2.7/55, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=19.3km s-min=11.4km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**250**	*i*		06 05 36.6	
	baz=68,slow=330,SNR=0.6						
ZALV	**Zalesovo Beam**	**0.81**	**250**	Pg	Pg	06 00 02.0	-1.2
	1.2nm,0.3s,baz=65,slow=17,SNR=9.6						
ZALV				Lg	Lg	06 00 14.9	
	5.7nm,0.3s,baz=72,slow=30,SNR=27						
KURBB	**Kurchatov Arra**	**5.88**	**235**	Pn	Pn	06 01 17.0	+1.1
	0.1nm,0.3s,baz=50,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**7.33**	**200**	Pn	Pn	06 01 43.8	+1.1
	0.2nm,0.3s,baz=22,slow=13,SNR=6.4						

*NEIC **28** 06:03:35.2±1.7, 3°16S±0°08×130°3E±0°1, h44km±10km, mb4.0/13, Error ellipse: s-maj=17.6km s-min=11.3km az=91.0*
*DJA **28** 06:03:36.1±0.6, 3°S±7°×13°0E±°, h10km, M3.6/7, MLv3.6/7*
*IDC **28** 06:03:36.1±1.8, 3°07S×130°42E, h43km±21km, mb3.7/6, mb1 4.0/10, mb1mx3.6/43, mbtmp4.0/10, ML3.8/4, MS3.0/2, Ms1 3.0/2, ms1mx2.5/74, Error ellipse: s-maj=23.3km s-min=10.3km az=84.0*
ISC 28 06:03:32.8±0.6, 3°10S±0°05×130°34E±0°06, h24km, n41, σ1°39/43, mb4.0/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.43**	**260**	P	**Pb**	**06 03 58.7**	**-0.1**
MSAI				S	**Sb**	**06 04 19.0**	**+2.4**
AAI	**Ambon**	**2.22**	**255**	P	**Pb**	**06 04 10.4**	**-1.9**
SIJI	**Sorong**	**2.40**	**23**	P	**Pn**	**06 04 11.6**	**+1.0**
	4.9nm,0.3s,baz=34,slow=24,SNR=18						
SIJI				S	**Sn**	**06 04 40.1**	**+0.8**
	12nm,0.3s,baz=217,slow=23,SNR=8.0						
SWI	**Sorong**	**2.40**	**23**	P	**Pn**	**06 04 12.9**	**+2.2**
LBMI	**Labuha**	**3.74**	**311**	P	**Pn**	**06 04 27.5**	**-1.6**
SANI	**Sanana**	**4.47**	**283**	P	**Pn**	**06 04 36.3**	**-2.8**
BATI	**Baumata**	**9.69**	**223**	LR	LR	06 09 14.6	
	comp=Z,118nm,19.3s,baz=66,slow=35						
MTN	**Manton Dam**	**9.72**	**175**	Pn	**Pn**	**06 05 51.4**	**+0.2**
MMRI	**Maumere**	**9.76**	**235**	Pn	**Pn**	**06 05 50.7**	**-1.0**
KAPI	**Kappang**	**10.73**	**259**	P	**Pn**	**06 06 08.9**	**+3.8**
	0.9nm,0.3s,baz=119,slow=19,SNR=1.4						
KAPI				LR	LR	06 11 38.9	
	comp=Z,53nm,19.6s,baz=27,slow=45						
KAPI	**Kappang**	**10.73**	**259**	Pn	**Pn**	**06 06 05.8**	**+0.7**
KNRA	**Kununurra**	**12.60**	**187**	Pn	**Pn**	**06 06 30.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.60**	**197**	P	**P**	**06 07 13.2**	**-2.1**
	0.3nm,0.3s,baz=22,slow=9.9,SNR=10						
WB0	**Warramunga Arr**	**17.04**	**167**	P	**Pn**	**06 07 29.8**	**+0.1**
WB0				IAmb	IAmb	06 07 34.7	
	comp=Z,16nm,1.2s						
WRAB	**Tennant Creek**	**17.19**	**167**	P	**Pn**	**06 07 29.1**	**-2.4**
WRAB				IAmb	IAmb	06 07 36.2	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**17.19**	**167**	P	**P**	**06 07 32.3**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=348,slow=11,SNR=25						
WRA				S	**Sn**	**06 10 43.7**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=343,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**17.19**	**167**	P	**Pn**	**06 07 30.3**	**-1.3**
WB2	**Warramunga Arr**	**17.20**	**167**	P	**Pn**	**06 07 31.5**	**-0.1**
WB1	**Warramunga Ar.**	**17.21**	**167**	P	**P**	**06 07 32.2**	**-1.0**
WB1				IAmb	IAmb	06 07 37.3	
	comp=Z,19nm,1.5s						
AS31	**Alice Springs**	**20.74**	**171**	P	**P**	**06 08 11.8**	**-0.1**
AS31				IAmb	IAmb	06 08 15.1	
	comp=Z,5.3nm,0.6s						
ASAR	**Alice Springs**	**20.74**	**171**	P	Pn	06 08 14.0	-0.3
	comp=Z,12nm,0.7s,baz=348,slow=9.7,SNR=130						
ASAR				S	**S**	**06 12 02.6**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=350,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**20.74**	**171**	P	**P**	**06 08 11.4**	**-0.4**
CTA	**Charters Tower**	**22.94**	**139**	P	**P**	**06 08 37.4**	**+1.9**
	comp=Z,3.6nm,0.7s,baz=308,slow=12,SNR=3.2						
QIZ	**Qiongzhong**	**29.83**	**318**	P	**P**	**06 09 37.2**	**-1.2**
BBOO	**Buckleboo**	**30.04**	**170**	P	**P**	**06 09 38.7**	**-1.4**
STKA	**Stephens Creek**	**30.52**	**161**	P	**P**	**06 09 46.7**	**+2.3**
	comp=Z,1.6nm,0.7s,baz=325,slow=8.1,SNR=3.1						
CMAR	**Chiang Mai Arr**	**37.61**	**306**	P	**P**	**06 10 47.5**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=113,slow=6.9,SNR=5.6						
CMAR	**Chiang Mai Arr**	**37.61**	**306**	P	**P**	**06 10 46.6**	**+0.6**
CHTO	**Chiang Mai**	**37.80**	**306**	P	**P**	**06 10 47.3**	**-0.3**
CHTO				IAmb	IAmb	06 10 48.9	
	comp=Z,3.3nm,0.9s						
SONM	**Songino Array**	**54.88**	**340**	P	**P**	**06 13 02.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=141,slow=4.8,SNR=2.0						
SONM	**Songino Array**	**54.88**	**340**	P	**P**	**06 13 00.8**	**-0.7**
SONM				IAmb	IAmb	06 13 11.7	
	comp=Z,2.8nm,1.4s						
SONB4	**Songino Array**	**54.90**	**340**	P	**P**	**06 13 01.9**	**+0.3**
MK31	**Makanchi Array**	**65.19**	**326**	P	**P**	**06 14 12.5**	**+0.3**
MKAR	**Makanchi Array**	**65.19**	**326**	P	**P**	**06 14 12.3**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=102,slow=8.1,SNR=4.0						
MKAR	**Makanchi Array**	**65.19**	**326**	P	**P**	**06 14 12.1**	**-0.1**
MAKZ	**Makanchi**	**65.37**	**326**	P	**P**	**06 14 13.8**	**+0.5**
MAKZ				IAmb	IAmb	06 14 15.0	
	comp=Z,1.5nm,1.0s						
ZALV	**Zalesovo Beam**	**68.27**	**333**	P	**P**	**06 14 31.1**	**-0.5**
KURK	**Kurchatov**	**69.40**	**328**	P	**P**	**06 14 37.4**	**-1.3**
KKAR	**Karatay Array**	**70.67**	**318**	P	**P**	**06 14 45.9**	**-0.8**
ABKAR	**Akbulak array**	**79.69**	**321**	P	**P**	**06 15 38.6**	**0.0**
TORD	**Torodi Ar. Bea**	**128.28**	**284**	PKP	**PKiKP**	**06 22 39.5**	**+0.5**
	comp=Z,0.5nm,1.0s,baz=81,slow=1.8,SNR=1.9						

*SNET **28** 06:15:35.0±2.4, 12°60N×88°64W, h24km, ML3.5*
*INET **28** 06:15:36.3±1.1, 12°64N×88°61W, h15km±13km, MW3.1*
ISC 28 06:15:33.6±1.9, 12°59N±0°08×88°66W±0°04, h13km±11km, n39, σ0°56/54, 1C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.90**	**23**	*e*P	**Pn**	**06 15 52.6**	**+0.5**
COEB	**Comit de Eme**	**0.91**	**8**	*e*P	**Pn**	**06 15 52.4**	**+0.2**
COEB	**Comit de Eme**	**0.91**	**8**	*e*P	**Pn**	**06 15 52.5**	**+0.2**
RANC	**El Ranchito**	**0.92**	**23**	*e*P	**Pn**	**06 15 52.6**	**+0.2**
RANC				IAML		06 16 07.8	
VSM	**San Miguel**	**0.92**	**24**	*e*P	**Pn**	**06 15 53.1**	**+0.7**
PACA	**Pacayal**	**0.94**	**21**	*e*P	**Pn**	**06 15 53.0**	**+0.4**
PACA				*e*S	**Sg**	**06 16 04.5**	**+0.5**
PACA	**Pacayal**	**0.94**	**21**	*e*P	**Pn**	**06 15 53.0**	**+0.4**
CNRM	**Centro Naciona**	**1.00**	**29**	*e*P	**Pn**	**06 15 53.7**	**+0.3**
PQSS	**Presa 15 de Se**	**1.03**	**6**	*e*P	**Pn**	**06 15 54.3**	**+0.4**
PQSS				*e*S	**Sg**	**06 16 06.2**	**-0.8**
PQSS				IAML		06 16 08.0	
LCND	**La Caada**	**1.04**	**46**	*i* *e*P	**Pg**	**06 15 53.8**	**+0.1**
LCND				*e*S	**Sg**	**06 16 07.4**	**+0.2**
COEG	**Centro de Oper**	**1.05**	**348**	*e*P	**Pn**	**06 15 54.4**	**+0.3**
COEG				*e*S	**Sg**	**06 16 07.3**	**-0.1**
COEG	**Centro de Oper**	**1.05**	**348**	*e*P	**Pn**	**06 15 54.3**	**+0.3**
UESV	**Universidad de**	**1.05**	**353**	*e*P	**Pn**	**06 15 54.6**	**+0.5**
UESV				*e*S	**Sg**	**06 16 07.3**	**-0.2**
CNCH	**Conchagua**	**1.06**	**50**	*e*P	**Pn**	**06 15 54.5**	**+0.2**
SJTE	**Alcalda de S**	**1.07**	**342**	*e*P	**Pb**	**06 15 54.6**	**+0.5**
SJTE				*e*S	**Sg**	**06 16 07.9**	**-0.4**
LFRS	**El Faro**	**1.10**	**339**	*e*P	**Pg**	**06 15 55.0**	**+0.2**
LFRS				*e*S	**Sg**	**06 16 08.5**	**-0.7**
LALI	**Alcalda de L**	**1.10**	**324**	*e*P	**Pn**	**06 15 55.2**	**+0.5**
LALI				*e*S	**Sg**	**06 16 08.0**	**-1.2**
SCLA	**Alcaldia de Sa**	**1.11**	**357**	*e*P	**Pn**	**06 15 55.8**	**+0.9**
SCLA				*e*S	**Sg**	**06 16 09.3**	**-0.1**
CSGN	**Cosiguina Volc**	**1.15**	**70**	*e*P	**Pb**	**06 15 55.1**	**-0.2**
PAVA	**Las Pavas**	**1.15**	**347**	*e*P	**Pn**	**06 15 56.2**	**+0.7**
PAVA	**Las Pavas**	**1.15**	**347**	*e*P	**Pn**	**06 15 56.2**	**+0.7**
UDBS	**Universidad Do**	**1.22**	**337**	*e*P	**Pb**	**06 15 57.0**	**+0.5**
IGN	**Direccin Gen**	**1.22**	**336**	*e*P	**Pn**	**06 15 56.9**	**+0.4**
LFU	**La Fuente**	**1.23**	**339**	*e*P	**Pg**	**06 15 57.4**	**+0.1**
UESS	**Universidad de**	**1.24**	**335**	*e*P	**Pn**	**06 15 57.1**	**+0.4**
BOQS	**Boq

OKCFA	**Oklahoma City** baz=40,SNR=46	0.85	220	P	Pg	06 20 44.1	-0.5
OKCFA	baz=40			S	Sg	06 20 56.0	+0.5
OKCSW	**OKLAHOMA CITY**	0.85	219		Pg	06 20 44.1	-0.5
T35A	**Sooner Cattle**	0.87	14		Pg	06 20 44.5	-0.5
T35B	**Sooner Cattle** baz=194	0.87	14	P	Pg	06 20 44.5	-0.5
FNO	**Franklin**	0.95	212		Pg	06 20 45.7	-0.8
X34A	**Smith Ranch, M**	1.70	211		Pn	06 20 59.1	+0.5
X34A	comp=Z,35nm,0.9s			IAmb_Lg		06 21 25.8	
U32A	**Winter Ranch,**	1.82	280		Pn	06 21 00.5	+0.1
U32A	**Winter Ranch,** baz=99	1.82	280	P	Pn	06 21 00.7	+0.3
U32A	baz=99			Sb	Sg	06 21 26.2	-0.6
X37A	**Clayton**	1.87	142	Pn	Pn	06 21 01.3	+0.3
X37A	comp=Z,20nm,0.8s			IAmb_Lg		06 21 28.5	
X37A	**Clayton** baz=323,SNR=14	1.87	142	P	Pn	06 21 01.4	+0.3
X37A	baz=323			Sb	Sg	06 21 27.9	-0.4
WMOK	**Wichita Mounta**	2.11	232		Pn	06 21 04.7	+0.4
WMOK	comp=Z,21nm,0.9s			IAmb_Lg		06 21 37.8	
WMOK	**Wichita Mounta** baz=50,SNR=32	2.11	232	P	Pn	06 21 04.8	+0.6
HHAR	**Hobbs**	2.31	84		Pn	06 21 07.4	+0.4
HHAR	**Hobbs** baz=266	2.31	84	Sb	Sb	06 21 40.2	+0.9
W39A	**Magazine**	2.59	109	Pn	Pn	06 21 11.0	+0.1
MIAR	**Mount Ida**	3.03	119	Pn	Pn	06 21 17.1	+0.2
MIAR	**Mount Ida** baz=301,SNR=18	3.03	119	P	Pn	06 21 17.2	+0.3
KSU1	**Kansas State U** comp=Z,21nm,0.8s	3.03	2	IAmb_Lg		06 22 08.9	
Z38A	**Mt. Pleasant**	3.17	152	Pn	Pn	06 21 18.1	-0.7
Z38A	comp=Z,18nm,0.7s			IAmb_Lg		06 22 11.8	
U40A	**Yellville**	3.19	84		Pn	06 21 18.6	-0.6
U40A	**Yellville** baz=266	3.19	84	S	Sn	06 21 58.3	+0.7
U40A	baz=266			S	Sn	06 21 58.3	+0.7
CBKS	**Cedar Bluff**	3.61	320	Pn	Pn	06 21 25.1	0.0
WHAR	**Wooly Hollow**	3.74	101		Pn	06 21 26.7	+0.1
WHAR	comp=Z,13nm,0.8s			IAmb_Lg		06 22 27.2	
FCAR	**Ozark Folk Cen** comp=Z,13nm,0.8s	3.78	91	IAmb_Lg		06 22 30.0	
MGMO	**Mountain Grove** comp=Z,21nm,0.8s	3.79	72	IAmb_Lg		06 22 32.4	
W41B	**Gary Mavity, V**	3.80	102		Pn	06 21 27.4	-0.1
W41B	**Gary Mavity, V** baz=285,SNR=17	3.80	102	P	Pn	06 21 27.6	+0.2
W41B	baz=285			S	Sn	06 22 12.5	-0.1
AMTX	**Amarillo** comp=Z,10nm,0.8s	4.17	255	IAmb_Lg		06 22 44.8	
R40A	**Maddies Statio** comp=Z,12nm,0.7s	4.23	57	IAmb_Lg		06 22 47.8	
P38A	**Dawn** comp=Z,8.5nm,0.7s	4.38	35	IAmb_Lg		06 22 52.5	
N33A	**J Bar K, Exete** comp=Z,19nm,0.8s	4.69	354	IAmb_Lg		06 23 08.2	
CCM	**Cathedral Cave** comp=Z,14nm,0.7s	4.85	64	IAmb_Lg		06 23 00.8	
P40A	**Paris** comp=Z,13nm,0.8s	5.10	46	IAmb_Lg		06 23 09.1	
PBMO	**Poplar Bluff** comp=Z,13nm,0.7s	5.17	80	IAmb_Lg		06 23 20.9	
N38A	**Joes South For** comp=Z,9.5nm,0.7s	5.48	29	IAmb_Lg		06 23 26.7	
KSCO	**Kaye Shedlock'** comp=Z,7.3nm,0.7s	5.50	304	IAmb_Lg		06 23 32.4	
L34A	**Svendsen Farm,** comp=Z,17nm,0.7s	5.90	3	IAmb_Lg		06 23 39.6	
JCT	**Junction City** comp=Z,7.2nm,0.7s	6.12	205	IAmb_Lg		06 23 53.7	
S44A	**Carbondale** comp=Z,12nm,0.8s	6.25	73	IAmb_Lg		06 23 45.6	
SCIA	**State Center** comp=Z,9.1nm,0.7s	6.46	24	IAmb_Lg		06 24 10.8	
K31A	**O'Neill** comp=Z,14nm,0.9s	6.72	347	IAmb_Lg		06 24 11.5	
N23A	**Red Feather La** comp=Z,3.3nm,0.7s	8.65	307	IAmb_Lg		06 25 06.4	

PGC 28 06:20:35.2±0.1,50.61N×130.42W,h10km,MLSn3.0/32, Mw3.7/32,212km west of Pt. Hardy, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	1.46	88	P	Pn	06 20 59.6	-2.0
HOLB				S	Sn	06 21 16.7	-4.1
BPBC	**Brooks Peninsu**	1.75	104	Pn	Pn	06 21 03.3	-2.5
HG4B	**Hotspring**	1.76	344	Pn	Pn	06 21 03.4	-2.4
HG4B				Sn	Sn	06 21 24.6	-3.5
PACB	**Port Alice, BC**	1.88	94	Pn	Pn	06 21 05.4	-2.0
PACB				Sn	Sn	06 21 25.9	-5.1
PHC	**Port Hardy**	1.90	86	Pn	Pn	06 21 06.0	-1.7
PHC				Sn	Sn	06 21 27.8	-3.9
MAYB	**Maynard**	2.08	94	Pn	Pn	06 21 08.6	-1.7
BBB	**Bella Bella**	2.14	42	Pn	Pn	06 21 09.3	-1.7
BBB				Sn	Sn	06 21 33.2	-4.4
BNB	**Barry Inlet**	2.14	338	Pn	Pn	06 21 09.3	-1.7
EDB	**Eliza Dome**	2.24	108	Pn	Pn	06 21 10.5	-1.9
EDB				Sn	Sn	06 21 35.2	-4.8
WOSB	**Woss**	2.50	99	Pn	Pn	06 21 14.7	-1.3
MOBC	**Moresby Island**	2.72	340	Pn	Pn	06 21 17.2	-1.7
BUTB	**Butedale**	2.74	25	Pn	Pn	06 21 18.0	-1.4
BUTB				Sn	Sn	06 21 48.9	-3.7
BNKB	**Banks Island**	2.75	6	Pn	Pn	06 21 17.5	-1.9
BNKB				Sn	Sn	06 21 47.7	-4.9
NCRB	**Newcastle Ridg**	2.79	93	Pn	Pn	06 21 18.0	-2.1
BNAB	**Bonilla**	2.89	357	Sn	Sn	06 21 52.0	-4.1
DIB	**Dawson Inlet,**	2.90	335	Pn	Pn	06 21 20.1	-1.2
GDR	**Gold River**	2.94	105	Pn	Pn	06 21 20.4	-1.6
HWKB	**Hawksbury Isla**	3.10	14	Pn	Pn	06 21 22.7	-1.4
HWKB				Sn	Sn	06 21 55.9	-5.3
SPLB	**Strathcona Par**	3.14	101	Pn	Pn	06 21 23.9	-0.8
GRNB	**Grenville Isla**	3.26	5	Pn	Pn	06 21 25.0	-1.4
GRNB				Sn	Sn	06 22 01.2	-3.9
TOFB	**Tofino**	3.26	115	Sn	Sn	06 22 00.4	-4.8
CBB	**Campbell River**	3.29	98	Pn	Pn	06 21 25.8	-1.0
CBB				Sn	Sn	06 22 01.9	-4.0
BTB	**Buttle Lake**	3.36	108	Pn	Pn	06 21 26.5	-1.4
MWAB	**Mount Washingt**	3.40	103	Pn	Pn	06 21 27.6	-0.8
OZB	**Mount Ozzard**	3.59	115	Pn	Pn	06 21 29.3	-1.7
KITB	**Kitimat**	3.64	17	Pn	Pn	06 21 30.6	-1.0
KITB				Sn	Sn	06 22 11.8	-2.8
TXB	**Texada**	3.95	101	Pn	Pn	06 21 35.1	-0.8
MGB	**Mount Grey**	4.04	111	Pn	Pn	06 21 36.0	-1.3
SHB	**Sechelt**	4.33	101	Pn	Pn	06 21 40.5	-0.6
SHB				Sn	Sn	06 22 27.0	-4.8
NLLB	**Nanaimo Lost L**	4.38	106	Pn	Pn	06 21 41.2	-0.5
PFB	**Port Renfrew**	4.39	115	Pn	Pn	06 21 42.1	+0.2
UBRB	**Upper Baezaeko**	4.55	57	Pn	Pn	06 21 45.0	+0.8
UBRB				Sn	Sn	06 22 34.3	-2.9
WPB	**Watts Point**	4.73	99	Pn	Pn	06 21 46.7	+0.1
BIB	**Bowen Island**	4.74	102	Pn	Pn	06 21 46.3	-0.4
GOBB	**Galiano Island**	4.77	108	Pn	Pn	06 21 48.2	+1.0
OBC	**Olympics--Boni**	4.88	119	Pn	Pn	06 21 49.6	+0.9
PGC	**Sidney**	4.93	111	Pn	Pn	06 21 49.9	+0.5
HNBB	**Haney**	5.24	102	Pn	Pn	06 21 54.2	+0.7
FSJB	**Fort Saint Jam**	5.37	41	Pn	Pn	06 21 55.6	+0.2
FSJB	**Fort St James**	5.37	42	Pn	Pn	06 21 55.7	+0.3
LLLB	**Lillooet**	5.44	87	Pn	Pn	06 21 56.2	-0.1
VDB	**Vedder Mountai**	5.61	103	Pn	Pn	06 21 59.6	+1.0
A05A	**Maple Falls**	5.63	103	Pn	Pn	06 22 00.1	+1.1
MBW	**Mount Baker**	5.82	105	Pn	Pn	06 22 03.2	+1.5
RPW	**Rockport**	6.19	107	Pn	Pn	06 22 07.3	+0.7
GPW	**Glacier Peak**	6.55	109	Pn	Pn	06 22 13.8	+1.9
FMW	**Mount Fremont**	6.85	119	Pn	Pn	06 22 17.9	+2.0
PNT	**Penticton**	7.09	96	Pn	Pn	06 22 20.9	+1.9
LTY	**Liberty**	7.24	114	Pn	Pn	06 22 23.4	+2.3
B08A	**Colville Reser**	7.56	103	Pn	Pn	06 22 26.5	+1.0
NBC5	**NorthernBC 5**	8.29	30	Pn	Pn	06 22 37.0	+1.6

*IDC **28** 06:25:57.3±2.7, 15.88S×167.82E,h143km±20km,mb3.9/7, mb1 4.0/8,mb1mx3.7/39,mbtmp4.4/8,MS3.7/1,Ms1 3.7/1, ms1mx2.6/55,Error ellipse: s-maj=25.2km s-min=19.5km az=60.0*

*NEIC **28** 06:25:59.6±1.5, 15.95S±0.09×167.9E±0.1,h160km±7km, mb4.4/24,Error ellipse: s-maj=19.3km s-min=12.5km az=70.0*

*NOU **28** 06:26:00.9, 16.05S×167.82E,h140km,MLv4.5/8, Vanuatu Islands*

ISC 28 06:25:58.0±0.8,15.93S±0.07×167.9E±0.1,h150km,n50, σ1.9 09/53,mb4.5/17,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	0.84	305		Pn	06 26 23.8	+2.3
DVP	**Devils Point**	1.80	172	P	Pn	06 26 32.3	+1.5
RTV	**Rentapao**	1.91	165	P	Pn	06 26 33.7	+1.6
LIFNC	**LIFOU**	4.86	188	Pn	Pn	06 27 09.0	-0.6
MARNC	**Mare, Loyalty**	5.52	179		Pn	06 27 17.8	-0.5
KOUNC	**Koumac, New Ca**	5.74	216	Pn	Pn	06 27 22.2	+0.9
DZM	**Mont Dzumac** 7.2nm,0.3s,baz=103,slow=13,SNR=85	6.26	193	P	Pn	06 27 28.6	+0.3
DZM	1.0nm,0.3s,baz=306,slow=20,SNR=4.2			S	Sn	06 28 38.3	-0.7
ONTNC	**Ouen Toro**	6.49	192	Pn	Pn	06 27 34.2	+2.9
OUENC	**Ouen Island, N**	6.53	189	Pn	Pn	06 27 34.4	+2.6
EIDS	**Eidsvold**	18.32	236	P	P	06 30 02.5	+1.6
EIDS	comp=Z,13nm,0.6s			IAmb	IAmb	06 30 03.1	
OUZ	**Omahuta**	19.87	166	P	P	06 30 19.1	+1.6
OUZ	comp=Z,14nm,1.0s			IAmb	IAmb	06 30 20.7	
URZ	**Urewera** comp=Z,6.5nm,0.7s,baz=295,slow=14,SNR=6.2	23.67	162	P	P	06 30 56.6	+0.8
URZ	**Urewera**	23.67	162	P	P	06 30 55.2	-0.6
COEN	**Coen**	23.98	271	P	P	06 30 58.3	-0.6
COEN	comp=Z,10.0nm,0.7s			IAmb	IAmb	06 31 01.5	
BKZ	**Black Stump Fm**	24.33	164	P	P	06 31 02.5	+0.6
MSWZ	**Moikau Station**	26.17	167	P	P	06 31 18.2	-0.3
LTZ	**Lake Taylor**	27.02	173	P	P	06 31 26.5	+0.4
RPZ	**Rata Peaks** comp=Z,6.9nm,0.6s,baz=287,slow=3.0,SNR=5.9	27.82	175	P	P	06 31 33.5	+0.4
STKA	**Stephens Creek** comp=Z,7.9nm,0.8s,baz=49,slow=8.2,SNR=11	28.72	232	P	P	06 31 41.2	-0.1
STKA	**Stephens Creek**	28.72	232	P	P	06 31 41.2	-0.1
TOO	**Toolangi**	29.28	218	P	P	06 31 46.8	+0.6
TOO	comp=Z,5.5nm,0.9s			IAmb	IAmb	06 31 47.7	
WR0	**Warramunga Arr**	31.98	258	P	P	06 32 08.3	-1.8
WR0	comp=Z,8.3nm,1.4s			IAmb	IAmb	06 32 35.4	
WB0	**Warramunga Arr**	32.11	258	P	P	06 32 10.1	-1.2
WB0	comp=Z,3.7nm,0.5s			IAmb	IAmb	06 32 10.7	
WB2	**Warramunga Arr**	32.15	258	P	P	06 32 10.2	-1.5
WB2	comp=Z,12nm,1.4s			IAmb	IAmb	06 32 21.6	
WRAB	**Tennant Creek**	32.15	258	P	P	06 32 10.5	-1.2
WRA	**Warramunga Arr** comp=Z,1.5nm,0.7s,baz=81,slow=6.0,SNR=21	32.16	258	P	P	06 32 10.3	-1.5
WRA	comp=Z,0.9nm,1.1s,baz=82,slow=3.5,SNR=3.8			ScP	ScP	06 38 27.0	-0.1
WRA	**Warramunga Arr**	32.16	258	P	P	06 32 10.3	-1.5
AS31	**Alice Springs**	32.85	251	P	P	06 32 17.6	-0.2
AS31	comp=Z,3.2nm,0.3s			IAmb	IAmb	06 32 18.6	
ASAR	**Alice Springs** comp=Z,3.7nm,0.4s,baz=78,slow=8.7,SNR=71	32.85	251	P	P	06 32 17.3	-0.5
ASAR	comp=Z,1.1nm,0.9s,baz=64,slow=4.4,SNR=7.6			ScP	ScP	06 38 29.2	-0.2
ASAR	**Alice Springs**	32.85	251	P	P	06 32 17.6	-0.2
BBOO	**Buckleboo**	33.36	234	P	P	06 32 21.8	-0.3
MTN	**Manton Dam**	35.74	270	P	P	06 32 42.4	-0.3
MTN	comp=Z,13nm,1.2s			IAmb	IAmb	06 33 05.5	
KNRA	**Kununurra**	37.64	265	P	P	06 32 58.1	-0.6
FORT	**Forrest**	39.24	241	P	P	06 33 11.8	-0.1
NWAO	**Narrogin (SRO)**	48.68	240	P	P	06 34 27.1	-0.1
MORW	**Morawa**	49.32	245	P	P	06 34 31.8	-0.4
JOW	**Kunigami** comp=Z,72nm,21.7s,baz=300,slow=31	57.35	317	LR	LR	06 55 29.6	
VNDA	**Vanda** comp=Z,0.9nm,0.5s,baz=4.5,slow=5.4,SNR=11	61.68	181	P	P	06 35 59.6	0.0
VNDA	**Vanda**	61.68	181	P	P	06 35 60.0	+0.3
SBA	**Scott Base**	61.94	180	P	P	06 36 03.1	+1.7
SBA	comp=Z,4.6nm,0.8s			IAmb	IAmb	06 36 03.6	
CASY	**Casey**	62.66	203	P	P	06 36 06.2	-0.1
CASY	comp=Z,11nm,1.4s			IAmb	IAmb	06 36 20.8	
PETK	**Petropavlovsk-** comp=Z,0.8nm,0.5s,baz=180,slow=5.3,SNR=2.5	69.32	353	P	P	06 36 48.0	-0.9
QSPA	**South Pole Qui**	74.10	180	P	P	06 37 17.9	+0.3
QSPA	comp=Z,9.2nm,0.8s			IAmb	IAmb	06 37 18.6	
TROLL	**Troll, Antarti**	91.72	184	P	P	06 38 47.8	-0.4
SNAA	**Sanae**	92.39	183	P	P	06 38 50.4	-0.9
VNA3	**Neumayer Olymp**	93.03	181	P	P	06 38 53.1	-1.1
VNA2	**Neumayer--Watz** baz=183,slow=4.0	93.30	182	P	P	06 38 54.7	-0.7
VNA1	**Neumayer--Stat**	93.60	181	P	P	06 38 54.8	-1.9
ARCES	**ARCESS Array B** comp=Z,2.2nm,0.8s,baz=76,slow=2.1,SNR=12	121.57	345	PKP	PKPdf	06 44 33.4	+0.2
TORD	**Torodi Ar. Bea**	166.38	260	PKP	PKPdf	06 45 45.6	-0.7
TORD	comp=Z,0.3nm,0.6s,baz=61,slow=0.3,SNR=2.6			PKPab	PKPab	06 46 48.4	-0.3
	comp=Z,0.3nm,1.0s,baz=131,slow=2.5,SNR=1.6						

*BJI **28** 06:30:50.2±0.0, 32.69N×130.55E,h9km,mb4.6/59, mB4.8/41,Ms4.4/55,Ms7 4.2/51*

*IDC **28** 06:30:50.1±0.5, 32.74N×130.47E,h0km,mb4.5/29, mb1 4.6/34,mb1mx4.6/48,mbtmp4.5/34,ML3.9/4,MS3.8/49, Ms1 3.8/49,ms1mx3.6/91,Error ellipse: s-maj=11.8km s-min=6.9km az=133.0*

*MOS **28** 06:30:50.6±0.9, 32.68N×130.44E,h16km,mb5.0/69,Error ellipse: s-maj=7.2km s-min=4.1km az=110.8*

*JMA **28** 06:30:51.4, 32.75N×130.54E,h9km±1km,M4.8 Broadband fault plane solution: P waves. NP1: ϕs108.00000°,δ67.00000°,λ-105.00000°. NP2: ϕs323.00000°,δ28.00000°,λ-58.00000°. Principal axes: T Plg20.0000°, Azm210.0000°; N Plg14.0000°, Azm115.0000°; P Plg65.0000°, Azm352.0000°;*

JMA Felt IV J1.

*NIED **28** 06:30:51.4, 32.75N×130.54E,h9km, MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-7.34; Mθθ6.77; Mϕϕ0.56; Mrθ-3.31; Mθϕ-3.80; Mϕr0.46; Fault plane solution: M0 8.64000×10^15 NP1: ϕs304.00000°,δ35.00000°,λ-76.00000°. NP2: ϕs108.00000°,δ56.00000°,λ-99.00000°.*

*NEIC **28** 06:30:52.4±1.5, 32.76N±0.04×130.47E±0.06,h10km±1km, mb4.9/123 Error ellipse: s-maj=9.8km s-min=6.0km az=300.0*

ISC 28 06:30:52.7±0.6,32.76N±0.03×130.54E±0.03,h16km±3km, n410,σ1.9 32/411,mb4.8/148,MS3.9/54,20C-13D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	0.20	358	⇑P	Pg	06 30 55.9	-1.5
JTA				eS	Sg	06 30 59.2	-1.4
JIU3	**Izumi3**	0.31	133	⇑P	Pg	06 30 57.5	-1.8
JIU3				eS	Sg	06 31 02.1	-1.6
JNU	**Nakatsue** 1μm,0.3s,baz=224,slow=6.9,SNR=1395	0.46	38	Pg	Pg	06 31 00.6	-1.3
JNU	15μm,0.3s,baz=11,slow=9.7,SNR=47			Lg	Lg	06 31 06.8	
JNU	comp=Z,9μm,20.8s,baz=124,slow=78			LR	LR	06 31 30.2	
JNU	**Nakatsue**	0.46	38		Pg	06 31 01.0	-0.9
JNU				Sg	Sb	06 31 08.1	-0.9
JNU	**Nakatsue**	0.46	38	P	Pg	06 31 01.1	-0.8
JTZ	**Takazaki**	0.98	152	⇑P	Pb	06 31 10.2	-1.0
JTZ				S	Sb	06 31 23.0	-0.9
JSU	**Suzuyama**	1.25	183	Pn	Pn	06 31 15.0	-0.6
JSU				Sn	Sb	06 31 32.5	+0.5
JTU	**Tsushima**	2.00	332	Pn	Pn	06 31 25.4	-0.4
JMN	**Monobe**	2.96	70		Pn	06 31 42.2	+3.2
JHS	**Saijyo**	3.09	43	Pn	Pn	06 31 42.4	+1.5
TJN	**Taejon**	4.46	325	P	Pn	06 31 59.6	0.0
TJN	**Taejon**	4.46	325	Pn	Pn	06 31 59.6	0.0
TJN	**Taejon**	4.46	325	P	Pn	06 32 00.1	+0.5
KSRS	**Korea Array** 1.5nm,0.3s,baz=156,slow=14,SNR=14	5.15	336	Pn	Pn	06 32 09.0	-0.1
KSRS	3.3nm,0.3s,baz=152,slow=16,SNR=12			Pg	Pb	06 32 25.4	+3.1
KSRS	6.1nm,0.3s,baz=71,slow=22,SNR=5.2			Lg	Lg	06 33 30.6	
KSRS	comp=Z,308nm,19.6s,baz=150,slow=42			LR	LR	06 34 26.5	
KSAR	**Wonju Array Be**	5.15	336	P	Pn	06 32 10.2	+1.1
KSAR	**Wonju Array Be**	5.15	336		Pn	06 32 10.2	+1.1
KS19	**Wonju Array Si**	5.21	336	Pn	Pn	06 32 10.8	+0.8
INCN	**Inchon**	5.70	327	P	Pn	06 32 17.1	+0.5
INCN	**Inchon**	5.70	327	Pn	Pn	06 32 17.1	+0.5
INU	**Inuyama**	5.96	63	Pn	Pn	06 32 21.5	+1.2
INU	**Inuyama** 181nm,0.6s	5.96	63	P	Pn	06 32 22.0	+1.7
JOW	**Kunigami** 10nm,0.3s,baz=32,slow=11,SNR=11	6.23	199	Pn	Pn	06 32 24.0	0.0
JOW	comp=Z,1μm,19.0s,baz=64,slow=43			LR	LR	06 35 13.3	
JOW	**Kunigami**	6.23	199	Pn	Pn	06 32 24.2	+0.2
JOW	**Kunigami** 144nm,0.9s	6.23	199	P	Pn	06 32 27.4	+3.4
JGF	**Kuroka**	6.32	62	Pn	Pn	06 32 27.1	+1.9
MJB9	**Matsu-Tunnel**	7.35	57		Pn	06 32 40.8	+1.4
MAJO	**Matsushiro**	7.36	57	*i* P	Pn	06 32 42.8	+3.4
MAJO	**Matsushiro**	7.36	57	Pn	Pn	06 32 41.2	+1.8
MAJO	**Matsushiro** 70nm,0.9s	7.36	57	P	Pn	06 32 41.8	+2.4
MJAR	**Matsushiro Arr** 1.3nm,0.3s,baz=237,slow=12,SNR=41	7.36	57	Pn	Pn	06 32 41.6	+2.2
MJAR	0.1nm,0.3s,baz=231,slow=28,SNR=4.6			Lg	Lg	06 34 44.6	
MJAR	comp=Z,950nm,19.8s,baz=234,slow=39			LR	LR	06 35 41.2	
MJAR	**Matsushiro Arr**	7.36	57	Pn	Pn	06 32 41.4	+1.9
JHJ	**Hachijo jima 2** 71nm,0.3s,baz=273,slow=19,SNR=12	7.78	85	Pn	Pn	06 32 47.8	+2.6
JHJ	comp=Z,511nm,18.8s,baz=82,slow=39			LR	LR	06 35 59.6	
JHJ2	**Mitsune**	7.80	85		Pn	06 32 46.5	+0.9
JHJ2	**Mitsune** 472nm,1.4s	7.80	85	P	Pn	06 32 48.3	+2.7
SSE	**Sheshan**	8.12	261	P	Pn	06 32 48.8	-1.2
SSE				S	Sn	06 34 20.3	-1.2
SSE	comp=Z,18nm,0.6s			pmax	pmax		
SSE	comp=N,1μm,16.1s			LR	LR		
SSE	comp=E,740nm,16.4s			LR	LR		
JSD	**Sado**	8.21	48		Pn	06 32 53.9	+2.8
MSHR	**Mys Shultsa**	9.81	3	*i* P	Pn	06 33 15.2	+2.1
NJ2	**Nanjing**	9.91	269	*e*P	Pn	06 33 14.3	-0.1
NJ2	comp=Z,8.0nm,0.5s			pmax	pmax		
NJ2	comp=Z,230nm,3.6s			pmax	pmax		
NJ2	comp=N,1μm,9.7s			LR	LR		
NJ2	comp=E,820nm,9.2s			LR	LR		
NJ2	comp=Z,1μm,11.4s			LR	LR		
I45RU	**USSURIYSK INFR** baz=180,slow=322,SNR=2.0	11.47	5	*i*		07 43 40.0	
USA0B	**Ussuriysk Arra**	11.47	5	P	Pn	06 33 38.2	+2.3
USA0B	**Ussuriysk Arra**	11.47	5		Pn	06 33 38.1	+2.3
USRK	**Ussuriysk Ar.** baz=185,slow=14,SNR=22	11.47	5	Pn	Pn	06 33 37.6	+1.8
USRK	comp=Z,644nm,18.7s,baz=181,slow=36			LR	LR	06 37 42.5	
USRK	**Ussuriysk Ar.**	11.47	5	P	Pn	06 33 38.0	+2.2
USRK	**Ussuriysk Ar.**	11.47	5		Pn	06 33 38.0	+2.2
NACB	**Ninganchiao**	11.62	225		Pn	06 33 39.7	+1.7
SSLB	**Suanglung**	12.29	226		Pn	06 33 47.0	-0.2
SSLB	**Suanglung** 32nm,0.9s	12.29	226	P	Pn	06 33 51.1	+3.9
SSLB	**Suanglung** baz=227	12.29	226	P	Pn	06 33 47.2	0.0
TEY	**Ternei**	13.13	19	⇑*e*P	P	06 34 04.7	-3.8
TEY	comp=N,10.0nm,0.9s			pmax	pmax		
TEY	comp=E,10.0nm,0.9s			pmax	pmax		
TEY	comp=Z,10.0nm,0.9s			pmax	pmax		
BNX	**BinXian**	13.18	350	⇓P	Pn	06 34 03.5	+4.3
BNX	comp=Z,34nm,1.2s			pmax	pmax		
BNX	comp=Z,400nm,6.8s			pmax	pmax		
BJI	**Beijing**	13.65	306	P	Pn	06 34 08.0	+2.4
BJI				S	Sn	06 36 39.0	+2.1
BJI	comp=Z,10.0nm,0.9s			pmax	pmax		
BJI	comp=Z,150nm,5.3s			pmax	pmax		
HNS	**HongShan**	13.77	294	⇑P	Pn	06 34 09.8	+2.7
HNS				S	Sn	06 36 42.5	+2.8
HNS	comp=Z,15nm,1.3s			pmax	pmax		
HNS	comp=Z,740nm,13.3s			LR	LR		
HNS	comp=Z,490nm,13.9s			LR	LR		
WHN	**Wuhan**	13.97	265	P	Pn	06 34 10.3	+0.3
ASAJ	**Asahikawa** comp=Z,1.2nm,0.3s,baz=259,slow=6.2,SNR=9.4	14.74	36	Pn	Pn	06 34 22.4	+2.0
ASAJ	comp=Z,444nm,21.9s,baz=306,slow=35			LR	LR	06 39 29.0	
ASAJ	**Asahikawa**	14.74	36	P	Pn	06 34 22.6	+2.2
JKA	**Kamikawa-asahi**	14.74	36		Pn	06 34 22.6	+2.2
LYN	**LuoYang**	15.16	282	⇑*i*P	Pn	06 34 28.5	+2.4
LYN				S	Sn	06 37 18.8	+5.1
LYN	comp=Z,270nm,4.0s			pmax	pmax		
LYN	comp=Z,590nm,11.8s			LR	LR		
LYN	comp=Z,800nm,12.8s			LR	LR		
LYN	comp=Z,850nm,10.3s			LR	LR		
XLT	**XiLinHaoTe**	15.86	319	⇑*i*P	P	06 34 37.0	-2.0
XLT				sP	sP	06 34 43.5	-2.0
XLT				sS	S	06 37 41.5	-3.6
XLT	comp=Z,210nm,3.8s			pmax	pmax		
XLT	comp=Z,1μm,8.9s			LR	LR		
KLR	**Kul'dur**	16.48	3	*ce*P	P	06 34 45.7	0.0
KLR	comp=Z,89nm,1.3s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	16.96	30	*e*P	P	06 34 51.4	+0.3
YSS	comp=Z,50nm,0.9s			pmax	pmax		
YSS	comp=N,500nm,15.0s			MLR	MLR		
YSS	comp=Z,700nm,15.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	16.96	30	P	P	06 34 51.1	0.0
HHC

comp=Z,850nm,12.4s
BTO Baotou 18.20 301 *e*P P 06 35 07.5 +2.6
BTO LR LR
comp=Z,2µm,11.6s
BTO LR LR
comp=Z,2µm,13.6s
HIA Hailar 18.36 337 P P 06 35 06.6 +0.1
HIA pmax pmax
comp=Z,25nm,1.0s
HIA Hailar 18.36 337 P P 06 35 06.6 +0.1
UGL Uglegorsk 18.44 25 *e*P P 06 35 03.6 -3.8
GRNR Gornyy 18.51 12 *e*P P 06 35 01.5 -6.6
GRNR MLR MLR
comp=E,370nm,19.0s
GRNR MLR MLR
comp=N,420nm,16.0s
GRNR MLR MLR
comp=Z,390nm,13.0s
TYV Tymovskoe 20.17 23 *e*P Pn 06 35 28.9 +0.8
TYV pmax pmax
comp=Z,34nm,1.1s
ZEA Zeya 21.10 355 *de*P P 06 35 37.8 +1.5
ZEA *e*S S 06 39 24.5 -6.0
ZEA *e* 06 39 42.8
ZEA pmax pmax
comp=N,50nm,1.3s
ZEA pmax pmax
comp=Z,70nm,1.2s
ZEA pmax pmax
comp=N,200nm,1.5s
ZEA pmax pmax
comp=Z,200nm,1.7s
ZEA smax smax
comp=N,300nm,7.0s
ZEA MLR MLR
comp=Z,300nm,9.0s
GYA Guiyang 21.67 259 *e*P P 06 35 45.5 +2.7
GYA S S 06 39 46.0 +3.7
GYA pmax pmax
comp=Z,19nm,0.6s
GYA LR LR
comp=Z,440nm,10.4s
GYA LR LR
comp=Z,330nm,9.4s
LZH Lanzhou 22.25 286 *e*P P 06 35 49.8 +0.8
LZH sP sP 06 35 56.0 +0.4
LZH sS Sn 06 40 03.0 -2.2
LZH pmax pmax
comp=Z,22nm,1.2s
LZH pmax pmax
comp=Z,160nm,4.3s
LZH LR LR
comp=Z,480nm,11.7s
LZH LR LR
comp=Z,260nm,11.7s
LZH LR LR
comp=Z,500nm,12.5s
CD2 Chengdu 22.81 273 P P 06 35 54.5 -0.5
CD2 pmax pmax
comp=Z,30nm,1.2s
QIZ Qiongzhong 23.05 239 P P 06 35 57.5 +0.1
QIZ S S 06 40 08.3 +0.6
QIZ LR LR
comp=Z,600nm,13.5s
QIZ LR LR
comp=Z,360nm,15.3s
QIZ LR LR
comp=Z,410nm,8.6s
GUMO Guam 23.14 142 LR LR 06 43 35.2
comp=Z,108nm,20.5s,baz=238,slow=33
ULN Ulaanbaatar 23.29 317 *ce*P P 06 35 59.9 +0.1
ULN pmax pmax
comp=Z,62nm,1.7s
ULN Ulaanbaatar 23.29 317 P P 06 35 59.9 +0.1
ULN IAmb IAmb 06 36 04.9
comp=Z,41nm,1.1s
SONM Songino Array 23.65 317 P P 06 36 03.8 +0.4
comp=Z,15nm,0.9s,baz=127,slow=9.4,SNR=46
SONM LR LR 06 45 30.2
comp=Z,102nm,19.0s,baz=110,slow=37
SONM Songino Array 23.65 317 P P 06 36 03.5 +0.1
SONM pmax pmax
comp=Z,22nm,1.0s
SONM Songino Array 23.65 317 P P 06 36 03.5 +0.1
SONM IAmb IAmb 06 36 05.3
comp=Z,22nm,1.0s
GTA Gaotai 25.62 294 ⇓P P 06 36 21.8 +0.2
GTA pmax pmax
comp=Z,47nm,1.0s
GTA pmax pmax
comp=Z,120nm,4.0s
GTA LR LR
comp=Z,370nm,15.3s
GTA LR LR
comp=Z,390nm,13.1s
GTA LR LR
comp=Z,390nm,13.1s
PZH PanZhiHua 25.75 264 ⇑P P 06 36 23.3 +0.5
PZH sP sP 06 36 30.0 +0.4
PZH S S 06 40 48.5 -2.9
PZH sS sS 06 40 58.0 -1.5
PZH pmax pmax
comp=Z,20nm,1.4s
PZH pmax pmax
comp=Z,130nm,4.2s
PZH LR LR
comp=Z,1µm,17.3s
PZH LR LR
comp=Z,640nm,19.6s
PZH LR LR
comp=Z,470nm,16.8s
SKR Severo-Kuril's 25.97 39 *e*P P 06 36 35.7 +11
SKR *e*SS 06 42 24.7
SKR pmax pmax
comp=Z,100nm,2.6s
SKR MLR MLR
comp=Z,100nm,16.0s
DAV Davao City (W) 25.98 191 LR LR 06 48 41.5
comp=Z,138nm,18.1s,baz=346,slow=41
IRK Irkutsk 27.21 323 *e*P P 06 36 36.5 +0.9
IRK pmax pmax
comp=Z,34nm,1.6s
PETK Petropavlovsk- 28.16 36 LR LR 06 47 28.5
comp=Z,76nm,21.4s,baz=203,slow=35
MOY Mondy 28.61 320 *e*P P 06 36 49.2 +0.9
YAK Yakutsk 29.29 359 LR LR 06 48 00.4
comp=Z,214nm,20.8s,baz=264,slow=35
GOMU GeErMu 29.55 287 P P 06 36 57.8 +0.8
GOMU S S 06 41 49.0 -2.6
GOMU pmax pmax
comp=Z,12nm,1.2s
GOMU LR LR
comp=Z,130nm,15.8s
GOMU LR LR
comp=Z,170nm,17.0s
GOMU LR LR
comp=Z,130nm,15.4s
MA2 Magadan 30.00 21 P P 06 37 00.7 +0.3
comp=Z,3.4nm,0.7s,baz=208,slow=15,SNR=1.6
MA2 LR LR 06 49 23.6
comp=Z,136nm,18.4s,baz=215,slow=37
CHTO Chiang Mai 31.52 252 P P 06 37 14.5 +0.3
CHTO pmax pmax
comp=Z,7.0nm,1.1s
CHTO Chiang Mai 31.52 252 P P 06 37 14.5 +0.3
CMAR Chiang Mai Arr 31.71 251 P P 06 37 17.1 +1.2
comp=Z,1.9nm,0.4s,baz=48,slow=6.7,SNR=18
CMAR LR LR 06 50 39.2
comp=Z,111nm,20.8s,baz=55,slow=38
CMAR Chiang Mai Arr 31.71 251 P P 06 37 16.8 +0.9
TNTI Ternate 31.96 186 P P 06 37 19.6 +1.6
TNTI IAmb IAmb 06 37 36.6
comp=Z,28nm,1.2s
SEY Seymchan 33.21 18 P P 06 37 29.6 +1.1
comp=Z,7.0nm,1.0s,baz=198,slow=7.9,SNR=15
SEY LR LR 06 50 55.2
comp=Z,299nm,19.8s,baz=242,slow=36
SEY Seymchan 33.21 18 *ce*P P 06 37 28.9 +0.4
SEY pmax pmax
comp=Z,14nm,1.2s
SBUM Sibu 34.71 213 P P 06 37 43.2 +1.2
WMQ Urumqi 35.04 301 *e*P P 06 37 45.5 +0.8
WMQ sP sP 06 37 53.5 +1.9
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ LR LR
comp=Z,290nm,11.1s
WMQ LR LR
comp=Z,390nm,13.9s
WMQ LR LR
comp=Z,200nm,16.7s
SHEM Shemya Is, Ala 36.98 44 LR LR 06 52 10.4
comp=Z,89nm,21.6s,baz=322,slow=35
ZAA0 Zalesovo Array 38.54 317 P P 06 38 14.3 0.0
ZALV Zalesovo Beam 38.54 317 P P 06 38 13.8 -0.5
comp=Z,6.3nm,1.0s,baz=101,slow=7.7,SNR=14
ZALV LR LR 06 55 10.2
comp=Z,126nm,21.4s,baz=88,slow=38
ZALV Zalesovo Beam 38.54 317 *i*P P 06 38 14.6 +0.3
ZALV pmax pmax
comp=Z,6.0nm,1.0s
ZALV Zalesovo Beam 38.54 317 P P 06 38 14.0 -0.3
GUN Gumba 38.63 275 *e*P P 06 38 16.5 +0.6
comp=Z,50nm,0.8s
TIXI Tiksi 38.96 359 P P 06 38 16.4 -1.1
comp=Z,1.1nm,0.3s,baz=272,slow=22,SNR=7.7
TIXI Tiksi 38.96 359 *ce*P P 06 38 16.7 -0.8
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 38.96 359 P P 06 38 16.4 -1.1
MK31 Makanchi Array 39.03 306 P P 06 38 18.1 -0.5
MK31 pmax pmax
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 39.03 306 P P 06 38 18.1 -0.5
MKAR Makanchi Array 39.03 306 P P 06 38 18.0 -0.6
comp=Z,5.8nm,0.9s,baz=95,slow=10.0,SNR=34
MKAR LR LR 06 56 31.5
comp=Z,52nm,18.6s,baz=82,slow=40
MKAR Makanchi Array 39.03 306 *i*P P 06 38 18.7 +0.1
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 39.03 306 P P 06 38 18.2 -0.3
PKI Pulchoki 39.14 275 *e*P P 06 38 19.8 -0.3
PKIN Phulchoki 39.15 275 *e*P P 06 38 20.1 0.0
comp=Z,7.2nm,0.4s
MAKZ Makanchi 39.25 306 P P 06 38 20.2 -0.2
MAKZ pmax pmax
comp=Z,9.0nm,1.0s
MAKZ Makanchi 39.25 306 P P 06 38 20.2 -0.2
DANN Dangsing 40.27 276 *e*P P 06 38 30.0 +0.5
KOLN Koldanda 40.59 276 *e*P P 06 38 32.2 +0.2
BILL Bilibino 40.86 20 *ce*P P 06 38 34.0 +0.6
BILL *e* 06 40 11.3
BILL *e*SS SS 06 48 29.9 +45
BILL pmax pmax
comp=Z,44nm,1.7s
BILL MLR MLR
comp=Z,149nm,15.0s
BILL Bilibino 40.86 20 P P 06 38 34.8 +1.4
BILL IAmb IAmb 06 38 39.1
comp=Z,30nm,1.2s
PYUN Piuthan 41.00 276 *e*P P 06 38 35.8 +0.5
comp=Z,51nm,1.0s
SHLS Shalkode 41.02 300 *e*P P 06 38 31.3 -4.0
SHLS Shalkode 41.02 300 *e*P P 06 38 31.3 -4.0
baz=300
UZB Uzynbulak 41.35 300 *e*P P 06 38 37.1 -0.9
UZB Uzynbulak 41.35 300 *e*P P 06 38 37.1 -0.9
baz=300
KPKS Kokpek 41.58 300 *e*P P 06 38 38.8 -1.0
KPKS Kokpek 41.58 300 *e*P P 06 38 38.8 -1.0
baz=300
TDK Taldyqorghan 41.71 303 *e*P P 06 38 41.0 +0.2
TDK pmax pmax
comp=Z,11nm,0.6s
TDK Taldyqorghan 41.71 303 *e*P P 06 38 41.0 +0.2
comp=Z,11nm,0.6s,baz=303
KURK Kurchatov 41.75 311 *ce*P P 06 38 40.6 -0.3
KURK pmax pmax
comp=Z,43nm,1.7s
KURK Kurchatov 41.75 311 P P 06 38 40.9 0.0
KURK IAmb IAmb 06 38 42.0
comp=Z,25nm,1.1s
SATY Saty 41.80 300 *e*P P 06 38 41.0 -0.7
SATY Saty 41.80 300 *e*P P 06 38 41.0 -0.7
baz=300
PSI Prapat 42.03 231 LR LR 06 58 10.6
comp=Z,169nm,18.3s,baz=34,slow=39
TARG Taragay, Kyrgy 42.35 298 P P 06 38 46.5 0.0
KDJ Kajisay 42.78 298 P P 06 38 47.7 -2.0
KDJ pmax pmax
comp=Z,5.0nm,1.1s
KDJ Kajisay 42.78 298 P P 06 38 47.7 -2.0
CHKK Chushkaly 42.78 301 *e*P P 06 38 48.7 -0.8
CHKK Chushkaly 42.78 301 *e*P P 06 38 48.8 -0.8
baz=301
MDOK Medeo 42.79 300 *e*P P 06 38 49.7 0.0
MDOK Medeo 42.79 300 *e*P P 06 38 49.7 0.0
baz=300
TNSS Tian-Shan 42.87 300 *e*P P 06 38 50.4 -0.3
TNSS Tian-Shan 42.87 300 *e*P P 06 38 50.4 -0.3
baz=300
BATI Baunata 43.23 190 LR LR 06 58 43.8
comp=Z,36nm,19.9s,baz=196,slow=39
KUU Kurty 43.25 301 *e*P P 06 38 52.9 -0.4
KUU pmax pmax
comp=Z,26nm,1.4s
KUU Kurty 43.25 301 *e*P P 06 38 52.9 -0.4
comp=Z,26nm,1.4s,baz=301
NRIK Noril'sk 43.76 340 P P 06 38 57.1 +0.1
comp=Z,13nm,1.0s,baz=109,slow=7.7,SNR=9.8
NRIK PcP **PcP** 06 40 43.0 -0.4
comp=Z,2.5nm,0.4s,baz=123,slow=5.0,SNR=4.1
NRIK LR LR 06 58 22.2
comp=Z,158nm,19.0s,baz=138,slow=38
NRIK Noril'sk 43.76 340 *ce*P P 06 38 56.3 -0.7
NRIK pmax pmax
comp=Z,20nm,1.3s
NRIK Noril'sk 43.76 340 P P 06 38 57.4 +0.4
NRIK IAmb IAmb 06 39 00.2
comp=Z,30nm,1.4s
TKM2 Tokmak 2 43.87 300 P P 06 38 59.4 +0.9
SNR=14
KSH Kashi 44.01 295 P P 06 39 03.8 +4.1
KSH pmax pmax
comp=Z,8.0nm,1.2s
SGDS Sogindy 44.52 301 *e*P P 06 39 03.0 -0.5
SGDS Sogindy 44.52 301 *e*P P 06 39 03.1 -0.5
baz=301
USP Ospenovka 44.63 300 P P 06 39 04.9 +0.5
SNR=6.0
AAK Ala-Archa 44.70 300 P P 06 39 05.8 +0.6
SNR=5.4
AAK Ala-Archa 44.70 300 P P 06 39 05.6 +0.4
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 44.70 300 P P 06 39 05.6 +0.4
UCH Uchtor 44.74 299 P P 06 39 06.4 +0.6
SNR=21
BTLS Baital 44.80 303 *e*P P 06 39 05.2 -0.5
BTLS pmax pmax
comp=Z,10.0nm,1.5s
BTLS Baital 44.80 303 *e*P P 06 39 05.2 -0.5
comp=Z,9.7nm,1.5s,baz=303
PMG Port Moresby 44.83 156 LR LR 06 54 49.8
comp=Z,144nm,20.8s,baz=301,slow=32
MTN Manton Dam 45.35 179 P P 06 39 10.9 +0.7
MTN IAmb IAmb 06 39 11.9
comp=Z,18nm,0.8s
AML Almayashu 45.35 299 P P 06 39 11.7 +1.1
SNR=19
BRZS Berezniki 45.52 310 *e*P P 06 39 10.7 -0.6
BRZS pmax pmax
comp=Z,11nm,1.2s
BRZS Berezniki 45.52 310 *e*P P 06 39 10.8 -0.6
comp=Z,10nm,1.2s,baz=310
BRVK Borovoye 47.02 314 P P 06 39 23.1 0.0
BRVK pmax pmax
comp=Z,28nm,1.0s
BRVK Borovoye 47.02 314 P P 06 39 23.1 0.0
KK31 Karatay Array 47.55 301 P P 06 39 27.7 +0.3
KK31 pmax pmax
comp=Z,27nm,0.9s
KK31 Karatay Array 47.55 301 P P 06 39 27.7 +0.3
KKAR Karatay Array 47.55 301 P P 06 39 27.8 +0.4
KKAR 06 39 28.0
KKAR Karatay Array 47.55 301 P P 06 39 27.8 +0.4
KKAR Karatay Array 47.55 301 P P 06 39 28.0 +0.6
KKAR IAmb IAmb 06 39 28.9
comp=Z,27nm,0.8s
BTK Batken 47.83 297 P P 06 39 29.4 -0.3
BTK pmax pmax
comp=Z,5.0nm,0.8s
BTK Batken 47.83 297 P P 06 39 29.4 -0.3
BTK IAmb IAmb 06 39 42.9
comp=Z,5.2nm,0.8s
IUG Iuzhnay 48.05 299 *e*P P 06 39 30.6 -0.8
IUG Iuzhnay 48.05 299 *e*P P 06 39 30.6 -0.8
baz=300
KNRA Kununurra 48.20 182 P P 06 39 33.2 +0.8
GAR Garm 48.42 295 P P 06 39 34.0 -0.4
UNV Unalaska Valle 48.63 45 P P 06 39 37.1 +1.6
CHGR Chuyangaron 49.38 295 P P 06 39 41.9 +0.2
KBL Kabul 50.52 290 P P 06 39 50.7 +0.2
KBL pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 50.52 290 P P 06 39 50.7 +0.2
FITZ Fitzroy Crossi 50.79 186 LR LR 07 04 07.5
comp=Z,20nm,18.9s,baz=3.0,slow=39
WRAB Tennant Creek 52.52 175 *i*P P 06 40 03.3 -1.9
WRAB pmax pmax
comp=Z,6.0nm,1.1s
WRA Warramunga Arr 52.53 175 P P 06 40 04.0 -1.3
comp=Z,4.2nm,1.0s,baz=352,slow=8.2,SNR=13
WRA LR LR 07 02 44.0
comp=Z,26nm,20.4s,baz=225,slow=36
WRA Warramunga Arr 52.53 175 *i*P P 06 40 04.0 -1.3
WRA pmax pmax
comp=Z,4.0nm,1.0s
WRA Warramunga Arr 52.53 175 P P 06 40 04.7 -0.7
WB2 Warramunga Arr 52.53 175 P P 06 40 05.4 +0.1
WR0 Warramunga Arr 52.56 175 P P 06 40 04.7 -0.9
WR0 IAmb IAmb 06 40 08.9
comp=Z,14nm,1.3s
PALK Pallekele 52.64 253 LR LR 07 04 29.0
comp=Z,70nm,18.6s,baz=146,slow=38
ARU Arti 53.66 319 LR LR 07 06 10.6
comp=Z,110nm,19.1s,baz=56,slow=40
ARU Arti 53.66 319 *d*/P P 06 40 13.1 -0.2
ARU 06 41 15.5
ARU S S 06 47 48.6 +2.4
ARU SS SS 06 51 22.3 -4.1
ARU pmax pmax
comp=Z,17nm,1.0s
ARU MLR MLR
comp=Z,113nm,12.0s
ARU Arti 53.66 319 P P 06 40 12.8 -0.4
ARU IAmb IAmb 06 40 16.5
comp=Z,11nm,0.7s
ABKAR Akbulak array 53.82 310 P P 06 40 14.5 -0.1
ABKAR IAmb IAmb 06 40 15.8
comp=Z,9.4nm,0.8s
L19K White Mountain 54.51 34 P P 06 40 20.3 +0.8
L19K IAmb IAmb 06 40 24.2
comp=Z,9.4nm,1.1s
CTA Charters Tower 54.66 162 P P 06 40 22.0 +1.1
comp=Z,6.1nm,0.9s,baz=315,slow=8.9,SNR=3.7
CTA LR LR 07 00 57.5
comp=Z,56nm,21.8s,baz=66,slow=33
J20K Nowinta River 54.71 31 P P 06 40 21.9 +1.1
J20K IAmb IAmb 06 40 26.2
comp=Z,6.5nm,0.8s
K20K Telida 54.79 32 P P 06 40 22.4 +0.9
K20K IAmb IAmb 06 40 26.8
comp=Z,11nm,0.8s
AKTO Aktyubinsk 54.84 312 LR LR 07 02 55.7
comp=Z,44nm,19.6s,baz=71,slow=35
I21K Tanana 55.57 30 P P 06 40 26.4 -0.6
I21K IAmb IAmb 06 40 31.9
comp=Z,8.7nm,1.1s
HRA Herat 55.91 292 P P 06 40 30.2 -0.1
HRA IAmb IAmb 06 40 32.5
comp=Z,8.3nm,0.8s
AS31 Alice Springs 56.20 176 P P 06 40 31.4 -0.6
ASAR Alice Springs 56.20 176 P P 06 40 31.6 -0.4
comp=Z,4.4nm,0.9s,baz=2.5,slow=6.0,SNR=24
ASAR LR LR 07 04 34.6
comp=Z,46nm,20.4s,baz=336,slow=36
ASAR Alice Springs 56.20 176 P P 06 40 31.9 -0.1
ASAR Alice Springs 56.20 176 P P 06 40 31.9 -0.1
TOLK Toolik Lake Re 56.27 26 P P 06 40 32.0 0.0
H23K Yukon River 56.53 29 P P 06 40 35.4 +1.5
H23K IAmb IAmb 06 40 37.0
comp=Z,9.1nm,0.8s
NEA2 Nenana 56.87 31 P P 06 40 37.4 +1.1
NEA2 IAmb IAmb 06 40 42.7
comp=Z,14nm,1.0s
MCK McKinley 57.04 32 P P 06 40 38.4 +0.8
MCK pmax pmax
comp=Z,10.0nm,1.1s
MCK McKinley 57.04 32 P P 06 40 38.4 +0.8
MCK IAmb IAmb 06 40 41.5
comp=Z,9.8nm,1.1s
RND Reindeer 57.12 32 P P 06 40 38.8 +0.6
RND pmax pmax
comp=Z,15nm,1.0s
RND Reindeer 57.12 32 P P 06 40 38.8 +0.6
RND IAmb IAmb 06 40 42.8
comp=Z,15nm,1.0s
MDM Murphy Dome 57.18 30 P P 06 40 39.6 +1.1
MDM IAmb IAmb 06 40 45.0
comp=Z,17nm,0.9s
H24K Noodor Dome 57.20 29 P P 06 40 40.0 +1.2
H24K IAmb IAmb 06 40 45.6
comp=Z,7.8nm,1.1s
COLA College 57.35 30 *i*P P 06 40 41.0 +1.4
COLA pmax pmax
comp=Z,6.0nm,0.9s
CCB Clear Creek Bu 57.40 30 P P 06 40 40.9 +0.9
POKR Poker Plat Res 57.49 30 P P 06 40 40.5 -0.2
POKR IAmb IAmb 06 40 51.1
comp=Z,12nm,0.9s
KNK Knik Glacier 57.62 34 P P 06 40 41.9 +0.3
IL31 57.77 30 P P 06 40 43.3 +0.6
IL31 IAmb IAmb 06 40 54.8
comp=Z,9.4nm,1.4s
ILAR Eielson Array 57.77 30 P P 06 40 43.0 +0.3
comp=Z,3.3nm,1.0s,baz=280,slow=5.1,SNR=17
ILAR PcP **PcP** 06 41 33.9 -1.3
comp=Z,0.8nm,0.8s,baz=291,slow=4.5,SNR=1.9
KIRV Kirov 58.20 322 *ce*P P 06 40 43.8 -2.0
BMAR Burnt Mountain 58.27 27 P P 06 40 47.6 +1.4
SCRK Sand Creek 59.16 31 P P 06 40 52.8 +0.3
SCRK IAmb IAmb 06 40 58.0
comp=Z,14nm,0.9s
DOT Dot Lake 59.19 31 P P 06 40 53.1 +0.5
DOT IAmb IAmb 06 40 56.5
comp=Z,7.3nm,0.9s
MENT Mentasta 59.50 32 P P 06 40 56.2 +1.5
MENT IAmb IAmb 06 41 05.5
comp=Z,12nm,0.8s
BMRM Bremner River 59.53 34 P P 06 40 56.4 +1.3
L26K Log Cabin Wild 59.64 32 P P 06 40 57.2 +1.5
L26K IAmb IAmb 06 41 01.3
comp=Z,8.7nm,1.0s
M26K Nabesna, AK 59.95 32 P P 06 40 58.2 +0.3
K27K Chicken 59.97 31 P P 06 40 59.2 +1.3
K27K IAmb IAmb 06 41 03.0
comp=Z,8.3nm,0.9s
L27K Beaver Creek, 60.31 32 P P 06 41 02.2 +1.9
L27K IAmb IAmb 06 41 07.0
comp=Z,9.6nm,0.9s
BCAR Beaver Creek A 60.33 32 P P 06 41 02.1 +1.6
BELG Belogornoye 60.71 316 *i*P P 06 41 01.7 -1.4
BELG pmax pmax
comp=Z,7.0nm,1.6s
DAWY Dawson 61.10 30 P P 06 41 06.8 +1.1
I29M Ogilvie Camp, 61.19 29 P P 06 41 07.0 +0.7
I29M IAmb IAmb 06 41 12.7
comp=Z,6.2nm,0.9s
EPYK Eagle Plains 61.53 27 P P 06 41 10.1 +1.5
INK Inuvik 62.12 25 P P 06 41 13.0 +0.5
comp=Z,4.1nm,0.8s,baz=292,slow=8.2,SNR=14
INK Inuvik 62.12 25 P P 06 41 13.0 +0.5
KLMR Klimovskoe 62.47 326 *e*P P 06 41 13.4 -1.5
KLMR pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 62.47 326 *e*P P 06 41 13.4 -1.5
KLMR AMP 06 41 18.0
comp=Z,16nm,1.2s
M30M Minto, Yukon 62.66 31 P P 06 41 16.5 +0.2
M30M IAmb IAmb 06 41 33.6
comp=Z,6.5nm,1.2s
SPITS Spitsbergen Ar 62.88 348 LR LR 07 09 55.6
comp=Z,92nm,18.6s,baz=253,slow=37
HYT Haines Junctio 62.91 33 P P 06 41 19.4 +1.3
FORT Forrest 63.24 182 P P 06 41 21.2 +1.0

A36M	**Sachs Harbour**	**63.42**	**20**	P		**P**		**06 41 22.2**	**+1.2**
VRH	**Novokhopyorsk**	**64.56**	**316**	*e*P		**P**		**06 41 27.5**	**-1.4**
VRH					pmax	pmax			
	comp=Z,10.0nm,0.7s								
NOR	**Nord**	**64.62**	**355**	*i* P		**P**		**06 41 27.4**	**-1.4**
NOR					IAmb	IAmb		06 41 28.9	
	comp=Z,1.7nm,0.7s								
ARCES	**ARCESS Array B**	**64.70**	**338**	P		**P**		**06 41 28.9**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=58,slow=7.8,SNR=4.3								
ARCES					LR	LR		07 14 45.9	
	comp=Z,164nm,18.6s,baz=62,slow=41								
ARCES	**ARCESS Array B**	**64.70**	**338**	P		**P**		**06 41 29.0**	**-0.6**
C36M	**Paulatuk**	**64.90**	**22**	P		**P**		**06 41 31.6**	**+0.8**
STKA	**Stephens Creek**	**65.14**	**170**	P		**P**		**06 41 31.7**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=322,slow=6.5,SNR=6.2								
STKA					LR	LR		07 12 05.9	
	comp=Z,47nm,18.4s,baz=19,slow=38								
STKA	**Stephens Creek**	**65.14**	**170**	P		**P**		**06 41 32.4**	**-0.3**
STKA					pmax	pmax			
	comp=Z,2.0nm,1.2s								
STKA	**Stephens Creek**	**65.14**	**170**	P		**P**		**06 41 32.4**	**-0.3**
EUNU	**Eureka**	**65.59**	**7**	P		**P**		**06 41 35.7**	**+0.5**
EUNU					IAmb	IAmb		06 41 39.9	
	comp=Z,11nm,1.1s								
LPSR	**Galich'ya Gora**	**65.65**	**318**	*e*P		**P**		**06 41 34.1**	**-1.8**
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.7s								
VORR	**Voronezh**	**65.84**	**317**	*e*P		**P**		**06 41 39.2**	**+2.0**
OBN	**Obninsk**	**65.97**	**321**	LR		LR		07 11 17.4	
	comp=Z,23nm,18.0s,baz=176,slow=37								
OBN	**Obninsk**	**65.97**	**321**	*ce*P		**P**		**06 41 36.1**	**-1.8**
OBN				*e*				06 42 10.3	
OBN				*e*				06 44 05.5	
OBN					pmax	pmax			
	comp=Z,57nm,1.7s								
OBN					MLR	MLR			
	comp=Z,100nm,17.0s								
VSR	**Storozhevoye**	**66.05**	**317**	*e*P		**P**		**06 41 36.8**	**-1.7**
VSR					pmax	pmax			
	comp=Z,20nm,1.7s								
VORD	**Divnogorie**	**66.07**	**316**	*e*P		**P**		**06 41 37.3**	**-1.4**
VORD					pmax	pmax			
	comp=Z,7.0nm,0.7s								
ZEI	**Tsey**	**66.37**	**307**	*e*P		**P**		**06 41 39.6**	**-1.4**
ZEI					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KBZ	**Khabaz**	**66.67**	**308**	P		**P**		**06 41 43.2**	**+0.6**
	comp=Z,13nm,0.9s,baz=95,slow=2.9,SNR=31								
KBZ	**Khabaz**	**66.67**	**308**	*ce*P		**P**		**06 41 43.1**	**+0.5**
KBZ					pmax	pmax			
	comp=Z,17nm,0.9s								
KIV	**Kislovodsk**	**66.72**	**308**	*e*P		**P**		**06 41 43.3**	**+0.2**
KIV					pmax	pmax			
	comp=Z,25nm,1.0s								
KIV					MLR	MLR			
	comp=Z,50nm,17.0s								
KIV	**Kislovodsk**	**66.72**	**308**	P		**P**		**06 41 43.5**	**+0.5**
ONI	**Oni**	**66.75**	**307**	P		**P**		**06 41 42.9**	**-0.4**
ONI					pmax	pmax			
	comp=Z,7.0nm,1.0s								
ONI	**Oni**	**66.75**	**307**	P		**P**		**06 41 42.9**	**-0.4**
ONI					IAmb	IAmb		06 41 45.0	
	comp=Z,7.4nm,1.0s								
GNI	**Garni**	**66.85**	**304**	*i* P		**P**		**06 41 43.3**	**-0.8**
GNI					pmax	pmax			
	comp=Z,27nm,1.7s								
FIA0	**FINESS Array S**	**68.21**	**330**	P		**P**		**06 41 51.6**	**-0.5**
FIA0	**FINESS Array S**	**68.21**	**330**	P		**P**		**06 41 51.6**	**-0.5**
FINES	**FINESS Array B**	**68.21**	**330**	P		**P**		**06 41 51.5**	**-0.5**
	comp=Z,3.8nm,0.7s,baz=66,slow=5.6,SNR=24								
FINES					LR	LR		07 15 13.6	
	comp=Z,60nm,18.3s,baz=66,slow=39								
FINES	**FINESS Array B**	**68.21**	**330**	P		**P**		**06 41 51.2**	**-0.9**
RES	**Resolute Bay**	**68.77**	**12**	LR		LR		07 16 11.8	
	comp=Z,70nm,18.2s,baz=38,slow=40								
RES	**Resolute Bay**	**68.77**	**12**	P		**P**		**06 41 55.8**	**+0.4**
RES					pmax	pmax			
	comp=Z,14nm,1.0s								
RES	**Resolute Bay**	**68.77**	**12**	P		**P**		**06 41 55.8**	**+0.4**
DAG	**Danmarks Havn**	**69.06**	**353**	*i* P		**P**		**06 41 55.0**	**-2.2**
DAG					IAmb	IAmb		06 41 57.0	
	comp=Z,3.8nm,0.7s								
TULEG	**Thule**	**70.28**	**5**	P		**P**		**06 42 04.7**	**0.0**
MNK	**Minsk**	**70.74**	**323**	*i* P		**P**		**06 42 07.4**	**-0.4**
MNK				*i*				06 44 42.7	
MNK				*i* PPP		PPP		06 46 24.8	
MNK				*i* S		**S**		**06 51 20.1**	**-1.5**
MNK					pmax	pmax			
	comp=Z,10.0nm,1.1s								
MNK					pmax	pmax			
	comp=N,25nm,0.7s								
MNK					pmax	pmax			
	comp=E,3.0nm,0.9s								
MNK					MLR	MLR			
	comp=N,76nm,25.0s								
MNK					MLR	MLR			
	comp=Z,79nm,18.0s								
MNK					MLR	MLR			
	comp=E,19nm,28.0s								
MNK	**Minsk**	**70.74**	**323**	*i* P		**P**		**06 42 07.4**	**-0.4**
	comp=E,3.0nm,0.9s								
MNK				*i* P		**P**		**06 42 07.4**	**-0.4**
	comp=N,25nm,0.7s								
MNK				*i* P		**P**		**06 42 07.4**	**-0.4**
	comp=Z,10.0nm,1.1s,baz=60								
MNK				*i* PP		**PP**		**06 44 42.8**	**-1.4**
MNK				*i* PPP		PPP		06 46 24.8	
MNK				*i* S		**S**		**06 51 20.1**	**-1.5**
MNK				*i* SSS		SSS		06 59 09.7	
MNK				*i* LQ		LQ		07 08 06.7	
MNK				*i* LR		LR		07 13 27.7	
MNK				*i* LRM		MLR		07 15 33.0	
	comp=E,19nm,28.0s								
MNK				*i* LRM		MLR		07 15 33.0	
	comp=N,76nm,25.4s								
MNK				*i* LRM		MLR		07 15 33.0	
	comp=Z,79nm,17.8s								
NACGM	**Naroch**	**71.10**	**324**	*e*P		**P**		**06 42 10.6**	**+0.6**
DBG	**Daneborg**	**71.45**	**352**	*i* P		**P**		**06 42 09.8**	**-2.1**
DBG					IAmb	IAmb		06 42 14.6	
	comp=Z,2.1nm,0.8s								
YKA	**Yellowknife Ar**	**71.78**	**26**	P		**P**		**06 42 14.8**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=304,slow=5.7,SNR=22								
YKA	**Yellowknife Ar**	**71.78**	**26**	P		**P**		**06 42 14.6**	**+0.6**
AKASG	**Malin Array Be**	**71.91**	**319**	P		**P**		**06 42 14.4**	**-0.6**
	comp=Z,5.7nm,0.5s,baz=57,slow=6.8,SNR=31								
AKASG					LR	LR		07 15 28.8	
	comp=Z,52nm,18.0s,baz=354,slow=37								
AKASG	**Malin Array Be**	**71.91**	**319**	*ce*P		**P**		**06 42 14.3**	**-0.7**
AKASG					pmax	pmax			
	comp=Z,6.0nm,0.5s								
AKBB	**Malin Array Si**	**71.91**	**319**	P		**P**		**06 42 14.2**	**-0.8**
AKBB					pmax	pmax			
	comp=Z,10.0nm,0.7s								
AKBB	**Malin Array Si**	**71.91**	**319**	P		**P**		**06 42 14.2**	**-0.8**
AKBB					IAmb	IAmb		06 42 15.2	
	comp=Z,9.6nm,0.7s								
SOCY	**Socotra**	**72.27**	**273**	P		**P**		**06 42 16.1**	**-1.7**
SOCY					IAmb	IAmb		06 42 17.4	
	comp=Z,14nm,1.0s								
JMIC	**Jan Mayen**	**72.53**	**347**	LR		LR		07 17 46.1	
	comp=Z,422nm,18.1s,baz=70,slow=39								
HFS	**Hagfors**	**73.99**	**332**	LR		LR		07 19 36.3	
	comp=Z,90nm,19.5s,baz=43,slow=40								
NC405	**NORSAR Array S**	**74.12**	**334**	P		**P**		**06 42 27.4**	**-0.6**
NC405					IAmb	IAmb		06 42 29.4	
	comp=Z,15nm,0.9s								
NB2	**NORSAR Subarra**	**74.36**	**334**	P		**P**		**06 42 27.9**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=47,slow=5.9								
NOA	**NORSAR Array B**	**74.36**	**334**	P		**P**		**06 42 28.5**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=50,slow=5.8,SNR=12								
NOA					LR	LR		07 15 59.0	
	comp=Z,51nm,20.4s,baz=15,slow=36								
BR131	**Keskin Array S**	**74.65**	**307**	P		**P**		**06 42 30.7**	**-0.9**
BR131					pmax	pmax			
	comp=Z,10.0nm,1.0s								
BR131	**Keskin Array S**	**74.65**	**307**	P		**P**		**06 42 30.7**	**-0.9**
BR131					IAmb	IAmb		06 42 32.7	
	comp=Z,10.0nm,0.9s								
BRTR	**Keskin Array B**	**74.65**	**307**	P		**P**		**06 42 31.5**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=93,slow=4.9,SNR=13								
BRTR	**Keskin Array B**	**74.65**	**307**	P		**P**		**06 42 31.6**	**+0.1**
BURAR	**Bucovina Array**	**75.76**	**318**	P		**P**		**06 42 38.0**	**+0.2**
BURAR					IAmb	IAmb		06 42 39.3	
	comp=Z,5.6nm,0.9s								
KWP	**Kalwaria Pacla**	**76.03**	**320**	*e*P		**P**		**06 42 40.0**	**+0.9**
MLR	**Muntele Rosu**	**76.50**	**316**	P		**P**		**06 42 42.3**	**+0.2**
MLR					pmax	pmax			
	comp=Z,7.0nm,1.1s								
MLR	**Muntele Rosu**	**76.50**	**316**	P		**P**		**06 42 42.3**	**+0.2**
MLR					IAmb	IAmb		06 42 44.8	
	comp=Z,6.6nm,1.1s								
OJC	**Ojcow**	**77.23**	**322**	*e*P		**P**		**06 42 45.3**	**-0.6**
OJC	**Ojcow**	**77.23**	**322**	P		**P**		**06 42 46.2**	**+0.3**
OJC					pmax	pmax			
	comp=Z,14nm,1.0s								
OJC	**Ojcow**	**77.23**	**322**	P		**P**		**06 42 46.2**	**+0.3**
OJC					IAmb	IAmb		06 42 47.3	
	comp=Z,14nm,1.0s								
KECS	**Kecovo**	**77.89**	**320**	*e*P		**P**		**06 42 50.0**	**+0.3**
KECS					pmax	pmax			
	comp=Z,16nm,0.8s								
KECS	**Kecovo**	**77.89**	**320**	*e*P		**P**		**06 42 49.9**	**+0.3**
EDM	**Edmonton**	**78.03**	**34**	P		**P**		**06 42 50.9**	**+0.5**
EDM					pmax	pmax			
	comp=Z,5.0nm,1.0s								
EDM	**Edmonton**	**78.03**	**34**	P		**P**		**06 42 50.9**	**+0.5**
LANS	**Liptovska Anna**	**78.03**	**321**	*e*P		**P**		**06 42 52.6**	**+2.1**
LANS					pmax	pmax			
	comp=Z,4.0nm,0.9s								
LANS	**Liptovska Anna**	**78.03**	**321**	*e*P		**P**		**06 42 52.6**	**+2.1**
ICESG	**Greenland Ices**	**78.19**	**356**	*i* P		**P**		**06 42 50.4**	**-1.0**
ICESG					IAmb	IAmb		06 42 51.9	
	comp=Z,9.8nm,0.8s								
KSP	**Ksiaz**	**78.63**	**324**	*e*P		**P**		**06 42 54.2**	**+0.5**
MORC	**Moravsky Berou**	**78.66**	**323**	P		**P**		**06 42 52.9**	**-1.0**
MORC					pmax	pmax			
	comp=Z,9.0nm,1.2s								
MORC	**Moravsky Berou**	**78.66**	**323**	P		**P**		**06 42 52.9**	**-1.0**
MORC					IAmb	IAmb		06 42 55.4	
	comp=Z,9.4nm,1.2s								
MORC	**Moravsky Berou**	**78.66**	**323**	*e*P		**P**		**06 42 54.1**	**+0.2**
ELL	**Elmali**	**78.70**	**306**	P		**P**		**06 42 53.2**	**-1.3**
ELL					pmax	pmax			
	comp=Z,58nm,1.1s								
ELL	**Elmali**	**78.70**	**306**	P		**P**		**06 42 53.2**	**-1.3**
VYHS	**Vyhne**	**78.76**	**321**	*e*P		**P**		**06 42 55.9**	**+1.4**
VYHS					pmax	pmax			
	comp=Z,5.0nm,1.0s								
VYHS	**Vyhne**	**78.76**	**321**	*e*P		**P**		**06 42 55.9**	**+1.4**
DPC	**Dobruska-Polom**	**78.92**	**323**	*e*P		**P**		**06 42 56.2**	**+0.8**
DPC	**Dobruska-Polom**	**78.92**	**323**	*e*P		**P**		**06 42 56.2**	**+0.8**
JAVC	**Velka Javorina**	**79.15**	**322**	*e*P		**P**		**06 42 58.0**	**+1.3**
NEW	**Newport**	**79.24**	**39**	LR		LR		07 20 08.7	
	comp=Z,49nm,18.9s,baz=357,slow=37								
VRAC	**Vranov**	**79.43**	**323**	LR		LR		07 18 52.8	
	comp=Z,55nm,18.8s,baz=52,slow=36								
VRAC	**Vranov**	**79.43**	**323**	*e*P		**P**		**06 42 58.5**	**+0.4**
MODS	**Modra-Piesok**	**79.66**	**321**	*e*P		**P**		**06 43 00.9**	**+1.5**
MODS					pmax	pmax			
	comp=Z,27nm,1.1s								
MODS	**Modra-Piesok**	**79.66**	**321**	*e*P		**P**		**06 43 00.9**	**+1.5**
KRUC	**Moravsky**	**79.69**	**322**	*e*P		**P**		**06 42 59.9**	**+0.4**
PINE	**Pine Mountain**	**79.77**	**44**	P		**P**		**06 43 00.8**	**+0.5**
CLL	**Collm**	**79.94**	**326**	*i* P		**P**		**06 43 00.7**	**-0.1**
CLL					pmax	pmax			
	comp=Z,15nm,1.0s								
CLL	**Collm**	**79.94**	**326**	P		**P**		**06 43 00.2**	**-0.6**
CLL					IAmb	IAmb		06 43 01.8	
	comp=Z,11nm,0.8s								
CLL	**Collm**	**79.94**	**326**	*i* P		**P**		**06 43 00.7**	**-0.1**
	comp=Z,15nm,1.0s								
CLL					LmV			07 20 00.0	
	comp=Z,100nm,20.6s								
BORG	**Borgarnes**	**80.34**	**348**	LR		LR		07 19 46.6	
	comp=Z,45nm,19.6s,baz=341,slow=36								
SFJD	**Kangerlussuaq**	**80.55**	**0**	LR		LR		07 19 30.8	
	comp=Z,84nm,19.8s,baz=104,slow=36								
DY2G	**Dye2**	**81.05**	**359**	*i* P		**P**		**06 43 05.1**	**-1.7**
DY2G					IAmb	IAmb		06 43 06.5	
	comp=Z,7.5nm,0.7s								
KHC	**Kasperske Hory**	**81.07**	**324**	P		**P**		**06 43 07.4**	**+0.4**
KHC					pmax	pmax			
	comp=Z,6.0nm,1.0s								
KHC	**Kasperske Hory**	**81.07**	**324**	P		**P**		**06 43 07.3**	**+0.4**
KHC	**Kasperske Hory**	**81.07**	**324**	*e*P		**P**		**06 43 07.4**	**+0.4**
GERES	**GERESS Array B**	**81.20**	**323**	P		**P**		**06 43 07.6**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=44,slow=4.2,SNR=9.2								
GERES					LR	LR		07 20 28.4	
	comp=Z,77nm,21.2s,baz=340,slow=37								
FCC	**Fort Churchill**	**81.54**	**22**	P		**P**		**06 43 09.2**	**0.0**
FCC					pmax	pmax			
	comp=Z,19nm,0.9s								
FCC	**Fort Churchill**	**81.54**	**22**	P		**P**		**06 43 09.2**	**0.0**
LIT	**Litokhoron**	**81.65**	**313**	P		**P**		**06 43 09.3**	**-0.9**
LIT					pmax	pmax			
	comp=Z,12nm,0.9s								
LIT	**Litokhoron**	**81.65**	**313**	P		**P**		**06 43 09.2**	**-0.9**
LIT					IAmb	IAmb		06 43 10.2	
	comp=Z,12nm,0.9s								
FRB	**Frobisher Bay**	**82.63**	**8**	LR		LR		07 21 52.2	
	comp=Z,126nm,20.0s,baz=3.0,slow=37								
EGMT	**Eagleton**	**83.17**	**36**	P		**P**		**06 43 17.6**	**-0.5**
EGMT					IAmb	IAmb		06 43 20.6	
	comp=Z,10nm,1.0s								
LRM	**Limekiln Ridge**	**83.25**	**39**	P		**P**		**06 43 17.8**	**-1.0**
DLMT	**Dillon**	**83.48**	**39**	P		**P**		**06 43 20.1**	**+0.2**
DLMT					IAmb	IAmb		06 43 34.7	
	comp=Z,9.6nm,1.4s								
MEM	**Membach**	**83.64**	**328**	*d*P		**P**		**06 43 19.5**	**-0.9**
	comp=Z,8.5nm,0.9s								
ITM	**Ithomi**	**83.73**	**310**	P		**P**		**06 43 20.0**	**-1.1**
BOZ	**Bozeman (W)**	**83.84**	**39**	P		**P**		**06 43 21.2**	**-0.5**
BOZ	**Bozeman (W)**	**83.84**	**39**	P		**P**		**06 43 21.2**	**-0.5**
BCLA	**Clavier**	**84.09**	**328**	*d*P		**P**		**06 43 22.3**	**-0.3**
BFO	**Black Forest**	**84.18**	**325**	P		**P**		**06 43 22.9**	**-0.3**
BFO					pmax	pmax			
	comp=Z,22nm,1.1s								
BFO	**Black Forest**	**84.18**	**325**	P		**P**		**06 43 22.9**	**-0.3**
BGES	**Gesves**	**84.21**	**328**	*d*P		**P**		**06 43 22.7**	**-0.5**
BGES					*d*pP	**PcP**		**06 43 26.0**	**-1.0**
WLF	**Walferdange**	**84.25**	**327**	P		**P**		**06 43 23.4**	**-0.1**
WLF					pmax	pmax			
	comp=Z,23nm,1.0s								
WLF	**Walferdange**	**84.25**	**327**	P		**P**		**06 43 23.4**	**-0.1**
WLF	**Walferdange**	**84.25**	**327**	*d*P		**P**		**06 43 23.9**	**+0.5**
	comp=Z,14nm,1.1s								
RCHB	**Rochefort**	**84.31**	**328**	*d*P		**P**		**06 43 23.5**	**-0.3**
	comp=Z,7.8nm,1.1s								
KVN	**Kaiserville**	**84.32**	**47**	P		**P**		**06 43 24.4**	**+0.1**
KVN					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KVN	**Kaiserville**	**84.32**	**47**	P		**P**		**06 43 24.4**	**+0.1**
KVN					IAmb	IAmb		06 43 29.9	
	comp=Z,5.2nm,1.0s								
BMRD	**Maredsous**	**84.41**	**328**	*d*P		**P**		**06 43 23.9**	**-0.4**
	comp=Z,9.4nm,1.0s								
SNF	**Seneffe**	**84.47**	**329**	*d*P		**P**		**06 43 24.2**	**-0.3**
DAVOX	**Davos/Dischmat**	**84.49**	**324**	P		**P**		**06 43 25.1**	**+0.1**
	comp=Z,12nm,1.0s,baz=90,slow=1.0,SNR=4.8								
DAVOX					LR	LR		07 23 00.3	
	comp=Z,98nm,19.0s,baz=78,slow=37								
YHL	**Hebgen Lake**	**84.57**	**39**	P		**P**		**06 43 25.6**	**0.0**
YHL					IAmb	IAmb		06 43 31.4	
	comp=Z,4.6nm,1.1s								
NVAR	**Mina Array Bea**	**84.57**	**47**	P		**P**		**06 43 26.6**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=301,slow=5.4,SNR=12								
NVAR	**Mina Array Bea**	**84.57**	**47**	P		**P**		**06 43 25.4**	**-0.2**
RPZ	**Rata Peaks**	**84.63**	**152**	P		**P**		**06 43 26.4**	**+1.2**
	comp=Z,7.6nm,0.9s,baz=126,slow=7.8,SNR=4.8								
DOU	**Dourbes**	**84.64**	**328**	*d*P		**P**		**06 43 25.1**	**-0.4**
ECH	**Echery**	**84.82**	**326**	P		**P**		**06 43 26.3**	**-0.1**
ECH					pmax	pmax			
	comp=Z,16nm,1.1s								
ECH	**Echery**	**84.82**	**326**	P		**P**		**06 43 26.2**	**-0.1**
TUE	**Stuetta**	**84.97**	**324**	P		**P**		**06 43 27.3**	**-0.2**
NRCA	**Norcia**	**85.45**	**319**	P		**P**		**06 43 30.2**	**+0.4**
TPH	**Tonopah**	**85.46**	**47**	P		**P**		**06 43 30.0**	**-0.1**
TPH					pmax	pmax			
	comp=Z,29nm,1.1s								
TPH	**Tonopah**	**85.46**	**47**	P		**P**		**06 43 30.0**	**-0.1**
DGMT	**Dagmar**	**85.51**	**33**	P		**P**		**06 43 29.9**	**0.0**
DGMT					IAmb	IAmb		06 43 34.6	
	comp=Z,7.2nm,0.8s								
LCH	**Last Change Ra**	**85.72**	**48**	P		**P**		**06 43 31.7**	**+0.4**
HWUT	**Hardware Ranch**	**86.52**	**42**	P		**P**		**06 43 35.3**	**+0.1**
HWUT					IAmb	IAmb		06 43 37.2	
	comp=Z,6.4nm,1.2s								
BW06	**Boulder Array**	**86.84**	**40**	P		**P**		**06 43 36.8**	**-0.1**
PD31	**Pinedale Array**	**86.84**	**40**	P		**P**		**06 43 36.4**	**-0.5**
PDAR	**Pinedale Array**	**86.84**	**40**	P		**P**		**06 43 37.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=328,slow=0.5,SNR=14								
PDAR					LR	LR		07 23 39.8	
	comp=Z,40nm,19.1s,baz=32,slow=36								
PDAR	**Pinedale Array**	**86.84**	**40**	P		**P**		**06 43 36.5**	**-0.3**
LPL	**La Plagne**	**86.94**	**324**	*e*P		**P**		**06 43 36.9**	**-0.4**
LPL					pmax	pmax			
	comp=Z,12nm,1.4s								
ULM	**Lac du Bonnet**	**87.70**	**28**	P		**P**		**06 43 40.5**	**0.0**
	comp=Z,16nm,0.9s,baz=317,slow=5.0,SNR=13								
ULM	**Lac du Bonnet**	**87.70**	**28**	P		**P**		**06 43 40.6**	**0.0**
ULM					pmax	pmax			
	comp=Z,19nm,1.0s								
ULM	**Lac du Bonnet**	**87.70**	**28**	P		**P**		**06 43 40.6**	**0.0**
P17A	**Butcher Ranch,**	**88.42**	**43**	P		**P**		**06 43 45.0**	**+0.6**
P17A					IAmb	IAmb		06 43 46.5	
	comp=Z,11nm,1.3s								
P18A	**Preston Nutter**	**88.59**	**42**	P		**P**		**06 43 45.3**	**-0.1**
P18A					IAmb	IAmb		06 43 47.5	
	comp=Z,6.7nm,0.9s								
RSSD	**Black Hills**	**88.74**	**36**	P		**P**		**06 43 45.7**	**-0.2**
RSSD					pmax	pmax			
	comp=Z,5.0nm,1.0s								
RSSD	**Black Hills**	**88.74**	**36**	P		**P**		**06 43 45.7**	**-0.2**
RSSD					IAmb	IAmb		06 43 47.7	
	comp=Z,5.4nm,0.9s								
RWWY	**Rawlins**	**88.85**	**39**	P		**P**		**06 43 46.5**	**0.0**
RWWY					IAmb	IAmb		06 43 55.0	
	comp=Z,4.6nm,1.0s								
AGMN	**Agassiz Nation**	**89.26**	**29**	P		**P**		**06 43 46.7**	**-1.2**
AGMN					IAmb	IAmb		06 43 48.2	
	comp=Z,4.1nm,0.8s								
MFF	**Saint Martin d**	**89.35**	**328**	*e*P		**P**		**06 43 48.0**	**-0.4**
MFF					pmax	pmax			
	comp=Z,25nm,1.5s								
CAF	**Calviac**	**89.62**	**326**	*e*P		**P**		**06 43 49.6**	**-0.1**
CAF					pmax	pmax			
	comp=Z,15nm,1.2s								
B35A	**Bob, Littlefor**	**90.06**	**28**	P		**P**		**06 43 51.9**	**+0.2**
N23A	**Red Feather La**	**90.08**	**39**	P		**P**		**06 43 52.5**	**+0.2**
N23A					IAmb	IAmb		06 43 57.7	
	comp=Z,6.4nm,1.1s								
PV23	**Carpenter Ridg**	**90.10**	**43**	P		**P**		**06 43 52.4**	**-0.1**
PV23					IAmb	IAmb		06 43 54.5	
	comp=Z,6.0nm,0.9s								
PV11	**David Mesa, Pa**	**90.28**	**43**	P		**P**		**06 43 53.4**	**+0.2**
PV11					IAmb	IAmb		06 43 55.4	
	comp=Z,11nm,1.2s								
PV13	**Radium Mtn., P**	**90.41**	**43**	P		**P**		**06 43 54.1**	**+0.2**
PV13					IAmb	IAmb		06 43 55.8	
	comp=Z,5.6nm,1.0s								
SMCO	**Snowmass**	**90.74**	**41**	P		**P**		**06 43 55.6**	**0.0**
F33A	**5 Mile Ranch,**	**91.02**	**31**	P		**P**		**06 43 55.5**	**-0.7**
F33A					IAmb	IAmb		06 43 57.6	
	comp=Z,8.9nm,1.1s								
SCHQ	**Schefferville**	**91.49**	**10**	LR		LR		07 27 31.1	
	comp=Z,73nm,19.5s,baz=65,slow=37								
S22A	**4UR Ranch, Cre**	**91.82**	**42**	P		**P**		**06 43 59.5**	**-0.9**
ECSD	**EROS Data Cent**	**92.54**	**32**	P		**P**		**06 44 02.3**	**-1.0**
ECSD					IAmb	IAmb		06 44 05.0	
	comp=Z,2.8nm,0.8s								
ESDC	**Sonseca Array**	**96.51**	**326**	P		**P**		**06 44 20.4**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=30,slow=3.9,SNR=4.1								
ESDC					LR	LR		07 30 17.6	
	comp=Z,52nm,20.1s,baz=27,slow=37								
LPIG	**La Paz**	**99.00**	**54**	LR		LR		07 20 04.0	
	comp=Z,28nm,21.7s,baz=314,slow=30								
TXAR	**Lajitas Array**	**99.66**	**46**	P		**Pdif**		**06 44 35.3**	**-0.7**
	comp=Z,0.2nm,0.9s,baz=282,slow=4.3,SNR=2.0								
TROLL	**Troll, Antarti**	**132.31**	**199**	PKPdf		**PKPdf**		**06 50 04.7**	**-0.5**
VNA2	**Neumayer--Watz**	**135.59**	**198**	PKPdf		**PKPdf**		**06 50 10.4**	**-0.7**
	baz=91,slow=2.0								
VNA1	**Neumayer--Stat**	**135.98**	**198**	PKPdf		**PKPdf**		**06 50 10.3**	**-1.5**

TAP 28 06:33:25.8, 24°36N×122°05E, h29km, ML2.4, C, Taiwan region

| Code | Station Name | Δ° | AZ° | Phase | ID

NWF				*i* S		Sn	06 33 52.6	+1.7	
	baz=334								
WFSB	**Wu-fen Shan**	**0.75**	**341**	P		Pn	06 33 41.0	+0.6	
	baz=336								
WFSB				S		Sn	06 33 52.5	+1.6	
	baz=336								
WHF	**Hehuan Shan**	**0.75**	**253**	*i* P		Pn	06 33 41.2	+0.3	
	baz=252								
WHF				*i* S		Sn	06 33 51.7	+0.2	
	baz=252								
TDCB	**Techi**	**0.82**	**263**	P		Pb	06 33 42.0	+0.4	
	baz=262								
CHGB	**Renai**	**0.86**	**250**	P		Pn	06 33 41.8	-0.4	
	baz=237								
CHGB				S		Sn	06 33 54.3	+0.5	
	baz=237								
YOJ	**Yonaguni jima**	**0.88**	**83**	P		Pn	06 33 42.1	-0.1	
	baz=77								
YOJ				S		Sn	06 33 54.7	+0.6	
	baz=77								
NFF	**Wufeng Townshi**	**0.89**	**288**	P		Pb	06 33 43.3	+0.6	
	baz=291								
YM01	**YM01**	**0.90**	**331**	P		Pb	06 33 43.5	+0.7	
	baz=344								
YM01				S		Sn	06 33 57.1	+2.5	
	baz=344								
OWD	**Renai**	**0.90**	**243**	P		Pb	06 33 43.0	+0.2	
	baz=229								
OWD				*i* S		Sn	06 33 55.0	+0.3	
	baz=229								
WUSB	**Renai**	**0.93**	**247**	P		Pn	06 33 43.1	+0.1	
	baz=233								
WUSB				S		Sn	06 33 55.9	+0.3	
	baz=233								
LIOB	**Emei**	**0.99**	**287**	*e*P		Pb	06 33 45.7	+1.4	
	baz=287								
LIOB				*e*S		Sb	06 34 00.3	+3.3	
	baz=287								
WHP	**Taichung City**	**1.01**	**265**	P		Pb	06 33 46.0	+1.2	
	baz=265								
WHP				*i* S		Sb	06 33 59.2	+1.4	
	baz=265								
VWDT	**VWDT**	**1.03**	**234**	P		Pb	06 33 44.8	-0.3	
	baz=232								
VWDT				S		Sb	06 34 00.0	+1.8	
	baz=232								
HGSD	**Ruisui**	**1.04**	**214**	P		Pn	06 33 44.6	+0.1	
	baz=202								
WCS	**Beigang Elemen**	**1.09**	**254**	P		Pb	06 33 46.4	+0.4	
	baz=245								
SMLT	**Sun Moon Lake**	**1.16**	**246**	P		Pb	06 33 48.1	+0.9	
	baz=244								
TYC	**Yuchr**	**1.18**	**248**	*e*P		Pb	06 33 48.0	+0.4	
	baz=234								
TYC				*e*S		Sb	06 34 03.8	+1.3	
	baz=234								
YULB	**Yu-li**	**1.19**	**216**	P		Pn	06 33 45.5	-1.0	
	baz=212								
YULB				S		Sn	06 33 59.9	-1.9	
	baz=212								
ALS	**Alishan**	**1.42**	**234**	P		Pb	06 33 51.8	-0.1	
	baz=218								
ALS				*e*S		Sb	06 34 09.9	+0.2	
	baz=218								
CHN4	**Tsaushan**	**1.67**	**233**	P		Pb	06 33 56.2	+0.3	
	baz=215								
CHN4				S		Sb	06 34 18.2	+1.6	
	baz=215								

IDC ***28*** *06:41:50.7±0.9, 45°.97N×148°.77E, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.8/41, mbtmp3.7/9, ML3.4/2, Error ellipse: s-maj=52.5km s-min=18.4km az=124.0*

ISC 28 06:41:52.1±0.8, 46°.1N±0°.2×148°.6E±0°.1, h10km, n16, σ1§13/11, mb3.8/7, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**4.67**	**248**	Pn	**Pn**	**06 43 04.6**	**+2.0**
	0.8nm,0.3s,baz=90,slow=16,SNR=2.1						
ASAJ				Sn	**Sn**	**06 43 54.8**	**-2.1**
	0.5nm,0.3s,baz=254,slow=29,SNR=1.5						
SEY	**Seymchan**	**17.05**	**6**	P	**Pn**	**06 45 50.1**	**-0.2**
	0.5nm,0.3s,baz=137,slow=1.9,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**30.27**	**144**	T	T	07 18 59.6	
	baz=335,slow=75,SNR=66						
H11N1	**WAKE ISLAND Hy**	**30.28**	**144**	T	T	07 18 59.7	
	baz=335,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**30.29**	**144**	T	T	07 18 57.9	
	baz=335,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**31.29**	**145**	T	T	07 20 14.0	
	baz=335,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**31.30**	**145**	T	T	07 20 13.8	
	baz=335,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**31.31**	**145**	T	T	07 20 16.3	
	baz=335,slow=76,SNR=36						
ILAR	**Eielson Array**	**39.03**	**38**	P	**P**	**06 49 18.3**	**-0.2**
	1.1nm,0.9s,baz=275,slow=8.4,SNR=8.5						
YKA	**Yellowknife Ar**	**53.32**	**35**	P	**P**	**06 51 10.8**	**-0.1**
	1.3nm,0.6s,baz=303,slow=7.0,SNR=26						
NVAR	**Mina Array Bea**	**65.50**	**60**	P	**P**	**06 52 36.0**	**+0.3**
	0.5nm,0.6s,baz=278,slow=6.4,SNR=4.5						
WRA	**Warramunga Arr**	**66.94**	**195**	P	**P**	**06 52 43.7**	**-1.0**
	0.4nm,0.6s,baz=10.0,slow=6.6,SNR=6.9						
PDAR	**Pinedale Array**	**67.65**	**51**	P	**P**	**06 52 49.5**	**+0.1**
	0.7nm,0.6s,baz=274,slow=1.7,SNR=10						
ASAR	**Alice Springs**	**70.66**	**194**	P	**P**	**06 53 08.1**	**+0.3**
	0.3nm,0.4s,baz=11,slow=6.7,SNR=5.6						
TXAR	**Lajitas Array**	**80.53**	**57**	P	**P**	**06 54 04.8**	**+0.1**
	0.4nm,0.6s,baz=306,slow=4.5,SNR=6.8						
PLCA	**Paso Flores**	**151.27**	**94**	PKPbc	**PKiKP**	**07 01 45.3**	**-0.7**
	1.5nm,0.7s,baz=227,slow=1.4,SNR=6.5						

MED_RC ***28*** *06:46:49.0±0.5, 46°.05N×1°.11W, h24km±3km, MW4.1/12, Moment Tensor Solution.Mantle waves: s12,c18; Duration: 1§0 Moment tensor: Scale 10^15Nm; Mrr0.00±.41; Mθθ-0.17±.30; Mφφ0.16±.25; Mrθ-0.54±.30; Mθφ-1.86±.17; Mrφ0.12±.21; Best double couple: M0 1.95000×10^15 NP1:φs272.00000°, δ88.00000°, λ164.00000°. NP2:φs3.00000°, δ74.00000°, λ3.00000°. Principal axes: T 1.9700, Plg13.0000°, Azm226.0000°; N -0.0500, Plg74.0000°, Azm84.0000°; P -1.9200, Plg10.0000°, Azm319.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

LDG ***28*** *06:46:49.9±0.1, 46°.02N×1°.29W, h7km, Md5.0/9, Ml5.1/58, ms3.6/3 Error ellipse: s-maj=1.7km s-min=1.5km az=94.0*

NEIC ***28*** *06:46:50.2±1.8, 46°.04N±0°.06×1°.17W±0°.08, h10km±1km, mb4.2/10, Mwr3.9/16, ML5.2(LDG), ML4.6(CSEM), Error ellipse: s-maj=11.6km s-min=7.1km az=313.0*

IDC ***28*** *06:46:50.4±0.8, 46°.01N×1°.09W, h0km, mb3.7/10, mb1 3.9/19, mb1mx3.8/47, mbtmp3.8/19, ML4.0/8, MS3.0/6, Ms1 3.0/6, ms1mx2.7/94, Error ellipse: s-maj=18.1km s-min=13.9km az=111.0*

UCC ***28*** *06:46:50.0, 46°.04N×1°.09W, ML5.0*

NEIC ***28*** *06:46:50.1, 46°.08N×1°.20W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr0.96; Mθθ-0.44; Mφφ-0.52; Mrθ-3.31; Mθφ-7.52; Mrφ-2.10; Fault plane solution: M0 8.52000×10^14 NP1:φs357.67000°, δ68.90000°, λ-8.03000°. NP2:φs90.58000°, δ82.51000°, λ-158.71000°. Principal axes: T 7.1871, Plg9.0000°, Azm222.0000°; N 2.2283, Plg67.0000°, Azm109.0000°; P -9.4154, Plg20.0000°, Azm316.0000°;*

BGS ***28*** *06:46:52.6±0.9, 46°.11N×1°.07W, h5km, ML4.7, ML4.7*

STR ***28*** *06:46:53.2±0.6, 46°.N±2°×°±°, h15km±4km, MLv5.0/8, preliminary*

INMG ***28*** *06:46:54.2±1.2, 46°.02N×1°.20W, h16km±6km, MD4.1, ML3.6, Error ellipse: s-maj=4.0km s-min=3.2km az=131.0*

ISC 28 06:46:50.9±1.0, 46°.03N±0°.02×1°.10W±0°.02, h17km±7km, n299, σ2§29/439, mb4.1/13, 12C-62D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHIF	**Chize**	**0.49**	**77**	*i*P	**Pb**	**06 47 01.8**	**+0.8**
CHIF				*e*S	**Sb**	**06 47 08.0**	**+0.1**
CHIF				IAML		06 47 09.9	
	comp=N,23μm,0.4s						
CHIF				IAML		06 47 11.2	
	comp=E,22μm,0.3s						
CHIF	**Chize**	**0.49**	**77**	Pg	**Pb**	**06 47 01.8**	**+0.8**
CHIF				Sg	**Sb**	**06 47 08.0**	**+0.1**
MFF	**Saint Martin d**	**0.88**	**48**	*e*P	**Pn**	**06 47 08.4**	**+0.8**
MFF	**Saint Martin d**	**0.88**	**48**	*e*P	**Pn**	**06 47 09.9**	**+1.6**
MFF				*e*Sg	**Sb**	**06 47 21.3**	**+2.3**
	comp=E,18μm,0.4s						
MFF	**Saint Martin d**	**0.88**	**48**	Pg	**Pb**	**06 47 08.4**	**+0.8**
MFF				Sg	**Sb**	**06 47 21.0**	**+2.0**
MFF	**Saint Martin d**	**0.88**	**48**	Pg	**Pg**	**06 47 07.6**	**-0.3**
LRVF	**chteau la Riv**	**1.21**	**153**	Pn	**Pn**	**06 47 14.4**	**+1.5**
LRVF				Pg	**Pb**	**06 47 15.2**	**+2.0**
LRVF				Sn	**Sn**	**06 47 31.4**	**+2.5**
LRVF				Sg	**Sb**	**06 47 33.0**	**+4.4**
LFF	**La Frestale**	**1.69**	**129**	*e*Pn	**Pn**	**06 47 19.8**	**+0.3**
LFF	**La Frestale**	**1.69**	**129**	*e*P	**Pb**	**06 47 21.4**	**+0.2**
LFF	**La Frestale**	**1.69**	**129**	*e*Pg	**Pg**	**06 47 23.4**	**+0.1**
LFF				*e*Sn	**Sn**	**06 47 41.0**	**+0.3**
LFF				*e*Sg	**Sg**	**06 47 46.0**	**+0.8**
	comp=E,9μm,0.3s						
LFF	**La Frestale**	**1.69**	**129**	Pn	**Pb**	**06 47 21.6**	**+0.2**
RJF	**Les Rejaudoux**	**1.97**	**111**	*e*Pn	**Pn**	**06 47 23.9**	**+0.5**
RJF	**Les Rejaudoux**	**1.97**	**111**	*e*P	**Pb**	**06 47 26.1**	**-0.1**
RJF	**Les Rejaudoux**	**1.97**	**111**	*e*Pg	**Pg**	**06 47 28.6**	**0.0**
RJF				*e*Sn	**Sn**	**06 47 47.9**	**+0.3**
RJF				*e*Sg	**Sg**	**06 47 55.1**	**+0.9**
	comp=E,15μm,0.4s						
RENF	**Rennes**	**2.13**	**350**	Pn	**Pn**	**06 47 26.9**	**+1.4**
RENF				Pg	**Pg**	**06 47 31.0**	**-0.7**
TCF	**Toulx Ste Croi**	**2.31**	**82**	*e*Pn	**Pn**	**06 47 29.0**	**+0.9**
TCF	**Toulx Ste Croi**	**2.31**	**82**	*e*P	**Pb**	**06 47 31.1**	**+3.0**
TCF	**Toulx Ste Croi**	**2.31**	**82**	*e*Pg	**Pg**	**06 47 35.1**	**-0.1**
TCF				*e*Sn	**Sn**	**06 47 56.4**	**+0.2**
	comp=E,2μm,0.3s						
TCF				*e*Sg	**Sg**	**06 48 06.1**	**+0.9**
	comp=E,16μm,0.7s						
MONQ	**Montcuq**	**2.32**	**135**	Pn	**Pn**	**06 47 30.1**	**+1.9**
TERF	**Tercis-les-Bai**	**2.35**	**180**	Pn	**Pn**	**06 47 30.0**	**+1.5**
TERF				Pg	**Pg**	**06 47 35.7**	**-0.2**
QUIF	**Quistinic**	**2.36**	**324**	*e*Pn	**Pn**	**06 47 27.1**	**-1.7**
QUIF	**Quistinic**	**2.36**	**324**	*e*P	**Pn**	**06 47 29.1**	**+0.3**
QUIF	**Quistinic**	**2.36**	**324**	*e*Pg	**Pb**	**06 47 32.4**	**-0.5**
QUIF				*e*Sn	**Sn**	**06 47 53.8**	**-3.6**
	comp=E,4μm,0.3s						
QUIF				*e*Sg	**Sb**	**06 48 02.5**	**+0.7**
GRR	**Gorron**	**2.37**	**4**	*e*Pn	**Pn**	**06 47 29.0**	**+0.1**
GRR	**Gorron**	**2.37**	**4**	*e*P	**Pn**	**06 47 30.4**	**+1.5**
GRR	**Gorron**	**2.37**	**4**	*e*Pg	**Pb**	**06 47 33.8**	**+0.8**
GRR				*e*Sn	**Sn**	**06 47 55.5**	**-2.0**
	comp=E,5μm,0.3s						
GRR				*e*Sg	**Sb**	**06 48 04.5**	**+2.6**
	comp=E,5μm,0.4s						
SGMF	**Saint Gilles**	**2.44**	**336**	*e*Pn	**Pn**	**06 47 28.1**	**-1.8**
SGMF	**Saint Gilles**	**2.44**	**336**	*e*P	**Pn**	**06 47 30.9**	**+1.0**
SGMF	**Saint Gilles**	**2.44**	**336**	*e*Pg	**Pb**	**06 47 35.1**	**+0.8**
SGMF				*e*Sn	**Sn**	**06 47 56.0**	**-3.3**
SGMF				*e*Sg	**Sb**	**06 48 05.7**	**+1.7**
CAF	**Calviac**	**2.48**	**115**	*e*Pn	**Pn**	**06 47 32.1**	**+1.7**
CAF	**Calviac**	**2.48**	**115**	*e*P	**Pn**	**06 47 33.3**	**+2.9**
CAF	**Calviac**	**2.48**	**115**	*e*Pg	**Pg**	**06 47 37.9**	**-0.5**
CAF				*e*Sn	**Sn**	**06 48 00.3**	**0.0**
CAF				*e*Sg	**Sg**	**06 48 11.0**	**+0.4**
	comp=E,8μm,0.4s						
LDF	**La Druitiere**	**2.65**	**14**	*e*Pn	**Pn**	**06 47 33.2**	**+0.4**
LDF	**La Druitiere**	**2.65**	**14**	*e*Pg	**Pb**	**06 47 38.6**	**+0.7**
LDF				*e*Sn	**Sn**	**06 48 02.7**	**-1.8**
LDF				*e*Sg	**Sg**	**06 48 14.2**	**-1.9**
	comp=E,4μm,0.4s						
ROSF	**Rostrenen**	**2.75**	**328**	*e*Pn	**Pn**	**06 47 32.4**	**-1.7**
ROSF	**Rostrenen**	**2.75**	**328**	*e*P	**Pn**	**06 47 35.1**	**+1.1**
ROSF	**Rostrenen**	**2.75**	**328**	*e*Pg	**Pb**	**06 47 41.1**	**+1.6**
ROSF				*e*Sn	**Sn**	**06 48 03.2**	**-3.6**
ROSF				*e*Sg	**Sb**	**06 48 14.4**	**+1.6**
	comp=E,6μm,0.5s						
ROSF	**Rostrenen**	**2.75**	**328**	*e*P	**Pn**	**06 47 35.3**	**+1.2**
ROSF	**Rostrenen**	**2.75**	**328**	Pn	**Pn**	**06 47 35.2**	**+1.1**
ROSF	**Rostrenen**	**2.75**	**328**	Sn	**Sn**	**06 48 10.5**	**+3.7**
FLN	**La Foliniere**	**2.77**	**8**	*e*Pn	**Pn**	**06 47 34.2**	**-0.2**
	baz=190						
FLN	**La Foliniere**	**2.77**	**8**	*e*Pg	**Pb**	**06 47 41.5**	**+1.7**
	baz=191						
FLN				*e*Sn	**Sn**	**06 48 03.2**	**-4.2**
FLN				*e*Sg	**Sg**	**06 48 17.7**	**-2.1**
	comp=E,5μm,0.3s,baz=181						
OSSF	**Osses**	**2.77**	**183**	Pn	**Pn**	**06 47 35.6**	**+1.2**
OSSF				Sn	**Sn**	**06 48 11.1**	**+3.7**
BGF	**Bois d'Agland**	**2.79**	**78**	*e*Pn	**Pn**	**06 47 35.0**	**+0.4**
BGF	**Bois d'Agland**	**2.79**	**78**	*e*Pg	**Pg**	**06 47 43.9**	**-0.3**
BGF				*e*Sn	**Sn**	**06 48 06.4**	**-1.4**
BGF				*e*Sg	**Sg**	**06 48 20.0**	**-0.3**
	comp=E,12μm,0.3s						
EALK	**Alkurruntz**	**2.82**	**186**	Pn	**Pn**	**06 47 36.4**	**+1.3**
HYF	**Humbligny**	**2.86**	**63**	*e*Pn	**Pn**	**06 47 36.6**	**+1.0**
HYF	**Humbligny**	**2.86**	**63**	*e*Pg	**Pg**	**06 47 44.8**	**-0.8**
HYF				*e*Sn	**Sn**	**06 48 09.9**	**+0.3**
HYF				*e*Sg	**Sg**	**06 48 22.7**	**-1.0**
PYM	**Petit Puy Mans**	**2.88**	**94**	Pn	**Pn**	**06 47 37.0**	**+1.1**
SJPF	**Ste Jean**	**2.91**	**182**	*e*P	**Pn**	**06 47 37.0**	**+0.6**
SJPF	**Ste Jean**	**2.91**	**182**	*e*Pg	**Pb**	**06 47 44.5**	**+2.2**
SJPF				*e*Sn	**Sn**	**06 48 08.7**	**-2.2**
SJPF				*e*Sg	**Sg**	**06 48 21.6**	**-2.8**
	comp=E,855nm,0.3s						
AGO	**Saint Agoulin**	**2.94**	**88**	Pn	**Pn**	**06 47 37.9**	**+1.1**
CFF	**Clermont-Ferra**	**2.95**	**94**	Pn	**Pn**	**06 47 38.3**	**+1.4**
PYLO	**Lourdes**	**3.02**	**165**	Pn	**Pn**	**06 47 38.8**	**+0.9**
CLF	**Chambon-Foret**	**3.04**	**48**	Pn	**Pn**	**06 47 39.4**	**+1.3**
EORO	**Oroz-Betelu**	**3.14**	**183**		**Pn**	**06 47 40.4**	**+0.9**
LBL	**Lubilhac**	**3.15**	**103**	Pn	**Pn**	**06 47 40.9**	**+1.3**
ETSF	**Etsaut**	**3.15**	**173**	*e*Pn	**Pn**	**06 47 39.4**	**-0.3**
ETSF	**Etsaut**	**3.15**	**173**	*e*Pg	**Pg**	**06 47 50.0**	**-1.2**
ETSF				*e*Sn	**Sn**	**06 48 14.3**	**-2.6**
ETSF				*e*Sg	**Sg**	**06 48 29.1**	**-2.9**
	comp=E,839nm,0.3s						
EPF	**Esparros**	**3.17**	**161**	*e*Pn	**Pn**	**06 47 40.9**	**+1.0**
EPF	**Esparros**	**3.17**	**161**	*e*P	**Pn**	**06 47 43.2**	**+3.3**
EPF	**Esparros**	**3.17**	**161**	*e*Pg	**Pg**	**06 47 49.5**	**-2.0**
EPF				*e*Sn	**Sn**	**06 48 15.3**	**-1.9**
EPF				*e*Sg	**Sg**	**06 48 30.8**	**-1.7**
	comp=E,1μm,0.3s						
AVF	**Avril sur Loir**	**3.17**	**74**	*e*Pn	**Pn**	**06 47 41.0**	**+1.1**
AVF	**Avril sur Loir**	**3.17**	**74**	*e*Pg	**Pg**	**06 47 50.9**	**-0.7**
AVF				*e*Sn	**Sn**	**06 48 16.8**	**-0.5**
AVF				*e*Sg	**Sg**	**06 48 31.1**	**-1.6**
	comp=E,2μm,0.4s						
JDC	**Jersey Dam (Cr**	**3.23**	**349**	IAML		06 48 38.0	
	comp=N,4μm,0.2s						
JDC				IAML		06 48 40.1	
	comp=E,3μm,0.2s						
JDG	**Jersey Dam (Ga**	**3.24**	**349**	*e*P	**Pn**	**06 47 43.2**	**+2.4**
JDG				IAML		06 48 38.5	
	comp=E,2μm,0.8s						
JDG				IAML		06 48 39.1	
	comp=N,911nm,0.4s						
JQE	**Queens East**	**3.24**	**349**	*e*P	**Pn**	**06 47 41.5**	**+0.7**
JRS	**Jersey**	**3.24**	**348**	*e*P	**Pn**	**06 47 42.8**	**+1.9**
JRS				IAML		06 48 35.6	
	comp=E,1μm,0.9s						
JRS				IAML		06 48 41.6	
	comp=N,883nm,0.5s						
JSA	**Saint Aubin**	**3.25**	**347**	*e*P	**Pn**	**06 47 41.9**	**+1.0**
JSA				IAML		06 48 37.9	
	comp=E,2μm,0.5s						
JSA				IAML		06 48 38.8	
	comp=N,1μm,0.4s						
JSA	**Saint Aubin**	**3.25**	**347**	Pn	**Pn**	**06 47 44.1**	**+3.2**
JVM	**Valle D.L. Mar**	**3.28**	**347**	*e*P	**Pn**	**06 47 42.1**	**+0.7**
CAMF	**Camaret-sur-Me**	**3.29**	**314**	Pn	**Pn**	**06 47 42.8**	**+1.3**
CAMF				Sn	**Sn**	**06 48 23.8**	**+3.6**
CANF	**Canfranc**	**3.29**	**173**	Pn	**Pn**	**06 47 42.2**	**+0.6**
CANF				Sn	**Sn**	**06 48 23.2**	**+2.8**
JLP	**Les Platons**	**3.29**	**348**	*e*P	**Pn**	**06 47 42.8**	**+1.2**
SSF	**Saint Saulge**	**3.34**	**70**	*e*Pn	**Pn**	**06 47 43.1**	**+0.9**
SSF	**Saint Saulge**	**3.34**	**70**	*e*Pg	**Pg**	**06 47 52.9**	**-1.9**
SSF				*e*Sn	**Sn**	**06 48 20.5**	**-1.0**
	comp=N,512nm,0.3s						
SSF				*e*Sg	**Sg**	**06 48 37.8**	**-0.3**
	comp=N,1μm,0.3s						
MLS	**Moulis**	**3.44**	**152**	Pn	**Pn**	**06 47 45.1**	**+1.4**
SMF	**Signal de Mont**	**3.48**	**78**	*e*Pn	**Pn**	**06 47 45.1**	**+1.0**
SMF	**Signal de Mont**	**3.48**	**78**	*e*Pg	**Pg**	**06 47 56.4**	**-1.0**
SMF				*e*Sn	**Sn**	**06 48 23.6**	**-1.2**
SMF				*e*Sg	**Sg**	**06 48 41.0**	**-1.4**
	comp=N,2μm,0.3s						
ECHI	**Chisagues Biel**	**3.48**	**164**	Pn	**Pn**	**06 47 45.2**	**+0.9**
MTLF	**Montolieu**	**3.58**	**137**	*e*P	**Pn**	**06 47 47.1**	**+1.6**
MTLF	**Montolieu**	**3.58**	**137**	*e*Pg	**Pg**	**06 47 57.9**	**-1.4**
MTLF				*e*Sn	**Sn**	**06 48 26.1**	**-1.2**
MTLF				*e*Sg	**Sg**	**06 48 44.1**	**-1.5**
	comp=N,1μm,0.3s						
MTLF	**Montolieu**	**3.58**	**137**	Pn	**Pn**	**06 47 47.0**	**+1.6**
LOR	**Lormes**	**3.63**	**68**	*e*Pn	**Pn**	**06 47 46.5**	**+0.2**
	baz=252						
LOR	**Lormes**	**3.63**	**68**	*e*P	**Pn**	**06 47 50.1**	**+3.8**
	baz=253						
LOR	**Lormes**	**3.63**	**68**	*e*Pg	**Pg**	**06 47 59.2**	**-1.2**
	baz=249						
LOR				*e*Sn	**Sn**	**06 48 26.7**	**-2.0**
	comp=N,428nm,0.3s						
LOR				*e*Sg	**Sg**	**06 48 47.2**	**-0.3**
	comp=N,1μm,0.3s,baz=242						
FNEB	**Nbias**	**3.87**	**143**	Pn	**Pn**	**06 47 51.3**	**+1.8**
PAND	**Andorre**	**3.98**	**151**	Pn	**Pn**	**06 47 52.9**	**+1.6**
LASF	**Ste Croix**	**4.01**	**117**	*e*Pn	**Pn**	**06 47 51.8**	**+0.3**
LASF	**Ste Croix**	**4.01**	**117**	*e*P	**Pn**	**06 47 54.0**	**+2.5**
LASF	**Ste Croix**	**4.01**	**117**	*e*Pg	**Pg**	**06 48 06.5**	**-1.2**
LASF				*e*Sn	**Sn**	**06 48 36.8**	**-1.3**
LASF				*e*Sg	**Sg**	**06 48 58.7**	**-1.0**
	comp=N,1μm,0.3s						
SSB	**Saint Sauveur**	**4.02**	**99**	Pn	**Pn**	**06 47 53.1**	**+1.4**
SSB	**Saint Sauveur**	**4.02**	**99**	Pn	**Pn**	**06 47 52.9**	**+1.3**
SSB				Sn	**Sn**	**06 48 37.8**	**-0.6**
VIVF	**Saint-Julien-l**	**4.22**	**104**	*e*Pn	**Pn**	**06 47 56.4**	**+2.0**
VIVF	**Saint-Julien-l**	**4.22**	**104**	*e*P	**Pn**	**06 47 58.5**	**+4.1**
VIVF	**Saint-Julien-l**	**4.22**	**104**	*e*Pg	**Pg**	**06 48 10.8**	**-0.9**
VIVF				*e*Sn	**Sn**	**06 48 42.2**	**-1.1**
	comp=N,1μm,0.3s						
VIVF				*e*Sg	**Sg**	**06 49 05.9**	**-0.6**
	comp=N,1μm,0.3s						
OG35	**Corcelles**	**4.64**	**87**	Pn	**Pn**	**06 48 01.1**	**+0.9**
SFTF	**Sexfontaines**	**4.72**	**60**	*e*Pn	**Pn**	**06 48 01.4**	**+0.2**
	baz=243						
SFTF	**Sexfontaines**	**4.72**	**60**	*e*P	**Pn**	**06 48 05.3**	**+4.1**
SFTF	**Sexfontaines**	**4.72**	**60**	*e*Pg	**Pg**	**06 48 18.8**	**-2.4**
	baz=241						
SFTF				*e*Sn	**Sn**	**06 48 53.6**	**-1.9**
SFTF				*e*Sg	**Sg**	**06 49 21.4**	**-0.9**
	comp=N,450nm,0.5s,baz=244						
DYA	**Yadsworthy**	**4.80**	**338**	*e*P	**Pn**	**06 48 02.5**	**+0.2**
DYA				IAML		06 49 31.4	
	comp=N,428nm,0.3s						
DYA				IAML		06 49 33.2	
	comp=E,625nm,0.6s						
MEZF	**Maizieres J'vi**	**4.86**	**57**	*e*Pn	**Pn**	**06 48 03.3**	**+0.2**
	baz=238						
MEZF	**Maizieres J'vi**	**4.86**	**57**	*e*P	**Pn**	**06 48 07.1**	**+4.0**
	baz=241						
MEZF	**Maizieres J'vi**	**4.86**	**57**	*e*Pg	**Pg**	**06 48 21.9**	**-2.0**
	baz=239						
MEZF				*e*Sn	**Sn**	**06 48 57.3**	**-1.7**
MEZF				*e*Sg	**Sg**	**06 49 26.6**	**-0.3**
	comp=E,1μm,0.5s,baz=239						
HMNX	**Herstmonceux**	**4.94**	**11**	*e*P	**Pn**	**06 48 05.1**	**+1.0**
HMNX				*e*S	**Sn**	**06 48 59.2**	**-1.6**
HMNX				IAML		06 49 35.5	
	comp=N,3μm,0.5s						
HMNX				IAML		06 49 37.3	
	comp=E,4μm,0.5s						
SAVF	**Savonnieres en**	**4.96**	**56**	*e*Pn	**Pn**	**06 48 05.0**	**+0.5**
	baz=232						
SAVF	**Savonnieres en**	**4.96**	**56**	*e*Pg	**Pg**	**06 48 23.5**	**-2.3**
	baz=236						
SAVF				*e*Sn	**Sn**	**06 48 58.6**	**-2.8**
SAVF				*e*Sg	**Sg**	**06 49 27.6**	**-2.4**
	comp=E,563nm,0.6s						
CCA1	**Carnmenellis**	**5.00**	**328**	*e*P	**Pn**	**06 48 05.2**	**+0.2**
CCA1				IAML		06 49 36.0	
	comp=E,398nm,0.4s						
CCA1				IAML		06 49 39.1	
	comp=N,461nm,0.8s						
CABF	**La Chapelle**	**5.01**	**81**	*e*Pn	**Pn**	**06 48 06.1**	**+0.8**
CABF	**La Chapelle**	**5.01**	**81**	*e*P	**Pn**	**06 48 09.2**	**+3.9**
CABF	**La Chapelle**	**5.01**	**81**	*e*Pg	**Pg**	**06 48 25.4**	**-1.4**
CABF				*e*Sn	**Sn**	**06 49 00.2**	**-2.6**
CABF				*e*Sg	**Sg**	**06 49 27.8**	**-3.8**
	comp=N,937nm,0.6s						
MENF	**Mencas**	**5.03**	**24**	Pn	**Pn**	**06 48 05.8**	**+0.5**
ORIF	**Oris-en-Rattie**	**5.03**	**100**	*e*P	**Pn**	**06 48 08.3**	**+2.8**
ORIF	**Oris-en-Rattie**	**5.03**	**100**	*e*Pg	**Pg**	**06 48 24.7**	**-2.4**
ORIF				*e*Sn	**Sn**	**06 49 01.8**	**-1.5**
ORIF				*e*Sg

BZEV	**Zevekote**	**5.76**	**26**	*b*Pn		**Pn**	**06 48 15.0**	**-0.4**
BZEV				*d*Pg		**Pg**	**06 48 40.8**	**-0.3**
BZEV				*d*Sn		**Sn**	**06 49 16.2**	**-4.8**
BZEV				*d*Sg		**Sg**	**06 49 56.2**	**+0.6**
	comp=E,539nm,0.6s							
BSKQ	**Steenkerk**	**5.77**	**35**	*d*Pn		**Pn**	**06 48 15.8**	**+0.2**
BSKQ				*d*Pg		**Pg**	**06 48 39.8**	**-1.4**
BRQR	**Ronquire**	**5.80**	**36**	*d*Pn		**Pn**	**06 48 15.4**	**-0.5**
BRQR				*d*Pg		**Pg**	**06 48 41.5**	**-0.3**
STRD	**Stroud**	**5.80**	**353**	*e*P		**Pn**	**06 48 16.9**	**+0.9**
BMRD	**Maredsous**	**5.80**	**40**	*b*Pn		**Pn**	**06 48 16.6**	**+0.5**
BMRD				*d*Pg		**Pg**	**06 48 39.4**	**-2.5**
BMRD				*d*Sn		Sn	06 49 13.9	-8.2
BMRD				*d*Sg		**Sg**	**06 49 56.1**	**-0.9**
	comp=E,285nm,0.6s							
SENIN	**Lac Senin/Sane**	**5.84**	**84**	Pn		**Pn**	**06 48 18.9**	**+2.2**
PBRG	**Braganca**	**5.87**	**226**	*e*Pn		**Pn**	**06 48 17.3**	**+0.3**
PBRG				*e*Sn		**Sn**	**06 49 19.4**	**-4.4**
PBRG				A		A	06 49 40.8	
	comp=E,39nm,0.4s							
RCHB	**Rochefort**	**5.92**	**43**	*d*Pn		**Pn**	**06 48 17.9**	**+0.3**
RCHB				*d*Pg		**Pg**	**06 48 42.0**	**-2.1**
RCHB				*d*Sn		**Sn**	**06 49 28.6**	**+3.7**
RCHB				*d*Sg		**Sg**	**06 50 02.5**	**+1.9**
	comp=E,288nm,0.6s							
UCM	**Universidad Co**	**5.93**	**196**	P		**Pn**	**06 48 21.6**	**+3.8**
UCM				S		**Sn**	**06 49 23.7**	**-1.6**
MONM	**Monmouth**	**5.93**	**350**	*e*P		**Pn**	**06 48 18.6**	**+0.9**
UCC	**Uccle**	**6.00**	**35**			**Pn**	**06 48 18.9**	**+0.2**
UCC	**Uccle**	**6.00**	**35**	*d*Pn		**Pn**	**06 48 20.4**	**+1.8**
UCC				*d*Pg		**Pg**	**06 48 45.8**	**+0.2**
UCC				*d*Sn		**Sn**	**06 49 26.6**	**-0.4**
UCC				*d*Sg		**Sg**	**06 50 05.5**	**+2.2**
BGES	**Gesves**	**6.01**	**41**	*b*Pn		**Pn**	**06 48 19.4**	**+0.6**
BGES				*d*Pg		**Pg**	**06 48 45.4**	**-0.4**
BGES				*d*Sn		**Sn**	**06 49 23.8**	**-3.4**
BGES				*d*Sg		**Sg**	**06 49 56.5**	**-7.0**
	comp=E,284nm,0.7s							
ECH	**Echery**	**6.04**	**66**			**Pn**	**06 48 18.6**	**-0.7**
LMR	**La Mourre**	**6.05**	**114**	*e*Pn		**Pn**	**06 48 20.4**	**+0.9**
LMR	**La Mourre**	**6.05**	**114**	*e*Pg		**Pg**	**06 48 43.9**	**-2.8**
LMR				*e*Sn		**Sn**	**06 49 24.5**	**-3.8**
LMR				*e*Sg		**Sg**	**06 50 02.1**	**-2.9**
	comp=E,149nm,0.4s							
WLF	**Walferdange**	**6.09**	**51**	Pn		**Pn**	**06 48 20.2**	**+0.2**
WLF	**Walferdange**	**6.09**	**51**	*d*Pn		**Pn**	**06 48 20.3**	**+0.4**
WLF				*d*Pg		**Pg**	**06 48 45.0**	**-2.3**
WLF				*d*Sn		**Sn**	**06 49 30.2**	**+1.1**
WLF				*d*Sg		**Sb**	**06 49 55.6**	**+6.8**
	comp=E,448nm,0.9s							
MCH1	**Michaelchurch**	**6.11**	**349**	*e*P		**Pn**	**06 48 21.4**	**+1.2**
BCLA	**Clavier**	**6.13**	**42**	*b*Pn		**Pn**	**06 48 21.1**	**+0.5**
BCLA				*d*Pg		**Pg**	**06 48 48.1**	**0.0**
BCLA				*d*Sn		**Sn**	**06 49 24.2**	**-6.0**
BCLA				*d*Sg		**Sg**	**06 50 05.5**	**-1.9**
	comp=E,287nm,0.6s							
CDF	**Champ du Feu**	**6.18**	**64**	*e*Pn		**Pn**	**06 48 20.2**	**-1.1**
CDF	**Champ du Feu**	**6.18**	**64**	*e*P		**Pn**	**06 48 25.9**	**+4.6**
CDF	**Champ du Feu**	**6.18**	**64**	*e*Pg		**Pg**	**06 48 45.2**	**-3.9**
CDF				*e*Sn		**Sn**	**06 49 27.8**	**-3.8**
CDF				*e*Sg		**Sg**	**06 50 05.6**	**-3.5**
	comp=E,890nm,0.7s							
ELMS	**Elmsett, Ipswi**	**6.23**	**12**	*e*P		**Pn**	**06 48 22.5**	**+0.7**
BSTI	**Sart Tilman**	**6.37**	**42**	*d*Pn		**Pn**	**06 48 24.4**	**+0.6**
BSTI				*d*Pg		**Pg**	**06 48 53.0**	**+0.3**
BSTI				*d*Sn		**Sn**	**06 49 38.3**	**+2.3**
BSTI				*d*Sg		**Sg**	**06 50 18.4**	**+3.4**
	comp=Z,86nm,0.6s							
BLCH	**La Chartreuse**	**6.42**	**42**	*b*Pn		**Pn**	**06 48 24.8**	**+0.4**
BLCH				*d*Pg		**Pg**	**06 48 51.3**	**-2.4**
BLCH				*d*Sg		**Sg**	**06 50 13.2**	**-3.5**
	comp=N,385nm,0.9s							
BHOU	**Houvegnez**	**6.42**	**45**	*b*Pn		**Pn**	**06 48 24.9**	**+0.3**
BHOU				*d*Sn		Sn	06 49 31.1	-6.3
BHOU				*d*Sg		**Sg**	**06 50 14.9**	**-1.9**
	comp=E,353nm,0.4s							
SBF	**Sospel**	**6.43**	**107**	*e*Pn		**Pn**	**06 48 25.6**	**+0.9**
SBF	**Sospel**	**6.43**	**107**	*e*Pg		**Pg**	**06 48 51.1**	**-2.8**
SBF				*e*Sn		**Sn**	**06 49 33.6**	**-4.1**
SBF				*e*Sg		**Sg**	**06 50 13.4**	**-3.7**
	comp=E,418nm,0.6s							
MVO	**Moncorvo**	**6.49**	**224**	*e*Pn		**Pn**	**06 48 26.0**	**+0.4**
MVO				*e*Sn		**Sn**	**06 49 34.1**	**-5.1**
MVO				A		A	06 49 43.4	
	comp=E,76nm,0.5s							
BEBN	**Eben Emael**	**6.56**	**41**	*b*Pn		**Pn**	**06 48 26.5**	**0.0**
BEBN				*d*Sn		**Sn**	**06 49 34.8**	**-6.0**
BEBN				*d*Sg		**Sg**	**06 50 17.7**	**-3.6**
	comp=E,391nm,0.5s							
PGAV	**Gavieira, Arco**	**6.57**	**234**	*e*Pn		**Pn**	**06 48 27.3**	**+0.6**
PGAV				*e*Sn		**Sn**	**06 49 36.9**	**-4.4**
PGAV				A		A	06 49 53.3	
	comp=E,47nm,0.4s							
MEM	**Membach**	**6.59**	**43**	*b*Pn		**Pn**	**06 48 27.0**	**+0.2**
MEM				*d*Pg		**Pg**	**06 48 56.4**	**-0.5**
PCAB	**Cabril**	**6.61**	**232**	*e*Pn		**Pn**	**06 48 27.6**	**+0.4**
PCAB				*e*Sn		**Sn**	**06 49 37.6**	**-4.5**
PCAB				A		A	06 49 55.5	
	comp=E,39nm,0.4s							
BMOL	**Mol**	**6.61**	**36**	*d*Pn		**Pn**	**06 48 26.7**	**-0.4**
BTNL	**Ternell**	**6.64**	**44**	*b*Pn		**Pn**	**06 48 27.6**	**+0.1**
BTNL				*d*Pg		**Pg**	**06 48 56.9**	**-0.8**
BTNL				*d*Sn		**Sn**	**06 49 41.0**	**-1.7**
BTNL				*d*SnSn		**SnSn**	**06 49 55.9**	**+2.0**
ESBB	**Sonseca Array**	**6.69**	**199**			**Pn**	**06 48 29.5**	**+1.2**
ESBB				Sn		**Sn**	**06 49 41.1**	**-2.9**
ESDC	**Sonseca Array**	**6.69**	**199**	Pn		**Pn**	**06 48 29.2**	**+0.9**
	comp=E,1.6nm,0.3s,baz=24,slow=13,SNR=29							
ESDC				Sn		**Sn**	**06 49 39.7**	**-4.3**
	comp=E,7.2nm,0.3s,baz=18,slow=23,SNR=9.0							
ESDC				Lg	Lg		06 50 15.1	
	comp=E,2.4nm,0.3s,baz=30,slow=26,SNR=5.3							
ESDC	**Sonseca Array**	**6.69**	**199**			**Pn**	**06 48 29.4**	**+1.1**
POLO	**Lamas de Olo**	**6.72**	**229**	*e*Pn		**Pn**	**06 48 29.1**	**+0.4**
POLO				*e*Sn		**Sn**	**06 49 40.1**	**-4.8**
POLO				A		A	06 49 48.4	
	comp=E,13nm,0.6s							
PVRL	**Vila Real**	**6.75**	**228**	*e*Pn		**Pn**	**06 48 29.4**	**+0.3**
PVRL				*e*Sn		**Sn**	**06 49 41.2**	**-4.4**
PVRL				A		A	06 49 58.4	
	comp=E,32nm,0.8s							
WACR	**West Acre**	**6.80**	**9**	*e*P		**Pn**	**06 48 30.0**	**+0.3**
BFO	**Black Forest**	**6.83**	**67**			**Pn**	**06 48 29.2**	**-0.9**
PAB	**San Pablo**	**6.90**	**201**	Pn		**Pn**	**06 48 31.9**	**+0.7**
TUE	**Stuetta**	**7.26**	**83**	Pn		**Pn**	**06 48 36.6**	**+0.4**
PVIS	**Viseu**	**7.26**	**225**	*e*Pn		**Pn**	**06 48 35.7**	**-0.4**
PVIS				*e*Sn		**Sn**	**06 49 52.6**	**-5.5**
MAHO	**Mahon**	**7.28**	**145**	P		**Pn**	**06 48 37.3**	**+1.1**
MAHO				S		**Sn**	**06 49 53.2**	**-5.3**
MTE	**Manteigas**	**7.33**	**222**	*e*Pn		**Pn**	**06 48 36.2**	**-0.9**
MTE				*e*Sn		**Sn**	**06 49 54.6**	**-5.3**
MTE				A		A	06 50 30.5	
	comp=E,33nm,0.6s							
MTE	**Manteigas**	**7.33**	**222**	Pn		**Pn**	**06 48 37.8**	**+0.6**
LBWR	**Ladybower, Pea**	**7.40**	**357**	*e*P		**Pn**	**06 48 37.9**	**0.0**
YRC	**Rhoscolyn**	**7.58**	**344**	*e*P		**Pn**	**06 48 41.2**	**+0.9**
WLF1	**Llynfaes**	**7.58**	**345**	*e*P		**Pn**	**06 48 41.8**	**+1.4**
DAVOX	**Davos/Dischmat**	**7.63**	**80**	Pn		**Pn**	**06 48 44.1**	**+2.8**
	comp=E,5.0nm,0.3s,baz=269,slow=9.0,SNR=27							
DAVOX				Sn		**Sn**	**06 50 06.8**	**-0.5**
	comp=E,3.9nm,0.3s,baz=280,slow=17,SNR=3.6							
DAVOX				Lg	Lg		06 50 44.9	
	comp=E,5.0nm,0.3s,baz=307,slow=14,SNR=4.7							
DAVOX				LR		LR	06 52 05.1	
	comp=E,66nm,18.1s,baz=265,slow=41							
DAVA	**Damuels**	**7.66**	**77**	*e*Pn		**Pn**	**06 48 43.4**	**+1.8**
	comp=E,5.2nm,0.3s							
WPS	**Cemaes, Angles**	**7.70**	**345**	*e*P		**Pn**	**06 48 43.2**	**+1.1**
PCBR	**Castelo Branco**	**7.75**	**219**	*e*Pn		**Pn**	**06 48 41.7**	**-1.1**
PCBR				*e*Sn		**Sn**	**06 50 03.9**	**-6.2**
PCBR				A		A	06 50 21.5	
	comp=E,18nm,0.5s							
COI	**Coimbra**	**7.90**	**225**	Pn		**Pn**	**06 48 45.7**	**+0.9**
PGF	**Pioggiola**	**8.03**	**112**	*e*Pn		**Pn**	**06 48 47.5**	**+0.7**
PGF				*e*Sn		**Sn**	**06 50 12.6**	**-4.6**
	comp=E,42nm,0.4s							
PMRV	**Marv??o**	**8.06**	**217**	*e*Pn		**Pn**	**06 48 46.2**	**-0.8**
PMRV				*e*Sn		**Sn**	**06 50 11.8**	**-5.9**
PCAS	**Casmilo, Conde**	**8.06**	**225**	*e*Pn		**Pn**	**06 48 47.6**	**+0.5**
PCAS				*e*Sn		**Sn**	**06 50 11.9**	**-5.8**
PCAS				A		A	06 50 32.3	
	comp=E,16nm,0.5s							
SALO	**Salr**	**8.13**	**89**	Pn		**Pn**	**06 48 48.9**	**+0.9**
FETA	**Feichten**	**8.22**	**79**	*e*Pn		**Pn**	**06 48 51.5**	**+2.1**
	comp=E,3.5nm,0.2s							
FETA				*e*Sn		**Sn**	**06 50 20.0**	**-1.8**
	comp=E,6.2nm,0.3s							
RETA	**Reutte**	**8.28**	**76**	*e*Pn		Pn	06 48 56.6	+6.6
	comp=E,5.5nm,0.2s							
MOTA	**Moosalm**	**8.49**	**77**	*e*Pn		**Pn**	**06 48 55.0**	**+1.9**
	comp=E,3.7nm,0.2s							
SQTA	**Sankt Quirin**	**8.56**	**78**	*e*Pn		**Pn**	**06 48 56.3**	**+2.3**
	comp=E,9.4nm,0.2s							
PESTR	**Estremoz**	**8.61**	**216**	*e*Pn		**Pn**	**06 48 54.0**	**-0.6**
PESTR				A		A	06 49 27.1	
	comp=E,4.7nm,0.3s							
PESTR				*e*Sn		Sn	06 50 24.7	-6.6
PESTR	**Estremoz**	**8.61**	**216**	Pn		**Pn**	**06 48 54.9**	**+0.2**
PSBE	**So Bento**	**8.62**	**224**	*e*Pn		**Pn**	**06 48 54.9**	**+0.1**
PSBE				*e*Sn		**Sn**	**06 50 25.3**	**-6.3**
PSBE				A		A	06 50 34.8	
	comp=E,23nm,0.6s							
PMTG	**Montargil**	**8.71**	**220**	*e*Sn		**Sn**	**06 50 27.4**	**-6.4**
PMTG				A		A	06 50 34.5	
	comp=E,9.3nm,0.7s							
WATA	**Walderalm**	**8.81**	**77**	*e*Pn		**Pn**	**06 48 59.8**	**+2.3**
	comp=E,4.5nm,0.2s							
WTTA	**Wattenberg**	**8.85**	**77**	*e*Pn		**Pn**	**06 49 00.3**	**+2.3**
	comp=E,15nm,0.3s							
WTTA				*e*Sn		**Sn**	**06 50 35.1**	**-2.2**
	comp=E,44nm,0.8s							
TEOL	**Teolo**	**8.96**	**90**	Pn		**Pn**	**06 48 59.2**	**-0.2**
PBAR	**Barrancos**	**9.00**	**211**	*e*Sn		Sn	06 50 34.1	-6.7
GRFO	**Grafenberg**	**9.05**	**62**	Pn		**Pn**	**06 49 00.2**	**-0.5**
GRA1	**Grafenberg Arr**	**9.06**	**62**	Pn		**Pn**	**06 49 00.2**	**-0.5**
EVO	**Evora**	**9.07**	**217**	P		**Pn**	**06 49 00.9**	**0.0**
EVO				S		**Sn**	**06 50 36.7**	**-5.9**
ESK	**Eskdalemuir**	**9.40**	**353**	Pn		**Pn**	**06 49 05.5**	**+0.2**
EKA	**Eskdalemuir Ar**	**9.41**	**353**	Pn		**Pn**	**06 49 05.4**	**-0.1**
	baz=172,slow=13,SNR=15							
EKA				Sn		**Sn**	**06 50 46.1**	**-4.6**
	baz=180,slow=23,SNR=9.1							
EKA				Lg	Lg		06 51 49.5	
	baz=172,slow=30,SNR=1.3							
ABTA	**Abfaltersbach**	**9.44**	**81**	*e*Pn		Pn	06 49 14.2	+8.2
	comp=E,1.9nm,0.3s							
ABTA				*e*Sn		**Sn**	**06 50 50.6**	**-1.0**
	comp=E,5.9nm,0.5s							
PBEJ	**Beja**	**9.44**	**215**	*e*Sn		Sn	06 50 44.7	-7.0
EMAL	**Malaga-Limoner**	**9.59**	**196**	P		Pn	06 49 12.9	+5.0
EMAL				S		**Sn**	**06 50 55.5**	**+0.2**
PNCL	**Nicolau / Gran**	**9.64**	**218**	*e*Pn		**Pn**	**06 49 08.0**	**-0.7**
PNCL				*e*Sn		Sn	06 50 49.1	-7.5
PNCL				A		A	06 51 25.9	
	comp=E,7.5nm,0.7s							
PCVE	**Castro Verde**	**9.85**	**214**	*e*Pn		**Pn**	**06 49 11.2**	**-0.4**
PCVE				*e*Sn		Sn	06 50 54.1	-7.7
PCVE				A		A	06 51 20.9	
	comp=E,12nm,0.6s							
PVAQ	**Vaqueiros**	**9.93**	**212**	*e*Pn		**Pn**	**06 49 12.0**	**-0.7**
PVAQ				*e*Sn		Sn	06 50 55.8	-7.9
PVAQ				A		A	06 51 23.0	
	comp=E,11nm,0.5s							
PVAQ	**Vaqueiros**	**9.93**	**212**	Pn		**Pn**	**06 49 09.7**	**-3.0**
NKC	**Novy Kostel**	**9.98**	**60**	*e*PN		**Pn**	**06 49 12.6**	**-0.8**
NKC				*e*SG		Sn	06 52 03.3	+58
	comp=E,66nm,0.7s							
KBA	**Koelnbreinsper**	**10.01**	**79**	*i* Pn		**Pn**	**06 49 17.1**	**+3.3**
	comp=E,2.8nm,0.2s							
KBA				*e*Sn		**Sn**	**06 51 04.1**	**-1.6**
	comp=E,5.3nm,0.3s							
VSL	**Villasalto**	**10.09**	**127**	Pn		**Pn**	**06 49 15.7**	**+0.9**
KHC	**Kasperske Hory**	**10.39**	**67**			**Pn**	**06 49 19.3**	**+0.3**
KHC	**Kasperske Hory**	**10.39**	**67**	*e*PN		**Pn**	**06 49 18.9**	**-0.1**
KHC				*e*SN		**Sn**	**06 51 09.4**	**-5.5**
KHC				*e*SG			06 52 17.8	
	comp=E,57nm,0.7s							
GEC2	**GERESS Array S**	**10.42**	**69**			**Pn**	**06 49 20.2**	**+0.8**
GERES	**GERESS Array B**	**10.42**	**69**	Pn		**Pn**	**06 49 20.1**	**+0.8**
	comp=E,3.1nm,0.3s,baz=265,slow=14,SNR=41							
GERES				Pg			06 50 04.4	
	comp=E,1.2nm,0.3s,baz=257,slow=13,SNR=1.8							
GERES				Sn		**Sn**	**06 51 12.3**	**-3.3**
	comp=E,1.2nm,0.3s,baz=269,slow=21,SNR=1.7							
GERES				Lg	Lg		06 52 16.8	
	comp=E,0.5nm,0.3s,baz=254,slow=28,SNR=2.3							
PFVI	**Vila Bisbo**	**10.60**	**216**	Pn		**Pn**	**06 49 22.2**	**+0.4**
MOA	**Molln**	**10.66**	**75**	*i* Pn		**Pn**	**06 49 25.7**	**+3.0**
	comp=E,1.6nm,0.2s							
CLL	**Collm**	**10.71**	**55**	*i* Pn		**Pn**	**06 49 24.8**	**+1.5**
	comp=Z,9.0nm,0.8s							
CLL				*e*Pg			06 50 14.0	
CLL				*e*Sg			06 52 31.0	
	comp=Z,29nm,0.9s							
CKRC	**Cesky Krumlov**	**10.81**	**69**	*e*PN		**Pn**	**06 49 26.0**	**+1.3**
CKRC				*e*SG			06 52 32.5	
BRG	**Berggiesshubel**	**11.10**	**59**	*ex*		x	06 49 15.1	
BRG				Amp			06 49 18.7	
	comp=Z,1.8nm,0.6s							
BRG				*ex*		x	06 49 30.4	
BRG				*ex*		x	06 50 21.9	
BRG				*ex*		x	06 51 11.4	
BRG				*ex*		x	06 52 10.7	
BRG				*ex*		x	06 52 40.0	
BRG				Amp			06 53 02.7	
	comp=Z,34nm,0.9s							
BRG				Amp			07 22 23.0	
	comp=Z,0.2nm,18.9s							
BRG				Amp			07 22 34.0	
	comp=E,0.2nm,15.9s							
BRG				Amp			07 22 35.0	
	comp=N,0.2nm,12.0s							
SOKA	**Soboth**	**11.17**	**81**	*e*Pn		**Pn**	**06 49 33.3**	**+3.5**
	comp=N,0.5nm,0.2s							
PRU	**Pruhonice**	**11.20**	**64**	*e*SG			06 52 42.1	
	comp=N,130nm,1.6s							
CONA	**Conrad Observa**	**11.74**	**75**	*e*Pn		**Pn**	**06 49 39.6**	**+2.1**
	comp=N,1.1nm,0.2s							
KRUC	**Moravsky**	**12.20**	**69**	*e*PN		**Pn**	**06 49 44.0**	**+0.3**
UPC	**Upice**	**12.24**	**62**	*e*SG			06 53 15.8	
	comp=N,134nm,1.7s							
CHVC	**Chvalec**	**12.29**	**62**	*e*SG			06 53 17.0	
	comp=N,46nm,0.9s							
VRAC	**Vranov**	**12.37**	**68**	Lg		Lg	06 53 18.7	
	comp=N,0.6nm,0.3s,baz=308,slow=6.4,SNR=3.6							
VRAC				LR		LR	06 55 08.6	
	comp=N,22nm,20.2s,baz=254,slow=40							
OSTC	**Ostas**	**12.38**	**62**	*e*SG			06 53 19.1	
	comp=N,126nm,1.7s							
DPC	**Dobruska-Polom**	**12.40**	**63**	*e*SG			06 53 21.3	
	comp=N,52nm,1.3s							
KRLC	**Kraliky**	**12.62**	**65**	*e*SG			06 53 27.9	
	comp=N,36nm,1.0s							
KEST	**Kesra**	**12.95**	**139**	Pn		**Pn**	**06 49 54.6**	**+0.5**
	comp=N,0.3nm,0.3s,baz=42,slow=22,SNR=2.1							
KEST	**Kesra**	**12.95**	**139**	Pn		**Pn**	**06 49 54.9**	**+0.8**
MORC	**Moravsky Berou**	**13.05**	**67**	Pn		**Pn**	**06 49 54.7**	**-0.6**
OVD	**Ostervraa, Den**	**13.28**	**28**	*i* P		Pn	06 49 54.6	-3.7
SNART	**Snartemo**	**13.33**	**19**	*i* P		Pn	06 49 55.8	-3.2
SNART				*i* S		Sn	06 52 13.4	-13
MDT	**Midelt**	**13.47**	**193**	Pn		**Pn**	**06 50 03.3**	**+2.1**
	comp=N,0.1nm,0.3s,baz=347,slow=14,SNR=2.0							
MDT				Sn		**Sn**	**06 52 24.2**	**-6.2**
	comp=N,0.1nm,0.3s,baz=21,slow=17,SNR=2.7							
MDT				LR		LR	06 55 13.2	
	comp=N,94nm,18.6s,baz=304,slow=37							
HOMB	**Homborsund**	**13.59**	**22**	*i* P		Pn	06 49 58.0	-4.5
FABU	**Falkenberg**	**13.92**	**33**	*i* P		Pn	06 50 03.0	-4.1
FABU				*i* S		Sn	06 52 27.7	-13
FABU				*i* S		Sn	06 52 31.3	-10
ONAU	**Onsala**	**13.92**	**30**	*i* P		Pn	06 50 03.6	-3.5
ONAU				*i* S		Sn	06 52 30.7	-10
DEL	**Delary**	**14.01**	**36**	*i* P		**Pn**	**06 50 06.0**	**-2.3**
DEL						IAmb	IAmb	06 50 09.0
	comp=Z,0.7nm,0.3s							
DEL				*i* S		Sn	06 52 32.5	-11
BLEU	**Blekinge**	**14.73**	**40**	*i* P		**Pn**	**06 50 15.5**	**-2.7**
STRU	**Stroemstad**	**14.98**	**25**	*i* P		Pn	06 50 17.4	-4.2
STRU				*i* S		Sn	06 52 55.2	-12
NAO01	**NORSAR Array S**	**16.43**	**21**	Pn		**Pn**	**06 50 38.5**	**-1.8**
HFS	**Hagfors**	**16.63**	**27**	Pn		**Pn**	**06 50 40.3**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=161,slow=23,SNR=2.6							
HFS				Sn		Sn	06 53 35.9	-11
	comp=Z,0.3nm,0.3s,baz=3.9,slow=24,SNR=2.0							
HFS				LR		LR	06 57 11.8	
	comp=Z,52nm,19.4s,baz=221,slow=37							
NB2	**NORSAR Subarra**	**16.68**	**21**	P		**Pn**	**06 50 41.8**	**-1.7**
	comp=Z,5.4nm,0.9s,baz=211,slow=11							
NOA	**NORSAR Array B**	**16.68**	**21**	Pn		**Pn**	**06 50 40.8**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=131,slow=18,SNR=3.9							
NOA				LR		LR	06 56 31.3	
	comp=Z,26nm,21.4s,baz=220,slow=35							
NC405	**NORSAR Array S**	**16.87**	**22**	Pn		**Pn**	**06 50 44.4**	**-1.5**
NC405				IAmb		IAmb	06 50 47.9	
	comp=Z,23nm,1.2s							
NC303	**NORSAR Array S**	**16.88**	**21**	Pn		**Pn**	**06 50 45.7**	**-0.3**
NC303				IAmb		IAmb	06 51 02.0	
	comp=Z,27nm,1.4s							
MLR	**Muntele Rosu**	**18.85**	**82**	P		**Pn**	**06 51 12.3**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=308,slow=14,SNR=1.6							
NACGM	**Naroch**	**19.73**	**53**	*e*P		**P**	**06 51 20.9**	**+1.6**
	baz=256							
AKASG	**Malin Array Be**	**20.60**	**66**	P		**P**	**06 51 29.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=265,slow=11,SNR=0.8							
FINES	**FINESS Array B**	**22.04**	**36**	P		**P**	**06 51 44.8**	**+0.5**
	comp=Z,6.0nm,0.7s,baz=250,slow=8.8,SNR=18							
FINES	**FINESS Array B**	**22.04**	**36**	P		**P**	**06 51 44.6**	**+0.4**
FIA1	**FINESS Array S**	**22.04**	**36**	P		**P**	**06 51 44.0**	**-0.2**
FIA1				IAmb		IAmb	06 51 47.6	
	comp=Z,5.5nm,0.7s							
ARCES	**ARCESS Array B**	**27.05**	**20**	P		**P**	**06 52 32.7**	**+0.8**
	comp=Z,4.3nm,0.7s,baz=216,slow=9.2,SNR=28							
ARCES	**ARCESS Array B**	**27.05**	**20**	P		**P**	**06 52 29.9**	**-2.0**
ARCES				IAmb		IAmb	06 52 55.8	
	comp=Z,12nm,1.2s							
KEV	**Kevo**	**27.58**	**21**	P		**P**	**06 52 35.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**32.85**	**175**	P		**P**	**06 53 23.9**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=355,slow=8.6,SNR=6.3							
TORD	**Torodi Ar. Bea**	**32.85**	**175**	P		**P**	**06 53 24.1**	**+0.4**
DBIC	**Dimbokro**	**39.34**	**186**	P		**P**	**06 54 22.6**	**+3.4**
	comp=Z,1.8nm,0.6s,baz=26,slow=9.3,SNR=1.7							
DBIC	**Dimbokro**	**39.34**	**186**	P		**P**	**06 54 19.0**	**-0.1**
DBIC				IAmb		IAmb	06 54 39.1	
	comp=Z,15nm,1.4s							
LIC	**Lamto**	**39.80**	**186**	*e*P		**P**	**06 54 26.6**	**+3.7**
	comp=Z,75nm,1.8s							
LIC				*e*R				
	comp=Z,72nm,23.7s							
ABKAR	**Akbulak array**	**40.28**	**62**	P		**P**	**06 54 26.9**	**+0.2**
ABKAR	**Akbulak array**	**40.28**	**62**	P		**P**	**06 54 27.9**	**+1.3**
MKAR	**Makanchi Array**	**54.81**	**57**	P		**P**	**06 56 22.9**	**+3.3**
	comp=Z,0.3nm,0.5s,baz=312,slow=4.3,SNR=4.3							
YKA	**Yellowknife Ar**	**59.59**	**330**	P		**P**	**06 56 55.5**	**+2.5**
	comp=Z,0.1nm,0.6s,baz=52,slow=6.9,SNR=5.1							
YKA	**Yellowknife Ar**	**59.59**	**330**	P		**P**	**06 56 52.8**	**-0.2**
SONM	**Songino Array**	**67.11**	**44**	P		**P**	**06 57 46.1**	**+2.8**
	comp=Z,0.4nm,0.4s,baz=330,slow=8.3,SNR=2.8							
SONM	**Songino Array**	**67.11**	**44**	P		**P**	**06 57 43.4**	**+0.1**
SONM				IAmb		IAmb	06 57 50.4	
	comp=Z,1.3nm,1.2s							
PDAR	**Pinedale Array**	**71.17**	**312**	P		**P**	**06 58 11.1**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=72,slow=6.9

LPAZ	La Paz	4.75	4	*eP*		Pn	07 03 52.0	+1.8	
SIV	San Ignacio	8.66	56	P		Pn	07 04 29.3	-13	
	comp=E,11nm,0.3s,baz=250,slow=10.0,SNR=146								
VILB	Vilhena	11.31	46	*eP*		Pn	07 05 16.3	-1.6	
ETMB	Extrema	11.38	12	*eP*		Pn	07 05 20.2	+1.4	
PDRB	Porto dos Gac	14.68	52	*eP*		Pn	07 05 59.3	-2.2	
SNDB	Serra Nova Dou	18.80	64	*eP*		P	07 06 49.0	-0.5	
TER01	Tubaro-SC	19.10	117	*eP*		P	07 06 50.1	-2.6	
IPMB	Ipameri, GO	19.38	84	*eP*		P	07 06 55.1	-0.8	
PLCA	Paso Flores	19.70	185	P		Pn	07 07 01.3	-0.6	
	comp=E,0.1nm,0.3s,baz=7.9,slow=10,SNR=3.4								
PLCA	Paso Flores	19.70	185	*eP*		P	07 07 00.3	+1.1	
BDFB	Brasilia	20.18	78	P		P	07 07 03.8	-0.9	
	comp=E,0.4nm,0.3s,baz=273,slow=1.5,SNR=4.2								
ITTB	Itaituba	20.71	39	*eP*		P	07 07 08.8	-1.4	
MAN01	Angra dos Reis	22.84	99	*eP*		P	07 07 30.7	-1.6	
SMTB	Santa Maria do	23.53	62	*eP*		P	07 07 38.2	-0.5	
MALB	Monte Alegre	23.60	38	*eP*		P	07 07 38.2	-1.0	
TORD	Torodi Ar. Bea	76.86	70	P		P	07 14 18.0	-0.2	
	comp=E,0.5nm,0.5s,baz=250,slow=5.4,SNR=6.2								
YKA	Yellowknife Ar	90.89	340	P		P	07 15 29.9	+1.4	
	comp=E,0.5nm,0.5s,baz=131,slow=4.7,SNR=25								
DLBC	Dease Lake	93.97	332	P		P	07 15 46.5	+3.6	
	comp=E,3.2nm,0.6s,baz=121,slow=8.7,SNR=12								

NEIC ***28*** *07:10:51.7±2.0, 19°.73S±0°.06×66°.69W±0°.08, h238km±7km, mb4.4/63, Error ellipse: s-maj=11.3km s-min=8.5km az=77.0*

IDC ***28*** *07:10:51.7±0.9, 19°.75S×66°.66W, h238km±8km, mb3.7/10, mb1 3.8/15, mb1mx3.7/31, mbtmp4.2/15, Error ellipse: s-maj=15.6km s-min=9.3km az=85.0*

SCB ***28*** *07:10:51.3±1.2, 19°.81S×66°.82W, h272km±28km, ML4.5/14, MW4.1, Error ellipse: s-maj=8.5km s-min=3.7km az=1.0*

SJA ***28*** *07:10:52.0, 19°.77S×66°.90W, h270km, ML4.2*

GUC ***28*** *07:10:53.8±0.6, 19°.77S×67°.04W, h267km±9km, ML4.4*

VAO ***28*** *07:10:53.3±0.3, 19°.73S×66°.76W, h246km, mb4.1*

ISC 28 07:10:52.1±0.6, 19°.78S±0°.04×66°.85W±0°.05, h248km±6km, n218, σ1§11/232, mb4.3/37, 2C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.85**	**142**	P		**Pn**	**07 11 34.9**	**+1.3**
MOCB				IAML			07 12 07.6	
	2µm,1.5s							
PB08	**IPOC Station P**	**2.20**	**260**			**Pn**	**07 11 38.1**	**+1.3**
PB08					Sn	**S**	**07 12 12.9**	**+1.2**
PB08	**IPOC Station P**	**2.20**	**260**	*eP*		**Pn**	**07 11 38.4**	**+1.7**
PB08				*eS*		**S**	**07 12 11.9**	**+0.2**
PB08				IAML			07 12 20.2	
	comp=E,300nm,0.3s							
PB08	**IPOC Station P**	**2.20**	**260**	P		**Pn**	**07 11 38.8**	**+2.1**
PB08				IAML			07 12 19.6	
	comp=E,433nm,0.5s							
PB08	**IPOC Station P**	**2.20**	**260**	*i* P		**Pn**	**07 11 38.0**	**+1.3**
PB08				IAML			07 12 20.3	
	comp=Z,109nm,0.3s							
GO01	**Chusmiza**	**2.21**	**272**			**Pn**	**07 11 38.2**	**+1.2**
GO01	**Chusmiza**	**2.21**	**272**	*eP*		**Pn**	**07 11 38.1**	**+1.2**
GO01				IAML			07 12 23.3	
	comp=N,734nm,0.1s							
GO01	**Chusmiza**	**2.21**	**272**	*i* P		**Pn**	**07 11 38.0**	**+1.0**
PB11	**IPOC Station P**	**2.64**	**270**			**Pn**	**07 11 41.5**	**+0.6**
PB11					Sn	**S**	**07 12 19.1**	**-0.3**
PB11	**IPOC Station P**	**2.64**	**270**	*eP*		**Pn**	**07 11 41.4**	**+0.5**
PB11				*eS*		**S**	**07 12 18.3**	**-1.0**
PB11				IAML			07 12 21.8	
	comp=N,963nm,0.7s							
PB11	**IPOC Station P**	**2.64**	**270**	P		**Pn**	**07 11 41.8**	**+0.9**
PB11				IAML			07 12 21.2	
	comp=N,501nm,0.2s							
PB11	**IPOC Station P**	**2.64**	**270**	*i* P		**Pn**	**07 11 41.0**	**+0.1**
PB11				IAML			07 12 21.1	
	comp=Z,309nm,0.2s							
YJA	**Yavi**	**2.69**	**153**	P		**Pn**	**07 11 42.6**	**+0.9**
YJA				IAML			07 12 26.5	
	comp=Z,415nm,0.5s							
YJA	**Yavi**	**2.69**	**153**	*i* P		**Pn**	**07 11 42.0**	**+0.3**
YJA				IAML			07 12 21.5	
	comp=Z,156nm,0.7s							
PB01	**IPOC Station P**	**2.78**	**243**			**Pn**	**07 11 42.8**	**+0.6**
PB01	**IPOC Station P**	**2.78**	**243**	*eP*		**Pn**	**07 11 43.0**	**+0.8**
PB01				*eS*		**S**	**07 12 21.1**	**-0.7**
PB01				IAML			07 12 23.2	
	comp=N,1µm,0.5s							
PB01	**IPOC Station P**	**2.78**	**243**	P		**Pn**	**07 11 43.8**	**+1.6**
PB01				IAML			07 12 23.5	
	comp=N,319nm,0.4s							
PB01	**IPOC Station P**	**2.78**	**243**	*i* P		**Pn**	**07 11 43.0**	**+0.8**
PB01				IAML			07 12 23.6	
	comp=Z,410nm,0.1s							
PB16	**IPOC Station P**	**2.90**	**299**			**Pn**	**07 11 45.7**	**+1.7**
PB16	**IPOC Station P**	**2.90**	**299**	⇑ *iP*		**Pn**	**07 11 45.9**	**+1.9**
PB16	**IPOC Station P**	**2.90**	**299**	P		**Pn**	**07 11 45.5**	**+1.5**
PB16	**IPOC Station P**	**2.90**	**299**	*i* P		**Pn**	**07 11 46.0**	**+1.9**
PB16				IAML			07 12 38.9	
	comp=Z,49nm,0.3s							
PB09	**IPOC Station P**	**3.01**	**228**			**Pn**	**07 11 45.4**	**+0.6**
PB09	**IPOC Station P**	**3.01**	**228**	*eP*		**Pn**	**07 11 46.1**	**+1.4**
PB09				*eS*		**S**	**07 12 26.5**	**+0.2**
PB09	**IPOC Station P**	**3.01**	**228**	P		**Pn**	**07 11 47.1**	**+2.3**
PB09				IAML			07 12 30.1	
	comp=Z,563nm,0.8s							
PB09	**IPOC Station P**	**3.01**	**228**	*i* P		**Pn**	**07 11 46.0**	**+1.2**
PB09				IAML			07 12 28.6	
	comp=Z,626nm,0.5s							
TA02	**Huaiquique**	**3.12**	**260**			**Pn**	**07 11 46.9**	**+1.0**
TA02	**Huaiquique**	**3.12**	**260**	*eP*		**Pn**	**07 11 47.0**	**+1.1**
TA02				*eS*		**S**	**07 12 26.5**	**-1.8**
TA02	**Huaiquique**	**3.12**	**260**	*i* P		**Pn**	**07 11 47.0**	**+1.1**
TA02				IAML			07 12 32.6	
	comp=Z,488nm,0.2s							
BBOE	**La Paz, Chanca**	**3.14**	**340**	P		**Pn**	**07 11 49.0**	**+2.3**
BBOE				IAML			07 12 33.4	
	comp=Z,447nm,0.8s							
TA01	**Diego Aracena**	**3.23**	**255**			**Pn**	**07 11 47.4**	**+0.4**
TA01	**Diego Aracena**	**3.23**	**255**	*eP*		**Pn**	**07 11 47.8**	**+0.8**
TA01				*eS*		**S**	**07 12 27.7**	**-2.7**
TA01	**Diego Aracena**	**3.23**	**255**	*i* P		**Pn**	**07 11 48.0**	**+1.0**
TA01				IAML			07 12 32.2	
	comp=Z,267nm,0.8s							
PB02	**IPOC Station P**	**3.24**	**241**			**Pn**	**07 11 47.8**	**+0.5**
PB02	**IPOC Station P**	**3.24**	**241**	*eP*		**Pn**	**07 11 48.1**	**+0.9**
PB02				*eS*		**S**	**07 12 28.9**	**-2.0**
PB02	**IPOC Station P**	**3.24**	**241**	P		**Pn**	**07 11 48.5**	**+1.2**
PB02				IAML			07 12 32.3	
	comp=Z,1µm,0.4s							
PB02	**IPOC Station P**	**3.24**	**241**	*i* P		**Pn**	**07 11 49.0**	**+1.7**
PB02				IAML			07 12 35.7	
	comp=Z,1µm,0.4s							
PATCX	**Punta Patache**	**3.27**	**251**			**Pn**	**07 11 48.9**	**+1.3**
PATCX	**Punta Patache**	**3.27**	**251**	*eP*		**Pn**	**07 11 48.8**	**+1.3**
PATCX				*eS*		**S**	**07 12 29.1**	**-2.3**
PATCX	**Punta Patache**	**3.27**	**251**	*i* P		**Pn**	**07 11 49.0**	**+1.4**
PATCX				IAML			07 12 34.2	
	comp=Z,803nm,0.5s							
AF01	**San Pedro de A**	**3.39**	**201**	Pn		**Pn**	**07 11 51.2**	**+2.1**
LVC	**Limon Verde**	**3.41**	**214**	P		**Pn**	**07 11 50.4**	**+0.9**
	comp=Z,8.6nm,0.3s,baz=34,slow=7.6,SNR=104							
LVC					S	**S**	**07 12 34.7**	**0.0**
	comp=Z,29nm,0.3s,baz=218,slow=16,SNR=27							
LVC	**Limon Verde**	**3.41**	**214**	*eP*		**Pn**	**07 11 50.3**	**+0.9**
LVC				*eS*		**S**	**07 12 33.1**	**-1.7**
LVC	**Limon Verde**	**3.41**	**214**	P		**Pn**	**07 11 51.0**	**+1.6**
LVC	**Limon Verde**	**3.41**	**214**	*i* P		**Pn**	**07 11 51.0**	**+1.6**
LVC				IAML			07 12 38.4	
	comp=Z,123nm,0.5s							
LVC	**Limon Verde**	**3.41**	**214**	*eP*		**Pn**	**07 11 50.4**	**+0.9**
PB07	**IPOC Station P**	**3.44**	**235**			**Pn**	**07 11 50.7**	**+1.2**
PB07	**IPOC Station P**	**3.44**	**235**	*eP*		**Pn**	**07 11 50.4**	**+0.8**
PB07				*eS*		**S**	**07 12 33.3**	**-1.8**
PB07	**IPOC Station P**	**3.44**	**235**	P		**Pn**	**07 11 51.2**	**+1.6**
PB07				IAML			07 12 38.7	
	comp=Z,705nm,0.4s							
PB07	**IPOC Station P**	**3.44**	**235**	*i* P		**Pn**	**07 11 51.0**	**+1.4**
PB07				IAML			07 12 38.5	
	comp=Z,712nm,0.5s							
PB12	**IPOC Station P**	**3.49**	**289**	Pn		**Pn**	**07 11 49.9**	**-0.1**
PB12	**IPOC Station P**	**3.49**	**289**	⇑ *iP*		**Pn**	**07 11 50.1**	**+0.1**
PB12				*eS*		**S**	**07 12 33.5**	**-2.3**
PB12	**IPOC Station P**	**3.49**	**289**	*i* P		**Pn**	**07 11 50.0**	**-0.1**
PB12				IAML			07 12 38.2	
	comp=Z,150nm,0.2s							
BBOD	**La Paz, Gloria**	**3.54**	**332**	P		**Pn**	**07 11 53.2**	**+2.1**
BBOD				IAML			07 12 40.8	
	comp=Z,744nm,1.0s							
AP01	**Chacalluta**	**3.59**	**292**			**Pn**	**07 11 51.5**	**+0.4**
AP01	**Chacalluta**	**3.59**	**292**	*i* P		**Pn**	**07 11 52.0**	**+0.9**
AP01				IAML			07 12 42.2	
	comp=Z,279nm,0.3s							
HJA	**Humahuaca**	**3.67**	**159**	*i* P		**Pn**	**07 11 53.0**	**+0.6**
HJA				IAML			07 12 42.2	
	comp=Z,439nm,0.4s							
LPAZ	**La Paz**	**3.68**	**340**	P		**Pn**	**07 11 54.1**	**+1.2**
	comp=Z,6.8nm,0.3s,baz=151,slow=7.9,SNR=266							
LPAZ					S	**S**	**07 12 41.0**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=8.6,slow=10,SNR=7.6							
LPAZ	**La Paz**	**3.68**	**340**	Pn		**Pn**	**07 11 53.6**	**+0.8**
LPAZ	**La Paz**	**3.68**	**340**	P		**Pn**	**07 11 54.1**	**+1.2**
LPAZ				IAML			07 12 43.9	
	comp=Z,546nm,1.4s							
LPAZ	**La Paz**	**3.68**	**340**	*i* P		**Pn**	**07 11 54.0**	**+1.2**
LPAZ	**La Paz**	**3.68**	**340**	*eP*		**Pn**	**07 11 54.0**	**+1.2**
PB06	**IPOC Station P**	**3.87**	**221**			**Pn**	**07 11 55.4**	**+0.9**
PB06	**IPOC Station P**	**3.87**	**221**	*eP*		**Pn**	**07 11 55.2**	**+0.7**
PB06				*eS*		**S**	**07 12 42.3**	**-1.6**
PB06	**IPOC Station P**	**3.87**	**221**	P		**Pn**	**07 11 55.6**	**+1.2**
PB06				IAML			07 12 46.8	
	comp=Z,796nm,0.3s							
PB06	**IPOC Station P**	**3.87**	**221**	*i* P		**Pn**	**07 11 56.0**	**+1.6**
PB06				IAML			07 12 51.4	
	comp=Z,460nm,0.3s							
PB04	**IPOC Station P**	**4.00**	**230**			**Pn**	**07 11 56.9**	**+0.9**
PB04	**IPOC Station P**	**4.00**	**230**	⇓ *iP*		**Pn**	**07 11 56.8**	**+0.8**
PB04				*eS*		**S**	**07 12 43.7**	**-3.0**
PB04	**IPOC Station P**	**4.00**	**230**	P		**Pn**	**07 11 57.3**	**+1.3**
PB04				IAML			07 12 51.3	
	comp=Z,595nm,0.4s							
PB04	**IPOC Station P**	**4.00**	**230**	*i* P		**Pn**	**07 11 57.0**	**+1.0**
PB04				IAML			07 12 49.1	
	comp=Z,535nm,0.4s							
PB15	**IPOC Station P**	**4.20**	**215**			**Pn**	**07 11 59.8**	**+1.4**
PB15	**IPOC Station P**	**4.20**	**215**	*eP*		**Pn**	**07 11 59.4**	**+1.0**
PB15	**IPOC Station P**	**4.20**	**215**	P		**Pn**	**07 11 59.8**	**+1.4**
PB15				IAML			07 12 54.5	
	comp=Z,2µm,0.5s							
PB15	**IPOC Station P**	**4.20**	**215**	*i* P		**Pn**	**07 11 59.0**	**+0.6**
PB15				IAML			07 12 54.4	
	comp=Z,2µm,0.5s							
PB10	**IPOC Station P**	**5.07**	**222**	Pn		**Pn**	**07 12 08.6**	**-0.1**
PB10	**IPOC Station P**	**5.07**	**222**	⇓ *iP*		**Pn**	**07 12 08.6**	**-0.1**
PB10	**IPOC Station P**	**5.07**	**222**	P		**Pn**	**07 12 09.1**	**+0.4**
PB10	**IPOC Station P**	**5.07**	**222**	*i* P		**Pn**	**07 12 09.0**	**+0.4**
PB10				IAML			07 13 10.2	
	comp=Z,232nm,0.4s							
SLA	**San Lorenzo**	**5.08**	**166**	*i* P		**Pn**	**07 12 11.0**	**+2.1**
SLA				IAML			07 13 13.8	
	comp=Z,108nm,0.7s							
PB14	**IPOC Station P**	**5.84**	**214**	Pn		**Pn**	**07 12 17.9**	**-0.7**
GO02	**Mina Guanaco**	**5.93**	**205**	Pn		**Pn**	**07 12 19.6**	**0.0**
GO02	**Mina Guanaco**	**5.93**	**205**	*i* P		**Pn**	**07 12 20.0**	**+0.4**
FSA	**Cafayete**	**6.36**	**173**	*i* P		**Pn**	**07 12 26.0**	**+1.2**
SIV	**San Ignacio**	**6.67**	**57**	P		Pn	07 12 17.1	-12
	comp=Z,3.6nm,0.3s,baz=244,slow=12,SNR=57							
AC01	**Pan de Azucar**	**7.22**	**208**	Pn		**Pn**	**07 12 34.5**	**-1.0**
AC02	**Maricunga**	**7.33**	**196**	Pn		**Pn**	**07 12 37.7**	**+0.3**
AC06	**Mina Casimiro**	**8.20**	**202**	Pn		**Pn**	**07 12 47.0**	**-1.0**
GO03	**Copiap**	**8.38**	**201**			**Pn**	**07 12 49.4**	**-0.8**
PTLB	**Pontes e Lacer**	**8.52**	**61**	*eP*		**Pn**	**07 12 51.5**	**-0.6**
AC04	**Llanos de Chal**	**9.23**	**204**	Pn		**Pn**	**07 12 59.2**	**-1.8**
VILB	**Vilhena**	**9.31**	**44**	*eP*		**Pn**	**07 13 01.9**	**-0.3**
ACLC	**CERRO LA CRUZ**	**9.61**	**181**	*i* P		**Pn**	**07 13 05.0**	**-0.9**
ACLC				IAML			07 14 53.1	
	comp=Z,35nm,0.5s							
LCO	**Las Campanas**	**9.84**	**200**			**Pn**	**07 13 07.4**	**-1.5**
ETMB	**Extrema**	**9.92**	**4**	*eP*		**Pn**	**07 13 10.1**	**+0.2**
AQDB	**Aquidauana**	**10.50**	**96**			**Pn**	**07 13 16.3**	**-0.7**
AQDB	**Aquidauana**	**10.50**	**96**	*eP*		**Pn**	**07 13 16.4**	**-0.7**
CO01	**Juntas del Tor**	**10.57**	**196**			**Pn**	**07 13 18.6**	**+0.5**
CPUP	**Villa Florida**	**10.92**	**128**	P		**Pn**	**07 13 21.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=302,slow=12,SNR=8.3							
CPUP	**Villa Florida**	**10.92**	**128**	Pn		**Pn**	**07 13 22.6**	**+0.3**
CPUP	**Villa Florida**	**10.92**	**128**	*eP*		**Pn**	**07 13 21.6**	**-0.6**
GO04	**Tololo Observa**	**10.95**	**198**			**Pn**	**07 13 22.8**	**-0.1**
SALV	**Santo Antonio**	**11.30**	**72**	*eP*		**Pn**	**07 13 26.4**	**-0.7**
PP1B	**Ponte de Pedra**	**11.55**	**81**	*eP*		**Pn**	**07 13 29.6**	**-0.7**
CO06	**Fray Jorge**	**11.68**	**201**	Pn		**Pn**	**07 13 30.8**	**-0.9**
ZON	**Zonda**	**11.83**	**188**			**Pn**	**07 13 33.8**	**0.0**
CO02	**Combarbal**	**11.98**	**197**			**Pn**	**07 13 35.3**	**-0.3**
NNA	**Nna**	**12.34**	**307**	P		**P**	**07 13 42.5**	**-0.3**
	comp=Z,4.5nm,0.3s,baz=149,slow=12,SNR=9.7							
PDRB	**Porto dos Gac**	**12.68**	**52**	*eP*		**Pn**	**07 13 42.7**	**-1.6**
CZSB	**Cruzeiro do Su**	**13.26**	**334**	*eP*		**Pn**	**07 13 52.1**	**+0.7**
VA06	**Catapilco**	**13.34**	**196**			**Pn**	**07 13 51.5**	**-0.7**
ITQB	**Itaqui**	**13.53**	**139**			**Pn**	**07 13 54.5**	**-0.1**
ITQB	**Itaqui**	**13.53**	**139**	*eP*		**Pn**	**07 13 54.5**	**-0.1**
TRCB	**Terra Rica**	**13.59**	**105**	*eP*		**Pn**	**07 13 55.5**	**+0.1**
CLDB	**Colider**	**13.85**	**52**	*eP*		**Pn**	**07 13 57.7**	**-1.0**
PTGB	**Pitanga**	**14.54**	**112**	*eP*		**P**	**07 14 07.0**	**-0.2**
PCMB	**Pacaembu**	**14.70**	**100**	*eP*		**Pn**	**07 14 08.6**	**-0.3**
ITAB	**Concordia**	**15.40**	**122**	P		**P**	**07 14 16.5**	**+0.1**
ITAB	**Concordia**	**15.40**	**122**	*eP*		**Pn**	**07 14 16.8**	**-0.4**
CPSB	**Cacapava Do Su**	**16.09**	**134**	*eP*		**P**	**07 14 24.4**	**+0.3**
FRTB	**Fartura**	**16.46**	**106**	*eP*		**Pn**	**07 14 29.6**	**-0.3**
SNDB	**Serra Nova Dou**	**16.84**	**65**	*eP*		**P**	**07 14 32.6**	**+0.2**
PLTB	**Pedras Altas**	**16.86**	**138**	P		**P**	**07 14 32.2**	**-0.2**
PLTB	**Pedras Altas**	**16.86**	**138**	*eP*		**P**	**07 14 31.7**	**-0.7**
BB19B	**Bebedouro**	**17.22**	**97**	*eP*		**P**	**07 14 37.2**	**+0.7**
TIJ01	**Guaruva-PR**	**17.38**	**112**	*eP*		**Pn**	**07 14 39.9**	**-0.7**
MACA	**Manacapuru-AM**	**17.58**	**21**	*eP*		**P**	**07 14 39.6**	**-0.8**
IPMB	**Ipameri, GO**	**17.73**	**87**	*eP*		**P**	**07 14 42.8**	**+0.7**
TER01	**Tubaro-SC**	**18.35**	**122**	*eP*		**P**	**07 14 48.0**	**-0.7**
BDFB	**Brasilia**	**18.41**	**80**	P		**P**	**07 14 48.1**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=288,slow=3.2,SNR=3.4							
BDFB	**Brasilia**	**18.41**	**80**	IAmb		IAmb	07 14 55.0	
	comp=Z,26nm,1.3s							
TRQA	**Tornquist**	**18.70**	**168**	P		**P**	**07 14 52.0**	**-0.4**
TRQA				IAmb		IAmb	07 14 54.0	
	comp=Z,6.4nm,0.8s							
ITTB	**Itaituba**	**18.76**	**37**	*eP*		**P**	**07 14 53.1**	**-0.2**
PEXB	**Peixe**	**19.39**	**70**	*eP*		**P**	**07 14 59.9**	**0.0**
BOSC	**San Juan Bosco**	**20.06**	**324**			**P**	**07 15 05.7**	**-1.6**
ARNL	**Arenillas**	**20.66**	**320**	P		**P**	**07 15 13.1**	**-0.4**
ARNL				IAmb		IAmb	07 15 18.5	
	comp=Z,9.8nm,0.9s							
PLCA	**Paso Flores**	**21.13**	**188**	P		**P**	**07 15 20.1**	**+2.1**
	comp=Z,2.3nm,0.7s,baz=1.7,slow=11,SNR=9.7							
PLCA	**Paso Flores**	**21.13**	**188**	P		**P**	**07 15 18.2**	**+0.2**
PLCA	**Paso Flores**	**21.13**	**188**	*eP*		**P**	**07 15 20.2**	**+2.1**
PRPB	**Parauapebas**	**21.38**	**53**	*eP*		**P**	**07 15 19.8**	**-1.0**
SMTB	**Santa Maria do**	**21.56**	**63**	*eP*		**P**	**07 15 22.4**	**0.0**
MALB	**Monte Alegre**	**21.65**	**36**	*eP*		**P**	**07 15 22.7**	**-0.5**
DIAM	**Diamantina, MG**	**21.96**	**90**	*eP*		**P**	**07 15 26.2**	**-0.1**
JANB	**Januaria**	**22.00**	**81**	*eP*		**P**	**07 15 26.2**	**-0.3**
SDBA	**SAO DESIDERIO**	**22.31**	**74**	*eP*		**P**	**07 15 29.1**	**-0.3**
BOAV	**Boa Vista**	**22.89**	**16**	*eP*		**P**	**07 15 35.0**	**+0.4**
DUB01	**Friburgo-RJ**	**22.97**	**100**	*eP*		**P**	**07 15 35.1**	**-0.2**
SJMB	**Sao Joao De Ma**	**24.25**	**92**	*eP*		**P**	**07 15 46.7**	**-0.3**
NAN01	**Guarapari, ES**	**25.36**	**90**	*eP*		**P**	**07 15 56.6**	**-0.4**
ROSC	**El Rosal**	**25.54**	**343**	P		**P**	**07 15 58.9**	**-0.1**
ROSC				IAmb		IAmb	07 16 00.4	
	comp=Z,6.8nm,1.0s							
GUA01	**Guaratinga, BA**	**25.88**	**87**	*eP*		**P**	**07 16 01.6**	**+0.1**
NBPN	**Ponto Novo - B**	**27.16**	**75**	*eP*		**P**	**07 16 12.1**	**-1.0**
ZARC	**Zaragoza, Cauc**	**28.22**	**343**	P		**P**	**07 16 21.0**	**-1.4**
ZARC				IAmb		IAmb	07 16 22.4	
	comp=Z,11nm,1.1s							
SDV	**Santo Domingo**	**28.73**	**352**	P		**P**	**07 16 26.0**	**-1.1**
	comp=Z,5.9nm,1.0s,baz=254,slow=7.4,SNR=4.7							
SDV	**Santo Domingo**	**28.73**	**352**	P		**P**	**07 16 25.7**	**-1.4**
SDV				IAmb		IAmb	07 16 27.6	
	comp=Z,8.0nm,1.1s							
SDV	**Santo Domingo**	**28.73**	**352**	*eP*		**P**	**07 16 26.9**	**-0.2**
NBLA	**Lagarto - SE**	**29.31**	**77**	*eP*		**P**	**07 16 30.9**	**-1.1**
NBPB	**Pedra_Branca-C**	**30.06**	**66**	*eP*		**P**	**07 16 38.4**	**-0.3**
SJCC	**San Jacinto, C**	**30.61**	**344**	P		**P**	**07 16 42.3**	**-1.2**
SJCC				IAmb		IAmb	07 16 43.4	
	comp=Z,10nm,0.9s							
NBAN	**Anadia - AL**	**31.18**	**76**	*eP*		**P**	**07 16 48.1**	**-0.5**
URIC	**Uribia, Colomb**	**31.69**	**350**	P		**P**	**07 16 50.7**	**-2.1**
URIC				IAmb		IAmb	07 16 51.5	
	comp=Z,11nm,0.7s							
W45A	**Hickory Valley**	**58.60**	**339**	P		**P**	**07 20 22.7**	**-0.6**
HDBT	**Hernando Brdge**	**58.91**	**338**	P		**P**	**07 20 24.8**	**-0.5**
WVT	**Waverly**	**59.04**	**340**	P		**P**	**07 20 25.1**	**-1.1**
WVT				IAmb		IAmb	07 20 27.2	
	comp=Z,10nm,1.2s							
T47A	**Sharon Grove**	**59.61**	**341**	P		**P**	**07 20 29.8**	**-0.3**
T47A				IAmb		IAmb	07 20 30.8	
	comp=Z,11nm,1.0s							
MIAR	**Mount Ida**	**59.71**	**335**	P		**P**	**07 20 31.6**	**+0.8**
MIAR				IAmb		IAmb	07 20 32.3	
	comp=Z,5.0nm,0.8s							
W41B	**Gary Mavity, V**	**59.73**	**336**	P		**P**	**07 20 30.8**	**-0.2**
W41B				IAmb		IAmb	07 20 32.3	
	comp=Z,11nm,1.4s							
WHAR	**Wooly Hollow**	**59.85**	**336**	P		**P**	**07 20 32.3**	**+0.5**
WHAR				IAmb		IAmb	07 20 32.4	
	comp=Z,7.0nm,1.2s							
PARMO	**Parma**	**60.16**	**339**	P		**P**	**07 20 32.5**	**-1.4**
Z35A	**Perchaven, San**	**60.26**	**331**	P		**P**	**07 20 34.1**	**-0.5**
Z35A				IAmb		IAmb	07 20 37.2	
	comp=Z,10nm,0.9s							
FCAR	**Ozark Folk Cen**	**60.32**	**336**	P		**P**	**07 20 34.5**	**-0.4**
TXAR	**Lajitas Array**	**60.37**	**323**	P		**P**	**07 20 36.5**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=147,slow=7.9,SNR=17							
TX31	**Lajitas Ar. Si**	**60.38**	**323**	P		**P**	**07 20 36.4**	**+0.8**
PBMO	**Poplar Bluff**	**60.50**	**338**	P		**P**	**07 20 36.1**	**0.0**
PBMO				IAmb		IAmb	07 20 38.0	
	comp=Z,17nm,1.1s							
SIUC	**Southern Illin**	**60.94**	**340**	P		**P**	**07 20 39.5**	**+0.4**
SIUC				IAmb		IAmb	07 20 39.8	
	comp=Z,6.6nm,0.9s							
P49A	**Miami Univ. Ec**	**61.32**	**344**	P		**P**	**07 20 41.4**	**-0.3**
P49A				IAmb		IAmb	07 20 50.5	
	comp=Z,18nm,1.5s							
HHAR	**Hobbs**	**61.36**	**335**	P		**P**	**07 20 41.6**	**-0.3**
HHAR				IAmb		IAmb	07 20 43.8	
	comp=Z,6.4nm,1.1s							
BLO	**Bloomington**	**61.47**	**343**	P		**P**	**07 20 41.8**	**-0.8**
BLO				IAmb		IAmb	07 20 42.7	
	comp=Z,12nm,1.0s							
FVM	**French Village**	**61.58**	**339**	P		**P**	**07 20 43.4**	**-0.1**
CCM	**Cathedral Cave**	**61.93**	**338**	P		**P**	**07 20 45.8**	**+0.1**
S39A	**Bolivar**	**62.36**	**336**	P		**P**	**07 20 49.1**	**+0.6**
S39A				IAmb		IAmb	07 20 49.9	
	comp=Z,6.5nm,0.7s							
R40A	**Maddies Statio**	**62.50**	**338**	P		**P**	**07 20 49.6**	**+0.1**
R40A				IAmb		IAmb	07 20 50.5	
	comp=Z,6.3nm,0.7s							
T35A	**Sooner Cattle**	**62.96**	**334**			**P**	**07 20 53.5**	**+1.0**
T35A				IAmb		IAmb	07 20 54.7	
	comp=Z,9.8nm,1.0s							
SNAA	**Sanae**	**63.28**	**161**	P		**P**	**07 20 56.0**	**+1.7**
MSTX	**Muleshoe**	**63.47**	**327**	P		**P**	**07 20 56.4**	**+0.

ASAJ Asahikawa 3.03 356 P **Pn 07 13 04.3 +0.6**
30nm,0.3s,baz=219,slow=12,SNR=36
ASAJ S **Sn 07 13 40.9 +2.1**
12nm,0.3s,baz=250,slow=8.6,SNR=4.0
NMR Nemuro--Hokkai 3.12 42⇓*i*P **Pn 07 13 03.7 -1.2**
NMR *e*S **Sn 07 13 37.3 -3.6**
GLVR Golovnino 3.30 36 P **Pn 07 13 06.0 -1.4**
GLVR *e*S **Sn 07 13 43.2 -2.1**
GLVR pmax pmax
comp=Z,552nm,0.6s
GLVR pmax pmax
comp=E,223nm,0.2s
GLVR pmax pmax
comp=N,220nm,0.4s
GLVR smax smax
comp=N,3μm,0.3s
GLVR smax smax
comp=E,2μm,0.3s
RUSJ Misakicho 3.49 30*c i*P **Pn 07 13 10.6 +0.6**
RUSJ *e*S **Sn 07 13 50.1 +0.1**
JMM Marumori 3.59 207 **Pn 07 13 11.6 +0.1**
YUK Yuzh-Kuril'sk 3.68 36*d i*P **Pn 07 13 12.1 -0.6**
YUK *e*S **Sn 07 13 51.8 -3.0**
YUK pmax pmax
comp=Z,574nm,0.5s
YUK pmax pmax
comp=N,164nm,0.2s
YUK pmax pmax
comp=E,133nm,0.2s
YUK smax smax
comp=N,2μm,0.3s
YUK smax smax
comp=E,987nm,0.3s
SHO Shikotan 4.04 45*c i*P **Pn 07 13 15.7 -1.9**
SHO *e*S **Sn 07 13 57.9 -5.7**
SHO pmax pmax
comp=N,17nm,0.2s
SHO pmax pmax
comp=E,51nm,0.2s
SHO pmax pmax
comp=Z,94nm,0.2s
SHO smax smax
comp=N,702nm,0.2s
SHO smax smax
comp=E,432nm,0.2s
JSD Sado 4.68 231 Pn **Pn 07 13 27.3 +0.9**
JYT Yasato 5.29 204 Pn **Pn 07 13 34.8 +0.2**
KUR Kuril'sk 5.53 40 *e*P **Pn 07 13 37.9 -0.1**
KUR *i* S **Sn 07 14 39.8 -0.4**
KUR pmax pmax
comp=Z,339nm,0.5s
KUR pmax pmax
comp=E,86nm,0.2s
KUR pmax pmax
comp=N,69nm,0.3s
KUR smax smax
comp=N,279nm,0.2s
KUR smax smax
comp=E,196nm,0.3s
MJB9 Matsu-Tunnel 5.81 220 **Pn 07 13 42.9 +1.0**
MAJO Matsushiro 5.81 220 *i* P **Pn 07 13 46.0 +4.0**
MAJO Matsushiro 5.81 220 **Pn 07 13 43.1 +1.1**
MJAR Matsushiro Arr 5.81 220 P **Pn 07 13 43.4 +1.4**
comp=E,0.4nm,0.3s,baz=33,slow=13,SNR=22
MJAR LR LR 07 16 20.7
comp=E,265nm,21.1s,baz=52,slow=42
MJAR Matsushiro Arr 5.81 220 **Pn 07 13 43.1 +1.1**
YSS Yuzh-Sakhalins 5.86 359 *e*P **Pn 07 13 44.0 +1.5**
YSS *e*S **Sn 07 14 46.2 -2.2**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,400nm,13.0s
USA0B Ussuriysk Arra 8.59 295 P **Pn 07 14 19.3 -0.7**
USA0B Ussuriysk Arra 8.59 295 Pn **Pn 07 14 19.3 -0.7**
USRK Ussuriysk Ar. 8.59 295 P **Pn 07 14 20.6 +0.6**
baz=105,slow=13,SNR=14
USRK LR LR 07 17 37.5
comp=Z,287nm,20.3s,baz=120,slow=37
USRK Ussuriysk Ar. 8.59 295 P **Pn 07 14 19.7 -0.3**
USRK Ussuriysk Ar. 8.59 295 Pn **Pn 07 14 19.7 -0.3**
TYV Tymovskoe 9.77 359 *e*P Pn 07 14 40.9 +4.8
TYV pmax pmax
comp=Z,9.0nm,0.8s
TYV pmax pmax
comp=Z,200nm,4.3s
JHS Saiiyo 9.79 235 Pn **Pn 07 14 36.9 +0.3**
MDJ Mudanjiang 10.36 294 Pn **Pn 07 14 42.9 -1.3**
MDJ Mudanjiang 10.36 294 P **Pn 07 14 48.5 +4.3**
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,53nm,3.7s
KLR Kul'dur 11.29 320*ce*P **Pn 07 14 58.1 +1.2**
KLR pmax pmax
comp=Z,6.0nm,1.3s
KSRS Korea Array 12.13 257 P **Pn 07 15 11.2 +2.8**
comp=Z,0.5nm,0.3s,baz=64,slow=14,SNR=10
KSRS LR LR 07 19 30.5
comp=Z,235nm,19.0s,baz=65,slow=36
BNX BinXian 12.15 298 ⇓P **Pn 07 15 10.0 +1.3**
BNX pmax pmax
comp=Z,42nm,1.0s
BNX pmax pmax
comp=Z,160nm,6.2s
PETK Petropavlovsk- 15.66 35 LR LR 07 22 27.0
comp=Z,83nm,19.4s,baz=230,slow=39
PETK Petropavlovsk- 15.66 35 P **Pn 07 15 57.5 +1.7**
PETK Petropavlovsk- 15.66 35 Pn **Pn 07 15 57.5 +1.7**
ZEA Zeya 16.43 326 *e*P **Pn 07 16 03.3 -2.2**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
HIA Hailar 18.18 304 P **P 07 16 24.8 -2.3**
HIA pmax pmax
comp=Z,13nm,1.0s
HIA Hailar 18.18 304 P **P 07 16 24.8 -2.3**
MA2 Magadan 19.16 12 P **P 07 16 36.8 -0.9**
comp=Z,0.6nm,0.3s,baz=217,slow=7.6,SNR=5.1
MA2 LR LR 07 24 02.4
comp=Z,78nm,20.0s,baz=188,slow=37
MA2 Magadan 19.16 12*ce*P **P 07 16 35.1 -2.6**
MA2 pmax pmax
comp=Z,4.0nm,0.8s
BJI Beijing 20.27 276 P **P 07 16 47.0 -3.0**
BJI pP **pP 07 16 57.5 -2.7**
BJI pmax pmax
comp=Z,7.0nm,0.5s
BJI LR LR
comp=N,91nm,12.9s
BJI LR LR
comp=E,120nm,13.7s
BJI LR LR
comp=Z,180nm,15.1s
NJ2 Nanjing 21.23 253 *e*P **P 07 17 02.0 +1.6**
NJ2 pmax pmax
comp=Z,16nm,0.5s
HNS HongShan 22.07 270 ⇑P **P 07 17 09.3 -0.1**
HNS pmax pmax
comp=Z,10.0nm,1.1s
YAK Yakutsk 22.42 344 LR LR 07 26 35.0
comp=Z,64nm,18.0s,baz=92,slow=38
SEY Seymchan 22.60 11 P **P 07 17 11.8 -3.0**
comp=Z,4.3nm,0.7s,baz=202,slow=7.1,SNR=19
SEY Seymchan 22.60 11*ce*P **P 07 17 10.8 -4.0**
SEY pmax pmax
comp=Z,4.0nm,0.7s
HHC Hu-ho-hao-te 23.57 280 *e*P **P 07 17 25.5 +0.6**
HHC S **S 07 21 36.5 +0.5**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,98nm,5.1s
HHC LR LR
comp=N,140nm,8.6s
HHC LR LR
comp=E,150nm,10.2s
HHC LR LR
comp=Z,210nm,13.1s
SHEM Shemya Is, Ala 24.11 51 LR LR 07 26 48.7
comp=Z,40nm,20.7s,baz=306,slow=36
SMY Shemya 24.11 51 P **P 07 17 30.5 +0.9**
SMY pmax pmax
comp=Z,196nm,1.3s
SMY Shemya 24.11 51 P **P 07 17 30.5 +0.9**
BOD Bodaibo 24.85 322 *e*P **P 07 17 34.9 -1.5**
BOD pmax pmax
comp=Z,5.0nm,1.4s
SONM Songino Array 26.70 297 P **P 07 17 53.4 0.0**
comp=Z,6.1nm,0.6s,baz=74,slow=8.9,SNR=4.2
SONM Songino Array 26.70 297 IAmb IAmb 07 17 54.6
comp=Z,8.2nm,0.8s
GUMO Guam 27.46 176 LR LR 07 27 41.9
comp=Z,44nm,21.9s,baz=46,slow=34
XAN Xi'an 27.68 266 P **P 07 18 03.0 +0.8**
XAN pP sP 07 18 17.5 -0.9
XAN pmax pmax
comp=Z,4.0nm,0.7s
H11N2 WAKE ISLAND Hy 29.54 129 T T 07 49 37.9
baz=323,slow=75
H11N1 WAKE ISLAND Hy 29.55 129 T T 07 49 43.9
baz=323,slow=75
H11N3 WAKE ISLAND Hy 29.56 129 T T 07 49 44.5
baz=323,slow=75
BILL Bilibino 29.82 17⇓*e*P **P 07 18 20.3 -0.5**
BILL *e* 07 19 20.9
BILL *e*S **S 07 23 06.3 -7.9**
BILL *e*SS **ScP 07 25 11.3 +10**
BILL pmax pmax
comp=Z,5.0nm,1.2s
BILL MLR MLR
comp=Z,41nm,20.0s
H11S1 WAKE ISLAND Hy 30.39 131 T T 07 50 57.2
baz=324,slow=76
H11S3 WAKE ISLAND Hy 30.39 131 T T 07 50 48.0
baz=324,slow=76
H11S2 WAKE ISLAND Hy 30.41 131 T T 07 50 50.3
baz=324,slow=76
LZH Lanzhou 30.72 273 *e*P **P 07 18 31.3 +2.0**
LZH pP pP 07 18 42.3 +1.8
LZH sP sP 07 18 48.8 +3.2
LZH pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 31.42 352 *i*P **P 07 18 33.5 -1.3**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
PZH PanZhiHua 36.78 260 P **P 07 19 22.5 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,6.0s
GOMU GeErMu 37.46 279 P **P 07 19 27.0 -0.9**
GOMU pP pP 07 19 40.0 +0.7
GOMU sP sP 07 19 46.8 +2.5
GOMU pmax pmax
comp=Z,2.0nm,0.6s
NRIK Noril'sk 40.11 333 P **P 07 19 48.5 -0.7**
comp=Z,1.9nm,0.5s,baz=128,slow=17,SNR=2.3
NRIK LR LR 07 38 06.6
comp=Z,150nm,18.6s,baz=122,slow=39
NRIK Noril'sk 40.11 333*ce*P **P 07 19 48.4 -0.8**
NRIK pmax pmax
comp=Z,7.0nm,1.4s
NRIK Noril'sk 40.11 333 P **P 07 19 48.5 -0.7**
ZAA0 Zalesovo Array 40.13 309 P **P 07 19 45.5 -4.1**
ZAA0 IAmb IAmb 07 19 56.3
comp=Z,6.4nm,0.7s
ZALV Zalesovo Beam 40.13 309 PcP **PcP 07 21 53.5 +0.3**
comp=Z,0.7nm,0.3s,baz=79,slow=3.2,SNR=1.9
ZALV LR LR 07 37 20.1
comp=Z,98nm,19.4s,baz=62,slow=37
ZALV Zalesovo Beam 40.13 309 P **P 07 19 45.5 -4.1**
ZALV 07 21 53.5
ZALV Zalesovo Beam 40.13 309 P **P 07 19 45.5 -4.1**
WMQ Urumqi 40.16 293 *e*P **P 07 19 51.0 +1.0**
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ LR LR
comp=Z,48nm,18.7s
IMAR Indian Mountai 42.61 33 P **P 07 20 11.4 +1.7**
H21K Melozitna Rive 42.98 33 P **P 07 20 14.7 +1.9**
MK31 Makanchi Array 43.03 299 P **P 07 20 13.3 -0.2**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 43.03 299 P **P 07 20 13.3 -0.2**
MKAR Makanchi Array 43.03 299 P **P 07 20 13.1 -0.4**
comp=Z,2.5nm,0.5s,baz=85,slow=9.7,SNR=23
MKAR PcP **PcP 07 22 02.7 -0.3**
comp=Z,0.9nm,0.8s,baz=64,slow=3.4,SNR=2.4
MKAR LR LR 07 39 20.8
comp=Z,98nm,19.2s,baz=90,slow=38
MKAR Makanchi Array 43.03 299 P **P 07 20 13.5 0.0**
MAKZ Makanchi 43.24 299 P **P 07 20 15.3 +0.1**
MAKZ pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 43.24 299 P **P 07 20 15.3 +0.1**
MAKZ IAmb IAmb 07 20 18.3
comp=Z,5.4nm,0.7s
KDAK Kodiak Island 43.38 45 P **P 07 20 15.8 -0.2**
comp=Z,5.4nm,0.7s,baz=281,slow=6.8,SNR=5.7
CMAR Chiang Mai Arr 43.71 252 P **P 07 20 19.7 +0.5**
comp=Z,1.2nm,0.3s,baz=47,slow=8.3,SNR=6.1
CMAR LR LR 07 38 34.8
comp=Z,47nm,20.0s,baz=40,slow=36
CMAR Chiang Mai Arr 43.71 252*ce*P **P 07 20 20.1 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
COLD Coldfoot 44.08 31 P **P 07 20 23.4 +1.8**
H23K Yukon River 44.33 33 P **P 07 20 25.7 +2.0**
H23K IAmb IAmb 07 20 44.5
comp=Z,5.1nm,0.8s
TOLK Toolik Lake Re 44.37 29 P **P 07 20 25.8 +1.8**
KURK Kurchatov 44.42 305 P **P 07 20 24.2 -0.3**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 44.42 305 P **P 07 20 24.2 -0.3**
KURK IAmb IAmb 07 20 42.3
comp=Z,7.6nm,0.8s
KURBB Kurchatov Arra 44.49 305 P **P 07 20 24.4 -0.7**
comp=Z,5.6nm,0.6s,baz=79,slow=8.8,SNR=29
KURBB PcP **PcP 07 22 07.7 -0.1**
comp=Z,0.8nm,0.6s,baz=76,slow=3.9,SNR=2.2
RND Reindeer 44.72 36 P **P 07 20 27.6 +0.7**
RND pmax pmax
comp=Z,12nm,1.4s
RND Reindeer 44.72 36 P **P 07 20 27.6 +0.7**
RND IAmb IAmb 07 20 44.1
comp=Z,12nm,1.4s
GHO Glory Hole Cre 44.82 39 P **P 07 20 29.7 +2.0**
H24K Noodor Dome 45.02 33 P **P 07 20 31.2 +2.0**
H24K IAmb IAmb 07 20 44.7
comp=Z,7.4nm,1.3s
COLA College 45.07 34 *i*P **P 07 20 29.5 0.0**
IL31 45.49 34 P **P 07 20 34.1 +1.3**
ILAR Eielson Array 45.49 34 P **P 07 20 33.5 +0.6**
comp=Z,0.9nm,0.7s,baz=264,slow=5.5,SNR=12
BMAR Burnt Mountain 46.26 31 P **P 07 20 41.5 +2.5**
TARG Taragay, Kyrgy 47.72 293 P **P 07 20 50.8 -0.3**
BCAR Beaver Creek A 47.94 36 P **P 07 20 54.2 +2.2**
KDJ Kajisay 48.00 294 P **P 07 20 52.7 -0.3**
KDJ pmax pmax
comp=Z,7.0nm,1.0s
KDJ Kajisay 48.00 294 P **P 07 20 52.7 -0.3**
KDJ IAmb IAmb 07 21 09.7
comp=Z,6.5nm,1.0s
BVAR Borovoye Array 48.75 310 P **P 07 20 58.3 -0.1**
comp=Z,0.5nm,0.4s
BRVK Borovoye 48.80 310*ce*P **P 07 20 58.5 -0.3**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
EPYK Eagle Plains 49.47 32 P **P 07 21 05.9 +2.1**
EPYK IAmb IAmb 07 21 21.8
comp=Z,3.8nm,0.8s
AAK Ala-Archa 49.64 296 P **P 07 21 06.6 +1.0**
comp=Z,2.9nm,0.5s,baz=147,slow=2.1,SNR=9.1
AAK LR LR 07 43 21.0
comp=Z,69nm,21.3s,baz=82,slow=38
AAK Ala-Archa 49.64 296 P **P 07 21 05.0 -0.6**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 49.64 296 P **P 07 21 05.0 -0.6**
AAK IAmb IAmb 07 21 09.7
comp=Z,2.8nm,0.7s
KSH Kashi 49.87 291 P P 07 21 13.0 +5.7
KSH sP sP 07 21 34.5 +11
KSH pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 50.28 29 P **P 07 21 10.9 +1.2**
comp=Z,1.9nm,0.5s,baz=290,slow=6.6,SNR=22
INK Inuvik 50.28 29 P **P 07 21 11.3 +1.5**
INK pmax pmax
comp=Z,4.0nm,1.2s
INK Inuvik 50.28 29 P **P 07 21 11.3 +1.5**
INK IAmb IAmb 07 21 13.3
comp=Z,4.4nm,1.1s
WHY Whitehorse 51.69 38 P **P 07 21 22.5 +1.9**
WHY IAmb IAmb 07 21 41.4
comp=Z,12nm,1.4s
A36M Sachs Harbour 52.09 23 P **P 07 21 25.4 +2.2**
A36M IAmb IAmb 07 21 29.0
comp=Z,8.0nm,1.1s
KK31 Karatay Array 52.14 298 IAmb IAmb 07 21 24.4
comp=Z,3.0nm,0.7s
KK31 P **P 07 21 24.5 +0.3**
KKAR Karatay Array 52.14 298 P **P 07 21 23.8 -0.4**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 52.14 298 P **P 07 21 24.2 0.0**
KKAR IAmb IAmb 07 21 24.4
comp=Z,3.0nm,0.7s
KKAR Karatay Array 52.14 298 P **P 07 21 23.8 -0.4**
C36M Paulatuk 53.29 26 P **P 07 21 33.4 +1.3**
C36M IAmb IAmb 07 21 44.5
comp=Z,9.9nm,1.2s
ARU Arti 54.12 317 LR LR 07 47 28.4
comp=Z,97nm,18.6s,baz=111,slow=39
ARU Arti 54.12 317*c i*P **P 07 21 38.0 -0.4**
ARU *PP **pP 07 21 51.8 +1.5**
ARU 07 22 38.1
ARU 07 23 36.6
ARU S **S 07 29 11.0 -0.7**
ARU SS **SS 07 32 49.6 -3.5**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU MLR MLR
comp=Z,93nm,15.0s
CHGR Chuyangaron 55.01 293 P **P 07 21 44.7 -0.6**
CHGR pmax pmax
comp=Z,18nm,1.2s
CHGR Chuyangaron 55.01 293 P **P 07 21 44.7 -0.6**
EUNU Eureka 56.01 9 P **P 07 21 52.4 +0.5**
EUNU IAmb IAmb 07 21 53.2
comp=Z,3.9nm,0.8s
ABKAR Akbulak array 56.24 309 P **P 07 21 54.1 +0.3**
ABKAR IAmb IAmb 07 22 02.3
comp=Z,3.9nm,0.7s
AKTO Aktyubinsk 56.85 310 P **P 07 21 57.6 -0.6**
comp=Z,1.5nm,0.7s,baz=67,slow=15,SNR=4.7
AKTO LR LR 07 47 45.0
comp=Z,71nm,20.3s,baz=58,slow=37
RES Resolute Bay 58.40 15 P **P 07 22 08.7 +0.1**
comp=Z,2.2nm,0.5s,baz=308,slow=6.7,SNR=25
RES Resolute Bay 58.40 15 P **P 07 22 09.1 +0.4**
RES pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 58.40 15 P **P 07 22 09.1 +0.4**
RES IAmb IAmb 07 22 09.8
comp=Z,3.4nm,0.8s
YKA Yellowknife Ar 59.75 32 P **P 07 22 18.1 -0.1**
comp=Z,0.2nm,0.6s,baz=304,slow=6.3,SNR=5.6
YKA Yellowknife Ar 59.75 32 *i*P **P 07 22 19.1 +0.9**
ARCES ARCESS Array B 60.61 339 P **P 07 22 23.4 -0.7**
comp=Z,2.7nm,0.8s,baz=41,slow=8.4,SNR=5.9
ARCES LR LR 07 53 01.2
comp=Z,51nm,18.4s,baz=72,slow=40
WB0 Warramunga Arr 61.05 189 P **P 07 22 27.4 -0.1**
WR0 Warramunga Arr 61.23 189 P **P 07 22 29.2 +0.4**
WR0 IAmb IAmb 07 22 42.4
comp=Z,8.2nm,1.5s
WB2 Warramunga Arr 61.23 189 P **P 07 22 29.2 +0.4**
WB2 IAmb IAmb 07 22 44.2
comp=Z,4.5nm,1.1s
WRA Warramunga Arr 61.23 189 P **P 07 22 28.3 -0.4**
comp=Z,0.4nm,0.5s,baz=6.9,slow=7.0,SNR=16
WRA Warramunga Arr 61.23 189 *i*P **P 07 22 29.2 +0.4**
WRA Warramunga Arr 61.23 189 P **P 07 22 28.4 -0.4**
BELG Belogornoye 61.63 316 LR LR 07 51 52.5
comp=Z,103nm,19.5s,baz=148,slow=38
GEYT Alibeck 62.90 298 LR LR 07 52 24.0
comp=Z,63nm,18.7s,baz=101,slow=38
ASAR Alice Springs 64.96 189 P **P 07 22 53.3 -0.1**
comp=Z,0.5nm,0.7s,baz=4.1,slow=7.7,SNR=5.9
ASAR Alice Springs 64.96 189 P **P 07 22 55.1 +1.6**
ASAR Alice Springs 64.96 189 P **P 07 22 55.1 +1.6**
FIA1 FINESS Array S 65.76 332 P **P 07 22 58.4 +0.2**
FINES FINESS Array B 65.76 332 P **P 07 22 57.8 -0.4**
comp=Z,11nm,0.7s,baz=50,slow=7.6,SNR=42
FINES LR LR 07 54 45.6
comp=Z,71nm,18.8s,baz=28,slow=39
FINES FINESS Array B 65.76 332 *i*P **P 07 22 58.0 -0.2**
FINES pmax pmax
comp=Z,11nm,0.7s
FINES FINESS Array B 65.76 332 P **P 07 22 58.4 +0.2**
VORR Voronezh 66.34 319 *e*P **P 07 23 02.2 +0.1**
YBH Yreka Blue Hor 67.02 54 LR LR 07 46 49.1
comp=Z,26nm,22.0s,baz=0.5,slow=31
ZEI Tsey 69.11 309 *e*P **P 07 23 19.4 -0.6**
ZEI pmax pmax
comp=Z,4.0nm,1.4s
KIV Kislovodsk 69.11 310 *e*P **P 07 23 17.8 -2.1**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,37nm,17.0s
KBZ Khabaz 69.13 310 P **P 07 23 19.6 -0.2**
comp=Z,3.4nm,0.8s,baz=37,slow=3.7,SNR=8.6
KBZ Khabaz 69.13 310*ce*P **P 07 23 18.8 -1.0**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
SHA1 Shidzhatmaz 69.26 310 *i*P **P 07 23 19.8 -1.2**
FCC Fort Churchill 69.88 28 P **P 07 23 24.8 +0.6**
FCC pmax pmax
comp=Z,3.0nm,1.3s
FCC Fort Churchill 69.88 28 P **P 07 23 24.8 +0.6**
GNI Garni 70.20 306 LR LR 07 55 45.7
comp=Z,44nm,18.7s,baz=310,slow=37
LRM Limekiln Ridge 70.49 46 P **P 07 23 30.1 +1.6**
NC405 NORSAR Array S 70.68 337 P **P 07 23 29.4 +0.4**
NB201 NORSAR Array S 70.85 337 P **P 07 23 30.4 +0.2**
HFS Hagfors 70.86 336 LR LR 07 58 17.1
comp=Z,58nm,18.1s,baz=9.5,slow=39
NB2 NORSAR Subarra 70.88 337 P **P 07 23 30.2 -0.1**
comp=Z,2.0nm,0.6s,baz=38,slow=6.2
NOA NORSAR Array B 70.88 337 P **P 07 23 30.1 -0.3**
comp=Z,3.1nm,0.8s,baz=37,slow=6.2,SNR=14
NOA LR LR 07 57 58.6
comp=Z,35nm,21.3s,baz=30,slow=39
BOZ Bozeman (W) 71.08 46 P **P 07 23 33.7 +1.7**
BOZ pmax pmax
comp=Z,4.0nm,1.4s
BOZ Bozeman (W) 71.08 46 P **P 07 23 33.7 +1.7**
NVAR Mina Array Bea 71.70 55 P **P 07 23 36.0 +0.1**
comp=Z,0.6nm,0.8s,baz=298,slow=4.8,SNR=3.6
AKASG Malin Array Be 71.78 322 P **P 07 23 35.1 -0.7**
comp=Z,5.3nm,0.7s,baz=46,slow=6.5,SNR=24
AKASG LR LR 07 59 30.8
comp=Z,38nm,18.8s,baz=292,slow=40
AKASG Malin Array Be 71.78 322 *i*P **P 07 23 35.5 -0.4**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 71.78 322 P **P 07 23 35.7 -0.1**
AKBB Malin Array Si 71.78 322 P **P 07 23 35.7 -0.2**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 71.78 322 P **P 07 23 35.7 -0.2**
PDAR Pinedale Array 74.05 47 P **P 07 23 50.0 +0.2**
comp=Z,0.4nm,0.5s,baz=255,slow=0.8,SNR=7.3
BUR08 Bucovina Ar. S 75.81 322 P **P 07 24 00.1 +0.4**
BUR08 IAmb IAmb 07 24 01.0
comp=Z,5.0nm,0.8s
BURAR Bucovina Array 75.82 322 P **P 07 24 00.1 +0.3**
BURAR pmax pmax
comp=Z,5.0nm,0.8s
BURAR Bucovina Array 75.82 322 P **P 07 24 00.1 +0.3**
BURAR IAmb IAmb 07 24 01.3
comp=Z,4.8nm,0.8s
OJC Ojcow 76.29 326 *e*P **P 07 24 03.2 +1.0**
OJC Ojcow 76.29 326 P **P 07 24 02.7 +0.4**
OJC pmax pmax
comp=Z,9.0nm,0.9s
OJC Ojcow 76.29 326 P **P 07 24 02.7 +0.4**
CRVS Cervenica-Dubn 76.58 325 *e*P **P 07 24 04.5 +0.6**
CRVS pmax pmax

comp=Z,6.0nm,0.7s
CRVS Cervenica-Dubn 76.58 325 *e*P **P** 07 24 04.5 +0.6
BRTR Keskin Array B 77.00 312 LR LR 08 05 14.1
comp=Z,33nm,19.9s,baz=270,slow=41
MLR Muntele Rosu 77.01 320 LR LR 07 58 58.2
comp=Z,53nm,19.6s,baz=182,slow=36
KECS Kecovo 77.32 325 *e*P **P** 07 24 10.7 +2.7
KECS Kecovo 77.32 325 *e*P **P** 07 24 10.7 +2.7
MORC Moravsky Berou 77.57 327 P **P** 07 24 09.9 +0.4
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 77.57 327 P **P** 07 24 09.9 +0.4
MORC IAmb IAmb 07 24 11.1
comp=Z,4.9nm,0.8s
CLL Collm 78.13 331 *e*P **P** 07 24 12.0 -0.5
comp=Z,5.0nm,0.7s
KHC Kasperske Hory 79.67 329 *e*P **P** 07 24 21.9 +0.9
KHC Kasperske Hory 79.67 329 *e*P **P** 07 24 21.9 +0.9
GERES GERESS Array B 79.85 329 P P 07 24 21.6 -0.5
comp=Z,0.9nm,0.6s,baz=27,slow=6.3,SNR=6.5
VTS Vitosha 80.45 319 P **P** 07 24 26.3 +0.8
VTS pmax pmax
comp=Z,5.0nm,0.7s
VTS Vitosha 80.45 319 P **P** 07 24 26.3 +0.8
VTS IAmb IAmb 07 24 27.3
comp=Z,4.9nm,0.7s
DAVOX Davos/Dischmat 83.02 330 LR LR 08 04 19.2
comp=Z,52nm,19.3s,baz=63,slow=38
PMOR Pomariorio Ree 84.82 115 *e*T T 08 58 16.4
comp=Z,4.3nm,0.2s
PPT2 Papeete2 85.50 118 *e*LR LR 07 51 59.3
comp=Z,79nm,22.8s
TAOE Nuku Hiva Isla 86.10 105 *e*LR LR 07 52 19.7
TXAR Lajitas Array 86.78 53 P **P** 07 24 58.6 +0.4
comp=Z,0.1nm,0.5s,baz=276,slow=2.8,SNR=1.9
SNAA Sanae 144.95 198 PKPbc PKPbc 07 31 49.1 +0.3
H03N2 Juan Fernandez 146.13 91 T T 10 15 07.9
baz=300,slow=76
H03N3 Juan Fernandez 146.15 91 T T 10 15 10.7
baz=300,slow=76
H03N1 Juan Fernandez 146.15 91 T T 10 15 09.2
baz=300,slow=76
VNA2 Neumayer--Watz 146.52 197 PKPdf **PKPbc** 07 31 53.7 +0.1
baz=47,slow=1.0

IDC 28 07:15:18.0±2.4, 54.12N×86.44E, h0km, mb1 3.2/2, mb1mx2.9/49, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=20.1km s-min=11.7km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**261**	*i*				07 22 00.0	
	baz=79,slow=322,SNR=5.8								
ZALV	**Zalesovo Beam**	**0.97**	**261**	Pg		Pg	Pg	07 15 35.3	-1.3
	1.8nm,0.3s,baz=79,slow=17,SNR=17								
ZALV				Lg		Lg	Lg	07 15 50.7	
	1.0nm,0.3s,baz=80,slow=29,SNR=4.8								
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn		Pn	Pn	07 16 48.5	+0.9
	0.2nm,0.3s,baz=54,slow=13,SNR=13								
KURBB				Lg		Lg	Lg	07 18 26.5	
	0.0nm,0.3s,baz=76,slow=17,SNR=1.4								
MKAR	**Makanchi Array**	**7.79**	**201**	Pn		Pn	Pn	07 17 13.8	+1.2
	0.4nm,0.3s,baz=24,slow=14,SNR=13								
MKAR				Sn		Sn	Sn	07 18 40.8	-0.7
	0.1nm,0.3s,baz=26,slow=21,SNR=2.2								
MKAR				Lg		Lg	Lg	07 19 25.0	
	0.0nm,0.3s,baz=17,slow=30,SNR=3.4								

*SSNC **28** 07:26:34.0±0.6, 18.27N×73.93W, h50km±228km, MD2.9, ML1.7*

OSPL 28 07:26:34.2±1.2, 18.43N×74.08W, h0km±20km, ML1.8, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LGNH	**Logne**	**1.40**	**86**	*i*	P		Pn	07 26 58.5	-2.5
LGNH					*e*S		Sg	07 27 17.3	-2.0
LGNH					IAML			07 27 21.9	
	comp=Z,12nm,0.6s								
JAKH	**Jacmel**	**1.50**	**97**	*i*	P		Pn	07 26 59.5	-2.8
JAKH					*e*S		Sg	07 27 19.9	-2.4
JAKH					IAML			07 27 28.0	
	comp=Z,13nm,0.5s								
MASC	**Masc**	**1.74**	**355**	*e*	P		Pn	07 27 03.5	-2.2
MASC					*e*S		Sn	07 27 24.8	-3.9
MASC					IAML			07 27 27.7	
	comp=N,4.4nm,0.4s								
MASC					IAML			07 27 28.2	
	comp=E,9.1nm,0.2s								
GTBY	**Guantanamo Bay**	**1.78**	**327**	*i*	P		Pn	07 27 04.4	-1.8
GTBY					*e*S		Sn	07 27 26.7	-2.9
GTBY	**Guantanamo Bay**	**1.78**	**327**	*i*	P		Pn	07 27 04.6	-1.7
GTBY					*e*S		Sn	07 27 26.6	-3.1
GTBY					IAML			07 27 29.5	
	comp=Z,7.5nm,1.6s								
RCC	**Rio Carpintero**	**2.18**	**316**	*e*	P		Pn	07 27 09.5	-2.2
RCC					*e*S		Sn	07 27 36.5	-3.0
RCC					IAML			07 27 40.8	
	comp=N,2.4nm,0.2s								
RCC					IAML			07 27 41.0	
	comp=E,2.6nm,0.3s								
LOPE2	**Hotel El Peder**	**2.25**	**100**	*i*	P		Pn	07 27 11.3	-1.4
LOPE2					*e*S		Sn	07 27 38.5	-2.8
LOPE2					IAML			07 27 48.4	
	comp=Z,29nm,3.8s								

IDC 28 07:28:48.1±4.1, 53.62N×87.97E, h0km, mb1 2.7/2, mb1mx2.6/51, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=41.3km s-min=19.5km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**281**	*i*				07 40 50.0	
	baz=99,slow=325,SNR=0.3								
ZALV	**Zalesovo Beam**	**1.90**	**281**	Pg			Pn	07 29 22.1	+0.3
	0.7nm,0.3s,baz=101,slow=15,SNR=7.3								
ZALV				Lg			Lg	07 29 48.8	
	0.8nm,0.3s,baz=110,slow=29,SNR=5.6								
KURBB	**Kurchatov Arra**	**6.54**	**247**	Pn			Pn	07 30 25.9	+0.4
	0.1nm,0.3s,baz=62,slow=14,SNR=6.1								
MKAR	**Makanchi Array**	**7.74**	**210**	Pn			Pn	07 30 43.4	+1.4
	0.1nm,0.3s,baz=25,slow=12,SNR=1.5								

IDC 28 07:30:41.9±2.6, 54.15N×86.56E, h0km, mb1 3.0/2, mb1mx2.9/48, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=21.7km s-min=13.4km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**259**	*i*				07 37 20.0	
	baz=80,slow=322,SNR=3.7								
ZALV	**Zalesovo Beam**	**1.05**	**259**	Pg			Pg	07 31 00.8	-1.1
	1.2nm,0.3s,baz=73,slow=17,SNR=9.0								
ZALV				Lg			Lg	07 31 16.8	
	1.8nm,0.3s,baz=77,slow=27,SNR=8.7								
KURBB	**Kurchatov Arra**	**6.06**	**238**	Pn			Pn	07 32 13.3	+0.7
	0.2nm,0.3s,baz=54,slow=13,SNR=9.9								
KURBB				Lg			Lg	07 33 56.0	
	0.0nm,0.3s,baz=58,slow=30,SNR=4.5								
MKAR	**Makanchi Array**	**7.86**	**202**	Pn			Pn	07 32 38.6	+1.2
	0.2nm,0.3s,baz=25,slow=18,SNR=9.0								
MKAR				Lg			Lg	07 34 50.2	
	0.0nm,0.3s,baz=18,slow=29,SNR=2.7								

*MOS **28** 07:34:53.7±0.9, 48.28N×153.27E, h147km, mb4.6/33, Error ellipse: s-maj=7.9km s-min=5.2km az=86.9*
*SKHL **28** 07:34:53.9±0.1, 48.10N×153.60E, h145km±2km, mb5.1/8, msha5.7/6*
*IDC **28** 07:34:55.1±1.8, 48.29N×153.24E, h145km±16km, mb4.0/27, mb1 4.1/33, mb1mx4.0/46, mbtmp4.4/33, Error ellipse: s-maj=12.7km s-min=9.1km az=154.0*
*NEIC **28** 07:34:55.8±1.0, 48.3N±0.1×153.2E±0.2, h144km±7km, mb4.5/59, Error ellipse: s-maj=18.0km s-min=11.1km az=135.0*
*JMA **28** 07:34:57.8±1.0, 46.88N×153.87E, h140km, M4.1*

ISC 28 07:34:55.1±0.5, 48.18N±0.06×153.32E±0.06, h150km, n293, σ1°42/304, mb4.4/94, 31C-20D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.10**	**35**	*e*	P	N	**Pn**	**07 35 42.3**	**-1.3**
SKR					*e*S		**Sn**	**07 36 19.1**	**-2.2**
SKR					pmax		pmax		
	comp=Z,89nm,0.5s								
SKR					smax		smax		
	comp=N,104nm,0.2s								
SKR					smax		smax		
	comp=E,163nm,0.3s								
SKR	**Severo-Kuril's**	**3.10**	**35**	*e*	P		**Pn**	**07 35 42.4**	**-1.2**
SKR					AMB		AMB	07 35 43.5	
	comp=E,90nm,0.5s								
SKR					*e*S		**Sn**	**07 36 18.7**	**-2.6**
SKR					A		A	07 36 23.4	
	comp=E,100nm,0.3s								
SKR					A		A	07 36 23.4	
	comp=E,160nm,0.3s								
PAU	**Pauzhetka**	**3.99**	**33**	*e*	P		**Pn**	**07 35 54.1**	**-1.0**
PAU					AMB		AMB	07 35 55.6	
	comp=E,50nm,0.3s								
PAU					*e*S		**Sn**	**07 36 39.3**	**-2.6**
PAU					A		A	07 36 39.9	
	comp=E,320nm,0.2s								
PAU					A		A	07 36 39.9	
	comp=E,200nm,0.2s								
KUR	**Kuril'sk**	**4.77**	**234**	*e*	PN		**Pn**	**07 36 07.3**	**+1.9**
KUR					*e*S		**Sn**	**07 37 03.9**	**+3.8**
KUR					pmax		pmax		
	comp=Z,83nm,0.6s								
KUR					smax		smax		
	comp=E,160nm,0.7s								
KUR					smax		smax		
	comp=N,61nm,0.2s								
KUR	**Kuril'sk**	**4.77**	**234**	*e*	P		**Pn**	**07 36 06.4**	**+1.0**
KUR					AMB		AMB	07 36 08.6	
	comp=N,80nm,0.6s								
KUR					*e*S		**Sn**	**07 37 00.8**	**+0.7**
KUR					A		A	07 37 01.4	
	comp=N,60nm,0.4s								
KUR					A		A	07 37 01.4	
	comp=N,160nm,0.4s								
PEA0B	**Petropavlovsk-**	**5.67**	**28**	*ce*	PN		**Pn**	**07 36 16.5**	**-0.8**
PEA0B	**Petropavlovsk-**	**5.67**	**28**		Pn		**Pn**	**07 36 16.9**	**-0.3**
PETK	**Petropavlovsk-**	**5.67**	**28**		P		**Pn**	**07 36 15.8**	**-1.5**
	comp=N,2.4nm,0.3s,baz=201,slow=11,SNR=45								
PETK	**Petropavlovsk-**	**5.67**	**28**		PN		**Pn**	**07 36 16.0**	**-1.2**
PETK	**Petropavlovsk-**	**5.67**	**28**		Pn		**Pn**	**07 36 16.0**	**-1.2**
PET	**Petropavlovsk**	**5.92**	**33**		Pn		**Pn**	**07 36 20.8**	**+0.2**
PET	**Petropavlovsk**	**5.92**	**33**		*e*S		**Sn**	**07 37 23.7**	**-3.8**
PET					A		A	07 37 25.1	
	comp=N,50nm,0.5s								
PET					A		A	07 37 25.1	
	comp=N,60nm,0.5s								
SHO	**Shikotan**	**6.24**	**229**	*c*	PN		**Pn**	**07 36 22.8**	**-2.1**
SHO					*e*S		**Sn**	**07 37 29.6**	**-5.7**
SHO					pmax		pmax		
	comp=N,11nm,0.1s								
SHO					pmax		pmax		
	comp=E,10.0nm,0.1s								
SHO					pmax		pmax		
	comp=Z,39nm,0.1s								
SHO					smax		smax		
	comp=E,79nm,0.2s								
SHO					smax		smax		
	comp=N,120nm,0.5s								
SHO	**Shikotan**	**6.24**	**229**	*i*	P		**Pn**	**07 36 23.1**	**-1.8**
SHO					AMB		AMB	07 36 25.3	
	comp=N,40nm,0.3s								
SHO					*e*S		**Sn**	**07 37 31.1**	**-4.2**
SHO					A		A	07 37 31.7	
	comp=N,90nm,0.3s								
SHO					A		A	07 37 31.7	
	comp=N,80nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**6.64**	**234**	*c*	PN		**Pn**	**07 36 30.4**	**+0.2**
YUK					*e*S		**Sn**	**07 37 46.2**	**+1.5**
YUK					pmax		pmax		
	comp=N,75nm,0.2s								
YUK					pmax		pmax		
	comp=Z,313nm,0.2s								
YUK					pmax		pmax		
	comp=E,98nm,0.1s								
YUK	**Yuzh-Kuril'sk**	**6.64**	**234**	*i*	P		**Pn**	**07 36 30.6**	**+0.4**
YUK					AMB		AMB	07 36 31.7	
	comp=E,290nm,0.4s								
YUK					*e*S		**Sn**	**07 37 43.9**	**-0.8**
YUK					A		A	07 37 49.0	
	comp=E,190nm,0.6s								
YUK					A		A	07 37 49.0	
	comp=E,190nm,0.6s								
RUSJ	**Misakicho**	**6.93**	**237**	*e*	PN		**Pn**	**07 36 38.7**	**+4.6**
GLVR	**Golovnino**	**7.02**	**234**	*e*	PN		**Pn**	**07 36 34.7**	**-0.6**
GLVR					*e*S		**Sn**	**07 37 54.6**	**+0.8**
GLVR					pmax		pmax		
	comp=E,28nm,0.1s								
GLVR					pmax		pmax		
	comp=E,108nm,0.1s								
GLVR	**Golovnino**	**7.02**	**234**	*e*	P		**Pn**	**07 36 34.7**	**-0.6**
GLVR					AMB		AMB	07 36 36.0	
	comp=Z,30nm,0.4s								
GLVR					AMB		AMB	07 36 36.0	
	comp=Z,110nm,0.4s								
GLVR					*e*S		**Sn**	**07 37 54.6**	**+0.8**
JRA	**Rausu**	**7.11**	**236**		P		**Pn**	**07 36 36.9**	**+0.4**
NEM2	**Nemuro 2**	**7.16**	**231**		P		**Pn**	**07 36 34.6**	**-2.5**
NEM2					*e*S		**Sn**	**07 37 50.4**	**-6.8**
NMR	**Nemuro--Hokkai**	**7.16**	**231**	*i*	PN		**Pn**	**07 36 34.7**	**-2.4**
NMR	**Nemuro--Hokkai**	**7.16**	**231**	*e*	P		**Pn**	**07 36 34.8**	**-2.4**
YSS	**Yuzh-Sakhalins**	**7.25**	**264**	*e*	P		**Pn**	**07 36 38.7**	**+0.3**
TYV	**Tymovskoe**	**7.45**	**295**	*e*	PN		**Pn**	**07 36 43.8**	**+2.8**
TYV					pmax		pmax		
	comp=Z,300nm,4.4s								
TYV					pmax		pmax		
	comp=Z,15nm,1.1s								
TYV	**Tymovskoe**	**7.45**	**295**	*e*	P		**Pn**	**07 36 43.8**	**+2.8**
TYV					AMB		AMB	07 36 47.8	
	comp=Z,10.0nm,0.7s								
UGL	**Uglegorsk**	**7.52**	**281**	*e*	P		**Pn**	**07 36 43.6**	**+1.7**
JNK	**Nakash**	**7.56**	**236**		P		**Pn**	**07 36 42.9**	**+0.4**
JNK					*e*S		**Sn**	**07 38 06.1**	**-0.7**
JTKR	**Abashiri--Toko**	**7.78**	**241**		P		**Pn**	**07 36 46.6**	**+1.2**
AKK	**Akkeshi**	**7.87**	**232**	*e*	P		**Pn**	**07 36 44.5**	**-2.2**
JAK	**Akkeshi**	**7.96**	**233**		P		**Pn**	**07 36 45.5**	**-2.4**
JAK					*e*S		**Sn**	**07 38 10.1**	**-6.5**
JAR	**Ashorobuto**	**8.27**	**237**		P		**Pn**	**07 36 52.3**	**+0.3**
JAR					*e*S		**Sn**	**07 38 23.1**	**-0.9**
JKA	**Kamikawa-asahi**	**8.48**	**245**		Pn		**Pn**	**07 36 57.3**	**+2.5**
JKA	**Kamikawa-asahi**	**8.48**	**245**	*i*	P		**Pn**	**07 36 57.3**	**+2.5**
ASAJ	**Asahikawa**	**8.48**	**245**		P		**Pn**	**07 36 54.8**	**0.0**
	comp=Z,1.3nm,0.3s,baz=73,slow=13,SNR=2.8								
ASAJ	**Asahikawa**	**8.48**	**245**		PN		**Pn**	**07 36 57.3**	**+2.5**
JOB	**Onbets**	**8.49**	**235**		P		**Pn**	**07 36 53.5**	**-1.4**
JOB					*e*S		**Sn**	**07 38 24.4**	**-4.9**
JKK2	**Kamakawa 2**	**8.52**	**244**		P		**Pn**	**07 36 57.5**	**+2.1**
JCH	**Churui**	**8.94**	**235**		P		**Pn**	**07 36 58.7**	**-2.3**
JCH					*e*S		**Sn**	**07 38 33.6**	**-6.6**
NKL	**Nikolayevsk**	**9.45**	**307**	*e*	P		**Pn**	**07 36 08.9**	**+1.4**
NKL					AMB		AMB	07 37 12.8	
	comp=Z,30nm,0.7s								
ERM	**Erimo**	**9.46**	**233**		PN		**Pn**	**07 37 07.6**	**-0.3**
ERM	**Erimo**	**9.46**	**233**		Pn		**Pn**	**07 37 07.6**	**-0.3**
JNBK	**Urakawa-nobuka**	**9.50**	**236**		P		**Pn**	**07 37 05.4**	**-3.0**
KBG	**Krutoberegovo**	**9.92**	**32**	*e*	P		**Pn**	**07 37 11.8**	**-2.0**
BKI	**Bering**	**10.53**	**43**	*e*	P		**Pn**	**07 37 20.6**	**-1.3**
JANG	**Nango**	**11.50**	**232**	*e*	S		Sn	07 39 29.1	-13
MA2	**Magadan**	**11.52**	**353**		P		**Pn**	**07 37 33.4**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=143,slow=20,SNR=1.6								
KLR	**Kul'dur**	**14.28**	**282**	*i*	P		**P**	**07 38 12.9**	**-0.2**
KLR					pmax		pmax		
	comp=Z,16nm,1.1s								
SEY	**Seymchan**	**14.80**	**358**		P		**Pn**	**07 38 16.0**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=176,slow=10.0,SNR=40								
SEY	**Seymchan**	**14.80**	**358**	*ce*	P		**Pn**	**07 38 14.7**	**-2.0**
SEY					pmax		pmax		
	comp=Z,7.0nm,0.6s								
SEY	**Seymchan**	**14.80**	**358**	*e*	P		**Pn**	**07 38 14.7**	**-2.0**
USA0B	**Ussuriysk Arra**	**15.29**	**263**		P		**Pn**	**07 38 21.8**	**-1.1**
USA0B					pmax		pmax		
	comp=Z,7.0nm,1.0s								
USA0B	**Ussuriysk Arra**	**15.29**	**263**		Pn		**Pn**	**07 38 21.8**	**-1.1**
USRK	**Ussuriysk Ar.**	**15.29**	**263**		P		**P**	**07 38 23.8**	**-0.6**
	baz=51,slow=11,SNR=3.8								
USRK	**Ussuriysk Ar.**	**15.29**	**263**		Pn		**Pn**	**07 38 21.5**	**-1.4**
MAJO	**Matsushiro**	**16.09**	**229**		P		**P**	**07 38 34.2**	**+1.0**
MAJO					pmax		pmax		
	comp=Z,21nm,1.4s								
MAJO	**Matsushiro**	**16.09**	**229**				**P**	**07 38 34.2**	**+1.0**
MAJO					IAmb		IAmb	07 38 39.9	
	comp=Z,21nm,1.4s								
ZEA	**Zeya**	**17.29**	**299**	*e*	P		**Pn**	**07 38 47.5**	**+0.3**
ZEA					pmax		pmax		
	comp=N,10.0nm,0.8s								
ZEA					pmax		pmax		
	comp=E,10.0nm,0.8s								
ZEA					pmax		pmax		
	comp=Z,10.0nm,0.4s								
ZEA	**Zeya**	**17.29**	**299**	*e*	P		**Pn**	**07 38 47.5**	**+0.3**
KROS	**Kirovskiy**	**17.56**	**301**	*e*	P		**Pn**	**07 38 51.6**	**+1.2**
YAK	**Yakutsk**	**19.22**	**325**		P		**P**	**07 39 07.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=260,slow=3.2,SNR=1.6								
YAK	**Yakutsk**	**19.22**	**325**	*ce*	P		**P**	**07 39 07.2**	**0.0**
YAK					pmax		pmax		
	comp=Z,38nm,0.7s								
YAK	**Yakutsk**	**19.22**	**325**		IAmb		IAmb	07 39 12.0	
	comp=Z,40nm,0.7s								
BILL	**Bilibino**	**20.97**	**14**	*de*	P		**P**	**07 39 24.0**	**-2.0**
BILL				*e*	*PP		**pP**	**07 39 51.8**	**-0.2**
BILL					*e*S		S	07 42 58.5	-12
BILL					pmax		pmax		
	comp=E,6.0nm,0.6s								
BILL	**Bilibino**	**20.97**	**14**		P		**P**	**07 39 23.9**	**-2.1**
BILL	**Bilibino**	**20.97**	**14**	*e*	P		**P**	**07 39 24.0**	**-2.0**
KSRS	**Korea Array**	**21.40**	**249**		P		**P**	**07 39 32.2**	**+1.4**
	comp=Z,7.7nm,0.5s,baz=48,slow=10,SNR=8.9								
KS19	**Wonju Array Si**	**21.40**	**250**		P		**P**	**07 39 31.5**	**+0.6**
KS19					IAmb		IAmb	07 39 38.4	
	comp=Z,25nm,1.2s								
KSAR	**Wonju Array Be**	**21.43**	**249**		P		**P**	**07 39 31.3**	**+0.1**
KSAR	**Wonju Array Be**	**21.43**	**249**		P		**P**	**07 39 31.3**	**+0.1**
BOD	**Bodaibo**	**25.21**	**307**	*e*	P		**P**	**07 40 05.2**	**-1.4**
BOD					pmax		pmax		
	comp=Z,3.0nm,0.7s								
BOD	**Bodaibo**	**25.21**	**307**	*e*	P		**P**	**07 40 05.2**	**-1.4**
TIK	**Tiksi**	**26.13**	**343**	*e*	P		**P**	**07 40 13.4**	**-1.3**
TIXI	**Tiksi**	**26.14**	**343**	*ce*	P		**P**	**07 40 13.4**	**-1.3**
TIXI					pmax		pmax		
	comp=Z,7.0nm,1.0s								
TIXI	**Tiksi**	**26.14**	**343**		P		**P**	**07 40 13.5**	**-1.3**
HHC	**Hu-ho-hao-te**	**30.36**	**272**	*e*	P		**P**	**07 40 56.3**	**+3.6**
HHC					pmax		pmax		
	comp=Z,26nm,0.9s								
HHC					pmax		pmax		
	comp=Z,100nm,6.1s								
H11N2	**WAKE ISLAND Hy**	**30.43**	**154**		T		T	08 12 48.8	
	baz=341,slow=75								
H11N1	**WAKE ISLAND Hy**	**30.44**	**154**		T		T	08 13 07.7	
	baz=341,slow=75								
H11N3	**WAKE ISLAND Hy**	**30.45**	**154**		T		T	08 13 10.2	
	baz=341,slow=75								
ULN	**Ulaanbaatar**	**30.59**	**287**	*ce*	P		**P**	**07 40 53.9**	**-0.8**
ULN					pmax		pmax		
	comp=Z,4.0nm,1.3s								
ULN	**Ulaanbaatar**	**30.59**	**287**	*e*	P		**P**	**07 40 53.9**	**-0.8**
SONM	**Songino Array**	**31.02**	**287**		P		**P**	**07 40 57.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=69,slow=7.6,SNR=5.3								
SONM					ScP		**ScP**	**07 47 18.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=112,slow=2.6,SNR=3.9								
TTA	**Tatalina**	**31.27**	**43**		P		**P**	**07 41 01.2**	**+0.8**
TTA					pmax		pmax		
	comp=Z,7.0nm,1.4s								
TTA	**Tatalina**	**31.27**	**43**		P		**P**	**07 41 01.2**	**+0.8**
H11S1	**WAKE ISLAND Hy**	**31.53**	**155**		T		T	08 14 35.7	
	baz=343,slow=76								
H11S3	**WAKE ISLAND Hy**	**31.54**	**155**		T		T	08 14 33.4	
	baz=343,slow=76								
H11S2	**WAKE ISLAND Hy**	**31.55**	**155**		T		T	08 14 36.0	
	baz=343,slow=76								
IMAR	**Indian Mountai**	**32.54**	**37**		P		**P**	**07 41 12.0**	**+0.6**
TOLK	**Toolik Lake Re**	**34.46**	**33**		P		**P**	**07 41 28.7**	**+0.7**
COLA	**College**	**34.94**	**40**	*i*	P		**P**	**07 41 31.4**	**-0.6**
COLA					pmax		pmax		
	comp=Z,6.0nm,1.0s								
ILAR	**Eielson Array**	**35.35**	**40**		P		**P**	**07 41 34.9**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=260,slow=5.9,SNR=10.0								
NRIK	**Noril'sk**	**37.62**	**328**		P		**P**	**07 41 53.2**	**-1.6**
	comp=Z,1.7nm,0.4s,baz=62,slow=7.2,SNR=7.3								
NRIK	**Noril'sk**	**37.62**	**328**	*ce*	P		**P**	**07 41 53.1**	**-1.7**
NRIK					pmax		pmax		
	comp=Z,4.0nm,0.9s								
NRIK	**Noril'sk**	**37.62**	**328**		P		**P**	**07 41 53.7**	**-1.1**
L27K	**Beaver Creek,**	**37.72**	**42**		P		**P**	**07 41 56.5**	**+0.8**
L27K					IAmb		IAmb	07 42 04.2	
	comp=Z,8.2nm,1.2s								
BCAR	**Beaver Creek A**	**37.74**	**42**		P		**P**	**07 41 57.4**	**+1.5**
LZH	**Lanzhou**	**38.01**	**270**	*e*	P		**P**	**07 42 00.5**	**+1.9**
LZH					pmax		pmax		
	comp=Z,16nm,1.0s								
GTA	**Gaotai**	**38.91**	**277**	*e*	P		**P**	**07 42 07.0**	**+0.9**
GTA					pmax		pmax		
	comp=Z,5.0nm,1.5s								
I29M	**Ogilvie Camp,**	**38.93**	**38**		P		**P**	**07 42 06.3**	**+0.5**
INK	**Inuvik**	**40.38**	**33**		P		**P**	**07 42 17.3**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=309,slow=6.2,SNR=16								
INK	**Inuvik**	**40.38**	**33**		P		**P**	**07 42 19.0**	**+1.4**
INK					pmax		pmax		
	comp=Z,3.0nm,1.1s								
INK	**Inuvik**	**40.38**	**33**		P		**P**	**07 42 19.0**	**+1.4**
ZAA0	**Zalesovo Array**	**41.91**	**305**		P		**P**	**07 42 30.1**	**-0.3**
ZAA0					IAmb		IAmb	07 42 30.4	
	comp=Z,8.5nm,0.6s								
ZALV	**Zalesovo Beam**	**41.91**	**305**		P		**P**	**07 42 29.9**	**-0.5**
	comp=Z,7.7nm,0.4s,baz=63,slow=7.5,SNR=29								
ZALV					PcP		**PcP**	**07 44 23.9**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=78,slow=2.2,SNR=3.0								
ZALV	**Zalesovo Beam**	**41.91**	**305**		P		**P**	**07 42 30.1**	**-0.3**
A36M	**Sachs Harbour**	**42.51**	**27**		P		**P**	**07 42 36.6**	**+1.6**
A36M				

BRVK pmax pmax
comp=Z,24nm,0.6s
BRVK Borovoye 50.11 309 P P 07 43 34.5 0.0
BRVK Borovoye 50.11 309 *eP* **P 07 43 34.5 0.0**
KBS Kingsbay 51.11 351 P P 07 43 41.5 -0.1
KBS pmax pmax
comp=Z,17nm,1.4s
KBS Kingsbay 51.11 351 P P 07 43 41.5 -0.1
KBS IAmb IAmb 07 43 49.4
comp=Z,17nm,1.4s
SPITS Spitsbergen Ar 51.24 350 P P 07 43 41.7 -0.9
SPITS pmax pmax
comp=Z,24nm,1.3s
KDJ Kajisay 51.99 294 P P 07 43 49.6 +0.6
KDJ pmax pmax
comp=Z,7.0nm,0.6s
KDJ Kajisay 51.99 294 P P 07 43 49.6 +0.6
KDJ IAmb IAmb 07 43 50.4
comp=Z,7.0nm,0.6s
BOOM Boomskoye usch 52.55 295 P P 07 43 54.0 +1.0
BOOM pmax pmax
comp=Z,23nm,1.1s
BOOM Boomskoye usch 52.55 295 P P 07 43 54.0 +1.0
SHL Shillong 52.56 268 P P 07 43 54.1 +0.7
SHL pmax pmax
comp=Z,14nm,0.6s
SHL Shillong 52.56 268 P P 07 43 54.1 +0.7
TULEG Thule 52.70 11 P P 07 43 53.5 +0.1
TULEG IAmb IAmb 07 43 54.3
comp=Z,6.2nm,0.6s
CMAR Chiang Mai Arr 52.86 255 P P 07 43 56.2 +0.8
comp=Z,1.7nm,0.5s,baz=32,slow=7.3,SNR=8.7
AAK Ala-Archa 53.34 296 P P 07 43 58.8 0.0
comp=Z,5.3nm,0.4s,baz=123,slow=5.4,SNR=17
AAK Ala-Archa 53.34 296 P P 07 43 59.4 +0.6
AAK pmax pmax
comp=Z,7.0nm,0.6s
AAK Ala-Archa 53.34 296 P P 07 43 59.4 +0.6
AAK IAmb IAmb 07 44 00.3
comp=Z,6.8nm,0.6s
AAK Ala-Archa 53.34 296 *eP* **P 07 43 59.4 +0.6**
ARU Arti 54.06 317 P P 07 44 02.8 -0.8
comp=Z,4.7nm,0.4s,baz=59,slow=3.4,SNR=20
ARU Arti 54.06 317 *d iP* **P 07 44 02.9 -0.8**
ARU *PP **pwP 07 44 39.9 -1.3**
ARU S **S 07 51 27.0 -0.9**
ARU SS **SKiKP 07 55 03.0 +4.1**
ARU pmax pmax
comp=Z,14nm,0.6s
KSH Kashi 54.25 292 P P 07 44 10.3 +4.9
KSH sP PcP 07 45 06.8 -0.9
KSH pmax pmax
comp=Z,5.0nm,0.8s
EDM Edmonton 55.23 47 P P 07 44 12.8 +0.7
EDM pmax pmax
comp=Z,5.0nm,0.8s
EDM Edmonton 55.23 47 P P 07 44 12.8 +0.7
EDM IAmb IAmb 07 44 14.1
comp=Z,5.2nm,0.8s
KK31 Karatay Array 55.45 298 P P 07 44 13.5 -0.3
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KK31 Karatay Array 55.45 298 P P 07 44 13.5 -0.3
KK31 IAmb IAmb 07 44 14.9
comp=Z,3.7nm,0.7s
KKAR Karatay Array 55.45 298 P P 07 44 14.0 +0.2
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 55.45 298 P P 07 44 14.0 +0.2
KKAR IAmb IAmb 07 44 14.9
comp=Z,3.7nm,0.7s
ARCES ARCESS Array B 56.55 341 P P 07 44 20.5 -0.8
comp=Z,1.5nm,0.5s,baz=24,slow=6.3,SNR=14
KIRV Kirov 56.73 323 *ceP* **P 07 44 22.2 -0.4**
BTK Batken 57.09 295 P P 07 44 25.6 -0.1
BTK pmax pmax
comp=Z,12nm,0.5s
BTK Batken 57.09 295 P P 07 44 25.6 -0.1
ABKAR Akbulak array 57.63 309 P P 07 44 29.1 0.0
ABKAR IAmb IAmb 07 44 29.8
comp=Z,7.8nm,0.8s
AKTO Aktyubinsk 57.89 311 P P 07 44 30.4 -0.5
comp=Z,1.5nm,0.5s,baz=66,slow=6.6,SNR=6.4
GAR Garm 58.05 294 P P 07 44 32.4 0.0
PLID Pearl Lake 58.75 56 P P 07 44 38.0 +0.7
PLID IAmb IAmb 07 44 39.2
comp=Z,6.0nm,0.8s
NIL Nilore 59.60 288 P P 07 44 43.4 +0.4
NIL pmax pmax
comp=Z,17nm,0.8s
NIL Nilore 59.60 288 P P 07 44 43.4 +0.4
LRM Limekiln Ridge 60.22 53 P P 07 44 48.3 +0.9
VALR Valaam 61.44 332 *i P* **P 07 44 53.6 -1.4**
VALR pmax pmax
comp=Z,24nm,1.0s
BELG Belogornoye 61.57 318 P P 07 44 55.6 -0.3
comp=Z,16nm,0.5s,baz=177,slow=5.5,SNR=4.3
NVAR Mina Array Bea 61.65 63 P P 07 44 57.8 +0.7
comp=Z,2.4nm,0.6s,baz=294,slow=7.3,SNR=21
H17A Grant Village 62.16 54 P P 07 45 02.8 +2.3
H17A IAmb IAmb 07 45 04.9
comp=Z,4.5nm,1.1s
TPAW Teton Pass 62.55 55 P P 07 45 05.0 +1.9
TPAW IAmb IAmb 07 45 06.1
comp=Z,3.4nm,0.8s
SNOW Snow King Moun 62.68 55 P P 07 45 05.5 +1.6
FINES FINESS Array B 62.81 335 P P 07 45 03.7 -0.4
comp=Z,11nm,0.4s,baz=35,slow=7.5,SNR=190
PDAR Pinedale Array 63.80 55 P P 07 45 11.9 +0.7
comp=Z,3.9nm,0.7s,baz=289,slow=1.6,SNR=19
PDAR Pinedale Array 63.80 55 P P 07 45 12.2 +0.9
CCUT Cedar City 65.16 61 P P 07 45 21.2 +1.1
RDMU Red Mountain 65.28 56 P P 07 45 22.4 +1.5
LCMT Little Creek M 65.59 61 P P 07 45 24.3 +1.5
VORR Voronezh 65.73 321 *eP* **P 07 45 23.3 0.0**
GEYT Alibeck 66.00 300 P P 07 45 25.7 +0.4
comp=Z,1.9nm,0.4s,baz=49,slow=6.5,SNR=3.6
NC405 NORSAR Array S 66.75 341 P P 07 45 29.9 +0.2
NB201 NORSAR Array S 66.90 341 P P 07 45 31.1 +0.5
NB2 NORSAR Subarra 66.93 341 P P 07 45 30.9 +0.2
comp=Z,2.2nm,0.4s,baz=30,slow=6.5
NOA NORSAR Array B 66.93 341 P P 07 45 31.0 +0.2
comp=Z,1.2nm,0.3s,baz=28,slow=6.6,SNR=22
PV13 Radium Mtn., P 67.36 58 P P 07 45 35.3 +1.1
PV13 IAmb IAmb 07 45 36.0
comp=Z,5.2nm,0.7s
SMCO Snowmass 67.68 56 P P 07 45 37.4 +1.0
WB0 Warramunga Arr 69.73 199 P P 07 45 49.4 +0.8
WB0 IAmb IAmb 07 45 50.3
comp=Z,5.8nm,0.8s
WR0 Warramunga Arr 69.88 199 P P 07 45 50.1 +0.6
WR0 IAmb IAmb 07 45 50.5
comp=Z,6.2nm,0.8s
WRAB Tennant Creek 69.90 199 P P 07 45 50.2 +0.6
WRAB pmax pmax
comp=Z,7.0nm,1.1s
WRAB Tennant Creek 69.90 199 P P 07 45 50.2 +0.6
WRAB IAmb IAmb 07 45 51.4
comp=Z,7.4nm,1.1s
WRA Warramunga Arr 69.91 199 P P 07 45 50.1 +0.4
comp=Z,4.0nm,0.6s,baz=16,slow=6.2,SNR=36
WRA Warramunga Arr 69.91 199 *i P* **P 07 45 50.0 +0.3**
WRA pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 69.91 199 P P 07 45 50.4 +0.7
KBZ Khabaz 69.98 314 P P 07 45 49.3 -0.6
comp=Z,1.6nm,0.5s,baz=51,slow=5.7,SNR=6.5
KBZ Khabaz 69.98 314 *eP* **P 07 45 49.3 -0.6**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
SHA1 Shidzhatmaz 70.09 314 *i P* **P 07 45 51.4 +0.5**
AKASG Malin Array Be 70.44 326 P P 07 45 51.8 -0.8
comp=Z,2.1nm,0.4s,baz=34,slow=6.7,SNR=16
AKASG Malin Array Be 70.44 326 *i P* **P 07 45 52.2 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 70.44 326 P P 07 45 52.8 +0.1
AKBB pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 70.44 326 P P 07 45 52.8 +0.1
AKBB IAmb IAmb 07 45 52.8
comp=Z,5.3nm,0.7s
D41A Chassel 70.94 40 P P 07 45 56.4 +0.6
D41A IAmb IAmb 07 46 06.8
comp=Z,16nm,1.2s

SCHQ Schefferville 71.94 23 P P 07 46 02.2 +0.6
comp=Z,1.7nm,0.4s,baz=345,slow=6.1,SNR=21
ASAR Alice Springs 73.61 199 P P 07 46 12.8 +1.1
comp=Z,1.8nm,0.7s,baz=14,slow=5.5,SNR=29
ASAR Alice Springs 73.61 199 P P 07 46 13.4 +1.7
ASAR Alice Springs 73.61 199 P P 07 46 13.4 +1.7
KWP Kalwaria Pacla 73.67 329 *eP* **P 07 46 12.3 +0.4**
OJC Ojcow 74.14 331 *eP* **P 07 46 15.1 +0.4**
OJC Ojcow 74.14 331 P P 07 46 14.7 +0.1
OJC pmax pmax
comp=Z,10.0nm,0.6s
OJC Ojcow 74.14 331 P P 07 46 14.7 +0.1
OJC IAmb IAmb 07 46 15.8
comp=Z,10.0nm,0.6s
BUR08 Bucovina Ar. S 74.46 326 P P 07 46 16.7 +0.1
BUR08 IAmb IAmb 07 46 17.6
comp=Z,6.5nm,0.7s
BURAR Bucovina Array 74.48 326 ⇓P P 07 46 17.2 +0.4
BURAR Bucovina Array 74.48 326 ⇓P P 07 46 17.2 +0.4
KSP Ksiaz 74.69 333 *eP* **P 07 46 18.4 +0.6**
CRVS Cervenica-Dubn 74.72 329 *eP* **P 07 46 18.4 +0.4**
CRVS Cervenica-Dubn 74.72 329 *eP* **P 07 46 18.4 +0.4**
OSTC Ostas 74.97 333 *eP* **P 07 46 19.7 +0.3**
TRPA Trapa 75.01 328 ⇑P P 07 46 20.5 +0.8
UPC Upice 75.07 333 *eP* **P 07 46 20.8 +0.8**
UPC Upice 75.07 333 *eP* **P 07 46 20.8 +0.8**
TLCR 75.10 323 ⇑P P 07 46 20.8 +0.6
TLCR 75.10 323 ⇑P P 07 46 20.8 +0.6
DPC Dobruska-Polom 75.12 333 *eP* **P 07 46 21.0 +0.7**
DPC Dobruska-Polom 75.12 333 *eP* **P 07 46 21.0 +0.7**
DIKM Dikmen 75.17 317 ⇑P P 07 46 21.1 +0.4
LANS Liptovska Anna 75.17 331 *eP* **P 07 46 22.2 +1.5**
LANS pmax pmax
comp=Z,7.0nm,0.6s
LANS Liptovska Anna 75.17 331 *eP* **P 07 46 22.2 +1.5**
KRLC Kraliky 75.22 333 *eP* **P 07 46 21.2 +0.3**
KRLC Kraliky 75.22 333 *eP* **P 07 46 21.2 +0.3**
CLL Collm 75.23 336 ⇑*iP* **P 07 46 21.1 +0.3**
CLL pmax pmax
comp=Z,21nm,0.9s
CLL Collm 75.23 336 ⇑*iP* **P 07 46 21.1 +0.3**
comp=Z,21nm,0.9s
MORC Moravsky Berou 75.25 332 ⇑P P 07 46 21.8 +0.7
MORC Moravsky Berou 75.25 332 P P 07 46 21.5 +0.4
MORC pmax pmax
comp=Z,9.0nm,0.8s
MORC Moravsky Berou 75.25 332 P P 07 46 21.5 +0.4
MORC IAmb IAmb 07 46 22.6
comp=Z,9.2nm,0.8s
CFR Carcaliu 75.38 323 ⇓P P 07 46 22.3 +0.5
CFR Carcaliu 75.38 323 ⇓P P 07 46 22.3 +0.5
KECS Kecovo 75.41 330 *eP* **P 07 46 22.6 +0.6**
KECS pmax pmax
comp=Z,33nm,1.1s
KECS Kecovo 75.41 330 *eP* **P 07 46 22.6 +0.6**
TPGR Topolog 75.53 323 ⇓P P 07 46 23.1 +0.4
COVR Voineasa-Covas 75.58 325 ⇑P P 07 46 23.7 +0.6
HARR Harsova 75.87 323 ⇑P P 07 46 24.8 +0.2
HARR Harsova 75.87 323 ⇑P P 07 46 24.8 +0.2
VYHS Vyhne 75.95 331 *eP* **P 07 46 25.8 +0.7**
VYHS pmax pmax
comp=Z,5.0nm,0.8s
VYHS Vyhne 75.95 331 *eP* **P 07 46 25.8 +0.7**
VRAC Vranov 75.95 332 ⇓P P 07 46 25.3 +0.2
VRAC Vranov 75.95 332 ⇓P P 07 46 25.3 +0.2
PRU Pruhonice 75.97 334 *eP* **P 07 46 25.3 +0.2**
PRU Pruhonice 75.97 334 *eP* **P 07 46 25.3 +0.2**
MLR Muntele Rosu 75.98 325 ⇑P P 07 46 25.9 +0.5
MLR Muntele Rosu 75.98 325 ⇑P P 07 46 25.9 +0.5
ISR Istrita 76.06 324 ⇑P P 07 46 26.2 +0.4
ISR Istrita 76.06 324 ⇑P P 07 46 26.2 +0.4
VOIR 76.37 325 ⇑P P 07 46 27.9 +0.4
VOIR 76.37 325 ⇑P P 07 46 27.9 +0.4
ARR Arges 76.59 326 ⇑P P 07 46 29.1 +0.3
TXAR Lajitas Array 76.67 61 P P 07 46 30.2 +0.7
comp=Z,2.8nm,0.6s,baz=298,slow=4.5,SNR=55
SJRR Siria 76.91 328 P P 07 46 30.7 +0.2
KHC Kasperske Hory 77.02 334 *eP* **P 07 46 31.4 +0.3**
KHC Kasperske Hory 77.02 334 *eP* **P 07 46 31.4 +0.3**
CKRC Cesky Krumlov 77.08 334 *eP* **P 07 46 31.6 +0.2**
GERES GERESS Array B 77.24 334 P P 07 46 32.8 +0.4
comp=Z,2.6nm,0.5s,baz=42,slow=6.1,SNR=18
GZR Gura Zlata 77.26 327 ⇑P P 07 46 32.5 0.0
GZR Gura Zlata 77.26 327 ⇑P P 07 46 32.5 0.0
CONA Conrad Observa 77.40 332 *eP* **P 07 46 34.5 +1.2**
comp=Z,7.3nm,0.7s
BRTR Keskin Array B 77.45 317 P P 07 46 34.4 +0.7
comp=Z,2.5nm,0.7s,baz=57,slow=4.6,SNR=12
RONA Rosalia, Austr 77.47 332 *eP* **P 07 46 35.1 +1.5**
comp=Z,7.7nm,1.0s
BTNL Ternell 77.66 339 *dP* **P 07 46 34.4 -0.2**
comp=Z,5.5nm,0.8s
MEM Membach 77.66 339 *dP* **P 07 46 35.3 +0.7**
comp=Z,12nm,0.9s
HERR Herculane 77.83 327 ⇓P P 07 46 35.4 -0.2
SZH Strazhica 77.85 324 *eP* **P 07 46 35.7 0.0**
BCLA Clavier 78.00 340 *dP* **P 07 46 37.9 +1.4**
BGES Gesves 78.09 340 *dP* **P 07 46 37.5 +0.6**
ARSA Arzberg 78.11 332 *eP* **P 07 46 38.4 +1.2**
comp=Z,2.9nm,0.5s
MDVR Moldovita 78.17 327 ⇑P P 07 46 37.2 -0.3
BMRD Maredsous 78.24 340 *dP* **P 07 46 39.0 +1.3**
comp=Z,5.8nm,0.9s
RCHB Rochefort 78.27 340 *dP* **P 07 46 39.1 +1.2**
DOU Dourbes 78.47 340 *dP* **P 07 46 40.1 +1.1**
FRGS Fruska Gora 78.53 328 ⇓P P 07 46 38.9 -0.5
SOKA Soboth 78.77 332 *eP* **P 07 46 41.6 +0.7**
comp=Z,5.8nm,0.6s
KBA Koelnbreinsper 78.93 333 *eP* **P 07 46 43.0 +1.1**
comp=Z,14nm,0.7s
BOVS Bovan 79.16 326 ⇑P P 07 46 42.3 -0.6
WATA Walderalm 79.22 335 *eP* **P 07 46 44.9 +1.5**
comp=Z,4.4nm,0.5s
MYKA Terra Mystica 79.24 333 *eP* **P 07 46 44.5 +1.1**
comp=Z,3.5nm,0.5s
WTTA Wattenberg 79.26 335 *eP* **P 07 46 45.0 +1.3**
comp=Z,12nm,0.7s
RETA Reutte 79.31 335 *eP* **P 07 46 44.7 +0.9**
comp=Z,5.1nm,0.7s
MOTA Moosalm 79.34 335 *eP* **P 07 46 45.3 +1.3**
comp=Z,17nm,1.1s
SQTA Sankt Quirin 79.42 335 *eP* **P 07 46 45.6 +1.1**
comp=Z,2.5nm,0.5s
VTS Vitosha 79.45 325 ⇓P P 07 46 44.2 -0.5
VTS Vitosha 79.45 325 ⇓P P 07 46 44.2 -0.5
VTS Vitosha 79.45 325 *eP* **P 07 46 45.3 +0.6**
DAVA Damuels 79.74 336 *eP* **P 07 46 47.4 +1.2**
comp=Z,10nm,0.8s
FETA Feichten 79.74 335 P P 07 46 47.4 +1.1
comp=Z,4.0nm,0.6s
MMB Musomiste 80.14 324 *eP* **P 07 46 48.5 +0.2**
H03N2 Juan Fernandez 138.60 89 T T 10 27 51.7
baz=309,slow=77
H03N1 Juan Fernandez 138.61 89 T T 10 27 56.3
baz=309,slow=77
H03N3 Juan Fernandez 138.61 89 T T 10 27 57.2
baz=309,slow=77

*ASRS **28** 07:43:32.1±0.3,50˚N×2˚×9˚2E±˚, h10km, MLh3.6/12, Error ellipse: s-maj=4.1km s-min=2.3km az=170.8, confirmed*
ISC 28 07:43:32.9±0.9, 49.77N±0.04×91.52E±0.03, h10km, n18,
σ1§68/40, **4C-1D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUR	**Chagan-Uzun**	**2.08**	**280**	Pg	**Pg**	**07 44 11.5**	**-1.2**
CUR				Sg	**Sg**	**07 44 40.5**	**+0.9**
ERNS	**Erzin**	**2.40**	**77**	Pg	**Pg**	**07 44 16.7**	**-2.1**
ERNS				Sg	**Sg**	**07 44 47.6**	**-2.2**
AKAR	**Aktash**	**2.58**	**284**	Pn	**Pn**	**07 44 15.6**	**+0.9**
AKAR				Pg	**Pg**	**07 44 20.8**	**-1.5**
AKAR				Sg	**Sg**	**07 44 56.6**	**+1.0**
CHBI	**Chibit, Altay**	**2.65**	**283**	Pn	**Pb**	**07 44 19.1**	**-1.3**
CHBI				Pg	**Pg**	**07 44 24.9**	**+1.2**
CHBI				Sg	**Sg**	**07 44 59.2**	**+1.2**
DGZ	**Jazzator, Alta**	**2.66**	**270**	Pn	**Pn**	**07 44 17.4**	**+1.5**
DGZ				Pg	**Pb**	**07 44 21.1**	**+0.5**
DGZ				Sg	**Sg**	**07 44 57.0**	**-1.1**
KZLR	**Kyzyl**	**2.69**	**43**	Pg	**Pg**	**07 44 23.1**	**-1.4**
KZLR				Sg	**Sg**	**07 44 58.2**	**-1.1**
DJO	**Djoy, Khakassi**	**3.02**	**356**	Pg	**Pg**	**07 44 30.9**	**+0.1**
DJO				Sg	**Sg**	**07 45 11.3**	**+1.3**

DJOS Djoyskaya Sosn 3.03 359 Pg **Pg 07 44 31.0 0.0**
DJOS Sg **Sg 07 45 11.7 +1.5**
ARDR Aradan 3.06 22 Pn **Pb 07 44 25.0 -2.5**
ARDR Pg **Pg 07 44 30.3 -1.2**
ARDR Sg **Sg 07 45 11.5 +0.3**
CERR Cheremushki 3.09 359 Pg **Pg 07 44 33.6 +1.5**
CERR Sg **Sg 07 45 13.6 +1.4**
ARTR Artybash 3.37 309 Pg **Pg 07 44 38.4 +0.9**
ARTR Sg **Sg 07 45 21.9 +0.7**
TASR Tashtagol 3.77 324 Pg **Pg 07 44 44.8 -0.3**
TASR Sg **Sg 07 45 32.6 -1.3**
KNGR Kungurtug, Tuv 3.94 75 Pn **Pn 07 44 35.7 +2.1**
KNGR Pg **Pg 07 44 47.7 -0.7**
KNGR Sg **Sg 07 45 39.9 +0.5**
LUZB Luzhba, Kemero 4.23 338 Pg **Pg 07 44 51.5 -2.3**
LUZB Sg **Sg 07 45 49.9 +1.3**
ELT Eltsovka 4.81 319 Pg **Pg 07 45 02.6 -2.3**
ELT Sg **Sg 07 46 06.4 -0.8**
BRCR Berchikul' 6.20 343 Sg **Sg 07 46 52.0 +0.4**
MK31 Makanchi Array 6.84 248 ⇓Pn **Pn 07 45 14.4 +1.1**
0.2nm,0.3s,baz=239,slow=6.8,SNR=4.0
MK31 ⇑Pg **Pg 07 45 39.6 -4.2**
1.2nm,0.5s,baz=74,slow=17,SNR=6.0
MK31 Lg Lg 07 47 06.1
4.3nm,0.6s,baz=64,slow=35,SNR=4.3
MAKZ Makanchi 7.02 249 ⇑Pn **Pn 07 45 17.1 +1.3**
1.6nm,1.1s
MAKZ ⇑Pg **Pg 07 45 43.0 -4.3**
4.3nm,1.2s
MAKZ ⇑Lg Lg 07 47 08.3
10nm,1.1s

SKO 28 07:44:08.8, 41.11N×22.49E, h4km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRG	**Griva**	**0.17**	**204**	*i* Pg	Pg	07 44 12.0	0.0
VAY	**Valandovo**	**0.22**	**16**	*i* Pg	Pg	07 44 13.0	0.0
VAY				*i* Sg	Sg	07 44 16.4	+0.4
VAY				*e*Lg	Lg	07 44 16.6	
	comp=N,9.0nm,0.3s						
STIP	**Stip**	**0.63**	**339**	*i* Pg	Pg	07 44 20.2	-0.6
STIP				*i* Sg	Sb	07 44 30.5	-1.0

*IDC **28** 07:52:22.9±1.7, 15˚.50S×173˚.19W, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.8/45, mbtmp3.9/7, ML4.0/1, MS3.6/7, Ms1 3.6/7, ms1mx3.1/66, Error ellipse: s-maj=126.6km s-min=18.3km az=146.0*
ISC 28 07:52:27.8±1.6, 15˚.25S±0˚.7×173˚.3W±0˚.5, h30km, n20,
σ1§12/9, **mb4.0/6, MS3.3/10, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.95**	**49**	Pn	**Pn**	**07 52 59.4**	**+0.5**
	47nm,0.3s,baz=202,slow=2.5,SNR=33						
AFI				Sn	**Sn**	**07 53 20.5**	**-1.9**
	92nm,0.3s,baz=196,slow=20,SNR=17						
DZM	**Mont Dzumac**	**20.37**	**247**	LR	LR	08 03 42.1	
	comp=Z,144nm,19.5s,baz=16,slow=33						
DZM	**Mont Dzumac**	**20.37**	**247**	*e*LR	LR	08 02 40.4	
	comp=Z,146nm,26.9s						
PPT	**Papeete**	**22.88**	**99**	LR	LR	08 03 28.9	
	comp=Z,57nm,21.9s,baz=304,slow=29						
PPT2	**Papeete2**	**22.88**	**99**	*e*LR	LR	08 02 30.0	
	comp=Z,162nm,29.8s						
TBI	**Tubuai**	**23.90**	**114**	*e*LR	LR	08 03 02.8	
	comp=Z,129nm,27.5s						
TAOE	**Nuku Hiva Isla**	**33.00**	**83**	*e*LR	LR	08 07 08.9	
	comp=Z,90nm,30.5s						
CTA	**Charters Tower**	**38.78**	**257**	LR	LR	08 13 48.4	
	comp=Z,41nm,18.4s,baz=81,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.83**	**329**	T	T	08 40 51.1	
	baz=153,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.85**	**329**	T	T	08 40 54.9	
	baz=153,slow=74						
H11S1	**WAKE ISLAND Hy**	**38.85**	**329**	T	T	08 40 47.5	
	baz=153						
STKA	**Stephens Creek**	**44.22**	**240**	P	**P**	**08 00 33.9**	**-0.7**
	1.2nm,0.5s,baz=57,slow=9.1,SNR=5.9						
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**08 01 19.1**	**-0.6**
	0.7nm,0.4s,baz=94,slow=6.9,SNR=21						
WRA				PcP	**PcP**	**08 02 39.7**	**+0.1**
	0.3nm,0.6s,baz=97,slow=3.4,SNR=2.3						
WRA				LR	LR	08 19 35.3	
	comp=Z,64nm,21.8s,baz=224,slow=33						
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**08 01 21.4**	**-0.5**
	7.8nm,0.5s,baz=87,slow=8.0,SNR=172						
FITZ	**Fitzroy Crossi**	**58.35**	**258**	LR	LR	08 24 52.2	
	comp=Z,39nm,19.4s,baz=173,slow=33						
DAV	**Davao City (W)**	**64.47**	**286**	LR	LR	08 30 10.4	
	comp=Z,357nm,18.4s,baz=169,slow=35						
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**08 04 02.2**	**+0.5**
	1.0nm,0.7s,baz=236,slow=10,SNR=7.5						
TXAR	**Lajitas Array**	**80.42**	**56**	P	**P**	**08 04 37.0**	**0.0**
	0.2nm,0.7s,baz=224,slow=5.0,SNR=2.3						
YKA	**Yellowknife Ar**	**89.87**	**23**	P	**P**	**08 05 24.9**	**+1.4**
	0.2nm,0.8s,baz=229,slow=5.6,SNR=2.3						
SONM	**Songino Array**	**94.75**	**318**	LR	LR	08 43 05.0	
	comp=Z,36nm,21.9s,baz=126,slow=32						

*IDC **28** 07:58:51.4±1.5, 8˚.08S×114˚.68E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.5/45, mbtmp3.8/6, ML3.6/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/80, Error ellipse: s-maj=54.0km s-min=20.6km az=51.0*
*DJA **28** 07:58:54.7±0.4, 8˚.5±5˚×114˚.5E±˚, h14km±5km, M3.9/8, MLv3.9/8*
ISC 28 07:58:55.7±0.8, 8.07S±0.06×114.74E±0.04, h35km, n17,
σ2§10/18, **mb3.8/4, Bali region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**0.47**	**92**	P	**Pn**	**07 59 05.0**	**-1.0**
ABJI	**Asem Bagus**	**0.57**	**299**	P	**Pn**	**07 59 05.8**	**-1.5**
JAGI	**Jajag, Banyuwa**	**0.70**	**235**	P	**Pn**	**07 59 08.7**	**-0.5**
DNP	**Denpasar**	**0.77**	**142**	P	**Pn**	**07 59 11.2**	**+1.2**
IGBI	**Denpasar**	**0.85**	**151**	P	**Pn**	**07 59 12.1**	**+0.9**
BLJI	**Banyuglugur**	**1.18**	**286**	P	**Pn**	**07 59 16.1**	**+0.4**
KMMI	**Kalianget**	**1.27**	**323**	P	**Pn**	**07 59 17.2**	**+0.3**
GMJI	**Gumukmas**	**1.29**	**261**	P	**Pn**	**07 59 17.4**	**+0.1**
PLAI	**Plampang**	**3.10**	**104**	P	**Pn**	**07 59 44.2**	**+2.0**
KAPI	**Kappang**	**5.83**	**59**	Pn	**Pn**	**08 00 20.0**	**+0.3**
	4.6nm,0.3s,baz=271,slow=7.6,SNR=12						
KAPI				Sn	**Sn**	**08 01 23.8**	**-1.7**
	3.2nm,0.3s,baz=217,slow=20,SNR=2.1						
KAPI				LR	LR	08 02 52.4	
	comp=Z,85nm,20.5s,baz=248,slow=41						
LEM	**Lembang**	**7.17**	**279**	LR	LR	08 04 05.2	
	comp=Z,144nm,19.0s,baz=188,slow=44						
FITZ	**Fitzroy Crossi**	**14.56**	**134**	Pn	**Pn**	**08 02 19.9**	**+0.6**
	0.1nm,0.3s,baz=331,slow=13,SNR=2.1						
FITZ				Sn	**Sn**	**08 04 52.7**	**-6.8**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**22.35**	**124**	P	**P**	**08 03 50.8**	**-0.1**
	0.9nm,0.7s,baz=300,slow=12,SNR=13						
ASAR	**Alice Springs**	**24.04**	**132**	P	**P**	**08 04 09.6**	**+1.9**
	1.5nm,0.5s,baz=309,slow=8.8,SNR=20						
SONM	**Songino Array**	**56.15**	**353**	P	**P**	**08 08 33.4**	**+1.5**
	0.8nm,0.9s,baz=166,slow=7.1,SNR=4.9						
MKAR	**Makanchi Array**	**61.78**	**335**	P	**P**	**08 09 11.7**	**+0.7**
	0.7nm,0.6s,baz=159,slow=7.7,SNR=9.7						
YKA	**Yellowknife Ar**	**115.03**	**23**	PKP	**PKiKP**	**08 17 33.1**	**+0.4**
	0.1nm,0.5s,baz=312,slow=1.9,SNR=4.5						

*IDC **28** 08:03:35.8±1.8, 27˚.90S×66˚.63W, h155km±16km, mb3.7/11, mb1 3.8/15, mb1mx3.7/31, mbtmp4.1/15, Error ellipse: s-maj=17.9km s-min=13.1km az=76.0*
*SJA **28** 08:03:36.7±0.6, 28˚.00S×66˚.76W, h168km±4km, ML4.1, MW3.7*
*NEIC **28** 08:03:36.0±2.6, 28˚.05S±0˚.06×66˚.71W±0˚.07, h161km±8km, mb4.5/12, Md4.0(SJA), Mwr4.4(GUC), Error ellipse: s-maj=10.3km s-min=7.3km az=143.0*
*VAO **28** 08:03:36.6±0.3, 28˚.00S×66˚.79W, h164km, mb4.4*
*GUC **28** 08:03:38.1±0.6, 27˚.94S×67˚.18W, h212km±15km, ML4.5*
ISC 28 08:03:36.4±0.6, 27.94S±0.04×66.80W±0.05, h169km±6km,
n141, σ1§37/154, **mb4.1/11, 2C-1D, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TINO	**Tinogasta**	**0.69**	**260**	*e*P	**Pn**	**08 04 02.4**	**+1.3**

TINO eS Sn 08 04 20.3 +0.4
ACLC CERRO LA CRUZ 1.48 185 eP Pn 08 04 08.0 +0.5
ACLC eS Sn 08 04 30.7 -0.9
ACLC IAML 08 04 32.0
comp=Z,1μm,0.6s
FSA Cafayete 1.96 22 eP Pn 08 04 14.1 +1.5
FSA eS Sn 08 04 41.6 +1.1
AC02 Maricunga 2.35 297 Pn Pn 08 04 19.5 +2.3
AC02 Maricunga 2.35 297 eP Pn 08 04 19.5 +2.3
AC02 eS Sn 08 04 52.0 +3.4
AC02 IAML 08 05 04.6
comp=N,389nm,0.1s
AC02 Maricunga 2.35 297 eP Pn 08 04 19.2 +2.0
AC02 eS Sn 08 04 48.7 +0.1
APLL PUNTA DE LOS L 2.46 174 eP Pn 08 04 18.1 +0.1
ACDV Cuesta del Vie 3.01 222 eP Pn 08 04 25.8 +1.0
ACDV eS Sn 08 05 04.7 +2.3
GO03 Copiap 3.06 276 Pn Pn 08 04 26.7 +1.3
GO03 Sn Sn 08 05 03.3 -0.2
GO03 Copiap 3.06 276 eP Pn 08 04 26.7 +1.3
GO03 eS Sn 08 05 03.2 -0.2
GO03 IAML 08 05 05.7
comp=E,3μm,0.1s
GO03 Copiap 3.06 276 eP Pn 08 04 26.8 +1.4
GO03 eS Sn 08 05 04.0 +0.6
AC06 Mina Casimiro 3.21 280 Pn Pn 08 04 28.0 +0.9
AC06 Sn Sn 08 05 06.5 0.0
AC06 Mina Casimiro 3.21 280 eP Pn 08 04 27.9 +0.9
AC06 eS Sn 08 05 06.6 0.0
AC06 IAML 08 05 08.5
comp=N,811nm,0.2s
AROD Rodeo 3.22 226 eP Pn 08 04 29.0 +1.4
AROD eS Sn 08 05 10.7 +3.3
ACCO Cerro Coronel 3.30 216 eP Pn 08 04 29.1 +0.5
ACCO eS Sn 08 05 09.0 -0.1
CO01 Juntas del Tor 3.53 234 Pn Pn 08 04 33.2 +1.9
CO01 Juntas del Tor 3.53 234⇑ iP Pn 08 04 33.2 +1.9
LCO Las Campanas 3.59 252 Pn Pn 08 04 33.1 +0.8
LCO Las Campanas 3.59 252 eP Pn 08 04 32.6 +0.3
GO02 Mina Guanaco 3.73 317 Pn Pn 08 04 36.2 +2.2
GO02 Mina Guanaco 3.73 317⇓ iP Pn 08 04 36.3 +2.3
AC04 Llanos de Chal 3.79 265 Pn Pn 08 04 34.5 +0.1
AC04 Llanos de Chal 3.79 265 eP Pn 08 04 34.6 +0.2
AC04 eS Sn 08 05 17.8 -1.9
AC01 Pan de Azucar 3.83 297 Pn Pn 08 04 35.8 +0.8
AC01 Pan de Azucar 3.83 297 eP Pn 08 04 35.7 +0.7
ZON Zonda 3.94 204 Pn Pn 08 04 36.5 0.0
GO04 Tololo Observa 4.15 237 Pn Pn 08 04 39.5 +0.2
GO04 Tololo Observa 4.15 237⇑ iP Pn 08 04 39.5 +0.2
CO05 La Serena 4.36 242 Pn Pn 08 04 40.9 -0.8
CO05 La Serena 4.36 242 eP Pn 08 04 41.0 -0.8
CO05 eS Sn 08 05 30.9 -2.0
PB14 IPOC Station P 4.62 315 Pn Pn 08 04 46.6 +1.0
CO02 Combarbal 4.89 227 Pn Pn 08 04 48.0 -0.8
CO02 Combarbal 4.89 227 i P Pn 08 04 48.0 -0.8
CO06 Fray Jorge 5.02 236 Pn Pn 08 04 48.9 -1.6
CO06 Fray Jorge 5.02 236 eP Pn 08 04 48.8 -1.6
AF01 San Pedro de A 5.12 346 Pn Pn 08 04 54.1 +2.0
PB15 IPOC Station P 5.29 332 Pn Pn 08 04 55.4 +1.1
PB10 IPOC Station P 5.29 332 Pn Pn 08 04 58.3 +0.8
LVC Limon Verde 5.64 340 P Pn 08 04 60.0 +1.0
comp=N,5.6nm,0.3s,baz=117,slow=9.3,SNR=69
LVC S Sn 08 06 01.9 -1.7
comp=N,20nm,0.3s,baz=275,slow=22,SNR=28
LVC Limon Verde 5.64 340 Pn Pn 08 05 00.4 +1.4
LVC Limon Verde 5.64 340 eP Pn 08 05 00.5 +1.5
PB06 IPOC Station P 5.79 334 Pn Pn 08 05 01.6 +1.0
VA03 San Esteban 5.80 213 Pn Pn 08 04 59.9 -0.7
VA06 Catapilco 6.03 219 Pn Pn 08 05 01.6 -2.0
ROC1 El Roble 6.20 215 Pn Pn 08 05 01.8 -4.3
PB04 IPOC Station P 6.36 331 Pn Pn 08 05 08.3 +0.1
MT03 Universidad Ad 6.39 209 Pn Pn 08 05 07.8 -0.7
MT05 Renca 6.40 211 Pn Pn 08 05 07.6 -1.0
MT02 Curacav 6.49 214 Pn Pn 08 05 07.7 -1.9
PB09 IPOC Station P 6.51 340 Pn Pn 08 05 11.7 +1.5
VA01 Torpederas 6.57 218 Pn Pn 08 05 08.0 -2.8
LMEL Las Melosas 6.57 206 Pn Pn 08 05 10.4 -0.6
PB07 IPOC Station P 6.79 335 Pn Pn 08 05 13.5 -0.5
MT09 Talagante 6.84 211 Pn Pn 08 05 12.5 -2.0
BO04 La Punta 6.86 208 Pn Pn 08 05 13.1 -1.5
MT01 Popeta 7.03 212 Pn Pn 08 05 14.3 -2.5
PB02 IPOC Station P 7.17 336 Pn Pn 08 05 18.4 -0.5
PB01 IPOC Station P 7.29 340 Pn Pn 08 05 20.8 +0.3
PATCX Punta Patache 7.72 336 Pn Pn 08 05 25.2 -1.0
PB08 IPOC Station P 8.06 344 Pn Pn 08 05 30.9 0.0
GO05 Huala 8.29 211 Pn Pn 08 05 29.8 -3.9
GO01 Chusmiza 8.52 345 Pn Pn 08 05 36.7 -0.5
PB11 IPOC Station P 8.55 342 Pn Pn 08 05 35.2 -2.0
CPUP Villa Florida 8.59 81 P Pn 08 05 36.0 -1.6
comp=N,0.4nm,0.3s,baz=262,slow=11,SNR=9.3
CPUP Villa Florida 8.59 81 Pn Pn 08 05 36.1 -1.5
CPUP Villa Florida 8.59 81 eP Pn 08 05 36.1 -1.5
ML02 Panimavida 8.73 206 Pn Pn 08 05 36.5 -2.8
ITQB Itaqui 9.09 103 Pn Pn 08 05 42.6 -1.6
PB16 IPOC Station P 9.88 345 Pn Pn 08 05 55.9 +0.7
TRQA Tornquist 10.87 159 Pn Pn 08 06 07.1 -0.3
LPAZ La Paz 11.66 354 P Pn 08 06 18.2 -0.2
comp=N,2.4nm,0.3s,baz=165,slow=6.6,SNR=59
LPAZ S Sn 08 08 24.2 -4.0
comp=N,0.2nm,0.3s,baz=15,slow=17,SNR=2.1
LPAZ La Paz 11.66 354 Pn Pn 08 06 18.0 -0.5
LPAZ La Paz 11.66 354 eP Pn 08 06 17.3 -1.2
LCO1 Cunco 11.72 200 Pn Pn 08 06 16.4 -2.1
CPSB Cacapava Do Su 11.93 105 eP Pn 08 06 19.7 -1.6
PLTB Pedras Altas 12.07 112 Pn Pn 08 06 21.1 -2.0
AQDB Aquidauana 12.56 56 eP Pn 08 06 29.0 -0.4
SIV San Ignacio 13.02 25 P Pn 08 06 24.7 -11
comp=N,1.0nm,0.3s,baz=205,slow=13,SNR=48
PLCA Paso Flores 13.13 193 P Pn 08 06 36.3 -0.2
comp=N,0.2nm,0.3s,baz=5.5,slow=9.6,SNR=7.5
PLCA Paso Flores 13.13 193 Pn Pn 08 06 36.0 -0.5
PLCA Paso Flores 13.13 193 eP Pn 08 06 35.0 -1.6
PTGB Pitanga 13.60 80 eP Pn 08 06 42.7 0.0
LL04 Puerto Octay 13.73 198 Pn Pn 08 06 41.3 -2.8
PTLB Pontes e Lacer 14.32 31 eP Pn 08 06 52.4 +0.8
PCMB Pacaembu 15.45 69 eP P 08 07 07.1 +0.7
SALV Santo Antonio 15.79 43 eP Pn 08 07 09.3 -0.5
GO07 Milladeo Hill, 16.13 198 P Pn 08 07 11.7 -2.0
VILB Vilhena 16.14 24 eP Pn 08 07 13.9 -0.1
FRTB Fartura 16.20 77 eP P 08 07 15.0 +0.3
ITRB Iturama 17.12 65 eP P 08 07 25.1 +0.2
PET01 Itanhaem-SP 17.91 83 eP P 08 07 33.5 +0.1
BB19B Bebedouro 17.97 72 eP P 08 07 34.1 -0.1
ETMB Extrema 18.04 2 eP P 08 07 36.4 +1.5
RCLB Rio Claro- Sao 18.28 77 eP P 08 07 37.4 -0.1
VAO Valinhos 18.57 79 eP P 08 07 41.0 +0.3
PDRB Porto dos Gac 18.79 32 eP P 08 07 42.1 -1.0
PARB Paraibuna 19.63 81 eP P 08 07 51.8 -0.4
IPMB Ipameri, GO 19.76 64 eP P 08 07 53.1 -0.5
CLDB Colider 19.88 33 eP P 08 07 54.0 -0.8
CZSB Cruzeiro do Su 20.87 343 eP P 08 08 06.8 +1.4
BDFB Brasilia 21.27 59 P P 08 08 08.3 -1.5
comp=N,9.4nm,0.7s,baz=236,slow=8.3,SNR=15
BDFB Brasilia 21.27 59 P P 08 08 08.8 -1.1
BDFB IAmb IAmb 08 08 09.3
comp=Z,16nm,0.9s
VAS01 Vassouras-RJ 21.87 80 eP P 08 08 15.7 -0.3
DIAM Diamantina, MG 23.30 71 eP P 08 08 29.8 +0.3
PEXB Peixe 23.41 51 eP P 08 08 30.0 -0.3
JANB Januaria 24.48 63 eP P 08 08 38.9 -1.3
SDBA SAO DESIDERIO 25.65 57 eP P 08 08 50.1 -0.7
ITTB Itaituba 25.70 26 eP P 08 08 51.0 -0.2
SMTB Santa Maria do 26.24 47 eP P 08 08 55.9 -0.1
NAN01 Guarapari, ES 26.50 73 eP P 08 08 58.2 -0.1
PRPB Parauapebas 26.99 40 eP P 08 09 02.1 -0.6
BOAV Boa Vista 30.76 12 eP P 08 09 37.0 +0.9
NBMA Muriti-CE 33.50 58 eP P 08 09 60.0 -0.1
NBPS Pedro II - PI 33.63 50 eP P 08 10 01.0 -0.2
MDP Montagnes des 35.58 25 P P 08 10 17.4 -0.4
comp=Z,9.1nm,0.6s,baz=204,slow=8.4,SNR=10.0
SDV Santo Domingo 36.80 354 P P 08 10 27.9 -0.5
comp=Z,1.6nm,0.7s,baz=166,slow=8.3,SNR=2.8
SDV Santo Domingo 36.80 354 P P 08 10 28.1 -0.2
SDV Santo Domingo 36.80 354 eP P 08 10 28.1 -0.2
SJCC San Jacinto, C 38.48 347 P P 08 10 44.1 +1.8
SJCC IAmb IAmb 08 10 46.5
comp=Z,5.9nm,0.8s
VNA3 Neumayer Olymp 53.39 160 P P 08 12 39.3 +1.1
VNA2 Neumayer--Watz 53.97 160 P P 08 12 43.5 +1.1
baz=282,slow=9.0
SNAA Sanae 55.59 160 P P 08 12 55.0 +0.8
SNAA Sanae 55.59 160 P P 08 12 55.1 +1.0
comp=Z,3.6nm,0.6s,baz=285,slow=8.5,SNR=31
TROLL Troll, Antarti 57.31 160 P P 08 13 07.6 +1.3
QSPA South Pole Qui 62.28 180 P P 08 13 42.2 +1.9
TXAR Lajitas Array 66.99 325 P P 08 14 13.0 +1.7
comp=Z,0.1nm,0.5s,baz=156,slow=8.9,SNR=2.1
DBIC Dimbokro 68.93 70 P P 08 14 22.5 -1.0
comp=Z,2.3nm,0.7s,baz=196,slow=8.4,SNR=1.8
VNDA Vanda 70.86 190 P P 08 14 35.2 +0.8
comp=Z,1.3nm,0.9s,baz=145,slow=5.2,SNR=7.5
VNDA Vanda 70.86 190 IAmb IAmb 08 14 38.1
comp=Z,1.3nm,0.8s
TORD Torodi Ar. Bea 77.84 68 P P 08 15 15.3 -0.3
comp=Z,1.6nm,0.6s,baz=260,slow=5.2,SNR=10
TORD Torodi Ar. Bea 77.84 68 P P 08 15 15.6 0.0
BOSA Boshof 78.80 116 P P 08 15 21.0 0.0
comp=Z,2.9nm,0.7s,baz=254,slow=0.9,SNR=3.6
BOSA Boshof 78.80 116 IAmb IAmb 08 15 45.2
comp=Z,9.7nm,1.2s
PDAR Pinedale Array 80.62 330 P P 08 15 31.3 +0.8
comp=Z,0.2nm,0.4s,baz=118,slow=6.2,SNR=4.1
YKA Yellowknife Ar 97.87 340 P Pdif 08 16 53.6 +1.4
comp=Z,0.1nm,0.6s,baz=135,slow=4.9,SNR=2.5
ASAR Alice Springs 124.94 203 PKP PKPdf 08 22 17.4 +0.4
comp=Z,1.3nm,0.4s,baz=136,slow=1.8,SNR=28
WRA Warramunga Arr 128.19 206 PKP PKiKP 08 22 24.4 +0.4
comp=Z,1.1nm,0.3s,baz=154,slow=2.0,SNR=76
ZALV Zalesovo Beam 146.73 31 PKPbc PKPbc 08 22 58.3 +0.3
comp=Z,1.6nm,0.3s,baz=298,slow=4.2,SNR=4.8
KSH Kashi 147.18 60 PKPbc PKPdf 08 22 55.5 -1.9
MKAR Makanchi Array 149.34 44 PKPbc PKiKP 08 23 06.6 +0.4
comp=Z,1.2nm,0.5s,baz=298,slow=3.0,SNR=13
PZH PanZhiHua 169.70 95 PKP PKPdf 08 23 22.8 -1.5

IDC 28 08:17:48.9±3.1, 42.15N×129.56E, h0km, mb1 2.8/2, mb1mx2.7/44, mbtmp2.8/2, ML2.0/2, Error ellipse: s-maj=54.8km s-min=20.7km az=121.0, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	**2.71**	**40**	*i*		08 34 30.0	
	baz=222,slow=325,SNR=4.5						
USRK	**Ussuriysk Ar.**	**2.71**	**40**	Pn	Pn	08 18 33.5	-0.1
	baz=217,slow=14,SNR=2.9						
USRK				Pg	Pb	08 18 38.4	+0.2
	baz=229,slow=15,SNR=17						
USRK				Lg	Lg	08 19 14.9	
	baz=238,slow=34,SNR=7.2						
KSRS	**Korea Array**	**4.86**	**196**	Pn	Pn	08 19 03.5	+0.3
	0.5nm,0.3s,baz=11,slow=14,SNR=1.4						

*HEL **28** 08:22:54.5, 59.40N×22.11E, h0km, ML2.0, Explosion*
*HEL **28** 08:22:54.5±0.2, 59.41N×22.08E, h0km, ML2.0, ML2.8(UPP), Explosion*
*LVSN **28** 08:22:56.4±6.3, 59.64N×22.15E, h0km±66km, ML2.1*
*IDC **28** 08:22:57.7±2.5, 59.76N×22.32E, h0km, mb1 2.8/3, mb1mx2.7/40, mbtmp2.6/3, ML2.0/3, Error ellipse: s-maj=31.3km s-min=8.4km az=163.0*
*UPP **28** 08:22:57.1±1.1, 59.56N×21.74E, h0km, ML2.8, Suspected explosion*
*DNK **28** 08:23:13.2±2.6, 59.97N×19.91E, h0km, ML2.8(UPP), Suspected explosion*

ISC 28 08:22:53.5±0.8, 59.59N±0.03×22.20E±0.02, h0km, n50, σ1§16/64, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTSE	**Matsula**	**1.21**	**136**	eP	**Pg**	**08 23 16.6**	**-0.1**
MTSE	**Matsula**	**1.21**	**136**	eP	**Pb**	**08 23 17.2**	**-0.1**
MTSE				eS	**Sg**	**08 23 32.4**	**+0.1**
AAL	**Aland**	**1.26**	**299**	eP	**Pg**	**08 23 17.3**	**-0.3**
AAL	**Aland**	**1.26**	**299**	P	**Pg**	**08 23 17.2**	**-0.3**
AAL	**Aland**	**1.26**	**299**	eP	**Pg**	**08 23 17.2**	**-0.3**
MEF	**Metsahovi**	**1.27**	**60**	eP	**Pn**	**08 23 19.4**	**+0.9**
MEF	**Metsahovi**	**1.27**	**60**	eP	**Pn**	**08 23 19.1**	**+0.7**
MEF				eS	**Sg**	**08 23 33.3**	**-1.0**
MEF				AML	AML	08 23 37.3	
	comp=Z,29nm,0.2s						
MEF				AML	AML	08 23 57.8	
	comp=E,24nm,0.2s						
MEF				AML	AML	08 23 57.9	
	comp=N,28nm,0.1s						
MEF	**Metsahovi**	**1.27**	**60**	eP	**Pn**	**08 23 19.0**	**+0.5**
MEF				eS	**Sn**	**08 23 37.3**	**+1.1**
MEF				MSG		08 23 41.4	
	comp=Z,13nm,0.1s						
RAF	**Rauma**	**1.45**	**352**	eP	**Pb**	**08 23 22.1**	**+0.8**
RAF	**Rauma**	**1.45**	**352**	eP	**Pb**	**08 23 21.8**	**+0.5**
RAF				eS	**Sg**	**08 23 37.6**	**-2.5**
RAF				AML	AML	08 23 37.7	
	comp=Z,22nm,0.2s						
RAF				AML	AML	08 23 56.8	
	comp=E,35nm,0.1s						
RAF				AML	AML	08 24 01.0	
	comp=N,21nm,0.1s						
RAF	**Rauma**	**1.45**	**352**	eP	**Pb**	**08 23 23.1**	**+1.7**
RAF				MSG		08 23 43.6	
	comp=Z,14nm,0.1s						
NRTU	**Norrtaelje**	**1.81**	**274**	P	**Pn**	**08 23 26.2**	**+0.2**
NRTU	**Norrtaelje**	**1.81**	**274**	P	**Pn**	**08 23 26.2**	**+0.2**
NRTU	**Norrtaelje**	**1.81**	**274**	eP	**Pn**	**08 23 26.2**	**+0.2**
SLIT	**Slitere, Latvi**	**1.97**	**179**	eP	**Pn**	**08 23 28.3**	**+0.3**
GRAU	**Graesoe**	**1.99**	**294**	P	**Pn**	**08 23 28.9**	**+0.6**
GRAU	**Graesoe**	**1.99**	**294**	P	**Pn**	**08 23 28.9**	**+0.6**
GRAU	**Graesoe**	**1.99**	**294**	eP	**Pn**	**08 23 28.9**	**+0.6**
PVF	**Pernaja**	**2.07**	**61**	eP	**Pg**	**08 23 32.6**	**-0.5**
PVF				eS	**Sg**	**08 23 59.7**	**-0.2**
FORU	**Forsmark**	**2.17**	**293**	P	**Pb**	**08 23 32.5**	**-1.1**
FORU	**Forsmark**	**2.17**	**293**	P	**Pb**	**08 23 32.5**	**-1.1**
FORU				S	**Sn**	**08 23 58.4**	**+0.1**
FORU	**Forsmark**	**2.17**	**293**	eP	**Pb**	**08 23 32.5**	**-1.1**
FORU				eS	**Sn**	**08 23 58.4**	**+0.1**
FORU	**Forsmark**	**2.17**	**293**	S	**Sn**	**08 23 58.4**	**+0.1**
NYNU	**Nynaeshamn**	**2.23**	**256**	P	**Pn**	**08 23 32.5**	**+0.9**
NYNU	**Nynaeshamn**	**2.23**	**256**	P	**Pn**	**08 23 32.5**	**+0.9**
NYNU	**Nynaeshamn**	**2.23**	**256**	eP	**Pn**	**08 23 32.5**	**+0.9**
FLYU	**Flymyra**	**2.24**	**286**	P	**Pn**	**08 23 32.4**	**+0.6**
FLYU	**Flymyra**	**2.24**	**286**	P	**Pn**	**08 23 32.4**	**+0.6**
FLYU	**Flymyra**	**2.24**	**286**	eP	**Pn**	**08 23 32.4**	**+0.6**
BACU	**Backbrunna**	**2.59**	**278**	P	**Pn**	**08 23 37.4**	**+0.8**
BACU	**Backbrunna**	**2.59**	**278**	P	**Pn**	**08 23 37.4**	**+0.8**
BACU	**Backbrunna**	**2.59**	**278**	eP	**Pn**	**08 23 37.4**	**+0.8**
VSU	**Vasula**	**2.60**	**114**	eS	**Sb**	**08 24 14.0**	**+0.6**
VSU				AML	AML	08 24 30.6	
	comp=Z,32nm,0.4s						
VSU				AML	AML	08 24 31.0	
	comp=N,73nm,0.5s						
VSU				AML	AML	08 24 31.4	
	comp=E,57nm,0.4s						
VSU	**Vasula**	**2.60**	**114**	eS	**Sn**	**08 24 08.9**	**-0.1**
OSTU	**Oestervaala**	**2.63**	**286**	P	**Pn**	**08 23 37.9**	**+0.7**
OSTU	**Oestervaala**	**2.63**	**286**	P	**Pn**	**08 23 37.9**	**+0.7**
OSTU	**Oestervaala**	**2.63**	**286**	eP	**Pn**	**08 23 37.9**	**+0.7**
FIA0	**FINESS Array S**	**2.67**	**44**	eP	**Pb**	**08 23 41.9**	**-0.2**
FIA0				eS	**Sb**	**08 24 15.1**	**-0.2**
FINES	**FINESS Array B**	**2.67**	**44**	Pn	**Pb**	**08 23 40.7**	**-1.4**
	comp=E,0.5nm,0.3s,baz=230,slow=13,SNR=27						
FINES				Lg	Lg	08 24 15.6	
	comp=E,1.9nm,0.3s,baz=229,slow=21,SNR=15						
FIA1	**FINESS Array S**	**2.67**	**44**	eP	**Pb**	**08 23 41.9**	**-0.2**
FIA1				eS	**Sb**	**08 24 15.6**	**+0.2**
VJF	**Virojoki**	**2.85**	**68**	eP	**Pn**	**08 23 41.9**	**+1.8**
VJF				eS	**Sb**	**08 24 17.9**	**-2.5**
KEF	**Keuruu**	**2.90**	**26**	eP	**Pb**	**08 23 44.6**	**-1.3**
KEF				eS	**Sb**	**08 24 22.0**	**+0.1**
VIKU	**Vikbolandet**	**3.04**	**251**	eP	**Pn**	**08 23 43.1**	**+0.3**
ARNU	**Arnoeviken**	**3.17**	**314**	P	**Pn**	**08 23 46.4**	**+1.7**
ARNU	**Arnoeviken**	**3.17**	**314**	P	**Pn**	**08 23 46.4**	**+1.7**
ARNU	**Arnoeviken**	**3.17**	**314**	eP	**Pn**	**08 23 46.4**	**+1.7**
KAF	**Kangasniemi**	**3.23**	**37**	eP	**Pb**	**08 23 49.1**	**-2.5**
KAF				eS	**Sb**	**08 24 29.2**	**-2.2**
HEMU	**Hemsoen**	**3.69**	**329**	eP	**Pn**	**08 23 54.6**	**+2.9**
HEMU				eS	**Sn**	**08 24 39.2**	**+3.3**
NOA	**NORSAR Array B**	**5.65**	**290**	Pn	**Pn**	**08 24 20.3**	**+1.7**
	comp=E,0.0nm,0.3s,baz=92,slow=13,SNR=5.4						
NOA				Sn	**Sn**	**08 25 24.1**	**-0.1**
	comp=E,0.0nm,0.3s,baz=157,slow=15,SNR=1.2						
NOA				Lg	Lg	08 25 53.5	
	comp=E,0.1nm,0.3s,baz=122,slow=9.4,SNR=2.6						
ARCES	**ARCESS Array B**	**10.08**	**7**	Pn	**Pn**	**08 25 19.6**	**+0.3**
	baz=192,slow=13,SNR=14						

*DNK **28** 08:23:07.2±0.6, 59.56N×22.36E, h0km, ML2.8(UPP), Suspected explosion*

UPP 28 08:23:08.8±1.9, 59.59N×22.11E, h0km, ML2.8, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	**1.22**	**300**	P	Pg	08 23 31.4	-0.8
NRTU	**Norrtaelje**	**1.77**	**274**	P	Pn	08 23 40.5	0.0
NRTU	**Norrtaelje**	**1.77**	**274**	P	Pn	08 23 40.5	0.0
GRAU	**Graesoe**	**1.94**	**294**	S	Sb	08 24 09.9	+0.1
GRAU	**Graesoe**	**1.94**	**294**	P	Pn	08 23 43.3	+0.3
GRAU				S	Sb	08 24 09.9	+0.1
GRAU	**Graesoe**	**1.94**	**294**	P	Pn	08 23 43.3	+0.3
NYNU	**Nynaeshamn**	**2.18**	**256**	S	Sn	08 24 15.0	+1.1
NYNU	**Nynaeshamn**	**2.18**	**256**	P	Pn	08 23 46.7	+0.4
NYNU				S	Sn	08 24 15.0	+1.1
NYNU	**Nynaeshamn**	**2.18**	**256**	P	Pn	08 23 46.7	+0.4
FLYU	**Flymyra**	**2.20**	**286**	P	Pn	08 23 47.1	+0.6
FLYU	**Flymyra**	**2.20**	**286**	P	Pn	08 23 47.1	+0.6

*MAN **28** 08:25:34.9, 12.76N×126.15E, h37km, mb5.0, ML3.9, MS4.0, Hypocentre not reviewed by the ISC*
*IDC **28** 08:25:34.2±0.7, 12.48N×125.57E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/38, mbtmp4.1/11, MS3.1/5, Ms1 3.1/5, ms1mx2.7/86, Error ellipse: s-maj=42.5km s-min=14.9km az=69.0*
*NEIC **28** 08:25:35.4±1.4, 12.69N±0.07×126.1E±0.1, h10km±1km, mb4.5/30, Error ellipse: s-maj=18.5km s-min=12.3km az=78.0*
*DJA **28** 08:25:51.8±0.5, 13.7N±4.7×12.6E±7, h153km±5km, M4.3/13, mB5.1/1, mb4.3/13, Mw(mB)4.5/1*

ISC 28 08:25:34.8±0.5, 12.69N±0.04×126.02E±0.05, h10km, n90, σ1§81/88, mb4.5/31, MS3.3/4, 6C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**2.03**	**297**	eP	**Pn**	**08 26 05.6**	**-3.5**
OCLP	**Ormoc**	**2.14**	**220**	eP	**Pn**	**08 26 09.8**	**-0.8**
SCSP	**San Jose Seism**	**2.62**	**292**	eP	**Pb**	**08 26 21.7**	**-0.1**
MSLP	**Maasin**	**2.79**	**204**⇑	eP	**Pn**	**08 26 19.7**	**+0.3**
GLSP	**General Luna,**	**2.89**	**178**	eP	**Pn**	**08 26 18.9**	**-2.0**
LLP	**Lapu-Lapu**	**3.10**	**221**⇓	eP	**Pn**	**08 26 24.6**	**+0.7**
LLP				eS	**Sg**	**08 27 14.7**	**+0.2**
RCP	**Roxas**	**3.40**	**251**⇓	eP	**Pn**	**08 26 25.9**	**-2.0**
RCP				eS	**Sn**	**08 27 02.9**	**-5.3**
TBP	**Tagbilaran**	**3.66**	**216**	eP	**Pn**	**08 26 32.9**	**+1.4**
TBP				*i* S	**Sb**	**08 27 29.1**	**+5.1**
GQP	**Guinayangan**	**3.68**	**290**⇑	eP	**Pn**	**08 26 31.0**	**-0.8**
GQP				eS	**Sn**	**08 27 08.0**	**-7.3**
BUTP	**Butuan**	**3.72**	**186**	eP	**Pb**	**08 26 37.8**	**-2.8**
BIPH	**Bislig**	**4.49**	**176**⇓	eP	**Pn**	**08 26 42.3**	**-0.6**
LQP	**Lukban**	**4.58**	**288**⇑	eP	**Pn**	**08 26 43.8**	**-0.6**
BUKP	**Musuan**	**4.87**	**191**⇓	eP	**Pg**	**08 27 09.9**	**+1.7**
PAGZ	**Pagadian**	**5.47**	**209**⇑	eP	**Pn**	**08 26 57.5**	**+1.2**
DAV	**Davao City (W)**	**5.60**	**184**	Pn	**Pn**	**08 26 58.4**	**+0.2**
LUBP	**Lubang**	**5.72**	**281**⇑	eP	**Pn**	**08 27 01.2**	**+1.4**
APYP	**Conner**	**6.90**	**319**⇑	eP	**Pn**	**08 27 17.1**	**+1.0**
APYP				eS	Sn	08 28 24.7	-10
MYLDM	**Lahad Datu**	**10.53**	**226**	Pn	**Pn**	**08 28 06.0**	**+0.1**
YULB	**Yu-li**	**11.55**	**338**	Pn	**Pn**	**08 28 20.6**	**+0.8**
TOLI2	**Tolitoli**	**12.62**	**205**	Pn	**Pn**	**08 28 35.3**	**+0.8**
MPSI	**Mapaga**	**13.69**	**207**	P	**P**	**08 28 56.8**	**-1.2**
	9.6nm,0.8s						
JOW	**Kunigami**	**14.23**	**8**	Pn	**Pn**	**08 28 55.6**	**-0.8**
SIJI	**Sorong**	**14.44**	**158**	LR	LR	08 36 31.9	
	comp=Z,29nm,18.4s,baz=182,slow=46						
HKPS	**Hong Kong Po S**	**14.80**	**312**	Pn	**Pn**	**08 29 05.8**	**+1.5**
QIZ	**Qiongzhong**	**16.78**	**294**	P	**Pn**	**08 29 31.3**	**+1.2**
QIZ				S	**Sn**	**08 32 40.8**	**+4.1**
QIZ				LR	LR		
	comp=N,210nm,14.7s						
QIZ				LR	LR		
	comp=E,150nm,16.2s						
QIZ				LR	LR		
	comp=Z,200nm,14.9s						
TTSI	**Tana Toraja**	**16.80**	**202**	P	**P**	**08 29 33.4**	**+0.9**
	comp=Z,59nm,0.9s						
SBUM	**Sibu**	**17.04**	**234**	Pn	**Pn**	**08 29 31.3**	**-2.0**
SPSI	**Sidrap Palu**	**17.68**	**201**	P	**P**	**08 29 45.4**	**+3.2**
	comp=Z,29nm,1.0s						
BNSI	**Bone**	**17.97**	**199**	P	**P**	**08 29 46.7**	**+1.3**
	comp=Z,16nm,0.8s						
GUMO	**Guam**	**18.38**	**85**	LR	LR	08 36 50.3	
	comp=Z,44nm,19.2s,baz=279,slow=36						
KAPI	**Kappang**	**18.66**	**200**	P	**P**	**08 29 52.2**	**-0.8**
KAPI				IAmb	IAmb	08 30 03.7	
	comp=Z,18nm,0.9s						
KSM	**Kuching**	**19.15**	**236**	P	**P**	**08 29 56.6**	**-1.9**
NJ2	**Nanjing**	**20.36**	**342**	eP	**P**	**08 30 11.5**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
BATI	**Baumata**	**22.87**	**186**	LR	LR	08 41 57.2	
	comp=Z,57nm,18.7s,baz=270,slow=44						
ENH	**Enshi**	**23.24**	**321**	P	**P**	**08 30 42.1**	**-0.3**
ENH				IAmb	IAmb	08 30 43.9	
	comp=Z,7.9nm,0.9s						
TPI	**Tanjungpandan**	**23.84**	**231**	P	**P**	**08 30 45.9**	**-2.5**
	comp=Z,8.9nm,1.2s						
JAGI	**Jajag, Banyuwa**	**24.11**	**210**	P	**P**	**08 30 51.2**	**+0.4**
KSRS	**Korea Array**	**24.72**	**4**	P	**P**	**08 30 59.9**	**+3.7**
	comp=Z,1.1nm,0.6s,baz=184,slow=12,SNR=2.6						
LYN	**LuoYang**	**25.00**	**333**	⇓P	**P**	**08 31 01.8**	**+2.9**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MJAR	**Matsushiro Arr**	**26.16**	**23**	LR	LR	08 41 52.0	
	comp=Z,104nm,19.4s,baz=216,slow=37						
MJB9	**Matsu-Tunnel**	**26.16**	**23**	P	**P**	**08 31 07.7**	**-1.7**
M

WR0					IAmb	IAmb	08 32 16.5		
	comp=Z,8.1nm,1.2s								
LSA	**Lhasa**	**36.46**	**303**		P	**P**	**08 32 40.5**	**-0.2**	
AS31	**Alice Springs**	**36.95**	**168**		P	**P**	**08 32 44.5**	**+0.1**	
ASAR	**Alice Springs**	**36.95**	**168**		P	**P**	**08 32 44.6**	**+0.2**	
	comp=Z,1.2nm,0.5s,baz=350,slow=7.0,SNR=26								
ASAR	**Alice Springs**	**36.95**	**168**		P	**P**	**08 32 45.0**	**+0.7**	
SONM	**Songino Array**	**38.68**	**339**		P	**P**	**08 32 59.3**	**+0.4**	
	comp=Z,0.8nm,0.5s,baz=160,slow=7.7,SNR=5.3								
H11N1	**WAKE ISLAND Hy**	**39.79**	**74**		T	T	09 16 28.9		
	baz=266,slow=74								
H11N2	**WAKE ISLAND Hy**	**39.79**	**74**		T	T	09 16 27.8		
	baz=266,slow=74								
H11N3	**WAKE ISLAND Hy**	**39.80**	**74**		T	T	09 16 30.3		
	baz=266,slow=74								
FORT	**Forrest**	**43.26**	**177**		P	**P**	**08 33 37.2**	**+0.6**	
WMQ	**Urumqi**	**45.19**	**321**	*eP*	P	**P**	**08 33 54.0**	**+1.9**	
BBOO	**Buckleboo**	**46.25**	**168**		P	**P**	**08 33 59.6**	**-0.8**	
BBOO					IAmb	IAmb	08 34 12.8		
	comp=Z,8.8nm,0.9s								
STKA	**Stephens Creek**	**46.76**	**162**		P	**P**	**08 34 05.2**	**+0.7**	
	comp=Z,4.0nm,0.7s,baz=332,slow=8.9,SNR=8.0								
STKA	**Stephens Creek**	**46.76**	**162**		P	**P**	**08 34 04.5**	**0.0**	
MK31	**Makanchi Array**	**49.98**	**322**		P	**P**	**08 34 29.9**	**+0.8**	
MK31					IAmb	IAmb	08 34 30.8		
	comp=Z,3.4nm,0.9s								
MKAR	**Makanchi Array**	**49.98**	**322**		P	**P**	**08 34 29.4**	**+0.2**	
	comp=Z,3.3nm,0.8s,baz=117,slow=8.6,SNR=29								
MKAR					PcP	**PcP**	**08 35 49.5**	**+0.2**	
	comp=Z,0.9nm,0.8s,baz=102,slow=5.3,SNR=3.7								
MAKZ	**Makanchi**	**50.17**	**322**		P	**P**	**08 34 30.6**	**0.0**	
MAKZ					IAmb	IAmb	08 34 41.1		
	comp=Z,6.5nm,1.4s								
KSH	**Kashi**	**51.46**	**311**		P	**P**	**08 34 44.8**	**+4.2**	
ZAA0	**Zalesovo Array**	**52.40**	**331**		P	**P**	**08 34 47.5**	**+0.3**	
ZALV	**Zalesovo Beam**	**52.40**	**331**		P	**P**	**08 34 49.2**	**+2.0**	
	comp=Z,1.4nm,0.4s,baz=125,slow=9.0,SNR=1.3								
ZALV	**Zalesovo Beam**	**52.40**	**331**		P	**P**	**08 34 47.9**	**+0.7**	
LIFNC	**LIFOU**	**52.42**	**129**		P	**P**	**08 34 46.7**	**-1.1**	
CAN	**Canberra**	**52.48**	**156**		P	**P**	**08 34 48.3**	**+0.3**	
CAN					IAmb	IAmb	08 34 59.6		
	comp=Z,16nm,1.4s								
KURK	**Kurchatov**	**53.95**	**325**		P	**P**	**08 34 58.9**	**+0.2**	
KURK					IAmb	IAmb	08 35 00.3		
	comp=Z,6.9nm,0.8s								
KK31	**Karatay Array**	**56.40**	**314**		P	**P**	**08 35 15.9**	**-0.7**	
KKAR	**Karatay Array**	**56.40**	**314**		P	**P**	**08 35 15.9**	**-0.7**	
BRVK	**Borovoye**	**59.62**	**325**		P	**P**	**08 35 39.2**	**+0.3**	
BRVK					IAmb	IAmb	08 35 40.4		
	comp=Z,5.1nm,0.8s								
ABKAR	**Akbulak array**	**64.90**	**319**		P	**P**	**08 36 14.1**	**-0.3**	
ABKAR					IAmb	IAmb	08 36 15.2		
	comp=Z,2.8nm,0.8s								
ABKAR	**Akbulak array**	**64.90**	**319**		P	**P**	**08 36 14.0**	**-0.4**	
GEYT	**Alibeck**	**64.92**	**306**		P	**P**	**08 36 15.3**	**+0.5**	
GEYT					IAmb	IAmb	08 36 15.6		
	comp=Z,2.5nm,0.7s								
IMAR	**Indian Mountai**	**74.52**	**25**		P	**P**	**08 37 11.0**	**-2.4**	
FINES	**FINESS Array B**	**83.66**	**332**		P	**P**	**08 38 03.6**	**+0.2**	
	comp=Z,2.9nm,0.9s,baz=66,slow=3.4,SNR=5.8								
YKA	**Yellowknife Ar**	**91.66**	**24**		P	**P**	**08 38 44.6**	**+2.5**	
	comp=Z,0.2nm,0.8s,baz=297,slow=4.7,SNR=3.5								
YKA	**Yellowknife Ar**	**91.66**	**24**		P	**P**	**08 38 41.8**	**-0.3**	
VNDA	**Vanda**	**92.35**	**173**		P	**P**	**08 38 45.4**	**+0.5**	
	comp=Z,1.2nm,0.8s,baz=310,slow=7.2,SNR=7.5								
VNDA	**Vanda**	**92.35**	**173**		IAmb	IAmb	08 38 47.3		
	comp=Z,5.2nm,1.5s								

TAP 28 08:35:32.3,24.23N×121.75E,h10km,ML2.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.08**	**356**	*eP*	Pg	08 35 34.8	+0.2
	baz=1.0						
EHP				*eS*	Sg	08 35 36.9	+0.5
	baz=1.0						
ETL	**Fush Village**	**0.14**	**237**	P	Pg	08 35 35.6	+0.2
	baz=229						
ETL				S	Sg	08 35 38.3	+0.7
	baz=229						
NACB	**Ninganchiao**	**0.15**	**247**	P	Pg	08 35 35.9	+0.3
	baz=239						
NACB				S	Sg	08 35 38.7	+0.7
	baz=239						
ENA	**Nanau**	**0.20**	**358**	P	Pg	08 35 36.6	+0.2
ENA				S	Sg	08 35 39.7	+0.5
TWD	**Chiawan**	**0.20**	**222**	P	Pg	08 35 36.8	+0.2
	baz=221						
TWD				S	Sg	08 35 40.0	+0.5
	baz=221						
EWUT	**Wuta**	**0.21**	**8**	P	Pg	08 35 37.0	+0.2
	baz=8.0						
EWUT				S	Sg	08 35 40.4	+0.6
	baz=8.0						
ETLH	**Xiulin Townshi**	**0.24**	**264**	P	Pg	08 35 37.6	+0.3
	baz=264						
ETLH				S	Sg	08 35 41.6	+0.9
	baz=264						
LATG	**Datong**	**0.36**	**326**	*eP*	Pg	08 35 40.0	+0.5
	baz=326						
LATG				S	Sg	08 35 45.6	+1.2
	baz=326						
NNSB	**Datong**	**0.39**	**301**	*eP*	Pg	08 35 40.6	+0.6
	baz=300						
NNSB				*eS*	Sb	08 35 46.3	-1.1
	baz=300						
TWC	**Suao**	**0.39**	**14**	*eP*	Pg	08 35 39.9	0.0
	baz=8.0						
TWC				*eS*	Sg	08 35 45.5	+0.4
	baz=8.0						
NNS	**Nan Shan**	**0.40**	**301**	P	Pb	08 35 40.9	-0.6
	baz=301						
NNS				*eS*	Sg	08 35 46.6	+1.1
	baz=301						
NDS	**Dongshan**	**0.40**	**356**	P	Pg	08 35 40.5	+0.3
	baz=356						
NDS				S	Sg	08 35 46.1	+0.6
	baz=356						
ENTT	**Nioudou**	**0.44**	**338**	P	Pg	08 35 41.4	+0.5
	baz=338						
ENTT				*eS*	Sg	08 35 47.7	+1.0
	baz=338						
WHF	**Hehuan Shan**	**0.45**	**259**	P	Pg	08 35 41.6	+0.4
	baz=259						
WHF				S	Sg	08 35 48.0	+0.8
	baz=259						
TWE	**Neicheng**	**0.49**	**352**	*eP*	Pg	08 35 42.5	+0.6
	baz=353						
TWE				*eS*	Sg	08 35 49.2	+0.8
	baz=353						
ESL	**Shilin**	**0.51**	**215**	*eP*	Pb	08 35 43.2	-0.1
	baz=223						
TDCB	**Techi**	**0.54**	**272**	*eP*	Pb	08 35 43.6	-0.4
	baz=272						
TDCB				*eS*	Sg	08 35 50.6	+0.7
	baz=272						
FUSB	**Fushanzhiwuyua**	**0.55**	**345**	*eP*	Pb	08 35 43.5	-0.5
	baz=344						
FUSB				*eS*	Sg	08 35 50.9	+0.8
	baz=344						
CHGB	**Renai**	**0.55**	**252**	P	Pg	08 35 43.6	+0.5
	baz=245						
CHGB				*eS*	Sb	08 35 51.4	-0.8
	baz=245						
YHNB	**Yeheng**	**0.55**	**322**	*eP*	Pb	08 35 43.9	-0.2
	baz=322						
YHNB				*eS*	Sb	08 35 51.4	-0.8
	baz=322						
NSK	**Sanguang**	**0.57**	**321**	*eP*	Pb	08 35 44.0	-0.3
	baz=321						
NSK				*eS*	Sb	08 35 51.7	-0.9
	baz=321						
NWLT	**Wulai**	**0.59**	**338**	*eP*	Pb	08 35 44.3	-0.4
	baz=337						
NWLT				*eS*	Sg	08 35 52.2	+0.7
	baz=337						
OWD	**Renai**	**0.59**	**242**	*eP*	Pg	08 35 44.2	+0.4
	baz=242						
OWD				*eS*	Sg	08 35 52.1	+0.5
	baz=242						
WUSB	**Renai**	**0.62**	**248**	*eP*	Pb	08 35 44.9	-0.4
	baz=241						
EGFH	**Guangfu**	**0.63**	**208**	*eP*	Pb	08 35 45.8	+0.4
	baz=218						
NFF	**Wufeng Townshi**	**0.70**	**305**	*eP*	Pb	08 35 46.7	+0.1
	baz=313						
VWDT	**VWDT**	**0.73**	**229**	*eS*	Sb	08 35 57.5	+0.3
	baz=230						
WHP	**Taichung City**	**0.73**	**274**	*eP*	Pb	08 35 47.6	+0.4
	baz=274						
WHP				*eS*	Sb	08 35 57.4	0.0
	baz=274						
TIPB	**Shuangxi**	**0.74**	**6**	*eP*	Pb	08 35 47.0	-0.3
	baz=5.0						
WCS	**Beigang Elemen**	**0.78**	**257**	*eP*	Pb	08 35 47.8	-0.2
	baz=257						
WCS				*eS*	Sb	08 35 59.0	+0.3
	baz=257						
LIOB	**Emei**	**0.78**	**302**	*eP*	Pn	08 35 49.0	-0.5
	baz=302						
LIOB				*eS*	Sb	08 35 59.9	+1.1
	baz=302						
NSTT	**Nanjuang**	**0.79**	**300**	*eP*	Pb	08 35 48.5	+0.4
	baz=300						
HGSD	**Ruisui**	**0.79**	**202**	*eP*	Pn	08 35 49.5	0.0
	baz=221						
NWF	**Wu-fen Shan**	**0.84**	**2**	*eP*	Pb	08 35 49.4	+0.4
	baz=353						
NWF				*eS*	Sg	08 35 59.8	+0.5
	baz=353						
SMLT	**Sun Moon Lake**	**0.85**	**246**	*eP*	Pb	08 35 49.3	+0.1
	baz=246						
SSLB	**Suanglang**	**0.85**	**239**	*eP*	Pg	08 35 48.9	+0.2
	baz=239						
SSLB				*eS*	Sg	08 35 59.7	0.0
	baz=239						
YULB	**Yu-li**	**0.93**	**206**	*eP*	Pb	08 35 50.9	+0.3
	baz=219						

JMA 28 08:36:21.8±0.1,23.95N×122.93E,h11km±4km,M1.9,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52**	**8**	P	Pg	08 36 32.0	+0.1
YOJ				S	Sg	08 36 39.0	+0.3
HATJ	**Hateruma jima**	**0.81**	**82**	P	Pg	08 36 37.0	-0.4
HATJ				S	Sb	08 36 48.5	-0.3
IRIF	**Iriomote-Funau**	**0.82**	**62**	P	Pg	08 36 37.5	-0.2
IRIF				S	Sb	08 36 49.0	-0.3
JKRS	**Kuro-shima**	**1.03**	**74**	P	Pg	08 36 41.5	-0.1
JIJ	**Ishigaki jima**	**1.18**	**69**	P	Pb	08 36 43.7	-0.5
JIJ				S	Sg	08 37 00.0	+0.1
JISG	**Ishigakijimahi**	**1.41**	**63**	P	Pn	08 36 47.2	-0.2
JISG				S	Sb	08 37 06.2	+0.1

*SJA **28** 08:40:11.9±1.4,31.83S×72.26W,h10km,ML4.1,MW4.0*
*IDC **28** 08:40:13.8±1.0,31.77S×71.76W,h0km,mb4.3/4,*
mb1 4.1/8,mb1mx3.9/25,mbtmp4.0/8,ML3.7/4,MS3.4/6,
Ms1 3.4/6,ms1mx3.1/54,Error ellipse: s-maj=30.4km
s-min=25.2km az=111.0
*NEIC **28** 08:40:16.0±1.1,31.84S±0.03×72.03W±0.05,h17km±4km,*
mb4.4/8,Mwr4.1/49,ML4.2(GUC),Error ellipse:
s-maj=6.1km s-min=3.8km az=75.0
*NEIC **28** 08:40:16.3,31.84S×72.05W,h22km,Moment Tensor*
Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.46;
$M_{\theta\theta}$0.17; $M_{\phi\phi}$-1.63; $M_{r\theta}$0.11; $M_{\theta\phi}$-0.11; $M_{\phi r}$-0.45; Fault
plane solution: $M_0$1.62000×10^{15} NP1:ϕ_s177.82000°,
δ53.31000°,λ82.83000°. NP2:ϕ_s9.72000°,δ37.28000°,
λ99.51000°. Principal axes: T 1.5339, Plg80.0000°,
Azm57.0000°; N 0.1630, Plg6.0000°, Azm182.0000°; P
-1.6969, Plg8.0000°, Azm273.0000°;
*GUC **28** 08:40:17.8±0.8,31.85S×72.03W,h15km±6km,ML4.2*
ISC 28 08:40:12.4±2.0,31.84S±0.02×72.14W±0.04,h1km±12km,
n119,σ1§69/151,mb4.5/4,MS3.3/3,1C-3D,Off coast of
central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.01**	**135**		**Pb**	**08 40 33.4**	**+0.7**
VA06				Sg	**Sb**	**08 40 45.5**	**-1.0**
VA06	**Catapilco**	**1.01**	**135**	⇓*i*P	**Pb**	**08 40 33.3**	**+0.6**
VA06				*i* S	**Sb**	**08 40 45.6**	**-1.0**
VA06				IAML		08 40 49.3	
	comp=N,18μm,0.4s						
CO02	**Combarbal**	**1.16**	**57**		**Pb**	**08 40 35.5**	**+0.2**
CO02				Sg	**Sb**	**08 40 49.8**	**-1.3**
CO02	**Combarbal**	**1.16**	**57**	⇓*i*P	**Pb**	**08 40 35.4**	**0.0**
CO02				*e*S	**Sb**	**08 40 49.5**	**-1.5**
CO02				IAML		08 40 50.8	
	comp=E,17μm,0.2s						
CO06	**Fray Jorge**	**1.24**	**21**	Pn	**Pb**	**08 40 37.8**	**+1.1**
CO06				Sg	**Sb**	**08 40 53.2**	**0.0**
CO06	**Fray Jorge**	**1.24**	**21**	*e*P	**Pn**	**08 40 37.5**	**+0.6**
CO06				*e*S	**Sb**	**08 40 53.0**	**-0.2**
VA01	**Torpederas**	**1.25**	**161**	Pn	**Pn**	**08 40 37.9**	**+1.0**
VA01	**Torpederas**	**1.25**	**161**	*e*P	**Pn**	**08 40 38.0**	**+1.0**
VA01				*e*S	**Sb**	**08 40 52.6**	**-0.7**
VA01	**Torpederas**	**1.25**	**161**	*e*P	**Pn**	**08 40 38.0**	**+1.0**
VA01				IAML		08 41 08.2	
	comp=Z,789nm,0.7s						
ROC1	**El Roble**	**1.48**	**140**		**Pn**	**08 40 39.0**	**-1.4**
ROC1	**El Roble**	**1.48**	**140**	*e*P	**Pn**	**08 40 38.0**	**-2.4**
ROC1				*e*P	**Sb**	**08 40 58.7**	**-2.1**
ROC1				*e*S	**Sn**	**08 40 57.5**	**-3.0**
ROCH	**El Roble**	**1.48**	**140**	⇑*i*P	**Pb**	**08 40 40.8**	**0.0**
ROCH				*e*P	**Pn**	**08 40 38.5**	**-1.9**
ROCH				*e*S	**Sn**	**08 40 56.5**	**-4.0**
ROCH				*e*S	**Sb**	**08 40 59.0**	**-1.2**
ROCH				IAML		08 41 03.6	
	comp=N,8μm,0.3s						
VA03	**San Esteban**	**1.63**	**125**		**Pn**	**08 40 43.1**	**+0.7**
VA03	**San Esteban**	**1.63**	**125**	⇓*i*P	**Pn**	**08 40 42.8**	**+0.4**
VA03				*e*S	**Sn**	**08 41 02.3**	**-1.8**
VA03				IAML		08 41 08.1	
	comp=E,7μm,0.3s						
VA03	**San Esteban**	**1.63**	**125**	*e*P	**Pn**	**08 40 43.1**	**+0.7**
VA03				*e*S	**Sn**	**08 41 04.6**	**+0.5**
VA03				IAML		08 41 12.3	
	comp=Z,2μm,0.6s						
MT02	**Curacav**	**1.65**	**149**		**Pn**	**08 40 43.7**	**+1.2**
MT02	**Curacav**	**1.65**	**149**	*e*P	**Pn**	**08 40 43.5**	**+1.0**
MT02				*e*S	**Sn**	**08 41 01.1**	**-3.3**
MT02	**Curacav**	**1.65**	**149**	*e*P	**Pn**	**08 40 43.7**	**+1.2**
MT02				*e*S	**Sn**	**08 41 04.7**	**+0.4**
MT02				IAML		08 41 04.8	
	comp=Z,2μm,0.5s						
VA05	**Santo Domingo**	**1.86**	**166**		**Pn**	**08 40 46.8**	**+1.3**
VA05	**Santo Domingo**	**1.86**	**166**	*e*P	**Pn**	**08 40 46.6**	**+1.1**
VA05				IAML		08 41 22.1	
	comp=E,3μm,0.4s						
MT05	**Renca**	**1.95**	**143**		**Pn**	**08 40 47.9**	**+1.2**
MT05	**Renca**	**1.95**	**143**	*e*P	**Pn**	**08 40 47.9**	**+1.2**
MT05				*e*S	**Sn**	**08 41 12.4**	**+0.6**
MT05				IAML		08 41 18.3	
	comp=E,5μm,0.2s						
MT05	**Renca**	**1.95**	**143**	*e*P	**Pn**	**08 40 48.3**	**+1.6**
MT05				*e*S	**Sb**	**08 41 14.0**	**+0.4**
MT05				IAML		08 41 22.5	
	comp=Z,1μm,0.4s						
GO04	**Tololo Observa**	**2.02**	**35**		**Pn**	**08 40 48.8**	**+0.9**
GO04	**Tololo Observa**	**2.02**	**35**	*e*P	**Pn**	**08 40 48.8**	**+0.9**
GO04				*e*S	**Sb**	**08 41 16.1**	**+0.1**
GO04	**Tololo Observa**	**2.02**	**35**	*e*P	**Pn**	**08 40 49.0**	**+1.1**
GO04				*e*S	**Sb**	**08 41 18.0**	**+2.0**
CO05	**La Serena**	**2.07**	**22**		**Pn**	**08 40 49.5**	**+1.2**
CO05	**La Serena**	**2.07**	**22**	*e*P	**Pn**	**08 40 49.4**	**+1.1**
CO05				IAML		08 41 25.6	
	comp=E,2μm,0.6s						
MT03	**Universidad Ad**	**2.15**	**141**		**Pn**	**08 40 50.6**	**+1.1**
MT03	**Universidad Ad**	**2.15**	**141**	*e*P	**Pn**	**08 40 50.8**	**+1.3**
MT03				*e*S	**Sn**	**08 41 18.3**	**+1.5**
MT03				IAML		08 41 22.8	
	comp=N,4μm,0.5s						
MT03	**Universidad Ad**	**2.15**	**141**	*e*P	**Pn**	**08 40 51.0**	**+1.6**
MT03				*e*S	**Sb**	**08 41 21.5**	**+2.2**
MT03				IAML		08 41 22.6	
	comp=Z,2μm,0.4s						
MT01	**Popeta**	**2.15**	**160**		**Pn**	**08 40 50.8**	**+1.3**
MT01	**Popeta**	**2.15**	**160**	*e*P	**Pn**	**08 40 50.6**	**+1.2**
MT01	**Popeta**	**2.15**	**160**	*e*P	**Pn**	**08 40 50.8**	**+1.3**
MT01				IAML		08 41 26.4	
	comp=Z,1μm,0.8s						
FCH	**Farellones**	**2.15**	**134**	*e*P	**Pn**	**08 40 50.8**	**+1.0**
FCH				*e*S	**Sn**	**08 41 16.6**	**-0.7**
FCH				IAML		08 41 20.1	
MT09	**Talagante**	**2.16**	**154**		**Pn**	**08 40 51.4**	**+1.7**
MT09	**Talagante**	**2.16**	**154**	*e*P	**Pn**	**08 40 51.5**	**+1.7**
MT09				IAML		08 41 26.6	
	comp=E,2μm,0.3s						
AUSP	**Uspallata**	**2.37**	**100**	*e*P	**Pn**	**08 40 50.5**	**-2.2**
AUSP				*e*P	**Pb**	**08 40 56.0**	**-0.1**
AUSP				*e*S	**Sb**	**08 41 27.5**	**+1.6**
RTLS	**Leoncito**	**2.42**	**90**	*e*P	**Pn**	**08 40 56.0**	**+2.6**
RTLS				*e*P	**Pb**	**08 40 56.6**	**-0.4**
RTLS				*e*S	**Sg**	**08 41 31.1**	**+0.9**
RTLS				IAML		08 41 33.0	
	comp=Z,401nm,1.5s						
BO04	**La Punta**	**2.50**	**149**	Pn	**Pn**	**08 40 55.6**	**+1.4**
BO04	**La Punta**	**2.50**	**149**	*e*P	**Pn**	**08 40 56.0**	**+1.7**
BO04				IAML		08 41 38.4	
	comp=N,1μm,0.5s						
CO01	**Juntas del Tor**	**2.56**	**44**		**Pn**	**08 40 56.9**	**+1.6**
CO01	**Juntas del Tor**	**2.56**	**44**	*e*P	**Pn**	**08 40 56.9**	**+1.6**
CO01				*e*S	**Sb**	**08 41 30.1**	**-1.3**
CO01	**Juntas del Tor**	**2.56**	**44**	*e*P	**Pn**	**08 40 57.3**	**+2.0**
CO01				IAML		08 41 41.7	
	comp=Z,596nm,0.8s						
LMEL	**Las Melosas**	**2.58**	**141**		**Pn**	**08 40 56.5**	**+1.0**
LMEL	**Las Melosas**	**2.58**	**141**	*e*P	**Pn**	**08 40 57.2**	**+1.7**
LMEL				IAML		08 41 42.1	
	comp=N,1μm,0.4s						
BO03	**Pichilemu**	**2.65**	**177**	*e*P	**Pn**	**08 40 57.4**	**+1.1**
BO01	**Tunca**	**2.69**	**161**		**Pn**	**08 40 58.1**	**+1.3**
BO01	**Tunca**	**2.69**	**161**	*e*P	**Pn**	**08 40 58.4**	**+1.5**
BO01	**Tunca**	**2.69**	**161**	*e*P	**Pn**	**08 40 58.0**	**+1.1**
BO01				IAML		08 41 43.5	
	comp=Z,345nm,0.6s						
AROD	**Rodeo**	**2.83**	**55**	*e*P	**Pn**	**08 41 02.5**	**+3.4**
AROD				*e*S	**Sn**	**08 41 35.5**	**+1.4**
ARCO	**CERRO ARCO**	**2.89**	**111**	*e*P	**Pb**	**08 41 04.0**	**-0.9**
ARCO				*e*P	**Pn**	**08 41 04.5**	**+4.7**
ARCO				*e*S	**Sn**	**08 41 38.5**	**+3.1**
ARCO				IAML		08 41 44.5	
	comp=Z,753nm,1.2s						
ASAL	**Salagasta**	**2.90**	**106**	*e*P	**Pb**	**08 41 04.0**	**-1.0**
ASAL				*e*S	**Sb**	**08 41 39.5**	**-1.5**
ASAL				IAML		08 41 54.1	
	comp=Z,358nm,0.6s						
ACCO	**Cerro Coronel**	**2.92**	**65**	*e*P	**Pb**	**08 41 04.0**	**-1.4**
ACCO				*e*S	**Sb**	**08 41 44.0**	**+2.2**
ACCO				IAML		08 41 47.1	
	comp=Z,857nm,0.7s						
ZON	**Zonda**	**2.97**	**85**	*e*P	**Pn**	**08 41 04.5**	**+3.8**
ZON				*e*P	**Pb**	**08 41 06.0**	**-0.1**
ZON				*e*S	**Sn**	**08 41 40.5**	**+3.5**
ZON				IAML		08 41 57.5	
	comp=Z,502nm,0.6s						
AAGR	**Agrelo**	**3.06**	**115**	*e*P	**Pn**	**08 41 06.0**	**+3.9**
AAGR				*e*S	**Sg**	**08 41 50.5**	**-0.3**
AAGR				IAML		08 41 53.7	
	comp=Z,547nm,0.5s						
ACDV	**Cuesta del Vie**	**3.08**	**58**	*e*P	**Pn**	**08 41 06.0**	**+3.6**
ACDV				*e*S	**Sb**	**08 41 44.5**	**-1.9**
ACDV				IAML		08 41 49.1	
	comp=Z,552nm,0.8s						
LCO	**Las Campanas**	**3.08**	**24**		**Pn**	**08 41 03.9**	**+1.3**
LCO	**Las Campanas**	**3.08**	**24**	*e*P	**Pn**	**08 41 03.3**	**+0.8**
LCO	**Las Campanas**	**3.08**	**24**	*e*P	**Pn**	**08 41 04.0**	**+1.5**
LCO				IAML		08 41 57.3	
	comp=Z,2μm,0.6s						
GO05	**Huala**	**3.16**	**177**		**Pn**	**08 41 04.9**	**+1.5**
GO05	**Huala**	**3.16**	**177**	*e*P	**Pn**	**08 41 04.4**	**+1.0**
GO05				IAML		08 42 08.2	
	comp=N,252nm,0.7s						
GO05	**Huala**	**3.16**	**177**	*e*P	**Pn**	**08 41 04.0**	**+0.6**
AC04	**Llanos de Chal**	**3.74**	**15**	Pn	**Pn**	**08 41 12.2**	**+0.8**
AC04	**Llanos de Chal**	**3.74**	**15**	*e*P	**Pn**	**08 41 11.9**	**+0.6**
AC04	**Llanos de Chal**	**3.74**	**15**	*e*P	**Pn**	**08 41 12.1**	**+0.8**
AC04				*e*S	**Sb**	**08 42 07.0**	**+1.8**
AC04				IAML		08 42 21.2	
	comp=Z,250nm,0.7s						
ML02	**Panimavida**	**3.96**	**171**		**Pn**	**08 41 15.8**	**+1.6**
ML02	**Panimavida**	**3.96**	**171**	*e*P	**Pn**	**08 41 15.9**	**+1.6**
RFA	**San Rafael**	**4.24**	**134**	*e*P	**Pn**	**08 41 21.1**	**+2.8**
RFA				*e*P	Pb	08 41 21.5	-6.4
RFA				*e*S	**Sb**	**08 42 22.0**	**+2.4**
RFA				IAML		08 42 30.4	
	comp=Z,184nm,1.2s						
GO03	**Copiap**	**4.55**	**22**		**Pn**	**08 41 23.4**	**+1.0**
GO03	**Copiap**	**4.55**	**22**	*e*P	**Pn**	**08 41 23.6**	**+1.1**
AC06	**Mina Casimiro**	**4.73**	**20**		**Pn**	**08 41 26.2**	**+1.2**
AC06	**Mina Casimiro**	**4.73**	**20**	*e*P	**Pn**	**08 41 25.5**	**+0.5**
BI05	**Punta Hualpn**	**4.97**	**190**		**Pn**	**08 41 29.7**	**+1.6**
APLL	**PUNTA DE LOS L**	**5.03**	**75**	*e*P	**Pn**	**08 41 31.0**	**+2.0**
APLL				*e*S	**Sn**	**08 42 31.0**	**+3.2**
APLL				IAML		08 42 39.7	
	comp=Z,290nm,0.7s						
ACLC	**CERRO LA CRUZ**	**5.08**	**63**	*e*P	**Pn**	**08 41 33.0**	**+3.1**
ACLC				*e*S	**Sb**	**08 42 41.9**	**-1.9**
ACLC				IAML		08 42 42.2	
	comp=Z,396nm,0.6s						
MRA	**San Martin**	**5.48**	**98**	*e*P	**Pn**	**08 41 36.9**	**+1.6**
MRA				*e*S	**Sn**	**08 42 41.5**	**+2.4**
MRA				IAML		08 42 49.0	
	comp=Z,184nm,0.7s						
AC02	**Maricunga**	**5.64**	**29**		**Pn**	**08 41 38.6**	**+0.8**
AC02	**Maricunga**	**5.64**	**29**	*e*P	**Pn**	**08 41 39.1**	**+1.3**
AC02				IAML		08 43 19.0	
	comp=Z,188nm,0.8s						
AC01	**Pan de Azucar**	**5.83**	**14**		**Pn**	**08 41 38.7**	**-1.4**
AC01	**Pan de Azucar**	**5.83**	**14**	*e*P	**Pn**

TORD					IAmb	IAmb	08 52 43.7	
	comp=Z,2.5nm,0.8s							
WRA	**Warramunga Arr**	**122.59**	**210**		PKP	**PKiKP**	**08 59 10.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=146,slow=1.6,SNR=2.1							
H11S2	**WAKE ISLAND Hyd**	**125.69**	**271**		T	T	11 18 10.7	
	baz=117,slow=75							
H11S1	**WAKE ISLAND Hyd**	**125.70**	**271**		T	T	11 18 06.7	
	baz=117,slow=75							
H11S3	**WAKE ISLAND Hyd**	**125.70**	**271**		T	T	11 18 14.0	
	baz=117,slow=75							
H11N3	**WAKE ISLAND Hyd**	**126.05**	**272**		T	T	11 18 38.5	
	baz=117,slow=74							
H11N1	**WAKE ISLAND Hyd**	**126.06**	**272**		T	T	11 18 31.3	
	baz=117							
H11N2	**WAKE ISLAND Hyd**	**126.06**	**272**		T	T	11 18 39.4	
	baz=117,slow=74							
KURBB	**Kurchatov Arra**	**151.33**	**41**		PKPbc	**PKiKP**	**09 00 08.3**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=297,slow=3.0,SNR=14							
KURBB					PKPab	**PKPab**	**09 00 16.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=292,slow=3.5,SNR=5.2							
KURK	**Kurchatov**	**151.33**	**40**			**PKiKP**	**09 00 08.3**	**+0.4**
ZALV	**Zalesovo Beam**	**152.43**	**30**		PKPbc	**PKiKP**	**09 00 11.0**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=287,slow=3.0,SNR=15							
ZALV					PKPab	**PKPab**	**09 00 20.1**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=307,slow=3.5,SNR=5.6							
PZH	**PanZhiHua**	**172.46**	**133**		PKP	**PKPdf**	**09 00 22.0**	**-1.8**

DDA ***28*** *08:58:38.9±0.0,39.°66N×27.°86E,h7km±2km,ML1.9*
ISK ***28*** *08:58:39.0,39.°68N×27.°90E,h6km,ML2.5/11*
ISC 28 08:58:39.2±0.9,39.°66N±0.°03×27.°87E±0.°03,h9km±6km, n18,σ0°40/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.02**	**158**	PG		**Pg**	**Pg**	**08 58 40.7**	**-0.1**
BALB				SG		**Sg**	**Sg**	**08 58 41.9**	**0.0**
BALY	**Balya**	**0.21**	**292**	P		**Pg**	**Pg**	**08 58 43.4**	**-0.1**
BALY				*i* AML		AML	AML	08 58 46.0	
	comp=E,145nm,0.4s								
BALY				*i* AML		AML	AML	08 58 46.0	
	comp=N,265nm,0.3s								
BALY				S		**Sg**	**Sg**	**08 58 46.4**	**0.0**
STEP	**BALIKESIR_Sava**	**0.31**	**202**	P		**Pg**	**Pg**	**08 58 45.3**	**0.0**
STEP				S		**Sg**	**Sg**	**08 58 49.2**	**-0.2**
STEP				*i* AML		AML	AML	08 58 50.0	
	comp=E,349nm,0.3s								
STEP				*i* AML		AML	AML	08 58 51.0	
	comp=N,232nm,0.6s								
GONE	**Gonen-Balikesi**	**0.41**	**340**	PG		**Pg**	**Pg**	**08 58 47.3**	**0.0**
GONE				SG		**Sg**	**Sg**	**08 58 53.3**	**+0.6**
DURS	**Dursunbey**	**0.47**	**97**	P		**Pg**	**Pg**	**08 58 48.2**	**-0.2**
DURS				*i* AML		AML	AML	08 58 55.0	
	comp=E,284nm,0.2s								
DURS				S		**Sg**	**Sg**	**08 58 55.2**	**+0.5**
DURS				*i* AML		AML	AML	08 58 56.0	
	comp=N,283nm,0.3s								
DST	**Dursunbey**	**0.58**	**95**	PG		**Pg**	**Pg**	**08 58 50.3**	**-0.2**
DST				SG		**Sg**	**Sg**	**08 58 58.6**	**+0.5**
BUHA	**Balikesir, Bur**	**0.63**	**256**	P		**Pg**	**Pg**	**08 58 51.2**	**-0.2**
BUHA				S		**Sb**	**Sb**	**08 59 02.6**	**+1.1**
BUHA				*i* AML		AML	AML	08 59 03.0	
	comp=N,68nm,0.2s								
BUHA				*i* AML		AML	AML	08 59 04.0	
	comp=E,64nm,0.3s								
EDC	**Edincik**	**0.69**	**360**	PG		**Pg**	**Pg**	**08 58 52.3**	**-0.2**
EDC				SG		**Sg**	**Sg**	**08 59 01.6**	**+0.2**
KCTX	**Karacabey (Bur**	**0.71**	**32**	PG		**Pg**	**Pg**	**08 58 52.5**	**-0.5**
KCTX				SG		**Sg**	**Sg**	**08 59 02.4**	**+0.2**
KRBG	**Karabiga-Canak**	**0.85**	**329**	PG		**Pg**	**Pg**	**08 58 55.7**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.02**	**275**	P		**Pb**	**Pb**	**08 58 59.2**	**0.0**
BAYC				S		**Sg**	**Sg**	**08 59 11.2**	**-1.0**
BAYC				*i* AML		AML	AML	08 59 13.0	
	comp=E,67nm,0.7s								
BAYC				*i* AML		AML	AML	08 59 14.0	
	comp=N,79nm,0.3s								
MAR6	**Marsite Statio**	**1.14**	**336**	PN		**Pn**	**Pn**	**08 59 01.1**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.15**	**333**	PN		**Pn**	**Pn**	**08 59 01.4**	**-0.3**
GZKV	**Gazikoy-Tekird**	**1.16**	**339**	PN		**Pg**	**Pg**	**08 59 01.4**	**-0.1**
MAR3	**Marsite Statio**	**1.17**	**338**	PN		**Pn**	**Pn**	**08 59 01.6**	**-0.2**
ARMT	**Armutlu**	**1.18**	**40**	PN		**Pb**	**Pb**	**08 59 01.6**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.30**	**305**	PN		**Pg**	**Pg**	**08 59 04.1**	**-0.1**
BOZC	**Bozcaada**	**1.41**	**278**	PN		**Pb**	**Pb**	**08 59 05.9**	**+0.1**

CNRM ***28*** *08:59:29.1,35.°50N×3.°77W,h27km,ml2.1*
MDD ***28*** *08:59:30.2±0.5,35.°47N×3.°73W,h0km,mb_Lg2.5/10, Error ellipse: s-maj=4.4km s-min=3.1km az=178.0*
SFS ***28*** *08:59:30.0,35.°47N×3.°72W,ML2.5,ALBORAN SUR*
INMG ***28*** *08:59:32.7±1.2,35.°48N×4.°10W,h0km,ML2.1,Error ellipse: s-maj=6.4km s-min=3.4km az=88.0*
ISC 28 08:59:28.5±1.5,35.°43N±0.°03×3.°76W±0.°02,h17km±12km, n30,σ1°54/56,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.26**	**216**	P		**Pn**	**Pn**	**08 59 36.5**	**-1.2**
PALE				S		**Sb**	**Sb**	**08 59 41.3**	**+2.3**
PVLZ	**Peæn de**	**0.52**	**240**	P		**Pn**	**Pn**	**08 59 41.1**	**-0.1**
PVLZ				S		**Sb**	**Sb**	**08 59 47.6**	**+1.3**
GOG	**Mont Gurugu**	**0.65**	**108**	P		**Pn**	**Pn**	**08 59 42.7**	**-0.4**
GOG				S		**Sn**	**Sn**	**08 59 52.2**	**-0.9**
EMEL	**Melilla**	**0.67**	**101**	Pg		**Pn**	**Pn**	**08 59 42.2**	**-1.0**
EMEL				Sg		**Sb**	**Sb**	**08 59 50.2**	**-0.4**
WMELI	**Melilla**	**0.67**	**99**	P		**Pn**	**Pn**	**08 59 42.7**	**-0.5**
WMELI				S		**Sb**	**Sb**	**08 59 51.4**	**+0.7**
EALB	**Alboran**	**0.78**	**49**	Pg		**Pb**	**Pb**	**08 59 43.1**	**-0.5**
EALB				Sg		**Sn**	**Sn**	**08 59 54.7**	**-1.4**
EALB				*i* Vmb_Lg				08 59 56.8	
TAF	**Taforalt**	**1.26**	**119**	P		**Pg**	**Pg**	**08 59 53.0**	**+0.1**
TAF				S		**Sn**	**Sn**	**09 00 08.1**	**+0.1**
SMIR	**Smir Dam**	**1.35**	**281**	P		**Pn**	**Pn**	**08 59 53.0**	**+0.3**
SMIR				S		**Sn**	**Sn**	**09 00 09.5**	**-0.7**
CEU	**Ceuta**	**1.40**	**290**	P		**Pn**	**Pn**	**08 59 53.6**	**+0.3**
CEU				S		**Sn**	**Sn**	**09 00 07.7**	**-3.6**
EMIJ	**Mijas**	**1.40**	**324**	Pg		**Pn**	**Pn**	**08 59 53.8**	**+0.4**
EMIJ				Sg		**Sb**	**Sb**	**09 00 12.9**	**+0.9**
EMIJ				*i* Vmb_Lg				09 00 19.4	
ELGU	**Los Guajares,**	**1.44**	**4**	Pg		**Pg**	**Pg**	**08 59 56.0**	**-0.3**
ELGU				Sg		**Sn**	**Sn**	**09 00 11.6**	**-1.0**
ELGU				*i* Vmb_Lg				09 00 17.1	
JBK	**JBK**	**1.46**	**138**	P		**Pn**	**Pn**	**08 59 54.7**	**+0.3**
JBK				S		**Sn**	**Sn**	**09 00 13.0**	**-0.3**
EBER	**Berja**	**1.62**	**25**	Pn		**Pn**	**Pn**	**08 59 56.9**	**+0.3**
EBER				*i* Vmb_Lg				09 00 13.4	
EBER				Sn		**Sb**	**Sb**	**09 00 17.8**	**-0.8**
EGOR	**Sierra Gorda,**	**1.70**	**350**	Pn		**Pb**	**Pb**	**08 59 60.0**	**+0.5**
EGOR				Sn		**Sb**	**Sb**	**09 00 20.5**	**-0.3**
EGOR				*i* Vmb_Lg				09 00 32.8	
MD31	**MD31**	**2.69**	**198**	P		**Pn**	**Pn**	**09 00 12.5**	**+1.4**
MD31				S		**Sn**	**Sn**	**09 00 45.2**	**+1.8**
EADA	**Adamuz**	**2.81**	**347**	Pn		**Pb**	**Pb**	**09 00 16.0**	**-2.4**
EADA				Sn		**Sn**	**Sn**	**09 00 47.8**	**+1.5**
EADA				*i* Vmb_Lg				09 00 53.4	
ECAB	**El Cabril**	**2.96**	**334**	Pn		**Pn**	**Pn**	**09 00 17.1**	**+2.3**
ECAB				Sn		**Sn**	**Sn**	**09 00 51.6**	**+1.6**
ECAB				*i* Vmb_Lg				09 02 09.2	
EMIN	**Mina Concepcio**	**3.31**	**316**	Pn		**Pn**	**Pn**	**09 00 20.7**	**+1.1**
EMIN				*i* Vmb_Lg				09 00 33.6	
EMIN				Sn		**Sn**	**Sn**	**09 01 00.6**	**+2.0**
ETOB	**Tobarra**	**3.66**	**28**	Pn		**Pn**	**Pn**	**09 00 27.8**	**+3.3**
ETOB				*i* Vmb_Lg				09 00 35.8	
ETOB				Sn		**Sn**	**Sn**	**09 01 07.8**	**+0.4**
EGRO	**El Granado**	**3.67**	**306**	Pn		**Pn**	**Pn**	**09 00 25.6**	**+1.1**
EGRO				Sn		**Sn**	**Sn**	**09 01 09.4**	**+2.1**
EGRO				*i* Vmb_Lg				09 02 53.3	
PVAQ	**Vaqueiros**	**3.75**	**303**	*e*Pn		**Pn**	**Pn**	**09 00 27.3**	**+1.6**
PVAQ				*e*Sn		**Sn**	**Sn**	**09 01 07.7**	**-1.8**
PVAQ				A		A	A	09 01 13.9	
	1.5nm,0.4s								
PVAQ	**Vaqueiros**	**3.75**	**303**	P		**Pn**	**Pn**	**09 00 25.5**	**-0.2**
PVAQ				S		**Sn**	**Sn**	**09 01 06.6**	**-2.9**
PBAR	**Barrancos**	**3.80**	**317**	*e*Sn		**Sn**	**Sn**	**09 01 10.5**	**-0.2**
PBDV	**Barranco-do-Ve**	**3.83**	**299**	*e*Pn		**Pn**	**Pn**	**09 00 27.9**	**+1.2**
PBDV				*e*Sn		**Sn**	**Sn**	**09 01 09.2**	**-2.2**
PBDV				A		A	A	09 01 24.0	
	5.0nm,0.5s								
PCVE	**Castro Verde**	**4.09**	**304**	*e*Pn		**Pn**	**Pn**	**09 00 32.1**	**+1.8**
PCVE				*e*Sn		**Sn**	**Sn**	**09 01 16.1**	**-1.7**
PCVE				A		A	A	09 01 25.4	
	2.0nm,0.6s								
MORF	**Marmelete**	**4.37**	**297**	*e*Sn		**Sn**	**Sn**	**09 01 22.2**	**-2.7**
MORF				A		A	A	09 01 28.6	
	2.8nm,0.6s								
PFVI	**Vila Bisbo**	**4.44**	**294**	*e*Pn		**Pn**	**Pn**	**09 00 36.5**	**+1.4**
PFVI				*e*Sn		**Sn**	**Sn**	**09 01 23.9**	**-2.5**
PFVI				A		A	A	09 01 26.1	
	5.6nm,0.8s								
PESTR	**Estremoz**	**4.60**	**319**	*e*Sn		**Sn**	**Sn**	**09 01 29.5**	**-0.9**
PESTR				A		A	A	09 01 45.1	
	2.7nm,0.5s								
PNCL	**Nicolau / Gran**	**4.67**	**306**	*e*Pn		**Pn**	**Pn**	**09 00 39.9**	**+1.5**
PNCL				*e*Sn		**Sn**	**Sn**	**09 01 30.4**	**-1.8**
PMTG	**Montargil**	**5.09**	**317**	*e*Sn		**Sn**	**Sn**	**09 01 41.2**	**-1.3**
PMTG				A		A	A	09 01 54.7	
	2.3nm,0.4s								

KRSZO 28 09:16:54.3±3.5,46.°25N×18.°23E,h0km,Error ellipse: s-maj=40.4km s-min=6.3km az=153.0,Explosion., Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOVH	**Kovagotottos**	**0.18**	**210**	Pg		Pg	Pg	09 16 57.7	-0.1
KOVH				Lg		Lg	Lg	09 17 00.4	
KOVH	**Kovagotottos**	**0.18**	**210**	P		Pg	Pg	09 16 57.7	-0.1
KOVH				S		Sg	Sg	09 17 00.4	+0.3
MORH	**Mrgy, Hungar**	**0.29**	**96**	Pg		Pg	Pg	09 16 59.9	+0.1
MORH				Lg		Lg	Lg	09 17 03.3	
MORH	**Mrgy, Hungar**	**0.29**	**96**	P		Pg	Pg	09 16 59.9	+0.1
MORH				S		Sg	Sg	09 17 03.3	-0.2

IDC ***28*** *09:20:43.6±2.9,32.°76S×177.°90W,h0km,mb4.1/4, mb1 4.2/5,mb1mx3.7/40,mbtmp4.1/5,ML3.7/1,Error ellipse: s-maj=63.8km s-min=35.2km az=122.0*
ISC 28 09:20:46.6±2.5,32.°75±0.°1×177.°8W±0.°3,h20km,n23, σ0°97/24,mb4.1/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.93**	**210**	P		P	**Pn**	**09 22 14.4**	**+1.1**
HAZ	**Te Kaha**	**6.17**	**214**	P		P	**Pn**	**09 22 17.2**	**+0.8**
PUZ	**Puketiti**	**6.21**	**210**	P		P	**Pn**	**09 22 16.3**	**-0.8**
RUGZ	**Raukumara Rang**	**6.38**	**214**	P		P	**Pn**	**09 22 19.4**	**-0.1**
TWGZ	**Tauwhareparae**	**6.42**	**211**	P		P	**Pn**	**09 22 20.3**	**+0.3**
CNGZ	**Carnagh Statio**	**6.58**	**208**	P		P	**Pn**	**09 22 21.5**	**-0.7**
MWZ	**Matawai**	**6.75**	**213**	P		P	**Pn**	**09 22 24.0**	**-0.5**
URZ	**Urewera**	**6.89**	**215**	Pn		P	**Pn**	**09 22 25.5**	**-0.9**
	1.4nm,0.3s,baz=316,slow=2.4,SNR=7.3								
URZ						Sn	**Sn**	**09 23 43.3**	**-0.8**
	2.8nm,0.3s,baz=252,slow=19,SNR=9.0								
URZ	**Urewera**	**6.89**	**215**	P		P	**Pn**	**09 22 25.8**	**-0.6**
RIGZ	**Rimuhau**	**6.96**	**210**	P		P	**Pn**	**09 22 27.0**	**-0.4**
SNGZ	**Shannon Statio**	**7.20**	**212**	P		P	**Pn**	**09 22 32.5**	**+1.8**
MUGZ	**Murupara**	**7.22**	**216**	P		P	**Pn**	**09 22 31.6**	**+0.6**
MTHZ	**Maungataniwha**	**7.49**	**214**	P		P	**Pn**	**09 22 35.2**	**+0.6**
NMHZ	**Naumai**	**7.70**	**213**	P		P	**Pn**	**09 22 37.7**	**+0.1**
BKZ	**Black Stump Fm**	**7.90**	**214**	P		P	**Pn**	**09 22 40.4**	**+0.1**
MCHZ	**McNeill Hill**	**8.03**	**212**	P		P	**Pn**	**09 22 44.4**	**+2.3**
OTVZ	**Oturere**	**8.30**	**218**	P		P	**Pn**	**09 22 47.2**	**+1.2**
KHZ	**Kahutara**	**11.84**	**213**	P		P	**Pn**	**09 23 34.8**	**+0.6**
STKA	**Stephens Creek**	**34.15**	**260**	P		**P**	**P**	**09 27 31.2**	**+0.9**
	1.0nm,0.7s,baz=94,slow=13,SNR=1.7								
CTA	**Charters Tower**	**34.37**	**282**	P		**P**	**P**	**09 27 32.9**	**+0.5**
	2.4nm,0.6s,baz=117,slow=13,SNR=1.8								
ASAR	**Alice Springs**	**43.17**	**269**	P		**P**	**P**	**09 28 45.2**	**-1.0**
	2.1nm,0.8s,baz=109,slow=7.8,SNR=20								
WRA	**Warramunga Arr**	**44.37**	**274**	P		**P**	**P**	**09 28 54.6**	**-1.2**
	2.6nm,0.5s,baz=116,slow=7.4,SNR=8.9								
FINES	**FINESS Array B**	**147.36**	**339**	PKPbc		**PKPbc**	**PKPbc**	**09 40 27.7**	**-0.3**
	2.8nm,0.7s,baz=49,slow=4.5,SNR=10.0								

DJA ***28*** *09:24:09.8±0.4,1.°S±4.°×12.°8E±.°,h10km,M3.9/7,mb4.5/1, MLv3.5/7*
IDC ***28*** *09:24:11.7±1.6,1.°81S×128.°68E,h0km,mb3.6/2, mb1 3.9/5,mb1mx3.5/42,mbtmp3.7/5,ML3.8/2,MS2.8/1, Ms1 2.8/1,ms1mx2.2/64,Error ellipse: s-maj=31.1km s-min=25.0km az=102.0*
ISC 28 09:24:04.7±0.9,1.°11S±0.°06×128.°53E±0.°05,h17km,n12, σ1°49/11,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.13**	**294**	P		**Pn**	**Pn**	**09 24 25.4**	**-0.4**
LBMI				S		**Sb**	**Sb**	**09 24 37.5**	**-2.8**
TNTI	**Ternate**	**2.20**	**328**	P		**Pg**	**Pg**	**09 24 46.9**	**-0.1**
MSAI	**Masohi**	**2.26**	**170**	P		**Pg**	**Pg**	**09 24 46.8**	**-1.4**
SANI	**Sanana**	**2.71**	**250**	P		**Pb**	**Pb**	**09 24 54.2**	**+1.4**
SWI	**Sorong**	**2.74**	**85**	P		**Pg**	**Pg**	**09 24 56.9**	**-0.4**
SIJI	**Sorong**	**2.74**	**85**	Pn		**Pg**	**Pg**	**09 24 56.2**	**-1.2**
	7.7nm,0.3s,baz=154,slow=22,SNR=12								
SIJI						Sn	**Sg**	**09 25 33.1**	**+0.1**
	11nm,0.3s,baz=50,slow=20,SNR=22								
DAV	**Davao City (W)**	**8.64**	**340**	LR		LR	LR	09 30 51.2	
	comp=Z,49nm,18.7s,baz=177,slow=43								
BKSI	**Bulukumba**	**9.38**	**243**	P		P	Pn	09 26 26.5	+7.3
FITZ	**Fitzroy Crossi**	**17.12**	**189**	Pn		**P**	**P**	**09 28 05.3**	**+0.3**
	baz=11,slow=10								
FITZ						Sn	Sn	09 30 59.0	-15
	0.0nm,0.3s,baz=315,slow=9.6,SNR=1.5								
WRA	**Warramunga Arr**	**19.57**	**163**	P		**P**	**Pn**	**09 28 33.1**	**-0.2**
	0.4nm,0.3s,baz=342,slow=12,SNR=40								
ASAR	**Alice Springs**	**23.02**	**167**	P		**P**	**P**	**09 29 11.3**	**+2.1**
	2.4nm,0.6s,baz=348,slow=12,SNR=24								
MKAR	**Makanchi Array**	**62.54**	**326**	P		P	P	09 34 41.8	+14
	0.4nm,0.7s,baz=133,slow=8.5,SNR=3.2								

TAP 28 09:25:23.7,24.°24N×121.°77E,h12km,ML1.6,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.15**	**241**	P		P	Pg	09 25 27.3	0.0
	baz=240								
NACB	**Ninganchiao**	**0.17**	**249**	P		Pg	Pg	09 25 27.5	0.0
	baz=243								
NACB				S		Sg	Sg	09 25 30.4	+0.1
	baz=243								
ENA	**Nanau**	**0.19**	**352**	P		Pg	Pg	09 25 28.2	+0.3
	baz=354								
ENA				S		Sg	Sg	09 25 31.3	+0.4
	baz=354								
EWUT	**Wuta**	**0.21**	**2**	*e*P		Pg	Pg	09 25 27.6	-0.6
	baz=2.0								
EWUT				*e*S		Sg	Sg	09 25 31.7	+0.4
	baz=2.0								
ETLH	**Xiulin Townshi**	**0.27**	**264**	P		Pg	Pg	09 25 29.3	+0.1
	baz=264								
ETLH				*e*S		Sg	Sg	09 25 33.2	+0.2
	baz=264								
LATG	**Datong**	**0.37**	**323**	P		Pg	Pg	09 25 31.5	+0.3
	baz=323								
LATG				S		Sb	Sb	09 25 37.2	-0.9
	baz=323								
NDS	**Dongshan**	**0.40**	**353**	*e*S		Sg	Sg	09 25 37.6	+0.6
	baz=353								
NNSB	**Datong**	**0.40**	**299**	P		Pg	Pg	09 25 32.2	+0.5
	baz=299								
NNSB				*e*S		Sg	Sg	09 25 37.5	+0.3
	baz=299								
NNS	**Nan Shan**	**0.42**	**299**	*e*P		Pg	Pg	09 25 31.7	-0.2
	baz=300								
NNS				*e*S		Sg	Sg	09 25 36.7	-0.8
	baz=300								
ENTT	**Nioudou**	**0.44**	**335**	P		Pg	Pb	09 25 33.2	-0.3
	baz=336								
ENTT				S		Sb	Pb	09 25 39.4	-0.7
	baz=336								
WHF	**Hehuan Shan**	**0.47**	**259**	P		Pg	Pg	09 25 33.2	+0.2
	baz=259								
WHF				S		Sg	Sg	09 25 40.1	+0.8
	baz=259								
TWE	**Neicheng**	**0.49**	**349**	P		Pg	Pg	09 25 33.6	+0.2
	baz=350								
ILA	**Ilan**	**0.53**	**358**	*e*P		Pg	Pb	09 25 34.6	-0.3
	baz=350								
FUSB	**Fushanzhiwuyua**	**0.55**	**342**	P		Pb	Pb	09 25 34.9	-0.4
	baz=342								
YHNB	**Yeheng**	**0.56**	**320**	*e*P		Pb	Pb	09 25 35.2	-0.4
	baz=320								
CHGB	**Renai**	**0.57**	**252**	P		Pg	Pg	09 25 35.3	+0.4
	baz=247								
NSK	**Sanguang**	**0.58**	**320**	*e*P		Pb	Pb	09 25 35.4	-0.4
	baz=320								
WUSB	**Renai**	**0.64**	**248**	*e*S		Sb	Pb	09 25 46.4	+0.5
	baz=241								

KRSZO 28 09:34:53.7±3.3,47.°23N×18.°37E,h0km,Error ellipse: s-maj=24.0km s-min=9.3km az=116.0,Explosion., Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CSKK	**Cskako**	**0.15**	**330**	Pg		Pg	Pg	09 34 57.3	+0.7
CSKK				Lg		Lg	Lg	09 35 00.3	
CSKK	**Cskako**	**0.15**	**330**	P		Pg	Pg	09 34 57.3	+0.7
CSKK				S		Sg	Sg	09 35 00.3	+1.8
MPLH	**Magyarpolny**	**0.57**	**264**	Pg		Pg	Pg	09 35 05.5	+0.9
MPLH				Lg		Lg	Lg	09 35 14.2	
MPLH	**Magyarpolny**	**0.57**	**264**	P		Pg	Pg	09 35 05.5	+0.9
MPLH				S		Sb	Sb	09 35 14.2	-1.0

WEL ***28*** *09:44:00,44.°46S×168.°23E,h7km,ML4.4,Mw4.2, Moment Tensor Solution. s12 Moment tensor: Scale 10¹⁵Nm; Mrr1.66; Mθθ0.52; Mϕϕ-2.18; Mrθ-0.63; Mθϕ-1.50; Mϕr-0.35; Fault plane solution: M₀2.44000×10¹⁵ NP1: ϕs356.00000°,δ45.00000°,λ48.00000°. NP2: ϕs228.00000°,δ58.00000°,λ124.00000°. Principal axes: T -292.0300, Plg61.0000°, Azm192.0000°; N 95.5300, Plg28.0000°, Azm28.0000°; P 196.4900, Plg7.0000°, Azm295.0000°;*
IDC ***28*** *09:44:20.6±0.8,44.°55S×168.°22E,h0km,mb4.1/7, mb1 4.3/9,mb1mx4.0/38,mbtmp4.2/9,ML4.2/2,MS3.5/10, Ms1 3.5/10,ms1mx3.2/44 Error ellipse: s-maj=24.0km s-min=13.1km az=168.0*
WEL ***28*** *09:44:20.7±0.4,44.°S±3.°×16.°8E±.°,h5km±3km,M4.4/72, mB5.0/37,ML5.1/67,MLv4.9/72,Mw(mB)4.3/37,Error ellipse: s-maj=0.0km s-min=0.0km az=122.4*
NOU ***28*** *09:44:21.5,44.°44S×168.°21E,h0km,mb4.8/13,South Island, New Zealand*
NEIC ***28*** *09:44:22.6±2.9,44.°54S±0.°06×168.°29E±0.°08,h17km±4km, Error ellipse: s-maj=10.6km s-min=6.0km az=136.0*
ISC 28 09:44:21.3±1.2,44.°46S±0.°04×168.°21E±0.°03,h6km±8km, n178,σ1°49/171,mb4.0/7,MS3.4/8,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.30**	**224**	P		**Pg**	**Pg**	**09 44 27.0**	**0.0**
MSZ				S		**Sg**	**Sg**	**09 44 31.4**	**+0.4**
JCZ	**Jackson Bay**	**0.56**	**47**	P		**Pg**	**Pg**	**09 44 31.8**	**-0.3**
JCZ				S		**Sg**	**Sg**	**09 44 39.9**	**+0.5**
WKZ	**Wanaka**	**0.68**	**123**			**Pg**	**Pg**	**09 44 34.3**	**-0.1**
WKZ	**Wanaka**	**0.68**	**123**	P		**Pg**	**Pg**	**09 44 34.4**	**-0.1**
WKZ				S		**Sb**	**Sb**	**09 44 44.4**	**-0.9**
MLZ	**Mavora Lakes**	**0.91**	**184**			**Pg**	**Pg**	**09 44 38.2**	**-0.5**
MLZ	**Mavora Lakes**	**0.91**	**184**	P		**Pg**	**Pg**	**09 44 37.9**	**-0.8**
MLZ				S		**Sb**	**Pb**	**09 44 53.1**	**+1.3**
EAZ	**Earnscleugh**	**1.10**	**135**	P		**Pg**	**Pg**	**09 44 41.4**	**-0.9**
EAZ				S		**Sg**	**Pg**	**09 44 55.4**	**-1.1**
DCZ	**Deep Cove**	**1.25**	**216**			**Pg**	**Pg**	**09 44 43.4**	**-2.0**
DCZ	**Deep Cove**	**1.25**	**216**	P		**Pg**	**Pg**	**09 44 43.3**	**-2.0**
LBZ	**Lake Benmore**	**1.42**	**88**			**Pn**	**Pn**	**09 44 47.9**	**+0.3**
LBZ	**Lake Benmore**	**1.42**	**88**	P		**Pn**	**Pn**	**09 44 47.1**	**-0.4**
WHZ	**Wether Hill Ro**	**1.45**	**187**			**Pn**	**Pn**	**09 44 46.7**	**-1.2**
WHZ	**Wether Hill Ro**	**1.45**	**187**	P		**Pn**	**Pn**	**09 44 46.6**	**-1.4**
FOZ	**Fox Glacier**	**1.48**	**52**			**Pn**	**Pn**	**09 44 47.5**	**-0.9**
FOZ	**Fox Glacier**	**1.48**	**52**	P		**Pn**	**Pn**	**09 44 47.3**	**-1.1**
TUZ	**Tuapeka**	**1.80**	**147**	P		**Pn**	**Pn**	**09 44 52.5**	**-0.3**
ODZ	**Otahua Downs**	**1.83**	**109**			**Pn**	**Pn**	**09 44 53.6**	**+0.4**
ODZ	**

BHHZ	**Black Hill Sta**	**7.67**	**52**	P	**Pn**	**09 46 13.7**	**+0.2**
WTVZ	**West Tongariro**	**7.67**	**48**	P	**Pn**	**09 46 15.3**	**+1.8**
NNVZ	**North Ngauruho**	**7.67**	**49**	P	**Pn**	**09 46 14.8**	**+1.1**
OTVZ	**Oturere**	**7.68**	**49**	P	**Pn**	**09 46 14.0**	**+0.3**
ETVZ	**East Tongariro**	**7.72**	**49**	P	**Pn**	**09 46 16.1**	**+1.8**
NTVZ	**North Tongarir**	**7.73**	**49**	P	**Pn**	**09 46 16.5**	**+2.1**
TMVZ	**Te Maari**	**7.73**	**49**	P	**Pn**	**09 46 16.0**	**+1.5**
KRHZ	**Kereru**	**7.74**	**54**	P	Pn	09 46 20.3	+5.8
HIZ	**Hauiti**	**7.75**	**42**	P	**Pn**	**09 46 13.9**	**-0.7**
HIZ	**Hauiti** 385nm,1.0s	**7.75**	**42**	P	**Pn**	**09 46 13.8**	**-0.8**
PXZ	**Pawanui**	**7.79**	**58**	P	Pn	09 46 20.0	+4.9
KATZ	**Kakaramea**	**7.83**	**48**	P	**Pn**	**09 46 17.4**	**+1.6**
RITZ	**Rihia Road**	**7.92**	**49**	P	Pn	09 46 22.0	+5.2
KWHZ	**Kaweka Forest**	**7.92**	**53**	P	Pn	09 46 22.4	+5.4
KAHZ	**Kahuranaki**	**7.95**	**57**	P	**Pn**	**09 46 19.9**	**+2.6**
RATZ	**Rangitukua**	**7.95**	**48**	P	**Pn**	**09 46 19.4**	**+2.0**
WATZ	**Wairara**	**8.05**	**47**	P	**Pn**	**09 46 20.2**	**+1.5**
MCHZ	**McNeill Hill**	**8.06**	**55**	P	**Pn**	**09 46 23.6**	**+4.8**
BKZ	**Black Stump Fm**	**8.13**	**52**	Pn	**Pn**	**09 46 19.3**	**-0.6**
BKZ	**Black Stump Fm**	**8.13**	**52**	P	**Pn**	**09 46 20.7**	**+0.8**
BKZ	**Black Stump Fm** 198nm,0.9s	**8.13**	**52**	P	**Pn**	**09 46 20.8**	**+0.9**
TLZ	**Tolley Road**	**8.23**	**44**	P	**Pn**	**09 46 20.9**	**-0.3**
MTHZ	**Maungataniwha**	**8.55**	**52**	P	**Pn**	**09 46 29.2**	**+3.7**
TOZ	**Tahuroa Road**	**8.68**	**42**	P	**Pn**	**09 46 27.1**	**-0.2**
RTZ	**Ruatahuna**	**8.79**	**51**	P	**Pn**	**09 46 31.3**	**+2.5**
AWAZ	**Awhitu Peninsu**	**8.85**	**36**	P	**Pn**	**09 46 29.0**	**-0.7**
WTAZ	**Waiatarua**	**8.93**	**35**	P	**Pn**	**09 46 30.7**	**-0.1**
MKAZ	**Moumakai**	**9.04**	**38**	P	**Pn**	**09 46 32.1**	**-0.1**
ETAZ	**East Tamaki Re**	**9.06**	**36**	P	**Pn**	**09 46 32.5**	**0.0**
RVAZ	**Riverhead Bore**	**9.08**	**34**	P	**Pn**	**09 46 32.4**	**-0.3**
PRGZ	**Paritu Road**	**9.10**	**56**	P	**Pn**	**09 46 35.6**	**+2.5**
URZ	**Urewera** 1.2nm,0.3s,baz=137,slow=20,SNR=2.3	**9.11**	**50**	Pn	**Pn**	**09 46 32.7**	**-0.5**
URZ	3.5nm,0.3s,baz=54,slow=16,SNR=6.8			Sn	**Sn**	**09 48 07.9**	**-8.2**
URZ	comp=Z,426nm,19.6s,baz=211,slow=42			LR	LR	09 50 50.0	
URZ	**Urewera**	**9.11**	**50**	Pn	**Pn**	**09 46 33.8**	**+0.6**
URZ	**Urewera**	**9.11**	**50**	P	**Pn**	**09 46 34.4**	**+1.2**
RIGZ	**Rimuhau**	**9.18**	**54**	P	**Pn**	**09 46 34.1**	**0.0**
MBAZ	**Motutapu North**	**9.21**	**36**	P	**Pn**	**09 46 34.2**	**-0.3**
WIAZ	**Waiheke Island**	**9.29**	**37**	P	**Pn**	**09 46 35.6**	**0.0**
MWZ	**Matawai**	**9.29**	**52**	P	**Pn**	**09 46 35.6**	**-0.1**
ABAZ	**Army Bay**	**9.32**	**35**	P	**Pn**	**09 46 35.9**	**-0.2**
KUZ	**Kuaotunu**	**9.59**	**39**	P	**Pn**	**09 46 39.0**	**-0.7**
RUGZ	**Raukumara Rang**	**9.64**	**51**	P	**Pn**	**09 46 41.6**	**+1.0**
TWGZ	**Tauwhareparae**	**9.66**	**53**	P	**Pn**	**09 46 40.5**	**-0.3**
WCZ	**Waipu Caves**	**9.71**	**31**	P	**Pn**	**09 46 41.1**	**-0.4**
HAZ	**Te Kaha**	**9.84**	**50**	P	**Pn**	**09 46 43.7**	**+0.5**
PUZ	**Puketiti**	**9.89**	**53**	P	**Pn**	**09 46 48.0**	**+4.1**
OUZ	**Omahuta**	**10.11**	**26**	Pn	**Pn**	**09 46 45.9**	**-1.0**
OUZ	**Omahuta**	**10.11**	**26**	P	**Pn**	**09 46 46.5**	**-0.4**
WMGZ	**Waiomatatini S**	**10.15**	**53**	P	**Pn**	**09 46 48.0**	**+0.5**
MXZ	**Matakaoa Point**	**10.27**	**51**	P	**Pn**	**09 46 50.2**	**+1.0**
TAU	**Tasmania Unive**	**15.19**	**269**	P	**Pn**	**09 47 56.7**	**+0.5**
GLAD	**Gladstone**	**15.25**	**276**	P	**Pn**	**09 47 55.6**	**-1.3**
MOO	**Moorlands**	**15.40**	**270**	P	**Pn**	**09 47 59.5**	**+0.5**
CNB	**Canberra Magne**	**17.08**	**296**	P	**P**	**09 48 22.5**	**+0.1**
TOO	**Toolangi**	**18.44**	**284**	P	**Pn**	**09 48 39.9**	**+2.4**
DZM	**Mont Dzumac** 6.9nm,0.8s,baz=264,slow=21,SNR=1.7	**22.38**	**356**	P	**P**	**09 49 23.0**	**+2.7**
DZM	comp=Z,34nm,19.1s,baz=226,slow=32			LR	LR	09 56 30.0	
STKA	**Stephens Creek** 5.7nm,1.1s,baz=129,slow=10,SNR=5.5	**24.29**	**292**	P	**P**	**09 49 41.8**	**+2.5**
STKA	comp=Z,91nm,19.1s,baz=186,slow=33			LR	LR	09 57 34.7	
STKA	**Stephens Creek**	**24.29**	**292**	P	**P**	**09 49 39.2**	**-0.1**
STKA	comp=Z,4.1nm,1.4s			IAmb	IAmb	09 49 45.0	
VNDA	**Vanda** comp=Z,134nm,18.4s,baz=12,slow=33	**33.27**	**183**	LR	LR	10 02 37.9	
ASAR	**Alice Springs** comp=Z,0.9nm,0.8s,baz=138,slow=8.5,SNR=4.9	**34.82**	**295**	P	**P**	**09 51 13.4**	**+0.5**
ASAR	comp=Z,39nm,20.2s,baz=120,slow=34			LR	LR	10 04 05.3	
WRA	**Warramunga Arr** comp=Z,1.6nm,0.6s,baz=135,slow=8.1,SNR=20	**37.25**	**300**	P	**P**	**09 51 33.9**	**+0.1**
WRA	comp=Z,82nm,20.4s,baz=182,slow=33			LR	LR	10 05 06.7	
WRA	**Warramunga Arr** comp=Z,1.2nm,1.9s	**37.25**	**300**	IAmb	IAmb	09 51 49.5	
H01W1	**Cape Leeuwin H** baz=121,slow=75,SNR=4.3	**42.01**	**264**	T	T	10 36 30.0	
H01W2	**Cape Leeuwin H** baz=121,slow=75,SNR=3.9	**42.02**	**264**	T	T	10 36 15.2	
H01W3	**Cape Leeuwin H** baz=121,slow=75,SNR=4.0	**42.03**	**264**	T	T	10 36 37.1	
FITZ	**Fitzroy Crossi** comp=Z,1.0nm,0.5s,baz=130,slow=5.9,SNR=6.2	**44.18**	**293**	P	**P**	**09 52 31.6**	**+0.6**
FITZ	comp=Z,52nm,20.2s,baz=188,slow=35			LR	LR	10 09 53.4	
QSPA	**South Pole Qui** comp=Z,4.1nm,0.9s,baz=325,slow=3.0,SNR=7.5	**45.67**	**180**	P	**P**	**09 52 43.1**	**+0.6**
QSPA	comp=Z,78nm,18.2s,baz=89,slow=34			LR	LR	10 10 05.1	
QSPA	**South Pole Qui**	**45.67**	**180**	P	**P**	**09 52 42.9**	**+0.5**
QSPA	comp=Z,7.9nm,1.1s			IAmb	IAmb	09 52 50.6	
KAPI	**Kappang** comp=Z,19nm,18.0s,baz=188,slow=37	**57.75**	**298**	LR	LR	10 20 24.6	
H08S2	**Diego Garcia H** baz=135,slow=76,SNR=144	**88.77**	**261**	T	T	11 34 53.1	
H08S1	**Diego Garcia H** baz=135,slow=76,SNR=67	**88.78**	**261**	T	T	11 34 54.0	
H08S3	**Diego Garcia H** baz=135,slow=76,SNR=133	**88.79**	**261**	T	T	11 35 00.3	
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.3s,baz=155,slow=4.0,SNR=7.8	**88.80**	**297**	P	**P**	**09 57 16.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**88.80**	**297**	P	**P**	**09 57 15.6**	**-0.5**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.8s,baz=199,slow=2.3,SNR=4.2	**122.99**	**33**	PKP	**PKPdf**	**10 03 15.7**	**-1.5**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.8s,baz=94,slow=5.8,SNR=5.7	**146.30**	**278**	PKPbc	**PKPdf**	**10 04 01.8**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,3.8nm,0.9s,baz=148,slow=1.7,SNR=13	**146.73**	**204**	PKPbc	**PKPdf**	**10 04 03.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**146.73**	**204**		**PKPdf**	**10 04 03.6**	**+0.9**
ARCES	**ARCESS Array B** comp=Z,3.4nm,0.9s,baz=83,slow=2.8,SNR=4.9	**148.62**	**336**	PKPbc	**PKPbc**	**10 04 07.1**	**-0.8**

IDC 28 09:45:46.1±2.5, 54°31N×85°94E, h0km, mb1 3.1/2, mb1mx3.0/49, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=18.8km s-min=11.0km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=61,slow=323,SNR=5.0	**0.75**	**242** *i*	P	Pg	09 45 59.3	-1.2
ZALV	**Zalesovo Beam** 1.2nm,0.3s,baz=57,slow=14,SNR=4.9	**0.75**	**242**	Pg	Pg	09 46 11.3	
ZALV	5.5nm,0.3s,baz=62,slow=30,SNR=13			Lg	Lg	09 46 11.3	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=50,slow=13,SNR=4.1	**5.84**	**234**	Pn	Pn	09 47 15.3	+1.4
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=19,slow=13,SNR=11	**7.87**	**199**	Pn	Pn	09 47 42.5	+0.7

*IDC **28** 09:46:36.4±2.8, 23°86S×179°99E, h541km±26km, mb3.2/6, mb1 3.4/6, mb1mx2.9/39, mbtmp4.1/6, Error ellipse: s-maj=45.4km s-min=25.4km az=4.0*

ISC 28 09:46:34.1±1.3, 23°95S×180°0W±0°2, h518km, n6, σ1s83/8, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 3.9nm,0.5s,baz=85,slow=9.0,SNR=8.8	**31.52**	**270**	P	**P**	**09 52 14.6**	**+0.9**
ASAR	**Alice Springs** 1.8nm,0.8s,baz=97,slow=6.9,SNR=18	**42.08**	**261**	P	**P**	**09 53 40.5**	**0.0**
ASAR	0.7nm,1.0s,baz=116,slow=4.2,SNR=4.1			ScP	**ScP**	**09 58 21.9**	**-2.7**
WRA	**Warramunga Arr** 1.8nm,0.4s,baz=93,slow=8.2,SNR=50	**42.45**	**266**	P	**P**	**09 53 43.1**	**-0.5**
WRA	0.2nm,0.7s,baz=103,slow=3.6,SNR=1.8			ScP	**ScP**	**09 58 23.3**	**-2.8**
FITZ	**Fitzroy Crossi** 1.5nm,0.6s,baz=128,slow=7.8,SNR=8.0	**50.88**	**266**	P	**P**	**09 54 47.7**	**+0.4**
QSPA	**South Pole Qui** 1.0nm,0.8s,baz=90,slow=6.5,SNR=2.4	**66.16**	**180**	P	**P**	**09 56 30.1**	**+0.2**
TXAR	**Lajitas Array**	**90.40**	**58**	P	**P**	**09 58 40.9**	**+0.5**

0.2nm,0.8s,baz=212,slow=4.4,SNR=4.7

IDC 28 09:52:31.1±3.4, 53°75N×88°13E, h0km, mb1 3.1/2, mb1mx3.0/48, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=29.7km s-min=18.6km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=93,slow=331,SNR=3.2	**1.97**	**277** *i*			10 05 30.0	
ZALV	**Zalesovo Beam** 2.2nm,0.3s,baz=92,slow=19,SNR=12	**1.97**	**277**	Pg	Pn	09 53 05.8	+0.1
ZALV	4.1nm,0.3s,baz=96,slow=32,SNR=9.1			Lg	Lg	09 53 34.3	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=62,slow=14,SNR=4.4	**6.68**	**246**	Pn	Pn	09 54 11.1	+0.8
KURBB	0.0nm,0.3s,baz=65,slow=35,SNR=1.6			Lg	Lg	09 56 02.7	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=31,slow=13,SNR=4.4	**7.90**	**211**	Pn	Pn	09 54 28.4	+1.3
MKAR	0.1nm,0.3s,baz=26,slow=30,SNR=2.5			Lg	Lg	09 56 39.4	

*IDC **28** 10:33:41.8±1.0, 1°27S×81°52W, h0km, mb3.6/5, mb1 4.1/9, mb1mx3.9/32, mbtmp3.9/9, ML3.4/4, MS3.3/10, Ms1 3.3/10, ms1mx3.0/52, Error ellipse: s-maj=31.6km s-min=19.9km az=71.0*

*IGQ **28** 10:33:44±0.8, 1°S±3°×8°1W±°, h10km*

*NEIC **28** 10:33:46.6±2.5, 1°30S±0°02×81°01W±0°07, h31km±7km, mb4.1/3, Error ellipse: s-maj=10.1km s-min=2.8km az=88.0*

ISC 28 10:33:43.3±0.7, 1°28S±0°04×81°13W±0°06, h10km, n72, σ1s22/66, mb3.8/5, MS3.2/6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLP	**Puerto Lpez**	**0.44**	**127**	P	**Pg**	**10 33 50.0**	**-2.0**
PPLP				S	**Sg**	**10 33 58.0**	**+0.2**
PPLP	**Puerto Lpez**	**0.44**	**127**	P	**Pg**	**10 33 50.0**	**-2.0**
PPLP				S	**Sb**	**10 33 59.0**	**-0.9**
CHIS	**Cerro-Chispas-**	**0.46**	**61**	P	**Pg**	**10 33 52.0**	**-0.3**
AMNT	**Manta-Manabi**	**0.51**	**50**	P	**Pg**	**10 33 52.0**	**-1.3**
JAMA	**Jama**	**1.36**	**42**	P	**Pn**	**10 34 06.0**	**-2.5**
FLF1	**Flavio Alfaro-**	**1.57**	**55**	P	**Pn**	**10 34 10.0**	**-1.3**
AMIL	**Milagro (Trans**	**1.75**	**119**	P	**Pn**	**10 34 13.0**	**-0.7**
MAG1	**Magdalena**	**1.81**	**49**	P	**Pn**	**10 34 14.0**	**-0.5**
ISPG	**Isla Puna-Puer**	**1.93**	**150**	P	**Pn**	**10 34 17.0**	**+0.7**
COHC	**Cochancay**	**2.21**	**122**	Pn	**Pn**	**10 34 19.0**	**-1.1**
CHSH	**Refugio Sur-Vo**	**2.27**	**96**	P	**Pn**	**10 34 21.0**	**-0.3**
PORT	**Chimborazo Vol**	**2.36**	**95**	Pn	**Pn**	**10 34 22.3**	**-0.3**
TAMH	**Tambohuasha Ch**	**2.36**	**96**	P	**Pn**	**10 34 22.0**	**-0.5**
ILLI	**Illinizas Sur**	**2.46**	**77**	P	**Pn**	**10 34 23.0**	**-1.0**
ARNL	**Arenillas**	**2.49**	**155**	Pn	**Pn**	**10 34 23.4**	**-0.5**
ARNL	**Arenillas**	**2.49**	**155**	P	**Pn**	**10 34 23.0**	**-0.9**
IGUA	**Igualata**	**2.50**	**95**	P	**Pn**	**10 34 25.0**	**+0.5**
PAST	**Pastocalle**	**2.55**	**77**	P	**Pn**	**10 34 25.0**	**-0.1**
BMAS	**Trigal station**	**2.66**	**95**	P	**Pn**	**10 34 27.0**	**+0.5**
JUI6	**Juive**	**2.66**	**93**	P	**Pn**	**10 34 28.0**	**+1.5**
ARRY	**Arrayan**	**2.68**	**95**	P	**Pn**	**10 34 27.0**	**+0.1**
RETU	**Refugio**	**2.69**	**94**	P	**Pn**	**10 34 28.0**	**+0.9**
CAMI	**Rancho Maria**	**2.69**	**77**	P	**Pn**	**10 34 28.0**	**+1.0**
HPAL	**Hacienda Las P**	**2.69**	**67**	P	**Pn**	**10 34 27.0**	**0.0**
BPAT	**Tungurahua Vol**	**2.70**	**95**	P	**Pn**	**10 34 28.0**	**+0.8**
BNAS	**Cotopaxi Volca**	**2.71**	**77**	P	**Pn**	**10 34 28.0**	**+0.6**
GGPT	**Toaza - Volcan**	**2.71**	**67**	P	**Pn**	**10 34 27.0**	**-0.4**
BMOR	**Cotopaxi Volca**	**2.72**	**79**	P	**Pn**	**10 34 27.0**	**-0.6**
JUA2	**San Juan 2**	**2.73**	**67**	P	**Pn**	**10 34 28.0**	**+0.3**
TERV	**Terraza Guagua**	**2.75**	**67**	P	**Pn**	**10 34 28.0**	**0.0**
BREF	**Cotopaxi Volca**	**2.75**	**77**	P	**Pn**	**10 34 29.0**	**+0.9**
PINO	**Pino**	**2.75**	**66**	P	**Pn**	**10 34 28.0**	**-0.1**
VCES	**Cotopaxi**	**2.77**	**80**	P	**Pn**	**10 34 29.0**	**+0.7**
BVC2	**Cotopaxi Volca**	**2.78**	**77**	P	**Pn**	**10 34 30.0**	**+1.6**
PITA	**Cotopaxi Volc**	**2.79**	**75**	P	**Pn**	**10 34 29.0**	**+0.6**
VC1	**Cotopaxi 1**	**2.79**	**77**	P	**Pn**	**10 34 29.0**	**+0.4**
YANA	**Yana**	**2.80**	**66**	P	**Pn**	**10 34 28.0**	**-0.6**
TAMB	**Tambo**	**2.82**	**78**	P	**Pn**	**10 34 31.0**	**+2.1**
ANTG	**Antisana-Guama**	**2.97**	**75**	P	**Pn**	**10 34 32.0**	**+1.0**
ANTM	**Antisana-La Mi**	**3.00**	**76**	P	**Pn**	**10 34 32.0**	**+0.7**
ANTS	**Antisana-Sarah**	**3.06**	**75**	P	**Pn**	**10 34 33.0**	**+0.8**
OTAV	**Otavalo**	**3.07**	**61**	Pn	**Pn**	**10 34 31.9**	**-0.4**
ANTI	**Antisana**	**3.08**	**75**	P	**Pn**	**10 34 34.0**	**+1.5**
CUSE	**Cuicocha Este**	**3.15**	**60**	P	**Pn**	**10 34 33.0**	**-0.3**
CUIC	**Cuicocha-Domo**	**3.18**	**60**	P	**Pn**	**10 34 34.0**	**+0.2**
BOSC	**San Juan Bosco**	**3.22**	**125**	Pn	**Pn**	**10 34 36.7**	**+2.5**
BOSC	**San Juan Bosco**	**3.22**	**125**	P	**Pn**	**10 34 37.0**	**+2.9**
MCRA	**Macar, Loja**	**3.29**	**159**	Pn	**Pn**	**10 34 34.2**	**-0.8**
URCU	**Urcuqui**	**3.34**	**59**	P	**Pn**	**10 34 36.0**	**+0.1**
CAYR	**Refugio Cayamb**	**3.37**	**68**	P	**Pn**	**10 34 39.0**	**+2.4**
TULM	**Tulcn-Chalpat**	**3.88**	**59**	Pn	**Pn**	**10 34 45.7**	**+2.2**
ROSC	**El Rosal** 2.2nm,0.3s,baz=294,slow=20,SNR=3.5	**9.12**	**48**	Pn	Pn	10 36 01.0	+5.6
ROSC	1.6nm,0.3s,baz=106,slow=22,SNR=1.4			Sn	Sn	10 37 48.1	+10
PAYG	**Puerto Ayora**	**9.18**	**274**		**Pn**	**10 35 58.1**	**+2.3**
NNA	**Nana** 2.1nm,0.3s,baz=262,slow=8.4,SNR=2.9	**11.46**	**158**	Pn	**Pn**	**10 36 29.6**	**+2.5**
NNA	comp=Z,54nm,21.0s,baz=320,slow=42			LR	LR	10 41 51.5	
JTS	**Las Juntas de** comp=Z,72nm,19.7s,baz=236,slow=31	**12.11**	**342**	LR	LR	10 39 57.4	
SDV	**Santo Domingo** 0.4nm,0.3s,baz=229,slow=11,SNR=14	**14.53**	**46**	Pn	**P**	**10 37 14.6**	**-1.5**
SDV	comp=Z,129nm,21.8s,baz=230,slow=39			LR	LR	10 43 21.8	
SDV	**Santo Domingo**	**14.53**	**46**	Pn	**Pn**	**10 37 10.5**	**+1.1**
LPAZ	**La Paz** 0.1nm,0.3s,baz=357,slow=9.1,SNR=7.3	**19.66**	**140**	P	**Pn**	**10 38 14.8**	**+0.2**
LPAZ	comp=Z,78nm,20.0s,baz=310,slow=40			LR	LR	10 46 51.2	
LPAZ	**La Paz**	**19.66**	**140**		**P**	**10 38 11.6**	**-1.6**
LPAZ	comp=Z,8.9nm,1.2s			IAmb	IAmb	10 38 21.9	
CMIG	**Matias Romero** comp=Z,66nm,19.2s,baz=161,slow=33	**22.74**	**324**	LR	LR	10 46 04.5	
SIV	**San Ignacio** comp=Z,86nm,19.3s,baz=231,slow=36	**24.59**	**128**	LR	LR	10 48 26.4	
TXAR	**Lajitas Array** comp=Z,0.1nm,0.7s,baz=170,slow=6.0,SNR=1.7	**37.30**	**326**	P	**P**	**10 40 55.0**	**-0.9**
PLCA	**Paso Flores** comp=Z,3.0nm,0.9s,baz=335,slow=12,SNR=5.5	**40.43**	**168**	P	**P**	**10 41 23.6**	**+1.7**
PLCA	**Paso Flores** comp=Z,3.6nm,0.9s	**40.43**	**168**	IAmb	IAmb	10 41 27.0	
ANMO	**Albuquerque** comp=Z,29nm,19.2s,baz=122,slow=36	**43.14**	**329**	LR	LR	10 59 44.1	
RCBR	**Brachuelo** comp=Z,151nm,18.9s,baz=10.0,slow=39	**45.35**	**97**	LR	LR	11 03 13.7	
NEW	**Newport** comp=Z,19nm,21.6s,baz=86,slow=35	**58.40**	**333**	LR	LR	11 07 39.4	
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.8s,baz=135,slow=6.0,SNR=13	**68.43**	**344**	P	**P**	**10 44 43.9**	**-1.2**
ILAR	**Eielson Array** comp=Z,0.5nm,0.9s,baz=152,slow=4.1,SNR=3.4	**81.03**	**337**	P	**P**	**10 45 57.6**	**-0.5**
ILAR	comp=Z,34nm,19.6s,baz=262,slow=37			LR	LR	11 23 30.7	
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,1.0s,baz=251,slow=4.4,SNR=3.5	**83.30**	**77**	P	**P**	**10 46 12.2**	**+1.1**
ASAR	**Alice Springs** comp=Z,0.6nm,1.0s,baz=114,slow=1.1,SNR=2.4	**137.88**	**232**	PKP	**PKPdf**	**10 53 07.9**	**-1.2**
WRA	**Warramunga Arr** comp=Z,0.1nm,0.6s,baz=136,slow=1.3,SNR=2.6	**139.34**	**237**	PKP	**PKPdf**	**10 53 12.5**	**+0.7**

*DJA **28** 10:56:47.8±1.7, 9°S±11°×11°2E±°, h11km±10km, M3.8/10, MLv3.8/10*

*IDC **28** 10:56:49.5±5.5, 8°41S×112°41E, h60km±65km, mb3.3/4, mb1 3.5/6, mb1mx3.1/47, mbtmp3.6/6, ML3.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/31, Error ellipse: s-maj=88.3km s-min=18.7km az=39.0*

ISC 28 10:56:48.2±0.9, 9°04S±0°10×112°11E±0°05, h35km, n18, σ3s41/20, mb3.5/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.06**	**344**	P	**Pn**	**10 57 06.7**	**+0.1**
PCJI	**Pacitan**	**1.25**	**312**	P	**Pn**	**10 57 09.9**	**+0.7**
GMJI	**Gumukmas**	**1.53**	**60**	P	**Pn**	**10 57 14.3**	**+1.3**
UGM	**Wanagama**	**1.93**	**306**	P	**Pn**	**10 57 19.8**	**+1.2**
BLJI	**Banyuglugur**	**1.96**	**49**	P	**Pn**	**10 57 20.6**	**+1.7**
JAGI	**Jajag, Banyuwa**	**2.10**	**74**	P	**Pn**	**10 57 23.1**	**+2.2**
GRJI	**Gresik**	**2.15**	**10**	P	**Pn**	**10 57 22.4**	**+0.9**
YOGI	**Yogyakarta**	**2.17**	**304**	P	**Pn**	**10 57 22.9**	**+1.1**
ABJI	**Asem Bagus**	**2.44**	**60**	P	**Pn**	**10 57 28.6**	**+3.0**
SMRI	**Semarang**	**2.58**	**320**	P	**Pn**	**10 57 29.1**	**+1.6**
CMJI	**Cimerak**	**3.83**	**289**	P	**Pn**	**10 57 45.7**	**+1.0**
LEM	**Lembang** 2.2nm,0.3s,baz=141,slow=13,SNR=1.9	**4.96**	**296**	P	**Pn**	**10 58 03.8**	**+3.3**
LEM	4.0nm,0.3s,baz=52,slow=19,SNR=2.3			S	**Sn**	**10 58 58.8**	**+2.1**
FITZ	**Fitzroy Crossi** 0.0nm,0.3s,baz=312,slow=12,SNR=2.0	**15.93**	**126**	P	**Pn**	**11 00 30.6**	**+0.8**
FITZ	0.2nm,0.3s,baz=352,slow=19,SNR=1.4			S	**Sn**	**11 03 16.1**	**-9.3**
WRA	**Warramunga Arr** 1.1nm,1.1s,baz=297,slow=11,SNR=14	**24.06**	**119**	P	**P**	**11 02 00.5**	**+0.1**
WRA	0.3nm,1.0s,baz=289,slow=42,SNR=1.2			S	**S**	**11 06 22.7**	**+7.0**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=304,slow=9.1,SNR=12	**25.41**	**128**	P	**P**	**11 02 12.8**	**0.0**
STKA	**Stephens Creek** 1.1nm,0.5s,baz=308,slow=12,SNR=4.5	**35.56**	**134**	P	**P**	**11 03 43.0**	**+0.7**
KSRS	**Korea Array** comp=Z,27nm,19.2s,baz=150,slow=39	**48.57**	**17**	LR	LR	11 27 36.2	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=155,slow=6.4,SNR=3.2	**61.62**	**337**	P	**P**	**11 06 57.8**	**-4.5**

*IDC **28** 11:00:54.4±3.9, 36°00N×70°00E, h125km±33km, mb3.3/4, mb1 3.3/10, mb1mx3.1/45, mbtmp3.6/10, MS3.3/2, Ms1 3.3/2, ms1mx2.4/51, Error ellipse: s-maj=35.5km s-min=21.5km az=157.0*

*NNC **28** 11:00:56.0±5.1, 36°61N×69°84E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=48.2km s-min=35.2km az=146.0*

ISC 28 11:00:57.5±1.2, 36°3N±0°1×69°87E±0°08, h150km, n17, σ1s52/20, mb3.2/3, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 7.0nm,0.5s,baz=196,slow=20,SNR=69	**6.81**	**4**	⇓P	**Pn**	**11 02 35.6**	**+0.8**
KK31	3.3nm,0.3s,baz=188,slow=22,SNR=7.8			⇑S	**Sn**	**11 03 49.5**	**-1.7**
AAK	**Ala-Archa** 1.4nm,0.3s,baz=191,slow=9.0,SNR=8.1	**7.26**	**28**	P	**Pn**	**11 02 41.2**	**+0.1**
AAK	0.9nm,0.3s,baz=180,slow=20,SNR=7.7			S	**Sn**	**11 04 00.2**	**-2.2**
CHMS	**Chumysh** 2.7nm,0.4s	**7.67**	**28**	⇓P	**Pn**	**11 02 46.2**	**-0.2**
CHMS	12nm,0.8s			⇑S	**Sn**	**11 04 10.2**	**-1.8**
TKM2	**Tokmak 2** 1.1nm,0.5s	**7.95**	**32**	⇓P	**Pn**	**11 02 48.7**	**-1.5**
TKM2	2.7nm,0.6s			⇑S	**Sn**	**11 04 19.0**	**+0.1**
GEYT	**Alibeck** 1.0nm,0.3s,baz=101,slow=7.6,SNR=3.7	**9.53**	**283**	P	**Pn**	**11 03 11.0**	**-0.2**
GEYT	1.0nm,0.3s,baz=20,slow=14,SNR=2.2			S	**Sn**	**11 04 54.3**	**-2.4**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=222,slow=16,SNR=2.7	**13.99**	**38**	P	**Pn**	**11 04 08.7**	**-0.5**
AB31	**Akbulak array** 2.9nm,0.4s,baz=146,slow=11,SNR=115	**14.83**	**334**	P	**Pn**	**11 04 21.0**	**+1.4**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=210,slow=10,SNR=6.1	**15.61**	**21**	P	**P**	**11 04 30.8**	**+0.5**
WSAR	**Wadi Sarin** comp=Z,49nm,19.1s,baz=247,slow=44	**16.25**	**220**	LR	LR	11 12 37.6	
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=132,slow=14,SNR=8.0	**16.51**	**332**	P	**Pn**	**11 04 41.8**	**+1.6**
AKTO	**Aktyubinsk** 7.2nm,1.4s	**16.51**	**332**	⇓P	**Pn**	**11 04 42.5**	**+2.3**
BVAR	**Borovoye Array**	**16.72**	**1**	P	**Pn**	**11 04 44.5**	**+1.7**
ZALV	**Zalesovo Beam** 2.7nm,0.5s,baz=221,slow=11,SNR=12	**20.48**	**26**	P	**P**	**11 05 24.6**	**+1.3**
MA2	**Magadan** comp=Z,48nm,18.1s,baz=244,slow=35	**55.08**	**38**	LR	LR	11 33 13.2	
TORD

	0.3nm,0.3s,baz=344,slow=27,SNR=5.9						
ASAR				ScP	**ScP**	**11 32 57.7**	**+0.3**
	0.1nm,0.3s,baz=359,slow=1.9,SNR=4.3						
WRKA	**Warakurna**	**17.49**	**184**	P	**Pn**	**11 24 54.3**	**-0.1**
UGM	**Wanagama**	**19.04**	**268**	P	**P**	**11 25 11.7**	**+0.1**
	56nm,1.4s						
CTA	**Charters Tower**	**20.32**	**130**	P	**P**	**11 25 25.8**	**+0.4**
	3.7nm,0.8s,baz=318,slow=12,SNR=2.6						
OOD	**Oodnadatta**	**20.95**	**165**	P	**P**	**11 25 34.3**	**+2.2**
INKA	**Innaminka**	**22.67**	**154**	P	**P**	**11 25 51.9**	**+1.4**
MULG	**Mulgathing**	**23.02**	**170**	P	**P**	**11 25 55.5**	**+1.5**
FORT	**Forrest**	**23.20**	**184**	P	**P**	**11 25 57.5**	**+1.7**
QLP	**Quilpie**	**23.45**	**146**	P	**P**	**11 26 00.4**	**+2.3**
LCRK	**Leigh Creek**	**24.17**	**162**	P	**P**	**11 26 06.7**	**+2.2**
BBOO	**Buckleboo**	**25.85**	**168**	P	**P**	**11 26 22.9**	**+3.1**
	9.4nm,2.2s						
STKA	**Stephens Creek**	**26.65**	**157**	P	**P**	**11 26 28.9**	**+1.9**
	0.7nm,0.4s,baz=339,slow=7.9,SNR=4.7						
STKA	**Stephens Creek**	**26.65**	**157**	P	**P**	**11 26 29.5**	**+2.5**
CMSA	**Cobar Meteorol**	**28.17**	**150**	P	**P**	**11 26 43.0**	**+2.4**
MKAR	**Makanchi Array**	**68.50**	**327**	P	**P**	**11 31 50.3**	**+0.7**
	0.6nm,0.5s,baz=122,slow=7.0,SNR=8.6						
TORD	**Torodi Ar. Bea**	**128.65**	**281**	PKP	**PKiKP**	**11 39 55.9**	**+0.6**
	0.4nm,0.8s,baz=61,slow=2.5,SNR=2.1						
LPAZ	**La Paz**	**150.48**	**143**	PKPbc	**PKiKP**	**11 40 42.1**	**+1.4**
	0.7nm,0.4s,baz=297,slow=4.5,SNR=3.1						

*KRNET **28** 11:36:31.8±0.1, 43.81N×69.73E, mb3.1*
*SOME **28** 11:36:33.6, 43.65N×69.70E*
*NNC **28** 11:36:34.0±1.7, 43.65N×69.68E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=11.8km s-min=6.5km az=129.0, Suspected Mining explosion.*

ISC 28 11:36:34.3±2.0, 43.72N±0.07×69.68E±0.09, h0km, n19, σ1s40/29, 11C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Boroldoy**	**0.70**	**171**	P	**Pb**	**11 36 49.9**	**+0.5**
	3.9nm,0.4s						
BRLS				S	**Sn**	**11 37 01.6**	**-1.4**
	13nm,0.3s						
KK31	**Karatay Array**	**0.86**	**136**	⇑P	**Pg**	**11 36 49.4**	**-1.5**
	1.7nm,0.3s,baz=325,slow=17,SNR=82						
KK31				⇑S	**Sg**	**11 37 01.3**	**-0.7**
	20nm,0.5s,baz=312,slow=31,SNR=9.7						
KKAR	**Karatay Array**	**0.86**	**136**	⇑*i*P	**Pg**	**11 36 49.3**	**-1.5**
	baz=41						
KKAR				⇑*i*S	**Sg**	**11 37 02.0**	**0.0**
	baz=41						
IUG	**Iuzhnay**	**1.60**	**171**	P	**Pn**	**11 37 03.6**	**-0.3**
	417nm,0.4s						
IUG				S	**Sn**	**11 37 25.2**	**-0.1**
	80nm,0.7s						
TRKS	**Terek-Say**	**2.44**	**153**	⇓*i*P	**Pn**	**11 37 16.8**	**+1.3**
	baz=55						
TRKS				⇓*i*S	**Sb**	**11 37 50.2**	**+0.4**
	baz=55						
ARK	**Arkit**	**2.55**	**138**	⇓*e*P	**Pn**	**11 37 17.4**	**+0.4**
	baz=40						
ARK				⇓*i*S	**Sn**	**11 37 50.7**	**+1.8**
	baz=40						
MRKS	**Merke**	**2.77**	**109**	Pg	**Pb**	**11 37 25.9**	**+1.2**
	3.5nm,0.3s						
MRKS				Lg	Lg	11 38 04.0	
	12nm,0.8s						
EKS2	**Erkin-Say**	**3.18**	**108**	⇓*e*P	**Pn**	**11 37 25.2**	**-0.4**
	baz=10.0						
EKS2				⇓*i*S	**Sn**	**11 38 04.1**	**-0.2**
	baz=10.0						
BTLS	**Baital**	**3.39**	**66**	Pg	**Pg**	**11 37 37.6**	**-1.7**
	9.7nm,0.6s						
USP	**Ospenovka**	**3.53**	**96**	⇑*i*P	**Pn**	**11 37 29.9**	**-0.6**
	baz=97						
USP				⇑*i*S	**Sn**	**11 38 12.2**	**-0.8**
	baz=97						
SGDS	**Sogindy**	**3.60**	**93**	Pg	**Pb**	**11 37 40.9**	**+1.9**
	2.3nm,0.4s						
SGDS				Lg	Lg	11 38 29.2	
	4.3nm,0.6s						
BTK	**Batken**	**3.76**	**167**	⇑*i*P	**Pn**	**11 37 34.0**	**+0.4**
	baz=67						
BTK				⇑*i*S	**Sn**	**11 38 20.1**	**+1.5**
	baz=67						
UCH	**Uchtor**	**3.85**	**111**	⇑*e*P	**Pn**	**11 37 35.0**	**-0.1**
	baz=13						
UCH				⇑*e*S	**Sn**	**11 38 21.2**	**-0.1**
	baz=13						
TKM2	**Tokmak 2**	**4.39**	**99**	⇓Pg	**Pb**	**11 37 52.3**	**-0.1**
	2.7nm,0.8s						
TKM2				⇑Lg	Lg	11 38 49.9	
	5.6nm,0.8s						
DGS	**Degeres**	**4.46**	**94**	Pg	**Pb**	**11 37 55.4**	**+1.9**
	4.3nm,0.6s						
DGS				Lg	Lg	11 38 54.9	
	4.9nm,0.5s						
KUU	**Kurty**	**4.82**	**86**	Pg	**Pb**	**11 38 01.5**	**+1.9**
	0.7nm,0.3s						
KUU				Lg	Lg	11 39 04.6	
	6.3nm,0.9s						
MTBS	**Maitube**	**4.95**	**95**	Pg	**Pg**	**11 38 06.8**	**-2.3**
	1.2nm,0.2s						
MTBS				Lg	Lg	11 39 13.5	
	5.3nm,0.5s						
KTBS	**Karatobe**	**5.07**	**88**	Pg	**Pb**	**11 38 06.4**	**+2.5**
	1.0nm,0.5s						
KTBS				Lg	Lg	11 39 13.0	
	7.8nm,1.0s						
IZV	**Izvestkoviy**	**5.10**	**95**	Pg	**Pb**	**11 38 07.2**	**+2.8**
	1.3nm,0.5s						
IZV				Lg	Lg	11 39 14.6	
	3.8nm,0.6s						

IDC 28 11:41:00.2±1.5, 52.05S×16.22E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/26, mbtmp3.5/2, Error ellipse: s-maj=93.8km s-min=45.8km az=53.0, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**48.94**	**171**	P	P	11 49 47.2	-0.2
	0.5nm,0.9s,baz=217,slow=5.1,SNR=2.3						
H01W2	**Cape Leeuwin H**	**67.78**	**118**	T	T	13 06 34.3	
	baz=225						
H01W3	**Cape Leeuwin H**	**67.80**	**118**	T	T	13 06 39.0	
	baz=225						
H01W1	**Cape Leeuwin H**	**67.80**	**118**	T	T	13 06 30.8	
	baz=225						
ASAR	**Alice Springs**	**87.08**	**126**	P	P	11 53 48.0	+0.1
	0.3nm,0.5s,baz=208,slow=4.5,SNR=4.8						
NVAR	**Mina Array Bea**	**145.79**	**265**	PKPbc	PKPdf	12 00 40.2	-0.2
	1.7nm,0.7s,baz=138,slow=4.4,SNR=12						
YKA	**Yellowknife Ar**	**152.14**	**311**	PKPbc	PKPbc	12 00 55.9	-0.3
	0.4nm,0.6s,baz=92,slow=2.2,SNR=7.3						

*IDC **28** 11:47:00.4±1.8, 21.45S×179.82E, h603km±20km, mb3.3/6, mb1 3.5/7, mb1mx3.1/24, mbtmp4.3/7, Error ellipse: s-maj=39.6km s-min=26.4km az=121.0*

ISC 28 11:47:00.4±1.3, 21.45S±0.2×179.18E±0.2, h600km, n8, σ0s98/8, mb4.0/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.04**	**335**	P	**P**	**11 48 26.9**	**+0.5**
	18nm,0.3s,baz=180,slow=5.0,SNR=52						
RAO	**Raoul Island**	**8.05**	**166**	P	**P**	**11 49 00.2**	**+0.2**
	52nm,0.3s,baz=343,slow=19,SNR=2.0						
CTA	**Charters Tower**	**31.37**	**266**	P	**P**	**11 52 34.6**	**+0.5**
	3.5nm,0.5s,baz=95,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**35.54**	**245**	P	**P**	**11 53 08.0**	**-0.8**
	2.4nm,0.8s,baz=69,slow=8.9,SNR=5.4						
ASAR	**Alice Springs**	**42.31**	**258**	P	**P**	**11 54 03.2**	**-0.1**
	4.5nm,0.8s,baz=100,slow=8.0,SNR=47						
WRA	**Warramunga Arr**	**42.45**	**264**	P	**P**	**11 54 03.8**	**-0.6**
	3.5nm,0.8s,baz=96,slow=8.0,SNR=73						
PETK	**Petropavlovsk-**	**76.67**	**347**	P	**P**	**11 57 49.2**	**-1.2**
	1.1nm,0.4s,baz=178,slow=13,SNR=1.1						
CMAR	**Chiang Mai Arr**	**88.51**	**290**	P	**P**	**11 58 51.9**	**+1.3**
	0.6nm,0.3s,baz=137,slow=3.5,SNR=6.0						

*MEX **28** 11:54:13.8±0.3, 27.00N×112.17W, h4km, MD3.8*
*ECX **28** 11:54:14.1±0.4, 27.04N×112.14W, h17km±29km, MD3.4, ML3.6*

ISC 28 11:54:14.4±1.4, 27.10N±0.08×112.03W±0.08, h10km, n7, σ0s44/10, 1C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.29**	**319**	⇓*i*P	**Pg**	**11 54 19.9**	**-0.4**
	baz=168,slow=8.6						
SRIG				*i*S	**Sg**	**11 54 24.6**	**+0.4**
SRIG	**Santa Rosalia**	**0.29**	**319**	⇓*e*P	**Pg**	**11 54 19.9**	**-0.4**
SRIG				*e*S	**Sg**	**11 54 24.6**	**+0.4**
SRIG				IAML		11 54 24.8	
	comp=N,19μm,0.2s						
SRIG				⇓*e*		11 54 24.8	
SRIG				IAML		11 54 25.1	
	comp=E,8μm,0.2s						
GUYB	**Guaymas**	**1.30**	**52**	*e*P	**Pn**	**11 54 38.1**	**-0.5**
GUYB				*e*S	**Sn**	**11 54 56.4**	**+0.4**
GUYB	**Guaymas**	**1.30**	**52**	⇑*e*P	**Pn**	**11 54 38.3**	**-0.3**
GUYB				*e*S	**Sn**	**11 54 56.4**	**+0.4**
HSIG		**2.14**	**26**	*e*P	**Pn**	**11 54 50.4**	**+0.2**
BAHB	**Baha de los**	**2.28**	**324**	IAML		11 55 35.5	
	comp=E,121nm,1.3s						
BAHB				⇓*e*		11 55 35.5	
SLBS	**Sierra La Lagu**	**3.89**	**151**	*e*P	**Pn**	**11 55 14.4**	**+0.1**

*IDC **28** 12:01:54.7±1.9, 4.99S×153.81E, h90km±17km, mb3.8/17, mb1 4.0/19, mb1mx3.9/38, mbtmp4.2/19, MS3.2/8, Ms1 3.2/8, ms1mx2.8/58, Error ellipse: s-maj=17.2km s-min=14.0km az=83.0*
*NEIC **28** 12:01:55.2±1.1, 4.95S±0.10×153.81E±0.08, h85km±8km, mb4.4/16, Error ellipse: s-maj=15.1km s-min=11.0km az=211.0*

ISC 28 12:01:56.1±0.5, 5.00S±0.07×153.79E±0.07, h105km, n52, σ1s55/46, mb4.2/24, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.81**	**296**	Pn	**Pn**	**12 02 24.8**	**-1.7**
RABL	**Rabaul**	**1.81**	**296**	P	**Pn**	**12 02 25.3**	**-1.2**
KRVT	**Keravat (AS076**	**1.89**	**291**	P	**Pn**	**12 02 25.1**	**-2.3**
	59nm,0.3s,baz=237,slow=1.6,SNR=41						
KRVT				S	**Sn**	**12 02 45.1**	**-6.2**
	293nm,0.3s,baz=270,slow=22,SNR=8.2						
HNR	**Honiara**	**7.53**	**126**	P	**Pn**	**12 03 42.1**	**-1.1**
	15nm,0.3s,baz=196,slow=11,SNR=2.0						
HNR				S	**Sn**	**12 05 01.7**	**-5.3**
	8.0nm,0.3s,baz=244,slow=16,SNR=1.4						
PMG	**Port Moresby**	**7.90**	**236**	P	**Pn**	**12 03 47.9**	**-0.4**
	19nm,0.3s,baz=66,slow=7.0,SNR=46						
PMG				S	**Sn**	**12 05 14.7**	**-1.5**
	21nm,0.3s,baz=181,slow=19,SNR=12						
PMG				LR	LR	12 07 11.7	
	comp=Z,84nm,18.5s,baz=43,slow=40						
PMG	**Port Moresby**	**7.90**	**236**	P	**Pn**	**12 03 48.0**	**-0.4**
COEN	**Coen**	**13.74**	**229**	P	**Pn**	**12 05 06.5**	**0.0**
CTA	**Charters Tower**	**16.70**	**205**	LR	LR	12 11 02.5	
	comp=Z,62nm,21.6s,baz=80,slow=33						
GUMO	**Guam**	**20.48**	**334**	LR	LR	12 13 32.4	
	comp=Z,14nm,21.1s,baz=237,slow=34						
QIS	**Mount Isa**	**20.72**	**220**	P	Pn	12 06 31.8	+0.2
	6.4nm,0.8s						
DZM	**Mont Dzumac**	**20.93**	**145**	P	**P**	**12 06 31.2**	**+0.6**
	5.6nm,0.7s,baz=291,slow=23,SNR=1.9						
SIJI	**Sorong**	**22.86**	**280**	P	**P**	**12 06 51.2**	**+0.4**
	6.1nm,0.6s,baz=169,slow=18,SNR=4.0						
MTN	**Manton Dam**	**23.69**	**249**	P	**P**	**12 06 59.5**	**+1.1**
MTN				IAmb	IAmb	12 07 28.9	
	comp=Z,7.0nm,0.5s						
WR0	**Warramunga Arr**	**23.92**	**230**	P	**P**	**12 07 00.9**	**+0.4**
WR0				IAmb	IAmb	12 07 02.7	
	comp=Z,10nm,0.8s						
WB0	**Warramunga Arr**	**23.92**	**230**	P	**P**	**12 07 01.4**	**+0.8**
WB0				IAmb	IAmb	12 07 02.2	
	comp=Z,6.8nm,0.6s						
WRAB	**Tennant Creek**	**24.05**	**230**	P	**P**	**12 07 02.7**	**+1.0**
WRAB	**Tennant Creek**	**24.05**	**230**	P	**P**	**12 07 02.2**	**+0.5**
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**24.06**	**230**	P	**P**	**12 07 02.5**	**+0.7**
WB2				IAmb	IAmb	12 07 03.6	
	comp=Z,8.6nm,0.6s						
WRA	**Warramunga Arr**	**24.07**	**230**	P	**P**	**12 07 02.4**	**+0.5**
	comp=Z,5.7nm,0.6s,baz=56,slow=10,SNR=92						
WRA				PcP	**PcP**	**12 10 40.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=32,slow=2.7,SNR=3.9						
WRA	**Warramunga Arr**	**24.07**	**230**	IAmb	IAmb	12 07 03.4	
	comp=Z,2.5nm,1.2s						
ARMA	**Armidale**	**25.37**	**184**	P	**P**	**12 07 15.6**	**+1.9**
ARMA				IAmb	IAmb	12 07 34.6	
	comp=Z,17nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**26.58**	**28**	T	T	12 35 56.4	
	baz=208,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**26.59**	**28**	T	T	12 35 57.0	
	baz=208,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**26.60**	**28**	T	T	12 35 57.5	
	baz=208,slow=76,SNR=9.4						
ASAR	**Alice Springs**	**26.68**	**224**	P	**P**	**12 07 25.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=52,slow=8.8,SNR=16						
ASAR				PcP	**PcP**	**12 10 47.3**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=44,slow=2.8,SNR=5.5						
ASAR				LR	LR	12 17 42.1	
	comp=Z,49nm,19.6s,baz=210,slow=36						
KNRA	**Kununurra**	**26.78**	**245**	P	**P**	**12 07 27.0**	**+0.6**
KNRA				IAmb	IAmb	12 07 56.2	
	comp=Z,8.2nm,0.5s						
KNRA	**Kununurra**	**26.78**	**245**	P	**P**	**12 07 26.2**	**-0.2**
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**29.08**	**202**	P	**P**	**12 07 45.9**	**-0.9**
	comp=Z,2.1nm,1.0s,baz=39,slow=13,SNR=2.9						
FITZ	**Fitzroy Crossi**	**30.44**	**242**	P	**P**	**12 07 58.8**	**-0.1**
FORT	**Forrest**	**35.27**	**220**	P	**P**	**12 08 41.2**	**+0.3**
RPZ	**Rata Peaks**	**41.46**	**161**	LR	LR	12 25 30.6	
	comp=Z,44nm,19.4s,baz=256,slow=34						
RPZ	**Rata Peaks**	**41.46**	**161**	P	**P**	**12 09 33.7**	**+1.2**
KSM	**Kuching**	**43.91**	**277**	P	**P**	**12 09 53.2**	**+0.4**
KSRS	**Korea Array**	**48.62**	**332**	P	**P**	**12 10 30.4**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=157,slow=6.8,SNR=4.3						
ASAJ	**Asahikawa**	**49.92**	**349**	P	**P**	**12 10 39.6**	**+0.6**
	comp=Z,5.6nm,0.9s,baz=80,slow=3.3,SNR=2.3						
ASAJ				LR	LR	12 27 26.0	
	comp=Z,24nm,21.7s,baz=228,slow=31						
CMAR	**Chiang Mai Arr**	**58.85**	**295**	P	**P**	**12 11 46.0**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=124,slow=5.7,SNR=8.7						
SONM	**Songino Array**	**67.02**	**327**	P	**P**	**12 12 38.3**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=147,slow=5.2,SNR=7.3						
SONM	**Songino Array**	**67.02**	**327**	IAmb	IAmb	12 12 40.8	
	comp=Z,1.3nm,0.8s						
VNDA	**Vanda**	**72.60**	**178**	P	**P**	**12 13 12.8**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=321,slow=5.4,SNR=5.4						
VNDA	**Vanda**	**72.60**	**178**	P	**P**	**12 13 13.1**	**+1.5**
VNDA				IAmb	IAmb	12 13 13.4	
	comp=Z,4.1nm,1.0s						
KDAK	**Kodiak Island**	**75.91**	**26**	LR	LR	12 40 43.5	
	comp=Z,27nm,21.5s,baz=213,slow=31						
MKAR	**Makanchi Array**	**81.12**	**319**	P	**P**	**12 14 00.6**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=105,slow=5.0,SNR=18						
MKAR	**Makanchi Array**	**81.12**	**319**	P	**P**	**12 14 00.7**	**+0.7**
ZALV	**Zalesovo Beam**	**81.86**	**326**	P	**P**	**12 14 03.5**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=168,slow=2.7,SNR=3.6						
ILAR	**Eielson Array**	**81.97**	**22**	P	**P**	**12 14 03.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=251,slow=5.4,SNR=8.3						
KURK	**Kurchatov**	**84.53**	**322**	P	**P**	**12 14 18.1**	**+0.7**
KURK				IAmb	IAmb	12 14 19.0	
	comp=Z,5.2nm,1.0s						
KURBB	**Kurchatov Arra**	**84.56**	**322**	P	**P**	**12 14 17.7**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=110,slow=3.9,SNR=16						
AAK	**Ala-Archa**	**85.52**	**313**	P	**P**	**12 14 22.5**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=169,slow=6.1,SNR=6.3						
NVAR	**Mina Array Bea**	**91.43**	**52**	P	**P**	**12 14 50.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=272,slow=4.4,SNR=1.6						
YKA	**Yellowknife Ar**	**95.14**	**28**	P	**Pn**	**12 15 07.8**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=271,slow=4.6,SNR=5.0						
PDAR	**Pinedale Array**	**98.25**	**48**	LR	LR	12 55 56.4	
	comp=Z,26nm,18.3s,baz=79,slow=33						
TORD	**Torodi Ar. Bea**	**151.31**	**288**	PKPbc	**PKPbc**	**12 21 38.1**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=46,slow=1.9,SNR=12						

*DNK **28** 12:05:54.8±2.7, 51.49N×15.50E, h0km±120km, ML2.7*
*IPEC **28** 12:05:56.4±0.3, 51.53N×16.17E, h1km, ML3.1/3, Error ellipse: s-maj=3.1km s-min=1.4km az=58.0*
*LDG **28** 12:05:56.7±0.3, 51.46N×15.98E, h1km, Ml3.7/18, Error ellipse: s-maj=6.9km s-min=3.1km az=13.0, Suspected Mining induced.*
*MCSM **28** 12:05:56.1±0.4, 52°N±2°×1°6E±°, h6km±2km, ML3.6*

*IDC **28** 12:05:57.4±0.6, 51.47N×16.06E, h0km, mb3.4/3, mb1 3.6/10, mb1mx3.4/50, mbtmp3.5/10, ML3.4/7, Error ellipse: s-maj=10.9km s-min=6.6km az=114.0*
*BGR **28** 12:05:57.8±0.5, 51.47N×16.11E, h1km, ML3.5/12, Error ellipse: s-maj=6.7km s-min=2.2km az=12.0*

ISC 28 12:05:54.1±0.5, 51.58N±0.03×16.07E±0.02, h0km, n130, σ2s27/202, mb3.3/3, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**169**	*i*Pg	**Pb**	**12 06 10.0**	**0.0**
KSP				*i*Sg	**Sg**	**12 06 18.9**	**+0.8**
KSP	**Ksiaz**	**0.75**	**169**	*e*Pg	**Pb**	**12 06 10.0**	**0.0**
KSP				*e*Sg	**Sg**	**12 06 19.1**	**+1.0**
KSP	**Ksiaz**	**0.75**	**169**	Pg	**Pb**	**12 06 09.9**	**0.0**
KSP				Sg	**Sg**	**12 06 19.3**	**+1.2**
CHVC	**Chvalec**	**0.99**	**180**	*e*PG	**Pb**	**12 06 14.6**	**+0.5**
CHVC				*e*SG	**Sg**	**12 06 26.1**	**+0.2**
	comp=Z,364nm,0.5s						
CHVC	**Chvalec**	**0.99**	**180**	Pg	**Pb**	**12 06 14.7**	**+0.6**
OSTC	**Ostas**	**1.03**	**175**	*e*PG	**Pg**	**12 06 14.8**	**+1.1**
OSTC				*e*SG	**Sg**	**12 06 27.6**	**+0.5**
	comp=Z,285nm,0.4s						
OSTC	**Ostas**	**1.03**	**175**	Pg	**Pb**	**12 06 15.3**	**+0.6**
UPC	**Upice**	**1.07**	**182**	*e*PG	**Pb**	**12 06 15.9**	**+0.4**
UPC				*e*SG	**Sg**	**12 06 28.5**	**0.0**
	comp=Z,472nm,0.3s						
UPC	**Upice**	**1.07**	**182**	Pg	**Pb**	**12 06 15.9**	**+0.4**
UPC				Sg	**Sb**	**12 06 31.0**	**+0.9**
DPC	**Dobruska-Polom**	**1.24**	**172**	*e*PG	**Pb**	**12 06 19.0**	**+0.6**
DPC				*e*SG	**Sg**	**12 06 33.4**	**-0.5**
	comp=Z,185nm,0.4s						
DPC	**Dobruska-Polom**	**1.24**	**172**	*e*Pg	**Pb**	**12 06 18.8**	**+0.4**
DPC				*e*Sg	**Sg**	**12 06 33.9**	**0.0**
DPC	**Dobruska-Polom**	**1.24**	**172**	Pg	**Pg**	**12 06 18.7**	**+0.9**
PVCC	**Panska Ves**	**1.41**	**222**	*e*PG	**Pb**	**12 06 22.3**	**+1.0**
PVCC				*e*SG	**Sb**	**12 06 41.1**	**+1.3**
	comp=Z,830nm,0.9s						
PVCC	**Panska Ves**	**1.41**	**222**	Pg	**Pb**	**12 06 22.7**	**+1.4**
BRG	**Berggiesshubel**	**1.51**	**243**	Pn	**Pb**	**12 06 23.9**	**+0.9**
BRG				Pg	**Pg**	**12 06 25.7**	**+2.7**
BRG				Sg	**Sg**	**12 06 45.6**	**+3.1**
BRG				Amp		12 06 46.3	
	comp=Z,337nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**243**	*e*Pn	**Pb**	**12 06 23.8**	**+0.9**
BRG				*e*Sg	**Sg**	**12 06 45.5**	**+2.9**
KRLC	**Kraliky**	**1.57**	**163**	*e*PG	**Pn**	**12 06 24.2**	**+0.9**
KRLC				*e*SG	**Sn**	**12 06 44.4**	**+0.1**
	comp=Z,267nm,0.6s						
KRLC	**Kraliky**	**1.57**	**163**	Pn	**Pn**	**12 06 24.2**	**+0.9**
RUE	**Ruedersdorf**	**1.68**	**303**	Pn	**Pb**	**12 06 26.4**	**+0.7**
FBE	**Freiberg**	**1.83**	**250**	*e*Sg	**Sg**	**12 06 54.9**	**+2.2**
GOPC	**GO Pecny, Ondr**	**1.85**	**206**	Pn	**Pn**	**12 06 28.2**	**+1.1**
GOPC				Sn	**Sn**	**12 06 52.1**	**+0.8**
PRU	**Pruhonice**	**1.86**	**212**	*e*PG	**Pb**	**12 06 29.8**	**+0.8**
PRU				*e*SG	**Sb**	**12 06 53.9**	**+1.1**
	comp=Z,226nm,0.7s						
PRU	**Pruhonice**	**1.86**	**212**	Pn	**Pn**	**12 06 28.4**	**+1.2**
PRU				Sn	**Sn**	**12 06 52.4**	**+1.0**
CLL	**Collm**	**1.94**	**263**	*i*Pn	**Pn**	**12 06 30.1**	**+1.9**
	comp=Z,21nm,0.5s						
CLL				*i*Pg	**Pg**	**12 06 33.4**	**+2.3**
CLL				*i*x	x	12 06 36.4	
CLL				*i*Sg	Sg	12 07 59.5	+63
	comp=Z,139nm,0.7s						
RAC	**Raciborz**	**2.02**	**137**	*e*PG	**Pg**	**12 06 34.1**	**+1.4**
RAC				*e*SG	**Sg**	**12 06 59.8**	**+1.0**
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	**Pn**	**12 06 30.5**	**+0.9**
	baz=334						
MORC				*e*Sg	**Sb**	**12 06 57.7**	**-0.1**
	comp=Z,124nm,0.5s,baz=334						
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	**Pn**	**12 06 30.4**	**+0.8**
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*PG	**Pb**	**12 06 35.6**	**+1.1**
OKC				*e*SG	**Sb**	**12 07 03.0**	**+0.8**
	comp=Z,205nm,0.6s						
VRAC	**Vranov**	**2.30**	**171**	Pn	**Pn**	**12 06 34.9**	**+1.7**
	comp=Z,9.2nm,0.3s,baz=339,slow=18,SNR=15						
VRAC				Lg	Lg	12 07 06.5	
	comp=Z,8.4nm,0.3s,baz=56,slow=16,SNR=5.0						
VRAC	**Vranov**	**2.30**	**171**	*e*Pn	**Pn**	**12 06 34.5**	**+1.3**
	baz=353						
VRAC				*e*Sg	**Sb**	**12 07 06.2**	**+0.9**
	comp=Z,111nm,0.8s,baz=353						
VRAC	**Vranov**	**2.30**	**171**	*e*PN	**Pn**	**12 06 34.6**	**+1.3**
VRAC				*e*SG	**Sb**	**12 07 06.3**	**+0.9**
TREC	**Trest**	**2.32**	**189**	*e*PN	**Pn**	**12 06 35.7**	**+2.2**
TREC				*e*PG	**Pb**	**12 06 37.5**	**+0.8**
TREC				*e*SG	**Sb**	**12 07 07.5**	**+1.6**
	comp=Z,88nm,0.1s						
KRUC	**Moravsky**	**2.53**	**175**	*e*Pn	**Pn**	**12 06 37.9**	**+1.5**
	baz=357						
KRUC				*e*Sg	**Sb**	**12 07 13.7**	**+1.8**
	comp=Z,108nm,0.7s,baz=357					

comp=Z,52nm,0.7s
LUNU Lund 4.35 340 *i* P **Pn 12 07 02.0 +0.7**
CRVS Cervenica-Dubn 4.38 126 *e*PN **Pn 12 07 03.9 +2.1**
CRVS *e*PG **Pg 12 07 19.3 +1.4**
CRVS *e*SG **Sg 12 08 16.9 +2.3**
PSZ Piszkesteto 4.43 144 P **Pn 12 07 03.9 +1.4**
MPLH Magyarpolny 4.52 167 P **Pn 12 07 05.7 +2.1**
BLEU Blekinge 4.74 358 *i* P **Pn 12 07 07.8 +1.1**
BLEU *i* S **Sn 12 08 05.2 +3.0**
KOLS Kolonicke sedl 4.78 121 *e*PN **Pn 12 07 09.1 +1.8**
KOLS *e*PG **Pg 12 07 27.1 +1.4**
KBA Koelnbreinsper 4.84 203 Pn **Pn 12 07 10.7 +2.4**
comp=Z,8.8nm,0.4s,SNR=7.3
BJUU Bjuv 4.85 339 *i* P **Pn 12 07 08.6 +0.4**
BJUU *i* S **Sn 12 08 02.6 -2.4**
SOKA Soboth 4.95 188 *e*Pn **Pn 12 07 12.8 +3.1**
comp=Z,2.1nm,0.3s
SOKA Sg **Sg 12 08 34.8 +1.7**
comp=Z,4.3nm,0.3s
DEL Delary 5.07 346 *i* P **Pn 12 07 12.0 +0.8**
DEL IAML 12 08 12.2
comp=Z,4.8nm,0.3s
WATA Walderalm 5.16 216 *e*Pn **Pn 12 07 15.8 +3.2**
comp=Z,4.5nm,0.3s
WATA *e*Sg **Sg 12 08 44.7 +5.1**
comp=Z,8.5nm,0.3s
WTTA Wattenberg 5.20 215 *e*Pn **Pn 12 07 16.4 +3.3**
comp=Z,4.7nm,0.5s
WTTA *e*Sg **Sg 12 08 41.8 +0.9**
comp=Z,15nm,0.5s
MYKA Terra Mystica 5.20 199 *e*Sg **Sg 12 08 43.8 +2.6**
comp=Z,26nm,0.9s
MOTA Moosalm 5.33 219 *e*Pn **Pn 12 07 17.0 +2.0**
comp=Z,6.7nm,0.4s
MOTA *e*Sg **Sg 12 08 45.4 +0.2**
comp=Z,36nm,0.9s
RETA Reutte 5.36 222 *e*Sg **Sg 12 08 48.6 +2.6**
comp=Z,14nm,0.4s
ABTA Abfaltersbach 5.37 207 *e*Pn **Pb 12 07 28.6 -0.2**
comp=Z,13nm,0.5s
ABTA *e*Sg **Sg 12 08 46.2 -0.1**
comp=Z,26nm,0.7s
SQTA Sankt Quirin 5.39 218 *e*Sg **Sg 12 08 49.8 +2.7**
comp=Z,19nm,0.8s
MORH Mrgy, Hungar 5.63 161 P **Pn 12 07 21.2 +2.3**
FETA Feichten 5.74 219 *e*Pn **Pn 12 07 23.5 +2.8**
comp=Z,1.0nm,0.4s
FETA *e*Sg **Sg 12 08 56.5 -1.9**
comp=Z,7.9nm,0.7s
FABU Falkenberg 5.78 341 *i* P **Pn 12 07 21.2 +0.3**
DAVA Damuels 5.89 226 *e*Pn **Pn 12 07 24.4 +1.7**
comp=Z,3.0nm,0.3s
DAVOX Davos/Dischmat 6.28 223 Pn **Pn 12 07 30.7 +2.6**
comp=Z,0.9nm,0.3s,baz=39,slow=13,SNR=6.1
DAVOX Sn **Sn 12 08 36.5 -4.2**
comp=Z,0.4nm,0.3s,baz=122,slow=18,SNR=1.0
DAVOX Lg Lg 12 09 14.9
comp=Z,0.5nm,0.3s,baz=278,slow=22,SNR=3.0
ONAU Onsala 6.31 339 *i* P **Pn 12 07 30.5 +2.3**
ONAU *i* P Pb 12 07 34.7 -10
ONAU *i* S **Sn 12 08 36.9 -4.0**
CDF Champ du Feu 6.49 244 *e*Pn **Pn 12 07 32.2 +1.3**
CDF Champ du Feu 6.49 244 *e*Pg **Pg 12 07 56.0 -2.4**
CDF *e*Sn **Sn 12 08 38.3 -7.3**
CDF *e*Sg Sb 12 09 15.4 +9.4
comp=Z,25nm,0.8s
HINF Hinteralfeld 7.06 241 *e*Pn **Pn 12 07 36.5 -2.1**
HINF Hinteralfeld 7.06 241 *e*Pg Pg 12 08 04.7 -4.6
HINF *e*Sn Sn 12 08 49.8 -10
HINF *e*Sg **Sg 12 09 34.0 -6.7**
comp=Z,18nm,0.6s
HAU Haudompre 7.23 244 *e*Pn **Pn 12 07 39.4 -1.6**
HAU Haudompre 7.23 244 *e*Pg Pg 12 08 08.4 -4.2
HAU *e*Sn Sn 12 08 54.7 -9.1
HAU *e*Sg **Sg 12 09 39.8 -6.5**
comp=Z,17nm,0.7s
NACGM Naroch 7.24 58 *e*P Pb 12 07 52.1 -8.4
baz=246
GIVF Givet 7.27 263 *e*Pn **Pn 12 07 41.1 -0.4**
GIVF Givet 7.27 263 *e*Pg Pb 12 08 08.1 +7.0
GIVF *e*Sg **Sg 12 09 43.7 -3.7**
comp=Z,1.7nm,0.2s
PAGF Fort de Pagny 7.31 250 *e*Pg Pb 12 08 09.0 +7.3
PAGF *e*Sn **Sn 12 08 59.8 -5.9**
PAGF *e*Sg **Sg 12 09 42.0 -6.7**
comp=Z,48nm,1.0s
SAVF Savonnieres en 7.64 251 *e*Pn Pn 12 07 40.9 -5.6
baz=66
SAVF *e*Sn **Sn 12 09 08.5 -5.1**
SAVF *e*Sg **Sg 12 09 56.0 -3.1**
comp=Z,13nm,0.3s
MI30 MI30,Zelenitsa 7.67 91 Pn **Pn 12 07 47.8 +0.9**
MI30 pP **Pn 12 07 50.0 +3.1**
MEZF Maizieres J'vi 7.73 251 *e*Pg Pg 12 08 17.5 -4.6
SFTF Sexfontaines 7.88 249 *e*Pn **Pn 12 07 46.4 -3.4**
SFTF Sexfontaines 7.88 249 *e*Pg Pg 12 08 20.0 -4.9
SFTF *e*Sg Sg 12 09 59.5 -7.5
comp=Z,24nm,0.7s
AK22 Malin Array Si 8.22 91 Pn **Pn 12 07 56.1 +1.7**
CABF La Chapelle 8.22 237 *e*Pn **Pn 12 07 53.1 -1.5**
CABF La Chapelle 8.22 237 *e*Pg Pb 12 08 23.7 +6.5
CABF *e*Sg **Sg 12 10 11.2 -6.6**
comp=Z,73nm,1.3s
AK18 Malin Array Si 8.22 91 Pn **Pn 12 07 54.8 +0.3**
AK18 pP **Pn 12 07 56.6 +2.1**
AK17 Malin Array Si 8.22 91 Pn **Pn 12 07 54.8 +0.3**
AK23 Malin Array Si 8.25 91 Pn **Pn 12 07 55.8 +0.9**
AK23 pP **Pn 12 07 57.4 +2.5**
AK14 Malin Array Si 8.27 91 Pn **Pn 12 07 55.4 +0.3**
AK04 Malin Array Si 8.29 91 Pn **Pn 12 07 56.7 +1.4**
AK03 Malin Array Si 8.32 91 Pn **Pn 12 07 56.8 +1.0**
AKASG Malin Array Be 8.32 91 Pn **Pn 12 07 56.2 +0.3**
comp=Z,2.6nm,0.3s,baz=282,slow=12,SNR=21
AKASG Pg **Pg 12 08 31.0 -2.4**
comp=Z,1.0nm,0.3s,baz=281,slow=15,SNR=6.7
AKASG Sn **Sn 12 09 25.5 -5.0**
comp=Z,1.3nm,0.3s,baz=265,slow=21,SNR=1.9
AKASG Lg Lg 12 10 21.1
baz=189,slow=35,SNR=1.6
AKBB Malin Array Si 8.32 91 Pn **Pn 12 07 56.5 +0.6**
AKBB pP **Pn 12 07 58.2 +2.3**
HFS Hagfors 8.68 352 Pn **Pn 12 08 04.0 +3.3**
comp=Z,0.3nm,0.3s,baz=349,slow=40,SNR=2.6
HFS Sn **Sn 12 09 38.4 -0.7**
comp=Z,0.2nm,0.3s,baz=40,slow=22,SNR=1.3
LOR Lormes 9.05 246 *e*Pn **Pn 12 08 05.1 -0.8**
baz=71
LOR *e*Sn Sn 12 09 37.8 -11
LOR *e*Sg 12 10 37.1
comp=Z,4.7nm,0.5s
MBDF Montbardon 9.25 226 *e*Pn **Pn 12 08 07.8 -0.9**
MBDF Montbardon 9.25 226 *e*P **Pn 12 08 12.9 +4.2**
SSF Saint Saulge 9.36 246 *e*Pn **Pn 12 08 09.5 -0.7**
SSF Saint Saulge 9.36 246 *e*Pg Pg 12 08 44.7
SSF *e*Sg Sg 12 10 50.4
comp=Z,5.7nm,0.7s
SMF Signal de Mont 9.41 243 *e*Sg Sg 12 10 48.1
comp=Z,7.4nm,0.6s
ORIF Oris-en-Rattie 9.51 229 *e*Pn **Pn 12 08 11.7 -0.6**
AVF Avril sur Loir 9.60 245 *e*Pn **Pn 12 08 10.5 -2.9**
AVF *e*Sg Sg 12 10 55.5
comp=Z,10.0nm,0.9s
SBF Sospel 9.66 220 *e*Pn **Pn 12 08 13.4 -0.9**
BGF Bois d'Agland 10.02 245 *e*Pn **Pn 12 08 16.7 -2.5**
BGF *e*Sn Sn 12 09 59.8 -12
BGF *e*Sg Sg 12 10 59.3
comp=Z,10nm,0.6s
SMRF Simiane la Rot 10.37 227 *e*Pn **Pn 12 08 23.2 -0.8**
SMRF *e*Sn Sn 12 10 09.0 -12
comp=Z,2.7nm,0.3s
TCF Toulx Ste Croi 10.54 245 *e*Pn **Pn 12 08 25.4 -0.8**
TCF *e*Sn Sn 12 10 15.5 -9.4
TCF *e*Sg Sg 12 11 21.2
comp=Z,4.3nm,0.5s
FLN La Foliniere 10.98 262 *e*Sn **Sn 12 10 29.9 -5.8**
comp=Z,3.5nm,0.3s
FLN *e*Sg Sg 12 11 37.4
comp=Z,3.6nm,0.3s
FINES FINESS Array B 11.31 25 Pn **Pn 12 08 37.4 +0.6**
comp=Z,0.5nm,0.3s,baz=204,slow=12,SNR=15
FINES Sn **Sn 12 10 36.3 -7.4**
comp=Z,0.1nm,0.3s,baz=211,slow=25,SNR=1.8
EKA Eskdalemuir Ar 12.05 296 Pn **Pn 12 08 46.0 -0.8**
baz=102,slow=13,SNR=4.5
SJPF Ste Jean 14.43 241 *e*Pn **Pn 12 09 16.0 -3.5**

ARCES ARCESS Array B 18.56 10 Pn **P 12 10 10.6 -1.5**
baz=192,slow=13,SNR=11
TORD Torodi Ar. Bea 40.05 202 P **P 12 13 32.1 +1.2**
comp=Z,0.4nm,0.7s,baz=7.7,slow=8.2,SNR=3.3
MKAR Makanchi Array 42.22 69 P **P 12 13 51.2 +2.7**
comp=Z,0.2nm,0.3s,baz=299,slow=5.9,SNR=2.8
YKA Yellowknife Ar 59.78 336 P **P 12 16 03.4 +3.0**
comp=Z,0.4nm,0.6s,baz=30,slow=6.7,SNR=9.4

IDC 28 12:10:52.7±3.5, 7.21°S×154.81°E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, MS3.5/1, Ms1 3.5/1, ms1mx2.4/26, Error ellipse: s-maj=73.7km s-min=41.1km az=94.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.00**	**316**	Pn	Pn		Pn	12 11 55.9	+0.6
	baz=276,slow=9.2								
KRVT				Sn	Sn		Sn	12 12 38.6	-4.3
	3.1nm,0.3s,baz=249,slow=20,SNR=7.3								
WRA	**Warramunga Arr**	**23.54**	**235**	P	P		P	12 16 04.5	-0.4
	0.6nm,0.7s,baz=58,slow=9.1,SNR=5.5								
ASAR	**Alice Springs**	**25.89**	**229**	P	P		P	12 16 26.2	-0.4
	0.2nm,0.7s,baz=58,slow=9.2,SNR=2.4								
URZ	**Urewera**	**36.91**	**150**	LR	LR			12 32 09.9	
	comp=Z,60nm,18.2s,baz=211,slow=35								
TORD	**Torodi Ar. Bea**	**152.90**	**285**	PKPbc	PKiKP			12 30 53.4	+0.2
	0.1nm,0.4s,baz=96,slow=1.4,SNR=2.6								

*IDC **28** 12:13:12.4±5.0, 20.43°S×178.64°W, h568km±36km, mb3.1/4, mb1 3.2/5, mb1mx2.9/28, mbtmp4.0/5, Error ellipse: s-maj=114.4km s-min=41.1km az=146.0*
ISC 28 12:13:12.4±2.9, 19.9°S±0.4°×178.5°W±0.4°, h600km, n6, σ1°85°/7, mb3.7/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.90**	**303**	P	P		P	12 14 36.7	-0.7
	1.4nm,0.3s,baz=175,slow=22,SNR=5.5								
CTA	**Charters Tower**	**33.06**	**264**	P	P		P	12 19 01.4	+1.1
	2.3nm,0.4s,baz=74,slow=7.4,SNR=1.8								
STKA	**Stephens Creek**	**37.61**	**243**	P	P		P	12 19 35.9	-1.8
	0.9nm,0.5s,baz=54,slow=10.0,SNR=4.2								
ASAR	**Alice Springs**	**44.18**	**256**	P	P		P	12 20 30.0	+0.2
	1.7nm,0.6s,baz=96,slow=7.9,SNR=25								
ASAR				PcP	PcP			12 22 03.9	+2.7
	0.5nm,0.6s,baz=108,slow=3.5,SNR=7.5								
WRA	**Warramunga Arr**	**44.20**	**262**	P	P		P	12 20 30.3	+0.3
	1.3nm,0.6s,baz=96,slow=7.6,SNR=32								
AKASG	**Malin Array Be**	**142.26**	**331**	PKP	PKiKP			12 31 39.5	-1.1
	0.9nm,0.4s,baz=39,slow=4.2,SNR=4.4								

*IDC **28** 12:28:22.9±2.6, 13.83°N×145.74°E, h56km±23km, mb3.4/8, mb1 3.6/8, mb1mx3.4/46, mbtmp3.7/8, Error ellipse: s-maj=33.8km s-min=23.9km az=103.0*
ISC 28 12:28:20.7±0.9, 13.9°N±0.2°×145.9°E±0.1°, h35km, n9, σ1°14°/10, mb3.7/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.02**	**255**	P	P		Pn	12 28 39.3	+0.7
	681nm,0.3s,baz=116,slow=4.9,SNR=327								
GUMO				S	S		Sn	12 28 52.1	+0.3
	2µm,0.3s,baz=0.1,slow=21,SNR=29								
WRA	**Warramunga Arr**	**35.45**	**199**	P	P		P	12 35 13.8	-0.1
	0.2nm,1.1s,baz=17,slow=9.7,SNR=1.2								
ASAR	**Alice Springs**	**39.09**	**198**	P	P		P	12 35 43.7	-1.0
	0.2nm,0.8s,baz=22,slow=10.0,SNR=1.4								
MKAR	**Makanchi Array**	**61.99**	**316**	P	P		P	12 38 37.4	0.0
	0.1nm,0.3s,baz=86,slow=9.3,SNR=2.1								
KURBB	**Kurchatov Arra**	**65.07**	**320**	P	P		P	12 38 57.4	-0.2
	0.5nm,0.4s,baz=99,slow=6.9,SNR=5.3								
ILAR	**Eielson Array**	**67.91**	**25**	P	P		P	12 39 15.2	-0.3
	0.4nm,0.4s,baz=253,slow=5.7,SNR=10								
YKA	**Yellowknife Ar**	**82.17**	**28**	P	P		P	12 40 38.6	+0.8
	0.3nm,0.5s,baz=285,slow=4.9,SNR=8.5								
NVAR	**Mina Array Bea**	**85.98**	**52**	P	P		P	12 40 59.6	+1.6
	0.6nm,0.6s,baz=268,slow=5.4,SNR=4.4								
FINES	**FINESS Array B**	**91.34**	**335**	P	P		P	12 41 20.6	-2.0
	0.4nm,0.4s,baz=54,slow=3.3,SNR=5.3								

*SNET **28** 12:28:35.2±1.0, 12.47°N×89.55°W, h13km±11km, ML3.9*
*IDC **28** 12:28:35.2±1.8, 13.19°N×88.95°W, h0km, mb4.1/6, mb1 4.3/9, mb1mx4.0/41, mbtmp4.1/9, ML3.5/3, MS3.5/10, Ms1 3.5/10, ms1mx3.0/66, Error ellipse: s-maj=56.2km s-min=20.0km az=36.0*
*UCR **28** 12:28:36.3±1.2, 12.52°N×89.56°W, h19km±6km, ML3.8, MW3.7, mb4.4(NEIC)*
*INET **28** 12:28:37.2±0.8, 12.52°N×89.48°W, h15km±12km, MW3.8*
*GCG **28** 12:28:39.7±1.4, 12.49°N×90.39°W, h127km±309km, MD4.1*
*NEIC **28** 12:28:40.5±2.3, 12.67°N±0.08°×89.36°W±0.09, h53km±11km, mb4.4/60, Md3.9(SNET), Error ellipse: s-maj=15.6km s-min=7.7km az=46.0*
ISC 28 12:28:39.1±1.3, 12.55°N±0.06°×89.42°W±0.05, h54km±12km, n137, σ1°64°/117, mb4.4/33, MS3.4/9, 12C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.94**	**6**	*e*P	P		Pn	12 28 54.8	-1.4
JAYA	**Jayaque - finc**	**1.10**	**358**	*e*P	P		Pn	12 28 56.6	-1.9
JAYA				*e*S	S		Sn	12 29 13.0	+0.2
JAYA				IAML				12 29 26.4	
	comp=Z,2µm,0.5s								
JAYA	**Jayaque - finc**	**1.10**	**358**	*e*P	P		Pn	12 28 56.6	-1.9
JAYA				*e*S	S		Sn	12 29 13.0	+0.2
JAYA				IAML				12 29 26.4	
	comp=Z,2µm,0.5s								
LFRS	**El Faro**	**1.13**	**18**	*e*P	P		Pn	12 28 57.7	-1.1
LFRS	**El Faro**	**1.13**	**18**	*i*P	P		Pn	12 28 57.7	-1.1
SJTE	**Alcalda de S**	**1.14**	**21**	*e*P	P		Pn	12 28 57.6	-1.2
SJTE				*e*S	S		Sn	12 29 14.4	+1.0
SJTE	**Alcalda de S**	**1.14**	**21**	*e*P	P		Pn	12 28 57.6	-1.2
SJTE				*e*S	S		Sn	12 29 14.4	+1.0
SNET	**Serv Nac Est T**	**1.15**	**9**		P		Pn	12 28 58.1	-0.9
SNET	**Serv Nac Est T**	**1.15**	**9**	*e*P	P		Pn	12 28 57.5	-1.5
SNET				IAML				12 29 27.1	
	comp=Z,1µm,0.5s								
SNET	**Serv Nac Est T**	**1.15**	**9**	*e*P	P		Pn	12 28 57.5	-1.5
SNET				IAML				12 29 27.1	
	comp=Z,1µm,0.5s								
COEG	**Centro de Oper**	**1.19**	**26**	*e*P	P		Pn	12 28 58.6	-0.9
COEG				IAML				12 29 35.6	
	comp=Z,1µm,0.5s								
COEG	**Centro de Oper**	**1.19**	**26**	*i*P	P		Pn	12 28 58.6	-0.9
COEG				IAML				12 29 35.6	
	comp=Z,1µm,0.5s								
COEG	**Centro de Oper**	**1.19**	**26**	*e*P	P		Pn	12 28 58.6	-0.9
BOQS	**Boqueron**	**1.19**	**6**	*e*P	P		Pn	12 28 58.5	-1.2
BOQS	**Boqueron**	**1.19**	**6**	*e*P	P		Pn	12 28 58.5	-1.2
LFU	**La Fuente**	**1.23**	**14**	*e*P	P		Pn	12 28 59.6	-0.5
LFU	**La Fuente**	**1.23**	**14**	*e*P	P		Pn	12 28 59.6	-0.5
LBRS	**Las Brisas**	**1.24**	**17**	*e*P	P		Pn	12 29 00.1	-0.2
LBRS	**Las Brisas**	**1.24**	**17**	*e*P	P		Pn	12 29 00.1	-0.2
PAVA	**Las Pavas**	**1.25**	**22**	*e*P	P		Pn	12 28 59.8	-0.6
PAVA	**Las Pavas**	**1.25**	**22**	*e*P	P		Pn	12 28 59.8	-0.6
PAVA	**Las Pavas**	**1.25**	**22**	*e*P	P		Pn	12 28 59.6	-0.8
COEB	**Comit de Eme**	**1.28**	**42**	*e*P	P		Pn	12 29 00.4	-0.4
COEB				IAML				12 29 28.7	
	comp=Z,2µm,0.4s								
COEB	**Comit de Eme**	**1.28**	**42**	*e*P	P		Pn	12 29 00.4	-0.4
COEB				IAML				12 29 28.7	
	comp=Z,2µm,0.4s								
COEB	**Comit de Eme**	**1.28**	**42**	*e*P	P		Pn	12 29 00.5	-0.3
CEVE	**Cerro Verde**	**1.29**	**351**	*i*P	P		Pn	12 28 59.5	-1.6
CEVE				IAML				12 29 30.4	
	comp=Z,4µm,0.4s								
CEVE	**Cerro Verde**	**1.29**	**351**	*i*P	P		Pn	12 28 59.5	-1.6
CEVE				IAML				12 29 30.4	
	comp=Z,4µm,0.4s								
SBLS	**San Blas**	**1.30**	**351**	*e*P	P		Pn	12 28 59.6	-1.6
SBLS	**San Blas**	**1.30**	**351**	*i*P	P		Pn	12 28 59.6	-1.6
SCLA	**Alcaldia de Sa**	**1.33**	**30**	*e*P	P		Pn	12 29 01.1	-0.3
SCLA	**Alcaldia de Sa**	**1.33**	**30**	*e*P	P		Pn	12 29 01.1	-0.3
PQSS	**Presa 15 de Se**	**1.36**	**38**	*e*P	P		Pn	12 29 01.5	-0.3
PQSS	**Presa 15 de Se**	**1.36**	**38**	*e*P	P		Pn	12 29 01.5	-0.3
NUBE	**Las Nubes**	**1.40**	**345**	*i*P	P		Pn	12 29 00.3	-2.1
NUBE	**Las Nubes**	**1.40**	**345**	*i*P	P		Pn	12 29 00.3	-2.1

PACA Pacayal 1.41 49 *e*P **Pn 12 29 02.5 -0.1**
PACA Pacayal 1.41 49 *e*P **Pn 12 29 02.5 -0.1**
PACA Pacayal 1.41 49 *e*P **Pn 12 29 02.5 -0.1**
SLOZ Alcaldia de Sa 1.52 346 *e*P **Pn 12 29 02.5 -1.4**
LCND La Caada 1.67 63 *e*P **Pn 12 29 05.5 -0.5**
LCND IAML 12 29 41.9
comp=Z,926nm,0.5s
LCND La Caada 1.67 63 *e*P **Pn 12 29 05.5 -0.5**
LCND IAML 12 29 41.9
comp=Z,926nm,0.5s
CAHU Cacaquatique 1.69 44 *i*eP **Pn 12 29 07.1 +0.6**
CAHU Cacaquatique 1.69 44 *i*eP **Pn 12 29 07.1 +0.6**
CNCH Conchagua 1.71 65 *e*P **Pn 12 29 07.2 +0.7**
CNCH Conchagua 1.71 65 *e*P **Pn 12 29 07.2 +0.7**
MTO3 Montecristo 1.84 2 **Pn 12 29 08.1 -0.4**
MTO3 Montecristo 1.84 2 *i*P **Pn 12 29 08.1 -0.4**
MTO3 Montecristo 1.84 2 *i*P **Pn 12 29 08.1 -0.4**
MTO3 Montecristo 1.84 2 *e*P **Pn 12 29 08.0 -0.6**
CSGN Cosiguina Volc 1.86 76 *e*P **Pn 12 29 08.6 -0.1**
ESQI Esquipulas 2.00 2 **Pn 12 29 10.7 +0.1**
ESQI Esquipulas 2.00 2 *e*P **Pn 12 29 10.5 -0.1**
PCG Pacaya 2.17 328 *e*P **Pn 12 29 15.9 +2.8**
PCG *e*S **Sn 12 29 38.9 0.0**
NBG Las Nubes 2.22 336 *e*P **Pn 12 29 16.9 +3.2**
NBG *e*S **Sn 12 29 46.4 +6.2**
CRIN San Cristobal 2.32 86 **Pn 12 29 15.2 +0.4**
CRIN San Cristobal 2.32 86 *e*P **Pn 12 29 14.7 -0.1**
FUG Fuego 3 2.34 324 *e*P **Pn 12 29 13.6 -1.7**
FUG *e*S **Sn 12 29 43.1 0.0**
TELN Telica 2.53 88 *e*P **Pn 12 29 17.1 -0.7**
MRL Marmol 2.54 354 *e*P Pn 12 29 25.3 +7.3
MRL *e*S **Sn 12 29 54.4 +6.6**
TGUH Tegucigalpa,Un 2.57 54 **Pn 12 29 19.1 +0.7**
CNGN Cerro Negro 2.66 91 **Pn 12 29 18.2 -1.3**
CNGN Cerro Negro 2.66 91 *e*P **Pn 12 29 17.6 -1.9**
COPN Copaltepe 2.79 97 *e*P **Pn 12 29 20.8 -0.5**
STG3 Santiaguito 3, 3.00 316 *e*P **Pn 12 29 22.0 -2.4**
APYN Apoyeque 3.01 96 *e*P **Pn 12 29 24.1 -0.2**
HUEN 3.18 93 *e*P **Pn 12 29 25.8 -0.8**
MATN Matagalpa 3.43 83 **Pn 12 29 29.8 -0.3**
MATN Matagalpa 3.43 83 *e*P **Pn 12 29 29.1 -1.1**
BOAB BOACO BROADBAN 3.67 91 **Pn 12 29 32.6 -0.6**
BOAB BOACO BROADBAN 3.67 91 *e*P **Pn 12 29 32.3 -0.9**
HZTE Horizontes, Gu 4.16 116 **Pn 12 29 40.8 +0.7**
HZTE Horizontes, Gu 4.16 116 *e*P **Pn 12 29 40.6 +0.5**
ORTG Ortega, Santa 4.45 119 **Pn 12 29 45.4 +0.9**
DUNO Dulce Nombre, 4.56 122 **Pn 12 29 45.7 +0.1**
JTS Las Juntas de 4.92 117 Pn **Pn 12 29 51.0 +0.5**
comp=Z,4.6nm,0.3s,baz=17,slow=19,SNR=15
JTS Sn **Sn 12 30 41.5 -4.7**
comp=Z,1.8nm,0.3s,baz=350,slow=20,SNR=1.4
JTS Las Juntas de 4.92 117 **Pn 12 29 51.8 +1.3**
JTS Las Juntas de 4.92 117 *e*P **Pn 12 29 51.5 +1.0**
ESPN Las Esperanzas 5.01 93 **Pn 12 29 53.1 +1.4**
ARE1 Arenal 1 5.05 114 *e*P **Pn 12 29 53.0 +0.7**
RIMA Rio Macho 6.11 116 **Pn 12 30 08.7 +1.7**
RIMA Rio Macho 6.11 116 *e*P **Pn 12 30 08.6 +1.7**
CDM Cerro de Muert 6.30 118 *e*P **Pn 12 30 11.8 +2.0**
SRBA San Rafael, Bu 6.80 118 **Pn 12 30 18.6 +2.2**
DRUG Durika 6.88 118 **Pn 12 30 19.7 +2.1**
RIOS Rincon, Osa 6.95 123 **Pn 12 30 20.8 +2.5**
CMIG Matias Romero 6.95 311 Pn **Pn 12 30 17.0 -1.4**
comp=Z,0.5nm,0.3s,baz=141,slow=12,SNR=4.6
CMIG Sn **Sn 12 31 30.1 -6.0**
comp=Z,0.3nm,0.3s,baz=101,slow=22,SNR=2.3
ROSC El Rosal 16.76 116 Pn **P 12 32 36.6 +4.3**
comp=Z,0.6nm,0.3s,baz=354,slow=12,SNR=4.9
ROSC El Rosal 16.76 116 IAmb IAmb 12 32 38.6
comp=Z,15nm,0.9s
SDV Santo Domingo 18.81 99 P **P 12 32 54.6 -0.1**
comp=Z,1.1nm,0.3s,baz=292,slow=11,SNR=5.8
SDV LR LR 12 40 41.5
comp=Z,70nm,19.1s,baz=260,slow=39
435B Jarrell 19.66 339 P **P 12 33 03.4 -0.2**
JCT Junction City 20.27 333 P **P 12 33 09.7 -0.6**
152A Waverly Hall 20.49 11 P **P 12 33 13.1 +0.6**
152A IAmb IAmb 12 33 15.0
comp=Z,15nm,1.1s
LRAL Lakeview Retre 20.52 6 P **P 12 33 13.2 +0.4**
WHTX Lake Whitney, 20.72 340 P **P 12 33 15.0 0.0**
Z51A Franklin 21.04 10 P **P 12 33 18.3 -0.2**
Z51A IAmb IAmb 12 33 22.6
comp=Z,11nm,0.8s
BAUV El Baul 21.30 98 P **P 12 33 21.8 +0.3**
BAUV IAmb IAmb 12 33 28.1
comp=Z,25nm,1.4s
TXAR Lajitas Array 21.32 324 P **P 12 33 22.6 +1.0**
comp=Z,6.2nm,0.7s,baz=146,slow=11,SNR=83
TX32 Lajitas Array 21.32 324 P **P 12 33 22.8 +1.1**
Y52A Lilburn 21.78 12 P **P 12 33 27.2 +0.8**
Z35A Perchaven, San 21.89 342 IAmb IAmb 12 33 28.3
comp=Z,31nm,1.1s
MIAR Mount Ida 22.23 351 P **P 12 33 31.2 0.0**
MIAR IAmb IAmb 12 33 34.2
comp=Z,13nm,0.8s
UALR University of 22.29 354 P **P 12 33 31.4 -0.4**
UALR IAmb IAmb 12 33 34.7
comp=Z,24nm,0.9s
X37A Clayton 22.60 347 IAmb IAmb 12 33 38.1
comp=Z,22nm,1.4s
W41B Gary Mavity, V 22.68 354 IAmb IAmb 12 33 39.4
comp=Z,12nm,1.1s
WHAR Woolly Hollow 22.79 354 IAmb IAmb 12 33 46.4
comp=Z,9.4nm,0.9s
W39A Magazine 22.90 351 IAmb IAmb 12 33 41.1
comp=Z,27nm,1.5s
X34A Smith Ranch, M 23.25 342 IAmb IAmb 12 33 42.6
comp=Z,19nm,0.9s
FCAR Ozark Folk Cen 23.37 354 IAmb IAmb 12 33 44.6
comp=Z,7.9nm,0.8s
LCAR Lake Charles 23.48 356 IAmb IAmb 12 33 46.0
comp=Z,18nm,1.0s
TKL Tuckaleechee C 23.57 12 P **P 12 33 44.7 -0.1**
comp=Z,7.0nm,0.8s,baz=183,slow=13,SNR=7.3
TKL LR LR 12 43 12.8
comp=Z,129nm,19.4s,baz=179,slow=38
CLTN Cedars of Leba 23.61 6 IAmb IAmb 12 33 46.3
comp=Z,8.4nm,0.7s
U40A Yellville 23.91 353 IAmb IAmb 12 33 49.3
comp=Z,10nm,1.0s
V55A Taylorsville 24.36 16 IAmb IAmb 12 33 54.5
comp=Z,9.8nm,0.9s
T47A Sharon Grove 24.43 4 IAmb IAmb 12 33 53.7
comp=Z,17nm,0.9s
MGMO Mountain Grove 24.64 355 IAmb IAmb 12 33 57.3
comp=Z,13nm,0.8s
U54A Nelsons Funny 24.83 15 IAmb IAmb 12 33 59.2
comp=Z,13nm,0.7s
AMTX Amarillo 24.87 335 IAmb IAmb 12 33 58.2
comp=Z,15nm,1.1s
V58A Windy Hill, Pi 24.95 20 IAmb IAmb 12 34 00.1
comp=Z,11nm,0.9s
SIUC Southern Illin 25.07 0 IAmb IAmb 12 33 59.6
comp=Z,17nm,0.8s
S39A Bolivar 25.28 353 IAmb IAmb 12 34 00.9
comp=Z,7.9nm,0.6s
CCM Cathedral Cave 25.46 357 P **P 12 34 00.9 -1.1**
CCM IAmb IAmb 12 34 04.8
comp=Z,14nm,1.0s
R40A Maddies Statio 25.77 355 IAmb IAmb 12 34 07.2
comp=Z,7.4nm,0.8s
SADO Sadowa 33.30 13 LR LR 12 47 52.2
comp=Z,71nm,18.6s,baz=188,slow=36
B35A Bob, Littlefor 35.89 355 IAmb IAmb 12 36 02.9
comp=Z,7.1nm,1.2s
AGMN Agassiz Nation 36.05 353 IAmb IAmb 12 35 35.1
comp=Z,4.8nm,0.8s
NVAR Mina Array Bea 36.38 320 P **P 12 35 40.5 +2.0**

RCBR	**Riachuelo**	**56.23**	**106**	LR	LR	13 06 12.8			
	comp=Z,43nm,19.4s,baz=306,slow=40								
SFJD	**Kangerlussuaq**	**60.16**	**16**	LR	LR	13 04 14.8			
	comp=Z,57nm,18.1s,baz=120,slow=36								
TORD	**Torodi Ar. Bea**	**88.26**	**77**	P	**P**	**12 41 24.6**	**-0.8**		
	comp=Z,0.2nm,0.5s,baz=288,slow=5.9,SNR=5.5								
NRIK	**Noril'sk**	**98.30**	**1**	LR	LR	13 29 06.2			
	comp=Z,40nm,19.0s,baz=16,slow=37								
CMAR	**Chiang Mai Arr**	**148.11**	**345**	PKPbc	**PKPbc**	**12 48 21.4**	**+1.7**		
	comp=Z,0.6nm,0.4s,baz=350,slow=3.8,SNR=8.6								

*IDC **28** 12:33:03.6±1.8,0.°13S×81.°00W, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.5/33, mbtmp3.7/4, ML2.7/1, Error ellipse: s-maj=55.4km s-min=30.4km az=52.0*
*IGQ **28** 12:33:04±1.1,0.°N±5.°×8.°0W±.°, h2km*
ISC 28 12:33:05.4±1.0,0.°28N±0.°04×80.°32W±0.°06, h11km, n52, σ1§37/54, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.55**	**168**	P	**Pg**	**12 33 15.0**	**-1.1**
JAMA				S	**Sg**	**12 33 23.0**	**-0.3**
MAG1	**Magdalena**	**0.65**	**123**	P	**Pb**	**12 33 19.0**	**+0.3**
FLF1	**Flavio Alfaro-**	**0.79**	**143**	P	**Pb**	**12 33 21.0**	**-0.1**
FLF1				S	**Sn**	**12 33 36.0**	**+1.7**
HPAL	**Hacienda Las P**	**1.74**	**106**	P	**Pn**	**12 33 35.0**	**-0.8**
PINO	**Pino**	**1.76**	**104**	P	**Pn**	**12 33 36.0**	**-0.4**
GGPT	**Toaza - Volcan**	**1.77**	**106**	P	**Pn**	**12 33 36.0**	**-0.3**
JUA2	**San Juan 2**	**1.78**	**106**	P	**Pn**	**12 33 36.0**	**-0.5**
PPLP	**Puerto Lpez**	**1.87**	**194**	P	**Pn**	**12 33 36.0**	**-1.3**
PPLP				S	**Sg**	**12 34 05.0**	**-0.5**
ILLI	**Illinizas Sur**	**1.87**	**122**	P	**Pn**	**12 33 37.0**	**-0.8**
CUSE	**Cuicocha Este**	**1.92**	**89**	*e*P	**Pb**	**12 33 40.5**	**-0.1**
CUSE	**Cuicocha Este**	**1.92**	**89**	P	**Pb**	**12 33 40.0**	**-0.7**
CUSE				S	**Sg**	**12 34 06.0**	**-1.2**
PAST	**Pastocalle**	**1.93**	**120**	P	**Pn**	**12 33 39.0**	**+0.4**
CUIC	**Cuicocha-Domo**	**1.96**	**89**	P	**Pb**	**12 33 40.0**	**-1.3**
ALIT	**Ecuador-Imbabu**	**2.02**	**75**	P	**Pn**	**12 33 38.0**	**-1.6**
CAMI	**Rancho Maria**	**2.05**	**118**	P	**Pn**	**12 33 39.0**	**-1.2**
PITA	**Cotopaxi Volc**	**2.06**	**114**	P	**Pn**	**12 33 41.0**	**+0.6**
BNAS	**Cotopaxi Volca**	**2.06**	**117**	P	**Pn**	**12 33 41.0**	**+0.5**
URCU	**Urcuqui**	**2.07**	**86**	P	**Pb**	**12 33 42.0**	**-1.2**
BREF	**Cotopaxi Volca**	**2.10**	**117**	P	**Pn**	**12 33 42.0**	**+0.9**
BMOR	**Cotopaxi Volca**	**2.11**	**118**	P	**Pn**	**12 33 42.0**	**+0.8**
BVC2	**Cotopaxi Volca**	**2.12**	**116**	P	**Pb**	**12 33 43.0**	**-1.2**
BTAM	**Cotopaxi Volca**	**2.14**	**116**	P	**Pn**	**12 33 43.0**	**+1.4**
TAMB	**Tambo**	**2.18**	**116**	P	**Pn**	**12 33 43.0**	**+1.0**
VCES	**Cotopaxi**	**2.20**	**119**	P	**Pb**	**12 33 44.0**	**-1.5**
ANTG	**Antisana-Guama**	**2.20**	**111**	P	**Pb**	**12 33 44.0**	**-1.6**
YAHU	**Yahuarcocha**	**2.25**	**88**	P	**Pb**	**12 33 45.0**	**-1.2**
ANTI	**Antisana**	**2.27**	**109**	P	**Pn**	**12 33 45.0**	**+1.6**
ANTS	**Antisana-Sarah**	**2.28**	**110**	P	**Pb**	**12 33 46.0**	**-0.9**
PORT	**Chimborazo Vol**	**2.32**	**138**	P	**Pn**	**12 33 44.0**	**0.0**
CAYR	**Refugio Cayamb**	**2.33**	**96**	P	**Pb**	**12 33 46.0**	**-1.7**
CHMA	**Chilma**	**2.33**	**76**	P	**Pn**	**12 33 44.0**	**+0.1**
LNGL	**El Angel-Carch**	**2.36**	**79**	P	**Pn**	**12 33 46.0**	**+1.5**
TAMH	**Tambohuasha Ch**	**2.37**	**140**	P	**Pn**	**12 33 46.0**	**+1.3**
ECEN	**Cerro Negro**	**2.41**	**77**	P	**Pn**	**12 33 46.0**	**+0.8**
CHL1	**Volcn Chiles**	**2.43**	**78**	P	**Pn**	**12 33 47.0**	**+1.5**
CHL2	**Volcn Chiles**	**2.46**	**78**	P	**Pn**	**12 33 47.0**	**+1.1**
RETU	**Refugio**	**2.54**	**133**	P	**Pn**	**12 33 49.0**	**+2.0**
TULM	**Tulcn-Chalpat**	**2.57**	**80**	*e*P	**Pb**	**12 33 50.2**	**-1.6**
ARRY	**Arrayan**	**2.57**	**134**	P	**Pn**	**12 33 49.0**	**+1.7**
BONI	**La Bonita**	**2.79**	**86**	P	**Pb**	**12 33 53.0**	**-2.5**
CCUFI	**Cufio, Nario**	**3.12**	**72**	*e*P	**Pn**	**12 33 56.0**	**+1.0**
GCUF	**Volcan Galeras**	**3.12**	**72**	*e*P	**Pn**	**12 33 57.9**	**+2.9**
BOSC	**San Juan Bosco**	**3.86**	**152**	P	**Pn**	**12 34 08.0**	**+3.1**
SOTA	**Rioblanco**	**4.14**	**64**	*e*P	**Pn**	**12 34 09.5**	**+0.4**
POPC	**Popayan, Colom**	**4.28**	**58**	*e*P	**Pn**	**12 34 13.3**	**+2.6**
PCON	**Cinco Dias**	**4.42**	**63**	*e*P	**Pn**	**12 34 15.2**	**+2.4**
GARC	**Garzon, Huila**	**5.18**	**68**	*e*P	**Pn**	**12 34 23.9**	**+0.8**
ROSC	**El Rosal**	**7.51**	**53**	Pn	Pb	12 35 05.9	-10
	1.8nm,0.3s,baz=252,slow=20,SNR=1.7						
LPAZ	**La Paz**	**20.39**	**144**	P	**P**	**12 37 43.8**	**+0.7**
	2.2nm,0.5s,baz=338,slow=7.3,SNR=8.7						
NVAR	**Mina Array Bea**	**51.54**	**322**	P	**P**	**12 42 10.7**	**-1.1**
	0.1nm,0.3s,baz=129,slow=8.2,SNR=1.9						
YKA	**Yellowknife Ar**	**67.18**	**344**	P	**P**	**12 44 00.6**	**+1.5**
	0.4nm,0.9s,baz=135,slow=6.2,SNR=5.6						
WRA	**Warramunga Arr**	**140.85**	**238**	PKhKP	PKPpre	12 52 29.1	
	0.5nm,1.1s,baz=117,slow=2.3,SNR=2.2						

*IDC **28** 12:42:05.6±5.6,21.°79S×179.°95W, h595km±30km, mb3.0/4, mb1 3.3/5, mb1mx2.9/29, mbtmp4.0/5, Error ellipse: s-maj=119.4km s-min=28.0km az=135.0*
ISC 28 12:42:05.0±2.7,21.°9S±0.°4×179.°8W±0.°4, h600km, n6, σ1§31/7, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.59**	**333**	P	**P**	**12 43 34.2**	**-0.7**
	13nm,0.3s,baz=151,slow=9.1,SNR=42						
ASAR	**Alice Springs**	**42.51**		P	**P**	**12 49 09.9**	**-0.3**
	1.6nm,0.7s,baz=97,slow=7.8,SNR=21						
ASAR				PcP	**PcP**	**12 50 47.6**	**-0.6**
	0.2nm,0.6s,baz=101,slow=4.6,SNR=1.4						
WRA	**Warramunga Arr**	**42.79**	**264**	P	**P**	**12 49 10.9**	**-0.7**
	0.6nm,0.4s,baz=95,slow=8.0,SNR=48						
PETK	**Petropavlovsk-**	**77.18**	**346**	P	**P**	**12 52 58.1**	**+0.4**
	1.4nm,0.7s,baz=138,slow=6.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**89.02**	**290**	P	**P**	**12 53 59.6**	**+2.1**
	0.6nm,0.6s,baz=132,slow=3.9,SNR=5.0						
ARCES	**ARCESS Array B**	**129.94**	**349**	PKP	**PKPdf**	**13 00 05.7**	**-0.9**
	2.3nm,1.0s,baz=0.0,slow=1.7,SNR=3.6						

*AZER **28** 13:07:56.3±3.8,37.°84N×41.°91E, h10km±85km, Error ellipse: s-maj=159.6km s-min=8.5km az=235.0*
*ISK **28** 13:07:58.8,38.°36N×42.°08E, h6km, ML3.4/16*
*DDA **28** 13:07:59.3±0.0,38.°35N×42.°05E, h7km±2km, MW3.7*
*NSSP **28** 13:08:07.7,38.°37N×42.°05E, Ms3.4*
ISC 28 13:07:59.7±1.0,38.°35N±0.°02×42.°05E±0.°02, h7km±9km, n47, σ1§62/74, 1C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GURO	**Guroymak-BITLI**	**0.20**	**356**	PG	**Pg**	**13 08 03.2**	**-0.5**
GURO				SG	**Sg**	**13 08 06.4**	**-0.1**
MUSM	**Mu-Merkez**	**0.56**	**311**	P	**Pg**	**13 08 10.2**	**-0.3**
MUSM				S	**Sg**	**13 08 18.4**	**+0.6**
PERV	**Siirt/Pervari-**	**0.56**	**136**	P	**Pg**	**13 08 10.1**	**-0.5**
PERV				S	**Sg**	**13 08 18.8**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.70**	**49**	P	**Pg**	**13 08 12.9**	**-0.3**
ADCV				S	**Sb**	**13 08 22.9**	**-1.3**
SVAN	**Silvan-Diyarba**	**0.70**	**254**	PG	**Pg**	**13 08 13.1**	**0.0**
SVAN	**Silvan-Diyarba**	**0.70**	**254**	P	**Pb**	**13 08 13.4**	**-0.8**
SVAN				S	**Sn**	**13 08 26.5**	**-0.6**
AKDM	**Akdamar-Van**	**0.73**	**92**	PG	**Pg**	**13 08 12.6**	**-1.2**
AKDM				SG	**Sg**	**13 08 23.3**	**0.0**
MLAZ	**Malazgirt-MUS**	**0.88**	**26**	PG	**Pg**	**13 08 15.6**	**-1.0**
MLAZ				SG	**Sb**	**13 08 28.8**	**-0.6**
VRTB	**Varto-Mus**	**0.93**	**330**	PG	**Pg**	**13 08 17.1**	**-0.4**
VRTB	**Varto-Mus**	**0.93**	**330**	P	**Pb**	**13 08 17.5**	**-0.7**
VRTB				S	**Sn**	**13 08 31.8**	**-1.2**
SLHN	**Bingol, Solhan**	**1.00**	**307**	P	**Pg**	**13 08 18.5**	**-0.4**
SLHN				S	**Sb**	**13 08 33.1**	**+0.2**
MIDY	**Mardin/Midyat-**	**1.08**	**209**	P	**Pn**	**13 08 21.2**	**0.0**
MIDY				S	**Sn**	**13 08 36.1**	**-0.3**
VANB	**Van**	**1.08**	**77**	PG	**Pg**	**13 08 19.2**	**-1.2**
BNGB	**Bingl**	**1.25**	**301**	PN	**Pg**	**13 08 22.9**	**-0.7**
BNGB				SN	**Sn**	**13 08 41.2**	**+0.5**
HANI	**Diyarbakir_Han**	**1.30**	**273**	P	**Pb**	**13 08 24.1**	**-0.3**
HANI				S	**Sn**	**13 08 42.4**	**+0.5**
AGRB	**Hanur-Agry**	**1.43**	**31**	PN	**Pn**	**13 08 25.3**	**-0.8**
EATA	**Eleskirt**	**1.55**	**13**	P	**Pb**	**13 08 28.2**	**-0.6**
EATA				S	**Sg**	**13 08 50.9**	**+1.5**
MAZI	**Mazidag**	**1.55**	**235**	PN	**Pn**	**13 08 27.9**	**+0.1**
MAZI				SN	**Sg**	**13 08 50.1**	**+0.6**
DYBB	**Diyarbakir**	**1.56**	**256**	PN	**Pn**	**13 08 27.9**	**+0.1**
YEDI	**Yedisu-Bingol**	**1.60**	**313**	PN	**Pn**	**13 08 28.5**	**0.0**
CUKT	**Cukurca**	**1.66**	**131**	PN	**Pn**	**13 08 29.1**	**-0.1**
CLDR	**Caldiran**	**1.66**	**61**	PN	**Pn**	**13 08 28.6**	**-0.8**
KOTA	**Agri, Merkez-K**	**1.70**	**32**	P	**Pb**	**13 08 31.0**	**-0.4**
KOTA				S	**Sg**	**13 08 55.1**	**+0.6**
KOVA	**Elazig, Kovanc**	**1.79**	**282**	P	**Pb**	**13 08 32.7**	**-0.1**
KOVA				S	**Sg**	**13 08 57.3**	**+0.1**
SVRC	**Sivrice-ELAZID**	**2.16**	**272**	PN	**Pn**	**13 08 36.6**	**+0.4**
ERZN	**Erzincan**	**2.19**	**305**	PN	**Pn**	**13 08 37.1**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.22**	**6**	PN	**Pn**	**13 08 36.8**	**-0.2**
VNNZ	**Vanand**	**2.23**	**38**	*i* P	**Pg**	**13 08 41.3**	**-1.0**
VNNZ				*i* S	**Sg**	**13 09 14.1**	**+2.9**
METS	**Metsamor**	**2.39**	**41**	*i* P	**Pg**	**13 08 44.6**	**-0.8**
METS				*i* S	**Sg**	**13 09 17.6**	**+1.2**
KARS	**Kars**	**2.41**	**19**	PN	**Pn**	**13 08 39.4**	**-0.2**
BAYT	**Aydıntepe-Bayb**	**2.52**	**325**	PN	**Pn**	**13 08 41.3**	**+0.2**
HYR	**Heyderabad**	**2.57**	**57**	P	**Pb**	**13 08 46.4**	**+0.2**
HYR				S	**Sg**	**13 09 28.8**	**+6.4**
NRKZ	**NAREK**	**2.61**	**50**	*i* P	**Pg**	**13 08 49.5**	**-0.2**
NRKZ				⇓*i* S	**Sg**	**13 09 26.3**	**+2.8**
GNI	**Garni**	**2.75**	**49**	⇑*i* P	**Pg**	**13 08 50.9**	**-1.5**
GNI				⇓*i* S	**Sg**	**13 09 31.0**	**+2.9**
GNI	**Garni**	**2.75**	**49**	PN	**Pn**	**13 08 44.3**	**-0.1**
NAX	**Nakhchivan**	**2.82**	**72**	P	**Pb**	**13 08 49.5**	**-0.8**
NAX				S	**Sg**	**13 09 34.2**	**+4.1**
KAPZ	**Kaputan**	**2.84**	**45**	*i* P	**Pg**	**13 08 52.2**	**-2.0**
KAPZ				*i* S	**Sg**	**13 09 31.4**	**+0.4**
MALT	**Malatya**	**2.85**	**270**	PN	**Pn**	**13 08 46.3**	**+0.7**
CHOM	**Cayeli-Rize**	**2.92**	**340**	PN	**Pn**	**13 08 46.8**	**+0.4**
SBZ	**Shahbuz**	**2.93**	**68**	P	**Pb**	**13 08 50.0**	**-2.2**
SBZ				S	**Sg**	**13 09 37.3**	**+3.6**
ORD	**Ordubad**	**3.14**	**78**	P	**Pb**	**13 08 52.6**	**-3.2**
ORD				S	**Sg**	**13 09 40.7**	**+0.1**
DARE	**Darende-Malaty**	**3.59**	**275**	PN	**Pn**	**13 08 57.3**	**+1.5**
GDB	**GEDABAY**	**3.71**	**49**	P	**Pb**	**13 09 04.3**	**-1.4**
GDB				S	**Sg**	**13 10 01.1**	**+2.2**
QZX	**Qazax, Azerbai**	**3.72**	**42**	P	**Pb**	**13 09 03.1**	**-2.7**
QZX				S	**Sg**	**13 10 02.1**	**+2.9**
GANJ	**Ganja**	**4.02**	**54**	P	**Pb**	**13 09 10.0**	**-0.8**
YRD	**Yardimli**	**4.88**	**81**	P	**Pn**	**13 09 17.0**	**+3.3**
LRK	**Lerik**	**4.94**	**85**	P	**Pn**	**13 09 17.3**	**+2.9**

*IDC **28** 13:08:27.9±1.4,31.°20S×179.°81E, h392km±14km, mb3.4/5, mb1 3.6/7, mb1mx3.2/33, mbtmp4.2/7, Error ellipse: s-maj=21.0km s-min=17.1km az=157.0*
ISC 28 13:08:26.8±0.7,31.°44S±0.°07×179.°9W±0.°1, h400km, n52, σ2§69/45, mb3.8/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.79**	**39**	P	**Pn**	**13 09 27.6**	**-0.8**
	42nm,0.3s,baz=69,slow=24,SNR=1.9						
RAO				S	**S**	**13 10 10.7**	**-7.4**
	38nm,0.3s,baz=67,slow=22,SNR=1.4						
URZ	**Urewera**	**7.23**	**199**	P	**Pn**	**13 10 12.2**	**-0.6**
	20nm,0.3s,baz=268,slow=4.4,SNR=71						
URZ				S	**S**	**13 11 37.6**	**-2.0**
	37nm,0.3s,baz=238,slow=23,SNR=23						
SNGZ	**Shannon Statio**	**7.66**	**196**	P	**S**	**13 11 50.0**	**+1.4**
RAHZ	**Arahi**	**7.85**	**197**	P	**S**	**13 11 51.9**	**-0.7**
MHGZ	**Mahia Peninsul**	**7.90**	**192**	P	**S**	**13 11 49.8**	**-3.7**
NMHZ	**Naumai**	**8.09**	**198**	P	**S**	**13 12 00.1**	**+2.3**
MCHZ	**McNeill Hill**	**8.45**	**198**	P	**S**	**13 12 06.1**	**+1.0**
KWHZ	**Kaweka Forest**	**8.50**	**199**	P	**S**	**13 12 06.2**	**-0.2**
CKHZ	**Cape Kidnapper**	**8.56**	**196**	P	**S**	**13 12 05.1**	**-2.3**
WNVZ	**Wahianoa**	**8.68**	**204**	P	**S**	**13 12 10.2**	**0.0**
KRHZ	**Kereru**	**8.72**	**199**	P	**S**	**13 12 09.1**	**-1.9**
KAHZ	**Kahuranaki**	**8.73**	**196**	P	**S**	**13 12 07.2**	**-4.1**
MTVZ	**Mangateitei**	**8.77**	**204**	P	**S**	**13 12 15.5**	**+3.4**
PXZ	**Pawanui**	**8.96**	**196**	P	**S**	**13 12 12.1**	**-3.9**
PNHZ	**Pukenui**	**9.02**	**199**	P	**S**	**13 12 14.0**	**-3.3**
WPHZ	**Waipukurau**	**9.10**	**198**	P	S	13 12 12.2	-6.7
TSZ	**Takapari Road**	**9.22**	**200**	P	S	13 12 16.6	-5.0
PRHZ	**Porangahau**	**9.24**	**197**	P	S	13 12 13.0	-8.8
WAZ	**Wanganui**	**9.27**	**205**	P	**S**	**13 12 20.3**	**-2.2**
DVHZ	**Dannevirke**	**9.39**	**199**	P	S	13 12 19.7	-5.3
ANWZ	**Angora Road**	**9.46**	**197**	P	S	13 12 21.2	-5.2
POWZ	**Post Office Ro**	**9.59**	**200**	P	S	13 12 27.8	-1.2
PRWZ	**Pori Road**	**9.68**	**199**	P	S	13 12 24.6	-6.3
BFZ	**Birch Farm**	**9.73**	**197**	P	S	13 12 24.8	-7.1
MRZ	**Mangatainoka R**	**9.89**	**200**	P	S	13 12 27.0	-8.3
TIWZ	**Tintock**	**9.91**	**199**	P	**S**	**13 12 32.2**	**-3.6**
CPWZ	**Castlepoint**	**9.95**	**197**	P	**S**	**13 12 35.6**	**-0.9**
OGWZ	**Otaki Gorge**	**10.16**	**202**	P	**S**	**13 12 37.3**	**-3.4**
TMWZ	**Te Maipa**	**10.22**	**198**	P	S	13 12 36.2	-5.8
KIW	**Kapiti Island**	**10.28**	**202**	P	**S**	**13 12 39.1**	**-4.1**
MTW	**Mount Morrison**	**10.37**	**200**	P	S	13 12 36.9	-8.2
CAW	**Cannon Point**	**10.46**	**201**	P	**S**	**13 12 43.1**	**-3.7**
TRWZ	**Traveller**	**10.55**	**198**	P	S	13 12 42.5	-6.1
DUWZ	**D'Urville Isla**	**10.58**	**206**	P	**S**	**13 12 46.4**	**-2.9**
PAWZ	**Paruwai Farm**	**10.60**	**199**	P	S	13 12 44.3	-5.5
MSWZ	**Moikau Station**	**10.69**	**200**	P	S	13 12 44.8	-6.7
WEL	**Wellington**	**10.71**	**202**	P	**S**	**13 12 48.8**	**-3.1**
PLWZ	**Palliser**	**10.82**	**200**	P	**S**	**13 12 51.4**	**-3.0**
RPZ	**Rata Peaks**	**14.18**	**208**	P	**P**	**13 11 31.7**	**+1.6**
	0.9nm,0.3s,baz=184,slow=7.3,SNR=2.1						
RPZ				S	**S**	**13 13 59.5**	**-2.4**
	2.8nm,0.3s,baz=338,slow=12,SNR=1.2						
DZM	**Mont Dzumac**	**15.32**	**304**	P	**P**	**13 11 44.4**	**+1.5**
	0.4nm,0.3s,baz=117,slow=14,SNR=2.5						
STKA	**Stephens Creek**	**32.64**	**259**	P	**P**	**13 14 24.1**	**+0.7**
	2.7nm,0.4s,baz=102,slow=9.5,SNR=20						
ASAR	**Alice Springs**	**41.41**	**269**	P	**P**	**13 15 36.2**	**-0.1**
	1.1nm,0.5s,baz=104,slow=7.6,SNR=28						
ASAR				PP	**PP**	**13 17 16.7**	**-5.5**
	0.5nm,0.6s,baz=112,slow=8.1,SNR=4.2						
ASAR				PcP	**PcP**	**13 17 26.0**	**+0.4**
	0.7nm,0.7s,baz=120,slow=3.9,SNR=5.5						
ASAR				ScP	**ScP**	**13 20 36.5**	**-0.2**
	0.6nm,0.7s,baz=115,slow=3.9,SNR=7.2						
WRA	**Warramunga Arr**	**42.50**	**274**	P	**P**	**13 15 44.5**	**-0.5**
	2.2nm,0.4s,baz=114,slow=7.4,SNR=17						
WRA				ScP	**ScP**	**13 20 41.7**	**+0.6**
	0.7nm,0.8s,baz=114,slow=5.2,SNR=3.5						
QSPA	**South Pole Qui**	**58.67**	**180**	P	**P**	**13 17 47.4**	**+3.7**
	2.7nm,0.7s,baz=320,slow=0.9,SNR=22						
NVAR	**Mina Array Bea**	**90.13**	**44**	P	**P**	**13 20 44.5**	**+1.6**
	0.2nm,0.3s,baz=223,slow=4.7,SNR=3.0						
YKA	**Yellowknife Ar**	**107.10**	**26**	PKiKP	**PKiKP**	**13 26 05.6**	**+0.5**
	0.1nm,0.5s,baz=266,slow=1.7,SNR=1.9						
MKAR	**Makanchi Array**	**117.17**	**310**	PKP	**PKPdf**	**13 26 24.7**	**-0.1**
	0.2nm,0.5s,baz=103,slow=3.3,SNR=2.0						
ARCES	**ARCESS Array B**	**139.23**	**347**	PKhKP	PKPpre	13 27 00.2	
	4.2nm,1.1s,baz=46,slow=2.6,SNR=5.8						
FINES	**FINESS Array B**	**145.52**	**338**	PKPbc	**PKPbc**	**13 27 18.8**	**+0.5**
	5.6nm,0.5s,baz=45,slow=3.4,SNR=51						
NB2	**NORSAR Subarra**	**149.49**	**349**	PKP	**PKPbc**	**13 27 29.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**149.49**	**349**	PKPbc	**PKPbc**	**13 27 29.7**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=18,slow=4.2,SNR=5.0						
ESDC	**Sonseca Array**	**171.15**	**21**	PKPab	**PKPab**	**13 29 13.0**	**+2.9**
	comp=Z,0.5nm,0.4s,baz=309,slow=8.1,SNR=4.0						

*SOME **28** 13:10:40.2,40.°40N×77.°03E, h5km*
*KRNET **28** 13:10:44.2±0.1,40.°54N×77.°04E, mb3.4*
*NNC **28** 13:10:47.0±1.7,40.°63N×77.°06E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=12.6km s-min=10.0km az=161.0*
ISC 28 13:10:47.2±2.5,40.°66N±0.°09×77.°03E±0.°04, h8km±16km, n64, σ1§24/94, 12C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.47**	**4**	⇓*i* P	**Pn**	**13 11 14.1**	**-0.1**
	baz=4.0						
KDJ				⇓*i* S	**Sg**	**13 11 36.0**	**+1.4**
	baz=4.0						
ULHL	**Ulahol**	**1.69**	**340**	P	**Pb**	**13 11 18.0**	**-0.7**
	SNR=50						
ULHL	**Ulahol**	**1.69**	**340**	⇓*i* P	**Pn**	**13 11 17.8**	**+0.5**
	baz=41						
ULHL				⇓*i* S	**Sg**	**13 11 42.8**	**+1.2**
	baz=41						
BOOM	**Boomskoye usch**	**2.00**	**336**	⇑*i* P	**Pb**	**13 11 23.2**	**-0.8**
	baz=37						
BOOM				⇑*i* S	**Sg**	**13 11 51.5**	**-0.1**
	baz=37						
ANVS	**Anan'yevo**	**2.17**	**12**	⇑*i* P	**Pb**	**13 11 26.1**	**-0.8**
	baz=12						
ANVS				⇑*i* S	**Sg**	**13 11 55.7**	**-1.4**
	baz=12						
TNSS	**Tian-Shan**	**2.38**	**358**	*e*P	**Pb**	**13 11 30.1**	**-0.5**
	34nm,0.3s						
TNSS				*e*S	**Sg**	**13 12 06.2**	**+2.6**
	19nm,0.2s						
TNSS	**Tian-Shan**	**2.38**	**358**	Pg	**Pb**	**13 11 30.0**	**-0.5**
	34nm,0.3s						
TNSS				Lg	Lg	13 12 06.4	
	19nm,0.8s						
IZV	**Izvestkoviy**	**2.39**	**353**	*e*P	**Pb**	**13 11 30.1**	**-0.6**
	13nm,0.5s						
IZV				*e*S	**Sg**	**13 12 06.2**	**+2.0**
	22nm,0.5s						
IZV	**Izvestkoviy**	**2.39**	**353**	Pg	**Pb**	**13 11 29.8**	**-0.9**
	13nm,0.5s						
IZV				Lg	Lg	13 12 06.1	
	22nm,0.5s						
UCH	**Uchtor**	**2.46**	**310**	P	**Pn**	**13 11 29.7**	**+1.7**
	SNR=7.5						
UCH	**Uchtor**	**2.46**	**310**	⇑*i* P	**Pn**	**13 11 29.4**	**+1.4**
	baz=12						
UCH				⇑*i* S	**Sb**	**13 12 01.8**	**-0.7**
	baz=12						
MDOK	**Medeo**	**2.50**	**0**	*e*P	**Pb**	**13 11 32.2**	**-0.3**
	18nm,0.0s						
MDOK				*e*S	**Sg**	**13 12 09.6**	**+2.1**
	27nm,0.2s						
MDOK	**Medeo**	**2.50**	**0**	Pn	**Pb**	**13 11 31.9**	**-0.6**
	9.8nm,0.4s						
MDOK				Lg	Lg	13 12 09.5	
	28nm,0.7s						
MDOK	**Medeo**	**2.50**	**0**	Pg	**Pb**	**13 11 32.4**	**-0.1**
	18nm,0.4s						
MDOK				Lg	Lg	13 12 09.6	
	27nm,0.8s						
TKM2	**Tokmak 2**	**2.50**	**335**	P	**Pb**	**13 11 31.2**	**-1.3**
	SNR=5.6						
TKM2	**Tokmak 2**	**2.50**	**335**	⇓*i* P	**Pn**	**13 11 30.0**	**+1.6**
	baz=36						
TKM2				⇓*i* S	**Sb**	**13 12 03.5**	**0.0**
	baz=36						
TKM2	**Tokmak 2**	**2.50**	**335**	⇑Pn	**Pn**	**13 11 30.0**	**+1.6**
	4.4nm,0.5s						
TKM2				⇑Lg	Lg	13 12 09.3	
	18nm,0.4s						
MTBS	**Maitube**	**2.51**	**350**	*e*P	**Pb**	**13 11 32.6**	**0.0**
	6.2nm,0.3s						
MTBS				*e*S	**Sg**	**13 12 10.2**	**+2.4**
	22nm,0.3s						
MTBS	**Maitube**	**2.51**	**350**	Pg	**Pb**	**13 11 32.8**	**+0.2**
	6.2nm,0.3s						
MTBS				Lg	Lg	13 12 10.2	
	22nm,0.3s						
KST	**Kastek**	**2.51**	**342**	*e*P	**Pb**	**13 11 31.8**	**-0.9**
	15nm,0.0s						
KST				*e*S	**Sg**	**13 12 08.5**	**+0.6**
	24nm,0.3s						
KST	**Kastek**	**2.51**	**342**	Pg	**Pb**	**13 11 32.8**	**+0.1**
	17nm,0.4s						
KST				Lg	Lg	13 12 10.5	
	25nm,0.9s						
KBK	**Karagaybulak**	**2.53**	**323**	P	**Pb**	**13 11 33.1**	**0.0**
	SNR=13						
KBK	**Karagaybulak**	**2.53**	**323**	⇓*i* P	**Pn**	**13 11 30.3**	**+1.5**
	baz=24						
KBK				⇓*i* S	**Sb**	**13 12 03.9**	**-0.5**
	baz=24						
KOTS	**Kotyrbulak**	**2.57**	**1**	*e*P	**Pb**	**13 11 33.5**	**-0.2**
	25nm,0.1s						
KOTS				*e*S	**

SGDS					*e*S	**Sg**	13 12 32.7	**-0.9**
	12nm,0.4s								
SGDS	**Sogindy**	**3.31**	**328**	Pg	**Pb**	13 11 46.0	**-0.3**
	7.2nm,0.4s								
SGDS					Lg	Lg	13 12 32.7	
	12nm,0.4s								
MRKS	**Merke**	**3.53**	**307**	*e*P	**Pb**	13 11 49.8	**-0.2**
	3.8nm,0.1s								
MRKS					*e*S	**Sg**	13 12 39.4	**-1.2**
	11nm,0.5s								
MRKS	**Merke**	**3.53**	**307**	Pg	**Pb**	13 11 50.3	**+0.4**
	4.0nm,0.6s								
MRKS					Lg	Lg	13 12 40.4		
	11nm,0.5s								
BLB	**Baldybastay**	**3.60**	**17**	*e*P	**Pb**	13 11 51.2	**0.0**
	21nm,0.3s								
BLB					*e*S	**Sg**	13 12 42.0	**-0.7**
	18nm,0.5s								
BLB	**Baldybastay**	**3.60**	**17**	Pg	**Pb**	13 11 51.2	**0.0**
	21nm,0.3s								
BLB					Lg	Lg	13 12 42.0		
	18nm,0.5s								
ARXS	**Arharly**	**3.60**	**9**	*e*P	**Pb**	13 11 51.4	**+0.3**
	6.8nm,0.5s								
ARXS					*e*S	**Sg**	13 12 42.9	**+0.1**
	17nm,0.5s								
ARXS	**Arharly**	**3.60**	**9**	Pg	**Pb**	13 11 51.4	**+0.3**
	6.8nm,0.5s								
ARXS					Lg	Lg	13 12 42.9		
	17nm,0.5s								
DJR	**Jarkent**	**4.20**	**28**	*e*P	**Pb**	13 12 01.9	**+0.5**
	0.7nm,0.1s								
DJR					*e*S	**Sg**	13 13 00.1	**-1.9**
	6.8nm,0.1s								
BTLS	**Baital**	**4.90**	**334**	*e*P	**Pb**	13 12 15.4	**+2.2**
	1.9nm,0.1s								
BTLS					*e*S	**Sg**	13 13 23.2	**-1.1**
	5.9nm,0.2s								
BTLS	**Baital**	**4.90**	**334**	Pg	**Pb**	13 12 14.3	**+1.1**
	1.9nm,0.4s								
BTLS					Lg	Lg	13 13 21.9		
	5.8nm,0.6s								
KK31	**Karatay Array**	**5.44**	**299**	Pn	Pn	13 12 15.5	+6.9		
	0.8nm,0.5s,baz=127,slow=17,SNR=5.5								
KK31					⇓Lg	Lg	13 13 43.4		
	1.2nm,0.4s,baz=121,slow=27,SNR=4.3								

*IDC **28** 13:17:09.3±1.9,5°.85S×147°.40E,h0km,mb3.7/2, mb1 4.0/5,mb1mx3.6/38,mbtmp3.9/5,ML4.0/2,MS2.8/2, Ms1 2.8/2,ms1mx2.3/64,Error ellipse: s-maj=43.7km s-min=26.5km az=126.0*

ISC 28 13:17:15.8±1.4,5°.9S±0°.1×147°.6E±0°.2,H77km,n6,σ1§88/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.49**	**187**	Pn	**Pn**	**13 18 06.9**	**-0.8**
	3.6nm,0.3s,baz=340,slow=6.9,SNR=9.8						
PMG				Sn	**Sn**	**13 18 47.5**	**-0.3**
	5.3nm,0.3s,baz=38,slow=23,SNR=13						
PMG				LR	LR	13 19 23.0	
	comp=Z,64nm,18.7s,baz=320,slow=38						
KRVT	**Keravat (AS076**	**4.71**	**70**	Pn	**Pn**	**13 18 24.1**	**-0.3**
	9.6nm,0.3s,baz=360,slow=6.5,SNR=16						
WRA	**Warramunga Arr**	**18.97**	**222**	P	**Pn**	**13 21 31.1**	**-1.5**
	0.5nm,0.3s,baz=45,slow=12,SNR=5.2						
ASAR	**Alice Springs**			P	**P**	**13 22 06.5**	**+2.5**
	1.2nm,0.5s,baz=50,slow=9.0,SNR=48						
STKA	**Stephens Creek**	**26.42**	**191**	P	**P**	**13 22 47.0**	**+1.7**
	1.8nm,0.8s,baz=1.6,slow=13,SNR=3.9						
STKA				LR	LR	13 34 09.5	
	comp=Z,40nm,20.5s,baz=200,slow=39						
TORD	**Torodi Ar. Bea**	**145.63**	**285**	PKPbc	**PKiKP**	**13 36 49.0**	**-1.4**
	0.6nm,0.6s,baz=90,slow=3.1,SNR=3.6						

*IDC **28** 13:25:57.3±2.7,0°.84N×123°.77E,h271km±27km,mb3.3/6, mb1 3.4/8,mb1mx3.0/57,mbtmp4.0/8,Error ellipse: s-maj=70.7km s-min=13.1km az=67.0*

*DJA **28** 13:25:58.2±0.5,1°.1N±5°.1×192°.4E±°,h258km±5km,M3.6/11, MLv3.6/11*

ISC 28 13:25:56.9±0.8,0°.65N±0°.08×123°.81E±0°.05,h269km±6km, n19,σ1§68/27,mb3.5/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.19**	**112**	P	**Pn**	**13 26 33.1**	**+1.7**
GTOI	**Gorontalo**	**0.80**	**269**	P	**Pn**	**13 26 34.8**	**+1.7**
GTOI				S	**S**	**13 27 02.5**	**+1.0**
MRSI	**Marisa**	**1.87**	**265**	P	**Pn**	**13 26 41.1**	**+1.1**
MRSI				S	**S**	**13 27 12.1**	**-1.9**
LUWI	**Luwuk**	**1.97**	**212**	P	**Pn**	**13 26 40.4**	**-0.4**
LUWI				S	**S**	**13 27 13.5**	**-2.1**
APSI	**Ampana**	**2.65**	**234**	P	**Pn**	**13 26 46.9**	**-0.2**
APSI				S	**S**	**13 27 26.3**	**-0.7**
SANI	**Sanana**	**3.45**	**141**	P	**Pn**	**13 26 56.0**	**+0.5**
SANI				S	**S**	**13 27 38.8**	**-3.4**
TNTI	**Ternate**	**3.56**	**88**	P	**Pn**	**13 26 57.6**	**+0.9**
TNTI				S	**S**	**13 27 41.6**	**-2.7**
LBMI	**Labuha**	**3.91**	**109**	P	**Pn**	**13 27 02.0**	**+1.4**
MPSI	**Mapaga**	**3.92**	**266**	P	**Pn**	**13 27 02.2**	**+1.5**
MPSI				S	**S**	**13 27 49.6**	**-2.0**
BBSI	**Bau Bau**	**6.22**	**191**	P	Pn	13 27 22.7	-5.5
BATI	**Baumata**	**10.78**	**181**	P	**P**	**13 28 29.1**	**+0.1**
	2.2nm,0.3s,baz=256,slow=3.3,SNR=2.4						
FITZ	**Fitzroy Crossi**	**18.71**	**175**	P	**P**	**13 29 58.0**	**+1.9**
	0.3nm,0.3s,baz=357,slow=9.2,SNR=15						
WRA	**Warramunga Arr**	**22.92**	**154**	P	**P**	**13 30 39.8**	**+1.9**
	7.9nm,0.7s,baz=338,slow=10,SNR=20						
ASAR	**Alice Springs**	**26.08**	**159**	P	**P**	**13 31 08.4**	**+2.0**
	0.3nm,0.3s,baz=342,slow=6.9,SNR=36						
ASAR				ScP	**ScP**	**13 37 41.2**	**+0.7**
	0.3nm,0.7s,baz=349,slow=2.8,SNR=4.8						
STKA	**Stephens Creek**	**36.47**	**154**	P	**P**	**13 32 38.5**	**+1.7**
	1.3nm,0.5s,baz=336,slow=8.9,SNR=5.5						
SONM	**Songino Array**	**49.38**	**345**	P	**P**	**13 34 18.3**	**-1.3**
	0.8nm,0.7s,baz=163,slow=8.5,SNR=6.1						
MKAR	**Makanchi Array**	**58.50**	**328**	P	**P**	**13 35 24.2**	**-1.1**
	0.4nm,0.3s,baz=125,slow=8.1,SNR=4.0						
MKAR				PcP	**PcP**	**13 36 12.1**	**-0.5**
	0.3nm,0.5s,baz=141,slow=3.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**62.82**	**329**	P	**P**	**13 35 53.0**	**-1.2**
	0.6nm,0.6s,baz=121,slow=6.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**121.02**	**286**	PKP	**PKPdf**	**13 44 17.6**	**-1.0**
	0.2nm,0.5s,baz=74,slow=1.0,SNR=1.6						

TAP 28 13:26:14.2,24°.27N×121°.71E,h11km,ML1.8,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.14**	**217**	P	Pb	13 26 18.2	-0.5
	baz=216						
ETL				S	Sg	13 26 20.8	+1.1
	baz=216						
NACB	**Ninganchiao**	**0.14**	**229**	P	Pb	13 26 18.3	-0.6
	baz=228						
NACB				*e*S	Sg	13 26 20.7	+0.9
	baz=228						
ENA	**Nanau**	**0.16**	**9**	P	Pb	13 26 18.6	-0.6
	baz=11						
ENA				S	Sg	13 26 21.5	+1.2
	baz=11						
EWUT	**Wuta**	**0.18**	**19**	*e*P	Pg	13 26 18.8	+0.7
	baz=18						
EWUT				*e*S	Sg	13 26 21.9	+1.0
	baz=18						
TWD	**Chiawan**	**0.22**	**210**	P	Pb	13 26 19.5	-0.6
	baz=207						
TWD				*e*S	Sg	13 26 22.7	+0.9
	baz=207						
ETLH	**Xiulin Townshi**	**0.22**	**254**	*e*P	Pb	13 26 19.9	-0.3
	baz=253						
ETLH				*e*S	Sg	13 26 23.4	+1.4
	baz=253						
LATG	**Datong**	**0.32**	**327**	P	Pb	13 26 21.9	0.0
	baz=327						
LATG				S	Sb	13 26 26.7	-0.4
	baz=327						
NNSB	**Datong**	**0.34**	**298**	*e*P	Pb	13 26 22.5	+0.2
	baz=297						
NNS	**Nan Shan**	**0.35**	**299**	*e*P	Pb	13 26 22.6	+0.1
	baz=298						
NNS				*e*S	Sb	13 26 27.9	-0.4
	baz=298						
TWC	**Suao**	**0.36**	**20**	*e*P	Pb	13 26 22.2	-0.4
	baz=21						
TWC				*e*S	Sg	13 26 27.2	+1.0
	baz=21						
ETM	**Tongmen**	**0.36**	**214**	*e*P	Pb	13 26 22.1	-0.6
	baz=213						
ETM				*e*S	Sg	13 26 27.2	+1.0
	baz=213						
NDS	**Dongshan**	**0.36**	**0**	*e*P	Pb	13 26 22.4	-0.2
NDS				*e*S	Sb	13 26 27.6	-0.8
ENTT	**Nioudou**	**0.39**	**340**	P	Pb	13 26 23.4	+0.2
	baz=340						
ENTT				*e*S	Sb	13 26 28.4	-0.8
	baz=340						
WHF	**Hehuan Shan**	**0.43**	**253**	*e*P	Pb	13 26 24.0	0.0
	baz=252						
WHF				*e*S	Sb	13 26 29.8	-0.8
	baz=252						
TWE	**Neicheng**	**0.45**	**355**	*e*P	Pb	13 26 24.1	0.0
	baz=356						
TWE				*e*S	Sb	13 26 30.6	-0.4
	baz=356						
FUSB	**Fushanzhiwuyua**	**0.50**	**347**	*e*P	Pb	13 26 25.0	-0.1
	baz=346						
FUSB				*e*S	Sb	13 26 32.0	-0.4
	baz=346						
YHNB	**Yeheng**	**0.50**	**322**	P	Pb	13 26 25.5	+0.4
	baz=322						
YHNB				*e*S	Sb	13 26 33.0	+0.5
	baz=322						
TDCB	**Techi**	**0.51**	**268**	*e*S	Sb	13 26 32.3	-0.3
	baz=268						
NSK	**Sanguang**	**0.52**	**321**	*e*P	Pb	13 26 25.4	0.0
	baz=321						
NSK				*e*S	Sb	13 26 32.7	-0.2
	baz=321						
ESL	**Shilin**	**0.52**	**210**	*e*P	Pb	13 26 24.9	-0.4
	baz=208						
ESL				*e*S	Sg	13 26 31.4	+0.2
	baz=208						
CHGB	**Renai**	**0.53**	**247**	*e*P	Pb	13 26 26.0	+0.3
	baz=247						
CHGB				*e*S	Sb	13 26 33.5	0.0
	baz=247						
NWLT	**Wulai**	**0.54**	**339**	*e*P	Pb	13 26 25.9	+0.2
	baz=339						
NWLT				*e*S	Sb	13 26 33.2	-0.3
	baz=339						
OWD	**Renai**	**0.58**	**238**	*e*P	Pb	13 26 26.5	+0.1
	baz=237						
OWD				*e*S	Sb	13 26 35.0	+0.3
	baz=237						
WUSB	**Renai**	**0.61**	**243**	*e*P	Pb	13 26 27.1	+0.2
	baz=243						
WUSB				*e*S	Sb	13 26 35.0	-0.6
	baz=243						
WHP	**Taichung City**	**0.70**	**271**	*e*P	Pb	13 26 28.7	+0.3
	baz=270						
WHP				*e*S	Sb	13 26 38.8	+0.7
	baz=270						

WEL 28 13:27:04.6,44°.5S±5°.×17°.0E±°,h9km±12km,M3.5/26, mB4.5/3,ML3.5/25,MLv3.5/26,Mw(mB)3.7/3,Error ellipse: s-maj=0.0km s-min=0.0km az=87.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FOZ	**Fox Glacier**	**0.02**	**66**	P	Pg	13 27 07.3	+1.0
GCSZ	**Gaunt Creek Bo**	**0.45**	**60**	P	Pb	13 27 15.0	+0.2
WVZ	**Waitaha Valley**	**0.84**	**56**	P	Pn	13 27 22.0	-0.5
LBZ	**Lake Benmore**	**0.89**	**161**	P	Pn	13 27 23.4	0.0
JCZ	**Jackson Bay**	**0.90**	**233**	P	Pg	13 27 21.7	-0.2
RPZ	**Rata Peaks**	**0.94**	**101**	P	Pn	13 27 24.8	+0.9
ARCZ	**Arundel**	**1.09**	**112**	P	Pn	13 27 27.6	+1.5
TMZ	**Timaru**	**1.22**	**134**	P	Pg	13 27 29.7	+1.7
WKZ	**Wanaka**	**1.40**	**203**	P	Pb	13 27 30.9	-0.1
INZ	**Inchbonnie**	**1.46**	**57**	P	Pn	13 27 31.6	+0.4
WACZ	**Wakanui South**	**1.54**	**106**	P	Pg	13 27 34.8	+0.6
ODZ	**Otahua Downs**	**1.62**	**158**	P	Pg	13 27 35.8	0.0
OXZ	**Oxford**	**1.66**	**83**	P	Pb	13 27 35.8	+0.5
RACZ	**Rakaia**	**1.72**	**97**	P	Pg	13 27 37.2	-0.4
EAZ	**Earnscleugh**	**1.72**	**191**	P	Pb	13 27 35.9	-0.6
MSZ	**Milford Sound**	**1.75**	**229**	P	Pn	13 27 35.4	+0.3
LTZ	**Lake Taylor**	**1.97**	**68**	P	Pb	13 27 40.2	-0.5
MQZ	**McQueen's Vall**	**2.09**	**95**	P	Pb	13 27 41.6	-1.0
AMCZ	**Amberley**	**2.12**	**81**	P	Pb	13 27 42.8	-0.4
MLZ	**Mavora Lakes**	**2.18**	**213**	P	Pn	13 27 42.4	+1.3
AKCZ	**Akaroa Harbour**	**2.29**	**99**	P	Pb	13 27 44.5	-1.6
DSZ	**Denniston Nort**	**2.33**	**40**	P	Pn	13 27 43.2	0.0
OKCZ	**Okains Bay**	**2.38**	**95**	P	Pb	13 27 46.2	-1.5
TUZ	**Tuapeka**	**2.41**	**183**	P	Pn	13 27 47.4	-0.9
GVZ	**Greta Valley S**	**2.44**	**78**	P	Pn	13 27 46.5	+1.9
DCZ	**Deep Cove**	**2.69**	**224**	P	Pb	13 27 54.5	+1.6
WHZ	**Wether Hill Ro**	**2.69**	**209**	P	Pn	13 27 48.5	+0.4
THZ	**Tophouse**	**2.91**	**53**	P	Pn	13 27 52.3	+1.1
KHZ	**Kahutara**	**2.98**	**69**	P	Pn	13 27 53.9	+2.0
SYZ	**Scrubby Hill**	**3.03**	**188**	P	Pb	13 27 56.0	-2.7
MRNZ	**Matariki Terra**	**3.07**	**47**	P	Pn	13 27 54.0	+0.8
QRZ	**Quartz Range**	**3.39**	**38**	P	Pn	13 27 57.9	+0.2
TKNZ	**Takaka Hill**	**3.44**	**44**	P	Pn	13 27 58.9	+0.6
APZ	**The Paps**	**3.53**	**200**	P	Pn	13 28 01.5	+1.9
NNZ	**Nelson**	**3.53**	**50**	P	Pn	13 28 00.9	+1.2
TCW	**Tory Channel**	**4.06**	**57**	P	Pn	13 28 09.5	+2.6
DUWZ	**D'Urville Isla**	**4.12**	**50**	P	Pn	13 28 09.2	+1.5
CAW	**Cannon Point**	**4.61**	**60**	P	Pn	13 28 15.1	+0.7
OGWZ	**Otaki Gorge**	**4.84**	**58**	P	Pn	13 28 18.8	+1.2
HOWZ	**Holdsworth Sta**	**5.01**	**60**	P	Pb	13 28 26.4	-6.0
MRZ	**Mangatainoka R**	**5.18**	**58**	P	Pn	13 28 23.5	+1.2
NBEZ	**Newall Road No**	**5.26**	**37**	P	Pn	13 28 24.4	+1.1
KHEZ	**Kahui Hut**	**5.30**	**38**	P	Pn	13 28 25.1	+1.1
PREZ	**Palmer Road**	**5.33**	**40**	P	Pn	13 28 26.3	+2.0
NEZ	**North Egmont**	**5.36**	**39**	P	Pn	13 28 25.9	+1.1
PKE	**Pukeiti**	**5.37**	**37**	P	Pn	13 28 27.6	+2.6
WAZ	**Wanganui**	**5.43**	**48**	P	Pn	13 28 28.1	+2.4
TSZ	**Takapari Road**	**5.78**	**55**	P	Pn	13 28 34.2	+3.6
VRZ	**Vera Road**	**5.79**	**42**	P	Pn	13 28 32.2	+1.6
WNVZ	**Wahianoa**	**6.07**	**48**	P	Pn	13 28 38.6	+4.0
NGZ	**Ngauruhoe**	**6.18**	**47**	P	Pn	13 28 38.7	+2.6
WTVZ	**West Tongariro**	**6.21**	**47**	P	Pn	13 28 39.6	+2.9
NNVZ	**North Ngauruho**	**6.22**	**47**	P	Pn	13 28 39.6	+2.9
OTVZ	**Oturere**	**6.22**	**47**	P	Pn	13 28 39.6	+2.8
HIZ	**Hauiti**	**6.32**	**39**	P	Pn	13 28 38.4	+0.5
BKZ	**Black Stump Fm**	**6.67**	**51**	P	Pn	13 28 50.2	+7.3
TLZ	**Tolley Road**	**6.79**	**42**	P	Pn	13 28 45.0	+0.6

*IDC **28** 13:30:27.6±3.1,37°.01N×72°.34E,h210km±27km,mb3.1/6, mb1 3.2/13,mb1mx2.9/56,mbtmp3.8/13,Error ellipse: s-maj=28.3km s-min=18.9km az=156.0*

*SOME **28** 13:30:30.2,38°.32N×72°.03E,h10km*

*NNC **28** 13:30:32.9±3.9,37°.81N×72°.00E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=32.5km s-min=27.6km az=30.0*

ISC 28 13:30:27.6±1.1,37°.19N±0°.09×72°.19E±0°.08,h200km,n26, σ2§13/34,mb3.2/6,3C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.07**	**13**	P	**Pn**	**13 31 45.1**	**+1.8**
	SNR=30						
IUG	**Iuzhnay**	**5.22**	**342**	*e*P	**Pn**	**13 31 46.9**	**+2.0**
	340nm,0.0s						
IUG				*e*S	**Sn**	**13 32 42.5**	**-3.6**
	107nm,0.8s						
UCH	**Uchtor**	**5.34**	**19**	P	**Pn**	**13 31 48.6**	**+1.8**
	SNR=17						
EKS2	**Erkin-Say**	**5.60**	**12**	P	**Pn**	**13 31 51.6**	**+1.8**
	SNR=7.1						
MRKS	**Merke**	**5.61**	**8**	*e*P	**Pn**	**13 31 53.9**	**+4.0**
	14nm,0.2s						
MRKS				*e*S	**Sn**	**13 32 54.2**	**-0.7**
	71nm,0.9s						
AAK	**Ala-Archa**	**5.73**	**17**	P	**Pn**	**13 31 53.6**	**+2.1**
	SNR=11						
AAK	**Ala-Archa**	**5.73**	**17**	P	**Pn**	**13 31 53.5**	**+2.1**
	1.5nm,0.3s,baz=206,slow=5.4,SNR=36						
AAK				S	**Sn**	**13 32 55.7**	**-2.0**
	1.7nm,0.3s,baz=308,slow=21,SNR=15						
DZA	**Taraz**	**5.74**	**354**	*e*P	**Pn**	**13 31 54.3**	**+2.8**
	45nm,0.1s						
DZA				*e*S	**Sn**	**13 32 54.8**	**-3.0**
	221nm,0.2s						
ULHL	**Ulahol**	**5.94**	**30**	P	**Pn**	**13 31 56.0**	**+1.7**
	SNR=6.4						
KK31	**Karatay Array**	**6.05**	**348**	⇑P	**Pn**	**13 31 56.2**	**+0.8**
	3.2nm,0.6s,baz=158,slow=11,SNR=16						
KK31				S	Sn	13 32 57.7	-7.3
	15nm,0.5s,baz=160,slow=15,SNR=17						
CHMS	**Chumysh**	**6.13**	**18**	⇑P	**Pn**	**13 31 56.9**	**+0.4**
	12nm,1.1s						
CHMS				⇑S	**Sn**	**13 33 04.1**	**-2.8**
	24nm,0.8s						
TKM2	**Tokmak 2**	**6.30**	**23**	P	**Pn**	**13 32 00.7**	**+1.8**
	SNR=24						
TKM2	**Tokmak 2**	**6.30**	**23**	⇓P	**Pn**	**13 32 00.4**	**+1.6**
	18nm,0.7s						
TKM2				⇓S	**Sn**	**13 33 06.2**	**-4.9**
	14nm,1.1s						
MDOK	**Medeo**	**7.03**	**30**	P	**Pn**	**13 32 09.6**	**+1.3**
	9.7nm,0.6s						
MDOK				S	**Sn**	**13 33 30.4**	**+2.1**
	9.6nm,0.8s						
GEYT	**Alibeck**	**11.19**	**278**	P	**Pn**	**13 33 03.9**	**+1.7**
	0.3nm,0.3s,baz=99,slow=15,SNR=1.7						
GEYT				S	**Sn**	**13 35 04.4**	**-2.7**
	0.8nm,0.3s,baz=263,slow=35,SNR=3.5						
MKAR	**Makanchi Array**	**12.18**	**35**	P	**Pn**	**13 33 15.8**	**+1.1**
	baz=220,slow=12,SNR=1.3						
KURBB	**Kurchatov Arra**	**14.18**	**17**	P	**Pn**	**13 33 39.8**	**+0.3**
	0.1nm,0.3s,baz=207,slow=11,SNR=9.1						
BVAR	**Borovoye Array**	**15.89**	**356**	P	**P**	**13 34 00.7**	**+0.6**
AKTO	**Aktyubinsk**	**16.69**	**327**	P	**P**	**13 34 10.2**	**+1.2**
	0.9nm,0.3s,baz=129,slow=9.9,SNR=12						
ZALV	**Zalesovo Beam**	**18.90**	**24**	P	**P**	**13 34 33.7**	**+0.8**
	2.0nm,0.3s,baz=224,slow=10,SNR=44						
FINES	**FINESS Array B**	**37.45**	**325**	P	**P**	**13 37 22.0**	**+0.6**
	1.9nm,0.9s,baz=115,slow=9.8,SNR=3.6						
ARCES	**ARCESS Array B**	**40.88**	**337**	P	**P**	**13 37 50.3**	**+0.7**
	0.8nm,0.7s,baz=117,slow=7.2,SNR=5.1						
NOA	**NORSAR Array B**	**44.41**	**323**	P	**P**	**13 38 18.4**	**+0.2**
	0.1nm,0.4s,baz=101,slow=7.3,SNR=1.0						
TORD	**Torodi Ar. Bea**	**66.68**	**269**	P	**P**	**13 40 57.0**	**-0.3**
	0.5nm,0.4s,baz=45,slow=6.0,SNR=13						
YKA	**Yellowknife Ar**	**80.51**	**3**	P	**P**	**13 42 16.9**	**-0.1**
	0.2nm,0.5s,baz=351,slow=5.5,SNR=5.5						
WRA	**Warramunga Arr**	**81.55**	**123**	P	**P**	**13 42 20.5**	**-2.6**
	0.3nm,1.0s,baz=307,slow=5.4,SNR=2.2						

IDC 28 13:37:56.7±2.2,15°.19S×178°.88E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.4/39,mbtmp3.6/5,ML5.1/1,MS3.4/4, Ms1 3.4/4,ms1mx2.9/50,Error ellipse: s-maj=60.2km s-min=27.9km az=111.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.65**	**197**	Pn	Pn	13 38 41.0	+0.2
	16nm,0.3s,baz=0.0,slow=20,SNR=35						
MSVF				Sn	Sn	13 39 13.0	-0.7
	11nm,0.3s,baz=107,slow=19,SNR=3.8						
HNR	**Honiara**	**19.35**	**285**	LR	LR	13 48 43.6	
	comp=Z,232nm,18.3s,baz=131,slow=33						
RAR	**Rarotonga**	**21.14**	**110**	LR	LR	13 49 22.3	
	comp=Z,65nm,18.6s,baz=241,slow=32						
RPZ	**Rata Peaks**	**29.20**	**192**	LR	LR	13 53 45.8	
	comp=Z,88nm,20.7s,baz=272,slow=32						
PPT	**Papeete**	**30.34**	**99**	LR	LR	13 53 06.4	
	comp=Z,61nm,20.2s,baz=23,slow=30						
STKA	**Stephens Creek**	**37.77**	**237**	P	P	13 45 16.3	+1.5
	0.8nm,0.6s,baz=79,slow=10,SNR=1.4						
WRA	**Warramunga Arr**	**42.63**	**257**	P	P	13 45 54.2	-1.1
	0.7nm,1.0s,baz=92,slow=9.2,SNR=2.5						
ASAR	**Alice Springs**	**43.09**	**252**	P	P	13 45 58.6	-0.4
	0.7nm,0.9s,baz=78,slow=9.5,SNR=4.4						
ILAR	**Eielson Array**	**83.87**	**14**	P	P	13 50 27.7	-0.2
	1.5nm,1.0s,baz=230,slow=5.8,SNR=3.3						

*NEIC **28** 13:48:59.9±2.5,9°.08N±0°.08×126°.2E±0°.1,h80km±6km, mb4.5/30,Error ellipse: s-maj=15.5km s-min=12.0km az=89.0*

*MAN **28** 13:49:00.5,8°.79N×126°.24E,h103km,mb5.2,ML4.2, MS4.4,Hypocentre not reviewed by the ISC*

*IDC **28** 13:49:01.7±0.5,8°.94N×126°.18E,h96km±4km,mb4.0/26, mb1 4.1/29,mb1mx3.9/54,mbtmp4.3/29,MS3.2/11, Ms1 3.2/11,ms1mx2.9/77,Error ellipse: s-maj=14.1km s-min=6.3km az=96.0*

*DJA **28** 13:49:18.6±1.8,8°.N±16°.×12°.6E±°,h111km±6km,M4.5/7, mB4.9/2,mb4.4/7,MLv4.6/6,Mw(mB)4.1/2*

ISC 28 13:49:01.2±0.4,8°.88N±0°.04×126°.20E±0°.05,h97km±3km, h97km:pP-P,n134,σ1§49/152,mb4.3/47,10C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.58**	**279**	*e*P	**Pn**	**13 49 18.3**	**+1.0**
BIPH	**Bislig**	**0.71**	**167**	⇓*e*P	**Pn**	**13 49 19.2**	**+0.8**
BIPH				*i* S	**Sn**	**13 49 32.3**	**+1.0**
GLSP	**General Luna,**	**0.90**	**355**	*e*P	**Pn**	**13 49 21.9**	**+1.5**
SCPH	**Surigao**	**1.14**	**322**	⇑*e*P	**Pn**	**13 49 24.9**	**+1.9**
SCPH				*i* S	**Sn**	**13 49 39.4**	**-0.1**
MSLP	**Maasin**	**1.82**	**313**	⇑*i*P	**Pn**	**13 49 32.9**	**+1.5**
MSLP				*i* S	**Sn**	**13 49 57.0**	**+2.6**
DAV	**Davao City (W)**	**1.90**	**199**	P	**Pn**	**13 49 34.5**	**+2.1**
	102nm,0.3s,baz=90,slow=7.3,SNR=4.4						
DAV				S	**Sn**	**13 49 58.8**	**+2.6**
	161nm,0.3s,baz=82,slow=16,SNR=7.5						
DAV				LR	LR	13 50 40.6	
	comp=Z,621nm,20.6s,baz=31,slow=51						
DAV	**Davao City (W)**	**1.90**	**199**	Pn	**Pn**	**

NJ2	**Nanjing**	**24.05 345**	*eP*	**P**	**13 54 07.0**	**-0.3**			
NJ2			pmax	pmax					
	comp=Z,12nm,0.5s								
LEM	**Lembang**	**24.22 230**	P	**P**	**13 54 10.3**	**+1.1**			
	comp=Z,26nm,0.6s,baz=97,slow=12,SNR=5.8								
WHN	**Wuhan**	**24.23 334**	⇑P	P	13 54 00.5	-8.5			
KNRA	**Kununurra**	**24.53 174**	P	**P**	**13 54 11.6**	**-0.2**			
KNRA			IAmb	IAmb	13 54 14.3				
	comp=Z,13nm,0.7s								
IPM	**Ipoh**	**25.38 262**	P	**P**	**13 54 20.4**	**+0.7**			
KULM	**Kulim**	**25.60 264**	P	**P**	**13 54 22.1**	**+0.4**			
KULM			IAmb	IAmb	13 54 24.1				
	comp=Z,34nm,1.0s								
FITZ	**Fitzroy Crossi**	**26.81 181**	P	**P**	**13 54 32.9**	**+0.5**			
	comp=Z,2.6nm,1.0s,baz=7.6,slow=6.6,SNR=9.8								
FITZ			PcP	**PcP**	**13 57 53.5**	**+0.3**			
	comp=Z,1.0nm,0.6s,baz=359,slow=5.3,SNR=1.5								
FITZ	**Fitzroy Crossi**	**26.81 181**	P	**P**	**13 54 33.8**	**+1.3**			
FITZ				**PcP**	**13 57 53.9**	**+0.8**			
PSI	**Prapat**	**27.79 259**	P	**P**	**13 54 42.8**	**+1.3**			
	comp=Z,30nm,1.1s,baz=62,slow=5.7,SNR=38								
CMAR	**Chiang Mai Arr**	**28.11 293**	P	**P**	**13 54 45.4**	**+1.2**			
	comp=Z,4.1nm,0.8s,baz=107,slow=7.0,SNR=28								
CMAR			PcP	**PcP**	**13 57 57.1**	**+0.7**			
	comp=Z,0.9nm,0.8s,baz=98,slow=3.7,SNR=4.5								
COEN	**Coen**	**28.25 143**	P	**P**	**13 54 45.8**	**+0.3**			
COEN			IAmb	IAmb	13 54 49.2				
	comp=Z,12nm,1.1s								
KSRS	**Korea Array**	**28.49 3**	P	**P**	**13 54 48.3**	**+1.0**			
	comp=Z,2.4nm,1.0s,baz=180,slow=11,SNR=4.5								
KSRS			pP	**pP**	**13 55 09.9**	**+0.9**			
	comp=Z,3.6nm,1.0s,baz=180,slow=11,SNR=5.3								
PZH	**PanZhiHua**	**29.06 310**	P	**P**	**13 54 54.0**	**+1.3**			
PZH			pmax	pmax					
	comp=Z,10.0nm,0.5s								
PZH			pmax	pmax					
	comp=Z,70nm,6.2s								
MJAR	**Matsushiro Arr**	**29.62 20**	LR	LR	14 04 58.9				
	comp=Z,33nm,22.0s,baz=176,slow=32								
WRAB	**Tennant Creek**	**29.73 164**	P	**P**	**13 54 57.5**	**-1.0**			
WRA	**Warramunga Arr**	**29.74 164**	P	**P**	**13 54 58.5**	**0.0**			
	comp=Z,1.8nm,0.4s,baz=346,slow=8.7,SNR=41								
WRA			PcP	**PcP**	**13 58 01.1**	**+0.7**			
	comp=Z,0.9nm,0.7s,baz=336,slow=2.9,SNR=5.1								
WRA			S	**S**	**13 59 42.8**	**-5.1**			
	comp=Z,1.0nm,0.9s,baz=345,slow=15,SNR=4.6								
WRA	**Warramunga Arr**	**29.74 164**	P	**P**	**13 54 57.8**	**-0.7**			
WB2	**Warramunga Arr**	**29.74 164**	P	**P**	**13 54 58.3**	**-0.3**			
WB2			IAmb	IAmb	13 55 14.1				
	comp=Z,3.6nm,0.8s								
WR0	**Warramunga Arr**	**29.81 164**	P	**P**	**13 54 59.1**	**0.0**			
AS31	**Alice Springs**	**33.21 167**	P	**P**	**13 55 29.3**	**+0.3**			
ASAR	**Alice Springs**	**33.21 167**	P	**P**	**13 55 29.3**	**+0.3**			
	comp=Z,2.2nm,0.5s,baz=350,slow=6.8,SNR=197								
ASAR			PcP	**PcP**	**13 58 10.4**	**+0.7**			
	comp=Z,1.0nm,0.5s,baz=349,slow=2.4,SNR=8.9								
ASAR			S	**S**	**14 00 37.4**	**-4.6**			
	comp=Z,0.4nm,0.8s,baz=15,slow=22,SNR=3.0								
LZH	**Lanzhou**	**33.89 326**	*eP*	**P**	**13 55 35.8**	**+0.8**			
LZH			pmax	pmax					
	comp=Z,15nm,1.1s								
HHC	**Hu-ho-hao-te**	**34.39 340**	*eP*	**P**	**13 55 40.0**	**+0.8**			
HHC			pmax	pmax					
	comp=Z,11nm,0.9s								
HHC			pmax	pmax					
	comp=Z,53nm,4.9s								
CTA	**Charters Tower**	**34.90 146**	LR	LR	14 11 11.8				
	comp=Z,12nm,18.8s,baz=308,slow=38								
USRK	**Ussuriysk Ar.**	**35.55 7**	P	**P**	**13 55 50.2**	**+1.3**			
	comp=Z,6.0nm,0.7s,baz=182,slow=5.7,SNR=8.3								
USRK			pP	**pP**	**13 56 11.0**	**+0.3**			
	comp=Z,4.0nm,0.9s,baz=134,slow=5.5,SNR=3.0								
USRK	**Ussuriysk Ar.**	**35.55 7**	P	**P**	**13 55 48.8**	**-0.1**			
ASAJ	**Asahikawa**	**37.89 19**	LR	LR	14 12 03.3				
	comp=Z,22nm,19.8s,baz=170,slow=36								
GTA	**Gaotai**	**38.49 326**	*eP*	**P**	**13 56 14.0**	**-0.1**			
GTA			pP	sP	13 56 43.0	-4.8			
GTA			pmax	pmax					
	comp=Z,2.0nm,1.2s								
MORW	**Morawa**	**38.98 194**	P	**P**	**13 56 18.4**	**+0.3**			
MORW			IAmb	IAmb	13 56 18.9				
	comp=Z,7.8nm,0.7s								
GOMU	**GeErMu**	**39.42 318**	P	**P**	**13 56 22.5**	**+0.3**			
GOMU			pmax	pmax					
	comp=Z,4.0nm,0.9s								
FORT	**Forrest**	**39.47 177**	P	**P**	**13 56 23.1**	**+1.0**			
H11S3	**WAKE ISLAND Hy**	**40.40 72**	T	T	14 39 51.1				
	baz=262,slow=76,SNR=127								
H11S1	**WAKE ISLAND Hy**	**40.41 72**	T	T	14 39 49.3				
	baz=262,slow=76,SNR=96								
H11S2	**WAKE ISLAND Hy**	**40.41 72**	T	T	14 39 50.7				
	baz=262,slow=76,SNR=77								
TAPN	**Taplejung**	**40.71 302**	*eP*	**P**	**13 56 34.2**	**+1.3**			
ODAN	**Odare**	**40.82 301**	*eP*	**P**	**13 56 34.8**	**+1.0**			
RAMN	**Ramite**	**41.52 301**	*eP*	**P**	**13 56 40.8**	**+1.3**			
JIRN	**Jiri**	**42.09 302**	*eP*	**P**	**13 56 45.4**	**+1.1**			
SONM	**Songino Array**	**42.30 340**	P	**P**	**13 56 44.6**	**-0.8**			
	comp=Z,0.3nm,0.5s,baz=148,slow=8.5,SNR=2.7								
SONM			PcP	**PcP**	**13 58 37.4**	**0.0**			
	comp=Z,1.0nm,0.7s,baz=148,slow=4.0,SNR=4.7								
SONM			LR	LR	14 14 15.3				
	comp=Z,33nm,19.9s,baz=104,slow=36								
SONM	**Songino Array**	**42.30 340**	P	**P**	**13 56 43.3**	**-2.1**			
SONM				**PcP**	**13 58 37.5**	**+0.1**			
GUN	**Gumba**	**42.43 302**	*eP*	**P**	**13 56 48.0**	**+1.0**			
	comp=Z,48nm,0.8s								
BBOO	**Buckleboo**	**42.51 168**	P	**P**	**13 56 48.2**	**+1.2**			
PKI	**Pulchoki**	**42.72 301**	*eP*	**P**	**13 56 49.6**	**+0.2**			
PKIN	**Phulchoki**	**42.73 301**	*eP*	**P**	**13 56 49.7**	**+0.3**			
KKN	**Kakani**	**42.90 302**	*eP*	**P**	**13 56 51.0**	**+0.4**			
DMN	**Daman**	**42.99 301**	*eP*	**P**	**13 56 52.0**	**+0.6**			
STKA	**Stephens Creek**	**43.12 161**	P	**P**	**13 56 52.9**	**+0.9**			
	comp=Z,6.6nm,0.5s,baz=339,slow=9.5,SNR=17								
STKA	**Stephens Creek**	**43.12 161**	P	**P**	**13 56 53.0**	**+0.9**			
KOLN	**Koldanda**	**44.31 301**	*eP*	**P**	**13 57 02.9**	**+0.9**			
DANN	**Dangsing**	**44.34 302**	*eP*	**P**	**13 57 03.0**	**+0.6**			
PYUN	**Piuthan**	**44.92 301**	*eP*	**P**	**13 57 07.3**	**+0.4**			
	comp=Z,73nm,1.0s								
WMQ	**Urumqi**	**48.28 323**	*eP*	**P**	**13 57 33.8**	**+1.1**			
CAN	**Canberra**	**48.95 155**	P	**P**	**13 57 39.1**	**+1.3**			
TOO	**Toolangi**	**49.61 160**	P	**P**	**13 57 44.5**	**+1.8**			
PETK	**Petropavlovsk-**	**50.93 24**	P	**P**	**13 57 53.7**	**+1.2**			
	comp=Z,1.2nm,0.9s,baz=204,slow=6.3,SNR=2.0								
PETK			LR	LR	14 18 58.8				
	comp=Z,27nm,20.3s,baz=288,slow=35								
MK31	**Makanchi Array**	**53.09 323**	P	**P**	**13 58 07.5**	**-1.3**			
MK31			IAmb	IAmb	13 58 12.3				
	comp=Z,2.2nm,0.9s								
MKAR	**Makanchi Array**	**53.09 323**	P	**P**	**13 58 08.9**	**+0.2**			
	comp=Z,1.0nm,0.4s,baz=111,slow=7.2,SNR=12								
MKAR			pP	**pP**	**13 58 30.9**	**-1.5**			
	comp=Z,1.2nm,0.6s,baz=121,slow=8.7,SNR=4.5								
MKAR			PcP	**PcP**	**13 59 15.9**	**0.0**			
	comp=Z,0.8nm,0.5s,baz=182,slow=3.6,SNR=5.0								
MKAR	**Makanchi Array**	**53.09 323**	P	**P**	**13 58 07.4**	**-1.4**			
MKAR			PcP	**PcP**	**13 59 16.1**	**+0.2**			
MA2	**Magadan**	**53.89 15**	P	**P**	**13 58 15.2**	**+0.9**			
	comp=Z,1.4nm,0.5s,baz=181,slow=3.4,SNR=4.2								
KSH	**Kashi**	**54.12 313**	P	**P**	**13 58 20.0**	**+3.5**			
KSH			pP	pP	13 58 43.0	+2.8			
KSH			pmax	pmax					
	comp=Z,2.0nm,1.2s								
ZALV	**Zalesovo Beam**	**55.81 332**	P	**P**	**13 58 27.2**	**-1.0**			
	comp=Z,0.7nm,0.3s,baz=104,slow=6.3,SNR=7.3								
KURK	**Kurchatov**	**57.17 326**	P	**P**	**13 58 35.9**	**-2.0**			
KURK			IAmb	IAmb	13 58 42.5				
	comp=Z,4.1nm,0.9s								
KURK			PcP	**PcP**	**13 59 29.2**	**-2.3**			
SEY	**Seymchan**	**57.18 14**	P	**P**	**13 58 39.4**	**+1.6**			
	comp=Z,1.1nm,0.9s,baz=238,slow=12,SNR=5.0								
SEY			PcP	**PcP**	**13 59 29.9**	**-1.4**			
	comp=Z,1.3nm,0.8s,baz=213,slow=3.8,SNR=5.1								
SHEM	**Shemya Is, Ala**	**58.36 32**	LR	LR	14 19 35.5				
	comp=Z,14nm,20.5s,baz=353,slow=31								
KKAR	**Karatay Array**	**59.18 315**	P	**P**	**13 58 52.1**	**-0.1**			
TIXI	**Tiksi**	**62.74 1**	P	**P**	**13 59 14.6**	**-1.0**			
TIXI			IAmb	IAmb	13 59 16.5				
	comp=Z,4.0nm,0.8s								
NRIK	**Noril'sk**	**65.34 346**	P	**P**	**13 59 32.1**	**-0.6**			
	comp=Z,3.2nm,0.6s,baz=150,slow=6.9,SNR=4.4								
BKZ	**Black Stump Fm**	**66.77 139**	P	**P**	**13 59 43.7**	**+1.2**			
GEYT	**Alibeck**	**67.33 307**	P	**P**	**13 59 46.7**	**+0.6**			
	comp=Z,4.6nm,0.8s,baz=221,slow=20,SNR=7.6								
GEYT			LR	LR	14 32 10.3				
	comp=Z,54nm,18.2s,baz=168,slow=38								
ABKAR	**Akbulak array**	**67.89 320**	P	**P**	**13 59 47.0**	**-2.3**			

SOCY	**Socotra**	**70.90 280**	P	**P**	**14 00 06.8**	**-1.8**			
SOCY			IAmb	IAmb	14 00 09.5				
	comp=Z,5.7nm,0.8s								
KDAK	**Kodiak Island**	**77.86 33**	LR	LR	14 33 16.8				
	comp=Z,29nm,19.3s,baz=194,slow=34								
KLMR	**Klimovskoe**	**80.70 330**	*eP*	**P**	**14 01 02.3**	**-1.1**			
KLMR			AMP		14 01 03.6				
	comp=Z,5.0nm,0.8s								
KLMR			*ep*P	**pP**	**14 01 25.3**	**-3.4**			
ILAR	**Eielson Array**	**80.72 26**	P	**P**	**14 01 04.7**	**+1.2**			
	comp=Z,0.7nm,0.9s,baz=236,slow=7.3,SNR=5.9								
ILAR			pP	**pP**	**14 01 28.3**	**+0.2**			
	comp=Z,0.8nm,0.8s,baz=246,slow=6.2,SNR=4.8								
ILAR			sP	**sP**	**14 01 38.9**	**+0.6**			
	comp=Z,1.6nm,1.1s,baz=244,slow=5.2,SNR=3.8								
ARCES	**ARCESS Array B**	**85.47 340**	P	**P**	**14 01 26.7**	**-1.1**			
	comp=Z,0.4nm,0.4s,baz=75,slow=6.0,SNR=12								
INK	**Inuvik**	**85.59 22**	P	**P**	**14 01 29.4**	**+0.9**			
	comp=Z,1.9nm,1.0s,baz=276,slow=6.1,SNR=4.5								
BRTR	**Keskin Array B**	**86.36 309**	P	**P**	**14 01 31.9**	**-1.2**			
	comp=Z,0.6nm,0.5s,baz=266,slow=16,SNR=2.3								
FINES	**FINESS Array B**	**87.08 332**	P	**P**	**14 01 35.0**	**-0.9**			
	comp=Z,1.5nm,0.4s,baz=68,slow=4.6,SNR=18								
FINES	**FINESS Array B**	**87.08 332**	P	**P**	**14 01 34.7**	**-1.2**			
A36M	**Sachs Harbour**	**87.25 17**	P	**P**	**14 01 36.5**	**0.0**			
A36M			IAmb	IAmb	14 01 42.2				
	comp=Z,7.3nm,0.8s								
VNDA	**Vanda**	**88.56 173**	P	**P**	**14 01 43.8**	**+1.2**			
	comp=Z,5.0nm,0.5s,baz=317,slow=7.1,SNR=49								
VNDA	**Vanda**	**88.56 173**	P	**P**	**14 01 43.2**	**+0.6**			
VNDA			IAmb	IAmb	14 01 44.5				
	comp=Z,5.2nm,0.7s								
EUNU	**Eureka**	**89.64 5**	P	**P**	**14 01 48.3**	**+0.5**			
EUNU			IAmb	IAmb	14 01 48.7				
	comp=Z,2.8nm,0.8s								
RES	**Resolute Bay**	**92.87 10**	P	**P**	**14 02 03.1**	**+0.4**			
	comp=Z,3.1nm,0.8s,baz=296,slow=3.7,SNR=17								
RES	**Resolute Bay**	**92.87 10**	P	**P**	**14 02 03.1**	**+0.4**			
RES			IAmb	IAmb	14 02 04.8				
	comp=Z,3.4nm,0.8s								
NOA	**NORSAR Array B**	**93.97 334**	LR	LR	14 46 47.3				
	comp=Z,15nm,19.8s,baz=280,slow=37								
YKA	**Yellowknife Ar**	**95.05 24**	P	**P**	**14 02 13.9**	**+0.9**			
	comp=Z,0.9nm,0.8s,baz=300,slow=4.5,SNR=15								
YKA			pP	**pP**	**14 02 38.6**	**0.0**			
	comp=Z,0.7nm,0.7s,baz=300,slow=4.6,SNR=6.3								
GERES	**GERESS Array B**	**97.74 322**	pP	pP	14 02 49.7	-1.8			
	comp=Z,0.2nm,0.3s,baz=63,slow=6.7,SNR=2.1								
QSPA	**South Pole Qui**	**98.75 180**	P	Pdif	14 02 30.5	+0.8			
	comp=Z,0.9nm,0.6s,baz=292,slow=1.1,SNR=13								
SCHQ	**Schefferville**	**115.59 8**	PKP	**PKPdf**	**14 07 32.5**	**+0.5**			
	comp=Z,1.8nm,0.5s,baz=244,slow=16,SNR=3.6								
TXAR	**Lajitas Array**	**118.78 50**	PKP	**PKiKP**	**14 07 40.1**	**+1.1**			
	comp=Z,0.3nm,0.6s,baz=330,slow=0.4,SNR=5.4								
TORD	**Torodi Ar. Bea**	**120.71 291**	PKP	**PKPdf**	**14 07 42.1**	**-0.8**			
	comp=Z,0.3nm,0.4s,baz=349,slow=1.5,SNR=3.8								
TORD			pPKP	**pPKPdf**	**14 08 08.3**	**-1.4**			
	comp=Z,0.7nm,0.7s,baz=39,slow=0.9,SNR=3.2								
PLCA	**Paso Flores**	**144.96 158**	PKPbc	**PKPdf**	**14 08 28.4**	**+0.9**			
	comp=Z,5.0nm,0.6s,baz=234,slow=4.3,SNR=20								
PLCA	**Paso Flores**	**144.96 158**	PKPdf	**PKPdf**	**14 08 28.7**	**+1.2**			
CPUP	**Villa Florida**	**162.32 170**	PKPab	**PKPab**	**14 09 40.3**	**+0.6**			
	comp=Z,4.2nm,0.8s,baz=208,slow=1.1,SNR=5.6								

*IDC **28** 13:57:38.8±2.1, 36.42N×140.85E, h44km±24km, mb3.4/6, mb1 3.5/9, mb1mx3.3/55, mbtmp3.7/9, ML3.3/3, MS2.4/1, Ms1 2.4/1, ms1mx2.1/51, Error ellipse: s-maj=19.8km s-min=13.9km az=57.0*

*JMA **28** 13:57:39.2±0.1, 36.46N±0.05×140.86E±0.07, h49km±7km, n30, σ1.936/31, mb3.5/6, 1C-9D, Near east coast of eastern Honshu*

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.25**	**242**	⇑P		**Pn**	**13 57 47.7**	**0.0**
JHYU				S		**Sn**	**13 57 53.3**	**-0.5**
JHO	**Hitachi**	**0.28**	**303**	⇓P		**Pn**	**13 57 47.7**	**-0.3**
JHO				S		**Sn**	**13 57 53.4**	**-0.9**
JYT	**Yasato**	**0.58**	**247**	⇓P		**Pn**	**13 57 50.6**	**-0.8**
JYT				S		**Sn**	**13 57 58.5**	**-1.6**
ONAJ	**Iwakimizuishiy**	**0.64**	**356**	⇓P		**Pn**	**13 57 51.7**	**-0.5**
ONAJ				S		**Sn**	**13 58 00.6**	**-1.0**
JFK	**Kawauchi**	**0.91**	**1**	⇓P		**Pn**	**13 57 54.9**	**-0.7**
JSB	**Shiboa**	**0.91**	**304**	⇓P		**Pn**	**13 57 54.9**	**-0.8**
JAG	**Ashikaga**	**1.14**	**269**	⇓P		**Pn**	**13 57 57.7**	**-1.0**
JFT	**Otama**	**1.14**	**339**	⇓P		**Pn**	**13 57 58.4**	**-0.3**
JFT				S		**Sn**	**13 58 12.7**	**-0.6**
JFY	**Yanaizu**	**1.32**	**316**	P		**Pn**	**13 58 00.8**	**-0.5**
JKT	**Katashina**	**1.33**	**284**	⇓P		**Pn**	**13 58 00.8**	**-0.6**
JKT				S		**Sn**	**13 58 16.7**	**-1.4**
JMM	**Marumori**	**1.41**	**358**	⇓P		**Pn**	**13 58 02.3**	**-0.1**
JMM				S		**Sn**	**13 58 19.2**	**-0.5**
MJAR	**Matsushiro Arr**	**2.14**	**273**	P		**Pn**	**13 58 11.8**	**-0.6**
	4.7nm,0.3s,baz=98,slow=10,SNR=140							
MJAR				S		**Sn**	**13 58 37.0**	**-0.7**
	1.5nm,0.3s,baz=27,slow=31,SNR=4.3							
JHJ	**Hachijo jima 2**	**3.45**	**195**	P		**Pn**	**13 58 28.2**	**-2.1**
	7.2nm,0.3s,baz=109,slow=20,SNR=2.1							
JHJ				S		**Sn**	**13 59 09.3**	**-0.6**
	15nm,0.3s,baz=261,slow=23,SNR=1.6							
ASAJ	**Asahikawa**	**7.76**	**9**	P		**Pn**	**13 59 28.1**	**-1.4**
	0.8nm,0.3s,baz=216,slow=9.0,SNR=8.6							
ASAJ				S		**Sn**	**14 00 52.4**	**-3.6**
	0.2nm,0.3s,baz=276,slow=20,SNR=1.1							
KSRS	**Korea Array**	**10.40**	**279**	P		**Pn**	**14 00 09.0**	**+3.4**
	0.1nm,0.3s,baz=88,slow=14,SNR=2.4							
KSRS				LR		LR	14 04 22.7	
	comp=Z,21nm,19.1s,baz=175,slow=39							
SEY	**Seymchan**	**27.44**	**11**	P		**P**	**14 03 22.0**	**+1.9**
	0.9nm,0.8s,baz=162,slow=19,SNR=4.3							
SONM	**Songino Array**	**27.74**	**305**	P		**P**	**14 03 24.4**	**+1.2**
	0.5nm,0.7s,baz=113,slow=9.7,SNR=2.7							
H11N2	**WAKE ISLAND Hy**	**28.25**	**119**	T		T	14 33 25.2	
	baz=313,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**28.25**	**119**	T		T	14 33 25.2	
	baz=313,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**28.27**	**119**	T		T	14 33 23.5	
	baz=313,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	**28.93**	**121**	T		T	14 34 15.0	
	baz=314,slow=75,SNR=29							
H11S3	**WAKE ISLAND Hy**	**28.93**	**121**	T		T	14 34 20.9	
	baz=314,slow=75,SNR=22							
H11S2	**WAKE ISLAND Hy**	**28.95**	**121**	T		T	14 34 16.7	
	baz=314,slow=75,SNR=14							
ZALV	**Zalesovo Beam**	**41.98**	**313**	P		**P**	**14 05 24.9**	**-0.3**
	0.7nm,0.3s,baz=107,slow=7.0,SNR=3.1							
MKAR	**Makanchi Array**	**44.05**	**303**	P		**P**	**14 05 41.8**	**-0.4**
	0.2nm,0.5s,baz=98,slow=6.2,SNR=4.0							
ILAR	**Eielson Array**	**50.22**	**32**	P		**P**	**14 06 30.4**	**+0.5**
	0.3nm,0.6s,baz=266,slow=4.8,SNR=4.2							
FINES	**FINESS Array B**	**69.11**	**332**	P		**P**	**14 08 38.8**	**-1.0**
	0.8nm,0.7s,baz=25,slow=6.3,SNR=4.1							
H03N2	**Juan Fernandez**	**147.40**	**97**	T		T	17 02 27.4	
	baz=291,slow=76,SNR=4.2							
H03N3	**Juan Fernandez**	**147.41**	**97**	T		T	17 02 28.4	
	baz=291,slow=76,SNR=5.8							
H03N1	**Juan Fernandez**	**147.42**	**97**	T		T	17 02 28.6	
	baz=291,slow=76,SNR=3.7							

*ISK **28** 14:40:22.2, 38.14N×42.53E, h5km, ML2.4/9*

*DDA **28** 14:40:24.2±0.0, 38.15N×42.49E, h7km±3km, ML2.6*

ISC 28 14:40:23.9±1.2, 38.16N±0.03×42.53E±0.03, h6km±11km, n20, σ0.954/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PERV	**Siirt/Pervari-**	**0.21**	**178**	P		**Pg**	**14 40 28.5**	**+0.4**
PERV				*i* AML		AML	14 40 35.0	
	comp=N,2μm,0.3s							
PERV				*i* AML		AML	14 40 35.0	
	comp=E,2μm,0.3s							
AKDM	**Akdamar-Van**	**0.39**	**64**	PG		**Pg**	**14 40 31.5**	**-0.1**
GURO	**Guroymak-BITLI**	**0.56**	**315**	PG		**Pg**	**14 40 34.1**	**-0.6**
GURO				SG		**Sb**	**14 40 43.6**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.67**	**13**	P		**Pg**	**14 40 37.0**	**+0.1**
ADCV				*i* AML		AML	14 40 47.0	
	comp=N,236nm,0.4s							
ADCV				S		**Sb**	**14 40 47.5**	**-0.3**
ADCV				*i* AML		AML	14 40 48.0	
	comp=E,257nm,0.4s							
VANB	**Van**	**0.81**	**57**	PG		**Pg**	**14 40 38.4**	**-1.0**
MUSM	**Mu-Merkez**	**0.98**	**306**	P		**Pg**	**14 40 42.2**	**-0.6**
MUSM				S		**Sb**	**14 40 56.9**	**+0.1**
MLAZ	**Malazgirt-MUS**	**0.98**	**1**	PG		**Pg**	**14 40 42.7**	**-0.2**
MLAZ				SG		**Sb**	**14 40 57.5**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.05**	**270**	PG		**Pg**	**14 40 43.6**	**-0.5**
SVAN				SG		**Sb**	**14 40 59.1**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.05**	**270**	P		**Pg**	**14 40 44.0**	**-0.1**
SVAN				S		**Sb**	**14 40 59.1**	**+0.5**
HAKT	**HAKKARI**	**1.11**	**122**	P		**Pb**	**14 40 45.8**	**+0.1**
HAKT				S		**Sn**	**14 41 02.7**	**+0.8**
MIDY	**Mardin/Midyat-**	**1.17**	**231**	P		**Pn**	**14 40 47.2**	**+0.2**
MIDY				S		**Sn**	**14 41 02.5**	**-0.7**
MIDY				*i* AML		AML	14 41 05.0	
	comp=N,117nm,0.2s							
MIDY				*i* AML		AML	14 41 06.0	
	comp=E,119nm,0.4s							
CUKT	**Cukurca**	**1.25**	**136**	PN		**Pg**	**14 40 46.9**	**-0.9**
AGRB	**Hanur-Agry**	**1.46**	**14**	PN		**Pn**	**14 40 51.0**	**-0.1**
CLDR	**Caldiran**	**1.47**	**47**	PN		**Pn**	**14 40 51.0**	**-0.2**
MARD	**Mardin**	**1.62**	**239**	P		**Pn**	**14 40 53.6**	**+0.3**
MARD				S		**Sg**	**14 41 15.6**	**-0.5**
MARD				*i* AML		AML	14 41 18.0	
	comp=N,166nm,0.6s							
MARD				*i* AML		AML	14 41 18.0	
	comp=E,137nm,0.2s							
BNGB	**Bingl**	**1.67**	**300**	PN		**Pn**	**14 40 54.2**	**+0.2**
HANI	**Diyarbakir_Han**	**1.70**	**279**	P		**Pn**	**14 40 54.6**	**+0.4**
HANI				S		**Sn**	**14 41 16.4**	**+0.1**
EATA	**Eleskirt**	**1.70**	**359**	P		**Pn**	**14 40 55.0**	**+0.4**
EATA				S		**Sg**	**14 41 19.8**	**+1.0**
MAZI	**Mazidag**	**1.79**	**248**	PN		**Pn**	**14 40 55.5**	**-0.1**
DYBB	**Diyarbakir**	**1.90**	**265**	PN		**Pn**	**14 40 57.1**	**+0.1**

*RSNC **28** 14:47:32.5±0.9, 5.50N×77.89W, h21km±3km, ML3.3, Mw3.6*

*IDC **28** 14:47:40.0±2.9, 5.37N×77.81W, h75km±27km, mb3.5/9, mb1 3.8/12, mb1mx3.7/28, mbtmp3.9/12, MS3.0/2, Ms1 3.1/2, ms1mx2.5/40, Error ellipse: s-maj=25.6km s-min=18.4km az=46.0*

ISC 28 14:47:31.3±1.5, 5.47N±0.03×77.96W±0.04, h8km±10km, n50, σ2.928/77, mb3.8/10, 5C, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**0.78**	**130**	*eP*		**Pg**	**14 47 46.4**	**0.0**
PIZC				*eS*		**Sg**	**14 47 56.1**	**-0.5**
PIZC				*i*			14 48 07.4	
	comp=Z,1μm,0.5s							
SOLC	**Bahia Solano**	**0.94**	**36**	*eP*		**Pb**	**14 47 48.6**	**-1.2**
SOLC				*eS*		**Sb**	**14 47 59.4**	**-2.9**
SOLC				*i*			14 48 02.0	
	comp=Z,1μm,0.2s							
MALC	**Bahia Malaga**	**1.57**	**157**	⇑*iP*		**Pn**	**14

SDV			S	Sn	14 50 55.4	-4.2
	comp=Z,0.0nm,0.3s,baz=259,slow=19,SNR=1.1					
NNA	**Nana**	**17.38 176**	P	**P**	**14 51 37.7**	**+2.0**
	comp=Z,2.7nm,0.3s,baz=19,slow=14,SNR=4.0					
CMIG	**Matias Romero**	**20.20 306**	LR	LR	15 00 20.6	
	comp=Z,45nm,20.3s,baz=55,slow=37					
LPAZ	**La Paz**	**23.70 156**	P	**P**	**14 52 43.1**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=356,slow=16,SNR=3.9					
LPAZ			LR	LR	15 02 39.7	
	comp=Z,39nm,20.3s,baz=244,slow=38					
SIV	**San Ignacio**	**27.09 142**	P	P	14 53 05.8	-9.0
	comp=Z,0.6nm,0.4s,baz=339,slow=7.0,SNR=3.5					
TXAR	**Lajitas Array**	**33.97 317**	P	**P**	**14 54 18.2**	**+2.6**
	comp=Z,0.2nm,0.6s,baz=129,slow=7.1,SNR=2.6					
PDAR	**Pinedale Array**	**46.49 328**	P	**P**	**14 56 01.4**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=123,slow=12,SNR=5.7					
NVAR	**Mina Array Bea**	**49.12 318**	P	**P**	**14 56 22.4**	**+2.6**
	comp=Z,0.7nm,0.7s,baz=106,slow=6.7,SNR=3.1					
YKA	**Yellowknife Ar**	**62.95 342**	P	**P**	**14 57 58.7**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=130,slow=7.1,SNR=27					
ESDC	**Sonseca Array**	**74.22 50**	P	**P**	**14 59 09.4**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=266,slow=6.3,SNR=6.4					
ILAR	**Eielson Array**	**76.18 336**	P	**P**	**14 59 20.6**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=116,slow=4.6,SNR=11					
TORD	**Torodi Ar. Bea**	**78.73 78**	P	**P**	**14 59 34.0**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=280,slow=5.5,SNR=3.4					
ARCES	**ARCESS Array B**	**89.60 20**	P	**P**	**15 00 29.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=270,slow=2.1,SNR=6.8					
MKAR	**Makanchi Array**	**125.10 16**	PKP	**PKPdf**	**15 06 32.2**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=252,slow=2.9,SNR=1.9					
ASAR	**Alice Springs**	**144.39 236**	PKP	**PKPab**	**15 07 06.8**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=120,slow=4.0,SNR=20					
WRA	**Warramunga Arr**	**145.46 242**	PKPbc	**PKPbc**	**15 07 10.8**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=107,slow=3.2,SNR=11					

IDC 28 14:49:19.4±6.0, 6°23S×147°68E, h0km, mb2.7/1, mb1 3.3/2, mb1mx3.1/23, mbtmp3.1/2, ML2.8/1, Error ellipse: s-maj=255.0km s-min=51.1km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.81**	**222**	P	P	14 53 39.9	-0.9
	0.0nm,0.3s,baz=41,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**21.82**	**216**	P	P	14 54 13.8	+0.3
	0.4nm,0.8s,baz=50,slow=8.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**145.80**	**284**	PKPbc	PKPdf	15 09 01.0	-0.2
	0.5nm,0.6s,baz=80,slow=3.3,SNR=4.0						

*NEIC **28** 16:22:13.9±1.8, 54°7N±0°1×164°7W±0°2, h187km±9km, mb3.7/4, ML3.7/8, ML3.0/12(AEIC), Error ellipse: s-maj=21.9km s-min=4.0km az=144.0*
*IDC **28** 16:22:14.7±4.0, 55°15N×165°05W, h142km±43km, mb3.2/5, mb1 3.2/7, mb1mx3.0/45, mbtmp3.6/7, Error ellipse: s-maj=102.7km s-min=22.5km az=166.0*
*AEIC **28** 16:22:16±4.1, 54°7N±0°1×164°7W±0°2, h177km±6km, Error ellipse: s-maj=22.6km s-min=5.0km az=148.0*

ISC 28 16:22:14.2±0.9, 54°5N±0°1×164°49W±0°08, h200km, n51, σ1$77/54, mb3.4/5, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**0.09**	**221**		**Pn**	**16 22 39.6**	**-1.0**
FALS	**False Pass**	**0.70**	**63**		**Pn**	**16 22 41.5**	**-0.6**
FALS					**Sn**	**16 23 01.2**	**-2.6**
AKUT	**Akutan**	**0.85**	**242**	Pn	**Pn**	**16 22 41.8**	**-1.2**
AKBBA	**Akutan Broad B**	**0.95**	**243**		**Pn**	**16 22 42.5**	**-1.1**
AKBBA					**Sn**	**16 23 03.5**	**-2.9**
UNV	**Unalaska Valle**	**1.37**	**240**		**Pn**	**16 22 45.9**	**-0.9**
UNV					**Sn**	**16 23 08.8**	**-3.2**
OKFG	**Magazine Ridge**	**2.32**	**242**		**Pn**	**16 22 56.0**	**-0.1**
OKFG					**Sn**	**16 23 26.0**	**-2.6**
SDPT	**Sand Point**	**2.45**	**69**		**Pn**	**16 22 58.5**	**+1.0**
SDPT	**Sand Point**	**2.45**	**69**	IAML		16 23 31.5	
	comp=E,136nm,1.0s						
SDPT				IAML		16 23 46.5	
	comp=N,98nm,2.6s						
NIKH	**Nikolski High**	**3.03**	**241**	Pn	**Pn**	**16 23 02.8**	**-1.4**
CHIR	**Chirikof Islan**	**5.24**	**72**	Pn	**Pn**	**16 23 31.4**	**-0.2**
SII	**Sitkinak Islan**	**6.19**	**67**	Pn	**Pn**	**16 23 45.4**	**+1.6**
OHAK	**Old Harbor**	**6.85**	**62**	Pn	**Pn**	**16 23 52.7**	**+0.4**
O18K	**Koktuh Hills**	**7.33**	**40**	Pn	**Pn**	**16 23 59.8**	**+1.2**
KDAK	**Kodiak Island**	**7.40**	**59**	P	**Pn**	**16 23 59.5**	**+0.1**
	comp=N,0.7nm,0.3s,baz=214,slow=3.0,SNR=18						
KDAK				S	**Sn**	**16 25 17.5**	**-5.6**
	comp=N,0.8nm,0.3s,baz=235,slow=16,SNR=11						
Q19K	**Cape Douglas,**	**7.41**	**49**	Pn	**Pn**	**16 23 59.5**	**-0.1**
ADK	**Adak**	**7.79**	**255**	Pn	**Pn**	**16 24 05.6**	**+1.0**
P19K	**Oil Pt**	**7.98**	**46**	Pn	**Pn**	**16 24 07.8**	**+0.7**
CNPM	**China Poot**	**8.78**	**50**	Pn	**Pn**	**16 24 16.9**	**-0.5**
BRLK	**Bradley Lake**	**9.04**	**49**	Pn	**Pn**	**16 24 18.8**	**-1.2**
M19K	**Big River Lodg**	**9.09**	**32**	Pn	**Pn**	**16 24 19.4**	**-2.1**
L19K	**White Mountain**	**9.17**	**30**	Pn	**Pn**	**16 24 20.8**	**-1.8**
SEW	**Seward**	**9.85**	**49**	Pn	**Pn**	**16 24 30.4**	**-0.8**
O22K	**Cooper Landing**	**9.91**	**47**	Pn	**Pn**	**16 24 31.1**	**-1.0**
GAMB	**Gambell**	**9.97**	**341**	Pn	**Pn**	**16 24 29.7**	**-3.0**
RC01	**Rabbit Creek A**	**10.23**	**44**	Pn	**Pn**	**16 24 36.0**	**-0.2**
PPLA	**Purkeypile**	**10.52**	**32**	Pn	**Pn**	**16 24 38.2**	**-1.8**
PWL	**Port Wells**	**10.70**	**47**	Pn	**Pn**	**16 24 41.7**	**-0.5**
GHO	**Glory Hole Cre**	**10.94**	**42**	Pn	**Pn**	**16 24 43.9**	**-1.4**
SML	**Sawmill**	**11.19**	**43**	Pn	**Pn**	**16 24 46.8**	**-1.8**
GLI	**Glacier Island**	**11.24**	**49**	Pn	**Pn**	**16 24 47.8**	**-1.3**
FID	**Port Fidalgo**	**11.46**	**50**	Pn	**Pn**	**16 24 51.4**	**-0.5**
SCM	**Sheep Creek Mo**	**11.61**	**44**	Pn	**Pn**	**16 24 52.5**	**-1.4**
N25K	**Chitina, Valde**	**12.64**	**48**	Pn	**Pn**	**16 25 07.3**	**+0.3**
GLB	**Gilahina Butte**	**12.92**	**49**	Pn	**Pn**	**16 25 10.3**	**-0.2**
VRDI	**Verde Repeater**	**13.00**	**51**	Pn	**Pn**	**16 25 10.8**	**-0.8**
WAX	**Waxell Ridge**	**13.02**	**54**	Pn	**Pn**	**16 25 12.2**	**+0.5**
TGL	**Tana Glacier**	**13.12**	**53**	Pn	**Pn**	**16 25 11.9**	**-1.2**
CCB	**Clear Creek Bu**	**13.14**	**33**	Pn	**Pn**	**16 25 13.2**	**+0.1**
MCARA	**McCarthy VSAT**	**13.25**	**50**	Pn	**Pn**	**16 25 14.0**	**-0.5**
HYT	**Haines Junctio**	**15.66**	**55**		**P**	**16 25 43.4**	**-0.8**
TOLK	**Toolik Lake Re**	**15.75**	**20**		**P**	**16 25 43.6**	**-1.5**
DAWY	**Dawson**	**15.86**	**43**		**P**	**16 25 45.5**	**-0.8**
DAWY				IAmb	IAmb	16 25 57.3	
	comp=Z,5.6nm,1.4s						
BMAR	**Burnt Mountain**	**16.02**	**28**		**P**	**16 25 48.5**	**+0.6**
INK	**Inuvik**	**19.91**	**34**	P	**P**	**16 26 31.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=243,slow=6.4,SNR=1.8						
INK	**Inuvik**	**19.91**	**34**	IAmb	IAmb	16 26 34.8	
	comp=Z,3.9nm,1.4s						
PETK	**Petropavlovsk-**	**22.19**	**282**	P	**P**	**16 26 55.0**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=89,slow=13,SNR=6.3						
PETK	**Petropavlovsk-**	**22.19**	**282**	P	**P**	**16 26 52.7**	**-1.2**
YKA	**Yellowknife Ar**	**26.61**	**52**	P	**P**	**16 27 38.8**	**+5.1**
	comp=Z,0.1nm,0.4s,baz=273,slow=7.6,SNR=5.7						
ARCES	**ARCESS Array B**	**56.02**	**356**	P	**P**	**16 31 33.0**	**+1.6**
	comp=Z,3.0nm,1.0s,baz=8.6,slow=6.7,SNR=1.9						
FINES	**FINESS Array B**	**64.06**	**354**	P	**P**	**16 32 28.3**	**+2.2**
	comp=Z,2.3nm,1.0s,baz=12,slow=7.1,SNR=4.2						
MKAR	**Makanchi Array**	**64.37**	**316**	P	**P**	**16 32 30.9**	**+2.6**
	comp=Z,0.2nm,0.7s,baz=19,slow=4.9,SNR=1.7						

*ATH **28** 16:41:23.0, 38°84N×26°69E, h42km±8km, ML2.6/2, Error ellipse: s-maj=9.1km s-min=2.2km az=284.0*
*ISK **28** 16:41:23.4, 38°80N×26°62E, h12km, ML2.7/13*
*DDA **28** 16:41:23.7±0.0, 38°80N×26°60E, h9km±2km, ML2.3*
*THE **28** 16:41:24.3, 38°78N×26°61E, h10km±2km, ML2.5/3, Error ellipse: s-maj=2.1km s-min=0.6km az=250.0*

ISC 28 16:41:23.9±0.8, 38°80N±0°02×26°62E±0°02, h13km±6km, n42, σ0°50/66, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOCM	**Foa**	**0.12**	**133**	PG	**Pg**	**16 41 26.7**	**-0.4**
FOCM				SG	**Sg**	**16 41 29.3**	**-0.1**
CAND	**Candarli**	**0.21**	**43**	PG	**Pg**	**16 41 28.5**	**-0.1**
CAND				SG	**Sg**	**16 41 32.1**	**+0.3**
DKL	**Dikili**	**0.36**	**39**	PG	**Pg**	**16 41 31.0**	**-0.1**
DKL				SG	**Sb**	**16 41 36.6**	**-1.1**
ZEDA	**zmir-Bergama**	**0.40**	**64**	P	**Pg**	**16 41 31.2**	**-0.7**
ZEDA				*i* AML	AML	16 41 38.0	
	comp=E,174nm,0.4s						
ZEDA				*i* AML	AML	16 41 38.0	
	comp=N,131nm,0.3s						
ZEDA				S	**S**	**16 41 38.0**	**+0.8**
URLA	**Izmir**	**0.43**	**182**	PG	**Pg**	**16 41 32.4**	**-0.2**
URLA				SG	**Sb**	**16 41 39.5**	**-0.4**
URLA	**Izmir**	**0.43**	**182**	P	**Pg**	**16 41 32.3**	**-0.2**
URLA				S	**Sb**	**16 41 40.1**	**+0.1**
URLA				*i* AML	AML	16 41 41.0	
	comp=E,275nm,0.3s						
URLA				*i* AML	AML	16 41 41.0	
	comp=N,192nm,1.0s						
AYVA	**Ayvalik**	**0.52**	**6**	P	**Pg**	**16 41 33.5**	**-0.6**
AYVA				S	**Sb**	**16 41 41.7**	**-0.5**
AYVA				*i* AML	AML	16 41 46.0	
	comp=N,244nm,0.4s						
AYVA				*i* AML	AML	16 41 49.0	
	comp=E,137nm,0.5s						
PRK	**Paraskevi**	**0.52**	**329**	P	**Pb**	**16 41 34.6**	**-0.4**
PRK				S	**Sb**	**16 41 42.6**	**+0.1**
PRK				AML	AML	16 41 44.4	
	comp=E,1842μm,0.5s						
PRK				AML	AML	16 41 46.4	
	comp=N,797μm,0.2s						
PRK	**Paraskevi**	**0.52**	**329**	P	**Pb**	**16 41 35.2**	**+0.2**
BLCB	**Balcova**	**0.53**	**141**	P	**Pg**	**16 41 34.2**	**0.0**
BLCB				S	**Sg**	**16 41 41.7**	**+0.4**
BLCB	**Balcova**	**0.53**	**141**	PG	**Pg**	**16 41 34.3**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**0.56**	**189**	P	**Pg**	**16 41 34.3**	**-0.6**
ZEYE				S	**Sb**	**16 41 43.9**	**+0.4**
ZEYE				*i* AML	AML	16 41 45.0	
	comp=N,300nm,0.2s						
ZEYE				*i* AML	AML	16 41 47.0	
	comp=N,330nm,0.3s						
CHOS	**Chios island**	**0.60**	**227**	P	**Pg**	**16 41 35.6**	**0.0**
CHOS				AML	AML	16 41 47.8	
	comp=N,977μm,0.3s						
CHOS				AML	AML	16 41 48.6	
	comp=E,1702μm,0.2s						
CHOS	**Chios island**	**0.60**	**227**	P	**Pg**	**16 41 35.5**	**-0.1**
CHOS				S	**Sg**	**16 41 43.9**	**+0.3**
	comp=E,698nm,0.4s						
CHOS	**Chios island**	**0.60**	**227**	PG	**Pg**	**16 41 35.6**	**0.0**
SIGR	**SIGRI**	**0.72**	**305**	P	**Pg**	**16 41 37.7**	**-0.3**
SIGR	**SIGRI**	**0.72**	**305**	P	**Pg**	**16 41 37.7**	**-0.3**
SIGR				S	**Sb**	**16 41 49.2**	**+1.0**
	comp=E,318nm,0.3s						
GPNR	**Gulpinar-Canak**	**0.76**	**330**	PG	**Pb**	**16 41 38.7**	**-0.3**
DGB	**zmir**	**0.77**	**164**	P	**Pg**	**16 41 38.7**	**-0.1**
DGB				S	**Sb**	**16 41 49.5**	**-0.1**
DGB				*i* AML	AML	16 41 52.0	
	comp=E,95nm,0.2s						
DGB				*i* AML	AML	16 41 53.0	
	comp=E,83nm,0.4s						
BUHA	**Balikesir, Bur**	**0.79**	**27**	P	**Pg**	**16 41 38.6**	**-0.6**
BUHA				S	**Sn**	**16 41 51.8**	**-0.7**
BUHA				*i* AML	AML	16 41 53.0	
	comp=E,192nm,0.5s						
BUHA				*i* AML	AML	16 41 54.0	
	comp=E,100nm,0.4s						
KOCA	**Canakkale, Ayv**	**0.80**	**332**	P	**Pb**	**16 41 39.4**	**-0.3**
KOCA				S	**Sb**	**16 41 50.3**	**-0.1**
KOCA				*i* AML	AML	16 41 52.0	
	comp=E,518nm,0.6s						
KOCA				*i* AML	AML	16 41 53.0	
	comp=E,429nm,0.3s						
PSRA	**Psara**	**0.86**	**253**	P	**Pn**	**16 41 41.3**	**-0.5**
AKS	**Akhisar**	**0.94**	**85**	PG	**Pb**	**16 41 41.9**	**-0.2**
AKHS	**Akhisar**	**0.94**	**85**	P	**Pn**	**16 41 42.7**	**-0.2**
AKHS				S	**Sn**	**16 41 55.8**	**-0.3**
AKHS				*i* AML	AML	16 41 57.0	
	comp=E,99nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.95**	**357**	P	**Pg**	**16 41 41.6**	**-0.6**
BAYC				S	**Sb**	**16 41 54.6**	**-0.1**
BAYC				*i* AML	AML	16 41 56.0	
	comp=E,209nm,0.4s						
BAYC				*i* AML	AML	16 41 56.0	
	comp=E,157nm,0.3s						
STEP	**BALIKESIR_Sava**	**1.04**	**56**	P	**Pn**	**16 41 43.8**	**-0.4**
STEP				S	**Sn**	**16 41 59.5**	**+0.9**
STEP				*i* AML	AML	16 42 01.0	
	comp=E,182nm,0.5s						
STEP				*i* AML	AML	16 42 02.0	
	comp=E,101nm,0.3s						
EZN	**Ezine**	**1.05**	**348**	P	**Pn**	**16 41 44.1**	**-0.3**
EZN				S	**Sn**	**16 41 58.6**	**-0.4**
	comp=E,252nm,0.2s						
EZN	**Ezine**	**1.05**	**348**	PG	**Pn**	**16 41 44.1**	**-0.3**
SMG	**Samos**	**1.10**	**171**	P	**Pb**	**16 41 44.3**	**-0.5**
SMG	**Samos**	**1.10**	**171**	P	**Pb**	**16 41 44.3**	**-0.5**
SMG				S	**Sn**	**16 42 00.5**	**+0.4**
BOZC	**Bozcaada**	**1.13**	**337**	PN	**Pg**	**16 41 45.5**	**-0.2**
BOZC	**Bozcaada**	**1.13**	**337**	P	**Pb**	**16 41 45.1**	**-0.3**
BOZC				S	**Sb**	**16 41 59.8**	**-0.3**
BOZC				*i* AML	AML	16 42 01.0	
	comp=E,216nm,0.5s						
BOZC				*i* AML	AML	16 42 02.0	
	comp=E,142nm,0.3s						
GCAM	**G?zelcaml?**	**1.20**	**156**	PN	**Pb**	**16 41 46.3**	**-0.1**
BALY	**Balya**	**1.22**	**39**	P	**Pb**	**16 41 46.7**	**-0.3**
BALY				S	**Sg**	**16 42 05.4**	**+2.0**
BALY				*i* AML	AML	16 42 06.0	
	comp=E,57nm,0.8s						
BALY				*i* AML	AML	16 42 07.0	
	comp=E,91nm,0.4s						
ECEA	**Canakkale, Ece**	**1.29**	**345**	P	**Pg**	**16 41 48.6**	**-0.2**
ECEA				S	**Sg**	**16 42 06.3**	**+0.6**
ECEA				*i* AML	AML	16 42 07.0	
	comp=E,276nm,0.4s						
ECEA				*i* AML	AML	16 42 09.0	
	comp=E,245nm,0.5s						
BALB	**Balikesir**	**1.29**	**49**	PN	**Pn**	**16 41 47.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.31**	**130**	PN	**Pn**	**16 41 47.9**	**-0.2**
LIA	**Limnos Island**	**1.56**	**315**	P	**Pn**	**16 41 51.3**	**-0.1**
DURS	**Dursunbey**	**1.65**	**60**	P	**Pn**	**16 41 53.1**	**+0.4**
DURS				*i* AML	AML	16 42 18.0	
	comp=E,22nm,0.3s						
DURS				*i* AML	AML	16 42 21.0	
	comp=E,16nm,0.5s						
SMTH	**Samothraki Isl**	**1.87**	**334**	P	**Pn**	**16 41 55.4**	**-0.3**
SMTH	**Samothraki Isl**	**1.87**	**334**	P	**Pn**	**16 41 55.4**	**-0.3**
SART	**Tekirdag**	**1.94**	**13**	P	**Pn**	**16 41 56.6**	**-0.1**
SART				S	**Sn**	**16 42 21.9**	**+0.9**
SART				*i* AML	AML	16 42 26.0	
	comp=E,36nm,0.3s						
SART				*i* AML	AML	16 42 29.0	
	comp=E,26nm,0.6s						

*IDC **28** 16:43:24.3±3.1, 10°04N×124°19E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.3/39, mbtmp3.5/4, Error ellipse: s-maj=178.2km s-min=30.4km az=92.0*
*MAN **28** 16:44:13.0, 5°78N×125°69E, h26km, mb4.5, ML3.3, MS3.1, Hypocentre not reviewed by the ISC*

ISC 28 16:44:10.7±1.3, 5°5N±0°1×125°6E±0°2, h35km, n6, σ1$81/8, mb3.1/3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.82**	**312**	*i*P	**Pn**	**16 44 25.0**	**-0.9**
GSPH				*i* S	**Sn**	**16 44 35.7**	**-1.2**
KCP	**Kidapawan**	**1.54**	**342**	*e*P	**Pn**	**16 44 36.6**	**+0.8**
KCP				*i* S	**Sn**	**16 44 53.2**	**-1.4**
PAGZ	**Pagadian**	**3.16**	**317**	*e*P	**Pn**	**16 45 01.0**	**+3.1**
FITZ	**Fitzroy Crossi**	**23.48**	**180**	P	**P**	**16 49 18.4**	**+0.9**
	0.6nm,0.5s,baz=349,slow=9.4,SNR=1.5						
WRA	**Warramunga Arr**	**26.75**	**161**	P	**P**	**16 49 46.8**	**-0.5**
	0.1nm,0.3s,baz=338,slow=10,SNR=1.9						
ASAR	**Alice Springs**	**30.14**	**165**	P	**P**	**16 50 16.4**	**-1.1**
	0.4nm,1.1s,baz=338,slow=7.4,SNR=6.5						

*IDC **28** 16:52:43.0±1.5, 19°98S×133°90E, h0km, mb4.0/5, mb1 4.2/8, mb1mx4.0/29, mbtmp4.1/8, ML4.3/3, MS3.7/1, Ms1 3.7/1, ms1mx2.4/57, Error ellipse: s-maj=42.6km s-min=7.4km az=5.0*
*NOU **28** 16:52:42.7, 19°96S×133°82E, h0km, mb4.6/10, Northern Territory, Australia*
*AUST **28** 16:52:44.4±0.7, 19°77S×133°89E, h10km, Error ellipse: s-maj=11.2km s-min=8.8km az=58.0*
*NEIC **28** 16:52:44.0±2.8, 19°76S±0°07×133°97E±0°04, h7km±4km, Error ellipse: s-maj=10.3km s-min=4.5km az=202.0*

ISC 28 16:52:44.2±0.4, 19°88S±0°04×133°95E±0°04, h12km, n90, σ2$$03/102, mb4.4/17, 1C, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I07AU	**WARRAMUNGA INF**	**0.36**	**99**	Pg	**Pg**	**16 52 51.4**	**-0.2**
	baz=280,slow=32,SNR=2.7						
WRA	**Warramunga Arr**	**0.38**	**100**	Pg	**Pg**	**16 52 51.7**	**0.0**
	135nm,0.3s,baz=100,slow=21,SNR=5270						
WRA				Lg	Lg	16 52 55.6	
	520nm,0.3s,baz=279,slow=31,SNR=6.9						
WRA				LR	LR	16 52 57.4	
	comp=Z,71nm,20.9s,baz=360,slow=34						
WRAB	**Tennant Creek**	**0.38**	**98**		**Pg**	**16 52 52.0**	**+0.1**
WRAB				Sg	**Sg**	**16 52 56.6**	**-0.4**
WRAB	**Tennant Creek**	**0.38**	**98**	P	**Pg**	**16 52 52.7**	**+0.8**
WB2	**Warramunga Arr**	**0.39**	**99**		**Pg**	**16 52 52.0**	**+0.1**
WB2				Sg	**Sg**	**16 52 55.4**	**-1.7**
WB0	**Warramunga Arr**	**0.43**	**75**		**Pg**	**16 52 52.8**	**-0.1**
WB0				Sg	**Sg**	**16 52 56.5**	**-2.1**
WR0	**Warramunga Arr**	**0.56**	**98**		**Pg**	**16 52 55.3**	**+0.1**
AS31	**Alice Springs**	**3.77**	**181**	Pn	**Pn**	**16 53 46.1**	**+3.9**
ASAR	**Alice Springs**	**3.77**	**181**	Pn	**Pn**	**16 53 45.6**	**+3.4**
	22nm,0.3s,baz=6.4,slow=14,SNR=584						
ASAR				Sn	**Sn**	**16 54 25.0**	**-1.6**
	23nm,0.3s,baz=337,slow=17,SNR=3.0						
ASAR				Lg	Lg	16 54 42.0	
	77nm,0.3s,baz=3.2,slow=32,SNR=15						
ASAR	**Alice Springs**	**3.77**	**181**	Pn	**Pn**	**16 53 45.9**	**+3.6**
ASPA	**Alice Springs**	**3.77**	**181**	P	**Pn**	**16 53 46.4**	**+4.1**
	baz=3.9						
ASPA				S	**Sn**	**16 54 31.3**	**+4.7**
	baz=3.9						
QIS	**Mount Isa**	**5.36**	**98**	P	**Pn**	**16 54 05.9**	**+1.8**
	baz=5.4,SNR=36						
QIS				S	**Sn**	**16 55 06.1**	**+0.4**
	baz=5.4						
QIS	**Mount Isa**	**5.36**	**98**	P	**Pn**	**16 54 06.3**	**+2.2**
KNRA	**Kununurra**	**6.47**	**309**	P	**Pn**	**16 54 18.5**	**-0.8**
	baz=6.4,SNR=26						
KNRA				S	**Sn**	**16 55 31.7**	**-1.5**
	baz=6.4						
KNRA	**Kununurra**	**6.47**	**309**	Pn	**Pn**	**16 54 18.6**	**-0.7**
KNRA				Sn	**Sn**	**16 55 30.5**	**-2.6**
KNRA	**Kununurra**	**6.47**	**309**	P	**Pn**	**16 54 19.3**	**0.0**
KDU	**Kakadu**	**7.29**	**349**	P	**Pn**	**16 54 31.2**	**+0.6**
	baz=7.2,SNR=45						
KDU	**Kakadu**	**7.29**	**349**	P	**Pn**	**16 54 30.9**	**+0.3**
WRKA	**Warakurna**	**7.32**	**224**	P	**Pn**	**16 54 31.9**	**+0.8**
	baz=7.4,SNR=12						
MTN	**Manton Dam**	**7.50**	**338**	P	**Pn**	**16 54 32.8**	**-0.6**
	baz=7.4,SNR=34						
MTN	**Manton Dam**	**7.50**	**338**	Pn	**Pn**	**16 54 32.3**	**-1.2**
MTN				Sn	**Sn**	**16 55 54.4**	**-4.1**
MTN	**Manton Dam**	**7.50**	**338**	P	**Pn**	**16 54 33.2**	**-0.3**
AUDHS	**Darwin High Sc**	**7.98**	**338**	P	**Pn**	**16 54 38.8**	**-1.2**
	baz=7.9						
OOD	**Oodnadatta**	**8.04**	**169**	P	**Pn**	**16 54 42.4**	**+1.6**
	baz=8.2,SNR=23						
FITZ	**Fitzroy Crossi**	**8.06**	**281**	Pn	**Pn**	**16 54 40.6**	**-0.5**
	6.9nm,0.3s,baz=101,slow=9.5,SNR=347						
FITZ				Sn	**Sn**	**16 56 09.0**	**-3.2**
	baz=275,slow=10						
FITZ				Lg	Lg	16 56 56.5	
	baz=178,slow=18						
FITZ	**Fitzroy Crossi**	**8.06**	**281**	P	**Pn**	**16 54 41.5**	**+0.3**
	baz=8.0						
FITZ				S	**Sn**	**16 56 08.1**	**-4.1**
	baz=8.0						
FITZ	**Fitzroy Crossi**	**8.06**	**281**	Pn	**Pn**	**16 54 41.8**	**+0.7**
MTSU	**Mount Surprise**	**9.96**	**82**	P	**Pn**	**16 55 08.2**	**+0.9**
	baz=10,SNR=11						
INKA	**Innaminka**	**10.00**	**143**	P	**Pn**	**16 55 07.9**	**+0.1**
	baz=10,SNR=15						
INKA	**Innaminka**	**10.00**	**143**	P	**Pn**	**16 55 07.8**	**+0.1**
MULG	**Mulgathing**	**10.36**	**179**	P	**Pn**	**16 55 13.8**	**+1.1**
	baz=10,SNR=12						
COEN	**Coen**	**10.61**	**58**	P	**Pn**	**16 55 15.4**	**-0.8**
	baz=11,SNR=13						
COEN	**Coen**	**10.61**	**58**	Pn	**Pn**	**16 55 15.3**	**-0.9**
LCRK	**Leigh Creek**	**11.21**	**161**	P	**Pn**	**16 55 24.5**	**+0.2**
	baz=11,SNR=13						
LCRK	**Leigh Creek**	**11.21**	**161**	P	**Pn**	**16 55 24.8**	**+0.5**
QLP	**Quilpie**	**11.57**	**127**	P	**Pn**	**16 55 28.9**	**-0.4**
	baz=12,SNR=12						
QLP	**Quilpie**	**11.57**	**127**	P	**Pn**	**16 55 29.7**	**+0.4**
CTA	**Charters Tower**	**11.57**	**93**	Pn	**Pn**	**16 55 29.0**	**-0.4**
	0.4nm,0.3s,baz=255,slow=14,SNR=9.6						
CTA				Sn	**Sn**	**16 57 33.5**	**-5.2**
	0.6nm,0.3s,baz=206,slow=21,SNR=2.0						
CTA				Lg	Lg	16 58 42.5	
	1.0nm,0.3s,baz=16,slow=19,SNR=3.0						
CTA	**Charters Tower**	**11.57**	**93**	P	**Pn**	**16 55 30.0**	**+0.6**
	baz=12		

GTA	**Gaotai**	**67.06**	**332**	⇑P	**P**	**17 03 40.5**	**+3.0**
GTA				pP	sP	17 03 45.8	+2.8
GTA				sP	pP	17 03 50.3	+8.7
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**71.80**	**341**	P	**P**	**17 04 08.3**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=143,slow=3.1,SNR=6.2						
WMQ	**Urumqi**	**76.24**	**327**	*eP*	**P**	**17 04 35.3**	**+2.6**
WMQ				pP	sP	17 04 39.3	+1.1
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
MK31	**Makanchi Array**	**81.05**	**327**	P	**P**	**17 05 00.7**	**+1.6**
MK31				IAmb	IAmb	17 05 03.1	
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	**81.05**	**327**	P	**P**	**17 05 01.2**	**+2.2**
	comp=Z,2.9nm,0.7s,baz=132,slow=6.8,SNR=27						
MKAR	**Makanchi Array**	**81.05**	**327**	P	**P**	**17 05 00.9**	**+1.9**
MAKZ	**Makanchi**	**81.22**	**327**	P	**P**	**17 05 01.5**	**+1.5**
MAKZ				IAmb	IAmb	17 05 03.8	
	comp=Z,1.9nm,0.8s						
BOOM	**Boomskoye usch**	**81.88**	**321**	P	**P**	**17 05 06.6**	**+2.9**
BOOM				IAmb	IAmb	17 05 08.0	
	comp=Z,3.8nm,0.8s						
BELA	**Belgrano 2**	**82.22**	**182**	P	**P**	**17 05 05.5**	**+0.7**
BELA				IAmb	IAmb	17 05 07.3	
	comp=Z,2.4nm,0.8s						
SNAA	**Sanae**	**84.05**	**193**	P	**P**	**17 05 16.0**	**+1.5**
ZALV	**Zalesovo Beam**	**84.76**	**333**	P	**P**	**17 05 18.9**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=110,slow=5.5,SNR=9.9						
ZALV	**Zalesovo Beam**	**84.76**	**333**	P	**P**	**17 05 19.1**	**+1.1**

*SJA **28** 17:00:33.2±0.7, 21.°07S×69.°00W, h127km±3km, ML4.0, MW3.9*
*GUC **28** 17:00:33.0, 21.°09S×68.°96W, h117km, ML3.9*
*NEIC **28** 17:00:34.7±1.6, 21.°08S±0.°05×68.°96W±0.°08, h113km±7km, mb4.0/6, ML4.0(GUC), Error ellipse: s-maj=11.2km s-min=7.0km az=90.0*
*IDC **28** 17:00:35.8±0.8, 21.°14S×68.°71W, h122km±7km, mb3.5/3, mb1 3.6/5, mb1mx3.4/22, mbtmp3.9/5, MS3.4/2, Ms1 3.4/2, ms1mx2.8/29, Error ellipse: s-maj=34.5km s-min=9.3km az=100.0*
*VAO **28** 17:00:35.9±0.6, 21.°03S×68.°85W, h118km, mb4.2*

ISC 28 17:00:34.1±0.6, 21.°09S±0.°03×69.°03W±0.°04, h123km±5km, n123, σ1§18/154, mb4.0/3, 10C-10D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB01	**IPOC Station P**	**0.43**	**276**			**Pn**	**17 00 51.4**	**-0.7**
PB01	**IPOC Station P**	**0.43**	**276**	⇓	*iP*	**Pn**	**17 00 52.0**	**-0.1**
PB01					*i* S	**Sn**	**17 01 05.1**	**-0.5**
PB01					IAML		17 01 06.4	
	comp=N,13μm,0.5s							
PB01	**IPOC Station P**	**0.43**	**276**		*eP*	**Pn**	**17 00 52.2**	**+0.1**
PB01					*eS*	**Sn**	**17 01 06.0**	**+0.4**
PB01					IAML		17 01 06.9	
	comp=Z,3μm,0.2s							
PB09	**IPOC Station P**	**0.73**	**195**			**Pn**	**17 00 54.3**	**+0.1**
PB09	**IPOC Station P**	**0.73**	**195**	⇑	*iP*	**Pn**	**17 00 54.4**	**+0.1**
PB09					*i* S	**Sn**	**17 01 09.5**	**+0.1**
PB09	**IPOC Station P**	**0.73**	**195**		*eP*	**Pn**	**17 00 54.6**	**+0.3**
PB09					*eS*	**Sn**	**17 01 10.7**	**+1.3**
PB09					IAML		17 01 14.4	
	comp=Z,2μm,0.4s							
PB02	**IPOC Station P**	**0.84**	**254**			**Pn**	**17 00 55.4**	**+0.4**
PB02	**IPOC Station P**	**0.84**	**254**	⇑	*iP*	**Pn**	**17 00 55.9**	**+0.9**
PB02					*i* S	**Sn**	**17 01 11.6**	**+0.8**
PB02					IAML		17 01 13.7	
	comp=E,9μm,0.2s							
PB02	**IPOC Station P**	**0.84**	**254**		*eP*	**Pn**	**17 00 55.0**	**0.0**
PB02					*eS*	**Sn**	**17 01 12.2**	**+1.4**
PB02					IAML		17 01 13.1	
	comp=Z,8μm,0.4s							
PB08	**IPOC Station P**	**0.95**	**353**			**Pn**	**17 00 55.7**	**-0.7**
PB08	**IPOC Station P**	**0.95**	**353**	⇓	*iP*	**Pn**	**17 00 56.4**	**+0.1**
PB08					*i* S	**Sn**	**17 01 12.8**	**-0.3**
PB08					IAML		17 01 14.2	
	comp=N,3μm,0.4s							
PB08	**IPOC Station P**	**0.95**	**353**		*eP*	**Pn**	**17 00 56.4**	**+0.1**
PB08					*eS*	**Sn**	**17 01 13.5**	**+0.5**
PB08					IAML		17 01 14.8	
	comp=Z,2μm,0.3s							
PB07	**IPOC Station P**	**1.02**	**231**			**Pn**	**17 00 56.9**	**+0.1**
PB07	**IPOC Station P**	**1.02**	**231**	⇑	*iP*	**Pn**	**17 00 57.5**	**+0.7**
PB07					*i* S	**Sn**	**17 01 14.6**	**+0.7**
PB07					IAML		17 01 16.2	
	comp=N,3μm,0.2s							
PB07	**IPOC Station P**	**1.02**	**231**		*eP*	**Pn**	**17 00 57.3**	**+0.5**
PB07					*eS*	**Sn**	**17 01 15.1**	**+1.2**
PB07					IAML		17 01 19.1	
	comp=Z,2μm,0.2s							
PATCX	**Punta Patache**	**1.08**	**284**			**Pn**	**17 00 57.9**	**+0.6**
PATCX	**Punta Patache**	**1.08**	**284**	⇓	*iP*	**Pn**	**17 00 58.1**	**+0.9**
PATCX					*i* S	**Sn**	**17 01 15.9**	**+1.2**
PATCX					IAML		17 01 18.2	
	comp=N,6μm,0.3s							
PATCX	**Punta Patache**	**1.08**	**284**		*eP*	**Pn**	**17 00 53.7**	**-3.5**
PATCX					*eP*		17 00 58.0	
PATCX					*eP*		17 00 58.4	
PATCX					IAML		17 01 18.2	
	comp=Z,2μm,0.3s							
HMBC	**Humberstone**	**1.13**	**315**	⇓	*iP*	**Pn**	**17 00 58.2**	**+0.3**
HMBC					*i* S	**Sn**	**17 01 15.9**	**+0.1**
HMBC					IAML		17 01 17.0	
	comp=N,7μm,0.3s							
TA01	**Diego Aracena**	**1.19**	**296**			**Pn**	**17 00 58.9**	**+0.6**
TA01	**Diego Aracena**	**1.19**	**296**	⇓	*iP*	**Pn**	**17 00 58.9**	**+0.6**
TA01					*i* S	**Sn**	**17 01 17.3**	**+0.7**
TA01					IAML		17 01 20.6	
	comp=E,4μm,0.4s							
TA01	**Diego Aracena**	**1.19**	**296**		*eP*	**Pn**	**17 00 59.0**	**+0.6**
TA01					*eS*	**Sn**	**17 01 18.0**	**+1.4**
TA01					IAML		17 01 20.7	
	comp=Z,1μm,0.7s							
TA02	**Huaiquique**	**1.31**	**308**			**Pn**	**17 00 60.0**	**+0.4**
TA02	**Huaiquique**	**1.31**	**308**	⇑	*iP*	**Pn**	**17 01 00.1**	**+0.5**
TA02					*eS*	**Sn**	**17 01 19.3**	**+0.4**
TA02					IAML		17 01 25.1	
	comp=N,5μm,0.2s							
TA02	**Huaiquique**	**1.31**	**308**		*eP*	**Pn**	**17 01 00.0**	**+0.4**
TA02					*eS*	**Sn**	**17 01 20.8**	**+1.9**
TA02					IAML		17 01 22.3	
	comp=Z,2μm,0.1s							
GO01	**Chusmiza**	**1.42**	**354**			**Pn**	**17 01 01.3**	**0.0**
GO01	**Chusmiza**	**1.42**	**354**	⇓	*iP*	**Pn**	**17 01 01.3**	**0.0**
GO01					*i* S	**Sn**	**17 01 22.0**	**0.0**
GO01					IAML		17 01 24.0	
	comp=N,6μm,0.1s							
PB11	**IPOC Station P**	**1.44**	**336**			**Pn**	**17 01 00.8**	**-0.4**
PB11	**IPOC Station P**	**1.44**	**336**	⇓	*iP*	**Pn**	**17 01 01.3**	**0.0**
PB11					*i* S	**Sn**	**17 01 21.7**	**-0.1**
PB11					IAML		17 01 23.1	
	comp=E,4μm,0.2s							
PB11	**IPOC Station P**	**1.44**	**336**		*eP*	**Pn**	**17 01 01.0**	**-0.3**
PB11					*eP*		17 01 01.3	
PB11					*eS*	**Sn**	**17 01 22.3**	**+0.5**
PB11					IAML		17 01 23.3	
	comp=Z,2μm,0.3s							
LVC	**Limon Verde**	**1.52**	**176**	P		**Pn**	**17 01 02.8**	**+0.5**
	comp=Z,35nm,0.3s,baz=12,slow=10,SNR=534							
LVC				S		**Sn**	**17 01 24.4**	**+0.5**
	comp=Z,178nm,0.3s,baz=99,slow=23,SNR=15							
LVC				LR		LR	17 01 47.9	
	comp=Z,78nm,21.8s,baz=13,slow=49							
LVC	**Limon Verde**	**1.52**	**176**	⇑	*iP*	**Pn**	**17 01 02.8**	**+0.5**
LVC					*i* S	**Sn**	**17 01 23.7**	**-0.2**
LVC	**Limon Verde**	**1.52**	**176**		*eP*	**Pn**	**17 01 02.8**	**+0.5**
LVC					*eS*	**Sn**	**17 01 24.7**	**+0.8**
PB04	**IPOC Station P**	**1.62**	**220**			**Pn**	**17 01 03.8**	**+0.5**
PB04	**IPOC Station P**	**1.62**	**220**	⇑	*iP*	**Pn**	**17 01 04.0**	**+0.7**
PB04					*i* S	**Sn**	**17 01 26.3**	**+0.8**
PB04					IAML		17 01 30.8	
	comp=N,1μm,0.2s							
PB04	**IPOC Station P**	**1.62**	**220**		*eP*	**Pn**	**17 01 03.9**	**+0.6**
PB04					*eS*	**Sn**	**17 01 26.7**	**+1.2**
PB04					IAML		17 01 28.7	
	comp=Z,1μm,0.2s							
PB06	**IPOC Station P**	**1.69**	**197**			**Pn**	**17 01 04.6**	**+0.6**
PB06	**IPOC Station P**	**1.69**	**197**	⇑	*iP*	**Pn**	**17 01 04.7**	**+0.6**
PB06					*i* S	**Sn**	**17 01 27.4**	**+0.4**
PB06					IAML		17 01 28.8	
	comp=E,2μm,0.3s							
PB06	**IPOC Station P**	**1.69**	**197**		*eP*	**Pn**	**17 01 04.7**	**+0.6**
PB06					*eS*	**Sn**	**17 01 27.8**	**+0.8**
PB06					IAML		17 01 29.3	
	comp=Z,1μm,0.4s							
AF01	**San Pedro de A**	**2.02**	**157**			**Pn**	**17 01 09.3**	**+1.1**
AF01	**San Pedro de A**	**2.02**	**157**	⇑	*iP*	**Pn**	**17 01 09.4**	**+1.1**
AF01					*eS*	**Sn**	**17 01 35.6**	**+1.2**
AF01					IAML		17 01 52.3	
	comp=E,948nm,0.6s							
PB15	**IPOC Station P**	**2.15**	**191**			**Pn**	**17 01 10.2**	**+0.3**
PB15	**IPOC Station P**	**2.15**	**191**	⇑	*iP*	**Pn**	**17 01 10.4**	**+0.6**
PB15					*i* S	**Sn**	**17 01 38.1**	**+0.9**
PB15	**IPOC Station P**	**2.15**	**191**		*eP*	**Pn**	**17 01 10.6**	**+0.8**
PB15					*eP*		17 01 10.7	
PB15					*eS*	**Sn**	**17 01 38.7**	**+1.5**
PB15					IAML		17 01 43.5	
	comp=Z,3μm,0.2s							
PB12	**IPOC Station P**	**2.74**	**333**			**Pn**	**17 01 16.5**	**-0.8**
PB12	**IPOC Station P**	**2.74**	**333**	⇓	*iP*	**Pn**	**17 01 16.6**	**-0.8**
PB12					*i* S	**Sn**	**17 01 46.5**	**-3.9**
PB12					IAML		17 01 57.0	
	comp=N,449nm,0.7s							
PB12	**IPOC Station P**	**2.74**	**333**		*eP*	**Pn**	**17 01 16.7**	**-0.6**
PB12					*eS*	**Sn**	**17 01 49.9**	**-0.6**
PB12					IAML		17 01 54.4	
	comp=Z,237nm,0.3s							
PB16	**IPOC Station P**	**2.77**	**351**			**Pn**	**17 01 18.5**	**+0.3**
PB16	**IPOC Station P**	**2.77**	**351**	⇓	*iP*	**Pn**	**17 01 18.8**	**+0.7**
PB16					*eS*	**Sn**	**17 01 52.7**	**+0.8**
PB16	**IPOC Station P**	**2.77**	**351**		*eP*	**Pn**	**17 01 18.8**	**+0.7**
PB16					*eS*	**Sn**	**17 01 53.1**	**+1.2**
PB10	**IPOC Station P**	**2.80**	**210**			**Pn**	**17 01 17.9**	**+0.1**
PB10	**IPOC Station P**	**2.80**	**210**	⇓	*iP*	**Pn**	**17 01 17.9**	**+0.1**
PB10					*eS*	**Sn**	**17 01 47.1**	**-4.5**
PB10	**IPOC Station P**	**2.80**	**210**		*eP*	**Pn**	**17 01 18.2**	**+0.3**
PB10					*eS*	Sn	17 01 40.7	-11
AP01	**Chacalluta**	**2.97**	**335**		Pn	**Pn**	**17 01 19.6**	**-0.5**
AP01	**Chacalluta**	**2.97**	**335**	⇑	*iP*	**Pn**	**17 01 19.9**	**-0.3**
AP01					*eS*	**Sn**	**17 01 55.3**	**-0.3**
AP01					IAML		17 02 04.2	
	comp=N,871nm,0.3s							
AP01	**Chacalluta**	**2.97**	**335**		*eP*	**Pn**	**17 01 21.0**	**+0.9**
AP01					IAML		17 02 07.4	
	comp=Z,353nm,0.3s							
YJA	**Yavi**	**3.45**	**109**		*eP*	**Pn**	**17 01 27.2**	**+0.4**
YJA					*eS*	**Sn**	**17 02 09.9**	**+2.4**
PB14	**IPOC Station P**	**3.74**	**199**		Pn	**Pn**	**17 01 29.9**	**-0.7**
PB14	**IPOC Station P**	**3.74**	**199**		*eP*	**Pn**	**17 01 30.0**	**-0.7**
PB14					IAML		17 02 17.1	
	comp=E,80nm,0.2s							
PB14	**IPOC Station P**	**3.74**	**199**		*eP*	Pn	17 01 16.6	-14
PB14					*eP*		17 01 30.3	
PB14					*eS*	**Sn**	**17 02 13.5**	**-0.8**
PB14					*eS*		17 02 14.1	
PB14					IAML		17 02 18.2	
	comp=Z,134nm,0.3s							
HJA	**Humahuaca**	**3.97**	**123**		*eP*	**Pn**	**17 01 34.6**	**+1.0**
GO02	**Mina Guanaco**	**4.09**	**187**	Pn		**Pn**	**17 01 34.7**	**-0.5**
GO02	**Mina Guanaco**	**4.09**	**187**		*eP*	**Pn**	**17 01 35.1**	**-0.1**
GO02					*eS*	**Sn**	**17 02 23.3**	**+0.7**
LPAZ	**La Paz**	**4.85**	**10**	P		**Pn**	**17 01 47.0**	**+1.3**
	comp=Z,2.6nm,0.3s,baz=326,slow=0.9,SNR=41							
LPAZ	**La Paz**	**4.85**	**10**			**Pn**	**17 01 47.1**	**+1.4**
LPAZ	**La Paz**	**4.85**	**10**		*eP*	**Pn**	**17 01 47.0**	**+1.3**
LPAZ	**La Paz**	**4.85**	**10**		*eP*	**Pn**	**17 01 45.7**	**0.0**
AC01	**Pan de Azucar**	**5.24**	**196**	Pn		**Pn**	**17 01 48.5**	**-1.8**
AC02	**Maricunga**	**5.72**	**181**	Pn		**Pn**	**17 01 57.0**	**-0.4**
AC06	**Mina Casimiro**	**6.36**	**191**			**Pn**	**17 02 02.9**	**-2.6**
GO03	**Copiap**	**6.57**	**189**	Pn		**Pn**	**17 02 06.4**	**-1.9**
GO03	**Copiap**	**6.57**	**189**		*eP*	**Pn**	**17 02 08.0**	**-0.4**
GO03					*eS*	**Sn**	**17 03 19.6**	**-2.4**
AC04	**Llanos de Chal**	**7.33**	**194**	Pn		**Pn**	**17 02 14.8**	**-3.7**
AC04	**Llanos de Chal**	**7.33**	**194**		*eP*	Pn	17 02 06.6	-12
AC04					IAML		17 03 42.3	
	comp=Z,16nm,0.3s							
LCO	**Las Campanas**	**8.04**	**191**	Pn		Pn	17 02 24.3	-4.0
ACLC	**CERRO LA CRUZ**	**8.52**	**168**		*eP*	**Pn**	**17 02 33.3**	**-1.4**
CO01	**Juntas del Tor**	**8.91**	**186**			**Pn**	**17 02 37.9**	**-2.2**
ACDV	**Cuesta del Vie**	**9.05**	**180**		*eP*	**Pn**	**17 02 40.6**	**-1.3**
ACCO	**Cerro Coronel**	**9.46**	**180**		*eP*	**Pn**	**17 02 45.7**	**-2.0**
CO06	**Fray Jorge**	**9.83**	**193**			Pn	17 02 47.3	-4.9
CO02	**Combarbal**	**10.23**	**190**	Pn		Pn	17 02 53.3	-4.5
RTLS	**Leoncito**	**10.67**	**181**		*eP*	**Pn**	**17 03 01.0**	**-2.9**
PTLB	**Pontes e Lacer**	**10.94**	**61**		*eP*	**Pn**	**17 03 04.2**	**-3.1**
AUSP	**Uspallata**	**11.10**	**182**		*eP*	**Pn**	**17 03 06.7**	**-2.9**
ETMB	**Extrema**	**11.53**	**14**		*eP*	**Pn**	**17 03 15.0**	**-0.1**
VILB	**Vilhena**	**11.69**	**48**		*eP*	**Pn**	**17 03 16.1**	**-1.2**
MT02	**Curacav**	**12.27**	**188**	Pn		**Pn**	**17 03 24.7**	**-0.1**
MT09	**Talagante**	**12.76**	**187**	Pn		**Pn**	**17 03 29.3**	**-2.0**
ITQB	**Itaqui**	**14.09**	**130**		*eP*	**Pn**	**17 03 47.5**	**-0.9**
CLDB	**Colider**	**16.27**	**53**		*eP*	**Pn**	**17 04 15.5**	**-0.2**
BB19B	**Bebedouro**	**19.14**	**94**		*eP*	**Pn**	**17 04 49.3**	**-0.8**
SNDB	**Serra Nova Dou**	**19.25**	**65**		*eP*	**P**	**17 04 47.1**	**-2.0**
MACA	**Manacapuru-AM**	**19.58**	**26**		*eP*	**P**	**17 04 53.6**	**+0.9**
PLCA	**Paso Flores**	**19.63**	**183**	P		**Pn**	**17 04 55.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=357,slow=12,SNR=8.4							
PLCA	**Paso Flores**	**19.63**	**183**	IAmb		IAmb	17 04 59.7	
	comp=Z,4.9nm,0.8s							
PLCA	**Paso Flores**	**19.63**	**183**	*eP*		**P**	**17 04 55.3**	**+2.2**
IPMB	**Ipameri, GO**	**19.86**	**85**	*eP*		**P**	**17 04 56.0**	**+0.1**
BDFB	**Brasilia**	**20.66**	**78**	P		**P**	**17 05 02.8**	**-1.7**
	comp=Z,2.9nm,0.4s,baz=288,slow=9.0,SNR=3.5							
BDFB	**Brasilia**	**20.66**	**78**	IAmb		IAmb	17 05 10.7	
	comp=Z,9.3nm,1.4s							
ITTB	**Itaituba**	**21.05**	**40**	*eP*		**P**	**17 05 06.8**	**-1.8**
PEXB	**Peixe**	**21.76**	**69**	*eP*		**P**	**17 05 16.9**	**+0.7**
BSCB	**Bom Sucesso**	**22.64**	**94**	*eP*		**P**	**17 05 24.9**	**-0.3**
MAN01	**Angra dos Reis**	**23.31**	**99**	*eP*		**P**	**17 05 31.5**	**+0.1**
MALB	**Monte Alegre**	**23.93**	**39**	*eP*		**P**	**17 05 36.9**	**-0.1**
SMTB	**Santa Maria do**	**23.98**	**63**	*eP*		**P**	**17 05 37.3**	**-0.2**
DIAM	**Diamantina, MG**	**24.03**	**88**	*eP*		**P**	**17 05 37.7**	**-0.4**
JANB	**Januaria**	**24.24**	**80**	*eP*		**P**	**17 05 39.1**	**-0.8**
SDBA	**SAO DESIDERIO**	**24.64**	**73**	*eP*		**P**	**17 05 43.4**	**-0.2**
BOAV	**Boa Vista**	**24.78**	**21**	*eP*		**P**	**17 05 45.3**	**+0.6**
ROSC	**El Rosal**	**26.28**	**348**	LR		LR	17 18 17.1	
	comp=Z,63nm,19.8s,baz=155,slow=40							
NBPN	**Ponto Novo - B**	**29.48**	**74**	*eP*		**P**	**17 06 26.8**	**-0.1**
NBPS	**Pedro II - PI**	**31.52**	**62**	*eP*		**P**	**17 06 45.1**	**+0.2**
NBLA	**Lagarto - SE**	**31.60**	**76**	*eP*		**P**	**17 06 44.9**	**-0.7**
NBPB	**Pedra_Branca-C**	**32.46**	**66**	*eP*		**P**	**17 06 53.8**	**+0.7**
NBAN	**Anadia - AL**	**33.49**	**75**	*eP*		**P**	**17 07 02.4**	**+0.3**
ANMO	**Albuquerque**	**66.09**	**327**	LR		LR	17 41 20.7	
	comp=Z,36nm,18.6s,baz=74,slow=37							
TOA0	**Torodi Ar. Sit**	**77.33**	**70**	P		**P**	**17 12 15.2**	**-0.6**
TOA0				IAmb		IAmb	17 12 21.1	
	comp=Z,3.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**77.33**	**70**	P		**P**	**17 12 15.3**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=258,slow=5.6,SNR=6.4							
TORD				pP		**pP**	**17 12 47.3**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=239,slow=6.2,SNR=2.9							
TORD	**Torodi Ar. Bea**	**77.33**	**70**	P		**P**	**17 12 15.5**	**-0.3**
YKA	**Yellowknife Ar**	**90.76**	**341**	P		**P**	**17 13 24.8**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=129,slow=5.5,SNR=4.3							
YKA				pP		**pP**	**17 13 55.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=130,slow=4.6,SNR=8.6							
KSH	**Kashi**	**144.93**	**51**	PKP	PKPbc		17 19 52.0	-4.6
KSH				pPKP	pPKPdf		17 20 18.0	-13
KSH				sPKP			17 20 24.8	
MKAR	**Makanchi Array**	**145.37**	**35**	PKPbc	**PKPab**		**17 19 59.3**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=335,slow=4.4,SNR=9.7							
MKAR				pPKPbc	pPKPab		17 20 31.4	0.0
	comp=Z,0.9nm,0.9s,baz=343,slow=3.8,SNR=4.9							
PZH	**PanZhiHua**	**169.98**	**56**	PKP	**PKPdf**		**17 20 28.5**	**+0.5**

TAP 28 17:01:23.0, 24.°23N×121.°75E, h10km, ML1.9, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EHP	**Heping Village**	**0.08**	**353**	*eP*		Pg	17 01 25.9	+0.5
	baz=358							
EHP				*eS*		Sg	17 01 28.0	+0.9
	baz=358							
ETL	**Fush Village**	**0.14**	**240**	P		Pg	17 01 26.7	+0.5
	baz=239							
NACB	**Ninganchiao**	**0.15**	**250**	P		Pg	17 01 27.1	+0.7
	baz=249							
ENA	**Nanau**	**0.20**	**357**	*iP*		Pg	17 01 27.9	+0.7
	baz=359							
ENA				*i* S		Sg	17 01 31.9	+1.8
	baz=359							
TWD	**Chiawan**	**0.20**	**224**	*i* P		Pg	17 01 27.7	+0.4
	baz=222							
TWD				S		Sg	17 01 31.8	+1.6
	baz=222							
EWUT	**Wuta**	**0.22**	**6**	P		Pg	17 01 28.3	+0.8
	baz=6.0							
ETLH	**Xiulin Townshi**	**0.25**	**265**	*eP*		Pb	17 01 28.9	-0.7
	baz=265							
HWA	**Hwalien**	**0.28**	**208**	*eP*		Pb	17 01 29.7	-0.5
	baz=206							
HWA				*eS*		Sb	17 01 34.7	-0.3
	baz=206							
ETM	**Tongmen**	**0.35**	**222**	P		Pb	17 01 30.9	-0.4
	baz=222							
LATG	**Datong**	**0.37**	**326**	P		Pb	17 01 31.6	-0.1
	baz=326							
LATG				S		Sb	17 01 37.6	0.0
	baz=326							
TWC	**Suao**	**0.39**	**13**	P		Pb	17 01 31.4	-0.6
	baz=14							
TWC				S		Sb	17 01 37.8	-0.2
	baz=14							
NNSB	**Datong**	**0.39**	**301**	P		Pb	17 01 32.1	0.0
	baz=300							
NNSB				S		Sb	17 01 37.6	-0.6
	baz=300							
NDS	**Dongshan**	**0.41**	**355**	P		Pb	17 01 32.3	0.0
	baz=355							
NDS				*eS*		Sb	17 01 37.9	-0.6
	baz=355							
NNS	**Nan Shan**	**0.41**	**302**	*i* P		Pb	17 01 32.3	0.0
	baz=301							
NNS				*i* S		Sb	17 01 38.1	-0.5
	baz=301							
ENTT	**Nioudou**	**0.45**	**338**	*i* P		Pb	17 01 32.8	-0.1
	baz=338							
ENTT				*i* S		Sb	17 01 39.7	0.0
	baz=338							
WHF	**Hehuan Shan**	**0.45**	**260**	P		Pg	17 01 31.5	-0.5
	baz=259							
WHF				*i* S		Sg	17 01 39.1	+1.1
	baz=259							
TWE	**Neicheng**	**0.50**	**351**	⇓	*iP*	Pb	17 01 33.8	-0.1
	baz=352							
TWE				S		Sb	17 01 40.8	-0.3
	baz=352							
ESL	**Shilin**	**0.50**	**215**	P		Pg	17 01 33.1	+0.3
	baz=214							
ESL				S		Sb	17 01 41.8	+0.5
	baz=214							
FUSB	**Fushanzhiwuyua**	**0.55**	**344**	P		Pb	17 01 34.7	-0.1
	baz=344							
FUSB				S		Sb	17 01 42.8	0.0
	baz=344							
CHGB	**Renai**	**0.55**	**253**	P		Pb	17 01 34.6	-0.3
	baz=252							
CHGB				S		Sb	17 01 43.3	+0.3
	baz=252							
YHNB	**Yeheng**	**0.56**	**322**	P		Pb	17 01 35.5	+0.5
	baz=322							
YHNB				S		Sb	17 01 43.4	+0.4
	baz=322							
NSK	**Sanguang**	**0.57**	**321**	P		Pb	17 01 35.3	+0.1
	baz=321							
NSK				S		Sb	17 01 43.5	0.0
	baz=321							
OWD	**Renai**	**0.59**	**243**	*eP*		Pb	17 01 35.1	-0.4
	baz=242							
OWD				*eS*		Sb	17 01 43.9	-0.1
	baz=242							
NWLT	**Wulai**	**0.59**	**338**	*eP*		Pb	17 01 35.6	+0.1
	baz=337							
NWLT				*eS*		Sb	17 01 44.1	+0.1
	baz=337							
WUSB	**Renai**	**0.62**	**248**	P		Pb	17 01 36.1	+0.1
	baz=247							
WUSB				S		Sb	17 01 45.6	+0.7
	baz=247							
NTC	**Toucheng**	**0.63**	**6**	*eP*		Pb	17 01 35.8	-0.2
	baz=6.0							
NTC				*eS*		Sg	17 01 43.8	+0.4
	baz=6.0							
EGFH	**Guangfu**	**0.63**	**208**	*eP*		Pb	17 01 35.7	-0.4
	baz=208							
EGFH				*eS*		Sb	17 01 45.5	+0.6
	baz

LILU	**Lilltraesk**	**1.85**	**194**	*e*P		**Pn**	17 04 05.4	**+0.1**
KIF	**Kilpisjarvi**	**1.94**	**359**	Pn		**Pb**	17 04 07.8	**-0.7**
KIF				Sn		**Sg**	17 04 34.2	**-0.3**
KIF	**Kilpisjarvi**	**1.94**	**359**	Pn		**Pb**	17 04 07.8	**-0.7**
KIF				Sn		**Sg**	17 04 34.2	**-0.3**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*PB		**Pb**	17 04 07.7	**-0.7**
KIF				MSG			17 04 31.0	
	comp=Z,21nm,0.2s							
KIF				*e*SG		**Sg**	17 04 34.5	**0.0**
RNF	**Rovaniemi**	**2.06**	**101**	*e*PB		**Pn**	17 04 08.9	**+0.7**
RNF				*e*SG		**Sg**	17 04 38.2	**-0.2**
KTK1	**Kautokeino**	**2.13**	**23**	*e*P		**Pb**	17 04 10.3	**-1.5**
KTK1				IAML			17 04 49.0	
	comp=Z,8.9nm,0.2s							
SGF	**Sodankyl**	**2.20**	**78**	*e*PB		**Pn**	17 04 11.0	**+0.9**
	baz=260							
SGF				*e*SG		**Sb**	17 04 41.0	**+0.2**
FAUS	**Fauske**	**2.22**	**281**	*e*P		**Pb**	17 04 11.7	**-1.6**
FAUS				IAML			17 04 49.8	
	comp=Z,22nm,0.1s							
JETT	**Jettan, Norway**	**2.50**	**356**	Pn		**Pb**	17 04 17.1	**-1.1**
OUL	**Oulu**	**2.84**	**132**	*e*PB		**Pb**	17 04 21.6	**-2.3**
OBF0	**Syolatti, Pyha**	**2.92**	**151**	*e*PG		**Pb**	17 04 26.3	**+1.0**
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn		**Pn**	17 04 21.2	**+0.1**
	baz=208,slow=14							
ARA0				Sn		**Sn**	17 04 56.8	**-0.9**
	baz=201,slow=18							
ARA0				Lg		Lg	17 05 03.0	
	baz=214,slow=28							
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn		**Pn**	17 04 21.2	**+0.1**
	baz=208,slow=14							
ARA0				Sn		**Sn**	17 04 56.8	**-0.9**
	baz=201,slow=18							
ARA0				IAML			17 05 07.9	
	comp=Z,6.2nm,0.1s							
ARA0	**ARCESS Array S**	**3.00**	**32**	*e*P		**Pn**	17 04 21.2	**+0.1**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn		**Pn**	17 04 21.1	**+0.1**
	baz=216,slow=13,SNR=48							
ARCES				Lg		Lg	17 05 03.3	
	baz=215,slow=23,SNR=9.8							
ARCES	**ARCESS Array B**	**3.00**	**32**	P		**Pn**	17 04 21.7	**+0.7**
ARCES				S		**Sn**	17 04 55.7	**-1.9**
OUF	**Merijarvi**	**3.14**	**148**	*e*P		**Pn**	17 04 25.0	**+2.0**
OUF				MSG			17 05 05.2	
	comp=Z,3.0nm,0.2s							
UMAU	**Umeaa**	**3.21**	**182**	*e*P		**Pn**	17 04 24.6	**+0.6**
VRF	**Varrio**	**3.41**	**75**	*e*P		**Pn**	17 04 29.0	**+2.2**
	baz=261							
VRF				*e*SG		**Sg**	17 05 20.4	**-1.5**
OLKF	**Oulanka, Finla**	**3.45**	**99**	*e*P		**Pn**	17 04 28.6	**+1.4**
MSF	**Maaselka**	**3.45**	**106**	*e*PB		**Pb**	17 04 33.1	**-1.2**
MSF				*e*SG		**Sb**	17 05 19.2	**+2.5**
KEV	**Kevo**	**3.50**	**37**	*e*P		**Pn**	17 04 28.8	**+0.8**
KEV	**Kevo**	**3.50**	**37**	*e*P		**Pn**	17 04 28.5	**+0.6**
KU6	**Riekki**	**3.73**	**102**	*e*P		**Pn**	17 04 32.0	**+0.9**
HUSU	**Husum**	**3.82**	**192**	*e*P		**Pn**	17 04 33.5	**+1.1**
	baz=6.0							
VAF	**Ylistaro**	**4.12**	**169**	*e*P		**Pn**	17 04 37.6	**+1.2**
	baz=347							
APA0	**Apatity Array**	**4.69**	**78**	P		Pb	17 04 50.3	-5.1
APA0				S		**Sn**	17 05 45.6	**+6.3**
PRVG	**Vayda Guba**	**4.94**	**52**	P		**Pn**	17 04 51.0	**+3.3**
PRVG				S		**Sn**	17 05 46.7	**+1.2**
TERR	**Teriberka**	**5.70**	**62**	P		Pn	17 05 02.9	+4.8
TERR				S		**Sn**	17 06 04.0	**-0.3**
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	17 05 04.0	**+0.6**
	baz=350,slow=14							
FIA0				Sn		**Sn**	17 06 09.9	**-3.7**
	baz=346,slow=18							
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	17 05 04.0	**+0.6**
	baz=350,slow=14							
FIA0				Sn		**Sn**	17 06 09.9	**-3.7**
	baz=346,slow=18							
FINES	**FINESS Array B**	**6.08**	**156**	Pn		**Pn**	17 05 04.1	**+0.7**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=1.5							
FINES				Sn		**Sn**	17 06 15.8	**+2.3**
	comp=Z,0.3nm,0.3s,baz=344,slow=23,SNR=10							
FINES				Lg		Lg	17 06 45.9	
	comp=Z,0.3nm,0.3s,baz=349,slow=27,SNR=2.2							
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn		**Pn**	17 05 20.8	**-0.8**
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn		**Pn**	17 05 20.8	**-0.8**
NOA	**NORSAR Array B**	**7.40**	**220**	Pn		**Pn**	17 05 22.6	**+1.0**
	comp=Z,0.0nm,0.3s,baz=33,slow=21,SNR=1.0							
NOA				Sn		**Sn**	17 06 48.2	**+2.0**
	comp=Z,0.0nm,0.3s,baz=85,slow=16,SNR=1.6							
NOA				Lg		Lg	17 07 27.2	
	comp=Z,0.0nm,0.3s,baz=11,slow=14,SNR=1.7							
NRA0	**NORESS Array S**	**7.59**	**217**	Pn		**Pn**	17 05 23.7	**-0.3**
NRA0	**NORESS Array S**	**7.59**	**217**	Pn		**Pn**	17 05 23.7	**-0.3**

***IDC* 28 17:08:45.2±1.2, 26°.70N×102°.48E, *h*0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/40, mbtmp3.3/5, Error ellipse: s-maj=35.5km s-min=19.3km az=84.0, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.82**	**202**	Pn	Pn	17 10 55.5	+1.4
	baz=20,slow=14,SNR=4.8						
CMAR				Pg	Pg	17 11 27.6	-6.7
	0.1nm,0.3s,baz=15,slow=14,SNR=17						
CMAR				Lg	Lg	17 13 23.5	
	0.1nm,0.3s,baz=17,slow=28,SNR=2.1						
SONM	**Songino Array**	**21.32**	**7**	P	P	17 13 34.7	+0.9
	1.1nm,0.7s,baz=191,slow=10,SNR=8.5						
MKAR	**Makanchi Array**	**25.64**	**327**	P	P	17 14 15.8	-0.6
	0.7nm,0.7s,baz=129,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**55.71**	**143**	P	P	17 18 23.4	-0.4
	0.3nm,0.5s,baz=332,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**58.56**	**146**	P	P	17 18 43.8	0.0
	0.2nm,0.6s,baz=330,slow=7.1,SNR=4.8						

***IDC* 28 17:14:20.1±3.9, 49°.74N×27°.61E, *h*0km, mb1 3.9/2, mb1mx3.2/31, mbtmp3.8/2, ML2.6/2, Error ellipse: s-maj=49.5km s-min=24.2km az=168.0, Ukraine-Moldova-Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSG	**Malin Array Be**	**1.42**	**47**	Pg	Pn	17 14 47.0	-0.1
	13nm,0.3s,baz=251,slow=18,SNR=61						
AKASG				Lg	Lg	17 15 05.0	
	14nm,0.3s,baz=249,slow=32,SNR=8.8						
AKASG				Rg	Rg	17 15 11.3	
	3.0nm,0.3s,baz=249,slow=36,SNR=3.2						
FINES	**FINESS Array B**	**11.77**	**356**	Pn	Pn	17 17 03.6	-5.3
	0.1nm,0.3s,baz=178,slow=14,SNR=4.8						
ARCES	**ARCESS Array B**	**19.89**	**358**	P	P	17 18 50.6	-2.0
	baz=171,slow=12,SNR=5.2						

IDC ***28*** *17:32:39.5±2.5, 35°.88N×70°.65E, h72km±21km, mb3.5/10, mb1 3.6/15, mb1mx3.3/59, mbtmp3.8/15, MS3.9/1, Ms1 3.9/1, ms1mx2.4/74, Error ellipse: s-maj=18.4km s-min=15.6km az=47.0*

NEIC ***28*** *17:32:42.2±2.3, 35°.86N±0°.06×70°.47E±0°.06, h91km±8km, mb4.2/18, Error ellipse: s-maj=9.7km s-min=5.7km az=148.0*

NNC ***28*** *17:32:44.1±4.2, 36°.52N×70°.33E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=43.6km s-min=26.5km az=150.0*

ISC 28 17:32:41.9±0.5, 35°.85N±0°.05×70°.54E±0°.05, h100km, n87, σ2ˢ22/96, mb4.1/15, 6C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.79**	**223**		**Pn**	17 33 10.9	**-1.1**
CHGR	**Chuyangaron**	**3.01**	**339**	Pn	**Pn**	17 33 27.2	**-0.6**
NIL	**Nilore**	**3.13**	**134**	Pn	**Pn**	17 33 30.8	**+1.3**
GAR	**Garm**	**3.15**	**357**		**Pn**	17 33 29.5	**-0.2**
DRK	**Karamyk**	**3.76**	**15**		**Pn**	17 33 38.5	**+0.5**
BTK	**Batken**	**4.20**	**3**	Pn	**Pn**	17 33 43.9	**0.0**
JMU	**Jammu**	**4.78**	**130**	*e*P	**Pn**	17 33 52.1	**+0.5**
JMU				*e*S	**Sn**	17 34 43.3	**-2.5**
THN	**Thein Dam**	**5.49**	**127**	*e*P	**Pn**	17 34 01.2	**0.0**
THN				*e*S	**Sn**	17 35 02.2	**-0.7**
KSH	**Kashi**	**5.65**	**48**	P	**Pn**	17 33 59.5	**-4.0**
KSH				S	Sn	17 34 53.8	-13
KSH				pmax	pmax		
	comp=Z,19nm,0.6s						
KSH				smax	smax		
	comp=N,94nm,0.9s						
KSH				smax	smax		
	comp=E,38nm,0.6s						

BHK	**Bhakra**	**6.61**	**130**	*e*S		**Sn**	17 35 28.5	**-1.8**
AML	**Almayashu**	**6.73**	**20**	P		**Pn**	17 34 17.8	**-0.7**
	SNR=138							
UCH	**Uchtor**	**7.08**	**25**	P		**Pn**	17 34 22.5	**-0.7**
	SNR=19							
KK31	**Karatay Array**	**7.24**	**360**			**Pn**	17 34 24.0	**-1.0**
KK31	**Karatay Array**	**7.24**	**360**	⇑P		**Pn**	17 34 23.9	**-1.0**
	comp=E,3.7nm,0.3s,baz=179,slow=13,SNR=83							
KK31				S		**Sn**	17 35 39.5	**-6.1**
	comp=E,5.3nm,0.2s,baz=196,slow=15,SNR=12							
KKAR	**Karatay Array**	**7.24**	**360**			**Pn**	17 34 23.9	**-1.0**
KKAR	**Karatay Array**	**7.24**	**360**			**Pn**	17 34 24.0	**-1.0**
EKS2	**Erkin-Say**	**7.25**	**19**	P		**Pn**	17 34 24.6	**-0.6**
	SNR=28							
SMLA	**Simla**	**7.27**	**129**	*e*P		**Pn**	17 34 24.4	**-1.1**
SMLA				*e*S		**Sn**	17 35 43.5	**-2.9**
SMLA				IAML			17 35 46.9	
	comp=E,42nm,0.5s							
SMLA				IAML			17 35 47.1	
	comp=N,40nm,0.4s							
AAK	**Ala-Archa**	**7.44**	**23**	P		**Pn**	17 34 27.4	**-0.4**
	SNR=18							
AAK	**Ala-Archa**	**7.44**	**23**	P		**Pn**	17 34 26.7	**-1.1**
	comp=N,4.3nm,0.3s,baz=107,slow=1.8,SNR=41							
AAK				S		**Sn**	17 35 44.7	**-5.9**
	comp=N,2.2nm,0.3s,baz=140,slow=22,SNR=13							
AAK	**Ala-Archa**	**7.44**	**23**	Pn		**Pn**	17 34 27.2	**-0.6**
BOOM	**Boomskoye usch**	**7.84**	**31**	Pn		**Pn**	17 34 32.5	**-0.8**
CHMS	**Chumysh**	**7.84**	**23**	P		**Pn**	17 34 32.8	**-0.4**
	SNR=7.8							
CHMS	**Chumysh**	**7.84**	**23**	⇑P		**Pn**	17 34 31.8	**-1.4**
	comp=N,10.0nm,0.6s							
CHMS				⇑S		**Sn**	17 35 55.5	**-4.8**
	comp=N,9.1nm,0.6s							
USP	**Ospenovka**	**8.01**	**21**	P		**Pn**	17 34 34.4	**-1.1**
	SNR=6.9							
TKM2	**Tokmak 2**	**8.07**	**27**	P		**Pn**	17 34 35.8	**-0.6**
	SNR=13							
TKM2	**Tokmak 2**	**8.07**	**27**	⇓P		**Pn**	17 34 35.6	**-0.9**
	comp=N,4.5nm,0.5s							
TKM2				⇑S		**Sn**	17 36 01.4	**-4.7**
	comp=N,6.9nm,0.7s							
MDOK	**Medeo**	**8.86**	**33**	⇓P		**Pn**	17 34 46.8	**-0.4**
	comp=N,2.5nm,0.6s							
MDOK				S		**Sn**	17 36 27.8	**+2.5**
	comp=N,2.1nm,0.6s							
KUDL	**Kundal**	**9.20**	**145**	*e*P		**Pn**	17 34 50.8	**-0.8**
KUDL				*e*S		**Sn**	17 36 26.8	**-6.5**
GEYT	**Alibeck**	**10.16**	**285**	P		**Pn**	17 35 03.7	**-1.1**
	comp=N,1.4nm,0.3s,baz=128,slow=12,SNR=12							
GEYT				S		**Sn**	17 36 53.1	**-3.7**
	comp=N,1.2nm,0.3s,baz=313,slow=16,SNR=6.2							
GEYT	**Alibeck**	**10.16**	**285**	Pn		**Pn**	17 35 05.4	**+0.6**
GYA0B	**ALIBECK ARRAY**	**10.16**	**285**	Pn		**Pn**	17 35 05.4	**+0.6**
LGTI	**Lohaghat**	**10.38**	**125**	*e*P		**Pn**	17 35 03.9	**-3.8**
LGTI				*e*S		Sn	17 36 52.0	-10
PYUN	**Piuthan**	**13.09**	**123**	*e*P		**Pn**	17 35 40.3	**-3.8**
	comp=N,8.6nm,0.3s							
DANN	**Dangsing**	**13.47**	**120**	*e*P		**Pn**	17 35 45.5	**-3.7**
	comp=N,14nm,0.4s							
KOLN	**Koldanda**	**13.71**	**122**	*e*P		**Pn**	17 35 49.0	**-3.3**
MAKZ	**Makanchi**	**13.90**	**35**	Pn		**Pn**	17 35 55.1	**+0.7**
BHPL	**Bhopal**	**13.92**	**153**	*e*P		**Pn**	17 35 50.8	**-4.0**
MKAR	**Makanchi Array**	**14.03**	**35**	P		**Pn**	17 35 54.6	**-1.5**
	comp=N,0.1nm,0.3s,baz=208,slow=14,SNR=4.0							
GKN	**Gorkha**	**14.29**	**119**	*e*P		**Pn**	17 35 55.9	**-3.9**
	comp=N,12nm,0.3s							
KKN	**Kakani**	**14.88**	**119**	*e*P		**Pn**	17 36 03.7	**-3.6**
PKIN	**Phulchoki**	**15.09**	**119**	*e*P		**Pn**	17 36 07.0	**-3.0**
	comp=N,13nm,0.4s							
PKI	**Pulchoki**	**15.10**	**119**	*e*P		**Pn**	17 36 07.2	**-3.0**
	comp=N,8.7nm,0.3s							
GUN	**Gumba**	**15.24**	**117**	*e*P		**Pn**	17 36 08.5	**-3.5**
	comp=N,10.0nm,0.3s							
WMQ	**Urumqi**	**15.38**	**54**	*e*P		**Pn**	17 36 13.8	**+0.5**
WMQ				pP		pP	17 36 28.0	-7.6
WMQ				pmax		pmax		
	comp=Z,16nm,0.7s							
AB31	**Akbulak array**	**15.48**	**333**	⇑P		**Pn**	17 36 13.6	**-0.9**
	comp=Z,6.4nm,0.3s,baz=142,slow=14,SNR=275							
ABKAR	**Akbulak array**	**15.48**	**333**			**Pn**	17 36 13.2	**-1.3**
ABKAR	**Akbulak array**	**15.48**	**333**			**Pn**	17 36 13.4	**-1.1**
ABKAR				IAmb		IAmb	17 36 14.4	
	comp=Z,15nm,0.7s							
KURBB	**Kurchatov Arra**	**15.85**	**19**	P		**Pn**	17 36 15.7	**-3.5**
	comp=Z,0.0nm,0.3s,baz=210,slow=12,SNR=3.2							
KURK	**Kurchatov**	**15.96**	**19**	P		**P**	17 36 21.6	**-0.5**
RAMN	**Ramite**	**16.32**	**118**	*e*P		**Pn**	17 36 23.7	**-1.7**
TAPN	**Taplejung**	**16.89**	**115**	*e*P		**Pn**	17 36 30.7	**-1.8**
	comp=Z,9.6nm,0.3s							
ODAN	**Odare**	**16.94**	**117**	*e*P		**Pn**	17 36 32.0	**-1.0**
AKTO	**Aktyubinsk**	**17.16**	**332**	P		**Pn**	17 36 35.5	**+0.2**
	comp=Z,0.7nm,0.3s,baz=146,slow=14,SNR=15							
AKTO				S		Sn	17 39 34.0	-12
	comp=Z,0.4nm,0.3s,baz=150,slow=23,SNR=10							
AKTO	**Aktyubinsk**	**17.16**	**332**	⇑P		**Pn**	17 36 36.0	**+0.7**
	comp=Z,5.7nm,0.7s							
ZAA0	**Zalesovo Array**	**20.66**	**24**	P		**P**	17 37 13.0	**-0.4**
ZAA0				IAmb		IAmb	17 37 14.4	
	comp=Z,3.3nm,0.6s							
ZALV	**Zalesovo Beam**	**20.66**	**24**	P		**P**	17 37 12.7	**-0.7**
	comp=Z,3.2nm,0.5s,baz=219,slow=11,SNR=20							
ZALV	**Zalesovo Beam**	**20.66**	**24**	P		**P**	17 37 12.9	**-0.5**
ARU	**Arti**	**22.13**	**342**	P		**P**	17 37 30.8	**+1.8**
	comp=Z,1.1nm,0.6s,baz=73,slow=22,SNR=5.3							
ARU				S		**S**	17 41 28.8	**+2.5**
	comp=Z,0.6nm,0.3s,baz=86,slow=19,SNR=3.8							
PZH	**PanZhiHua**	**28.18**	**101**	P		**P**	17 38 29.3	**+4.2**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,50nm,5.6s							
HHC	**Hu-ho-hao-te**	**32.34**	**69**	*e*P		**P**	17 39 04.8	**+3.1**
HHC				pmax		pmax		
	comp=Z,23nm,1.0s							
HHC				pmax		pmax		
	comp=Z,96nm,5.1s							
NRIK	**Noril'sk**	**34.83**	**10**	P		**P**	17 39 22.1	**-0.6**
	comp=Z,2.1nm,0.5s,baz=210,slow=5.6,SNR=5.4							
NRIK	**Noril'sk**	**34.83**	**10**	P		**P**	17 39 22.2	**-0.6**
NRIK				IAmb		IAmb	17 39 25.0	
	comp=Z,2.5nm,0.6s							
FINES	**FINESS Array B**	**37.81**	**327**	P		**P**	17 39 48.6	**+0.4**
	comp=Z,1.6nm,0.6s,baz=157,slow=10,SNR=6.1							
FINES	**FINESS Array B**	**37.81**	**327**	P		**P**	17 39 49.5	**+1.3**
KEV	**Kevo**	**41.26**	**339**	P		**P**	17 40 18.0	**+1.3**
ARCES	**ARCESS Array B**	**41.60**	**338**	P		**P**	17 40 20.6	**+1.1**
	comp=Z,2.2nm,0.5s,baz=110,slow=7.6,SNR=21							
ARCES	**ARCESS Array B**	**41.60**	**338**	P		**P**	17 40 21.2	**+1.6**
ARCES				IAmb		IAmb	17 40 45.8	
	comp=Z,6.6nm,1.1s							
NC405	**NORSAR Array S**	**44.44**	**324**	P		**P**	17 40 43.5	**+0.9**
NC303	**NORSAR Array S**	**44.62**	**324**	P		**P**	17 40 45.6	**+1.6**
NC303				IAmb		IAmb	17 41 13.4	
	comp=Z,9.8nm,1.4s							
NB201	**NORSAR Array S**	**44.63**	**323**	P		**P**	17 40 45.0	**+0.9**
NB2	**NORSAR Subarra**	**44.67**	**323**	P		**P**	17 40 45.4	**+1.0**
	comp=Z,0.5nm,0.4s,baz=99,slow=7.9							
NOA	**NORSAR Array B**	**44.67**	**323**	P		**P**	17 40 45.1	**+0.7**
	comp=Z,0.4nm,0.8s,baz=106,slow=7.2,SNR=6.9							
NC204	**NORSAR Array S**	**44.92**	**324**	P		**P**	17 40 47.8	**+1.4**
NC204				IAmb		IAmb	17 40 54.4	
	comp=Z,12nm,1.2s							
TIXI	**Tiksi**	**46.51**	**22**	P		**P**	17 40 59.1	**+0.4**
JNU	**Nakatsue**	**49.12**	**75**	LR		LR	18 03 36.0	
	comp=Z,141nm,20.3s,baz=148,slow=38							
MYLDM	**Lahad Datu**	**53.55**	**113**	P		**P**	17 41 55.7	**+3.1**
ESDC	**Sonseca Array**	**57.43**	**298**	P		**P**	17 42 21.3	**+1.1**
	comp=Z,0.6nm,0.9s,baz=164,slow=23,SNR=4.3							
ESDC	**Sonseca Array**	**57.43**	**298**	IAmb		IAmb	17 42 27.6	
	comp=Z,1.9nm,1.5s							
TOLK	**Toolik Lake Re**	**71.64**	**14**	P		**P**	17 43 53.7	**+1.5**
TOLK				IAmb		IAmb	17 43 57.7	
	comp=Z,1.5nm,0.8s							
IMAR	**Indian Mountai**	**72.90**	**17**	P		**P**	17 44 00.2	**+0.5**
BMAR	**Burnt Mountain**	**73.66**	**13**	P		**P**	17 44 05.4	**+1.2**
KNRA	**Kununurra**	**75.20**	**122**	P		**P**	17 44 15.3	**+1.6**
KNRA				IAmb		IAmb	17 44 21.9	
	comp=Z,7.7nm,1.2s							
YKA	**Yellowknife Ar**	**81.91**	**2**	P		**P**	17 44 49.9	**0.0**
	comp=Z,0.2nm,0.3s,baz=351,slow=5.2,SNR=6.0							
WRA	**Warramunga Arr**	**81.97**	**122**	P		**P**	17 44 50.9	**0.0**
	comp=Z,0.4nm,0.6s,baz=325,slow=5.0,SNR=11							
WRA	**Warramunga Arr**	**81.97**	**122**	P		**P**	17 44 51.1	**+0.2**
ASAR	**Alice Springs**	**84.20**	**125**	P		**P**	17 45 03.0	**+0.7**
	comp=Z,0.3nm,0.8s,baz=311,slow=4.8,SNR=5.5							

IDC ***28*** *17:51:30.4±0.9, 25°.45N×126°.17E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/41, mbtmp3.6/9, ML3.3/1, Error ellipse: s-maj=26.1km s-min=20.6km az=72.0*

JMA ***28*** *17:51:34.5±0.1, 25°.45N×126°.38E, h0km, M3.7*

ISC 28 17:51:38.1±1.0, 25°.55N±0°.08×126°.26E±0°.07, h56km±10km, n22, σ1ˢ46/36, mb3.5/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.91**	**31**	P	**Pn**	17 51 53.1	**-1.7**
JKE				*e*S	**Sn**	17 52 06.5	**-0.6**
JOGS	**Gusukube**	**1.10**	**225**	P	**Pn**	17 51 56.3	**-1.0**
JOGS				S	**Sn**	17 52 12.0	**+0.4**
JIKM	**Ikemajima**	**1.11**	**236**	P	**Pn**	17 51 56.8	**-0.6**
JIKM				*e*S	**Sn**	17 52 13.2	**+1.4**
JMJ2	**Miyako jima3**	**1.17**	**227**	P	**Pn**	17 51 57.3	**-0.9**
JMJ2				S	**Sn**	17 52 13.9	**+0.7**
JIRB	**Irabujima**	**1.22**	**234**	P	**Pn**	17 51 58.0	**-0.9**
JIRB				S	**Sn**	17 52 15.6	**+1.2**
JAGN	**Aguni-jima**	**1.36**	**40**	P	**Pn**	17 52 00.4	**-0.4**
JAGN				*e*S	**Sn**	17 52 19.5	**+1.7**
JJT3	**Tamagusuku3**	**1.49**	**66**	P	**Pn**	17 52 02.7	**+0.1**
JJT3				*e*S	**Sn**	17 52 21.6	**+0.6**
JTJ	**Tarama**	**1.68**	**238**	P	**Pn**	17 52 04.1	**-1.0**
JTJ				S	**Sn**	17 52 28.5	**+3.0**
JNTH	**Nagotoyohara**	**1.85**	**58**	P	**Pn**	17 52 07.4	**-0.1**
JNTH				*e*S	**Sn**	17 52 31.3	**+1.5**
JISG	**Ishigakijimahi**	**2.01**	**242**	P	**Pn**	17 52 08.5	**-1.1**
JISG				*e*S	**Sn**	17 52 35.7	**+2.0**
JIH	**Iheya**	**2.13**	**46**	P	**Pn**	17 52 11.6	**+0.4**
JIH				S	**Sn**	17 52 39.3	**+2.8**
JOW	**Kunigami**	**2.21**	**54**	Pn	**Pn**	17 52 11.5	**-0.9**
	13nm,0.3s,baz=270,slow=18,SNR=20						
JOW				Sn	**Sn**	17 52 40.5	**+1.9**
	16nm,0.3s,baz=178,slow=17,SNR=1.9						
JOW	**Kunigami**	**2.21**	**54**	P	**Pn**	17 52 12.5	**+0.1**
JIJ	**Ishigaki jima**	**2.26**	**239**	P	**Pn**	17 52 12.8	**-0.2**
JIJ				S	**Sn**	17 52 43.6	**+3.9**
SONM	**Songino Array**	**27.21**	**330**	P	**P**	17 57 15.0	**-1.7**
	0.2nm,0.4s,baz=153,slow=12,SNR=2.0						
MKAR	**Makanchi Array**	**40.69**	**313**	P	**P**	17 59 13.5	**+0.5**
	0.9nm,0.4s,baz=98,slow=9.3,SNR=28						
ZALV	**Zalesovo Beam**	**41.74**	**324**	P	**P**	17 59 21.3	**-0.2**
	0.6nm,0.4s,baz=132,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**45.89**	**169**	P	**P**	17 59 55.8	**+0.6**
	0.4nm,0.8s,baz=354,slow=8.4,SNR=2.8						
ASAR	**Alice Springs**	**49.48**	**171**	P	**P**	18 00 20.5	**-2.4**
	0.3nm,0.8s,baz=358,slow=8.4,SNR=2.1						
ASAR				PcP	**PcP**	18 01 43.7	**-0.6**
	0.2nm,0.7s,baz=325,slow=2.0,SNR=1.8						
FINES	**FINESS Array B**	**72.58**	**330**	P	**P**	18 02 59.7	**+0.6**
	0.5nm,0.3s,baz=67,slow=5.0,SNR=9.7						
NOA	**NORSAR Array B**	**79.13**	**333**	P	**P**	18 03 36.8	**+0.3**
	0.3nm,0.5s,baz=63,slow=8.5,SNR=2.2						
YKA	**Yellowknife Ar**	**79.88**	**24**	P	**P**	18 03 40.8	**+0.3**
	0.4nm,0.7s,baz=300,slow=5.6,SNR=5.3						

NEIC ***28*** *18:12:27.0±2.3, 2°.51S±0°.07×121°.57E±0°.07, h10km±2km, mb3.4/3, Error ellipse: s-maj=13.7km s-min=8.2km az=135.0*

IDC ***28*** *18:12:27.1±1.3, 2°.76S×121°.61E, h0km, mb3.4/4, mb1 3.8/6, mb1mx3.4/31, mbtmp3.6/6, ML3.8

HOPEN				*e*S	Sn	18 13 46.3	-1.6
KBS	**Kingsbay**	**2.42**	**328**	*e*P	Pn	18 13 37.8	-2.3
KBS				*e*Pg	Pb	18 13 43.0	-1.3
KBS				*e*Sg	Sb	18 14 13.0	-0.9
KBS				IAML		18 14 21.8	
	comp=Z,38nm,0.5s						
KBS	**Kingsbay**	**2.42**	**328**	*e*P	Pn	18 13 37.4	-2.7
KBS				*e*S	Sn	18 14 06.1	-3.2
BJO1	**Bjornoya**	**2.46**	**177**	*e*Pg	Pb	18 13 44.4	-0.7
BJO1				*e*Sg	Sb	18 14 14.6	-0.4
BJO1				IAML		18 14 21.5	
	comp=Z,17nm,0.9s						
BJO1	**Bjornoya**	**2.46**	**177**	P	Pb	18 13 44.2	-0.8
BJO1				*e*S	Sb	18 14 14.3	-0.7
ZFI	**Zemlya Franca-**	**6.74**	**42**	*e*P	Pn	18 14 37.5	-1.8
ZFI				*e*S	Sn	18 15 45.7	-10
	comp=Z,14nm,2.9s						
ZFI2	**Zemlya Franca-**	**6.74**	**42**	*e*P	Pn	18 14 37.2	-2.0
ZFI2				S	Sn	18 15 46.2	-9.3
	comp=Z,11nm,1.8s						

JMA ***28*** *18:14:36.2±0.2,24°.04N×121°.60E,h26km±1km,M2.8*
NEIC ***28*** *18:14:38.2±1.6,24°.18N±0°.04×121°.77E±0°.05,h17km±9km, mb4.1/1,ML4.0(TAP),Error ellipse: s-maj=6.8km s-min=5.3km az=86.0*
TAP ***28*** *18:14:38.2,24°.23N×121°.77E,h10km,ML3.5,C*
ISC 28 18:14:37.6±0.9,24°.20N±0°.01×121°.82E±0°.02,h8km±7km, n118,σ0s92/191,4C-20D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.13**	**325**	⇓*i*P		**Pg**		**18 14 40.8**	**+0.3**
	baz=346								
EHP				S		**Sg**		**18 14 43.0**	**+0.5**
	baz=346								
ETL	**Fush Village**	**0.19**	**257**	⇓*i*P		**Pg**		**18 14 41.8**	**+0.4**
	baz=244								
ETL				*i* S		**Sg**		**18 14 44.5**	**+0.5**
	baz=244								
NACB	**Ninganchiao**	**0.21**	**262**	Pg		**Pg**		**18 14 41.9**	**0.0**
NACB	**Ninganchiao**	**0.21**	**262**	⇓*i*P		**Pg**		**18 14 42.0**	**+0.2**
	baz=245								
NACB				*i* S		**Sg**		**18 14 44.9**	**+0.2**
	baz=245								
ENA	**Nanau**	**0.24**	**342**	⇓*i*P		**Pg**		**18 14 42.6**	**+0.3**
	baz=354								
ENA				*i* S		**Sg**		**18 14 45.9**	**+0.3**
	baz=354								
EWUT	**Wuta**	**0.24**	**351**	⇓P		**Pg**		**18 14 42.9**	**+0.4**
	baz=7.0								
EWUT				S		**Sg**		**18 14 46.3**	**+0.5**
	baz=7.0								
HWA	**Hwalien**	**0.30**	**222**	*e*P		**Pb**		**18 14 45.8**	**+0.6**
	baz=220								
ETLH	**Xiulin Townshi**	**0.31**	**271**	⇓*i*P		**Pg**		**18 14 43.8**	**+0.1**
	baz=267								
ETLH				*i* S		**Sg**		**18 14 47.5**	**-0.4**
	baz=267								
ETM	**Tongmen**	**0.38**	**232**	P		**Pg**		**18 14 45.5**	**+0.4**
	baz=229								
TEYL	**Yanliau Villag**	**0.39**	**212**	P		**Pb**		**18 14 47.0**	**+0.2**
	baz=217								
TEYL				*e*S		**Sb**		**18 14 53.6**	**+0.7**
	baz=217								
TWC	**Suao**	**0.41**	**3**	⇓*i*P		**Pg**		**18 14 45.9**	**+0.4**
	baz=4.0								
TWC				*i* S		**Sg**		**18 14 51.6**	**+0.8**
	baz=4.0								
LATG	**Datong**	**0.43**	**321**	⇓*i*P		**Pg**		**18 14 46.1**	**+0.2**
	baz=324								
LATG				S		**Sg**		**18 14 51.4**	**-0.2**
	baz=324								
NDS	**Dongshan**	**0.44**	**347**	⇓*i*P		**Pg**		**18 14 46.6**	**+0.5**
	baz=353								
NDS				S		**Sg**		**18 14 52.6**	**+0.6**
	baz=353								
NNSB	**Datong**	**0.46**	**299**	⇓*i*P		**Pg**		**18 14 46.7**	**+0.2**
	baz=300								
NNSB				S		**Sg**		**18 14 52.2**	**-0.4**
	baz=300								
NNS	**Nan Shan**	**0.47**	**300**	⇓*i*P		**Pg**		**18 14 46.9**	**+0.1**
	baz=301								
NNS				*i* S		**Sg**		**18 14 52.6**	**-0.4**
	baz=301								
ENTT	**Nioudou**	**0.49**	**332**	⇓*i*P		**Pg**		**18 14 47.6**	**+0.4**
	baz=336								
ENTT				*i* S		**Sg**		**18 14 54.1**	**+0.4**
	baz=336								
WHF	**Hehuan Shan**	**0.51**	**264**	⇓*i*P		**Pg**		**18 14 47.7**	**+0.1**
	baz=261								
WHF				*i* S		**Sg**		**18 14 54.2**	**-0.2**
	baz=261								
ESL	**Shilin**	**0.53**	**223**	P		**Pb**		**18 14 48.5**	**-0.6**
	baz=225								
ESL				*e*S		**Sb**		**18 14 56.6**	**-0.2**
	baz=225								
TWE	**Neicheng**	**0.54**	**345**	⇓*i*P		**Pg**		**18 14 48.4**	**+0.5**
	baz=350								
TWE				*i* S		**Sg**		**18 14 55.2**	**+0.3**
	baz=350								
ILA	**Ilan**	**0.56**	**353**	*e*P		**Pg**		**18 14 49.2**	**+0.7**
	baz=353								
ILA				S		**Sg**		**18 14 57.0**	**+1.0**
	baz=353								
TWT	**Tachien**	**0.59**	**275**	*e*P		**Pb**		**18 14 50.0**	**-0.4**
	baz=273								
TWT				S		**Sg**		**18 14 57.2**	**+0.3**
	baz=273								
FUSB	**Fushanzhiwuyua**	**0.59**	**339**	⇑*i*P		**Pg**		**18 14 49.5**	**+0.4**
	baz=342								
FUSB				*i* S		**Sg**		**18 14 57.1**	**+0.2**
	baz=342								
TDCB	**Techi**	**0.61**	**275**	*e*P		**Pg**		**18 14 49.6**	**+0.3**
	baz=273								
TDCB				*e*S		**Sg**		**18 14 56.4**	**-1.0**
	baz=273								
CHGB	**Renai**	**0.61**	**257**	⇓*i*P		**Pg**		**18 14 49.7**	**+0.3**
	baz=246								
CHGB				S		**Sg**		**18 14 57.1**	**-0.3**
	baz=246								
YHNB	**Yeheng**	**0.62**	**319**	Pg		**Pg**		**18 14 50.0**	**+0.4**
YHNB	**Yeheng**	**0.62**	**319**	P		**Pg**		**18 14 50.3**	**+0.7**
YHNB	**Yeheng**	**0.62**	**319**	⇓*i*P		**Pg**		**18 14 50.0**	**+0.4**
	baz=321								
YHNB				S		**Sg**		**18 14 57.7**	**+0.1**
	baz=321								
NSK	**Sanguang**	**0.63**	**318**	⇓*i*P		**Pg**		**18 14 50.2**	**+0.4**
	baz=320								
NSK				*i* S		**Sg**		**18 14 58.1**	**-0.1**
	baz=320								
OWD	**Renai**	**0.64**	**247**	P		**Pg**		**18 14 50.1**	**+0.1**
	baz=244								
OWD				S		**Sg**		**18 14 58.7**	**+0.3**
	baz=244								
NWLT	**Wulai**	**0.64**	**333**	P		**Pg**		**18 14 50.5**	**+0.5**
	baz=336								
NWLT				S		**Sg**		**18 14 58.3**	**-0.1**
	baz=336								
EGFH	**Guangfu**	**0.64**	**214**	*e*P		**Pb**		**18 14 51.3**	**+0.2**
	baz=217								
EGFH				*e*S		**Sn**		**18 15 02.2**	**-1.2**
	baz=217								
NTC	**Toucheng**	**0.65**	**1**	*i* P		**Pg**		**18 14 50.7**	**+0.5**
	baz=5.0								
NTC				*e*S		**Sg**		**18 14 58.1**	**-0.5**
	baz=5.0								
WUSB	**Renai**	**0.68**	**252**	⇓*i*P		**Pg**		**18 14 51.0**	**+0.3**
	baz=242								
WUSB				S		**Sg**		**18 14 59.8**	**+0.2**
	baz=242								
TIPB	**Shuangxi**	**0.77**	**0**	*e*P		**Pb**		**18 14 52.9**	**-0.3**
	baz=4.0								
TIPB				*e*S		**Sg**		**18 15 02.2**	**-0.1**
	baz=4.0								
NFF	**Wufeng Townshi**	**0.77**	**304**	*e*P		**Pg**		**18 14 53.1**	**+0.6**
	baz=304								
NFF				*e*S		**Sg**		**18 15 02.3**	**-0.2**
	baz=304								
HGSD	**Ruisui**	**0.80**	**207**	*e*P		**Pn**		**18 14 54.3**	**-0.8**
	baz=192								
HGSD				*e*S		**Sn**		**18 15 06.3**	**-0.9**
	baz=192								
NHDH	**Xindian Distri**	**0.80**	**340**	P		**Pb**		**18 14 53.7**	**-0.1**
	baz=343								
NHDH				*e*S		**Sg**		**18 15 03.1**	**-0.5**
	baz=343								
TWA	**Mucha**	**0.80**	**344**	⇓*i*P		**Pb**		**18 14 53.7**	**-0.1**
	baz=348								
TWA				S		**Sg**		**18 15 04.1**	**+0.6**
	baz=348								
WHP	**Taichung City**	**0.80**	**275**	P		**Pb**		**18 14 53.9**	**0.0**
	baz=274								
WHP				S		**Sg**		**18 15 03.7**	**+0.1**
	baz=274								
TWB1	**Santiao Chiao**	**0.82**	**11**	*e*P		**Pb**		**18 14 54.0**	**-0.1**
	baz=15								
TWB1				*e*S		**Sg**		**18 15 04.2**	**+0.2**
	baz=15								
TATO	**Taipei**	**0.83**	**338**			**Pg**		**18 14 54.1**	**+0.6**
EHY	**Hungye**	**0.83**	**214**	*e*P		**Pb**		**18 14 54.2**	**-0.1**
	baz=223								
WCS	**Beigang Elemen**	**0.84**	**260**	*e*P		**Pg**		**18 14 54.2**	**+0.3**
	baz=259								
LIOB	**Emei**	**0.86**	**301**	*e*P		**Pb**		**18 14 54.9**	**+0.1**
	baz=301								
LIOB				*e*S		**Sg**		**18 15 05.4**	**+0.1**
	baz=301								
NSTT	**Nanjuang**	**0.86**	**300**	P		**Pb**		**18 14 54.8**	**0.0**
	baz=300								
NSTT				*e*S		**Sg**		**18 15 05.4**	**0.0**
	baz=300								
NHY	**Taipei**	**0.86**	**345**	*e*P		**Pn**		**18 14 56.0**	**-0.1**
	baz=347								
NHY				S		**Sb**		**18 15 07.1**	**+0.5**
	baz=347								
NWF	**Wu-fen Shan**	**0.86**	**358**	⇑*i*P		**Pb**		**18 14 55.0**	**0.0**
	baz=351								
NWF				*i* S		**Sg**		**18 15 05.5**	**0.0**
	baz=351								
TAP	**Taipei**	**0.88**	**341**	*e*P		**Pb**		**18 14 55.3**	**+0.2**
	baz=344								
TAP				*e*S		**Sg**		**18 15 06.4**	**+0.4**
	baz=344								
SXI1	**Grass Mountain**	**0.89**	**3**	*e*P		**Pb**		**18 14 55.3**	**0.0**
	baz=13								
SXI1				*e*S		**Sg**		**18 15 06.4**	**+0.1**
	baz=13								
SSLB	**Suanglung**	**0.90**	**243**			**Pg**		**18 14 54.8**	**0.0**
SSLB	**Suanglung**	**0.90**	**243**	P		**Pg**		**18 14 55.0**	**+0.2**
SSLB	**Suanglung**	**0.90**	**243**	⇓P		**Pg**		**18 14 54.9**	**0.0**
	baz=249								
SSLB				S		**Sb**		**18 15 07.1**	**-0.4**
	baz=249								
SMLT	**Sun Moon Lake**	**0.90**	**250**	⇑*i*P		**Pb**		**18 14 55.4**	**-0.2**
	baz=238								
SMLT				S		**Sg**		**18 15 07.1**	**+0.4**
	baz=238								
NTY	**Taoyuan**	**0.93**	**329**	*e*P		**Pn**		**18 14 57.2**	**+0.3**
	baz=331								
NTY				*e*S		**Sn**		**18 15 09.8**	**-0.6**
	baz=331								
TYC	**Yuchr**	**0.93**	**252**	*e*P		**Pb**		**18 14 56.0**	**0.0**
	baz=250								
YULB	**Yu-li**	**0.94**	**211**	Pg		**Pg**		**18 14 55.5**	**-0.2**
YULB	**Yu-li**	**0.94**	**211**	*e*P		**Pg**		**18 14 55.0**	**-0.7**
	baz=220								
NCU	**National Centr**	**0.96**	**323**	*e*P		**Pn**		**18 14 57.3**	**-0.1**
	baz=324								
NCU				*e*S		**Sb**		**18 15 09.9**	**+0.6**
	baz=324								
NCUH	**Zhongli**	**0.96**	**323**	*e*P		**Pn**		**18 14 57.1**	**-0.2**
	baz=324								
NCUH				*e*S		**Sn**		**18 15 11.2**	**0.0**
	baz=324								
SBCB	**Hsinchu**	**0.96**	**308**	*e*P		**Pn**		**18 14 57.6**	**+0.1**
	baz=308								
SBCB				*e*S		**Sn**		**18 15 11.9**	**+0.7**
	baz=308								
TWS1	**Kuangyinshan**	**0.97**	**338**	P		**Pn**		**18 14 57.5**	**+0.1**
	baz=340								
TWS1				*e*S		**Sn**		**18 15 10.5**	**-0.9**
	baz=340								
YM01	**YM01**	**0.97**	**346**	*e*P		**Pn**		**18 14 57.0**	**-0.5**
	baz=348								
YM01				*e*S		**Sg**		**18 15 08.8**	**0.0**
	baz=348								
EYUL	**Yuli**	**0.97**	**209**	*e*P		**Pn**		**18 14 57.2**	**-0.2**
	baz=222								
NSY	**Sanyi**	**0.99**	**283**	*e*P		**Pn**		**18 14 57.9**	**+0.1**
	baz=282								
NSY				*e*S		**Sn**		**18 15 12.3**	**+0.3**
	baz=282								
NMLH	**Miaoli**	**1.00**	**290**	*e*P		**Pn**		**18 14 59.0**	**+1.0**
	baz=289								
NTST	**Danshui**	**1.02**	**341**	*e*P		**Pn**		**18 14 58.1**	**-0.1**
	baz=342								
NTST				*e*S		**Sn**		**18 15 12.4**	**-0.2**
	baz=342								
ANP	**Anpu**	**1.02**	**344**	*e*P		**Pn**		**18 14 57.9**	**-0.4**
	baz=347								
TCU	**Taichung**	**1.05**	**267**	*e*P		**Pn**		**18 14 59.9**	**+1.3**
	baz=266								
TCU				*e*S		**Sn**		**18 15 15.4**	**+2.0**
	baz=266								
JYNG	**Yonagunijimaku**	**1.05**	**76**	P		**Pn**		**18 14 58.7**	**0.0**
JYNG				*e*S		**Sn**		**18 15 14.8**	**+1.3**
NHW	**Xinwu Township**	**1.07**	**319**	*e*P		**Pn**		**18 15 00.7**	**+1.8**
	baz=320								
NHW				*e*S		**Sn**		**18 15 14.2**	**+0.3**
	baz=320								
YUS	**Yu-Shan**	**1.07**	**228**	*e*P		**Pn**		**18 14 58.6**	**-0.6**
	baz=227								
YUS				*e*S		**Sn**		**18 15 14.9**	**+0.3**
	baz=227								
WJS	**Zhushan**	**1.07**	**249**	*e*P		**Pn**		**18 14 59.8**	**+0.9**
	baz=241								
WDJ	**Dajia District**	**1.09**	**278**	*e*P		**Pg**		**18 14 60.0**	**+1.5**
	baz=277								
WDJ				*e*S		**Sn**		**18 15 16.2**	**+1.8**
	baz=277								
WNT	**Mingjian**	**1.09**	**253**	P		**Pg**		**18 14 60.0**	**+1.4**
	baz=247								
WNT				*e*S		**Sn**		**18 15 15.2**	**+0.8**
	baz=247								
FULB	**Fuli**	**1.11**	**206**	*e*P		**Pg**		**18 14 59.9**	**+1.0**
	baz=219								
YOJ	**Yonaguni jima**	**1.11**	**76**	P		**Pg**		**18 15 00.2**	**+1.2**
YOJ				*e*S		**Sn**		**18 15 16.9**	**+1.9**
YOJ	**Yonaguni jima**	**1.11**	**76**	Pn		**Pg**		**18 15 00.1**	**+1.2**
YOJ	**Yonaguni jima**	**1.11**	**76**	P		**Pg**		**18 15 00.5**	**+1.5**
YOJ	**Yonaguni jima**	**1.11**	**76**	*e*P		**Pg**		**18 15 00.3**	**+1.3**
	baz=66								
ALS	**Alishan**	**1.16**	**234**	⇑P		**Pg**		**18 15 00.3**	**+0.5**
	baz=233								
WCHH	**Zhanghua**	**1.16**	**264**	*e*P		**Pg**		**18 15 01.5**	**+1.6**
	baz=264								
CHKT	**Chengkung**	**1.18**	**201**	*e*P		**Pb**		**18 14 58.5**	**-1.7**
	baz=184								
ELDTW	**Lidau**	**1.25**	**216**	P		**Pn**		**18 15 00.9**	**-0.6**
	baz=215								
WDLH	**Douliu**	**1.28**	**247**	*e*P		**Pg**		**18 15 03.0**	**+0.8**
	baz=229								
EDH	**Donghe**	**1.31**	**201**	*e*P		**Pb**		**18 15 02.0**	**-0.5**
	baz=187								
WRL	**Guolierlin Hig**	**1.35**	**257**	*e*P		**Pg**		**18 15 03.7**	**+0.1**
	baz=258								
CHN2	**Minshiung**	**1.40**	**242**	*e*P		**Pg**		**18 15 06.3**	**+1.8**
	baz=241								
CHN2				*e*S		**Sg**		**18 15 26.7**	**+3.9**
	baz=241								
STYH	**Taoyuan**	**1.41**	**223**	*e*P		**Pg**		**18 15 04.2**	**-0.3**
	baz=223								
STYH				*e*S		**Sg**		**18 15 24.2**	**+1.4**
	baz=223								
WTK	**Tuku**	**1.41**	**249**	*e*P		**Pg**		**18 15 05.1**	**+0.4**
	baz=249								
WTK				*e*S		**Sg**		**18 15 25.5**	**+2.6**
	baz=249								
CHN4	**Tsaushan**	**1.41**	**233**	P		**Pg**		**18 15 05.0**	**+0.3**
	baz=233								
CHN4				*e*S		**Sg**		**18 15 25.9**	**+3.0**
	baz=233								
TPUB	**Ta-pu**	**1.42**	**231**			**Pg**		**18 15 04.7**	**-0.1**
TPUB	**Ta-pu**	**1.42**	**231**	P		**Pg**		**18 15 04.8**	**+0.1**
TPUB	**Ta-pu**	**1.42**	**231**	P		**Pg**		**18 15 04.8**	**+0.1**
	baz=231								
TPUB				*e*S		**Sg**		**18 15 26.3**	**+3.2**
	baz=231								
LONT	**Longtian**	**1.44**	**206**	*e*P		**Pn**		**18 15 02.6**	**-1.4**
	baz=206								
CHY	**Chiayi**	**1.46**	**242**	*e*P		**Pg**		**18 15 06.2**	**+0.6**
	baz=241								
CHY				*e*S		**Sg**		**18 15 26.5**	**+2.0**
	baz=241								
WTP	**Ta-pu**	**1.46**	**230**	P		**Pg**		**18 15 05.8**	**+0.1**
	baz=229								
WTP				S		**Sg**		**18 15 26.6**	**+2.0**
	baz=229								
TWK	**Hsinying**	**1.54**	**233**	*e*P		**Pg**		**18 15 06.7**	**-0.4**
	baz=233								
TWK				*e*S		**Sg**		**18 15 28.8**	**+1.7**
	baz=233								
TWGBT	**Beinan**	**1.54**	**206**	*e*P		**Pn**		**18 15 03.0**	**-2.3**
	baz=189								
TWG	**Pinlang**	**1.54**	**207**	Pn		**Pn**		**18 15 03.9**	**-1.5**
TWG	**Pinlang**	**1.54**	**207**	*e*P		**Pn**		**18 15 04.9**	**-0.4**
	baz=189								
CHN1	**Nanshi**	**1.56**	**230**	P		**Pg**		**18 15 07.1**	**-0.5**
	baz=230								
CHN1				*e*S		**Sg**		**18 15 29.7**	**+2.0**
	baz=230								
SNST	**Tainan City**	**1.56**	**231**	*e*P		**Pg**		**18 15 08.9**	**+1.4**
	baz=232								
SNST				*e*S		**Sg**		**18 15 29.2**	**+1.4**
	baz=232								
WSF	**Szhu**	**1.57**	**249**	*e*P		**Pg**		**18 15 07.5**	**-0.2**
	baz=237								
WSF				*e*S		**Sg**		**18 15 28.9**	**+0.8**
	baz=237								
SGST	**Jiashian**	**1.59**	**226**	*e*P		**Pb**		**18 15 07.0**	**-0.3**
	baz=226								
WSL	**Shuilin Townsh**	**1.61**	**245**	*e*P		**Pg**		**18 15 08.1**	**-0.4**
	baz=245								
WSL				*e*S		**Sg**		**18 15 30.3**	**+1.0**
	baz=245								
ICHU	**Yijhu**	**1.64**	**240**	*e*P		**Pb**		**18 15 08.4**	**+0.3**
	baz=241								
ICHU				*e*S		**Sg**		**18 15 31.3**	**+0.9**
	baz=241								
CHN8	**Yiju**	**1.71**	**240**	*e*P		**Pg**		**18 15 10.8**	**+0.5**
	baz=226								
CHN8				*e*S		**Sg**		**18 15 33.8**	**+1.4**
	baz=226								
IRIF	**Iriomote-Funau**	**1.75**	**85**	P		**Pb**		**18 15 09.7**	**-0.2**
IRIF				*e*S		**Sg**		**18 15 33.4**	**-0.3**
ECL	**Taimali**	**1.79**	**207**	*e*P		**Pn**		**18 15 07.6**	**-1.1**
	baz=192								
SSD	**Sandimen**	**1.82**	**217**	*e*P		**Pb**		**18 15 10.4**	**-0.7**
	baz=231								
TSMG	**Majia**	**1.84**	**216**	*e*P		**Pb**		**18 15 11.0**	**-0.5**
	baz=200								
MASBT	**Mashibuluo**	**1.92**	**215**	*e*P		**Pb**		**18 15 11.5**	**-1.5**
	baz=216								
JKRS	**Kuro-shima**	**2.00**	**89**	P		**Pb**		**18 15 13.6**	**-0.6**
EAST	**Anshuo**	**2.02**	**207**	*e*P		**Pb**		**18 15 14.4**	**-0.2**
	baz=194								
JISG	**Ishigakijimahi**	**2.30**	**80**	P		**Pn**		**18 15 16.5**	**+0.7**
KNMB	**Chin-men Tao**	**3.14**	**275**	Pn		**Pn**		**18 15 27.3**	**-0.1**
USA0B	**Ussuriysk Arra**	**21.61**	**20**	P		**P**		**18 19 26.3**	**-1.7**
USA0B				IAmb		IAmb		18 19 27.7	
	comp=Z,8.7nm,1.0s								
USRK	**Ussuriysk Ar.**	**21.61**	**20**	P		**P**		**18 19 25.0**	**-3.0**

ISK ***28*** *18:27:54.8,38°.37N×42°.07E,h6km,ML2.5/8*
IASPEI ***28*** *18:27:55.3±0.9,38°.39N±0°.03×42°.08E±0°.03,h8km±6km, Error ellipse: s-maj=4.6km s-min=3.6km az=10.5,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
DDA ***28*** *18:27:55.6±0.0,38°.39N×42°.07E,h6km,ML2.3*
ISC 28 18:27:55.4±0.9,38°.39N±0°.03×42°.08E±0°.02,h8km±6km, n22,σ0s44/32,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BLIS	**Bitlis-Merkez**	**0.04**	**46**	P		**Pg**		**18 27 56.9**	**-0.3**
BLIS				*i* AML		AML		18 27 58.0	
	comp=N,5μm,0.5s								
BLIS				*i* AML		AML		18 27 58.0	
	comp=E,9μm,0.3s								
BLIS				S		**Sg**		**18 27 58.3**	**0.0**
GURO	**Guroymak-BITLI**	**0.17**	**346**	PG		**Pg**		**18 27 58.9**	**0.0**
GURO				SG		**Sg**		**18 28 02.2**	**+0.9**
MUSM	**Mu-Merkez**	**0.56**	**307**	P		**Pg**		**18 28 06.3**	**+0.1**
MUSM				S		**Sb**		**18 28 14.7**	**-1.1**
MUSM				*i* AML		AML		18 28 15.0	
	comp=E,185nm,0.3s								
MUSM				*i* AML		AML		18 28 16.0	
	comp=N,202nm,0.4s								
PERV	**Siirt/Pervari-**	**0.57**	**141**	P		**Pg**		**18 28 06.8**	**+0.3**
PERV				S		**Sb**		**18 28 16.0**	**-0.2**
PERV				*i* AML		AML		18 28 17.0	
	comp=N,726nm,0.7s								
PERV				*i* AML		AML		18 28 19.0	
	comp=E,684nm,0.5s								
ADCV	**BITLIS_Adilcev**	**0.65**	**50**	P		**Pb**		**18 28 08.8**	**-0.4**
ADCV				S		**Sb**		**18 28 18.9**	**+0.3**
ADCV				*i* AML		AML		18 28 20.0	
	comp=E,165nm,0.3s								
ADCV				*i* AML		AML		18 28 21.0	
	comp=N,192nm,0.7s								
AKDM	**Akdamar-Van**	**0.71**	**95**	PG		**Pg**		**18 28 08.5**	**-0.5**
AKDM				SG		**Sb**		**18 28 19.5**	**-0.6**
SVAN	**Silvan-Diyarba**	**0.73**	**251**	PG		**Pg**		**18 28 09.3**	**-0.2**
SVAN	**Silvan-Diyarba**	**0.73**	**251**	P		**Pg**		**18 28 09.7**	**+0.1**
SVAN				*i* AML		AML		18 28 29.0	
	comp=E,67nm,0.6s								
GEVA	**Gevas**	**0.77**	**95**	P		**Pg**		**18 28 10.0**	**-0.2**
GEVA				S		**Sb**		**18 28 22.0**	**+0.1**
GEVA				*i* AML		AML		18 28 23.0	
	comp=N,121nm,0.4s								
GEVA				*i* AML		AML		18 28 25.0	
	comp=E,147nm,0.4s								
BTMN	**Batman**	**0.81**	**232**	P		**Pb**		**18 28 11.9**	**+0.1**
BTMN				S		**Sb**		**18 28 23.5**	**+0.5**
BTMN				*i* AML		AML		18 28 31.0	
	comp=N,106nm,0.7s								
BTMN				*i* AML		AML		18 28 33.0	
	comp=E,122nm,0.7s								
MLAZ	**Malazgirt-MUS**	**0.83**	**26**	PG		**Pg**		**18 28 11.6**	**+0.2**
MLAZ				SG		**Sb**		**18 28 24.7**	**+1.0**
VRTB	**Varto-Mus**	**0.91**	**328**	PG		**Pg**		**18 28 12.9**	**0.0**
VRTB	**Varto-Mus**	**0.91**	**328**	P		**Pb**		**18 28 13.2**	**-0.3**
VRTB				*i* AML		AML		18 28 32.0	
	comp=E,80nm,0.5s								
VRTB				*i* AML		AML		18 28 32.0	
	comp=N,91nm,0.6s								
SLHN	**Bingol, Solhan**

SIJI				Sn	Sn	18 30 50.6	-0.7
	9.1nm,0.3s,baz=127,slow=20,SNR=7.3						
SIJI				LR	LR	18 32 57.7	
	comp=Z,67nm,18.9s,baz=150,slow=49						
SWI	**Sorong**	**5.45**	**314**	P	**Pn**	**18 29 50.6**	**+1.7**
	0.5nm3µm71nm,0.7s						
MMPI	**Merauke**	**6.39**	**126**	P	**Pn**	**18 30 02.3**	**+0.5**
	2.3nm5µm409nm,0.6s						
AAI	**Ambon**	**7.02**	**278**	P	**Pn**	**18 30 12.7**	**+2.2**
KDU	**Kakadu**	**8.37**	**198**	P	**Pn**	**18 30 30.2**	**+1.2**
LBMI	**Labuha**	**8.65**	**298**	P	**Pn**	**18 30 33.5**	**+0.6**
	20nm,1.1s						
MTN	**Manton Dam**	**9.02**	**206**	P	**Pn**	**18 30 42.1**	**+4.2**
TNTI	**Ternate**	**9.50**	**305**	P	**Pn**	**18 30 46.2**	**+1.7**
	7.2nm,0.7s						
SANI	**Sanana**	**9.53**	**286**	P	**Pn**	**18 30 44.1**	**-0.9**
	8.6nm,0.6s						
SANI	**Sanana**	**9.53**	**286**	P	**Pn**	**18 30 45.6**	**+0.6**
COEN	**Coen**	**12.12**	**140**	P	**Pn**	**18 31 19.6**	**-0.9**
BATI	**Baumata**	**12.64**	**244**	Pn	**Pn**	**18 31 24.4**	**-3.2**
	1.1nm,0.3s,baz=75,slow=12,SNR=4.0						
BATI				Sn	**Sn**	**18 33 44.9**	**-3.3**
	1.7nm,0.3s,baz=98,slow=14,SNR=2.0						
PMG	**Port Moresby**	**12.79**	**112**	Pn	**Pn**	**18 31 28.6**	**-0.9**
	0.2nm,0.3s,baz=300,slow=8.1,SNR=1.7						
DAV	**Davao City (W)**	**15.11**	**321**	LR	LR	18 39 10.1	
	comp=Z,45nm,18.0s,baz=156,slow=42						
WRA	**Warramunga Arr**	**15.17**	**183**	Pn	**Pn**	**18 31 58.2**	**-3.8**
	0.7nm,0.3s,baz=5.4,slow=13,SNR=34						
WRA				Sn	Sn	18 34 37.2	-13
	0.8nm,0.3s,baz=4.5,slow=23,SNR=5.2						
MTSU	**Mount Surprise**	**16.07**	**147**	P	**Pn**	**18 32 13.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**16.25**	**214**	Pn	**Pn**	**18 32 14.4**	**-1.6**
	1.1nm,0.3s,baz=40,slow=12,SNR=30						
FITZ				Sn	Sn	18 35 05.6	-10
	2.3nm,0.3s,baz=159,slow=8.6,SNR=8.5						
QIS	**Mount Isa**	**16.34**	**165**	P	**Pn**	**18 32 17.9**	**+0.7**
ASAR	**Alice Springs**	**18.89**	**184**	P	**P**	**18 32 46.6**	**-1.6**
	1.3nm,0.3s,baz=6.1,slow=10.0,SNR=54						
ASAR				S	Sn	18 36 09.2	-11
	0.4nm,0.3s,baz=10.0,slow=27,SNR=7.0						
GUMO	**Guam**	**20.57**	**28**	LR	LR	18 42 32.3	
	comp=Z,27nm,18.1s,baz=161,slow=41						
WRKA	**Warakurna**	**21.27**	**197**	P	**P**	**18 33 16.1**	**+2.0**
OOD	**Oodnadatta**	**22.97**	**179**	P	**P**	**18 33 34.5**	**+2.3**
QLP	**Quilpie**	**23.42**	**159**	P	**P**	**18 33 39.3**	**+2.5**
MULG	**Mulgathing**	**25.46**	**182**	P	**P**	**18 33 58.3**	**+2.6**
CMAR	**Chiang Mai Arr**	**42.47**	**304**	P	**P**	**18 36 22.1**	**-1.0**
	0.2nm,0.4s,baz=126,slow=6.8,SNR=2.7						
KSRS	**Korea Array**	**42.49**	**351**	LR	LR	18 52 45.0	
	comp=Z,12nm,21.1s,baz=50,slow=34						
MKAR	**Makanchi Array**	**69.26**	**324**	P	**P**	**18 39 36.1**	**+1.5**
	0.5nm,0.5s,baz=106,slow=7.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**71.92**	**331**	P	**P**	**18 39 51.8**	**+1.1**
	0.2nm,0.3s,baz=142,slow=7.3,SNR=1.5						

*IDC **28** 18:49:00.3±0.8, 6.75N×72.90W, h163km±9km, mb2.9/2, mb1 3.4/4, mb1mx3.0/34, mbtmp3.6/4, Error ellipse: s-maj=39.1km s-min=7.5km az=131.0*
*RSNC **28** 18:49:01.7±0.8, 6.84N×73.14W, h145km±4km, ML3.3, Mw3.6*

ISC 28 18:49:00.1±0.9, 6.86N±0.04×73.11W±0.04, h154km±6km, n23, σ1s07/42, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**196**	⇑*iP*		**Pn**	**18 49 21.4**	**+0.1**
BARC				*i*			18 49 21.9	
	comp=Z,377nm,0.1s							
BARC				*eS*		**Sn**	**18 49 37.1**	**-0.4**
PAMC	**Pamplona, Colo**	**0.62**	**40**	⇑*eP*		**Pn**	**18 49 24.1**	**+1.0**
PAMC				*eS*		**Sn**	**18 49 40.9**	**+0.2**
PAMC				*i*			18 49 41.9	
	comp=Z,301nm,0.2s							
RUSC	**La Rusia**	**0.96**	**179**	⇑*eP*		**Pn**	**18 49 25.3**	**-0.1**
RUSC				*eS*		**Sn**	**18 49 44.1**	**-0.7**
RUSC				*i*			18 49 45.2	
	comp=Z,178nm,0.3s							
TAMC	**Tame, Arauca**	**1.37**	**108**	*iP*		**Pn**	**18 49 29.9**	**+1.2**
TAMC				*eS*		**Sn**	**18 49 50.5**	**0.0**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	*iP*		**Pn**	**18 49 28.3**	**-0.4**
PTBC				*eS*		**Sn**	**18 49 49.2**	**-1.3**
PTBC				*i*			18 49 56.6	
	comp=Z,206nm,0.4s							
OCAC	**Ocana**	**1.39**	**351**	*eP*		**Pn**	**18 49 29.0**	**+0.1**
OCAC				*eS*		**Sn**	**18 49 51.0**	**-0.1**
OCAC				*i*			18 49 54.5	
	comp=Z,300nm,0.3s							
SPBC	**San Pablo de B**	**1.54**	**219**	*eP*		**Pn**	**18 49 30.4**	**0.0**
SPBC				*eS*		**Sn**	**18 49 52.6**	**-1.1**
SPBC				*i*			18 49 58.6	
	comp=Z,271nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	*eP*		**Pn**	**18 49 33.9**	**+0.3**
ZARC				*eS*		**Sn**	**18 49 59.3**	**-0.2**
ZARC				*i*			18 50 05.2	
	comp=Z,304nm,0.6s							
NORC	**Norcasia**	**2.17**	**234**	*iP*		**Pn**	**18 49 37.9**	**+0.3**
NORC				*eS*		**Sn**	**18 50 05.7**	**-0.6**
NORC				*i*			18 50 12.8	
	comp=Z,116nm,0.2s							
CHIC	**Chingaza**	**2.30**	**196**	*iP*		**Pn**	**18 49 39.9**	**+0.5**
CHIC				*eS*		**Sn**	**18 50 09.9**	**+0.2**
CHIC				*i*			18 50 14.3	
	comp=Z,74nm,0.5s							
ROSC	**El Rosal**	**2.34**	**211**	P		**Pn**	**18 49 42.0**	**+2.1**
	comp=Z,18nm,0.3s,baz=62,slow=15,SNR=34							
ROSC				S		**Sn**	**18 50 12.3**	**+1.8**
	comp=Z,56nm,0.3s,baz=107,slow=20,SNR=13							
ROSC	**El Rosal**	**2.34**	**211**	*iP*		**Pn**	**18 49 42.2**	**+2.3**
ROSC				*eS*		**Sn**	**18 50 08.9**	**-1.6**
ROSC				*i*			18 50 16.1	
	comp=Z,190nm,0.5s							
HELC	**Santa Helena**	**2.50**	**255**	*eP*		**Pn**	**18 49 42.0**	**+0.3**
HELC				*eS*		**Sn**	**18 50 13.8**	**+0.1**
HELC				*i*			18 50 20.5	
	comp=Z,128nm,0.5s							
UREC	**San Jos de Ur**	**2.56**	**290**	*eP*		**Pn**	**18 49 41.7**	**-0.4**
UREC				*eS*		**Sn**	**18 50 12.5**	**-2.2**
UREC				*i*			18 50 24.3	
	comp=Z,144nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.77**	**234**	*eP*		**Pn**	**18 49 45.6**	**+0.4**
GUY2C				*eS*		**Sn**	**18 50 20.2**	**+0.2**
GUY2C				*i*			18 50 29.3	
	comp=Z,80nm,0.6s							
VILC	**Villavicencio,**	**2.79**	**192**	*eP*		**Pn**	**18 49 45.3**	**+0.2**
VILC				*eS*		**Sn**	**18 50 19.7**	**-0.3**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	*iP*		**Pn**	**18 49 44.8**	**-0.5**
PTGC				*eS*		**Sn**	**18 50 17.2**	**-3.2**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	*eP*		**Pn**	**18 49 49.1**	**+0.7**
CBOC				*eS*		**Sn**	**18 50 26.0**	**+0.2**
CBOC				*i*			18 50 36.5	
	comp=Z,37nm,0.4s							
SDV	**Santo Domingo**	**3.17**	**50**	P		**Pn**	**18 49 50.1**	**+0.2**
	comp=Z,16nm,0.3s,baz=223,slow=8.5,SNR=80							
SDV				S		**Sn**	**18 50 27.9**	**-0.7**
	comp=Z,14nm,0.3s,baz=255,slow=23,SNR=22							
TXAR	**Lajitas Array**	**36.45**	**312**	P		**P**	**18 55 51.4**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=123,slow=9.8,SNR=3.0							
YKA	**Yellowknife Ar**	**63.23**	**340**	P		**P**	**18 59 12.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=131,slow=6.9,SNR=9.9							
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc		**PKPbc**	**19 08 30.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=118,slow=3.6,SNR=8.2							
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc		**PKPbc**	**19 08 32.7**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=108,slow=3.1,SNR=10							

IDC 28 18:49:20.0±40.0, 56.82S×144.31E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.4/29, mbtmp3.8/4, MS3.7/3, Ms1 3.7/3, ms1mx3.1/47, Error ellipse: s-maj=690.6km s-min=145.4km az=154.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**25.02**	**355**	P		P	18 54 45.0	-0.5
	2.0nm,0.8s,baz=169,slow=16,SNR=2.6							
H01W1	**Cape Leeuwin H**	**29.95**	**304**	P		P	18 55 29.8	+0.4
H01W1	baz=202,slow=76,SNR=18			T		T	19 23 15.3	
	baz=142,slow=75,SNR=142							
H01W2	**Cape Leeuwin H**	**29.96**	**304**	P		P	18 55 29.1	-0.3
H01W2	baz=202,slow=76,SNR=22			T		T	19 23 16.4	
	baz=142,slow=75,SNR=132							
H01W3	**Cape Leeuwin H**	**29.97**	**304**	P		P	18 55 30.1	+0.5
	baz=202,slow=76,SNR=23							
H01W3				T		T	19 23 16.6	
	baz=142,slow=75,SNR=146							
ASAR	**Alice Springs**	**33.98**	**343**	P		P	18 56 05.2	-0.1
	0.7nm,0.6s,baz=166,slow=10,SNR=8.8							
WRA	**Warramunga Arr**	**37.57**	**345**	P		P	18 56 36.3	+0.3
	1.2nm,0.8s,baz=172,slow=7.7,SNR=9.6							
DZM	**Mont Dzumac**	**38.33**	**34**	LR		LR	19 09 11.5	
	comp=Z,117nm,18.8s,baz=160,slow=31							
FITZ	**Fitzroy Crossi**	**41.12**	**332**	P		P	18 57 05.3	-0.3
	1.9nm,0.8s,baz=180,slow=8.7,SNR=3.8							
FITZ				LR		LR	19 11 08.2	
	comp=Z,84nm,21.3s,baz=194,slow=32							
BATI	**Baumata**	**49.19**	**333**	LR		LR	19 18 04.5	
	comp=Z,66nm,19.1s,baz=237,slow=35							
H11S2	**WAKE ISLAND Hy**	**77.34**	**22**	T		T	20 25 47.1	
	baz=189,slow=75,SNR=5.5							
H11S3	**WAKE ISLAND Hy**	**77.35**	**22**	T		T	20 25 50.5	
	baz=189,slow=75,SNR=3.2							
H11S1	**WAKE ISLAND Hy**	**77.36**	**22**	T		T	20 25 43.1	
	baz=189,slow=75,SNR=5.2							
H11N3	**WAKE ISLAND Hy**	**78.58**	**22**	T		T	20 27 18.7	
	baz=92,slow=74,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**78.59**	**22**	T		T	20 27 16.8	
	baz=182,slow=74,SNR=4.1							

*SNET **28** 18:51:26.7±0.8, 13.20N×89.59W, h47km±8km, ML3.4*
*GCG **28** 18:51:28.0±0.4, 13.10N×89.86W, h65km±79km, MD3.8*

ISC 28 18:51:25.9±2.2, 13.1N±0.1×89.61W±0.04, h29km±13km, n21, σ0s38/29, 7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.47**	**38**	*iP*		**Pn**	**18 51 36.4**	**-0.2**
LALI				*eS*		**Sn**	**18 51 43.8**	**-0.1**
JAYA	**Jayaque - finc**	**0.56**	**17**	⇓*eP*		**Pb**	**18 51 37.6**	**+0.3**
JAYA				*eS*		**Sn**	**18 51 46.2**	**-0.1**
JAYA					IAML		18 51 48.5	
	comp=Z,2µm,0.2s							
SNET	**Serv Nac Est T**	**0.68**	**33**	*eP*		**Pb**	**18 51 39.0**	**-0.2**
SNET				*eS*		**Sn**	**18 51 49.3**	**+0.1**
BOQS	**Boqueron**	**0.69**	**28**	⇓*iP*		**Pb**	**18 51 39.6**	**0.0**
BOQS				*eS*		**Sn**	**18 51 49.9**	**0.0**
CEVE	**Cerro Verde**	**0.70**	**359**	⇓*eP*		**Pb**	**18 51 39.8**	**0.0**
SBLS	**San Blas**	**0.72**	**359**	⇓*eP*		**Pb**	**18 51 40.0**	**-0.1**
LFRS	**El Faro**	**0.74**	**47**	*eP*		**Pb**	**18 51 40.0**	**-0.2**
LFRS				*eS*		**Sb**	**18 51 50.2**	**+0.2**
SNJE	**San Jose**	**0.75**	**1**	*eP*		**Pb**	**18 51 40.3**	**-0.2**
SJTE	**Alcalda de S**	**0.77**	**50**	⇓*eP*		**Pb**	**18 51 40.5**	**-0.4**
SJTE				*eS*		**Sb**	**18 51 51.4**	**+0.3**
SJTE					IAML		18 51 52.0	
	comp=Z,1µm,0.2s							
RTR	**El Retiro**	**0.78**	**358**	*eP*		**Pb**	**18 51 40.9**	**0.0**
NUBE	**Las Nubes**	**0.80**	**348**	⇓*iP*		**Pb**	**18 51 40.8**	**-0.6**
LBRS	**Las Brisas**	**0.83**	**42**	*eP*		**Pb**	**18 51 41.7**	**-0.1**
COEG	**Centro de Oper**	**0.87**	**55**	*eP*		**Pb**	**18 51 41.8**	**-0.7**
COEG					IAML		18 51 59.1	
	comp=Z,968nm,0.3s							
PAVA	**Las Pavas**	**0.89**	**48**	*eP*		**Pb**	**18 51 42.6**	**-0.2**
PAVA					IAML		18 51 56.5	
	comp=Z,2µm,0.4s							
SLOZ	**Alcaldia de Sa**	**0.92**	**350**	*eP*		**Pb**	**18 51 42.6**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.04**	**56**	*eP*		**Pn**	**18 51 44.7**	**+0.2**
MTO3	**Montecristo**	**1.30**	**11**	⇓*iP*		**Pn**	**18 51 48.2**	**-0.1**
LCY	**Lacayo**	**1.32**	**77**	*eP*		**Pn**	**18 51 48.7**	**+0.3**
NBG	**Las Nubes**	**1.62**	**334**	*eP*		**Pb**	**18 51 54.6**	**-0.8**
FUG	**Fuego 3**	**1.78**	**318**	*eP*		**Pn**	**18 51 55.3**	**+0.5**
FUG				*eS*		**Sn**	**18 52 17.1**	**+0.5**
STG3	**Santiaguito 3,**	**2.47**	**310**	*eP*		**Pn**	**18 52 04.9**	**+0.5**
STG3				*eS*		**Sn**	**18 52 33.2**	**-0.5**

IDC 28 19:09:34.5±2.6, 24.45S×177.19W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.7/39, mbtmp4.1/5, Error ellipse: s-maj=200.0km s-min=33.3km az=164.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.04**	**270**	P		P	19 16 22.6	+1.9
	3.1nm,0.7s,baz=86,slow=9.2,SNR=1.4							
ASAR	**Alice Springs**	**44.48**	**260**	P		P	19 17 48.0	+0.1
	3.6nm,0.9s,baz=95,slow=8.4,SNR=22							
WRA	**Warramunga Arr**	**44.93**	**266**	P		P	19 17 50.4	-1.1
	3.5nm,0.9s,baz=104,slow=8.0,SNR=18							
FITZ	**Fitzroy Crossi**	**53.34**	**265**	P		P	19 18 55.2	-0.7
	1.2nm,0.9s,baz=120,slow=8.1,SNR=2.0							
H03S2	**Juan Fernandez**	**83.16**	**124**	T		T	20 53 57.3	
	baz=245,SNR=5.7							
H03S1	**Juan Fernandez**	**83.17**	**124**	T		T	20 54 00.4	
	baz=245,SNR=6.9							
H03S3	**Juan Fernandez**	**83.18**	**124**	T		T	20 53 55.6	
	baz=245,SNR=6.1							
H03N2	**Juan Fernandez**	**83.32**	**124**	T		T	20 54 03.1	
	baz=248							
H03N3	**Juan Fernandez**	**83.32**	**124**	T		T	20 54 06.4	
	baz=248							
H03N1	**Juan Fernandez**	**83.33**	**124**	T		T	20 54 06.4	
	baz=248							
TXAR	**Lajitas Array**	**88.56**	**57**	P		P	19 22 29.7	+0.1
	0.3nm,0.7s,baz=222,slow=4.9,SNR=4.0							
H10N3	**ASCENSION HYDR**	**143.73**	**150**	T		T	22 12 10.7	
	baz=202,slow=74							
H10N1	**ASCENSION HYDR**	**143.74**	**150**	T		T	22 12 06.3	
	baz=202							
H10N2	**ASCENSION HYDR**	**143.75**	**150**	T		T	22 12 10.1	
	baz=202,slow=74							

*NEIC **28** 19:15:16.0±1.9, 56.36N±0.07×158.84W±0.05, h127km±10km, mb3.9/2, ML3.5/26, ML3.4(AEIC), Error ellipse: s-maj=10.7km s-min=4.3km az=178.0*
*IDC **28** 19:15:18.0±6.0, 56.71N×158.65W, h104km±39km, mb3.2/3, mb1 3.5/6, mb1mx3.1/41, mbtmp3.6/6, Error ellipse: s-maj=47.1km s-min=30.1km az=59.0*
*AEIC **28** 19:15:18±2.3, 56.41N±0.08×158.8W±0.1, h114km±6km, Error ellipse: s-maj=12.4km s-min=7.1km az=151.0*

ISC 28 19:15:16.7±0.9, 56.47N±0.07×158.70W±0.06, h100km, n72, σ1s84/74, mb3.5/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VNHG	**Veniaminof 1**	**0.35**	**227**			**Pn**	**19 15 33.9**	**+2.2**
ANPB	**Aniakchak Plen**	**0.41**	**34**			**Pn**	**19 15 34.8**	**+2.8**
ANPB						**Sn**	**19 15 48.0**	**+4.6**
VNFG	**Fog Glacier, M**	**0.51**	**249**			**Pn**	**19 15 34.7**	**+2.0**
SDPT	**Sand Point**	**1.50**	**223**			**Pn**	**19 15 43.0**	**+0.1**
SDPT						**Sn**	**19 16 02.6**	**-0.2**
SDPT	**Sand Point**	**1.50**	**223**		IAML		19 16 03.3	
	comp=N,797nm,0.6s							
SDPT					IAML		19 16 03.7	
	comp=E,983nm,0.5s							
PLBL	**Peulik Blue Cr**	**1.61**	**39**			**Pn**	**19 15 49.1**	**+4.8**
PLK1	**Peulik 1**	**1.76**	**40**			**Pn**	**19 15 50.9**	**+4.7**
PLK5	**Peulik 5**	**1.83**	**32**			Pn	19 15 52.0	+5.0
CHIR	**Chirikof Islan**	**1.84**	**109**			**Pn**	**19 15 49.0**	**+1.8**
CHIR	**Chirikof Islan**	**1.84**	**109**			**Sn**	**19 16 13.1**	**+2.7**
CHIR	**Chirikof Islan**	**1.84**	**109**		IAML		19 15 58.8	
	comp=E,257nm,3.1s							
CHIR					IAML		19 16 06.5	
	comp=N,289nm,3.1s							
PS4A	**Pavlof South-4**	**2.10**	**239**			**Pn**	**19 15 50.8**	**+0.2**
ANCK	**Angle Creek**	**2.46**	**44**			**Pn**	**19 15 59.8**	**+4.5**
SII	**Sitkinak Islan**	**2.51**	**86**			**Pn**	**19 15 57.6**	**+1.7**
SII						**Sn**	**19 16 28.1**	**+2.2**
SII	**Sitkinak Islan**	**2.51**	**86**		IAML		19 16 30.0	
	comp=E,316nm,0.6s							
SII					IAML		19 16 30.0	
	comp=N,363nm,0.6s							
OHAK	**Old Harbor**	**3.07**	**73**		Pn	**Pn**	**19 16 03.8**	**+0.5**
OHAK					IAML		19 16 41.2	
	comp=E,118nm,0.4s							
OHAK					IAML		19 16 53.7	
	comp=N,127nm,1.5s							
FALS	**False Pass**	**3.12**	**241**			**Pn**	**19 16 03.2**	**-0.8**
P18K	**Big Mountain,**	**3.47**	**31**			**Pn**	**19 16 10.2**	**+1.5**
KDAK	**Kodiak Island**	**3.59**	**66**	P		**Pn**	**19 16 11.3**	**+1.1**
	comp=N,4.2nm,0.3s,baz=256,slow=18,SNR=34							
KDAK				S		**Sn**	**19 16 50.4**	**-1.3**
	comp=N,7.0nm,0.3s,baz=237,slow=24,SNR=34							
KDAK	**Kodiak Island**	**3.59**	**66**	Pn		**Pn**	**19 16 11.0**	**+0.8**
KDAK					IAML		19 16 52.1	
	comp=N,81nm,0.4s							
KDAK					IAML		19 17 03.5	
	comp=N,89nm,2.7s							
Q19K	**Cape Douglas,**	**3.67**	**46**	Pn		**Pn**	**19 16 12.9**	**+1.5**
O18K	**Koktuh Hills**	**3.87**	**27**			**Pn**	**19 16 16.1**	**+2.1**
WESE	**West Dahl East**	**3.90**	**242**			**Pn**	**19 16 14.5**	**0.0**
N18K	**Kilae Creek**	**4.48**	**18**	Pn		**Pn**	**19 16 23.6**	**+1.4**
AKUT	**Akutan**	**4.67**	**243**	Pn		**Pn**	**19 16 22.8**	**-2.0**
SVW2	**Sparrevohn**	**4.92**	**18**			**Pn**	**19 16 29.6**	**+1.3**
SVW2					IAML		19 17 14.5	
	comp=N,20nm,3.4s							
CNPM	**China Poot**	**5.02**	**49**			**Pn**	**19 16 30.8**	**+1.2**
RSO	**Redoubt South**	**5.08**	**35**	Pn		**Pn**	**19 16 32.3**	**+1.7**
UNV	**Unalaska Valle**	**5.19**	**243**			**Pn**	**19 16 30.4**	**-1.4**
MTBL	**Makushin Table**	**5.21**	**245**			**Pn**	**19 16 31.7**	**-0.5**
BRLK	**Bradley Lake**	**5.30**	**48**	Pn		**Pn**	**19 16 33.9**	**+0.5**
M19K	**Big River Lodg**	**5.89**	**20**	Pn		**Pn**	**19 16 43.2**	**+1.9**
SLKM	**Skilak Lake**	**6.02**	**44**			**Pn**	**19 16 44.1**	**+1.0**
L19K	**White Mountain**	**6.06**	**17**			**Pn**	**19 16 45.3**	**+1.6**
TTA	**Tatalina**	**6.63**	**11**	Pn		**Pn**	**19 16 52.5**	**+1.0**
PWL	**Port Wells**	**6.97**	**47**	Pn		**Pn**	**19 16 57.1**	**+1.1**
PPLA	**Purkeypile**	**7.24**	**24**	Pn		**Pn**	**19 17 02.7**	**+2.9**
KNK	**Knik Glacier**	**7.25**	**43**	Pn		**Pn**	**19 17 01.0**	**+1.0**
K20K	**Telida**	**7.29**	**17**	Pn		**Pn**	**19 17 01.8**	**+1.4**
SML	**Sawmill**	**7.55**	**41**	Pn		**Pn**	**19 17 03.1**	**-0.9**
FID	**Port Fidalgo**	**7.69**	**51**	Pn		**Pn**	**19 17 05.4**	**-0.4**
CAST	**Castle Rocks**	**7.72**	**23**			**Pn**	**19 17 08.1**	**+1.9**
SCM	**Sheep Creek Mo**	**7.94**	**43**	Pn		**Pn**	**19 17 08.9**	**-0.4**
J20K	**Nowinta River**	**8.06**	**14**	Pn		**Pn**	**19 17 12.1**	**+1.3**
KTH	**Kantishna Hill**	**8.10**	**25**	Pn		**Pn**	**19 17 11.8**	**+0.3**
TRF	**Thorofare Moun**	**8.17**	**28**	Pn		**Pn**	**19 17 12.5**	**0.0**
KLU	**Klutina**	**8.30**	**47**			**Pn**	**19 17 13.9**	**-0.2**
M24K	**Tolsona, Glenn**	**8.54**	**43**	Pn		**Pn**	**19 17 18.2**	**+0.8**
BPAW	**Bear Paw Mtn.**	**8.56**	**23**	Pn		**Pn**	**19 17 18.2**	**+0.6**
DHY	**Denali Highway**	**8.74**	**36**	Pn		**Pn**	**19 17 18.8**	**-1.4**
BERG	**Berg Lake**	**8.79**	**57**	Pn		**Pn**	**19 17 21.1**	**+0.2**
N25K	**Chitina, Valde**	**8.90**	**49**	Pn		**Pn**	**19 17 22.2**	**-0.1**
GLB	**Gilahina Butte**	**9.16**	**51**	Pn		**Pn**	**19 17 25.6**	**-0.2**
WAX	**Waxell Ridge**	**9.21**	**58**	Pn		**Pn**	**19 17 26.8**	**+0.3**
VRDI	**Verde Repeater**	**9.22**	**53**	Pn		**Pn**	**19 17 26.9**	**+0.1**
PAX	**Paxson**	**9.32**	**40**	Pn		**Pn**	**19 17 28.0**	**-0.1**
I21K	**Tanana**	**9.33**	**18**	Pn		**Pn**	**19 17 29.1**	**+1.0**
H21K	**Melozitna Rive**	**9.65**	**15**	Pn		**Pn**	**19 17 33.8**	**+1.4**
GRNC	**Granite Creek**	**9.81**	**57**	Pn		**Pn**	**19 17 35.0**	**+0.1**
IMAR	**Indian Mountai**	**9.84**	**12**	Pn		**Pn**	**19 17 36.3**	**+1.3**
M26K	**Nabesna, AK**	**9.95**	**47**	Pn		**Pn**	**19 17 37.1**	**+0.5**
RIDG	**Independent Ri**	**10.03**	**38**	Pn		**Pn**	**19 17 36.7**	**-1.0**
IL31		**10.13**	**30**			**Pn**	**19 17 36.4**	**-2.6**
ILAR	**Eielson Array**	**10.13**	**30**	P		**Pn**	**19 17 36.2**	**-2.8**
	comp=N,0.3nm,0.3s,baz=220,slow=13,SNR=12							
ILAR				S		**Sn**	**19 19 26.4**	**-4.2**
	comp=N,0.4nm,0.3s,baz=224,slow=21,SNR=15							
ILAR	**Eielson Array**	**10.13**	**30**			**Pn**	**19 17 36.7**	**-2.3**
INK	**Inuvik**	**16.47**	**34**	P		**Pn**	**19 18 59.7**	**-1.7**
	comp=N,0.2nm,0.3s,baz=181,slow=4.0,SNR=8.1							
INK				S		**Sn**	**19 22 01.2**	**-2.5**
	comp=N,0.0nm,0.3s,baz=53,slow=27,SNR=1.0							
INK	**Inuvik**	**16.47**	**34**	P		**Pn**	**19 18 59.6**	**-1.7**
INK				IAmb		IAmb	19 19 59.2	
	comp=Z,5.4nm,1.2s							
C36M	**Paulatuk**	**19.99**	**36**	P		**P**	**19 19 38.9**	**-1.9**
C36M				IAmb		IAmb	19 20 14.4	
	comp=Z,14nm,1.3s							
YKA	**Yellowknife Ar**	**22.81**	**56**	P		**P**	**19 20 11.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=269,slow=8.7,SNR=9.7							
YKA	**Yellowknife Ar**	**22.81**	**56**	P		**P**	**19 20 09.6**	**-1.1**
PDAR	**Pinedale Array**	**33.89**	**93**

SANVU	Saraoutou	0.67	346	⇑P		Pb	19	33	36.2 -1.3
SANVU				⇓P		Pb	19	33	36.4 -1.3
SANVU				⇑S		Sb	19	33	41.5 -5.0
SANVU	Saraoutou	0.67	346	P		Pb	19	33	37.1 -0.5
DVP	Devils Point	1.79	154	P		Pb	19	33	57.4 +0.9
RTV	Rentapao	1.96	149	P		Pb	19	33	59.9 +0.5
LIFNC	LIFOU	4.65	182	Pn		Pn	19	34	30.8 -2.2
LIFNC	LIFOU	4.65	182	P		Pn	19	34	33.3 +0.3
KOUNC	Koumac, New Ca	5.31	213			Pn	19	34	41.4 -0.6
KOUNC	Koumac, New Ca	5.31	213	⇑P		Pn	19	34	41.5 -0.5
KOUNC	Koumac, New Ca 12μm,1.0s	5.31	213	P		Pn	19	34	43.0 +1.0
MARNC	Mare, Loyalty	5.38	173			Pn	19	34	40.2 -2.9
MARNC				Sn		Sn	19	35	37.4 -6.9
MARNC	Mare, Loyalty	5.38	173	⇑P		Pn	19	34	41.0 -2.1
MARNC	Mare, Loyalty	5.38	173	P		Pn	19	34	45.0 +1.9
YATNC	Mamie plateau,	5.94	184	P		Pn	19	34	51.5 +0.7
DZM	Mont Dzumac 122nm,0.3s,baz=44,slow=19,SNR=378	6.00	188	Pn		Pn	19	34	50.8 -0.8
DZM				Sn		Sn	19	36	00.6 +1.0
DZM	Mont Dzumac 168nm,0.3s,baz=115,slow=24,SNR=6.0	6.00	188	eP		Pn	19	34	51.3 -0.4
DZM				eSn		Sn	19	35	52.7 -6.9
DZM	Mont Dzumac 13μm,0.7s	6.00	188	eLR		LR	19	36	12.0
DZM	Mont Dzumac comp=Z,2460μm,23.1s	6.00	188			Pn	19	34	50.6 -1.1
DZM	Mont Dzumac	6.00	188	⇑P		Pn	19	34	50.9 -0.8
DZM	Mont Dzumac 4μm,0.9s	6.00	188	P		Pn	19	34	52.9 +1.2
NOUC	Port Laguerre 9μm,1.0s	6.05	189	P		Pn	19	34	53.8 +1.5
ONTNC	Ouen Toro	6.23	188			Pn	19	34	54.7 0.0
ONTNC	Ouen Toro	6.23	188	⇑P		Pn	19	34	54.8 0.0
ONTNC	Ouen Toro 5μm,0.5s	6.23	188	P		Pn	19	34	56.1 +1.4
OUENC	Ouen Island, N	6.30	184			Pn	19	34	55.4 -0.3
OUENC	Ouen Island, N 7μm,1.4s	6.30	184	P		Pn	19	34	56.9 +1.2
PINNC	Pines Island,	6.47	179			Pn	19	34	58.2 +0.1
PINNC	Pines Island, 4μm,0.6s	6.47	179	P		Pn	19	34	59.9 +1.8
HNR	Honiara 60nm,0.3s,baz=144,slow=9.9,SNR=25	9.82	312	Pn		Pn	19	35	46.1 +2.1
HNR				Sn		Sn	19	37	37.5 +4.0
HNR	Honiara 55nm,0.3s,baz=248,slow=22,SNR=1.0	9.82	312	LR		LR	19	39	14.4
HNR	Honiara comp=Z,969μm,21.6s,baz=146,slow=36	9.82	312	P		Pn	19	35	45.0 +1.0
HNR	Honiara	9.82	312			Pn	19	35	45.0 +1.0
HNR	Honiara	9.82	312	⇓P		Pn	19	35	45.2 +1.2
HNR	Honiara 6μm,1.1s	9.82	312	P		Pn	19	35	46.9 +2.9
MSVF	Nonsavu 7.1nm,0.3s,baz=281,slow=9.9,SNR=50	10.35	101	Pn		Pn	19	35	55.9 +4.6
MSVF				LR		LR	19	39	12.9
MSVF	Nonsavu comp=Z,2686μm,18.0s,baz=287,slow=34	10.35	101	P		Pn	19	35	55.1 +3.8
MSVF	Nonsavu	10.35	101	Pn		Pn	19	35	55.1 +3.8
NFK	Norfolk Island baz=13,SNR=7.6	12.89	178	P		Pn	19	36	28.8 +2.8
NFK				S		Sn	19	38	48.2 -0.5
NFK	Norfolk Island baz=13	12.89	178	⇑P		Pn	19	36	27.7 +1.7
NFK	Norfolk Island	12.89	178	P		Pn	19	36	28.6 +2.6
FUNA	Funafuti	13.78	58	Pn		Pn	19	36	37.7 -0.6
FUNA	Funafuti	13.78	58	⇓P		Pn	19	36	38.2 0.0
FUNA	Funafuti	13.78	58	P		Pn	19	36	38.9 +0.6
LHI	Lord Howe Isla baz=17,SNR=8.9	17.11	205	P		P	19	37	24.4 +1.1
LHI	Lord Howe Isla comp=Z,4μm,1.9s	17.11	205	Pn		Pn	19	37	20.9 -0.9
LHI				IAmb		IAmb	19	37	52.2
LHI	Lord Howe Isla	17.11	205	⇓P		Pn	19	37	22.1 +0.2
LHI	Lord Howe Isla	17.11	205	P		P	19	37	24.5 +1.1
RK1H	Rockhampton Ha	17.45	243	P		P	19	37	29.6 +2.4
EIDS	Eidsvold baz=18,SNR=68	17.79	236	P		P	19	37	33.5 +2.5
EIDS	Eidsvold	17.79	236			P	19	37	32.0 +1.1
EIDS				IAmb		IAmb	19	37	49.3
EIDS	Eidsvold comp=Z,4μm,1.8s	17.79	236	⇑P		P	19	37	32.2 +1.2
EIDS	Eidsvold	17.79	236	P		P	19	37	33.3 +2.3
RAO	Raoul Island comp=Z,39nm,0.3s,baz=324,slow=14,SNR=8.7	18.82	137	P		Pn	19	37	48.3 +5.4
RAO				LR		LR	19	43	39.1
RAO	Raoul Island comp=Z,694μm,19.4s,baz=324,slow=33	18.82	137	P		P	19	37	41.5 -0.8
RAO				pmax		pmax			
RAO	Raoul Island comp=Z,11μm,1.9s	18.82	137	P		P	19	37	41.5 -0.8
RAO	Raoul Island	18.82	137	P		Pn	19	37	44.8 +1.9
RABL	Rabaul	19.07	307	P		P	19	37	45.2 +0.1
RABL				IAmb		IAmb	19	38	16.1
RABL	Rabaul comp=Z,2μm,1.4s	19.07	307	⇑P		P	19	37	45.2 +0.1
RABL	Rabaul	19.07	307	P		Pn	19	37	46.3 +0.3
KRVT	Keravat (AS076 comp=Z,15nm,0.3s,baz=198,slow=2.3,SNR=12	19.10	306	P		Pn	19	37	46.6 +0.3
KRVT				S		Sn	19	41	18.3 -1.5
OUZ	Omahuta comp=Z,4.9nm,0.3s,baz=179,slow=23,SNR=1.1	19.84	165			Pn	19	37	54.7 -0.3
OUZ				IAmb		IAmb	19	38	17.9
OUZ	Omahuta comp=Z,4μm,1.9s	19.84	165	⇑P		P	19	37	54.0 +0.7
RMQ	Roma baz=20,SNR=295	20.16	236	P		Pn	19	37	59.8 +0.9
RMQ	Roma	20.16	236	P		Pn	19	38	00.4 +1.4
AFI	Afiamalu comp=Z,267nm,1.2s,baz=264,slow=16,SNR=6.4	20.26	87	P		P	19	37	57.8 -0.3
AFI				S		S	19	41	40.4 -3.9
AFI	Afiamalu comp=Z,14nm,0.6s,baz=274,slow=22,SNR=0.9	20.26	87	P		P	19	37	57.6 -0.6
AFI				LR		LR	19	44	00.3
AFI	Afiamalu comp=Z,494μm,18.3s,baz=258,slow=32	20.26	87	P		P	19	37	57.6 -0.6
AFI	Afiamalu	20.26	87	⇑P		P	19	37	57.7 -0.5
AFI	Afiamalu	20.26	87	P		Pn	19	37	59.3 -0.9
ARMA	Armidale baz=20,SNR=50	20.27	223	P		Pn	19	38	00.5 +0.3
ARMA	Armidale	20.27	223	Pn		Pn	19	38	00.2 -0.1
ARMA	Armidale	20.27	223	⇑P		Pn	19	38	00.5 +0.2
ARMA	Armidale	20.27	223	P		Pn	19	38	01.0 +0.7
CTA	Charters Tower comp=Z,45nm,0.8s,baz=83,slow=12,SNR=29	20.46	256	P		P	19	38	00.6 +0.3
CTA				S		Sn	19	41	54.0 +1.4
CTA	Charters Tower comp=Z,29nm,1.0s,baz=18,slow=11,SNR=1.3	20.46	256	LR		LR	19	45	13.8
CTA	Charters Tower comp=Z,339μm,18.5s,baz=104,slow=35 baz=21	20.46	256	P		Pn	19	38	02.5 0.0
CTA	Charters Tower	20.46	256	P		Pn	19	38	03.4 +0.9
PMG	Port Moresby comp=Z,69nm,0.9s,baz=101,slow=6.4,SNR=16	20.80	286	P		P	19	38	05.1 +1.2
PMG				S		S	19	41	56.0 +1.0
PMG	Port Moresby comp=Z,23nm,0.8s,baz=45,slow=20,SNR=1.1	20.80	286	Pn		Pn	19	38	05.6 -0.8
PMG				IAmb		IAmb	19	38	20.2
PMG	Port Moresby comp=Z,1μm,1.1s	20.80	286	IAMs_20		IAMs_20	19	45	18.7
PMG	Port Moresby comp=Z,897μm,19.0s	20.80	286	⇓P		Pn	19	38	06.3 -0.1
PMG	Port Moresby	20.80	286	P		Pn	19	38	07.0 +0.5
NIUE	Niue baz=22,SNR=12	21.84	101	P		P	19	38	13.9 -1.2
NIUE	Niue	21.84	101	P		P	19	38	13.4 -1.7
NIUE				IAmb		IAmb	19	38	29.4
NIUE	Niue comp=Z,3μm,1.2s	21.84	101	⇓P		P	19	38	14.0 -1.1
NIUE	Niue	21.84	101	P		P	19	38	15.1 0.0
NTLH	Newcastle Hard	21.93	217	P		P	19	38	20.3 +4.4
MTSU	Mount Surprise baz=22,SNR=128	22.13	261	P		P	19	38	20.5 +2.3
MTSU	Mount Surprise	22.13	261	P		P	19	38	21.1 +2.9
MGCD	Mangrove Creek baz=23,SNR=19	22.50	218	P		P	19	38	25.1 +3.0
MGCD	Mangrove Creek	22.50	218	P		P	19	38	24.9 +2.8
RIV	Riverview baz=23,SNR=15	22.91	217	P		P	19	38	29.9 +3.5
RIV	Riverview	22.91	217	⇓P		P	19	38	28.1 +1.7
SYDH	Sydney Hard Ro	23.11	217	P		P	19	38	31.4 +3.0
HIZ	Hauiti	23.27	165	P		P	19	38	31.3 +1.3
HIZ				IAMs_20		IAMs_20	19	46	37.0
MXZ	Matakaoa Point comp=Z,701μm,20.0s	23.46	158	P		P	19	38	29.7 -2.1
COEN	Coen baz=24,SNR=40	23.47	272	P		P	19	38	33.6 +1.4
COEN	Coen	23.47	272	P		P	19	38	33.0 +0.8
COEN				IAmb		IAmb	19	38	50.7
COEN	Coen comp=Z,3μm,1.9s	23.47	272	⇑P		P	19	38	33.1 +0.9
COEN	Coen	23.47	272	P		P	19	38	33.7 +1.5
URZ	Urewera comp=Z,115nm,0.8s,baz=23,slow=3.5,SNR=32	23.68	161	P		P	19	38	34.1 +0.2
URZ				S		S	19	42	56.5 +9.2
URZ	comp=Z,17nm,0.8s,baz=189,slow=20,SNR=1.3			LR		LR	19	45	01.8
URZ	Urewera comp=Z,96μm,22.0s,baz=346,slow=30	23.68	161	P		P	19	38	34.6 +0.7
URZ				IAmb		IAmb	19	39	11.9
URZ	comp=Z,3μm,1.6s			IAMs_20		IAMs_20	19	47	03.7
URZ	Urewera comp=Z,759μm,19.0s	23.68	161	⇑P		P	19	38	34.4 +0.4
URZ	Urewera	23.68	161	P		P	19	38	35.3 +1.3
QLP	Quilpie baz=24,SNR=20	23.90	240	P		P	19	38	37.3 +1.1
QLP	Quilpie	23.90	240	⇓P		P	19	38	36.2 -0.1
QLP	Quilpie	23.90	240	P		P	19	38	36.9 +0.6
MANU	Manus Island	24.16	303	P		P	19	38	39.1 +0.4
MANU				IAmb		IAmb	19	38	52.8
MANU	Manus Island comp=Z,2μm,1.6s	24.16	303	⇑P		P	19	38	39.4 +0.7
BKZ	Black Stump Fm	24.32	163	P		P	19	38	40.2 +0.2
BKZ				IAmb		IAmb	19	39	12.4
BKZ	Black Stump Fm comp=Z,923nm,1.2s	24.32	163	P		P	19	38	40.7 +0.6
KNTN	Kanton	24.47	59	P		P	19	38	39.9 -1.6
KNTN				IAmb		IAmb	19	39	00.1
KNTN	Kanton comp=Z,1μm,1.5s	24.47	59	⇑P		P	19	38	41.5 -0.1
KNTN	Kanton	24.47	59	P		P	19	38	43.2 +1.6
PATS	Pohnpei baz=25,SNR=36	24.50	338	P		P	19	38	42.6 +0.8
PATS	Pohnpei	24.50	338	P		P	19	38	39.3 -2.5
PATS	Pohnpei	24.50	338	P		P	19	38	43.4 +1.7
KWAJ	Kwajalein Atol	24.75	1	P		P	19	38	43.9 -0.1
KWAJ				pmax		pmax			
KWAJ	Kwajalein Atol comp=Z,2μm,1.2s	24.75	1	MLR		MLR			
KWAJ	Kwajalein Atol comp=Z,215μm,18.0s	24.75	1	P		P	19	38	43.9 -0.1
KWAJ	Kwajalein Atol	24.75	1	⇑P		P	19	38	43.0 -1.0
KWAJ	Kwajalein Atol	24.75	1	P		P	19	38	46.2 +2.2
CNB	Canberra Magne baz=25,SNR=87	25.01	217	P		P	19	38	47.9 +1.5
CNB	Canberra Magne	25.01	217	P		P	19	38	48.4 +2.0
CMSA	Cobar Meteorol baz=25,SNR=92	25.02	228	P		P	19	38	46.9 +0.6
CMSA	Cobar Meteorol	25.02	228	P		P	19	38	47.5 +1.1
QRZ	Quartz Range	25.04	171	P		P	19	38	47.2 +0.7
QRZ				IAmb		IAmb	19	38	57.8
QRZ	Quartz Range comp=Z,1μm,1.4s	25.04	171	P		P	19	38	48.9 +2.5
CAN	Canberra	25.22	217	P		P	19	38	48.8 +0.5
CAN				pmax		pmax			
CAN	Canberra comp=Z,1μm,1.6s	25.22	217	P		P	19	38	48.8 +0.5
CAN				IAmb		IAmb	19	39	29.5
CAN	Canberra comp=Z,1μm,1.6s	25.22	217	⇓P		P	19	38	49.5 +1.2
CAN	Canberra	25.22	217	P		P	19	38	49.9 +1.6
MNZ	Nelson	25.56	169	P		P	19	38	51.0 -0.2
NNZ				IAmb		IAmb	19	39	16.7
NNZ	comp=Z,2μm,1.9s								
BFZ	Birch Farm	25.67	164	P		P	19	38	51.1 -1.1
BFZ				IAmb		IAmb	19	39	17.3
BFZ	comp=Z,2μm,1.6s			IAMs_20		IAMs_20	19	48	48.5
BFZ	Birch Farm comp=Z,624μm,19.0s	25.67	164	P		P	19	38	53.3 +1.1
TUWZ	Tuamarina	25.87	169	P		P	19	38	54.6 +0.7
SNZO	South Karori	25.91	167	P		P	19	38	54.3 0.0
SNZO				IAmb		IAmb	19	39	12.4
SNZO	comp=Z,608nm,1.1s South Karori comp=Z,489μm,21.0s	25.91	167	IAMs_20		IAMs_20	19	48	00.6
SNZO	South Karori	25.91	167	⇑P		P	19	38	54.5 +0.2
SNZO	South Karori	25.91	167	P		P	19	38	57.3 +3.0
THZ	Tophouse	26.01	171	P		P	19	38	55.0 -0.4
BHW	Baring Head	26.03	167	P		P	19	38	53.9 -1.5
MSWZ	Moikau Station	26.12	166	P		P	19	38	55.7 -0.6
BSWZ	Blackbirch Sta	26.13	169	P		P	19	38	57.0 +0.7
PLWZ	Palliser	26.27	167	P		P	19	38	56.4 -1.3
QIS	Mount Isa baz=27,SNR=34	26.71	256	P		P	19	39	02.7 +0.8
QIS	Mount Isa	26.71	256	P		P	19	39	03.8 +1.9
KHZ	Kahutara	26.75	170	P		P	19	39	00.9 -1.0
KHZ				IAmb		IAmb	19	39	30.6
KHZ	Kahutara comp=Z,1μm,1.5s	26.75	170	⇓P		P	19	39	01.9 0.0
LTZ	Lake Taylor	26.92	172	P		P	19	39	03.7 +0.2
LTZ				IAmb		IAmb	19	39	19.3
INKA	Innaminka comp=Z,646nm,1.2s	27.22	240	P		P	19	39	07.9 +1.6
FOZ	Fox Glacier	27.42	176	P		P	19	39	08.6 +0.6
FOZ				IAmb		IAmb	19	39	18.2
MMPI	Merauke comp=Z,212μmcomp=Z,46μmcomp=Z,2μm,1.5s	27.42	283	P		P	19	39	09.6 +1.3
OXZ	Oxford	27.42	173	P		P	19	39	07.1 -0.9
OXZ				IAmb		IAmb	19	39	21.9
RPZ	Rata Peaks comp=Z,744nm,1.4s	27.70	174	P		P	19	39	10.9 +0.5
RPZ				S		S	19	43	53.6 +2.5
RPZ	comp=Z,24nm,0.7s,baz=21,slow=5.1,SNR=7.6 comp=Z,5.6nm,0.6s,baz=49,slow=23,SNR=0.9			LR		LR	19	49	10.4
RPZ	Rata Peaks comp=Z,447μm,21.4s,baz=354,slow=34	27.70	174	P		P	19	39	09.4 -1.1
RPZ				IAmb		IAmb	19	39	28.5
RPZ	comp=Z,1μm,1.6s			IAMs_20		IAMs_20	19	48	59.1
RPZ	comp=Z,445μm,22.0s								
MQZ	McQueen's Vall	27.88	172	P		P	19	39	12.0 0.0
MQZ				IAmb		IAmb	19	39	27.3
MQZ	comp=Z,1μm,1.4s								
STKA	Stephens Creek comp=Z,31nm,0.9s,baz=60,slow=11,SNR=22	28.20	232	P		P	19	39	15.7 +0.6
STKA				PcP		PcP	19	42	29.7 +1.2
STKA	comp=Z,61nm,0.8s,baz=83,slow=2.0,SNR=3.1			S		S	19	43	58.5 -0.8
STKA	comp=Z,8.1nm,0.7s,baz=317,slow=24,SNR=0.7			LR		LR	19	50	30.5
STKA	Stephens Creek comp=Z,294μm,18.4s,baz=122,slow=36	28.20	232	P		P	19	39	16.1 +1.0
STKA	Stephens Creek baz=28,SNR=34	28.20	232	P		P	19	39	15.7 +0.6
STKA	Stephens Creek	28.20	232	P		P	19	39	16.5 +1.4
LBZ	Lake Benmore	28.29	176	P		P	19	39	16.6 +0.9
WKZ	Wanaka	28.67	178	P		P	19	39	21.3 +2.2
WKZ				IAmb		IAmb	19	39	44.0
WKZ	comp=Z,1μm,1.5s			IAMs_20		IAMs_20	19	50	16.7
WKZ	comp=Z,378μm,19.0s								
TOO	Toolangi baz=29,SNR=47	28.82	218	P		P	19	39	21.7 +1.1
TOO	Toolangi	28.82	218	P		P	19	39	21.2 +0.6
TOO				pmax		pmax			
TOO	Toolangi comp=Z,733nm,1.2s	28.82	218	P		P	19	39	21.2 +0.6
TOO				IAmb		IAmb	19	39	33.9
TOO	Toolangi comp=Z,733nm,1.2s	28.82	218	⇓P		P	19	39	21.8 +1.1
TOO	Toolangi	28.82	218	P		P	19	39	22.2 +1.6
ODZ	Otahua Downs	28.98	175	P		P	19	39	21.5 -0.3
ODZ	Otahua Downs	28.98	175	⇑P		P	19	39	25.6 +3.7
MLZ	Mavora Lakes	29.18	179	P		P	19	39	24.4 +0.7
DCZ	Deep Cove	29.27	180	P		P	19	39	25.6 +1.2
DCZ				IAmb		IAmb	19	39	32.5
DCZ	comp=Z,526nm,1.0s								
WHZ	Wether Hill Ro	29.70	179	P		P	19	39	29.0 +0.8
WHZ				IAmb		IAmb	19	40	06.7
WHZ	comp=Z,798nm,1.5s								
BRAT	Ballarat	29.75	220	P		P	19	39	31.9 +3.2
GLAD	Gladstone	29.93	210	P		P	19	39	33.7 +3.4
GEXS	Deakin Univers	29.95	218	P		P	19	39	33.9 +3.4
LCRK	Leigh Creek	30.24	237	P		P	19	39	34.5 +1.3
ARPS	Mount Arapiles baz=31,SNR=22	30.60	223	P		P	19	39	38.2 +1.9
ARPS	Mount Arapiles	30.60	223	P		P	19	39	38.2 +1.9
CORO	Coronation Par	30.70	211	P		P	19	39	40.3 +3.2
HTT	Hallett baz=31,SNR=32	30.92	231	P		P	19	39	40.2 +0.9
HTT	Hallett	30.92	231	⇓P		P	19	39	40.0 +0.7
HTT	Hallett	30.92	231	P		P	19	39	40.8 +1.6
NAPP	Napperby	31.39	232	P		P	19	39	46.8 +3.5
WR0	Warramunga Arr	31.43	258	P		P	19	39	43.2 -0.6
MOO	Moorlands baz=32,SNR=19	31.44	209	P		P	19	39	46.2 +2.6
MOO	Moorlands	31.44	209	P		P	19	39	46.5 +2.8
RAR	Rarotonga comp=Z,138nm,1.2s,baz=246,slow=8.6,SNR=11	31.50	104	P		P	19	39	44.2 -0.3
RAR				LR		LR	19	49	42.1
RAR	Rarotonga comp=Z,120μm,20.9s,baz=276,slow=31	31.50	104	P		P	19	39	45.5 +1.1
RAR				pmax		pmax			
RAR	Rarotonga comp=Z,1μm,1.8s	31.50	104	MLR		MLR			
RAR	Rarotonga comp=Z,95μm,19.0s	31.50	104	P		P	19	39	45.5 +1.1
RAR	Rarotonga comp=Z,1μm,1.8s	31.50	104	IAmb		IAmb	19	39	49.5
RAR	Rarotonga	31.50	104	⇑P		P	19	39	47.8 +3.4
RAR	Rarotonga	31.50	104	P		P	19	39	46.5 +2.1
OOD	Oodnadatta	31.51	243	P		P	19	39	45.7 +1.2
SMPI	Sarmi comp=Z,96μmcomp=Z,17μmcomp=Z,346nm,1.2s	31.52	294	P		P	19	39	45.3 +0.6
WB0	Warramunga Arr	31.56	258	P		P	19	39	44.5 -0.5
WB0				IAmb		IAmb	19	40	11.3
WB2	Warramunga Arr comp=Z,533nm,1.2s	31.60	258	P		P	19	39	44.5 -0.9
WB2				IAmb		IAmb	19	40	06.9
WRAB	Tennant Creek comp=Z,317nm,0.8s	31.61	258	P		P	19	39	44.8 -0.6
WRAB				pmax		pmax			
WRAB	Tennant Creek comp=Z,269nm,0.9s	31.61	258	MLR		MLR			
WRAB	Tennant Creek comp=Z,331μm,19.0s	31.61	258	P		P	19	39	44.8 -0.6
WRAB				IAmb		IAmb	19	40	06.9
WRAB	Tennant Creek comp=Z,269nm,0.8s	31.61	258	IAMs_20		IAMs_20	19	51	33.4
WRAB	Tennant Creek comp=Z,331μm,19.0s	31.61	258	⇓P		P	19	39	44.5 -0.9
WRAB	Tennant Creek	31.61	258	P		P	19	39	45.6 +0.2
WRA	Warramunga Arr comp=Z,28nm,0.8s,baz=85,slow=8.4,SNR=144	31.61	258	P		P	19	39	44.3 -1.2
WRA				S		S	19	44	46.0 -7.3
WRA	comp=Z,7.5nm,1.0s,baz=78,slow=16,SNR=1.9			ScP		ScP	19	46	24.8 +5.5
WRA	comp=Z,55nm,1.0s,baz=85,slow=3.3,SNR=11			PKiKP		PKiKP	19	50	06.7 -0.1
WRA	comp=Z,13nm,0.9s,baz=63,slow=1.0,SNR=8.1			LR		LR	19	51	53.5
WRA	comp=Z,330μm,19.2s,baz=92,slow=35	31.61	258	P		P	19	39	44.1 -1.4
TAU	Tasmania Unive comp=Z,816nm,1.7s	31.74	209	P		P	19	39	47.0 +0.7
TAU				pmax		pmax			
TAU	Tasmania Unive comp=Z,390μm,18.0s	31.74	209	MLR		MLR			
TAU	Tasmania Unive comp=Z,816nm,1.6s	31.74	209	P		P	19	39	47.0 +0.7
TAU				IAmb		IAmb	19	39	57.7
TAU	Tasmania Unive comp=Z,390μm,18.0s	31.74	209	IAMs_20		IAMs_20	19	50	59.3
TAU	Tasmania Unive	31.74	209	⇑P		P	19	39	50.7 +4.4
TAU	Tasmania Unive	31.74	209	P		P	19	39	49.0 +2.7
WHYH	Whyalla	31.76	232	P		P	19	39	49.0 +2.4
TWOA	Tennyson Woods	31.92	228	P		P	19	39	50.3 +2.4
AS31	Alice Springs	32.30	251	P		P	19	39	51.0 -0.5
ASAR	Alice Springs comp=Z,190nm,0.8s,baz=77,slow=9.1,SNR=149	32.30	251	P		P	19	39	51.2 -0.3
ASAR				S		S	19	45	02.7 -1.2
ASAR	comp=Z,6.6nm,0.9s,baz=98,slow=12,SNR=2.0			ScP		ScP	19	46	26.1 +4.5
ASAR	comp=Z,47nm,0.9s,baz=92,slow=3.1,SNR=11			PKiKP		PKiKP	19	50	08.7 +1.4
ASAR	comp=Z,8.9nm,1.0s,baz=89,slow=1.1,SNR=6.9			LR		LR	19	52	39.1
ASAR	comp=Z,510μm,18.7s,baz=80,slow=36			P3KPbc			20	11	16.8
ASAR	comp=Z,1.6nm,0.9s,baz=264,slow=3.7,SNR=8.7	32.30	251	P		P	19	39	51.5 0.0
ASPA	Alice Springs baz=32	32.30	251	P		P	19	39	51.5 -0.1
BBOO	Buckleboo baz=33,SNR=19	32.84	234	P		P	19	39	57.2 +1.2
BBOO	Buckleboo	32.84	234	P		P	19	39	56.4 +0.4
BBOO				IAmb		IAmb	19	40	12.0
BBOO	Buckleboo comp=Z,311nm,0.9s	32.84	234	P		P	19	39	57.9 +1.8
MULG	Mulgathing	33.58	239	P		P	19	40	03.4 +0.9
SRPI	Serui, Papua comp=Z,73μmcomp=Z,10μmcomp=Z,290nm,1.4s	33.77	292	P		P	19	40	04.8 +0.4
KDU	Kakadu baz=34,SNR=13	33.95	271	P		P	19	40	06.7 +0.7
KDU	Kakadu	33.95

FITZ LR LR 19 57 26.6
comp=Z,587µm,18.2s,baz=86,slow=36
AAI Ambon 40.43 284 P **P** **19 40 59.7 -1.3**
comp=Z,119µmcomp=Z,18µmcomp=Z,398nm,1.7s
TBI Tubuai 41.15 107 *eP* **P** **19 41 07.9 +1.1**
comp=Z,147nm,1.0s
TBI *eS* **S** **19 47 20.6 +1.9**
comp=Z,132µm,28.8s
TBI *eLQ* LQ 19 50 49.3
comp=Z,488µm,32.2s
TBI *eLR* LR 19 52 36.2
comp=Z,284µm,22.0s
PAE Paea 41.16 99 *eP* **P** **19 41 08.0 +1.1**
comp=Z,114nm,1.2s
PPT2 Papeete2 41.16 98 *eP* **P** **19 41 08.4 +1.3**
comp=Z,563nm,1.1s
PPT2 *eS* **S** **19 47 21.8 +2.5**
comp=Z,133µm,27.5s
PPT2 *eLQ* LQ 19 50 52.0
comp=Z,443µm,28.5s
PPT2 *eLR* LR 19 52 35.0
comp=Z,393µm,24.5s
PPT Papeete 41.17 98 P **P** **19 41 06.6 -0.5**
comp=Z,372nm,1.0s,baz=319,slow=6.6,SNR=18
PPT LR LR 19 54 11.8
comp=Z,157µm,21.9s,baz=262,slow=30
PPTF Pamatai, Papee 41.18 98 P **P** **19 41 06.7 -0.5**
PPTF IAmb IAmb 19 41 16.2
comp=Z,630nm,1.0s
PPTF Pamatai, Papee 41.18 98 ⇓P **P** **19 41 09.4 +2.2**
PPTF Pamatai, Papee 41.18 98 P **P** **19 41 09.4 +2.2**
LBMI Labuha 42.21 287 P **P** **19 41 16.9 +1.3**
comp=Z,86µmcomp=Z,29µmcomp=Z,824nm,1.8s
TNTI Ternate 42.90 289 P **P** **19 41 22.9 +1.7**
TNTI IAmb IAmb 19 41 33.2
comp=Z,731nm,1.7s
TNTI Ternate 42.90 289 ⇑P **P** **19 41 21.8 +0.5**
TNTI Ternate 42.90 289 P **P** **19 41 21.7 +0.5**
comp=Z,73µmcomp=Z,18µmcomp=Z,455nm,2.0s
TNTI Ternate 42.90 289 P **P** **19 41 23.9 +2.7**
BATI Baumata 42.90 272 P **P** **19 41 22.4 +1.1**
comp=Z,102nm,0.8s,baz=138,slow=5.6,SNR=17
BATI LR LR 19 59 02.3
comp=Z,289µm,20.8s,baz=121,slow=36
BATI Baumata 42.90 272 P **P** **19 41 22.3 +1.0**
comp=Z,80µmcomp=Z,23µmcomp=Z,499nm,1.6s
PMOR Pomariorio Ree 43.05 95 *eP* **P** **19 41 24.1 +1.7**
comp=Z,1µm,1.2s
SANI Sanana 43.07 285 ⇑P **P** **19 41 22.6 0.0**
SANI Sanana 43.07 285 P **P** **19 41 22.2 -0.4**
comp=Z,132µmcomp=Z,34µmcomp=Z,640nm,2.4s
SANI Sanana 43.07 285 P **P** **19 41 23.9 +1.3**
VAH Vaihoa 43.27 95 *eP* **P** **19 41 25.6 +1.4**
comp=Z,657nm,1.3s
MMRI Maumere 44.63 274 P **P** **19 41 35.0 -0.2**
MMRI IAmb IAmb 19 42 14.8
comp=Z,664nm,1.2s
MMRI Maumere 44.63 274 ⇑P **P** **19 41 35.6 +0.4**
MMRI Maumere 44.63 274 P **P** **19 41 34.3 -0.9**
comp=Z,108µmcomp=Z,20µmcomp=Z,349nm,1.6s
MMRI Maumere 44.63 274 P **P** **19 41 38.3 +3.1**
BBSI Bau Bau 45.16 278 P **P** **19 41 39.0 -0.4**
comp=Z,1µmcomp=Z,56nm,1.1s
MBWA Marble Bar 45.30 256 IAMs_20 IAMs_20 19 59 57.3
comp=Z,206µm,21.0s
SGSI Sangihe 45.81 292 P **P** **19 41 43.5 -1.0**
comp=Z,3µmcomp=Z,11µmcomp=Z,473nm,0.7s
BASI Baing, Sumba 45.87 271 P **P** **19 41 44.4 -0.6**
comp=Z,75µmcomp=Z,16µmcomp=Z,338nm,1.1s
KMSI Cibinong 45.92 287 P **P** **19 41 45.3 0.0**
comp=Z,2µmcomp=Z,6µmcomp=Z,363nm,0.8s
WSI Waingapu 46.26 272 P **P** **19 41 45.9 -2.1**
comp=Z,280µmcomp=Z,10µm,1.1s
MEEK Meekatharra 46.36 248 P **P** **19 41 49.6 +0.8**
baz=46,SNR=34
MEEK Meekatharra 46.36 248 P **P** **19 41 49.4 +0.6**
LUWI Luwuk 46.43 284 P **P** **19 41 52.0 +2.6**
LUWI Luwuk 46.43 284 ⇑P **P** **19 41 49.8 +0.4**
LUWI Luwuk 46.43 284 P **P** **19 41 49.6 +0.2**
comp=Z,117µmcomp=Z,22µmcomp=Z,754nm,1.1s
LUWI Luwuk 46.43 284 P **P** **19 41 53.4 +4.0**
MIDW Midway 46.47 19 P **P** **19 41 48.0 -1.4**
MIDW IAMs_20 IAMs_20 19 57 04.6
comp=Z,198µm,21.0s
MIDW Midway 46.47 19 P **P** **19 41 52.0 +2.6**
GTOI Gorontalo 46.83 287 P **P** **19 41 54.1 +1.6**
comp=Z,42µmcomp=Z,10µmcomp=Z,118nm,1.5s
BSSI Bau Bau, Buton 46.95 277 P **P** **19 41 54.5 +1.0**
comp=Z,61µmcomp=Z,12µmcomp=Z,176nm,1.8s
WBSI Waikabubak, Su 47.13 272 P **P** **19 41 54.1 -0.9**
comp=Z,15µmcomp=Z,593nm,0.9s
DAV Davao City (W) 47.35 296 LR LR 20 01 44.2
comp=Z,57µm,18.6s,baz=114,slow=36
DAV Davao City (W) 47.35 296 P **P** **19 41 56.4 -0.1**
DAV IAmb IAmb 19 42 22.6
comp=Z,342nm,0.8s
DAV Davao City (W) 47.35 296 P **P** **19 41 59.4 +2.8**
APSI Ampana 47.52 284 P **P** **19 41 58.1 +0.2**
comp=Z,75µmcomp=Z,14µmcomp=Z,323nm,1.7s
KLBR Kellerberrin 47.53 242 P **P** **19 41 59.7 +1.8**
baz=48,SNR=39
KLBR Kellerberrin 47.53 242 P **P** **19 41 59.4 +1.5**
BKSI Bulukumba 47.54 278 P **P** **19 41 54.5 -3.6**
MRSI Marisa 47.76 286 P **P** **19 41 58.3 -1.5**
comp=Z,95µmcomp=Z,12µmcomp=Z,123nm,0.9s
BNSI Bone 47.83 279 P **P** **19 42 00.8 +0.5**
comp=Z,104µmcomp=Z,22µmcomp=Z,545nm,1.2s
KAPI Kappang 47.98 278 P **P** **19 42 01.4 -0.1**
comp=Z,92nm,0.9s,baz=95,slow=9.7,SNR=49
KAPI S **S** **19 48 56.1 -2.1**
comp=Z,2.9nm,0.5s,baz=201,slow=17,SNR=1.2
KAPI Kappang 47.98 278*c i*P **P** **19 42 00.1 -1.4**
KAPI Kappang 47.98 278 P **P** **19 42 02.0 +0.5**
KAPI Kappang 47.98 278 P **P** **19 42 04.6 +3.1**
KAPI P **P** **19 42 04.6 +3.1**
KAPI P **P** **19 42 04.6 +3.1**
KAPI Kappang 47.98 278 ⇓P **P** **19 42 02.7 +1.2**
KAPI Kappang 47.98 278 P **P** **19 42 03.1 +1.6**
NWAO Narrogin (SRO) 48.14 240 P **P** **19 42 02.4 -0.1**
NWAO pmax pmax
comp=Z,855nm,1.1s
NWAO MLR MLR
comp=Z,455µm,18.0s
NWAO Narrogin (SRO) 48.14 240 P **P** **19 42 02.4 -0.1**
NWAO Narrogin (SRO) 48.14 240 P **P** **19 42 04.3 +1.8**
SPSI Sidrap Palu 48.28 279 P **P** **19 42 02.1 -1.7**
comp=Z,102µmcomp=Z,15µmcomp=Z,280nm,1.6s
BLDU Ballidu 48.32 243 P **P** **19 42 05.4 +1.4**
baz=48,SNR=23
BLDU Ballidu 48.32 243 P **P** **19 42 05.5 +1.5**
TTSI Tana Toraja 48.52 280 P **P** **19 42 06.1 +0.4**
comp=Z,88µmcomp=Z,15µmcomp=Z,308nm,1.9s
RKGY Rocky Gully 48.60 238 P **P** **19 42 09.0 +3.0**
baz=49,SNR=8.6
RKGY Rocky Gully 48.60 238 P **P** **19 42 09.3 +3.2**
MORW Morawa 48.78 245 P **P** **19 42 07.5 +0.1**
MORW IAmb IAmb 19 42 15.7
comp=Z,360nm,0.9s
MORW Morawa 48.78 245 P **P** **19 42 08.3 +0.8**
PLAI Plampang 48.87 272 P **P** **19 42 07.8 -0.6**
comp=Z,116µmcomp=Z,24µmcomp=Z,635nm,1.2s
PLAI Plampang 48.87 272 P **P** **19 42 09.8 +1.4**
MUN Mundaring 48.89 241 P **P** **19 42 09.3 +1.0**
baz=49,SNR=15
MUN Mundaring 48.89 241 P **P** **19 42 09.9 +1.6**
TOLI2 Tolitoli 49.07 286 P **P** **19 42 09.2 -0.7**
TOLI2 IAmb IAmb 19 42 41.8
comp=Z,418nm,1.3s
TOLI2 Tolitoli 49.07 286 P **P** **19 42 11.5 +1.6**
MTKN Mount Kenneth 49.25 242 P **P** **19 42 13.6 +2.6**
JCJ Chichijima 49.42 330 P **P** **19 42 11.8 -0.4**
comp=Z,958nm,0.8s,baz=188,slow=5.7,SNR=16
JCJ LR LR 20 00 43.6
comp=Z,71µm,21.1s,baz=154,slow=33
JCJ Chichijima 49.42 330 P **P** **19 42 11.7 -0.6**
JCJ Chichijima 49.42 330 ⇑P **P** **19 42 10.2 -2.1**
JCJ Chichijima 49.42 330 P **P** **19 42 12.4 +0.1**
MPSI Mapaga 49.60 285 P **P** **19 42 12.8 -1.2**
GIRL Giralia 50.34 254 P P 19 42 14.3 -5.2
GIRL Giralia 50.34 254 ⇑P **P** **19 42 23.7 +4.2**
GIRL Giralia 50.34 254 P **P** **19 42 23.5 +4.0**
HON Honolulu 50.37 43 P **P** **19 42 18.0 -1.6**
HON pmax pmax
comp=Z,531nm,1.1s
HON Honolulu 50.37 43 P **P** **19 42 18.0 -1.6**
HON IAmb IAmb 19 43 09.3
comp=Z,530nm,1.1s
KIP Kipapa 50.43 43 P **P** **19 42 19.1 -0.9**
KIP pmax pmax
comp=Z,552nm,1.1s
KIP MLR MLR
comp=Z,132µm,20.0s
KIP Kipapa 50.43 43 P **P** **19 42 19.1 -0.9**
KIP IAmb IAmb 19 42 39.6
comp=Z,552nm,1.1s
KIP Kipapa 50.43 43 P **P** **19 42 20.5 +0.5**
KIP Kipapa 50.43 43 P **P** **19 42 20.3 +0.3**
KHU Kahuku 50.59 47 P **P** **19 42 20.4 -1.2**
KHU Kahuku 50.59 47 P **P** **19 42 20.4 -1.2**
OPA Opana 50.62 43 P **P** **19 42 21.1 -0.4**
OPA pmax pmax
comp=Z,1µm,1.0s
OPA Opana 50.62 43 P **P** **19 42 21.1 -0.4**
KHLU Kahalu`u 50.62 47 P **P** **19 42 19.2 -2.4**
KHLU IAmb IAmb 19 42 44.1
comp=Z,698nm,1.3s
HUH Hualalai 50.72 47 P **P** **19 42 21.9 -0.8**
HUH IAmb IAmb 19 42 35.9
comp=Z,627nm,1.1s
MWH Moku'aweowe 50.76 47 P **P** **19 42 22.8 -0.4**
MWH IAmb IAmb 19 42 27.6
comp=Z,630nm,1.0s
AIN Ainahou 50.78 47 P **P** **19 42 23.0 0.0**
MLOA Mauna Loa Obse 50.81 47 P **P** **19 42 23.2 -0.3**
HLP Hilina Pali 50.84 48 P **P** **19 42 22.3 -1.0**
SDHHI Sand Hill 50.91 48 P **P** **19 42 24.7 +0.8**
SDHHI IAmb IAmb 19 42 33.4
comp=Z,395nm,0.8s
MLH Mauna Loa 50.91 47 P **P** **19 42 24.7 +0.7**
HMH Humu'ula Sheep 50.92 47 P **P** **19 42 24.7 +0.6**
RIM Rim 50.93 48 P **P** **19 42 23.6 -0.4**
KKO Keanakako`i 50.94 48 P **P** **19 42 23.0 -1.0**
PUH Pauahi 50.96 48 P **P** **19 42 23.1 -1.1**
PUH IAmb IAmb 19 42 29.7
comp=Z,476nm,1.1s
POHA Pohakuloa 50.98 47 P **P** **19 42 24.3 -0.3**
POHA IAmb IAmb 19 42 34.5
comp=Z,468nm,0.8s
POHA Pohakuloa 50.98 47 ⇑P **P** **19 42 24.8 +0.3**
POHA Pohakuloa 50.98 47 P **P** **19 42 25.1 +0.5**
MHA Mahukona 51.01 46 P **P** **19 42 25.0 +0.5**
MHA Mahukona 51.01 46 P **P** **19 42 25.0 +0.5**
STCH Steam Cracks 51.03 48 P **P** **19 42 22.8 -1.9**
JCUZ Jacuzzi 51.04 48 P **P** **19 42 24.3 -0.5**
NPOC North of Pu`u 51.04 48 P **P** **19 42 24.2 -0.6**
HPAH Hawaii Prepara 51.05 47 P **P** **19 42 23.8 -1.1**
KHLH Kahului Airpor 51.13 45 P **P** **19 42 24.4 -1.0**
HLK Haleakala 51.16 45 P **P** **19 42 24.8 -1.1**
TAOE Nuku Hiva Isla 51.63 89*eP* **P** **19 42 31.0 +1.6**
comp=Z,929nm,1.4s
TAOE *eS* **S** **19 49 49.9 +0.5**
comp=Z,135µm,26.9s
TAOE *eLQ* LQ 19 55 13.6
comp=Z,72µm,28.6s
TAOE *eLR* LR 19 57 27.8
comp=Z,197µm,25.1s
TAOE Nuku Hiva Isla 51.63 89 P **P** **19 42 30.1 +0.7**
TAOE IAmb IAmb 19 42 54.1
comp=Z,445nm,1.2s
TAOE Nuku Hiva Isla 51.63 89 ⇑P **P** **19 42 30.6 +1.2**
TAOE Nuku Hiva Isla 51.63 89 P **P** **19 42 30.9 +1.6**
JAGI Jajag, Banyuwa 52.44 272 P **P** **19 42 33.5 -1.8**
JAGI IAmb IAmb 19 43 14.0
comp=Z,474nm,1.0s
JAGI Jajag, Banyuwa 52.44 272 ⇑P **P** **19 42 36.0 +0.7**
JAGI Jajag, Banyuwa 52.44 272 P **P** **19 42 36.6 +1.3**
MYLDM Lahad Datu 52.77 290 P **P** **19 42 40.1 +2.4**
MYLDM Lahad Datu 52.77 290 ⇑P **P** **19 42 39.7 +2.0**
SPMM Sapulut 54.44 288 P **P** **19 42 52.0 +2.0**
RKT Rikitea 54.47 107*eP* **P** **19 42 51.8 +1.7**
comp=Z,212nm,1.4s
TGY Tagaytay City 54.83 301 P **P** **19 42 54.1 +1.3**
comp=Z,153nm,0.3s,baz=157,slow=7.7,SNR=17
TGY LR LR 20 02 06.2
comp=Z,56µm,21.8s,baz=121,slow=32
JHJ2 Mitsune 55.57 332 P **P** **19 42 57.3 -0.5**
JHJ2 Mitsune 55.57 332 ⇓P **P** **19 43 02.4 +4.6**
JHJ Hachijo jima 2 55.59 332 P **P** **19 42 58.4 +0.4**
comp=Z,446nm,0.8s,baz=213,slow=13,SNR=7.6
JHJ LR LR 20 06 20.1
comp=Z,25µm,19.6s,baz=155,slow=36
UGM Wanagama 56.05 271 P **P** **19 43 02.1 +0.4**
UGM Wanagama 56.05 271 P **P** **19 43 04.4 +2.7**
SMRI Semarang 56.35 272 P **P** **19 43 04.2 +0.5**
SMRI Semarang 56.35 272 ⇑P **P** **19 43 06.3 +2.5**
SMRI Semarang 56.35 272 P **P** **19 43 06.7 +2.9**
JOW Kunigami 57.12 318 P **P** **19 43 09.7 +0.6**
comp=Z,346nm,0.8s,baz=154,slow=6.6,SNR=19
JOW Kunigami 57.12 318 P **P** **19 43 08.8 -0.2**
JOW Kunigami 57.12 318 ⇓P **P** **19 43 10.3 +1.3**
JOW Kunigami 57.12 318 P **P** **19 43 10.7 +1.7**
SBUM Sibu 57.52 284 P **P** **19 43 12.5 +0.5**
SBUM IAmb IAmb 19 43 33.6
comp=Z,462nm,1.5s
SBUM Sibu 57.52 284 ⇑P **P** **19 43 12.6 +0.5**
SBUM Sibu 57.52 284 P **P** **19 43 14.0 +1.9**
JYT Yasato 58.05 334 P **P** **19 43 15.6 +0.3**
JYT IAmb IAmb 19 43 20.6
comp=Z,298nm,0.8s
JYT Yasato 58.05 334 ⇑P **P** **19 43 16.1 +0.8**
INU Inuyama 58.72 331 P **P** **19 43 19.2 -0.8**
INU IAmb IAmb 19 43 29.4
comp=Z,285nm,1.1s
INU Inuyama 58.72 331 ⇑P **P** **19 43 19.4 -0.6**
INU Inuyama 58.72 331 P **P** **19 43 20.7 +0.7**
JGF Kuroka 58.77 332 P **P** **19 43 19.6 -0.8**
JGF IAmb IAmb 19 43 26.3
comp=Z,132nm,0.7s
JGF Kuroka 58.77 332 ⇑P **P** **19 43 20.1 -0.3**
PTCN Pitcairn Islan 58.78 110 P **P** **19 43 19.9 -0.9**
JMN Monobe 58.95 328 P **P** **19 43 23.2 +1.4**
JMN IAmb IAmb 19 43 27.8
comp=Z,223nm,1.0s
KSM Kuching 58.98 282 P **P** **19 43 22.2 -0.1**
KSM IAmb IAmb 19 43 43.1
comp=Z,275nm,1.0s
KSM Kuching 58.98 282 P **P** **19 43 23.0 +0.7**
KSM Kuching 58.98 282 P **P** **19 43 22.7 +0.4**
LEM Lembang 59.12 272 P **P** **19 43 24.1 +0.7**
comp=Z,273nm,1.0s,baz=82,slow=4.5,SNR=46
LEM S **S** **19 51 26.6 -3.1**
comp=Z,8.1nm,0.4s,baz=332,slow=22,SNR=1.3
LEM LR LR 20 07 59.7
comp=Z,70µm,21.6s,baz=96,slow=35
JSU Suzuyama 59.13 323 P **P** **19 43 22.1 -0.9**
JSU IAmb IAmb 19 43 28.0
comp=Z,375nm,1.0s
YOJ Yonaguni jima 59.15 312 P **P** **19 43 23.7 +0.5**
YOJ pmax pmax
comp=Z,1µm,1.0s
YOJ Yonaguni jima 59.15 312 P **P** **19 43 23.7 +0.5**
YOJ Yonaguni jima 59.15 312 ⇓P **P** **19 43 24.1 +0.9**
YOJ ⇑P **pP** **19 43 28.3 -3.1**
YOJ Yonaguni jima 59.15 312 P **P** **19 43 24.5 +1.3**
MJAR Matsushiro Arr 59.17 333 P **P** **19 43 21.8 -1.3**
comp=Z,20nm,0.8s,baz=163,slow=7.4,SNR=21
MJAR LR LR 20 07 19.6
comp=Z,17µm,21.5s,baz=129,slow=34
MJAR PKP2bc 20 13 03.5
comp=Z,11nm,1.0s,baz=257,slow=1.5,SNR=7.3
MJAR Matsushiro Arr 59.17 333 P **P** **19 43 20.9 -2.2**
MJAR pmax pmax
comp=Z,163nm,0.9s
MJAR Matsushiro Arr 59.17 333 P **P** **19 43 20.9 -2.2**
MJAR IAmb IAmb 19 43 26.2
comp=Z,163nm,0.8s
MAJO Matsushiro 59.17 333 P **P** **19 43 21.7 -1.5**
MAJO pmax pmax
comp=Z,257nm,0.9s
MAJO Matsushiro 59.17 333 P **P** **19 43 21.6 -1.5**
MAJO IAmb IAmb 19 43 27.9
comp=Z,257nm,0.9s
MAJO Matsushiro 59.17 333 ⇑P **P** **19 43 22.1 -1.0**
MAJO Matsushiro 59.17 333 P **P** **19 43 23.2 +0.1**
MJB9 Matsu-Tunnel 59.17 333 P **P** **19 43 21.9 -1.3**
MJB9 IAmb IAmb 19 43 27.8
comp=Z,251nm,0.9s
JMM Marumori 59.21 336 P **P** **19 43 22.9 -0.5**
JMM IAmb IAmb 19 43 45.7
comp=Z,344nm,1.0s
JMM Marumori 59.21 336 ⇑P **P** **19 43 23.6 +0.2**
TWG Pinlang 59.58 309 P **P** **19 43 25.6 -0.6**
TWG IAmb IAmb 19 43 51.3
comp=Z,476nm,1.5s
YULB Yu-li 59.75 310 P **P** **19 43 27.5 +0.1**
YULB IAmb IAmb 19 43 52.9
comp=Z,285nm,1.0s
NACB Ninganchiao 60.00 311 P **P** **19 43 28.3 -0.8**
JNU Nakatsue 60.09 325 P **P** **19 43 29.1 -0.5**
comp=Z,169nm,0.8s,baz=128,slow=7.1,SNR=48
JNU S **S** **19 51 37.4 -4.0**
comp=Z,12nm,1.1s,baz=0.7,slow=20,SNR=2.1
JNU LR LR 20 06 15.3
comp=Z,47µm,21.3s,baz=98,slow=33
JNU Nakatsue 60.09 325 P **P** **19 43 29.4 -0.2**
JNU IAmb IAmb 19 43 35.3
comp=Z,313nm,0.8s
JNU Nakatsue 60.09 325 ⇑P **P** **19 43 29.4 -0.3**
JNU Nakatsue 60.09 325 P **P** **19 43 30.7 +1.1**
XMI Christmas Isla 60.12 267 ⇑P **P** **19 43 32.9 +2.6**
XMI Christmas Isla 60.12 267 P **P** **19 43 32.8 +2.6**
XMIS Christmas Isla 60.15 267 P **P** **19 43 30.2 -0.2**
XMIS Christmas Isla 60.15 267 P **P** **19 43 32.4 +2.0**
TPUB Ta-pu 60.19 309 P **P** **19 43 29.4 -1.0**
TPUB Ta-pu 60.19 309 P **P** **19 43 30.9 +0.5**
SSLB Suanglung 60.23 310 P **P** **19 43 29.7 -1.0**
SSLB Suanglung 60.23 310 P **P** **19 43 31.2 +0.4**
JHS Saijyo 60.34 328 P **P** **19 43 31.1 -0.1**
JHS IAmb IAmb 19 43 54.2
comp=Z,588nm,1.5s
JHS Saijyo 60.34 328 ⇑P **P** **19 43 31.9 +0.6**
JSD Sado 60.40 334 P **P** **19 43 31.7 +0.2**
JSD Sado 60.40 334 ⇑P **P** **19 43 31.3 -0.2**
YHNB Yeheng 60.46 311 P **P** **19 43 32.1 -0.2**
YHNB IAMs_20 IAMs_20 20 07 32.5
comp=Z,136µm,20.0s
YHNB Yeheng 60.46 311 P **P** **19 43 33.3 +1.0**
TATO Taipei 60.56 312 P **P** **19 43 32.8 -0.1**
TATO Taipei 60.56 312 IAMs_20 IAMs_20 20 07 57.1
comp=Z,120µm,21.0s
TATO Taipei 60.56 312 P **P** **19 43 34.4 +1.5**
TATO P **P** **19 43 34.4 +1.5**
TATO P **P** **19 43 34.4 +1.5**
VNDA Vanda 61.50 181 P **P** **19 43 38.5 0.0**
comp=Z,44nm,1.0s,baz=2.9,slow=7.2,SNR=45
VNDA S **S** **19 51 58.7 +0.6**
comp=Z,2.0nm,0.9s,baz=310,slow=11,SNR=1.4
VNDA LR LR 20 08 20.4
comp=Z,45µm,18.9s,baz=22,slow=34
VNDA PKPPKP **P'P'df** **20 12 51.4 -3.3**
comp=Z,5.6nm,1.1s,baz=258,slow=2.3,SNR=5.7
VNDA Vanda 61.50 181 P **P** **19 43 38.5 0.0**
VNDA IAmb IAmb 19 43 49.1
comp=Z,246nm,1.1s
JTM Tenmabayashi 61.65 338 P **P** **19 43 39.3 -0.6**
JTM Tenmabayashi 61.65 338 ⇑P **P** **19 43 40.8 +0.9**
SBA Scott Base 61.77 180 P **P** **19 43 41.1 +0.8**
SBA pmax pmax
comp=Z,438nm,1.1s
SBA Scott Base 61.77 180 P **P** **19 43 41.1 +0.8**
SBA IAmb IAmb 19 43 48.1
comp=Z,438nm,1.1s
JTU Tsushima 61.96 325 P **P** **19 43 41.9 -0.3**
JTU Tsushima 61.96 325 ⇑P **P** **19 43 41.4 -0.8**
ERM Erimo 62.00 340 P **P** **19 43 40.7 -1.6**
ERM pmax pmax
comp=Z,238nm,1.0s
ERM MLR MLR
comp=Z,106µm,22.0s
ERM Erimo 62.00 340 P **P** **19 43 40.7 -1.6**
ERM IAmb IAmb 19 44 07.0
comp=Z,238nm,0.9s
ERM Erimo 62.00 340 P **P** **19 43 43.7 +1.4**
CASY Casey 62.30 202 P **P** **19 43 43.9 -0.1**
CASY IAmb IAmb 19 43 50.1
comp=Z,249nm,0.8s
CASY Casey 62.30 202 IAMs_20 IAMs_20 20 06 35.3
comp=Z,153µm,18.0s
CASY Casey 62.30 202 ⇑P **P** **19 43 43.9 -0.1**
KNMB Chin-men Tao 62.53 309 P **P** **19 43 43.4 -2.9**
QZH Quanzhou 62.65 310*i*P **P** **19 43 47.5 +0.5**
QZH sP **sP** **19 43 59.5 +1.1**
QZH S **S** **19 52 17.0 +3.0**
QZH pmax pmax
comp=Z,380nm,2.2s
QZH pmax pmax
comp=Z,22µm,8.2s
QZH LR LR
comp=Z,23µm,19.7s
QZH LR LR
comp=Z,34µm,19.6s
QZH LR LR
comp=Z,62µm,19.9s
PMBI Palembang 62.89 275 P **P** **19 43 48.4 -0.4**
PMBI Palembang 62.89 275 P **P** **19 43 51.7 +2.8**
YUK Yuzh-Kuril'sk 63.00 343*d i*P **P** **19 43 48.0 -0.9**
YUK *i* **19 44 24.4**
YUK *i* S **S** **19 52 19.1 +1.5**
YUK *e*SSS SSS 19 59 12.2
YUK pmax pmax
comp=Z,3µm,2.7s
YUK pmax pmax
comp=E,754nm,1.1s
YUK pmax pmax
comp=Z,1µm,1.1s
YUK pmax pmax
comp=N,936nm,1.5s
YUK MLR MLR
comp=Z,118µm,22.0s
YUK MLR MLR
comp=N,113µm,21.0s
YUK MLR MLR
comp=E,44µm,17.0s
JEW Eniwo 63.31 339 P **P** **19 43 50.6 -0.4**
JEW Eniwo 63.31 339 ⇑P **P** **19 43 51.0 0.0**
KUR Kuril'sk 63.57 345*c i*P **P** **19 43 52.3 -0.3**
KUR *i* **19 46 19.2**
KUR *i* S **S** **19 52 23.8 -0.8**
KUR pmax pmax
comp=Z,2µm,1.2s
KUR pmax pmax
comp=E,442nm,0.6s
KUR pmax pmax
comp=Z,23µm,6.0s
KUR MLR MLR
comp=N,85µm,18.0s
KUR MLR MLR
comp=E,30µm,18.0s
KUR MLR MLR
comp=Z,66µm,18.0s
JKA Kamikawa-asahi 64.06 340 P **P** **19 43 55.8 -0.2**
ASAJ Asahikawa 64.06 340 P **P** **19 43 56.0 0.0**
comp=Z,457nm,0.9s,baz=203,slow=8.3,SNR=41
ASAJ LR LR 20 07 52.5
comp=Z,110µm,21.9s,baz=164,slow=32
ASAJ Asahikawa 64.06 340 P **P** **19 43 55.8 -0.2**
ASAJ pmax pmax
comp=Z,897nm,1.2s
MNAI Manna 64.23 273 P **P** **19 43 57.5 -0.3**
MNAI Manna 64.23 273 ⇑P **P** **19 43 57.7 -0.1**
MNAI Manna 64.23 273 P **P** **19 43 58.9 +1.1**
TJN Taejon 64.44 325 P **P** **19 43 57.4 -1.2**
TJN pmax pmax
comp=Z,1µm,1.0s
TJN Taejon 64.44 325 P **P** **19 43 57.4 -1.2**
TJN Taejon 64.44 325 P **P** **19 43 59.3 +0.7**
HKC Hong Kong Obse 64.58 305 ⇑P **P** **19 44 04.0 +4.2**
SSE Sheshan 64.58 317 P **P** **19 44 00.5 +0.8**
SSE pP **pP** **19 44 07.0 -0.9**
SSE PP **PP** **19 46 23.8 +1.7**
SSE S **S** **19 52 41.0 +3.2**
SSE pmax pmax
comp=Z,36nm,0.8s
SSE pmax pmax
comp=Z,6µm,6.5s
KSRS Korea Array 64.93 326 P **P** **19 44 01.7 -0.1**
comp=Z,38nm,0.8s,baz=139,slow=4.9,SNR=38
KSRS PKPPKP **P'P'df** **20 12 46.6 +3.0**
comp=Z,0.4nm,0.4s,baz=313,slow=4.0,SNR=2.7
KSRS PKP2ab 20 12 56.6
comp=Z,10nm,1.0s,baz=328,slow=3.0,SNR=7.7
KSAR Wonju Array Be 64.94 326 P **P** **19 44 00.4 -1.5**
KSAR Wonju Array Be 64.94 326 P **P** **19 44 00.4 -1.5**
MCO Taipa Grande 64.97 304 P **P** **19 44 07.0 +4.6**

KS19	**Wonju Array Si**	**64.99**	**326**	P	**P**	**19 44 00.7**	**-1.5**
MYKOM	**Kota Tinggi**	**65.18**	**280**	P	**P**	**19 44 02.8**	**-1.2**
MYKOM	**Kota Tinggi**	**65.18**	**280**	⇑P	**P**	**19 44 04.3**	**+0.4**
MYKOM				⇓P	**P**	**19 44 04.8**	**+0.8**
MYKOM				⇓P	**P**	**19 44 08.7**	**+4.8**
MYKOM	**Kota Tinggi**	**65.18**	**280**	P	**P**	**19 44 06.0**	**+2.1**
GZH	**Guangzhou**	**65.64**	**305**	P	**P**	**19 44 10.8**	**+4.1**
GZH				S	**S**	**19 52 56.0**	**+4.9**
GZH				LR	LR		
	comp=Z,28μm,21.4s						
GZH				LR	LR		
	comp=Z,58μm,21.4s						
INCN	**Inchon**	**65.65**	**325**	P	**P**	**19 44 05.9**	**-0.6**
INCN				pmax	pmax		
	comp=Z,164nm,0.8s						
INCN	**Inchon**	**65.65**	**325**	P	**P**	**19 44 05.9**	**-0.6**
INCN				IAmb	IAmb	19 44 18.4	
	comp=Z,164nm,0.8s						
INCN	**Inchon**	**65.65**	**325**	P	**P**	**19 44 10.4**	**+3.9**
INCN				P	**P**	**19 44 10.4**	**+3.9**
INCN				P	**P**	**19 44 10.4**	**+3.9**
INCN	**Inchon**	**65.65**	**325**	⇑P	**P**	**19 44 06.6**	**+0.1**
INCN	**Inchon**	**65.65**	**325**	P	**P**	**19 44 07.2**	**+0.7**
QIZ	**Qiongzhong**	**66.49**	**299**	P	**P**	**19 44 13.0**	**+0.7**
QIZ				IAmb	IAmb	19 44 19.4	
	comp=Z,546nm,1.4s						
QIZ	**Qiongzhong**	**66.49**	**299**	P	**P**	**19 44 13.0**	**+0.7**
QIZ				sP	**sP**	**19 44 25.0**	**+1.3**
QIZ				PP	**PP**	**19 46 39.8**	**+0.7**
QIZ				S	**S**	**19 53 03.8**	**+2.1**
QIZ				SS	**SS**	**19 57 21.8**	**+2.5**
QIZ				pmax	pmax		
	comp=Z,250nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,19μm,9.3s						
QIZ				LR	LR		
	comp=Z,32μm,22.6s						
QIZ				LR	LR		
	comp=Z,31μm,18.1s						
QIZ				LR	LR		
	comp=Z,70μm,28.4s						
HJU	**Haeju**	**66.55**	**325**	P	**P**	**19 44 12.6**	**+0.4**
HJU				pP	**sP**	**19 44 23.0**	**-0.6**
HJU				S	**S**	**19 53 02.0**	**+0.4**
HJU				AmB			
	comp=Z,6μm,3.7s						
HJU				AMS	AMS		
	comp=N,3μm,10.1s						
HJU				AMS	AMS		
	comp=E,4μm,14.6s						
HJU				AMS	AMS		
	comp=Z,1μm,5.3s						
YSS	**Yuzh-Sakhalins**	**66.56**	**342**	*ce*P	**P**	**19 44 12.6**	**+0.6**
YSS				*e**SP	**sP**	**19 44 26.3**	**+3.0**
YSS				*e*S	**S**	**19 52 59.7**	**-1.7**
YSS				*e*PS	**PnS**	**19 53 19.2**	**-5.2**
YSS				*e*SS	**SS**	**19 57 22.4**	**+3.1**
YSS				pmax	pmax		
	comp=Z,16μm,4.3s						
YSS				pmax	pmax		
	comp=N,6μm,3.8s						
YSS				pmax	pmax		
	comp=Z,670nm,0.7s						
YSS				smax	smax		
	comp=N,9μm,10.1s						
YSS	**Yuzh-Sakhalins**	**66.56**	**342**	P	**P**	**19 44 11.7**	**-0.3**
YSS				IAMs_20	IAMs_20	20 08 12.3	
	comp=Z,112μm,21.0s						
YSS	**Yuzh-Sakhalins**	**66.56**	**342**	⇑P	**P**	**19 44 12.7**	**+0.6**
YSS	**Yuzh-Sakhalins**	**66.56**	**342**	P	**P**	**19 44 13.1**	**+1.0**
NJ2	**Nanjing**	**66.73**	**316**	⇑*i*P	**P**	**19 44 13.8**	**+0.3**
NJ2				sP	**sP**	**19 44 28.0**	**+3.1**
NJ2				S	S	19 52 55.0	-9.1
NJ2				ScS	**SKSac**	**19 54 06.0**	**-2.8**
NJ2				pmax	pmax		
	comp=Z,77nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,22μm,8.2s						
NJ2				LR	LR		
	comp=Z,60μm,19.9s						
NJ2				LR	LR		
	comp=Z,36μm,21.3s						
NJ2				LR	LR		
	comp=Z,74μm,20.8s						
HHU	**Hamhung**	**66.97**	**328**	P	**P**	**19 44 15.1**	**+0.3**
HHU				pP	**sP**	**19 44 27.1**	**+1.0**
HHU				S	**S**	**19 53 09.1**	**+2.5**
HHU				AmB			
	comp=Z,10μm,3.7s						
HHU				AMS	AMS		
	comp=N,9μm,16.8s						
HHU				AMS	AMS		
	comp=E,7μm,12.9s						
HHU				AMS	AMS		
	comp=Z,10μm,19.0s						
TEY	**Ternei**	**66.97**	**337**	⇑*e*P	**P**	**19 44 16.5**	**+1.8**
TEY				*e*S	**S**	**19 53 05.3**	**-1.1**
TEY				pmax	pmax		
	comp=Z,130nm,1.4s						
TEY				pmax	pmax		
	comp=N,50nm,1.2s						
TEY				pmax	pmax		
	comp=E,30nm,1.2s						
TEY				pmax	pmax		
	comp=Z,11μm,16.9s						
TEY				pmax	pmax		
	comp=E,16μm,11.5s						
TEY				pmax	pmax		
	comp=N,5μm,17.6s						
TEY				smax	smax		
	comp=N,6μm,9.3s						
TEY				smax	smax		
	comp=E,1μm,11.5s						
JRMM	**Jerantut**	**67.15**	**281**	P	**P**	**19 44 18.0**	**+1.4**
SKR	**Severo-Kuril's**	**67.23**	**352**	*c i*P	**P**	**19 44 15.4**	**-0.8**
SKR				*e*		19 46 45.7	
SKR				*e*S	**S**	**19 53 07.3**	**-2.0**
SKR				*e*SSS	SSS	20 00 17.2	
SKR				pmax	pmax		
	comp=Z,6μm,4.8s						
SKR				pmax	pmax		
	comp=Z,356nm,0.8s						
SKR				smax	smax		
	comp=N,8μm,9.0s						
SKR				smax	smax		
	comp=N,7μm,9.4s						
SKR				smax	smax		
	comp=E,14μm,9.4s						
SKR				smax	smax		
	comp=E,13μm,7.3s						
SKR				MLR	MLR		
	comp=Z,23μm,18.0s						
SKR				MLR	MLR		
	comp=Z,20μm,18.0s						
MSHR	**Mys Shultsa**	**67.23**	**332**	*ce*P	**P**	**19 44 16.4**	**-0.1**
MSHR				pmax	pmax		
	comp=Z,193nm,1.3s						
PYAG	**Pyongyang**	**67.26**	**326**	P	**P**	**19 44 17.3**	**+0.6**
PYAG				pP	**sP**	**19 44 27.3**	**-0.6**
PYAG				S	**S**	**19 53 13.1**	**+3.0**
PYAG				AmB			
	comp=Z,4μm,3.4s						
PYAG				AMS	AMS		
	comp=N,3μm,3.5s						
PYAG				AMS	AMS		
	comp=E,7μm,8.0s						
PYAG				AMS	AMS		
	comp=Z,7μm,8.5s						
VLA	**Vladivostok**	**67.33**	**333**	*c i*P	**P**	**19 44 16.3**	**-0.8**
VLA				pmax	pmax		
	comp=Z,237nm,1.0s						
VLA				MLR	MLR		
	comp=Z,41μm,19.0s						
BKNI	**Bangkinang**	**67.40**	**277**	P	**P**	**19 44 17.9**	**-0.3**
BKNI	**Bangkinang**	**67.40**	**277**	⇑P	**P**	**19 44 17.9**	**-0.3**
BKNI				⇓p	**pP**	**19 44 20.5**	**-5.9**
BKNI	**Bangkinang**	**67.40**	**277**	P	**P**	**19 44 19.5**	**+1.3**
USA0B	**Ussuriysk Arra**	**68.15**	**333**	P	**P**	**19 44 22.1**	**-0.2**
USA0B				pmax	pmax		
	comp=Z,958nm,1.5s						
USA0B	**Ussuriysk Arra**	**68.15**	**333**	P	**P**	**19 44 22.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**68.15**	**333**	P	**P**	**19 44 22.5**	**+0.3**
	comp=Z,312nm,1.0s,baz=149,slow=5.2,SNR=84						
USRK				PKPPKP	**P'P'df**	**20 12 38.3**	**+0.6**
	comp=Z,6.9nm,1.1s,baz=29,slow=4.4,SNR=7.1						
USRK	**Ussuriysk Ar.**	**68.15**	**333**	P	**P**	**19 44 21.6**	**-0.6**
USRK	**Ussuriysk Ar.**	**68.15**	**333**	P	**P**	**19 44 21.6**	**-0.6**
COCO	**West Island**	**68.22**	**263**	P	**P**	**19 44 23.5**	**+0.2**
COCO				pmax	pmax		
	comp=Z,686nm,1.4s						
COCO				MLR	MLR		
	comp=Z,150μm,21.0s						
COCO	**West Island**	**68.22**	**263**	P	**P**	**19 44 23.5**	**+0.2**
COCO				IAMs_20	IAMs_20	20 11 15.0	
	comp=Z,151μm,21.0s						
CNSH	**ChangSha**	**68.66**	**310**	*e*P	**P**	**19 44 26.5**	**+0.7**
CNSH				PP	**PP**	**19 47 02.5**	**+4.8**
CNSH				S	**S**	**19 53 30.5**	**+3.2**
CNSH				pmax	pmax		
	comp=Z,38nm,1.0s						
CNSH				LR	LR		
	comp=Z,38μm,17.7s						
CNSH				LR	LR		
	comp=Z,24μm,18.6s						
CNSH				LR	LR		
	comp=Z,32μm,18.5s						
UGL	**Uglegorsk**	**68.67**	**342**	*c i*P	**P**	**19 44 25.9**	**+0.5**
UGL				*e*		19 46 53.5	
UGL				*i* S	**S**	**19 53 27.9**	**+1.3**
UGL				pmax	pmax		
	comp=Z,800nm,1.2s						
UGL				pmax	pmax		
	comp=E,5μm,5.0s						
UGL				pmax	pmax		
	comp=N,10μm,10.0s						
UGL				pmax	pmax		
	comp=Z,21μm,6.0s						
UGL				pmax	pmax		
	comp=Z,6μm,14.0s						
UGL				smax	smax		
	comp=E,36μm,11.0s						
UGL				smax	smax		
	comp=N,20μm,8.0s						
SUJ	**Sinuiju**	**68.69**	**326**	P	**P**	**19 44 25.9**	**+0.2**
SUJ				pP	**sP**	**19 44 37.6**	**+0.6**
SUJ				S	**S**	**19 53 28.8**	**+1.6**
SUJ				AmB			
	comp=Z,17μm,4.6s						
SUJ				AMS	AMS		
	comp=N,6μm,5.7s						
SUJ				AMS	AMS		
	comp=E,9μm,8.1s						
SUJ				AMS	AMS		
	comp=Z,8μm,7.0s						
IPM	**Ipoh**	**68.71**	**281**	P	**P**	**19 44 25.6**	**-0.8**
IPM				IAmb	IAmb	19 44 31.9	
	comp=Z,278nm,1.2s						
IPM	**Ipoh**	**68.71**	**281**	P	**P**	**19 44 27.0**	**+0.6**
IPM	**Ipoh**	**68.71**	**281**	P	**P**	**19 44 26.8**	**+0.4**
SHEM	**Shemya Is, Ala**	**68.79**	**4**	P	**P**	**19 44 26.2**	**+0.2**
	comp=Z,236nm,0.9s,baz=198,slow=0.8,SNR=9.5						
SHEM				LR	LR	20 09 42.3	
	comp=Z,97μm,20.9s,baz=188,slow=32						
SMY	**Shemya**	**68.79**	**4**	P	**P**	**19 44 25.6**	**-0.4**
SMY				pmax	pmax		
	comp=Z,336nm,1.1s						
SMY	**Shemya**	**68.79**	**4**	P	**P**	**19 44 25.6**	**-0.4**
SMY				IAmb	IAmb	19 44 30.3	
	comp=Z,336nm,1.1s						
SMY	**Shemya**	**68.79**	**4**	⇑P	**P**	**19 44 25.3**	**-0.7**
WHN	**Wuhan**	**68.94**	**312**	⇑*i*P	**P**	**19 44 27.5**	**+0.1**
WHN				sP	**sP**	**19 44 39.8**	**+0.9**
WHN				S	**S**	**19 53 29.5**	**-1.0**
WHN				pmax	pmax		
	comp=Z,800nm,1.0s						
WHN				pmax	pmax		
	comp=Z,19μm,4.1s						
WHN				LR	LR		
	comp=Z,72μm,15.9s						
WHN				LR	LR		
	comp=Z,48μm,16.7s						
WHN				LR	LR		
	comp=Z,209μm,23.2s						
KIWB	**Kanaga Island**	**69.00**	**10**	P	**P**	**19 44 25.7**	**-1.7**
ADK	**Adak**	**69.11**	**10**	P	**P**	**19 44 27.8**	**-0.2**
ADK				pmax	pmax		
	comp=Z,282nm,1.2s						
ADK				MLR	MLR		
	comp=Z,77μm,21.0s						
ADK	**Adak**	**69.11**	**10**	P	**P**	**19 44 27.8**	**-0.2**
ADK				IAmb	IAmb	19 44 58.5	
	comp=Z,282nm,1.1s						
ADK	**Adak**	**69.11**	**10**	⇑P	**P**	**19 44 27.1**	**-0.9**
ADK				⇑P	**P**	**19 44 30.1**	**+2.0**
ADK	**Adak**	**69.11**	**10**	P	**P**	**19 44 29.9**	**+1.9**
PET	**Petropavlovsk**	**69.25**	**354**	*c i*P	**P**	**19 44 27.5**	**-1.4**
PET				*e*		19 44 50.4	
PET				*i* S	**S**	**19 53 31.6**	**-1.7**
PET				*e*SS	**SS**	**19 57 59.3**	**-1.5**
PET				*e*SSS	SSS	20 01 06.9	
PET				pmax	pmax		
	comp=Z,17μm,11.9s						
PET				pmax	pmax		
	comp=Z,774nm,0.8s						
PET				pmax	pmax		
	comp=Z,31μm,19.1s						
PET				smax	smax		
	comp=N,9μm,12.9s						
PET				smax	smax		
	comp=N,10μm,19.3s						
PET				smax	smax		
	comp=E,16μm,12.1s						
PET				smax	smax		
	comp=E,28μm,18.6s						
PET	**Petropavlovsk**	**69.25**	**354**	P	**P**	**19 44 27.7**	**-1.1**
PET	**Petropavlovsk**	**69.25**	**354**	⇑P	**P**	**19 44 28.1**	**-0.8**
PET				⇓P	pP	19 44 28.6	-8.5
PET	**Petropavlovsk**	**69.25**	**354**	P	**P**	**19 44 28.4**	**-0.5**
KULM	**Kulim**	**69.33**	**282**	P	**P**	**19 44 29.3**	**-1.0**
KULM				IAmb	IAmb	19 44 35.6	
	comp=Z,240nm,1.2s						
KULM	**Kulim**	**69.33**	**282**	P	**P**	**19 44 32.0**	**+1.7**
GSTR	**Great Sitkin T**	**69.42**	**11**	P	**P**	**19 44 29.9**	**-0.1**
PEA0B	**Petropavlovsk-**	**69.43**	**354**	P	**P**	**19 44 28.8**	**-1.2**
PEA0B				pmax	pmax		
	comp=Z,979nm,1.1s						
PEA0B	**Petropavlovsk-**	**69.43**	**354**	P	**P**	**19 44 28.8**	**-1.2**
PETK	**Petropavlovsk-**	**69.43**	**354**	P	**P**	**19 44 29.0**	**-1.0**
	comp=Z,542nm,0.9s,baz=178,slow=10,SNR=194						
PETK				LR	LR	20 08 41.9	
	comp=Z,49μm,21.9s,baz=168,slow=31						
PETK				PKPPKP	**P'P'df**	**20 12 36.9**	**+2.4**
	comp=Z,4.0nm,0.9s,baz=68,slow=8.2,SNR=8.5						
PETK	**Petropavlovsk-**	**69.43**	**354**	P	**P**	**19 44 29.1**	**-1.0**
PETK	**Petropavlovsk-**	**69.43**	**354**	P	**P**	**19 44 29.1**	**-1.0**
DL2	**Dalian**	**69.45**	**323**	⇑*i*P	**P**	**19 44 30.8**	**+0.3**
DL2				PP	**PP**	**19 47 07.0**	**+2.6**
DL2				S	**S**	**19 53 38.0**	**+1.7**
DL2				pmax	pmax		
	comp=Z,530nm,1.0s						
DL2				pmax	pmax		
	comp=Z,20μm,8.7s						
DL2				LR	LR		
	comp=Z,34μm,22.8s						
DL2				LR	LR		
	comp=Z,66μm,24.4s						
DL2				LR	LR		
	comp=Z,91μm,26.5s						
MDJ	**Mudanjiang**	**69.54**	**332**	P	**P**	**19 44 30.2**	**-0.6**
MDJ	**Mudanjiang**	**69.54**	**332**	P	**P**	**19 44 30.3**	**-0.6**
MDJ				pP	pP	19 44 38.8	-0.3
MDJ				sP	sP	19 44 42.0	-0.1
MDJ				S	**S**	**19 53 41.0**	**+3.9**
MDJ				sS	sS	19 53 56.3	+5.6
MDJ				pmax	pmax		
	comp=Z,60nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,27μm,11.5s						
MDJ				LR	LR		
	comp=Z,39μm,22.6s						
MDJ				LR	LR		
	comp=Z,45μm,18.3s						
MDJ				LR	LR		
	comp=Z,73μm,22.2s						
ATKA	**Atka Island**	**69.88**	**12**	P	**P**	**19 44 33.5**	**+0.7**
TYV	**Tymovskoe**	**70.12**	**344**	*e*P	**P**	**19 44 35.4**	**+1.1**
TYV				*e*S	**S**	**19 53 46.1**	**+2.5**
TYV				pmax	pmax		
	comp=Z,12μm,8.6s						
TYV				pmax	pmax		
	comp=Z,427nm,1.3s						
TYV				smax	smax		
	comp=N,13nm,2.3s						
TYV				smax	smax		
	comp=E,17nm,2.3s						
TYV				smax	smax		
	comp=N,10μm,9.7s						
TYV				smax	smax		
	comp=E,20μm,9.7s						
RPSI	**Rantau Prapat**	**70.13**	**279**	P	**P**	**19 44 34.1**	**-1.1**
PSI	**Prapat**	**70.17**	**279**	P	**P**	**19 44 34.1**	**-1.4**
	comp=E,106nm,1.0s,baz=157,slow=3.7,SNR=37						
SNY	**Shenyang**	**70.40**	**327**	⇑P	**P**	**19 44 35.8**	**-0.4**
SNY				S	**S**	**19 53 50.5**	**+3.2**
SNY				SKS	**SKSac**	**19 54 35.5**	**-0.7**
SNY				SS	**SS**	**19 58 19.5**	**+0.6**
SNY				pmax	pmax		
	comp=E,24nm,0.9s						
SNY				LR	LR		
	comp=E,43μm,18.9s						
SNY				LR	LR		
	comp=E,20μm,20.4s						
SNY				LR	LR		
	comp=E,76μm,21.8s						
TIA	**Tai'an**	**70.43**	**319**	⇑P	**P**	**19 44 36.3**	**-0.3**
TIA				PP	**PP**	**19 47 10.0**	**-2.9**
TIA				S	**S**	**19 53 49.3**	**+1.3**
TIA				SS	**SS**	**19 58 20.8**	**+1.2**
TIA				pmax	pmax		
	comp=E,77nm,1.1s						
TIA				pmax	pmax		
	comp=E,17μm,8.8s						
TIA				LR	LR		
	comp=E,26μm,21.6s						
TIA				LR	LR		
	comp=E,28μm,21.6s						
TIA				LR	LR		
	comp=E,56μm,28.9s						
CN2	**Changchun**	**70.87**	**329**	*e*P	**P**	**19 44 38.3**	**-0.8**
CN2				PP	**PP**	**19 47 18.5**	**+1.9**
CN2				S	**S**	**19 53 51.8**	**-1.0**
CN2				sS	sS	19 54 09.0	+2.6
CN2				SS	**SS**	**19 58 27.8**	**+1.7**
CN2				pmax	pmax		
	comp=E,260nm,1.1s						
CN2				pmax	pmax		
	comp=E,4μm,8.0s						
CN2				LR	LR		
	comp=E,40μm,18.0s						
CN2				LR	LR		
	comp=E,36μm,18.0s						
CN2				LR	LR		
	comp=E,53μm,19.0s						
GSI	**Gunungsitoli**	**71.00**	**277**	P	**P**	**19 44 40.4**	**-0.2**
GSI				IAMs_20	IAMs_20	20 15 30.2	
	comp=Z,94μm,22.0s						
GSI	**Gunungsitoli**	**71.00**	**277**	⇑P	**P**	**19 44 40.8**	**+0.3**
GSI				⇓P	**P**	**19 44 41.1**	**+0.6**
GSI	**Gunungsitoli**	**71.00**	**277**	P	**P**	**19 44 41.5**	**+1.0**
BNX	**BinXian**	**71.39**	**332**	⇓P	**P**	**19 44 42.0**	**-0.1**
BNX				pP	**pP**	**19 44 50.0**	**-0.4**
BNX				sP	**sP**	**19 44 56.0**	**+2.6**
BNX				PP	**PP**	**19 47 22.8**	**+1.8**
BNX				S	**S**	**19 53 57.0**	**-1.7**
BNX				sS	**sS**	**19 54 15.0**	**+2.7**
BNX				SS	**SS**	**19 58 38.3**	**+4.3**
BNX				pmax	pmax		
	comp=Z,650nm,1.2s						
BNX				pmax	pmax		
	comp=Z,35μm,10.0s						
BNX				LR	LR		
	comp=Z,41μm,16.9s						
BNX				LR	LR		
	comp=Z,65μm,18.6s						
BNX				LR	LR		
	comp=Z,125μm,27.3s						
SRIT	**Nakonsritamara**	**71.42**	**285**	P	**P**	**19 44 42.9**	**-0.1**
SRIT				IAmb	IAmb	19 44 49.2	
	comp=Z,289nm,1.2s						
NIKH	**Nikolski High**	**71.79**	**15**	P	**P**	**19 44 42.6**	**-1.8**
	baz=204,SNR=7.9						
NIKH				S	**S**	**19 54 00.7**	**-2.3**
	baz=204						
GRNR	**Gornyy**	**71.91**	**340**	*i*P	**P**	**19 44 47.3**	**+2.1**
GRNR				*e*S	**S**	**19 54 10.4**	**+5.9**
GRNR				pmax	pmax		
	comp=N,40nm,1.1s						
GRNR				pmax	pmax		
	comp=E,10.0nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,110nm,1.1s						
GRNR				smax	smax		
	comp=N,3.0nm,1.0s						
KLR	**Kul'dur**	**72.30**	**336**	*ce*P	**P**	**19 44 45.9**	**-1.6**
KLR				pmax	pmax		
	comp=Z,544nm,1.3s						
ENH	**Enshi**	**72.31**	**310**	P	**P**	**19 44 47.5**	**-0.6**
ENH				IAmb	IAmb	19 45 03.4	
	comp=Z,423nm,0.9s						
LYN	**LuoYang**	**72.51**	**315**	⇑*i*P	**P**	**19 44 49.0**	**-0.1**
LYN				pP	sP	19 44 59.3	-1.3
LYN				S	**S**	**19 54 10.5**	**-1.6**
LYN				pmax	pmax		
	comp=Z,200nm,1.1s						
LYN				pmax	pmax		
	comp=Z,28μm,7.9s						
LYN				LR	LR		
	comp=Z,92μm,22.4s						
LYN				LR	LR		
	comp=Z,64μm,22.4s						
LYN				LR	LR		
	comp=Z,147μm,22.2s						
GYA	**Guiyang**	**72.58**	**305**	⇑*i*P	**P**	**19 44 50.3**	**+0.4**
GYA				sP	sP	19 45 03.3	+2.0
GYA				S	**S**	**19 54 15.0**	**+1.6**
GYA				pmax	pmax		
	comp=Z,140nm,1.1s						
GYA				LR	LR		
	comp=Z,15μm,22.1s						
GYA				LR	LR		
	comp=Z,36μm,20.0s						
GYA				LR	LR		
	comp=Z,63μm,20.0s						
HNS	**HongShan**	**72.69**	**318**	⇑P	**P**	**19 44 50.8**	**+0.7**
HNS				sP	**sP**	**19 45 02.3**	**+0.7**
HNS				PP	**PP**	**19 47 38.5**	**+6.2**
HNS				S	**S**	**19 54 14.5**	**+0.6**
HNS				sS	**sS**	**19 54 31.3**	**+3.7**
HNS				pmax	pmax		
	comp=Z,460nm,1.4s						
HNS				pmax	pmax		
	comp=Z,17μm,8.8s						
HNS				LR	LR		
	comp=Z,23μm,20.6s						
HNS				LR	LR		
	comp=Z,52μm,22.6s						
HNS				LR	LR		
	comp=Z,68μm,22.7s						
NKL	**Nikolayevsk**	**72.71**	**344**	*e*P	**P**	**19 44 49.6**	**-0.3**
NKL				*e*		19 47 27.5	
NKL				*e*S	**S**	**19 54 17.3**	**+3.8**
NKL				pmax	pmax		
	comp=Z,414nm,1.5s						
NKL				smax	smax		
	comp=N,4.0nm,3.4s						
NKL				smax	smax		
	comp=E,3.0nm,3.4s						
LHMI	**Lhok Sumawe**	**72.80**	**281**	P	**P**	**19 44 50.0**	**-1.3**
LHMI				IAmb	IAmb	19 45 45.4	
	comp=Z,615nm,1.5s						
LHMI	**Lhok Sumawe**	**72.80**	**281**	P	**P**	**19 44 53.3**	**+2.0**
UNV	**Unalaska Valle**	**73.18**	**16**	P	**P**	**19 44 52.9**	**+0.3**
UNV	**Unalaska Valle**	**73.18**	**16**	P	**P**	**19 44 51.5**	**-1.2**
	baz=206						
UNV				S	**S**	**19 54 17.1**	**-1.7**
	baz=206						
BJT	**Baijiatuau**	**73.39**	**321**	P	**P**	**19 44 53.9**	**-0.3**
BJT				pmax	pmax		
	comp=Z,576nm,1.5s						
BJT				MLR	MLR		
	comp=Z,61μm,21.0s						
BJT	**Baijiatuau**	**73.39**	**321**	P	**P**	**19 44 53.9**	**-0.3**
BJT				IAmb	IAmb	19 45 17.7	
	comp=Z,576nm,1.5s						
BJI	**Beijing**	**73.39**	**321**	P	**P**	**19 44 54.3**	**+0.1**
BJI				pP	**pP**	**19 45 02.3**	**-0.3**

BJI sP **sP** **19 45 05.8 +0.3**
BJI PcP **PcP** **19 45 10.0 -0.4**
BJI S **SKiKP** **19 54 24.8 +0.9**
BJI SS **SS** **19 59 03.8 -1.1**
BJI pmax pmax
comp=Z,98nm,0.8s
BJI pmax pmax
comp=Z,24µm,11.7s
BJI LR LR
comp=Z,48µm,24.5s
BJI LR LR
comp=Z,41µm,23.5s
BJI LR LR
comp=Z,106µm,24.3s
QSPA South Pole Qui 73.93 180 P **P** **19 44 57.2 -0.1**
comp=Z,219nm,1.1s,baz=21,slow=1.9,SNR=94
QSPA LR LR 20 15 09.1
comp=Z,54µm,18.7s,baz=39,slow=34
QSPA South Pole Qui 73.93 180 P **P** **19 44 57.2 -0.1**
QSPA IAmb IAmb 19 45 06.5
comp=Z,519nm,1.1s
TIY Taiyuan 74.34 318 ⇑P **P** **19 45 00.8 +0.9**
TIY pP **pP** **19 45 04.3 -4.0**
TIY S **S** **19 54 38.8 +6.0**
TIY SS **SS** **19 59 17.0 -2.5**
TIY pmax pmax
comp=Z,330nm,0.9s
TIY pmax pmax
comp=Z,21µm,8.0s
TIY LR LR
comp=Z,16µm,21.4s
TIY LR LR
comp=Z,45µm,20.0s
TIY LR LR
comp=Z,50µm,20.6s
XAN Xi'an 74.69 313 ⇑P **P** **19 45 02.0 -0.1**
XAN pP pP 19 45 10.5 +0.1
XAN sP PcP 19 45 15.0 -1.2
XAN PP **PP** **19 47 51.0 +1.5**
XAN S **S** **19 54 37.5 +0.7**
XAN sS sS 19 54 52.3 +1.7
XAN SS **SS** **19 59 27.8 +2.8**
XAN pmax pmax
comp=Z,52nm,1.3s
XAN pmax pmax
comp=Z,20µm,8.9s
XAN LR LR
comp=Z,53µm,21.6s
XAN LR LR
comp=Z,49µm,22.5s
XAN LR LR
comp=Z,98µm,20.9s
FALS False Pass 74.92 17 P **P** **19 45 00.3 -2.5**
baz=209
FALS S **S** **19 54 35.4 -2.9**
baz=209
KMI Kunming 75.11 302 ⇑P **P** **19 45 06.0 +1.1**
KMI pP pP 19 45 14.8 +1.5
KMI sP PcP 19 45 18.0 -0.4
KMI PP **PP** **19 47 50.0 -3.5**
KMI S **S** **19 54 40.5 -1.8**
KMI pmax pmax
comp=Z,190nm,1.1s
KMI pmax pmax
comp=Z,20µm,8.2s
KMI LR LR
comp=Z,22µm,19.6s
KMI LR LR
comp=Z,19µm,20.8s
KMI LR LR
comp=Z,43µm,19.6s
SPIA Saint Paul Isl 75.35 12 P **P** **19 45 04.6 -0.6**
baz=202
CM31 Chiang Mai Arr 75.60 294 P **P** **19 45 08.4 +0.9**
CM31 IAmb IAmb 19 45 14.1
comp=Z,321nm,1.1s
CM31 Chiang Mai Arr 75.60 294 P **P** **19 45 10.1 +2.5**
SNR=121
CMAR Chiang Mai Arr 75.60 294 P **P** **19 45 08.6 +1.0**
comp=Z,54nm,1.0s,baz=123,slow=4.1,SNR=108
CMAR PKiKP **PKiKP** **19 50 57.0 +1.2**
comp=Z,5.3nm,1.0s,baz=12,slow=0.8,SNR=4.2
CMAR PKKPbc **PKKPbc** **20 04 29.1 +2.3**
comp=Z,1.2nm,0.8s,baz=296,slow=4.0,SNR=5.1
CMAR PKPPKP **P'P'df** **20 12 28.7 0.0**
comp=Z,5.6nm,1.1s,baz=287,slow=3.5,SNR=5.2
CMAR LR LR 20 16 42.2
comp=Z,25µm,21.8s,baz=125,slow=34
CMAR Chiang Mai Arr 75.60 294 P **P** **19 45 07.5 0.0**
CHTO Chiang Mai 75.74 295 P **P** **19 45 08.8 +0.4**
CHTO Chiang Mai 75.74 295 P **P** **19 45 08.8 +0.4**
CHTO IAmb IAmb 19 45 14.5
comp=Z,233nm,0.9s
CHTO Chiang Mai 75.74 295 P **P** **19 45 09.8 +1.5**
CHTO Chiang Mai 75.74 295 P **P** **19 45 09.2 +0.9**
XLT XiLinHaoTe 75.88 324 ⇑*i*P **P** **19 45 09.3 +0.6**
XLT pP pP 19 45 16.5 -0.6
XLT sP sP 19 45 20.0 0.0
XLT S **S** **19 54 51.3 +1.6**
XLT sS sS 19 55 07.3 +3.9
XLT SS **SS** **19 59 42.5 -0.2**
XLT pmax pmax
comp=Z,120nm,1.3s
XLT pmax pmax
comp=Z,32µm,8.5s
XLT LR LR
comp=Z,3µm,19.8s
XLT LR LR
comp=Z,23µm,20.2s
XLT LR LR
comp=Z,32µm,21.9s
SDPT Sand Point 76.20 18 P **P** **19 45 08.8 -1.3**
baz=212
SDPT S **S** **19 54 52.3 -0.2**
baz=212
PZH PanZhiHua 76.52 303 P **P** **19 45 12.8 0.0**
PZH pP **pP** **19 45 21.3 +0.1**
PZH sP **PcP** **19 45 26.0 +1.6**
PZH S **S** **19 54 59.0 +1.4**
PZH sS **sS** **19 55 12.3 +1.0**
PZH SS **SS** **19 59 57.0 +3.8**
PZH pmax pmax
comp=Z,290nm,1.5s
PZH pmax pmax
comp=Z,18µm,8.9s
PZH LR LR
comp=Z,24µm,24.0s
PZH LR LR
comp=Z,33µm,22.6s
PZH LR LR
comp=Z,46µm,25.0s
MA2 Magadan 76.61 351 P **P** **19 45 11.3 -1.1**
comp=Z,299nm,0.9s,baz=156,slow=5.9,SNR=151
MA2 PKPPKP **P'P'df** **20 12 27.6 +5.5**
comp=Z,1.5nm,0.5s,baz=304,slow=3.4,SNR=5.7
MA2 LR LR 20 14 01.8
comp=Z,137µm,21.8s,baz=178,slow=32
MA2 Magadan 76.61 351 *ce*P **P** **19 45 11.1 -1.3**
MA2 pmax pmax
comp=Z,419nm,0.8s
MA2 Magadan 76.61 351 P **P** **19 45 10.6 -1.8**
MA2 IAmb IAmb 19 45 16.2
comp=Z,483nm,1.0s
MA2 Magadan 76.61 351 P **P** **19 45 11.8 -0.6**
HHC Hu-ho-hao-te 76.69 320 *e*P **P** **19 45 14.3 +0.9**
HHC sP PcP 19 45 26.8 +2.0
HHC S **S** **19 55 03.5 +4.7**
HHC sS sS 19 55 18.0 +5.4
HHC pmax pmax
comp=Z,440nm,1.6s
HHC LR LR
comp=Z,28µm,20.2s
HHC LR LR
comp=Z,36µm,21.4s
HHC LR LR
comp=Z,62µm,20.3s
CD2 Chengdu 76.92 308 ⇑P **P** **19 45 15.3 +0.4**
CD2 PP **PP** **19 48 12.3 +3.9**
CD2 S **S** **19 55 01.0 -0.6**
CD2 SS **SS** **20 00 00.8 +1.8**
CD2 pmax pmax
comp=Z,450nm,1.0s
CD2 pmax pmax
comp=Z,20µm,9.4s
CD2 LR LR
comp=Z,59µm,21.3s
CD2 LR LR
comp=Z,80µm,20.6s
RPN Rapa Nui 76.99 115 LR LR 20 14 59.3
comp=Z,26µm,18.4s,baz=266,slow=32
BTO Baotou 77.52 319 *e*P **P** **19 45 19.3 +1.2**
BTO S **S** **19 55 10.5 +2.7**
BTO LR LR
comp=Z,102µm,21.5s
BTO LR LR
comp=Z,119µm,21.5s
HIA Hailar 77.52 330 P **P** **19 45 17.2 -0.6**
HIA pmax pmax
comp=Z,394nm,1.2s
HIA MLR MLR
comp=Z,78µm,21.0s
HIA Hailar 77.52 330 P **P** **19 45 17.2 -0.6**
HIA IAmb IAmb 19 45 23.6
comp=Z,394nm,1.2s
HIA Hailar 77.52 330 IAMs_20 IAMs_20 20 19 11.5
comp=Z,78µm,21.0s
ZEA Zeya 77.59 337 *ce*P **P** **19 45 18.6 +0.6**
ZEA *e*S **S** **19 55 10.3 +2.5**
ZEA pmax pmax
comp=N,160nm,0.8s
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=Z,250nm,0.8s
ZEA pmax pmax
comp=E,2µm,7.1s
ZEA pmax pmax
comp=N,3µm,11.4s
ZEA pmax pmax
comp=Z,8µm,8.9s
ZEA smax smax
comp=E,16µm,10.1s
CHIR Chirikof Islan 78.13 20 IAMs_20 IAMs_20 20 13 15.5
comp=Z,102µm,20.0s
CHIR Chirikof Islan 78.13 20 P **P** **19 45 21.1 +0.1**
baz=216
PBA Port Blair 78.80 286 P **P** **19 45 22.2 -3.4**
PBA Port Blair 78.80 286 *e*P **P** **19 45 27.4 +1.9**
PBA IAmb IAmb 19 45 36.6
comp=Z,271nm,1.3s
PBA Port Blair 78.80 286 P **P** **19 45 28.1 +2.5**
SNR=14
DGPR DIGLIPUR 79.13 287 *e*P **P** **19 45 27.9 +0.6**
DGPR IAmb IAmb 19 45 33.6
comp=Z,495nm,1.4s
SII Sitkinak Islan 79.21 21 P **P** **19 45 26.7 -0.2**
SII IAMs_20 IAMs_20 20 14 08.9
comp=Z,90µm,20.0s
SII Sitkinak Islan 79.21 21 P **P** **19 45 25.7 -1.2**
baz=217
SII Sitkinak Islan 79.21 21 P **P** **19 45 28.8 +1.9**
LZH Lanzhou 79.32 312 ⇑*i*P **P** **19 45 29.8 +1.6**
LZH pP pP 19 45 36.8 +0.2
LZH sP sP 19 45 41.5 +1.8
LZH PP **PP** **19 48 24.3 -4.2**
LZH S **S** **19 55 30.3 +2.9**
LZH sS SKKSac 19 55 46.3 +1.8
LZH pmax pmax
comp=Z,460nm,1.0s
LZH pmax pmax
comp=Z,20µm,5.4s
LZH LR LR
comp=Z,46µm,17.9s
LZH LR LR
comp=Z,32µm,17.1s
LZH LR LR
comp=Z,89µm,18.7s
SEY Seymchan 79.65 353 P **P** **19 45 28.5 -0.7**
comp=Z,421nm,0.9s,baz=158,slow=6.0,SNR=198
SEY PKPPKP **P'P'df** **20 12 20.2 +3.5**
comp=Z,2.9nm,1.0s,baz=352,slow=1.0,SNR=6.9
SEY LR LR 20 16 25.5
comp=Z,100µm,21.8s,baz=170,slow=32
SEY Seymchan 79.65 353 *ce*P **P** **19 45 28.4 -0.7**
SEY pmax pmax
comp=Z,1µm,2.5s
OHAK Old Harbor 80.03 20 P **P** **19 45 30.2 -1.1**
OHAK IAmb IAmb 19 45 52.0
comp=Z,444nm,1.3s
OHAK Old Harbor 80.03 20 P **P** **19 45 30.8 -0.6**
baz=218
OHAK S **S** **19 55 35.2 +1.6**
baz=218
AIS Amsterdam Isla 80.16 234 IAMs_20 IAMs_20 20 25 02.7
comp=Z,71µm,18.0s
MAW Mawson 80.66 202 P **P** **19 45 35.7 +1.0**
comp=Z,244nm,1.2s,baz=96,slow=7.2,SNR=13
MAW LR LR 20 17 21.2
comp=Z,107µm,19.7s,baz=96,slow=33
MAW Mawson 80.66 202 P **P** **19 45 35.9 +1.2**
baz=81,SNR=13
MAW Mawson 80.66 202 P **P** **19 45 34.5 -0.2**
MAW pmax pmax
comp=Z,73nm,1.3s
MAW Mawson 80.66 202 P **P** **19 45 34.5 -0.2**
KDAK Kodiak Island 80.71 20 P **P** **19 45 33.7 -1.2**
comp=Z,35nm,0.9s,baz=358,slow=2.4,SNR=7.6
KDAK LR LR 20 15 26.5
comp=Z,123µm,20.8s,baz=235,slow=31
KDAK Kodiak Island 80.71 20 P **P** **19 45 34.8 -0.2**
KDAK pmax pmax
comp=Z,176nm,1.3s
KDAK MLR MLR
comp=Z,115µm,20.0s
KDAK Kodiak Island 80.71 20 P **P** **19 45 34.8 -0.2**
KDAK Kodiak Island 80.71 20 IAMs_20 IAMs_20 20 15 24.7
comp=Z,115µm,20.0s
KDAK Kodiak Island 80.71 20 P **P** **19 45 33.4 -1.5**
baz=219
KDAK S **S** **19 55 40.2 -0.6**
baz=219
P18K Big Mountain, 81.15 18 IAMs_20 IAMs_20 20 15 00.2
comp=Z,124µm,21.0s
P18K Big Mountain, 81.15 18 P **P** **19 45 34.8 -2.5**
baz=216
P18K S **S** **19 55 38.4 -7.0**
baz=216
GAMB Gambell 81.26 9 P **P** **19 45 37.7 0.0**
GAMB Gambell 81.26 9 P **P** **19 45 36.8 -1.0**
baz=200,SNR=14
GAMB S **S** **19 55 52.9 +6.7**
baz=200
Q19K Cape Douglas, 81.27 19 P **P** **19 45 36.2 -1.7**
baz=218
Q19K S **S** **19 55 40.4 -6.2**
baz=218
O18K Koktuh Hills 81.53 18 P **P** **19 45 38.9 -0.4**
O18K Koktuh Hills 81.53 18 P **P** **19 45 37.7 -1.6**
baz=216
O18K S **S** **19 55 41.8 -7.5**
baz=216
P19K Oil Pt 81.97 19 P **P** **19 45 40.8 -0.9**
P19K IAmb IAmb 19 46 15.7
comp=Z,199nm,0.9s
P19K IAMs_20 IAMs_20 20 15 25.0
comp=Z,88µm,20.0s
P19K Oil Pt 81.97 19 P **P** **19 45 40.4 -1.2**
baz=218
P19K S **S** **19 56 00.7 +6.8**
baz=218
N18K Kilae Creek 82.00 17 P **P** **19 45 41.9 +0.1**
N18K Kilae Creek 82.00 17 P **P** **19 45 40.0 -1.8**
baz=216,SNR=8.3
N18K S **S** **19 56 00.9 +6.8**
baz=216
O19K Port Alsworth 82.07 18 P **P** **19 45 39.9 -2.2**
O19K IAmb IAmb 19 46 02.5
comp=Z,601nm,1.6s
O19K IAMs_20 IAMs_20 20 15 49.6
comp=Z,100µm,21.0s
O19K Port Alsworth 82.07 18 P **P** **19 45 40.3 -1.8**
baz=217
O19K S S 19 56 04.0 +9.3
baz=217
CIT Chita 82.31 330 *e*P **P** **19 45 43.9 +0.2**
CIT *e* 19 45 57.9
CIT *e*S **S** **19 55 58.6 +0.9**
CIT pmax pmax
comp=Z,3µm,2.2s
MOKO MOKOCHONG 82.37 300 *e*P **P** **19 45 44.2 -0.5**
MOKO IAmb IAmb 19 45 49.5
comp=Z,681nm,0.9s
SVW2 Sparrevohn 82.43 17 P **P** **19 45 42.7 -1.3**
HOM Homer 82.48 20 IAMs_20 IAMs_20 20 15 39.4
comp=Z,97µm,20.0s
HOM Homer 82.48 20 P **P** **19 45 42.9 -1.4**
baz=219
KOHI KOHIMA 82.49 299 *e*P **P** **19 45 44.3 -1.1**
KOHI IAmb IAmb 19 45 50.9
comp=Z,630nm,1.1s
O20K Slope Mountain 82.50 19 P **P** **19 45 41.5 -3.0**
baz=218
O20K S **S** **19 55 55.0 -4.3**
baz=218
CNPM China Poot 82.51 20 P **P** **19 45 42.7 -1.8**
CNPM IAmb IAmb 19 46 09.2
comp=Z,494nm,1.2s
CNPM IAMs_20 IAMs_20 20 14 44.2
comp=Z,106µm,22.0s
N19K Bonanza Creek 82.51 18 P **P** **19 45 43.4 -1.2**
N19K Bonanza Creek 82.51 18 P **P** **19 45 42.0 -2.6**
baz=217,SNR=13
N19K S **S** **19 56 04.7 +5.1**
baz=217
RSO Redoubt South 82.75 19 P **P** **19 45 44.4 -1.6**
BRLK Bradley Lake 82.81 20 P **P** **19 45 44.8 -1.2**
BRLK IAmb IAmb 19 46 19.9
comp=Z,208nm,1.0s
BRLK IAMs_20 IAMs_20 20 16 08.7
comp=Z,97µm,21.0s
BRSE Bradley Lake S 82.84 20 P **P** **19 45 44.6 -1.6**
baz=220
BRSE S **S** **19 56 09.6 +6.8**
baz=220
AZL Aizawl 82.97 297 *e*P **P** **19 45 47.6 -0.2**
AZL IAmb IAmb 19 45 52.8
comp=Z,372nm,1.2s
ANM Nome 83.08 11 P **P** **19 45 46.4 -1.0**
ANM pmax pmax
comp=Z,733nm,2.0s
ANM MLR MLR
comp=Z,90µm,21.0s
ANM Nome 83.08 11 P **P** **19 45 46.4 -1.0**
ANM IAmb IAmb 19 45 53.3
comp=Z,733nm,2.0s
ANM IAMs_20 IAMs_20 20 16 21.5
comp=Z,90µm,21.0s
ANM Nome 83.08 11 P **P** **19 45 46.4 -1.0**
baz=206,SNR=16
ANM S **S** **19 56 13.3 +8.3**
baz=206
ULN Ulaanbaatar 83.30 324 *ce*P **P** **19 45 48.8 -0.3**
ULN pmax pmax
comp=Z,470nm,0.8s
ULN Ulaanbaatar 83.30 324 P **P** **19 45 48.2 -0.9**
ULN Ulaanbaatar 83.30 324 P **P** **19 45 50.7 +1.6**
YAK Yakutsk 83.37 343 *e*P **P** **19 45 48.4 -0.4**
YAK *e* 19 45 59.2
YAK *e**PP **sP** **19 46 02.8 +2.6**
YAK *e* 19 49 03.7
YAK *e*S **S** **19 56 07.2 -0.7**
YAK pmax pmax
comp=Z,2µm,0.9s
YAK pmax pmax
comp=N,387nm,1.2s
YAK pmax pmax
comp=E,134nm,1.2s
YAK pmax pmax
comp=Z,2µm,3.5s
YAK pmax pmax
comp=N,830nm,3.8s
YAK pmax pmax
comp=E,632nm,3.3s
YAK smax smax
comp=N,826nm,2.5s
YAK smax smax
comp=E,1µm,2.6s
YAK Yakutsk 83.37 343 P **P** **19 45 46.9 -1.9**
M19K Big River Lodg 83.42 17 P **P** **19 45 47.9 -1.3**
M19K Big River Lodg 83.42 17 P **P** **19 45 47.8 -1.3**
baz=217,SNR=32
M19K S **S** **19 56 12.1 +3.5**
baz=217
CAPN Captain Cook N 83.49 19 IAMs_20 IAMs_20 20 15 41.2
comp=Z,121µm,22.0s
CAPN Captain Cook N 83.49 19 P **P** **19 45 49.0 -0.4**
baz=220
SPCR Spurr Chakacha 83.50 18 P **P** **19 45 46.8 -2.9**
baz=219,SNR=14
SPCR S **S** **19 56 10.8 +1.3**
baz=219
L19K White Mountain 83.51 17 P **P** **19 45 48.1 -1.5**
L19K White Mountain 83.51 17 P **P** **19 45 48.6 -1.0**
baz=216,SNR=46
L19K S **S** **19 56 12.0 +2.5**
baz=216
TNA Tin City 83.53 10 P **P** **19 45 50.1 +0.5**
TNA IAmb IAmb 19 45 55.1
comp=Z,179nm,1.1s
TNA Tin City 83.53 10 P **P** **19 45 48.5 -1.1**
baz=204,SNR=5.8
TNA S **S** **19 56 14.5 +5.1**
baz=204
SEW Seward 83.53 20 P **P** **19 45 48.5 -1.3**
SEW IAmb IAmb 19 46 14.9
comp=Z,377nm,1.3s
SEW Seward 83.53 20 P **P** **19 45 48.5 -1.3**
baz=221
SEW S **S** **19 56 12.0 +2.4**
baz=221
SONM Songino Array 83.66 324 P **P** **19 45 50.6 -0.2**
comp=Z,171nm,0.9s,baz=139,slow=3.5,SNR=143
SONM PKKPbc **PKKPbc** **20 04 08.3 -2.1**
comp=Z,5.9nm,1.0s,baz=277,slow=3.7,SNR=7.7
SONM PKPPKP **P'P'df** **20 12 12.7 +1.2**
comp=Z,2.5nm,1.0s,baz=301,slow=2.2,SNR=7.9
SONM LR LR 20 20 54.3
comp=Z,46µm,21.9s,baz=123,slow=34
SONM Songino Array 83.66 324 P **P** **19 45 49.3 -1.5**
SONM Songino Array 83.66 324 P **P** **19 45 49.3 -1.5**
GTA Gaotai 83.69 314 ⇑P **P** **19 45 51.8 +0.6**
GTA pP sP 19 46 01.8 -0.8
GTA sP pP 19 46 06.5 +6.8
GTA PP **PP** **19 49 06.8 +2.3**
GTA SKS **S** **19 56 06.0 -6.5**
GTA S **SKKSac** **19 56 15.3 -2.0**
GTA sS sS 19 56 27.8 +1.3
GTA pmax pmax
comp=Z,56nm,1.3s
GTA pmax pmax
comp=Z,14µm,8.7s
GTA LR LR
comp=Z,44µm,21.1s
GTA LR LR
comp=Z,48µm,21.4s
GTA LR LR
comp=Z,66µm,21.4s
O22K Cooper Landing 83.73 20 P **P** **19 45 49.2 -1.5**
O22K Cooper Landing 83.73 20 P **P** **19 45 50.1 -0.6**
baz=221
TTA Tatalina 83.81 16 P **P** **19 45 50.3 -0.9**
TTA pmax pmax
comp=Z,275nm,1.5s
TTA Tatalina 83.81 16 P **P** **19 45 50.3 -0.9**
TTA IAmb IAmb 19 46 16.3
comp=Z,275nm,1.5s
TTA Tatalina 83.81 16 P **P** **19 45 49.5 -1.7**
baz=215,SNR=30
TTA S **S** **19 56 17.9 +5.4**
baz=215
BELO BELONIA 83.87 296 *e*P **P** **19 45 54.7 +2.4**
BILL Bilibino 83.91 360 *d*/*i*P **P** **19 45 49.6 -1.9**
BILL *e* 19 49 08.1
BILL *e*PPP PPP 19 50 53.4
BILL *i*SS SS 20 01 41.5 -0.4
BILL *e*SSS SSS 20 05 05.8
BILL pmax pmax
comp=Z,435nm,1.3s
BILL Bilibino 83.91 360 P **P** **19 45 49.8 -1.7**
L20K Farewell, AK 84.02 17 P **P** **19 45 51.3 -0.9**
baz=217,SNR=194
L20K S **S** **19 56 17.9 +3.2**
baz=217
Q23K Middleton Isla 84.11 22 P **P** **19 45 51.6 -1.0**
baz=224
Q23K S **S** **19 56 18.2 +2.7**
baz=224
RC01 Rabbit Creek A 84.19 19 P **P** **19 45 51.5 -1.5**
RC01 IAMs_20 IAMs_20 20 17 04.6

comp=Z,113µm,21.0s
RC01 Rabbit Creek A 84.19 19 P P 19 45 51.2 -1.9
baz=221,SNR=27
RC01 S **S** **19 56 18.6 +2.4**
baz=221
AGT Agartala 84.26 297 *e*P **P** **19 45 56.2 +2.0**
AGT IAmb IAmb 19 46 00.7
comp=Z,927nm,1.2s
SHL Shillong 84.31 299 P **P** **19 45 54.0 -0.8**
SHL pmax pmax
comp=Z,613nm,1.0s
SHL Shillong 84.31 299 P **P** **19 45 54.0 -0.8**
SHL Shillong 84.31 299 *e*P **P** **19 45 54.6 -0.1**
SHL IAmb IAmb 19 45 59.6
comp=Z,551nm,1.0s
SHL Shillong 84.31 299 P **P** **19 45 55.4 +0.6**
SNR=189
PWL Port Wells 84.47 20 P **P** **19 45 52.8 -1.8**
PWL IAMs_20 IAMs_20 20 22 24.1
comp=Z,63µm,19.0s
PWL Port Wells 84.47 20 P **P** **19 45 52.6 -2.0**
baz=222
PWL S **S** **19 56 22.2 +3.1**
baz=222
M22K Willow 84.57 19 P **P** **19 45 52.8 -2.2**
M22K Willow 84.57 19 P **P** **19 45 52.8 -2.2**
baz=221,SNR=32
M22K S **S** **19 56 23.9 +3.9**
baz=221
K20K Telida 84.67 16 P **P** **19 45 54.0 -1.5**
K20K Telida 84.67 16 P **P** **19 45 54.5 -1.0**
baz=217,SNR=79
K20K S **S** **19 56 27.2 +6.1**
baz=217
GUWA GUWAHATI 84.69 299 *e*P **P** **19 45 56.2 -0.2**
GUWA IAmb IAmb 19 46 01.0
comp=Z,455nm,1.1s
PMR Palmer 84.76 19 P **P** **19 45 54.2 -1.7**
PMR pmax pmax
comp=Z,701nm,1.4s
PMR Palmer 84.76 19 P **P** **19 45 54.2 -1.7**
PMR Palmer 84.76 19 P **P** **19 45 54.0 -1.9**
baz=222,SNR=20
PMR S **S** **19 56 26.4 +4.6**
baz=222
PPLA Purkeypile 84.83 17 P **P** **19 45 53.0 -3.5**
PPLA IAmb IAmb 19 46 19.7
comp=Z,498nm,1.8s
PPLA Purkeypile 84.83 17 P **P** **19 45 53.9 -2.6**
baz=219,SNR=18
PPLA S **S** **19 56 26.9 +3.9**
baz=219
KNK Knik Glacier 84.84 20 P **P** **19 45 54.8 -1.6**
baz=222,SNR=13
KNK S **S** **19 56 26.8 +4.0**
baz=222
GLI Glacier Island 84.90 21 P **P** **19 45 55.1 -1.5**
GLI IAMs_20 IAMs_20 20 17 32.4
comp=Z,95µm,21.0s
GLI Glacier Island 84.90 21 P **P** **19 45 55.9 -0.7**
baz=224
GLI S **S** **19 56 28.2 +4.8**
baz=224
GHO Glory Hole Cre 84.96 19 P **P** **19 45 55.7 -1.4**
FID Port Fidalgo 85.01 21 P **P** **19 45 55.4 -1.8**
FID IAMs_20 IAMs_20 20 15 32.0
comp=Z,108µm,22.0s
CUT Chulitna 85.02 18 P **P** **19 45 54.8 -2.3**
CUT IAMs_20 IAMs_20 20 16 08.7
comp=Z,90µm,22.0s
CUT Chulitna 85.02 18 P **P** **19 45 54.9 -2.3**
baz=220,SNR=21
CUT S **S** **19 56 29.4 +5.0**
baz=220
JCC Jacoby Creek, 85.02 45 IAMs_20 IAMs_20 20 16 33.3
comp=Z,97µm,20.0s
GCSA Galena City Sc 85.09 15 P **P** **19 45 56.5 -1.0**
baz=214,SNR=18
GCSA S **S** **19 56 33.1 +8.1**
baz=214
EYAK Cordova Ski Ar 85.12 21 P **P** **19 45 55.6 -2.2**
EYAK IAmb IAmb 19 46 18.5
comp=Z,321nm,1.4s
EYAK Cordova Ski Ar 85.12 21 P **P** **19 45 57.0 -0.7**
baz=225
EYAK S **S** **19 56 31.5 +5.9**
baz=225
KAIM Kayak Island 85.15 22 IAMs_20 IAMs_20 20 20 12.2
comp=Z,98µm,19.0s
KAIM Kayak Island 85.15 22 P **P** **19 45 58.0 0.0**
baz=226
SML Sawmill 85.17 19 P **P** **19 45 57.7 -0.4**
SML IAMs_20 IAMs_20 20 17 35.7
comp=Z,76µm,21.0s
SML Sawmill 85.17 19 P **P** **19 45 55.9 -2.2**
baz=222,SNR=9.8
SML S **S** **19 56 31.8 +5.6**
baz=222
SNCC San Nicolas Is 85.20 54 P **P** **19 45 58.8 0.0**
baz=247
CAST Castle Rocks 85.27 17 P **P** **19 45 55.6 -2.9**
CAST IAmb IAmb 19 46 18.5
comp=Z,303nm,1.1s
CAST Castle Rocks 85.27 17 P **P** **19 45 56.0 -2.6**
baz=219,SNR=88
CAST S **S** **19 56 30.7 +3.7**
baz=219
J20K Nowinta River 85.31 16 P **P** **19 45 56.3 -2.4**
J20K Nowinta River 85.31 16 P **P** **19 45 57.2 -1.4**
baz=217,SNR=70
J20K S **S** **19 56 35.9 +8.5**
baz=217
BELA Belgrano 2 85.35 175 P **P** **19 45 57.0 -1.9**
BELA IAmb IAmb 19 46 07.7
comp=Z,317nm,1.2s
M23K Glacier View 85.36 20 P **P** **19 45 57.0 -2.0**
baz=223,SNR=8.0
M23K S **S** **19 56 36.0 +8.0**
baz=223
RAGM Ragged Mountai 85.38 22 IAMs_20 IAMs_20 20 26 23.3
comp=Z,76µm,18.0s
SUCK Suckling Hills 85.49 22 IAMs_20 IAMs_20 20 20 04.0
comp=Z,111µm,20.0s
SBC Santa Barbara 85.51 52 P **P** **19 46 00.1 -0.2**
baz=247
SCM Sheep Creek Mo 85.52 20 P **P** **19 45 59.4 -0.5**
SCM pmax pmax
comp=Z,620nm,1.6s
SCM MLR MLR
comp=Z,37µm,19.0s
SCM Sheep Creek Mo 85.52 20 P **P** **19 45 59.4 -0.5**
SCM Sheep Creek Mo 85.52 20 P **P** **19 45 57.8 -2.1**
baz=223,SNR=11
SCM S **S** **19 56 36.2 +6.6**
baz=223
DIV Divide 85.53 21 P **P** **19 45 59.5 -0.5**
DIV IAmb IAmb 19 46 20.6
comp=Z,355nm,1.6s
CHUM Lake Minchumin 85.57 17 P **P** **19 45 57.7 -2.3**
baz=219,SNR=26
CHUM S **S** **19 56 34.4 +4.5**
baz=219
O02D Mt. Diablo Mer 85.60 46 P **P** **19 46 01.7 +0.9**
O02D IAmb IAmb 19 46 41.9
comp=Z,212nm,1.3s
O02D Mt. Diablo Mer 85.60 46 P **P** **19 46 01.0 +0.2**
baz=245
O02D S **S** **19 56 37.4 +6.0**
baz=245
PKM Mcpherson Peak 85.61 52 P **P** **19 46 01.3 +0.2**
baz=247
TURI Tura 85.61 298 *e*P **P** **19 46 01.2 +0.1**
TURI IAmb IAmb 19 46 06.4
comp=Z,369nm,0.9s
SMMC Simmler 85.64 52 P **P** **19 46 01.4 +0.3**
baz=247
SMMC S **S** **19 56 36.8 +4.9**
baz=247
BGLC Bering Glacier 85.70 22 P **P** **19 45 59.9 -0.8**
baz=227
KTH Kantishna Hill 85.71 17 P **P** **19 45 58.7 -2.0**
KTH IAmb IAmb 19 46 20.6
comp=Z,179nm,1.1s
KLU Klutina 85.73 20 P **P** **19 45 59.8 -1.2**
KLU IAMs_20 IAMs_20 20 17 37.5
comp=Z,83µm,20.0s
KLU Klutina 85.73 20 P **P** **19 45 58.4 -2.6**
baz=224,SNR=14
KLU S **S** **19 56 38.4 +6.6**
baz=224
BERG Berg Lake 85.74 22 IAMs_20 IAMs_20 20 20 30.6
comp=Z,111µm,20.0s
BOD Bodaibo 85.75 334 *e*P **P** **19 46 00.1 -0.9**
BOD pmax pmax
comp=Z,591nm,2.3s
TRF Thorofare Moun 85.81 18 P **P** **19 45 59.2 -2.2**
TRF Thorofare Moun 85.81 18 P **P** **19 45 58.5 -2.9**
baz=220,SNR=35
TRF S **S** **19 56 37.2 +4.5**
baz=220
BMRM Bremner River 85.81 21 P **P** **19 46 00.2 -1.1**
BMRM IAmb IAmb 19 46 30.7
comp=Z,157nm,1.1s
BMRM IAMs_20 IAMs_20 20 18 48.7
comp=Z,79µm,20.0s
BMRM Bremner River 85.81 21 P **P** **19 45 58.9 -2.5**
baz=226,SNR=11
BMRM S **S** **19 56 38.2 +5.6**
baz=226
SCI2 San Clemente I 85.86 54 P **P** **19 45 59.7 -2.4**
baz=248
WAT1 Susitna Watana 85.86 19 P **P** **19 45 59.5 -2.0**
baz=222
WAT1 S **S** **19 56 38.0 +5.0**
baz=222
SNH Sunshine Point 85.91 22 P **P** **19 46 03.0 +1.2**
SNH IAmb IAmb 19 46 26.3
comp=Z,348nm,1.2s
SNH IAMs_20 IAMs_20 20 19 39.1
comp=Z,108µm,20.0s
GOMU GeErMu 85.93 309 P **P** **19 46 03.0 +0.1**
GOMU sP sP 19 46 14.0 -0.3
GOMU PP **PP** **19 49 26.3 +3.2**
GOMU SKS **SKSac** **19 56 26.5 -1.1**
GOMU SS **SS** **20 02 17.8 +4.0**
GOMU pmax pmax
comp=Z,66nm,1.8s
GOMU pmax pmax
comp=Z,18µm,8.2s
GOMU LR LR
comp=Z,18µm,20.0s
GOMU LR LR
comp=Z,46µm,23.0s
GOMU LR LR
comp=Z,63µm,22.3s
WAT6 Susitna Watana 85.93 19 P **P** **19 45 59.8 -2.2**
baz=223
WAT6 S **S** **19 56 41.0 +7.1**
baz=223
BCW Bitter Crk WRg 85.93 52 P **P** **19 46 03.6 +1.0**
BCW IAmb IAmb 19 46 23.3
comp=Z,145nm,1.0s
N02D Trinity Center 86.00 45 P **P** **19 46 03.7 +0.9**
N02D IAmb IAmb 19 46 42.8
comp=Z,304nm,1.4s
N02D Trinity Center 86.00 45 P **P** **19 46 02.8 0.0**
baz=245
N02D S **S** **19 56 39.9 +4.7**
baz=245
M02C Callahan 86.07 45 P **P** **19 46 04.3 +1.2**
M02C IAmb IAmb 19 46 27.5
comp=Z,210nm,1.3s
M02C IAMs_20 IAMs_20 20 17 28.1
comp=Z,100µm,20.0s
M02C Callahan 86.07 45 P **P** **19 46 02.2 -0.9**
baz=245
M02C S **S** **19 56 41.4 +5.4**
baz=245
WAX Waxell Ridge 86.08 22 P **P** **19 46 01.8 -0.9**
WAX IAmb IAmb 19 46 07.2
comp=Z,156nm,0.9s
K02D Willamette Mer 86.09 44 P **P** **19 46 02.0 -1.1**
baz=244
M24K Tolsona, Glenn 86.09 20 P **P** **19 46 01.8 -0.9**
M24K Tolsona, Glenn 86.09 20 P **P** **19 46 00.6 -2.1**
baz=224
M24K S **S** **19 56 41.8 +6.5**
baz=224
BPAW Bear Paw Mtn. 86.11 17 P **P** **19 46 02.4 -0.3**
BPAW IAmb IAmb 19 46 22.7
comp=Z,351nm,1.8s
BPAW Bear Paw Mtn. 86.11 17 P **P** **19 45 59.7 -3.0**
baz=220,SNR=22
BPAW S **S** **19 56 39.8 +4.5**
baz=220
CIS Catalina Islan 86.11 54 P **P** **19 46 03.4 -0.1**
baz=248
CIS S **S** **19 56 38.6 +1.9**
baz=248
J01E Myrtle Point 86.12 43 IAMs_20 IAMs_20 20 16 10.3
comp=Z,84µm,21.0s
J01E Myrtle Point 86.12 43 P **P** **19 46 03.1 0.0**
baz=244
J01E S **S** **19 56 41.1 +5.0**
baz=244
DIB Dawson Inlet, 86.12 32 P **P** **19 46 04.0 +1.1**
DIB IAmb IAmb 19 46 25.2
comp=Z,330nm,1.3s
RND Reindeer 86.20 18 P **P** **19 46 01.6 -1.6**
RND pmax pmax
comp=Z,438nm,1.4s
RND MLR MLR
comp=Z,146µm,22.0s
RND Reindeer 86.20 18 P **P** **19 46 01.6 -1.6**
RND IAmb IAmb 19 46 23.8
comp=Z,438nm,1.4s
ORV Oroville 86.24 47 P **P** **19 46 02.3 -1.6**
ORV pmax pmax
comp=Z,125nm,1.4s
ORV MLR MLR
comp=Z,115µm,20.0s
ORV Oroville 86.24 47 P **P** **19 46 02.3 -1.6**
N25K Chitina, Valde 86.26 21 P **P** **19 46 01.9 -1.6**
N25K IAMs_20 IAMs_20 20 16 34.6
comp=Z,95µm,22.0s
N25K Chitina, Valde 86.26 21 P **P** **19 46 02.0 -1.6**
baz=226,SNR=29
N25K S **S** **19 56 42.0 +5.0**
baz=226
TGL Tana Glacier 86.30 22 P **P** **19 46 02.1 -1.7**
TGL IAmb IAmb 19 46 27.8
comp=Z,384nm,1.6s
TGL IAMs_20 IAMs_20 20 20 12.5
comp=Z,68µm,20.0s
YBH Yreka Blue Hor 86.32 45 P **P** **19 46 05.2 +0.9**
comp=Z,30nm,0.9s,baz=212,slow=1.8,SNR=20
YBH LR LR 20 17 47.7
comp=Z,74µm,20.0s,baz=252,slow=31
YBH Yreka Blue Hor 86.32 45 P **P** **19 46 02.5 -1.8**
YBH pmax pmax
comp=Z,140nm,1.3s
YBH MLR MLR
comp=Z,76µm,20.0s
YBH Yreka Blue Hor 86.32 45 P **P** **19 46 02.5 -1.8**
YBH IAMs_20 IAMs_20 20 17 47.5
comp=Z,76µm,20.0s
FMP Fort Macarthur 86.33 54 P **P** **19 46 02.2 -2.2**
baz=248
OSI Osito Audit: C 86.33 53 P **P** **19 46 03.6 -1.0**
baz=248
OSI S **S** **19 56 42.4 +3.6**
baz=248
O03E Paynes Creek 86.33 46 P **P** **19 46 03.5 -1.0**
O03E IAmb IAmb 19 46 40.9
comp=Z,277nm,1.3s
O03E IAMs_20 IAMs_20 20 15 25.0
comp=Z,72µm,22.0s
O03E Paynes Creek 86.33 46 P **P** **19 46 03.1 -1.3**
baz=245
O03E S **S** **19 56 43.7 +5.1**
baz=245
LSA Lhasa 86.37 302 P **P** **19 46 05.4 +0.1**
LSA pmax pmax
comp=Z,236nm,1.3s
LSA MLR MLR
comp=Z,27µm,21.0s
LSA Lhasa 86.37 302 P **P** **19 46 05.4 +0.1**
LSA IAmb IAmb 19 46 10.8
comp=Z,236nm,1.3s
LSA Lhasa 86.37 302 P **P** **19 46 05.5 +0.1**
LSA pmax pmax
comp=Z,170nm,1.4s
LSA pmax pmax
comp=Z,9µm,5.7s
LSA LR LR
comp=Z,18µm,31.3s
LSA LR LR
comp=Z,27µm,25.6s
LSA LR LR
comp=Z,32µm,25.6s
LSA Lhasa 86.37 302 P **P** **19 46 05.0 -0.4**
ISLE Juniper Island 86.37 22 P **P** **19 46 01.8 -2.4**
ISLE IAmb IAmb 19 46 09.2
comp=Z,169nm,0.9s
ISLE IAMs_20 IAMs_20 20 20 13.5
comp=Z,91µm,20.0s
VRDI Verde Repeater 86.40 22 P **P** **19 46 02.1 -2.3**
DHY Denali Highway 86.41 19 P **P** **19 46 03.1 -1.2**
DHY IAmb IAmb 19 46 27.5
comp=Z,286nm,1.7s
DHY Denali Highway 86.41 19 P **P** **19 46 02.3 -2.0**
baz=223,SNR=19
DHY S **S** **19 56 44.4 +5.9**
baz=223
GLB Gilahina Butte 86.42 21 P **P** **19 46 02.5 -1.8**
GLB IAMs_20 IAMs_20 20 19 16.7
comp=Z,63µm,20.0s
CMB Columbia Colle 86.42 49 P **P** **19 46 03.9 -1.0**
CMB pmax pmax
comp=Z,213nm,1.5s
CMB MLR MLR
comp=Z,100µm,20.0s
CMB Columbia Colle 86.42 49 P **P** **19 46 03.9 -1.0**
CMB IAmb IAmb 19 46 27.1
comp=Z,213nm,1.4s
CMB IAMs_20 IAMs_20 20 17 01.4
comp=Z,100µm,20.0s
MCK McKinley 86.42 18 P **P** **19 46 02.0 -2.2**
MCK pmax pmax
comp=Z,741nm,1.7s
MCK MLR MLR
comp=Z,123µm,21.0s
MCK McKinley 86.42 18 P **P** **19 46 02.0 -2.2**
MCK McKinley 86.42 18 P **P** **19 46 01.9 -2.2**
baz=222,SNR=30
MCK S **S** **19 56 42.9 +4.6**
baz=222
ARVC Arvin 86.45 52 P **P** **19 46 03.5 -1.5**
baz=248
VOG Valley Oaks Go 86.49 51 P **P** **19 46 03.1 -2.0**
baz=247
DECC Green Verdugo 86.50 53 P **P** **19 46 04.0 -1.3**
baz=248
HUMO Hull Mountain 86.52 44 P **P** **19 46 04.6 -0.6**
HUMO IAMs_20 IAMs_20 20 16 12.0
comp=Z,104µm,21.0s
VES Vestal, Richgr 86.53 51 P **P** **19 46 03.6 -1.8**
baz=247
I02E Swisshome, OR 86.59 42 IAMs_20 IAMs_20 20 20 55.7
comp=Z,61µm,19.0s
I02E Swisshome, OR 86.59 42 P **P** **19 46 04.2 -1.2**
baz=244
I02E S **S** **19 56 45.1 +4.4**
baz=244
BWN Browne 86.60 17 P **P** **19 46 03.1 -1.9**
HARP HAARP 86.63 20 P **P** **19 46 04.2 -1.1**
baz=225,SNR=9.9
HARP S **S** **19 56 46.0 +5.6**
baz=225
RDOG Red Dog Mine 86.66 11 P **P** **19 46 03.6 -1.6**
RDOG IAmb IAmb 19 46 08.4
comp=Z,172nm,1.0s
RDOG Red Dog Mine 86.66 11 P **P** **19 46 03.9 -1.3**
baz=208
RDOG S **S** **19 56 43.7 +3.3**
baz=208
MCARA McCarthy VSAT 86.66 22 P **P** **19 46 03.6 -1.8**
baz=227
MCARA S **S** **19 56 43.9 +3.3**
baz=227
GRNC Granite Creek 86.67 22 P **P** **19 46 04.4 -1.4**
GRNC IAMs_20 IAMs_20 20 19 53.4
comp=Z,73µm,20.0s
I21K Tanana 86.68 16 P **P** **19 46 04.0 -1.4**
I21K IAmb IAmb 19 46 30.3
comp=Z,355nm,1.2s
I21K Tanana 86.68 16 P **P** **19 46 04.0 -1.4**
baz=219,SNR=117
I21K S **S** **19 56 44.7 +4.1**
baz=219
TABL Table Mountain 86.71 23 P **P** **19 46 03.6 -2.3**
TABL IAmb IAmb 19 46 11.0
comp=Z,105nm,0.8s
TABL IAMs_20 IAMs_20 20 19 14.3
comp=Z,78µm,20.0s
ZAK Zakamensk 86.73 325 *e*P **P** **19 46 05.5 -0.6**
ZAK *e* 19 56 34.3
ZAK pmax pmax
comp=Z,413nm,1.2s
I03D Drain, OR 86.74 43 P **P** **19 46 04.3 -1.9**
baz=244
I03D S **S** **19 56 46.4 +4.2**
baz=244
L04D Klamath Falls 86.80 44 P **P** **19 46 06.2 -0.5**
L04D IAmb IAmb 19 46 30.5
comp=Z,178nm,1.1s
L04D IAMs_20 IAMs_20 20 16 23.2
comp=Z,88µm,21.0s
L04D Klamath Falls 86.80 44 P **P** **19 46 05.8 -1.0**
baz=245
H21K Melozitna Rive 86.84 15 P **P** **19 46 05.5 -0.8**
H21K IAmb IAmb 19 46 31.3
comp=Z,639nm,1.9s
H21K Melozitna Rive 86.84 15 P **P** **19 46 05.4 -0.8**
baz=218,SNR=63
H21K S **S** **19 56 46.6 +4.4**
baz=218
IMAR Indian Mountai 86.86 15 P **P** **19 46 04.9 -1.4**
PNL Peninsula 86.88 24 P **P** **19 46 05.5 -1.0**
baz=230
PNL S **S** **19 56 46.0 +3.1**
baz=230
ISA Isabella, Lake 86.92 52 P **P** **19 46 06.4 -1.0**
ISA pmax pmax
comp=Z,652nm,2.0s
ISA Isabella, Lake 86.92 52 P **P** **19 46 06.3 -1.0**
ISA IAmb IAmb 19 46 29.9
comp=Z,652nm,2.0s
ISA Isabella, Lake 86.92 52 P **P** **19 46 05.7 -1.7**
baz=248,SNR=11
ISA S **S** **19 56 42.0 -2.4**
baz=248
BARN Barnard Glacie 86.93 22 P **P** **19 46 04.7 -2.3**
BARN IAmb IAmb 19 46 12.3
comp=Z,127nm,1.0s
BARN IAMs_20 IAMs_20 20 20 41.1
comp=Z,89µm,20.0s
PAX Paxson 86.94 20 P **P** **19 46 05.2 -1.6**
PAX pmax pmax
comp=Z,76nm,1.3s
PAX Paxson 86.94 20 P **P** **19 46 05.2 -1.6**
PAX Paxson 86.94 20 P **P** **19 46 05.0 -1.8**
baz=225
PAX S **S** **19 56 45.9 +2.4**
baz=225
109C Camp Elliot, M 86.95 55 P **P** **19 46 05.5 -1.9**
baz=249
109C S **S** **19 56 42.6 -2.0**
baz=249
BCPM Bancas Point 86.96 24 IAMs_20 IAMs_20 20 21 57.1
comp=Z,65µm,19.0s
SIT Sitka 86.97 27 P **P** **19 46 05.6 -1.4**
baz=234
SIT S **S** **19 56 45.8 +2.1**
baz=234
ELS Elsinore Mount 86.97 54 P **P** **19 46 05.2 -2.5**
CTG Chitna Glacier 86.98 22 P **P** **19 46 05.4 -1.7**
baz=229,SNR=23
CTG S **S** **19 56 45.5 +1.4**
baz=229
CTGM Chitina Glacie 86.98 22 P **P** **19 46 05.5 -1.7**
CTGM IAMs_20 IAMs_20 20 20 33.6
comp=Z,81µm,20.0s
EDW2 Edwards Air Fo 86.99 53 P **P** **19 46 06.5 -1.2**
baz=248,SNR=10.0
EDW2 S **S** **19 56 43.4 -1.7**
baz=248
EMB Emerald Bay 87.00 48 P **P** **19 46 05.6 -2.4**
EMB IAmb IAmb 19 46 41.1
comp=Z,244nm,1.5s
BFSC Mount Baldy Ra 87.01 53 P **P** **19 46 06.5 -1.4**

baz=248
BFSC S **S** 19 56 43.0 -2.6
baz=248
LOGN Logan Glacier 87.01 23 P **P** 19 46 05.1 -2.2
LOGN IAMs_20 IAMs_20 20 20 14.4
comp=Z,75µm,20.0s
NEA2 Nenana 87.03 17 P **P** 19 46 05.0 -2.2
NEA2 IAmb IAmb 19 46 27.6
comp=Z,492nm,1.8s
NEA2 Nenana 87.03 17 P **P** 19 46 04.5 -2.7
baz=222,SNR=37
NEA2 S **S** 19 56 45.9 +1.7
baz=222
CRAG Craig 87.07 29 P **P** 19 46 06.9 -0.5
baz=236
CRAG S **S** 19 56 47.9 +3.1
baz=236
IRK Irkutsk 87.14 327 *e*P **P** 19 46 07.3 -0.7
IRK pmax pmax
comp=Z,825nm,3.3s
MURC Murrieta 87.14 54 P **P** 19 46 07.1 -1.3
baz=249
MURC S **S** 19 56 45.2 -1.4
baz=249
BEKR Beckworth 87.17 47 P **P** 19 46 06.9 -1.8
BEKR IAmb IAmb 19 46 46.0
comp=Z,399nm,1.8s
MPK Martis Peak 87.18 48 P **P** 19 46 07.6 -1.3
MPK IAmb IAmb 19 46 46.4
comp=Z,402nm,1.4s
MDPB Devils Postpil 87.22 50 P **P** 19 46 07.8 -1.3
MDPB IAmb IAmb 19 46 57.5
comp=Z,205nm,1.3s
WRH Wood River Hil 87.22 18 P **P** 19 46 05.2 -2.9
K04D Chiloquin, OR 87.34 44 P **P** 19 46 08.1 -1.2
baz=245
SMAI San Martin Ant 87.34 162 P **P** 19 46 08.6 -0.2
J04D Umpqua Nationa 87.36 44 P **P** 19 46 08.5 -1.1
J04D IAmb IAmb 19 46 41.6
comp=Z,451nm,1.6s
J04D IAMs_20 IAMs_20 20 16 50.0
comp=Z,91µm,21.0s
J04D Umpqua Nationa 87.36 44 P **P** 19 46 08.8 -0.7
baz=245
M26K Nabesna, AK 87.36 21 P **P** 19 46 06.6 -2.3
M26K IAMs_20 IAMs_20 20 17 21.6
comp=Z,93µm,22.0s
M26K Nabesna, AK 87.36 21 P **P** 19 46 07.0 -1.9
baz=227,SNR=24
M26K S **S** 19 56 50.1 +2.5
baz=227
I23K Minto, Yukon-K 87.36 17 P **P** 19 46 06.2 -2.6
I23K Minto, Yukon-K 87.36 17 P **P** 19 46 06.5 -2.2
baz=221
I23K S **S** 19 56 47.5 +0.2
baz=221
I04A Tendick Farm, 87.39 43 P **P** 19 46 07.8 -1.7
baz=245
I04A S **S** 19 56 48.4 -0.2
baz=245
MLAC Mammoth, Mammo 87.39 50 P **P** 19 46 08.8 -1.1
baz=248
MLAC S **S** 19 56 49.9 +0.6
baz=248
PNTR Pine Nut 87.41 48 P **P** 19 46 08.7 -1.2
PNTR IAmb IAmb 19 46 32.6
comp=Z,188nm,1.3s
SYO Syowa Base 87.42 197⇑ *i*P **P** 19 46 09.0 -0.1
SYO Syowa Base 87.42 197⇑ *i*PcP **PcP** 19 46 11.2 +0.1
SYO Syowa Base 87.42 197⇓ *i*pP pP 19 46 16.0 -1.6
K24K Donnelly Dome 87.43 19 P **P** 19 46 07.4 -1.8
baz=225,SNR=22
K24K S **S** 19 56 50.5 +2.3
baz=225
CCB Clear Creek Bu 87.44 18 P **P** 19 46 05.9 -3.1
G03D McMinnville, O 87.45 41 P **P** 19 46 08.7 -0.9
baz=244
LRMC Laurel Mtn Rad 87.45 52 P **P** 19 46 08.8 -1.3
baz=248,SNR=8.8
LRMC S **S** 19 56 46.8 -2.9
baz=248
MONP2 Monument Peak 87.49 55 P **P** 19 46 09.7 -0.7
baz=249
MENT Mentasta 87.49 20 P **P** 19 46 07.7 -1.8
H04D Lebanon 87.49 42 P **P** 19 46 08.4 -1.4
H04D Lebanon 87.49 42 P **P** 19 46 09.5 -0.3
baz=245
H04D S **S** 19 56 48.4 -1.0
baz=245
CWC Cottonwood Cre 87.51 51 P **P** 19 46 08.7 -1.7
baz=248
CWC S **S** 19 56 47.6 -2.7
baz=248
MDM Murphy Dome 87.54 17 P **P** 19 46 06.3 -3.3
MDM IAMs_20 IAMs_20 20 19 34.3
comp=Z,102µm,20.0s
TCOL CIGO, UAF Yank 87.59 18 P **P** 19 46 07.5 -2.3
TCOL IAmb IAmb 19 46 48.7
comp=Z,115nm,1.0s
TCOL IAMs_20 IAMs_20 20 19 04.5
comp=Z,104µm,21.0s
TCOL CIGO, UAF Yank 87.59 18 P **P** 19 46 07.3 -2.5
baz=223,SNR=16
TCOL S **S** 19 56 48.0 -1.4
baz=223
BBRC Big Bear Solar 87.59 53 P **P** 19 46 10.2 -0.6
baz=249
BBRC S **S** 19 56 49.0 -2.3
baz=249
COLA College 87.59 18 P **P** 19 46 07.0 -2.8
COLA pmax pmax
comp=Z,115nm,1.0s
COLA MLR MLR
comp=Z,99µm,21.0s
COLA College 87.59 18 P **P** 19 46 07.0 -2.8
COLA College 87.59 18 IAMs_20 IAMs_20 20 19 04.5
comp=Z,99µm,21.0s
COLA College 87.59 18 P **P** 19 46 07.2 -2.5
baz=223
COLA S **S** 19 56 48.5 -0.9
baz=223
YERR Yerington 87.62 48 P **P** 19 46 09.1 -1.8
YERR IAmb IAmb 19 46 42.9
comp=Z,287nm,1.6s
TIN Tinemaha, Big 87.62 50 P **P** 19 46 10.2 -0.6
baz=248
TIN S **S** 19 56 50.4 -0.9
baz=248
IKP In-Ko-Pah, Jac 87.65 55 P **P** 19 46 10.2 -0.8
baz=249
IKP S **S** 19 56 50.3 -1.3
baz=249
L26K Log Cabin Wild 87.67 20 P **P** 19 46 08.8 -1.5
L26K IAMs_20 IAMs_20 20 19 20.7
comp=Z,91µm,20.0s
L26K Log Cabin Wild 87.67 20 P **P** 19 46 09.2 -1.2
baz=227
L26K S **S** 19 56 52.7 +2.2
baz=227
RIDG Independent Ri 87.68 19 P **P** 19 46 08.1 -2.3
RIDG Independent Ri 87.68 19 P **P** 19 46 08.3 -2.1
baz=225,SNR=21
RIDG S **S** 19 56 52.7 +2.2
baz=225
PFO Pinyon Flats O 87.71 54 P **P** 19 46 11.3 -0.1
comp=Z,12nm,0.9s,baz=261,slow=5.6,SNR=6.7
PFO LR LR 20 17 04.1
comp=Z,185µm,20.6s,baz=259,slow=30
PFO Pinyon Flats O 87.71 54 P **P** 19 46 10.2 -1.1
PFO pmax pmax
comp=Z,208nm,1.8s
PFO MLR MLR
comp=Z,172µm,20.0s
PFO Pinyon Flats O 87.71 54 P **P** 19 46 10.2 -1.1
PFO IAmb IAmb 19 47 14.8
comp=Z,208nm,1.6s
PFO Pinyon Flats O 87.71 54 P **P** 19 46 09.6 -1.8
baz=249
PFO S **S** 19 56 51.2 -1.1
baz=249
TPFO Pinon Flats 87.71 54 P **P** 19 46 09.9 -1.5
baz=249
TPFO S **S** 19 56 51.2 -1.1
baz=249
M27K Edge Creek, AK 87.72 21 P **P** 19 46 09.2 -1.5
M27K IAMs_20 IAMs_20 20 19 59.0
comp=Z,62µm,20.0s
M27K Edge Creek, AK 87.72 21 P **P** 19 46 08.9 -1.8
baz=228,SNR=7.6
M27K S **S** 19 56 53.4 +2.3
baz=228
RRX Edison Barstow 87.75 53 P **P** 19 46 09.8 -1.6
baz=249
RRX S **S** 19 56 51.5 -0.9
baz=249
YUH Yuha Desert 87.79 55 P **P** 19 46 10.1 -1.5
IL31 87.80 18 P **P** 19 46 07.5 -3.3
ILAR Eielson Array 87.80 18 P **P** 19 46 07.7 -3.2
comp=Z,56nm,0.8s,baz=237,slow=4.9,SNR=122
ILAR PKKPbc **PKKPbc** 20 03 59.3 -1.6
comp=Z,2.5nm,0.8s,baz=314,slow=1.8,SNR=6.4
ILAR PKPPKP **P'P'df** 20 12 02.4 +0.1
comp=Z,2.2nm,0.9s,baz=318,slow=1.0,SNR=4.9
ILAR LR LR 20 19 35.2
comp=Z,133µm,21.2s,baz=238,slow=32
ILAR Eielson Array 87.80 18 P **P** 19 46 07.0 -3.9
ILAR Eielson Array 87.80 18 P **P** 19 46 07.0 -3.9
PAHR Pah Rah Range 87.80 48 P **P** 19 46 10.8 -0.8
PAHR IAmb IAmb 19 46 52.6
comp=Z,472nm,1.9s
MPMC Manual Prospec 87.81 52 P **P** 19 46 10.7 -1.1
baz=248
MPMC S **S** 19 56 51.2 -2.0
baz=248
H23K Yukon River 87.83 16 P **P** 19 46 08.8 -2.2
H23K Yukon River 87.83 16 P **P** 19 46 09.7 -1.3
baz=221
H23K S **S** 19 56 52.4 +0.6
baz=221
YUK3 Moose Creek 87.83 22 P **P** 19 46 09.9 -1.5
baz=229,SNR=6.9
YUK3 S **S** 19 56 53.9 +1.5
baz=229
BBB Bella Bella 87.85 34 LR LR 20 16 50.8
comp=Z,105µm,22.0s,baz=248,slow=30
BWNR Bhubaneshwar 87.86 292⇓ *e*P **P** 19 46 14.4 +2.3
DOT Dot Lake 87.87 20 P **P** 19 46 09.5 -1.8
DOT IAmb IAmb 19 46 32.3
comp=Z,148nm,1.4s
LHV Little Huntoon 87.87 49 P **P** 19 46 10.0 -1.8
POKR Poker Plat Res 87.89 17 P **P** 19 46 08.9 -2.4
POKR IAMs_20 IAMs_20 20 19 35.5
comp=Z,98µm,21.0s
POKR Poker Plat Res 87.89 17 P **P** 19 46 09.3 -2.0
baz=223
POKR S **S** 19 56 52.7 +0.3
baz=223
H04A Detroit Lake 87.92 42 P **P** 19 46 10.2 -1.7
H04A IAmb IAmb 19 46 34.2
comp=Z,304nm,1.8s
J05D Fort Rock, OR 87.96 44 P **P** 19 46 11.0 -1.3
baz=246
J05D S **S** 19 56 52.2 -2.1
baz=246
K05A Summer Lake 87.96 44 P **P** 19 46 11.8 -0.6
K05A IAmb IAmb 19 46 36.5
comp=Z,229nm,1.3s
WRAK Wrangell Islan 87.96 29 IAMs_20 IAMs_20 20 16 31.5
comp=Z,74µm,22.0s
WRAK Wrangell Islan 87.96 29 P **P** 19 46 09.6 -2.1
baz=237
WRAK S **S** 19 56 55.4 +2.1
baz=237
F04D Rainier, OR 87.99 41 P **P** 19 46 11.6 -0.6
baz=244
F04D S **S** 19 56 54.6 +0.6
baz=244
SWSC Sam W. Stewart 87.99 55 P **P** 19 46 11.5 -1.0
baz=249
SWSC S **S** 19 56 59.1 +4.4
baz=249
RYN Ryan 88.00 49 P **P** 19 46 11.8 -0.9
MOD Modoc Plateau 88.03 45 P **P** 19 46 11.0 -1.7
GSC Goldstone, Bar 88.05 53 P **P** 19 46 11.8 -1.1
GSC pmax pmax
comp=Z,511nm,2.0s
GSC Goldstone, Bar 88.05 53 P **P** 19 46 11.8 -1.1
GSC IAmb IAmb 19 46 50.7
comp=Z,511nm,1.9s
GSC Goldstone, Bar 88.05 53 P **P** 19 46 11.2 -1.7
baz=249
GSC S **S** 19 56 54.0 -1.4
baz=249
BESE Bessie Mountai 88.07 26 P **P** 19 46 10.4 -1.9
YUK6 Outpost Mounta 88.08 23 P **P** 19 46 11.0 -1.6
baz=231
YUK6 S **S** 19 56 56.1 +1.3
baz=231
NVAR Mina Array Bea 88.09 49 P **P** 19 46 12.3 -0.9
comp=Z,10nm,0.9s,baz=226,slow=7.3,SNR=11
NVAR PKPPKP **P'P'df** 20 12 03.4 -1.3
comp=Z,1.2nm,0.8s,baz=232,slow=3.6,SNR=4.5
JIS Juneau Island 88.09 27 P **P** 19 46 11.0 -1.3
JIS IAMs_20 IAMs_20 20 21 37.0
comp=Z,66µm,20.0s
BVCY Beaver Creek 88.11 21 P **P** 19 46 09.9 -2.5
baz=229
BVCY S **S** 19 56 56.9 +2.2
baz=229
SCRK Sand Creek 88.12 19 P **P** 19 46 11.2 -1.4
SCRK IAmb IAmb 19 46 34.0
comp=Z,225nm,1.6s
SCRK Sand Creek 88.12 19 P **P** 19 46 11.0 -1.5
baz=226,SNR=20
SCRK S **S** 19 56 57.0 +2.1
baz=226
LCH Last Change Ra 88.12 50 P **P** 19 46 12.1 -1.1
LCH IAmb IAmb 19 46 53.0
comp=Z,203nm,1.6s
J25K Salcha River, 88.14 18 P **P** 19 46 10.8 -1.8
J25K Salcha River, 88.14 18 P **P** 19 46 10.8 -1.8
baz=225,SNR=68
J25K S **S** 19 56 53.8 -1.1
baz=225
NV11 Mina Array Sit 88.20 49 P **P** 19 46 11.8 -1.8
NV11 IAmb IAmb 19 46 54.4
comp=Z,428nm,1.7s
L27K Beaver Creek, 88.21 21 P **P** 19 46 10.4 -2.5
L27K IAMs_20 IAMs_20 20 17 47.9
comp=Z,71µm,22.0s
L27K Beaver Creek, 88.21 21 P **P** 19 46 11.0 -1.9
baz=228
L27K S **S** 19 56 57.4 +1.8
baz=228
BELC Belle Mtn. Jos 88.21 54 P **P** 19 46 11.6 -2.1
baz=249
BELC S **S** 19 56 56.3 -0.7
baz=249
BCAR Beaver Creek A 88.22 21 P **P** 19 46 09.3 -3.7
YUK4 Talbot Arm 88.23 23 P **P** 19 46 12.1 -1.1
baz=231,SNR=8.4
YUK4 S **S** 19 56 57.8 +1.7
baz=231
HEC Hector,Ludlow 88.24 53 P **P** 19 46 12.4 -1.4
baz=249
HEC S **S** 19 56 58.7 +1.5
baz=249
QSM Queen of Sheba 88.24 52 P **P** 19 46 12.2 -1.4
QSM IAmb IAmb 19 46 55.8
comp=Z,217nm,1.5s
GRAC Grapevine Rang 88.24 51 P **P** 19 46 12.5 -1.2
baz=248
GRAC S **S** 19 56 55.0 -2.1
baz=248
H24K Noodor Dome 88.29 17 P **P** 19 46 10.6 -2.7
H24K Noodor Dome 88.29 17 P **P** 19 46 11.2 -2.0
baz=223,SNR=5.6
H24K S **S** 19 56 52.9 -3.3
baz=223
F04A Amboy 88.30 41 P **P** 19 46 13.4 -0.2
F04A IAmb IAmb 19 46 38.2
comp=Z,196nm,1.2s
I05D Terrebonne, OR 88.32 43 P **P** 19 46 12.5 -1.4
baz=246
I05D S **S** 19 56 54.5 -3.0
baz=246
HYT Haines Junctio 88.34 24 P **P** 19 46 11.2 -2.4
HYT Haines Junctio 88.34 24 P **P** 19 46 12.1 -1.6
baz=232,SNR=7.5
HYT S **S** 19 56 58.4 +1.4
baz=232
CBB Campbell River 88.34 37 P **P** 19 46 11.8 -2.0
CBB IAmb IAmb 19 46 36.8
comp=Z,300nm,1.4s
PINE Pine Mountain 88.36 43 P **P** 19 46 13.2 -1.0
PINE IAmb IAmb 19 46 38.5
comp=Z,458nm,1.8s
SKAG Skagway 88.38 25 P **P** 19 46 11.7 -2.0
SKAG Skagway 88.38 25 P **P** 19 46 12.7 -1.0
baz=234
SKAG S **S** 19 56 58.6 +1.4
baz=234
FURC Furnace Creek, 88.43 51 P **P** 19 46 12.9 -1.6
baz=249,SNR=12
FURC S **S** 19 56 57.4 -1.2
baz=249
TAPN Taplejung 88.43 299 *e*P **P** 19 46 14.4 -0.7
E04D Cinebar 88.47 40 P **P** 19 46 14.2 -0.2
E04D IAmb IAmb 19 46 37.6
comp=Z,299nm,1.4s
E04D Cinebar 88.47 40 P **P** 19 46 13.6 -0.9
baz=245
E04D S **S** 19 56 54.7 -3.9
baz=245
KVN Kaiserville 88.47 49 P **P** 19 46 13.1 -1.8
KVN pmax pmax
comp=Z,409nm,1.9s
KVN Kaiserville 88.47 49 P **P** 19 46 13.1 -1.8
KVN IAmb IAmb 19 46 55.6
comp=Z,409nm,1.9s
GWY Greenwater Val 88.47 52 P **P** 19 46 13.8 -1.2
GWY IAmb IAmb 19 46 54.4
comp=Z,343nm,1.5s
BC3 Big Chuckawall 88.51 54 P **P** 19 46 14.0 -1.2
baz=250
BC3 S **S** 19 56 58.3 -1.6
baz=250
ODAN Odare 88.54 298 *e*P **P** 19 46 14.8 -0.8
comp=Z,368nm,1.0s
D03D Eldon 88.57 39 P **P** 19 46 15.0 +0.1
baz=244
D03D S **S** 19 57 00.1 +0.6
baz=244
D04E Lakebay 88.61 40 P **P** 19 46 15.8 +0.8
baz=244
D04E S **S** 19 57 01.9 +2.1
baz=244
MOY Mondy 88.61 325 *e*P **P** 19 46 14.2 -1.0
MOY *e* 19 56 47.6
MOY pmax pmax
comp=Z,570nm,3.5s
J26L Joseph Creek 88.62 19 P **P** 19 46 14.0 -0.9
baz=227
J26L S **S** 19 56 59.9 +0.4
baz=227
SHOC Shoshone, Teco 88.67 52 P **P** 19 46 14.8 -0.9
baz=249
SHOC S **S** 19 57 02.9 +1.9
baz=249
G05D Wamic, OR 88.71 42 P **P** 19 46 15.0 -0.7
baz=246
G05D S **S** 19 57 03.4 +2.4
baz=246
COLD Coldfoot 88.72 15 P **P** 19 46 14.0 -1.2
COLD Coldfoot 88.72 15 P **P** 19 46 13.9 -1.2
baz=220
COLD S **S** 19 57 00.5 +0.3
baz=220
GMRC Granite Mounta 88.75 53 P **P** 19 46 15.7 -0.5
baz=250
GMRC S **S** 19 57 01.1 -1.0
baz=250
TPH Tonopah 88.75 50 P **P** 19 46 14.1 -2.1
TPH pmax pmax
comp=Z,2µm,1.9s
TPH Tonopah 88.75 50 P **P** 19 46 14.1 -2.1
TUQ Turquoise Moun 88.77 53 P **P** 19 46 15.6 -0.8
baz=249
TUQ S **S** 19 57 01.8 -0.5
baz=249
GLA Glamis 88.80 55 P **P** 19 46 15.9 -0.5
baz=250
GLA S **S** 19 57 01.3 -1.2
baz=250
PALK Pallekele 88.81 278 LR LR 20 27 09.0
comp=Z,40µm,20.2s,baz=220,slow=36
PALK Pallekele 88.81 278 P **P** 19 46 17.1 +0.2
PALK pmax pmax
comp=Z,154nm,1.2s
PALK MLR MLR
comp=Z,46µm,21.0s
PALK Pallekele 88.81 278 P **P** 19 46 17.1 +0.2
PALK IAmb IAmb 19 46 22.8
comp=Z,154nm,1.2s
PALK Pallekele 88.81 278 P **P** 19 46 18.5 +1.6
BOK Bokaro 88.87 295 *e*P **P** 19 46 18.9 +2.0
F05D White Salmon 88.88 41 P **P** 19 46 15.8 -0.7
baz=246
F05D S **S** 19 57 03.2 +0.6
baz=246
IRM Iron Mountain 88.93 54 P **P** 19 46 16.2 -0.7
baz=250
IRM S **S** 19 57 01.4 -2.2
baz=250
TPNV Topopah Spring 89.06 51 P **P** 19 46 16.6 -1.1
TPNV pmax pmax
comp=Z,224nm,1.4s
TPNV MLR MLR
comp=Z,88µm,18.0s
TPNV Topopah Spring 89.06 51 P **P** 19 46 16.6 -1.1
TPNV IAmb IAmb 19 47 01.0
comp=Z,224nm,1.4s
TPNV IAMs_20 IAMs_20 20 25 23.4
comp=Z,88µm,18.0s
TPNV Topopah Spring 89.06 51 P **P** 19 46 17.0 -0.7
baz=249
TPNV S **S** 19 56 59.9 -5.1
baz=249
D05A Enumclaw 89.10 40 P **P** 19 46 16.0 -1.4
RAMN Ramite 89.24 298 *e*P **P** 19 46 18.6 -0.3
WHY Whitehorse 89.27 25 P **P** 19 46 16.3 -1.7
WHY Whitehorse 89.27 25 P **P** 19 46 16.8 -1.2
baz=234
WHY S **S** 19 57 03.9 -2.0
baz=234
BLYC Blythe 89.27 55 P **P** 19 46 18.0 -0.5
BLYC IAmb IAmb 19 47 01.2
comp=Z,423nm,1.9s
A04D Lummi Island 89.31 38 P **P** 19 46 17.9 -0.4
baz=244
A04D S **S** 19 57 03.1 -3.3
baz=244
WVOR Wild Horse Val 89.37 45 P **P** 19 46 17.5 -1.5
WVOR pmax pmax
comp=Z,535nm,1.9s
WVOR MLR MLR
comp=Z,68µm,19.0s
WVOR Wild Horse Val 89.37 45 P **P** 19 46 17.5 -1.5
WVOR IAmb IAmb 19 46 59.9
comp=Z,535nm,1.9s
WVOR IAMs_20 IAMs_20 20 20 44.4
comp=Z,68µm,19.0s
N31M Braeburn, Yuko 89.40 24 P **P** 19 46 16.7 -1.8
N31M Braeburn, Yuko 89.40 24 P **P** 19 46 16.2 -2.3
baz=234
N31M S **S** 19 57 04.5 -2.4
baz=234
I07A Izee 89.43 44 P **P** 19 46 16.8 -2.4
I07A IAmb IAmb 19 46 43.4
comp=Z,237nm,1.4s
B05A Bryant 89.48 39 P **P** 19 46 19.0 -0.2
baz=245
B05A S **S** 19 57 05.0 -3.1
baz=245
113A Mohawk Valley, 89.54 56 P **P** 19 46 17.9 -2.0
113A IAmb IAmb 19 47 02.5
comp=Z,424nm,2.0s
NEE2 Needles Airpor 89.55 54 P **P** 19 46 18.5 -1.3
baz=250
NEE2 S **S** 19 57 07.0 -2.3
baz=250
EGAK Eagle 89.57 20 P **P** 19 46 17.4 -1.8
EGAK IAMs_20 IAMs_20 20 22 54.9
comp=Z,77µm,19.0s
EGAK Eagle 89.57 20 P **P** 19 46 18.1 -1.1
baz=229
EGAK S **S** 19 57 05.4 -2.8
baz=229
BMN Battle Mountai 89.61 48 P **P** 19 46 17.4 -2.8
BMN pmax pmax
comp=Z,145nm,1.2s

BMN Battle Mountai 89.61 48 P **P** **19 46 17.4 -2.8**
BMN IAmb IAmb 19 46 40.2
comp=Z,145nm,1.2s
RAGD RAYAGADA 89.66 290⇑*e*P **P** **19 46 21.7 +1.0**
M30M Minto, Yukon 89.68 23 P **P** **19 46 17.9 -1.9**
M30M IAMs_20 IAMs_20 20 21 58.8
comp=Z,87µm,20.0s
M30M Minto, Yukon 89.68 23 P **P** **19 46 17.9 -1.9**
baz=233
M30M S **S** **19 57 06.4 -3.1**
baz=233
LPIG La Paz 89.69 65 P **P** **19 46 21.8 +1.1**
comp=Z,20nm,0.3s,baz=236,slow=3.6,SNR=1.4
LPIG LR LR 20 20 15.0
comp=Z,92µm,18.1s,baz=240,slow=31
DAWY Dawson 89.69 21 P **P** **19 46 17.9 -1.9**
DAWY Dawson 89.69 21 P **P** **19 46 18.2 -1.6**
baz=230,SNR=14
DAWY S **S** **19 57 05.9 -3.6**
baz=230
SHPR Sheep Range 89.72 52 P **P** **19 46 20.3 -0.5**
SHPR IAmb IAmb 19 46 54.2
comp=Z,258nm,1.4s
PDMCI Parker Dam,Lak 89.76 54 P **P** **19 46 20.1 -0.7**
baz=250
PDMCI S **S** **19 57 08.0 -3.3**
baz=250
JIRN Jiri 89.81 299 *e*P **P** **19 46 21.1 -0.6**
comp=Z,87nm,1.0s
J08A Circle Bar Ran 89.83 45 P **P** **19 46 20.3 -0.8**
J08A IAmb IAmb 19 46 45.1
comp=Z,282nm,1.6s
F07A Phinny Hill Vi 89.86 42 P **P** **19 46 21.1 +0.1**
F07A IAmb IAmb 19 46 45.0
comp=Z,251nm,1.6s
LTY Liberty 89.94 40 P **P** **19 46 19.6 -1.8**
TOLK Toolik Lake Re 89.95 14 P **P** **19 46 20.6 -0.4**
TOLK Toolik Lake Re 89.95 14 P **P** **19 46 20.9 -0.1**
baz=221
TOLK S S 19 57 21.0 +9.2
baz=221
214A Organ Pipe Nat 90.04 57 P **P** **19 46 20.6 -1.6**
214A IAmb IAmb 19 47 02.4
comp=Z,223nm,1.6s
214A Organ Pipe Nat 90.04 57 P **P** **19 46 20.1 -2.1**
baz=251
214A S **S** **19 57 09.8 -4.3**
baz=251
R11A Troy Canyon, C 90.05 50 P **P** **19 46 20.6 -1.7**
baz=250
R11A S **S** **19 57 10.0 -4.2**
baz=250
C06D Leavenworth 90.08 40 P **P** **19 46 19.8 -2.2**
baz=246
KNGR Kungurtug, Tuv 90.09 323*c i*P **P** **19 46 21.1 -1.0**
DLBC Dease Lake 90.10 28 LR LR 20 19 34.8
comp=Z,87µm,20.6s,baz=247,slow=31
DLBC Dease Lake 90.10 28 P **P** **19 46 19.4 -2.5**
PRN Pahroc Range 90.12 51 P **P** **19 46 21.4 -1.2**
PRN IAmb IAmb 19 46 56.0
comp=Z,230nm,1.2s
GUN Gumba 90.15 299 *e*P **P** **19 46 22.3 -0.9**
comp=Z,336nm,1.0s
E07A Sunnyside 90.17 41 P **P** **19 46 20.7 -1.8**
E07A IAmb IAmb 19 47 03.2
comp=Z,351nm,1.7s
W13A Hualapai Mount 90.22 54 P **P** **19 46 21.9 -1.3**
W13A IAmb IAmb 19 47 03.3
comp=Z,219nm,1.6s
G08A Pilot Rock 90.25 43 P **P** **19 46 21.6 -1.5**
HAWA Hanford 90.31 41 P **P** **19 46 23.5 +0.3**
HAWA IAmb IAmb 19 47 03.9
comp=Z,291nm,1.4s
J29M Klondike Camp 90.33 21 P **P** **19 46 21.6 -1.3**
baz=231
J29M S S 19 57 24.8 +9.3
baz=231
BMAR Burnt Mountain 90.36 17 P **P** **19 46 19.9 -3.0**
M31M Drury Creek, Y 90.36 23 P **P** **19 46 20.8 -2.2**
M31M IAMs_20 IAMs_20 20 24 05.9
comp=Z,76µm,19.0s
M31M Drury Creek, Y 90.36 23 P **P** **19 46 20.0 -3.0**
baz=235
M31M S **S** **19 57 23.7 +8.0**
baz=235
PKI Pulchoki 90.44 298 *e*P **P** **19 46 23.5 -1.1**
comp=Z,336nm,1.2s
PMSA Palmer Station 90.45 160 LR LR 20 21 28.4
comp=Z,48µm,20.5s,baz=226,slow=32
PMSA Palmer Station 90.45 160 P **P** **19 46 21.8 -1.7**
PMSA Palmer Station 90.45 160 *e*P **P** **19 46 23.7 +0.2**
PKIN Phulchoki 90.45 298 *e*P **P** **19 46 23.4 -1.1**
comp=Z,304nm,1.2s
Y14A Wickenburg 90.53 55 P **P** **19 46 23.6 -0.9**
A21K Barrow 90.60 11 P **P** **19 46 23.1 -0.7**
A21K IAMs_20 IAMs_20 20 20 50.1
comp=Z,68µm,22.0s
A21K Barrow 90.60 11 P **P** **19 46 22.4 -1.4**
baz=214
A21K S S 19 57 27.3 +10
baz=214
LLLB Lillooet 90.60 37 P **P** **19 46 22.7 -1.7**
LLLB IAmb IAmb 19 46 48.4
comp=Z,392nm,1.8s
KKN Kakani 90.61 299 *e*P **P** **19 46 24.1 -1.1**
E08A Dider Farm, El 90.65 42 P **P** **19 46 23.6 -1.0**
DMN Daman 90.71 298 *e*P **P** **19 46 24.9 -0.8**
comp=Z,524nm,1.2s
FARO Faro, Yukon 90.78 24 P **P** **19 46 21.3 -3.6**
baz=236
MDRS Chennai 90.86 283 *e*P **P** **19 46 29.8 +3.5**
MDRS IAmb IAmb 19 46 31.6
comp=Z,232nm,1.5s
I29M Ogilvie Camp, 90.87 20 IAMs_20 IAMs_20 20 23 15.4
comp=Z,64µm,20.0s
I29M Ogilvie Camp, 90.87 20 P **P** **19 46 22.8 -2.5**
baz=231
I29M S **S** **19 57 28.9 +8.6**
baz=231
D08A Wollman Farm, 90.96 41 P **P** **19 46 25.5 -0.6**
D08A IAmb IAmb 19 47 06.8
comp=Z,373nm,1.9s
ELK Elko 91.13 48 LR LR 20 20 01.9
comp=Z,108µm,20.6s,baz=248,slow=31
ELK Elko 91.13 48 P **P** **19 46 25.2 -2.2**
ELK pmax pmax
comp=Z,178nm,1.6s
ELK MLR MLR
comp=Z,104µm,20.0s
ELK Elko 91.13 48 P **P** **19 46 25.2 -2.2**
ELK IAmb IAmb 19 47 07.1
comp=Z,178nm,1.6s
BMO Blue Mountains 91.17 43 P **P** **19 46 25.1 -2.2**
BMO pmax pmax
comp=Z,250nm,1.7s
BMO MLR MLR
comp=Z,82µm,20.0s
BMO Blue Mountains 91.17 43 P **P** **19 46 25.1 -2.2**
BMO IAmb IAmb 19 46 51.0
comp=Z,250nm,1.6s
BMO IAMs_20 IAMs_20 20 19 54.0
comp=Z,82µm,20.0s
B08A Colville Reser 91.21 40 P **P** **19 46 25.8 -1.5**
B08A IAmb IAmb 19 46 51.6
comp=Z,155nm,1.4s
GKN Gorkha 91.22 299 *e*P **P** **19 46 26.6 -1.4**
comp=Z,258nm,1.2s
E09A Wood Farm, Sta 91.25 42 P **P** **19 46 25.9 -1.5**
E09A IAmb IAmb 19 46 51.1
comp=Z,390nm,1.8s
TIXI Tiksi 91.33 349*ce*P **P** **19 46 25.3 -1.9**
TIXI pmax pmax
comp=Z,278nm,1.3s
TIXI MLR MLR
comp=Z,39µm,19.0s
TIXI Tiksi 91.33 349 P **P** **19 46 25.5 -1.7**
LCMT Little Creek M 91.34 52 P **P** **19 46 26.7 -1.7**
LCMT IAmb IAmb 19 46 56.3
comp=Z,198nm,1.4s
PSUT Pine Spring 91.39 50 P **P** **19 46 27.6 -1.0**
CCUT Cedar City 91.43 51 P **P** **19 46 28.5 -0.4**
CCUT IAmb IAmb 19 47 01.6
comp=Z,192nm,1.4s
WTLY Watson Lake, Y 91.51 27 P **P** **19 46 26.8 -1.6**
baz=240
TROLL Troll, Antarti 91.51 185 P **P** **19 46 28.0 -0.5**

TROLL Troll, Antarti 91.51 185 PKKPdf PKKPdf 20 03 47.5 +0.7
F10A Beach Ranch, E 91.64 42 P **P** **19 46 27.5 -1.9**
F10A IAmb IAmb 19 47 08.7
comp=Z,329nm,1.6s
MFID Camas Ranch 91.65 45 P **P** **19 46 27.8 -1.7**
MFID IAmb IAmb 19 47 09.2
comp=Z,149nm,1.6s
MFID IAMs_20 IAMs_20 20 19 09.7
comp=Z,74µm,22.0s
VLK Valmikinagar 91.67 298⇑*e*P **P** **19 46 31.0 +1.2**
BLSP Bilaspur 91.68 292 *e*P **P** **19 46 31.2 +1.2**
TUC Tucson 91.78 57 P **P** **19 46 28.8 -1.6**
TUC pmax pmax
comp=Z,94nm,1.4s
TUC MLR MLR
comp=Z,82µm,22.0s
TUC Tucson 91.78 57 P **P** **19 46 28.8 -1.6**
TUC Tucson 91.78 57 IAMs_20 IAMs_20 20 18 19.6
comp=Z,83µm,22.0s
TUC Tucson 91.78 57 P **P** **19 46 30.1 -0.3**
baz=252
MMPY Sheldon Lake, 91.80 24 P **P** **19 46 26.7 -3.1**
baz=238
U15A North Rim 91.88 53 P **P** **19 46 29.5 -1.5**
U15A IAmb IAmb 19 47 03.8
comp=Z,95nm,1.1s
X16A Lo Mia Camp, P 91.91 55 P **P** **19 46 29.6 -1.4**
X16A IAmb IAmb 19 46 59.4
comp=Z,131nm,1.5s
KOLN Koldanda 92.03 298 *e*P **P** **19 46 31.1 -0.7**
DANN Dangsing 92.06 299 *e*P **P** **19 46 30.2 -1.9**
PLID Pearl Lake 92.12 44 P **P** **19 46 29.2 -2.7**
PLID IAMs_20 IAMs_20 20 19 01.1
comp=Z,84µm,22.0s
PKCU Pink Cliffs 92.19 52 P **P** **19 46 32.1 -0.4**
SNAA Sanae 92.19 183 P **P** **19 46 30.5 -1.1**
SNAA Sanae 92.19 183 PKKPdf PKKPdf 20 03 43.4 -2.1
SNAA Sanae 92.19 183 P **P** **19 46 30.5 -1.1**
comp=Z,75nm,1.0s,baz=201,slow=6.7,SNR=63
SNAA PKKP **PKKPdf** **20 03 42.9 -2.7**
comp=Z,8.1nm,1.0s,baz=325,slow=5.3,SNR=7.1
SNAA LR LR 20 27 45.2
comp=Z,77µm,18.7s,baz=168,slow=35
SNAA Sanae 92.19 183 P **P** **19 46 29.7 -1.8**
SNAA pmax pmax
comp=Z,160nm,1.2s
SNAA MLR MLR
comp=Z,73µm,19.0s
SNAA Sanae 92.19 183 P **P** **19 46 29.7 -1.8**
SNAA IAmb IAmb 19 46 38.9
comp=Z,160nm,1.2s
SNAA IAMs_20 IAMs_20 20 27 43.6
comp=Z,73µm,19.0s
WUAZ Wupatki 92.30 54 P **P** **19 46 32.6 -0.2**
WUAZ IAmb IAmb 19 47 01.0
comp=Z,191nm,1.6s
WUAZ Wupatki 92.30 54 P **P** **19 46 30.3 -2.5**
baz=252
WUAZ S **S** **19 57 40.5 +5.7**
baz=252
SALM Salem 92.39 281⇑*e*P **P** **19 46 34.7 +1.2**
TGTN Hyland Airport 92.44 26 P **P** **19 46 30.8 -1.9**
baz=240
TGTN S **S** **19 57 39.2 +4.6**
baz=240
MTPU Mount Pierson 92.47 51 P **P** **19 46 31.8 -2.0**
MTPU IAmb IAmb 19 47 02.3
comp=Z,211nm,1.9s
NEW Newport 92.54 40 LR LR 20 22 48.1
comp=Z,42µm,19.1s,baz=236,slow=32
NEW Newport 92.54 40 P **P** **19 46 31.8 -1.7**
NEW pmax pmax
comp=Z,61nm,1.2s
NEW MLR MLR
comp=Z,48µm,19.0s
NEW Newport 92.54 40 P **P** **19 46 31.8 -1.7**
NEW Newport 92.54 40 P **P** **19 46 31.5 -2.0**
baz=249
NEW S S 19 57 45.3 +9.2
baz=249
MSU Marysvale 92.63 51 P **P** **19 46 36.0 +1.6**
MSU Marysvale 92.63 51 P **P** **19 46 36.0 +1.6**
PYUN Piuthan 92.64 298 *e*P **P** **19 46 32.3 -2.3**
comp=Z,92nm,1.0s
DGAR Diego Garcia 92.66 262 IAMs_20 IAMs_20 20 24 00.6
comp=Z,62µm,20.0s
HLID Hailey 92.67 45 IAMs_20 IAMs_20 20 22 22.6
comp=Z,81µm,20.0s
HLID Hailey 92.67 45 P **P** **19 46 33.5 -0.8**
baz=250
HLID S **S** **19 57 43.0 +5.3**
baz=250
DUG Dugway, Tooele 92.69 49 P **P** **19 46 32.9 -1.6**
baz=251
DUG S S 19 57 48.0 +10
baz=251
KOD Kodaikanal 92.70 280⇑*e*P **P** **19 46 37.9 +2.6**
TRD Trivandrum 92.72 278 *e*P **P** **19 46 38.5 +3.5**
319A Douglas 92.72 58 P **P** **19 46 33.0 -1.9**
319A IAmb IAmb 19 46 55.6
comp=Z,93nm,1.1s
BGU Big Grassy Mou 92.77 48 P **P** **19 46 34.5 -0.3**
VNA3 Neumayer Olymp 92.85 181 P **P** **19 46 33.4 -1.2**
VNA3 Neumayer Olymp 92.85 181 PKKPdf PKKPdf 20 03 41.3 -3.1
VNA3 Neumayer Olymp 92.85 181 PKiKP **PKiKP** **19 51 24.5 +2.3**
ALBI Allahabad 92.86 295 *e*P **P** **19 46 32.3 -3.1**
VNA2 Neumayer--Watz 93.12 182 P **P** **19 46 34.9 -0.9**
baz=193,slow=3.0
VNA2 Neumayer--Watz 93.12 182 PKiKP **PKiKP** **19 51 22.2 -0.4**
baz=181,slow=2.0
HVU Hansel Valley 93.23 48 P **P** **19 46 36.4 -0.5**
HVU pmax pmax
comp=Z,72nm,1.2s
HVU Hansel Valley 93.23 48 P **P** **19 46 36.4 -0.5**
VNA1 Neumayer--Stat 93.42 181 P **P** **19 46 36.0 -1.1**
W18A Petrified Fore 93.46 55 P **P** **19 46 37.2 -1.0**
baz=253
W18A S **S** **19 57 54.0 +8.9**
baz=253
TMUT Trail Mountain 93.59 50 P **P** **19 46 38.1 -0.8**
BCYI Bear Canyon 93.60 45 P **P** **19 46 37.7 -1.1**
HYB Hyderabad 93.62 287 *e*P **P** **19 46 40.8 +1.7**
HYB IAmb IAmb 19 46 45.0
comp=Z,67nm,1.1s
HYBB Hyderabad (bro 93.62 287 *e*P **P** **19 46 37.8 -1.3**
HYBB IVmBBB 19 46 41.7
comp=Z,2µm,3.5s
HYBB *es*P **sP** **19 46 49.2 -1.3**
HYBB *e*PP **PP** **19 50 22.6 -1.7**
HYBB *e*SKSac **SKSac** **19 57 11.3 -1.3**
HYBB *e*SKKSac **SKKSac** **19 57 30.4 -1.9**
HYBB *e*PS **PS** **19 59 03.7 +0.1**
HYBB *e*PKKPbc **PKKPdf** **20 03 42.0 -1.4**
HYBB *e*SKKPdf **SKKPdf** **20 07 13.7 -2.9**
HYBB *e*PKKSbc PKKSbc 20 07 23.6 -1.2
HYBB *e*SKKSdf **SKKSdf** **20 10 49.5 -3.3**
HYBB IVMs_BB IVMs_BB 20 37 48.7
comp=Z,5µm,17.9s
HYBB IVMsBB 20 37 48.8
comp=Z,5µm,17.9s
BRCI Bahraich 93.69 297⇑*e*P **P** **19 46 37.9 -1.2**
WMQ Urumqi 93.76 314⇑P **P** **19 46 39.0 -0.2**
WMQ pP pP 19 46 46.8 -1.0
WMQ sP sP 19 46 51.8 +1.2
WMQ PP **PP** **19 50 25.5 +0.6**
WMQ SKS **SKSac** **19 57 11.5 -0.8**
WMQ S **ScS** **19 57 50.5 +1.9**
WMQ SS **SS** **20 03 59.8 -6.5**
WMQ pmax pmax
comp=Z,280nm,1.3s
WMQ pmax pmax
comp=Z,5µm,5.7s
WMQ LR LR
comp=Z,35µm,20.5s
WMQ LR LR
comp=Z,48µm,20.5s
WMQ LR LR
comp=Z,59µm,20.5s
JLU Jordanelle 93.81 49 P **P** **19 46 37.0 -2.8**
PCHI Peechi 93.84 280⇑*e*P **P** **19 46 39.6 -0.5**
PCHI *e*S **SKSac** **19 57 14.0 +0.1**
HWUT Hardware Ranch 94.03 48 P **P** **19 46 39.2 -1.5**
HWUT IAMs_20 IAMs_20 20 27 02.9
comp=Z,51µm,18.0s
SRU San Rafael Swe 94.04 51 P **P** **19 46 39.7 -1.1**

SRU pmax pmax
comp=Z,55nm,1.4s
SRU San Rafael Swe 94.04 51 P **P** **19 46 39.7 -1.1**
MSO Missoula 94.07 42 P **P** **19 46 38.2 -2.5**
MSO IAMs_20 IAMs_20 20 37 18.5
comp=Z,48µm,18.0s
MSO Missoula 94.07 42 P **P** **19 46 38.7 -1.9**
baz=251
MSO S **S** **19 57 56.1 +6.3**
baz=251
INK Inuvik 94.15 19 P **P** **19 46 39.4 -1.0**
comp=Z,4.9nm,1.0s,baz=223,slow=4.7,SNR=4.2
INK PKPPKP **P'P'df** **20 11 52.4 +1.8**
comp=Z,3.8nm,1.1s,baz=180,slow=0.7,SNR=4.3
INK LR LR 20 23 23.5
comp=Z,113µm,21.4s,baz=218,slow=32
INK Inuvik 94.15 19 P **P** **19 46 37.8 -2.5**
INK pmax pmax
comp=Z,80nm,1.7s
INK Inuvik 94.15 19 P **P** **19 46 37.8 -2.5**
INK Inuvik 94.15 19 P **P** **19 46 38.2 -2.1**
baz=236
121A Cookes Peak, D 94.27 58 P **P** **19 46 42.0 -0.1**
121A Cookes Peak, D 94.27 58 P **P** **19 46 40.0 -2.0**
baz=254
121A S **S** **19 57 54.4 +2.0**
baz=254
121A Cookes Peak, D 94.27 58 P **P** **19 46 40.2 -1.8**
baz=254
121A S **S** **19 57 58.2 +5.9**
baz=254
KAAM Kaadhehdhoo 94.34 269 P **P** **19 46 43.6 +1.1**
KAAM IAmb IAmb 19 46 47.6
comp=Z,176nm,1.1s
KAAM Kaadhehdhoo 94.34 269 P **P** **19 46 43.6 +1.1**
P18A Preston Nutter 94.40 50 P **P** **19 46 40.6 -2.0**
DLMT Dillon 94.48 44 IAMs_20 IAMs_20 20 22 01.6
comp=Z,84µm,20.0s
MG03 Isla Dawson 94.65 150 P **P** **19 46 43.6 +0.5**
MG03 IAmb IAmb 19 47 03.9
comp=Z,164nm,1.3s
AHID Auburn Hatcher 94.71 47 IAMs_20 IAMs_20 20 21 56.8
comp=Z,76µm,20.0s
LRM Limekiln Ridge 94.72 44 P **P** **19 46 44.2 +0.4**
MG05 Puerto Natales 94.86 147 P **P** **19 46 44.5 +0.4**
MG05 IAmb IAmb 19 47 00.5
comp=Z,135nm,1.1s
PV23 Carpenter Ridg 94.98 52 P **P** **19 46 43.3 -1.9**
PV23 IAmb IAmb 19 47 24.9
comp=Z,233nm,2.0s
CRZF Crozet Islands 95.01 219 IAMs_20 IAMs_20 20 26 21.2
comp=Z,50µm,18.0s
MVCO Mesa Verde 95.02 53 P **P** **19 46 44.4 -1.0**
baz=254
MVCO S **S** **19 58 03.9 +5.2**
baz=254
USHA Ushuaia 95.03 151 LR LR 20 21 10.7
comp=Z,84µm,21.4s,baz=226,slow=30
TPAW Teton Pass 95.03 46 IAMs_20 IAMs_20 20 22 19.3
comp=Z,90µm,20.0s
EPT El Paso 95.11 59 IAMs_20 IAMs_20 20 22 53.7
comp=Z,62µm,20.0s
GO09 Cerro Castillo 95.17 147 P **P** **19 46 45.7 +0.1**
GO09 IAmb IAmb 19 46 52.2
comp=Z,126nm,1.4s
BOZ Bozeman (W) 95.20 44 P **P** **19 46 45.0 -0.9**
BOZ pmax pmax
comp=Z,70nm,1.5s
BOZ MLR MLR
comp=Z,74µm,20.0s
BOZ Bozeman (W) 95.20 44 P **P** **19 46 45.0 -0.9**
BOZ IAMs_20 IAMs_20 20 22 02.6
comp=Z,75µm,20.0s
BOZ Bozeman (W) 95.20 44 P **P** **19 46 45.7 -0.2**
baz=252
BOZ S **S** **19 58 05.0 +5.2**
baz=252
MOOW Moose Ponds 95.25 46 P **P** **19 46 45.7 -0.6**
MOOW IAMs_20 IAMs_20 20 21 46.1
comp=Z,92µm,21.0s
LOHW Long Hollow 95.31 46 IAMs_20 IAMs_20 20 22 18.6
comp=Z,92µm,20.0s
Y22A Socorro 95.32 56 P **P** **19 46 45.3 -1.4**
baz=254
Y22A S **S** **19 58 00.7 -0.7**
baz=254
LGTI Lohaghat 95.33 299⇑*e*P **P** **19 46 46.4 -0.2**
FLWY Flagg Ranch 95.38 46 IAMs_20 IAMs_20 20 21 32.5
comp=Z,84µm,21.0s
Y22D IRIS PASSCAL I 95.39 56 P **P** **19 46 45.7 -1.4**
baz=254
Y22D IRIS PASSCAL I 95.39 56 P **P** **19 46 45.6 -1.4**
baz=254
H17A Grant Village 95.56 46 P **P** **19 46 47.0 -0.7**
baz=253
BNM Barren Site 95.65 56 P **P** **19 46 45.2 -3.1**
JHNI Jhansi 95.75 295⇑*e*P **P** **19 46 45.8 -2.9**
BW06 Boulder Array 95.80 47 IAMs_20 IAMs_20 20 22 10.6
comp=Z,63µm,22.0s
BW06 Boulder Array 95.80 47 P **P** **19 46 46.8 -2.0**
baz=254
BW06 S **S** **19 58 07.6 +2.3**
baz=254
PDAR Pinedale Array 95.80 47 P **P** **19 46 47.2 -1.6**
comp=Z,2.0nm,1.0s,baz=245,slow=1.9,SNR=3.9
PDAR PP **PP** **19 50 42.4 +1.3**
comp=Z,11nm,1.1s,baz=235,slow=5.2,SNR=6.6
PDAR PKKPbc **PKKPbc** **20 03 37.9 -1.7**
comp=Z,6.3nm,0.9s,baz=69,slow=3.4,SNR=15
PDAR PKPPKP **P'P'df** **20 11 49.8 -0.4**
comp=Z,1.7nm,1.0s,baz=116,slow=4.1,SNR=7.5
PDAR LR LR 20 22 43.8
comp=Z,55µm,20.8s,baz=258,slow=31
PDAR Pinedale Array 95.80 47 P **P** **19 46 47.0 -1.8**
PDAR Pinedale Array 95.80 47 PKKPdf 20 03 37.0 -3.7
ANMO Albuquerque 95.99 56 LR LR 20 22 03.2
comp=Z,100µm,20.8s,baz=280,slow=30
ANMO Albuquerque 95.99 56 P **P** **19 46 48.2 -1.7**
ANMO pmax pmax
comp=Z,52nm,1.8s
ANMO MLR MLR
comp=Z,96µm,20.0s
ANMO Albuquerque 95.99 56 P **P** **19 46 48.2 -1.7**
ANMO Albuquerque 95.99 56 P **P** **19 46 49.2 -0.7**
baz=255
ANMO Albuquerque 95.99 56 P **P** **19 46 49.0 -0.8**
baz=255
MNTX Cornudas Mount 96.01 59 P **P** **19 46 49.2 -0.6**
MNTX IAMs_20 IAMs_20 20 23 31.7
comp=Z,58µm,20.0s
MNTX Cornudas Mount 96.01 59 P **P** **19 46 47.8 -2.0**
baz=255
MNTX S **S** **19 58 10.5 +3.3**
baz=255
MNTX Cornudas Mount 96.01 59 P **P** **19 46 48.1 -1.7**
baz=255
MNTX S **S** **19 58 13.8 +6.6**
baz=255
O20A White River Ci 96.02 50 P **P** **19 46 47.7 -2.1**
baz=254
O20A S **S** **19 58 10.2 +2.9**
baz=254
BHPL Bhopal 96.17 292 *e*P **P** **19 46 50.8 +0.1**
S22A 4UR Ranch, Cre 96.44 53 P **P** **19 46 51.1 -0.8**
S22A 4UR Ranch, Cre 96.44 53 P **P** **19 46 50.5 -1.5**
baz=255
S22A S **S** **19 58 17.5 +6.3**
baz=255
EDM Edmonton 96.47 36 P **P** **19 46 49.1 -2.3**
EDM pmax pmax
comp=Z,97nm,1.5s
EDM Edmonton 96.47 36 P **P** **19 46 49.1 -2.3**
SMCO Snowmass 96.71 51 P **P** **19 46 52.3 -0.9**
ZSN Zaisan 96.74 317 *e*P **P** **19 46 51.5 -1.2**
ZSN *e* 19 50 46.3
ZSN *e*S **SKSac** **19 57 25.3 -2.6**
ZSN pmax pmax
comp=Z,454nm,2.8s
ZSN Zaisan 96.74 317 *e*P **P** **19 46 51.6 -1.2**
comp=Z,454nm,2.8s,baz=317
ZSN *e*PP **PP** **19 50 46.4 -1.6**
baz=317
ZSN *e*S **SKSac** **19 57 25.4 -2.6**
baz=317
TX31 Lajitas Ar. Si 96.84 62 P **P** **19 46 51.6 -2.1**
TX31 Lajitas Ar. Si 96.84 62 P **P** **19 46 51.9 -1.8**
baz=255

TX32	**Lajitas Array**	**96.84**	**62**	P		**P**	19 46 52.5	**-1.2**	
TXAR	**Lajitas Array**	**96.84**	**62**	P		**P**	**19 46 52.1**	**-1.6**	
	comp=Z,1.4nm,0.9s,baz=205,slow=2.6,SNR=11								
TXAR				PP		**PP**	**19 50 49.1**	**-0.2**	
	comp=Z,7.8nm,1.2s,baz=230,slow=7.4,SNR=5.2								
TXAR				PKKP		**PKKPdf**	**20 03 42.9**	**+4.8**	
	comp=Z,2.8nm,0.9s,baz=107,slow=3.8,SNR=10								
TXAR				PKPPKP		**P'P'df**	**20 11 49.9**	**+0.4**	
	comp=Z,0.5nm,0.8s,baz=53,slow=4.8,SNR=3.7								
TXAR				LR		LR	20 24 13.7		
	comp=Z,57µm,18.3s,baz=263,slow=32								
TXAR	**Lajitas Array**	**96.84**	**62**	P		**P**	**19 46 50.9**	**-2.8**	
TXAR	**Lajitas Array**	**96.84**	**62**	P		**P**	**19 46 50.9**	**-2.8**	
EGMT	**Eagleton**	**97.14**	**42**	P		**P**	**19 46 53.6**	**-1.0**	
	baz=254								
EGMT				S		**S**	**19 58 19.2**	**+3.0**	
	baz=254								
RWWY	**Rawlins**	**97.19**	**49**	IAMs_20		IAMs_20	20 23 49.4		
	comp=Z,70µm,20.0s								
SDCO	**Great Sand Dun**	**97.46**	**53**	P		**P**	**19 46 55.5**	**-1.0**	
	baz=256								
SDCO	**Great Sand Dun**	**97.46**	**53**	P		**P**	**19 46 55.7**	**-0.9**	
	baz=256								
SDCO				S		**S**	**19 58 23.7**	**+3.7**	
	baz=256								
KAD	**Karad**	**97.62**	**286**⇑	*e*P		Pdif	19 46 59.2	+1.8	
C36M	**Paulatuk**	**97.65**	**19**	P		**P**	**19 46 53.2**	**-3.0**	
C36M				IAMs_20		IAMs_20	20 24 45.4		
	comp=Z,69µm,21.0s								
C36M	**Paulatuk**	**97.65**	**19**	P		**P**	**19 46 52.8**	**-3.4**	
	baz=244								
C36M				S		**S**	**19 58 27.0**	**+7.5**	
	baz=244								
ISCO	**Idaho Springs**	**97.88**	**51**	IAMs_20		IAMs_20	20 24 58.9		
	comp=Z,84µm,20.0s								
ISCO	**Idaho Springs**	**97.88**	**51**	P		**P**	**19 46 57.8**	**-0.6**	
	baz=256								
ISCO	**Idaho Springs**	**97.88**	**51**	P		**P**	**19 46 57.3**	**-1.1**	
	baz=256								
ISCO				S		**S**	**19 58 28.4**	**+4.8**	
	baz=256								
N23A	**Red Feather La**	**97.91**	**50**	P		**P**	**19 46 57.4**	**-1.0**	
	baz=256								
N23A				S		**S**	**19 58 26.9**	**+3.2**	
	baz=256								
K22A	**Casper**	**97.92**	**48**	P		**P**	**19 46 56.5**	**-1.9**	
	baz=256								
K22A	**Casper**	**97.92**	**48**	P		**P**	**19 46 56.9**	**-1.5**	
	baz=256								
K22A				S		**S**	**19 58 25.9**	**+2.4**	
	baz=256								
Q24A	**Divide**	**98.03**	**52**	P		**P**	**19 46 58.9**	**-0.3**	
	baz=256								
Q24A				S		**S**	**19 58 30.1**	**+5.3**	
	baz=256								
T25A	**Trinidad**	**98.15**	**54**	P		**P**	**19 46 57.5**	**-2.1**	
	baz=256								
T25A				S		**S**	**19 58 31.1**	**+5.4**	
	baz=256								
POO	**Poona**	**98.23**	**287**	*e*P		Pdif	19 47 02.7	+2.6	
POO	**Poona**	**98.23**	**287**‖	*i* P		**P**	**19 46 56.0**	**-4.1**	
	comp=Z,60nm,2.2s								
MK31	**Makanchi Array**	**98.26**	**316**	*i* P		**P**	**19 46 58.9**	**-0.7**	
MK31				pmax		pmax			
	comp=Z,48nm,0.9s								
MK31	**Makanchi Array**	**98.26**	**316**	P		**P**	**19 46 57.7**	**-1.9**	
MK31				IAmb		IAmb	19 47 26.4		
	comp=Z,137nm,1.6s								
MKAR	**Makanchi Array**	**98.26**	**316**	P		**P**	**19 46 59.2**	**-0.3**	
	comp=Z,11nm,0.6s,baz=92,slow=5.7,SNR=39								
MKAR				PP		**PP**	**19 50 55.3**	**-4.4**	
	comp=Z,6.1nm,0.8s,baz=94,slow=9.8,SNR=3.5								
MKAR				PKiKP		**PKiKP**	**19 51 33.6**	**+1.5**	
	comp=Z,12nm,1.0s,baz=117,slow=5.3,SNR=1.7								
MKAR				PKKPbc		**PKKPbc**	**20 03 31.0**	**-1.8**	
	comp=Z,9.1nm,0.9s,baz=268,slow=3.6,SNR=11								
MKAR				PKPPKP		**P'P'df**	**20 11 47.9**	**+2.9**	
	comp=Z,1.4nm,1.0s,baz=306,slow=2.9,SNR=6.3								
MKAR				LR		LR	20 30 37.1		
	comp=Z,27µm,21.8s,baz=91,slow=35								
MKAR	**Makanchi Array**	**98.26**	**316**	P		**P**	**19 46 57.7**	**-1.9**	
SMLA	**Simla**	**98.33**	**300**	*e*P		**P**	**19 46 59.0**	**-1.1**	
SMLA				IAmb		IAmb	19 47 03.4		
	comp=Z,107nm,1.4s								
PHWY	**Pilot Hill**	**98.36**	**50**	IAMs_20		IAMs_20	20 25 30.6		
	comp=Z,76µm,20.0s								
A36M	**Sachs Harbour**	**98.45**	**17**	P		**P**	**19 46 57.7**	**-2.1**	
A36M				IAmb		IAmb	19 47 02.6		
	comp=Z,73nm,0.9s								
A36M				IAMs_20		IAMs_20	20 25 52.6		
	comp=Z,96µm,22.0s								
A36M	**Sachs Harbour**	**98.45**	**17**	Pfiff		Pdif	19 46 58.7	-1.1	
	baz=244								
A36M				S		**S**	**19 58 31.2**	**+5.0**	
	baz=244								
MAKZ	**Makanchi**	**98.47**	**316**	P		**P**	**19 46 59.1**	**-1.4**	
MAKZ				pmax		pmax			
	comp=Z,208nm,1.9s								
MAKZ				MLR		MLR			
	comp=Z,28µm,22.0s								
MAKZ	**Makanchi**	**98.47**	**316**	P		**P**	**19 46 59.1**	**-1.4**	
MAKZ				IAmb		IAmb	19 47 23.3		
	comp=Z,208nm,1.9s								
ZAA0	**Zalesovo Array**	**98.55**	**324**	P		**P**	**19 46 58.5**	**-2.1**	
ZAA0				IAmb		IAmb	19 47 05.2		
	comp=Z,160nm,1.1s								
ZALV	**Zalesovo Beam**	**98.55**	**324**	P		**P**	**19 46 59.4**	**-1.2**	
	comp=Z,64nm,0.8s,baz=113,slow=4.8,SNR=47								
ZALV				PKiKP		**PKiKP**	**19 51 33.0**	**+0.6**	
	comp=Z,8.5nm,0.8s,baz=81,slow=1.1,SNR=6.9								
ZALV				PKKPbc		**PKKPbc**	**20 03 30.2**	**-2.0**	
	comp=Z,2.6nm,0.6s,baz=304,slow=3.9,SNR=5.6								
ZALV				PKPPKP		**P'P'df**	**20 11 41.2**	**-2.4**	
	comp=Z,1.0nm,0.6s,baz=329,slow=2.5,SNR=4.4								
ZALV				LR		LR	20 33 07.0		
	comp=Z,28µm,19.2s,baz=103,slow=36								
ZALV	**Zalesovo Beam**	**98.55**	**324**	P		**P**	**19 46 58.1**	**-2.6**	
MSTX	**Muleshoe**	**98.70**	**57**	P		**P**	**19 47 01.3**	**-0.7**	
	baz=256								
MSTX	**Muleshoe**	**98.70**	**57**	Pfiff		Pdif	19 46 59.8	-2.2	
	baz=256								
MSTX				S		**S**	**19 58 32.9**	**+2.6**	
	baz=256								
YKA	**Yellowknife Ar**	**98.72**	**27**	P		**P**	**19 46 59.0**	**-2.1**	
	comp=Z,18nm,0.8s,baz=254,slow=4.5,SNR=64								
YKA				PP		**PP**	**19 51 04.4**	**+1.8**	
	comp=Z,1.7nm,1.0s,baz=251,slow=7.3,SNR=4.6								
YKA				PKiKP		**PKiKP**	**19 51 33.3**	**+0.9**	
	comp=Z,2.8nm,0.7s,baz=240,slow=1.2,SNR=12								
YKA				PKKPbc		**PKKPbc**	**20 03 30.3**	**-1.7**	
	comp=Z,2.6nm,0.8s,baz=60,slow=2.4,SNR=7.3								
YKA				PKPPKP		**P'P'df**	**20 11 43.3**	**+0.6**	
	comp=Z,1.0nm,0.9s,baz=96,slow=1.7,SNR=6.7								
YKA				LR		LR	20 29 43.7		
	comp=Z,34µm,18.0s,baz=258,slow=34								
YKA	**Yellowknife Ar**	**98.72**	**27**	P		**P**	**19 46 57.8**	**-3.4**	
YKA							19 51 04.4		
YKA	**Yellowknife Ar**	**98.72**	**27**			**P**	**19 46 57.8**	**-3.4**	
BHK	**Bhakra**	**99.02**	**300**⇑	*e*P		**Pdif**	**19 47 02.6**	**-0.8**	
LAO	**LASA Array**	**99.12**	**44**	P		**Pdif**	**19 47 03.1**	**-0.3**	
LAO	**LASA Array**	**99.12**	**44**	P		**Pdif**	**19 47 02.7**	**-0.8**	
	baz=256								
LAO	**LASA Array**	**99.12**	**44**	Pfiff		**Pdif**	**19 47 02.9**	**-0.6**	
	baz=256								
SHLS	**Shalkode**	**99.34**	**312**	*e*P		**Pdif**	**19 47 02.0**	**-2.6**	
SHLS				*e*S		**SKSac**	**19 57 37.6**	**-4.0**	
SHLS	**Shalkode**	**99.34**	**312**	*e*P		**Pdif**	**19 47 02.1**	**-2.6**	
	baz=312								
SHLS				*e*S		**SKSac**	**19 57 37.6**	**-4.0**	
	baz=312								
PDGK	**Podgornoye**	**99.36**	**312**	P		**Pdif**	**19 47 04.7**	**0.0**	
UZB	**Uzynbulak**	**99.65**	**312**	*e*P		**Pdif**	**19 47 04.5**	**-1.5**	
UZB				*e*S		**SKSac**	**19 57 40.2**	**-3.0**	
	comp=Z,161nm,2.9s			pmax		pmax			
UZB	**Uzynbulak**	**99.65**	**312**	*e*P		**Pdif**	**19 47 04.5**	**-1.5**	
	comp=Z,161nm,2.9s,baz=312								
UZB				*e*S		**SKSac**	**19 57 40.2**	**-3.0**	
	baz=312								
AMTX	**Amarillo**	**99.79**	**57**	IAMs_20		IAMs_20	20 33 02.5		
	comp=Z,70µm,18.0s								
AMTX	**Amarillo**	**99.79**	**57**	P		**Pdif**	**19 47 05.7**	**-1.1**	
	baz=257								
AMTX	**Amarillo**	**99.79**	**57**	Pfiff		**Pdif**	**19 47 05.9**	**-0.9**	
	baz=257								
H03N3	**Juan Fernandez**	**99.89**	**129**	T		T	21 37 53.7		
	baz=239,slow=75,SNR=4.9								
H03N2	**Juan Fernandez**	**99.89**	**129**	T		T	21 37 57.8		
	baz=239,slow=75,SNR=4.5								
H03N1	**Juan Fernandez**	**99.91**	**129**	T		T	21 37 43.8		
	baz=239,slow=75,SNR=5.9								
KSCO	**Kaye Shedlock'**	**99.95**	**52**	P		**Pdif**	**19 47 06.6**	**-0.9**	
	baz=257								
KSCO	**Kaye Shedlock'**	**99.95**	**52**	Pfiff		**Pdif**	**19 47 07.0**	**-0.4**	
	baz=257								
KPKS	**Kokpek**	**99.96**	**312**	*e*P		**Pdif**	**19 47 06.4**	**-0.9**	
KPKS				*e*S		**SKSac**	**19 57 42.4**	**-2.2**	
KPKS				pmax		pmax			
	comp=Z,118nm,2.2s								
KPKS	**Kokpek**	**99.96**	**312**	*e*P		**Pdif**	**19 47 06.5**	**-0.9**	
	comp=Z,118nm,2.2s,baz=312								
KPKS				*e*S		**SKSac**	**19 57 42.4**	**-2.2**	
	baz=312								
RSSD	**Black Hills**	**100.03**	**47**	P		**Pdif**	**19 47 06.1**	**-1.7**	
	baz=257								
RSSD	**Black Hills**	**100.03**	**47**	Pfiff		**Pdif**	**19 47 06.6**	**-1.2**	
	baz=257								
SATY	**Saty**	**100.07**	**312**	*e*P		**Pdif**	**19 47 06.7**	**-1.2**	
SATY				*e*S		**SKSac**	**19 57 42.7**	**-2.5**	
SATY	**Saty**	**100.07**	**312**	*e*P		**Pdif**	**19 47 06.8**	**-1.2**	
	baz=312								
SATY				*e*S		**SKSac**	**19 57 42.8**	**-2.5**	
	baz=312								
ZHN	**Zhinishke**	**100.07**	**312**	*e*P		**Pdif**	**19 47 06.3**	**-1.6**	
ZHN				*e*S		**SKSac**	**19 57 42.3**	**-2.9**	
ZHN	**Zhinishke**	**100.07**	**312**	*e*P		**Pdif**	**19 47 06.4**	**-1.6**	
	baz=312								
ZHN				*e*S		**SKSac**	**19 57 42.4**	**-2.9**	
	baz=312								
833A	**Chaparral WMA,**	**100.25**	**63**	P		**Pdif**	**19 47 08.1**	**-0.8**	
	baz=257								
833A	**Chaparral WMA,**	**100.25**	**63**	Pfiff		**Pdif**	**19 47 08.4**	**-0.4**	
	baz=257								
JCT	**Junction City**	**100.37**	**61**	IAMs_20		IAMs_20	20 25 49.2		
	comp=Z,83µm,20.0s								
JCT	**Junction City**	**100.37**	**61**	P		**Pdif**	**19 47 07.4**	**-2.0**	
	baz=257								
JCT	**Junction City**	**100.37**	**61**	Pfiff		**Pdif**	**19 47 08.1**	**-1.4**	
	baz=257								
SEM	**Semipalatinsk**	**100.43**	**319**	*e*P		**Pdif**	**19 47 07.5**	**-1.9**	
SEM				*i*			19 51 13.5		
SEM				*e*S		**SKSac**	**19 57 43.3**	**-3.5**	
SEM				pmax		pmax			
	comp=Z,231nm,3.1s								
SEM	**Semipalatinsk**	**100.43**	**319**	*e*P		**Pdif**	**19 47 07.5**	**-1.9**	
	comp=Z,231nm,3.1s,baz=320								
SEM				*i* PP		**PP**	**19 51 13.6**	**-2.7**	
	baz=320								
SEM				*e*S		**SKSac**	**19 57 43.4**	**-3.5**	
	baz=320								
SEM				LR		LR	20 27 37.8		
	baz=320								
TDK	**Taldyqorghan**	**100.49**	**314**	*e*P		**Pdif**	**19 47 08.5**	**-1.0**	
TDK				*i*			19 51 14.7		
TDK				*e*S		**SKSac**	**19 57 44.3**	**-2.6**	
TDK				pmax		pmax			
	comp=Z,580nm,3.1s								
TDK				MLR		MLR			
	comp=Z,30µm,21.0s								
TDK	**Taldyqorghan**	**100.49**	**314**	*e*P		**Pdif**	**19 47 08.5**	**-1.0**	
	comp=Z,580nm,3.1s,baz=314								
TDK				*i* PP		**PP**	**19 51 14.7**	**-1.9**	
	baz=314								
TDK				*e*S		**SKSac**	**19 57 44.3**	**-2.6**	
	baz=314								
TDK				LR		LR	20 29 02.3		
	comp=Z,30µm,20.5s,baz=314								
OGNE	**Ogallala**	**100.81**	**50**	IAMs_20		IAMs_20	20 24 38.2		
	comp=Z,73nm,22.0s								
OGNE	**Ogallala**	**100.81**	**50**	P		**Pdif**	**19 47 09.0**	**-2.2**	
	baz=258								
OGNE	**Ogallala**	**100.81**	**50**	Pfiff		**Pdif**	**19 47 08.7**	**-2.5**	
	baz=258								
DGMT	**Dagmar**	**100.85**	**43**	IAMs_20		IAMs_20	20 26 28.0		
	comp=Z,62µm,20.0s								
DGMT	**Dagmar**	**100.85**	**43**	P		**Pdif**	**19 47 08.7**	**-2.4**	
	baz=258								
DGMT	**Dagmar**	**100.85**	**43**	Pfiff		**Pdif**	**19 47 09.0**	**-2.1**	
	baz=258								
ABTX	**Abilene, Hawle**	**100.96**	**59**	P		**Pdif**	**19 47 10.4**	**-1.6**	
	baz=258								
ABTX	**Abilene, Hawle**	**100.96**	**59**	Pfiff		**Pdif**	**19 47 10.7**	**-1.2**	
	baz=258								
MDOK	**Medeo**	**101.06**	**312**	*e*P		**Pdif**	**19 47 10.3**	**-2.0**	
MDOK				*e*S		**SKSac**	**19 57 46.7**	**-3.4**	
MDOK	**Medeo**	**101.06**	**312**	*e*P		**Pdif**	**19 47 10.3**	**-2.0**	
	baz=312								
MDOK				*e*S		**SKSac**	**19 57 46.7**	**-3.4**	
	baz=312								
TNSS	**Tian-Shan**	**101.11**	**312**	*e*P		**Pdif**	**19 47 11.0**	**-1.8**	
TNSS	**Tian-Shan**	**101.11**	**312**	*e*P		**Pdif**	**19 47 11.1**	**-1.8**	
	baz=312								
KSH	**Kashi**	**101.12**	**308**	P		**Pdif**	**19 47 13.3**	**+0.6**	
KSH				pP		sPdif	19 47 26.3	+2.2	
KSH				PP		**PP**	**19 51 24.5**	**+2.7**	
KSH				S		**Sdif**	**19 58 55.3**	**+4.9**	
KSH				SS		**SS**	**20 05 54.0**	**+3.6**	
KSH				pmax		pmax			
	comp=Z,6µm,7.6s								
KSH				LR		LR			
	comp=Z,20µm,19.8s								
KSH				LR		LR			
	comp=Z,25µm,22.6s								
KSH				LR		LR			
	comp=Z,48µm,22.0s								
AAA	**Alma-Ata**	**101.17**	**312**	*e*P		**Pdif**	**19 47 11.1**	**-1.6**	
AAA				*e*			19 51 19.5		
AAA				*e*S		**SKSac**	**19 57 47.9**	**-2.5**	
AAA				MLR		MLR			
	comp=Z,32µm,19.0s								
AAA	**Alma-Ata**	**101.17**	**312**	*e*P		**Pdif**	**19 47 11.2**	**-1.6**	
	baz=312								
AAA				*e*PP		**PP**	**19 51 19.5**	**-2.4**	
	baz=312								
AAA				*e*S		**SKSac**	**19 57 48.0**	**-2.5**	
	baz=312								
AAA				LR		LR	20 29 38.3		
	comp=Z,32µm,18.8s,baz=312								
CHKK	**Chushkaly**	**101.25**	**312**	*e*P		**Pdif**	**19 47 11.9**	**-1.0**	
CHKK	**Chushkaly**	**101.25**	**312**	*e*P		**Pdif**	**19 47 11.9**	**-1.0**	
	baz=312								
KVTX	**Kingsville**	**101.38**	**65**	IAMs_20		IAMs_20	20 36 39.9		
	comp=Z,55µm,18.0s								
KVTX	**Kingsville**	**101.38**	**65**	P		**Pdif**	**19 47 13.8**	**0.0**	
	baz=258								
NRIK	**Noril'sk**	**101.39**	**339**	P		**Pdif**	**19 47 11.4**	**-1.5**	
	comp=Z,64nm,1.0s,baz=106,slow=4.5,SNR=50								
NRIK				PKiKP		**PKiKP**	**19 51 38.5**	**+1.5**	
	comp=Z,26nm,0.9s,baz=99,slow=3.8,SNR=6.9								
NRIK	**Noril'sk**	**101.39**	**339***c*	*i* P		**Pdif**	**19 47 10.9**	**-2.0**	
NRIK				pmax		pmax			
	comp=Z,198nm,1.1s								
KURK	**Kurchatov**	**101.51**	**320***c*	*i* P		**Pdif**	**19 47 12.4**	**-1.5**	
KURK				pmax		pmax			
	comp=Z,40nm,1.2s								
KURK				MLR		MLR			
	comp=Z,41µm,18.0s								
KURK	**Kurchatov**	**101.51**	**320**	Pdif		**Pdif**	**19 47 12.8**	**-1.1**	
KURK	**Kurchatov**	**101.51**	**320**			**PKiKP**	**19 51 39.1**	**+1.4**	
KURK						**PKKPbc**	**20 03 21.3**	**-2.2**	
KURK	**Kurchatov**	**101.51**	**320**	P		**Pdif**	**19 47 16.4**	**+2.5**	
KURBB	**Kurchatov Arra**	**101.55**	**319**	P		**Pdif**	**19 47 13.6**	**-0.4**	
	comp=Z,18nm,1.2s,baz=103,slow=3.5,SNR=30								
KURBB				PP		**PP**	**19 51 23.3**	**-1.1**	
	comp=Z,18nm,1.1s,baz=96,slow=7.1,SNR=10								
KURBB				PKiKP		**PKiKP**	**19 51 39.1**	**+1.3**	
	comp=Z,18nm,1.1s,baz=111,slow=1.6,SNR=7.6								
KURBB				PKKPbc		**PKKPbc**	**20 03 21.3**	**-2.1**	
	comp=Z,9.0nm,0.9s,baz=276,slow=3.7,SNR=11								
KURBB				PKPPKP		**P'P'df**	**20 11 41.5**	**+3.1**	
	comp=Z,2.9nm,1.1s,baz=292,slow=3.2,SNR=7.3								
KURBB	**Kurchatov Arra**	**101.55**	**319**	P		**Pdif**	**19 47 14.5**	**+0.4**	
PAYG	**Puerto Ayora**	**101.67**	**94**	IAMs_20		IAMs_20	20 23 07.5		
	comp=Z,63µm,20.0s								
KUU	**Kurty**	**101.71**	**312**	*e*P		**Pdif**	**19 47 14.1**	**-0.9**	
KUU				*e*			19 51 24.4		
KUU				*e*S		**SKSac**	**19 57 50.5**	**-2.4**	
KUU				pmax		pmax			
	comp=Z,299nm,2.9s								
KUU				MLR		MLR			
	comp=Z,26µm,21.0s								
KUU	**Kurty**	**101.71**	**312**	*e*P		**Pdif**	**19 47 14.1**	**-0.9**	
	comp=Z,299nm,2.9s,baz=312								
KUU				*e*PP		**PP**	**19 51 24.4**	**-1.5**	
	baz=312								
KUU				*e*S		**SKSac**	**19 57 50.5**	**-2.4**	
	baz=312								
KUU				LR		LR	20 30 55.0		
	comp=Z,26µm,21.0s,baz=312								
735A	**Kenedy**	**101.72**	**63**	P		**Pdif**	**19 47 14.1**	**-1.3**	
	baz=258								
EFI	**East Falkland**	**101.79**	**153**	IAMs_20		IAMs_20	20 25 20.2		
	comp=Z,68µm,21.0s								
PLCA	**Paso Flores**	**102.05**	**139**	P		**Pdif**	**19 47 16.2**	**-0.6**	
	comp=Z,4.4nm,0.9s,baz=240,slow=3.8,SNR=8.9								
PLCA				PKiKP		**PKiKP**	**19 51 39.5**	**+0.1**	
	comp=Z,22nm,1.2s,baz=230,slow=7.5,SNR=6.6								
PLCA				PKKPbc		**PKKPbc**	**20 03 20.6**	**-0.9**	
	comp=Z,7.6nm,1.1s,baz=101,slow=4.1,SNR=6.7								
PLCA				PKPPKP		**P'P'df**	**20 11 39.4**	**-2.8**	
	comp=Z,8.3nm,1.1s,baz=353,slow=5.1,SNR=3.9								
PLCA	**Paso Flores**	**102.05**	**139**	P		**Pdif**	**19 47 15.7**	**-1.1**	
PLCA	**Paso Flores**	**102.05**	**139**	Pdif		**Pdif**	**19 47 15.7**	**-1.1**	
PLCA	**Paso Flores**	**102.05**	**139**	*e*P		**Pdif**	**19 47 16.6**	**-0.2**	
TKM2	**Tokmak 2**	**102.06**	**311**	*i* P		**Pdif**	**19 47 15.3**	**-1.6**	
TKM2				pmax		pmax			
	comp=Z,12nm,1.0s								
WMOK	**Wichita Mounta**	**102.09**	**57**	P		**Pdif**	**19 47 15.4**	**-1.5**	
	baz=259								
WMOK	**Wichita Mounta**	**102.09**	**57**	Pfiff		**Pdif**	**19 47 15.5**	**-1.5**	
	baz=259								
CBKS	**Cedar Bluff**	**102.12**	**53**	P		**Pdif**	**19 47 15.2**	**-1.8**	
	baz=259								
CBKS	**Cedar Bluff**	**102.12**	**53**	Pfiff		**Pdif**	**19 47 15.7**	**-1.3**	
	baz=259								
U32A	**Winter Ranch,**	**102.23**	**55**	P		**Pdif**	**19 47 16.5**	**-1.0**	
	baz=259								
435B	**Jarrell**	**102.30**	**61**	IAMs_20		IAMs_20	20 24 19.3		
	comp=Z,69µm,22.0s								
435B	**Jarrell**	**102.30**	**61**	P		**Pdif**	**19 47 18.1**	**+0.2**	
	baz=258								
435B	**Jarrell**	**102.30**	**61**	Pfiff		**Pdif**	**19 47 17.3**	**-0.7**	
	baz=258								
WHTX	**Lake Whitney,**	**102.65**	**60**	P		**Pdif**	**19 47 18.5**	**-0.9**	
	baz=259								
WHTX	**Lake Whitney,**	**102.65**	**60**	Pfiff		**Pdif**	**19 47 17.9**	**-1.6**	
	baz=259								
AAK	**Ala-Archa**	**102.81**	**311**	P		**Pdif**	**19 47 21.2**	**+1.1**	
	comp=Z,0.9nm,0.5s,baz=86,slow=6.5,SNR=6.3								
AAK				PKiKP		**PKiKP**	**19 51 39.5**	**-1.1**	
	comp=Z,5.7nm,1.0s,baz=77,slow=2.9,SNR=4.6								
AAK				PKKPbc		**PKKPbc**	**20 03 17.9**	**-1.7**	
	comp=Z,10nm,0.9s,baz=135,slow=1.7,SNR=9.7								
AAK	**Ala-Archa**	**102.81**	**311***c*	*i* P		**Pdif**	**19 47 19.0**	**-1.1**	
AAK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
AAK				MLR		MLR			
	comp=Z,44µm,23.0s								
AAK	**Ala-Archa**	**102.81**	**311**	P		**Pdif**	**19 47 20.5**	**+0.4**	
AAK	**Ala-Archa**	**102.81**	**311**	*i* P		**Pdif**	**19 47 17.9**	**-2.2**	
	SNR=7.3								
E28A	**Huff**	**102.82**	**45**	P		**Pdif**	**19 47 19.1**	**-0.9**	
	baz=260								
R32A	**Long Quarter,**	**102.84**	**53**	P		**Pdif**	**19 47 19.2**	**-1.0**	
	baz=260								
SGDS	**Sogindy**	**102.85**	**312**	*e*P		**Pdif**	**19 47 19.0**	**-1.1**	
SGDS				*e*S		**SKSac**	**19 57 56.0**	**-2.4**	
SGDS	**Sogindy**	**102.85**	**312**	*e*P		**Pdif**	**19 47 19.1**	**-1.1**	
	baz=312								
SGDS				*e*S		**SKSac**	**19 57 56.0**	**-2.4**	
	baz=312								
Z35A	**Perchaven, San**	**103.07**	**59**	P		**Pdif**	**19 47 19.0**	**-2.3**	
	baz=259								
AML	**Almayashu**	**103.31**	**310**	P		**Pdif**	**19 47 23.0**	**+0.3**	
AML	**Almayashu**	**103.31**	**310**	*i* P		**Pdif**	**19 47 20.2**	**-2.4**	
	SNR=8.2								
RER	**Riviere de l'E**	**103.40**	**243**	IAMs_20		IAMs_20	20 30 32.9		
	comp=Z,69µm,20.0s								
K31A	**O'Neill**	**103.53**	**49**	P		**Pdif**	**19 47 22.4**	**-0.7**	
	baz=261								
BTLS	**Baital**	**103.53**	**313**	*e*P		**Pdif**	**19 47 22.0**	**-1.0**	
BTLS				*e*S		**SKSac**	**19 57 59.1**	**-2.2**	
BTLS	**Baital**	**103.53**	**313**	*e*Pdif		**Pdif**	**19 47 22.1**	**-1.0**	
	baz=313								
BTLS				*e*S		**SKSac**	**19 57 59.1**	**-2.2**	
	baz=313								
HKT	**Hockley**	**103.63**	**62**	P		**Pdif**	**19 47 22.2**	**-1.6**	
	baz=259								
SUSD	**Miller**

Z41A	**Richland Creek**	**106.73**	**60**	P	**Pdif**	**19 47 35.8**	**-1.7**		
	baz=262								
Z41A				P	**Pdif**	**19 47 35.8**	**-1.7**		
	baz=262								
Z41A	**Richland Creek**	**106.73**	**60**	Pfiff	**Pdif**	**19 47 36.1**	**-1.5**		
	baz=262								
342B	**Flagon Creek P**	**106.85**	**62**	P	**Pdif**	**19 47 39.5**	**+1.4**		
	baz=261								
BVAR	**Borovoye Array**	**106.88**	**321**	Pdiff	**Pdif**	**19 47 38.8**	**+1.1**		
BVAR				PKiKP	**PKiKP**	**19 51 49.0**	**+1.5**		
X40A	**Basin Creek Fa**	**106.88**	**58**	P	**Pdif**	**19 47 36.1**	**-2.1**		
	baz=262								
X40A				P	**Pdif**	**19 47 36.1**	**-2.1**		
	baz=262								
X40A	**Basin Creek Fa**	**106.88**	**58**	Pfiff	**Pdif**	**19 47 36.7**	**-1.5**		
	baz=262								
S39A	**Bolivar**	**106.92**	**55**	P	**Pdif**	**19 47 36.0**	**-2.4**		
	baz=263								
S39A				P	**PKiKP**	**19 51 47.8**	**-0.3**		
	baz=263								
HOPE	**Hope Point**	**106.99**	**166**	IAMs_20	IAMs_20	20 36 17.0			
	comp=Z,48µm,19.0s								
P38A	**Dawn**	**107.00**	**53**	P	**Pdif**	**19 47 37.9**	**-0.7**		
	baz=263								
U40A	**Yellville**	**107.12**	**56**	IAMs_20	IAMs_20	20 30 01.7			
	comp=Z,69µm,20.0s								
U40A	**Yellville**	**107.12**	**56**	P	**Pdif**	**19 47 38.9**	**-0.4**		
	baz=262								
U40A				P	**Pdif**	**19 47 38.9**	**-0.4**		
	baz=262								
U40A	**Yellville**	**107.12**	**56**	Pfiff	**Pdif**	**19 47 38.6**	**-0.6**		
	baz=262								
N38A	**Joes South For**	**107.37**	**52**	P	**Pdif**	**19 47 39.3**	**-0.9**		
	baz=264								
W41B	**Gary Mavity, V**	**107.45**	**58**	P	**Pdif**	**19 47 41.3**	**+0.6**		
	baz=262								
W41B	**Gary Mavity, V**	**107.45**	**58**	Pfiff	**Pdif**	**19 47 40.7**	**0.0**		
	baz=262								
RES	**Resolute Bay**	**107.46**	**16**	Pdiff	**Pdif**	**19 47 39.6**	**-0.3**		
SCIA	**State Center**	**107.50**	**51**	Pfiff	**Pdif**	**19 47 39.0**	**-1.8**		
	baz=264								
I37B	**Waseca**	**107.58**	**48**	P	**Pdif**	**19 47 39.4**	**-1.8**		
	baz=264								
F36A	**Milaca**	**107.67**	**46**	P	**Pdif**	**19 47 40.6**	**-0.8**		
	baz=265								
B35A	**Bob, Littlefor**	**107.73**	**44**	P	**Pdif**	**19 47 40.4**	**-1.3**		
	baz=266								
143A	**Socs Landing,**	**107.82**	**60**	P	**Pdif**	**19 47 42.0**	**-0.4**		
	baz=262								
R40A	**Maddies Statio**	**107.83**	**54**	P	**Pdif**	**19 47 40.5**	**-1.8**		
	baz=263								
K38A	**Parkersburg**	**107.91**	**50**	P	**Pdif**	**19 47 42.1**	**-0.4**		
	baz=264								
SPMN	**Marine on St.**	**108.11**	**47**	P	**Pdif**	**19 47 40.0**	**-3.5**		
	baz=265								
SPMN	**Marine on St.**	**108.11**	**47**	Pfiff	**Pdif**	**19 47 40.9**	**-2.5**		
	baz=265								
P40A	**Paris**	**108.13**	**53**	P	**Pdif**	**19 47 43.3**	**-0.4**		
	baz=264								
LCO	**Las Campanas**	**108.19**	**129**	IAMs_20	IAMs_20	20 27 21.7			
	comp=Z,75µm,20.0s								
344A	**Westbrook Farm**	**108.21**	**62**	P	**Pdif**	**19 47 44.1**	**0.0**		
	baz=262								
VBMS	**Vicksburg**	**108.49**	**61**	IAMs_20	IAMs_20	20 30 36.2			
	comp=Z,66µm,20.0s								
VBMS	**Vicksburg**	**108.49**	**61**	Pfiff	**Pdif**	**19 47 45.9**	**+0.5**		
	baz=262								
CCM	**Cathedral Cave**	**108.60**	**55**	IAMs_20	IAMs_20	20 38 39.8			
	comp=Z,64µm,18.0s								
CCM	**Cathedral Cave**	**108.60**	**55**	Pfiff	**Pdif**	**19 47 45.1**	**-0.7**		
	baz=264								
TRQA	**Tornquist**	**108.97**	**141**	IAMs_20	IAMs_20	20 27 48.2			
	comp=Z,56µm,22.0s								
L40A	**Anamosa**	**109.00**	**51**	P	**Pdif**	**19 47 47.4**	**0.0**		
	baz=265								
E38A	**The Farm, Brul**	**109.08**	**46**	P	**Pdif**	**19 47 48.7**	**+1.0**		
	baz=267								
PBMO	**Poplar Bluff**	**109.11**	**56**	P	**Pdif**	**19 47 49.1**	**+1.0**		
	baz=264								
N41A	**Harden Midland**	**109.16**	**52**	P	**Pdif**	**19 47 47.7**	**-0.4**		
	baz=265								
EYMN	**Ely**	**109.20**	**44**	IAMs_20	IAMs_20	20 31 35.9			
	comp=Z,44µm,20.0s								
EYMN	**Ely**	**109.20**	**44**	Pfiff	**Pdif**	**19 47 48.1**	**-0.1**		
	baz=267								
FVM	**French Village**	**109.24**	**55**	P	**Pdif**	**19 47 49.0**	**+0.4**		
	baz=264								
346A	**Big Creek Wild**	**109.27**	**62**	P	**Pdif**	**19 47 50.1**	**+1.2**		
	baz=263								
BOAB	**BOACO BROADBAN**	**109.45**	**82**	IAMs_20	IAMs_20	20 26 36.6			
	comp=Z,76µm,21.0s								
Y45A	**Yeager Farm, C**	**109.51**	**59**	P	**Pdif**	**19 47 50.6**	**+0.7**		
	baz=263								
MSEY	**Mahe Island**	**109.57**	**259**	IAMs_20	IAMs_20	20 36 07.6			
	comp=Z,67µm,19.0s								
I40A	**Norwalk**	**109.58**	**49**	P	**Pdif**	**19 47 49.7**	**-0.3**		
	baz=266								
JTS	**Las Juntas de**	**109.64**	**85**	IAMs_20	IAMs_20	20 26 05.0			
	comp=Z,75µm,21.0s								
OXF	**Oxford**	**109.69**	**59**	IAMs_20	IAMs_20	20 35 14.9			
	comp=Z,66µm,19.0s								
OXF	**Oxford**	**109.69**	**59**	Pfiff	**Pdif**	**19 47 50.0**	**-0.7**		
	baz=264								
146A	**Union**	**109.77**	**61**	P	**Pdif**	**19 47 51.8**	**+0.7**		
	baz=263								
JFWS	**Jewell Farm**	**109.78**	**50**	Pfiff	**Pdif**	**19 47 49.9**	**-1.0**		
	baz=266								
W45A	**Hickory Valley**	**109.94**	**58**	P	**Pdif**	**19 47 51.7**	**-0.1**		
	baz=264								
G40A	**Rib Lake**	**109.95**	**47**	P	**Pdif**	**19 47 50.4**	**-1.2**		
	baz=267								
P43A	**Skaggs, Pawnee**	**110.09**	**53**	P	**Pdif**	**19 47 52.4**	**+0.1**		
	baz=266								
S44A	**Carbondale**	**110.13**	**55**	P	**Pdif**	**19 47 52.9**	**+0.3**		
	baz=265								
L42A	**Oliver, Polo**	**110.15**	**51**	P	**Pdif**	**19 47 50.4**	**-2.2**		
	baz=266								
HDIL	**Hopedale**	**110.33**	**52**	Pfiff	**Pdif**	**19 47 53.5**	**+0.1**		
	baz=266								
HDC	**Heredia**	**110.38**	**85**	IAMs_20	IAMs_20	20 26 18.6			
	comp=Z,55µm,21.0s								
Q44A	**Meyer Farm, Va**	**110.42**	**54**	P	**Pdif**	**19 47 53.0**	**-0.8**		
	baz=266								
T45B	**Paducah**	**110.56**	**56**	P	**Pdif**	**19 47 53.3**	**-1.2**		
	baz=265								
VOI	**Vohitsoka**	**110.60**	**239**	P	**PKiKP**	**19 51 58.3**	**+2.6**		
VOI	**Vohitsoka**	**110.60**	**239**	PKP	**PKiKP**	**19 52 00.3**	**+4.6**		
VOI	**Vohitsoka**	**110.60**	**239**	P	**Pdif**	**19 48 09.3**	**+14**		
NNA	**Nana**	**110.62**	**110**	IAMs_20	IAMs_20	20 27 04.4			
	comp=Z,55µm,21.0s								
Z47A	**Carrollton**	**110.66**	**60**	P	**Pdif**	**19 47 56.1**	**+1.0**		
	baz=264								
ESPN	**Las Esperanzas**	**110.69**	**83**	IAMs_20	IAMs_20	20 26 42.6			
	comp=Z,59µm,21.0s								
ALE	**Alert**	**110.79**	**6**	IAMs_20	IAMs_20	20 36 53.4			
	comp=Z,50µm,20.0s								
I42A	**Draeger Farm,**	**110.81**	**49**	P	**Pdif**	**19 47 57.2**	**+1.8**		
	baz=268								
O44A	**Mansfield**	**110.93**	**53**	P	**Pdif**	**19 47 56.1**	**+0.1**		
	baz=266								
OLIL	**Olney**	**111.12**	**54**	P	**Pdif**	**19 47 56.1**	**-0.9**		
	baz=266								
WVT	**Waverly**	**111.14**	**57**	IAMs_20	IAMs_20	20 41 07.0			
	comp=Z,55µm,18.0s								
WVT	**Waverly**	**111.14**	**57**	Pfiff	**Pdif**	**19 47 56.4**	**-0.7**		
	baz=265								
D41A	**Chassel**	**111.15**	**45**	P	**Pdif**	**19 47 56.1**	**-0.8**		
	baz=269								
K43A	**Burlington**	**111.18**	**50**	P	**Pdif**	**19 47 57.0**	**-0.1**		
	baz=267								
BRAL	**Brewton**	**111.30**	**62**	IAMs_20	IAMs_20	20 34 05.6			
	comp=Z,51µm,20.0s								
BRAL	**Brewton**	**111.30**	**62**	Pfiff	**Pdif**	**19 47 55.2**	**-2.7**		
	baz=264								
M44A	**Midewin, Midew**	**111.33**	**51**	P	**Pdif**	**19 47 57.3**	**-0.5**		
	baz=267								
L44A	**Lake County Fo**	**111.46**	**51**	P	**Pdif**	**19 47 58.4**	**+0.1**		
	baz=268								
L44A	**Lake County Fo**	**111.46**	**51**	Pfiff	**Pdif**	**19 47 57.4**	**-1.0**		
	baz=268								
LRAL	**Lakeview Retre**	**111.54**	**60**	IAMs_20	IAMs_20	20 30 10.8			
	comp=Z,62µm,22.0s								
LRAL	**Lakeview Retre**	**111.54**	**60**	Pfiff	**Pdif**	**19 47 59.0**	**0.0**		
	baz=264								
X48A	**Hartselle**	**111.63**	**59**	P	**Pdif**	**19 47 59.2**	**-0.1**		
	baz=265								
H43A	**Windswept, Lux**	**111.65**	**48**	P	**Pdif**	**19 47 58.4**	**-0.8**		
	baz=268								
T47A	**Sharon Grove**	**111.78**	**56**	P	**Pdif**	**19 47 59.5**	**-0.5**		
	baz=266								
P46A	**Rosedale**	**111.87**	**53**	P	**Pdif**	**19 47 59.6**	**-0.6**		
	baz=267								
V48A	**Smith Brothers**	**111.92**	**58**	P	**Pdif**	**19 47 59.7**	**-0.8**		
	baz=266								
SFIN	**Lafayette**	**111.99**	**53**	P	**Pdif**	**19 48 01.2**	**+0.4**		
	baz=267								
SFIN	**Lafayette**	**111.99**	**53**	Pfiff	**Pdif**	**19 48 01.0**	**+0.2**		
	baz=267								
250A	**Grady**	**112.05**	**62**	P	**Pdif**	**19 48 01.3**	**0.0**		
	baz=264								
Y49A	**Blount Mountai**	**112.10**	**60**	P	**Pdif**	**19 48 03.1**	**+1.6**		
	baz=265								
JLN	**Jalan Bani Buh**	**112.22**	**288**	P	**PKiKP**	**19 51 59.3**	**+0.7**		
	SNR=8.8								
E43A	**Lone Tree Farm**	**112.22**	**46**	P	**Pdif**	**19 48 02.9**	**+1.2**		
	baz=270								
SVE	**Sverdlovsk**	**112.49**	**325**	*i* PKIKP	**PKiKP**	**19 51 58.0**	**0.0**		
SVE				*e*		19 52 42.2			
SVE				*e*		20 02 17.4			
SVE				pmax	pmax				
	comp=Z,95nm,1.4s								
SVE				MLR	MLR				
	comp=Z,42µm,20.0s								
SVE				MLR	MLR				
	comp=E,35µm,21.0s								
SVE				MLR	MLR				
	comp=N,10µm,18.0s								
L46A	**Eue Claire**	**112.66**	**51**	P	**Pdif**	**19 48 04.6**	**+0.9**		
	baz=268								
L46A				P	**Pdif**	**19 48 04.6**	**+0.9**		
	baz=268								
WBK	**Wadi Bani Khal**	**112.69**	**288**	P	**PKiKP**	**19 52 00.8**	**+1.3**		
I45A	**Fountain**	**112.74**	**49**	P	**Pdif**	**19 48 04.7**	**+0.7**		
	baz=269								
I45A				P	**Pdif**	**19 48 04.7**	**+0.7**		
	baz=269								
LVC	**Limon Verde**	**112.81**	**124**	IAMs_20	IAMs_20	20 29 11.3			
	comp=Z,49µm,21.0s								
LVC	**Limon Verde**	**112.81**	**124**	*e*P	**Pdif**	**19 48 03.7**	**-1.6**		
U49A	**Red Boiling Sp**	**112.81**	**57**	P	**Pdif**	**19 48 02.7**	**-1.8**		
	baz=266								
N47A	**Urbana**	**113.08**	**52**	P	**Pdif**	**19 48 02.8**	**-2.8**		
	baz=268								
N47A				P	**Pdif**	**19 48 02.8**	**-2.8**		
	baz=268								
Z51A	**Franklin**	**113.08**	**60**	P	**Pdif**	**19 48 04.1**	**-1.7**		
	baz=266								
WSAR	**Wadi Sarin**	**113.10**	**289**	PKiKP	**PKiKP**	**19 52 01.7**	**+1.5**		
	comp=Z,17nm,1.1s,baz=245,slow=4.8,SNR=8.5								
W50A	**Signal Mountai**	**113.11**	**58**	P	**Pdif**	**19 48 06.3**	**+0.4**		
	baz=266								
352A	**Blakely**	**113.14**	**62**	P	**Pdif**	**19 48 06.8**	**+0.7**		
	baz=265								
TULEG	**Thule**	**113.16**	**12**	IAMs_20	IAMs_20	20 36 17.1			
	comp=Z,46µm,21.0s								
TULEG	**Thule**	**113.16**	**12**	*i* P	**PKiKP**	**19 51 59.0**	**+0.2**		
G45A	**Suttons Bay**	**113.16**	**48**	P	**Pdif**	**19 48 03.8**	**-2.1**		
	baz=270								
G45A				P	**Pdif**	**19 48 03.8**	**-2.1**		
	baz=270								
P48A	**Milroy**	**113.24**	**54**	P	**Pdif**	**19 48 06.1**	**-0.2**		
	baz=268								
P48A				P	**Pdif**	**19 48 06.1**	**-0.2**		
	baz=268								
MHTO	**MHTO**	**113.37**	**286**	P	**PKiKP**	**19 52 01.3**	**+0.5**		
	SNR=10.0								
AB31	**Akbulak array**	**113.39**	**317**	*i* P	**Pdif**	**19 48 08.1**	**+1.3**		
R49A	**Shelbyville**	**113.39**	**55**	P	**Pdif**	**19 48 07.7**	**+0.6**		
	baz=268								
R49A				P	**Pdif**	**19 48 07.7**	**+0.6**		
	baz=268								
152A	**Waverly Hall**	**113.42**	**61**	P	**Pdif**	**19 48 07.3**	**0.0**		
	baz=265								
X51A	**Calhoun**	**113.44**	**59**	P	**Pdif**	**19 48 08.2**	**+0.9**		
	baz=266								
X51A				P	**Pdif**	**19 48 08.2**	**+0.9**		
	baz=266								
553A	**Crawfordville**	**113.44**	**64**	P	**Pdif**	**19 48 08.7**	**+1.2**		
	baz=264								
JMDO	**Jabal Madar**	**113.45**	**288**	P	**PKiKP**	**19 52 01.6**	**+0.6**		
	SNR=6.5								
O48B	**Farmland**	**113.47**	**53**	P	**Pdif**	**19 48 07.0**	**-0.4**		
	baz=268								
O48B	**Farmland**	**113.47**	**53**	Pfiff	**Pdif**	**19 48 06.4**	**-1.0**		
	baz=268								
LPA	**La Plata**	**113.49**	**140**	*c* P	**Pdif**	**19 48 03.6**	**-4.1**		
LPA				PP	**PP**	**19 52 46.4**	**-5.0**		
LPA				SKIKP		19 55 32.3			
LPA				PS	**PS**	**20 02 24.2**	**-4.0**		
BIDO	**Bidbid**	**113.59**	**289**	P	**PKiKP**	**19 52 04.0**	**+2.9**		
	SNR=6.2								
DQM	**DQM**	**113.59**	**285**	P	**PKiKP**	**19 52 02.6**	**+1.4**		
T50A	**Nancy**	**113.60**	**56**	P	**Pdif**	**19 48 07.2**	**-0.8**		
	baz=267								
T50A				P	**Pdif**	**19 48 07.2**	**-0.8**		
	baz=267								
SMDO	**Samad**	**113.60**	**288**	P	**PKiKP**	**19 52 04.0**	**+2.7**		
	SNR=13								
ARU	**Arti**	**113.67**	**325**	Pdiff	**Pdif**	**19 48 10.5**	**+2.7**		
	comp=Z,0.3nm,0.4s,baz=80,slow=11,SNR=3.7								
ARU				PKiKP	**PKiKP**	**19 51 59.7**	**-0.6**		
	comp=Z,8.4nm,0.6s,baz=174,slow=4.2,SNR=3.8								
ARU				PKKPbc	**PKKPbc**	**20 02 43.7**	**-1.7**		
	comp=Z,5.8nm,0.8s,baz=240,slow=5.4,SNR=14								
ARU	**Arti**	**113.67**	**325**	P	**Pdif**	**19 48 04.5**	**-3.3**		
ARU				*i*		19 51 59.6			
ARU						19 52 50.3			
ARU				PPP	PPP	19 55 12.5			
ARU						19 58 59.3			
ARU				SP	SP	20 02 21.5	-4.2		
ARU				MLR	MLR				
	comp=Z,47µm,18.0s								
ARU	**Arti**	**113.67**	**325**	IAMs_20	IAMs_20	20 41 14.3			
	comp=Z,59µm,21.0s								
J47A	**Sunmer**	**113.76**	**49**	P	**Pdif**	**19 48 07.6**	**-1.0**		
	baz=270								
J47A				P	**Pdif**	**19 48 07.6**	**-1.0**		
	baz=270								
P49A	**Miami Univ. Ec**	**113.79**	**54**	P	**Pdif**	**19 48 09.8**	**+1.0**		
	baz=268								
P49A	**Miami Univ. Ec**	**113.79**	**54**	Pfiff	**Pdif**	**19 48 08.8**	**0.0**		
	baz=268								
GLMI	**Grayling**	**113.90**	**48**	IAMs_20	IAMs_20	20 40 59.6			
	comp=Z,62µm,18.0s								
GLMI	**Grayling**	**113.90**	**48**	Pfiff	**Pdif**	**19 48 08.7**	**-0.5**		
	baz=271								
V51A	**Loudon**	**113.93**	**58**	P	**Pdif**	**19 48 10.0**	**+0.5**		
	baz=267								
L48A	**N Adams**	**114.05**	**51**	P	**Pdif**	**19 48 08.1**	**-1.8**		
	baz=270								
L48A				P	**Pdif**	**19 48 08.1**	**-1.8**		
	baz=270								
Y52A	**Lilburn**	**114.05**	**60**	P	**Pdif**	**19 48 09.8**	**-0.3**		
	baz=266								
Y52A				P	**Pdif**	**19 48 09.8**	**-0.3**		
	baz=266								
R50A	**Paris**	**114.05**	**55**	P	**Pdif**	**19 48 09.4**	**-0.6**		
	baz=268								
R50A				P	**Pdif**	**19 48 09.4**	**-0.6**		
	baz=268								
E46A	**Sault Ste Mari**	**114.09**	**46**	P	**Pdif**	**19 48 08.6**	**-1.4**		
	baz=272								
O49A	**Covington**	**114.10**	**53**	P	**Pdif**	**19 48 09.5**	**-0.7**		
	baz=269								
O49A				P	**Pdif**	**19 48 09.5**	**-0.7**		
	baz=269								
N49A	**Columbus Grove**	**114.22**	**52**	P	**Pdif**	**19 48 09.7**	**-1.0**		
	baz=269								
N49A				P	**Pdif**	**19 48 09.7**	**-1.0**		
	baz=269								
W52A	**Murphy**	**114.23**	**58**	P	**Pdif**	**19 48 11.0**	**+0.1**		
	baz=267								
TIGA	**Tifton**	**114.27**	**62**	Pfiff	**Pdif**	**19 48 10.4**	**-0.8**		
	baz=265								
BSY	**Bisya**	**114.33**	**288**	P	PKPdf	19 52 02.6	0.0		
	SNR=6.4								
HOQ	**Hoqain**	**114.34**	**289**	P	**PKiKP**	**19 52 04.8**	**+2.2**		
	SNR=7.1								
TKL	**Tuckaleechee C**	**114.39**	**58**	P	**Pdif**	**19 48 10.5**	**-1.1**		
	baz=267								
NOR	**Nord**	**114.44**	**1**	*i* P	**PKiKP**	**19 52 00.3**	**-0.8**		
GOGA	**Godfrey**	**114.52**	**60**	IAMs_20	IAMs_20	20 33 17.7			
	comp=Z,66µm,21.0s								
GOGA	**Godfrey**	**114.52**	**60**	Pfiff	**Pdif**	**19 48 10.5**	**-1.7**		
	baz=266								
V52A	**Sevierville**	**114.54**	**58**	P	**Pdif**	**19 48 09.9**	**-2.3**		
	baz=267								
AKTO	**Aktyubinsk**	**114.56**	**318**	PKP	PKPdf	19 52 01.9	-0.3		
	comp=Z,49nm,1.0s,baz=99,slow=2.5,SNR=23								
AKTO				PKKPbc	**PKKPbc**	**20 02 40.6**	**-1.5**		
	comp=Z,8.0nm,1.0s,baz=288,slow=3.7,SNR=6.6								
AKTO	**Aktyubinsk**	**114.56**	**318**	P	**Pdif**	**19 48 11.4**	**-0.6**		
TZTN	**Tazewell**	**114.61**	**57**	IAMs_20	IAMs_20	20 34 04.0			
	comp=Z,67µm,21.0s								
TZTN	**Tazewell**	**114.61**	**57**	Pfiff	**Pdif**	**19 48 11.8**	**-0.8**		
	baz=268								
S51A	**Beattyville**	**114.61**	**56**	P	**Pdif**	**19 48 13.1**	**+0.5**		
	baz=268								
S51A				P	**Pdif**	**19 48 13.1**	**+0.5**		
	baz=268								
AAM	**Ann Arbor**	**114.62**	**51**	Pfiff	**Pdif**	**19 48 10.8**	**-1.7**		
	baz=270								
154A	**Montrose**	**114.77**	**61**	P	**Pdif**	**19 48 14.2**	**+0.9**		
	baz=266								
GEYT	**Alibeck**	**114.80**	**305**	PKP	**PKiKP**	**19 52 03.2**	**+0.1**		
	comp=Z,64nm,1.1s,baz=191,slow=1.5,SNR=29								
GEYT	**Alibeck**	**114.80**	**305**	PKiKP	PKPdf	19 52 01.5	-1.6		
Q51A	**Peebles**	**114.84**	**54**	P	**Pdif**	**19 48 13.5**	**0.0**		
	baz=269								
Q51A				P	**Pdif**	**19 48 13.5**	**0.0**		
	baz=269								
656A	**Willston**	**115.01**	**65**	P	**Pdif**	**19 48 15.1**	**+0.7**		
	baz=265								
ARQ	**Araqi**	**115.03**	**289**	P	**PKiKP**	**19 52 05.8**	**+1.9**		
	SNR=11								
M50A	**Fremont**	**115.09**	**51**	P	**Pdif**	**19 48 15.3**	**+0.7**		
	baz=270								
M50A				P	**Pdif**	**19 48 15.3**	**+0.7**		
	baz=270								
ACSO	**Alum Creek Sta**	**115.13**	**53**	Pfiff	**Pdif**	**19 48 13.9**	**-0.9**		
	baz=270								
V53A	**Saluda**	**115.17**	**58**	P	**Pdif**	**19 48 14.6**	**-0.6**		
	baz=268								
V53A				P	**Pdif**	**19 48 14.6**	**-0.6**		
	baz=268								
I49A	**Point Hope**	**115.20**	**49**	P	**Pdif**	**19 48 14.2**	**-0.8**		
	baz=272								
I49A				P	**Pdif**	**19 48 14.2**	**-0.8**		
	baz=272								
255A	**Hazlehurst**	**115.25**	**62**	P	**Pdif**	**19 48 15.6**	**+0.1**		
	baz=266								
K50A	**Casco**	**115.38**	**50**	P	**Pdif**	**19 48 16.2**	**+0.5**		
	baz=271								
K50A				P	**Pdif**	**19 48 16.2**	**+0.5**		
	baz=271								
UOSS	**Minazif**	**115.52**	**290**		**PKPdf**	**19 52 02.6**	**-2.2**		
UOSS	**Minazif**	**115.52**	**290**	P	**PKPdf**	**19 52 04.5**	**-0.3**		
UOSS	**Minazif**	**115.52**	**290**	*i* P	**PKPdf**	**19 52 03.7**	**-1.1**		
	SNR=21								
SOCY	**Socotra**	**115.52**	**276**		**PKPdf**	**19 52 03.2**	**-2.0**		
SOCY	**Socotra**	**115.52**	**276**	P	**PKPdf**	**19 52 05.1**	**0.0**		
	SNR=31								
BANOM	**Banah**	**115.54**	**291**	P	**PKPdf**	**19 52 03.9**	**-0.9**		
BANOM	**Banah**	**115.54**	**291**	*i* P	**PKPdf**	**19 52 03.6**	**-1.3**		
	SNR=5.7								
456A	**Hilliard**	**115.56**	**63**	P	**Pdif**	**19 48 17.9**	**+1.0**		
	baz=266								
HATD	**Hatta, Dubai**	**115.57**	**290**	P	**PKiKP**	**19 52 05.1**	**+0.2**		
	SNR=22								
HATD	**Hatta, Dubai**	**115.57**	**290**	*i* P	**PKPdf**	**19 52 03.2**	**-1.7**		
	SNR=26								
N51A	**Ashland**	**115.59**	**52**	P	**Pdif**	**19 48 14.9**	**-1.9**		
	baz=271								
N51A				P	**Pdif**	**19 48 14.9**	**-1.9**		
	baz=271								
MSFE	**Esma-Masafi**	**115.60**	**291**	*i* P	**PKPdf**	**19 52 04.5**	**-0.5**		
	SNR=26								
MASF	**Masafi**	**115.60**	**291**	P	**PKiKP**	**19 52 05.5**	**+0.5**		
	SNR=18								
ASHO	**Ashiyiah**	**115.62**	**290**	P	**PKiKP**	**19 52 05.2**	**+0.1**		
	SNR=20								
ASHO	**Ashiyiah**	**115.62**	**290**	*i* P	**PKPdf**	**19 52 05.0**	**-0.1**		
	SNR=23								
DMTO	**DMTO**	**115.65**	**282**	P	**PKiKP**	**19 52 05.3**	**+0.1**		
Q52A	**Bidwell**	**115.68**	**54**	P	**Pdif**	**19 48 16.4**	**-0.8**		
	baz=270								
Q52A				P	**Pdif**	**19 48 16.4**	**-0.8**		
	baz=270								
SHME	**Shamm**	**115.69**	**291**	P	**PKiKP**	**19 52 05.6**	**+0.5**		
	SNR=6.0								
SHME	**Shamm**	**115.69**	**291**	*i* P	**PKPdf**	**19 52 03.9**	**-1.2**		
	SNR=7.0								
P52A	**Corning**	**115.79**	**53**		**PKPdf**	**19 52 03.1**	**-1.8**		
P52A	**Corning**	**115.79**	**53**	Pfiff	**Pdif**	**19 48 17.4**	**-0.3**		
	baz=270								
ALNE	**Al Ain**	**115.82**	**289**	P	**PKiKP**	**19 52 06.5**	**+1.1**		
	SNR=14								
ALNE	**Al Ain**	**115.82**	**289**	*i* P	**PKPdf**	**19 52 05.1**	**-0.4**		
	SNR=6.1								
DWPF	**Disney Wildern**	**115.86**	**66**	Pfiff	**Pdif**	**19 48 17.0**	**-1.2**		
	baz=265								
R53A

LPAZ comp=Z,7.3nm,0.7s,baz=261,slow=0.8,SNR=12 PKKPbc **PKKPbc** **20 02 35.1 -0.3**

LPAZ comp=Z,4.2nm,0.8s,baz=17,slow=3.7,SNR=5.8 **La Paz** **116.49 118** PKIKP **PKPdf** **19 52 06.8 -0.9**

LPAZ **La Paz** **116.49 118** PKPdf **PKPdf** **19 52 06.8 -0.9**

O53A **New Philadelph** **116.49 53** Pfiff **Pdif** **19 48 19.8 -1.0**
baz=271

HOPEN **Hopen** **116.53 351** *e*Pdif **Pdif** **19 48 20.1 -0.1**
HOPEN *e*PKPdf **PKPdf** **19 52 04.8 -0.4**
HOPEN *e*PP **PP** **19 53 11.6 -0.8**
HOPEN *e*SP SP 20 02 50.1 -0.5
HOPEN IVMs_BB IVMs_BB 20 36 17.9
comp=Z,10μm,23.9s

DOK **Doka** **116.57 283** P **PKiKP** **19 52 07.6 +0.6**
SNR=11

AJN **Ajban** **116.57 290** P **PKiKP** **19 52 07.1 +0.3**
SNR=8.1

AJN **Ajban** **116.57 290** *i* P **PKiKP** **19 52 07.5 +0.7**
SNR=8.0

GARC **Garzon, Huila** **116.65 96** *e*P **PKiKP** **19 52 09.2 +1.6**

060A **Indiantown** **116.71 68** P **Pdif** **19 48 24.8 +2.8**
baz=265

N53A **Lisbon** **116.76 52** P **Pdif** **19 48 20.2 -1.8**
baz=272

N53A P **Pdif** **19 48 20.2 -1.8**
baz=272

WHFO **Wadi Hawf** **116.79 282** P **PKiKP** **19 52 07.6 +0.2**
SNR=7.2

Q54A **Coxs Mills** **116.80 54** P **Pdif** **19 48 23.3 +1.1**
baz=271

Q54A P **Pdif** **19 48 23.3 +1.1**
baz=271

M53A **WI Miller and** **116.87 51** IAMs_20 IAMs_20 20 36 34.3
comp=Z,53μm,20.0s

M53A **WI Miller and** **116.87 51** Pfiff **Pdif** **19 48 20.5 -1.9**
baz=272

Y57A **Sumter** **117.11 60** P **Pdif** **19 48 24.3 +0.6**
baz=268

Y57A P **Pdif** **19 48 24.3 +0.6**
baz=268

O54A **Avella** **117.13 53** **PKPdf** **19 52 07.3 -0.1**

O54A **Avella** **117.13 53** P **Pdif** **19 48 24.8 +1.1**
baz=272

O54A P **Pdif** **19 48 24.8 +1.1**
baz=272

BLA **Blacksburg** **117.13 56** IAMs_20 IAMs_20 20 36 11.7
comp=Z,63μm,21.0s

BLA **Blacksburg** **117.13 56** Pfiff **Pdif** **19 48 23.9 +0.1**
baz=270

ABTO **Aybut** **117.15 282** P **PKPdf** **19 52 08.0 -0.1**
SNR=11

U56A **King** **117.16 57** P **Pdif** **19 48 24.0 +0.1**
baz=270

U56A P **Pdif** **19 48 24.0 +0.1**
baz=270

NHSC **New Hope** **117.25 61** IAMs_20 IAMs_20 20 35 33.2
comp=Z,47μm,21.0s

NHSC **New Hope** **117.25 61** Pfiff **Pdif** **19 48 24.9 +0.5**
baz=268

DBBC **Dabeiba** **117.25 90**⇑ *e*P **PKiKP** **19 52 09.2 +0.6**

ALLY **Alegheny Colle** **117.26 51** P **Pdif** **19 48 23.3 -0.9**
baz=272

ERPA **Erie** **117.35 51** Pfiff **Pdif** **19 48 24.4 -0.2**
baz=273

R55A **Marlinton** **117.36 55** **PKPdf** **19 52 06.0 -2.1**

R55A **Marlinton** **117.36 55** P **Pdif** **19 48 23.5 -1.3**
baz=271

R55A P **Pdif** **19 48 23.5 -1.3**
baz=271

R55A P **PKPdf** **19 52 06.3 -1.7**
baz=271

R55A P **PKPdf** **19 52 06.3 -1.7**
baz=271

HSPB **Hornsund (broa** **117.41 353** *e*Pdif **Pdif** **19 48 25.3 +1.2**
HSPB *e*PKPdf **PKiKP** **19 52 07.2 +0.3**
HSPB *e*PP **PP** **19 53 16.4 -2.0**
HSPB *e*SP SP 20 03 02.1 +3.5
HSPB *e*SS **SS** **20 09 30.5 +3.7**
HSPB *e*L L 20 39 08.6
comp=Z,49μm,21.9s

HSPB **Hornsund (broa** **117.41 353** *e*PKPdf **PKPdf** **19 52 06.1 -0.8**
HSPB *e*PP **PP** **19 53 16.9 -1.6**

W57A **Gilead** **117.46 58** P **Pdif** **19 48 26.3 +1.1**
baz=269

W57A P **Pdif** **19 48 26.3 +1.1**
baz=269

MZWR **Madinat Zayed** **117.49 289** P **PKiKP** **19 52 09.2 +0.6**

MCWV **Mont Chateau** **117.55 53** Pfiff **Pdif** **19 48 27.3 +1.8**
baz=272

GUY2C **Guyana, Caldas** **117.61 93**⇑ *e*P **PKPdf** **19 52 09.2 -0.5**

Y58A **Scranton** **117.70 60** P **Pdif** **19 48 27.6 +1.3**
baz=269

Y58A P **Pdif** **19 48 27.6 +1.3**
baz=269

MZR **Muzera** **117.77 288** P **PKiKP** **19 52 09.5 +0.3**
SNR=26

MZR **Muzera** **117.77 288** *i* P **PKPdf** **19 52 08.0 -1.2**
SNR=54

SADO **Sadowa** **117.80 48** PKPdf **PKPdf** **19 52 07.9 -0.6**

X58A **Rowland** **117.99 59** P **Pdif** **19 48 28.6 +1.0**
baz=269

X58A P **Pdif** **19 48 28.6 +1.0**
baz=269

T57A **Hurt** **118.06 56** P **Pdif** **19 48 26.1 -1.8**
baz=271

T57A P **Pdif** **19 48 26.1 -1.8**
baz=271

Q56A **Snyder Ridge,** **118.08 54** P **Pdif** **19 48 28.3 +0.4**
baz=272

Q56A P **Pdif** **19 48 28.3 +0.4**
baz=272

KIRV **Kirov** **118.09 328** PKP **PKPdf** **19 52 07.5 -1.2**
comp=Z,130nm,0.8s,baz=54,slow=2.5,SNR=13

KIRV PKKPbc **PKKPbc** **20 02 29.1 -0.8**
comp=Z,16nm,0.7s,baz=203,slow=4.0,SNR=4.6

KIRV **Kirov** **118.09 328** *c i* PKIKP **PKPdf** **19 52 08.1 -0.6**

V58A **Windy Hill, Pi** **118.18 58** P **Pdif** **19 48 29.4 +1.0**
baz=270

V58A P **Pdif** **19 48 29.4 +1.0**
baz=270

J54A **Appleton** **118.28 49** P **Pdif** **19 48 27.8 -0.8**
baz=274

J54A P **Pdif** **19 48 27.8 -0.8**
baz=274

S57A **Dark Hollow, R** **118.29 56** P **Pdif** **19 48 27.4 -1.5**
baz=271

S57A P **Pdif** **19 48 27.4 -1.5**
baz=271

M55A **Ridgway** **118.30 51** P **Pdif** **19 48 30.0 +1.1**
baz=273

M55A P **Pdif** **19 48 30.0 +1.1**
baz=273

M55A P **PKPdf** **19 52 09.6 -0.1**
baz=273

M55A P **PKPdf** **19 52 09.6 -0.1**
baz=273

WVNY **West Valley, N** **118.36 50** PKPdf **PKPdf** **19 52 09.6 -0.2**

WVNY **West Valley, N** **118.36 50** P **Pdif** **19 48 30.1 +1.0**
baz=274

WVNY P **PKPdf** **19 52 09.6 -0.2**
baz=274

GHWR **Ruwais** **118.42 289** P **PKiKP** **19 52 11.1 +0.7**

ROSC **El Rosal** **118.51 93** PKP **PKPdf** **19 52 10.2 -1.2**
comp=Z,18nm,0.5s,baz=152,slow=18,SNR=5.7

JRN **Qarnain Island** **118.54 290** P **PKPdf** **19 52 10.2 -0.3**
SNR=14

VLDQ **Val d'Or** **118.59 44** PKPdf **PKPdf** **19 52 08.6 -1.3**

ZARC **Zaragoza, Cauc** **118.67 90** **PKPdf** **19 52 09.0 -2.2**

ZARC **Zaragoza, Cauc** **118.67 90** *e*P **PKPdf** **19 52 05.8 -5.4**

PTBC **PUERTO BERRIO** **118.82 91** *e*P **PKPdf** **19 52 07.0 -4.5**

J55A **Hilton** **118.88 49** P **Pdif** **19 48 32.4 +1.1**
baz=275

J55A P **Pdif** **19 48 32.4 +1.1**
baz=275

Y60A **Bolivia** **118.91 60** P **Pdif** **19 48 33.3 +1.7**
baz=270

Y60A P **Pdif** **19 48 33.3 +1.7**
baz=270

SJCC **San Jacinto, C** **118.92 87** PKPdf **PKPdf** **19 52 10.4 -1.3**

SJCC **San Jacinto, C** **118.92 87** *e*P **PKPdf** **19 52 10.3 -1.4**

PRGR **Permogore** **118.93 332** *e*PKIKP **PKPdf** **19 52 06.1 -4.1**

PRGR *e* 19 53 26.4

PRGR pmax pmax
comp=Z,491nm,1.0s

SPBC **San Pablo de B** **118.96 92** *e*P **PKPdf** **19 52 08.1 -3.8**

P57A **Homestead Farm** **118.97 54** P **Pdif** **19 48 32.2 +0.3**
baz=273

P57A P **Pdif** **19 48 32.2 +0.3**
baz=273

SSPA **Standing Stone** **119.01 52** PKPdf **PKPdf** **19 52 10.8 -0.2**

SSPA **Standing Stone** **119.01 52** P **PKPdf** **19 52 09.0 -2.1**
baz=273

SSPA **Standing Stone** **119.01 52** Pfiff **Pdif** **19 48 30.1 -1.9**
baz=273

CHIC **Chingaza** **119.02 94**⇑ *e*P **PKPdf** **19 52 10.3 -2.0**

BJO1 **Bjornoya** **119.05 351** *e*Pdif **Pdif** **19 48 30.9 -0.5**
BJO1 *e*PKPdf **PKPdf** **19 52 09.8 -0.3**
BJO1 *e*PP **PP** **19 53 28.1 -1.7**
BJO1 *e*SP SP 20 03 13.7 +0.3
BJO1 *e*SS **SS** **20 09 49.0 +0.9**
BJO1 IVMs_BB IVMs_BB 20 36 43.2
comp=Z,8μm,21.6s

R58B **Mineral** **119.14 55** P **Pdif** **19 48 32.8 +0.2**
baz=272

R58B P **Pdif** **19 48 32.8 +0.2**
baz=272

L56A **Greenwood** **119.16 50** **PKPdf** **19 52 10.1 -1.2**

L56A **Greenwood** **119.16 50** P **Pdif** **19 48 33.4 +0.7**
baz=274

L56A P **Pdif** **19 48 33.4 +0.7**
baz=274

L56A P **PKPdf** **19 52 09.1 -2.2**
baz=274

L56A P **PKPdf** **19 52 09.1 -2.2**
baz=274

CNNC **Cliffs of the** **119.18 58** Pfiff **Pdif** **19 48 32.6 -0.3**
baz=270

DAG **Danmarks Havn** **119.24 2** *i* P **PKPdf** **19 52 08.0 -2.5**

DAG IVMs_BB IVMs_BB 20 41 47.4
comp=Z,10μm,21.0s

U59A **Littleton** **119.25 57** P **Pdif** **19 48 32.3 -0.9**
baz=271

U59A P **Pdif** **19 48 32.3 -0.9**
baz=271

T59A **Double "B" Far** **119.43 56** P **Pdif** **19 48 33.9 0.0**
baz=272

T59A P **Pdif** **19 48 33.9 0.0**
baz=272

T59A P **PKPdf** **19 52 10.7 -1.3**
baz=272

T59A P **PKPdf** **19 52 10.7 -1.3**
baz=272

CPUP **Villa Florida** **119.44 134** PKP **PKPdf** **19 52 10.7 -1.7**
comp=Z,26nm,1.0s,baz=265,slow=2.1,SNR=12

CPUP PKKPab **PKKPbc** **20 02 23.8 -0.5**
comp=Z,4.1nm,0.8s,baz=70,slow=4.1,SNR=5.6

SLWR **Sila** **119.51 289** P **PKiKP** **19 52 13.0 +0.5**

CBN **Corbin Frederi** **119.53 55** Pfiff **Pdif** **19 48 34.4 0.0**
baz=272

M57A **Sunshine Farm,** **119.54 51** PKPdf **PKPdf** **19 52 11.0 -1.1**

M57A **Sunshine Farm,** **119.54 51** P **Pdif** **19 48 37.1 +2.8**
baz=274

M57A P **Pdif** **19 48 37.1 +2.8**
baz=274

M57A P **PKPdf** **19 52 08.6 -3.4**
baz=274

M57A P **PKPdf** **19 52 08.6 -3.4**
baz=274

NUUG **Nuugaatsiaq** **119.60 14** *i* P **PKiKP** **19 52 12.0 +0.7**

NUUG IVMs_BB IVMs_BB 20 39 25.6
comp=Z,10μm,20.3s

KHOR **Al-Khor Airpor** **119.81 291** P **PKiKP** **19 52 13.9 +0.8**

K57A **Scipio Center** **119.87 50** **PKPdf** **19 52 12.2 -0.5**

K57A **Scipio Center** **119.87 50** P **Pdif** **19 48 37.3 +1.5**
baz=276

N58A **Sunbury** **119.89 52** **PKPdf** **19 52 11.4 -1.3**

N58A **Sunbury** **119.89 52** P **Pdif** **19 48 41.7 +5.8**
baz=274

N58A P **Pdif** **19 48 41.7 +5.8**
baz=274

N58A P **PKPdf** **19 52 11.4 -1.3**
baz=274

N58A P **PKPdf** **19 52 11.4 -1.3**
baz=274

RUSC **La Rusia** **119.97 92**⇑ *e*P **PKPdf** **19 52 11.5 -2.8**

TRNA **Turayna** **120.01 290** P **PKiKP** **19 52 13.6 +0.1**

LVZ **Lovozero** **120.13 341** *c i* PKIKP **PKPdf** **19 52 10.6 -1.8**

LVZ pmax pmax
comp=Z,224nm,0.8s

LVZ MLR MLR
comp=Z,36μm,21.0s

LVZ **Lovozero** **120.13 341** **PKPdf** **19 52 10.4 -2.0**

LVZ IAMs_20 IAMs_20 20 43 35.1
comp=Z,54μm,22.0s

J57A **Williamstown** **120.18 49** P **Pdif** **19 48 37.5 +0.3**
baz=276

J57A P **Pdif** **19 48 37.5 +0.3**
baz=276

BINY **Binghamton** **120.31 50** Pfiff **Pdif** **19 48 38.5 +0.7**
baz=276

SHMA **Al-Shehemyia** **120.32 291** P **PKiKP** **19 52 14.2 +0.2**

OCAC **Ocana** **120.33 90** **PKPdf** **19 52 12.9 -1.7**

SMRA **Abu-Samra** **120.36 290** P **PKiKP** **19 52 16.7 +2.6**

WCNY **West Carthage** **120.36 48** P **Pdif** **19 48 38.7 +0.8**
baz=277

WCNY P **PKPdf** **19 52 12.1 -1.5**
baz=277

KSPA **Keystone Colle** **120.54 51** P **Pdif** **19 48 38.2 -0.6**
baz=275

BELG **Belogornoye** **120.67 322** PKP **PKPdf** **19 52 13.1 -0.7**
comp=Z,1μm,1.0s,baz=66,slow=1.0,SNR=42

BELG PKKPbc **PKKPbc** **20 02 19.7 -0.5**
comp=Z,24nm,0.9s,baz=230,slow=17,SNR=5.6

BELG **Belogornoye** **120.67 322** *i* PKIKP **PKPdf** **19 52 13.3 -0.5**

J58A **Remsen** **120.70 49** **PKPdf** **19 52 12.4 -1.8**

J58A **Remsen** **120.70 49** P **Pdif** **19 48 38.5 -1.0**
baz=277

J58A P **Pdif** **19 48 38.5 -1.0**
baz=277

J58A P **PKPdf** **19 52 12.8 -1.4**
baz=277

J58A P **PKPdf** **19 52 12.8 -1.4**
baz=277

PAMC **Pamplona, Colo** **120.71 91**⇑ *e*P **PKPdf** **19 52 14.9 -0.8**

APA **Apatity** **120.71 341** ‖ *i* PKIKP **PKPdf** **19 52 10.5 -3.0**
APA *i* 19 59 16.0
APA *i* 20 03 30.0
APA *i* PPS PPS 20 04 55.0
APA *i* SS SS 20 10 14.0 +4.3

SAKB **Bahrain** **120.71 291** P **PKiKP** **19 52 15.1 +0.3**

GEDE **Greenville** **120.79 53** P **Pdif** **19 48 36.5 -3.4**
baz=274

L59A **Walton** **121.01 50** P **Pdif** **19 48 42.9 +2.0**
baz=276

L59A P **Pdif** **19 48 42.9 +2.0**
baz=276

ETMB **Extrema** **121.04 112** *e*P **PKiKP** **19 52 15.8 0.0**

LONY **Lake Ozonia** **121.04 47** PKiKP **PKPdf** **19 52 12.2 -2.7**
baz=278

BMNY **Brushton-Moira** **121.07 47** P **Pdif** **19 48 46.1 +5.0**
baz=278

KEV **Kevo** **121.07 345** PKIKP **PKPdf** **19 52 12.5 -1.6**

KEV MLR MLR
comp=Z,64μm,21.0s

KEV **Kevo** **121.07 345** **PKPdf** **19 52 12.5 -1.6**

KEV IAMs_20 IAMs_20 20 45 15.7
comp=Z,64μm,21.0s

HAMF **Hammerfest** **121.21 347** *e*Pdif **Pdif** **19 48 41.5 +0.5**
HAMF *e*PKPdf **PKPdf** **19 52 13.3 -1.0**
HAMF *e*PP **PP** **19 53 42.7 -2.0**
HAMF *e*SP SP 20 03 33.6 +0.8
HAMF *e*SS **SS** **20 10 15.9 -0.1**
HAMF IVMs_BB IVMs_BB 20 40 32.5
comp=Z,14μm,25.1s

J59A **Piesco** **121.25 49** PKPdf **PKPdf** **19 52 12.6 -2.7**

J59A **Piesco** **121.25 49** P **Pdif** **19 48 46.0 +4.0**
baz=278

J59A P **Pdif** **19 48 46.0 +4.0**
baz=278

NCB **Newcomb** **121.39 48** PKPdf **PKPdf** **19 52 13.9 -1.7**

NCB **Newcomb** **121.39 48** P **Pdif** **19 48 46.2 +3.7**
baz=278

NCB P **PKPdf** **19 52 14.4 -1.2**
baz=278

HCNY **Howe Caverns** **121.43 50** P **Pdif** **19 48 44.6 +1.9**
baz=277

P61A **Hammonton** **121.45 53** P **Pdif** **19 48 44.6 +1.8**
baz=275

P61A P **Pdif** **19 48 44.6 +1.8**
baz=275

PANJ **Princeton** **121.45 52** P **Pdif** **19 48 42.9 +0.1**
baz=275

ODNJ **Ogdensburg** **121.45 51** **PKPdf** **19 52 15.2 -0.5**

ODNJ **Ogdensburg** **121.45 51** P **Pdif** **19 48 43.8 +0.9**
baz=276

ODNJ P **PKPdf** **19 52 15.6 -0.1**
baz=276

BRNJ **Basking Ridge** **121.53 52** P **Pdif** **19 48 45.6 +2.5**
baz=276

ARA0 **ARCESS Array S** **121.60 345** *e*Pdif **Pdif** **19 48 39.5 -3.3**
ARA0 *e*PKPdf **PKPdf** **19 52 14.0 -1.2**
ARA0 *e*PP **PP** **19 53 46.7 -0.7**
ARA0 *e*SKSac **SKSac** **19 59 08.6 -3.9**
ARA0 *e*SP **SP** **20 03 37.0 +0.6**
ARA0 *e*SS **SS** **20 10 23.1 +2.1**
ARA0 IVMs_BB IVMs_BB 20 44 11.8
comp=Z,11μm,21.5s

ARCES **ARCESS Array B** **121.60 345** PKP **PKPdf** **19 52 13.9 -1.3**
comp=Z,170nm,0.7s,baz=75,slow=1.6,SNR=189

ARCES PKKPbc **PKKPab** **20 02 15.5 +0.9**
comp=Z,8.7nm,0.8s,baz=224,slow=3.3,SNR=11

ARCES **ARCESS Array B** **121.60 345** PKIKP **PKPdf** **19 52 13.7 -1.5**

ARCES **ARCESS Array B** **121.60 345** PKPdf **PKPdf** **19 52 13.7 -1.5**

ARCES PKKPbc **PKKPab** **20 02 12.8 -1.9**

DBG **Daneborg** **121.64 2** *i* P **PKiKP** **19 52 15.3 0.0**

DBG IVMs_BB IVMs_BB 20 37 06.9
comp=Z,17μm,23.0s

FRNY **Flat Rock** **121.71 47** PKPdf **PKPdf** **19 52 15.3 -0.8**

FRNY **Flat Rock** **121.71 47** P **Pdif** **19 48 43.3 -0.6**
baz=279

ILULI **Ilulissat** **121.75 15** PKIKP **PKPdf** **19 52 13.1 -2.3**

ILULI MLR MLR
comp=Z,52μm,21.0s

ILULI **Ilulissat** **121.75 15** **PKPdf** **19 52 13.1 -2.3**

ILULI IAMs_20 IAMs_20 20 40 26.1
comp=Z,52μm,21.0s

ILULI **Ilulissat** **121.75 15** *i* P **PKPdf** **19 52 13.5 -2.0**

ILULI IVMs_BB IVMs_BB 20 40 13.1
comp=Z,16μm,21.4s

BRNY **Black Rk. Fore** **121.86 51** P **Pdif** **19 48 42.0 -2.7**
baz=277

ACCN **Adirondack Com** **121.87 49** P **Pdif** **19 48 45.9 +1.2**
baz=278

KLMR **Klimovskoe** **121.95 333** *e*PKIKP **PKPdf** **19 52 13.9 -2.1**
KLMR *e* 19 53 50.8
KLMR *e*PS **PS** **20 03 40.5 -3.7**
KLMR pmax pmax
comp=Z,503nm,1.1s

KLMR MLR MLR
comp=Z,31μm,20.0s

KLMR **Klimovskoe** **121.95 333** *e*PKPdf **PKPdf** **19 52 14.0 -2.1**
KLMR AMP 19 52 19.8
comp=Z,503nm,1.1s

KLMR *e*PP **PP** **19 53 50.9 +0.8**
KLMR *e*PKKPbc **PKKPab** **20 02 12.8 -0.5**
KLMR *e*PS **PS** **20 03 40.6 -3.7**
KLMR *e*PS **PS** **20 03 40.6 -3.7**
KLMR *e*SKKP 20 06 23.3
KLMR *e*SKKS **SKKSdf** **20 09 54.7 -8.3**
KLMR *e*SKKS **SKKSdf** **20 09 54.7 -8.3**
KLMR LQ LQ 20 31 59.4
KLMR LQ LQ 20 31 59.4
KLMR LR LR 20 40 08.6
KLMR AMP 20 44 00.4
comp=Z,31μm,20.1s

PAL **Palisades** **121.99 51** P **Pdif** **19 48 50.1 +4.9**
baz=276

PAL **Palisades** **121.99 51** PKiKP **PKPdf** **19 52 15.4 -1.4**
baz=276

FOR **Fordham** **122.02 52** P **Pdif** **19 48 46.4 +1.1**
baz=276

SUR **Sutherland** **122.13 213** PKP **PKiKP** **19 52 17.9 0.0**
comp=Z,37nm,1.0s,baz=198,slow=2.1,SNR=16

SUR **Sutherland** **122.13 213** IAMs_20 IAMs_20 20 34 01.4
comp=Z,57μm,21.0s

SUR **Sutherland** **122.13 213** P **PKiKP** **19 52 19.5 +1.7**

MCVT **Middlebury Col** **122.27 48** P **Pdif** **19 48 48.9 +2.5**
baz=279

N62A **Caumsett State** **122.33 52** P **Pdif** **19 48 50.4 +3.7**
baz=277

N62A P **Pdif** **19 48 50.4 +3.7**
baz=277

ITAB **Concordia** **122.34 138** PKPdf **PKPdf** **19 52 16.1 -1.8**

ITAB **Concordia** **122.34 138** *e*P **PKiKP** **19 52 18.2 +0.1**

BOSA **Boshof** **122.39 220** PKP **PKPdf** **19 52 17.4 -0.8**
comp=Z,44nm,1.0s,baz=139,slow=3.0,SNR=19

WSPT **Westport, CT** **122.40 51** IAMs_20 IAMs_20 20 46 13.9
comp=Z,55μm,18.0s

SIV **San Ignacio** **122.53 121** PKhKP PKPpre 19 52 07.4
baz=218,slow=2.7

SIV PKKPbc **PKKPbc** **20 02 05.9 -6.6**
comp=Z,7.1nm,0.9s,baz=71,slow=2.5,SNR=9.7

KTK1 **Kautokeino** **122.53 346** *e*Pdif **Pdif** **19 48 46.4 -0.7**
KTK1 IVmB_BB 19 49 09.7
comp=Z,1μm,3.8s

KTK1 *e*PKPdf **PKPdf** **19 52 15.2 -1.7**
KTK1 *e*PP **PP** **19 53 52.0 -1.8**
KTK1 *e*SP SP 20 03 42.0 -2.7
KTK1 *e*SS **SS** **20 10 31.7 -1.3**
KTK1 IVMs_BB IVMs_BB 20 43 04.0
comp=Z,8μm,23.4s

FRBT **Francisco Belt** **122.58 136** *e*P **PKPdf** **19 52 18.4 -0.1**

MAK **Makhachkala** **122.59 311** *e*P **Pdif** **19 48 45.7 -2.1**
MAK *i* 19 52 18.1
MAK *e* 19 53 57.3
MAK *e*PPP PPP 19 56 30.0
MAK *e* 19 59 13.3
MAK *e*PS **PS** **20 03 46.5 -4.3**
MAK *e*SS SS 20 10 30.0 -5.5
MAK *e*SSS SSS 20 15 03.0
MAK pmax pmax
comp=Z,519nm,1.0s

MAK pmax pmax
comp=Z,1μm,1.6s

MAK MLR MLR
comp=E,32μm,19.0s

MAK MLR MLR
comp=Z,21μm,19.0s

MAK MLR MLR
comp=N,30μm,19.0s

L61B **Northampton** **122.72 50** P **Pdif** **19 48 49.5 +1.0**
baz=278

L61B P **PKPdf** **19 52 14.7 -3.4**
baz=278

L61B **Northampton** **122.72 50** PKiKP **PKPdf** **19 52 15.3 -2.8**
baz=278

JETT **Jettan, Norway** **122.77 347** *e*Pdif **Pdif** **19 48 46.8 -1.3**
JETT *e*PKPdf **PKPdf** **19 52 16.6 -0.9**
JETT *e*PP **PP** **19 53 54.5 -0.8**

LBNH **Lisbon** **122.98 47** PKiKP **PKPdf** **19 52 16.2 -2.4**
baz=280

K62A **Royalston** **123.01 49** P **Pdif** **19 48 52.3 +2.5**
baz=279

K62A P **Pdif** **19 48 52.3 +2.5**
baz=279

K62A P **PKPdf** **19 52 16.5 -2.2**
baz=279

K62A P **PKPdf** **19 52 16.5 -2.2**
baz=279

TRO **Tromso** **123.03 347** *e*Pdif **Pdif** **19 48 48.5 -0.6**
TRO *e*PKPdf **PKPdf** **19 52 15.8 -2.0**
TRO IVmB_BB 19 52 20.4
comp=Z,3μm,0.9s

TRO *e*PP **PP** **19 53 55.5 -1.5**
TRO *e*SS SS 20 10 40.1 +1.1
TRO IVMs_BB IVMs_BB 20 43 49.1
comp=Z,15μm,21.1s

SDV **Santo Domingo** **123.06 90** PKPdf **PKPdf** **19 52 17.1 -2.7**

SDV **Santo Domingo** **123.06 90** IAMs_20 IAMs_20 20 34 12.7
comp=Z,45μm,22.0s

SDV **Santo Domingo** **123.06 90** *e*P **PKPdf** **19 52 18.2 -1.6**

SDV **Santo Domingo** **123.06 90** *e*P **PKPdf** **19 52 17.9 -2.0**

UCCT **U. Connecticut** **123.15 50** **PKPdf** **19 52 17.1 -1.9**

TER01 **Tubaro-SC** **123.29 141** *e*P **PKiKP** **19 52 19.9 -0.1**

M63A **Gales Ferry** **123.33 51** P **Pdif** **19 48 53.8 +2.7**
baz=278

M63A P **Pdif** **19 48 53.8 +2.7**
baz=278

SCHQ **Schefferville** **123.37 34** PKP **PKPdf** **19 52 17.6 -1.4**
comp=Z,24nm,0.7s,baz=344,slow=3.6,SNR=22

SCHQ PKKPbc **PKKPbc** **20 02 09.4 -0.5**
comp=Z,9.3nm,0.7s,baz=88,slow=2.1,SNR=10

SCHQ **Schefferville** **123.37 34** PKPdf **PKiKP** **19 52 20.1 +0.8**

SFJD **Kangerlussuaq** **123.45 17** PKIKP **PKPdf** **19 52 16.5 -2.2**

SFJD MLR MLR
comp=Z,67μm,22.0s

SFJD **Kangerlussuaq** **123.45 17** PKPdf **PKPdf** **19 52 16.5 -2.2**

SFJD **Kangerlussuaq** **123.45 17** IAMs_20 IAMs_20 20 39 47.2

comp=Z,67µm,22.0s
SFJD Kangerlussuaq 123.45 17 *i* P **PKPdf 19 52 16.2 -2.6**
SFJD *e* 19 52 44.2
SFJD IVMs_BB IVMs_BB 20 39 32.2
comp=Z,12µm,22.1s
I62A Tamworth 123.47 48 P **Pdif 19 48 54.4 +2.6**
baz=280
I62A P **Pdif 19 48 54.4 +2.6**
baz=280
H62A Milan 123.47 47 P **Pdif 19 48 55.5 +3.8**
baz=281
H62A P **Pdif 19 48 55.5 +3.8**
baz=281
HRV Adam Dziewonsk 123.53 49 ⇓PKIKP **PKPdf 19 52 15.9 -3.8**
HRV Adam Dziewonsk 123.53 49 PKiKP **PKPdf 19 52 17.7 -1.9**
baz=279
BRYW Bryant College 123.64 50 IAMs_20 IAMs_20 20 38 51.4
comp=Z,62µm,21.0s
G62A West of Eustis 123.78 46 **PKPdf 19 52 18.7 -1.4**
G62A West of Eustis 123.78 46 P **Pdif 19 48 56.7 +3.5**
baz=282
G62A P **Pdif 19 48 56.7 +3.5**
baz=282
G62A P **PKPdf 19 52 18.5 -1.6**
baz=282
G62A P **PKPdf 19 52 18.5 -1.6**
baz=282
GROC Groznyy 123.79 311 *i* PKIKP **PKPdf 19 52 19.4 -0.7**
GROC *e* 19 54 02.2
GROC *e*PS **PS 20 03 57.0 -4.4**
GROC pmax pmax
comp=Z,550nm,1.2s
GROC MLR MLR
comp=Z,9µm,18.0s
UNH University of 123.94 49 P **Pdif 19 48 54.6 +0.8**
baz=280
I63A Otisfield 123.97 47 P **Pdif 19 48 54.7 +0.7**
baz=281
I63A P **Pdif 19 48 54.7 +0.7**
baz=281
I63A P **PKPdf 19 52 18.0 -2.4**
baz=281
I63A P **PKPdf 19 52 18.0 -2.4**
baz=281
PTGB Pitanga 124.09 136 *e*P **PKPdf 19 52 21.3 -0.1**
L64A Middleborough 124.15 50 P **Pdif 19 48 53.8 -0.9**
baz=279
L64A P **Pdif 19 48 53.8 -0.9**
baz=279
SDDR Presa de Saban 124.21 78 IAMs_20 IAMs_20 20 35 22.7
comp=Z,65µm,22.0s
AQDB Aquidauana 124.23 129 PKPdf **PKPdf 19 52 19.3 -2.4**
AQDB Aquidauana 124.23 129 *e*P **PKPdf 19 52 20.8 -0.9**
M65A Busby, Falmout 124.35 50 PKiKP **PKPdf 19 52 19.0 -2.2**
baz=279
D62A Allapoint, All 124.37 44 PKPdf **PKPdf 19 52 19.0 -2.1**
D62A Allapoint, All 124.37 44 P **Pdif 19 48 54.8 -0.8**
baz=284
D62A P **Pdif 19 48 54.8 -0.8**
baz=284
D62A P **PKPdf 19 52 19.2 -2.0**
baz=284
D62A P **PKPdf 19 52 19.2 -2.0**
baz=284
ICESG Greenland Ices 124.38 11 *i* P **PKPdf 19 52 17.1 -3.9**
VRH Novokhopyorsk 124.53 322 *i* PKIKP **PKPdf 19 52 20.5 -0.8**
VRH *e* 19 54 05.5
VRH *e*SS SS 20 11 12.0 +13
VRH pmax pmax
comp=Z,650nm,1.0s
VRH MLR MLR
comp=Z,28µm,21.0s
GRTK Grand Turk 124.62 75 IAMs_20 IAMs_20 20 37 35.4
comp=Z,51µm,20.0s
PKME Peaks-Kenny Pk 124.63 46 P **PKPdf 19 52 20.8 -0.9**
baz=283,SNR=6.5
PKME Peaks-Kenny Pk 124.63 46 PKiKP **PKPdf 19 52 20.4 -1.3**
baz=283
F63A Nahmakanta, Br 124.66 45 PKPdf **PKPdf 19 52 19.3 -2.5**
F63A Nahmakanta, Br 124.66 45 P **Pdif 19 49 02.3 +5.3**
baz=283
F63A P **Pdif 19 49 02.3 +5.3**
baz=283
F63A P **PKPdf 19 52 20.5 -1.3**
baz=283
F63A P **PKPdf 19 52 20.5 -1.3**
baz=283
LBTB Lobatse 124.70 223 PKP **PKPdf 19 52 22.6 0.0**
comp=Z,66nm,1.1s,baz=170,slow=3.0,SNR=20
LBTB Lobatse 124.70 223 PKPdf **PKiKP 19 52 22.8 -0.2**
VILB Vilhena 124.81 119 *e*P **PKPdf 19 52 21.9 -1.1**
E63A Oxbow 124.95 44 P **Pdif 19 48 56.5 -1.8**
baz=284
E63A P **Pdif 19 48 56.5 -1.8**
baz=284
E63A P **PKPdf 19 52 20.0 -2.3**
baz=284
E63A P **PKPdf 19 52 20.0 -2.3**
baz=284
TRCB Terra Rica 124.98 134 **PKPdf 19 52 21.4 -1.7**
DY2G Dye2 125.01 16 *i* P **PKPdf 19 52 20.7 -1.4**
DY2G IVMs_BB IVMs_BB 20 41 16.9
comp=Z,19µm,21.0s
GNI Garni 125.06 308 PKP **PKPdf 19 52 23.1 +0.2**
comp=Z,191nm,1.1s,baz=349,slow=3.3,SNR=35
GNI Garni 125.06 308*c* *i*PKIKP **PKPdf 19 52 22.5 -0.4**
GNI pmax pmax
comp=Z,310nm,1.3s
GNI MLR MLR
comp=Z,21µm,23.0s
GNI Garni 125.06 308 P **PKiKP 19 52 23.3 0.0**
GNI Garni 125.06 308 P **PKPdf 19 52 22.3 -0.6**
NUUK Nuuk 125.06 20 *i* P **PKPdf 19 52 20.7 -1.2**
JMIC Jan Mayen 125.08 358 *e*Pdif **Pdif 19 48 58.6 +0.3**
JMIC *e*PKPdf **PKiKP 19 52 23.6 +1.5**
JMIC *e*PP **PP 19 54 12.7 +2.0**
MOS Moscow 125.10 328 *e*P **Pdif 19 48 57.9 -0.8**
MOS *i* 19 52 21.4
MOS *e* 19 54 10.9
MOS *e*PPP PPP 19 56 57.3
MOS *e* 19 59 23.3
MOS *e*SP SP 20 04 06.8 -1.2
MOS *e* 20 05 45.9
MOS *e*SS **SS 20 11 07.5 +1.4**
MOS pmax pmax
comp=Z,400nm,0.9s
MOS pmax pmax
comp=Z,389nm,0.9s
F64A Sherman 125.13 45 PKPdf **PKPdf 19 52 20.9 -1.7**
F64A Sherman 125.13 45 P **Pdif 19 49 01.5 +2.4**
baz=284
F64A P **Pdif 19 49 01.5 +2.4**
baz=284
F64A P **PKPdf 19 52 19.9 -2.8**
baz=284
F64A P **PKPdf 19 52 19.9 -2.8**
baz=284
PQI Presque Isle 125.16 44 IAMs_20 IAMs_20 20 39 28.1
comp=Z,53µm,22.0s
STEI Steigen 125.19 348 *e*Pdif **Pdif 19 48 58.0 -0.9**
STEI *e*PKPdf **PKPdf 19 52 21.6 -0.4**
STEI *e*PP **PP 19 54 10.1 -1.4**
ZEI Tsey 125.23 311 *i* PKIKP **PKPdf 19 52 22.7 -0.5**
ZEI pmax pmax
comp=Z,251nm,1.0s
VALR Valaam 125.27 336*c* *i*PKIKP **PKPdf 19 52 21.1 -1.3**
VALR MLR MLR
comp=Z,49µm,23.0s
NCK Nalchik 125.31 312 *i* PKIKP **PKPdf 19 52 22.2 -0.9**
SCO Scoresbysund 125.34 4 PKIKP **PKPdf 19 52 21.4 -0.9**
SCO MLR MLR
comp=Z,27µm,22.0s
SCO Scoresbysund 125.34 4 PKPdf **PKPdf 19 52 21.4 -0.9**
SCO Scoresbysund 125.34 4 *i* P **PKiKP 19 52 22.5 -0.1**
SCO IVMs_BB IVMs_BB 20 39 15.0
comp=Z,10µm,27.2s
GOF Gofitskoye 125.36 314⇑ *e*PKIKP **PKPdf 19 52 22.7 -0.4**
GOF pmax pmax
comp=Z,457nm,1.2s
LOF Lofoten 125.37 348 *e*Pdif **Pdif 19 48 59.7 +0.1**
LOF *e*PKPdf **PKPdf 19 52 21.3 -1.1**
LOF *e*PP **PP 19 54 11.0 -1.7**
LOF *e*SP SP 20 04 11.2 +1.7
LOF *e*SS **SS 20 11 10.0 +1.5**
LOF IVMs_BB IVMs_BB 20 44 48.0
comp=Z,7µm,22.3s

BAUV El Baul 125.57 90 PKPdf **PKPdf 19 52 21.9 -2.5**
BAUV El Baul 125.57 90 *e*P **PKPdf 19 52 17.6 -6.8**
FAUS Fauske 125.64 347 *e*PKPdf **PKPdf 19 52 21.8 -1.2**
FAUS *e*PP **PP 19 54 15.5 +1.0**
FAUS IVMs_BB IVMs_BB 20 41 01.9
comp=Z,12µm,24.1s
LPSR Galich'ya Gora 125.66 324 *i* PKIKP **PKPdf 19 52 23.1 -0.3**
LPSR *e* 19 54 11.2
LPSR *e*SS SS 20 11 26.3 +13
LPSR pmax pmax
comp=Z,950nm,1.0s
TIJ01 Guaruva-PR 125.67 139 *e*P **PKPdf 19 52 23.9 -0.6**
MATP Matopo 125.69 229 PKP **PKPdf 19 52 23.9 -0.8**
comp=Z,103nm,1.2s,baz=144,slow=2.5,SNR=4.6
KBZ Khabaz 125.76 313 PKP **PKPdf 19 52 24.1 +0.2**
comp=Z,35nm,1.0s,baz=98,slow=3.8,SNR=27
KBZ Khabaz 125.76 313*c* *i*PKIKP **PKPdf 19 52 23.0 -0.9**
KBZ MLR MLR
comp=Z,42µm,21.0s
AKH Akhalkalaki 125.78 310⇑ P **PKPdf 19 52 21.1 -3.2**
G65A Princeton 125.83 46 **PKPdf 19 52 22.6 -1.3**
G65A Princeton 125.83 46 P **Pdif 19 49 03.4 +1.2**
baz=284
G65A P **Pdif 19 49 03.4 +1.2**
baz=284
VORR Voronezh 125.84 323 *e*PKIKP **PKiKP 19 52 24.3 +0.1**
VORR *e* 19 54 14.7
VORR pmax pmax
comp=Z,110nm,2.7s
KIV Kislovodsk 125.86 313⇑ P **PKPdf 19 52 21.3 -2.9**
KIV Kislovodsk 125.86 313 *e*P **Pdif 19 49 01.3 -1.2**
KIV *i* 19 52 23.7
KIV *e* 19 54 15.5
KIV *e* 19 59 24.3
KIV *e*PS **PS 20 04 17.0 -2.8**
KIV *e*SS SS 20 11 14.0 -2.9
KIV pmax pmax
comp=Z,265nm,1.0s
KIV MLR MLR
comp=Z,21µm,23.0s
KIV Kislovodsk 125.86 313 PKPdf **PKPdf 19 52 23.3 -1.0**
KIV Kislovodsk 125.86 313 P **PKiKP 19 52 24.8 +0.2**
KIV Kislovodsk 125.86 313 *i* P **PKPdf 19 52 22.8 -1.4**
SNR=50
OBN Obninsk 125.91 328⇑ P **PKPdf 19 52 23.7 0.0**
OBN Obninsk 125.91 328 PKP **PKPdf 19 52 23.1 -0.7**
comp=Z,71nm,0.9s,baz=75,slow=1.6,SNR=25
OBN Obninsk 125.91 328*c* *i*PKIKP **PKPdf 19 52 22.3 -1.5**
OBN *e* 19 54 18.8
OBN *e*PPP PPP 19 56 53.6
OBN *e* 19 59 31.1
OBN *i* SS SS 20 11 09.7 -6.6
OBN pmax pmax
comp=Z,551nm,1.3s
OBN MLR MLR
comp=Z,28µm,21.0s
OBN Obninsk 125.91 328 **PKPdf 19 52 22.8 -1.0**
SHA1 Shidzhatmaz 125.92 313 *i* PKIKP **PKPdf 19 52 23.6 -0.9**
NEY Neytrino 125.98 312 *i* PKIKP **PKiKP 19 52 25.4 +0.4**
VSR Storozhevoye 126.03 322 *i* PKIKP **PKPdf 19 52 22.7 -1.5**
VSR *e*SS SS 20 11 12.9 -5.3
VSR pmax pmax
comp=Z,520nm,1.1s
VSR MLR MLR
comp=Z,36µm,20.0s
VORD Divnogorie 126.05 322 *i* PKIKP **PKPdf 19 52 23.5 -0.7**
VORD *e*SS SS 20 11 17.7 -0.7
VORD pmax pmax
comp=Z,320nm,1.0s
VORD MLR MLR
comp=Z,10µm,20.0s
ATD Arta Tunnel 126.07 273 PKP **PKiKP 19 52 26.3 +0.5**
comp=Z,57nm,1.1s,baz=83,slow=15,SNR=9.0
ATD Arta Tunnel 126.07 273 **PKPdf 19 52 25.4 0.0**
ATD Arta Tunnel 126.07 273 P **PKiKP 19 52 25.8 -0.1**
SNR=6.5
ATD Arta Tunnel 126.07 273 *e*P **Pdif 19 49 07.8 +3.8**
BATG Bathurst New B 126.29 43 PKPdf **PKPdf 19 52 23.1 -1.7**
GGN Saint George 126.34 45 PKPdf **PKPdf 19 52 24.6 -0.3**
PUL Pulkovo 126.42 335*c* *i*PKIKP **PKPdf 19 52 23.7 -0.9**
PUL pmax pmax
comp=Z,735nm,1.0s
CHVG Ch'k'valeri 126.56 312⇑ P **PKPdf 19 52 22.4 -3.1**
CHVG Ch'k'valeri 126.56 312⇑ PKIKP **PKPdf 19 52 22.4 -3.1**
SOEG Soedalen 126.56 9 *i* P **PKiKP 19 52 26.6 +1.5**
PP1B Ponte de Pedra 126.57 127 *e*P **PKPdf 19 52 25.7 -0.6**
KIBK Kibwezi 126.69 255 IAMs_20 IAMs_20 20 48 00.0
comp=Z,35µm,18.0s
KIBK Kibwezi 126.69 255 P **PKPdf 19 52 26.9 +0.2**
SNR=26
FRTB Fartura 126.69 136 *e*P **PKPdf 19 52 26.6 +0.1**
PCMB Pacaembu 126.71 134 *e*P **PKPdf 19 52 26.3 -0.2**
MOR8 Moi Rana 126.84 347 *e*Pdif **Pdif 19 49 02.6 -3.7**
MOR8 *e*PKPdf **PKPdf 19 52 23.6 -1.7**
MOR8 *e*PP **PP 19 54 18.7 -3.9**
MOR8 *e*PS **PS 20 04 24.1 -3.1**
MOR8 *e*SS SS 20 11 28.4 +1.3
MOR8 IVMs_BB IVMs_BB 20 38 10.3
comp=Z,9µm,30.7s
KONS Konsvik 126.85 347 *e*PKPdf **PKPdf 19 52 24.7 -0.5**
SALV Santo Antonio 126.92 125 *e*P **PKPdf 19 52 26.3 -0.7**
STOK Stokkvaagen 127.02 347 *e*PKPdf **PKPdf 19 52 25.1 -0.5**
FINES FINESS Array B 127.03 338 PKhKP PKPpre 19 52 19.0
comp=Z,6.8nm,1.0s,baz=81,slow=3.5,SNR=4.9
FINES PKP **PKPdf 19 52 25.9 +0.1**
comp=Z,260nm,0.9s,baz=37,slow=2.6,SNR=46
BATM Batumi 127.07 310 ⇓P **PKiKP 19 52 26.8 -0.2**
BATM Batumi 127.07 310 ⇓PKIKP **PKiKP 19 52 26.8 -0.2**
TRIS Tristan da Cun 127.11 180 IAMs_20 IAMs_20 20 42 29.2
comp=Z,48µm,20.0s
PET01 Itanhaem-SP 127.50 139 *e*P **PKPdf 19 52 27.7 -0.2**
LMN Caledonia Moun 127.53 44 **PKPdf 19 52 25.9 -1.3**
ANGG Ammassalik, Gr 127.77 13 **PKPdf 19 52 24.8 -2.3**
ANGG IAMs_20 IAMs_20 20 44 08.1
comp=Z,41µm,21.0s
ANGG Ammassalik, Gr 127.77 13 *i* P **PKPdf 19 52 24.3 -2.7**
ANGG IVMs_BB IVMs_BB 20 44 05.2
comp=Z,13µm,19.9s
KMBO Kilima Mbogo 127.88 256 PKP **PKPdf 19 52 28.8 -0.4**
comp=Z,32nm,1.1s,baz=90,slow=1.6,SNR=12
KMBO Kilima Mbogo 127.88 256 PKIKP **PKPdf 19 52 28.3 -0.9**
KMBO MLR MLR
comp=Z,68µm,20.0s
KMBO Kilima Mbogo 127.88 256 PKPdf **PKPdf 19 52 28.3 -0.9**
KMBO Kilima Mbogo 127.88 256 P **PKPdf 19 52 29.2 0.0**
KMBO Kilima Mbogo 127.88 256 *e*P **Pdif 19 49 15.8 +3.5**
KMBO Kilima Mbogo 127.88 256 *i* P **PKiKP 19 52 29.7 0.0**
SNR=28
KMBO *i* P **PKPdf 19 52 32.3 +3.1**
SNR=32
CRPR Cabo Rojo, PR 128.03 80 **PKPdf 19 52 26.4 -2.6**
SOC Sochi 128.03 313*c* *e*P **Pdif 19 49 17.1 +5.1**
SOC *i* 19 52 26.7
SOC *e* 19 54 28.9
SOC *e*PPP PPP 19 57 13.9
SOC *e* 19 59 37.7
SOC *e*PS **PS 20 04 34.8 -3.9**
SOC *e*SS SS 20 11 33.7 -10
SOC *e*SSS SSS 20 16 24.0
SOC pmax pmax
comp=Z,145nm,1.1s
SOC MLR MLR
comp=Z,26µm,23.0s
HEL Helsinki 128.28 337 PKHKP PKPpre 19 52 07.5
IVI Ivigtut 128.31 21 *i* P **PKPdf 19 52 27.9 -0.2**
IVI IVMs_BB IVMs_BB 20 43 09.3
comp=Z,19µm,22.7s
PDRB Porto dos Gac 128.40 120 *e*P **PKPdf 19 52 29.1 -0.7**
AOPR Arecibo Observ 128.41 79 **PKPdf 19 52 27.8 -1.9**
MEF Metsahovi 128.46 337 *e*P **PKiKP 19 52 29.2 0.0**
OBIP Obispado Ponce 128.51 80 **PKPdf 19 52 27.8 -2.1**
CELP Cerrillos 128.54 80 PKPdf **PKPdf 19 52 27.5 -2.5**
ITRB Iturama 128.60 132 *e*P **PKPdf 19 52 29.4 -0.7**
KTUT Trabzon 128.62 310 ⇓P **PKPdf 19 52 25.9 -3.5**
VAO Valinhos 128.63 138 *e*P **PKiKP 19 52 30.6 -0.2**
RCLB Rio Claro- Sao 128.68 137 *e*P **PKPdf 19 52 29.7 -0.5**
MACA Manacapuru-AM 128.79 108 *e*P **PKPdf 19 52 30.6 0.0**
NSS Namsos 128.79 347 *e*Pdif **Pdif 19 49 14.8 -0.2**
NSS *e*PKPdf **PKPdf 19 52 27.6 -1.4**
NSS *e*PP **PP 19 54 34.3 -1.0**
NSS *e*SS SS 20 11 48.5 -2.6
NSS IVMs_BB IVMs_BB 20 40 29.0
comp=Z,9µm,27.5s

RAF Rauma 128.83 339 *e*P **PKPdf 19 52 28.3 -0.9**
SJG San Juan 128.95 80 IAMs_20 IAMs_20 20 37 13.4
comp=Z,39µm,22.0s
SJG San Juan 128.95 80 *e*P **PKPdf 19 52 28.4 -2.3**
BB19B Bebedouro 128.96 135 *e*P **PKPdf 19 52 30.9 +0.1**
GCPR Guaynabo City 129.04 79 **PKPdf 19 52 29.2 -1.6**
LSZ Lusaka 129.05 234 SKPbc SKPbc 19 55 57.5 +6.7
comp=Z,39nm,1.1s,baz=242,slow=1.9,SNR=7.7
PDPR Patillas Dam, 129.06 80 **PKPdf 19 52 28.6 -2.3**
PARB Paraibuna 129.23 140 *e*P **PKPdf 19 52 30.6 -0.7**
HUMP Col San Antoni 129.24 80 **PKPdf 19 52 28.1 -3.2**
NRS Narsarsuaq 129.26 20 PKIKP **PKPdf 19 52 27.5 -2.5**
NRS MLR MLR
comp=Z,72µm,20.0s
NRS Narsarsuaq 129.26 20 **PKPdf 19 52 27.5 -2.5**
ANN Anapa 129.27 315 *i* PKIKP **PKPdf 19 52 29.3 -1.2**
ANN *i* 19 52 40.0
ANN *i* 19 54 40.4
ANN *e*PPP PPP 19 57 21.8
ANN *e* 19 59 32.4
ANN *i* SS SS 20 11 56.1 -2.7
ANN *e*SSS SSS 20 16 53.5
ANN pmax pmax
comp=N,84nm,1.3s
ANN pmax pmax
comp=Z,2µm,3.0s
ANN pmax pmax
comp=E,612nm,2.6s
ANN pmax pmax
comp=N,685nm,3.2s
ANN pmax pmax
comp=E,39nm,0.7s
DILA Dilla 129.27 265 *e*P **Pdif 19 49 22.8 +4.4**
AAE Adis Abeba 129.45 269 *e*P **Pdif 19 49 26.1 +6.8**
FURI Furi 129.51 268 *e*P **Pdif 19 49 25.1 +5.5**
CLDB Colider 129.57 119 *e*P **PKPdf 19 52 31.8 -0.3**
MTSE Matsula 129.69 336 *e*P **PKPdf 19 52 31.1 +0.2**
AAL Aland 130.05 339 *e*P **PKPdf 19 52 31.1 -0.4**
CDVI St. Croix 130.22 80 PKPdf **PKPdf 19 52 30.5 -2.6**
TBLU Trondheim 130.28 347 *e*Pdif **Pdif 19 49 16.1 -5.4**
TBLU *e*PKPdf **PKPdf 19 52 30.2 -1.7**
TBLU *e*PP **PP 19 54 43.8 -1.2**
TBLU *e*SKPdf **SKPdf 19 56 03.4 -2.2**
TBLU *e*SS **SS 20 12 08.6 -0.9**
TBLU IVMs_BB IVMs_BB 20 42 43.9
comp=Z,8µm,23.4s
BBSR BB Station 130.31 61 IAMs_20 IAMs_20 20 43 05.9
comp=Z,39µm,20.0s
MNK Minsk 130.56 330 *i* PKIKP **PKPdf 19 52 32.8 +0.1**
MNK *i* 19 54 47.0
MNK *i* PPP PPP 19 57 35.6
MNK *i* PS **PS 20 04 58.0 -2.0**
MNK *i* SS SS 20 12 10.6 -3.1
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=N,35nm,0.9s
MNK pmax pmax
comp=Z,312nm,0.9s
MNK MLR MLR
comp=N,32µm,24.0s
MNK MLR MLR
comp=Z,42µm,24.0s
MNK Minsk 130.56 330 *i* PKP **PKPdf 19 52 32.8 +0.1**
comp=E,9.0nm,0.9s
MNK *i* PKP **PKPdf 19 52 32.8 +0.1**
comp=N,35nm,0.9s
MNK *i* PKP **PKPdf 19 52 32.8 +0.1**
comp=Z,312nm,0.9s,baz=55
MNK *i* PP **PP 19 54 47.0 -0.3**
MNK *i* PPP PPP 19 57 35.7
MNK *i* PS **PS 20 04 58.1 -2.0**
MNK *i* SS SS 20 12 10.7 -3.0
MNK *i* SSS SSS 20 16 06.9
MNK *i* LQ LQ 20 35 03.2
MNK *i* LR LR 20 41 59.6
MNK *i* LRM MLR 20 48 12.8
comp=N,32µm,24.3s
MNK *i* LRM MLR 20 48 23.1
comp=E,3µm,24.3s
MNK *i* LRM MLR 20 48 25.7
comp=Z,42µm,24.3s
IDID Didziasalis 130.62 331 *e*P **PKiKP 19 52 33.9 +0.3**
ISAL Salakas 130.74 332 *e*P **PKiKP 19 52 33.6 -0.3**
NACGM Naroch 130.84 331⇑ *e*PKP **PKiKP 19 52 34.8 +0.7**
BOAV Boa Vista 130.95 101 *e*P **PKPdf 19 52 34.1 -0.6**
BORG Borgarnes 131.04 5 SKPbc **SKPab 19 55 58.7 +2.3**
comp=Z,53nm,0.9s,baz=327,slow=0.7,SNR=7.1
UPP Uppsala 131.07 340 *e*P **PKPdf 19 52 33.6 +0.2**
LODK Lodwar 131.19 260 IAMs_20 IAMs_20 20 49 04.7
comp=Z,36µm,19.0s
LODK Lodwar 131.19 260 P **PKiKP 19 52 37.3 +1.1**
SNR=16
LODK Lodwar 131.19 260 *e*P **Pdif 19 49 32.9 +6.0**
IPMB Ipameri, GO 131.26 133 *e*P **PKPdf 19 52 34.6 -0.6**
VAS01 Vassouras-RJ 131.35 141 *e*P **PKiKP 19 52 35.8 -0.5**
SIM Simferopol' 131.44 316 PKIKP **PKiKP 19 52 36.1 +0.4**
SIM pmax pmax
comp=Z,196nm,1.3s
MOL Molde 131.47 348 *e*PKPdf **PKPdf 19 52 31.7 -2.5**
MOL *e*PP **PP 19 54 53.6 +0.9**
MOL *e*SKPdf **SKPdf 19 56 06.2 -1.7**
MOL *e*SS **SS 20 12 24.8 +0.8**
MOL IVMs_BB IVMs_BB 20 45 16.0
comp=Z,8µm,24.2s
DOMB Dombas 131.61 347 *e*Pdif **Pdif 19 49 26.4 -1.2**
DOMB *e*PKPdf **PKPdf 19 52 32.5 -2.0**
DOMB *e*PP **PP 19 54 51.9 -1.8**
DOMB *e*SKPdf **SKPdf 19 56 04.8 -3.5**
DOMB *e*SS **SS 20 12 26.4 +0.4**
PABE Paberze 131.74 333 IAMs_20 IAMs_20 20 49 56.5
comp=Z,45µm,22.0s
PABE Paberze 131.74 333 *e*P **PKiKP 19 52 37.0 +1.1**
NC303 NORSAR Array S 131.77 345 PKPdf **PKPdf 19 52 34.8 -0.1**
NC405 NORSAR Array S 131.78 344 PKPdf **PKPdf 19 52 34.9 +0.1**
SMRT St. Maarten 131.85 80 *e*P PKPpre 19 52 25.9
NC204 NORSAR Array S 131.88 345 PKPpre 19 52 23.1
NC204 PKPdf **PKPdf 19 52 35.4 +0.3**
SEUS St. Eustatius 131.89 81 IAMs_20 IAMs_20 20 41 26.5
comp=Z,36µm,21.0s
AKASG Malin Array Be 131.92 325 PKhKP PKPpre 19 52 23.5
comp=Z,2.4nm,0.7s,baz=54,slow=3.5,SNR=9.8
AKASG PKP **PKiKP 19 52 36.3 -0.1**
comp=Z,86nm,0.9s,baz=66,slow=2.3,SNR=32
AKASG SKPbc **SKPab 19 56 00.8 +0.3**
comp=Z,28nm,0.8s,baz=45,slow=4.7,SNR=11
AKASG Malin Array Be 131.92 325 PKIKP **PKPdf 19 52 34.5 -0.9**
AKASG Malin Array Be 131.92 325 PKPdf **PKPdf 19 52 34.5 -0.9**
AKBB Malin Array Si 131.92 325*c* *i*PKIKP **PKPdf 19 52 32.8 -2.6**
AKBB Malin Array Si 131.92 325 **PKPdf 19 52 34.4 -1.0**
AKN Aaknes 131.93 348 *e*PKPdf **PKPdf 19 52 34.1 -1.0**
AKN IVmB_BB 19 52 39.7
comp=Z,3µm,1.0s
AKN *e*PP **PP 19 54 54.4 -1.3**
AKN *e*SKPdf **SKPdf 19 56 06.2 -2.6**
AKN *e*SS **SS 20 12 30.4 +0.6**
AKN IVMs_BB IVMs_BB 20 45 39.8
comp=Z,8µm,22.1s
NB201 NORSAR Array S 131.94 345 **PKPdf 19 52 34.7 -0.5**
NB2 NORSAR Subarra 131.97 345 PKPdf **PKiKP 19 52 35.8 -0.5**
comp=Z,2µm,5.0s,baz=31,slow=1.9
NB2 NORSAR Subarra 131.97 345 PKPdf **PKiKP 19 52 35.8 -0.5**
baz=31,slow=1.9
NOA NORSAR Array B 131.97 345 PKhKP PKPpre 19 52 18.7
comp=Z,0.9nm,0.8s,baz=32,slow=2.0,SNR=2.4
NOA PKP **PKPdf 19 52 35.2 0.0**
comp=Z,60nm,0.8s,baz=32,slow=2.0,SNR=50
NOA PP **PP 19 54 58.0 +1.9**
comp=Z,5.9nm,0.9s,baz=32,slow=6.4,SNR=3.2
NOA SKPbc **SKPab 19 56 01.6 +1.1**
comp=Z,16nm,0.9s,baz=32,slow=2.8,SNR=8.9
BNN Bunyan 132.06 308 PKPdf **PKPdf 19 52 35.2 -1.0**
HFS Hagfors 132.06 343 PKP **PKPdf 19 52 35.7 +0.4**
comp=Z,58nm,0.8s,baz=262,slow=40,SNR=40
HFS SKPbc **SKPab 19 56 04.2 +3.3**
comp=Z,22nm,1.0s,baz=269,slow=5.9,SNR=6.8
NBO00 NORSAR Array S 132.09 345 **PKPdf 19 52 35.9 +0.5**
NC602 NORSAR Array S 132.15 344 PKPdf **PKPdf 19 52 33.2 -2.3**
NC602 NORSAR Array S 132.15 344 *e*Pdif **Pdif 19 49 28.9 -1.1**
NC602 *e*PKPdf **PKPdf 19 52 34.6 -1.0**
NC602 *e*PP **PP 19 54 57.2 +0.1**
NC602 *e*SP SP 20 05 06.9 -1.6
NC602 *e*SS **SS 20 12 31.0 -1.4**
NC602 IVMs_BB IVMs_BB 20 45 25.8

comp=Z,10µm,24.1s
DUB01 Friburgo-RJ 132.15 142 *e*P **PKPdf** **19 52 37.2 +0.4**
NAO01 NORSAR Array S 132.22 345 PKPdf **PKPdf** **19 52 35.6 -0.1**
PBUR Paburge 132.27 335 *e*P **PKiKP** **19 52 37.3 +0.3**
TRN Trinidad (W) 132.32 90 *e*P **PKPdf** **19 52 32.7 -4.5**
GRGR Grenville 132.37 88 *e*P PKPpre 19 52 23.9
VIKU Vikbolandet 132.43 340 *e*P **PKiKP** **19 52 37.3 +0.1**
ASF Jabal al Asfar 132.47 299 PKhKP PKPpre 19 52 26.7
comp=Z,4.0nm,1.0s,baz=91,slow=2.7,SNR=4.0
ASF PKP **PKiKP** **19 52 37.8 -0.5**
comp=Z,33nm,0.9s,baz=108,slow=1.2,SNR=30
ASF SKPbc **SKPab** **19 56 06.8 +3.1**
comp=Z,31nm,1.1s,baz=144,slow=2.0,SNR=4.4
BZK Bozkurt 132.53 313 ⇑P **PKPdf** **19 52 31.5 -5.3**
MBFL Flemmings, Mon 132.53 82 *e*P **PKPdf** **19 52 36.7 -0.8**
MLYT Lee's Yard 132.55 82 *e*P **PKiKP** **19 52 42.6 +3.9**
SNDB Serra Nova Dou 132.66 124 *e*P **PKPdf** **19 52 37.2 -0.7**
GCMP Grenada, Carri 132.66 88 *e*P PKPdf 19 52 28.3 -10
ITTB Itaituba 132.76 112 *e*P **PKPdf** **19 52 37.0 -1.2**
CAM01 Campos-RJ 132.77 142 *e*P **PKPdf** **19 52 38.4 +0.5**
FOO Floro 132.85 349 *e*Pdif **Pdif** **19 49 33.1 +0.1**
FOO *e*PKPdf **PKPdf** **19 52 33.7 -3.1**
FOO *e*PP **PP** **19 55 00.5 -1.0**
FOO *e*SS SS 20 12 41.5 +0.8
FOO IVMs_BB IVMs_BB 20 43 18.5
comp=Z,6µm,22.7s
GDHS Morne Mazeau, 132.90 83 IAMs_20 IAMs_20 20 40 40.2
comp=Z,40µm,22.0s
BDFB Brasilia 132.93 130 PKhKP PKPpre 19 52 32.1
comp=Z,20nm,1.0s,baz=322,slow=2.8,SNR=11
BDFB SKPab **SKPab** **19 56 05.9 -0.3**
comp=Z,14nm,1.0s,baz=172,slow=12,SNR=3.1
BDFB Brasilia 132.93 130 PKiKP **PKPdf** **19 52 34.3 -4.2**
BDFB Brasilia 132.93 130 PKPdf **PKPdf** **19 52 34.3 -4.2**
SVB Belmont 132.96 87 *e*P **PKPdf** **19 52 31.2 -7.2**
TDBA Terre de Bas, 132.97 83 IAMs_20 IAMs_20 20 40 22.1
comp=Z,39µm,22.0s
TDBA Terre de Bas, 132.97 83 *e*P **PKPdf** **19 52 33.3 -5.1**
SKAR Skarslia 132.99 346 *e*Pdif **Pdif** **19 49 34.5 +0.7**
SKAR *e*PKPdf **PKPdf** **19 52 36.5 -0.7**
SKAR *e*PP **PP** **19 55 04.0 +1.4**
SKAR *e*SKPdf **SKPdf** **19 56 09.1 -1.8**
SKAR *e*SS **SS** **20 12 46.1 +3.3**
SKAR IVMs_BB IVMs_BB 20 43 41.8
comp=Z,8µm,23.4s
ANBD Bethesda, Anti 132.99 82 *e*P **Pdif** **19 49 31.1 -3.6**
HYA Hoyanger 133.02 348 *e*PKPdf **PKPdf** **19 52 35.7 -1.4**
HYA *e*PP **PP** **19 55 02.7 +0.1**
HYA *e*SKPdf **SKPdf** **19 56 09.0 -1.7**
CBE Ff, Capester 133.03 83 IAMs_20 IAMs_20 20 40 45.4
comp=Z,45µm,22.0s
CBE Ff, Capester 133.03 83 *e*P PKPpre 19 52 27.9
ANWB Willy Bob 133.04 81 *e*P **Pdif** **19 49 34.5 -0.3**
OSL Oslo 133.04 344 *e*PKPdf **PKPdf** **19 52 36.8 -0.4**
OSL *e*PP **PP** **19 55 03.3 +0.5**
SUW Suwalki 133.05 332 *e*PKPdf **PKPdf** **19 52 36.6 -0.8**
SUW *e*PP **PP** **19 55 00.7 -2.5**
SUW *e*L L 20 50 14.7
comp=Z,71µm,23.4s
SUW Suwalki 133.05 332 IAMs_20 IAMs_20 20 51 03.2
comp=Z,60µm,22.0s
SUW Suwalki 133.05 332 *e*P **PKPdf** **19 52 37.6 +0.1**
DSLB Salisbury 133.12 84 *e*P PKPpre 19 52 27.7
MDN Morne-Daniel 133.14 84 *e*P **PKPdf** **19 52 36.0 -2.7**
ABD La Joyeuse, An 133.19 82 IAMs_20 IAMs_20 20 40 59.8
comp=Z,33µm,21.0s
ABD La Joyeuse, An 133.19 82 *e*P PKPpre 19 52 24.5
BHL Bhannes 133.24 302 *e*P **PKiKP** **19 52 40.4 +0.6**
SHBL Chebaa 133.26 301 *e*P **PKiKP** **19 52 41.0 +1.0**
FDF Fort de France 133.29 85 IAMs_20 IAMs_20 20 40 07.8
comp=Z,40µm,22.0s
FDF Fort de France 133.29 85 *e*P **PKPdf** **19 52 33.6 -5.5**
TOSP Speyside 133.29 90 *e*P **PKPdf** **19 52 34.0 -5.0**
MAGL Barre de l'ile 133.32 83 IAMs_20 IAMs_20 20 40 43.3
comp=Z,35µm,22.0s
MAGL Barre de l'ile 133.32 83 *e*P **PKPdf** **19 52 32.6 -6.4**
MCLT Moule a Chique 133.33 86 *e*P **PKPdf** **19 52 31.7 -7.4**
BIM Bigot 133.33 85 IAMs_20 IAMs_20 20 40 11.0
comp=Z,43µm,22.0s
BIM Bigot 133.33 85 *e*P **PKPdf** **19 52 34.9 -4.2**
SLBI Saint Lucia, B 133.35 86 *e*P **PKPdf** **19 52 31.5 -7.6**
SUE Sulen 133.40 348 *e*Pdif **Pdif** **19 49 33.8 -1.7**
SUE *e*PKPdf **PKPdf** **19 52 36.8 -1.0**
SUE *e*PP **PP** **19 55 04.8 -0.2**
BR131 Keskin Array S 133.47 310 P **PKiKP** **19 52 39.7 -0.4**
SNR=37
BRTR Keskin Array B 133.47 310 PKhKP PKPpre 19 52 29.2
comp=Z,0.8nm,0.4s,baz=306,slow=37,SNR=5.7
BRTR PKP **PKiKP** **19 52 40.3 +0.1**
comp=Z,100nm,1.1s,baz=117,slow=1.4,SNR=34
BRTR PP **PP** **19 55 08.2 +1.2**
comp=Z,15nm,0.9s,baz=91,slow=5.5,SNR=5.2
BRTR SKPbc **SKPbc** **19 56 06.4 +0.7**
comp=Z,2.7nm,0.7s,baz=305,slow=36,SNR=2.4
BRTR Keskin Array B 133.47 310 PKPpre 19 52 26.0
MPOM Morne Pois Mar 133.52 85 *e*P **PKPdf** **19 52 33.3 -6.1**
ILAM Ilet Lapin Mar 133.56 85 IAMs_20 IAMs_20 20 40 38.8
comp=Z,42µm,22.0s
ILAM Ilet Lapin Mar 133.56 85 *e*P **PKPdf** **19 52 36.3 -3.2**
GDSD La Dsirade Is 133.57 83 IAMs_20 IAMs_20 20 41 11.0
comp=Z,41µm,22.0s
KONO Kongsberg 133.58 345 *i* PKiKP **PKPdf** **19 52 35.8 -2.5**
KONO Kongsberg 133.58 345 PKPpre 19 52 28.4
KONO Kongsberg 133.58 345 *e*Pdif **Pdif** **19 49 33.3 -3.1**
KONO *e*PKPdf **PKPdf** **19 52 36.8 -1.5**
KONO *e*PP **PP** **19 55 06.8 +0.5**
MMAI Mount Meron Ar 133.60 300 PKP **PKPdf** **19 52 39.8 +0.6**
comp=Z,26nm,1.0s,baz=203,slow=9.7,SNR=14
MMAI SKPbc **SKPab** **19 56 08.7 +0.1**
comp=Z,10nm,0.9s,baz=200,slow=9.4,SNR=6.0
SORM Soroca 133.69 323 ⇑P PKPdf 19 52 30.2 -8.6
SORM Soroca 133.69 323 ⇑PKiKP PKPdf 19 52 30.2 -8.6
GHAJ Ghor Haditha 133.71 298 IAMs_20 IAMs_20 20 56 11.7
comp=Z,30µm,20.0s
ASK Askoy 133.84 348 *e*PKPdf **PKPdf** **19 52 39.3 +0.6**
ASK *e*PP **PP** **19 55 07.7 -0.2**
ASK *e*PKSdf **PKSdf** **19 56 13.9 -0.8**
BER Bergen 133.90 348 *e*Pdif **Pdif** **19 49 36.7 -1.1**
BER *e*PKPdf **PKPdf** **19 52 37.1 -1.7**
BER *e*PP **PP** **19 55 07.3 -1.0**
BER *e*SKPdf **SKPdf** **19 56 10.8 -1.6**
KIS Kishinev 133.96 321 ⇑P **PKPdf** **19 52 38.2 -1.2**
KIS Kishinev 133.96 321 *e*P **Pdif** **19 49 43.0 +4.7**
KIS Kishinev 133.96 321 *i* PKP **PKPdf** **19 52 40.0 +0.6**
comp=Z,1µm,7.4s
KIS Kishinev 133.96 321 *i* PP PP 19 55 00.0 -9.5
comp=Z,4µm,13.4s
KIS *e*SKP 19 56 00.0
KIS Kishinev 133.96 321 *e*PKS 19 56 08.0
KIS *e*LR LR 20 48 07.0
comp=Z,8µm,23.0s
KIS Kishinev 133.96 321 *e*P **Pdif** **19 49 43.0 +4.7**
KIS *i* 19 52 40.0
KIS *i* 19 52 52.0
KIS pmax pmax
comp=Z,1µm,7.4s
MILM Milestii Mici 134.00 321 ⇑P **PKPdf** **19 52 34.4 -5.0**
MILM Milestii Mici 134.00 321 *e*P **Pdif** **19 49 37.0 -1.5**
MILM Milestii Mici 134.00 321 *i* PKP **PKPdf** **19 52 38.0 -1.4**
comp=Z,640nm,1.2s
MILM Milestii Mici 134.00 321 *i* PP PP 19 55 00.0 -10
comp=Z,9µm,13.3s
MILM *e*SKP 19 56 09.0
MILM Milestii Mici 134.00 321 *e*P **Pdif** **19 49 37.0 -1.5**
MILM *i* 19 52 38.0
MILM *i* 19 52 53.0
MILM pmax pmax
comp=Z,2µm,2.8s
TSUM Tsumeb 134.02 221 PKhKP PKPpre 19 52 35.8
comp=Z,38nm,1.0s,baz=79,slow=3.4,SNR=4.9
TSUM SKPab **SKiKP** **19 56 15.2 -1.2**
comp=Z,35nm,1.2s,baz=122,slow=3.3,SNR=4.5
TSUM Tsumeb 134.02 221 IAMs_20 IAMs_20 20 47 16.5
comp=Z,46µm,20.0s
ANTO Ankara 134.05 310 PKHKP PKPpre 19 52 28.8
ANTO Ankara 134.05 310 PKPpre 19 52 28.8
ODD1 Odda 134.06 347 *e*PKPdf **PKPdf** **19 52 38.5 -0.7**
ODD1 *e*PP **PP** **19 55 09.3 -0.1**
ODD1 *e*SKPdf **SKPdf** **19 56 11.2 -1.6**
BR231 Keskin MP Arra 134.07 310 **PKPdf** **19 52 39.4 -0.6**
MBAR Mbarara 134.10 253 PKP **PKPdf** **19 52 41.2 +0.4**
comp=Z,4.8nm,0.2s,baz=141,slow=5.1,SNR=1.6
MBAR SKP 19 56 16.2
comp=Z,26nm,0.9s,baz=113,slow=5.5,SNR=6.8
MBAR Mbarara 134.10 253 P **PKiKP** **19 52 43.0 +0.8**
MBAR Mbarara 134.10 253 *e*P **Pdif** **19 49 49.8 +10**
DIAM Diamantina, MG 134.14 137 *e*P **PKPdf** **19 52 41.0 +0.2**
ALF01 Guarapari-ES 134.25 142 *e*P **PKPdf** **19 52 38.7 -2.0**
EIL Elat 134.44 296 PKP **PKiKP** **19 52 42.2 0.0**
comp=Z,123nm,1.1s,baz=45,slow=0.6,SNR=16
EIL SKPbc **SKPab** **19 56 13.6 +1.3**
comp=Z,41nm,1.1s,baz=245,slow=19,SNR=3.4
BLS5 Blasjo 134.53 346 *e*Pdif **Pdif** **19 49 40.7 0.0**
BLS5 *e*PKPdf **PKPdf** **19 52 38.8 -1.3**
BLS5 *e*PP **PP** **19 55 13.3 +0.9**
BLS5 *e*SS SS 20 13 02.7 +1.4
LEOM Leova 134.56 321 ⇓P **PKPdf** **19 52 35.1 -5.4**
LEOM Leova 134.56 321 ⇓PKiKP **PKPdf** **19 52 35.1 -5.4**
BBGH Gun Hill 134.56 87 IAMs_20 IAMs_20 20 44 49.5
comp=Z,54µm,22.0s
IAS Iasi 134.62 322 ⇓P **PKPdf** **19 52 36.0 -4.6**
IAS Iasi 134.62 322 ⇓PKiKP **PKPdf** **19 52 36.0 -4.6**
DRBR Darabani 134.66 323 ⇑P **PKPdf** **19 52 37.9 -2.7**
VASR Vaslui 134.75 321 ⇑P **PKPdf** **19 52 34.8 -6.1**
TLCR 134.79 319 ⇓P **PKPdf** **19 52 37.2 -3.8**
TLCR 134.79 319 ⇓PKiKP **PKPdf** **19 52 37.2 -3.8**
PEXB Peixe 134.93 126 *e*P **PKPdf** **19 52 42.2 0.0**
JURR Jurilovca 134.93 318 ⇑P **PKPdf** **19 52 36.7 -4.5**
VLDR Vladesti 134.95 320 ⇓P **PKPdf** **19 52 37.1 -4.2**
DEL Delary 134.97 340 *e*P **PKPdf** **19 52 40.9 0.0**
KMY Karmoy 134.99 347 *e*PKPdf **PKPdf** **19 52 40.6 -0.3**
MDUB Mudurnu 135.02 312 PKPpre 19 52 30.0
BIR Birlad 135.03 321 ⇓P **PKPdf** **19 52 36.6 -4.8**
BIR Birlad 135.03 321 ⇓PKiKP **PKPdf** **19 52 36.6 -4.8**
GIUM Giurgiulesti 135.04 319 ⇑P **PKPdf** **19 52 38.6 -2.8**
HOMB Homborsund 135.06 344 *e*Pdif **Pdif** **19 49 41.2 -1.8**
HOMB *e*PKPdf **PKPdf** **19 52 39.5 -1.5**
HOMB *e*PP **PP** **19 55 17.1 +1.4**
VARL Varlezi 135.07 320 ⇑P **PKPdf** **19 52 34.0 -7.5**
SCTR Scanteiesti 135.08 320 ⇓P **PKPdf** **19 52 39.1 -2.4**
MALB Monte Alegre 135.17 110 *e*P **PKPdf** **19 52 42.2 -0.5**
TPGR Topolog 135.19 318 ⇑P **PKPdf** **19 52 35.3 -6.5**
LVV L'vov 135.20 327 *i* PKiKP **PKiKP** **19 52 44.3 +1.2**
LVV *e* 19 52 54.3
LVV *e* 20 05 28.8
LVV MLR MLR
comp=N,34µm,22.0s
LVV MLR MLR
comp=E,20µm,22.0s
LVV MLR MLR
comp=Z,38µm,22.0s
CFR Carcaliu 135.22 319 ⇑P PKPdf 19 52 33.6 -8.2
CFR Carcaliu 135.22 319 ⇑PKiKP PKPdf 19 52 33.6 -8.2
SLCR Slobozia Conac 135.26 320 ⇑P **PKPdf** **19 52 38.8 -3.0**
GHRR 135.26 320 ⇓P PKPdf 19 52 33.3 -8.5
SCHL Schela 135.26 320 ⇑P **PKPdf** **19 52 40.4 -1.5**
IZVR Izvoarele 135.28 320 ⇑P **PKPdf** **19 52 35.7 -6.1**
SNART Snartemo 135.33 345 *e*PKPdf **PKPdf** **19 52 41.2 -0.4**
SNART *e*PP **PP** **19 55 17.3 -0.1**
TIRR Tirgusor 135.37 318 ⇑P **PKPdf** **19 52 36.1 -5.9**
TIRR Tirgusor 135.37 318 ⇑P **PKPdf** **19 52 36.1 -5.9**
TIRR Tirgusor 135.37 318 ⇑PKiKP **PKPdf** **19 52 36.1 -5.9**
EFOR EFORIE 135.39 317 ⇑P **PKPdf** **19 52 39.7 -2.4**
OVD Ostervraa, Den 135.42 343 *i* P **PKPdf** **19 52 38.4 -3.4**
OVD IVMs_BB IVMs_BB 20 49 27.0
comp=Z,13µm,23.1s
SJMB Sao Joao De Ma 135.43 140 *e*P **PKiKP** **19 52 43.9 -0.7**
MFTR Murfatlar 135.48 318 ⇓P **PKiKP** **19 52 43.7 -0.2**
TESR Tescani 135.50 321 ⇑P **PKPdf** **19 52 37.2 -5.1**
PANC Panciu 135.51 320 ⇑P **PKPdf** **19 52 35.8 -6.5**
MANR Mangalia 135.53 317 ⇑P **PKiKP** **19 52 43.8 -0.1**
TLBR Topalu 135.56 318 ⇑P **PKiKP** **19 52 43.7 -0.3**
HARR Harsova 135.57 319 ⇑P **PKPdf** **19 52 39.0 -3.5**
HARR Harsova 135.57 319 ⇑PKiKP **PKPdf** **19 52 39.0 -3.5**
CVDA Cernavoda 135.66 318 ⇑P **PKPdf** **19 52 39.6 -3.0**
BSD Bornholm Skovb 135.67 338 *e*P **PKPdf** **19 52 41.5 -0.8**
BSD Bornholm Skovb 135.67 338 *i* P PKPdf 19 52 34.3 -8.0
BSD IVMs_BB IVMs_BB 20 54 34.6
comp=Z,9µm,20.5s
BORA Eskisehir 135.75 311 PKPpre 19 52 31.1
BUR08 Bucovina Ar. S 135.77 324 PKPpre 19 52 31.5
VRI Vrincioaia 135.77 321 ⇓P PKPpre 19 52 32.4
VRI Vrincioaia 135.77 321 ⇓PKHKP PKPpre 19 52 32.4
BUR01 Bucovina Ar. S 135.77 323 ⇑P **PKPdf** **19 52 39.6 -3.3**
BURAR Bucovina Array 135.77 323 ⇑P PKPpre 19 52 32.4
BURAR Bucovina Array 135.77 323 ⇑PKHKP PKPpre 19 52 32.4
BURAR Bucovina Array 135.77 323 PKPpre 19 52 30.8
KALB Balgarevo 135.82 317 ⇑P **PKPdf** **19 52 41.3 -1.6**
PLOR Plostina 135.83 321 ⇓P **PKPdf** **19 52 37.4 -5.6**
PLOR Plostina 135.83 321 ⇓PKiKP **PKPdf** **19 52 37.4 -5.6**
GRER 135.85 320 ⇑P **PKPdf** **19 52 39.8 -3.2**
PSN Preselentsi 135.85 317 *e*P **PKPdf** **19 52 43.0 0.0**
ICOR Ion Corvin 135.91 318 ⇑P **PKPdf** **19 52 36.8 -6.3**
BISRR Bisoca 135.94 320 ⇓P PKPdf 19 52 35.3 -7.9
GOET G??ttrup 135.94 343 *i* P **PKPdf** **19 52 38.4 -4.3**
JANB Januaria 135.98 133 *e*P **PKPdf** **19 52 43.9 -0.3**
AMRR Amara 135.99 319 ⇑P **PKPdf** **19 52 42.9 -0.3**
AMRR Amara 135.99 319 ⇑PKiKP **PKPdf** **19 52 42.9 -0.3**
KWP Kalwaria Pacla 136.00 327 *e*PKPdf PKPpre 19 52 29.8
KWP *e*PP **PP** **19 55 17.8 -4.4**
KWP *e*SS SS 20 13 06.3 -14
KWP *e*L L 20 52 56.2
comp=Z,56µm,22.9s
PGOR Pogoanele 136.07 319 ⇑P **PKPdf** **19 52 38.8 -4.5**
COP Copenhagen 136.08 340 *i* P **PKPdf** **19 52 37.0 -6.0**
COP IVMs_BB IVMs_BB 20 50 22.3
comp=Z,67µm,22.1s
COVR Voineasa-Covas 136.10 321 ⇓P **PKPdf** **19 52 39.2 -4.2**
GKP Gorka Klasztor 136.15 334 *e*PKPdf PKPdf 19 52 35.0 -8.3
GKP *e*PP **PP** **19 55 22.8 0.0**
GKP *e*SP SP 20 05 47.8 +4.7
GKP *e*SS SS 20 13 48.0 +27
GKP *e*L L 20 53 17.2
comp=Z,59µm,22.6s
GKP Gorka Klasztor 136.15 334 *e*P **PKPdf** **19 52 44.0 +0.8**
ISR Istrita 136.25 320 ⇑P PKPpre 19 52 34.5
ISR Istrita 136.25 320 ⇑PKHKP PKPpre 19 52 34.5
NEHR Nehoiu 136.25 320 ⇑P **PKPdf** **19 52 40.5 -3.3**
RASA Rasa 136.29 318 ⇑P **PKPdf** **19 52 42.8 -1.0**
ISK Istanbul-Kandi 136.32 313 P PKPdf 19 52 34.7 -9.3
LEHL Lehliu 136.38 319 ⇑P **PKPdf** **19 52 41.3 -2.7**
MLR Muntele Rosu 136.43 320 ⇑P **PKPdf** **19 52 39.4 -4.9**
MLR Muntele Rosu 136.43 320 PKhKP PKPpre 19 52 37.1
comp=Z,107nm,1.1s,baz=14,slow=3.9,SNR=45
MLR PKP **PKPdf** **19 52 45.1 +0.9**
comp=Z,107nm,1.1s,baz=7.2,slow=3.4,SNR=45
MLR SKP 19 56 21.3
comp=Z,18nm,1.0s,baz=203,slow=23,SNR=2.5
MLR Muntele Rosu 136.43 320 IAMs_20 IAMs_20 20 57 28.0
comp=Z,34µm,21.0s
LLD Lille Linde 136.44 340 *i* P **PKPdf** **19 52 38.8 -4.9**
MUD Monsted U'grnd 136.45 343 *i* P **PKPdf** **19 52 36.5 -7.1**
MUD IVMs_BB IVMs_BB 20 52 28.1
comp=Z,14µm,20.5s
DOPR Dopca 136.53 321 ⇑P **PKPdf** **19 52 40.2 -4.0**
ARCR ARCALIA 136.55 323 ⇑P **PKPdf** **19 52 39.6 -4.6**
SECR 136.58 320 ⇑P **PKPdf** **19 52 39.6 -4.8**
SULR 136.64 319 ⇑P **PKPdf** **19 52 41.4 -3.0**
KOLS Kolonicke sedl 136.65 327 *e*PKiKP **PKPdf** **19 52 45.2 +0.8**
KOLS Kolonicke sedl 136.65 327 *e*PKP **PKPdf** **19 52 45.2 +0.8**
RGN Rugen 136.69 338 IAMs_20 IAMs_20 20 53 14.8
comp=Z,35µm,21.0s
BMR Baia Mare 136.71 324 ⇑P **PKPdf** **19 52 40.6 -3.9**
BMR Baia Mare 136.71 324 ⇑PKiKP **PKPdf** **19 52 40.6 -3.9**
UZH Uzhgorod 136.82 326 *e*PKHKP PKPpre 19 52 33.0
UZH *e* 19 52 45.3
UZH *i* 19 55 23.0
RAZG Razgrad 137.00 318 ⇑P **PKPdf** **19 52 43.4 -1.8**
VOIR 137.01 321 ⇑P **PKPdf** **19 52 38.7 -6.5**
VOIR 137.01 321 ⇑PKiKP **PKPdf** **19 52 38.7 -6.5**
SGRR Singureni 137.03 319 ⇓P **PKPdf** **19 52 43.8 -1.4**
CRVS Cervenica-Dubn 137.09 327 *e*PKiKP **PKPdf** **19 52 46.0 +0.8**
CRVS Cervenica-Dubn 137.09 327 *e*PKP **PKPdf** **19 52 46.0 +0.8**
OJC Ojcow 137.10 330 *e*PKPdf PKPpre 19 52 31.9
OJC *e*PP **PP** **19 55 21.3 -7.7**
OJC *e*SP SP 20 06 02.9 +11
OJC *e*SS SS 20 13 14.3 -18
OJC *e*L L 20 53 47.7
comp=Z,43µm,22.3s
OJC Ojcow 137.10 330 IAMs_20 IAMs_20 20 54 01.4
comp=Z,40µm,22.0s
MTUR Matau 137.10 321 ⇑P **PKPdf** **19 52 46.2 +0.8**
MTUR Matau 137.10 321 ⇑PKiKP **PKPdf** **19 52 46.2 +0.8**
BIGH Upper Bighouse 137.19 353 *e*P **PKPdf** **19 52 40.8 -4.2**
BIGH IAMs_20 IAMs_20 20 54 32.9
comp=Z,23µm,19.2s
CBBR Cluj-Babes-Bol 137.19 323 ⇑P **PKPdf** **19 52 42.4 -3.0**
CJR Cluj-Napoca 137.19 323 ⇑P **PKPdf** **19 52 44.2 -1.3**
CJR Cluj-Napoca 137.19 323 ⇑PKiKP **PKPdf** **19 52 44.2 -1.3**
CEI Carei 137.28 325 ⇓P **PKPdf** **19 52 41.1 -4.4**
CEI Carei 137.28 325 ⇓PKiKP **PKPdf** **19 52 41.1 -4.4**
ARR Arges 137.29 321 ⇑P **PKPdf** **19 52 45.2 -0.5**
MESR Meseseni 137.32 324 ⇑P **PKPdf** **19 52 43.5 -2.1**
SDBA SAO DESIDERIO 137.32 130 *e*P **PKPdf** **19 52 44.5 -2.2**
NIE Niedzica 137.37 328 *e*PKPdf PKPpre 19 52 35.4
NIE *e*PP **PP** **19 55 30.2 -0.4**
NIE *e*SS SS 20 13 39.0 +3.0
SMTB Santa Maria do 137.42 123 *e*P **PKPdf** **19 52 44.5 -2.4**
JMB Yambol 137.44 316 *e*P **PKiKP** **19 52 47.0 -0.9**
HUMR Humele 137.50 320 ⇑P PKPdf 19 52 37.3 -8.8
SZH Strazhica 137.50 318 *e*P PKPdf 19 52 37.0 -9.1
KULA Kula-Manisa 137.53 310 P PKPpre 19 52 32.0
COPA Copaceanca 137.55 319 ⇑P **PKPdf** **19 52 43.0 -3.2**
KSL Kastellorizon 137.57 306 P **PKPdf** **19 52 42.8 -3.6**
EDRB Edirne 137.60 315 P PKPpre 19 52 33.7
DRGR 137.65 324 ⇓P PKPpre 19 52 37.5
DRGR 137.65 324 ⇓PKHKP PKPpre 19 52 37.5
LINV Loch Inver, As 137.66 354 *e*P **PKPdf** **19 52 40.7 -5.1**
LINV IAMs_20 IAMs_20 20 47 48.1
comp=Z,28µm,23.2s
BALB Balikesir 137.69 312 **PKPdf** **19 52 42.5 -4.0**
LTVH Ltavrtes, Hu 137.76 325 ⇓P **PKPdf** **19 52 41.7 -4.8**
LOT Lotru 137.77 322 ⇑P **PKPdf** **19 52 42.6 -4.1**
MCPB Macapa, AP 137.79 109 *e*P **PKPdf** **19 52 46.5 -1.0**
KECS Kecovo 137.86 327 *e*PKiKP **PKiKP** **19 52 47.6 -1.0**
KECS Kecovo 137.86 327 *e*PKP **PKiKP** **19 52 47.6 -1.0**
GUA01 Guaratinga, BA 137.88 139 *e*P **PKPdf** **19 52 46.8 -0.8**
PVL Pavlikeni 137.92 318 *e*P PKPdf 19 52 38.0 -8.8
LANS Liptovska Anna 137.96 329 *e*PKiKP **PKPdf** **19 52 47.8 +1.0**
LANS Liptovska Anna 137.96 329 *e*PKP **PKPdf** **19 52 47.8 +1.0**
BORR Bors 138.00 325 ⇑P **PKPdf** **19 52 42.6 -4.3**
DEV Deva 138.05 323 ⇑P **PKPdf** **19 52 44.6 -2.4**
DEV Deva 138.05 323 ⇑PKiKP **PKPdf** **19 52 44.6 -2.4**
VLAD Vladila 138.13 319 ⇑P **PKPdf** **19 52 43.8 -3.4**
RUE Ruedersdorf 138.13 336 *e*P **PKiKP** **19 52 48.5 -0.5**
OKC Ostrava-Krasne 138.15 330 *e*PKiKP **PKPdf** **19 52 40.6 -6.5**
OKC *e* 19 52 46.5
OKC *e* 19 55 32.9
OKC MLR MLR
comp=Z,45µm,22.8s
OKC Ostrava-Krasne 138.15 330 *e*PKPpre PKPpre 19 52 40.6
OKC *e*PKPDF **PKPdf** **19 52 46.5 -0.6**
OKC *e*PP **PP** **19 55 32.9 -2.5**
OKC AMS AMS 20 51 50.0
comp=Z,45µm,22.8s
YER Yerkesik 138.27 308 P PKPpre 19 52 37.4
KSP Ksiaz 138.30 333 *e*PKPdf PKPdf 19 52 37.9 -9.4
KSP *e*PP **PP** **19 55 31.5 -4.8**
KSP *e*SS SS 20 13 55.0 +8.2
KSP *e*L L 20 54 32.6
comp=Z,67µm,21.8s
KAC Achnashellach 138.31 354 *e*P **PKPdf** **19 52 43.4 -3.8**
GZR Gura Zlata 138.39 322 ⇑P PKPdf 19 52 38.3 -9.5
GZR Gura Zlata 138.39 322 ⇑PKHKP PKPpre 19 52 38.3
MORC Moravsky Berou 138.47 331 ⇑P PKPpre 19 52 39.5
MORC Moravsky Berou 138.47 331 ⇑PKHKP PKPpre 19 52 39.5
MORC Moravsky Berou 138.47 331 *e*PKP PKPpre 19 52 39.2
MORC *e*PP **PP** **19 55 39.6 +2.1**
ALN Alexandroupoli 138.48 314 P PKPpre 19 52 34.7
ALN Alexandroupoli 138.48 314 PKHKP PKPpre 19 52 36.3
ALN Alexandroupoli 138.48 314 PKPpre 19 52 36.3
KPL Plockton 138.50 354 *e*P **PKPdf** **19 52 44.3 -3.2**
KPL IAMs_20 IAMs_20 20 50 16.9
comp=Z,26µm,23.2s
PSZ Piszkesteto 138.52 327 ⇓P PKPpre 19 52 38.6
PSZ Piszkesteto 138.52 327 ⇓PKHKP PKPpre 19 52 38.7
PSZ Piszkesteto 138.52 327 IAMs_20 IAMs_20 20 56 32.4
comp=Z,38µm,21.0s
PSZ Piszkesteto 138.52 327 PKP **PKPdf** **19 52 41.8 -6.2**
SRE Strehaia 138.53 321 ⇓P **PKPdf** **19 52 43.3 -4.6**
SRE Strehaia 138.53 321 ⇓PKiKP **PKPdf** **19 52 43.3 -4.6**
OSTC Ostas 138.54 332 *e*PKPpre PKPpre 19 52 39.3
OSTC *e*PKPDF **PKPdf** **19 52 47.1 -0.7**
OSTC *e*PP **PP** **19 55 34.7 -3.1**
OSTC AMS AMS 20 54 30.0
comp=Z,78µm,21.9s
SIRR Siria 138.55 324 ⇑P **PKPdf** **19 52 42.3 -5.7**
KDZ Kurdzhali 138.58 316 *e*P PKPdf 19 52 40.0 -8.2
CHVC Chvalec 138.59 332 *e*PKPpre PKPpre 19 52 40.6
CHVC *e*PKPDF **PKPdf** **19 52 48.5 +0.6**
CHVC *e*PP PP 19 55 30.1 -8.0
CHVC AMS AMS 20 54 30.0
comp=Z,67µm,21.4s
KRLC Kraliky 138.62 331 *e*PKHKP PKPpre 19 52 40.6
KRLC *e* 19 52 48.1
KRLC MLR MLR
comp=Z,68µm,22.7s
KRLC Kraliky 138.62 331 *e*PKPpre PKPpre 19 52 40.6
KRLC *e*PKPDF **PKPdf** **19 52 48.1 +0.1**
KRLC *e*PP PP 19 55 14.6 -24
KRLC AMS AMS 20 53 30.0
comp=Z,68µm,22.7s
DPC Dobruska-Polom 138.64 332 *e*PKHKP PKPpre 19 52 40.3
DPC *e* 19 52 45.0
DPC MLR MLR
comp=Z,78µm,22.2s
DPC Dobruska-Polom 138.64 332 *e*PKPpre PKPpre 19 52 40.3
DPC *e*PKPDF **PKPdf** **19 52 45.0 -3.0**
DPC *e*PP PP 19 55 29.2 -9.3
DPC AMS AMS 20 54 30.0
comp=Z,78µm,22.2s
UPC Upice 138.66 332 *e*PKHKP PKPpre 19 52 40.7
UPC MLR MLR
comp=Z,70µm,21.1s
UPC Upice 138.66 332 *e*PKPpre PKPpre 19 52 40.7
UPC *e*PKPDF **PKiKP** **19 52 50.4 +0.2**
UPC *e*PP PP 19 55 28.3 -10
UPC AMS AMS 20 54 30.0
comp=Z,70µm,21.1s
ARG Arkhangelos 138.68 307 P **PKPdf** **19 52 49.5 +1.0**
VYHS Vyhne 138.70 328 *e*PKiKP **PKPdf** **19 52 48.2 0.0**
VYHS Vyhne 138.70 328 *e*PKP **PKPdf** **19 52 48.2 0.0**
BSZH Besenyszg 138.71 326 ⇑P **PKPdf** **19 52 44.2 -3.9**
BSZH Besenyszg 138.71 326 PKP **PKPdf** **19 52 48.5 +0.3**
RDO Rodhopi 138.72 315 P PKPpre 19 52 34.0
EZN Ezine 138.72 313 P PKPpre 19 52 37.4
BAIL Bailesti 138.78 320 ⇑P **PKPdf** **19 52 44.7 -3.7**
PLD Plovdiv 138.85 317 *e*P **PKPdf** **19 52 41.0 -7.6**
KOLL Kolacno 138.86 329 *e*PKP **PKPdf** **19 52 48.7 +0.3**
HERR Herculane 138.88 322 ⇓P **PKPdf** **19 52 41.1 -7.5**
PUNG Punghina 138.90 321 ⇑P **PKPdf** **19 52 45.2 -2.7**
DAT Datca 138.94 308 P PKPpre 19 52 36.7
DJES Djerdap 138.94 321 ⇑P **PKPdf** **19 52 41.6 -7.1**
BZS Buzias 138.94 323 ⇓P **PKPdf** **19 52 42.2 -6.5**
BZS Buzias 138.94 323 ⇓PKiKP **PKPdf** **19 52 42.2 -6.5**
CMC01 Camacan, BA 138.98 138 *e*P **PKPdf** **19 52 49.1 -0.5**
PGB Panagyurishte 138.99 318 *e*P **PKPdf** **19 52 42.0 -6.9**
PRK Paraskevi 138.99 312 P PKPpre 19 52 34.7
RZN Rozhen 139.03 316 *e*P PKPdf 19 52 40.0 -9.2
JAVC Velka Javorina 139.04 329 *e*PKP **PKPdf** **19 52 42.1 -6.7**
JAVC *e*PP **PP** **19 55 45.9 +4.8**
TIM Timisoara 139.10 323 ⇑P **PKPdf** **19 52 45.2 -3.7**
TIM Timisoara 139.10 323 ⇑PKiKP **PKPdf** **19 52 45.2 -3.7**
SMG Samos 139.16 310 P PKPpre 19 52 35.0
**INVG Inv

BRG				Amp			19 52 50.8		
	comp=Z,33nm,1.1s								
BRG				*i* x		x	19 52 52.4		
BRG				Amp			19 52 55.8		
	comp=Z,240nm,1.1s								
BRG				SKP			19 55 44.9		
BRG				Amp			19 55 46.6		
	comp=Z,33nm,1.3s								
BRG				*ex*		x	19 56 31.1		
BRG				Amp			19 56 32.8		
	comp=Z,70nm,1.2s								
BRG	**Berggiesshubel**	**139.29 334**	⇑	SKKSa			20 08 04.0		
BRG	**Berggiesshubel**	**139.29 334**		PKHKP		PKPpre	19 52 42.0		
BRG							19 55 44.9		
BRG							20 08 04.0		
BRG				pmax		pmax			
	comp=Z,33nm,1.1s								
BRG				MLR		MLR			
	comp=Z,48µm,22.1s								
BRG				MLR		MLR			
	comp=E,23µm,22.5s								
NISR	**Nisiros**	**139.31 308**		P		PKPpre	19 52 39.4		
CLL	**Collm**	**139.34 335**	*i*	PKIKP		**PKiKP**	**19 52 51.8**	**+0.3**	
CLL			*e*				19 55 46.0		
CLL				pmax		pmax			
	comp=Z,199nm,1.0s								
CLL				MLR		MLR			
	comp=Z,39µm,20.5s								
CLL	**Collm**	**139.34 335**		IAMs_20		IAMs_20	20 57 39.2		
	comp=Z,39µm,20.0s								
CLL	**Collm**	**139.34 335**	*e*	Pdif		**Pdif**	**19 50 08.0**	**+5.8**	
CLL			*i*	PKPpre		PKPpre	19 52 44.2		
	comp=Z,36nm,0.9s								
CLL			*i*	PKPdf		**PKPdf**	**19 52 49.3**	**+0.1**	
	comp=Z,43nm,1.1s								
CLL			*i*	PKPdf		**PKiKP**	**19 52 51.8**	**+0.3**	
	comp=Z,109nm,1.0s								
CLL			*i*	PKPmax			19 52 54.3		
	comp=Z,199nm,1.0s								
CLL			*ex*			x	19 55 27.0		
CLL			*e*	PP		**PP**	**19 55 46.0**	**+3.4**	
	comp=N,5µm,13.8s								
CLL			*e*	PP		**PP**	**19 55 46.0**	**+3.4**	
	comp=E,4µm,15.2s								
CLL			*e*	PP		**PP**	**19 55 46.0**	**+3.4**	
	comp=Z,10µm,18.7s								
CLL			*e*	PKSdf		**PKSdf**	**19 56 28.0**	**+2.9**	
CLL			*e*	PSKS			20 05 48.0		
CLL			*e*	PPS		PPS	20 08 00.0		
CLL			*e*	SS		SS	20 14 12.0	+13	
CLL			*e*	SSS		SSS	20 19 18.0		
CLL			*ex*			x	20 28 30.0		
CLL				Lmax			20 57 00.0		
CLL				LmV			20 57 00.0		
	comp=Z,39µm,20.5s								
BANR	**Banloc**	**139.36 323**	⇑	P		**PKPdf**	**19 52 45.4**	**-4.0**	
MDVR	**Moldovita**	**139.36 322**	⇑	P		**PKPdf**	**19 52 41.9**	**-7.7**	
KOSK	**Kos Island**	**139.38 308**		P		PKPpre	19 52 37.4		
SMOL	**Smolenice**	**139.39 329**	*e*	PKIKP		**PKPdf**	**19 52 49.4**	**0.0**	
SMOL	**Smolenice**	**139.39 329**	*e*	PKP		**PKPdf**	**19 52 49.4**	**0.0**	
BLKB	**Belogradchik**	**139.40 320**	⇓	P		**PKPdf**	**19 52 42.2**	**-7.4**	
SRO	**Srobarova**	**139.41 328**	*e*	PKIKP		**PKPdf**	**19 52 50.5**	**+1.1**	
SRO	**Srobarova**	**139.41 328**	*e*	PKP		**PKPdf**	**19 52 50.5**	**+1.1**	
CHOS	**Chios island**	**139.48 311**		P		PKPpre	19 52 35.4		
LIA	**Limnos Island**	**139.50 313**		P		PKPpre	19 52 39.1		
KRUC	**Moravsky**	**139.51 331**	*e*	PKP		PKPdf	19 52 41.8	-7.8	
KRUC			*e*	PP		**PP**	**19 55 46.6**	**+2.7**	
LAWE	**Loch Awe, Argy**	**139.54 354**	*e*	P		PKPpre	19 52 39.3		
LAWE				IAMs_20		IAMs_20	20 58 22.2		
	comp=Z,28µm,21.2s								
VTS	**Vitosha**	**139.55 318**	⇑	P		PKPpre	19 52 43.3		
VTS	**Vitosha**	**139.55 318**		PKHKP		PKPpre	19 52 41.5		
VTS	**Vitosha**	**139.55 318**				PKPpre	19 52 41.5		
VTS	**Vitosha**	**139.55 318**	*e*	P		PKPpre	19 52 43.0		
MODS	**Modra-Piesok**	**139.56 329**	*e*	PKIKP		**PKPdf**	**19 52 50.9**	**+1.2**	
MODS	**Modra-Piesok**	**139.56 329**	*e*	PKP		**PKPdf**	**19 52 50.8**	**+1.1**	
KARP	**Karpathos**	**139.63 306**		P		PKPpre	19 52 37.1		
PRU	**Pruhonice**	**139.69 333**	*e*	PKIKP		PKPpre	19 52 44.4		
PRU			*e*				19 52 50.7		
PRU				MLR		MLR			
	comp=Z,64µm,22.6s								
PRU	**Pruhonice**	**139.69 333**	*e*	PKPpre		PKPpre	19 52 44.4		
PRU			*e*	PKPDF		**PKPdf**	**19 52 50.7**	**+0.8**	
PRU			*e*	PP		PP	19 55 35.6	-9.3	
PRU			*e*	PKS		**PKSdf**	**19 56 32.0**	**+6.2**	
PRU				AMS		AMS	20 53 40.0		
	comp=Z,64µm,22.6s								
EBL	**Broad Law**	**139.73 352**	*e*	P		**PKPdf**	**19 52 42.2**	**-7.6**	
MMB	**Musomiste**	**139.73 317**	*e*	P		PKPdf	19 52 42.0	-8.3	
NVR	**Nevrokopi**	**139.75 316**		P		PKPpre	19 52 36.1		
ZST	**Bratislava**	**139.76 329**	*e*	PKIKP		**PKiKP**	**19 52 51.3**	**-1.2**	
ZST	**Bratislava**	**139.76 329**	*e*	PKP		**PKiKP**	**19 52 51.3**	**-1.2**	
TREC	**Trest**	**139.77 331**	*e*	PKIKP		PKPpre	19 52 45.4		
TREC			*e*				19 52 52.6		
TREC			*e*				19 55 54.8		
TREC				MLR		MLR			
	comp=Z,102µm,21.9s								
TREC	**Trest**	**139.77 331**	*e*	PKPpre		PKPpre	19 52 45.4		
TREC			*e*	PKPDF		**PKiKP**	**19 52 52.6**	**+0.1**	
TREC			*e*	PP		PP	19 55 54.8	+9.3	
TREC				AMS		AMS	20 55 40.0		
	comp=Z,102µm,21.9s								
PGBU	**Glenifferbraes**	**139.88 353**	*e*	P		PKPdf	19 52 41.8	-8.2	
PGBU				IAMs_20		IAMs_20	20 59 11.6		
	comp=Z,31µm,19.9s								
KOKK	**Kokkinochori,**	**139.91 315**		P		PKPpre	19 52 37.4		
BOVS	**Bovan**	**139.99 320**	⇑	P		PKPdf	19 52 41.6	-9.0	
KKB	**Krupnik**	**140.02 317**	*e*	P		**PKPdf**	**19 52 43.0**	**-7.8**	
OUR	**Ouranopolis**	**140.14 315**		P		PKPpre	19 52 36.7		
GDU01	**Guandu, BA**	**140.15 137**	*e*	P		**PKPdf**	**19 52 51.4**	**-0.4**	
EKA	**Eskdalemuir Ar**	**140.18 352**		PKhKP		PKPpre	19 52 41.6		
	comp=Z,6.6nm,0.5s,baz=18,slow=2.3,SNR=21								
ESK	**Eskdalemuir**	**140.20 352**		IAMs_20		IAMs_20	21 00 11.8		
	comp=Z,28µm,20.0s								
FRGS	**Fruska Gora**	**140.25 324**	⇑	P		**PKPdf**	**19 52 44.9**	**-6.2**	
FRGS	**Fruska Gora**	**140.25 324**	⇑	*i* P		PKPpre	19 52 39.7		
MORH	**Mrgy, Hungar**	**140.25 326**	⇑	P		**PKPdf**	**19 52 46.9**	**-4.1**	
MORH	**Mrgy, Hungar**	**140.25 326**	⇑	*i* P		PKPpre	19 52 39.0		
SOH	**Sokhos**	**140.34 316**		P		PKPpre	19 52 39.4		
APE	**Apeiranthos**	**140.36 309**	⇑	P		**PKPdf**	**19 52 46.7**	**-4.9**	
APE	**Apeiranthos**	**140.36 309**		P		PKPpre	19 52 36.7		
APE	**Apeiranthos**	**140.36 309**	⇑	PKIKP		**PKPdf**	**19 52 46.7**	**-4.9**	
SKY	**Skiros Island**	**140.37 312**		P		**PKPdf**	**19 52 43.8**	**-7.7**	
NKC	**Novy Kostel**	**140.40 335**	*e*	PKIKP		**PKPdf**	**19 52 45.3**	**-5.9**	
NKC			*e*				19 55 48.4		
NKC				MLR		MLR			
	comp=Z,55µm,23.5s								
NKC	**Novy Kostel**	**140.40 335**	*e*	PKPpre		PKPpre	19 52 45.3		
NKC			*e*	PP		**PP**	**19 55 48.4**	**-0.8**	
NKC			*e*	PKS		**PKSdf**	**19 56 29.2**	**+2.2**	
NKC				AMS		AMS	20 55 00.0		
	comp=Z,55µm,23.5s								
TMAB	**Tom-Au,PA,Br**	**140.43 114**	*e*	P		**PKPdf**	**19 52 52.3**	**-0.1**	
RONA	**Rosalia, Austr**	**140.50 329**	*i*	P		**PKPdf**	**19 52 47.6**	**-4.0**	
	comp=Z,61nm,1.3s,SNR=26								
ZKR	**Zakros**	**140.50 306**		P		PKPpre	19 52 41.1		
CONA	**Conrad Observa**	**140.55 330**	*i*	P		**PKPdf**	**19 52 47.4**	**-4.3**	
	comp=Z,37nm,1.0s,SNR=20								
HORT	**Hortiatis**	**140.62 316**		P		PKPpre	19 52 38.4		
VAY	**Valandovo**	**140.62 317**	*i*	P		**PKPdf**	**19 52 44.9**	**-7.0**	
CKRC	**Cesky Krumlov**	**140.65 332**	*e*	PKPpre		PKPpre	19 52 45.4		
CKRC			*e*	PKPDF		**PKiKP**	**19 52 55.0**	**+0.7**	
CKRC			*e*	PP		**PP**	**19 55 47.5**	**-3.3**	
CKRC			*e*	PKS		**PKSdf**	**19 56 29.7**	**+2.2**	
STIP	**Stip**	**140.69 318**	*i*	P		**PKPdf**	**19 52 44.8**	**-7.2**	
THE	**Thessaloniki**	**140.69 316**		P		PKPpre	19 52 38.1		
KHC	**Kasperske Hory**	**140.75 333**	*e*	PKIKP		PKPpre	19 52 46.0		
KHC			*e*				19 52 52.9		
KHC			*e*				19 55 47.0		
KHC				MLR		MLR			
	comp=Z,68µm,22.7s								
KHC	**Kasperske Hory**	**140.75 333**	*e*	PKPpre		PKPpre	19 52 46.0		
KHC			*e*	PKPDF		**PKPdf**	**19 52 52.9**	**+1.0**	
KHC			*e*	pPKP		sPKPdf	19 53 04.5	+0.9	
KHC			*e*	PP		**PP**	**19 55 47.0**	**-4.4**	
KHC			*e*	PKS		**PKSdf**	**19 56 33.1**	**+5.4**	
KHC				AMS		AMS	20 54 10.0		
	comp=Z,68µm,22.7s								
DIVS	**Divibare**	**140.76 322**				PKPpre	19 52 44.2		
DIVS	**Divibare**	**140.76 322**	*e*	P		PKPpre	19 52 42.7		
TEKS	**Tekeris**	**140.77 323**	*e*	P		**PKPdf**	**19 52 48.6**	**-3.5**	
BLJ	**Bijeljina**	**140.78 323**	*e*	P		**PKiKP**	**19 52 54.5**	**-0.1**	
KYMI	**Kymi, Euboea I**	**140.79 312**		P		PKPpre	19 52 39.4		
GAL1	**Galloway**	**140.83 353**	*e*	P		**PKPdf**	**19 52 44.4**	**-7.4**	
GAL1				IAMs_20		IAMs_20	20 53 13.7		
	comp=Z,29µm,22.1s								
GEC2	**GERESS Array S**	**140.90 332**				PKPpre	19 52 46.0		
GERES	**GERESS Array B**	**140.90 332**		PKhKP		PKPpre	19 52 45.7		
	comp=Z,14nm,0.8s,baz=49,slow=3.6,SNR=39								
GERES				SKPbc		**SKiKP**	**19 56 30.1**	**+0.6**	
	comp=Z,11nm,0.9s,baz=42,slow=2.2,SNR=3.0								
GERES	**GERESS Array B**	**140.90 332**		PKHKP		PKPpre	19 52 45.0		
GERES	**GERESS Array B**	**140.90 332**				PKPpre	19 52 45.0		
FRMA	**Ierapetra Chan**	**140.91 306**		P		**PKPdf**	**19 52 45.5**	**-7.1**	
GRG	**Griva**	**140.91 316**		P		PKPpre	19 52 40.8		
SKO	**Skopje**	**141.03 318**	*i*	P		**PKPdf**	**19 52 47.3**	**-5.3**	
XOR	**Xorichti**	**141.11 314**		P		PKPpre	19 52 39.4		
NEO	**Neokhori**	**141.12 314**		P		**PKPdf**	**19 52 46.5**	**-6.4**	
DION	**Dionisos Attik**	**141.14 311**		P		PKPpre	19 52 40.8		
ARSA	**Arzberg**	**141.19 329**	*e*	P		**PKPdf**	**19 52 48.6**	**-4.1**	
	comp=Z,43nm,1.0s,SNR=19								
BBLS	**Lazići**	**141.24 322**	⇑	*i* P		PKPdf	19 52 43.2	-10	
LIT	**Litokhoron**	**141.26 315**		P		PKPpre	19 52 41.5		
LIT	**Litokhoron**	**141.26 315**		PKHKP		PKPpre	19 52 45.0		
LIT	**Litokhoron**	**141.26 315**				PKPpre	19 52 45.0		
ATHU	**Athens Univers**	**141.29 311**		P		PKPpre	19 52 40.4		
GRA1	**Grafenberg Arr**	**141.31 335**		IAMs_20		IAMs_20	20 58 45.4		
	comp=Z,37µm,20.0s								
GRFO	**Grafenberg**	**141.32 335**		IAMs_20		IAMs_20	20 58 35.5		
	comp=Z,38µm,20.0s								
VLY	**Voula,Athens**	**141.33 311**		P		PKPpre	19 52 39.1		
ATH	**Athens Observa**	**141.34 311**		P		PKPpre	19 52 42.5		
KOGS	**Kog**	**141.37 328**	*e*	Pdiff		**Pdif**	**19 50 12.0**	**+0.7**	
KOGS			*e*				19 52 43.8		
KOGS			*i*	PP		**PP**	**19 55 57.4**	**+2.1**	
MOA	**Molln**	**141.37 331**	*i*	P		**PKPdf**	**19 52 48.5**	**-4.6**	
	comp=Z,38nm,1.0s,SNR=34								
RUDO	**Rudo**	**141.40 322**	*e*	P		**PKPdf**	**19 52 49.6**	**-3.6**	
IDI	**Anoyia**	**141.47 307**	⇑	P		PKPpre	19 52 48.3		
IDI	**Anoyia**	**141.47 307**		PKhKP		PKPpre	19 52 48.3		
	comp=Z,12nm,0.4s,baz=49,slow=8.8,SNR=20								
IDI	**Anoyia**	**141.47 307**		P		PKPpre	19 52 42.5		
IVA	**Berane**	**141.51 321**	*e*	PKP		**PKPdf**	**19 52 49.0**	**-4.5**	
ATAL	**Atalanti**	**141.53 313**		P		PKPpre	19 52 43.1		
VILL	**Villia**	**141.55 312**		P		PKPpre	19 52 41.8		
PLE	**Pljevlja**	**141.56 322**	*e*	PKP		**PKPdf**	**19 52 49.1**	**-4.6**	
LKR	**Lokris**	**141.56 313**		P		PKPdf	19 52 43.8	-10	
TYRN	**Tyrnavos**	**141.62 315**		P		**PKPdf**	**19 52 46.8**	**-6.9**	
PVY	**Plav**	**141.63 320**	*e*	PKP		**PKPdf**	**19 52 50.8**	**-3.0**	
TMBK	**Timbaki Herakl**	**141.64 307**		P		**PKPdf**	**19 52 48.5**	**-5.4**	
KZN	**Kozani**	**141.65 316**		P		PKPpre	19 52 42.8		
FNA	**Florina**	**141.67 317**		P		PKPpre	19 52 43.1		
FNA	**Florina**	**141.67 317**		PKIKP		**PKPdf**	**19 52 49.5**	**-4.4**	
FNA	**Florina**	**141.67 317**				**PKPdf**	**19 52 49.5**	**-4.4**	
KOME	**Kolasin**	**141.75 321**	*e*	PKP		**PKPdf**	**19 52 51.5**	**-2.5**	
BIOA	**Bad Ischl, Aus**	**141.78 331**	*i*	P		**PKPdf**	**19 52 50.8**	**-2.9**	
	comp=Z,73nm,1.4s,SNR=38								
LBWR	**Ladybower, Pea**	**141.81 349**	*e*	P		PKPpre	19 52 42.1		
LBWR				IAMs_20		IAMs_20	21 00 59.2		
	comp=Z,27µm,20.9s								
PERS	**Pernice**	**141.81 329**	*i*			**PKiKP**	**19 52 56.6**	**-0.2**	
PERS			*e*	PP		**PP**	**19 56 01.1**	**+3.0**	
PHP	**Peshkopia**	**141.82 319**		P		PKPpre	19 52 42.5		
SOKA	**Soboth**	**141.83 329**	*i*	P		**PKPdf**	**19 52 49.7**	**-4.2**	
	SNR=71								
THL	**Klokotos Trika**	**141.83 315**		P		PKPpre	19 52 39.8		
LTK	**Loutraki**	**141.85 312**		P		**PKPdf**	**19 52 48.5**	**-5.7**	
AGG	**Agios Georgios**	**141.87 314**		P		PKPpre	19 52 41.8		
AGG	**Agios Georgios**	**141.87 314**		PKIKP		**PKPdf**	**19 52 50.7**	**-3.5**	
AGG	**Agios Georgios**	**141.87 314**		PKPdf		**PKPdf**	**19 52 50.7**	**-3.5**	
OHR	**Ohrid**	**141.88 318**	*i*	P		**PKPdf**	**19 52 49.5**	**-4.7**	
ZAG	**Zagreb**	**141.92 327**	*e*	P		**PKPdf**	**19 52 50.3**	**-3.7**	
UPM	**Unac-Piva**	**141.92 322**	*e*	P		**PKPdf**	**19 52 51.2**	**-3.2**	
UPM	**Unac-Piva**	**141.92 322**	*e*	PKP		**PKPdf**	**19 52 52.3**	**-2.1**	
BLY	**Banja Luka**	**141.97 325**	⇑	*i* P		**PKPdf**	**19 52 47.0**	**-7.2**	
KRND	**KRANIDI**	**141.99 311**		P		PKPpre	19 52 43.1		
MAKR	**Makrakomi, Fth**	**142.01 314**		P		PKPpre	19 52 44.5		
THAL	**Thalero**	**142.06 312**		P		PKPpre	19 52 43.5		
NEST	**Nestorio**	**142.07 316**		P		**PKPdf**	**19 52 50.9**	**-3.7**	
KPRO	**Kipourio**	**142.09 316**		P		PKPpre	19 52 44.1		
IMMV	**Iera Moni Meta**	**142.11 308**		P		PKPpre	19 52 44.5		
KBN	**Korca**	**142.14 317**		P		PKPdf	19 52 44.8	-10	
NKME	**Niksic**	**142.14 321**	*e*	PKP		**PKPdf**	**19 52 53.4**	**-1.2**	
PDG	**Podgorica**	**142.15 320**	⇑	P		**PKPdf**	**19 52 51.0**	**-3.6**	
PDG	**Podgorica**	**142.15 320**		IAMs_20		IAMs_20	21 00 31.2		
	comp=Z,43um,22.0s								
PDG	**Podgorica**	**142.15 320**	⇑	*i* P		**PKPdf**	**19 52 48.1**	**-6.4**	
TTG	**Podgorica**	**142.15 320**	*e*	PKP		**PKPdf**	**19 52 52.7**	**-1.8**	
STNC	**Stoke**	**142.19 350**	*e*	P		PKPpre	19 52 43.8		
STNC				IAMs_20		IAMs_20	20 56 33.6		
	comp=Z,39µm,21.2s								
CRES	**Cresnjev**	**142.19 328**	⇑	*i* P		**PKPdf**	**19 52 47.7**	**-6.9**	
WME	**Myndd Eilian**	**142.22 352**	*e*	P		**PKPdf**	**19 52 51.1**	**-3.2**	
MGRS	**Mrkonjic Grad**	**142.24 325**	*e*	P		**PKPdf**	**19 52 51.1**	**-3.6**	
GVDS	**Gavdos**	**142.24 307**		P		PKPdf	19 52 46.2	-8.8	
GVD	**Gavdhos**	**142.24 307**		P		PKPdf	19 52 45.8	-9.2	
EVR	**Evrytania**	**142.28 314**		P		PKPdf	19 52 45.2	-10	
BRY	**Bratogost**	**142.31 322**	*e*	P		**PKPdf**	**19 52 51.1**	**-4.0**	
BRY	**Bratogost**	**142.31 322**	*e*	PKP		**PKPdf**	**19 52 53.8**	**-1.2**	
DRME	**Dracevica, Mon**	**142.33 320**	⇑	*i* P		**PKPdf**	**19 52 48.3**	**-6.6**	
DRME	**Dracevica, Mon**	**142.33 320**	*e*	PKP		**PKPdf**	**19 52 53.5**	**-1.4**	
GUR	**Goura**	**142.34 312**		P		PKPdf	19 52 46.5	-8.7	
WLF1	**Llynfaes**	**142.34 352**	*e*	P		PKPdf	19 52 44.8	-10	
WLF1				IAMs_20		IAMs_20	20 58 16.1		
	comp=Z,96µm,20.5s								
ANX	**Ano Chora**	**142.34 313**		P		PKPpre	19 52 43.8		
KBA	**Koelnbreinsper**	**142.36 331**	*i*	P		**PKPdf**	**19 52 51.3**	**-3.7**	
	comp=Z,71nm,1.3s,SNR=44								
TIR	**Tirane**	**142.36 319**	⇑	P		**PKPdf**	**19 52 53.1**	**-1.9**	
TIR	**Tirane**	**142.36 319**		P		**PKPdf**	**19 52 48.2**	**-6.8**	
TIR	**Tirane**	**142.36 319**	⇑	PKIKP		**PKPdf**	**19 52 53.1**	**-1.9**	
TIR	**Tirane**	**142.36 319**		IAMs_20		IAMs_20	21 05 41.1		
	comp=Z,27um,20.0s								
CWF	**Charnwood Fore**	**142.37 349**	*e*	P		PKPdf	19 52 46.4	-8.2	
CWF				IAMs_20		IAMs_20	20 56 01.8		
	comp=Z,34um,22.0s								
BEBN	**Eben Emael**	**142.39 341**	*d*	PKPdf		**PKPdf**	**19 52 53.1**	**-1.6**	
BEBN			*d*	PKP		**PKiKP**	**19 52 55.1**	**-2.6**	
BEBN			*dx*			x	19 52 58.1		
BEBN			*ds*	PKiKP		**sPKiKP**	**19 53 08.7**	**-0.7**	
SRKY	**Kupres RS**	**142.41 324**	*e*	P		**PKPdf**	**19 52 52.5**	**-2.6**	
VLI	**Veliai**	**142.41 310**		P		PKPpre	19 52 43.1		
KNDR	**Palaiochora Ch**	**142.41 307**		P		PKPdf	19 52 47.2	-8.0	
ULC	**Ulcinj**	**142.42 320**	*e*	PKP		**PKPdf**	**19 52 52.9**	**-2.2**	
KLV	**Kalavryta, Ach**	**142.43 312**		P		PKPdf	19 52 45.8	-9.5	
EFP	**Efpalio**	**142.43 313**		P		PKPdf	19 52 45.5	-10	
BTNL	**Ternell**	**142.43 340**	*d*	PKPdf		**PKPdf**	**19 52 50.9**	**-4.0**	
BTNL			*d*	PKiKP		**PKiKP**	**19 52 55.0**	**-2.9**	
BTNL			*d*	PP		**PP**	**19 56 04.3**	**+2.9**	
BUM	**Brajici-Budva**	**142.44 320**	*e*	PKP		**PKPdf**	**19 52 52.8**	**-2.4**	
MEM	**Membach**	**142.45 340**	*d*	PKPdf		**PKPdf**	**19 52 51.8**	**-3.0**	
MEM			*d*	PP		**PP**	**19 56 01.0**	**-0.5**	
LAKA	**Lakka**	**142.46 313**		P		PKPpre	19 52 44.1		
ANKY	**Antikythira Is**	**142.47 309**		P		**PKPdf**	**19 52 47.9**	**-7.4**	
ELMS	**Elmsett, Ipswi**	**142.50 346**	*e*	P		**PKPdf**	**19 52 47.9**	**-7.0**	
ELMS				IAMs_20		IAMs_20	20 55 44.8		
	comp=Z,29µm,22.5s								
KTHA	**Kythira Island**	**142.50 309**		P		PKPpre	19 52 44.8		
LSK	**Leskovik**	**142.50 316**		P		PKPdf	19 52 46.5	-8.9	
BOJS	**Bojanci**	**142.52 327**	⇑	P		**PKPdf**	**19 52 48.9**	**-6.3**	
BOJS	**Bojanci**	**142.52 327**	⇑	P		**PKPdf**	**19 52 48.9**	**-6.3**	
BOJS	**Bojanci**	**142.52 327**	⇑	P		**PKPdf**	**19 52 48.9**	**-6.3**	
LJU	**Ljubljana**	**142.52 329**	⇑	*i* P		**PKPdf**	**19 52 49.0**	**-6.1**	
LJU	**Ljubljana**	**142.52 329**		P		**PKPdf**	**19 52 48.4**	**-6.8**	
LJU	**Ljubljana**	**142.52 329**		P		**PKPdf**	**19 52 48.4**	**-6.8**	
LJU	**Ljubljana**	**142.52 329**		P		**PKPdf**	**19 52 48.4**	**-6.8**	
LJU	**Ljubljana**	**142.52 329**	*e*	Pdiff		**Pdif**	**19 50 14.7**	**-1.8**	
LJU			*e*				19 52 48.9		
LJU			*i*	PKPdf		**PKPdf**	**19 52 52.5**	**-2.6**	
LJU			*e*				19 52 58.2		
LJU			*e*	PP		**PP**	**19 56 04.8**	**+2.5**	
LJU			*e*				19 56 51.2		
LJU			*e*	SS		SS	20 14 25.2	-11	
TREB	**Trebinje**	**142.53 321**	*e*	P		**PKPdf**	**19 52 49.0**	**-6.3**	
MYKA	**Terra Mystica**	**142.54 330**	*i*	P		**PKPdf**	**19 52 51.6**	**-3.6**	
	comp=Z,38nm,1.1s,SNR=21								
KTHR	**Kythira**	**142.54 309**		P		PKPpre	19 52 45.2		
FOEL	**Foel Wylfa**	**142.55 351**	*e*	P		PKPdf	19 52 45.5	-9.5	
FOEL				IAMs_20		IAMs_20	20 59 10.5		
	comp=Z,50µm,20.1s								
HCY	**Herceg Novi**	**142.60 321**	*e*	P		**PKPdf**	**19 52 52.5**	**-2.9**	
HCY	**Herceg Novi**	**142.60 321**	*e*	PKP		**PKPdf**	**19 52 53.1**	**-2.3**	
BSTI	**Sart Tilman**	**142.61 341**	*d*	PKPdf		**PKPdf**	**19 52 51.5**	**-3.6**	
BSTI			*d*	PP		**PP**	**19 56 04.0**	**+1.5**	
BHOU	**Houvegnez**	**142.67 340**	*d*	PKPdf		**PKPdf**	**19 52 51.5**	**-3.8**	
BHOU			*ds*	PKiKP		**sPKiKP**	**19 53 09.3**	**-0.8**	
BHOU			*d*	PP		**PP**	**19 56 00.9**	**-2.0**	
DRO	**Drossia**	**142.78 313**		P		PKPdf	19 52 46.5	-9.4	
UCC	**Uccle**	**142.79 342**	*d*	PKP		**PKiKP**	**19 52 58.5**	**-0.1**	
STON	**Ston**	**142.83 322**	⇑	*i* P		**PKPdf**	**19 52 51.0**	**-4.7**	
BCLA	**Clavier**	**142.84 341**	*d*	PKPdf		**PKPdf**	**19 52 52.8**	**-2.7**	
BCLA			*d*	PKP		**PKiKP**	**19 52 57.9**	**-0.8**	
BCLA			*d*	PP		**PP**	**19 56 06.5**	**+2.7**	
HLM1	**Long Mynd**	**142.86 350**	*e*	P		**PKPdf**	**19 52 50.0**	**-5.5**	
HLM1				IAMs_20		IAMs_20	20 57 49.0		
	comp=Z,32um,21.0s								
RLS	**Riolos of Patr**	**142.90 313**		P		**PKPdf**	**19 52 48.9**	**-7.1**	
BGES	**Gesves**	**142.94 341**	*d*	PKPdf		**PKPdf**	**19 52 53.5**	**-2.2**	
BGES			*d*	PP		**PP**	**19 56 04.4**	**0.0**	
ITM	**Ithomi**	**142.96 311**		P		PKPdf	19 52 46.5	-10	
ITM	**Ithomi**	**142.96 311**				**PKPdf**	**19 52 51.4**	**-4.8**	
WATA	**Walderalm**	**142.98 332**	*i*	P		**PKPdf**	**19 52 53.6**	**-2.5**	
	comp=Z,223nm,1.1s,SNR=69								
ABTA	**Abfaltersbach**	**142.99 331**	*i*	P		**PKPdf**	**19 52 51.5**	**-4.5**	
	comp=Z,480nm,1.2s,SNR=89								
WTTA	**Wattenberg**	**143.01 332**	*e*	P		PKPbc	19 52 52.6	-0.4	
	SNR=79								
RIY	**Rijeka**	**143.04 328**	*e*	P		PKPab	19 52 50.8	-0.5	
SRN	**Sarande**	**143.04 316**		P		PKPab	19 52 49.2	-2.3	
SNF	**Seneffe**	**143.07 342**	*d*	PKPdf		**PKPdf**	**19 52 54.5**	**-1.5**	
SNF			*d*	PP		**PP**	**19 56 03.3**	**-1.9**	
RCHB	**Rochefort**	**143.09 341**	*d*	PKPdf		P

BNI	**Bardonecchia**	**146.88**	**335**	IAMs_20	IAMs_20	20 59 51.7	
	comp=Z,34µm,22.0s						
SAOF	**Saorge**	**147.36**	**333**	⇑P	**PKPbc**	**19 53 04.9**	**-1.1**
SAOF	**Saorge**	**147.36**	**333**	⇑P	**PKPbc**	**19 53 04.9**	**-1.1**
SAOF	**Saorge**	**147.36**	**333**	⇑P	**PKPbc**	**19 53 04.9**	**-1.1**
SHEL	**Horse Pasture**	**147.43**	**192**	IAMs_20	IAMs_20	21 04 07.3	
	comp=Z,27µm,19.0s						
SSB	**Saint Sauveur**	**147.53**	**337**	PKIKP	**PKPdf**	**19 53 03.4**	**-0.5**
SSB				MLR	MLR		
	comp=Z,29µm,20.0s						
SSB	**Saint Sauveur**	**147.53**	**337**	PKPdf	**PKPdf**	**19 53 03.4**	**-0.5**
SSB	**Saint Sauveur**	**147.53**	**337**	IAMs_20	IAMs_20	21 04 42.7	
	comp=Z,29µm,20.0s						
NBCL	**Cascavel-CE**	**147.56**	**126**	*e*P	**PKPdf**	**19 53 04.7**	**-0.1**
SSY	**Sortino**	**147.76**	**316**	P	**PKPdf**	**19 53 04.9**	**+0.4**
SSY	**Sortino**	**147.76**	**316**	P	**PKPdf**	**19 53 04.9**	**+0.4**
SSY	**Sortino**	**147.76**	**316**	P	**PKPdf**	**19 53 04.9**	**+0.4**
HLNI	**Lentini**	**147.78**	**316**	⇑P	**PKPbc**	**19 53 06.5**	**-0.8**
HLNI	**Lentini**	**147.78**	**316**	⇑P	**PKPbc**	**19 53 06.5**	**-0.8**
HLNI	**Lentini**	**147.78**	**316**	⇑P	**PKPbc**	**19 53 06.5**	**-0.8**
HAVL	**Avola**	**147.83**	**316**	⇑P	**PKPdf**	**19 53 06.0**	**+1.5**
HAVL	**Avola**	**147.83**	**316**	⇑P	**PKPdf**	**19 53 06.0**	**+1.5**
HAVL	**Avola**	**147.83**	**316**	⇑P	**PKPdf**	**19 53 06.0**	**+1.5**
VAE	**Valguarnera**	**148.01**	**317**	PKPbc	**PKPbc**	**19 53 08.7**	**+0.6**
	comp=Z,81nm,1.1s,baz=51,slow=5.4,SNR=11						
RCBR	**Riachuelo**	**148.29**	**132**	PKPbc	**PKPdf**	**19 53 06.4**	**+0.3**
	comp=Z,147nm,0.8s,baz=334,slow=2.8,SNR=16						
RCBR	**Riachuelo**	**148.29**	**132**	PKIKP	**PKPdf**	**19 53 04.7**	**-1.4**
RCBR				MLR	MLR		
	comp=Z,58µm,20.0s						
RCBR	**Riachuelo**	**148.29**	**132**	PKPdf	**PKPdf**	**19 53 04.7**	**-1.4**
RCBR	**Riachuelo**	**148.29**	**132**	*e*P	**PKPdf**	**19 53 06.2**	**+0.1**
CLTB	**Caltabellotta**	**148.73**	**318**	IAMs_20	IAMs_20	21 02 18.8	
	comp=Z,43µm,21.0s						
H07N1	**FLORES T-PHASB**	**151.49**	**31**	*e*PKP	**PKPdf**	**19 53 12.8**	**+2.5**
H07S1	**FLORES T-PHASB**	**151.69**	**31**	*e*PKP	**PKPdf**	**19 53 12.1**	**+1.5**
MAHO	**Mahon**	**152.09**	**331**	PKP	**PKPdf**	**19 53 10.3**	**-0.8**
MAHO	**Mahon**	**152.09**	**331**	PP	PP	19 57 08.1	+10
KEST	**Kesra**	**152.32**	**319**	PKP	**PKPdf**	**19 53 10.9**	**-0.8**
	comp=Z,44nm,1.3s,baz=97,slow=4.5,SNR=17						
KEST	**Kesra**	**152.32**	**319**	P	**PKPdf**	**19 53 11.7**	**-0.1**
	SNR=88						
CMAH	**Djebel Manchou**	**152.90**	**323**	P	**PKPdf**	**19 53 14.1**	**+1.5**
ABSA	**Djebel Ababsia**	**153.10**	**322**	P	**PKPdf**	**19 53 15.1**	**+2.2**
CKFL	**Kef-Lekhel**	**153.46**	**323**	P	**PKPdf**	**19 53 15.5**	**+2.0**
SRBC	**Serra Branca**	**153.46**	**28**	*e*PKP	**PKPdf**	**19 53 15.8**	**+2.6**
PCED	**Cedros**	**153.49**	**29**	*e*PKP	**PKPdf**	**19 53 16.2**	**+3.0**
PGRA	**Graciosa**	**153.49**	**28**	*e*PKP	**PKPdf**	**19 53 15.7**	**+2.5**
CALA	**Caldeira**	**153.53**	**29**	*e*PKP	**PKPbc**	**19 53 17.3**	**-3.8**
ROSA	**Rosais**	**153.63**	**28**	*e*PKP	**PKPdf**	**19 53 15.5**	**+2.0**
CASM	**Ain Smara**	**153.69**	**323**	P	**PKiKP**	**19 53 22.0**	**+0.4**
PICO	**Pico**	**153.72**	**29**	*e*PKP	**PKPdf**	**19 53 15.1**	**+1.4**
PCAN	**Candelaria**	**153.72**	**29**	*e*PKP	**PKPdf**	**19 53 14.9**	**+1.3**
PMAN	**Manadas**	**153.77**	**28**	*e*PKP	**PKPdf**	**19 53 17.5**	**+3.9**
PPNO	**Prainha do Nor**	**153.82**	**29**	*e*PKP	**PKPdf**	**19 53 17.0**	**+3.2**
DFRA	**Djebel Bou Aff**	**153.83**	**325**	P	**PKPdf**	**19 53 14.8**	**+0.8**
CTEI	**Djebel Teioual**	**153.88**	**323**	P	**PKPdf**	**19 53 16.3**	**+2.2**
PBRG	**Braganca**	**153.89**	**350**	*e*PKPdf	**PKPdf**	**19 53 13.5**	**-0.3**
PBRG	**Braganca**	**153.89**	**350**	*e*PP	PP	19 57 11.0	+2.8
PID	**Ribeirinha**	**153.91**	**28**	*e*PKP	**PKPdf**	**19 53 17.3**	**+3.4**
PGAV	**Gavieira, Arco**	**153.96**	**353**	*e*PKPdf	**PKPdf**	**19 53 14.1**	**+0.1**
PGAV	**Gavieira, Arco**	**153.96**	**353**	*e*PP	PP	19 57 12.1	+3.5
PGAV	**Gavieira, Arco**	**153.96**	**353**	eLR	LR	20 50 52.9	
	comp=Z,42µm,18.0s						
PAGU	**Agualva, Azore**	**154.06**	**27**	*e*PKP	**PKPdf**	**19 53 16.1**	**+2.0**
ADH	**Angra Heroismo**	**154.13**	**27**	*e*PKP	**PKPbc**	**19 53 19.5**	**-2.8**
PCAB	**Cabril**	**154.18**	**352**	*e*PKPdf	**PKPdf**	**19 53 16.1**	**+1.9**
PCAB	**Cabril**	**154.18**	**352**	*e*PP	PP	19 57 07.5	-2.2
SET	**Setif**	**154.35**	**325**	P	**PKPdf**	**19 53 15.0**	**+0.3**
POLO	**Lamas de Olo**	**154.47**	**352**	*e*PKPdf	**PKPdf**	**19 53 14.0**	**-0.7**
POLO	**Lamas de Olo**	**154.47**	**352**	*e*PP	PP	19 57 15.2	+3.7
UCM	**Universidad Co**	**154.54**	**343**	PKP	**PKPdf**	**19 53 13.9**	**-0.9**
UCM	**Universidad Co**	**154.54**	**343**	PP	PP	19 57 13.7	+1.8
PVRL	**Vila Real**	**154.56**	**351**	*e*PKPdf	**PKPdf**	**19 53 17.4**	**+2.6**
PVRL	**Vila Real**	**154.56**	**351**	*e*PKPab	**PKPab**	**19 53 41.9**	**+4.3**
PVRL	**Vila Real**	**154.56**	**351**	*e*PP	PP	19 57 14.9	+3.0
MVO	**Moncorvo**	**154.56**	**350**	*e*PKPdf	**PKPdf**	**19 53 15.5**	**+0.7**
MVO	**Moncorvo**	**154.56**	**350**	*e*PP	PP	19 57 15.0	+3.0
MVO	**Moncorvo**	**154.56**	**350**	eLR	LR	20 51 30.2	
	comp=Z,47µm,20.0s						
PVIS	**Viseu**	**155.13**	**351**	*e*PKPdf	**PKPdf**	**19 53 17.5**	**+1.9**
PVIS	**Viseu**	**155.13**	**351**	*e*PKPab	**PKPab**	**19 53 44.3**	**+4.2**
PVIS	**Viseu**	**155.13**	**351**	*e*PP	PP	19 57 18.3	+3.1
ESDC	**Sonseca Array**	**155.33**	**344**	PKP	**PKPdf**	**19 53 14.8**	**-1.1**
	comp=Z,20nm,1.1s,baz=1.4,slow=3.0,SNR=23						
ESDC				PKPab	**PKPab**	**19 53 42.6**	**+1.6**
	comp=Z,92nm,1.0s,baz=14,slow=2.3,SNR=12						
ESDC				PP	**PP**	**19 57 15.4**	**-1.0**
	comp=Z,19nm,1.0s,baz=22,slow=6.2,SNR=6.2						
ESDC	**Sonseca Array**	**155.33**	**344**		**PKPdf**	**19 53 14.9**	**-0.9**
MTE	**Manteigas**	**155.39**	**351**	*e*PKPdf	**PKPdf**	**19 53 16.0**	**0.0**
MTE	**Manteigas**	**155.39**	**351**	*e*PP	PP	19 57 19.8	+3.2
MTE	**Manteigas**	**155.39**	**351**	eLR	LR	20 51 13.5	
	comp=Z,39µm,20.0s						
MTE	**Manteigas**	**155.39**	**351**	IAMs_20	IAMs_20	21 05 23.9	
	comp=Z,40µm,20.0s						
PSET	**Sete Cidades**	**155.47**	**26**	*e*PKP	**PKPdf**	**19 53 17.1**	**+1.0**
PAB	**San Pablo**	**155.55**	**344**	IAMs_20	IAMs_20	21 06 12.4	
	comp=Z,35µm,20.0s						
PCALD	**Caldeiras da R**	**155.59**	**25**	*e*PKP	**PKPdf**	**19 53 17.8**	**+1.6**
GRON	**Grota Negra**	**155.60**	**25**	*e*PKP	**PKPdf**	**19 53 18.9**	**+2.6**
CMLA	**Cha da Macela**	**155.60**	**25**	*e*PKP	**PKPdf**	**19 53 18.1**	**+1.9**
COI	**Coimbra**	**155.71**	**352**	*e*PKPdf	**PKPdf**	**19 53 16.9**	**+0.6**
COI	**Coimbra**	**155.71**	**352**	*e*PKPab	**PKPab**	**19 53 45.1**	**+2.6**
COI	**Coimbra**	**155.71**	**352**	*e*PP	PP	19 57 22.0	+3.8
COI	**Coimbra**	**155.71**	**352**	PKIKP	**PKPdf**	**19 53 13.9**	**-2.3**
COI				MLR	MLR		
	comp=Z,44µm,21.0s						
COI	**Coimbra**	**155.71**	**352**	PKPdf	**PKPdf**	**19 53 13.9**	**-2.3**
COI				IAMs_20	IAMs_20	21 02 16.0	
	comp=Z,44µm,21.0s						
BART	**Pico Bartolome**	**155.74**	**25**	*e*PKP	**PKPdf**	**19 53 18.8**	**+2.3**
PCAS	**Casmilo, Conde**	**155.87**	**352**	*e*PKPdf	**PKPdf**	**19 53 15.5**	**-1.0**
PCAS	**Casmilo, Conde**	**155.87**	**352**	*e*PKPab	**PKPab**	**19 53 45.9**	**+2.7**
PCAS	**Casmilo, Conde**	**155.87**	**352**	*e*PP	PP	19 57 23.1	+3.9
PCBR	**Castelo Branco**	**155.93**	**350**	*e*PKPdf	**PKPdf**	**19 53 15.6**	**-1.0**
PCBR	**Castelo Branco**	**155.93**	**350**	*e*PP	PP	19 57 21.5	+2.0
ASCN	**Ascension**	**156.06**	**176**	IAMs_20	IAMs_20	21 04 07.9	
	comp=Z,33µm,18.0s						
CART	**Cartagena**	**156.26**	**337**	PP	PP	19 57 20.1	-1.5
CART	**Cartagena**	**156.26**	**337**	IAMs_20	IAMs_20	21 03 10.9	
	comp=Z,34µm,22.0s						
PMRV	**Marv??o**	**156.31**	**350**	*e*PKPdf	**PKPdf**	**19 53 16.7**	**-0.4**
PMRV	**Marv??o**	**156.31**	**350**	*e*PKPab	**PKPab**	**19 53 47.9**	**+2.8**
PMRV	**Marv??o**	**156.31**	**350**	*e*PP	PP	19 57 17.2	-4.5
PMRV	**Marv??o**	**156.31**	**350**	eLR	LR	20 52 52.6	
	comp=Z,33µm,18.0s						
PSMA	**Santa Maria**	**156.42**	**26**	*e*PKP	**PKPdf**	**19 53 18.2**	**+0.9**
PSBE	**So Bento**	**156.44**	**353**	*e*PKPdf	**PKPdf**	**19 53 18.3**	**+1.0**
PSBE	**So Bento**	**156.44**	**353**	*e*PKPab	**PKPab**	**19 53 48.6**	**+2.9**
PSBE	**So Bento**	**156.44**	**353**	*e*PP	PP	19 57 25.5	+3.2
PSMN	**Pico do Norte,**	**156.44**	**26**	*e*PKP	**PKPdf**	**19 53 18.4**	**+1.0**
PMTG	**Montargil**	**156.80**	**351**	*e*PKPdf	**PKPdf**	**19 53 17.2**	**-0.5**
PMTG	**Montargil**	**156.80**	**351**	*e*PKPab	**PKPab**	**19 53 49.5**	**+2.3**
PMTG	**Montargil**	**156.80**	**351**	*e*PP	PP	19 57 25.2	+0.9
OKGL	**Djebel Kef Gue**	**156.89**	**332**	P	**PKPdf**	**19 53 21.0**	**+3.0**
PESTR	**Estremoz**	**156.90**	**350**	*e*PKPdf	**PKPdf**	**19 53 17.1**	**-0.8**
PESTR	**Estremoz**	**156.90**	**350**	*e*PKPab	**PKPab**	**19 53 50.3**	**+2.6**
PESTR	**Estremoz**	**156.90**	**350**	*e*PP	PP	19 57 28.2	+3.3
PESTR	**Estremoz**	**156.90**	**350**	P	**PKPab**	**19 53 51.2**	**+3.5**
PMAFR	**Mafra**	**157.05**	**353**	*e*PKPdf	**PKPdf**	**19 53 18.8**	**+0.7**
PMAFR	**Mafra**	**157.05**	**353**	*e*PKPab	**PKPab**	**19 53 51.2**	**+2.9**
PMAFR	**Mafra**	**157.05**	**353**	*e*PP	PP	19 57 28.6	+2.9
PACT	**Alcochete**	**157.18**	**352**	*e*PKPdf	**PKPdf**	**19 53 20.0**	**+1.8**
PACT	**Alcochete**	**157.18**	**352**	*e*PKPab	**PKPab**	**19 53 51.8**	**+3.0**
PACT	**Alcochete**	**157.18**	**352**	*e*PP	PP	19 57 29.6	+3.2
PMST	**Lisbon--Monsan**	**157.25**	**353**	*e*PKPdf	**PKPdf**	**19 53 19.4**	**+1.1**
PMST	**Lisbon--Monsan**	**157.25**	**353**	*e*PKPab	**PKPab**	**19 53 52.1**	**+3.0**
PMST	**Lisbon--Monsan**	**157.25**	**353**	*e*PP	PP	19 57 30.0	+3.2
LIS	**Lisbon**	**157.27**	**353**	*e*PKPdf	**PKPdf**	**19 53 17.0**	**-1.3**
LIS				*e*PP	**PP**	**19 57 27.5**	**+0.7**
LIS				IAMs_20	IAMs_20	21 06 27.8	
	comp=Z,49µm,18.5s						
LIS	**Lisbon**	**157.27**	**353**	*e*PKIKP	**PKPdf**	**19 53 17.0**	**-1.3**
LIS				*e*		19 57 27.5	
EVO	**Evora**	**157.29**	**351**	PKP	**PKPdf**	**19 53 15.2**	**-3.2**
EVO	**Evora**	**157.29**	**351**	PP	PP	19 57 28.3	+1.3
EVO	**Evora**	**157.29**	**351**	*e*PKPdf	**PKPdf**	**19 53 18.0**	**-0.4**
EVO	**Evora**	**157.29**	**351**	*e*PKPab	**PKPab**	**19 53 52.1**	**+2.8**
EVO	**Evora**	**157.29**	**351**	*e*PP	PP	19 57 28.4	+1.4
OJBR	**Djebel Berber**	**157.40**	**332**	P	**PKPab**	**19 53 51.0**	**+0.9**
PBEJ	**Beja**	**157.76**	**350**	*e*PKPdf	**PKPdf**	**19 53 21.3**	**+2.3**
PBEJ	**Beja**	**157.76**	**350**	*e*PKPab	**PKPab**	**19 53 53.0**	**+1.6**
PBEJ	**Beja**	**157.76**	**350**	*e*PP	PP	19 57 32.9	+3.3
PNCL	**Nicolau / Gran**	**157.78**	**351**	*e*PKPdf	**PKPdf**	**19 53 18.5**	**-0.5**
PNCL	**Nicolau / Gran**	**157.78**	**351**	*e*PKPab	**PKPab**	**19 53 54.4**	**+3.0**
PNCL	**Nicolau / Gran**	**157.78**	**351**	*e*PP	PP	19 57 31.8	+2.1
ODJA	**Bouhanifia**	**157.84**	**332**	P	**PKPdf**	**19 53 24.0**	**+4.7**
OTSS	**Djebel Tessala**	**158.16**	**333**	P	**PKPdf**	**19 53 23.0**	**+3.3**
EMAL	**Malaga-Limoner**	**158.18**	**342**	PKP	**PKPdf**	**19 53 16.5**	**-3.1**
EMAL	**Malaga-Limoner**	**158.18**	**342**	PP	PP	19 57 30.2	-1.9
PCVE	**Castro Verde**	**158.18**	**350**	*e*PKPdf	**PKPdf**	**19 53 20.0**	**+0.5**
PCVE	**Castro Verde**	**158.18**	**350**	*e*PKPab	**PKPab**	**19 53 56.3**	**+3.1**
PCVE	**Castro Verde**	**158.18**	**350**	*e*PP	PP	19 57 33.4	+1.5
PVAQ	**Vaqueiros**	**158.34**	**349**	*e*PKPdf	**PKPdf**	**19 53 19.9**	**+0.2**
PVAQ	**Vaqueiros**	**158.34**	**349**	*e*PKPab	**PKPab**	**19 53 57.0**	**+3.1**
PVAQ	**Vaqueiros**	**158.34**	**349**	*e*PP	PP	19 57 34.3	+1.5
PVAQ	**Vaqueiros**	**158.34**	**349**	eLR	LR	20 51 29.6	
	comp=Z,36µm,20.0s						
PVAQ	**Vaqueiros**	**158.34**	**349**	P	**PKPab**	**19 53 57.5**	**+3.6**
PTEO	**Sao Teotonio**	**158.37**	**352**	*e*PKPdf	**PKPdf**	**19 53 21.8**	**+2.1**
PTEO	**Sao Teotonio**	**158.37**	**352**	*e*PKPab	**PKPab**	**19 53 56.9**	**+2.9**
PTEO	**Sao Teotonio**	**158.37**	**352**	*e*PP	PP	19 57 34.0	+1.1
PBDV	**Barranco-do-Ve**	**158.54**	**350**	*e*PKPdf	**PKPdf**	**19 53 20.6**	**+0.6**
PBDV	**Barranco-do-Ve**	**158.54**	**350**	*e*PKPab	**PKPab**	**19 53 58.1**	**+3.3**
PBDV	**Barranco-do-Ve**	**158.54**	**350**	*e*PP	PP	19 57 36.8	+2.9
MORF	**Marmelete**	**158.59**	**351**	*e*PKPdf	**PKPdf**	**19 53 18.7**	**-1.4**
MORF				*e*PP	**PP**	**19 57 34.8**	**+0.6**
MORF				IAMs_20	IAMs_20	21 14 22.6	
	comp=Z,44µm,14.3s						
MORF	**Marmelete**	**158.59**	**351**	*e*PKPdf	**PKPdf**	**19 53 19.3**	**-0.8**
MORF	**Marmelete**	**158.59**	**351**	*e*PKPab	**PKPab**	**19 53 57.9**	**+2.9**
MORF	**Marmelete**	**158.59**	**351**	*e*PP	PP	19 57 37.7	+3.5
MORF	**Marmelete**	**158.59**	**351**	*e*PKIKP	**PKPdf**	**19 53 18.7**	**-1.4**
MORF				*e*		19 57 34.8	
PFVI	**Vila Bisbo**	**158.78**	**352**	*e*PKPdf	**PKPdf**	**19 53 21.0**	**+0.7**
PFVI	**Vila Bisbo**	**158.78**	**352**	*e*PKPab	**PKPab**	**19 53 58.8**	**+3.0**
PFVI	**Vila Bisbo**	**158.78**	**352**	*e*PP	PP	19 57 37.6	+2.4
PFVI	**Vila Bisbo**	**158.78**	**352**	P	**PKPab**	**19 53 60.0**	**+4.2**
SFS	**San Fernando**	**158.93**	**345**	PKP	**PKPdf**	**19 53 19.5**	**-0.9**
SFS	**San Fernando**	**158.93**	**345**	PP	PP	19 57 37.4	+1.3
WMELI	**Melilla**	**159.00**	**337**	PKP	**PKPdf**	**19 53 18.9**	**-1.6**
WMELI	**Melilla**	**159.00**	**337**	PP	PP	19 57 37.0	+0.4
TAF	**Taforalt**	**159.24**	**336**	P	**PKPdf**	**19 53 24.0**	**+3.0**
CEU	**Ceuta**	**159.25**	**343**	PKP	**PKPdf**	**19 53 18.6**	**-2.2**
CEU	**Ceuta**	**159.25**	**343**	PP	PP	19 57 37.2	-0.7
PALE	**Palemas**	**159.44**	**339**	P	**PKPdf**	**19 53 25.0**	**+3.8**
SMIR	**Smir Dam**	**159.46**	**343**	P	**PKPdf**	**19 53 25.4**	**+4.3**
PVLZ	**Peæn de**	**159.60**	**340**	PKP	**PKPdf**	**19 53 18.3**	**-3.0**
PVLZ	**Peæn de**	**159.60**	**340**	PP	PP	19 57 35.6	-4.2
JBK	**JBK**	**159.72**	**335**	P	**PKPdf**	**19 53 25.0**	**+3.3**
CHEFC	**Chefchaouen**	**159.98**	**342**	P	**PKPdf**	**19 53 26.0**	**+4.1**
TDRA	**Tendrara**	**160.60**	**332**	P	**PKPdf**	**19 53 26.0**	**+3.2**
IFR	**Ifrane**	**161.39**	**340**	PKP	**PKPdf**	**19 53 22.9**	**-0.6**
IFR	**Ifrane**	**161.39**	**340**	PP	PP	19 57 53.4	+3.6
CZD	**Col de Zad**	**161.80**	**339**	P	**PKPdf**	**19 53 28.0**	**+3.8**
MDT	**Midelt**	**161.85**	**338**	PKP	**PKPdf**	**19 53 23.2**	**-0.7**
	comp=Z,54nm,1.1s,baz=28,slow=1.2,SNR=17						
MDT				PKPab	**PKPab**	**19 54 11.4**	**+1.9**
	comp=Z,29nm,0.7s,baz=78,slow=3.7,SNR=7.6						
MDT				PP	**PP**	**19 57 52.7**	**+0.6**
	comp=Z,31nm,1.1s,baz=64,slow=7.7,SNR=7.0						
AVE	**Averroes**	**162.24**	**346**	PKP	**PKPdf**	**19 53 22.8**	**-1.4**
AVE	**Averroes**	**162.24**	**346**	PP	PP	19 57 56.0	+2.0
AVE	**Averroes**	**162.24**	**346**	P	**PKPab**	**19 54 15.4**	**+4.4**
PMPST	**Porto Santo, M**	**162.77**	**11**	*e*PKPdf	**PKPdf**	**19 53 25.4**	**+0.7**
PMPST	**Porto Santo, M**	**162.77**	**11**	*e*PKPab	**PKPab**	**19 54 15.4**	**+2.1**
PMPST	**Porto Santo, M**	**162.77**	**11**	*e*PP	PP	19 57 54.6	-2.1
PMPS	**Porto Santo**	**162.79**	**11**	*e*PKPdf	**PKPdf**	**19 53 28.0**	**+3.3**
PMPS	**Porto Santo**	**162.79**	**11**	*e*PKPab	**PKPab**	**19 54 17.3**	**+3.9**
PMPS	**Porto Santo**	**162.79**	**11**	*e*PP	PP	19 57 54.4	-2.4
PMOZ	**Porto Moniz, M**	**162.85**	**13**	*e*PKPdf	**PKPdf**	**19 53 24.1**	**-0.8**
PMOZ	**Porto Moniz, M**	**162.85**	**13**	*e*PP	PP	19 57 59.1	+1.8
PMOZ	**Porto Moniz, M**	**162.85**	**13**	eLR	LR	20 53 24.9	
	comp=Z,27µm,22.0s						
GOLM	**Goulmima**	**162.97**	**337**	P	**PKPdf**	**19 53 30.0**	**+4.8**
GOLM	**Goulmima**	**162.97**	**337**	P	**PKPab**	**19 54 20.0**	**+5.5**
PMAR	**Madeira**	**163.00**	**12**	*e*PKPdf	**PKPdf**	**19 53 24.8**	**-0.4**
PMAR	**Madeira**	**163.00**	**12**	*e*PP	PP	19 58 00.0	+1.8
FUL	**Funchal**	**163.08**	**12**	*e*PKPdf	**PKPdf**	**19 53 28.0**	**+3.0**
FUL	**Funchal**	**163.08**	**12**	*e*PKPab	**PKPab**	**19 54 18.1**	**+3.4**
FUL	**Funchal**	**163.08**	**12**	*e*PP	PP	19 58 02.5	+4.2
SRHM	**Skhour des Reh**	**163.15**	**346**	P	**PKPab**	**19 54 20.0**	**+4.9**
EAH	**EAH**	**164.28**	**350**	P	**PKPdf**	**19 53 32.1**	**+5.9**
EAH	**EAH**	**164.28**	**350**	P	**PKPab**	**19 54 25.0**	**+5.0**
OUK	**Oukaimeden**	**164.35**	**345**	P	**PKPab**	**19 54 24.0**	**+3.2**
ZGR	**Zagora**	**164.64**	**336**	P	**PKPab**	**19 54 27.1**	**+5.4**
TTIG	**Tnine Tigouga,**	**165.12**	**346**	P	**PKPdf**	**19 53 32.0**	**+4.9**
TTIG	**Tnine Tigouga,**	**165.12**	**346**	P	**PKPab**	**19 54 28.0**	**+4.1**
CGR	**Cap Guir**	**165.32**	**351**	P	**PKPab**	**19 54 29.1**	**+4.5**
TOA0	**Torodi Ar. Sit**	**165.83**	**260**	P	**PKPdf**	**19 53 26.8**	**-1.1**
	SNR=29						
TORD	**Torodi Ar. Bea**	**165.83**	**260**	PKP	**PKPdf**	**19 53 25.7**	**-2.2**
	comp=Z,45nm,0.9s,baz=7.0,slow=1.2,SNR=36						
TORD				PKPab	**PKPab**	**19 54 28.5**	**+0.9**
	comp=Z,40nm,0.9s,baz=101,slow=3.4,SNR=5.5						
TORD				PP	**PP**	**19 58 14.0**	**-1.1**
	comp=Z,67nm,1.3s,baz=122,slow=3.0,SNR=8.1						
KIC	**Kosan Boka**	**167.61**	**219**	*e*PKP2	**PKPab**	**19 54 36.0**	**+0.8**
	comp=Z,250nm,1.3s						
KIC	**Kosan Boka**	**167.61**	**219**	*e*PKIKP	**PKPdf**	**19 53 27.5**	**-1.9**
	comp=Z,215nm,1.1s						
LIC	**Lamto**	**167.68**	**218**	*e*PKP2	**PKPab**	**19 54 36.8**	**+1.3**
	comp=Z,328nm,1.3s						
LIC	**Lamto**	**167.68**	**218**	*e*PKIKP	**PKPdf**	**19 53 27.1**	**-2.3**
	comp=Z,366nm,1.3s						
DBIC	**Dimbokro**	**167.93**	**220**	PKP	**PKPdf**	**19 53 28.0**	**-1.5**
	comp=Z,162nm,1.1s,baz=130,slow=1.0,SNR=23						
DBIC				PKPab	**PKPab**	**19 54 36.5**	**-0.1**
	comp=Z,50nm,0.8s,baz=152,slow=5.0,SNR=10						
DBIC				PP	**PP**	**19 58 25.6**	**+1.1**
	comp=Z,8.1nm,1.0s,baz=116,slow=8.5,SNR=2.0						
DBIC	**Dimbokro**	**167.93**	**220**	⇓PKIKP	**PKPdf**	**19 53 28.3**	**-1.3**
TIC	**Toumodi**	**168.00**	**219**	*e*PKP2	**PKPab**	**19 54 37.6**	**+0.6**
TIC	**Toumodi**	**168.00**	**219**	*e*PKIKP	**PKPdf**	**19 53 27.9**	**-1.7**
KOWA	**Kowa**	**171.54**	**260**		**PKPdf**	**19 53 29.9**	**-1.8**

MAN ***28*** *19:34:23.0,9.69N×126.58E,h14km,mb4.8,ML3.7,MS3.7, Hypocentre not reviewed by the ISC*

NEIC ***28*** *19:34:24.1±1.7,9.98N±0.09×126.5E±0.2,h35km±2km, mb4.5/14,Error ellipse: s-maj=26.7km s-min=15.6km az=86.0*

IDC ***28*** *19:34:35.1±2.8,9.58N×125.86E,h131km±24km,mb3.5/9, mb1 3.5/10,mb1mx3.2/62,mbtmp3.9/10,MS3.4/1, Ms1 3.4/1,ms1mx3.4/74,Error ellipse: s-maj=58.6km s-min=17.9km az=75.0*

ISC 28 19:34:24.3±1.9,9.83N±0.07×126.68E±0.10,h48km±17km, n43,σ1999/49,mb4.3/17,7C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
SCPH	**Surigao**	**1.17**	**268**	⇑*e*P		**Pn**	**19 34 42.0**	**-2.3**
SCPH				*i* S		**Sn**	**19 34 55.9**	**-3.3**
BIPH	**Bislig**	**1.67**	**191**	⇑*e*P		**Pn**	**19 34 48.9**	**-2.2**
BIPH				*i* S		**Sn**	**19 35 07.3**	**-4.0**
MSLP	**Maasin**	**1.81**	**280**	⇑*i*P		**Pn**	**19 34 52.7**	**-0.4**
MSLP				*i* S		**Sn**	**19 35 19.9**	**+5.0**
LLP	**Lapu-Lapu**	**2.71**	**280**	⇑*i*P		**Pn**	**19 35 06.8**	**+1.4**
LLP				*i* S		**Sn**	**19 35 38.5**	**+1.5**
TBP	**Tagbilaran**	**2.78**	**267**	*e*P		**Pn**	**19 35 06.2**	**-0.1**
TBP				*i* S		**Sn**	**19 35 37.7**	**-0.9**
DAV	**Davao City (W)**	**2.95**	**202**	P		Pn	19 35 16.6	+7.9
	22nm,0.3s,baz=261,slow=22,SNR=5.6							
DAV				S		**Sn**	**19 35 46.6**	**+3.6**
	62nm,0.3s,baz=21,slow=19,SNR=5.0							
DAV				LR		LR	19 36 42.1	
	comp=Z,659nm,18.3s,baz=355,slow=51							
DAV	**Davao City (W)**	**2.95**	**202**			**Pn**	**19 35 10.2**	**+1.5**
KCP	**Kidapawan**	**3.21**	**209**	⇓*e*P		**Pn**	**19 35 11.4**	**-0.9**
KCP				*i* S		**Sn**	**19 35 55.9**	**+6.4**
SNPH	**Sibulan**	**3.43**	**262**	⇑*e*P		**Pn**	**19 35 14.5**	**-0.8**
SNPH				*e*S		Sn	19 35 42.5	-12
CTBH	**Cotabato--PC H**	**3.54**	**223**	⇑*i*P		**Pn**	**19 35 16.4**	**-0.3**
PAGZ	**Pagadian**	**3.81**	**239**	⇓*i*P		**Pn**	**19 35 20.8**	**+0.4**
PAGZ				*i* S		**Sn**	**19 36 02.1**	**-1.9**
CNOP	**Candoni, Negro**	**3.98**	**270**	⇓*i*P		**Pn**	**19 35 22.7**	**-0.1**
CNOP				*i* S		**Sn**	**19 36 08.3**	**+0.1**
RCP	**Roxas**	**4.23**	**294**	⇑*e*P		**Pn**	**19 35 28.2**	**+2.0**
JCNP	**Jose Panganiba**	**5.90**	**319**	⇓*e*P		**Pn**	**19 35 50.2**	**+1.1**
**TNT

CAFR Castel Frentan 0.36 23 P Pb 19 51 51.3 +0.3
CAFR S Sb 19 51 56.7 +0.4
CAFR AML AML
comp=N,548μm,1.1s
CAFR AML AML
comp=E,520μm,0.2s
POFI Posta Fibreno 0.38 241 ⇑P Pb 19 51 51.4 -0.1
POFI S Sb 19 51 57.1 +0.1
POFI AML AML
comp=E,1004μm,0.9s
POFI AML AML
comp=N,796μm,0.3s
POFI AML AML
comp=N,798μm,0.3s
POFI AML AML
comp=E,1000μm,0.9s
POFI AML AML
comp=N,799μm,0.3s
POFI AML AML
comp=N,798μm,0.3s
POFI AML AML
comp=E,1114μm,1.0s
FRES Fresagrandinar 0.39 79 P Pg 19 51 51.2 -0.1
FRES S Sb 19 51 57.1 -0.2
FRES AML AML
comp=E,572μm,0.5s
FRES AML AML
comp=N,390μm,0.9s
FRES AML AML
comp=N,390μm,0.9s
VVLD Villa Vallelon 0.40 266 ⇑P Pg 19 51 51.6 +0.1
VVLD S Sb 19 51 57.8 +0.2
VVLD AML AML
comp=E,3565μm,0.1s
VVLD AML AML
comp=N,2885μm,0.5s
VVLD AML AML
comp=N,2890μm,0.5s
VVLD AML AML
comp=E,3570μm,0.1s
T0110 Collepietro 0.43 319 P Pb 19 51 52.3 0.0
T0110 S Sb 19 51 58.9 +0.4
T0110 AML AML
comp=N,950μm,0.4s
T0110 AML AML
comp=E,1660μm,1.2s
T0110 AML AML
comp=N,950μm,0.4s
BSSO Busso 0.48 137 ⇓P Pb 19 51 53.3 +0.2
BSSO AML AML
comp=E,200μm,1.1s
BSSO AML AML
comp=N,192μm,0.3s
BSSO AML AML
comp=E,76μm,0.3s
BSSO AML AML
comp=N,78μm,0.3s
BSSO AML AML
comp=E,200μm,1.1s
BSSO AML AML
comp=N,192μm,0.3s
BSSO AML AML
comp=N,79μm,0.3s
BSSO AML AML
comp=E,160μm,1.2s
BSSO AML AML
comp=E,394μm,1.1s
BSSO AML AML
comp=N,206μm,1.6s
BSSO AML AML
comp=N,512μm,1.6s
VAGA Valle Agricola 0.49 173 P Pg 19 51 53.1 0.0
VAGA S Sg 19 51 59.9 +0.1
VAGA AML AML
comp=E,190μm,0.4s
VAGA AML AML
comp=N,336μm,0.4s
VAGA AML AML
comp=N,336μm,0.4s
VAGA AML AML
comp=E,354μm,1.0s
VAGA AML AML
comp=N,328μm,0.4s
VAGA AML AML
comp=E,367μm,1.0s
SGG Gregorio Mates 0.54 162 P Pg 19 51 54.1 0.0
SGG AML AML
comp=N,223μm,0.5s
SGG AML AML
comp=E,232μm,1.6s
VCEL Villa Celiera 0.55 335 ⇑P Pb 19 51 54.2 0.0
VCEL S Sg 19 52 02.1 +0.4
VCEL AML AML
comp=E,932μm,0.5s
VCEL AML AML
comp=N,817μm,0.5s
VCEL AML AML
comp=N,816μm,0.5s
VCEL AML AML
comp=E,932μm,0.5s
FAGN Fagnano 0.56 311 P Pb 19 51 54.0 -0.3
FAGN S Sg 19 52 02.3 +0.2
FAGN AML AML
comp=E,1127μm,1.3s
FAGN AML AML
comp=E,1128μm,1.3s
FAGN AML AML
comp=N,1065μm,0.3s
PTQR Pietraquaria 0.58 282 ⇑P Pb 19 51 54.5 -0.1
PTQR S Sg 19 52 02.5 0.0
PTQR AML AML
comp=E,226μm,0.8s
PTQR AML AML
comp=E,426μm,0.9s
PTQR AML AML
comp=N,235μm,1.6s
CIGN Sant'Elia a Pi 0.61 113 ⇓P Pb 19 51 55.1 0.0
CIGN S Sg 19 52 03.6 +0.1
CIGN AML AML
comp=E,135μm,1.6s
CIGN AML AML
comp=N,182μm,0.5s
CIGN AML AML
comp=N,554μm,1.6s
CIGN AML AML
comp=E,495μm,1.6s
GUAR Guarcino 0.64 261 P Pb 19 51 55.4 -0.3
GUAR S Sg 19 52 04.5 +0.1
SACR S. Croce Del S 0.65 140 P Pb 19 51 55.8 -0.1
GIGS Gran Sasso 0.70 322 P Pb 19 51 56.5 -0.3
GIGS S Sg 19 52 06.8 +0.4
GIGS AML AML
comp=E,65μm,1.5s
GIGS AML AML
comp=N,75μm,0.3s
GIGS AML AML
comp=E,302μm,1.1s
GIGS AML AML
comp=N,256μm,1.6s
GIUL Giuliano Di Ro 0.76 243 ⇑P Pb 19 51 57.6 -0.2
GIUL S Sg 19 52 08.1 0.0
GIUL AML AML
comp=E,150μm,0.6s
GIUL AML AML
comp=N,150μm,1.0s
GIUL AML AML
comp=N,247μm,1.6s
GIUL AML AML
comp=E,322μm,1.0s
MODR Mondragone 0.78 196 AML AML
comp=E,477μm,1.1s
MODR AML AML
comp=N,586μm,1.2s
TERO Teramo 0.83 331 P Pb 19 51 58.6 -0.4
TERO AML AML
comp=E,133μm,0.9s
TERO AML AML
comp=N,170μm,0.7s
TERO AML AML
comp=E,622μm,1.1s
TERO AML AML
comp=N,444μm,1.0s
FIAM Fiamignano 0.86 296 P Pb 19 51 58.9 -0.6
FIAM S Sg 19 52 11.4 +0.1
FIAM AML AML
comp=E,156μm,0.5s
FIAM AML AML

comp=N,148μm,0.4s
FIAM AML AML
comp=E,724μm,0.9s
FIAM AML AML
comp=N,504μm,0.9s
CERT Cerreto 0.88 274 ⇑P Pb 19 51 59.3 -0.5
CERT S Sg 19 52 12.1 +0.2
CERT AML AML
comp=E,222μm,0.5s
CERT AML AML
comp=N,128μm,0.6s
CERT AML AML
comp=N,620μm,1.1s
CERT AML AML
comp=E,763μm,1.1s
RCAV Rocca di Cave 0.91 267 P Pb 19 51 59.7 -0.6
RCAV S Sb 19 52 12.2 +0.2
RCAV AML AML
comp=E,700μm,1.1s
RCAV AML AML
comp=N,520μm,0.9s
MOCO Biccari - m.te 0.92 125 AML AML
comp=N,382μm,1.5s
MOCO AML AML
comp=E,516μm,1.3s
MOCO AML AML
comp=E,526μm,1.3s
MOCO AML AML
comp=N,380μm,1.4s
RM33 Pellescritta (0.93 311 P Pb 19 52 00.4 -0.3
RM33 AML AML
comp=E,894μm,0.9s
RM33 AML AML
comp=N,711μm,1.0s
RM33 AML AML
comp=N,768μm,1.0s
RM33 AML AML
comp=E,834μm,1.1s
SMA1 SAN MARTINO 0.95 320 P Pb 19 52 00.4 -0.7
SMA1 S Sg 19 52 14.2 -0.1
SMA1 AML AML
comp=N,816μm,1.6s
SMA1 AML AML
comp=E,670μm,1.4s
LATB Latina 0.98 246 AML AML
comp=N,266μm,1.4s
LATB AML AML
comp=E,340μm,1.1s
APRC Apricena 1.05 97 AML AML
comp=E,374μm,1.2s
APRC AML AML
comp=N,485μm,1.0s
OFFI Offida 1.09 342 AML AML
comp=N,3050μm,1.2s
OFFI AML AML
comp=E,3010μm,1.0s
SGRT San Giovanni R 1.20 96 AML AML
comp=E,390μm,1.5s
SGRT AML AML
comp=N,304μm,1.2s
SNAL S. Angelo Dei 1.25 141 AML AML
comp=E,1134μm,1.6s
SNAL AML AML
comp=N,946μm,1.6s
SNAL AML AML
comp=N,991μm,1.6s
SNAL AML AML
comp=E,1162μm,1.6s
MSAG Monte S. Angel 1.32 98 AML AML
comp=N,474μm,1.2s
MSAG AML AML
comp=E,328μm,1.6s
FDMO Fiordimonte 1.38 326 AML AML
comp=E,550μm,1.2s
FDMO AML AML
comp=N,598μm,1.3s
ZIRJ Zirje 2.07 31 *e*Pn Pn 19 52 17.6 +0.7
ZIRJ Sn Sn 19 52 41.2 -0.9
AMUR Altamura 2.09 117 ⇑P Pb 19 52 19.0 -1.5
AMUR AML AML
comp=E,278μm,1.1s
AMUR AML AML
comp=N,285μm,1.4s
HVAR Hvar 2.12 52 *e*Pn Pn 19 52 18.6 +1.0
HVAR Sn Sn 19 52 41.7 -1.7
PE3 Peglio 2.17 326 S Sb 19 52 50.0 +1.6
DUGI Dugi Otok 2.19 17 *e*Pn Pn 19 52 19.3 +0.7
DUGI Sn Sn 19 52 45.2 0.0
LSTV Lastovo 2.21 66 *e*Pn Pn 19 52 20.1 +1.3
LSTV Sn Sn 19 52 44.2 -1.3
MORI Morici 2.27 30 *e*Pn Pn 19 52 20.3 +0.7
MORI Sn Sn 19 52 46.6 -0.5
CRE Caprese Michel 2.37 317 S Sg 19 52 60.0 +0.7
LTRZ Laterza 2.39 122 ⇓P Pb 19 52 23.6 -2.0
VIRC Vir 2.48 15 *e*Pn Pn 19 52 23.1 +0.5
VIRC Sn Sn 19 52 52.3 0.0
MAKA Makarska 2.53 56 *e*Pn Pn 19 52 24.6 +1.5
MAKA Sn Sn 19 52 51.4 -2.0
BLLA Bellaria 2.56 332 S Sb 19 53 01.0 +1.5
SALB San Lorenzo Be 2.62 140 S Sb 19 52 59.0 -2.3
SFI Santa Sofia 2.63 321 S Sb 19 53 01.0 -0.5
KIJV Kijevo 2.67 37 *e*Pn Pn 19 52 26.6 +1.4
KIJV Sn Sn 19 52 56.0 -1.1
OSSC Osservatorio P 2.69 308 S Sn 19 52 59.0 +1.5
RICI Ricice 2.71 53 *e*Pn Pn 19 52 26.6 +0.9
RICI Sn Sn 19 52 56.1 -2.0
NVLJ Novalja 2.71 11 *e*Pn Pn 19 52 26.7 +1.0
NVLJ Sn Sn 19 52 57.8 -0.2
STON Ston 2.80 69 *e*Pn Pn 19 52 28.0 +1.1
STON Sn Sn 19 52 58.2 -1.9
DBRK Dubrovnik 3.06 74 *e*Pn Pn 19 52 32.1 +1.6
DBRK Sn Sn 19 53 05.0 -1.6

*TUL **28** 19:52:40.7±0.6,36°.53N±0°.02×98°.59W±0°.03,h6km±7km, ML2.8,mb_Lg2.6/3(NEIC),Error ellipse: s-maj=4.6km s-min=1.3km az=131.0*

NEIC 28 19:52:41.3±0.6,36°.519N±0°.010×98°.58W±0°.01,h4km±6km, Error ellipse: s-maj=1.8km s-min=1.3km az=53.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.37**	**248**	Pg	Pg	19 52 47.9	-0.4
FNO	**Franklin**	**1.58**	**142**		Pn	19 53 09.2	-0.9
T35A	**Sooner Cattle**	**1.71**	**76**	Pn	Pn	19 53 11.5	-0.4
WMOK	**Wichita Mounta**	**1.78**	**185**	Pn	Pn	19 53 12.2	-0.7
R32A	**Long Quarter,**	**1.90**	**357**		Pn	19 53 12.9	-1.7
X34A	**Smith Ranch, M**	**2.01**	**162**		Pb	19 53 17.2	-1.2
CBKS	**Cedar Bluff**	**2.47**	**339**	Pn	Pn	19 53 22.7	+0.3
AMTX	**Amarillo**	**3.00**	**238**	Pg	Pb	19 53 33.2	-2.2
AMTX				IAmb_Lg		19 54 18.2	
	comp=Z,18nm,0.7s						
X37A	**Clayton**	**3.25**	**125**	Pn	Pn	19 53 32.2	-0.8
S39A	**Bolivar**	**4.36**	**73**	Pn	Pn	19 53 47.5	-0.9
U40A	**Yellville**	**4.62**	**90**	Pn	Pn	19 53 51.3	-0.6
N35A	**Tabor**	**4.91**	**27**	IAmb_Lg		19 55 22.2	
	comp=Z,32nm,0.8s						

*NEIC **28** 19:53:47.7±1.6, 16°.0S±0°.1×167°.4E±0°.2,h10km±1km, mb4.8/6,Error ellipse: s-maj=26.3km s-min=19.7km az=111.0*

*NOU **28** 19:53:49.5, 16°.00S×167°.32E,h9km,MLv5.6/14, Vanuatu Islands*

*IDC **28** 19:53:50.5±8.6, 16°.12S×167°.44E,h33km±64km,mb4.1/10, mb1 4.2/11,mb1mx3.9/38,mbtmp4.2/11,ML4.4/1,Error ellipse: s-maj=34.0km s-min=26.0km az=113.0*

ISC 28 19:53:51.0±0.6,16.11S±0.07×167.3E±0.1,h35km,n43, σ1s74/44,mb4.4/12,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.81**	**153**	P	**Pn**	**19 54 23.2**	**+3.5**
RTV	**Rentapao**	**1.98**	**148**	P	**Pn**	**19 54 25.0**	**+2.9**
KOUNC	**Koumac, New Ca**	**5.27**	**213**		**Pn**	**19 55 08.8**	**+1.5**
KOUNC	**Koumac, New Ca**	**5.27**	**213**	P	**Pn**	**19 55 09.8**	**+2.6**
MARNC	**Mare, Loyalty**	**5.38**	**173**		**Pn**	**19 55 10.9**	**+2.0**
YATNC	**Mamie plateau,**	**5.93**	**184**	P	**Pn**	**19 55 17.5**	**+1.1**
DZM	**Mont Dzumac**	**5.99**	**188**	Pn	**Pn**	**19 55 17.9**	**+0.7**
	9.7nm,0.3s,baz=353,slow=13,SNR=8.5						
DZM				Sn	**Sn**	**19 56 24.6**	**0.0**
	baz=126,slow=23,SNR=1.3						
DZM	**Mont Dzumac**	**5.99**	**188**	*e*Pn	**Pn**	**19 55 18.7**	**+1.5**
	56nm,0.3s						
DZM				*e*Sn	**Sn**	**19 56 20.0**	**-4.6**
	33nm,0.3s						
DZM	**Mont Dzumac**	**5.99**	**188**		**Pn**	**19 55 18.2**	**+1.0**
DZM	**Mont Dzumac**	**5.99**	**188**	P	**Pn**	**19 55 18.9**	**+1.7**
ONTNC	**Ouen Toro**	**6.22**	**187**		**Pn**	**19 55 22.0**	**+1.7**
ONTNC	**Ouen Toro**	**6.22**	**187**	P	**Pn**	**19 55 22.9**	**+2.6**
	97nm,2.1s						
OUENC	**Ouen Island, N**	**6.29**	**184**	Pn	**Pn**	**19 55 21.7**	**+0.4**
OUENC	**Ouen Island, N**	**6.29**	**184**	P	**Pn**	**19 55 23.9**	**+2.6**
PINNC	**Pines Island,**	**6.47**	**179**	Pn	**Pn**	**19 55 25.1**	**+1.4**
WRAB	**Tennant Creek**	**31.54**	**258**	P	**P**	**20 00 09.7**	**-0.6**
WC4	**Warramunga Arr**	**31.55**	**258**	P	**P**	**20 00 09.7**	**-0.6**
WRA	**Warramunga Arr**	**31.55**	**258**	P	**P**	**20 00 10.2**	**-0.2**
	0.9nm,0.7s,baz=88,slow=9.4,SNR=5.9						
AS31	**Alice Springs**	**32.24**	**251**	P	**P**	**20 00 16.9**	**+0.5**
AS31				IAmb	IAmb	20 00 17.9	
	comp=Z,3.2nm,0.7s						
ASAR	**Alice Springs**	**32.24**	**251**	P	**P**	**20 00 17.1**	**+0.7**
	comp=Z,7.5nm,0.7s,baz=76,slow=8.8,SNR=82						
ASAR	**Alice Springs**	**32.24**	**251**	P	**P**	**20 00 16.9**	**+0.5**
KNRA	**Kununurra**	**37.04**	**265**	P	**P**	**20 00 57.1**	**-0.7**
CASY	**Casey**	**62.27**	**202**	P	**P**	**20 04 10.4**	**+1.2**
CASY				IAmb	IAmb	20 04 17.1	
	comp=Z,9.2nm,1.4s						
USRK	**Ussuriysk Ar.**	**68.13**	**333**	P	**P**	**20 04 50.5**	**+3.1**
	comp=Z,3.3nm,0.7s,baz=131,slow=6.4,SNR=5.0						
PETK	**Petropavlovsk-**	**69.43**	**354**	P	**P**	**20 04 55.5**	**+0.2**
	comp=Z,6.4nm,0.8s,baz=186,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**75.55**	**294**	P	**P**	**20 05 34.0**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=128,slow=4.9,SNR=4.7						
SEY	**Seymchan**	**79.65**	**353**	P	**P**	**20 05 54.3**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=138,slow=4.7,SNR=6.1						
SONM	**Songino Array**	**83.63**	**324**	P	**P**	**20 06 15.9**	**-0.1**
	comp=Z,2.2nm,1.0s,baz=145,slow=5.3,SNR=3.7						
ILAR	**Eielson Array**	**87.82**	**18**	P	**P**	**20 06 33.9**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=245,slow=4.8,SNR=4.9						
SNAA	**Sanae**	**92.18**	**183**	P	**P**	**20 06 56.3**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=210,slow=8.1,SNR=5.1						
SNAA	**Sanae**	**92.18**	**183**	P	**P**	**20 06 56.5**	**-0.2**
SNAA				IAmb	IAmb	20 07 23.7	
	comp=Z,6.0nm,1.3s						
TX31	**Lajitas Ar. Si**	**96.90**	**62**	P	**P**	**20 07 16.1**	**-3.1**
TX32	**Lajitas Array**	**96.90**	**62**	P	**P**	**20 07 16.0**	**-3.1**
TX32				IAmb	IAmb	20 07 41.7	
	comp=Z,4.6nm,1.2s						
MKAR	**Makanchi Array**	**98.22**	**316**	P	Pdif	20 07 26.0	+1.3
	comp=Z,0.5nm,0.9s,baz=108,slow=4.7,SNR=1.9						
YKA	**Yellowknife Ar**	**98.75**	**27**	P	Pdif	20 07 27.4	+0.8
	comp=Z,0.3nm,0.8s,baz=257,slow=4.4,SNR=1.6						
SPITS	**Spitsbergen Ar**	**116.30**	**354**	PKP	**PKPdf**	**20 12 29.3**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=65,slow=10,SNR=4.9						
ARCES	**ARCESS Array B**	**121.59**	**345**	PKP	**PKPdf**	**20 12 40.0**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=76,slow=1.5,SNR=22						
ARCES	**ARCESS Array B**	**121.59**	**345**		**PKPdf**	**20 12 40.2**	**-0.2**
NB2	**NORSAR Subarra**	**131.96**	**345**	PKPdf	**PKPdf**	**20 13 00.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**131.96**	**345**	PKP	**PKPdf**	**20 13 00.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=30,slow=2.0,SNR=4.6						
GERES	**GERESS Array B**	**140.88**	**332**	PKP	**PKPdf**	**20 13 18.3**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=72,slow=3.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**165.77**	**260**	PKP	**PKPdf**	**20 13 53.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=293,slow=1.2,SNR=2.8						
TORD				PKPab	**PKPab**	**20 14 51.7**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=101,slow=4.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**165.77**	**260**		**PKPdf**	**20 13 52.2**	**-0.9**

TRN 28 19:56:37.3,11°.14N×60°.66W,h51km,MD3.6,1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSP	**Speyside**	**0.20**	**38**	⇑*i*P	Pn	19 56 45.9	+0.2
TOSP				*e*S	Sn	19 56 52.0	+0.3
TRN	**Trinidad (W)**	**0.88**	**236**	*e*P	Pn	19 56 54.0	+0.6
TRN				*e*S	Sn	19 57 05.3	0.0
GRGR	**Grenville**	**1.39**	**315**	*e*P	Pn	19 56 59.5	-0.7
GRGR				*e*S	Sn	19 57 18.1	+0.6
GRFF	**Grenada Fort F**	**1.39**	**311**	*e*P	Pn	19 57 00.6	+0.3
GRFF				*e*S	Sn	19 57 17.6	0.0
GRHS	**Sauteurs**	**1.44**	**318**	*e*S	Sn	19 57 20.1	+1.3
GRSS	**Sisters**	**1.48**	**321**	*e*P	Pn	19 57 00.9	-0.6
GRSS				*e*S	Sn	19 57 20.0	+0.2
GCMP	**Grenada, Carri**	**1.53**	**331**	*e*P	Pn	19 57 02.0	-0.3
SVB	**Belmont**	**2.19**	**345**	*e*P	Pn	19 57 11.1	-0.3
SVB				*e*S	Sn	19 57 36.7	-0.7
SVV	**Soufriere Volc**	**2.23**	**346**	*e*P	Pn	19 57 12.9	+1.1
SVV				*e*S	Sn	19 57 38.3	+0.1
SSV	**Crater Summit**	**2.23**	**347**	*e*P	Pn	19 57 13.6	+1.6
SSV				*e*S	Sn	19 57 37.8	-0.6
MCLT	**Moule a Chique**	**2.57**	**354**	*e*P	Pn	19 57 16.6	+0.2
MCLT				*e*S	Sn	19 57 45.0	-1.5
SLBI	**Saint Lucia, B**	**2.88**	**354**	*e*P	Pn	19 57 20.9	+0.2
SLBI				*e*S	Sn	19 57 52.2	-1.9
MPOM	**Morne Pois Mar**	**3.29**	**357**	*e*P	Pn	19 57 26.0	-0.3
MPOM				*e*S	Sn	19 58 03.6	-0.6
TRMF	**Trois Ilets**	**3.40**	**354**	*e*P	Pn	19 57 28.4	+0.6
LPMF	**Morne Lapointe**	**3.42**	**355**	*e*P	Pn	19 57 28.5	+0.3
ZAM	**Aeronautique**	**3.43**	**354**	*e*P	Pn	19 57 29.2	+0.9
FDF	**Fort de France**	**3.60**	**352**	*e*P	Pn	19 57 31.3	+0.6
FDF				*e*S	Sn	19 58 10.7	-1.3
BAMF	**Morne Balai**	**3.68**	**353**	*e*P	Pn	19 57 32.4	+0.6
PCM	**Pelee Case Pet**	**3.69**	**352**	*e*P	Pn	19 57 32.3	+0.4
MAGL	**Barre de l'ile**	**4.82**	**353**	*e*P	Pn	19 57 49.9	+2.6

*NOU **28** 19:57:12.9,41°.04S×174°.65E,h54km,MLv4.7/10,Cook Strait, New Zealand*

*WEL **28** 19:57:13.2,41°.S±3°.×17°.5E±°,h48km±8km,M3.9/62, ML4.2/85,MLv3.9/62,Error ellipse: s-maj=0.0km s-min=0.0km az=91.8*

ISC 28 19:57:13.1±1.6,41°.03S±0°.03×174°.58E±0°.03,h56km,n125, σ1s17/125,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEL	**Wellington**	**0.29**	**151**	P	**Pn**	**19 57 23.2**	**+0.5**
TCW	**Tory Channel**	**0.29**	**232**	P	**Pn**	**19 57 22.2**	**-0.5**
SNZO	**South Karori**	**0.29**	**161**	P	**Pn**	**19 57 23.1**	**+0.4**
KIW	**Kapiti Island**	**0.30**	**56**	P	**Pn**	**19 57 22.3**	**-0.5**
CAW	**Cannon Point**	**0.38**	**102**	P	**Pn**	**19 57 24.1**	**+0.7**
BHW	**Baring Head**	**0.43**	**150**	P	**Pn**	**19 57 24.8**	**+0.8**
OGWZ	**Otaki Gorge**	**0.50**	**65**	P	**Pn**	**19 57 25.0**	**+0.3**
DUWZ	**D'Urville Isla**	**0.55**	**295**	P	**Pn**	**19 57 24.1**	**-1.2**
TUWZ	**Tuamarina**	**0.62**	**230**	P	**Pn**	**19 57 26.3**	**+0.2**
MSWZ	**Moikau Station**	**0.63**	**127**	P	**Pn**	**19 57 27.4**	**+1.1**
MTW	**Mount Morrison**	**0.71**	**101**	P	**Pn**	**19 57 28.1**	**+0.9**
HOWZ	**Holdsworth Sta**	**0.72**	**80**	P	**Pn**	**19 57 28.2**	**+0.8**
PAWZ	**Paruwai Farm**	**0.73**	**119**	P	**Pn**	**19 57 28.5**	**+1.0**
PLWZ	**Palliser**	**0.74**	**137**	P	**Pn**	**19 57 28.6**	**+1.0**
CMWZ	**Cape Campbell**	**0.77**	**201**	P	**Pn**	**19 57 30.0**	**+2.0**
MRZ	**Mangatainoka R**	**0.84**	**64**	P	**Pn**	**19 57 29.5**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.86**	**218**	P	**Pn**	**19 57 30.2**	**+1.0**
TRWZ	**Traveller**	**0.91**	**114**	P	**Pn**	**19 57 30.8**	**+1.0**
NNZ	**Nelson**	**0.93**	**258**	P	**Pn**	**19 57 29.8**	**-0.2**
TMWZ	**Te Maipa**	**0.99**	**95**	P	**Pn**	**19 57 31.5**	**+0.6**
OHWZ	**Ohakea**	**1.00**	**34**	P	**Pn**	**19 57 31.8**	**+0.9**
TIWZ	**Tintock**	**1.02**	**76**	P	**Pn**	**19 57 31.9**	**+0.6**
POWZ	**Post Office Ro**	**1.11**	**55**	P	**Pn**	**19 57 33.3**	**+0.9**
PRWZ	**Pori Road**	**1.16**	**66**	P	**Pn**	**19 57 33.6**	**+0.5**
TKNZ	**Takaka Hill**	**1.23**	**269**	P	**Pn**	**19 57 34.3**	**+0.3**
CPWZ	**Castlepoint**	**1.23**	**85**	P	**Pn**	**19 57 35.3**	**+1.3**
BFZ	**Birch Farm**	**1.31**	**75**	P	**Pn**	**19 57 35.1**	**0.0**
BFZ	**Birch Farm**	**1.31**	**75**	P	**Pn**	**19 57 35.3**	**+0.2**
WAZ	**Wanganui**	**1.31**	**14**	P	**Pn**	**19 57 35.9**	**+0.7**
DVHZ	**Dannevirke**	**1.41**	**59**	P	**Pn**	**19 57 36.3**	**-0.2**
MRNZ	**Matariki Terra**	**1.42**	**254**	P	**Pn**	**19 57 37.5**	**+0.9**
TSZ	**Takapari Road**	**1.43**	**48**	P	**Pn**	**19 57 36.8**	**0.0**
THZ	**Tophouse**	**1.46**	**239**	P	**Pn**	**19 57 37.8**	**+0.7**
QRZ	**Quartz Range**	**1.57**	**277**	P	**Pn**	**19 57 38.8**	**+0.3**
QRZ	**Quartz Range**	**1.57**	**277**	P	**Pn**	**19 57 39.0**	**+0.4**
LREZ	**Lake Rotokare**	**1.58**	**355**	P	**Pn**	**19 57 39.1**	**+0.5**
KHZ	**Kahutara**	**1.59**	**209**	P	**Pn**	**19 57 39.8**	**+1.1**
KHZ	**Kahutara**	**1.59**	**209**	P	**Pn**	**19 57 39.9**	**+1.1**
PNHZ	**Pukenui**	**1.67**	**48**	P	**Pn**	**19 57 39.7**	**-0.2**
NMEZ	**Namu Road**	**1.70**	**341**	P	**Pn**	**19 57 40.9**	**+0.5**
WPHZ	**Waipukurau**	**1.72**	**56**	P	**Pn**	**19 57 40.3**	**-0.3**
PREZ	**Palmer Road**	**1.72**	**349**	P	**Pn**	**19 57 41.6**	**+1.0**
PRHZ	**Porangahau**	**1.74**	**65**	P	**Pn**	**19 57 40.8**	**-0.2**
MTVZ	**Mangateitei**	**1.78**	**23**	P	**Pn**	**19 57 42.4**	**+0.9**

KHEZ	Kahui Hut	1.79	346	P	Pn	19 57 42.1 +0.5
NEZ	North Egmont	1.80	348	P	Pn	19 57 42.5 +0.7
PKVZ	Pokaka	1.84	19	P	Pn	19 57 43.0 +0.7
NBEZ	Newall Road No	1.84	343	P	Pn	19 57 42.6 +0.2
MOVZ	Moawhango	1.86	29	P	Pn	19 57 42.5 0.0
DREZ	Durham Road	1.86	351	P	Pn	19 57 43.1 +0.5
WNVZ	Wahianoa	1.87	25	P	Pn	19 57 43.5 +0.6
TRVZ	Turoa	1.88	24	P	Pn	19 57 44.1 +1.0
PKE	Pukeiti	1.89	346	P	Pn	19 57 43.7 +0.7
DRZ	Dome Shelter	1.91	24	P	Pn	19 57 45.4 +1.9
VRZ	Vera Road	1.91	4	P	Pn	19 57 43.9 +0.7
WHVZ	Whangaehu Hut	1.91	24	P	Pn	19 57 44.2 +0.7
BHHZ	Black Hill Sta	1.91	37	P	Pn	19 57 43.4 0.0
FWVZ	Far West T-bar	1.93	23	P	Pn	19 57 44.3 +0.6
TUVZ	Tukino	1.94	25	P	Pn	19 57 44.6 +0.7
KRHZ	Kereru	1.95	45	P	Pn	19 57 43.2 -0.6
MHEZ	Mangahewa	1.96	354	P	Pn	19 57 45.1 +1.1
NGZ	Ngauruhoe	2.01	23	P	Pn	19 57 45.5 +0.7
SNVZ	South Ngauruho	2.02	24	P	Pn	19 57 46.0 +1.2
OTVZ	Oturere	2.04	24	P	Pn	19 57 46.0 +0.7
NNVZ	North Ngauruho	2.06	23	P	Pn	19 57 46.3 +0.9
WTVZ	West Tongariro	2.07	22	P	Pn	19 57 46.2 +0.7
ETVZ	East Tongariro	2.08	25	P	Pn	19 57 46.4 +0.7
TMVZ	Te Maari	2.10	25	P	Pn	19 57 46.4 +0.5
NTVZ	North Tongarir	2.11	24	P	Pn	19 57 45.3 -0.7
KWHZ	Kaweka Forest	2.14	42	P	Pn	19 57 50.5 +4.1
KAHZ	Kahuranaki	2.15	56	P	Pn	19 57 45.8 -0.6
DSZ	Denniston Nort	2.21	250	P	Pn	19 57 47.9 +0.7
KATZ	Kakaramea	2.23	23	P	Pn	19 57 50.6 +2.9
GVZ	Greta Valley S	2.25	210	P	Pn	19 57 48.3 +0.4
MCHZ	McNeill Hill	2.27	46	P	Pn	19 57 47.9 -0.2
RITZ	Rihia Road	2.28	26	P	Pn	19 57 51.5 +3.2
RATZ	Rangitukua	2.35	23	P	Pn	19 57 52.8 +3.5
BKZ	Black Stump Fm	2.37	39	P	Pn	19 57 48.8 -0.7
BKZ	Black Stump Fm	2.37	39	P	Pn	19 57 48.9 -0.7
LTZ	Lake Taylor	2.45	224	P	Pn	19 57 51.2 +0.5
WATZ	Wairara	2.48	21	P	Pn	19 57 53.4 +2.3
HIZ	Hauiti	2.52	5	P	Pn	19 57 52.3 +0.7
HIZ	Hauiti	2.52	5	P	Pn	19 57 52.6 +1.0
AMCZ	Amberley	2.58	213	P	Pn	19 57 52.3 0.0
NMHZ	Naumai	2.58	42	P	Pn	19 57 51.9 -0.5
MRHZ	Matea Rd	2.61	33	P	Pn	19 57 51.8 -1.1
KUTZ	Kaahu Road	2.71	21	P	Pn	19 57 58.0 +3.8
MTHZ	Maungataniwha	2.79	39	P	Pn	19 57 54.1 -1.2
TLZ	Tolley Road	2.80	16	P	Pn	19 57 56.2 +0.8
ALRZ	Allen Road	2.82	29	P	Pn	19 57 58.2 +2.6
INZ	Inchbonnie	2.89	233	P	Pn	19 57 56.9 +0.3
PRRZ	Plateau Road	2.89	30	P	Pn	19 57 56.6 0.0
OKZ	Okains Bay	2.92	202	P	Pn	19 57 56.6 -0.4
OXZ	Oxford	2.97	219	P	Pn	19 57 56.9 -0.8
MQZ	McQueen's Vall	3.03	207	P	Pn	19 57 57.3 -1.2
RTZ	Ruatahuna	3.04	38	P	Pn	19 57 57.0 -1.7
MUGZ	Murupara	3.06	34	P	Pn	19 57 57.1 -1.9
SNGZ	Shannon Statio	3.09	44	P	Pn	19 57 57.7 -1.7
AKCZ	Akaroa Harbour	3.10	203	P	Pn	19 57 58.8 -0.6
MHGZ	Mahia Peninsul	3.17	55	P	Pn	19 57 58.5 -1.9
RACZ	Rakaia	3.24	213	P	Pn	19 58 00.2 -1.2
TOZ	Tahuroa Road	3.37	13	P	Pn	19 58 04.5 +1.2
URZ	Urewera	3.39	36	P	Pn	19 58 01.4 -2.0
WVZ	Waitaha Valley	3.51	233	P	Pn	19 58 06.6 +1.5
WACZ	Wakanui South	3.54	214	P	Pn	19 58 04.5 -1.0
RPZ	Rata Peaks	3.74	223	P	Pn	19 58 08.5 +0.2
RPZ	Rata Peaks	3.74	223	P	Pn	19 58 09.0 +0.7
ARCZ	Arundel	3.85	220	P	Pn	19 58 09.0 -0.8
TWGZ	Tauwhareparae	3.88	44	P	Pn	19 58 08.6 -1.6
GCSZ	Gaunt Creek Bo	3.90	233	P	Pn	19 58 12.2 +1.9
MKAZ	Moumakai	3.95	7	P	Pn	19 58 11.5 +0.4
AWAZ	Awhitu Peninsu	3.99	11	P	Pn	19 58 11.9 +0.6
WTAZ	Waiatarua	4.09	360	P	Pn	19 58 13.9 +0.8
WIAZ	Waiheke Island	4.25	6	P	Pn	19 58 16.2 +0.8
TMZ	Timaru	4.26	217	P	Pn	19 58 14.4 -0.9
FOZ	Fox Glacier	4.33	233	P	Pn	19 58 16.4 +0.2
KUZ	Kuaotunu	4.37	12	P	Pn	19 58 17.4 +0.5
ABAZ	Army Bay	4.43	3	P	Pn	19 58 18.4 +0.7
LBZ	Lake Benmore	4.66	223	P	Pn	19 58 20.4 -0.4
ODZ	Otahua Downs	4.94	214	P	Pn	19 58 23.2 -1.4
ODZ	Otahua Downs	4.94	214	P	Pn	19 58 23.3 -1.3
JCZ	Jackson Bay	5.25	233	P	Pn	19 58 28.4 -0.6
OUZ	Omahuta	5.86	352	P	Pn	19 58 37.4 +0.1
OUZ	Omahuta	5.86	352	P	Pn	19 58 37.1 -0.1
CTZ	Chatham Island	7.05	115	P	Pn	19 58 55.0 +1.4

*IDC **28** 20:01:27.6±2.3, 15°.77S×167°.66E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.6/33, mbtmp3.7/3, ML4.2/1, Error ellipse: s-maj=57.7km s-min=43.7km az=120.0*
*NOU **28** 20:01:33.3, 16°.025×167°.43E, h6km, MLv5.3/11, Vanuatu Islands*
ISC 28 20:01:34.8±1.4, 15°.93S±0°.07×167°.4E±0°.2, h35km, n11, σ1s04/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.52	340	P	Pn	20 01 46.2	+0.5
DVP	Devils Point	1.94	157	P	Pn	20 02 06.3	+1.0
KOUNC	Koumac, New Ca	5.46	212	P	Pn	20 02 54.5	+0.8
YATNC	Mamie plateau,	6.11	184	P	Pn	20 03 01.8	-0.9
DZM	Mont Dzumac	6.17	188	Pn	Pn	20 03 02.8	-0.8
	5.4nm,0.3s,baz=354,slow=6.1,SNR=14						
DZM	Mont Dzumac	6.17	188	P	Pn	20 03 02.9	-0.7
OUENC	Ouen Island, N	6.47	184	P	Pn	20 03 08.4	+0.8
PINNC	Pines Island,	6.64	180	P	Pn	20 03 10.8	+0.8
WRA	Warramunga Arr	31.66	258	P	P	20 07 55.5	+0.3
	0.2nm,0.6s,baz=88,slow=8.6,SNR=1.6						
ASAR	Alice Springs	32.37	251	P	P	20 08 01.8	+0.5
	1.2nm,0.8s,baz=78,slow=8.8,SNR=14						
ARCES	ARCESS Array B	121.44	345	PKP	PKPdf	20 20 22.1	-1.8
	2.3nm,1.0s,baz=72,slow=2.9,SNR=7.2						

*IDC **28** 20:02:20.1±2.2, 15°.93S×167°.66E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/35, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=60.4km s-min=38.2km az=115.0*
*NEIC **28** 20:02:25.0±2.7, 15°.86S±0°.08×167°.6E±0°.2, h29km±9km, mb4.7/6, Error ellipse: s-maj=26.9km s-min=7.2km az=68.0*
ISC 28 20:02:25.1±1.3, 15°.91S±0°.08×167°.7E±0°.2, h35km, n14, σ1s04/15, mb4.3/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.66	315	Pn	Pn	20 02 38.2	+0.3
SANVU				Sn	Sn	20 02 47.1	+0.1
KOUNC	Koumac, New Ca	5.63	215	Pn	Pn	20 03 46.1	-0.2
DZM	Mont Dzumac	6.24	191	Pn	Pn	20 03 53.7	-1.1
	3.4nm,0.3s,baz=272,slow=20,SNR=2.3						
ONTNC	Ouen Toro	6.47	190	Pn	Pn	20 03 58.5	+0.7
WRA	Warramunga Arr	31.95	258	P	P	20 08 47.6	-0.3
	0.6nm,0.9s,baz=92,slow=7.5,SNR=2.2						
ASAR	Alice Springs	32.65	251	P	P	20 08 53.7	-0.4
	2.3nm,0.8s,baz=78,slow=8.9,SNR=8.1						
MJAR	Matsushiro Arr	59.13	333	P	P	20 12 20.4	-1.9
MJAR				IAmb	IAmb	20 12 46.8	
	comp=Z,6.3nm,1.4s						
MAJO	Matsushiro	59.14	333	P	P	20 12 20.9	-1.4
MAJO				IAmb	IAmb	20 12 25.0	
	comp=Z,15nm,1.4s						
MJB9	Matsu-Tunnel	59.14	333	P	P	20 12 20.7	-1.6
KSM	Kuching	59.23	282	P	P	20 12 23.6	+0.1
KSM				IAmb	IAmb	20 12 49.7	
	comp=Z,4.5nm,1.0s						
CASY	Casey	62.59	203	P	P	20 12 46.8	+1.4
SONM	Songino Array	83.68	324	P	P	20 14 51.0	+0.7
	comp=Z,0.5nm,0.6s,baz=132,slow=6.4,SNR=2.7						
SONM	Songino Array	83.68	324	P	P	20 14 51.0	+0.7
ARCES	ARCESS Array B	121.49	345	PKP	PKPdf	20 21 14.8	+0.5
	comp=Z,0.4nm,0.5s,baz=35,slow=3.3,SNR=4.9						

IDC 28 20:03:14.1±2.5, 15°.96S×167°.69E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/35, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=62.7km s-min=47.2km az=119.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.19	191	Pn	Pn	20 04 47.0	+0.2
	4.4nm,0.3s,baz=43,slow=19,SNR=2.1						
DZM				Sn	Sn	20 05 52.7	-5.8
	2.8nm,0.3s,baz=150,slow=19,SNR=1.8						
WRA	Warramunga Arr	31.94	258	P	P	20 09 42.7	+0.9
	0.3nm,0.8s,baz=83,slow=7.7,SNR=1.9						
ASAR	Alice Springs	32.63	251	P	P	20 09 46.9	-1.0
	0.5nm,0.6s,baz=79,slow=9.0,SNR=1.4						
ARCES	ARCESS Array B	121.54	345	PKP	PKPdf	20 22 08.8	-0.2
	1.5nm,0.9s,baz=54,slow=1.6,SNR=5.0						

IDC 28 20:06:11.5±3.5, 16°.17S×167°.31E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/42, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=75.7km s-min=41.4km az=92.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.93	188	Pn	Pn	20 07 40.1	-0.6
	3.5nm,0.3s,baz=95,slow=12,SNR=8.1						
DZM				Sn	Sn	20 08 45.8	-3.6
	6.9nm,0.3s,baz=313,slow=23,SNR=8.3						
WRA	Warramunga Arr	31.54	258	P	P	20 12 35.2	-0.6
	0.6nm,1.0s,baz=86,slow=7.6,SNR=1.5						
ASAR	Alice Springs	32.22	251	P	P	20 12 42.2	+0.5
	0.4nm,0.7s,baz=73,slow=9.1,SNR=4.8						
SONM	Songino Array	83.67	324	P	P	20 18 42.3	+0.1
	0.2nm,0.5s,baz=141,slow=4.8,SNR=2.4						

*IDC **28** 20:14:44.7±0.8, 36°.17S×97°.26W, h0km, mb4.3/11, mb1 4.6/11, mb1mx4.4/32, mbtmp4.3/11, Error ellipse: s-maj=22.7km s-min=21.0km az=46.0*
*NEIC **28** 20:14:47.5±1.4, 36°.24S±0°.04×97°.2W±0°.2, h10km±1km, mb4.7/106, Error ellipse: s-maj=25.9km s-min=7.7km az=264.0*
ISC 28 20:14:46.6±0.6, 36°.22S±0°.09×97°.2W±0°.1, h10km, n162, σ0s99/153, mb4.7/53, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	15.17	86	T	T	20 34 13.9	
	baz=253						
H03S1	Juan Fernandez	15.19	86	T	T	20 34 09.7	
	baz=253						
H03S3	Juan Fernandez	15.19	86	T	T	20 34 13.9	
	baz=253						
H03N2	Juan Fernandez	15.27	85	T	T	20 34 11.5	
	baz=257,slow=73,SNR=119						
H03N3	Juan Fernandez	15.27	85	T	T	20 34 12.9	
	baz=257,slow=73,SNR=148						
H03N1	Juan Fernandez	15.29	85	T	T	20 33 57.5	
	baz=257,slow=73,SNR=138						
LL03	Petrohue	19.96	112	P	P	20 19 19.6	+0.8
LL03				IAmb	IAmb	20 19 24.2	
	comp=Z,50nm,0.9s						
GO05	Huala	20.58	94	P	P	20 19 25.4	-0.2
GO05				IAmb	IAmb	20 19 27.5	
	comp=Z,69nm,1.2s						
LL02	Futaleuf	20.67	117	P	P	20 19 25.3	-1.3
LL02				IAmb	IAmb	20 19 37.4	
	comp=Z,41nm,1.2s						
ML02	Panimavida	20.86	96	P	P	20 19 28.1	-0.7
ML02				IAmb	IAmb	20 19 45.7	
	comp=Z,66nm,1.2s						
COYC	Coyhaique	21.10	124	P	P	20 19 31.4	+0.2
COYC				IAmb	IAmb	20 19 50.2	
	comp=Z,39nm,1.2s						
VA05	Santo Domingo	21.13	91	P	P	20 19 31.2	-0.4
PLCA	Paso Flores	21.32	110	P	P	20 19 33.8	+0.1
	comp=Z,4.8nm,0.9s,baz=280,slow=8.1,SNR=7.8						
PLCA	Paso Flores	21.32	110		P	20 19 33.4	-0.3
PLCA	Paso Flores	21.32	110	eP	P	20 19 34.4	+0.7
MT01	Popeta	21.37	91	P	P	20 19 33.8	-0.4
BO01	Tunca	21.39	93	P	P	20 19 34.2	-0.2
BO01				IAmb	IAmb	20 19 45.3	
	comp=Z,46nm,1.2s						
MT09	Talagante	21.60	91	P	P	20 19 36.5	-0.3
MT02	Curacav	21.61	90	P	P	20 19 36.9	+0.1
MT02				IAmb	IAmb	20 19 45.4	
	comp=Z,29nm,1.1s						
VA06	Catapilco	21.68	88	P	P	20 19 36.6	-0.8
VA06				IAmb	IAmb	20 19 44.9	
	comp=Z,31nm,1.1s						
ROC1	El Roble	21.79	89	P	P	20 19 36.9	-2.1
ROC1				IAmb	IAmb	20 19 54.4	
	comp=Z,29nm,1.0s						
GO08	Villa O'Higgin	21.84	132	P	P	20 19 38.7	-0.4
BO04	La Punta	21.86	92	P	P	20 19 38.3	-1.2
MT05	Renca	21.90	90	P	P	20 19 38.6	-1.4
MT05				IAmb	IAmb	20 19 50.2	
	comp=Z,50nm,1.0s						
CO06	Fray Jorge	22.02	83	P	P	20 19 41.3	+0.1
MT03	Universidad Ad	22.06	91	P	P	20 19 40.0	-1.7
MT03				IAmb	IAmb	20 19 45.0	
	comp=Z,22nm,0.8s						
LMEL	Las Melosas	22.22	92	P	P	20 19 43.1	-0.4
VA03	San Esteban	22.22	89	P	P	20 19 42.7	-0.8
VA03				IAmb	IAmb	20 19 46.0	
	comp=Z,46nm,1.0s						
CO02	Combarbal	22.34	85	P	P	20 19 45.4	+0.6
CO02				IAmb	IAmb	20 19 47.6	
	comp=Z,40nm,1.1s						
CO05	La Serena	22.62	81	P	P	20 19 48.0	+0.3
GO04	Tololo Observa	22.88	82	P	P	20 19 49.2	-1.4
GO04				IAmb	IAmb	20 19 52.8	
	comp=Z,26nm,1.0s						
LCO	Las Campanas	23.42	80	P	P	20 19 55.9	-0.2
LCO				IAmb	IAmb	20 19 57.9	
	comp=Z,41nm,1.1s						
CO01	Juntas del Tor	23.52	82	P	P	20 19 57.4	+0.3
CO01				IAmb	IAmb	20 20 10.6	
	comp=Z,25nm,1.2s						
ZON	Zonda	24.10	87	P	P	20 20 02.5	0.0
ZON				IAmb	IAmb	20 20 26.0	
	comp=Z,24nm,1.2s						
GO03	Copiap	24.41	77	P	P	20 20 05.9	+0.5
GO03				IAmb	IAmb	20 20 34.2	
	comp=Z,25nm,1.2s						
AC06	Mina Casimiro	24.42	76	P	P	20 20 06.0	+0.6
AC06				IAmb	IAmb	20 20 08.0	
	comp=Z,42nm,1.4s						
AC01	Pan de Azucar	24.82	74	P	P	20 20 07.6	-1.4
AC02	Maricunga	25.63	77	P	P	20 20 16.8	-0.1
AC02				IAmb	IAmb	20 20 20.4	
	comp=Z,20nm,0.9s						
PB14	IPOC Station P	25.76	71	P	P	20 20 17.4	-0.6
GO02	Mina Guanaco	26.10	73	P	P	20 20 20.9	-0.1
GO02				IAmb	IAmb	20 20 22.1	
	comp=Z,12nm,0.8s						
PB15	IPOC Station P	27.26	69	P	P	20 20 31.4	0.0
PB06	IPOC Station P	27.47	68	P	P	20 20 32.8	-0.4
PB06				IAmb	IAmb	20 20 35.7	
	comp=Z,19nm,1.0s						
PB07	IPOC Station P	27.81	66	P	P	20 20 35.7	-0.6
PB07				IAmb	IAmb	20 20 39.0	
	comp=Z,12nm,0.9s						
LVC	Limon Verde	28.02	69	P	P	20 20 36.6	-1.8
	comp=Z,18nm,0.9s,baz=235,slow=7.7,SNR=12						
LVC	Limon Verde	28.02	69	P	P	20 20 38.4	0.0
LVC	Limon Verde	28.02	69	eP	P	20 20 39.9	+1.6
PB02	IPOC Station P	28.05	65	P	P	20 20 38.1	-0.3
PB09	IPOC Station P	28.25	67	P	P	20 20 41.0	+0.8
TA01	Diego Aracena	28.31	64	P	P	20 20 40.2	-0.4
PB01	IPOC Station P	28.52	66	P	P	20 20 41.8	-0.7
PB11	IPOC Station P	29.20	63	P	P	20 20 47.4	-1.3
PB11				IAmb	IAmb	20 20 50.0	
	comp=Z,21nm,1.0s						
PB08	IPOC Station P	29.33	64	P	P	20 20 50.4	+0.3
PB12	IPOC Station P	29.47	61	P	P	20 20 50.8	-0.2
GO01	Chusmiza	29.59	64	P	P	20 20 52.7	+0.2
PB16	IPOC Station P	30.23	61	P	P	20 20 58.5	+0.2
PB16				IAmb	IAmb	20 21 01.8	
	comp=Z,13nm,1.1s						
LPAZ	La Paz	32.58	60	P	P	20 21 20.0	+1.0
	comp=Z,17nm,0.9s,baz=218,slow=6.0,SNR=45						
LPAZ	La Paz	32.58	60	P	P	20 21 20.0	+1.0
LPAZ	La Paz	32.58	60	eP	P	20 21 20.1	+1.1
ITQB	Itaqui	34.50	91	eP	P	20 21 35.4	+0.5
CPUP	Villa Florida	35.28	85	P	P	20 21 42.4	+0.7
	comp=Z,1.6nm,0.6s,baz=54,slow=5.6,SNR=3.0						
CPUP	Villa Florida	35.28	85	IAmb	IAmb	20 22 05.1	
	comp=Z,26nm,1.8s						
CPUP	Villa Florida	35.28	85	eP	P	20 21 42.8	+1.2
ETMB	Extrema	38.49	55	eP	P	20 22 09.4	+0.3
AQDB	Aquidauana	39.44	78	P	P	20 22 16.5	-0.5
AQDB	Aquidauana	39.44	78	eP	P	20 22 17.1	0.0
PTLB	Pontes e Lacer	39.69	69	eP	P	20 22 19.2	+0.1

PTGB	Pitanga	40.25	86	eP	P	20 22 24.1 +0.2
VILB	Vilhena	40.49	65	eP	P	20 22 25.9 0.0
PP1B	Ponte de Pedra	41.67	75	eP	P	20 22 35.8 +0.2
SALV	Santo Antonio	42.03	72	eP	P	20 22 39.0 +0.5
PCMB	Pacaembu	42.39	83	eP	P	20 22 42.0 +0.5
PDRB	Porto dos Gac	43.92	66	eP	P	20 22 53.7 -0.1
ITRB	Iturama	44.10	81	eP	P	20 22 55.3 +0.1
BB19B	Bebedouro	44.86	84	eP	P	20 23 01.6 +0.3
CLDB	Colider	45.10	67	eP	P	20 23 02.8 -0.5
IPMB	Ipameri, GO	46.73	81	eP	P	20 23 15.6 -0.6
MACA	Manacapuru-AM	47.08	54	eP	P	20 23 19.2 +0.4
SNDB	Serra Nova Dou	47.80	72	eP	P	20 23 24.3 -0.1
BDFB	Brasilia	48.19	78	P	P	20 23 26.8 -0.8
	comp=Z,5.8nm,0.8s,baz=245,slow=7.7,SNR=4.9					
BDFB	Brasilia	48.19	78	IAmb	IAmb	20 23 31.8
	comp=Z,14nm,1.1s					
ZARC	Zaragoza, Cauc	48.29	30	P	P	20 23 28.8 +0.7
ZARC				IAmb	IAmb	20 23 41.4
	comp=Z,5.3nm,0.8s					
BELA	Belgrano 2	49.18	166		P	20 23 35.2 +0.9
BELA				IAmb	IAmb	20 23 37.1
	comp=Z,10nm,1.1s					
ITTB	Itaituba	49.57	60	eP	P	20 23 37.6 -0.4
PEXB	Peixe	50.03	74	eP	P	20 23 42.0 +0.4
SDV	Santo Domingo	51.37	34	eP	P	20 23 50.9 -0.9
BOAV	Boa Vista	51.43	50	eP	P	20 23 51.9 -0.3
JANB	Januaria	51.46	80	eP	P	20 23 52.2 -0.2
SDBA	SAO DESIDERIO	52.51	77	eP	P	20 24 00.8 +0.5
SMTB	Santa Maria do	52.58	71	eP	P	20 24 00.8 +0.1
BAUV	El Baul	52.65	37		P	20 24 00.2 -0.9
QSPA	South Pole Qui	54.00	180	P	P	20 24 10.6 0.0
	comp=Z,5.2nm,1.2s,baz=176,slow=14,SNR=1.5					
QSPA	South Pole Qui	54.00	180	P	P	20 24 11.7 +1.0
GUA01	Guaratinga, BA	54.23	85	eP	P	20 24 13.0 +0.2
MCPB	Macapa, AP	54.98	60	eP	P	20 24 18.5 +0.2
CMC01	Camacan, BA	55.13	84	eP	P	20 24 19.8 +0.5
VNA3	Neumayer Olymp	55.40	157	P	P	20 24 20.3 -0.2
SBA	Scott Base	56.15	195	P	P	20 24 27.6 +1.8
VNA2	Neumayer--Watz	56.19	157	P	P	20 24 26.9 +0.7
	baz=241,slow=8.0					
VNDA	Vanda	57.26	195	P	P	20 24 33.9 +0.2
	comp=Z,2.2nm,1.1s,baz=146,slow=5.7,SNR=5.1					
VNDA	Vanda	57.26	195	P	P	20 24 33.3 -0.5
SNAA	Sanae	57.41	158	P	P	20 24 33.1 -1.9
SNAA	Sanae	57.41	158	P	P	20 24 35.8 +0.8
SNAA				IAmb	IAmb	20 24 36.9
	comp=Z,10nm,1.2s					
TROLL	Troll, Antarti	58.89	159	P	P	20 24 44.4 -1.0
TXAR	Lajitas Array	65.49	354	P	P	20 25 27.6 -2.4
	comp=Z,1.0nm,0.9s,baz=179,slow=9.4,SNR=6.3					
TXAR	Lajitas Array	65.49	354	P	P	20 25 30.1 +0.1
TX31	Lajitas Ar. Si	65.49	354	P	P	20 25 30.8 +0.8
TX32	Lajitas Array	65.49	354	P	P	20 25 31.0 +1.0
JCT	Junction City	66.39	358	P	P	20 25 36.4 +0.6
JCT				IAmb	IAmb	20 25 52.0
	comp=Z,5.7nm,0.8s					
152A	Waverly Hall	69.52	11	P	P	20 25 55.7 +0.4
Z51A	Franklin	70.09	11	P	P	20 25 58.6 -0.2
Z51A				IAmb	IAmb	20 26 02.5
	comp=Z,7.2nm,0.8s					
FPAL	Fort Paine	71.23	10	P	P	20 26 05.7 0.0
FPAL				IAmb	IAmb	20 26 17.3
	comp=Z,5.1nm,0.8s					
ANMO	Albuquerque	71.33	352	P	P	20 26 08.5 +1.9
Y14A	Wickenburg	71.34	346	P	P	20 26 07.5 +1.0
X51A	Calhoun	71.36	11	P	P	20 26 08.1 +1.5
HODGE	Hodges	71.47	13	P	P	20 26 07.1 0.0
HODGE				IAmb	IAmb	20 26 10.3
	comp=Z,7.3nm,0.9s					
PAULI	Pauline	72.12	13	P	P	20 26 11.4 +0.3
LCAR	Lake Charles	72.14	5	P	P	20 26 11.1 -0.1
LCAR				IAmb	IAmb	20 26 30.1
	comp=Z,6.5nm,1.0s					
V53A	Saluda	72.77	12	P	P	20 26 14.7 -0.4
V53A				IAmb	IAmb	20 26 18.5
	comp=Z,7.0nm,0.8s					
MGMO	Mountain Grove	73.15	4	P	P	20 26 20.0 +2.8
MGMO				IAmb	IAmb	20 26 21.1
	comp=Z,8.6nm,1.2s					
MVCO	Mesa Verde	73.81	351	P	P	20 26 23.7 +2.4
MVCO				IAmb	IAmb	20 26 40.1
	comp=Z,6.0nm,0.8s					
CCM	Cathedral Cave	74.11	5	P	P	20 26 24.6 +1.9
CCM				IAmb	IAmb	20 26 26.3
	comp=Z,8.4nm,0.8s					
S22A	4UR Ranch, Cre	74.14	352	P	P	20 26 24.4 +1.1
SHPR	Sheep Range	74.25	345	P	P	20 26 24.0 +0.1
PV13	Radium Mtn., P	74.78	351	P	P	20 26 28.2 +1.2
PV13				IAmb	IAmb	20 26 33.0
	comp=Z,8.0nm,1.2s					
CCUT	Cedar City	74.91	347	P	P	20 26 29.6 +1.8
PV17	East Wray Mesa	74.92	350	P	P	20 26 28.9 +1.1
PV17				IAmb	IAmb	20 26 43.1
	comp=Z,9.9nm,1.4s					
PV23	Carpenter Ridg	75.10	350	P	P	20 26 30.0 +1.2
PV23				IAmb

*IDC **28** 20:15:09.8±1.7,7°.45S×128°.07E,h146km±16km,mb4.1/24, mb1 4.2/27,mb1mx4.0/50,mbtmp4.6/27,Error ellipse: s-maj=13.9km s-min=9.9km az=69.0*
*NEIC **28** 20:15:10.6±1.8,7°.48S±0°.08×128°.19E±0°.07,h153km±7km, mb4.6/45,Error ellipse: s-maj=11.6km s-min=10.3km az=196.0*

ISC 28 20:15:09.3±0.3,7°.48S±0°.05×128°.11E±0°.05,h142km,n159, σ1ᵍ31/151,mb4.7/64,3C-3D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.20**	**99**	Pn	**Pn**	**20 15 59.8**	**+0.8**
SAUI				Sn	**Sn**	**20 16 35.6**	**-1.7**
SAUI	**Saumlaki**	**3.20**	**99**	P	**Pn**	**20 16 00.8**	**+1.8**
BATI	**Baumata**	**5.16**	**238**	P	**Pn**	**20 16 26.1**	**+1.3**
	84nm,0.3s,baz=110,slow=3.8,SNR=175						
BATI				S	**Sn**	**20 17 20.9**	**-2.8**
	88nm,0.3s,baz=9.7,slow=1.2,SNR=15						
MMRI	**Maumere**	**5.93**	**258**	P	Pn	20 16 41.4	+6.4
	51nm,1.1s						
MTN	**Manton Dam**	**6.11**	**151**	Pn	**Pn**	**20 16 36.1**	**-1.3**
MTN	**Manton Dam**	**6.11**	**151**	P	**Pn**	**20 16 37.2**	**-0.2**
KDU	**Kakadu**	**6.73**	**141**	P	**Pn**	**20 16 45.4**	**-0.3**
SIJI	**Sorong**	**7.28**	**26**	P	**Pn**	**20 16 53.1**	**0.0**
	9.9nm,0.3s,baz=280,slow=22,SNR=36						
SIJI				S	**Sn**	**20 18 14.4**	**-0.2**
	8.4nm,0.3s,baz=240,slow=22,SNR=5.9						
KNRA	**Kununurra**	**8.17**	**176**	Pn	**Pn**	**20 17 03.8**	**-1.3**
KNRA	**Kununurra**	**8.17**	**176**	P	**Pn**	**20 17 04.5**	**-0.6**
LUWI	**Luwuk**	**8.32**	**320**	P	Pn	20 17 21.3	+14
FITZ	**Fitzroy Crossi**	**10.83**	**193**	P	**Pn**	**20 17 37.4**	**-3.1**
	12nm,0.3s,baz=27,slow=11,SNR=417						
FITZ				S	Sn	20 19 30.9	-9.2
	15nm,0.3s,baz=90,slow=21,SNR=9.0						
TOLI2	**Tolitoli**	**11.23**	**319**	Pn	**Pn**	**20 17 47.3**	**+1.4**
TOLI2	**Tolitoli**	**11.23**	**319**	P	P	20 17 59.4	+5.1
WB0	**Warramunga Arr**	**13.65**	**154**		**Pn**	**20 18 13.8**	**-3.4**
WRAB	**Tennant Creek**	**13.78**	**155**	P	**Pn**	**20 18 15.8**	**-3.1**
WRA	**Warramunga Arr**	**13.79**	**155**	P	**Pn**	**20 18 15.7**	**-3.2**
	11nm,0.3s,baz=332,slow=13,SNR=222						
WRA				S	Sn	20 20 37.9	-14
	12nm,0.3s,baz=323,slow=24,SNR=11						
WRA	**Warramunga Arr**	**13.79**	**155**	Pn	Pn	20 18 14.0	-4.9
WB2	**Warramunga Arr**	**13.79**	**155**		**Pn**	**20 18 15.7**	**-3.3**
WR0	**Warramunga Arr**	**13.89**	**154**		**Pn**	**20 18 16.9**	**-3.2**
COEN	**Coen**	**16.14**	**115**	P	**Pn**	**20 18 47.3**	**-1.0**
COEN	**Coen**	**16.14**	**115**	P	**P**	**20 18 49.8**	**+1.0**
AS31	**Alice Springs**	**17.03**	**162**	P	**P**	**20 18 57.5**	**-1.1**
AS31				IAmb	IAmb	20 19 01.5	
	comp=Z,37nm,0.6s						
ASAR	**Alice Springs**	**17.03**	**162**	P	**P**	**20 18 58.0**	**-0.6**
	comp=Z,9.9nm,0.3s,baz=333,slow=9.4,SNR=339						
ASAR				S	S	20 21 56.4	-13
	comp=Z,1.8nm,0.3s,baz=343,slow=19,SNR=5.0						
ASAR	**Alice Springs**	**17.03**	**162**		**P**	**20 18 56.8**	**-1.8**
QIS	**Mount Isa**	**17.11**	**141**	P	**Pn**	**20 19 00.4**	**+0.3**
WRKA	**Warakurna**	**17.46**	**179**	P	**Pn**	**20 19 04.4**	**+0.1**
SBUM	**Sibu**	**18.67**	**301**	P	**Pn**	**20 19 18.8**	**+0.1**
SBUM				IAmb	IAmb	20 19 21.6	
	comp=Z,37nm,1.0s						
PMG	**Port Moresby**	**18.94**	**97**	P	**P**	**20 19 20.1**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=307,slow=12,SNR=1.7						
PMG	**Port Moresby**	**18.94**	**97**	IAmb	IAmb	20 19 24.9	
	comp=Z,35nm,1.3s						
MTSU	**Mount Surprise**	**19.01**	**125**	P	**Pn**	**20 19 22.1**	**-0.5**
KSM	**Kuching**	**19.86**	**296**	P	**P**	**20 19 30.6**	**+1.1**
GIRL	**Giralia**	**20.14**	**220**	P	Pn	20 19 35.3	-0.5
GIRL	**Giralia**	**20.14**	**220**	P	Pn	20 19 35.5	-0.3
MEEK	**Meekatharra**	**21.09**	**204**	P	**P**	**20 19 43.4**	**+0.8**
OOD	**Oodnadatta**	**21.44**	**161**	P	**P**	**20 19 47.5**	**+1.1**
CTA	**Charters Tower**	**21.59**	**127**	P	**P**	**20 19 48.8**	**+0.7**
	comp=Z,5.6nm,0.5s,baz=297,slow=11,SNR=12						
FORT	**Forrest**	**23.18**	**180**	P	**P**	**20 20 05.1**	**+1.6**
FORT	**Forrest**	**23.18**	**180**	P	**P**	**20 20 05.0**	**+1.6**
MULG	**Mulgathing**	**23.36**	**167**	P	**P**	**20 20 06.7**	**+1.6**
INKA	**Innaminka**	**23.44**	**151**	P	**P**	**20 20 08.0**	**+2.1**
MORW	**Morawa**	**24.30**	**206**	P	**P**	**20 20 16.0**	**+2.2**
MORW				IAmb	IAmb	20 20 16.6	
	comp=Z,17nm,0.8s						
MORW	**Morawa**	**24.30**	**206**	P	**P**	**20 20 15.9**	**+2.2**
QLP	**Quilpie**	**24.41**	**143**	P	**P**	**20 20 16.3**	**+1.6**
LCRK	**Leigh Creek**	**24.74**	**159**	P	**P**	**20 20 19.2**	**+1.6**
BLDU	**Ballidu**	**25.38**	**203**	P	**P**	**20 20 26.8**	**+3.4**
KLBR	**Kellerberrin**	**25.86**	**201**	P	**P**	**20 20 28.9**	**+1.1**
MYKOM	**Kota Tinggi**	**25.89**	**290**	P	**P**	**20 20 28.9**	**+0.7**
MYKOM				IAmb	IAmb	20 20 30.6	
	comp=Z,13nm,1.0s						
BBOO	**Buckleboo**	**26.27**	**165**	P	**P**	**20 20 32.7**	**+1.3**
RK1H	**Rockhampton Ha**	**26.69**	**129**	P	**P**	**20 20 36.6**	**+1.3**
NAPP	**Napperby**	**27.22**	**161**	P	**P**	**20 20 41.5**	**+1.6**
NWAO	**Narrogin (SRO)**	**27.26**	**200**	P	**P**	**20 20 41.9**	**+1.6**
STKA	**Stephens Creek**	**27.34**	**154**	P	**P**	**20 20 41.7**	**+0.6**
	comp=Z,5.5nm,0.4s,baz=328,slow=9.6,SNR=19						
STKA	**Stephens Creek**	**27.34**	**154**	P	**P**	**20 20 41.2**	**+0.2**
STKA	**Stephens Creek**	**27.34**	**154**	P	**P**	**20 20 42.3**	**+1.3**
HTT	**Hallett**	**27.70**	**160**	P	**P**	**20 20 46.4**	**+2.1**
CMSA	**Cobar Meteorol**	**29.02**	**148**	P	**P**	**20 20 57.8**	**+1.8**
IPM	**Ipoh**	**29.52**	**293**	P	**P**	**20 21 00.5**	**-0.1**
IPM				IAmb	IAmb	20 21 03.1	
	comp=Z,11nm,0.6s						
KULM	**Kulim**	**30.19**	**294**	P	**P**	**20 21 06.6**	**+0.1**
KULM				IAmb	IAmb	20 21 07.6	
	comp=Z,8.7nm,0.7s						
RPSI	**Rantau Prapat**	**30.82**	**288**	P	**P**	**20 21 11.4**	**-0.7**
PSI	**Prapat**	**30.86**	**288**	P	**P**	**20 21 11.4**	**-1.2**
	comp=Z,13nm,0.9s,baz=125,slow=7.9,SNR=12						
TPUB	**Ta-pu**	**31.45**	**347**	P	**P**	**20 21 16.2**	**-1.3**
GSI	**Gunungsitoli**	**31.68**	**285**	P	**P**	**20 21 19.3**	**-0.4**
ARPS	**Mount Arapiles**	**31.73**	**159**	P	**P**	**20 21 22.1**	**+2.3**
SRIT	**Nakonsritamara**	**32.59**	**299**	P	**P**	**20 21 27.9**	**+0.3**
CAN	**Canberra**	**33.70**	**148**	P	**P**	**20 21 39.7**	**+2.7**
CM31	**Chiang Mai Arr**	**38.63**	**312**	P	**P**	**20 22 19.1**	**0.0**
CM31				IAmb	IAmb	20 22 24.8	
	comp=Z,5.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**38.63**	**312**	P	**P**	**20 22 19.1**	**0.0**
	comp=Z,4.3nm,0.6s,baz=139,slow=6.6,SNR=40						
CMAR	**Chiang Mai Arr**	**38.63**	**312**	P	**P**	**20 22 17.8**	**-1.3**
CHTO	**Chiang Mai**	**38.85**	**313**	P	**P**	**20 22 21.2**	**+0.3**
CHTO				IAmb	IAmb	20 22 23.0	
	comp=Z,7.0nm,0.6s						
GYA	**Guiyang**	**39.64**	**329**	*e*P	**P**	**20 22 28.5**	**+1.0**
GYA				pmax	pmax		
	comp=Z,12nm,0.8s						
WHN	**Wuhan**	**40.04**	**341**	⇓*i*P	**P**	**20 22 32.0**	**+1.4**
WHN	**Wuhan**	**40.04**	**341**	pmax	pmax		
	comp=Z,40nm,0.9s						
NJ2	**Nanjing**	**40.29**	**348**	*e*P	**P**	**20 22 34.5**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**40.75**	**323**	⇓P	**P**	**20 22 38.8**	**+2.0**
KMI				pmax	pmax		
	comp=Z,16nm,1.0s						
ENH	**Enshi**	**41.58**	**335**	P	**P**	**20 22 43.4**	**+0.1**
ENH				IAmb	IAmb	20 22 44.2	
	comp=Z,9.7nm,0.9s						
PZH	**PanZhiHua**	**42.37**	**324**	P	**P**	**20 22 50.5**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KSAR	**Wonju Array Be**	**44.69**	**360**	P	**P**	**20 23 09.2**	**+1.2**
KSRS	**Korea Array**	**44.70**	**360**	P	**P**	**20 23 08.9**	**+0.8**
	comp=Z,10nm,0.4s,baz=179,slow=9.3,SNR=58						
CD2	**Chengdu**	**44.73**	**330**	P	**P**	**20 23 09.0**	**+0.4**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
KS19	**Wonju Array Si**	**44.74**	**360**	P	**P**	**20 23 09.3**	**+0.7**
KS19				IAmb	IAmb	20 23 10.6	
	comp=Z,12nm,0.7s						
MJAR	**Matsushiro Arr**	**44.80**	**12**	P	**P**	**20 23 07.0**	**-2.0**
	comp=Z,6.0nm,0.7s,baz=183,slow=9.5,SNR=9.4						
MJAR	**Matsushiro Arr**	**44.80**	**12**	IAmb	IAmb	20 23 14.9	
	comp=Z,5.4nm,1.2s						
MAJO	**Matsushiro**	**44.80**	**12**	P	**P**	**20 23 08.4**	**-0.7**
MJB9	**Matsu-Tunnel**	**44.80**	**12**	P	**P**	**20 23 08.4**	**-0.7**
MJB9				IAmb	IAmb	20 23 16.3	
	comp=Z,25nm,1.5s						
XAN	**Xi'an**	**45.12**	**337**	⇑P	**P**	**20 23 11.0**	**-0.6**
XAN				pmax	pmax		
	comp=Z,24nm,0.8s						
HNS	**HongShan**	**46.37**	**345**	⇓P	**P**	**20 23 21.5**	**+0.2**
HNS				pmax	pmax		
	comp=Z,31nm,0.8s						
SHL	**Shillong**	**48.16**	**314**	P	**P**	**20 23 34.6**	**-1.0**
SHL				IAmb	IAmb	20 23 37.5	
	comp=Z,15nm,0.6s						
BJT	**Baijiatuau**	**48.53**	**348**	P	**P**	**20 23 37.2**	**-0.8**
BJT				IAmb	IAmb	20 23 38.9	
	comp=Z,11nm,0.9s						
BJI	**Beijing**	**48.55**	**348**	P	**P**	**20 23 38.3**	**+0.2**
BJI				pP	**pwP**	**20 24 15.5**	**+0.1**
BJI				pmax	pmax		
	comp=Z,14nm,0.7s						
LZH	**Lanzhou**	**48.97**	**334**	*e*P	**P**	**20 23 42.8**	**+1.2**
LZH				pmax	pmax		
	comp=Z,40nm,1.1s						
HHC	**Hu-ho-hao-te**	**50.44**	**344**	*e*P	**P**	**20 23 55.8**	**+3.2**
HHC	**Hu-ho-hao-te**	**50.44**	**344**	pmax	pmax		
	comp=Z,12nm,0.9s						
LSA	**Lhasa**	**51.27**	**318**	P	**P**	**20 24 00.1**	**+0.7**
USA0B	**Ussuriysk Arra**	**51.55**	**4**	P	**P**	**20 24 00.2**	**-0.4**
USA0B				IAmb	IAmb	20 24 01.7	
	comp=Z,15nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.55**	**4**	P	**P**	**20 24 01.2**	**+0.5**
	comp=Z,14nm,0.5s,baz=190,slow=7.5,SNR=51						
USRK	**Ussuriysk Ar.**	**51.55**	**4**	P	**P**	**20 24 00.4**	**-0.3**
MDJ	**Mudanjiang**	**51.87**	**1**	P	**P**	**20 24 03.4**	**+0.4**
MDJ				IAmb	IAmb	20 24 06.0	
	comp=Z,6.6nm,0.8s						
RPZ	**Rata Peaks**	**52.02**	**141**	P	**P**	**20 24 05.5**	**+1.2**
	comp=Z,3.4nm,0.5s,baz=247,slow=4.4,SNR=3.7						
RPZ	**Rata Peaks**	**52.02**	**141**	IAmb	IAmb	20 24 21.2	
	comp=Z,33nm,1.5s						
ODAN	**Odare**	**52.17**	**312**	*e*P	**P**	**20 24 05.7**	**-0.2**
	comp=Z,55nm,0.6s						
TAPN	**Taplejung**	**52.22**	**313**	*e*P	**P**	**20 24 06.5**	**+0.2**
	comp=Z,46nm,0.5s						
XLT	**XiLinHaoTe**	**52.28**	**349**	⇑*i*P	**P**	**20 24 06.5**	**+0.3**
XLT				pmax	pmax		
	comp=Z,24nm,0.8s						
RAMN	**Ramite**	**52.80**	**312**	*e*P	**P**	**20 24 11.2**	**+0.6**
	comp=Z,99nm,0.5s						
JIRN	**Jiri**	**53.50**	**313**	*e*P	**P**	**20 24 16.3**	**+0.5**
GTA	**Gaotai**	**53.51**	**333**	⇑P	**P**	**20 24 16.0**	**+0.6**
GTA				pmax	pmax		
	comp=Z,17nm,0.9s						
GUN	**Gumba**	**53.87**	**313**	*e*P	**P**	**20 24 18.6**	**+0.1**
	comp=Z,84nm,0.6s						
PKI	**Pulchoki**	**54.03**	**312**	*e*P	**P**	**20 24 19.3**	**-0.3**
	comp=Z,33nm,0.6s						
PKIN	**Phulchoki**	**54.04**	**312**	*e*P	**P**	**20 24 19.3**	**-0.3**
	comp=Z,27nm,0.4s						
KKN	**Kakani**	**54.24**	**312**	*e*P	**P**	**20 24 20.9**	**-0.1**
	comp=Z,34nm,0.6s						
DMN	**Daman**	**54.27**	**312**	*e*P	**P**	**20 24 21.3**	**0.0**
MXZ	**Matakaoa Point**	**54.34**	**131**	P	**P**	**20 24 19.0**	**-2.3**
GKN	**Gorkha**	**54.84**	**312**	*e*P	**P**	**20 24 25.3**	**+0.1**
	comp=Z,73nm,0.5s						
KOLN	**Koldanda**	**55.48**	**311**	*e*P	**P**	**20 24 30.1**	**+0.2**
DANN	**Dangsing**	**55.67**	**312**	*e*P	**P**	**20 24 31.2**	**-0.2**
PYUN	**Piuthan**	**56.11**	**311**	*e*P	**P**	**20 24 34.6**	**+0.2**
ULN	**Ulaanbaatar**	**58.16**	**343**	P	**P**	**20 24 49.1**	**+0.7**
SONM	**Songino Array**	**58.32**	**343**	P	**P**	**20 24 50.1**	**+0.7**
	comp=Z,12nm,0.7s,baz=166,slow=7.6,SNR=82						
SONM	**Songino Array**	**58.32**	**343**	P	**P**	**20 24 50.3**	**+0.9**
SONM				IAmb	IAmb	20 24 51.9	
	comp=Z,11nm,0.8s						
WMQ	**Urumqi**	**62.79**	**328**	*e*P	**P**	**20 25 23.8**	**+4.0**
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
PETK	**Petropavlovsk-**	**65.37**	**19**	P	**P**	**20 25 36.2**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=180,slow=4.0,SNR=4.2						
NIL	**Nilore**	**66.12**	**312**	P	**P**	**20 25 40.8**	**-0.8**
KSH	**Kashi**	**67.12**	**318**	P	**P**	**20 25 49.3**	**+1.4**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MK31	**Makanchi Array**	**67.61**	**328**	P	**P**	**20 25 50.8**	**0.0**
MKAR	**Makanchi Array**	**67.61**	**328**	P	**P**	**20 25 51.2**	**+0.5**
	comp=Z,3.0nm,0.5s,baz=119,slow=8.3,SNR=56						
MKAR	**Makanchi Array**	**67.61**	**328**	P	**P**	**20 25 50.5**	**-0.2**
MAKZ	**Makanchi**	**67.79**	**328**	P	**P**	**20 25 51.9**	**0.0**
YAK	**Yakutsk**	**69.31**	**1**	P	**P**	**20 26 01.0**	**+0.1**
AAK	**Ala-Archa**	**69.71**	**321**	P	**P**	**20 26 03.5**	**-0.5**
	comp=Z,5.2nm,0.9s,baz=113,slow=6.8,SNR=8.4						
AAK	**Ala-Archa**	**69.71**	**321**	P	**P**	**20 26 04.5**	**+0.5**
ZAA0	**Zalesovo Array**	**71.19**	**335**	P	**P**	**20 26 11.9**	**-0.7**
ZAA0				IAmb	IAmb	20 26 13.2	
	comp=Z,9.5nm,0.8s						
ZALV	**Zalesovo Beam**	**71.19**	**335**	P	**P**	**20 26 12.5**	**0.0**
	comp=Z,10nm,0.8s,baz=128,slow=5.5,SNR=38						
ZALV	**Zalesovo Beam**	**71.19**	**335**	P	**P**	**20 26 12.1**	**-0.4**
KURBB	**Kurchatov Arra**	**71.95**	**329**	P	**P**	**20 26 17.5**	**+0.4**
	comp=Z,9nm,0.5s,baz=128,slow=5.1,SNR=132						
KURK	**Kurchatov**	**71.96**	**329**	P	**P**	**20 26 17.3**	**+0.1**
KURK				IAmb	IAmb	20 26 18.6	
	comp=Z,9.6nm,0.7s						
KK31	**Karatay Array**	**72.47**	**320**	P	**P**	**20 26 20.4**	**-0.1**
KKAR	**Karatay Array**	**72.47**	**320**	P	**P**	**20 26 20.4**	**-0.1**
KKAR	**Karatay Array**	**72.47**	**320**	P	**P**	**20 26 20.1**	**-0.4**
KKAR				IAmb	IAmb	20 26 21.8	
	comp=Z,8.3nm,1.4s						
WSAR	**Wadi Sarin**	**74.39**	**297**	P	**P**	**20 26 31.6**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=168,slow=6.2,SNR=4.4						
HRA	**Herat**	**74.77**	**309**	P	**P**	**20 26 34.5**	**+0.2**
HRA				IAmb	IAmb	20 26 35.9	
	comp=Z,6.6nm,0.8s						
BVAR	**Borovoye Array**	**77.48**	**328**	P	**P**	**20 26 49.0**	**0.0**
	comp=Z,3.3nm,0.8s						
TIXI	**Tiksi**	**78.96**	**0**	P	**P**	**20 26 56.1**	**-0.6**
TIXI				IAmb	IAmb	20 26 57.8	
	comp=Z,5.9nm,0.5s						
OPO	**Ambohidratompo**	**79.08**	**253**	P	**P**	**20 26 58.2**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=122,slow=17,SNR=1.7						
GEYT	**Ailbeck**	**79.10**	**311**	P	**P**	**20 26 57.4**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=108,slow=7.7,SNR=2.7						
NRIK	**Noril'sk**	**81.57**	**347**	P	**P**	**20 27 09.5**	**-1.3**
	comp=Z,2.9nm,0.5s,baz=129,slow=7.2,SNR=4.9						
ABKAR	**Akbulak array**	**81.72**	**322**	P	**P**	**20 27 11.6**	**-0.4**
ABKAR	**Akbulak array**	**81.72**	**322**	P	**P**	**20 27 11.7**	**-0.3**
QSPA	**South Pole Qui**	**82.50**	**180**	P	**P**	**20 27 15.0**	**-1.0**
	comp=Z,6.1nm,1.1s,baz=55,slow=2.6,SNR=5.8						
QSPA	**South Pole Qui**	**82.50**	**180**	P	**P**	**20 27 16.5**	**+0.5**
AKTO	**Aktyubinsk**	**83.31**	**323**	P	**P**	**20 27 19.1**	**-1.1**
	comp=Z,3.0nm,0.7s,baz=98,slow=6.5,SNR=7.9						
ARU	**Arti**	**85.12**	**329**	P	**P**	**20 27 28.2**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=173,slow=1.2,SNR=7.1						
ARU	**Arti**	**85.12**	**329**	IAmb	IAmb	20 27 29.9	
	comp=Z,9.8nm,1.1s						
GNI	**Garni**	**89.73**	**310**	P	**P**	**20 27 50.0**	**-1.9**
	comp=Z,1.9nm,0.7s,baz=56,slow=20,SNR=1.9						
ILAR	**Eielson Array**	**94.58**	**25**	P	**P**	**20 28 11.8**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=274,slow=5.3,SNR=2.1						
ARCES	**ARCESS Array B**	**101.37**	**340**	P	**Pdif**	**20 28 42.9**	**-1.1**
	comp=Z,2.6nm,1.0s,baz=64,slow=5.6,SNR=5.0						
PDAR	**Pinedale Array**	**118.56**	**45**	PKP	**PKiKP**	**20 33 41.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=238,slow=1.7,SNR=4.7						
TXAR	**Lajitas Array**	**126.78**	**59**	PKP	**PKPdf**	**20 33 56.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=151,slow=2.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**127.06**	**281**	PKP	**PKPdf**	**20 33 57.6**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=71,slow=2.1,SNR=9.6						
LPAZ	**La Paz**	**151.44**	**146**	PKPbc	**PKiKP**	**20 34 49.6**	**+1.0**
	comp=Z,1.7nm,0.4s,baz=37,slow=3.6,SNR=9.0						

DJA 28 20:15:11.9±0.2,8°S±2°×11°5E±°,h10km,M4.2/19,mb4.4/6, MLv4.1/19,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**0.50**	**106**	P	Pb	20 15 22.2	-0.5
SRBI				S	Sb	20 15 30.5	+0.4
ABJI	**Asem Bagus**	**0.52**	**287**	P	Pb	20 15 22.7	-0.3
ABJI				S	Sg	20 15 29.1	+0.4
JAGI	**Jajag, Banyuwa**	**0.77**	**228**	P	Pg	20 15 26.2	-0.6
JAGI				S	Sg	20 15 37.2	+0.3
DNP	**Denpasar**	**0.86**	**147**	P	Pg	20 15 28.8	+0.2
DNP				S	Sb	20 15 40.5	-0.2
IGBI	**Denpasar**	**0.96**	**155**	P	Pg	20 15 29.9	-0.4
IGBI				S	Sb	20 15 44.0	+0.7
BLJI	**Banyuglugur**	**1.14**	**280**	P	Pb	20 15 33.5	-0.3
BLJI				S	Sg	20 15 49.2	+0.4
KMMI	**Kalianget**	**1.17**	**320**	P	Pg	20 15 34.5	+0.1
GMJI	**Gumukmas**	**1.31**	**256**	P	Pn	20 15 35.3	-1.0
GMJI				S	Sb	20 15 53.2	-0.4
GRJI	**Gresik**	**2.46**	**295**	P	Pn	20 15 51.7	-0.4
PWJI	**Pagerwojo**	**2.90**	**268**	P	Pn	20 15 59.0	+0.9
BWJI	**Bawean**	**2.93**	**315**	P	Pn	20 15 57.6	-1.0
TBJI	**Tambak Boyo**	**3.07**	**291**	P	Pn	20 15 56.8	-3.7
PLAI	**Plampang**	**3.14**	**106**	P	Pn	20 16 01.4	0.0
PCJI	**Pacitan**	**3.53**	**266**	P	Pn	20 16 08.2	+1.4
UGM	**Wanagama**	**4.17**	**270**	P	Pn	20 16 17.5	+1.9
BBKI	**Banjar Baru**	**4.46**	**1**	P	Pn	20 16 19.2	-0.4
WBSI	**Waikabubak, Su**	**4.90**	**110**	P	Pn	20 16 25.3	-0.5
BKSI	**Bulukumba**	**5.96**	**64**	P	Pn	20 16 39.9	-0.3
	0.3nm26nm,0.4s						
BSSI	**Bau Bau, Buton**	**5.99**	**73**	P	Pn	20 16 39.8	-0.9
	0.3nm33nm,0.8s						
SPSI	**Sidrap Palu**	**6.39**	**52**	P	Pn	20 16 45.7	-0.4
	0.4nm17nm,2.8s						
BNSI	**Bone**	**6.40**	**57**	P	Pn	20 16 47.4	+1.0

*IDC **28** 20:15:39.1±1.0,16°.01S×167°.59E,h0km,mb4.0/5, mb1 4.3/6,mb1mx3.8/36,mbtmp4.1/6,ML4.7/1,Error ellipse: s-maj=56.2km s-min=24.9km az=91.0*
*NEIC **28** 20:15:41.9±1.9,16°.03S±0°.04×167°.67E±0°.09,h16km±4km, mb4.5/4,Error ellipse: s-maj=12.4km s-min=4.3km az=70.0*

ISC 28 20:15:44.1±0.8,16°.07S±0°.05×167°.5E±0°.2,h35km,n23, σ1ᵍ59/27,mb4.0/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.69**	**334**		**Pn**	**20 15 56.7**	**-0.7**
SANVU				Sg	**Sn**	**20 16 04.8**	**-2.0**
LIFNC	**LIFOU**	**4.69**	**183**	Pn	**Pn**	**20 16 51.4**	**-1.1**
MARNC	**Mare, Loyalty**	**5.41**	**175**	Pn	**Pn**	**20 17 01.0**	**-1.3**
KOUNC	**Koumac, New Ca**	**5.41**	**214**		**Pn**	**20 17 02.8**	**+0.5**
DZM	**Mont Dzumac**	**6.05**	**189**	Pn	**Pn**	**20 17 11.9**	**+0.6**
	17nm,0.3s,baz=320,slow=15,SNR=49						
DZM				Sn	**Sn**	**20 18 17.4**	**-2.1**
	19nm,0.3s,baz=304,slow=23,SNR=20						
DZM	**Mont Dzumac**	**6.05**	**189**	*e*Pn	**Pn**	**20 17 12.3**	**+1.0**
	61nm,0.3s						
DZM				*e*Sn	**Sn**	**20 18 13.7**	**-5.8**
	52nm,0.3s						
DZM	**Mont Dzumac**	**6.05**	**189**		**Pn**	**20 17 11.1**	**-0.2**
DZM				Sn	**Sn**	**20 18 20.5**	**+1.0**
ONTNC	**Ouen Toro**	**6.29**	**189**		**Pn**	**20 17 15.2**	**+0.8**
OUENC	**Ouen Island, N**	**6.35**	**186**	Pn	**Pn**	**20 17 16.2**	**+1.0**
PINNC	**Pines Island,**	**6.51**	**181**	Pn	**Pn**	**20 17 18.4**	**+0.9**
VNDA	**Vanda**	**61.53**	**181**	P	**P**	**20 25 57.9**	**+0.7**
	0.9nm,0.8s,baz=4.7,slow=5.0,SNR=5.0						
SBA	**Scott Base**	**61.80**	**180**	P	**P**	**20 26 00.6**	**+1.6**
PETK	**Petropavlovsk-**	**69.41**	**354**	P	**P**	**20 26 48.9**	**+0.5**
	4.3nm,0.7s,baz=158,slow=9.0,SNR=9.2						
CMAR	**Chiang Mai Arr**	**75.71**	**294**	P	**P**	**20 27 28.6**	**+2.0**
	0.7nm,0.5s,baz=130,slow=5.2,SNR=5.2						
MA2	**Magadan**	**76.60**	**351**	P	**P**	**20 27 30.3**	**-0.4**
MA2				IAmb	IAmb	20 27 32.0	
	comp=Z,3.5nm,0.8s						
ULN	**Ulaanbaatar**	**83.35**	**324**	P	**P**	**20 28 08.2**	**+0.5**
ULN				IAmb	IAmb	20 28 11.9	
	comp=Z,3.5nm,1.0s						
SONM	**Songino Array**	**83.71**	**324**	P	**P**	**20 28 08.7**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=167,slow=8.9,SNR=4.8						
ILAR	**Eielson Array**	**87.72**	**18**	P	**P**	**20 28 28.8**	**-0

NOA	**NORSAR Array B**	**44.18**	**323**	P		**P**	**20 33 09.0**	**+0.5**
	0.5nm,0.7s,baz=97,slow=7.7,SNR=2.2							
WRA	**Warramunga Arr**	**82.17**	**122**	P		**P**	**20 37 16.3**	**-2.3**
	0.3nm,0.5s,baz=324,slow=5.0,SNR=5.4							
ASAR	**Alice Springs**	**84.44**	**125**	P		**P**	**20 37 28.4**	**-1.7**
	0.3nm,0.6s,baz=316,slow=5.1,SNR=1.8							

*IDC **28** 20:30:11.0±0.9, 1°.43S×126°.11E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/48, mbtmp3.8/9, ML3.1/2, Error ellipse: s-maj=29.3km s-min=19.0km az=56.0*
*DJA **28** 20:30:16.0±0.6, 1°.S±2°×12°.6E±°, h26km±5km, M4.2/19, mb4.3/7, MLv4.1/19*
*NEIC **28** 20:30:17.0±1.0, 1°.4S±0°.1×126°.30E±0°.10, h38km±12km, mb4.4/11, Error ellipse: s-maj=18.5km s-min=11.7km az=147.0*
ISC 28 20:30:15.2±1.9, 1°28S±0°.04×126°.24E±0°.04, h23km±15km, n37, σ1°28/45, mb4.2/12, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**0.80**	**198**	P	**Pn**	**20 30 30.5**	**-0.7**
SANI				S	**Sb**	**20 30 42.1**	**+1.2**
LBMI	**Labuha**	**1.41**	**63**	P	**Pn**	**20 30 39.7**	**+0.1**
LBMI				S	**Sb**	**20 30 59.0**	**+0.5**
TNTI	**Ternate**	**2.33**	**29**	Pn	**Pn**	**20 30 53.3**	**+1.2**
TNTI				Sn	**Sb**	**20 31 22.8**	**-2.1**
TNTI	**Ternate**	**2.33**	**29**	P	**Pn**	**20 30 52.8**	**+0.6**
TNTI				S	**Sb**	**20 31 23.4**	**-1.5**
KMSI	**Cibinong**	**2.92**	**309**	P	**Pn**	**20 30 59.8**	**-0.4**
KMSI				S	**Sn**	**20 31 36.6**	**+2.0**
AAI	**Ambon**	**3.09**	**141**	P	**Pn**	**20 31 02.9**	**+0.3**
AAI				S	**Sn**	**20 31 38.6**	**-0.2**
MSAI	**Masohi**	**3.38**	**127**	P	**Pn**	**20 31 08.9**	**+2.3**
MSAI				S	**Sn**	**20 31 46.8**	**+0.7**
LUWI	**Luwuk**	**3.48**	**274**	Pn	**Pn**	**20 31 08.5**	**+0.6**
LUWI	**Luwuk**	**3.48**	**274**	P	**Pn**	**20 31 07.1**	**-0.8**
APSI	**Ampana**	**4.60**	**275**	P	**Pn**	**20 31 24.9**	**+1.4**
APSI				S	**Sn**	**20 32 16.6**	**+0.3**
MRSI	**Marisa**	**4.64**	**292**	P	**Pn**	**20 31 24.9**	**+1.0**
SWI	**Sorong**	**5.04**	**85**	P	**Pn**	**20 31 29.3**	**-0.1**
	0.3nm24nm,0.8s						
SWI				S	**Sn**	**20 32 28.1**	**+1.1**
	0.3nm24nm,0.8s						
SIJI	**Sorong**	**5.04**	**85**	Pn	**Pn**	**20 31 30.4**	**+0.9**
	1.3nm,0.3s,baz=266,slow=14,SNR=6.9						
SIJI				Sn	**Sn**	**20 32 31.2**	**+4.1**
	0.7nm,0.3s,baz=231,slow=22,SNR=1.3						
TOLI2	**Tolitoli**	**5.95**	**294**		**Pn**	**20 31 43.3**	**+1.3**
MPSI	**Mapaga**	**6.54**	**284**	P	**Pn**	**20 31 51.4**	**+1.3**
	0.2nm12nm,0.5s						
TTSI	**Tana Toraja**	**6.65**	**255**	P	**Pn**	**20 31 52.8**	**+1.2**
	0.3nm24nm,1.0s						
SPSI	**Sidrap Palu**	**6.99**	**247**	P	**Pn**	**20 31 59.1**	**+2.8**
	0.3nm65nm,0.5s						
KAPI	**Kappang**	**7.46**	**240**	Pn	Pn	20 31 58.6	-4.1
	0.2nm,0.3s,baz=305,slow=17,SNR=0.9						
KSM	**Kuching**	**16.16**	**280**	P	**P**	**20 34 04.8**	**+0.6**
PPBI	**Pangkal Pinang**	**20.11**	**267**	P	Pn	20 34 49.6	0.0
WRA	**Warramunga Arr**	**20.17**	**157**	P	**P**	**20 34 46.2**	**-2.1**
	0.6nm,0.7s,baz=332,slow=12,SNR=17						
ASAR	**Alice Springs**	**23.46**	**162**	P	**P**	**20 35 21.4**	**-1.9**
	0.8nm,0.8s,baz=348,slow=11,SNR=7.3						
SONM	**Songino Array**	**51.89**	**343**	P	**P**	**20 39 22.0**	**-0.1**
	0.7nm,0.7s,baz=159,slow=6.7,SNR=5.0						
MKAR	**Makanchi Array**	**61.42**	**327**	P	**P**	**20 40 29.7**	**-0.1**
	0.9nm,0.4s,baz=121,slow=7.9,SNR=22						
MAKZ	**Makanchi**	**61.60**	**327**	P	**P**	**20 40 30.4**	**-0.6**
MAKZ				IAmb	IAmb	20 40 32.9	
	comp=Z,6.3nm,1.5s						
AAK	**Ala-Archa**	**63.78**	**320**	P	**P**	**20 40 45.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=136,slow=7.6,SNR=4.3						
DRK	**Karamyk**	**64.16**	**316**	P	**P**	**20 40 49.3**	**+0.8**
DRK				IAmb	IAmb	20 40 50.3	
	comp=Z,3.5nm,0.8s						
KBL	**Kabul**	**64.24**	**310**	P	**P**	**20 40 48.7**	**-0.3**
KBL				IAmb	IAmb	20 40 50.2	
	comp=Z,3.8nm,0.6s						
ZALV	**Zalesovo Beam**	**64.83**	**334**	P	**P**	**20 40 51.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=143,slow=8.4,SNR=2.0						
GAR	**Garm**	**65.00**	**315**	P	**P**	**20 40 54.3**	**+0.4**
CHGR	**Chuyangaron**	**65.70**	**314**	P	**P**	**20 40 58.3**	**0.0**
KURK	**Kurchatov**	**65.72**	**329**	P	**P**	**20 40 57.3**	**-0.8**
KURK				IAmb	IAmb	20 40 58.9	
	comp=Z,3.3nm,0.8s						
KK31	**Karatay Array**	**66.60**	**319**	P	**P**	**20 41 04.0**	**+0.1**
KK31				IAmb	IAmb	20 41 05.3	
	comp=Z,2.5nm,1.1s						
KKAR	**Karatay Array**	**66.60**	**319**	P	**P**	**20 41 03.8**	**-0.1**
KKAR				IAmb	IAmb	20 41 05.4	
	comp=Z,2.5nm,1.1s						
ABKAR	**Akbulak array**	**75.73**	**322**	P	**P**	**20 41 58.8**	**-0.2**
ABKAR	**Akbulak array**	**75.73**	**322**	P	**P**	**20 41 58.3**	**-0.7**
AKTO	**Aktyubinsk**	**77.28**	**322**	P	**P**	**20 42 07.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=99,slow=5.8,SNR=4.2						

*IDC **28** 20:36:29.8±3.5, 15°.79S×167°.48E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, Error ellipse: s-maj=136.8km s-min=43.8km az=142.0*
*NOU **28** 20:36:33.7, 16°.06S×167°.55E, h16km, MLv4.5/11, Vanuatu Islands*
ISC 28 20:36:35.2±1.2, 16°.05S±0°.08×167°.4E±0°.2, h35km, n10, σ0°78/10, mb3.5/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.64**	**340**	P	**Pn**	**20 36 47.7**	**0.0**
DVP	**Devils Point**	**1.82**	**157**	P	**Pn**	**20 37 04.5**	**+0.5**
RTV	**Rentapao**	**1.98**	**151**	P	**Pn**	**20 37 05.9**	**-0.3**
DZM	**Mont Dzumac**	**6.06**	**189**	P	**Pn**	**20 38 01.4**	**-1.1**
NOUC	**Port Laguerre**	**6.11**	**190**	P	**Pn**	**20 38 02.4**	**-0.7**
OUENC	**Ouen Island, N**	**6.36**	**185**	P	**Pn**	**20 38 07.4**	**+0.9**
WRA	**Warramunga Arr**	**31.68**	**258**	P	**P**	**20 42 56.0**	**+0.3**
	0.5nm,1.1s,baz=85,slow=8.7,SNR=1.7						
ASAR	**Alice Springs**	**32.37**	**251**	P	**P**	**20 43 02.4**	**+0.7**
	0.6nm,0.7s,baz=76,slow=8.6,SNR=7.0						
SONM	**Songino Array**	**83.64**	**324**	P	**P**	**20 49 00.3**	**+0.1**
	0.2nm,0.6s,baz=127,slow=3.8,SNR=2.4						
ARCES	**ARCESS Array B**	**121.56**	**345**	PKP	**PKPdf**	**20 55 23.6**	**-0.9**
	1.3nm,0.9s,baz=52,slow=1.5,SNR=6.1						

*PRE **28** 21:03:07.3±0.8, 26°.96S×26°.79E, h2km, ML2.8*
*BUL **28** 21:03:12.1±0.8, 26°.87S×26°.65E, h1km±7km, MD3.5*
*EAF **28** 21:03:12.1±0.9, 26°.87S×26°.65E, h2km±8km, MD3.4*
ISC 28 21:03:09.1±0.9, 26°.92S±0°.04×26°.73E±0°.05, h5km, n19, σ2°28/36, 8D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**1.07**	**8**	*e*P	**Pg**	**21 03 29.2**	**-0.5**
KSR				*e*S	**Sg**	**21 03 43.8**	**+0.1**
KSR				IAML		21 03 48.8	
	comp=Z,322nm,0.2s						
SWZ	**Schweizer**	**1.28**	**258**	*e*P	**Pg**	**21 03 33.0**	**-0.6**
SWZ				*e*S	**Sb**	**21 03 50.7**	**+0.1**
SWZ				IAML		21 03 52.0	
	comp=Z,177nm,1.1s						
BOSA	**Boshof**	**2.14**	**217**	⇓*e*P	**Pb**	**21 03 48.2**	**-0.1**
BOSA				*e*S	**Sb**	**21 04 15.1**	**-0.2**
BOSA	**Boshof**	**2.14**	**217**	⇓*e*P	**Pb**	**21 03 48.2**	**-0.1**
BOSA				*e*S	**Sb**	**21 04 15.1**	**-0.2**
LBTB	**Lobatse**	**2.16**	**331**	⇓*e*P	**Pn**	**21 03 47.1**	**+1.3**
LBTB				*e*S	**Sn**	**21 04 13.9**	**+0.9**
LBTB	**Lobatse**	**2.16**	**331**	⇓*e*P	**Pn**	**21 03 47.1**	**+1.3**
LBTB				*e*S	**Sn**	**21 04 13.9**	**+0.9**
POGA	**Pongola**	**4.45**	**97**	*e*P	**Pn**	**21 04 16.1**	**-1.2**
POGA				*e*S	**Sn**	**21 05 06.0**	**-3.5**
POGA				IAML		21 05 11.2	
	comp=Z,76nm,7.1s						
CNG	**Changalane**	**4.92**	**84**	*e*P	**Pn**	**21 04 27.9**	**+4.2**
CNG	**Changalane**	**4.92**	**84**	*e*P	**Pn**	**21 04 27.9**	**+4.2**
UPI	**Upington**	**5.07**	**252**	*e*P	**Pn**	**21 04 26.1**	**+0.3**
UPI				*e*S	**Sn**	**21 05 23.1**	**-1.8**
UPI				IAML		21 05 53.2	
	comp=Z,39nm,1.8s						
MOPA	**Mopani**	**5.41**	**52**	*e*P	**Pn**	**21 04 29.8**	**-0.7**
MOPA				*e*S	**Sn**	**21 05 29.4**	**-3.9**
MOPA				IAML		21 05 39.8	
	comp=Z,11nm,2.9s						
MOPA	**Mopani**	**5.41**	**52**	⇓*e*P	**Pn**	**21 04 33.8**	**+3.2**
MOPA				⇓*e*S	**Sn**	**21 05 32.1**	**-1.2**
MOPA	**Mopani**	**5.41**	**52**	⇓*e*P	**Pn**	**21 04 33.8**	**+3.2**
MOPA				⇓*e*S	**Sn**	**21 05 32.1**	**-1.2**
MSNA	**Messina**	**5.45**	**34**	*e*P	**Pn**	**21 04 33.8**	**+2.7**
MSNA				*e*S	**Sn**	**21 05 33.3**	**-1.0**
MSNA	**Messina**	**5.45**	**34**	*e*P	**Pn**	**21 04 33.8**	**+2.7**
MSNA				*e*S	**Sn**	**21 05 33.3**	**-1.0**
MATP	**Matopo**	**6.66**	**14**	*e*P	**Pn**	**21 04 50.3**	**+2.5**
MATP				*e*S	**Sn**	**21 06 01.3**	**-3.0**
MATP	**Matopo**	**6.66**	**14**	*e*P	**Pn**	**21 04 50.3**	**+2.5**
MATP				*e*S	**Sn**	**21 06 01.3**	**-3.0**
BLWY	**Bulawayo**	**6.96**	**15**	*e*P	**Pn**	**21 04 53.7**	**+1.7**
BLWY				*e*S	**Sn**	**21 06 08.4**	**-3.3**
BLWY	**Bulawayo**	**6.96**	**15**	*e*P	**Pn**	**21 04 53.7**	**+1.7**
BLWY				*e*S	**Sn**	**21 06 08.4**	**-3.3**

*TIR **28** 21:31:20.6, 40°.35N×19°.36E, h20km, Md2.7*
ISC 28 21:31:19.1±1.4, 40°.33N±0°.05×19°.27E±0°.04, h13km±8km, n15, σ1°45/30, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.22**	**51**	P	**Pg**	**21 31 23.4**	**-0.6**
	baz=40						
VLO				S	**Sg**	**21 31 27.1**	**-0.2**
	baz=40						
SCTE	**Santa Cesarea**	**0.66**	**248**	P	**Pn**	**21 31 34.6**	**+0.4**
	baz=249						
SCTE				S	**Sn**	**21 31 46.7**	**+2.2**
	baz=249						
SRN	**Sarande**	**0.72**	**128**	P	**Pn**	**21 31 33.5**	**-1.4**
	baz=133						
SRN				S	**Sn**	**21 31 44.9**	**-0.8**
	baz=133						
LSK	**Leskovik**	**1.03**	**99**	P	**Pn**	**21 31 38.3**	**-1.0**
	baz=101						
LSK				S	**Sn**	**21 31 55.5**	**+1.8**
	baz=101						
TIR	**Tirane**	**1.11**	**24**	P	**Pg**	**21 31 42.5**	**+1.9**
	baz=20						
TIR				S	**Sn**	**21 31 56.8**	**+1.1**
	baz=20						
KBN	**Korca**	**1.20**	**75**	P	**Pg**	**21 31 42.2**	**+0.1**
	baz=75						
KBN				S	**Sn**	**21 31 59.4**	**+1.7**
	baz=75						
PHP	**Peshkopia**	**1.62**	**33**	P	**Pg**	**21 31 50.8**	**+0.6**
	baz=31						
PHP				S	**Sg**	**21 32 11.1**	**-0.2**
	baz=31						
STON	**Ston**	**2.80**	**336**	*e*Pn	**Pn**	**21 32 04.5**	**+0.9**
STON				Sn	**Sn**	**21 32 35.4**	**-1.7**
LSTV	**Lastovo**	**3.02**	**325**	*e*Pn	**Pn**	**21 32 07.2**	**+0.6**
LSTV				Sn	**Sn**	**21 32 40.8**	**-1.8**
RICI	**Ricice**	**3.54**	**334**	*e*Pn	**Pn**	**21 32 15.2**	**+1.4**
RICI				Sn	**Sn**	**21 32 54.0**	**-1.5**
HVAR	**Hvar**	**3.54**	**324**	*e*Pn	**Pn**	**21 32 14.3**	**+0.5**
HVAR				Sn	**Sn**	**21 32 52.8**	**-2.7**
ZIRJ	**Zirje**	**4.28**	**322**	*e*Pn	**Pn**	**21 32 24.5**	**+0.6**
ZIRJ				Sn	**Sn**	**21 33 11.6**	**-2.1**
MORI	**Morici**	**4.42**	**324**	*e*Pn	**Pn**	**21 32 26.5**	**+0.7**
MORI				Sn	**Sn**	**21 33 15.2**	**-1.8**
DUGI	**Dugi Otok**	**4.82**	**321**	*e*Pn	**Pn**	**21 32 32.1**	**+0.8**
DUGI				Sn	**Sn**	**21 33 25.3**	**-1.6**
VIRC	**Vir**	**5.04**	**323**	*e*Pn	**Pn**	**21 32 34.7**	**+0.3**
VIRC				Sn	**Sn**	**21 33 30.5**	**-1.9**

*NOU **28** 21:32:18.1, 15°.78S×168°.14E, h196km, MLv4.7/4, Vanuatu Islands*
*IDC **28** 21:32:26.0±2.5, 16°.34S×166°.73E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/36, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=53.9km s-min=36.3km az=84.0*
ISC 28 21:32:27.9±1.7, 16°.3S±0°.1×167°.2E±0°.1, h35km, n7, σ2°66/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.70**	**147**	P	**Pn**	**21 32 55.6**	**+0.5**
RTV	**Rentapao**	**1.89**	**142**	P	**Pn**	**21 32 56.4**	**-1.3**
DZM	**Mont Dzumac**	**5.79**	**187**	Pn	**Pn**	**21 33 52.2**	**+0.9**
	3.4nm,0.3s,baz=292,slow=7.7,SNR=16						
DZM				Sn	**Sn**	**21 34 59.3**	**+2.7**
	2.6nm,0.3s,baz=322,slow=22,SNR=3.7						
DZM	**Mont Dzumac**	**5.79**	**187**	*e*Pn	**Pn**	**21 33 52.3**	**+0.9**
	23nm,0.3s						
DZM				*e*Sn	**Sn**	**21 34 53.7**	**-2.9**
	20nm,0.3s						
WRA	**Warramunga Arr**	**31.42**	**258**	P	**P**	**21 38 43.7**	**-2.3**
	0.5nm,0.8s,baz=97,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**32.09**	**251**	P	P	21 38 52.5	+0.5
	0.3nm,0.7s,baz=79,slow=8.9,SNR=4.2						
ARCES	**ARCESS Array B**	**121.75**	**345**	PKP	**PKiKP**	**21 51 21.0**	**+3.3**
	1.0nm,0.8s,baz=38,slow=1.6,SNR=4.4						

IDC 28 21:41:37.1±2.5, 15°.82S×167°.15E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.5/38, mbtmp3.7/3, ML4.4/1, Error ellipse: s-maj=56.0km s-min=46.7km az=103.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.25**	**186**	Pn	Pn	21 43 08.9	-1.9
	8.8nm,0.3s,baz=330,slow=6.9,SNR=27						
DZM				Sn	Sn	21 44 15.0	-8.1
	5.4nm,0.3s,baz=312,slow=23,SNR=8.1						
WRA	**Warramunga Arr**	**31.46**	**258**	P	P	21 47 59.0	-1.8
	0.2nm,0.6s,baz=74,slow=8.8,SNR=1.5						
ASAR	**Alice Springs**	**32.19**	**251**	P	P	21 48 08.7	+1.5
	0.6nm,0.5s,baz=79,slow=8.5,SNR=7.8						
ARCES	**ARCESS Array B**	**121.27**	**345**	PKP	PKiKP	22 00 31.8	0.0
	3.7nm,1.2s,baz=40,slow=4.0,SNR=3.9						

*IDC **28** 21:47:04.8±3.8, 14°.50S×166°.62E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/37, mbtmp3.7/2, Error ellipse: s-maj=233.3km s-min=47.1km az=149.0*
*NOU **28** 21:47:06.5, 16°.05S×167°.48E, h13km, MLv4.6/14, Vanuatu Islands*
ISC 28 21:47:08.0±1.3, 16°.01S±0°.07×167°.3E±0°.2, h35km, n11, σ0°52/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.57**	**354**	P	**Pn**	**21 47 19.7**	**0.0**
DVP	**Devils Point**	**1.92**	**153**	P	**Pn**	**21 47 38.4**	**+0.2**
RTV	**Rentapao**	**2.09**	**148**	P	**Pn**	**21 47 40.6**	**+0.1**
YATNC	**Mamie plateau,**	**6.02**	**183**	P	**Pn**	**21 48 34.2**	**-0.5**
DZM	**Mont Dzumac**	**6.08**	**187**	P	**Pn**	**21 48 35.5**	**0.0**
NOUC	**Port Laguerre**	**6.12**	**188**	P	**Pn**	**21 48 35.3**	**-0.8**
ONTNC	**Ouen Toro**	**6.31**	**187**	P	**Pn**	**21 48 39.0**	**+0.4**
OUENC	**Ouen Island, N**	**6.38**	**184**	P	**Pn**	**21 48 40.0**	**+0.4**
WRA	**Warramunga Arr**	**31.53**	**258**	P	**P**	**21 53 27.4**	**+0.1**
	0.5nm,1.2s,baz=85,slow=8.8,SNR=4.2						
ASAR	**Alice Springs**	**32.23**	**251**	P	**P**	**21 53 34.0**	**+0.6**
	1.6nm,0.6s,baz=78,slow=8.8,SNR=21						
ARCES	**ARCESS Array B**	**121.49**	**345**	PKP	**PKPdf**	**22 05 56.5**	**-0.7**
	0.6nm,0.6s,baz=64,slow=2.8,SNR=7.6						

*IDC **28** 21:49:43.6±1.1, 13°.88N×120°.98E, h122km±6km, mb3.0/3, mb1 3.0/3, mb1mx2.9/47, mbtmp3.4/3, Error ellipse: s-maj=82.9km s-min=24.2km az=68.0*
*MAN **28** 21:49:44.1, 13°.99N×120°.38E, h100km, mb4.6, ML3.5, MS3.4, Hypocentre not reviewed by the ISC*
ISC 28 21:49:43.9±0.9, 13°.97N±0°.07×120°.4E±0°.1, h119km±7km, n13, σ1°45/19, mb3.2/3, 1C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.30**	**219**	*e*P	**Pn**	**21 50 00.7**	**0.0**
MACP	**Maragondon, Ca**	**0.40**	**42**	*e*P	**Pn**	**21 50 00.2**	**-0.9**
TGY	**Tagaytay City**	**0.50**	**74**	P	**Pn**	**21 50 01.8**	**0.0**
	312nm,0.3s,baz=180,slow=4.5,SNR=20						
TGY				S	**Sn**	**21 50 14.6**	**-0.6**
	448nm,0.3s,baz=134,slow=0.4,SNR=10.0						
TGY	**Tagaytay City**	**0.50**	**74**	⇑*e*P	**Pn**	**21 50 01.8**	**0.0**
TGY				*e*S	**Sn**	**21 50 13.3**	**-1.9**
PGP	**Puerto Galera**	**0.68**	**133**	⇓*e*P	**Pn**	**21 50 02.6**	**-0.4**
PGP				*i* S	**Sn**	**21 50 16.5**	**-0.9**
LQP	**Lukban**	**1.07**	**82**	⇓*i*P	**Pn**	**21 50 06.8**	**0.0**
LQP				*i* S	**Sn**	**21 50 25.4**	**+1.4**

BOAC	**Boac**	**1.45**	**110**	*e*P		**Pn**	**21 50 11.2**	**+0.5**
PCPH	**Palayan**	**1.71**	**22**	⇓*e*P		**Pn**	**21 50 12.8**	**-0.9**
PCPH				*e*S		**Sn**	**21 50 35.8**	**-0.6**
SMPP	**San Manuel, Pa**	**2.18**	**6**	*e*P		**Pn**	**21 50 19.0**	**-0.6**
SAMP	**Sagada Mountai**	**3.13**	**8**	*e*P		**Pn**	**21 50 31.0**	**-0.8**
SONM	**Songino Array**	**35.73**	**344**	P		**P**	**21 56 32.9**	**+1.7**
	0.7nm,0.4s,baz=159,slow=9.1,SNR=6.0							
ASAR	**Alice Springs**	**39.65**	**160**	P		**P**	**21 57 00.9**	**-3.4**
	0.1nm,0.4s,baz=345,slow=6.7,SNR=1.6							
ASAR				pP		**pP**	**21 57 33.2**	**+2.1**
	0.3nm,0.7s,baz=345,slow=6.9,SNR=4.9							
MKAR	**Makanchi Array**	**45.67**	**324**	P		**P**	**21 57 54.3**	**+1.6**
	0.1nm,0.4s,baz=110,slow=8.1,SNR=4.5							

*IDC **28** 21:50:41.4±2.3, 32°.77N×130°.55E, h0km, mb4.0/1, mb1 3.6/3, mb1mx3.2/51, mbtmp3.5/3, ML2.5/2, Error ellipse: s-maj=27.9km s-min=12.2km az=146.0*
*NEIC **28** 21:50:42.0±2.5, 32°.76N±0°.04×130°.61E±0°.06, h10km±1km, mb4.4/14, Error ellipse: s-maj=11.1km s-min=3.0km az=126.0*
*JMA **28** 21:50:43.0, 32°.75N×130°.76E, h12km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs=27.00000°, δ68.00000°, λ131.00000°. NP2: φs=141.00000°, δ46.00000°, λ32.00000°. Principal axes: T Plg50.0000°, Azm343.0000°; N Plg37.0000°, Azm189.0000°; P Plg13.0000°, Azm89.0000°;*
JMA Felt II J1.
ISC 28 21:50:41.9±0.6, 32°.73N±0°.03×130°.69E±0°.06, h11km, n31, σ1°32/35, mb4.5/8, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.21**	**149**	⇑P	**Pg**	**21 50 47.5**	**+1.1**
JIU3				S	**Sg**	**21 50 50.8**	**+1.3**
JTA	**Tamana**	**0.26**	**331**	⇓P	**Pb**	**21 50 49.0**	**+0.3**
JTA				S	**Sg**	**21 50 53.1**	**+2.1**
JNU	**Nakatsue**	**0.42**	**23**	Pg	**Pg**	**21 50 50.3**	**0.0**
	185nm,0.3s,baz=223,slow=4.6,SNR=514						
JNU				Lg	Lg	21 50 55.7	
	2um,0.3s,baz=344,slow=9.5,SNR=192						
JNU	**Nakatsue**	**0.42**	**23**	⇑P	**Pg**	**21 50 50.9**	**+0.7**
JNU				S	**Sg**	**21 50 56.1**	**+0.2**
JNU	**Nakatsue**	**0.42**	**23**		**Pg**	**21 50 50.9**	**+0.7**
JNU				Sg	**Sg**	**21 50 56.3**	**+0.4**
JSU	**Suzuyama**	**1.24**	**189**		**Pb**	**21 51 06.4**	**+1.1**
JTU	**Tsushima**	**2.08**	**329**		**Pn**	**21 51 16.6**	**-0.3**
JMN	**Monobe**	**2.85**	**69**	Pn	**Pn**	**21 51 26.9**	**-0.6**
JHS	**Saijyo**	**3.03**	**41**		**Pn**	**21 51 31.4**	**+1.5**
KSRS	**Korea Array**	**5.23**	**335**	Pn	**Pn**	**21 52 01.4**	**+1.4**
	0.2nm,0.3s,baz=149,slow=14,SNR=1.8						
KSRS				Pg	**Pb**	**21 52 15.4**	**+2.1**
	0.9nm,0.3s,baz=154,slow=16,SNR=7.0						
KSRS				Lg	Lg	21 53 25.2	
	1.6nm,0.3s,baz=153,slow=30,SNR=6.8						
INU	**Inuyama**	**5.87**	**62**	Pn	**Pn**	**21 52 10.6**	**+1.8**
JGF	**Kuroka**	**6.23**	**61**	Pn	**Pn**	**21 52 14.1**	**+0.3**
JOW	**Kunigami**	**6.24**	**200**	Pn	Pn	21 52 20.2	+6.2
	1.5nm,0.3s,baz=170,slow=28,SNR=1.0						
JOW	**Kunigami**	**6.24**	**200**	Pn	**Pn**	**21 52 14.8**	**+0.8**
MJAR	**Matsushiro Arr**	**7.27**	**56**	Pn	**Pn**	**21 52 31.4**	**+3.2**
	0.1nm,0.3s,baz=237,slow=13,SNR=2.0						
PEA0B	**Petropavlovsk-**	**28.11**	**36**	P	**P**	**21 56 33.9**	**+0.3**
PEA0B				IAmb	IAmb	21 56 36.1	
	comp=Z,5.9nm,1.1s						
WRAB	**Tennant Creek**	**52.49**	**176**	P	**P**	**21 59 54.2**	**-0.8**
WB2	**Warramunga Arr**	**52.49**	**176**	P	**P**	**21 59 55.4**	**+0.3**
WR0	**Warramunga Arr**	**52.52**	**175**	P	**P**	**21 59 55.1**	**-0.2**
A21K	**Barrow**	**53.83**	**22**	P	**P**	**22 00 04.4**	**+0.1**
OHAK	**Old Harbor**	**55.79**	**40**	P	**P**	**22 00 16.0**	**-2.7**
FIA1	**FINESS Array S**	**68.29**	**330**	P	**P**	**22 01 40.8**	**-1.8**
FIA1				IAmb	IAmb	22 01 42.3	
	comp=Z,3.6nm,0.8s						
FINES	**FINESS Array B**	**68.30**	**330**	P	**P**	**22 01 42.5**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=72,slow=4.5,SNR=5.5						
FINES	**FINESS Array B**	**68.30**	**330**	P	**P**	**22 01 42.2**	**-0.4**
NB201	**NORSAR Array S**	**74.40**	**334**	P	**P**	**22 02 20.1**	**+0.5**
NB201				IAmb	IAmb	22 02 37.0	
	comp=Z,4.9nm,0.9s						
NC204	**NORSAR Array S**	**74.45**	**334**	P	**P**	**22 02 18.0**	**-1.9**
NC204				IAmb	IAmb	22 02 19.8	
	comp=Z,3.7nm,0.9s						
NC602	**NORSAR Array S**	**74.51**	**334**	P	**P**	**22 02 18.6**	**-1.6**
NC602				IAmb	IAmb	22 02 26.6	
	comp=Z,7.5nm,1.1s						
NBO00	**NORSAR Array S**	**74.60**	**334**	P	**P**	**22 02 20.4**	**-0.4**
NBO00				IAmb	IAmb	22 02 31.9	
	comp=Z,9.6nm,1.1

ARMA					IAmb	IAmb	22 16 06.3		
	comp=Z,11nm,1.1s								
WR0	**Warramunga Arr**	**28.10**	**248**		P	**P**	**22 17 05.0**	**+0.2**	
STKA	**Stephens Creek**	**28.16**	**220**		P	**P**	**22 17 05.2**	**0.0**	
WB0	**Warramunga Arr**	**28.19**	**249**		P	**P**	**22 17 04.8**	**-0.8**	
WB0					IAmb	IAmb	22 17 11.6		
	comp=Z,7.7nm,1.3s								
WRAB	**Tennant Creek**	**28.27**	**248**		P	**P**	**22 17 05.9**	**-0.5**	
WRAB					IAmb	IAmb	22 17 24.2		
	comp=Z,6.9nm,1.4s								
WB2	**Warramunga Arr**	**28.27**	**248**		P	**P**	**22 17 06.0**	**-0.4**	
WB2					IAmb	IAmb	22 17 11.5		
	comp=Z,5.5nm,1.2s								
WRA	**Warramunga Arr**	**28.28**	**248**		P	**P**	**22 17 03.8**	**-2.7**	
	comp=Z,0.5nm,0.7s,baz=77,slow=8.8,SNR=8.7								
WRA	**Warramunga Arr**	**28.28**	**248**		P	**P**	**22 17 04.2**	**-2.3**	
ASAR	**Alice Springs**	**29.75**	**241**		P	**P**	**22 17 17.8**	**-1.8**	
	comp=Z,0.5nm,0.8s,baz=64,slow=10.0,SNR=2.8								
BBOO	**Buckleboo**	**32.37**	**224**		P	**P**			
BBOO					IAmb	IAmb	22 17 46.8		
	comp=Z,13nm,1.1s								
KHZ	**Kahutara**	**32.73**	**164**		P	**P**	**22 17 46.0**	**+0.5**	
KNRA	**Kununurra**	**32.89**	**258**		P	**P**	**22 17 46.5**	**-0.8**	
KNRA					IAmb	IAmb	22 17 47.4		
	comp=Z,6.9nm,0.8s								
MLZ	**Mavora Lakes**	**34.53**	**173**		P	P	22 18 07.3	+6.2	
MORW	**Morawa**	**46.63**	**240**		P	**P**	**22 19 39.7**	**-1.6**	
VNDA	**Vanda**	**66.43**	**180**		P	**P**	**22 22 03.6**	**+2.3**	
	comp=Z,0.9nm,0.8s,baz=326,slow=5.8,SNR=5.6								
VNDA	**Vanda**	**66.43**	**180**		IAmb	IAmb	22 22 05.2		
	comp=Z,1.3nm,0.8s								
SONM	**Songino Array**	**76.71**	**325**		P	**P**	**22 23 04.1**	**+0.2**	
	comp=Z,0.5nm,0.5s,baz=114,slow=2.9,SNR=3.6								
SONM	**Songino Array**	**76.71**	**325**		P	**P**	**22 23 03.8**	**0.0**	
QSPA	**South Pole Qui**	**78.92**	**180**		P	P	22 23 10.6	-5.3	
L19K	**White Mountain**	**80.28**	**19**		P	**P**	**22 23 23.0**	**-0.1**	
L19K					IAmb	IAmb	22 23 30.2		
	comp=Z,4.8nm,1.3s								
TTA	**Tatalina**	**80.48**	**18**		P	**P**	**22 23 24.5**	**+0.3**	
DHY	**Denali Highway**	**83.39**	**21**		P	**P**	**22 23 40.4**	**+0.8**	
IMAR	**Indian Mountai**	**83.40**	**17**		P	**P**	**22 23 39.3**	**-0.1**	
WRH	**Wood River Hil**	**84.07**	**19**		P	**P**	**22 23 45.0**	**+2.2**	
WRH					IAmb	IAmb	22 23 46.9		
	comp=Z,2.3nm,0.5s								
ILAR	**Eielson Array**	**84.66**	**19**		P	**P**	**22 23 47.1**	**+1.3**	
	comp=Z,0.5nm,0.7s,baz=241,slow=3.7,SNR=2.9								
ILAR	**Eielson Array**	**84.66**	**19**		P	**P**	**22 23 46.9**	**+1.1**	
MKAR	**Makanchi Array**	**91.23**	**317**		P	**P**	**22 24 19.7**	**+1.9**	
	comp=Z,0.2nm,0.8s,baz=96,slow=6.1,SNR=2.2								

NEIC ***28*** *22:16:07.1±2.8, 14°.75N±0°.05×93°.24W±0°.03, h10km±1km, mb4.4/34, Md4.5/52(MEX), Error ellipse: s-maj=8.4km s-min=4.9km az=185.0*

IDC ***28*** *22:16:10.0±1.7, 14°.69N×93°.07W, h58km±6km, mb3.7/5, mb1 4.2/7, mb1mx3.6/44, mbtmp4.0/7, Error ellipse: s-maj=50.7km s-min=23.9km az=35.0*

MEX ***28*** *22:16:10.7±2.0, 14°.68N×93°.23W, h24km±103km, MD4.5*

GCG ***28*** *22:16:14.7±0.5, 14°.92N×92°.76W, h16km±5km, MD4.4*

ISC 28 22:16:09.1±0.9,**14°.77N**±0°.05×**93°.18W**±0°.03,**h31**km±7km, **n109,** σ1°.**86**/132,**mb4.4**/22,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.89**	**81**		**Pb**	**22 16 25.8**	**-0.2**
THIG					**Sb**	**22 16 37.3**	**-0.3**
THIG		**0.89**	**81**	*e*P	**Pb**	**22 16 25.8**	**-0.2**
THIG				*e*S	**Sb**	**22 16 37.3**	**-0.3**
PATR	**El Naranjo**	**0.97**	**69**	*e*P	**Pn**	**22 16 26.8**	**-0.1**
PATR				*e*S	**Sb**	**22 16 39.9**	**-0.3**
PAVE	**Pavencul**	**1.05**	**66**	*e*P	**Pn**	**22 16 28.1**	**+0.2**
PAVE				*e*S	**Sb**	**22 16 42.5**	**0.0**
CHUJ	**Union Juarez**	**1.08**	**72**	*e*P	**Pn**	**22 16 28.4**	**+0.1**
CHUJ				*e*S	**Sn**	**22 16 42.6**	**+0.2**
RTAL	**Retalhuleu**	**1.45**	**99**		**Pn**	**22 16 34.0**	**+0.7**
RTAL				Sn	**Sn**	**22 16 49.1**	**-2.1**
STG3	**Santiaguito 3,**	**1.55**	**92**	*e*P	**Pn**	**22 16 35.8**	**+1.0**
CARR	**Arriaga**	**1.63**	**334**	*e*P	**Pn**	**22 16 36.4**	**+0.7**
CARR				*i* S	**Sn**	**22 16 56.0**	**+0.3**
HUEH	**Huehuetenango**	**1.71**	**71**		**Pn**	**22 16 38.8**	**+1.9**
HUEH				Sn	**Sn**	**22 17 00.4**	**+2.6**
CCIG	**Comitan**	**1.81**	**33**		**Pn**	**22 16 40.1**	**+1.8**
CCIG	**Comitan**	**1.81**	**33**	*e*P	**Pn**	**22 16 40.8**	**+2.5**
CCIG				*i* S	**Sn**	**22 17 01.0**	**+0.8**
TGBT	**Tuxtla Gutierr**	**2.00**	**2**		**Pn**	**22 16 41.8**	**+1.0**
TGBT					**Sn**	**22 17 03.6**	**-1.1**
TGBT	**Tuxtla Gutierr**	**2.00**	**2**	*e*P	**Pn**	**22 16 41.8**	**+1.0**
TGBT				*i* S	**Sn**	**22 17 03.6**	**-1.1**
FUG	**Fuego 3**	**2.28**	**98**	*e*P	**Pn**	**22 16 46.8**	**+2.0**
FUG				*e*S	**Sn**	**22 17 12.3**	**+0.3**
PCG	**Pacaya**	**2.51**	**98**	*e*P	**Pn**	**22 16 50.4**	**+2.3**
PCG				*e*S	**Sn**	**22 17 18.2**	**+0.3**
UXUV	**UXUV**	**2.70**	**340**	*e*P	**Pn**	**22 16 52.3**	**+1.8**
UXUV				*e*S	**Sn**	**22 17 25.4**	**+3.3**
NBG	**Las Nubes**	**2.74**	**93**	*e*P	**Pn**	**22 16 54.7**	**+3.5**
CMIG	**Matias Romero**	**2.83**	**325**	P	**Pn**	**22 16 53.0**	**+0.7**
	22nm,0.3s,baz=148,slow=9.3,SNR=107						
CMIG				S	**Sn**	**22 17 25.1**	**-0.2**
	51nm,0.3s,baz=164,slow=3.8,SNR=10.0						
CMIG	**Matias Romero**	**2.83**	**325**	*e*P	**Pn**	**22 16 52.9**	**+0.7**
CMIG				*i* S	**Sn**	**22 17 25.2**	**-0.2**
HUIG	**Huatulco**	**3.00**	**290**		**Pn**	**22 16 53.8**	**-0.7**
HUIG	**Huatulco**	**3.00**	**290**	*e*P	**Pn**	**22 16 53.8**	**-0.7**
VHSA	**Villahermosa**	**3.20**	**4**	*e*P	**Pn**	**22 17 00.9**	**+3.6**
VHSA				*e*S	**Sn**	**22 17 35.3**	**+0.9**
MRL	**Marmol**	**3.39**	**84**	*e*P	**Pn**	**22 17 02.1**	**+2.0**
MTO3	**Montecristo**	**3.71**	**95**		**Pn**	**22 17 05.5**	**+1.0**
ESQI	**Esquipulas**	**3.72**	**93**	Pn	**Pn**	**22 17 06.2**	**+1.7**
PETF	**Flores**	**3.83**	**56**	Pn	**Pn**	**22 17 07.6**	**+1.6**
SNET	**Serv Nac Est T**	**3.97**	**105**	Pn	**Pn**	**22 17 10.3**	**+2.3**
PEIG	**Puerto Escondi**	**4.02**	**288**	*e*P	**Pn**	**22 17 07.1**	**-1.6**
PEIG				*e*S	**Sn**	**22 17 50.5**	**-4.3**
VHO	**Vista Hermosa**	**4.12**	**304**	*e*P	**Pn**	**22 17 08.3**	**-1.8**
VHO				*e*S	**Sn**	**22 17 57.5**	**+0.1**
SCIG	**Sabancuy**	**4.59**	**24**		**Pn**	**22 17 16.0**	**-0.4**
SCIG					**Sn**	**22 18 07.6**	**-1.1**
SCIG	**Sabancuy**	**4.59**	**24**	*e*P	**Pn**	**22 17 16.0**	**-0.4**
SCIG				*i* S	**Sn**	**22 18 07.6**	**-1.1**
YOIG	**Yosondua**	**4.69**	**297**	*e*P	**Pn**	**22 17 20.4**	**+2.4**
YOIG				*e*S	**Sn**	**22 18 16.6**	**+4.9**
TOIG	**Toxpalan**	**4.99**	**312**	*e*P	**Pn**	**22 17 23.6**	**+1.6**
TOIG				*e*S	**Sn**	**22 18 15.1**	**-3.6**
PNIG	**Pinotepa**	**5.04**	**289**		**Pn**	**22 17 23.4**	**+0.8**
PNIG					**Sn**	**22 18 17.5**	**-2.3**
PNIG	**Pinotepa**	**5.04**	**289**	*e*P	**Pn**	**22 17 23.4**	**+0.8**
PNIG				*e*S	**Sn**	**22 18 17.5**	**-2.3**
TXIG	**Tlaxiaco**	**5.06**	**300**	*e*P	**Pn**	**22 17 25.2**	**+2.0**
TXIG				*i* S	**Sn**	**22 18 25.6**	**+4.9**
HLIG	**Huajuapan de L**	**5.39**	**305**	*e*P	**Pn**	**22 17 29.9**	**+2.4**
HLIG				*i* S	**Sn**	**22 18 31.2**	**+2.5**
FTIG	**Fresnillo de T**	**5.69**	**304**	*e*P	**Pn**	**22 17 33.8**	**+2.1**
FTIG				*e*S	**Sn**	**22 18 32.6**	**-3.4**
JAUV	**Jalcomulco**	**5.74**	**323**	*e*P	**Pn**	**22 17 32.2**	**0.0**
JAUV				*e*S	**Sn**	**22 18 33.8**	**-3.4**
TGUH	**Tegucigalpa,Un**	**5.76**	**96**	Pn	**Pn**	**22 17 34.4**	**+1.7**
LVIG	**Laguna Verde**	**5.82**	**328**		**Pn**	**22 17 32.1**	**-1.2**
LVIG	**Laguna Verde**	**5.82**	**328**	*e*P	**Pn**	**22 17 32.1**	**-1.2**
LVIG				*e*S	**Sn**	**22 18 34.3**	**-4.7**
TLIG	**Tlapa**	**5.88**	**299**		**Pn**	**22 17 34.0**	**-0.2**
TLIG	**Tlapa**	**5.88**	**299**	*e*P	**Pn**	**22 17 34.0**	**-0.2**
TLIG				*e*S	**Sn**	**22 18 42.5**	**+1.9**
CRIN	**San Cristobal**	**6.30**	**108**	Pn	**Pn**	**22 17 41.4**	**+1.4**
CNGN	**Cerro Negro**	**6.69**	**109**		**Pn**	**22 17 46.7**	**+1.4**
PPM	**Popocatepetl**	**6.74**	**310**	*e*P	**Pn**	**22 17 50.5**	**+4.0**
PPM				*e*S	**Sn**	**22 18 59.0**	**-3.6**
YAIG	**Yautepec**	**6.96**	**307**		**Pn**	**22 17 50.9**	**+1.8**
YAIG	**Yautepec**	**6.96**	**307**	*e*P	**Pn**	**22 17 50.9**	**+1.8**
MYIG	**Mrida**	**6.97**	**27**		**Pn**	**22 17 50.5**	**+1.4**
MYIG					**Sn**	**22 19 05.9**	**-1.5**
MYIG	**Mrida**	**6.97**	**27**	*e*P	**Pn**	**22 17 50.5**	**+1.4**
MYIG				*e*S	**Sn**	**22 19 05.9**	**-1.5**
MATN	**Matagalpa**	**7.27**	**104**		**Pn**	**22 17 54.5**	**+1.1**
BOAB	**BOACO BROADBAN**	**7.66**	**107**		**Pn**	**22 18 00.4**	**+1.8**
ACON	**Acoyapa**	**8.27**	**109**	Pn	**Pn**	**22 18 08.3**	**+1.4**
ORTG	**Ortega, Santa**	**8.71**	**119**	Pn	**Pn**	**22 18 15.1**	**+2.0**
JTS	**Las Juntas de**	**9.18**	**118**	P	**Pn**	**22 18 22.8**	**+3.4**
	1.7nm,0.3s,baz=46,slow=10,SNR=5.6						
JTS				S	**Sn**	**22 20 00.8**	**-1.0**
	2.1nm,0.3s,baz=14,slow=21,SNR=1.6						
JTS	**Las Juntas de**	**9.18**	**118**	Pn	**Pn**	**22 18 20.7**	**+1.2**
RIMA	**Rio Macho**	**10.37**	**118**		**Pn**	**22 18 38.3**	**+2.3**
SRBA	**San Rafael, Bu**	**11.06**	**119**	Pn	**Pn**	**22 18 46.4**	**+0.9**
BRU2	**Volcan**	**11.85**	**119**	Pn	**Pn**	**22 18 57.2**	**+0.9**
FSCY	**Frank Sound, G**	**12.32**	**67**	Pn	**Pn**	**22 19 03.0**	**+0.5**
SOR	**Soroa**	**12.50**	**49**		**Pn**	**22 19 03.9**	**-1.1**
LCCY	**Blossom Villag**	**13.42**	**67**	Pn	Pn	22 19 13.6	-3.9
833A	**Chaparral WMA,**	**14.67**	**338**	Pn	**Pn**	**22 19 35.1**	**+0.6**
JCT	**Junction City**	**16.78**	**340**		**Pn**	**22 20 03.0**	**+1.1**
TX31	**Lajitas Ar. Sí**	**17.44**	**328**	P	**Pn**	**22 20 12.0**	**+1.8**
TX31				IAmb	IAmb	22 20 14.8		
	comp=Z,24nm,1.1s								
TXAR	**Lajitas Array**	**17.44**	**328**	P	**Pn**	**22 20 11.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=145,slow=13,SNR=18								
TXAR	**Lajitas Array**	**17.44**	**328**	P	**Pn**	**22 20 12.4**	**+2.2**
MIAR	**Mount Ida**	**19.70**	**359**	P	**P**	**22 20 36.9**	**+1.1**
PLAL	**Pickwick Lake**	**20.64**	**12**	P	**P**	**22 20 46.6**	**+0.4**
Y52A	**Lilburn**	**20.72**	**22**	P	**P**	**22 20 46.6**	**-0.5**
Y52A				IAmb	IAmb	22 20 59.4		
	comp=Z,18nm,0.8s								
FPAL	**Fort Paine**	**20.84**	**18**	P	**P**	**22 20 49.1**	**+0.8**
AMTX	**Amarillo**	**21.45**	**341**	P	**P**	**22 20 54.1**	**-0.8**
AMTX				IAmb	IAmb	22 20 56.6		
	comp=Z,18nm,0.7s								
TKL	**Tuckaleechee C**	**22.45**	**20**	P	**P**	**22 21 05.6**	**0.0**
	comp=Z,1.8nm,0.6s,baz=228,slow=12,SNR=2.0								
TKL	**Tuckaleechee C**	**22.45**	**20**	IAmb	IAmb	22 21 12.1			
	comp=Z,4.5nm,1.1s								
SDV	**Santo Domingo**	**22.81**	**102**	P	**P**	**22 21 07.9**	**-1.9**		
	comp=Z,0.9nm,0.3s,baz=289,slow=13,SNR=2.4								
NV11	**Mina Array Sit**	**32.27**	**322**	P	**P**	**22 22 36.0**	**+0.8**		
NV11				IAmb	IAmb	22 22 37.1			
	comp=Z,4.2nm,1.0s								
NVAR	**Mina Array Bea**	**32.36**	**321**	P	**P**	**22 22 36.8**	**+0.7**		
	comp=Z,3.3nm,0.7s,baz=126,slow=9.1,SNR=18								
J08A	**Circle Bar Ran**	**35.79**	**328**	IAmb	IAmb	22 23 06.2			
	comp=Z,5.8nm,0.6s								
F10A	**Beach Ranch, E**	**37.10**	**332**	P	**P**	**22 23 15.7**	**-1.1**		
F10A				IAmb	IAmb	22 23 16.4			
	comp=Z,5.6nm,0.6s								
TA01	**Diego Aracena**	**41.76**	**147**	P	**P**	**22 23 57.2**	**+1.4**		
TA01				IAmb	IAmb	22 24 10.5			
	comp=Z,10nm,0.9s								
PATCX	**Punta Patache**	**41.98**	**147**	P	**P**	**22 23 57.5**	**-0.1**		
PATCX				IAmb	IAmb	22 24 08.0			
	comp=Z,9.6nm,1.0s								
OZB	**Mount Ozzard**	**43.17**	**329**	P	**P**	**22 24 08.9**	**+1.9**		
SIV	**San Ignacio**	**44.05**	**133**	P	P	22 24 01.9	-12		
	comp=Z,1.4nm,0.6s,baz=308,slow=9.4,SNR=7.5								
YKA	**Yellowknife Ar**	**50.02**	**347**	P	P	22 24 58.1	-2.3		
	comp=Z,1.6nm,0.7s,baz=152,slow=7.2,SNR=22								
YKA				pP	sP	22 25 14.1	+0.6		
	comp=Z,0.3nm,0.5s,baz=151,slow=7.7,SNR=3.3								
YKA				PcP	**PcP**	**22 26 16.9**	**-3.0**		
	comp=Z,0.5nm,0.7s,baz=145,slow=3.5,SNR=4.4								
DLBC	**Dease Lake**	**51.49**	**336**	P	**P**	**22 25 12.7**	**+1.0**		
DLBC				IAmb	IAmb	22 25 16.3			
	comp=Z,4.8nm,1.0s								
C36M	**Paulatuk**	**57.90**	**348**	P	P	22 25 55.6	-2.2		
C36M				IAmb	IAmb	22 26 04.0			
	comp=Z,4.0nm,1.1s								
BCAR	**Beaver Creek A**	**58.88**	**336**	P	**P**	**22 26 03.9**	**-1.0**		
L27K	**Beaver Creek,**	**58.90**	**336**	P	**P**	**22 26 03.8**	**-1.1**		
PLCA	**Paso Flores**	**59.08**	**160**	pP	pP	22 26 20.2	+4.2		
	comp=Z,2.1nm,1.0s,baz=341,slow=16,SNR=2.6								
N25K	**Chitina, Valde**	**59.28**	**334**	P	**P**	**22 26 07.5**	**-0.2**		
INK	**Inuvik**	**59.38**	**344**	P	P	22 26 06.4	-1.8		
INK				IAmb	IAmb	22 26 07.3			
	comp=Z,2.6nm,0.9s								
DIV	**Divide**	**59.56**	**333**	P	**P**	**22 26 11.2**	**+1.6**		
DIV				IAmb	IAmb	22 26 30.4			
	comp=Z,3.1nm,0.6s								
M24K	**Tolsona, Glenn**	**60.17**	**334**	P	**P**	**22 26 15.3**	**+1.5**		
SCM	**Sheep Creek Mo**	**60.54**	**334**	P	P	22 26 14.3	-2.0		
ILAR	**Eielson Array**	**61.69**	**337**	P	P	22 26 22.0	-2.0		
	comp=Z,1.5nm,0.7s,baz=139,slow=5.0,SNR=13								
ILAR				pP	sP	22 26 38.0	+0.9		
	comp=Z,1.0nm,0.9s,baz=115,slow=4.3,SNR=4.4								
ILAR				sP	pP	22 26 46.2	+13		
	comp=Z,0.3nm,0.6s,baz=142,slow=4.6,SNR=2.2								
ILAR	**Eielson Array**	**61.69**	**337**	P	**P**	**22 26 22.7**	**-1.3**		
RND	**Reindeer**	**61.85**	**335**	P	**P**	**22 26 24.6**	**-0.6**		
SII	**Sitkinak Islan**	**61.93**	**327**	P	**P**	**22 26 26.7**	**+0.9**		
CCB	**Clear Creek Bu**	**61.98**	**337**	P	**P**	**22 26 26.9**	**+0.9**		
CCB				IAmb	IAmb	22 26 31.1			
	comp=Z,3.9nm,1.2s								
BMAR	**Burnt Mountain**	**62.18**	**340**	P	**P**	**22 26 25.9**	**-1.5**		
TRF	**Thorofare Moun**	**62.46**	**335**	P	**P**	**22 26 28.2**	**-1.2**		
H24K	**Noodor Dome**	**62.55**	**338**	P	P	22 26 28.0	-1.8		
H24K				IAmb	IAmb	22 26 29.0			
	comp=Z,4.4nm,1.1s								
I23K	**Minto, Yukon-K**	**62.80**	**337**	P	P	22 26 27.8	-3.6		
H23K	**Yukon River**	**63.16**	**337**	P	**P**	**22 26 38.4**	**+4.5**		
H21K	**Melozitna Rive**	**64.33**	**337**	P	P	22 26 39.4	-2.2		
H21K				IAmb	IAmb	22 26 40.2			
	comp=Z,1.8nm,0.9s								
TOLK	**Toolik Lake Re**	**64.42**	**340**	P	**P**	**22 26 40.5**	**-1.6**		
TOLK				IAmb	IAmb	22 26 41.3			
	comp=Z,2.0nm,0.8s								
EUNU	**Eureka**	**65.39**	**1**	P	P	22 26 46.1	-2.1		
EUNU				IAmb	IAmb	22 26 46.7			
	comp=Z,1.6nm,0.7s								
CMAR	**Chiang Mai Arr**	**144.89**	**340**	PKPbc	**PKPab**	**22 35 40.3**	**-2.8**		
	comp=Z,3.6nm,0.7s,baz=340,slow=3.6,SNR=17								
CMAR				pPKPbc	**sPKPdf**	**22 35 57.0**	**-0.8**		
	comp=Z,1.6nm,0.4s,baz=340,slow=3.8,SNR=1.8								

IDC ***28*** *22:20:26.4±2.4, 6°.42S×129°.53E, h0km, mb3.2/1, mb1 4.2/3, mb1mx3.6/37, mbtmp3.9/3, ML4.3/2, Error ellipse: s-maj=147.1km s-min=32.8km az=68.0*

ISC 28 22:20:47.4±1.3,**7°.5S**±0°.1×**129°.1E**±0°.1,**h200**km,**n10,** σ2°.**83**/12,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.73**	**160**	P	**Pn**	**22 22 11.6**	**+0.4**
KDU	**Kakadu**	**6.18**	**148**	P	**Pn**	**22 22 16.8**	**-0.2**
KNRA	**Kununurra**	**8.18**	**182**	P	**Pn**	**22 22 43.8**	**+0.7**
PLAI	**Plampang**	**11.28**	**262**	P	**Pn**	**22 23 22.8**	**-0.4**
	16nm,1.1s						
WRA	**Warramunga Arr**	**13.43**	**158**	Pn	**Pn**	**22 23 48.8**	**-1.4**
	1.3nm,0.3s,baz=344,slow=13,SNR=32						
WRA				Sn	**S**	**22 26 14.3**	**-5.6**
	1.2nm,0.3s,baz=331,slow=23,SNR=10						
COEN	**Coen**	**15.28**	**116**	P	**P**	**22 24 15.0**	**+1.5**
QIS	**Mount Isa**	**16.54**	**143**	P	**Pn**	**22 24 30.6**	**+2.3**
ASAR	**Alice Springs**	**16.78**	**165**	P	**Pn**	**22 24 34.2**	**+3.1**
	1.0nm,0.3s,baz=345,slow=11,SNR=81						
ASAR				S	**S**	**22 27 38.0**	**+3.0**
	0.1nm,0.3s,baz=349,slow=24,SNR=3.7						
WRKA	**Warakurna**	**17.51**	**182**	P	**Pn**	**22 24 42.8**	**+3.1**
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**22 31 24.3**	**-1.3**
	0.1nm,0.4s,baz=136,slow=7.5,SNR=1.9						

NOU 28 22:22:09.5,16°.06S×167°.38E,h0km,MLv4.4/12,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.63**	**344**	P	Pg	22 22 22.3	+0.7
DVP	**Devils Point**	**1.83**	**155**	P	Pb	22 22 43.8	0.0
RTV	**Rentapao**	**1.99**	**150**	P	Pn	22 22 45.2	+0.7
KOUNC	**Koumac, New Ca**	**5.35**	**213**	P	Pn	22 23 30.6	0.0
YATNC	**Mamie plateau,**	**5.99**	**184**	P	Pn	22 23 38.9	-0.5
DZM	**Mont Dzumac**	**6.04**	**188**	P	Pn	22 23 38.8	-1.5
NOUC	**Port Laguerre**	**6.09**	**189**	P	Pn	22 23 40.0	-0.9
OUENC	**Ouen Island, N**	**6.34**	**185**	P	Pn	22 23 44.8	+0.5

NEIC 28 22:23:18.8±1.1,**37°.1S**±0°.1×**111°.70W**±0°.06,**h10**km±1km, **mb4.7**/15,**Error ellipse: s-maj=18.7km s-min=8.3km az=183.0,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**10.09**	**12**	Pn	Pn	22 25 43.4	-0.4
RPN	**Rapa Nui**	**10.14**	**12**	Pn	Pn	22 25 44.7	+0.2
LL05	**Los Muermos**	**29.75**	**110**	P	P	22 29 24.8	-0.5
LL02	**Futaleuf**	**30.85**	**114**	P	P	22 29 33.2	-1.8
MT09	**Talagante**	**33.16**	**97**	P	P	22 29 55.3	-0.3
MT09				IAmb	IAmb	22 30 03.5	
	comp=Z,15nm,1.4s						
MT02	**Curacav**	**33.20**	**96**	P	P	22 29 55.7	-0.1
MT02				IAmb	IAmb	22 30 07.1	
	comp=Z,18nm,1.4s						
CO02	**Combarbal**	**34.00**	**92**	P	P	22 30 02.2	-0.7
CO02				IAmb	IAmb	22 30 16.3	
	comp=Z,12nm,1.1s						
PB07	**IPOC Station P**	**39.19**	**79**	P	P	22 30 45.8	-1.5
PB07				IAmb	IAmb	22 30 55.9	
	comp=Z,14nm,1.3s						
LPAZ	**La Paz**	**43.64**	**74**	P	P	22 31 23.3	-1.1
RAR	**Rarotonga**	**44.39**	**277**	P	P	22 31 29.2	-0.4
CPUP	**Villa Florida**	**46.93**	**93**	P	P	22 31 48.6	-1.1
CPUP				IAmb	IAmb	22 32 15.2	
	comp=Z,4.9nm,1.2s						
BELA	**Belgrano 2**	**51.33**	**165**	P	P	22 32 22.7	0.0
MTO3	**Montecristo**	**55.38**	**27**	P	P	22 32 53.5	+0.2
MTO3				IAmb	IAmb	22 33 19.9	
	comp=Z,8.7nm,1.5s						
MTDJ	**Mount Denham**	**63.77**	**37**	P	P	22 33 50.2	-0.9
DR12	**Loma Pena Alta**	**68.42**	**43**	P	P	22 34 20.4	-0.6
214A	**Organ Pipe Nat**	**68.70**	**359**	P	P	22 34 21.0	-1.5
214A				IAmb	IAmb	22 34 36.8	
	comp=Z,11nm,1.4s						

IDC ***28*** *22:25:31.7±0.9, 52°.72N×34°.99W, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/51, mbtmp3.7/10, ML3.1/2, Error ellipse: s-maj=28.9km s-min=22.0km az=4.0*

ISC 28 22:25:33.8±0.8,**52°.7N**±0°.2×**35°.0W**±0°.1,**h14**km,**n12,** σ0°.**63**/12,**mb3.7/8,Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**18.80**	**69**	P	**P**	**22 29 51.8**	**-0.8**
	baz=263,slow=9.9,SNR=2.5						
SCHQ	**Schefferville**	**18.85**	**289**	P	P	**22 29 52.2**	**-0.9**
	0.1nm,0.3s,baz=70,slow=12,SNR=4.0						
YKA	**Yellowknife Ar**	**41.06**	**316**	P	**P**	**22 33 16.6**	**+0.2**
	0.4nm,0.6s,baz=64,slow=9.3,SNR=4.1						
PDAR	**Pinedale Array**	**48.98**	**290**	P	**P**	**22 34 19.4**	**-0.5**
	0.2nm,0.5s,baz=78,slow=8.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**49.12**	**130**	P	**P**	**22 34 20.9**	**0.0**
	0.5nm,0.8s,baz=326,slow=6.8,SNR=2.7						
ILAR	**Eielson Array**	**51.68**	**330**	P	**P**	**22 34 40.4**	**+0.7**
	0.6nm,0.9s,baz=60,slow=5.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**62.52**	**35**	P	**P**	**22 35 56.9**	**+0.5**
	0.3nm,0.3s,baz=341,slow=7.6,SNR=2.3						
MKAR	**Makanchi Array**	**67.34**	**41**	P	**P**	**22 36 27.9**	**-0.1**
	0.9nm,0.9s,baz=327,slow=5.8,SNR=6.0						
LPAZ	**La Paz**	**74.46**	**213**	P	**P**	**22 37 12.8**	**+0.6**
	0.6nm,0.5s,baz=352,slow=4.3,SNR=3.6						
SONM	**Songino Array**	**74.55**	**26**	P	P	**22 37 12.4**	**+0.5**
	1.7nm,0.8s,baz=327,slow=6.9,SNR=14						
WRA	**Warramunga Arr**	**146

CTA	**Charters Tower**	**20.67**	**255**	P		Pn	22 32 14.4	+2.5
	5.9nm,0.9s,baz=77,slow=13,SNR=2.3							
PMG	**Port Moresby**	**20.96**	**286**	LR		LR	22 38 16.9	
	comp=Z,6µm,21.0s,baz=239,slow=31							
URZ	**Urewera**	**23.70**	**161**	P		**P**	**22 32 41.6**	**+0.5**
	3.5nm,0.6s,baz=308,slow=20,SNR=2.0							
URZ	**Urewera**	**23.70**	**161**	P		**P**	**22 32 38.8**	**-2.3**
BKZ	**Black Stump Fm**	**24.36**	**163**	P		**P**	**22 32 46.2**	**-1.0**
BKZ				IAmb		IAmb	22 32 58.8	
	comp=Z,10nm,1.2s							
THZ	**Tophouse**	**26.07**	**171**	IAmb		IAmb	22 33 26.9	
	comp=Z,12nm,1.1s							
THZ	**Tophouse**	**26.07**	**171**	P		**P**	**22 33 02.6**	**-0.1**
THZ				IAmb		IAmb	22 33 17.7	
	comp=Z,7.9nm,1.0s							
THZ	**Tophouse**	**26.07**	**171**	P		**P**	**22 33 02.6**	**-0.1**
LTZ	**Lake Taylor**	**26.99**	**172**	P		**P**	**22 33 11.5**	**+0.6**
LBZ	**Lake Benmore**	**28.37**	**176**	P		**P**	**22 33 23.3**	**0.0**
LBZ				IAmb		IAmb	22 33 27.8	
	comp=Z,16nm,1.2s							
STKA	**Stephens Creek**	**28.41**	**232**	P		**P**	**22 33 25.5**	**+1.7**
	comp=Z,1.9nm,0.6s,baz=50,slow=6.8,SNR=5.9							
STKA	**Stephens Creek**	**28.41**	**232**	P		**P**	**22 33 24.9**	**+1.2**
WR0	**Warramunga Arr**	**31.63**	**258**	P		**P**	**22 33 52.2**	**-0.2**
WR0				IAmb		IAmb	22 33 55.4	
	comp=Z,3.7nm,1.1s							
WB0	**Warramunga Arr**	**31.77**	**258**	P		**P**	**22 33 53.2**	**-0.4**
WB0				IAmb		IAmb	22 33 54.6	
	comp=Z,3.4nm,1.1s							
WB2	**Warramunga Arr**	**31.81**	**258**	P		**P**	**22 33 53.2**	**-0.8**
WB2				IAmb		IAmb	22 33 58.0	
	comp=Z,3.1nm,0.8s							
WRAB	**Tennant Creek**	**31.81**	**258**	P		**P**	**22 33 53.2**	**-0.8**
WRAB				IAmb		IAmb	22 33 57.9	
	comp=Z,3.3nm,1.0s							
WRA	**Warramunga Arr**	**31.82**	**258**	P		**P**	**22 33 53.2**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=86,slow=9.6,SNR=14							
WRA				ScP		**ScP**	**22 40 29.1**	**+3.5**
	comp=Z,0.9nm,0.9s,baz=89,slow=4.1,SNR=5.4							
WRA	**Warramunga Arr**	**31.82**	**258**	P		**P**	**22 33 53.0**	**-1.2**
AS31	**Alice Springs**	**32.51**	**251**	P		**P**	**22 33 59.0**	**-1.1**
AS31				IAmb		IAmb	22 34 01.0	
	comp=Z,7.0nm,0.8s							
ASAR	**Alice Springs**	**32.51**	**251**	P		**P**	**22 33 59.6**	**-0.5**
	comp=Z,6.9nm,0.8s,baz=76,slow=9.2,SNR=47							
ASAR				ScP		**ScP**	**22 40 31.2**	**+3.2**
	comp=Z,1.6nm,1.0s,baz=93,slow=3.7,SNR=5.5							
ASAR	**Alice Springs**	**32.51**	**251**	P		**P**	**22 33 58.9**	**-1.3**
BBOO	**Buckleboo**	**33.05**	**234**	P		**P**	**22 34 04.6**	**-0.1**
BBOO				IAmb		IAmb	22 34 15.7	
	comp=Z,8.1nm,1.0s							
KNRA	**Kununurra**	**37.30**	**265**	P		**P**	**22 34 40.5**	**-1.0**
PSA00	**Pilbara Seismi**	**45.39**	**255**	P		**P**	**22 35 48.0**	**+0.1**
MBWA	**Marble Bar**	**45.51**	**256**	P		**P**	**22 35 49.0**	**+0.2**
MORW	**Morawa**	**48.99**	**245**	P		**P**	**22 36 16.0**	**+0.1**
VNDA	**Vanda**	**61.60**	**181**	P		**P**	**22 37 46.5**	**+0.6**
	comp=Z,1.5nm,1.2s,baz=22,slow=8.2,SNR=3.0							
VNDA	**Vanda**	**61.60**	**181**	P		**P**	**22 37 47.2**	**+1.3**
CASY	**Casey**	**62.46**	**203**	P		**P**	**22 37 51.6**	**-0.3**
CASY				IAmb		IAmb	22 38 10.7	
	comp=Z,5.9nm,1.1s							
USRK	**Ussuriysk Ar.**	**68.15**	**333**	P		**P**	**22 38 29.6**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=121,slow=7.1,SNR=9.4							
USRK	**Ussuriysk Ar.**	**68.15**	**333**	P		**P**	**22 38 30.1**	**+1.2**
USA0B	**Ussuriysk Arra**	**68.15**	**333**	P		**P**	**22 38 28.6**	**-0.3**
USA0B				IAmb		IAmb	22 38 31.9	
	comp=Z,3.6nm,0.8s							
PETK	**Petropavlovsk-**	**69.36**	**354**	P		**P**	**22 38 36.6**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=160,slow=10,SNR=5.2							
QSPA	**South Pole Qui**	**74.03**	**180**	P		**P**	**22 39 04.4**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=344,slow=2.6,SNR=6.1							
QSPA	**South Pole Qui**	**74.03**	**180**	IAmb		IAmb	22 39 08.5	
	comp=Z,4.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**75.74**	**294**	P		**P**	**22 39 16.1**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=134,slow=3.9,SNR=5.4							
ULN	**Ulaanbaatar**	**83.33**	**324**	P		**P**	**22 39 56.8**	**+0.9**
L19K	**White Mountain**	**83.36**	**17**	P		**P**	**22 39 56.2**	**+0.6**
L19K				IAmb		IAmb	22 40 03.4	
	comp=Z,1.6nm,0.8s							
SONM	**Songino Array**	**83.69**	**324**	P		**P**	**22 39 57.3**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=135,slow=5.2,SNR=14							
SONM	**Songino Array**	**83.69**	**324**	IAmb		IAmb	22 39 59.3	
	comp=Z,2.3nm,0.8s							
SHL	**Shillong**	**84.43**	**298**	P		**P**	**22 40 01.3**	**-0.7**
ILAR	**Eielson Array**	**87.65**	**18**	P		**P**	**22 40 14.5**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=238,slow=5.2,SNR=4.5							
MKAR	**Makanchi Array**	**98.33**	**316**	P		**P**	**22 41 06.2**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=101,slow=4.6,SNR=1.6							
ARCES	**ARCESS Array B**	**121.56**	**345**	PKP		**PKPdf**	**22 46 20.9**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=80,slow=1.9,SNR=25							
FINES	**FINESS Array B**	**127.01**	**338**	PKP		**PKPdf**	**22 46 32.0**	**-0.4**
	comp=Z,2.9nm,1.0s,baz=74,slow=4.9,SNR=1.9							
NOA	**NORSAR Array B**	**131.93**	**345**	PKP		**PKPdf**	**22 46 41.5**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=315,slow=2.7,SNR=3.2							
GERES	**GERESS Array B**	**140.91**	**333**	PKP		**PKPdf**	**22 46 58.4**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=90,slow=1.3,SNR=7.4							
KEST	**Kesra**	**152.37**	**319**	PKPbc		**PKPbc**	**22 47 24.9**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=331,slow=2.1,SNR=6.7							
TORD	**Torodi Ar. Bea**	**166.04**	**260**	PKP		**PKPdf**	**22 47 33.8**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=134,slow=1.5,SNR=3.1							

*PRE **28** 22:32:04.6±2.1,26°.45S×27°.39E, h2km, ML3.3*
*IDC **28** 22:32:05.2±0.9,26°.43S×27°.36E, h0km, mb3.9/6, mb1 4.0/12,mb1mx3.8/39,mbtmp4.0/12,ML3.8/4,MS4.6/1, Ms1 4.6/1,ms1mx3.6/70, Error ellipse: s-maj=19.1km s-min=12.9km az=73.0*
*NEIC **28** 22:32:05.3±0.8,26°.51S±0°.06×27°.49E±0°.06, h5km±1km, mb4.3/10, Error ellipse: s-maj=12.5km s-min=4.5km az=136.0*
*BUL **28** 22:33:24.5±3.0,24°.59S×29°.30E, h10km, MD4.0*
*EAF **28** 22:33:24.2±3.1,24°.61S×29°.21E, h10km, MD3.8*

ISC 28 22:32:05.5±1.0,**26°.46S**±0°.03×**27°.33E**±0°.02,**h9**km±6km, **n66**,σ=**2**°**47**/95,**mb4.2**/10,**1C**,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ID		h m s	ISC
WDLM	**Western Deep L**	**0.09**	**65**	*e*	P	**Pg**	**22 32 07.1**	**-0.9**
WDLM					IAML		22 32 07.8	
	comp=Z,122µm,0.2s							
KSR	**Koster**	**0.72**	**327**	*i*	P	**Pg**	**22 32 19.7**	**+0.2**
KSR					*e*S	**Sg**	**22 32 28.8**	**0.0**
KSR					IAML		22 32 36.8	
	comp=Z,580nm,0.2s							
SLR	**Silverton**	**1.12**	**50**	*e*	P	**Pg**	**22 32 25.6**	**-1.4**
SLR					*e*S	**Sg**	**22 32 39.1**	**-2.5**
SLR					IAML		22 32 44.2	
	comp=Z,1µm,0.5s							
SNKL	**Senekal, Frees**	**1.85**	**168**	*e*	P	**Pb**	**22 32 39.8**	**+0.3**
SNKL					*e*S	**Sb**	**22 33 03.3**	**+0.4**
SNKL					IAML		22 33 06.8	
	comp=Z,655nm,0.5s							
SWZ	**Schweizer**	**1.93**	**248**	*e*	P	**Pb**	**22 32 40.3**	**-0.6**
SWZ					*e*S	**Sg**	**22 33 06.3**	**-1.1**
SWZ					IAML		22 33 09.3	
	comp=Z,451nm,0.5s							
LBTB	**Lobatse**	**2.13**	**312**	Pn		**Pb**	**22 32 43.2**	**-1.1**
	comp=Z,78nm,0.3s,baz=127,slow=16,SNR=337							
LBTB				Pg		**Pg**	**22 32 44.5**	**-1.7**
	comp=Z,78nm,0.3s,baz=130,slow=16,SNR=92							
LBTB				Lg		Lg	22 33 12.2	
	comp=Z,254nm,0.3s,baz=220,slow=16,SNR=67							
LBTB	**Lobatse**	**2.13**	**312**	*e*	P	**Pb**	**22 32 43.8**	**-0.4**
LBTB					*e*S	**Sb**	**22 33 10.6**	**-0.2**
LBTB					IAML		22 33 13.3	
	comp=Z,895nm,0.2s							
LBTB	**Lobatse**	**2.13**	**312**			**Pb**	**22 32 43.2**	**-1.1**
LBTB				Sn		**Sg**	**22 33 13.1**	**-0.8**
CRLN	**Carolina, Mapu**	**2.46**	**80**	*e*	P	**Pn**	**22 32 45.6**	**-0.4**
CRLN					*e*S	**Sn**	**22 33 15.6**	**-0.7**
CRLN					IAML		22 33 22.7	
	comp=Z,154nm,0.3s							
NWCL	**Newcastle**	**2.61**	**120**	*e*	P	**Pn**	**22 32 48.2**	**+0.1**
NWCL					*e*S	**Sn**	**22 33 18.8**	**-1.2**
NWCL					IAML		22 33 27.0	
	comp=Z,270nm,0.3s							
BOSA	**Boshof**	**2.83**	**220**	Pn		**Pn**	**22 32 52.1**	**+1.2**
	comp=Z,4.4nm,0.3s,baz=39,slow=15,SNR=138							
BOSA				Pg		**Pb**	**22 32 56.9**	**+0.6**
	comp=Z,6.8nm,0.3s,baz=38,slow=16,SNR=11							
BOSA				Sn		**Sn**	**22 33 17.6**	**-7.6**
	comp=Z,5.6nm,0.3s,baz=33,slow=17,SNR=2.6							
BOSA				Lg		Lg	22 33 32.2	
	comp=Z,54nm,0.3s,baz=326,slow=18,SNR=22							
BOSA	**Boshof**	**2.83**	**220**	*e*	P	**Pn**	**22 32 52.2**	**+1.2**
BOSA					*e*S	**Sn**	**22 33 25.4**	**+0.1**
BOSA					IAML		22 33 33.3	
	comp=Z,147nm,0.3s							
BOSA	**Boshof**	**2.83**	**220**	Pn		**Pn**	**22 32 51.9**	**+0.9**
BOSA						**Sb**	**22 33 32.9**	**+1.8**
HAGI	**HAGI**	**3.48**	**85**	*e*	P	**Pn**	**22 33 00.1**	**+0.1**
HAGI					*e*S	**Sn**	**22 33 42.3**	**+0.9**
HAGI					IAML		22 33 53.9	
	comp=Z,145nm,0.6s							
MMAL	**MMAL**	**3.50**	**84**	*e*	P	**Pn**	**22 33 00.7**	**+0.5**
MMAL					*e*S	**Sn**	**22 33 41.6**	**-0.3**
MMAL					IAML		22 33 57.3	
	comp=Z,147nm,0.4s							
MAGG	**Maguga Dam**	**3.55**	**85**	*e*	P	**Pn**	**22 32 59.5**	**-1.4**
POGA	**Pongola**	**4.00**	**104**	*e*	P	**Pn**	**22 33 07.1**	**+0.1**
POGA					*e*S	**Sn**	**22 33 51.8**	**-2.4**
POGA					IAML		22 34 09.6	
	comp=Z,120nm,0.4s							
CNG	**Changalane**	**4.36**	**89**	*e*	P	**Pn**	**22 33 12.7**	**+0.8**
CNG					*e*S	**Sn**	**22 34 02.3**	**-0.6**
CNG					IAML		22 34 26.4	
	comp=Z,36nm,0.5s							
CNG	**Changalane**	**4.36**	**89**	*e*	P	**Sb**	**22 34 11.8**	**-3.2**
CNG	**Changalane**	**4.36**	**89**	*e*	P	**Sb**	**22 34 11.8**	**-3.2**
HVD	**Gariep Dam**	**4.43**	**201**	*e*	P	**Pn**	**22 33 14.1**	**+1.0**
HVD					*e*S	**Sn**	**22 34 03.9**	**-1.0**
HVD					IAML		22 34 30.4	
	comp=Z,45nm,0.4s							
KSD	**Kokstad**	**4.46**	**156**	*e*	P	**Pn**	**22 33 15.3**	**+1.9**
KSD					*e*S	**Sn**	**22 34 05.1**	**-0.4**
KSD					IAML		22 34 27.2	
	comp=Z,75nm,0.5s							
MOPA	**Mopani**	**4.71**	**52**	*e*	P	**Pn**	**22 33 15.4**	**-1.4**
MOPA					*e*S	**Sn**	**22 34 10.6**	**-1.0**
MOPA					IAML		22 34 43.4	
	comp=Z,59nm,0.8s							
MOPA	**Mopani**	**4.71**	**52**	*e*	P	**Sn**	**22 34 03.8**	**-7.8**
MOPA					*e*S	**Sb**	**22 34 28.0**	**+2.8**
MOPA	**Mopani**	**4.71**	**52**	*e*	P	**Sn**	**22 34 03.8**	**-7.8**
MOPA					*e*S	**Sb**	**22 34 28.0**	**+2.8**
MSNA	**Messina**	**4.78**	**31**	*e*	P	**Pn**	**22 33 17.9**	**+0.2**
MSNA					*e*S	**Sn**	**22 34 07.9**	**-5.4**
MSNA					IAML		22 34 30.7	
	comp=Z,52nm,0.4s							
MSNA	**Messina**	**4.78**	**31**	*e*	P	Sn	22 34 03.8	-9.4
MSNA					*e*S	**Sb**	**22 34 31.1**	**+4.0**
MSNA	**Messina**	**4.78**	**31**	*e*	P	Sn	22 34 03.8	-9.4
MSNA					*e*S	**Sb**	**22 34 31.1**	**+4.0**
UPI	**Upington**	**5.72**	**249**	*e*	P	**Pn**	**22 33 32.8**	**+2.0**
UPI					*e*S	**Sn**	**22 34 34.9**	**-1.8**
UPI					IAML		22 35 07.4	
	comp=Z,18nm,0.6s							
MATP	**Matopo**	**6.10**	**10**	Pn		**Pn**	**22 33 36.2**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=187,slow=12,SNR=10							
MATP				Sn		Sn	22 34 36.8	-9.3
	comp=Z,1.2nm,0.3s,baz=189,slow=18,SNR=1.6							
MATP				Lg		Lg	22 35 10.7	
	comp=Z,7.6nm,0.3s,baz=261,slow=19,SNR=4.8							
MATP	**Matopo**	**6.10**	**10**	*e*	P	Sn	22 34 28.4	-18
MATP	**Matopo**	**6.10**	**10**	*e*	P	Sn	22 34 28.4	-18
BLWY	**Bulawayo**	**6.40**	**11**	*e*	P	**Pn**	**22 33 40.2**	**+0.1**
BLWY					*e*S	**Sn**	**22 34 49.3**	**-4.2**
BLWY					IAML		22 35 25.7	
	comp=Z,118nm,0.6s							
BLWY	**Bulawayo**	**6.40**	**11**	*e*	P	Sn	22 34 33.4	-20
BLWY					*e*S	**Sb**	**22 35 18.4**	**+4.4**
BLWY	**Bulawayo**	**6.40**	**11**	*e*	P	Sn	22 34 33.4	-20
BLWY					*e*S	**Sb**	**22 35 18.4**	**+4.4**
AUGR	**Augrabies**	**6.56**	**250**	*e*	P	**Pn**	**22 33 44.9**	**+2.6**
AUGR					*e*S	**Sn**	**22 34 57.1**	**-0.2**
AUGR					IAML		22 35 39.1	
	comp=Z,27nm,0.6s							
GRAN	**Grantham**	**7.36**	**217**	*e*	P	**Pn**	**22 33 53.9**	**+0.7**
GRAN					*e*S	**Sn**	**22 35 14.3**	**-2.5**
GRAN					IAML		22 36 04.3	
	comp=Z,37nm,0.5s							
SUR	**Sutherland**	**8.19**	**222**	Pn		**Pn**	**22 34 06.3**	**+1.6**
	comp=Z,1.7nm,0.3s,baz=55,slow=16,SNR=23							
SUR				Sn		**Sn**	**22 35 33.3**	**-4.3**
	comp=Z,1.6nm,0.3s,baz=277,slow=14,SNR=2.8							
SUR				Lg		Lg	22 36 15.4	
	comp=Z,2.0nm,0.3s,baz=133,slow=21,SNR=2.6							
SUR	**Sutherland**	**8.19**	**222**			**Pn**	**22 34 05.4**	**+0.6**
MATJ	**Matjiesfontein**	**8.96**	**219**	*e*	P	**Pn**	**22 34 16.3**	**+1.1**
MATJ					*e*S	**Sn**	**22 35 54.9**	**-1.5**
MATJ					IAML		22 36 54.2	
	comp=Z,25nm,0.6s							
CER	**Ceres**	**9.79**	**223**	*e*	P	**Pn**	**22 34 27.4**	**+0.9**
CER					*e*S	**Sn**	**22 36 11.9**	**-4.7**
CER					IAML		22 37 19.6	
	comp=Z,8.7nm,0.5s							
LSZ	**Lusaka**	**11.16**	**4**	Pn		**Pn**	**22 34 44.2**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=188,slow=12,SNR=7.5							
LSZ				Sn		**Sn**	**22 36 43.8**	**-6.6**
	comp=Z,0.7nm,0.3s,baz=71,slow=18,SNR=4.3							
LSZ				Lg		Lg	22 37 48.2	
	comp=Z,0.5nm,0.3s,baz=167,slow=18,SNR=2.3							
LSZ	**Lusaka**	**11.16**	**4**			**Pn**	**22 34 44.7**	**-0.7**
TSUM	**Tsumeb**	**11.53**	**307**	Pn		**Pn**	**22 34 51.4**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=133,slow=9.4,SNR=5.6							
TSUM				Sn		**Sn**	**22 36 53.7**	**-5.8**
	comp=Z,0.4nm,0.3s,baz=233,slow=16,SNR=2.3							
TSUM				Lg		Lg	22 38 03.8	
	comp=Z,0.7nm,0.3s,baz=85,slow=20,SNR=4.6							
TSUM	**Tsumeb**	**11.53**	**307**	Pn		**Pn**	**22 34 51.3**	**+0.8**
MBAR	**Mbarara**	**25.92**	**8**	LR		LR	22 48 11.1	
	comp=Z,1µm,18.4s,baz=65,slow=37							
SOCY	**Socotra**	**46.34**	**37**	P		**P**	**22 40 34.5**	**+2.3**
MAW	**Mawson**	**46.46**	**162**	P		**P**	**22 40 31.6**	**-0.8**
TOA0	**Torodi Ar. Sit**	**46.60**	**325**	P		**P**	**22 40 34.7**	**+0.5**
TOA0				IAmb		IAmb	22 40 35.0	
	comp=Z,1.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**46.60**	**325**	P		**P**	**22 40 34.7**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=156,slow=7.6,SNR=36							
TORD	**Torodi Ar. Bea**	**46.60**	**325**	P		**P**	**22 40 34.8**	**+0.6**
TORD				IAmb		IAmb	22 40 35.0	
	comp=Z,1.2nm,0.8s							
SNAA	**Sanae**	**48.27**	**192**	P		**P**	**22 40 48.1**	**+1.6**
	comp=Z,2.8nm,1.0s,baz=22,slow=4.0,SNR=6.5							
SNAA	**Sanae**	**48.27**	**192**	P		**P**	**22 40 47.4**	**+0.8**
SNAA				IAmb		IAmb	22 40 54.6	
	comp=Z,3.7nm,1.1s							
KOWA	**Kowa**	**50.86**	**319**	P		**P**	**22 41 07.5**	**+0.6**
KOWA				IAmb		IAmb	22 41 20.0	
	comp=Z,3.6nm,1.1s							
ITM	**Ithomi**	**63.51**	**355**	P		**P**	**22 42 37.4**	**+1.4**
QSPA	**South Pole Qui**	**63.73**	**180**	P		**P**	**22 42 38.1**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=207,slow=4.5,SNR=2.1							
QSPA	**South Pole Qui**	**63.73**	**180**	P		**P**	**22 42 38.0**	**+0.7**
ESDC	**Sonseca Array**	**71.98**	**335**	P		**P**	**22 43 30.7**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=154,slow=5.8,SNR=8.6							
ESDC	**Sonseca Array**	**71.98**	**335**	P		**P**	**22 43 30.1**	**+0.6**
ESBB	**Sonseca Array**	**71.98**	**335**	P		**P**	**22 43 30.5**	**+1.0**
ESBB				IAmb		IAmb	22 43 32.1	
	comp=Z,4.0nm,1.1s							
PAB	**San Pablo**	**72.01**	**335**	P		**P**	**22 43 28.3**	**-1.4**
PAB				IAmb		IAmb	22 43 29.2	
	comp=Z,2.3nm,1.1s							
KKAR	**Karatay Array**	**79.81**	**31**	P		**P**	**22 44 14.1**	**0.0**
FINES	**FINESS Array B**	**87.60**	**359**	P		**P**	**22 44 55.0**	**+1.5**
	comp=Z,2.4nm,1.0s,baz=188,slow=3.8,SNR=4.3							
FINES	**FINESS Array B**	**87.60**	**359**	P		**P**	**22 44 54.4**	**+0.9**
MKAR	**Makanchi Array**	**88.19**	**34**	P		**P**	**22 44 58.0**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=227,slow=3.4,SNR=4.5							
MKAR	**Makanchi Array**	**88.19**	**34**	P		**P**	**22 44 57.5**	**+0.7**

*MOS **28** 22:34:12.4±0.0, 42°.35N×45°.40E, h10km, MPVA3.5*
*NORS **28** 22:34:12.8±0.0, 42°.31N×45°.40E, h6km, MPVA3.6*
*TIF **28** 22:34:13.2, 42°.38N×45°.37E, h14km±1km*
*DRS **28** 22:34:16.5±0.0, 42°.37N×45°.34E, h19km*

ISC 28 22:34:13.2±1.0,**42°.35N**±0°.02×**45°.38E**±0°.01,**h6**km±9km, **n48**,σ=**1**°**28**/95,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ID		h m s	ISC
GUDG	**Gudauri**	**0.68**	**280**	P		**Pg**	**22 34 26.2**	**0.0**
GUDG				S		**Sg**	**22 34 34.6**	**-0.4**
GUDG	**Gudauri**	**0.68**	**280**	*e*Pg		**Pg**	**22 34 26.2**	**0.0**
GUDG				*e*Sg		**Sg**	**22 34 34.6**	**-0.4**
MTEO	**Meteo**	**0.71**	**298**	P		**Pg**	**22 34 26.9**	**+0.1**
MTEO				S		**Sg**	**22 34 35.9**	**-0.2**
BTNK	**Botanikuri**	**0.79**	**213**	P		**Pg**	**22 34 25.3**	**-3.1**
BTNK				S		**Sg**	**22 34 37.1**	**-1.5**
BTNK	**Botanikuri**	**0.79**	**213**	*e*Pg		**Pg**	**22 34 25.3**	**-3.1**
BTNK				*e*Sg		**Sg**	**22 34 37.1**	**-1.5**
KMGR	**Komgaron**	**0.80**	**332**	*e*Pg		**Pn**	**22 34 29.6**	**-1.5**
KMGR				*e*Sg		**Sn**	**22 34 41.8**	**-1.6**
LGD	**Lagodekhi**	**0.82**	**128**	P		**Pn**	**22 34 30.1**	**-1.2**
LGD				S		**Sb**	**22 34 40.9**	**-0.3**
DVE	**Vedeno**	**0.82**	**42**	*i* Pg		**Pb**	**22 34 29.2**	**-0.7**
DVE				*e*Sg		**Sb**	**22 34 40.4**	**-0.9**
DGRG	**David-gareji**	**0.90**	**180**	P		**Pn**	**22 34 33.6**	**+1.3**
DGRG				S		**Sn**	**22 34 48.4**	**+2.9**
DGRG	**David-gareji**	**0.90**	**180**	*e*Pg		**Pn**	**22 34 33.6**	**+1.3**
DGRG				*e*Sg		**Sn**	**22 34 48.4**	**+2.9**
GROC	**Groznyy**	**0.91**	**20**	*e*Pg		**Pn**	**22 34 32.0**	**-0.5**
GROC				*e*Sg		**Sn**	**22 34 44.7**	**-1.2**
LACR	**Lac**	**0.93**	**301**	*i* Pg		**Pb**	**22 34 30.7**	**-1.1**
LACR				*e*Sg		**Sg**	**22 34 42.2**	**-0.9**
XNZR	**Khunzakh**	**1.00**	**78**	*e*Pg		**Pn**	**22 34 33.2**	**-0.7**
XNZR				*e*Sg		**Sn**	**22 34 47.1**	**-1.4**
UNCR	**Uncukul**	**1.11**	**70**	*e*Pg		**Pg**	**22 34 34.6**	**+0.1**
UNCR				*e*Sg		**Sn**	**22 34 50.3**	**-0.6**
ARNR	**Ardon**	**1.16**	**316**	*e*Pg		**Pg**	**22 34 36.5**	**+1.1**
ARNR				*e*Sg		**Sn**	**22 34 53.3**	**+1.2**
DLMR	**Dylym**	**1.17**	**52**	*e*Pg		**Pg**	**22 34 35.9**	**+0.2**
DLMR				*e*Sg		**Sn**	**22 34 52.7**	**+0.2**
ZEI	**Tsey**	**1.18**	**293**	*e*Pg		**Pb**	**22 34 35.4**	**-0.6**
ZEI				*e*Sg		**Sb**	**22 34 50.8**	**-0.8**
GNBR	**Gunib**	**1.18**	**87**	*e*Pg		**Pg**	**22 34 36.0**	**+0.2**
GNBR				*e*Sg		**Sn**	**22 34 52.7**	**+0.1**
KORR	**Kora**	**1.22**	**308**	*e*Pg		**Pg**	**22 34 37.2**	**+0.7**
KORR				*e*Sg		**Sg**	**22 34 55.6**	**+3.3**
ARKR	**Arakani**	**1.23**	**77**	*e*Pg		**Pg**	**22 34 36.8**	**+0.1**
ARKR				*e*Sg		**Sg**	**22 34 53.4**	**+0.8**
KRNR	**Karanay**	**1.23**	**66**	*e*Pg		**Pg**	**22 34 36.7**	**0.0**
KRNR				*e*Sg		**Sg**	**22 34 53.7**	**+1.0**
TRLG	**Trialeti**	**1.25**	**230**	P		**Pg**	**22 34 37.7**	**+0.6**
TRLG				S		**Sg**	**22 34 55.2**	**+1.9**
DBC	**Dubki**	**1.27**	**57**	*e*Pg		**Pg**	**22 34 37.5**	**0.0**
DBC				*e*Sg		**Sg**	**22 34 54.6**	**+0.7**
KMKR	**Kumukh**	**1.30**	**99**	*e*Pg		**Pg**	**22 34 38.0**	**0.0**
KMKR				*e*Sg		**Sg**	**22 34 57.3**	**+2.4**
DMNI	**Dmanisi**	**1.35**	**221**	P		**Pb**	**22 34 39.1**	**+0.2**
DMNI				S		**Sg**	**22 34 57.9**	**+1.3**
BRNG	**Burnasheti**	**1.36**	**238**	P		**Pg**	**22 34 40.0**	**+0.7**
BRNG				S		**Sg**	**22 34 59.4**	**+2.4**
BUJR	**Buynaksk**	**1.37**	**69**	*e*Pg		**Pg**	**22 34 39.7**	**+0.4**
BUJR				*e*Sg		**Sg**	**22 34 59.2**	**+2.1**
STDR	**Stavd-Durt**	**1.41**	**317**	*e*Pg		**Pg**	**22 34 41.2**	**+1.0**
STDR				*e*Sg		**Sg**	**22 35 01.1**	**+2.7**
DIGR	**Digorskoe uzhe**	**1.44**	**293**	*e*Pg		**Pb**	**22 34 40.1**	**-0.4**
DIGR				*e*Sg		**

WB2	**Warramunga Arr**	**31.55 258**	P	**P**	**22 42 39.6 +0.1**		
WB2			IAmb	IAmb	22 42 55.4		
	comp=Z,5.5nm,1.1s						
WRAB	**Tennant Creek**	**31.55 258**	P	**P**	**22 42 38.6 -0.9**		
WRAB			IAmb	IAmb	22 42 46.4		
	comp=Z,3.1nm,1.1s						
WRA	**Warramunga Arr**	**31.56 258**	P	**P**	**22 42 39.3 -0.3**		
	comp=Z,0.5nm,0.7s,baz=84,slow=8.6,SNR=7.0						
WRA	**Warramunga Arr**	**31.56 258**	IAmb	IAmb	22 42 48.5		
	comp=Z,0.2nm,1.1s						
AS31	**Alice Springs**	**32.26 251**	P	**P**	**22 42 46.5 +0.7**		
AS31			IAmb	IAmb	22 43 01.5		
	comp=Z,2.8nm,0.6s						
ASAR	**Alice Springs**	**32.26 251**	P	**P**	**22 42 45.6 -0.2**		
	comp=Z,3.0nm,0.7s,baz=76,slow=8.9,SNR=33						
KNRA	**Kununurra**	**37.03 265**	P	**P**	**22 43 25.7 -1.3**		
KNRA			IAmb	IAmb	22 43 39.4		
	comp=Z,5.6nm,1.0s						
FORT	**Forrest**	**38.68 241**	P	**P**	**22 43 41.9 +1.1**		
NWAO	**Narrogin (SRO)**	**48.13 240**	P	**P**	**22 44 55.3 -1.6**		
VNDA	**Vanda**	**61.60 181**	P	**P**	**22 46 34.7 +1.0**		
	comp=Z,0.6nm,0.7s,baz=360,slow=6.5,SNR=2.4						
CASY	**Casey**	**62.37 202**	P	**P**	**22 46 39.3 +0.2**		
CASY			IAmb	IAmb	22 46 49.3		
	comp=Z,3.1nm,0.9s						
KULM	**Kulim**	**69.23 282**	P	**P**	**22 47 22.6 -1.6**		
PETK	**Petropavlovsk-**	**69.31 354**	P	**P**	**22 47 23.8 0.0**		
	comp=Z,3.5nm,0.7s,baz=160,slow=8.9,SNR=7.8						
PETK	**Petropavlovsk-**	**69.31 354**	P	**P**	**22 47 23.1 -0.7**		
QSPA	**South Pole Qui**	**74.04 180**	P	**P**	**22 47 53.0 +0.6**		
MAW	**Mawson**	**80.73 202**	P	**P**	**22 48 33.0 +3.5**		
L19K	**White Mountain**	**83.43 17**	P	**P**	**22 48 44.1 +0.4**		
SONM	**Songino Array**	**83.52 324**	P	**P**	**22 48 44.6 0.0**		
	comp=Z,0.4nm,0.4s,baz=134,slow=6.2,SNR=4.7						
SONM	**Songino Array**	**83.52 324**	P	**P**	**22 48 45.4 +0.8**		
TTA	**Tatalina**	**83.72 16**	P	**P**	**22 48 45.5 +0.2**		
ILAR	**Eielson Array**	**87.72 18**	P	**P**	**22 49 02.7 -2.2**		
	comp=Z,0.5nm,0.5s,baz=233,slow=4.9,SNR=8.5						
MKAR	**Makanchi Array**	**98.13 316**	P	**P**	**22 49 53.4 -0.1**		
	comp=Z,0.2nm,0.8s,baz=102,slow=6.6,SNR=2.4						
YKA	**Yellowknife Ar**	**98.65 27**	P	**P**	**22 49 54.2 -1.1**		
	comp=Z,0.3nm,0.7s,baz=258,slow=4.7,SNR=4.5						
ARCES	**ARCESS Array B**	**121.47 345**	PKP	**PKPdf**	**22 55 08.6 -0.7**		
	comp=Z,1.9nm,0.5s,baz=69,slow=1.5,SNR=41						
FINES	**FINESS Array B**	**126.90 338**	PKP	**PKPdf**	**22 55 19.9 0.0**		
	comp=Z,1.8nm,1.0s,baz=326,slow=0.5,SNR=5.1						
NOA	**NORSAR Array B**	**131.84 345**	PKP	**PKPdf**	**22 55 29.1 -0.4**		
	comp=Z,0.2nm,0.5s,baz=31,slow=1.9,SNR=1.8						
GERES	**GERESS Array B**	**140.77 332**	PKP	**PKPdf**	**22 55 47.5 +1.0**		
	comp=Z,0.2nm,0.4s,baz=69,slow=3.4,SNR=3.7						
KEST	**Kesra**	**152.19 319**	PKPbc	**PKPbc**	**22 56 13.0 +0.4**		
	comp=Z,3.0nm,0.7s,baz=81,slow=1.1,SNR=4.8						
ESDC	**Sonseca Array**	**155.20 344**	PKPab	**PKPab**	**22 56 35.9 +1.1**		
	comp=Z,0.7nm,0.8s,baz=29,slow=2.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**165.77 260**	PKP	**PKPdf**	**22 56 22.2 -0.1**		
	comp=Z,0.4nm,0.7s,baz=56,slow=1.5,SNR=2.9						

*NEIC **28** 22:42:32.2±1.9,20.49S±0.06×178.7W±0.1,h611km±7km, mb4.2/66, Error ellipse: s-maj=18.6km s-min=5.4km az=115.0*

*IDC **28** 22:42:33.3±1.7,20.53S×178.82W,h624km±17km, mb3.6/18,mb1 3.8/20,mb1mx3.6/41,mbtmp4.5/20, Error ellipse: s-maj=29.6km s-min=10.9km az=151.0*

ISC 28 22:42:34.8±0.5, 20.43S±0.09×178.92W±0.08, h645km, n134,σ1.9s08/129, mb4.1/47, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.92**	**313**	P	**P**	**22 44 00.1**	**-3.2**
	9.3nm,0.3s,baz=232,slow=18,SNR=19						
MSVF				S	**S**	**22 45 10.3**	**-5.0**
	baz=172,slow=22,SNR=1.1						
AFI	**Afiamalu**	**9.41**	**48**	P	P	22 44 43.2	-5.9
	7.3nm,0.3s,baz=253,slow=2.0,SNR=5.7						
AFI				S	S	22 46 24.0	-15
	20nm,0.3s,baz=137,slow=9.1,SNR=5.1						
MARNC	**Mare, Loyalty**	**12.24**	**263**	P	**P**	**22 45 13.8**	**-2.0**
PINNC	**Pines Island,**	**12.88**	**258**	P	**P**	**22 45 20.4**	**-1.3**
DZM	**Mont Dzumac**	**13.75**	**261**	P	**P**	**22 45 28.9**	**-0.9**
	1.1nm,0.3s,baz=84,slow=18,SNR=3.2						
SANVU	**Saraoutou**	**14.10**	**288**		**PcP**	**22 50 06.2**	**+3.9**
KOUNC	**Koumac, New Ca**	**15.74**	**267**	P	**P**	**22 45 49.7**	**+1.7**
OUZ	**Omahuta**	**16.15**	**203**	P	**P**	**22 45 51.4**	**-0.1**
OUZ				IAmb	IAmb	22 45 52.5	
	comp=Z,6.2nm,0.7s						
EIDS	**Eidsvold**	**28.04**	**254**	P	**P**	**22 47 38.1**	**+0.6**
EIDS				IAmb	IAmb	22 47 53.5	
	comp=Z,6.3nm,1.0s						
ARMA	**Armidale**	**28.33**	**244**	P	**P**	**22 47 40.8**	**+0.7**
ARMA				IAmb	IAmb	22 47 44.8	
	comp=Z,5.6nm,1.1s						
CTA	**Charters Tower**	**32.64**	**264**	P	**P**	**22 48 17.4**	**+0.7**
	comp=Z,5.7nm,0.4s,baz=86,slow=9.7,SNR=11						
CTAO	**Charters Tower**	**32.64**	**264**	P	**P**	**22 48 17.3**	**+0.5**
TOO	**Toolangi**	**35.25**	**233**	P	**P**	**22 48 37.9**	**-0.3**
TOO				IAmb	IAmb	22 48 38.7	
	comp=Z,4.5nm,0.7s						
COEN	**Coen**	**36.72**	**274**	P	**P**	**22 48 49.8**	**-0.7**
COEN				IAmb	IAmb	22 48 50.1	
	comp=Z,8.8nm,1.0s						
STKA	**Stephens Creek**	**37.05**	**244**	P	**P**	**22 48 53.2**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=84,slow=10.0,SNR=11						
STKA	**Stephens Creek**	**37.05**	**244**	P	**P**	**22 48 53.3**	**+0.3**
BBOO	**Buckleboo**	**41.81**	**243**	P	**P**	**22 49 30.7**	**-0.1**
BBOO				IAmb	IAmb	22 49 31.4	
	comp=Z,8.7nm,0.7s						
WR0	**Warramunga Arr**	**43.57**	**262**	P	**P**	**22 49 44.9**	**+0.2**
AS31	**Alice Springs**	**43.70**	**257**	P	**P**	**22 49 46.0**	**+0.4**
ASAR	**Alice Springs**	**43.70**	**257**	P	**P**	**22 49 46.0**	**+0.3**
	comp=Z,8.7nm,0.7s,baz=97,slow=7.6,SNR=71						
ASAR				PcP	**PcP**	**22 51 18.6**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=106,slow=3.8,SNR=6.8						
ASAR				S	**S**	**22 55 32.8**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=92,slow=13,SNR=6.6						
WB0	**Warramunga Arr**	**43.73**	**262**	P	**P**	**22 49 46.1**	**+0.1**
WB2	**Warramunga Arr**	**43.75**	**262**	P	**P**	**22 49 46.0**	**0.0**
WB2				IAmb	IAmb	22 49 46.4	
	comp=Z,4.4nm,0.7s						
WRAB	**Tennant Creek**	**43.75**	**262**	P	**P**	**22 49 45.9**	**-0.1**
WRAB				IAmb	IAmb	22 49 46.3	
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**43.76**	**262**	P	**P**	**22 49 46.0**	**-0.1**
	comp=Z,3.7nm,0.3s,baz=97,slow=7.6,SNR=293						
WRA				S	**S**	**22 55 32.5**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=99,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**43.76**	**262**	P	**P**	**22 49 46.0**	**-0.1**
MTN	**Manton Dam**	**48.30**	**271**	P	**P**	**22 50 20.6**	**+0.4**
MTN				IAmb	IAmb	22 50 21.3	
	comp=Z,7.4nm,0.9s						
FORT	**Forrest**	**48.53**	**247**	P	**P**	**22 50 21.6**	**-0.2**
KNRA	**Kununurra**	**49.80**	**266**	P	**P**	**22 50 32.3**	**+1.0**
KNRA				IAmb	IAmb	22 50 33.0	
	comp=Z,3.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.18**	**263**	P	**P**	**22 50 49.5**	**+1.2**
SIJI	**Sorong**	**52.39**	**285**	P	**P**	**22 50 51.0**	**+1.2**
	comp=Z,5.5nm,0.5s,baz=115,slow=19						
PSA00	**Pilbara Seismi**	**56.84**	**257**	P	**P**	**22 51 20.5**	**-0.2**
MBWA	**Marble Bar**	**57.03**	**258**	P	**P**	**22 51 22.3**	**+0.3**
VNDA	**Vanda**	**57.91**	**185**	P	**P**	**22 51 26.7**	**-0.2**
MORW	**Morawa**	**59.06**	**248**	P	**P**	**22 51 35.8**	**+0.3**
MORW				IAmb	IAmb	22 51 46.1	
	comp=Z,8.1nm,1.0s						
CASY	**Casey**	**63.66**	**205**	P	**P**	**22 52 03.8**	**-0.8**
UGM	**Wanagama**	**69.10**	**269**	P	**P**	**22 52 39.0**	**0.0**
QSPA	**South Pole Qui**	**69.64**	**180**	P	**P**	**22 52 41.1**	**-0.2**
MJAR	**Matsushiro Arr**	**69.64**	**324**	P	**P**	**22 52 41.9**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=170,slow=5.2,SNR=4.5						
JHS	**Saijyo**	**71.49**	**320**	P	**P**	**22 52 52.0**	**-0.5**
JHS				IAmb	IAmb	22 52 57.9	
	comp=Z,12nm,0.9s						
KIWB	**Kanaga Island**	**71.98**	**1**	P	**P**	**22 52 55.3**	**+0.4**
ADK	**Adak**	**72.02**	**1**	P	**P**	**22 52 55.0**	**-0.1**
YULB	**Yu-li**	**72.74**	**304**	P	**P**	**22 52 59.1**	**-0.9**
YULB				IAmb	IAmb	22 53 10.6	
	comp=Z,12nm,0.9s						
PETK	**Petropavlovsk-**	**75.98**	**346**	P	**P**	**22 53 18.2**	**+0.8**
	comp=Z,3.6nm,0.6s,baz=137,slow=7.4,SNR=6.4						
KSRS	**Korea Array**	**76.26**	**319**	P	**P**	**22 53 21.5**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=114,slow=5.6,SNR=1.9						
USRK	**Ussuriysk Ar.**	**78.42**	**326**	P	**P**	**22 53 33.1**	**+2.4**
	comp=Z,2.6nm,0.6s,baz=133,slow=5.6,SNR=5.5						
USRK	**Ussuriysk Ar.**	**78.42**	**326**	P	**P**	**22 53 32.0**	**+1.3**
KMRM	**Mail Ridge**	**79.25**	**40**	P	**P**	**22 53 36.9**	**+1.6**
KMRM				IAmb	IAmb	22 53 38.1	
	comp=Z,13nm,0.8s						
BELA	**Belgrano 2**	**79.74**	**173**	P	**P**	**22 53 35.9**	**-1.3**
YBH	**Yreka Blue Hor**	**80.77**	**39**	P	**P**	**22 53 44.6**	**+1.4**
	comp=Z,3.8nm,0.8s,baz=173,slow=8.1,SNR=6.9						
YBH	**Yreka Blue Hor**	**80.77**	**39**	P	**P**	**22 53 44.3**	**+1.1**
YBH				IAmb	IAmb	22 53 45.6	
	comp=Z,7.3nm,1.1s						
YERR	**Yerington**	**81.28**	**43**	P	**P**	**22 53 46.2**	**+0.3**
YERR				IAmb	IAmb	22 53 47.5	
	comp=Z,6.7nm,1.0s						
GWY	**Greenwater Val**	**81.41**	**46**	P	**P**	**22 53 46.8**	**+0.2**
NVAR	**Mina Array Bea**	**81.56**	**44**	P	**P**	**22 53 48.2**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=225,slow=9.9,SNR=11						
NVAR	**Mina Array Bea**	**81.56**	**44**	P	**P**	**22 53 47.0**	**-0.5**
P18K	**Big Mountain,**	**81.87**	**12**	P	**P**	**22 53 48.0**	**-0.2**
P18K				IAmb	IAmb	22 53 48.6	
	comp=Z,5.8nm,0.8s						
KVN	**Kaiserville**	**82.05**	**43**	P	**P**	**22 53 50.0**	**+0.2**
TPH	**Tonopah**	**82.07**	**45**	P	**P**	**22 53 49.6**	**-0.4**
TPNV	**Topopah Spring**	**82.11**	**46**	P	**P**	**22 53 50.3**	**+0.2**
TPNV				IAmb	IAmb	22 54 02.7	
	comp=Z,6.1nm,1.0s						
O18K	**Koktuh Hills**	**82.30**	**12**	P	**P**	**22 53 50.6**	**+0.2**
K05A	**Summer Lake**	**82.45**	**39**	P	**P**	**22 53 53.1**	**+1.3**
K05A				IAmb	IAmb	22 53 53.9	
	comp=Z,14nm,1.0s						
Q09A	**Carvers**	**82.52**	**44**		pP	22 55 59.5	-6.4
CNPM	**China Poot**	**82.83**	**14**	P	**P**	**22 53 53.1**	**+0.1**
H04A	**Detroit Lake**	**82.88**	**37**	P	**P**	**22 53 54.1**	**+0.4**
H04A				IAmb	IAmb	22 53 59.5	
	comp=Z,3.1nm,0.7s						
N18K	**Kilae Creek**	**82.94**	**11**	P	**P**	**22 53 52.7**	**-0.9**
N18K				IAmb	IAmb	22 53 54.1	
	comp=Z,3.4nm,0.8s						
PINE	**Pine Mountain**	**83.06**	**38**	P	**P**	**22 53 55.9**	**+1.1**
PINE				IAmb	IAmb	22 53 57.0	
	comp=Z,9.5nm,0.8s						
BRLK	**Bradley Lake**	**83.12**	**14**	P	**P**	**22 53 55.0**	**+0.5**
N19K	**Bonanza Creek**	**83.33**	**12**	P	**P**	**22 53 54.5**	**-1.1**
N19K				IAmb	IAmb	22 54 09.2	
	comp=Z,5.8nm,1.1s						
WVOR	**Wild Horse Val**	**83.63**	**40**	P	**P**	**22 53 57.9**	**+0.4**
I07A	**Izee**	**84.06**	**39**	P	**P**	**22 54 00.6**	**+1.0**
I07A				IAmb	IAmb	22 54 01.6	
	comp=Z,3.6nm,0.9s						
LCMT	**Little Creek M**	**84.19**	**47**	P	**P**	**22 54 00.0**	**-0.4**
M19K	**Big River Lodg**	**84.36**	**11**	P	**P**	**22 54 00.8**	**+0.3**
M19K				IAmb	IAmb	22 54 01.4	
	comp=Z,4.3nm,0.8s						
L19K	**White Mountain**	**84.53**	**11**	P	**P**	**22 54 02.3**	**+1.0**
U15A	**North Rim**	**84.55**	**48**	IAmb	IAmb	22 54 04.2	
	comp=Z,4.1nm,0.6s						
PWL	**Port Wells**	**84.68**	**14**	P	**P**	**22 54 01.9**	**-0.2**
GLI	**Glacier Island**	**85.00**	**15**	P	**P**	**22 54 03.7**	**+0.1**
G08A	**Pilot Rock**	**85.08**	**38**	P	**P**	**22 54 05.2**	**+0.7**
G08A				IAmb	IAmb	22 54 06.3	
	comp=Z,4.9nm,1.1s						
HPIG		**85.13**	**59**	P	**P**	**22 54 03.3**	**-1.9**
SEY	**Seymchan**	**86.11**	**347**	P	**P**	**22 54 09.7**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=135,slow=10.0,SNR=6.1						
F10A	**Beach Ranch, E**	**86.47**	**38**	P	**P**	**22 54 11.1**	**+0.1**
PLID	**Pearl Lake**	**86.70**	**39**	P	**P**	**22 54 12.8**	**+0.4**
PLID				IAmb	IAmb	22 54 13.2	
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**87.74**	**58**	P	**P**	**22 54 18.6**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=220,slow=6.0,SNR=17						
TXAR	**Lajitas Array**	**87.74**	**58**	P	**P**	**22 54 18.1**	**+0.7**
WRH	**Wood River Hil**	**87.92**	**13**	P	**P**	**22 54 17.1**	**-0.1**
MDM	**Murphy Dome**	**88.32**	**13**	IAmb	IAmb	22 54 19.5	
	comp=Z,5.2nm,0.8s						
ILAR	**Eielson Array**	**88.44**	**13**	P	**P**	**22 54 19.2**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=220,slow=5.5,SNR=18						
REDW	**Red Top Meadow**	**88.96**	**43**	P	**P**	**22 54 22.9**	**-0.1**
REDW				IAmb	IAmb	22 54 25.0	
	comp=Z,4.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**89.28**	**290**	P	**P**	**22 54 26.5**	**+1.9**
	comp=Z,1.0nm,0.4s,baz=119,slow=2.4,SNR=6.2						
BW06	**Boulder Array**	**89.50**	**44**	IAmb	IAmb	22 54 26.3	
	comp=Z,2.0nm,0.6s						
PD31	**Pinedale Array**	**89.50**	**44**	IAmb	IAmb	22 54 26.3	
	comp=Z,1.8nm,0.7s						
PDAR	**Pinedale Array**	**89.50**	**44**	P	**P**	**22 54 25.4**	**0.0**
	comp=Z,1.8nm,0.6s,baz=219,slow=4.0,SNR=21						
AMTX	**Amarillo**	**91.56**	**53**		pwP	22 56 47.0	-8.1
WMOK	**Wichita Mounta**	**93.70**	**54**		pwP	22 56 56.7	-8.3
INK	**Inuvik**	**94.43**	**15**	P	**P**	**22 54 46.8**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=241,slow=4.7,SNR=3.0						
DUNO	**Dulce Nombre,**	**96.63**	**82**		pP	22 57 03.9	-12
YKA	**Yellowknife Ar**	**96.81**	**25**	P	**P**	**22 54 57.5**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=240,slow=4.2,SNR=6.5						
GO02	**Mina Guanaco**	**97.73**	**120**		pwP	22 57 16.5	-7.7
ZALV	**Zalesovo Beam**	**109.90**	**321**	PKiKP	**PKiKP**	**22 59 53.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=150,slow=2.1,SNR=1.3						
MKAR	**Makanchi Array**	**110.52**	**314**	PKiKP	**PKiKP**	**22 59 54.6**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=160,slow=0.9,SNR=9.4						
ARCES	**ARCESS Array B**	**128.69**	**349**	PKP	**PKPdf**	**23 00 29.6**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=22,slow=1.2,SNR=20						
FINES	**FINESS Array B**	**135.46**	**343**	PKhKP	PKPpre	23 00 34.4	
	comp=Z,1.1nm,0.8s,baz=14,slow=6.3,SNR=3.3						
FINES				PKP	**PKPdf**	**23 00 42.5**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=100,slow=3.1,SNR=6.3						
AKASG	**Malin Array Be**	**142.53**	**330**	PKhKP	PKPpre	23 00 52.9	
	comp=Z,4.0nm,0.4s,baz=44,slow=4.6,SNR=32						
BRTR	**Keskin Array B**	**146.15**	**312**	PKPbc	**PKPbc**	**23 01 05.4**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=137,slow=3.7,SNR=7.7						
OSTC	**Ostas**	**147.64**	**342**	*e*PKP	**PKiKP**	**23 01 09.6**	**-0.1**
CHVC	**Chvalec**	**147.66**	**342**	*e*PKP	**PKPbc**	**23 01 08.1**	**-0.3**
MLR	**Muntele Rosu**	**147.69**	**326**		**PKPbc**	**23 01 09.3**	**+0.6**
UPC	**Upice**	**147.74**	**342**	*e*PKP	**PKiKP**	**23 01 09.7**	**-0.2**
CLL	**Collm**	**147.79**	**346**	*i* PKPbc	**PKPbc**	**23 01 09.4**	**+0.8**
	comp=Z,11nm,0.8s						
CLL				*i* PKPab	**PKPab**	**23 01 13.5**	**0.0**
	comp=Z,5.0nm,0.7s						
CLL				*ex*	x	23 01 21.0	
CLL				*ep*PKPbc	**pPKPdf**	**23 03 27.0**	**-5.2**
DPC	**Dobruska-Polom**	**147.79**	**342**	*e*PKP	**PKPbc**	**23 01 09.3**	**+0.5**
DPC				*ex*	x	23 01 14.9	
KRLC	**Kraliky**	**147.89**	**341**	*e*PKP	**PKPbc**	**23 01 09.6**	**+0.6**
KRLC				*ex*	x	23 01 14.9	
MORC	**Moravsky Berou**	**147.91**	**340**	*e*PKP	**PKiKP**	**23 01 10.1**	**-0.3**
PVCC	**Panska Ves**	**148.12**	**344**	*e*PKP	**PKiKP**	**23 01 10.7**	**0.0**
PRU	**Pruhonice**	**148.62**	**343**	*e*PKP	**PKPbc**	**23 01 11.4**	**+0.7**
VRAC	**Vranov**	**148.63**	**340**	*e*PKP	**PKiKP**	**23 01 11.7**	**-0.1**
JAVC	**Velka Javorina**	**148.66**	**339**	*e*PKP	**PKiKP**	**23 01 13.2**	**+1.3**
KRUC	**Moravsky**	**148.91**	**340**	*e*PKP	**PKiKP**	**23 01 12.3**	**-0.1**
KHC	**Kasperske Hory**	**149.66**	**344**	PKPbc	**PKiKP**	**23 01 14.0**	**0.0**
KHC	**Kasperske Hory**	**149.66**	**344**	*e*PKP	**PKiKP**	**23 01 14.0**	**0.0**
KHC				*ex*	x	23 01 23.0	
CKRC	**Cesky Krumlov**	**149.75**	**343**	*e*PKP	**PKiKP**	**23 01 14.2**	**+0.1**
GERES	**GERESS Array B**	**149.89**	**343**	PKPbc	**PKPbc**	**23 01 14.2**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=58,slow=3.3,SNR=18						
GERES	**GERESS Array B**	**149.89**	**343**		**PKiKP**	**23 01 14.7**	**+0.1**
CONA	**Conrad Observa**	**150.07**	**340**	*e*P	**PKiKP**	**23 01 15.4**	**+0.4**
	comp=Z,1.7nm,0.5s						
RONA	**Rosalia, Austr**	**150.13**	**339**	*e*P	**PKiKP**	**23 01 15.5**	**+0.5**
	comp=Z,3.4nm,0.5s						
MOA	**Molln**	**150.63**	**342**	*e*P	**PKPbc**	**23 01 16.1**	**+0.5**
	comp=Z,1.1nm,0.5s						
VTS	**Vitosha**	**151.07**	**325**		**PKiKP**	**23 01 17.6**	**+0.4**
SOKA	**Soboth**	**151.44**	**340**	*e*P	**PKPbc**	**23 01 17.5**	**0.0**
	comp=Z,0.8nm,0.5s						
KBA	**Koelnbreinsper**	**151.60**	**342**	*e*P	**PKPbc**	**23 01 17.6**	**-0.4**
	comp=Z,1.1nm,0.4s						
WATA	**Walderalm**	**151.83**	**345**	*e*P	**PKPbc**	**23 01 18.6**	**+0.1**
	comp=Z,1.8nm,0.5s						
RETA	**Reutte**	**151.88**	**346**	*e*P	**PKiKP**	**23 01 18.9**	**+0.3**
	comp=Z,0.9nm,0.4s						
WTTA	**Wattenberg**	**151.88**	**345**	*e*P	**PKPbc**	**23 01 18.9**	**+0.3**
	comp=Z,2.6nm,0.3s						
MOTA	**Moosalm**	**151.94**	**345**	*e*P	**PKiKP**	**23 01 19.3**	**+0.4**
	comp=Z,0.5nm,0.3s						
ABTA	**Abfaltersbach**	**152.13**	**343**	*e*P	**PKPbc**	**23 01 18.9**	**-0.2**
	comp=Z,3.0nm,0.6s						
FETA	**Feichten**	**152.33**	**346**	*e*P	**PKiKP**	**23 01 20.0**	**+0.3**
	comp=Z,1.4nm,0.5s						
ESDC	**Sonseca Array**	**160.33**	**12**	PKPab	**PKPab**	**23 02 07.7**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=335,slow=5.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**172.74**	**185**	PKP	**PKPdf**	**23 01 31.4**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=167,slow=2.8,SNR=3.2						

*IDC **28** 22:52:01.9±0.5, 14.13N×145.42E, h117km±5km, mb3.9/22, mb1 4.1/22,mb1mx4.0/39,mbtmp4.3/22, Error ellipse: s-maj=16.9km s-min=10.7km az=99.0*

*NEIC **28** 22:52:03.4±1.1, 14.13N±0.06×145.3E±0.1, h124km±5km, mb4.7/148, Error ellipse: s-maj=16.2km s-min=3.0km az=119.0*

ISC 28 22:52:00.5±0.4, 14.15N±0.06×145.63E±0.08, h100km, n291,σ1.9s08/284, mb4.7/99, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.93**	**233**	LR	LR	22 52 09.9	
	comp=Z,1μm,20.9s,baz=305,slow=11						
GUMO				P	**Pn**	**22 52 23.0**	**+2.9**
	3μm,0.3s,baz=351,slow=0.8,SNR=831						
GUMO				S	**Sn**	**22 52 36.8**	**+1.9**
	3μm,0.3s,baz=122,slow=7.0,SNR=12						
GUMO	**Guam**	**0.93**	**233**	Pn	**Pn**	**22 52 23.3**	**+3.1**
GUMO				Sn	**Sn**	**22 52 37.7**	**+2.7**
PATS	**Pohnpei**	**14.43**	**119**	Pn	**P**	**22 55 23.7**	**-0.2**
SIJI	**Sorong**	**20.62**	**225**	P	**P**	**22 56 32.8**	**+0.8**
	16nm,0.7s,baz=19,slow=9.6,SNR=13						
H11S3	**WAKE ISLAND Hy**	**20.66**	**75**	T	T	23 18 16.2	
	baz=263,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**20.67**	**75**	T	T	23 18 15.4	
	baz=263,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**20.68**	**75**	T	T	23 18 15.4	
	baz=263,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**21.07**	**72**	T	T	23 20 04.5	
	baz=257,slow=75,SNR=19						
H11N2	**WAKE ISLAND Hy**	**21.08**	**72**	T	T	23 20 02.1	
	baz=257,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**21.09**	**72**	T	T	23 19 57.5	
	baz=257,slow=75,SNR=25						
JGF	**Kuroka**	**22.62**	**342**	P	**P**	**22 56 53.0**	**-0.1**
MJAR	**Matsushiro Arr**	**23.27**	**345**	P	**P**	**22 56 58.1**	**-1.2**
MAJO	**Matsushiro**	**23.27**	**345**	P	**P**	**22 56 58.4**	**-0.9**
MAJO				IAmb	IAmb	22 57 00.2	
	comp=Z,37nm,1.2s						
MJB9	**Matsu-Tunnel**	**23.27**	**345**	P	**P**	**22 56 58.4**	**-0.9**
MJB9				IAmb	IAmb	22 57 00.2	
	comp=Z,37nm,1.2s						
JHS	**Saijyo**	**23.63**	**334**	P	**P**	**22 57 02.2**	**-0.5**
JHS				IAmb	IAmb	22 57 09.7	
	comp=Z,80nm,1.4s						
KSRS	**Korea Array**	**28.05**	**329**	P	**P**	**22 57 40.8**	**-1.7**
	comp=Z,2.7nm,0.7s,baz=148,slow=9.2,SNR=4.2						
KSRS				pP	**pwP**	**22 58 06.8**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=139,slow=10,SNR=1.6						
NJ2	**Nanjing**	**30.27**	**311**	*e*P	**P**	**22 58 02.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MTN	**Manton Dam**	**30.43**	**209**	P	**P**	**22 58 01.8**	**-

P18K	Big Mountain, baz=250	62.40	30	P	P	23 02 13.9 +1.2
N18K	Kilae Creek	62.54	28	P	P	23 02 15.0 +1.4
N18K	comp=Z,4.6nm,0.8s			IAmb	IAmb	23 02 16.0
N18K	Kilae Creek baz=249	62.54	28	P	P	23 02 14.8 +1.2
O18K	Koktuh Hills	62.57	29	P	P	23 02 14.9 +1.1
O18K	comp=Z,14nm,0.8s			IAmb	IAmb	23 02 15.7
O18K	Koktuh Hills baz=250	62.57	29	P	P	23 02 15.0 +1.3
OHAK	Old Harbor	62.68	32	P	P	23 02 15.8 +1.4
SVW2	Sparrevohn	62.84	28	P	P	23 02 16.3 +0.8
SVW2	comp=Z,8.5nm,1.0s			IAmb	IAmb	23 02 18.0
Q19K	Cape Douglas,	63.02	31	P	P	23 02 16.8 0.0
KDAK	Kodiak Island	63.20	32	P	P	23 02 18.9 +1.0
N19K	Bonanza Creek	63.24	28	P	P	23 02 19.9 +1.6
N19K	comp=Z,15nm,0.7s			IAmb	IAmb	23 02 20.5
N19K	Bonanza Creek baz=250	63.24	28	P	P	23 02 19.8 +1.6
TTA	Tatalina	63.33	26	P	P	23 02 19.6 +0.8
TTA	comp=Z,5.9nm,0.8s			IAmb	IAmb	23 02 20.4
TTA	Tatalina baz=248	63.33	26	P	P	23 02 19.6 +0.8
P19K	Oil Pt	63.44	30	P	P	23 02 20.1 +0.5
P19K	Oil Pt baz=252	63.44	30	P	P	23 02 19.9 +0.3
L19K	White Mountain	63.55	27	P	P	23 02 21.6 +1.3
L19K	comp=Z,10nm,0.9s			IAmb	IAmb	23 02 22.2
L19K	White Mountain baz=249,SNR=5.9	63.55	27	P	P	23 02 21.2 +1.0
M19K	Big River Lodg	63.66	27	P	P	23 02 22.6 +1.7
M19K	comp=Z,7.8nm,0.8s			IAmb	IAmb	23 02 23.0
M19K	Big River Lodg baz=250	63.66	27	P	P	23 02 22.1 +1.2
RSO	Redoubt South	63.93	29	P	P	23 02 22.9 0.0
L20K	Farewell, AK baz=250	64.08	27	P	P	23 02 24.6 +0.9
K20K	Telida	64.31	26	P	P	23 02 26.2 +1.1
K20K	comp=Z,11nm,0.8s			IAmb	IAmb	23 02 27.8
K20K	Telida baz=250,SNR=7.1	64.31	26	P	P	23 02 25.7 +0.6
CNPM	China Poot	64.38	30	P	P	23 02 26.0 +0.3
J20K	Nowinta River	64.57	25	P	P	23 02 28.1 +1.3
J20K	comp=Z,15nm,1.2s			IAmb	IAmb	23 02 28.5
J20K	Nowinta River baz=249,SNR=6.0	64.57	25	P	P	23 02 27.5 +0.7
BRLK	Bradley Lake	64.61	30	P	P	23 02 27.3 +0.1
KURK	Kurchatov	64.64	320	P	P	23 02 25.5 -2.0
BRSE	Bradley Lake S baz=254	64.68	30	P	P	23 02 27.9 +0.3
PPLA	Purkeypile	64.95	27	P	P	23 02 30.5 +1.0
PPLA	comp=Z,9.7nm,0.6s			IAmb	IAmb	23 02 31.1
PPLA	Purkeypile baz=252	64.95	27	P	P	23 02 30.1 +0.6
CAST	Castle Rocks	65.17	26	P	P	23 02 31.6 +0.8
CAST	comp=Z,14nm,0.7s			IAmb	IAmb	23 02 32.3
CAST	Castle Rocks baz=251,SNR=15	65.17	26	P	P	23 02 31.3 +0.6
CHUM	Lake Minchumin baz=251	65.22	26	P	P	23 02 31.8 +0.7
O22K	Cooper Landing	65.37	29	P	P	23 02 32.8 +0.7
O22K	Cooper Landing baz=255	65.37	29	P	P	23 02 32.7 +0.7
IMAR	Indian Mountai	65.39	23	P	P	23 02 32.1 0.0
SEW	Seward	65.40	30	P	P	23 02 32.9 +0.6
SEW	Seward baz=255	65.40	30	P	P	23 02 32.5 +0.3
RC01	Rabbit Creek A baz=255	65.53	29	P	P	23 02 33.3 +0.3
M22K	Willow baz=254	65.53	28	P	P	23 02 32.8 -0.2
H21K	Melozitna Rive	65.64	24	P	P	23 02 34.2 +0.5
H21K	Melozitna Rive baz=250	65.64	24	P	P	23 02 34.2 +0.5
CUT	Chulitna	65.65	27	P	P	23 02 33.9 +0.1
CUT	Chulitna baz=254	65.65	27	P	P	23 02 33.2 -0.6
KTH	Kantishna Hill	65.71	26	P	P	23 02 34.5 +0.2
KTH	comp=Z,12nm,0.8s			IAmb	IAmb	23 02 35.8
I21K	Tanana baz=251	65.79	24	P	P	23 02 35.3 +0.6
NRIK	Noril'sk	65.85	341	P	P	23 02 33.9 -1.1
NRIK	comp=Z,4.1nm,0.5s,baz=105,slow=7.7,SNR=8.4	65.85	341	P	P	23 02 34.0 -0.9
NRIK	comp=Z,4.8nm,0.6s			IAmb	IAmb	23 02 34.6
BPAW	Bear Paw Mtn.	65.85	25	P	P	23 02 35.5 +0.4
BPAW	comp=Z,10nm,1.0s			IAmb	IAmb	23 02 36.5
BPAW	Bear Paw Mtn. baz=252,SNR=6.4	65.85	25	P	P	23 02 35.4 +0.3
PMR	Palmer	65.94	28	P	P	23 02 35.9 +0.2
PMR	comp=Z,14nm,0.8s			IAmb	IAmb	23 02 36.5
PMR	Palmer baz=255	65.94	28	P	P	23 02 36.1 +0.4
TRF	Thorofare Moun	65.95	26	IAmb	IAmb	23 02 36.6
TRF	comp=Z,8.6nm,0.8s Thorofare Moun baz=253	65.95	26	P	P	23 02 35.9 0.0
GHO	Glory Hole Cre	66.08	28	P	P	23 02 37.2 +0.5
PWL	Port Wells baz=256	66.13	29	P	P	23 02 37.6 +0.7
KNK	Knik Glacier baz=256	66.21	29	P	P	23 02 38.1 +0.6
SML	Sawmill baz=256,SNR=6.7	66.36	28	P	P	23 02 39.0 +0.5
WAT1	Susitna Watana baz=255	66.53	27	P	P	23 02 39.5 0.0
RND	Reindeer comp=Z,7.7nm,0.8s	66.55	27	IAmb	IAmb	23 02 40.9
MCK	McKinley baz=254	66.61	26	P	P	23 02 40.6 +0.7
A21K	Barrow baz=244	66.62	17	P	P	23 02 40.1 +0.2
M23K	Glacier View baz=256	66.64	28	P	P	23 02 40.8 +0.6
GLI	Glacier Island	66.72	29	P	P	23 02 41.4 +0.7
GLI	comp=Z,12nm,0.6s			IAmb	IAmb	23 02 42.0
GLI	Glacier Island baz=257	66.72	29	P	P	23 02 41.2 +0.5
WAT6	Susitna Watana baz=256,SNR=5.9	66.83	28	P	P	23 02 41.5 -0.1
SCM	Sheep Creek Mo baz=257	66.83	28	P	P	23 02 42.2 +0.7
I23K	Minto, Yukon-K	66.83	25	P	P	23 02 42.1 +0.8
I23K	comp=Z,12nm,1.1s			IAmb	IAmb	23 02 42.8
I23K	Minto, Yukon-K baz=253	66.83	25	P	P	23 02 42.0 +0.7
H23K	Yukon River	66.96	24	P	P	23 02 42.1 -0.1
H23K	Yukon River baz=253	66.96	24	P	P	23 02 42.9 +0.7
FID	Port Fidalgo	66.99	30	P	P	23 02 43.0 +0.6
DHY	Denali Highway	67.11	27	P	P	23 02 44.2 +0.9
DHY	comp=Z,4.9nm,0.7s			IAmb	IAmb	23 02 45.2
DHY	Denali Highway baz=256	67.11	27	P	P	23 02 44.1 +0.7
COLD	Coldfoot baz=252	67.15	22	P	P	23 02 43.8 +0.5
WRH	Wood River Hil	67.17	25	IAmb	IAmb	23 02 44.4
EYAK	Cordova Ski Ar	67.30	30	P	P	23 02 45.3 +1.0
EYAK	comp=Z,9.4nm,0.8s			IAmb	IAmb	23 03 06.6
CCB	Clear Creek Bu	67.33	25	P	P	23 02 44.0 -0.4
DIV	Divide	67.41	29	P	P	23 02 46.2 +1.1
DIV	comp=Z,13nm,0.9s			IAmb	IAmb	23 02 48.3
KLU	Klutina	67.41	29	P	P	23 02 46.4 +1.2
KLU	comp=Z,22nm,1.2s			IAmb	IAmb	23 02 47.3
KLU	Klutina baz=258	67.41	29	P	P	23 02 45.7 +0.5
M24K	Tolsona, Glenn	67.43	28	P	P	23 02 46.7 +1.5
M24K	Tolsona, Glenn baz=258	67.43	28	P	P	23 02 46.0 +0.7
H24K	Noodor Dome	67.62	24	P	P	23 02 46.9 +0.5
H24K	Noodor Dome baz=254	67.62	24	P	P	23 02 47.0 +0.5
IL31	comp=Z,11nm,1.2s	67.75	25	P	P	23 02 46.2 -0.8
IL31				IAmb	IAmb	23 02 47.0
ILAR	Eielson Array comp=Z,2.9nm,0.6s,baz=252,slow=6.0,SNR=33	67.75	25	P	P	23 02 45.9 -1.3
ILAR	Eielson Array comp=Z,3.6nm,0.6s	67.75	25	P	P	23 02 46.6 -0.5
TOLK	Toolik Lake Re	67.83	21	IAmb	IAmb	23 02 48.6
TOLK	Toolik Lake Re baz=252	67.83	21	P	P	23 02 48.3 +0.7
BMRM	Bremner River	67.93	30	P	P	23 02 50.1 +1.7
BMRM	comp=Z,22nm,0.9s			IAmb	IAmb	23 02 50.9
BMRM	Bremner River baz=259	67.93	30	P	P	23 02 49.1 +0.7
PAX	Paxson comp=Z,9.7nm,0.7s	67.94	27	IAmb	IAmb	23 02 49.7
PAX	Paxson baz=258,SNR=5.8	67.94	27	P	P	23 02 48.6 +0.2
HARP	HAARP baz=258	67.95	28	P	P	23 02 49.3 +0.8
K24K	Donnelly Dome baz=257	67.98	26	P	P	23 02 49.4 +0.7
N25K	Chitina, Valde	68.05	29	P	P	23 02 50.5 +1.3
N25K	comp=Z,18nm,1.1s			IAmb	IAmb	23 02 50.7
N25K	Chitina, Valde baz=259	68.05	29	P	P	23 02 49.9 +0.7
J25K	Salcha River,	68.34	26	P	P	23 02 50.4 -0.5
J25K	Salcha River, baz=257	68.34	26	P	P	23 02 51.0 +0.1
RIDG	Independent Ri comp=Z,12nm,1.0s	68.37	27	IAmb	IAmb	23 02 52.2
RIDG	Independent Ri baz=258	68.37	27	P	P	23 02 51.4 +0.3
GLB	Gilahina Butte	68.39	29	P	P	23 02 52.4 +1.1
GLB	comp=Z,13nm,1.0s			IAmb	IAmb	23 02 53.1
BGLC	Bering Glacier baz=261	68.42	31	P	P	23 02 51.9 +0.5
VRDI	Verde Repeater comp=Z,16nm,1.3s	68.53	29	P	P	23 02 53.1 +0.9
VRDI				IAmb	IAmb	23 03 19.4
SNH	Sunshine Point	68.65	31	P	P	23 02 54.0 +1.1
WAX	Waxell Ridge	68.69	30	P	P	23 02 54.5 +1.3
MCARA	McCarthy VSAT	68.76	29	P	P	23 02 54.7 +1.2
MCARA	comp=Z,20nm,1.0s			IAmb	IAmb	23 03 05.3
MCARA	McCarthy VSAT baz=261	68.76	29	P	P	23 02 54.3 +0.8
SCRK	Sand Creek	68.80	26	P	P	23 02 54.5 +0.7
SCRK	Sand Creek baz=259	68.80	26	P	P	23 02 53.9 0.0
L26K	Log Cabin Wild comp=Z,7.2nm,0.7s	68.89	28	P	P	23 02 55.4 +1.1
L26K				IAmb	IAmb	23 02 55.9
L26K	Log Cabin Wild baz=260,SNR=5.7	68.89	28	P	P	23 02 55.0 +0.6
M26K	Nabesna, AK	68.94	28	P	P	23 02 56.0 +1.3
M26K	Nabesna, AK baz=260	68.94	28	P	P	23 02 55.3 +0.6
ISLE	Juniper Island	68.96	30	P	P	23 02 56.0 +1.0
J26L	Joseph Creek baz=259	69.08	26	P	P	23 02 56.2 +0.6
BMAR	Burnt Mountain	69.30	23	P	P	23 02 57.8 +1.0
BARN	Barnard Glacie	69.36	30	P	P	23 02 58.6 +1.1
BARN	comp=Z,8.6nm,0.7s			IAmb	IAmb	23 02 59.2
M27K	Edge Creek, AK comp=Z,6.6nm,0.7s	69.45	28	P	P	23 02 59.0 +1.1
M27K				IAmb	IAmb	23 02 59.6
M27K	Edge Creek, AK baz=261	69.45	28	P	P	23 02 58.7 +0.7
CTG	Chitina Glacier baz=262	69.50	30	P	P	23 02 59.3 +1.0
CTGM	Chitina Glacie comp=Z,22nm,0.8s	69.50	30	IAmb	IAmb	23 03 00.8
TABL	Table Mountain	69.53	30	P	P	23 02 59.9 +1.3
L27K	Beaver Creek,	69.58	28	P	P	23 02 59.5 +0.9
L27K	Beaver Creek, baz=261	69.58	28	P	P	23 02 59.5 +0.9
BCAR	Beaver Creek A	69.60	28	P	P	23 02 59.8 +1.0
LOGN	Logan Glacier	69.64	30	P	P	23 03 00.6 +1.4
LOGN	comp=Z,19nm,0.7s			IAmb	IAmb	23 03 01.1
YUK3	Moose Creek baz=263	70.03	29	P	P	23 03 02.3 +0.7
EGAK	Eagle baz=261	70.15	26	P	P	23 03 03.0 +1.0
PNL	Peninsula baz=265	70.31	31	P	P	23 03 04.0 +0.9
DAWY	Dawson baz=263	70.81	27	P	P	23 03 07.0 +0.9
YUK4	Talbot Arm baz=265,SNR=6.6	70.84	30	P	P	23 03 07.8 +1.3
YUK6	Outpost Mounta baz=265	70.94	30	P	P	23 03 08.4 +1.2
HYT	Haines Junctio	71.35	30	P	P	23 03 11.1 +1.6
HYT	comp=Z,19nm,0.9s			IAmb	IAmb	23 03 12.4
HYT	Haines Junctio baz=266,SNR=6.5	71.35	30	P	P	23 03 10.6 +1.1
I29M	Ogilvie Camp, baz=264	71.43	25	P	P	23 03 10.1 +0.4
M30M	Minto, Yukon	71.82	28	P	P	23 03 13.5 +1.3
M30M	comp=Z,4.2nm,0.5s			IAmb	IAmb	23 03 14.2
M30M	Minto, Yukon baz=266	71.82	28	P	P	23 03 13.0 +0.8
N31M	Braeburn, Yuko baz=267	72.23	30	P	P	23 03 16.0 +1.4
N31M	comp=Z,10nm,0.9s			IAmb	IAmb	23 03 17.0
N31M	Braeburn, Yuko baz=267	72.23	30	P	P	23 03 15.7 +1.0
WHY	Whitehorse baz=268	72.63	30	P	P	23 03 18.1 +1.0
M31M	Drury Creek, Y	72.92	29	P	P	23 03 19.7 +1.0
M31M	Drury Creek, Y baz=268	72.92	29	P	P	23 03 19.5 +0.8
INK	Inuvik comp=Z,4.1nm,0.8s,baz=289,slow=4.4,SNR=14	73.56	22	P	P	23 03 21.6 -0.7
INK	Inuvik baz=267	73.56	22	P	P	23 03 21.9 -0.4
DIB	Dawson Inlet,	73.96	38	P	P	23 03 26.2 +1.3
MMPY	Sheldon Lake, baz=271	74.38	28	P	P	23 03 28.1 +0.8
A36M	Sachs Harbour	76.38	19	P	P	23 03 38.0 -0.4
A36M	comp=Z,9.3nm,1.1s			IAmb	IAmb	23 03 39.2
A36M	Sachs Harbour baz=274	76.38	19	P	P	23 03 38.0 -0.4
ABKAR	Akbulak array	76.63	318	P	P	23 03 38.8 -1.5
C36M	Paulatuk	76.98	21	P	P	23 03 41.3 -0.6
C36M	comp=Z,20nm,1.5s			IAmb	IAmb	23 03 57.2
C36M	Paulatuk baz=276	76.98	21	P	P	23 03 41.2 -0.6
I02E	Swisshome, OR	80.67	47	P	P	23 04 04.2 +1.6
I02E	Swisshome, OR baz=281	80.67	47	P	P	23 04 03.9 +1.3
K02D	Willamette Mer baz=281	81.06	48	P	P	23 04 05.5 +0.7
I03D	Drain, OR baz=281	81.10	47	P	P	23 04 05.6 +0.7
HUMO	Hull Mountain	81.59	48	P	P	23 04 10.2 +2.6
KCPM	Cahto Peak	81.71	51	P	P	23 04 09.3 +0.9
KCPM	comp=Z,32nm,1.1s			IAmb	IAmb	23 04 16.1
M02C	Callahan	81.91	49	P	P	23 04 11.2 +1.9
YBH	Yreka Blue Hor comp=Z,3.4nm,0.6s,baz=262,slow=1.4,SNR=7.0	81.95	49	P	P	23 04 11.0 +1.5
YKA	Yellowknife Ar comp=Z,2.6nm,0.5s,baz=287,slow=5.3,SNR=38	82.02	28	P	P	23 04 09.1 -0.2
L04D	Klamath Falls comp=Z,17nm,1.2s	82.14	49	P	P	23 04 11.9 +1.3
L04D				IAmb	IAmb	23 04 32.9
L04D	Klamath Falls baz=282	82.14	49	P	P	23 04 11.7 +1.1
O02D	Mt. Diablo Mer	82.20	51	P	P	23 04 12.9 +2.0
O02D	comp=Z,10nm,1.2s			IAmb	IAmb	23 04 24.8
EUNU	Eureka	82.21	8	P	P	23 04 09.9 -0.3
J05D	Fort Rock, OR baz=283,SNR=5.4	82.69	47	P	P	23 04 14.4 +0.9
PINE	Pine Mountain	82.79	47	P	P	23 04 15.7 +1.6
PINE	comp=Z,11nm,0.8s			IAmb	IAmb	23 04 16.7
B08A	Colville Reser	82.86	42	P	P	23 04 15.2 +1.1
B08A	comp=Z,9.3nm,1.1s			IAmb	IAmb	23 04 16.0
K05A	Summer Lake	83.06	48	P	P	23 04 17.2 +1.8
K05A	comp=Z,7.7nm,1.0s			IAmb	IAmb	23 04 18.0
RES	Resolute Bay	83.83	13	P	P	23 04 18.3 -0.2
BEKR	Beckworth	84.09	51	P	P	23 04 21.7 +0.9
NEW	Newport	84.32	42	P	P	23 04 22.6 +1.0
NEW	comp=Z,2.7nm,0.5s,baz=291,slow=2.5,SNR=7.2 Newport	84.32	42	P	P	23 04 21.5 -0.1
NEW	Newport baz=285,SNR=5.6	84.32	42	P	P	23 04 22.4 +0.9
J08A	Circle Bar Ran	84.63	47	P	P	23 04 24.1 +0.7
WVOR	Wild Horse Val	84.74	48	P	P	23 04 24.6 +0.7
BMO	Blue Mountains	85.07	45	P	P	23 04 26.4 +0.9
PKM	Mcpherson Peak baz=284	85.70	55	P	P	23 04 29.3 +0.4
PLID	Pearl Lake comp=Z,14nm,1.5s	85.90	45	IAmb	IAmb	23 04 31.0
NVAR	Mina Array Bea comp=Z,1.3nm,0.5s,baz=267,slow=5.7,SNR=7.5	85.99	52	P	P	23 04 31.8 +1.4
ARCES	ARCESS Array B comp=Z,2.4nm,0.7s,baz=73,slow=6.8,SNR=16	86.78	342	P	P	23 04 31.1 -2.2
LRMC	Laurel Mtn Rad baz=286	87.24	54	P	P	23 04 36.6 +0.3
HLID	Hailey	87.42	46	P	P	23 04 37.3 +0.2
HLID	comp=Z,3.8nm,0.8s			IAmb	IAmb	23 04 39.3
HLID	Hailey baz=287,SNR=7.1	87.42	46	P	P	23 04 38.3 +1.1
ELK	Elko	87.65	49	P	P	23 04 39.2 +0.9
ELK	comp=Z,5.1nm,0.8s			IAmb	IAmb	23 04 40.7
BCYI	Bear Canyon	87.90	45	P	P	23 04 40.6 +1.2
TPNV	Topopah Spring baz=286	87.96	53	P	P	23 04 40.1 +0.3
GSC	Goldstone, Bar baz=286	87.97	54	P	P	23 04 40.6 +0.8
R11A	Troy Canyon, C baz=287	88.07	51	P	P	23 04 41.4 +1.0
LRM	Limekiln Ridge	88.08	43	P	P	23 04 41.2 +0.9
HRY	Holter Researc	88.20	42	P	P	23 04 39.8 -0.9
BOZ	Bozeman (W) baz=289	88.69	43	P	P	23 04 43.6 +0.5
GMRC	Granite Mounta baz=287	89.02	54	P	P	23 04 45.7 +0.8
HVU	Hansel Valley	89.11	47	P	P	23 04 45.5 +0.4
HVU	comp=Z,7.0nm,1.3s			IAmb	IAmb	23 04 47.7
YHL	Hebgen Lake	89.23	44	P	P	23 04 46.8 +0.9
YHL	comp=Z,8.3nm,1.0s			IAmb	IAmb	23 04 48.7
PSUT	Pine Spring	89.32	50	P	P	23 04 47.2 +1.0
PSUT	comp=Z,3.7nm,0.9s			IAmb	IAmb	23 04 48.5
YHH	Holmes Hill	89.48	44	P	P	23 04 45.5 -1.4
DUG	Dugway, Tooele	89.58	49	P	P	23 04 46.5 -0.8
DUG	comp=Z,4.8nm,0.8s			IAmb	IAmb	23 04 49.6
DUG	Dugway, Tooele baz=288	89.58	49	P	P	23 04 47.9 +0.6
IRM	Iron Mountain baz=287	89.61	55	P	P	23 04 48.0 +0.5
YNR	Norris Junctio	89.62	44	P	P	23 04 46.7 -0.8
YNR	comp=Z,10nm,1.2s			IAmb	IAmb	23 04 51.2
H17A	Grant Village	89.79	44	P	P	23 04 49.1 +0.7
H17A	comp=Z,7.3nm,1.1s			IAmb	IAmb	23 04 53.0
MOOW	Moose Ponds	89.89	45	P	P	23 04 48.9 0.0
FINES	FINESS Array B comp=Z,2.5nm,0.5s,baz=61,slow=4.4,SNR=22	90.97	335	P	P	23 04 50.2 -2.9
PDAR	Pinedale Array comp=Z,0.6nm,0.6s,baz=235,slow=2.6,SNR=9.3	91.05	45	P	P	23 04 54.7 +0.5
U15A	North Rim	91.15	52	P	P	23 04 55.4 +0.5
U15A	comp=Z,3.1nm,1.0s			IAmb	IAmb	23 04 58.0
LAO	LASA Array	91.82	41	P	P	23 04 57.6 +0.1
LAO	LASA Array baz=293	91.82	41	P	P	23 04 58.1 +0.6
O20A	White River Ci baz=291	92.90	48	P	P	23 05 02.8 0.0
RSSD	Black Hills	94.25	43	P	P	23 05 08.1 -0.8
RSSD	comp=Z,4.0nm,0.7s			IAmb	IAmb	23 05 10.0
RSSD	Black Hills baz=294	94.25	43	P	P	23 05 09.2 +0.2
W41B	Gary Mavity, V baz=301	106.45	46	P	PKiKP	23 10 13.4 -0.8
L61B	Northampton baz=319	113.58	30	P	PKiKP	23 10 26.8 -0.5
KMSC	Kings Mountain baz=310	113.79	41	P	PKiKP	23 10 27.5 -0.5
TORD	Torodi Ar. Bea comp=Z,0.6nm,1.0s,baz=56,slow=0.7,SNR=4.7	135.15	306	PKP	PKPdf	23 11 08.3 -0.9
DBIC	Dimbokro comp=Z,2.3nm,0.5s,baz=84,slow=5.1,SNR=4.9	144.15	303	PKP	PKPab	23 11 22.4 -1.0
LPAZ	La Paz comp=Z,0.9nm,0.4s,baz=297,slow=1.8,SNR=3.8	147.37	98	PKPbc	PKPdf	23 11 32.8 +0.9

*IDC **28** 23:25:05.6±0.8,2.°30N×125.°72E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.7/42,mbtmp3.8/7,Error ellipse: s-maj=80.8km s-min=16.9km az=74.0*

*NEIC **28** 23:25:15.0±2.1,2.°3N±0.°1×126.°08E±0.°10,h71km±8km, mb4.1/17,Error ellipse: s-maj=18.2km s-min=10.5km az=221.0*

ISC 28 23:25:15.6±0.5,2.°19N±0.°06×125.°98E±0.°09,h83km,n33, σ1s06/34,mb4.0/13,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.97	135	P	Pn	23 25 45.9	-1.3
KCP	Kidapawan	4.87	350	iP	Pn	23 26 27.7	+1.2
KCP				*i* S	Sn	23 27 22.8	+1.1
TOLI2	Tolitoli	5.30	258		Pn	23 26 33.2	+0.9
MYLDM	Lahad Datu	8.04	292	Pn	Pn	23 27 11.2	+1.6
MTN	Manton Dam	15.78	161	Pn	Pn	23 28 52.1	-1.0
KNRA	Kununurra	17.96	171	P	Pn	23 29 20.6	+0.7
KNRA	comp=Z,18nm,1.4s			IAmb	IAmb	23 29 38.5	
UGM	Wanagama	18.39	237	P	P	23 29 21.5	-2.7
FITZ	Fitzroy Crossi comp=Z,0.7nm,0.6s,baz=11,slow=9.3,SNR=1.8	20.16	181	P	P	23 29 44.5	+1.1
FITZ	Fitzroy Crossi	20.16	181	P	Pn	23 29 49.7	+3.8
WB0	Warramunga Arr	23.33	160	P	P	23 30 17.0	+0.3
WB0	comp=Z,4.6nm,1.0s			IAmb	IAmb	23 30 19.0	
WRAB	Tennant Creek comp=Z,4.4nm,1.0s	23.46	160	P	P	23 30 17.9	0.0
WRAB				IAmb	IAmb	23 30 22.0	
WRA	Warramunga Arr comp=Z,3.0nm,0.5s,baz=338,slow=11,SNR=31	23.47	160	P	P	23 30 18.4	+0.4
WRA	Warramunga Arr	23.47	160	P	P	23 30 18.2	+0.2
WB2	Warramunga Arr	23.48	160	P	P	23 30 18.4	+0.4
WB2	comp=Z,4.8nm,0.7s			IAmb	IAmb	23 30 21.0	
WR0	Warramunga Arr	23.56	159	P	P	23 30 19.0	+0.3
ASAR	Alice Springs comp=Z,0.6nm,0.5s,baz=346,slow=8.0,SNR=12	26.83	164	P	P	23 30 49.6	+1.2
ASAR	Alice Springs	26.83	164	P	P	23 30 48.6	+0.2
KSRS	Korea Array comp=Z,0.8nm,0.5s,baz=179,slow=8.4,SNR=2.4	35.14	3	P	P	23 32 00.7	-0.6
BBOO	Buckleboo	36.09	166	P	P	23 32 10.1	+0.7
STKA	Stephens Creek	36.98	158	P	P	23 32 18.5	+1.5
ARMA	Armidale	40.62	145	P	P	23 32 46.8	-0.8
ARMA	comp=Z,7.9nm,1.2s			IAmb	IAmb	23 33 02.4	
SONM	Songino Array comp=Z,0.2nm,0.4s,baz=149,slow=8.5,SNR=2.2	48.52	342	P	P	23 33 48.9	-1.4
SONM				PcP	PcP	23 35 15.0	-0.1
MK31	Makanchi Array comp=Z,0.2nm,0.5s,baz=134,slow=4.2,SNR=2.2	58.40	326	P	P	23 35 01.6	-1.0
MK31	comp=Z,2.0nm,1.4s			IAmb	IAmb	23 35 18.7	

MKAR	**Makanchi Array**	**58.40**	**326**	P	**P**	**23 35 01.4**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=122,slow=7.7,SNR=12						
MKAR				PcP	**PcP**	**23 35 52.2**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=118,slow=5.2,SNR=6.4						
KDJ	**Kajisay**	**59.01**	**319**	P	**P**	**23 35 06.7**	**-0.4**
KDJ				IAmb	IAmb	23 35 23.2	
	comp=Z,1.4nm,0.9s						
LTZ	**Lake Taylor**	**61.14**	**143**	P	**P**	**23 35 23.1**	**+1.7**
KURK	**Kurchatov**	**62.64**	**328**	P	**P**	**23 35 30.1**	**-1.1**
NRIK	**Noril'sk**	**71.75**	**347**	P	**P**	**23 36 28.6**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=137,slow=9.6,SNR=8.4						
NRIK	**Noril'sk**	**71.75**	**347**	IAmb	IAmb	23 36 29.1	
	comp=Z,3.7nm,0.8s						
ABKAR	**Akbulak array**	**72.87**	**321**	P	**P**	**23 36 34.3**	**-1.3**
TTA	**Tatalina**	**82.61**	**27**	P	**P**	**23 37 30.3**	**+0.8**
TTA				IAmb	IAmb	23 37 37.0	
	comp=Z,6.0nm,1.5s						
IMAR	**Indian Mountai**	**84.05**	**24**	P	**P**	**23 37 37.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**122.67**	**287**	PKP	**PKiKP**	**23 44 03.2**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=94,slow=2.9,SNR=3.0						

*IDC **28** 23:29:49.8±10.0, 2°.63N×128°.60E, h210km±92km, mb3.3/6, mb1 3.4/6, mb1mx3.1/40, mbtmp3.8/6, Error ellipse: s-maj=109.7km s-min=22.5km az=63.0*

ISC 28 23:29:53.9±1.2, 2°.5N±0°.2×128°.3E±0°.5, h250km, n8, σ0§68/9, mb3.7/5, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**5.49**	**324**	⇓*i* P	**Pn**	**23 31 15.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**20.67**	**187**	P	**P**	**23 34 15.1**	**-0.1**
	1.1nm,0.8s,baz=128,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**23.10**	**165**	P	**P**	**23 34 37.4**	**-0.7**
	0.7nm,0.5s,baz=343,slow=10,SNR=23						
ASAR	**Alice Springs**	**26.60**	**169**	P	**P**	**23 35 09.4**	**-0.2**
	0.9nm,0.4s,baz=354,slow=7.9,SNR=15						
ASAR				PcP	**PcP**	**23 38 27.7**	**+0.7**
	0.4nm,0.4s,baz=347,slow=2.6,SNR=5.7						
STKA	**Stephens Creek**	**36.47**	**161**	P	**P**	**23 36 35.2**	**-0.1**
	0.7nm,0.3s,baz=336,slow=9.0,SNR=5.9						
MKAR	**Makanchi Array**	**59.44**	**325**	P	**P**	**23 39 31.5**	**+1.0**
	0.3nm,0.5s,baz=110,slow=7.9,SNR=5.2						
ARCES	**ARCESS Array B**	**92.11**	**340**	P	**P**	**23 42 34.0**	**-0.5**
	2.4nm,1.0s,baz=81,slow=5.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**124.80**	**288**	PKP	**PKiKP**	**23 48 25.6**	**+0.3**
	0.1nm,0.4s,baz=74,slow=0.6,SNR=1.2						

*IDC **28** 23:40:46.5±1.0, 26°.18N×125°.39E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/39, mbtmp3.5/7, ML2.7/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/69, Error ellipse: s-maj=35.0km s-min=20.7km az=62.0*

*JMA **28** 23:40:48.9±0.2, 26°.18N×125°.39E, h35km, M3.2*

ISC 28 23:40:49.8±2.8, 26°.12N±0°.07×125°.42E±0°.08, h24km±21km, n17, σ0§52/23, mb3.4/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.20**	**188**	P	**Pn**	**23 41 10.6**	**-0.5**
JIKM				*e*S	**Sb**	**23 41 27.1**	**+0.1**
JKE	**Kume jima 2**	**1.24**	**80**	P	**Pn**	**23 41 11.1**	**-0.6**
JIRB	**Irabujima**	**1.30**	**190**	P	**Pn**	**23 41 12.0**	**-0.5**
JIRB				*e*S	**Sn**	**23 41 29.0**	**-0.2**
JOGS	**Gusukube**	**1.35**	**181**	P	**Pn**	**23 41 12.9**	**-0.3**
JOGS				*e*S	**Sn**	**23 41 30.7**	**+0.3**
JMJ2	**Miyako jima3**	**1.38**	**184**	P	**Pn**	**23 41 13.6**	**+0.1**
JMJ2				S	**Sb**	**23 41 31.8**	**-0.2**
JTJ	**Tarama**	**1.61**	**204**	*e*S	**Sn**	**23 41 36.3**	**-0.4**
JISG	**Ishigakijimahi**	**1.83**	**214**	P	**Pn**	**23 41 19.7**	**0.0**
JISG				*e*S	**Sn**	**23 41 41.1**	**-1.0**
JIJ	**Ishigaki jima**	**2.10**	**214**	P	**Pn**	**23 41 23.6**	**+0.2**
JIJ				*e*S	**Sn**	**23 41 49.5**	**+0.7**
JKRS	**Kuro-shima**	**2.27**	**215**	P	**Pn**	**23 41 26.1**	**+0.3**
JNTH	**Nagotoyohara**	**2.37**	**80**	P	**Pn**	**23 41 27.0**	**-0.1**
JOW	**Kunigami**	**2.65**	**74**	Pn	**Pn**	**23 41 31.7**	**+0.6**
	2.6nm,0.3s,baz=193,slow=11,SNR=1.4						
SONM	**Songino Array**	**26.34**	**330**	P	**P**	**23 46 24.3**	**+0.3**
	0.5nm,0.6s,baz=142,slow=7.2,SNR=2.2						
MKAR	**Makanchi Array**	**39.74**	**313**	P	**P**	**23 48 20.3**	**-0.2**
	1.0nm,0.6s,baz=96,slow=9.9,SNR=12						
ZALV	**Zalesovo Beam**	**40.83**	**324**	P	**P**	**23 48 29.1**	**-0.3**
	0.5nm,0.6s,baz=115,slow=9.7,SNR=2.0						
WRA	**Warramunga Arr**	**46.60**	**168**	P	**P**	**23 49 17.1**	**+1.0**
	0.5nm,0.6s,baz=350,slow=8.7,SNR=5.9						
ASAR	**Alice Springs**	**50.17**	**170**	P	**P**	**23 49 44.1**	**+0.5**
	0.2nm,0.4s,baz=359,slow=11,SNR=5.2						
ASAR				LR	LR	00 10 52.9	
	comp=Z,203nm,20.7s,baz=14,slow=36						
YKA	**Yellowknife Ar**	**79.67**	**24**	P	**P**	**23 52 54.5**	**-0.6**
	0.3nm,0.7s,baz=314,slow=4.8,SNR=4.3						

*IDC **28** 23:44:46.2±3.8, 15°.22S×166°.97E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/32, mbtmp3.4/2, MS3.5/1, Ms1 3.5/1, ms1mx3.0/30, Error ellipse: s-maj=222.2km s-min=50.2km az=150.0*

*NOU **28** 23:44:49.5, 16°.03S×167°.35E, h17km, MLv4.4/13, Vanuatu Islands*

ISC 28 23:44:50.2±1.3, 15°.99S±0°.07×167°.4E±0°.1, h35km, n13, σ1§04/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.56**	**343**	P	**Pn**	**23 45 02.3**	**+0.5**
DVP	**Devils Point**	**1.89**	**156**	P	**Pn**	**23 45 20.5**	**+0.5**
RTV	**Rentapao**	**2.06**	**151**	P	**Pn**	**23 45 23.6**	**+1.3**
KOUNC	**Koumac, New Ca**	**5.40**	**212**	P	**Pn**	**23 46 10.1**	**+1.8**
	31nm,1.2s						
YATNC	**Mamie plateau,**	**6.05**	**184**	P	**Pn**	**23 46 16.4**	**-0.9**
	24nm,0.7s						
DZM	**Mont Dzumac**	**6.11**	**188**	P	**Pn**	**23 46 17.2**	**-1.0**
NOUC	**Port Laguerre**	**6.16**	**189**	P	**Pn**	**23 46 19.0**	**+0.2**
ONTNC	**Ouen Toro**	**6.34**	**188**	P	**Pn**	**23 46 22.2**	**+0.9**
OUENC	**Ouen Island, N**	**6.41**	**184**	P	**Pn**	**23 46 21.9**	**-0.3**
AFI	**Afiamalu**	**20.25**	**87**	LR	LR	23 55 11.3	
	comp=Z,131nm,21.4s,baz=126,slow=30						
WRA	**Warramunga Arr**	**31.64**	**258**	P	**P**	**23 51 09.2**	**-1.2**
	0.3nm,0.9s,baz=89,slow=8.7,SNR=1.4						
ASAR	**Alice Springs**	**32.34**	**251**	P	**P**	**23 51 16.7**	**+0.2**
	0.5nm,0.6s,baz=78,slow=8.9,SNR=5.0						
ARCES	**ARCESS Array B**	**121.49**	**345**	PKP	**PKiKP**	**00 03 39.3**	**-0.2**
	1.8nm,1.1s,baz=58,slow=2.7,SNR=5.7						

*IDC **28** 23:49:57.8±2.5, 15°.91S×167°.46E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/39, mbtmp3.7/3, ML4.2/1, Error ellipse: s-maj=57.3km s-min=45.5km az=113.0*

*NOU **28** 23:50:02.3, 16°.06S×167°.51E, h16km, MLv4.4/14, Vanuatu Islands*

ISC 28 23:50:04.0±1.7, 16°.1S±0°.1×167°.4E±0°.1, h35km, n13, σ1§33/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.75**	**154**	P	**Pn**	**23 50 33.4**	**+1.5**
RTV	**Rentapao**	**1.92**	**149**	P	**Pn**	**23 50 34.8**	**+0.6**
KOUNC	**Koumac, New Ca**	**5.29**	**213**	P	**Pn**	**23 51 21.9**	**+1.4**
	39nm,0.9s						
MARNC	**Mare, Loyalty**	**5.35**	**174**	P	**Pn**	**23 51 22.0**	**+0.6**
	1.9nm,1.1s						
YATNC	**Mamie plateau,**	**5.91**	**185**	P	**Pn**	**23 51 28.7**	**-0.4**
	32nm,0.7s						
DZM	**Mont Dzumac**	**5.97**	**188**	Pn	**Pn**	**23 51 30.6**	**+0.6**
	6.0nm,0.3s,baz=305,slow=14,SNR=28						
DZM				Sn	**Sn**	**23 52 35.6**	**-1.7**
	4.1nm,0.3s,baz=300,slow=23,SNR=8.8						
DZM	**Mont Dzumac**	**5.97**	**188**	P	**Pn**	**23 51 30.6**	**+0.6**
	26nm,1.6s						
NOUC	**Port Laguerre**	**6.02**	**190**	P	**Pn**	**23 51 31.1**	**+0.5**
	19nm,1.0s						
ONTNC	**Ouen Toro**	**6.20**	**188**	P	**Pn**	**23 51 34.4**	**+1.3**
	39nm,0.8s						
OUENC	**Ouen Island, N**	**6.27**	**185**	P	**Pn**	**23 51 36.9**	**+2.9**
	42nm,1.6s						
WRA	**Warramunga Arr**	**31.62**	**258**	P	**P**	**23 56 23.8**	**-0.2**
	0.3nm,0.8s,baz=87,slow=8.9,SNR=1.9						
ASAR	**Alice Springs**	**32.31**	**251**	P	**P**	**23 56 29.9**	**0.0**
	0.7nm,0.6s,baz=77,slow=9.0,SNR=8.3						
ARCES	**ARCESS Array B**	**121.63**	**345**	PKP	**PKPdf**	**00 08 52.4**	**-1.1**
	0.8nm,0.9s,baz=46,slow=2.6,SNR=4.9						

*JMA **28** 23:54:31.6±0.1, 24°.61N×122°.30E, h40km±5km, M2.7*

*TAP **28** 23:54:31.1, 24°.63N×122°.26E, h15km, ML3.2, C*

ISC 28 23:54:30.9±1.0, 24°.62N±0°.03×122°.31E±0°.02, h14km±8km, n53, σ0§61/88, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.40**	**303**	*e*P	**Pg**	**23 54 39.2**	**+0.2**
	baz=306						
EGS				*e*S	**Sb**	**23 54 45.4**	**-0.5**
	baz=306						
TWC	**Suao**	**0.41**	**268**	*i* P	**Pg**	**23 54 38.7**	**-0.5**
	baz=266						
TWC				*i* S	**Sb**	**23 54 45.8**	**-0.3**
	baz=266						
TWB1	**Santiao Chiao**	**0.48**	**323**	P	**Pg**	**23 54 40.3**	**-0.1**
	baz=327						
TWB1				*e*S	**Sg**	**23 54 45.7**	**-1.2**
	baz=327						
NTC	**Toucheng**	**0.49**	**298**	P	**Pg**	**23 54 40.5**	**-0.1**
	baz=299						
NTC				S	**Sg**	**23 54 47.1**	**0.0**
	baz=299						
EWUT	**Wuta**	**0.51**	**250**	P	**Pg**	**23 54 41.1**	**+0.1**
	baz=247						
EWUT				*e*S	**Sb**	**23 54 48.7**	**-0.2**
	baz=247						
ILA	**Ilan**	**0.53**	**286**	P	**Pg**	**23 54 41.2**	**-0.1**
	baz=286						
ILA				*e*S	**Sb**	**23 54 50.3**	**+1.0**
	baz=286						
NDS	**Dongshan**	**0.54**	**271**	P	**Pg**	**23 54 41.6**	**+0.1**
	baz=270						
NDS				S	**Sg**	**23 54 49.6**	**-0.1**
	baz=270						
ENA	**Nanau**	**0.55**	**249**	S	**Sg**	**23 54 48.8**	**-0.2**
	baz=246						
TIPB	**Shuangxi**	**0.56**	**309**	P	**Pg**	**23 54 41.8**	**-0.1**
	baz=310						
TIPB				*e*S	**Sg**	**23 54 49.2**	**-0.1**
	baz=310						
TWE	**Neicheng**	**0.59**	**280**	P	**Pg**	**23 54 42.0**	**-0.5**
	baz=279						
TWE				S	**Sg**	**23 54 50.2**	**0.0**
	baz=279						
JYNG	**Yonaguni jima**	**0.61**	**106**	P	**Pb**	**23 54 43.4**	**+0.1**
JYNG				S	**Sb**	**23 54 53.2**	**+1.5**
SXI1	**Grass Mountain**	**0.61**	**320**	P	**Pb**	**23 54 43.9**	**+0.5**
	baz=322						
SXI1				S	**Sb**	**23 54 51.6**	**-0.3**
	baz=322						
NWF	**Wu-fen Shan**	**0.65**	**313**	P	**Pb**	**23 54 44.5**	**+0.4**
	baz=315						
NWF				S	**Sb**	**23 54 53.3**	**+0.2**
	baz=315						
YOJ	**Yonaguni jima**	**0.66**	**104**	P	**Pb**	**23 54 44.5**	**+0.3**
YOJ				S	**Sb**	**23 54 54.7**	**+1.4**
YOJ	**Yonaguni jima**	**0.66**	**104**	*e*P	**Pb**	**23 54 44.7**	**+0.5**
	baz=103						
YOJ				*e*S	**Sn**	**23 54 55.4**	**-0.7**
	baz=103						
FUSB	**Fushanzhiwuyua**	**0.67**	**282**	*e*P	**Pg**	**23 54 43.6**	**-0.3**
	baz=281						
ENTT	**Nioudou**	**0.67**	**272**	*e*P	**Pg**	**23 54 43.7**	**-0.3**
	baz=270						
ENTT				*e*S	**Sg**	**23 54 51.8**	**-1.1**
	baz=270						
LATG	**Datong**	**0.71**	**263**	P	**Pg**	**23 54 44.4**	**-0.5**
	baz=262						
LATG				*e*S	**Sb**	**23 54 54.9**	**0.0**
	baz=262						
TWA	**Mucha**	**0.74**	**299**	*e*P	**Pb**	**23 54 45.7**	**0.0**
	baz=299						
TWA				*e*S	**Sg**	**23 54 54.8**	**-0.5**
	baz=299						
NWLT	**Wulai**	**0.75**	**282**	P	**Pg**	**23 54 45.4**	**0.0**
	baz=282						
NWLT				*e*S	**Sb**	**23 54 55.5**	**-0.2**
	baz=282						
NHDH	**Xindian Distri**	**0.79**	**296**	*e*P	**Pg**	**23 54 46.7**	**+0.5**
	baz=296						
NHDH				*e*S	**Sg**	**23 54 56.4**	**-0.1**
	baz=296						
NACB	**Ninganchiao**	**0.79**	**235**	P	**Pb**	**23 54 46.0**	**-0.3**
	baz=233						
NACB				S	**Sg**	**23 54 56.1**	**-0.5**
	baz=233						
TAP	**Taipei**	**0.83**	**300**	*e*P	**Pb**	**23 54 46.4**	**-0.7**
	baz=300						
TAP				*e*S	**Sg**	**23 54 58.8**	**+0.7**
	baz=300						
TWD	**Chiawan**	**0.84**	**230**	*e*P	**Pn**	**23 54 49.1**	**+0.8**
	baz=227						
YM01	**YM01**	**0.85**	**308**	*e*P	**Pg**	**23 54 47.7**	**+0.4**
	baz=309						
YM01				*e*S	**Sg**	**23 54 59.1**	**+0.6**
	baz=309						
YHNB	**Yeheng**	**0.85**	**273**	*e*P	**Pg**	**23 54 47.5**	**+0.2**
	baz=272						
YHNB				*e*S	**Sg**	**23 54 58.6**	**+0.1**
	baz=272						
ETLH	**Xiulin Townshi**	**0.86**	**241**	*e*P	**Pg**	**23 54 47.8**	**+0.2**
	baz=239						
ETLH				*e*S	**Sb**	**23 54 58.2**	**-0.8**
	baz=239						
NNSB	**Datong**	**0.86**	**257**	P	**Pb**	**23 54 47.1**	**-0.6**
	baz=255						
NNSB				*e*S	**Sb**	**23 54 58.7**	**-0.5**
	baz=255						
NSK	**Sanguang**	**0.86**	**274**	*e*P	**Pb**	**23 54 47.3**	**-0.4**
	baz=273						
NSK				*e*S	**Sb**	**23 54 58.4**	**-0.7**
	baz=273						
NNS	**Nan Shan**	**0.87**	**258**	*e*P	**Pn**	**23 54 48.8**	**0.0**
	baz=256						
NNS				*e*S	**Sg**	**23 55 00.2**	**+1.0**
	baz=256						
TWY	**Chenhua**	**0.91**	**316**	*e*P	**Pn**	**23 54 50.6**	**+1.4**
	baz=317						
TWY				*e*S	**Sn**	**23 55 01.3**	**-0.9**
	baz=317						
TWS1	**Kuangyinshan**	**0.94**	**301**	*e*P	**Pn**	**23 54 49.9**	**+0.3**
	baz=301						
NTST	**Danshui**	**0.94**	**305**	*e*P	**Pn**	**23 54 50.4**	**+0.7**
	baz=305						
WHF	**Hehuan Shan**	**1.06**	**244**	*e*P	**Pb**	**23 54 51.3**	**0.0**
	baz=241						
WHF				*e*S	**Sg**	**23 55 05.6**	**+0.2**
	baz=241						
NFF	**Wufeng Townshi**	**1.08**	**271**	*e*P	**Pg**	**23 54 52.9**	**+1.2**
	baz=270						
NFF				*e*S	**Sn**	**23 55 06.7**	**+0.3**
	baz=270						
TDCB	**Techi**	**1.11**	**251**	*e*P	**Pg**	**23 54 53.3**	**+1.0**
	baz=249						
LIOB	**Emei**	**1.17**	**271**	*e*P	**Pg**	**23 54 54.3**	**+0.8**
	baz=270						
CHGB	**Renai**	**1.17**	**242**	*e*P	**Pg**	**23 54 53.7**	**+0.1**
	baz=240						
NSTT	**Nanjuang**	**1.19**	**271**	*e*P	**Pg**	**23 54 54.9**	**+1.1**
	baz=270						
NSTT				*e*S	**Sg**	**23 55 09.7**	**+0.5**
	baz=270						
OWD	**Renai**	**1.23**	**237**	*e*P	**Pg**	**23 54 55.3**	**+0.7**
	baz=235						
WUSB	**Renai**	**1.25**	**240**	*e*P	**Pg**	**23 54 55.0**	**0.0**
	baz=238						
WHP	**Taichung City**	**1.29**	**255**	*e*P	**Pg**	**23 54 56.1**	**+0.5**
	baz=253						
WHP				*e*S	**Sg**	**23 55 12.7**	**+0.2**
	baz=253						
IRIF	**Iriomote-Funau**	**1.33**	**102**	P	**Pn**	**23 54 54.2**	**-0.8**
VWDT	**VWDT**	**1.37**	**231**	*e*P	**Pg**	**23 54 57.5**	**+0.3**
	baz=229						
NMLH	**Miaoli**	**1.38**	**267**	*e*P	**Pg**	**23 54 58.0**	**+0.5**
	baz=266						
HGSD	**Ruisui**	**1.39**	**216**	*e*P	**Pb**	**23 54 56.6**	**+0.1**
	baz=214						
SMLT	**Sun Moon Lake**	**1.48**	**240**	*e*P	**Pg**	**23 54 59.7**	**+0.3**
	baz=238						
HATJ	**Hateruma jima**	**1.48**	**112**	P	**Pn**	**23 54 56.6**	**-0.5**
HATJ				*e*S	**Sn**	**23 55 15.3**	**-0.9**
SSLB	**Suanglung**	**1.49**	**236**	*e*P	**Pb**	**23 54 58.8**	**+0.5**
	baz=234						
YULB	**Yu-li**	**1.53**	**217**	*e*P	**Pn**	**23 54 58.3**	**+0.5**
	baz=215						
JKRS	**Kuro-shima**	**1.60**	**104**	P	**Pn**	**23 54 58.6**	**-0.1**
JKRS				*e*S	**Sn**	**23 55 18.4**	**-0.8**
JIJ	**Ishigaki jima**	**1.69**	**98**	P	**Pn**	**23 54 59.4**	**-0.6**
JIJ				*e*S	**Sn**	**23 55 20.2**	**-1.3**
JISG	**Ishigakijimahi**	**1.83**	**91**	P	**Pn**	**23 55 01.7**	**-0.1**

IDC 28 23:55:45.4±2.5, 16°.02S×167°.25E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/37, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=58.2km s-min=46.7km az=103.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.07**	**187**	Pn	Pn	23 57 17.6	+1.0
	4.1nm,0.3s,baz=326,slow=15,SNR=18						
DZM				Sn	Sn	23 58 23.8	-3.1
	2.6nm,0.3s,baz=336,slow=23,SNR=7.0						
WRA	**Warramunga Arr**	**31.52**	**258**	P	P	00 02 08.8	-0.7
	0.3nm,0.9s,baz=100,slow=8.2,SNR=1.4						
ASAR	**Alice Springs**	**32.22**	**251**	P	P	00 02 16.1	+0.4
	0.3nm,0.6s,baz=82,slow=9.4,SNR=2.2						
ARCES	**ARCESS Array B**	**121.48**	**345**	PKP	PKPdf	00 14 40.0	-0.4
	0.5nm,0.8s,baz=64,slow=2.1,SNR=4.1						

*IDC **29** 00:27:04.7±1.3, 23°.97N×121°.74E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/44, mbtmp3.6/5, Error ellipse: s-maj=60.7km s-min=26.2km az=62.0*

*JMA **29** 00:27:04.7±0.2, 23°.90N×121°.61E, h0km, M3.4*

*TAP **29** 00:27:06.2, 23°.94N×121°.62E, h5km, ML4.0, C*

*ASIES **29** 00:27:06.1, 23°.96N×121°.61E, h15km, MW3.6*

ISC 29 00:27:06.1±0.8, 23°.94N±0°.01×121°.65E±0°.02, h10km±4km, n130, σ0§92/204, mb3.6/5, 24D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.05**	**315**	⇓*i* P	**Pg**	**00 27 08.3**	**+0.2**
	baz=347						
HWA				*i* S	**Sg**	**00 27 10.1**	**+0.6**
	baz=347						
TEYL	**Yanliau Villag**	**0.08**	**211**	P	**Pg**	**00 27 08.3**	**-0.2**
	baz=210						
TEYL				*i* S	**Sg**	**00 27 10.3**	**+0.2**
	baz=210						
TWD	**Chiawan**	**0.15**	**342**	⇓*i* P	**Pg**	**00 27 09.8**	**+0.4**
	baz=353						
TWD				*i* S	**Sg**	**00 27 12.2**	**+0.6**
	baz=353						
ETL	**Fush Village**	**0.22**	**355**	P	**Pg**	**00 27 11.2**	**+0.5**
	baz=360						
ETL				*e*S	**Sg**	**00 27 14.6**	**+0.8**
	baz=360						
ESL	**Shilin**	**0.23**	**237**	⇓*i* P	**Pg**	**00 27 10.8**	**0.0**
	baz=239						
ESL				*i* S	**Sg**	**00 27 13.6**	**-0.4**
	baz=239						
NACB	**Ninganchiao**	**0.24**	**349**	⇓*i* P	**Pg**	**00 27 11.4**	**+0.4**
	baz=354						
NACB				*i* S	**Sg**	**00 27 14.6**	**+0.3**
	baz=354						
ETLH	**Xiulin Townshi**	**0.30**	**331**	⇓*i* P	**Pb**	**00 27 12.7**	**-1.1**
	baz=335						
ETLH				*i* S	**Sg**	**00 27 16.5**	**+0.1**
	baz=335						
EGFH	**Guangfu**	**0.34**	**216**	P	**Pg**	**00 27 13.2**	**+0.4**
	baz=221						
EGFH				S	**Sg**	**00 27 18.1**	**+0.8**
	baz=221						
WHF	**Hehuan Shan**	**0.40**	**300**	⇓*i* P	**Pg**	**00 27 14.3**	**+0.1**
	baz=304						
WHF				*e*S	**Sb**	**00 27 20.3**	**-1.8**
	baz=304						
OWD	**Renai**	**0.43**	**272**	⇓P	**Pg**	**00 27 14.9**	**+0.3**
	baz=284						
OWD				*i* S	**Sg**	**00 27 20.3**	**0.0**
	baz=284						
CHGB	**Renai**	**0.45**	**286**	⇓*i* P	**Pb**	**00 27 15.4**	**-0.9**
	baz=288						
CHGB				*i* S	**Sg**	**00 27 21.2**	**+0.3**
	baz=288						
WUSB	**Renai**	**0.48**	**276**	⇓*i* P	**Pb**	**00 27 16.1**	**-0.8**
	baz=287						
WUSB				S	**Sb**	**00 27 22.6**	**-1.5**
	baz=287						
HGSD	**Ruisui**	**0.49**	**204**	*e*P	**Pb**	**00 27 17.0**	**+0.1**
	baz=185						
HGSD				*e*S	**Sb**	**00 27 26.2**	**+2.1**
	baz=185						
ENA	**Nanau**	**0.49**	**10**	P	**Pb**	**00 27 16.4**	**-0.5**
	baz=13						
ENA				*e*S	**Sb**	**00 27 23.6**	**-0.6**
	baz=13						
VWDT	**VWDT**	**0.50**	**248**	⇓*i* P	**Pb**	**00 27 16.3**	**-0.7**
	baz=248						
VWDT				*i* S	**Sg**	**00 27 22.6**	**+0.2**
	baz=248						
EWUT	**Wuta**	**0.52**	**14**	P	**Pb**	**00 27 17.0**	**-0.3**
	baz=15						
EWUT				*e*S	**Sb**	**00 27 24.4**	**-0.5**
	baz=15						
EHY	**Hungye**	**0.52**	**214**	*e*P	**Pg**	**00 27 16.6**	**+0.3**
	baz=218						
EHY				*e*S	**Sg**	**00 27 23.5**	**+0.3**
	baz=218						
TWT	**Tachien**	**0.53**	**306**	P	**Pb**	**00 27 17.3**	**-0.4**
	baz=308						
TWT				S	**Sb**	**00 27 24.8**	**-0.7**
	baz=308						
NNSB	**Datong**	**0.54**	**334**	⇓*i* P	**Pb**	**00 27 17.3**	**-0.5**
	baz=336						
NNSB				*e*S	**Sb**	**00 27 24.5**	**-1.3**
	baz=336						
TDCB	**Techi**	**0.54**	**305**	P	**Pb**	**00 27 17.4**	**-0.5**
	baz=308						
TDCB				S	**Sb**	**00 27 24.2**	**-1.6**
	baz=308						
NNS	**Nan Shan**	**0.56**	**333**	⇓*i* P	**Pb**	**00 27 17.6**	**-0.6**
	baz=337						
NNS				*i* S	**Sb**	**00 27 24.7**	**-1.5**
	baz=337						
LATG	**Datong**	**0.60**	**350**	⇓*i* P	**Pb**	**00 27 18.3**	**-0.6**
	baz=352						
LATG				*e*S	**Sb**	**00 27 26.9**	**-0.6**
	baz=352						
YULB	**Yu-li**	**0.63**	**210**	*e*P	**Pg**	**00 27 18.3**	**-0.1**
	baz=217						
YULB				*e*S	**Sg**	**00 27 26.1**	**-0.6**
	baz=217						
SSLB	**Suanglung**	**0.65**	**257**	⇓*i* P	**Pb**	**00 27 19.1**	**-0.6**
	baz=267						
SSLB				S	**Sg**	**00 27 26.6**	**-0.6**
	baz=267						
EYUL	**Yuli**	**0.66**	**207**	*e*P	**Pb**	**00 27 20.1**	**+0.3**
	baz=219						
EYUL				*e*S	**

TWE	**Neicheng**	**0.78**	**1**	P	**Pb**	**00 27 21.9**	**+0.1**
TWE	baz=4.0			*eS*	**Sg**	**00 27 30.5**	**-0.8**
NSK	**Sanguang**	**0.78**	**340**	⇓*iP*	**Pb**	**00 27 21.9**	**0.0**
NSK	baz=343			*eS*	**Sb**	**00 27 31.4**	**-1.1**
YUS	**Yu-Shan**	**0.78**	**235**	*eP*	**Pb**	**00 27 22.0**	**-0.1**
YUS	baz=233			*eS*	**Sb**	**00 27 32.9**	**0.0**
FULB	**Fuli**	**0.81**	**204**	*eP*	**Pb**	**00 27 22.7**	**+0.4**
FULB	baz=216			*eS*	**Sb**	**00 27 34.3**	**+1.0**
FUSB	**Fushanzhiwuyua**	**0.82**	**356**	⇓P	**Pb**	**00 27 22.6**	**+0.1**
FUSB	baz=358			*eS*	**Sb**	**00 27 33.8**	**+0.1**
NFF	**Wufeng Townshi**	**0.84**	**325**	⇓*eP*	**Pn**	**00 27 23.2**	**-1.0**
NFF	baz=327			*eS*	**Sb**	**00 27 33.2**	**-1.2**
NWLT	**Wulai**	**0.84**	**351**	⇓P	**Pb**	**00 27 23.1**	**+0.2**
NWLT	baz=353			*eS*	**Sb**	**00 27 33.3**	**-1.0**
WJS	**Zhushan**	**0.85**	**262**	*eP*	**Pn**	**00 27 24.1**	**-0.1**
WJS	baz=269			*eS*	**Sn**	**00 27 36.6**	**-0.2**
CHKT	**Chengkung**	**0.88**	**197**	*eP*	**Pg**	**00 27 23.4**	**+0.4**
CHKT	baz=184			*eS*	**Sn**	**00 27 37.1**	**-0.3**
ALS	**Alishan**	**0.88**	**241**	*eP*	**Pb**	**00 27 23.9**	**+0.1**
ALS	baz=240			*eS*	**Sb**	**00 27 35.5**	**-0.2**
WNT	**Mingjian**	**0.88**	**266**	*eP*	**Pn**	**00 27 24.7**	**0.0**
WNT	baz=273			*eS*	**Sn**	**00 27 36.8**	**-0.8**
TWQ1	**Liyutan**	**0.89**	**297**	*eP*	**Pn**	**00 27 24.9**	**+0.1**
TWQ1	baz=299			*eS*	**Sn**	**00 27 37.8**	**-0.1**
NSTT	**Nanjuang**	**0.91**	**320**	*eP*	**Pn**	**00 27 24.6**	**-0.4**
NSTT	baz=322			*eS*	**Sn**	**00 27 37.1**	**-1.1**
LIOB	**Emei**	**0.91**	**321**	*eP*	**Pn**	**00 27 25.0**	**0.0**
LIOB	baz=323			*eS*	**Sn**	**00 27 37.2**	**-1.0**
TCU	**Taichung**	**0.91**	**283**	*eP*	**Pn**	**00 27 25.5**	**+0.5**
TCU	baz=280			*eS*	**Sb**	**00 27 36.6**	**+0.4**
NTC	**Toucheng**	**0.93**	**10**	*eP*	**Pb**	**00 27 24.5**	**+0.2**
NSY	baz=3.0 **Sanyi**	**0.94**	**301**	*eP*	**Pn**	**00 27 25.7**	**+0.3**
NSY	baz=303			*eS*	**Sn**	**00 27 39.6**	**+0.6**
EGS	baz=19	**0.94**	**16**	*eP*	**Pn**	**00 27 26.2**	**+0.8**
ELDTW	**Lidau**	**0.94**	**218**	*eP*	**Pg**	**00 27 23.7**	**-0.7**
ELDTW	baz=214			*eS*	**Sg**	**00 27 36.3**	**-0.4**
CHN5	**Tsauling**	**0.95**	**249**	*eP*	**Pn**	**00 27 25.8**	**+0.1**
NMLH	baz=248 **Miaoli**	**0.98**	**307**	*eP*	**Pn**	**00 27 26.9**	**+0.9**
WCHH	baz=309 **Zhanghua**	**1.00**	**278**	*eP*	**Pn**	**00 27 26.9**	**+0.5**
WCHH	baz=280			*eS*	**Sn**	**00 27 41.5**	**+1.0**
WDJ	**Dajia District**	**1.00**	**294**	*eP*	**Pn**	**00 27 27.7**	**+1.4**
WDJ	baz=296			*eS*	**Sn**	**00 27 41.3**	**+0.8**
EDH	**Donghe**	**1.01**	**198**	*eP*	**Pg**	**00 27 25.4**	**-0.2**
EDH	baz=183			*eS*	**Sn**	**00 27 41.0**	**+0.2**
NHDH	**Xindian Distri**	**1.02**	**354**	*eP*	**Pn**	**00 27 27.2**	**+0.6**
NHDH	baz=356			*eS*	**Sn**	**00 27 40.5**	**-0.5**
TWA	**Mucha**	**1.04**	**357**	*eP*	**Pn**	**00 27 27.0**	**+0.2**
TWA	baz=350			*eS*	**Sn**	**00 27 40.3**	**-1.1**
SBCB	**Hsinchu**	**1.04**	**325**	*eP*	**Pn**	**00 27 27.3**	**+0.5**
TIPB	baz=327 **Shuangxi**	**1.04**	**9**	P	**Pn**	**00 27 27.1**	**+0.2**
TIPB	baz=1.0			*eS*	**Sn**	**00 27 40.9**	**-0.7**
WDLH	**Douliu**	**1.04**	**256**	*eP*	**Pn**	**00 27 27.6**	**+0.7**
WDLH	baz=258			*eS*	**Sn**	**00 27 43.4**	**+1.8**
HSN	**Hsinchu**	**1.06**	**324**	*eP*	**Pn**	**00 27 28.8**	**+1.7**
HSN	baz=329			*eS*	**Sn**	**00 27 43.2**	**+1.3**
NCUH	**Zhongli**	**1.11**	**338**	*eP*	**Pn**	**00 27 29.6**	**+1.9**
NCUH	baz=349			*eS*	**Sn**	**00 27 46.3**	**+3.2**
STYH	**Taoyuan**	**1.11**	**226**	*eP*	**Pg**	**00 27 27.4**	**0.0**
STYH	baz=231			*eS*	**Sg**	**00 27 41.8**	**0.0**
NCU	**National Centr**	**1.11**	**338**	*eP*	**Pn**	**00 27 28.0**	**+0.2**
TWB1	baz=341 **Santiao Chiao**	**1.11**	**16**	*eP*	**Pn**	**00 27 28.4**	**+0.7**
TWB1	baz=10.0			*eS*	**Sn**	**00 27 43.3**	**+0.1**
CHN4	**Tsaushan**	**1.13**	**239**	P	**Pn**	**00 27 28.7**	**+0.6**
CHN4	baz=244			*eS*	**Sn**	**00 27 43.1**	**-0.5**
TPUB	**Ta-pu**	**1.13**	**236**	P	**Pn**	**00 27 28.4**	**+0.3**
TPUB	baz=235			*eS*	**Sb**	**00 27 42.9**	**+0.3**
NWF	baz=235 **Wu-fen Shan**	**1.13**	**6**	*eP*	**Pn**	**00 27 28.9**	**+0.7**
NWF	baz=358			*eS*	**Sn**	**00 27 43.4**	**-0.5**
LONT	baz=358 **Longtian**	**1.13**	**205**	*eP*	**Pb**	**00 27 26.8**	**-1.1**
CHN2	baz=199 **Minshiung**	**1.15**	**249**	*eP*	**Pn**	**00 27 29.9**	**+1.6**
CHN2	baz=251			*eS*	**Sn**	**00 27 45.7**	**+1.6**
WRL	baz=251 **Guolierlin Hig**	**1.16**	**268**	*eP*	**Pn**	**00 27 29.0**	**+0.5**
SXI1	baz=269 **Grass Mountain**	**1.17**	**10**	P	**Pn**	**00 27 29.5**	**+0.8**
WTP	baz=360 **Ta-pu**	**1.17**	**234**	*eP*	**Pn**	**00 27 29.4**	**+0.7**
WTP	baz=233			*eS*	**Sn**	**00 27 46.6**	**+1.8**
TWS1	baz=233 **Kuangyinshan**	**1.17**	**350**	*eP*	**Pn**	**00 27 29.8**	**+1.1**
TWS1	baz=359			*eS*	**Sn**	**00 27 45.9**	**+1.1**
WTK	baz=359 **Tuku**	**1.18**	**258**	*eP*	**Pn**	**00 27 29.5**	**+0.8**
WTK	baz=260			*eS*	**Sn**	**00 27 46.5**	**+1.7**
CHY	baz=260 **Chiayi**	**1.20**	**249**	*eP*	**Pg**	**00 27 30.5**	**+1.2**
CHY	baz=250			*eS*	**Sn**	**00 27 47.1**	**+1.6**
YM01	baz=250 **YM01**	**1.20**	**357**	P	**Pn**	**00 27 30.7**	**+1.6**
YM01	baz=349			*eS*	**Sn**	**00 27 46.2**	**+0.6**
NTST	baz=349 **Danshui**	**1.23**	**352**	*eP*	**Pg**	**00 27 31.2**	**+1.4**
TWG	baz=354 **Pinlang**	**1.23**	**205**	*eP*	**Pn**	**00 27 28.5**	**-1.0**
TWG	baz=208			*eS*	**Sb**	**00 27 45.0**	**-0.6**
TWGBT	baz=208 **Beinan**	**1.23**	**205**	*eP*	**Pn**	**00 27 26.7**	**-2.8**
TWK	baz=199 **Hsinying**	**1.26**	**238**	*eP*	**Pg**	**00 27 30.6**	**+0.3**
TWK	baz=238			*eS*	**Sn**	**00 27 48.6**	**+1.7**
CHN1	baz=238 **Nanshi**	**1.27**	**234**	*eP*	**Pg**	**00 27 31.0**	**+0.4**
CHN1	baz=233			*eS*	**Sn**	**00 27 48.3**	**+1.1**
LDUT	baz=233 **Ludao**	**1.27**	**187**	*eP*	**Pn**	**00 27 29.2**	**-0.8**
SNST	baz=170 **Tainan City**	**1.27**	**236**	*eP*	**Pg**	**00 27 30.9**	**+0.2**
SNST	baz=236			*eS*	**Sn**	**00 27 49.1**	**+1.9**
JYNG	baz=236 **Yonagunijimaku**	**1.29**	**67**	*eS*	**Sn**	**00 27 49.1**	**+1.4**
SGST	**Jiashian**	**1.30**	**229**	*eP*	**Pn**	**00 27 30.4**	**0.0**
SGST	baz=227			*eS*	**Sn**	**00 27 49.2**	**+1.4**
TWY	baz=227 **Chenhua**	**1.33**	**358**	*eP*	**Pg**	**00 27 33.0**	**+1.3**
YOJ	baz=347 **Yonaguni jima**	**1.35**	**67**	S	**Sg**	**00 27 50.7**	**+1.1**
WSL	**Shuilin Townsh**	**1.36**	**253**	*eP*	**Pg**	**00 27 32.7**	**+0.3**
WSL	baz=269			*eS*	**Sg**	**00 27 51.7**	**+1.7**
ICHU	baz=269 **Yijhu**	**1.38**	**246**	*eP*	**Pg**	**00 27 32.9**	**+0.3**
CHN8	baz=244 **Yiju**	**1.44**	**246**	*eP*	**Pg**	**00 27 34.5**	**+0.6**
CHN8	baz=247			*eS*	**Sg**	**00 27 55.2**	**+2.6**
ECL	baz=247 **Taimali**	**1.48**	**206**	*eP*	**Pn**	**00 27 31.0**	**-1.9**
SCST	baz=181 **Cishan**	**1.49**	**225**	*eP*	**Pg**	**00 27 34.4**	**-0.4**
SHHT	baz=206 **Tainan City**	**1.50**	**233**	*eP*	**Pg**	**00 27 36.4**	**+1.4**
SSD	baz=230 **Sandimen**	**1.51**	**218**	*eP*	**Pb**	**00 27 34.0**	**-0.3**
TSMG	baz=213 **Majia**	**1.54**	**217**	*eP*	**Pb**	**00 27 34.8**	**+0.1**
TAI1	baz=199 **Yung-k'ang**	**1.58**	**236**	*eP*	**Pb**	**00 27 35.2**	**-0.2**
TWM1	baz=233 **Shoushan**	**1.58**	**226**	*eP*	**Pg**	**00 27 37.5**	**+1.1**
EAST	baz=222 **Anshuo**	**1.71**	**205**	*eP*	**Pn**	**00 27 36.7**	**+0.6**
TAW	baz=186 **Tawu**	**1.72**	**204**	*eP*	**Pn**	**00 27 35.7**	**-0.5**
TAWH	baz=197 **Dawu Township**	**1.74**	**204**	*eP*	**Pn**	**00 27 36.4**	**0.0**
SSPT	baz=197 **Xinbi**	**1.76**	**215**	*eP*	**Pb**	**00 27 38.5**	**0.0**
SLIU	baz=197 **Shizi**	**1.89**	**205**	*eP*	**Pn**	**00 27 39.2**	**+0.8**
LAY	baz=186 **Lan-yu**	**1.90**	**183**	*eP*	**Pn**	**00 27 36.2**	**-2.4**
LYUB	baz=175 **Lan-yu**	**1.93**	**182**	*eP*	**Pn**	**00 27 36.2**	**-2.9**
WDGT	baz=174 **Dungji**	**1.94**	**250**	*eP*	**Pn**	**00 27 39.8**	**+0.5**
IRIF	baz=250 **Iriomote-Funau**	**1.94**	**78**	P	**Pn**	**00 27 40.0**	**+0.7**
IRIF				S	**Sb**	**00 28 06.2**	**+0.2**
PHUB	**P'eng-hu**	**1.95**	**258**	*eP*	**Pn**	**00 27 38.8**	**-0.5**
HATJ	baz=259 **Hateruma jima**	**1.98**	**86**	*eS*	**Sn**	**00 28 05.5**	**+0.9**
VCHM	**Qimei**	**2.16**	**251**	*eP*	**Pn**	**00 27 42.8**	**+0.5**
JKRS	**Kuro-shima**	**2.18**	**82**	*eS*	**Sb**	**00 28 12.1**	**-0.7**
VWUC	**VWUC**	**2.26**	**298**	*eP*	**Pn**	**00 27 42.9**	**-0.7**
JIJ	baz=299 **Ishigaki jima**	**2.32**	**79**	P	**Pn**	**00 27 45.7**	**+1.3**
JIJ				*eS*	**Sn**	**00 28 12.9**	**-0.2**
JISG	**Ishigakijimahi**	**2.52**	**75**	P	**Pn**	**00 27 48.3**	**+1.2**
JISG				*eS*	**Sn**	**00 28 17.2**	**-0.7**
LYJJ	**Jianjiangzhen**	**3.11**	**327**	*eP*	**Pn**	**00 27 55.7**	**+0.4**
AXDP	baz=312 **Jialang**	**3.48**	**287**	*eP*	**Pn**	**00 28 00.5**	**0.0**
KSRS	baz=284 **Korea Array**	**14.51**	**20**	Pn	**P**	**00 30 36.7**	**-1.6**
SONM	0.3nm,0.3s,baz=202,slow=12,SNR=6.6 **Songino Array**	**26.76**	**337**	P	**P**	**00 32 46.0**	**-0.2**
MKAR	0.2nm,0.3s,baz=164,slow=12,SNR=2.2 **Makanchi Array**	**38.80**	**316**	P	**P**	**00 34 31.9**	**+0.7**
ZALV	1.2nm,0.9s,baz=101,slow=10,SNR=10 **Zalesovo Beam**	**40.68**	**327**	P	**P**	**00 34 46.2**	**-0.4**
H11N1	0.7nm,0.4s,baz=110,slow=8.5,SNR=4.6 **WAKE ISLAND Hy**	**42.08**	**87**	T	T	01 20 25.4	
H11N2	baz=275,slow=74,SNR=8.6 **WAKE ISLAND Hy**	**42.08**	**87**	T	T	01 20 22.4	
H11N3	baz=275,slow=74,SNR=9.5 **WAKE ISLAND Hy**	**42.10**	**87**	T	T	01 20 26.5	
H11S3	baz=275,slow=74,SNR=12 **WAKE ISLAND Hy**	**42.20**	**88**	T	T	01 20 46.3	
H11S1	baz=282,slow=74,SNR=56 **WAKE ISLAND Hy**	**42.21**	**88**	T	T	01 20 47.2	
H11S2	baz=282,slow=74,SNR=31 **WAKE ISLAND Hy**	**42.22**	**88**	T	T	01 20 48.1	
WRA	baz=282,slow=74,SNR=33 **Warramunga Arr**	**45.34**	**163**	P	**P**	**00 35 24.6**	**-0.1**
YKA	0.4nm,0.6s,baz=345,slow=8.6,SNR=4.6 **Yellowknife Ar**	**83.03**	**23**	P	**P**	**00 39 31.5**	**-0.1**
	0.9nm,0.8s,baz=312,slow=4.5,SNR=16						

*TUL **29** 00:47:32.5±1.1,36°.254N±0°.006×97°.37W±0°.01,h6km±6km, ML2.5,mb_Lg2.4/32(NEIC),Error ellipse: s-maj=1.7km s-min=0.9km az=81.0*

NEIC 29 00:47:32.6±0.9,36°.258N±0°.009×97°.38W±0°.01,h5km±6km, Error ellipse: s-maj=1.6km s-min=0.7km az=134.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKCFA	**Oklahoma City**	**0.84**	**184**	Pg	Pg	00 47 48.4	-0.4
OKCSW	**OKLAHOMA CITY**	**0.85**	**183**		Pg	00 47 48.7	-0.2
T35A	**Sooner Cattle**	**0.96**	**47**		Pg	00 47 51.0	0.0
FNO	**Franklin**	**1.00**	**181**	Pg	Pg	00 47 51.4	-0.4
U32A	**Winter Ranch,**	**1.31**	**276**	Pn	Pn	00 47 57.1	-0.6
TUL1	**Leonard**	**1.33**	**105**		Pn	00 47 56.6	-1.3
X34A	**Smith Ranch, M**	**1.69**	**193**	Pn	Pn	00 48 02.8	-0.1
X34A	comp=Z,21nm,1.2s			IAmb_Lg		00 48 26.4	
WMOK	**Wichita Mounta**	**1.90**	**217**	Pn	Pn	00 48 05.2	-0.5
WMOK	comp=Z,15nm,0.8s			IAmb_Lg		00 48 35.1	
X37A	**Clayton**	**2.34**	**135**	Pn	Pn	00 48 11.3	-0.4
X37A	comp=Z,19nm,0.7s			IAmb_Lg		00 48 48.8	
R32A	**Long Quarter,**	**2.41**	**334**	Pn	Pn	00 48 11.8	-0.9
R32A				Pg	Pg	00 48 18.6	-0.1
HHAR	**Hobbs**	**2.78**	**89**	Pn	Pn	00 48 17.8	0.0
KSU1	**Kansas State U**	**2.90**	**12**		Pg	00 48 27.2	-1.0
CBKS	**Cedar Bluff**	**3.17**	**324**	IAmb_Lg		00 49 21.5	
MIAR	comp=Z,12nm,0.9s **Mount Ida**	**3.55**	**118**	Pn	Pn	00 48 29.0	+0.7
MIAR				IAmb_Lg		00 49 33.6	
S39A	comp=Z,8.3nm,0.9s **Bolivar**	**3.55**	**65**	Pn	Pn	00 48 28.6	+0.2
S39A				IAmb_Lg		00 49 26.1	
U40A	comp=Z,8.4nm,1.1s **Yellville**	**3.66**	**87**		Pn	00 48 29.7	-0.2
X40A	**Basin Creek Fa**	**4.11**	**114**	IAmb_Lg		00 49 50.1	
WHAR	comp=Z,9.8nm,0.8s **Wooly Hollow**	**4.25**	**102**		Pg	00 48 51.6	-2.5
FCAR	**Ozark Folk Cen**	**4.27**	**93**	IAmb_Lg		00 49 49.0	
UALR	comp=Z,8.3nm,1.1s **University of**	**4.37**	**108**	IAmb_Lg		00 49 54.8	
P38A	comp=Z,6.7nm,0.8s **Dawn**	**4.53**	**41**	IAmb_Lg		00 50 06.0	
P40A	comp=Z,6.1nm,0.7s **Paris**	**5.33**	**51**	IAmb_Lg		00 50 22.4	
PBMO	comp=Z,9.8nm,0.7s **Poplar Bluff**	**5.62**	**83**	IAmb_Lg		00 50 35.0	
T25A	comp=Z,7.3nm,1.0s **Trinidad**	**5.72**	**281**	IAmb_Lg		00 50 43.4	
L34A	comp=Z,8.3nm,1.2s **Svendsen Farm,**	**5.75**	**7**	IAmb_Lg		00 50 47.8	
	comp=Z,7.5nm,0.7s						
SCIA	**State Center**	**6.50**	**29**	IAmb_Lg		00 51 00.0	
ISCO	comp=Z,8.4nm,0.8s **Idaho Springs**	**7.40**	**301**	IAmb_Lg		00 51 37.3	
	comp=Z,4.0nm,1.1s						

*IDC **29** 00:50:18.1±2.1,5°.90S×147°.92E,h62km±20km,mb3.8/9, mb1 3.9/11,mb1mx3.8/37,mbtmp4.1/11,MS2.9/1, Ms1 2.9/1,ms1mx2.6/61,Error ellipse: s-maj=32.6km s-min=13.2km az=114.0*

*NEIC **29** 00:50:19.6±1.2,6°.03S±0°.06×147°.98E±0°.09,h70km±10km, mb4.1/13,Error ellipse: s-maj=14.5km s-min=6.0km az=123.0*

ISC 29 00:50:18.5±0.6,5°.99S±0°.06×147°.87E±0°.07,h60km,n42, σ1§68/49,mb4.1/13,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.47**	**192**	P	**Pn**	**00 51 12.3**	**+2.3**
PMG	18nm,0.3s,baz=45,slow=3.8,SNR=12			S	**Sn**	**00 51 51.5**	**+1.6**
PMG	86nm,0.3s,baz=15,slow=19,SNR=19			LR	LR	00 52 56.9	
PMG	comp=Z,206nm,22.0s,baz=344,slow=44 **Port Moresby**	**3.47**	**192**		**Pn**	**00 51 11.0**	**+0.9**
PMG				Sn	**Sn**	**00 51 51.8**	**+1.9**
PMG	**Port Moresby**	**3.47**	**192**	P	**Pn**	**00 51 12.5**	**+2.4**
MANU	**Manus Island**	**3.95**	**353**	Pn	**Pn**	**00 51 18.1**	**+1.3**
KRVT	**Keravat (AS076**	**4.46**	**68**	P	**Pn**	**00 51 22.6**	**-1.1**
KRVT	164nm,0.3s,baz=333,slow=1.3,SNR=42			S	**Sn**	**00 52 19.0**	**+4.6**
RABL	5.9nm,0.3s,baz=344,slow=18,SNR=6.6 **Rabaul**	**4.63**	**68**	Pn	**Pn**	**00 51 25.6**	**-0.4**
RABL	**Rabaul**	**4.63**	**68**	P	**Pn**	**00 51 26.4**	**+0.4**
COEN	**Coen**	**9.17**	**210**	Pn	**Pn**	**00 52 28.6**	**+0.4**
COEN				Sn	**Sn**	**00 54 06.2**	**-3.8**
COEN	**Coen**	**9.17**	**210**	P	**Pn**	**00 52 28.8**	**+0.6**
QIS	**Mount Isa**	**16.56**	**208**	P	**Pn**	**00 54 07.7**	**+0.8**
WB0	**Warramunga Arr**	**18.96**	**223**	P	**P**	**00 54 35.5**	**+0.5**
WR0	**Warramunga Arr**	**18.99**	**222**		**P**	**00 54 35.9**	**+0.5**
WR0	comp=Z,7.1nm,0.9s			IAmb	IAmb	00 54 49.3	
WRAB	**Tennant Creek**	**19.10**	**222**	P	**P**	**00 54 36.7**	**+0.1**
WRAB	comp=Z,10nm,1.1s			IAmb	IAmb	00 55 05.8	
WRAB	**Tennant Creek**	**19.10**	**222**	P	**Pn**	**00 54 39.7**	**+1.8**
WB2	**Warramunga Arr**	**19.11**	**222**		**P**	**00 54 36.8**	**+0.1**
WB2	comp=Z,6.0nm,0.8s			IAmb	IAmb	00 54 47.0	
WRA	**Warramunga Arr**	**19.12**	**222**	P	**P**	**00 54 36.9**	**+0.2**
WRA	comp=Z,0.8nm,0.3s,baz=49,slow=11,SNR=24			S	**S**	**00 58 08.3**	**-2.3**
WRA	comp=Z,0.1nm,0.3s,baz=43,slow=21,SNR=12			PcP	**PcP**	**00 58 59.0**	**-0.1**
WRA	comp=Z,0.1nm,0.3s,baz=35,slow=2.0,SNR=5.6			ScP	**ScP**	**01 02 28.3**	**-1.8**
WRA	comp=Z,0.0nm,0.3s,baz=52,slow=3.5,SNR=2.2 **Warramunga Arr**	**19.12**	**222**	P	**P**	**00 54 36.8**	**0.0**
RMQ	**Roma**	**20.40**	**178**	P	Pn	00 54 54.4	+1.2
KNRA	**Kununurra**	**21.07**	**241**	P	**P**	**00 54 58.7**	**+0.7**
KNRA	comp=Z,17nm,1.1s			IAmb	IAmb	00 55 03.0	
KNRA	**Kununurra**	**21.07**	**241**	P	**P**	**00 54 59.2**	**+1.2**
KOUNC	**Koumac, New Ca**	**21.52**	**134**	P	**P**	**00 54 59.7**	**-3.0**
AS31	**Alice Springs**	**22.13**	**216**	P	**P**	**00 55 09.7**	**+0.4**
ASAR	**Alice Springs**	**22.13**	**216**	P	**P**	**00 55 09.7**	**+0.4**
ASAR	comp=Z,4.4nm,0.5s,baz=49,slow=9.5,SNR=65			PcP	**PcP**	**00 59 04.7**	**-0.1**
ASAR	comp=Z,0.7nm,0.7s,baz=61,slow=2.7,SNR=3.8 **Alice Springs**	**22.13**	**216**	P	**P**	**00 55 08.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.81**	**239**	P	**P**	**00 55 36.6**	**+1.4**
LCRK	comp=Z,8.0nm,0.4s,baz=53,slow=8.3,SNR=88 **Leigh Creek**	**25.97**	**199**	P	**P**	**00 55 47.1**	**+1.5**
STKA	**Stephens Creek**	**26.42**	**192**	P	**P**	**00 55 50.7**	**+1.0**
WRKA	comp=Z,1.8nm,0.7s,baz=1.4,slow=17,SNR=2.3 **Warakurna**	**26.66**	**223**	P	**P**	**00 55 55.4**	**+3.4**
MULG	**Mulgathing**	**27.44**	**207**	P	**P**	**00 56 01.7**	**+2.8**
PETK	**Petropavlovsk-**	**59.46**	**7**	P	**P**	**01 00 14.8**	**-0.3**
SONM	comp=Z,1.4nm,0.5s,baz=151,slow=6.4,SNR=4.5 **Songino Array**	**64.82**	**330**	P	**P**	**01 00 50.8**	**-0.4**
MK31	comp=Z,0.7nm,0.6s,baz=141,slow=4.8,SNR=3.2 **Makanchi Array**	**78.04**	**320**	P	**P**	**01 02 10.0**	**-0.8**
MK31				IAmb	IAmb	01 03 37.6	
MKAR	comp=Z,2.1nm,1.4s **Makanchi Array**	**78.04**	**320**	P	**P**	**01 02 09.3**	**-1.6**
MKAR	comp=Z,0.2nm,0.4s,baz=94,slow=9.1,SNR=7.1 **Makanchi Array**	**78.04**	**320**	P	**P**	**01 02 09.7**	**-1.1**
ZALV	**Zalesovo Beam**	**79.47**	**328**	P	**P**	**01 02 16.0**	**-2.4**
KDJ	comp=Z,0.3nm,0.3s,baz=114,slow=5.5,SNR=4.0 **Kajisay**	**79.90**	**315**	P	**P**	**01 02 20.6**	**-0.7**
KDJ	comp=Z,2.5nm,0.8s			IAmb	IAmb	01 04 58.5	
L19K	**White Mountain**	**80.75**	**24**	P	**P**	**01 02 25.1**	**-0.1**
BOOM	**Boomskoye usch**	**80.89**	**315**	P	**P**	**01 02 26.2**	**-0.4**
BOOM	comp=Z,17nm,1.6s			IAmb	IAmb	01 04 27.8	
BRLK	**Bradley Lake**	**81.21**	**27**	P	**P**	**01 02 30.0**	**+2.3**
ILAR	**Eielson Array**	**85.13**	**23**	P	**P**	**01 02 45.6**	**-2.1**
NRIK	comp=Z,0.7nm,0.7s,baz=264,slow=5.4,SNR=6.3 **Noril'sk**	**85.53**	**342**	P	**P**	**01 02 48.5**	**-1.1**
TORD	comp=Z,0.7nm,0.4s,baz=118,slow=2.9,SNR=3.6 **Torodi Ar. Bea**	**145.93**	**285**	PKPbc	**PKPdf**	**01 09 51.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=66,slow=3.0,SNR=12						

*IDC **29** 00:52:42.2±0.8, 16°.37S×167°.49E,h0km,mb4.3/14, mb1 4.5/15,mb1mx4.3/33,mbtmp4.3/15,ML3.6/1,MS4.1/11, Ms1 4.1/11,ms1mx3.6/62,Error ellipse: s-maj=22.9km s-min=17.8km az=107.0*

*NOU **29** 00:52:45.2, 16°.295×167°.31E,h7km,mB4.9/16, Vanuatu Islands*

*NEIC **29** 00:52:47.5±2.1, 16°.19S±0°.05×167°.03E±0°.09,h35km±2km, mb4.8/37,Error ellipse: s-maj=14.6km s-min=8.3km az=94.0*

ISC 29 00:52:45.6±0.3,16°.25S±0°.05×167°.23E±0°.06,h18km,n116, σ1§70/103,mb4.8/34,MS4.0/12,1C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.80**	**358**		**Pb**	**00 53 01.0**	**-0.1**
SANVU	**Saraoutou**	**0.80**	**358**	P	**Pb**	**00 53 01.5**	**+0.4**
DVP	**Devils Point**	**1.73**	**148**	P	**Pn**	**00 53 15.1**	**+0.3**
RTV	**Rentapao**	**1.91**	**143**	P	**Pn**	**00 53 17.9**	**+0.6**
LIFNC	**LIFOU**	**4.50**	**180**	Pn	**Pn**	**00 53 53.9**	**+0.9**
LIFNC	**LIFOU**	**4.50**	**180**	P	**Pn**	**00 53 53.2**	**+0.3**
KOUNC	**Koumac, New Ca**	**5.10**	**213**		**Pn**	**00 54 00.8**	**-0.5**
KOUNC	**Koumac, New Ca**	**5.10**	**213**	P	**Pn**	**00 54 02.5**	**+1.2**
MARNC	**Mare, Loyalty**	**5.25**	**172**	Pn	**Pn**	**00 54 02.7**	**-0.6**
MARNC	**Mare, Loyalty**	**5.25**	**172**	P	**Pn**	**00 54 03.5**	**+0.2**
YATNC	0.9nm,0.4s **Mamie plateau,**	**5.78**	**183**	P	**Pn**	**00 54 09.5**	**-1.1**
DZM	**Mont Dzumac**	**5.83**	**187**	Pn	Pn	00 54 06.8	-4.6
DZM	1.7nm,0.3s,baz=278,slow=20,SNR=26			Sn	**Sn**	**00 55 16.0**	**-1.9**
DZM	5.3nm,0.3s,baz=306,slow=23,SNR=6.5 **Mont Dzumac**	**5.83**	**187**		**Pn**	**00 54 09.7**	**-1.7**
NOUC	**Port Laguerre**	**5.88**	**188**	P	**Pn**	**00 54 12.0**	**+0.1**
ONTNC	**Ouen Toro**	**6.07**	**187**		**Pn**	**00 54 14.4**	**-0.1**
ONTNC	**Ouen Toro**	**6.07**	**187**	P	**Pn**	**00 54 15.8**	**+1.3**
OUENC	**Ouen Island, N**	**6.14**	**183**		**Pn**	**00 54 15.7**	**+0.2**
OUENC	**Ouen Island, N**	**6.14**	**183**	P	**Pn**	**00 54 16.0**	**+0.5**
PINNC	**Pines Island,**	**6.33**	**178**	Pn	**Pn**	**00 54 19.1**	**+1.0**
MSVF	**Nonsavu**	**10.46**	**100**	Pn	**Pn**	**00 55 12.8**	**-2.1**
MSVF	1.6nm,0.3s,baz=253,slow=23,SNR=1.8			LR	LR	00 58 26.8	
MSVF	comp=Z,3μm,18.3s,baz=221,slow=34 **Nonsavu**	**10.46**	**100**	Pn	**Pn**	**00 55 16.9**	**+2.0**
EIDS	**Eidsvold**	**17.59**	**236**		**Pn**	**00 56 47.8**	**-2.2**
KRVT	**Keravat (AS076**	**19.07**	**307**	P	**Pn**	**00 57 14.0**	**+5.8**
OUZ	5.1nm,0.3s,baz=127,slow=11,SNR=3.9 **Omahuta**	**19.73**	**164**		**P**	**00 57 15.7**	**+1.4**
OUZ				IAmb	IAmb	00 57 19.4	
RMQ	comp=Z,22nm,0.8s **Roma**	**19.96**	**236**	P	**Pn**	**00 57 20.6**	**+1.9**
ARMA	baz=20,SNR=6.0 **Armidale**	**20.06**	**223**	P	**P**	**00 57 16.0**	**-2.2**
CTA	**Charters Tower**	**20.29**	**256**	P	**P**	**00 57 22.4**	**+1.8**
CTA	comp=Z,15nm,0.9s,baz=85,slow=11,SN

AFI				IAmb	IAmb	00 57 30.6	
	comp=Z,43nm,1.0s						
PMG	**Port Moresby**	**20.70 287**		P	**P**	**00 57 28.2**	**+3.1**
	comp=Z,25nm,0.7s,baz=81,slow=9.2,SNR=4.4						
PMG	**Port Moresby**	**20.70 287**		P	**P**	**00 57 21.1**	**-4.1**
PMG				IAmb	IAmb	00 57 34.4	
	comp=Z,53nm,1.0s						
HIZ	**Hauiti**	**23.17 165**		P	**P**	**00 57 52.5**	**+1.3**
COEN	**Coen**	**23.33 272**		P	**P**	**00 57 56.3**	**+3.2**
	baz=24						
COEN	**Coen**	**23.33 272**		P	**P**	**00 57 48.9**	**-4.2**
URZ	**Urewera**	**23.58 160**		P	**P**	**00 57 52.4**	**-2.9**
	comp=Z,21nm,1.0s,baz=115,slow=21,SNR=6.6						
URZ	**Urewera**	**23.58 160**		P	**P**	**00 57 56.5**	**+1.2**
URZ				IAmb	IAmb	00 58 03.4	
	comp=Z,40nm,0.9s						
MANU	**Manus Island**	**24.12 304**		P	**P**	**00 57 57.4**	**-3.3**
MANU				IAmb	IAmb	00 58 09.8	
	comp=Z,20nm,0.8s						
BKZ	**Black Stump Fm**	**24.23 162**		P	**P**	**00 58 02.8**	**+1.3**
BKZ				IAmb	IAmb	00 58 05.3	
	comp=Z,43nm,0.8s						
KNTN	**Kanton**	**24.67 59**		P	**P**	**00 58 06.5**	**+0.8**
KNTN				IAmb	IAmb	00 58 07.6	
	comp=Z,19nm,1.1s						
CNB	**Canberra Magne**	**24.80 217**		P	**P**	**00 58 09.1**	**+2.3**
	baz=25						
CMSA	**Cobar Meteorol**	**24.81 228**		P	**P**	**00 58 08.3**	**+1.5**
	baz=25,SNR=12						
QRZ	**Quartz Range**	**24.91 170**		P	**P**	**00 58 08.7**	**+1.1**
QRZ				IAmb	IAmb	00 58 13.4	
	comp=Z,52nm,1.2s						
BFZ	**Birch Farm**	**25.57 164**		P	**P**	**00 58 12.1**	**-1.5**
TUWZ	**Tuamarina**	**25.75 168**		P	**P**	**00 58 16.0**	**+0.8**
THZ	**Tophouse**	**25.89 170**		P	**P**	**00 58 17.9**	**+1.3**
THZ				IAmb	IAmb	00 58 22.6	
	comp=Z,30nm,0.9s						
BHW	**Baring Head**	**25.92 167**		P	**P**	**00 58 15.8**	**-1.0**
BSWZ	**Blackbirch Sta**	**26.01 169**		P	**P**	**00 58 18.2**	**+0.6**
MSWZ	**Moikau Station**	**26.01 166**		P	**P**	**00 58 17.5**	**-0.2**
PLWZ	**Palliser**	**26.16 166**		P	**P**	**00 58 18.2**	**-0.8**
QIS	**Mount Isa**	**26.54 256**		P	**P**	**00 58 25.0**	**+2.4**
	baz=27,SNR=10						
KHZ	**Kahutara**	**26.63 170**		P	**P**	**00 58 23.9**	**+0.7**
KHZ				IAmb	IAmb	00 58 26.3	
	comp=Z,38nm,0.9s						
FOZ	**Fox Glacier**	**27.28 176**		P	**P**	**00 58 28.4**	**-0.6**
FOZ				IAmb	IAmb	00 58 34.3	
	comp=Z,30nm,1.2s						
STKA	**Stephens Creek**	**28.00 232**		P	**P**	**00 58 36.9**	**+1.2**
	comp=Z,13nm,1.0s,baz=74,slow=11,SNR=6.0						
STKA				LR	LR	01 09 05.7	
	comp=Z,235nm,18.2s,baz=49,slow=35						
STKA	**Stephens Creek**	**28.00 232**		P	**P**	**00 58 37.2**	**+1.6**
	baz=28,SNR=5.7						
STKA	**Stephens Creek**	**28.00 232**		P	**P**	**00 58 34.1**	**-1.5**
WB0	**Warramunga Arr**	**31.39 259**		P	P	00 59 02.0	-3.9
WB2	**Warramunga Arr**	**31.43 258**		P	**P**	**00 59 03.6**	**-2.6**
WB2				IAmb	IAmb	00 59 18.6	
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**31.43 258**		P	P	00 59 02.7	-3.5
WRA	**Warramunga Arr**	**31.45 258**		P	**P**	**00 59 06.0**	**-0.4**
	comp=Z,2.7nm,1.1s,baz=84,slow=6.9,SNR=4.7						
WRA				LR	LR	01 11 02.5	
	comp=Z,259nm,19.7s,baz=39,slow=35						
WRA	**Warramunga Arr**	**31.45 258**		P	P	00 59 03.3	-3.0
SMPI	**Sarmi**	**31.45 294**		P	P	00 59 11.9	+5.5
AS31	**Alice Springs**	**32.12 251**		P	**P**	**00 59 10.8**	**-1.4**
ASAR	**Alice Springs**	**32.12 251**		P	**P**	**00 59 12.9**	**+0.6**
	comp=Z,10nm,0.7s,baz=77,slow=9.1,SNR=34						
ASAR				LR	LR	01 11 37.9	
	comp=Z,526nm,19.3s,baz=98,slow=35						
ASAR	**Alice Springs**	**32.12 251**		P	**P**	**00 59 09.9**	**-2.4**
ASPA	**Alice Springs**	**32.12 251**		P	**P**	**00 59 13.2**	**+0.9**
	baz=32						
BBOO	**Buckleboo**	**32.63 234**		P	**P**	**00 59 19.3**	**+2.7**
	baz=33						
FAKI	**Fak Fak**	**36.86 287**		P	P	00 59 50.3	-3.1
KNRA	**Kununurra**	**36.95 265**		P	**P**	**00 59 52.2**	**-1.9**
KNRA				IAmb	IAmb	01 00 00.3	
	comp=Z,20nm,1.1s						
GUMO	**Guam**	**36.98 322**		LR	LR	01 13 56.8	
	comp=Z,166nm,21.4s,baz=134,slow=34						
SIJI	**Sorong**	**38.59 290**		LR	LR	01 17 07.3	
	comp=Z,291nm,18.5s,baz=262,slow=38						
FITZ	**Fitzroy Crossi**	**39.72 261**		P		**01 00 17.3**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=122,slow=13,SNR=3.4						
FITZ				LR	LR	01 16 43.8	
	comp=Z,340nm,18.2s,baz=68,slow=36						
BATI	**Baumata**	**42.77 272**		LR	LR	01 17 48.2	
	comp=Z,210nm,21.5s,baz=161,slow=35						
KAPI	**Kappang**	**47.86 278**		LR	LR	01 21 01.5	
	comp=Z,66nm,21.9s,baz=70,slow=35						
VNDA	**Vanda**	**61.34 181**		P	**P**	**01 02 59.8**	**0.0**
	comp=Z,0.9nm,0.9s,baz=30,slow=3.1,SNR=2.9						
VNDA	**Vanda**	**61.34 181**		P	**P**	**01 03 00.4**	**+0.6**
VNDA				IAmb	IAmb	01 03 07.4	
	comp=Z,4.3nm,1.0s						
SBA	**Scott Base**	**61.62 180**		P	**P**	**01 03 02.2**	**+0.4**
CASY	**Casey**	**62.11 202**		P	**P**	**01 03 02.9**	**-2.3**
CASY				IAmb	IAmb	01 03 16.6	
	comp=Z,6.5nm,0.9s						
NJ2	**Nanjing**	**66.74 316**		*e*P	**P**	**01 03 36.0**	**0.0**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
USA0B	**Ussuriysk Arra**	**68.22 333**		P	P	01 03 42.9	-2.2
USA0B				IAmb	IAmb	01 03 50.6	
	comp=Z,11nm,1.1s						
USRK	**Ussuriysk Ar.**	**68.22 333**		P	**P**	**01 03 43.1**	**-2.0**
PETK	**Petropavlovsk-**	**69.56 354**		P	**P**	**01 03 53.4**	**+0.1**
	comp=Z,5.6nm,1.0s,baz=131,slow=6.1,SNR=6.4						
PETK	**Petropavlovsk-**	**69.56 354**		P	**P**	**01 03 52.4**	**-0.8**
CN2	**Changchun**	**70.93 329**		*e*P	**P**	**01 04 03.5**	**+1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LYN	**LuoYang**	**72.52 315**		*e*P	**P**	**01 04 11.5**	**-0.1**
LYN				sP	pP	01 04 20.3	+3.1
LYN				S	**SKiKP**	**01 13 44.0**	**-2.1**
HNS	**HongShan**	**72.71 319**		*e*P	P	01 04 20.0	+7.4
QSPA	**South Pole Qui**	**73.78 180**		P	**P**	**01 04 19.2**	**+0.4**
XAN	**Xi'an**	**74.69 313**		⇑P	**P**	**01 04 25.8**	**+1.3**
XAN				pP	pP	01 04 30.5	+0.4
XAN				sP	sP	01 04 33.3	+1.8
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.53 294**		P	**P**	**01 04 30.9**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=139,slow=1.9,SNR=1.4						
PZH	**PanZhiHua**	**76.48 303**		P	**P**	**01 04 34.8**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,6.0s						
HHC	**Hu-ho-hao-te**	**76.72 320**		*e*P	**P**	**01 04 35.3**	**-0.7**
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,70nm,5.3s						
CD2	**Chengdu**	**76.90 308**		P	**P**	**01 04 38.5**	**+1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LZH	**Lanzhou**	**79.31 313**		*e*P	P	01 04 39.5	-11
LZH				pP	pP	01 04 42.5	-14
LZH	**Lanzhou**	**79.31 313**		*e*P	P	01 04 55.8	+5.2
LZH				pP	PcP	01 05 04.5	+5.7
LZH				sP	pwP	01 05 07.5	+11
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				LR	LR		
	comp=N,120nm,14.5s						
LZH				LR	LR		
	comp=E,200nm,15.1s						
LZH				LR	LR		
	comp=Z,130nm,15.3s						
ULN	**Ulaanbaatar**	**83.34 324**		P	**P**	**01 05 10.1**	**-1.5**
ULN				IAmb	IAmb	01 05 25.3	
	comp=Z,5.4nm,0.9s						
M19K	**Big River Lodg**	**83.60 17**		P	**P**	**01 05 11.6**	**-0.9**
M19K				IAmb	IAmb	01 05 29.6	
	comp=Z,6.4nm,1.1s						
GTA	**Gaotai**	**83.69 314**		*e*P	**P**	**01 05 16.0**	**+2.3**
GTA				pP	PcP	01 05 21.0	+3.2
GTA				sP	pwP	01 05 24.3	+4.9
GTA				pmax	pmax		

	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,61nm,5.1s						
GTA				LR	LR		
	comp=N,84nm,17.1s						
GTA				LR	LR		
	comp=E,100nm,17.8s						
GTA				LR	LR		
	comp=Z,100nm,19.3s						
SONM	**Songino Array**	**83.69 324**		P	**P**	**01 05 13.9**	**+0.4**
	comp=Z,2.1nm,1.1s,baz=131,slow=4.0,SNR=7.7						
SONM	**Songino Array**	**83.69 324**		P	**P**	**01 05 11.4**	**-2.0**
BILL	**Bilibino**	**84.06 360**		P	**P**	**01 05 13.9**	**-0.8**
BILL				IAmb	IAmb	01 05 19.0	
	comp=Z,8.2nm,1.1s						
BELA	**Belgrano 2**	**85.22 175**		P	**P**	**01 05 20.4**	**-0.3**
MDPB	**Devils Postpil**	**87.42 50**		P	**P**	**01 05 30.7**	**-1.8**
ILAR	**Eielson Array**	**87.98 18**		P	**P**	**01 05 32.1**	**-2.0**
	comp=Z,1.6nm,1.1s,baz=234,slow=6.5,SNR=6.6						
TROLL	**Troll, Antarti**	**91.35 185**		PcP	**P**	**01 05 50.5**	**+0.3**
SNAA	**Sanae**	**92.03 183**		PcP	**P**	**01 05 53.7**	**+0.5**
SNAA	**Sanae**	**92.03 183**		P	**P**	**01 05 52.7**	**-0.6**
WMQ	**Urumqi**	**93.76 314**		*e*P	**P**	**01 06 01.3**	**-0.4**
MKAR	**Makanchi Array**	**98.27 316**		P	**P**	**01 06 24.1**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=99,slow=7.5,SNR=4.0						
YKA	**Yellowknife Ar**	**98.91 27**		P	**P**	**01 06 24.1**	**-0.4**
	comp=Z,0.9nm,1.1s,baz=251,slow=5.4,SNR=4.8						
KSH	**Kashi**	**101.10 308**		P	**Pdif**	**01 06 34.0**	**-1.0**
KSH				pP	pwP	01 06 46.3	+5.4
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**121.71 345**		PKP	**PKPdf**	**01 11 37.5**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=101,slow=1.2,SNR=5.7						
KLMR	**Klimovskoe**	**122.02 333**		*e*PKPdf	**PKPdf**	**01 11 34.9**	**-3.8**
KLMR				AMP		01 11 36.6	
	comp=Z,11nm,1.5s						
CLL	**Collm**	**139.42 335**		*e*PKPdf	**PKPdf**	**01 12 13.0**	**+1.2**
GERES	**GERESS Array B**	**140.97 332**		PKP	**PKPdf**	**01 12 14.0**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=348,slow=4.2,SNR=1.9						
DAVOX	**Davos/Dischmat**	**144.22 333**		PKP	**PKPab**	**01 12 21.0**	**+2.4**
	comp=Z,3.4nm,0.7s,baz=270,slow=4.2,SNR=5.6						
KEST	**Kesra**	**152.34 319**		PKPbc	**PKPbc**	**01 12 42.3**	**+1.2**
	comp=Z,6.9nm,1.0s,baz=320,slow=4.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.67 259**		PKPab	**PKPab**	**01 13 50.5**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=95,slow=2.3,SNR=6.1						

*IDC **29** 00:56:39.7±1.6,0.˝44S×76.˝62W,h0km,mb3.9/8,mb1 4.1/9, mb1mx3.9/34,mbtmp3.9/9,ML4.1/1, Error ellipse: s-maj=69.1km s-min=26.9km az=45.0*

*NEIC **29** 00:56:54.9±1.5,0.˝69S×0.˝09×76.˝4W±0.˝1,h145km±7km, mb4.0/23, Error ellipse: s-maj=21.5km s-min=12.0km az=68.0*

ISC 29 00:56:43.9±0.7,0.˝7S±0.˝1×76.˝5W±0.˝2,h35km,n38, σ1ŝ78/36,mb4.2/17,Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**5.89**	**21**	Pn	Pn	00 58 19.2	+10
PAYG	**Puerto Ayora**	**13.82**	**270**	Pn	**P**	**01 00 04.9**	**-0.4**
ORTG	**Ortega, Santa**	**14.16**	**321**	P	**P**	**01 00 12.0**	**+2.8**
LPAZ	**La Paz**	**17.55**	**153**	P	**P**	**01 00 50.5**	**+3.2**
	0.3nm,0.3s,baz=295,slow=2.6,SNR=7.7						
LPAZ	**La Paz**	**17.55**	**153**	P	**P**	**01 00 49.9**	**+2.5**
PB12	**IPOC Station P**	**18.81**	**162**	P	**P**	**01 01 01.4**	**+0.7**
PB12				IAmb	IAmb	01 01 04.7	
	comp=Z,7.0nm,0.7s						
PB16	**IPOC Station P**	**18.82**	**159**	P	**Pn**	**01 01 03.1**	**+1.0**
PB16				IAmb	IAmb	01 01 03.8	
	comp=Z,4.9nm,0.5s						
GO01	**Chusmiza**	**20.17**	**160**	P	**P**	**01 01 16.2**	**+0.2**
GO01				IAmb	IAmb	01 01 23.0	
	comp=Z,3.2nm,0.7s						
SIV	**San Ignacio**	**21.49**	**136**	P	**P**	**01 01 24.4**	**-5.4**
	comp=Z,0.5nm,0.3s,baz=306,slow=7.9,SNR=6.0						
CMIG	**Matias Romero**	**25.33**	**315**	P	**P**	**01 02 06.6**	**-1.0**
	comp=Z,2.0nm,0.4s,baz=143,slow=4.2,SNR=3.5						
TXAR	**Lajitas Array**	**39.58**	**321**	P	**P**	**01 04 11.2**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=147,slow=9.9,SNR=6.6						
TX31	**Lajitas Ar. Si**	**39.58**	**321**	P	**P**	**01 04 11.6**	**-0.4**
MGMO	**Mountain Grove**	**40.40**	**340**	P	**P**	**01 04 20.1**	**+1.4**
MGMO				IAmb	IAmb	01 04 20.7	
	comp=Z,4.0nm,0.7s						
ANMO	**Albuquerque**	**45.20**	**325**	P	**P**	**01 04 57.9**	**0.0**
ANMO				IAmb	IAmb	01 04 58.6	
	comp=Z,4.1nm,0.6s						
PV13	**Radium Mtn., P**	**48.81**	**326**	P	**P**	**01 05 25.6**	**-0.4**
PV13				IAmb	IAmb	01 05 26.5	
	comp=Z,2.8nm,0.8s						
ULM	**Lac du Bonnet**	**53.39**	**345**	P	**P**	**01 06 00.1**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=149,slow=4.7,SNR=3.0						
ULM	**Lac du Bonnet**	**53.39**	**345**	P	**P**	**01 06 00.0**	**+0.1**
ULM				IAmb	IAmb	01 06 04.3	
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**54.71**	**320**	P	**P**	**01 06 08.7**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=106,slow=6.7,SNR=1.9						
YKA	**Yellowknife Ar**	**69.23**	**342**	P	**P**	**01 07 46.1**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=139,slow=6.0,SNR=20						
TORD	**Torodi Ar. Bea**	**78.63**	**77**	P	**P**	**01 08 45.2**	**+2.3**
	comp=Z,0.1nm,0.4s,baz=282,slow=7.0,SNR=1.2						
INK	**Inuvik**	**78.98**	**341**	P	**P**	**01 08 43.5**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=91,slow=5.5,SNR=9.4						
INK	**Inuvik**	**78.98**	**341**	P	**P**	**01 08 43.4**	**-0.3**
INK				IAmb	IAmb	01 08 44.2	
	comp=Z,2.6nm,0.8s						
BCAR	**Beaver Creek A**	**79.66**	**335**	P	**P**	**01 08 46.0**	**-1.6**
EGAK	**Eagle**	**80.07**	**337**	P	**P**	**01 08 48.9**	**-0.9**
EGAK				IAmb	IAmb	01 08 49.6	
	comp=Z,4.0nm,0.9s						
K27K	**Chicken**	**80.15**	**336**	P	**P**	**01 08 49.8**	**-0.4**
K27K				IAmb	IAmb	01 09 00.0	
	comp=Z,2.8nm,1.1s						
SCM	**Sheep Creek Mo**	**81.66**	**333**	P	**P**	**01 08 56.5**	**-1.9**
J25K	**Salcha River,**	**81.69**	**336**	P	**P**	**01 08 57.1**	**-1.4**
J25K				IAmb	IAmb	01 08 57.4	
	comp=Z,2.0nm,0.8s						
BMAR	**Burnt Mountain**	**82.36**	**339**	P	**P**	**01 09 01.2**	**-0.7**
ILAR	**Eielson Array**	**82.36**	**336**	P	**P**	**01 09 00.5**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=124,slow=3.2,SNR=7.1						
RND	**Reindeer**	**82.79**	**334**	P	**P**	**01 09 03.1**	**-1.2**
CNPM	**China Poot**	**82.90**	**330**	P	**P**	**01 09 03.7**	**-1.2**
MDM	**Murphy Dome**	**82.97**	**336**	P	**P**	**01 09 02.9**	**-2.2**
MDM				IAmb	IAmb	01 09 20.4	
	comp=Z,2.3nm,1.2s						
NEA2	**Nenana**	**83.21**	**336**	P	**P**	**01 09 04.7**	**-1.7**
NEA2				IAmb	IAmb	01 09 05.2	
	comp=Z,1.8nm,0.6s						
I23K	**Minto, Yukon-K**	**83.48**	**336**	P	**P**	**01 09 06.5**	**-1.2**
BPAW	**Bear Paw Mtn.**	**83.88**	**335**	P	**P**	**01 09 07.8**	**-2.0**
PPLA	**Purkeypile**	**84.12**	**333**	P	**P**	**01 09 09.1**	**-2.2**
CAST	**Castle Rocks**	**84.20**	**334**	P	**P**	**01 09 09.2**	**-2.2**
WRA	**Warramunga Arr**	**143.51**	**234**	PKhKP	PKPpre	01 16 03.8	
	comp=Z,0.4nm,0.9s,baz=122,slow=3.0,SNR=5.1						

*IDC **29** 01:01:50.4±0.8, 16.˝00S×167.˝22E, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.3/28, mbtmp4.3/16, MS4.0/10, Ms1 4.0/10, ms1mx3.6/63, Error ellipse: s-maj=23.0km s-min=18.2km az=101.0*

*NEIC **29** 01:01:53.8±2.4, 16.˝24S±0.˝05×167.˝23E±0.˝08, h13km±4km, mb4.8/40, Error ellipse: s-maj=11.8km s-min=7.2km az=89.0*

*NOU **29** 01:01:53.1, 16.˝26S×167.˝27E, h0km, MLv5.1/22, Vanuatu Islands*

*BJI **29** 01:01:53.8±0.0, 16.˝11S×167.˝45E, h28km, mb4.8/30, mB5.0/19, Ms4.7/4, Ms7 4.3/4*

ISC 29 01:01:55.3±0.3, 16.˝21S±0.˝05×167.˝18E±0.˝06, h27km, n139, σ1ŝ45/130, mb4.7/40, MS3.7/8, 3C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.76**	**2**	Pg	**Pb**	**01 02 08.9**	**-1.1**
SANVU	**Saraoutou**	**0.76**	**2**	P	**Pb**	**01 02 09.1**	**-0.9**
DVP	**Devils Point**	**1.79**	**147**	P	**Pn**	**01 02 23.5**	**-0.9**
RTV	**Rentapao**	**1.97**	**143**	P	**Pn**	**01 02 27.2**	**+0.2**
LIFNC	**LIFOU**	**4.54**	**179**	Pn	**Pn**	**01 03 01.4**	**-0.9**
LIFNC	**LIFOU**	**4.54**	**179**	P	**Pn**	**01 03 03.6**	**+1.3**
KOUNC	**Koumac, New Ca**	**5.11**	**212**	Pn	**Pn**	**01 03 08.3**	**-1.9**
KOUNC	**Koumac, New Ca**	**5.11**	**212**	P	**Pn**	**01 03 09.5**	**-0.7**
MARNC	**Mare, Loyalty**	**5.30**	**171**	Pn	**Pn**	**01 03 11.4**	**-1.4**
MARNC	**Mare, Loyalty**	**5.30**	**171**	P	**Pn**	**01 03 13.1**	**+0.3**
DZM	**Mont Dzumac**	**5.87**	**187**	Pn	**Pn**	**01 03 18.7**	**-2.0**
	9.7nm,0.3s,baz=38,slow=11,SNR=43						

DZM				Sn	**Sn**	**01 04 23.9**	**-3.2**
	13nm,0.3s,baz=132,slow=22,SNR=3.5						
DZM				LR	LR	01 05 23.7	
	comp=Z,865nm,20.8s,baz=92,slow=35						
DZM	**Mont Dzumac**	**5.87**	**187**		**Pn**	**01 03 18.2**	**-2.5**
DZM	**Mont Dzumac**	**5.87**	**187**	P	**Pn**	**01 03 19.4**	**-1.3**
NOUC	**Port Laguerre**	**5.92**	**188**	P	**Pn**	**01 03 19.9**	**-1.3**
ONTNC	**Ouen Toro**	**6.10**	**186**	Pn	**Pn**	**01 03 21.9**	**-1.8**
ONTNC	**Ouen Toro**	**6.10**	**186**	P	**Pn**	**01 03 25.5**	**+1.7**
OUENC	**Ouen Island, N**	**6.18**	**183**	Pn	**Pn**	**01 03 23.1**	**-1.7**
OUENC	**Ouen Island, N**	**6.18**	**183**	P	**Pn**	**01 03 24.6**	**-0.3**
PINNC	**Pines Island,**	**6.37**	**178**	Pn	**Pn**	**01 03 27.3**	**-0.2**
MSVF	**Nonsavu**	**10.51**	**100**	Pn	**Pn**	**01 04 27.5**	**+3.1**
	1.0nm,0.3s,baz=254,slow=9.7,SNR=9.1						
MSVF				LR	LR	01 07 34.7	
	comp=Z,2μm,18.7s,baz=301,slow=33						
MSVF	**Nonsavu**	**10.51**	**100**	Pn	**Pn**	**01 04 23.7**	**-0.7**
FUNA	**Funafuti**	**14.00**	**58**	Pn	**Pn**	**01 05 11.4**	**-0.6**
EIDS	**Eidsvold**	**17.58**	**236**	Pn	**Pn**	**01 05 57.5**	**-1.0**
OUZ	**Omahuta**	**19.78**	**164**	P	**Pn**	**01 06 24.5**	**-0.6**
OUZ				IAmb	IAmb	01 06 27.9	
	comp=Z,33nm,0.8s						
OUZ	**Omahuta**	**19.78**	**164**	P	**Pn**	**01 06 25.6**	**+0.5**
ARMA	**Armidale**	**20.06**	**222**	P	**P**	**01 06 27.6**	**+0.8**
CTA	**Charters Tower**	**20.25**	**256**	P	**P**	**01 06 29.8**	**+1.0**
	comp=Z,18nm,1.0s,baz=93,slow=11,SNR=9.4						
CTA				LR	LR	01 13 20.8	
	comp=Z,315nm,19.2s,baz=81,slow=34						
CTAO	**Charters Tower**	**20.25**	**256**		Pn	01 06 31.2	+0.4
CTAO				IAmb	IAmb	01 06 36.3	
	comp=Z,48nm,1.2s						
AFI	**Afiamalu**	**20.45**	**86**	LR	LR	01 11 59.3	
	comp=Z,271nm,20.0s,baz=188,slow=30						
PMG	**Port Moresby**	**20.65**	**287**	P	**P**	**01 06 32.8**	**-0.4**
	comp=Z,14nm,0.7s,baz=333,slow=6.7,SNR=1.9						
PMG	**Port Moresby**	**20.65**	**287**	P	**P**	**01 06 33.2**	**+0.1**
PMG				IAmb	IAmb	01 06 41.9	
	comp=Z,63nm,1.1s						
KMRZ	**Kaimai**	**22.89**	**162**	P	P	01 07 04.6	+7.6
HAZ	**Te Kaha**	**23.41**	**158**	P	**P**	**01 07 03.1**	**+0.9**
PKGZ	**Pakihiroa**	**23.63**	**158**	P	**P**	**01 07 05.5**	**+1.1**
URZ	**Urewera**	**23.64**	**160**	P	**P**	**01 07 05.2**	**+0.8**
	comp=Z,21nm,0.9s,baz=43,slow=5.1,SNR=10						
URZ	**Urewera**	**23.64**	**160**	P	**P**	**01 07 05.5**	**+1.2**
URZ	**Urewera**	**23.64**	**160**	P	**P**	**01 07 05.5**	**+1.2**
WMGZ	**Waiomatatini S**	**23.70**	**157**	P	**P**	**01 07 05.3**	**+0.3**
TWGZ	**Tauwhareparae**	**23.86**	**159**	P	**P**	**01 07 07.5**	**+1.0**
PUZ	**Puketiti**	**23.86**	**158**	P	**P**	**01 07 06.8**	**+0.2**
NNVZ	**North Ngauruho**	**24.00**	**164**	P	**P**	**01 07 10.7**	**+2.7**
OTVZ	**Oturere**	**24.04**	**164**	P	**P**	**01 07 11.3**	**+2.9**
SNVZ	**South Ngauruho**	**24.06**	**164**	P	**P**	**01 07 10.8**	**+2.3**
CNGZ	**Carnagh Statio**	**24.21**	**159**	P	**P**	**01 07 10.2**	**+0.4**
BKZ	**Black Stump Fm**	**24.28**	**162**	P	**P**	**01 07 08.7**	**-1.7**
BKZ	**Black Stump Fm**	**24.28**	**162**	P	**P**	**01 07 10.9**	**+0.5**
CMSA	**Cobar Meteorol**	**24.80**	**228**	P	**P**	**01 07 16.2**	**+0.9**
QRZ	**Quartz Range**	**24.96**	**170**	P	**P**	**01 07 18.9**	**+2.4**
KHZ	**Kahutara**	**26.68**	**169**	P	**P**	**01 07 34.5**	**+2.5**
FOZ	**Fox Glacier**	**27.32**	**176**	P	**P**	**01 07 38.2**	**+0.4**
FOZ				IAmb	IAmb	01 08 05.0	
	comp=Z,27nm,1.2s						
RPZ	**Rata Peaks**	**27.61**	**174**	LR	LR	01 18 29.7	
	comp=Z,661nm,18.4s,baz=354,slow=36						
STKA	**Stephens Creek**	**27.99**	**232**	P	**P**	**01 07 44.3**	**+0.3**
	comp=Z,7.3nm,1.0s,baz=36,slow=8.7,SNR=4.8						
STKA				PcP	**PcP**	**01 10 59.0**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=70,slow=7.0,SNR=4.3						
STKA				LR	LR	01 17 36.8	
	comp=Z,184nm,19.0s,baz=48,slow=34						
STKA	**Stephens Creek**	**27.99**	**232**	P	**P**	**01 07 44.0**	**0.0**
WR0	**Warramunga Arr**	**31.22**	**258**	P	**P**	**01 08 13.3**	**+0.5**
WB0	**Warramunga Arr**	**31.36**	**259**	P	**P**	**01 08 13.2**	**-0.8**
WB0				IAmb	IAm

PZH					pmax	pmax			
	comp=Z,90nm,4.9s								
HHC	**Hu-ho-hao-te**	**76.66**	**320**	*e*P		**P**	**01 13 46.3**	**+2.3**	
HHC					pmax	pmax			
	comp=Z,22nm,1.0s								
HHC					pmax	pmax			
	comp=Z,70nm,4.6s								
MA2	**Magadan**	**76.69**	**352**	P		**P**	**01 13 43.0**	**-0.6**	
MA2				IAmb		IAmb	01 13 49.0		
	comp=Z,4.0nm,0.7s								
LZH	**Lanzhou**	**79.25**	**313**	*e*P		**P**	**01 14 01.8**	**+3.2**	
LZH				pP		sP	01 14 11.3	+2.0	
LZH				pmax		pmax			
	comp=Z,18nm,1.1s								
ULN	**Ulaanbaatar**	**83.28**	**324**	P		**P**	**01 14 17.9**	**-1.8**	
ULN				IAmb		IAmb	01 14 34.2		
	comp=Z,8.1nm,1.1s								
GTA	**Gaotai**	**83.63**	**314**	*e*P		**P**	**01 14 24.0**	**+2.3**	
GTA				pP		pP	01 14 29.0	-1.1	
GTA				sP		sP	01 14 32.5	+0.1	
GTA				pmax		pmax			
	comp=Z,7.0nm,1.2s								
SONM	**Songino Array**	**83.64**	**324**	P		**P**	**01 14 18.7**	**-2.8**	
	comp=Z,1.2nm,0.9s,baz=139,slow=4.1,SNR=7.8								
SONM	**Songino Array**	**83.64**	**324**	P		**P**	**01 14 21.9**	**+0.4**	
BILL	**Bilibino**	**84.02**	**360**	P		**P**	**01 14 21.6**	**-1.3**	
BILL				IAmb		IAmb	01 14 26.6		
	comp=Z,10nm,1.2s								
SHL	**Shillong**	**84.19**	**299**	P		**P**	**01 14 24.1**	**-0.9**	
BELA	**Belgrano 2**	**85.26**	**175**	P		**P**	**01 14 28.0**	**-1.1**	
CAST	**Castle Rocks**	**85.43**	**17**	P		**P**	**01 14 29.4**	**-0.7**	
CAST				IAmb		IAmb	01 14 34.0		
	comp=Z,3.6nm,0.8s								
LSA	**Lhasa**	**86.27**	**302**	P		**P**	**01 14 36.0**	**+0.4**	
LSA				IAmb		IAmb	01 14 42.0		
	comp=Z,8.0nm,1.1s								
SYO	**Syowa Base**	**87.27**	**197**‖	*e*P		**P**	**01 14 38.4**	**-0.7**	
SYO	**Syowa Base**	**87.27**	**197**‖	*e*pP		pP	01 14 44.1	-2.8	
ILAR	**Eielson Array**	**87.96**	**18**	P		**P**	**01 14 40.0**	**-2.4**	
	comp=Z,1.1nm,0.6s,baz=240,slow=5.0,SNR=11								
ILAR	**Eielson Array**	**87.96**	**18**	P		**P**	**01 14 40.2**	**-2.2**	
DLBC	**Dease Lake**	**90.28**	**28**	IAmb		IAmb	01 15 02.6		
	comp=Z,4.7nm,0.6s								
BMAR	**Burnt Mountain**	**90.52**	**17**	P		**P**	**01 14 54.9**	**+0.5**	
TROLL	**Troll, Antarti**	**91.38**	**185**	PcP		**P**	**01 14 58.2**	**-0.5**	
SNAA	**Sanae**	**92.07**	**183**	PcP		**P**	**01 15 00.9**	**-0.9**	
SNAA	**Sanae**	**92.07**	**183**	P		**P**	**01 15 00.3**	**-1.4**	
WMQ	**Urumqi**	**93.70**	**315**	*e*P		**P**	**01 15 10.3**	**+0.6**	
MK31	**Makanchi Array**	**98.21**	**316**	P		**P**	**01 15 29.6**	**-0.5**	
MK31				IAmb		IAmb	01 15 43.3		
	comp=Z,2.8nm,1.4s								
MKAR	**Makanchi Array**	**98.21**	**316**	P		**P**	**01 15 29.4**	**-0.7**	
	comp=Z,0.3nm,0.7s,baz=359,slow=31,SNR=2.7								
MKAR	**Makanchi Array**	**98.21**	**316**	P		**P**	**01 15 29.1**	**-1.0**	
ZAA0	**Zalesovo Array**	**98.53**	**324**	P		Pdif	01 15 32.9	+1.5	
ZALV	**Zalesovo Beam**	**98.53**	**324**	P		**P**	**01 15 29.3**	**-2.0**	
	comp=Z,0.2nm,0.3s,baz=69,slow=8.2,SNR=1.3								
ZALV	**Zalesovo Beam**	**98.53**	**324**	P		**P**	**01 15 30.5**	**-0.8**	
YKA	**Yellowknife Ar**	**98.90**	**27**	P		**P**	**01 15 31.1**	**-1.6**	
	comp=Z,0.5nm,0.8s,baz=254,slow=4.7,SNR=7.6								
KSH	**Kashi**	**101.04**	**308**	P		**Pdif**	**01 15 41.5**	**-1.6**	
KSH				pP		pPdif	01 15 51.0	0.0	
KSH				pmax		pmax			
	comp=Z,3.0nm,0.6s								
GERES	**GERESS Array B**	**140.91**	**332**	PKP		**PKPdf**	**01 21 21.9**	**-1.1**	
	comp=Z,0.4nm,0.6s,baz=90,slow=0.4,SNR=4.4								
WTTA	**Wattenberg**	**143.02**	**332**	*e*P		**PKPdf**	**01 21 28.1**	**+1.1**	
	comp=Z,1.1nm,0.3s								
MOTA	**Moosalm**	**143.19**	**333**	*e*P		**PKPdf**	**01 21 26.9**	**-0.4**	
	comp=Z,0.8nm,0.4s								
SQTA	**Sankt Quirin**	**143.24**	**332**	*e*P		**PKPdf**	**01 21 27.2**	**0.0**	
	comp=Z,2.0nm,0.6s								
FETA	**Feichten**	**143.60**	**333**	*e*P		**PKPdf**	**01 21 29.0**	**+1.0**	
	comp=Z,2.6nm,0.7s								
DAVA	**Damuels**	**143.77**	**334**	*e*P		**PKPdf**	**01 21 29.6**	**+1.4**	
	comp=Z,3.7nm,0.6s								
DAVOX	**Davos/Dischmat**	**144.16**	**333**	PKP		**PKPdf**	**01 21 28.5**	**-0.5**	
	comp=Z,4.6nm,0.6s,baz=197,slow=6.2,SNR=13								
TUE	**Stuetta**	**144.63**	**333**	PKPdf		**PKPdf**	**01 21 29.8**	**0.0**	
MURB	**Monte Urbino**	**145.46**	**327**	PKPbc		**PKPab**	**01 21 31.8**	**+0.4**	
ZCCA	**Zocca**	**145.48**	**329**	PKPbc		**PKPab**	**01 21 32.4**	**+0.9**	
SENIN	**Lac Senin/Sane**	**145.58**	**335**			**PKPab**	**01 21 33.3**	**+1.4**	
BNI	**Bardonecchia**	**146.90**	**334**	PKPbc		**PKPab**	**01 21 36.4**	**-0.6**	
KEST	**Kesra**	**152.28**	**319**	PKPbc		**PKPbc**	**01 21 48.8**	**-0.4**	
	comp=Z,6.6nm,0.7s,baz=177,slow=3.4,SNR=7.1								
TORD	**Torodi Ar. Bea**	**165.63**	**260**	PKPab		**PKPab**	**01 22 58.5**	**+1.0**	
	comp=Z,0.5nm,0.3s,baz=118,slow=3.0,SNR=4.2								

*SNET **29** 01:02:04.9±0.9, 12°.88N×89°.02W, h32km±2km, ML3.8*
*INET **29** 01:02:04.7±0.9, 12°.84N×88°.98W, h15km±10km, MW3.5*
*UCR **29** 01:02:05.0±0.8, 12°.88N×89°.01W, h32km±2km, ML3.8*
ISC 29 01:02:03.7±1.8, **12°.80N**±0°.07×**89°.04W**±0°.05, **h29**km±12km, **n56**, σ0°**38**/71, **5D**, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.74**	**338**	*i* P		**Pn**	**01 02 18.3**	**+0.1**
LALI				*e*S		**Sn**	**01 02 27.7**	**-0.7**
LALI	**Alcalda de L**	**0.74**	**338**	*i* P		**Pn**	**01 02 18.3**	**+0.1**
LALI				*e*S		**Sn**	**01 02 27.7**	**-0.7**
LALI	**Alcalda de L**	**0.74**	**338**	*e*P		**Pn**	**01 02 18.3**	**+0.1**
SJTE	**Alcalda de S**	**0.81**	**2**	*e*P		**Pb**	**01 02 19.4**	**0.0**
SJTE				*e*S		**Sn**	**01 02 30.1**	**-0.3**
SJTE	**Alcalda de S**	**0.81**	**2**	*e*P		**Pb**	**01 02 19.4**	**0.0**
SJTE				*e*S		**Sn**	**01 02 30.1**	**-0.3**
LFRS	**El Faro**	**0.82**	**358**	‖ *i* P		**Pb**	**01 02 19.5**	**0.0**
LFRS	**El Faro**	**0.82**	**358**	‖ *i* P		**Pb**	**01 02 19.5**	**0.0**
COEG	**Centro de Oper**	**0.83**	**11**	*e*P		**Pn**	**01 02 19.2**	**-0.3**
COEG	**Centro de Oper**	**0.83**	**11**	*e*P		**Pn**	**01 02 19.2**	**-0.3**
COEB	**Comit de Eme**	**0.85**	**35**	*i* P		**Pb**	**01 02 20.1**	**0.0**
COEB				*e*S		**Sn**	**01 02 31.7**	**+0.3**
COEB	**Comit de Eme**	**0.85**	**35**	*i* P		**Pb**	**01 02 20.1**	**0.0**
COEB				*e*S		**Sn**	**01 02 31.7**	**+0.3**
COEB	**Comit de Eme**	**0.85**	**35**	*e*P		**Pb**	**01 02 20.1**	**0.0**
SNET	**Serv Nac Est T**	**0.90**	**348**	*e*P		**Pn**	**01 02 20.4**	**-0.2**
SNET				*e*S		**Sb**	**01 02 32.4**	**-0.2**
SNET	**Serv Nac Est T**	**0.90**	**348**	*e*P		**Pn**	**01 02 20.4**	**-0.2**
SNET				*e*S		**Sb**	**01 02 32.4**	**-0.2**
SNET	**Serv Nac Est T**	**0.90**	**348**	*e*P		**Pn**	**01 02 19.9**	**-0.7**
PAVA	**Las Pavas**	**0.91**	**6**	*e*P		**Pb**	**01 02 20.9**	**-0.2**
PAVA	**Las Pavas**	**0.91**	**6**	*e*P		**Pb**	**01 02 20.9**	**-0.2**
LBRS	**Las Brisas**	**0.93**	**360**	*e*P		**Pb**	**01 02 21.2**	**-0.2**
LBRS	**Las Brisas**	**0.93**	**360**	*e*P		**Pb**	**01 02 21.2**	**-0.2**
JAYA	**Jayaque - finc**	**0.94**	**335**	*e*S		**Sb**	**01 02 33.3**	**-0.4**
JAYA	**Jayaque - finc**	**0.94**	**335**	*e*S		**Sb**	**01 02 33.3**	**-0.4**
PQSS	**Presa 15 de Se**	**0.94**	**30**	*e*P		**Pb**	**01 02 21.3**	**-0.2**
PQSS	**Presa 15 de Se**	**0.94**	**30**	*e*P		**Pb**	**01 02 21.3**	**-0.2**
LFU	**La Fuente**	**0.94**	**355**	*e*P		**Pb**	**01 02 21.6**	**0.0**
LFU				*e*S		**Sb**	**01 02 34.0**	**+0.2**
LFU	**La Fuente**	**0.94**	**355**	*e*P		**Pb**	**01 02 21.6**	**0.0**
LFU				*e*S		**Sb**	**01 02 34.0**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.94**	**19**	‖ *i* P		**Pb**	**01 02 21.5**	**-0.1**
SCLA				*e*S		**Sb**	**01 02 34.0**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.94**	**19**	‖ *i* P		**Pb**	**01 02 21.5**	**-0.1**
SCLA				*e*S		**Sb**	**01 02 34.0**	**+0.3**
BOQS	**Boqueron**	**0.96**	**346**	*i* P		**Pn**	**01 02 21.7**	**+0.3**
BOQS				*e*S		**Sb**	**01 02 34.7**	**+0.4**
BOQS	**Boqueron**	**0.96**	**346**	*i* P		**Pn**	**01 02 21.7**	**+0.3**
BOQS				*e*S		**Sb**	**01 02 34.7**	**+0.4**
VSM	**San Miguel**	**0.97**	**50**	*e*P		**Pn**	**01 02 21.2**	**-0.5**
VSM	**San Miguel**	**0.97**	**50**	*e*P		**Pn**	**01 02 21.2**	**-0.5**
CEDA	**San Andres**	**1.05**	**341**	*e*S		**Sb**	**01 02 36.7**	**-0.2**
CEDA	**San Andres**	**1.05**	**341**	*e*S		**Sb**	**01 02 36.7**	**-0.2**
CEVE	**Cerro Verde**	**1.17**	**331**	*e*P		**Pn**	**01 02 24.8**	**+0.4**
CEVE				IAML			01 02 46.1	
	comp=Z,2μm,0.2s							
CEVE	**Cerro Verde**	**1.17**	**331**	*e*P		**Pn**	**01 02 24.8**	**+0.4**
CEVE				IAML			01 02 46.1	
	comp=Z,2μm,0.2s							
SBLS	**San Blas**	**1.18**	**331**	*e*P		**Pn**	**01 02 24.8**	**+0.4**
SBLS	**San Blas**	**1.18**	**331**	*e*P		**Pn**	**01 02 24.8**	**+0.4**
SNJE	**San Jose**	**1.20**	**332**	*e*P		**Pn**	**01 02 25.1**	**+0.4**
SNJE	**San Jose**	**1.20**	**332**	*e*P		**Pn**	**01 02 25.1**	**+0.4**
LCND	**La Caada**	**1.23**	**66**	*e*P		**Pn**	**01 02 24.9**	**0.0**
LCND	**La Caada**	**1.23**	**66**	*e*P		**Pn**	**01 02 24.9**	**0.0**
CNCH	**Conchagua**	**1.26**	**68**	*e*P		**Pn**	**01 02 25.8**	**+0.2**
CNCH	**Conchagua**	**1.26**	**68**	*e*P		**Pn**	**01 02 25.8**	**+0.2**
NUBE	**Las Nubes**	**1.31**	**327**	*e*P		**Pn**	**01 02 26.4**	**+0.1**
NUBE	**Las Nubes**	**1.31**	**327**	*e*P		**Pn**	**01 02 26.4**	**+0.1**
CSGN	**Cosiguina Volc**	**1.45**	**83**	*e*P		**Pn**	**01 02 27.9**	**-0.2**
MTO3	**Montecristo**	**1.62**	**349**	*i* P		**Pn**	**01 02 31.4**	**+0.9**
MTO3	**Montecristo**	**1.62**	**349**	*i* P		**Pn**	**01 02 31.4**	**+0.9**
MTO3	**Montecristo**	**1.62**	**349**	‖ *i* P		**Pn**	**01 02 31.5**	**+0.9**
CRIN	**San Cristobal**	**1.94**	**93**	*e*P		**Pn**	**01 02 35.6**	**+0.8**
CRIN				*e*S		**Sn**	**01 02 58.7**	**+0.4**
TEL3	**Telica 3**	**2.15**	**96**	*e*P		**Pn**	**01 02 38.1**	**+0.4**
CNGN	**Cerro Negro**	**2.30**	**97**	*e*P		**Pn**	**01 02 39.0**	**-0.7**
COPN	**Copaltepe**	**2.47**	**104**	*e*P		**Pn**	**01 02 42.1**	**+0.1**
APYN	**Apoyeque**	**2.68**	**102**	*e*P		**Pn**	**01 02 44.3**	**-0.7**
HUEN		**2.83**	**99**	*e*P		**Pn**	**01 02 47.0**	**0.0**
MATN	**Matagalpa**	**3.04**	**87**	*e*P		**Pn**	**01 02 50.2**	**+0.3**

PRU 29 01:11:57.0±0.0, **50°.26N**×**18°.78E**, **h0km**, **Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.93**	**239**	*e*PG		Pg	01 12 14.8	-0.1
MORC				*e*SG		Sg	01 12 26.5	-0.4
LANS	**Liptovska Anna**	**1.20**	**158**	*e*PG		Pg	01 12 19.0	-0.9
LANS				*e*SG		Sg	01 12 35.7	+0.3
LANS				*e*LG		Lg	01 12 37.8	
KRLC	**Kraliky**	**1.30**	**263**	*e*PG		Pg	01 12 20.5	-1.4
KRLC				*e*SG		Sg	01 12 37.8	-0.9
DPC	**Dobruska-Polom**	**1.58**	**274**	*e*SG		Sn	01 12 46.2	-1.2

*HEL **29** 01:19:14.4, 67°.19N×20°.60E, h1km, ML2.4, Confirmed Induced event*
*HEL **29** 01:19:14.7±0.0, 67°.19N×20°.65E, h1km, ML2.4, ML3.2(UPP), Confirmed Induced event*
*IDC **29** 01:19:14.5±0.7, 67°.15N×21°.22E, h0km, mb1 3.2/5, mb1mx3.0/51, mbtmp3.3/5, ML2.9/5, Error ellipse: s-maj=13.7km s-min=5.8km az=109.0*
*NAO **29** 01:19:14.8±1.0, 67°.15N×21°.04E, ML3.0*
*DNK **29** 01:19:14.4±0.7, 67°.19N×20°.66E, h0km, ML3.2(UPP), Suspected explosion*
*KOLA **29** 01:19:15.0, 67°.11N×20°.88E, h0km, ML2.4*
*BER **29** 01:19:16.1±2.5, 67°.16N×20°.88E, h1km, ML2.4, ML3.0(NAO), Confirmed Induced event*
ISC 29 01:19:13.3±0.7, **67°.18N**±0°.02×**20°.66E**±0°.02, **h0km**, **n60**, σ1°**79**/97, **3D**, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**209**	P		**Pg**	**01 19 15.9**	**+1.3**
DUNU				S		**Sg**	**01 19 17.1**	**+1.6**
DUNU	**Dundret**	**0.07**	**209**	*i* P		**Pg**	**01 19 15.9**	**+1.3**
DUNU				*i* S		**Sg**	**01 19 17.1**	**+1.6**
MASU	**Masugnsbyn**	**0.59**	**62**	P		**Pg**	**01 19 25.3**	**+0.8**
MASU				S		**Sg**	**01 19 33.7**	**+1.5**
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P		**Pg**	**01 19 25.3**	**+0.8**
MASU				*i* S		**Sg**	**01 19 33.7**	**+1.5**
SALU	**Saltoluokta**	**0.86**	**284**	P		**Pg**	**01 19 30.2**	**+0.5**
SALU	**Saltoluokta**	**0.86**	**284**	*i* P		**Pg**	**01 19 30.2**	**+0.5**
ERTU	**Ertsjaerv**	**0.88**	**136**	P		**Pg**	**01 19 30.2**	**+0.2**
ERTU				S		**Sg**	**01 19 41.9**	**+0.6**
ERTU	**Ertsjaerv**	**0.88**	**136**	*e*P		**Pg**	**01 19 30.2**	**+0.2**
ERTU				*e*S		**Sg**	**01 19 41.6**	**+0.3**
PAJU	**Pajala**	**0.97**	**98**	P		**Pg**	**01 19 32.0**	**+0.2**
PAJU	**Pajala**	**0.97**	**98**	*e*P		**Pg**	**01 19 32.1**	**+0.2**
PAJU				*e*S		**Sg**	**01 19 45.5**	**+1.0**
LANU	**Lannavaara**	**1.01**	**30**	P		**Pg**	**01 19 32.5**	**-0.1**
LANU	**Lannavaara**	**1.01**	**30**	*e*P		**Pg**	**01 19 32.5**	**-0.1**
LANU				*e*S		**Sg**	**01 19 45.7**	**+0.1**
HARU	**Harads**	**1.03**	**173**	P		**Pg**	**01 19 33.0**	**0.0**
HARU	**Harads**	**1.03**	**173**	*e*P		**Pg**	**01 19 33.0**	**0.0**
KOVU	**Salmi**	**1.06**	**350**	P		**Pg**	**01 19 33.4**	**-0.2**
KOVU	**Salmi**	**1.06**	**350**	*e*P		**Pg**	**01 19 33.4**	**-0.2**
HEF	**Hetta**	**1.68**	**41**	‖ *i* P		**Pn**	**01 19 44.2**	**+0.4**
HEF	**Hetta**	**1.68**	**41**	*e*P		**Pn**	**01 19 44.2**	**+0.4**
HEF				*e*S		**Sn**	**01 20 05.2**	**-0.9**
KALU	**Kalix**	**1.71**	**140**	P		**Pn**	**01 19 45.0**	**+0.7**
KALU	**Kalix**	**1.71**	**140**	*e*P		**Pn**	**01 19 45.0**	**+0.7**
KALU				*e*S		**Sn**	**01 20 07.4**	**+0.5**
SJUU	**Sjulsmark**	**1.73**	**167**	P		**Pn**	**01 19 45.2**	**+0.8**
SJUU				S		**Sn**	**01 20 08.2**	**+1.0**
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P		**Pn**	**01 19 45.2**	**+0.8**
SJUU				*e*S		**Sn**	**01 20 08.2**	**+1.0**
KIF	**Kilpisjarvi**	**1.83**	**2**	Pn		**Pb**	**01 19 47.4**	**-0.1**
KIF				Sn		**Sg**	**01 20 13.6**	**+1.6**
KIF	**Kilpisjarvi**	**1.83**	**2**	‖ *i* P		**Pb**	**01 19 47.4**	**-0.1**
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P		**Pb**	**01 19 47.4**	**-0.1**
KIF				*e*S		**Sb**	**01 20 11.9**	**+0.9**
KIF				MSG			01 20 14.8	
	comp=Z,32nm,0.2s							
TOF	**Tornio**	**1.83**	**125**	*e*P		**Pn**	**01 19 47.2**	**+1.3**
TOF				*e*S		**Sn**	**01 20 10.9**	**+1.1**
KTK1	**Kautokeino**	**2.08**	**27**	*e*P		**Pn**	**01 19 51.3**	**+1.7**
KTK1				IAML			01 20 20.5	
	comp=Z,98nm,0.5s							
FAUS	**Fauske**	**2.09**	**278**	‖ *i* P		**Pb**	**01 19 51.5**	**-0.5**
FAUS				IAML			01 20 21.4	
	comp=Z,64nm,0.3s							
RNF	**Rovaniemi**	**2.19**	**103**	*e*P		**Pn**	**01 19 52.5**	**+1.6**
RNF				*e*SG		**Sb**	**01 20 22.9**	**+1.6**
SGF	**Sodankyl**	**2.29**	**81**	*e*P		**Pn**	**01 19 53.3**	**+1.1**
SGF				*e*SG		**Sb**	**01 20 25.2**	**+1.0**
SGF				MSG			01 20 26.5	
	comp=Z,24nm,0.3s							
JETT	**Jettan, Norway**	**2.39**	**358**	Pn		**Pn**	**01 19 54.9**	**+1.3**
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn		**Pn**	**01 20 02.5**	**+0.9**
	baz=210,slow=14							
ARA0				Sn		**Sn**	**01 20 39.4**	**+1.6**
	baz=215,slow=22							
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn		**Pn**	**01 20 02.5**	**+0.9**
	baz=210,slow=14							
ARA0				IAML			01 20 44.5	
	comp=Z,12nm,0.4s							
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P		**Pn**	**01 20 02.5**	**+0.9**
ARA0				*e*S		**Sn**	**01 20 38.8**	**+1.0**
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn		**Pn**	**01 20 02.2**	**+0.7**
	baz=212,slow=14,SNR=281							
ARCES				Pg		**Pb**	**01 20 05.2**	**-1.8**
	baz=214,slow=16,SNR=18							
ARCES				Sn		**Sn**	**01 20 38.2**	**+0.4**
	baz=214,slow=26,SNR=11							
ARCES				Lg		Lg	01 20 41.8	
	baz=211,slow=28,SNR=6.7							
ARCES	**ARCESS Array B**	**2.97**	**35**	P		**Pn**	**01 20 02.3**	**+0.8**
ARCES				S		**Sn**	**01 20 38.3**	**+0.4**
OBF4	**Vikkela, Lumij**	**2.99**	**141**	*e*P		**Pn**	**01 20 03.4**	**+1.5**
OUL	**Oulu**	**3.00**	**132**	*e*P		**Pn**	**01 20 03.2**	**+1.3**
OUL				MSG			01 20 53.8	
	comp=Z,13nm,0.3s							
OBF0	**Syolatti, Pyha**	**3.07**	**150**	*e*P		**Pn**	**01 20 04.4**	**+1.4**
OUF	**Merijarvi**	**3.29**	**147**	*e*P		**Pn**	**01 20 07.3**	**+1.4**
OUF				MSG			01 21 07.1	
	comp=Z,8.7nm,0.3s							
KEV	**Kevo**	**3.49**	**39**	Pn		**Pn**	**01 20 09.1**	**+0.4**
KEV				Sn		**Sn**	**01 20 50.9**	**+0.4**
KEV	**Kevo**	**3.49**	**39**	*e*P		**Pn**	**01 20 09.2**	**+0.6**
HAMF	**Hammerfest**	**3.64**	**16**	*e*P		**Pn**	**01 20 11.6**	**+0.8**
APA0	**Apatity Array**	**4.78**	**79**	Pn		**Pn**	**01 20 26.4**	**0.0**
	baz=267,slow=12							
APA0				Sn		**Sn**	**01 21 21.3**	**-1.1**
	baz=283,slow=28							
APA0				Lg		Lg	01 21 41.5	
	baz=287,slow=28							
APA0	**Apatity Array**	**4.78**	**79**	Pn		**Pn**	**01 20 26.4**	**0.0**
	baz=267,slow=12							
APA0				Sg		**Sb**	**01 21 41.5**	**+5.8**
	baz=287,slow=28							
APA0	**Apatity Array**	**4.78**	**79**	P		**Pn**	**01 20 25.9**	**-0.5**
APA0				S		**Sn**	**01 21 18.3**	**-4.1**
PRVG	**Vayda Guba**	**4.96**	**54**	P		**Pn**	**01 20 28.9**	**0.0**
PRVG				S		**Sn**	**01 21 26.5**	**-0.4**
LVZ	**Lovozero**	**5.41**	**76**	S		**Sn**	**01 21 37.6**	**-0.4**
TERR	**Teriberka**	**5.75**	**63**	P		**Pn**	**01 20 38.9**	**-0.8**
TERR				S		**Sn**	**01 21 41.0**	**-5.3**
FIA0	**FINESS Array S**	**6.22**	**155**	Pn		**Pn**	**01 20 47.9**	**+1.6**
	baz=347,slow=16							
FIA0				Sn		**Sn**	**01 21 56.7**	**-1.3**
	baz=346,slow=28							
FIA0				Lg		Lg	01 22 25.1	
	baz=349,slow=28							
FIA0	**FINESS Array S**	**6.22**	**155**	Pn		**Pn**	**01 20 47.9**	**+1.6**
	baz=347,slow=16							
FINES	**FINESS Array B**	**6.22**	**155**	Pn		**Pn**	**01 20 47.1**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=349,slow=13,SNR=48							
FINES				Sn		**Sn**	**01 21 56.6**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=346,slow=22,SNR=6.0							
FINES				Lg		Lg	01 22 24.9	
	comp=Z,1.0nm,0.3s,baz=339,slow=26,SNR=6.2							
NB2	**NORSAR Subarra**	**7.42**	**218**	Pn		**Pn**	**01 21 03.6**	**+1.0**
	baz=27,slow=14							
NB2				Sn		**Sn**	**01 22 23.6**	**-3.7**
	baz=29,slow=22							
NB2				Lg		Lg	01 23 04.5	
	baz=33,slow=37							
NB2	**NORSAR Subarra**	**7.42**	**218**	Pn		**Pn**	**01 21 03.6**	**+1.0**
	baz=27,slow=14							
NB2				Sn		**Sn**	**01 22 23.6**	**-3.7**
	baz=29,slow=22							
NOA	**NORSAR Array B**	**7.42**	**218**	Pn		**Pn**	**01 21 03.5**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=28,slow=11,SNR=12							
NOA				Sn		**Sn**	**01 22 22.4**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=48,slow=24,SNR=5.7							
NOA				Lg		Lg	01 23 05.1	
	comp=Z,0.1nm,0.3s,baz=45,slow=27,SNR=4.6							
NRA0	**NORESS Array S**	**7.61**	**216**	Pn		**Pn**	**01 21 06.0**	**+0.8**
	baz=25,slow=14							
NRA0				Sn		**Sn**	**01 22 29.4**	**-2.5**
	baz=20,slow=28							
NRA0				Lg		Lg	01 23 11.2	
	baz=22,slow=37							
NRA0	**NORESS Array S**	**7.61**	**216**	Pn		**Pn**	**01 21 06.0**	**+0.8**
	baz=25,slow=14							
NRA0				Sn		**Sn**	**01 22 29.4**	**-2.5**
	baz=20,slow=28							
HFS	**Hagfors**	**7.72**	**207**	Pn		**Pn**	**01 21 06.2**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=281,slow=38,SNR=2.3							
HFS				Sn		**Sn**	**01 22 31.7**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=288,slow=42,SNR=2.3							
HFS				Lg		Lg	01 23 14.2	
	comp=Z,0.7nm,0.3s,baz=304,slow=38,SNR=2.3							
SPA0	**Spitsbergen Ar**	**11.12**	**355**	Pn		**Pn**	**01 21 53.3**	**+0.1**
	baz=161,slow=14							
SPITS	**Spitsbergen Ar**	**11.12**	**355**	Pn		**Pn**	**01 21 53.3**	**+0.1**
	baz=159,slow=16,SNR=11							
SPITS				Sn		**Sn**	**01 23 49.6**	**-8.5**
	baz=189,slow=27,SNR=2.3							

NOU 29 01:25:11.3, **16°.14S**×**167°.44E**, **h15**km, **mB4.4**/11, **Vanuatu Islands**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.73**	**342**	P		Pg	01 25 25.4	-0.1
DVP	**Devils Point**	**1.73**	**156**	P		Pn	01 25 41.8	+0.9
MARNC	**Mare, Loyalty**	**5.34**	**174**	P		Pn	01 26 29.8	-0.7
	1.6nm,1.1s							
YATNC	**Mamie plateau,**	**5.91**	**185**	P		Pn	01 26 37.5	-0.9
	24nm,0.8s							
OUENC	**Ouen Island, N**	**6.27**	**185**	P		Pn	01 26 44.0	+0

SLBS Sierra La Lagu 14.69 337 ⇑P Pn 01 37 04.7 -0.6
SLBS Sierra La Lagu 14.69 337 eP Pn 01 37 02.1 -3.2
SNET Serv Nac Est T 14.75 75 P Pn 01 37 06.3 +0.2
SNET Serv Nac Est T 14.75 75 eP Pn 01 37 04.8 -1.3
SNET Serv Nac Est T 14.75 75 eP Pn 01 37 03.4 -2.7
SNET eP P 01 37 04.8 -7.4
MTO3 Montecristo 14.79 72 Pn 01 37 06.0 -0.9
MTO3 Montecristo 14.79 72 eP Pn 01 37 06.7 -0.2
MTO3 Montecristo 14.79 72 eP Pn 01 37 06.7 -0.2
ESQI Esquipulas 14.85 71 Pn 01 37 08.1 +0.5
ESQI Esquipulas 14.85 71 eP Pn 01 37 07.6 0.0
SJTE Alcalda de S 14.95 75 eP Pn 01 37 09.0 +0.2
SJTE Alcalda de S 14.95 75 eP Pn 01 37 09.0 +0.2
PAVA Las Pavas 15.03 75 eP Pn 01 37 10.0 0.0
PAVA Las Pavas 15.03 75 eP Pn 01 37 10.0 0.0
COEG Centro de Oper 15.07 75 eP Pn 01 37 09.5 -0.9
COEG Centro de Oper 15.07 75 eP Pn 01 37 09.5 -0.9
LLGN La Laguna 15.12 73 eP Pn 01 37 09.5 -1.7
LLGN La Laguna 15.12 73 eP Pn 01 37 09.5 -1.7
PETF Flores 15.19 62 Pn 01 37 10.6 -1.4
PETF IAmb IAmb 01 37 29.8
comp=Z,649nm,1.3s
PETF Flores 15.19 62 eP Pn 01 37 10.9 -1.0
LPIG La Paz 15.20 337 Pn Pn 01 37 08.1 -4.1
comp=Z,7.1nm,0.3s,baz=205,slow=5.3,SNR=1.8
LPIG LR LR 01 41 36.8
comp=Z,379µm,19.3s,baz=161,slow=32
SCLA Alcaldia de Sa 15.23 75 eP Pn 01 37 12.3 -0.2
SCLA Alcaldia de Sa 15.23 75 eP Pn 01 37 12.3 -0.2
COEB Comit de Eme 15.38 76 eP Pn 01 37 14.8 +0.2
COEB Comit de Eme 15.38 76 eP Pn 01 37 14.8 +0.2
RANC El Ranchito 15.60 76 eP Pn 01 37 17.0 -0.4
RANC El Ranchito 15.60 76 eP Pn 01 37 17.0 -0.4
LCND La Caada 15.96 77 eP Pn 01 37 21.4 -0.6
LCND La Caada 15.96 77 eP Pn 01 37 21.4 -0.6
CRIN San Cristobal 16.68 80 Pn 01 37 31.4 +0.1
CRIN IAmb IAmb 01 37 40.1
comp=Z,916nm,1.1s
TGUH Tegucigalpa,Un 16.68 75 P Pn 01 37 31.3 -0.2
TGUH Tegucigalpa,Un 16.68 75 eP Pn 01 37 30.9 -0.5
TGUH Tegucigalpa,Un 16.68 75 eP Pn 01 37 31.6 +0.1
TGUH Tegucigalpa,Un 16.68 75 ⇑P Pn 01 37 30.9 -0.5
TGUH Tegucigalpa,Un 16.68 75 eP Pn 01 37 31.6 +0.1
HPIG 16.81 354 Pn Pn 01 37 33.2 +0.1
HPIG 16.81 354 ⇑P P 01 37 34.7 -0.6
CNGN Cerro Negro 16.99 80 Pn Pn 01 37 33.9 -1.4
CNGN IAmb IAmb 01 37 48.6
comp=Z,896nm,1.4s
PAYG Puerto Ayora 17.25 128 Pn 01 37 40.0 +1.6
PAYG IAmb IAmb 01 38 00.2
comp=Z,1µm,1.4s
PAYG Puerto Ayora 17.25 128 eP P 01 37 41.5 +1.6
PAYG Puerto Ayora 17.25 128 ⇑P P 01 37 41.6 +1.6
MATN Matagalpa 17.79 79 Pn 01 37 44.5 -0.8
SAJU San Juanillo, 17.87 89 eP Pn 01 37 45.7 -0.5
HZTE Horizontes, Gu 17.98 86 Pn 01 37 46.5 -1.0
HZTE Horizontes, Gu 17.98 86 eP P 01 37 48.7 +0.7
BOAB BOACO BROADBAN 17.99 81 Pn 01 37 46.2 -1.4
BOAB BOACO BROADBAN 17.99 81 ⇑P Pn 01 37 47.5 -0.2
INDI Punta indio, G 18.08 89 eP Pn 01 37 48.9 +0.1
DUNO Dulce Nombre, 18.08 89 Pn 01 37 48.5 -0.3
DUNO IAmb IAmb 01 38 00.5
comp=Z,822nm,1.2s
KVTX Kingsville 18.22 17 Pn 01 37 48.2 -2.2
KVTX Kingsville 18.22 17 ⇓P P 01 37 51.9 +1.2
KVTX Kingsville 18.22 17 P P 01 37 51.8 +1.2
baz=199
KVTX S S 01 41 23.3 +4.0
baz=199
ACON Acoyapa 18.43 83 IAmb IAmb 01 37 59.1
comp=Z,800nm,1.3s
VMAR Armenia, Volca 18.44 86 eP P 01 37 54.0 +0.8
CAO2 Cobano, Puntar 18.48 90 eP P 01 37 55.3 +1.7
833A Chaparral WMA, 18.59 12 P Pn 01 37 55.3 +0.4
baz=194
833A S S 01 41 32.6 +5.8
baz=194
833A Chaparral WMA, 18.59 12 P Pn 01 37 55.4 +0.5
baz=194,SNR=108
833A S S 01 41 32.5 +5.8
baz=194
JTS Las Juntas de 18.61 88 P Pn 01 37 55.9 +0.7
comp=Z,1.2nm,0.3s,baz=337,slow=9.2,SNR=36
JTS LR LR 01 43 16.6
comp=Z,220µm,19.2s,baz=330,slow=31
JTS Las Juntas de 18.61 88 c i P Pn 01 37 55.6 +0.3
JTS Las Juntas de 18.61 88 P P 01 37 54.0 -1.0
JTS Las Juntas de 18.61 88 eP Pn 01 37 56.2 +1.0
JTS Las Juntas de 18.61 88 eP Pn 01 37 56.2 +1.0
JTS Las Juntas de 18.61 88 ⇑P Pn 01 37 56.0 +0.7
LAFE Finca La Fe, P 18.67 86 eP P 01 37 55.7 +0.1
ARE1 Arenal 1 18.84 87 eP Pn 01 37 59.1 +1.0
SRIG Santa Rosalia 18.85 336 IAmb IAmb 01 38 15.5
comp=Z,1µm,1.5s
SRA1 San Ramn 19.08 88 eP Pn 01 38 01.5 +0.4
TX31 Lajitas Ar. Si 19.12 1 P P 01 38 00.8 +0.3
TX31 Lajitas Ar. Si 19.12 1 P Pn 01 38 01.4 0.0
baz=180
TX31 S S 01 41 39.2 +1.7
baz=180
TX32 Lajitas Array 19.12 1 P P 01 38 00.8 +0.3
TXAR Lajitas Array 19.12 1 P P 01 38 00.1 -0.4
comp=Z,0.2nm,0.3s,baz=183,slow=11,SNR=75
TXAR S S 01 41 42.1 +4.6
comp=Z,0.0nm,0.3s,baz=90,slow=7.5,SNR=2.8
TXAR LR LR 01 45 09.7
comp=Z,160µm,19.1s,baz=180,slow=36
TXAR P3KPbc 02 12 34.6
comp=Z,0.0nm,0.3s,baz=70,slow=4.1,SNR=4.2
HDC Heredia 19.44 89 eP Pn 01 38 06.3 +0.8
735A Kenedy 19.48 16 P Pn 01 38 04.7 -1.0
baz=198
735A S S 01 41 51.1 +6.4
baz=198
LCR2 La Lucha 2 19.56 89 eP P 01 38 05.7 0.0
RIMA Rio Macho 19.70 89 IAmb IAmb 01 38 23.8
comp=Z,636nm,1.3s
RIMA Rio Macho 19.70 89 eP P 01 38 08.0 +0.9
PEZE Perez Zeledon, 19.91 90 IAmb IAmb 01 38 19.4
comp=Z,465nm,1.0s
PEZE Perez Zeledon, 19.91 90 eP P 01 38 09.6 +0.3
HSIG 19.94 342 P P 01 38 09.3 -0.1
HSIG 19.94 342 P P 01 38 08.2 -1.3
EDPN Palmar Norte 20.15 92 eP Pn 01 38 13.5 -0.2
BATAN Batan 20.17 88 P P 01 38 11.6 -0.4
EDBA Buenos Aires 20.32 91 eP P 01 38 14.6 +0.8
PIRO Carate, Puerto 20.33 93 eP P 01 38 14.6 +0.8
JCT Junction City 20.61 10 P P 01 38 16.2 -0.6
JCT pmax pmax
comp=Z,1µm,1.4s
JCT MLR MLR
comp=Z,457µm,18.0s
JCT Junction City 20.61 10 P 01 38 16.2 -0.6
JCT Junction City 20.61 10 ⇑P P 01 38 16.4 -0.4
JCT Junction City 20.61 10 P P 01 38 17.5 +0.7
baz=191
JCT S Sn 01 42 12.6 +1.0
baz=191
JCT Junction City 20.61 10 P P 01 38 16.3 -0.4
baz=191,SNR=96
JCT S Sn 01 42 14.2 +2.6
baz=191
CDITO Canoas 20.77 92 P P 01 38 18.5 -0.1
BRU2 Volcan 20.92 92 IAmb IAmb 01 38 30.7
comp=Z,860nm,1.2s
BRU2 Volcan 20.92 92 eP P 01 38 21.2 +0.7
BRU2 ⇑i P pP 01 38 22.2 -0.2
RGM0 Gandoca 20.95 90 IAmb IAmb 01 38 26.1
comp=Z,571nm,1.1s
HKT Hockley 21.11 20 P P 01 38 21.0 -1.0
HKT pmax pmax
comp=Z,1µm,1.5s
HKT MLR MLR
comp=Z,114µm,20.0s
HKT Hockley 21.11 20 P 01 38 21.0 -1.0
HKT IAmb IAmb 01 38 29.4
comp=Z,1µm,1.4s
HKT Hockley 21.11 20 ⇑P P 01 38 21.7 -0.3
HKT Hockley 21.11 20 P P 01 38 21.9 -0.1
baz=202
HKT S Sn 01 42 22.7 -0.7
baz=202
435B Jarrell 21.37 15 IAMs_20 IAMs_20 01 46 47.6
comp=Z,167µm,18.0s
435B Jarrell 21.37 15 P P 01 38 25.4 +0.4
baz=197
435B S Sn 01 42 26.1 -3.8
baz=197
435B Jarrell 21.37 15 P P 01 38 25.0 0.0
baz=197
435B S Sn 01 42 29.2 -0.7
baz=197
MNTX Cornudas Mount 21.52 356 P P 01 38 26.0 -0.5
MNTX IAmb IAmb 01 38 38.1
comp=Z,656nm,1.2s
MNTX IAMs_20 IAMs_20 01 45 51.3
comp=Z,115µm,18.0s
MNTX Cornudas Mount 21.52 356 P P 01 38 26.5 -0.1
baz=176
MNTX S Sn 01 42 32.4 -1.1
baz=176
MNTX Cornudas Mount 21.52 356 P P 01 38 26.4 -0.1
baz=176,SNR=438
MNTX S Sn 01 42 32.1 -1.3
baz=176
KIDD KIDD Seismic O 21.68 354 P P 01 38 27.9 -0.6
baz=173
KIDD S Sn 01 42 35.6 -2.0
baz=173
319A Douglas 21.74 347 IAmb IAmb 01 38 53.1
comp=Z,717nm,1.4s
PRVC Isla de Provid 22.26 79 P P 01 38 35.0 +0.4
PRVC Isla de Provid 22.26 79 eP P 01 38 35.1 +0.4
GMAL Guarumal, Vera 22.47 94 eP P 01 38 35.8 -1.2
WHTX Lake Whitney, 22.56 14 P P 01 38 37.0 -0.6
baz=196
WHTX S S 01 42 43.4 -1.7
baz=196
WHTX Lake Whitney, 22.56 14 P P 01 38 37.2 -0.4
baz=196,SNR=59
WHTX S Sn 01 42 50.2 -8.0
baz=196
121A Cookes Peak, D 22.60 351 IAmb IAmb 01 38 50.5
comp=Z,368nm,1.2s
121A Cookes Peak, D 22.60 351 P P 01 38 36.6 -1.7
baz=170
121A S Sn 01 42 53.0 -6.5
baz=170
121A Cookes Peak, D 22.60 351 P P 01 38 35.8 -2.5
baz=170,SNR=42
121A S Sn 01 42 54.0 -5.5
baz=170
ABTX Abilene, Hawle 22.73 9 P P 01 38 38.3 -1.3
baz=190
ABTX S S 01 42 48.5 +0.2
baz=190
ABTX Abilene, Hawle 22.73 9 P P 01 38 38.5 -1.0
baz=190,SNR=67
ABTX S S 01 42 53.2 +4.9
baz=190
441A DeRidder 22.80 24 P P 01 38 40.4 +0.1
baz=208
441A S S 01 42 54.2 +4.7
baz=208
CACAO El Cacao, Vera 22.90 95 i P P 01 38 41.2 -0.2
TUC Tucson 22.99 345 P P 01 38 41.6 -0.7
TUC pmax pmax
comp=Z,316nm,1.4s
TUC MLR MLR
comp=Z,90µm,20.0s
TUC Tucson 22.99 345 P P 01 38 41.6 -0.7
TUC Tucson 22.99 345 ⇑P P 01 38 40.4 -2.0
TUC Tucson 22.99 345 P P 01 38 40.5 -1.8
baz=162
TUC S S 01 42 56.8 +3.9
baz=162
237A Washetta, Mont 23.02 18 P P 01 38 41.6 -0.9
baz=200
237A S S 01 42 56.1 +2.9
baz=200
NATX Nacogdoches 23.16 20 IAMs_20 IAMs_20 01 48 46.7
comp=Z,113µm,19.0s
NATX Nacogdoches 23.16 20 P P 01 38 43.9 -0.1
baz=203
NATX S S 01 42 54.4 -1.2
baz=203
NATX Nacogdoches 23.16 20 P P 01 38 43.8 -0.2
baz=203,SNR=114
NATX S S 01 43 01.4 +5.7
baz=203
214A Organ Pipe Nat 23.26 340 P P 01 38 42.3 -2.7
baz=157,SNR=15
214A S S 01 43 02.1 +4.8
baz=157
PNME Penonome 23.28 92 eP P 01 38 45.7 +0.3
AZU Azuero 23.41 94 ⇑i P P 01 38 46.9 +0.3
545B Wilberts Farm, 23.42 30 P P 01 38 48.0 +1.4
baz=215
545B S Sn 01 43 10.3 -8.7
baz=215
SOR Soroa 23.59 55 P P 01 38 48.7 +0.3
SOR pmax pmax
comp=Z,447nm,1.2s
SOR Soroa 23.59 55 P P 01 38 48.7 +0.3
SOR IAmb IAmb 01 38 58.1
comp=Z,447nm,1.2s
SOR Soroa 23.59 55 eP P 01 38 47.5 -0.9
SOR eS S 01 43 05.0 +2.0
SOR IVmB_BB 01 43 43.6
comp=E,59µm,19.8s
SOR IVmB_BB 01 43 55.8
comp=N,53µm,9.9s
BCIP Isla Barro Col 23.70 90 P P 01 38 49.4 -0.1
BCIP pmax pmax
comp=Z,763nm,1.5s
BCIP Isla Barro Col 23.70 90 P P 01 38 49.4 -0.1
BCIP IAmb IAmb 01 39 18.3
comp=Z,763nm,1.5s
BCIP Isla Barro Col 23.70 90 i P P 01 38 48.3 -1.2
BCIP Isla Barro Col 23.70 90 ⇑P P 01 38 48.7 -0.8
342B Flagon Creek P 23.70 25 P P 01 38 48.7 -0.7
baz=209
342B S S 01 43 11.6 +7.1
baz=209
MSTX Muleshoe 23.76 2 P P 01 38 48.4 -1.6
baz=182
MSTX S S 01 43 08.8 +3.3
baz=182
MSTX Muleshoe 23.76 2 P P 01 38 48.3 -1.8
baz=182,SNR=140
MSTX S Sn 01 43 15.6 -12
baz=182
Y22A Socorro 23.88 354 P P 01 38 49.0 -2.2
baz=172
Y22A S S 01 43 13.2 +5.6
baz=172
Z35A Perchaven, San 23.89 14 P P 01 38 49.6 -1.5
baz=196
Z35A S S 01 43 09.0 +1.5
baz=196
Y22D IRIS PASSCAL I 24.01 354 P P 01 38 53.3 +0.8
baz=172
Y22D S S 01 43 17.2 +7.6
baz=172
Y22D IRIS PASSCAL I 24.01 354 P P 01 38 51.4 -1.0
baz=172
Y22D S S 01 43 18.0 +8.4
baz=172
UPA Univ. de Panam 24.02 91 ⇑eP P 01 38 51.1 -1.4
Z38A Mt. Pleasant 24.44 18 P P 01 38 55.2 -1.0
baz=201
Z38A S S 01 43 22.4 +6.2
baz=201
344A Westbrook Farm 24.47 28 P P 01 38 55.4 -1.2
baz=212
344A S S 01 43 19.7 +2.8
baz=212
AMTX Amarillo 24.73 4 IAmb IAmb 01 39 06.7
comp=Z,274nm,0.8s
AMTX Amarillo 24.73 4 P P 01 38 58.3 -0.7
baz=185
AMTX S S 01 43 22.8 +1.7
baz=185
AMTX Amarillo 24.73 4 P P 01 38 57.9 -1.1
baz=185
AMTX S S 01 43 25.9 +4.8
baz=185
ANMO Albuquerque 24.83 355 P P 01 38 59.5 -0.4
comp=Z,23nm,1.0s,baz=164,slow=10,SNR=47
ANMO LR LR 01 48 54.4
comp=Z,72µm,18.1s,baz=178,slow=37
ANMO Albuquerque 24.83 355 c eP P 01 39 00.4 +0.4
ANMO pmax pmax
comp=Z,105nm,1.7s
ANMO MLR MLR
comp=Z,91µm,17.0s
ANMO Albuquerque 24.83 355 P P 01 39 00.4 +0.4
ANMO IAmb IAmb 01 39 15.8
comp=Z,288nm,1.4s
ANMO Albuquerque 24.83 355 IAMs_20 IAMs_20 01 48 02.9
comp=Z,105µm,18.0s
ANMO Albuquerque 24.83 355 ⇓P P 01 38 59.6 -0.4
ANMO Albuquerque 24.83 355 P P 01 38 59.2 -0.8
baz=174
ANMO S S 01 43 28.6 +5.8
baz=174
ANMO Albuquerque 24.83 355 P P 01 38 59.6 -0.4
baz=174
ANMO S S 01 43 28.9 +6.0
baz=174
WMOK Wichita Mounta 24.94 10 IAmb IAmb 01 39 14.3
comp=Z,329nm,1.5s
WMOK Wichita Mounta 24.94 10 ⇓P P 01 38 59.5 -1.3
WMOK Wichita Mounta 24.94 10 P P 01 38 59.7 -1.1
baz=192
WMOK S S 01 43 28.6 +4.2
baz=192
WMOK Wichita Mounta 24.94 10 P P 01 38 59.0 -1.9
baz=192,SNR=20
WMOK S S 01 43 28.7 +4.3
baz=192
GLA Glamis 24.96 338 P P 01 38 57.9 -3.1
baz=153,SNR=26
GLA S S 01 43 30.3 +5.5
baz=153
X34A Smith Ranch, M 24.98 12 P 01 39 01.0 -0.2
346A Big Creek Wild 25.03 30 P P 01 39 01.3 -0.3
baz=215
IKP In-Ko-Pah, Jac 25.11 335 P P 01 39 00.3 -2.1
baz=150,SNR=7.4
IKP S S 01 43 36.1 +8.8
baz=150
Z41A Richland Creek 25.18 22 P P 01 39 02.1 -0.8
baz=206
Z41A P P 01 39 02.1 -0.8
baz=206
Z41A S S 01 43 29.3 +1.2
baz=206
Z41A S S 01 43 29.3 +1.2
baz=206
Z41A Richland Creek 25.18 22 P P 01 39 02.2 -0.8
baz=206,SNR=86
Z41A S S 01 43 34.1 +6.0
baz=206
VBMS Vicksburg 25.22 27 P P 01 39 02.7 -0.6
VBMS Vicksburg 25.22 27 P P 01 39 02.9 -0.3
baz=212
VBMS S S 01 43 34.7 +5.9
baz=212
VBMS Vicksburg 25.22 27 P P 01 39 03.4 +0.1
baz=212,SNR=9.6
VBMS S S 01 43 35.3 +6.5
baz=212
SWSC Sam W. Stewart 25.24 336 P P 01 39 01.9 -1.6
baz=151
SWSC S S 01 43 38.3 +9.1
baz=151
143A Socs Landing, 25.24 25 P P 01 39 03.5 0.0
baz=210
143A S S 01 43 31.8 +2.7
baz=210
BAR Barrett 25.38 334 IAmb IAmb 01 39 22.1
comp=Z,351nm,1.5s
MONP2 Monument Peak 25.45 335 P P 01 39 02.7 -2.9
baz=150,SNR=15
MONP2 S S 01 43 38.7 +5.8
baz=150
W18A Petrified Fore 25.45 349 IAmb IAmb 01 39 17.4
comp=Z,409nm,1.4s
W18A Petrified Fore 25.45 349 P P 01 39 03.3 -2.3
baz=166,SNR=33
W18A S S 01 43 40.6 +7.7
baz=166
UPD2 Meteti 25.55 91 eP P 01 39 06.2 -0.3
X37A Clayton 25.56 16 P P 01 39 05.7 -0.7
baz=200
X37A S S 01 43 34.7 +0.4
baz=200
BC3 Big Chuckawall 25.73 337 P P 01 39 05.9 -2.2
baz=153,SNR=30
BC3 S S 01 43 41.2 +4.1
baz=153
109C Camp Elliot, M 25.74 334 P P 01 39 05.1 -2.9
baz=148
109C S S 01 43 41.8 +4.7
baz=148
MGV Manicaragua 25.81 60 eP P 01 39 06.5 -2.2
MGV IVmB_BB 01 44 31.4
comp=N,63µm,22.7s
PDMCI Parker Dam,Lak 25.85 340 P P 01 39 06.6 -2.4
baz=156,SNR=17
PDMCI S S 01 43 43.2 +4.5
baz=156
OKCFA Oklahoma City 25.85 12 P P 01 39 08.1 -1.0
baz=194
PTAC Punta Ardita, 25.92 94 eP P 01 39 07.9 -2.0
IRM Iron Mountain 26.07 338 P P 01 39 08.3 -2.7
baz=154,SNR=52
IRM S S 01 43 46.7 +4.4
baz=154
MIAR Mount Ida 26.07 20 IAmb IAmb 01 39 23.4
comp=Z,354nm,1.2s
MIAR Mount Ida 26.07 20 ⇓P P 01 39 09.8 -1.2
MIAR Mount Ida 26.07 20 P P 01 39 10.4 -0.7
baz=203
MIAR S S 01 43 45.7 +3.4
baz=203
MIAR Mount Ida 26.07 20 P P 01 39 10.3 -0.7
baz=203,SNR=96
MIAR S S 01 43 45.2 +2.9
baz=203
TPFO Pinon Flats 26.08 336 P P 01 39 07.8 -3.5
baz=150,SNR=16
TPFO S S 01 43 47.9 +5.1
baz=150
PFO Pinyon Flats O 26.09 336 P P 01 39 10.1 -1.3
comp=Z,37nm,1.0s,baz=151,slow=6.5,SNR=13
PFO LR LR 01 47 53.0
comp=Z,91µm,18.6s,baz=146,slow=33
PFO Pinyon Flats O 26.09 336 P P 01 39 10.5 -0.9
PFO pmax pmax
comp=Z,203nm,1.5s
PFO MLR MLR
comp=Z,94µm,20.0s
PFO Pinyon Flats O 26.09 336 P P 01 39 10.5 -0.9
PFO Pinyon Flats O 26.09 336 IAMs_20 IAMs_20 01 47 41.1
comp=Z,94µm,20.0s
PFO Pinyon Flats O 26.09 336 P P 01 39 07.2 -4.1
baz=150,SNR=13
PFO S S 01 43 48.4 +5.5
baz=150
BRAL Brewton 26.12 34 P P 01 39 10.8 -0.7
baz=220
BRAL S S 01 43 43.6 +0.5
baz=220
BRAL Brewton 26.12 34 P P 01 39 10.6 -0.9
baz=220
BRAL S S 01 43 45.8 +2.7
baz=220
CCAR Cane Creek 26.16 23 P P 01 39 11.9 +0.1
baz=208
CCAR S S 01 43 49.2 +5.6
baz=208
WUAZ Wupatki 26.19 346 ⇑P P 01 39 12.0 -0.3
WUAZ Wupatki 26.19 346 P P 01 39 11.0 -1.3
baz=163,SNR=85
WUAZ S S 01 43 50.7 +6.2
baz=163
146A Union 26.25 29 P P 01 39 12.9 +0.2
baz=214
BELC Belle Mtn. Jos 26.25 337 P P 01 39 09.3 -3.5
baz=152,SNR=24
BELC S S 01 43 51.8 +6.4
baz=152
X40A Basin Creek Fa 26.27 21 IAmb IAmb 01 39 18.2
comp=Z,322nm,1.4s
X40A IAMs_20 IAMs_20 01 50 36.0
comp=Z,93µm,20.0s
X40A Basin Creek Fa 26.27 21 P P 01 39 11.6 -1.3

X40A P P 01 39 11.6 -1.3
baz=205
X40A S S 01 43 50.6 +5.2
baz=205
X40A S S 01 43 50.6 +5.2
baz=205
X40A Basin Creek Fa 26.27 21 P P 01 39 11.1 -1.7
baz=205,SNR=58
X40A S S 01 43 51.3 +5.9
baz=205
MURC Murrieta 26.39 334 P P 01 39 10.9 -3.0
baz=149,SNR=6.2
MURC S S 01 43 53.1 +5.7
baz=149
NEE2 Needles Airpor 26.43 340 P P 01 39 12.0 -2.3
baz=155
NEE2 S S 01 43 53.4 +5.4
baz=155
451A Vernon 26.46 37 P P 01 39 15.5 +0.9
baz=223
451A S S 01 43 51.7 +3.2
baz=223
GR1C Gorgona, Isla 26.47 104 *e*P P 01 39 14.0 -0.8
SCI2 San Clemente I 26.47 331 P P 01 39 13.1 -1.6
baz=146
SCI2 S S 01 43 53.8 +5.2
baz=146
U32A Winter Ranch, 26.51 9 P P 01 39 14.6 -0.4
baz=190
U32A S S 01 43 55.6 +6.3
baz=190
W39A Magazine 26.60 19 IAMs_20 IAMs_20 01 50 19.8
comp=Z,87µm,20.0s
W39A Magazine 26.60 19 P P 01 39 15.1 -0.7
baz=202
W39A S S 01 43 52.5 +1.9
baz=202
W39A Magazine 26.60 19 P P 01 39 14.8 -1.0
baz=202,SNR=36
W39A S S 01 43 51.0 +0.3
baz=202
TUL1 Leonard 26.70 15 IAmb IAmb 01 39 31.1
comp=Z,555nm,1.5s
TUL1 IAMs_20 IAMs_20 01 49 46.6
comp=Z,118µm,18.0s
TUL1 Leonard 26.70 15 P P 01 39 15.1 -1.6
baz=198
TUL1 S S 01 43 52.1 -0.1
baz=198
TUL1 Leonard 26.70 15 P P 01 39 15.5 -1.2
baz=198,SNR=34
TUL1 S S 01 43 52.4 +0.2
baz=198
UALR University of 26.70 21 IAmb IAmb 01 39 29.8
comp=Z,310nm,1.2s
MTDJ Mount Denham 26.74 70 P P 01 39 17.6 +0.2
MTDJ IAmb IAmb 01 39 41.2
comp=Z,313nm,1.2s
MTDJ Mount Denham 26.74 70 *e*P P 01 39 16.9 -0.5
MTDJ Mount Denham 26.74 70 ⇑P P 01 39 16.1 -1.3
PIZC Pizarro, Choco 26.75 99 *e*P P 01 39 18.4 +1.0
CIS Catalina Islan 26.76 332 P P 01 39 16.4 -1.0
baz=146
CIS S S 01 43 56.9 +3.6
baz=146
061Z Ochoppi 26.79 51 P P 01 39 17.2 -0.5
baz=238
GMRC Granite Mounta 26.82 338 P P 01 39 14.8 -3.2
baz=153,SNR=18
GMRC S S 01 43 57.4 +3.1
baz=153
BBRC Big Bear Solar 26.84 336 P P 01 39 16.8 -1.6
baz=150
BBRC S S 01 44 01.6 +6.6
baz=150
T25A Trinidad 26.91 359 IAmb IAmb 01 39 34.0
comp=Z,340nm,1.3s
T25A Trinidad 26.91 359 P P 01 39 17.9 -0.9
baz=179,SNR=66
T25A S S 01 44 00.4 +4.6
baz=179
553A Crawfordville 26.96 39 IAmb IAmb 01 39 31.5
comp=Z,449nm,1.1s
553A Crawfordville 26.96 39 P P 01 39 18.6 -0.5
baz=226
FMP Fort Macarthur 26.96 333 P P 01 39 16.9 -2.3
baz=147
FMP S S 01 44 01.7 +5.3
baz=147
Y45A Yeager Farm, C 27.04 27 IAmb IAmb 01 39 34.4
comp=Z,264nm,1.1s
Y45A Yeager Farm, C 27.04 27 P P 01 39 19.6 -0.2
baz=212
Y45A S S 01 43 59.7 +2.1
baz=212
W41B Gary Mavity, V 27.10 21 P P 01 39 19.7 -0.5
baz=206
W41B S S 01 44 00.0 +1.6
baz=206
W41B Gary Mavity, V 27.10 21 P P 01 39 19.9 -0.4
baz=206,SNR=141
W41B S S 01 44 01.2 +2.8
baz=206
HEC Hector,Ludlow 27.11 337 P P 01 39 19.0 -1.5
baz=152,SNR=6.1
HEC S S 01 44 03.5 +4.6
baz=152
OTAV Otavalo 27.11 110 P P 01 39 21.9 +0.7
OTAV pmax pmax
comp=Z,334nm,1.2s
OTAV Otavalo 27.11 110 P P 01 39 21.9 +0.7
OTAV IAmb IAmb 01 39 34.0
comp=Z,334nm,1.1s
BFSC Mount Baldy Ra 27.13 334 P P 01 39 18.3 -2.5
baz=149,SNR=18
BFSC S S 01 44 02.2 +2.9
baz=149
LCBC Los crdobas, 27.14 90 *e*P P 01 39 21.8 +0.8
SNCC San Nicolas Is 27.16 330 P P 01 39 18.0 -2.9
baz=144
SNCC S S 01 44 04.9 +5.4
baz=144
250A Grady 27.17 34 P P 01 39 20.0 -1.0
baz=220
Z47A Carrollton 27.18 30 P P 01 39 20.6 -0.5
baz=216
MVCO Mesa Verde 27.30 352 IAmb IAmb 01 39 50.2
comp=Z,396nm,1.5s
MVCO IAMs_20 IAMs_20 01 49 14.2
comp=Z,78µm,18.0s
MVCO Mesa Verde 27.30 352 P P 01 39 20.8 -1.5
baz=170,SNR=52
MVCO S S 01 44 05.4 +3.3
baz=170
CCCC Cccc 27.39 63 *e*P P 01 39 25.9 +2.9
CCCC *e*S S 01 44 14.0 +11
CCCC IVmB_BB 01 45 59.7
comp=E,22µm,18.6s
CCCC IVmB_BB 01 46 05.2
comp=N,46µm,14.1s
RRX Edison Barstow 27.41 336 P P 01 39 19.8 -3.3
baz=151
RRX S S 01 44 06.2 +2.7
baz=151
DECC Green Verdugo 27.44 333 P P 01 39 21.0 -2.4
baz=148,SNR=8.1
DECC S S 01 44 06.4 +2.5
baz=148
DECC S S 01 44 08.9 +4.9
baz=148
CMBC Cumbal 27.44 108 *e*P P 01 39 26.0 +1.8
TUQ Turquoise Moun 27.49 338 P P 01 39 22.5 -1.5
baz=153,SNR=12
TUQ S S 01 44 08.4 +3.3
baz=153
T35B Sooner Cattle 27.49 13 P P 01 39 22.0 -1.8
baz=196
T35B S S 01 44 09.2 +4.4
baz=196
SDCO Great Sand Dun 27.55 357 P P 01 39 24.6 0.0
baz=176
SDCO Great Sand Dun 27.55 357 P P 01 39 23.7 -0.9
baz=176,SNR=63
SDCO S S 01 44 10.6 +4.5
baz=176
HHAR Hobbs 27.56 18 P P 01 39 22.9 -1.6
baz=201
HHAR S S 01 44 06.8 +1.0
baz=201
352A Blakely 27.57 37 IAmb IAmb 01 39 38.7
comp=Z,378nm,1.1s
352A Blakely 27.57 37 P P 01 39 23.8 -0.8
baz=224
352A S S 01 44 02.0 -4.0
baz=224
LRAL Lakeview Retre 27.59 32 IAmb IAmb 01 39 31.1
comp=Z,264nm,1.4s
LRAL Lakeview Retre 27.59 32 P P 01 39 24.0 -0.7
baz=218
LRAL Lakeview Retre 27.59 32 P P 01 39 24.2 -0.6
baz=218,SNR=63
LRAL S S 01 44 07.0 +0.6
baz=218
S22A 4UR Ranch, Cre 27.64 355 P P 01 39 22.0 -3.5
baz=173,SNR=55
S22A S S 01 44 09.5 +2.0
baz=173
OXF Oxford 27.65 26 IAmb IAmb 01 39 35.5
comp=Z,288nm,1.1s
OXF Oxford 27.65 26 P P 01 39 24.5 -0.8
baz=212
OXF S S 01 44 08.3 +1.1
baz=212
OXF Oxford 27.65 26 P P 01 39 23.1 -2.1
baz=212,SNR=36
OXF S S 01 44 08.0 +0.9
baz=212
DWPF Disney Wildern 27.65 47 P P 01 39 25.8 +0.5
DWPF IAmb IAmb 01 39 36.1
comp=Z,181nm,1.1s
DWPF Disney Wildern 27.65 47 IAMs_20 IAMs_20 01 49 50.4
comp=Z,99µm,21.0s
DWPF Disney Wildern 27.65 47 ⇓P P 01 39 24.8 -0.5
DWPF Disney Wildern 27.65 47 P P 01 39 25.3 0.0
baz=234
DWPF Disney Wildern 27.65 47 P P 01 39 25.5 +0.2
baz=234
DWPF S S 01 44 09.1 +1.8
baz=234
656A Willston 27.65 43 IAmb IAmb 01 39 51.0
comp=Z,380nm,1.4s
656A Willston 27.65 43 P P 01 39 24.1 -1.2
baz=230
656A S S 01 44 04.5 -2.7
baz=230
GSC Goldstone, Bar 27.71 337 IAmb IAmb 01 39 42.7
comp=Z,228nm,1.5s
GSC Goldstone, Bar 27.71 337 P P 01 39 24.4 -1.5
baz=151,SNR=20
GSC S S 01 44 11.3 +3.0
baz=151
LMGC Las Mercedes 27.71 66 *e*P P 01 39 28.2 +2.3
GCUF Volcan Galeras 27.80 107 *e*P P 01 39 27.2 -0.2
PLMC San Jos del P 27.82 99 *e*P P 01 39 24.5 -2.6
EDW2 Edwards Air Fo 27.82 335 P P 01 39 24.8 -2.1
baz=149,SNR=14
EDW2 S S 01 44 11.3 +1.2
baz=149
060A Indiantown 27.83 50 P P 01 39 26.3 -0.7
baz=237
CBOC Ciudad Bolivar 27.89 97 ⇑*e*P P 01 39 28.1 +0.3
OSI Osito Audit: C 27.91 333 P P 01 39 26.0 -1.7
baz=147
OSI S S 01 44 14.1 +2.6
baz=147
U40A Yellville 27.96 19 P P 01 39 27.8 -0.3
U40A IAmb IAmb 01 39 38.7
comp=Z,241nm,1.3s
U40A Yellville 27.96 19 P P 01 39 27.4 -0.6
baz=203
U40A P P 01 39 27.4 -0.6
baz=203
U40A Yellville 27.96 19 P P 01 39 26.1 -2.0
baz=203,SNR=52
U40A S S 01 44 14.9 +2.8
baz=203
YOTC Yotoco, Valle 27.96 101 *e*P P 01 39 27.0 -1.4
HBAR Harrisburg 28.03 23 P P 01 39 27.2 -1.4
baz=208
POPC Popayan, Colom 28.03 104 *e*P P 01 39 29.0 -0.1
SHOC Shoshone, Teco 28.04 338 P P 01 39 26.4 -2.4
baz=153,SNR=10
SHOC S S 01 44 18.1 +4.8
baz=153
CCAC Calif City Air 28.07 335 IAmb IAmb 01 39 44.0
comp=Z,297nm,1.2s
UREC San Jos de Ur 28.08 92 *e*P P 01 39 29.0 -0.4
LRMC Laurel Mtn Rad 28.21 336 P P 01 39 28.9 -1.5
baz=150,SNR=9.1
LRMC S S 01 44 20.2 +3.9
baz=150
SOTA Rioblanco 28.21 105 *e*P P 01 39 31.0 -0.1
SBC Santa Barbara 28.22 331 P P 01 39 28.2 -2.2
baz=145
SBC S S 01 44 17.9 +1.6
baz=145
SJCC San Jacinto, C 28.24 88 *e*P P 01 39 29.8 -1.1
PV13 Radium Mtn., P 28.27 352 IAmb IAmb 01 39 39.2
comp=Z,202nm,1.3s
W45A Hickory Valley 28.29 26 P P 01 39 30.3 -0.6
baz=212
W45A S S 01 44 17.7 +0.4
baz=212
LCAR Lake Charles 28.29 22 IAmb IAmb 01 39 42.0
comp=Z,267nm,1.3s
LCAR Lake Charles 28.29 22 P P 01 39 30.1 -0.9
baz=207
HELC Santa Helena 28.31 96 *e*P P 01 39 30.0 -1.8
TIGA Tifton 28.34 39 P P 01 39 30.0 -1.5
baz=226
TIGA S S 01 44 19.9 +1.7
baz=226
TIGA Tifton 28.34 39 P P 01 39 29.2 -2.3
baz=226
TIGA S S 01 44 19.9 +1.7
baz=226
PCON Cinco Dias 28.36 104 *e*P P 01 39 32.9 +0.4
ARVC Arvin 28.39 334 P P 01 39 29.3 -2.6
baz=147
PV15 Paradox Valley 28.41 352 P P 01 39 32.3 0.0
PV15 IAmb IAmb 01 39 46.8
comp=Z,189nm,1.4s
PV11 David Mesa, Pa 28.42 352 IAmb IAmb 01 39 46.5
comp=Z,239nm,1.2s
BCW Bitter Crk WRg 28.50 333 IAmb IAmb 01 39 47.4
comp=Z,389nm,1.5s
PV10 Paradox Valley 28.52 351 IAmb IAmb 01 39 43.1
comp=Z,255nm,1.2s
PV07 Paradox Valley 28.52 352 IAmb IAmb 01 39 43.4
comp=Z,232nm,1.5s
Y49A Blount Mountai 28.54 31 IAmb IAmb 01 39 44.0
comp=Z,164nm,1.2s
Y49A Blount Mountai 28.54 31 P P 01 39 31.2 -2.0
baz=218
152A Waverly Hall 28.55 35 IAmb IAmb 01 39 48.7
comp=Z,187nm,1.1s
152A Waverly Hall 28.55 35 P P 01 39 32.4 -1.0
baz=222
152A S S 01 44 22.4 +0.9
baz=222
R32A Long Quarter, 28.56 8 IAmb IAmb 01 39 53.7
comp=Z,200nm,1.3s
R32A Long Quarter, 28.56 8 P P 01 39 32.3 -1.1
baz=190
PV23 Carpenter Ridg 28.59 352 IAmb IAmb 01 39 48.0
comp=Z,202nm,1.2s
CCUT Cedar City 28.62 344 P P 01 39 34.4 +0.2
MARP Paez Belalcaza 28.63 103 *e*P P 01 39 34.4 -0.2
MPMC Manual Prospec 28.64 337 P P 01 39 31.7 -2.6
baz=151,SNR=32
MPMC S S 01 44 25.9 +2.8
baz=151
PKM Mcpherson Peak 28.64 332 P P 01 39 31.2 -3.1
baz=145
PKM S S 01 44 27.9 +4.7
baz=145
PLAL Pickwick Lake 28.64 28 IAmb IAmb 01 39 42.1
comp=Z,317nm,1.2s
GUY2C Guyana, Caldas 28.64 98 *e*P P 01 39 35.2 +0.3
X48A Hartselle 28.69 30 IAmb IAmb 01 39 42.7
comp=Z,210nm,1.2s
X48A Hartselle 28.69 30 P P 01 39 33.4 -1.2
baz=216
X48A S S 01 44 24.6 +0.9
baz=216
ISA Isabella, Lake 28.70 335 IAmb IAmb 01 39 49.4
comp=Z,165nm,1.3s
ISA Isabella, Lake 28.70 335 P P 01 39 31.0 -3.7
baz=149,SNR=26
ISA S S 01 44 27.4 +3.6
baz=149
Q24A Divide 28.75 358 P P 01 39 31.2 -4.2
baz=177,SNR=16
Q24A S S 01 44 29.1 +4.1
baz=177
FURC Furnace Creek, 28.76 338 P P 01 39 33.1 -2.0
baz=152,SNR=9.0
FURC S S 01 44 29.9 +5.4
baz=152
ANIL Santa Ana 28.76 99 *e*P P 01 39 35.3 -0.5
ZARC Zaragoza, Cauc 28.77 93 *e*P P 01 39 34.6 -0.9
Z51A Franklin 28.78 34 P P 01 39 34.9 -0.5
baz=221
Z51A S S 01 44 22.2 -2.9
baz=221
KSCO Kaye Shedlock' 28.79 2 IAmb IAmb 01 39 57.3
comp=Z,249nm,1.3s
KSCO Kaye Shedlock' 28.79 2 P P 01 39 34.8 -0.7
baz=182
KSCO S S 01 44 30.3 +4.9
baz=182
KSCO Kaye Shedlock' 28.79 2 P P 01 39 34.5 -1.1
baz=182,SNR=13
KSCO S S 01 44 29.0 +3.6
baz=182
HLGC Holguin 28.80 65 *e*P P 01 39 36.8 +1.1
HLGC *e*S S 01 44 27.5 +1.8
HLGC IVmB_BB 01 46 35.0
comp=N,64µm,8.7s
HLGC IVmB_BB 01 46 48.1
comp=E,35µm,10.7s
CBKS Cedar Bluff 28.81 7 IAmb IAmb 01 39 57.0
comp=Z,275nm,1.4s
CBKS Cedar Bluff 28.81 7 ⇓P P 01 39 34.9 -0.7
CBKS Cedar Bluff 28.81 7 P P 01 39 34.3 -1.4
baz=188
CBKS Cedar Bluff 28.81 7 P P 01 39 34.2 -1.4
baz=188,SNR=24
CBKS S S 01 44 27.1 +1.6
baz=188
PEBM Pemiscott Bayo 28.83 24 IAmb IAmb 01 39 51.6
comp=Z,301nm,1.1s
456A Hilliard 28.86 42 IAmb IAmb 01 39 39.9
comp=Z,152nm,1.2s
456A Hilliard 28.86 42 P P 01 39 35.9 -0.1
baz=229
456A S S 01 44 27.0 +0.6
baz=229
RCC Rio Carpintero 28.87 67 *e*P P 01 39 37.9 +1.5
RCC IVmB_BB 01 46 44.0
comp=N,31µm,13.0s
RCC IVmB_BB 01 47 00.1
comp=E,14µm,6.8s
TPNV Topopah Spring 28.96 339 IAMs_20 IAMs_20 01 49 32.5
comp=Z,128µm,19.0s
TPNV Topopah Spring 28.96 339 ⇑P P 01 39 37.1 -0.1
TPNV Topopah Spring 28.96 339 P P 01 39 34.6 -2.5
baz=154,SNR=27
TPNV S S 01 44 31.7 +3.5
baz=154
LNXT Lenox 28.97 25 P P 01 39 36.6 -0.4
baz=210
PRN Pahroc Range 28.98 341 ⇑P P 01 39 36.4 -0.9
S39A Bolivar 29.05 17 IAmb IAmb 01 39 45.9
comp=Z,192nm,1.5s
S39A Bolivar 29.05 17 P P 01 39 36.4 -1.3
baz=202
S39A S S 01 44 23.5 -5.7
baz=202
ORTC Ortega, Tolima 29.05 100 *e*P P 01 39 37.6 -0.4
NORC Norcasia 29.06 97 *e*P P 01 39 36.1 -2.1
SMCO Snowmass 29.07 355 P P 01 39 38.2 -0.1
SMCO IAmb IAmb 01 39 53.1
comp=Z,308nm,1.4s
SMCO Snowmass 29.07 355 ⇑P P 01 39 38.3 -0.1
SMMC Simmler 29.07 332 P P 01 39 35.0 -3.0
baz=146
SMMC S S 01 44 31.8 +2.1
baz=146
VES Vestal, Richgr 29.11 334 P P 01 39 35.7 -2.6
baz=148
VES S S 01 44 35.5 +5.4
baz=148
SMRC Santa Marta, M 29.14 85 *e*P P 01 39 38.3 -0.5
BETC Betania 29.17 103 *i*P P 01 39 42.6 +3.4
PBMO Poplar Bluff 29.19 22 IAmb IAmb 01 39 49.7
comp=Z,330nm,1.4s
PBMO Poplar Bluff 29.19 22 P P 01 39 38.3 -0.6
baz=208
PBMO S S 01 44 25.0 -6.5
baz=208
CWC Cottonwood Cre 29.20 336 P P 01 39 38.2 -1.1
baz=150
CWC S S 01 44 35.3 +3.4
baz=150
GARC Garzon, Huila 29.26 104 *e*P P 01 39 39.5 -0.7
PTBC PUERTO BERRIO, 29.30 95 *e*P P 01 39 39.0 -1.2
255A Hazlehurst 29.37 39 P P 01 39 39.2 -1.4
baz=227
255A S S 01 44 34.6 +0.3
baz=227
GTBY Guantanamo Bay 29.38 67 IAmb IAmb 01 39 47.3
comp=Z,144nm,1.1s
GTBY Guantanamo Bay 29.38 67 *e*P P 01 39 39.5 -1.4
GTBY Guantanamo Bay 29.38 67 ⇑P P 01 39 41.0 +0.1
TCRU Three Creeks R 29.39 346 P P 01 39 41.3 +0.2
GRAC Grapevine Rang 29.41 338 IAmb IAmb 01 39 55.4
comp=Z,202nm,1.5s
GRAC Grapevine Rang 29.41 338 P P 01 39 39.7 -1.3
baz=152
GRAC S S 01 44 38.2 +3.1
baz=152
S11A Rachel 29.42 341 IAmb IAmb 01 40 00.6
comp=Z,366nm,1.5s
154A Montrose 29.46 37 IAmb IAmb 01 39 51.6
comp=Z,355nm,1.4s
154A Montrose 29.46 37 P P 01 39 40.2 -1.1
baz=225
154A S S 01 44 29.8 -5.9
baz=225
SRU San Rafael Swe 29.48 349 IAmb IAmb 01 39 58.3
comp=Z,229nm,1.4s
FPAL Fort Paine 29.49 32 IAmb IAmb 01 39 52.5
comp=Z,348nm,1.3s
PAGB Antelope Grade 29.53 332 IAmb IAmb 01 39 56.7
comp=Z,191nm,1.4s
KSU1 Kansas State U 29.58 11 IAmb IAmb 01 39 56.2
comp=Z,249nm,1.4s
KSU1 Kansas State U 29.58 11 ⇓P P 01 39 42.0 -0.4
KSU1 Kansas State U 29.58 11 P P 01 39 41.4 -1.0
baz=194
KSU1 S S 01 44 34.0 -3.5
baz=194
KSU1 Kansas State U 29.58 11 P P 01 39 41.3 -1.1
baz=194,SNR=17
KSU1 S S 01 44 40.2 +2.7
baz=194
ISCO Idaho Springs 29.60 357 P P 01 39 42.6 -0.4
baz=176
ISCO S S 01 44 36.4 -2.0
baz=176
ISCO Idaho Springs 29.60 357 P P 01 39 42.0 -0.9
baz=176,SNR=26
ISCO S S 01 44 42.6 +4.2
baz=176
VOG Valley Oaks Go 29.64 334 P P 01 39 40.7 -2.2
baz=148
VOG S S 01 44 41.7 +3.2
baz=148
LL5C La Loma 5 El P 29.68 88 *e*P P 01 39 38.7 -4.9
WVT Waverly 29.70 27 P P 01 39 42.3 -1.2
WVT pmax pmax
comp=Z,141nm,1.1s
WVT MLR MLR
comp=Z,32µm,20.0s
WVT Waverly 29.70 27 P P 01 39 42.3 -1.2
WVT IAmb IAmb 01 39 58.3
comp=Z,140nm,1.1s
WVT Waverly 29.70 27 ⇑P P 01 39 42.2 -1.3
WVT Waverly 29.70 27 P P 01 39 42.4 -1.2
baz=213

WVT S S 01 44 29.4 -10
baz=213
WVT Waverly 29.70 27 P P 01 39 41.5 -2.0
WVT baz=213 S S **01 44 40.0 +0.5**
baz=213
MOAC Moa 29.72 66 *e*P **P 01 39 45.9 +2.0**
ROSC El Rosal 29.74 98 P **P 01 39 46.1 +1.5**
comp=Z,43nm,1.0s,baz=246,slow=23,SNR=13
ROSC LR LR 01 49 01.5
comp=Z,125µm,20.5s,baz=292,slow=31
ROSC El Rosal 29.74 98 IAmb IAmb 01 40 01.6
comp=Z,168nm,1.1s
ROSC El Rosal 29.74 98 *e*P **P 01 39 46.0 +1.4**
TIN Tinemaha, Big 29.79 336 P **P 01 39 42.8 -1.7**
baz=150
TIN baz=150 S **S 01 44 46.0 +4.8**
Y52A Lilburn 29.81 35 P **P 01 39 44.0 -0.5**
baz=222
Y52A P **P 01 39 44.0 -0.5**
baz=222
Y52A S **S 01 44 35.5 -5.7**
baz=222
Y52A S **S 01 44 35.5 -5.7**
baz=222
GOGA Godfrey 29.81 36 P **P 01 39 43.2 -1.3**
baz=224
GOGA S **S 01 44 33.0 -8.3**
baz=224
GOGA Godfrey 29.81 36 P **P 01 39 42.9 -1.7**
baz=224,SNR=27
GOGA S **S 01 44 42.3 +1.0**
baz=224
SPBC San Pablo de B 29.83 96 *e*P **P 01 39 44.4 -0.6**
V48A Smith Brothers 29.84 29 P **P 01 39 43.2 -1.5**
baz=215
V48A S S 01 44 32.0 -10
baz=215
LL1C La Loma 1 Cana 29.86 88 *e*P **P 01 39 44.3 -0.9**
P17A Butcher Ranch, 29.87 349 IAmb IAmb 01 40 01.8
comp=Z,187nm,1.4s
X51A Calhoun 29.90 33 P **P 01 39 44.2 -1.1**
baz=220
X51A P **P 01 39 44.2 -1.1**
baz=220
X51A S **S 01 44 37.3 -5.4**
baz=220
X51A S **S 01 44 37.3 -5.4**
baz=220
R40A Maddies Statio 29.92 18 IAmb IAmb 01 39 57.1
comp=Z,282nm,1.5s
R40A Maddies Statio 29.92 18 P **P 01 39 43.8 -1.6**
baz=203
R40A S **S 01 44 41.4 -1.4**
baz=203
R11A Troy Canyon, C 30.01 341 P **P 01 39 43.9 -2.6**
baz=156,SNR=8.9
R11A S **S 01 44 47.4 +2.7**
baz=156
CCM Cathedral Cave 30.04 20 P **P 01 39 46.1 -0.4**
CCM pmax pmax
comp=Z,112nm,1.3s
CCM MLR MLR
comp=Z,106µm,19.0s
CCM Cathedral Cave 30.04 20 P **P 01 39 46.1 -0.4**
CCM Cathedral Cave 30.04 20 IAMs_20 IAMs_20 01 52 28.8
comp=Z,106µm,19.0s
CCM Cathedral Cave 30.04 20 ⇓P **P 01 39 45.0 -1.5**
CCM Cathedral Cave 30.04 20 P **P 01 39 44.4 -2.0**
baz=205
CCM S **S 01 44 37.0 -7.7**
baz=205
CCM Cathedral Cave 30.04 20 P **P 01 39 44.3 -2.2**
baz=205
CCM S **S 01 44 38.7 -6.0**
baz=205
T45B Paducah 30.10 25 P **P 01 39 46.6 -0.4**
baz=211
LL6C La Loma 6 Bece 30.13 88 *e*P **P 01 39 46.9 -0.6**
O20A White River Ci 30.14 353 P **P 01 39 45.3 -2.3**
baz=171,SNR=49
O20A S **S 01 44 49.4 +2.6**
baz=171
W50A Signal Mountai 30.15 31 P **P 01 39 45.3 -2.3**
baz=218
W50A S **S 01 44 41.5 -5.2**
baz=218
PMPB Monarch Peak 30.19 332 IAmb IAmb 01 40 02.5
comp=Z,196nm,1.3s
OCAC Ocana 30.20 91 *e*P **P 01 39 45.1 -3.2**
MASC Masc 30.25 67 *e*P **P 01 39 50.0 +1.5**
MASC *e*S **S 01 44 54.5 +6.2**
MASC IVmB_BB 01 46 28.2
comp=E,12µm,7.5s
MASC IVmB_BB 01 46 44.9
comp=N,15µm,6.4s
FVM French Village 30.26 21 P **P 01 39 47.3 -1.1**
FVM pmax pmax
comp=Z,179nm,1.4s
FVM French Village 30.26 21 P **P 01 39 47.3 -1.1**
FVM IAmb IAmb 01 39 51.8
comp=Z,179nm,1.4s
FVM French Village 30.26 21 P **P 01 39 46.8 -1.6**
baz=207
FVM S **S 01 44 42.6 -5.6**
baz=207
257A Skidaway Islan 30.32 41 P **P 01 39 48.7 -0.3**
baz=229
CHIC Chingaza 30.36 98⇑ *e*P **P 01 39 50.6 +0.5**
S44A Carbondale 30.44 23 IAmb IAmb 01 39 53.7
comp=Z,207nm,1.3s
S44A Carbondale 30.44 23 P **P 01 39 48.8 -1.2**
baz=209
S44A S S 01 44 41.4 -10
baz=209
CRJC Cerrejon, Guaj 30.46 85 *i* P **P 01 39 49.6 -1.0**
SIUC Southern Illin 30.48 23 IAmb IAmb 01 40 06.0
comp=Z,372nm,1.5s
VILC Villavicencio, 30.51 99 *e*P **P 01 39 53.5 +2.4**
MLAC Mammoth, Mammo 30.53 336 P **P 01 39 47.9 -3.2**
baz=150,SNR=18
MLAC S **S 01 44 56.4 +3.4**
baz=150
BARC Barichara 30.55 94 *e*P **P 01 39 51.3 -0.2**
MDPB Devils Postpil 30.63 336 P **P 01 39 52.0 -0.1**
MDPB IAmb IAmb 01 40 09.6
comp=Z,145nm,1.2s
N23A Red Feather La 30.71 357 IAmb IAmb 01 40 19.2
comp=Z,142nm,1.3s
N23A Red Feather La 30.71 357 P **P 01 39 51.8 -0.8**
baz=176,SNR=29
N23A S **S 01 44 57.7 +2.1**
baz=176
T47A Sharon Grove 30.74 27 IAmb IAmb 01 40 11.4
comp=Z,184nm,1.2s
T47A Sharon Grove 30.74 27 P **P 01 39 51.3 -1.4**
baz=214
T47A S **S 01 44 49.3 -6.4**
baz=214
OGNE Ogallala 30.74 3 IAMs_20 IAMs_20 01 52 12.1
comp=Z,96µm,22.0s
OGNE Ogallala 30.74 3 P **P 01 39 52.0 -0.8**
baz=183
OGNE S **S 01 44 57.5 +1.6**
baz=183
OGNE Ogallala 30.74 3 P **P 01 39 52.4 -0.4**
baz=183,SNR=19
OGNE S **S 01 44 59.9 +4.0**
baz=183
RDMU Red Mountain 30.75 351 IAmb IAmb 01 40 20.4
comp=Z,196nm,1.4s
RUSC La Rusia 30.75 95 *e*P **P 01 39 53.1 -0.5**
CPCT Cooper Cave 30.75 32 IAmb IAmb 01 39 56.1
comp=Z,220nm,1.3s
P38A Dawn 30.79 16 IAmb IAmb 01 40 03.6
comp=Z,232nm,1.4s
P38A Dawn 30.79 16 P **P 01 39 52.0 -1.1**
baz=200
P38A S S 01 44 45.8 -11
baz=200
W52A Murphy 30.80 33 P **P 01 39 52.2 -1.1**
baz=221
W52A S **S 01 44 48.6 -8.2**
baz=221
MACC Macarena, Meta 30.85 103 *e*P **P 01 39 52.0 -2.0**
HAW Hawthorne Fire 30.88 38 P **P 01 39 52.7 -1.3**
baz=226
HAW S **S 01 44 52.0 -6.0**
baz=226
SLM Saint Louis 30.91 21 P **P 01 39 53.0 -1.2**
baz=207
SLM S **S 01 44 51.2 -7.1**
baz=207
PAMC Pamplona, Colo 30.92 93 *e*P **P 01 39 54.5 -0.6**
SAO San Andreas Ge 30.93 332 IAmb IAmb 01 40 12.7
comp=Z,224nm,1.4s
SAO IAMs_20 IAMs_20 01 49 44.3
comp=Z,78µm,20.0s
U49A Red Boiling Sp 30.96 29 IAmb IAmb 01 40 04.9
comp=Z,211nm,1.4s
U49A Red Boiling Sp 30.96 29 P **P 01 39 54.1 -0.6**
baz=216
U49A S **S 01 44 52.9 -6.3**
baz=216
NV11 Mina Array Sit 30.97 338 P **P 01 39 54.6 -0.3**
Q09A Carvers 30.98 340 IAmb IAmb 01 40 17.4
comp=Z,170nm,1.5s
DUG Dugway, Tooele 30.99 347 IAmb IAmb 01 40 18.7
comp=Z,148nm,1.4s
DUG IAMs_20 IAMs_20 01 50 39.6
comp=Z,67µm,20.0s
DUG Dugway, Tooele 30.99 347 P **P 01 39 53.8 -1.2**
baz=162,SNR=44
DUG S **S 01 45 05.7 +5.8**
baz=162
N33B J Bar K, Exete 31.02 9 P **P 01 39 54.3 -0.8**
baz=192
N33B S **S 01 44 55.8 -4.2**
baz=192
N33A J Bar K, Exete 31.02 9 IAmb IAmb 01 40 07.0
comp=Z,264nm,1.2s
NVAR Mina Array Bea 31.02 338 P **P 01 39 55.6 +0.2**
comp=Z,25nm,1.0s,baz=162,slow=8.7,SNR=40
NVAR PcP **PcP 01 42 53.1 +1.7**
comp=Z,4.1nm,0.9s,baz=165,slow=2.4,SNR=3.4
NVAR LR LR 01 50 26.2
comp=Z,111µm,21.0s,baz=148,slow=33
NVAR P3KPbc 02 11 47.6
comp=Z,1.3nm,0.9s,baz=309,slow=3.4,SNR=6.8
PHWY Pilot Hill 31.09 358 IAmb IAmb 01 40 09.6
comp=Z,171nm,1.4s
HODGE Hodges 31.10 36 P **P 01 39 55.1 -0.8**
baz=224
HODGE S **S 01 44 54.6 -6.9**
baz=224
V51A Loudon 31.12 32 IAmb IAmb 01 40 06.7
comp=Z,119nm,1.1s
V51A Loudon 31.12 32 P **P 01 39 55.2 -0.9**
baz=219
V51A S S 01 44 50.8 -11
baz=219
P40A Paris 31.12 18 P **P 01 39 54.2 -1.8**
baz=203
P40A S **S 01 44 58.3 -3.4**
baz=203
CTU Camp Tracy 31.24 348 IAmb IAmb 01 40 14.1
comp=Z,145nm,1.4s
CASEE Lake Jocassee 31.27 34 P **P 01 39 57.1 -0.3**
baz=222
CASEE S **S 01 45 01.4 -2.7**
baz=222
RYN Ryan 31.28 338 IAmb IAmb 01 40 25.1
comp=Z,197nm,1.5s
TKL Tuckaleechee C 31.31 33 P **P 01 39 57.0 -0.7**
comp=Z,75nm,1.0s
TKL LR LR 01 56 16.1
comp=Z,24µm,18.4s,baz=227,slow=43
TKL Tuckaleechee C 31.31 33 P **P 01 39 57.0 -0.7**
TKL pmax pmax
comp=Z,155nm,1.2s
TKL Tuckaleechee C 31.31 33 IAmb IAmb 01 40 00.4
comp=Z,155nm,1.1s
TKL Tuckaleechee C 31.31 33 P **P 01 39 57.1 -0.7**
baz=220
TKL S **S 01 45 00.1 -4.6**
baz=220
URIC Uribia, Colomb 31.32 84 P **P 01 39 57.9 -0.2**
URIC IAmb IAmb 01 40 02.2
comp=Z,250nm,1.2s
URIC Uribia, Colomb 31.32 84 *e*P **P 01 39 56.9 -1.2**
N35A Tabor 31.47 12 IAmb IAmb 01 40 13.9
comp=Z,157nm,1.1s
N35A Tabor 31.47 12 P **P 01 39 58.6 -0.5**
baz=195
N35A S **S 01 45 06.5 -0.6**
baz=195
KVN Kaiserville 31.50 338 P **P 01 39 59.4 -0.2**
KVN pmax pmax
comp=Z,199nm,1.5s
KVN Kaiserville 31.50 338 P **P 01 39 59.4 -0.2**
KVN IAmb IAmb 01 40 19.0
comp=Z,199nm,1.5s
V52A Sevierville 31.54 33 IAmb IAmb 01 40 05.7
comp=Z,122nm,1.1s
V52A Sevierville 31.54 33 P **P 01 39 59.0 -0.8**
baz=220
V52A S **S 01 45 02.5 -5.9**
baz=220
BGNE Belgrade 31.57 8 P **P 01 39 59.3 -0.7**
baz=191
BGNE S **S 01 45 06.6 -2.1**
baz=191
BGNE Belgrade 31.57 8 P **P 01 39 58.4 -1.6**
baz=191
BGNE S **S 01 45 09.5 +0.9**
baz=191
RWWY Rawlins 31.58 355 IAMs_20 IAMs_20 01 52 09.7
comp=Z,96µm,21.0s
Q44A Mer Farm, Va 31.59 22 P **P 01 39 59.3 -0.9**
baz=209
Q44A S **S 01 45 03.4 -5.6**
baz=209
NHSC New Hope 31.60 40 P **P 01 40 01.3 +1.0**
baz=229
NHSC S **S 01 45 05.6 -3.6**
baz=229
NHSC New Hope 31.60 40 P **P 01 39 57.9 -2.4**
baz=229,SNR=21
NHSC S **S 01 45 06.7 -2.6**
baz=229
JSC Jenkinsville 31.72 37 P **P 01 40 01.0 -0.4**
baz=226
JSC S **S 01 45 07.7 -3.6**
baz=226
PAULI Pauline 31.78 36 P **P 01 40 01.2 -0.7**
baz=224
PAULI S **S 01 45 08.7 -3.3**
baz=224
OLIL Olney 31.80 24 IAmb IAmb 01 40 12.7
comp=Z,185nm,1.0s
OLIL Olney 31.80 24 P **P 01 40 01.0 -1.0**
baz=210
OLIL S **S 01 45 07.7 -4.5**
baz=210
T50A Nancy 31.82 30 P **P 01 40 00.9 -1.3**
baz=217
T50A P **P 01 40 00.9 -1.3**
baz=217
T50A S **S 01 45 05.6 -7.1**
baz=217
T50A S **S 01 45 05.6 -7.1**
baz=217
V53A Saluda 31.83 34 IAmb IAmb 01 40 13.3
comp=Z,106nm,1.1s
V53A Saluda 31.83 34 P **P 01 40 02.3 -0.1**
baz=222
V53A P **P 01 40 02.3 -0.1**
baz=222
V53A S **S 01 45 11.5 -1.5**
baz=222
V53A S **S 01 45 11.5 -1.5**
baz=222
TAMC Tame, Arauca 31.93 94 *e*P **P 01 40 01.9 -1.6**
N38A Joes South For 31.96 15 IAmb IAmb 01 40 14.0
comp=Z,217nm,1.0s
N38A Joes South For 31.96 15 P **P 01 40 02.6 -0.8**
baz=200
N38A S **S 01 45 12.2 -2.6**
baz=200
PTGC Puerto Gaitan, 32.01 98 *e*P **P 01 40 03.6 -0.6**
P43A Skaggs, Pawnee 32.05 21 P **P 01 40 03.9 -0.3**
P43A IAmb IAmb 01 40 26.3
comp=Z,196nm,1.5s
P43A Skaggs, Pawnee 32.05 21 P **P 01 40 03.0 -1.2**
baz=207
P43A S **S 01 45 08.7 -7.6**
baz=207
Y57A Sumter 32.07 39 P **P 01 40 04.0 -0.4**
baz=228
Y57A P **P 01 40 04.0 -0.4**
baz=228
Y57A S **S 01 45 14.1 -2.5**
baz=228
Y57A S **S 01 45 14.1 -2.5**
baz=228
HWUT Hardware Ranch 32.09 349 IAMs_20 IAMs_20 01 51 19.5
comp=Z,76µm,21.0s
PNTR Pine Nut 32.09 337 IAmb IAmb 01 40 20.1
comp=Z,214nm,1.5s
TZTN Tazewell 32.10 32 IAmb IAmb 01 40 10.7
comp=Z,296nm,1.4s
TZTN Tazewell 32.10 32 P **P 01 40 04.3 -0.4**
baz=220
TZTN S **S 01 45 18.7 +1.6**
baz=220
TZTN Tazewell 32.10 32 P **P 01 40 03.1 -1.6**
baz=220,SNR=37
TZTN S **S 01 45 17.1 +0.1**
baz=220
ELK Elko 32.12 344 P **P 01 40 03.7 -1.4**
comp=Z,17nm,1.1s,baz=160,slow=6.1,SNR=22
ELK LR LR 01 51 16.2
comp=Z,84µm,21.4s,baz=158,slow=33
ELK Elko 32.12 344 IAMs_20 IAMs_20 01 51 04.8
comp=Z,72µm,20.0s
EMB Emerald Bay 32.20 336 IAmb IAmb 01 40 23.1
comp=Z,257nm,1.4s
KMSC Kings Mountain 32.28 36 IAmb IAmb 01 40 11.6
comp=Z,152nm,1.4s
KMSC Kings Mountain 32.28 36 P **P 01 40 04.5 -1.9**
baz=225
KMSC S **S 01 45 16.0 -4.0**
baz=225
KMSC Kings Mountain 32.28 36 P **P 01 40 04.0 -2.4**
baz=225,SNR=21
KMSC S **S 01 45 18.2 -1.8**
baz=225
RUBR Rubicon Trail 32.28 336 IAmb IAmb 01 40 24.0
comp=Z,259nm,1.3s
VCNR Virginia City 32.29 337 IAmb IAmb 01 40 21.9
comp=Z,137nm,1.3s
L34A Svendsen Farm, 32.40 10 IAmb IAmb 01 40 21.4
comp=Z,154nm,1.1s
L34A Svendsen Farm, 32.40 10 P **P 01 40 05.9 -1.3**
baz=194
L34A S **S 01 45 22.6 +1.1**
baz=194
BMN Battle Mountai 32.43 341 P **P 01 40 07.3 -0.4**
BMN pmax pmax
comp=Z,229nm,1.5s
BMN Battle Mountai 32.43 341 P **P 01 40 07.3 -0.4**
BMN IAmb IAmb 01 40 18.9
comp=Z,229nm,1.5s
MPK Martis Peak 32.44 336 IAmb IAmb 01 40 23.4
comp=Z,205nm,1.3s
Y58A Scranton 32.44 39 IAmb IAmb 01 40 13.6
comp=Z,213nm,1.2s
Y58A Scranton 32.44 39 P **P 01 40 06.5 -1.2**
baz=229
Y58A P **P 01 40 06.5 -1.2**
baz=229
Y58A S **S 01 45 18.5 -4.0**
baz=229
Y58A S **S 01 45 18.5 -4.0**
baz=229
BIRD Birdtown, Kers 32.45 38 P **P 01 40 06.2 -1.6**
baz=227
BIRD S **S 01 45 18.6 -4.0**
baz=227
K22A Casper 32.49 356 P **P 01 40 08.1 -0.2**
baz=175
K22A S **S 01 45 25.9 +2.6**
baz=175
K22A Casper 32.49 356 P **P 01 40 06.2 -2.0**
baz=175,SNR=18
K22A S **S 01 45 25.1 +1.8**
baz=175
HVU Hansel Valley 32.50 348 IAmb IAmb 01 40 23.2
comp=Z,140nm,1.3s
PAHR Pah Rah Range 32.55 337 IAmb IAmb 01 40 24.1
comp=Z,150nm,1.5s
N41A Harden Midland 32.57 19 P **P 01 40 07.5 -1.3**
baz=204
N41A S **S 01 45 21.4 -2.8**
baz=204
SOCV Socops 32.62 90 *e*P **P 01 40 09.7 +0.1**
DABV Dabajuro 32.67 86 *e*P **P 01 40 07.5 -2.4**
R49A Shelbyville 32.68 28 IAmb IAmb 01 40 20.0
comp=Z,251nm,1.3s
R49A Shelbyville 32.68 28 P **P 01 40 08.6 -1.1**
baz=216
R49A P **P 01 40 08.6 -1.1**
baz=216
R49A S **S 01 45 17.7 -8.4**
baz=216
R49A S **S 01 45 17.7 -8.4**
baz=216
K31A O'Neill 32.69 7 IAmb IAmb 01 40 16.1
comp=Z,198nm,1.1s
K31A O'Neill 32.69 7 P **P 01 40 09.3 -0.4**
baz=189
K31A S **S 01 45 29.2 +3.1**
baz=189
SDDR Presa de Saban 32.69 71 IAmb IAmb 01 40 23.6
comp=Z,167nm,1.4s
SDDR IAMs_20 IAMs_20 01 53 18.8
comp=Z,58µm,19.0s
SDDR Presa de Saban 32.69 71 *e*P **P 01 40 10.1 -0.1**
SDDR Presa de Saban 32.69 71 ⇑P **P 01 40 10.4 +0.3**
SDV Santo Domingo 32.79 89 LR LR 01 52 02.2
comp=Z,138µm,20.4s,baz=275,slow=34
SDV Santo Domingo 32.79 89 P **P 01 40 10.6 -0.7**
SDV Santo Domingo 32.79 89 *e*P **P 01 40 10.5 -0.7**
SDV Santo Domingo 32.79 89 *e*P **P 01 40 10.8 -0.4**
V55A Taylorsville 32.85 35 IAmb IAmb 01 40 17.4
comp=Z,172nm,1.2s
V55A Taylorsville 32.85 35 P **P 01 40 10.7 -0.6**
baz=224
V55A P **P 01 40 10.7 -0.6**
baz=224
V55A S **S 01 45 25.8 -3.0**
baz=224
V55A S **S 01 45 25.8 -3.0**
baz=224
O44A Mansfield 32.89 22 P **P 01 40 10.1 -1.5**
baz=209
O44A S **S 01 45 22.1 -7.1**
baz=209
BW06 Boulder Array 32.90 352 IAmb IAmb 01 40 35.6
comp=Z,270nm,1.4s
BW06 Boulder Array 32.90 352 P **P 01 40 10.2 -1.7**
baz=169,SNR=80
BW06 S **S 01 45 33.2 +3.3**
baz=169
PD31 Pinedale Array 32.90 352 P **P 01 40 11.5 -0.4**
PD31 IAmb IAmb 01 40 35.6
comp=Z,243nm,1.4s
PD31 Pinedale Array 32.90 352 ⇓P **P 01 40 11.1 -0.8**
PDAR Pinedale Array 32.90 352 P **P 01 40 11.4 -0.4**
comp=Z,23nm,0.9s,baz=169,slow=8.8,SNR=42
PDAR LR LR 01 52 36.3
comp=Z,32µm,21.9s,baz=188,slow=35
P46A Rosedale 32.91 24 P **P 01 40 11.6 -0.2**
baz=211
P46A S **S 01 45 21.2 -8.4**
baz=211
S51A Beattyville 32.92 30 IAmb IAmb 01 40 14.4
comp=Z,165nm,0.9s
S51A Beattyville 32.92 30 P **P 01 40 11.1 -0.7**
baz=219
S51A P **P 01 40 11.1 -0.7**
baz=219
S51A S **S 01 45 25.6 -4.2**
baz=219
S51A S **S 01 45 25.6 -4.2**
baz=219
HDIL Hopedale 32.95 21 P **P 01 40 11.2 -0.8**
baz=207
HDIL S **S 01 45 27.2 -2.9**
baz=207
HDIL Hopedale 32.95 21 P **P 01 40 10.8 -1.3**
baz=207,SNR=62

HDIL					S	**S**	**01 45 27.2**	**-2.9**		
	baz=207									
Y59A	**Loris**	**33.00**	**40**		IAmb	IAmb	01 40 35.6			
	comp=Z,187nm,1.3s									
Y59A	**Loris**	**33.00**	**40**		P	**P**	**01 40 12.7**	**+0.1**		
Y59A	baz=230				P	**P**	**01 40 12.7**	**+0.1**		
	baz=230									
Y59A					S	**S**	**01 45 28.9**	**-2.1**		
	baz=230									
Y59A					S	**S**	**01 45 28.9**	**-2.1**		
	baz=230									
U54A	**Nelsons Funny**	**33.00**	**34**		IAmb	IAmb	01 40 31.8			
	comp=Z,191nm,1.1s									
U54A	**Nelsons Funny**	**33.00**	**34**		P	**P**	**01 40 12.0**	**-0.7**		
U54A	baz=223				P	**P**	**01 40 12.0**	**-0.7**		
	baz=223									
U54A					S	**S**	**01 45 26.8**	**-4.4**		
	baz=223									
U54A					S	**S**	**01 45 26.8**	**-4.4**		
	baz=223									
SCIA	**State Center**	**33.02**	**15**		IAmb	IAmb	01 40 17.6			
	comp=Z,290nm,1.5s									
SCIA	**State Center**	**33.02**	**15**		P	**P**	**01 40 11.6**	**-1.1**		
SCIA	baz=199				S	**S**	**01 45 31.4**	**+0.2**		
	baz=199									
SCIA	**State Center**	**33.02**	**15**		P	**P**	**01 40 10.8**	**-1.8**		
	baz=199,SNR=11									
SCIA					S	**S**	**01 45 33.8**	**+2.6**		
	baz=199									
R50A	**Paris**	**33.07**	**29**		IAmb	IAmb	01 40 23.4			
	comp=Z,237nm,1.4s									
R50A	**Paris**	**33.07**	**29**		P	**P**	**01 40 11.2**	**-1.9**		
R50A	baz=217				P	**P**	**01 40 11.2**	**-1.9**		
	baz=217									
R50A					S	**S**	**01 45 25.8**	**-6.3**		
	baz=217									
R50A					S	**S**	**01 45 25.8**	**-6.3**		
	baz=217									
X58A	**Rowland**	**33.08**	**39**		IAmb	IAmb	01 40 19.3			
	comp=Z,89nm,0.9s									
X58A	**Rowland**	**33.08**	**39**		P	**P**	**01 40 12.9**	**-0.3**		
X58A	baz=228				P	**P**	**01 40 12.9**	**-0.3**		
	baz=228									
X58A					S	**S**	**01 45 28.5**	**-3.8**		
	baz=228									
X58A					S	**S**	**01 45 28.5**	**-3.8**		
	baz=228									
W57A	**Gilead**	**33.08**	**37**		P	**P**	**01 40 12.0**	**-1.3**		
W57A	baz=227				P	**P**	**01 40 12.0**	**-1.3**		
	baz=227									
W57A					S	**S**	**01 45 29.7**	**-2.6**		
	baz=227									
W57A					S	**S**	**01 45 29.7**	**-2.6**		
	baz=227									
AHID	**Auburn Hatcher**	**33.13**	**350**		IAmb	IAmb	01 40 40.9			
	comp=Z,284nm,1.5s									
AHID					IAMs_20	IAMs_20	01 52 15.0			
	comp=Z,66µm,21.0s									
ORV	**Oroville**	**33.26**	**335**		IAmb	IAmb	01 40 32.3			
	comp=Z,307nm,1.5s									
ORV					IAMs_20	IAMs_20	01 50 49.7			
	comp=Z,67µm,22.0s									
Y60A	**Bolivia**	**33.43**	**41**		P	**P**	**01 40 15.5**	**-0.9**		
Y60A	baz=231				P	**P**	**01 40 15.5**	**-0.9**		
	baz=231									
Y60A					S	**S**	**01 45 34.1**	**-3.7**		
	baz=231									
Y60A					S	**S**	**01 45 34.1**	**-3.7**		
	baz=231									
BANI	**BANI**	**33.45**	**72**		P	**P**	**01 40 16.1**	**-0.8**		
HOPS	**Hopland Field**	**33.49**	**332**		IAMs_20	IAMs_20	01 51 45.9			
	comp=Z,74µm,19.0s									
P48A	**Milroy**	**33.52**	**26**		IAmb	IAmb	01 40 27.0			
	comp=Z,250nm,1.2s									
P48A	**Milroy**	**33.52**	**26**		P	**P**	**01 40 15.5**	**-1.6**		
P48A	baz=214				P	**P**	**01 40 15.5**	**-1.6**		
	baz=214									
P48A					S	**S**	**01 45 35.5**	**-3.6**		
	baz=214									
P48A					S	**S**	**01 45 35.5**	**-3.6**		
	baz=214									
SFIN	**Lafayette**	**33.60**	**23**		P	**P**	**01 40 17.1**	**-0.7**		
SFIN	baz=211				S	**S**	**01 45 38.3**	**-2.1**		
	baz=211									
SFIN	**Lafayette**	**33.60**	**23**		P	**P**	**01 40 15.8**	**-2.0**		
	baz=211,SNR=40									
SFIN					S	**S**	**01 45 38.8**	**-1.6**		
	baz=211									
REDW	**Red Top Meadow**	**33.67**	**351**		IAmb	IAmb	01 40 37.3			
	comp=Z,335nm,1.5s									
U56A	**King**	**33.68**	**35**		IAmb	IAmb	01 40 22.1			
	comp=Z,108nm,1.1s									
U56A	**King**	**33.68**	**35**		P	**P**	**01 40 18.3**	**-0.3**		
U56A	baz=225				P	**P**	**01 40 18.3**	**-0.3**		
	baz=225									
U56A					S	**S**	**01 45 41.2**	**-0.5**		
	baz=225									
U56A					S	**S**	**01 45 41.2**	**-0.5**		
	baz=225									
L40A	**Anamosa**	**33.70**	**17**		IAmb	IAmb	01 40 28.5			
	comp=Z,168nm,1.1s									
L40A	**Anamosa**	**33.70**	**17**		P	**P**	**01 40 17.4**	**-1.2**		
L40A	baz=203				S	**S**	**01 45 43.2**	**+1.4**		
	baz=203									
SNOW	**Snow King Moun**	**33.76**	**351**		IAmb	IAmb	01 40 35.8			
	comp=Z,257nm,1.2s									
SNOW					IAMs_20	IAMs_20	01 54 21.5			
	comp=Z,62µm,18.0s									
TPAW	**Teton Pass**	**33.81**	**351**		IAmb	IAmb	01 40 44.9			
	comp=Z,229nm,1.4s									
K38A	**Parkersburg**	**33.83**	**15**		IAmb	IAmb	01 40 29.6			
	comp=Z,188nm,1.0s									
K38A	**Parkersburg**	**33.83**	**15**		P	**P**	**01 40 16.7**	**-3.0**		
K38A	baz=200				S	**S**	**01 45 45.5**	**+1.7**		
	baz=200									
RSSD	**Black Hills**	**33.88**	**360**		P	**P**	**01 40 20.8**	**+0.4**		
RSSD					pmax	pmax				
	comp=Z,118nm,1.2s									
RSSD					MLR	MLR				
	comp=Z,105µm,19.0s									
RSSD	**Black Hills**	**33.88**	**360**		P	**P**	**01 40 20.8**	**+0.4**		
RSSD					IAmb	IAmb	01 40 34.9			
	comp=Z,118nm,1.2s									
RSSD	**Black Hills**	**33.88**	**360**		IAMs_20	IAMs_20	01 53 28.1			
	comp=Z,105µm,19.0s									
RSSD	**Black Hills**	**33.88**	**360**	⇓P		**P**	**01 40 19.7**	**-0.7**		
RSSD	**Black Hills**	**33.88**	**360**	P		**P**	**01 40 19.7**	**-0.7**		
RSSD	baz=180				S	**S**	**01 45 48.4**	**+3.5**		
	baz=180									
RSSD	**Black Hills**	**33.88**	**360**	P		**P**	**01 40 19.4**	**-1.0**		
RSSD	baz=180				S	**S**	**01 45 47.4**	**+2.5**		
	baz=180									
LOHW	**Long Hollow**	**33.88**	**351**		IAmb	IAmb	01 40 35.5			
	comp=Z,132nm,1.2s									
LOHW					IAMs_20	IAMs_20	01 52 22.7			
	comp=Z,68µm,21.0s									
P49A	**Miami Univ. Ec**	**33.90**	**27**		P	**P**	**01 40 18.9**	**-1.5**		
P49A	baz=215				S	**S**	**01 45 39.3**	**-5.6**		
	baz=215									
P49A	**Miami Univ. Ec**	**33.90**	**27**		P	**P**	**01 40 18.2**	**-2.1**		
P49A	baz=215,SNR=85				S	**S**	**01 45 42.7**	**-2.3**		
	baz=215									
O03E	**Paynes Creek**	**34.01**	**335**		IAmb	IAmb	01 40 39.0			
	comp=Z,218nm,1.5s									
O03E					IAMs_20	IAMs_20	01 51 26.4			
	comp=Z,75µm,21.0s									
O03E	**Paynes Creek**	**34.01**	**335**		P	**P**	**01 40 17.7**	**-3.7**		
O03E	baz=147,SNR=9.2				S	**S**	**01 45 46.8**	**0.0**		
	baz=147									
MOOW	**Moose Ponds**	**34.03**	**351**		IAmb	IAmb	01 40 35.9			
	comp=Z,126nm,1.4s									
MOOW					IAMs_20	IAMs_20	01 52 27.8			
	comp=Z,67µm,21.0s									
V58A	**Windy Hill, Pi**	**34.04**	**37**		IAmb	IAmb	01 40 25.1			
	comp=Z,203nm,1.2s									
V58A	**Windy Hill, Pi**	**34.04**	**37**		P	**P**	**01 40 21.1**	**-0.6**		
V58A	baz=227				P	**P**	**01 40 21.1**	**-0.6**		
	baz=227									
V58A					S	**S**	**01 45 47.4**	**+0.2**		
	baz=227									
V58A					S	**S**	**01 45 47.4**	**+0.2**		
	baz=227									
ECSD	**EROS Data Cent**	**34.08**	**9**		IAmb	IAmb	01 40 33.4			
	comp=Z,212nm,1.4s									
ECSD	**EROS Data Cent**	**34.08**	**9**		P	**P**	**01 40 21.4**	**-0.5**		
ECSD	baz=193				S	**S**	**01 45 48.6**	**+1.0**		
	baz=193									
ECSD	**EROS Data Cent**	**34.08**	**9**		P	**P**	**01 40 19.8**	**-2.0**		
	baz=193,SNR=64									
ECSD					S	**S**	**01 45 49.5**	**+1.9**		
	baz=193									
L42A	**Oliver, Polo**	**34.12**	**19**		P	**P**	**01 40 20.2**	**-2.0**		
L42A	baz=205				S	**S**	**01 45 50.5**	**+2.2**		
	baz=205									
ELOV	**Elorza**	**34.12**	**92**	*e*P		**P**	**01 40 21.5**	**-1.1**		
M44A	**Midewin, Midew**	**34.12**	**21**	P		**P**	**01 40 21.1**	**-1.2**		
M44A	baz=208				S	**S**	**01 45 47.6**	**-0.7**		
	baz=208									
Q51A	**Peebles**	**34.13**	**29**	P		**P**	**01 40 20.7**	**-1.7**		
Q51A	baz=218				P	**P**	**01 40 20.7**	**-1.7**		
	baz=218									
Q51A					S	**S**	**01 45 44.1**	**-4.4**		
	baz=218									
Q51A					S	**S**	**01 45 44.1**	**-4.4**		
	baz=218									
S54A	**Dingess, Beckl**	**34.22**	**33**		IAmb	IAmb	01 40 43.5			
	comp=Z,254nm,1.2s									
S54A	**Dingess, Beckl**	**34.22**	**33**		P	**P**	**01 40 21.8**	**-1.5**		
S54A	baz=222				P	**P**	**01 40 21.8**	**-1.5**		
	baz=222									
BLA	**Blacksburg**	**34.27**	**34**		P	**P**	**01 40 23.0**	**-0.7**		
BLA					pmax	pmax				
	comp=Z,178nm,1.1s									
BLA					MLR	MLR				
	comp=Z,37µm,19.0s									
BLA	**Blacksburg**	**34.27**	**34**		P	**P**	**01 40 23.0**	**-0.7**		
BLA					IAmb	IAmb	01 40 26.4			
	comp=Z,178nm,1.1s									
BLA	**Blacksburg**	**34.27**	**34**		P	**P**	**01 40 21.6**	**-2.1**		
BLA	baz=224				S	**S**	**01 45 45.0**	**-6.0**		
	baz=224									
BLA	**Blacksburg**	**34.27**	**34**		P	**P**	**01 40 22.6**	**-1.1**		
	baz=224,SNR=44									
BLA					S	**S**	**01 45 46.3**	**-4.6**		
	baz=224									
R53A	**Hurricane**	**34.28**	**31**		P	**P**	**01 40 23.2**	**-0.5**		
R53A	baz=221				P	**P**	**01 40 23.2**	**-0.5**		
	baz=221									
R53A					S	**S**	**01 45 46.8**	**-4.1**		
	baz=221									
R53A					S	**S**	**01 45 46.8**	**-4.1**		
	baz=221									
KCPM	**Cahto Peak**	**34.28**	**332**		IAmb	IAmb	01 40 35.1			
	comp=Z,273nm,1.5s									
O48B	**Farmland**	**34.30**	**26**		P	**P**	**01 40 22.1**	**-1.7**		
O48B	baz=214				S	**S**	**01 45 46.8**	**-4.4**		
	baz=214									
O48B	**Farmland**	**34.30**	**26**		P	**P**	**01 40 22.1**	**-1.7**		
	baz=214,SNR=81									
O48B					S	**S**	**01 45 46.7**	**-4.4**		
	baz=214									
O02D	**Mt. Diablo Mer**	**34.33**	**334**		IAMs_20	IAMs_20	01 51 23.3			
	comp=Z,90µm,21.0s									
O02D	**Mt. Diablo Mer**	**34.33**	**334**		P	**P**	**01 40 21.8**	**-2.4**		
O02D	baz=145				S	**S**	**01 45 53.5**	**+1.8**		
	baz=145									
FLWY	**Flagg Ranch**	**34.35**	**351**		IAmb	IAmb	01 40 48.6			
	comp=Z,232nm,1.2s									
FLWY					IAMs_20	IAMs_20	01 54 50.3			
	comp=Z,68µm,18.0s									
CNNC	**Cliffs of the**	**34.42**	**39**		IAmb	IAmb	01 40 27.6			
	comp=Z,176nm,1.1s									
CNNC	**Cliffs of the**	**34.42**	**39**		P	**P**	**01 40 24.4**	**-0.6**		
	baz=230									
CNNC	**Cliffs of the**	**34.42**	**39**		P	**P**	**01 40 23.5**	**-1.5**		
	baz=230,SNR=10									
SUSD	**Miller**	**34.46**	**6**		IAmb	IAmb	01 40 32.9			
	comp=Z,165nm,1.1s									
SUSD	**Miller**	**34.46**	**6**		P	**P**	**01 40 24.4**	**-0.8**		
SUSD	baz=188				S	**S**	**01 45 55.9**	**+2.4**		
	baz=188									
SUSD	**Miller**	**34.46**	**6**		P	**P**	**01 40 23.6**	**-1.6**		
SUSD	baz=188				S	**S**	**01 45 55.3**	**+1.8**		
	baz=188									
YPP	**Pitchstone Pla**	**34.55**	**351**		IAmb	IAmb	01 40 55.8			
	comp=Z,131nm,1.3s									
HLID	**Hailey**	**34.56**	**346**		P	**P**	**01 40 25.7**	**-0.6**		
HLID					IAMs_20	IAMs_20	01 52 18.1			
	comp=Z,71µm,22.0s									
HLID	**Hailey**	**34.56**	**346**		P	**P**	**01 40 24.0**	**-2.3**		
	baz=161,SNR=61									
HLID					S	**S**	**01 46 00.8**	**+5.4**		
	baz=161									
N47A	**Urbana**	**34.59**	**25**		P	**P**	**01 40 24.6**	**-1.8**		
N47A	baz=213				P	**P**	**01 40 24.6**	**-1.8**		
	baz=213									
N47A					S	**S**	**01 45 54.1**	**-1.5**		
	baz=213									
N47A					S	**S**	**01 45 54.1**	**-1.5**		
	baz=213									
O49A	**Covington**	**34.60**	**27**		P	**P**	**01 40 24.2**	**-2.2**		
O49A	baz=215				P	**P**	**01 40 24.2**	**-2.2**		
	baz=215									
O49A					S	**S**	**01 45 51.6**	**-4.2**		
	baz=215									
O49A					S	**S**	**01 45 51.6**	**-4.2**		
	baz=215									
Q52A	**Bidwell**	**34.60**	**30**		P	**P**	**01 40 25.4**	**-1.1**		
Q52A	baz=220				P	**P**	**01 40 25.4**	**-1.1**		
	baz=220									
Q52A					S	**S**	**01 45 54.7**	**-1.2**		
	baz=220									
Q52A					S	**S**	**01 45 54.7**	**-1.2**		
	baz=220									
P51A	**Williamsport**	**34.62**	**29**		P	**P**	**01 40 25.6**	**-1.1**		
P51A	baz=218				P	**P**	**01 40 25.6**	**-1.1**		
	baz=218									
P51A					S	**S**	**01 45 51.8**	**-4.4**		
	baz=218									
P51A					S	**S**	**01 45 51.8**	**-4.4**		
	baz=218									
H17A	**Grant Village**	**34.64**	**352**		IAmb	IAmb	01 40 56.9			
	comp=Z,151nm,1.5s									
H17A	**Grant Village**	**34.64**	**352**		P	**P**	**01 40 24.0**	**-3.1**		
	baz=168,SNR=25									
H17A					S	**S**	**01 46 00.5**	**+3.7**		
	baz=168									
NNA	**Nana**	**34.69**	**129**		LR	LR	01 51 52.8			
	comp=Z,35µm,20.5s,baz=312,slow=32									
NNA	**Nana**	**34.69**	**129**		P	**P**	**01 40 28.6**	**+1.1**		
NNA					pmax	pmax				
	comp=Z,170nm,1.5s									
NNA	**Nana**	**34.69**	**129**		P	**P**	**01 40 28.6**	**+1.1**		
NNA					IAmb	IAmb	01 40 48.5			
	comp=Z,170nm,1.4s									
WVOR	**Wild Horse Val**	**34.70**	**341**		IAMs_20	IAMs_20	01 53 09.1			
	comp=Z,57µm,20.0s									
WVOR	**Wild Horse Val**	**34.70**	**341**	⇓P		**P**	**01 40 27.1**	**-0.3**		
YFT	**Old Faithful**	**34.73**	**351**	IAmb		IAmb	01 40 43.4			
	comp=Z,107nm,1.0s									
JFWS	**Jewell Farm**	**34.77**	**18**	IAmb		IAmb	01 40 38.1			
	comp=Z,179nm,1.4s									
JFWS	**Jewell Farm**	**34.77**	**18**	IAMs_20		IAMs_20	01 54 49.9			
	comp=Z,82µm,19.0s									
JFWS	**Jewell Farm**	**34.77**	**18**	P		**P**	**01 40 26.3**	**-1.5**		
JFWS	baz=204				S	**S**	**01 45 56.1**	**-2.2**		
	baz=204									
JFWS	**Jewell Farm**	**34.77**	**18**	P		**P**	**01 40 25.0**	**-2.9**		
JFWS	baz=204,SNR=12				S	**S**	**01 46 00.7**	**+2.4**		
	baz=204									
LKWY	**Lake**	**34.78**	**352**	IAMs_20		IAMs_20	01 52 43.6			
	comp=Z,97µm,20.0s									
T57A	**Hurt**	**34.78**	**36**	P		**P**	**01 40 27.4**	**-0.7**		
T57A	baz=226				P	**P**	**01 40 27.4**	**-0.7**		
	baz=226									
T57A					S	**S**	**01 45 55.5**	**-3.1**		
	baz=226									
T57A					S	**S**	**01 45 55.5**	**-3.1**		
	baz=226									
MOD	**Modoc Plateau**	**34.80**	**338**	IAmb		IAmb	01 40 46.2			
	comp=Z,186nm,1.5s									
L44A	**Lake County Fo**	**34.87**	**21**	P		**P**	**01 40 27.7**	**-1.0**		
L44A	baz=208				S	**S**	**01 46 00.5**	**+0.8**		
	baz=208									
L44A	**Lake County Fo**	**34.87**	**21**	P		**P**	**01 40 27.1**	**-1.6**		
	baz=208,SNR=7.7									
L44A					S	**S**	**01 46 01.9**	**+2.1**		
	baz=208									
I37A	**Lemond, Waseca**	**34.97**	**13**	IAmb		IAmb	01 40 47.5			
	comp=Z,226nm,1.0s									
I37B	**Waseca**	**34.97**	**13**	P		**P**	**01 40 28.2**	**-1.4**		
I37B	baz=198				S	**S**	**01 45 59.9**	**-1.4**		
	baz=198									
YNR	**Norris Junctio**	**34.97**	**352**	IAmb		IAmb	01 40 50.9			
	comp=Z,192nm,1.5s									
YHH	**Holmes Hill**	**35.07**	**351**	P		**P**	**01 40 30.8**	**+0.1**		
KMPM	**Mount Pierce**	**35.12**	**333**	IAmb		IAmb	01 40 48.6			
	comp=Z,291nm,1.4s									
K43A	**Burlington**	**35.19**	**20**	P		**P**	**01 40 30.3**	**-1.2**		
K43A	baz=207				S	**S**	**01 46 01.6**	**-3.1**		
	baz=207									
RLMT	**Red Lodge**	**35.19**	**353**	IAMs_20		IAMs_20	01 54 58.3			
	comp=Z,70µm,21.0s									
P52A	**Corning**	**35.19**	**30**	IAmb		IAmb	01 40 42.3			
	comp=Z,296nm,1.1s									
P52A				IAMs_20		IAMs_20	01 56 57.3			
	comp=Z,72µm,19.0s									
P52A	**Corning**	**35.19**	**30**	P		**P**	**01 40 29.7**	**-1.9**		
	baz=219,SNR=51									
P52A					S	**S**	**01 46 06.5**	**+1.6**		
	baz=219									
U59A	**Littleton**	**35.21**	**38**	P		**P**	**01 40 30.0**	**-1.8**		
U59A	baz=228				P	**P**	**01 40 30.0**	**-1.8**		
	baz=228									
R55A	**Marlinton**	**35.21**	**33**	IAmb		IAmb	01 40 55.6			
	comp=Z,250nm,1.4s									
R55A	**Marlinton**	**35.21**	**33**	P		**P**	**01 40 31.3**	**-0.6**		
R55A	baz=223				P	**P**	**01 40 31.3**	**-0.6**		
	baz=223									
R55A					S	**S**	**01 46 06.1**	**+0.7**		
	baz=223									
R55A					S	**S**	**01 46 06.1**	**+0.7**		
	baz=223									
ACSO	**Alum Creek Sta**	**35.25**	**28**	IAMs_20		IAMs_20	01 56 40.6			
	comp=Z,52µm,19.0s									
ACSO	**Alum Creek Sta**	**35.25**	**28**	P		**P**	**01 40 30.4**	**-1.7**		
	baz=217									
ACSO	**Alum Creek Sta**	**35.25**	**28**	P		**P**	**01 40 29.3**	**-2.8**		
	baz=217,SNR=39									
ACSO					S	**S**	**01 46 07.0**	**+1.2**		
	baz=217									
N49A	**Columbus Grove**	**35.27**	**26**	P		**P**	**01 40 31.1**	**-1.1**		
N49A	baz=215				P	**P**	**01 40 31.1**	**-1.1**		
	baz=215									
N49A					S	S	01 45 56.8	-9.2		
	baz=215									
N49A					S	S	01 45 56.8	-9.2		
	baz=215									
KHMM	**Horse Mountain**	**35.31**	**334**	IAmb		IAmb	01 40 48.7			
	comp=Z,192nm,1.4s									
L46A	**Eue Claire**	**35.32**	**23**	P		**P**	**01 40 31.6**	**-1.0**		
L46A	baz=211				P	**P**	**01 40 31.6**	**-1.0**		
	baz=211									
L46A					S	**S**	**01 46 08.1**	**+1.3**		
	baz=211									
L46A					S	**S**	**01 46 08.1**	**+1.3**		
	baz=211									
BAUV	**El Baul**	**35.33**	**89**	P		**P**	**01 40 31.1**	**-2.0**		
Q54A	**Coxs Mills**	**35.35**	**32**	IAmb		IAmb	01 40 35.9			
	comp=Z,281nm,1.4s									
Q54A	**Coxs Mills**	**35.35**	**32**	P		**P**	**01 40 32.5**	**-0.4**		
Q54A	baz=222				P	**P**	**01 40 32.5**	**-0.4**		
	baz=222									
Q54A					S	**S**	**01 46 04.2**	**-3.2**		
	baz=222									
Q54A					S	**S**	**01 46 04.2**	**-3.2**		
	baz=222									
M02C	**Callahan**	**35.36**	**335**	P		**P**	**01 40 30.4**	**-2.7**		
M02C	baz=146				S	**S**	**01 46 10.2**	**+2.6**		
	baz=146									
JCC	**Jacoby Creek,**	**35.40**	**333**	IAMs_20		IAMs_20	01 53 25.3			
	comp=Z,68µm,18.0s									
P53A	**Whipple**	**35.44**	**31**	IAmb		IAmb	01 40 37.0			
	comp=Z,125nm,1.1s									
P53A	**Whipple**	**35.44**	**31**	P		**P**	**01 40 34.2**	**+0.5**		
P53A	baz=220				P	**P**	**01 40 34.2**	**+0.5**		
	baz=220									
P53A					S	**S**	**01 46 09.0**	**+0.2**		
	baz=220									
P53A					S	**S**	**01 46 09.0**	**+0.2**		
	baz=220									
S57A	**Dark Hollow, R**	**35.48**	**35**	IAmb		IAmb	01 40 37.6			
	comp=Z,164nm,1.0s									
S57A	**Dark Hollow, R**	**35.48**	**35**	P		**P**	**01 40 33.1**	**-1.0**		
S57A	baz=226				P	**P**	**01 40 33.1**	**-1.0**		
	baz=226									
S57A					S	S	01 46 00.2	-9.3		
	baz=226									
S57A					S	S	01 46 00.2	-9.3		
	baz=226									
I40A	**Norwalk**	**35.56**	**17**	IAmb		IAmb	01 40 44.9			
	comp=Z,243nm,1.1s									
I40A	**Norwalk**	**35.56**	**17**	P		**P**	**01 40 32.7**	**-2.0**		
I40A	baz=203				S	**S**	**01 46 08.8**	**-1.6**		
	baz=203									
YBH	**Yreka Blue Hor**	**35.59**	**335**	P		**P**	**01 40 33.5**	**-1.6**		
	comp=Z,13nm,1.0s,baz=176,slow=6.5,SNR=11									
YBH					LR	LR	01 53 40.7			
	comp=Z,29µm,20.9s,baz=144,slow=34									
V61A	**Roper**	**35.60**	**40**	P		**P**	**01 40 33.6**	**-1.5**		
V61A	baz=231				P	**P**	**01 40 33.6**	**-1.5**		
	baz=231									
V61A					S	**S**	**01 46 07.0**	**-4.2**		
	baz=231									
V61A					S	**S**	**01 46 07.0**	**-4.2**		
	baz=231									
O52A	**Adamsville**	**35.70**	**30**	P		**P**	**01 40 32.1**	**-3.9**		
O52A	baz=219				P	**P**	**01 40 32.1**	**-3.9**		
	baz=219									
O52A					S	**S**	**01 46 12.9**	**+0.1**		
	baz=219									
O52A					S	**S**	**01 46 12.9**	**+0.1**		
	baz=219									
CZSB	**Cruzeiro do Su**	**35.73**	**119**	*e*P		**P**	**01 40 37.1**	**+0.6**		
K05A	**Summer Lake**	**35.73**	**338**	IAmb		IAmb	01 40 48.3			
	comp=Z,368nm,1.5s									
T59A	**Double "B" Far**	**35.76**	**37**	P		**P**	**01 40 35.9**	**-0.6**		
T59A	baz=228				P	**P**	**01 40 35.9**	**-0.6**		
	baz=228									
T59A					S	**S**	**01 46 11.6**	**-2.1**		
	baz=228									
T59A					S	**S**	**01 46 11.6**	**-2.1**		
	baz=228									

L04D	**Klamath Falls**	**35.83**	**336**	IAmb	IAmb	01 41 03.8			
	comp=Z,360nm,1.4s								
L04D				IAMs_20	IAMs_20	01 53 24.9			
	comp=Z,78µm,20.0s								
L04D	**Klamath Falls**	**35.83**	**336**	P	**P**	**01 40 34.8**	**-2.5**		
	baz=148								
L04D				S	**S**	**01 46 15.7**	**+0.7**		
	baz=148								
DLMT	**Dillon**	**35.91**	**349**	IAmb	IAmb	01 40 52.8			
	comp=Z,257nm,1.4s								
DLMT				IAMs_20	IAMs_20	01 53 55.6			
	comp=Z,56µm,21.0s								
K04D	**Chiloquin, OR**	**35.97**	**337**	P	**P**	**01 40 37.1**	**-1.2**		
	baz=149,SNR=6.6								
K04D				S	**S**	**01 46 20.3**	**+3.3**		
	baz=149								
BOZ	**Bozeman (W)**	**35.98**	**351**	P	**P**	**01 40 38.0**	**-0.4**		
BOZ				pmax	pmax				
	comp=Z,316nm,1.5s								
BOZ				MLR	MLR				
	comp=Z,60µm,19.0s								
BOZ	**Bozeman (W)**	**35.98**	**351**	P	**P**	**01 40 38.0**	**-0.4**		
BOZ				IAmb	IAmb	01 40 53.3			
	comp=Z,316nm,1.5s								
BOZ				IAMs_20	IAMs_20	01 56 08.2			
	comp=Z,60µm,19.0s								
BOZ	**Bozeman (W)**	**35.98**	**351**	P	**P**	**01 40 37.4**	**-1.0**		
	baz=167,SNR=51								
BOZ				S	**S**	**01 46 19.8**	**+2.7**		
	baz=167								
L48A	**N Adams**	**36.00**	**25**	P	**P**	**01 40 37.3**	**-1.2**		
	baz=214								
L48A				P	**P**	**01 40 37.3**	**-1.2**		
	baz=214								
L48A				S	**S**	**01 46 14.5**	**-2.8**		
	baz=214								
L48A				S	**S**	**01 46 14.5**	**-2.8**		
	baz=214								
I42A	**Draeger Farm,**	**36.06**	**18**	P	**P**	**01 40 36.8**	**-2.1**		
	baz=205								
I42A				S	**S**	**01 46 17.1**	**-1.0**		
	baz=205								
N51A	**Ashland**	**36.08**	**28**	P	**P**	**01 40 37.0**	**-2.2**		
	baz=218								
N51A				P	**P**	**01 40 37.0**	**-2.2**		
	baz=218								
N51A				S	**S**	**01 46 19.8**	**+1.4**		
	baz=218								
N51A				S	**S**	**01 46 19.8**	**+1.4**		
	baz=218								
O53A	**New Philadelph**	**36.11**	**30**	IAmb	IAmb	01 40 49.6			
	comp=Z,280nm,1.5s								
O53A				IAMs_20	IAMs_20	01 57 34.7			
	comp=Z,90µm,19.0s								
O53A	**New Philadelph**	**36.11**	**30**	P	**P**	**01 40 36.3**	**-3.2**		
	baz=220,SNR=14								
O53A				S	**S**	**01 46 20.7**	**+1.7**		
	baz=220								
M50A	**Fremont**	**36.16**	**27**	P	**P**	**01 40 38.3**	**-1.5**		
	baz=216								
M50A				P	**P**	**01 40 38.3**	**-1.5**		
	baz=216								
M50A				S	**S**	**01 46 22.0**	**+2.3**		
	baz=216								
M50A				S	**S**	**01 46 22.0**	**+2.3**		
	baz=216								
F33A	**5 Mile Ranch,**	**36.18**	**9**	P	**P**	**01 40 39.8**	**-0.2**		
	baz=192								
F33A				S	**S**	**01 46 18.0**	**-1.9**		
	baz=192								
R58B	**Mineral**	**36.24**	**36**	P	**P**	**01 40 40.2**	**-0.4**		
	baz=227								
R58B				P	**P**	**01 40 40.2**	**-0.4**		
	baz=227								
R58B				S	**S**	**01 46 14.3**	**-6.7**		
	baz=227								
R58B				S	**S**	**01 46 14.3**	**-6.7**		
	baz=227								
SPMN	**Marine on St.**	**36.25**	**13**	IAmb	IAmb	01 40 50.8			
	comp=Z,262nm,1.5s								
SPMN	**Marine on St.**	**36.25**	**13**	P	**P**	**01 40 39.4**	**-1.2**		
	baz=198								
SPMN				S	**S**	**01 46 23.9**	**+2.9**		
	baz=198								
SPMN	**Marine on St.**	**36.25**	**13**	P	**P**	**01 40 38.8**	**-1.8**		
	baz=198,SNR=35								
SPMN				S	**S**	**01 46 23.2**	**+2.3**		
	baz=198								
Q56A	**Snyder Ridge,**	**36.26**	**33**	IAmb	IAmb	01 40 52.1			
	comp=Z,195nm,1.2s								
Q56A	**Snyder Ridge,**	**36.26**	**33**	P	**P**	**01 40 40.7**	**-0.1**		
	baz=224								
Q56A				P	**P**	**01 40 40.7**	**-0.1**		
	baz=224								
Q56A				S	**S**	**01 46 20.2**	**-1.2**		
	baz=224								
Q56A				S	**S**	**01 46 20.2**	**-1.2**		
	baz=224								
J05D	**Fort Rock, OR**	**36.34**	**338**	P	**P**	**01 40 39.4**	**-2.2**		
	baz=150,SNR=44								
J05D				S	**S**	**01 46 26.4**	**+3.6**		
	baz=150								
MCWV	**Mont Chateau**	**36.36**	**32**	P	**P**	**01 40 41.3**	**-0.3**		
	baz=222								
MCWV				S	**S**	**01 46 18.8**	**-4.1**		
	baz=222								
MCWV	**Mont Chateau**	**36.36**	**32**	P	**P**	**01 40 40.3**	**-1.3**		
	baz=222,SNR=40								
MCWV				S	**S**	**01 46 23.8**	**+0.9**		
	baz=222								
T60A	**Surry**	**36.37**	**38**	P	**P**	**01 40 40.0**	**-1.7**		
	baz=229								
T60A				P	**P**	**01 40 40.0**	**-1.7**		
	baz=229								
T60A				S	**S**	**01 46 21.5**	**-1.4**		
	baz=229								
T60A				S	**S**	**01 46 21.5**	**-1.4**		
	baz=229								
PLID	**Pearl Lake**	**36.38**	**345**	P	**P**	**01 40 41.2**	**-0.7**		
HUMO	**Hull Mountain**	**36.42**	**336**	IAMs_20	IAMs_20	01 53 55.2			
	comp=Z,63µm,20.0s								
HUMO	**Hull Mountain**	**36.42**	**336**	⇑P	**P**	**01 40 41.2**	**-0.9**		
E28A	**Huff**	**36.43**	**4**	P	**P**	**01 40 42.5**	**+0.4**		
	baz=185								
E28A				S	**S**	**01 46 23.9**	**+0.2**		
	baz=185								
O54A	**Avella**	**36.48**	**31**	IAmb	IAmb	01 40 53.1			
	comp=Z,377nm,1.5s								
O54A	**Avella**	**36.48**	**31**	P	**P**	**01 40 41.9**	**-0.7**		
	baz=221								
O54A				P	**P**	**01 40 41.9**	**-0.7**		
	baz=221								
O54A				S	**S**	**01 46 25.2**	**+0.5**		
	baz=221								
O54A				S	**S**	**01 46 25.2**	**+0.5**		
	baz=221								
BMO	**Blue Mountains**	**36.50**	**344**	IAMs_20	IAMs_20	01 54 54.6			
	comp=Z,76µm,18.0s								
LAO	**LASA Array**	**36.50**	**357**	P	**P**	**01 40 42.6**	**-0.2**		
	baz=176								
LAO				S	**S**	**01 46 22.1**	**-2.8**		
	baz=176								
LAO	**LASA Array**	**36.50**	**357**	P	**P**	**01 40 41.5**	**-1.3**		
	baz=176,SNR=22								
LAO				S	**S**	**01 46 25.1**	**+0.2**		
	baz=176								
AAM	**Ann Arbor**	**36.62**	**25**	P	**P**	**01 40 44.5**	**+0.7**		
	baz=215								
AAM				S	**S**	**01 46 27.7**	**+0.9**		
	baz=215								
AAM	**Ann Arbor**	**36.62**	**25**	P	**P**	**01 40 42.4**	**-1.4**		
	baz=215,SNR=40								
AAM				S	**S**	**01 46 28.1**	**+1.4**		
	baz=215								
J04D	**Umpqua Nationa**	**36.63**	**337**	IAmb	IAmb	01 40 58.7			
	comp=Z,248nm,1.1s								
J04D	**Umpqua Nationa**	**36.63**	**337**	P	**P**	**01 40 42.4**	**-1.6**		
	baz=149,SNR=26								
J04D				S	**S**	**01 46 29.8**	**+2.6**		
	baz=149								
PINE	**Pine Mountain**	**36.68**	**339**	IAmb	IAmb	01 40 56.1			
	comp=Z,184nm,1.4s								
TBTG	**Tabatinga, AM**	**36.68**	**111**	*e*P	**P**	**01 40 44.3**	**-0.4**		
TBTG	**Tabatinga, AM**	**36.68**	**111**	*e*P	**P**	**01 40 44.7**	**0.0**		
CBN	**Corbin Frederi**	**36.70**	**36**	IAmb	IAmb	01 40 47.2			
	comp=Z,209nm,1.4s								
CBN				IAMs_20	IAMs_20	01 57 04.8			
	comp=Z,61µm,20.0s								
CBN	**Corbin Frederi**	**36.70**	**36**	P	**P**	**01 40 44.9**	**+0.5**		
	baz=227								
CBN				S	**S**	**01 46 26.6**	**-1.3**		
	baz=227								
CBN	**Corbin Frederi**	**36.70**	**36**	P	**P**	**01 40 43.1**	**-1.4**		
	baz=227,SNR=10								
CBN				S	**S**	**01 46 26.1**	**-1.9**		
	baz=227								
F36A	**Milaca**	**36.70**	**12**	P	**P**	**01 40 43.3**	**-1.1**		
	baz=197								
F36A				S	**S**	**01 46 30.0**	**+2.2**		
	baz=197								
N53A	**Lisbon**	**36.72**	**30**	IAmb	IAmb	01 40 47.5			
	comp=Z,243nm,1.1s								
N53A	**Lisbon**	**36.72**	**30**	P	**P**	**01 40 43.8**	**-0.9**		
	baz=220								
N53A				P	**P**	**01 40 43.8**	**-0.9**		
	baz=220								
N53A				S	**S**	**01 46 31.2**	**+2.9**		
	baz=220								
N53A				S	**S**	**01 46 31.2**	**+2.9**		
	baz=220								
K02D	**Willamette Mer**	**36.78**	**335**	P	**P**	**01 40 41.5**	**-3.8**		
	baz=146,SNR=12								
K02D				S	**S**	**01 46 31.6**	**+2.3**		
	baz=146								
AOPR	**Arecibo Observ**	**36.83**	**73**	IAmb	IAmb	01 41 13.2			
	comp=Z,235nm,1.4s								
OBIP	**Obispado Ponce**	**36.92**	**73**	IAmb	IAmb	01 40 52.5			
	comp=Z,163nm,1.1s								
J47A	**Sunmer**	**36.93**	**23**	P	**P**	**01 40 45.7**	**-0.7**		
	baz=212								
J47A				P	**P**	**01 40 45.7**	**-0.7**		
	baz=212								
J47A				S	**S**	**01 46 30.3**	**-1.1**		
	baz=212								
J47A				S	**S**	**01 46 30.3**	**-1.1**		
	baz=212								
G40A	**Rib Lake**	**36.94**	**16**	P	**P**	**01 40 45.5**	**-1.0**		
G40A	**Rib Lake**	**36.94**	**16**	P	**P**	**01 40 45.3**	**-1.2**		
	baz=203								
G40A				S	**S**	**01 46 32.3**	**+0.7**		
	baz=203								
H43A	**Windswept, Lux**	**36.94**	**19**	IAmb	IAmb	01 40 56.6			
	comp=Z,367nm,1.4s								
H43A	**Windswept, Lux**	**36.94**	**19**	P	**P**	**01 40 46.8**	**+0.3**		
	baz=207								
H43A				S	**S**	**01 46 31.9**	**+0.4**		
	baz=207								
CELP	**Cerrillos**	**36.95**	**73**	IAmb	IAmb	01 40 52.7			
	comp=Z,245nm,1.3s								
BIRV	**Birongo**	**36.97**	**86**	IAmb	IAmb	01 40 50.6			
	comp=Z,206nm,1.0s								
M52A	**Chesterland**	**37.04**	**28**	P	**P**	**01 40 47.8**	**+0.5**		
	baz=219								
M52A				P	**P**	**01 40 47.8**	**+0.5**		
	baz=219								
M52A				S	**S**	**01 46 31.1**	**-2.0**		
	baz=219								
M52A				S	**S**	**01 46 31.1**	**-2.0**		
	baz=219								
I45A	**Fountain**	**37.09**	**21**	P	**P**	**01 40 48.1**	**+0.4**		
	baz=210								
I45A				P	**P**	**01 40 48.1**	**+0.4**		
	baz=210								
I45A				S	**S**	**01 46 34.5**	**+0.8**		
	baz=210								
I45A				S	**S**	**01 46 34.5**	**+0.8**		
	baz=210								
I04A	**Tendick Farm,**	**37.22**	**338**	P	P	01 40 44.8	-4.0		
	baz=149,SNR=8.8								
I04A				S	**S**	**01 46 37.3**	**+1.4**		
	baz=149								
P57A	**Homestead Farm**	**37.22**	**34**	IAmb	IAmb	01 41 00.1			
	comp=Z,217nm,1.4s								
P57A	**Homestead Farm**	**37.22**	**34**	P	**P**	**01 40 49.0**	**+0.1**		
	baz=225								
P57A				P	**P**	**01 40 49.0**	**+0.1**		
	baz=225								
P57A				S	**S**	**01 46 34.5**	**-1.4**		
	baz=225								
P57A				S	**S**	**01 46 34.5**	**-1.4**		
	baz=225								
J01E	**Myrtle Point**	**37.28**	**336**	IAmb	IAmb	01 41 06.7			
	comp=Z,210nm,1.3s								
J01E				IAMs_20	IAMs_20	01 53 00.3			
	comp=Z,68µm,22.0s								
J01E	**Myrtle Point**	**37.28**	**336**	P	**P**	**01 40 46.4**	**-2.9**		
	baz=146								
J01E				S	**S**	**01 46 39.7**	**+3.1**		
	baz=146								
M53A	**WI Miller and**	**37.29**	**29**	IAmb	IAmb	01 40 52.2			
	comp=Z,172nm,1.0s								
M53A	**WI Miller and**	**37.29**	**29**	P	**P**	**01 40 45.6**	**-3.8**		
	baz=220,SNR=21								
M53A				S	**S**	**01 46 37.6**	**+0.6**		
	baz=220								
I05D	**Terrebonne, OR**	**37.30**	**339**	P	**P**	**01 40 47.5**	**-2.0**		
	baz=151								
I05D				S	**S**	**01 46 41.4**	**+4.2**		
	baz=151								
D32B	**Dogwood Acres,**	**37.34**	**8**	P	**P**	**01 40 50.1**	**+0.2**		
	baz=191								
D32B				S	**S**	**01 46 36.7**	**-0.9**		
	baz=191								
S61A	**Accomac**	**37.36**	**38**	S	**S**	**01 46 37.9**	**-0.2**		
	baz=230								
S61A				S	**S**	**01 46 37.9**	**-0.2**		
	baz=230								
SJG	**San Juan**	**37.36**	**73**	LR	LR	01 55 39.0			
	comp=Z,35µm,20.5s,baz=258,slow=35								
SJG	**San Juan**	**37.36**	**73**	P	**P**	**01 40 49.1**	**-1.3**		
SJG				pmax	pmax				
	comp=Z,203nm,1.1s								
SJG				MLR	MLR				
	comp=Z,38µm,21.0s								
SJG	**San Juan**	**37.36**	**73**	P	**P**	**01 40 49.1**	**-1.3**		
SJG				IAmb	IAmb	01 41 03.8			
	comp=Z,203nm,1.1s								
SJG	**San Juan**	**37.36**	**73**	*e*P	**P**	**01 40 47.3**	**-3.1**		
SJG	**San Juan**	**37.36**	**73**	⇑P	**P**	**01 40 48.9**	**-1.5**		
RPN	**Rapa Nui**	**37.40**	**188**	LR	LR	01 52 35.2			
	comp=Z,68µm,21.4s,baz=11,slow=31								
RPN	**Rapa Nui**	**37.40**	**188**	IAMs_20	IAMs_20	01 52 21.9			
	comp=Z,56µm,20.0s								
K50A	**Casco**	**37.45**	**26**	P	**P**	**01 40 50.7**	**-0.1**		
	baz=216								
K50A				P	**P**	**01 40 50.7**	**-0.1**		
	baz=216								
GCPR	**Guaynabo City**	**37.45**	**73**	IAmb	IAmb	01 40 56.6			
	comp=Z,264nm,1.1s								
PDPR	**Patillas Dam,**	**37.47**	**74**	IAmb	IAmb	01 41 05.6			
	comp=Z,196nm,1.1s								
I03D	**Drain, OR**	**37.49**	**337**	P	**P**	**01 40 49.5**	**-1.7**		
	baz=147,SNR=12								
I03D				S	**S**	**01 46 39.6**	**-0.3**		
	baz=147								
F10A	**Beach Ranch, E**	**37.52**	**345**	P	**P**	**01 40 51.0**	**-0.5**		
F10A	**Beach Ranch, E**	**37.52**	**345**	⇑P	**P**	**01 40 51.0**	**-0.5**		
MSO	**Missoula**	**37.58**	**349**	IAMs_20	IAMs_20	01 54 42.7			
	comp=Z,92µm,22.0s								
MSO	**Missoula**	**37.58**	**349**	P	**P**	**01 40 50.7**	**-1.2**		
	baz=163,SNR=11								
MSO				S	**S**	**01 46 42.7**	**+1.3**		
	baz=163								
HUMP	**Col San Antoni**	**37.65**	**73**	IAmb	IAmb	01 40 57.6			
	comp=Z,177nm,1.1s								
CBYP	**Canovanas**	**37.66**	**73**	IAmb	IAmb	01 41 06.1			
	comp=Z,185nm,1.1s								
ALLY	**Alegheny Colle**	**37.70**	**30**	IAmb	IAmb	01 40 55.7			
	comp=Z,226nm,1.1s								
ALLY	**Alegheny Colle**	**37.70**	**30**	P	**P**	**01 40 53.0**	**0.0**		
	baz=220								
ALLY				S	**S**	**01 46 43.5**	**+0.3**		
	baz=220								
MDND	**Maddock**	**37.77**	**5**	P	**P**	**01 40 52.9**	**-0.6**		
MDND				IAmb	IAmb	01 41 12.6			
	comp=Z,472nm,1.4s								
MDND	**Maddock**	**37.77**	**5**	P	**P**	**01 40 54.0**	**+0.5**		
	baz=187								
MDND				S	**S**	**01 46 45.2**	**+1.0**		
	baz=187								
MDND	**Maddock**	**37.77**	**5**	P	**P**	**01 40 49.6**	**-3.9**		
	baz=187,SNR=26								
MDND				S	**S**	**01 46 45.1**	**+1.0**		
	baz=187								
BUCK	**Buck Mountain**	**37.78**	**337**	IAmb	IAmb	01 41 10.0			
	comp=Z,215nm,1.3s								
SDMD	**Soldier's Deli**	**37.82**	**35**	P	**P**	**01 40 53.3**	**-0.7**		
	baz=227								
SDMD				S	**S**	**01 46 45.3**	**+0.2**		
	baz=227								
E38A	**The Farm, Brul**	**37.84**	**14**	P	**P**	**01 40 54.0**	**0.0**		
	baz=200								
E38A				S	**S**	**01 46 47.6**	**+2.4**		
	baz=200								
H04A	**Detroit Lake**	**37.90**	**339**	IAmb	IAmb	01 41 08.7			
	comp=Z,210nm,1.3s								
H04D	**Lebanon**	**37.96**	**338**	IAmb	IAmb	01 41 23.3			
	comp=Z,203nm,1.5s								
H04D				IAMs_20	IAMs_20	01 54 33.2			
	comp=Z,52µm,22.0s								
H04D	**Lebanon**	**37.96**	**338**	P	**P**	**01 40 52.8**	**-2.3**		
	baz=149								
H04D				S	**S**	**01 46 47.9**	**+0.9**		
	baz=149								
F42A	**Maple Grove Fa**	**37.98**	**18**	S	**S**	**01 46 49.5**	**+2.2**		
	baz=206								
COWI	**Conover**	**38.00**	**17**	IAmb	IAmb	01 41 05.9			
	comp=Z,405nm,1.4s								
COWI				IAMs_20	IAMs_20	01 56 28.5			
	comp=Z,91µm,21.0s								
COWI	**Conover**	**38.00**	**17**	P	**P**	**01 40 53.6**	**-1.8**		
	baz=204								
COWI				S	**S**	**01 46 49.1**	**+1.5**		
	baz=204								
G05D	**Wamic, OR**	**38.08**	**340**	P	**P**	**01 40 54.8**	**-1.3**		
	baz=151								
G05D				S	**S**	**01 46 51.9**	**+2.9**		
	baz=151								
SSPA	**Standing Stone**	**38.10**	**33**	P	**P**	**01 40 55.4**	**-1.0**		
SSPA				IAmb	IAmb	01 41 07.0			
	comp=Z,270nm,1.4s								
SSPA	**Standing Stone**	**38.10**	**33**	⇓P	**P**	**01 40 55.0**	**-1.4**		
SSPA	**Standing Stone**	**38.10**	**33**	P	**P**	**01 40 55.6**	**-0.8**		
	baz=224								
SSPA				S	**S**	**01 46 51.9**	**+2.6**		
	baz=224								
SSPA	**Standing Stone**	**38.10**	**33**	P	**P**	**01 40 54.2**	**-2.2**		
	baz=224								
EGMT	**Eagleton**	**38.10**	**354**	IAmb	IAmb	01 41 06.3			
	comp=Z,434nm,1.4s								
EGMT				IAMs_20	IAMs_20	01 56 22.0			
	comp=Z,80µm,19.0s								
EGMT	**Eagleton**	**38.10**	**354**	P	**P**	**01 40 55.5**	**-0.9**		
	baz=170,SNR=27								
EGMT				S	**S**	**01 46 50.5**	**+1.2**		
	baz=170								
ERPA	**Erie**	**38.13**	**29**	IAmb	IAmb	01 41 00.8			
	comp=Z,322nm,1.4s								
ERPA				IAMs_20	IAMs_20	01 58 13.9			
	comp=Z,50µm,19.0s								
ERPA	**Erie**	**38.13**	**29**	P	**P**	**01 40 56.8**	**+0.2**		
	baz=220								
ERPA				S	**S**	**01 46 52.3**	**+2.5**		
	baz=220								
ERPA	**Erie**	**38.13**	**29**	P	**P**	**01 40 53.8**	**-2.9**		
	baz=220,SNR=11								
ERPA				S	**S**	**01 46 52.1**	**+2.3**		
	baz=220								
G45A	**Suttons Bay**	**38.16**	**21**	IAmb	IAmb	01 41 06.7			
	comp=Z,298nm,0.9s								
G45A	**Suttons Bay**	**38.16**	**21**	P	**P**	**01 40 57.5**	**+0.6**		
	baz=210								
G45A				P	**P**	**01 40 57.5**	**+0.6**		
	baz=210								
G45A				S	**S**	**01 46 47.3**	**-2.8**		
	baz=210								
G45A				S	**S**	**01 46 47.3**	**-2.8**		
	baz=210								
F07A	**Phinny Hill Vi**	**38.21**	**342**	IAmb	IAmb	01 41 08.0			
	comp=Z,218nm,1.4s								
COR	**Corvallis**	**38.23**	**337**	P	**P**	**01 40 58.2**	**+0.9**		
COR				pmax	pmax				
	comp=Z,404nm,1.5s								
COR				MLR	MLR				
	comp=Z,58µm,19.0s								
COR	**Corvallis**	**38.23**	**337**	P	**P**	**01 40 58.2**	**+0.9**		
COR				IAmb	IAmb	01 41 24.9			
	comp=Z,404nm,1.5s								
COR	**Corvallis**	**38.23**	**337**	IAMs_20	IAMs_20	01 55 55.8			
	comp=Z,58µm,19.0s								
COR	**Corvallis**	**38.23**	**337**	⇑P	**P**	**01 40 59.8**	**+2.4**		
DGMT	**Dagmar**	**38.23**	**360**	IAmb	IAmb	01 41 11.5			
	comp=Z,429nm,1.4s								
DGMT	**Dagmar**	**38.23**	**360**	IAMs_20	IAMs_20	01 56 06.2			
	comp=Z,74µm,22.0s								
DGMT	**Dagmar**	**38.23**	**360**	P	**P**	**01 40 57.4**	**0.0**		
	baz=179								
DGMT				S	**S**	**01 46 53.6**	**+2.6**		
	baz=179								
DGMT	**Dagmar**	**38.23**	**360**	P	**P**	**01 40 55.8**	**-1.6**		
	baz=179,SNR=34								
DGMT				S	**S**	**01 46 52.9**	**+1.9**		
	baz=179								
M55A	**Ridgway**	**38.25**	**31**	IAmb	IAmb	01 41 00.7			
	comp=Z,238nm,1.2s								
M55A	**Ridgway**	**38.25**	**31**	P	**P**	**01 40 56.9**	**-0.8**		
	baz=222								
M55A				P	**P**	**01 40 56.9**	**-0.8**		
	baz=222								
M55A				S	**S**	**01 46 49.3**	**-2.4**		
	baz=222								
M55A				S	**S**	**01 46 49.3**	**-2.4**		
	baz=222								
I49A	**Point Hope**	**38.32**	**25**	IAmb	IAmb	01 41 08.0			
	comp=Z,372nm,1.4s								
I49A	**Point Hope**	**38.32**	**25**	S	**S**	**01 46 48.8**	**-3.6**		
	baz=215								
I49A				S	**S**	**01 46 48.8**	**-3.6**		
	baz=215								
GLMI	**Grayling**	**38.35**	**22**	P	**P**	**01 40 59.0**	**+0.5**		
	baz=211								
GLMI				S	**S**	**01 46 53.1**	**+0.1**		
	baz=211								
GLMI	**Grayling**	**38.35**	**22**	P	**P**	**01 40 55.8**	**-2.7**		
	baz=211,SNR=18								
PAGS	**Pennsylvania G**	**38.45**	**34**	IAmb	IAmb	01 41 03.0			
	comp=Z,372nm,1.5s								
HAWA	**Hanford**	**38.54**	**343**	⇓P	**P**	**01 41 01.8**	**+1.8**		
CDVI	**St. Croix**	**38.63**	**74**	P	**P**	**01 41 01.3**	**+0.2**		
CDVI				IAmb	IAmb	01 41 16.2			
	comp=Z,212nm,1.1s								
AGMN	**Agassiz Nation**	**38.64**	**9**	IAmb	IAmb	01 41 05.7			
	comp=Z,366nm,1.2s								
AGMN				IAMs_20	IAMs_20	01 55 47.8			
	comp=Z,54µm,21.0s								
AGMN	**Agassiz Nation**	**38.64**	**9**	P	**P**	**01 41 01.1**	**+0.3**		
	baz=192								
AGMN				S	**S**	**01 46 58.4**	**+1.1**		
	baz=192								
AGMN	**Agassiz Nation**	**38.64**	**9**	P	**P**	**01 40 59.1**	**-1.7**		
	baz=192,SNR=152								
AGMN				S	**S**	**01 46 58.2**	**+0.9**		
	baz=192								
F05D	**White Salmon**	**38.69**	**340**	IAMs_20	IAMs_20	01 55 25.4			
	comp=Z,81µm,20.0s								
F05D	**White Salmon**	**38.69**	**340**	P	**P**	**01 40 58.9**	**-2.4**		
	baz=151,SNR=10								
F05D				S	**S**	**01 47 00.9**	**+2.8**		
	baz=151								
G03D	**McMinnville, O**	**38.74**	**338**	IAmb	IAmb	01 41 31.0			
	comp=Z,259nm,1.4s								
G03D				IAMs_20	IAMs_20	01 56 15.9			
	comp=Z,50µm,18.0s								
G03D	**McMinnville, O**	**38.74**	**338**	P	**P**	**01 40 59.4**	**-2.3**		
	baz=148								
G03D				S	**S**	**01 47 00.9**	**+2.0**		
	baz=148								
GEDE	**Greenville**	**38.78**	**36**	P	**P**	**01 41 01.6**	**-0.5**		
	baz=228								
GED

baz=225
M57A P **P** **01 41 03.1 -0.8**
baz=225
M57A S **S** **01 47 07.4 +4.5**
M57A S **S** **01 47 07.4 +4.5**
baz=225
WVNY West Valley, N 39.03 30 IAmb IAmb 01 41 25.6
comp=Z,315nm,1.4s
WVNY West Valley, N 39.03 30 P **P** **01 41 04.5 +0.3**
baz=222
WVNY S **S** **01 47 03.7 +0.4**
baz=222
D41A Chassel 39.04 17 P **P** **01 41 03.4 -0.7**
baz=204
D41A S **S** **01 47 03.5 +0.3**
baz=204
B35A Bob, Littlefor 39.06 11 P **P** **01 41 03.5 -0.8**
baz=196
B35A S **S** **01 46 59.8 -3.7**
baz=196
EYMN Ely 39.12 13 P **P** **01 41 03.3 -1.5**
EYMN IAmb IAmb 01 41 22.6
comp=Z,233nm,1.3s
EYMN Ely 39.12 13 P **P** **01 41 03.3 -1.5**
baz=199
EYMN S **S** **01 47 06.2 +1.8**
baz=199
EYMN Ely 39.12 13 P **P** **01 41 02.4 -2.5**
baz=199,SNR=32
EYMN S **S** **01 47 06.5 +2.0**
baz=199
P61A Hammonton 39.17 36 S **S** **01 47 06.8 +1.3**
baz=229
P61A S **S** **01 47 06.8 +1.3**
baz=229
TUPA Temple Univers 39.27 36 P **P** **01 41 05.6 -0.6**
baz=228
TUPA S **S** **01 47 03.9 -3.0**
baz=228
L56A Greenwood 39.35 31 P **P** **01 41 05.8 -1.1**
baz=223
L56A P **P** **01 41 05.8 -1.1**
baz=223
L56A S **S** **01 47 06.7 -1.6**
baz=223
L56A S **S** **01 47 06.7 -1.6**
baz=223
F04D Rainier, OR 39.40 339 P **P** **01 41 05.5 -1.6**
baz=149
F04D S **S** **01 47 10.7 +2.0**
baz=149
LUPA Lehigh Univers 39.45 35 IAmb IAmb 01 41 18.7
comp=Z,279nm,1.3s
NEW Newport 39.62 346 P **P** **01 41 07.3 -1.8**
comp=Z,92nm,1.0s,baz=159,slow=8.8,SNR=39
NEW LR LR 01 56 08.5
comp=Z,63µm,21.1s,baz=162,slow=34
NEW Newport 39.62 346 IAMs_20 IAMs_20 01 55 57.1
comp=Z,61µm,21.0s
NEW Newport 39.62 346 P **P** **01 41 07.0 -2.1**
baz=159,SNR=90
NEW S **S** **01 47 13.5 +1.4**
baz=159
E04D Cinebar 39.65 340 IAmb IAmb 01 41 27.0
comp=Z,340nm,1.4s
E04D Cinebar 39.65 340 P **P** **01 41 07.6 -1.7**
baz=150,SNR=34
E04D S **S** **01 47 14.8 +2.3**
baz=150
J54A Appleton 39.66 29 P **P** **01 41 08.3 -1.1**
baz=221
J54A P **P** **01 41 08.3 -1.1**
baz=221
J54A S **S** **01 47 12.7 0.0**
baz=221
J54A S **S** **01 47 12.7 0.0**
baz=221
MEDO Medina 39.67 29 IAmb IAmb 01 41 12.1
comp=Z,229nm,1.3s
PANJ Princeton 39.69 36 P **P** **01 41 08.9 -0.7**
baz=229
PANJ S **S** **01 47 12.2 -1.0**
baz=229
WALA Waterton Lakes 39.72 350 P **P** **01 41 09.5 -0.4**
WALA Waterton Lakes 39.72 350 ⇓P **P** **01 41 09.8 -0.1**
E46A Sault Ste Mari 39.78 21 P **P** **01 41 09.3 -1.1**
baz=211
E46A S **S** **01 47 12.2 -2.3**
baz=211
KSPA Keystone Colle 39.89 33 P **P** **01 41 09.9 -1.4**
baz=226
KSPA S **S** **01 47 10.8 -5.4**
baz=226
BRNJ Basking Ridge 39.97 35 P **P** **01 41 11.4 -0.6**
baz=228
BRNJ S **S** **01 47 17.6 +0.3**
baz=228
E03A Lebam 39.99 339 IAmb IAmb 01 41 31.3
comp=Z,530nm,1.5s
D05A Enumclaw 40.01 341 IAmb IAmb 01 41 29.0
comp=Z,282nm,1.4s
J55A Hilton 40.05 30 P **P** **01 41 11.7 -1.0**
baz=222
J55A P **P** **01 41 11.7 -1.0**
baz=222
J55A S **S** **01 47 17.1 -1.5**
baz=222
J55A S **S** **01 47 17.1 -1.5**
baz=222
ODNJ Ogdensburg 40.21 35 P **P** **01 41 13.8 -0.2**
ODNJ Ogdensburg 40.21 35 P **P** **01 41 13.0 -1.0**
baz=228
ODNJ S **S** **01 47 22.2 +1.2**
baz=228
BINY Binghamton 40.22 33 P **P** **01 41 13.0 -1.1**
BINY IAmb IAmb 01 41 16.7
comp=Z,190nm,1.1s
BINY Binghamton 40.22 33 P **P** **01 41 13.1 -1.1**
baz=225
BINY S **S** **01 47 22.1 +0.8**
baz=225
BINY Binghamton 40.22 33 P **P** **01 41 12.1 -2.0**
baz=225,SNR=39
BINY S **S** **01 47 24.5 +3.3**
baz=225
D04E Lakebay 40.26 340 P **P** **01 41 11.7 -2.7**
baz=150,SNR=7.8
D04E S **S** **01 47 26.7 +5.1**
baz=150
SMRT St. Maarten 40.27 74 IAmb IAmb 01 41 20.5
comp=Z,290nm,1.3s
SMRT St. Maarten 40.27 74 *e*P **P** **01 41 11.1 -3.7**
B08A Colville Reser 40.27 344 P **P** **01 41 14.1 -0.4**
SEUS St. Eustatius 40.30 75 *e*P P 01 41 06.2 -8.8
K57A Scipio Center 40.32 32 IAmb IAmb 01 41 17.9
comp=Z,272nm,1.4s
K57A Scipio Center 40.32 32 P **P** **01 41 14.6 -0.3**
baz=224
K57A S **S** **01 47 22.6 0.0**
baz=224
C06D Leavenworth 40.32 342 P **P** **01 41 13.2 -1.7**
baz=153
C06D S **S** **01 47 26.2 +3.6**
baz=153
TRNY Table Rock, Ra 40.47 35 IAmb IAmb 01 41 19.6
comp=Z,250nm,1.2s
FOR Fordham 40.48 36 P **P** **01 41 15.2 -0.9**
baz=229
FOR S **S** **01 47 26.4 +1.4**
baz=229
J56A Wolcott 40.54 31 IAmb IAmb 01 41 19.6
comp=Z,288nm,1.4s
J56A Wolcott 40.54 31 P **P** **01 41 15.5 -1.2**
baz=223
J56A P **P** **01 41 15.5 -1.2**
baz=223
J56A S **S** **01 47 21.6 -4.2**
baz=223
J56A S **S** **01 47 21.6 -4.2**
baz=223
ULM Lac du Bonnet 40.55 8 P **P** **01 41 15.6 -1.1**
comp=Z,103nm,1.1s,baz=195,slow=8.6,SNR=41
ULM LR LR 01 58 06.9
comp=Z,74µm,18.6s,baz=194,slow=36
ULM Lac du Bonnet 40.55 8*c* *i*P **P** **01 41 16.2 -0.5**
ULM Lac du Bonnet 40.55 8 ⇓P **P** **01 41 14.6 -2.0**
PAL Palisades 40.55 36 IAmb IAmb 01 41 20.1
comp=Z,214nm,1.2s
PAL IAMs_20 IAMs_20 01 59 31.3
comp=Z,49µm,20.0s
PAL Palisades 40.55 36 P **P** **01 41 16.1 -0.7**
baz=229
PAL S **S** **01 47 27.3 +1.2**
baz=229
PAL Palisades 40.55 36 P **P** **01 41 14.5 -2.4**
baz=229,SNR=20
PAL S **S** **01 47 28.2 +2.1**
baz=229
WISH Wishkah 40.55 339 IAmb IAmb 01 41 40.4
comp=Z,208nm,1.2s
SADO Sadowa 40.57 27 P **P** **01 41 15.4 -1.5**
comp=Z,73nm,1.0s,baz=244,slow=8.2,SNR=36
SADO LR LR 01 59 57.1
comp=Z,45µm,18.4s,baz=226,slow=39
SADO Sadowa 40.57 27 P **P** **01 41 15.4 -1.5**
SADO Sadowa 40.57 27 ⇑P **P** **01 41 15.4 -1.5**
D03D Eldon 40.68 340 P **P** **01 41 15.4 -2.4**
baz=150,SNR=7.6
D03D S **S** **01 47 31.6 +3.7**
baz=150
L59A Walton 40.72 33 IAmb IAmb 01 41 29.0
comp=Z,261nm,1.4s
L59A Walton 40.72 33 P **P** **01 41 17.9 -0.4**
baz=227
L59A P **P** **01 41 17.9 -0.4**
baz=227
L59A S **S** **01 47 28.1 -0.6**
baz=227
L59A S **S** **01 47 28.1 -0.6**
baz=227
N62A Caumsett State 40.76 36 IAmb IAmb 01 41 21.6
comp=Z,223nm,1.1s
N62A Caumsett State 40.76 36 P **P** **01 41 18.5 -0.1**
baz=230
N62A P **P** **01 41 18.5 -0.1**
baz=230
N62A S **S** **01 47 30.4 +1.2**
baz=230
N62A S **S** **01 47 30.4 +1.2**
baz=230
BRNY Black Rk. Fore 40.77 35 P **P** **01 41 17.8 -0.8**
baz=228
BRNY S **S** **01 47 26.2 -3.1**
baz=228
NLWA Neilton Lookou 40.83 339 IAmb IAmb 01 41 36.0
comp=Z,320nm,1.4s
NLWA IAMs_20 IAMs_20 01 55 52.4
comp=Z,51µm,22.0s
NLWA Neilton Lookou 40.83 339 ⇓P **P** **01 41 19.1 +0.1**
NPNY Mohonk Preserv 40.92 34 P **P** **01 41 19.2 -0.7**
baz=228
NPNY S **S** **01 47 25.2 -6.3**
baz=228
MBFL Flemmings, Mon 40.98 76 *e*P P 01 41 15.0 -5.7
WSPT Westport, CT 40.99 36 IAMs_20 IAMs_20 02 01 12.5
comp=Z,57µm,18.0s
B05A Bryant 41.00 341 P **P** **01 41 17.4 -3.0**
baz=152,SNR=15
B05A S **S** **01 47 33.2 +0.7**
baz=152
B06A Marblemount 41.03 342 P **P** **01 41 19.9 -0.7**
PNT Penticton 41.23 344 ⇑P **P** **01 41 24.1 +1.8**
KSCT Kent School, K 41.27 35 IAmb IAmb 01 41 26.2
comp=Z,203nm,1.2s
YLE Yale 41.31 36 IAMs_20 IAMs_20 02 01 21.3
comp=Z,49µm,22.0s
BPA Boggy Peak 41.34 76 *e*P P 01 41 17.0 -6.7
GRFF Grenada Fort F 41.35 83 *e*P **P** **01 41 23.6 -0.2**
GDHS Morne Mazeau, 41.38 77 IAmb IAmb 01 41 29.7
comp=Z,351nm,1.3s
J58A Remsen 41.40 32 P **P** **01 41 22.3 -1.5**
baz=225
J58A P **P** **01 41 22.3 -1.5**
baz=225
J58A S **S** **01 47 33.2 -5.5**
baz=225
J58A S **S** **01 47 33.2 -5.5**
baz=225
HCNY Howe Caverns 41.41 33 P **P** **01 41 23.5 -0.4**
baz=227
HCNY S **S** **01 47 40.4 +1.4**
baz=227
ANBD Bethesda, Anti 41.43 76 *e*P **P** **01 41 23.2 -1.2**
GRGR Grenville 41.43 83 *e*P **P** **01 41 21.4 -3.1**
ANWB Willy Bob 41.45 75 P **P** **01 41 24.1 -0.5**
ANWB IAmb IAmb 01 41 38.6
comp=Z,166nm,0.9s
ANWB Willy Bob 41.45 75 *e*P P 01 41 18.0 -6.6
TDBA Terre de Bas, 41.48 78 *e*P P 01 41 20.3 -4.6
CBE Ff, Capester 41.52 77 *e*P **P** **01 41 21.4 -3.8**
C03A Quillayute Air 41.55 339 IAmb IAmb 01 41 41.3
comp=Z,339nm,1.4s
A04D Lummi Island 41.59 341 P **P** **01 41 21.9 -3.3**
baz=151,SNR=14
A04D S **S** **01 47 43.9 +2.6**
baz=151
GCMP Grenada, Carri 41.65 83 *e*P **P** **01 41 22.7 -3.5**
WCNY West Carthage 41.65 31 P **P** **01 41 24.4 -1.4**
baz=224
WCNY S **S** **01 47 38.7 -3.7**
baz=224
ABD La Joyeuse, An 41.66 77 *e*P **P** **01 41 23.4 -2.9**
DSLB Salisbury 41.67 78 *e*P P 01 41 18.3 -8.1
MDN Morne-Daniel 41.70 78 *e*P **P** **01 41 25.9 -0.7**
TRN Trinidad (W) 41.74 85 *e*P P 01 41 21.0 -6.0
PGC Sidney 41.77 340 P **P** **01 41 27.3 +0.6**
SVB Belmont 41.80 81 IAmb IAmb 01 41 31.8
comp=Z,154nm,0.9s
SVB Belmont 41.80 81 *e*P **P** **01 41 24.5 -3.0**
MAGL Barre de l'ile 41.83 77 *e*P **P** **01 41 23.6 -4.0**
TRY Troy 41.83 34 IAMs_20 IAMs_20 02 00 36.7
comp=Z,41µm,19.0s
TRY Troy 41.83 34 S **S** **01 47 44.1 -1.0**
baz=228
DLPL La Plaine 41.84 78 *e*P **P** **01 41 26.5 -1.3**
J59A Piesco 41.88 32 P **P** **01 41 26.2 -1.6**
baz=226
J59A P **P** **01 41 26.2 -1.6**
baz=226
J59A S **S** **01 47 49.9 +4.0**
baz=226
J59A S **S** **01 47 49.9 +4.0**
baz=226
M63A Gales Ferry 41.89 36 IAmb IAmb 01 41 31.4
comp=Z,415nm,1.4s
M63A Gales Ferry 41.89 36 P **P** **01 41 27.2 -0.6**
baz=231
M63A P **P** **01 41 27.2 -0.6**
baz=231
M63A S **S** **01 47 46.7 +0.8**
baz=231
M63A S **S** **01 47 46.7 +0.8**
baz=231
FDF Fort de France 41.91 79 IAmb IAmb 01 41 36.4
comp=Z,195nm,1.0s
FDF IAMs_20 IAMs_20 01 58 45.0
comp=Z,49µm,19.0s
FDF Fort de France 41.91 79 ⇑P **P** **01 41 26.8 -1.6**
FDF Fort de France 41.91 79 *e*P **P** **01 41 26.8 -1.6**
UCCT U. Connecticut 42.03 36 IAmb IAmb 01 41 31.2
comp=Z,281nm,1.3s
GDSD La Dsirade Is 42.05 77 P **P** **01 41 28.8 -0.7**
GDSD IAmb IAmb 01 41 42.7
comp=Z,200nm,1.1s
SLBI Saint Lucia, B 42.08 80 *e*P **P** **01 41 27.8 -1.9**
MCLT Moule a Chique 42.11 81 *e*P P 01 41 25.6 -4.4
L61B Northampton 42.19 35 P **P** **01 41 29.0 -1.3**
baz=229
L61B S **S** **01 47 47.3 -3.2**
baz=229
L61B Northampton 42.19 35 P **P** **01 41 26.6 -3.7**
baz=229,SNR=17
L61B S **S** **01 47 50.5 0.0**
baz=229
QUA2 Belchertown 42.27 35 IAMs_20 IAMs_20 02 01 48.2
comp=Z,52µm,18.0s
QUA2 Belchertown 42.27 35 S **S** **01 47 49.3 -2.3**
baz=230
ACCN Adirondack Com 42.27 33 P **P** **01 41 30.0 -1.0**
baz=227
BBSR BB Station 42.35 52 P **P** **01 41 31.9 +0.2**
BBSR IAmb IAmb 01 41 38.2
comp=Z,509nm,1.5s
BBSR BB Station 42.35 52 IAMs_20 IAMs_20 01 57 10.0
comp=Z,58µm,22.0s
BBSR BB Station 42.35 52 ⇓P **P** **01 41 33.5 +1.8**
BBSR BB Station 42.35 52 P **P** **01 41 31.4 -0.4**
baz=247
BBSR S **S** **01 47 55.6 +2.6**
baz=247
ETMB Extrema 42.37 117 *e*P **P** **01 41 30.5 -1.6**
NCB Newcomb 42.38 32 IAmb IAmb 01 41 42.1
comp=Z,242nm,1.5s
NCB Newcomb 42.38 32 S **S** **01 47 56.8 +3.5**
baz=226
BRYW Bryant College 42.51 36 IAMs_20 IAMs_20 02 00 17.5
comp=Z,68µm,21.0s
TOSP Speyside 42.56 84 P **P** **01 41 33.4 -0.3**
TOSP Speyside 42.56 84 *e*P P 01 41 27.1 -6.6
K62A Royalston 42.58 35 P **P** **01 41 33.2 -0.3**
baz=230
K62A P **P** **01 41 33.2 -0.3**
baz=230
K62A S **S** **01 47 53.0 -3.2**
baz=230
K62A S **S** **01 47 53.0 -3.2**
baz=230
LONY Lake Ozonia 42.65 31 IAMs_20 IAMs_20 02 01 14.6
comp=Z,60µm,19.0s
LONY Lake Ozonia 42.65 31 P **P** **01 41 32.7 -1.3**
baz=225,SNR=22
LONY S **S** **01 47 59.6 +2.4**
baz=225
OZB Mount Ozzard 42.73 339 IAmb IAmb 01 41 45.0
comp=Z,227nm,1.4s
M65A Busby, Falmout 42.81 37 IAMs_20 IAMs_20 01 59 05.0
comp=Z,52µm,22.0s
M65A Busby, Falmout 42.81 37 P **P** **01 41 31.0 -4.3**
baz=232
M65A S **S** **01 48 00.8 +1.2**
baz=232
BMNY Brushton-Moira 42.84 31 P **P** **01 41 35.8 +0.3**
baz=225
BMNY S **S** **01 48 00.5 +0.6**
baz=225
J61A Chester 42.85 34 IAmb IAmb 01 41 39.4
comp=Z,240nm,1.4s
J61A Chester 42.85 34 S **S** **01 48 03.4 +3.2**
baz=229
J61A S **S** **01 48 03.4 +3.2**
baz=229
HRV Adam Dziewonsk 42.87 36 P **P** **01 41 35.2 -0.6**
HRV pmax pmax
comp=Z,190nm,1.4s
HRV MLR MLR
comp=Z,58µm,22.0s
HRV Adam Dziewonsk 42.87 36 P **P** **01 41 35.1 -0.6**
HRV Adam Dziewonsk 42.87 36 IAMs_20 IAMs_20 02 00 40.4
comp=Z,57µm,22.0s
HRV Adam Dziewonsk 42.87 36 ⇓P **P** **01 41 35.3 -0.5**
HRV Adam Dziewonsk 42.87 36 P **P** **01 41 35.9 +0.1**
baz=231
HRV S **S** **01 47 59.5 -0.9**
baz=231
HRV Adam Dziewonsk 42.87 36 P **P** **01 41 34.2 -1.6**
baz=231
HRV S **S** **01 48 01.8 +1.4**
baz=231
WES Weston 42.92 36 IAMs_20 IAMs_20 02 00 50.6
comp=Z,68µm,20.0s
WES Weston 42.92 36 S **S** **01 48 05.1 +3.9**
baz=231
L64A Middleborough 42.93 37 IAmb IAmb 01 41 39.7
comp=Z,411nm,1.4s
L64A Middleborough 42.93 37 P **P** **01 41 36.1 -0.2**
baz=232
L64A P **P** **01 41 36.1 -0.2**
baz=232
L64A S **S** **01 48 02.0 +0.7**
baz=232
L64A S **S** **01 48 02.0 +0.7**
baz=232
BCX Boston College 42.98 36 IAMs_20 IAMs_20 02 00 32.1
comp=Z,59µm,21.0s
LLLB Lillooet 43.02 343 P **P** **01 41 37.0 +0.1**
MCVT Middlebury Col 43.02 33 P **P** **01 41 36.2 -0.8**
baz=228
MCVT S **S** **01 48 02.5 -0.1**
baz=228
KAPO Kapuskasing 43.05 20 ⇑P **P** **01 41 36.2 -0.9**
HNH Hanover 43.23 34 IAMs_20 IAMs_20 02 01 26.7
comp=Z,40µm,19.0s
HNH Hanover 43.23 34 S **S** **01 48 06.8 +1.0**
baz=229
FRNY Flat Rock 43.30 32 P **P** **01 41 38.7 -0.6**
baz=226
FRNY S **S** **01 48 01.7 -5.0**
baz=226
VT1 Waterbury 43.40 33 IAMs_20 IAMs_20 02 01 55.9
comp=Z,67µm,19.0s
VT1 Waterbury 43.40 33 S **S** **01 48 13.2 +5.0**
baz=228
FFD Franklin Falls 43.43 34 IAMs_20 IAMs_20 02 02 15.9
comp=Z,55µm,18.0s
FFD Franklin Falls 43.43 34 P **P** **01 41 40.7 +0.4**
baz=230
FFD S **S** **01 48 07.8 -0.8**
baz=230
BBGH Gun Hill 43.46 82 IAMs_20 IAMs_20 01 56 55.9
comp=Z,46µm,21.0s
BBGH Gun Hill 43.46 82 *e*P **P** **01 41 38.3 -2.6**
CBB Campbell River 43.60 340 P **P** **01 41 41.1 -0.5**
UNH University of 43.63 35 P **P** **01 41 41.2 -0.7**
baz=231
UNH S **S** **01 48 17.0 +5.5**
baz=231
PB12 IPOC Station P 43.70 131 P **P** **01 41 43.5 +0.6**
BOAV Boa Vista 43.72 97 *e*P **P** **01 41 41.7 -1.4**
MNTQ Montreal, Queb 43.75 31 IAmb IAmb 01 41 53.0
comp=Z,191nm,1.4s
MNTQ Montreal, Queb 43.75 31 ⇓P **P** **01 41 41.6 -1.2**
LBNH Lisbon 43.78 33 IAMs_20 IAMs_20 02 02 25.7
comp=Z,54µm,18.0s
LBNH Lisbon 43.78 33 P **P** **01 41 42.8 -0.4**
baz=229
LBNH S **S** **01 48 16.8 +3.1**
baz=229
LBNH Lisbon 43.78 33 P **P** **01 41 41.5 -1.7**
baz=229,SNR=7.5
LBNH S **S** **01 48 15.1 +1.3**
baz=229
TRQ Mont Tremblant 43.80 29 P **P** **01 41 42.9 -0.5**
TRQ IAmb IAmb 01 41 53.6
comp=Z,297nm,1.4s
I62A Tamworth 43.87 34 IAmb IAmb 01 41 47.6
comp=Z,326nm,1.4s
I62A Tamworth 43.87 34 P **P** **01 41 43.9 +0.1**
baz=230
I62A P **P** **01 41 43.9 +0.1**
baz=230
I62A S **S** **01 48 11.6 -3.4**
baz=230
I62A S **S** **01 48 11.6 -3.4**
baz=230
LPAZ La Paz 44.03 126 P **P** **01 41 45.8 -0.4**
comp=Z,38nm,1.1s,baz=312,slow=7.1,SNR=84
LPAZ La Paz 44.03 126 P **P** **01 41 45.3 -0.9**
LPAZ pmax pmax
comp=Z,324nm,1.3s
LPAZ La Paz 44.03 126 P **P** **01 41 45.3 -0.9**
LPAZ IAmb IAmb 01 42 02.7
comp=Z,324nm,1.3s
LPAZ La Paz 44.03 126 *e*P **P** **01 41 44.3 -1.9**
LPAZ La Paz 44.03 126 ⇑P **P** **01 41 45.7 -0.5**
LPAZ La Paz 44.03 126 *e*P **P** **01 41 45.6 -0.6**
PB16 IPOC Station P 44.15 130 IAmb IAmb 01 42 07.5
comp=Z,173nm,1.5s
I63A Otisfield 44.40 34 IAmb IAmb 01 41 51.6
comp=Z,244nm,1.5s
I63A Otisfield 44.40 34 P **P** **01 41 48.4 +0.3**
baz=230
I63A P **P** **01 41 48.4 +0.3**
baz=230
I63A S **S** **01 48 24.9 +2.1**
baz=230
I63A S **S** **01 48 24.9 +2.1**
baz=230
H62A Milan 44.42 33 IAmb IAmb 01 41 51.9
comp=Z,220nm,1.4s
H62A Milan 44.42 33 P **P** **01 41 48.6 +0.4**
baz=229

H62A P P 01 41 48.6 +0.4
baz=229
H62A S S 01 48 21.9 -1.1
baz=229
H62A S S 01 48 21.9 -1.1
baz=229
PB11 IPOC Station P 44.90 131 IAmb IAmb 01 42 04.5
comp=Z,239nm,1.2s
MACA Manacapuru-AM 44.98 105 *eP* P 01 41 51.0 -2.2
TA01 Diego Aracena 45.02 133 P P 01 41 53.1 -0.2
TA01 IAmb IAmb 01 42 06.9
comp=Z,298nm,1.4s
HOLB Holberg 45.08 338 P P 01 41 53.0 -0.5
G62A West of Eustis 45.17 33 IAmb IAmb 01 42 05.1
comp=Z,258nm,1.4s
G62A West of Eustis 45.17 33 S S 01 48 36.4 +2.4
baz=230
G62A S S 01 48 36.4 +2.4
baz=230
GO01 Chusmiza 45.19 131 IAmb IAmb 01 42 16.5
comp=Z,196nm,1.4s
PATCX Punta Patache 45.20 133 IAmb IAmb 01 42 09.3
comp=Z,142nm,1.3s
WVL Waterville 45.24 34 IAMs_20 IAMs_20 02 03 12.7
comp=Z,54µm,18.0s
WVL Waterville 45.24 34 S S 01 48 40.0 +5.2
baz=231
LATQ La Tugue 45.48 29 IAmb IAmb 01 41 59.7
comp=Z,224nm,1.4s
PB02 IPOC Station P 45.71 133 IAmb IAmb 01 42 12.7
comp=Z,180nm,1.2s
PB01 IPOC Station P 45.83 133 IAmb IAmb 01 42 13.6
comp=Z,248nm,1.5s
PKME Peaks-Kenny Pk 45.88 34 P P 01 41 59.2 -0.6
PKME IAmb IAmb 01 42 18.7
comp=Z,204nm,1.5s
PKME IAMs_20 IAMs_20 02 02 56.1
comp=Z,46µm,21.0s
PKME Peaks-Kenny Pk 45.88 34 P P 01 41 59.9 +0.1
baz=231
PKME S S 01 48 47.1 +3.0
baz=231
PKME Peaks-Kenny Pk 45.88 34 P P 01 41 57.8 -2.0
baz=231,SNR=10
PKME S S 01 48 46.4 +2.3
baz=231
F62A Pittston Farm, 45.91 33 P P 01 42 00.5 +0.4
baz=230
F62A P P 01 42 00.5 +0.4
baz=230
F62A S S 01 48 49.1 +4.4
baz=230
F62A S S 01 48 49.1 +4.4
baz=230
PB04 IPOC Station P 46.18 135 IAmb IAmb 01 42 18.5
comp=Z,177nm,1.5s
F63A Nahmakanta, Br 46.26 34 IAmb IAmb 01 42 21.6
comp=Z,227nm,1.5s
F63A Nahmakanta, Br 46.26 34 P P 01 42 02.0 -0.8
baz=231
F63A P P 01 42 02.0 -0.8
baz=231
F63A S S 01 48 49.8 +0.2
baz=231
F63A S S 01 48 49.8 +0.2
baz=231
BBB Bella Bella 46.35 340 P P 01 42 02.7 -0.7
comp=Z,59nm,1.1s,baz=355,slow=13,SNR=3.8
BBB LR LR 01 59 50.1
comp=Z,48µm,21.1s,baz=159,slow=34
PB09 IPOC Station P 46.48 133 P P 01 42 05.8 +0.8
EMMW East Machias 46.57 36 IAMs_20 IAMs_20 02 04 06.0
comp=Z,56µm,18.0s
EMMW East Machias 46.57 36 S S 01 48 55.9 +1.9
baz=234
F64A Sherman 46.77 34 P P 01 42 06.4 -0.4
baz=232
F64A P P 01 42 06.4 -0.4
baz=232
F64A S S 01 48 57.8 +0.9
baz=232
F64A S S 01 48 57.8 +0.9
baz=232
G65A Princeton 46.80 35 P P 01 42 06.7 -0.4
baz=233
G65A P P 01 42 06.7 -0.4
baz=233
G65A S S 01 48 60.0 +2.6
baz=233
G65A S S 01 48 60.0 +2.6
baz=233
PB06 IPOC Station P 46.83 134 IAmb IAmb 01 42 21.4
comp=Z,135nm,1.2s
E63A Oxbow 47.08 33 P P 01 42 08.9 -0.3
baz=231
E63A P P 01 42 08.9 -0.3
baz=231
E63A S S 01 49 00.0 -1.3
baz=231
E63A S S 01 49 00.0 -1.3
baz=231
D62A Allapoint, All 47.16 32 P P 01 42 09.5 -0.3
baz=230
D62A P P 01 42 09.5 -0.3
baz=230
D62A S S 01 49 01.4 -1.0
baz=230
D62A S S 01 49 01.4 -1.0
baz=230
LVC Limon Verde 47.23 134 LR LR 01 57 39.4
comp=Z,73µm,21.6s,baz=314,slow=30
LVC Limon Verde 47.23 134 P P 01 42 11.5 +0.3
LVC pmax pmax
comp=Z,200nm,1.4s
LVC Limon Verde 47.23 134 P P 01 42 11.5 +0.3
LVC IAmb IAmb 01 42 25.6
comp=Z,200nm,1.4s
LVC Limon Verde 47.23 134 ⇓P P 01 42 11.9 +0.7
LVC Limon Verde 47.23 134 *eP* P 01 42 11.9 +0.7
GO02 Mina Guanaco 48.43 137 IAmb IAmb 01 42 34.3
comp=Z,164nm,1.4s
DIB Dawson Inlet, 48.74 337 IAmb IAmb 01 42 32.7
comp=Z,203nm,1.2s
HAL Halifax 48.81 38 IAmb IAmb 01 42 25.8
comp=Z,222nm,1.5s
RUBB Prince Rupert 48.84 340 IAmb IAmb 01 42 39.8
comp=Z,175nm,1.2s
VILB Vilhena 49.04 117 *eP* P 01 42 23.2 -1.7
FCC Fort Churchill 49.10 7 P P 01 42 24.0 -0.7
FCC pmax pmax
comp=Z,103nm,1.2s
FCC Fort Churchill 49.10 7 P P 01 42 23.9 -0.7
FCC IAmb IAmb 01 42 42.8
comp=Z,103nm,1.2s
H03N2 Juan Fernandez 49.39 152 T T 02 35 39.0
baz=329,slow=77,SNR=1292
H03N1 Juan Fernandez 49.40 152 T T 02 35 36.1
baz=329,slow=77,SNR=1262
H03N3 Juan Fernandez 49.41 152 T T 02 35 35.3
baz=329,slow=77,SNR=1487
ICQ Pointe Anglais 49.64 31 ⇓P P 01 42 27.9 -1.0
SIV San Ignacio 49.67 121 LR LR 02 01 07.7
comp=Z,234µm,20.9s,baz=308,slow=33
LCO Las Campanas 50.37 142 P P 01 42 35.9 +0.8
LCO pmax pmax
comp=Z,37nm,1.1s
LCO Las Campanas 50.37 142 P P 01 42 35.9 +0.8
LCO Las Campanas 50.37 142 ⇑P P 01 42 36.4 +1.3
HMH Humu'ula Sheep 50.62 287 P P 01 42 37.7 +0.5
POHA Pohakuloa 50.67 287 P P 01 42 38.0 +0.5
POHA IAmb IAmb 01 42 46.0
comp=Z,170nm,0.8s
POHA Pohakuloa 50.67 287 IAMs_20 IAMs_20 01 57 35.0
comp=Z,37µm,20.0s
POHA Pohakuloa 50.67 287 ⇓P P 01 42 38.3 +0.7
MLOA Mauna Loa Obse 50.70 287 P P 01 42 39.3 +1.3
CRAG Craig 50.76 339 IAmb IAmb 01 42 48.1
comp=Z,234nm,1.3s
CRAG Craig 50.76 339 P P 01 42 37.3 0.0
baz=141
CRAG S S 01 49 57.9 +5.2
baz=141
MALB Monte Alegre 50.78 101 *eP* P 01 42 36.4 -1.8
HPAH Hawaii Prepara 50.84 288 IAmb IAmb 01 42 41.8
comp=Z,184nm,0.9s
MDP Montagnes des 50.97 92 LR LR 02 04 45.0
comp=Z,52µm,18.8s,baz=280,slow=37

PTLB Pontes e Lacer 51.06 119 *eP* P 01 42 38.5 -1.8
WRAK Wrangell Islan 51.24 340 IAmb IAmb 01 42 57.7
comp=Z,244nm,1.4s
WRAK Wrangell Islan 51.24 340 IAMs_20 IAMs_20 02 02 58.3
comp=Z,33µm,21.0s
WRAK Wrangell Islan 51.24 340 P P 01 42 40.9 0.0
baz=143
WRAK S S 01 50 05.0 +5.5
baz=143
PDRB Porto dos Gac 51.58 114 *eP* P 01 42 43.2 -0.9
CO02 Combarbal 51.78 144 IAmb IAmb 01 43 03.8
comp=Z,204nm,1.5s
CLDB Colider 52.15 112 *eP* P 01 42 45.9 -2.4
DLBC Dease Lake 52.17 343 P P 01 42 46.3 -1.7
comp=Z,21nm,1.0s,baz=159,slow=6.9,SNR=17
DLBC LR LR 02 04 54.6
comp=Z,50µm,18.0s,baz=144,slow=36
DLBC Dease Lake 52.17 343 IAmb IAmb 01 42 59.5
comp=Z,189nm,1.2s
MCPB Macapa, AP 52.57 98 *eP* P 01 42 49.5 -2.1
VA06 Catapilco 52.61 145 IAmb IAmb 01 43 05.4
comp=Z,207nm,1.4s
SIT Sitka 52.76 339 P P 01 42 51.9 -0.3
baz=140
SIT S S 01 50 25.6 +5.2
baz=140
YKA Yellowknife Ar 52.86 354 P P 01 42 50.8 -2.1
comp=Z,31nm,1.1s,baz=165,slow=6.4,SNR=93
YKA LR LR 02 06 13.2
comp=Z,77µm,18.6s,baz=166,slow=37
YKA PKPPKP P'P'df 02 13 07.2 -15
comp=Z,0.5nm,1.0s,baz=39,slow=2.2,SNR=3.8
YKA P4KPbc 02 20 17.5
comp=Z,0.5nm,0.9s,baz=164,slow=3.5,SNR=5.2
PPT Papeete 52.88 239 LR LR 01 58 53.2
comp=Z,14µm,20.9s,baz=59,slow=29
KIP Kipapa 53.08 289 IAMs_20 IAMs_20 01 58 34.3
comp=Z,31µm,22.0s
VA03 San Esteban 53.18 145 IAmb IAmb 01 43 10.0
comp=Z,178nm,1.4s
MT02 Curacav 53.22 146 IAmb IAmb 01 43 09.5
comp=Z,180nm,1.5s
WTLY Watson Lake, Y 53.26 345 P P 01 42 53.5 -2.4
baz=149
WTLY S S 01 50 30.6 +3.5
baz=149
SCHQ Schefferville 53.33 26 P P 01 42 55.2 -1.4
comp=Z,92nm,1.1s,baz=239,slow=7.4,SNR=28
SCHQ LR LR 02 06 38.3
comp=Z,44µm,20.2s,baz=231,slow=37
SCHQ Schefferville 53.33 26 P P 01 42 55.6 -0.9
SCHQ IAmb IAmb 01 43 10.6
comp=Z,250nm,1.1s
SCHQ Schefferville 53.33 26 ⇑P P 01 42 55.0 -1.6
JIS Juneau Island 53.39 340 IAMs_20 IAMs_20 02 08 21.1
comp=Z,34µm,21.0s
MT05 Renca 53.54 145 IAmb IAmb 01 43 16.6
comp=Z,258nm,1.4s
MT01 Popeta 53.61 146 IAmb IAmb 01 43 11.8
comp=Z,109nm,1.4s
MT09 Talagante 53.68 146 IAmb IAmb 01 43 13.5
comp=Z,151nm,1.5s
MT03 Universidad Ad 53.74 145 IAmb IAmb 01 43 18.1
comp=Z,253nm,1.4s
BESE Bessie Mountai 53.78 340 IAmb IAmb 01 43 11.0
comp=Z,171nm,1.2s
BO04 La Punta 54.05 146 IAmb IAmb 01 43 16.1
comp=Z,103nm,1.3s
BO01 Tunca 54.09 146 IAmb IAmb 01 43 16.6
comp=Z,98nm,1.2s
GO05 Huala 54.11 148 IAmb IAmb 01 43 15.0
comp=Z,94nm,1.1s
LMEL Las Melosas 54.17 145 IAmb IAmb 01 43 21.8
comp=Z,229nm,1.4s
SALV Santo Antonio 54.24 118 *eP* P 01 43 01.8 -2.0
TGTN Hyland Airport 54.35 346 P P 01 43 03.3 -0.6
baz=150,SNR=13
TGTN S S 01 50 43.9 +2.1
baz=150
SKAG Skagway 54.62 341 IAmb IAmb 01 43 17.0
comp=Z,168nm,1.3s
SKAG Skagway 54.62 341 ⇑P P 01 43 08.8 +3.0
SKAG Skagway 54.62 341 P P 01 43 04.4 -1.5
baz=141,SNR=9.5
SKAG S S 01 50 48.9 +3.4
baz=141
DRLN Deer Lake 54.75 35 IAmb IAmb 01 43 21.4
comp=Z,190nm,1.4s
DRLN Deer Lake 54.75 35 ⇑P P 01 43 07.3 +0.4
BI05 Punta Hualpn 54.81 150 IAmb IAmb 01 43 26.0
comp=Z,196nm,1.4s
WRGLY Wrigley 54.85 349 S S 01 50 51.5 +3.0
baz=156
ML02 Panimavida 54.95 148 P P 01 43 09.6 +1.0
ML02 IAmb IAmb 01 43 22.5
comp=Z,202nm,1.2s
WHY Whitehorse 55.42 342 IAmb IAmb 01 43 22.1
comp=Z,147nm,1.4s
WHY Whitehorse 55.42 342 P P 01 43 11.1 -0.7
baz=142,SNR=11
WHY S S 01 51 00.5 +4.0
baz=142
PP1B Ponte de Pedra 55.67 119 *eP* P 01 43 12.8 -1.3
MMPY Sheldon Lake, 56.02 345 P P 01 43 14.7 -1.3
baz=147,SNR=51
MMPY S S 01 51 08.7 +4.4
baz=147
PNL Peninsula 56.15 339 P P 01 43 16.8 -0.1
baz=136
PNL S S 01 51 10.1 +4.1
baz=136
PRPB Parauapebas 56.21 104 *eP* P 01 43 16.3 -1.8
FARO Faro, Yukon 56.24 344 P P 01 43 16.0 -1.6
baz=144,SNR=22
FARO S S 01 51 09.3 +2.1
baz=144
AQDB Aquidauana 56.28 123 IAmb IAmb 01 43 28.3
comp=Z,82nm,0.9s
AQDB Aquidauana 56.28 123 *eP* P 01 43 16.9 -1.6
N31M Braeburn, Yuko 56.34 342 P P 01 43 16.7 -1.6
baz=141,SNR=39
N31M S S 01 51 13.0 +4.4
baz=141
HYT Haines Junctio 56.37 341 IAmb IAmb 01 43 37.9
comp=Z,260nm,1.5s
HYT Haines Junctio 56.37 341 P P 01 43 16.9 -1.7
baz=139,SNR=14
HYT S S 01 51 15.1 +6.0
baz=139
BCPM Bancas Point 56.44 339 IAmb IAmb 01 43 37.9
comp=Z,150nm,1.2s
BCPM IAMs_20 IAMs_20 02 09 12.5
comp=Z,28µm,18.0s
M31M Drury Creek, Y 56.51 343 IAmb IAmb 01 43 30.6
comp=Z,90nm,1.1s
M31M Drury Creek, Y 56.51 343 P P 01 43 18.9 -0.6
baz=143,SNR=29
M31M S S 01 51 14.6 +3.9
baz=143
SNDB Serra Nova Dou 56.66 112 *eP* P 01 43 20.4 -0.8
YUK6 Outpost Mounta 56.74 341 P P 01 43 20.2 -1.2
baz=138,SNR=23
YUK6 S S 01 51 20.6 +6.4
baz=138
TMAB Tom-Au,PA,Br 56.88 100 *eP* P 01 43 24.0 +1.1
YUK4 Talbot Arm 57.13 341 P P 01 43 22.2 -1.9
baz=138,SNR=32
YUK4 S S 01 51 25.1 +5.8
baz=138
LC01 Cunco 57.14 151 IAmb IAmb 01 43 38.7
comp=Z,145nm,1.1s
TABL Table Mountain 57.31 339 P P 01 43 26.4 +1.0
TABL IAmb IAmb 01 43 42.4
comp=Z,202nm,1.3s
TABL IAMs_20 IAMs_20 02 09 40.9
comp=Z,25µm,18.0s
M30M Minto, Yukon 57.50 343 IAMs_20 IAMs_20 02 06 07.5
comp=Z,32µm,22.0s
M30M Minto, Yukon 57.50 343 P P 01 43 23.2 -3.2
baz=140,SNR=20
M30M S S 01 51 27.9 +4.2
baz=140
LOGN Logan Glacier 57.54 339 IAmb IAmb 01 43 35.6
comp=Z,134nm,1.3s
LOGN IAMs_20 IAMs_20 02 09 54.8
comp=Z,33µm,19.0s
GRNC Granite Creek 57.73 339 IAMs_20 IAMs_20 02 10 04.1
comp=Z,25µm,20.0s

SNH Sunshine Point 57.74 338 IAMs_20 IAMs_20 02 09 33.3
comp=Z,27µm,18.0s
CTGM Chitina Glacie 57.75 339 IAmb IAmb 01 43 40.0
comp=Z,206nm,1.4s
CTGM IAMs_20 IAMs_20 02 10 02.5
comp=Z,33µm,19.0s
CTG Chitna Glacier 57.75 339 P P 01 43 25.4 -3.0
baz=135,SNR=8.5
CTG S S 01 51 31.2 +3.8
baz=135
ISLE Juniper Island 57.85 339 IAmb IAmb 01 43 46.6
comp=Z,226nm,1.4s
ISLE IAMs_20 IAMs_20 02 10 10.2
comp=Z,25µm,19.0s
BGLC Bering Glacier 57.86 338 S S 01 51 32.0 +3.5
baz=132
WAX Waxell Ridge 57.93 338 IAmb IAmb 01 43 44.6
comp=Z,242nm,1.5s
WAX IAMs_20 IAMs_20 02 10 26.1
comp=Z,27µm,19.0s
BARN Barnard Glacie 57.93 339 IAmb IAmb 01 43 41.9
comp=Z,145nm,1.3s
BARN IAMs_20 IAMs_20 02 10 08.3
comp=Z,30µm,20.0s
CPUP Villa Florida 57.93 130 P P 01 43 29.0 -1.1
comp=Z,38nm,1.0s,baz=317,slow=7.6,SNR=21
CPUP Villa Florida 57.93 130 IAmb IAmb 01 43 43.7
comp=Z,252nm,1.5s
CPUP Villa Florida 57.93 130 ⇑P P 01 43 28.9 -1.1
CPUP Villa Florida 57.93 130 *eP* P 01 43 30.0 0.0
YUK3 Moose Creek 58.04 340 P P 01 43 27.1 -3.4
baz=136,SNR=9.1
YUK3 S S 01 51 33.7 +2.5
baz=136
TGL Tana Glacier 58.13 339 IAmb IAmb 01 44 02.0
comp=Z,244nm,1.4s
KAIM Kayak Island 58.16 337 P P 01 43 30.0 -1.1
baz=131
BERG Berg Lake 58.20 338 P P 01 43 33.3 +1.9
BERG IAmb IAmb 01 43 50.6
comp=Z,154nm,1.2s
BERG IAMs_20 IAMs_20 02 09 57.4
comp=Z,26µm,19.0s
HMT Hamilton 58.37 338 IAMs_20 IAMs_20 02 10 03.0
comp=Z,22µm,19.0s
LL04 Puerto Octay 58.48 152 IAmb IAmb 01 43 51.7
comp=Z,137nm,1.5s
RAGM Ragged Mountai 58.56 338 IAMs_20 IAMs_20 02 02 53.0
comp=Z,29µm,22.0s
Q23K Middleton Isla 58.59 336 P P 01 43 33.6 -0.4
baz=129
Q23K S S 01 51 42.9 +4.9
baz=129
BVCY Beaver Creek 58.63 341 P P 01 43 32.8 -1.6
baz=136,SNR=8.3
BVCY S S 01 51 43.2 +4.6
baz=136
MCARA McCarthy VSAT 58.63 339 IAMs_20 IAMs_20 02 10 23.5
comp=Z,30µm,20.0s
MCARA McCarthy VSAT 58.63 339 P P 01 43 33.2 -1.2
baz=133,SNR=7.7
MCARA S S 01 51 41.3 +2.7
baz=133
VRDI Verde Repeater 58.68 339 IAMs_20 IAMs_20 02 10 36.0
comp=Z,24µm,20.0s
BMRM Bremner River 58.92 338 P P 01 43 34.2 -2.3
baz=131,SNR=9.8
BMRM S S 01 51 45.7 +3.3
baz=131
M27K Edge Creek, AK 58.92 340 IAmb IAmb 01 43 47.0
comp=Z,97nm,1.0s
M27K IAMs_20 IAMs_20 02 09 34.1
comp=Z,21µm,18.0s
M27K Edge Creek, AK 58.92 340 P P 01 43 33.5 -3.0
baz=135,SNR=30
M27K S S 01 51 46.2 +3.6
baz=135
GLB Gilahina Butte 58.95 339 IAmb IAmb 01 43 47.2
comp=Z,94nm,1.0s
GLB IAMs_20 IAMs_20 02 10 34.2
comp=Z,25µm,19.0s
EYAK Cordova Ski Ar 59.07 337 P P 01 43 37.0 -0.4
baz=130
EYAK S S 01 51 47.2 +3.0
baz=130
FRB Frobisher Bay 59.09 17 P P 01 43 36.1 -1.4
comp=Z,58nm,1.1s,baz=224,slow=7.8,SNR=21
FRB LR LR 02 09 31.5
comp=Z,59µm,20.7s,baz=222,slow=36
FRB Frobisher Bay 59.09 17 ⇑P P 01 43 36.1 -1.4
PLCA Paso Flores 59.21 151 P P 01 43 38.5 -0.3
comp=Z,21nm,0.8s,baz=323,slow=8.8,SNR=22
PLCA LR LR 02 03 34.1
comp=Z,121µm,19.8s,baz=324,slow=30
PLCA Paso Flores 59.21 151 P P 01 43 39.8 +1.0
PLCA pmax pmax
comp=Z,123nm,1.3s
PLCA Paso Flores 59.21 151 P P 01 43 39.8 +1.0
PLCA IAmb IAmb 01 43 53.8
comp=Z,123nm,1.3s
PLCA Paso Flores 59.21 151 ⇑P P 01 43 39.7 +1.0
PLCA Paso Flores 59.21 151 *eP* P 01 43 39.4 +0.6
M26K Nabesna, AK 59.33 340 IAmb IAmb 01 43 57.9
comp=Z,163nm,1.3s
M26K IAMs_20 IAMs_20 02 11 46.8
comp=Z,26µm,18.0s
M26K Nabesna, AK 59.33 340 P P 01 43 35.4 -3.9
baz=134,SNR=25
M26K S S 01 51 50.4 +2.8
baz=134
N25K Chitina, Valde 59.34 339 IAMs_20 IAMs_20 02 10 46.6
comp=Z,27µm,20.0s
N25K Chitina, Valde 59.34 339 P P 01 43 38.7 -0.7
baz=132,SNR=10
N25K S S 01 51 50.6 +2.6
baz=132
J29M Klondike Camp 59.35 343 P P 01 43 38.2 -1.2
baz=140
J29M S S 01 51 48.2 +0.2
baz=140
DAWY Dawson 59.39 343 IAmb IAmb 01 43 49.6
comp=Z,94nm,1.1s
DAWY Dawson 59.39 343 P P 01 43 36.1 -3.6
baz=138,SNR=36
DAWY S S 01 51 52.9 +4.4
baz=138
L27K Beaver Creek, 59.41 341 IAmb IAmb 01 43 58.5
comp=Z,161nm,1.4s
L27K IAMs_20 IAMs_20 02 10 35.8
comp=Z,25µm,19.0s
L27K Beaver Creek, 59.41 341 P P 01 43 36.9 -2.9
baz=135,SNR=37
L27K S S 01 51 53.4 +4.8
baz=135
PEXB Peixe 59.45 111 *eP* P 01 43 39.6 -1.2
FID Port Fidalgo 59.48 337 IAMs_20 IAMs_20 02 03 16.1
comp=Z,25µm,22.0s
GO07 Milladeo Hill, 59.71 155 IAmb IAmb 01 43 54.7
comp=Z,125nm,1.1s
KLU Klutina 59.74 338 IAmb IAmb 01 43 52.4
comp=Z,118nm,1.0s
KLU IAMs_20 IAMs_20 02 12 57.3
comp=Z,20µm,18.0s
KLU Klutina 59.74 338 P P 01 43 39.9 -2.3
baz=130,SNR=18
KLU S S 01 51 56.3 +3.1
baz=130
GLI Glacier Island 59.79 337 P P 01 43 39.6 -2.8
baz=129,SNR=8.1
GLI S S 01 51 55.1 +1.5
baz=129
L26K Log Cabin Wild 59.88 340 IAMs_20 IAMs_20 02 10 41.4
comp=Z,22µm,19.0s
L26K Log Cabin Wild 59.88 340 P P 01 43 41.5 -1.5
baz=134
L26K S S 01 51 58.1 +3.5
baz=134
TRCB Terra Rica 59.88 124 *eP* P 01 43 44.1 +0.4
MENT Mentasta 59.94 340 IAmb IAmb 01 43 46.6
comp=Z,82nm,1.4s
HARP HAARP 60.06 339 P P 01 43 42.5 -1.8
baz=131,SNR=9.0
HARP S S 01 51 59.4 +2.3
baz=131
I29M Ogilvie Camp, 60.07 344 IAMs_20 IAMs_20 02 09 37.1
comp=Z,35µm,19.0s
I29M Ogilvie Camp, 60.07 344 P P 01 43 41.4 -2.9
baz=140,SNR=30

I29M S **S** **01 51 57.5 +0.4**
baz=140
K27K **Chicken** **60.17 342** IAmb IAmb 01 43 55.8
K27K IAMs_20 IAMs_20 02 09 05.2
comp=Z,131µm,20.0s
K27K **Chicken** **60.17 342** P **P** **01 43 43.5 -1.5**
baz=135
K27K S **S** **01 52 03.6 +5.2**
baz=135
M24K **Tolsona, Glenn** **60.23 339** IAMs_20 IAMs_20 02 13 10.0
comp=Z,24µm,20.0s
M24K **Tolsona, Glenn** **60.23 339** P **P** **01 43 44.5 -1.0**
baz=130,SNR=6.8
M24K S **S** **01 52 03.5 +4.2**
baz=130
SEW **Seward** **60.25 336** IAmb IAmb 01 44 03.4
comp=Z,134nm,1.2s
SEW **Seward** **60.25 336** P **P** **01 43 44.4 -1.1**
baz=126
SEW S **S** **01 52 01.2 +1.8**
baz=126
PWL **Port Wells** **60.26 337** P **P** **01 43 44.1 -1.5**
baz=127
PWL S **S** **01 52 01.3 +1.6**
baz=127
ITQB **Itaqui** **60.27 133** P **P** **01 43 45.6 -0.6**
ITQB IAmb IAmb 01 44 03.2
comp=Z,156nm,1.1s
ITQB **Itaqui** **60.27 133** *e*P **P** **01 43 47.1 +0.9**
KDAK **Kodiak Island** **60.31 332** P **P** **01 43 44.6 -1.4**
comp=Z,44nm,1.1s,baz=346,slow=20,SNR=2.4
KDAK LR LR 02 04 55.6
comp=Z,26µm,20.5s,baz=150,slow=31
KDAK **Kodiak Island** **60.31 332** P **P** **01 43 47.5 +1.5**
KDAK pmax pmax
comp=Z,224nm,1.5s
KDAK **Kodiak Island** **60.31 332** P **P** **01 43 47.5 +1.5**
KDAK **Kodiak Island** **60.31 332** IAMs_20 IAMs_20 02 04 43.6
comp=Z,26µm,20.0s
KDAK **Kodiak Island** **60.31 332** ⇓P **P** **01 43 49.6 +3.6**
KDAK **Kodiak Island** **60.31 332** P **P** **01 43 44.8 -1.1**
baz=121
KDAK S **S** **01 52 02.6 +2.4**
baz=121
OHAK **Old Harbor** **60.34 332** P **P** **01 43 46.1 -0.1**
baz=120
OHAK S **S** **01 52 03.8 +3.1**
baz=120
SII **Sitkinak Islan** **60.44 331** IAMs_20 IAMs_20 02 02 58.3
comp=Z,36µm,22.0s
SII **Sitkinak Islan** **60.44 331** S **S** **01 52 04.0 +2.0**
baz=119
EGAK **Eagle** **60.44 343** IAmb IAmb 01 43 56.6
comp=Z,103nm,1.2s
EGAK IAMs_20 IAMs_20 02 09 16.3
comp=Z,27µm,21.0s
EGAK **Eagle** **60.44 343** P **P** **01 43 45.9 -0.9**
baz=137,SNR=33
EGAK S **S** **01 52 05.4 +3.6**
baz=137
ITRB **Iturama** **60.44 119** *e*P **P** **01 43 46.8 -0.8**
SCM **Sheep Creek Mo** **60.48 338** IAmb IAmb 01 44 10.2
comp=Z,114nm,1.4s
SCM **Sheep Creek Mo** **60.48 338** P **P** **01 43 48.7 +1.4**
baz=129
SCM S **S** **01 52 05.7 +3.1**
baz=129
PCMB **Pacaembu** **60.49 122** *e*P **P** **01 43 46.5 -1.3**
DOT **Dot Lake** **60.54 341** IAmb IAmb 01 43 57.4
comp=Z,110nm,0.8s
PAX **Paxson** **60.55 340** IAmb IAmb 01 43 56.1
comp=Z,160nm,1.5s
PAX **Paxson** **60.55 340** P **P** **01 43 46.4 -1.4**
baz=131,SNR=28
PAX S **S** **01 52 03.2 -0.2**
baz=131
LL02 **Futaleuf** **60.55 154** P **P** **01 43 48.9 +1.0**
LL02 IAmb IAmb 01 44 02.5
comp=Z,96nm,1.0s
BRSE **Bradley Lake S** **60.57 335** P **P** **01 43 45.5 -2.3**
baz=124,SNR=5.8
BRSE S **S** **01 52 05.9 +2.2**
baz=124
O22K **Cooper Landing** **60.58 336** IAMs_20 IAMs_20 02 03 37.4
comp=Z,26µm,22.0s
O22K **Cooper Landing** **60.58 336** P **P** **01 43 45.3 -2.5**
baz=126
O22K S **S** **01 52 04.4 +0.8**
baz=126
C36M **Paulatuk** **60.59 352** P **P** **01 43 48.4 +0.7**
C36M **Paulatuk** **60.59 352** P **P** **01 43 45.0 -2.8**
baz=157
C36M S **S** **01 52 05.4 +1.8**
baz=157
M23K **Glacier View** **60.60 338** P P 01 43 43.5 -4.5
baz=128
M23K S **S** **01 52 05.1 +1.1**
baz=128
KNK **Knik Glacier** **60.64 337** P **P** **01 43 45.7 -2.6**
baz=127,SNR=7.6
KNK S **S** **01 52 05.3 +0.8**
baz=127
SCRK **Sand Creek** **60.74 341** IAmb IAmb 01 43 58.9
comp=Z,89nm,1.0s
SCRK IAMs_20 IAMs_20 02 12 20.1
comp=Z,26µm,19.0s
SCRK **Sand Creek** **60.74 341** P **P** **01 43 45.4 -3.7**
baz=133,SNR=31
SCRK S **S** **01 52 09.9 +4.0**
baz=133
CHIR **Chirikof Islan** **60.79 329** IAMs_20 IAMs_20 02 02 41.7
comp=Z,39µm,22.0s
CHIR **Chirikof Islan** **60.79 329** S **S** **01 52 10.3 +3.8**
baz=118
SML **Sawmill** **60.84 338** P P 01 43 45.7 -3.9
baz=128,SNR=27
SML S **S** **01 52 08.6 +1.5**
baz=128
RIDG **Independent Ri** **60.86 340** IAMs_20 IAMs_20 02 14 06.2
comp=Z,26µm,18.0s
RIDG **Independent Ri** **60.86 340** P **P** **01 43 46.5 -3.3**
baz=132,SNR=61
RIDG S **S** **01 52 11.2 +3.9**
baz=132
ROSB **Rosrio** **60.87 99** *e*P **P** **01 43 51.3 +0.7**
HOM **Homer** **60.90 335** P **P** **01 43 46.9 -3.1**
baz=123
HOM S **S** **01 52 09.1 +1.3**
baz=123
BDFB **Brasilia** **60.93 114** P **P** **01 43 49.2 -1.9**
comp=Z,15nm,0.9s,baz=266,slow=7.7,SNR=9.9
BDFB LR LR 02 08 49.7
comp=Z,145µm,20.3s,baz=292,slow=35
BDFB **Brasilia** **60.93 114** P **P** **01 43 50.0 -1.1**
BDFB pmax pmax
comp=Z,71nm,1.3s
BDFB **Brasilia** **60.93 114** P **P** **01 43 50.0 -1.1**
RC01 **Rabbit Creek A** **60.94 336** IAmb IAmb 01 43 60.0
comp=Z,84nm,0.9s
RC01 **Rabbit Creek A** **60.94 336** P **P** **01 43 46.8 -3.5**
baz=126,SNR=5.8
RC01 S **S** **01 52 10.3 +2.0**
baz=126
J26L **Joseph Creek** **60.97 342** P **P** **01 43 47.2 -3.3**
baz=134,SNR=59
J26L S **S** **01 52 12.9 +4.1**
baz=134
PMR **Palmer** **61.01 337** IAmb IAmb 01 44 00.4
comp=Z,94nm,0.8s
PMR **Palmer** **61.01 337** P **P** **01 43 47.9 -2.8**
baz=127,SNR=19
PMR S **S** **01 52 11.2 +2.2**
baz=127
WAT6 **Susitna Watana** **61.10 338** P **P** **01 43 48.8 -2.8**
baz=129,SNR=57
WAT6 S **S** **01 52 11.4 +0.7**
baz=129
K24K **Donnelly Dome** **61.21 340** P **P** **01 43 48.9 -3.3**
baz=131,SNR=29
K24K S **S** **01 52 14.0 +2.3**
baz=131
PTGB **Pitanga** **61.23 125** *e*P **P** **01 43 51.6 -1.4**
DHY **Denali Highway** **61.28 339** IAmb IAmb 01 44 13.7
comp=Z,115nm,1.2s
DHY IAMs_20 IAMs_20 02 12 06.6
comp=Z,22µm,20.0s
DHY **Denali Highway** **61.28 339** P **P** **01 43 49.0 -3.7**
baz=129,SNR=33
DHY S **S** **01 52 13.1 +0.1**
baz=129
INK **Inuvik** **61.30 348** P **P** **01 43 50.1 -2.5**
comp=Z,26nm,0.8s,baz=140,slow=8.0,SNR=39
INK LR LR 02 09 31.4
comp=Z,40µm,20.3s,baz=140,slow=35
INK **Inuvik** **61.30 348** IAmb IAmb 01 44 02.7
comp=Z,141nm,1.1s
INK **Inuvik** **61.30 348** ⇓P **P** **01 43 50.6 -1.9**
INK **Inuvik** **61.30 348** P **P** **01 43 49.8 -2.8**
baz=146,SNR=71
INK S **S** **01 52 13.7 +1.0**
baz=146
CAPN **Captain Cook N** **61.32 336** S **S** **01 52 16.3 +3.2**
baz=124
Q19K **Cape Douglas,** **61.38 333** P **P** **01 43 51.1 -2.2**
Q19K S **S** **01 52 14.3 +0.2**
baz=121
M22K **Willow** **61.48 337** P **P** **01 43 51.1 -2.8**
baz=126,SNR=25
M22K S **S** **01 52 15.9 +0.8**
baz=126
WAT1 **Susitna Watana** **61.55 338** P **P** **01 43 51.2 -3.2**
baz=128
WAT1 S **S** **01 52 17.8 +1.7**
baz=128
O20K **Slope Mountain** **61.55 335** S **S** **01 52 17.9 +1.6**
baz=122
P19K **Oil Pt** **61.58 334** P **P** **01 43 51.8 -2.9**
baz=122
P19K S **S** **01 52 18.5 +2.0**
baz=122
J25K **Salcha River,** **61.62 341** IAmb IAmb 01 44 05.3
comp=Z,69nm,1.1s
J25K IAMs_20 IAMs_20 02 12 46.2
comp=Z,28µm,18.0s
J25K **Salcha River,** **61.62 341** P **P** **01 43 52.9 -2.0**
baz=132,SNR=29
J25K S **S** **01 52 20.7 +3.7**
baz=132
IPMB **Ipameri, GO** **61.62 117** *e*P **P** **01 43 54.0 -1.7**
TRQA **Tornquist** **61.87 143** P **P** **01 43 57.0 +0.1**
TRQA pmax pmax
comp=Z,82nm,1.3s
TRQA **Tornquist** **61.87 143** P **P** **01 43 57.0 +0.1**
TRQA IAmb IAmb 01 44 14.4
comp=Z,82nm,1.2s
TRQA **Tornquist** **61.87 143** *e*P **P** **01 43 57.3 +0.4**
CUT **Chulitna** **61.92 338** IAMs_20 IAMs_20 02 12 57.7
comp=Z,21µm,20.0s
CUT **Chulitna** **61.92 338** P **P** **01 43 53.7 -3.2**
baz=126,SNR=19
CUT S **S** **01 52 20.8 +0.1**
baz=126
SPCR **Spurr Chakacha** **61.99 336** P **P** **01 43 55.8 -1.7**
baz=123,SNR=6.4
SPCR S **S** **01 52 21.3 -0.5**
baz=123
RND **Reindeer** **62.01 339** IAMs_20 IAMs_20 02 12 30.3
comp=Z,28µm,18.0s
ILAR **Eielson Array** **62.21 341** P **P** **01 43 56.0 -2.9**
comp=Z,46nm,0.7s,baz=152,slow=4.7,SNR=97
ILAR LR LR 02 10 23.6
comp=Z,20µm,20.2s,baz=134,slow=36
ILAR PKP2bc 02 13 12.7
comp=Z,4.0nm,1.2s,baz=311,slow=3.6,SNR=10.0
ILAR **Eielson Array** **62.21 341** P **P** **01 43 57.1 -1.7**
ILAR **Eielson Array** **62.21 341** P **P** **01 43 57.1 -1.7**
MCK **McKinley** **62.24 339** P **P** **01 43 55.5 -3.6**
baz=128,SNR=29
MCK S **S** **01 52 25.4 +0.6**
baz=128
P18K **Big Mountain,** **62.32 333** IAmb IAmb 01 44 08.7
comp=Z,133nm,1.1s
P18K **Big Mountain,** **62.32 333** P P 01 43 55.8 -3.9
baz=120
P18K S **S** **01 52 26.0 0.0**
baz=120
O19K **Port Alsworth** **62.33 334** IAmb IAmb 01 44 26.9
comp=Z,66nm,1.0s
O19K **Port Alsworth** **62.33 334** P **P** **01 43 56.2 -3.5**
baz=121
O19K S **S** **01 52 24.1 -1.8**
baz=121
COYC **Coyhaique** **62.38 155** IAmb IAmb 01 44 16.4
comp=Z,135nm,1.2s
COYC **Coyhaique** **62.38 155** ⇑P **P** **01 44 02.4 +2.2**
ITAB **Concordia** **62.38 128** IAmb IAmb 01 44 16.0
comp=Z,160nm,1.4s
ITAB **Concordia** **62.38 128** *e*P **P** **01 44 00.9 +0.3**
LPA **La Plata** **62.39 138** *c i*P P 01 43 54.4 -6.0
LPA PCP **PcP** **01 44 41.2 +1.3**
LPA PPP PPP 01 48 08.6
LPA S **S** **01 52 28.4 +1.0**
LPA SS **SS** **01 56 36.0 +4.6**
WRH **Wood River Hil** **62.42 340** IAmb IAmb 01 44 10.4
comp=Z,70nm,0.9s
WRH IAMs_20 IAMs_20 02 15 03.5
comp=Z,22µm,19.0s
O18K **Koktuh Hills** **62.54 334** P **P** **01 43 57.6 -3.6**
baz=120
O18K S **S** **01 52 29.4 +0.7**
baz=120
TRF **Thorofare Moun** **62.55 338** IAMs_20 IAMs_20 02 12 58.3
comp=Z,34µm,20.0s
TRF **Thorofare Moun** **62.55 338** P **P** **01 43 57.6 -3.8**
baz=126,SNR=27
TRF S **S** **01 52 28.4 -0.6**
baz=126
BB19B **Bebedouro** **62.57 120** *e*P **P** **01 44 03.2 +1.3**
COLA **College** **62.59 340** P **P** **01 44 01.7 +0.4**
COLA pmax pmax
comp=Z,49nm,0.9s
COLA **College** **62.59 340** P **P** **01 44 01.7 +0.4**
COLA IAmb IAmb 01 44 10.3
comp=Z,49nm,0.9s
COLA **College** **62.59 340** IAMs_20 IAMs_20 02 10 24.2
comp=Z,25µm,22.0s
COLA **College** **62.59 340** ⇑P **P** **01 44 00.2 -1.1**
COLA **College** **62.59 340** P **P** **01 43 58.5 -2.8**
baz=130
COLA S **S** **01 52 27.7 -1.3**
baz=130
TCOL **CIGO, UAF Yank** **62.60 340** IAmb IAmb 01 44 10.3
comp=Z,49nm,0.9s
TCOL IAMs_20 IAMs_20 02 10 24.2
comp=Z,26µm,22.0s
TCOL **CIGO, UAF Yank** **62.60 340** P **P** **01 43 59.9 -1.5**
baz=130
TCOL S **S** **01 52 30.2 +1.1**
baz=130
POKR **Poker Plat Res** **62.61 341** IAmb IAmb 01 44 11.4
comp=Z,60nm,0.8s
POKR IAMs_20 IAMs_20 02 10 22.6
comp=Z,26µm,21.0s
POKR **Poker Plat Res** **62.61 341** P **P** **01 43 58.3 -3.2**
baz=130,SNR=6.6
POKR S **S** **01 52 29.8 +0.4**
baz=130
FRTB **Fartura** **62.65 123** *e*P **P** **01 44 02.1 -0.4**
SDBA **SAO DESIDERIO** **62.69 110** *e*P **P** **01 44 04.2 +1.2**
BWN **Browne** **62.70 339** IAMs_20 IAMs_20 02 13 43.5
comp=Z,24µm,19.0s
N19K **Bonanza Creek** **62.72 335** P **P** **01 44 00.0 -2.4**
baz=121,SNR=26
N19K S **S** **01 52 30.6 -0.5**
baz=121
MDM **Murphy Dome** **62.77 340** IAmb IAmb 01 44 12.8
comp=Z,52nm,0.8s
MDM IAMs_20 IAMs_20 02 10 28.9
comp=Z,24µm,22.0s
NEA2 **Nenana** **62.82 340** P P 01 43 59.0 -3.9
baz=128,SNR=32
NEA2 S **S** **01 52 32.7 +0.6**
baz=128
KTH **Kantishna Hill** **62.84 338** IAMs_20 IAMs_20 02 13 07.0
comp=Z,30µm,21.0s
PPLA **Purkeypile** **62.93 337** P P 01 43 59.8 -4.1
baz=124,SNR=44
PPLA S **S** **01 52 32.9 -0.8**
baz=124
CPSB **Cacapava Do Su** **62.99 132** *e*P **P** **01 44 04.8 +0.2**
SDPT **Sand Point** **63.08 328** P **P** **01 44 03.5 -1.2**
baz=113
SDPT S **S** **01 52 38.4 +2.9**
baz=113
RAR **Rarotonga** **63.12 240** LR LR 02 04 49.3
comp=Z,5µm,21.9s,baz=61,slow=30
A36M **Sachs Harbour** **63.18 353** P **P** **01 44 04.2 -1.0**
A36M IAmb IAmb 01 44 30.1
comp=Z,85nm,0.9s
A36M **Sachs Harbour** **63.18 353** P **P** **01 44 01.9 -3.2**
baz=156,SNR=14
A36M S **S** **01 52 36.9 +0.6**
baz=156
BPAW **Bear Paw Mtn.** **63.19 339** P **P** **01 44 06.5 +1.1**
BPAW IAmb IAmb 01 44 15.6
comp=Z,59nm,0.9s
BPAW IAMs_20 IAMs_20 02 14 14.0
comp=Z,24µm,19.0s
BPAW **Bear Paw Mtn.** **63.19 339** P P 01 44 01.5 -3.9
baz=126,SNR=28
BPAW S **S** **01 52 36.6 -0.1**
baz=126
CAST **Castle Rocks** **63.19 338** IAMs_20 IAMs_20 02 13 32.2
comp=Z,28µm,19.0s
CAST **Castle Rocks** **63.19 338** P P 01 44 01.2 -4.2
baz=124,SNR=74
CAST S **S** **01 52 36.1 -0.6**
baz=124
H24K **Noodor Dome** **63.22 341** IAMs_20 IAMs_20 02 12 13.6
comp=Z,26µm,20.0s
H24K **Noodor Dome** **63.22 341** P **P** **01 44 03.3 -2.3**
baz=130,SNR=126
H24K S **S** **01 52 37.2 +0.2**
baz=130
N18K **Kilae Creek** **63.25 334** P **P** **01 44 02.2 -3.6**
baz=120,SNR=24
N18K S **S** **01 52 37.0 -0.5**
baz=120
M19K **Big River Lodg** **63.25 336** P **P** **01 44 03.3 -2.5**
baz=122
M19K S **S** **01 52 38.5 +1.0**
baz=122
I23K **Minto, Yukon-K** **63.27 340** P **P** **01 44 03.3 -2.5**
baz=128
I23K S **S** **01 52 38.5 +1.0**
baz=128
SVW2 **Sparrevohn** **63.33 335** IAmb IAmb 01 44 15.7
comp=Z,87nm,1.0s
L20K **Farewell, AK** **63.35 337** P **P** **01 44 02.9 -3.6**
baz=122,SNR=41
L20K S **S** **01 52 38.7 -0.2**
baz=122
CHUM **Lake Minchumin** **63.54 338** P P 01 44 03.1 -4.5
baz=124,SNR=22
CHUM S **S** **01 52 40.4 -0.6**
baz=124
L19K **White Mountain** **63.58 336** IAmb IAmb 01 44 17.8
comp=Z,84nm,0.9s
L19K IAMs_20 IAMs_20 02 11 30.8
comp=Z,20µm,19.0s
L19K **White Mountain** **63.58 336** P **P** **01 44 04.7 -3.3**
baz=121,SNR=26
L19K S **S** **01 52 42.1 +0.4**
baz=121
PLTB **Pedras Altas** **63.59 133** IAmb IAmb 01 44 25.1
comp=Z,104nm,1.3s
PLTB **Pedras Altas** **63.59 133** *e*P **P** **01 44 08.6 +0.1**
H23K **Yukon River** **63.74 341** IAmb IAmb 01 44 18.4
comp=Z,53nm,1.0s
H23K IAMs_20 IAMs_20 02 11 07.5
comp=Z,22µm,20.0s
H23K **Yukon River** **63.74 341** P **P** **01 44 05.8 -3.3**
baz=128,SNR=22
H23K S **S** **01 52 43.6 +0.1**
baz=128
NBPS **Pedro II - PI** **63.81 100** *e*P **P** **01 44 08.9 -1.5**
K20K **Telida** **63.90 337** IAMs_20 IAMs_20 02 14 09.0
comp=Z,25µm,19.0s
K20K **Telida** **63.90 337** P P 01 44 06.2 -3.9
baz=122,SNR=58
K20K S **S** **01 52 43.2 -2.3**
baz=122
RCLB **Rio Claro- Sao** **63.96 121** *e*P **P** **01 44 12.5 +1.3**
TIJ01 **Guaruva-PR** **63.98 125** *e*P **P** **01 44 12.8 +1.5**
JANB **Januaria** **64.08 112** *e*P **P** **01 44 12.2 +0.1**
I21K **Tanana** **64.17 340** P **P** **01 44 08.6 -3.2**
baz=125,SNR=69
I21K S **S** **01 52 49.4 +0.6**
baz=125
J20K **Nowinta River** **64.38 338** IAMs_20 IAMs_20 02 15 06.5
comp=Z,25µm,20.0s
J20K **Nowinta River** **64.38 338** P **P** **01 44 09.6 -3.5**
baz=123,SNR=65
J20K S **S** **01 52 51.2 -0.2**
baz=123
TTA **Tatalina** **64.43 336** P **P** **01 44 12.7 -0.9**
TTA pmax pmax
comp=Z,94nm,0.9s
TTA **Tatalina** **64.43 336** P **P** **01 44 12.7 -0.9**
TTA IAmb IAmb 01 44 22.3
comp=Z,94nm,0.9s
TTA **Tatalina** **64.43 336** ⇑P **P** **01 44 10.4 -3.2**
TTA **Tatalina** **64.43 336** P **P** **01 44 10.6 -3.0**
baz=120,SNR=44
TTA S **S** **01 52 51.1 -1.2**
baz=120
FALS **False Pass** **64.48 326** P P 01 44 10.0 -3.9
baz=110
FALS S **S** **01 52 52.0 -0.9**
baz=110
VAO **Valinhos** **64.68 121** *e*P **P** **01 44 16.4 +0.5**
H21K **Melozitna Rive** **64.73 340** P P 01 44 11.6 -3.9
baz=125,SNR=74
H21K S **S** **01 52 55.9 +0.2**
baz=125
RES **Resolute Bay** **64.74 3** P **P** **01 44 13.6 -1.8**
comp=Z,16nm,1.1s,baz=176,slow=11,SNR=28
RES LR LR 02 12 38.7
comp=Z,71µm,19.4s,baz=187,slow=36
RES **Resolute Bay** **64.74 3** P **P** **01 44 13.2 -2.1**
RES pmax pmax
comp=Z,32nm,0.9s
RES **Resolute Bay** **64.74 3** P **P** **01 44 13.2 -2.1**
RES **Resolute Bay** **64.74 3** ⇑P **P** **01 44 13.4 -1.9**
COLD **Coldfoot** **64.82 342** IAmb IAmb 01 44 26.2
comp=Z,104nm,1.2s
COLD **Coldfoot** **64.82 342** P **P** **01 44 13.1 -2.9**
baz=128,SNR=50
COLD S **S** **01 52 59.9 +3.1**
baz=128
NBMO **Morrinhos-CE** **64.93 98** *e*P **P** **01 44 18.8 +1.1**
PET01 **Itanhaem-SP** **64.95 123** *e*P **P** **01 44 18.2 +0.6**
NUUK **Nuuk** **65.06 22** *i*P **P** **01 44 18.5 +0.9**
NUUK IAmb IAmb 01 44 35.8
comp=Z,1µm,2.6s
NUUK **Nuuk** **65.06 22** ⇓P **P** **01 44 21.8 +4.2**
IVI **Ivigtut** **65.07 26** *i*P **P** **01 44 21.5 +3.8**
IVI IAmb IAmb 01 44 27.6
comp=Z,899nm,2.2s
TER01 **Tubaro-SC** **65.33 128** *e*P **P** **01 44 20.3 +0.3**
TOLK **Toolik Lake Re** **65.52 343** P P 01 44 16.7 -4.0
baz=129,SNR=63
TOLK S **S** **01 53 06.9 +1.4**
baz=129
AKUT **Akutan** **65.55 325** ⇑P **P** **01 44 20.5 -0.4**
GCSA **Galena City Sc** **65.68 338** P **P** **01 44 18.1 -3.5**
baz=120
GCSA S **S** **01 53 07.0 -0.3**
baz=120
DIAM **Diamantina, MG** **65.76 115** *e*P **P** **01 44 23.9 +0.8**
UNV **Unalaska Valle** **65.88 325** P P 01 44 19.5 -3.6
baz=106
UNV S **S** **01 53 08.9 -1.2**
baz=106
NBPB **Pedra_Branca-C** **65.88 101** *e*P **P** **01 44 24.5 +0.6**
PARB **Paraibuna** **65.94 121** *e*P **P** **01 44 24.5 +0.3**
NRS **Narsarsuaq** **66.26 27** IAMs_20 IAMs_20 02 16 47.3
comp=Z,20µm,20.0s
NBPN **Ponto Novo - B** **66.64 106** *e*P **P** **01 44 27.5 -1.2**
ESAR **Angra dos Reis** **66.82 120** *e*P **P** **01 44 30.1 +0.5**
SFJD **Kangerlussuaq** **66.91 20** P **P** **01 44 28.9 -0.5**
comp=Z,22nm,1.1s,baz=223,slow=9.1,SNR=6.0
SFJD LR LR 02 15 43.3
comp=Z,24µm,19.4s,baz=236,slow=38
SFJD **Kangerlussuaq** **66.91 20** P **P** **01 44 29.9 +0.4**
SFJD pmax pmax
comp=Z,155nm,1.5s
SFJD MLR MLR
comp=Z,24µm,20.0s
SFJD **Kangerlussuaq** **66.91 20** P **P** **01 44 29.9 +0.4**

SFJD IAmb IAmb 01 44 39.3
comp=Z,154nm,1.4s
SFJD Kangerlussuaq 66.91 20 IAMs_20 IAMs_20 02 15 31.5
comp=Z,24µm,20.0s
SFJD Kangerlussuaq 66.91 20 *i* P **P** **01 44 30.4 +1.0**
SFJD IAmb IAmb 01 44 38.9
comp=Z,100nm,1.4s
SFJD Kangerlussuaq 66.91 20 ⇓P **P** **01 44 32.8 +3.4**
NIKH Nikolski High 67.00 323 P P 01 44 25.6 -4.6
baz=104
NIKH S **S** **01 53 22.9 -0.9**
baz=104
NBMA Muriti-CE 67.11 102 *e*P **P** **01 44 32.2 +0.5**
MAN01 Angra dos Reis 67.17 120 *e*P **P** **01 44 32.8 +0.9**
ILULI Ilulissat 67.93 18 IAmb IAmb 01 44 53.5
comp=Z,79nm,1.0s
ILULI IAMs_20 IAMs_20 02 14 52.3
comp=Z,37µm,22.0s
GDU01 Guandu, BA 68.03 109 *e*P **P** **01 44 37.9 +0.4**
SJMB Sao Joao De Ma 68.11 115 *e*P **P** **01 44 38.2 +0.3**
DY2G Dye2 68.18 21 *i* P **P** **01 44 38.4 +0.6**
DY2G IAmb IAmb 01 44 47.4
comp=Z,359nm,1.5s
DUB01 Friburgo-RJ 68.24 119 *e*P **P** **01 44 38.8 +0.1**
CMC01 Camacan, BA 68.57 111 *e*P **P** **01 44 41.2 +0.4**
NUUG Nuugaatsiaq 68.63 15 *i* P **P** **01 44 39.4 -0.8**
NUUG IAmb IAmb 01 44 58.1
comp=Z,150nm,1.4s
GUA01 Guaratinga, BA 68.68 112 *e*P **P** **01 44 41.5 0.0**
CAM01 Campos-RJ 68.77 118 *e*P **P** **01 44 42.4 +0.5**
NAN01 Guarapari, ES 68.78 114 *e*P **P** **01 44 42.1 0.0**
SPIA Saint Paul Isl 68.83 328 P P 01 44 37.7 -3.9
baz=104
ANM Nome 68.88 336 IAmb IAmb 01 44 52.5
comp=Z,150nm,1.3s
ANM IAMs_20 IAMs_20 02 10 55.9
comp=Z,18µm,21.0s
ANM Nome 68.88 336 P **P** **01 44 38.6 -3.3**
baz=112,SNR=7.2
ANM S **S** **01 53 47.7 +1.8**
baz=112
NBLA Lagarto - SE 68.96 106 *e*P **P** **01 44 43.3 0.0**
TULEG Thule 68.99 8 IAmb IAmb 01 45 07.1
comp=Z,128nm,1.5s
TULEG Thule 68.99 8 *i* P **P** **01 44 41.0 -1.4**
TULEG IAmb IAmb 01 45 06.6
comp=Z,116nm,1.4s
TULEG Thule 68.99 8 ⇓P **P** **01 44 41.6 -0.7**
RIB01 Linhares ES 69.02 115 *e*P **P** **01 44 43.6 0.0**
A21K Barrow 69.07 344 P **P** **01 44 39.4 -3.5**
baz=123
A21K S **S** **01 53 46.4 -1.5**
baz=123
ALF01 Guarapari-ES 69.16 117 *e*P **P** **01 44 44.5 +0.1**
RDOG Red Dog Mine 69.38 340 P **P** **01 44 42.0 -3.0**
baz=115,SNR=6.6
RDOG S **S** **01 53 50.8 -1.0**
baz=115
RCBR Riachuelo 69.51 100 LR LR 02 14 18.6
comp=Z,59µm,19.0s,baz=70,slow=35
RCBR Riachuelo 69.51 100 P **P** **01 44 46.9 +0.1**
RCBR pmax pmax
comp=Z,88nm,1.2s
RCBR Riachuelo 69.51 100 P **P** **01 44 46.9 +0.1**
RCBR IAmb IAmb 01 45 00.6
comp=Z,88nm,1.2s
RCBR Riachuelo 69.51 100 *e*P **P** **01 44 46.9 +0.1**
ATKA Atka Island 70.03 322 ⇑P **P** **01 44 50.1 +0.9**
NBAN Anadia - AL 70.06 104 *e*P **P** **01 44 50.5 +0.3**
NBPV Pedro Velho 70.23 101 *e*P **P** **01 44 51.7 +0.4**
TNA Tin City 70.25 337 P **P** **01 44 47.1 -3.2**
baz=110
TNA S **S** **01 54 04.9 +3.0**
baz=110
H07S1 FLORES T-PHASE 70.25 52 *e*P **P** **01 44 53.6 +2.6**
H07N1 FLORES T-PHASE 70.34 51 *e*P **P** **01 44 52.9 +1.4**
EUNU Eureka 70.41 3 P **P** **01 44 50.5 -0.7**
EUNU IAmb IAmb 01 45 17.8
comp=Z,162nm,1.4s
MIDW Midway 70.81 296 P **P** **01 44 56.8 +2.3**
MIDW IAMs_20 IAMs_20 02 06 43.6
comp=Z,21µm,21.0s
NBRF Rio Formoso - 70.92 103 *e*P **P** **01 44 56.1 +0.8**
ANGG Ammassalik, Gr 71.12 24 IAmb IAmb 01 45 05.1
comp=Z,118nm,1.1s
ANGG IAMs_20 IAMs_20 02 16 25.6
comp=Z,23µm,20.0s
ANGG Ammassalik, Gr 71.12 24 *i* P **P** **01 44 55.5 -0.1**
ANGG IAmb IAmb 01 45 04.7
comp=Z,123nm,1.1s
ANGG Ammassalik, Gr 71.12 24 ⇓P **P** **01 44 55.0 -0.6**
USHA Ushuaia 71.23 159 LR LR 02 09 53.0
comp=Z,69µm,19.9s,baz=326,slow=31
GAMB Gambell 71.25 334 IAmb IAmb 01 45 18.2
comp=Z,124nm,1.4s
GAMB Gambell 71.25 334 P **P** **01 44 54.2 -2.2**
baz=106
GAMB S **S** **01 54 17.4 +3.7**
baz=106
AFI Afiamalu 71.47 252 LR LR 02 08 31.3
comp=Z,4µm,20.7s,baz=72,slow=29
ADK Adak 71.50 321 P **P** **01 44 58.3 +0.1**
ADK pmax pmax
comp=Z,290nm,1.4s
ADK Adak 71.50 321 P **P** **01 44 58.3 +0.1**
ADK Adak 71.50 321 IAMs_20 IAMs_20 02 09 34.3
comp=Z,29µm,20.0s
ADK Adak 71.50 321 ⇓P **P** **01 44 57.9 -0.3**
ICESG Greenland Ices 71.53 20 *i* P **P** **01 44 57.6 -1.0**
ICESG IAmb IAmb 01 45 16.1
comp=Z,294nm,1.2s
CALA Caldeira 72.18 53 *e*P **P** **01 45 03.5 +0.8**
comp=Z,332nm,1.6s
PICO Pico 72.39 53 *e*P **P** **01 45 06.0 +2.1**
comp=Z,217nm,1.6s
PPNO Prainha do Nor 72.52 53 *e*P **P** **01 45 06.6 +1.9**
comp=Z,285nm,2.0s
ROSA Rosais 72.54 53 *e*P **P** **01 45 06.2 +1.5**
comp=Z,166nm,1.5s
PID Ribeirinha 72.63 53 *e*P **P** **01 45 07.8 +2.5**
comp=Z,375nm,1.8s
PMAN Manadas 72.66 53 *e*P **P** **01 45 06.8 +1.4**
comp=Z,143nm,2.0s
SRBC Serra Branca 72.70 52 *e*P **P** **01 45 08.5 +2.8**
comp=Z,608nm,1.8s
PGRA Graciosa 72.75 52 *e*P **P** **01 45 07.0 +1.0**
comp=Z,343nm,1.4s
EFI East Falkland 73.09 152 *i* P **P** **01 45 06.1 -1.5**
EFI pmax pmax
comp=Z,268nm,2.0s
ADH Angra Heroismo 73.33 53 *e*P **P** **01 45 11.3 +1.9**
comp=Z,206nm,1.2s
PAGU Agualva, Azore 73.37 53 *e*P **P** **01 45 09.1 -0.5**
comp=Z,329nm,1.5s
PSET Sete Cidades 74.52 54 *e*P **P** **01 45 18.0 +1.5**
comp=Z,514nm,1.8s
PDA Ponta Delgada 74.57 54 *e*P **P** **01 45 17.5 +0.8**
comp=Z,280nm,1.6s
GRON Grota Negra 74.67 54 *e*P **P** **01 45 19.9 +2.5**
comp=Z,397nm,1.4s
CMLA Cha da Macela 74.68 54 P **P** **01 45 17.7 +0.3**
CMLA pmax pmax
comp=Z,234nm,1.3s
CMLA Cha da Macela 74.68 54 P **P** **01 45 17.7 +0.3**
PCALD Caldeiras da R 74.71 54 *e*P **P** **01 45 20.9 +3.4**
comp=Z,444nm,1.9s
BART Pico Bartolome 74.96 54 *e*P **P** **01 45 19.6 +0.5**
comp=Z,400nm,1.1s
PSMA Santa Maria 75.01 54 *e*P **P** **01 45 21.7 +2.4**
comp=Z,209nm,1.8s
PSMN Pico do Norte, 75.06 54 *e*P **P** **01 45 20.4 +0.8**
comp=Z,275nm,1.5s
SHEM Shemya Is, Ala 77.20 322 LR LR 02 12 18.7
comp=Z,24µm,20.9s,baz=83,slow=30
BORG Borgarnes 77.73 26 P **P** **01 45 37.6 +3.5**
comp=Z,28nm,1.0s,baz=196,slow=4.6,SNR=3.7
BORG LR LR 02 20 35.1
comp=Z,20µm,19.1s,baz=273,slow=36
BORG Borgarnes 77.73 26 P **P** **01 45 35.0 +0.9**
BORG pmax pmax
comp=Z,97nm,1.3s
BORG MLR MLR
comp=Z,19µm,19.0s
BORG Borgarnes 77.73 26 P **P** **01 45 35.0 +0.9**
BORG IAmb IAmb 01 45 52.3
comp=Z,96nm,1.2s

BORG Borgarnes 77.73 26 IAMs_20 IAMs_20 02 20 14.7
comp=Z,19µm,19.0s
SCO Scoresbysund 77.82 20 IAMs_20 IAMs_20 02 19 43.7
comp=Z,29µm,22.0s
SACV Santiago Islan 78.11 77 P **P** **01 45 37.1 -0.1**
SACV IAmb IAmb 01 46 02.4
comp=Z,112nm,1.2s
DAG Danmarks Havn 79.12 14 *i* P **P** **01 45 41.9 +0.3**
DAG IAmb IAmb 01 45 47.2
comp=Z,144nm,1.7s
DAG Danmarks Havn 79.12 14 ⇑P **P** **01 45 40.5 -1.1**
NOR Nord 79.64 9 *i* P **P** **01 45 45.2 +0.8**
NOR IAmb IAmb 01 46 14.8
comp=Z,222nm,1.8s
PMSA Palmer Station 80.42 164 P **P** **01 45 52.0 +3.3**
BILL Bilibino 80.64 338 *ce*P **P** **01 45 48.4 -1.6**
BILL *e* 01 48 57.4
BILL *i* S **S** **01 55 55.7 -1.4**
BILL pmax pmax
comp=Z,64nm,1.7s
BILL MLR MLR
comp=Z,14µm,19.0s
BILL Bilibino 80.64 338 P **P** **01 45 49.3 -0.7**
BILL IAmb IAmb 01 46 08.3
comp=Z,122nm,1.5s
BILL IAMs_20 IAMs_20 02 18 29.7
comp=Z,14µm,20.0s
RAO Raoul Island 81.29 238 LR LR 02 12 12.5
comp=Z,6µm,20.7s,baz=73,slow=29
PMOZ Porto Moniz, M 81.81 58 *e*P **P** **01 45 58.7 +1.6**
comp=Z,118nm,2.0s
PMOZ Porto Moniz, M 81.81 58 *e*S **S** **01 56 18.1 +7.3**
PMOZ Porto Moniz, M 81.81 58 *e*LQ LQ 02 07 42.5
PMOZ *e*LR LR 02 11 50.6
comp=Z,18µm,22.0s
MSVF Nonsavu 81.91 250 LR LR 02 12 48.8
comp=Z,8µm,22.0s,baz=81,slow=29
MSVF Nonsavu 81.91 250 *i* P **P** **01 45 57.5 -0.3**
MSVF pmax pmax
comp=Z,126nm,1.6s
MSVF Nonsavu 81.91 250 P **P** **01 45 59.6 +1.8**
MSVF IAmb IAmb 01 46 15.9
comp=Z,113nm,1.5s
PMAR Madeira 82.06 58 *e*P **P** **01 46 01.0 +2.5**
comp=Z,185nm,1.7s
FUL Funchal 82.09 58 *e*P **P** **01 46 01.0 +2.6**
comp=Z,86nm,1.9s
FUL Funchal 82.09 58 *e*PP PP 01 48 46.4 -20
JMIC Jan Mayen 82.25 19 *e*P **P** **01 45 59.5 +1.0**
JMIC IVmB_BB 01 46 26.8
comp=Z,8µm,3.4s
JMIC *e*S **S** **01 56 13.5 -0.2**
JMIC *e*SS **SS** **02 01 36.7 +3.5**
JMIC IVMs_BB IVMs_BB 02 23 38.3
comp=Z,14µm,18.8s
SMAI Ant Ant 82.31 167 P **P** **01 46 00.2 +1.5**
SMAI IAmb IAmb 01 46 09.6
comp=Z,88nm,1.1s
PMPST Porto Santo, M 82.50 58 *e*P **P** **01 46 02.5 +1.9**
comp=Z,228nm,2.0s
PMPS Porto Santo 82.50 58 *e*P **P** **01 46 02.6 +2.0**
comp=Z,315nm,1.8s
VAL Valentia 84.34 38 P **P** **01 46 10.1 +0.5**
MBO M'Bour 84.57 76 IAMs_20 IAMs_20 02 18 55.3
comp=Z,16µm,21.0s
KBS Kingsbay 84.93 10 P **P** **01 46 12.9 +0.8**
KBS pmax pmax
comp=Z,123nm,1.3s
KBS MLR MLR
comp=Z,50µm,21.0s
KBS Kingsbay 84.93 10 P **P** **01 46 12.9 +0.8**
KBS IAmb IAmb 01 46 19.1
comp=Z,123nm,1.3s
KBS Kingsbay 84.93 10 *e*P **P** **01 46 14.8 +2.7**
KBS IAmb IAmb 01 46 18.5
comp=Z,291nm,1.3s
KBS Kingsbay 84.93 10 ⇓P **P** **01 46 13.0 +0.9**
HOPE Hope Point 85.37 147 P **P** **01 46 15.8 +1.2**
H11N3 WAKE ISLAND Hy 85.93 289 T T 03 22 51.6
baz=73,slow=74,SNR=59
H11N2 WAKE ISLAND Hy 85.94 289 T T 03 22 51.6
SNR=51
H11N1 WAKE ISLAND Hy 85.95 289 T T 03 22 51.6
baz=80,slow=74,SNR=46
SPA0 Spitsbergen Ar 86.07 10 *e*P **P** **01 46 18.3 +0.4**
SPA0 *e*SKSac **SKSac** **01 56 43.1 -0.5**
SPA0 *e*SS **SS** **02 02 32.9 +3.6**
SPA0 IVMs_BB IVMs_BB 02 24 54.8
comp=Z,16µm,21.0s
SPITS Spitsbergen Ar 86.07 10 LR LR 02 25 19.0
comp=Z,48µm,21.5s,baz=357,slow=36
CLGH Cloghs, Cushen 86.19 35 *e*P **P** **01 46 19.4 +0.6**
CLGH IAMs_20 IAMs_20 02 21 46.9
comp=Z,24µm,21.5s
WAKE Wake Island 86.24 289 P **P** **01 46 22.4 +2.7**
WAKE Wake Island 86.24 289 IAMs_20 IAMs_20 02 15 50.2
comp=Z,16µm,20.0s
H11S2 WAKE ISLAND Hy 86.32 288 T T 03 24 03.1
baz=101,slow=75,SNR=89
H11S1 WAKE ISLAND Hy 86.32 288 T T 03 24 03.1
baz=101,slow=75,SNR=80
H11S3 WAKE ISLAND Hy 86.33 288 T T 03 24 03.1
baz=101,slow=75,SNR=52
IWEX Carrickbyrne, 86.36 38 *e*P **P** **01 46 19.4 -0.3**
IWEX IAMs_20 IAMs_20 02 19 55.9
comp=Z,29µm,26.3s
PET Petropavlovsk 86.47 323 *ci* P **P** **01 46 17.6 -2.6**
PET *e* 01 49 42.8
PET *e*S **S** **01 56 49.1 -7.4**
PET *e*PS 01 57 47.3
PET *e*PPS PPS 01 58 12.2
PET pmax pmax
comp=Z,2µm,13.1s
PET pmax pmax
comp=Z,800nm,12.8s
PET pmax pmax
comp=Z,85nm,1.7s
PET smax smax
comp=E,7µm,19.2s
PET smax smax
comp=E,5µm,16.1s
PET Petropavlovsk 86.47 323 P **P** **01 46 22.2 +2.0**
PET IAmb IAmb 01 46 45.4
comp=Z,144nm,1.5s
PET IAMs_20 IAMs_20 02 17 00.8
comp=Z,18µm,22.0s
PET Petropavlovsk 86.47 323 ⇓P **P** **01 46 22.9 +2.7**
HSPB Hornsund (broa 86.52 11 *e*P **P** **01 46 24.2 +4.1**
HSPB Hornsund (broa 86.52 11 *e*P **P** **01 46 20.9 +0.9**
HSPB IVmBBB 01 46 26.9
comp=Z,977nm,3.9s
HSPB *e*SKSac **SKSac** **01 56 46.8 +0.4**
HSPB *e*SS **SS** **02 02 37.7 +1.8**
HSPB IVMs_BB IVMs_BB 02 27 36.3
comp=Z,13µm,17.3s
PEA0B Petropavlovsk- 87.01 323 P **P** **01 46 22.5 -0.4**
PEA0B pmax pmax
comp=Z,96nm,1.2s
PEA0B Petropavlovsk- 87.01 323 P **P** **01 46 22.5 -0.4**
PEA0B IAmb IAmb 01 46 32.8
comp=Z,96nm,1.1s
PETK Petropavlovsk- 87.01 323 P **P** **01 46 20.9 -2.0**
comp=Z,36nm,0.9s,baz=94,slow=8.9,SNR=23
PETK LR LR 02 18 23.8
comp=Z,12µm,20.9s,baz=73,slow=31
SEY Seymchan 87.24 334 LR LR 02 19 26.4
comp=Z,24µm,21.2s,baz=64,slow=32
SEY Seymchan 87.24 334 *ce*P **P** **01 46 21.3 -2.5**
SEY pmax pmax
comp=Z,60nm,1.4s
IOMK Kirk Michael 87.24 35 *e*P **P** **01 46 22.2 -1.8**
IOMK IAMs_20 IAMs_20 02 18 24.8
comp=Z,53µm,26.0s
PMAFR Mafra 87.25 51 *e*P **P** **01 46 25.1 +0.7**
comp=Z,258nm,1.6s
PTO Porto 87.35 49 *e*P **P** **01 46 25.3 +0.5**
comp=Z,191nm,1.5s
PMST Lisbon--Monsan 87.36 51 *e*P **P** **01 46 26.1 +1.2**
comp=Z,259nm,1.7s
LIS Lisbon 87.39 51 *e*P **P** **01 46 25.3 +0.3**
LIS *e*SKSac **SKSac** **01 56 52.0 -1.2**
LIS IAMs_20 IAMs_20 02 10 14.7
comp=N,35µm,33.0s
LIS Lisbon 87.39 51 *e*P **P** **01 46 25.3 +0.3**

LIS *e* 01 56 51.9
PGAV Gavieira, Arco 87.43 48 *e*P **P** **01 46 26.5 +1.2**
comp=N,273nm,1.7s
PGAV Gavieira, Arco 87.43 48 *e*PP PP 01 49 48.5 -1.2
PGAV *e*S **S** **01 56 58.5 -8.1**
PGAV Gavieira, Arco 87.43 48 *e*LQ LQ 02 09 33.3
PGAV *e*LR LR 02 14 35.1
comp=N,23µm,22.0s
WPS Cemaes, Angles 87.48 36 *e*P **P** **01 46 24.5 -0.6**
WPS IAMs_20 IAMs_20 02 18 15.9
comp=Z,29µm,28.8s
PSBE So Bento 87.51 50 *e*P **P** **01 46 26.7 +1.0**
comp=Z,193nm,2.2s
PSBE So Bento 87.51 50 *e*PP PP 01 49 43.4 -6.9
WLF1 Llynfaes 87.57 36 *e*P **P** **01 46 25.7 +0.1**
WLF1 IAMs_20 IAMs_20 02 21 38.5
comp=Z,57µm,24.4s
PACT Alcochete 87.63 51 *e*P **P** **01 46 27.5 +1.3**
comp=Z,446nm,2.2s
PCAS Casmilo, Conde 87.64 50 *e*P **P** **01 46 27.4 +1.2**
comp=Z,266nm,2.0s
PCAB Cabril 87.66 48 *e*P **P** **01 46 28.8 +2.4**
comp=Z,198nm,1.8s
COI Coimbra 87.67 50 *e*P **P** **01 46 29.1 +2.7**
comp=Z,152nm,2.0s
COI Coimbra 87.67 50 ⇓P **P** **01 46 28.1 +1.8**
RSBS Rosebush, Pemb 87.67 38 *e*P **P** **01 46 24.9 -1.2**
RSBS IAMs_20 IAMs_20 02 17 31.9
comp=Z,30µm,30.4s
URZ Urewera 87.72 231 LR LR 02 16 21.3
comp=Z,11µm,21.8s,baz=35,slow=29
URZ Urewera 87.72 231 P **P** **01 46 28.1 +1.6**
URZ IAmb IAmb 01 46 55.9
comp=Z,64nm,1.3s
EKA Eskdalemuir Ar 87.78 34 LR LR 02 25 16.5
comp=Z,25µm,21.6s,baz=290,slow=35
CCA1 Carnmenellis 87.78 39 *e*P **P** **01 46 25.1 -1.6**
CCA1 IAMs_20 IAMs_20 02 21 40.4
comp=Z,28µm,23.3s
POLO Lamas de Olo 87.90 48 *e*P **P** **01 46 29.4 +1.8**
comp=Z,84nm,1.8s
POLO Lamas de Olo 87.90 48 *e*PP PP 01 49 56.0 +2.5
PFVI Vila Bisbo 87.94 53 *e*P **P** **01 46 29.0 +1.3**
comp=Z,240nm,1.4s
PFVI Vila Bisbo 87.94 53 *e*PP PP 01 50 17.6 +24
PTEO Sao Teotonio 87.94 52 *e*P **P** **01 46 31.0 +3.3**
comp=Z,215nm,1.9s
PVIS Viseu 87.96 49 *e*P **P** **01 46 27.3 -0.5**
comp=Z,121nm,2.0s
PVRL Vila Real 87.98 49 *e*P P 01 46 34.4 +6.5
comp=Z,118nm,1.9s
PNCL Nicolau / Gran 87.99 52 *e*P **P** **01 46 29.4 +1.5**
comp=Z,115nm,2.0s
PNCL Nicolau / Gran 87.99 52 *e*PP PP 01 49 58.3 +4.2
KESW Keswick, Cumbr 87.99 35 *e*P **P** **01 46 23.7 -3.9**
KESW IAMs_20 IAMs_20 02 22 51.0
comp=Z,23µm,23.5s
PMTG Montargil 88.03 51 *e*P **P** **01 46 28.7 +0.6**
comp=Z,161nm,1.9s
MORF Marmelete 88.05 53 *e*P **P** **01 46 28.6 +0.3**
MORF *e*SKSac **SKSac** **01 56 56.1 -1.2**
MORF IAMs_20 IAMs_20 02 11 01.7
comp=N,55µm,53.4s
MORF Marmelete 88.05 53 *e*P **P** **01 46 30.8 +2.5**
comp=N,132nm,2.2s
MORF Marmelete 88.05 53 *e*PP PP 01 50 18.4 +24
MORF Marmelete 88.05 53 *e*P **P** **01 46 28.6 +0.3**
MORF *e* 01 56 56.1
LLW Llanuwchllyn 88.10 37 *e*P **P** **01 46 28.9 +0.7**
MTE Manteigas 88.28 49 *e*P **P** **01 46 31.3 +1.9**
comp=N,113nm,1.5s
MTE Manteigas 88.28 49 *e*PP PP 01 49 59.2 +2.7
MTE *e*S S 01 57 01.9 -13
MTE Manteigas 88.28 49 *e*LQ LQ 02 09 49.4
MTE *e*LR LR 02 14 55.6
comp=N,23µm,22.0s
MTE Manteigas 88.28 49 P **P** **01 46 30.3 +0.9**
MTE IAmb IAmb 01 46 51.3
comp=Z,57nm,1.1s
MTE Manteigas 88.28 49 ⇓P **P** **01 46 31.2 +1.9**
EVO Evora 88.30 51 P **P** **01 46 30.6 +1.2**
EVO S **S** **01 57 14.9 +0.1**
EVO Evora 88.30 51 *e*P **P** **01 46 31.6 +2.2**
comp=Z,138nm,1.9s
EVO Evora 88.30 51 *e*PP PP 01 50 17.3 +21
SBD1 Bryn Du 88.33 37 *e*P **P** **01 46 27.3 -2.0**
SBD1 IAMs_20 IAMs_20 02 22 11.6
comp=Z,31µm,24.6s
FOEL Foel Wylfa 88.37 37 *e*P **P** **01 46 26.9 -2.5**
FOEL IAMs_20 IAMs_20 02 22 01.2
comp=Z,29µm,23.2s
BKZ Black Stump Fm 88.41 230 IAMs_20 IAMs_20 02 15 30.5
comp=Z,14µm,21.0s
PCBR Castelo Branco 88.45 50 *e*P **P** **01 46 32.1 +2.0**
comp=Z,91nm,1.8s
PCVE Castro Verde 88.46 52 *e*P **P** **01 46 31.3 +1.1**
comp=Z,106nm,2.1s
PCVE Castro Verde 88.46 52 *e*PP PP 01 50 19.1 +21
MVO Moncorvo 88.51 49 *e*P **P** **01 46 29.6 -0.8**
comp=Z,156nm,1.9s
MVO Moncorvo 88.51 49 *e*PP PP 01 50 01.0 +2.7
MVO *e*S S 01 57 03.6 -13
MVO Moncorvo 88.51 49 *e*LQ LQ 02 09 53.8
MVO *e*LR LR 02 14 58.3
comp=Z,18µm,18.0s
PBEJ Beja 88.52 52 *e*P P 01 46 37.0 +6.5
comp=Z,11nm,1.7s
SKR Severo-Kuril's 88.53 321 *e*P P 01 46 14.3 -16
SKR *e*S S 01 56 59.1 -17
SKR pmax pmax
comp=Z,400nm,6.6s
SKR pmax pmax
comp=Z,500nm,7.8s
SKR MLR MLR
comp=Z,3µm,17.0s
SKR MLR MLR
comp=Z,3µm,18.0s
DYA Yadsworthy 88.53 39 *e*P **P** **01 46 29.6 -0.6**
DYA IAMs_20 IAMs_20 02 22 19.1
comp=Z,20µm,24.3s
PESTR Estremoz 88.56 51 *e*P **P** **01 46 30.4 -0.3**
comp=Z,49nm,1.7s
EDMD Edmundbyers 88.57 34 *e*P **P** **01 46 26.7 -3.6**
EDMD IAMs_20 IAMs_20 02 16 04.8
comp=Z,37µm,41.9s
PBRG Braganca 88.58 48 *e*P **P** **01 46 31.7 +0.9**
comp=Z,85nm,1.8s
PBRG Braganca 88.58 48 *e*PP PP 01 50 01.5 +2.6
HOPEN Hopen 88.59 11 *e*P **P** **01 46 29.8 -0.1**
HOPEN *e*SKSac **SKSac** **01 56 59.6 +0.7**
HOPEN *e*SS **SS** **02 03 06.8 +0.8**
HOPEN IVMs_BB IVMs_BB 02 26 30.8
comp=Z,14µm,21.1s
PMRV Marv??o 88.59 50 *e*P **P** **01 46 32.3 +1.5**
comp=Z,116nm,2.1s
PMRV Marv??o 88.59 50 *e*PP PP 01 50 12.0 +13
PMRV *e*S S 01 57 05.0 -13
PMRV Marv??o 88.59 50 *e*LQ LQ 02 09 58.6
PMRV *e*LR LR 02 14 50.1
comp=Z,28µm,22.0s
BJO1 Bjornoya 88.60 13 *e*P **P** **01 46 30.4 +0.4**
BJO1 IVmB_BB 01 46 37.1
comp=Z,2µm,3.9s
BJO1 *e*SKSac **SKSac** **01 57 00.0 +1.0**
BJO1 *e*SS **SS** **02 03 10.7 +4.5**
BJO1 IVMs_BB IVMs_BB 02 27 02.3
comp=Z,20µm,17.0s
PBDV Barranco-do-Ve 88.62 53 *e*P **P** **01 46 33.5 +2.5**
comp=Z,120nm,1.8s
PBDV Barranco-do-Ve 88.62 53 *e*PP PP 01 50 20.9 +22
HLM1 Long Mynd 88.65 37 *e*P **P** **01 46 29.6 -1.1**
HLM1 IAMs_20 IAMs_20 02 21 57.7
comp=Z,29µm,23.3s
MCH1 Michaelchurch 88.71 37 *e*P **P** **01 46 28.3 -2.8**
MCH1 IAMs_20 IAMs_20 02 21 22.4
comp=Z,25µm,23.3s
PVAQ Vaqueiros 88.76 52 *e*P **P** **01 46 32.6 +1.0**
comp=Z,83nm,1.8s
PVAQ Vaqueiros 88.76 52 *e*PP PP 01 49 57.5 -2.8
PVAQ *e*S **S** **01 57 16.4 -2.7**
PVAQ Vaqueiros 88.76 52 *e*LQ LQ 02 10 02.8
PVAQ *e*LR LR 02 14 50.0
comp=Z,17µm,22.0s
MONM Monmouth 88.87 38 *e*P **P** **01 46 30.8 -0.9**
MONM IAMs_20 IAMs_20 02 21 26.4

comp=Z,27µm,24.2s
BFZ Birch Farm 88.97 228 IAMs_20 IAMs_20 02 15 44.2
comp=Z,15µm,22.0s
HPK Haverah Park 89.00 35 *e*P **P** **01 46 33.0 +0.6**
HPK IAMs_20 IAMs_20 02 23 20.6
comp=Z,25µm,22.3s
MA2 Magadan 89.00 331 LR LR 02 22 02.1
comp=Z,7µm,19.5s,baz=58,slow=33
MA2 Magadan 89.00 331 *c*eP **P** **01 46 29.3 -3.0**
MA2 pmax pmax
comp=Z,33nm,1.0s
MA2 MLR MLR
comp=Z,14µm,21.0s
MA2 Magadan 89.00 331 P **P** **01 46 31.6 -0.7**
MA2 IAmb IAmb 01 46 50.1
comp=Z,79nm,1.5s
MA2 IAMs_20 IAMs_20 02 25 42.5
comp=Z,15µm,22.0s
MA2 Magadan 89.00 331 ⇑P **P** **01 46 30.1 -2.2**
MA2 ⇑P **PcP** **01 46 34.6 +0.9**
STRD Stroud 89.27 37 *e*P **P** **01 46 32.4 -1.3**
STRD IAMs_20 IAMs_20 02 27 27.0
comp=Z,25µm,17.3s
GDLE Glaisdale, N Y 89.33 35 *e*P **P** **01 46 30.6 -3.2**
GDLE IAMs_20 IAMs_20 02 25 23.6
comp=Z,24µm,24.1s
HIZ Hauiti 89.50 231 IAMs_20 IAMs_20 02 16 43.3
comp=Z,13µm,22.0s
CWF Charnwood Fore 89.52 36 *e*P **P** **01 46 33.8 -1.0**
CWF IAMs_20 IAMs_20 02 22 47.3
comp=Z,29µm,22.6s
SWN1 Swindon 89.56 38 *e*P **P** **01 46 32.4 -2.6**
SWN1 IAMs_20 IAMs_20 02 21 33.5
comp=Z,30µm,23.7s
AVE Averroes 89.84 56 P **P** **01 46 35.8 -1.0**
AVE S **S** **01 57 26.7 -2.7**
AVE Averroes 89.84 56 ⇓P **P** **01 46 38.3 +1.5**
LMK Market Rasen 89.88 36 *e*P **P** **01 46 35.9 -0.5**
LMK IAMs_20 IAMs_20 02 23 24.1
comp=Z,26µm,21.9s
JSA Saint Aubin 89.95 40 *e*P **P** **01 46 35.3 -1.5**
JSA IAMs_20 IAMs_20 02 22 56.9
comp=Z,38µm,22.0s
FOO Floro 89.95 27 *e*P **P** **01 46 36.9 +0.3**
FOO IVmBBB 01 46 52.0
comp=Z,793nm,3.6s
FOO *e*SKSac **SKSac** **01 57 07.3 -0.1**
FOO *e*SS **SS** **02 03 25.0 -1.3**
FOO IVMs_BB IVMs_BB 02 20 22.6
comp=Z,7µm,28.3s
WOL Wolverton 89.96 38 *e*P **P** **01 46 36.3 -0.6**
SUE Sulen 90.02 27 *e*P **P** **01 46 37.0 +0.1**
SUE *e*SKSac **SKSac** **01 57 08.0 +0.2**
SUE *e*SS **SS** **02 03 29.2 +1.8**
SUE IVMs_BB IVMs_BB 02 20 38.6
comp=Z,8µm,28.0s
SFS San Fernando 90.14 53 P **P** **01 46 39.4 +1.3**
SFS S **S** **01 57 33.8 +1.8**
SNZO South Karori 90.25 228 IAMs_20 IAMs_20 02 16 57.1
comp=Z,15µm,22.0s
ASK Askoy 90.43 28 *e*P **P** **01 46 38.0 -0.9**
ASK *e*SKSac **SKSac** **01 57 09.8 -0.4**
LOF Lofoten 90.45 19 *e*P **P** **01 46 39.1 +0.2**
LOF *e*SKSac **SKSac** **01 57 10.5 +0.3**
LOF IVMs_BB IVMs_BB 02 28 30.2
comp=Z,10µm,13.8s
BER Bergen 90.53 28 *e*P **P** **01 46 39.5 +0.1**
BER IVmB_BB 01 46 45.6
comp=Z,472nm,2.3s
BER *e*SKSac **SKSac** **01 57 11.0 +0.2**
BER *e*SS **SS** **02 03 36.3 +1.5**
BER IVMs_BB IVMs_BB 02 20 32.3
comp=Z,6µm,29.4s
AKN Aaknes 90.59 26 *e*P **P** **01 46 39.2 -0.5**
AKN *e*SKSac **SKSac** **01 57 08.4 -2.8**
AKN IVMs_BB IVMs_BB 02 18 48.9
comp=Z,11µm,43.2s
HYA Hoyanger 90.63 27 *e*P **P** **01 46 40.2 +0.4**
HYA *e*SKSac **SKSac** **01 57 09.7 -1.6**
WACR West Acre 90.64 36 *e*P **P** **01 46 38.5 -1.6**
WACR IAMs_20 IAMs_20 02 23 33.4
comp=Z,31µm,22.3s
MOL Molde 90.67 26 *e*P **P** **01 46 40.2 +0.2**
MOL *e*SKSac **SKSac** **01 57 10.5 -1.1**
MOL *e*SS **SS** **02 03 38.8 +2.1**
MOL IVMs_BB IVMs_BB 02 19 51.1
comp=Z,13µm,37.8s
PAB San Pablo 90.87 50 P **P** **01 46 41.9 +0.4**
PAB pmax pmax
comp=Z,51nm,1.5s
PAB MLR MLR
comp=Z,24µm,19.0s
PAB San Pablo 90.87 50 P **P** **01 46 41.9 +0.4**
PAB San Pablo 90.87 50 ⇑P **P** **01 46 42.2 +0.6**
PAB ⇑P **PcP** **01 46 42.5 -0.1**
ASCN Ascension 90.88 98 IAMs_20 IAMs_20 02 24 22.6
comp=Z,15µm,20.0s
KMY Karmoy 90.92 29 *e*P **P** **01 46 41.2 0.0**
HMNX Herstmonceux 91.03 38 *e*P **P** **01 46 40.3 -1.6**
HMNX IAMs_20 IAMs_20 02 27 26.2
comp=Z,24µm,19.1s
STEI Steigen 91.11 19 *e*P **P** **01 46 42.6 +0.7**
STEI *e*SKSac **SKSac** **01 57 14.3 +0.4**
STEI *e*SS **SS** **02 03 42.8 +0.1**
STEI IVMs_BB IVMs_BB 02 25 31.3
comp=Z,10µm,21.3s
ESDC Sonseca Array 91.12 50 P **P** **01 46 42.0 -0.7**
comp=Z,5.1nm,1.1s,baz=295,slow=4.6,SNR=13
ESDC LR LR 02 21 30.1
comp=Z,24µm,21.9s,baz=283,slow=32
ODD1 Odda 91.31 28 *e*P **P** **01 46 43.2 +0.1**
ODD1 *e*SKSac **SKSac** **01 57 15.2 -0.3**
ODD1 *e*SS **SS** **02 03 47.0 +0.8**
TRO Tromso 91.33 17 *e*P **P** **01 46 42.0 -0.9**
TRO *e*SKSac **SKSac** **01 57 16.4 +1.3**
TRO *e*SS **SS** **02 03 48.5 +2.8**
TRO IVMs_BB IVMs_BB 02 25 32.1
comp=Z,7µm,25.1s
TIXI Tiksi 91.33 345 *d i*P **P** **01 46 40.7 -2.2**
TIXI pmax pmax
comp=Z,95nm,1.1s
TIXI MLR MLR
comp=Z,23µm,21.0s
TIXI Tiksi 91.33 345 P **P** **01 46 41.5 -1.3**
TIXI IAmb IAmb 01 46 47.6
comp=Z,81nm,1.0s
TIXI Tiksi 91.33 345 ⇑P **P** **01 46 40.7 -2.2**
TIXI ⇑P **PcP** **01 46 41.7 -2.1**
KHZ Kahutara 91.34 227 IAMs_20 IAMs_20 02 16 53.0
comp=Z,13µm,22.0s
FAUS Fauske 91.41 20 *e*P **P** **01 46 43.8 +0.5**
FAUS *e*SKSac **SKSac** **01 57 16.3 +0.7**
FAUS *e*SS **SS** **02 03 47.4 +0.3**
FAUS IVMs_BB IVMs_BB 02 25 54.5
comp=Z,8µm,21.6s
BLS5 Blasjo 91.42 29 *e*P **P** **01 46 44.5 +0.9**
BLS5 IVmB_BB 01 46 49.9
comp=Z,870nm,5.0s
BLS5 *e*SKSac **SKSac** **01 57 14.3 -1.8**
BLS5 *e*SS **SS** **02 03 49.1 +1.4**
BLS5 IVMs_BB IVMs_BB 02 20 38.3
comp=Z,8µm,28.8s
EMAL Malaga-Limoner 91.46 52 P **P** **01 46 45.9 +1.6**
EMAL S **S** **01 57 41.7 -2.4**
UCM Universidad Co 91.50 49 P **P** **01 46 45.4 +1.0**
UCM S **S** **01 57 45.4 +0.9**
TBLU Trondheim 91.51 24 *e*P **P** **01 46 44.9 +1.1**
TBLU *e*SKSac **SKSac** **01 57 15.2 -1.2**
TBLU IVMs_BB IVMs_BB 02 21 05.8
comp=Z,13µm,35.8s
DOMB Dombas 91.53 26 *e*P **P** **01 46 43.9 -0.2**
DOMB IVmB_BB 01 47 28.0
comp=Z,825nm,3.1s
DOMB *e*SKSac **SKSac** **01 57 11.4 -5.3**
DOMB *e*SS **SS** **02 03 48.4 -0.9**
DOMB IVMs_BB IVMs_BB 02 19 15.4
comp=Z,11µm,43.5s
NSS Namsos 91.61 23 *e*P **P** **01 46 44.1 -0.2**
NSS IVmB_BB 01 46 50.1
comp=Z,734nm,3.8s
NSS *e*SKSac **SKSac** **01 57 14.9 -2.0**
NSS *e*SS **SS** **02 03 52.4 +2.3**
NSS IVMs_BB IVMs_BB 02 23 40.4
comp=Z,11µm,27.7s

IFR Ifrane 91.66 56 P **P** **01 46 44.8 -0.6**
IFR S **S** **01 57 43.7 -2.8**
THZ Tophouse 91.67 228 IAMs_20 IAMs_20 02 18 24.6
comp=Z,21µm,22.0s
MOR8 Moi Rana 91.73 21 *e*P **P** **01 46 45.5 +0.6**
MOR8 IVmBBB 01 46 50.5
comp=Z,478nm,4.2s
MOR8 *e*SKSac **SKSac** **01 57 16.8 -0.8**
MOR8 *e*SS **SS** **02 03 54.4 +2.5**
MOR8 IVMs_BB IVMs_BB 02 23 48.8
comp=Z,7µm,23.2s
QRZ Quartz Range 91.75 229 IAMs_20 IAMs_20 02 18 31.9
comp=Z,13µm,21.0s
SKAR Skarslia 91.77 27 *e*P **P** **01 46 44.9 -0.3**
SKAR IVmB_BB 01 46 51.0
comp=Z,894nm,4.2s
SKAR *e*SKSac **SKSac** **01 57 16.9 -1.2**
SKAR *e*SS **SS** **02 03 54.1 +1.3**
SKAR IVMs_BB IVMs_BB 02 21 25.7
comp=Z,8µm,31.3s
JETT Jettan, Norway 91.80 17 *e*P **P** **01 46 45.3 +0.1**
JETT *e*SKSac **SKSac** **01 57 14.6 -3.3**
PVLZ Peæn de 91.94 54 P **P** **01 46 46.3 -0.2**
PVLZ S **S** **01 57 46.7 -1.8**
HAMF Hammerfest 92.03 15 *e*P **P** **01 46 46.0 -0.2**
HAMF IVmB_BB 01 47 07.2
comp=Z,1µm,3.4s
HAMF *e*SKSac **SKSac** **01 57 18.3 -0.8**
HAMF *e*SS **SS** **02 03 57.8 +1.8**
HAMF IVMs_BB IVMs_BB 02 28 21.7
comp=Z,11µm,19.7s
SNART Snartemo 92.20 30 *e*P **P** **01 46 47.2 +0.1**
MQZ McQueen's Vall 92.25 226 IAMs_20 IAMs_20 02 21 12.9
comp=Z,14µm,18.0s
LTZ Lake Taylor 92.33 227 IAMs_20 IAMs_20 02 20 57.2
comp=Z,11µm,19.0s
OXZ Oxford 92.61 227 IAMs_20 IAMs_20 02 20 41.5
comp=Z,14µm,19.0s
KONO Kongsberg 92.79 28 P **P** **01 46 49.8 -0.1**
KONO pmax pmax
comp=Z,25nm,1.2s
KONO MLR MLR
comp=Z,18µm,18.0s
KONO Kongsberg 92.79 28 P **P** **01 46 49.8 -0.1**
KONO Kongsberg 92.79 28 IAMs_20 IAMs_20 02 32 04.9
comp=Z,18µm,18.0s
HOMB Homborsund 92.86 29 *e*P P 01 46 45.6 -4.5
HOMB IVmB_BB 01 47 03.4
comp=Z,669nm,4.0s
HOMB *e*SKSac **SKSac** **01 57 22.8 -1.3**
HOMB *e*SS **SS** **02 04 10.5 +2.2**
HOMB IVMs_BB IVMs_BB 02 20 58.3
comp=Z,8µm,34.9s
NB2 NORSAR Subarra 92.90 26 P **P** **01 46 48.7 -1.7**
comp=Z,180nm,2.5s,baz=303,slow=4.6
NB2 NORSAR Subarra 92.90 26 P **P** **01 46 48.7 -1.7**
baz=303,slow=4.6
NOA NORSAR Array B 92.90 26 P **P** **01 46 48.7 -1.7**
comp=Z,2.2nm,1.1s,baz=253,slow=11,SNR=4.5
NOA LR LR 02 29 13.8
comp=Z,9µm,19.5s,baz=300,slow=36
KTK1 Kautokeino 92.93 17 *e*P **P** **01 46 51.1 +0.8**
KTK1 IVmB_BB 01 46 57.7
comp=Z,756nm,3.8s
KTK1 *e*SKSac **SKSac** **01 57 25.1 +0.9**
KTK1 *e*SS **SS** **02 04 11.0 +2.1**
KTK1 IVMs_BB IVMs_BB 02 27 40.9
comp=Z,6µm,21.4s
WMELI Melilla 92.98 54 P **P** **01 46 51.1 -0.2**
WMELI S **S** **01 57 49.7 -8.1**
CLF Chambon-Foret 93.10 40 IAMs_20 IAMs_20 02 26 50.9
comp=Z,21µm,21.0s
OSL Oslo 93.18 27 *e*P **P** **01 46 51.8 +0.2**
OSL IVmBBB 01 46 57.8
comp=Z,575nm,4.5s
OSL *e*SKSac **SKSac** **01 57 26.9 +1.1**
OSL *e*SS **SS** **02 04 11.9 -0.8**
OSL IVMs_BB IVMs_BB 02 21 50.5
comp=Z,7µm,31.0s
ARA0 ARCESS Array S 93.22 16 *e*P **P** **01 46 50.8 -0.9**
ARA0 IVmB_BB 01 46 55.3
comp=Z,440nm,1.9s
ARA0 *e*SKSac **SKSac** **01 57 24.5 -1.3**
ARA0 *e*SS **SS** **02 04 16.9 +3.8**
ARA0 IVMs_BB IVMs_BB 02 28 13.1
comp=Z,8µm,20.5s
ARCES ARCESS Array B 93.22 16 P **P** **01 46 50.4 -1.3**
comp=Z,18nm,1.1s,baz=318,slow=1.6,SNR=11
ARCES PP **PP** **01 50 39.2 +4.6**
comp=Z,4.6nm,0.9s,baz=316,slow=6.8,SNR=5.3
ARCES LR LR 02 28 27.2
comp=Z,27µm,21.7s,baz=318,slow=35
ARCES ARCESS Array B 93.22 16 P **P** **01 46 50.8 -0.9**
ARCES pmax pmax
comp=Z,36nm,1.3s
ARCES ARCESS Array B 93.22 16 P **P** **01 46 50.8 -0.9**
RPZ Rata Peaks 93.39 226 LR LR 02 21 06.4
comp=Z,11µm,19.7s,baz=70,slow=31
RPZ Rata Peaks 93.39 226 IAMs_20 IAMs_20 02 20 45.0
comp=Z,12µm,19.0s
DZM Mont Dzumac 93.46 248 LR LR 02 19 33.9
comp=Z,7µm,21.0s,baz=88,slow=30
DOU Dourbes 93.85 38 *dx* **P** **01 46 59.2 +4.3**
BMRD Maredsous 93.88 38 *d*PcP **P** **01 46 55.0 -0.1**
CART Cartagena 93.90 51 P **P** **01 46 56.9 +1.4**
CART S **S** **01 57 58.9 -7.0**
CART Cartagena 93.90 51 P **P** **01 46 55.9 +0.4**
CART IAmb IAmb 01 47 04.0
comp=Z,88nm,1.5s
BGES Gesves 94.05 37 *d*PcP **P** **01 46 55.5 -0.3**
BCLA Clavier 94.16 37 *d*PcP **P** **01 46 56.7 +0.3**
RCHB Rochefort 94.21 38 *d*PcP **P** **01 46 56.5 -0.1**
FOZ Fox Glacier 94.24 227 IAMs_20 IAMs_20 02 21 42.6
comp=Z,15µm,19.0s
HFS Hagfors 94.41 26 LR LR 02 30 16.8
comp=Z,13µm,18.8s,baz=304,slow=36
BHOU Houvegnez 94.61 37 *d*PcP **P** **01 46 57.9 -0.5**
KUR Kuril'sk 95.43 318 *eP* **P** **01 47 04.1 +1.8**
KUR *i* 01 50 50.5
KUR S **SKSac** **01 57 36.0 -2.6**
KUR *i* SP **SP** **01 59 35.0 -0.6**
KUR MLR MLR
comp=N,4µm,19.0s
KUR MLR MLR
comp=Z,6µm,19.0s
KUR MLR MLR
comp=E,5µm,18.0s
SSB Saint Sauveur 95.50 42 IAMs_20 IAMs_20 02 23 58.5
comp=Z,16µm,21.0s
BELA Belgrano 2 95.56 169 P **P** **01 47 04.6 +2.5**
MLZ Mavora Lakes 95.73 225 IAMs_20 IAMs_20 02 21 43.0
comp=Z,18µm,20.0s
NKL Nikolayevsk 96.64 327 *e*P P 01 46 58.3 -9.3
NKL *e*S **SKSac** **01 57 41.6 -3.0**
NKL pmax pmax
comp=E,3.0nm,0.6s
NKL pmax pmax
comp=N,1.0nm,1.0s
NKL smax smax
comp=E,3.0nm,1.1s
NKL smax smax
comp=N,2.0nm,5.4s
APA Apatity 96.68 15 ⇓*i*P **P** **01 47 07.1 -0.4**
APA *i* 01 57 46.0
APA *i* S **S** **01 58 26.0 -2.8**
APA *i* PPS PPS 01 59 53.0
APA pmax pmax
comp=Z,6.0nm,1.1s
LVZ Lovozero 96.75 15 *i* P **P** **01 47 07.0 -0.9**
LVZ pmax pmax
comp=Z,37nm,1.3s
LVZ MLR MLR
comp=Z,16µm,18.0s
BFO Black Forest 96.78 38 P **P** **01 47 07.7 -0.8**
BFO pmax pmax
comp=Z,14nm,1.2s
BFO MLR MLR
comp=Z,26µm,21.0s
BFO Black Forest 96.78 38 P **P** **01 47 07.7 -0.8**
KOWA Kowa 96.87 74 P **P** **01 47 09.2 -0.2**
KOWA IAmb IAmb 01 47 27.3
comp=Z,38nm,1.2s
RGN Rugen 96.90 31 IAMs_20 IAMs_20 02 31 02.8
comp=Z,13µm,21.0s
SENIN Lac Senin/Sane 96.90 41 IAMs_20 IAMs_20 02 31 14.5

comp=Z,16µm,20.0s
YAK Yakutsk 97.00 338 *e*P **P** **01 47 10.3 +1.3**
YAK *e**PP **pwP** **01 47 15.4 -0.1**
YAK *e* 01 51 03.8
YAK *e*PPP PPP 01 53 08.6
YAK *e*S **SKSac** **01 57 47.0 +0.8**
YAK *e* 01 58 27.2
YAK *e*PS **PS** **01 59 54.9 +1.2**
YAK *e*SS **SS** **02 05 14.7 +7.8**
YAK pmax pmax
comp=Z,48nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,466nm,4.7s
YAK pmax pmax
comp=N,126nm,4.8s
YAK pmax pmax
comp=E,264nm,4.7s
YAK smax smax
comp=E,281nm,6.2s
YAK smax smax
comp=N,147nm,4.7s
YAK MLR MLR
comp=Z,12µm,20.0s
YAK MLR MLR
comp=N,9µm,22.0s
YAK MLR MLR
comp=E,5µm,18.0s
YAK Yakutsk 97.00 338 P **P** **01 47 08.6 -0.5**
YAK IAMs_20 IAMs_20 02 38 03.0
comp=Z,13µm,18.0s
MAHO Mahon 97.13 47 P **P** **01 47 11.9 +1.8**
MAHO S **S** **01 58 35.6 +1.9**
TIC Toumodi 97.48 82 *e*PKP2 **P** **01 47 12.2 -0.1**
LIC Lamto 97.56 82 *e*PKP2 **P** **01 47 13.3 +0.7**
comp=Z,25nm,1.0s
DBIC Dimbokro 97.64 82 P **P** **01 47 09.6 -3.3**
comp=Z,6.4nm,0.9s,baz=292,slow=0.6,SNR=4.5
DBIC LR LR 02 31 24.3
comp=Z,10µm,18.1s,baz=290,slow=36
KIC Kosan Boka 97.81 82 *e*PKP2 **P** **01 47 13.9 +0.1**
comp=Z,49nm,1.5s
GRFO Grafenberg 97.95 36 P **P** **01 47 13.5 -0.2**
GRFO pmax pmax
comp=Z,35nm,1.3s
GRFO MLR MLR
comp=Z,18µm,21.0s
GRFO Grafenberg 97.95 36 P **P** **01 47 13.5 -0.2**
GRFO IAmb IAmb 01 47 29.4
comp=Z,35nm,1.3s
GRFO IAMs_20 IAMs_20 02 29 24.9
comp=Z,18µm,21.0s
GRA1 Grafenberg Arr 97.95 36 IAMs_20 IAMs_20 02 29 24.9
comp=Z,18µm,22.0s
GRF Grafenberg Arr 97.95 36 *e*P **P** **01 47 14.4 +0.7**
comp=Z,292nm,3.2s,baz=290,slow=4.5
GRF *e*pP **pwP** **01 47 23.9 +3.8**
comp=Z,292nm,3.2s
GRF *e*L L 02 29 35.6
comp=Z,17µm,21.6s
YSS Yuzh-Sakhalins 98.08 321 *e*P **P** **01 47 14.0 -0.2**
YSS *e* 01 57 50.6
YSS *e*S **S** **01 58 38.0 -3.5**
YSS *e*PS **PS** **02 00 00.6 -5.5**
YSS *e*SS SS 02 05 36.4 +13
YSS pmax pmax
comp=Z,400nm,4.0s
YSS MLR MLR
comp=Z,6µm,16.0s
YSS Yuzh-Sakhalins 98.08 321 IAMs_20 IAMs_20 02 21 17.2
comp=Z,15µm,22.0s
DAVA Damuels 98.16 39 *e*P **P** **01 47 15.5 +0.6**
comp=Z,21nm,1.4s
TUE Stuetta 98.16 40 IAmb IAmb 01 47 37.0
comp=Z,40nm,1.5s
CLL Collm 98.24 34 ⇓*i*P **P** **01 47 14.8 -0.1**
CLL *e* 01 51 14.0
CLL *e* 01 57 48.0
CLL pmax pmax
comp=Z,17nm,1.5s
CLL MLR MLR
comp=Z,19µm,21.2s
CLL Collm 98.24 34 IAMs_20 IAMs_20 02 31 21.5
comp=Z,19µm,21.0s
CLL Collm 98.24 34 ⇓*i*Pdif **P** **01 47 14.8 -0.1**
comp=Z,17nm,1.5s
CLL *ex* x 01 47 18.0
comp=Z,44nm,1.8s
CLL *ex* x 01 47 29.0
comp=Z,35nm,1.5s
CLL *e*PP **PP** **01 51 14.0 0.0**
CLL *ex* x 01 51 27.0
CLL *e*PPP PPP 01 53 19.0
CLL *ex* x 01 56 36.0
CLL *e*SKSac **SKSac** **01 57 48.0 -5.0**
CLL *e*S **S** **01 58 42.0 -0.8**
CLL *e*PS PS 02 00 07.0 -0.7
CLL *e*PPS PPS 02 00 50.0
CLL *ex* x 02 02 12.0
CLL *e*SS **SS** **02 05 28.0 +2.9**
CLL *e*SSS SSS 02 09 30.0
CLL *e*SSSS 02 12 54.0
CLL LmV 02 31 00.0
comp=Z,19µm,21.2s
DAVOX Davos/Dischmat 98.37 39 LR LR 02 32 52.2
comp=Z,12µm,20.2s,baz=303,slow=36
NKC Novy Kostel 98.42 36 *e*PP **PP** **01 51 15.7 +0.2**
NKC AMS AMS 02 31 10.0
comp=Z,20µm,19.6s
RETA Reutte 98.62 39 *e*P **P** **01 47 17.2 +0.3**
comp=Z,15nm,1.2s
FIA1 FINESS Array S 98.66 22 IAmb IAmb 01 47 29.4
comp=Z,29nm,1.1s
FINES FINESS Array B 98.66 22 P **P** **01 47 15.8 -0.8**
comp=Z,9.9nm,1.0s,baz=239,slow=6.2,SNR=8.3
FINES PP **PP** **01 51 16.9 +0.1**
comp=Z,5.3nm,1.1s,baz=284,slow=16,SNR=4.2
FINES LR LR 02 32 02.6
comp=Z,12µm,21.3s,baz=308,slow=36
FINES FINESS Array B 98.66 22 P **P** **01 47 16.5 -0.1**
FINES FINESS Array B 98.66 22 P **P** **01 47 16.5 -0.1**
FETA Feichten 98.80 39 *e*P Pdif 01 47 18.7 +1.0
comp=Z,7.0nm,1.4s
MOTA Moosalm 98.89 39 *e*P **P** **01 47 18.7 +0.6**
comp=Z,24nm,1.6s
BRG Berggiesshubel 98.97 35 *e*P **P** **01 47 18.7 +0.5**
BRG Amp 01 47 24.6
comp=Z,14nm,1.2s
BRG *ex* x 01 47 32.4
BRG Amp 01 47 34.4
comp=Z,19nm,1.2s
BRG PP **PP** **01 51 20.5 +0.9**
BRG Amp 01 51 23.9
comp=Z,268nm,2.7s
BRG Berggiesshubel 98.97 35 SS SS 02 05 35.0 -0.3
BRG Amp 02 27 48.0
comp=N,15nm,25.1s
BRG Amp 02 27 55.0
comp=Z,22nm,23.3s
BRG Amp 02 28 01.0
comp=E,13nm,23.8s
BRG Berggiesshubel 98.97 35 *e*P **P** **01 47 18.7 +0.5**
BRG 01 51 20.5
BRG 01 58 01.0
BRG PS PS 02 00 21.0 +5.4
BRG SS SS 02 05 35.0 -0.3
BRG pmax pmax
comp=Z,14nm,1.2s
BRG pmax pmax
comp=Z,268nm,2.7s
SQTA Sankt Quirin 99.01 39 *e*P Pdif 01 47 19.7 +1.1
comp=Z,12nm,1.3s
WATA Walderalm 99.19 38 *e*P 01 47 20.2
comp=Z,16nm,1.4s
WTTA Wattenberg 99.26 39 *e*P **Pdif** **01 47 18.3 -1.5**
comp=Z,9.8nm,1.2s
ASAJ Asahikawa 99.33 318 LR LR 02 27 46.2
comp=Z,11µm,18.9s,baz=53,slow=33
PVCC Panska Ves 99.48 35 *e*SKS **SKSac** **01 57 59.8 +0.5**
PVCC AMS AMS 02 31 00.0
comp=Z,19µm,20.3s
GKP Gorka Klasztor 99.55 31 *e*P **Pdif** **01 47 22.2 +1.6**
KHC Kasperske Hory 99.58 36 *e*P **Pdif** **01 47 21.1 +0.1**

KHC					*e*			01 51 21.7	
KHC					*e*			01 57 57.9	
KHC					MLR	MLR			
	comp=Z,30µm,21.3s								
KHC	**Kasperske Hory**	**99.58**	**36**	*e*PDIFF	**Pdif**		**01 47 21.1**	**+0.1**	
KHC				*e*PP	**PP**		**01 51 21.7**	**-2.6**	
KHC				*e*SKS	**SKSac**		**01 57 57.9**	**-2.0**	
KHC				AMS	AMS		02 30 00.0		
	comp=Z,30µm,21.3s								
PRU	**Pruhonice**	**99.73**	**35**	*e*P	**Pdif**		**01 47 22.5**	**+0.9**	
PRU				MLR	MLR				
	comp=Z,17µm,17.1s								
PRU	**Pruhonice**	**99.73**	**35**	*e*PDIFF	**Pdif**		**01 47 22.5**	**+0.9**	
PRU				AMS	AMS		02 35 00.0		
	comp=Z,17µm,17.1s								
GEC2	**GERESS Array S**	**99.78**	**36**		**Pdif**		**01 47 21.4**	**-0.6**	
GERES	**GERESS Array B**	**99.78**	**36**	P	**Pdif**		**01 47 21.0**	**-1.0**	
	comp=Z,2.2nm,1.0s,baz=304,slow=2.6,SNR=12								
GERES				PP	**PP**		**01 51 23.1**	**-2.9**	
	comp=Z,2.2nm,1.0s,baz=335,slow=5.9,SNR=5.7								
GERES				PKKP	**PKKPbc**		**02 03 44.2**	**+0.2**	
	comp=Z,0.2nm,0.3s,baz=11,slow=41,SNR=3.3								
GERES				LR	LR		02 35 03.2		
	comp=Z,12µm,19.2s,baz=294,slow=37								
ABTA	**Abfaltersbach**	**100.02**	**39**	*e*P	**Pdif**		**01 47 23.8**	**+0.7**	
	comp=Z,12nm,1.4s								
QSPA	**South Pole Qui**	**100.08**	**180**	PP	**PP**		**01 51 31.5**	**+3.4**	
	comp=Z,3.7nm,1.3s,baz=226,slow=2.6,SNR=5.3								
QSPA	**South Pole Qui**	**100.08**	**180**	IAMs_20	IAMs_20		02 25 19.5		
	comp=Z,18µm,20.0s								
ZCCA	**Zocca**	**100.08**	**41**	Pdif	**Pdif**		**01 47 21.7**	**-1.7**	
ZCCA				IAmb	IAmb		01 47 40.1		
	comp=Z,68nm,1.3s								
CKRC	**Cesky Krumlov**	**100.15**	**36**	*e*SKS			01 58 05.4		
CKRC				AMS	AMS		02 29 40.0		
	comp=Z,28µm,21.5s								
BIOA	**Bad Ischl, Aus**	**100.28**	**38**	*e*P	**Pdif**		**01 47 24.5**	**+0.3**	
	comp=Z,15nm,1.3s								
CHVC	**Chvalec**	**100.28**	**34**	*e*PDIFF	**Pdif**		**01 47 24.6**	**+0.5**	
CHVC				AMS	AMS		02 31 50.0		
	comp=Z,27µm,21.7s								
KSP	**Ksiaz**	**100.29**	**34**	*e*P	**Pdif**		**01 47 24.8**	**+0.7**	
UPC	**Upice**	**100.30**	**34**	AMS	AMS		02 31 40.0		
	comp=Z,28µm,21.2s								
NRIK	**Noril'sk**	**100.33**	**356**	P	**Pdif**		**01 47 22.2**	**-1.7**	
	comp=Z,1.3nm,0.3s,baz=348,slow=6.7,SNR=4.4								
NRIK				PP	**PP**		**01 51 29.9**	**+0.6**	
	comp=Z,3.8nm,0.8s,baz=26,slow=4.2,SNR=6.0								
KBA	**Koelnbreinsper**	**100.38**	**38**	*e*P	**Pdif**		**01 47 24.5**	**-0.3**	
	comp=Z,15nm,1.4s								
OSTC	**Ostas**	**100.39**	**34**	*e*PDIFF	**Pdif**		**01 47 25.3**	**+0.8**	
OSTC				AMS	AMS		02 31 50.0		
	comp=Z,27µm,21.9s								
SHEL	**Horse Pasture**	**100.45**	**104**	IAMs_20	IAMs_20		02 27 54.5		
	comp=Z,16µm,22.0s								
DPC	**Dobruska-Polom**	**100.55**	**34**	*e*P	**Pdif**		**01 47 25.5**	**+0.2**	
DPC				MLR	MLR				
	comp=Z,25µm,20.8s								
DPC	**Dobruska-Polom**	**100.55**	**34**	*e*PDIFF	**Pdif**		**01 47 25.5**	**+0.2**	
DPC				AMS	AMS		02 31 50.0		
	comp=Z,25µm,20.8s								
MOA	**Molln**	**100.58**	**37**	*e*P	**Pdif**		**01 47 26.0**	**+0.5**	
	comp=Z,16nm,1.4s								
TREC	**Trest**	**100.60**	**35**	*e*SKS			01 58 11.8		
TREC				AMS	AMS		02 29 30.0		
	comp=Z,29µm,23.7s								
VNDA	**Vanda**	**100.74**	**193**	P	**Pdif**		**01 47 27.6**	**+2.2**	
	comp=Z,0.4nm,0.7s,baz=128,slow=8.6,SNR=2.3								
VNDA				PP	PP		01 51 43.2	+10	
	comp=Z,0.2nm,0.7s,baz=54,slow=0.8,SNR=3.2								
KRLC	**Kraliky**	**100.94**	**34**	*e*P	**Pdif**		**01 47 27.7**	**+0.6**	
KRLC				MLR	MLR				
	comp=Z,21µm,20.3s								
KRLC	**Kraliky**	**100.94**	**34**	*e*PDIFF	**Pdif**		**01 47 27.7**	**+0.6**	
KRLC				AMS	AMS		02 31 50.0		
	comp=Z,21µm,20.3s								
VSL	**Villasalto**	**100.95**	**46**	IAMs_20	IAMs_20		02 28 24.2		
	comp=Z,18µm,20.0s								
CADS	**Cadrg**	**101.01**	**39**	*i* SKSac	**SKSac**		**01 58 09.6**	**+2.6**	
CADS				*e*Sdiff	SKKSac		01 59 08.8	+26	
CADS				*i* SP	**SP**		**02 00 31.0**	**-5.0**	
CADS				*e*SS	**SS**		**02 06 05.5**	**+1.3**	
CADS				*e*			02 15 45.5		
VRAC	**Vranov**	**101.22**	**35**	*e*P	**Pdif**		**01 47 30.2**	**+1.9**	
KRUC	**Moravsky**	**101.23**	**35**	*e*P	**Pdif**		**01 47 28.6**	**+0.3**	
CONA	**Conrad Observa**	**101.49**	**37**	*e*P	**Pdif**		**01 47 30.3**	**+0.7**	
	comp=Z,11nm,1.5s								
MORC	**Moravsky Berou**	**101.52**	**34**	*i* P	**Pdif**		**01 47 28.6**	**-1.0**	
MORC	**Moravsky Berou**	**101.52**	**34**	Pdif	**Pdif**		**01 47 28.6**	**-1.0**	
MORC	**Moravsky Berou**	**101.52**	**34**	*e*P	**Pdif**		**01 47 29.8**	**+0.2**	
PABE	**Paberze**	**101.54**	**27**	IAMs_20	IAMs_20		02 34 46.2		
	comp=Z,14µm,20.0s								
LJU	**Ljubljana**	**101.58**	**39**	*e*Pdiff	**Pdif**		**01 47 31.1**	**+1.1**	
LJU				*e*			01 50 57.8		
LJU				*e*PP	**PP**		**01 51 36.3**	**-3.3**	
LJU				*e*SKSac	**SKSac**		**01 58 13.4**	**+3.7**	
LJU				*e*Sdiff	SKKSac		01 59 13.9	+27	
LJU				*e*SS	**SS**		**02 06 12.1**	**+0.1**	
LJU				IAMs_20	IAMs_20		02 26 37.6		
	comp=Z,16µm,24.3s								
SOKA	**Soboth**	**101.59**	**38**	*e*P	**Pdif**		**01 47 30.3**	**+0.3**	
	comp=Z,15nm,1.4s								
ARSA	**Arzberg**	**101.61**	**37**	*e*P	**Pdif**		**01 47 29.9**	**-0.2**	
	comp=Z,10nm,1.6s								
OKC	**Ostrava-Krasne**	**101.82**	**34**	AMS	AMS		02 32 30.0		
	comp=Z,17µm,21.2s								
RONA	**Rosalia, Austr**	**101.85**	**37**	*e*P	**Pdif**		**01 47 32.0**	**+0.8**	
	comp=Z,9.6nm,1.3s								
SOP	**Sopron**	**102.02**	**37**	P	**Pdif**		**01 47 29.7**	**-2.1**	
JAVC	**Velka Javorina**	**102.06**	**35**	*e*P	**Pdif**		**01 47 26.0**	**-6.1**	
SUW	**Suwalki**	**102.07**	**29**	IAMs_20	IAMs_20		02 34 27.4		
	comp=Z,13µm,21.0s								
ZST	**Bratislava**	**102.08**	**36**	*e*P	**Pdif**		**01 47 32.6**	**+0.5**	
ZST				*e*			01 51 40.9		
ZST	**Bratislava**	**102.08**	**36**	*e*PDIFF	**Pdif**		**01 47 32.6**	**+0.5**	
ZST				*e*PP	**PP**		**01 51 40.9**	**-2.3**	
MODS	**Modra-Piesok**	**102.09**	**36**	*e*P	**Pdif**		**01 47 32.3**	**+0.1**	
MODS				*e*			01 51 41.9		
MODS	**Modra-Piesok**	**102.09**	**36**	*e*PDIFF	**Pdif**		**01 47 32.3**	**+0.1**	
MODS				*e*PP	**PP**		**01 51 41.9**	**-1.4**	
BOJS	**Bojanci**	**102.28**	**39**	*e*Pdiff	**Pdif**		**01 47 36.0**	**+2.9**	
KOGS	**Kog**	**102.44**	**38**	*e*Pdiff	**Pdif**		**01 47 35.0**	**+1.3**	
KOGS				*e*SP	SP		02 00 45.8	-5.3	
OJC	**Ojcow**	**102.52**	**33**	*e*P	**Pdif**		**01 47 35.0**	**+0.9**	
TORD	**Torodi Ar. Bea**	**102.58**	**74**	P	**Pdif**		**01 47 34.4**	**-0.6**	
	comp=Z,0.7nm,0.3s,baz=292,slow=3.3,SNR=2.9								
TORD				PP	**PP**		**01 51 51.1**	**+2.9**	
	comp=Z,6.0nm,1.2s,baz=285,slow=6.6,SNR=5.1								
EGYH	**Egyhazaskeszo**	**102.60**	**37**	P	**PKiKP**		**01 51 50.2**	**-5.3**	
KOLL	**Kolacno**	**102.62**	**35**	*e*PP	**PP**		**01 51 47.1**	**-0.1**	
MPLH	**Magyarpolny**	**102.85**	**37**	P	**Pdif**		**01 47 36.5**	**+0.9**	
VYHS	**Vyhne**	**102.91**	**35**	*e*P	**Pdif**		**01 47 35.5**	**-0.3**	
VYHS	**Vyhne**	**102.91**	**35**	*e*PDIFF	**Pdif**		**01 47 35.5**	**-0.3**	
LANS	**Liptovska Anna**	**102.92**	**34**	*e*P	**Pdif**		**01 47 37.5**	**+1.6**	
LANS				*e*			01 51 51.2		
LANS	**Liptovska Anna**	**102.92**	**34**	*e*PDIFF	**Pdif**		**01 47 37.5**	**+1.6**	
LANS	**Liptovska Anna**	**102.92**	**34**	*e*PP	**PP**		**01 51 51.2**	**+1.7**	
SNAA	**Sanae**	**103.01**	**161**	Pdiff	**Pdif**		**01 47 36.0**	**+0.3**	
SNAA	**Sanae**	**103.01**	**161**	IAMs_20	IAMs_20		02 35 14.0		
	comp=Z,14µm,20.0s								
ZEA	**Zeya**	**103.11**	**332**	*e*P	**Pdif**		**01 47 35.3**	**-1.2**	
ZEA				*e*			01 51 58.1		
ZEA				*e*			02 01 01.4		
ZEA				*e*			02 06 26.6		
CSKK	**Cskako**	**103.17**	**36**	P	**PKiKP**		**01 51 54.9**	**-1.7**	
NIE	**Niedzica**	**103.23**	**34**	*e*P	**Pdif**		**01 47 39.3**	**+2.0**	
BUD	**Budapest**	**103.55**	**36**	P	**PKiKP**		**01 51 59.6**	**+2.4**	
KLMR	**Klimovskoe**	**103.57**	**17**	*e*P	**Pdif**		**01 47 35.4**	**-3.0**	
KLMR				*e*			01 58 13.6		
KLMR				*e*PS	PS		02 00 59.9	-4.1	
KLMR				*e*SS	SS		02 06 37.1	-1.1	
KLMR				*e*SSS	SSS		02 10 33.3		
KLMR				pmax	pmax				
	comp=Z,26nm,1.4s								
KLMR	**Klimovskoe**	**103.57**	**17**	*e*Pdif	**Pdif**		**01 47 35.4**	**-3.0**	
KLMR				AMP			01 47 42.9		
	comp=Z,26nm,1.4s								
KLMR				*e*PP	**PP**		**01 51 48.7**	**-5.1**	
KLMR				*e*SKSac	**SKSac**		**01 58 13.7**	**-4.7**	
KLMR				*e*SKSac	**SKSac**		**01 58 13.7**	**-4.7**	
KLMR				*e*PS	**PS**		**02 00 59.9**	**-4.1**	
KLMR				*e*PS	**PS**		**02 00 59.9**	**-4.1**	
KLMR				*e*SS	**SS**		**02 06 37.2**	**-1.0**	
KLMR				*e*SS	**SS**		**02 06 37.2**	**-1.0**	
KLMR				*e*SSS	SSS		02 10 33.3		
KLMR				*e*SSS	SSS		02 10 33.3		
KLMR				LQ	LQ		02 24 07.5		
KLMR				LQ	LQ		02 24 07.5		
KLMR				LR	LR		02 29 24.0		
KLMR				AMP			02 39 07.2		
	comp=Z,12µm,17.0s								
MNK	**Minsk**	**103.92**	**27**	*i* P	**Pdif**		**01 47 39.8**	**-0.2**	
MNK				*i* PPP	PPP		01 54 05.8		
MNK				*i*			01 58 12.5		
MNK				*i*			01 59 23.8		
MNK				*i* SP	SP		02 01 14.4	+8.3	
MNK				pmax	pmax				
	comp=E,1.0nm,1.0s								
MNK				pmax	pmax				
	comp=Z,10.0nm,1.0s								
MNK				pmax	pmax				
	comp=N,9.0nm,1.0s								
MNK				MLR	MLR				
	comp=E,2µm,20.0s								
MNK				MLR	MLR				
	comp=Z,16µm,19.0s								
MNK				MLR	MLR				
	comp=N,8µm,19.0s								
MNK	**Minsk**	**103.92**	**27**	*i* P	**Pdif**		**01 47 39.9**	**-0.2**	
	comp=E,1.0nm,1.1s								
MNK				*i* P	**Pdif**		**01 47 39.9**	**-0.2**	
	comp=N,9.0nm,1.0s								
MNK				*i* P	**Pdif**		**01 47 39.9**	**-0.2**	
	comp=Z,10.0nm,1.1s,baz=311								
MNK				*i* PP	PP		01 51 44.9	-12	
MNK				*i* PPP	PPP		01 54 05.8		
MNK				*i* SKS			01 58 12.6		
MNK				*i* SKKS	SKKSac		01 59 23.8	+21	
MNK				*i* PS	PS		02 01 34.8	+27	
MNK				*i* SS	SS		02 06 27.9	-16	
MNK				*i* SSS	SSS		02 10 51.7		
MNK				*i* LQ	LQ		02 26 48.0		
MNK				*i* LR	LR		02 29 47.3		
MNK				*i* LRM	MLR		02 35 30.8		
	comp=E,2µm,20.2s								
MNK				*i* LRM	MLR		02 36 47.7		
	comp=Z,16µm,19.4s								
MNK				*i* LRM	MLR		02 36 52.2		
	comp=N,8µm,19.4s								
CRVS	**Cervenica-Dubn**	**104.15**	**34**	*e*P	**Pdif**		**01 47 42.9**	**+1.6**	
CRVS	**Cervenica-Dubn**	**104.15**	**34**	*e*PDIFF	**Pdif**		**01 47 42.9**	**+1.6**	
KWP	**Kalwaria Pacla**	**104.41**	**33**	*e*P	**Pdif**		**01 47 42.5**	**0.0**	
PRGR	**Permogore**	**104.58**	**15**	*e*P	**Pdif**		**01 47 40.1**	**-2.8**	
PRGR				*e*			01 51 58.1		
TROLL	**Troll, Antarti**	**104.61**	**162**	Pdiff	**Pdif**		**01 47 47.0**	**+4.1**	
UZH	**Uzhgorod**	**104.76**	**34**	*e*P	**Pdif**		**01 47 43.9**	**-0.1**	
UZH				*e*			01 58 26.3		
UZH				*e*S	**Sdif**		**01 59 32.9**	**-4.5**	
UZH				*e*SS	**SS**		**02 06 55.7**	**+0.3**	
LVV	**L'vov**	**104.99**	**32**	*e*P	**Pdif**		**01 47 45.4**	**+0.4**	
LVV				*e*			01 52 05.3		
LVV				*e*PPP	PPP		01 54 17.3		
LVV				*e*			01 58 21.2		
LVV				*e*S	**Sdif**		**01 59 34.3**	**-5.0**	
LVV				*e*SS	**SS**		**02 06 56.6**	**-1.9**	
LVV				*e*SSS	SSS		02 11 03.1		
LVV				pmax	pmax				
	comp=Z,60nm,1.6s								
LVV				MLR	MLR				
	comp=N,6µm,24.0s								
LVV				MLR	MLR				
	comp=E,17µm,24.0s								
LVV				MLR	MLR				
	comp=Z,18µm,24.0s								
BOD	**Bodaibo**	**105.58**	**340**	*e*P	**Pdif**		**01 47 50.7**	**+3.3**	
BOD				pmax	pmax				
	comp=Z,11nm,2.2s								
DIVS	**Divibare**	**105.91**	**38**	IAMs_20	IAMs_20		02 33 55.6		
	comp=Z,16µm,21.0s								
CEL	**Celeste**	**106.08**	**45**	IAMs_20	IAMs_20		02 37 56.9		
	comp=Z,11µm,21.0s								
TIP	**Timpagrande**	**106.26**	**44**	IAMs_20	IAMs_20		02 33 11.4		
	comp=Z,17µm,22.0s								
PDG	**Podgorica**	**106.31**	**40**	IAMs_20	IAMs_20		02 36 58.6		
	comp=Z,16µm,21.0s								
INU	**Inuyama**	**106.93**	**312**	IAMs_20	IAMs_20		02 28 42.0		
	comp=Z,10µm,20.0s								
MOS	**Moscow**	**106.96**	**22**	*e*P	**Pdif**		**01 47 51.5**	**-2.1**	
MOS				*e*			01 52 22.7		
MOS				*e*PPP	PPP		01 54 39.8		
MOS				*e*SP	SP		02 01 35.4	-2.1	
MOS				*e*SS	**SS**		**02 07 28.2**	**+3.5**	
MOS				MLR	MLR				
	comp=N,15µm,19.0s								
MOS				MLR	MLR				
	comp=Z,16µm,19.0s								
AKASG	**Malin Array Be**	**107.04**	**29**	PP	**PP**		**01 52 17.2**	**-2.5**	
	comp=Z,0.6nm,0.4s,baz=311,slow=6.5,SNR=12								
OBN	**Obninsk**	**107.05**	**23**	PP	**PP**		**01 52 17.3**	**-2.3**	
	comp=Z,12nm,1.2s,baz=262,slow=1.3,SNR=12								
OBN	**Obninsk**	**107.05**	**23**	*e*P	**Pdif**		**01 47 54.2**	**+0.3**	
OBN				*i*			01 52 22.0		
OBN				*e*S	**SKSac**		**01 58 39.0**	**+4.8**	
OBN				*i* PS	**PS**		**02 01 40.4**	**+0.1**	
OBN				*i* SS	**SS**		**02 07 24.0**	**-1.9**	
OBN				pmax	pmax				
	comp=Z,13nm,1.2s								
OBN				MLR	MLR				
	comp=Z,25µm,21.0s								
OBN	**Obninsk**	**107.05**	**23**	Pdif	**Pdif**		**01 47 54.3**	**+0.3**	
MDJ	**Mudanjiang**	**107.25**	**323**	IAMs_20	IAMs_20		02 32 03.5		
	comp=Z,12µm,20.0s								
TIR	**Tirane**	**107.26**	**41**	IAMs_20	IAMs_20		02 33 25.6		
	comp=Z,17µm,22.0s								
GUMO	**Guam**	**107.85**	**288**	IAMs_20	IAMs_20		02 25 14.1		
	comp=Z,13µm,22.0s								
OHR	**Ohrid**	**107.98**	**41**	*i* P	**PP**		**01 52 23.4**	**-3.8**	
KIRV	**Kirov**	**108.18**	**14**	PP	**PP**		**01 52 21.6**	**-6.0**	
	comp=Z,3.5nm,0.5s,baz=331,slow=9.0,SNR=4.8								
STIP	**Stip**	**108.56**	**40**	*i* P	**PP**		**01 52 25.6**	**-5.7**	
MLR	**Muntele Rosu**	**108.62**	**35**	PP	**PP**		**01 52 33.6**	**+1.8**	
	comp=Z,26nm,1.3s,baz=234,slow=2.1,SNR=9.5								
VTS	**Vitosha**	**108.70**	**38**	*e*P	**PP**		**01 52 30.0**	**-2.5**	
KKB	**Krupnik**	**109.02**	**39**	*e*P	**PP**		**01 52 35.0**	**+0.3**	
KIS	**Kishinev**	**109.24**	**32**	*e*P	**Pdif**		**01 48 04.0**	**0.0**	
KIS	**Kishinev**	**109.24**	**32**	*i* PP	**PP**		**01 52 35.0**	**-1.0**	
	comp=Z,500nm,7.8s								
KIS				*e*SKS	**SKSac**		**01 58 42.0**	**-2.1**	
KIS	**Kishinev**	**109.24**	**32**	*i* PS	PS		02 02 02.0	-1.2	
KIS				*e*L	L		02 25 28.0		
KIS				LRM	MLR		02 35 49.0		
	comp=Z,4µm,23.0s								
KIS	**Kishinev**	**109.24**	**32**	*e*P	**Pdif**		**01 48 04.0**	**0.0**	
KIS				*i*			01 52 35.0		
KIS				*e*			01 58 42.0		
KIS				*i* PS	**PS**		**02 02 02.0**	**-1.2**	
KIS				*i*			02 07 54.0		
KIS				pmax	pmax				
	comp=Z,500nm,7.8s								
MILM	**Milestii Mici**	**109.29**	**32**‖	*e*P	**Pdif**		**01 48 05.0**	**+0.8**	
MILM	**Milestii Mici**	**109.29**	**32**	*i* PP	**PP**		**01 52 30.0**	**-6.3**	
MILM	**Milestii Mici**	**109.29**	**32**‖	*i* PS	PS		02 02 04.0	+0.3	
MILM				*e*LR	LR		02 25 25.0		
	comp=Z,10µm,23.0s								
MILM	**Milestii Mici**	**109.29**	**32**	*e*P	**Pdif**		**01 48 05.0**	**+0.8**	
MILM				*e*			01 58 44.0		
MILM				*i* PS	PS		02 02 04.0	+0.3	
PGB	**Panagyurishte**	**109.31**	**38**	*e*P	**PP**		**01 52 37.0**	**+0.2**	
MMB	**Musomiste**	**109.58**	**39**	*e*P	**PP**		**01 52 39.0**	**+0.3**	
HIA	**Hailar**	**109.58**	**331**	IAMs_20	IAMs_20		02 39 50.6		
	comp=Z,15µm,21.0s								
PVL	**Pavlikeni**	**109.62**	**37**	*e*P	**PP**		**01 52 38.0**	**-0.9**	
PLD	**Plovdiv**	**109.89**	**38**	*e*P	**PP**		**01 52 40.0**	**-0.9**	
SZH	**Strazhica**	**109.94**	**37**	*e*P	**PP**		**01 52 41.0**	**-0.3**	
RZN	**Rozhen**	**110.13**	**39**	*e*P	**PP**		**01 52 41.0**	**-1.9**	
CN2	**Changchun**	**110.15**	**324**	Pdif	**Pdif**		**01 48 05.5**	**-2.6**	
CN2				LR	LR				
	comp=Z,9µm,19.0s								
CN2				LR	LR				
	comp=Z,5µm,19.0s								
CN2				LR	LR				
	comp=Z,14µm,20.0s								
KDZ	**Kurdzhali**	**110.58**	**38**	*e*P	**PP**		**01 52 45.0**	**-1.0**	
TAU	**Tasmania Unive**	**110.60**	**228**	IAMs_20	IAMs_20		02 27 31.6		
	comp=Z,9µm,22.0s								
VORR	**Voronezh**	**110.70**	**24**	*e*P	**Pdif**		**01 48 11.2**	**+0.9**	
VORR				*e*			01 52 46.5		
VORR				*e*SP	SP		02 02 16.3	+1.1	
VORR				*e*SS	**SS**		**02 08 08.4**	**-6.9**	
VORR				pmax	pmax				
	comp=Z,80nm,0.4s								
JMB	**Yambol**	**110.81**	**37**	*e*P	**PP**		**01 52 45.0**	**-2.5**	
PRD	**Provadia**	**110.84**	**36**	*e*P	**PP**		**01 52 45.0**	**-2.7**	
PSN	**Preselentsi**	**110.99**	**35**	*e*P	**PP**		**01 52 42.0**	**-6.8**	
SVE	**Sverdlovsk**	**112.07**	**9**	*i* PKIKP	**PKiKP**		**01 52 08.7**	**-4.2**	
SVE				*e*			02 02 20.2		
SVE				*e*			02 08 28.7		
SVE				*e*			02 12 40.8		
SVE				MLR	MLR				
	comp=Z,19µm,22.0s								
SVE				MLR	MLR				
	comp=E,12µm,19.0s								
ARU	**Arti**	**112.11**	**10**	PP	**PP**		**01 52 55.0**	**-1.0**	
	comp=E,1.4nm,0.8s,baz=324,slow=6.1,SNR=3.6								
ARU	**Arti**	**112.11**	**10**	*i* PKIKP	**PKiKP**		**01 52 15.5**	**+2.6**	
ARU				PPP	PPP		01 55 19.0		
ARU							01 59 27.6		
ARU				MLR	MLR				
	comp=Z,26µm,22.0s								
KSRS	**Korea Array**	**112.28**	**317**	PKiKP	**PKiKP**		**01 52 14.2**	**+0.4**	
	comp=Z,1.6nm,0.8s,baz=5.0,slow=0.2,SNR=6.1								
KSRS				PP	**PP**		**01 52 56.1**	**-2.1**	
	comp=Z,0.6nm,0.3s,baz=185,slow=39,SNR=1.5								
SNY	**Shenyang**	**112.44**	**323**	Pdif	**Pdif**		**01 48 24.3**	**+6.0**	
SNY				AMB	AMB				
	comp=Z,680nm,10.0s								
SNY				LR	LR				
	comp=Z,5µm,21.1s								
SNY				LR	LR				
	comp=Z,6µm,20.4s								
SNY				LR	LR				
	comp=Z,11µm,22.5s								
INCN	**Inchon**	**113.11**	**318**	IAMs_20	IAMs_20		02 35 01.8		
	comp=Z,14µm,21.0s								
IDI	**Anoyia**	**113.82**	**44**	PKP	**PKiKP**		**01 52 17.0**	**0.0**	
	comp=Z,6.8nm,1.1s,baz=259,slow=3.9,SNR=5.0								
IDI				PP	**PP**		**01 53 11.5**	**+2.1**	
	comp=Z,5.3nm,0.9s,baz=347,slow=5.5,SNR=3.4								
ANN	**Anapa**	**115.11**	**29**	*i* PKIKP	PKPdf		01 52 24.0	+5.0	
ANN				*e*			01 55 49.3		
ANN				*e*SP	SP		02 02 59.9	+3.9	
ANN				*e*SS	**SS**		**02 09 21.5**	**+7.4**	
ANN				pmax	pmax				
	comp=Z,34nm,1.0s								
XLT	**XiLinHaoTe**	**115.16**	**329**	*e*PKP	**PKPdf**		**01 52 21.5**	**+2.2**	
XLT				PKS			01 55 55.0		
XLT				SKKS			02 00 17.8		
XLT				AMB	AMB				
	comp=Z,550nm,7.3s								
XLT				LR	LR				
	comp=Z,10µm,19.4s								
XLT				LR	LR				
	comp=Z,19µm,20.2s								
KARP	**Karpathos**	**115.21**	**43**	IAMs_20	IAMs_20		02 42 55.3		
	comp=Z,16µm,22.0s								
ZAA0	**Zalesovo Array**	**115.76**	**354**	PKPdf	**PKPdf**		**01 52 22.8**	**+2.8**	
ZALV	**Zalesovo Beam**	**115.76**	**354**	PKP	**PKiKP**		**01 52 20.0**	**0.0**	
	comp=Z,0.3nm,0.3s,baz=8.0,slow=36,SNR=2.7								
ZALV				PP	**PP**		**01 53 24.3**	**+2.4**	
	comp=Z,4.8nm,1.0s,baz=335,slow=6.6,SNR=5.5								
ZALV				PKKPbc	**PKKPab**		**02 03 00.4**	**+1.5**	
	comp=Z,1.3nm,0.7s,baz=195,slow=4.6,SNR=4.0								
ILGA	**Ilgaz**	**115.82**	**35**	PKPdf	**PKiKP**		**01 52 21.8**	**+1.0**	
ISP	**Isparta**	**116.03**	**39**	IAMs_20	IAMs_20		02 39 04.9		
	comp=Z,11µm,22.0s								
STKA	**Stephens Creek**	**116.09**	**240**	PKP	**PKPdf**		**01 52 21.8**	**+0.6**	
	comp=Z,5.2nm,0.9s,baz=49,slow=11,SNR=5.3								
STKA	**Stephens Creek**	**116.09**	**240**	*i* PKIKP	**PKPdf**		**01 52 21.1**	**-0.1**	
ULN	**Ulaanbaatar**	**116.09**	**337**	*i* PKIKP	**PKiKP**		**01 52 22.2**	**+1.1**	
SONM	**Songino Array**	**116.36**	**338**	PKP	**PKiKP**		**01 52 21.9**	**+

SSE LR LR
comp=Z,2µm,22.0s
HNS HongShan 120.50 325 SS SS 02 10 18.5 -5.9
HNS LR LR
comp=N,4µm,17.7s
HNS LR LR
comp=E,9µm,21.7s
HNS LR LR
comp=Z,13µm,20.1s
HNS HongShan 120.50 325 PKP **PKiKP 01 52 32.0 +2.3**
HNS PKS 01 56 10.0
HNS SKS **SKSdf 01 59 38.5 -3.5**
HNS LR LR
comp=Z,4µm,17.7s
HNS LR LR
comp=Z,9µm,21.7s
HNS LR LR
comp=Z,13µm,20.1s
BTO Baotou 120.61 330 *e*PKP PKiKP 01 52 38.0 +8.0
BTO PP **PP 01 53 53.0 -3.2**
BTO Baotou 120.61 330 SS SS 02 10 22.5 -3.2
BTO LR LR
comp=N,37µm,21.1s
BTO LR LR
comp=E,28µm,24.1s
MAK Makhachkala 121.06 24 *e*P **Pdif 01 48 51.0 -5.6**
MAK *e*PS **PS 02 03 52.8 +1.3**
MAK *e*SSS SSS 02 14 59.5
MAK MLR MLR
comp=Z,11µm,21.0s
MAK MLR MLR
comp=N,30µm,22.0s
MAK MLR MLR
comp=E,6µm,18.0s
NJ2 Nanjing 121.48 318 *e*PKP **PKPdf 01 52 31.3 -0.3**
NJ2 SKKS 02 00 58.3
NJ2 SS **SS 02 10 38.5 +1.1**
NJ2 LR LR
comp=E,6µm,19.9s
NJ2 LR LR
comp=E,7µm,19.9s
NJ2 LR LR
comp=E,10µm,22.7s
ZKTA Zakatala 121.78 26 PKIKP **PKiKP 01 52 33.8 +1.6**
GNI Garni 122.15 28 PKP **PKPdf 01 52 32.9 0.0**
comp=E,1.1nm,0.3s,baz=153,slow=6.5,SNR=3.0
GNI Garni 122.15 28 *i* PKIKP **PKiKP 01 52 34.6 +1.5**
GNI MLR MLR
comp=Z,10µm,21.0s
GNI Garni 122.15 28 IAMs_20 IAMs_20 02 46 19.5
comp=Z,10µm,21.0s
ZSN Zaisan 122.16 353 *e*PP PP 01 54 04.8 -1.4
baz=353
SEKA Sheki 122.38 26 PKIKP **PKPdf 01 52 33.8 +0.6**
GANJ Ganja 122.46 27 PKIKP **PKPdf 01 52 34.0 +0.6**
MNGR Mingechevir, A 122.69 26 PKIKP **PKPdf 01 52 34.6 +0.9**
TSUM Tsumeb 122.85 106 PKP **PKPdf 01 52 32.5 -2.3**
comp=Z,7.8nm,0.9s,baz=260,slow=3.1,SNR=6.1
TSUM PP **PP 01 54 17.1 +3.9**
comp=E,6.1nm,0.9s,baz=251,slow=1.6,SNR=6.4
TSUM Tsumeb 122.85 106 PKPdf **PKPdf 01 52 34.7 -0.1**
MKAR Makanchi Array 123.08 355 PKP **PKPdf 01 52 31.8 -2.6**
comp=Z,2.3nm,0.8s,baz=5.7,slow=1.2,SNR=13
MKAR PKKPbc **PKKPbc 02 02 27.4 +0.5**
comp=Z,1.8nm,0.9s,baz=160,slow=3.9,SNR=9.5
MKAR Makanchi Array 123.08 355 PKIKP **PKPdf 01 52 32.2 -2.2**
MKAR Makanchi Array 123.08 355 PKPdf **PKPdf 01 52 32.2 -2.2**
MAKZ Makanchi 123.09 355 PKIKP **PKPdf 01 52 32.9 -1.5**
MAKZ Makanchi 123.09 355 PKPdf **PKPdf 01 52 32.9 -1.5**
WB2 Warramunga Arr 123.17 253 PKPdf **PKPdf 01 52 34.6 -0.6**
WRAB Tennant Creek 123.17 253 PKIKP **PKPdf 01 52 34.2 -1.0**
WRAB MLR MLR
comp=E,6µm,21.0s
WRAB Tennant Creek 123.17 253 **PKPdf 01 52 34.2 -1.0**
WRA Warramunga Arr 123.18 253 PKP **PKPdf 01 52 32.9 -2.3**
comp=Z,14nm,1.1s,baz=85,slow=1.4,SNR=32
WRA PP **PP 01 54 19.6 +4.3**
comp=Z,2.0nm,1.1s,baz=90,slow=6.6,SNR=4.8
WRA SKKPbc SKKPbc 02 06 28.7 +13
comp=Z,4.4nm,1.2s,baz=281,slow=3.7,SNR=5.3
WRA Warramunga Arr 123.18 253 *c i* PKIKP **PKPdf 01 52 33.7 -1.5**
WRA pmax pmax
comp=Z,17nm,1.1s
NAX Nakhchivan 123.28 28 PKIKP **PKPdf 01 52 36.0 +1.0**
AS31 Alice Springs 123.45 248 PKPdf **PKPdf 01 52 34.6 -1.1**
ASAR Alice Springs 123.45 248 PKP **PKPdf 01 52 33.8 -1.9**
comp=Z,8.1nm,1.1s,baz=104,slow=2.1,SNR=18
ASAR PKKPbc PKKPbc 02 02 39.2 +15
comp=Z,1.6nm,1.0s,baz=250,slow=3.2,SNR=4.1
ASAR SKKPbc SKKPbc 02 06 21.2 +6.2
comp=Z,2.4nm,1.1s,baz=268,slow=1.4,SNR=4.8
ASAR Alice Springs 123.45 248 PKIKP **PKPdf 01 52 33.5 -2.2**
ASAR Alice Springs 123.45 248 PKPdf **PKPdf 01 52 33.5 -2.2**
ASF Jabal al Asfar 123.66 40 PKP **PKPdf 01 52 35.5 -0.4**
comp=Z,7.9nm,1.0s,baz=310,slow=2.7,SNR=9.2
ASF PP **PP 01 54 19.1 +1.8**
comp=Z,3.1nm,1.0s,baz=2.6,slow=2.2,SNR=4.1
LYN LuoYang 123.79 324 *e*PKP PKPdf 01 52 27.5 -8.5
LYN sPKP 01 52 34.5
LYN PP **PP 01 54 12.0 -6.0**
LYN LuoYang 123.79 324 SS SS 02 10 57.8 -8.7
LYN AMB AMB
comp=Z,720nm,8.3s
LYN LR LR
comp=N,19µm,21.8s
LYN LR LR
comp=E,7µm,23.7s
LYN LR LR
comp=Z,28µm,21.0s
FAKI Fak Fak 123.86 273 IAMs_20 IAMs_20 02 35 28.2
comp=Z,14µm,22.0s
EIL Elat 123.98 44 PKP **PKPdf 01 52 36.9 +0.3**
comp=Z,20nm,1.2s,baz=158,slow=7.2,SNR=4.3
NACB Ninganchiao 124.04 308 IAMs_20 IAMs_20 02 37 08.0
comp=Z,9µm,21.0s
YULB Yu-li 124.68 308 IAMs_20 IAMs_20 02 34 49.2
comp=Z,9µm,22.0s
SSLB Suanglung 124.74 308 IAMs_20 IAMs_20 02 39 15.6
comp=Z,10µm,20.0s
BTLS Baital 125.06 2 *e*PKIKP **PKPdf 01 52 36.1 -2.1**
BTLS *e* 01 54 24.5
BTLS Baital 125.06 2 *e*PKP **PKPdf 01 52 36.1 -2.1**
baz=1.8
BTLS *e*PP **PP 01 54 24.6 -1.1**
baz=1.8
TDK Taldyqorghan 125.10 358 *e*PKIKP **PKPdf 01 52 36.7 -1.6**
TDK Taldyqorghan 125.10 358 *e*PKP **PKPdf 01 52 36.7 -1.6**
baz=358
TDK LR LR 02 47 52.2
comp=Z,12µm,17.0s,baz=358
LKRN Lenkeran, Azer 125.13 26 PKIKP **PKPdf 01 52 39.3 +0.8**
TPUB Ta-pu 125.25 308 IAMs_20 IAMs_20 02 43 02.2
comp=Z,9µm,20.0s
WMQ Urumqi 125.30 350 *e*PKP **PKPdf 01 52 39.8 +1.0**
WMQ sPKP 01 52 52.5
WMQ PP **PP 01 54 32.5 +5.1**
WMQ SS SS 02 11 25.5 +1.2
WMQ AMB AMB
comp=Z,800nm,7.5s
WMQ LR LR
comp=Z,22µm,22.7s
WMQ LR LR
comp=Z,15µm,22.1s
WMQ LR LR
comp=Z,24µm,23.3s
WHN Wuhan 125.39 319 ⇑PKP **PKiKP 01 52 45.5 +5.9**
WHN SKKS 02 01 18.3
WHN SS **SS 02 11 27.5 +0.5**
WHN AMB AMB
comp=Z,1µm,11.4s
WHN LR LR
comp=Z,38µm,32.8s
WHN LR LR
comp=Z,26µm,21.7s
WHN LR LR
comp=Z,34µm,22.7s
GTA Gaotai 126.03 337 *e*PKP **PKPdf 01 52 40.5 +0.1**
GTA PP **PP 01 54 34.3 +1.7**
GTA SS SS 02 11 30.3 -3.8
GTA AMB AMB
comp=Z,800nm,9.5s
GTA LR LR
comp=Z,8µm,22.5s
GTA LR LR
comp=Z,13µm,21.4s
GTA LR LR
comp=Z,14µm,21.4s
XAN Xi'an 126.17 326 ⇑PKP **PKPdf 01 52 39.8 -0.9**
XAN PP **PP 01 54 34.3 +0.5**
XAN SKKS 02 01 33.3
XAN SS **SS 02 11 35.3 -1.0**
XAN AMB AMB
comp=Z,800nm,9.4s
XAN LR LR
comp=Z,8µm,19.0s
XAN LR LR
comp=Z,11µm,20.9s
XAN LR LR
comp=Z,16µm,22.8s
KUU Kurty 126.25 360 *e*PKIKP **PKPdf 01 52 37.9 -2.6**
KUU *e* 01 54 32.7
KUU Kurty 126.25 360 *e*PKP **PKPdf 01 52 38.0 -2.6**
baz=360
KUU *e*PP **PP 01 54 32.8 -0.8**
baz=360
KUU LR LR 02 50 58.1
comp=Z,21µm,19.3s,baz=360
CHKK Chushkaly 126.28 359 *e*PKIKP **PKPdf 01 52 38.5 -2.1**
CHKK Chushkaly 126.28 359 *e*PKP **PKPdf 01 52 38.5 -2.1**
baz=359
KPKS Kokpek 126.62 358 *e*PKIKP **PKPdf 01 52 38.6 -2.7**
KPKS *e* 01 54 35.3
KPKS Kokpek 126.62 358 *e*PKP **PKPdf 01 52 38.6 -2.7**
baz=358
KPKS *e*PP **PP 01 54 35.4 -0.8**
baz=358
SGDS Sogindy 126.67 1 *e*PKIKP **PKPdf 01 52 39.1 -2.3**
SGDS Sogindy 126.67 1 *e*PKP **PKPdf 01 52 39.2 -2.3**
baz=1.3
KK31 Karatay Array 126.79 5 PKIKP **PKPdf 01 52 41.9 +0.3**
KK31 Karatay Array 126.79 5 PKPdf **PKPdf 01 52 41.9 +0.3**
KKAR Karatay Array 126.79 5 PKIKP **PKPdf 01 52 41.3 -0.3**
KKAR Karatay Array 126.79 5 PKPdf **PKPdf 01 52 41.3 -0.3**
SHLS Shalkode 126.89 357 *e*PKIKP **PKPdf 01 52 39.6 -2.3**
SHLS Shalkode 126.89 357 *e*PKP **PKPdf 01 52 39.7 -2.3**
baz=356
AAA Alma-Ata 126.92 359 *e*PKIKP **PKPdf 01 52 39.5 -2.4**
AAA Alma-Ata 126.92 359 *e*PKP **PKPdf 01 52 39.5 -2.4**
baz=359
UZB Uzynbulak 126.93 357 *e*PKIKP **PKPdf 01 52 39.3 -2.7**
UZB *e* 01 54 37.0
UZB Uzynbulak 126.93 357 *e*PKP **PKPdf 01 52 39.4 -2.7**
baz=357
UZB *e*PP **PP 01 54 37.1 -1.2**
baz=357
ZHN Zhinishke 126.93 358 *e*PKIKP **PKPdf 01 52 39.1 -2.8**
ZHN Zhinishke 126.93 358 *e*PKP **PKPdf 01 52 39.2 -2.8**
baz=358
SATY Saty 127.04 358 *e*PKIKP **PKPdf 01 52 40.0 -2.2**
SATY Saty 127.04 358 *e*PKP **PKPdf 01 52 40.0 -2.2**
baz=358
DZA Taraz 127.06 4 *e*PKIKP **PKPdf 01 52 40.0 -2.1**
DZA Taraz 127.06 4 *e*PKP **PKPdf 01 52 40.1 -2.1**
baz=4.4
TNSS Tian-Shan 127.10 359 *e*PKIKP **PKPdf 01 52 40.3 -2.4**
TNSS Tian-Shan 127.10 359 *e*PKP **PKPdf 01 52 40.3 -2.4**
baz=359
LZH Lanzhou 127.14 332 *e*PKP **PKPdf 01 52 42.0 -0.6**
LZH sPKP 01 52 52.5
LZH AMB AMB
comp=Z,920nm,6.5s
LZH LR LR
comp=Z,9µm,19.5s
LZH LR LR
comp=Z,9µm,14.6s
LZH LR LR
comp=Z,21µm,20.6s
AAK Ala-Archa 127.48 2 PKP **PKPdf 01 52 42.5 -0.6**
comp=Z,1.0nm,0.6s,baz=206,slow=1.5,SNR=6.4
AAK PP **PP 01 54 42.8 +0.9**
comp=Z,1.4nm,0.5s,baz=1.4,slow=5.1,SNR=3.5
AAK Ala-Archa 127.48 2 PKIKP **PKPdf 01 52 43.1 0.0**
AAK Ala-Archa 127.48 2 PKPdf **PKPdf 01 52 43.1 0.0**
AAK Ala-Archa 127.48 2 *i* PKiKP **PKPdf 01 52 44.6 +1.5**
SNR=6.7
BOOM Boomskoye usch 127.65 0 PKIKP **PKPdf 01 52 44.5 +1.1**
BOOM Boomskoye usch 127.65 0 PKPdf **PKPdf 01 52 44.5 +1.1**
IUG luzhnay 127.69 6 *e*PKIKP **PKPdf 01 52 41.0 -2.4**
IUG luzhnay 127.69 6 *e*PKP **PKPdf 01 52 41.1 -2.4**
baz=5.7
CNSH ChangSha 127.89 318 ⇓PKP **PKPdf 01 52 45.0 +1.0**
CNSH AMB AMB
comp=Z,680nm,8.0s
CNSH LR LR
comp=Z,5µm,20.2s
CNSH LR LR
comp=Z,5µm,18.8s
CNSH LR LR
comp=Z,5µm,21.6s
DAV Davao City (W) 127.89 287 IAMs_20 IAMs_20 02 36 07.1
comp=Z,9µm,22.0s
AML Almayashu 127.96 2 *i* PKiKP **PKPdf 01 52 44.2 -0.1**
SNR=6.0
KCP Kidapawan 128.37 287 ‖ *e*P **PKiKP 01 52 47.9 +1.9**
TAS Tashkent 128.43 7 PKIKP **PKPdf 01 52 46.0 +1.3**
TAS Tashkent 128.43 7 PKPdf **PKPdf 01 52 46.0 +1.3**
ENH Enshi 128.61 323 IAMs_20 IAMs_20 02 40 52.8
comp=Z,10µm,22.0s
BOSA Boshof 129.00 119 PKP **PKPdf 01 52 46.6 +0.4**
comp=Z,16nm,1.0s,baz=17,slow=1.2,SNR=8.8
BOSA PP **PP 01 55 00.9 +7.1**
comp=Z,12nm,1.1s,baz=282,slow=5.0,SNR=3.5
GEYT Alibeck 129.31 18 PKP **PKPdf 01 52 47.4 +0.8**
comp=Z,25nm,1.1s,baz=254,slow=19,SNR=18
GEYT Alibeck 129.31 18 PKPdf **PKPdf 01 52 46.6 +0.1**
LBTB Lobatse 129.88 114 PKP **PKPdf 01 52 49.4 +1.3**
comp=Z,8.6nm,1.1s,baz=13,slow=13,SNR=4.6
LBTB Lobatse 129.88 114 PKIKP **PKPdf 01 52 48.5 +0.5**
LBTB Lobatse 129.88 114 PKPdf **PKPdf 01 52 48.5 +0.5**
KSH Kashi 130.62 0 PKP **PKPdf 01 52 50.8 +1.7**
KSH PP PP 01 55 10.8 +8.4
KSH PKS **PKSdf 01 56 21.0 -4.8**
KSH SKKS 02 01 58.0
KSH SS **SS 02 12 36.5 +6.2**
KSH AMB AMB
comp=Z,880nm,10.0s
KSH LR LR
comp=Z,51µm,20.3s
KSH LR LR
comp=Z,20µm,18.2s
KSH LR LR
comp=Z,58µm,20.6s
GOMU GeErMu 130.68 340 PKP **PKPdf 01 52 49.0 -0.7**
GOMU sPKP 01 52 54.3
GOMU PP **PP 01 55 03.3 -0.1**
GOMU SKKS 02 01 57.5
GOMU SS **SS 02 12 29.0 -3.1**
GOMU AMB AMB
comp=Z,270nm,6.4s
GOMU LR LR
comp=Z,15µm,22.0s
GOMU LR LR
comp=Z,9µm,19.1s
GOMU LR LR
comp=Z,16µm,21.9s
HKPS Hong Kong Po S 130.76 311 IAMs_20 IAMs_20 02 39 33.4
comp=Z,12µm,22.0s
CD2 Chengdu 131.35 328 PKP **PKPdf 01 52 49.8 -0.8**
CD2 SKKS 02 02 02.0
CD2 AMB AMB
comp=Z,950nm,9.8s
CD2 LR LR
comp=Z,7µm,22.4s
CD2 LR LR
comp=Z,7µm,21.2s
LSZ Lusaka 133.01 101 PKP **PKPdf 01 52 50.6 -3.5**
comp=Z,0.8nm,0.3s,baz=141,slow=3.4,SNR=2.3
LSZ Lusaka 133.01 101 PKIKP **PKPdf 01 52 52.9 -1.3**
LSZ MLR MLR
comp=Z,26µm,19.0s
LSZ Lusaka 133.01 101 **PKPdf 01 52 52.9 -1.3**
GYA Guiyang 133.08 321 PKP **PKPdf 01 52 55.8 +1.7**
GYA SKKS 02 02 15.0
GYA AMB AMB
comp=Z,580nm,10.6s
GYA LR LR
comp=Z,7µm,19.6s
GYA LR LR
comp=Z,5µm,17.6s
GYA LR LR
comp=Z,15µm,19.5s
HRA Herat 133.81 16 PKPdf **PKPdf 01 52 53.6 -1.8**
MBAR Mbarara 133.88 81 PKIKP **PKPdf 01 52 53.8 -2.2**
MBAR MLR MLR
comp=Z,16µm,19.0s
MBAR Mbarara 133.88 81 PKPdf **PKPdf 01 52 53.8 -2.2**
TOLI2 Tolitoli 134.19 282 PKPdf **PKPdf 01 52 55.9 -0.4**
TOLI2 IAMs_20 IAMs_20 02 39 47.1
comp=Z,10µm,22.0s
KBL Kabul 135.08 8 PKIKP **PKPdf 01 52 56.3 -1.5**
KBL Kabul 135.08 8 PKPdf **PKPdf 01 52 56.3 -1.5**
PZH PanZhiHua 135.91 326 PKP **PKiKP 01 53 01.8 +0.8**
PZH sPKP 01 53 06.5
PZH PKS PP 01 56 34.0 +57
PZH SS SS 02 13 37.0 +1.2
PZH AMB AMB
comp=Z,630nm,11.0s
PZH LR LR
comp=Z,6µm,20.0s
PZH LR LR
comp=Z,7µm,21.4s
PZH LR LR
comp=Z,8µm,20.4s
QIZ Qiongzhong 135.92 311 IAMs_20 IAMs_20 02 41 54.1
comp=Z,12µm,22.0s
QIZ Qiongzhong 135.92 311 PKP **PKPdf 01 53 01.5 +2.1**
QIZ PP **PP 01 55 36.8 -0.7**
QIZ SS SS 02 13 39.0 +2.2
QIZ AMB AMB
comp=Z,600nm,7.4s
QIZ LR LR
comp=Z,5µm,23.5s
QIZ LR LR
comp=Z,6µm,22.0s
QIZ LR LR
comp=Z,10µm,22.2s
NIL Nilore 136.39 3 PKIKP **PKPdf 01 52 57.4 -2.6**
NIL Nilore 136.39 3 PKPdf **PKPdf 01 52 57.4 -2.6**
KMI Kunming 136.42 324 ⇑PKP **PKiKP 01 53 05.8 +3.6**
KMI sPKP 01 53 07.5
KMI PP **PP 01 55 40.0 -0.4**
KMI PKS 01 56 36.5
KMI AMB AMB
comp=Z,580nm,13.6s
KMI LR LR
comp=Z,7µm,21.9s
KMI LR LR
comp=Z,5µm,23.1s
KMI LR LR
comp=Z,9µm,20.7s
KAPI Kappang 136.50 273 PKIKP **PKPdf 01 52 58.7 -2.0**
KAPI Kappang 136.50 273 PKPdf **PKPdf 01 52 58.7 -2.0**
MBWA Marble Bar 136.74 250 **PKPdf 01 53 00.5 -0.4**
MBWA Marble Bar 136.74 250 IAMs_20 IAMs_20 02 47 02.5
comp=Z,7µm,21.0s
LODK Lodwar 137.22 74 *e*P **PKPdf 01 52 57.3 -4.8**
LODK Lodwar 137.22 74 *e*P **PKPdf 01 52 57.3 -4.8**
LSA Lhasa 137.85 340 IAMs_20 IAMs_20 02 59 01.4
comp=Z,9µm,20.0s
LSA Lhasa 137.85 340 PKiKP **PKiKP 01 53 05.9 +0.5**
FURI Furi 138.20 64 IAMs_20 IAMs_20 02 59 38.1
comp=Z,7µm,21.0s
FURI Furi 138.20 64 *e*P **PKPdf 01 52 58.9 -5.3**
FURI Furi 138.20 64 *e*P **PKPdf 01 52 58.9 -5.3**
SMLA Simla 138.98 359 *e*P **PKPdf 01 53 06.8 +2.0**
SMLA IAmb IAmb 01 53 13.6
comp=Z,120nm,1.8s
SHME Shamm 139.12 28 *i* PKPdf PKPdf 01 52 57.2 -8.0
SNR=6.0
BANOM Banah 139.30 28 PKPdf PKPdf 01 52 57.1 -8.5
MSFE Esma-Masafi 139.72 29 *i* PKPdf PKPdf 01 52 59.5 -6.8
SNR=10
NAZ Nazwa, Dubai 139.79 29 *i* PKPdf **PKPdf 01 53 03.0 -3.4**
SNR=11
AJN Ajban 139.82 31 *i* PKPdf **PKPdf 01 53 01.9 -4.6**
SNR=8.2
FAQ Al Faqa, Dubai 139.97 30 PKPdf **PKPdf 01 53 01.8 -5.0**
UOSS Minazif 140.09 29 PKPpre 01 53 01.4
UOSS Minazif 140.09 29 IAMs_20 IAMs_20 03 01 10.7
comp=Z,7µm,21.0s
HATD Hatta, Dubai 140.16 29 PKPdf PKPdf 01 53 00.4 -6.7
ASHO Ashiyiah 140.24 29 *i* PKPdf PKPdf 01 53 00.7 -6.6
SNR=6.1
MZR Muzera 140.30 34 *i* PKPdf **PKPdf 01 53 02.9 -4.5**
SNR=5.9
KMBO Kilima Mbogo 140.33 79 PKP **PKPdf 01 53 04.7 -3.3**
comp=Z,1.0nm,0.3s,baz=50,slow=3.5,SNR=2.3
KMBO PP **PP 01 56 07.5 +1.4**
comp=Z,0.8nm,0.3s,baz=258,slow=5.5,SNR=3.6
KMBO Kilima Mbogo 140.33 79 PKIKP **PKPdf 01 53 05.5 -2.5**
KMBO Kilima Mbogo 140.33 79 PKPdf **PKPdf 01 53 05.5 -2.5**
KMBO Kilima Mbogo 140.33 79 PKiKP **PKPdf 01 53 08.3 +0.3**
ATD Arta Tunnel 140.53 58 *e*P PKPdf 01 52 57.3 -11
ATD Arta Tunnel 140.53 58 *e*P PKPdf 01 52 57.3 -11
DLV T Lat 141.09 304 IAMs_20 IAMs_20 03 08 38.9
comp=Z,9µm,21.0s
SHL Shillong 141.36 337 PKIKP **PKPdf 01 53 08.8 -0.7**
SHL Shillong 141.36 337 PKPdf **PKPdf 01 53 08.8 -0.7**
SBUM Sibu 141.97 287 PKPdf **PKPdf 01 53 07.5 -3.2**
SBUM IAMs_20 IAMs_20 02 51 09.4
comp=Z,6µm,21.0s
WSAR Wadi Sarin 142.68 27 PKP **PKPdf 01 53 09.3 -2.3**
comp=Z,6.9nm,1.0s,baz=348,slow=4.1,SNR=4.5
CHTO Chiang Mai 143.50 322 PKIKP PKPab 01 53 10.5 +1.0
CHTO Chiang Mai 143.50 322 PKPdf PKPab 01 53 10.5 +1.0
CHTO Chiang Mai 143.50 322 IAMs_20 IAMs_20 03 05 09.4
comp=Z,8µm,22.0s
CMAR Chiang Mai Arr 143.77 322 PKP PKPab 01 53 10.0 -0.5
comp=Z,6.3nm,0.9s,baz=15,slow=3.7,SNR=22
CMAR Chiang Mai Arr 143.77 322 PKIKP PKPab 01 53 10.5 0.0
CMAR Chiang Mai Arr 143.77 322 PKPdf PKPab 01 53 10.5 0.0
KSM Kuching 144.09 287 IAMs_20 IAMs_20 02 47 02.6
comp=Z,6µm,22.0s
JHNI Jhansi 144.55 356 *e*P **PKPdf 01 53 15.9 +1.0**
BOK Bokaro 144.97 344 *e*P **PKPdf 01 53 16.9 +1.2**
BOK IAmb IAmb 01 53 38.4
comp=Z,173nm,1.8s
SMRI Semarang 145.96 272 PKPbc **PKPdf 01 53 17.4 -0.2**
UGM Wanagama 145.98 271 PKPbc **PKPdf 01 53 19.6 +1.9**
BHPL Bhopal 146.82 358 *e*P **PKPdf 01 53 19.5 +0.6**
BHPL IAmb IAmb 01 53 31.2
comp=Z,745nm,2.2s
BLSP Bilaspur 147.42 350 *e*P **PKPdf 01 53 20.0 +0.1**
BWNR Bhubaneshwar 148.31 343 *e*P **PKPdf 01 53 23.5 +2.2**
SOCY Socotra 148.77 45 **PKPdf 01 52 22.9 +0.5**
VOI Vohitsoka 149.52 116 **PKPdf 01 53 25.2 +1.8**
VOI PKPab **sPKPbc 01 53 32.7 +1.6**
RAGD RAYAGADA 149.94 346 *e*P **PKPbc 01 53 29.3 +0.4**
MYKOM Kota Tinggi 149.98 292 IAMs_20 IAMs_20 03 16 16.0
comp=Z,7µm,20.0s
PMBI Palembang 150.69 282 IAMs_20 IAMs_20 03 16 48.9
comp=Z,6µm,20.0s
KULM Kulim 151.18 301 **PKPbc 01 53 30.8 -1.2**
KULM IAMs_20 IAMs_20 03 14 34.8
comp=Z,6µm,21.0s
POO Poona 151.44 5 *e*P **PKPdf 01 53 28.1 +1.7**
POO IAmb IAmb 01 53 51.0
comp=Z,150nm,1.3s
POO Poona 151.44 5 ⇑ *i*P **PKPdf 01 53 26.0 -0.4**
comp=Z,100nm,1.8s
DGPR DIGLIPUR 151.48 324 *e*P **PKPdf 01 53 30.3 +3.8**
DGPR IAmb IAmb 01 53 36.9
comp=Z,68nm,0.8s
AIS Amsterdam Isla 152.41 182 IAMs_20 IAMs_20 02 57 09.2
comp=Z,8µm,22.0s
HYBB Hyderabad (bro 152.53 355 *e*PKPbc **PKPbc 01 53 35.9 +0.9**
HYBB *e*PP **PP 01 57 18.3 +2.6**
HYBB *e*SKSdf **SKSdf 02 00 35.7 -0.3**
HYBB *e*PKKPdf 02 02 12.0
HYBB *e*SKKSac **SKKSac 02 04 06.0 -2.5**
HYBB *e*SS **SS 02 16 49.7 +4.4**
HYBB IVMs_BB IVMs_BB 03 05 55.3
comp=Z,2µm,22.0s
HYB Hyderabad 152.53 355 *e*P **PKPbc 01 53 33.1 -1.9**
HYB IAML 01 53 52.7
comp=Z,41nm,1.4s
KAD Karad 152.68 4 ⇑ *e*P **PKPdf 01 53 30.1 +1.9**
PBA Port Blair 152.79 322 **PKPbc 01 53 33.8 -1.8**
PBA PKPab **PKPab 01 53 45.4 -0.9**
PBA Port Blair 152.79 322 *e*P **PKPdf 01 53 29.6 +1.2**
PBA IAmb IAmb 01 54 07.4
comp=Z,503nm,1.6s
MNAI Manna 152.80 280 IAMs_20 IAMs_20 03 14 30.4
comp=Z,5µm,21.0s
PSI Prapat 153.93 298 PKP **PKPdf 01 53 29.2 -1.1**

comp=Z,7.4nm,0.5s,baz=216,slow=4.3,SNR=14
PSI PKPbc **PKPbc** **01 53 38.9 +0.5**
comp=Z,63nm,1.1s,baz=204,slow=0.4,SNR=13
LHMI Lhok Sumawe 154.27 305 IAMs_20 IAMs_20 02 53 26.6
comp=Z,8µm,20.0s
MSEY Mahe Island 158.82 77 PKPdf **PKPdf 01 53 38.2 +1.6**
PCHI Peechi 159.48 359‖ *eP* **PKPdf 01 53 40.0 +2.7**
PCHI *ex* x 02 17 58.4
PCHI *ex* x 02 24 11.3
PALK Pallekele 162.13 345 PKP **PKPdf 01 53 39.2 -1.0**
comp=Z,4.8nm,0.8s,baz=261,slow=1.3,SNR=2.0

*IDC **29** 01:50:45.5±1.2,0.°85S×79.°97W,h0km,mb3.9/4,mb1 4.1/6, mb1mx3.8/38,mbtmp3.9/6,ML3.2/2 Error ellipse: s-maj=49.8km s-min=23.1km az=69.0*
*IGQ **29** 01:50:46±0.4,1.°5S×2.°8×1W.°,h6km*
*NEIC **29** 01:50:47.0±1.6,1.°49S±0.°08×80.°82W±0.°06,h10km±2km, mb4.3/7, Error ellipse: s-maj=14.0km s-min=8.8km az=155.0*

ISC 29 01:50:45.4±1.1,**1.°53S**±0.°03×**80.°96W**±0.°05,**h10**km±7km, **n123,**σ1§**68**/124**,mb4.1**/8**, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPLP	**Puerto Lpez**	**0.19**	**96**	P	**Pg**	**01 50 49.0**	**-0.4**
PPLP				S	**Sg**	**01 50 53.0**	**+0.9**
ISPT	**Isla de la Pla**	**0.29**	**337**	P	**Pg**	**01 50 54.0**	**-1.1**
AMTV	**Ecuador-Monte**	**0.49**	**151**	P	**Pg**	**01 50 54.0**	**-0.9**
AMTV				S	**Sb**	**01 51 04.0**	**+0.7**
CHIS	**Cerro-Chispas-**	**0.53**	**26**	P	**Pg**	**01 50 55.0**	**-0.7**
AMNT	**Manta-Manabi**	**0.62**	**21**	P	**Pg**	**01 50 56.0**	**-1.5**
AMNT				S	**Sb**	**01 51 07.0**	**-0.3**
APO2	**Ecuador-Portov**	**0.68**	**48**	P	**Pg**	**01 50 58.0**	**-0.6**
APO1	**Ecuador-Portov**	**0.70**	**46**	P	**Pg**	**01 50 59.0**	**+0.1**
ABH2	**Ecuador-Univer**	**1.03**	**33**	P	**Pg**	**01 51 04.0**	**-1.2**
ACHN	**Ecuador-Chone-**	**1.20**	**47**	P	**Pn**	**01 51 07.0**	**-1.3**
GYE2	**Ecuador-Guayaq**	**1.25**	**122**	P	**Pn**	**01 51 09.0**	**0.0**
GYE1	**Ecuador-Trinit**	**1.27**	**124**	P	**Pg**	**01 51 10.0**	**+0.1**
GYE1				S	**Sg**	**01 51 27.0**	**+0.6**
JAMA	**Jama**	**1.47**	**31**	P	**Pn**	**01 51 11.0**	**-1.1**
ABAB	**Ecuador-Univer**	**1.47**	**101**	P	**Pn**	**01 51 11.0**	**-1.1**
AMIL	**Milagro (Trans**	**1.49**	**114**	P	**Pn**	**01 51 12.0**	**-0.3**
BUFE	**BUEA FE, CENT**	**1.59**	**67**	P	**Pn**	**01 51 13.0**	**-0.7**
MILO	**Milagro-Astudi**	**1.59**	**118**	P	**Pn**	**01 51 11.0**	**-2.7**
FF1	**Flavio Alfaro-**	**1.61**	**45**	P	**Pn**	**01 51 14.0**	**0.0**
ISPG	**Isla Puna-Puer**	**1.64**	**151**	P	**Pb**	**01 51 16.0**	**+0.2**
CHIB	**CHIBUNGA**	**1.82**	**39**	P	**Pb**	**01 51 18.0**	**-0.9**
MAG1	**Magdalena**	**1.87**	**39**	P	**Pn**	**01 51 18.0**	**+0.4**
COHC	**Cochancay**	**1.94**	**119**	P	**Pn**	**01 51 17.0**	**-1.6**
CHSH	**Refugio Sur-Vo**	**2.09**	**89**	P	**Pn**	**01 51 21.0**	**-0.1**
TAMH	**Tambohuasha Ch**	**2.18**	**90**	P	**Pn**	**01 51 22.0**	**-0.2**
PORT	**Chimborazo Vol**	**2.19**	**88**	P	**Pn**	**01 51 22.0**	**-0.4**
ARNL	**Arenillas**	**2.20**	**156**	P	**Pn**	**01 51 22.0**	**0.0**
IGUA	**Igualata**	**2.32**	**89**	P	**Pn**	**01 51 25.0**	**+0.7**
ILLI	**Illinizas Sur**	**2.38**	**70**	P	**Pn**	**01 51 24.0**	**-0.9**
BV15	**Puerto Quito-O**	**2.41**	**46**	P	**Pn**	**01 51 25.0**	**0.0**
PAST	**Pastocalle**	**2.46**	**70**	P	**Pn**	**01 51 26.0**	**-0.1**
BBIL	**Ulba Tungurahu**	**2.48**	**88**	P	**Pn**	**01 51 27.0**	**+0.8**
BMAS	**Trigal station**	**2.48**	**89**	P	**Pn**	**01 51 27.0**	**+0.7**
JUI6	**Juive**	**2.49**	**88**	P	**Pn**	**01 51 27.0**	**+0.6**
ARRY	**Arrayan**	**2.51**	**90**	P	**Pn**	**01 51 27.0**	**+0.4**
POND	**Pondoa**	**2.51**	**88**	P	**Pn**	**01 51 27.0**	**+0.3**
RETU	**Refugio**	**2.52**	**88**	P	**Pn**	**01 51 28.0**	**+1.1**
BPAT	**Tungurahua Vol**	**2.53**	**90**	P	**Pn**	**01 51 28.0**	**+1.0**
SLOR	**San Lorenzo -**	**2.59**	**72**	P	**Pn**	**01 51 29.0**	**+1.2**
CAMI	**Rancho Maria**	**2.60**	**71**	P	**Pn**	**01 51 30.0**	**+2.0**
BNAS	**Cotopaxi Volca**	**2.62**	**71**	P	**Pn**	**01 51 30.0**	**+1.7**
BMOR	**Cotopaxi Volca**	**2.62**	**72**	P	**Pn**	**01 51 30.0**	**+1.6**
SANGA	**Volcan Sangay**	**2.64**	**101**	P	**Pn**	**01 51 29.0**	**+0.4**
NAS2	**Nasa**	**2.64**	**71**	P	**Pb**	**01 51 31.0**	**-2.2**
HPAL	**Hacienda Las P**	**2.65**	**61**	P	**Pn**	**01 51 28.0**	**-0.6**
BREF	**Cotopaxi Volca**	**2.66**	**71**	P	**Pn**	**01 51 31.0**	**+2.0**
VCES	**Cotopaxi**	**2.67**	**74**	P	**Pn**	**01 51 31.0**	**+2.0**
GGPT	**Toaza - Volcan**	**2.67**	**61**	P	**Pn**	**01 51 30.0**	**+1.0**
BVC2	**Cotopaxi Volca**	**2.69**	**71**	P	**Pn**	**01 51 31.0**	**+1.6**
JUA2	**San Juan 2**	**2.69**	**61**	P	**Pn**	**01 51 29.0**	**-0.3**
BTAM	**Cotopaxi Volca**	**2.70**	**72**	P	**Pn**	**01 51 31.0**	**+1.5**
PITA	**Cotopaxi Volc**	**2.71**	**69**	P	**Pn**	**01 51 31.0**	**+1.5**
VC1	**Cotopaxi 1**	**2.71**	**71**	P	**Pn**	**01 51 31.0**	**+1.5**
TERV	**Terraza Guagua**	**2.71**	**60**	P	**Pn**	**01 51 30.0**	**+0.4**
GGPC	**Guagua Pichinc**	**2.72**	**61**	P	**Pn**	**01 51 30.0**	**+0.3**
PINO	**Pino**	**2.72**	**60**	P	**Pn**	**01 51 29.0**	**-0.7**
TAMB	**Tambo**	**2.72**	**72**	P	**Pn**	**01 51 31.0**	**+1.3**
LLOA	**Lloa**	**2.72**	**62**	P	**Pn**	**01 51 31.0**	**+1.3**
TOMA	**Boca Toma-Volc**	**2.73**	**68**	P	**Pn**	**01 51 31.0**	**+1.3**
PIAT	**Ana Tenorio**	**2.75**	**79**	P	**Pn**	**01 51 31.0**	**+1.0**
YANA	**Yana**	**2.77**	**60**	P	**Pn**	**01 51 30.0**	**-0.4**
TING	**Casa Alexandra**	**2.80**	**64**	P	**Pn**	**01 51 32.0**	**+1.4**
PAC1	**Pacto, Paraso**	**2.81**	**51**	P	**Pn**	**01 51 30.0**	**-0.6**
ANTG	**Antisana-Guama**	**2.89**	**69**	P	**Pn**	**01 51 34.0**	**+1.9**
ANTM	**Antisana-La Mi**	**2.91**	**70**	P	**Pn**	**01 51 34.0**	**+1.7**
PUYO	**Puyo, Santa Ro**	**2.94**	**89**	P	**Pn**	**01 51 35.0**	**+2.7**
BOSC	**San Juan Bosco**	**2.95**	**123**	P	**Pn**	**01 51 35.0**	**+2.5**
ANTS	**Antisana-Sarah**	**2.97**	**70**	P	**Pn**	**01 51 35.0**	**+1.8**
ANTI	**Antisana**	**3.00**	**69**	P	**Pn**	**01 51 35.0**	**+1.4**
OTAV	**Otavalo**	**3.06**	**55**	Pn	**Pn**	**01 51 34.3**	**0.0**
CUSE	**Cuicocha Este**	**3.14**	**55**	P	**Pn**	**01 51 36.0**	**+0.6**
CUSW	**Cuicocha Oeste**	**3.17**	**55**	P	**Pn**	**01 51 37.0**	**+1.2**
CUIC	**Cuicocha-Domo**	**3.17**	**55**	P	**Pn**	**01 51 37.0**	**+1.2**
ARDO	**Archidona, Ten**	**3.20**	**81**	P	**Pn**	**01 51 39.0**	**+3.0**
COTA	**Cotacachi**	**3.21**	**55**	P	**Pn**	**01 51 38.0**	**+1.6**
CAYR	**Refugio Cayamb**	**3.33**	**63**	P	**Pn**	**01 51 41.0**	**+2.8**
URCU	**Urcuqui**	**3.34**	**54**	P	**Pn**	**01 51 40.0**	**+1.9**
CAYA	**Cayambe**	**3.37**	**62**	P	**Pn**	**01 51 42.0**	**+3.4**
YAHU	**Yahuarcocha**	**3.45**	**57**	P	**Pn**	**01 51 42.0**	**+2.4**
LNGL	**El Angel-Carch**	**3.72**	**53**	P	**Pn**	**01 51 46.0**	**+2.6**
CHMA	**Chilma**	**3.75**	**51**	P	**Pn**	**01 51 45.0**	**+1.4**
ZUMB	**Zumba**	**3.78**	**151**	P	**Pn**	**01 51 46.0**	**+2.0**
CHL1	**Volc¡n Chiles**	**3.79**	**53**	P	**Pn**	**01 51 46.0**	**+1.5**
ECEN	**Cerro Negro**	**3.79**	**52**	P	**Pn**	**01 51 46.0**	**+1.5**
CHL2	**Volc¡n Chiles**	**3.82**	**53**	P	**Pn**	**01 51 47.0**	**+2.1**
TULM	**Tulcn-Chalpat**	**3.88**	**55**	P	**Pn**	**01 51 49.0**	**+3.4**
BONI	**La Bonita**	**3.96**	**60**	P	**Pn**	**01 51 50.0**	**+3.5**
ATUL	**Tulcn**	**3.96**	**55**	P	**Pn**	**01 51 50.0**	**+3.4**
CMBC	**Cumbal**	**3.98**	**52**	*eP*	**Pn**	**01 51 48.7**	**+1.8**
CMBC				*eS*	**Sn**	**01 52 36.3**	**+2.3**
CMBC	**Cumbal**	**3.98**	**52**	P	**Pn**	**01 51 49.0**	**+2.0**
CCUFI	**Cufio, Nario**	**4.53**	**53**	*eP*	**Pn**	**01 51 57.7**	**+3.1**
GCUF	**Volcan Galeras**	**4.53**	**53**	*eP*	**Pn**	**01 51 57.2**	**+2.5**
CRUC	**La Cruz**	**5.05**	**53**	*eP*	**Pn**	**01 52 03.7**	**+2.1**
GR1C	**Gorgona, Isla**	**5.30**	**32**	*eP*	**Pn**	**01 52 08.2**	**+3.5**
SOTA	**Rioblanco**	**5.67**	**50**	*eP*	**Pn**	**01 52 11.3**	**+1.0**
POPC	**Popayan, Colom**	**5.89**	**47**	*eP*	**Pn**	**01 52 12.8**	**-0.3**
PCON	**Cinco Dias**	**5.96**	**50**	*eP*	**Pn**	**01 52 15.5**	**+1.2**
MALC	**Bahia Malaga**	**6.59**	**33**	*eP*	**Pn**	**01 52 26.6**	**+4.1**
GARC	**Garzon, Huila**	**6.60**	**56**	*eP*	**Pn**	**01 52 24.4**	**+1.6**
BETC	**Betania**	**6.92**	**53**	*eP*	**Pn**	**01 52 30.1**	**+3.0**
YOTC	**Yotoco, Valle**	**7.16**	**40**	*eP*	**Pn**	**01 52 25.9**	**-4.5**
ORTC	**Ortega, Tolima**	**7.86**	**47**	*eP*	**Pn**	**01 52 38.8**	**-1.2**
MACC	**Macarena, Meta**	**7.99**	**63**	*eP*	**Pn**	**01 52 42.4**	**+0.6**
ANIL	**Santa Ana**	**8.16**	**43**	*eP*	**Pn**	**01 52 45.3**	**+1.0**
GUY2C	**Guyana, Caldas**	**8.73**	**40**	*eP*	**Pn**	**01 52 51.7**	**-0.6**
ROSC	**El Rosal**	**9.17**	**46**	Pn	Pn	01 52 44.1	-14
1.9nm,0.3s,baz=100,slow=22,SNR=2.3							
ROSC	**El Rosal**	**9.17**	**46**	Pn	**Pn**	**01 52 57.8**	**-0.4**
PAYG	**Puerto Ayora**	**9.36**	**275**		**Pn**	**01 53 03.5**	**+3.0**
NNA	**Nana**	**11.17**	**159**	Pn	**Pn**	**01 53 25.5**	**+0.2**
2.5nm,0.3s,baz=25,slow=7.1,SNR=3.1							
NNA					Sn	**Sn**	**01 55 26.1**	**-4.3**
3.8nm,0.3s,baz=259,slow=23,SNR=6.0							
CAO2	**Cobano, Puntar**	**11.88**	**340**	Pn	**Pn**	**01 53 33.4**	**-1.7**
DUNO	**Dulce Nombre,**	**12.38**	**339**	Pn	**Pn**	**01 53 42.0**	**0.0**
JTS	**Las Juntas de**	**12.39**	**341**	Sn	Sn	01 55 42.4	-18
1.1nm,0.3s,baz=13,slow=19,SNR=4.5							
SDV	**Santo Domingo**	**14.59**	**45**	Pn	**Pn**	**01 54 12.4**	**+0.1**
LPAZ	**La Paz**	**19.36**	**140**	P	**P**	**01 55 11.8**	**-0.3**
0.1nm,0.3s,baz=330,slow=11,SNR=8.6							
LPAZ	**La Paz**	**19.36**	**140**	P	**P**	**01 55 12.3**	**+0.2**
LPAZ				IAmb	IAmb	01 55 18.5	
comp=Z,18nm,1.4s							
PB12	**IPOC Station P**	**19.93**	**149**	P	**Pn**	**01 55 18.6**	**-0.8**
PB12				IAmb	IAmb	01 55 23.5	
comp=Z,18nm,1.2s							
PB16	**IPOC Station P**	**20.13**	**147**	P	Pn	01 55 22.0	-0.2
PB11	**IPOC Station P**	**21.23**	**149**	P	**P**	**01 55 32.2**	**+0.3**
PB11				IAmb	IAmb	01 55 34.3	
comp=Z,17nm,1.0s							
GO01	**Chusmiza**	**21.39**	**148**	P	**P**	**01 55 34.1**	**+0.1**
GO01				IAmb	IAmb	01 55 36.5	
comp=Z,14nm,0.8s							
PB08	**IPOC Station P**	**21.81**	**149**	P	**P**	**01 55 38.6**	**+0.2**
PB08				IAmb	IAmb	01 55 41.3	
comp=Z,15nm,1.3s							
SIV	**San Ignacio**	**24.31**	**127**	P	P	01 55 52.6	-11
comp=Z,1.3nm,0.6s,baz=285,slow=11,SNR=6.6							
PLCA	**Paso Flores**	**40.15**	**168**	P	P	01 58 27.6	+5.8
comp=Z,2.1nm,0.9s,baz=335,slow=11,SNR=2.9							
NVAR	**Mina Arroy Bea**	**52.57**	**323**	P	**P**	**02 00 02.1**	**+2.4**
comp=Z,0.8nm,0.9s,baz=149,slow=5.4,SNR=4.5							
ULM	**Lac du Bonnet**	**53.14**	**348**	P	**P**	**02 00 01.9**	**-1.4**
comp=Z,4.3nm,0.8s,baz=163,slow=8.2,SNR=4.6							
YKA	**Yellowknife Ar**	**68.72**	**344**	P	**P**	**02 01 47.7**	**-1.4**
comp=Z,0.7nm,0.8s,baz=140,slow=5.9,SNR=6.1							

NOU 29 01:53:29.6,13.°86S×167.°43E,h192km,mb4.2/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.91**	**169**	P	Pn	01 54 29.8	-0.2
RTV	**Rentapao**	**4.03**	**166**	P	Pn	01 54 30.8	-0.6
YATNC	**Mamie plateau,**	**8.17**	**184**	P	Pn	01 55 25.0	-0.1
41nm,1.1s							
DZM	**Mont Dzumac**	**8.22**	**186**	P	Pn	01 55 26.1	+0.3
34nm,1.8s							
NOUC	**Port Laguerre**	**8.27**	**187**	P	Pn	01 55 25.9	-0.4
28nm,0.7s							
OUENC	**Ouen Island, N**	**8.53**	**184**	P	Pn	01 55 30.1	+0.3
35nm,1.2s							

IDC 29 02:09:44.6±3.9,**4.°59S×151.°98E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.4/31,mbtmp3.5/2,Error ellipse: s-maj=148.8km s-min=10.7km az=110.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.28**	**9**	Pg	Pg	02 09 49.9	-0.1
357nm,0.3s,baz=234,slow=0.9,SNR=52							
KRVT				Lg	Lg	02 09 58.0	
964nm,0.3s,baz=283,slow=23,SNR=13							
WRA	**Warramunga Arr**	**22.98**	**227**	P	P	02 14 50.7	-0.5
1.3nm,0.8s,baz=52,slow=9.6,SNR=13							
ASAR	**Alice Springs**	**25.77**	**221**	P	P	02 15 16.8	-0.6
0.3nm,0.4s,baz=51,slow=9.3,SNR=5.6							
TORD	**Torodi Ar. Bea**	**149.47**	**288**	PKPbc	PKiKP	02 29 38.4	+0.3
3.5nm,0.4s,baz=105,slow=3.5,SNR=1.4							

NOU 29 02:12:55.9,16.°10S×167.°56E,h16km,MLv4.6/11, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.72**	**160**	P	Pn	02 13 25.5	+0.2
KOUNC	**Koumac, New Ca**	**5.41**	**215**	P	Pn	02 14 15.4	-0.6
YATNC	**Mamie plateau,**	**5.96**	**186**	P	Pn	02 14 23.1	-0.5
27nm,1.3s							
DZM	**Mont Dzumac**	**6.03**	**190**	P	Pn	02 14 23.8	-0.8
NOUC	**Port Laguerre**	**6.09**	**191**	P	Pn	02 14 25.5	+0.2
OUENC	**Ouen Island, N**	**6.32**	**186**	P	Pn	02 14 29.8	+1.3
24nm,1.0s							

KRSC 29 02:15:24.0±2.2,**51.°42N×153.°75E,h417**km±22km,**ML4.1, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**2.05**	**64**	*eP*	P	02 16 22.1	+0.4
APC	**Apacha**	**2.58**	**53**	*eP*	P	02 16 25.6	+0.5
KDTR	**Khodutka, Kamc**	**2.72**	**80**	*eP*	P	02 16 27.5	+1.3
KDTR				*eS*	S	02 17 16.9	+0.2
KRMR	**Karymshinskiy**	**3.04**	**61**	*eP*	P	02 16 30.1	+1.5
RUS	**Russkaya**	**3.12**	**69**	*eP*	P	02 16 31.1	+1.9
RUS				*eS*	S	02 17 23.6	+1.3
GNL	**Ganaly**	**3.42**	**47**	*eP*	P	02 16 32.3	+0.5
KOK	**Koryaka**	**3.53**	**56**	*eP*	P	02 16 34.7	+2.0
AVH	**Avacha**	**3.57**	**57**	*eP*	P	02 16 36.1	+3.0
KRX	**Arik**	**3.57**	**55**	*eP*	P	02 16 34.8	+1.7
UGLR	**Uglovaya**	**3.59**	**58**	*eP*	P	02 16 36.5	+3.2
KRER	**Koryakskii**	**3.60**	**56**	*eP*	P	02 16 36.0	+2.6
SMAR	**Somma**	**3.60**	**57**	*eP*	P	02 16 35.5	+2.0
SDLR	**Sedlovina**	**3.65**	**57**	*eP*	P	02 16 36.4	+2.6
SPN	**Mys Shipunski**	**4.20**	**64**	*eP*	P	02 16 39.7	+1.0
SPN				*eS*	S	02 17 38.5	-1.2
TUMR	**Tumrok**	**5.44**	**42**	*eP*	P	02 16 54.2	+3.2
MKZ	**Mys Kozlova**	**5.75**	**54**	*eP*	P	02 16 54.7	+0.6
MKZ				*eS*	S	02 18 05.4	-2.6
BKI	**Bering**	**8.24**	**58**	*eP*	P	02 17 24.1	+2.5
BKI				*eS*	S	02 18 58.0	0.0

*IDC **29** 02:30:36.6±2.0,16.°18S×167.°19E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.6/25,mbtmp3.6/4,ML3.9/1,Error ellipse: s-maj=53.4km s-min=31.3km az=98.0*
*NOU **29** 02:30:39.2,16.°02S×167.°33E,h14km,MLv4.6/13, Vanuatu Islands*

ISC 29 02:30:40.4±1.0,**16.°10S**±0.°08×**167.°2E**±0.°1,**h27**km,**n14,** σ1§**57**/15,**mb3.5**/3,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.65**	**357**	P	**Pb**	**02 30 51.8**	**-1.4**
DVP	**Devils Point**	**1.86**	**151**	P	**Pn**	**02 31 11.3**	**+0.8**
RTV	**Rentapao**	**2.03**	**146**	P	**Pn**	**02 31 13.9**	**+1.0**
KOUNC	**Koumac, New Ca**	**5.24**	**212**	P	**Pn**	**02 31 58.4**	**+1.3**
YATNC	**Mamie plateau,**	**5.94**	**183**	P	**Pn**	**02 32 06.0**	**-0.7**
DZM	**Mont Dzumac**	**5.99**	**187**	Pn	**Pn**	**02 32 07.5**	**+0.1**
3.4nm,0.3s,baz=73,slow=5.3,SNR=35							
DZM					Sn	**Sn**	**02 33 13.0**	**-2.2**
baz=329,slow=19,SNR=1.3							
DZM	**Mont Dzumac**	**5.99**	**187**	P	**Pn**	**02 32 07.7**	**+0.3**
NOUC	**Port Laguerre**	**6.04**	**188**	P	**Pn**	**02 32 09.0**	**+1.0**
ONTNC	**Ouen Toro**	**6.22**	**187**	P	**Pn**	**02 32 12.8**	**+2.3**
OUENC	**Ouen Island, N**	**6.30**	**183**	P	**Pn**	**02 32 13.3**	**+1.7**
37nm,1.2s							
WRA	**Warramunga Arr**	**31.49**	**258**	P	P	**02 36 59.6**	**-0.6**
0.3nm,0.9s,baz=85,slow=7.1,SNR=2.0							
ASAR	**Alice Springs**	**32.18**	**251**	P	**P**	**02 37 05.3**	**-1.0**
0.4nm,0.6s,baz=78,slow=8.8,SNR=6.1							
SONM	**Songino Array**	**83.57**	**324**	P	**P**	**02 43 09.0**	**+2.7**
0.4nm,0.5s,baz=126,slow=7.3,SNR=3.2							
ARCES	**ARCESS Array B**	**121.56**	**345**	PKP	**PKPdf**	**02 49 29.9**	**-1.0**
0.6nm,0.6s,baz=25,slow=2.4,SNR=5.7							

*ASRS **29** 02:30:41.4±0.3,51.°N±2.°×9.°6E±.°,h5km,MLh3.8/12,Error ellipse: s-maj=4.0km s-min=2.7km az=5.9,confirmed*

ISC 29 02:30:42.5±0.9,**50.°38N**±0.°05×**96.°49E**±0.°02,**h10**km,**n19,** σ3§**23**/40,**1C-1D,Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNGR	**Kungurtug, Tuv**	**0.69**	**71**	⇑Pg	**Pg**	**02 30 56.9**	**+1.0**
KNGR				Sg	**Sb**	**02 31 07.5**	**+1.1**
ERNS	**Erzin**	**0.86**	**263**	⇓Pg	**Pg**	**02 31 00.0**	**+1.0**
ERNS				Sg	**Sg**	**02 31 11.4**	**+1.0**
KZLR	**Kyzyl**	**1.85**	**317**	Pg	**Pn**	**02 31 14.3**	**+0.1**
KZLR				Sg	**Sn**	**02 31 36.9**	**-0.7**
ARDR	**Aradan**	**2.92**	**320**	Pg	**Pb**	**02 31 33.4**	**-1.2**
ARDR				Sg	**Sb**	**02 32 10.6**	**+0.3**
MOY	**Mondy**	**3.12**	**64**	Pg	**Pb**	**02 31 38.5**	**+0.4**
MOY				Sg	**Sg**	**02 32 21.1**	**-1.6**
DJOS	**Djoyskaya Sosn**	**3.99**	**309**	Pg	**Pb**	**02 31 56.2**	**+3.4**
DJOS				Sg	**Sb**	**02 32 46.0**	**+4.9**
CERR	**Cheremushki**	**4.02**	**310**	Pg	**Pb**	**02 31 54.5**	**+1.2**
CERR				Sg	**Sb**	**02 32 46.3**	**+4.4**
DJO	**Djoy, Khakassi**	**4.07**	**308**	Pg	**Pb**	**02 31 54.7**	**+0.4**
DJO				Sg	**Sb**	**02 32 45.5**	**+2.1**
ZAK	**Zakamensk**	**4.35**	**87**	Pg	**Pb**	**02 32 03.5**	**+4.5**
ZAK				Sg	**Sg**	**02 33 01.7**	**-0.2**
MINR	**Mina**	**4.74**	**344**	Pn	**Pn**	**02 31 50.8**	**-3.1**
MINR				Pg	**Pb**	**02 32 08.4**	**+2.9**
MINR				Sg	**Sg**	**02 33 13.0**	**-1.5**
CUR	**Chagan-Uzun**	**5.23**	**270**	Pn	**Pn**	**02 32 02.8**	**+2.0**
CUR				Pg	Pb	02 32 19.5	+5.5
CUR				S	**Sn**	**02 32 59.7**	**-1.5**
CUR				Sg	**Sg**	**02 33 28.7**	**-1.6**
AKAR	**Aktash**	**5.68**	**273**	Pn	**Pn**	**02 32 03.8**	**-3.2**
AKAR				Pg	**Pg**	**02 32 28.2**	**-2.9**
AKAR				Sg	**Sg**	**02 33 42.4**	**-2.2**
LUZB	**Luzhba, Kemero**	**5.72**	**308**	Pn	**Pn**	**02 32 04.2**	**-3.2**
LUZB				Pg	**Pb**	**02 32 26.5**	**+4.2**
LUZB				Sg	**Sb**	**02 33 37.7**	**+6.9**
CHBI	**Chibit, Altay**	**5.75**	**273**	Pg	**Pb**	**02 32 26.4**	**+3.5**
CHBI				Sg	**Sg**	**02 33 45.1**	**-2.0**
TASR	**Tashtagol**	**5.87**	**297**	Pn	Pn	02 32 03.8	-5.7
TASR				Pg	Pb	02 32 29.7	+4.9
TASR				Sg	**Sb**	**02 33 42.1**	**+6.8**
DGZ	**Jazzator, Alta**	**5.88**	**267**	Pn	Pn	02 32 05.5	-4.2
DGZ				Pg	**Pg**	**02 32 31.5**	**-3.4**
DGZ				S	**Sn**	**02 33 16.0**	**-1.1**
DGZ				Sg	**Sg**	**02 33 46.3**	**-4.7**
ARTR	**Artybash**	**5.97**	**287**	Sg	**Sg**	**02 33 49.0**	**-5.1**
TRG	**Tyrgan**	**6.59**	**65**	Pg	Pg	02 32 44.3	-4.3
TRG				Sg	**Sg**	**02 34 09.7**	**-4.2**
BRCR	**Berchikul'**	**7.21**	**320**	Pg	**Pb**	**02 32 51.4**	**+3.8**
BRCR				Sg	**Sg**	**02 34 30.0**	**-3.6**

*IDC **29** 02:41:40.8±1.0,46.°21N×53.°16E,h0km,mb3.4/4, mb1 3.8/9,mb1mx3.5/49,mbtmp3.7/9,ML3.6/4,Error ellipse: s-maj=22.9km s-min=8.7km az=154.0*
*NNC **29** 02:41:43.2±5.0,46.°00N×53.°90E,h0km,mb3.9,mpv3.2, Error ellipse: s-maj=47.2km s-min=30.0km az=96.0*

ISC 29 02:41:41.2±1.0,**46.°2N**±0.°1×**53.°13E**±0.°06,**h10**km,**n16,** σ1§**72**/17,**mb3.4**/3,**3C-8D,Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKTO	**Aktyubinsk**	**5.36**	**36**	Pn	**Pn**	**02 43 02.1**	**+0.8**
1.0nm,0.3s,baz=208,slow=1.8,SNR=30							
AKTO				Sn	**Sn**	**02 44 02.5**	**-0.6**
1.0nm,0.3s,baz=18,slow=20,SNR=3.6							
AKTO	**Aktyubinsk**	**5.36**	**36**	⇓Pn	**Pn**	**02 43 01.2**	**-0.1**
0.7nm,0.2s							
AKTO				⇓Sn	**Sn**	**02 44 02.7**	**-0.4**
4.1nm,0.5s							
AKTO				⇓Lg	Lg	02 44 28.6	
7.6nm,0.7s							
AB31	**Akbulak array**	**5.53**	**54**	⇑Pn	**Pn**	**02 43 04.5**	**+0.9**
0.5nm,0.2s,baz=231,slow=13,SNR=74							
AB31				⇓Pg	**Pb**	**02 43 19.1**	**+1.2**
1.9nm,0.4s,baz=237,slow=13,SNR=3.5							
AB31				⇑Sn	**Sn**	**02 44 06.2**	**-1.0**
1.3nm,0.3s,baz=228,slow=23,SNR=2.7							
AB31				⇓Lg	Lg	02 44 29.2	
1.8nm,0.3s							
BELG	**Belogornoye**	**7.19**	**332**	Sn	**Sn**	**02 44 45.5**	**-2.4**
1.3nm,0.3s,baz=83,slow=19,SNR=8.5							
KBZ	**Khabaz**	**7.66**	**255**	Pn	**Pn**	**02 43 34.2**	**+1.4**
1.0nm

comp=N,873nm,0.3s
PB08 IPOC Station P 2.16 344 Pn 03 09 09.9 +1.2
PB08 IPOC Station P 2.16 344 *eP* **Pn 03 09 10.3 +1.6**
PB08 *eS* **Sn 03 09 37.2 +1.2**
PB08 IAML 03 09 41.7
comp=E,294nm,0.3s
PB10 IPOC Station P 2.26 235 Pn **Pn 03 09 10.1 +0.6**
PB10 IPOC Station P 2.26 235 *eP* **Pn 03 09 10.2 +0.8**
PB10 IAML 03 09 46.8
comp=N,563nm,0.3s
TA01 Diego Aracena 2.26 317 Pn **Pn 03 09 09.6 0.0**
TA01 Diego Aracena 2.26 317 *eP* **Pn 03 09 09.4 -0.1**
TA01 *eS* **Sn 03 09 37.2 -0.4**
HMBC Humberstone 2.32 327 *eP* **Pn 03 09 10.4 -0.1**
HMBC *eS* **Sn 03 09 38.7 -0.5**
HMBC IAML 03 09 43.1
comp=N,630nm,0.4s
TA02 Huaiquique 2.46 322 Pn 03 09 12.5 +0.4
TA02 Huaiquique 2.46 322 *eP* **Pn 03 09 11.6 -0.4**
GO01 Chusmiza 2.63 346 Pn 03 09 15.0 +0.2
GO01 Chusmiza 2.63 346 *eP* **Pn 03 09 16.0 +1.2**
GO01 IAML 03 09 56.4
comp=N,382nm,0.2s
PB11 IPOC Station P 2.67 337 Pn 03 09 15.2 +0.2
PB11 IPOC Station P 2.67 337 *eP* **Pn 03 09 15.1 0.0**
PB11 *eS* **Sn 03 09 46.4 -1.1**
PB11 IAML 03 09 54.5
comp=E,472nm,0.5s
PB14 IPOC Station P 2.94 215 Pn **Pn 03 09 19.8 +1.2**
PB14 IPOC Station P 2.94 215 *eP* **Pn 03 09 19.5 +0.9**
GO02 Mina Guanaco 3.07 198 Pn **Pn 03 09 19.4 -1.0**
GO02 Mina Guanaco 3.07 198 *eP* **Pn 03 09 20.6 +0.2**
PB12 IPOC Station P 3.97 335 Pn **Pn 03 09 32.1 -0.1**
PB12 IPOC Station P 3.97 335 *eP* **Pn 03 09 31.0 -1.2**
PB16 IPOC Station P 3.98 347 Pn **Pn 03 09 32.9 +0.1**
AC01 Pan de Azucar 4.33 205 Pn **Pn 03 09 35.4 -1.4**
AC01 Pan de Azucar 4.33 205 *eP* **Pn 03 09 35.7 -1.1**
AC02 Maricunga 4.61 187 Pn **Pn 03 09 41.2 +0.1**
AC06 Mina Casimiro 5.36 198 Pn **Pn 03 09 48.8 -1.9**
GO03 Copiap 5.55 196 Pn 03 09 51.5 -1.9
LPAZ La Paz 5.93 4 P **Pn 03 10 00.8 +1.8**
comp=E,0.9nm,0.3s,baz=167,slow=6.6,SNR=28
LPAZ LR LR 03 12 52.0
comp=E,1μm,18.6s,baz=36,slow=43
LPAZ La Paz 5.93 4 Pn **Pn 03 09 59.1 +0.1**
LPAZ La Paz 5.93 4 *eP* **Pn 03 09 59.7 +0.7**
LCO Las Campanas 7.03 196 Pn **Pn 03 10 11.8 -1.7**
GO04 Tololo Observa 8.16 194 Pn **Pn 03 10 28.0 -0.8**
SIV San Ignacio 9.40 50 P Pn 03 10 32.4 -13
comp=E,1.4nm,0.3s,baz=248,slow=7.7,SNR=24
SIV S Sn 03 12 05.8 -24
comp=E,0.5nm,0.3s,baz=247,slow=17,SNR=1.7
VA03 San Esteban 10.64 189 Pn **Pn 03 11 03.0 +0.9**
ETMB Extrema 12.55 11 *eP* **Pn 03 11 25.4 -2.1**
SALV Santo Antonio 13.67 65 *eP* **P 03 11 48.6 +1.8**
TRCB Terra Rica 14.71 95 *eP* **P 03 12 00.0 +1.7**
PTGB Pitanga 15.31 102 *eP* **P 03 12 05.7 +0.6**
PDRB Porto dos Gac 15.45 49 *eP* **P 03 12 06.7 +0.1**
ITAB Concordia 15.71 112 *eP* **P 03 12 09.1 -0.2**
PCMB Pacaembu 16.04 91 *eP* **P 03 12 15.3 +2.2**
PLTB Pedras Altas 16.33 129 *eP* **Pn 03 12 12.4 -3.0**
CLDB Colider 16.62 49 *eP* **P 03 12 20.6 +1.0**
FRTB Fartura 17.53 97 *eP* **Pn 03 12 30.6 +0.5**
PLCA Paso Flores 18.52 185 P **P 03 12 40.9 +0.6**
comp=E,0.1nm,0.3s,baz=0.0,slow=8.1,SNR=3.2
PLCA Paso Flores 18.52 185 IAmb IAmb 03 12 46.3
comp=Z,9.7nm,1.5s
LL04 Puerto Octay 18.91 189 P **P 03 12 42.7 -1.7**
LL04 IAmb IAmb 03 12 43.3
comp=Z,9.5nm,1.2s
BDFB Brasilia 20.48 75 P **P 03 12 59.8 -1.9**
comp=Z,1.2nm,0.4s,baz=229,slow=9.3,SNR=3.2
BDFB Brasilia 20.48 75 IAmb IAmb 03 13 02.8
comp=Z,9.5nm,1.3s
ITTB Itatiuba 21.66 37 *eP* **P 03 13 12.7 -1.6**
BOAV Boa Vista 25.70 19 *eP* P 03 13 44.8 -7.5
TX31 Lajitas Ar. Si 61.43 325 P **P 03 18 37.0 -0.1**
TX31 IAmb IAmb 03 18 39.9
comp=Z,3.7nm,1.1s
TXAR Lajitas Array 61.43 325 P **P 03 18 38.0 +0.9**
comp=Z,0.4nm,0.9s,baz=162,slow=8.7,SNR=3.9
SNAA Sanae 61.48 161 P **P 03 18 36.5 -0.3**
comp=Z,0.7nm,0.6s,baz=290,slow=12,SNR=5.8
DBIC Dimbokro 68.61 73 P **P 03 19 24.4 +0.6**
comp=Z,6.8nm,0.7s,baz=262,slow=9.2,SNR=6.6
TORD Torodi Ar. Bea 77.28 70 P **P 03 20 15.0 +0.1**
comp=Z,1.9nm,0.5s,baz=255,slow=5.4,SNR=4.5
YKA Yellowknife Ar 91.99 340 P **P 03 21 29.5 +1.6**
comp=Z,0.6nm,0.6s,baz=135,slow=4.6,SNR=21
WRA Warramunga Arr 132.50 210 PKP **PKiKP 03 27 36.4 +0.9**
comp=Z,0.1nm,0.4s,baz=152,slow=1.7,SNR=1.8
MKAR Makanchi Array 146.02 37 PKPbc **PKPbc 03 28 00.1 +1.0**
comp=Z,1.7nm,0.8s,baz=307,slow=2.6,SNR=15

NOU 29 03:28:49.8, 15°.94S×167°.50E, h39km, MLv 4.5/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.57**	**330**	P	Pn	03 29 02.7	+1.2
DVP	**Devils Point**	**1.89**	**160**	P	Pn	03 29 21.0	+1.4
KOUNC	**Koumac, New Ca**	**5.51**	**213**	P	Pn	03 30 09.9	+0.6
YATNC	**Mamie plateau,** 28nm,1.1s	**6.11**	**185**	P	Pn	03 30 17.2	-0.5
DZM	**Mont Dzumac**	**6.18**	**189**	P	Pn	03 30 17.3	-1.3
NOUC	**Port Laguerre**	**6.23**	**190**	P	Pn	03 30 19.5	+0.2

*SSNC **29** 03:39:55.7±2.2, 20°.13N×70°.95W, h0km±999km, MD3.9, ML3.2, MW3.1*
*OSPL **29** 03:39:59.5±2.3, 19°.87N×70°.97W, h3km±8km, ML2.5*
ISC 29 03:39:58.8±1.1, 19°.87N±0°.04×71°.07W±0°.04, h25km±7km, n17, σ1§40/27, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOPP1	**Punta Rusia, P**	**0.12**	**262**	*i* P	**Pb**	**03 40 03.6**	**-0.1**
LOPP1				*eS*	**Sb**	**03 40 07.0**	**+0.2**
LOPP1				IAML		03 40 14.2	
	comp=Z,2μm,1.3s						
SC01	**Santiago de lo**	**0.55**	**144**	*i* P	**Pb**	**03 40 08.2**	**-1.6**
SC01				*eS*	**Sb**	**03 40 16.7**	**-0.6**
SC01				IAML		03 40 26.5	
	comp=Z,275nm,0.5s						
LODA1	**ITESIL, Dajabo**	**0.68**	**242**	*i* P	**Pb**	**03 40 12.4**	**+0.3**
LODA1				*eS*	**Sn**	**03 40 23.6**	**+0.9**
LODA1				IAML		03 40 32.0	
	comp=Z,2μm,2.0s						
SDDR	**Presa de Saban**	**0.91**	**193**	*i* P	**Pn**	**03 40 14.8**	**-1.4**
SDDR				*eS*	**Sb**	**03 40 28.4**	**+0.7**
SDDR				IAML		03 40 29.8	
	comp=Z,513nm,0.4s						
BANI	**BANI**	**1.62**	**155**	*i* P	**Pn**	**03 40 26.1**	**+0.2**
BANI				*eS*	**Sn**	**03 40 46.6**	**+0.6**
BANI				IAML		03 40 50.1	
	comp=Z,64nm,0.6s						
GRTK	**Grand Turk**	**1.63**	**358**	*i* P	**Pn**	**03 40 26.8**	**+0.8**
GRTK				*eS*	**Sn**	**03 40 48.5**	**+2.3**
GRTK				IAML		03 40 52.9	
	comp=Z,73nm,0.3s						
LOBA2	**Hotel Casa Bon**	**1.78**	**181**	*i* P	**Pn**	**03 40 29.1**	**+1.1**
LOBA2				IAML		03 41 01.1	
	comp=Z,22nm,2.0s						
SDD	**Santo Domingo**	**1.78**	**142**	*eS*	**Sn**	**03 40 50.0**	**+0.1**
LOPE2	**Hotel El Peder**	**1.94**	**199**	*i* P	**Pn**	**03 40 31.8**	**+1.6**
LOPE2				IAML		03 41 06.8	
	comp=Z,54nm,0.6s						
LGNH	**Logne**	**1.98**	**227**	*i* P	**Pn**	**03 40 33.0**	**+2.2**
LGNH				IAML		03 41 01.3	
	comp=Z,24nm,1.2s						
JAKH	**Jacmel**	**2.12**	**220**	*i* P	**Pn**	**03 40 35.2**	**+2.5**
JAKH				IAML		03 41 13.0	
	comp=Z,20nm,0.5s						
MASC	**Masc**	**2.99**	**276**	*eP*	**Pn**	**03 40 44.4**	**-0.2**
MASC				*eS*	**Sn**	**03 41 19.9**	**+0.2**
MASC				IAML		03 41 22.1	
	comp=N,320nm,0.2s						
MASC				IAML		03 41 22.7	
	comp=E,509nm,0.2s						
MOAC	**Moa**	**3.74**	**283**	*eP*	**Pn**	**03 40 53.0**	**-2.0**
MOAC				*eS*	**Sn**	**03 41 36.8**	**-1.3**
MOAC				IAML		03 41 39.6	
	comp=E,5.6nm,0.2s						
MOAC				IAML		03 41 40.0	
	comp=N,16nm,0.3s						
RCC	**Rio Carpintero**	**4.35**	**272**	*eP*	**Pn**	**03 41 02.5**	**-0.9**
RCC				*eS*	**Sn**	**03 41 51.2**	**-2.3**
RCC				IAML		03 41 56.7	
	comp=N,2.9nm,0.2s						
HLGC	**Holguin**	**4.79**	**283**	*eP*	**Pn**	**03 41 11.1**	**+1.6**
HLGC				*eS*	**Sn**	**03 42 05.0**	**+0.7**
HLGC				IAML		03 42 09.9	
	comp=E,4.5nm,0.1s						
HLGC				IAML		03 42 11.3	
	comp=N,4.6nm,0.3s						
LMGC	**Las Mercedes**	**5.59**	**273**	*eP*	**Pn**	**03 41 18.9**	**-1.5**
LMGC				*eS*	**Sn**	**03 42 22.6**	**-1.2**
LMGC				IAML		03 42 24.0	
	comp=E,1.4nm,0.1s						
LMGC				IAML		03 42 25.0	
	comp=N,2.1nm,0.1s						
CCCC	**Ccc**	**6.41**	**283**	*eP*	Pn	03 41 26.9	-4.9
CCCC				*eS*	Sn	03 42 32.9	-11
CCCC				IAML		03 42 37.2	
	comp=E,1.6nm,0.3s						
CCCC				IAML		03 42 37.8	
	comp=N,1.1nm,0.3s						

*TUL **29** 03:48:50.3±0.8, 36°.86N±0°.04×98°.002W±0°.009, h5km±7km, ML3.0, mb_Lg2.9/52(NEIC), Error ellipse: s-maj=5.8km s-min=1.0km az=183.0*
*ANF **29** 03:48:50.8±0.4, 36°.85N×97°.98W, h5km, ML3.6/8, Error ellipse: s-maj=4.3km s-min=3.9km az=9.0*
*NEIC **29** 03:48:50.6±0.9, 36°.84N±0°.04×97°.98W±0°.02, h5km±5km, Error ellipse: s-maj=5.8km s-min=2.6km az=183.0*
ISC 29 03:48:50.8±0.9, 36°.86N±0°.03×97°.99W±0°.04, h10km, n61, σ0§81/57, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.94**	**240**	Pg	**Pg**	**03 49 08.1**	**-0.9**
U32A	**Winter Ranch,** baz=59,SNR=58	**0.94**	**240**	P	**Pg**	**03 49 08.1**	**-0.9**
T35A	**Sooner Cattle**	**1.19**	**87**	Pg	**Pb**	**03 49 12.7**	**-0.7**
T35B	**Sooner Cattle** baz=268,SNR=59	**1.19**	**87**	P	**Pb**	**03 49 12.8**	**-0.7**
T35B	baz=268			S	**Sb**	**03 49 28.4**	**-0.5**
OKCFA	**Oklahoma City**	**1.50**	**163**		**Pb**	**03 49 18.6**	**-0.2**
OKCFA	**Oklahoma City** baz=343	**1.50**	**163**	P	**Pb**	**03 49 18.5**	**-0.3**
OKCFA	baz=343			S	**Sg**	**03 49 38.9**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**1.52**	**163**		**Pn**	**03 49 17.7**	**-0.3**
R32A	**Long Quarter,**	**1.67**	**340**		**Pn**	**03 49 20.1**	**0.0**
R32A	comp=Z,55nm,0.8s			IAmb_Lg		03 49 45.5	
R32A	**Long Quarter,** baz=160,SNR=57	**1.67**	**340**	P	**Pn**	**03 49 20.9**	**+0.8**
R32A	baz=160			S	**Sb**	**03 49 43.0**	**+0.3**
FNO	**Franklin**	**1.67**	**163**		**Pn**	**03 49 20.3**	**+0.2**
TUL1	**Leonard**	**2.01**	**117**		**Pn**	**03 49 25.4**	**+0.5**
TUL1	**Leonard** baz=299,SNR=60	**2.01**	**117**	P	**Pb**	**03 49 26.2**	**-1.2**
TUL1	baz=299			Sb	**Sb**	**03 49 53.7**	**+1.2**
WMOK	**Wichita Mounta**	**2.21**	**197**		**Pn**	**03 49 28.3**	**+0.7**
WMOK	comp=Z,46nm,0.8s			IAmb_Lg		03 50 00.9	
X34A	**Smith Ranch, M**	**2.25**	**177**		**Pn**	**03 49 28.9**	**+0.7**
X34A	comp=Z,51nm,1.0s			IAmb_Lg		03 50 06.6	
CBKS	**Cedar Bluff**	**2.39**	**325**	Pn	**Pn**	**03 49 31.4**	**+1.3**
KSU1	**Kansas State U**	**2.49**	**26**		**Pn**	**03 49 32.4**	**+0.9**
KSU1	comp=Z,52nm,0.9s			IAmb_Lg		03 50 09.3	
X37A	**Clayton**	**3.11**	**136**	Pn	**Pn**	**03 49 40.5**	**+0.5**
X37A	comp=Z,35nm,0.7s			IAmb_Lg		03 50 36.0	
HHAR	**Hobbs**	**3.31**	**99**		**Pn**	**03 49 43.0**	**+0.2**
Z35A	**Perchaven, San** baz=350	**3.57**	**170**	S	**Sn**	**03 50 30.1**	**+1.6**
AMTX	**Amarillo**	**3.59**	**238**	Pn	**Pn**	**03 49 47.6**	**+1.0**
W39A	**Magazine**	**3.79**	**115**	Pn	**Pn**	**03 49 50.1**	**+0.8**
W39A	comp=Z,36nm,0.8s			IAmb_Lg		03 50 54.1	
S39A	**Bolivar**	**3.81**	**76**	Pn	**Pn**	**03 49 49.9**	**+0.2**
S39A	**Bolivar** baz=259,SNR=17	**3.81**	**76**	P	**Pn**	**03 49 50.8**	**+1.1**
U40A	**Yellville**	**4.16**	**95**	Pn	**Pn**	**03 49 54.7**	**+0.3**
U40A	comp=Z,19nm,0.7s			IAmb_Lg		03 51 08.3	
U40A	**Yellville** baz=278,SNR=12	**4.16**	**95**	P	**Pn**	**03 49 56.2**	**+1.7**
U40A	baz=278,SNR=12			P	**Pn**	**03 49 56.2**	**+1.7**
MIAR	**Mount Ida**	**4.27**	**121**	Pn	**Pn**	**03 49 56.1**	**+0.3**
MIAR	comp=Z,24nm,0.7s			IAmb_Lg		03 51 14.3	
Z38A	**Mt. Pleasant**	**4.35**	**145**	Pn	**Pn**	**03 49 57.6**	**+0.5**
Z38A	comp=Z,30nm,0.8s			IAmb_Lg		03 51 10.9	
N35A	**Tabor**	**4.40**	**24**	Pn	**Pn**	**03 49 59.4**	**+1.7**
ABTX	**Abilene, Hawle**	**4.44**	**198**	Pn	**Pn**	**03 49 59.1**	**+0.9**
P38A	**Dawn**	**4.47**	**50**	Pn	**Pn**	**03 49 58.8**	**+0.2**
P38A	**Dawn** baz=233,SNR=6.0	**4.47**	**50**	P	**Pn**	**03 49 59.9**	**+1.3**
BGNE	**Belgrade**	**4.55**	**358**	Pn	**Pn**	**03 50 00.0**	**+0.3**
BGNE					LR	03 51 15.6	
BGNE	comp=Z,24nm,0.8s			IAmb_Lg		03 51 27.4	
MGMO	**Mountain Grove**	**4.59**	**85**		**Pn**	**03 50 00.0**	**-0.3**
MGMO	comp=Z,16nm,0.8s			IAmb_Lg		03 51 16.2	
R40A	**Maddies Statio**	**4.76**	**71**	Pn	**Pn**	**03 50 02.9**	**+0.2**
X40A	**Basin Creek Fa**	**4.82**	**118**		**Pn**	**03 50 04.5**	**+1.1**
X40A	comp=Z,16nm,0.8s			IAmb_Lg		03 51 24.8	
FCAR	**Ozark Folk Cen**	**4.83**	**100**	Pn	**Pn**	**03 50 04.1**	**+0.5**
FCAR	comp=Z,16nm,0.9s			IAmb_Lg		03 51 35.8	
MSTX	**Muleshoe**	**4.85**	**235**	Pn	**Pn**	**03 50 04.5**	**+0.5**
WHAR	**Wooly Hollow**	**4.88**	**107**	Pn	**Pn**	**03 50 03.7**	**-0.5**
WHAR	comp=Z,18nm,0.7s			IAmb_Lg		03 51 27.4	
W41B	**Gary Mavity, V**	**4.95**	**108**	Pn	**Pn**	**03 50 06.0**	**+0.8**
WLAR	**White Oak Lake** comp=Z,18nm,0.7s	**5.09**	**127**	IAmb_Lg		03 51 37.2	
T25A	**Trinidad**	**5.15**	**275**	Pn	**Pn**	**03 50 08.2**	**0.0**
OGNE	**Ogallala**	**5.16**	**324**	Pn	**Pn**	**03 50 08.6**	**+0.4**
L34A	**Svendsen Farm,** comp=Z,17nm,0.9s	**5.25**	**13**	IAmb_Lg		03 51 39.9	
P40A	**Paris**	**5.39**	**59**	Pn	**Pn**	**03 50 11.5**	**+0.2**
P40A	comp=Z,20nm,0.7s			IAmb_Lg		03 51 41.4	
N38A	**Joes South For**	**5.41**	**42**	Pn	**Pn**	**03 50 10.9**	**-0.6**
N38A	comp=Z,24nm,0.7s			IAmb_Lg		03 51 49.9	
CCM	**Cathedral Cave**	**5.50**	**75**	Pn	**Pn**	**03 50 13.0**	**+0.2**
LCAR	**Lake Charles**	**5.56**	**96**	Pn	**Pn**	**03 50 14.8**	**+1.1**
K31A	**O'Neill** comp=Z,20nm,0.7s	**5.79**	**354**	IAmb_Lg		03 52 01.7	
Q24A	**Divide**	**6.04**	**293**	Pn	**Pn**	**03 50 20.7**	**+0.2**
SDCO	**Great Sand Dun**	**6.05**	**281**		**Pn**	**03 50 19.3**	**-1.4**
PBMO	**Poplar Bluff** comp=Z,14nm,0.9s	**6.07**	**88**	IAmb_Lg		03 52 08.1	
FVM	**French Village**	**6.12**	**77**	Pn	**Pn**	**03 50 21.3**	**0.0**
SCIA	**State Center** comp=Z,22nm,0.7s	**6.25**	**35**	IAmb_Lg		03 52 15.2	
JCT	**Junction City** comp=Z,20nm,1.1s	**6.54**	**194**	IAmb_Lg		03 52 28.9	
ISCO	**Idaho Springs**	**6.67**	**298**	Pn	**Pn**	**03 50 28.9**	**-0.3**
S44A	**Carbondale**	**7.01**	**81**	Pn	**Pn**	**03 50 33.9**	**+0.3**
S44A	comp=Z,11nm,0.8s			IAmb_Lg		03 52 38.3	
SIUC	**Southern Illin** comp=Z,14nm,0.8s	**7.05**	**80**	IAmb_Lg		03 52 39.2	
L40A	**Anamosa** comp=Z,12nm,0.8s	**7.38**	**43**	IAmb_Lg		03 52 52.3	
Q44A	**Meyer Farm, Va** comp=Z,15nm,1.0s	**7.38**	**71**	IAmb_Lg		03 52 54.2	
N23A	**Red Feather La**	**7.40**	**305**	Pn	**Pn**	**03 50 38.6**	**-0.5**
MNTX	**Cornudas Mount**	**7.99**	**232**	Pn	**Pn**	**03 50 47.6**	**+0.5**

*HLW **29** 03:50:49.1, 38°.92N×20°.65E, h10km±28km, Md4.2*
*MOS **29** 03:50:52.3±1.3, 38°.66N×20°.33E, h17km, mb4.4/9, Error ellipse: s-maj=6.8km s-min=3.5km az=74.4*
*IDC **29** 03:50:52.4±1.0, 38°.79N×20°.44E, h0km, mb4.1/8, mb1 4.1/20, mb1mx3.9/47, mbtmp3.9/20, ML3.6/12, Error ellipse: s-maj=16.7km s-min=13.7km az=8.0*
*THE **29** 03:50:53.5, 38°.69N×20°.61E, h0km±1km, ML3.9/5, Error ellipse: s-maj=1.1km s-min=0.4km az=98.0*
*ATH **29** 03:50:53.4, 38°.70N×20°.61E, h9km, ML3.9/18, Error ellipse: s-maj=1.4km s-min=0.7km az=285.0*
*PDG **29** 03:50:53.6±0.2, 38°.79N×20°.36E, h11km±1km, ML3.9/14, Error ellipse: s-maj=1.4km s-min=0.7km az=90.0*
*NEIC **29** 03:50:55.0±2.1, 38°.71N±0°.05×20°.50E±0°.06, h15km±2km, mb4.3/11, ML3.9(THE), Error ellipse: s-maj=8.0km s-min=6.1km az=221.0*
*BEO **29** 03:50:58.4±0.8, 39°.11N×20°.31E, h0km, ML3.7/6*
*GII **29** 03:51:09.6±0.3, 39°.16N×22°.26E, h150km*
ISC 29 03:50:52.8±0.7, 38°.73N±0°.02×20°.52E±0°.02, h7km±4km, n290, σ1§63/353, mb4.3/20, 30C-15D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRAG	**Dragano-Lefkad**	**0.06**	**133**	P	**Pg**	**03 50 54.5**	**-0.1**
DRAG				S	**Sg**	**03 50 55.4**	**-0.4**
DRAG	**Dragano-Lefkad**	**0.06**	**133**	P	**Pg**	**03 50 54.3**	**-0.2**
DRAG				S	**Sg**	**03 50 55.1**	**-0.7**
LKD2	**Lefkada island**	**0.13**	**61**	P	**Pg**	**03 50 55.7**	**+0.2**
LKD2				S	**Sg**	**03 50 57.8**	**+0.3**
LKD2				AML	AML	03 50 58.1	
LKD2				AML	AML	03 50 58.2	
LKD2	**Lefkada island** 125μm,0.5s	**0.13**	**61**	P	**Pg**	**03 50 55.7**	**+0.2**
LKD2				S	**Sg**	**03 50 57.8**	**+0.3**
NYDR	**Nydri-Lefkada**	**0.14**	**95**	P	**Pg**	**03 50 55.5**	**-0.3**
NYDR				S	**Sg**	**03 50 57.3**	**-0.5**
NYDR	**Nydri-Lefkada** 330μm,0.4s	**0.14**	**95**	P	**Pg**	**03 50 55.3**	**-0.5**
NYDR				S	**Sg**	**03 50 56.3**	**-1.5**
TSLK	**Tsoukalades, L**	**0.15**	**48**	P	**Pg**	**03 50 56.5**	**+0.6**
TSLK				S	**Sg**	**03 50 59.0**	**+1.1**
TSLK				AML	AML	03 50 59.8	
TSLK				AML	AML	03 51 00.3	
TSLK	**Tsoukalades, L** 136μm,0.6s	**0.15**	**48**	P	**Pg**	**03 50 56.3**	**+0.4**
TSLK				S	**Sg**	**03 50 59.0**	**+1.1**
EVGI	**Lefkada island**	**0.15**	**134**	P	**Pg**	**03 50 55.8**	**-0.1**
EVGI				S	**Sg**	**03 50 57.7**	**-0.4**
EVGI	**Lefkada island**	**0.15**	**134**	P	**Pg**	**03 50 55.5**	**-0.4**
EVGI				S	**Sg**	**03 50 57.5**	**-0.6**
FSK	**Fiskardo**	**0.27**	**172**	P	**Pg**	**03 50 58.8**	**+0.7**
FSK				S	**Sg**	**03 51 02.4**	**+0.7**
FSK	comp=N,80554μm,0.3s			AML	AML	03 51 03.6	
FSK				AML	AML	03 51 03.6	
KEF4	**Livadi, Kephal**	**0.47**	**189**	P	**Pg**	**03 51 02.1**	**+0.1**
KEF4				S	**Sg**	**03 51 08.8**	**+0.7**
KEF4	**Livadi, Kephal**	**0.47**	**189**	P	**Pg**	**03 51 02.0**	**+0.1**
KEF4				S	**Sg**	**03 51 09.8**	**+1.7**
DMLN	**Damoulianata-K**	**0.50**	**193**	P	**Pg**	**03 51 02.6**	**+0.1**
DMLN				S	**Sg**	**03 51 09.9**	**+1.0**
DMLN	**Damoulianata-K** comp=N,30μm,0.5s	**0.50**	**193**	P	**Pg**	**03 51 02.5**	**+0.1**
DMLN				S	**Sg**	**03 51 10.5**	**+1.5**
LXRA	**Lixouri, Kepha**	**0.53**	**187**	P	**Pg**	**03 51 03.1**	**+0.1**
LXRA				S	**Sg**	**03 51 10.6**	**+0.7**
KEF3	**Kipouria, Keph**	**0.54**	**194**	P	**Pg**	**03 51 02.8**	**-0.4**
KEF3				S	**Sg**	**03 51 10.2**	**0.0**
KEF3	**Kipouria, Keph**	**0.54**	**194**	P	**Pg**	**03 51 02.8**	**-0.4**
KEF3				S	**Sg**	**03 51 11.7**	**+1.5**
VLS	**Valsamata**	**0.55**	**174**	P	**Pg**	**03 51 03.0**	**-0.5**
VLS				S	**Sg**	**03 51 11.2**	**+0.6**
VLS				AML	AML	03 51 14.6	
VLS	comp=E,27315μm,0.3s			AML	AML	03 51 14.7	
VLS	comp=N,27749μm,0.5s **Valsamata**	**0.55**	**174**	P	**Pg**	**03 51 02.8**	**-0.6**
VLS	comp=N,14μm,0.4s			S	**Sg**	**03 51 11.0**	**+0.4**
VLS	**Valsamata**	**0.55**	**174**	P	**Pg**	**03 51 02.8**	**-0.6**
VLS				S	**Sg**	**03 51 11.0**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.61**	**175**	P	**Pg**	**03 51 04.1**	**-0.5**
PSDA				S	**Sg**	**03 51 13.1**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.61**	**175**	P	**Pg**	**03 51 04.2**	**-0.4**
PSDA				S	**Sg**	**03 51 13.3**	**+0.7**
PVO	**Paravola**	**0.80**	**98**	P	**Pg**	**03 51 07.9**	**-0.2**
JAN	**Janina**	**0.96**	**16**	P	**Pb**	**03 51 11.3**	**-0.6**
ZAK2	**Zakynthos**	**0.98**	**162**	P	**Pg**	**03 51 11.1**	**-0.6**
RLS	**Riolos of Patr**	**1.00**	**131**	P	**Pg**	**03 51 10.7**	**-1.3**
RLS	**Riolos of Patr**	**1.00**	**131**	P	**Pg**	**03 51 10.8**	**-1.2**
EVR	**Evrytania**	**1.03**	**79**	P	**Pg**	**03 51 11.2**	**-1.3**
EVR				AML	AML	03 51 38.3	
EVR	comp=E,12816μm,0.9s			AML	AML	03 51 39.3	
EVR	comp=N,10285μm,0.6s **Evrytania**	**1.03**	**79**	P	**Pg**	**03 51 11.4**	**-1.1**
ANX	**Ano Chora**	**1.11**	**96**	P	**Pb**	**03 51 12.5**	**-1.8**
ANX				AML	AML	03 51 39.4	
ANX	comp=E,25721μm,0.9s			AML	AML	03 51 39.7	
KASA	**Kassiopi**	**1.11**	**336**	P	**Pn**	**03 51 15.2**	**+0.5**
EFP	**Efpalio**	**1.13**	**105**	P	**Pb**	**03 51 13.0**	**-1.6**
EFP				AML	AML	03 51 37.7	
EFP	comp=N,12738μm,0.5s			AML	AML	03 51 38.4	
KEK	**Kerkira**	**1.13**	**331**	P	**Pn**	**03 51 15.8**	**+0.8**
KEK				AML	AML	03 51 37.0	
KEK	comp=E,5570μm,0.7s			AML	AML	03 51 48.5	
KEK	comp=N,6199μm,0.7s **Kerkira**	**1.13**	**331**	P	**Pn**	**03 51 15.5**	**+0.5**
DRO	**Drossia**	**1.22**	**129**	P	**Pn**	**03 51 14.3**	**-1.9**
DRO				AML	AML	03 51 45.0	
DRO	comp=E,6952μm,0.4s			AML	AML	03 51 46.9	
LAKA	comp=N,15712μm,0.5s **Lakka**	**1.25**	**112**	P	**Pn**	**03 51 14.6**	**-2.1**
LAKA				AML	AML	03 51 39.4	
LAKA	comp=N,6144μm,0.9s			AML	AML	03 51 41.3	
MAKR	comp=E,8679μm,0.6s **Makrakomi, Fth**	**1.29**	**77**	P	**Pn**	**03 51 16.4**	**-0.9**
MAKR				AML	AML	03 51 45.1	
MAKR	comp=E,18444μm,0.9s			AML	AML	03 51 48.0	
KPRO	comp=N,13841μm,0.7s **Kipourio**	**1.39**	**28**	P	**Pg**	**03 51 19.4**	**-0.1**
THL	**Klokotos Trika**	**1.44**	**54**	P	**Pn**	**03 51 18.9**	**-0.3**
THL				AML	AML	03 51 46.4	
THL	comp=N,6669μm,0.7s			AML	AML	03 51 48.4	
AGG	comp=E,8134μm,0.6s **Agios Georgios**	**1.45**	**78**	P	**Pn**	**03 51 19.2**	**-0.2**
AGG				AML	AML	03 51 47.1	
AGG	comp=E,10717μm,1.2s			AML	AML	03 51 47.9	
AGG	comp=N,10809μm,0.8s **Agios Georgios**	**1.45**	**78**	P	**Pn**	**03 51 19.5**	**+0.

comp=E,3752µm,0.9s
ITM Ithomi 1.91 144 Pn 03 51 27.1 +1.5
KBN Korca 1.91 6 P **Pg 03 51 28.9 -0.4**
KBN S **Sg 03 51 55.4 +1.3**
KBN Korca 1.91 6 P **Pb 03 51 28.2 +0.3**
VLO Vlora 1.91 336 P **Pg 03 51 28.3 -1.1**
VLO S **Sg 03 51 54.3 +0.1**
VLO Vlora 1.91 336 Pb 03 51 27.8 -0.2
ATAL Atalanti 1.96 90 P **Pn 03 51 27.7 +1.2**
ATAL AML AML 03 52 04.2
comp=N,3275µm,0.9s
ATAL AML AML 03 52 11.2
comp=E,2306µm,1.0s
LIT Litokhoron 2.06 47 P **Pb 03 51 29.6 -0.8**
LIT Litokhoron 2.06 47 P **Pb 03 51 30.0 -0.4**
LIT Litokhoron 2.06 47 Pn **Pb 03 51 30.0 -0.4**
SCTE Santa Cesarea 2.08 311 Pb 03 51 29.4 -1.4
FNA Florina 2.16 18 P **Pb 03 51 31.6 -0.6**
FNA Florina 2.16 18 P **Pb 03 51 31.7 -0.6**
FNA Florina 2.16 18 Pb 03 51 31.7 -0.6
OHR Ohrid 2.39 5 *e*Pn **Pb 03 51 35.3 -0.9**
OHR Ohrid 2.39 5 P **Pb 03 51 35.3 -0.9**
OHR Ohrid 2.39 5 *i* Pn **Pb 03 51 35.6 -0.6**
OHR *i* Sn **Sg 03 52 06.8 -2.8**
KRND KRANIDI 2.47 122 P **Pn 03 51 35.0 +1.5**
ATH Athens Observa 2.63 106 P **Pn 03 51 37.8 +2.2**
TIR Tirane 2.67 349 ⇑P **Pn 03 51 38.0 +1.9**
TIR ⇓S **Sb 03 52 11.3 -2.5**
TIR Tirane 2.67 349 ⇑*e*Pn **Pn 03 51 37.8 +1.7**
TIR *e*Sn **Sn 03 52 05.2 -3.5**
TIR Tirane 2.67 349 P **Pb 03 51 38.1 -2.7**
TIR S **Sb 03 52 11.2 -2.5**
TIR Tirane 2.67 349 Pn **Pn 03 51 38.0 +1.9**
VLI Veliai 2.77 136 P **Pn 03 51 40.1 +2.5**
PHP Peshkopia 2.96 359 P **Pb 03 51 42.6 -3.2**
PHP S **Sb 03 52 19.7 -2.4**
TIP Timpagrande 2.96 280 ⇑P **Pn 03 51 40.3 0.0**
TIP Timpagrande 2.96 280 Pn **Pn 03 51 41.3 +1.0**
SOH Sokhos 3.03 45 P **Pn 03 51 43.3 +2.2**
VAY Valandovo 3.03 31 *e*Pn **Pb 03 51 44.3 -2.8**
VAY Valandovo 3.03 31 P **Pn 03 51 43.5 +2.3**
VAY S **Sn 03 52 19.7 +2.0**
VAY Valandovo 3.03 31 *i* Pn **Pn 03 51 42.7 +1.6**
VAY *i* Sn **Sn 03 52 19.8 +2.0**
KTHR Kythira 3.16 140 P **Pn 03 51 46.5 +3.6**
STIP Stip 3.23 23 *i* Pn **Pb 03 51 47.2 -3.2**
SKO Skopje 3.32 12 P **Pn 03 51 47.5 +2.4**
SKO S **Sn 03 52 26.5 +1.7**
SKO Skopje 3.32 12 *i* Pn **Pg 03 51 54.1 -2.2**
ULC Ulcinj 3.38 344 *e*Pn **Pn 03 51 46.3 +0.4**
ULC *i* Sn **Sn 03 52 26.9 +0.7**
MATE Matera 3.51 304 ⇓P **Pn 03 51 48.4 +0.7**
DRME Dracevica, Mon 3.60 344 *e*Pn **Pn 03 51 49.7 +0.7**
DRME Dracevica, Mon 3.60 344 ⇑*i*Pn **Pn 03 51 49.8 +0.7**
DRME *i* Sn **Sn 03 52 32.3 +0.5**
CEL Celeste 3.66 264 Pn 03 51 51.3 +1.5
KKB Krupnik 3.70 31 P **Pn 03 51 53.0 +2.6**
KKB S **Sn 03 52 37.1 +2.9**
MMB Musomiste 3.77 40 P **Pn 03 51 53.5 +2.1**
MMB S **Sn 03 52 39.8 +3.8**
BUM Brajici-Budva 3.78 341 ⇓*i*Pn **Pn 03 51 51.9 +0.4**
BUM *i* Sn **Sn 03 52 35.6 +0.3**
PDG Podgorica 3.82 346 ⇑P **Pn 03 51 52.7 +0.6**
PDG ⇓S **Sn 03 52 39.7 +2.5**
PDG Podgorica 3.82 346 *e*Pn **Pn 03 51 53.0 +1.0**
PDG *e*Sn **Sn 03 52 33.1 -4.1**
PDG Podgorica 3.82 346 Pn **Pn 03 51 52.6 +0.6**
PDG Podgorica 3.82 346 *e*Pn **Pn 03 51 52.4 +0.4**
TTG Podgorica 3.82 346 ⇑*i*Pn **Pn 03 51 52.8 +0.8**
TTG *i* Sn **Sn 03 52 37.7 +0.5**
CUC Castrocucco 3.86 291 Pn 03 51 54.5 +2.0
PVY Plav 3.89 354 *e*Pn **Pn 03 51 53.9 +0.9**
PVY *i* Sn **Sn 03 52 39.5 +0.5**
CEME Cevo 4.00 343 ⇑*i*Pn **Pn 03 51 54.8 +0.2**
CEME *i* Sn **Sn 03 52 41.9 +0.1**
HCY Herceg Novi 4.02 338 *e*Pn **Pn 03 51 53.7 -1.1**
HCY Herceg Novi 4.02 338 ⇑*i*Pn **Pn 03 51 54.7 -0.1**
HCY *i* Sn **Sn 03 52 42.1 -0.1**
BOSS Bosilegrad 4.05 21 *e*Pn **Pn 03 51 57.2 +2.0**
BOSS *e*Sn **Sn 03 52 41.8 -1.1**
IVA Berane 4.17 354 ⇓*i*Pn **Pn 03 51 57.8 +0.9**
IVA *i* Sn **Sn 03 52 46.2 +0.4**
KOME Kolasin 4.19 350 ⇑*i*Pn **Pn 03 51 58.0 +0.8**
KOME *i* Sn **Sn 03 52 46.5 +0.1**
BARS Barje 4.20 13 *e*Pn **Pn 03 51 58.9 +1.6**
NKME Niksic 4.21 344 ⇓*i*Pn **Pn 03 51 58.0 +0.6**
NKME *i* Sn **Sn 03 52 46.8 0.0**
NKY Niksic 4.24 345 ⇓*i*Pn **Pn 03 51 58.6 +0.7**
NKY *i* Sn **Sn 03 52 47.6 -0.1**
APE Apeiranthos 4.30 111 ⇓P **Pn 03 52 00.6 +2.0**
APE Apeiranthos 4.30 111 *i* P **Pn 03 51 59.5 +0.9**
TREB Trebinje 4.31 338 *e*Pn **Pn 03 51 58.5 -0.3**
TREB *e*Sn **Sn 03 52 44.9 -4.4**
TREB Trebinje 4.31 338 *e*Pn **Pn 03 51 58.3 -0.5**
VTS Vitosha 4.40 27 ⇑P **Pn 03 52 01.9 +1.8**
VTS ⇑S **Sn 03 52 55.0 +3.3**
VTS Vitosha 4.40 27 *e*Pn **Pn 03 52 00.8 +1.8**
VTS *e*Sn **Sn 03 52 49.9 -1.8**
VTS Vitosha 4.40 27 P **Pn 03 52 01.9 +1.8**
VTS S **Sn 03 52 55.0 +3.3**
VTS Vitosha 4.40 27 Pn **Pn 03 52 01.8 +1.7**
BRY Bratogost 4.43 341 *e*Pn **Pn 03 52 00.2 -0.3**
BRY Bratogost 4.43 341 ⇓*i*Pn **Pn 03 52 00.5 0.0**
BRY *i* Sn **Sn 03 52 51.9 -0.5**
SELS Selova 4.51 6 *e*Pn **Pn 03 52 02.1 +0.6**
SJES Sjenica 4.55 355 ⇓*e*Pn **Pn 03 52 03.3 +1.2**
SJES *e*Sn **Sn 03 52 50.5 -4.8**
UPM Unac-Piva 4.64 345 *e*Pn **Pn 03 52 03.8 +0.4**
UPM Unac-Piva 4.64 345 ⇑*i*Pn **Pn 03 52 04.0 +0.6**
UPM *i* Sn **Sn 03 52 57.1 -0.4**
PLD Plovdiv 4.65 42 P Pn 03 52 08.6 +5.3
PLE Pljevlja 4.68 350 *e*Pn **Pn 03 52 04.7 +0.8**
PLE *i* Sn **Sn 03 52 58.2 -0.2**
SGRT San Giovanni R 4.74 311 Pn 03 52 05.6 +0.9
KDZ Kurdzhali 4.75 51 P **Pn 03 52 07.0 +2.2**
KDZ S **Sn 03 53 03.0 +2.8**
ALN Alexandroupoli 4.78 61 P **Pn 03 52 06.9 +1.8**
ALN Alexandroupoli 4.78 61 Pn **Pn 03 52 06.9 +1.8**
IDI Anoyia 4.90 133 ⇑P **Pn 03 52 07.6 +0.7**
IDI Anoyia 4.90 133 Pn **Pn 03 52 08.0 +1.1**
comp=E,1.8nm,0.3s,baz=273,slow=6.0,SNR=13
IDI Sn **Sn 03 53 04.1 +0.2**
comp=E,3.8nm,0.3s,baz=265,slow=17,SNR=4.0
IDI Anoyia 4.90 133 Pn **Pn 03 52 08.6 +1.6**
RUDO Rudo 4.96 350 *e*Pn **Pn 03 52 07.6 -0.1**
VAE Valguarnera 4.97 257 Pn **Pn 03 52 08.8 +0.9**
comp=E,1.2nm,0.3s,baz=14,slow=8.3,SNR=3.2
VAE Sn **Sn 03 53 05.7 0.0**
comp=E,3.1nm,0.3s,baz=342,slow=16,SNR=1.8
PAOL Paolisi 5.12 299 Pn 03 52 11.5 +1.6
BLKB Belogradchik 5.16 18 ⇓P **Pn 03 52 12.4 +2.0**
BLKB ⇓S **Sn 03 53 13.4 +3.2**
GRUS Gruza 5.16 2 ⇑*e*Pn **Pn 03 52 11.5 +1.1**
ZAGS Zajecar 5.24 14 *e*Pn **Pn 03 52 12.2 +0.7**
DIVS Divibare 5.38 356 ⇓*e*Pn **Pn 03 52 13.7 +0.2**
DIVS Divibare 5.38 356 Pn 03 52 13.7 +0.2
DIVS Divibare 5.38 356 *e*Pn **Pn 03 52 13.5 0.0**
TRUS Trudelj 5.49 359 *e*Pn **Pn 03 52 15.5 +0.5**
TEKS Tekeris 5.87 353 *e*Pn **Pn 03 52 19.4 -0.7**
SRKY Kupres RS 5.90 336 *e*Pn **Pn 03 52 21.4 +0.7**
MGRS Mrkonjic Grad 6.24 337 *e*Pn **Pn 03 52 26.0 +0.7**
HERR Herculane 6.31 12 ⇑P **Pn 03 52 28.3 +2.2**
FRGS Fruska Gora 6.45 356 *e*Pn **Pn 03 52 28.2 +0.1**
FRGS Fruska Gora 6.45 356 *e*Pn **Pn 03 52 25.9 -2.2**
BLY Banja Luka 6.51 339 *e*Pn **Pn 03 52 28.8 -0.2**
AQU L'Aquila 6.52 306 *e*Pn **Pn 03 52 31.5 +2.4**
GZR Gura Zlata 6.87 13 ⇑P **Pn 03 52 36.5 +2.6**
GZR Gura Zlata 6.87 13 P **Pn 03 52 36.5 +2.6**
BZS Buzias 6.93 6 ⇑P **Pn 03 52 35.5 +0.7**
ARR Arges 7.31 23 ⇑P **Pn 03 52 41.8 +1.8**
VOIR 7.50 25 ⇑P **Pn 03 52 45.2 +2.6**
VOIR 7.50 25 P **Pn 03 52 45.1 +2.4**
KOVH Kovagototos 7.57 347 P **Pn 03 52 42.8 -0.6**
KOVH S **Sn 03 54 06.2 -3.3**
MORH Mrgy, Hungar 7.61 350 *e*Pn **Pn 03 52 42.9 -1.1**
MORH Mrgy, Hungar 7.61 350 P **Pn 03 52 43.1 -0.9**
MORH S **Sn 03 54 05.5 -5.0**
BORA Eskisehir 7.79 78 Pn 03 52 49.1 +2.5
ISR Istrita 7.81 33 ⇑P **Pn 03 52 49.0 +2.2**
ISR Istrita 7.81 33 P **Pn 03 52 48.9 +2.2**

BOJS Bojanci 7.82 332 *i* Pn **Pn 03 52 47.1 +0.2**
MLR Muntele Rosu 7.87 29 ⇑P **Pn 03 52 50.5 +2.8**
MLR Muntele Rosu 7.87 29 Pn **Pn 03 52 50.1 +2.4**
comp=E,0.7nm,0.3s,baz=117,slow=13,SNR=14
MLR Muntele Rosu 7.87 29 P **Pn 03 52 50.2 +2.5**
MLR Muntele Rosu 7.87 29 Pn 03 52 50.2 +2.5
RIY Rijeka 7.97 328 *e*Pn **Pn 03 52 48.8 -0.2**
CRES Cresnjev 8.02 334 *e*Pn **Pn 03 52 49.2 -0.5**
CRES Cresnjev 8.02 334 ⇑*i*Pn **Pn 03 52 49.3 -0.5**
SLUM Salum 8.18 151 P **Pn 03 52 51.4 -0.5**
baz=151
SLUM S **Sn 03 54 17.5 -7.0**
baz=151
VISS Visnje 8.23 331 ⇑*i*Pn **Pn 03 52 52.3 -0.2**
SKDS Skadanscina 8.35 327 *e*Pn **Pn 03 52 53.2 -1.0**
PLOR Plostina 8.44 31 ⇑P **Pn 03 52 57.8 +2.2**
PLOR Plostina 8.44 31 P **Pn 03 52 57.7 +2.2**
VRI Vrincioaia 8.49 31 ⇓P **Pn 03 52 58.2 +2.2**
VRI Vrincioaia 8.49 31 P **Pn 03 53 00.0 +3.9**
LJU Ljubljana 8.55 331 *e*Pn **Pn 03 52 56.0 -0.9**
MPLH Magyarpolny 8.72 346 P **Pn 03 52 58.5 -0.7**
CSKK Cskako 8.79 350 P **Pn 03 53 01.8 +1.6**
VOJS Vojsko 8.79 328 ⇑*i*Pn **Pn 03 52 59.8 -0.5**
PERS Pernice 8.85 335 ⇑*i*Pn **Pn 03 53 00.2 -0.8**
SOKA Soboth 8.91 335 Pn **Pn 03 53 01.3 -0.6**
comp=E,14nm,0.7s,SNR=23
PSZ Piszkesteto 9.20 357 P **Pn 03 53 05.5 -0.4**
ARSA Arzberg 9.27 338 Pn **Pn 03 53 06.5 -0.3**
comp=E,3.6nm,0.6s,SNR=5.4
MYKA Terra Mystica 9.38 330 *e*Pn **Pn 03 53 08.4 +0.1**
comp=E,3.2nm,0.6s
KEST Kesra 9.40 255 Pn **Pn 03 53 09.6 +0.9**
comp=E,0.1nm,0.3s,baz=45,slow=17,SNR=2.8
RONA Rosalia, Austr 9.48 342 *e*Pn **Pn 03 53 10.2 +0.5**
comp=E,2.2nm,0.7s
KECS Kecovo 9.75 360 *e*P **Pn 03 53 15.0 +1.6**
KECS Kecovo 9.75 360 *e*PN **Pn 03 53 15.0 +1.6**
CONA Conrad Observa 9.80 341 *e*Pn **Pn 03 53 15.2 +1.1**
comp=E,3.9nm,0.7s
VYHS Vyhne 9.84 353 *e*P **Pn 03 53 15.5 +0.9**
VYHS Vyhne 9.84 353 *e*PN **Pn 03 53 15.5 +0.9**
MODS Modra-Piesok 9.93 347 *e*P **Pn 03 53 15.9 +0.1**
MODS Modra-Piesok 9.93 347 *e*PN **Pn 03 53 15.9 +0.1**
ABTA Abfaltersbach 9.94 326 Pn **Pn 03 53 15.8 -0.2**
comp=E,7.8nm,0.7s,SNR=4.7
KOLL Kolacno 9.97 352 *e*PN **Pn 03 53 16.9 +0.6**
SALO Salr 10.12 316 Pn 03 53 17.5 -0.9
MOA Molln 10.19 336 Pn **Pn 03 53 19.3 -0.1**
comp=E,5.8nm,0.6s,SNR=10
BRTR Keskin Array B 10.23 80 Pn **Pn 03 53 24.8 +4.7**
comp=E,0.4nm,0.3s,baz=268,slow=14,SNR=6.0
BIOA Bad Ischl, Aus 10.27 333 Pn **Pn 03 53 21.2 +0.7**
comp=E,5.1nm,0.4s,SNR=8.7
SWA2 10.31 155 P **Pn 03 53 19.7 -1.3**
baz=156
SWA2 S **Sn 03 55 10.5 -6.3**
baz=156
WTTA Wattenberg 10.72 326 *e*Pn **Pn 03 53 28.1 +1.3**
comp=E,4.3nm,0.4s
WATA Walderalm 10.80 326 *e*Pn **Pn 03 53 29.2 +1.3**
comp=E,6.6nm,0.5s
SQTA Sankt Quirin 10.88 324 *e*Pn **Pn 03 53 31.0 +2.1**
comp=E,3.6nm,0.4s
VRAC Vranov 10.95 346 Pn **Pn 03 53 30.0 +0.3**
comp=E,0.1nm,0.3s,baz=167,slow=12,SNR=4.3
FETA Feichten 10.96 322 *e*Pn **Pn 03 53 33.2 +3.1**
comp=E,1.7nm,0.5s
FETA *e*Sn **Sn 03 55 32.6 -0.4**
comp=E,1.3nm,0.5s
MOTA Moosalm 11.02 324 Pn **Pn 03 53 31.3 +0.4**
comp=E,14nm,0.8s,SNR=6.2
DAVOX Davos/Dischmat 11.21 319 Pn **Pn 03 53 34.2 +0.6**
comp=E,0.5nm,0.3s,baz=290,slow=23,SNR=5.0
GEC2 GERESS Array S 11.24 336 Pn **Pn 03 53 33.8 -0.1**
GERES GERESS Array B 11.24 336 Pn **Pn 03 53 33.4 -0.5**
comp=E,0.4nm,0.3s,baz=152,slow=14,SNR=26
GERES GERESS Array B 11.24 336 Pn 03 53 33.1 -0.8
MORC Moravsky Berou 11.25 350 ⇓P **Pn 03 53 33.6 -0.3**
MORC Moravsky Berou 11.25 350 P **Pn 03 53 33.5 -0.4**
TUE Stuetta 11.29 317 Pn 03 53 35.2 +0.6
KHC Kasperske Hory 11.54 337 *e*P **Pn 03 53 37.4 -0.4**
KHC Kasperske Hory 11.54 337 Pn 03 53 36.8 -1.1
KHC Kasperske Hory 11.54 337 *e*PN **Pn 03 53 37.4 -0.4**
KHC *ex* x 03 53 45.0
KRLC Kraliky 11.65 348 *e*P **Pn 03 53 40.2 +0.7**
KRLC Kraliky 11.65 348 *e*PN **Pn 03 53 40.2 +0.7**
SENIN Lac Senin/Sane 12.37 312 Pn 03 53 50.2 +0.8
RYAN Fayoum 12.57 137 P **Pn 03 53 51.0 -1.1**
baz=138
GLL Jalalah 13.00 131 P **Pn 03 53 56.8 -1.1**
baz=132
MMC7 Mount Meron ar 13.33 111 Pn **Pn 03 54 00.0 -2.5**
GEM Giv'at Ha'Em 13.44 110 Pn **Pn 03 54 00.9 -3.0**
AKASG Malin Array Be 13.47 24 Pn **Pn 03 54 04.7 +0.5**
comp=E,0.3nm,0.3s,baz=204,slow=12,SNR=2.6
AKBB Malin Array Si 13.47 24 *ce*P **Pn 03 54 05.4 +1.3**
NATI Neve Ativ 13.47 109 Pn **Pn 03 54 00.8 -3.5**
NATI Sn **Sn 03 56 17.3 -17**
MOX Moxa 13.48 335 P **Pn 03 54 03.9 -0.4**
CLL Collm 13.65 340 *e*PP **P 03 54 19.0 +3.4**
HMDT Nahal Hemdat 13.82 113 Pn **Pn 03 54 07.1 -2.0**
YTIR Yattir 14.03 117 Pn **Pn 03 54 09.4 -2.6**
YTIR Sn **Sn 03 56 34.6 -13**
DSI Dead Sea 14.09 116 Pn **Pn 03 54 10.5 -2.3**
DSI Sn **Sn 03 56 35.4 -14**
KRMI Paran Flat 14.52 122 Pn **Pn 03 54 17.1 -1.6**
KRMI Sn **Sn 03 56 48.8 -11**
PRNI Paran 14.56 121 Pn **Pn 03 54 16.4 -2.8**
PRNI Sn **Sn 03 56 49.1 -12**
MBRI Mt Berech 14.86 123 Pn **Pn 03 54 21.5 -1.8**
MBRI Sn **Sn 03 56 57.4 -11**
ASF Jabal al Asfar 14.86 111 Pn **Pn 03 54 26.4 +3.1**
comp=E,0.2nm,0.3s,baz=338,slow=18,SNR=1.9
EIL Elat 14.96 123 Pn **Pn 03 54 22.4 -2.2**
NACGM Naroch 16.73 13 ⇑*e*P **Pn 03 54 46.8 -0.6**
baz=197
GURO Guroymak-BITLI 16.81 84 Pn **Pn 03 54 50.1 +1.4**
SHA1 Shidzhatmaz 17.37 66 *i* P **P 03 54 56.8 -0.4**
KIV Kislovodsk 17.43 65 *e*P **P 03 54 57.6 -0.1**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 17.54 66 P **P 03 54 59.5 +0.7**
comp=Z,0.1nm,0.3s,baz=264,slow=9.2,SNR=2.4
GEVA Gevas 17.64 84 Pn **Pn 03 54 58.8 -0.3**
VSR Storozhevoye 18.10 40 *e*P **Pn 03 55 04.0 -0.5**
VSR pmax pmax
comp=Z,3.0nm,0.4s
ZEI Tsey 18.16 70 *e*P **P 03 55 12.5 +6.6**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
VORR Voronezh 18.40 39 *e*P **P 03 55 12.9 +4.7**
VORR pmax pmax
comp=Z,30nm,0.4s
GNI Garni 18.76 78 *i* P **Pn 03 55 13.3 +0.5**
GNI pmax pmax
comp=Z,18nm,1.8s
LPSR Galich'ya Gora 18.85 37 *e*P **P 03 55 13.1 0.0**
LPSR pmax pmax
comp=Z,8.0nm,0.7s
ESDC Sonseca Array 18.99 281 P **P 03 55 14.7 -0.1**
comp=Z,0.1nm,0.3s,baz=78,slow=11,SNR=5.7
VRH Novokhopyorsk 19.43 43 *e*P **Pn 03 55 22.7 +2.1**
VRH pmax pmax
comp=Z,4.0nm,0.4s
EKA Eskdalemuir Ar 22.98 324 P **P 03 55 57.9 +0.2**
comp=Z,16nm,0.9s,baz=123,slow=11,SNR=16
FINES FINESS Array B 23.00 7 P **P 03 55 57.2 -0.7**
comp=Z,12nm,1.1s,baz=169,slow=11,SNR=12
FINES FINESS Array B 23.00 7 *i* P **P 03 55 58.5 +0.6**
FINES pmax pmax
comp=Z,12nm,1.0s
NB201 NORSAR Array S 23.08 349 P **P 03 55 58.8 +0.1**
NB2 NORSAR Subarra 23.08 348 P **P 03 55 58.2 -0.6**
comp=Z,5.9nm,1.1s,baz=158,slow=9.3
NOA NORSAR Array B 23.08 348 P **P 03 55 58.4 -0.3**
comp=Z,4.7nm,0.9s,baz=159,slow=9.7,SNR=10
BELG Belogornoye 23.22 45 *i* P **P 03 56 00.1 0.0**
BELG pmax pmax
comp=Z,4.0nm,0.9s
NC303 NORSAR Array S 23.23 349 P **P 03 56 00.2 0.0**
NC303 IAmb IAmb 03 56 01.1
comp=Z,16nm,1.1s
KLMR Klimovskoe 25.13 22 P **P 03 56 16.5 -1.6**
KLMR pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 25.13 22 P **P 03 56 16.5 -1.6**
KLMR AMP 03 56 24.4
comp=Z,9.0nm,0.9s
ABKAR Akbulak array 29.94 56 P **P 03 57 02.2 +0.9**
ARCES ARCESS Array B 30.99 3 P **P 03 57 10.2 -0.1**
comp=Z,2.4nm,0.9s,baz=193,slow=11,SNR=4.6
KK31 Karatay Array 37.58 67 P **P 03 58 08.5 +0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KK31 Karatay Array 37.58 67 P 03 58 08.5 +0.7
KK31 IAmb IAmb 03 58 13.5
comp=Z,3.3nm,0.6s
KKAR Karatay Array 37.58 67 P **P 03 58 08.5 +0.7**
KKAR Karatay Array 37.58 67 P **P 03 58 08.5 +0.7**
GAR Garm 38.38 73 P **P 03 58 16.5 +1.8**
GAR IAmb IAmb 03 58 27.7
comp=Z,4.8nm,0.7s
AAK Ala-Archa 40.54 67 *i* P **P 03 58 33.3 +0.6**
AAK pmax pmax
comp=Z,7.0nm,2.2s
BOOM Boomskoye usch 41.62 66 P **P 03 58 41.5 -0.1**
BOOM pmax pmax
comp=Z,2.0nm,0.7s
BOOM Boomskoye usch 41.62 66 P **P 03 58 41.5 -0.1**
BOOM IAmb IAmb 03 58 44.5
comp=Z,2.3nm,0.7s
KURK Kurchatov 41.95 54 *i* P **P 03 58 45.2 +1.2**
KURK pmax pmax
comp=Z,9.0nm,2.5s
MK31 Makanchi Array 45.02 59 *i* P **P 03 59 09.2 +0.3**
MK31 Makanchi Array 45.02 59 IAmb IAmb 03 59 12.9
comp=Z,1.1nm,0.6s
MKAR Makanchi Array 45.02 59 P **P 03 59 09.2 +0.3**
comp=Z,1.1nm,0.5s,baz=278,slow=8.2,SNR=9.0
MKAR Makanchi Array 45.02 59 *ce*P **P 03 59 10.1 +1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 45.02 59 P **P 03 59 09.3 +0.5**
ZAA0 Zalesovo Array 45.33 49 P **P 03 59 11.3 +0.2**
ZAA0 IAmb IAmb 03 59 18.3
comp=Z,4.4nm,0.8s
ZALV Zalesovo Beam 45.33 49 P **P 03 59 10.7 -0.5**
comp=Z,4.6nm,0.5s,baz=275,slow=8.9,SNR=18
ZALV Zalesovo Beam 45.33 49 *i* P **P 03 59 11.6 +0.4**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 45.33 49 P **P 03 59 11.7 +0.6**
WMQ Urumqi 49.50 61 *e*P **P 03 59 46.8 +2.9**
SCHQ Schefferville 58.05 317 P **P 04 00 47.0 +0.7**
comp=Z,2.5nm,0.5s,baz=84,slow=3.2,SNR=7.8
SCHQ Schefferville 58.05 317 IAmb IAmb 04 00 55.7
comp=Z,17nm,1.5s
HHC Hu-ho-hao-te 66.73 56 *e*P **P 04 01 44.5 -0.2**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,280nm,6.1s
PZH PanZhiHua 67.45 74 P **P 04 01 51.0 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
YKA Yellowknife Ar 72.87 340 P **P 04 02 22.1 +0.2**
comp=Z,0.3nm,0.7s,baz=37,slow=5.2,SNR=6.5
YKA Yellowknife Ar 72.87 340 *ce*P **P 04 02 22.7 +0.7**
WRA Warramunga Arr 120.56 92 PKP **PKiKP 04 09 46.2 +0.6**
comp=Z,0.2nm,0.5s,baz=325,slow=2.0,SNR=5.5
ASAR Alice Springs 122.23 96 PKP **PKiKP 04 09 49.8 +1.0**
comp=Z,0.4nm,0.6s,baz=325,slow=1.5,SNR=1.7
ASAR Alice Springs 122.23 96 PKPdf 04 09 48.1 -0.6

*IDC **29** 04:03:50.3±1.2, 18°.30S×176°.48E, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.8/29, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=69.4km s-min=18.2km az=160.0*
ISC 29 04:03:53.5±1.2, 18°.3S±0°.7×176°.5E±0°.3, h23km, n6, σ1s 39/7, mb3.8/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.57**	**68**	Pn	**Pn**	**04 04 18.8**	**-1.3**
	9.8nm,0.3s,baz=252,slow=15,SNR=25						
MSVF				Sn	**Sb**	**04 04 41.3**	**-0.1**
	60nm,0.3s,baz=350,slow=24,SNR=27						
DZM	**Mont Dzumac**	**10.16**	**247**	Pn	**Pn**	**04 06 18.3**	**+0.2**
	0.9nm,0.3s,baz=91,slow=17,SNR=11						
ASAR	**Alice Springs**	**40.03**	**255**	P	**P**	**04 11 26.0**	**-1.1**
	1.0nm,0.8s,baz=82,slow=8.7,SNR=9.1						
NVAR	**Mina Array Bea**	**83.13**	**46**	P	**P**	**04 16 18.9**	**+1.0**
	1.0nm,0.9s,baz=250,slow=7.5,SNR=5.9						
TXAR	**Lajitas Array**	**90.33**	**59**	P	**P**	**04 16 55.0**	**+1.8**
	0.6nm,0.9s,baz=223,slow=5.1,SNR=4.4						
GERES	**GERESS Array B**	**146.53**	**339**	PKPbc	**PKPab**	**04 23 33.2**	**-0.8**
	0.6nm,0.6s,baz=54,slow=6.8,SNR=6.0						

IDC 29 04:09:36.8±2.9, 3°.31S×78°.47W, h0km, mb3.4/1, mb1 3.7/2, mb1mx3.4/29, mbtmp3.5/2, ML3.5/1, Error ellipse: s-maj=267.5km s-min=43.8km az=61.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**16.42**	**142**	Pn	Pn	04 13 29.5	0.0
	0.1nm,0.3s,baz=320,slow=12,SNR=5.8						
YKA	**Yellowknife Ar**	**71.12**	**343**	P	P	04 20 56.9	0.0
	0.2nm,0.5s,baz=139,slow=6.2,SNR=8.0						
WRA	**Warramunga Arr**	**140.35**	**233**	PKP	PKPdf	04 29 08.4	-0.5
	0.3nm,0.7s,baz=118,slow=3.1,SNR=1.4						

*EAF **29** 04:10:55.1±1.9, 21°.59S×33°.33E, h10km, MD3.6*
BUL 29 04:10:55.4±1.7, 21°.64S×33°.30E, h10km, MD3.8, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**2.57**	**223**	*e*P	Pn	04 11 38.5	+1.5
MOPA				*e*S	Sn	04 12 08.8	+0.4
MOPA	**Mopani**	**2.57**	**223**	*e*P	Pn	04 11 38.5	+1.5
MOPA				*e*S	Sn	04 12 08.8	+0.4
MSNA	**Messina**	**3.12**	**256**	*e*P	Pn	04 11 43.8	-1.0
MSNA				*e*S	Sn	04 12 19.7	-2.5
MSNA	**Messina**	**3.12**	**256**	*e*P	Pn	04 11 43.8	-1.0
MSNA				*e*S	Sn	04 12 19.7	-2.5
BLWY	**Bulawayo**	**4.64**	**288**	*e*P	Pn	04 12 05.1	-0.6
BLWY				*e*S	Sn	04 12 55.4	-4.3
BLWY	**Bulawayo**	**4.64**	**288**	*e*P	Pn	04 12 05.1	-0.6
BLWY				*e*S	Sn	04 12 55.4	-4.3
MATP	**Matopo**	**4.65**	**284**	*e*P	Pn	04 12 05.8	0.0
MATP				*e*S	Sn	04 12 58.0	-2.0
MATP	**Matopo**	**4.65**	**284**	*e*P	Pn	04 12 05.8	0.0
MATP				*e*S	Sn	04 12 58.0	-2.0
CNG	**Changalane**	**4.74**	**192**	*e*P	Pn	04 12 05.8	-1.2
CNG				*e*S	Sn	04 12 59.9	-2.0
CNG	**Changalane**	**4.74**	**192**	*e*P	Pn	04 12 05.8	-1.2
CNG				*e*S	Sn	04 12 59.9	-2.0
LBTB	**Lobatse**	**7.84**	**243**	*e*P	Pn	04 12 47.2	-2.4
LBTB				*e*S	Sn	04 14 10.2	-8.3
LBTB	**Lobatse**	**7.84**	**243**	*e*P	Pn	04 12 47.2	-2.4
LBTB				*e*S	Sn	04 14 10.2	-8.3
BOSA	**Boshof**	**10.06**	**225**	*e*P	Pn	04 13 16.6	-3.6
BOSA				*e*S	Sn	04 15 02.4	-11
BOSA	**Boshof**	**10.06**	**225**	*e*P	Pn	04 13 16.6	-3.6
BOSA				*e*S	Sn	04 15 02.4	-11

*IDC **29** 04:22:46.6±1.6, 27°.26S×63°.50W, h569km±21km, mb3.7/2, mb1 3.3/7, mb1mx3.0/33, mbtmp4.2/7, Error ellipse: s-maj=36.6km s-min=24.9km az=24.0*
*NEIC **29** 04:22:47.4±1.3, 27°.3S±0°.1×63°.44W±0°.06, h571km±10km, mb4.1/7, Error ellipse: s-maj=16.5km s-min=7.8km az=192.0*
ISC 29 04:22:46.5±0.7, 27°.23S±0°.09×63°.37W±0°.08, h550km, n42, σ1s 16/42, mb4.1/3, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC02	**Maricunga**	**5.15**	**273**	P	**P**	**04 24 20.9**	**+2.6**
CPUP	**Villa Florida**	**5.47**	**82**	P	**P**	**

ZON	**Zonda**	**6.33**	**226**	P		**P**	**04 24 28.4**	**+0.3**
ITQB	**Itaqui**	**6.42**	**114**	P		**P**	**04 24 30.3**	**+1.4**
CO01	**Juntas del Tor**	**6.52**	**244**	P		**P**	**04 24 32.1**	**+2.0**
AC01	**Pan de Azucar**	**6.56**	**278**	P		**P**	**04 24 30.7**	**+0.3**
LCO	**Las Campanas**	**6.72**	**253**	P		**P**	**04 24 32.9**	**+0.8**
LVC	**Limon Verde**	**6.81**	**311**	P		**P**	**04 24 34.7**	**+1.5**
	2.5nm,0.3s,baz=108,slow=10,SNR=32							
LVC				S		**S**	**04 25 59.7**	**-0.7**
	5.5nm,0.3s,baz=289,slow=19,SNR=26							
LVC	**Limon Verde**	**6.81**	**311**	P		**P**	**04 24 33.9**	**+0.7**
PB15	**IPOC Station P**	**6.82**	**305**	P		**P**	**04 24 34.1**	**+0.9**
PB14	**IPOC Station P**	**6.84**	**291**	P		**P**	**04 24 34.0**	**+0.5**
GO04	**Tololo Observa**	**7.16**	**244**	P		**P**	**04 24 37.6**	**+1.3**
PB06	**IPOC Station P**	**7.21**	**307**	P		**P**	**04 24 38.1**	**+1.3**
PB09	**IPOC Station P**	**7.60**	**314**	P		**P**	**04 24 41.7**	**+1.0**
CO02	**Combarbal**	**7.76**	**237**	P		**P**	**04 24 42.6**	**+0.7**
PB04	**IPOC Station P**	**7.85**	**307**	P		**P**	**04 24 43.6**	**+0.5**
CO06	**Fray Jorge**	**8.02**	**243**	P		**P**	**04 24 45.1**	**+0.7**
PB07	**IPOC Station P**	**8.07**	**311**	P		**P**	**04 24 45.6**	**+0.3**
PB01	**IPOC Station P**	**8.31**	**316**	P		**P**	**04 24 48.1**	**+0.5**
VA03	**San Esteban**	**8.32**	**227**	P		**P**	**04 24 48.1**	**+0.6**
PB08	**IPOC Station P**	**8.82**	**322**	P		**P**	**04 24 54.3**	**+1.3**
BO04	**La Punta**	**9.18**	**221**	P		**P**	**04 24 56.2**	**+0.1**
GO01	**Chusmiza**	**9.23**	**323**	P		**P**	**04 24 58.0**	**+0.8**
AQDB	**Aquidauana**	**9.71**	**48**	P		**P**	**04 25 03.1**	**+1.5**
BO01	**Tunca**	**9.75**	**221**	P		**P**	**04 25 01.4**	**-0.3**
ITAB	**Concordia**	**10.00**	**93**	P		**P**	**04 25 04.9**	**+0.4**
PB16	**IPOC Station P**	**10.50**	**326**	P		**P**	**04 25 11.7**	**+1.4**
TRQA	**Tornquist**	**10.86**	**174**	P		**P**	**04 25 12.1**	**-1.1**
SIV	**San Ignacio**	**11.38**	**11**	P		P	04 25 09.8	-9.1
	0.2nm,0.3s,baz=192,slow=7.7,SNR=10							
LPAZ	**La Paz**	**11.75**	**337**	P		**P**	**04 25 23.6**	**+0.3**
	0.5nm,0.3s,baz=140,slow=5.2,SNR=34							
LC01	**Cunco**	**13.64**	**209**	P		**P**	**04 25 40.4**	**-1.4**
PLCA	**Paso Flores**	**14.72**	**202**	P		**P**	**04 25 51.8**	**-1.2**
	0.0nm,0.3s,baz=30,slow=12,SNR=3.9							
BDFB	**Brasilia**	**18.34**	**54**	P		**P**	**04 26 28.2**	**+0.4**
	1.2nm,0.3s,baz=230,slow=6.6,SNR=10							
BDFB	**Brasilia**	**18.34**	**54**	IAmb		IAmb	04 26 28.6	
	comp=Z,3.5nm,0.6s							
SDV	**Santo Domingo**	**36.58**	**348**	P		**P**	**04 29 05.1**	**-1.7**
SDV				IAmb		IAmb	04 29 16.8	
	comp=Z,3.2nm,0.9s							
QSPA	**South Pole Qui**	**62.99**	**180**	P		**P**	**04 32 20.1**	**+0.5**
DBIC	**Dimbokro**	**65.83**	**68**	P		**P**	**04 32 37.4**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=163,slow=11,SNR=3.4							
DBIC	**Dimbokro**	**65.83**	**68**	P		**P**	**04 32 37.5**	**-0.7**
DBIC				IAmb		IAmb	04 32 41.9	
	comp=Z,9.1nm,1.1s							
TORD	**Torodi Ar. Bea**	**74.76**	**66**	P		**P**	**04 33 30.3**	**-0.7**
	comp=Z,3.4nm,0.3s,baz=252,slow=5.6,SNR=1.5							

*NEIC **29** 04:25:48.6±0.6, 19.69°N±0.10°×65.36°W±0.05°, h39km±46km, Error ellipse: s-maj=15.5km s-min=3.9km az=202.0*
*RSPR **29** 04:25:49.1, 19.65°N×65.36°W, h70km±8km, MD3.6/12*
ISC 29 04:25:49.8±2.5, 19.6°N±0.1°×65.40°W±0.06°, h35km, n59, σ0°60/63, 6C-11D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.31**	**175**	⇓*eP*		**Pn**	**04 26 11.1**	**-0.6**
CUPR	**Culebra, Puert**	**1.31**	**175**	*eS*		**Sn**	**04 26 28.2**	**+0.3**
CUPR	**Culebra, Puert**	**1.31**	**175**			**Pn**	**04 26 11.1**	**-0.6**
CUPR						**Sn**	**04 26 28.2**	**+0.3**
STVI	**Saint Thomas**	**1.33**	**162**	⇓*eP*		**Pn**	**04 26 11.5**	**-0.4**
STVI	**Saint Thomas**	**1.33**	**162**	*eS*		**Sn**	**04 26 28.7**	**+0.3**
STVI	**Saint Thomas**	**1.33**	**162**			**Pn**	**04 26 11.5**	**-0.4**
STVI						**Sn**	**04 26 28.7**	**+0.3**
CBYP	**Canovanas**	**1.41**	**198**	⇑*eP*		**Pn**	**04 26 12.0**	**-1.1**
CBYP	**Canovanas**	**1.41**	**198**	*eS*		**Sn**	**04 26 30.6**	**+0.1**
CBYP	**Canovanas**	**1.41**	**198**			**Pn**	**04 26 12.0**	**-1.1**
CBYP						**Sn**	**04 26 30.6**	**+0.1**
SJVI	**Gifft Hill Sch**	**1.41**	**155**	⇓*eP*		**Pn**	**04 26 12.8**	**-0.3**
SJVI	**Gifft Hill Sch**	**1.41**	**155**	*eS*		**Sn**	**04 26 31.1**	**+0.6**
SJVI	**Gifft Hill Sch**	**1.41**	**155**			**Pn**	**04 26 12.8**	**-0.3**
SJVI						**Sn**	**04 26 31.1**	**+0.6**
GCPR	**Guaynabo City**	**1.46**	**207**	⇓*eP*		**Pn**	**04 26 12.8**	**-1.0**
GCPR	**Guaynabo City**	**1.46**	**207**	*eS*		**Sn**	**04 26 32.2**	**+0.6**
GCPR	**Guaynabo City**	**1.46**	**207**			**Pn**	**04 26 12.8**	**-1.0**
GCPR						**Sn**	**04 26 32.2**	**+0.6**
MTP	**Monte Pirata**	**1.52**	**186**	⇓*eP*		**Pn**	**04 26 14.2**	**-0.4**
MTP	**Monte Pirata**	**1.52**	**186**	*eS*		**Sn**	**04 26 34.1**	**+0.9**
MTP	**Monte Pirata**	**1.52**	**186**			**Pn**	**04 26 14.2**	**-0.4**
MTP						**Sn**	**04 26 34.1**	**+0.9**
MTP	**Monte Pirata**	**1.52**	**186**	IAML			04 26 37.0	
	comp=N,46nm,0.2s							
HUMP	**Col San Antoni**	**1.53**	**196**	⇓*eP*		**Pn**	**04 26 14.0**	**-0.8**
HUMP	**Col San Antoni**	**1.53**	**196**	*eS*		**Sn**	**04 26 33.9**	**+0.4**
HUMP	**Col San Antoni**	**1.53**	**196**			**Pn**	**04 26 14.0**	**-0.8**
HUMP						**Sn**	**04 26 33.9**	**+0.4**
HUMP	**Col San Antoni**	**1.53**	**196**	IAML			04 26 44.1	
	comp=N,51nm,0.3s							
EMPR	**Esperanza - Ma**	**1.56**	**224**	⇓*eP*		**Pn**	**04 26 14.7**	**-0.4**
EMPR	**Esperanza - Ma**	**1.56**	**224**	*eS*		**Sn**	**04 26 35.1**	**+0.9**
EMPR	**Esperanza - Ma**	**1.56**	**224**			**Pn**	**04 26 14.7**	**-0.4**
EMPR	**Esperanza - Ma**	**1.56**	**224**	IAML			04 26 39.1	
	comp=N,96nm,0.6s							
EMPR	**Esperanza - Ma**	**1.56**	**224**			**Sn**	**04 26 35.1**	**+0.9**
SJG	**San Juan**	**1.66**	**206**			**Pn**	**04 26 15.9**	**-0.6**
SJG				IAML			04 26 45.4	
	comp=N,36nm,0.4s							
SJG				IAML			04 26 47.7	
	comp=N,36nm,0.4s							
PDPR	**Patillas Dam,**	**1.70**	**201**	Pn		**Pn**	**04 26 16.0**	**-1.0**
PDPR				IAML			04 26 44.6	
	comp=E,44nm,0.9s							
IGPR	**InterUniversit**	**1.78**	**202**	⇓*eP*		**Pn**	**04 26 17.5**	**-0.6**
IGPR	**InterUniversit**	**1.78**	**202**	*eS*		**Sn**	**04 26 40.0**	**+0.5**
AOPR	**Arecibo Observ**	**1.81**	**226**	⇓*eP*		**Pn**	**04 26 17.8**	**-0.7**
AOPR	**Arecibo Observ**	**1.81**	**226**	*eS*		**Sn**	**04 26 41.0**	**+0.8**
AOPR	**Arecibo Observ**	**1.81**	**226**			**Pn**	**04 26 17.8**	**-0.7**
AOPR						**Sn**	**04 26 41.0**	**+0.8**
CELP	**Cerrillos**	**1.90**	**216**	⇓*eP*		**Pn**	**04 26 19.4**	**-0.5**
CELP	**Cerrillos**	**1.90**	**216**	*eS*		**Sn**	**04 26 43.1**	**+0.5**
CELP	**Cerrillos**	**1.90**	**216**			**Pn**	**04 26 19.4**	**-0.5**
CELP						**Sn**	**04 26 43.1**	**+0.5**
CELP	**Cerrillos**	**1.90**	**216**	IAML			04 26 45.6	
	comp=N,31nm,0.7s							
OBIP	**Obispado Ponce**	**1.94**	**216**	⇓*eP*		**Pn**	**04 26 20.1**	**-0.3**
OBIP	**Obispado Ponce**	**1.94**	**216**	*eS*		**Sn**	**04 26 44.1**	**+0.5**
OBIP	**Obispado Ponce**	**1.94**	**216**			**Pn**	**04 26 20.1**	**-0.3**
OBIP						**Sn**	**04 26 44.1**	**+0.5**
OBIP	**Obispado Ponce**	**1.94**	**216**	IAML			04 26 53.8	
	comp=N,27nm,1.6s							
CDVI	**St. Croix**	**1.95**	**162**	Pn		**Pn**	**04 26 20.4**	**-0.1**
AGPR	**Aguadilla, PR**	**1.99**	**235**	⇑*eP*		**Pn**	**04 26 20.6**	**-0.4**
AGPR	**Aguadilla, PR**	**1.99**	**235**			**Pn**	**04 26 20.6**	**-0.4**
AGPR	**Aguadilla, PR**	**1.99**	**235**	IAML			04 26 50.5	
	comp=E,64nm,2.1s							
LSP	**Las Mesas**	**2.15**	**228**	⇑*eP*		**Pn**	**04 26 23.2**	**-0.1**
LSP	**Las Mesas**	**2.15**	**228**	*eS*		**Sn**	**04 26 49.0**	**+0.2**
MLPR	**Magueyes Islan**	**2.27**	**224**	⇑*eP*		**Pn**	**04 26 24.4**	**-0.4**
MLPR	**Magueyes Islan**	**2.27**	**224**	*eS*		**Sn**	**04 26 51.5**	**-0.1**
MLPR	**Magueyes Islan**	**2.27**	**224**			**Pn**	**04 26 24.4**	**-0.4**
MLPR						**Sn**	**04 26 51.5**	**-0.1**
MLPR	**Magueyes Islan**	**2.27**	**224**	IAML			04 26 55.8	
	comp=N,29nm,2.8s							
MLPR				IAML			04 26 58.3	
	comp=E,29nm,2.2s							
CRPR	**Cabo Rojo, PR**	**2.28**	**226**	⇑*eP*		**Pn**	**04 26 24.8**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.28**	**226**	*eS*		**Sn**	**04 26 52.8**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.28**	**226**			**Pn**	**04 26 24.8**	**-0.2**
CRPR						**Sn**	**04 26 52.8**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.28**	**226**	IAML			04 26 52.8	
	comp=N,41nm,2.1s							
DR12	**Loma Pena Alta**	**3.86**	**258**	⇑*eP*		**Pn**	**04 26 46.4**	**-0.3**
DR12	**Loma Pena Alta**	**3.86**	**258**	Pn		**Pn**	**04 26 46.2**	**-0.5**

IDC 29 04:26:22.1±72.0, 14.90°S×165.76°E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/36, mbtmp4.1/3, Error ellipse: s-maj=1203.0km s-min=103.7km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.78**	**228**	P		P	04 32 12.9	0.0
	2.3nm,0.4s,baz=52,slow=9.6,SNR=11							
WRA	**Warramunga Arr**	**30.36**	**256**	P		P	04 32 36.3	+0.2
	0.3nm,0.7s,baz=86,slow=9.2,SNR=13							
ASAR	**Alice Springs**	**31.25**	**249**	P		P	04 32 43.5	-0.3
	1.1nm,0.4s,baz=78,slow=9.1,SNR=17							

*BGR **29** 04:36:16.0±0.0, 38.36°N×77.44°E, h21km, mb4.9*
*KRNET **29** 04:36:33.6±0.1, 39.68°N×74.22°E, mb5.4*
*SOME **29** 04:36:33.6, 39.73°N×74.23°E, h15km, MS4.2*
*IDC **29** 04:36:33.1±0.5, 39.54°N×74.12°E, h0km, mb4.5/30, mb1 4.6/38, mb1mx4.4/67, mbtmp4.5/38, ML3.8/6, MS3.6/2, Ms1 3.6/2, ms1mx3.1/97, Error ellipse: s-maj=10.0km s-min=9.1km az=113.0*
*MOS **29** 04:36:34.6±1.1, 39.61°N×74.04°E, h12km, mb4.9/53, MS4.2/5, Error ellipse: s-maj=4.6km s-min=3.2km az=90.0*
*NEIC **29** 04:36:36.3±2.7, 39.67°N±0.07°×74.13°E±0.07°, h10km±1km, mb4.7/77, ML4.6(BJI), Error ellipse: s-maj=12.6km s-min=8.2km az=149.0*
*BJI **29** 04:36:36.0±0.0, 39.62°N×74.04°E, h9km, mb4.6/40, mB4.7/25, ML4.5/7, Ms4.2/22, Ms7 3.9/20*
*NNC **29** 04:36:39.6±1.1, 39.92°N×74.02°E, h0km, mb5.6, mpv5.3, Error ellipse: s-maj=9.1km s-min=5.0km az=168.0*
ISC 29 04:36:35.3±0.6, 39.58°N±0.02°×74.10°E±0.02°, h10km±3km, n506, σ2°05/574, mb4.7/115, MS4.2/10, 80C-29D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.38**	**313**	⇑*iP*		**Pn**	**04 36 59.9**	**-0.8**
	baz=8.0							
OHH				⇑*iS*		**Sb**	**04 37 19.0**	**+0.1**
	baz=8.0							
KSH	**Kashi**	**1.45**	**92**	Pg		**Pn**	**04 36 58.5**	**-3.2**
KSH				Sg		**Sn**	**04 37 14.3**	**-6.5**
KSH				smax		smax		
	comp=N,12μm,0.8s							
KSH				smax		smax		
	comp=E,10μm,0.9s							
DRK	**Karamyk**	**1.78**	**267**	⇑*eP*		**Pb**	**04 37 08.4**	**+0.2**
	baz=65							
DRK				⇑*eS*		**Sg**	**04 37 34.2**	**+1.5**
	baz=65							
DRK	**Karamyk**	**1.78**	**267**			**Pb**	**04 37 08.7**	**+0.5**
AML	**Almayashu**	**2.56**	**353**	P		**Pn**	**04 37 18.5**	**+1.3**
	SNR=2836							
BTK	**Batken**	**2.57**	**282**	PN		**Pb**	**04 37 20.6**	**-1.0**
BTK	**Batken**	**2.57**	**282**	⇑*eP*		**Pb**	**04 37 19.6**	**-2.0**
	baz=79							
BTK				⇑*iS*		**Sb**	**04 37 53.1**	**-0.2**
	baz=79							
BTK	**Batken**	**2.57**	**282**			**Pb**	**04 37 21.3**	**-0.3**
UCH	**Uchtor**	**2.66**	**7**	P		**Pn**	**04 37 20.7**	**+2.0**
	SNR=2339							
UCH	**Uchtor**	**2.66**	**7**	⇑*iP*		**Pn**	**04 37 18.8**	**+0.2**
	baz=5.0							
UCH				⇑*iS*		**Sn**	**04 37 51.8**	**+0.7**
	baz=5.0							
ARK	**Arkit**	**2.75**	**324**	⇑*iP*		**Pn**	**04 37 20.9**	**+1.4**
	baz=22							
ARK				⇑*iS*		**Sn**	**04 37 55.1**	**+2.3**
	baz=22							
TRKS	**Terek-Say**	**2.98**	**312**	⇑*iP*		**Pn**	**04 37 23.3**	**+0.6**
	baz=9.0							
TRKS				⇑*iS*		**Sn**	**04 38 00.0**	**+1.4**
	baz=9.0							
GAR	**Garm**	**2.99**	**260**	⇑*iP*		**Pn**	**04 37 26.0**	**+3.1**
	baz=59							
GAR				⇑*iS*		**Sb**	**04 38 04.1**	**-1.4**
	baz=59							
GAR	**Garm**	**2.99**	**260**			**Pn**	**04 37 25.6**	**+2.6**
AAK	**Ala-Archa**	**3.06**	**5**	P		**Pn**	**04 37 26.4**	**+2.5**
	SNR=223							
AAK	**Ala-Archa**	**3.06**	**5**	Pn		**Pn**	**04 37 26.4**	**+2.5**
	224nm,0.3s,baz=183,slow=8.5,SNR=1043							
AAK				Lg		Lg	04 38 08.2	
	341nm,0.3s,baz=332,slow=23,SNR=14							
AAK				LR		LR	04 38 51.2	
	comp=Z,651nm,18.9s,baz=328,slow=44							
AAK	**Ala-Archa**	**3.06**	**5**	⇑*iP*		**Pn**	**04 37 24.0**	**+0.1**
	baz=4.0							
AAK				⇑*iS*		**Sn**	**04 38 01.0**	**+0.3**
	baz=4.0							
AAK	**Ala-Archa**	**3.06**	**5**			**Pn**	**04 37 25.6**	**+1.7**
EKS2	**Erkin-Say**	**3.08**	**356**	P		**Pn**	**04 37 26.4**	**+2.2**
	SNR=487							
EKS2	**Erkin-Say**	**3.08**	**356**	⇑*eP*		**Pn**	**04 37 24.6**	**+0.4**
	baz=54							
EKS2				⇑*iS*		**Sn**	**04 38 01.9**	**+0.7**
	baz=54							
ULHL	**Ulahol**	**3.11**	**31**	P		**Pn**	**04 37 26.6**	**+1.9**
	SNR=186							
ULHL	**Ulahol**	**3.11**	**31**	⇓*iP*		**Pn**	**04 37 24.4**	**-0.3**
	baz=30							
ULHL				⇓*iS*		**Sn**	**04 38 01.7**	**-0.3**
	baz=30							
KBK	**Karagaybulak**	**3.13**	**11**	P		**Pn**	**04 37 27.5**	**+2.6**
	SNR=794							
KBK	**Karagaybulak**	**3.13**	**11**	⇑*iP*		**Pn**	**04 37 25.1**	**+0.2**
	baz=10.0							
KBK				⇑*iS*		**Sn**	**04 38 02.6**	**+0.1**
	baz=10.0							
BOOM	**Boomskoye usch**	**3.22**	**25**	PN		**Pn**	**04 37 28.4**	**+2.3**
BOOM	**Boomskoye usch**	**3.22**	**25**	⇓*iP*		**Pn**	**04 37 26.0**	**-0.1**
	baz=24							
BOOM				⇓*iS*		**Sn**	**04 38 04.2**	**-0.3**
	baz=24							
BOOM	**Boomskoye usch**	**3.22**	**25**			**Pn**	**04 37 27.4**	**+1.4**
MRKS	**Merke**	**3.23**	**348**	*eP*		**Pb**	**04 37 33.0**	**+0.2**
	2μm,0.4s							
MRKS				*eS*		**Sb**	**04 38 14.9**	**+2.8**
	4μm,0.7s							
FRU1	**Bishkek**	**3.25**	**7**	PN		**Pn**	**04 37 27.3**	**+0.9**
FRU1	**Bishkek**	**3.25**	**7**	⇑*eP*		**Pn**	**04 37 26.9**	**+0.5**
	baz=5.0							
FRU1				⇑*iS*		**Sn**	**04 38 05.7**	**+0.6**
	baz=5.0							
FRU1	**Bishkek**	**3.25**	**7**			**Pn**	**04 37 27.3**	**+0.9**
CHMS	**Chumysh**	**3.45**	**8**	P		**Pn**	**04 37 31.4**	**+2.3**
	SNR=152							
CHMS	**Chumysh**	**3.45**	**8**	*i* PN		**Pn**	**04 37 31.3**	**+2.3**
CHMS				pmax		pmax		
	comp=Z,136nm,0.4s							
CHMS	**Chumysh**	**3.45**	**8**	⇑*iP*		**Pn**	**04 37 29.2**	**+0.1**
	baz=7.0							
CHMS				⇑*iS*		**Sn**	**04 38 09.7**	**-0.3**
	baz=7.0							
CHMS	**Chumysh**	**3.45**	**8**	⇓Pn		**Pn**	**04 37 31.4**	**+2.3**
	comp=Z,528nm,0.5s							
CHMS				⇓Lg		Lg	04 38 20.4	
	comp=Z,956nm,0.7s							
KDJ	**Kajisay**	**3.45**	**42**	PN		**Pn**	**04 37 30.7**	**+1.4**
KDJ	**Kajisay**	**3.45**	**42**	⇑*eP*		**Pn**	**04 37 29.2**	**-0.1**
	baz=42							
KDJ				⇑*iS*		**Sn**	**04 38 09.8**	**-0.5**
	baz=42							
KDJ	**Kajisay**	**3.45**	**42**			**Pn**	**04 37 30.7**	**+1.4**
TKM2	**Tokmak 2**	**3.52**	**18**	P		**Pn**	**04 37 32.5**	**+2.3**
	SNR=257							
TKM2	**Tokmak 2**	**3.52**	**18**	*i* PN		**Pn**	**04 37 32.3**	**+2.1**
TKM2				pmax		pmax		
	comp=Z,139nm,0.4s							
TKM2	**Tokmak 2**	**3.52**	**18**	⇑*eP*		**Pn**	**04 37 30.4**	**+0.2**
	baz=17							
TKM2				⇑*iS*		**Sn**	**04 38 11.5**	**-0.5**
	baz=17							
TKM2	**Tokmak 2**	**3.52**	**18**	⇑Pn		**Pn**	**04 37 32.3**	**+2.1**
	comp=Z,374nm,0.6s							
TKM2				⇑Lg		Lg	04 38 24.4	
	comp=Z,3μm,1.0s							
TARG	**Taragay, Kyrgy**	**3.54**	**52**			**Pn**	**04 37 32.1**	**+1.4**
USP	**Ospenovka**	**3.69**	**5**	P		**Pn**	**04 37 34.2**	**+1.8**
	SNR=143							
USP	**Ospenovka**	**3.69**	**5**	⇑*iP*		**Pn**	**04 37 32.8**	**+0.4**
	baz=3.0							
USP				⇑*iS*		**Sn**	**04 38 16.0**	**0.0**
	baz=3.0							
KST	**Kastek**	**3.73**	**21**	*eP*		**Pb**	**04 37 40.0**	**-1.3**
KST	comp=Z,334nm,0.3s			*eS*		**Sb**	**04 38 27.9**	**+1.3**
	comp=Z,3μm,0.8s							
DGS	**Degeres**	**3.86**	**18**	*eP*		**Pb**	**04 37 44.1**	**+0.5**
	comp=Z,463nm,0.5s							
DGS				*eS*		**Sg**	**04 38 35.0**	**-4.3**
	comp=Z,1μm,0.7s							
DGS	**Degeres**	**3.86**	**18**	Pg		**Pg**	**04 37 46.8**	**-2.5**
	comp=Z,1μm,0.5s							
DGS				Lg		Lg	04 38 33.6	
	comp=Z,1μm,0.7s							
SGDS	**Sogindy**	**3.88**	**6**	*e*PN		**Pn**	**04 37 36.1**	**+1.0**
SGDS				*e*			04 37 44.3	
SGDS	**Sogindy**	**3.88**	**6**	*e*P		**Pb**	**04 37 44.0**	**+0.1**
	comp=Z,700nm,0.7s							
SGDS				*e*S		**Sb**	**04 38 33.9**	**+2.9**
	comp=Z,1μm,0.4s							
SGDS	**Sogindy**	**3.88**	**6**	*e*Pn		**Pn**	**04 37 36.2**	**+1.0**
	baz=6.5							
SGDS				*e*Pg		**Pb**	**04 37 44.4**	**+0.4**
	baz=6.5							
SGDS	**Sogindy**	**3.88**	**6**	Pg		**Pb**	**04 37 44.4**	**+0.4**
	comp=Z,700nm,0.7s							
SGDS				Lg		Lg	04 38 29.5	
	comp=Z,407nm,0.5s							
DZA	**Taraz**	**3.91**	**329**	*e*PN		**Pn**	**04 37 36.5**	**+1.1**
DZA				*e*			04 37 45.4	
DZA	**Taraz**	**3.91**	**329**	*e*P		**Pb**	**04 37 45.6**	**+1.3**
	comp=Z,1μm,0.4s							
DZA				*e*S		**Sg**	**04 38 36.7**	**-4.1**
	comp=Z,4μm,0.6s							
DZA	**Taraz**	**3.91**	**329**	*e*Pn		**Pn**	**04 37 36.5**	**+1.1**
	baz=326							
DZA				*e*Pg		**Pb**	**04 37 45.5**	**+1.2**
	baz=326							
DZA	**Taraz**	**3.91**	**329**	Pg		**Pb**	**04 37 45.6**	**+1.3**
	comp=Z,1μm,0.4s							
DZA				Lg		Lg	04 38 30.4	
	comp=Z,4μm,0.6s							
IZV	**Izvestkoviy**	**3.93**	**28**	*e*P		**Pb**	**04 37 44.8**	**-0.1**
	comp=Z,669nm,0.6s							
IZV				*e*S		**Sb**	**04 38 35.9**	**+3.4**
	comp=Z,2μm,0.7s							
IZV	**Izvestkoviy**	**3.93**	**28**	Pg		**Pg**	**04 37 48.4**	**-2.2**
	comp=Z,667nm,0.5s							
IZV				Lg		Lg	04 38 36.3	
	comp=Z,2μm,0.7s							
MTBS	**Maitube**	**3.95**	**26**	*e*P		**Pb**	**04 37 45.3**	**+0.2**
	comp=Z,599nm,0.6s							
MTBS				*e*S		**Sb**	**04 38 37.0**	**+4.1**
	comp=Z,2μm,0.7s							
MTBS	**Maitube**	**3.95**	**26**	Pg		**Pb**	**04 37 46.2**	**+1.1**
	comp=Z,599nm,0.6s							
MTBS				Lg		Lg	04 38 34.1	
	comp=Z,2μm,0.7s							
CHGR	**Chuyangaron**	**3.96**	**258**	PN		**Pn**	**04 37 39.3**	**+3.2**
CHGR	**Chuyangaron**	**3.96**	**258**	⇑*eP*		**Pn**	**04 37 39.1**	**+3.0**
	baz=57							
CHGR				⇑*iS*		**Sn**	**04 38 27.3**	**+4.7**
	baz=57							
CHGR	**Chuyangaron**	**3.96**	**258**			**Pn**	**04 37 39.3**	**+3.2**
IUG	**luzhnay**	**4.01**	**311**	*i* PN		**Pn**	**04 37 38.9**	**+2.0**
IUG				*e*			04 37 48.8	
IUG	**luzhnay**	**4.01**	**311**	*e*P		**Pb**	**04 37 48.2**	**+2.2**
	comp=Z,25μm,0.3s							
IUG				*e*S		**Sg**	**04 38 42.0**	**-2.1**
	comp=Z,3μm,0.6s							
IUG	**luzhnay**	**4.01**	**311**	*i* Pn		**Pn**	**04 37 38.9**	**+2.0**
	baz=307							
IUG				*e*Pg		**Pb**	**04 37 48.9**	**+2.8**
	baz=307							
TAS	**Tashkent**	**4.06**	**297**	PN		**Pn**	**04 37 39.5**	**+2.0**
TAS	**Tashkent**	**4.06**	**297**	Pn		**Pn**	**04 37 39.5**	**+2.0**
TNSS	**Tian-Shan**	**4.06**	**31**	*i* PN		**Pn**	**04 37 40.1**	**+2.3**
TNSS				*e*			04 37 49.6	
TNSS	**Tian-Shan**	**4.06**	**31**	*e*P		**Pb**	**04 37 47.9**	**+0.8**
	comp=Z,849nm,0.5s							
TNSS				*e*S		**Sg**	**04 38 41.1**	**-4.6**
	comp=Z,516nm,0.8s							
TNSS	**Tian-Shan**	**4.06**	**31**	*i* Pn		**Pn**	**04 37 40.1**	**+2.3**
	baz=34							
TNSS				*e*Pg		**Pb**	**04 37 49.6**	**+2.5**
	baz=34							
TNSS				*e*Lg		Lg	04 38 39.5	
	baz=34							
TNSS	**Tian-Shan**	**4.06**	**31**	Pg		**Pg**	**04 37 50.9**	**-2.2**
	comp=Z,849nm,0.5s							
TNSS				Lg		Lg	04 38 41.1	
	comp=Z,516nm,0.8s							
AAA	**Alma-Ata**	**4.19**	**29**	*e*PN		**

BRLS e 04 38 00.0
BRLS Boroldaу 4.71 318 eP **Pb 04 37 58.8 +0.9**
comp=Z,67nm,0.3s
BRLS eS **Sb 04 38 59.9 +5.3**
comp=Z,2µm,0.5s
BRLS Boroldaу 4.71 318 ePn **Pn 04 37 47.2 +0.8**
baz=312
BRLS ePg **Pb 04 38 00.0 +2.1**
baz=312
BRLS eLg Lg 04 38 58.4
baz=312
SATY Saty 4.75 42 *i* PN **Pn 04 37 48.6 +1.6**
SATY e 04 38 01.9
SATY Saty 4.75 42 eP **Pb 04 37 59.6 +0.9**
comp=Z,304nm,0.4s
SATY eS **Sg 04 39 01.9 -5.9**
comp=Z,602nm,0.5s
SATY Saty 4.75 42 *i* Pn **Pn 04 37 48.6 +1.6**
baz=45
SATY ePg **Pb 04 38 02.0 +3.3**
baz=45
SATY Saty 4.75 42 Pg **Pg 04 38 03.1 -3.2**
comp=Z,305nm,0.5s
SATY Lg Lg 04 39 01.9
comp=Z,602nm,0.5s
CHKK Chushkaly 4.78 26 ePN **Pn 04 37 48.8 +1.4**
CHKK e 04 38 01.2
CHKK Chushkaly 4.78 26 eP **Pb 04 37 59.5 +0.3**
comp=Z,92nm,0.5s
CHKK eS **Sb 04 39 02.3 +5.6**
comp=Z,1µm,0.7s
CHKK Chushkaly 4.78 26 ePn **Pn 04 37 48.8 +1.4**
baz=28
CHKK ePg **Pb 04 38 01.3 +2.1**
baz=28
CHKK eLg Lg 04 39 01.1
baz=28
CHKK Chushkaly 4.78 26 Pg **Pg 04 38 03.5 -3.3**
comp=Z,270nm,0.4s
CHKK Lg Lg 04 39 02.3
comp=Z,1µm,0.7s
ZHN Zhinishke 4.84 41 ePN **Pn 04 37 50.4 +2.1**
ZHN Zhinishke 4.84 41 eP **Pb 04 38 00.0 -0.3**
comp=Z,155nm,0.3s
ZHN eS **Sb 04 39 03.1 +4.5**
comp=Z,423nm,0.8s
ZHN Zhinishke 4.84 41 ePn **Pn 04 37 50.5 +2.1**
baz=44
ZHN eLg Lg 04 39 05.0
baz=44
ZHN Zhinishke 4.84 41 Pg **Pb 04 38 03.3 +3.0**
comp=Z,155nm,0.3s
ZHN Lg Lg 04 39 01.4
comp=Z,423nm,0.8s
KURS Kuram 4.95 37 eP **Pb 04 38 02.4 +0.3**
comp=Z,172nm,0.5s
KURS eS **Sb 04 39 06.6 +4.9**
comp=Z,466nm,1.5s
KURS Kuram 4.95 37 Pg **Pg 04 38 06.7 -3.5**
comp=Z,229nm,0.5s
KURS Lg Lg 04 39 07.2
comp=Z,466nm,1.5s
UZB Uzynbulak 5.13 45 *i* PN **Pn 04 37 54.5 +2.1**
UZB e 04 38 09.4
UZB Uzynbulak 5.13 45 eP **Pb 04 38 06.9 +1.6**
comp=Z,130nm,0.4s
UZB eS **Sb 04 39 12.9 +5.8**
comp=Z,266nm,0.9s
UZB Uzynbulak 5.13 45 *i* Pn **Pn 04 37 54.5 +2.1**
baz=48
UZB ePg **Pg 04 38 09.4 -4.2**
baz=48
UZB eLg Lg 04 39 14.4
baz=48
UZB Uzynbulak 5.13 45 Pg **Pg 04 38 09.9 -3.7**
comp=Z,219nm,0.5s
UZB Lg Lg 04 39 12.9
comp=Z,266nm,0.9s
KPKS Kokpek 5.18 40 *i* PN **Pn 04 37 54.8 +1.8**
KPKS e 04 38 10.1
KPKS Kokpek 5.18 40 *i* Pn **Pn 04 37 54.8 +1.8**
baz=43
KPKS ePg **Pg 04 38 10.1 -4.4**
baz=43
KPKS eLg Lg 04 39 15.6
baz=43
SHLS Shalkode 5.38 47 ePN Pn 04 38 01.0 +5.2
SHLS e 04 38 19.4
SHLS Shalkode 5.38 47 ePn Pn 04 38 01.0 +5.2
baz=52
SHLS ePg **Pg 04 38 19.5 +1.1**
baz=52
ARXS Arharly 5.39 30 eP **Pb 04 38 11.4 +1.8**
comp=Z,386nm,0.8s
ARXS eS **Sg 04 39 21.7 -6.7**
comp=Z,636nm,0.7s
ARXS Arharly 5.39 30 Pg **Pg 04 38 14.6 -4.0**
comp=Z,897nm,0.5s
ARXS Lg Lg 04 39 21.3
comp=Z,343nm,0.5s
BTLS Baital 5.45 360 ePN **Pn 04 37 57.8 +1.2**
BTLS e 04 38 13.4
BTLS Baital 5.45 360 eP **Pb 04 38 11.2 +0.7**
comp=Z,132nm,0.3s
BTLS eS **Sb 04 39 21.1 +5.0**
comp=Z,109nm,0.6s
BTLS Baital 5.45 360 ePn **Pn 04 37 57.9 +1.3**
baz=360
BTLS ePg **Pb 04 38 13.5 +2.9**
baz=360
BTLS eLg Lg 04 39 21.2
baz=360
BTLS Baital 5.45 360 Pg **Pb 04 38 13.8 +3.2**
comp=Z,132nm,0.3s
BTLS Lg Lg 04 39 20.0
comp=Z,109nm,0.6s
PDGK Podgornoye 5.51 46 PN **Pn 04 37 59.0 +1.4**
PDGK 04 39 26.2
PDGK Podgornoye 5.51 46 Pg **Pg 04 38 16.4 -4.5**
comp=Z,140nm,0.6s
PDGK Lg Lg 04 39 25.3
comp=Z,276nm,0.9s
PDGK Podgornoye 5.51 46 ⇑Pn **Pn 04 37 58.9 +1.4**
comp=Z,90nm,0.6s
PDGK ⇑Pg **Pb 04 38 15.7 +4.1**
comp=Z,234nm,0.6s
PDGK ⇑Lg Lg 04 39 29.7
comp=Z,868nm,0.9s
CHCP Chirah Chowk 5.95 187 P Pn 04 38 10.1 +6.6
NIL Nilore 5.96 187 PN **Pn 04 38 08.3 +4.6**
NIL Nilore 5.96 187 **Pn 04 38 08.2 +4.6**
CEP Cherat 6.01 198 P Pn 04 38 10.4 +6.0
CEP S **Sn 04 39 21.0 +7.6**
KTMS Ketmen 6.07 49 eP **Pb 04 38 24.8 +3.5**
comp=Z,8.4nm,0.2s
KTMS eS **Sg 04 39 44.7 -5.5**
comp=Z,468nm,0.3s
KTMS Ketmen 6.07 49 Pg **Pg 04 38 28.3 -3.3**
comp=Z,66nm,0.3s
KTMS Lg Lg 04 39 44.7
comp=Z,73nm,0.5s
TDK Taldyqorghan 6.28 29 ePN **Pn 04 38 09.7 +1.7**
TDK Taldyqorghan 6.28 29 eP **Pb 04 38 28.7 +3.9**
comp=Z,480nm,0.8s
TDK eS **Sg 04 39 51.9 -5.0**
comp=Z,1µm,1.1s
TDK Taldyqorghan 6.28 29 ePn **Pn 04 38 09.8 +1.7**
baz=31
TDK Taldyqorghan 6.28 29 Pg **Pg 04 38 31.4 -4.2**
comp=Z,469nm,0.5s
TDK Lg Lg 04 39 50.1
comp=Z,1µm,1.1s
KBL Kabul 6.46 220 PN **Pn 04 38 14.8 +4.2**
KBL Kabul 6.46 220 Pn **Pn 04 38 14.8 +4.2**
JMU Jammu 6.88 174 eP **Pn 04 38 20.9 +4.7**
KAPS Kapalarasan 6.89 33 eP **Pb 04 38 37.6 +2.4**
comp=Z,56nm,0.7s
KAPS eS Sg 04 40 07.0 -10
comp=Z,181nm,0.6s
THW Thamme Wali 7.04 196 P **Pn 04 38 22.9 +4.5**
THN Thein Dam 7.25 169 eP **Pn 04 38 25.7 +4.3**
SARP Sargodha 7.73 189 P **Pn 04 38 32.0 +4.1**
BHK Bhakra 8.37 166 eP **Pn 04 38 38.0 +1.4**
OTUK Ortayu 8.75 352 P **Pn 04 38 41.9 +0.1**
OTUK Ortayu 8.75 352 ⇓Pn **Pn 04 38 41.9 +0.1**
comp=Z,27nm,0.8s
OTUK ⇓Lg Lg 04 41 09.0
comp=Z,212nm,0.8s
SMLA Simla 8.80 163 eP **Pn 04 38 43.8 +1.3**
SMLA eS **Sn 04 40 15.2 -6.5**
SMLA IAML 04 40 25.4
comp=N,175nm,0.7s
SMLA IAML 04 40 25.7
comp=E,197nm,0.7s
MAKZ Makanchi 9.23 36 P **Pn 04 38 49.3 +0.9**
MAKZ Makanchi 9.23 36 **Pn 04 38 49.3 +0.9**
MAKZ Makanchi 9.23 36 ⇑Pn **Pn 04 38 49.3 +0.9**
comp=E,27nm,0.8s
MAKZ ⇓Lg Lg 04 41 25.2
comp=E,194nm,1.4s
MK31 Makanchi Array 9.36 37 eP **Pn 04 38 51.5 +1.3**
MK31 Makanchi Array 9.36 37 **Pn 04 38 50.9 +0.7**
MK31 Makanchi Array 9.36 37 ⇓Pn **Pn 04 38 51.4 +1.2**
comp=E,25nm,0.8s,baz=213,slow=13,SNR=60
MK31 ⇑Lg Lg 04 41 30.7
comp=E,185nm,1.3s
MKAR Makanchi Array 9.36 37 Pn **Pn 04 38 51.6 +1.5**
comp=E,0.6nm,0.3s,baz=214,slow=15,SNR=26
MKAR Lg Lg 04 41 29.1
comp=E,2.9nm,0.3s,baz=225,slow=24,SNR=2.0
MKAR Makanchi Array 9.36 37 *i* P **Pn 04 38 51.7 +1.5**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 9.36 37 **Pn 04 38 50.5 +0.2**
DDI Dehra Dun 9.79 159 eP **Pn 04 38 58.9 +2.7**
DDI IAmb IAmb 04 39 06.7
comp=Z,160nm,0.5s
DDI IAML 04 40 47.6
comp=E,160nm,0.2s
HRA Herat 10.81 245 Pn **Pn 04 39 10.9 +0.7**
WMQ Urumqi 11.01 63 eP **Pn 04 39 16.3 +3.5**
WMQ S **Sn 04 41 20.5 +4.5**
WMQ LR LR
comp=E,1µm,8.5s
WMQ LR LR
comp=E,600nm,10.7s
WMQ LR LR
comp=E,660nm,8.9s
ZSN Zaisan 11.08 41 eP **Pn 04 39 16.7 +3.0**
ZSN Zaisan 11.08 41 ePn **Pn 04 39 16.7 +3.0**
baz=43
NDI New Delhi 11.18 166 eP **Pn 04 39 16.3 +1.2**
PTH Pithoragarh 11.20 151 eP **Pn 04 39 18.6 +2.9**
LGTI Lohaghat 11.30 152 eP **Pn 04 39 17.8 +0.9**
LGTI eS **Sn 04 41 16.4 -6.9**
AYAN Aya Nagar 11.35 166 eP **Pn 04 39 19.7 +2.2**
KURBB Kurchatov Arra 11.47 14 Pn **Pn 04 39 18.4 -0.6**
comp=E,0.3nm,0.3s,baz=203,slow=12,SNR=19
KURBB Lg Lg 04 42 35.9
comp=E,0.9nm,0.3s,baz=203,slow=29,SNR=9.1
KURBB Kurchatov Arra 11.47 14 ⇑Pn **Pn 04 39 18.8 -0.2**
comp=E,8.8nm,0.5s
KURBB ⇓Lg Lg 04 42 37.4
comp=E,467nm,1.1s
SONA Sohna 11.57 167 eP **Pn 04 39 20.5 0.0**
SONA eS **Sn 04 41 23.5 -6.3**
KURK Kurchatov 11.58 14 *ce*P **Pn 04 39 21.2 +0.7**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 11.58 14 **Pn 04 39 20.6 +0.1**
KURK Kurchatov 11.58 14 ⇑Lg Lg 04 42 41.4
comp=Z,438nm,1.3s
KUDL Kundal 11.58 169 eP **Pn 04 39 21.8 +1.2**
KUDL eS **Sn 04 41 22.8 -7.2**
SEM Semipalatinsk 11.66 20 eP **Pn 04 39 22.8 +1.0**
SEM Semipalatinsk 11.66 20 ePn **Pn 04 39 22.8 +1.0**
baz=20
GEYT Alibeck 12.59 268 Pn **Pn 04 39 33.0 -1.4**
comp=Z,3.0nm,0.3s,baz=75,slow=28,SNR=13
GEYT Sn **Sn 04 41 50.8 -4.0**
comp=Z,2.5nm,0.3s,baz=82,slow=16,SNR=3.2
GEYT LR LR 04 45 10.8
comp=Z,422nm,20.7s,baz=56,slow=41
GYA0 ALIBECK ARRAY 12.59 268 P **Pn 04 39 36.6 +2.1**
GYA0 SN **Sn 04 41 58.1 +3.4**
GYA0B ALIBECK ARRAY 12.59 268 Pn **Pn 04 39 33.3 -1.2**
GYA0B ALIBECK ARRAY 12.59 268 ⇑Pn **Pn 04 39 36.1 +1.6**
GYA0B ⇑Sn **Sn 04 41 58.1 +3.4**
AJM Ajmer 13.08 178 eP **Pn 04 39 43.2 +2.1**
AJM eS **Sn 04 41 58.2 -8.5**
PYUN Piuthan 13.62 145 eP **Pn 04 39 46.8 -1.9**
comp=Z,85nm,0.4s
BVAR Borovoye Array 13.68 350 Pn **Pn 04 39 47.5 -1.8**
BRVK Borovoye 13.73 350 P **Pn 04 39 49.1 -0.8**
BRVK Borovoye 13.73 350 ⇓Pn **Pn 04 39 49.1 -0.8**
comp=Z,42nm,0.8s
BRVK ⇓Lg Lg 04 43 47.7
comp=Z,156nm,1.2s
DANN Dangsing 13.77 142 eP **Pn 04 39 48.1 -2.7**
comp=Z,67nm,0.5s
AB31 Akbulak array 13.97 318 P **Pn 04 39 52.3 -0.9**
AB31 SN **Sn 04 42 27.1 -1.2**
AB31 Akbulak array 13.97 318 ⇑Pn **Pn 04 39 52.3 -0.9**
comp=Z,10.0nm,0.3s,baz=126,slow=13,SNR=700
AB31 ⇓Sn **Sn 04 42 27.1 -1.2**
comp=Z,18nm,0.6s,baz=252,slow=44,SNR=7.4
ABKAR Akbulak array 13.97 318 Pn **Pn 04 39 50.6 -2.6**
KOLN Koldanda 14.18 143 eP **Pn 04 39 54.5 -1.9**
comp=Z,60nm,0.4s
GKN Gorkha 14.48 140 eP **Pn 04 39 57.0 -3.5**
comp=Z,81nm,0.6s
KKN Kakani 14.98 138 eP **Pn 04 40 04.7 -2.6**
comp=Z,53nm,0.5s
DMN Daman 15.04 139 eP **Pn 04 40 05.2 -2.9**
comp=Z,34nm,0.5s
GUN Gumba 15.20 136 eP **Pn 04 40 07.4 -2.9**
comp=Z,57nm,0.4s
PKIN Phulchoki 15.21 139 eP **Pn 04 40 08.1 -2.4**
comp=Z,61nm,0.7s
PKI Pulchoki 15.23 138 eP **Pn 04 40 07.8 -2.9**
JIRN Jiri 15.56 136 eP **Pn 04 40 13.3 -1.8**
ALBI Allahabad 15.64 153 eP **P 04 40 18.6 -1.4**
AKTO Aktyubinsk 15.68 319 Pn **Pn 04 40 14.6 -1.6**
comp=Z,3.7nm,0.3s,baz=130,slow=13,SNR=38
AKTO Aktyubinsk 15.68 319 P **Pn 04 40 16.4 +0.2**
AKTO SN **Sn 04 43 09.4 -0.5**
AKTO Aktyubinsk 15.68 319 ⇑Pn **Pn 04 40 16.4 +0.2**
comp=Z,46nm,1.0s
AKTO ⇑Sn **Sn 04 43 09.4 -0.5**
comp=Z,19nm,0.7s
ZAA0 Zalesovo Array 16.11 23 **Pn 04 40 20.2 -1.4**
ZALV Zalesovo Beam 16.11 23 Pn **Pn 04 40 20.1 -1.6**
comp=Z,2.2nm,0.3s,baz=208,slow=12,SNR=37
ZALV Lg Lg 04 45 07.3
comp=Z,0.3nm,0.3s,baz=231,slow=23,SNR=4.0
ZALV Zalesovo Beam 16.11 23 *i* P **Pn 04 40 21.7 +0.1**
ZALV pmax pmax
comp=Z,8.0nm,0.4s
ZALV Zalesovo Beam 16.11 23 Pn **Pn 04 40 20.2 -1.5**
RAMN Ramite 16.35 137 eP **Pn 04 40 23.4 -1.8**
BHPL Bhopal 16.54 169 eP **Pn 04 40 25.6 -1.8**
BHPL IAmb IAmb 04 40 41.9
comp=Z,16nm,0.5s
TAPN Taplejung 16.64 133 eP **Pn 04 40 29.9 +1.0**
GOMU GeErMu 16.69 95 P **Pn 04 40 29.8 +0.2**
GOMU pP P 04 40 33.3 +1.3
GOMU pmax pmax
comp=Z,23nm,0.9s
GOMU pmax pmax
comp=Z,87nm,4.2s
ODAN Odare 16.85 135 eP **Pn 04 40 31.2 -0.3**
comp=Z,80nm,0.6s
LSA Lhasa 17.12 120 P **P 04 40 37.0 +0.1**
BOK Bokaro 18.64 144 eP **Pn 04 40 54.7 +1.3**
BOK IAmb IAmb 04 40 58.0
comp=Z,19nm,0.9s
SVE Sverdlovsk 19.38 337 eP **Pn 04 41 08.6 +6.4**
SVE pmax pmax
comp=Z,19nm,1.0s
ARU Arti 19.72 334 P **P 04 41 04.1 -0.6**
comp=Z,0.0nm,0.3s,baz=126,slow=8.0,SNR=11
ARU Arti 19.72 334 *di* P **P 04 41 03.7 -1.1**
ARU S **S 04 44 46.9 0.0**
ARU pmax pmax
comp=Z,8.0nm,0.7s
KNGR Kungurtug, Tuv 19.78 48 *i* P **P 04 41 06.1 +0.5**
GTA Gaotai 19.83 82 ⇑P **Pn 04 41 07.3 -0.5**
GTA pP sP 04 41 11.0 -0.8
GTA sS sS 04 44 59.8 +4.1
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,60nm,5.1s
GTA LR LR
comp=Z,300nm,12.7s
GTA LR LR
comp=Z,260nm,16.4s
GTA LR LR
comp=Z,310nm,14.9s
MAK Makhachkala 20.24 288 eP **P 04 41 04.5 -6.0**
MAK eS **S 04 44 49.8 -7.7**
MAK pmax pmax
comp=Z,82nm,1.1s
MAK MLR MLR
comp=Z,341nm,13.0s
SHL Shillong 20.44 128 P **P 04 41 12.9 -0.1**
SHL pmax pmax
comp=Z,20nm,0.8s
SHL Shillong 20.44 128 P **P 04 41 12.9 -0.1**
SHL IAmb IAmb 04 41 25.5
comp=Z,20nm,0.8s
SHL Shillong 20.44 128 eP **P 04 41 12.2 -0.9**
SHL IAmb IAmb 04 41 20.1
comp=Z,11nm,0.7s
WSAR Wadi Sarin 20.92 223 P **P 04 41 18.9 +0.8**
comp=Z,9.4nm,0.8s,baz=69,slow=9.7,SNR=8.0
UOSS Minazif 20.97 231 P **P 04 41 18.2 -0.3**
POO Poona 20.98 181 eP **P 04 41 19.0 +0.2**
GROC Groznyy 21.50 289 eP **P 04 41 24.5 +0.4**
GROC e 04 41 45.3
GROC eS **S 04 45 22.5 +0.1**
GROC pmax pmax
comp=Z,129nm,1.1s
BELG Belogornoye 22.27 314 P **P 04 41 31.1 -1.2**
comp=Z,32nm,0.8s,baz=0.7,slow=2.4,SNR=9.5
HYBB Hyderabad (bro 22.42 169 eP **P 04 41 33.8 -0.4**
HYBB eS **S 04 45 41.2 +0.6**
HYBB IVMs_BB IVMs_BB 04 47 32.0
comp=Z,93nm,4.1s
HYB Hyderabad 22.43 169 eP **P 04 41 35.9 +1.6**
HYB IAmb IAmb 04 41 41.8
comp=Z,10.0nm,0.7s
GNI Garni 22.50 281 P **P 04 41 35.9 +0.8**
comp=Z,49nm,1.0s,baz=103,slow=5.9,SNR=13
GNI Garni 22.50 281 *ce*P **P 04 41 36.7 +1.6**
GNI pmax pmax
comp=Z,60nm,1.0s
GNI Garni 22.50 281 P **P 04 41 35.4 +0.3**
ZEI Tsey 22.89 288 eP **P 04 41 38.7 -0.6**
ZEI pmax pmax
comp=Z,12nm,0.7s
NCK Nalchik 23.10 290 *i* P **P 04 41 40.3 -0.9**
NCK pmax pmax
comp=Z,19nm,0.5s
ZAK Zakamensk 23.14 53 eP **P 04 41 42.7 +1.0**
ZAK pmax pmax
comp=Z,22nm,1.1s
ONI Oni 23.23 287 P **P 04 41 42.8 +0.2**
ONI pmax pmax
comp=Z,42nm,1.0s
ONI Oni 23.23 287 P **P 04 41 42.8 +0.2**
GOF Gofitskoye 23.52 294 ⇑eP P 04 41 34.0 -11
KBZ Khabaz 23.60 290 P **P 04 41 46.1 -0.1**
comp=Z,2.3nm,0.6s,baz=134,slow=8.7,SNR=6.8
KBZ Khabaz 23.60 290 *ce*P **P 04 41 45.7 -0.5**
KBZ pmax pmax
comp=Z,22nm,0.9s
LZH Lanzhou 23.70 89 eP **P 04 41 49.0 +1.6**
LZH pP sP 04 41 52.5 -0.6
LZH pmax pmax
comp=Z,22nm,1.0s
LZH LR LR
comp=Z,250nm,11.4s
LZH LR LR
comp=Z,330nm,12.2s
LZH LR LR
comp=Z,460nm,14.1s
NEY Neytrino 23.74 289 *i* P **P 04 41 47.2 -0.6**
NEY pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 23.75 291 eP **P 04 41 47.5 -0.3**
KIV eS **S 04 46 03.8 +0.7**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 23.75 291 P **P 04 41 48.3 +0.5**
SHA1 Shidzhatmaz 23.78 290 *i* P **P 04 41 47.2 -1.0**
GEVA Gevas 24.12 277 P **P 04 41 52.2 +0.7**
SONM Songino Array 24.61 60 P **P 04 41 56.4 +0.6**
comp=Z,7.4nm,1.0s,baz=266,slow=9.5,SNR=9.5
SONM Songino Array 24.61 60 P **P 04 41 57.5 +1.7**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 24.61 60 P **P 04 41 57.5 +1.7**
KIRV Kirov 24.71 328 P **P 04 41 56.2 -0.2**
comp=Z,16nm,0.5s,baz=143,slow=1.9,SNR=5.1
ULN Ulaanbaatar 25.06 60 P **P 04 42 00.5 +0.7**
ULN pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 25.06 60 P **P 04 42 00.5 +0.7**
VRH Novokhopyorsk 25.32 308 eP **P 04 42 01.3 -0.7**
VRH pmax pmax
comp=Z,40nm,1.2s
CD2 Chengdu 25.63 101 P **P 04 42 07.5 +2.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KOPT Kop Dagi 25.74 282 P **P 04 42 08.6 +2.4**
KOPT IAmb IAmb 04 42 15.6
comp=Z,24nm,1.3s
MARD Mardin 26.11 276 P **P 04 42 10.9 +1.4**
PZH PanZhiHua 26.47 111 P **P 04 42 13.0 +0.2**
PZH S **S 04 46 46.8 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.9s
PZH LR LR
comp=Z,300nm,20.8s
PZH LR LR
comp=Z,250nm,20.2s
PZH LR LR
comp=Z,290nm,16.8s
VSR Storozhevoye 26.89 307 eP **P 04 42 15.3 -0.9**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 26.96 308 eP **P 04 42 16.0 -0.8**
LPSR Galich'ya Gora 27.35 310 eP **P 04 42 19.8 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
PRGR Permogore 28.11 331 eP **P 04 42 25.5 -1.5**
XAN Xi'an 28.30 90 ⇑P **P 04 42 29.5 +0.4**
XAN pP sP 04 42 34.8 -0.1
XAN sP pP 04 42 37.5 +4.3
XAN pmax pmax
comp=Z,11nm,0.7s
XAN pmax pmax
comp=Z,96nm,4.8s
XAN LR LR
comp=Z,420nm,15.5s
XAN LR LR
comp=Z,280nm,14.3s
XAN LR LR
comp=Z,280nm,16.8s
HHC Hu-ho-hao-te 28.50 75 eP **P 04 42 33.0 +2.2**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,200nm,5.8s
MOS Moscow 28.97 316 eP **P 04 42 35.9 +1.2**
MOS e 04 43 30.2
OBN Obninsk 29.36 314 ⇑eP **P 04 42 38.8 +0.7**
OBN e 04 43 31.9
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN Obninsk 29.36 314 P **P 04 42 38.3 +0.2**
CHTO Chiang Mai 29.81 127 P **P 04 42 46.2 +3.7**
CHTO pmax pmax
comp=Z,8.0nm,1.5s
CHTO Chiang Mai 29.81 127 P **P 04 42 46.1 +3.7**
SIM Simferopol' 29.85 294 eP **P 04 42 42.2 -0.4**
SIM S **S 04 47 37.5 -1.9**
SIM pmax pmax
comp=Z,28nm,0.7s
CMAR Chiang Mai Arr 30.07 127 P **P 04 42 42.8 -2.0**
comp=Z,0.8nm,0.3s,baz=301,slow=9.3,SNR=2.0
CMAR PcP **PcP 04 45 46.4 -0.2**
comp=Z,0.8nm,0.4s,baz=293,slow=4.7,SNR=4.1
CMAR Chiang Mai Arr 30.07 127 *i* P **P 04 42 47.5 +2.7**

CMAR pmax pmax
comp=Z,2.0nm,0.3s
KLMR Klimovskoe 30.13 326 *e*P **P 04 42 41.6 -3.3**
KLMR pmax pmax
comp=Z,20nm,1.2s
KLMR Klimovskoe 30.13 326 *e*P **P 04 42 41.6 -3.3**
KLMR AMP 04 42 51.6
comp=Z,20nm,1.2s
NRIK Noril'sk 30.67 9*ce*P **P 04 42 51.4 +1.8**
NRIK pmax pmax
comp=Z,8.0nm,1.6s
BR131 Keskin Array S 30.97 283 *i* P **P 04 42 52.4 -0.3**
BR131 Keskin Array S 30.97 283 IAmb IAmb 04 42 54.2
comp=Z,8.5nm,0.7s
BRTR Keskin Array B 30.97 283 P **P 04 42 52.8 0.0**
comp=Z,4.5nm,0.8s,baz=92,slow=8.7,SNR=14
BRTR Keskin Array B 30.97 283*ce*P **P 04 42 53.7 +0.9**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BOD Bodaibo 31.42 41 *e*P **P 04 42 56.4 +0.1**
BOD pmax pmax
comp=Z,10.0nm,1.4s
AKASG Malin Array Be 33.07 305 P **P 04 43 10.1 -0.8**
comp=Z,6.4nm,0.7s,baz=81,slow=7.4,SNR=33
AKASG Malin Array Be 33.07 305*ce*P **P 04 43 10.1 -0.8**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKBB Malin Array Si 33.07 305 P **P 04 43 10.1 -0.8**
AKBB pmax pmax
comp=Z,13nm,0.8s
AKBB Malin Array Si 33.07 305 P **P 04 43 10.1 -0.8**
BORA Eskisehir 33.32 285 IAmb IAmb 04 43 14.6
comp=Z,6.8nm,0.8s
TPGR Topolog 33.89 294 ⇑P **P 04 43 18.4 +0.3**
CFR Carcaliu 34.05 295 ⇑P **P 04 43 19.6 +0.2**
NACGM Naroch 34.85 312⇑*e*P **P 04 43 25.7 -0.5**
baz=96
TESR Tescani 34.93 297 ⇑P **P 04 43 27.4 +0.3**
VRI Vrincioaia 34.95 296 ⇑P **P 04 43 28.2 +1.0**
VRI Vrincioaia 34.95 296 P **P 04 43 28.5 +1.2**
VRI pmax pmax
comp=Z,12nm,0.8s
PLOR Plostina 35.00 296 ⇑P **P 04 43 28.7 +0.9**
PLOR Plostina 35.00 296 P **P 04 43 28.6 +0.9**
ISR Istrita 35.17 295 ⇓P **P 04 43 31.3 +2.0**
ISR Istrita 35.17 295 P **P 04 43 31.2 +2.0**
COVR Voineasa-Covas 35.31 296 ⇓P **P 04 43 31.5 +1.1**
RAZG Razgrad 35.44 292 ⇓P **P 04 43 32.5 +0.9**
MLR Muntele Rosu 35.54 296 ⇑P **P 04 43 33.9 +1.4**
MLR Muntele Rosu 35.54 296 IAmb IAmb 04 43 44.3
comp=Z,13nm,0.8s
LVZ Lovozero 35.58 336*ce*P **P 04 43 30.0 -2.5**
LVZ pmax pmax
comp=Z,33nm,2.5s
LVZ Lovozero 35.58 336 P **P 04 43 31.4 -1.1**
LVZ IAmb IAmb 04 43 46.2
comp=Z,12nm,0.9s
BURAR Bucovina Array 35.79 299 ⇓P **P 04 43 34.8 +0.2**
BURAR Bucovina Array 35.79 299 P **P 04 43 34.8 +0.2**
APA Apatity 35.81 335⇓*i*P P 04 43 29.2 -5.2
APA pmax pmax
comp=Z,4.0nm,0.8s
APA MLR MLR
comp=Z,400nm,12.0s
DOPR Dopca 35.86 297 ⇑P **P 04 43 36.0 +0.9**
VOIR 36.17 296 P **P 04 43 38.3 +0.4**
VOIR pmax pmax
comp=Z,5.0nm,0.7s
FIA1 FINESS Array S 36.39 323 P **P 04 43 39.5 0.0**
FINES FINESS Array B 36.40 323 P **P 04 43 39.2 -0.3**
comp=Z,13nm,0.5s,baz=112,slow=9.9,SNR=123
ARR Arges 36.47 296 ⇓P **P 04 43 41.5 +1.0**
NJ2 Nanjing 36.76 88 *e*P **P 04 43 44.5 +1.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MTSE Matsula 36.96 318 *e*P **P 04 43 44.1 -0.2**
LOT Lotru 37.06 296 ⇑P **P 04 43 46.0 +0.5**
DRGR 37.58 298 ⇑P **P 04 43 50.4 +0.5**
DRGR 37.58 298 P **P 04 43 50.4 +0.5**
GZR Gura Zlata 37.76 296 ⇓P **P 04 43 51.9 +0.5**
APE Apeiranthos 37.82 282 ⇓P **P 04 43 52.4 +0.4**
APE Apeiranthos 37.82 282 *i* P **P 04 43 51.3 -0.7**
APE pmax pmax
comp=Z,11nm,0.7s
VTS Vitosha 37.98 292 ⇓P **P 04 43 54.6 +1.1**
VTS Vitosha 37.98 292 P **P 04 43 54.3 +0.9**
HERR Herculane 38.10 295 ⇑P **P 04 43 53.6 -0.6**
CRVS Cervenica-Dubn 38.16 302 *e*PP PP 04 45 15.6 -6.1
BLKB Belogradchik 38.16 293 ⇓P **P 04 43 55.5 +0.7**
ZEA Zeya 38.20 50 *i* P **P 04 43 57.2 +2.3**
BZS Buzias 38.52 297 ⇓P **P 04 43 58.6 +0.9**
MDVR Moldovita 38.61 295 ⇑P **P 04 43 59.1 +0.6**
NIE Niedzica 38.86 303 *e*P **P 04 44 01.9 +1.4**
IDI Anoyia 38.92 280 ⇓P **P 04 44 00.6 -0.7**
IDI Anoyia 38.92 280 P **P 04 44 00.8 -0.5**
STIP Stip 38.96 290 *i* P **P 04 44 00.0 -1.4**
AAL Aland 39.09 320 *e*P **P 04 44 01.1 -1.2**
OJC Ojcow 39.10 304 *e*P **P 04 44 02.2 -0.3**
OJC Ojcow 39.10 304 IAmb IAmb 04 44 03.0
comp=Z,12nm,0.5s
ARA0 ARCESS Array S 39.30 335 *e*P **P 04 44 02.2 -1.7**
ARCES ARCESS Array B 39.30 335 P **P 04 44 03.6 -0.3**
comp=Z,7.0nm,0.6s,baz=108,slow=8.6,SNR=99
ARCES ARCESS Array B 39.30 335 P **P 04 44 03.5 -0.4**
FNA Florina 39.79 289 IAmb IAmb 04 44 08.8
comp=Z,7.6nm,0.6s
KTK1 Kautokeino 39.85 334 *e*P **P 04 44 07.9 -0.6**
DIVS Divibare 39.96 295 IAmb IAmb 04 44 11.1
comp=Z,8.1nm,0.6s
YAK Yakutsk 40.03 37 *e*P **P 04 44 10.5 +0.4**
YAK *e**PP **pP 04 44 13.8 -0.6**
YAK *e* 04 45 40.8
YAK *e* 04 46 20.4
YAK *e*S **S 04 50 17.1 +1.6**
YAK *e**SS **sS 04 50 25.7 +3.4**
YAK *e*SS **SS 04 53 13.3 +1.0**
YAK *e* 04 54 17.1
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,119nm,2.9s
YAK pmax pmax
comp=E,36nm,3.0s
YAK pmax pmax
comp=N,61nm,3.3s
YAK smax smax
comp=E,65nm,3.8s
YAK smax smax
comp=N,11nm,1.5s
YAK Yakutsk 40.03 37 P **P 04 44 10.6 +0.5**
HAMF Hammerfest 40.31 337 *e*P **P 04 44 11.8 -0.5**
MORC Moravsky Berou 40.60 304 P **P 04 44 14.8 -0.2**
MORC pmax pmax
comp=Z,4.0nm,0.6s
MORC Moravsky Berou 40.60 304 P **P 04 44 14.8 -0.2**
MORC Moravsky Berou 40.60 304 *e*P **P 04 44 14.9 -0.1**
JAVC Velka Javorina 40.64 302 *e*P **P 04 44 16.5 +1.1**
VIKU Vikbolandet 40.65 317 *e*P **P 04 44 14.6 -0.6**
PDG Podgorica 40.88 292 ⇑P **P 04 44 17.5 +0.1**
PDG Podgorica 40.88 292 P **P 04 44 17.6 +0.3**
PDG IAmb IAmb 04 44 18.5
comp=Z,15nm,0.7s
JETT Jettan, Norway 40.98 334 *e*P **P 04 44 17.4 -0.5**
DLV T Lat 41.01 123 P **P 04 44 21.0 +2.1**
DLV IAmb IAmb 04 44 27.8
comp=Z,30nm,1.5s
KRLC Kraliky 41.04 304 *e*P **P 04 44 18.6 -0.1**
KRLC Kraliky 41.04 304 *e*P **P 04 44 18.6 -0.1**
VRAC Vranov 41.27 303 *e*P **P 04 44 20.7 +0.1**
DPC Dobruska-Polom 41.30 305 *e*P **P 04 44 21.2 +0.4**
DPC MLR MLR
comp=Z,300nm,17.4s
DPC Dobruska-Polom 41.30 305 *e*P **P 04 44 21.2 +0.4**
DPC AMS AMS 05 02 00.0
comp=Z,300nm,17.4s
KLR Kul'dur 41.38 57 P **P 04 44 21.4 0.0**
comp=Z,2.5nm,0.5s,baz=290,slow=7.5,SNR=7.9
KLR Kul'dur 41.38 57 *i* P **P 04 44 23.2 +1.8**
KLR pmax pmax
comp=Z,8.0nm,1.6s
CHVC Chvalec 41.44 305 *e*P **P 04 44 22.0 +0.1**
KRUC Moravsky 41.44 303 *e*P **P 04 44 22.2 +0.3**
UPC Upice 41.47 305 *e*P **P 04 44 22.6 +0.4**
UPC Upice 41.47 305 *e*P **P 04 44 22.6 +0.4**
TRO Tromso 41.49 334 *e*P **P 04 44 20.9 -1.2**
CONA Conrad Observa 41.99 301 *i* P **P 04 44 26.9 +0.4**
comp=Z,3.3nm,0.5s,SNR=5.6
TIXI Tiksi 41.99 23*ce*P **P 04 44 25.1 -1.0**
TIXI pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 41.99 23 P **P 04 44 25.1 -1.0**
TIXI IAmb IAmb 04 44 29.6
comp=Z,9.6nm,0.6s
DEL Delary 42.19 314 *e*P **P 04 44 26.9 -1.0**
HFS Hagfors 42.23 320 P **P 04 44 27.4 -0.8**
comp=Z,16nm,0.5s,baz=260,slow=41,SNR=14
FAUS Fauske 42.26 331 *e*P **P 04 44 28.4 0.0**
PVCC Panska Ves 42.38 305 *e*P **P 04 44 30.0 +0.4**
PVCC Panska Ves 42.38 305 *e*P **P 04 44 30.0 +0.4**
MOR8 Moi Rana 42.40 329 *e*P **P 04 44 27.7 -1.8**
PRU Pruhonice 42.48 305 *e*P **P 04 44 30.6 +0.2**
PRU MLR MLR
comp=Z,300nm,15.6s
PRU Pruhonice 42.48 305 *e*P **P 04 44 30.6 +0.2**
PRU AMS AMS 05 05 00.0
comp=Z,300nm,15.6s
BRG Berggiesshubel 42.72 306 *i* P **P 04 44 32.4 0.0**
BRG Amp 04 44 34.2
comp=Z,9.0nm,0.5s
BRG *i* x x 04 44 38.4
BRG Amp 04 44 38.9
comp=Z,8.3nm,1.1s
BRG Berggiesshubel 42.72 306 *i* P **P 04 44 32.3 0.0**
BRG *i* 04 44 38.3
BRG 04 54 41.6
BRG pmax pmax
comp=Z,9.0nm,0.5s
BRG smax smax
comp=Z,5.0nm,0.5s
CKRC Cesky Krumlov 42.84 303 AMS AMS 05 03 30.0
comp=Z,300nm,17.9s
KONS Konsvik 42.97 329 *e*P **P 04 44 32.8 -1.3**
STOK Stokkvaagen 42.99 329 *e*P **P 04 44 35.4 +1.2**
PSI Prapat 43.00 142 P **P 04 44 34.4 -0.7**
comp=Z,2.4nm,0.5s,baz=51,slow=12,SNR=3.0
LOF Lofoten 43.05 331 *e*P **P 04 44 35.8 +1.0**
MOA Molln 43.06 301 *e*P **P 04 44 35.0 -0.1**
comp=Z,2.5nm,0.7s
RPSI Rantau Prapat 43.09 142 P **P 04 44 34.4 -1.3**
GEC2 GERESS Array S 43.23 303 IAmb IAmb 04 44 37.6
comp=Z,9.4nm,0.6s
GERES GERESS Array B 43.23 303 P **P 04 44 37.1 +0.5**
comp=Z,6.4nm,0.5s,baz=68,slow=7.6,SNR=68
GERES GERESS Array B 43.23 303 P **P 04 44 36.6 0.0**
CLL Collm 43.24 307 *i* P **P 04 44 36.2 -0.3**
CLL MLR MLR
comp=Z,300nm,18.4s
CLL Collm 43.24 307 *i* P **P 04 44 36.2 -0.3**
comp=Z,6.0nm,0.5s
CLL *e*PP **PP 04 46 19.0 +2.2**
CLL LmV 05 05 00.0
comp=Z,300nm,18.4s
KHC Kasperske Hory 43.25 303 *i* P **P 04 44 35.9 -0.8**
KHC pmax pmax
comp=Z,16nm,0.6s
KHC Kasperske Hory 43.25 303 IAmb IAmb 04 44 37.4
comp=Z,7.9nm,0.6s
KHC Kasperske Hory 43.25 303 *e*P **P 04 44 37.0 +0.3**
KHC AMS AMS 05 03 50.0
comp=Z,200nm,13.4s
NC602 NORSAR Array S 43.30 321 P **P 04 44 36.2 -0.6**
NC602 NORSAR Array S 43.30 321 *e*P **P 04 44 35.9 -1.0**
NB2 NORSAR Subarra 43.46 321 P **P 04 44 37.3 -1.0**
comp=Z,11nm,0.5s,baz=90,slow=8.6
NB2 NORSAR Subarra 43.46 321 P **P 04 44 37.3 -1.0**
baz=90,slow=8.6
NOA NORSAR Array B 43.46 321 P **P 04 44 37.3 -1.0**
comp=Z,12nm,0.5s,baz=91,slow=7.9,SNR=87
BIOA Bad Ischl, Aus 43.51 301 *e*P **P 04 44 38.6 -0.2**
comp=Z,3.2nm,0.4s
NAO01 NORSAR Array S 43.62 321 P **P 04 44 38.8 -0.7**
MYKA Terra Mystica 43.74 300 *e*P **P 04 44 40.6 -0.2**
comp=Z,1.7nm,0.4s
KBA Koelnbreinsper 43.84 301 *e*P **P 04 44 41.4 -0.2**
comp=Z,2.2nm,0.3s
KONO Kongsberg 44.30 319*ce*P **P 04 44 42.8 -2.1**
KONO pmax pmax
comp=Z,10.0nm,1.3s
KONO Kongsberg 44.30 319 *e*P **P 04 44 44.3 -0.7**
ABTA Abfaltersbach 44.47 300 *e*P **P 04 44 45.5 -1.1**
comp=Z,2.0nm,0.5s
DOMB Dombas 44.48 322 *e*P **P 04 44 45.9 -0.6**
GRF Grafenberg Arr 44.65 305 *e*P **P 04 44 48.5 +0.6**
comp=Z,7.2nm,0.7s,baz=82,slow=6.9
GRF *e*pP **sP 04 44 54.2 +0.2**
baz=82,slow=7.1
HSPB Hornsund (broa 44.81 344 *e*P **P 04 44 48.0 -0.8**
SKAR Skarsila 44.90 321 *e*P **P 04 44 49.9 +0.1**
WTTA Watterberg 44.93 301 *e*P **P 04 44 49.8 -0.6**
comp=Z,6.2nm,0.5s
WATA Walderalm 44.95 301 *e*P **P 04 44 49.9 -0.5**
comp=Z,3.1nm,0.4s
HOMB Homborsund 44.97 317 *e*P **P 04 44 49.7 -0.5**
SPA0 Spitsbergen Ar 45.08 346 *e*P **P 04 44 50.1 -0.9**
SPITS Spitsbergen Ar 45.08 346 P **P 04 44 51.3 +0.3**
comp=Z,4.3nm,0.6s,baz=110,slow=14,SNR=19
NRCA Norcia 45.12 295 P **P 04 44 52.2 +0.4**
NRCA IAmb IAmb 04 44 58.7
comp=Z,13nm,1.2s
MOTA Moosalm 45.26 301 *e*P **P 04 44 52.4 -0.6**
comp=Z,3.1nm,0.5s
RETA Reutte 45.45 302 *e*P **P 04 44 54.6 +0.2**
comp=Z,1.8nm,0.3s
AKN Aaknes 45.45 323 *e*P **P 04 44 53.6 -0.5**
FETA Feichten 45.59 301 *e*P **P 04 44 55.2 -0.4**
comp=Z,1.2nm,0.5s
SNART Snartemo 45.64 317 *e*P **P 04 44 55.0 -0.6**
ODD1 Odda 45.78 320 *e*P **P 04 44 56.9 +0.1**
HYA Hoyanger 45.90 321 *e*P **P 04 44 56.8 -0.8**
BLS5 Blasjo 45.91 319 *e*P **P 04 44 58.0 +0.2**
DAVA Damuels 46.08 302 *i* P **P 04 44 58.8 -0.7**
comp=Z,6.8nm,0.5s,SNR=10
KBS Kingsbay 46.17 346 P **P 04 45 00.4 +0.8**
KBS pmax pmax
comp=Z,19nm,1.1s
KBS Kingsbay 46.17 346 P **P 04 45 00.4 +0.8**
KBS Kingsbay 46.17 346 *i* P **P 04 44 58.6 -1.0**
KBS Kingsbay 46.17 346 *e*P **P 04 44 59.3 -0.3**
BER Bergen 46.38 320 *e*P **P 04 45 00.4 -1.0**
FOO Floro 46.41 322 *e*P **P 04 45 00.6 -1.0**
ASK Askoy 46.44 320 *e*P **P 04 45 00.2 -1.7**
KMY Karmoy 46.55 319 *e*P **P 04 45 03.2 +0.5**
TUE Stuetta 46.65 301 IAmb IAmb 04 45 14.9
comp=Z,5.4nm,0.7s
BFO Black Forest 46.82 303 P **P 04 45 04.9 -0.2**
BFO pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 46.82 303 P **P 04 45 04.9 -0.2**
BFO IAmb IAmb 04 45 05.5
comp=Z,5.2nm,0.9s
SENIN Lac Senin/Sane 48.04 301 IAmb IAmb 04 45 27.6
comp=Z,6.6nm,0.8s
LPL La Plagne 48.67 300 *e*P **P 04 45 19.7 0.0**
LPL pmax pmax
comp=Z,6.0nm,0.5s
BNI Bardonecchia 48.85 300 IAmb IAmb 04 45 28.4
comp=Z,7.9nm,1.0s
MJAR Matsushiro Arr 49.61 72 P **P 04 45 28.1 +1.3**
comp=Z,4.5nm,0.9s,baz=282,slow=7.2,SNR=4.4
MJAR Matsushiro Arr 49.61 72 IAmb IAmb 04 45 31.2
comp=Z,10nm,1.3s
LODK Lodwar 50.26 234 P **P 04 45 33.5 +1.6**
NOR Nord 51.23 349 *e*P **P 04 45 39.2 +0.8**
EKA Eskdalemuir Ar 51.81 315 P **P 04 45 42.2 -0.8**
CAF Calviac 51.98 301 *e*P **P 04 45 44.0 -0.5**
CAF pmax pmax
comp=Z,7.0nm,1.0s
DAG Danmarks Havn 52.48 343 *i* P **P 04 45 46.0 -1.7**
KMBO Kilima Mbogo 52.71 229 P **P 04 45 51.1 +0.6**
comp=Z,1.1nm,0.3s,baz=27,slow=13,SNR=4.6
KMBO Kilima Mbogo 52.71 229 P **P 04 45 51.7 +1.2**
KMBO pmax pmax
comp=Z,7.0nm,1.2s
KMBO Kilima Mbogo 52.71 229 P **P 04 45 51.7 +1.2**
KMBO IAmb IAmb 04 46 00.8
comp=Z,6.9nm,1.1s
LFF La Frestale 52.85 301 *e*P **P 04 45 50.3 -0.6**
LFF pmax pmax
comp=Z,7.0nm,0.5s
KIBK Kibwezi 53.24 227 P **P 04 45 55.1 +0.9**
KIBK IAmb IAmb 04 45 55.8
comp=Z,7.0nm,0.9s
DBG Daneborg 53.50 340 *i* P **P 04 45 55.4 +0.1**
BILL Bilibino 54.76 27 *e*P **P 04 46 03.9 -0.7**
BILL pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 54.76 27 P **P 04 46 06.1 +1.6**
BILL IAmb IAmb 04 46 12.1
comp=Z,3.9nm,0.8s
MBAR Mbarara 56.28 236 P **P 04 46 15.2 -1.2**
comp=Z,2.7nm,0.2s,baz=36,slow=17,SNR=5.1
MBAR Mbarara 56.28 236 P **P 04 46 16.9 +0.5**
MBAR pmax pmax
comp=Z,6.0nm,0.8s
MBAR Mbarara 56.28 236 P **P 04 46 16.9 +0.5**
MBAR IAmb IAmb 04 46 26.6
comp=Z,6.3nm,0.8s
ESBB Sonseca Array 58.20 297 IAmb IAmb 04 46 29.5
comp=Z,4.5nm,0.7s
ESDC Sonseca Array 58.20 297 P **P 04 46 28.8 -0.9**
comp=Z,5.0nm,0.6s,baz=55,slow=7.0,SNR=57
MRSI Marisa 58.40 120 P **P 04 46 33.5 +2.3**
comp=Z,25nm,1.1s
SOEG Soedalen 59.22 335 *e*P **P 04 46 36.5 +0.3**
ICESG Greenland Ices 61.27 338 *e*P **P 04 46 50.6 0.0**
DY2G Dye2 64.88 338 *e*P **P 04 47 14.4 -0.1**
SFJD Kangerlussuaq 65.76 339 *i* P **P 04 47 22.0 +2.2**
COLD Coldfoot 68.33 17 IAmb IAmb 04 47 43.3
comp=Z,5.7nm,0.8s
IMAR Indian Mountai 68.48 19 P **P 04 47 37.0 -0.2**
BMAR Burnt Mountain 69.35 15 P **P 04 47 44.3 +1.6**
J20K Nowinta River 69.81 20 P **P 04 47 44.7 -0.7**
J20K IAmb IAmb 04 48 11.7
comp=Z,5.3nm,1.1s
INK Inuvik 70.45 11 P **P 04 47 48.3 -1.0**
comp=Z,2.7nm,0.5s,baz=344,slow=6.8,SNR=15
INK Inuvik 70.45 11 P **P 04 47 49.7 +0.4**
INK pmax pmax
comp=Z,10.0nm,1.3s
INK Inuvik 70.45 11 P **P 04 47 49.7 +0.4**
INK IAmb IAmb 04 47 53.4
comp=Z,9.7nm,1.2s
COLA College 70.82 18 *i* P **P 04 47 53.1 +1.5**
COLA pmax pmax
comp=Z,20nm,2.1s
IL31 71.13 17 IAmb IAmb 04 47 59.9
comp=Z,5.3nm,0.9s
ILAR Eielson Array 71.13 17 P **P 04 47 51.8 -1.8**
comp=Z,1.2nm,0.7s,baz=321,slow=4.8,SNR=14
ILAR Eielson Array 71.13 17 P **P 04 47 52.9 -0.6**
ILAR Eielson Array 71.13 17 P **P 04 47 52.9 -0.6**
KOWA Kowa 71.82 274 P **P 04 47 57.8 -0.7**
I29M Ogilvie Camp, 72.38 14 IAmb IAmb 04 48 07.0
comp=Z,8.1nm,1.1s
DHY Denali Highway 72.45 18 IAmb IAmb 04 48 08.6
comp=Z,6.1nm,0.8s
SCRK Sand Creek 72.47 17 IAmb IAmb 04 48 08.2
comp=Z,3.7nm,0.8s
BCAR Beaver Creek A 73.74 16 P **P 04 48 10.5 +1.3**
N31M Braeburn, Yuko 76.39 14 P **P 04 48 25.0 +0.5**
DBIC Dimbokro 77.28 268 P **P 04 48 29.4 -0.8**
comp=Z,7.6nm,0.8s,baz=66,slow=6.4,SNR=6.9
KIC Kosan Boka 77.38 268 *e*P **P 04 48 29.6 -1.2**
comp=Z,12nm,0.6s
TIC Toumodi 77.42 268 *e*P **P 04 48 29.9 -1.1**
LIC Lamto 77.69 268 *e*P **P 04 48 31.8 -0.7**
comp=Z,33nm,1.6s
YKA Yellowknife Ar 78.03 4 P **P 04 48 32.2 -1.3**
comp=Z,3.0nm,0.7s,baz=348,slow=5.6,SNR=75
YKA Yellowknife Ar 78.03 4 *i* P **P 04 48 32.2 -1.3**
YKA pmax pmax
comp=Z,2.0nm,0.4s
WRA Warramunga Arr 81.62 124 P **P 04 48 52.9 -0.8**
comp=Z,5.9nm,0.6s,baz=324,slow=5.1,SNR=68
WRAB Tennant Creek 81.62 124 P **P 04 48 52.9 -0.7**
WRAB pmax pmax
comp=Z,9.0nm,0.6s
WRAB Tennant Creek 81.62 124 P **P 04 48 52.9 -0.7**
BOSA Boshof 81.68 222 P **P 04 48 53.4 -0.4**
comp=Z,3.3nm,0.9s,baz=23,slow=4.4,SNR=4.4
WR0 Warramunga Arr 81.76 124 P **P 04 48 54.5 +0.1**
WR0 IAmb IAmb 04 49 03.5
comp=Z,5.0nm,0.8s
AS31 Alice Springs 84.08 127 P **P 04 49 05.8 -0.6**
ASAR Alice Springs 84.08 127 P **P 04 49 05.7 -0.7**
comp=Z,4.0nm,0.6s,baz=316,slow=4.9,SNR=34
ASAR Alice Springs 84.08 127 P **P 04 49 06.0 -0.4**
ASAR Alice Springs 84.08 127 P **P 04 49 06.0 -0.4**
B08A Colville Reser 91.63 9 P **P 04 49 42.5 0.0**
B08A IAmb IAmb 04 49 51.5
comp=Z,2.8nm,0.8s
NEW Newport 91.97 7 P **P 04 49 45.1 +1.0**
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 91.97 7 P **P 04 49 45.1 +1.0**
NEW IAmb IAmb 04 49 51.9
comp=Z,4.6nm,0.8s
STKA Stephens Creek 94.70 128 P **P 04 49 55.4 -1.2**
comp=Z,1.4nm,0.8s,baz=334,slow=7.7,SNR=4.1
STKA Stephens Creek 94.70 128 P **P 04 49 55.7 -0.9**
STKA pmax pmax
comp=Z,3.0nm,1.5s
STKA Stephens Creek 94.70 128 P **P 04 49 55.7 -0.9**
BOZ Bozeman (W) 95.04 4 P **P 04 49 59.3 +0.9**
BOZ pmax pmax
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 95.04 4 P **P 04 49 59.3 +0.9**
BOZ IAmb IAmb 04 50 06.4
comp=Z,2.4nm,0.8s
PLID Pearl Lake 95.22 7 P **P 04 49 58.9 -0.4**
PLID IAmb IAmb 04 50 06.3
comp=Z,3.3nm,0.8s
PDAR Pinedale Array 97.96 3 P **P 04 50 09.8 -2.0**
comp=Z,0.3nm,0.8s,baz=68,slow=3.1,SNR=1.8
CPUP Villa Florida 137.64 273 PKP **PKPdf 04 55 58.2 -1.5**
comp=Z,1.3nm,0.8s,baz=140,slow=2.6,SNR=4.0
LPAZ La Paz 139.78 294 PKP **PKPdf 04 56 04.2 -0.4**
comp=Z,0.5nm,0.6s,baz=117,slow=6.8,SNR=2.4
PLCA Paso Flores 153.07 256 PKPbc **PKPbc 04 56 32.4 -0.5**
comp=Z,2.0nm,0.6s,baz=36,slow=1.0,SNR=9.8

NIED ***29*** *04:41:03.7, 32.68N×130.70E, h10km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.71; Mθθ0.96; Mϕϕ-0.25; Mrθ0.15; Mθϕ0.11; Mϕr-0.66; Fault plane solution: M₀1.08000×10¹⁵ NP1:ϕs56.00000°, δ51.00000°, λ-138.00000°. NP2:ϕs296.00000°, δ58.00000°, λ-47.00000°.*

JMA 29 04:41:03.6, 32.68N×130.70E, h10km±1km, M3.9, 4C Broadband fault plane solution: P waves. NP1: ϕs46.00000°, δ64.00000°, λ-127.00000°. **NP2:** ϕs286.00000°, δ44.00000°, λ-39.00000°. **Principal axes:** T Plg11.0000°, Azm162.0000°; N Plg33.0000°, Azm65.0000°; P Plg55.0000°, Azm269.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.16**	**144**	⇑P		Pg	04 41 07.3	+0.2
JIU3				*e*S		Sg	04 41 10.2	+0.6
JTA	**Tamana**	**0.32**	**334**	⇑P		Pg	04 41 10.1	+0.2
JTA				*e*S		Sg	04 41 14.6	+0.4
JZO	**Okuchi**	**0.55**	**189**	⇑P		Pg	04 41 14.3	+0.1
JZO				S		Sg	04 41 21.8	+0.4
JTZ	**Takazaki**	**0.84**	**157**	⇑P		Pb	04 41 20.4	+0.1
JTZ				S		Sb	04 41 31.8	+0.1

DDA 29 04:42:27.9±0.0, 36.15N×29.69E, h4km±3km, ML2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AKAS	**Kas**	**0.11**	**321**	P		Pg	04 42 29.7	-0.4
AKAS	comp=N,1μm,0.2s			*i* AML		AML	04 42 32.0	
AKAS				S		Sg	04 42 32.6	+0.9
AKAS	comp=E,1μm,0.4s			*i* AML		AML	04 42 33.0	
AKUM	**Antalya-Kumluc**	**0.56**	**72**	P		Pg	04 42 38.9	+0.3

AKUM S Sg 04 42 47.1 +1.3

ISK 29 04:43:06.7, 37°11N × 28°91E, h15km, ML1.7/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAME	**Cameli-Denizli**	**0.35**	**118**	PG	Pb	04 43 14.5	-0.3
DALY	**Dalyan (Mula)**	**0.36**	**215**	PG	Pb	04 43 14.9	+0.2
DALY				SG	Sb	04 43 19.8	-0.4
FETY	**Fethiye**	**0.49**	**164**	PG	Pb	04 43 16.9	-0.2
FETY				SG	Sb	04 43 24.3	+0.2
YER	**Yerkesik**	**0.50**	**273**	PG	Pb	04 43 17.1	-0.2
YER				SG	Sb	04 43 24.8	+0.4
DAT	**Datca**	**1.14**	**251**	PN	Pn	04 43 28.1	0.0
DAT				SN	Sg	04 43 44.9	+1.4
AYDB	**Zeytinkoy-Aydi**	**1.16**	**316**	PN	Pn	04 43 28.4	-0.1

NEIC ***29*** *04:51:58.9±1.0, 36°.44N±0°.02 × 97°.15W±0°.01, h6km±7km, Error ellipse: s-maj=3.0km s-min=1.6km az=194.0*
TUL ***29*** *04:51:58.8±1.3, 36°.44N±0°.02 × 97°.13W±0°.02, h5km±7km, ML2.5, mb_Lg2.5/31(NEIC), Error ellipse: s-maj=3.3km s-min=1.2km az=45.0*
ANF ***29*** *04:51:59.0±0.5, 36°.42N × 97°.11W, h5km, ML2.8/6, Error ellipse: s-maj=5.1km s-min=3.7km az=147.0*

ISC 29 04:51:58.9±0.9, 36°.43N±0°.03 × 97°.12W±0°.03, h10km, n41, σ0s89/37, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.69**	**45**	Pg	**Pg**	**04 52 12.1**	**-0.1**
T35B	**Sooner Cattle**	**0.69**	**45**	P	**Pg**	**04 52 12.0**	**-0.2**
	baz=226						
T35B				S	**Sg**	**04 52 20.9**	**-0.3**
	baz=226						
OKCFA	**Oklahoma City**	**1.05**	**195**	Pg	**Pg**	**04 52 19.1**	**+0.1**
OKCFA	**Oklahoma City**	**1.05**	**195**	P	**Pg**	**04 52 18.8**	**-0.2**
	baz=14						
OKCFA				S	**Sb**	**04 52 33.4**	**+0.5**
	baz=14						
OKCSW	**OKLAHOMA CITY**	**1.05**	**194**		**Pg**	**04 52 18.2**	**-0.9**
TUL1	**Leonard**	**1.19**	**115**		**Pn**	**04 52 20.9**	**-0.6**
TUL1	**Leonard**	**1.19**	**115**	P	**Pn**	**04 52 21.2**	**-0.4**
	baz=297						
TUL1				S	**Sb**	**04 52 37.8**	**+0.9**
	baz=297						
FNO	**Franklin**	**1.19**	**191**		**Pb**	**04 52 21.1**	**-0.4**
U32A	**Winter Ranch,**	**1.52**	**269**		**Pn**	**04 52 26.4**	**+0.3**
U32A	**Winter Ranch,**	**1.52**	**269**	P	**Pb**	**04 52 26.7**	**-0.5**
	baz=87						
U32A				S	**Sg**	**04 52 47.0**	**-0.8**
	baz=87						
X34A	**Smith Ranch, M**	**1.91**	**198**		**Pn**	**04 52 32.8**	**+1.3**
WMOK	**Wichita Mounta**	**2.16**	**219**	IAmb_Lg		04 53 06.1	
	comp=Z,16nm,0.9s						
WMOK	**Wichita Mounta**	**2.16**	**219**	P	**Pb**	**04 52 37.0**	**-1.1**
	baz=38						
X37A	**Clayton**	**2.32**	**142**		**Pn**	**04 52 38.8**	**+1.7**
X37A				IAmb_Lg		04 53 13.9	
	comp=Z,25nm,0.7s						
R32A	**Long Quarter,**	**2.36**	**328**	Pn	**Pn**	**04 52 39.4**	**+1.6**
R32A				IAmb_Lg		04 53 13.4	
	comp=Z,13nm,0.7s						
HHAR	**Hobbs**	**2.57**	**92**		**Pn**	**04 52 41.9**	**+1.4**
HHAR	**Hobbs**	**2.57**	**92**	P	**Pb**	**04 52 43.9**	**-1.1**
	baz=275						
KSU1	**Kansas State U**	**2.70**	**8**		**Pn**	**04 52 43.3**	**+1.0**
W39A	**Magazine**	**2.97**	**113**	Pn	**Pn**	**04 52 45.9**	**-0.3**
W39A				IAmb_Lg		04 53 40.5	
	comp=Z,10.0nm,0.8s						
W39A	**Magazine**	**2.97**	**113**	Sb	**Sb**	**04 53 30.3**	**+2.0**
	baz=296						
CBKS	**Cedar Bluff**	**3.16**	**320**	Pn	**Pn**	**04 52 49.1**	**+0.3**
S39A	**Bolivar**	**3.29**	**66**	Pn	**Pn**	**04 52 50.0**	**-0.5**
S39A	**Bolivar**	**3.29**	**66**	P	**Pn**	**04 52 51.8**	**+1.4**
	baz=249						
U40A	**Yellville**	**3.44**	**90**	Pn	**Pn**	**04 52 53.2**	**+0.7**
MIAR	**Mount Ida**	**3.44**	**122**	Pn	**Pn**	**04 52 52.6**	**0.0**
MIAR				IAmb_Lg		04 53 56.5	
	comp=Z,9.6nm,0.8s						
MGMO	**Mountain Grove**	**3.96**	**78**	Pn	**Pn**	**04 52 59.5**	**-0.2**
X40A	**Basin Creek Fa**	**4.00**	**118**	Pn	**Pn**	**04 53 00.2**	**0.0**
X40A				IAmb_Lg		04 54 06.7	
	comp=Z,11nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.08**	**96**	Pn	**Pn**	**04 53 01.2**	**-0.1**
WHAR	**Wooly Hollow**	**4.08**	**105**	Pn	**Pn**	**04 53 02.4**	**+1.0**
W41B	**Gary Mavity, V**	**4.15**	**106**	Pn	**Pn**	**04 53 03.9**	**+1.6**
UALR	**University of**	**4.22**	**112**	IAmb_Lg		04 54 21.9	
	comp=Z,12nm,0.9s						
P38A	**Dawn**	**4.27**	**40**	Pn	**Pn**	**04 53 03.6**	**-0.3**
P38A				IAmb_Lg		04 54 16.5	
	comp=Z,9.9nm,0.8s						
WLAR	**White Oak Lake**	**4.27**	**129**	IAmb_Lg		04 54 25.0	
	comp=Z,13nm,1.1s						
R40A	**Maddies Statio**	**4.29**	**63**	Pn	**Pn**	**04 53 05.0**	**+0.9**
R40A				IAmb_Lg		04 54 15.5	
	comp=Z,10nm,0.7s						
N35A	**Tabor**	**4.58**	**14**	Pn	**Pn**	**04 53 08.3**	**+0.1**
CCM	**Cathedral Cave**	**4.96**	**69**	Pn	**Pn**	**04 53 13.5**	**+0.1**
CCM				IAmb_Lg		04 54 34.2	
	comp=Z,13nm,0.8s						
N38A	**Joes South For**	**5.31**	**34**	IAmb_Lg		04 54 47.7	
	comp=Z,11nm,0.8s						
L34A	**Svendsen Farm,**	**5.56**	**6**	IAmb_Lg		04 55 06.6	
	comp=Z,11nm,0.8s						
T25A	**Trinidad**	**5.90**	**279**	IAmb_Lg		04 55 09.5	
	comp=Z,7.3nm,0.8s						
K31A	**O'Neill**	**6.32**	**349**	IAmb_Lg		04 55 19.8	
	comp=Z,8.4nm,0.8s						
S44A	**Carbondale**	**6.41**	**76**	IAmb_Lg		04 55 23.1	
	comp=Z,8.8nm,0.8s						

KRSC 29 04:55:08.8±2.3, 49°93N × 157°07E, h20km±37km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.97**	**321**	*eP*	Pb	04 55 25.3	-1.6
SKR				*eS*	Sb	04 55 37.8	-1.5
PAU	**Pauzhetka**	**1.55**	**354**	*eP*	Pb	04 55 37.0	+0.2
PAU				*eS*	Sb	04 55 56.0	+0.1
KDTR	**Khodutka, Kamc**	**1.99**	**18**	*eP*	Pb	04 55 43.0	-1.3
KDTR				*eS*	Sb	04 56 09.0	+0.5
MIPR	**Malaya Ipel'ka**	**2.36**	**355**	*eP*	Pn	04 55 47.3	+0.9
ASAK	**Asacha**	**2.51**	**12**	*eP*	Pb	04 55 51.6	-1.7
MTVR	**Mutnovka**	**2.65**	**15**	*eP*	Pb	04 55 53.1	-2.6
MTVR				*eS*	Sb	04 56 25.3	-2.5
RUS	**Russkaya**	**2.67**	**19**	*eP*	Pn	04 55 52.2	+1.6
RUS				*eS*	Sb	04 56 26.0	-2.1
GRL	**Gorelyy**	**2.70**	**13**	*eP*	Pb	04 55 54.2	-2.3
KRMR	**Karymshinskiy**	**2.98**	**13**	*eP*	Pn	04 55 57.9	+3.0
UGLR	**Uglovaya**	**3.46**	**18**	*eP*	Pb	04 56 05.7	-3.8
AVH	**Avacha**	**3.50**	**17**	*eP*	Pb	04 56 07.2	-2.9
KOK	**Koryaka**	**3.51**	**16**	*eP*	Pb	04 56 06.6	-3.6
SMAR	**Somma**	**3.51**	**17**	*eP*	Pb	04 56 07.2	-3.1
SDLR	**Sedlovina**	**3.54**	**18**	*eP*	Pn	04 56 05.7	+3.0
KRX	**Arik**	**3.57**	**15**	*eP*	Pb	04 56 08.2	-3.2
SPN	**Mys Shipunski**	**3.67**	**29**	*eP*	Pn	04 56 07.9	+3.5
SPN				*eS*	Sn	04 56 51.1	+4.1
GNL	**Ganaly**	**3.81**	**8**	*eP*	Pn	04 56 10.4	+4.0
MKZ	**Mys Kozlova**	**5.45**	**30**	*eP*	Pn	04 56 31.2	+2.5

KRNET ***29*** *05:00:21.6±0.1, 40°.91N × 71°.35E, h11km, mb2.5*
NNC ***29*** *05:00:24.3±3.5, 40°.89N × 71°.11E, h0km, mb3.9, mpv3.2, Error ellipse: s-maj=25.5km s-min=14.9km az=10.0*
SOME ***29*** *05:00:25.5, 40°.97N × 71°.07E, h10km*

ISC 29 05:00:22.3±1.3, 40°.88N±0°.03 × 71°.26E±0°.04, h3km±12km, n16, σ1s52/30, 9C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.66**	**352**	⇑*iP*	**Pg**	**05 00 32.9**	**-2.0**
	baz=47						
TRKS				⇑*iS*	**Sg**	**05 00 41.4**	**-2.1**
	baz=47						
BTK	**Batken**	**0.89**	**202**	⇑*iP*	**Pg**	**05 00 39.7**	**+0.4**
	baz=6.0						
BTK				⇑*iS*	**Sb**	**05 00 53.0**	**+0.3**
	baz=6.0						
ARK	**Arkit**	**1.06**	**30**	⇓*iP*	**Pg**	**05 00 41.1**	**-1.6**
	baz=27						
ARK				⇓*iS*	**Sg**	**05 00 55.0**	**-1.5**
	baz=27						
OHH	**Osh**	**1.22**	**106**	⇑*iP*	**Pb**	**05 00 43.8**	**-2.2**
	baz=9.0						
OHH				⇑*iS*	**Sb**	**05 01 00.2**	**-1.9**
	baz=9.0						
IUG	**Iuzhnay**	**1.57**	**324**	*eP*	**Pb**	**05 00 51.9**	**-0.2**
	445nm,0.3s						
IUG				*eS*	**Sn**	**05 01 11.2**	**-0.9**
	31nm,0.2s						
IUG	**Iuzhnay**	**1.57**	**324**	P	**Pb**	**05 00 51.9**	**-0.2**
	445nm,0.3s						
IUG				S	**Sn**	**05 01 11.2**	**-0.9**
	31nm,0.2s						
CHM	**Chimkent**	**1.90**	**320**	*eP*	**Pb**	**05 00 57.3**	**-0.3**
	138nm,0.1s						
CHM				*eS*	**Sn**	**05 01 20.1**	**0.0**
	198nm,0.2s						
DZA	**Taraz**	**2.01**	**2**	*eP*	**Pg**	**05 01 01.9**	**+1.0**
	162nm,0.1s						
DZA				*eS*	**Sg**	**05 01 28.0**	**+1.0**
	105nm,0.2s						
KK31	**Karatay Array**	**2.29**	**346**	⇑Pn	**Pn**	**05 01 02.4**	**+1.3**
	1.0nm,0.3s,baz=163,slow=16,SNR=20						
KK31				⇓Sn	**Sb**	**05 01 33.5**	**+0.5**
	12nm,0.4s,baz=165,slow=24						
KKAR	**Karatay Array**	**2.29**	**346**	⇑*iP*	**Pn**	**05 01 02.6**	**+1.5**
	baz=44						
KKAR				⇑*iS*	**Sb**	**05 01 32.7**	**-0.4**
	baz=44						
MRKS	**Merke**	**2.38**	**38**	*eP*	**Pg**	**05 01 09.7**	**+1.9**
	0.9nm,0.2s						
MRKS				*eS*	**Sg**	**05 01 41.7**	**+3.1**
	4.7nm,0.3s						
MRKS	**Merke**	**2.38**	**38**	Pg	**Pg**	**05 01 09.4**	**+1.5**
	0.8nm,0.2s						
MRKS				Lg	Lg	05 01 41.0	
	4.7nm,0.3s						
BRLS	**Borolday**	**2.40**	**334**	*eP*	**Pb**	**05 01 04.3**	**-1.8**
	3.0nm,0.8s						
BRLS				*eS*	**Sn**	**05 01 32.5**	**+0.1**
	17nm,0.3s						
BRLS	**Borolday**	**2.40**	**334**	Pg	**Pb**	**05 01 04.3**	**-1.8**
	1.7nm,0.2s						
BRLS				Lg	Lg	05 01 32.3	
	17nm,0.3s						
SGDS	**Sogindy**	**3.59**	**43**	*eP*	**Pg**	**05 01 32.3**	**+1.1**
	1.7nm,0.0s						
SGDS				*eS*	**Sg**	**05 02 20.1**	**+2.5**
	2.3nm,0.5s						
BTLS	**Baital**	**4.64**	**25**	*eP*	**Pg**	**05 01 50.8**	**-0.4**
	1.4nm,0.4s						
BTLS				*eS*	**Sg**	**05 02 51.7**	**+0.5**
	1.7nm,0.4s						

NOU 29 05:10:15.2, 16°22S × 167°36E, h11km, MLv4.3/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.78**	**349**	P	Pb	05 10 30.6	-0.2
DVP	**Devils Point**	**1.69**	**152**	P	Pn	05 10 44.9	+0.2
RTV	**Rentapao**	**1.87**	**147**	P	Pn	05 10 46.8	-0.3
YATNC	**Mamie plateau,**	**5.83**	**184**	P	Pn	05 11 41.6	0.0
DZM	**Mont Dzumac**	**5.88**	**188**	P	Pn	05 11 41.5	-1.0
NOUC	**Port Laguerre**	**5.94**	**190**	P	Pn	05 11 42.9	-0.2

IDC ***29*** *05:12:21.9±2.1, 13°.82S × 166°.68E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/31, mbtmp3.9/5, ML3.9/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/61, Error ellipse: s-maj=55.3km s-min=36.3km az=112.0*

ISC 29 05:12:27.1±1.9, 14°.0S±0°.1 × 166°.8E±0°.3, h35km, n7, σ1s29/7, mb3.7/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.99**	**182**	Pn	**Pn**	**05 14 21.9**	**+1.0**
	1.4nm,0.3s,baz=33,slow=17,SNR=1.9						
DZM				Sn	**Sn**	**05 15 48.7**	**-1.5**
	baz=156,slow=20,SNR=1.4						
STKA	**Stephens Creek**	**29.09**	**228**	P	**P**	**05 18 25.8**	**+1.3**
	1.4nm,0.7s,baz=0.0,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**31.54**	**255**	P	**P**	**05 18 45.5**	**-0.9**
	0.3nm,0.7s,baz=86,slow=9.8,SNR=6.9						
ASAR	**Alice Springs**	**32.48**	**248**	P	**P**	**05 18 54.2**	**-0.5**
	0.5nm,0.5s,baz=72,slow=9.7,SNR=5.4						
LEM	**Lembang**	**58.50**	**271**	LR	LR	05 50 14.0	
	comp=Z,83nm,18.0s,baz=164,slow=39						
MKAR	**Makanchi Array**	**96.38**	**317**	P	**P**	**05 25 52.5**	**0.0**
	0.5nm,0.7s,baz=102,slow=6.4,SNR=5.1						
ARCES	**ARCESS Array B**	**119.47**	**345**	PKP	**PKPdf**	**05 31 11.7**	**-0.8**
	1.1nm,0.9s,baz=36,slow=1.7,SNR=5.6						

NOU 29 05:23:58.7, 16°03S × 167°37E, h18km, MLv4.4/14, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.60**	**344**	P	Pn	05 24 11.7	-0.7
DVP	**Devils Point**	**1.86**	**155**	P	Pn	05 24 30.0	+0.3
RTV	**Rentapao**	**2.02**	**150**	P	Pn	05 24 31.9	0.0
KOUNC	**Koumac, New Ca**	**5.37**	**213**	P	Pn	05 25 18.3	+0.4
YATNC	**Mamie plateau,**	**6.01**	**184**	P	Pn	05 25 25.6	-1.2
DZM	**Mont Dzumac**	**6.07**	**188**	P	Pn	05 25 27.4	-0.3
NOUC	**Port Laguerre**	**6.12**	**189**	P	Pn	05 25 27.3	-1.0
ONTNC	**Ouen Toro**	**6.30**	**188**	P	Pn	05 25 30.7	-0.1
OUENC	**Ouen Island, N**	**6.37**	**184**	P	Pn	05 25 32.4	+0.6

IDC 29 05:37:53.6±3.2, 54°.29N × 87°.41E, h0km, mb1 3.0/2, mb1mx2.8/59, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=26.2km s-min=17.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**258**	*i*		05 46 41.6	
	baz=79,slow=326,SNR=7.0						
ZALV	**Zalesovo Beam**	**1.56**	**258**	Pg	Pn	05 38 20.3	-2.3
	1.2nm,0.3s,baz=79,slow=17,SNR=13						
ZALV				Lg	Lg	05 38 43.3	
	1.9nm,0.3s,baz=79,slow=26,SNR=9.4						
KURBB	**Kurchatov Arra**	**6.55**	**240**	Pn	Pn	05 39 31.7	+0.6
	0.1nm,0.3s,baz=55,slow=15,SNR=2.1						
KURBB				Lg	Lg	05 41 23.3	
	0.1nm,0.3s,baz=60,slow=32,SNR=4.7						
MKAR	**Makanchi Array**	**8.18**	**206**	Pn	Pn	05 39 54.7	+1.2
	0.2nm,0.3s,baz=26,slow=13,SNR=7.1						
MKAR				Sn	Sn	05 41 27.1	+0.4
	0.1nm,0.3s,baz=27,slow=26,SNR=5.2						

IDC ***29*** *05:40:14.4±1.2, 36°.70N × 23°.03E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.8/49, mbtmp3.9/13, ML3.5/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/95, Error ellipse: s-maj=29.7km s-min=15.7km az=31.0*
ISK ***29*** *05:40:15.3, 36°.75N × 22°.82E, h15km, ML3.7/22*
THE ***29*** *05:40:16.2, 36°.70N × 22°.81E, h9km, ML3.7/12, Error ellipse: s-maj=1.1km s-min=0.5km az=227.0*
ATH ***29*** *05:40:16.2, 36°.71N × 22°.84E, h14km±1km, ML3.6/20, Error ellipse: s-maj=1.6km s-min=0.7km az=89.0*
GII ***29*** *05:40:31.8±0.2, 36°.84N × 24°.19E, h300km*

ISC 29 05:40:16.2±0.8, 36°.70N±0°.02 × 22°.83E±0°.03, h12km±5km, n101, σ1s19/125, mb3.8/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.09**	**79**	P	**Pg**	**05 40 19.1**	**+0.1**
VLI				S	**Sg**	**05 40 20.8**	**-0.2**
VLI				AML	AML	05 40 21.1	
VLI				AML	AML	05 40 23.6	
VLI	**Veliai**	**0.09**	**79**	P	**Pg**	**05 40 19.1**	**+0.1**
VLI				S	**Sg**	**05 40 20.7**	**-0.3**
	203µm,0.4s						
MNVA	**Monemvasia**	**0.17**	**95**	P	**Pg**	**05 40 20.3**	**+0.2**
MNVA				AML	AML	05 40 23.1	
	comp=N,49553µm,0.4s						
MNVA				S	**Sg**	**05 40 23.1**	**+0.3**
MNVA				AML	AML	05 40 23.2	
	comp=E,64129µm,0.5s						
KTHR	**Kythira**	**0.46**	**162**	P	**Pg**	**05 40 25.6**	**+0.3**
KTHR				S	**Sb**	**05 40 32.7**	**-0.3**
KTHR				AML	AML	05 40 33.6	
	comp=E,41115µm,0.4s						
KTHR				AML	AML	05 40 36.0	
	comp=N,74526µm,0.3s						
KTHR	**Kythira**	**0.46**	**162**	P	**Pg**	**05 40 25.6**	**+0.3**
KTHR				S	**Sg**	**05 40 32.3**	**+0.8**
	comp=N,10µm,0.3s						
KTHA	**Kythira Island**	**0.48**	**157**	P	**Pg**	**05 40 25.9**	**+0.2**
KTHA				S	**Sg**	**05 40 32.8**	**+0.7**
KTHA				AML	AML	05 40 33.6	
	comp=E,25204µm,0.5s						
KTHA				AML	AML	05 40 34.7	
	comp=N,11195µm,0.3s						
KTHA	**Kythira Island**	**0.48**	**157**	P	**Pg**	**05 40 25.8**	**+0.1**
KTHA				S	**Sg**	**05 40 32.6**	**+0.5**
	comp=N,9µm,0.5s						
KRND	**KRANIDI**	**0.73**	**21**	P	**Pb**	**05 40 30.5**	**-0.3**
KRND				S	**Sg**	**05 40 39.5**	**-0.4**
KRND				AML	AML	05 40 45.3	
	comp=N,9565µm,0.3s						
KRND				AML	AML	05 40 45.5	
	comp=E,11129µm,0.4s						
KRND	**KRANIDI**	**0.73**	**21**	P	**Pb**	**05 40 30.5**	**-0.3**
KRND				S	**Sb**	**05 40 40.9**	**+0.2**
	comp=E,5µm,0.4s						
YDRA	**Hydra**	**0.82**	**38**	P	**Pb**	**05 40 32.3**	**-0.2**
YDRA				S	**Sb**	**05 40 43.7**	**+0.2**
YDRA				AML	AML	05 40 46.3	
	comp=N,14462µm,0.5s						
YDRA				AML	AML	05 40 47.5	
	comp=E,10745µm,0.2s						
ITM	**Ithomi**	**0.87**	**304**	P	**Pg**	**05 40 32.6**	**-0.5**
ITM				S	**Sg**	**05 40 43.6**	**-0.8**
ITM				AML	AML	05 40 43.6	
	comp=N,7690µm,0.3s						
ITM				AML	AML	05 40 50.3	
	comp=E,5433µm,0.4s						
ITM	**Ithomi**	**0.87**	**304**	P	**Pg**	**05 40 32.5**	**-0.5**
ITM				S	**Sg**	**05 40 43.4**	**-1.0**
	comp=E,3µm,0.3s						
ITM	**Ithomi**	**0.87**	**304**	PG	**Pg**	**05 40 32.4**	**-0.6**
ITM				SG	**Sg**	**05 40 43.6**	**-0.8**
ANKY	**Antikythira Is**	**0.92**	**155**	P	**Pb**	**05 40 33.9**	**-0.1**
ANKY				S	**Sb**	**05 40 45.3**	**-0.8**
ANKY				AML	AML	05 40 48.5	
	comp=N,7502µm,0.8s						
ANKY				AML	AML	05 40 49.0	
	comp=E,5354µm,0.5s						
ANKY	**Antikythira Is**	**0.92**	**155**	P	**Pb**	**05 40 33.9**	**-0.1**
ANKY				S	**Sg**	**05 40 46.6**	**+0.7**
	comp=E,3µm,0.7s						
MHLO	**Agia Marina, M**	**1.26**	**90**	P	**Pn**	**05 40 39.0**	**-0.7**
MHLO				AML	AML	05 41 06.7	
	comp=N,14545µm,0.7s						
MHLO				AML	AML	05 41 07.6	
	comp=E,13946µm,0.6s						
MHLO	**Agia Marina, M**	**1.26**	**90**	P	**Pn**	**05 40 39.1**	**-0.6**
MHLO				S	**Sg**	**05 40 56.6**	**-0.4**
	comp=E,7µm,0.6s						
THAL	**Thalero**	**1.34**	**354**	P	**Pb**	**05 40 40.9**	**-0.4**
THAL				AML	AML	05 41 06.9	
	comp=E,12230µm,0.4s						
THAL				AML	AML	05 41 07.1	
	comp=N,8262µm,0.4s						
THAL	**Thalero**	**1.34**	**354**	P	**Pb**	**05 40 41.0**	**-0.3**
THAL				S	**Sg**	**05 40 59.5**	**0.0**
	comp=N,6µm,0.4s						
RODP	**Rodopos**	**1.36**	**146**	P	**Pn**	**05 40 40.6**	**-0.4**
RODP	**Rodopos**	**1.36**	**146**	PN	**Pb**	**05 40 41.2**	**-0.5**
VLY	**Voula,Athens**	**1.38**	**33**	P	**Pn**	**05 40 40.9**	**-0.4**
VLY				S	**Sb**	**05 40 59.3**	**-0.3**
VLY				AML	AML	05 41 04.0	
	comp=N,4044µm,0.7s						
VLY				AML	AML	05 41 06.2	
	comp=E,5074µm,0.4s						
VLY	**Voula,Athens**	**1.38**	**33**	P	**Pn**	**05 40 40.9**	**-0.4**
VLY				S	**Sg**	**05 41 00.5**	**-0.3**
	comp=E,2µm,0.6s						
KLV	**Kalavryta, Ach**	**1.45**	**338**	P	**Pb**	**05 40 42.5**	**-0.6**
KLV				AML	AML	05 41 09.1	
	comp=N,2026µm,0.7s						
KLV				AML	AML	05 41 12.2	
	comp=E,2824µm,0.5s						
KLV	**Kalavryta, Ach**	**1.45**	**338**	P	**Pn**	**05 40 42.3**	**+0.1**
KLV				S	**Sb**	**05 41 01.0**	**-0.5**
	comp=E,1µm,0.6s						
ATH	**Athens Observa**	**1.45**	**29**	P	**Pn**	**05 40 42.3**	**+0.1**
ATH				AML	AML	05 41 05.8	
	comp=E,2732µm,0.3s						
ATH				AML	AML	05 41 08.3	
	comp=N,2540µm,0.3s						
ATH	**Athens Observa**	**1.45**	**29**	P	**Pb**	**05 40 42.5**	**-0.7**
ATHU	**Athens Univers**	**1.48**	**31**	P	**Pn**	**05 40 42.3**	**-0.3**
ATHU				AML	AML	05 41 07.8	
	comp=N,992µm,0.6s						
ATHU				AML	AML	05 41 09.4	
	comp=E,816µm,0.4s						
ATHU	**Athens Univers**	**1.48**	**31**	P	**Pn**	**05 40 42.3**	**-0.3**
ATHU				S	**Sb**	**05 41 01.5**	**-0.8**
VILL	**Villia**	**1.51**	**15**	P	**Pn**	**05 40 43.2**	**+0.1**
VILL				S	**Sb**	**05 41 03.3**	**0.0**
	comp=E,2µm,0.4s						
CHAN	**Chania**	**1.53**	**140**	P	**Pn**	**05 40 43.3**	**-0.1**
VIL2	**Platees**	**1.55**	**13**	P	**Pn**	**05 40 43.0**	**-0.6**
VIL2				AML	AML	05 41 11.1	
	comp=E,3925µm,0.5s						
VIL2				AML	AML	05 41 11.7	
	comp=N,2506µm,0.5s						
IMMV	**Iera Moni Meta**	**1.55**	**143**	P	**Pn**	**05 40 43.5**	**-0.1**
IMMV				AML	AML	05 41 18.6	
	comp=N,3060µm,0.7s						
IMMV				AML	AML	05 41 27.0	
	comp=E,3201µm,0.6s						
IMMV	**Iera Moni Meta**	**1.55**	**143**	P	**Pn**	**05 40 43.5**	**-0.1**
IMMV	**Iera Moni Meta**	**1.55**	**143**	PN	**Pn**	**05 40 43.5**	**-0.1**
PTL	**Penteli**	**1.58**	**31**	P	**Pn**	**05 40 44.0**	**0.0**
KNDR	**Palaiochora Ch**	**1.62**	**154**	P	**Pb**	**05 40 45.4**	**-0.6**
KNDR				AML	AML	05 41 19.4	
	comp=N,3750µm,0.5s						
KNDR				AML	AML	05 41 21.4	
	comp=E,3491µm,0.7s						
KNDR	**Palaiochora Ch**	**1.62**	**154**	PN	**Pn**	**05 40 44.7**	**+0.2**
DION	**Dionisos Attik**	**1.63**	**32**	P	**Pn**	**05 40 45.0**	**+0.3**
DION				AML	AML	05 41 10.9	
	comp=E,4026µm,0.6s						
DION				AML	AML	05 41 12.6	
	comp=N,2782µm,0.3s						
DION	**Dionisos Attik**	**1.63**	**32**	P	**Pn**	**05 40 44.8**	**0

SIGR	SIGRI	3.46	43	P	Pn	05 41 09.6	-0.3	
BODT	Bodrum	3.61	83	PN	Pn	05 41 12.8	+0.8	
GCAM	G?zelcaml?	3.65	73	PN	Pn	05 41 13.5	+1.0	
KARP	Karpathos	3.69	107	PN	Pn	05 41 13.8	+0.7	
DAT	Datca	3.81	88	PN	Pn	05 41 15.7	+0.8	
ARG	Arkhangelos	4.30	95	PN	Pn	05 41 22.6	+1.2	
TURN	Turunc	4.35	87	PN	Pn	05 41 23.3	+1.2	
YER	Yerkesik	4.39	83	PN	Pn	05 41 23.8	+1.1	
VAY	Valandovo	4.62	358	*i* Pn	Pn	05 41 27.8	+2.0	
OHR	Ohrid	4.68	341	*i* Pn	Pn	05 41 26.7	0.0	
MMB	Musomiste	4.93	8	*i* P	Pn	05 41 32.1	+2.0	
STIP	Stip	5.01	354	*i* Pn	Pn	05 41 33.4	+2.2	
FETY	Fethiye	5.03	89	PN	Pn	05 41 33.0	+1.6	
KKB	Krupnik	5.16	2	*e*P	Pn	05 41 34.5	+1.2	
AKAS	Kas	5.48	93	PN	Pn	05 41 39.5	+1.7	
ELL	Elmali	5.69	87	PN	Pn	05 41 42.4	+1.8	
VTS	Vitosha	5.92	3	*e*P	Pn	05 41 46.0	+2.2	
BRTR	Keskin Array B	9.03	67	Pn	Pn	05 42 30.6	+4.1	
	comp=N,0.2nm,0.3s,baz=241,slow=15,SNR=4.2							
KZIT	Kziot	11.22	118	Pn	Pn	05 42 54.1	-2.3	
KZIT				Sn	Sn	05 44 50.5	-11	
HMDT	Nahal Hemdat	11.38	109	Pn	Pn	05 42 55.1	-3.4	
HMDT				Sn	Sn	05 44 51.5	-14	
YTIR	Yattir	11.50	114	Pn	Pn	05 42 57.0	-3.2	
YTIR				Sn	Sn	05 44 57.3	-11	
KRMI	Paran Flat	11.91	120	Pn	Pn	05 43 02.2	-3.6	
KRMI				Sn	Sn	05 45 06.9	-12	
PRNI	Paran	11.96	118	Pn	Pn	05 43 03.7	-2.9	
PRNI				Sn	Sn	05 45 08.1	-12	
MBRI	Mt Berech	12.23	121	Pn	Pn	05 43 07.0	-3.3	
MBRI				Sn	Sn	05 45 14.7	-12	
EIL	Elat	12.33	121	Pn	Pn	05 43 08.2	-3.4	
	comp=N,0.5nm,0.3s,baz=214,slow=8.6,SNR=7.1							
EIL	Elat	12.33	121	Pn	Pn	05 43 08.7	-2.9	
AKASG	Malin Array Be	14.73	16	Pn	Pn	05 43 46.3	+2.1	
	comp=N,0.4nm,0.3s,baz=204,slow=9.3,SNR=2.0							
KBZ	Khabaz	16.84	59	Pn	P	05 44 12.9	-0.8	
	comp=N,0.1nm,0.3s,baz=287,slow=7.8,SNR=4.6							
ESDC	Sonseca Array	21.24	286	P	P	05 45 02.3	+0.2	
	comp=N,0.5nm,0.6s,baz=81,slow=8.6,SNR=2.9							
FINES	FINESS Array B	24.85	4	LR	LR	05 56 18.6		
	comp=N,118nm,18.2s,baz=313,slow=39							
NOA	NORSAR Array B	25.45	347	P	P	05 45 43.4	-0.3	
	comp=N,0.4nm,0.6s,baz=154,slow=9.6,SNR=6.1							
EKA	Eskdalemuir Ar	25.69	325	P	P	05 45 48.0	+2.1	
	comp=N,6.3nm,0.7s,baz=124,slow=9.2,SNR=12							
ARCES	ARCESS Array B	32.92	2	P	P	05 46 51.7	+1.6	
	comp=N,1.0nm,0.8s,baz=182,slow=8.9,SNR=1.8							
KURBB	Kurchatov Arra	41.65	52	P	P	05 48 02.6	-1.6	
	baz=276,slow=8.9							
SPITS	Spitsbergen Ar	41.67	358	P	P	05 48 03.9	-0.2	
	comp=N,1.6nm,0.8s,baz=152,slow=12,SNR=5.8							
MKAR	Makanchi Array	44.52	58	P	P	05 48 26.1	-1.4	
	comp=N,1.0nm,0.5s,baz=285,slow=6.3,SNR=14							
ZALV	Zalesovo Beam	45.33	47	P	P	05 48 32.3	-1.5	
	comp=N,1.9nm,0.6s,baz=264,slow=9.7,SNR=8.1							
SCHQ	Schefferville	60.79	318	P	P	05 50 28.9	+1.1	
	comp=N,1.9nm,0.5s,baz=124,slow=3.6,SNR=5.8							
YKA	Yellowknife Ar	75.39	341	P	P	05 51 60.0	+0.7	
	comp=N,0.4nm,0.6s,baz=32,slow=5.3,SNR=13							
PDAR	Pinedale Array	89.79	327	P	P	05 53 14.3	-0.6	
	comp=N,0.2nm,0.5s,baz=66,slow=2.2,SNR=2.1							

NOU ***29*** *05:48:25.0, 15°.73S×167°.34E, h14km, mb4.5/11, Vanuatu Islands*

IDC ***29*** *05:48:25.8±2.4, 15°.96S×167°.62E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/37, mbtmp3.8/3, ML4.4/1, Error ellipse: s-maj=58.3km s-min=44.6km az=117.0*

ISC 29 05:48:25.4±1.2, 15°.85S±0°.08×167°.4E±0°.1, h10km, n13, σ2s12/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.44	335	P	Pb	05 48 32.5	-2.8
DVP	Devils Point	2.01	158	P	Pn	05 49 00.1	+0.7
RTV	Rentapao	2.17	153	P	Pn	05 49 02.3	+0.7
LIFNC	LIFOU	4.91	182	P	Pn	05 49 39.2	0.0
KOUNC	Koumac, New Ca	5.53	212	P	Pn	05 49 48.9	+1.0
YATNC	Mamie plateau,	6.20	184	P	Pn	05 49 56.9	-0.1
DZM	Mont Dzumac	6.25	188	Pn	Pn	05 49 58.5	+0.6
	9.9nm,0.3s,baz=301,slow=8.6,SNR=46						
DZM				Sn	Sn	05 51 05.0	-4.6
	6.5nm,0.3s,baz=150,slow=23,SNR=9.9						
NOUC	Port Laguerre	6.31	189	P	Pn	05 49 59.3	+0.8
ONTNC	Ouen Toro	6.49	188	P	Pn	05 50 01.5	+0.5
OUENC	Ouen Island, N	6.56	185	P	Pn	05 50 02.9	+1.0
WRA	Warramunga Arr	31.59	258	P	P	05 54 53.8	+4.4
	0.3nm,0.8s,baz=82,slow=7.0,SNR=1.7						
ASAR	Alice Springs	32.41	251	P	P	05 54 58.5	+2.8
	0.9nm,0.7s,baz=76,slow=8.9,SNR=7.8						
ARCES	ARCESS Array B	121.36	345	PKP	PKiKP	06 07 20.6	+2.1
	1.3nm,0.8s,baz=11,slow=2.5,SNR=6.1						

NEIC ***29*** *05:58:08.5±2.3, 23°.29S±0°.10×174°.07W±0°.07, h10km±1km, mb4.6/19, Error ellipse: s-maj=17.2km s-min=11.1km az=165.0*

IDC ***29*** *05:58:18.2±5.4, 23°.25S×174°.71W, h69km±46km, mb3.8/11, mb1 4.1/13, mb1mx3.9/40, mbtmp4.1/13, ML5.5/1, Error ellipse: s-maj=36.6km s-min=18.9km az=146.0*

ISC 29 05:58:13.5±0.6, 23°.2S±0°.1×174°.5W±0°.1, h36km, n37, σ1s25/33, mb4.5/20, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.92	47	Pn	Pn	05 59 33.2	-5.4
MSVF	Nonsavu	8.86	307	P	Pn	06 00 22.6	+3.5
	1.6nm,0.3s,baz=146,slow=12,SNR=5.4						
AFI	Afiamalu	9.60	16	Pn	Pn	06 00 25.1	-4.1
RAR	Rarotonga	13.78	85	Pn	Pn	06 01 18.6	-7.7
URZ	Urewera	16.64	204	P	P	06 02 04.5	-1.4
DZM	Mont Dzumac	17.64	270	P	P	06 02 16.1	-1.1
	0.2nm,0.3s,baz=90,slow=19,SNR=2.1						
DZM	Mont Dzumac	17.64	270	P	P	06 02 18.6	+1.3
DZM				IAmb	IAmb	06 02 39.9	
	comp=Z,16nm,1.0s						
PLWZ	Palliser	20.23	203	P	Pn	06 02 44.8	-2.8
LTZ	Lake Taylor	22.41	206	P	P	06 03 07.6	-1.3
LTZ				IAmb	IAmb	06 03 20.3	
	comp=Z,45nm,1.5s						
CTA	Charters Tower	36.54	267	P	P	06 05 15.6	-0.4
	comp=Z,11nm,0.6s,baz=96,slow=10,SNR=20						
CTAO	Charters Tower	36.54	267	P	P	06 05 15.9	0.0
CTAO				IAmb	IAmb	06 05 16.6	
	comp=Z,14nm,0.6s						
STKA	Stephens Creek	39.66	248	P	P	06 05 41.4	-0.7
	comp=Z,3.6nm,1.1s,baz=104,slow=12,SNR=3.2						
ASAR	Alice Springs	47.13	259	P	P	06 06 42.3	-0.2
	comp=Z,0.8nm,0.6s,baz=86,slow=6.7,SNR=10						
WR0	Warramunga Arr	47.31	264	P	P	06 06 43.0	-0.9
WR0				IAmb	IAmb	06 06 44.2	
	comp=Z,3.9nm,0.9s						
WB2	Warramunga Arr	47.49	264	P	P	06 06 44.7	-0.6
WB2				IAmb	IAmb	06 06 45.1	
	comp=Z,4.4nm,0.6s						
WRA	Warramunga Arr	47.50	264	P	P	06 06 44.4	-1.0
	comp=Z,3.1nm,0.5s,baz=103,slow=8.1,SNR=28						
WRA	Warramunga Arr	47.50	264	P	P	06 06 44.6	-0.8
MTN	Manton Dam	52.47	271	P	P	06 07 23.0	-0.1
MTN				IAmb	IAmb	06 07 42.6	
	comp=Z,6.0nm,1.1s						
KNRA	Kununurra	53.76	267	P	P	06 07 33.0	+0.4
SBA	Scott Base	55.43	185	P	P	06 07 42.9	-0.9
SBA				IAmb	IAmb	06 07 54.4	
	comp=Z,4.2nm,1.4s						
VNDA	Vanda	55.55	186	P	P	06 07 45.8	+1.2
	comp=Z,0.8nm,0.8s,baz=328,slow=5.5,SNR=4.4						
FITZ	Fitzroy Crossi	55.93	263	P	P	06 07 48.6	+0.3
	comp=Z,1.7nm,0.9s,baz=108,slow=1.4,SNR=4.5						
MBWA	Marble Bar	60.47	258	P	P	06 08 20.4	+0.4
MBWA				IAmb	IAmb	06 08 42.8	
	comp=Z,9.1nm,1.2s						
MORW	Morawa	61.84	248	P	P	06 08 29.7	+0.4
CASY	Casey	62.95	206	P	P	06 08 35.3	-0.7
CASY				IAmb	IAmb	06 08 39.1	
	comp=Z,8.9nm,1.2s						
QSPA	South Pole Qui	66.88	180	P	P	06 09 00.2	-1.5
QSPA				IAmb	IAmb	06 09 04.3	
	comp=Z,4.8nm,1.1s						
TOLI2	Tolitoli	67.34	282	P	P	06 09 06.6	+1.2
TOLI2				IAmb	IAmb	06 09 09.9	
	comp=Z,5.2nm,0.7s						
MAJO	Matsushiro	74.33	322	P	P	06 09 47.9	+0.6
MJB9	Matsu-Tunnel	74.33	322	P	P	06 09 47.8	+0.5
NVAR	Mina Array Bea	80.82	41	P	P	06 10 25.9	+2.1
	comp=Z,1.6nm,0.7s,baz=223,slow=7.8,SNR=15						
TXAR	Lajitas Array	85.82	56	P	P	06 10 51.2	+1.6
	comp=Z,0.9nm,0.9s,baz=209,slow=8.0,SNR=11						
PDAR	Pinedale Array	88.74	42	P	P	06 11 05.0	+1.4
	comp=Z,0.2nm,0.5s,baz=180,slow=4.1,SNR=2.4						
ILAR	Eielson Array	90.26	11	P	P	06 11 10.7	+0.8
	comp=Z,0.7nm,0.9s,baz=218,slow=6.7,SNR=5.1						
CMAR	Chiang Mai Arr	94.07	288	P	P	06 11 30.4	+1.7
	comp=Z,0.8nm,0.3s,baz=132,slow=3.3,SNR=4.7						
MKAR	Makanchi Array	115.42	312	PKP	PKiKP	06 16 51.7	+0.3
	comp=Z,0.2nm,0.5s,baz=48,slow=2.1,SNR=2.3						
ARCES	ARCESS Array B	132.13	351	PKP	PKiKP	06 17 23.5	-0.2
	comp=Z,1.0nm,0.8s,baz=0.0,slow=0.9,SNR=4.7						
CLL	Collm	151.35	350	*i* PKPbc	PKiKP	06 18 03.9	+0.3
	comp=Z,5.0nm,0.9s						

JMA ***29*** *06:09:34.3, 33°.26N×131°.37E, h7km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs247.00000°, δ76.00000°, λ-135.00000°. NP2: φs144.00000°, δ47.00000°, λ-20.00000°. Principal axes: T Plg18.0000°, Azm9.0000°; N Plg43.0000°, Azm261.0000°; P Plg41.0000°, Azm116.0000°;*

NIED ***29*** *06:09:34.3, 33°.26N×131°.37E, h7km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.99; Mθθ5.12; Mφφ-3.13; Mrθ-4.16; Mθφ-0.76; Mφr1.02; Fault plane solution: M₀5.71000×10¹⁵ NP1: φs236.00000°, δ30.00000°, λ-148.00000°. NP2: φs117.00000°, δ74.00000°, λ-64.00000°.*

NEIC ***29*** *06:09:35.9±2.0, 33°.25N±0°.05×131°.29E±0°.04, h2km±1km, mb4.2/13 Error ellipse: s-maj=7.9km s-min=3.9km az=154.0*

IDC ***29*** *06:09:35.3±0.9, 33°.26N×131°.32E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/42, mbtmp3.8/9, ML3.2/2, MS3.8/34, Ms1 3.8/34, ms1mx3.5/98, Error ellipse: s-maj=19.1km s-min=7.1km az=153.0*

MOS ***29*** *06:09:37.1±1.0, 33°.24N×131°.37E, h21km, mb4.3/11, Error ellipse: s-maj=12.8km s-min=7.0km az=109.5*

ISC 29 06:09:35.9±1.0, 33°.24N±0°.04×131°.34E±0°.03, h5km±6km, n117, σ2s00/98, mb4.2/25, MS3.9/32, 12C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBEP	Beppuamama	0.11	31	P	Pg	06 09 36.4	-1.8
JBEP				*e*S	Sg	06 09 37.5	-2.3
JUS	Usuki	0.39	117	⇓P	Pg	06 09 41.5	-1.8
JNU	Nakatsue	0.40	253	Pg	Pg	06 09 42.5	-1.1
	464nm,0.3s,baz=51,slow=6.1,SNR=498						
JNU				Lg	Lg	06 09 48.7	
	699nm,0.3s,baz=111,slow=17,SNR=29						
JNU	Nakatsue	0.40	253	Pg	Pg	06 09 42.9	-0.7
JNU				Sg	Sg	06 09 48.9	-0.1
JTA	Tamana	0.73	248	P	Pg	06 09 48.9	-1.0
JTA				S	Sb	06 09 59.5	-1.9
JIU3	Izumi3	0.82	213	⇑P	Pg	06 09 50.5	-1.1
JNA	Nagahama	1.00	71	P	Pg	06 09 52.4	-2.7
JSU	Suzuyama	1.88	204		Pn	06 10 07.8	-1.0
JTU	Tsushima	2.06	309	Pn	Pn	06 10 10.4	-0.8
JMN	Monobe	2.18	76	Pn	Pn	06 10 13.3	+0.4
JHS	Saijyo	2.29	40	Pn	Pn	06 10 14.6	+0.1
TJN	Taejon	4.53	315	⇑*e*P	Pn	06 10 46.9	+1.8
TJN	Taejon	4.53	315	Pn	Pn	06 10 44.6	-0.4
KSRS	Korea Array	5.05	327	Pn	Pn	06 10 52.8	+0.6
	0.7nm,0.3s,baz=148,slow=15,SNR=5.1						
KSRS				Pg	Pb	06 11 08.1	+3.4
	1.5nm,0.3s,baz=142,slow=16,SNR=7.8						
KSRS				Lg	Lg	06 12 19.3	
	2.4nm,0.3s,baz=151,slow=28,SNR=7.8						
KSRS				LR	LR	06 12 44.6	
	comp=Z,299nm,21.6s,baz=145,slow=38						
KSAR	Wonju Array Be	5.05	327	P	Pn	06 10 51.6	-0.7
KSAR	Wonju Array Be	5.05	327	Pn	Pn	06 10 51.6	-0.7
INU	Inuyama	5.15	64	Pn	Pn	06 10 53.5	-0.2
JGF	Kuroka	5.50	63	Pn	Pn	06 10 58.3	-0.3
MJB9	Matsu-Tunnel	6.53	58	Pn	Pn	06 11 13.2	+0.5
MAJO	Matsushiro	6.54	58	P	Pn	06 11 14.3	+1.6
MAJO	Matsushiro	6.54	58	Pn	Pn	06 11 14.3	+1.6
MJAR	Matsushiro Arr	6.54	58	Pn	Pn	06 11 13.9	+1.2
	0.7nm,0.3s,baz=240,slow=13,SNR=52						
MJAR				Lg	Lg	06 13 04.0	
	baz=221,slow=26,SNR=4.2						
MJAR	Matsushiro Arr	6.54	58	P	Pn	06 11 13.2	+0.5
MJAR	Matsushiro Arr	6.54	58		Pn	06 11 13.2	+0.5
MSHR	Mys Shultsa	9.33	359	⇓*e*P	Pn	06 11 56.1	+5.2
MSHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	Ussuriysk Ar.	10.96	2	LR	LR	06 16 08.1	
	comp=Z,531nm,18.2s,baz=180,slow=36						
USRK	Ussuriysk Ar.	10.96	2	P	Pn	06 12 11.1	-2.2
USRK	Ussuriysk Ar.	10.96	2	Pn	Pn	06 12 11.1	-2.2
JCJ	Chichijima	11.20	120	LR	LR	06 16 02.2	
	comp=Z,170nm,18.7s,baz=25,slow=34						
CN2	Changchun	11.51	338	*e*P	Pn	06 12 19.0	-1.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				LR	LR		
	comp=N,1μm,12.0s						
CN2				LR	LR		
	comp=E,2μm,12.0s						
CN2				LR	LR		
	comp=Z,800nm,10.0s						
ASAJ	Asahikawa	13.96	36	LR	LR	06 17 45.4	
	comp=Z,304nm,20.9s,baz=174,slow=35						
HNS	HongShan	14.20	292	*e*P	Pn	06 13 00.8	+3.2
HNS				S	S	06 15 49.0	-7.6
HNS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HNS				LR	LR		
	comp=N,920nm,15.2s						
HNS				LR	LR		
	comp=E,540nm,16.2s						
HNS				LR	LR		
	comp=Z,480nm,14.1s						
XLT	XiLinHaoTe	15.96	316	⇑*i*P	P	06 13 24.0	-0.9
XLT				pP	sP	06 13 28.0	+0.9
XLT				S	Sn	06 16 23.5	+4.9
XLT				pmax	pmax		
	comp=Z,13nm,1.0s						
XLT				pmax	pmax		
	comp=Z,130nm,4.6s						
XLT				LR	LR		
	comp=N,43nm,16.8s						
XLT				LR	LR		
	comp=E,1μm,16.9s						
XLT				LR	LR		
	comp=Z,410nm,13.9s						
KLR	Kul'dur	15.98	1	Pn	P	06 13 24.4	-0.6
	comp=Z,0.3nm,0.3s,baz=159,slow=13,SNR=22						
KLR				LR	LR	06 19 15.4	
	comp=Z,256nm,18.9s,baz=168,slow=36						
KLR	Kul'dur	15.98	1	⇑*e*P	P	06 13 23.4	-1.5
KLR				pmax	pmax		
	comp=Z,32nm,1.3s						
HHC	Hu-ho-hao-te	17.50	301	*e*P	Pn	06 13 39.8	-0.9
HHC				S	Sn	06 16 50.0	-5.9
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,4.4s						
HHC				LR	LR		
	comp=N,380nm,8.3s						
HHC				LR	LR		
	comp=E,470nm,8.9s						
HHC				LR	LR		
	comp=Z,520nm,9.5s						
HIA	Hailar	18.20	335	P	P	06 13 51.0	+1.5
HIA				pmax	pmax		
	comp=Z,11nm,1.2s						
HIA	Hailar	18.20	335	P	P	06 13 51.0	+1.5
ZEA	Zeya	20.70	353	*e*P	P	06 14 17.5	+0.7
ZEA				pmax	pmax		
	comp=N,20nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
ZEA				MLR	MLR		
	comp=N,200nm,13.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,13.0s						
LZH	Lanzhou	22.77	285	*e*P	P	06 14 37.8	-1.5
LZH				pP	sP	06 14 45.0	+3.4
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
ULN	Ulaanbaatar	23.40	316	P	P	06 14 46.4	+0.6
ULN				pmax	pmax		
	comp=Z,19nm,1.5s						
ULN	Ulaanbaatar	23.40	316	P	P	06 14 46.4	+0.6
ULN				IAmb	IAmb	06 14 50.7	
	comp=Z,19nm,1.4s						
CD2	Chengdu	23.46	272	P	P	06 14 47.5	+1.1
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
SONM	Songino Array	23.77	315	P	P	06 14 48.9	-0.6
	comp=Z,0.3nm,0.4s,baz=131,slow=8.4,SNR=1.6						
SONM	Songino Array	23.77	315	P	P	06 14 49.6	+0.1
SONM				pmax	pmax		
	comp=Z,9.0nm,1.4s						
SONM	Songino Array	23.77	315	P	P	06 14 49.5	+0.1
SONM				IAmb	IAmb	06 15 06.3	
	comp=Z,8.8nm,1.4s						
GTA	Gaotai	26.05	293	*e*P	P	06 15 14.8	+4.5
GTA				sP	sP	06 15 28.0	+15
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PZH	PanZhiHua	26.47	263	P	P	06 15 13.3	-0.9
PZH				S	S	06 19 43.5	-5.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
PZH				LR	LR		
	comp=N,480nm,17.2s						
PZH				LR	LR		
	comp=E,550nm,16.7s						
PZH				LR	LR		
	comp=Z,510nm,15.3s						
DAV	Davao City (W)	26.58	193	LR	LR	06 25 40.1	
	comp=Z,76nm,20.6s,baz=310,slow=36						
ZAK	Zakamensk	26.80	318	*e*P	P	06 15 17.9	+1.0
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.5s						
PETK	Petropavlovsk-	27.38	36	LR	LR	06 27 51.4	
	comp=Z,76nm,19.1s,baz=205,slow=40						
PETK	Petropavlovsk-	27.38	36	P	P	06 15 22.8	+0.8
PETK	Petropavlovsk-	27.38	36	P	P	06 15 22.8	+0.8
YAK	Yakutsk	28.83	358	LR	LR	06 27 00.5	
	comp=Z,213nm,18.8s,baz=268,slow=36						
MA2	Magadan	29.32	20	LR	LR	06 28 12.2	
	comp=Z,120nm,18.1s,baz=230,slow=38						
CMAR	Chiang Mai Arr	32.50	251	LR	LR	06 30 15.7	
	comp=Z,98nm,19.3s,baz=50,slow=38						
SEY	Seymchan	32.55	18	LR	LR	06 29 04.4	
	comp=Z,208nm,20.2s,baz=199,slow=36						
SEY	Seymchan	32.55	18	*i* P	P	06 16 08.0	+0.4
SIJI	Sorong	33.93	180	LR	LR	06 28 50.7	
	comp=Z,101nm,20.7s,baz=48,slow=34						
WMQ	Urumqi	35.37	300	*e*P	P	06 16 33.5	+1.0
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
MK31	Makanchi Array	39.30	305	P	P	06 17 05.2	-0.6
MK31				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MK31	Makanchi Array	39.30	305	P	P	06 17 05.2	-0.6
MKAR	Makanchi Array	39.30	305	P	P	06 17 05.2	-0.5
	comp=Z,0.5nm,0.7s,baz=96,slow=8.7,SNR=5.6						
MKAR	Makanchi Array	39.30	305	*ce*P	P	06 17 08.8	+3.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	39.30	305	P	P	06 17 05.4	-0.3
BILL	Bilibino	40.19	19	*ce*P	P	06 17 13.8	+1.0
BILL				*i*		06 17 27.1	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,102nm,14.0s						
BILL	Bilibino	40.19	19	P	P	06 17 12.6	-0.2
BILL				IAmb	IAmb	06 17 14.8	
	comp=Z,4.4nm,0.8s						
IPM	Ipoh	40.22	231	P	P	06 17 13.5	-0.1
KURK	Kurchatov	41.94	311	*c* *i*P	P	06 17 28.2	+0.8
KURK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KURK	Kurchatov	41.94	311	P	P	06 17 26.6	-0.8
KURK				IAmb	IAmb	06 17 38.0	
	comp=Z,3.3nm,0.8s						
NRIK	Noril'sk	43.55	339	LR	LR	06 37 04.4	
	comp=Z,167nm,20.4s,baz=164,slow=38						
NRIK	Noril'sk	43.55	339	⇑*e*P	P	06 17 40.7	+0.5
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NRIK	Noril'sk	43.55	339	P	P	06 17 39.1	-1.2
NRIK				IAmb	IAmb	06 17 46.4	
	comp=Z,4.5nm,1.1s						
KSH	Kashi	44.42	295	P	P	06 17 50.5	+2.6
KSH				sP	sP	06 17 57.8	+7.5
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	Ala-Archa	45.05	299	LR	LR	06 37 37.0	
	comp=Z,145nm,18.4s,baz=66,slow=37						
AAK	Ala-Archa	45.05	299	⇑*e*P	P	06 17 53.1	+0.2
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KK31	Karatay Array	47.88	300	P	P	06 18 15.2	+0.3
KK31				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KK31	Karatay Array	47.88	300	P	P	06 18 15.2	+0.3
KKAR	Karatay Array	47.88	300	P	P	06 18 15.6	+0.7
KKAR	Karatay Array	47.88	300	P	P	06 18 15.6	+0.7
GAR	Garm	48.83	295	P	P	06 18 21.7	-0.7
WRA	Warramunga Arr	52.96	176	P	P	06 18 53.1	-0.3
	comp=Z,1.0nm,1.0s,baz=350,slow=7.8,SNR=4.6						
WRA	Warramunga Arr	52.96	176	*i* P	P	06 18 55.5	+2.1
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
PALK	Pallekele	53.42	253	LR	LR	06 42 55.8	
	comp=Z,65nm,19.0s,baz=174,slow=38						
ARU	Arti	53.74	319	LR	LR	06 42 29.4	
	comp=Z,67nm,18.7s,baz=140,slow=37						
ARU	Arti	53.74	319	*d* *i*P	P	06 19 01.0	+2.2
ARU					

comp=Z,0.7nm,0.8s,baz=301,slow=6.0,SNR=9.8

YKA					LR	LR	06 53 14.3	

comp=Z,35nm,18.6s,baz=312,slow=37

YKA	**Yellowknife Ar**	**71.06**	**27**	*i* P		P	06 21 00.3	+5.7
NACGM	**Naroch**	**71.11**	**324**	⇑*eP*		**P**	**06 20 55.7**	**+0.6**

baz=59

AKASG	**Malin Array Be**	**71.99**	**319**	LR		LR	06 52 37.5	

comp=Z,75nm,19.0s,baz=12,slow=36

NOA	**NORSAR Array B**	**74.22**	**334**	LR		LR	06 56 41.1	

comp=Z,83nm,18.6s,baz=55,slow=38

BRTR	**Keskin Array B**	**74.89**	**308**	LR		LR	06 58 13.9	

comp=Z,74nm,18.1s,baz=62,slow=39

MLR	**Muntele Rosu**	**76.63**	**316**	LR		LR	06 56 09.3	

comp=Z,70nm,21.8s,baz=154,slow=36

CLL	**Collm**	**79.92**	**326**	⇑*iP*		**P**	**06 21 46.3**	**+0.6**
CLL					pmax	pmax		

comp=Z,5.0nm,0.6s

CLL	**Collm**	**79.92**	**326**	⇑*iP*		**P**	**06 21 46.3**	**+0.6**
CLL					LmV		07 01 00.0	

comp=Z,100nm,18.1s

SFJD	**Kangerlussuaq**	**80.07**	**1**	LR		LR	06 57 05.3	

comp=Z,69nm,20.2s,baz=40,slow=36

FRB	**Frobisher Bay**	**82.06**	**9**	LR		LR	07 00 53.8	

comp=Z,89nm,18.2s,baz=327,slow=38

SCHQ	**Schefferville**	**90.90**	**10**	LR		LR	07 03 54.9	

comp=Z,62nm,21.7s,baz=88,slow=36

ESDC	**Sonseca Array**	**96.48**	**327**	LR		LR	07 13 24.3	

comp=Z,49nm,19.0s,baz=88,slow=40

SADO	**Sadowa**	**97.56**	**21**	LR		LR	07 10 37.2	

comp=Z,36nm,19.3s,baz=51,slow=38

SSNC 29 06:23:10.1±1.6, 18.07N×81.53W, h26km±999km, MD3.7, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MGV	**Manicaragua**	**4.27**	**20**	*eP*	Pn	06 24 11.6		-1.9
MGV				*eS*	Sn	06 24 58.4		-4.2
LMGC	**Las Mercedes**	**4.71**	**64**	*eP*	Pn	06 24 19.5		0.0
LMGC				*eS*	Sn	06 25 03.3		-10
CCCC	**Cccc**	**4.72**	**48**	*eP*	Pn	06 24 24.6		+5.0
CCCC				*eS*	Sn	06 25 20.8		+7.3
RCC	**Rio Carpintero**	**5.84**	**70**	*eP*	Pn	06 24 33.5		-1.5
RCC				*eS*	Sn	06 25 35.6		-5.6

*JMA **29** 06:30:24.0, 33.01N×131.17E, h12km±1km, M3.5*
JMA Felt III J1.
*NIED **29** 06:30:24.0, 33.01N×131.17E, h12km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-1.10; Mθθ3.65; Mφφ-2.55; Mrθ1.26; Mθφ3.45; Mφr0.28; Fault plane solution: M0 4.77000×10^14 NP1:φs20.00000°, δ78.00000°, λ176.00000°. NP2:φs111.00000°, δ86.00000°, λ12.00000°.*

ISC 29 06:30:24.0±1.4, 33.02N±0.08×131.18E±0.04, h12km, n4, σ0s35/7, 1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JNU	**Nakatsue**	**0.27**	**293**	⇓*P*	**Pg**	**06 30 29.5**		**-0.2**
JNU				S	**Sg**	**06 30 33.5**		**0.0**
JUS	**Usuki**	**0.48**	**84**	P	**Pg**	**06 30 33.2**		**-0.3**
JUS				S	**Sg**	**06 30 40.3**		**+0.4**
JTA	**Tamana**	**0.55**	**265**	⇓*P*	**Pg**	**06 30 34.5**		**-0.1**
JTA				S	**Sg**	**06 30 42.3**		**+0.4**
JIU3	**Izumi3**	**0.56**	**214**	⇑P	**Pg**	**06 30 34.7**		**-0.2**

*ARE **29** 06:33:19±3.5, 15.49S±0.09×73.20W±0.09, h127km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=133.0*
*NEIC **29** 06:33:19.2±1.6, 15.42S±0.09×73.16W±0.09, h80km±8km, mb4.7/52, ML4.7(ARE), Error ellipse: s-maj=16.5km s-min=8.3km az=218.0*
*IDC **29** 06:33:20.4±1.8, 15.34S×73.15W, h91km±15km, mb3.9/10, mb1 4.0/14, mb1mx3.9/29, mbtmp4.2/14, Error ellipse: s-maj=32.2km s-min=12.3km az=39.0*
*VAO **29** 06:33:20.7±0.5, 15.35S×73.05W, h79km, mb4.3*

ISC 29 06:33:20.4±0.5, 15.49S±0.06×73.16W±0.07, h102km, n134, σ1s34/126, mb4.6/32, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AP01	**Chacalluta**	**3.93**	**137**	Pn	**Pn**	**06 34 19.0**		**+0.2**
PB12	**IPOC Station P**	**4.12**	**139**	Pn	**Pn**	**06 34 20.6**		**-0.8**
PB16	**IPOC Station P**	**4.50**	**129**	Pn	**Pn**	**06 34 27.6**		**+0.6**
LPAZ	**La Paz**	**4.91**	**100**	P	**Pn**	**06 34 34.3**		**+1.8**

12nm,0.3s,baz=301,slow=8.6,SNR=170

LPAZ	**La Paz**	**4.91**	**100**	Pn	**Pn**	**06 34 34.0**		**+1.5**
NNA	**Nana**	**4.99**	**314**	P	**Pn**	**06 34 32.4**		**-0.8**

6.2nm,0.3s,baz=139,slow=14,SNR=14

NNA				S	**Sn**	**06 35 27.3**		**-2.5**

18nm,0.3s,baz=201,slow=18,SNR=3.3

NNA	**Nana**	**4.99**	**314**		**Pn**	**06 34 33.0**		**-0.2**
PB11	**IPOC Station P**	**5.40**	**142**		**Pn**	**06 34 37.4**		**-1.4**
TA02	**Huaiquique**	**5.56**	**149**		**Pn**	**06 34 39.8**		**-1.0**
GO01	**Chusmiza**	**5.62**	**138**		**Pn**	**06 34 41.3**		**-0.7**
TA01	**Diego Aracena**	**5.79**	**151**	Pn	**Pn**	**06 34 43.1**		**-0.8**
PB08	**IPOC Station P**	**6.00**	**141**		**Pn**	**06 34 46.6**		**-0.5**
PATCX	**Punta Patache**	**6.02**	**152**		**Pn**	**06 34 45.9**		**-1.2**
PB01	**IPOC Station P**	**6.53**	**148**		**Pn**	**06 34 53.1**		**-1.0**
PB02	**IPOC Station P**	**6.57**	**152**		**Pn**	**06 34 53.1**		**-1.5**
PB07	**IPOC Station P**	**6.94**	**154**		**Pn**	**06 34 58.4**		**-1.3**
PB09	**IPOC Station P**	**7.29**	**150**		**Pn**	**06 35 04.5**		**+0.1**
PB04	**IPOC Station P**	**7.38**	**158**		**Pn**	**06 35 03.8**		**-1.9**
CZSB	**Cruzeiro do Su**	**7.73**	**3**	*eP*	**Pn**	**06 35 07.5**		**-2.8**
LVC	**Limon Verde**	**8.14**	**151**	P	**Pn**	**06 35 16.3**		**+0.1**

2.5nm,0.3s,baz=356,slow=9.9,SNR=27

LVC				S	**Sn**	**06 36 42.8**		**-4.0**

6.3nm,0.3s,baz=56,slow=22,SNR=16

LVC	**Limon Verde**	**8.14**	**151**	*eP*	**Pn**	**06 35 16.0**		**-0.2**
PB10	**IPOC Station P**	**8.35**	**163**	Pn	**Pn**	**06 35 16.8**		**-2.0**
PB15	**IPOC Station P**	**8.43**	**156**		**Pn**	**06 35 17.7**		**-2.3**
ETMB	**Extrema**	**8.82**	**51**	*eP*	**Pn**	**06 35 22.8**		**-2.3**
SIV	**San Ignacio**	**11.65**	**94**	P	Pn	06 35 50.2		-13

2.7nm,0.3s,baz=271,slow=13,SNR=59

AC02	**Maricunga**	**11.89**	**162**	Pn	**Pn**	**06 36 06.5**		**-0.7**
AC06	**Mina Casimiro**	**12.09**	**168**	Pn	**Pn**	**06 36 07.5**		**-1.9**
PTLB	**Pontes e Lacer**	**13.52**	**92**	*eP*	**Pn**	**06 36 24.8**		**-3.4**
SALV	**Salto Antonio**	**16.83**	**94**	*eP*	**Pn**	**06 37 07.4**		**-2.5**
AQDB	**Aquidauana**	**17.33**	**109**		**P**	**06 37 14.5**		**-1.4**
AQDB	**Aquidauana**	**17.33**	**109**	*eP*	**P**	**06 37 15.3**		**-0.6**
CLDB	**Colider**	**17.52**	**77**	*eP*	**P**	**06 37 17.0**		**-1.0**
PP1B	**Ponte de Pedra**	**17.65**	**99**	*eP*	**P**	**06 37 19.6**		**+0.1**
POPC	**Popayan, Colom**	**18.25**	**349**	*eP*	**Pn**	**06 37 30.1**		**+2.7**
CPUP	**Villa Florida**	**18.28**	**129**	P	**Pn**	**06 37 28.3**		**+0.8**

0.2nm,0.3s,baz=333,slow=14,SNR=4.1

CPUP	**Villa Florida**	**18.28**	**129**	P	**P**	**06 37 27.6**		**+1.3**
CPUP	**Villa Florida**	**18.28**	**129**	*eP*	**Pn**	**06 37 28.6**		**+1.1**
H03N1	**Juan Fernandez**	**18.61**	**195**	T	T	06 56 10.9		

baz=17,slow=74,SNR=338

H03N2	**Juan Fernandez**	**18.62**	**195**	T	T	06 56 10.1		

baz=17,slow=74,SNR=451

H03N3	**Juan Fernandez**	**18.63**	**195**	T	T	06 56 11.9		

baz=17,slow=74,SNR=465

ORTC	**Ortega, Tolima**	**19.39**	**354**	*eP*	**Pn**	**06 37 40.7**		**0.0**
YOTC	**Yotoco, Valle**	**19.61**	**350**	*eP*	**Pn**	**06 37 43.2**		**0.0**
ROSC	**El Rosal**	**20.23**	**357**	P	Pn	06 37 51.9		+1.0

12nm,0.6s,baz=155,slow=13,SNR=8.0

ITTB	**Itaituba**	**20.40**	**59**	*eP*	**P**	**06 37 48.2**		**-1.2**
ITQB	**Itaqui**	**20.75**	**136**	*eP*	**P**	**06 37 55.6**		**+2.5**
NORC	**Norcasia**	**20.99**	**355**	*eP*	**P**	**06 37 54.1**		**-1.7**
SPBC	**San Pablo de B**	**21.03**	**357**	*eP*	P	06 37 47.5		-8.7
RUSC	**La Rusia**	**21.25**	**0**	*eP*	**P**	**06 37 58.0**		**-1.0**
SNDB	**Serra Nova Dou**	**21.53**	**83**	*eP*	**P**	**06 38 00.9**		**-0.7**
PCMB	**Pacaembu**	**21.62**	**110**	*eP*	**P**	**06 38 01.8**		**-0.8**
BOAV	**Boa Vista**	**21.73**	**36**	*eP*	**P**	**06 38 03.2**		**-0.5**
PTGB	**Pitanga**	**21.81**	**118**	*eP*	**P**	**06 38 05.8**		**+1.3**
PTBC	**PUERTO BERRIO,**	**21.93**	**357**	*eP*	**P**	**06 38 01.8**		**-3.9**
BARC	**Barichara**	**21.94**	**360**	*eP*	**P**	**06 38 04.8**		**-1.3**
ITRB	**Iturama**	**22.13**	**104**	*eP*	**P**	**06 38 07.3**		**-0.7**
ITAB	**Concordia**	**22.77**	**124**	P	**P**	**06 38 15.1**		**+0.8**
ITAB				IAmb	IAmb	06 38 18.6		

comp=Z,43nm,1.3s

ITAB	**Concordia**	**22.77**	**124**	*eP*	**P**	**06 38 16.5**		**+2.2**
ZARC	**Zaragoza, Cauc**	**22.90**	**356**	P	**P**	**06 38 15.4**		**-0.3**
ZARC	**Zaragoza, Cauc**	**22.90**	**356**	*eP*	**P**	**06 38 15.0**		**-0.7**
MALB	**Monte Alegre**	**23.04**	**56**	*eP*	**P**	**06 38 17.7**		**+0.5**
UREC	**San Jos de Ur**	**23.21**	**354**	*eP*	**P**	**06 38 16.2**		**-2.5**
CPSB	**Cacapava Do Su**	**23.40**	**133**	*eP*	**P**	**06 38 22.7**		**+2.4**
OCAC	**Ocana**	**23.58**	**360**	P	**P**	**06 38 21.6**		**-0.7**
OCAC	**Ocana**	**23.58**	**360**	*eP*	**P**	**06 38 20.1**		**-2.2**
BB19B	**Bebedouro**	**24.02**	**107**	*eP*	**P**	**06 38 26.0**		**-0.1**
PLTB	**Pedras Altas**	**24.09**	**136**	*eP*	**P**	**06 38 28.1**		**+1.5**
BDFB	**Brasilia**	**24.22**	**94**	P	**P**	**06 38 28.4**		**+0.4**

comp=Z,3.1nm,0.6s,baz=257,slow=10.0,SNR=5.6

BDFB	**Brasilia**	**24.22**	**94**	IAmb	IAmb	06 38 30.7		

comp=Z,4.3nm,0.8s

SDV	**Santo Domingo**	**24.35**	**6**	P	**P**	**06 38 27.7**		**-1.6**

comp=Z,9.6nm,0.7s,baz=168,slow=0.6,SNR=14

SDV	**Santo Domingo**	**24.35**	**6**	P	**P**	**06 38 28.1**		**-1.1**
SDV	**Santo Domingo**	**24.35**	**6**	*eP*	**P**	**06 38 26.8**		**-2.4**
SDV	**Santo Domingo**	**24.35**	**6**	*eP*	**P**	**06 38 28.9**		**-0.3**
PRPB	**Parauapebas**	**24.70**	**71**	*eP*	**P**	**06 38 33.7**		**+1.3**
BAUV	**El Baul**	**24.80**	**12**	P	**P**	**06 38 31.7**		**-1.5**
PLCA	**Paso Flores**	**25.25**	**175**	*eP*	**P**	**06 38 39.0**		**+1.9**
SJCC	**San Jacinto, C**	**25.30**	**355**	P	**P**	**06 38 39.1**		**+1.4**
SJCC				IAmb	IAmb	06 38 42.6		

comp=Z,33nm,0.9s

SJCC	**San Jacinto, C**	**25.30**	**355**	*eP*	**P**	**06 38 40.2**		**+2.5**
MCPB	**Macapa, AP**	**25.70**	**56**	*eP*	**P**	**06 38 41.8**		**+0.5**
BIRV	**Birongo**	**26.69**	**15**	P	**P**	**06 38 49.5**		**-0.6**
BIRV				IAmb	IAmb	06 39 02.5		

comp=Z,22nm,1.1s

URIC	**Uribia, Colomb**	**27.04**	**3**	P	**P**	**06 38 50.4**		**-2.9**
BSCB	**Bom Sucesso**	**27.49**	**106**	*eP*	**P**	**06 38 59.0**		**+1.5**
JANB	**Januaria**	**27.83**	**93**	*eP*	**P**	**06 39 01.0**		**+0.5**
DIAM	**Diamantina, MG**	**28.34**	**100**	*eP*	**P**	**06 39 05.8**		**+0.7**
ROSB	**Rosrio**	**31.22**	**69**	*eP*	**P**	**06 39 32.0**		**+1.5**
NBPN	**Ponto Novo - B**	**32.41**	**86**	*eP*	**P**	**06 39 42.2**		**+1.2**
342A	**Flagon Creek P**	**50.10**	**339**	P	**P**	**06 42 06.0**		**+0.8**
Y49A	**Blount Mountai**	**50.67**	**346**	P	**P**	**06 42 08.9**		**-0.6**
Y49A				IAmb	IAmb	06 42 12.8		

comp=Z,10nm,1.4s

FPAL	**Fort Paine**	**51.15**	**347**	P	**P**	**06 42 12.3**		**-0.7**
FPAL				IAmb	IAmb	06 42 13.9		

comp=Z,6.7nm,0.9s

WLAR	**White Oak Lake**	**52.48**	**339**	P	**P**	**06 42 24.1**		**+1.2**
SSTA	**Dark Hollow, R**	**53.25**	**354**	P	**P**	**06 42 28.4**		**-0.2**
MIAR	**Mount Ida**	**53.41**	**339**	P	**P**	**06 42 30.2**		**+0.4**
TXAR	**Lajitas Array**	**53.42**	**326**	P	**P**	**06 42 31.1**		**+1.0**

comp=Z,1.4nm,1.1s,baz=150,slow=9.5,SNR=8.8

WHAR	**Wooly Hollow**	**53.66**	**341**	P	**P**	**06 42 32.0**		**+0.4**
WHAR				IAmb	IAmb	06 42 33.0		

comp=Z,6.5nm,1.0s

W39A	**Magazine**	**54.08**	**339**	P	**P**	**06 42 34.9**		**+0.3**
W39A				IAmb	IAmb	06 42 36.5		

comp=Z,7.2nm,0.7s

X37A	**Clayton**	**54.10**	**337**	P	**P**	**06 42 35.0**		**+0.2**
X37A				IAmb	IAmb	06 42 36.8		

comp=Z,6.6nm,0.8s

FCAR	**Ozark Folk Cen**	**54.16**	**341**	P	**P**	**06 42 34.6**		**-0.7**
FCAR				IAmb	IAmb	06 42 35.8		

comp=Z,3.4nm,0.6s

U40A	**Yellville**	**54.82**	**341**	P	**P**	**06 42 39.5**		**-0.6**
U40A				IAmb	IAmb	06 42 40.9		

comp=Z,6.8nm,0.7s

S44A	**Carbondale**	**55.02**	**344**	P	**P**	**06 42 41.0**		**-0.5**
HHAR	**Hobbs**	**55.11**	**340**	P	**P**	**06 42 42.1**		**0.0**
HHAR				IAmb	IAmb	06 42 42.7		

comp=Z,5.2nm,0.5s

TUL1	**Leonard**	**55.43**	**338**	P	**P**	**06 42 44.2**		**-0.2**
TUL1				IAmb	IAmb	06 42 45.8		

comp=Z,9.1nm,0.8s

BLO	**Bloomington**	**55.80**	**347**	P	**P**	**06 42 46.4**		**-0.5**
BLO				IAmb	IAmb	06 42 46.7		

comp=Z,7.4nm,0.6s

SSPA	**Standing Stone**	**56.01**	**356**	P	**P**	**06 42 48.5**		**0.0**
SSPA				IAmb	IAmb	06 43 01.2		

comp=Z,14nm,1.4s

S39A	**Bolivar**	**56.20**	**341**	P	**P**	**06 42 49.4**		**-0.4**
S39A				IAmb	IAmb	06 42 50.5		

comp=Z,6.7nm,0.8s

R40A	**Maddies Statio**	**56.42**	**342**	P	**P**	**06 42 50.7**		**-0.7**
R40A				IAmb	IAmb	06 42 51.7		

comp=Z,4.9nm,0.6s

SFIN	**Lafayette**	**57.08**	**347**	P	**P**	**06 42 56.6**		**+0.6**
R32A	**Long Quarter,**	**58.74**	**337**	P	**P**	**06 43 08.3**		**+0.6**
KSCO	**Kaye Shedlock'**	**60.82**	**334**	P	**P**	**06 43 21.8**		**-0.3**
KSCO				IAmb	IAmb	06 43 24.1		

comp=Z,6.5nm,0.8s

L34A	**Svendsen Farm,**	**61.06**	**340**	P	**P**	**06 43 23.1**		**-0.4**
SDCO	**Great Sand Dun**	**61.06**	**331**	P	**P**	**06 43 24.3**		**+0.4**
SDCO				IAmb	IAmb	06 43 26.1		

comp=Z,5.7nm,0.8s

K31A	**O'Neill**	**62.44**	**339**	P	**P**	**06 43 32.9**		**+0.2**
SMCO	**Snowmass**	**62.90**	**331**	P	**P**	**06 43 37.0**		**+0.7**
PV15	**Paradox Valley**	**62.96**	**329**	P	**P**	**06 43 37.3**		**+0.7**
PV15				IAmb	IAmb	06 43 39.2		

comp=Z,6.7nm,0.9s

F33A	**5 Mile Ranch,**	**64.53**	**342**	P	**P**	**06 43 46.2**		**-0.2**
F33A				IAmb	IAmb	06 43 47.3		

comp=Z,5.6nm,0.8s

SHPR	**Sheep Range**	**65.16**	**324**	P	**P**	**06 43 52.0**		**+1.0**
TCRU	**Three Creeks R**	**65.19**	**327**	P	**P**	**06 43 52.2**		**+1.0**
E28A	**Huff**	**66.57**	**340**	P	**P**	**06 44 00.4**		**+0.8**
AGMN	**Agassiz Nation**	**66.65**	**344**	P	**P**	**06 43 59.9**		**-0.1**
AGMN				IAmb	IAmb	06 44 00.9		

comp=Z,5.9nm,0.7s

PDAR	**Pinedale Array**	**66.93**	**332**	P	**P**	**06 44 02.8**		**+0.6**

comp=Z,0.4nm,0.6s,baz=145,slow=5.4,SNR=5.1

HVU	**Hansel Valley**	**67.71**	**329**	P	**P**	**06 44 07.4**		**+0.4**
NVAR	**Mina Array Bea**	**68.30**	**323**	P	**P**	**06 44 12.9**		**+2.0**

comp=Z,0.9nm,0.9s,baz=149,slow=7.9,SNR=5.2

ULM	**Lac du Bonnet**	**68.44**	**345**	P	**P**	**06 44 11.0**		**-0.3**

comp=Z,4.5nm,0.5s,baz=154,slow=5.5,SNR=7.1

ULM	**Lac du Bonnet**	**68.44**	**345**	P	**P**	**06 44 11.1**		**-0.1**
ULM				IAmb	IAmb	06 44 11.7		

comp=Z,4.7nm,0.6s

FLWY	**Flagg Ranch**	**68.47**	**332**	P	**P**	**06 44 11.8**		**-0.1**
FLWY				IAmb	IAmb	06 44 14.5		

comp=Z,5.0nm,0.8s

SCHQ	**Schefferville**	**70.25**	**4**	P	**P**	**06 44 22.0**		**-0.3**

comp=Z,2.8nm,0.8s,baz=153,slow=6.8,SNR=2.5

TORD	**Torodi Ar. Bea**	**79.32**	**73**	P	**P**	**06 45 17.6**		**+2.1**

comp=Z,6.3nm,0.4s,baz=247,slow=4.4,SNR=1.5

TORD	**Torodi Ar. Bea**	**79.32**	**73**	IAmb	IAmb	06 45 18.0		

comp=Z,9.6nm,0.7s

YKA	**Yellowknife Ar**	**84.23**	**342**	P	**P**	**06 45 40.8**		**+0.5**

comp=Z,3.7nm,0.9s,baz=135,slow=5.1,SNR=71

ESDC	**Sonseca Array**	**84.52**	**46**	P	**P**	**06 45 42.6**		**+0.3**

comp=Z,0.8nm,0.7s,baz=256,slow=4.6,SNR=5.0

ESDC	**Sonseca Array**	**84.52**	**46**	IAmb	IAmb	06 45 49.1		

comp=Z,2.5nm,1.4s

ASAR	**Alice Springs**	**132.94**	**215**	PKP	**PKPdf**	**06 52 24.9**		**+0.2**

comp=Z,0.2nm,0.6s,baz=151,slow=2.1,SNR=1.4

WRA	**Warramunga Arr**	**135.60**	**218**	PKP	**PKPdf**	**06 52 30.6**		**+0.8**

comp=Z,0.6nm,0.7s,baz=154,slow=2.1,SNR=7.2

KSH	**Kashi**	**143.94**	**42**	PKP	PKPab	06 52 37.5		-4.3
KSH				pPKP	pPKPdf	06 53 07.5		-6.4
SONM	**Songino Array**	**147.75**	**1**	PKPbc	**PKPbc**	**06 52 54.5**		**+0.9**

comp=Z,2.0nm,0.8s,baz=330,slow=1.6,SNR=8.5

KSRS	**Korea Array**	**151.24**	**323**	PKPbc	**PKPbc**	**06 53 01.9**		**-0.4**

comp=Z,1.4nm,0.7s,baz=350,slow=1.9,SNR=7.0

*NNC **29** 06:38:44.3±2.7, 53.74N×88.10E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=20.6km s-min=10.8km az=59.0, Suspected Mining explosion.*
*IDC **29** 06:38:44.8±2.7, 53.76N×88.16E, h0km, mb1 3.5/2, mb1mx3.2/42, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=23.0km s-min=16.4km az=55.0*

ISC 29 06:38:45.5±3.8, 53.8N±0.1×88.0E±0.2, h0km, n9, σ0s92/11, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**277**	*i*		06 51 40.0		

baz=91,slow=324,SNR=5.5

ZAA0	**Zalesovo Array**	**1.88**	**277**	⇑Pg	**Pn**	**06 39 19.4**		**+0.5**

6.1nm,0.8s

ZAA0				⇓Lg	Lg	06 39 48.1		

23nm,0.7s

ZALV	**Zalesovo Beam**	**1.88**	**277**	Pn	**Pb**	**06 39 19.9**		**-0.9**

8.2nm,0.3s,baz=96,slow=9.4,SNR=114

ZALV				Lg	Lg	06 39 48.0		

15nm,0.3s,baz=96,slow=23,SNR=25

KURK	**Kurchatov**	**6.51**	**246**	⇓Lg	Lg	06 42 12.4		

8.9nm,0.7s

KURBB	**Kurchatov Arra**	**6.61**	**245**	Pn	**Pn**	**06 40 24.8**		**+1.0**

0.5nm,0.3s,baz=63,slow=14,SNR=13

KURBB				Sn	**Sn**	**06 41 40.1**		**+0.3**

0.1nm,0.3s,baz=48,slow=14,SNR=5.0

KURBB				Lg	Lg	06 42 16.3		

0.1nm,0.3s,baz=55,slow=19,SNR=15

KURBB	**Kurchatov Arra**	**6.61**	**245**	⇑Sn	**Sn**	**06 41 39.9**		**+0.1**

11nm,0.5s

KURBB				⇓Lg	Lg	06 42 16.6		

12nm,0.7s

MK31	**Makanchi Array**	**7.87**	**210**	⇓Pn	**Pn**	**06 40 42.6**		**+1.3**

0.3nm,0.4s,baz=32,slow=12,SNR=15

MK31				⇓Sn	**Sn**	**06 42 10.2**		**-0.8**

1.5nm,0.6s,baz=35,slow=25,SNR=5.7

MK31				⇑Lg	Lg	06 42 56.8		

5.4nm,1.1s,baz=30,slow=30,SNR=3.8

MKAR	**Makanchi Array**	**7.87**	**210**	Pn	**Pn**	**06 40 42.2**		**+1.0**

0.4nm,0.3s,baz=31,slow=13,SNR=18

MKAR				Sn	**Sn**	**06 42 10.6**		**-0.5**

0.4nm,0.3s,baz=32,slow=18,SNR=8.8

MKAR				Lg	Lg	06 42 58.4		

0.3nm,0.3s,baz=30,slow=29,SNR=5.4

MAKZ	**Makanchi**	**7.96**	**211**	⇑P

	baz=254							
NACB				*i* S		**Sg**	07 24 01.1	+0.3
	baz=254							
TWD	**Chiawan**	**0.23**	**240**	*e*P		**Pg**	07 23 58.2	-0.1
	baz=240							
TWD				S		**Sg**	07 24 02.1	+0.5
	baz=240							
ENA	**Nanau**	**0.24**	**344**	*e*P		**Pg**	07 23 58.2	-0.4
	baz=348							
ENA				*i* S		**Sg**	07 24 02.4	+0.5
	baz=348							
EWUT	**Wuta**	**0.25**	**353**	*e*P		**Pg**	07 23 58.4	-0.4
	baz=356							
EWUT				S		**Sg**	07 24 02.9	+0.7
	baz=356							
HWA	**Hwalien**	**0.29**	**221**	*e*P		**Pb**	07 24 00.7	0.0
	baz=225							
ETLH	**Xiulin Townshi**	**0.30**	**272**	*e*P		**Pg**	07 23 59.3	-0.5
	baz=270							
ETLH				*e*S		**Sg**	07 24 04.4	+0.5
	baz=270							
ETM	**Tongmen**	**0.37**	**232**	*e*P		**Pg**	07 24 01.3	+0.3
	baz=230							
ETM				*e*S		**Sg**	07 24 07.2	+1.3
	baz=230							
TEYL	**Yanliau Villag**	**0.38**	**211**	*e*P		**Pg**	07 24 01.9	+0.8
	baz=219							
TEYL				*e*S		**Sb**	07 24 08.8	+0.6
	baz=219							
TWC	**Suao**	**0.41**	**4**⇓	*e*P		**Pg**	07 24 01.4	-0.3
	baz=7.0							
TWC				*e*S		**Sg**	07 24 07.5	+0.3
	baz=7.0							
LATG	**Datong**	**0.43**	**322**	P		**Pg**	07 24 01.7	-0.3
	baz=322							
LATG				S		**Sg**	07 24 08.4	+0.7
	baz=322							
NDS	**Dongshan**	**0.44**	**348**	*i* P		**Pg**	07 24 02.6	+0.3
	baz=349							
NDS				S		**Sg**	07 24 08.2	0.0
	baz=349							
NNSB	**Datong**	**0.46**	**301**	*e*P		**Pg**	07 24 02.3	-0.3
	baz=300							
NNSB				*e*S		**Sg**	07 24 08.4	-0.3
	baz=300							
NNS	**Nan Shan**	**0.47**	**301**	*e*P		**Pg**	07 24 02.8	0.0
	baz=301							
NNS				S		**Sg**	07 24 09.1	0.0
	baz=301							
NDT	**Datong Townshi**	**0.49**	**326**	*e*P		**Pg**	07 24 02.9	-0.2
	baz=326							
NDT				*e*S		**Sb**	07 24 10.7	-0.7
	baz=326							
ENTT	**Nioudou**	**0.50**	**333**	*e*P		**Pg**	07 24 03.1	-0.2
	baz=334							
ENTT				S		**Sg**	07 24 10.5	+0.7
	baz=334							
WHF	**Hehuan Shan**	**0.50**	**264**	*e*P		**Pg**	07 24 03.1	-0.4
	baz=263							
WHF				S		**Sg**	07 24 10.5	+0.2
	baz=263							
ESL	**Shilin**	**0.52**	**223**	⇑P		**Pg**	07 24 04.0	+0.3
	baz=226							
ESL				*e*S		**Sb**	07 24 11.9	-0.2
	baz=226							
TWE	**Neicheng**	**0.54**	**346**	*e*P		**Pg**	07 24 04.4	+0.3
	baz=347							
TWE				*i* S		**Sg**	07 24 11.4	+0.2
	baz=347							
TEGC	**Jichi Village**	**0.55**	**207**	*e*P		**Pb**	07 24 05.5	+0.4
	baz=198							
TEGC				*e*S		**Sn**	07 24 14.8	-1.5
	baz=198							
ILA	**Ilan**	**0.57**	**354**	*e*P		**Pg**	07 24 05.2	+0.5
	baz=348							
TWT	**Tachien**	**0.58**	**276**	*e*P		**Pb**	07 24 05.6	-0.3
	baz=274							
TWT				*e*S		**Sb**	07 24 13.7	-0.6
	baz=274							
FUSB	**Fushanzhiwuyua**	**0.60**	**340**	⇓P		**Pg**	07 24 05.1	-0.1
	baz=333							
FUSB				*i* S		**Sg**	07 24 13.3	+0.1
	baz=333							
CHGB	**Renai**	**0.60**	**257**	P		**Pg**	07 24 05.3	0.0
	baz=251							
CHGB				S		**Sg**	07 24 13.5	+0.3
	baz=251							
TDCB	**Techi**	**0.60**	**276**	P		**Pg**	07 24 05.5	+0.2
	baz=275							
TDCB				S		**Sg**	07 24 13.2	0.0
	baz=275							
YHNB	**Yeheng**	**0.62**	**320**	P		**Pb**	07 24 06.1	-0.3
YHNB	**Yeheng**	**0.62**	**320**	⇓P		**Pg**	07 24 05.5	-0.1
	baz=320							
YHNB				S		**Sg**	07 24 13.8	+0.1
	baz=320							
OWD	**Renai**	**0.63**	**248**⇓	*e*P		**Pg**	07 24 06.1	+0.3
	baz=247							
OWD				*e*S		**Sb**	07 24 15.2	-0.4
	baz=247							
EGFH	**Guangfu**	**0.63**	**214**	*e*P		**Pg**	07 24 06.4	+0.6
	baz=213							
NSK	**Sanguang**	**0.63**	**319**	⇓P		**Pg**	07 24 05.7	-0.2
	baz=319							
NSK				S		**Sg**	07 24 14.4	+0.2
	baz=319							
NWLT	**Wulai**	**0.64**	**334**⇓	*e*P		**Pg**	07 24 06.0	-0.1
	baz=334							
NWLT				*e*S		**Sg**	07 24 14.8	+0.3
	baz=334							
EGS		**0.66**	**9**	*e*P		**Pb**	07 24 07.4	+0.4
	baz=18							
NTC	**Toucheng**	**0.66**	**1**	*e*P		**Pg**	07 24 06.4	+0.2
	baz=2.0							
WUSB	**Renai**	**0.67**	**252**	⇓P		**Pg**	07 24 06.9	+0.4
	baz=247							
WUSB				S		**Sg**	07 24 15.8	+0.5
	baz=247							
VWDT	**VWDT**	**0.76**	**235**	⇓P		**Pg**	07 24 08.5	+0.3
	baz=240							
VWDT				*e*S		**Sb**	07 24 19.7	+0.7
	baz=240							
NFF	**Wufeng Townshi**	**0.77**	**304**	*e*P		**Pg**	07 24 08.7	+0.3
	baz=304							
NFF				*e*S		**Sb**	07 24 19.1	-0.4
	baz=304							
TIPB	**Shuangxi**	**0.77**	**1**	P		**Pg**	07 24 08.8	+0.3
	baz=1.0							
TIPB				S		**Sg**	07 24 18.0	-0.6
	baz=1.0							
HGSD	**Ruisui**	**0.79**	**207**⇑	*e*P		**Pg**	07 24 09.3	+0.5
	baz=197							
WHP	**Taichung City**	**0.80**	**276**	*e*P		**Pg**	07 24 09.0	+0.1
	baz=275							
WHP				*e*S		**Sg**	07 24 19.2	-0.2
	baz=275							
WPL	**Puli Township**	**0.80**	**257**	*e*P		**Pb**	07 24 09.8	+0.3
	baz=256							
NHDH	**Xindian Distri**	**0.81**	**341**	*e*P		**Pg**	07 24 09.5	+0.4
	baz=335							
TWA	**Mucha**	**0.81**	**345**	P		**Pg**	07 24 09.4	+0.2
	baz=336							
TWA				S		**Sg**	07 24 19.6	-0.2
	baz=336							
EHY	**Hungye**	**0.82**	**213**	*e*P		**Pb**	07 24 09.1	-0.7
	baz=223							
TWB1	**Santiao Chiao**	**0.82**	**11**	*e*P		**Pg**	07 24 10.2	+0.8
	baz=6.0							
DPDB	**Guoxing**	**0.83**	**259**	*e*P		**Pb**	07 24 09.8	-0.1
	baz=258							
DPDB				*e*S		**Sb**	07 24 21.3	+0.2
	baz=258							
TATO	**Taipei**	**0.83**	**339**	*e*P		**Pg**	07 24 10.0	+0.4
	baz=339							
TATO				S		**Sb**	07 24 20.1	-1.1
	baz=339							
WCS	**Beigang Elemen**	**0.84**	**261**	*e*P		**Pg**	07 24 10.1	+0.4
	baz=260							
LIOB	**Emei**	**0.85**	**302**	*e*P		**Pg**	07 24 10.7	+0.7
	baz=301							
LIOB				*e*S		**Sg**	07 24 22.1	+0.9
	baz=301							
NSTT	**Nanjuang**	**0.86**	**300**	P		**Pg**	07 24 10.6	+0.5
	baz=300							
NSTT				S		**Sg**	07 24 21.9	+0.6
	baz=300							
NWF	**Wu-fen Shan**	**0.87**	**358**	⇓P		**Pg**	07 24 10.9	+0.5
	baz=351							
NWF				S		**Sb**	07 24 21.3	-1.2
	baz=351							
WFSB	**Wu-fen Shan**	**0.87**	**358**⇓	*i*P		**Pg**	07 24 10.9	+0.5
	baz=351							
WFSB				*i* S		**Sb**	07 24 21.6	-0.8
	baz=351							
SSLB	**Suanglung**	**0.89**	**243**	P		**Pg**	07 24 11.3	+0.7
SSLB	**Suanglung**	**0.89**	**243**⇓	*i*P		**Pb**	07 24 10.7	-0.2
	baz=251							
SSLB				S		**Sb**	07 24 22.1	-0.7
	baz=251							
SMLT	**Sun Moon Lake**	**0.89**	**250**	P		**Pb**	07 24 10.9	-0.2
	baz=249							
SMLT				*e*S		**Sb**	07 24 21.6	-1.4
	baz=249							
SXI1	**Grass Mountain**	**0.90**	**4**	⇓P		**Pg**	07 24 11.2	+0.4
	baz=9.0							
SXI1				*e*S		**Sb**	07 24 22.8	-0.4
	baz=9.0							
TYC	**Yuchr**	**0.92**	**252**	*e*P		**Pb**	07 24 11.4	-0.2
	baz=251							
YULB	**Yu-li**	**0.93**	**211**	*e*P		**Pb**	07 24 10.7	-0.9
	baz=221							
YULB				*e*S		**Sb**	07 24 23.7	-0.3
	baz=221							
ECBN	**Changbin**	**0.94**	**201**	*e*P		**Pb**	07 24 12.0	+0.2
	baz=201							
TNOU	**National Taiwa**	**0.95**	**358**	*e*P		**Pg**	07 24 12.2	+0.3
	baz=352							
TNOU				*e*S		**Sb**	07 24 23.8	-0.8
	baz=352							
NCUH	**Zhongli**	**0.96**	**323**	*e*P		**Pg**	07 24 12.5	+0.4
	baz=323							
EYUL	**Yuli**	**0.96**	**208**	*e*P		**Pn**	07 24 13.1	+0.1
	baz=224							
NCU	**National Centr**	**0.96**	**324**	*e*P		**Pn**	07 24 13.0	0.0
	baz=323							
SBCB	**Hsinchu**	**0.96**	**308**	*e*P		**Pn**	07 24 13.2	+0.3
	baz=308							
TWQ1	**Liyutan**	**0.96**	**279**	*e*P		**Pn**	07 24 14.1	+1.1
	baz=279							
TWF1	**Yuli**	**0.96**	**210**	*e*P		**Pb**	07 24 11.7	-0.6
	baz=223							
TWS1	**Kuangyinshan**	**0.97**	**338**	*e*P		**Pn**	07 24 13.3	+0.2
	baz=338							
YM01	**YM01**	**0.97**	**347**	*e*P		**Pn**	07 24 12.8	-0.4
	baz=330							
NSY	**Sanyi**	**0.98**	**283**	*e*P		**Pn**	07 24 13.2	-0.1
	baz=283							
NMLH	**Miaoli**	**0.99**	**290**	*e*P		**Pn**	07 24 13.7	+0.3
	baz=290							
YM08	**YM08**	**1.01**	**348**	*e*P		**Pg**	07 24 13.1	+0.1
	baz=332							
NTST	**Danshui**	**1.02**	**341**	*e*P		**Pn**	07 24 14.8	+1.1
	baz=340							
ANP	**Anpu**	**1.02**	**345**	*e*P		**Pn**	07 24 13.8	0.0
	baz=345							
TCU	**Taichung**	**1.04**	**268**	*e*P		**Pg**	07 24 14.7	+1.2
	baz=267							
YUS	**Yu-Shan**	**1.06**	**228**	*e*P		**Pb**	07 24 13.9	-0.2
	baz=218							
YUS				*e*S		**Sn**	07 24 29.7	0.0
	baz=218							
WJS	**Zhushan**	**1.06**	**250**	*e*P		**Pg**	07 24 15.2	+1.2
	baz=242							
WNT1	**Nantou City**	**1.08**	**255**	*e*P		**Pg**	07 24 15.0	+0.8
	baz=255							
WNT	**Mingjian**	**1.08**	**253**	*e*P		**Pb**	07 24 14.1	-0.1
	baz=246							
WDJ	**Dajia District**	**1.08**	**278**	*e*P		**Pg**	07 24 15.2	+0.8
	baz=278							
TWY	**Chenhua**	**1.09**	**350**	*e*P		**Pg**	07 24 15.5	+0.9
	baz=333							
FULB	**Fuli**	**1.10**	**206**	*e*P		**Pb**	07 24 14.5	-0.2
	baz=207							
YOJ	**Yonaguni jima**	**1.12**	**76**	P		**Pg**	07 24 16.0	+0.8
YOJ	**Yonaguni jima**	**1.12**	**76**	P		**Pg**	07 24 15.7	+0.5
	baz=64							
YOJ				S		**Sg**	07 24 31.8	+2.0
	baz=64							
ALS	**Alishan**	**1.15**	**234**	*e*P		**Pg**	07 24 16.0	+0.3
	baz=234							
CHKT	**Chengkung**	**1.17**	**201**	*e*P		**Pn**	07 24 14.6	-1.2
	baz=184							
CHN5	**Tsauling**	**1.20**	**240**	*e*P		**Pg**	07 24 17.2	+0.7
	baz=241							
WGK	**Gukeng**	**1.25**	**246**	*e*P		**Pb**	07 24 17.0	-0.2
	baz=247							
WDLH	**Douliu**	**1.27**	**247**	*e*P		**Pg**	07 24 18.9	+0.9
	baz=231							
EDH	**Donghe**	**1.30**	**201**	*e*P		**Pn**	07 24 17.2	-0.5
	baz=190							
WRL	**Guolierlin Hig**	**1.35**	**258**	*e*P		**Pb**	07 24 19.1	+0.3
	baz=258							
STYH	**Taoyuan**	**1.40**	**223**	*e*P		**Pb**	07 24 19.9	+0.3
	baz=224							
CHN4	**Tsaushan**	**1.40**	**233**	*e*P		**Pg**	07 24 20.4	0.0
	baz=234							
TPUB	**Ta-pu**	**1.41**	**231**	P		**Pg**	07 24 21.1	+0.6
TPUB	**Ta-pu**	**1.41**	**231**	*e*P		**Pb**	07 24 19.9	+0.1
	baz=232							
STYT	**Tauyuan**	**1.41**	**223**	*e*P		**Pn**	07 24 19.5	+0.3
	baz=224							
LONT	**Longtian**	**1.43**	**206**	*e*P		**Pn**	07 24 19.3	-0.1
	baz=208							
CHY	**Chiayi**	**1.45**	**242**	*e*P		**Pg**	07 24 21.3	-0.1
	baz=242							
WTP	**Ta-pu**	**1.45**	**230**	*e*P		**Pg**	07 24 21.2	-0.2
	baz=230							
TWK	**Hsinying**	**1.53**	**233**	*e*P		**Pb**	07 24 22.2	+0.3
	baz=233							
TWG	**Pinlang**	**1.53**	**207**	*e*P		**Pn**	07 24 20.8	0.0
	baz=193							
TWGBT	**Beinan**	**1.53**	**206**	*e*P		**Pn**	07 24 19.4	-1.4
	baz=193							
LDUT	**Ludao**	**1.55**	**192**	*e*P		**Pn**	07 24 18.6	-2.5
	baz=182							
CHN1	**Nanshi**	**1.55**	**230**	*e*P		**Pb**	07 24 22.8	+0.5
	baz=231							
SNST	**Tainan City**	**1.55**	**231**	*e*P		**Pb**	07 24 22.1	-0.2
	baz=232							
WSF	**Szhu**	**1.56**	**249**	*e*P		**Pb**	07 24 22.4	0.0
	baz=250							
SGST	**Jiashian**	**1.58**	**226**	*e*P		**Pn**	07 24 22.1	+0.6
	baz=227							
WSL	**Shuilin Townsh**	**1.60**	**246**	*e*P		**Pb**	07 24 23.4	+0.3
	baz=246							
ICHU	**Yijhu**	**1.63**	**240**	*e*P		**Pb**	07 24 23.6	-0.1
	baz=240							
ECL	**Taimali**	**1.78**	**207**	*e*P		**Pn**	07 24 23.7	-0.5
	baz=196							
SCST	**Cishan**	**1.78**	**223**	*e*P		**Pb**	07 24 26.0	-0.1
	baz=224							
SSD	**Sandimen**	**1.81**	**217**	*e*P		**Pb**	07 24 26.1	-0.6
	baz=203							
TSMG	**Majia**	**1.83**	**216**	*e*P		**Pb**	07 24 26.2	-0.9
	baz=203							
MASBT	**Mashibuluo**	**1.91**	**215**	*e*P		**Pn**	07 24 26.2	+0.2
	baz=216							
EAST	**Anshuo**	**2.01**	**206**	*e*P		**Pn**	07 24 28.4	+0.9
	baz=197							
PNG	**Penghu**	**2.16**	**254**	*e*P		**Pn**	07 24 30.5	+1.0
	baz=256							
PNG				*e*S		**Sn**	07 24 57.3	+1.1
	baz=256							
LAY	**Lan-yu**	**2.16**	**186**	*e*P		**Pn**	07 24 28.0	-1.5
	baz=189							
PHUB	**P'eng-hu**	**2.16**	**252**	*e*P		**Pn**	07 24 29.3	-0.2
	baz=254							
PHUB				*e*S		**Sb**	07 24 57.8	-1.7
	baz=254							
SLIU	**Shizi**	**2.18**	**206**	*e*P		**Pn**	07 24 31.2	+1.4
	baz=197							
WDGT	**Dungji**	**2.18**	**245**	*e*P		**Pn**	07 24 30.9	+1.1
	baz=247							
WDGT				*e*S		**Sb**	07 24 58.3	-1.8
	baz=247							
LYUB	**Lan-yu**	**2.19**	**186**	*e*P		**Pn**	07 24 27.5	-2.4
	baz=188							
VWUC	**VWUC**	**2.29**	**291**	*e*P		**Pn**	07 24 31.3	0.0
	baz=278							
VCHM	**Qimei**	**2.40**	**246**	*e*P		**Pn**	07 24 33.6	+0.9
	baz=231							
MATB	**Ma-tsu**	**2.58**	**319**	*e*P		**Pn**	07 24 34.6	-0.6
	baz=317							
KNM	**Kinmen**	**3.09**	**275**	*e*P		**Pn**	07 24 44.1	+1.8
	baz=275							
XPSS	**Dashiqiu**	**3.09**	**332**	*e*P		**Pn**	07 24 42.7	+0.4
	baz=328							
KNMB	**Chin-men Tao**	**3.14**	**276**	*e*P		**Pn**	07 24 42.5	-0.4
	baz=276							
AXDP	**Jialang**	**3.57**	**282**	*e*P		**Pn**	07 24 49.5	+0.7
	baz=281							

IDC ***29*** *07:47:05.9±1.1,37.66N×141.95E,h0km,mb3.4/5, mb1 3.6/6,mb1mx3.4/39,mbtmp3.4/6,ML2.3/1,Error ellipse: s-maj=30.5km s-min=28.1km az=105.0*
JMA ***29*** *07:47:09.2±0.1,37.62N×141.91E,h29km±2km,M3.6*
ISC 29 07:47:08.1±1.9,37.65N±0.04×141.90E±0.07,h15km±10km, n26,σ0s74/33,mb3.3/5,10C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.74**	**333**	⇑P		**Pn**	**07 47 23.7**	**-0.4**
JIKH				S		**Sb**	**07 47 33.9**	**+1.2**
JMST	**Minamisoumatoc**	**0.81**	**276**	⇑P		**Pn**	**07 47 24.4**	**-0.5**
JMST				S		**Sb**	**07 47 35.0**	**+0.5**
JFK	**Kawauchi**	**0.86**	**251**	⇑P		**Pg**	**07 47 25.0**	**+0.2**
JFK				*e*S		**Sg**	**07 47 35.9**	**-0.2**
JMM	**Marumori**	**0.90**	**284**	⇑P		**Pn**	**07 47 26.1**	**-0.1**
JMM				S		**Sg**	**07 47 37.8**	**+0.4**
JIO	**Ouri**	**0.91**	**332**	⇑P		**Pn**	**07 47 26.4**	**0.0**
JIO				*e*S		**Sg**	**07 47 38.0**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.03**	**238**	P		**Pb**	**07 47 27.4**	**-0.3**
ONAJ				*e*S		**Sb**	**07 47 39.7**	**-1.4**
JKMT	**Kesennumamotoy**	**1.21**	**344**	⇑P		**Pb**	**07 47 30.6**	**0.0**
JKMT				*e*S		**Sb**	**07 47 45.3**	**-0.8**
JOU	**Okura**	**1.21**	**307**	⇑P		**Pg**	**07 47 31.4**	**0.0**
JOU				*e*S		**Sg**	**07 47 47.5**	**+0.3**
JFT	**Otama**	**1.25**	**264**	⇑P		**Pg**	**07 47 31.8**	**-0.3**
JFT				S		**Sb**	**07 47 47.5**	**+0.3**
JMK	**Ichinoseki**	**1.41**	**338**	⇑P		**Pb**	**07 47 33.8**	**-0.2**
JMK				*e*S		**Sn**	**07 47 51.6**	**+0.2**
JYS	**Shirataka**	**1.56**	**292**	P		**Pb**	**07 47 36.7**	**+0.1**
JYS				*e*S		**Sb**	**07 47 56.8**	**+0.6**
JYK	**Kaneyama**	**1.75**	**317**	⇑P		**Pb**	**07 47 39.0**	**-1.0**
JYK				*e*S		**Sb**	**07 48 01.1**	**-0.7**
JFY	**Yanaizu**	**1.76**	**263**	P		**Pb**	**07 47 39.5**	**-0.6**
JFY				S		**Sb**	**07 48 01.3**	**-0.7**
MJAR	**Matsushiro Arr**	**3.15**	**251**	Pn		**Pn**	**07 47 59.2**	**+2.0**
	0.4nm,0.3s,baz=330,slow=30,SNR=7.8							
H11N2	**WAKE ISLAND Hy**	**28.14**	**122**	T		T	08 22 22.6	
	baz=315,slow=75,SNR=107							
H11N1	**WAKE ISLAND Hy**	**28.15**	**122**	T		T	08 22 26.7	
	baz=315,slow=75,SNR=82							
H11N3	**WAKE ISLAND Hy**	**28.16**	**122**	T		T	08 22 25.8	
	baz=315,slow=75,SNR=112							
H11S1	**WAKE ISLAND Hy**	**28.88**	**124**	T		T	08 23 16.8	
	baz=316,slow=76,SNR=102							
H11S3	**WAKE ISLAND Hy**	**28.88**	**125**	T		T	08 23 22.4	
	baz=316,slow=76,SNR=103							
H11S2	**WAKE ISLAND Hy**	**28.89**	**125**	T		T	08 23 18.5	
	baz=316,slow=76,SNR=104							
MKAR	**Makanchi Array**	**44.12**	**302**	P		**P**	**07 55 16.6**	**+0.8**
	0.2nm,0.5s,baz=94,slow=5.8,SNR=1.7							
KURBB	**Kurchatov Arra**	**45.93**	**308**	P		**P**	**07 55 28.6**	**-1.5**
	0.8nm,0.4s,baz=81,slow=8.1,SNR=3.1							
WRA	**Warramunga Arr**	**57.72**	**188**	P		**P**	**07 56 57.9**	**-0.4**
	0.3nm,0.9s,baz=5.1,slow=7.2,SNR=5.4							
ASAR	**Alice Springs**	**61.45**	**188**	P		**P**	**07 57 24.2**	**+0.3**
	0.2nm,0.8s,baz=20,slow=4.6,SNR=4.1							
PDAR	**Pinedale Array**	**76.96**	**46**	P		**P**	**07 59 01.1**	**+0.8**
	0.3nm,0.7s,baz=270,slow=3.6,SNR=4.1							
LPAZ	**La Paz**	**146.05**	**59**	PKPbc		**PKPbc**	**08 06 48.1**	**-0.5**
	0.7nm,0.6s,baz=13,slow=3.6,SNR=7.0							

MOS ***29*** *07:56:17.1±1.5,55.85N×110.14E,h11km,mb3.7/1,Error ellipse: s-maj=11.0km s-min=7.3km az=83.7*
IDC ***29*** *07:56:18.2±1.4,55.94N×110.03E,h0km,mb3.6/6, mb1 3.8/12,mb1mx3.5/54,mbtmp3.7/12,ML3.6/5,MS2.7/2, Ms1 2.7/2,ms1mx2.3/90,Error ellipse: s-maj=29.9km s-min=20.4km az=155.0*
BYKL ***29*** *07:56:18.7±0.1,55.74N×110.22E,h7km±2km*
ISC 29 07:56:17.9±0.5,55.78N±0.03×110.16E±0.02,h10km,n63, σ2s76/115,mb3.6/6,8C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.35**	**269**	⇑*i*PG		**Pb**	**07 56 25.8**	**-0.4**
NIZ				*e*			07 56 30.9	
NIZ				pmax		pmax		
	comp=Z,412nm,0.3s							
NIZ				smax		smax		
	comp=E,4μm,0.5s							
NIZ	**Nizh Angarsk**	**0.35**	**269**	⇑*i*Pg		**Pb**	**07 56 25.8**	**-0.4**
NIZ				*e*Sg		**Sb**	**07 56 31.3**	**-0.4**
NIZ				Pmax				
	comp=E,432nm,0.3s							
NIZ				Smax				
	comp=E,4μm,0.5s							
KMO	**Kumora**	**0.60**	**80**	⇑*i*PG		**Pg**	**07 56 28.8**	**-0.6**
KMO				*e*			07 56 35.8	
KMO				pmax		pmax		
	comp=Z,439nm,0.3s							
KMO				smax		smax		
	comp=N,2μm,1.0s							
KMO	**Kumora**	**0.60**	**80**	⇑*i*Pg		**Pg**	**07 56 28.8**	**-0.6**
KMO				*e*Sg		**Sg**	**07 56 36.7**	**-0.6**
KMO				Pmax				
	comp=N,447nm,0.3s							
KMO				Smax				
	comp=N,1μm,0.2s							
YOA	**Uoyan**	**0.95**	**68**	*e*Pg		**Pb**	**07 56 36.2**	**-0.2**
YOA				*e*Sg		**Sg**	**07 56 48.2**	**-0.2**
YOA				*e*Sb		**Sn**	**07 56 50.6**	**-0.2**
YOA				Pmax				
	comp=N,558nm,0.2s							
YOA				max				
	comp=N,4μm,0.4s							
YLYR	**Ulyunkhan**	**1.08**	**147**	⇑*i*PG		**Pb**	**07 56 37.1**	**-1.5**
YLYR				*e*			07 56 51.1	
YLYR				pmax		pmax		
	comp=Z,336nm,0.4s							
YLYR				smax		smax		
	comp=E,951nm,0.2s							
YLYR	**Ulyunkhan**	**1.08**	**147**	⇑*i*Pg		**Pb**	**07 56 37.1**	**-1.5**
YLYR				*e*Sg		**Sg**	**07 56 51.0**	**-1.5**
YLYR				Pmax				
	comp=E,338nm,0.4s							
YLYR				Smax				
	comp=E,961nm,0.3s							
SVKR	**Severomuysk**	**1.94**	**79**	*e*PN		**Pb**	**07 56 52.7**	**-0.6**
SVKR				*e*			07 56 53.6	
SVKR				*e*			07 57 18.4	
SVKR				pmax		pmax		
	comp=Z,405nm,0.4s							
SVKR				smax		smax		
	comp=E,3μm,0.4s							
SVKR	**Severomuysk**	**1.94**	**79**	*e*Pg		**Pb**	**07 56 52.6**	**-0.7**

OGRR				*e*			07 57 37.1	
OGRR				pmax	pmax			
	comp=Z,61nm,0.5s							
OGRR				smax	smax			
	comp=E,529nm,0.5s							
OGRR	**Ongureny**	**2.61**	**216**	*e*Pg	**Pb**	**07 57 04.6**	**-0.1**	
OGRR				*e*		07 57 36.9		
OGRR				*e*Sg	**Sg**	**07 57 39.6**	**-2.0**	
OGRR				Pmax				
	comp=E,51nm,0.3s							
OGRR				Smax				
	comp=E,492nm,0.5s							
MXMB	**Maximikha**	**2.66**	**199**	*e*Pg	**Pb**	**07 57 05.3**	**-0.2**	
MXMB				*e*		07 57 10.1		
MXMB				*e*Sg	**Sg**	**07 57 40.8**	**-2.3**	
BOD	**Bodaibo**	**2.94**	**44**	i*e*PN	**Pn**	**07 57 06.3**	**+1.7**	
BOD				*e*		07 57 12.7		
BOD				*e*S	**Sn**	**07 57 42.1**	**+2.2**	
BOD				*e*		07 57 49.1		
BOD				pmax	pmax			
	comp=Z,39nm,0.3s							
BOD				smax	smax			
	comp=N,591nm,0.4s							
BOD	**Bodaibo**	**2.94**	**44**	*e*Pn	**Pb**	**07 57 06.9**	**-3.4**	
BOD				*e*		07 57 08.0		
BOD				*e*Pg	**Pg**	**07 57 11.4**	**-2.7**	
BOD				*e*		07 57 12.8		
BOD				*e*		07 57 42.2		
BOD				*e*Sg	**Sg**	**07 57 50.3**	**-1.8**	
BOD				max				
	comp=N,46nm,0.3s							
BOD				Smax				
	comp=N,588nm,0.4s							
NLYR	**Nelyaty**	**3.18**	**75**	*e*Pn	**Pn**	**07 57 09.4**	**+1.4**	
NLYR				*e*		07 57 10.4		
NLYR				*e*Pg	**Pb**	**07 57 15.5**	**+1.0**	
NLYR				*e*		07 57 18.4		
NLYR				*e*Sn	**Sn**	**07 57 45.7**	**-0.2**	
NLYR				*e*Sg	**Sb**	**07 57 56.3**	**+3.0**	
NLYR				max				
	comp=N,92nm,0.5s							
NLYR				max				
	comp=N,493nm,0.9s							
KELR	**Kotokel**	**3.27**	**203**	*e*Pg	**Pb**	**07 57 17.1**	**+1.2**	
KELR				*e*Sg	**Sg**	**07 57 59.5**	**-3.2**	
KELR				*e*		07 58 01.8		
ZRHB	**Zarechye**	**3.69**	**210**	*e*Pg	**Pb**	**07 57 24.4**	**+1.4**	
ZRHB				*e*Sg	**Sg**	**07 58 11.9**	**-4.3**	
TRG	**Tyrgan**	**3.76**	**218**	*e*PN	**Pn**	**07 57 17.5**	**+1.5**	
TRG				*e*		07 57 26.8		
TRG				*e*S	**Sn**	**07 58 02.1**	**+1.8**	
TRG				*e*		07 58 15.7		
TRG				pmax	pmax			
	comp=Z,30nm,0.5s							
TRG				smax	smax			
	comp=E,238nm,0.8s							
TRG	**Tyrgan**	**3.76**	**218**	*e*Pn	**Pn**	**07 57 17.9**	**+1.9**	
TRG				*e*		07 57 18.8		
TRG				*e*		07 57 21.2		
TRG				*e*Pg	**Pb**	**07 57 25.9**	**+1.5**	
TRG				*e*Sn	**Sn**	**07 58 00.7**	**+0.4**	
TRG				*e*Sg	**Sg**	**07 58 14.9**	**-3.7**	
TRG				Pmax				
	comp=E,39nm,0.9s							
TRG				Smax				
	comp=E,233nm,0.8s							
VTMR	**Vitim**	**3.88**	**18**	*e*Pn	**Pn**	**07 57 18.9**	**+1.4**	
VTMR				*e*Pg	**Pg**	**07 57 28.9**	**-3.3**	
VTMR				*e*Sg	**Sg**	**07 58 19.9**	**-2.6**	
UUDB	**Ulan-Yde**	**4.19**	**202**	*e*Pg	**Pb**	**07 57 33.2**	**+1.5**	
UUDB				*e*Sg	**Sg**	**07 58 27.7**	**-4.7**	
UUDB				Pmax				
	comp=E,62nm,1.0s							
UUDB				Smax				
	comp=E,209nm,1.1s							
STDB	**Stepnoy Dvoret**	**4.26**	**213**	*e*Sg	**Sg**	**07 58 30.9**	**-3.6**	
CIT	**Chita**	**4.27**	**151**	*e*PN	**Pn**	**07 57 22.6**	**-0.3**	
CIT				*e*		07 57 34.1		
CIT				*e*S	**Sn**	**07 58 12.9**	**+0.1**	
CIT				*e*		07 58 29.5		
CIT				pmax	pmax			
	comp=Z,191nm,0.6s							
CIT				smax	smax			
	comp=E,226nm,0.3s							
CIT	**Chita**	**4.27**	**151**	*e*Sg	**Sb**	**07 58 29.0**	**+4.4**	
CIT				Smax				
	comp=E,224nm,0.3s							
KAB	**Kabansk**	**4.28**	**210**	*e*Sg	**Sg**	**07 58 31.2**	**-3.9**	
KAB				Smax				
	comp=E,400nm,0.7s							
CRS	**Chara**	**4.65**	**73**	*e*Pn	**Pn**	**07 57 29.8**	**+1.7**	
CRS				*e*Pg	**Pb**	**07 57 41.9**	**+2.5**	
CRS				*e*Sg	**Sg**	**07 58 42.4**	**-4.6**	
CRS				Pmax				
	comp=E,72nm,1.0s							
CRS				Smax				
	comp=E,146nm,0.8s							
BGT	**Bolshoye Golou**	**4.68**	**219**	*e*Pn	**Pn**	**07 57 30.9**	**+2.4**	
BGT				*e*		07 57 33.5		
BGT				*e*Pg	**Pb**	**07 57 41.9**	**+1.9**	
BGT				*e*Sn	**Sn**	**07 58 23.2**	**+0.3**	
BGT				*e*Sg	**Sg**	**07 58 42.4**	**-5.6**	
BGT				Pmax				
	comp=E,26nm,0.6s							
BGT				Smax				
	comp=E,137nm,0.7s							
IRK	**Irkutsk**	**4.96**	**227**	*e*Sg	**Sg**	**07 58 52.6**	**-4.5**	
IRK				Smax				
	comp=E,478nm,0.2s							
LSTR	**Listvyanka**	**5.03**	**221**	*e*Pn	**Pn**	**07 57 35.5**	**+2.1**	
LSTR				*e*Pg	**Pb**	**07 57 48.6**	**+2.6**	
LSTR				*e*Sn	**Sn**	**07 58 31.5**	**0.0**	
LSTR				*e*Sg	**Sg**	**07 58 53.7**	**-5.6**	
LSTR				Pmax				
	comp=E,14nm,0.6s							
LSTR				Smax				
	comp=E,94nm,0.5s							
IVK	**Ivanovka**	**5.25**	**223**	*e*Pn	**Pn**	**07 57 37.5**	**+1.2**	
IVK				*e*Pg	**Pb**	**07 57 52.1**	**+2.5**	
IVK				*e*Sn	**Sn**	**07 58 36.5**	**-0.2**	
IVK				*e*		07 58 51.1		
IVK				*e*Sg	**Sg**	**07 59 01.4**	**-4.7**	
IVK				Pmax				
	comp=E,14nm,0.4s							
IVK				Smax				
	comp=E,108nm,1.0s							
TLY	**Talaya**	**5.64**	**226**	*e*Pn	**Pn**	**07 57 42.8**	**+1.1**	
TLY				*e*Pg	**Pb**	**07 57 59.9**	**+3.6**	
TLY				*e*Sn	**Sn**	**07 58 45.5**	**-1.0**	
TLY				*e*Sg	**Sg**	**07 59 12.4**	**-6.4**	
TLY				Pmax				
	comp=E,12nm,0.6s							
TLY				Smax				
	comp=E,90nm,0.5s							
TUP	**Tupik**	**5.79**	**100**	*e*PN	**Pn**	**07 57 44.2**	**+0.5**	
TUP				*e*		07 58 01.8		
TUP				*e*S	**Sn**	**07 58 48.0**	**-2.0**	
TUP				*e*		07 59 17.1		
TUP				pmax	pmax			
	comp=Z,17nm,0.6s							
TUP				smax	smax			
	comp=N,305nm,0.9s							
TUP	**Tupik**	**5.79**	**100**	*e*Pn	**Pn**	**07 57 45.2**	**+1.5**	
TUP				*e*Pg	**Pb**	**07 58 01.8**	**+3.0**	
TUP				*e*Sn	**Sn**	**07 58 48.1**	**-2.0**	
TUP				*e*Sg	**Sg**	**07 59 16.1**	**-7.3**	
TUP				Pmax				
	comp=N,17nm,0.6s							
TUP				Smax				
	comp=N,304nm,0.6s							
ARS	**Arshan**	**5.99**	**233**	*e*Pn	**Pn**	**07 57 47.9**	**+1.3**	
ARS				*e*Pg	**Pb**	**07 58 05.8**	**+3.5**	
ARS				*e*Sn	**Sn**	**07 58 54.5**	**-0.8**	
ARS				*e*Sg	**Sg**	**07 59 24.3**	**-5.8**	
ARS				Pmax				
	comp=N,26nm,0.5s							
ARS				Smax				
	comp=N,408nm,0.9s							
KPC	**Khapcheranga**	**6.24**	**167**	*e*PN	**Pn**	**07 57 50.9**	**+0.9**	
KPC				*e*		07 58 09.2		
KPC				pmax	pmax			
	comp=Z,26nm,0.6s							
KPC	**Khapcheranga**	**6.24**	**167**	*e*Pn	**Pn**	**07 57 50.8**	**+0.8**	
KPC				*e*Pg	**Pb**	**07 58 10.9**	**+4.4**	
KPC				*e*Sg	**Sg**	**07 59 31.2**	**-6.8**	
KPC				Pmax				
	comp=Z,25nm,0.6s							
KPC				Smax				
	comp=Z,128nm,1.4s							
YKLR	**Yuktali**	**6.47**	**78**	*e*Sg	**Sg**	**07 59 37.7**	**-7.6**	
ZAK	**Zakamensk**	**6.81**	**220**	*e*PN	**Pn**	**07 57 58.8**	**+0.9**	
ZAK				*e*S	**Sn**	**07 59 16.5**	**+1.0**	
ZAK				pmax	pmax			
	comp=Z,9.0nm,0.3s							
ZAK				smax	smax			
	comp=N,72nm,1.1s							
ZAK	**Zakamensk**	**6.81**	**220**	*e*Pn	**Pn**	**07 57 59.2**	**+1.3**	
ZAK				*e*Pg	Pb	07 58 21.4	+5.1	
ZAK				*e*Sn	**Sn**	**07 59 14.6**	**-0.9**	
ZAK				*e*Sg	**Sg**	**07 59 50.1**	**-6.3**	
ZAK				Pmax				
	comp=N,9.0nm,0.6s							
ZAK				Smax				
	comp=N,72nm,1.4s							
MOY	**Mondy**	**6.82**	**237**	*e*PN	**Pn**	**07 58 00.8**	**+2.8**	
MOY				*e*		07 58 22.5		
MOY				*e*S	**Sn**	**07 59 15.0**	**-0.8**	
MOY				*e*		07 59 50.7		
MOY				pmax	pmax			
	comp=Z,18nm,0.6s							
MOY				smax	smax			
	comp=E,121nm,1.5s							
MOY	**Mondy**	**6.82**	**237**	*e*Pn	**Pn**	**07 58 00.9**	**+2.9**	
MOY				*e*		07 58 04.2		
MOY				*e*Pg	Pb	07 58 20.7	+4.2	
MOY				*e*Sn	**Sn**	**07 59 15.2**	**-0.6**	
MOY				*e*Sg	**Sg**	**07 59 49.5**	**-7.2**	
MOY				Pmax				
	comp=E,38nm,0.7s							
MOY				Smax				
	comp=E,121nm,0.7s							
ORL	**Orlik**	**6.89**	**246**	*e*Pn	**Pn**	**07 58 00.7**	**+1.7**	
ORL				*e*Sn	**Sn**	**07 59 16.6**	**-0.8**	
ORL				*e*Sg	**Sg**	**07 59 52.5**	**-6.3**	
ORL				Smax				
	comp=E,67nm,1.1s							
IENR	**Iengra**	**8.25**	**81**	*e*Sg	Sg	08 00 32.5	-10	
CLNS	**Chul'man**	**8.26**	**77**	*e*Sg	Sg	08 00 33.2	-10	
SONM	**Songino Array**	**8.29**	**198**	Pn	Pn	07 58 22.9	+4.7	
	comp=E,0.4nm,0.3s,baz=11,slow=11,SNR=2.8							
SONM				Lg	Lg	08 00 37.1		
	comp=E,1.5nm,0.3s,baz=12,slow=24,SNR=11							
YAK	**Yakutsk**	**11.84**	**50**	LR	LR	08 03 18.5		
	comp=E,52nm,18.4s,baz=270,slow=36							
KLR	**Kul'dur**	**14.66**	**108**	Pn	**Pn**	**07 59 46.5**	**+1.5**	
	comp=E,0.2nm,0.3s,baz=314,slow=9.9,SNR=5.0							
KLR				Lg	Lg	08 03 57.1		
	comp=E,0.1nm,0.3s,baz=31,slow=23,SNR=6.7							
ZALV	**Zalesovo Beam**	**14.68**	**273**	Pn	**Pn**	**07 59 47.4**	**+2.0**	
	baz=74,slow=11,SNR=1.9							
NRIK	**Noril'sk**	**16.95**	**332**	Pn	**Pn**	**08 00 13.9**	**-0.9**	
	comp=E,0.5nm,0.3s,baz=127,slow=9.3,SNR=5.0							
KURK	**Kurchatov**	**19.43**	**268**	P	**Pn**	**08 00 46.2**	**+0.9**	
MKAR	**Makanchi Array**	**19.50**	**254**	P	**Pn**	**08 00 46.1**	**0.0**	
	comp=E,0.3nm,0.3s,baz=62,slow=11,SNR=16							
KURBB	**Kurchatov Arra**	**19.53**	**268**	P	**Pn**	**08 00 46.2**	**-0.2**	
	comp=E,0.1nm,0.3s,baz=69,slow=11,SNR=7.0							
KSRS	**Korea Array**	**21.91**	**139**	LR	LR	08 11 31.1		
	comp=E,11nm,18.0s,baz=140,slow=41							
BVAR	**Borovoye Array**	**23.09**	**280**	P	**P**	**08 01 22.6**	**-0.8**	
	comp=E,1.2nm,0.7s							
ARCES	**ARCESS Array B**	**37.73**	**325**	P	**P**	**08 03 33.8**	**+0.7**	
	comp=E,1.4nm,0.7s,baz=69,slow=9.2,SNR=9.8							
FINES	**FINESS Array B**	**41.27**	**314**	P	**P**	**08 04 03.5**	**+0.8**	
	comp=E,0.9nm,0.4s,baz=57,slow=8.1,SNR=8.2							
ILAR	**Eielson Array**	**46.27**	**35**	P	**P**	**08 04 44.8**	**+1.9**	
	comp=E,0.7nm,0.9s,baz=311,slow=7.0,SNR=6.7							
NOA	**NORSAR Array B**	**47.30**	**319**	P	**P**	**08 04 51.6**	**+0.6**	
	comp=E,0.2nm,0.5s,baz=34,slow=6.4,SNR=1.7							
YKA	**Yellowknife Ar**	**57.00**	**23**	P	**P**	**08 06 03.1**	**+0.1**	
	comp=E,0.3nm,0.7s,baz=333,slow=7.2,SNR=5.7							

IDC 29 08:09:55.5±2.7, 53.75N×87.11E, h0km, mb1 3.0/2, mb1mx2.8/59, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.4km s-min=15.2km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**279**	*i*			08 18 07.6	
	baz=100,slow=324,SNR=4.1							
ZALV	**Zalesovo Beam**	**1.37**	**279**	Pg	Pg		08 10 19.4	-2.3
	1.7nm,0.3s,baz=95,slow=16,SNR=17							
ZALV				Lg	Lg		08 10 40.1	
	1.2nm,0.3s,baz=91,slow=29,SNR=5.4							
KURBB	**Kurchatov Arra**	**6.13**	**243**	Pn	Pn		08 11 28.0	+0.7
	0.1nm,0.3s,baz=58,slow=14,SNR=7.3							
KURBB				Lg	Lg		08 13 09.4	
	0.0nm,0.3s,baz=112,slow=25,SNR=1.7							
MKAR	**Makanchi Array**	**7.62**	**206**	Pn	Pn		08 11 49.5	+1.8
	0.2nm,0.3s,baz=27,slow=12,SNR=6.7							
MKAR				Sn	Sn		08 13 14.4	-0.3
	0.1nm,0.3s,baz=16,slow=27,SNR=2.3							
MKAR				Lg	Lg		08 13 56.4	
	0.1nm,0.3s,baz=29,slow=33,SNR=2.2							

*BJI **29** 08:17:29.4±0.0, 59.28N×152.68W, h51km, mb5.1/53, mB5.0/27, Ms4.5/7, Ms7 4.1/5*
*MOS **29** 08:17:29.9±0.8, 58.99N×152.67W, h53km, mb5.2/71, Error ellipse: s-maj=9.3km s-min=4.1km az=91.2*
*BGR **29** 08:17:29.5±0.0, 58.61N×151.93W, h33km, mb5.0*
*IDC **29** 08:17:31.5±0.4, 58.93N×152.78W, h56km±4km, mb4.6/41, mb1 4.7/45, mb1mx4.6/62, mbtmp4.9/45, MS3.5/46, Ms1 3.5/46, ms1mx3.4/88, Error ellipse: s-maj=7.6km s-min=5.2km az=86.0*
*NEIC **29** 08:17:32.2±2.0, 58.89N±0.03×152.43W±0.04, h63km±4km, Error ellipse: s-maj=4.6km s-min=2.8km az=184.0*
*NEIC **29** 08:17:33, 58.90N×152.34W, h58km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr0.26; Mθθ-1.13; Mφφ0.87; Mrθ0.29; Mφr0.62; Mθr0.72; Fault plane solution: M0 1.42000×10^16^ NP1:φs326.23000°, δ65.70000°, λ158.92000°. NP2:φs65.24000°, δ70.87000°, λ25.83000°; Principal axes: T 1.5168, Plg32.0000°, Azm287.0000°; N -0.2090, Plg58.0000°, Azm99.0000°; P -1.3078, Plg3.0000°, Azm195.0000°;*
*ANF **29** 08:17:33.4±0.1, 59.04N×152.43W, h55km, ML5.2/51 Error ellipse: s-maj=2.5km s-min=2.3km az=123.0*
*AEIC **29** 08:17:33±1.9, 58.90N±0.03×152.34W±0.04, h54km±4km, ML4.9, mb5.1/154(NEIC), ML5.1/116(NEIC), Mwr4.7/81(NEIC), Error ellipse: s-maj=4.5km s-min=2.6km az=158.0*

ISC 29 08:17:29.8±0.3, 58.92N±0.03×152.41W±0.02, h42km±1km, h41km; pP-P, n1016, σ1.87/1081, mb5.1/219, 51C-35D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
Q19K	**Cape Douglas,**	**0.64**	**272**	Pn	**Pn**		**08 17 45.9**	**+3.4**
Q19K				Sn	**Sn**		**08 17 55.6**	**+4.0**
Q19K				IAML			08 18 01.0	
	comp=N,57μm,0.8s							
Q19K				IAML			08 18 04.7	
	comp=E,91μm,0.7s							
Q19K	**Cape Douglas,**	**0.64**	**272**	P	**Pn**		**08 17 45.9**	**+3.4**
	baz=92,SNR=1000							
Q19K				S	**Sn**		**08 17 55.7**	**+4.2**
	baz=92							
AU22	**Augustine Moun**	**0.67**	**314**		**Pn**		**08 17 46.6**	**+3.8**
AU22					**Sn**		**08 17 56.4**	**+4.3**
AU2	**Augustine Isla**	**0.68**	**313**		**Pn**		**08 17 46.8**	**+3.9**
AUH	**Augustine H**	**0.70**	**311**		**Pn**		**08 17 47.1**	**+3.8**
AUL	**Augustine Lava**	**0.70**	**312**		**Pn**		**08 17 47.1**	**+3.8**
AUL					**Sn**		**08 17 57.7**	**+4.6**
HOM	**Homer**	**0.84**	**28**		**Pn**		**08 17 48.8**	**+3.6**
HOM				IAML			08 18 02.9	
	comp=E,90μm,0.5s							
HOM	**Homer**	**0.84**	**28**		**Sn**		**08 18 01.2**	**+4.8**
HOM	**Homer**	**0.84**	**28**	P	**Pn**		**08 17 49.2**	**+4.0**
	baz=205,SNR=309							
P19K	**Oil Pt**	**0.85**	**331**		**Pn**		**08 17 48.8**	**+3.4**
P19K				IAML			08 18 02.5	
	comp=N,99μm,0.7s							
P19K				IAML			08 18 03.6	
	comp=E,89μm,0.4s							
P19K	**Oil Pt**	**0.85**	**331**		**Sn**		**08 18 01.5**	**+4.8**
P19K	**Oil Pt**	**0.85**	**331**	P	**Pn**		**08 17 48.9**	**+3.6**
	baz=148,SNR=837							
P19K				S	**Sn**		**08 18 01.3**	**+4.6**
	baz=148							
OPT	**Oil Point**	**0.85**	**331**		**Pn**		**08 17 48.9**	**+3.5**
CNPM	**China Poot**	**0.86**	**44**		**Pn**		**08 17 49.2**	**+3.7**
CNPM				IAML			08 18 02.5	
	comp=N,45μm,0.9s							
CNPM				IAML			08 18 02.8	
	comp=E,50μm,0.7s							
CNPM	**China Poot**	**0.86**	**44**		**Sn**		**08 18 00.8**	**+3.9**
KDAK	**Kodiak Island**	**1.14**	**185**	P	**Pn**		**08 17 51.9**	**+2.7**
	comp=E,1μm,0.3s,baz=45,slow=8.3,SNR=9837							
KDAK				S	**Sn**		**08 18 05.8**	**+2.2**
	comp=E,2μm,0.3s,baz=23,slow=17,SNR=25							
KDAK	**Kodiak Island**	**1.14**	**185**	Pn	**Pn**		**08 17 51.5**	**+2.3**
KDAK	**Kodiak Island**	**1.14**	**185**		**Sn**		**08 18 05.5**	**+1.9**
KDAK	**Kodiak Island**	**1.14**	**185**	P	**Pn**		**08 17 52.0**	**+2.7**
	baz=6.5							
BRLK	**Bradley Lake**	**1.16**	**42**		**Pn**		**08 17 52.3**	**+2.7**
BRLK				IAML			08 18 07.7	
	comp=N,22μm,0.7s							
BRLK				IAML			08 18 07.8	
	comp=E,26μm,0.7s							
BRLK	**Bradley Lake**	**1.16**	**42**		**Sn**		**08 18 07.2**	**+3.0**
O20K	**Slope Mountain**	**1.18**	**355**		**Pn**		**08 17 53.5**	**+3.7**
O20K					**Sn**		**08 18 08.7**	**+4.0**
O20K	**Slope Mountain**	**1.18**	**355**	P	**Pn**		**08 17 53.5**	**+3.7**
	baz=179,SNR=1000							
BRSE	**Bradley Lake S**	**1.19**	**45**		**Pn**		**08 17 53.3**	**+3.3**
BRSE					**Sn**		**08 18 08.1**	**+3.1**
BRSE	**Bradley Lake S**	**1.19**	**45**	P	**Pn**		**08 17 53.3**	**+3.3**
	baz=225,SNR=939							
BRSE				S	**Sn**		**08 18 08.0**	**+3.1**
	baz=225							
RED	**Redoubt Volcan**	**1.52**	**353**		**Pn**		**08 17 57.6**	**+3.0**
RED					**Sn**		**08 18 16.4**	**+3.3**
P18K	**Big Mountain,**	**1.53**	**289**		**Pn**		**08 17 56.7**	**+2.1**
P18K	**Big Mountain,**	**1.53**	**289**	P	**Pn**		**08 17 56.7**	**+2.1**
	baz=107							
P18K				S	**Sn**		**08 18 14.4**	**+1.1**
	baz=107							
RSO	**Redoubt South**	**1.56**	**354**		**Pn**		**08 17 57.8**	**+2.5**
RDWB	**Redoubt West**	**1.59**	**352**		**Pn**		**08 17 58.7**	**+3.0**
RDWB					**Sn**		**08 18 18.1**	**+3.0**
O19K	**Port Alsworth**	**1.61**	**324**		**Pn**		**08 17 58.2**	**+2.5**
O19K	**Port Alsworth**	**1.61**	**324**		**Sn**		**08 18 18.0**	**+2.8**
O19K	**Port Alsworth**	**1.61**	**324**	P	**Pn**		**08 17 58.6**	**+2.9**
	baz=141,SNR=1000							
O19K				S	**Sn**		**08 18 17.9**	**+2.7**
	baz=141							
RDJH	**Redoubt Jeurge**	**1.69**	**353**		**Pn**		**08 18 00.3**	**+3.3**
RDJH					**Sn**		**08 18 20.8**	**+3.4**
O18K	**Koktuh Hills**	**1.71**	**305**		**Pn**		**08 17 59.5**	**+2.4**
O18K					**Sn**		**08 18 19.7**	**+1.9**
O18K	**Koktuh Hills**	**1.71**	**305**	IAML			08 18 21.1	
	comp=N,10μm,0.9s							
O18K	**Koktuh Hills**	**1.71**	**305**	P	**Pn**		**08 17 59.6**	**+2.4**
	baz=122							
O18K				S	**Sn**		**08 18 20.2**	**+2.4**
	baz=122							
OHAK	**Old Harbor**	**1.76**	**196**	Pn	**Pn**		**08 17 59.7**	**+2.0**
OHAK	**Old Harbor**	**1.76**	**196**	P	**Pn**		**08 18 00.1**	**+2.3**
	baz=16,SNR=588							
SEW	**Seward**	**1.92**	**50**	Pn	**Pn**		**08 18 02.0**	**+2.1**
SEW	**Seward**	**1.92**	**50**		**Sn**		**08 18 23.7**	**+0.8**
SEW	**Seward**	**1.92**	**50**	Pn	**Pn**		**08 17 59.3**	**-0.6**
SEW	**Seward**	**1.92**	**50**	P	**Pn**		**08 18 02.4**	**+2.5**
	baz=232,SNR=176							
SEW				S	**Sn**		**08 18 23.8**	**+0.9**
	baz=232							
SLKM	**Skilak Lake**	**1.94**	**34**		**Pn**		**08 18 03.1**	**+2.8**
SLKM					**Sn**		**08 18 25.4**	**+1.9**
CAPN	**Captain Cook N**	**1.96**	**18**		**Pn**		**08 18 05.1**	**+4.6**
CAPN				IAML			08 18 48.9	
	comp=N,23μm,0.7s							
CAPN	**Captain Cook N**	**1.96**	**18**	P	Pn		08 18 05.5	+4.9
	baz=198,SNR=60							
O22K	**Cooper Landing**	**2.08**	**40**		**Pn**		**08 18 04.2**	**+2.1**
O22K	**Cooper Landing**	**2.08**	**40**	P	**Pn**		**08 18 05.0**	**+2.8**
	baz=221,SNR=428							
N19K	**Bonanza Creek**	**2.17**	**332**		**Pn**		**08 18 06.3**	**+2.8**
N19K	**Bonanza Creek**	**2.17**	**332**	P	**Pn**		**08 18 06.5**	**+3.0**
	baz=150,SNR=251							
SPCR	**Spurr Chakacha**	**2.29**	**2**		**Pn**		**08 18 08.7**	**+3.6**
SPCR					**Sn**		**08 18 35.8**	**+3.6**
SPCR	**Spurr Chakacha**	**2.29**	**2**	P	**Pn**		**08 18 08.9**	**+3.7**
	baz=182,SNR=1000							
CKN	**Chakachatna No**	**2.32**	**3**		**Pn**		**08 18 09.4**	**+3.9**
SPBG	**Spurr Blockage**	**2.35**	**0**		**Pn**		**08 18 09.7**	**+3.7**
SPWE	**Spurr West**	**2.37**	**358**		**Pn**		**08 18 10.0**	**+3.8**
SPCG	**Spurr Capps Gl**	**2.39**	**5**		**Pn**		**08 18 10.3**	**+3.8**
SPCG					**Sn**		**08 18 38.9**	**+4.3**
FIS	**Fire Island**	**2.49**	**25**		**Pn**		**08 18 11.7**	**+3.9**
FIS				IAML			08 18 50.1	
	comp=N,10μm,0.6s							
FIS				IAML			08 19 04.7	
	comp=E,11μm,0.7s							
N18K	**Kilae Creek**	**2.49**	**317**	Pn	**Pn**		**08 18 09.3**	**+1.5**
N18K				IAML			08 18 47.3	
	comp=E,5μm,0.6s							
N18K				IAML			08 18 48.0	
	comp=N,5μm,0.7s							
N18K	**Kilae Creek**	**2.49**	**317**	P	**Pn**		**08 18 10.4**	**+2.6**
	baz=133,SNR=335							
SII	**Sitkinak Islan**	**2.55**	**203**		**Pn**		**08 18 10.3**	**+1.7**
SII				IAML			08 18 57.8	
	comp=N,6μm,0.8s							
SII				IAML			08 19 00.8	
	comp=E,7μm,0.7s							
SII	**Sitkinak Islan**	**2.55**	**203**	P	**Pn**		**08 18 10.6**	**+2.1**
	baz=22,SNR=170							
SII	**Sitkinak Islan**	**2.55**	**203**	P	**Pn**		**08 18 10.4**	**+1.8**
RC01	**Rabbit Creek A**	**2.56**	**30**		**Pn**		**08 18 11.3**	**+2.6**
RC01				IAML			08 18 44.5	
	comp=E,6μm,0.3s							
RC01	**Rabbit Creek A**	**2.56**	**30**		**Sn**		**08 18 41.1**	**+2.4**
RC01	**Rabbit Creek A**	**2.56**	**30**	P	**Pn**		**08 18 11.7**	**+2.9**
	baz=212,SNR=978							
STLK	**Strandline Lak**	**2.61**	**6**		**Pn**		**08 18 13.3**	**+3.9**
SVW2	**Sparrevohn**	**2.71**	**325**		**Pn**		**08 18 12.8**	**+2.0**
PWL	**Port Wells**	**2.83**	**45**		**Pn**		**08 18 14.6**	**+2.1**
PWL	**Port Wells**	**

KNK S Sn 08 18 54.4 +0.2
baz=219
GLI Glacier Island 3.32 51 Pn 08 18 20.6 +1.3
GLI IAML 08 18 57.8
comp=N,6µm,0.8s
GLI Glacier Island 3.32 51 P **Pn 08 18 20.8 +1.6**
baz=235,SNR=38
GLI S Sn 08 18 56.3 -1.1
baz=235
GHO Glory Hole Cre 3.35 30 Pn 08 18 21.7 +2.0
GHO IAML 08 19 00.8
comp=N,4µm,0.4s
GHO IAML 08 19 07.0
comp=E,3µm,0.5s
L19K White Mountain 3.49 341 Pn 08 18 24.6 +3.1
L19K IAML 08 19 05.9
comp=N,3µm,0.7s
L19K IAML 08 19 33.1
comp=E,2µm,1.2s
L19K White Mountain 3.49 341 P **Pn 08 18 24.8 +3.3**
baz=158,SNR=920
FID Port Fidalgo 3.52 56 Pn 08 18 22.9 +1.0
FID Port Fidalgo 3.52 56 Sn 08 18 59.8 -2.4
SML Sawmill 3.54 33 Pn 08 18 24.3 +2.1
SML IAML 08 19 12.1
comp=E,2µm,1.0s
SML IAML 08 19 22.9
comp=N,3µm,0.9s
SML Sawmill 3.54 33 P **Pn 08 18 24.8 +2.6**
baz=216,SNR=323
CHIR Chirikof Islan 3.56 211 Pn **Pn 08 18 23.8 +1.4**
CHIR Chirikof Islan 3.56 211 P **Pn 08 18 23.9 +1.4**
baz=29,SNR=28
ANNE Aniakchak Nort 3.62 239 Pn 08 18 25.5 +2.2
JPK Jack Peak 3.62 51 Pn 08 18 25.2 +1.9
L20K Farewell, AK 3.65 349 Pn 08 18 27.2 +3.6
L20K Farewell, AK 3.65 349 P **Pn 08 18 27.2 +3.6**
baz=167,SNR=108
CUT Chulitna 3.66 16 Pn 08 18 26.4 +2.7
CUT IAML 08 19 16.1
comp=E,5µm,0.7s
CUT IAML 08 19 18.5
comp=N,5µm,0.6s
CUT Chulitna 3.66 16 P **Pn 08 18 26.5 +2.7**
baz=197,SNR=199
M23K Glacier View 3.71 37 P **Pn 08 18 27.0 +2.5**
baz=220,SNR=300
VMT TAPS Tl Valdez 3.73 52 Pn 08 18 27.1 +2.3
EYAK Cordova Ski Ar 3.75 61 Pn 08 18 26.9 +1.9
EYAK Cordova Ski Ar 3.75 61 P **Pn 08 18 27.0 +1.9**
baz=246,SNR=27
ANPB Aniakchak Plen 3.78 238 Pn 08 18 28.6 +3.1
SCM Sheep Creek Mo 3.86 39 P **Pn 08 18 28.8 +2.1**
SCM Sheep Creek Mo 3.86 39 Pn 08 18 28.8 +2.1
SCM IAML 08 19 16.0
comp=N,4µm,0.6s
SCM Sheep Creek Mo 3.86 39 P **Pn 08 18 29.4 +2.7**
baz=222,SNR=552
PPLA Purkeypile 4.00 1 Pn **Pn 08 18 31.9 +3.4**
PPLA Purkeypile 4.00 1 P **Pn 08 18 32.0 +3.4**
baz=181,SNR=244
DIV Divide 4.00 53 Pn 08 18 30.5 +1.9
KLU Klutina 4.14 49 Pn 08 18 32.9 +2.4
KLU IAML 08 19 23.1
comp=E,3µm,0.4s
KLU Klutina 4.14 49 P **Pn 08 18 33.1 +2.6**
baz=234,SNR=657
GOAT Goat Mountain 4.23 63 Pn 08 18 34.2 +2.5
WAT6 Susitna Watana 4.33 30 Pn 08 18 35.8 +2.6
WAT6 Susitna Watana 4.33 30 P **Pn 08 18 35.8 +2.6**
baz=213,SNR=508
WAT1 Susitna Watana 4.36 24 Pn 08 18 36.0 +2.6
WAT1 Susitna Watana 4.36 24 P **Pn 08 18 36.2 +2.8**
baz=207
TT01 Tatalina 4.37 338 Pn 08 18 36.4 +2.7
HMT Hamilton 4.38 68 Pn 08 18 35.9 +2.2
TTA Tatalina 4.39 338 P **Pn 08 18 36.6 +2.6**
TTA Tatalina 4.39 338 Pn **Pn 08 18 36.5 +2.6**
TTA Tatalina 4.39 338 P **Pn 08 18 36.6 +2.6**
baz=154,SNR=182
BMRM Bremner River 4.43 59 Pn **Pn 08 18 36.0 +1.5**
BMRM IAML 08 19 27.5
comp=E,2µm,0.4s
BMRM IAML 08 19 30.8
comp=N,2µm,0.5s
BMRM Bremner River 4.43 59 P **Pn 08 18 36.5 +2.0**
baz=245,SNR=47
M24K Tolsona, Glenn 4.44 41 Pn 08 18 37.4 +2.8
M24K Tolsona, Glenn 4.44 41 P **Pn 08 18 37.5 +2.8**
baz=226
PS12 TAPS Pump St12 4.44 52 Pn 08 18 36.9 +2.3
NICHA Nichawak Mount 4.49 69 Pn 08 18 37.9 +2.6
CAST Castle Rocks 4.52 2 Pn 08 18 38.3 +2.6
CAST Castle Rocks 4.52 2 P **Pn 08 18 38.2 +2.6**
baz=182,SNR=360
K20K Telida 4.53 350 Pn 08 18 38.7 +2.9
K20K Telida 4.53 350 P **Pn 08 18 39.1 +3.4**
baz=169,SNR=430
VNHG Veniaminof 1 4.53 236 Pn 08 18 39.0 +3.1
SUCK Suckling Hills 4.55 72 Pn 08 18 38.3 +2.3
SUCK IAML 08 19 49.8
comp=N,1µm,0.6s
VNFG Fog Glacier, M 4.66 239 Pn 08 18 41.0 +3.4
BERG Berg Lake 4.66 68 Pn 08 18 39.6 +2.0
TRF Thorofare Moun 4.67 12 Pn 08 18 40.8 +3.0
TRF IAML 08 19 36.8
comp=N,2µm,0.8s
TRF IAML 08 19 37.8
comp=E,2µm,0.6s
TRF Thorofare Moun 4.67 12 P **Pn 08 18 40.3 +2.5**
baz=193,SNR=530
PS11 TAPS Pump St11 4.67 44 Pn 08 18 40.6 +2.9
KTH Kantishna Hill 4.71 8 Pn 08 18 41.5 +3.3
KTH IAML 08 19 42.3
comp=N,1µm,0.6s
KTH IAML 08 20 01.7
comp=E,1µm,0.9s
N25K Chitina, Valde 4.74 52 Pn 08 18 40.7 +2.1
N25K IAML 08 19 35.9
comp=N,2µm,0.7s
N25K IAML 08 19 36.4
comp=E,2µm,0.7s
N25K Chitina, Valde 4.74 52 P **Pn 08 18 40.9 +2.3**
baz=238,SNR=83
BGLC Bering Glacier 4.80 72 P **Pn 08 18 42.5 +3.0**
baz=259
GRIN Grindle Hills 4.82 70 Pn 08 18 42.5 +2.7
RND Reindeer 4.82 19 P **Pn 08 18 42.1 +2.2**
RND Reindeer 4.82 19 Pn 08 18 42.1 +2.2
RND IAML 08 19 38.0
comp=N,827nm,0.5s
RND IAML 08 19 40.0
comp=E,1µm,0.4s
DHY Denali Highway 4.84 28 Pn 08 18 42.5 +2.4
DHY IAML 08 19 39.7
comp=E,1µm,0.4s
DHY IAML 08 19 40.7
comp=N,1µm,0.5s
DHY Denali Highway 4.84 28 P **Pn 08 18 42.8 +2.7**
baz=212,SNR=642
KHIT Khitrov Hills 4.89 68 Pn 08 18 43.0 +2.2
CHUM Lake Minchumin 4.99 0 Pn 08 18 44.6 +2.6
CHUM Lake Minchumin 4.99 0 P **Pn 08 18 44.5 +2.5**
baz=180,SNR=290
GLB Gilahina Butte 4.99 56 Pn 08 18 43.5 +1.5
GLB IAML 08 19 39.0
comp=N,1µm,0.6s
GLB IAML 08 19 40.0
comp=E,1µm,0.4s
HARP HAARP 4.99 43 Pn 08 18 45.2 +3.1
HARP HAARP 4.99 43 P **Pn 08 18 45.2 +3.1**
baz=228,SNR=144
SNH Sunshine Point 5.03 71 Pn 08 18 44.9 +2.2
VRDI Verde Repeater 5.05 59 Pn 08 18 45.1 +2.0
VRDI IAML 08 19 40.9
comp=N,1µm,0.5s
VRDI IAML 08 19 41.6
comp=E,871nm,0.5s
WAX Waxell Ridge 5.08 68 Pn 08 18 45.1 +1.7
MCK McKinley 5.12 18 P **Pn 08 18 46.8 +3.0**
MCK McKinley 5.12 18 Pn 08 18 46.8 +3.0
MCK IAML 08 19 45.7
comp=E,1µm,0.6s
MCK IAML 08 19 46.3
comp=N,1µm,0.5s
MCK McKinley 5.12 18 P **Pn 08 18 46.6 +2.8**
baz=200,SNR=987
TGL Tana Glacier 5.17 65 Pn 08 18 46.9 +2.2
TGL IAML 08 19 44.3
comp=E,2µm,0.5s
TGL IAML 08 19 46.5
comp=N,1µm,0.3s
CYK Cape Yakataga 5.19 73 Pn 08 18 47.5 +2.7
BPAW Bear Paw Mtn. 5.25 7 Pn 08 18 48.2 +2.6
BPAW Bear Paw Mtn. 5.25 7 P **Pn 08 18 47.6 +2.0**
baz=188,SNR=268
PAX Paxson 5.29 37 P **Pn 08 18 48.7 +2.4**
PAX Paxson 5.29 37 Pn 08 18 48.7 +2.4
PAX Paxson 5.29 37 P **Pn 08 18 48.6 +2.4**
baz=222,SNR=526
MCARA McCarthy VSAT 5.30 58 Pn 08 18 48.5 +2.1
MCARA McCarthy VSAT 5.30 58 P **Pn 08 18 48.5 +2.1**
baz=246,SNR=38
J20K Nowinta River 5.34 352 Pn 08 18 49.5 +2.6
J20K Nowinta River 5.34 352 P **Pn 08 18 50.2 +3.3**
baz=170,SNR=358
ISLE Juniper Island 5.37 67 Pn 08 18 49.8 +2.4
KIAG Kiagna River 5.44 64 Pn 08 18 50.6 +2.1
BWN Browne 5.46 14 Pn 08 18 51.2 +2.8
BAGL Bagley Icefiel 5.46 69 Pn 08 18 51.3 +2.8
PTPK Patty Peak 5.48 61 Pn 08 18 51.5 +2.5
BALM Baldy 5.48 63 Pn 08 18 50.9 +1.9
PS10 TAPS Pump St10 5.55 33 Pn 08 18 52.5 +2.8
SDPT Sand Point 5.66 234 Pn **Pn 08 18 52.9 +1.6**
SDPT Sand Point 5.66 234 P **Pn 08 18 53.3 +2.0**
baz=48,SNR=22
GRNC Granite Creek 5.68 67 Pn 08 18 54.2 +2.5
M26K Nabesna, AK 5.80 49 Pn 08 18 55.3 +2.1
M26K Nabesna, AK 5.80 49 P **Pn 08 18 55.7 +2.5**
baz=237,SNR=222
BARN Barnard Glacie 5.81 64 Pn 08 18 55.7 +2.2
K24K Donnelly Dome 5.85 30 P **Pn 08 18 57.2 +3.4**
baz=216,SNR=625
MENT Mentasta 5.85 43 Pn 08 18 57.0 +3.1
TABL Table Mountain 5.91 70 Pn 08 18 57.8 +2.9
NEA2 Nenana 5.91 14 Pn 08 18 56.3 +1.6
NEA2 Nenana 5.91 14 P **Pn 08 18 56.3 +1.6**
baz=197,SNR=304
CTG Chitna Glacier 5.93 65 P **Pn 08 18 57.8 +2.7**
baz=254,SNR=34
CTGM Chitina Glacie 5.94 65 Pn 08 18 58.4 +3.2
WRH Wood River Hil 5.94 18 Pn 08 18 56.8 +1.7
L26K Log Cabin Wild 6.04 43 Pn 08 18 59.1 +2.7
L26K Log Cabin Wild 6.04 43 P **Pn 08 18 58.9 +2.4**
baz=231
SAMH Samovar Hills 6.04 73 Pn 08 18 59.9 +3.3
RIDG Independent Ri 6.05 34 Pn 08 18 58.7 +2.0
RIDG Independent Ri 6.05 34 P **Pn 08 18 59.0 +2.3**
baz=220,SNR=426
LOGN Logan Glacier 6.06 67 Pn 08 18 59.2 +2.4
CCB Clear Creek Bu 6.15 19 Pn 08 18 59.5 +1.6
GCSA Galena City Sc 6.22 342 Pn 08 18 01.7 +2.8
GCSA Galena City Sc 6.22 342 P **Pn 08 19 01.7 +2.8**
baz=158,SNR=194
DOT Dot Lake 6.22 37 Pn 08 19 01.2 +2.3
M27K Edge Creek, AK 6.22 52 Pn 08 19 01.8 +2.6
M27K Edge Creek, AK 6.22 52 P **Pn 08 19 01.7 +2.6**
baz=241,SNR=71
PS08 TAPS Pump Stn8 6.24 23 Pn 08 19 01.2 +2.1
PS4A Pavlof South-4 6.26 239 Pn 08 19 02.3 +2.7
I21K Tanana 6.29 2 Pn 08 19 02.9 +3.0
I21K Tanana 6.29 2 P **Pn 08 19 02.3 +2.4**
baz=182,SNR=262
PCA Pinnacle 6.30 74 Pn 08 19 02.6 +2.5
TCOL CIGO, UAF Yank 6.35 18 Pn 08 19 02.6 +1.8
TCOL CIGO, UAF Yank 6.35 18 P **Pn 08 19 02.5 +1.8**
baz=201,SNR=509
COLA College 6.35 18 P **Pn 08 19 02.4 +1.7**
COLA College 6.35 18 Pn 08 19 02.4 +1.7
COLA College 6.35 18 P **Pn 08 19 02.6 +1.8**
baz=201
MDM Murphy Dome 6.38 16 Pn 08 19 02.8 +1.7
I23K Minto, Yukon-K 6.42 12 Pn 08 19 03.5 +1.9
I23K Minto, Yukon-K 6.42 12 P **Pn 08 19 03.6 +2.0**
baz=194,SNR=694
YUK2 White River 6.42 58 Pn 08 19 04.7 +2.9
IL31 6.43 22 Pn 08 19 03.6 +1.9
ILAR Eielson Array 6.43 22 P **Pn 08 19 03.5 +1.7**
comp=N,67nm,0.3s,baz=210,slow=14,SNR=1073
ILAR S Sn 08 20 10.2 -3.6
comp=N,53nm,0.3s,baz=206,slow=22,SNR=2.7
SCRK Sand Creek 6.49 35 Pn 08 19 04.8 +2.2
SCRK Sand Creek 6.49 35 P **Pn 08 19 04.5 +1.8**
baz=222,SNR=125
YUK3 Moose Creek 6.59 59 Pn 08 19 07.0 +2.8
YUK3 Moose Creek 6.59 59 P **Pn 08 19 07.0 +2.8**
baz=249,SNR=124
BCPM Bancas Point 6.60 75 Pn 08 19 06.1 +1.9
L27K Beaver Creek, 6.62 47 Pn 08 19 06.7 +2.4
L27K Beaver Creek, 6.62 47 P **Pn 08 19 07.0 +2.6**
baz=236,SNR=145
J25K Salcha River, 6.62 27 Pn 08 19 06.6 +2.2
J25K Salcha River, 6.62 27 P **Pn 08 19 06.6 +2.2**
baz=213,SNR=842
BC03 6.63 47 Pn 08 19 07.1 +2.6
BCAR Beaver Creek A 6.63 47 Pn 08 19 06.5 +1.9
POKR Poker Plat Res 6.65 18 P **Pn 08 19 06.6 +1.8**
baz=202,SNR=159
BVCY Beaver Creek 6.67 53 Pn 08 19 07.8 +2.6
BVCY Beaver Creek 6.67 53 P **Pn 08 19 07.8 +2.6**
baz=243,SNR=51
PS07 TAPS Pump Stn7 6.70 15 Pn 08 19 08.0 +2.5
PNL Peninsula 6.71 78 Pn 08 19 07.8 +2.1
PNL Peninsula 6.71 78 P **Pn 08 19 07.8 +2.1**
baz=269,SNR=118
H21K Melozitna Rive 6.77 359 Pn 08 19 08.3 +1.8
H21K Melozitna Rive 6.77 359 P **Pn 08 19 08.2 +1.7**
baz=178,SNR=201
J26L Joseph Creek 7.00 33 P **Pn 08 19 11.4 +1.7**
baz=220,SNR=391
H23K Yukon River 7.06 10 P **Pn 08 19 12.2 +1.8**
baz=192,SNR=545
PS06 TAPS Pump Stn6 7.08 9 Pn 08 19 12.7 +2.0
IM03 7.12 356 Pn 08 19 13.3 +2.1
K27K Chicken 7.12 40 Pn 08 19 13.4 +2.1
K27K Chicken 7.12 40 P **Pn 08 19 12.9 +1.7**
baz=228
H24K Noodor Dome 7.26 15 P **Pn 08 19 14.7 +1.5**
baz=199,SNR=92
FALS False Pass 7.27 241 Pn 08 19 16.2 +2.9
FALS False Pass 7.27 241 P **Pn 08 19 16.3 +3.0**
baz=52
FALS False Pass 7.27 241 P **Pn 08 19 16.4 +3.1**
YUK4 Talbot Arm 7.29 65 P **Pn 08 19 17.4 +3.5**
baz=256,SNR=59
YUK6 Outpost Mounta 7.35 68 Pn 08 19 17.7 +3.1
YUK6 Outpost Mounta 7.35 68 P **Pn 08 19 17.5 +2.9**
baz=260,SNR=28
YUK7 Dusty Glacier 7.39 71 Pn 08 19 18.0 +2.8
ISLZ Isanotski Laza 7.49 241 Pn 08 19 19.3 +3.0
SSLS Shishaldin Sou 7.62 241 Pn 08 19 21.4 +3.1
HYT Haines Junctio 7.74 69 Pn 08 19 22.6 +2.6
HYT Haines Junctio 7.74 69 P **Pn 08 19 22.4 +2.5**
baz=262,SNR=51
EGAK Eagle 7.92 37 P **Pn 08 19 24.5 +2.3**
baz=227,SNR=66
PS05 TAPS Pump Stn5 7.97 5 Pn 08 19 25.3 +2.5
WESE West Dahl East 8.04 242 Pn 08 19 26.7 +2.8
DAWY Dawson 8.08 45 P **Pn 08 19 26.8 +2.3**
baz=236,SNR=82
ANM Nome 8.35 318 Pn 08 19 30.9 +2.8
ANM Nome 8.35 318 Pn 08 19 30.9 +2.8
ANM Nome 8.35 318 P **Pn 08 19 31.3 +3.2**
baz=127,SNR=49
COLD Coldfoot 8.40 6 Pn 08 19 30.9 +2.1
COLD Coldfoot 8.40 6 P **Pn 08 19 31.2 +2.4**
baz=188,SNR=187
M30M Minto, Yukon 8.48 58 P **Pn 08 19 31.8 +1.9**
baz=251,SNR=54
N31M Braeburn, Yuko 8.67 66 P **Pn 08 19 34.9 +2.4**
baz=260,SNR=29
J29M Klondike Camp 8.72 45 P **Pn 08 19 36.0 +2.7**
baz=237,SNR=108
AKSA Akutan Strait 8.76 243 Pn 08 19 36.2 +2.5
SKAG Skagway 8.79 79 Pn 08 19 35.8 +1.7
SKAG Skagway 8.79 79 P **Pn 08 19 36.5 +2.5**
baz=274,SNR=51
AKGG Akutan Green G 8.86 244 Pn 08 19 37.7 +2.6
AKBBA Akutan Broad B 8.89 243 Pn 08 19 37.5 +1.9
WHY Whitehorse 9.01 71 P **Pn 08 19 39.3 +2.1**
baz=266,SNR=69
I29M Ogilvie Camp, 9.22 40 Pn 08 19 41.8 +1.8
I29M Ogilvie Camp, 9.22 40 P **Pn 08 19 41.6 +1.6**
baz=232,SNR=62
BM03 Burnt Mountain 9.23 19 Pn 08 19 40.8 +0.6
BMAR Burnt Mountain 9.24 19 Pn 08 19 41.0 +0.7
SIT Sitka 9.26 94 P **Pn 08 19 40.8 +0.2**
baz=289,SNR=19
UNV Unalaska Valle 9.31 243 P **Pn 08 19 42.7 +1.4**
baz=51
JIS Juneau Island 9.43 86 Pn 08 19 44.8 +1.9
M31M Drury Creek, Y 9.46 62 Pn 08 19 45.7 +2.5
M31M Drury Creek, Y 9.46 62 P **Pn 08 19 45.6 +2.3**
baz=258,SNR=23
SPIA Saint Paul Isl 9.61 267 P **Pn 08 19 49.0 +3.6**
baz=72
TNA Tin City 9.81 319 P **Pn 08 19 51.3 +3.2**
baz=125
TOLK Toolik Lake Re 9.84 6 Pn 08 19 50.6 +2.0
TOLK Toolik Lake Re 9.84 6 P **Pn 08 19 51.3 +2.8**
baz=188,SNR=76
FARO Faro, Yukon 9.94 62 P **Pn 08 19 51.9 +2.0**
baz=259,SNR=29
RDOG Red Dog Mine 10.28 337 P **Pn 08 19 57.1 +2.6**
baz=148,SNR=44
EPYK Eagle Plains 10.36 37 P **Pn 08 19 57.0 +1.4**
baz=231
GAMB Gambell 10.44 306 P **Pn 08 19 59.2 +2.5**
baz=109,SNR=7.1
NIKH Nikolski High 10.96 244 P **Pn 08 20 04.3 +0.5**
baz=51
MMPY Sheldon Lake, 10.97 61 P **Pn 08 20 06.2 +2.2**
baz=260,SNR=13
CRAG Craig 11.01 100 P **Pn 08 20 03.9 -0.6**
baz=296,SNR=9.4
WRAK Wrangell Islan 11.03 94 P **Pn 08 20 05.8 +1.2**
baz=291,SNR=23
DLBC Dease Lake 11.65 83 P **Pn 08 20 16.0 +2.7**
comp=N,28nm,0.3s,baz=272,slow=8.6,SNR=162
DLBC S Sn 08 22 21.3 -0.5
comp=N,7.0nm,0.3s,baz=278,slow=24,SNR=3.5
DLBC LR LR 08 24 41.3
comp=N,242nm,20.6s,baz=298,slow=36
TGTN Hyland Airport 12.26 67 P **Pn 08 20 23.9 +2.4**
baz=268,SNR=14
INK Inuvik 12.55 34 P **Pn 08 20 26.4 +0.9**
comp=N,3.2nm,0.3s,baz=234,slow=15,SNR=158
INK LR LR 08 25 48.0
comp=N,260nm,18.7s,baz=216,slow=39
INK ScP **ScP 08 29 29.6 -1.0**
comp=N,0.1nm,0.3s,baz=360,slow=1.6,SNR=6.4
INK Inuvik 12.55 34 Pn 08 20 26.8 +1.3
INK Inuvik 12.55 34 P **Pn 08 20 26.7 +1.3**
baz=230,SNR=57
A21K Barrow 12.58 354 Pn **Pn 08 20 25.4 -0.4**
GRNB Grenville Isla 13.40 103 Pn 08 20 36.9 -0.3
ATKA Atka Island 14.00 251 P **P 08 20 49.1 -3.2**
BBB Bella Bella 15.25 106 P **Pn 08 21 03.7 +1.8**
comp=N,2.3nm,0.3s,baz=300,slow=9.2,SNR=38
BBB S Sn 08 23 44.7 -4.8
comp=N,0.5nm,0.3s,baz=270,slow=4.0,SNR=1.1
BBB LR LR 08 26 11.1
comp=N,229nm,19.3s,baz=315,slow=34
BBB Bella Bella 15.25 106 IAmb IAmb 08 21 50.1
comp=Z,103nm,1.4s
ADK Adak 15.42 253 P **Pn 08 21 05.9 +1.8**
ADK pmax pmax
comp=Z,99nm,0.4s
ADK Adak 15.42 253 Pn 08 21 05.9 +1.8
ADK IAmb IAmb 08 21 08.6
comp=Z,99nm,0.4s
ADK Adak 15.42 253 P **Pn 08 21 06.1 +2.0**
C36M Paulatuk 16.00 38 Pn 08 21 10.5 -0.9
C36M IAmb IAmb 08 21 11.1
comp=Z,85nm,0.7s
C36M Paulatuk 16.00 38 P **Pn 08 21 10.1 -1.3**
baz=243,SNR=38
A36M Sachs Harbour 17.05 29 P **Pn 08 21 24.8 +0.2**
A36M IAmb IAmb 08 21 26.0
comp=Z,157nm,0.8s
A36M Sachs Harbour 17.05 29 IAmb IAmb 08 21 16.7
comp=Z,9.9nm,1.1s
A36M Sachs Harbour 17.05 29 P **Pn 08 21 24.6 0.0**
baz=234,SNR=45
YKA Yellowknife Ar 18.65 63 P **Pn 08 21 45.8 +1.4**
comp=Z,4.6nm,0.3s,baz=275,slow=9.9,SNR=1074
YKA S Sn 08 25 03.6 -8.1
comp=Z,0.1nm,0.3s,baz=11,slow=25,SNR=2.9
YKA PcP **PcP 08 26 10.8 +0.5**
comp=Z,0.2nm,0.3s,baz=283,slow=1.3,SNR=4.8
YKA ScP **ScP 08 29 40.5 -1.6**
comp=Z,0.0nm,0.3s,baz=283,slow=2.0,SNR=5.9
YKA LR LR 08 29 48.7
comp=Z,397nm,19.9s,baz=282,slow=39
YKA Yellowknife Ar 18.65 63 P **Pn 08 21 45.0 +0.6**
SHEM Shemya Is, Ala 19.65 266 P **P 08 21 53.8 -0.9**
comp=Z,7.4nm,0.3s,baz=39,slow=4.5,SNR=6.5
SHEM LR LR 08 29 34.1
comp=Z,184nm,21.7s,baz=110,slow=37
SMY Shemya 19.65 266 P **P 08 21 54.2 -0.4**
SMY pmax pmax
comp=Z,167nm,1.3s
SMY Shemya 19.65 266 P **P 08 21 54.2 -0.4**
SMY IAmb IAmb 08 22 00.3
comp=Z,167nm,1.3s
BILL Bilibino 20.17 314 *d i* P **P 08 22 00.2 0.0**
BILL *e* S Sn 08 26 03.3 +15
BILL pmax pmax
comp=Z,56nm,0.9s
BILL MLR MLR
comp=Z,193nm,16.0s
B05A Bryant 20.72 108 P Pn 08 22 10.0 +1.0
baz=312
D03D Eldon 20.74 110 P Pn 08 22 10.0 +0.9
baz=314
B08A Colville Reser 22.04 104 P **P 08 22 23.6 +3.0**
EDM Edmonton 22.29 88 P **P 08 22 25.4 +2.2**
EDM pmax pmax
comp=Z,125nm,1.1s
EDM Edmonton 22.29 88 P **P 08 22 25.4 +2.2**
EDM IAmb IAmb 08 22 42.8
comp=Z,125nm,1.1s
C09A Chrisman Ranch 22.94 104 P **P 08 22 31.6 +1.5**
E07A Sunnyside 23.00 108 P **P 08 22 34.0 +3.3**
E07A IAmb IAmb 08 22 49.3
comp=Z,33nm,0.8s
H04D Lebanon 23.10 115 P **P 08 22 35.0 +3.4**
baz=319
D08A Wollman Farm, 23.12 106 P **P 08 22 34.5 +2.7**
NEW Newport 23.22 102 P **P 08 22 35.9 +3.0**
comp=Z,6.3nm,0.8s,baz=312,slow=9.5,SNR=13
NEW LR LR 08 31 13.1
comp=Z,196nm,20.0s,baz=308,slow=35
NEW Newport 23.22 102 P **P 08 22 34.8 +1.9**
NEW pmax pmax
comp=Z,76nm,1.7s
NEW Newport 23.22 102 P **P 08 22 34.8 +1.9**
NEW IAmb IAmb 08 22 58.9
comp=Z,76nm,1.6s
NEW Newport 23.22 102 P **P 08 22 35.5 +2.6**
baz=311,SNR=7.9
HAWA Hanford 23.28 108 P **P 08 22 36.3 +2.9**
I03D Drain, OR 23.44 118 P **P 08 22 38.7 +3.7**
baz=321
K02D Willamette Mer 24.08 120 P **P 08 22 44.5 +3.4**
baz=322
G08A Pilot Rock 24.34 109 P **P 08 22 45.9 +2.4**
WALA Waterton Lakes 24.36 97 P **P 08 22 45.6 +2.0**
JTMT Jette 25.00 100 P **P 08 22 51.0 +1.4**
YBH Yreka Blue Hor 25.28 120 P **P 08 22 55.2 +3.1**
comp=Z,4.1nm,1.0s,baz=323,slow=7.1,SNR=5.1
YBH LR LR 08 31 15.4
comp=Z,58nm,19.4s,baz=322,slow=32
MSO Missoula 25.79 101 P **P 08 22 58.9 +2.3**
baz=312
PLID Pearl Lake 25.95 106 P **P 08 23 00.0 +1.8**
J08A Circle Bar Ran 26.00 112 P **P 08 23 00.4 +1.8**
RES Resolute Bay 26.08 31 P **P 08 22 59.5 +0.7**
comp=Z,3.1nm,0.4s,baz=257,slow=11,SNR=36
RES Resolute Bay 26.08 31 P **P 08 22 59.3 +0.5**
RES pmax pmax
comp=Z,12nm,0.7s
RES Resolute Bay 26.08 31 P **P 08 22 59.3 +0.5**
SEY Seymchan 26.41 302 *ce* P **P 08 23 01.1 -0.9**
SEY pmax pmax

comp=Z,41nm,0.8s
O02D Mt. Diablo Mer 26.50 122 P P 08 23 05.8 +2.7
baz=325
O03E Paynes Creek 26.84 120 P P 08 23 08.5 +2.3
baz=324
HRY Holter Researc 26.94 99 P P 08 23 09.0 +2.0
EGMT Eagleton 27.16 95 P P 08 23 10.9 +2.0
baz=310
MFID Camas Ranch 27.25 108 P P 08 23 12.1 +2.3
PET Petropavlovsk 27.48 279 eP P 08 23 12.7 +1.1
PET eS S 08 27 49.1 0.0
PET pmax pmax
comp=Z,35nm,1.1s
PET MLR MLR
comp=Z,100nm,19.0s
MCMT McKenzie Canyo 27.72 103 P P 08 23 16.4 +2.3
BOZ Bozeman (W) 27.80 101 P P 08 23 17.2 +2.4
baz=314
BCYI Bear Canyon 27.80 104 P P 08 23 16.6 +1.7
HLID Hailey 27.84 107 P P 08 23 16.7 +1.5
HLID Hailey 27.84 107 P P 08 23 17.0 +1.8
baz=317,SNR=6.6
PEA0B Petropavlovsk- 27.92 280 deP P 08 23 15.5 -0.1
PETK Petropavlovsk- 27.92 280 P P 08 23 14.9 -0.7
comp=Z,8.3nm,0.6s,baz=74,slow=12,SNR=16
PETK PcP PcP 08 26 30.6 +0.6
comp=Z,1.9nm,0.7s,baz=68,slow=5.5,SNR=2.8
PETK LR LR 08 33 41.8
comp=Z,77nm,21.3s,baz=76,slow=35
MA2 Magadan 28.31 296 c iP P 08 23 19.1 +0.1
MA2 pmax pmax
comp=Z,120nm,0.9s
MA2 Magadan 28.31 296 P P 08 23 18.9 -0.1
MA2 Magadan 28.31 296 P P 08 23 19.2 +0.2
MA2 Magadan 28.31 296 P P 08 23 19.3 +0.3
MA2 pP pP 08 23 26.9 -3.4
MA2 sP sP 08 23 34.5 -0.8
YHH Holmes Hill 28.76 101 P P 08 23 25.8 +2.3
RLMT Red Lodge 29.34 99 P P 08 23 31.3 +2.7
FCC Fort Churchill 29.36 65 P P 08 23 29.3 +1.1
FCC pmax pmax
comp=Z,9.0nm,0.7s
FCC Fort Churchill 29.36 65 P P 08 23 29.3 +1.1
ELK Elko 29.55 111 P P 08 23 33.6 +3.1
comp=Z,3.4nm,0.9s,baz=318,slow=8.7,SNR=9.9
ELK pP sP 08 23 47.3 +0.5
comp=Z,5.1nm,0.9s,baz=304,slow=12,SNR=9.6
ELK LR LR 08 34 26.4
comp=Z,114nm,19.1s,baz=302,slow=34
LAO LASA Array 29.85 94 P P 08 23 35.7 +2.8
baz=311
NVAR Mina Array Bea 29.94 118 P P 08 23 36.8 +2.9
comp=Z,2.3nm,0.8s,baz=308,slow=8.7,SNR=16
NVAR pP sP 08 23 50.1 -0.1
comp=Z,6.2nm,0.8s,baz=311,slow=9.1,SNR=19
NVAR LR LR 08 34 11.3
comp=Z,60nm,18.4s,baz=340,slow=33
SKR Severo-Kuril's 30.10 277⇑ eP P 08 23 34.0 -0.9
BW06 Boulder Array 30.86 102 P P 08 23 44.6 +2.7
baz=317,SNR=8.0
PDAR Pinedale Array 30.86 102 P P 08 23 44.8 +2.8
comp=Z,4.6nm,0.6s,baz=318,slow=4.4,SNR=43
PDAR pP sP 08 23 58.8 +0.4
comp=Z,3.0nm,0.6s,baz=308,slow=5.0,SNR=9.7
PDAR LR LR 08 35 13.9
comp=Z,81nm,19.8s,baz=313,slow=34
DUG Dugway, Tooele 31.15 109 P P 08 23 47.4 +2.9
baz=320
R11A Troy Canyon, C 31.27 115 P P 08 23 48.4 +2.9
baz=323,SNR=8.0
GRAC Grapevine Rang 31.54 118 P P 08 23 51.9 +4.1
baz=325
CWC Cottonwood Cre 31.67 120 P P 08 23 52.9 +3.8
baz=326
VES Vestal, Richgr 31.73 122 P P 08 23 52.7 +3.4
baz=327
ALE Alert 32.07 14 P P 08 23 52.5 +0.5
TPNV Topopah Spring 32.09 117 P P 08 23 55.9 +3.1
baz=325,SNR=9.4
FURC Furnace Creek, 32.20 118 P P 08 23 57.5 +4.0
baz=326
PKM Mcpherson Peak 32.21 124 P P 08 23 56.8 +2.9
baz=328
MPMC Manual Prospec 32.26 120 P P 08 23 57.4 +3.1
baz=326,SNR=5.9
K22A Casper 32.48 100 P P 08 23 58.5 +2.3
baz=316
MDND Maddock 32.53 86 P P 08 23 58.7 +2.3
baz=310
TIXI Tiksi 32.54 325⇑ eP P 08 23 54.7 -1.5
TIXI pmax pmax
comp=Z,13nm,1.3s
TIXI Tiksi 32.54 325 P P 08 23 54.9 -1.2
TIXI Tiksi 32.54 325 P P 08 23 55.8 -0.3
TIXI ScP ScP 08 30 20.1 -1.6
LRMC Laurel Mtn Rad 32.65 120 P P 08 24 00.5 +2.8
baz=327
RSSD Black Hills 32.72 95 P P 08 24 00.8 +2.5
baz=314
RSSD Black Hills 32.72 95 ⇓P P 08 24 01.2 +2.9
RSSD sP sP 08 24 16.5 +1.8
SHOC Shoshone, Teco 32.94 118 P P 08 24 03.6 +3.6
baz=326
ULM Lac du Bonnet 32.95 80 P P 08 24 01.1 +1.1
comp=Z,5.3nm,0.5s,baz=313,slow=7.8,SNR=8.4
ULM Lac du Bonnet 32.95 80 P P 08 24 00.7 +0.7
ULM pmax pmax
comp=Z,18nm,1.3s
ULM Lac du Bonnet 32.95 80 P P 08 24 00.7 +0.7
SHPR Sheep Range 32.95 116 P P 08 24 00.0 -0.3
CCUT Cedar City 32.96 113 P P 08 24 00.5 0.0
MTPU Mount Pierson 33.14 111 P P 08 24 02.6 +0.5
GSC Goldstone, Bar 33.19 120 P P 08 24 05.5 +3.1
baz=327
LCMT Little Creek M 33.45 113 P P 08 24 05.0 +0.4
O20A White River Ci 33.47 104 P P 08 24 07.5 +2.6
baz=319,SNR=26
BFSC Mount Baldy Ra 33.70 122 P P 08 24 10.1 +3.3
baz=328
HEC Hector,Ludlow 33.80 119 P P 08 24 10.9 +3.3
baz=327
N23A Red Feather La 34.06 101 P P 08 24 12.4 +2.3
baz=318,SNR=7.7
GMRC Granite Mounta 34.14 119 P P 08 24 13.9 +3.3
baz=326
AGMN Agassiz Nation 34.17 83 P P 08 24 11.8 +1.1
AGMN lAmb lAmb 08 24 13.1
comp=Z,8.7nm,0.7s
AGMN Agassiz Nation 34.17 83 P P 08 24 12.0 +1.4
baz=310,SNR=9.1
SCI2 San Clemente I 34.38 124 P P 08 24 14.9 +2.2
baz=329
PV11 David Mesa, Pa 34.56 107 P P 08 24 16.4 +2.1
PV07 Paradox Valley 34.56 107 P P 08 24 16.6 +2.2
PV07 lAmb lAmb 08 24 34.7
comp=Z,52nm,1.2s
NEE2 Needles Airpor 34.63 117 P P 08 24 16.9 +2.2
baz=326
BELC Belle Mtn. Jos 34.64 120 P P 08 24 18.1 +3.1
baz=327
PV13 Radium Mtn., P 34.69 107 P P 08 24 17.7 +2.2
W13A Hualapai Mount 34.70 116 P P 08 24 18.0 +2.4
PFO Pinyon Flats O 34.76 121 LR LR 08 36 11.6
comp=Z,132nm,20.6s,baz=317,slow=32
IRM Iron Mountain 34.90 119 P P 08 24 19.7 +2.6
baz=327,SNR=5.2
ISCO Idaho Springs 35.05 102 P P 08 24 21.1 +2.5
baz=319,SNR=5.8
SUSD Miller 35.13 90 P P 08 24 20.2 +1.2
baz=314
BC3 Big Chuckawall 35.18 119 P P 08 24 22.6 +3.0
baz=327
PDMCI Parker Dam,Lak 35.24 117 P P 08 24 23.2 +3.2
baz=326
MONP2 Monument Peak 35.39 121 P P 08 24 23.9 +2.4
baz=328
WUAZ Wupatki 35.54 113 P P 08 24 25.8 +3.0
baz=324,SNR=8.9
MVCO Mesa Verde 35.59 108 P P 08 24 25.5 +2.3
baz=322
IKP In-Ko-Pah, Jac 35.73 121 P P 08 24 27.6 +3.3
baz=328
Q24A Divide 35.91 103 P P 08 24 28.6 +2.5
baz=320,SNR=8.8
GLA Glamis 35.97 119 P P 08 24 28.3 +2.0
baz=328
S22A 4UR Ranch, Cre 36.00 106 P P 08 24 28.8 +1.9
baz=321
OGNE Ogallala 36.03 97 P P 08 24 28.9 +2.1
baz=317
YAK Yakutsk 36.38 309 eP P 08 24 27.6 -1.8
YAK e*PP pP 08 24 39.0 -1.8
YAK e 08 26 52.1
YAK eS S 08 30 03.4 -3.9
YAK e*SS sS 08 30 28.1 +1.7
YAK eSS SnSn 08 32 32.0 -5.1
YAK e 08 34 39.7
YAK pmax pmax
comp=Z,112nm,0.8s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,24nm,1.1s
YAK smax smax
comp=E,49nm,1.9s
YAK smax smax
comp=N,18nm,1.4s
YAK Yakutsk 36.38 309 P P 08 24 28.7 -0.7
EYMN Ely 36.64 80 P P 08 24 31.6 -0.2
EYMN lAmb lAmb 08 24 34.3
comp=Z,20nm,0.7s
EYMN Ely 36.64 80 P P 08 24 33.3 +1.4
baz=311,SNR=7.5
W18A Petrified Fore 36.65 111 P P 08 24 35.0 +2.7
baz=324
SDCO Great Sand Dun 36.67 104 P P 08 24 34.3 +1.8
SDCO lAmb lAmb 08 24 52.1
comp=Z,32nm,1.2s
SDCO Great Sand Dun 36.67 104 P P 08 24 35.8 +3.3
baz=321,SNR=11
TYV Tymovskoe 36.81 287 eP P 08 24 34.2 +1.0
TYV eS S 08 30 17.2 +3.0
TYV pmax pmax
comp=Z,200nm,1.3s
TYV pmax pmax
comp=Z,98nm,0.7s
TYV smax smax
comp=N,200nm,3.4s
TYV smax smax
comp=E,100nm,3.4s
ECSD EROS Data Cent 36.84 89 P P 08 24 35.1 +1.5
baz=314
F36A Milaca 36.98 84 P P 08 24 36.3 +1.6
KSCO Kaye Shedlock' 37.16 100 P P 08 24 37.6 +1.1
KSCO lAmb lAmb 08 24 55.6
comp=Z,30nm,0.7s
KSCO Kaye Shedlock' 37.16 100 P P 08 24 39.3 +2.8
baz=319,SNR=5.8
E38A The Farm, Brul 37.49 82 P P 08 24 39.5 +0.5
E38A lAmb lAmb 08 24 41.2
comp=Z,15nm,0.8s
T25A Trinidad 37.69 104 P P 08 24 44.0 +2.9
baz=321,SNR=6.0
BGNE Belgrade 37.70 93 P P 08 24 43.0 +2.1
baz=317
NOR Nord 37.73 10 i P P 08 24 40.9 +0.3
NOR lAmb lAmb 08 24 49.9
comp=Z,7.9nm,1.4s
FRB Frobisher Bay 37.78 46 LR LR 08 40 43.1
comp=Z,78nm,18.8s,baz=224,slow=37
SPMN Marine on St. 37.78 84 P P 08 24 42.5 +1.0
SPMN lAmb lAmb 08 24 44.4
comp=Z,19nm,1.1s
SPMN Marine on St. 37.78 84 P P 08 24 43.2 +1.7
baz=313,SNR=6.9
214A Organ Pipe Nat 37.81 118 P P 08 24 44.1 +2.2
baz=328
I37A Lemond, Waseca 38.31 86 P P 08 24 47.4 +1.4
I37A lAmb lAmb 08 24 48.9
comp=Z,21nm,0.8s
ANMO Albuquerque 38.39 108 P P 08 24 49.4 +2.4
comp=Z,2.1nm,0.7s,baz=319,slow=8.3,SNR=9.6
ANMO pP sP 08 25 02.9 -0.6
comp=Z,3.3nm,0.9s,baz=317,slow=11,SNR=8.0
ANMO LR LR 08 39 09.9
comp=Z,68nm,21.4s,baz=330,slow=34
ANMO Albuquerque 38.39 108 P P 08 24 47.8 +0.8
ANMO pmax pmax
comp=Z,25nm,1.7s
ANMO Albuquerque 38.39 108 P P 08 24 47.8 +0.8
ANMO lAmb lAmb 08 25 06.5
comp=Z,24nm,1.6s
ANMO Albuquerque 38.39 108 P P 08 24 49.6 +2.6
baz=323
ANMO Albuquerque 38.39 108 P P 08 24 49.9 +2.9
ANMO pP pP 08 24 59.0 +0.5
ANMO sP sP 08 25 05.2 +1.7
TUC Tucson 38.45 115 P P 08 24 48.2 +0.8
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 38.45 115 P P 08 24 48.2 +0.8
TUC Tucson 38.45 115 P P 08 24 50.4 +3.0
baz=326
TUC Tucson 38.45 115 P P 08 24 50.9 +3.5
TUC sP sP 08 25 06.2 +2.3
CBKS Cedar Bluff 38.79 97 P P 08 24 52.6 +2.4
baz=319
BNM Barren Site 38.95 109 P P 08 24 53.2 +1.5
COWI Conover 39.07 80 P P 08 24 51.8 -0.6
G40A Rib Lake 39.09 82 P P 08 24 53.7 +1.1
G40A lAmb lAmb 08 24 54.9
comp=Z,12nm,0.7s
YSS Yuzh-Sakhalins 39.29 282 eP P 08 24 55.0 +0.9
YSS e 08 26 58.6
YSS pmax pmax
comp=Z,30nm,0.8s
YSS Yuzh-Sakhalins 39.29 282 P P 08 24 54.4 +0.3
N35A Tabor 39.40 92 P P 08 24 55.3 +0.2
N35A lAmb lAmb 08 25 13.4
comp=Z,26nm,1.1s
121A Cookes Peak, D 39.70 112 P P 08 25 01.4 +3.5
baz=325,SNR=5.1
I40A Norwalk 39.83 84 P P 08 24 60.0 +1.2
I40A lAmb lAmb 08 25 01.3
comp=Z,14nm,0.7s
SCIA State Center 39.90 88 P P 08 25 01.4 +2.1
baz=316
GRNR Gornyy 39.94 291⇑ iP P 08 24 59.2 -0.3
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR MLR MLR
comp=E,170nm,15.0s
GRNR MLR MLR
comp=N,110nm,16.0s
GRNR MLR MLR
comp=Z,70nm,15.0s
E43A Lone Tree Farm 39.98 78 P P 08 25 01.2 +1.3
KSU1 Kansas State U 40.19 94 P P 08 25 02.6 +0.9
KSU1 lAmb lAmb 08 25 19.6
comp=Z,23nm,0.7s
KSU1 Kansas State U 40.19 94 P P 08 25 03.3 +1.6
baz=318
N38A Joes South For 40.69 90 P P 08 25 05.9 +0.1
N38A lAmb lAmb 08 25 33.9
comp=Z,12nm,0.6s
JFWS Jewell Farm 40.72 85 P P 08 25 06.3 +0.3
JFWS pmax pmax
comp=Z,16nm,0.6s
JFWS Jewell Farm 40.72 85 P P 08 25 06.3 +0.3
JFWS lAmb lAmb 08 25 07.8
comp=Z,16nm,0.6s
JFWS Jewell Farm 40.72 85 P P 08 25 06.7 +0.7
baz=315,SNR=6.1
L40A Anamosa 40.82 87 P P 08 25 07.8 +0.9
L40A lAmb lAmb 08 25 27.6
comp=Z,17nm,0.8s
AMTX Amarillo 40.83 103 P P 08 25 09.8 +2.7
AMTX lAmb lAmb 08 25 27.2
comp=Z,54nm,1.1s
AMTX Amarillo 40.83 103 P P 08 25 09.1 +2.0
baz=322
MSTX Muleshoe 41.00 105 P P 08 25 10.8 +2.2
MSTX lAmb lAmb 08 25 28.3
comp=Z,44nm,1.1s
MSTX Muleshoe 41.00 105 P P 08 25 11.4 +2.8
baz=323
ASAJ Asahikawa 41.32 279 P P 08 25 10.0 -1.0
ASAJ LR LR 08 41 30.1
comp=Z,28nm,0.9s,baz=147,slow=1.1,SNR=12
comp=Z,42nm,21.6s,baz=4.5,slow=35
ASAJ Asahikawa 41.32 279 P P 08 25 10.0 -1.0
E46A Sault Ste Mari 41.35 77 P P 08 25 12.5 +1.3
E46A lAmb lAmb 08 25 13.7
comp=Z,24nm,0.8s
P38A Dawn 41.40 91 P P 08 25 12.7 +1.0
P38A lAmb lAmb 08 25 29.8
comp=Z,10nm,0.6s
DAG Danmarks Havn 41.47 15 i P P 08 25 11.8 0.0
DAG lAmb lAmb 08 25 12.4
comp=Z,26nm,1.1s
MNTX Cornudas Mount 41.54 110 P P 08 25 15.6 +2.6
baz=323,SNR=11
SFJD Kangerlussuaq 41.89 35 LR LR 08 45 13.2
comp=Z,45nm,18.0s,baz=291,slow=40
SFJD Kangerlussuaq 41.89 35 P P 08 25 17.0 +1.6
SFJD pP pP 08 25 23.5 -3.4
KBS Kingsbay 42.09 4 P P 08 25 18.1 +1.3
KBS pmax pmax
comp=Z,10.0nm,0.8s
KBS Kingsbay 42.09 4 P P 08 25 18.1 +1.3
KBS Kingsbay 42.09 4 eP P 08 25 17.7 +0.9
KBS Kingsbay 42.09 4 P P 08 25 18.1 +1.3
KBS pP pP 08 25 25.7 -2.8
KBS sP sP 08 25 34.4 +1.0
P40A Paris 42.24 90 P P 08 25 20.3 +1.7
GLMI Grayling 42.26 78 P P 08 25 20.0 +1.3
baz=314
ZEA Zeya 42.32 300 eP P 08 25 18.3 -0.7
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=Z,100nm,16.0s
WMOK Wichita Mounta 42.41 101 P P 08 25 21.9 +1.9
baz=323,SNR=5.6
L44A Lake County Fo 42.45 84 P P 08 25 21.3 +1.1
baz=316
ERM Erimo 42.53 276 ⇓P P 08 25 21.3 +0.5
HDIL Hopedale 42.91 87 P P 08 25 24.8 +0.8
baz=317
SPA0 Spitsbergen Ar 42.98 3 eP P 08 25 23.9 -0.2
SPITS Spitsbergen Ar 42.98 3 P P 08 25 23.4 -0.8
comp=Z,5.3nm,0.3s,baz=29,slow=3.8,SNR=102
SPITS pP sP 08 25 38.8 -1.9
comp=Z,4.2nm,0.5s,baz=4.2,slow=4.6,SNR=3.7
SPITS Spitsbergen Ar 42.98 3 P P 08 25 23.9 -0.2
SPITS pmax pmax
comp=Z,15nm,0.7s
SPB2 Spitsbergen Ar 42.99 3 P P 08 25 24.0 -0.1
SPB2 lAmb lAmb 08 25 24.7
comp=Z,19nm,0.6s
TUL1 Leonard 43.04 97 P P 08 25 26.3 +1.3
baz=321
R40A Maddies Statio 43.05 91 P P 08 25 25.6 +0.5
R40A lAmb lAmb 08 25 42.6
comp=Z,11nm,0.6s
KLR Kul'dur 43.22 292 ceP P 08 25 25.4 -0.9
KLR pmax pmax
comp=Z,34nm,0.8s
DBG Daneborg 43.30 17 i P P 08 25 26.9 +0.2
DBG lAmb lAmb 08 25 28.3
comp=Z,12nm,0.5s
ICESG Greenland Ices 43.46 29 i P P 08 25 29.5 +1.0
ICESG lAmb lAmb 08 25 31.3
comp=Z,12nm,0.7s
DY2G Dye2 43.53 34 i P P 08 25 29.8 +0.8
DY2G lAmb lAmb 08 25 31.0
comp=Z,9.2nm,0.7s
VLDQ Val d'Or 43.55 70 P P 08 25 28.6 -0.4
ABTX Abilene, Hawle 43.65 103 P P 08 25 31.4 +1.3
ABTX lAmb lAmb 08 25 49.3
comp=Z,23nm,0.8s
ABTX Abilene, Hawle 43.65 103 P P 08 25 31.3 +1.3
baz=323,SNR=5.1
CCM Cathedral Cave 43.76 91 P P 08 25 31.6 +0.8
baz=319
CCM Cathedral Cave 43.76 91 P P 08 25 31.4 +0.6
CCM pP pP 08 25 40.2 -2.3
CCM sP sP 08 25 46.7 -0.7
SCHQ Schefferville 43.91 56 P P 08 25 32.8 +0.9
comp=Z,9.5nm,0.6s,baz=326,slow=7.8,SNR=29
SCHQ LR LR 08 42 50.5
comp=Z,92nm,19.1s,baz=93,slow=34
SCHQ Schefferville 43.91 56 P P 08 25 32.8 +0.9
SCHQ lAmb lAmb 08 27 08.8
comp=Z,44nm,1.6s
HSPB Hornsund (broa 44.12 4 eP P 08 25 33.2 -0.1
SFIN Lafayette 44.18 85 P P 08 25 34.8 +0.7
baz=318
U40A Yellville 44.21 94 P P 08 25 35.3 +0.8
baz=320
Z35A Perchaven, San 44.30 100 P P 08 25 36.7 +1.5
Z35A lAmb lAmb 08 25 38.2
comp=Z,26nm,0.8s
TXAR Lajitas Array 44.32 110 P P 08 25 38.1 +2.5
comp=Z,1.7nm,0.9s,baz=330,slow=6.0,SNR=17
TXAR pP sP 08 25 53.0 +0.7
comp=Z,10nm,0.9s,baz=326,slow=6.0,SNR=29
TXAR LR LR 08 44 02.1
comp=Z,54nm,18.9s,baz=328,slow=36
TXAR Lajitas Array 44.32 110 P P 08 25 37.8 +2.2
L48A N Adams 44.41 81 P P 08 25 37.1 +1.1
L48A lAmb lAmb 08 25 38.3
comp=Z,18nm,0.7s
W39A Magazine 44.62 95 P P 08 25 38.7 +0.9
W39A Magazine 44.62 95 P P 08 25 38.9 +1.2
baz=321
HOPEN Hopen 44.82 1 eP P 08 25 39.3 +0.5
NRIK Noril'sk 45.00 334 P P 08 25 39.4 -1.0
comp=Z,17nm,0.4s,baz=51,slow=6.7,SNR=20
NRIK LR LR 08 47 51.6
comp=Z,109nm,19.3s,baz=43,slow=40
NRIK Noril'sk 45.00 334 P P 08 25 40.0 -0.4
NRIK pmax pmax
comp=Z,17nm,0.5s
NRIK Noril'sk 45.00 334 P P 08 25 40.0 -0.4
NRIK lAmb lAmb 08 25 41.1
comp=Z,17nm,0.5s
SADO Sadowa 45.06 75 LR LR 08 43 23.0
comp=Z,24nm,19.3s,baz=24,slow=34
SADO Sadowa 45.06 75 P P 08 25 42.1 +1.0
PBMO Poplar Bluff 45.15 91 P P 08 25 42.4 +0.5
PBMO lAmb lAmb 08 25 58.9
comp=Z,18nm,1.0s
BOD Bodaibo 45.19 311 eP P 08 25 40.2 -1.8
BOD pmax pmax
comp=Z,28nm,1.1s
MIAR Mount Ida 45.24 96 P P 08 25 43.6 +1.0
baz=321
WHTX Lake Whitney, 45.26 102 P P 08 25 44.8 +1.9
baz=323
O48B Farmland 45.27 83 P P 08 25 43.0 +0.1
baz=318,SNR=10
N49A Columbus Grove 45.28 82 P P 08 25 43.6 +0.7
N49A lAmb lAmb 08 25 44.8
comp=Z,20nm,0.7s
JCT Junction City 45.30 105 P P 08 25 45.1 +1.9
JCT pmax pmax
comp=Z,89nm,0.9s
JCT Junction City 45.30 105 P P 08 25 45.1 +1.9
JCT Junction City 45.30 105 P P 08 25 45.5 +2.2
baz=325,SNR=40
LPIG La Paz 45.66 121 LR LR 08 42 32.6
comp=Z,67nm,18.1s,baz=356,slow=33
X40A Basin Creek Fa 45.66 95 P P 08 25 47.1 +1.0
baz=321
P48A Milroy 45.72 84 P P 08 25 46.6 +0.1
P48A lAmb lAmb 08 25 47.6
comp=Z,17nm,0.6s
DELO Deloro Mine 46.00 74 P P 08 25 49.5 +1.0
DELO lAmb lAmb 08 25 50.7
comp=Z,25nm,1.2s
P49A Miami Univ. Ec 46.03 84 P P 08 25 49.4 +0.5
baz=318
435B Jarrell 46.17 103 P P 08 25 52.2 +2.2
435B Jarrell 46.17 103 P P 08 25 52.5 +2.5
baz=324
M52A Chesterland 46.27 79 P P 08 25 52.3 +1.5
J54A Appleton 46.39 76 P P 08 25 53.2 +1.6
ACSO Alum Creek Sta 46.41 82 P P 08 25 52.8 +1.0
baz=318
ERPA Erie 46.55 78 P P 08 25 54.0 +1.1
ERPA Erie 46.55 78 P P 08 25 53.8 +0.9
baz=317
MEDO Medina 46.56 76 P P 08 25 54.5 +1.6
USRK Ussuriysk Ar. 46.63 287 P P 08 25 52.4 -1.1
comp=Z,8.1nm,0.6s,baz=55,slow=10,SNR=11
USRK PcP PcP 08 27 26.7 0.0
comp=Z,2.1nm,0.5s,baz=19,slow=4.8,SNR=5.8

USRK LR LR 08 46 42.4
comp=Z,42nm,19.7s,baz=35,slow=38
M53A WI Miller and 46.70 79 P **P 08 25 55.3 +1.3**
M53A WI Miller and 46.70 79 P **P 08 25 54.9 +0.8**
baz=318,SNR=10
J55A Hilton 46.80 75 P **P 08 25 55.9 +1.0**
J55A IAmb IAmb 08 25 57.2
comp=Z,28nm,0.8s
ALLY Alegheny Colle 46.81 78 P **P 08 25 56.4 +1.4**
NATX Nacogdoches 46.87 99 P **P 08 25 57.1 +1.6**
NATX IAmb IAmb 08 25 58.7
comp=Z,28nm,0.9s
NATX Nacogdoches 46.87 99 P **P 08 25 57.5 +2.0**
baz=323
WVT Waverly 46.99 89 P **P 08 25 57.0 +0.6**
baz=320
WVT Waverly 46.99 89 P **P 08 25 57.9 +1.4**
WVNY West Valley, N 47.03 76 P **P 08 25 57.7 +0.9**
WVNY IAmb IAmb 08 25 59.1
comp=Z,32nm,0.8s
Q51A Peebles 47.12 83 P **P 08 25 58.2 +0.8**
Q51A IAmb IAmb 08 25 59.3
comp=Z,29nm,0.7s
R50A Paris 47.17 85 P **P 08 25 58.9 +1.1**
R50A IAmb IAmb 08 25 59.8
comp=Z,27nm,0.7s
P52A Corning 47.29 82 P **P 08 25 59.3 +0.6**
baz=318
O53A New Philadelph 47.30 80 P **P 08 25 59.4 +0.6**
baz=318
OXF Oxford 47.42 92 P **P 08 26 01.0 +1.3**
baz=321
LONY Lake Ozonia 47.43 71 P **P 08 26 00.4 +0.7**
baz=316
MDJ Mudanjiang 47.51 289 P **P 08 26 00.5 +0.1**
MDJ pmax pmax
comp=Z,15nm,0.8s
MDJ pmax pmax
comp=Z,34nm,5.6s
MDJ Mudanjiang 47.51 289 P **P 08 26 00.2 -0.2**
MDJ Mudanjiang 47.51 289 P **P 08 26 00.1 -0.3**
M55A Ridgway 47.64 77 P **P 08 26 02.4 +0.9**
HKT Hockley 47.73 102 *ce*P **P 08 26 05.1 +3.0**
HKT pmax pmax
comp=Z,7.0nm,1.0s
HKT Hockley 47.73 102 P **P 08 26 05.2 +3.1**
HKT sP **sP 08 26 21.0 +2.1**
PLAL Pickwick Lake 47.75 91 P **P 08 26 03.5 +1.1**
PLAL IAmb IAmb 08 26 20.1
comp=Z,23nm,0.8s
BNX BinXian 47.77 291 ⇓P **P 08 26 02.8 +0.5**
BNX pmax pmax
comp=Z,54nm,0.7s
BNX pmax pmax
comp=Z,250nm,3.9s
J58A Remsen 48.00 73 P **P 08 26 05.0 +0.8**
J58A IAmb IAmb 08 26 06.3
comp=Z,23nm,0.9s
S51A Beattyville 48.03 85 P **P 08 26 05.2 +0.7**
MSHR Mys Shultsa 48.22 286 *de*P **P 08 26 05.9 0.0**
MSHR pmax pmax
comp=Z,17nm,0.7s
MCWV Mont Chateau 48.44 80 P **P 08 26 08.2 +0.6**
baz=319
BINY Binghamton 48.50 75 P **P 08 26 09.6 +1.5**
BINY IAmb IAmb 08 26 10.6
comp=Z,28nm,0.8s
BINY Binghamton 48.50 75 P **P 08 26 09.5 +1.5**
baz=318,SNR=10
VBMS Vicksburg 48.64 95 P **P 08 26 10.8 +1.6**
baz=323
X48A Hartselle 48.69 90 P **P 08 26 10.6 +1.0**
X48A IAmb IAmb 08 26 27.1
comp=Z,19nm,0.6s
SSPA Standing Stone 48.70 77 P **P 08 26 11.2 +1.5**
baz=318
SSPA Standing Stone 48.70 77 P **P 08 26 11.2 +1.5**
SSPA sP **sP 08 26 26.8 +0.4**
TZTN Tazewell 48.89 85 P **P 08 26 12.5 +1.4**
baz=320
344A Westbrook Farm 49.14 96 P **P 08 26 15.5 +2.4**
MAJO Matsushiro 49.16 275 *d* iP **P 08 26 12.9 -0.3**
MAJO pmax pmax
comp=Z,44nm,1.0s
MAJO Matsushiro 49.16 275 P **P 08 26 12.7 -0.6**
MAJO Matsushiro 49.16 275 P **P 08 26 13.3 +0.1**
MAJO Matsushiro 49.16 275 ⇑P **P 08 26 12.9 -0.3**
MJAR Matsushiro Arr 49.16 275 P **P 08 26 12.4 -0.8**
comp=Z,21nm,0.8s,baz=50,slow=6.8,SNR=25
MJAR Matsushiro Arr 49.16 275 P **P 08 26 12.7 -0.5**
MJAR pmax pmax
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 49.16 275 P **P 08 26 12.7 -0.5**
MJAR IAmb IAmb 08 26 14.7
comp=Z,13nm,0.8s
MJB9 Matsu-Tunnel 49.16 275 P **P 08 26 12.9 -0.3**
FPAL Fort Paine 49.37 89 P **P 08 26 15.8 +0.9**
FPAL IAmb IAmb 08 26 39.4
comp=Z,18nm,1.0s
P57A Homestead Farm 49.51 79 P **P 08 26 16.6 +0.8**
PKME Peaks-Kenny Pk 49.52 67 P **P 08 26 16.6 +0.8**
baz=317
PAGS Pennsylvania G 49.60 77 P **P 08 26 17.7 +1.3**
LRAL Lakeview Retre 49.82 91 P **P 08 26 19.6 +1.4**
baz=322
V53A Saluda 49.94 86 P **P 08 26 20.0 +0.7**
V53A IAmb IAmb 08 26 37.2
comp=Z,18nm,0.7s
BLA Blacksburg 50.00 82 P **P 08 26 20.6 +1.0**
baz=320
CN2 Changchun 50.13 291 *e*P **P 08 26 19.8 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
PAL Palisades 50.43 74 P **P 08 26 23.9 +1.1**
baz=319
HAMF Hammerfest 50.70 2 *e*P **P 08 26 23.6 -0.8**
CBN Corbin Frederi 50.80 79 P **P 08 26 27.1 +1.5**
baz=320
KMSC Kings Mountain 51.12 85 P **P 08 26 29.5 +1.5**
baz=321
BORG Borgarnes 51.25 24 LR LR 08 49 49.9
comp=Z,61nm,18.7s,baz=320,slow=38
HODGE Hodges 51.34 86 P **P 08 26 30.7 +1.0**
HODGE IAmb IAmb 08 26 47.3
comp=Z,16nm,0.7s
TRO Tromso 51.60 4 *e*P **P 08 26 31.2 +0.1**
KEV Kevo 51.62 0 P **P 08 26 30.8 -0.6**
KEV sP **sP 08 26 50.8 +2.7**
JETT Jettan, Norway 51.72 3 *e*P **P 08 26 32.1 0.0**
ARA0 ARCESS Array S 51.84 1 *e*P **P 08 26 32.3 -0.6**
ARCES ARCESS Array B 51.84 1 P **P 08 26 32.3 -0.6**
comp=Z,11nm,0.5s,baz=5.4,slow=7.2,SNR=174
ARCES PcP **PcP 08 27 45.5 +0.2**
comp=Z,2.6nm,0.6s,baz=14,slow=4.0,SNR=1.8
ARCES ARCESS Array B 51.84 1 P **P 08 26 32.4 -0.6**
ARCES pmax pmax
comp=Z,12nm,0.6s
ARCES ARCESS Array B 51.84 1 P **P 08 26 32.4 -0.6**
ARCES IAmb IAmb 08 26 33.0
comp=Z,12nm,0.6s
KTK1 Kautokeino 52.33 2 *e*P **P 08 26 36.2 -0.4**
LOF Lofoten 52.84 7 *e*P **P 08 26 40.3 -0.1**
STEI Steigen 53.13 6 *e*P **P 08 26 42.6 +0.1**
LVZ Lovozero 53.38 357 P **P 08 26 44.0 -0.4**
LVZ pmax pmax
comp=Z,13nm,0.6s
LVZ Lovozero 53.38 357 P **P 08 26 44.0 -0.4**
LVZ IAmb IAmb 08 26 45.0
comp=Z,13nm,0.6s
LVZ Lovozero 53.38 357 P **P 08 26 44.2 -0.3**
LVZ pP **pP 08 26 53.9 -2.5**
FAUS Fauske 53.68 6 *e*P **P 08 26 46.4 -0.1**
KS19 Wonju Array Si 53.71 284 P **P 08 26 47.9 +0.7**
KSRS Korea Array 53.72 284 P **P 08 26 47.4 +0.1**
comp=Z,20nm,0.5s,baz=39,slow=7.0,SNR=88
KSRS PcP **PcP 08 27 53.0 +0.2**
comp=Z,2.0nm,0.6s,baz=48,slow=4.4,SNR=2.1
KSRS LR LR 08 49 59.5
comp=Z,23nm,21.6s,baz=75,slow=36
INCN Inchon 54.34 285 P **P 08 26 52.0 +0.1**
INCN pmax pmax
comp=Z,26nm,0.7s
INCN Inchon 54.34 285 P **P 08 26 52.0 +0.1**
KONS Konsvik 54.43 7 *e*P **P 08 26 52.3 +0.3**
JCJ Chichijima 54.56 264 P **P 08 26 52.7 -0.8**
comp=Z,82nm,0.4s,baz=264,slow=23,SNR=8.8
JCJ LR LR 08 47 38.9
comp=Z,32nm,21.1s,baz=28,slow=33
TJN Taejon 54.84 283 *ce*P **P 08 26 55.3 -0.1**
TJN Taejon 54.84 283 P **P 08 26 55.3 -0.1**
TJN Taejon 54.84 283 P **P 08 26 54.7 -0.7**
MOR8 Moi Rana 54.84 6 *e*P **P 08 26 54.0 -1.0**
ULN Ulaanbaatar 55.38 306 *c* iP **P 08 26 58.9 -0.5**
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 55.38 306 P **P 08 26 58.8 -0.6**
ULN IAmb IAmb 08 28 00.7
comp=Z,17nm,0.9s
ULN Ulaanbaatar 55.38 306 P **P 08 26 59.1 -0.3**
JNU Nakatsue 55.60 278 P **P 08 27 00.2 -0.8**
comp=Z,9.2nm,0.7s,baz=151,slow=6.9,SNR=4.9
SONM Songino Array 55.68 307 P **P 08 27 01.6 +0.1**
comp=Z,20nm,0.7s,baz=46,slow=7.4,SNR=88
SONM PcP **PcP 08 28 00.9 +0.5**
comp=Z,12nm,0.6s,baz=98,slow=0.9,SNR=12
SONM LR LR 08 52 08.7
comp=Z,94nm,20.0s,baz=154,slow=37
SONM Songino Array 55.68 307 P **P 08 27 01.3 -0.2**
SONM pmax pmax
comp=Z,20nm,0.7s
SONM Songino Array 55.68 307 P **P 08 27 01.3 -0.2**
SONM IAmb IAmb 08 27 02.5
comp=Z,20nm,0.7s
NSS Namsos 56.31 8 *e*P **P 08 27 05.7 +0.2**
KNGR Kungurtug, Tuv 56.95 314 ⇓*e*P **P 08 27 10.9 +0.4**
MOL Molde 57.86 11 *e*P **P 08 27 16.9 +0.3**
AKN Aaknes 58.19 11 *e*P **P 08 27 19.4 +0.5**
ZAA0 Zalesovo Array 58.43 324 P **P 08 27 20.2 -0.4**
ZAA0 IAmb IAmb 08 27 22.2
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 58.43 324 P **P 08 27 19.9 -0.7**
comp=Z,15nm,0.7s,baz=31,slow=6.6,SNR=36
ZALV pP **sP 08 27 36.1 -1.4**
comp=Z,7.2nm,0.8s,baz=28,slow=7.9,SNR=5.4
ZALV PcP **PcP 08 28 10.9 -0.1**
comp=Z,5.3nm,0.6s,baz=31,slow=5.4,SNR=4.1
ZALV LR LR 08 54 43.3
comp=Z,39nm,18.5s,baz=53,slow=38
ZALV Zalesovo Beam 58.43 324 *i* P **P 08 27 20.2 -0.4**
ZALV pmax pmax
comp=Z,15nm,0.7s
DOMB Dombas 58.52 10 *e*P **P 08 27 21.4 +0.1**
CMIG Matias Romero 58.93 110 LR LR 08 55 06.3
comp=Z,50nm,18.1s,baz=16,slow=38
HHC Hu-ho-hao-te 58.96 298 *e*P **P 08 27 27.5 +2.8**
HHC pmax pmax
comp=Z,26nm,1.1s
PRGR Permogore 58.97 350 *e*P **P 08 27 21.2 -3.0**
SUE Sulen 59.05 13 *e*P **P 08 27 24.8 0.0**
HYA Hoyanger 59.10 12 *e*P **P 08 27 25.4 +0.3**
ASK Askoy 59.66 13 *e*P **P 08 27 29.6 +0.6**
NB2 NORSAR Subarra 59.70 9 P **P 08 27 28.8 -0.6**
comp=Z,15nm,0.9s,baz=350,slow=6.9
NB2 NORSAR Subarra 59.70 9 P **P 08 27 28.8 -0.6**
baz=350,slow=6.9
NOA NORSAR Array B 59.70 9 P **P 08 27 28.9 -0.5**
comp=Z,7.7nm,0.8s,baz=352,slow=6.8,SNR=25
NOA LR LR 08 54 37.2
comp=Z,12nm,18.8s,baz=345,slow=37
SKAR Skarslia 59.79 11 *e*P **P 08 27 30.3 +0.2**
FINES FINESS Array B 59.97 1 P **P 08 27 30.9 -0.3**
comp=Z,13nm,0.6s,baz=6.7,slow=8.3,SNR=67
FINES pP **sP 08 27 46.7 -1.4**
comp=Z,3.8nm,0.6s,baz=356,slow=7.6,SNR=3.3
FINES FINESS Array B 59.97 1 P **P 08 27 30.7 -0.4**
NC602 NORSAR Array S 60.03 9 *e*P **P 08 27 31.7 +0.1**
VALR Valaam 60.03 358 *ce*P **P 08 27 31.4 -0.2**
VALR pmax pmax
comp=Z,22nm,0.9s
KLMR Klimovskoe 60.20 353 *e*P **P 08 27 31.0 -1.7**
KLMR pmax pmax
comp=Z,26nm,0.8s
KLMR Klimovskoe 60.20 353 *e*P **P 08 27 31.1 -1.7**
KLMR AMP 08 27 33.4
comp=Z,26nm,0.8s
HNS HongShan 60.25 294 ⇑P **P 08 27 33.0 -0.4**
HNS pP **pP 08 27 46.0 +0.5**
HNS PcP **PcP 08 28 18.5 +0.1**
HNS S **S 08 35 42.0 -2.1**
HNS ScS SKKSac 08 37 15.0 -5.1
HNS pmax pmax
comp=Z,25nm,0.8s
RAF Rauma 60.31 3 *e*P **P 08 27 33.3 -0.2**
ODD1 Odda 60.38 12 *e*P **P 08 27 34.2 +0.2**
BLS5 Blasjo 60.84 12 *e*P **P 08 27 37.4 +0.2**
KONO Kongsberg 60.93 10 ⇑*e*P **P 08 27 38.5 +0.7**
KONO pmax pmax
comp=Z,10.0nm,0.9s
KONO Kongsberg 60.93 10 *e*P **P 08 27 37.9 +0.2**
KONO Kongsberg 60.93 10 P **P 08 27 38.1 +0.3**
KONO X 08 27 43.9
KONO pP **pP 08 27 49.1 -0.7**
KONO sP **sP 08 27 53.9 -0.8**
AAL Aland 61.09 4 *e*P **P 08 27 38.8 0.0**
MEF Metsahovi 61.18 2 *e*P **P 08 27 39.6 +0.2**
UPP Uppsala 61.31 6 *e*P **P 08 27 40.2 -0.1**
KIRV Kirov 61.58 347 P **P 08 27 41.4 -0.7**
comp=Z,36nm,0.6s,baz=100,slow=0.9,SNR=9.6
SVE Sverdlovsk 61.64 340 *e*P **P 08 27 42.6 0.0**
SVE pmax pmax
comp=Z,11nm,0.6s
JOW Kunigami 61.98 276 LR LR 08 53 52.7
comp=Z,24nm,21.9s,baz=322,slow=35
JOW Kunigami 61.98 276 P **P 08 27 45.5 +0.2**
JOW Kunigami 61.98 276 P **P 08 27 45.2 -0.1**
SNART Snartemo 61.98 12 *e*P **P 08 27 44.5 -0.4**
HOMB Homborsund 62.19 11 *e*P **P 08 27 46.6 +0.4**
ARU Arti 62.38 341 *c* iP **P 08 27 46.6 -0.9**
ARU 08 28 24.9
ARU 08 30 02.8
ARU S **S 08 36 10.9 +0.3**
ARU SS **SS 08 40 14.3 +0.7**
ARU pmax pmax
comp=Z,14nm,0.6s
ARU Arti 62.38 341 P **P 08 27 46.7 -0.8**
VIKU Vikbolandet 62.61 6 *e*P **P 08 27 49.4 +0.3**
MTSE Matsula 62.67 2 *e*P **P 08 27 49.7 +0.3**
KURK Kurchatov 63.10 326 P **P 08 27 51.5 -0.9**
KURK pmax pmax
comp=Z,19nm,0.7s
KURK Kurchatov 63.10 326 P **P 08 27 51.5 -0.9**
KURK IAmb IAmb 08 28 39.9
comp=Z,19nm,0.7s
KURK Kurchatov 63.10 326 ⇓P **P 08 27 51.8 -0.6**
KURK pP **pP 08 28 03.0 -1.6**
BRVK Borovoye 63.16 333 P **P 08 27 51.9 -1.0**
BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 63.16 333 P **P 08 27 51.9 -1.0**
BRVK IAmb IAmb 08 27 52.7
comp=Z,12nm,0.7s
BRVK Borovoye 63.16 333 ⇓P **P 08 27 52.2 -0.7**
BRVK pP **pP 08 28 05.1 +0.1**
BVAR Borovoye Array 63.17 333 P **P 08 27 52.1 -0.8**
comp=Z,9.1nm,0.7s
KURBB Kurchatov Arra 63.21 326 P **P 08 27 52.1 -1.0**
comp=Z,11nm,0.6s,baz=30,slow=6.5,SNR=45
KURBB LR LR 08 57 58.8
comp=Z,61nm,19.1s,baz=11,slow=38
LYN LuoYang 63.62 293 ⇓P **P 08 27 56.0 -0.1**
LYN pmax pmax
comp=Z,30nm,0.6s
SLIT Slitere, Latvi 63.72 3 *e*P **P 08 27 56.6 +0.2**
MTO3 Montecristo 63.95 106 P **P 08 27 59.3 +0.5**
MTO3 IAmb IAmb 08 28 18.3
comp=Z,27nm,0.9s
GUMO Guam 64.48 253 P **P 08 27 59.6 -2.3**
comp=Z,18nm,0.4s,baz=313,slow=6.4,SNR=4.1
GUMO LR LR 08 51 57.4
comp=Z,20nm,21.5s,baz=84,slow=32
TGUH Tegucigalpa,Un 65.29 104 *e*P **P 08 28 09.0 +1.6**
GTA Gaotai 65.30 306 ⇑P **P 08 28 06.5 -0.7**
GTA pP pP 08 28 17.0 -2.4
GTA sP sP 08 28 21.0 -3.2
GTA pmax pmax
comp=Z,12nm,0.9s
MK31 Makanchi Array 65.47 322 P **P 08 28 06.9 -1.2**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 65.47 322 P **P 08 28 06.9 -1.2**
MKAR Makanchi Array 65.47 322 P **P 08 28 06.7 -1.4**
comp=Z,4.6nm,0.5s,baz=36,slow=6.8,SNR=60
MKAR Makanchi Array 65.47 322 P **P 08 28 06.8 -1.3**
MKAR Makanchi Array 65.47 322 P **P 08 28 06.8 -1.3**
MAKZ Makanchi 65.56 322 ⇑P **P 08 28 07.5 -1.1**
MAKZ X 08 28 13.2
MAKZ sP **pP 08 28 23.1 +2.2**
XAN Xi'an 65.71 296 ⇑P **P 08 28 08.5 -1.3**
XAN pP pP 08 28 22.5 +0.5
XAN PcP **PcP 08 28 40.0 -0.9**
XAN ScP 08 32 35.8
XAN pmax pmax
comp=Z,28nm,0.7s
XAN Xi'an 65.71 296 P **P 08 28 08.6 -1.3**
XAN pP **pP 08 28 16.3 -5.7**
PABE Paberze 65.89 2 P **P 08 28 10.8 +0.2**
PABE Paberze 65.89 2 *e*P **P 08 28 10.7 +0.2**
WHN Wuhan 65.98 289 ⇑P **P 08 28 11.0 -0.5**
OBN Obninsk 66.09 354 *de*P **P 08 28 11.5 -0.3**
OBN pmax pmax
comp=Z,10.0nm,0.3s
OBN Obninsk 66.09 354 P **P 08 28 11.2 -0.6**
WMQ Urumqi 66.25 317 *e*P **P 08 28 19.0 +5.8**
LZH Lanzhou 66.33 301 *e*P **P 08 28 13.5 -0.4**
LZH pP pP 08 28 27.0 +0.8
LZH sP sP 08 28 34.5 +3.5
LZH pmax pmax
comp=Z,78nm,1.0s
NACGM Naroch 66.53 1 ⇓*e*P **P 08 28 14.8 +0.2**
baz=360
KLNR Kaliningrad 66.68 5 *c* iP **P 08 28 15.8 +0.2**
MNK Minsk 66.93 360 *i* P **P 08 28 17.7 +0.5**
MNK *i* *PP **sP 08 28 32.2 -2.1**
MNK *i* *SP **sP 08 28 37.0 +2.7**
MNK *i* 08 28 43.4
MNK *i* 08 30 45.3
MNK *i* PPP PPP 08 32 21.6
MNK *i* S **S 08 37 07.2 +0.4**
MNK *i* *SS **sS 08 37 28.0 +0.8**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,57nm,0.9s
MNK pmax pmax
comp=N,33nm,0.9s
MNK Minsk 66.93 360 *i* P **P 08 28 17.7 +0.5**
comp=E,4.0nm,0.9s
MNK *i* P **P 08 28 17.7 +0.5**
comp=N,33nm,0.9s
MNK *i* P **P 08 28 17.7 +0.5**
comp=Z,57nm,0.9s,baz=0.3
MNK *i* pP **sP 08 28 32.2 -2.1**
MNK *i* sP **sP 08 28 37.0 +2.7**
MNK *i* PP **PP 08 30 45.3 +1.0**
MNK *i* PPP PPP 08 32 21.6
MNK *i* S **S 08 37 07.3 +0.4**
MNK *i* sS **sS 08 37 28.0 +0.8**
MNK *i* SS SS 08 42 02.1 +38
MNK *i* SSS SSS 08 45 11.7
MNK *i* LQ LQ 08 53 32.7
SUW Suwalki 67.37 3 *e*P **P 08 28 19.6 -0.4**
SUW Suwalki 67.37 3 P **P 08 28 19.3 -0.7**
SUW pmax pmax
comp=Z,67nm,0.9s
SUW Suwalki 67.37 3 P **P 08 28 19.3 -0.7**
SUW Suwalki 67.37 3 *e*P **P 08 28 19.8 -0.2**
BELG Belogornoye 67.86 347 *c* iP **P 08 28 22.2 -0.9**
BELG pmax pmax
comp=Z,13nm,0.9s
AKTO Aktyubinsk 68.22 340 P **P 08 28 24.4 -1.1**
comp=Z,9.9nm,0.5s,baz=21,slow=6.2,SNR=30
AKTO LR LR 09 03 29.4
comp=Z,33nm,19.5s,baz=19,slow=40
SSLB Suanglung 68.24 280 P **P 08 28 24.8 -1.2**
CLZ Clausthal 68.72 11 *e*P **P 08 28 29.9 +1.3**
comp=Z,15nm,0.6s,baz=351,slow=6.1
BUG Bochum--Univer 68.77 13 *e*P **P 08 28 29.5 +0.7**
comp=Z,15nm,0.8s,baz=351,slow=6.1
GTTG Gottingen 68.97 12 *e*P **P 08 28 31.4 +1.3**
comp=Z,18nm,0.6s,baz=351,slow=6.1
ABKAR Akbulak array 68.98 338 P **P 08 28 29.0 -1.2**
ABKAR Akbulak array 68.98 338 P **P 08 28 29.2 -1.1**
ABKAR IAmb IAmb 08 28 30.2
comp=Z,19nm,0.6s
BSTI Sart Tilman 69.39 15 *d*P **P 08 28 33.6 +0.9**
MEM Membach 69.42 14 *d*P **P 08 28 33.6 +0.6**
BTNL Ternell 69.46 14 *d*P **P 08 28 34.1 +0.9**
BTNL *d*pP **sP 08 28 49.7 -0.6**
NEUB Neuenburg 69.48 11 *e*P **P 08 28 34.2 +1.0**
comp=Z,23nm,0.6s,baz=351,slow=6.1
CLL Collm 69.49 10 P **P 08 28 33.7 +0.4**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 69.49 10 P **P 08 28 33.7 +0.4**
CLL Collm 69.49 10 *e*P **P 08 28 32.0 -1.3**
BCLA Clavier 69.52 15 *d*P **P 08 28 33.9 +0.4**
BGES Gesves 69.52 15 *d*P **P 08 28 34.3 +0.8**
BMRD Maredsous 69.56 15 *d*P **P 08 28 34.5 +0.7**
BMRD *d*pP **sP 08 28 50.4 -0.4**
DOU Dourbes 69.73 16 *d*P **P 08 28 36.3 +1.5**
comp=Z,6.6nm,0.8s
DOU *d*pP **sP 08 28 51.4 -0.6**
DOU *d*sP **PcP 08 28 57.5 +0.2**
RCHB Rochefort 69.76 15 *d*P **P 08 28 35.5 +0.5**
FBE Freiberg 69.91 10 *e*P **P 08 28 36.9 +1.0**
comp=Z,7.6nm,1.0s,baz=351,slow=6.1
BRG Berggiesshubel 70.00 9 *e*P **P 08 28 36.9 +0.3**
BRG Amp 08 28 38.7
comp=Z,12nm,1.1s
BRG Berggiesshubel 70.00 9 *e*P **P 08 28 36.8 +0.3**
BRG pmax pmax
comp=Z,12nm,1.1s
BRG Berggiesshubel 70.00 9 *e*P **P 08 28 37.3 +0.8**
comp=Z,12nm,1.1s,baz=351,slow=6.1
MOX Moxa 70.02 11 P **P 08 28 37.5 +0.9**
MOX pmax pmax
comp=Z,25nm,0.5s
MOX Moxa 70.02 11 *e*P **P 08 28 37.5 +0.9**
comp=Z,20nm,0.5s,baz=351,slow=6.1
TNS Taunus Mts 70.10 13 *e*P **P 08 28 37.9 +0.8**
comp=Z,8.1nm,0.7s,baz=351,slow=6.1
GOMU GeErMu 70.11 308 P **P 08 28 37.0 -0.9**
GOMU pmax pmax
comp=Z,14nm,0.7s
KSP Ksiaz 70.21 8 *e*P **P 08 28 38.6 +0.8**
PLN Plauen 70.23 10 *e*P **P 08 28 38.8 +0.8**
comp=Z,6.5nm,0.6s,baz=351,slow=6.1
WERD Werda 70.28 10 *e*P **P 08 28 39.1 +0.8**
comp=Z,3.9nm,0.6s,baz=351,slow=6.1
BANI BANI 70.35 87 P **P 08 28 40.7 +1.4**
GUNZ Gunzen 70.37 10 *e*P **P 08 28 39.7 +0.9**
comp=Z,4.5nm,0.7s,baz=351,slow=6.1
PVCC Panska Ves 70.40 9 *e*P **P 08 28 39.8 +0.9**
PVCC Panska Ves 70.40 9 *e*P **P 08 28 39.8 +0.9**
WERN Wernitzgruen 70.45 10 *e*P **P 08 28 40.4 +1.1**
comp=Z,8.6nm,0.6s,baz=351,slow=6.1
CHVC Chvalec 70.45 8 *e*P **P 08 28 40.2 +0.9**
LDF La Druitiere 70.47 19 *e*P **P 08 28 40.2 +0.8**
LDF pmax pmax
comp=Z,18nm,1.1s
OSTC Ostas 70.49 8 *e*P **P 08 28 40.4 +0.9**
NKC Novy Kostel 70.51 10 *e*P **P 08 28 40.6 +1.0**
NKC Novy Kostel 70.51 10 *e*P **P 08 28 40.6 +1.0**
UPC Upice 70.53 8 *e*P **P 08 28 40.6 +0.9**
UPC Upice 70.53 8 *e*P **P 08 28 40.6 +0.9**
SDD Santo Domingo 70.53 87 P **P 08 28 41.5 +1.3**
DPC Dobruska-Polom 70.70 8 *e*P **P 08 28 41.8 +0.9**
DPC Dobruska-Polom 70.70 8 *e*P **P 08 28 41.8 +0.9**
AKASG Malin Array Be 70.73 359 P **P 08 28 40.4 -0.6**
comp=Z,19nm,0.4s,baz=6.4,slow=6.3,SNR=116
AKASG pP **sP 08 28 56.4 -1.6**
comp=Z,2.9nm,0.4s,baz=5.7,slow=6.3,SNR=2.6
AKASG LR LR 09 01 12.3
comp=Z,19nm,19.3s,baz=354,slow=37
AKASG Malin Array Be 70.73 359 P **P 08 28 40.5 -0.4**
AKASG pmax pmax
comp=Z,29nm,0.6s
AKASG Malin Array Be 70.73 359 P **P 08 28 40.5 -0.4**
AKBB Malin Array Si 70.73 359 *c* iP **P 08 28 40.1 -0.8**
AKBB Malin Array Si 70.73 359 P **P 08 28 40.1 -0.8**
GRF Grafenberg Arr 70.93 11 *e*P **P 08 28 43.3 +1.2**
comp=Z,8.4nm,0.6s,baz=351,slow=6.1
PRU Pruhonice 70.93 9 *e*P **P 08 28 42.7 +0.5**

PRU	Pruhonice	70.93	9	*e*P		P	08 28 42.7	+0.5	
ROTZ	Rotzenmuhle	70.95	10	*e*P		P	08 28 43.4	+1.1	
	comp=Z,1.8nm,0.7s,baz=351,slow=6.1								
KRLC	Kraliky	71.01	7	*e*P		P	08 28 43.4	+0.7	
KRLC	Kraliky	71.01	7	*e*P		P	08 28 43.4	+0.7	
TKM2	Tokmak 2	71.03	325	P		P	08 28 43.1	-0.1	
	SNR=14								
OJC	Ojcow	71.04	5	*e*P		P	08 28 43.1	+0.3	
OJC	Ojcow	71.04	5	P		P	08 28 42.7	-0.1	
OJC				pmax	pmax				
	comp=Z,14nm,0.7s								
OJC	Ojcow	71.04	5	P		P	08 28 42.7	-0.1	
OJC				IAmb	IAmb		08 28 43.9		
	comp=Z,14nm,0.7s								
USP	Ospenovka	71.04	326	P		P	08 28 42.8	-0.2	
	SNR=8.0								
KDJ	Kajisay	71.27	323	P		P	08 28 44.2	-0.4	
KDJ				pmax	pmax				
	comp=Z,11nm,0.7s								
KDJ	Kajisay	71.27	323	P		P	08 28 44.2	-0.4	
KDJ				IAmb	IAmb		08 28 46.9		
	comp=Z,11nm,0.7s								
BOOM	Boomskoye usch	71.32	324	P		P	08 28 44.4	-0.5	
BOOM				pmax	pmax				
	comp=Z,8.0nm,0.8s								
BOOM	Boomskoye usch	71.32	324	P		P	08 28 44.4	-0.5	
OKC	Ostrava-Krasne	71.33	6	*e*P		P	08 28 45.4	+0.8	
OKC	Ostrava-Krasne	71.33	6	*e*P		P	08 28 45.4	+0.8	
MORC	Moravsky Berou	71.36	7	⇑P		P	08 28 45.1	+0.2	
MORC	Moravsky Berou	71.36	7	*e*P		P	08 28 45.0	+0.2	
TARG	Taragay, Kyrgy	71.44	323	P		P	08 28 46.1	+0.2	
KBK	Karagaybulak	71.47	325	P		P	08 28 45.4	-0.4	
	SNR=7.3								
LVV	L'vov	71.59	2	*e*P		P	08 28 46.3	+0.2	
AAK	Ala-Archa	71.62	325	P		P	08 28 46.4	-0.2	
	SNR=6.9								
AAK	Ala-Archa	71.62	325	P		P	08 28 46.2	-0.4	
	comp=Z,6.0nm,0.6s,baz=145,slow=3.5,SNR=19								
AAK				LR	LR		09 02 33.7		
	comp=Z,68nm,20.1s,baz=10.0,slow=38								
AAK	Ala-Archa	71.62	325	*ce*P		P	08 28 46.1	-0.6	
AAK				pmax	pmax				
	comp=Z,7.0nm,0.7s								
AAK	Ala-Archa	71.62	325	P		P	08 28 46.2	-0.4	
AAK	Ala-Archa	71.62	325	P		P	08 28 46.4	-0.2	
KHC	Kasperske Hory	71.70	10	*ce*P		P	08 28 47.7	+0.8	
KHC				pmax	pmax				
	comp=Z,15nm,1.0s								
KHC	Kasperske Hory	71.70	10	*e*P		P	08 28 47.9	+1.0	
KWP	Kalwaria Pacla	71.74	3	*e*P		P	08 28 47.6	+0.6	
VRAC	Vranov	71.76	8	*e*P		P	08 28 47.6	+0.4	
EKS2	Erkin-Say	71.80	326	P		P	08 28 47.8	0.0	
	SNR=14								
ECH	Echery	71.92	14	P		P	08 28 48.7	+0.5	
BFO	Black Forest	71.95	13	*e*P		P	08 28 49.1	+0.7	
	comp=Z,7.5nm,0.8s,baz=351,slow=6.1								
BFO	Black Forest	71.95	13	P		P	08 28 49.3	+0.9	
KRUC	Moravsky	71.99	8	*e*P		P	08 28 48.9	+0.3	
GEC2	GERESS Array S	72.00	10	*e*P		P	08 28 49.6	+0.9	
	comp=Z,7.1nm,0.9s,baz=351,slow=6.1								
GERES	GERESS Array B	72.00	10	P		P	08 28 48.9	+0.2	
	comp=Z,3.9nm,0.6s,baz=351,slow=4.5,SNR=28								
CKRC	Cesky Krumlov	72.07	9	*e*P		P	08 28 49.8	+0.7	
LANS	Liptovska Anna	72.09	6	*e*P		P	08 28 50.4	+1.2	
LANS				pmax	pmax				
	comp=Z,22nm,0.7s								
LANS	Liptovska Anna	72.09	6	*e*P		P	08 28 50.4	+1.2	
JAVC	Velka Javorina	72.28	7	*e*P		P	08 28 51.8	+1.4	
AML	Almayashu	72.32	326	P		P	08 28 51.3	+0.2	
	SNR=12								
MFF	Saint Martin d	72.39	20	*e*P		P	08 28 50.5	-0.5	
MFF				pmax	pmax				
	comp=Z,9.0nm,0.6s								
KOLS	Kolonicke sedl	72.42	4	*e*P		P	08 28 52.3	+1.1	
KOLS				pmax	pmax				
	comp=Z,19nm,0.6s								
KOLS	Kolonicke sedl	72.42	4	*e*P		P	08 28 52.3	+1.1	
CRVS	Cervenica-Dubn	72.43	4	*e*P		P	08 28 51.8	+0.6	
CRVS				pmax	pmax				
	comp=Z,20nm,1.2s								
CRVS	Cervenica-Dubn	72.43	4	*e*P		P	08 28 51.8	+0.6	
KOLL	Kolacno	72.60	6	*e*P		P	08 28 53.5	+1.3	
SMOL	Smolenice	72.61	7	*e*P		P	08 28 53.3	+1.0	
SMOL				pmax	pmax				
	comp=Z,7.0nm,1.1s								
SMOL	Smolenice	72.61	7	*e*P		P	08 28 53.3	+1.0	
VYHS	Vyhne	72.71	6	*e*P		P	08 28 53.5	+0.6	
VYHS				pmax	pmax				
	comp=Z,13nm,0.8s								
VYHS	Vyhne	72.71	6	*e*P		P	08 28 53.5	+0.6	
UZH	Uzhgorod	72.73	4	*e*P		P	08 28 57.9	+5.0	
UZH				*e*			08 29 11.7		
MODS	Modra-Piesok	72.74	7	*e*P		P	08 28 54.1	+1.0	
MODS				pmax	pmax				
	comp=Z,29nm,0.8s								
MODS	Modra-Piesok	72.74	7	*e*P		P	08 28 54.1	+1.0	
UBR	Ueberruh	72.80	12	*e*P		P	08 28 54.5	+1.0	
	comp=Z,9.8nm,0.7s,baz=351,slow=6.1								
KECS	Kecovo	72.80	5	*e*P		P	08 28 54.3	+0.9	
KECS	Kecovo	72.80	5	*e*P		P	08 28 54.3	+0.9	
ZST	Bratislava	72.90	7	*e*P		P	08 28 54.7	+0.7	
ZST				pmax	pmax				
	comp=Z,40nm,0.8s								
ZST	Bratislava	72.90	7	*e*P		P	08 28 54.7	+0.7	
RJOB	Jochberg	73.02	10	*e*P		P	08 28 55.6	+0.9	
	comp=Z,18nm,0.6s,baz=351,slow=6.1								
MOA	Molln	73.03	9	*e*P		P	08 28 56.3	+1.4	
	comp=Z,2.8nm,0.6s								
CONA	Conrad Observa	73.08	8	*i* P		P	08 28 56.1	+0.9	
	comp=Z,15nm,0.9s,SNR=10								
BIOA	Bad Ischl, Aus	73.14	10	*e*P		P	08 28 56.7	+1.2	
	comp=Z,5.1nm,0.4s								
MOTA	Moosalm	73.24	12	*e*P		P	08 28 56.9	+0.7	
	comp=Z,5.0nm,0.5s								
WATA	Walderalm	73.29	11	*e*P		P	08 28 58.8	+2.3	
	comp=Z,18nm,1.1s								
SORM	Soroca	73.31	359	⇑P		P	08 28 55.8	-0.6	
PSZ	Piszkesteto	73.34	5	P		P	08 28 57.0	+0.3	
RONA	Rosalia, Austr	73.34	8	*e*P		P	08 28 57.7	+1.1	
	comp=Z,5.2nm,0.6s								
SQTA	Sankt Quirin	73.37	12	*i* P		P	08 28 57.9	+1.0	
	comp=Z,12nm,0.6s,SNR=5.9								
WTTA	Wattenberg	73.37	11	*i* P		P	08 28 58.1	+1.0	
	comp=Z,15nm,0.5s,SNR=7.6								
SOP	Sopron	73.38	8	P		P	08 28 58.3	+1.5	
FETA	Feichten	73.52	12	*e*P		P	08 28 58.8	+0.9	
	comp=Z,6.6nm,0.7s								
DAVOX	Davos/Dischmat	73.66	13	LR		LR	09 03 38.3		
	comp=Z,20nm,18.5s,baz=274,slow=38								
BMR	Baia Mare	73.72	3	⇑P		P	08 28 59.3	+0.5	
KBA	Koelnbreinsper	73.72	10	*i* P		P	08 29 00.3	+1.2	
	comp=Z,14nm,0.4s,SNR=10								
ARSA	Arzberg	73.73	9	*e*P		P	08 28 59.7	+0.8	
	comp=Z,10.0nm,1.1s								
CSKK	Cskako	73.81	7	P		P	08 29 00.5	+1.1	
BUR01	Bucovina Ar. S	73.81	2	⇑P		P	08 28 59.9	+0.4	
TUE	Stuetta	73.90	13	P		P	08 29 01.3	+1.1	
ABTA	Abfaltersbach	73.97	11	*e*P		P	08 29 01.8	+1.4	
	comp=Z,3.3nm,0.4s								
KSH	Kashi	74.02	323	P		P	08 29 03.8	+2.9	
KSH				ScS		S	08 39 05.8	+36	
KSH				pmax	pmax				
	comp=Z,12nm,0.7s								
LFF	La Frestale	74.16	19	*e*P		P	08 29 02.1	+0.7	
LFF				pmax	pmax				
	comp=Z,15nm,0.5s								
MYKA	Terra Mystica	74.19	10	*e*P		P	08 29 03.5	+1.8	
	comp=Z,6.9nm,0.5s								
SOKA	Soboth	74.26	9	*e*P		P	08 29 03.2	+1.1	
	comp=Z,2.9nm,0.4s								
ARCR	ARCALIA	74.33	2	⇓P		P	08 29 03.4	+1.0	
OBKA	Obir	74.39	9	*e*P		P	08 29 03.6	+0.7	
	comp=Z,25nm,0.5s								
CAF	Calviac	74.39	19	*e*P		P	08 29 04.1	+1.2	
CAF				pmax	pmax				
	comp=Z,6.0nm,0.6s								
LPL	La Plagne	74.51	15	*e*P		P	08 29 04.9	+1.1	
LPL				pmax	pmax				
	comp=Z,2.0nm,0.2s								
MILM	Milestii Mici	74.52	359	⇑P		P	08 29 03.8	+0.3	
MILM	Milestii Mici	74.52	359	⇑ *i* P		P	08 29 02.0	-1.5	
	comp=Z,50nm,1.0s								
MILM	Milestii Mici	74.52	359	*c i* P		P	08 29 02.0	-1.5	
MILM				pmax	pmax				
	comp=Z,50nm,1.0s								
DRGR		74.58	3	⇓P		P	08 29 04.3	+0.4	
DRGR		74.58	3	P		P	08 29 04.3	+0.4	
TESR	Tescani	74.93	1	⇑P		P	08 29 05.6	-0.3	
BNI	Bardonecchia	74.96	15	P		P	08 29 07.7	+1.4	
BNI				pmax	pmax				
	comp=Z,7.0nm,0.7s								
BNI	Bardonecchia	74.96	15	P		P	08 29 07.7	+1.4	
SIRR	Siria	75.06	4	⇓P		P	08 29 07.0	+0.3	
URIC	Uribia, Colomb	75.12	92	*e*P		P	08 29 07.6	+0.2	
PGAV	Gavieira, Arco	75.17	27	*e*P		P	08 29 09.2	+1.7	
	comp=Z,46nm,1.4s								
TEOL	Teolo	75.26	12	P		P	08 29 08.2	+0.4	
PZH	PanZhiHua	75.38	297	P		P	08 29 07.8	-1.1	
PZH				pmax	pmax				
	comp=Z,30nm,0.8s								
PZH				pmax	pmax				
	comp=Z,120nm,3.8s								
DOPR	Dopca	75.46	2	⇓P		P	08 29 09.9	+0.9	
VRI	Vrincioaia	75.58	1	⇑P		P	08 29 09.8	+0.1	
VRI	Vrincioaia	75.58	1	P		P	08 29 09.5	-0.1	
VRI				pmax	pmax				
	comp=Z,11nm,0.6s								
PLOR	Plostina	75.59	1	⇑P		P	08 29 10.1	+0.3	
COVR	Voinesa-Covas	75.59	1	⇓P		P	08 29 10.8	+1.0	
GOF	Gofitskoye	75.60	349	⇑*e*P		P	08 29 09.7	-0.1	
GOF				pmax	pmax				
	comp=Z,77nm,0.6s								
PBRG	Braganca	75.68	26	*e*P		P	08 29 11.5	+1.2	
	comp=Z,16nm,1.4s								
BZS	Buzias	75.71	4	⇑P		P	08 29 10.6	+0.2	
MLR	Muntele Rosu	75.95	1	⇓P		P	08 29 12.8	+0.9	
MLR	Muntele Rosu	75.95	1	LR		LR	09 03 06.2		
	comp=Z,40nm,21.5s,baz=98,slow=36								
MLR	Muntele Rosu	75.95	1	P		P	08 29 12.5	+0.6	
MLR				pmax	pmax				
	comp=Z,33nm,1.5s								
MLR	Muntele Rosu	75.95	1	P		P	08 29 12.4	+0.6	
MLR				IAmb	IAmb		08 29 14.3		
	comp=Z,32nm,1.5s								
LOT	Lotru	75.95	3	⇑P		P	08 29 11.5	-0.4	
PVRL	Vila Real	75.96	27	*e*P		P	08 29 15.1	+3.2	
	comp=Z,24nm,1.6s								
GZR	Gura Zlata	75.98	3	⇑P		P	08 29 12.3	+0.3	
VOIR		75.99	2	⇑P		P	08 29 12.3	+0.2	
VOIR		75.99	2	P		P	08 29 12.3	+0.2	
VOIR				pmax	pmax				
	comp=Z,8.0nm,0.9s								
ARR	Arges	76.05	2	⇑P		P	08 29 12.9	+0.5	
FRGS	Fruska Gora	76.09	6	⇑P		P	08 29 12.3	-0.3	
MVO	Moncorvo	76.22	26	*e*P		P	08 29 14.5	+1.0	
TLCR		76.26	359	⇓P		P	08 29 13.6	+0.2	
CFR	Carcaliu	76.27	360	⇑P		P	08 29 13.5	0.0	
PVIS	Viseu	76.45	27	*e*P		P	08 29 16.1	+1.4	
HERR	Herculane	76.48	4	⇑P		P	08 29 14.6	-0.1	
MDVR	Moldovita	76.55	4	⇑P		P	08 29 15.4	+0.2	
TPGR	Topolog	76.59	359	⇑P		P	08 29 15.3	-0.1	
SRE	Strehaia	76.72	3	⇓P		P	08 29 16.7	+0.6	
KIV	Kislovodsk	76.73	349	⇑P		P	08 29 16.4	0.0	
KIV	Kislovodsk	76.73	349	*e*P		P	08 29 16.1	-0.2	
KIV				pmax	pmax				
	comp=Z,31nm,1.1s								
KIV				MLR	MLR				
	comp=Z,19nm,18.0s								
KIV	Kislovodsk	76.73	349	P		P	08 29 16.0	-0.4	
KIV				IAmb	IAmb		08 29 17.0		
	comp=Z,31nm,1.0s								
HARR	Harsova	76.76	360	⇑P		P	08 29 16.4	+0.1	
CHGR	Chuyangaron	76.83	328	P		P	08 29 16.4	-0.6	
MTE	Manteigas	76.83	27	*e*P		P	08 29 18.4	+1.5	
	comp=Z,34nm,1.4s								
PCAS	Casmilo, Conde	76.93	28	*e*P		P	08 29 20.2	+2.8	
KBZ	Khabaz	76.93	349	P		P	08 29 17.3	0.0	
	comp=Z,17nm,0.8s,baz=357,slow=2.9,SNR=42								
KBZ				LR	LR		09 05 05.7		
	comp=Z,32nm,20.3s,baz=26,slow=37								
GROC	Groznyy	77.13	346	*e*P		P	08 29 18.8	+0.4	
GROC				*e*			08 29 29.6		
GROC				*e*			08 32 07.4		
GROC				pmax	pmax				
	comp=Z,11nm,0.5s								
ZARC	Zaragoza, Cauc	77.20	97	*e*P		P	08 29 33.5	+14	
LSA	Lhasa	77.27	307	P		P	08 29 20.5	+0.5	
LSA				pmax	pmax				
	comp=Z,26nm,0.6s								
ICOR	Ion Corvin	77.33	360	⇑P		P	08 29 20.5	+0.9	
PCBR	Castelo Branco	77.38	27	*e*P		P	08 29 20.9	+1.0	
MANR	Mangalia	77.63	359	⇓P		P	08 29 21.8	+0.7	
BOVS	Bovan	77.69	4	⇑P		P	08 29 21.5	-0.1	
ZEI	Tsey	77.76	348	*e*P		P	08 29 20.9	-1.4	
ZEI				pmax	pmax				
	comp=Z,11nm,1.0s								
PSN	Preselentsi	77.76	360	*e*P		P	08 29 22.1	+0.1	
PMAFR	Mafra	77.78	29	*e*P		P	08 29 25.7	+3.5	
PMRV	Marv??o	77.79	27	*e*P		P	08 29 25.1	+2.9	
CBOC	Ciudad Bolivar	77.99	99	*e*P		P	08 29 30.2	+6.4	
CHVG	Ch'k'valeri	78.02	349	⇑P		P	08 29 23.8	+0.4	
SZH	Strazhica	78.17	1	*e*P		P	08 29 23.6	-0.7	
SDV	Santo Domingo	78.20	92	LR		LR	09 04 53.3		
	comp=Z,64nm,21.0s,baz=313,slow=36								
SDV	Santo Domingo	78.20	92	*e*P		P	08 29 23.8	-1.2	
PTBC	PUERTO BERRIO,	78.21	97	*e*P		P	08 29 24.1	-0.8	
PRD	Provadia	78.25	0	*e*P		P	08 29 25.1	+0.5	
ESDC	Sonseca Array	78.33	24	P		P	08 29 25.9	+0.6	
	comp=Z,3.2nm,0.6s,baz=342,slow=5.3,SNR=18								
ZKTA	Zakatala	78.57	346	P		P	08 29 26.2	-0.3	
VTS	Vitosha	78.76	3	P		P	08 29 27.5	-0.2	
VTS				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VTS	Vitosha	78.76	3	P		P	08 29 27.5	-0.2	
VTS				IAmb	IAmb		08 29 28.3		
	comp=Z,10nm,0.9s								
VTS	Vitosha	78.76	3	*e*P		P	08 29 27.2	-0.5	
PNCL	Nicolau / Gran	78.77	28	*e*P		P	08 29 29.0	+1.4	
	comp=Z,20nm,1.7s								
PDG	Podgorica	78.78	6	⇓P		P	08 29 27.8	+0.2	
BARC	Barichara	78.82	96	*e*P		P	08 29 29.1	+0.6	
NORC	Norcasia	78.83	98	*e*P		P	08 29 28.5	+0.2	
GUY2C	Guyana, Caldas	78.86	98	*e*P		P	08 29 29.3	+0.3	
SEKA	Sheki	78.91	345	P		P	08 29 27.7	-0.8	
JMB	Yambol	78.98	1	*e*P		P	08 29 28.2	-0.5	
SKO	Skopje	79.34	5	*i* P		P	08 29 31.1	+0.4	
YOTC	Yotoco, Valle	79.42	100	*e*P		P	08 29 31.8	+0.1	
RUSC	La Rusia	79.47	96	*e*P		P	08 29 32.5	+0.2	
MORF	Marmelete	79.50	29	*e*P		P	08 29 32.7	+1.0	
KKB	Krupnik	79.51	3	*e*P		P	08 29 31.6	-0.1	
GANJ	Ganja	79.58	346	P		P	08 29 32.1	0.0	
PFVI	Vila Bisbo	79.62	29	*e*P		P	08 29 33.9	+1.6	
STIP	Stip	79.65	4	*i* P		P	08 29 31.8	-0.6	
RZN	Rozhen	79.73	2	*e*P		P	08 29 33.2	+0.1	
KDZ	Kurdzhali	79.78	2	*e*P		P	08 29 33.3	+0.2	
MMB	Musomiste	79.81	3	*e*P		P	08 29 33.5	+0.2	
VAY	Valandovo	80.04	4	*i* P		P	08 29 34.4	0.0	
ORTC	Ortega, Tolima	80.05	99	*e*P		P	08 29 34.3	-0.6	
OHR	Ohrid	80.17	5	*i* P		P	08 29 35.9	+0.6	
GEYT	Alibeck	80.22	336	P		P	08 29 34.7	-0.9	
	comp=Z,5.9nm,0.5s,baz=282,slow=2.9,SNR=8.6								
GEYT				LR	LR		09 12 20.3		
	comp=Z,43nm,18.5s,baz=330,slow=41								
GEYT	Alibeck	80.22	336	P		P	08 29 35.4	-0.2	
GEYT				IAmb	IAmb		08 29 36.5		
	comp=Z,18nm,1.2s								
GNI	Garni	80.27	347	LR		LR	09 09 58.4		
	comp=Z,18nm,18.3s,baz=332,slow=39								
GNI	Garni	80.27	347	*ce*P		P	08 29 36.6	+0.6	
GNI				pmax	pmax				
	comp=Z,35nm,1.7s								
POPC	Popayan, Colom	80.48	101	*e*P		P	08 29 37.5	0.0	
TAPN	Taplejung	80.75	309	*e*P		P	08 29 38.6	-0.3	
	comp=Z,63nm,0.5s								
MDUB	Mudurnu	80.93	357	P		P	08 29 39.7	+0.2	
GUN	Gumba	80.98	310	*e*P		P	08 29 40.0	-0.2	
	comp=Z,24nm,0.4s								
JIRN	Jiri	81.08	310	*e*P		P	08 29 41.0	+0.2	
PMOZ	Porto Moniz, M	81.31	37	*e*P		P	08 29 40.4	-1.2	
ODAN	Odare	81.31	309	*e*P		P	08 29 41.4	-0.4	
KKN	Kakani	81.33	311	*e*P		P	08 29 41.7	-0.2	
	comp=Z,39nm,0.4s								
PMPS	Porto Santo	81.36	36	*e*P		P	08 29 42.6	+0.9	
GKN	Gorkha	81.39	311	*e*P		P	08 29 41.8	-0.3	
	comp=Z,48nm,0.5s								
PTGC	Puerto Gaitan,	81.40	96	*e*P		P	08 29 40.9	-1.2	
DANN	Dangsing	81.42	312	*e*P		P	08 29 42.4	-0.1	
	comp=Z,187nm,0.6s								
PKIN	Phulchoki	81.47	311	*e*P		P	08 29 42.3	-0.4	
	comp=Z,20nm,0.4s								
PKI	Pulchoki	81.47	311	*e*P		P	08 29 42.2	-0.6	
	comp=Z,34nm,0.6s								
ANTO	Ankara	81.48	356	P		P	08 29 42.2	-0.1	
ANTO				pmax	pmax				
	comp=Z,30nm,0.8s								
ANTO	Ankara	81.48	356	P		P	08 29 42.2	-0.1	
ANTO				IAmb	IAmb		08 29 43.7		
	comp=Z,30nm,0.8s								
BORA	Eskisehir	81.53	358	P		P	08 29 42.5	-0.2	
BORA				IAmb	IAmb		08 29 43.5		
	comp=Z,13nm,0.9s								
RAMN	Ramite	81.55	309	*e*P		P	08 29 42.7	-0.4	
	comp=Z,75nm,0.4s								
DMN	Daman	81.56	311	*e*P		P	08 29 43.1	-0.1	
	comp=Z,35nm,0.4s								
BR131	Keskin Array S	81.59	355	P		P	08 29 42.8	-0.2	
BR131				pmax	pmax				
	comp=Z,18nm,0.9s								
BR131	Keskin Array S	81.59	355	P		P	08 29 42.8	-0.2	
BR131				IAmb	IAmb		08 29 43.8		
	comp=Z,18nm,0.8s								
BRTR	Keskin Array B	81.59	355	P		P	08 29 42.9	-0.1	
	comp=Z,10nm,0.8s,baz=29,slow=2.8,SNR=35								
BRTR				LR	LR		09 09 10.0		
	comp=Z,24nm,21.7s,baz=1.0,slow=38								
BRTR	Keskin Array B	81.59	355	P		P	08 29 42.8	-0.2	
PYUN	Piuthan	81.94	313	*e*P		P	08 29 44.7	-0.4	
	comp=Z,70nm,0.5s								
KOLN	Koldanda	82.00	312	*e*P		P	08 29 45.1	-0.3	
	comp=Z,34nm,0.5s								
GEVA	Gevas	82.28	348	P		P	08 29 47.2	+0.6	
GEVA				IAmb	IAmb		08 29 48.3		
	comp=Z,23nm,0.8s								
BNN	Bunyan	82.35	354	P		P	08 29 47.2	+0.2	
CHTO	Chiang Mai	83.29	295	P		P	08 29 50.3	-1.7	
CM31	Chiang Mai Arr	83.59	295	P		P	08 29 52.7	-0.8	
CM31				IAmb	IAmb		08 29 53.8		
	comp=Z,21nm,0.8s								
CMAR	Chiang Mai Arr	83.59	295	P		P	08 29 52.7	-0.8	
	comp=Z,16nm,0.8s,baz=16,slow=5.4,SNR=66								
CMAR				LR	LR		09 08 55.0		
	comp=Z,34nm,20.2s,baz=215,slow=37								
CMAR	Chiang Mai Arr	83.59	295	P		P	08 29 52.8	-0.7	
SIJI	Sorong	83.70	258	P		P	08 29 53.6	-0.5	
	comp=Z,20nm,0.5s,baz=28,slow=6.7,SNR=13								
KEST	Kesra	84.48	15	P		P	08 29 57.4	-0.6	
	comp=Z,11nm,0.9s,baz=0.9,slow=6.1,SNR=6.9								
KEST	Kesra	84.48	15	IAmb	IAmb		08 30 04.5		
	comp=Z,34nm,1.4s								
DLV	T Lat	84.52	284	P		P	08 29 57.5	-1.0	
SANI	Sanana	87.40	262	P		P	08 30 11.7	-0.7	
BOAV	Boa Vista	88.95	87	*e*P		P	08 30 36.1	+16	
TBTG	Tabatinga, AM	89.68	99	*e*P		P	08 30 24.7	+1.5	
KAPI	Kappang	93.14	266	LR		LR	09 06 50.8		
	comp=Z,15nm,21.8s,baz=312,slow=32								
KDU	Kakadu	93.24	251	P		P	08 30 39.2	-0.4	
MTN	Manton Dam	94.03	252	P		P	08 30 42.2	-1.1	
WSAR	Wadi Sarin	94.22	332	LR		LR	09 20 32.8		
	comp=Z,55nm,18.6s,baz=187,slow=40								
BATI	Baumata	95.53	260	LR		LR	09 10 51.8		
	comp=Z,50nm,19.0s,baz=216,slow=34								
MCPB	Macapa, AP	95.66	81	*e*P		P	08 31 06.5	+16	
MALB	Monte Alegre	95.79	84	*e*P		P	08 31 06.2	+15	
PSI	Prapat	97.14	288	P		P	08 30 56.2	-1.6	
	comp=Z,13nm,0.8s,baz=342,slow=7.3,SNR=9.1								
WRAB	Tennant Creek	98.57	246	⇑*e*P		P	08 31 03.2	-0.6	
WRAB				pmax	pmax				
	comp=Z,4.0nm,1.1s								
WRA	Warramunga Arr	98.58	246	P		P	08 31 02.4	-1.4	
	comp=Z,0.8nm,0.8s,baz=37,slow=4.7,SNR=6.9								
WRA	Warramunga Arr	98.58	246	*i* P		Pdif	08 31 04.0	+0.1	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
AS

*IDC **29** 08:58:13.0±1.2,33°.28N×87°.01W,h0km,mb3.4/4, mb1 3.7/6,mb1mx3.4/45,mbtmp3.3/6,ML2.9/2,Error ellipse: s-maj=26.9km s-min=10.4km az=148.0*

*NEIC **29** 08:58:13.4±1.6,33°.38N±0°.04×87°.18W±0°.02,h2km±6km, mb_Lg3.0/118,Error ellipse: s-maj=6.1km s-min=1.8km az=200.0*

*ANF **29** 08:58:14.0±0.3,33°.37N×87°.21W,h2km,ML3.4/21,Error ellipse: s-maj=3.4km s-min=2.7km az=151.0*

ISC 29 08:58:13.0±1.2,33°.38N±0°.03×87°.20W±0°.02,h2km±9km, n155,σ0°82/141,mb3.8/3,Alabama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LRAL	**Lakeview Retre**	**0.39**	**154**		**Pg**	**08 58 20.7**	**+0.3**
LRAL				Sg	**Sg**	**08 58 25.0**	**-0.4**
LRAL	**Lakeview Retre**	**0.39**	**154**	P	**Pg**	**08 58 20.7**	**+0.3**
	baz=336						
Z47A	**Carrollton**	**0.75**	**256**		**Pg**	**08 58 26.7**	**-0.7**
Z47A				Sg	**Sg**	**08 58 37.1**	**-0.1**
Z47A	**Carrollton**	**0.75**	**256**	P	**Pg**	**08 58 27.6**	**+0.2**
	baz=76						
Z47A				S	**Sg**	**08 58 38.0**	**+0.9**
	baz=76						
Y49A	**Blount Mountai**	**0.81**	**54**		**Pg**	**08 58 28.7**	**+0.1**
Y49A				Sg	**Sg**	**08 58 39.6**	**+0.5**
Y49A	**Blount Mountai**	**0.81**	**54**	P	**Pg**	**08 58 28.8**	**+0.2**
	baz=233,SNR=47						
Y49A				S	**Sb**	**08 58 40.6**	**-0.7**
	baz=233						
X48A	**Hartselle**	**1.07**	**7**		**Pg**	**08 58 32.9**	**-0.7**
X48A	**Hartselle**	**1.07**	**7**	P	**Pg**	**08 58 32.9**	**-0.7**
	baz=186,SNR=11						
250A	**Grady**	**1.61**	**150**		**Pn**	**08 58 42.6**	**+0.2**
250A				Sn	**Sn**	**08 59 03.3**	**-0.5**
250A	**Grady**	**1.61**	**150**	P	**Pn**	**08 58 42.7**	**+0.2**
	baz=331						
250A				S	**Sg**	**08 59 06.7**	**+2.0**
	baz=331						
Z51A	**Franklin**	**1.70**	**92**		**Pn**	**08 58 44.3**	**+0.6**
Z51A	**Franklin**	**1.70**	**92**	P	**Pn**	**08 58 44.4**	**+0.7**
	baz=273,SNR=32						
146A	**Union**	**1.73**	**245**		**Pn**	**08 58 44.9**	**+0.7**
146A				Sn	**Sn**	**08 59 07.1**	**+0.4**
146A	**Union**	**1.73**	**245**	P	**Pn**	**08 58 44.8**	**+0.7**
	baz=64						
146A				S	**Sg**	**08 59 10.2**	**+1.7**
	baz=64						
PLAL	**Pickwick Lake**	**1.75**	**336**		**Pn**	**08 58 44.7**	**+0.2**
PLAL				IAmb_Lg		08 59 14.5	
	comp=Z,72nm,0.8s						
FPAL	**Fort Paine**	**1.75**	**48**		**Pn**	**08 58 44.7**	**+0.2**
FPAL				IAmb_Lg		08 59 09.5	
	comp=Z,97nm,0.8s						
Y45A	**Yeager Farm, C**	**2.01**	**284**	Pn	**Pn**	**08 58 49.4**	**+1.3**
SWET	**Sewanee**	**2.11**	**30**		**Pn**	**08 58 50.3**	**+0.9**
SWET				IAmb_Lg		08 59 24.0	
	comp=Z,64nm,0.7s						
OXF	**Oxford**	**2.15**	**302**		**Pn**	**08 58 51.1**	**+1.2**
OXF				IAmb_Lg		08 59 25.9	
	comp=Z,77nm,0.7s						
OXF	**Oxford**	**2.15**	**302**	P	**Pn**	**08 58 51.4**	**+1.4**
	baz=121,SNR=16						
152A	**Waverly Hall**	**2.20**	**108**		**Pn**	**08 58 50.3**	**-0.4**
152A	**Waverly Hall**	**2.20**	**108**	P	**Pb**	**08 58 52.7**	**-0.9**
	baz=290,SNR=7.8						
152A				S	**Sb**	**08 59 22.2**	**+0.8**
	baz=290						
BRAL	**Brewton**	**2.21**	**177**	Pn	**Pn**	**08 58 51.6**	**+0.9**
X51A	**Calhoun**	**2.28**	**58**		**Pn**	**08 58 52.7**	**+1.1**
X51A				IAmb_Lg		08 59 30.9	
	comp=Z,51nm,0.8s						
X51A	**Calhoun**	**2.28**	**58**	P	**Pn**	**08 58 53.2**	**+1.5**
	baz=239,SNR=11						
X51A				P	**Pn**	**08 58 53.2**	**+1.5**
	baz=239,SNR=11						
V48A	**Smith Brothers**	**2.37**	**7**		**Pn**	**08 58 53.6**	**+0.6**
V48A	**Smith Brothers**	**2.37**	**7**	P	**Pn**	**08 58 54.7**	**+1.8**
	baz=187,SNR=5.1						
W50A	**Signal Mountai**	**2.40**	**40**		**Pn**	**08 58 54.1**	**+0.8**
W50A				IAmb_Lg		08 59 29.8	
	comp=Z,74nm,0.8s						
W50A	**Signal Mountai**	**2.40**	**40**	P	**Pn**	**08 58 55.0**	**+1.7**
	baz=221,SNR=19						
W50A				S	**Sb**	**08 59 27.9**	**+1.0**
	baz=221						
W45A	**Hickory Valley**	**2.42**	**318**		**Pn**	**08 58 54.1**	**+0.5**
W45A				IAmb_Lg		08 59 36.8	
	comp=Z,76nm,0.8s						
W45A	**Hickory Valley**	**2.42**	**318**	P	**Pn**	**08 58 54.9**	**+1.4**
	baz=136,SNR=8.1						
W45A				S	**Sb**	**08 59 28.1**	**+0.6**
	baz=136						
Y52A	**Lilburn**	**2.66**	**79**		**Pn**	**08 58 57.7**	**+0.7**
Y52A				IAmb_Lg		08 59 35.6	
	comp=Z,73nm,0.8s						
Y52A	**Lilburn**	**2.66**	**79**	S	**Sb**	**08 59 34.2**	**-0.4**
	baz=260						
Y52A				S	**Sb**	**08 59 34.2**	**-0.4**
	baz=260						
352A	**Blakely**	**2.70**	**134**		**Pn**	**08 58 57.8**	**+0.3**
352A				IAmb_Lg		08 59 45.7	
	comp=Z,67nm,0.9s						
352A	**Blakely**	**2.70**	**134**	P	**Pn**	**08 58 58.1**	**+0.6**
	baz=316						
346A	**Big Creek Wild**	**2.76**	**225**		**Pn**	**08 58 58.5**	**+0.2**
346A				IAmb_Lg		08 59 47.3	
	comp=Z,42nm,0.7s						
346A	**Big Creek Wild**	**2.76**	**225**	P	**Pn**	**08 58 58.7**	**+0.4**
	baz=44						
346A				Sb	**Sg**	**08 59 40.5**	**-1.2**
	baz=44						
WVT	**Waverly**	**2.79**	**349**	Pn	**Pn**	**08 58 59.4**	**+0.7**
WVT	**Waverly**	**2.79**	**349**	P	**Pn**	**08 58 59.5**	**+0.8**
	baz=169,SNR=35						
CLTN	**Cedars of Leba**	**2.80**	**15**		**Pn**	**08 59 00.0**	**+1.2**
451A	**Vernon**	**3.02**	**155**	Pn	**Pn**	**08 59 02.2**	**+0.3**
451A	**Vernon**	**3.02**	**155**	P	**Pn**	**08 59 02.3**	**+0.5**
	baz=337						
VBMS	**Vicksburg**	**3.02**	**248**		**Pn**	**08 59 02.3**	**+0.4**
CPCT	**Cooper Cave**	**3.03**	**46**		**Pn**	**08 59 03.2**	**+1.2**
CPCT				IAmb_Lg		08 59 57.4	
	comp=Z,46nm,0.8s						
HALT	**Halls**	**3.08**	**326**	Pn	**Pn**	**08 59 03.2**	**+0.5**
GOGA	**Godfrey**	**3.12**	**88**		**Pn**	**08 59 03.2**	**-0.1**
W52A	**Murphy**	**3.20**	**57**		**Pn**	**08 59 05.6**	**+1.1**
LNXT	**Lenox**	**3.30**	**326**	Pn	**Pn**	**08 59 07.1**	**+1.3**
U49A	**Red Boiling Sp**	**3.33**	**20**		**Pn**	**08 59 06.5**	**+0.3**
U49A				IAmb_Lg		09 00 06.2	
	comp=Z,34nm,0.9s						
GLAT	**Glass**	**3.35**	**330**	Pn	**Pn**	**08 59 06.9**	**+0.5**
V51A	**Loudon**	**3.37**	**43**		**Pn**	**08 59 06.8**	**+0.1**
GNAR	**Gosnell**	**3.47**	**319**	Pn	**Pn**	**08 59 09.3**	**+1.3**
PEBM	**Pemiscott Bayo**	**3.50**	**322**	Pn	**Pn**	**08 59 07.8**	**-0.5**
PEBM				IAmb_Lg		09 00 10.1	
	comp=Z,56nm,0.8s						
154A	**Montrose**	**3.52**	**101**		**Pn**	**08 59 09.5**	**+0.6**
344A	**Westbrook Farm**	**3.55**	**238**	Pn	**Pn**	**08 59 09.5**	**+0.3**
HICK	**Hickman**	**3.56**	**333**	Pn	**Pn**	**08 59 09.7**	**+0.4**
HICK				IAmb_Lg		09 00 14.3	
	comp=Z,55nm,0.9s						
HBAR	**Harrisburg**	**3.58**	**308**	Pn	**Pn**	**08 59 09.9**	**+0.3**
HBAR				IAmb_Lg		09 00 12.5	
	comp=Z,44nm,0.7s						
143A	**Socs Landing,**	**3.59**	**260**		**Pn**	**08 59 09.9**	**+0.1**
T47A	**Sharon Grove**	**3.60**	**1**		**Pn**	**08 59 10.5**	**+0.7**
T47A				IAmb_Lg		09 00 09.8	
	comp=Z,31nm,0.8s						
TIGA	**Tifton**	**3.62**	**121**	IAmb_Lg		09 00 14.3	
	comp=Z,45nm,0.9s						
TKL	**Tuckaleechee C**	**3.63**	**50**	Pn	**Pn**	**08 59 11.1**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=204,slow=12,SNR=15						
TKL				Sn	**Sn**	**08 59 54.3**	**+0.6**
	comp=Z,4.1nm,0.3s,baz=7.2,slow=7.5,SNR=8.1						
TKL				Lg	Lg	09 00 02.1	
	comp=Z,4.5nm,0.3s,baz=148,slow=5.1,SNR=8.9						
TKL	**Tuckaleechee C**	**3.63**	**50**		**Pn**	**08 59 10.9**	**+0.7**
TKL	**Tuckaleechee C**	**3.63**	**50**	P	**Pn**	**08 59 11.1**	**+0.9**
	baz=232,SNR=7.5						
CCAR	**Cane Creek**	**3.85**	**279**	Pn	**Pn**	**08 59 14.6**	**+1.3**
CCAR				IAmb_Lg		09 00 22.6	
	comp=Z,33nm,0.8s						
V52A	**Sevierville**	**3.85**	**49**		**Pn**	**08 59 13.9**	**+0.5**
V52A				IAmb_Lg		09 00 13.9	
	comp=Z,32nm,0.8s						
V52A	**Sevierville**	**3.85**	**49**	P	**Pn**	**08 59 14.2**	**+0.8**
	baz=231,SNR=8.5						
PARMO	**Parma**	**3.88**	**328**	Pn	**Pn**	**08 59 14.1**	**+0.4**
BG3	**Lake Jocassee**	**3.89**	**64**	Pn	**Pn**	**08 59 14.6**	**+0.8**
553A	**Crawfordville**	**3.96**	**143**	Pn	**Pn**	**08 59 15.9**	**+1.1**
T50A	**Nancy**	**4.11**	**27**		**Pn**	**08 59 16.7**	**-0.2**
T50A				IAmb_Lg		09 00 25.8	
	comp=Z,48nm,1.1s						
HODGE	**Hodges**	**4.20**	**77**	Pn	**Pn**	**08 59 17.4**	**-0.7**
LCAR	**Lake Charles**	**4.22**	**311**	Pn	**Pn**	**08 59 19.0**	**+0.7**
255A	**Hazlehurst**	**4.24**	**109**		**Pn**	**08 59 19.1**	**+0.5**
255A				IAmb_Lg		09 00 30.7	
	comp=Z,27nm,0.8s						
V53A	**Saluda**	**4.28**	**57**		**Pn**	**08 59 19.9**	**+0.6**
V53A				IAmb_Lg		09 00 29.7	
	comp=Z,34nm,0.7s						
PBMO	**Poplar Bluff**	**4.30**	**323**		**Pn**	**08 59 19.4**	**-0.1**
TZTN	**Tazewell**	**4.35**	**43**	Pn	**Pn**	**08 59 20.9**	**+0.7**
TZTN	**Tazewell**	**4.35**	**43**	P	**Pn**	**08 59 21.1**	**+0.9**
	baz=224,SNR=15						
UALR	**University of**	**4.49**	**289**		**Pn**	**08 59 22.2**	**+0.2**
W41B	**Gary Mavity, V**	**4.54**	**295**	Pn	**Pn**	**08 59 21.4**	**-1.4**
S44A	**Carbondale**	**4.62**	**339**	Pn	**Pn**	**08 59 24.6**	**+0.8**
S44A				IAmb_Lg		09 00 38.4	
	comp=Z,34nm,0.7s						
WHAR	**Wooly Hollow**	**4.62**	**296**		**Pn**	**08 59 24.1**	**+0.2**
SIUC	**Southern Illin**	**4.62**	**340**	Pn	**Pn**	**08 59 24.1**	**+0.2**
Z41A	**Richland Creek**	**4.69**	**270**	Pn	**Pn**	**08 59 24.1**	**-0.8**
FCAR	**Ozark Folk Cen**	**4.77**	**303**		**Pn**	**08 59 26.6**	**+0.7**
342A	**Flagon Creek P**	**4.77**	**247**	Pn	**Pn**	**08 59 26.5**	**+0.5**
X40A	**Basin Creek Fa**	**4.81**	**285**		**Pn**	**08 59 27.0**	**+0.6**
JSC	**Jenkinsville**	**5.03**	**78**	Pn	**Pn**	**08 59 30.0**	**+0.6**
456A	**Hilliard**	**5.13**	**120**	IAmb_Lg		09 01 01.1	
	comp=Z,26nm,0.8s						
KMSC	**Kings Mountain**	**5.17**	**69**	IAmb_Lg		09 00 53.4	
	comp=Z,30nm,1.0s						
S51A	**Beattyville**	**5.17**	**34**		**Pn**	**08 59 31.9**	**+0.5**
R49A	**Shelbyville**	**5.17**	**18**	IAmb_Lg		09 00 58.9	
	comp=Z,28nm,0.7s						
FVM	**French Village**	**5.29**	**331**	Pn	**Pn**	**08 59 33.0**	**0.0**
OLIL	**Olney**	**5.39**	**353**	Pn	**Pn**	**08 59 34.1**	**-0.3**
U54A	**Nelsons Funny**	**5.42**	**53**		**Pn**	**08 59 34.7**	**-0.2**
U54A				IAmb_Lg		09 01 18.0	
	comp=Z,31nm,0.7s						
R50A	**Paris**	**5.42**	**25**	Pn	**Pn**	**08 59 34.8**	**0.0**
MIAR	**Mount Ida**	**5.42**	**284**	Pn	**Pn**	**08 59 34.5**	**-0.4**
U40A	**Yellville**	**5.51**	**304**	Pn	**Pn**	**08 59 38.4**	**+2.2**
V55A	**Taylorsville**	**5.52**	**62**	IAmb_Lg		09 01 05.7	
	comp=Z,19nm,0.8s						
MGMO	**Mountain Grove**	**5.60**	**314**		**Pn**	**08 59 37.8**	**+0.4**
656A	**Willston**	**5.65**	**134**	Pn	**Pn**	**08 59 37.3**	**-0.7**
656A				IAmb_Lg		09 01 27.3	
	comp=Z,21nm,1.1s						
Q44A	**Meyer Farm, Va**	**5.70**	**346**	IAmb_Lg		09 01 18.5	
	comp=Z,22nm,0.8s						
CCM	**Cathedral Cave**	**5.71**	**326**	Pn	**Pn**	**08 59 38.7**	**-0.1**
Y57A	**Sumter**	**5.71**	**82**	IAmb_Lg		09 01 21.7	
	comp=Z,30nm,0.9s						
BIRD	**Birdtown, Kers**	**5.74**	**75**	Pn	**Pn**	**08 59 38.5**	**-0.7**
W39A	**Magazine**	**5.74**	**290**		**Pn**	**08 59 39.7**	**+0.5**
SLM	**Saint Louis**	**5.79**	**336**	IAmb_Lg		09 01 19.3	
	comp=Z,27nm,0.8s						
BLO	**Bloomington**	**5.80**	**5**	IAmb_Lg		09 01 34.1	
	comp=Z,25nm,0.8s						
P46A	**Rosedale**	**6.22**	**360**	IAmb_Lg		09 01 46.0	
	comp=Z,19nm,0.8s						
W57A	**Gilead**	**6.22**	**72**	Pn	**Pn**	**08 59 45.0**	**-0.9**
W57A				IAmb_Lg		09 01 38.7	
	comp=Z,18nm,0.9s						
P48A	**Milroy**	**6.23**	**13**	IAmb_Lg		09 01 32.8	
	comp=Z,19nm,0.8s						
U56A	**King**	**6.34**	**60**	IAmb_Lg		09 01 44.1	
	comp=Z,16nm,0.9s						
R40A	**Maddies Statio**	**6.40**	**321**		**Pn**	**08 59 49.2**	**+0.9**
Q51A	**Peebles**	**6.44**	**28**	Pn	**Pn**	**08 59 49.0**	**+0.2**
P49A	**Miami Univ. Ec**	**6.46**	**17**	IAmb_Lg		09 01 45.6	
	comp=Z,24nm,0.8s						
S54A	**Dingess, Beckl**	**6.51**	**46**	Pn	**Pn**	**08 59 49.2**	**-0.7**
P43A	**Skaggs, Pawnee**	**6.52**	**344**	IAmb_Lg		09 01 42.0	
	comp=Z,20nm,0.9s						
R53A	**Hurricane**	**6.52**	**39**	Pn	**Pn**	**08 59 49.0**	**-1.0**
S39A	**Bolivar**	**6.59**	**312**	Pn	**Pn**	**08 59 50.9**	**0.0**
O44A	**Mansfield**	**6.83**	**352**	IAmb_Lg		09 01 58.8	
	comp=Z,18nm,0.9s						
Q52A	**Bidwell**	**6.85**	**34**	IAmb_Lg		09 01 59.9	
	comp=Z,17nm,0.8s						
X37A	**Clayton**	**6.89**	**282**	Pn	**Pn**	**08 59 54.5**	**-0.6**
P51A	**Williamsport**	**6.94**	**28**	Pn	**Pn**	**08 59 55.3**	**-0.4**
SFIN	**Lafayette**	**6.98**	**1**	Pn	**Pn**	**08 59 55.8**	**-0.5**
SFIN				IAmb_Lg		09 02 01.9	
	comp=Z,15nm,0.8s						
V58A	**Windy Hill, Pi**	**7.09**	**68**	IAmb_Lg		09 02 03.6	
	comp=Z,16nm,1.1s						
O49A	**Covington**	**7.17**	**18**	Pn	**Pn**	**08 59 57.9**	**-1.0**
P40A	**Paris**	**7.27**	**329**	Pn	**Pn**	**08 59 59.5**	**-0.8**
P40A				IAmb_Lg		09 02 13.7	
	comp=Z,15nm,0.8s						
T57A	**Hurt**	**7.44**	**59**	Pn	**Pn**	**09 00 01.5**	**-1.1**
T57A				IAmb_Lg		09 02 17.9	
	comp=Z,13nm,0.8s						
P52A	**Corning**	**7.45**	**32**	Pn	**Pn**	**09 00 02.4**	**-0.4**
P52A				IAmb_Lg		09 02 27.5	
	comp=Z,16nm,0.8s						
TUL1	**Leonard**	**7.51**	**292**	Pn	**Pn**	**09 00 03.4**	**-0.2**
R55A	**Marlinton**	**7.55**	**48**	Pn	**Pn**	**09 00 03.6**	**-0.5**
R55A				IAmb_Lg		09 02 26.4	
	comp=Z,16nm,0.9s						
N47A	**Urbana**	**7.58**	**9**	IAmb_Lg		09 02 28.4	
	comp=Z,15nm,0.8s						
ACSO	**Alum Creek Sta**	**7.63**	**25**	IAmb_Lg		09 02 25.2	
	comp=Z,15nm,0.8s						
P53A	**Whipple**	**7.68**	**36**	Pn	**Pn**	**09 00 04.5**	**-1.4**
P53A				IAmb_Lg		09 02 22.1	
	comp=Z,19nm,0.8s						
N41A	**Harden Midland**	**7.87**	**339**	IAmb_Lg		09 02 29.5	
	comp=Z,14nm,0.8s						
N49A	**Columbus Grove**	**7.90**	**17**	IAmb_Lg		09 02 24.4	
	comp=Z,13nm,0.8s						
CNNC	**Cliffs of the**	**7.92**	**74**	IAmb_Lg		09 02 40.6	
	comp=Z,20nm,0.8s						
P38A	**Dawn**	**8.05**	**323**	Pn	**Pn**	**09 00 10.4**	**-0.5**
U59A	**Littleton**	**8.28**	**66**	IAmb_Lg		09 02 46.8	
	comp=Z,13nm,0.9s						
O53A	**New Philadelph**	**8.37**	**33**	Pn	**Pn**	**09 00 14.6**	**-0.8**
T35A	**Sooner Cattle**	**8.40**	**297**	IAmb_Lg		09 02 54.9	
	comp=Z,12nm,0.8s						
Q56A	**Snyder Ridge,**	**8.59**	**47**	Pn	**Pn**	**09 00 17.9**	**-0.5**
L46A	**Eue Claire**	**8.64**	**4**	IAmb_Lg		09 02 47.5	
	comp=Z,17nm,0.8s						
O54A	**Avella**	**8.72**	**37**	Pn	**Pn**	**09 00 19.0**	**-1.1**
O54A				IAmb_Lg		09 03 01.6	
	comp=Z,16nm,0.8s						
L48A	**N Adams**	**8.82**	**14**	IAmb_Lg		09 03 04.2	
	comp=Z,15nm,0.8s						
R58B	**Mineral**	**8.85**	**56**	Pn	**Pn**	**09 00 21.2**	**-0.8**
N53A	**Lisbon**	**8.98**	**33**	Pn	**Pn**	**09 00 22.9**	**-0.9**
SCIA	**State Center**	**9.75**	**332**	IAmb_Lg		09 03 28.1	
	comp=Z,8.4nm,0.7s						
JFWS	**Jewell Farm**	**9.81**	**347**	IAmb_Lg		09 03 23.4	
	comp=Z,13nm,0.8s						
SADO	**Sadowa**	**12.97**	**26**	Lg	Lg	09 04 54.4	
	comp=Z,0.4nm,0.3s,baz=122,slow=21,SNR=5.1						
TXAR	**Lajitas Array**	**14.63**	**258**	Pn	**Pn**	**09 01 40.9**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=74,slow=13,SNR=2.0						
PDAR	**Pinedale Array**	**19.89**	**305**	P	**Pn**	**09 02 47.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=98,slow=11,SNR=3.9						
NVAR	**Mina Array Bea**	**25.62**	**290**	P	**P**	**09 03 45.3**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=91,slow=7.2,SNR=3.5						
ILAR	**Eielson Array**	**47.48**	**330**	P	**P**	**09 06 50.1**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=102,slow=6.2,SNR=4.8						
LPAZ	**La Paz**	**52.64**	**157**	P	**P**	**09 07 27.9**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=14,slow=2.9,SNR=5.3						
ASAR	**Alice Springs**	**142.81**	**274**	PKhKP	PKPpre	09 17 43.4	
	comp=Z,0.2nm,0.5s,baz=61,slow=2.7,SNR=6.2						

*JMA **29** 09:00:11.4,33°.26N×131°.37E,h9km±1km,M3.2*
JMA Felt III J1.

*IDC **29** 09:00:12.9±2.5,33°.09N×131°.32E,h0km,mb3.3/1, mb1 3.5/3,mb1mx3.2/41,mbtmp3.3/3,ML2.8/2,MS2.5/2, Ms1 2.5/2,ms1mx2.3/32,Error ellipse: s-maj=32.1km s-min=11.8km az=170.0*

ISC 29 09:00:14.0±1.1,33°.22N±0°.06×131°.39E±0°.04,h10km,n10, σ3°20/11,1C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JBEP	**Beppuamama**	**0.12**	**9**	⇑P	**Pg**	**09 00 13.7**	**-3.2**
JBEP				*e*S	**Sg**	**09 00 15.4**	**-3.5**
JUS	**Usuki**	**0.34**	**117**	⇓P	**Pg**	**09 00 18.7**	**-2.1**
JNU	**Nakatsue**	**0.44**	**257**	Pg	**Pg**	**09 00 19.6**	**-2.9**
	51nm,0.3s,baz=85,slow=7.4,SNR=130						
JNU				Lg	Lg	09 00 25.5	
	108nm,0.3s,baz=270,slow=20,SNR=33						
JTA	**Tamana**	**0.76**	**251**	P	**Pg**	**09 00 26.0**	**-2.7**
JIU3	**Izumi3**	**0.82**	**216**	P	**Pg**	**09 00 27.6**	**-2.3**
JNA	**Nagahama**	**0.97**	**70**	P	**Pg**	**09 00 30.0**	**-2.7**
KSRS	**Korea Array**	**5.08**	**327**	Pn	**Pn**	**09 01 32.1**	**+1.9**
	0.4nm,0.3s,baz=147,slow=16,SNR=5.7						
KSRS				Sn	**Sn**	**09 02 32.8**	**+3.8**
	0.2nm,0.3s,baz=207,slow=29,SNR=2.9						
KSRS				Lg	Lg	09 02 55.3	
	0.6nm,0.3s,baz=149,slow=30,SNR=6.1						
KSRS				LR	LR	09 03 22.4	
	comp=Z,27nm,19.4s,baz=200,slow=37						
MJAR	**Matsushiro Arr**	**6.51**	**58**	Pn	**Pn**	**09 01 52.5**	**+2.6**
	0.2nm,0.3s,baz=238,slow=13,SNR=10						
USRK	**Ussuriysk Ar.**	**10.97**	**2**	LR	LR	09 06 56.3	
	comp=Z,42nm,20.2s,baz=178,slow=36						
SONM	**Songino Array**	**23.82**	**315**	P	**P**	**09 05 28.4**	**+1.3**
	0.5nm,0.6s,baz=123,slow=10.0,SNR=2.7						

*TUL **29** 09:05:17±1.5,36°.47N±0°.01×98°.75W±0°.02,h8km±2km, ML2.9,mb_Lg2.6/43(NEIC),Error ellipse: s-maj=2.3km s-min=1.5km az=103.0*

NEIC 29 09:05:16.9±2.0,36°.45N±0°.01×98°.74W±0°.02,h5km±1km, Error ellipse: s-maj=3.0km s-min=2.5km az=301.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.22**	**251**	Pg	Pg	09 05 21.7	+0.5
U32A				Sg	Sg	09 05 25.4	+1.2
OKCFA	**Oklahoma City**	**1.47**	**134**	Pn	Pn	09 05 43.0	-1.0
OKCSW	**OKLAHOMA CITY**	**1.48**	**134**	Pn	Pn	09 05 43.6	-0.6
FNO	**Franklin**	**1.61**	**137**		Pn	09 05 45.6	-0.4
WMOK	**Wichita Mounta**	**1.71**	**181**	Pn	Pn	09 05 47.0	-0.3
T35A	**Sooner Cattle**	**1.85**	**75**		Pn	09 05 49.3	0.0
R32A	**Long Quarter,**	**1.97**	**1**		Pn	09 05 51.9	+1.0
X34A	**Smith Ranch, M**	**1.99**	**158**	Pn	Pb	09 05 52.9	-0.6
X34A				IAmb_Lg		09 06 26.1	
	comp=Z,32nm,0.8s						
TUL1	**Leonard**	**2.44**	**102**	Pn	Pn	09 05 57.0	-0.4
CBKS	**Cedar Bluff**	**2.49**	**342**	Pn	Pn	09 05 55.9	-2.2
AMTX	**Amarillo**	**2.86**	**238**	IAmb_Lg		09 06 48.1	
	comp=Z,29nm,0.8s						
KSU1	**Kansas State U**	**3.14**	**32**	Pn	Pn	09 06 04.7	-2.3
X37A	**Clayton**	**3.32**	**123**	IAmb_Lg		09 07 07.4	
	comp=Z,15nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.00**	**311**	IAmb_Lg		09 07 30.3	
	comp=Z,13nm,0.7s						
MSTX	**Muleshoe**	**4.13**	**234**	IAmb_Lg		09 07 36.3	
	comp=Z,9.8nm,0.7s						
Z38A	**Mt. Pleasant**	**4.43**	**135**	IAmb_Lg		09 07 41.6	
	comp=Z,13nm,0.8s						
S39A	**Bolivar**	**4.50**	**72**	Pn	Pn	09 06 24.4	-1.4
S39A				IAmb_Lg		09 07 42.2	
	comp=Z,12nm,0.7s						
T25A	**Trinidad**	**4.60**	**280**	Pn	Pn	09 06 26.7	-0.6
T25A				IAmb_Lg		09 07 47.8	
	comp=Z,9.6nm,1.0s						
MIAR	**Mount Ida**	**4.62**	**113**	Pn	Pn	09 06 26.2	-1.1
MIAR				IAmb_Lg		09 07 52.1	
	comp=Z,13nm,1.1s						
U40A	**Yellville**	**4.75**	**89**	Pn	Pn	09 06 28.6	-0.5
U40A				IAmb_Lg		09 07 58.0	
	comp=Z,16nm,1.1s						
BGNE	**Belgrade**	**4.97**	**5**	Pn	Pn	09 06 31.8	-0.4
N35A	**Tabor**	**5.03**	**28**	Pn	Pn	09 06 33.1	+0.2
OGNE	**Ogallala**	**5.17**	**331**	IAmb_Lg		09 08 10.3	
	comp=Z,14nm,0.8s						
X40A	**Basin Creek Fa**	**5.20**	**110**	IAmb_Lg		09 08 07.9	
	comp=Z,7.8nm,0.8s						
MGMO	**Mountain Grove**	**5.24**	**80**	Pn	Pn	09 06 34.2	-1.6
MGMO				IAmb_Lg		09 08 03.6	
	comp=Z,7.0nm,0.8s						
WHAR	**Wooly Hollow**	**5.37**	**101**	Pn	Pn	09 06 35.4	-2.2
FCAR	**Ozark Folk

O19K				S		Sn	09 14 14.6	-0.4
	baz=184							
O20K	Slope Mountain	1.50	38			Pn	09 13 59.0	+1.3
O20K						Sn	09 14 19.3	-0.1
O20K	Slope Mountain	1.50	38	P		Pn	09 13 59.0	+1.3
	baz=220							
O20K				S		Sn	09 14 19.3	-0.1
	baz=220							
KDAK	Kodiak Island	1.52	138			Pn	09 13 58.6	+0.8
KDAK						Sn	09 14 19.3	-0.2
KDAK	Kodiak Island	1.52	138	IAML			09 14 20.8	
	comp=N,623nm,0.2s							
KDAK				IAML			09 14 21.8	
	comp=N,860nm,0.4s							
KDAK	Kodiak Island	1.52	138	S		Sn	09 14 19.3	-0.2
	baz=319							
HOM	Homer	1.64	62	Pn		Pn	09 14 00.5	+1.4
HOM				IAML			09 14 22.9	
	comp=E,694nm,0.9s							
CNPM	China Poot	1.78	69			Pn	09 14 01.6	+0.8
CNPM	China Poot	1.78	69	IAML			09 14 24.7	
	comp=N,307nm,0.7s							
CNPM				IAML			09 14 25.6	
	comp=E,328nm,0.3s							
RSO	Redoubt South	1.78	29			Pn	09 14 02.1	+1.1
RDWB	Redoubt West	1.78	27			Pn	09 14 01.9	+1.0
RDWB						Sn	09 14 24.5	-0.6
OHAK	Old Harbor	1.82	159			Pn	09 14 01.7	+0.5
OHAK						Sn	09 14 24.6	-1.0
OHAK	Old Harbor	1.82	159	IAML			09 14 25.5	
	comp=E,388nm,0.7s							
OHAK				IAML			09 14 25.7	
	comp=N,433nm,0.5s							
OHAK	Old Harbor	1.82	159	P		Pn	09 14 01.7	+0.5
	baz=339							
OHAK				S		Sn	09 14 24.6	-1.0
	baz=339							
RDJH	Redoubt Jeurge	1.88	26			Pn	09 14 03.2	+1.0
N19K	Bonanza Creek	1.90	0			Pn	09 14 03.6	+1.3
N19K						Sn	09 14 27.1	-0.5
N19K	Bonanza Creek	1.90	0	P		Pn	09 14 03.6	+1.3
	baz=180							
N19K				S		Sn	09 14 27.1	-0.5
	baz=180							
N18K	Kilae Creek	1.90	339			Pn	09 14 03.5	+1.2
N18K						Sn	09 14 27.3	-0.3
N18K	Kilae Creek	1.90	339	P		Pn	09 14 03.5	+1.2
	baz=158							
N18K				S		Sn	09 14 27.3	-0.3
	baz=158							
BRLK	Bradley Lake	2.03	64			Pn	09 14 05.6	+1.8
BRLK				IAML			09 14 29.8	
	comp=N,453nm,0.6s							
BRLK				IAML			09 14 31.2	
	comp=E,404nm,0.3s							
BRSE	Bradley Lake S	2.09	65			Sn	09 14 30.5	-1.0
BRSE	Bradley Lake S	2.09	65	S		Sn	09 14 30.5	-1.0
	baz=248							
SVW2	Sparrevohn	2.25	346			Pn	09 14 07.6	+1.1
SII	Sitkinak Islan	2.37	176			Pn	09 14 08.8	+0.8
SII						Sn	09 14 36.9	-0.8
SII	Sitkinak Islan	2.37	176	IAML			09 14 46.2	
	comp=N,373nm,0.6s							
SII				IAML			09 14 47.3	
	comp=E,378nm,0.5s							
SII	Sitkinak Islan	2.37	176	P		Pn	09 14 08.8	+0.8
	baz=356							
SII				S		Sn	09 14 36.9	-0.8
	baz=356							
CAPN	Captain Cook N	2.50	41			Pn	09 14 11.3	+1.7
CAPN	Captain Cook N	2.50	41	P		Pn	09 14 12.5	+2.9
	baz=224							
SPWE	Spurr West	2.55	21			Pn	09 14 12.0	+1.6
SPCR	Spurr Chakacha	2.56	26			Pn	09 14 11.6	+1.2
SPCR	Spurr Chakacha	2.56	26	P		Pn	09 14 11.6	+1.2
	baz=206							
SPBG	Spurr Blockage	2.58	23			Pn	09 14 12.1	+1.4
CKN	Chakachatna No	2.58	26			Pn	09 14 12.4	+1.7
SPCG	Spurr Capps Gl	2.68	26			Pn	09 14 13.2	+1.2
SLKM	Skilak Lake	2.68	52			Pn	09 14 12.9	+0.9
SEW	Seward	2.83	63			Pn	09 14 15.0	+1.3
SEW						Sn	09 14 45.2	-2.7
SEW	Seward	2.83	63	P		Pn	09 14 15.0	+1.3
	baz=247							
SEW				S		Sn	09 14 45.2	-2.7
	baz=247							
O22K	Cooper Landing	2.88	55			Pn	09 14 15.2	+0.8
O22K	Cooper Landing	2.88	55	P		Pn	09 14 15.2	+0.8
	baz=239							
M19K	Big River Lodg	2.99	1			Pn	09 14 17.4	+1.4
M19K	Big River Lodg	2.99	1	P		Pn	09 14 17.3	+1.4
	baz=181							
CHIR	Chirikof Islan	3.17	192			Pn	09 14 18.3	+0.1
CHIR				IAML			09 16 07.5	
	comp=N,210nm,3.0s							
CHIR				IAML			09 16 12.7	
	comp=E,177nm,3.4s							
CHIR	Chirikof Islan	3.17	192	P		Pn	09 14 18.7	+0.5
	baz=10							
RC01	Rabbit Creek A	3.23	46			Pn	09 14 19.6	+0.7
RC01	Rabbit Creek A	3.23	46	IAML			09 14 58.4	
	comp=E,145nm,0.3s							
RC01	Rabbit Creek A	3.23	46	P		Pn	09 14 19.6	+0.7
	baz=230							
L19K	White Mountain	3.28	357			Pn	09 14 21.2	+1.6
L19K	White Mountain	3.28	357	P		Pn	09 14 21.2	+1.6
	baz=177							
M22K	Willow	3.58	35			Pn	09 14 24.6	+1.1
M22K	Willow	3.58	35	P		Pn	09 14 24.3	+0.9
	baz=219							
PWL	Port Wells	3.66	55			Pn	09 14 25.7	+1.1
PMR	Palmer	3.78	43			Pn	09 14 25.8	-0.4
PMR	Palmer	3.78	43	IAML			09 15 09.6	
	comp=N,49nm,0.3s							
PMR				IAML			09 15 09.8	
	comp=E,44nm,1.0s							
PMR	Palmer	3.78	43	P		Pn	09 14 25.8	-0.4
	baz=227							
KNK	Knik Glacier	3.91	48			Pn	09 14 27.8	-0.2
KNK	Knik Glacier	3.91	48	IAML			09 15 11.9	
	comp=N,108nm,0.5s							
KNK				IAML			09 15 12.2	
	comp=E,109nm,0.8s							
KNK	Knik Glacier	3.91	48	P		Pn	09 14 27.8	-0.2
	baz=233							
GHO	Glory Hole Cre	3.98	42			Pn	09 14 28.6	-0.3
GHO	Glory Hole Cre	3.98	42	IAML			09 15 14.6	
	comp=E,77nm,1.0s							
GHO				IAML			09 15 14.8	
	comp=N,66nm,0.4s							
CUT	Chulitna	4.07	29			Pn	09 14 30.5	+0.6
CUT				IAML			09 16 44.7	
	comp=N,89nm,0.1s							
CUT	Chulitna	4.07	29	P		Pn	09 14 30.3	+0.4
	baz=213							
TT01	Tatalina	4.07	350			Pn	09 14 31.6	+1.6
TTA	Tatalina	4.09	350			Pn	09 14 31.7	+1.4
TTA	Tatalina	4.09	350	P		Pn	09 14 31.7	+1.4
	baz=169							
PPLA	Purkeypile	4.14	15			Pn	09 14 33.1	+2.0
PPLA	Purkeypile	4.14	15	P		Pn	09 14 33.1	+2.0
	baz=197							
GLI	Glacier Island	4.21	59			Pn	09 14 32.9	+1.0
GLI				IAML			09 15 20.5	
	comp=N,92nm,0.7s							
GLI	Glacier Island	4.21	59	P		Pn	09 14 31.8	-0.1
	baz=245							
SML	Sawmill	4.21	44			Pn	09 14 31.8	-0.1
SML				IAML			09 15 20.9	
	comp=N,45nm,0.7s							
SML				IAML			09 15 26.8	
	comp=E,46nm,0.7s							
SML	Sawmill	4.21	44	P		Pn	09 14 31.6	-0.3
	baz=229							
FID	Port Fidalgo	4.44	62			Pn	09 14 35.3	+0.4
K20K	Telida	4.46	2			Pn	09 14 35.8	+0.7
K20K	Telida	4.46	2	IAML			09 16 21.0	
	comp=E,17nm,4.2s							
K20K				IAML			09 16 25.0	
	comp=N,16nm,3.9s							
K20K	Telida	4.46	2	P		Pn	09 14 35.8	+0.7
	baz=183							
JPK	Jack Peak	4.50	58			Pn	09 14 36.4	+0.6
SCM	Sheep Creek Mo	4.60	48			Pn	09 14 37.0	0.0
SCM	Sheep Creek Mo	4.60	48	IAML			09 15 30.7	
	comp=E,56nm,0.5s							
SCM				IAML			09 15 34.5	
	comp=N,62nm,0.7s							
CAST	Castle Rocks	4.66	13			Pn	09 14 39.3	+1.4
CAST	Castle Rocks	4.66	13	IAML			09 15 38.2	
	comp=E,13nm,4.1s							
CAST				IAML			09 16 34.2	
	comp=N,12nm,4.5s							
CAST	Castle Rocks	4.66	13	P		Pn	09 14 39.3	+1.4
	baz=196							
EYAK	Cordova Ski Ar	4.71	66			Pn	09 14 39.1	+0.6
EYAK	Cordova Ski Ar	4.71	66	P		Pn	09 14 39.1	+0.6
	baz=253							
SDPT	Sand Point	4.84	225			Pn	09 14 41.5	+1.2
SDPT	Sand Point	4.84	225	P		Pn	09 14 41.5	+1.2
	baz=40							
WAT1	Susitna Watana	4.88	34			Pn	09 14 40.6	-0.2
WAT1	Susitna Watana	4.88	34	P		Pn	09 14 40.6	-0.2
	baz=219							
DIV	Divide	4.90	59			Pn	09 14 42.0	+0.9
WAT6	Susitna Watana	4.94	39			Pn	09 14 41.4	-0.4
WAT6	Susitna Watana	4.94	39	P		Pn	09 14 41.3	-0.4
	baz=225							
KTH	Kantishna Hill	4.96	19			Pn	09 14 42.3	+0.4
KTH	Kantishna Hill	4.96	19	IAML			09 16 04.2	
	comp=N,20nm,4.3s							
KTH				IAML			09 17 39.8	
	comp=E,19nm,4.5s							
TRF	Thorofare Moun	4.98	22			Pn	09 14 43.3	+1.1
TRF				IAML			09 16 10.4	
	comp=E,26nm,4.4s							
TRF				IAML			09 16 25.7	
	comp=N,20nm,4.0s							
TRF	Thorofare Moun	4.98	22	P		Pn	09 14 42.8	+0.6
	baz=206							
KLU	Klutina	4.99	55			Pn	09 14 42.6	+0.3
KLU	Klutina	4.99	55	P		Pn	09 14 42.6	+0.3
	baz=242							
CHUM	Lake Minchumin	5.09	11			Pn	09 14 45.3	+1.8
CHUM	Lake Minchumin	5.09	11	P		Pn	09 14 45.3	+1.8
	baz=193							
M24K	Tolsona, Glenn	5.20	49			Pn	09 14 45.7	+0.5
M24K	Tolsona, Glenn	5.20	49	P		Pn	09 14 45.7	+0.5
	baz=236							
GOAT	Goat Mountain	5.21	67			Pn	09 14 46.0	+0.8
RND	Reindeer	5.26	29			Pn	09 14 46.0	+0.1
RND				IAML			09 16 34.5	
	comp=E,20nm,4.7s							
RND				IAML			09 16 44.3	
	comp=N,16nm,4.3s							
J20K	Nowinta River	5.28	2			Pn	09 14 47.3	+1.2
J20K	Nowinta River	5.28	2	IAML			09 16 40.0	
	comp=N,12nm,3.9s							
J20K				IAML			09 16 56.9	
	comp=E,12nm,4.5s							
J20K	Nowinta River	5.28	2	P		Pn	09 14 47.3	+1.2
	baz=182							
BMRM	Bremner River	5.37	63			Pn	09 14 48.2	+0.8
BMRM	Bremner River	5.37	63	P		Pn	09 14 48.2	+0.8
	baz=252							
DHY	Denali Highway	5.42	37			Pn	09 14 47.8	-0.3
DHY	Denali Highway	5.42	37	P		Pn	09 14 47.8	-0.3
	baz=223							
BPAW	Bear Paw Mtn.	5.46	16			Pn	09 14 49.0	+0.4
BPAW	Bear Paw Mtn.	5.46	16	P		Pn	09 14 48.8	+0.2
	baz=200							
MCK	McKinley	5.52	27			Pn	09 14 49.8	+0.4
MCK	McKinley	5.52	27	P		Pn	09 14 49.7	+0.4
	baz=212							
N25K	Chitina, Valde	5.61	57			Pn	09 14 51.2	+0.6
N25K	Chitina, Valde	5.61	57	P		Pn	09 14 51.1	+0.5
	baz=246							
BWN	Browne	5.79	22			Pn	09 14 53.2	+0.2
KHIT	Khitrov Hills	5.89	70			Pn	09 14 55.1	+0.7
GLB	Gilahina Butte	5.90	60			Pn	09 14 55.4	+1.0
GCSA	Galena City Sc	5.96	350			Pn	09 14 56.4	+1.3
GCSA	Galena City Sc	5.96	350	P		Pn	09 14 56.4	+1.3
	baz=168							
PAX	Paxson	5.98	43			Pn	09 14 55.9	+0.3
PAX	Paxson	5.98	43	P		Pn	09 14 55.8	+0.2
	baz=231							
VRDI	Verde Repeater	5.99	63			Pn	09 14 56.7	+1.0
WAX	Waxell Ridge	6.09	70			Pn	09 14 58.0	+1.0
MCARA	McCarthy VSAT	6.23	62			Pn	09 15 00.5	+1.6
MCARA	McCarthy VSAT	6.23	62	P		Pn	09 15 00.3	+1.4
	baz=252							
NEA2	Nenana	6.24	22			Pn	09 14 58.6	-0.4
NEA2	Nenana	6.24	22	P		Pn	09 14 58.6	-0.4
	baz=207							
WRH	Wood River Hil	6.34	26			Pn	09 14 59.7	-0.7
ISLE	Juniper Island	6.37	69			Pn	09 15 01.6	+0.8
I21K	Tanana	6.39	10			Pn	09 15 02.1	+1.1
I21K	Tanana	6.39	10	P		Pn	09 15 02.1	+1.1
	baz=192							
KIAG	Kiagna River	6.42	67			Pn	09 15 02.5	+0.9
PTPK	Patty Peak	6.43	64			Pn	09 15 03.2	+1.4
BALM	Baldy	6.45	66			Pn	09 15 03.0	+1.1
BAGL	Bagley Icefiel	6.47	71			Pn	09 15 03.9	+1.9
CCB	Bear Creek Bu	6.56	26			Pn	09 15 02.5	-0.7
MENT	Mentasta	6.61	48			Pn	09 15 05.1	+1.1
M26K	Nabesna, AK	6.64	53			Pn	09 15 05.8	+1.5
M26K	Nabesna, AK	6.64	53	P		Pn	09 15 05.8	+1.5
	baz=243							
GRNC	Granite Creek	6.67	69			Pn	09 15 06.0	+1.0
RIDG	Independent Ri	6.70	40			Pn	09 15 05.8	+0.7
RIDG	Independent Ri	6.70	40	P		Pn	09 15 05.5	+0.3
	baz=228							
I23K	Minto, Yukon-K	6.70	19			Pn	09 15 05.2	+0.1
I23K	Minto, Yukon-K	6.70	19	P		Pn	09 15 05.2	+0.1
	baz=204							
MDM	Murphy Dome	6.74	23			Pn	09 15 05.2	-0.5
TCOL	CIGO, UAF Yank	6.74	25			Pn	09 15 05.4	-0.3
TCOL	CIGO, UAF Yank	6.74	25	P		Pn	09 15 05.4	-0.3
	baz=211							
COLA	College	6.74	25	Pn		Pn	09 15 05.6	-0.1
BARN	Barnard Glacie	6.78	66			Pn	09 15 07.9	+1.4
L26K	Log Cabin Wild	6.80	48			Pn	09 15 08.5	+2.0
H21K	Melozitna Rive	6.81	6			Pn	09 15 07.8	+1.3
H21K	Melozitna Rive	6.81	6	P		Pn	09 15 08.0	+1.4
	baz=188							
IL31		6.88	28			Pn	09 15 07.0	-0.5
ILAR	Eielson Array	6.88	28	Pn		Pn	09 15 06.8	-0.7
DOT	Dot Lake	6.90	42			Pn	09 15 09.2	+1.2
CTG	Chitna Glacier	6.91	67	P		Pn	09 15 09.9	+1.7
	baz=258							
CTGM	Chitina Glacie	6.92	67			Pn	09 15 09.8	+1.6
TABL	Table Mountain	6.93	72			Pn	09 15 09.9	+1.5
POKR	Poker Plat Res	7.04	25			Pn	09 15 09.6	-0.2
POKR	Poker Plat Res	7.04	25	P		Pn	09 15 09.3	-0.4
	baz=211							
LOGN	Logan Glacier	7.05	69			Pn	09 15 11.4	+1.4
M27K	Edge Creek, AK	7.09	56			Pn	09 15 12.7	+2.1
M27K	Edge Creek, AK	7.09	56	P		Pn	09 15 12.2	+1.7
	baz=246							
IM03		7.10	2			Pn	09 15 11.8	+1.4
IMAR	Indian Mountai	7.10	2	Pn		Pn	09 15 11.6	+1.1
SCRK	Sand Creek	7.14	40			Pn	09 15 11.8	+0.7
SCRK	Sand Creek	7.14	40	P		Pn	09 15 10.4	-0.7
	baz=230							
J25K	Salcha River,	7.16	33			Pn	09 15 11.2	-0.2
J25K	Salcha River,	7.16	33	P		Pn	09 15 11.2	-0.2
	baz=221							
H23K	Yukon River	7.30	16			Pn	09 15 13.1	-0.1
H23K	Yukon River	7.30	16	P		Pn	09 15 13.1	-0.1
	baz=201							
YUK2	White River	7.35	61			Pn	09 15 15.7	+1.7
L27K	Beaver Creek,	7.42	51			Pn	09 15 16.3	+1.4
L27K	Beaver Creek,	7.42	51	P		Pn	09 15 16.3	+1.4
	baz=242							
BC03		7.44	51			Pn	09 15 16.6	+1.6
BCAR	Beaver Creek A	7.44	51	Pn		Pn	09 15 16.3	+1.2
YUK3	Moose Creek	7.52	62			Pn	09 15 18.1	+1.7
YUK3	Moose Creek	7.52	62	P		Pn	09 15 18.1	+1.7
	baz=254							
H24K	Noodor Dome	7.59	21			Pn	09 15 17.0	-0.1
H24K	Noodor Dome	7.59	21	P		Pn	09 15 17.0	-0.1
	baz=207							
BCPM	Bancas Point	7.64	76			Pn	09 15 20.2	+2.3
PNL	Peninsula	7.76	78			Pn	09 15 20.8	+1.4
UNV	Unalaska Valle	8.38	238			Pn	09 15 27.2	-0.6
UNV	Unalaska Valle	8.38	238	P		Pn	09 15 28.2	+0.5
	baz=48							
COLD	Coldfoot	8.56	11			Pn	09 15 29.9	-0.3
COLD	Coldfoot	8.56	11	P		Pn	09 15 29.8	-0.3
	baz=195							
EGAK	Eagle	8.60	41	Pn		Pn	09 15 32.1	+1.4
DAWY	Dawson	8.86	48			Pn	09 15 35.5	+1.3
DAWY	Dawson	8.86	48	P		Pn	09 15 35.3	+1.2
	baz=241							
BMAR	Burnt Mountain	9.63	23	Pn		Pn	09 15 43.0	-1.5
N31M	Braeburn, Yuko	9.65	67	Pn		Pn	09 15 45.3	+0.4
SKAG	Skagway	9.84	79	Pn		Pn	09 15 49.1	+1.8
I29M	Ogilvie Camp,	9.93	43	Pn		Pn	09 15 48.8	+0.4
TOLK	Toolik Lake Re	9.99	10	Pn		Pn	09 15 50.3	+0.9
WHY	Whitehorse	10.03	72	Pn		Pn	09 15 51.5	+1.6
BESE	Bessie Mountai	10.20	83	Pn		Pn	09 15 53.3	+1.0
SIT	Sitka	10.34	92	Pn		Pn	09 15 55.3	+1.4
M31M	Druny Creek, Y	10.41	63	Pn		Pn	09 15 57.5	+2.6
JIS	Juneau Island	10.51	85	Pn		Pn	09 16 00.9	+4.8
EPYK	Eagle Plains	11.03	40	Pn		Pn	09 16 04.3	+1.1
CRAG	Craig	12.07	97	Pn		Pn	09 16 18.5	+1.6
WRAK	Wrangell Islan	12.10	92	Pn		Pn	09 16 20.4	+3.2
INK	Inuvik	13.16	36	Pn		Pn	09 16 31.2	+0.4
C36M	Paulatuk	16.66	39	Pn		Pn	09 17 13.4	-1.2
C36M				IAmb		IAmb	09 17 19.9	
	comp=Z,7.1nm,1.1s							
A36M	Sachs Harbour	17.58	30	P		P	09 17 24.7	-0.1
A36M				IAmb		IAmb	09 17 41.5	
	comp=Z,10.0nm,1.1s							
YKA	Yellowknife Ar	19.61	63	P		P	09 17 47.8	+0.8

ISC 29 09:25:42.5±1.2, 48°84N±0.09×18°13E±0.04, h12km±13km, n6, σ0s41/12, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	Velka Javorina	0.30	273	*e*PG	Pg	09 25 48.5	-0.2
JAVC				*e*SG	Sg	09 25 52.7	-0.1
KOLL	Kolacno	0.32	145	*e*PG	Pg	09 25 49.0	0.0
KOLL				*e*SG	Sg	09 25 53.6	+0.3
VYHS	Vyhne	0.59	126	*e*PG	Pg	09 25 53.6	-0.3
VYHS				*e*SG	Sg	09 26 01.3	-0.3
MODS	Modra-Piesok	0.73	231	*e*PG	Pg	09 25 56.2	-0.5
MODS				*e*SG	Sg	09 26 06.7	+0.4
MORC	Moravsky Berou	1.01	338	*e*PG	Pn	09 26 03.0	+0.5
MORC				*e*SG	Sn	09 26 16.1	-0.5
VRAC	Vranov	1.11	295	*e*PG	Pn	09 26 03.9	+0.1
VRAC				*e*SG	Sb	09 26 18.3	+0.3

*AEIC **29** 09:31:33±3.5, 51°.0N±0°.1×179°.67E±0°.09, h10km±1km, Error ellipse: s-maj=21.8km s-min=9.7km az=174.0*
*NEIC **29** 09:31:36.1±1.5, 51°.18N±0°.09×179°.65E±0°.08, h55km±11km, mb4.1/14, ML3.1(AEIC), Error ellipse: s-maj=15.5km s-min=2.5km az=152.0*
*IDC **29** 09:31:36.1±5.2, 51°.09N×179°.68E, h64km±34km, mb3.2/5, mb1 3.5/7, mb1mx3.1/56, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=75.6km s-min=20.8km az=6.0*

ISC 29 09:31:35.8±1.6, 51°.2N±0°.2×179°.67E±0°.07, h48km, n41, σ19°07/41, mb4.0/11, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	Gareloi Southw	1.08	58		Pn	09 31 55.1	+0.5
GALAA	Gareloi Lava P	1.12	60		Pn	09 31 55.8	+0.6
GANO	Gareloi North	1.13	57		Pn	09 31 55.6	+0.3
TASE	Tanaga Southea	1.56	66		Pn	09 32 02.0	+0.8
TAFL	Tanaga Flats	1.62	69		Pn	09 32 02.5	+0.6
TAPA	Tanaga Point A	1.69	68		Pn	09 32 03.8	+0.9
KIMD	Kanaga Island	2.01	73		Pn	09 32 07.8	+0.5
KIWB	Kanaga Island	2.09	71		Pn	09 32 09.0	+0.6
ADK	Adak	2.38	72		Pn	09 32 13.1	+0.9
GSTD	Great Sitkin T	2.74	70		Pn	09 32 17.2	-0.1
GSMY	Great Sitkin M	2.79	71		Pn	09 32 18.5	+0.5
GSTR	Great Sitkin T	2.81	70	Pn	Pn	09 32 17.6	-0.6
SHEM	Shemya Is, Ala	3.76	296	P	Pn	09 32 32.0	+0.8
	13nm,0.3s,baz=151,slow=1.0,SNR=12						
SHEM				S	Sn	09 33 17.2	+3.0
	3.4nm,0.3s,baz=298,slow=17,SNR=2.5						
SMY	Shemya	3.76	296		Pn	09 32 31.9	+0.7
ATKA	Atka Island	3.94	73		Pn	09 32 34.2	+0.4
NIKH	Nikolski High	7.29	72	Pn	Pn	09 33 21.9	+2.3
SPIA	Saint Paul Isl	8.40	41	Pn	Pn	09 33 34.6	-0.1
UNV	Unalaska Valle	8.83	67	Pn	Pn	09 33 42.9	+2.2
OHAK	Old Harbor	16.85	59		Pn	09 35 28.2	+0.2
KDAK	Kodiak Island	17.32	57	P	Pn	09 35 32.6	-1.2
	0.1nm,0.3s,baz=288,slow=20,SNR=1.7						
J20K	Nowinta River	18.90	37	P	P	09 35 52.4	+0.4
KTH	Kantishna Hill	19.87	40	P	P	09 36 03.5	+0.8
KTH				IAmb	IAmb	09 36 16.2	
	comp=Z,7.5nm,1.4s						
IMAR	Indian Mountai	20.02	32	P	Pn	09 36 06.1	-0.3
SCM	Sheep Creek Mo	20.83	47	P	P	09 36 14.3	+1.1
SCM				IAmb	IAmb	09 36 17.2	
	comp=Z,22nm,1.4s						
I23K	Minto, Yukon-K	21.17	37	P	P	09 36 18.6	+1.9
DHY	Denali Highway	21.18	43	P	P	09 36 16.9	-0.1
DHY				IAmb	IAmb	09 36 44.4	
	comp=Z,8.0nm,1.4s						
N25K	Chitina, Valde	22.04	48	P	P	09 36 24.5	-1.7
N25K				IAmb	IAmb	09 36 47.1	
	comp=Z,19nm,1.5s						
MCARA	McCarthy VSAT	22.74	49	P	P	09 36 33.0	-0.5
MCARA				IAmb	IAmb	09 36 54.6	
	comp=Z,12nm,1.1s						
DOT	Dot Lake	22.78	43	P	P	09 36 34.0	+0.1
DOT				IAmb	IAmb	09 36 56.4	
	comp=Z,5.0nm,1.3s						
TOLK	Toolik Lake Re	22.87	29	P	P	09 36 35.6	+0.8
BCAR	Beaver Creek A	23.63	45	P	P	09 36 42.6	+0.4
BMAR	Burnt Mountain	23.91	34	P	P	09 36 45.8	+1.0
EGAK	Eagle	24.30	41	P	P	09 36 47.3	-1.1
EGAK				IAmb	IAmb	09 37 06.6	
	comp=Z,6.5nm,1.4s						
YKA	Yellowknife Ar	36.04	46	P	P	09 38 31.7	-0.4
	comp=Z,0

ZALV	**Zalesovo Beam**	**1.52**	**290**	Pg	Pn	09 44 16.4	-1.6
	0.8nm,0.3s,baz=109,slow=17,SNR=7.6						
ZALV				Lg	Lg	09 44 38.2	
	1.4nm,0.3s,baz=116,slow=26,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.08**	**246**	Pn	Pn	09 45 21.0	+0.5
	0.1nm,0.3s,baz=65,slow=15,SNR=2.0						
KURBB				Lg	Lg	09 47 01.7	
	0.0nm,0.3s,baz=63,slow=34,SNR=2.3						
MKAR	**Makanchi Array**	**7.40**	**207**	Pn	Pn	09 45 40.0	+1.4
	0.1nm,0.3s,baz=28,slow=15,SNR=1.5						
MKAR				Sn	Sn	09 47 03.7	+0.5
	0.1nm,0.3s,baz=23,slow=23,SNR=1.3						
MKAR				Lg	Lg	09 47 44.2	
	0.0nm,0.3s,baz=26,slow=30,SNR=3.7						

IDC 29 09:48:39.1±2.8, 53°63N×86°76E, h0km, mb1 2.5/2, mb1mx2.5/42, mbtmp2.5/2, ML1.8/2, Error ellipse: s-maj=25.1km s-min=14.7km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**286**	*i*		09 57 00.0	
	baz=104,slow=325,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.20**	**286**	Pg	Pg	09 49 01.6	-0.4
	0.4nm,0.3s,baz=105,slow=18,SNR=6.1						
ZALV				Lg	Lg	09 49 17.8	
	1.0nm,0.3s,baz=106,slow=28,SNR=8.6						
KURBB	**Kurchatov Arra**	**5.89**	**243**	Pn	Pn	09 50 09.0	+1.3
	0.0nm,0.3s,baz=61,slow=13,SNR=2.2						
MKAR	**Makanchi Array**	**7.42**	**205**	Pn	Pn	09 50 29.5	+0.9
	0.1nm,0.3s,baz=27,slow=9.7,SNR=2.1						

IDC 29 09:59:51.5±5.8, 36°52N×71°28E, h200km±47km, mb2.9/4, mb1 3.0/8, mb1mx2.9/33, mbtmp3.5/8, Error ellipse: s-maj=53.3km s-min=24.6km az=48.0

ISC 29 09:59:50.1±1.3, 36°6N±0°1×71°0E±0°1, h188km, n10, σ1§69/13, mb3.0/4, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.54**	**357**	⇓Pn		**10 01 24.9**	**+0.8**
	0.9nm,0.5s,baz=176,slow=13,SNR=9.5						
KK31				⇑Sn		**10 02 35.2**	**-3.3**
	3.9nm,0.5s,baz=184,slow=25,SNR=11						
AAK	**Ala-Archa**	**6.63**	**23**	P		**10 01 27.6**	**+2.0**
	3.2nm,0.3s,baz=190,slow=6.2,SNR=12						
AAK				S		**10 02 40.5**	**-0.5**
	0.7nm,0.3s,baz=320,slow=23,SNR=7.1						
TKM2	**Tokmak 2**	**7.26**	**28**	⇑Pn		**10 01 35.9**	**+2.0**
	9.0nm,0.8s						
TKM2				⇓Sn		**10 02 55.4**	**-0.6**
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**13.23**	**36**	P		**10 02 52.5**	**-1.6**
	0.1nm,0.3s,baz=202,slow=8.7,SNR=1.7						
AKTO	**Aktyubinsk**	**16.72**	**330**	P		**10 03 34.1**	**+0.6**
	0.2nm,0.3s,baz=152,slow=12,SNR=4.1						
ZALV	**Zalesovo Beam**	**19.85**	**25**	P		**10 04 06.8**	**+0.3**
	0.2nm,0.3s,baz=222,slow=9.9,SNR=2.7						
ARCES	**ARCESS Array B**	**41.08**	**338**	P		**10 07 16.1**	**+1.1**
	0.8nm,0.5s,baz=108,slow=7.8,SNR=8.0						
YKA	**Yellowknife Ar**	**81.18**	**3**	P		**10 11 45.0**	**+0.7**
	0.1nm,0.5s,baz=352,slow=5.4,SNR=6.7						
WRA	**Warramunga Arr**	**82.03**	**122**	P		**10 11 48.0**	**-1.4**
	0.2nm,0.7s,baz=322,slow=4.8,SNR=4.5						
ASAR	**Alice Springs**	**84.29**	**125**	P		**10 11 59.8**	**-1.2**
	0.2nm,0.6s,baz=308,slow=4.9,SNR=4.5						

NOU 29 10:18:18.9, 16°08S×167°53E, h16km, MLv4.6/19, Vanuatu Islands
NEIC 29 10:18:20.8±2.6, 16°05S±0°06×167°4E±0°1, h35km±2km, mb4.3/5, Error ellipse: s-maj=20.0km s-min=8.0km az=70.0
IDC 29 10:18:23.9±6.3, 16°40S×167°86E, h89km±64km, mb3.5/5, mb1 3.6/6, mb1mx3.3/45, mbtmp3.8/6, ML3.9/1, MS3.3/4, Ms1 3.3/4, ms1mx2.8/32, Error ellipse: s-maj=52.2km s-min=35.4km az=148.0

ISC 29 10:18:20.3±0.8, 16°05S±0°05×167°4E±0°1, h39km, n36, σ1§18/35, mb3.9/7, MS3.1/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.63**	**342**		**Pn**	**10 18 31.7**	**-1.1**
SANVU				Sn	**Sn**	**10 18 42.4**	**+0.8**
SANVU	**Saraoutou**	**0.63**	**342**	P	**Pn**	**10 18 33.0**	**+0.2**
DVP	**Devils Point**	**1.83**	**156**	P	**Pn**	**10 18 49.0**	**-0.2**
RTV	**Rentapao**	**1.99**	**151**	P	**Pn**	**10 18 51.2**	**-0.2**
LIFNC	**LIFOU**	**4.71**	**183**	Pn	**Pn**	**10 19 26.7**	**-2.1**
LIFNC	**LIFOU**	**4.71**	**182**	P	**Pn**	**10 19 28.6**	**-0.1**
KOUNC	**Koumac, New Ca**	**5.37**	**213**		**Pn**	**10 19 38.2**	**+0.3**
KOUNC	**Koumac, New Ca**	**5.37**	**213**	P	**Pn**	**10 19 38.5**	**+0.7**
MARNC	**Mare, Loyalty**	**5.44**	**174**	Pn	**Pn**	**10 19 37.9**	**-0.8**
MARNC	**Mare, Loyalty**	**5.44**	**174**	P	**Pn**	**10 19 38.4**	**-0.4**
YATNC	**Mamie plateau,**	**6.00**	**185**	P	**Pn**	**10 19 45.8**	**-0.7**
DZM	**Mont Dzumac**	**6.06**	**188**	P	**Pn**	**10 19 47.1**	**-0.3**
	3.5nm,0.3s,baz=49,slow=3.3,SNR=69						
DZM				S	**Sn**	**10 20 53.9**	**-1.7**
	6.5nm,0.3s,baz=325,slow=22,SNR=8.4						
DZM				LR	LR	10 21 58.1	
	comp=Z,219nm,18.8s,baz=34,slow=37						
DZM	**Mont Dzumac**	**6.06**	**188**		**Pn**	**10 19 47.3**	**-0.1**
DZM	**Mont Dzumac**	**6.06**	**188**	P	**Pn**	**10 19 46.9**	**-0.5**
NOUC	**Port Laguerre**	**6.11**	**190**	P	**Pn**	**10 19 48.3**	**+0.3**
ONTNC	**Ouen Toro**	**6.29**	**188**		**Pn**	**10 19 50.6**	**+0.1**
ONTNC	**Ouen Toro**	**6.29**	**188**	P	**Pn**	**10 19 51.1**	**+0.6**
OUENC	**Ouen Island, N**	**6.36**	**185**	Pn	**Pn**	**10 19 52.5**	**+1.0**
OUENC	**Ouen Island, N**	**6.36**	**185**	P	**Pn**	**10 19 52.5**	**+1.0**
PINNC	**Pines Island,**	**6.53**	**180**	Pn	**Pn**	**10 19 53.9**	**+0.1**
PINNC	**Pines Island,**	**6.53**	**180**	P	**Pn**	**10 19 54.1**	**+0.3**
HNR	**Honiara**	**9.80**	**311**	Pn	**Pn**	**10 20 37.2**	**-1.5**
BKZ	**Black Stump Fm**	**24.37**	**163**	P	**P**	**10 23 36.6**	**+1.9**
RPZ	**Rata Peaks**	**27.75**	**174**	LR	LR	10 33 44.9	
	comp=Z,92nm,18.2s,baz=317,slow=34						
WRA	**Warramunga Arr**	**31.65**	**258**	P	**P**	**10 24 42.7**	**+2.6**
	0.3nm,0.9s,baz=81,slow=7.1,SNR=2.5						
WRA				LR	LR	10 35 53.3	
	comp=Z,37nm,20.1s,baz=242,slow=33						
AS31	**Alice Springs**	**32.34**	**251**	P	**P**	**10 24 47.1**	**+0.9**
ASAR	**Alice Springs**	**32.34**	**251**	P	**P**	**10 24 47.0**	**+0.8**
	0.9nm,0.6s,baz=77,slow=9.0,SNR=24						
KNRA	**Kununurra**	**37.13**	**265**	P	**P**	**10 25 25.8**	**-1.7**
KNRA				IAmb	IAmb	10 25 27.7	
	comp=Z,8.6nm,1.2s						
SIJI	**Sorong**	**38.68**	**289**	LR	LR	10 41 11.7	
	comp=Z,33nm,21.1s,baz=46,slow=35						
VNDA	**Vanda**	**61.55**	**181**	P	**P**	**10 28 34.3**	**+1.3**
VNDA				IAmb	IAmb	10 28 50.3	
	comp=Z,3.7nm,1.4s						
USRK	**Ussuriysk Ar.**	**68.11**	**333**	P	**P**	**10 29 17.2**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=293,slow=22,SNR=4.5						
SONM	**Songino Array**	**83.63**	**324**	P	**P**	**10 30 46.5**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=155,slow=6.2,SNR=5.0						
SONM	**Songino Array**	**83.63**	**324**	IAmb	IAmb	10 30 48.3	
	comp=Z,1.6nm,1.1s						
ILAR	**Eielson Array**	**87.74**	**18**	P	**P**	**10 31 03.0**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=214,slow=6.0,SNR=2.0						
ARCES	**ARCESS Array B**	**121.55**	**345**	PKP	**PKPdf**	**10 37 06.9**	**-2.1**
	comp=Z,2.6nm,1.0s,baz=339,slow=6.5,SNR=9.4						
ARCES	**ARCESS Array B**	**121.55**	**345**		**PKPdf**	**10 37 09.2**	**+0.2**

DDA 29 10:21:30.5±0.0, 41°27N×28°70E, h0km, ML1.9/13, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGKT	**Bogazkoy**	**0.10**	**147**	PG	Pg	10 21 33.5	+0.7
CTKS	**Kestanelik-??a**	**0.15**	**258**	PG	Pg	10 21 34.8	+1.1
ELBA	**Catalca**	**0.24**	**240**	P	Pg	10 21 35.8	+0.4
ELBA				*i* AML	AML	10 21 47.0	
	comp=E,54nm,1.3s						
ELBA				*i* AML	AML	10 21 49.0	
	comp=N,47nm,1.1s						
KLYT	**Kilyos**	**0.26**	**93**	PG	Pg	10 21 36.6	+0.8
ISK	**Istanbul-Kandi**	**0.34**	**126**	PG	Pb	10 21 38.6	-1.2
ISK				SG	Sb	10 21 43.9	-1.8
KAVV	**Kandilli-Istan**	**0.34**	**127**	PG	Pb	10 21 38.6	-1.2
KAVV				SG	Sb	10 21 43.9	-1.9
SLVT	**Silivri**	**0.37**	**264**	PG	Pb	10 21 39.4	-1.0
CTYL	**Yalikoy Yolu**	**0.37**	**304**	PG	Pg	10 21 38.7	+0.7
ARMT	**Armutlu**	**0.71**	**170**	PG	Pg	10 21 45.2	+0.7
VIZE	**Kirklareli, Vi**	**0.72**	**296**	P	Pg	10 21 44.5	-0.1
SILT	**Sile**	**0.72**	**99**	PG	Pb	10 21 45.8	-0.5
HRT	**Hereke**	**0.86**	**121**	PG	Pb	10 21 48.6	-0.1
YLV	**Yalova**	**0.87**	**144**	PG	Pb	10 21 48.3	-0.5
KCTX	**Karacabey (Bur**	**1.03**	**195**	PG	Pb	10 21 51.3	-0.4
ARMN	**Kirklareli, Me**	**1.12**	**302**	P	Pg	10 21 51.9	-0.5
GZKV	**Gazikoy-Tekird**	**1.16**	**244**	PN	Pb	10 21 53.9	+0.1
MAR3	**Marsite Statio**	**1.19**	**244**	PN	Pg	10 21 53.8	+0.2
KAYN	**Sakarya, Kayna**	**1.28**	**103**	P	Pg	10 21 54.1	-1.3
KAYN				*i* AML	AML	10 22 30.0	
	comp=E,11nm,0.6s						
KAYN				*i* AML	AML	10 22 31.0	
	comp=N,14nm,0.7s						
KIRK	**Kırklareli**	**1.31**	**294**	P	Pg	10 21 53.8	-2.1
GEYV	**SAKARYA_Geyve**	**1.44**	**122**	P	Pn	10 21 57.5	-0.7
GEYV				*i* AML	AML	10 22 35.0	
	comp=E,18nm,0.8s						
GEYV				*i* AML	AML	10 22 42.0	
	comp=N,23nm,0.9s						
SAHE	**Sakarya_HENDEK**	**1.68**	**104**	P	Pn	10 21 59.9	-1.7
SAHE				*i* AML	AML	10 23 01.0	
	comp=N,60nm,2.7s						
SAHE				*i* AML	AML	10 23 01.0	
	comp=E,60nm,1.9s						

NEIC 29 10:35:15.0±1.4, 15°61S±0°10×167°5E±0°1, h96km±4km, mb4.1/13, Error ellipse: s-maj=19.4km s-min=12.8km az=64.0
NOU 29 10:35:15.5, 15°58S×167°50E, h79km, MLv4.6/16, Vanuatu Islands
IDC 29 10:35:16.3±7.1, 15°76S×167°58E, h118km±70km, mb3.6/6, mb1 3.8/7, mb1mx3.5/36, mbtmp4.0/7, Error ellipse: s-maj=58.0km s-min=30.9km az=168.0

ISC 29 10:35:14.8±0.8, 15°58S±0°07×167°5E±0°1, h100km, n40, σ0§96/40, mb4.1/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.35**	**292**	Pn	**Pn**	**10 35 29.0**	**-0.6**
SANVU				Sn	**Sn**	**10 35 39.9**	**-0.8**
SANVU	**Saraoutou**	**0.35**	**292**	P	**Pn**	**10 35 29.2**	**-0.4**
DVP	**Devils Point**	**2.22**	**164**	P	**Pn**	**10 35 50.6**	**+0.4**
RTV	**Rentapao**	**2.36**	**159**	P	**Pn**	**10 35 52.8**	**+0.8**
LIFNC	**LIFOU**	**5.18**	**183**	Pn	**Pn**	**10 36 27.8**	**-2.1**
KOUNC	**Koumac, New Ca**	**5.83**	**212**		**Pn**	**10 36 39.2**	**+0.4**
KOUNC	**Koumac, New Ca**	**5.83**	**212**	P	**Pn**	**10 36 39.6**	**+0.8**
MARNC	**Mare, Loyalty**	**5.89**	**176**	Pn	**Pn**	**10 36 38.0**	**-1.6**
YATNC	**Mamie plateau,**	**6.47**	**185**	P	**Pn**	**10 36 46.5**	**-1.0**
DZM	**Mont Dzumac**	**6.54**	**189**	P	**Pn**	**10 36 48.6**	**+0.1**
	7.8nm,0.3s,baz=35,slow=15,SNR=27						
DZM				S	**Sn**	**10 37 59.2**	**-2.5**
	6.3nm,0.3s,baz=112,slow=23,SNR=7.4						
DZM	**Mont Dzumac**	**6.54**	**189**		**Pn**	**10 36 47.6**	**-0.9**
DZM	**Mont Dzumac**	**6.54**	**189**	P	**Pn**	**10 36 48.9**	**+0.4**
NOUC	**Port Laguerre**	**6.59**	**190**	P	**Pn**	**10 36 50.0**	**+0.5**
ONTNC	**Ouen Toro**	**6.77**	**189**		**Pn**	**10 36 52.1**	**+0.5**
ONTNC	**Ouen Toro**	**6.77**	**189**	P	**Pn**	**10 36 52.3**	**+0.8**
OUENC	**Ouen Island, N**	**6.83**	**185**		**Pn**	**10 36 52.9**	**+0.5**
OUENC	**Ouen Island, N**	**6.83**	**185**	P	**Pn**	**10 36 53.1**	**+0.7**
PINNC	**Pines Island,**	**7.00**	**181**	Pn	**Pn**	**10 36 54.9**	**+0.3**
PINNC	**Pines Island,**	**7.00**	**181**	P	**Pn**	**10 36 55.0**	**+0.3**
CTA	**Charters Tower**	**20.75**	**254**	P	**P**	**10 39 49.3**	**+1.6**
	4.7nm,0.8s,baz=180,slow=1.0,SNR=3.3						
BKZ	**Black Stump Fm**	**24.77**	**163**	P	**P**	**10 40 28.3**	**+1.0**
BKZ				IAmb	IAmb	10 40 37.0	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**31.70**	**257**	P	**P**	**10 41 28.9**	**-0.2**
WR0				IAmb	IAmb	10 41 54.8	
	comp=Z,5.0nm,1.2s						
WB0	**Warramunga Arr**	**31.83**	**258**	P	**P**	**10 41 30.0**	**-0.3**
WB0				IAmb	IAmb	10 41 30.1	
	comp=Z,3.9nm,0.9s						
WB2	**Warramunga Arr**	**31.87**	**257**	P	**P**	**10 41 29.8**	**-0.9**
WB2				IAmb	IAmb	10 41 40.4	
	comp=Z,2.4nm,0.9s						
WRAB	**Tennant Creek**	**31.87**	**257**	P	**P**	**10 41 30.4**	**-0.3**
WRAB				IAmb	IAmb	10 41 30.9	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**31.88**	**257**	P	**P**	**10 41 29.1**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=86,slow=9.1,SNR=14						
WRA	**Warramunga Arr**	**31.88**	**257**	IAmb	IAmb	10 41 35.4	
	comp=Z,0.3nm,1.4s						
QSPA	**South Pole Qui**	**74.45**	**180**	P	**P**	**10 46 42.6**	**+0.6**
QSPA				IAmb	IAmb	10 46 44.4	
	comp=Z,4.7nm,1.2s						
CMAR	**Chiang Mai Arr**	**75.53**	**294**	P	**P**	**10 46 50.5**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=146,slow=3.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**75.53**	**294**	P	**P**	**10 46 48.1**	**-0.8**
SONM	**Songino Array**	**83.33**	**324**	P	**P**	**10 47 30.6**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=147,slow=6.7,SNR=3.3						
SONM	**Songino Array**	**83.33**	**324**	IAmb	IAmb	10 47 31.9	
	comp=Z,1.3nm,1.2s						
ILAR	**Eielson Array**	**87.25**	**18**	P	**P**	**10 47 49.0**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=231,slow=6.9,SNR=2.4						
ARCES	**ARCESS Array B**	**121.14**	**345**	PKP	**PKPdf**	**10 53 55.4**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=50,slow=2.1,SNR=7.3						

JMA 29 10:40:16.9±0.1, 23°97N×121°55E, h25km±1km, M2.8
TAP 29 10:40:19.4, 24°20N×121°78E, h13km, ML3.3, B

ISC 29 10:40:19.6±0.8, 24°20N±0°02×121°72E±0°02, h15km±5km, n75, σ0§70/124, 2C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.10**	**244**	*i* P	**Pg**	**10 40 23.3**	**+0.3**
	baz=253						
ETL				*i* S	**Sg**	**10 40 26.3**	**+1.2**
	baz=253						
EHP	**Heping Village**	**0.11**	**10**	⇓*i* P	**Pg**	**10 40 22.5**	**-0.6**
	baz=344						
EHP				*e* S	**Sg**	**10 40 24.2**	**-1.1**
	baz=344						
NACB	**Ninganchiao**	**0.12**	**256**	*i* P	**Pb**	**10 40 23.6**	**0.0**
	baz=260						
NACB				*i* S	**Sb**	**10 40 26.7**	**+0.5**
	baz=260						
TWD	**Chiawan**	**0.17**	**223**	*i* P	**Pb**	**10 40 24.1**	**-0.3**
	baz=233						
TWD				*i* S	**Sb**	**10 40 27.8**	**+0.1**
	baz=233						
ETLH	**Xiulin Townshi**	**0.22**	**271**	⇓*i* P	**Pb**	**10 40 25.3**	**0.0**
	baz=271						
ETLH				S	**Sb**	**10 40 29.7**	**+0.5**
	baz=271						
ENA	**Nanau**	**0.22**	**5**	⇓*i* P	**Pg**	**10 40 24.3**	**-0.4**
	baz=352						
ENA				*i* S	**Sg**	**10 40 28.3**	**+0.1**
	baz=352						
EWUT	**Wuta**	**0.25**	**12**	⇓*i* P	**Pg**	**10 40 24.6**	**-0.5**
	baz=359						
EWUT				*i* S	**Sg**	**10 40 28.5**	**-0.2**
	baz=359						
HWA	**Hwalien**	**0.25**	**205**	*e*P	**Pb**	**10 40 26.4**	**+0.6**
	baz=214						
ETM	**Tongmen**	**0.32**	**221**	P	**Pb**	**10 40 26.9**	**-0.1**
	baz=228						
ETM				*e* S	**Sb**	**10 40 32.5**	**+0.6**
	baz=228						
TEYL	**Yanliau Villag**	**0.35**	**199**	*e*P	**Pb**	**10 40 28.1**	**+0.5**
	baz=209						
TEYL				*e* S	**Sn**	**10 40 35.3**	**-1.6**
	baz=209						
LATG	**Datong**	**0.38**	**332**	⇓*i* P	**Pb**	**10 40 27.9**	**-0.2**
	baz=325						
LATG				*e* S	**Sb**	**10 40 33.7**	**0.0**
	baz=325						
NNSB	**Datong**	**0.38**	**306**	⇓*i* P	**Pb**	**10 40 28.4**	**+0.3**
	baz=302						
NNSB				*e* S	**Sb**	**10 40 34.5**	**+0.6**
	baz=302						
NNS	**Nan Shan**	**0.40**	**307**	⇓*i* P	**Pb**	**10 40 28.6**	**+0.2**
	baz=303						
NNS				*e* S	**Sb**	**10 40 34.5**	**+0.2**
	baz=303						
WHF	**Hehuan Shan**	**0.42**	**262**	*i* P	**Pb**	**10 40 29.2**	**+0.2**
	baz=263						
WHF				*i* S	**Sb**	**10 40 36.2**	**+0.9**
	baz=263						
TWC	**Suao**	**0.42**	**16**	⇓*i* P	**Pg**	**10 40 27.6**	**-0.5**
	baz=10.0						
TWC				S	**Sg**	**10 40 34.1**	**+0.2**
	baz=10.0						
NDS	**Dongshan**	**0.43**	**359**	⇓*i* P	**Pg**	**10 40 28.2**	**0.0**
	baz=352						
NDS				*e* S	**Sg**	**10 40 34.4**	**+0.2**
	baz=352						
FUSS	**Fushou**	**0.44**	**276**	⇓*e* P	**Pb**	**10 40 28.6**	**-0.5**
	baz=275						
FUSS				*e* S	**Sb**	**10 40 35.6**	**0.0**
	baz=275						
NDT	**Datong Townshi**	**0.44**	**335**	⇓*i* P	**Pb**	**10 40 29.2**	**+0.1**
	baz=328						
NDT				*e* S	**Sb**	**10 40 36.2**	**+0.7**
	baz=328						
ENTT	**Nioudou**	**0.46**	**342**	⇓*i* P	**Pb**	**10 40 29.3**	**-0.1**
	baz=336						
ENTT				S	**Sb**	**10 40 36.5**	**+0.4**
	baz=336						
ESL	**Shilin**	**0.47**	**214**	*e*P	**Pb**	**10 40 29.5**	**-0.1**
	baz=219						
ESL				*e* S	**Sb**	**10 40 37.3**	**+1.0**
	baz=219						
TWT	**Tachien**	**0.50**	**276**	*e*P	**Pn**	**10 40 31.4**	**-1.0**
	baz=275						
TWT				*e* S	**Sb**	**10 40 38.7**	**+1.3**
	baz=275						
TDCB	**Techi**	**0.52**	**276**	⇑P	**Pn**	**10 40 31.4**	**-1.2**
	baz=275						
TDCB				*e* S	**Sb**	**10 40 39.0**	**+1.2**
	baz=275						
TWE	**Neicheng**	**0.52**	**355**	⇓*i* P	**Pb**	**10 40 30.1**	**-0.3**
	baz=350						
TWE				*e* S	**Sb**	**10 40 37.6**	**-0.1**
	baz=350						
CHGB	**Renai**	**0.52**	**254**	*i* P	**Pb**	**10 40 31.3**	**+0.7**
	baz=256						
CHGB				*e* S	**Sn**	**10 40 39.8**	**-1.6**
	baz=256						
TEGC	**Jichi Village**	**0.52**	**199**	*e*P	**Pb**	**10 40 31.2**	**+0.8**
	baz=203						
OWD	**Renai**	**0.56**	**244**	*i* P	**Pb**	**10 40 31.7**	**+0.6**
	baz=246						
OWD				*e* S	**Sn**	**10 40 40.9**	**-1.2**
	baz=246						
ILA	**Ilan**	**0.56**	**3**	*e*P	**Pg**	**10 40 30.4**	**-0.4**
	baz=358						
ILA				*e* S	**Sb**	**10 40 39.2**	**+0.2**
	baz=358						
YHNB	**Yeheng**	**0.56**	**326**	⇓*i* P	**Pb**	**10 40 31.8**	**+0.5**
	baz=321						
YHNB				*e* S	**Sb**	**10 40 39.9**	**+0.9**
	baz=321						
FUSB	**Fushanzhiwuyua**	**0.57**	**348**	⇓*i* P	**Pb**	**10 40 31.3**	**0.0**
	baz=342						
FUSB				*e* S	**Sb**	**10 40 39.4**	**+0.1**
	baz=342						
NSK	**Sanguang**	**0.57**	**325**	⇓*i* P	**Pb**	**10 40 31.9**	**+0.5**
	baz=321						
NSK				*e* S	**Sb**	**10 40 40.3**	**+0.8**
	baz=321						
WUSB	**Renai**	**0.59**	**249**	⇑*i* P	**Pn**	**10 40 32.7**	**-0.9**
	baz=251						
WUSB				*e* S	**Sn**	**10 40 41.9**	**-1.0**
	baz=251						
EGFH	**Guangfu**	**0.60**	**207**	*e*P	**Pb**	**10 40 32.0**	**+0.3**
	baz=211						
EGFH				*e* S	**Sn**	**10 40 41.9**	**-1.0**
	baz=211						
NWLT	**Wulai**	**0.60**	**341**	⇓*i* P	**Pb**	**10 40 32.2**	**+0.2**
	baz=336						
NWLT				*e* S	**Sb**	**10 40 40.4**	**+0.1**
	baz=336						
NTC	**Toucheng**	**0.66**	**9**	*i* P	**Pg**	**10 40 32.2**	**-0.3**
	baz=4.0						
NTC				*e* S	**Sg**	**10 40 40.5**	**-0.7**
	baz=4.0						
EGS		**0.67**	**17**	*e*P	**Pg**	**10 40 32.2**	**-0.5**
	baz=13						
EGS				*e* S	**Sg**	**10 40 41.4**	**-0.2**
	baz=13						
VWDT	**VWDT**	**0.69**	**230**	*e*P	**Pn**	**10 40 34.6**	**-0.2**
	baz=233						
VWDT				*e* S	**Sn**	**10 40 46.0**	**+0.6**
	baz=233						
NFF	**Wufeng Townshi**	**0.69**	**308**	*e*P	**Pn**	**10 40 34.6**	**-0.4**
	baz=305						
NFF				*e* S	**Sn**	**10 40 44.2**	**-1.3**
	baz=305						
WHP	**Taichung City**	**0.71**	**276**	*e*P	**Pn**	**10 40 35.4**	**+0.2**
	baz=276						
WHP				*e* S	**Sn**	**10 40 45.5**	**-0.4**
	baz=276						
WPL	**Puli Township**	**0.72**	**255**	*e*P	**Pn**	**10 40 35.5**	**+0.2**
	baz=256						
WPL				*e* S	**Sn**	**10 40 45.8**	**-0.3**
	baz=256						
WCS	**Beigang Elemen**	**0.75**	**259**	*e*P	**Pn**	**10 40 35.8**	**+0.1**
	baz=260						
WCS				*e* S	**Sn**	**10 40 46.8**	**-0.1**
	baz=260						
HGSD	**Ruisui**	**0.76**	**201**	*e*P	**Pn**	**10 40 35.3**	**-0.5**
	baz=205						
HGSD				*e* S	**Sn**	**10 40 49.8**	**+2.9**
	baz=205						
TIPB	**Shuangxi**	**0.77**	**7**	⇓*i* P	**Pg**	**10 40 34.4**	**-0.2**
	baz=3.0						
TIPB				*e* S	**Sg**	**10 40 44.6**	**-0.3**
	baz=3.0						
NHDH	**Xindian Distri**	**0.78**	**347**	*e*P	**Pb**	**10 40 35.1**	**+0.3**
	baz=343						
LIOB	**Emei**	**0.78**	**305**	*e*P	**Pn**	**10 40 36.6**	**+0.5**
	baz=302						
NSTT	**Nanjuang**	**0.78**	**303**	*e*P	**Pn**	**10 40 36.8**	**+0.7**
	baz=301						
TWA	**Mucha**	**0.78**	**351**	*e*P	**Pb**	**10

JYNG	**Yonagunijimaku**	**1.14**	**77**	P		**Pb**	**10 40 40.4**	**-0.7**
JYNG				*eS*		**Sn**	**10 40 58.2**	**+1.7**
CHKT	**Chengkung**	**1.15**	**197**	*eP*		**Pb**	**10 40 40.3**	**-0.8**
	baz=199							
ELDTW	**Lidau**	**1.20**	**213**	*eP*		**Pn**	**10 40 41.3**	**-0.7**
	baz=214							
YOJ	**Yonaguni jima**	**1.21**	**77**	P		**Pn**	**10 40 41.7**	**-0.2**
YOJ				*eS*		**Sg**	**10 40 59.6**	**+1.0**
YOJ	**Yonaguni jima**	**1.21**	**77**	P		**Pn**	**10 40 41.6**	**-0.3**
	baz=77							
YOJ				*eS*		**Sg**	**10 40 59.6**	**+1.0**
	baz=77							
EDH	**Donghe**	**1.28**	**197**	*eP*		**Pn**	**10 40 41.9**	**-1.1**
	baz=200							
STYH	**Taoyuan**	**1.34**	**220**	*eP*		**Pg**	**10 40 44.8**	**-0.7**
	baz=222							
LDUT	**Ludao**	**1.54**	**189**	*eP*		**Pn**	**10 40 45.6**	**-0.9**
	baz=191							
IRIF	**Iriomote-Funau**	**1.84**	**86**	P		**Pn**	**10 40 50.4**	**-0.2**
HATJ	**Hateruma jima**	**1.91**	**94**	S		**Sn**	**10 41 16.0**	**+0.6**
JKRS	**Kuro-shima**	**2.09**	**89**	P		**Pn**	**10 40 54.2**	**+0.1**
JIJ	**Ishigaki jima**	**2.22**	**85**	P		**Pn**	**10 40 55.9**	**+0.1**
JISG	**Ishigakijimahi**	**2.39**	**80**	P		**Pn**	**10 40 58.1**	**-0.1**

IDC 29 10:41:22.6±6.1, 2°.78S×154°.54E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/32, mbtmp3.7/5, ML2.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/48, Error ellipse: s-maj=141.0km s-min=55.0km az=178.0, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.86**	**228**	Pn	Pn	10 43 47.0	+1.4
	1.0nm,0.3s,baz=18,slow=9.6,SNR=2.0						
WRA	**Warramunga Arr**	**26.08**	**228**	P	P	10 46 57.5	-0.7
	0.5nm,0.7s,baz=54,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**28.80**	**222**	P	P	10 47 23.6	+1.0
	0.4nm,0.7s,baz=55,slow=8.8,SNR=5.6						
JCJ	**Chichijima**	**32.01**	**339**	LR	LR	10 59 05.1	
	comp=Z,22nm,21.1s,baz=106,slow=33						
FITZ	**Fitzroy Crossi**	**32.16**	**240**	P	P	10 47 52.1	-0.2
	0.4nm,0.5s,baz=45,slow=4.3,SNR=1.0						
VNDA	**Vanda**	**74.78**	**178**	P	P	10 53 03.8	-0.3
	0.9nm,0.9s,baz=333,slow=9.0,SNR=2.8						

*MEX **29** 10:55:16.7±2.9, 32°.41N×114°.87W, h5km, MD3.3*
*NEIC **29** 10:55:18.6±2.6, 32°.51N±0°.04×115°.23W±0°.05, h10km±2km, Error ellipse: s-maj=7.4km s-min=6.4km az=19.0*
*ECX **29** 10:55:20.9±0.6, 32°.42N×115°.16W, h0km±2km, MD3.4, ML3.6*
*PAS **29** 10:55:25.0±2.9, 32°.39N±0°.09×115°.27W±0°.03, h5km±2km, Error ellipse: s-maj=14.5km s-min=4.0km az=6.0*

ISC 29 10:55:19.8±0.8, 32°.38N±0°.02×115°.24W±0°.02, h17km±4km, n83, σ1§61/100, 14C-14D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.04**	**58**	*eP*	**Pg**	**10 55 21.4**	**-1.6**
MBIG				*eP*	**Pg**	**10 55 22.1**	**-0.9**
MBIG				*i* S	**Sg**	**10 55 25.2**	**+0.1**
MBIG				*i* S	**Sg**	**10 55 26.0**	**+1.0**
MBIG	**Mexicali**	**0.04**	**58**	⇑*iP*	**Pg**	**10 55 21.4**	**-1.6**
MBIG				*eS*	**Sg**	**10 55 24.0**	**-1.0**
CPBX	**Cerro Prieto**	**0.06**	**304**		**Pg**	**10 55 22.0**	**-1.1**
CPBX	**Cerro Prieto**	**0.06**	**304**	⇑*eP*	**Pg**	**10 55 22.3**	**-0.8**
CPBX				*eS*	**Sg**	**10 55 25.1**	**-0.2**
CPBX				IAML		10 55 26.2	
	comp=N,23μm,0.2s						
CPBX				⇑*e*		10 55 26.2	
CPBX				⇓*e*		10 55 26.8	
CPBX				IAML		10 55 26.8	
	comp=E,21μm,0.3s						
CPBX	**Cerro Prieto**	**0.06**	**304**	*eP*	**Pg**	**10 55 26.3**	**+3.2**
CPBX				*eS*	**Sg**	**10 55 30.3**	**+5.0**
CPBX				⇓*e*		10 55 31.4	
CPBX				IAML		10 55 31.4	
	comp=E,65μm,0.2s						
CPBX				⇑*e*		10 55 32.1	
CPBX				IAML		10 55 32.1	
	comp=N,75μm,0.3s						
CTLX	**Tlaxcala, TLX**	**0.12**	**42**	*eP*	**Pg**	**10 55 23.6**	**-0.1**
CTLX				*eS*	**Sb**	**10 55 27.2**	**+0.9**
CTLX	**Tlaxcala, TLX**	**0.12**	**42**	*eP*	**Pb**	**10 55 25.3**	**+1.6**
GUVIX	**Guadalupe Vict**	**0.16**	**120**		**Pg**	**10 55 24.3**	**+0.1**
GUVIX	**Guadalupe Vict**	**0.16**	**120**	⇑*eP*	**Pb**	**10 55 24.4**	**+0.1**
GUVIX				*eS*	**Sb**	**10 55 28.4**	**+1.0**
GUVIX	**Guadalupe Vict**	**0.16**	**120**	*eP*	**Pb**	**10 55 27.0**	**+2.7**
YUCAX	**Ej. Yucatán**	**0.25**	**29**	⇓*iP*	**Pb**	**10 55 26.1**	**+0.1**
POT2	**Potabilizadora**	**0.27**	**334**	*eP*	**Pb**	**10 55 26.3**	**0.0**
UABX	**UABC, Campus M**	**0.30**	**326**		**Pg**	**10 55 24.8**	**-1.5**
UABX	**UABC, Campus M**	**0.30**	**326**	*eP*	**Pb**	**10 55 27.2**	**+0.5**
UABX				*eS*	**Sb**	**10 55 32.8**	**+1.4**
UABX	**UABC, Campus M**	**0.30**	**326**	*eP*	**Pn**	**10 55 30.8**	**+1.4**
RITX	**Riito Sonora**	**0.32**	**132**	⇑*eP*	**Pb**	**10 55 27.4**	**+0.3**
RITX				*eS*	**Sb**	**10 55 33.4**	**+1.4**
ICBC	**Inst. de Cultu**	**0.34**	**325**	*eP*	**Pb**	**10 55 27.6**	**+0.1**
EMSC	**East Mesa**	**0.41**	**31**	⇓*eP*	**Pb**	**10 55 28.9**	**+0.1**
EMSC				*eS*	**Sb**	**10 55 35.9**	**+1.2**
CEA0	**Mexicali**	**0.45**	**307**	*eP*	**Pg**	**10 55 29.1**	**+0.1**
DREC	**Desert Rsrch C**	**0.46**	**338**	⇓*eP*	**Pb**	**10 55 29.8**	**+0.4**
DREC				IAML		10 55 39.2	
	comp=N,2μm,0.2s						
DREC				*e*		10 55 39.2	
DREC	**Desert Rsrch C**	**0.46**	**338**	*eP*	**Pn**	**10 55 33.9**	**+2.4**
DREC				*eS*	**Sn**	**10 55 42.9**	**+3.7**
DREC				⇑*e*		10 55 45.1	
DREC				IAML		10 55 45.1	
	comp=N,4μm,0.5s						
SLRCX	**San Luis Rio C**	**0.46**	**81**	*eP*	**Pb**	**10 55 29.5**	**0.0**
SLRCX				*eS*	**Sb**	**10 55 36.8**	**+0.8**
SGL	**Mount Signal**	**0.49**	**303**	*eP*	**Pg**	**10 55 29.6**	**-0.1**
COA	**Coachella**	**0.49**	**12**	*eP*	**Pb**	**10 55 30.0**	**0.0**
ALAMX	**Rancho Alamar**	**0.55**	**227**	⇓*eP*	**Pg**	**10 55 30.8**	**+0.1**
WESC	**Westside Schoo**	**0.56**	**312**	⇓*eP*	**Pb**	**10 55 31.2**	**+0.1**
YMD	**Yuma Desert**	**0.61**	**74**	⇓*eP*	**Pg**	**10 55 31.7**	**-0.3**
YMD				⇑*iP*	**Pg**	**10 55 31.7**	**-0.3**
YMD	**Yuma Desert**	**0.61**	**74**	*eP*	**Pn**	**10 55 35.5**	**+1.7**
COK2	**Cook Ranch 2**	**0.62**	**319**	*eP*	**Pg**	**10 55 31.9**	**-0.2**
YUH2	**Yuha Desert**	**0.63**	**295**	*eP*	**Pb**	**10 55 31.8**	**-0.5**
YUH2	**Yuha Desert**	**0.63**	**295**	*eP*	**Pn**	**10 55 36.9**	**+2.9**
YUH	**Yuha Desert**	**0.63**	**295**		**Pg**	**10 55 31.9**	**-0.5**
SWSC	**Sam W. Stewart**	**0.73**	**320**	⇓*eP*	**Pb**	**10 55 33.2**	**-0.9**
SWSC	**Sam W. Stewart**	**0.73**	**320**	*eP*	**Pn**	**10 55 37.8**	**+2.4**
RMX	**La Rumorosa**	**0.74**	**287**	Pg	**Pb**	**10 55 32.6**	**-1.7**
RMX				IAML		10 55 48.0	
	comp=N,244nm,0.6s						
RMX				IAML		10 55 48.1	
	comp=E,299nm,0.4s						
RMX	**La Rumorosa**	**0.74**	**287**	⇑*eP*	**Pb**	**10 55 33.4**	**-1.0**
GLA	**Glamis**	**0.75**	**28**		**Pb**	**10 55 34.0**	**-0.5**
GLA	**Glamis**	**0.75**	**28**	⇓*eP*	**Pb**	**10 55 34.1**	**-0.5**
GLA	**Glamis**	**0.75**	**28**	*eP*	**Pn**	**10 55 38.7**	**+3.0**
IKP	**In-Ko-Pah, Jac**	**0.78**	**290**	⇓*eP*	**Pb**	**10 55 34.7**	**-0.3**
MONP2	**Monument Peak**	**1.12**	**297**	⇓*eP*	**Pb**	**10 55 39.7**	**-1.2**
TKX	**Tecate**	**1.17**	**279**		**Pn**	**10 55 41.7**	**+0.2**
TKX	**Tecate**	**1.17**	**279**	*eP*	**Pn**	**10 55 41.7**	**+0.2**
SLH	**Sleepy Hollow**	**1.17**	**314**	⇓*eP*	**Pn**	**10 55 39.8**	**-1.6**
SLH	**Sleepy Hollow**	**1.17**	**314**	*eP*	**Pg**	**10 55 44.3**	**+1.7**
CBX	**Cerro Bola**	**1.21**	**267**	Pn	**Pb**	**10 55 42.3**	**0.0**
CBX				IAML		10 56 06.3	
	comp=E,175nm,0.5s						
CBX				IAML		10 56 11.0	
	comp=N,157nm,0.5s						
CBX	**Cerro Bola**	**1.21**	**267**	*eP*	**Pn**	**10 55 42.0**	**0.0**
CBX				*eS*	**Sn**	**10 55 58.3**	**+0.3**
CBX	**Cerro Bola**	**1.21**	**267**	⇑*eP*	**Pn**	**10 55 42.1**	**0.0**
TJIG	**Tijuana**	**1.21**	**273**	*eP*	**Pn**	**10 55 42.2**	**+0.2**
TJIG				*i* S	**Sg**	**10 56 00.3**	**+1.1**
TJIG	**Tijuana**	**1.21**	**273**	⇑*eP*	**Pn**	**10 55 42.2**	**+0.2**
BAR	**Barrett**	**1.24**	**284**	Pn	**Pn**	**10 55 41.8**	**-0.7**
BAR				IAML		10 56 06.7	
	comp=E,138nm,0.2s						
BAR				IAML		10 56 07.1	
	comp=N,147nm,0.4s						
BAR	**Barrett**	**1.24**	**284**	⇑*eP*	**Pb**	**10 55 42.9**	**0.0**
113A	**Mohawk Valley,**	**1.30**	**72**	Pn	**Pn**	**10 55 42.5**	**-0.7**
113A				IAML		10 55 56.5	
	comp=E,65nm,0.5s						
CCX	**Cicese**	**1.31**	**247**	Pn	**Pb**	**10 55 43.9**	**-0.1**
CCX				IAML		10 56 07.1	
	comp=E,166nm,0.6s						
CCX				IAML		10 56 07.3	
	comp=N,106nm,0.5s						
SPIG	**San Pedro Mart**	**1.35**	**188**	*eP*	**Pn**	**10 55 44.1**	**0.0**
SPIG				*i* S	**Sn**	**10 55 58.5**	**-3.3**
SPIG	**San Pedro Mart**	**1.35**	**188**	⇓*eP*	**Pn**	**10 55 44.1**	**0.0**
SVX	**San Vicente**	**1.36**	**219**	⇓*eP*	**Pn**	**10 55 44.2**	**+0.2**
SFX	**San Felipe**	**1.38**	**166**	Pn	**Pn**	**10 55 43.9**	**-0.4**
SFX				IAML		10 56 11.0	
	comp=N,113nm,0.5s						
SFX				IAML		10 56 11.2	
	comp=E,88nm,0.6s						
SFX	**San Felipe**	**1.38**	**166**	*eP*	**Pb**	**10 55 45.6**	**+0.4**
MATG	**Mataguay Scout**	**1.44**	**305**	⇓*eP*	**Pn**	**10 55 44.1**	**-1.1**
EML	**El Monte Cty P**	**1.45**	**291**	*eP*	**Pn**	**10 55 44.7**	**-0.5**
SDRC	**San Diego Road**	**1.48**	**284**	*eP*	**Pn**	**10 55 45.6**	**-0.1**
BLYC	**Blythe**	**1.49**	**24**	Pn	**Pn**	**10 55 44.6**	**-1.3**
BLYC				IAML		10 56 19.2	
	comp=E,107nm,0.7s						
BLYC				IAML		10 56 21.7	
	comp=N,103nm,0.7s						
TJX	**Tijuana**	**1.54**	**275**	Pn	**Pn**	**10 55 45.0**	**-1.4**
PFO	**Pinyon Flats O**	**1.60**	**320**	Pn	**Pn**	**10 55 45.2**	**-2.2**
109C	**Camp Elliot, M**	**1.65**	**288**	Pn	**Pn**	**10 55 46.4**	**-1.6**
109C				IAML		10 56 18.1	
	comp=N,109nm,0.2s						
109C				IAML		10 56 19.3	
	comp=E,93nm,0.3s						
214A	**Organ Pipe Nat**	**2.10**	**101**	Pn	**Pn**	**10 55 52.7**	**-1.6**
214A				IAML		10 56 47.8	
	comp=N,74nm,0.7s						
214A				IAML		10 56 53.6	
	comp=E,59nm,0.8s						
214A	**Organ Pipe Nat**	**2.10**	**101**	*eP*	**Pn**	**10 55 52.9**	**-1.4**
ELS	**Elsinore Mount**	**2.23**	**305**		**Pn**	**10 55 53.2**	**-2.8**
W13A	**Hualapai Mount**	**2.94**	**22**	Pn	**Pn**	**10 56 03.6**	**-2.3**
GSC	**Goldstone, Bar**	**3.19**	**336**	Pn	**Pn**	**10 56 06.1**	**-3.2**
GSC				IAML		10 57 45.7	
	comp=N,16nm,1.6s						
GSC				IAML		10 57 51.9	
	comp=E,24nm,4.8s						
CCAC	**Calif City Air**	**3.60**	**321**	Pn	**Pn**	**10 56 12.1**	**-2.8**
SNCC	**San Nicolas Is**	**3.71**	**285**	Pn	**Pn**	**10 56 14.0**	**-2.3**
TUC	**Tucson**	**3.77**	**90**		**Pn**	**10 56 17.8**	**+0.5**
TUC				IAML		10 57 51.2	
	comp=E,10nm,0.7s						
TUC				IAML		10 58 10.4	
	comp=E,7.2nm,2.9s						
QSM	**Queen of Sheba**	**3.82**	**340**	Pn	**Pn**	**10 56 13.9**	**-3.9**
GWY	**Greenwater Val**	**3.97**	**343**	Pn	**Pn**	**10 56 18.0**	**-2.1**
ISA	**Isabella, Lake**	**4.23**	**322**	Pn	**Pn**	**10 56 23.1**	**-0.5**
WUAZ	**Wupatki**	**4.48**	**45**	Pn	**Pn**	**10 56 23.6**	**-3.5**
U15A	**North Rim**	**4.71**	**30**	Pn	**Pn**	**10 56 27.6**	**-2.8**
LCMT	**Little Creek M**	**4.90**	**19**	Pn	**Pn**	**10 56 30.8**	**-2.1**
X18A	**Snowflake**	**4.91**	**63**	Pn	**Pn**	**10 56 30.3**	**-2.7**
319A	**Douglas**	**5.17**	**100**	Pn	**Pn**	**10 56 34.7**	**-1.8**
W18A	**Petrified Fore**	**5.34**	**58**	Pn	**Pn**	**10 56 37.5**	**-1.4**

*NOU **29** 11:02:37.3, 16°.17S×167°.11E, h17km, MLv4.8/4, Vanuatu Islands*
*IDC **29** 11:02:42.8±5.9, 16°.22S×167°.44E, h55km±51km, mb3.4/6, mb1 3.6/7, mb1mx3.4/47, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=36.1km s-min=30.6km az=45.0*

ISC 29 11:02:40.7±1.1, 16°.05S±0°.07×167°.4E±0°.2, h39km, n9, σ1§24/10, mb3.7/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.63**	**343**	P	**Pn**	**11 02 51.8**	**-1.3**
DZM	**Mont Dzumac**	**6.05**	**188**	P	**Pn**	**11 04 07.5**	**-0.2**
	2.2nm,0.3s,baz=312,slow=8.3,SNR=68						
DZM				S	**Sn**	**11 05 15.0**	**-0.9**
	3.0nm,0.3s,baz=156,slow=23,SNR=10						
WRA	**Warramunga Arr**	**31.64**	**258**	P	**P**	**11 09 01.8**	**+1.4**
	0.4nm,0.9s,baz=84,slow=8.4,SNR=2.3						
ASAR	**Alice Springs**	**32.33**	**251**	P	**P**	**11 09 06.8**	**+0.3**
	0.7nm,0.6s,baz=74,slow=8.6,SNR=9.4						
FITZ	**Fitzroy Crossi**	**39.90**	**261**	P	**P**	**11 10 11.2**	**+0.1**
	1.5nm,1.0s,baz=359,slow=11,SNR=3.4						
VNDA	**Vanda**	**61.55**	**181**	P	**P**	**11 12 52.1**	**-1.3**
	0.4nm,0.4s,baz=344,slow=7.4,SNR=7.5						
SONM	**Songino Array**	**83.62**	**324**	P	**P**	**11 15 05.9**	**+0.8**
	0.3nm,0.3s,baz=134,slow=8.3,SNR=3.0						
ILAR	**Eielson Array**	**87.74**	**18**	P	**P**	**11 15 25.4**	**+0.4**
	0.4nm,1.0s,baz=245,slow=5.6,SNR=4.3						
ARCES	**ARCESS Array B**	**121.55**	**345**	PKP	**PKiKP**	**11 21 31.5**	**+1.9**
	2.4nm,1.1s,baz=336,slow=1.5,SNR=3.7						

IDC 29 11:09:43.8±8.5, 2°.14N×126°.16E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/57, mbtmp3.5/3, MS2.8/4, Ms1 2.8/4, ms1mx2.5/50, Error ellipse: s-maj=171.1km s-min=130.8km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.91**	**120**	LR	LR	11 13 50.2	
	comp=Z,42nm,20.4s,baz=17,slow=42						
WRA	**Warramunga Arr**	**23.36**	**160**	P	P	11 14 54.4	+0.2
	0.9nm,0.5s,baz=338,slow=11,SNR=12						
JOW	**Kunigami**	**24.64**	**5**	LR	LR	11 23 19.2	
	comp=Z,25nm,20.5s,baz=144,slow=33						
ASAR	**Alice Springs**	**26.73**	**164**	P	P	11 15 25.8	+0.5
	0.2nm,0.6s,baz=353,slow=7.1,SNR=2.1						
MJAR	**Matsushiro Arr**	**36.00**	**17**	LR	LR	11 33 59.0	
	comp=Z,12nm,18.7s,baz=187,slow=40						
STKA	**Stephens Creek**	**36.86**	**158**	P	P	11 16 53.3	-0.8
	1.4nm,0.8s,baz=344,slow=8.7,SNR=2.9						
MA2	**Magadan**	**60.38**	**14**	LR	LR	11 45 36.7	
	comp=Z,13nm,20.5s,baz=345,slow=36						

*IDC **29** 11:13:06.6±2.2, 20°.60S×177°.59W, h501km±23km, mb3.1/7, mb1 3.5/9, mb1mx3.2/31, mbtmp4.0/9, Error ellipse: s-maj=31.2km s-min=18.3km az=145.0*

ISC 29 11:13:06.5±0.8, 20°.6S±0°.1×177°.6W±0°.2, h500km, n23, σ1§68/22, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.02**	**304**	P	**P**	**11 14 34.2**	**+0.4**
	2.3nm,0.3s,baz=118,slow=23,SNR=7.2						
AFI	**Afiamalu**	**8.63**	**4**	P	P	11 15 04.9	-4.8
	7.6nm,0.3s,baz=214,slow=18,SNR=7.5						
WMGZ	**Waiomatatini S**	**17.53**	**191**	P	**P**	**11 16 43.8**	**+1.4**
HAZ	**Te Kaha**	**17.59**	**192**	P	**P**	**11 16 43.8**	**+0.9**
PKGZ	**Pakihiroa**	**17.66**	**191**	P	**P**	**11 16 45.1**	**+1.4**
PUZ	**Puketiti**	**17.80**	**191**	P	**P**	**11 16 45.6**	**+0.7**
RUGZ	**Raukumara Rang**	**17.81**	**192**	P	**P**	**11 16 45.0**	**-0.1**
TOZ	**Tahuroa Road**	**18.12**	**198**	P	**P**	**11 16 50.2**	**+2.4**
MWZ	**Matawai**	**18.20**	**192**	P	**P**	**11 16 48.4**	**-0.2**
URZ	**Urewera**	**18.21**	**194**	P	**P**	**11 16 48.1**	**-0.5**
	1.8nm,0.3s,baz=264,slow=1.3,SNR=14						
URZ	**Urewera**	**18.21**	**194**	P	**P**	**11 16 46.8**	**-1.8**
RIGZ	**Rimuhau**	**18.51**	**192**	P	**P**	**11 16 51.9**	**+0.5**
MRHZ	**Matea Rd**	**18.92**	**195**	P	**P**	**11 16 49.5**	**-5.7**
BKZ	**Black Stump Fm**	**19.22**	**194**	P	**P**	**11 16 56.8**	**-1.2**
ASAR	**Alice Springs**	**44.89**	**257**	P	**P**	**11 20 36.2**	**0.0**
	1.4nm,0.6s,baz=98,slow=7.6,SNR=28						
ASAR				PcP	**PcP**	**11 22 07.2**	**-0.1**
	0.4nm,0.9s,baz=110,slow=4.3,SNR=4.4						
WRA	**Warramunga Arr**	**44.99**	**262**	P	**P**	**11 20 36.3**	**-0.7**
	0.9nm,0.3s,baz=97,slow=7.5,SNR=67						
NVAR	**Mina Array Bea**	**80.80**	**43**	P	**P**	**11 24 28.8**	**+0.9**
	0.2nm,0.7s,baz=235,slow=5.2,SNR=3.8						
TXAR	**Lajitas Array**	**86.76**	**57**	P	**P**	**11 24 58.3**	**+0.8**
	0.5nm,0.7s,baz=206,slow=6.5,SNR=6.9						
ILAR	**Eielson Array**	**88.30**	**13**	P	**P**	**11 25 02.4**	**-1.4**
	0.3nm,0.6s,baz=213,slow=5.4,SNR=6.3						
PDAR	**Pinedale Array**	**88.74**	**43**	P	**P**	**11 25 06.0**	**-0.6**
	0.3nm,0.6s,baz=208,slow=2.9,SNR=3.5						
CMAR	**Chiang Mai Arr**	**90.52**	**289**	P	**P**	**11 25 16.1**	**+0.9**
	1.1nm,0.4s,baz=135,slow=3.1,SNR=2.5						
AKASG	**Malin Array Be**	**143.28**	**331**	PKhKP	PKPpre	11 31 39.5	
	0.4nm,0.3s,baz=40,slow=4.2,SNR=5.9						
GERES	**GERESS Array B**	**150.38**	**345**	PKPbc	**PKPbc**	**11 32 00.9**	**-0.2**
	0.7nm,0.7s,baz=64,slow=3.1,SNR=5.1						

*DDA **29** 11:24:11.6±0.0, 40°.42N×40°.86E, h7km±2km, ML1.3*
*TIF **29** 11:24:12.9, 40°.46N×40°.87E, h26km±2km*
*ISK **29** 11:24:13.6, 40°.51N×40°.75E, h22km, ML2.6/4*

ISC 29 11:24:11.7±1.0, 40°.40N±0°.05×40°.92E±0°.04, h10km±8km, n10, σ1§36/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRIK	**Erzurum-spir**	**0.06**	**171**	P	**Pg**	**11 24 13.8**	**-0.3**
KRIK				*i* AML	AML	11 24 16.0	
	comp=N,129nm,0.3s						
KRIK				*i* AML	AML	11 24 16.0	
	comp=E,282nm,0.2s						
KRIK				S	**Sg**	**11 24 16.2**	**+0.5**
BAYT	**Aydıntepe-Bayb**	**0.59**	**270**	PG	**Pb**	**11 24 24.2**	**-0.1**
BAYT				SG	**Sg**	**11 24 31.1**	**0.0**
CHAY	**Cayeli-Rize**	**0.70**	**348**	PG	**Pb**	**11 24 25.7**	**-0.4**
CHAY				SG	**Sg**	**11 24 34.1**	**+0.4**
CHOM	**Cayeli-Rize**	**0.71**	**351**	PG	**Pg**	**11 24 25.8**	**+0.3**
CHOM				SG	**Sg**	**11 24 34.8**	**+0.1**
DBAD	**Bademkaya**	**0.86**	**43**	P	**Pg**	**11 24 28.7**	**+0.4**
DBAD				S	**Sb**	**11 24 40.3**	**-0.1**
DBAD				*i* AML	AML	11 24 43.0	
	comp=E,11nm,0.3s						
DBAD				*i* AML	AML	11 24 43.0	
	comp=N,12nm,0.5s						
DAGI	**Agillar**	**1.02**	**48**	P	**Pg**	**11 24 31.8**	**+0.4**
DAGI				S	**Sg**	**11 24 44.0**	**-0.6**
DAGI				*i* AML	AML	11 24 46.0	
	comp=E,4.6nm,0.4s						
DAGI				*i* AML	AML	11 24 50.0	
	comp=N,3.9nm,0.5s						
KELT	**Kelkit**	**1.29**	**259**	P	**Pg**	**11 24 36.6**	**0.0**
KELT				S	**Sg**	**11 24 53.4**	**-0.1**
KELT				*i* AML	AML	11 24 54.0	
	comp=N,8.2nm,0.3s						
KELT				*i* AML	AML	11 24 58.0	
	comp=E,8.8nm,0.4s						
BATM	**Batumi**	**1.34**	**26**	P	**Pb**	**11 24 37.3**	**+0.2**
BATM				S	**Sn**	**11 24 54.5**	**0.0**
BATM	**Batumi**	**1.34**	**26**	PN	**Pn**	**11 24 36.9**	**+0.3**
BATM				SN	**Sb**	**11 24 54.3**	**0.0**
ABS	**Abastumani**	**1.98**	**46**	P	**Pg**	**11 24 49.1**	**-0.5**

NOU 29 11:59:52.6, 16°.04S×167°.49E, h0km, MLv3.9/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.65**	**335**	P	Pg	12 00 05.1	0.0
DVP	**Devils Point**	**1.80**	**158**	P	Pn	12 00 25.5	+0.5
KOUNC	**Koumac, New Ca**	**5.42**	**214**	P	Pn	12 01 15.1	+0.4
	22nm,1.4s						
DZM	**Mont Dzumac**	**6.08**	**189**	P	Pn	12 01 23.0	-0.9
	20nm,1.8s						
NFK	**Norfolk Island**	**12.95**	**178**	P	Pn	12 02 57.4	-0.6
	187nm,1.2s						

*IDC **29** 12:04:04.5±1.7, 6°.62S×103°.71E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.5/35, mbtmp3.8/7, ML3.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/83, Error ellipse: s-maj=70.4km s-min=19.1km az=51.0*
*NEIC **29** 12:04:10.7±2.2, 6°.61S±0°.06×103°.9E±0°.1, h35km±2km, mb4.4/16, Error ellipse: s-maj=19.4km s-min=4.6km az=239.0*
*DJA **29** 12:04:11.7±1.2, 6°.5S±10°.4E±°, h14km±9km, M4.2/7, mb4.7/1, MLv3.9/7*

ISC 29 12:04:12.3±0.7, 6°.46S±0°.06×104°.13E±0°.07, h48km, n42, σ1§43/38, mb4.2/12, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.99**	**21**	P	**Pn**	**12 04 28.6**	**-1.3**
KASI				S	**Sn**	**12 04 40.9**	**-2.0**
LWLI	**Liwa**	**1.43**	**357**	P	**Pn**	**12 04 36.4**	**+0.4**
BLSI	**Bandar Lampung**	**1.55**	**46**	P	**Pn**	**12 04 36.6**	**-0.8**
BLSI				S	**Sn**	**12 04 54.6**	**-1.8**
KLI	**Kotabumi**	**1.74**	**24**	P	**Pn**	**12 04 40.4**	**+0.3**
MNAI	**Manna**	**2.39**	**331**	Pn	**Pn**	**12 04 50.3**	**+1.3**
MNAI	**Manna**	**2.39**	**331**	P	**Pn**	**12 04 51.0**	**+2.0**
SKJI	**Sukabumi**	**2.47**	**103**	P	**Pn**	**12 04 49.3**	**-0.7**
CNJI	**Cibinong**	**3.09**	**106**	P	**Pn**	**12 04 58.0**	**-0.6**
LEM	**Lembang**	**3.48**	**96**	Pn	**Pn**	**12 05 06.5**	**+2.4**
	6.6nm,0.3s,baz=169,slow=20,SNR=4.1						
LEM				S

DRAG				S		Sg	12 23 29.9	+0.1
DRAG	**Dragano-Lefkad**	**0.02**	**204**	P		Pg	12 23 28.3	+0.1
DRAG				S		Sg	12 23 29.5	-0.3
NYDR	**Nydri-Lefkada**	**0.09**	**82**	P		Pg	12 23 28.8	0.0
NYDR				S		Sg	12 23 30.4	-0.3
NYDR	**Nydri-Lefkada**	**0.09**	**82**	P		Pg	12 23 28.8	0.0
NYDR				S		Sg	12 23 30.5	-0.3
	7µm,0.2s							
EVGI	**Lefkada island**	**0.10**	**145**	P		Pg	12 23 29.3	+0.4
EVGI	**Lefkada island**	**0.10**	**145**	P		Pg	12 23 29.3	+0.4
EVGI				S		Sg	12 23 31.1	+0.1
LKD2	**Lefkada island**	**0.10**	**33**	P		Pg	12 23 29.1	0.0
LKD2				S		Sg	12 23 31.1	-0.1
	7µm,0.2s							
TSLK	**Tsoukalades, L**	**0.14**	**24**	P		Pg	12 23 29.8	+0.4
TSLK				S		Sg	12 23 32.3	+0.4
TSLK	**Tsoukalades, L**	**0.14**	**24**	P		Pg	12 23 29.8	+0.4
TSLK				S		Sg	12 23 32.3	+0.4
	4µm,0.2s							
KEF4	**Livadi, Kephal**	**0.46**	**196**	P		Pg	12 23 35.4	+0.4
KEF4				S		Sb	12 23 42.4	-0.4
KEF4	**Livadi, Kephal**	**0.46**	**196**	P		Pg	12 23 35.5	+0.4
KEF4				S		Sb	12 23 43.1	+0.3
DMLN	**Damoulianata-K**	**0.49**	**200**	P		Pg	12 23 35.9	+0.3
DMLN	**Damoulianata-K**	**0.49**	**200**	P		Pg	12 23 35.8	+0.1
DMLN				S		Sb	12 23 44.2	+0.5
	612nm,0.4s							
VLS	**Valsamata**	**0.52**	**180**	P		Pg	12 23 36.5	+0.2
VLS				S		Sg	12 23 43.9	+0.7
VLS					AML	AML	12 23 45.9	
	comp=N,726µm,0.2s							
VLS					AML	AML	12 23 49.7	
	comp=E,575µm,0.1s							
VLS	**Valsamata**	**0.52**	**180**	P		Pg	12 23 36.4	+0.2
VLS				S		Sb	12 23 45.1	+0.4
	comp=E,322nm,0.2s							
KEF3	**Kipouria, Keph**	**0.53**	**201**	P		Pg	12 23 36.0	-0.4
KEF3	**Kipouria, Keph**	**0.53**	**201**	P		Pg	12 23 36.0	-0.4
KEF3				S		Sb	12 23 44.6	-0.2
PSDA	**Pessada-Kefalo**	**0.59**	**180**	P		Pg	12 23 37.5	0.0
PSDA	**Pessada-Kefalo**	**0.59**	**180**	P		Pg	12 23 37.5	0.0
PSDA				S		Sb	12 23 47.0	+0.6
PVO	**Paravola**	**0.74**	**96**	P		Pb	12 23 40.7	-0.2
RLS	**Riolos of Patr**	**0.94**	**132**	P		Pb	12 23 43.8	-0.6
ANX	**Ano Chora**	**1.05**	**95**	P		Pb	12 23 45.7	-0.5
EFP	**Efpalio**	**1.07**	**104**	P		Pb	12 23 46.2	-0.3
DRO	**Drossia**	**1.16**	**130**	P		Pb	12 23 47.7	-0.3

NEIC ***29*** *12:27:58.3±1.4, 21°.71N±0°.10×143°.0E±0°.2, h267km±9km, mb4.2/18, Error ellipse: s-maj=27.6km s-min=14.2km az=95.0*

IDC ***29*** *12:28:00.5±7.1, 21°.68N×143°.02E, h298km±71km, mb3.2/7, mb1 3.3/7, mb1mx2.9/45, mbtmp3.8/7, Error ellipse: s-maj=54.2km s-min=14.0km az=87.0*

ISC 29 12:28:01.8±0.9, 21°.7N±0°.1×143°.0E±0°.2, h311km, n29, σ1°35/27, mb3.9/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.39**	**352**	Pn	Pn	12 29 19.8	-4.5
MAJO	**Matsushiro**	**15.33**	**345**	P	**P**	**12 31 19.1**	**-2.8**
MAJO				IAmb	IAmb	12 31 35.3	
	comp=Z,5.2nm,0.8s						
MJB9	**Matsu-Tunnel**	**15.34**	**345**		**P**	**12 31 18.9**	**-3.0**
MJB9				IAmb	IAmb	12 31 35.3	
	comp=Z,5.3nm,0.8s						
JNU	**Nakatsue**	**15.61**	**319**	P	**P**	**12 31 23.4**	**-1.5**
JNU				IAmb	IAmb	12 31 30.2	
	comp=Z,31nm,1.5s						
JHS	**Saijyo**	**15.80**	**329**	P	**P**	**12 31 25.9**	**-1.1**
JHS				IAmb	IAmb	12 31 52.4	
	comp=Z,30nm,1.5s						
JMM	**Marumori**	**16.19**	**354**		**P**	**12 31 29.9**	**-1.3**
KSRS	**Korea Array**	**20.37**	**324**	P	**P**	**12 32 15.7**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=146,slow=9.2,SNR=6.5						
KSAR	**Wonju Array Be**	**20.39**	**323**	P	**P**	**12 32 14.8**	**-1.1**
KS19	**Wonju Array Si**	**20.44**	**324**	P	**P**	**12 32 14.1**	**-2.3**
KS19				IAmb	IAmb	12 32 23.4	
	comp=Z,17nm,1.4s						
KLR	**Kul'dur**	**28.86**	**345**	P	**P**	**12 33 33.0**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=176,slow=6.5,SNR=8.6						
WB0	**Warramunga Arr**	**42.09**	**192**	P	**P**	**12 35 23.9**	**-0.3**
WR0	**Warramunga Arr**	**42.25**	**192**	P	**P**	**12 35 25.1**	**-0.3**
WRAB	**Tennant Creek**	**42.26**	**192**	P	**P**	**12 35 25.2**	**-0.4**
WRAB				IAmb	IAmb	12 35 43.3	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**42.27**	**192**	P	**P**	**12 35 25.3**	**-0.3**
WB2				IAmb	IAmb	12 35 44.3	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**42.27**	**192**	P	**P**	**12 35 25.2**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=17,slow=9.7,SNR=14						
WRA	**Warramunga Arr**	**42.27**	**192**	IAmb	IAmb	12 35 30.7	
	comp=Z,0.2nm,1.1s						
ASAR	**Alice Springs**	**45.98**	**192**	P	**P**	**12 35 54.0**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=14,slow=8.5,SNR=5.1						
MKAR	**Makanchi Array**	**54.53**	**313**	P	**P**	**12 36 58.5**	**+0.2**
BPAW	**Bear Paw Mtn.**	**60.23**	**28**	P	**P**	**12 37 38.5**	**+1.0**
BPAW				IAmb	IAmb	12 37 42.2	
	comp=Z,6.1nm,1.4s						
GHO	**Glory Hole Cre**	**60.74**	**30**	P	**P**	**12 37 41.9**	**+0.8**
GHO				IAmb	IAmb	12 37 56.5	
	comp=Z,13nm,1.2s						
PWL	**Port Wells**	**60.90**	**31**	P	**P**	**12 37 41.1**	**-1.0**
KNK	**Knik Glacier**	**60.91**	**31**	P	**P**	**12 37 40.9**	**-1.3**
SML	**Sawmill**	**61.03**	**30**	P	**P**	**12 37 42.5**	**-0.5**
SML				IAmb	IAmb	12 37 57.0	
	comp=Z,19nm,1.3s						
TOLK	**Toolik Lake Re**	**61.76**	**23**	P	**P**	**12 37 49.5**	**+1.8**
BMAR	**Burnt Mountain**	**63.40**	**24**	P	**P**	**12 38 00.4**	**+1.9**
ABKAR	**Akbulak array**	**69.39**	**316**	P	**P**	**12 38 37.5**	**+1.0**
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**12 39 17.7**	**0.0**
	comp=Z,0.3nm,0.4s,baz=290,slow=5.8,SNR=8.7						
ARCES	**ARCESS Array B**	**78.83**	**341**	P	**P**	**12 39 31.1**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=72,slow=9.1,SNR=13						
FINES	**FINESS Array B**	**83.07**	**334**	P	**P**	**12 39 52.5**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=64,slow=3.5,SNR=10						

NEIC ***29*** *12:47:52.8±1.6, 29°.68N±0°.06×140°.7E±0°.1, h10km±1km, mb4.4/23, Error ellipse: s-maj=17.9km s-min=10.1km az=269.0*

IDC ***29*** *12:48:01.2±2.1, 29°.57N×140°.94E, h81km±19km, mb3.5/13, mb1 3.7/16, mb1mx3.5/37, mbtmp3.8/16, MS2.9/7, Ms1 2.9/7, ms1mx2.6/62, Error ellipse: s-maj=24.0km s-min=14.0km az=81.0*

ISC 29 12:47:52.4±0.5, 29°.67N±0°.06×140°.8E±0°.1, h10km, n61, σ1°00/51, mb4.2/25, MS3.0/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.82**	**155**	P	**Pb**	**12 48 42.3**	**-0.6**
	19nm,0.3s,baz=126,slow=23,SNR=2.9						
JCJ				S	**Sn**	**12 49 10.9**	**-0.8**
	76nm,0.3s,baz=292,slow=23,SNR=3.8						
JCJ	**Chichijima**	**2.82**	**155**	Pn	**Pn**	**12 48 38.5**	**+0.9**
JHJ	**Hachijo jima 2**	**3.56**	**346**	P	**Pb**	**12 48 55.0**	**-0.5**
	3.5nm,0.3s,baz=267,slow=6.9,SNR=1.6						
JHJ				S	**Sn**	**12 49 29.8**	**-0.1**
	19nm,0.3s,baz=69,slow=21,SNR=2.5						
MJAR	**Matsushiro Arr**	**7.20**	**343**	P	Pn	12 49 46.4	+8.6
	0.1nm,0.3s,baz=147,slow=14,SNR=3.5						
MAJO	**Matsushiro**	**7.20**	**343**	Pn	**Pn**	**12 49 36.3**	**-1.5**
MJB9	**Matsu-Tunnel**	**7.21**	**343**	Pn	**Pn**	**12 49 36.2**	**-1.7**
JMM	**Marumori**	**8.18**	**360**	Pn	**Pn**	**12 49 50.6**	**-0.5**
JSD	**Sado**	**8.62**	**346**	Pn	**Pn**	**12 49 55.6**	**-1.7**
JOW	**Kunigami**	**11.43**	**259**	LR	LR	12 54 44.3	
	comp=Z,35nm,19.1s,baz=108,slow=35						
ASAJ	**Asahikawa**	**14.49**	**5**	LR	LR	12 57 27.6	
	comp=Z,37nm,21.9s,baz=221,slow=39						
KLR	**Kul'dur**	**20.73**	**343**	P	Pn	12 52 36.8	+1.4
	2.0nm,0.8s,baz=139,slow=8.3,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**25.61**	**107**	T	T	13 20 22.3	
	baz=296,slow=74,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**25.61**	**107**	T	T	13 20 20.2	
	baz=296,slow=74,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**25.62**	**107**	T	T	13 20 21.4	
	baz=296,slow=74,SNR=4.8						
PETK	**Petropavlovsk-**	**26.49**	**23**	LR	LR	13 08 16.5	
	comp=Z,8.8nm,18.0s,baz=270,slow=46						
DAV	**Davao City (W)**	**26.67**	**216**	LR	LR	13 05 33.1	
	comp=Z,26nm,18.7s,baz=277,slow=40						
SONM	**Songino Array**	**32.06**	**314**	P	**P**	**12 54 21.3**	**+1.8**
	0.3nm,0.6s,baz=102,slow=6.6,SNR=2.3						
SONM					LR	LR	13 08 58.5	
	comp=Z,28nm,19.4s,baz=126,slow=39						
TIXI	**Tiksi**	**42.55**	**354**	LR	LR	13 13 54.3	
	comp=Z,46nm,20.7s,baz=182,slow=36						
MTN	**Manton Dam**	**43.28**	**194**	P	**P**	**12 55 55.2**	**+0.7**
KNRA	**Kununurra**	**46.56**	**196**	P	**P**	**12 56 20.1**	**-0.4**
ZAA0	**Zalesovo Array**	**46.78**	**318**	P	**P**	**12 56 20.3**	**-1.6**
ZAA0				PcP	**PcP**	**12 57 54.7**	**-0.3**
ZALV	**Zalesovo Beam**	**46.78**	**318**	PcP	**PcP**	**12 57 54.7**	**-0.3**
	0.5nm,0.7s,baz=97,slow=6.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**46.78**	**318**	**P**	**P**	**12 56 19.6**	**-2.3**
ZALV				PcP	**PcP**	**12 57 54.9**	**-0.2**
MKAR	**Makanchi Array**	**47.95**	**308**	P	**P**	**12 56 33.9**	**+2.8**
	0.2nm,0.5s,baz=93,slow=3.0,SNR=1.4						
WB0	**Warramunga Arr**	**49.53**	**188**	P	**P**	**12 56 43.6**	**+0.1**
WB0				IAmb	IAmb	12 56 56.8	
	comp=Z,4.1nm,1.1s						
WRAB	**Tennant Creek**	**49.70**	**188**	P	**P**	**12 56 44.4**	**-0.4**
WRAB				IAmb	IAmb	12 56 48.5	
	comp=Z,8.8nm,1.4s						
WR0	**Warramunga Arr**	**49.71**	**188**	P	**P**	**12 56 44.1**	**-0.7**
WR0				IAmb	IAmb	12 56 52.9	
	comp=Z,4.8nm,1.1s						
WB2	**Warramunga Arr**	**49.71**	**188**	P	**P**	**12 56 43.9**	**-0.9**
WB2				IAmb	IAmb	12 56 53.4	
	comp=Z,8.2nm,1.3s						
WRA	**Warramunga Arr**	**49.72**	**188**	P	**P**	**12 56 44.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=5.6,slow=8.1,SNR=18						
WRA	**Warramunga Arr**	**49.72**	**188**	IAmb	IAmb	12 56 51.2	
	comp=Z,0.1nm,0.8s						
J20K	**Nowinta River**	**52.87**	**30**	P	**P**	**12 57 09.8**	**+1.7**
KDAK	**Kodiak Island**	**53.05**	**38**	LR	LR	13 19 31.3	
	comp=Z,13nm,20.3s,baz=96,slow=36						
IMAR	**Indian Mountai**	**53.31**	**28**	P	**P**	**12 57 11.8**	**+0.5**
AS31	**Alice Springs**	**53.44**	**188**	P	**P**	**12 57 13.5**	**+0.8**
ASAR	**Alice Springs**	**53.44**	**188**	P	**P**	**12 57 12.1**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=360,slow=5.7,SNR=9.0						
H21K	**Melozitna Rive**	**53.65**	**28**	P	**P**	**12 57 14.4**	**+0.6**
H21K				IAmb	IAmb	12 57 17.1	
	comp=Z,3.3nm,1.2s						
MDM	**Murphy Dome**	**55.49**	**29**	P	**P**	**12 57 26.6**	**-0.6**
MDM				IAmb	IAmb	12 57 28.3	
	comp=Z,2.9nm,1.1s						
IL31		**56.05**	**29**	P	**P**	**12 57 31.0**	**-0.2**
IL31				IAmb	IAmb	12 57 37.3	
	comp=Z,4.9nm,1.4s						
ILAR	**Eielson Array**	**56.05**	**29**	P	**P**	**12 57 30.5**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=264,slow=6.2,SNR=5.7						
BMAR	**Burnt Mountain**	**57.07**	**26**		**P**	**12 57 40.3**	**+1.7**
SCRK	**Sand Creek**	**57.31**	**30**	P	**P**	**12 57 40.3**	**0.0**
SCRK				IAmb	IAmb	12 57 50.6	
	comp=Z,3.2nm,1.2s						
BCAR	**Beaver Creek A**	**58.33**	**31**	P	**P**	**12 57 47.9**	**+0.5**
STKA	**Stephens Creek**	**61.21**	**179**	P	**P**	**12 58 06.9**	**-0.6**
STKA				IAmb	IAmb	12 58 07.6	
	comp=Z,2.8nm,1.4s						
N31M	**Braeburn, Yuko**	**61.31**	**33**	P	**P**	**12 58 08.4**	**+0.5**
M31M	**Drury Creek, Y**	**61.83**	**32**	P	**P**	**12 58 12.9**	**+1.5**
M31M				IAmb	IAmb	12 58 13.5	
	comp=Z,2.5nm,0.8s						
ABKAR	**Akbulak array**	**62.47**	**313**	P	**P**	**12 58 15.6**	**-0.2**
YKA	**Yellowknife Ar**	**70.46**	**28**	P	**P**	**12 59 06.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=296,slow=6.3,SNR=9.6						
ARCES	**ARCESS Array B**	**70.73**	**340**	P	**P**	**12 59 08.6**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=46,slow=6.9,SNR=4.3						
ARCES	**ARCESS Array B**	**70.73**	**340**	IAmb	IAmb	12 59 12.4	
	comp=Z,5.5nm,1.1s						
FINES	**FINESS Array B**	**75.13**	**333**	P	**P**	**12 59 34.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=61,slow=5.8,SNR=11						
PINE	**Pine Mountain**	**75.56**	**48**	P	**P**	**12 59 39.0**	**+1.4**
J08A	**Circle Bar Ran**	**77.34**	**47**	P	**P**	**12 59 47.9**	**+0.3**
J08A				IAmb	IAmb	12 59 49.3	
	comp=Z,3.5nm,0.7s						
BEKR	**Beckworth**	**77.77**	**51**	P	**P**	**12 59 50.8**	**+0.6**
BEKR				IAmb	IAmb	12 59 51.3	
	comp=Z,3.4nm,0.9s						
MFID	**Camas Ranch**	**78.99**	**46**	P	**P**	**12 59 57.5**	**+0.7**
MFID				IAmb	IAmb	12 59 58.4	
	comp=Z,3.9nm,0.9s						
NVAR	**Mina Array Bea**	**79.86**	**52**	P	**P**	**13 00 02.3**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=289,slow=5.4,SNR=12						
NVAR	**Mina Array Bea**	**79.86**	**52**	P	**P**	**13 00 01.6**	**-0.1**
NOA	**NORSAR Array B**	**80.79**	**338**	P	**P**	**13 00 05.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=26,slow=21,SNR=3.4						
BRTR	**Keskin Array B**	**83.40**	**312**	P	**P**	**13 00 20.6**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=61,slow=5.8,SNR=6.3						
TXAR	**Lajitas Array**	**95.00**	**52**	P	**P**	**13 01 16.0**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=302,slow=1.2,SNR=4.9						
TXAR				pP	pwP	13 01 38.0	+15
	comp=Z,0.4nm,0.7s,baz=321,slow=1.7,SNR=4.0						
H06E1	**SOCORRO T-PHAS**	**95.77**	**65**	T	T	14 48 34.0	
	SNR=7.9						
LPAZ	**La Paz**	**150.29**	**70**	PKPbc	**PKPbc**	**13 07 44.5**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=9.8,slow=7.6,SNR=4.7						

NNC ***29*** *13:02:06.7±0.4, 50°.03N×78°.84E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=6.9km s-min=1.9km az=73.0, Suspected Mining explosion.*

IDC ***29*** *13:02:08.0±1.0, 50°.08N×78°.75E, h0km, mb1 2.6/2, mb1mx2.6/55, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=12.5km s-min=6.4km az=65.0*

ISC 29 13:02:07.8±1.0, 50°.13N±0°.05×78°.88E±0°.07, h0km, n17, σ0°92/29, 16C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.51**	**333**	⇓P	**Pb**	**13 02 18.5**	**-1.2**
KUR07				⇓S	**Sb**	**13 02 27.3**	**-0.3**
KUR14	**Kurchatov Arra**	**0.52**	**339**	⇑P	**Pb**	**13 02 18.6**	**-1.2**
KUR14				⇓S	**Sb**	**13 02 27.6**	**-0.3**
KUR06	**Kurchatov Arra**	**0.53**	**334**	⇑P	**Pg**	**13 02 18.7**	**+0.8**
KUR06				⇑S	**Sb**	**13 02 27.7**	**-0.4**
KUR15	**Kurchatov Arra**	**0.53**	**337**	⇑P	**Pb**	**13 02 18.8**	**-1.1**
KUR15				⇑S	**Sb**	**13 02 28.2**	**0.0**
KURBB	**Kurchatov Arra**	**0.54**	**336**	Pg	**Pg**	**13 02 18.9**	**+0.7**
	1.9nm,0.3s,baz=165,slow=17,SNR=119						
KURBB				Lg	Lg	13 02 27.2	
	2.5nm,0.3s,baz=168,slow=33,SNR=11						
KURBB	**Kurchatov Arra**	**0.54**	**336**	⇑P	**Pg**	**13 02 18.9**	**+0.7**
	16nm,0.3s						
KURBB				⇓S	**Sb**	**13 02 27.9**	**-0.6**
	36nm,0.4s						
KUR16	**Kurchatov Arra**	**0.56**	**334**	⇑P	**Pg**	**13 02 19.2**	**+0.8**
KUR16				⇑S	**Sb**	**13 02 28.6**	**-0.3**
KUR05	**Kurchatov Arra**	**0.56**	**337**	⇑P	**Pb**	**13 02 19.4**	**-1.1**
KUR05				⇓S	**Sb**	**13 02 28.7**	**-0.3**
KUR17	**Kurchatov Arra**	**0.57**	**333**	⇓P	**Pg**	**13 02 19.4**	**+0.7**
KUR17				⇓S	**Sb**	**13 02 28.9**	**-0.4**
KUR04	**Kurchatov Arra**	**0.58**	**338**	⇑P	**Pb**	**13 02 19.7**	**-1.0**
KUR04				⇓S	**Sb**	**13 02 29.2**	**-0.3**
KURK	**Kurchatov**	**0.61**	**344**	⇑P	**Pb**	**13 02 20.3**	**-1.0**
	7.5nm,0.4s						
KURK				⇓S	**Sb**	**13 02 30.3**	**-0.1**
	12nm,0.5s						
MAKZ	**Makanchi**	**3.91**	**147**	⇑Pg	**Pb**	**13 03 15.5**	**-2.0**
	6.6nm,1.2s						
MAKZ				⇓Lg	Lg	13 04 08.2	
	4.1nm,0.7s						
MK31	**Makanchi Array**	**4.03**	**144**	⇑Pn	**Pn**	**13 03 11.0**	**+0.2**
	0.1nm,0.2s,baz=105,slow=15,SNR=21						
MK31				⇓Pg	**Pb**	**13 03 18.8**	**-0.9**
	1.0nm,0.4s,baz=323,slow=14,SNR=13						
MK31				⇑Lg	Lg	13 04 15.2	
	4.9nm,0.6s,baz=315,slow=28,SNR=9.9						
MKAR	**Makanchi Array**	**4.03**	**144**	Pn	**Pn**	**13 03 11.2**	**+0.4**
	0.2nm,0.3s,baz=321,slow=10,SNR=30						
MKAR				Pg	**Pb**	**13 03 19.8**	**+0.1**
	0.6nm,0.3s,baz=320,slow=15,SNR=16						
MKAR				Lg	Lg	13 04 12.9	
	1.6nm,0.3s,baz=315,slow=24,SNR=13						
OTUK	**Ortayu**	**4.69**	**249**	⇓Pn	**Pn**	**13 03 18.5**	**-1.3**
	0.9nm,0.3s						
OTUK				⇑Pg	**Pb**	**13 03 31.4**	**+0.6**
	0.8nm,0.5s						
OTUK				⇑Lg	Lg	13 04 31.9	
	2.9nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.30**	**41**	*i*		13 36 00.0	
	baz=224,slow=328,SNR=0.8						
ZALV	**Zalesovo Beam**	**5.30**	**41**	Pn	**Pn**	**13 03 30.0**	**+1.9**
	0.4nm,0.3s,baz=233,slow=15,SNR=5.1						
ZALV				Lg	Lg	13 04 55.2	
	0.1nm,0.3s,baz=228,slow=25,SNR=1.7						

TUL ***29*** *13:04:56.5±1.3, 36°.50N±0°.03×99°.08W±0°.04, h5km±6km, ML2.5, mb_Lg2.4/20(NEIC), Error ellipse: s-maj=4.6km s-min=3.6km az=93.0*

NEIC 29 13:04:56.8±1.1, 36°.54N±0°.02×99°.07W±0°.04, h8km±5km, Error ellipse: s-maj=4.7km s-min=2.7km az=114.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.17**	**160**	Pg	Pg	13 04 59.7	-0.6
U32A				Sg	Sg	13 05 02.0	-0.6
OKCFA	**Oklahoma City**	**1.73**	**130**	Pn	Pn	13 05 26.5	-0.5
WMOK	**Wichita Mounta**	**1.81**	**172**		Pn	13 05 28.6	+0.3
FNO	**Franklin**	**1.86**	**133**	Pn	Pn	13 05 29.8	+0.9
R32A	**Long Quarter,**	**1.91**	**9**		Pb	13 05 30.9	-0.9
R32A				IAmb_Lg		13 05 58.1	
	comp=Z,13nm,0.8s						
T35A	**Sooner Cattle**	**2.09**	**79**		Pn	13 05 32.5	+0.3
T35A				IAmb_Lg		13 06 08.0	
	comp=Z,18nm,1.0s						
X34A	**Smith Ranch, M**	**2.18**	**152**	Pn	Pn	13 05 33.7	+0.4
X34A				IAmb_Lg		13 06 09.6	
	comp=Z,16nm,0.7s						
CBKS	**Cedar Bluff**	**2.34**	**347**		Pn	13 05 35.5	0.0
AMTX	**Amarillo**	**2.69**	**233**	Pn	Pn	13 05 40.2	-0.2
AMTX				IAmb_Lg		13 06 26.3	
	comp=Z,11nm,0.8s						
X37A	**Clayton**	**3.59**	**122**		Pn	13 05 52.9	+0.2
X37A				IAmb_Lg		13 06 52.9	
	comp=Z,14nm,0.7s						
KSCO	**Kaye Shedlock'**	**3.75**	**312**	Pn	Pn	13 05 54.1	-0.9
KSCO				IAmb_Lg		13 07 06.0	
	comp=Z,8.5nm,0.9s						
ABTX	**Abilene, Hawle**	**3.93**	**187**	Pn	Pn	13 05 57.5	+0.1
MSTX	**Muleshoe**	**3.96**	**231**	Pn	Pn	13 05 57.7	-0.3
HHAR	**Hobbs**	**4.15**	**92**		Pn	13 05 60.0	-0.4
T25A	**Trinidad**	**4.33**	**280**		Pn	13 06 02.4	-0.6
S39A	**Bolivar**	**4.74**	**74**	Pn	Pn	13 06 09.1	+0.6
MIAR	**Mount Ida**	**4.90**	**112**	Pn	Pn	13 06 10.6	-0.2
MIAR				IAmb_Lg		13 07 44.2	
	comp=Z,7.1nm,0.9s						
U40A	**Yellville**	**5.02**	**90**	Pn	Pn	13 06 11.9	-0.4
N35A	**Tabor**	**5.08**	**31**	Pn	Pn	13 06 12.4	-0.8
Q24A	**Divide**	**5.39**	**299**	Pn	Pn	13 06 18.1	+0.3
WHAR	**Wooly Hollow**	**5.64**	**101**	Pn	Pn	13 06 20.4	-0.5
FCAR	**Ozark Folk Cen**	**5.65**	**94**	Pn	Pn	13 06 21.3	+0.2
W41B	**Gary Mavity, V**	**5.71**	**102**	Pn	Pn	13 06 21.5	-0.3
JCT	**Junction City**	**6.07**	**186**	IAmb_Lg		13 08 23.4	
	comp=Z,5.9nm,0.8s						
ISCO	**Idaho Springs**	**6.10**	**304**	Pn	Pn	13 06 27.0	-0.5
ISCO				IAmb_Lg		13 08 15.6	
	comp=Z,5.9nm,1.0s						
ANMO	**Albuquerque**	**6.21**	**257**	Pn	Pn	13 06 28.1	-0.8
P40A	**Paris**	**6.30**	**60**	Pn	Pn	13 06 30.2	+0.3
P40A				IAmb_Lg		13 08 18.8	
	comp=Z,7.9nm,0.9s						
S22A	**4UR Ranch, Cre**	**6.31**	**283**	Pn	Pn	13 06 28.9	-1.5
MNTX	**Cornudas Mount**	**7.12**	**229**	Pn	Pn	13 06 41.6	+0.5
ECSD	**EROS Data Cent**	**7.43**	**14**	Pn	Pn	13 06 45.8	+0.3

IDC ***29*** *13:11:37.4±1.8, 55°.73N×166°.32E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/51, mbtmp3.4/5, ML2.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.3/67, Error ellipse: s-maj=81.5km s-min=23.5km az=162.0*

KRSC ***29*** *13:11:39.0±1.6, 55°.41N×165°.97E, h34km±12km, ML3.9*

ISC 29 13:11:39.0±0.9, 55°.51N±0°.06×166°.23E±0°.08, h20km, n39, σ1°55/48, mb3.4/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.34**	**206**	*i* P	**Pb**	**13 11 45.5**	**-0.9**
BKI				*e*S	**Sb**	**13 11 51.0**	**-0.4**
KBTR	**Krutoberegovo**	**2.05**	**291**	*e

ZHN				*e*S		Sg	13 14 24.3	0.0	
	19μm,0.2s								
ZHN	**Zhinishke**	**0.16**	**26**	P		Pb	13 14 21.8	-0.9	
ZHN	2μm,0.1s			S		Sg	13 14 24.3	0.0	
	19μm,0.2s								
KURS	**Kuram**	**0.48**	**345**	⇓*e*P		Pb	13 14 27.6	-0.6	
KURS	baz=44			⇓*e*S		Sg	13 14 33.8	+0.2	
	baz=44								
KURS	**Kuram**	**0.48**	**345**	⇓*e*P		Pb	13 14 27.6	-0.6	
KURS	72nm,0.1s			*e*S		Sg	13 14 33.8	+0.2	
	147nm,0.0s								
KURS	**Kuram**	**0.48**	**345**	P		Pb	13 14 27.5	-0.6	
KURS	72nm,0.1s			S		Sb	13 14 34.1	-1.1	
	148nm,0.3s								
UZB	**Uzynbulak**	**0.51**	**76**	⇑*e*P		Pb	13 14 27.8	-1.0	
UZB	baz=75			⇑*e*S		Sg	13 14 34.6	-0.2	
	baz=75								
UZB	**Uzynbulak**	**0.51**	**76**	⇑*e*P		Pb	13 14 27.8	-1.0	
UZB	264nm,0.1s			*e*S		Sg	13 14 34.5	-0.2	
	388nm,0.1s								
UZB	**Uzynbulak**	**0.51**	**76**	P		Pb	13 14 27.7	-1.0	
UZB	264nm,0.1s			S		Sg	13 14 34.5	-0.2	
	388nm,0.1s								
PRZ	**Przheval'sk**	**0.54**	**175**	⇓*i*P		Pg	13 14 27.8	-0.6	
PRZ	baz=77			⇓*e*S		Sg	13 14 35.4	-0.3	
	baz=77								
ANVS	**Anan'yevo**	**0.55**	**244**	⇑*i*P		Pb	13 14 28.7	-0.8	
ANVS	baz=46			⇑*i*S		Sb	13 14 36.5	-0.9	
	baz=46								
PDGK	**Podgornoye**	**0.89**	**70**	⇑P		Pg	13 14 34.4	-0.6	
PDGK	21nm,0.3s			⇑S		Sg	13 14 46.0	-0.7	
	51nm,0.4s								
KOTS	**Kotyrbulak**	**0.92**	**283**	*e*P		Pb	13 14 35.7	-0.1	
KOTS	baz=84			*e*S		Sb	13 14 48.4	+0.3	
	baz=84								
KOTS	**Kotyrbulak**	**0.92**	**283**	*e*P		Pb	13 14 35.7	-0.1	
KOTS	69nm,0.2s			*e*S		Sb	13 14 48.3	+0.3	
	288nm,0.2s								
KOTS	**Kotyrbulak**	**0.92**	**283**	P		Pb	13 14 35.7	-0.1	
KOTS	69nm,0.2s			S		Sb	13 14 48.3	+0.3	
	288nm,0.2s								
MDOK	**Medeo**	**0.96**	**279**	*e*P		Pg	13 14 36.0	-0.3	
MDOK	baz=79			*e*S		Sg	13 14 48.6	-0.2	
	baz=79								
MDOK	**Medeo**	**0.96**	**279**	*e*P		Pg	13 14 36.0	-0.3	
MDOK	31nm,0.2s			*e*S		Sg	13 14 48.6	-0.2	
	146nm,0.4s								
MDOK	**Medeo**	**0.96**	**279**	⇑P		Pg	13 14 35.9	-0.3	
MDOK	16nm,0.5s			⇓S		Sg	13 14 48.7	-0.2	
	64nm,0.4s								
MDOK	**Medeo**	**0.96**	**279**	Pg		Pg	13 14 36.0	-0.3	
MDOK	31nm,0.2s			Lg		Lg	13 14 48.6		
	146nm,0.4s								
TNSS	**Tian-Shan**	**1.02**	**271**	*e*P		Pg	13 14 37.1	-0.4	
TNSS	baz=72			*e*S		Sg	13 14 50.5	-0.4	
	baz=72								
TNSS	**Tian-Shan**	**1.02**	**271**	*e*P		Pg	13 14 37.1	-0.4	
TNSS	44nm,0.2s			*e*S		Sg	13 14 50.5	-0.4	
	45nm,0.3s								
TNSS	**Tian-Shan**	**1.02**	**271**	P		Pg	13 14 37.1	-0.4	
TNSS	44nm,0.2s			S		Sg	13 14 50.5	-0.4	
	45nm,0.3s								
KNDC	**Almaty**	**1.03**	**281**	⇑P		Pn	13 14 37.9	-0.1	
KNDC	14nm,0.3s			⇑S		Sn	13 14 51.8	-0.5	
	91nm,0.5s								
AAA	**Alma-Ata**	**1.06**	**280**	*e*P		Pn	13 14 38.7	+0.3	
AAA	47nm,0.2s			*e*S		Sn	13 14 53.1	0.0	
	259nm,0.4s								
AAA	**Alma-Ata**	**1.06**	**280**	P		Pn	13 14 38.7	+0.3	
AAA	47nm,0.2s			S		Sn	13 14 53.1	0.0	
	259nm,0.4s								
BLB	**Baldybastay**	**1.08**	**5**	*e*P		Pn	13 14 38.4	-0.4	
BLB	302nm,0.3s			*e*S		Sg	13 14 52.4	-0.1	
	446nm,0.2s								
BLB	**Baldybastay**	**1.08**	**5**	P		Pn	13 14 38.3	-0.4	
BLB	302nm,0.3s			S		Sg	13 14 52.4	-0.1	
	446nm,0.2s								
KDJ	**Kajisay**	**1.24**	**224**	⇑*i*P		Pn	13 14 40.4	-0.6	
KDJ	baz=24			⇑*i*S		Sb	13 14 56.3	-0.9	
	baz=24								
ARXS	**Arharly**	**1.25**	**343**	*e*P		Pg	13 14 41.3	-0.4	
ARXS	48nm,0.3s			*e*S		Sg	13 14 57.9	-0.1	
	87nm,0.3s								
ARXS	**Arharly**	**1.25**	**343**	P		Pg	13 14 41.3	-0.4	
ARXS	48nm,0.3s			S		Sg	13 14 57.9	-0.1	
	87nm,0.3s								
IZV	**Izvestkoviy**	**1.27**	**271**	P		Pg	13 14 43.4	+1.3	
IZV	37nm,0.1s			S		Sg	13 15 01.5	+2.9	
	189nm,0.6s								
CHKK	**Chushkaly**	**1.29**	**310**	*e*P		Pg	13 14 42.1	-0.4	
CHKK	baz=11			*e*S		Sg	13 14 58.8	-0.4	
	baz=11								
CHKK	**Chushkaly**	**1.29**	**310**	*e*P		Pg	13 14 42.1	-0.4	
CHKK	42nm,0.1s			*e*S		Sg	13 14 58.9	-0.4	
	325nm,0.5s								
CHKK	**Chushkaly**	**1.29**	**310**	P		Pg	13 14 42.1	-0.4	
CHKK	42nm,0.1s			S		Sg	13 14 58.9	-0.4	
	325nm,0.5s								
TARG	**Taragay, Kyrgy**	**1.35**	**197**	⇑*i*P		Pb	13 14 43.1	-0.2	
TARG	baz=98			⇑*i*S		Sb	13 14 59.9	-0.8	
	baz=98								
KTBS	**Karatobe**	**1.39**	**300**	*e*P		Pg	13 14 44.0	-0.5	
KTBS	baz=0.0			*e*S		Sg	13 15 02.5	-0.1	
	baz=0.0								
KTBS	**Karatobe**	**1.39**	**300**	*e*P		Pg	13 14 44.0	-0.5	
KTBS	158nm,0.2s			*e*S		Sg	13 15 02.5	-0.1	
	348nm,0.4s								
KTBS	**Karatobe**	**1.39**	**300**	P		Pg	13 14 44.0	-0.5	
KTBS	158nm,0.2s			S		Sg	13 15 02.5	-0.1	
	348nm,0.4s								
MTBS	**Maitube**	**1.41**	**275**	*e*P		Pg	13 14 44.3	-0.5	
MTBS	baz=75			*e*S		Sg	13 15 02.9	-0.1	
	baz=75								
MTBS	**Maitube**	**1.41**	**275**	*e*P		Pg	13 14 44.2	-0.5	
MTBS	14nm,0.1s			*e*S		Sg	13 15 02.9	-0.1	
	92nm,0.2s								
MTBS	**Maitube**	**1.41**	**275**	P		Pg	13 14 44.3	-0.5	
MTBS	14nm,0.2s			S		Sg	13 15 02.9	-0.1	
	121nm,0.3s								
KTMS	**Ketmen**	**1.53**	**73**	*e*P		Pg	13 14 47.8	+0.7	
KTMS	8.6nm,0.1s			*e*S		Sg	13 15 08.7	+1.8	
	531nm,0.2s								
DJR	**Jarkent**	**1.68**	**38**	*e*P		Pg	13 14 49.1	-0.8	
DJR	16nm,0.2s			*e*S		Sg	13 15 10.9	-0.8	
	150nm,0.4s								
DJR	**Jarkent**	**1.68**	**38**	P		Pg	13 14 49.1	-0.8	
DJR	16nm,0.2s			S		Sg	13 15 10.9	-0.8	
	150nm,0.4s								
KUU	**Kurty**	**1.70**	**301**	*e*P		Pb	13 14 49.2	+0.3	
KUU	baz=1.0			*e*S		Sg	13 15 11.1	-1.3	
	baz=1.0								
KUU	**Kurty**	**1.70**	**301**	*e*P		Pb	13 14 49.2	+0.3	
KUU	29nm,0.2s			*e*S		Sg	13 15 11.0	-1.3	
	372nm,0.3s								
KUU	**Kurty**	**1.70**	**301**	P		Pb	13 14 49.2	+0.3	
KUU	29nm,0.2s			S		Sg	13 15 11.0	-1.3	
	372nm,0.3s								
ULHL	**Ulahol**	**1.73**	**244**	P		Pb	13 14 49.7	0.0	
	SNR=190								
ULHL	**Ulahol**	**1.73**	**244**	⇓*i*P		Pb	13 14 49.3	-0.3	
ULHL	baz=44			⇓*i*S		Sg	13 15 12.7	-0.9	
	baz=44								
KST	**Kastek**	**1.74**	**271**	*e*P		Pg	13 14 50.5	-0.7	
KST	17nm,0.1s			*e*S		Sg	13 15 13.7	-0.2	
	94nm,0.5s								
KST	**Kastek**	**1.74**	**271**	P		Pg	13 14 50.5	-0.7	
KST	17nm,0.1s			S		Sg	13 15 13.6	-0.2	
	94nm,0.5s								
BOOM	**Boomskoye usch**	**1.85**	**254**	⇓*e*P		Pb	13 14 50.6	-0.9	
BOOM	baz=54			⇓*e*S		Sb	13 15 15.4	+0.7	
	baz=54								
DGS	**Degeres**	**1.89**	**277**	*e*P		Pb	13 14 52.7	+0.5	
DGS	42nm,0.3s			*e*S		Sg	13 15 17.6	-1.0	
	156nm,0.5s								
DGS	**Degeres**	**1.89**	**277**	P		Pb	13 14 52.7	+0.5	
DGS	42nm,0.3s			S		Sg	13 15 17.6	-1.0	
	156nm,0.5s								
TDK	**Taldyqorghan**	**1.98**	**1**	*e*P		Pg	13 14 54.7	-1.0	
TDK	50nm,0.2s			*e*S		Sg	13 15 20.2	-1.1	
	346nm,0.5s								
TDK	**Taldyqorghan**	**1.98**	**1**	Pg		Pg	13 14 54.7	-1.0	
TDK	50nm,0.2s			Lg		Lg	13 15 20.2		
	346nm,0.5s								
TKM2	**Tokmak 2**	**2.02**	**268**	P		Pg	13 14 55.6	-0.8	
	SNR=47								
TKM2	**Tokmak 2**	**2.02**	**268**	⇑*i*P		Pb	13 14 53.2	-1.3	
TKM2	baz=68			⇑*i*S		Sb	13 15 19.4	-0.2	
	baz=68								
TKM2	**Tokmak 2**	**2.02**	**268**	⇓Pn		Pb	13 14 54.9	+0.5	
TKM2	30nm,0.3s			⇓Sn		Sg	13 15 22.4	-0.2	
	40nm,0.3s								
KRBS	**Karabastau**	**2.06**	**290**	*e*P		Pb	13 14 55.2	+0.1	
KRBS	21nm,0.2s			*e*S		Sb	13 15 21.4	+0.8	
	129nm,0.2s								
KRBS	**Karabastau**	**2.06**	**290**	Pg		Pb	13 14 55.2	+0.1	
KRBS	21nm,0.2s			Lg		Lg	13 15 21.4		
	129nm,0.2s								
KAPS	**Kapalarasan**	**2.37**	**18**	*e*P		Pb	13 15 01.0	+0.6	
KAPS	15nm,0.4s			*e*S		Sg	13 15 31.5	-2.5	
	80nm,0.3s								
KAPS	**Kapalarasan**	**2.37**	**18**	Pg		Pb	13 15 01.0	+0.6	
KAPS	15nm,0.4s			Lg		Lg	13 15 31.5		
	80nm,0.3s								
KBK	**Karagaybulak**	**2.52**	**263**	P		Pb	13 15 03.6	+0.6	
	SNR=38								
KBK	**Karagaybulak**	**2.52**	**263**	⇓*e*P		Pn	13 15 00.1	+1.4	
KBK	baz=63			⇓*i*S		Sb	13 15 31.6	-2.5	
	baz=63								
CHMS	**Chumysh**	**2.63**	**271**	P		Pb	13 15 05.1	+0.2	
	SNR=12								
CHMS	**Chumysh**	**2.63**	**271**	⇓*e*P		Pn	13 15 01.7	+1.6	
CHMS	baz=71			⇓*e*S		Sn	13 15 34.2	+2.3	
	baz=71								
CHMS	**Chumysh**	**2.63**	**271**	⇑Pg		Pb	13 15 04.8	0.0	
CHMS	12nm,0.5s			⇑Lg		Lg	13 15 39.9		
	19nm,0.3s								
FRU1	**Bishkek**	**2.73**	**267**	⇑*i*P		Pn	13 15 03.3	+1.8	
FRU1	baz=67			⇑*i*S		Sn	13 15 36.9	+2.4	
	baz=67								
SGDS	**Sogindy**	**2.75**	**280**	*e*P		Pb	13 15 07.8	+1.0	
SGDS	6.6nm,0.2s			*e*S		Sg	13 15 43.0	-2.9	
	49nm,0.4s								
SGDS	**Sogindy**	**2.75**	**280**	Pg		Pb	13 15 07.8	+1.0	
SGDS	6.6nm,0.2s			Lg		Lg	13 15 43.0		
	49nm,0.4s								
USP	**Ospenovka**	**2.82**	**276**	P		Pb	13 15 09.0	+0.9	
	SNR=7.3								
USP	**Ospenovka**	**2.82**	**276**	⇑*e*P		Pn	13 15 04.3	+1.6	
USP	baz=76			⇑*i*S		Sn	13 15 38.8	+2.2	
	baz=76								
AAK	**Ala-Archa**	**2.86**	**264**	P		Pb	13 15 07.7	-1.0	
	SNR=16								
AAK	**Ala-Archa**	**2.86**	**264**	⇓*i*P		Pn	13 15 04.8	+1.6	
AAK	baz=64			⇓*i*S		Sn	13 15 39.6	+2.0	
	baz=64								
UCH	**Uchtor**	**2.94**	**256**	P		Pb	13 15 09.1	-1.1	
	SNR=22								
UCH	**Uchtor**	**2.94**	**256**	⇓*e*P		Pn	13 15 05.8	+1.2	
UCH	baz=56			⇓*i*S		Sn	13 15 41.6	+1.6	
	baz=56								
BTLS	**Baital**	**3.69**	**305**	*e*P		Pg	13 15 25.9	-2.6	
BTLS	4.3nm,0.2s			*e*S		Sg	13 16 13.8	-2.6	
	9.2nm,0.2s								
BTLS	**Baital**	**3.69**	**305**	Pg		Pb	13 15 24.1	+1.2	
BTLS	4.3nm,0.2s			Lg		Lg	13 16 11.1		
	5.2nm,0.7s								
MRKS	**Merke**	**3.77**	**267**	*e*P		Pg	13 15 27.6	-2.4	
MRKS	3.5nm,0.3s			*e*S		Sg	13 16 17.1	-1.7	
	16nm,0.4s								
MRKS	**Merke**	**3.77**	**267**	Pg		Pg	13 15 27.6	-2.4	
MRKS	3.5nm,0.3s			Lg		Lg	13 16 17.1		
	16nm,0.4s								
MK31	**Makanchi Array**	**4.70**	**35**	⇑Pn		Pn	13 15 29.5	+1.1	
MK31	0.7nm,0.2s,baz=216,slow=12,SNR=70			⇓Sn		Sn	13 16 25.3	+2.6	
	2.2nm,0.5s								
MK31				⇓Lg		Lg	13 16 43.0		
	1.3nm,0.3s,baz=216,slow=29,SNR=9.1								
KK31	**Karatay Array**	**5.74**	**273**	⇑Pg		Pg	13 16 02.6	-5.0	
KK31	1.9nm,0.7s,baz=90,slow=15,SNR=8.4			Lg		Lg	13 17 20.6		
	0.8nm,0.3s,baz=91,slow=28,SNR=7.0								
OTUK	**Ortayu**	**6.70**	**323**	⇓Lg		Lg	13 17 47.6		
	3.2nm,0.6s								
KURBB	**Kurchatov Arra**	**7.60**	**1**	⇑Lg		Lg	13 18 16.1		
	14nm,0.7s								
KURK	**Kurchatov**	**7.70**	**1**	⇓Lg		Lg	13 18 19.8		
	7.8nm,1.0s								

***IDC 29** 13:30:31.8±2.1,5°93S×130°31E,h0km,mb4.2/1, mb1 3.9/4,mb1mx3.4/31,mbtmp3.7/4,ML3.7/3,Error ellipse: s-maj=91.4km s-min=26.8km az=77.0,Banda Sea*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.92**	**200**	Pn	Pn	13 33 37.0	+0.1
	0.4nm,0.3s,baz=31,slow=11,SNR=43						
FITZ				Sn	Sn	13 35 49.3	-12
	0.9nm,0.3s,baz=68,slow=23,SNR=8.3						
WRA	**Warramunga Arr**	**14.47**	**165**	Pn	Pn	13 33 57.0	-1.1
	0.4nm,0.3s,baz=347,slow=14,SNR=26						
WRA				Sn	Sn	13 36 25.0	-14
	0.6nm,0.3s,baz=338,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**17.97**	**169**	P	P	13 34 43.9	-0.1
	0.2nm,0.3s,baz=350,slow=8.8,SNR=18						
ASAR				S	Sn	13 37 50.0	-14
	0.2nm,0.3s,baz=349,slow=25,SNR=7.0						
MKAR	**Makanchi Array**	**67.51**	**326**	P	P	13 41 29.9	0.0
	1.3nm,0.5s,baz=118,slow=7.3,SNR=20						

***IDC 29** 13:56:28.5±4.3,21°90N×94°89E,h107km±37km, mb3.1/4, mb1 3.2/5, mb1mx3.0/49, mbtmp3.3/5, Error ellipse: s-maj=87.2km s-min=19.0km az=59.0*

ISC 29 13:56:29.0±0.9,22°3N±0°3×95°5E±0°3,h100km,n13, σ0°85/13,mb3.5/4,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.02**	**139**	P	Pn	13 57 42.8	+0.8
	0.3nm,0.3s,baz=308,slow=13,SNR=11						
TAPN	**Taplejung**	**8.66**	**307**	*e*P	Pn	13 58 32.3	+0.6
	12nm,0.3s						
RAMN	**Ramite**	**9.30**	**302**	*e*P	Pn	13 58 42.1	+1.7
	6.7nm,0.3s						
GUN	**Gumba**	**10.33**	**305**	*e*P	Pn	13 58 54.5	0.0
	3.0nm,0.2s						
PKI	**Pulchoki**	**10.53**	**302**	*e*P	Pn	13 58 57.5	+0.3
	3.7nm,0.3s						
PKIN	**Phulchoki**	**10.54**	**302**	*e*P	Pn	13 58 56.9	-0.4
GKN	**Gorkha**	**11.33**	**302**	*e*P	Pn	13 59 07.4	-0.5
	7.7nm,0.3s						
KOLN	**Koldanda**	**12.05**	**299**	*e*P	Pn	13 59 17.3	-0.3
	3.7nm,0.2s						
PYUN	**Piuthan**	**12.68**	**300**	*e*P	Pn	13 59 25.4	-0.5
	3.6nm,0.3s						
MKAR	**Makanchi Array**	**26.68**	**340**	P	P	14 01 59.5	+0.9
	0.2nm,0.4s,baz=144,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**56.60**	**135**	P	P	14 06 01.1	-0.6
	0.2nm,0.3s,baz=308,slow=6.1,SNR=12						
ASAR	**Alice Springs**	**59.03**	**138**	P	P	14 06 18.1	-0.6
	0.3nm,0.9s,baz=317,slow=6.8,SNR=5.7						
ARCES	**ARCESS Array B**	**62.32**	**338**	P	P	14 06 39.5	-0.9
	0.4nm,0.5s,baz=90,slow=6.2,SNR=5.3						

ISN 29 13:57:45.8±1.4,36°28N×45°11E,h8km±10km, ML2.9
TEH 29 13:57:48.1,36°29N×45°06E,h8km,ML3.0

ISC 29 13:57:48.0±1.2,36°32N±0°04×44°96E±0°07,h20km,n12, σ1°34/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAHB	**Mahabad**	**0.75**	**53**	*e*Pg	Pb	13 58 00.8	-1.6
MAHB				*e*Sg	Sb	13 58 11.7	-0.6
MAHB				*e*		13 58 14.0	
	comp=Z,9μm,0.3s						
IKRK	**Kirkuk**	**1.04**	**209**	*e*Pg	Pb	13 58 06.0	-1.4
	baz=35						
IKRK				*e*Sg	Sn	13 58 22.0	+0.5
IKRK				AML	AML	13 58 23.1	
	comp=E,258nm,0.6s						
IKRK				AML	AML	13 58 24.1	
	comp=N,339nm,0.5s						
IAZR	**Azarshahr**	**1.58**	**31**	*e*Pn	Pb	13 58 17.3	+0.6
IAZR				*e*		13 58 47.3	
	comp=Z,5μm,0.7s						
IDHR	**Dehrash**	**1.99**	**144**	*e*Pn	Pb	13 58 23.7	+0.1
IDHR				*e*		13 58 53.6	
	comp=Z,2μm,0.4s						
ISHB	**Shabestar**	**2.03**	**15**	*e*Pn	Pn	13 58 22.7	+1.4
ISHB				*e*		13 58 27.5	
	comp=Z,758nm,0.3s						
IBST	**Bostanabad**	**2.07**	**48**	*e*Pn	Pb	13 58 24.7	-0.4
IBST				*e*		13 59 01.4	
	comp=Z,739nm,0.8s						
ITBZ	**Tabriz**	**2.13**	**26**	*e*Pn	Pb	13 58 25.8	-0.3
IMRD	**Marand**	**2.46**	**14**	*e*Pn	Pb	13 58 30.7	-1.0
IMRD				*e*		13 59 32.6	
	comp=Z,481nm,0.6s						
IHRS	**Heris**	**2.60**	**39**	*e*Pn	Pb	13 58 32.1	-1.9
IHRS				*e*		13 59 24.6	
	comp=Z,275nm,0.5s						
ISRB	**Sarab**	**2.64**	**54**	*e*Pn	Pb	13 58 32.3	-2.4
IBDR	**Badra**	**3.30**	**166**	*e*Pn	Pn	13 58 38.0	-0.5
IBDR				*e*Sn	Sn	13 59 18.0	+0.9
HSAM	**Samen**	**3.65**	**124**	*e*Pn	Pn	13 58 45.2	+1.7

IDC 29 14:16:42.5±5.0,36°24N×70°78E,h176km±40km,mb3.2/8, mb1 3.3/12,mb1mx3.0/63,mbtmp3.7/12,Error ellipse: s-maj=43.5km s-min=19.6km az=43.0
NNC 29 14:16:44.4±4.8,36°91N×70°44E,h0km,mb4.4,mpv4.3, Error ellipse: s-maj=38.7km s-min=27.9km az=170.0

ISC 29 14:16:45.5±0.7,36°51N±0°06×70°88E±0°09,h200km,n37, σ1°31/44,mb3.4/7,4C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.81**	**162**	P	Pn	14 17 33.2	+0.1
CEP				S	Sn	14 18 08.0	-2.3
CHCP	**Chirah Chowk**	**3.45**	**145**	P	Pn	14 17 41.4	+0.7
THW	**Thamme Wali**	**3.77**	**169**	⇓P	Pn	14 17 44.2	-0.4
AML	**Almayashu**	**6.03**	**20**	P	Pn	14 18 13.7	+0.3
	SNR=297						
UCH	**Uchtor**	**6.37**	**25**	P	Pn	14 18 18.5	+0.6
	SNR=49						
EKS2	**Erkin-Say**	**6.54**	**19**	P	Pn	14 18 20.4	+0.6
	SNR=44						
KK31	**Karatay Array**	**6.59**	**358**	P	Pn	14 18 19.2	-1.2
	9.1nm,0.3s,baz=205,slow=13,SNR=182						
KK31				S	Sn	14 19 31.6	-4.1
	2.6nm,0.3s,baz=184,slow=21,SNR=6.2						
AAK	**Ala-Archa**	**6.73**	**23**	P	Pn	14 18 23.1	+0.8
	SNR=22						
AAK	**Ala-Archa**	**6.73**	**23**	P	Pn	14 18 23.0	+0.8
	7.5nm,0.3s,baz=188,slow=5.8,SNR=56						
AAK				S	Sn	14 19 38.1	-0.9
	1.4nm,0.3s,baz=125,slow=19,SNR=11						
KBK	**Karagaybulak**	**6.90**	**26**	P	Pn	14 18 25.5	+1.0
	SNR=18						
CHMS	**Chumysh**	**7.14**	**24**	P	Pn	14 18 28.2	+0.7
	SNR=13						
CHMS	**Chumysh**	**7.14**	**24**	⇑P	Pn	14 18 27.6	+0.2
	7.9nm,0.4s						
CHMS				⇑S	Sn	14 19 47.0	-1.5
	5.6nm,0.5s						
USP	**Ospenovka**	**7.30**	**21**	P	Pn	14 18 29.7	+0.1
	SNR=7.8						
TKM2	**Tokmak 2**	**7.36**	**28**	P	Pn	14 18 31.2	+0.6
	SNR=49						
TKM2	**Tokmak 2**	**7.36**	**28**	⇓P	Pn	14 18 31.1	+0.5
	15nm,0.5s						
TKM2				⇑S	Sn	14 19 52.8	-1.3
	6.2nm,0.7s						
PYUN	**Piuthan**	**13.23**	**126**	*e*Pn	Pn	14 19 45.2	-0.9
PYUN				*e*Sn	S	14 22 02.7	-11
	11nm,0.6s						
MKAR	**Makanchi Array**	**13.34**	**36**	P	P	14 19 48.9	-1.0
	0.1nm,0.3s,baz=213,slow=8.7,SNR=4.7						
DANN	**Dangsing**	**13.58**	**123**	*e*Pn	Pn	14 19 49.6	-0.9
DANN				*e*Sn	S	14 22 11.2	-11
	19nm,0.7s						
KOLN	**Koldanda**	**13.85**	**125**	*e*Pn	Pn	14 19 53.8	0.0
GKN	**Gorkha**	**14.39**	**122**	*e*Pn	Pn	14 20 00.7	+0.2
GKN				*e*Sn	S	14 22 29.8	-11
KKN	**Kakani**	**14.97**	**121**	*e*Pn	P	14 20 08.1	-0.2
AB31	**Akbulak array**	**15.03**	**331**	⇓P	P	14 20 09.2	+0.7
	1.8nm,0.5s,baz=144,slow=13,SNR=37						
AB31				⇑S	S	14 22 51.2	-3.4
	0.8nm,0.6s,baz=154,slow=24,SNR=3.0						
KURBB	**Kurchatov Arra**	**15.15**	**19**	P	Pn	14 20 08.8	-0.5
	0.0nm,0.3s,baz=207,slow=9.9,SNR=3.2						
PKIN	**Phulchoki**	**15.18**	**122**	*e*Pn	P	14 20 11.1	+0.4
PKI	**Pulchoki**	**15.20**	**122**	*e*Pn	Pn	14 20 10.7	+0.2
GUN	**Gumba**	**15.31**	**120**	*e*Pn	P	14 20 12.2	0.0
AKTO	**Aktyubinsk**	**16.72**	**330**	P	Pn	14 20 28.7	+0.4
	0.2nm,0.3s,baz=140,slow=12,SNR=6.2						
AKTO	**Aktyubinsk**	**16.72**	**330**	⇓P	Pn	14 20 30.8	+2.5
	4.1nm,1.2s						
AKTO				⇓S	S	14 23 31.6	+0.1
	1.8nm,0.8s						
TAPN	**Taplej

1.0nm,0.8s,baz=90,slow=2.4,SNR=4.1
NOA NORSAR Array B 44.31 323 P P 14 24 35.4 +0.1
0.7nm,0.9s,baz=80,slow=15,SNR=1.6
INK Inuvik 73.91 9 P P 14 27 59.6 +1.6
0.7nm,0.5s,baz=337,slow=6.6,SNR=8.6
YKA Yellowknife Ar 81.24 3 P P 14 28 39.6 +0.9
0.3nm,0.3s,baz=351,slow=5.2,SNR=8.7
WRA Warramunga Arr 82.08 122 P P 14 28 43.0 -0.7
0.2nm,0.5s,baz=327,slow=5.0,SNR=6.5
ASAR Alice Springs 84.34 125 P P 14 28 54.5 -0.7
0.3nm,0.6s,baz=312,slow=4.4,SNR=8.4

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*IDC **29** 14:27:24.9±1.1,32.86N×130.55E,h0km,mb3.5/4, mb1 3.6/6,mb1mx3.4/40,mbtmp3.5/6,ML2.8/2,MS2.8/4, Ms1 2.8/4,ms1mx2.4/70,Error ellipse: s-maj=18.0km s-min=8.0km az=139.0*
*NIED **29** 14:27:25.3,32.78N×130.74E,h10km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.98; Mθθ4.64; Mφφ-2.66; Mrθ-0.32; Mθφ-4.81; Mφr-1.12; Fault plane solution: M0 6.23000×10¹⁴ NP1: φs73.00000°,δ76.00000°,λ-168.00000°. NP2: φs340.00000°,δ78.00000°,λ-14.00000°.*
*JMA **29** 14:27:25.2,32.78N×130.74E,h10km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φs73.00000°,δ75.00000°,λ-150.00000°. NP2: φs334.00000°,δ61.00000°,λ-18.00000°. Principal axes: T Plg9.0000°, Azm201.0000°; N Plg56.0000°, Azm97.0000°; P Plg32.0000°, Azm297.0000°;*
JMA Felt III J1.
ISC 29 14:27:25.9±1.1,32.77N±0.03×130.71E±0.06,h7km±8km, n16,σ1°912/17,mb3.4/4,MS2.9/3,3C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.24**	**158**	⇑P		**Pg**		**14 27 30.2**	**-0.5**
JIU3				S		**Sg**		**14 27 33.8**	**-0.1**
JTA	**Tamana**	**0.24**	**323**	⇓P		**Pg**		**14 27 30.6**	**-0.1**
JTA				eS		**Sg**		**14 27 34.5**	**+0.6**
JNU	**Nakatsue**	**0.38**	**22**	Pg		**Pg**		**14 27 32.4**	**-1.0**
	799nm,0.3s,baz=210,slow=6.6,SNR=7873								
JNU				Lg		Lg		14 27 37.5	
	1μm,0.3s,baz=246,slow=4.3,SNR=15								
JNU				LR		LR		14 27 52.7	
	comp=Z,384nm,20.5s,baz=312,slow=72								
JNU	**Nakatsue**	**0.38**	**22**	⇑P		**Pg**		**14 27 32.7**	**-0.6**
JNU				eS		**Sg**		**14 27 37.5**	**-0.8**
JTZ	**Takazaki**	**0.93**	**160**	⇑P		**Pg**		**14 27 43.0**	**-0.7**
JTZ				S		**Sg**		**14 27 55.4**	**-0.3**
KSRS	**Korea Array**	**5.20**	**335**	Pn		**Pn**		**14 28 42.8**	**-1.3**
	0.3nm,0.3s,baz=151,slow=14,SNR=5.9								
KSRS				Pg		**Pb**		**14 28 59.0**	**+1.9**
	1.1nm,0.3s,baz=151,slow=16,SNR=13								
KSRS				Lg		Lg		14 30 05.9	
	1.5nm,0.3s,baz=161,slow=30,SNR=4.9								
MJAR	**Matsushiro Arr**	**7.23**	**57**	Pn		**Pn**		**14 29 13.6**	**+1.5**
	0.2nm,0.3s,baz=240,slow=13,SNR=9.4								
ASAJ	**Asahikawa**	**14.65**	**36**	LR		LR		14 35 58.8	
	comp=Z,32nm,19.8s,baz=238,slow=35								
KLR	**Kul'dur**	**16.46**	**2**	Pn		**P**		**14 31 19.9**	**-0.1**
	0.1nm,0.3s,baz=157,slow=7.8,SNR=5.2								
SONM	**Songino Array**	**23.74**	**316**	P		**P**		**14 32 38.3**	**-0.5**
	0.7nm,0.6s,baz=130,slow=7.9,SNR=3.9								
DAV	**Davao City (W)**	**26.02**	**192**	LR		LR		14 43 05.1	
	comp=Z,34nm,21.1s,baz=168,slow=36								
PETK	**Petropavlovsk-**	**28.07**	**36**	LR		LR		14 44 45.3	
	comp=Z,28nm,18.1s,baz=249,slow=37								
CMAR	**Chiang Mai Arr**	**31.85**	**251**	LR		LR		14 46 35.1	
	comp=Z,8.6nm,20.4s,baz=280,slow=36								
WRA	**Warramunga Arr**	**52.53**	**176**	P		**P**		**14 36 41.0**	**+1.0**
	0.5nm,1.0s,baz=356,slow=8.1,SNR=2.2								
ASAR	**Alice Springs**	**56.21**	**176**	P		**P**		**14 37 07.6**	**+0.9**
	0.2nm,0.8s,baz=0.3,slow=6.5,SNR=4.6								
FINES	**FINESS Array B**	**68.27**	**330**	P		**P**		**14 38 25.3**	**-1.9**
	0.8nm,0.5s,baz=62,slow=4.9,SNR=9.2								

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*ISK **29** 14:34:02.9,36.98N×36.98E,h12km,ML2.5/11*
*DDA **29** 14:34:03.1±0.0,36.99N×37.02E,h7km±2km,ML2.4*
ISC 29 14:34:03.4±1.0,36.98N±0.03×37.00E±0.03,h10km±8km, n21,σ0°90/34,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.21**	**164**	P		**Pg**		**14 34 08.3**	**+0.4**
KUZU				S		**Sg**		**14 34 11.6**	**+0.7**
KUZU				*i*	AML	AML		14 34 12.0	
	comp=N,1μm,0.3s								
KUZU				*i*	AML	AML		14 34 12.0	
	comp=E,777nm,0.2s								
KAMA	**Osmaniye**	**0.34**	**308**	P		**Pg**		**14 34 10.3**	**+0.1**
KAMA				S		**Sb**		**14 34 15.4**	**-1.6**
KAMA				*i*	AML	AML		14 34 16.0	
	comp=N,202nm,0.2s								
HCB	**Kahramanmara**	**0.37**	**348**	P		**Pg**		**14 34 10.7**	**-0.1**
HCB				S		**Sg**		**14 34 15.2**	**-0.5**
GZT	**Gaziantep**	**0.58**	**50**	P		**Pg**		**14 34 14.2**	**-0.6**
GZT				S		**Sg**		**14 34 21.9**	**-0.7**
TAHT	**Tahtakopru-Hat**	**0.89**	**228**	PG		**Pg**		**14 34 20.3**	**-0.3**
TAHT				SG		**Sb**		**14 34 32.6**	**-0.3**
CEYT	**Ceyhan**	**1.00**	**272**	PG		**Pg**		**14 34 22.3**	**-0.4**
KOZT	**Kozan**	**1.06**	**298**	PG		**Pb**		**14 34 23.5**	**-0.4**
KOZT				SG		**Sn**		**14 34 38.5**	**-0.7**
YURE	**YUREGIR**	**1.11**	**262**	P		**Pn**		**14 34 25.4**	**+0.4**
YURE				S		**Sn**		**14 34 43.5**	**+3.1**
YURE				*i*	AML	AML		14 34 44.0	
	comp=E,29nm,1.2s								
YAYL	**Yayladag**	**1.19**	**218**	PN		**Pg**		**14 34 25.8**	**-0.4**
YAYL				SN		**Sn**		**14 34 42.4**	**-0.1**
SAIM	**ADANA**	**1.23**	**324**	P		**Pg**		**14 34 27.9**	**+0.7**
SAIM				S		**Sn**		**14 34 44.9**	**+1.2**
SAIM				*i*	AML	AML		14 34 46.0	
	comp=E,141nm,0.4s								
SAIM				*i*	AML	AML		14 34 47.0	
	comp=N,137nm,0.3s								
SURC	**SANLIURFA_SURC**	**1.29**	**94**	P		**Pb**		**14 34 27.5**	**-0.4**
SURC				S		**Sb**		**14 34 43.8**	**-0.8**
SURC				*i*	AML	AML		14 34 46.0	
	comp=N,84nm,0.3s								
SURC				*i*	AML	AML		14 34 48.0	
	comp=E,73nm,0.4s								
ELBS	**KAHRAMANMARAS**	**1.35**	**4**	P		**Pg**		**14 34 30.0**	**+0.7**
ELBS				S		**Sg**		**14 34 48.6**	**+1.8**
ELBS				*i*	AML	AML		14 34 50.0	
	comp=E,69nm,0.4s								
SARI	**SarD1z-Kayseri**	**1.50**	**342**	PN		**Pn**		**14 34 30.3**	**-0.2**
SARI				SN		**Sn**		**14 34 49.9**	**-0.3**
SANL	**SANLIURFA_Merk**	**1.60**	**83**	P		**Pb**		**14 34 32.4**	**-0.7**
SANL				S		**Sb**		**14 34 53.5**	**+0.1**
SANL				*i*	AML	AML		14 34 55.0	
	comp=N,46nm,0.6s								
SANL				*i*	AML	AML		14 34 57.0	
	comp=E,47nm,0.4s								
DARE	**Darende-Malaty**	**1.63**	**13**	PN		**Pn**		**14 34 32.1**	**-0.2**
CMRD	**Camardi-Nigde**	**1.74**	**294**	PN		**Pn**		**14 34 33.5**	**-0.3**
MALT	**Malatya**	**1.75**	**40**	PN		**Pn**		**14 34 34.2**	**+0.3**
BNN	**Bunyan**	**2.08**	**334**	PN		**Pn**		**14 34 38.5**	**0.0**
SVRC	**Sivrice-ELAZID**	**2.30**	**52**	PN		**Pn**		**14 34 42.2**	**+0.6**
ARPR	**Arapgir-MALATY**	**2.36**	**26**	PN		**Pn**		**14 34 43.2**	**+0.9**
MAZI	**Mazidag**	**2.79**	**79**	PN		**Pn**		**14 34 48.5**	**+0.2**

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*DDA **29** 15:07:25.9±0.0,37.81N×24.04E,h2km±6km,ML2.3*
*ATH **29** 15:07:29.9,37.52N×23.59E,h22km±3km,ML2.2/8,Error ellipse: s-maj=3.5km s-min=0.9km az=145.0*
*THE **29** 15:07:30.8,37.54N×23.59E,h7km±1km,ML2.3/8,Error ellipse: s-maj=1.6km s-min=0.4km az=125.0*
*ISK **29** 15:07:30.3,37.55N×23.48E,h4km,ML2.7/7*
ISC 29 15:07:30.6±0.9,37.55N±0.02×23.57E±0.03,h12km±8km, n36,σ0°75/54,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YDRA	**Hydra**	**0.22**	**203**	P		**Pg**		**15 07 35.1**	**0.0**
YDRA				S		**Sg**		**15 07 39.4**	**+1.1**
YDRA				AML		AML		15 07 39.8	
	comp=N,3292μm,0.3s								
YDRA				AML		AML		15 07 40.6	
	comp=E,5211μm,0.3s								
VLY	**Voula,Athens**	**0.35**	**30**	P		**Pg**		**15 07 37.6**	**0.0**
VLY				S		**Sb**		**15 07 43.6**	**-0.7**
VLY				AML		AML		15 07 45.0	
	comp=N,891μm,0.3s								
VLY				AML		AML		15 07 48.0	
	comp=E,803μm,0.4s								
VLY	**Voula,Athens**	**0.35**	**30**	P		**Pg**		**15 07 37.7**	**+0.1**
VLY				S		**Sb**		**15 07 43.7**	**-0.6**
	comp=E,450nm,0.5s								
KRND	**KRANIDI**	**0.37**	**244**	P		**Pg**		**15 07 37.5**	**-0.6**
KRND				S		**Sb**		**15 07 44.3**	**-0.6**
KRND				AML		AML		15 07 47.1	
	comp=N,1286μm,0.3s								
KRND				AML		AML		15 07 48.1	
	comp=E,1286μm,0.3s								
KRND	**KRANIDI**	**0.37**	**244**	P		**Pg**		**15 07 37.4**	**-0.6**
KRND				S		**Sg**		**15 07 44.1**	**+1.1**
	comp=E,765nm,0.3s								
ATH	**Athens Observa**	**0.44**	**15**	P		**Pg**		**15 07 39.1**	**-0.1**
ATH				S		**Sb**		**15 07 46.1**	**-0.7**
ATH				AML		AML		15 07 49.8	
	comp=N,506μm,0.5s								
ATH				AML		AML		15 07 50.0	
	comp=E,791μm,0.4s								
ATHU	**Athens Univers**	**0.45**	**22**	P		**Pg**		**15 07 39.3**	**-0.2**
ATHU				S		**Sb**		**15 07 46.4**	**-0.7**
ATHU				AML		AML		15 07 47.3	
	comp=E,159μm,0.2s								
ATHU				AML		AML		15 07 53.1	
	comp=N,109μm,0.4s								
ATHU	**Athens Univers**	**0.45**	**22**	P		**Pg**		**15 07 39.4**	**-0.1**
ATHU				S		**Sb**		**15 07 46.3**	**-0.9**
PTL	**Penteli**	**0.55**	**25**	P		**Pg**		**15 07 41.2**	**-0.1**
PTL				S		**Sb**		**15 07 49.6**	**-0.5**
PTL				AML		AML		15 07 53.1	
	comp=N,320μm,0.4s								
PTL				AML		AML		15 07 54.1	
	comp=E,406μm,0.3s								
PTL	**Penteli**	**0.55**	**25**	P		**Pg**		**15 07 41.2**	**-0.1**
PTL				S		**Sb**		**15 07 49.5**	**-0.6**
	comp=E,195nm,0.3s								
DION	**Dionisos Attik**	**0.60**	**28**	P		**Pg**		**15 07 42.2**	**-0.1**
DION				S		**Sb**		**15 07 51.4**	**-0.1**
DION				AML		AML		15 07 54.2	
	comp=E,429μm,0.3s								
DION				AML		AML		15 07 55.8	
	comp=N,460μm,0.3s								
DION	**Dionisos Attik**	**0.60**	**28**	P		**Pg**		**15 07 42.2**	**-0.1**
DION				S		**Sb**		**15 07 51.5**	**0.0**
	comp=N,400nm,0.4s								
VILL	**Villia**	**0.65**	**342**	P		**Pg**		**15 07 43.0**	**-0.2**
VILL				S		**Sb**		**15 07 53.5**	**+0.6**
	comp=N,498nm,0.2s								
VIL2	**Platees**	**0.70**	**340**	P		**Pg**		**15 07 43.1**	**-1.2**
VIL2				S		**Sg**		**15 07 53.6**	**+0.1**
VIL2				AML		AML		15 07 56.4	
	comp=E,1260μm,0.3s								
VIL2				AML		AML		15 08 00.5	
	comp=N,441μm,0.8s								
KARY	**Karystos**	**0.84**	**55**	P		**Pb**		**15 07 46.9**	**-0.2**
KARY	**Karystos**	**0.84**	**55**	P		**Pb**		**15 07 46.7**	**-0.4**
KARY				S		**Sb**		**15 07 58.6**	**+0.3**
VLI	**Veliai**	**0.97**	**212**	P		**Pg**		**15 07 49.0**	**-0.3**
VLI				S		**Sb**		**15 08 03.4**	**+1.3**
	comp=N,162nm,0.7s								
KYMI	**Kymi, Euboea I**	**1.16**	**21**	P		**Pg**		**15 07 52.3**	**-0.6**
KYMI	**Kymi, Euboea I**	**1.16**	**21**	P		**Pg**		**15 07 52.6**	**-0.3**
KYMI				S		**Sn**		**15 08 09.8**	**+1.3**
	comp=N,192nm,0.4s								
ATAL	**Atalanti**	**1.22**	**339**	P		**Pg**		**15 07 53.7**	**-0.3**
ATAL	**Atalanti**	**1.22**	**339**	P		**Pg**		**15 07 53.8**	**-0.3**
ATAL				S		**Sn**		**15 08 11.3**	**+1.3**
	comp=N,110nm,0.5s								
KLV	**Kalavryta, Ach**	**1.23**	**294**	P		**Pg**		**15 07 53.7**	**-0.6**
ITM	**Ithomi**	**1.36**	**255**	PN		**Pn**		**15 07 55.1**	**-0.3**
ITM				SN		**Sn**		**15 08 14.3**	**+0.9**
APE	**Apeiranthos**	**1.63**	**106**	PN		**Pg**		**15 08 01.7**	**-0.2**
APE				SN		**Sg**		**15 08 24.1**	**+1.0**
APE	**Apeiranthos**	**1.63**	**106**	P		Pn		15 07 51.9	-7.3
AGG	**Agios Georgios**	**1.77**	**327**	PN		**Pn**		**15 08 01.7**	**+0.7**
AGG				SN		**Sn**		**15 08 24.9**	**+1.4**
AGG	**Agios Georgios**	**1.77**	**327**	P		**Pn**		**15 08 01.2**	**+0.2**
AGG				S		**Sn**		**15 08 24.8**	**+1.3**
RODP	**Rodopos**	**1.99**	**176**	PN		**Pn**		**15 08 04.2**	**+0.2**
IMMV	**Iera Moni Meta**	**2.11**	**171**	PN		**Pb**		**15 08 07.7**	**-1.0**
CHOS	**Chios island**	**2.13**	**66**	PN		**Pb**		**15 08 08.6**	**-0.6**
IDI	**Anoyia**	**2.49**	**154**	PN		**Pb**		**15 08 13.5**	**-1.8**
URLA	**Izmir**	**2.52**	**70**	PN		**Pb**		**15 08 14.5**	**-1.3**
KOCA	**Canakkale, Ayv**	**2.80**	**45**	P		Pn		15 08 08.9	-6.4
KOCA				*i*	AML	AML		15 08 43.0	
	comp=N,9.9nm,0.7s								
KOCA				*i*	AML	AML		15 08 55.0	
	comp=N,14nm,1.2s								
AYVA	**Ayvalik**	**3.01**	**53**	P		Pg		15 08 42.9	+15
AYDN	**Tasoluk**	**3.42**	**87**	P		Pn		15 08 11.6	-12
AYDN				*i*	AML	AML		15 08 52.0	
	comp=N,30nm,0.1s								
AYDN				*i*	AML	AML		15 09 07.0	
	comp=N,26nm,0.0s								
ALN	**Alexandroupoli**	**3.86**	**29**	P		**Pn**		**15 08 29.2**	**-0.5**

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*IDC **29** 15:08:05.4±1.4,14.65S×167.99E,h0km,mb4.0/9, mb1 4.1/10,mb1mx3.9/27,mbtmp4.0/10,ML3.8/1,MS3.2/6, Ms1 3.2/6,ms1mx2.8/60,Error ellipse: s-maj=46.6km s-min=22.8km az=127.0*
ISC 29 15:08:09.7±1.0,14.75S±0.10×168.1E±0.2,h30km,n13, σ0°94/12,mb3.9/9,MS3.2/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.45**	**192**	Pn		**Pn**		**15 09 56.5**	**+0.1**
	1.6nm,0.3s,baz=331,slow=7.7,SNR=21								
DZM				Sn		**Sn**		**15 11 19.8**	**-0.3**
	0.7nm,0.3s,baz=223,slow=1.6,SNR=4.7								
DZM				LR		LR		15 11 53.0	
	comp=Z,48nm,18.3s,baz=45,slow=30								
CTA	**Charters Tower**	**21.47**	**253**	P		**P**		**15 12 57.0**	**+1.1**
	3.0nm,0.8s,baz=75,slow=13,SNR=2.1								
CTA				LR		LR		15 20 22.3	
	comp=Z,70nm,18.4s,baz=86,slow=34								
STKA	**Stephens Creek**	**29.57**	**230**	P		**P**		**15 14 13.1**	**+1.1**
	3.1nm,0.7s,baz=41,slow=8.5,SNR=8.2								
WRA	**Warramunga Arr**	**32.56**	**256**	P		**P**		**15 14 36.8**	**-1.8**
	0.5nm,0.6s,baz=84,slow=8.8,SNR=5.6								
ASAR	**Alice Springs**	**33.38**	**249**	P		**P**		**15 14 44.4**	**-1.4**
	2.2nm,0.6s,baz=78,slow=9.2,SNR=46								
ASAR				PcP		**PcP**		**15 17 27.1**	**0.0**
	0.5nm,0.9s,baz=57,slow=3.4,SNR=2.8								
ASAR				LR		LR		15 26 08.2	
	comp=Z,51nm,20.4s,baz=117,slow=32								
FITZ	**Fitzroy Crossi**	**40.76**	**259**	LR		LR		15 32 38.9	
	comp=Z,42nm,18.2s,baz=154,slow=36								
DAV	**Davao City (W)**	**47.37**	**294**	LR		LR		15 35 44.3	
	comp=Z,27nm,19.5s,baz=158,slow=35								
CMAR	**Chiang Mai Arr**	**75.66**	**294**	P		**P**		**15 19 53.0**	**+0.3**
	0.6nm,0.8s,baz=127,slow=3.9,SNR=4.4								
SONM	**Songino Array**	**82.97**	**323**	P		**P**		**15 20 32.4**	**+0.3**
	0.6nm,0.8s,baz=112,slow=4.0,SNR=4.5								
ILAR	**Eielson Array**	**86.31**	**18**	P		**P**		**15 20 48.0**	**-0.4**
	0.5nm,0.7s,baz=255,slow=4.5,SNR=5.2								
DLBC	**Dease Lake**	**88.60**	**28**	LR		LR		15 54 26.2	
	comp=Z,26nm,21.6s,baz=298,slow=31								
YKA	**Yellowknife Ar**	**97.21**	**27**	P		**P**		**15 21 39.2**	**0.0**
	0.4nm,1.0s,baz=269,slow=4.6,SNR=2.5								
MKAR	**Makanchi Array**	**97.74**	**316**	P		**P**		**15 21 42.1**	**+0.1**
	0.7nm,0.7s,baz=98,slow=5.0,SNR=5.3								

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*JMA **29** 15:09:55.9±0.1,24.01N×121.59E,h23km±1km,M2.9*
*TAP **29** 15:09:57.8,24.22N×121.74E,h13km,ML3.4,B*
ISC 29 15:09:57.8±0.8,24.23N±0.02×121.73E±0.02,h14km±5km, n64,σ0°64/115,26D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.08**	**7**	*i*	P	**Pg**		**15 10 00.7**	**-0.1**
	baz=7.0								
EHP				eS		**Sg**		**15 10 03.0**	**+0.2**
	baz=7.0								
ETL	**Fush Village**	**0.12**	**234**	*i*	P	**Pg**		**15 10 01.1**	**-0.1**
	baz=240								
ETL				*i*	S	**Sg**		**15 10 03.9**	**+0.3**
	baz=240								
NACB	**Ninganchiao**	**0.14**	**245**	⇓*i*	P	**Pg**		**15 10 01.4**	**0.0**
	baz=251								
NACB				*i*	S	**Sg**		**15 10 04.3**	**+0.5**
	baz=251								
TWD	**Chiawan**	**0.20**	**219**	*i*	P	**Pg**		**15 10 02.1**	**-0.2**
	baz=222								
TWD				*i*	S	**Sg**		**15 10 05.6**	**+0.3**
	baz=222								
ENA	**Nanau**	**0.20**	**3**	⇓*i*	P	**Pg**		**15 10 02.6**	**+0.2**
	baz=3.0								
ENA				*i*	S	**Sb**		**15 10 06.1**	**-0.7**
	baz=3.0								
EWUT	**Wuta**	**0.22**	**12**	⇓*i*	P	**Pg**		**15 10 02.8**	**+0.2**
	baz=9.0								
EWUT				*i*	S	**Sb**		**15 10 06.4**	**-0.9**
	baz=9.0								
ETLH	**Xiulin Townshi**	**0.23**	**264**	⇓*i*	P	**Pg**		**15 10 03.2**	**+0.3**
	baz=267								
ETLH				*i*	S	**Sb**		**15 10 07.2**	**-0.5**
	baz=267								
HWA	**Hwalien**	**0.28**	**204**	*e*	P	**Pb**		**15 10 04.6**	**0.0**
	baz=205								
ETM	**Tongmen**	**0.34**	**219**	*i*	P	**Pg**		**15 10 04.7**	**-0.1**
	baz=222								
ETM				eS		**Sg**		**15 10 09.8**	**+0.3**
	baz=222								
LATG	**Datong**	**0.35**	**328**	⇓*i*	P	**Pb**		**15 10 05.9**	**-0.1**
	baz=329								
LATG				S		**Sb**		**15 10 11.8**	**+0.3**
	baz=329								
NNSB	**Datong**	**0.37**	**302**	⇓*i*	P	**Pb**		**15 10 06.4**	**+0.1**
	baz=303								
NNSB				eS		**Sb**		**15 10 12.4**	**+0.4**
	baz=303								
TEYL	**Yanliau Villag**	**0.38**	**199**	*e*	P	**Pg**		**15 10 06.2**	**+0.7**
	baz=202								
NNS	**Nan Shan**	**0.39**	**303**	⇓*i*	P	**Pb**		**15 10 06.6**	**+0.1**
	baz=304								
NNS				eS		**Sb**		**15 10 13.1**	**+0.7**
	baz=304								
TWC	**Suao**	**0.39**	**16**	⇓*i*	P	**Pg**		**15 10 05.9**	**+0.2**
	baz=16								
TWC				eS		**Sb**		**15 10 11.6**	**-0.8**
	baz=16								
NDS	**Dongshan**	**0.40**	**358**	⇓*i*	P	**Pb**		**15 10 06.5**	**-0.2**
	baz=357								
NDS				eS		**Sb**		**15 10 12.2**	**-0.4**
	baz=357								
NDT	**Datong Townshi**	**0.42**	**332**	⇓*i*	P	**Pb**		**15 10 07.2**	**+0.2**
	baz=332								
NDT				eS		**Sb**		**15 10 13.8**	**+0.6**
	baz=332								
ENTT	**Nioudou**	**0.43**	**340**	⇓*i*	P	**Pb**		**15 10 07.4**	**+0.1**
	baz=340								
ENTT				eS		**Sb**		**15 10 14.2**	**+0.6**
	baz=340								
WHF	**Hehuan Shan**	**0.43**	**259**	⇓*i*	P	**Pg**		**15 10 07.1**	**+0.5**
	baz=260								
WHF				eS		**Sb**		**15 10 13.6**	**-0.4**
	baz=260								
FUSS	**Fushou**	**0.45**	**272**	⇓*i*	P	**Pg**		**15 10 06.5**	**-0.2**
	baz=274								
FUSS				eS		**Sb**		**15 10 13.9**	**-0.3**
	baz=274								
TWE	**Neicheng**	**0.49**	**353**	⇓*i*	P	**Pb**		**15 10 08.3**	**+0.1**
	baz=354								
TWE				eS		**Sb**		**15 10 15.6**	**+0.4**
	baz=354								
ESL	**Shilin**	**0.50**	**213**	P		Pg		**15 10 07.4**	**-0.2**
	baz=214								
TWT	**Tachien**	**0.51**	**273**	P		**Pb**		**15 10 09.2**	**+0.6**
	baz=273								
TWT				eS		**Sb**		**15 10 16.9**	**+1.1**
	baz=273								
TDCB	**Techi**	**0.52**	**272**	*e*	P	**Pb**		**15 10 09.1**	**+0.3**
	baz=274								
TDCB				eS		**Sb**		**15 10 16.9**	**+0.6**
	baz=274								
ILA	**Ilan**	**0.53**	**2**	*e*	P	**Pb**		**15 10 09.0**	**+0.1**
	baz=2.0								
CHGB	**Renai**	**0.54**	**252**	⇓*i*	P	**Pb**		**15 10 09.1**	**0.0**
	baz=253								
CHGB				eS		**Sb**		**15 10 16.8**	**0.0**
	baz=253								
FUSB	**Fushanzhiwuyua**	**0.54**	**346**	⇓P		**Pb**		**15 10 09.4**	**+0.3**
	baz=346								
FUSB				eS		**Sb**		**15 10 17.3**	**+0.5**
	baz=346								
YHNB	**Yeheng**	**0.54**	**323**	⇓*i*	P	**Pn**		**15 10 09.8**	**-1.4**
	baz=324								
YHNB				S		**Sb**		**15 10 17.6**	**+0.8**
	baz=324								
TEGC	**Jichi Village**	**0.55**	**199**	*e*	P	**Pg**		**15 10 08.3**	**-0.3**
	baz=199								
NSK	**Sanguang**	**0.56**	**323**	⇓*i*	P	**Pb**		**15 10 09.9**	**+0.5**
	baz=323								
NSK				eS		**Sb**		**15 10 17.9**	**+0.6**
	baz=323								
OWD	**Renai**	**0.58**	**242**	⇓P		**Pg**		**15 10 09.4**	**+0.2**
	baz=243								
OWD				eS		**Sb**		**15 10 17.9**	**+0.1**
	baz=243								
NWLT	**Wulai**	**0.58**	**339**	⇓*i*	P	**Pb**		**15 10 10.2**	**+0.4**
	baz=339								
NWLT				eS		**Sb**		**15 10 18.3**	**+0.4**
	baz=339								
WUSB	**Renai**	**0.61**	**247**	⇓*i*	P	**Pb**		**15 10 10.3**	**0.0**
	baz=248								
WUSB				eS		**Sb**		**15 10 19.1**	**+0.4**
	baz=248								
EGFH	**Guangfu**	**0.62**	**206**	*e*	P	**Pg**		**15 10 10.0**	**0.0**
	baz=207								
EGFH				eS		**Sb**		**15 10 19.8**	**+0.7**
	baz=207								
NTC	**Toucheng**	**0.63**	**8**	*e*	P	**Pb**		**15 10 10.5**	**0.0**
	baz=8.0

NWF	**Wu-fen Shan**	**0.84**	**3**	*e*P	**Pn**	**15 10 14.6**	**-0.6**
	baz=3.0							
NWF				*e*S	**Sn**	**15 10 25.9**	**-1.5**
	baz=3.0							
SSLB	**Suanglung**	**0.84**	**238**	*e*P	**Pb**	**15 10 14.2**	**0.0**
	baz=239							
SSLB				*e*S	**Sb**	**15 10 24.8**	**-0.4**
	baz=239							
WFSB	**Wu-fen Shan**	**0.84**	**3**	*e*P	**Pn**	**15 10 15.1**	**-0.1**
	baz=3.0							
WFSB				*e*S	**Sn**	**15 10 25.9**	**-1.4**
	baz=3.0							
SXI1	**Grass Mountain**	**0.87**	**9**	*e*P	**Pn**	**15 10 15.2**	**-0.4**
	baz=8.0							
YULB	**Yu-li**	**0.93**	**205**	*e*P	**Pb**	**15 10 14.7**	**-0.9**
	baz=206							
YULB				*e*S	**Sg**	**15 10 28.9**	**+1.0**
	baz=206							
JYNG	**Yonagunijimaku**	**1.13**	**79**	P	**Pb**	**15 10 19.1**	**0.0**
JYNG				*e*S	**Sg**	**15 10 35.8**	**+1.5**
YOJ	**Yonaguni jima**	**1.19**	**79**	P	**Pb**	**15 10 20.2**	**+0.1**
YOJ				*e*S	**Sg**	**15 10 37.2**	**+0.9**
YOJ	**Yonaguni jima**	**1.19**	**79**	P	**Pb**	**15 10 20.5**	**+0.4**
	baz=78							
YOJ				*e*S	**Sg**	**15 10 36.9**	**+0.6**
	baz=78							
ELDTW	**Lidau**	**1.23**	**212**	*e*P	**Pn**	**15 10 19.6**	**-1.0**
	baz=212							
IRIF	**Iriomote-Funau**	**1.83**	**86**	P	**Pn**	**15 10 28.9**	**+0.1**
IRIF				*e*S	**Sb**	**15 10 53.2**	**-0.5**
HATJ	**Hateruma jima**	**1.90**	**95**	P	**Pn**	**15 10 29.6**	**-0.2**
HATJ				*e*S	**Sn**	**15 10 54.3**	**+0.7**
JKRS	**Kuro-shima**	**2.08**	**89**	P	**Pn**	**15 10 32.8**	**+0.6**
JIJ	**Ishigaki jima**	**2.21**	**86**	P	**Pn**	**15 10 33.7**	**-0.3**
JIJ				*e*S	**Sn**	**15 10 59.7**	**-1.3**
JISG	**Ishigakijimahi**	**2.38**	**81**	P	**Pn**	**15 10 35.7**	**-0.6**
JISG				*e*S	**Sn**	**15 11 06.1**	**+0.8**

TAP ***29*** *15:12:59.0,24°.21N×121°.77E,h9km,ML3.6,C*
JMA ***29*** *15:12:58.8±0.1,24°.13N×121°.70E,h20km±1km,M2.9*

ISC 29 15:12:58.9±0.7,24°.18N±0°.02×121°.78E±0°.02,h10km,n103,
σ0s75/156,2C-16D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.13**	**346**	*i* P	**Pg**	**15 13 01.9**	**-0.1**
	baz=349						
EHP				*i* S	**Sg**	**15 13 04.0**	**-0.2**
	baz=349						
ETL	**Fush Village**	**0.14**	**261**	⇑*i*P	**Pg**	**15 13 02.5**	**+0.4**
	baz=250						
ETL				S	**Sg**	**15 13 05.1**	**+0.7**
	baz=250						
NACB	**Ninganchiao**	**0.17**	**267**	⇓*i*P	**Pg**	**15 13 02.8**	**+0.3**
	baz=251						
NACB				*i* S	**Sg**	**15 13 05.6**	**+0.6**
	baz=251						
TWD	**Chiawan**	**0.19**	**239**	⇑*i*P	**Pg**	**15 13 03.3**	**+0.4**
	baz=237						
TWD				S	**Sg**	**15 13 06.7**	**+1.0**
	baz=237						
ENA	**Nanau**	**0.25**	**352**	⇓*i*P	**Pg**	**15 13 03.8**	**-0.2**
	baz=355						
ENA				*i* S	**Sg**	**15 13 06.7**	**-0.7**
	baz=355						
HWA	**Hwalien**	**0.26**	**218**	*e*P	**Pg**	**15 13 05.7**	**+1.6**
	baz=223						
EWUT	**Wuta**	**0.26**	**0**	⇓*i*P	**Pg**	**15 13 04.2**	**-0.1**
	baz=2.0						
EWUT				*i* S	**Sg**	**15 13 07.9**	**+0.1**
	baz=2.0						
ETLH	**Xiulin Townshi**	**0.27**	**275**	⇓*i*P	**Pg**	**15 13 04.6**	**+0.2**
	baz=271						
ETLH				*e*S	**Sb**	**15 13 08.9**	**-1.7**
	baz=271						
LATG	**Datong**	**0.42**	**327**	⇓*i*P	**Pg**	**15 13 07.0**	**-0.1**
	baz=326						
LATG				*i* S	**Sg**	**15 13 13.1**	**+0.3**
	baz=326						
TWC	**Suao**	**0.43**	**9**	⇓*i*P	**Pg**	**15 13 07.2**	**-0.2**
	baz=8.0						
TWC				*e*S	**Sg**	**15 13 13.1**	**0.0**
	baz=8.0						
NNSB	**Datong**	**0.44**	**304**	⇓*i*P	**Pg**	**15 13 07.7**	**+0.2**
	baz=303						
NNSB				S	**Sg**	**15 13 13.7**	**+0.4**
	baz=303						
NNS	**Nan Shan**	**0.45**	**305**	⇓*i*P	**Pg**	**15 13 07.9**	**+0.2**
	baz=304						
NNS				*e*S	**Sg**	**15 13 13.2**	**-0.5**
	baz=304						
NDS	**Dongshan**	**0.45**	**353**	*i* P	**Pg**	**15 13 07.7**	**-0.1**
	baz=353						
NDS				S	**Sg**	**15 13 14.1**	**+0.4**
	baz=353						
WHF	**Hehuan Shan**	**0.47**	**266**	⇓*i*P	**Pg**	**15 13 08.4**	**+0.3**
	baz=263						
WHF				S	**Sg**	**15 13 14.8**	**+0.4**
	baz=263						
ESL	**Shilin**	**0.48**	**221**	P	**Pb**	**15 13 08.7**	**-0.7**
	baz=227						
ESL				*e*S	**Sb**	**15 13 17.2**	**+0.6**
	baz=227						
ENTT	**Nioudou**	**0.49**	**337**	⇓*i*P	**Pg**	**15 13 08.6**	**+0.1**
	baz=337						
ENTT				*i* S	**Sg**	**15 13 15.4**	**+0.3**
	baz=337						
TWE	**Neicheng**	**0.55**	**349**	⇓*i*P	**Pg**	**15 13 09.6**	**0.0**
	baz=351						
TWE				*i* S	**Sg**	**15 13 16.6**	**-0.1**
	baz=351						
TWT	**Tachien**	**0.55**	**278**	*i* P	**Pb**	**15 13 10.3**	**-0.5**
	baz=275						
TWT				*e*S	**Sb**	**15 13 18.4**	**-0.4**
	baz=275						
CHGB	**Renai**	**0.56**	**258**	⇓*i*P	**Pb**	**15 13 10.4**	**-0.5**
	baz=249						
CHGB				S	**Sb**	**15 13 18.0**	**-1.2**
	baz=249						
TDCB	**Techi**	**0.57**	**277**	⇓*i*P	**Pb**	**15 13 10.4**	**-0.6**
	baz=276						
TDCB				S	**Sb**	**15 13 17.9**	**-1.3**
	baz=276						
ILA	**Ilan**	**0.58**	**357**	*e*P	**Pg**	**15 13 10.4**	**+0.3**
	baz=359						
ILA				*e*S	**Sg**	**15 13 18.3**	**+0.4**
	baz=359						
OWD	**Renai**	**0.59**	**248**	P	**Pb**	**15 13 10.9**	**-0.5**
	baz=246						
OWD				*e*S	**Sb**	**15 13 19.5**	**-0.4**
	baz=246						
FUSB	**Fushanzhiwuyua**	**0.60**	**343**	⇓*i*P	**Pg**	**15 13 10.7**	**+0.1**
	baz=343						
FUSB				*i* S	**Sg**	**15 13 18.1**	**-0.4**
	baz=343						
EGFH	**Guangfu**	**0.60**	**212**	P	**Pb**	**15 13 11.4**	**-0.1**
	baz=218						
EGFH				*e*S	**Sn**	**15 13 21.3**	**-2.0**
	baz=218						
YHNB	**Yeheng**	**0.61**	**323**	⇓*i*P	**Pg**	**15 13 11.0**	**+0.3**
	baz=322						
YHNB				*e*S	**Sb**	**15 13 19.5**	**-0.8**
	baz=322						
NSK	**Sanguang**	**0.62**	**322**	⇓*i*P	**Pg**	**15 13 11.2**	**+0.2**
	baz=322						
NSK				*e*S	**Sb**	**15 13 19.8**	**-0.9**
	baz=322						
WUSB	**Renai**	**0.63**	**253**	P	**Pb**	**15 13 11.8**	**-0.3**
	baz=244						
WUSB				*e*S	**Sg**	**15 13 19.7**	**+0.3**
	baz=244						
NWLT	**Wulai**	**0.64**	**337**	P	**Pg**	**15 13 11.4**	**+0.1**
	baz=337						
NWLT				*e*S	**Sg**	**15 13 19.8**	**-0.1**
	baz=337						
NTC	**Toucheng**	**0.67**	**4**	*e*P	**Pg**	**15 13 11.6**	**-0.2**
	baz=5.0						
VWDT	**VWDT**	**0.72**	**234**	*i* P	**Pb**	**15 13 13.7**	**+0.2**
	baz=240						
NFF	**Wufeng Townshi**	**0.75**	**307**	P	**Pb**	**15 13 13.8**	**-0.2**
	baz=306						
NFF				*e*S	**Sg**	**15 13 23.4**	**+0.2**
	baz=306						
HGSD	**Ruisui**	**0.76**	**205**	*e*P	**Pn**	**15 13 14.8**	**-0.9**
	baz=195						
WHP	**Taichung City**	**0.77**	**277**	P	**Pb**	**15 13 14.1**	**-0.2**
	baz=276						
WHP				S	**Sb**	**15 13 24.6**	**-0.2**
	baz=276						
TIPB	**Shuangxi**	**0.79**	**3**	P	**Pg**	**15 13 14.0**	**-0.1**
	baz=4.0						
TIPB				*e*S	**Sg**	**15 13 22.2**	**-2.2**
	baz=4.0						
EHY	**Hungye**	**0.79**	**212**	*e*P	**Pg**	**15 13 14.1**	**0.0**
	baz=225						
WCS	**Beigang Elemen**	**0.80**	**261**	P	**Pb**	**15 13 15.0**	**+0.1**
	baz=260						
WCS				*e*S	**Sb**	**15 13 25.6**	**-0.1**
	baz=260						
NHDH	**Xindian Distri**	**0.81**	**344**	*e*P	**Pb**	**15 13 15.4**	**+0.3**
	baz=344						
TWA	**Mucha**	**0.81**	**348**	*e*P	**Pg**	**15 13 14.3**	**-0.3**
	baz=339						
LIOB	**Emei**	**0.83**	**304**	P	**Pb**	**15 13 15.8**	**+0.4**
	baz=303						
LIOB				*e*S	**Sb**	**15 13 27.4**	**+0.6**
	baz=303						
NSTT	**Nanjuang**	**0.84**	**302**	*e*P	**Pb**	**15 13 15.2**	**-0.3**
	baz=302						
NSTT				*e*S	**Sb**	**15 13 26.5**	**-0.3**
	baz=302						
TWB1	**Santiao Chiao**	**0.84**	**13**	*e*P	**Pg**	**15 13 15.1**	**0.0**
	baz=14						
TWB1				*e*S	**Sg**	**15 13 24.8**	**-1.4**
	baz=14						
SSLB	**Suanglung**	**0.85**	**243**	*e*P	**Pb**	**15 13 15.5**	**-0.2**
	baz=251						
SSLB				*e*S	**Sg**	**15 13 25.8**	**-0.6**
	baz=251						
SMLT	**Sun Moon Lake**	**0.85**	**250**	*e*P	**Pn**	**15 13 16.4**	**-0.7**
	baz=249						
SMLT				*e*S	**Sb**	**15 13 27.6**	**+0.1**
	baz=249						
TYC	**Yuchr**	**0.89**	**252**	*e*P	**Pb**	**15 13 16.5**	**+0.2**
	baz=242						
TYC				*e*S	**Sb**	**15 13 27.9**	**-0.3**
	baz=242						
NWF	**Wu-fen Shan**	**0.89**	**0**	*e*P	**Pg**	**15 13 16.1**	**+0.2**
	baz=1.0						
TAP	**Taipei**	**0.89**	**344**	*e*P	**Pg**	**15 13 15.5**	**-0.5**
	baz=345						
YULB	**Yu-li**	**0.90**	**209**	*e*P	**Pg**	**15 13 15.5**	**-0.7**
	baz=220						
YULB				*e*S	**Sn**	**15 13 30.5**	**-0.2**
	baz=220						
SXI1	**Grass Mountain**	**0.91**	**6**	*e*P	**Pg**	**15 13 16.8**	**+0.3**
	baz=351						
EYUL	**Yuli**	**0.93**	**207**	*e*P	**Pb**	**15 13 17.1**	**0.0**
	baz=224						
TWQ1	**Liyutan**	**0.93**	**280**	*e*P	**Pn**	**15 13 17.8**	**-0.3**
	baz=281						
SBCB	**Hsinchu**	**0.94**	**310**	P	**Pn**	**15 13 18.0**	**-0.2**
	baz=310						
SBCB				*e*S	**Sn**	**15 13 30.6**	**-1.1**
	baz=310						
NCU	**National Centr**	**0.95**	**326**	P	**Pn**	**15 13 18.2**	**-0.1**
	baz=326						
NCU				*e*S	**Sn**	**15 13 33.4**	**+1.5**
	baz=326						
NCUH	**Zhongli**	**0.95**	**326**	P	**Pb**	**15 13 17.8**	**+0.3**
	baz=325						
NCUH				*e*S	**Sn**	**15 13 32.5**	**+0.6**
	baz=325						
NSY	**Sanyi**	**0.96**	**284**	*e*P	**Pn**	**15 13 18.3**	**-0.1**
	baz=285						
HSN	**Hsinchu**	**0.96**	**310**	*e*P	**Pn**	**15 13 18.0**	**-0.5**
	baz=313						
HSN				*e*S	**Sn**	**15 13 32.2**	**+0.1**
	baz=313						
NMLH	**Miaoli**	**0.97**	**292**	*e*P	**Pn**	**15 13 19.2**	**+0.7**
	baz=300						
TWS1	**Kuangyinshan**	**0.97**	**340**	*e*P	**Pn**	**15 13 18.5**	**0.0**
	baz=341						
TWS1				*e*S	**Sb**	**15 13 30.9**	**+0.2**
	baz=341						
YM01	**YM01**	**0.98**	**349**	P	**Pb**	**15 13 18.0**	**0.0**
	baz=333						
TCU	**Taichung**	**1.01**	**268**	*e*P	**Pn**	**15 13 19.7**	**+0.6**
	baz=269						
YUS	**Yu-Shan**	**1.02**	**228**	*e*P	**Pn**	**15 13 19.5**	**-0.3**
	baz=229						
NTST	**Danshui**	**1.02**	**343**	*e*P	**Pb**	**15 13 18.8**	**+0.1**
	baz=343						
WJS	**Zhushan**	**1.02**	**250**	*e*P	**Pn**	**15 13 19.8**	**+0.5**
	baz=243						
ANP	**Anpu**	**1.03**	**347**	*e*P	**Pg**	**15 13 18.7**	**+0.1**
	baz=347						
WNT	**Mingjian**	**1.04**	**253**	*e*P	**Pn**	**15 13 20.5**	**+1.0**
	baz=248						
WNT				*e*S	**Sn**	**15 13 35.2**	**+1.0**
	baz=248						
WDJ	**Dajia District**	**1.05**	**279**	*e*P	**Pn**	**15 13 20.9**	**+1.3**
	baz=279						
WDJ				*e*S	**Sn**	**15 13 34.9**	**+0.5**
	baz=279						
FULB	**Fuli**	**1.07**	**204**	*e*P	**Pg**	**15 13 19.0**	**-0.5**
	baz=222						
JYNG	**Yonagunijimaku**	**1.10**	**76**	P	**Pg**	**15 13 20.3**	**+0.3**
JYNG				S	**Sn**	**15 13 36.0**	**+0.4**
TWY	**Chenhua**	**1.10**	**352**	P	**Pn**	**15 13 21.1**	**+0.7**
	baz=337						
ALS	**Alishan**	**1.11**	**233**	*e*P	**Pn**	**15 13 21.2**	**+0.4**
	baz=243						
WCHH	**Zhanghua**	**1.12**	**265**	*e*P	**Pn**	**15 13 21.7**	**+1.1**
	baz=265						
WCHH				*e*S	**Sn**	**15 13 38.8**	**+2.8**
	baz=265						
CHKT	**Chengkung**	**1.14**	**199**	*e*P	**Pn**	**15 13 20.7**	**-0.2**
	baz=179						
YOJ	**Yonaguni jima**	**1.16**	**76**	P	**Pb**	**15 13 21.2**	**+0.2**
YOJ				S	**Sg**	**15 13 37.0**	**+0.8**
YOJ	**Yonaguni jima**	**1.16**	**76**	*e*P	**Pb**	**15 13 20.7**	**-0.3**
	baz=63						
ELDTW	**Lidau**	**1.21**	**215**	*e*P	**Pb**	**15 13 21.6**	**-0.3**
	baz=201						
WDLH	**Douliu**	**1.23**	**247**	*e*P	**Pg**	**15 13 23.8**	**+1.2**
	baz=231						
EDH	**Donghe**	**1.28**	**200**	*e*P	**Pn**	**15 13 21.2**	**-1.6**
	baz=188						
WRL	**Guolierlin Hig**	**1.31**	**258**	*e*P	**Pg**	**15 13 24.1**	**+0.1**
	baz=259						
STYH	**Taoyuan**	**1.36**	**223**	*e*P	**Pg**	**15 13 25.3**	**+0.3**
	baz=225						
CHN4	**Tsaushan**	**1.36**	**233**	*e*P	**Pg**	**15 13 25.7**	**+0.7**
	baz=236						
TPUB	**Ta-pu**	**1.37**	**230**	*e*P	**Pg**	**15 13 25.2**	**0.0**
	baz=233						
CHY	**Chiayi**	**1.41**	**241**	*e*P	**Pg**	**15 13 27.3**	**+1.3**
	baz=244						
WTP	**Ta-pu**	**1.42**	**229**	*e*P	**Pg**	**15 13 26.4**	**+0.3**
	baz=232						
TWK	**Hsinying**	**1.49**	**233**	*e*P	**Pg**	**15 13 27.1**	**-0.4**
	baz=234						
TWK				*e*S	**Sg**	**15 13 48.7**	**+1.8**
	baz=234						
TWG	**Pinlang**	**1.50**	**206**	*e*P	**Pn**	**15 13 24.1**	**-1.7**
	baz=190						
TWGBT	**Beinan**	**1.50**	**205**	*e*P	**Pn**	**15 13 24.1**	**-1.7**
	baz=190						
CHN1	**Nanshi**	**1.52**	**229**	*e*P	**Pg**	**15 13 28.5**	**+0.5**
	baz=233						
SGST	**Jiashian**	**1.55**	**225**	*e*P	**Pb**	**15 13 27.6**	**0.0**
	baz=228						
WSL	**Shuilin Townsh**	**1.56**	**245**	*e*P	**Pg**	**15 13 28.3**	**-0.6**
	baz=248						
ICHU	**Yijhu**	**1.60**	**240**	*e*P	**Pg**	**15 13 28.7**	**-0.8**
	baz=243						
SCST	**Cishan**	**1.75**	**223**	*e*P	**Pg**	**15 13 32.1**	**-0.3**
	baz=227						
SSD	**Sandimen**	**1.77**	**217**	*e*P	**Pb**	**15 13 30.4**	**-1.1**
	baz=233						
IRIF	**Iriomote-Funau**	**1.79**	**85**	P	**Pn**	**15 13 29.7**	**-0.1**
IRIF				*e*S	**Sn**	**15 13 53.2**	**+0.6**
TSMG	**Majia**	**1.80**	**216**	*e*P	**Pb**	**15 13 31.9**	**0.0**
	baz=219						
TWM1	**Shoushan**	**1.84**	**223**	*e*P	**Pg**	**15 13 34.8**	**+0.7**
	baz=225						
HATJ	**Hateruma jima**	**1.86**	**93**	*e*S	**Sn**	**15 13 55.2**	**+0.9**
JKRS	**Kuro-shima**	**2.04**	**88**	P	**Pn**	**15 13 34.0**	**+0.8**
PNG	**Penghu**	**2.12**	**254**	*e*P	**Pb**	**15 13 36.2**	**-1.3**
	baz=257						
PHUB	**P'eng-hu**	**2.13**	**252**	*e*P	**Pn**	**15 13 35.3**	**+0.9**
	baz=256						
WDGT	**Dungji**	**2.15**	**245**	*e*P	**Pb**	**15 13 36.3**	**-1.6**
	baz=249						
JIJ	**Ishigaki jima**	**2.17**	**85**	P	**Pn**	**15 13 35.2**	**+0.2**
JIJ				S	**Sn**	**15 14 02.1**	**+0.2**
JISG	**Ishigakijimahi**	**2.34**	**80**	P	**Pn**	**15 13 37.0**	**-0.5**
JISG				*e*S	**Sn**	**15 14 07.3**	**+1.0**
VCHM	**Qimei**	**2.36**	**246**	*e*P	**Pb**	**15 13 39.4**	**-2.1**
	baz=235						
JTJ	**Tarama**	**2.71**	**80**	P	**Pn**	**15 13 43.7**	**+1.3**
JTJ				*e*S	**Sn**	**15 14 16.3**	**+1.1**

IDC 29 15:33:39.4±3.1,67°.63N×33°.48E,h0km,mb1 2.9/2,
mb1mx2.8/31,mbtmp2.8/2,ML2.0/2,Error ellipse:
s-maj=34.8km s-min=11.7km az=72.0,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARCES	**ARCESS Array B**	**3.49**	**307**	Pn	Pn	15 34 34.6	-0.3
	baz=120,slow=15,SNR=53						
ARCES				Sn	Sn	15 35 16.3	-0.6
	baz=120,slow=24,SNR=8.8						
ARCES				Lg	Lg	15 35 28.1	
	baz=126,slow=33,SNR=5.2						
FINES	**FINESS Array B**	**6.98**	**211**	Pn	Pn	15 35 19.9	-2.8
	0.0nm,0.3s,baz=42,slow=15,SNR=1.8						
FINES				Sn	Sn	15 36 39.1	-3.6
	0.1nm,0.3s,baz=34,slow=18,SNR=1.5						
FINES				Lg	Lg	15 37 12.3	
	0.4nm,0.3s,baz=24,slow=23,SNR=8.3						
I43RU	**DUBNA INFRASONI**	**1.09**	**169**	*i*		16 40 50.0	
	baz=356,slow=324,SNR=2.2						

BUC 29 15:42:16.9±0.3,45°.62N×26°.46E,h145km±2km,ml3.8/48,
54C-39D,Error ellipse: s-maj=1.7km s-min=1.4km
az=153.0,Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BISRR	**Bisoca**	**0.19**	**112**	⇑P	Pn	15 42 37.4	+0.8
BISRR				⇑S	Sn	15 42 52.9	+1.4
NEHR	**Nehoiu**	**0.22**	**212**	⇑P	Pn	15 42 37.4	+0.7
NEHR				⇓S	Sn	15 42 52.8	+1.3
PLOR	**Plostina**	**0.27**	**29**	⇓P	Pn	15 42 36.8	0.0
PLOR				⇑S	Sn	15 42 52.4	+0.5
COVR	**Voineasa-Covas**	**0.29**	**322**	⇑P	Pn	15 42 36.8	0.0
COVR				⇓S	Sn	15 42 52.1	0.0
VRI	**Vrincioaia**	**0.31**	**36**	⇑P	Pn	15 42 37.2	+0.4
VRI				⇓S	Sn	15 42 52.6	+0.5
MLR	**Muntele Rosu**	**0.39**	**251**	⇑P	Pn	15 42 37.7	+0.4
MLR				⇑S	Sn	15 42 53.2	+0.4
GRER		**0.43**	**123**	⇓S	Sn	15 42 52.7	0.0
ODBI	**Odobesti**	**0.44**	**70**	⇑S	Sn	15 42 53.7	+0.8
ISR	**Istrita**	**0.50**	**174**	⇑S	Sn	15 42 53.8	+0.3
PANC	**Panciu**	**0.54**	**62**	⇑P	Pn	15 42 38.6	+0.8
PANC				⇑S	Sn	15 42 55.1	+1.3
SECR		**0.65**	**206**	⇓P	Pn	15 42 39.4	+0.8
GHRR		**0.80**	**56**	⇑P	Pn	15 42 40.3	+0.8
GHRR				⇓S	Sn	15 42 57.9	+1.3
PGOR	**Pogoanele**	**0.80**	**152**	⇑S	Sn	15 42 57.4	+0.7
DOPR	**Dopca**	**0.83**	**295**	⇑P	Pn	15 42 39.8	0.0
TUDR		**0.85**	**91**	⇑S	Sn	15 42 58.3	+1.0
TESR	**Tescani**	**0.90**	**8**	⇑P	Pn	15 42 40.2	-0.1
TESR				⇓S	Sn	15 42 57.3	-1.0
IZVR	**Izvoarele**	**0.92**	**94**	⇑S	Sn	15 42 58.5	+0.2
SLCR	**Slobozia Conac**	**0.92**	**91**	⇑S	Sn	15 42 58.7	+0.4
SULR		**0.95**	**189**	⇑S	Sn	15 42 59.7	+0.9
SCHL	**Schela**	**0.97**	**96**	⇓S	Sn	15 42 59.7	+0.7
VARL	**Varlezi**	**1.01**	**73**	⇑P	Pn	15 42 40.6	-0.6
VARL				⇑S	Sn	15 43 00.2	+0.5
VOIR		**1.01**	**260**	⇑P	Pn	15 42 41.2	-0.1
VOIR				⇓S	Sn	15 42 59.3	-0.6
BIR	**Birlad**	**1.04**	**51**	⇑S	Sn	15 43 00.1	-0.2
MTUR	**Matau**	**1.06**	**249**	⇓P	Pn	15 42 41.4	-0.4
SCTR	**Scanteiesti**	**1.08**	**86**	⇑S	Sn	15 43 01.5	+0.8
TATR	**Tatarca**	**1.11**	**90**	⇓S	Sn	15 43 01.6	+0.2
GISR	**Galati**	**1.13**	**98**	⇓S	Sn	15 43 01.9	+0.3
VLDR	**Vladesti**	**1.16**	**78**	⇑P	Pn	15 42 43.1	+0.6
VLDR				⇓S	Sn	15 43 02.3	+0.2
LEHL	**Lehliu**	**1.17**	**167**	⇑P	Pn	15 42 43.4	+0.7
LEHL				⇓S	Sn	15 43 03.2	+0.9
AMRR	**Amara**	**1.18**	**148**	⇓P	Pn	15 42 43.5	+0.7
AMRR				⇓S	Sn	15 43 03.1	+0.6
INCR	**INCERC-Sediu C**	**1.20**	**190**	⇑S	Sn	15 43 03.2	+0.4
GIUM	**Giurgiulesti**	**1.23**	**96**	⇓P	Pn	15 42 44.0	+0.7
GIUM				⇓S	Sn	15 43 04.1	+0.7
CFR	**Carcaliu**	**1.26**	**110**	⇑P	Pn	15 42 43.6	+0.1
CFR				⇓S	Sn	15 43 03.4	-0.4
STFAR	**Stefanesti-Arg**	**1.30**	**235**	⇓P	Pn	15 42 44.6	+0.6
STFAR				⇑S	Sn	15 43 05.4	+0.7
BUC1	**Bucharest**	**1.31**	**194**	⇓S	Sn	15 43 05.0	+0.3
ARR	**Arges**	**1.31**	**260**	⇑P	Pn	15 42 44.8	+0.6
ARR				⇑S	Sn	15 43 05.0	+0.1
GIRR	**Girov**	**1.34**	**1**	⇓P	Pn	15 42 44.4	0.0
VASR	**Vaslui**	**1.38**	**42**	⇑P	Pn	15 42 45.0	+0.2
VASR				⇓S	Sn	15 43 05.7	-0.4
HARR	**Harsova**	**1.39**	**131**	⇓P	Pn	15 42 45.3	+0.4
SGRR	**Singureni**	**1.44**	**194**	⇓S	Sn	15 43 06.7	-0.4
RASA	**Rasa**	**1.48**	**161**	⇑S	Sn	15 43 08.7	+0.7
LEOM	**Leova**	**1.51**	**55**	⇑P	Pn	15 42 46.5	+0.4
LEOM				⇑S	Sn	15 43 08.2	-0.2
HUMR	**Humele**	**1.51**	**225**	⇓P	Pn	15 42 46.0	-0.2
HUMR				⇓S	Sn	15 43 07.9	-0.6
TLBR	**Topalu**	**1.55**	**133**	⇓P	Pn	15 42 46.7	+0.2
TPGR	**Topolog**	**1.58**	**118**	⇑P	Pn	15 42 46.9	0.0
TPGR				⇑S	Sn	15 43 09.0	-0.8
CVDA	**Cernavoda**	**1.70**	**138**	⇑P	Pn	15 42 48.7	+0.4
CVDA				⇓S	Sn	15 43 11.9	-0.3
TLCR		**1.71**	**104**	⇑P	Pn	15 42 48.5	+0.1
TLCR				⇓S	Sn	15 43 12.0	+0.5
COPA	**Copaceanca**	**1.73**	**211**	⇓S	Sn	15 43 12.0	-0.7
ICOR	**Ion Corvin**	**1.78**	**147**	⇓P	Pn	15 42 49.7	+0.6
ICOR				⇓S	Sn	15 43 13.4	-0.3
LOT	**Lotru**	**1.90**	**266**	⇓S	Sn	15 43 17.5	+1.0
RAZG	**Razgrad**	**2.05**	**179**	⇑P	Pn	15 42 52.5	+0.2
RAZG				⇑S	Sn	15 43 19.0	-0.5
MILM	**Milestii Mici**	**2.09**	**51**	⇑P	Pn	15 42 52.7	+0.1
MILM				⇑S	Sn	15 43 18.9	-1.3

	baz=351								
ETL	**Fush Village**	**0.15**	**256**	⇑	*i*	P	**Pg**	**15 51 12.2**	**+0.1**
	baz=251								
ETL					*i*	S	**Sg**	**15 51 14.9**	**+0.3**
	baz=251								
NACB	**Ninganchiao**	**0.18**	**262**	⇑	*i*	P	**Pg**	**15 51 12.4**	**-0.1**
	baz=252								
NACB					*i*	S	**Sg**	**15 51 15.4**	**+0.2**
	baz=252								
TWD	**Chiawan**	**0.21**	**236**	⇑	*i*	P	**Pg**	**15 51 13.1**	**0.0**
	baz=237								
TWD					*i*	S	**Sg**	**15 51 16.5**	**+0.4**
	baz=237								
ENA	**Nanau**	**0.23**	**350**	⇓	*i*	P	**Pg**	**15 51 13.5**	**0.0**
	baz=355								
ENA					*i*	S	**Sg**	**15 51 17.1**	**+0.3**
	baz=355								
EWUT	**Wuta**	**0.25**	**358**	⇓	*i*	P	**Pg**	**15 51 13.8**	**+0.1**
	baz=2.0								
EWUT					*i*	S	**Sg**	**15 51 17.5**	**+0.3**
	baz=2.0								
HWA	**Hwalien**	**0.28**	**217**			P	**Pb**	**15 51 15.3**	**-0.2**
	baz=222								
HWA					*e*	S	**Sb**	**15 51 20.9**	**+0.7**
	baz=222								
ETLH	**Xiulin Townshi**	**0.28**	**272**		*e*	P	**Pg**	**15 51 14.3**	**-0.1**
	baz=271								
ETLH						S	**Sg**	**15 51 18.2**	**0.0**
	baz=271								
LATG	**Datong**	**0.41**	**325**	⇓	*i*	P	**Pg**	**15 51 16.8**	**0.0**
	baz=326								
LATG					*i*	S	**Sb**	**15 51 22.9**	**-1.4**
	baz=326								
TWC	**Suao**	**0.41**	**8**	⇓	*i*	P	**Pg**	**15 51 16.9**	**+0.1**
	baz=4.0								
TWC					*e*	S	**Sg**	**15 51 21.6**	**-0.7**
	baz=4.0								
NNSB	**Datong**	**0.43**	**302**	⇓	*i*	P	**Pg**	**15 51 17.4**	**+0.1**
	baz=302								
NNSB					*i*	S	**Sg**	**15 51 23.0**	**0.0**
	baz=302								
NDS	**Dongshan**	**0.44**	**352**		*i*	P	**Pg**	**15 51 17.5**	**+0.2**
	baz=354								
NDS					*i*	S	**Sb**	**15 51 23.8**	**-1.2**
	baz=354								
NNS	**Nan Shan**	**0.45**	**303**	⇓	*i*	P	**Pg**	**15 51 17.5**	**+0.1**
	baz=304								
NNS					*i*	S	**Sg**	**15 51 23.3**	**-0.2**
	baz=304								
WHF	**Hehuan Shan**	**0.48**	**264**	⇑	*i*	P	**Pg**	**15 51 18.1**	**0.0**
	baz=263								
WHF					*i*	S	**Sg**	**15 51 24.6**	**+0.1**
	baz=263								
ENTT	**Nioudou**	**0.48**	**335**	⇓	*i*	P	**Pg**	**15 51 18.3**	**+0.2**
	baz=338								
ENTT					*i*	S	**Sg**	**15 51 24.9**	**+0.3**
	baz=338								
ESL	**Shilin**	**0.50**	**220**		*i*	P	**Pg**	**15 51 18.3**	**-0.1**
	baz=227								
ESL					*e*	S	**Sg**	**15 51 25.3**	**+0.3**
	baz=227								
TWE	**Neicheng**	**0.53**	**348**	⇓	*i*	P	**Pg**	**15 51 19.3**	**+0.2**
	baz=351								
TWE					*i*	S	**Sg**	**15 51 26.4**	**+0.3**
	baz=351								
TWT	**Tachien**	**0.56**	**276**		*e*	P	**Pb**	**15 51 20.2**	**-0.4**
	baz=275								
TWT						S	**Sb**	**15 51 28.3**	**-0.4**
	baz=275								
ILA	**Ilan**	**0.57**	**356**		*e*	P	**Pb**	**15 51 19.9**	**-0.6**
	baz=354								
ILA					*e*	S	**Sb**	**15 51 28.5**	**-0.2**
	baz=354								
CHGB	**Renai**	**0.58**	**256**	⇑	*i*	P	**Pg**	**15 51 20.0**	**+0.1**
	baz=249								
CHGB						S	**Sg**	**15 51 27.6**	**0.0**
	baz=249								
TDCB	**Techi**	**0.58**	**276**		*e*	P	**Pb**	**15 51 20.2**	**-0.7**
	baz=276								
TDCB					*e*	S	**Sg**	**15 51 27.1**	**-0.4**
	baz=276								
FUSB	**Fushanzhiwuyua**	**0.59**	**342**	⇓	*i*	P	**Pb**	**15 51 20.4**	**-0.6**
	baz=343								
FUSB					*i*	S	**Sb**	**15 51 28.4**	**-1.0**
	baz=343								
YHNB	**Yeheng**	**0.60**	**322**			P	**Pb**	**15 51 20.8**	**-0.5**
YHNB	**Yeheng**	**0.60**	**322**	⇓	*i*	P	**Pb**	**15 51 20.7**	**-0.5**
	baz=322								
YHNB						S	**Sg**	**15 51 26.6**	**-1.7**
	baz=322								
OWD	**Renai**	**0.61**	**247**			P	**Pg**	**15 51 20.5**	**+0.1**
	baz=246								
OWD					*e*	S	**Sg**	**15 51 28.4**	**-0.1**
	baz=246								
NSK	**Sanguang**	**0.62**	**321**	⇓	*i*	P	**Pb**	**15 51 20.9**	**-0.6**
	baz=322								
NSK					*e*	S	**Sb**	**15 51 29.1**	**-1.1**
	baz=322								
EGFH	**Guangfu**	**0.62**	**212**			P	**Pg**	**15 51 21.0**	**+0.3**
	baz=218								
EGFH					*e*	S	**Sb**	**15 51 31.2**	**+1.0**
	baz=218								
NWLT	**Wulai**	**0.63**	**336**		*i*	P	**Pb**	**15 51 21.2**	**-0.5**
	baz=344								
NWLT					*i*	S	**Sg**	**15 51 29.4**	**+0.1**
	baz=344								
WUSB	**Renai**	**0.65**	**252**	⇑	*i*	P	**Pg**	**15 51 21.3**	**+0.1**
	baz=244								
WUSB						S	**Sg**	**15 51 29.5**	**-0.2**
	baz=244								
NTC	**Toucheng**	**0.66**	**3**		*i*	P	**Pg**	**15 51 21.2**	**-0.2**
	baz=5.0								
NTC					*e*	S	**Sb**	**15 51 31.0**	**-0.2**
	baz=5.0								
VWDT	**VWDT**	**0.74**	**233**		*e*	P	**Pg**	**15 51 22.7**	**-0.2**
	baz=239								
NFF	**Wufeng Townshi**	**0.75**	**305**		*e*	P	**Pb**	**15 51 23.4**	**-0.3**
	baz=306								
NFF					*e*	S	**Sb**	**15 51 33.1**	**-0.9**
	baz=306								
TIPB	**Shuangxi**	**0.77**	**3**	⇓		P	**Pb**	**15 51 23.7**	**-0.4**
	baz=4.0								
TIPB					*e*	S	**Sg**	**15 51 33.9**	**+0.2**
	baz=4.0								
WHP	**Taichung City**	**0.77**	**276**			P	**Pb**	**15 51 24.0**	**-0.1**
	baz=276								
WHP					*e*	S	**Sb**	**15 51 34.2**	**-0.5**
	baz=276								
HGSD	**Ruisui**	**0.78**	**205**		*e*	P	**Pb**	**15 51 24.1**	**0.0**
	baz=195								
NHDH	**Xindian Distri**	**0.80**	**343**			P	**Pb**	**15 51 24.4**	**-0.1**
	baz=344								
NHDH					*e*	S	**Sb**	**15 51 35.2**	**-0.2**
	baz=344								
TWA	**Mucha**	**0.80**	**347**			P	**Pg**	**15 51 23.9**	**-0.2**
	baz=348								
TWA					*e*	S	**Sb**	**15 51 34.9**	**-0.6**
	baz=348								
EHY	**Hungye**	**0.81**	**212**		*e*	P	**Pg**	**15 51 24.0**	**-0.2**
	baz=224								
WCS	**Beigang Elemen**	**0.81**	**260**			P	**Pb**	**15 51 24.7**	**0.0**
	baz=253								
WCS					*e*	S	**Sb**	**15 51 35.3**	**-0.4**
	baz=253								
TWB1	**Santiao Chiao**	**0.83**	**13**		*e*	P	**Pb**	**15 51 24.8**	**-0.2**
	baz=14								
TWB1					*e*	S	**Sg**	**15 51 35.6**	**+0.2**
	baz=14								
LIOB	**Emei**	**0.83**	**303**		*e*	P	**Pb**	**15 51 25.3**	**+0.2**
	baz=303								
LIOB					*e*	S	**Sb**	**15 51 36.7**	**+0.3**
	baz=303								
NSTT	**Nanjuang**	**0.84**	**301**			P	**Pb**	**15 51 25.0**	**-0.2**
	baz=302								
NSTT					*e*	S	**Sb**	**15 51 36.1**	**-0.3**
	baz=302								
SSLB	**Suanglung**	**0.86**	**242**			P	**Pb**	**15 51 25.4**	**-0.3**
SSLB	**Suanglung**	**0.86**	**242**			P	**Pg**	**15 51 25.0**	**-0.3**
	baz=251								
SSLB					*e*	S	**Sg**	**15 51 35.6**	**-0.9**
	baz=251								
SMLT	**Sun Moon Lake**	**0.87**	**249**			P	**Pb**	**15 51 25.4**	**-0.4**
	baz=249								
SMLT					*e*	S	**Sb**	**15 51 36.9**	**-0.5**
	baz=249								
NWF	**Wu-fen Shan**	**0.87**	**360**		*i*	P	**Pb**	**15 51 25.6**	**-0.2**
	baz=353								
NWF					*e*	S	**Sb**	**15 51 37.5**	**0.0**
	baz=353								
SXI1	**Grass Mountain**	**0.90**	**5**		*e*	P	**Pb**	**15 51 26.1**	**-0.2**
	baz=6.0								
SXI1					*e*	S	**Sg**	**15 51 37.1**	**-0.5**
	baz=6.0								
TYC	**Yuchr**	**0.90**	**251**		*e*	P	**Pn**	**15 51 26.9**	**-0.3**
	baz=244								
TYC					*e*	S	**Sg**	**15 51 36.1**	**-1.6**
	baz=244								
YULB	**Yu-li**	**0.92**	**209**		*e*	P	**Pg**	**15 51 26.2**	**-0.1**
	baz=220								
TWQ1	**Liyutan**	**0.94**	**279**		*e*	P	**Pn**	**15 51 27.7**	**0.0**
	baz=280								
TWQ1					*e*	S	**Sb**	**15 51 39.1**	**-0.2**
	baz=280								
SBCB	**Hsinchu**	**0.94**	**309**		*e*	P	**Pn**	**15 51 27.6**	**-0.2**
	baz=310								
SBCB					*e*	S	**Sn**	**15 51 41.4**	**+0.2**
	baz=310								
NCUH	**Zhongli**	**0.94**	**325**		*e*	P	**Pn**	**15 51 28.0**	**+0.2**
	baz=325								
NCUH					*e*	S	**Sn**	**15 51 42.5**	**+1.2**
	baz=325								
NCU	**National Centr**	**0.94**	**325**			P	**Pn**	**15 51 27.9**	**+0.1**
	baz=326								
NCU						S	**Sn**	**15 51 42.4**	**+1.1**
	baz=326								
EYUL	**Yuli**	**0.95**	**207**		*e*	P	**Pb**	**15 51 27.2**	**+0.1**
	baz=223								
HSN	**Hsinchu**	**0.96**	**309**		*e*	P	**Pn**	**15 51 27.8**	**-0.2**
	baz=303								
HSN					*e*	S	**Sn**	**15 51 41.9**	**+0.3**
	baz=303								
TWS1	**Kuangyinshan**	**0.96**	**340**			P	**Pn**	**15 51 27.7**	**-0.4**
	baz=341								
TWS1						S	**Sn**	**15 51 41.6**	**-0.1**
	baz=341								
NSY	**Sanyi**	**0.96**	**283**		*e*	P	**Pn**	**15 51 28.2**	**+0.1**
	baz=284								
YM01	**YM01**	**0.96**	**348**		*e*	P	**Pn**	**15 51 27.6**	**-0.5**
	baz=349								
YM01					*e*	S	**Sb**	**15 51 40.2**	**0.0**
	baz=349								
NMLH	**Miaoli**	**0.97**	**291**		*e*	P	**Pn**	**15 51 28.9**	**+0.7**
	baz=291								
NTST	**Danshui**	**1.01**	**342**		*e*	P	**Pn**	**15 51 29.0**	**+0.2**
	baz=351								
NTST					*e*	S	**Sn**	**15 51 43.7**	**+0.8**
	baz=351								
ANP	**Anpu**	**1.01**	**346**			P	**Pb**	**15 51 28.1**	**-0.1**
	baz=347								
TCU	**Taichung**	**1.02**	**267**			P	**Pn**	**15 51 30.0**	**+1.2**
	baz=268								
TCU					*e*	S	**Sn**	**15 51 43.5**	**+0.4**
	baz=268								
WJS	**Zhushan**	**1.04**	**249**		*e*	P	**Pn**	**15 51 30.0**	**+0.9**
	baz=245								
WJS					*e*	S	**Sn**	**15 51 43.5**	**-0.1**
	baz=245								
YUS	**Yu-Shan**	**1.04**	**228**			P	**Pb**	**15 51 28.7**	**-0.2**
	baz=228								
YUS					*e*	S	**Sn**	**15 51 43.4**	**-1.0**
	baz=228								
WDJ	**Dajia District**	**1.06**	**278**		*e*	P	**Pn**	**15 51 30.2**	**+0.9**
	baz=279								
WNT	**Mingjian**	**1.06**	**253**		*e*	P	**Pn**	**15 51 30.1**	**+0.7**
	baz=248								
WNT					*e*	S	**Sn**	**15 51 44.9**	**+0.8**
	baz=248								
JYNG	**Yonagunijimaku**	**1.09**	**76**			P	**Pn**	**15 51 29.9**	**+0.1**
JYNG					*e*	S	**Sn**	**15 51 44.8**	**0.0**
TWY	**Chenhua**	**1.09**	**351**		*e*	P	**Pn**	**15 51 30.6**	**+0.8**
	baz=352								
FULB	**Fuli**	**1.09**	**205**		*e*	P	**Pb**	**15 51 29.4**	**-0.2**
	baz=194								
WCHH	**Zhanghua**	**1.13**	**264**		*e*	P	**Pn**	**15 51 31.0**	**+0.7**
	baz=265								
WCHH					*e*	S	**Sn**	**15 51 47.0**	**+1.1**
	baz=265								
ALS	**Alishan**	**1.13**	**233**		*e*	P	**Pn**	**15 51 30.5**	**-0.1**
	baz=242								
YOJ	**Yonaguni jima**	**1.15**	**76**			P	**Pb**	**15 51 30.4**	**-0.1**
YOJ					*e*	S	**Sn**	**15 51 47.0**	**+0.7**
YOJ	**Yonaguni jima**	**1.15**	**76**			P	**Pg**	**15 51 30.9**	**+0.2**
YOJ	**Yonaguni jima**	**1.15**	**76**			P	**Pb**	**15 51 30.5**	**+0.1**
	baz=64								
CHKT	**Chengkung**	**1.16**	**200**		*e*	P	**Pb**	**15 51 29.9**	**-0.8**
	baz=185								
ELDTW	**Lidau**	**1.23**	**215**		*e*	P	**Pn**	**15 51 30.4**	**-1.4**
	baz=216								
WDLH	**Douliu**	**1.25**	**246**		*e*	P	**Pg**	**15 51 33.3**	**+0.7**
	baz=248								
WDLH					*e*	S	**Sg**	**15 51 50.9**	**+2.0**
	baz=248								
EDH	**Donghe**	**1.30**	**200**		*e*	P	**Pn**	**15 51 31.0**	**-1.7**
	baz=188								
WRL	**Guolierlin Hig**	**1.32**	**257**		*e*	P	**Pg**	**15 51 34.0**	**-0.1**
	baz=259								
CHN2	**Minshiung**	**1.37**	**241**		*e*	P	**Pg**	**15 51 36.8**	**+1.8**
	baz=243								
WTK	**Tuku**	**1.38**	**249**		*e*	P	**Pg**	**15 51 34.9**	**-0.2**
	baz=251								
WTK					*e*	S	**Sg**	**15 51 54.1**	**+1.2**
	baz=251								
STYH	**Taoyuan**	**1.38**	**222**		*e*	P	**Pb**	**15 51 34.3**	**-0.1**
	baz=224								
STYH					*e*	S	**Sg**	**15 51 53.6**	**+0.6**
	baz=224								
CHN4	**Tsaushan**	**1.38**	**233**		*e*	P	**Pg**	**15 51 35.5**	**+0.3**
	baz=234								
CHN4					*e*	S	**Sg**	**15 51 55.9**	**+2.8**
	baz=234								
TPUB	**Ta-pu**	**1.39**	**230**			P	**Pg**	**15 51 36.0**	**+0.8**
TPUB	**Ta-pu**	**1.39**	**230**		*e*	P	**Pg**	**15 51 35.1**	**-0.1**
	baz=221								
TPUB					*e*	S	**Sg**	**15 51 53.6**	**+0.3**
	baz=221								
CHY	**Chiayi**	**1.43**	**241**		*e*	P	**Pg**	**15 51 35.9**	**-0.2**
	baz=243								
WTP	**Ta-pu**	**1.43**	**229**		*e*	P	**Pg**	**15 51 36.2**	**+0.1**
	baz=231								
WTP					*e*	S	**Sg**	**15 51 55.9**	**+1.2**
	baz=231								
TWK	**Hsinying**	**1.51**	**232**		*e*	P	**Pg**	**15 51 37.3**	**-0.3**
	baz=234								
TWK					*e*	S	**Sg**	**15 51 57.1**	**-0.1**
	baz=234								
TWG	**Pinlang**	**1.52**	**206**		*e*	P	**Pb**	**15 51 36.5**	**-0.3**
	baz=191								
SNST	**Tainan City**	**1.53**	**231**		*e*	P	**Pb**	**15 51 37.3**	**+0.3**
	baz=233								
WSF	**Szhu**	**1.54**	**249**		*e*	P	**Pb**	**15 51 37.1**	**0.0**
	baz=251								
WSL	**Shuilin Townsh**	**1.58**	**245**		*e*	P	**Pb**	**15 51 37.3**	**-0.5**
	baz=247								
ICHU	**Yijhu**	**1.61**	**239**		*e*	P	**Pg**	**15 51 38.8**	**-0.8**
	baz=242								
CHN8	**Yiju**	**1.67**	**240**		*e*	P	**Pb**	**15 51 39.6**	**+0.2**
	baz=242								
CHN3	**Shinhua**	**1.72**	**230**		*e*	P	**Pb**	**15 51 40.3**	**+0.2**
	baz=232								
SCST	**Cishan**	**1.76**	**223**		*e*	P	**Pb**	**15 51 41.0**	**0.0**
	baz=225								
SHHT	**Tainan City**	**1.76**	**229**		*e*	P	**Pg**	**15 51 42.8**	**+0.3**
	baz=231								
IRIF	**Iriomote-Funau**	**1.78**	**85**			P	**Pn**	**15 51 39.3**	**0.0**
SSD	**Sandimen**	**1.79**	**217**		*e*	P	**Pb**	**15 51 40.7**	**-0.8**
	baz=231								
TSMG	**Majia**	**1.82**	**215**		*e*	P	**Pb**	**15 51 41.1**	**-0.8**
	baz=208								
HATJ	**Hateruma jima**	**1.85**	**94**		*e*	S	**Sb**	**15 52 05.1**	**-0.5**
TWM1	**Shoushan**	**1.85**	**223**		*e*	P	**Pg**	**15 51 43.4**	**-0.8**
	baz=223								
MASBT	**Mashibuluo**	**1.90**	**214**		*e*	P	**Pb**	**15 51 42.8**	**-0.5**
	baz=216								
MASBT					*e*	S	**Sg**	**15 52 08.3**	**-1.4**
	baz=216								
EAST	**Anshuo**	**2.00**	**206**		*e*	P	**Pn**	**15 51 43.0**	**+0.6**
	baz=195								
TAWH	**Dawu Township**	**2.02**	**204**		*e*	P	**Pn**	**15 51 43.5**	**+0.8**
	baz=194								
JKRS	**Kuro-shima**	**2.03**	**88**			P	**Pn**	**15 51 42.8**	**+0.1**
SSPT	**Xinbi**	**2.04**	**214**		*e*	P	**Pb**	**15 51 45.4**	**-0.3**
	baz=206								
PNG	**Penghu**	**2.14**	**253**		*e*	P	**Pn**	**15 51 44.8**	**+0.6**
	baz=256								
PHUB	**P'eng-hu**	**2.14**	**252**		*e*	P	**Pn**	**15 51 45.3**	**+1.1**
	baz=256								
PHUB					*e*	S	**Sb**	**15 52 12.5**	**-1.4**
	baz=256								
JIJ	**Ishigaki jima**	**2.16**	**85**			P	**Pn**	**15 51 44.7**	**+0.2**
JIJ					*e*	S	**Sn**	**15 52 11.5**	**+0.3**
WDGT	**Dungji**	**2.16**	**245**		*e*	P	**Pn**	**15 51 45.4**	**+0.9**
	baz=248								
SLIU	**Shizi**	**2.17**	**205**		*e*	P	**Pb**	**15 51 47.4**	**-0.6**
	baz=196								
LYUB	**Lan-yu**	**2.19**	**185**		*e*	P	**Pn**	**15 51 41.9**	**-3.1**
	baz=187								
VWUC	**VWUC**	**2.27**	**291**		*e*	P	**Pn**	**15 51 45.7**	**-0.4**
	baz=280								
JISG	**Ishigakijimahi**	**2.33**	**80**			P	**Pn**	**15 51 47.3**	**+0.4**
JISG					*e*	S	**Sn**	**15 52 16.7**	**+1.1**
JMJ	**Miyako jima 2**	**3.25**	**78**			P	**Pn**	**15 52 01.4**	**+1.8**
ZPLA	**Ao Xicun**	**3.70**	**267**		*e*	P	**Pn**	**15 52 05.7**	**0.0**
	baz=268								
JOW	**Kunigami**	**6.42**	**65**			P	**Pn**	**15 52 42.9**	**-0.3**

JMA ***29*** *15:53:00.7±0.3, 31.79N×142.30E, h0km, M3.9*
IDC ***29*** *15:53:04.6±3.9, 31.02N×140.80E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/32, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=146.2km s-min=27.3km az=73.0*
ISC 29 15:53:02.0±2.7, 31.7N±0.1×142.4E±0.2, h10km, n12, σ1§30/16, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHJ2	**Mitsune**	**2.59**	**303**	P		**Pn**	**15 53 43.4**	**-0.5**
JHJ2				*e*S		**Sn**	**15 54 14.6**	**-0.9**
BSO1	**Boso 1**	**3.16**	**338**	P		**Pn**	**15 53 51.5**	**+0.3**
BSO3	**Boso 3**	**3.46**	**333**	P		**Pn**	**15 53 56.4**	**+0.8**
BSO3				*e*S		**Sn**	**15 54 37.3**	**+0.8**
JYT	**Yasato**	**4.85**	**338**	*e*S		**Sn**	**15 55 11.9**	**+0.6**
JHU	**Hanno**	**4.87**	**329**	P		**Pn**	**15 54 16.2**	**+0.9**
JHU				*e*S		**Sn**	**15 55 11.4**	**-0.3**
JHO	**Hitachi**	**5.11**	**343**	P		**Pn**	**15 54 19.2**	**+0.7**
JHO				*e*S		**Sn**	**15 55 16.0**	**-1.6**
JAG	**Ashikaga**	**5.29**	**333**	P		**Pn**	**15 54 21.7**	**+0.6**
JAG				*e*S		**Sn**	**15 55 23.1**	**+1.0**
JFK	**Kawauchi**	**5.77**	**348**	*e*S		**Sn**	**15 55 30.6**	**-3.3**
MJAR	**Matsushiro Arr**	**5.93**	**325**	Pn		**Pn**	**15 54 31.5**	**+1.6**
	0.1nm,0.3s,baz=164,slow=12,SNR=7.7							
MKAR	**Makanchi Array**	**47.78**	**306**	P		**P**	**16 01 39.0**	**-0.4**
	0.4nm,0.7s,baz=90,slow=11,SNR=4.2							
KURBB	**Kurchatov Arra**	**50.03**	**312**	P		**P**	**16 01 56.6**	**+0.1**
	0.6nm,0.7s,baz=88,slow=7.0,SNR=7.5							
WRA	**Warramunga Arr**	**51.95**	**190**	P		P	16 02 08.2	-3.0
	0.4nm,0.6s,baz=4.0,slow=7.5,SNR=7.9							

FUNV ***29*** *15:55:42.1, 8.34N×71.91W, h5km, MW3.3*
ISC 29 15:55:41.7±1.4, 8.35N±0.06×71.88W±0.04, h17km±10km, n14, σ1§75/25, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CAPV	**Capacho**	**0.65**	**222**	*e*P		**Pg**	**15 55 54.0**	**-0.6**
CAPV				*e*S		**Sg**	**15 56 03.5**	**+0.2**
SOCV	**Socops**	**1.01**	**94**	*e*P		**Pb**	**15 56 01.0**	**+0.2**
SOCV				*e*S		**Sb**	**15 56 14.7**	**+0.7**
SOCV	**Socops**	**1.01**	**94**	*e*P		**Pb**	**15 56 01.1**	**+0.2**
SOCV				*e*S		**Sg**	**15 56 15.5**	**+0.8**
PAMC	**Pamplona, Colo**	**1.29**	**219**	*e*P		**Pn**	**15 56 05.7**	**+0.1**
PAMC				*e*S		**Sb**	**15 56 23.1**	**+0.6**
SDV	**Santo Domingo**	**1.34**	**67**	*e*P		**Pn**	**15 56 05.7**	**-0.3**
SDV				*e*S		**Sn**	**15 56 23.1**	**-0.4**
OCAC	**Ocana**	**1.43**	**266**	*e*P		**Pn**	**15 56 06.1**	**-1.1**
OCAC				*e*S		**Sn**	**15 56 23.6**	**-2.1**
BARC	**Barichara**	**2.17**	**217**	*e*P		**Pb**	**15 56 21.4**	**+0.5**
BARC				*e*S		**Sb**	**15 56 50.1**	**+2.4**
CURV	**Curarigua**	**2.51**	**49**	*e*S		**Sn**	**15 56 53.9**	**+1.7**
SANV	**Sanarito**	**2.58**	**64**	*e*P		**Pn**	**15 56 24.5**	**+1.6**
SANV				*e*S		**Sn**	**15 56 55.8**	**+1.8**
ELOV	**Elorza**	**2.73**	**119**	*e*S		**Sn**	**15 56 58.4**	**+1.0**
DABV	**Dabajuro**	**2.83**	**25**	*e*P		**Pn**	**15 56 27.0**	**+0.7**
DABV				*e*S		**Sn**	**15 57 00.8**	**+0.7**
BAUV	**El Baul**	**3.84**	**81**	*e*P		**Pn**	**15 56 40.8**	**+0.7**
BAUV				*e*S		**Sn**	**15 57 24.6**	**-0.3**
BENV	**Beln**	**4.52**	**69**	*e*P		**Pn**	**15 56 49.9**	**+0.4**
BENV				*e*S		**Sn**	**15 57 40.2**	**-1.6**
CACV	**CAICARA DEL OR**	**5.34**	**98**	*e*P		Pn	15 57 08.4	+7.5
CACV				*e*S		**Sb**	**15 58 12.7**	**-6.0**

JMA ***29*** *15:55:43.2±0.1, 24.01N×121.61E, h21km±1km, M3.1*
TAP ***29*** *15:55:45.0, 24.21N×121.77E, h10km, ML3.6, C*
ISC 29 15:55:44.7±0.8, 24.17N±0.02×121.74E±0.02, h15km±5km, n108, σ1§32/161, 17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ETL	**Fush Village**	**0.11**	**262**	*i* P		**Pg**	**15 55 48.5**	**+0.5**
	baz=249							
ETL				*i* S		**Sg**	**15 55 51.2**	**+0.9**
	baz=249							
NACB	**Ninganchiao**	**0.13**	**270**	⇓	*i* P	**Pb**	**15 55 48.8**	**-0.1**
	baz=250							
NACB				*i* S		**Sb**	**15 55 51.6**	**-0.1**
	baz=250							
EHP	**Heping Village**	**0.14**	**1**		P	**Pg**	**15 55 47.7**	**-0.7**
	baz=349							
EHP				*e*S		**Sg**	**15 55 50.5**	**-0.4**
	baz=349							
TWD	**Chiawan**	**0.16**	**234**	⇓	*i* P	**Pg**	**15 55 49.4**	**+0.7**
	baz=236							
TWD				*i* S		**Sg**	**15 55 53.0**	**+1.6**
	baz=236							
HWA	**Hwalien**	**0.23**	**212**	*e*P		**Pb**	**15 55 51.6**	**+1.0**
	baz=222							
ETLH	**Xiulin Townshi**	**0.24**	**278**	⇓	*i* P	**Pb**	**15 55 50.6**	**-0.1**
	baz=270							
ETLH					S	**Sb**	**15 55 54.4**	**-0.5**
	baz=270							
ENA	**Nanau**	**0

TWE	**Neicheng**	0.55	353	⇓*i*P	Pg	15 55 55.6	+0.1	
	baz=351							
TWE				S	Sg	15 56 01.7	-1.2	
	baz=351							
OWD	**Renai**	0.56	247	P	Pn	15 55 57.1	-1.2	
	baz=246							
OWD				S	Sn	15 56 04.9	-2.5	
	baz=246							
EGFH	**Guangfu**	0.58	210	*e*P	Pn	15 55 57.6	-0.7	
	baz=218							
EGFH				*e*S	Sn	15 56 07.9	+0.3	
	baz=218							
ILA	**Ilan**	0.59	1	*e*P	Pg	15 55 56.5	+0.2	
	baz=353							
ILA				*e*S	Sg	15 56 03.3	-0.8	
	baz=353							
YHNB	**Yeheng**	0.59	326	⇓*i*P	Pb	15 55 57.0	+0.2	
	baz=322							
YHNB				S	Sg	15 56 04.7	+0.4	
	baz=322							
WUSB	**Renai**	0.60	252	⇓*i*P	Pn	15 55 57.6	-1.1	
	baz=244							
WUSB				*e*S	Sn	15 56 06.2	-2.0	
	baz=244							
FUSB	**Fushanzhiwuyua**	0.60	347	⇓*i*P	Pg	15 55 56.7	+0.2	
	baz=343							
FUSB				S	Sg	15 56 03.1	-1.3	
	baz=343							
NSK	**Sanguang**	0.61	325	⇓*i*P	Pb	15 55 57.2	+0.1	
	baz=322							
NSK				*e*S	Sg	15 56 05.1	+0.3	
	baz=322							
NWLT	**Wulai**	0.64	340	P	Pg	15 55 57.0	-0.2	
	baz=337							
NWLT				*e*S	Sg	15 56 05.7	0.0	
	baz=337							
NTC	**Toucheng**	0.68	7	*e*P	Pg	15 55 57.8	-0.2	
	baz=5.0							
NTC				*e*S	Sg	15 56 06.0	-1.1	
	baz=5.0							
VWDT	**VWDT**	0.69	233	*e*P	Pn	15 55 59.3	-0.6	
	baz=233							
VWDT				S	Sn	15 56 09.5	-0.7	
	baz=233							
NFF	**Wufeng Townshi**	0.73	309	P	Pn	15 55 59.8	-0.7	
	baz=306							
NFF				*e*S	Sn	15 56 09.8	-1.6	
	baz=306							
WHP	**Taichung City**	0.73	278	P	Pn	15 56 00.4	-0.2	
	baz=276							
WHP				*e*S	Sn	15 56 10.9	-0.6	
	baz=276							
HGSD	**Ruisui**	0.74	203	*e*P	Pn	15 56 00.7	+0.2	
	baz=195							
WCS	**Beigang Elemen**	0.77	261	*e*P	Pn	15 56 00.8	-0.1	
	baz=260							
WCS				*e*S	Sn	15 56 11.8	-0.4	
	baz=260							
EHY	**Hungye**	0.77	210	*e*P	Pn	15 56 00.4	-0.5	
	baz=224							
TIPB	**Shuangxi**	0.80	6	P	Pb	15 56 00.1	-0.2	
	baz=4.0							
TIPB				*e*S	Sb	15 56 09.6	-1.4	
	baz=4.0							
LIOB	**Emei**	0.81	306	P	Pn	15 56 01.8	+0.2	
	baz=303							
NHDH	**Xindian Distri**	0.81	346	*e*P	Pg	15 56 00.9	+0.5	
	baz=344							
NSTT	**Nanjuang**	0.81	304	P	Pn	15 56 01.7	+0.1	
	baz=302							
NSTT				*e*S	Sn	15 56 12.0	-1.4	
	baz=302							
SSLB	**Suanglung**	0.81	242	P	Pn	15 56 01.3	-0.4	
	baz=251							
SSLB				*e*S	Sn	15 56 12.0	-1.5	
	baz=251							
TWA	**Mucha**	0.81	350	*e*P	Pb	15 56 00.7	+0.1	
	baz=338							
SMLT	**Sun Moon Lake**	0.82	249	*e*P	Pn	15 56 01.7	-0.1	
	baz=249							
TYC	**Yuchr**	0.85	252	*e*P	Pn	15 56 03.0	+1.0	
	baz=251							
TWB1	**Santiao Chiao**	0.86	15	P	Pb	15 56 00.7	-0.6	
	baz=7.0							
YULB	**Yu-li**	0.88	208	*e*P	Pn	15 56 02.7	+0.2	
	baz=220							
TAP	**Taipei**	0.89	346	*e*P	Pn	15 56 02.8	+0.2	
	baz=336							
NWF	**Wu-fen Shan**	0.89	2	*i*P	Pb	15 56 02.3	+0.3	
	baz=353							
NWF				S	Sb	15 56 12.3	-1.5	
	baz=353							
TWQ1	**Liyutan**	0.90	281	*e*P	Pn	15 56 04.7	+1.9	
	baz=279							
TWQ1				*e*S	Sn	15 56 16.3	+0.8	
	baz=279							
EYUL	**Yuli**	0.91	205	*e*P	Pn	15 56 04.3	+1.4	
	baz=223							
SBCB	**Hsinchu**	0.92	312	*e*P	Pn	15 56 03.9	+0.7	
	baz=310							
NSY	**Sanyi**	0.92	285	*e*P	Pn	15 56 04.6	+1.4	
	baz=284							
SXI1	**Grass Mountain**	0.93	8	P	Pb	15 56 02.5	0.0	
	baz=13							
SXI1				*e*S	Sb	15 56 13.7	-0.9	
	baz=13							
NMLH	**Miaoli**	0.94	293	*e*P	Pn	15 56 05.5	+2.2	
	baz=291							
NCUH	**Zhongli**	0.94	328	*e*P	Pn	15 56 04.4	+1.1	
	baz=325							
NCUH				*e*S	Sn	15 56 18.6	+2.1	
	baz=325							
NCU	**National Centr**	0.94	328	*e*P	Pn	15 56 04.4	+1.1	
	baz=321							
TWS1	**Kuangyinshan**	0.97	342	*e*P	Pg	15 56 04.4	+1.0	
	baz=340							
TWS1				*e*S	Sg	15 56 17.4	+1.2	
	baz=340							
TCU	**Taichung**	0.97	269	*e*P	Pn	15 56 05.9	+2.1	
	baz=267							
TCU				*e*S	Sn	15 56 21.0	+3.7	
	baz=267							
YM01	**YM01**	0.98	351	P	Pg	15 56 04.2	+0.6	
	baz=349							
WJS	**Zhushan**	0.99	249	*e*P	Pn	15 56 05.7	+1.6	
	baz=243							
WJS				*e*S	Sn	15 56 19.4	+1.6	
	baz=243							
YUS	**Yu-Shan**	0.99	227	*e*P	Pn	15 56 05.2	+0.7	
	baz=227							
YUS				*e*S	Sn	15 56 20.3	+1.8	
	baz=227							
WNT	**Mingjian**	1.01	253	*e*P	Pn	15 56 06.4	+2.1	
	baz=245							
WDJ	**Dajia District**	1.02	280	*e*P	Pn	15 56 06.2	+1.8	
	baz=279							
NTST	**Danshui**	1.02	345	*e*P	Pg	15 56 05.1	+0.7	
	baz=351							
NTST				*e*S	Sn	15 56 20.2	+1.6	
	baz=351							
ANP	**Anpu**	1.03	349	*e*P	Pb	15 56 04.4	+0.2	
	baz=347							
FULB	**Fuli**	1.05	203	*e*P	Pn	15 56 05.8	+0.9	
	baz=205							
ALS	**Alishan**	1.08	233	*e*P	Pn	15 56 06.7	+1.2	
	baz=234							
WCHH	**Zhanghua**	1.08	265	*e*P	Pg	15 56 07.1	+1.5	
	baz=265							
TWY	**Chenhua**	1.10	353	*e*P	Pg	15 56 07.2	+1.2	
	baz=352							
CHKT	**Chengkung**	1.12	198	*e*P	Pg	15 56 07.0	+0.6	
	baz=190							
JYNG	**Yonagunijimaku**	1.14	76	P	Pn	15 56 06.2	+0.2	
JYNG				*e*S	Sg	15 56 23.3	+1.9	
ELDTW	**Lidau**	1.18	214	*e*P	Pg	15 56 07.2	-0.4	
	baz=216							
YOJ	**Yonaguni jima**	1.20	76	P	Pn	15 56 07.2	+0.3	
YOJ				*e*S	Sg	15 56 24.6	+1.3	
YOJ	**Yonaguni jima**	1.20	76	P	Pn	15 56 07.0	+0.1	
	baz=65							
WDLH	**Douliu**	1.20	247	*e*P	Pg	15 56 09.6	+1.8	
	baz=248							
EDH	**Donghe**	1.26	199	*e*P	Pg	15 56 08.0	-1.0	
	baz=201							
WRL	**Guolierlin Hig**	1.27	258	*e*P	Pg	15 56 10.4	+1.2	
	baz=259							
CHN2	**Minshiung**	1.32	241	*e*P	Pg	15 56 12.9	+2.8	
	baz=244							
WTK	**Tuku**	1.33	249	*e*P	Pg	15 56 11.7	+1.5	
	baz=236							
CHN4	**Tsaushan**	1.33	232	*e*P	Pg	15 56 11.9	+1.6	
	baz=234							
CHN4				*e*S	Sg	15 56 31.6	+3.9	
	baz=234							
STYH	**Taoyuan**	1.33	222	*e*P	Pg	15 56 10.6	+0.3	
	baz=224							
STYH				*e*S	Sg	15 56 31.4	+3.7	
	baz=224							
TPUB	**Ta-pu**	1.34	230	P	Pg	15 56 11.2	+0.8	
	baz=232							
CHY	**Chiayi**	1.38	241	*e*P	Pg	15 56 12.9	+1.7	
	baz=243							
WTP	**Ta-pu**	1.38	228	*e*P	Pg	15 56 12.2	+0.9	
	baz=231							
TWK	**Hsinying**	1.46	232	*e*P	Pg	15 56 13.5	+0.8	
	baz=235							
TWG	**Pinlang**	1.48	205	*e*P	Pg	15 56 10.6	-2.5	
	baz=190							
TWGBT	**Beinan**	1.48	204	*e*P	Pb	15 56 10.5	-1.4	
	baz=190							
CHN1	**Nanshi**	1.48	229	*e*P	Pg	15 56 14.8	+1.6	
	baz=232							
SGST	**Jiashian**	1.52	225	*e*P	Pg	15 56 13.4	-0.5	
	baz=227							
WSL	**Shuilin Townsh**	1.53	245	*e*P	Pg	15 56 14.4	+0.3	
	baz=247							
ICHU	**Yijhu**	1.56	239	*e*P	Pg	15 56 15.6	+0.8	
	baz=242							
SHHT	**Tainan City**	1.72	228	*e*P	Pg	15 56 19.1	+1.4	
	baz=232							
SCST	**Cishan**	1.72	222	*e*P	Pg	15 56 17.3	-0.4	
	baz=225							
ECL	**Taimali**	1.73	205	*e*P	Pb	15 56 14.4	-1.7	
	baz=194							
SSD	**Sandimen**	1.75	216	*e*P	Pg	15 56 17.3	-1.0	
	baz=232							
SSD				*e*S	Sg	15 56 40.4	-0.5	
	baz=232							
TSMG	**Majia**	1.77	215	*e*P	Pg	15 56 17.4	-1.3	
	baz=231							
IRIF	**Iriomote-Funau**	1.82	85	P	Pn	15 56 15.7	+0.2	
IRIF				*e*S	Sn	15 56 39.4	+1.0	
MASBT	**Mashibuluo**	1.86	213	*e*P	Pg	15 56 18.7	-1.7	
	baz=217							
EAST	**Anshuo**	1.96	205	*e*P	Pb	15 56 18.4	-1.7	
	baz=196							
TAWH	**Dawu Township**	1.99	203	*e*P	Pg	15 56 20.2	-2.6	
	baz=194							
SSPT	**Xinbi**	2.00	213	*e*P	Pg	15 56 22.3	-0.7	
	baz=207							
JKRS	**Kuro-shima**	2.07	88	P	Pn	15 56 20.1	+1.2	
JKRS				*e*S	Sn	15 56 46.6	+2.1	
PNG	**Penghu**	2.09	254	*e*P	Pg	15 56 22.5	-2.3	
	baz=257							
PHUB	**P'eng-hu**	2.09	252	*e*P	Pg	15 56 21.9	-2.8	
	baz=255							
WDGT	**Dungji**	2.11	245	*e*P	Pb	15 56 22.1	-0.5	
	baz=249							
SLIU	**Shizi**	2.13	204	*e*P	Pg	15 56 23.2	-2.4	
	baz=195							
JIJ	**Ishigaki jima**	2.20	85	P	Pn	15 56 21.0	+0.3	
JIJ				S	Sn	15 56 48.2	+0.5	
JISG	**Ishigakijimahi**	2.38	80	P	Pn	15 56 23.8	+0.6	
JISG				*e*S	Sn	15 56 53.5	+1.4	
JTJ	**Tarama**	2.74	80	P	Pn	15 56 28.6	+0.5	
JTJ				*e*S	Sn	15 57 02.6	+1.6	

*ASRS **29** 16:17:57.3±0.2,52°N±1°×9°1E±°, h5km, MLh3.8/14, Error ellipse: s-maj=2.5km s-min=2.1km az=147.8, confirmed*
*NNC **29** 16:18:12.9±3.0,52.41N×89.92E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=25.3km s-min=19.0km az=83.0, Suspected Mining explosion.*

ISC 29 16:17:58.9±0.7, 52.21N±0.03×91.10E±0.02, h0km, n28, σ1°54/60, 8C-12D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJO	**Djoy, Khakassi**	0.58	7	⇑Pg	Pg	16 18 09.8	-0.1
DJO				Sg	Sg	16 18 17.8	+0.3
DJOS	**Djoyskaya Sosn**	0.62	17	⇑Pg	Pg	16 18 11.2	+0.5
DJOS				Sg	Sg	16 18 19.3	+0.7
CERR	**Cheremushki**	0.68	17	⇑Pg	Pg	16 18 12.3	+0.5
CERR				Sg	Sg	16 18 21.1	+0.5
ABNR	**Abakan**	1.53	8	Pg	Pn	16 18 27.0	-0.5
ABNR				Sg	Sg	16 18 47.7	-0.4
LUZB	**Luzhba, Kemero**	1.97	318	Pg	Pn	16 18 34.6	+1.0
LUZB				Sg	Sg	16 19 02.4	+0.3
TASR	**Tashtagol**	2.04	287	Pn	Pb	16 18 36.4	-0.4
TASR				Pg	Pg	16 18 40.0	+2.0
TASR				Sg	Sg	16 19 05.5	+1.1
KZLR	**Kyzyl**	2.14	102	Pg	Pn	16 18 37.2	+1.4
KZLR				Sg	Sn	16 19 03.9	+0.8
ARTR	**Artybash**	2.40	262	Pn	Pn	16 18 41.6	+2.3
ARTR				Pg	Pb	16 18 42.3	-0.5
ARTR				Sg	Sg	16 19 15.7	-0.1
CUR	**Chagan-Uzun**	2.73	220	⇓Pn	Pn	16 18 45.3	+1.3
CUR				Pg	Pb	16 18 48.4	-0.2
AKAR	**Aktash**	2.89	231	⇓Pn	Pn	16 18 47.7	+1.5
AKAR				Pg	Pb	16 18 50.9	-0.4
AKAR				Sg	Sg	16 19 32.0	+0.4
CHBI	**Chibit, Altay**	2.95	231	⇓Pn	Pn	16 18 49.6	+2.6
CHBI				Pg	Pb	16 18 53.2	+0.9
ELT	**Eltsovka**	3.14	292	Pn	Pn	16 18 51.4	+1.9
ELT				Pg	Pg	16 18 57.9	-1.1
GALT	**Gorno-Altaysk,**	3.19	268	Pg	Pb	16 18 55.9	-0.4
GALT				Sg	Sb	16 19 37.2	+1.5
ERNS	**Erzin**	3.21	126	Pn	Pn	16 18 52.3	+1.7
ERNS				Pg	Pb	16 18 54.7	-2.0
ERNS				Sg	Sb	16 19 35.3	-1.1
MINR	**Mina**	3.27	33	Pn	Pn	16 18 51.7	+0.3
MINR				Pg	Pg	16 19 01.0	-0.5
MINR				Sg	Sg	16 19 42.4	-1.5
BRCR	**Berchikul'**	3.81	336	⇓Pn	Pn	16 19 00.9	+2.1
BRCR				Pg	Pb	16 19 07.9	+1.0
SALR	**Pechorkino, Sa**	3.92	307	Pn	Pn	16 19 00.6	+0.4
SALR				Pg	Pg	16 19 12.7	-1.2
SALR				Sg	Sg	16 20 02.8	-1.9
UKR	**Ust'-Kan**	4.15	255	Pn	Pn	16 19 00.9	-2.5
UKR				Pg	Pb	16 19 13.6	+0.9
ZAA0	**Zalesovo Array**	4.17	297	⇑Pn	Pn	16 19 07.2	+3.5
	0.7nm,0.5s						
ZAA0				⇓Pg	Pg	16 19 16.7	-2.0
	0.8nm,0.4s						
ZAA0				⇓Lg	Lg	16 20 04.2	
	11nm,0.9s						
KNGR	**Kungurtug, Tuv**	4.33	109	Pn	Pn	16 19 06.7	+0.7
KNGR				Pg	Pb	16 19 16.9	+1.1
KNGR				Sg	Sg	16 20 16.8	-1.0
GZLN	**Zheleznogorsk**	4.46	19	Pn	Pn	16 19 05.8	-1.9
GZLN				Pg	Pb	16 19 19.7	+1.6
GZLN				Sg	Sg	16 20 23.0	+0.9
NVSII	**Novosibirsk**	5.38	302	Pg	Pb	16 19 35.0	+1.4
NVSII				Sg	Sg	16 20 49.1	-2.4
NVS	**Novosibirsk**	5.38	302	Pg	Pb	16 19 33.3	-0.4
NVS				Sg	Sg	16 20 49.3	-2.3
BSTK	**Bystrovka, Nov**	5.58	298	Pg	Pg	16 19 44.1	-1.5
BSTK				Sg	Sg	16 20 57.6	-0.3
MK31	**Makanchi Array**	7.88	230	⇓Pn	Pn	16 20 05.9	+11
	2.0nm,0.5s,baz=50,slow=14,SNR=10						
MK31				⇓Lg	Lg	16 22 12.0	
	3.0nm,0.6s,baz=53,slow=28,SNR=5.2						
KURK	**Kurchatov**	7.94	264	⇓Pn	Pn	16 19 59.1	+3.8
	3.9nm,1.0s						
KURK				⇓Sn	Sn	16 21 22.4	-3.4
	5.5nm,0.6s						
KURK				⇓Lg	Lg	16 22 05.4	
	18nm,0.9s						
KURBB	**Kurchatov Arra**	8.02	264	⇑Pn	Pn	16 19 58.1	+1.6
	2.3nm,0.3s						
KURBB				⇑Sn	Sn	16 21 26.5	-1.3
	23nm,0.8s						
KURBB				⇑Lg	Lg	16 22 05.1	
	30nm,0.8s						
MAKZ	**Makanchi**	8.02	231	⇓Pn	Pn	16 20 05.8	+9.2
	3.0nm,0.9s						
MAKZ				⇑Lg	Lg	16 22 17.6	
	9.3nm,1.3s						

*TUL **29** 16:20:35.6±0.8, 35.73N±0.02×97.16W±0.02, h5km±7km,*
ML3.4, mb_Lg3.4/99(NEIC), Error ellipse: s-maj=3.3km s-min=0.6km az=136.0
*ANF **29** 16:20:35.7±0.2, 35.77N×97.14W, h5km, ML3.7/9, Error ellipse: s-maj=2.6km s-min=1.8km az=154.0*
*NEIC **29** 16:20:36.1±0.9, 35.75N±0.02×97.16W±0.02, h7km±6km, Error ellipse: s-maj=3.2km s-min=1.5km az=145.0*

ISC 29 16:20:35.3±1.3, 35.76N±0.03×97.14W±0.03, h3km±13km, n73, σ0°73/42, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADOK	**Arcadia Dam**	0.21	241	Pg	Pg	16 20 39.7	+0.4
OK001	**Jones High Sch**	0.23	211	Pg	Pg	16 20 40.0	+0.3
OKCFA	**Oklahoma City**	0.42	216	Pg	Pg	16 20 43.6	+0.2
OKCFA	**Oklahoma City**	0.42	216	P	Pg	16 20 43.6	+0.2
	baz=37,SNR=26						
OKCFA				S	Sg	16 20 49.4	+0.6
	baz=37						
OKCSW	**OKLAHOMA CITY**	0.42	215		Pg	16 20 43.6	+0.2
FNO	**Franklin**	0.54	203	Pg	Pg	16 20 45.7	+0.1
TUL1	**Leonard**	1.11	82		Pb	16 20 56.1	-1.0
TUL1	**Leonard**	1.11	82	P	Pb	16 20 56.1	-1.0
	baz=261						
TUL1				S	Sb	16 21 11.5	-0.6
	baz=261						
T35A	**Sooner Cattle**	1.27	24	Pn	Pb	16 20 59.3	-0.5
T35B	**Sooner Cattle**	1.27	24	P	Pg	16 20 59.4	-0.2
	baz=204						
T35B				S	Sn	16 21 17.2	-0.3
	baz=204						
X34A	**Smith Ranch, M**	1.28	206		Pn	16 20 59.4	-0.8
U32A	**Winter Ranch,**	1.63	293	Pn	Pb	16 21 05.1	-0.9
U32A	**Winter Ranch,**	1.63	293	P	Pb	16 21 05.2	-0.9
	baz=113,SNR=60						
U32A				S	Sg	16 21 27.7	+0.1
	baz=113						
WMOK	**Wichita Mounta**	1.68	233	Pn	Pb	16 21 05.8	-1.0
WMOK	**Wichita Mounta**	1.68	233	P	Pb	16 21 05.9	-1.0
	baz=53,SNR=32						
X37A	**Clayton**	1.86	128	Pn	Pb	16 21 08.6	-1.3
X37A	**Clayton**	1.86	128	P	Pb	16 21 08.7	-1.3
	baz=308,SNR=47						
X37A				S	Sb	16 21 33.9	+0.3
	baz=308						
Z35A	**Perchaven, San**	2.42	182	Pn	Pn	16 21 16.1	+0.3
Z35A	**Perchaven, San**	2.42	182	P	Pn	16 21 16.4	+0.6
	baz=1.9,SNR=15						
HHAR	**Hobbs**	2.65	78	Pn	Pn	16 21 19.1	+0.1
HHAR	**Hobbs**	2.65	78	Sb	Sb	16 21 57.6	+1.2
	baz=259						
W39A	**Magazine**	2.80	101	Pn	Pn	16 21 21.1	+0.1
W39A				lAmb_Lg		16 22 08.8	
	comp=Z,70nm,0.8s						
W39A	**Magazine**	2.80	101	P	Pn	16 21 21.5	+0.5
	baz=282						
Z38A	**Mt. Pleasant**	3.06	144	Pn	Pn	16 21 25.3	+0.7
MIAR	**Mount Ida**	3.16	111	Pn	Pn	16 21 26.7	+0.6
MIAR				lAmb_Lg		16 22 20.5	
	comp=Z,68nm,0.8s						
MIAR	**Mount Ida**	3.16	111	P	Pn	16 21 26.6	+0.6
	baz=293,SNR=48						
KSU1	**Kansas State U**	3.37	7	Pn	Pn	16 21 29.3	+0.5
KSU1				lAmb_Lg		16 22 25.7	
	comp=Z,56nm,0.8s						
U40A	**Yellville**	3.53	79	Pn	Pn	16 21 32.2	+1.1
U40A				lAmb_Lg		16 22 27.3	
	comp=Z,76nm,0.7s						
S39A	**Bolivar**	3.63	57	Pn	Pn	16 21 33.5	+1.1
CBKS	**Cedar Bluff**	3.69	327	lAmb_Lg		16 22 37.9	
	comp=Z,63nm,0.7s						
ABTX	**Abilene, Hawle**	3.75	214	lAmb_Lg		16 22 34.6	
	comp=Z,99nm,1.2s						
X40A	**Basin Creek Fa**	3.75	108	lAmb_Lg		16 22 38.7	
	comp=Z,97nm,1.0s						
AMTX	**Amarillo**	3.81	258	Pn	Pn	16 21 35.9	+0.9
AMTX				lAmb_Lg		16 22 43.1	
	comp=Z,67nm,1.0s						
237A	**Washetta, Mont**	3.91	163	lAmb_Lg		16 22 49.1	
	comp=Z,44nm,0.7s						
WLAR	**White Oak Lake**	3.91	121	lAmb_Lg		16 22 41.7	
	comp=Z,50nm,0.7s						
WHAR	**Wooly Hollow**	3.99	95	Pn	Pn	16 21 37.9	+0.6
WHAR				lAmb_Lg		16 22 49.3	
	comp=Z,91nm,1.0s						
W41B	**Gary Mavity, V**	4.04	97	Pn	Pn	16 21 38.6	+0.5
W41B				lAmb_Lg		16 22 44.1	
	comp=Z,54nm,0.8s						
W41B	**Gary Mavity, V**	4.04	97	P	Pn	16 21 38.8	+0.7
	baz=279,SNR=9.8						
W41B				S	Sn	16 22 26.6	+0.7
	baz=279						
UALR	**University of**	4.05	103	Pn	Pn	16 21 38.2	0.0
UALR				lAmb_Lg		16 22 48.2	
	comp=Z,63nm,0.8s						
FCAR	**Ozark Folk Cen**	4.08	87	lAmb_Lg		16 22 44.9	
	comp=Z,60nm,0.8s						
Z41A	**Richland Creek**	4.37	124	lAmb_Lg		16 23 01.6	
	comp=Z,54nm,0.9s						
R40A	**Maddies Statio**	4.65	56	lAmb_Lg		16 23 04.9	
	comp=Z,74nm,0.7s						
CCAR	**Cane Creek**	4.78	111	lAmb_Lg		16 23 12.4	
	comp=Z,51nm,0.8s						
P38A	**Dawn**	4.81	35	lAmb_Lg		16 23 22.3	
	comp=Z,46nm,0.8s						
LCAR	**Lake Charles**	4.87	85	lAmb_Lg		16 23 17.1	
	comp=Z,45nm,1.0s						
435B	**Jarrell**	4.97	184	lAmb_Lg		16 23 17.2	
	comp=Z,33nm,0.7s						
N35A	**Tabor**	5.23	13	Pn	Pn	16 21 54.1	-0.4
CCM	**Cathedral Cave**	5.25	62	lAmb_Lg		16 23 23.0	
	comp=Z,66nm,0.7s						
HBAR	**Harrisburg**	5.29	90	lAmb_Lg		16 23 37.3	
	comp=Z,96nm,0.7s						
KSCO	**Kaye Shedlock'**	5.44	308	lAmb_Lg		16 23 36.6	
	comp=Z,46nm,0.7s						
PBMO	**Poplar Bluff**	5.52	77	lAmb_Lg		16 23 37.6	
	comp=Z,54nm,0.7s						
P40A	**Paris**	5.53	46	lAmb_Lg		16 23 33.7	
	comp=Z,90nm,0.8s						
BGNE	**Belgrade**	5.70	352	lAmb_Lg		16 23 52.9	
	comp=Z,82nm,0.8s						
JCT	**Junction City**	5.71	204	lAmb_Lg		16 23 45.8	
	comp=Z,75nm,1.0s						
FVM	**French Village**	5.83	66	lAmb_Lg		16 23 42.0	
	comp=Z,39nm,0.8s						
PEBM	**Pemiscott Bayo**	5.92	84	lAmb_Lg		16 23 55.1	
	comp=Z,77nm,0.8s						
T25A	**Trinidad**	6.02	285	Pn	Pn	16 22 05.7	+0.3
T25A				lAmb_Lg		16 23

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.70**	**335**	P	Pg	16 37 41.6	+0.1
DVP	**Devils Point**	**1.75**	**158**	P	Pn	16 37 57.8	+0.7
RTV	**Rentapao**	**1.91**	**153**	P	Pn	16 37 59.9	+0.7
MARNC	**Mare, Loyalty** 1.0nm,1.4s	**5.38**	**175**	P	Pn	16 38 46.7	-0.4
KOUNC	**Koumac, New Ca**	**5.39**	**214**	P	Pn	16 38 46.7	-0.5
YATNC	**Mamie plateau,**	**5.97**	**186**	P	Pn	16 38 54.3	-0.8
DZM	**Mont Dzumac**	**6.03**	**189**	P	Pn	16 38 55.3	-0.8
NOUC	**Port Laguerre**	**6.09**	**191**	P	Pn	16 38 56.2	-0.5
ONTNC	**Ouen Toro**	**6.26**	**189**	P	Pn	16 38 58.9	-0.3
OUENC	**Ouen Island, N**	**6.33**	**186**	P	Pn	16 39 00.5	+0.5
PINNC	**Pines Island,**	**6.49**	**181**	P	Pn	16 39 02.9	+0.7

*IDC **29** 16:48:26.9±0.8,6°.77N×72°.92W,h165km±12km,mb3.2/1, mb1 3.5/3,mb1mx3.1/26,mbtmp3.8/3,Error ellipse: s-maj=64.8km s-min=7.7km az=132.0*

*RSNC **29** 16:48:28.4±0.9,6°.84N×73°.13W,h147km±4km,ML3.2, Mw3.5*

ISC 29 16:48:26.3±1.0,**6°.87N**±0°.04×**73°.09W**±0°.04,**h158**km±7km, **n21**,σ1°**16**/39,**3C-1D**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**198**	⇑*i*P	**Pn**	**16 48 48.4**	**+0.3**
BARC				*e*S	**Sn**	**16 49 03.2**	**-1.5**
BARC				*i*		16 49 06.0	
	comp=Z,206nm,0.2s						
PAMC	**Pamplona, Colo**	**0.61**	**40**	⇑*e*P	**Pn**	**16 48 51.0**	**+1.2**
PAMC				*e*S	**Sn**	**16 49 08.0**	**+0.4**
PAMC				*i*		16 49 09.1	
	comp=Z,127nm,0.2s						
TAMC	**Tame, Arauca**	**1.36**	**108**	⇓*i*P	**Pn**	**16 48 56.4**	**+1.3**
TAMC				*e*S	**Sn**	**16 49 16.4**	**-0.8**
OCAC	**Ocana**	**1.38**	**351**	*e*P	**Pn**	**16 48 55.9**	**+0.4**
OCAC				*e*S	**Sn**	**16 49 18.2**	**+0.3**
OCAC				*i*		16 49 23.0	
	comp=Z,239nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	*e*P	**Pn**	**16 48 55.1**	**-0.3**
PTBC				*e*S	**Sn**	**16 49 16.4**	**-1.4**
PTBC				*i*		16 49 19.8	
	comp=Z,191nm,0.6s						
SPBC	**San Pablo de B**	**1.55**	**219**	*e*P	**Pn**	**16 48 57.3**	**+0.1**
SPBC				*e*S	**Sn**	**16 49 20.5**	**-0.3**
SPBC				*i*		16 49 25.4	
	comp=Z,187nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*e*P	**Pn**	**16 49 00.7**	**+0.3**
ZARC				*e*S	**Sn**	**16 49 26.6**	**0.0**
ZARC				*i*		16 49 32.3	
	comp=Z,354nm,0.3s						
NORC	**Norcasia**	**2.19**	**234**	*e*P	**Pn**	**16 49 04.3**	**+0.1**
NORC				*e*S	**Sn**	**16 49 33.1**	**-0.4**
NORC				*i*		16 49 36.1	
	comp=Z,116nm,0.3s						
CHIC	**Chingaza**	**2.31**	**196**	*e*P	**Pn**	**16 49 06.4**	**+0.4**
CHIC				*e*S	**Sn**	**16 49 36.4**	**-0.2**
CHIC				*i*		16 49 44.1	
	comp=Z,34nm,0.3s						
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**16 49 08.5**	**+2.0**
	comp=Z,24nm,0.3s,baz=334,slow=9.6,SNR=22						
ROSC				S	**Sn**	**16 49 39.3**	**+1.8**
	comp=Z,46nm,0.3s,baz=13,slow=20,SNR=14						
ROSC	**El Rosal**	**2.35**	**211**	*e*P	**Pn**	**16 49 07.3**	**+0.8**
ROSC				*e*S	**Sn**	**16 49 40.1**	**+2.6**
ROSC				*i*		16 49 46.7	
	comp=Z,113nm,0.4s						
HELC	**Santa Helena**	**2.51**	**255**	*e*P	**Pn**	**16 49 09.8**	**+1.5**
HELC				*e*S	**Sn**	**16 49 39.5**	**-1.2**
HELC				*i*		16 49 48.8	
	comp=Z,100nm,0.6s						
UREC	**San Jos de Ur**	**2.58**	**290**	*e*P	**Pn**	**16 49 09.1**	**+0.3**
UREC				*e*S	**Sn**	**16 49 39.4**	**-2.2**
UREC				*i*		16 49 43.4	
	comp=Z,140nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.79**	**234**	*e*P	**Pn**	**16 49 12.9**	**+1.0**
GUY2C				*e*S	**Sn**	**16 49 47.6**	**+0.6**
GUY2C				*i*		16 49 54.2	
	comp=Z,74nm,0.3s						
VILC	**Villavicencio,**	**2.80**	**192**	*e*P	**Pn**	**16 49 12.1**	**+0.4**
VILC				*e*S	**Sn**	**16 49 46.6**	**-0.2**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	⇑*i*P	**Pn**	**16 49 11.2**	**-0.5**
PTGC				*e*S	**Sn**	**16 49 44.8**	**-2.2**
PTGC				*i*		16 49 47.3	
	comp=Z,68nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.07**	**251**	*e*P	**Pn**	**16 49 16.2**	**+1.1**
CBOC				*e*S	**Sn**	**16 49 52.8**	**+0.1**
CBOC				*i*		16 50 09.9	
	comp=Z,27nm,0.6s						
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**16 49 17.2**	**+1.1**
	comp=Z,111nm,0.3s,baz=240,slow=9.9,SNR=13						
SDV				S	**Sn**	**16 49 54.4**	**-0.4**
	comp=Z,5.4nm,0.3s,baz=45,slow=13,SNR=12						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**16 58 38.4**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=98,slow=3.8,SNR=1.8						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKiKP**	**17 07 56.2**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=108,slow=2.8,SNR=8.2						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKiKP**	**17 07 59.6**	**-1.1**

*NOU **29** 16:50:25.7,16°.25S×167°.33E,h0km,MLv4.6/14, Vanuatu Islands*

*IDC **29** 16:50:26.0±4.3,16°.30S×167°.18E,h0km,mb3.8/5, mb1 4.0/6,mb1mx3.7/36,mbtmp3.9/6,ML3.9/1,MS3.3/11, Ms1 3.3/11,ms1mx2.9/58,Error ellipse: s-maj=74.7km s-min=33.9km az=50.0*

ISC 29 16:50:28.8±1.8,**16°.3S**±0°.1×**167°.3E**±0°.1,**h20**km,**n21**, σ0°**58**/16,**mb3.7**/4,**MS3.1**/8,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.65**	**148**	P	**Pn**	**16 50 57.1**	**+0.5**
KOUNC	**Koumac, New Ca**	**5.07**	**214**	P	**Pn**	**16 51 44.6**	**+0.9**
MARNC	**Mare, Loyalty**	**5.18**	**172**	P	**Pn**	**16 51 44.7**	**-0.5**
YATNC	**Mamie plateau,**	**5.72**	**184**	P	**Pn**	**16 51 52.2**	**-0.4**
DZM	**Mont Dzumac**	**5.77**	**188**	Pn	**Pn**	**16 51 53.5**	**+0.1**
	3.0nm,0.3s,baz=108,slow=2.8,SNR=56						
DZM				Sn	**Sn**	**16 52 58.7**	**-0.4**
	baz=232,slow=23,SNR=1.5						
DZM				LR	LR	16 54 00.3	
	comp=Z,204nm,18.2s,baz=29,slow=37						
DZM	**Mont Dzumac**	**5.77**	**188**	P	**Pn**	**16 51 53.5**	**+0.1**
NOUC	**Port Laguerre**	**5.82**	**189**	P	**Pn**	**16 51 54.1**	**+0.1**
ONTNC	**Ouen Toro**	**6.00**	**187**	P	**Pn**	**16 51 56.6**	**+0.1**
OUENC	**Ouen Island, N**	**6.08**	**184**	P	**Pn**	**16 51 58.8**	**+1.3**
PINNC	**Pines Island,**	**6.26**	**179**	P	**Pn**	**16 52 00.1**	**+0.1**
MSVF	**Nonsavu**	**10.41**	**99**	LR	LR	16 56 03.7	
	comp=Z,314nm,18.6s,baz=235,slow=32						
RAO	**Raoul Island**	**18.74**	**136**	LR	LR	16 59 24.8	
	comp=Z,100nm,19.1s,baz=89,slow=29						
CTA	**Charters Tower**	**20.31**	**256**	P	**P**	**16 55 03.4**	**-0.3**
	6.1nm,0.8s,baz=80,slow=13,SNR=4.3						
CTA				LR	LR	17 02 26.3	
	comp=Z,58nm,18.1s,baz=75,slow=36						
AFI	**Afiamalu**	**20.37**	**86**	LR	LR	17 00 40.6	
	comp=Z,71nm,19.2s,baz=158,slow=30						
STKA	**Stephens Creek**	**27.99**	**232**	P	**P**	**16 56 18.3**	**0.0**
	0.8nm,0.7s,baz=32,slow=9.5,SNR=1.3						
STKA				LR	LR	17 05 49.5	
	comp=Z,53nm,18.2s,baz=35,slow=33						
WRA	**Warramunga Arr**	**31.47**	**258**	P	**P**	**16 56 48.7**	**-0.7**
	0.4nm,0.8s,baz=86,slow=10.0,SNR=2.5						
WRA				LR	LR	17 08 02.6	
	comp=Z,44nm,19.2s,baz=170,slow=34						
ASAR	**Alice Springs**	**32.14**	**251**	P	**P**	**16 56 55.0**	**-0.2**
	3.6nm,0.9s,baz=77,slow=8.7,SNR=38						
ASAR				LR	LR	17 08 38.2	
	comp=Z,70nm,19.5s,baz=90,slow=34						
GUMO	**Guam**	**37.06**	**322**	LR	LR	17 11 58.0	
	comp=Z,19nm,18.6s,baz=146,slow=35						
SIJI	**Sorong**	**38.66**	**290**	LR	LR	17 13 30.0	
	comp=Z,71nm,20.8s,baz=273,slow=36						
FITZ	**Fitzroy Crossi**	**39.75**	**261**	LR	LR	17 12 29.3	
	comp=Z,56nm,19.7s,baz=120,slow=33						
VNDA	**Vanda**	**61.22**	**181**	P	**P**	**17 00 42.8**	**+0.5**
	0.7nm,0.8s,baz=23,slow=8.1,SNR=2.3						

*IDC **29** 16:52:14.3±1.1,11°.14N×61°.99W,h0km,mb3.6/4, mb1 4.0/5,mb1mx3.7/33,mbtmp3.8/5,ML4.2/1,MS3.3/1, Ms1 3.3/1,ms1mx2.4/71,Error ellipse: s-maj=39.7km s-min=28.1km az=49.0*

*TRN **29** 16:52:23.6,11°.15N×61°.81W,h49km,MD4.1 TRN Felt Trinidad MMI IV.*

*FUNV **29** 16:52:25.3,11°.11N×61°.86W,h30km,MW4.3*

ISC 29 16:52:23.6±0.9,**11°.09N**±0°.04×**61°.94W**±0°.05,**h68**km±9km, **n57**,σ1°**54**/76,**mb3.6**/4,**2C-1D**,**Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.69**	**130**	⇑*i*P	**Pn**	**16 52 38.3**	**0.0**
TRN				*e*S	**Sn**	**16 52 48.1**	**-1.0**
GRFF	**Grenada Fort F**	**0.97**	**12**	*e*P	**Pn**	**16 52 41.2**	**-0.5**
GRFF				*e*S	**Sn**	**16 52 54.2**	**-1.0**
GRGR	**Grenville**	**1.07**	**15**	⇓*i*P	**Pn**	**16 52 42.7**	**-0.3**
GRGR				*e*S	**Sn**	**16 52 57.1**	**-0.3**
GRHS	**Sauteurs**	**1.16**	**15**	*e*P	**Pn**	**16 52 44.8**	**+0.6**
GRHS				*e*S	**Sn**	**16 52 59.4**	**0.0**
GRSS	**Sisters**	**1.24**	**15**	*e*P	**Pn**	**16 52 45.5**	**+0.4**
GRSS				*e*S	**Sn**	**16 53 00.8**	**-0.4**
CRUV	**Carupano**	**1.34**	**252**	*e*P	**Pn**	**16 52 47.9**	**+1.5**
CRUV				*e*S	**Sn**	**16 53 04.5**	**+1.0**
TOSP	**Speyside**	**1.39**	**81**	*e*P	**Pn**	**16 52 46.6**	**-0.5**
TOSP				*e*S	**Sn**	**16 53 03.6**	**-1.2**
GCMP	**Grenada, Carri**	**1.48**	**20**	⇑*i*P	**Pn**	**16 52 47.9**	**-0.3**
GCMP				*e*S	**Sn**	**16 53 05.6**	**-1.1**
SVB	**Belmont**	**2.27**	**17**	*e*P	**Pn**	**16 52 59.0**	**+0.1**
SVB				*e*S	**Sn**	**16 53 25.9**	**-0.1**
SVV	**Soufriere Volc**	**2.32**	**18**	*e*P	**Pn**	**16 53 00.1**	**+0.4**
SVV				*e*S	**Sn**	**16 53 27.2**	**-0.1**
SSV	**Crater Summit**	**2.34**	**18**	*e*P	**Pn**	**16 52 59.6**	**-0.4**
MCLT	**Moule a Chique**	**2.78**	**20**	*e*P	**Pn**	**16 53 05.7**	**-0.2**
MCLT				*e*S	**Sn**	**16 53 37.4**	**-1.0**
SLBI	**Saint Lucia, B**	**3.06**	**18**	*e*P	**Pn**	**16 53 09.7**	**0.0**
SLBI				*e*S	**Sn**	**16 53 44.1**	**-1.1**
H05S1	**Guadeloupe/Mar**	**3.48**	**18**	Pn	**Pn**	**16 53 15.6**	**+0.2**
H05S1				Sn	**Sn**	**16 53 52.1**	**-3.4**
	SNR=26						
MPOM	**Morne Pois Mar**	**3.50**	**17**	*e*P	**Pn**	**16 53 15.8**	**+0.2**
MPOM				*e*S	**Sn**	**16 53 55.1**	**-0.7**
BIM	**Bigot**	**3.51**	**14**	*e*P	**Pn**	**16 53 16.1**	**+0.3**
BIM				*e*S	**Sn**	**16 53 54.8**	**-1.4**
PRGV	**PARIAGUAN**	**3.53**	**229**	*e*P	**Pn**	**16 53 18.0**	**+1.9**
PRGV				*e*S	**Sn**	**16 53 57.0**	**+0.3**
TRMF	**Trois Ilets**	**3.53**	**14**	*e*P	**Pn**	**16 53 16.4**	**+0.3**
ZAM	**Aeronautique**	**3.57**	**14**	*e*P	**Pn**	**16 53 17.1**	**+0.4**
LPMF	**Morne Lapointe**	**3.59**	**15**	*e*P	**Pn**	**16 53 16.7**	**-0.2**
MVM	**Montagne Vaucl**	**3.59**	**16**	*e*P	**Pn**	**16 53 17.6**	**+0.6**
FDF	**Fort de France**	**3.70**	**12**	*e*P	**Pn**	**16 53 18.7**	**+0.2**
FDF				*e*S	**Sn**	**16 53 58.4**	**-2.5**
PML	**Morne Lenard**	**3.74**	**11**	*e*P	**Pn**	**16 53 19.6**	**+0.6**
GBMF	**Grand Be**	**3.76**	**12**	*e*P	**Pn**	**16 53 19.5**	**+0.2**
PCM	**Pelee Case Pet**	**3.77**	**11**	*e*P	**Pn**	**16 53 19.7**	**+0.3**
CXM	**Morne La Croix**	**3.77**	**11**	*e*P	**Pn**	**16 53 19.9**	**+0.4**
BAMF	**Morne Balai**	**3.78**	**12**	*e*P	**Pn**	**16 53 20.0**	**+0.4**
ILAM	**Ilet Lapin Mar**	**3.81**	**16**	*e*P	**Pn**	**16 53 19.7**	**-0.1**
BIRV	**Birongo**	**4.30**	**262**	*e*P	**Pn**	**16 53 28.8**	**+2.2**
BIRV				*e*S	**Sn**	**16 54 15.0**	**-0.4**
DSLB	**Salisbury**	**4.35**	**7**	*e*P	**Pn**	**16 53 28.8**	**+1.5**
DSLB	**Salisbury**	**4.35**	**7**	*e*S	**Sn**	**16 54 16.2**	**-0.5**
MERV	**Las Mercedes**	**4.66**	**247**	*e*P	**Pn**	**16 53 33.3**	**+1.7**
MERV				*e*S	**Sn**	**16 54 23.7**	**-0.8**
TDBA	**Terre de Bas,**	**4.74**	**4**	*e*P	**Pn**	**16 53 34.9**	**+2.3**
TDBA	**Terre de Bas,**	**4.74**	**4**	*e*S	**Sn**	**16 54 24.3**	**-1.9**
MAGL	**Barre de l'ile**	**4.87**	**7**	*e*P	**Pn**	**16 53 36.5**	**+2.1**
MAGL	**Barre de l'ile**	**4.87**	**7**	*e*S	**Sn**	**16 54 28.6**	**-0.9**
CBE	**Ff, Capester**	**4.96**	**4**	*e*S	**Sn**	**16 54 29.7**	**-2.0**
H05N1	**Guadeloupe/Mar**	**5.26**	**9**	Pn	**Pn**	**16 53 42.9**	**+3.0**
	SNR=9.0						
H05N1				Sn	**Sn**	**16 54 33.6**	**-5.6**
ABD	**La Joyeuse, An**	**5.37**	**5**	*e*P	**Pn**	**16 53 43.6**	**+2.4**
BENV	**Beln**	**5.68**	**259**	*e*P	**Pn**	**16 53 46.9**	**+1.4**
BENV				*e*S	**Sn**	**16 54 47.4**	**-2.0**
CACV	**CAICARA DEL OR**	**5.73**	**233**	*e*P	Pn	16 53 42.5	-3.8
CACV				*e*S	Sn	16 54 39.2	-11
BPA	**Boggy Peak**	**5.92**	**1**	*e*P	**Pn**	**16 53 50.6**	**+1.8**
BPA	**Boggy Peak**	**5.92**	**1**	*e*S	**Sn**	**16 54 53.8**	**-1.4**
ANBD	**Bethesda, Anti**	**5.92**	**2**	*e*P	**Pn**	**16 53 51.3**	**+2.5**
ANBD	**Bethesda, Anti**	**5.92**	**2**	*e*S	**Sn**	**16 54 54.4**	**-0.9**
BAUV	**El Baul**	**6.38**	**251**	*e*P	**Pn**	**16 53 55.2**	**+0.2**
BAUV	**El Baul**	**6.38**	**251**	*e*S	**Sn**	**16 55 04.2**	**-2.3**
BAUV	**El Baul**	**6.38**	**251**	*e*P	**Pn**	**16 53 55.4**	**+0.4**
BAUV				*e*S	**Sn**	**16 55 03.6**	**-2.9**
JACV	**Jacura**	**6.76**	**271**	*e*P	**Pn**	**16 54 01.8**	**+1.5**
JACV				*e*S	**Sn**	**16 55 12.6**	**-3.4**
SDV	**Santo Domingo**	**8.84**	**256**	Pn	**Pn**	**16 54 27.9**	**-1.0**
	0.9nm,0.3s,baz=53,slow=20,SNR=2.2						
SDV				Sn	**Sn**	**16 56 03.7**	**-3.4**
	2.9nm,0.3s,baz=44,slow=20,SNR=7.2						
MDP	**Montagnes des**	**10.96**	**122**	Pn	Pn	16 54 51.5	-6.2
	1.6nm,0.3s,baz=306,slow=15,SNR=8.7						
MDP				Sn	Sn	16 56 44.7	-14
	5.0nm,0.3s,baz=48,slow=21,SNR=21						
TXAR	**Lajitas Array**	**42.88**	**301**	P	P	17 00 14.2	-1.5
	0.2nm,0.4s,baz=111,slow=10,SNR=5.4						
PDAR	**Pinedale Array**	**51.94**	**316**	P	P	17 01 23.7	-2.2
	0.2nm,0.5s,baz=116,slow=9.2,SNR=2.4						
PLCA	**Paso Flores**	**52.17**	**188**	P	**P**	**17 01 27.5**	**+0.1**
	1.6nm,1.0s,baz=3.8,slow=11,SNR=3.9						
FRB	**Frobisher Bay**	**52.78**	**356**	LR	LR	17 25 54.8	
	comp=Z,24nm,18.2s,baz=213,slow=38						
FINES	**FINESS Array B**	**79.40**	**29**	P	**P**	**17 04 22.5**	**+0.3**
	1.0nm,0.8s,baz=284,slow=5.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**145.10**	**33**	PKPbc	**PKPbc**	**17 11 53.9**	**+0.1**
	1.6nm,0.7s,baz=309,slow=4.9,SNR=11						

*IDC **29** 17:02:00.8±0.9,36°.25S×110°.49W,h0km,mb3.8/6, mb1 4.2/6,mb1mx4.0/33,mbtmp3.8/6,MS4.0/20, Ms1 4.0/20,ms1mx3.8/47,Error ellipse: s-maj=34.6km s-min=27.4km az=78.0*

*NEIC **29** 17:02:03.9±1.0,36°.3S±0°.1×110°.4W±0°.1,h15km±4km, mb4.7/12,Error ellipse: s-maj=21.8km s-min=13.3km az=200.0*

ISC 29 17:02:02.0±0.7,**36°.3S**±0°.2×**110°.5W**±0°.1,**h10**km,**n53**, σ0°**84**/21,**mb4.5**/10,**MS4.1**/20,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**25.86**	**94**	T	T	17 34 44.1	
	baz=250						
H03S1	**Juan Fernandez**	**25.88**	**94**	T	T	17 34 45.7	
	baz=250						
H03S3	**Juan Fernandez**	**25.88**	**94**	T	T	17 34 45.0	
	baz=250						
H03N2	**Juan Fernandez**	**25.96**	**93**	T	T	17 34 35.3	
	baz=247,slow=73,SNR=53						
H03N3	**Juan Fernandez**	**25.96**	**93**	T	T	17 34 43.0	
	baz=247,slow=73,SNR=58						
H03N1	**Juan Fernandez**	**25.97**	**93**	T	T	17 34 34.1	
	baz=247,slow=73,SNR=59						
PLCA	**Paso Flores**	**31.34**	**110**	P	**P**	**17 08 23.4**	**+0.7**
	2.6nm,1.1s,baz=256,slow=8.0,SNR=2.9						
PLCA				LR	LR	17 17 51.6	
	comp=Z,107nm,19.4s,baz=264,slow=30						
PLCA	**Paso Flores**	**31.34**	**110**	IAmb	IAmb	17 08 41.8	
	comp=Z,30nm,1.8s						
LCO	**Las Campanas**	**34.06**	**89**	P	**P**	**17 08 47.1**	**+0.2**
AC06	**Mina Casimiro**	**35.01**	**87**	P	**P**	**17 08 54.7**	**-0.1**
AC06				IAmb	IAmb	17 09 04.1	
	comp=Z,14nm,1.3s						
AC02	**Maricunga**	**36.22**	**87**	P	**P**	**17 09 06.3**	**+0.6**
AC02				IAmb	IAmb	17 09 16.9	
	comp=Z,25nm,1.4s						
LVC	**Limon Verde**	**38.37**	**81**	LR	LR	17 21 07.2	
	comp=Z,359nm,18.9s,baz=248,slow=30						
PB01	**IPOC Station P**	**38.72**	**78**	P	**P**	**17 09 27.8**	**+1.3**
NNA	**Nana**	**38.75**	**60**	LR	LR	17 21 23.3	
	comp=Z,246nm,19.3s,baz=228,slow=30						
PPT	**Papeete**	**39.23**	**288**	LR	LR	17 20 52.8	
	comp=Z,234nm,18.4s,baz=131,slow=29						
PMSA	**Palmer Station**	**39.52**	**151**	LR	LR	17 23 11.8	
	comp=Z,144nm,18.4s,baz=290,slow=32						
LPAZ	**La Paz**	**42.45**	**73**	P	**P**	**17 09 58.1**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=220,slow=14,SNR=4.8						
LPAZ				LR	LR	17 23 46.3	
	comp=Z,95nm,20.8s,baz=234,slow=31						
LPAZ	**La Paz**	**42.45**	**73**	P	**P**	**17 09 57.8**	**-0.2**
ITQB	**Itaqui**	**45.15**	**98**	P	**P**	**17 10 17.0**	**-1.8**
RAR	**Rarotonga**	**45.31**	**275**	LR	LR	17 24 25.0	
	comp=Z,159nm,18.3s,baz=134,slow=30						
CPUP	**Villa Florida**	**45.96**	**93**	LR	LR	17 26 02.5	
	comp=Z,188nm,20.2s,baz=222,slow=31						
SIV	**San Ignacio**	**48.15**	**79**	LR	LR	17 27 37.2	
	comp=Z,117nm,20.7s,baz=276,slow=32						
AQDB	**Aquidauana**	**50.05**	**87**	P	**P**	**17 10 56.6**	**-0.5**
AQDB				IAmb	IAmb	17 11 04.7	
	comp=Z,5.4nm,0.9s						
QSPA	**South Pole Qui**	**53.89**	**180**	P	**P**	**17 11 26.6**	**+1.4**
	comp=Z,2.8nm,1.0s,baz=96,slow=2.4,SNR=4.9						
QSPA	**South Pole Qui**	**53.89**	**180**	IAmb	IAmb	17 11 44.6	
	comp=Z,12nm,1.6s						
VNDA	**Vanda**	**54.37**	**196**	LR	LR	17 30 13.1	
	comp=Z,149nm,19.2s,baz=86,slow=31						
URZ	**Urewera**	**56.26**	**244**	LR	LR	17 29 17.3	
	comp=Z,193nm,20.9s,baz=31,slow=29						
RPZ	**Rata Peaks**	**58.48**	**236**	LR	LR	17 31 19.1	
	comp=Z,164nm,18.6s,baz=48,slow=30						
BDFB	**Brasilia**	**58.80**	**87**	LR	LR	17 34 48.6	
	comp=Z,223nm,19.8s,baz=178,slow=34						
AFI	**Afiamalu**	**58.86**	**275**	LR	LR	17 30 02.8	
	comp=Z,85nm,20.8s,baz=132,slow=29						
SNAA	**Sanae**	**61.19**	**160**	LR	LR	17 35 02.7	
	comp=Z,74nm,18.8s,baz=175,slow=32						
MCQ	**Macquarie Isla**	**61.70**	**221**	P	**P**	**17 12 19.3**	**-0.8**
TX31	**Lajitas Ar. Si**	**65.61**	**7**	P	**P**	**17 12 46.8**	**+0.6**
TX32	**Lajitas Array**	**65.61**	**7**	P	**P**	**17 12 46.5**	**+0.3**
TX32				IAmb	IAmb	17 13 03.6	
	comp=Z,4.1nm,1.2s						
TXAR	**Lajitas Array**	**65.61**	**7**	P	**P**	**17 12 47.3**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=152,slow=43,SNR=2.4						
TXAR	**Lajitas Array**	**65.61**	**7**	P	**P**	**17 12 47.0**	**+0.9**
MDP	**Montagnes des**	**67.88**	**65**	LR	LR	17 39 34.1	
	comp=Z,309nm,18.2s,baz=215,slow=33						
RCBR	**Riachuelo**	**74.12**	**86**	LR	LR	17 44 22.7	
	comp=Z,91nm,18.8s,baz=74,slow=34						
NVAR	**Mina Array Bea**	**74.72**	**354**	P	**P**	**17 13 42.2**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=190,slow=9.1,SNR=2.6						
MAW	**Mawson**	**76.28**	**177**	LR	LR	17 45 01.7	
	comp=Z,80nm,18.3s,baz=274,slow=34						
YBH	**Yreka Blue Hor**	**78.48**	**351**	LR	LR	17 41 35.6	
	comp=Z,152nm,18.9s,baz=154,slow=30						
PDAR	**Pinedale Array**	**78.71**	**1**	P	**P**	**17 14 04.2**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=131,slow=4.5,SNR=7.7						
ASAR	**Alice Springs**	**94.89**	**236**	LR	LR	17 50 39.2	
	comp=Z,125nm,22.0s,baz=108,slow=31						
H11S2	**WAKE ISLAND Hy**	**95.19**	**289**	T	T	19 01 01.2	
	baz=127,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**95.20**	**289**	T	T	19 00 59.3	
	baz=127,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**95.20**	**289**	T	T	19 00 59.3	
	baz=127,slow=76,SNR=7.3						
H01W1	**Cape Leeuwin H**	**97.87**	**216**	T	T	19 04 58.6	
	baz=139						
H01W2	**Cape Leeuwin H**	**97.88**	**216**	T	T	19 04 59.2	
	baz=139						
H01W3	**Cape Leeuwin H**	**97.89**	**216**	T	T	19 05 00.4	
	baz=139						
CMAR	**Chiang Mai Arr**	**148.60**	**243**	PKPbc	**PKPbc**	**17 21 49.0**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=169,slow=1.2,SNR=7.4						
CMAR	**Chiang Mai Arr**	**148.60**	**243**		**PKPdf**	**17 21 46.7**	**+0.7**
SONM	**Songino Array**	**150.59**	**305**	PKPbc	**PKiKP**	**17 21 53.9**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=54,slow=3.8,SNR=4.6						
SONM	**Songino Array**	**150.59**	**305**		**PKPbc**	**17 21 53.6**	**-0.4**

*IDC **29** 17:11:23.8±4.1,33°.80N×22°.71E,h0km,mb3.8/5, mb1 3.8/7,mb1mx3.5/53,mbtmp3.7/7,ML3.6/2,MS3.4/2, Ms1 3.4/2,ms1mx2.4/93,Error ellipse: s-maj=69.6km s-min=33.0km az=8.0*

ISC 29 17:11:26.6±2.7,**34°.0N**±0°.3×**22°.7E**±0°.1,**h10**km,**n9**,σ0°**43**/8, **mb3.9**/5,**Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**2.21**	**53**	Pn	**Pn**	**17 12 03.4**	**0.0**
	8.3nm,0.3s,baz=235,slow=13,SNR=29

IDC ***29*** *17:20:10.2±1.3, 14°.60S×166°.47E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/45, mbtmp3.8/8, ML3.8/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/60, Error ellipse: s-maj=37.5km s-min=25.4km az=119.0*

NEIC ***29*** *17:20:13.2±2.6, 14°.66S±0°.08×166°.7E±0°.1, h15km±6km, mb4.6/9, Error ellipse: s-maj=17.1km s-min=10.2km az=61.0*

NOU ***29*** *17:20:18.6, 15°.07S×166°.67E, h0km, mb4.2/6, Vanuatu Islands*

ISC 29 17:20:13.5±0.7, 14°.59S±0°.08×166°.74E±0°.09, h28km, n35, σ1§62/31, mb3.8/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.96**	**152**		**Pn**	**17 20 30.2**	**-0.9**
SANVU	**Saraoutou**	**0.96**	**152**	P	**Pn**	**17 20 30.8**	**-0.4**
LIFNC	**LIFOU**	**6.17**	**176**	Pn	**Pn**	**17 21 43.2**	**+0.4**
KOUNC	**Koumac, New Ca**	**6.37**	**201**	Pn	**Pn**	**17 21 44.4**	**-1.2**
KOUNC	**Koumac, New Ca**	**6.37**	**201**	P	**Pn**	**17 21 47.3**	**+1.7**
YATNC	**Mamie plateau,**	**7.43**	**179**	P	**Pn**	**17 22 01.6**	**+1.5**
DZM	**Mont Dzumac**	**7.44**	**182**	Pn	**Pn**	**17 22 00.5**	**+0.1**
	1.6nm,0.3s,baz=133,slow=22,SNR=17						
DZM				Sn	**Sn**	**17 23 25.8**	**+1.9**
	1.8nm,0.3s,baz=315,slow=21,SNR=2.1						
DZM	**Mont Dzumac**	**7.44**	**182**		**Pn**	**17 22 00.3**	**-0.1**
DZM	**Mont Dzumac**	**7.44**	**182**	P	**Pn**	**17 22 00.9**	**+0.5**
NOUC	**Port Laguerre**	**7.48**	**183**	P	**Pn**	**17 22 02.2**	**+1.4**
OUENC	**Ouen Island, N**	**7.78**	**179**	Pn	**Pn**	**17 22 04.8**	**-0.2**
OUENC	**Ouen Island, N**	**7.78**	**179**	P	**Pn**	**17 22 07.5**	**+2.5**
PINNC	**Pines Island,**	**8.01**	**175**	Pn	**Pn**	**17 22 08.6**	**+0.6**
HNR	**Honiara**	**8.39**	**307**	LR	LR	17 25 23.0	
	comp=Z,429nm,21.5s,baz=356,slow=38						
HNR	**Honiara**	**8.39**	**307**	Pn	**Pn**	**17 22 12.6**	**-0.8**
EIDS	**Eidsvold**	**18.18**	**231**	P	**P**	**17 24 25.8**	**+1.6**
PMG	**Port Moresby**	**19.83**	**283**	LR	LR	17 30 53.6	
	comp=Z,67nm,18.2s,baz=18,slow=33						
CTA	**Charters Tower**	**20.29**	**251**	LR	LR	17 31 21.1	
	comp=Z,137nm,19.9s,baz=80,slow=34						
CTAO	**Charters Tower**	**20.29**	**251**	P	**P**	**17 24 47.8**	**+0.4**
CTAO				IAmb	IAmb	17 25 14.8	
	comp=Z,35nm,1.6s						
URZ	**Urewera**	**25.30**	**161**	P	**P**	**17 25 34.7**	**-2.9**
BKZ	**Black Stump Fm**	**25.94**	**162**	P	**P**	**17 25 41.1**	**-2.5**
BKZ				IAmb	IAmb	17 26 18.7	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**28.69**	**229**	P	**P**	**17 26 08.2**	**-0.1**
WRA	**Warramunga Arr**	**31.36**	**256**	P	**P**	**17 26 30.1**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=84,slow=9.4,SNR=3.7						
ASAR	**Alice Springs**	**32.24**	**249**	P	**P**	**17 26 38.4**	**-1.5**
	comp=Z,1.3nm,1.1s,baz=73,slow=9.2,SNR=7.4						
RAR	**Rarotonga**	**32.49**	**107**	LR	LR	17 38 55.2	
	comp=Z,61nm,18.3s,baz=318,slow=34						
KNRA	**Kununurra**	**36.64**	**263**	P	**P**	**17 27 16.4**	**-1.6**
KNRA				IAmb	IAmb	17 27 54.6	
	comp=Z,9.9nm,1.2s						
XMAS	**Kiritimati**	**39.13**	**68**	P	**P**	**17 27 38.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.53**	**259**	P	**P**	**17 27 40.6**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=90,slow=4.0,SNR=1.9						
CMAR	**Chiang Mai Arr**	**74.42**	**294**	P	**P**	**17 31 50.1**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=117,slow=3.3,SNR=3.1						
SONM	**Songino Array**	**82.08**	**324**	P	**P**	**17 32 32.2**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=130,slow=2.3,SNR=1.7						
CAST	**Castle Rocks**	**84.02**	**17**	P	**P**	**17 32 43.8**	**+2.7**
CAST				IAmb	IAmb	17 32 48.2	
	comp=Z,5.7nm,1.1s						
I21K	**Tanana**	**85.41**	**16**	P	**P**	**17 32 51.7**	**+3.8**
ILAR	**Eielson Array**	**86.56**	**18**	P	**P**	**17 32 54.0**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=223,slow=4.9,SNR=2.9						
YKA	**Yellowknife Ar**	**97.66**	**27**	P	Pdif	17 33 47.7	+2.3
	comp=Z,0.5nm,0.9s,baz=259,slow=4.6,SNR=4.1						
ARCES	**ARCESS Array B**	**119.99**	**345**	PKP	**PKiKP**	**17 39 01.8**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=104,slow=1.9,SNR=1.4						

IDC ***29*** *17:23:36.4±1.3, 34°.45N×24°.15E, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.4/58, mbtmp3.5/8, ML3.7/3, Error ellipse: s-maj=27.0km s-min=17.1km az=141.0*

THE ***29*** *17:23:36.8, 34°.51N×24°.00E, h13km±1km, ML3.3/3, Error ellipse: s-maj=4.8km s-min=1.8km az=82.0*

ATH ***29*** *17:23:36.9, 34°.53N×23°.98E, h19km±13km, ML3.4/2, Error ellipse: s-maj=16.7km s-min=4.4km az=11.0*

ISC 29 17:23:38.4±1.7, 34°.58N±0°.09×24°.11E±0°.06, h14km±9km, n21, σ1§17/26, mb3.5/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.26**	**356**	P	**Pg**	**17 23 43.4**	**-0.7**
GVD				S	**Sg**	**17 23 49.0**	**+1.2**
GVD				AML	AML	17 23 52.4	
	comp=N,18020μm,0.3s						
GVD				AML	AML	17 23 55.9	
	comp=E,16185μm,0.3s						
GVD	**Gavdhos**	**0.26**	**356**	P	**Pg**	**17 23 43.3**	**-0.7**
GVD				S	**Sg**	**17 23 49.2**	**+1.4**
	comp=E,8μm,0.4s						
GVDS	**Gavdos**	**0.27**	**356**	P	**Pg**	**17 23 43.3**	**-0.8**
GVDS				S	**Sg**	**17 23 48.8**	**+0.8**
	comp=E,5μm,0.3s						
SIVA	**Sivas**	**0.72**	**52**	P	**Pn**	**17 23 53.8**	**-0.4**
SIVA				S	**Sn**	**17 24 04.6**	**-0.5**
SIVA				AML	AML	17 24 17.8	
	comp=E,7148μm,0.7s						
SIVA				AML	AML	17 24 18.4	
	comp=N,3904μm,0.6s						
IMMV	**Iera Moni Meta**	**0.89**	**353**	P	**Pg**	**17 23 53.9**	**-1.7**
IMMV	**Iera Moni Meta**	**0.89**	**353**	P	**Pg**	**17 23 53.7**	**-1.9**
IMMV				S	**Sg**	**17 24 07.5**	**+0.2**
	comp=N,2μm,0.6s						
CHAN	**Chania**	**0.94**	**357**	P	**Pb**	**17 23 56.6**	**+0.1**
IDI	**Anoyia**	**0.96**	**42**	Pg	**Pg**	**17 23 56.3**	**-0.6**
	comp=N,37nm,0.3s,baz=216,slow=19,SNR=31						
IDI	**Anoyia**	**0.96**	**42**	P	**Pg**	**17 23 56.3**	**-0.6**
IDI	**Anoyia**	**0.96**	**42**	P	**Pg**	**17 23 56.3**	**-0.6**
RODP	**Rodopos**	**1.02**	**344**	P	**Pb**	**17 23 56.9**	**-1.0**
EIL	**Elat**	**10.41**	**115**	Pn	**Pn**	**17 26 06.7**	**-0.6**
	comp=N,0.3nm,0.3s,baz=246,slow=20,SNR=2.7						
GERES	**GERESS Array B**	**16.21**	**335**	Pn	**P**	**17 27 28.5**	**-0.4**
	comp=N,0.1nm,0.3s,baz=152,slow=13,SNR=2.4						
KHC	**Kasperske Hory**	**16.50**	**335**	*e*P	**P**	**17 27 35.0**	**+3.0**
AKASG	**Malin Array Be**	**16.54**	**11**	Pn	**P**	**17 27 31.4**	**-1.0**
	comp=N,0.3nm,0.3s,baz=200,slow=11,SNR=4.3						
ESDC	**Sonseca Array**	**22.91**	**291**	P	**P**	**17 28 43.1**	**+1.2**
	comp=N,0.4nm,0.6s,baz=94,slow=10,SNR=2.2						
NOA	**NORSAR Array B**	**27.75**	**347**	P	**P**	**17 29 27.5**	**+1.1**
	comp=N,0.6nm,0.8s,baz=155,slow=12,SNR=1.8						
TORD	**Torodi Ar. Bea**	**29.45**	**229**	P	**P**	**17 29 41.4**	**-0.5**
	comp=N,10.0nm,0.5s,baz=35,slow=9.2,SNR=1.9						
KURBB	**Kurchatov Arra**	**42.16**	**51**	P	**P**	**17 31 31.3**	**+1.1**
	comp=N,0.3nm,0.4s,baz=279,slow=8.5,SNR=4.2						
MKAR	**Makanchi Array**	**44.81**	**56**	P	**P**	**17 31 51.3**	**-0.5**
	comp=N,0.4nm,0.5s,baz=267,slow=7.9,SNR=6.9						
ZALV	**Zalesovo Beam**	**46.03**	**46**	P	**P**	**17 32 02.0**	**+0.8**
	comp=N,0.5nm,0.5s,baz=256,slow=9.8,SNR=3.0						

IDC ***29*** *17:25:14.6±2.4, 34°.31N×138°.10E, h72km±26km, mb3.1/3, mb1 3.3/4, mb1mx2.8/68, mbtmp3.3/4, Error ellipse: s-maj=42.7km s-min=7.8km az=68.0*

JMA ***29*** *17:25:15.4±0.2, 34°.78N×139°.61E, h103km±2km, M2.6*

ISC 29 17:25:15.1±1.1, 34°.78N±0°.05×139°.57E±0°.07, h108km±8km, n18, σ0§73/23, mb3.5/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.13**	**243**	P	**Pn**	**17 25 29.7**	**-0.5**
JIM2				*e*S	**Sn**	**17 25 41.0**	**-0.4**
JTHY	**Toshimahigashi**	**0.34**	**223**	P	**Pn**	**17 25 31.0**	**+0.1**
TATJ	**Tateyama 2**	**0.37**	**46**	P	**Pn**	**17 25 31.5**	**+0.5**
JIZS	**Izushimoda**	**0.57**	**264**	P	**Pn**	**17 25 32.5**	**+0.3**
JIZS				*e*S	**Sn**	**17 25 45.3**	**+0.2**
JOD2	**Odawara 2**	**0.63**	**321**	P	**Pn**	**17 25 32.6**	**-0.1**
JOD2				*e*S	**Sn**	**17 25 45.5**	**-0.5**
BSO3	**Boso 3**	**0.78**	**88**	P	**Pn**	**17 25 34.2**	**+0.6**
JFNN	**Fujinakano**	**0.84**	**300**	*e*S	**Sn**	**17 25 48.9**	**-0.2**
JMKN	**Mikurajimanish**	**0.88**	**179**	P	**Pn**	**17 25 35.0**	**0.0**
JYN	**Shimob**	**1.11**	**311**	P	**Pn**	**17 25 37.9**	**+0.5**
SHZ3	**Shizuoka 3**	**1.15**	**285**	P	**Pn**	**17 25 38.8**	**+0.9**
BSO1	**Boso 1**	**1.17**	**96**	P	**Pn**	**17 25 37.7**	**+0.3**
JRY	**Ryogami san**	**1.35**	**336**	P	**Pn**	**17 25 40.8**	**+0.7**
JRY				*e*S	**Sn**	**17 25 59.9**	**+0.8**
JAG	**Ashikaga**	**1.65**	**357**	P	**Pn**	**17 25 43.5**	**-0.1**
JHJ	**Hachijo jima 2**	**1.66**	**174**	P	**Pn**	**17 25 44.4**	**+0.5**
	34nm,0.3s,baz=308,slow=19,SNR=8.1						
JHJ				S	**Sn**	**17 26 07.2**	**+1.7**
	32nm,0.3s,baz=276,slow=23,SNR=7.6						
MJAR	**Matsushiro Arr**	**2.08**	**328**	P	**Pn**	**17 25 49.2**	**+0.2**
	0.5nm,0.3s,baz=136,slow=17,SNR=22						
MJAR				S	**Sn**	**17 26 16.3**	**+1.3**
	0.8nm,0.3s,baz=141,slow=17,SNR=3.7						
WRA	**Warramunga Arr**	**54.64**	**186**	P	**P**	**17 34 31.6**	**-1.2**
	0.2nm,0.4s,baz=1.4,slow=7.5,SNR=7.2						
INK	**Inuvik**	**57.07**	**26**	P	P	17 34 59.4	+10
	0.4nm,0.5s,baz=305,slow=16,SNR=1.2						
ASAR	**Alice Springs**	**58.37**	**186**	P	**P**	**17 34 58.7**	**-0.5**
	0.2nm,0.5s,baz=18,slow=10.0,SNR=1.8						

NOU 29 17:27:28.2, 16°.25S×167°.17E, h0km, MLv4.4/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.76**	**147**	P	Pn	17 27 58.7	-1.3
RTV	**Rentapao**	**1.95**	**142**	P	Pb	17 28 03.8	-0.8
KOUNC	**Koumac, New Ca**	**5.08**	**212**	P	Pn	17 28 44.6	-1.0
MARNC	**Mare, Loyalty**	**5.27**	**171**	P	Pn	17 28 48.4	+0.2
YATNC	**Mamie plateau,**	**5.78**	**183**	P	Pn	17 28 54.5	-0.8
NOUC	**Port Laguerre**	**5.88**	**188**	P	Pn	17 28 57.2	+0.6
ONTNC	**Ouen Toro**	**6.06**	**186**	P	Pn	17 28 59.8	+0.6
PINNC	**Pines Island,**	**6.33**	**178**	P	Pn	17 29 03.8	+0.9

IDC ***29*** *17:32:24.0±1.2, 16°.07S×167°.57E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.8/43, mbtmp4. 1/9, ML4.8/1, MS3.6/8, Ms1 3.7/8, ms1mx3.2/59, Error ellipse: s-maj=33.7km s-min=23.9km az=121.0*

NEIC ***29*** *17:32:27.8±1.4, 16°.06S±0°.07×167°.5E±0°.1, h19km±5km, mb4.5/15, Error ellipse: s-maj=20.4km s-min=8.3km az=71.0*

NOU ***29*** *17:32:28.2, 16°.06S×167°.51E, h14km, MLv5.0/17, Vanuatu Islands*

ISC 29 17:32:30.1±0.7, 16°.10S±0°.04×167°.35E±0°.10, h39km, n57, σ1§69/50, mb4.2/13, MS3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.66**	**347**		**Pn**	**17 32 41.1**	**-2.0**
SANVU					**Sn**	**17 32 51.5**	**-0.8**
SANVU	**Saraoutou**	**0.66**	**347**	P	**Pn**	**17 32 41.9**	**-1.2**
DVP	**Devils Point**	**1.81**	**154**	P	**Pn**	**17 32 59.5**	**+0.8**
DVP	**Devils Point**	**1.81**	**154**	P	**Pn**	**17 33 01.4**	**+2.7**
RTV	**Rentapao**	**1.97**	**149**	P	**Pn**	**17 33 00.4**	**-0.6**
LIFNC	**LIFOU**	**4.66**	**181**	Pn	**Pn**	**17 33 37.8**	**-0.1**
LIFNC				Sn	**Sn**	**17 34 24.6**	**-6.2**
KOUNC	**Koumac, New Ca**	**5.30**	**213**	P	**Pn**	**17 33 47.0**	**+0.2**
KOUNC	**Koumac, New Ca**	**5.30**	**213**	P	**Pn**	**17 33 47.9**	**+1.1**
MARNC	**Mare, Loyalty**	**5.39**	**173**	Pn	**Pn**	**17 33 47.6**	**-0.4**
MARNC				Sn	**Sn**	**17 34 42.0**	**-6.9**
MARNC	**Mare, Loyalty**	**5.39**	**173**	P	**Pn**	**17 33 49.9**	**+1.8**
YATNC	**Mamie plateau,**	**5.95**	**184**	P	**Pn**	**17 33 54.5**	**-1.1**
YATNC	**Mamie plateau,**	**5.95**	**184**	P	**Pn**	**17 33 54.6**	**-1.1**
DZM	**Mont Dzumac**	**6.00**	**188**	Pn	**Pn**	**17 33 56.5**	**0.0**
	23nm,0.3s,baz=42,slow=13,SNR=102						
DZM				Sn	**Sn**	**17 35 02.2**	**-1.9**
	13nm,0.3s,baz=110,slow=22,SNR=14						
DZM	**Mont Dzumac**	**6.00**	**188**		**Pn**	**17 33 56.1**	**-0.5**
DZM	**Mont Dzumac**	**6.00**	**188**	P	**Pn**	**17 33 56.5**	**0.0**
DZM	**Mont Dzumac**	**6.00**	**188**	P	**Pn**	**17 33 56.7**	**+0.1**
NOUC	**Port Laguerre**	**6.05**	**189**	P	**Pn**	**17 33 57.2**	**+0.1**
ONTNC	**Ouen Toro**	**6.24**	**188**		**Pn**	**17 33 59.4**	**-0.2**
ONTNC					**Sn**	**17 35 07.2**	**-2.5**
ONTNC	**Ouen Toro**	**6.24**	**188**	P	**Pn**	**17 34 00.2**	**+0.6**
OUENC	**Ouen Island, N**	**6.31**	**184**		**Pn**	**17 34 00.5**	**-0.1**
OUENC	**Ouen Island, N**	**6.31**	**184**	P	**Pn**	**17 34 01.7**	**+1.1**
OUENC	**Ouen Island, N**	**6.31**	**184**	P	**Pn**	**17 34 01.6**	**+1.0**
PINNC	**Pines Island,**	**6.48**	**179**		**Pn**	**17 34 02.8**	**-0.2**
PINNC	**Pines Island,**	**6.48**	**179**	P	**Pn**	**17 34 03.7**	**+0.7**
HNR	**Honiara**	**9.80**	**312**	Pn	**Pn**	**17 34 48.4**	**-0.2**
RAO	**Raoul Island**	**18.84**	**137**	LR	LR	17 42 36.6	
	comp=Z,199nm,18.8s,baz=234,slow=33						
ARMA	**Armidale**	**20.26**	**223**	P	Pn	17 37 04.0	-0.6
ARMA				IAmb	IAmb	17 37 22.4	
	comp=Z,11nm,1.2s						
CTA	**Charters Tower**	**20.44**	**256**	P	Pn	17 37 07.0	+0.3
	comp=Z,8.3nm,1.1s,baz=96,slow=4.7,SNR=5.5						
CTAO	**Charters Tower**	**20.44**	**256**	P	Pn	17 37 06.2	-0.5
CTAO				IAmb	IAmb	17 37 36.3	
	comp=Z,26nm,1.5s						
BKZ	**Black Stump Fm**	**24.34**	**163**	P	**P**	**17 37 45.1**	**+0.8**
BKZ				IAmb	IAmb	17 37 50.1	
	comp=Z,44nm,1.5s						
RPZ	**Rata Peaks**	**27.71**	**174**	LR	LR	17 48 58.9	
	comp=Z,228nm,18.1s,baz=356,slow=36						
STKA	**Stephens Creek**	**28.19**	**232**	P	**P**	**17 38 20.2**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=42,slow=5.3,SNR=4.4						
STKA	**Stephens Creek**	**28.19**	**232**	IAmb	IAmb	17 38 21.2	
	comp=Z,1.5nm,1.1s						
WB0	**Warramunga Arr**	**31.54**	**258**	P	**P**	**17 38 48.6**	**-0.4**
WB0				IAmb	IAmb	17 39 22.0	
	comp=Z,4.5nm,1.1s						
WRAB	**Tennant Creek**	**31.59**	**258**	P	**P**	**17 38 48.9**	**-0.5**
WRAB				IAmb	IAmb	17 39 03.7	
	comp=Z,14nm,1.6s						
WRA	**Warramunga Arr**	**31.60**	**258**	P	**P**	**17 38 49.6**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=86,slow=8.4,SNR=6.8						
AS31	**Alice Springs**	**32.28**	**251**	P	**P**	**17 38 55.8**	**+0.3**
ASAR	**Alice Springs**	**32.28**	**251**	P	**P**	**17 38 55.8**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=76,slow=9.0,SNR=80						
BBOO	**Buckleboo**	**32.82**	**234**	P	**P**	**17 39 01.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**39.86**	**261**	P	**P**	**17 40 01.2**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=73,slow=9.9,SNR=6.4						
FITZ				LR	LR	17 55 59.4	
	comp=Z,151nm,19.8s,baz=118,slow=35						
LEM	**Lembang**	**59.09**	**272**	LR	LR	18 07 51.7	
	comp=Z,91nm,20.2s,baz=178,slow=36						
MJB9	**Matsu-Tunnel**	**59.16**	**333**	P	**P**	**17 42 26.5**	**-0.6**
VNDA	**Vanda**	**61.50**	**181**	P	**P**	**17 42 42.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=139,slow=16,SNR=2.9						
VNDA	**Vanda**	**61.50**	**181**	IAmb	IAmb	17 43 04.8	
	comp=Z,4.8nm,1.6s						
SBA	**Scott Base**	**61.78**	**180**	P	**P**	**17 42 46.4**	**+2.0**
SBA				IAmb	IAmb	17 42 46.9	
	comp=Z,2.8nm,0.9s						
CASY	**Casey**	**62.30**	**202**	P	**P**	**17 42 48.7**	**+0.6**
CASY				IAmb	IAmb	17 43 18.5	
	comp=Z,11nm,1.4s						
KSRS	**Korea Array**	**64.91**	**326**	LR	LR	18 09 22.8	
	comp=Z,8.5nm,19.8s,baz=135,slow=34						
PEA0B	**Petropavlovsk-**	**69.42**	**354**	P	**P**	**17 43 34.0**	**+0.1**
PETK	**Petropavlovsk-**	**69.42**	**354**	P	**P**	**17 43 34.6**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=156,slow=7.6,SNR=4.5						
KLR	**Kul'dur**	**72.29**	**336**	LR	LR	18 11 18.4	
	comp=Z,35nm,20.9s,baz=116,slow=32						
QSPA	**South Pole Qui**	**73.94**	**180**	P	**P**	**17 44 01.6**	**+0.4**
QSPA				IAmb	IAmb	17 44 10.5	
	comp=Z,7.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**75.58**	**294**	P	**P**	**17 44 12.8**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=137,slow=4.5,SNR=5.6						
CMAR	**Chiang Mai Arr**	**75.58**	**294**	P	**P**	**17 44 12.0**	**+0.7**
ILAR	**Eielson Array**	**87.80**	**18**	LR	LR	18 19 36.0	
	comp=Z,52nm,19.4s,baz=179,slow=32						
PALK	**Pallekele**	**88.79**	**278**	LR	LR	18 22 36.4	
	comp=Z,27nm,21.9s,baz=288,slow=34						
ARCES	**ARCESS Array B**	**121.59**	**345**	PKP	**PKPdf**	**17 51 18.4**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=68,slow=2.4,SNR=16						
FINES	**FINESS Array B**	**127.02**	**338**	PKP	**PKPdf**	**17 51 28.5**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=81,slow=6.0,SNR=5.1						

DJA ***29*** *17:35:18.2±0.5, 7°.S±2°×10°.6E±°, h21km±4km, M4.5/25, mb4.4/12, mB5.4/1, MLv4.6/25, Mw(mB)4.8/1*

NEIC ***29*** *17:35:18.6±2.8, 7°.29S±0°.03×105°.83E±0°.05, h37km±6km, mb4.7/33, Error ellipse: s-maj=8.4km s-min=2.1km az=59.0*

IDC ***29*** *17:35:24.1±3.0, 6°.88S×106°.05E, h74km±24km, mb4.0/14, mb1 4.2/15, mb1mx3.8/49, mbtmp4.4/15, MS3.6/2, Ms1 3.6/2, ms1mx2.7/84, Error ellipse: s-maj=31.3km s-min=12.9km az=54.0*

ISC 29 17:35:18.9±0.4, 7°.20S±0°.05×105°.93E±0°.04, h39km±2km, n124, σ1§62/132, mb4.6/33, 1C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.65**	**73**	P	**Pn**	**17 35 29.9**	**-1.8**
SKJI				S	**Sn**	**17 35 40.5**	**-0.3**
DBJI	**Dramaga**	**1.03**	**52**	P	**Pn**	**17 35 35.6**	**-1.3**
DBJI				S	**Sn**	**17 35 49.2**	**-1.0**
SBJI	**Serang**	**1.09**	**11**	P	**Pn**	**17 35 36.3**	**-1.3**
SBJI				S	**Sn**	**17 35 49.8**	**-1.6**
CBJI	**Citeko**	**1.20**	**50**	P	**Pn**	**17 35 37.3**	**-1.8**
CNJI	**Cibinong**	**1.20**	**96**	P	**Pn**	**17 35 38.2**	**-0.9**
CNJI				S	**Sn**	**17 35 52.6**	**-1.5**
TNG	**Tangerang**	**1.24**	**35**	P	**Pn**	**17 35 40.3**	**+0.6**
TNG				P	**Pn**	**17 35 38.5**	**-1.2**
TNG				S	**Sn**	**17 35 55.0**	**-0.3**
TNG				S	**Sn**	**17 35 56.5**	**+1.2**
LEM	**Lembang**	**1.71**	**78**	P	**Pn**	**17 35 48.5**	**+2.1**
	239nm,0.3s,baz=325,slow=3.1,SNR=204						
LEM				S	**Sn**	**17 36 10.0**	**+2.8**
	288nm,0.3s,baz=299,slow=22,SNR=8.5						
LEM	**Lembang**	**1.71**	**78**	P	**Pn**	**17 35 47.1**	**+0.7**
BLSI	**Bandar Lampung**	**1.94**	**339**	P	**Pn**	**17 35 47.7**	**-1.7**
KASI	**Kota Agung**	**2.19**	**319**	P	**Pn**	**17 35 52.7**	**-0.1**
KASI				S	**Sn**	**17 36 21.8**	**+3.2**
JCJI	**Jatiwangi**	**2.43**	**73**	P	**Pn**	**17 35 55.9**	**-0.2**
KLI	**Kotabumi**	**2.55**	**335**	P	**Pn**	**17 35 57.1**	**-0.7**
CMJI	**Cimerak**	**2.57**	**103**	P	**Pn**	**17 35 57.7**	**-0.3**
CMJI				S	**Sn**	**17 36 26.7**	**-1.2**
LWLI	**Liwa**	**2.85**	**319**	P	**Pn**	**17 36 02.4**	**+0.4**
XMI	**Christmas Isla**	**3.24**	**184**	P	**Pn**	**17 36 06.6**	**-0.7**
XMIS	**Christmas Isla**	**3.28**	**185**	Pn	**Pn**	**17 36 05.8**	**-1.9**
XMIS	**Christmas Isla**	**3.28**	**185**	P	**Pn**	**17 36 07.2**	**-0.6**
MNAI	**Manna**	**4.08**	**313**	Pn	**Pn**	**17 36 18.3**	**-0.6**
MNAI	**Manna**	**4.08**	**313**	P	**Pn**	**17 36 20.6**	**+1.7**
MNAI	**Manna**	**4.08**	**313**	P	**Pn**	**17 36 23.5**	**+4.6**
YOGI	**Yogyakarta**	**4.37**	**98**	P	**Pn**	**17 36 23.0**	**+0.2**
SMRI	**Semarang**	**4.48**	**88**	Pn	**Pn**	**17 36 24.7**	**+0.4**
SMRI	**Semarang**	**4.48**	**88**	P	**Pn**	**17 36 28.4**	**+4.1**
SMRI	**Semarang**	**4.48**	**88**	P	**Pn**	**17 36 26.5**	**+2.2**
UGM	**Wanagama**	**4.61**	**99**	Pn	**Pn**	**17 36 26.8**	**+0.7**
UGM	**Wanagama**	**4.61**	**99**	P	**Pn**	**17 36 27.3**	**+1.2**
UGM				S	**Sn**	**17 37 19.1**	**+0.6**
UGM	**Wanagama**	**4.61**	**99**	P	**Pn**	**17 36 26.8**	**+0.7**
TPI	**Tanjungpandan**	**4.73**	**21**	P	**Pn**	**17 36 27.0**	**-0.8**
PPBI	**Pangkal Pinang**	**5.00**	**2**	P	**Pn**	**17 36 31.4**	**-0.1**
UWJI	**Ujung Watu**	**5.04**	**82**	P	**Pn**	**17 36 32.4**	**+0.4**
PCJI	**Pacitan**	**5.29**	**101**	P	**Pn**	**17 36 36.1**	**+0.6**
PWJI	**Pagerwojo**	**5.88**	**98**	P	**Pn**	**17 36 44.2**	**+0.6**
	0.5nm101nm,1.1s						
DSRI	**Dabo**	**6.81**	**349**	P	**Pn**	**17 36 56.7**	**+0.4**
	0.1nm12nm,1.0s						
PBKI	**Pangkalan Bun**	**7.25**	**52**	P	**Pn**	**17 37 01.8**	**-0.6**
	0.3nm44nm,1.0s						
PPSI	**Pulau Pagai**	**7.36**	**306**	P	**Pn**	**17 37 05.5**	**+1.6**
	0.5nm142nm,1.1s						
GMJI	**Gumukmas**	**7.52**	**99**	P	**Pn**	**17 37 07.5**	**+1.4**
	0.2nm30nm,0.9s						
KMMI	**Kalianget**	**7.98**	**89**	P	**Pn**	**17 37 11.6**	**-0.8**
	0.2nm17nm,0.9s						
JAGI	**Jajag, Banyuwa**	**8.24**	**99**	Pn	**Pn**	**17 37 17.5**	**+1.4**
JAGI	**Jajag, Banyuwa**	**8.24**	**99**	P	**Pn**	**17 37 17.0**	**+1.0**
	59nm,1.7s						
JAGI	**Jajag, Banyuwa**	**8.24**	**99**	P	**Pn**	**17 37 18.1**	**+2.1**
SISI	**Saibi**	**8.97**	**310**	P	**Pn**	**17 37 28.2**	**+2.2**
	20nm,0.9s						
MYKOM	**Kota Tinggi**	**9.16**	**347**	Pn	**Pn**	**17 37 31.2**	**+2.6**
SRBI	**Singaraja**	**9.24**	**96**	P	**Pn**	**17 37 33.5**	**+3.8**
IGBI	**Denpasar**	**9.27**	**101**	P	**Pn**	**17 37 29.7**	**-0.4**
	36nm,0.7s						
KSM	**Kuching**	**9.66**	**27**	Pn	**Pn**	**17 37 37.8**	**+2.4**
COCO	**West Island**	**10.25**	**240**	Pn	**Pn**	**17 37 41.8**	**-1.6**
SBUM	**Sibu**	**11.46**	**33**	Pn

SONM				PcP	**PcP**	**17 45 46.6**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=177,slow=3.3,SNR=6.6						
SONM	**Songino Array**	**54.79**	**0**	P	**P**	**17 44 43.5**	**-1.4**
SOCY	**Socotra**	**55.11**	**290**	P	**P**	**17 44 48.2**	**+0.4**
SOCY				IAmb	IAmb	17 45 06.4	
	comp=Z,5.4nm,0.9s						
MKAR	**Makanchi Array**	**57.72**	**341**	P	**P**	**17 45 06.6**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=153,slow=7.4,SNR=3.1						
MKAR	**Makanchi Array**	**57.72**	**341**	P	**P**	**17 45 05.9**	**+0.2**
CASY	**Casey**	**59.08**	**178**	P	**P**	**17 45 16.0**	**+1.1**
CASY				IAmb	IAmb	17 45 51.5	
	comp=Z,20nm,1.5s						
KURK	**Kurchatov**	**62.33**	**341**	P	**P**	**17 45 35.6**	**-1.6**
WKZ	**Wanaka**	**65.98**	**136**	P	**P**	**17 46 00.6**	**-0.9**
RPZ	**Rata Peaks**	**67.15**	**134**	P	**P**	**17 46 11.7**	**+2.8**
	comp=Z,9.4nm,0.9s,baz=294,slow=5.2,SNR=5.3						
RPZ	**Rata Peaks**	**67.15**	**134**	P	**P**	**17 46 05.9**	**-3.0**
OXZ	**Oxford**	**67.77**	**134**	P	**P**	**17 46 12.5**	**-0.3**
LTZ	**Lake Taylor**	**67.83**	**133**	P	**P**	**17 46 12.3**	**-0.9**
LTZ				IAmb	IAmb	17 46 33.1	
	comp=Z,38nm,1.6s						
THZ	**Tophouse**	**68.11**	**132**	P	**P**	**17 46 13.8**	**-1.2**
THZ				IAmb	IAmb	17 46 18.1	
	comp=Z,18nm,0.9s						
MQZ	**McQueen's Vall**	**68.28**	**134**	P	**P**	**17 46 15.6**	**-0.4**
NNZ	**Nelson**	**68.36**	**131**	P	**P**	**17 46 16.1**	**-0.4**
KHZ	**Kahutara**	**68.69**	**133**	P	**P**	**17 46 18.8**	**+0.2**
ABKAR	**Akbulak array**	**69.04**	**330**	P	**P**	**17 46 18.3**	**-2.2**
ABKAR				IAmb	IAmb	17 46 24.7	
	comp=Z,4.7nm,0.8s						
BKZ	**Black Stump Fm**	**70.43**	**129**	P	**P**	**17 46 28.4**	**-1.1**
SYO	**Syowa Base**	**74.96**	**200**⇓	*eP*	**P**	**17 46 57.0**	**+1.3**
SYO	**Syowa Base**	**74.96**	**200**⇑	*e*PcP	**PcP**	**17 47 09.0**	**-0.3**
VNDA	**Vanda**	**75.97**	**169**	P	**P**	**17 47 04.5**	**+3.1**
	comp=Z,1.8nm,0.7s,baz=319,slow=5.5,SNR=13						
VNDA	**Vanda**	**75.97**	**169**	P	**P**	**17 47 04.2**	**+2.8**
VNDA				IAmb	IAmb	17 47 18.3	
	comp=Z,7.5nm,1.6s						
KBZ	**Khabaz**	**76.08**	**318**	P	**P**	**17 47 02.9**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=224,slow=9.0,SNR=4.1						
SBA	**Scott Base**	**77.05**	**169**	P	**P**	**17 47 06.2**	**-1.3**
TIXI	**Tiksi**	**80.13**	**7**	P	**P**	**17 47 21.6**	**-2.8**
TIXI				IAmb	IAmb	17 47 30.5	
	comp=Z,7.2nm,1.7s						
BR131	**Keskin Array S**	**81.17**	**312**	P	**P**	**17 47 28.3**	**-2.6**
BR131				IAmb	IAmb	17 47 39.0	
	comp=Z,12nm,1.6s						
BRTR	**Keskin Array B**	**81.17**	**312**	P	**P**	**17 47 31.4**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=131,slow=5.6,SNR=8.4						
BRTR	**Keskin Array B**	**81.17**	**312**	P	**P**	**17 47 27.8**	**-3.1**
AKASG	**Malin Array Be**	**87.19**	**322**	LR	LR	18 32 18.3	
	comp=Z,50nm,19.9s,baz=349,slow=39						
FINES	**FINESS Array B**	**91.44**	**332**	P	**P**	**17 48 20.6**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=190,slow=5.8,SNR=4.0						
ARCES	**ARCESS Array B**	**93.35**	**340**	P	**P**	**17 48 29.2**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=79,slow=7.5,SNR=4.1						
YKA	**Yellowknife Ar**	**117.41**	**20**	PKP	**PKPdf**	**17 53 59.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=348,slow=2.1,SNR=2.3						
CPUP	**Villa Florida**	**142.92**	**205**	PKP	**PKPdf**	**17 54 50.4**	**+1.2**
	comp=Z,1.9nm,0.5s,baz=125,slow=2.4,SNR=5.0						
TXAR	**Lajitas Array**	**144.49**	**48**	PKP	**PKPdf**	**17 54 51.3**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=257,slow=0.7,SNR=14						
TXAR				SKPbc	**SKPbc**	**17 58 27.2**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=317,slow=2.4,SNR=4.2						
TXAR	**Lajitas Array**	**144.49**	**48**		**PKPab**	**17 54 50.1**	**-0.2**
TKL	**Tuckaleechee C**	**150.31**	**16**	PKPbc	**PKPbc**	**17 55 06.3**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=137,slow=5.8,SNR=4.0						

DJA 29 17:36:45.6±0.3,**5˚S**±5˚×**13˚5E**±˚,**h101**km±8km,**M4.4/6, mb4.4/4,mB5.2/2,MLv4.4/6,Mw(mB)4.6/2,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**2.91**	**22**	P	Pn	17 37 30.5	+0.3
BAKI	**Biak**	**3.50**	**16**	P	Pn	17 37 39.7	+1.5
SMPI	**Sarmi**	**4.38**	**54**	P	Pn	17 37 50.5	+0.6
SMPI				S	Sn	17 38 39.6	-0.3
SWI	**Sorong**	**5.38**	**313**	P	Pn	17 38 04.4	+0.9
	0.3nm2µm30nm,0.6s						
MMPI	**Merauke**	**6.45**	**127**	P	Pn	17 38 39.3	+21
LBMI	**Labuha**	**8.61**	**297**	P	Pn	17 38 48.4	+1.0
	13nm,1.1s						

NEIC ***29*** *17:37:53.8,6˚.85N×82˚.75W,h17km,Moment Tension Solution. Moment tensor: Scale 10^16Nm; Mrr0.05; Mθθ-0.14; Mφφ0.09; Mrθ-0.34; Mφr0.98; Mθr-0.30; Fault plane solution: M0 1.08000×10^16 NP1:φs264.70000°, δ75.73000°,λ-14.68000°. NP2:φs358.40000°,δ75.79000°, λ-165.27000°. Principal axes: T 0.9608, Plg0.0000°, Azm132.0000°; N 0.2149, Plg70.0000°, Azm41.0000°; P -1.1758, Plg20.0000°, Azm222.0000°;*

NEIC ***29*** *17:37:54.0±2.5,6˚.79N±0˚.05×82˚.69W±0˚.06,h10km±4km, mb4.7/142,Mwr4.6/27 Error ellipse: s-maj=9.3km s-min=6.0km az=59.0*

IDC ***29*** *17:37:55.2±0.8,6˚.86N×82˚.86W,h0km, mb4.2/12, mb1 4.5/16,mb1mx4.4/32, mbtmp4.3/16,ML3.3/3,MS3.7/29, Ms1 3.7/29,ms1mx3.6/52,Error ellipse: s-maj=27.9km s-min=14.8km az=47.0*

INET ***29*** *17:37:55.8±2.1,6˚.69N×82˚.77W,h15km±23km,MW4.1*

UCR ***29*** *17:37:55.7±1.5,6˚.76N×82˚.70W,h23km±32km,MW4.9, mb4.6(NEIC)*

UPA ***29*** *17:37:56.1±1.7,6˚.78N×82˚.70W,h24km±31km,ML5.2, MW4.9,Fault plane solution: NP1:φs89.11000°, δ31.47000°,λ16.74000°.*

GCMT ***29*** *17:37:59.0±0.3,6˚.70N±0˚.01×82˚.52W±0˚.03,h21km±1km, MW4.8/87,Moment Tensor Solution. s16,c17; s87,c111; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.30±.11; Mθθ-0.39±.07; Mφφ0.08±.11; Mrθ-0.26±.15; Mφφ2.09±.09; Mθr0.16±.15; Best double couple: M0 2.12200×10^16 NP1:φs177.00000°,δ84.00000°,λ-177.00000°. NP2: φs87.00000°,δ87.00000°,λ-6.00000°. Principal axes: T 1.9540, Plg2.0000°, Azm132.0000°; N 0.3360, Plg83.0000°, Azm238.0000°; P -2.2900, Plg7.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 17:37:54.6±0.4,**6˚.82N**±0˚.04×**82˚.66W**±0˚.03,**h10**km,**n440,** σ1**847**/426,**mb4.7**/70,**MS3.7**/27,**25C-31D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIMO3	**Limones**	**1.29**	**351**	*i*P	**Pn**	**17 38 17.8**	**-0.9**
LIMO3				*i* S	**Sb**	**17 38 34.4**	**-1.3**
PTPM	**Petroterminale**	**1.40**	**351**	⇓*i*P	**Pn**	**17 38 19.2**	**-1.0**
PTPM				*i* S	**Sn**	**17 38 36.0**	**-2.7**
PEDE3	**Pedregal, Chir**	**1.57**	**9**	⇑*e*P	**Pb**	**17 38 22.9**	**-0.9**
LESP3	**La Esperanza,**	**1.58**	**355**	⇓*e*P	**Pb**	**17 38 22.9**	**-1.1**
CHIR3	**Chiriqui UPA,**	**1.60**	**12**	⇓*e*P	**Pn**	**17 38 22.8**	**-0.2**
DVD	**David**	**1.62**	**7**	⇓*i*P	**Pb**	**17 38 23.6**	**-1.0**
DVD				*i* S	**Sn**	**17 38 44.3**	**+0.1**
LOMA3	**Las Lomas, Chi**	**1.62**	**9**	⇑*e*P	**Pb**	**17 38 23.5**	**-1.2**
BAGA3	**Bagala, Chiriq**	**1.64**	**5**	*e*P	**Pn**	**17 38 23.2**	**-0.4**
GMAL	**Guarumal, Vera**	**1.70**	**56**	*e*P	**Pn**	**17 38 24.1**	**-0.3**
GMAL	**Guarumal, Vera**	**1.70**	**56**	⇓*i*P	**Pn**	**17 38 24.1**	**-0.3**
GMAL				*i* S	**Sn**	**17 38 45.5**	**-0.6**
PIRO	**Carate, Puerto**	**1.71**	**337**	*e*P	**Pn**	**17 38 22.9**	**-1.7**
PIRO				*e*S	**Sb**	**17 38 47.2**	**-0.6**
PIRO	**Carate, Puerto**	**1.71**	**337**	⇑*i*P	**Sn**	**17 38 23.0**	**-1.6**
PIRO				*i* S	**Sn**	**17 38 43.5**	**-3.0**
PIRO	**Carate, Puerto**	**1.71**	**337**	*e*P	**Pn**	**17 38 23.2**	**-1.4**
GUAL3	**Gualaca, Chiri**	**1.74**	**12**	⇓*e*P	**Pn**	**17 38 24.9**	**0.0**
CDITO	**Canoas**	**1.76**	**353**		**Pn**	**17 38 24.7**	**-0.4**
CDITO				Sn	**Sn**	**17 38 46.1**	**-1.5**
CDITO	**Canoas**	**1.76**	**353**	⇑*e*P	**Pn**	**17 38 24.9**	**-0.3**
PTJ1	**Puerto Jimnez**	**1.82**	**340**	*e*P	**Pn**	**17 38 26.2**	**+0.2**
PTJ1				*e*S	**Sb**	**17 38 50.6**	**-0.4**
MARI3	**Mariato, Verag**	**1.85**	**63**	⇓*i*P	**Pn**	**17 38 26.2**	**-0.2**
CACAO	**El Cacao, Vera**	**1.86**	**74**	⇓*i*P	**Pn**	**17 38 25.5**	**-1.0**
CACAO				AMP		17 38 26.9	
	comp=Z,18µm,0.1s						
CACAO				*i* S	**Sn**	**17 38 46.1**	**-4.0**
BCO2	**Palmira**	**1.89**	**4**	⇓*e*P	**Pn**	**17 38 27.3**	**+0.1**
BCO2				*e*S	**Sn**	**17 38 49.2**	**-2.0**
BRU2	**Volcan**	**1.96**	**359**		**Pn**	**17 38 28.1**	**0.0**
BRU2				Sn	**Sn**	**17 38 51.1**	**-1.9**
BRU2	**Volcan**	**1.96**	**359**	*e*P	**Pn**	**17 38 28.3**	**+0.1**
BRU2				*e*S	**Sn**	**17 38 53.1**	**+0.1**
BRU2	**Volcan**	**1.96**	**359**	⇓*i*P	**Pn**	**17 38 28.2**	**0.0**
BRU2				*i* S	**Sn**	**17 38 53.6**	**+0.6**
LNBQ3	**Los Naranjos,**	**1.97**	**6**	⇑*i*P	**Pn**	**17 38 28.4**	**+0.2**
LNBQ3				*i* S	**Sn**	**17 38 53.4**	**+0.3**
BC3P	**Paso Ancho**	**1.98**	**1**	⇓*e*P	**Pn**	**17 38 28.4**	**-0.1**
EDSV	**San Vito**	**2.01**	**351**	*e*P	**Pb**	**17 38 29.7**	**-1.7**
EDSV				*e*S	**Sb**	**17 38 56.1**	**-0.5**
RIOS	**Rincon, Osa**	**2.05**	**336**		**Pn**	**17 38 27.8**	**-1.4**
RIOS				Sn	**Sn**	**17 38 52.6**	**-2.3**
RIOS	**Rincon, Osa**	**2.05**	**336**	*e*P	**Pn**	**17 38 27.8**	**-1.4**
RIOS				*e*S	**Sn**	**17 38 54.9**	**-0.1**
RIOS	**Rincon, Osa**	**2.05**	**336**	*e*P	**Pn**	**17 38 28.2**	**-1.2**
RIOS				*e*S	**Sn**	**17 38 55.0**	**+0.1**
PLAN	**Los Planes de**	**2.10**	**331**	*e*P	**Pn**	**17 38 28.4**	**-1.5**
CHGR2	**Aguacate**	**2.17**	**14**	⇓*e*P	**Pn**	**17 38 30.6**	**-0.3**
CHGR2				*i* S	**Sn**	**17 38 56.9**	**-0.9**
POTG	**Potrero Grande**	**2.27**	**348**	*e*P	**Pn**	**17 38 32.8**	**+0.6**
PESE3	**Pese, Herrera**	**2.30**	**62**	⇓*e*P	**Pn**	**17 38 32.8**	**+0.2**
CALO3	**Calobre, Verag**	**2.34**	**50**	⇓*i*P	**Pn**	**17 38 33.8**	**+0.6**
CRIS3	**El Cristo, Coc**	**2.48**	**55**	⇑*i*P	**Pn**	**17 38 35.8**	**+0.7**
CHIT3	**Chitre**	**2.49**	**63**	*e*P	**Pn**	**17 38 35.8**	**+0.5**
SRBA	**San Rafael, Bu**	**2.50**	**344**	Pn	**Pn**	**17 38 35.3**	**-0.2**
SRBA	**San Rafael, Bu**	**2.50**	**344**	*e*P	**Pn**	**17 38 35.4**	**-0.1**
DRK0	**Durika**	**2.50**	**347**		**Pn**	**17 38 35.5**	**0.0**
DRK0	**Durika**	**2.50**	**347**	*e*P	**Pn**	**17 38 35.7**	**+0.2**
DRK0	**Durika**	**2.50**	**347**	⇑*i*P	**Pn**	**17 38 35.7**	**+0.2**
ACHO3	**Achotines, Los**	**2.54**	**76**	⇓*i*P	**Pn**	**17 38 35.1**	**-0.8**
ACHO3				*i* S	**Sn**	**17 39 04.6**	**-2.2**
AZU	**Azuero**	**2.56**	**68**	*i* P	**Pn**	**17 38 36.1**	**0.0**
AZU				*e*S	**Sn**	**17 39 05.8**	**-1.7**
AZU	**Azuero**	**2.56**	**68**	*e*P	**Pn**	**17 38 36.3**	**+0.1**
AZU	**Azuero**	**2.56**	**68**	⇓*i*P	**Pn**	**17 38 36.3**	**+0.1**
AZU				*i* S	**Sn**	**17 39 05.3**	**-2.0**
CNI2	**El Empalme, Bo**	**2.60**	**4**	⇓*i*P	**Pb**	**17 38 38.6**	**-2.6**
PCRI3	**Pocri, Los San**	**2.66**	**71**	⇓*i*P	**Pn**	**17 38 37.6**	**+0.1**
EDDO	**Dominical**	**2.70**	**334**	*e*P	**Pn**	**17 38 38.1**	**0.0**
PEDA3	**Pedasi**	**2.71**	**75**	⇓*e*P	**Pn**	**17 38 37.5**	**-0.7**
PEZE	**Perez Zeledon,**	**2.74**	**338**		**Pn**	**17 38 38.9**	**+0.1**
PEZE	**Perez Zeledon,**	**2.74**	**338**	*e*P	**Pn**	**17 38 39.0**	**+0.3**
PEZE	**Perez Zeledon,**	**2.74**	**338**	*e*P	**Pn**	**17 38 39.1**	**+0.3**
PEZE				*e*S	**Sn**	**17 39 14.0**	**+1.9**
RGM0	**Gandoca**	**2.75**	**1**		**Pb**	**17 38 41.2**	**-2.8**
RGM0	**Gandoca**	**2.75**	**1**	*e*P	**Pb**	**17 38 41.4**	**-2.6**
RGM0	**Gandoca**	**2.75**	**1**	⇓*i*P	**Pb**	**17 38 41.4**	**-2.6**
RGM0				*i* S	**Sb**	**17 39 16.5**	**-1.4**
RGM0	**Gandoca**	**2.75**	**1**	*e*P	**Pb**	**17 38 41.7**	**-2.3**
PNME	**Penonome**	**2.84**	**54**	⇓*e*P	**Pn**	**17 38 41.5**	**+1.3**
CDM	**Cerro de Muert**	**2.93**	**338**	*e*P	**Pn**	**17 38 42.0**	**+0.2**
CDM	**Cerro de Muert**	**2.93**	**338**	*e*P	**Pn**	**17 38 41.9**	**+0.2**
CDM				*e*S	**Sn**	**17 39 19.1**	**+1.9**
VTON	**El Valle, Cocl**	**3.09**	**55**	⇓*e*P	**Pn**	**17 38 45.4**	**+1.8**
VTON				*i* S	**Sn**	**17 39 19.0**	**-1.6**
RIMA	**Rio Macho**	**3.16**	**338**		**Pn**	**17 38 44.9**	**+0.2**
RIMA	**Rio Macho**	**3.16**	**338**	*e*P	**Pn**	**17 38 44.9**	**+0.2**
RIMA	**Rio Macho**	**3.16**	**338**	*e*P	**Pn**	**17 38 45.0**	**+0.2**
RIMA				*e*S	**Sn**	**17 39 23.5**	**+0.8**
LCR2	**La Lucha 2**	**3.20**	**335**	*e*P	**Pn**	**17 38 45.3**	**+0.1**
OCM	**Ochomogo**	**3.32**	**337**	*e*P	**Pn**	**17 38 47.3**	**+0.4**
RAFA	**San Farael, Vo**	**3.32**	**340**	*e*P	**Pn**	**17 38 47.9**	**+0.9**
BATAN	**Batan**	**3.33**	**348**		**Pn**	**17 38 48.6**	**+1.8**
BATAN	**Batan**	**3.33**	**348**	⇓*e*P	**Pn**	**17 38 49.0**	**+2.1**
BATAN				*i* S	**Sb**	**17 39 30.6**	**-4.0**
CVTR	**Volcan Turrial**	**3.36**	**341**		**Pn**	**17 38 48.9**	**+1.2**
HDC3	**Heredia 3**	**3.48**	**336**	*e*P	**Pn**	**17 38 49.8**	**+0.9**
HDC3				*e*S	**Sn**	**17 39 31.7**	**+1.5**
HDC	**Heredia**	**3.48**	**336**		**Pn**	**17 38 49.5**	**+0.6**
HDC	**Heredia**	**3.48**	**336**	*e*P	**Pn**	**17 38 49.9**	**+0.9**
HDC	**Heredia**	**3.48**	**336**	⇑*i*P	**Pn**	**17 38 49.9**	**+0.9**
HDC				*i* S	**Sn**	**17 39 31.4**	**+1.1**
ZANG	**Zanguenga, Cho**	**3.49**	**52**	*e*P	**Pn**	**17 38 50.5**	**+1.5**
ZANG	**Zanguenga, Cho**	**3.49**	**52**	⇓*i*P	**Pn**	**17 38 50.5**	**+1.5**
BCIP	**Isla Barro Col**	**3.64**	**50**		**Pn**	**17 38 52.2**	**+1.2**
BCIP	**Isla Barro Col**	**3.64**	**50**	*e*P	**Pn**	**17 38 53.1**	**+2.0**
BCIP	**Isla Barro Col**	**3.64**	**50**	⇓*i*P	**Pn**	**17 38 52.2**	**+1.2**
BCIP				*e*S	**Sn**	**17 39 34.1**	**0.0**
BCIP	**Isla Barro Col**	**3.64**	**50**	*e*P	**Pn**	**17 38 52.3**	**+1.2**
ARRA3	**Arraijan, Pana**	**3.66**	**54**	⇓*i*P	**Pn**	**17 38 52.6**	**+1.3**
ARRA3				*i* S	**Sn**	**17 39 37.9**	**+3.3**
MLIR	**Monte Lirio**	**3.68**	**49**	⇓*e*P	**Pn**	**17 38 52.9**	**+1.3**
CRPO	**Crater poas**	**3.70**	**335**	*e*P	**Pn**	**17 38 52.7**	**+0.6**
GAMB1	**Gamboa**	**3.71**	**52**	⇓*i*P	**Pn**	**17 38 54.0**	**+2.0**
LAFE	**Finca La Fe, P**	**3.71**	**323**	*e*P	**Pn**	**17 38 51.6**	**-0.5**
LAFE	**Finca La Fe, P**	**3.71**	**323**	*e*P	**Pn**	**17 38 51.6**	**-0.5**
FLAM	**Flamenco Islan**	**3.73**	**56**	⇑*i*P	**Pn**	**17 38 54.1**	**+1.9**
CAO2	**Cobano, Puntar**	**3.74**	**320**	Pn	**Pn**	**17 38 51.3**	**-1.2**
FRIJ	**El Hiral**	**3.76**	**50**	⇓*i*P	**Pn**	**17 38 53.9**	**+1.2**
UPA	**Univ. de Panam**	**3.77**	**55**	*e*P	**Pn**	**17 38 53.1**	**+0.3**
UPA	**Univ. de Panam**	**3.77**	**55**	⇓*i*P	**Pn**	**17 38 54.0**	**+1.2**
UPA				*i* S	**Sn**	**17 39 39.5**	**+2.2**
JTS	**Las Juntas de**	**4.13**	**327**	Pn	**Pn**	**17 38 57.6**	**-0.2**
	comp=Z,53nm,0.3s,baz=142,slow=6.2,SNR=251						
JTS				Sn	**Sn**	**17 39 46.4**	**+0.2**
	comp=Z,47nm,0.3s,baz=102,slow=22,SNR=6.5						
JTS	**Las Juntas de**	**4.13**	**327**	Pn	**Pn**	**17 38 57.3**	**-0.6**
JTS	**Las Juntas de**	**4.13**	**327**	*e*P	**Pn**	**17 38 57.7**	**-0.2**
JTS	**Las Juntas de**	**4.13**	**327**	⇑*i*P	**Pn**	**17 38 57.6**	**-0.2**
IND1	**Punta indio, G**	**4.13**	**317**	*e*P	**Pn**	**17 38 57.1**	**-0.9**
ARE1	**Arenal 1**	**4.15**	**331**	*e*P	**Pn**	**17 38 59.2**	**+1.1**
CEDE	**Laguna Cedeo**	**4.17**	**331**	⇑*e*P	**Pn**	**17 38 59.3**	**+0.8**
GRZA	**Playa Garza**	**4.26**	**316**	*e*P	**Pn**	**17 38 58.3**	**-1.3**
DUNO	**Dulce Nombre,**	**4.29**	**319**		**Pn**	**17 38 58.7**	**-1.2**
DUNO	**Dulce Nombre,**	**4.29**	**319**	*e*P	**Pn**	**17 38 59.1**	**-0.8**
SAJU	**San Juanillo,**	**4.42**	**317**	*e*P	**Pn**	**17 39 00.4**	**-1.4**
GUAI	**GUAI**	**4.44**	**321**	⇑*e*P	**Pn**	**17 39 01.2**	**-0.9**
ACAL	**Aguas Claras**	**4.46**	**328**	⇑*e*P	**Pn**	**17 39 03.1**	**+0.7**
ACAL				*e*S	**Sn**	**17 39 57.6**	**+3.1**
ORTG	**Ortega, Santa**	**4.48**	**322**	Pn	**Pn**	**17 39 01.9**	**-0.8**
ORTG	**Ortega, Santa**	**4.48**	**322**	*e*P	**Pn**	**17 39 02.2**	**-0.5**
CUI	**Cuipilapa**	**4.55**	**327**	*e*P	**Pn**	**17 39 04.1**	**+0.5**
COLC	**Colonia**	**4.58**	**327**	*e*P	**Pn**	**17 39 04.2**	**+0.2**
HORNC	**Hornillas**	**4.60**	**327**	*e*P	**Pn**	**17 39 05.0**	**+0.6**
GUAB	**Guayabo de Bag**	**4.62**	**327**	*e*P	**Pn**	**17 39 05.5**	**+0.8**
LIM1	**Limonal**	**4.63**	**327**	*e*P	**Pn**	**17 39 05.1**	**+0.4**
GPS2	**Hotel Rincn d**	**4.73**	**326**	*e*P	**Pn**	**17 39 06.2**	**+0.1**
BUEV	**Buena Vista**	**4.80**	**326**	⇑*e*P	**Pn**	**17 39 07.9**	**+0.8**
GB1A	**Boringuen Arri**	**4.81**	**326**	*e*P	**Pn**	**17 39 07.9**	**+0.6**
GBS3	**Finca Las Img**	**4.81**	**325**	*e*P	**Pn**	**17 39 07.5**	**+0.2**
BUAI	**Buenos Aires**	**4.82**	**327**	⇑*e*P	**Pn**	**17 39 07.6**	**+0.3**
PTAC	**Punta Ardita,**	**4.83**	**86**	*e*P	**Pn**	**17 39 08.4**	**+1.1**
HZTE	**Horizontes, Gu**	**4.84**	**323**		**Pn**	**17 39 07.7**	**+0.1**
HZTE	**Horizontes, Gu**	**4.84**	**323**	*e*P	**Pn**	**17 39 08.9**	**+1.3**
HZTE	**Horizontes, Gu**	**4.84**	**323**	*e*P	**Pn**	**17 39 07.9**	**+0.3**
SOLC	**Bahia Solano**	**5.25**	**96**	*e*P	**Pn**	**17 39 13.2**	**0.0**
ESPN	**Las Esperanzas**	**5.58**	**343**		**Pn**	**17 39 18.4**	**+0.6**
ACON	**Acoyapa**	**5.69**	**334**		**Pn**	**17 39 19.8**	**+0.5**
GR1C	**Gorgona, Isla**	**5.86**	**130**	⇑*e*P	**Pn**	**17 39 19.0**	**-2.7**
MALC	**Bahia Malaga**	**5.99**	**117**	⇑*e*P	**Pn**	**17 39 20.9**	**-2.5**
BOAB	**BOACO BROADBAN**	**6.33**	**332**		**Pn**	**17 39 28.3**	**+0.2**
LCBC	**Los crdobas,**	**6.55**	**72**	*e*P	**Pn**	17 39 35.3	+4.1
LCBC	**Los crdobas,**	**6.55**	**72**	⇓*e*P	**Pn**	17 39 36.7	+5.5
PLMC	**San Jos del P**	**6.62**	**106**	⇑*e*P	**Pn**	**17 39 31.4**	**-0.7**
PRVC	**Isla de Provid**	**6.64**	**11**	Pn	**Pn**	**17 39 32.2**	**-0.1**
PRVC	**Isla de Provid**	**6.64**	**11**	⇑*e*P	**Pn**	**17 39 31.4**	**-0.9**
CBOC	**Ciudad Bolivar**	**6.67**	**98**	*e*P	**Pn**	**17 39 31.4**	**-1.5**
MATN	**Matagalpa**	**6.87**	**332**		**Pn**	**17 39 35.5**	**-0.1**
YOTC	**Yotoco, Valle**	**6.89**	**114**	*e*P	**Pn**	**17 39 34.3**	**-1.5**
CNGN	**Cerro Negro**	**6.91**	**325**		**Pn**	**17 39 36.8**	**+0.7**
HELC	**Santa Helena**	**7.11**	**95**	*e*P	**Pn**	**17 39 41.0**	**+1.9**
URES	**San Jos de Ur**	**7.13**	**82**	*e*P	**Pn**	**17 39 41.0**	**+1.9**
CRIN	**San Cristobal**	**7.27**	**324**	Pn	**Pn**	**17 39 41.0**	**-0.1**
POPC	**Popayan, Colom**	**7.32**	**125**	⇑*e*P	**Pn**	**17 39 42.0**	**+0.1**
GUY2C	**Guyana, Caldas**	**7.42**	**102**	⇑*e*P	**Pn**	**17 39 45.8**	**+2.3**
ANIL	**Santa Ana**	**7.58**	**107**	*e*P	**Pn**	**17 39 47.7**	**+2.2**
CCUFI	**Cufio, Nario**	**7.67**	**136**	⇑*e*P	**Pn**	**17 39 47.7**	**+0.7**
GCUF	**Volcan Galeras**	**7.68**	**136**	*e*P	**Pn**	**17 39 45.8**	**-1.2**
CRUC	**La Cruz**	**7.72**	**132**	⇑*e*P	**Pn**	**17 39 47.7**	**+0.2**
ZARC	**Zaragoza, Cauc**	**7.77**	**85**		**Pn**	**17 39 48.9**	**+1.0**
ZARC	**Zaragoza, Cauc**	**7.77**	**85**	*e*P	**Pn**	**17 39 47.7**	**-0.1**
NORC	**Norcasia**	**7.84**	**99**	*e*P	**Pn**	**17 39 51.6**	**+2.6**
ORTC	**Ortega, Tolima**	**7.92**	**111**	*e*P	**Pn**	**17 39 51.6**	**+1.5**
SJCC	**San Jacinto, C**	**8.01**	**67**	Pn	**Pn**	**17 39 52.1**	**+0.9**
SJCC	**San Jacinto, C**	**8.01**	**67**	*e*P	**Pn**	**17 39 51.6**	**+0.4**
GARC	**Garzon, Huila**	**8.49**	**122**	*e*P	**Pn**	**17 39 58.3**	**+0.2**
TGUH	**Tegucigalpa,Un**	**8.51**	**328**	Pn	**Pn**	**17 39 58.7**	**+0.6**
ROSC	**El Rosal**	**8.52**	**103**	Pn	Pn	17 40 03.5	+5.0
	comp=Z,2.5nm,0.3s,baz=29,slow=21,SNR=11						
ROSC	**El Rosal**	**8.52**	**103**	Pn	**Pn**	**17 39 57.8**	**-0.8**
ROSC	**El Rosal**	**8.52**	**103**	*e*P	**Pn**	17 40 04.0	+5.4
VILC	**Villavicencio,**	**9.32**	**106**	*e*P	Pn	17 40 12.7	+3.4
OCAC	**Ocana**	**9.37**	**81**		**Pn**	**17 40 10.8**	**+0.8**
SNET	**Serv Nac Est T**	**9.40**	**317**	Pn	**Pn**	**17 40 10.2**	**-0.1**
RUSC	**La Rusia**	**9.56**	**95**	*e*P	**Pn**	**17 40 15.5**	**+2.6**
MACC	**Macarena, Meta**	**9.93**	**117**	*e*P	**Pn**	**17 40 17.4**	**-0.1**
MTO3	**Montecristo**	**10.01**	**319**		**Pn**	**17 40 18.8**	**0.0**
ESQI	**Esquipulas**	**10.11**	**320**		**Pn**	**17 40 19.4**	**-0.7**
CRJC	**Cerrejon, Guaj**	**10.52**	**66**	*e*P	**Pn**	**17 40 26.1**	**+0.4**
PAYG	**Puerto Ayora**	**10.64**	**226**	Pn	**Pn**	**17 40 25.9**	**-1.4**
URIC	**Uribia, Colomb**	**11.59**	**64**	Pn	**Pn**	**17 40 39.9**	**-0.3**
RTAL	**Retalhuleu**	**11.72**	**312**	Pn	**Pn**	**17 40 43.4**	**+1.3**
SOCV	**Socops**	**11.79**	**82**	*e*P	**Pn**	**17 40 46.2**	**+3.2**
SDV	**Santo Domingo**	**12

MDP	Montagnes des	29.90	92	LR	LR	17 57 56.6	
	comp=Z,106nm,19.9s,baz=299,slow=40						
W39A	Magazine	30.04	342	P	P	17 44 01.9	-2.0
W39A	Magazine	30.04	342	P	P	17 44 04.3	+0.4
	baz=158						
T50A	Nancy	30.13	357	P	P	17 44 03.0	-1.7
T50A				IAmb	IAmb	17 44 15.3	
	comp=Z,12nm,1.4s						
LCAR	Lake Charles	30.14	346	P	P	17 44 02.1	-2.6
LCAR				IAmb	IAmb	17 44 10.9	
	comp=Z,11nm,0.9s						
FCAR	Ozark Folk Cen	30.21	345	P	P	17 44 03.3	-2.1
FCAR				IAmb	IAmb	17 44 06.5	
	comp=Z,28nm,1.9s						
S51A	Beattyville	30.69	359	P	P	17 44 07.6	-2.0
S51A				IAmb	IAmb	17 44 19.8	
	comp=Z,10nm,0.8s						
U40A	Yellville	30.84	344	P	P	17 44 10.5	-0.5
	baz=160						
X34A	Smith Ranch, M	30.99	335	P	P	17 44 09.7	-2.7
T42A	Van Buren	31.04	347	P	P	17 44 10.8	-2.0
T42A				IAmb	IAmb	17 44 23.8	
	comp=Z,9.3nm,0.9s						
SIV	San Ignacio	31.15	137	LR	LR	17 56 43.1	
	comp=Z,172nm,20.1s,baz=280,slow=36						
R49A	Shelbyville	31.41	356	P	P	17 44 14.1	-1.9
R49A				IAmb	IAmb	17 44 20.4	
	comp=Z,11nm,0.8s						
MGMO	Mountain Grove	31.44	345	P	P	17 44 13.3	-3.0
MGMO				IAmb	IAmb	17 44 22.7	
	comp=Z,9.0nm,0.9s						
LPIG	La Paz	31.60	306	LR	LR	17 54 43.4	
	comp=Z,67nm,20.6s,baz=186,slow=32						
CCM	Cathedral Cave	32.06	347	P	P	17 44 19.3	-2.3
CCM				IAmb	IAmb	17 44 27.5	
	comp=Z,14nm,1.2s						
CCM	Cathedral Cave	32.06	347	P	P	17 44 21.8	+0.2
	baz=164						
PTLB	Pontes e Lacer	32.13	134	eP	P	17 44 24.2	+1.6
LVC	Limon Verde	32.20	156	LR	LR	17 58 12.0	
	comp=Z,116nm,21.9s,baz=339,slow=38						
S39A	Bolivar	32.23	344	P	P	17 44 20.7	-2.4
MNTX	Cornudas Mount	32.60	322	P	P	17 44 25.0	-1.6
MNTX				IAmb	IAmb	17 44 34.9	
	comp=Z,8.4nm,1.2s						
MNTX	Cornudas Mount	32.60	322	P	P	17 44 26.4	-0.2
	baz=135						
P49A	Miami Univ. Ec	32.62	357	P	P	17 44 26.7	+0.1
	baz=176						
MSTX	Muleshoe	32.80	328	P	P	17 44 28.7	+0.3
	baz=141						
AMTX	Amarillo	32.97	331	P	P	17 44 29.8	-0.1
	baz=144						
ACSO	Alum Creek Sta	33.27	360	P	P	17 44 33.3	+1.1
	baz=180						
O48B	Farmland	33.37	357	P	P	17 44 33.5	+0.3
	baz=176						
SFIN	Lafayette	33.65	354	P	P	17 44 36.0	+0.4
	baz=172						
SSPA	Standing Stone	33.94	7	P	P	17 44 37.5	-0.6
SSPA	Standing Stone	33.94	7	P	P	17 44 39.1	+1.0
	baz=188						
N41A	Harden Midland	34.53	349	IAmb	IAmb	17 44 52.0	
	comp=Z,13nm,0.9s						
121A	Cookes Peak, D	34.66	321	P	P	17 44 43.3	-1.3
121A	Cookes Peak, D	34.66	321	P	P	17 44 46.4	+1.7
	baz=132,SNR=9.2						
N38A	Joes South For	35.13	346	P	P	17 44 46.1	-2.3
ANMO	Albuquerque	35.55	325	LR	LR	18 00 12.8	
	comp=Z,87nm,21.3s,baz=132,slow=38						
ANMO	Albuquerque	35.55	325	P	P	17 44 51.1	-1.2
ANMO				IAmb	IAmb	17 44 56.1	
	comp=Z,13nm,0.9s						
ANMO	Albuquerque	35.55	325	P	P	17 44 54.2	+1.8
	baz=137						
L40A	Anamosa	35.91	349	P	P	17 44 53.6	-1.5
L40A				IAmb	IAmb	17 44 58.4	
	comp=Z,13nm,0.9s						
AC02	Maricunga	35.93	159	P	P	17 44 53.9	-2.1
T25A	Trinidad	36.11	330	P	P	17 44 54.9	-2.2
T25A				IAmb	IAmb	17 45 01.5	
	comp=Z,24nm,1.5s						
T25A	Trinidad	36.11	330	P	P	17 44 58.7	+1.6
	baz=142,SNR=5.8						
TUC	Tucson	36.46	318	P	P	17 44 58.7	-1.3
TUC	Tucson	36.46	318	P	P	17 45 01.6	+1.6
	baz=128						
JFWS	Jewell Farm	36.57	351	P	P	17 45 02.3	+1.6
	baz=167						
KSCO	Kaye Shedlock'	36.77	334	P	P	17 45 03.5	+0.9
	baz=146						
SDCO	Great Sand Dun	37.12	329	P	P	17 45 04.0	-1.9
SDCO				IAmb	IAmb	17 45 09.5	
	comp=Z,18nm,1.2s						
SDCO	Great Sand Dun	37.12	329	P	P	17 45 07.6	+1.8
	baz=140,SNR=21						
I42A	Draeger Farm,	37.33	353	P	P	17 45 06.1	-1.1
W18A	Petrified Fore	37.59	322	P	P	17 45 11.5	+1.7
	baz=132						
214A	Organ Pipe Nat	37.63	316	P	P	17 45 11.6	+1.7
	baz=125						
S22A	4UR Ranch, Cre	37.81	328	IAmb	IAmb	17 45 15.5	
	comp=Z,14nm,1.1s						
S22A	4UR Ranch, Cre	37.81	328	P	P	17 45 13.7	+2.0
	baz=139,SNR=9.1						
Q24A	Divide	37.90	331	P	P	17 45 13.9	+1.5
	baz=142						
AQDB	Aquidauana	37.92	136	P	P	17 45 11.3	-1.1
AQDB				IAmb	IAmb	17 45 15.0	
	comp=Z,13nm,1.0s						
AQDB	Aquidauana	37.92	136	eP	P	17 45 13.6	+1.2
SADO	Sadowa	37.93	4	LR	LR	18 00 56.2	
	comp=Z,74nm,20.3s,baz=202,slow=36						
LONY	Lake Ozonia	38.31	9	P	P	17 45 17.4	+2.0
	baz=193						
MVCO	Mesa Verde	38.32	326	P	P	17 45 15.5	-0.5
MVCO	Mesa Verde	38.32	326	P	P	17 45 18.1	+2.1
	baz=136,SNR=11						
113A	Mohawk Valley,	38.75	316	P	P	17 45 17.6	-1.8
ECSD	EROS Data Cent	38.76	344	P	P	17 45 18.7	-0.5
	baz=158						
ISCO	Idaho Springs	38.77	331	P	P	17 45 20.2	+0.4
	baz=142						
WUAZ	Wupatki	38.86	321	P	P	17 45 20.1	-0.3
	baz=131,SNR=6.0						
SMCO	Snowmass	38.96	329	P	P	17 45 20.4	-1.1
PV13	Radium Mtn., P	39.18	327	P	P	17 45 20.6	-2.6
PV13				IAmb	IAmb	17 45 26.9	
	comp=Z,31nm,1.1s						
SPMN	Marine on St.	39.26	349	P	P	17 45 23.6	+0.1
	baz=164						
PV07	Paradox Valley	39.29	327	IAmb	IAmb	17 45 27.9	
	comp=Z,28nm,1.1s						
PV11	David Mesa, Pa	39.31	327	IAmb	IAmb	17 45 27.8	
	comp=Z,31nm,1.1s						
PV10	Paradox Valley	39.45	327	P	P	17 45 23.4	-2.0
PV10				IAmb	IAmb	17 45 28.4	
	comp=Z,24nm,1.0s						
GLA	Glamis	39.65	316	P	P	17 45 26.7	-0.2
	baz=124						
PDMCI	Parker Dam,Lak	39.90	318	P	P	17 45 28.5	-0.4
	baz=126						
U15A	North Rim	40.02	322	P	P	17 45 28.4	-1.8
U15A				IAmb	IAmb	17 45 42.6	
	comp=Z,15nm,1.2s						
PKME	Peaks-Kenny Pk	40.02	15	P	P	17 45 30.9	+1.1
	baz=201						
H03N2	Juan Fernandez	40.19	175	T	T	18 28 10.0	
	baz=354,slow=76,SNR=14						
H03N1	Juan Fernandez	40.20	175	T	T	18 28 11.4	
	baz=354,slow=76,SNR=31						
H03N3	Juan Fernandez	40.21	175	T	T	18 28 13.9	
	baz=354,slow=76,SNR=31						
SWSC	Sam W. Stewart	40.27	315	P	P	17 45 33.5	+1.4
	baz=123						
O20A	White River Ci	40.33	329	IAmb	IAmb	17 46 07.5	
	comp=Z,23nm,1.4s						
O20A	White River Ci	40.33	329	P	P	17 45 34.6	+2.0
	baz=139						
BC3	Big Chuckawall	40.42	316	P	P	17 45 33.5	+0.1
	baz=124						
SRU	San Rafael Swe	40.79	326	P	P	17 45 34.8	-1.7
SRU				IAmb	IAmb	17 45 40.0	
	comp=Z,23nm,1.1s						
BELC	Belle Mtn. Jos	40.99	316	P	P	17 45 39.4	+1.3
	baz=124						
PFO	Pinyon Flats O	41.10	315	LR	LR	18 01 29.4	
	comp=Z,87nm,20.2s,baz=146,slow=35						
PFO	Pinyon Flats O	41.10	315	P	P	17 45 39.8	+0.8
	baz=123						
P17A	Butcher Ranch,	41.17	326	IAmb	IAmb	17 45 53.6	
	comp=Z,16nm,1.2s						
SZCU	Shurtz Canyon	41.26	322	P	P	17 45 39.5	-0.9
RDMU	Red Mountain	41.33	329	IAmb	IAmb	17 45 43.9	
	comp=Z,13nm,1.0s						
K22A	Casper	41.45	333	P	P	17 45 43.2	+1.4
	baz=143						
EYMN	Ely	41.67	351	P	P	17 45 43.8	+0.5
	baz=167						
HEC	Hector,Ludlow	41.68	317	P	P	17 45 44.8	+1.1
	baz=124						
TUQ	Turquoise Moun	41.75	318	P	P	17 45 45.7	+1.4
	baz=125						
GSC	Goldstone, Bar	42.27	317	P	P	17 45 49.1	+0.6
	baz=124						
JLU	Jordanelle	42.35	327	IAmb	IAmb	17 46 07.9	
	comp=Z,18nm,1.3s						
DUG	Dugway, Tooele	42.82	326	P	P	17 45 54.3	+1.3
	baz=133						
TPNV	Topopah Spring	42.84	319	P	P	17 45 53.0	-0.3
TPNV				IAmb	IAmb	17 45 58.8	
	comp=Z,18nm,1.7s						
TPNV	Topopah Spring	42.84	319	P	P	17 45 54.2	+0.9
	baz=126						
EDW2	Edwards Air Fo	42.85	316	P	P	17 45 52.1	-1.1
	baz=122						
BW06	Boulder Array	42.95	331	P	P	17 45 54.9	+0.7
BW06	Boulder Array	42.95	331	P	P	17 45 55.4	+1.2
	baz=139						
PDAR	Pinedale Array	42.95	331	P	P	17 45 55.1	+1.0
	comp=Z,5.2nm,1.2s,baz=141,slow=9.6,SNR=17						
PDAR	Pinedale Array	42.95	331	P	P	17 45 53.2	-0.9
FURC	Furnace Creek,	42.96	318	P	P	17 45 55.7	+1.7
	baz=125						
SNCC	San Nicolas Is	43.11	313	P	P	17 45 56.6	+1.3
	baz=120						
HWUT	Hardware Ranch	43.12	328	P	P	17 45 54.5	-1.0
HWUT				IAmb	IAmb	17 45 58.5	
	comp=Z,24nm,1.2s						
MPMC	Manual Prospec	43.15	317	P	P	17 45 56.7	+0.9
	baz=124						
R11A	Troy Canyon, C	43.26	321	P	P	17 45 56.8	+0.2
R11A	Troy Canyon, C	43.26	321	P	P	17 45 59.0	+2.3
	baz=128,SNR=9.9						
BGU	Big Grassy Mou	43.44	326	P	P	17 45 56.9	-1.1
BGU				IAmb	IAmb	17 46 17.2	
	comp=Z,13nm,1.3s						
LCH	Last Change Ra	43.91	319	P	P	17 46 01.5	-0.4
LCH				IAmb	IAmb	17 46 13.6	
	comp=Z,16nm,1.8s						
REDW	Red Top Meadow	44.03	330	IAmb	IAmb	17 46 20.3	
	comp=Z,22nm,1.2s						
FLWY	Flagg Ranch	44.49	331	IAmb	IAmb	17 46 28.5	
	comp=Z,11nm,1.1s						
ELK	Elko	44.57	324	P	P	17 46 07.5	+0.2
H17A	Grant Village	44.66	331	P	P	17 46 08.2	+0.2
	baz=139						
YPP	Pitchstone Pla	44.68	331	IAmb	IAmb	17 46 17.8	
	comp=Z,22nm,1.8s						
ULM	Lac du Bonnet	44.68	348	P	P	17 46 09.0	+1.3
	comp=Z,7.1nm,0.8s,baz=150,slow=7.9,SNR=6.3						
ULM	Lac du Bonnet	44.68	348	IAmb	IAmb	17 46 12.8	
	comp=Z,16nm,1.2s						
NV11	Mina Array Sit	44.93	320	P	P	17 46 09.8	-0.2
NVAR	Mina Array Bea	45.03	320	P	P	17 46 12.7	+1.8
	comp=Z,2.9nm,0.8s,baz=129,slow=7.1,SNR=17						
YMR	Madison River	45.05	331	IAmb	IAmb	17 46 34.5	
	comp=Z,16nm,1.4s						
KVN	Kaiserville	45.26	321	IAmb	IAmb	17 46 37.6	
	comp=Z,15nm,1.8s						
YHL	Hebgen Lake	45.29	331	P	P	17 46 12.2	-0.7
BMN	Battle Mountai	45.54	323	IAmb	IAmb	17 46 28.3	
	comp=Z,10nm,1.0s						
BCYI	Bear Canyon	45.99	329	P	P	17 46 17.6	-0.8
HLID	Hailey	45.99	328	P	P	17 46 17.8	-0.6
HLID	Hailey	45.99	328	P	P	17 46 18.8	+0.4
	baz=134						
BOZ	Bozeman (W)	46.06	332	P	P	17 46 20.2	+1.4
	baz=138,SNR=9.3						
PLID	Pearl Lake	47.86	328	P	P	17 46 32.8	-0.2
PLID				IAmb	IAmb	17 46 45.8	
	comp=Z,5.3nm,1.1s						
MSO	Missoula	48.05	331	P	P	17 46 35.2	+0.8
	baz=136						
RCBR	Riacluelo	48.32	104	LR	LR	18 08 50.3	
	comp=Z,118nm,19.1s,baz=84,slow=38						
PLCA	Paso Flores	48.61	168	P	P	17 46 40.4	+1.7
	comp=Z,2.9nm,1.0s,baz=349,slow=7.7,SNR=4.4						
JTMT	Jette	48.88	332	P	P	17 46 39.8	-0.9
SCHQ	Schefferville	49.54	12	LR	LR	18 06 45.1	
	comp=Z,66nm,21.5s,baz=106,slow=35						
NEW	Newport	50.59	331	LR	LR	18 09 55.0	
	comp=Z,105nm,20.3s,baz=130,slow=38						
BBB	Bella Bella	58.55	329	LR	LR	18 15 27.0	
	comp=Z,103nm,18.5s,baz=180,slow=39						
YKA	Yellowknife Ar	60.29	344	P	P	17 48 03.4	+0.2
	comp=Z,1.3nm,0.8s,baz=140,slow=6.7,SNR=19						
YKA				LR	LR	18 16 36.2	
	comp=Z,47nm,18.0s,baz=1.0,slow=39						
DLBC	Dease Lake	63.00	334	LR	LR	18 21 01.4	
	comp=Z,64nm,19.0s,baz=94,slow=41						
SFJD	Kangerlussuaq	63.94	13	LR	LR	18 21 25.5	
	comp=Z,41nm,18.0s,baz=212,slow=41						
MMPY	Sheldon Lake,	65.91	338	P	P	17 48 41.6	+1.0
	baz=125						
M30M	Minto, Yukon	68.04	336	P	P	17 48 55.3	+1.1
	baz=120						
YUK3	Moose Creek	69.19	335	P	P	17 49 01.7	+0.1
	baz=116						
EPYK	Eagle Plains	69.95	340	P	P	17 49 07.1	+1.2
	baz=121						
INK	Inuvik	69.97	342	P	P	17 49 06.0	0.0
INK				IAmb	IAmb	17 49 19.7	
	comp=Z,12nm,1.4s						
INK	Inuvik	69.97	342	P	P	17 49 07.1	+1.2
	baz=125						
I29M	Ogilvie Camp,	70.00	338	P	P	17 49 07.2	+1.0
	baz=119						
M27K	Edge Creek, AK	70.04	335	P	P	17 49 08.1	+1.4
	baz=115						
L27K	Beaver Creek,	70.32	335	P	P	17 49 10.0	+1.7
	baz=115						
M26K	Natwesna, AK	70.53	335	P	P	17 49 10.8	+1.2
	baz=114						
HARP	HAARP	71.46	334	P	P	17 49 16.5	+1.2
	baz=112						
KLU	Klutina	71.47	333	P	P	17 49 16.7	+1.4
	baz=111						
SCRK	Sand Creek	71.58	336	P	P	17 49 17.3	+1.3
	baz=113						
J26L	Joseph Creek	71.62	337	P	P	17 49 17.6	+1.4
	baz=114						
PAX	Paxson	71.81	335	P	P	17 49 18.7	+1.4
	baz=112						
RIDG	Independent Ri	71.84	336	P	P	17 49 18.9	+1.4
	baz=112						
BORG	Borgarnes	71.89	23	LR	LR	18 19 14.9	
	comp=Z,51nm,18.8s,baz=249,slow=34						
J25K	Salcha River,	72.38	336	P	P	17 49 20.7	0.0
J25K				IAmb	IAmb	17 50 01.7	
	comp=Z,17nm,1.8s						
J25K	Salcha River,	72.38	336	P	P	17 49 21.8	+1.0
	baz=112						
M23K	Glacier View	72.38	333	P	P	17 49 21.3	+0.6
	baz=109						
WAT6	Susitna Watana	72.65	334	P	P	17 49 23.3	+0.8
	baz=109						
ILAR	Eielson Array	73.05	336	P	P	17 49 25.6	+0.9
	comp=Z,1.2nm,0.9s,baz=116,slow=4.5,SNR=8.5						
HOM	Homer	73.60	330	P	P	17 49 29.8	+1.9
	baz=105						
H24K	Noodor Dome	73.81	337	P	P	17 49 30.0	+0.9
	baz=110						
OHAK	Old Harbor	73.85	328	P	P	17 49 30.1	+0.6
	baz=103						
NEA2	Nenana	73.87	336	P	P	17 49 30.3	+0.8
	baz=109						
TRF	Thorofare Moun	74.03	334	P	P	17 49 31.8	+1.2
	baz=107						
I23K	Minto, Yukon-K	74.17	336	P	P	17 49 32.2	+1.0
	baz=109						
H23K	Yukon River	74.45	337	P	P	17 49 34.8	+1.9
	baz=109						
BPAW	Bear Paw Mtn.	74.52	335	P	P	17 49 34.2	+1.0
	baz=107						
CAST	Castle Rocks	74.79	334	P	P	17 49 36.4	+1.5
	baz=106						
COLD	Coldfoot	75.15	338	IAmb	IAmb	17 49 47.0	
	comp=Z,9.4nm,1.4s						
COLD	Coldfoot	75.15	338	P	P	17 49 38.5	+1.6
	baz=108						
I21K	Tanana	75.23	336	P	P	17 49 38.6	+1.3
	baz=106						
L20K	Farewell, AK	75.35	333	P	P	17 49 38.8	+0.6
	baz=104						
TOLK	Toolik Lake Re	75.38	340	P	P	17 49 38.7	+0.4
	baz=109						
ESDC	Sonseca Array	76.98	51	P	P	17 49 51.4	+3.4
	comp=Z,1.4nm,0.8s,baz=276,slow=6.2,SNR=8.2						
ESDC				LR	LR	18 18 02.4	
	comp=Z,45nm,20.3s,baz=244,slow=31						
ESDC	Sonseca Array	76.98	51	P	P	17 49 48.6	+0.7
DBIC	Dimbokro	77.17	85	LR	LR	18 23 32.2	
	comp=Z,35nm,18.0s,baz=148,slow=35						
EKA	Eskdalemuir Ar	78.45	35	LR	LR	18 19 00.7	
	comp=Z,50nm,20.6s,baz=230,slow=31						
RAR	Rarotonga	80.55	247	LR	LR	18 19 00.1	
	comp=Z,73nm,19.9s,baz=229,slow=31						
TORD	Torodi Ar. Bea	83.00	78	P	P	17 50 24.1	+3.2
	comp=Z,8.2nm,0.4s,baz=289,slow=4.6,SNR=1.9						
SPITS	Spitsbergen Ar	85.22	12	LR	LR	18 28 30.1	
	comp=Z,46nm,21.9s,baz=16,slow=36						
NOA	NORSAR Array B	85.96	29	P	P	17 50 38.0	+3.0
	comp=Z,1.8nm,0.8s,baz=276,slow=4.8,SNR=4.4						
NOA				LR	LR	18 26 56.1	
	comp=Z,24nm,19.3s,baz=275,slow=34						
HFS	Hagfors	87.30	30	LR	LR	18 28 51.8	
	comp=Z,25nm,18.3s,baz=320,slow=35						
GERES	GERESS Array B	89.09	41	P	P	17 50 53.5	+3.0
	comp=Z,0.6nm,0.7s,baz=3.8,slow=4.0,SNR=4.4						
VRAC	Vranov	90.88	40	LR	LR	18 25 36.5	
	comp=Z,59nm,20.3s,baz=314,slow=32						
BILL	Bilibino	91.43	339	P	P	17 51 01.8	+1.0
BILL				IAmb	IAmb	17 51 06.7	
	comp=Z,4.3nm,1.1s						
SHEM	Shemya Is, Ala	92.56	324	LR	LR	18 32 54.4	
	comp=Z,24nm,19.4s,baz=270,slow=36						
FINES	FINESS Array B	92.86	27	LR	LR	18 33 07.5	
	comp=Z,22nm,18.2s,baz=300,slow=36						
H11S2	WAKE ISLAND Hyl	107.16	292	T	T	19 52 07.3	
	baz=79						
H11S1	WAKE ISLAND Hyl	107.16	292	T	T	19 52 04.9	
	baz=79						
H11S3	WAKE ISLAND Hyl	107.17	292	T	T	19 52 06.4	
	baz=79						
ASAR	Alice Springs	141.11	240	PKP	PKPdf	17 57 26.0	-0.3
	comp=Z,0.8nm,0.9s,baz=115,slow=2.1,SNR=4.6						
WRA	Warramunga Arr	141.82	246	PKP	PKiKP	17 57 28.4	-2.1
	comp=Z,0.8nm,1.0s,baz=100,slow=2.3,SNR=3.1						
PZH	PanZhiHua	146.80	353	PKPbc	PKPab	17 57 37.3	-1.1
CMAR	Chiang Mai Arr	154.84	356	PKPbc	PKiKP	17 58 00.3	+3.0
	comp=Z,0.3nm,0.7s,baz=2.4,slow=2.2,SNR=2.2						

NOU 29 17:56:04.1,16.06S×167.51E,h16km,MLv4.3/14,
Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	Saraoutou	0.68	334	P	Pb	17 56 17.6	+0.1
DVP	Devils Point	1.78	159	P	Pn	17 56 34.3	+0.1
KOUNC	Koumac, New Ca	5.42	214	P	Pn	17 57 23.7	-0.5
MARNC	Mare, Loyalty	5.42	175	P	Pn	17 57 24.1	-0.1
YATNC	Mamie plateau,	6.00	186	P	Pn	17 57 31.0	-1.2
DZM	Mont Dzumac	6.06	189	P	Pn	17 57 33.0	-0.2
NOUC	Port Laguerre	6.12	191	P	Pn	17 57 34.1	+0.2
ONTNC	Ouen Toro	6.29	189	P	Pn	17 57 36.0	-0.3
PINNC	Pines Island,	6.52	181	P	Pn	17 57 39.5	+0.1

KRNET ***29*** *17:58:42.2±0.1,40.37N×72.75E,h17km,mb3.1*
NNC ***29*** *17:58:44.9±2.0,40.46N×72.82E,h0km,mb3.5,mpv3.2,*
Error ellipse: s-maj=15.7km s-min=6.2km az=176.0
SOME ***29*** *17:58:49.7,40.58N×72.77E,h15km*

ISC 29 17:58:41.6±1.2,40.37N±0.03×72.83E±0.03,h5km±10km,
n48,σ1841/75,16C-15D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	Osh	0.16	348	⇓iP	Pg	17 58 45.4	+0.5
OHH	baz=11			⇓iS	Sg	17 58 47.6	+0.5
DRK	Karamyk	1.19	222	⇓eP	Pg	17 59 04.0	-0.3
DRK	baz=19			⇓iS	Sg	17 59 19.7	0.0
BTK	Batken	1.57	259	⇓eP	Pn	17 59 10.5	+0.3
BTK	baz=59			⇓iS	Sn	17 59 30.9	0.0
ARK	Arkit	1.57	336	⇑iP	Pb	17 59 11.0	-0.2
ARK	baz=38			⇑iS	Sg	17 59 32.1	-0.1
TRKS	Terek-Say	1.73	313	⇑iP	Pn	17 59 12.4	0.0
TRKS	baz=13			⇑iS	Sn	17 59 34.4	-0.6
AML	Almayashu	1.88	20	P	Pg	17 59 18.0	+0.4
	SNR=74						
UCH	Uchtor	2.25	34	P	Pg	17 59 26.4	+1.7
	SNR=9.7						
UCH	Uchtor	2.25	34	⇓iP	Pb	17 59 22.8	-0.2
UCH	baz=35			⇓iS	Sg	17 59 52.6	-1.3
GAR	Garm	2.37	236	⇓iP	Pb	17 59 23.4	-1.4
GAR	baz=35			⇓iS	Sb	17 59 53.5	-0.9
MRKS	Merke	2.40	7	eP	Pg	17 59 31.3	+3.8
MRKS	24nm,0.5s			eS	Sg	18 00 01.3	+2.8
MRKS	Merke	2.40	7	Pg	Pg	17 59 29.7	+2.3
MRKS	24nm,0.5s			Lg	Lg	18 00 01.9	
EKS2	Erkin-Say	2.40	17	P	Pg	17 59 27.2	-0.4
	SNR=7.4						
EKS2	Erkin-Say	2.40	17	⇑iP	Pb	17 59 24.7	-0.6
EKS2	baz=18			⇑eS	Sb	17 59 55.7	+0.4
AAK	Ala-Archa	2.59	28	P	Pg	17 59 31.3	+0.1
	SNR=15						
AAK	Ala-Archa	2.59	28	⇓eP	Pb	17 59 27.5	-1.1
AAK	baz=30			⇓iS	Sb	18 00 00.6	-0.2
IUG	luzhnay	2.76	311	eP	Pg	17 59 35.5	+1.1
IUG	94nm,0.1s			eS	Sg	18 00 08.7	-1.6
IUG	luzhnay	2.76	311	Pg	Pg	17 59 33.1	-1.4
IUG	58nm,0.4s			Lg	Lg	18 00 07.7	
DZA	Taraz	2.76	336	eP	Pg	17 59 36.1	+1.5
DZA	104nm,0.6s 38nm,0.1s			eS	Sg	18 00 09.9	-0.4
DZA	Taraz	2.76	336	Pg	Pg	17 59 34.4	-0.1
DZA	117nm,0.4s 20nm,0.1s			Lg	Lg	18 00 09.8	
KBK	Karagaybulak	2.79	34	P	Pg	17 59 33.7	-1.3
	113nm,0.6s SNR=6.4						
KBK	Karagaybulak	2.79	34	⇑eP	Pb	17

		SNR=6.5							
USP	**Ospenovka**	**3.16**	**23**	⇑	*i*	P	**Pb**	**17 59 35.2**	**-2.9**
	baz=24								
USP				⇑	*e*	S	**Sb**	**18 00 14.0**	**-2.9**
	baz=24								
KK31	**Karatay Array**	**3.24**	**328**	⇑	Pg		**Pg**	**17 59 42.3**	**-1.4**
	0.7nm,0.3s,baz=142,slow=17,SNR=13								
KK31					Lg		Lg	18 00 22.8	
	5.9nm,0.3s,baz=143,slow=30,SNR=12								
TKM2	**Tokmak 2**	**3.29**	**38**	⇑	Pg		**Pg**	**17 59 42.7**	**-1.9**
	1.3nm,0.4s								
TKM2				⇓	Lg		Lg	18 00 26.6	
	5.2nm,0.6s								
CHGR	**Chuyangaron**	**3.31**	**240**	⇑	*e*	P	**Pn**	**17 59 36.4**	**+2.3**
	baz=39								
CHGR				⇑	*i*	S	**Sn**	**18 00 16.1**	**+2.2**
	baz=39								
SGDS	**Sogindy**	**3.36**	**23**		*e*	P	**Pg**	**17 59 47.4**	**+1.4**
	0.8nm,0.1s								
SGDS					*e*	S	**Sg**	**18 00 28.7**	**-0.9**
	5.1nm,0.4s								
SGDS	**Sogindy**	**3.36**	**23**		Pg		**Pg**	**17 59 45.3**	**-0.7**
	1.6nm,0.4s								
SGDS					Lg		Lg	18 00 28.7	
	5.1nm,0.4s								
BRLS	**Borolday**	**3.48**	**321**		*e*	P	**Pg**	**17 59 47.0**	**-1.3**
	1.3nm,0.1s								
BRLS					*e*	S	**Sb**	**18 00 28.1**	**+1.8**
	11nm,0.5s								
BRLS	**Borolday**	**3.48**	**321**		Pg		**Pb**	**17 59 44.6**	**+0.9**
	2.8nm,0.2s								
BRLS					Lg		Lg	18 00 27.3	
	11nm,0.5s								
KST	**Kastek**	**3.56**	**40**		*e*	P	**Pg**	**17 59 51.3**	**+1.6**
	1.3nm,0.1s								
KST					*e*	S	**Sg**	**18 00 35.6**	**-0.2**
	5.7nm,0.5s								
KST	**Kastek**	**3.56**	**40**		Pg		**Pg**	**17 59 49.1**	**-0.6**
	1.6nm,0.3s								
KST					Lg		Lg	18 00 35.0	
	5.7nm,0.5s								
DGS	**Degeres**	**3.62**	**36**		*e*	P	**Pg**	**17 59 52.4**	**+1.5**
	4.1nm,0.5s								
DGS					*e*	S	**Sg**	**18 00 37.4**	**-0.4**
	6.2nm,0.3s								
DGS	**Degeres**	**3.62**	**36**		Pg		**Pg**	**17 59 50.0**	**-0.9**
	7.2nm,0.7s								
DGS					Lg		Lg	18 00 36.9	
	5.6nm,0.8s								
KRBS	**Karabastau**	**3.94**	**32**		*e*	P	**Pg**	**17 59 58.3**	**+1.2**
	2.2nm,0.6s								
KRBS					*e*	S	**Sg**	**18 00 47.6**	**-0.7**
	3.6nm,0.5s								
KRBS	**Karabastau**	**3.94**	**32**		Pg		**Pg**	**17 59 56.0**	**-1.1**
	2.2nm,0.6s								
KRBS					Lg		Lg	18 00 46.7	
	3.6nm,0.5s								
TNSS	**Tian-Shan**	**4.08**	**48**		*e*	P	**Pg**	**18 00 01.8**	**+2.1**
	1.1nm,0.2s								
TNSS					*e*	S	**Sg**	**18 00 53.8**	**+1.3**
	2.0nm,1.2s								
TNSS	**Tian-Shan**	**4.08**	**48**		Pg		**Pg**	**17 59 59.6**	**-0.1**
	1.9nm,0.5s								
TNSS					Lg		Lg	18 00 53.1	
	2.0nm,1.2s								
MDOK	**Medeo**	**4.21**	**47**		*e*	P	**Pg**	**18 00 04.5**	**+2.2**
	2.1nm,0.1s								
MDOK					*e*	S	**Sg**	**18 00 58.5**	**+1.6**
	5.5nm,0.7s								
KOTS	**Kotyrbulak**	**4.30**	**47**		*e*	P	**Pg**	**18 00 06.2**	**+2.3**
	1.0nm,0.4s								
KOTS					*e*	S	**Sg**	**18 01 01.2**	**+1.7**
	6.9nm,0.6s								
KOTS	**Kotyrbulak**	**4.30**	**47**		Pg		**Pg**	**18 00 02.3**	**-1.5**
	1.8nm,0.4s								
KOTS					Lg		Lg	18 00 57.6	
	6.9nm,0.6s								
KUU	**Kurty**	**4.38**	**35**		*e*	P	**Pg**	**18 00 06.3**	**+0.7**
	1.5nm,0.5s								
KUU					*e*	S	**Sg**	**18 01 01.5**	**-0.9**
	6.1nm,0.7s								
KUU	**Kurty**	**4.38**	**35**		Pg		**Pg**	**18 00 04.4**	**-1.2**
	0.8nm,0.4s								
KUU					Lg		Lg	18 01 01.5	
	6.1nm,0.7s								
KTBS	**Karatobe**	**4.41**	**39**		*e*	P	**Pg**	**18 00 06.2**	**+0.3**
	1.1nm,0.7s								
KTBS					*e*	S	**Sg**	**18 01 01.4**	**-1.6**
	8.6nm,0.6s								
KTBS	**Karatobe**	**4.41**	**39**		Pg		**Pg**	**18 00 04.8**	**-1.2**
	1.1nm,0.4s								
KTBS					Lg		Lg	18 01 01.7	
	8.6nm,0.6s								
BTLS	**Baital**	**4.76**	**10**		*e*	P	**Pg**	**18 00 13.0**	**+0.3**
	2.0nm,0.5s								
BTLS					*e*	S	**Sg**	**18 01 12.6**	**-1.7**
	6.8nm,0.1s								

*KRNET **29** 18:04:18.6±0.1, 40.˚21N×72.˚72E, h13km, mb2.7*
*NNC **29** 18:04:24.2±4.0, 40.˚47N×72.˚67E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=30.8km s-min=12.6km az=173.0
*SOME **29** 18:04:33.1, 40.˚72N×72.˚58E, h20km*
ISC 29 18:04:18.6±1.2, 40.˚21N±0.˚04×72.˚76E±0.˚03, h12km±12km, n28, σ1s96/47, 23C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHH	**Osh**	**0.32**	**3**	⇑	*i*	P	**Pg**	**18 04 24.8**	**-0.3**
	baz=9.0								
OHH				⇑	*i*	S	**Sg**	**18 04 29.3**	**-0.1**
	baz=9.0								
DRK	**Karamyk**	**1.03**	**226**	⇑	*i*	P	**Pb**	**18 04 37.8**	**-0.8**
	baz=24								
DRK				⇑	*i*	S	**Sb**	**18 04 51.9**	**-0.4**
	baz=24								
BTK	**Batken**	**1.50**	**265**	⇑	*i*	P	**Pb**	**18 04 46.1**	**-0.3**
	baz=65								
BTK				⇑	*i*	S	**Sg**	**18 05 05.9**	**-0.8**
	baz=65								
ARK	**Arkit**	**1.70**	**339**	⇑	*i*	P	**Pb**	**18 04 50.0**	**+0.1**
	baz=40								
ARK				⇑	*i*	S	**Sg**	**18 05 12.7**	**-0.6**
	baz=40								
TRKS	**Terek-Say**	**1.81**	**318**	⇑	*i*	P	**Pb**	**18 04 50.6**	**-1.1**
	baz=17								
TRKS				⇑	*i*	S	**Sb**	**18 05 13.7**	**-0.7**
	baz=17								
GAR	**Garm**	**2.24**	**238**	⇓	*i*	P	**Pb**	**18 04 58.1**	**-1.0**
	baz=38								
GAR				⇓	*i*	S	**Sb**	**18 05 26.8**	**0.0**
	baz=38								
UCH	**Uchtor**	**2.41**	**33**	⇑	*i*	P	**Pb**	**18 05 01.5**	**-0.8**
	baz=33								
UCH				⇑	*i*	S	**Sb**	**18 05 32.5**	**+0.3**
	baz=33								
MRKS	**Merke**	**2.56**	**8**		*e*	P	**Pg**	**18 05 11.9**	**+4.2**
	3.0nm,0.2s								
MRKS					*e*	S	**Sg**	**18 05 39.9**	**-1.0**
	20nm,0.4s								
MRKS	**Merke**	**2.56**	**8**		Pg		**Pg**	**18 05 08.9**	**+1.2**
	5.8nm,0.5s								
MRKS					Lg		Lg	18 05 39.9	
	20nm,0.4s								
EKS2	**Erkin-Say**	**2.57**	**17**	⇑	*i*	P	**Pb**	**18 05 03.2**	**-1.5**
	baz=18								
EKS2				⇑	*i*	S	**Sb**	**18 05 35.5**	**-0.8**
	baz=18								
AAK	**Ala-Archa**	**2.76**	**28**	⇑	*i*	P	**Pb**	**18 05 05.9**	**-2.0**
	baz=28								
AAK				⇑	*i*	S	**Sb**	**18 05 40.3**	**-1.5**
	baz=28								
IUG	**luzhnay**	**2.83**	**314**		*e*	P	**Pg**	**18 05 15.5**	**+2.7**
	42nm,0.3s								
IUG					*e*	S	**Sg**	**18 05 46.1**	**-3.4**
	13nm,0.6s								
IUG	**luzhnay**	**2.83**	**314**		Pg		**Pg**	**18 05 12.5**	**-0.3**
	60nm,0.3s								
IUG					Lg		Lg	18 05 46.3	
	13nm,0.6s								
DZA	**Taraz**	**2.89**	**339**		*e*	P	**Pg**	**18 05 16.1**	**+2.2**
	48nm,0.1s								
DZA					*e*	S	**Sb**	**18 05 47.1**	**+1.6**
	52nm,0.3s								
KBK	**Karagaybulak**	**2.95**	**33**	⇑	*e*	P	**Pb**	**18 05 08.6**	**-2.6**
	baz=34								
KBK				⇑	*i*	S	**Sb**	**18 05 44.9**	**-2.4**
	baz=34								
FRU1	**Bishkek**	**2.96**	**28**	⇑	*i*	P	**Pb**	**18 05 08.8**	**-2.5**
	baz=28								
FRU1				⇑	*i*	S	**Sb**	**18 05 45.2**	**-2.2**
	baz=28								
CHMS	**Chumysh**	**3.17**	**28**	⇓	Lg		Lg	18 05 57.8	
	2.3nm,0.5s								
CHM	**Chimkent**	**3.18**	**313**		*e*	P	**Pg**	**18 05 20.8**	**+1.3**
	64nm,0.1s								
CHM					*e*	S	**Sb**	**18 05 55.1**	**+1.3**
	86nm,0.2s								
KK31	**Karatay Array**	**3.35**	**331**	⇑	Pg		**Pb**	**18 05 19.4**	**+1.5**
	0.5nm,0.3s,baz=135,slow=16,SNR=8.6								
KK31				⇑	Lg		Lg	18 06 00.1	
	0.9nm,0.3s,baz=134,slow=30,SNR=3.6								
TKM2	**Tokmak 2**	**3.45**	**37**	⇓	Pg		**Pb**	**18 05 20.7**	**+1.0**
	1.2nm,0.6s								
TKM2				⇑	Lg		Lg	18 06 07.9	
	2.9nm,0.7s								
SGDS	**Sogindy**	**3.53**	**23**		*e*	P	**Pg**	**18 05 29.5**	**+3.2**
	1.0nm,0.0s								
SGDS					*e*	S	**Sg**	**18 06 09.9**	**-2.1**
	2.9nm,0.2s								
BRLS	**Borolday**	**3.57**	**323**		*e*	P	**Pg**	**18 05 26.9**	**-0.2**
	1.9nm,0.2s								
BRLS					*e*	S	**Sb**	**18 06 05.8**	**+0.8**
	3.5nm,0.6s								
BRLS	**Borolday**	**3.57**	**323**		Pg		**Pb**	**18 05 22.9**	**+1.2**
	3.7nm,0.2s								
BRLS					Lg		Lg	18 06 04.1	
	3.5nm,0.6s								
DGS	**Degeres**	**3.78**	**36**		*e*	P	**Pg**	**18 05 35.6**	**+4.6**
	1.7nm,0.1s								
DGS					*e*	S	**Sg**	**18 06 21.0**	**+1.1**
	3.5nm,0.6s								
DGS	**Degeres**	**3.78**	**36**		Pg		**Pg**	**18 05 32.2**	**+1.3**
	4.1nm,0.4s								
DGS					Lg		Lg	18 06 19.8	
	3.5nm,0.6s								
KRBS	**Karabastau**	**4.11**	**31**		*e*	P	**Pg**	**18 05 39.7**	**+2.4**
	0.6nm,0.5s								
KRBS					*e*	S	**Sg**	**18 06 27.6**	**-2.9**
	3.4nm,0.8s								
KRBS	**Karabastau**	**4.11**	**31**		Pg		**Pg**	**18 05 36.0**	**-1.2**
	0.6nm,0.4s								
KRBS					Lg		Lg	18 06 26.6	
	3.4nm,0.8s								
TNSS	**Tian-Shan**	**4.22**	**47**		*e*	P	**Pg**	**18 05 43.6**	**+4.1**
	0.6nm,0.1s								
TNSS					*e*	S	**Sg**	**18 06 34.2**	**0.0**
	1.6nm,0.3s								

TAP 29 18:34:19.2, 24.˚24N×121.˚73E, h11km, ML1.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EHP	**Heping Village**	**0.07**	**9**		*e*	P	Pg	18 34 21.9	+0.3
	baz=14								
ETL	**Fush Village**	**0.12**	**231**			P	Pb	18 34 23.2	-0.4
	baz=231								
ETL						S	Sg	18 34 25.6	+1.1
	baz=231								
NACB	**Ninganchiao**	**0.14**	**243**			P	Pb	18 34 23.3	-0.5
	baz=242								
NACB						S	Sg	18 34 26.0	+1.2
	baz=242								
ENA	**Nanau**	**0.19**	**3**		*e*	P	Pg	18 34 24.0	+0.7
	baz=5.0								
TWD	**Chiawan**	**0.20**	**218**		*i*	P	Pg	18 34 24.1	+0.7
	baz=216								
TWD						S	Sg	18 34 27.6	+1.2
	baz=216								
EWUT	**Wuta**	**0.21**	**12**		*e*	P	Pg	18 34 24.3	+0.6
	baz=12								
EWUT						S	Sg	18 34 28.1	+1.3
	baz=12								
ETLH	**Xiulin Townshi**	**0.23**	**262**		*e*	P	Pb	18 34 25.0	-0.3
	baz=262								
ETLH					*e*	S	Sg	18 34 29.0	+1.7
	baz=262								
HWA	**Hwalien**	**0.28**	**204**		*e*	P	Pg	18 34 25.6	+0.6
	baz=202								
HWA						S	Sb	18 34 30.8	-0.2
	baz=202								
LATG	**Datong**	**0.35**	**328**			P	Pb	18 34 27.6	+0.1
	baz=328								
LATG						S	Sb	18 34 32.9	-0.2
	baz=328								
NNSB	**Datong**	**0.37**	**301**		*e*	P	Pb	18 34 28.0	+0.2
	baz=301								
NNSB						S	Sb	18 34 33.1	-0.5
	baz=301								
NNS	**Nan Shan**	**0.38**	**302**			P	Pb	18 34 27.6	-0.4
	baz=302								
NNS						S	Sb	18 34 33.4	-0.6
	baz=302								
TWC	**Suao**	**0.39**	**16**			S	Sb	18 34 33.4	-0.6
	baz=17								
NDS	**Dongshan**	**0.40**	**358**		*e*	P	Pb	18 34 28.0	-0.1
	baz=358								
NDS					*e*	S	Sb	18 34 34.3	+0.1
	baz=358								
ENTT	**Nioudou**	**0.43**	**340**			P	Pb	18 34 28.9	+0.2
	baz=340								
ENTT						S	Sb	18 34 35.4	+0.1
	baz=340								
WHF	**Hehuan Shan**	**0.43**	**258**			P	Pg	18 34 28.4	+0.5
	baz=257								
WHF						S	Sb	18 34 35.3	-0.5
	baz=257								
TWE	**Neicheng**	**0.48**	**353**		*e*	P	Pb	18 34 29.9	+0.2
	baz=354								
TWE					*e*	S	Sb	18 34 36.9	0.0
	baz=354								
ESL	**Shilin**	**0.50**	**213**		*e*	P	Pb	18 34 29.8	-0.2
	baz=211								
TWT	**Tachien**	**0.51**	**272**		*e*	P	Pb	18 34 30.1	-0.1
	baz=271								
TWT						S	Sb	18 34 37.9	+0.3
	baz=271								
TDCB	**Techi**	**0.52**	**272**		*e*	P	Pb	18 34 30.4	0.0
	baz=271								
TDCB					*e*	S	Sb	18 34 37.9	-0.1
	baz=271								
ILA	**Ilan**	**0.53**	**2**		*e*	P	Pb	18 34 30.1	-0.3
	baz=2.0								
ILA					*e*	S	Sb	18 34 38.6	+0.6
	baz=2.0								
FUSB	**Fushanzhiwuyua**	**0.54**	**346**		*e*	P	Pb	18 34 30.5	-0.1
	baz=346								
YHNB	**Yeheng**	**0.54**	**323**		*e*	P	Pb	18 34 30.4	-0.3
	baz=323								
YHNB						S	Sb	18 34 38.8	+0.4
	baz=323								
NSK	**Sanguang**	**0.55**	**322**		*e*	P	Pb	18 34 30.9	0.0
	baz=322								
NWLT	**Wulai**	**0.58**	**339**		*e*	S	Sb	18 34 39.2	-0.3
	baz=339								
OWD	**Renai**	**0.58**	**241**		*e*	S	Sb	18 34 40.1	+0.4
	baz=240								
WUSB	**Renai**	**0.61**	**247**		*e*	S	Sb	18 34 41.0	+0.5
	baz=246								
NFF	**Wufeng Townshi**	**0.68**	**305**		*e*	P	Pg	18 34 32.2	-0.2
	baz=305								

NOU 29 18:41:55.4, 16.˚24S×167.˚38E, h29km, mb4.1/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**0.81**	**348**			P	Pn	18 42 10.8	0.0
SANVU	**Saraoutou**	**0.81**	**348**			P	Pb	18 42 11.3	+0.4
DVP	**Devils Point**	**1.67**	**153**			P	Pn	18 42 23.3	+0.6
RTV	**Rentapao**	**1.84**	**147**			P	Pn	18 42 25.1	+0.1
KOUNC	**Koumac, New Ca**	**5.20**	**214**			P	Pn	18 43 11.8	+0.6
DZM	**Mont Dzumac**	**5.87**	**189**			P	Pn	18 43 19.6	-0.9
NOUC	**Port Laguerre**	**5.92**	**190**			P	Pn	18 43 19.7	-1.4
PINNC	**Pines Island,**	**6.34**	**179**			P	Pn	18 43 28.4	+1.5

*IDC **29** 18:50:02.1±1.5, 13.˚26N×120.˚25E, h0km, mb3.7/4,*
mb1 3.9/4, mb1mx3.4/46, mbtmp3.7/4, Error ellipse:
s-maj=33.8km s-min=11.4km az=116.0
*MAN **29** 18:50:09.8, 13.˚52N×120.˚59E, h53km, mb4.5, ML3.4,*
MS3.2, Hypocentre not reviewed by the ISC
ISC 29 18:50:09.9±0.9, 13.˚51N±0.˚05×120.˚62E±0.˚07, h70km, n15, σ0s84/17, mb3.5/4, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PGP	**Puerto Galera**	**0.32**	**92**	⇑	*e*	P	**Pn**	**18 50 20.9**	**-0.4**
PGP					*i*	S	**Sn**	**18 50 29.4**	**-0.3**
LUBP	**Lubang**	**0.43**	**301**	⇓	*e*	P	**Pn**	**18 50 22.5**	**+0.4**
LUBP					*e*	S	**Sn**	**18 50 31.9**	**+0.9**
TGY	**Tagaytay City**	**0.66**	**28**		Pg		**Pn**	**18 50 23.9**	**-0.6**
	203nm,0.3s,baz=202,slow=16,SNR=12								
TGY					Lg		Lg	18 50 36.4	
	634nm,0.3s,baz=163,slow=23,SNR=15								
MACP	**Maragondon, Ca**	**0.75**	**7**		*e*	P	**Pn**	**18 50 25.7**	**+0.2**
SJMP	**San Jose**	**1.15**	**155**		*e*	P	**Pn**	**18 50 31.6**	**+1.2**
BOAC	**Boac**	**1.19**	**92**		*e*	P	**Pn**	**18 50 31.6**	**+0.8**
BUSP	**Coron**	**1.55**	**195**		*e*	P	**Pn**	**18 50 36.0**	**+0.3**
BALP	**Baler**	**2.40**	**23**		*e*	P	**Pn**	**18 50 48.9**	**+1.9**
ENPP	**El Nido**	**2.57**	**207**		*e*	P	**Pn**	**18 50 49.6**	**+0.3**
SMPP	**San Manuel, Pa**	**2.62**	**1**		*e*	P	**Pn**	**18 50 49.6**	**-0.5**
CUYO	**Cuyo Island**	**2.67**	**172**		*e*	P	**Pn**	**18 50 51.0**	**+0.2**
BATI	**Baumata**	**23.76**	**173**		P		**P**	**18 55 15.8**	**-0.3**
	7.9nm,0.4s,baz=13,slow=7.1,SNR=5.9								
WRA	**Warramunga Arr**	**35.88**	**158**		P		**P**	**18 57 02.4**	**-1.0**
	0.4nm,0.7s,baz=334,slow=9.7,SNR=5.0								
ASAR	**Alice Springs**	**39.17**	**161**		P		**P**	**18 57 30.4**	**-0.8**
	0.3nm,0.5s,baz=336,slow=6.6,SNR=6.2								
MKAR	**Makanchi Array**	**46.14**	**324**		P		**P**	**18 58 27.9**	**+0.5**
	0.2nm,0.5s,baz=131,slow=7.9,SNR=2.0								

*JMA **29** 18:56:32.4, 23.˚98N×121.˚68E, h22km±1km, M2.8*
*TAP **29** 18:56:34.1, 24.˚22N×121.˚79E, h15km, ML3.6, B*
ISC 29 18:56:34.0±0.8, 24.˚19N±0.˚02×121.˚83E±0.˚02, h12km±5km, n108, σ0s75/176, 5C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EHP	**Heping Village**	**0.14**	**325**	⇓	*i*	P	**Pg**	**18 56 37.5**	**0.0**
	baz=338								
EHP					*i*	S	**Sg**	**18 56 40.2**	**+0.1**
	baz=338								
ETL	**Fush Village**	**0.19**	**261**	⇓	*i*	P	**Pg**	**18 56 38.4**	**+0.1**
	baz=248								
ETL					*i*	S	**Sg**	**18 56 41.7**	**+0.4**
	baz=248								
NACB	**Ninganchiao**	**0.22**	**266**	⇓	*i*	P	**Pg**	**18 56 38.6**	**-0.1**
	baz=250								
NACB					*i*	S	**Sg**	**18 56 41.7**	**-0.1**
	baz=250								
TWD	**Chiawan**	**0.24**	**243**	⇓	*i*	P	**Pg**	**18 56 39.3**	**+0.2**
	baz=237								
TWD						S	**Sg**	**18 56 43.3**	**+0.8**
	baz=237								
ENA	**Nanau**	**0.25**	**341**	⇓	*i*	P	**Pg**	**18 56 39.1**	**-0.2**
	baz=349								
ENA					*i*	S	**Sg**	**18 56 42.7**	**-0.1**
	baz=349								
EWUT	**Wuta**	**0.26**	**349**	⇓	*i*	P	**Pg**	**18 56 39.4**	**0.0**
	baz=356								
EWUT					*i*	S	**Sg**	**18 56 43.0**	**-0.1**
	baz=356								
HWA	**Hwalien**	**0.30**	**224**		*e*	P	**Pb**	**18 56 41.3**	**0.0**
	baz=223								
HWA					*e*	S	**Sb**	**18 56 46.8**	**+0.7**
	baz=223								
ETLH	**Xiulin Townshi**	**0.32**	**273**	⇓	*i*	P	**Pg**	**18 56 40.2**	**-0.3**
	baz=268								
ETLH					*e*	S	**Sg**	**18 56 44.6**	**-0.4**
	baz=268								
TWC	**Suao**	**0.42**	**2**	⇓	*i*	P	**Pg**	**18 56 42.3**	**0.0**
	baz=4.0								
TWC						S	**Sg**	**18 56 47.1**	**-0.8**
	baz=4.0								
LATG	**Datong**	**0.44**	**321**	⇓	*i*	P	**Pg**	**18 56 42.5**	**-0.4**
	baz=322								
LATG					*i*	S	**Sg**	**18 56 48.2**	**-0.5**
	baz=322								
NDS	**Dongshan**	**0.45**	**347**	⇓	*i*	P	**Pg**	**18 56 43.0**	**0.0**
	baz=349								
NDS					*i*	S	**Sg**	**18 56 49.2**	**+0.1**
	baz=349								
NNSB	**Datong**	**0.47**	**300**	⇓	*i*	P	**Pg**	**18 56 43.1**	**-0.3**
	baz=299								
NNSB					*i*	S	**Sg**	**18 56 49.0**	**-0.7**
	baz=299								
NNS	**Nan Shan**	**0.49**	**301**	⇓	*i*	P	**Pg**	**18 56 43.2**	**-0.4**
	baz=300								
NNS					*i*	S	**Sg**	**18 56 49.5**	**-0.7**
	baz=300								
ENTT	**Nioudou**	**0.51**	**332**	⇓	*i*	P	**Pg**	**18 56 43.8**	**-0.3**
	baz=333								
ENTT					*i*	S	**Sg**	**18 56 50.4**	**-0.4**
	baz=333								
WHF	**Hehuan Shan**	**0.52**	**265**	⇓	*i*	P	**Pg**	**18 56 44.1**	**-0.3**
	baz=262								
WHF						S	**Sg**	**18 56 50.9**	**-0.4**
	baz=262								
ESL	**Shilin**	**0.52**	**224**	⇑	*i*	P	**Pg**	**18 56 44.4**	**+0.1**
	baz=225								
ESL					*e*	S	**Sb**	**18 56 52.5**	**-0.1**
	baz=225								
TWE	**Neicheng**	**0.55**	**344**	⇓	*i*	P	**Pg**	**18 56 44.6**	**-0.2**
	baz=347								
TWE					*i*	S	**Sg**	**18 56 51.5**	**-0.6**
	baz=347								
ILA	**Ilan**	**0.58**	**353**		*e*	P	**Pg**	**18 56 45.2**	**-0.1**
	baz=350								
ILA					*e*	S	**Sg**	**18 56 53.4**	**+0.4**
	baz=350								
TWT	**Tachien**	**0.60**	**276**		*e*	P	**Pg**	**18 56 46.0**	**+0.1**
	baz=273								
TWT					*e*	S	**Sg**	**18 56 53.6**	**-0.2**
	baz=273								
FUSB	**Fushanzhiwuyua**	**0.61**	**339**	⇓	*i*	P	**Pg**	**18 56 45.6**	**-0.3**
	baz=332								
FUSB						S	**Sg**	**18 56 53.0**	**-1.0**
	baz=332								
CHGB	**Renai**	**0.61**	**258**	⇓	*i*	P	**Pg**	**18 56 46.1**	**+0.1**
	baz=250								
CHGB					*i*	S	**Sg**	**18 56 53.8**	**-0.4**
	baz=250								
TDCB	**Techi**	**0.62**	**276**		*i*	P	**Pg**	**18 56 46.0**	**-0.1**
	baz=274								
TDCB						S	**Sg**	**18 56 53.5**	**-0.8**
	baz=274								
YHNB	**Yeheng**	**0.63**	**319**	⇓	*i*	P	**Pg**	**18 56 46.0**	**-0.4**
	baz=319								
YHNB						S	**Sg**	**18 56 53.9**	**-0.8**
	baz=319								
EGFH	**Guangfu**	**0.64**	**215**		*e*	P	**Pb**	**18 56 47.0**	**-0.1**

	baz=275								
NHDH	**Xindian Distri**	**0.82**	**340**	*eP*	**Pg**	**18 56 49.7**	**-0.2**
	baz=335								
TWA	**Mucha**	**0.82**	**344**	P	**Pb**	**18 56 50.2**	**0.0**
	baz=335								
TWA				*eS*	**Sg**	**18 57 00.0**	**-0.6**
	baz=335								
EHY	**Hungye**	**0.83**	**214**	*eP*	**Pg**	**18 56 49.7**	**-0.3**
	baz=224								
TWB1	**Santiao Chiao**	**0.83**	**10**	*eP*	**Pg**	**18 56 49.8**	**-0.3**
	baz=12								
WCS	**Beigang Elemen**	**0.85**	**261**	*eP*	**Pg**	**18 56 50.1**	**-0.3**
	baz=260								
WCS				*eS*	**Sg**	**18 57 01.4**	**-0.2**
	baz=260								
LIOB	**Emei**	**0.87**	**302**	*eP*	**Pg**	**18 56 50.9**	**0.0**
	baz=301								
LIOB				*eS*	**Sb**	**18 57 02.6**	**-0.1**
	baz=301								
NSTT	**Nanjuang**	**0.87**	**300**	⇑P	**Pg**	**18 56 50.7**	**-0.2**
	baz=300								
NSTT				*eS*	**Sg**	**18 57 00.3**	**-2.1**
	baz=300								
NWF	**Wu-fen Shan**	**0.88**	**357**	*eP*	**Pg**	**18 56 51.1**	**+0.1**
	baz=358								
TAP	**Taipei**	**0.90**	**341**	*eP*	**Pb**	**18 56 51.9**	**+0.4**
	baz=333								
SSLB	**Suanglung**	**0.90**	**244**	*eP*	**Pg**	**18 56 50.9**	**-0.5**
	baz=251								
SSLB				S	**Sg**	**18 57 00.8**	**-2.3**
	baz=251								
SXI1	**Grass Mountain**	**0.90**	**3**	*eP*	**Pg**	**18 56 51.1**	**-0.3**
	baz=352								
SMLT	**Sun Moon Lake**	**0.90**	**250**	*eP*	**Pg**	**18 56 51.0**	**-0.6**
	baz=249								
SMLT				*eS*	**Sg**	**18 57 02.8**	**-0.5**
	baz=249								
YULB	**Yu-li**	**0.93**	**212**	*eP*	**Pg**	**18 56 50.4**	**-1.7**
	baz=221								
YULB				*eS*	**Sg**	**18 57 04.4**	**+0.2**
	baz=221								
TYC	**Yuchr**	**0.94**	**252**	*eP*	**Pg**	**18 56 51.9**	**-0.2**
	baz=244								
TYC				*eS*	**Sg**	**18 57 02.0**	**-2.3**
	baz=244								
EYUL	**Yuli**	**0.96**	**209**	*eP*	**Pb**	**18 56 53.0**	**+0.3**
	baz=224								
EYUL				*eS*	**Sb**	**18 57 05.8**	**+0.5**
	baz=224								
NCU	**National Centr**	**0.97**	**323**	*eP*	**Pg**	**18 56 53.0**	**+0.1**
	baz=322								
NCU				*eS*	**Sb**	**18 57 05.9**	**+0.3**
	baz=322								
NCUH	**Zhongli**	**0.97**	**323**	*eP*	**Pg**	**18 56 53.0**	**+0.1**
	baz=323								
SBCB	**Hsinchu**	**0.98**	**308**	*eP*	**Pg**	**18 56 53.2**	**+0.3**
	baz=307								
SBCB				*eS*	**Sn**	**18 57 07.5**	**+0.2**
	baz=307								
TWQ1	**Liyutan**	**0.98**	**279**	*eP*	**Pb**	**18 56 52.9**	**0.0**
	baz=279								
TWQ1				*eS*	**Sb**	**18 57 05.9**	**+0.1**
	baz=279								
TWS1	**Kuangyinshan**	**0.98**	**338**	*eP*	**Pg**	**18 56 53.1**	**+0.1**
	baz=337								
TWS1				*eS*	**Sn**	**18 57 06.7**	**-0.7**
	baz=337								
YM01	**YM01**	**0.98**	**346**	*eP*	**Pg**	**18 56 53.0**	**+0.1**
	baz=331								
HSN	**Hsinchu**	**0.99**	**308**	*eP*	**Pn**	**18 56 53.6**	**-0.2**
	baz=302								
HSN				*eS*	**Sg**	**18 57 05.2**	**-1.0**
	baz=302								
NSY	**Sanyi**	**1.00**	**283**	*eP*	**Pg**	**18 56 53.6**	**+0.3**
	baz=283								
NSY				*eS*	**Sb**	**18 57 06.5**	**0.0**
	baz=283								
NMLH	**Miaoli**	**1.01**	**290**	*eP*	**Pg**	**18 56 53.6**	**+0.1**
	baz=296								
NMLH				*eS*	**Sb**	**18 57 06.1**	**-0.6**
	baz=296								
NTST	**Danshui**	**1.03**	**340**	*eP*	**Pb**	**18 56 53.5**	**-0.3**
	baz=340								
NTST				*eS*	**Sg**	**18 57 07.8**	**+0.4**
	baz=340								
ANP	**Anpu**	**1.03**	**344**	*eP*	**Pg**	**18 56 54.0**	**0.0**
	baz=344								
JYNG	**Yonagunijimaku**	**1.05**	**75**	P	**Pn**	**18 56 54.8**	**+0.3**
JYNG				*eS*	**Sn**	**18 57 10.3**	**+1.2**
TCU	**Taichung**	**1.05**	**268**	*eP*	**Pn**	**18 56 55.4**	**+0.8**
	baz=267								
TCU				*eS*	**Sn**	**18 57 11.0**	**+1.7**
	baz=267								
YUS	**Yu-Shan**	**1.06**	**229**	*eP*	**Pg**	**18 56 54.1**	**-0.6**
	baz=228								
WJS	**Zhushan**	**1.07**	**250**	*eP*	**Pn**	**18 56 55.6**	**+0.8**
	baz=245								
WJS				*eS*	**Sn**	**18 57 10.5**	**+0.8**
	baz=245								
WNT	**Mingjian**	**1.09**	**254**	P	**Pg**	**18 56 55.2**	**+0.1**
	baz=250								
WNT				S	**Sn**	**18 57 11.7**	**+1.5**
	baz=250								
WDJ	**Dajia District**	**1.10**	**278**	*eP*	**Pg**	**18 56 55.5**	**+0.3**
	baz=279								
WDJ				*eS*	**Sg**	**18 57 09.7**	**+0.2**
	baz=279								
FULB	**Fuli**	**1.10**	**207**	*eP*	**Pb**	**18 56 54.4**	**-0.7**
	baz=219								
YOJ	**Yonaguni jima**	**1.11**	**76**	P	**Pg**	**18 56 55.7**	**+0.3**
YOJ				*eS*	**Sn**	**18 57 12.3**	**+1.7**
YOJ	**Yonaguni jima**	**1.11**	**76**	*eP*	**Pb**	**18 56 54.9**	**-0.2**
	baz=74								
ALS	**Alishan**	**1.16**	**234**	P	**Pb**	**18 56 55.6**	**-0.5**
	baz=234								
ALS				*eS*	**Sn**	**18 57 14.2**	**+2.0**
	baz=234								
CHKT	**Chengkung**	**1.17**	**202**	*eP*	**Pb**	**18 56 54.8**	**-1.3**
	baz=186								
WCHH	**Zhanghua**	**1.17**	**265**	*eP*	**Pg**	**18 56 56.4**	**-0.1**
	baz=279								
WCHH				*eS*	**Sn**	**18 57 12.3**	**+0.3**
	baz=279								
ELDTW	**Lidau**	**1.25**	**217**	*eP*	**Pn**	**18 56 55.6**	**-1.7**
	baz=203								
WDLH	**Douliu**	**1.28**	**247**	*eP*	**Pg**	**18 56 58.7**	**-0.1**
	baz=248								
WDLH				*eS*	**Sg**	**18 57 16.8**	**+1.4**
	baz=248								
EDH	**Donghe**	**1.30**	**202**	*eP*	**Pn**	**18 56 56.0**	**-2.1**
	baz=189								
WRL	**Guolierlin Hig**	**1.36**	**258**	*eP*	**Pn**	**18 56 58.8**	**0.0**
	baz=257								
STYH	**Taoyuan**	**1.40**	**224**	*eP*	**Pn**	**18 56 59.2**	**-0.2**
	baz=224								
CHN2	**Minshiung**	**1.40**	**242**	*eP*	**Pg**	**18 57 00.8**	**-0.2**
	baz=242								
CHN4	**Tsaushan**	**1.41**	**234**	*eP*	**Pb**	**18 57 00.5**	**+0.2**
	baz=235								
CHN4				*eS*	**Sg**	**18 57 19.9**	**+0.5**
	baz=235								
WTK	**Tuku**	**1.41**	**250**	*eP*	**Pn**	**18 56 59.6**	**+0.1**
	baz=250								
WTK				*eS*	**Sg**	**18 57 19.9**	**+0.4**
	baz=250								
TPUB	**Ta-pu**	**1.41**	**231**	*eP*	**Pb**	**18 57 00.3**	**-0.1**
	baz=231								
LONT	**Longtian**	**1.43**	**207**	*eP*	**Pn**	**18 56 57.9**	**-1.9**
	baz=208								
WTP	**Ta-pu**	**1.46**	**230**	*eP*	**Pb**	**18 57 01.1**	**-0.1**
	baz=230								
CHY	**Chiayi**	**1.46**	**242**	*eP*	**Pg**	**18 57 01.9**	**-0.3**
	baz=242								
TWK	**Hsinying**	**1.54**	**233**	*eP*	**Pb**	**18 57 02.3**	**-0.2**
	baz=233								
CHN1	**Nanshi**	**1.56**	**230**	*eP*	**Pb**	**18 57 02.6**	**-0.2**
	baz=230								
SNST	**Tainan City**	**1.56**	**232**	*eP*	**Pb**	**18 57 02.9**	**+0.1**
	baz=232								
WSF	**Szhu**	**1.57**	**250**	*eP*	**Pn**	**18 57 02.1**	**+0.4**
	baz=249								
SGST	**Jiashian**	**1.59**	**226**	*eP*	**Pn**	**18 57 02.1**	**+0.1**
	baz=227								
SGST				*eS*	**Sg**	**18 57 24.8**	**-0.4**
	baz=227								
WSL	**Shuilin Townsh**	**1.61**	**246**	*eP*	**Pn**	**18 57 03.0**	**+0.7**
	baz=246								
ICHU	**Yijhu**	**1.64**	**240**	*eP*	**Pn**	**18 57 03.3**	**+0.6**
	baz=240								
IRIF	**Iriomote-Funau**	**1.74**	**85**	P	**Pn**	**18 57 04.2**	**+0.2**
IRIF				*eS*	**Sb**	**18 57 28.1**	**+0.4**
SSD	**Sandimen**	**1.81**	**218**	*eP*	**Pn**	**18 57 06.0**	**+1.0**
	baz=203								
TSMG	**Majia**	**1.84**	**217**	*eP*	**Pb**	**18 57 06.7**	**-0.8**
	baz=218								
TSMG				*eS*	**Sb**	**18 57 30.8**	**+0.3**
	baz=218								
TWM1	**Shoushan**	**1.88**	**224**	*eP*	**Pb**	**18 57 08.9**	**+0.6**
	baz=223								
MASBT	**Mashibuluo**	**1.92**	**215**	*eP*	**Pn**	**18 57 07.5**	**+1.0**
	baz=217								
MASBT				*eS*	**Sb**	**18 57 33.1**	**+0.2**
	baz=217								
JKRS	**Kuro-shima**	**1.99**	**88**	P	**Pn**	**18 57 08.4**	**+0.9**
JKRS				S	**Sb**	**18 57 34.0**	**-0.9**
EAST	**Anshuo**	**2.01**	**207**	*eP*	**Pn**	**18 57 05.8**	**-2.0**
	baz=197								
TAWH	**Dawu Township**	**2.04**	**205**	*eP*	**Pn**	**18 57 09.3**	**+1.2**
	baz=196								
SSPT	**Xinbi**	**2.06**	**215**	*eP*	**Pb**	**18 57 11.6**	**+0.3**
	baz=200								
JIJ	**Ishigaki jima**	**2.12**	**85**	P	**Pn**	**18 57 09.6**	**+0.4**
JIJ				*eS*	**Sn**	**18 57 36.3**	**+0.8**
PNG	**Penghu**	**2.17**	**254**	*eP*	**Pb**	**18 57 11.9**	**-1.3**
	baz=254								
PHUB	**P'eng-hu**	**2.17**	**252**	*eP*	**Pn**	**18 57 08.7**	**-1.4**
	baz=253								
SLIU	**Shizi**	**2.18**	**206**	*eP*	**Pb**	**18 57 12.4**	**-1.1**
	baz=197								
WDGT	**Dungji**	**2.19**	**245**	*eP*	**Pn**	**18 57 09.6**	**-0.7**
	baz=246								
JISG	**Ishigakijimahi**	**2.29**	**80**	P	**Pn**	**18 57 12.1**	**+0.4**
JISG				S	**Sn**	**18 57 40.6**	**+0.7**
VCHM	**Qimei**	**2.41**	**247**	*eP*	**Pn**	**18 57 14.3**	**+1.1**
	baz=232								
JTJ	**Tarama**	**2.66**	**80**	P	**Pn**	**18 57 17.8**	**+1.2**
JTJ				*eS*	**Sb**	**18 57 51.5**	**-2.6**

*IDC **29** 18:59:06.8±1.2, 32°.74N×130°.55E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/49, mbtmp3.5/4, ML2.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/69, Error ellipse: s-maj=21.4km s-min=9.2km az=124.0*

*NIED **29** 18:59:08.9, 32°.76N×130°.76E, h16km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.80; $M_{\theta\theta}$3.45; $M_{\phi\phi}$-2.65; $M_{r\theta}$0.08; $M_{\theta\phi}$3.00; $M_{\phi r}$-2.16; Fault plane solution: $M_0$4.84000×10^{14} NP1: ϕ_s290.00000°, δ65.00000°, λ-14.00000°. NP2:ϕ_s26.00000°, δ78.00000°, λ-155.00000°.*

*JMA **29** 18:59:08.8, 32°.76N×130°.76E, h16km±1km, M3.9*

JMA Felt III J1.

ISC 29 18:59:09.1±0.8, 32°.75N±0°.04×130°.73E±0°.07, h11km, n10, σ1s20/14, mb3.3/3, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.21**	**160**	⇑P	**Pg**	**18 59 13.8**	**+0.2**
JIU3				S	**Sg**	**18 59 17.4**	**+0.8**
JTA	**Tamana**	**0.27**	**323**	⇑P	**Pg**	**18 59 14.9**	**+0.2**
JTA				S	**Sg**	**18 59 19.1**	**+0.7**
JNU	**Nakatsue**	**0.40**	**19**	Pg	**Pg**	**18 59 16.3**	**-0.7**
	507nm,0.3s,baz=249,slow=8.6,SNR=2555						
JNU				Lg	Lg	18 59 21.6	
	1μm,0.3s,baz=307,slow=20,SNR=46						
JNU	**Nakatsue**	**0.40**	**19**	⇑P	**Pg**	**18 59 16.8**	**-0.2**
JNU				S	**Sg**	**18 59 21.9**	**-0.4**
JTZ	**Takazaki**	**0.90**	**160**	⇑P	**Pg**	**18 59 25.9**	**-0.5**
KSRS	**Korea Array**	**5.23**	**335**	Pn	**Pn**	**19 00 26.0**	**-1.2**
	0.1nm,0.3s,baz=154,slow=15,SNR=2.3						
KSRS				Pg	**Pg**	**19 00 43.0**	**+2.5**
	0.3nm,0.3s,baz=156,slow=15,SNR=4.1						
KSRS				Lg	Lg	19 01 51.4	
	1.8nm,0.3s,baz=158,slow=30,SNR=7.9						
MJAR	**Matsushiro Arr**	**7.24**	**56**	Pn	**Pn**	**19 00 55.9**	**+1.1**
	0.1nm,0.3s,baz=237,slow=14,SNR=4.6						
MJAR				LR	LR	19 03 59.1	
	comp=Z,75nm,18.3s,baz=216,slow=40						
WRA	**Warramunga Arr**	**52.51**	**176**	P	**P**	**19 08 22.5**	**+0.2**
	0.3nm,0.7s,baz=354,slow=7.8,SNR=2.4						
ASAR	**Alice Springs**	**56.18**	**176**	P	**P**	**19 08 47.9**	**-1.2**
	0.2nm,0.8s,baz=7.1,slow=8.2,SNR=1.6						
FINES	**FINESS Array B**	**68.30**	**330**	P	**P**	**19 10 08.0**	**-1.9**
	1.1nm,0.7s,baz=48,slow=8.5,SNR=6.1						

TAP 29 19:01:36.1, 24°.23N×121°.74E, h10km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.08**	**0**	*eP*	Pg	19 01 38.9	+0.4
	baz=5.0						
ETL	**Fush Village**	**0.13**	**236**	P	Pb	19 01 40.2	-0.4
	baz=235						
ETL				S	Sg	19 01 42.8	+1.4
	baz=235						
NACB	**Ninganchiao**	**0.15**	**246**	P	Pg	19 01 39.9	+0.5
	baz=246						
NACB				S	Sg	19 01 43.1	+1.4
	baz=246						
ENA	**Nanau**	**0.19**	**0**	*i* P	Pg	19 01 40.9	+0.7
	baz=2.0						
ENA				*i* S	Sg	19 01 44.7	+1.6
	baz=2.0						
EWUT	**Wuta**	**0.21**	**9**	*i* P	Pg	19 01 41.3	+0.7
	baz=9.0						
EWUT				*i* S	Sg	19 01 45.3	+1.7
	baz=9.0						
ETLH	**Xiulin Townshi**	**0.24**	**264**	P	Pb	19 01 41.9	-0.6
	baz=263						
ETLH				S	Sg	19 01 46.3	+1.9
	baz=263						
ETM	**Tongmen**	**0.35**	**220**	*eP*	Pb	19 01 44.1	-0.3
	baz=220						
ETM				*eS*	Sb	19 01 49.3	-0.7
	baz=220						
LATG	**Datong**	**0.36**	**327**	P	Pb	19 01 44.0	-0.6
	baz=326						
LATG				S	Sb	19 01 50.3	-0.1
	baz=326						
NNSB	**Datong**	**0.38**	**301**	P	Pb	19 01 44.6	-0.4
	baz=300						
NNSB				S	Sb	19 01 50.8	-0.2
	baz=300						
TEYL	**Yanliau Villag**	**0.39**	**200**	*eP*	Pb	19 01 44.4	-0.6
	baz=201						
TEYL				*eS*	Sg	19 01 49.9	+1.0
	baz=201						
NNS	**Nan Shan**	**0.39**	**302**	*i* P	Pb	19 01 45.1	-0.1
	baz=301						
NNS				S	Sb	19 01 51.1	-0.3
	baz=301						
NDS	**Dongshan**	**0.40**	**357**	*eP*	Pb	19 01 44.9	-0.4
	baz=356						
NDS				*eS*	Sb	19 01 51.1	-0.3
	baz=356						
ENTT	**Nioudou**	**0.43**	**339**	*i* P	Pb	19 01 45.5	-0.3
	baz=339						
ENTT				*i* S	Sb	19 01 52.3	-0.2
	baz=339						
WHF	**Hehuan Shan**	**0.44**	**259**	S	Sb	19 01 52.4	-0.7
	baz=258						
ESL	**Shilin**	**0.50**	**214**	*eP*	Pg	19 01 46.4	+0.5
	baz=213						
ESL				S	Sb	19 01 55.3	+0.9
	baz=213						
TDCB	**Techi**	**0.53**	**272**	*eP*	Pb	19 01 47.2	-0.4
	baz=272						
TDCB				*eS*	Sb	19 01 55.0	-0.4
	baz=272						
FUSB	**Fushanzhiwuyua**	**0.54**	**345**	*eP*	Pb	19 01 48.3	+0.5
	baz=345						
FUSB				*eS*	Sb	19 01 55.9	+0.3
	baz=345						
CHGB	**Renai**	**0.55**	**252**	P	Pb	19 01 47.5	-0.3
	baz=251						
CHGB				S	Sb	19 01 55.4	-0.4
	baz=251						
YHNB	**Yeheng**	**0.55**	**323**	P	Pb	19 01 48.0	+0.2
	baz=322						
YHNB				S	Sb	19 01 56.0	+0.2
	baz=322						
NSK	**Sanguang**	**0.56**	**322**	*eS*	Sb	19 01 56.7	+0.5
	baz=322						
NWLT	**Wulai**	**0.58**	**338**	*eP*	Pb	19 01 49.2	+0.8
	baz=338						
NWLT				*eS*	Sb	19 01 57.1	+0.3
	baz=338						
OWD	**Renai**	**0.59**	**242**	*eP*	Pb	19 01 48.4	-0.2
	baz=241						
OWD				*eS*	Sb	19 01 56.4	-0.6
	baz=241						
WUSB	**Renai**	**0.62**	**247**	*eP*	Pb	19 01 49.0	-0.1
	baz=247						
WUSB				*eS*	Sb	19 01 57.9	0.0
	baz=247						
VWDT	**VWDT**	**0.73**	**229**	*eP*	Pb	19 01 51.6	+0.8
	baz=228						
VWDT				*eS*	Sb	19 02 01.3	+0.5
	baz=228						

JMA 29 19:01:48.2±0.1, 24°.89N×123°.42E, h25km, M1.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.57**	**221**	P	Pb	19 01 59.2	-0.3
YOJ				*eS*	Sb	19 02 06.5	-0.7
JYNG	**Yonagunijimaku**	**0.61**	**225**	P	Pb	19 02 00.0	-0.3
JYNG				*eS*	Sb	19 02 08.3	-0.3
IRIF	**Iriomote-Funau**	**0.62**	**153**	P	Pb	19 02 00.3	-0.1
IRIF				S	Sb	19 02 08.9	+0.1
JIJ	**Ishigaki jima**	**0.84**	**128**	P	Pb	19 02 03.6	-0.6
JIJ				S	Sb	19 02 14.1	-1.0
JKRS	**Kuro-shima**	**0.84**	**140**	P	Pb	19 02 03.9	-0.3
JKRS				S	Sb	19 02 14.5	-0.6
JISG	**Ishigakijimahi**	**0.86**	**110**	P	Pb	19 02 04.1	-0.5
JISG				*eS*	Sb	19 02 15.3	-0.4
HATJ	**Hateruma jima**	**0.90**	**157**	P	Pb	19 02 05.1	-0.1
HATJ				*eS*	Sb	19 02 16.6	-0.2
JTJ	**Tarama**	**1.19**	**102**	P	Pb	19 02 10.0	-0.1

*TUL **29** 19:03:55.7±1.9, 36°.82N±0°.01×97°.62W±0°.02, h5km±7km, ML2.8, mb_Lg2.6/15(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=60.0*

NEIC 29 19:03:55.4±1.1, 36°.78N±0°.01×97°.61W±0°.02, h5km±7km, Error ellipse: s-maj=1.9km s-min=1.7km az=223.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**0.89**	**81**		Pg	19 04 12.2	-0.2
U32A	**Winter Ranch,**	**1.20**	**251**	Pg	Pg	19 04 17.8	-0.5
OKCFA	**Oklahoma City**	**1.37**	**175**	Pn	Pg	19 04 21.8	+0.1
OKCSW	**OKLAHOMA CITY**	**1.38**	**174**		Pn	19 04 21.0	-0.4
FNO	**Franklin**	**1.53**	**174**		Pn	19 04 23.6	+0.2
TUL1	**Leonard**	**1.70**	**120**	Pn	Pn	19 04 26.4	+0.7
R32A	**Long Quarter,**	**1.86**	**332**	Pn	Pn	19 04 27.5	-0.4
X34A	**Smith Ranch, M**	**2.19**	**185**	Pn	Pn	19 04 32.4	0.0
WMOK	**Wichita Mounta**	**2.25**	**205**	Pn	Pn	19 04 33.8	+0.4
WMOK					lAmb_Lg	19 05 07.8	
	comp=Z,11nm,0.9s						
X37A	**Clayton**	**2.85**	**140**	Pn	Pn	19 04 43.0	+1.6
X37A					lAmb_Lg	19 05 30.1	
	comp=Z,13nm,0.8s						
HHAR	**Hobbs**	**2.99**	**99**	Pn	Pn	19 04 44.0	+0.5
Z35A	**Perchaven, San**	**3.46**	**175**	Pn	Pn	19 04 49.0	-0.9
W39A	**Magazine**	**3.48**	**116**	Pn	Pn	19 04 52.6	+2.4
S39A	**Bolivar**	**3.54**	**74**		Pn	19 04 51.1	+0.2
S39A					lAmb_Lg	19 05 47.6	
	comp=Z,9.6nm,1.1s						
AMTX	**Amarillo**	**3.82**	**241**	Pn	Pn	19 04 53.9	-1.0
U40A	**Yellville**	**3.85**	**95**		Pn	19 04 55.1	-0.2
M1AR	**Mount Ida**	**3.97**	**123**	Pn	Pn	19 04 56.6	-0.3
P38A	**Dawn**	**4.28**	**47**	Pn	Pn	19 05 01.8	+0.6
N35A	**Tabor**	**4.35**	**20**		lAmb_Lg	19 06 22.2	
	comp=Z,14nm,0.7s						
R40A	**Maddies Statio**	**4.50**	**69**	Pn	Pn	19 05 04.4	+0.2
R40A					lAmb_Lg	19 06 24.5	
	comp=Z,9.3nm,1.2s						
X40A	**Basin Creek Fa**	**4.51**	**119**	Pn	Pn	19 05 05.5	+1.1
FCAR	**Ozark Folk Cen**	**4.51**	**100**	Pn	Pn	19 05 03.4	-1.0
WHAR	**Wooly Hollow**	**4.56**	**108**	Pn	Pn	19 05 04.2	-0.8
WHTX	**Lake Whitney,**	**4.78**	**178**		lAmb_Lg	19 06 37.2	
	comp=Z,41nm,0.8s						
237A	**Washetta, Mont**	**5.00**	**162**		lAmb_Lg	19 06 34.1	
	comp=Z,27nm,0.8s						
P40A	**Paris**	**5.17**	**56**	Pn	Pn	19 05 12.7	-0.7
P40A					lAmb_Lg	19 06 39.7	
	comp=Z,16nm,1.3s						
CCM	**Cathedral Cave**	**5.22**	**74**	Pn	Pn	19 05 12.5	-1.6
N38A	**Joes South For**	**5.26**	**39**	Pn	Pn	19 05 14.9	+0.3

TAP 29 19:04:46.5, 24°.25N×121°.74E, h9km, ML1.6, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.06**	**5**	*eP*	Pg	19 04 49.2	+0.7
	baz=13						
ETL	**Fush Village**	**0.14**	**228**	P	Pg	19 04 50.2	+0.7
	baz=227						
ETL				S	Sg	19 04 53.0	+1.3
	baz=227						
NACB	**Ninganchiao**	**0.15**	**239**	P	Pg	19 04 50.3	+0.5
	baz=238						
NACB				S	Sg	19 04 53.0	+1.1
	baz=238						
ENA	**Nanau**	**0.17**	**2**	⇓*i* P	Pg	19 04 51.0	+0.8
	baz=4.0						
ENA				*i* S	Sg	19 04 54.1	+1.4
	baz=4.0						
EWUT	**Wuta**	**0.20**	**12**	P	Pg	19 04 51.3	+0.8
	baz=11						
EWUT				S	Sg	19 04 54.8	+1.4
	baz=11						
ETLH	**Xiulin Townshi**	**0.23**	**259**	P	Pg	19 04 52.1	+0.8
	baz=258						
ETLH				S	Sg	19 04 56.2	+1.6
	baz=258						
HWA	**Hwalien**	**0.30**	**203**	*eP*	Pb	19 04 54.4	+0.3
	baz=201						
HWA				*eS*	Sb	19 04 59.0	-0.1
	baz=201						
LATG	**Datong**	**0.34**	**326**	P	Pb	19 04 54.4	-0.5
	baz=325						
LATG				S	Sb	19 05 00.0	-0.4
	baz=325						
ETM	**Tongmen**	**0.36**	**218**	P	Pg	19 04 54.2	+0.6
	baz=217						
NNSB	**Datong**	**0.37**	**299**	P	Pb	19 04 55.0	-0.3
	baz=298						
TWC	**Suao**	**0.37**	**16**	P	Pb	19 04 55.0	-0.3
	baz=17						
TWC				*i* S	Sg	19 04 59.8	+1.1
	baz=17						
NDS	**Dongshan**	**0.38**	**357**	P	Pb	19 04 55.0	-0.4
	baz=357						
NDS				S	Sb	19 05 00.6	-0.9
	baz=357						
NNS	**Nan Shan**	**0.38**	**300**	P	Pb	19 04 55.3	-0.2
	baz=299						
NNS				S	Sb	19 05 01.0	-0.6
	baz=299						
ENTT	**Nioudou**	**0.42**	**338**	*i* P	Pb	19 04 55.8	-0.3
	baz=339						
ENTT				*i* S	Sb	19 05 02.1	-0.5
	baz=339						
WHF	**Hehuan Shan**	**0.44**

YHNB	**Yeheng**	**0.53**	**322**	P	Pb	19 04 58.1	0.0
	baz=321						
YHNB				S	Sb	19 05 06.1	+0.2
	baz=321						
NSK	**Sanguang**	**0.54**	**321**	P	Pb	19 04 58.7	+0.3
	baz=321						
NSK				S	Sb	19 05 05.9	-0.4
	baz=321						
CHGB	**Renai**	**0.55**	**250**	P	Pb	19 04 57.9	-0.5
	baz=249						
CHGB				S	Sb	19 05 05.9	-0.6
	baz=249						
NWLT	**Wulai**	**0.56**	**338**	*eP*	Pb	19 04 58.6	0.0
	baz=337						
NWLT				*eS*	Sb	19 05 06.5	-0.4
	baz=337						
OWD	**Renai**	**0.59**	**240**	*eP*	Pb	19 04 58.7	-0.4
	baz=239						
OWD				*eS*	Sg	19 05 06.6	+0.8
	baz=239						
NTC	**Toucheng**	**0.61**	**8**	*eP*	Pb	19 04 59.4	+0.1
	baz=8.0						
NTC				*eS*	Sb	19 05 08.7	+0.7
	baz=8.0						
WUSB	**Renai**	**0.62**	**245**	P	Pb	19 04 59.4	-0.3
	baz=245						
WUSB				S	Sb	19 05 08.2	-0.3
	baz=245						
EGFH	**Guangfu**	**0.65**	**206**	*eP*	Pb	19 04 60.0	0.0
	baz=205						
EGFH				*eS*	Sb	19 05 09.9	+0.8
	baz=205						
NFF	**Wufeng Townshi**	**0.68**	**304**	*eP*	Pb	19 05 00.4	-0.2
	baz=303						
NFF				*eS*	Sb	19 05 11.0	+0.8
	baz=303						
TIPB	**Shuangxi**	**0.72**	**7**	*eP*	Pb	19 05 01.3	0.0
	baz=6.0						
WHP	**Taichung City**	**0.72**	**272**	*eP*	Pb	19 05 01.3	-0.1
	baz=272						
WHP				*eS*	Sb	19 05 12.3	+0.9
	baz=272						
VWDT	**VWDT**	**0.74**	**228**	*eS*	Sb	19 05 12.1	+0.4
	baz=227						
LIOB	**Emei**	**0.76**	**301**	*eP*	Pn	19 05 03.1	-0.4
	baz=300						
LIOB				*eS*	Sn	19 05 14.1	-1.1
	baz=300						
EHY	**Hungye**	**0.83**	**207**	*eS*	Sb	19 05 15.1	+0.6
	baz=206						
SMLT	**Sun Moon Lake**	**0.85**	**244**	*eP*	Pb	19 05 03.7	+0.2
	baz=243						
SMLT				*eS*	Sb	19 05 16.1	+1.1
	baz=243						
SXI1	**Grass Mountain**	**0.85**	**9**	*eP*	Pg	19 05 02.8	-0.1
	baz=8.0						
SXI1				*eS*	Sb	19 05 15.1	0.0
	baz=8.0						
SSLB	**Suanglung**	**0.85**	**237**	*eP*	Pb	19 05 03.4	-0.1
	baz=237						
SSLB				*eS*	Sb	19 05 15.4	+0.3
	baz=237						
YULB	**Yu-li**	**0.94**	**205**	*eP*	Pn	19 05 05.7	-0.3
	baz=205						
YULB				*eS*	Sn	19 05 18.9	-0.8
	baz=205						

NOU 29 19:08:29.7, 16°27S×167°31E, h0km, MLv4.7/14, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.67**	**150**	P	Pn	19 08 59.1	-1.2
RTV	**Rentapao**	**1.85**	**145**	P	Pb	19 09 03.6	-0.9
LIFNC	**LIFOU**	**4.48**	**181**	P	Pn	19 09 37.7	-1.2
KOUNC	**Koumac, New Ca**	**5.13**	**214**	P	Pn	19 09 48.5	+0.6
YATNC	**Mamie plateau,**	**5.77**	**184**	P	Pn	19 09 55.7	-1.0
DZM	**Mont Dzumac**	**5.83**	**188**	P	Pn	19 09 57.0	-0.5
NOUC	**Port Laguerre** 22nm,1.0s	**5.88**	**189**	P	Pn	19 09 57.4	-0.7
ONTNC	**Ouen Toro**	**6.06**	**188**	P	Pn	19 10 00.9	+0.3
OUENC	**Ouen Island, N**	**6.13**	**184**	P	Pn	19 10 02.6	+1.0
PINNC	**Pines Island,**	**6.31**	**179**	P	Pn	19 10 04.3	+0.2

*IDC **29** 19:09:37.9±2.0, 16°.57S×167°.36E, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.9/47, mbtmp4.1/9, ML4.4/2, MS3.6/9, Ms1 3.6/9, ms1mx3.2/41, Error ellipse: s-maj=43.4km s-min=25.7km az=95.0*

*NEIC **29** 19:09:43.3±2.8, 16°.22S±0°.06×167°.23E±0°.04, h35km±2km, mb4.6/12, Error ellipse: s-maj=11.2km s-min=6.7km az=165.0*

ISC 29 19:09:40.6±0.7, 16°.37S±0°.06×167°.3E±0°.1, h20km, n37, σ1s59/31, mb4.3/11, MS3.5/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.93**	**353**	Pn	**Pb**	**19 09 55.5**	**-2.5**
SANVU				Sn	**Sb**	**19 10 07.4**	**-2.4**
KOUNC	**Koumac, New Ca**	**5.06**	**214**		**Pn**	**19 10 55.6**	**+0.3**
DZM	**Mont Dzumac** 14nm,0.3s,baz=132,slow=24,SNR=11	**5.73**	**188**	Pn	**Pn**	**19 11 02.1**	**-2.6**
DZM	1.8nm,0.3s,baz=338,slow=20,SNR=1.4			Sn	**Sn**	**19 12 07.8**	**-2.2**
DZM	comp=Z,257nm,19.1s,baz=32,slow=37			LR	LR	19 13 03.3	
DZM	**Mont Dzumac**	**5.73**	**188**		**Pn**	**19 11 02.5**	**-2.2**
ONTNC	**Ouen Toro**	**5.96**	**188**		**Pn**	**19 11 06.0**	**-1.8**
OUENC	**Ouen Island, N**	**6.03**	**184**	Pn	**Pn**	**19 11 08.2**	**-0.6**
PINNC	**Pines Island,**	**6.21**	**179**	Pn	**Pn**	**19 11 10.2**	**-1.0**
MSVF	**Nonsavu** comp=Z,942nm,18.7s,baz=246,slow=33	**10.35**	**99**	LR	LR	19 15 16.4	
RAO	**Raoul Island** comp=Z,253nm,19.9s,baz=116,slow=32	**18.67**	**136**	LR	LR	19 19 34.6	
KRVT	**Keravat (AS076** 1.0nm,0.3s,baz=127,slow=10,SNR=1.7	**19.22**	**307**	P	**Pn**	**19 14 06.4**	**+1.8**
AFI	**Afiamalu** comp=Z,236nm,19.1s,baz=149,slow=31	**20.32**	**86**	LR	LR	19 20 04.7	
CTA	**Charters Tower** 9.8nm,0.8s,baz=63,slow=12,SNR=6.2	**20.35**	**256**	P	Pn	19 14 17.4	-0.6
CTAO	**Charters Tower** comp=Z,20nm,1.1s	**20.35**	**256**		**P**	**19 14 15.7**	**-0.2**
CTAO				IAmb	IAmb	19 14 19.1	
PMG	**Port Moresby** comp=Z,264nm,18.2s,baz=104,slow=34	**20.83**	**287**	LR	LR	19 21 40.0	
URZ	**Urewera** comp=Z,124nm,18.1s,baz=31,slow=35	**23.45**	**160**	LR	LR	19 23 21.1	
BKZ	**Black Stump Fm** comp=Z,16nm,0.9s	**24.09**	**162**	P	**P**	**19 14 53.9**	**-0.9**
BKZ				IAmb	IAmb	19 14 58.1	
THZ	**Tophouse**	**25.76**	**170**	P	**P**	**19 15 11.6**	**+1.5**
STKA	**Stephens Creek** comp=Z,2.6nm,0.9s,baz=49,slow=9.3,SNR=2.8	**28.00**	**232**	P	**P**	**19 15 29.0**	**-1.3**
WB0	**Warramunga Arr**	**31.46**	**259**	P	**P**	**19 15 59.3**	**-1.8**
WB0	comp=Z,4.8nm,1.0s			IAmb	IAmb	19 16 27.8	
RAR	**Rarotonga** comp=Z,62nm,18.7s,baz=260,slow=35	**31.49**	**104**	LR	LR	19 27 44.2	
WRA	**Warramunga Arr** comp=Z,0.6nm,0.8s,baz=74,slow=7.0,SNR=2.6	**31.51**	**258**	P	**P**	**19 16 01.3**	**-0.3**
AS31	**Alice Springs**	**32.17**	**252**	P	**P**	**19 16 04.8**	**-2.6**
ASAR	**Alice Springs** comp=Z,4.8nm,0.7s,baz=79,slow=8.8,SNR=14	**32.17**	**252**	P	**P**	**19 16 07.5**	**+0.1**
ASAR	**Alice Springs**	**32.17**	**252**	P	**P**	**19 16 06.0**	**-1.4**
KNRA	**Kununurra** comp=Z,14nm,1.3s	**37.03**	**266**	P	**P**	**19 16 49.3**	**-0.1**
KNRA				IAmb	IAmb	19 16 55.2	
SIJI	**Sorong** comp=Z,2.7nm,0.9s,baz=325,slow=23,SNR=1.4	**38.72**	**290**	P	**P**	**19 17 03.4**	**-0.3**
SIJI				LR	LR	19 34 24.0	
DAV	**Davao City (W)** comp=Z,12nm,20.1s,baz=142,slow=36	**47.42**	**296**	LR	LR	19 37 45.7	
VNDA	**Vanda** comp=Z,10.0nm,1.6s	**61.23**	**181**	P	**P**	**19 19 55.0**	**+1.3**
VNDA				IAmb	IAmb	19 20 07.2	
SBA	**Scott Base**	**61.51**	**180**	P	**P**	**19 19 57.1**	**+1.5**
CASY	**Casey**	**62.04**	**203**	P	**P**	**19 19 59.9**	**+0.6**
KIWB	**Kanaga Island**	**69.27**	**10**	P	**P**	**19 20 47.6**	**+1.5**
QSPA	**South Pole Qui**	**73.67**	**180**	P	**P**	**19 21 12.8**	**+0.1**
QSPA	comp=Z,8.9nm,1.0s			IAmb	IAmb	19 21 14.3	
CMAR	**Chiang Mai Arr** comp=Z,0.2nm,0.5s,baz=104,slow=3.8,SNR=3.5	**75.66**	**294**	P	**P**	**19 21 27.4**	**+2.4**
CMAR	**Chiang Mai Arr**	**75.66**	**294**	P	**P**	**19 21 26.3**	**+1.3**
SONM	**Songino Array** comp=Z,1.5nm,1.1s,baz=132,slow=5.6,SNR=6.0	**83.84**	**324**	P	**P**	**19 22 10.1**	**+1.2**
SONM	**Songino Array**	**83.84**	**324**	P	**P**	**19 22 10.4**	**+1.5**
SONM	comp=Z,4.9nm,1.4s			IAmb	IAmb	19 22 14.4	
ARCES	**ARCESS Array B** comp=Z,1.4nm,0.7s,baz=45,slow=2.7,SNR=1.4	**121.84**	**345**	PKP	**PKiKP**	**19 28 33.7**	**+0.8**

*NNC **29** 19:21:51.9±5.6, 36°.99N×70°.75E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=52.0km s-min=41.7km az=71.0*

*IDC **29** 19:21:58.5±5.1, 37°.16N×70°.79E, h231km±34km, mb1 3.0/6, mb1mx2.7/41, mbtmp3.8/6, Error ellipse: s-maj=73.7km s-min=22.7km az=152.0*

ISC 29 19:21:49.2±1.1, 36°.53N±0°.08×70°.8E±0°.1, h200km, n29, σ1s24/32, 5C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=113	**6.03**	**21**	P	**Pn**	**19 23 18.2**	**+1.0**
UCH	**Uchtor** SNR=34	**6.38**	**26**	P	**Pn**	**19 23 22.9**	**+1.2**
EKS2	**Erkin-Say** SNR=12	**6.54**	**20**	P	**Pn**	**19 23 24.7**	**+1.1**
KK31	**Karatay Array** 1.9nm,0.2s,baz=182,slow=12,SNR=4.4	**6.56**	**358**	⇑Pn	**Pn**	**19 23 24.0**	**+0.3**
KK31	16nm,0.5s,baz=189,slow=24,SNR=9.9			⇑Sn	**Sn**	**19 24 35.3**	**-3.4**
AAK	**Ala-Archa** SNR=16	**6.74**	**24**	P	**Pn**	**19 23 27.5**	**+1.4**
AAK	**Ala-Archa** 3.4nm,0.3s,baz=199,slow=9.3,SNR=52	**6.74**	**24**	P	**Pn**	**19 23 27.4**	**+1.3**
AAK	1.2nm,0.3s,baz=311,slow=22,SNR=12			S	**Sn**	**19 24 42.3**	**-0.7**
KBK	**Karagaybulak** SNR=8.5	**6.91**	**27**	P	**Pn**	**19 23 29.9**	**+1.6**
ULHL	**Ulahol** SNR=19	**7.11**	**35**	P	**Pn**	**19 23 31.9**	**+0.9**
CHMS	**Chumysh** SNR=10	**7.15**	**24**	P	**Pn**	**19 23 32.4**	**+1.1**
CHMS	**Chumysh** 8.4nm,0.6s	**7.15**	**24**	⇑Pn	**Pn**	**19 23 32.0**	**+0.7**
CHMS	6.4nm,0.6s			⇑Sn	**Sn**	**19 24 50.8**	**-1.6**
USP	**Ospenovka** SNR=9.3	**7.31**	**22**	P	**Pn**	**19 23 34.9**	**+1.5**
TKM2	**Tokmak 2** SNR=33	**7.38**	**29**	P	**Pn**	**19 23 35.7**	**+1.2**
TKM2	**Tokmak 2** 14nm,0.6s	**7.38**	**29**	⇑Pn	**Pn**	**19 23 35.4**	**+0.9**
GEYT	**Alibeck** 0.1nm,0.3s,baz=82,slow=14,SNR=3.9	**10.19**	**282**	P	**P**	**19 24 18.5**	**-0.1**
PYUN	**Piuthan** 7.8nm,0.3s	**13.31**	**126**	*eP*	**Pn**	**19 24 48.9**	**-2.0**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=220,slow=13,SNR=8.0	**13.37**	**36**	P	**Pn**	**19 24 52.0**	**+0.8**
DANN	**Dangsing** 5.4nm,0.2s	**13.66**	**123**	*eP*	**Pn**	**19 24 54.5**	**-0.8**
KOLN	**Koldanda** 6.2nm,0.3s	**13.94**	**125**	*eP*	**Pn**	**19 24 57.3**	**-1.3**
GKN	**Gorkha**	**14.48**	**122**	*eP*	**Pn**	**19 25 04.5**	**-0.7**
KKN	**Kakani**	**15.05**	**121**	*eP*	**Pn**	**19 25 11.6**	**-0.7**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=207,slow=11,SNR=4.9	**15.15**	**19**	P	**Pn**	**19 25 12.8**	**-0.3**
PKIN	**Phulchoki**	**15.27**	**122**	*eP*	**Pn**	**19 25 14.0**	**-1.0**
PKI	**Pulchoki**	**15.28**	**122**	*eP*	**Pn**	**19 25 14.4**	**-0.8**
GUN	**Gumba**	**15.40**	**120**	*eP*	**Pn**	**19 25 15.7**	**-0.9**
RAMN	**Ramite** 7.7nm,0.4s	**16.49**	**121**	*eP*	**P**	**19 25 29.2**	**+0.4**
AKTO	**Aktyubinsk** 0.1nm,0.3s,baz=149,slow=13,SNR=7.4	**16.66**	**331**	P	**Pn**	**19 25 31.9**	**+0.7**
TAPN	**Taplejung**	**17.03**	**118**	*eP*	**Pn**	**19 25 36.6**	**+0.5**
ODAN	**Odare**	**17.10**	**120**	*eP*	**Pn**	**19 25 37.3**	**+0.4**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=224,slow=11,SNR=15	**19.96**	**25**	P	**P**	**19 26 07.2**	**+1.3**

IDC 29 19:23:52.3±16.0, 9°.99N×104°.18W, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/28, mbtmp3.0/3, ML3.5/1, MS3.3/11, Ms1 3.4/11, ms1mx3.1/32, Error ellipse: s-maj=489.5km s-min=120.4km az=119.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero** comp=Z,126nm,18.5s,baz=184,slow=31	**11.47**	**51**	LR	LR	19 29 52.7	
LPIG	**La Paz** comp=Z,114nm,21.3s,baz=257,slow=31	**15.20**	**338**	LR	LR	19 31 43.9	
JTS	**Las Juntas de** comp=Z,84nm,18.8s,baz=328,slow=29	**18.93**	**87**	LR	LR	19 33 01.6	
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=194,slow=11,SNR=1.1	**19.25**	**1**	P	P	19 28 18.6	0.0
TXAR	comp=Z,73nm,19.3s,baz=173,slow=33			LR	LR	19 34 35.5	
PFO	**Pinyon Flats O** comp=Z,32nm,19.4s,baz=176,slow=32	**26.08**	**336**	LR	LR	19 37 58.5	
TKL	**Tuckaleechee C** comp=Z,26nm,18.6s,baz=170,slow=40	**31.59**	**33**	LR	LR	19 44 39.7	
SDV	**Santo Domingo** comp=Z,76nm,19.9s,baz=262,slow=33	**33.11**	**89**	LR	LR	19 42 13.2	
SADO	**Sadowa** comp=Z,32nm,19.8s,baz=41,slow=39	**40.83**	**27**	LR	LR	19 50 07.8	
LPAZ	**La Paz** comp=Z,71nm,18.8s,baz=322,slow=34	**44.21**	**126**	LR	LR	19 49 02.4	
SIV	**San Ignacio** comp=Z,62nm,19.1s,baz=324,slow=34	**49.88**	**121**	LR	LR	19 51 58.2	
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=168,slow=7.0,SNR=1.9	**52.95**	**354**	P	P	19 33 09.9	-0.4
PLCA	**Paso Flores** comp=Z,59nm,20.0s,baz=216,slow=31	**59.26**	**151**	LR	LR	19 54 02.8	
ILAR	**Eielson Array** 0.9nm,1.0s,baz=140,slow=4.7,SNR=5.8	**62.23**	**341**	P	P	19 34 15.8	+0.2

*IDC **29** 19:54:03.2±1.6, 30°.08N×50°.24E, h0km, mb3.7/12, mb1 3.8/13, mb1mx3.5/49, mbtmp3.7/13, ML3.1/1, Error ellipse: s-maj=42.5km s-min=20.1km az=29.0*

*TEH **29** 19:54:08.8, 30°.46N×50°.51E, h8km, ML3.2*

*OMAN **29** 19:54:13.2±1.0, 30°.23N×50°.85E, h6km, mb4.7/14, Error ellipse: s-maj=6.9km s-min=5.3km az=150.0*

*DSN **29** 19:54:13.2±1.5, 30°.05N×50°.70E, h10km, ML3.6/6, Error ellipse: s-maj=18.5km s-min=12.6km az=16.0*

ISC 29 19:54:09.8±0.6, 30°.46N±0°.03×50°.50E±0°.04, h25km, n92, σ2s10/112, mb3.7/12, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.26**	**302**	*ePg*	**Pb**	**19 54 14.1**	**-2.1**
ABEH				*eSg*	**Sb**	**19 54 19.6**	**-0.9**
ABEH	comp=Z,97µm,0.3s			*e*		19 54 23.5	
KLNJ	**Kolanjah**	**1.08**	**60**	*ePg*	**Pn**	**19 54 28.9**	**-0.8**
KLNJ				*e*		19 54 51.6	
KAZ1	**Kazerun** comp=Z,15µm,0.4s	**1.29**	**130**	*ePg*	**Pb**	**19 54 33.9**	**+0.5**
KAZ1	comp=Z,11µm,0.7s			*e*		19 55 01.5	
IBRJ	**Brojen**	**1.58**	**24**	*ePg*	**Pb**	**19 54 38.5**	**0.0**
IBRJ				*eSg*	**Sb**	**19 55 03.0**	**+4.9**
IBRJ	comp=Z,7µm,0.4s			*e*		19 55 04.5	
AMIS	**Naft Sefid**	**1.59**	**319**	*ePg*	**Pb**	**19 54 39.1**	**+0.6**
AMIS				*eSg*	**Sb**	**19 55 01.7**	**+3.6**
AMIS	comp=Z,5µm,0.8s			*e*		19 55 31.0	
AHBU	**AHRAM**	**1.74**	**156**	*ePg*	**Pb**	**19 54 41.1**	**+0.1**
AHWZ	**Ahwaz**	**1.82**	**299**	*ePn*	**Pb**	**19 54 42.5**	**+0.2**
SHK1	**Shahrekord**	**1.89**	**10**	*ePn*	**Pb**	**19 54 43.1**	**-0.6**
SHK1				*e*		19 55 12.7	
SHI	**Shiraz** comp=Z,4µm,0.5s	**1.93**	**115**	*ePn*	**Pb**	**19 54 44.9**	**+0.6**
SHI	comp=Z,4µm,0.4s			*e*		19 55 20.5	
IRAM	**Ramesheh**	**2.10**	**50**	*ePn*	**Pb**	**19 54 46.8**	**-0.4**
IRAM	comp=Z,6µm,0.4s			*e*		19 55 18.6	
IPIR	**Pirpir**	**2.24**	**8**	*ePn*	**Pb**	**19 54 48.9**	**-0.8**
IPIR	comp=Z,3µm,0.3s			*e*		19 55 23.5	
IGAR	**Gharneh**	**2.34**	**34**	*ePn*	**Pb**	**19 54 50.0**	**-1.4**
IGAR	comp=Z,3µm,0.3s			*e*		19 55 28.3	
IZEF	**Zefreh**	**2.88**	**32**	*ePn*	**Pn**	**19 54 57.5**	**+3.2**
IZEF				*e*		19 55 09.6	
	comp=Z,735nm,0.4s						
IKLH	**Kolahrood**	**2.99**	**18**	*ePn*	**Pn**	**19 54 58.6**	**+2.8**
IKLH				*e*		19 55 56.6	
	comp=Z,1µm,0.5s						
NASN	**Na'in**	**3.05**	**40**	*ePn*	**Pn**	**19 54 59.4**	**+2.7**
ISAD	**Sadrabad**	**3.09**	**61**	*ePn*	**Pn**	**19 55 00.7**	**+3.5**
KHMZ	**Khomeyn**	**3.30**	**352**	*ePn*	**Pn**	**19 55 02.9**	**+2.9**
QAMS	**Qamsar**	**3.35**	**13**	*ePn*	**Pn**	**19 55 04.6**	**+3.8**
QAMS				*e*		19 55 59.8	
	comp=Z,1µm,0.3s						
IMEH	**Mehriz** comp=Z,419nm,0.4s	**3.65**	**74**	*e*		19 55 14.6	
IMEH				*ePn*	**Pn**	**19 55 08.0**	**+3.1**
KRSH	**Karshahi**	**3.76**	**21**	*ePn*	**Pn**	**19 55 09.3**	**+3.0**
ICHK	**Chekchek** comp=Z,1µm,0.3s	**3.78**	**61**	*e*		19 55 59.4	
ICHK				*ePn*	**Pn**	**19 55 09.8**	**+3.1**
IDOB	**Doab**	**3.86**	**330**	*ePn*	**Pn**	**19 55 10.0**	**+2.3**
ANAR	**Anarak**	**3.86**	**44**	*ePn*	**Pn**	**19 55 10.4**	**+2.7**
YZKH	**Yazd**	**3.99**	**60**	*ePn*	**Pn**	**19 55 12.4**	**+3.0**
GHVR	**GHOM**	**4.06**	**9**	*ePn*	**Pn**	**19 55 13.1**	**+2.7**
HSAM	**Samen**	**4.07**	**337**	*ePn*	**Pn**	**19 55 12.3**	**+1.6**
ASAO	**Ashtian**	**4.09**	**354**	*ePn*	**Pn**	**19 55 13.9**	**+2.9**
ISFB	**Sefidab**	**4.15**	**20**	*ePn*	**Pn**	**19 55 13.8**	**+2.2**
IQOM	**Qom**	**4.39**	**6**	*ePn*	**Pn**	**19 55 16.8**	**+1.7**
IQOM	comp=Z,999nm,0.2s			*e*		19 55 22.6	
SAKB	**Bahrain**	**4.47**	**180**	P	**Pn**	**19 55 19.3**	**+3.3**
SAKB				S	**Sn**	**19 56 09.5**	**+2.4**
IBAF	**Bafgh**	**4.49**	**74**	*ePn*	**Pn**	**19 55 18.9**	**+2.5**
IBZA	**Bozab**	**4.58**	**331**	*ePn*	**Pn**	**19 55 18.4**	**+0.8**
SHMA	**Al-Shehemyia**	**4.61**	**175**	P	**Pn**	**19 55 21.0**	**+3.1**
SHMA				S	**Sn**	**19 56 13.1**	**+2.5**
IVRN	**Varamin**	**4.63**	**13**	*ePn*	**Pn**	**19 55 20.7**	**+2.4**
IVRN	comp=Z,315nm,0.6s			*e*		19 56 13.8	
IRAZ	**Razeghan**	**4.95**	**355**	*ePn*	**Pn**	**19 55 26.1**	**+3.4**
KHGB	**Koh Gabri**	**5.16**	**89**	*ePn*	**Pn**	**19 55 28.0**	**+2.4**
KHGB	comp=Z,227nm,0.8s			*e*		19 56 29.2	
IDMV	**Damavand**	**5.26**	**14**	*ePn*	**Pn**	**19 55 30.2**	**+3.2**
ILAS	**Lasjerd**	**5.32**	**22**	*ePn*	**Pn**	**19 55 31.1**	**+3.2**
ILIN	**Lien**	**5.35**	**327**	*ePn*	**Pn**	**19 55 31.5**	**+3.2**
KRBR	**Kerman**	**5.44**	**93**	*ePn*	**Pn**	**19 55 32.5**	**+3.0**
CHTH	**Charan**	**5.46**	**5**	*ePn*	**Pn**	**19 55 32.8**	**+3.1**
NGRK	**Negar Kerman**	**5.46**	**97**	*ePn*	**Pn**	**19 55 33.5**	**+3.6**
IFIR	**Firoozkooh**	**5.50**	**20**	*ePn*	**Pn**	**19 55 32.2**	**+1.9**
TRNA	**Turayna**	**5.74**	**174**	P	**Pn**	**19 55 35.4**	**+1.9**
TRNA				S	**Sn**	**19 56 40.9**	**+2.4**
ISHM	**Shahmirzad**	**5.82**	**23**	*ePn*	**Pn**	**19 55 36.8**	**+2.1**
GENO	**Geno**	**5.83**	**120**	*ePn*	**Pn**	**19 55 37.2**	**+2.4**
TPRV	**Parvadeh(Tabas**	**5.85**	**63**	*ePn*	**Pn**	**19 55 37.5**	**+2.5**
JRN	**Qarnain Island**	**5.88**	**159**	P	**Pn**	**19 55 36.2**	**+0.9**
JRN				S	**Sn**	**19 56 42.9**	**+1.0**
TNSJ	**Nastanj**	**6.24**	**54**	*ePn*	**Pn**	**19 55 43.5**	**+3.1**
TKDS	**Koohdasht(Taba**	**6.44**	**59**	*ePn*	**Pn**	**19 55 45.7**	**+2.6**
TABS	**Tabas**	**6.45**	**59**	*ePn*	**Pn**	**19 55 46.2**	**+2.9**
SLWR	**Sila**	**6.46**	**170**	P	**Pn**	**19 55 44.3**	**+1.1**
SLWR				S	**Sn**	**19 56 56.3**	**+0.2**
SHME	**Shamm**	**6.64**	**130**	P	**Pn**	**19 55 46.2**	**+0.4**
SHME				S	**Sn**	**19 56 59.6**	**-1.0**
BANOM	**Banah** SNR=20	**6.83**	**130**	P	**Pn**	**19 55 48.8**	**+0.4**
BANOM				S	**Sn**	**19 57 02.6**	**-2.7**
BANOM	**Banah**	**6.83**	**130**	P	**Pn**	**19 55 48.1**	**-0.2**
KBAM	**BAM**	**7.03**	**99**	*ePn*	**Pn**	**19 55 53.4**	**+2.1**
NAZ	**Nazwa, Dubai**	**7.12**	**139**	P	**Pn**	**19 55 53.6**	**+1.3**
MASF	**Masafi**	**7.12**	**134**	P	**Pn**	**19 55 54.1**	**+1.7**
MASF				S	**Sn**	**19 57 11.0**	**-1.7**
MSFE	**Esma-Masafi**	**7.13**	**134**	P	**Pn**	**19 55 52.4**	**-0.2**
SHRO	**Shahrood**	**7.19**	**38**	*ePn*	**Pn**	**19 55 56.5**	**+3.1**
UOSS	**Minazif**	**7.46**	**136**	P	**Pn**	**19 55 58.1**	**+1.0**
UOSS				S	**Sn**	**19 57 18.8**	**-2.2**
UOSS	**Minazif**	**7.46**	**136**	P	**Pn**	**19 55 56.4**	**-0.7**
HATD	**Hatta, Dubai**	**7.51**	**137**	P	**Pn**	**19 56 00.4**	**+2.6**
HATD				S	**Sn**	**19 57 22.0**	**-0.2**
HATD	**Hatta, Dubai**	**7.51**	**137**	P	**Pn**	**19 55 57.8**	**0.0**
BSRN	**Basiran**	**7.54**	**76**	*ePn*	**Pn**	**19 56 01.3**	**+3.1**
ASHO	**Ashiyiah** SNR=7.8	**7.58**	**138**	P	**Pn**	**19 55 59.3**	**+0.6**
ASHO				S	**Sn**	**19 57 24.9**	**+1.1**
ASHO	**Ashiyiah**	**7.58**	**138**	P	**Pn**	**19 55 57.2**	**-1.5**
ASHO				S	**Sn**	**19 57 20.8**	**-3.1**
MZR	**Muzera** SNR=10	**7.89**	**160**	P	**Pn**	**19 56 03.9**	**+0.9**
MZR				S	**Sn**	**19 57 31.4**	**-0.1**
MZR	**Muzera**	**7.89**	**160**	P	**Pn**	**19 56 03.5**	**+0.5**
ARQ	**Araqi** SNR=8.8	**8.90**	**141**	P	**Pn**	**19 56 16.4**	**-0.5**
ARQ				S	**Sn**	**19 57 55.5**	**-0.8**
HOQ	**Hoqain**	**9.15**	**137**	P	**Pn**	**19 56 19.5**	**-0.8**
HOQ				S	**Sn**	**19 58 00.4**	**-2.1**
SMDO	**Samad**	**9.99**	**136**	P	**Pn**	**19 56 32.4**	**+0.6**
SMDO				S	**Sn**	**19 58 22.7**	**-0.5**
WSAR	**Wadi Sarin**	**10.22**	**133**	P	**Pn**	**19 56 35.4**	**+0.5**
WSAR				S	**Sn**	**19 58 26.5**	**-2.2**
JMDO	**Jabal Madar**	**10.55**	**138**	P	**Pn**	**19 56 40.5**	**+1.0**
WBK	**Wadi Bani Khal**	**10.89**	**134**	P	**Pn**	**19 56 45.3**	**+1.2**
JLN	**Jalan Bani Buh**	**11.50**	**134**	P	**Pn**	**19 56 52.9**	**+0.5**
MHTO	**MHTO**	**11.59**	**143**	P	**Pn**	**19 56 54.1**	**+0.5**
DOK	**Doka**	**12.24**	**164**	P	**Pn**	**19 57 03.0**	**+0.3**
DQM	**DQM**	**12.27**	**147**	P	**Pn**	**19 57 02.1**	**-0.9**
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=138,slow=11,SNR=2.8	**16.59**	**308**	Pn	**Pn**	**19 57 59.8**	**-1.0**
MLR	**Muntele Rosu** comp=Z,1.8nm,0.7s,baz=142,slow=12,SNR=1.7	**24.36**	**315**	P	**P**	**19 59 23.5**	**-2.3**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.7s,baz=234,

RAR	**Rarotonga**	**13.99**	**117**	LR	LR	20 14 32.2	
	comp=Z,106nm,19.9s,baz=304,slow=31						
PINNC	**Pines Island,**	**19.80**	**245**	P	**P**	**20 11 42.8**	**-1.8**
PINNC				IAmb	IAmb	20 11 48.6	
	comp=Z,76nm,1.1s						
OUENC	**Ouen Island, N**	**20.28**	**246**	P	**P**	**20 11 49.2**	**-0.6**
OUENC				IAmb	IAmb	20 11 56.3	
	comp=Z,37nm,1.0s						
OUENC	**Ouen Island, N**	**20.28**	**246**	P	Pn	20 11 57.7	+5.9
	comp=Z,51nm,1.1s						
DZM	**Mont Dzumac**	**20.53**	**248**	P	**P**	**20 11 49.6**	**-3.0**
	comp=Z,4.4nm,0.7s,baz=344,slow=19,SNR=2.1						
DZM				LR	LR	20 18 41.2	
	comp=Z,190nm,19.4s,baz=24,slow=34						
DZM	**Mont Dzumac**	**20.53**	**248**	P	**P**	**20 11 49.9**	**-2.7**
PPT	**Papeete**	**22.68**	**99**	LR	LR	20 18 33.6	
	comp=Z,51nm,20.3s,baz=306,slow=30						
URZ	**Urewera**	**24.52**	**199**	P	**P**	**20 12 32.3**	**-1.0**
	comp=Z,7.2nm,0.6s,baz=313,slow=2.0,SNR=7.4						
URZ				LR	LR	20 20 54.6	
	comp=Z,190nm,19.7s,baz=31,slow=34						
URZ	**Urewera**	**24.52**	**199**	P	**P**	**20 12 31.7**	**-1.5**
URZ				IAmb	IAmb	20 12 43.5	
	comp=Z,16nm,0.8s						
URZ	**Urewera**	**24.52**	**199**	P	**P**	**20 12 39.1**	**+5.9**
BKZ	**Black Stump Fm**	**25.54**	**199**	P	**P**	**20 12 41.6**	**-0.9**
BKZ				IAmb	IAmb	20 12 50.0	
	comp=Z,35nm,1.5s						
NNZ	**Nelson**	**28.43**	**202**	P	**P**	**20 13 08.8**	**+0.3**
LTZ	**Lake Taylor**	**30.20**	**202**	P	**P**	**20 13 22.8**	**-1.4**
LTZ				IAmb	IAmb	20 13 28.5	
	comp=Z,25nm,1.3s						
OXZ	**Oxford**	**30.76**	**201**	P	**P**	**20 13 28.0**	**-1.1**
RPZ	**Rata Peaks**	**31.45**	**202**	P	**P**	**20 13 35.4**	**+0.2**
	comp=Z,8.5nm,0.9s,baz=270,slow=10,SNR=1.7						
RPZ	**Rata Peaks**	**31.45**	**202**	IAmb	IAmb	20 13 43.5	
	comp=Z,53nm,1.5s						
WHZ	**Wether Hill Ro**	**34.47**	**204**	P	**P**	**20 14 00.4**	**-1.1**
ARMA	**Armidale**	**35.68**	**239**	P	**P**	**20 14 10.5**	**-1.8**
ARMA				IAmb	IAmb	20 14 25.2	
	comp=Z,23nm,1.6s						
CTA	**Charters Tower**	**38.97**	**257**	LR	LR	20 28 02.6	
	comp=Z,97nm,19.7s,baz=83,slow=32						
H11S2	**WAKE ISLAND Hy**	**38.97**	**329**	T	T	20 56 17.4	
	baz=149,slow=76,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**38.98**	**329**	T	T	20 56 15.6	
	baz=149,slow=76,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**38.98**	**329**	T	T	20 56 08.4	
	baz=149,slow=76,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	20 57 40.0	
	baz=150,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	20 57 24.1	
	baz=150,slow=76,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**39.92**	**330**	T	T	20 57 40.4	
	baz=150,slow=76,SNR=4.0						
STKA	**Stephens Creek**	**44.38**	**240**	P	**P**	**20 15 23.6**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=93,slow=12,SNR=8.1						
STKA				LR	LR	20 30 54.4	
	comp=Z,75nm,20.2s,baz=33,slow=32						
STKA	**Stephens Creek**	**44.38**	**240**	P	**P**	**20 15 22.3**	**-2.0**
BBOO	**Buckleboo**	**49.15**	**240**	P	**P**	**20 15 58.7**	**-3.1**
WR0	**Warramunga Arr**	**49.98**	**257**	P	**P**	**20 16 06.1**	**-2.1**
WR0				IAmb	IAmb	20 16 26.9	
	comp=Z,15nm,1.8s						
WB2	**Warramunga Arr**	**50.16**	**257**	P	**P**	**20 16 07.4**	**-2.1**
WB2				IAmb	IAmb	20 16 15.4	
	comp=Z,21nm,1.8s						
WRAB	**Tennant Creek**	**50.16**	**257**	P	**P**	**20 16 07.5**	**-2.1**
WRAB				IAmb	IAmb	20 16 23.0	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**50.17**	**257**	P	**P**	**20 16 09.0**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=96,slow=7.7,SNR=19						
WRA				PcP	**PcP**	**20 17 28.4**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=92,slow=3.8,SNR=2.3						
WRA				LR	LR	20 34 49.3	
	comp=Z,68nm,18.8s,baz=112,slow=33						
AS31	**Alice Springs**	**50.44**	**252**	P	**P**	**20 16 10.4**	**-1.3**
ASAR	**Alice Springs**	**50.44**	**252**	P	**P**	**20 16 10.3**	**-1.4**
	comp=Z,4.1nm,0.7s,baz=89,slow=7.8,SNR=80						
ASAR				PcP	**PcP**	**20 17 29.9**	**0.0**
	comp=Z,0.5nm,0.8s,baz=111,slow=2.8,SNR=1.1						
ASAR				LR	LR	20 35 46.2	
	comp=Z,181nm,20.7s,baz=98,slow=34						
ASAR	**Alice Springs**	**50.44**	**252**	P	**P**	**20 16 09.6**	**-2.1**
GUMO	**Guam**	**50.49**	**302**	LR	LR	20 35 40.7	
	comp=Z,7.1nm,18.6s,baz=132,slow=34						
MTN	**Manton Dam**	**54.04**	**265**	P	**P**	**20 16 34.4**	**-4.1**
MTN				IAmb	IAmb	20 17 07.0	
	comp=Z,8.0nm,1.2s						
SIJI	**Sorong**	**56.72**	**279**	LR	LR	20 42 25.0	
	comp=Z,25nm,18.3s,baz=202,slow=37						
FITZ	**Fitzroy Crossi**	**58.53**	**258**	P	**P**	**20 17 12.0**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=80,slow=6.1,SNR=1.8						
MMRI	**Maumere**	**63.42**	**268**	P	**P**	**20 17 40.6**	**-3.3**
SBA	**Scott Base**	**63.45**	**185**	P	**P**	**20 17 46.7**	**+3.8**
SBA				IAmb	IAmb	20 18 01.1	
	comp=Z,4.9nm,1.0s						
VNDA	**Vanda**	**63.58**	**186**	P	**P**	**20 17 46.3**	**+2.5**
	comp=Z,0.7nm,0.6s,baz=354,slow=8.1,SNR=4.0						
VNDA				LR	LR	20 45 22.5	
	comp=Z,35nm,18.0s,baz=264,slow=36						
VNDA	**Vanda**	**63.58**	**186**	P	**P**	**20 17 45.7**	**+1.9**
SHEM	**Shemya Is, Ala**	**68.57**	**352**	LR	LR	20 41 30.2	
	comp=Z,75nm,21.9s,baz=277,slow=30						
SMY	**Shemya**	**68.57**	**352**	P	**P**	**20 18 15.2**	**-0.9**
MJAR	**Matsushiro Arr**	**69.00**	**320**	LR	LR	20 42 30.9	
	comp=Z,41nm,19.9s,baz=182,slow=31						
PETK	**Petropavlovsk-**	**72.56**	**342**	P	**P**	**20 18 42.1**	**+1.6**
	comp=Z,4.9nm,0.9s,baz=77,slow=7.6,SNR=3.1						
PETK				LR	LR	20 45 43.9	
	comp=Z,21nm,21.4s,baz=190,slow=32						
PFO	**Pinyon Flats O**	**72.59**	**47**	LR	LR	20 42 46.9	
	comp=Z,95nm,19.9s,baz=243,slow=29						
LPIG	**La Paz**	**72.70**	**58**	LR	LR	20 42 48.6	
	comp=Z,74nm,18.9s,baz=208,slow=29						
YBH	**Yreka Blue Hor**	**73.29**	**37**	P	**P**	**20 18 47.7**	**+2.5**
	comp=Z,2.9nm,0.9s,baz=262,slow=0.8,SNR=6.0						
YBH				LR	LR	20 46 12.1	
	comp=Z,54nm,18.3s,baz=238,slow=32						
NVAR	**Mina Array Bea**	**74.01**	**42**	P	**P**	**20 18 52.1**	**+2.5**
	comp=Z,1.8nm,0.7s,baz=229,slow=9.9,SNR=9.8						
NVAR				LR	LR	20 43 53.4	
	comp=Z,93nm,21.0s,baz=272,slow=30						
KVN	**Kaiserville**	**74.49**	**41**	P	**P**	**20 18 54.4**	**+2.0**
TPH	**Tonopah**	**74.51**	**43**	P	**P**	**20 18 54.3**	**+1.7**
J04D	**Umpqua Nationa**	**74.58**	**36**	P	**P**	**20 18 54.1**	**+1.3**
KDAK	**Kodiak Island**	**74.70**	**11**	P	**P**	**20 18 54.4**	**+1.6**
	comp=Z,7.2nm,0.7s,baz=179,slow=4.0,SNR=6.1						
KDAK				LR	LR	20 42 37.7	
	comp=Z,98nm,20.8s,baz=220,slow=28						
KDAK	**Kodiak Island**	**74.70**	**11**	P	**P**	**20 18 53.1**	**+0.3**
MOD	**Modoc Plateau**	**74.81**	**38**	P	**P**	**20 18 55.8**	**+1.7**
MOD				IAmb	IAmb	20 18 57.7	
	comp=Z,6.5nm,1.0s						
K05A	**Summer Lake**	**74.96**	**37**	P	**P**	**20 18 56.8**	**+1.8**
K05A				IAmb	IAmb	20 18 58.5	
	comp=Z,17nm,1.3s						
SHPR	**Sheep Range**	**75.03**	**45**	P	**P**	**20 18 58.4**	**+2.9**
W13A	**Hualapai Mount**	**75.18**	**47**	P	**P**	**20 18 57.9**	**+1.4**
Y14A	**Wickenburg**	**75.22**	**48**	P	**P**	**20 18 57.6**	**+1.1**
H04A	**Detroit Lake**	**75.45**	**35**	P	**P**	**20 18 58.9**	**+1.3**
H04A				IAmb	IAmb	20 19 00.2	
	comp=Z,6.1nm,0.8s						
PRN	**Pahroc Range**	**75.59**	**44**	P	**P**	**20 18 59.8**	**+1.1**
PINE	**Pine Mountain**	**75.59**	**36**	P	**P**	**20 18 59.7**	**+1.1**
PINE				IAmb	IAmb	20 19 02.5	
	comp=Z,12nm,0.9s						
P18K	**Big Mountain,**	**75.77**	**9**	P	**P**	**20 18 59.4**	**+0.4**
P18K				IAmb	IAmb	20 19 00.8	
	comp=Z,10nm,0.8s						
TUC	**Tucson**	**76.06**	**51**	P	**P**	**20 19 03.0**	**+1.6**
WVOR	**Wild Horse Val**	**76.12**	**38**	P	**P**	**20 19 02.2**	**+0.6**
WVOR				IAmb	IAmb	20 19 14.3	
	comp=Z,10nm,0.7s						
WISH	**Wishkah**	**76.17**	**32**	P	**P**	**20 19 02.9**	**+1.3**
I07A	**Izee**	**76.59**	**37**	P	**P**	**20 19 05.7**	**+1.5**
J08A	**Circle Bar Ran**	**76.76**	**38**	P	**P**	**20 19 06.0**	**+0.8**
J08A				IAmb	IAmb	20 19 08.8	
	comp=Z,11nm,1.2s						
U15A	**North Rim**	**76.97**	**46**	P	**P**	**20 19 08.0**	**+1.2**
U15A				IAmb	IAmb	20 19 10.9	
	comp=Z,6.2nm,1.1s						
PSUT	**Pine Spring**	**76.98**	**44**	P	**P**	**20 19 08.2**	**+1.5**
ELK	**Elko**	**77.26**	**41**	P	**P**	**20 19 10.3**	**+2.1**
	comp=Z,2.0nm,1.0s,baz=219,slow=4.2,SNR=5.8						
ELK				LR	LR	20 45 43.2	
	comp=Z,50nm,20.6s,baz=238,slow=30						
ELK	**Elko**	**77.26**	**41**	P	**P**	**20 19 10.4**	**+2.2**
USRK	**Ussuriysk Ar.**	**77.42**	**323**	LR	LR	20 47 05.3	
	comp=Z,39nm,20.5s,baz=149,slow=31						
G08A	**Pilot Rock**	**77.62**	**36**	P	**P**	**20 19 11.9**	**+1.9**
G08A				IAmb	IAmb	20 19 13.5	
	comp=Z,6.4nm,0.9s						
MTPU	**Mount Pierson**	**77.86**	**45**	P	**P**	**20 19 12.6**	**+0.8**
MTPU				IAmb	IAmb	20 19 16.4	
	comp=Z,9.2nm,1.3s						
MSU	**Marysvale**	**78.10**	**44**	P	**P**	**20 19 15.3**	**+2.4**
BMO	**Blue Mountains**	**78.31**	**37**	P	**P**	**20 19 14.2**	**+0.4**
BMO				IAmb	IAmb	20 19 16.9	
	comp=Z,7.0nm,0.9s						
MFID	**Camas Ranch**	**78.37**	**39**	P	**P**	**20 19 14.9**	**+0.7**
MFID				IAmb	IAmb	20 19 17.4	
	comp=Z,5.3nm,0.8s						
DUG	**Dugway, Tooele**	**78.54**	**43**	P	**P**	**20 19 16.0**	**+0.8**
F10A	**Beach Ranch, E**	**79.01**	**36**	P	**P**	**20 19 19.0**	**+1.4**
F10A				IAmb	IAmb	20 19 20.3	
	comp=Z,7.1nm,0.8s						
TTA	**Tatalina**	**79.04**	**8**	P	**P**	**20 19 18.1**	**+0.7**
TTA				IAmb	IAmb	20 19 20.8	
	comp=Z,10nm,1.1s						
DIV	**Divide**	**79.16**	**13**	P	**P**	**20 19 18.5**	**+0.4**
PLID	**Pearl Lake**	**79.21**	**37**	P	**P**	**20 19 19.9**	**+1.0**
HLID	**Hailey**	**79.31**	**39**	P	**P**	**20 19 21.4**	**+2.0**
HLID				IAmb	IAmb	20 19 23.1	
	comp=Z,8.3nm,0.8s						
HVU	**Hansel Valley**	**79.38**	**41**	P	**P**	**20 19 21.2**	**+1.3**
K20K	**Telida**	**79.72**	**9**	P	**P**	**20 19 22.0**	**+1.1**
K20K				IAmb	IAmb	20 19 23.9	
	comp=Z,9.7nm,1.1s						
M24K	**Tolsona, Glenn**	**79.95**	**12**	P	**P**	**20 19 24.1**	**+1.7**
MA2	**Magadan**	**80.09**	**342**	P	**P**	**20 19 23.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=118,slow=3.0,SNR=3.8						
MA2				LR	LR	20 49 46.7	
	comp=Z,16nm,21.0s,baz=129,slow=32						
MA2	**Magadan**	**80.09**	**342**	IAmb	IAmb	20 19 30.5	
	comp=Z,13nm,1.7s						
PV23	**Carpenter Ridg**	**80.24**	**46**	P	**P**	**20 19 25.4**	**+0.7**
PV23				IAmb	IAmb	20 19 28.3	
	comp=Z,11nm,0.9s						
TXAR	**Lajitas Array**	**80.27**	**56**	P	**P**	**20 19 27.9**	**+3.0**
	comp=Z,3.2nm,1.0s,baz=216,slow=5.9,SNR=11						
TXAR				LR	LR	20 47 37.2	
	comp=Z,55nm,19.1s,baz=202,slow=30						
TXAR	**Lajitas Array**	**80.27**	**56**	P	**P**	**20 19 26.4**	**+1.5**
NJ2	**Nanjing**	**80.29**	**307**	*e*P	**P**	**20 19 25.0**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
NEW	**Newport**	**80.40**	**34**	LR	LR	20 46 13.7	
	comp=Z,56nm,21.9s,baz=210,slow=29						
TRF	**Thorofare Moun**	**80.40**	**10**	P	**P**	**20 19 25.4**	**+0.5**
TRF				IAmb	IAmb	20 19 34.4	
	comp=Z,8.4nm,1.0s						
ANMO	**Albuquerque**	**80.47**	**50**	P	**P**	**20 19 28.5**	**+2.5**
	comp=Z,3.1nm,0.9s,baz=190,slow=7.8,SNR=6.6						
ANMO				LR	LR	20 45 54.9	
	comp=Z,64nm,20.6s,baz=205,slow=29						
ANMO	**Albuquerque**	**80.47**	**50**	P	**P**	**20 19 27.1**	**+1.2**
J20K	**Nowinta River**	**80.49**	**8**	P	**P**	**20 19 25.8**	**+0.7**
J20K				IAmb	IAmb	20 19 28.2	
	comp=Z,14nm,1.1s						
RND	**Reindeer**	**80.61**	**11**	P	**P**	**20 19 27.5**	**+1.6**
MCK	**McKinley**	**80.90**	**11**	P	**P**	**20 19 28.3**	**+1.0**
MCK				IAmb	IAmb	20 19 29.7	
	comp=Z,13nm,0.9s						
M26K	**Nabesna, AK**	**80.91**	**14**	P	**P**	**20 19 29.0**	**+1.5**
M26K				IAmb	IAmb	20 19 30.3	
	comp=Z,11nm,1.0s						
MCMT	**McKenzie Canyo**	**80.94**	**39**	P	**P**	**20 19 29.6**	**+1.4**
M27K	**Edge Creek, AK**	**81.13**	**14**	P	**P**	**20 19 29.8**	**+1.0**
MSO	**Missoula**	**81.37**	**37**	P	**P**	**20 19 31.3**	**+1.0**
MSO				IAmb	IAmb	20 19 32.9	
	comp=Z,16nm,1.4s						
DLMT	**Dillon**	**81.37**	**38**	P	**P**	**20 19 32.2**	**+1.8**
DLMT				IAmb	IAmb	20 19 33.9	
	comp=Z,6.3nm,0.9s						
L26K	**Log Cabin Wild**	**81.38**	**13**	P	**P**	**20 19 30.6**	**+0.7**
L26K				IAmb	IAmb	20 19 33.0	
	comp=Z,7.2nm,1.1s						
DLBC	**Dease Lake**	**81.43**	**21**	P	**P**	**20 19 32.2**	**+1.8**
	comp=Z,3.9nm,1.1s,baz=204,slow=8.2,SNR=4.1						
DLBC				LR	LR	20 49 32.5	
	comp=Z,36nm,18.4s,baz=226,slow=31						
DLBC	**Dease Lake**	**81.43**	**21**	IAmb	IAmb	20 19 46.0	
	comp=Z,16nm,1.8s						
S22A	**4UR Ranch, Cre**	**81.44**	**47**	P	**P**	**20 19 31.9**	**+0.7**
S22A				IAmb	IAmb	20 19 35.3	
	comp=Z,7.2nm,1.1s						
NEA2	**Nenana**	**81.67**	**10**	P	**P**	**20 19 31.3**	**-0.1**
RIDG	**Independent Ri**	**81.69**	**12**	P	**P**	**20 19 32.3**	**+0.7**
RIDG				IAmb	IAmb	20 19 34.2	
	comp=Z,16nm,1.2s						
WRH	**Wood River Hil**	**81.73**	**11**	P	**P**	**20 19 32.6**	**+1.0**
L27K	**Beaver Creek,**	**81.75**	**14**	P	**P**	**20 19 32.9**	**+1.0**
DOT	**Dot Lake**	**81.77**	**13**	P	**P**	**20 19 33.0**	**+1.1**
DOT				IAmb	IAmb	20 19 34.7	
	comp=Z,9.2nm,1.0s						
CCB	**Clear Creek Bu**	**81.94**	**11**	P	**P**	**20 19 33.3**	**+0.6**
CCB				IAmb	IAmb	20 19 35.0	
	comp=Z,13nm,1.0s						
PDAR	**Pinedale Array**	**81.94**	**42**	P	**P**	**20 19 35.5**	**+1.9**
	comp=Z,2.8nm,0.9s,baz=204,slow=3.3,SNR=5.3						
PDAR				LR	LR	20 50 35.1	
	comp=Z,53nm,18.8s,baz=238,slow=32						
PDAR	**Pinedale Array**	**81.94**	**42**	P	**P**	**20 19 34.4**	**+0.8**
YHL	**Hebgen Lake**	**81.96**	**39**	P	**P**	**20 19 35.5**	**+1.7**
YMR	**Madison River**	**82.00**	**40**	P	**P**	**20 19 36.2**	**+2.4**
SCRK	**Sand Creek**	**82.08**	**13**	P	**P**	**20 19 34.4**	**+0.6**
SCRK				IAmb	IAmb	20 19 36.4	
	comp=Z,6.2nm,1.0s						
H21K	**Melozitna Rive**	**82.08**	**8**	P	**P**	**20 19 34.5**	**+1.0**
I23K	**Minto, Yukon-K**	**82.13**	**10**	P	**P**	**20 19 35.0**	**+1.2**
I23K				IAmb	IAmb	20 19 36.1	
	comp=Z,5.5nm,0.9s						
TCOL	**CIGO, UAF Yank**	**82.14**	**11**	P	**P**	**20 19 34.5**	**+0.7**
COLA	**College**	**82.14**	**11**	P	**P**	**20 19 34.5**	**+0.7**
MDM	**Murphy Dome**	**82.15**	**10**	P	**P**	**20 19 35.0**	**+1.0**
MDM				IAmb	IAmb	20 19 36.3	
	comp=Z,6.1nm,1.0s						
IL31		**82.22**	**11**	P	**P**	**20 19 34.9**	**+0.7**
ILAR	**Eielson Array**	**82.22**	**11**	P	**P**	**20 19 35.4**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=215,slow=6.0,SNR=16						
ILAR				LR	LR	20 47 34.9	
	comp=Z,49nm,21.9s,baz=172,slow=29						
J25K	**Salcha River,**	**82.37**	**12**	P	**P**	**20 19 36.9**	**+1.8**
J25K				IAmb	IAmb	20 19 37.8	
	comp=Z,5.7nm,1.0s						
SDCO	**Great Sand Dun**	**82.38**	**48**	P	**P**	**20 19 38.0**	**+1.9**
SDCO				IAmb	IAmb	20 19 39.7	
	comp=Z,9.5nm,1.4s						
POKR	**Poker Plat Res**	**82.44**	**11**	P	**P**	**20 19 36.5**	**+1.0**
HRY	**Holter Researc**	**82.53**	**37**	P	**P**	**20 19 38.0**	**+1.5**
M30M	**Minto, Yukon**	**82.60**	**16**	P	**P**	**20 19 37.4**	**+1.1**
CMIG	**Matias Romero**	**83.55**	**70**	LR	LR	20 48 53.8	
	comp=Z,56nm,19.5s,baz=201,slow=30						
ABTX	**Abilene, Hawle**	**84.72**	**54**	P	**P**	**20 19 48.7**	**+0.7**
BMAR	**Burnt Mountain**	**85.03**	**11**	P	**P**	**20 19 48.2**	**-0.5**
INK	**Inuvik**	**88.03**	**14**	P	**P**	**20 20 04.4**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=246,slow=3.7,SNR=5.4						
INK				LR	LR	20 51 31.2	
	comp=Z,44nm,20.1s,baz=172,slow=30						
HHC	**Hu-ho-hao-te**	**89.12**	**313**	*e*P	**P**	**20 20 11.3**	**+2.1**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,4.6s						
PLCA	**Paso Flores**	**89.41**	**132**	LR	LR	20 52 32.3	
	comp=Z,29nm,19.3s,baz=176,slow=30						
YKA	**Yellowknife Ar**	**89.82**	**23**	P	**P**	**20 20 13.6**	**+1.8**
	comp=Z,2.7nm,1.0s,baz=236,slow=4.3,SNR=23						
YKA				LR	LR	20 54 16.7	
	comp=Z,46nm,19.0s,baz=326,slow=31						
JTS	**Las Juntas de**	**90.89**	**80**	LR	LR	20 54 03.0	
	comp=Z,41nm,18.4s,baz=350,slow=31						
PZH	**PanZhiHua**	**92.46**	**297**	P	**P**	**20 20 26.0**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,5.9s						
ULM	**Lac du Bonnet**	**93.61**	**39**	LR	LR	20 54 42.6	
	comp=Z,67nm,20.3s,baz=268,slow=30						
TKL	**Tuckaleechee C**	**98.17**	**55**	LR	LR	20 58 10.9	
	comp=Z,56nm,18.8s,baz=330,slow=31						
DPC	**Dobruska-Polom**	**144.14**	**350**	*e*PKP	PKPbc	20 26 48.7	+1.3
BURAR	**Bucovina Array**	**144.31**	**339**	⇑P	**PKPdf**	**20 26 50.7**	**+0.9**
KRLC	**Kraliky**	**144.33**	**349**	*e*PKP	**PKPdf**	**20 26 50.1**	**+0.5**
MORC	**Moravsky Berou**	**144.47**	**348**	*e*PKP	**PKPdf**	**20 26 50.3**	**+0.4**
VRAC	**Vranov**	**145.10**	**349**	*e*PKP	**PKPdf**	**20 26 52.0**	**+1.0**
CFR	**Carcaliu**	**145.18**	**333**	⇓P	**PKPdf**	**20 26 52.9**	**+1.7**
VRI	**Vrincioaia**	**145.21**	**335**	⇑P	**PKPdf**	**20 26 52.7**	**+1.4**
PLOR	**Plostina**	**145.25**	**336**	⇓P	**PKPdf**	**20 26 53.0**	**+1.7**
TPGR	**Topolog**	**145.31**	**333**	⇑P	**PKPab**	**20 26 53.4**	**+2.0**
JAVC	**Velka Javorina**	**145.31**	**347**	*e*PKP	**PKiKP**	**20 26 54.0**	**-1.3**
KRUC	**Moravsky**	**145.37**	**349**	*e*PKP	**PKPab**	**20 26 52.6**	**+1.2**
VYHS	**Vyhne**	**145.40**	**346**	*e*PKP	**PKPab**	**20 26 53.5**	**+1.9**
GRF	**Grafenberg Arr**	**145.45**	**355**	*e*PKP	**PKPab**	**20 26 53.5**	**+1.8**
	baz=7.8,slow=2.9						
DOPR	**Dopca**	**145.65**	**337**	⇓P	**PKPab**	**20 26 54.7**	**+2.1**
HARR	**Harsova**	**145.65**	**333**	⇑P	**PKPab**	**20 26 54.5**	**+1.9**
TLBR	**Topalu**	**145.72**	**333**	⇑P	**PKiKP**	**20 26 54.9**	**-1.3**
KHC	**Kasperske Hory**	**145.75**	**352**	*e*PKP	**PKPab**	**20 26 54.1**	**+1.2**
MLR	**Muntele Rosu**	**145.83**	**336**	⇓P	**PKPab**	**20 26 55.3**	**+1.9**
MODS	**Modra-Piesok**	**145.86**	**348**	*e*PKP	**PKPab**	**20 26 55.2**	**+1.9**
DRGR		**145.88**	**341**	⇑P	**PKPab**	**20 26 54.7**	**+1.2**
ISR	**Istrita**	**145.90**	**335**	⇑P	**PKPab**	**20 26 55.4**	**+1.8**
CKRC	**Cesky Krumlov**	**145.95**	**351**	*e*PKP	**PKPab**	**20 26 54.8**	**+1.2**
GERES	**GERESS Array B**	**146.01**	**352**	PKPbc	**PKPab**	**20 26 54.8**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=64,slow=3.1,SNR=14						
BRTR	**Keskin Array B**	**146.21**	**321**	PKPbc	**PKPab**	**20 26 56.0**	**+1.0**
	comp=Z,8.3nm,0.9s,baz=97,slow=2.0,SNR=37						
BRTR	**Keskin Array B**	**146.21**	**321**		**PKPab**	**20 26 55.7**	**+0.6**
VOIR		**146.22**	**337**	⇑P	**PKiKP**	**20 26 56.5**	**-0.8**
CONA	**Conrad Observa**	**146.56**	**349**	*e*P	**PKPab**	**20 26 57.3**	**+1.3**
	comp=Z,4.4nm,0.9s						
SIRR	**Siria**	**146.67**	**341**	⇓P	**PKPab**	**20 26 57.1**	**+0.6**
RONA	**Rosalia, Austr**	**146.70**	**348**	*e*P	**PKPab**	**20 26 57.5**	**+1.0**
MOA	**Molln**	**146.90**	**351**	*e*P	**PKPab**	**20 26 57.9**	**+0.5**
	comp=Z,7.6nm,1.6s						
GZR	**Gura Zlata**	**147.08**	**339**	⇓P	**PKPab**	**20 26 57.9**	**-0.3**
BIOA	**Bad Ischl, Aus**	**147.15**	**352**	*e*P	**PKPbc**	**20 26 57.6**	**+0.9**
	comp=Z,2.6nm,1.0s						
BZS	**Buzias**	**147.27**	**341**	⇑P	**PKPbc**	**20 26 57.3**	**+0.2**
RETA	**Reutte**	**147.67**	**355**	*e*P	**PKiKP**	**20 26 59.7**	**-0.5**
	comp=Z,4.8nm,1.1s						
WATA	**Walderalm**	**147.75**	**354**	*e*P	**PKiKP**	**20 27 00.0**	**-0.5**
	comp=Z,3.5nm,1.1s						
MOTA	**Moosalm**	**147.79**	**355**	*e*P	**PKiKP**	**20 27 00.3**	**-0.3**
	comp=Z,4.3nm,1.5s						
WTTA	**Wattenberg**	**147.81**	**354**	*e*P	**PKPbc**	**20 27 00.1**	**+1.3**
	comp=Z,3.5nm,1.0s						
SOKA	**Soboth**	**147.91**	**349**	*e*P	**PKPbc**	**20 27 00.2**	**+1.3**
	comp=Z,2.5nm,0.9s						
DAVA	**Damuels**	**147.94**	**356**	*e*P	**PKPbc**	**20 27 00.2**	**+1.2**
	comp=Z,7.6nm,1.3s						
FETA	**Feichten**	**148.14**	**355**	*e*P	**PKiKP**	**20 27 01.0**	**-0.3**
	comp=Z,2.5nm,0.9s						
ABTA	**Abfaltersbach**	**148.23**	**353**	*e*P	**PKPbc**	**20 27 00.2**	**+0.5**
	comp=Z,4.8nm,0.9s						

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*JMA **29** 20:10:11.8±0.1, 33°.21N×140°.55E, h57km±3km, M4.0*

*NIED **29** 20:10:11.8, 33°.21N×140°.55E, h57km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.14; $M_{\theta\theta}$-1.28; $M_{\phi\phi}$-1.86; $M_{r\theta}$-6.58; $M_{\theta\phi}$4.56; $M_{\phi r}$2.66; Fault plane solution: $M_0$8.75000×10^{14} NP1: ϕ_s173.00000°, δ27.00000°, λ149.00000°. NP2: ϕ_s291.00000°, δ77.00000°, λ67.00000°.*

*NEIC **29** 20:10:12.7±2.6, 33°.11N±0°.08×140°.4E±0°.1, h65km±6km, mb4.6/7 Error ellipse: s-maj=13.0km s-min=10.6km az=127.0*

*IDC **29** 20:10:13.1±1.8, 33°.01N×140°.19E, h67km±11km, mb3.6/7, mb1 3.9/8, mb1mx3.4/56, mbtmp3.9/8, MS2.9/1, Ms1 2.9/1, ms1mx2.2/81, Error ellipse: s-maj=42.8km s-min=12.4km az=81.0*

ISC 29 20:10:10.9±1.1**, 33°.17N**±0°.05×**140°.60E**±0°.08**, h57**km±9km**, n52, σ1§30**/59**, mb4.3**/11**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.66**	**265**	P	**Pn**	**20 10 25.2**	**+0.7**
JHJ2				S	**Sn**	**20 10 34.4**	**0.0**
JHJ2	**Mitsune**	**0.66**	**265**		**Pn**	**20 10 25.3**	**+0.7**
JHJ2				Sn	**Sn**	**20 10 34.3**	**-0.1**
JHCJ	**Hachijojimakas**	**0.68**	**262**	P	**Pn**	**20 10 25.3**	**+0.5**
JHCJ				S	**Sn**	**20 10 34.3**	**-0.6**
JHJ	**Hachijo jima 2**	**0.69**	**266**	LR	LR	20 10 16.2	
	comp=Z,120nm,20.6s,baz=204,slow=9.4						
JHJ				P	**Pn**	**20 10 25.3**	**+0.4**
	554nm,0.3s,baz=98,slow=22,SNR=305						
JHJ				S	**Sn**	**20 10 34.6**	**-0.4**
	2µm,0.3s,baz=263,slow=23,SNR=28						
JAOM	**Aogashimamukai**	**1.00**	**225**	P	**Pn**	**20 10 29.8**	**+0.9**
JAOM				S	**Sn**	**20 10 42.9**	**+0.8**
JMKN	**Mikurajimanish**	**1.11**	**311**	P	**Pn**	**20 10 30.7**	**+0.4**
JMKN				S	**Sn**	**20 10 43.8**	**-0.8**
BSO1	**Boso 1**	**1.51**	**12**	P	**Pn**	**20 10 35.9**	**+0.7**
JKO	**Kozu shima**	**1.58**	**310**	P	**Pn**	**20 10 37.6**	**+0.9**
JKO				S	**Sn**	**20 10 56.0**	**-0.1**
BSO3	**Boso 3**	**1.62**	**357**	P	**Pn**	**20 10 38.1**	**+1.1**
JTHY	**Toshimahigashi**	**1.73**	**321**	P	**Pn**	**20 10 39.7**	**+1.0**
JTHY				S	**Sn**	**20 10 59.4**	**-0.4**
JIM2	**Oshima 3**	**1.82**	**328**	P	**Pn**	**20 10 40.6**	**+0.7**
BSO4	**Boso 4**	**1.82**	**353**	P	**Pn**	**20 10 40.6**	**+0.7**
BSO4				S	**Sn**	**20 11 01.1**	**-0.7**
JIZS	**Izushimoda**	**2.10**	**318**	P	**Pn**	**20 10 44.9**	**+1.2**
JIZS				S	**Sn**	**20 11 09.0**	**+0.2**
KTJ3	**Kamata3**	**2.17**	**325**	P	**Pn**	**20 10 45.4**	**+0.8**
KTJ3				S	**Sn**	**20 11 09.6**	**-0.7**
JOD2	**Odawara 2**	**2.43**	**329**	P	**Pn**	**20 10 49.1**	**+0.8**
JYT	**Yasato**	**3.06**	**354**		**Pn**	**20 10 58.7**	**+1.8**
JGF	**Kuroka**	**3.61**	**313**		**Pn**	**20 11 07.1**	**+2.7**
INU	**Inuyama**	**3.68**	**307**		**Pn**	**20 11 07.4**	**+2.1**
MJAR	**Matsushiro Arr**	**3.89**	**330**	P	**Pn**	**20 11 10.6**	**+2.3**
	1.4nm,0.3s,baz=152,slow=12,SNR=57						
MJAR				S	**Sn**	**20 11 56.0**	**+3.3**
	1.1nm,0.3s,baz=170,slow=30,SNR=5.8						
MAJO	**Matsushiro**	**3.90**	**330**		**Pn**	**20 11 11.0**	**+2.7**
MJB9	**Matsu-Tunnel**	**3.90**	**330**	Pn	**Pn**	**20 11 10.9**	**+2.5**
JMM	**Marumori**	**4.68**	**2**		**Pn**	**20 11 19.8**	**+0.7**
JSD	**Sado**	**5.21**	**339**	Pn	**Pn**	**20 11 28.1**	**+1.8**
JHS	**Saijyo**	**6.47**	**288**	Pn	**Pn**	**20 11 42.4**	**-1.2**
JTM	**Tenmabayashi**	**7.61**	**3**	Pn	**Pn**	**20 11 58.2**	**-0.9**
JNU	**Nakatsue**	**8.15**	**272**	Pn	**Pn**	**20 12 04.1**	**-2.6**
ERM	**Erimo**	**9.05**	**12**	Pn	**Pn**	**20 12 18.4**	**-0.4**
ASAJ	**Asahikawa**	**11.04**	**8**	P	**Pn**	**20 12 44.8**	**-1.2**
	0.4nm,0.3s,baz=196,slow=12,SNR=7.7						
ASAJ				LR	LR	20 17 27.1	
	comp=Z,49nm,18.0s,baz=94,slow=39						
JKA	**Kamikawa-asahi**	**11.04**	**8**		**Pn**	**20 12 44.8**	**-1.2**
GUMO	**Guam**	**19.88**	**168**	P	**P**	**20 14 36.0**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**26.99**	**113**	T	T	20 44 38.8	
	baz=305,slow=75,SNR=63						
H11N1	**WAKE ISLAND Hy**	**27.00**	**113**	T	T	20 44 43.9	
	baz=305,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy**	**27.01**	**113**	T	T	20 44 35.1	
	baz=305,slow=75,SNR=62						
H11S3	**WAKE ISLAND Hy**	**27.56**	**116**	T	T	20 45 13.6	
	baz=307,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**27.56**	**116**	T	T	20 45 14.6	
	baz=307,slow=75,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**27.57**	**116**	T	T	20 45 17.1	
	baz=307,slow=75,SNR=7.4						
SIJI	**Sorong**	**34.99**	**196**	P	**P**	**20 16 57.0**	**-1.0**
	2.3nm,0.6s,baz=11,slow=5.2,SNR=2.1						
ZALV	**Zalesovo Beam**	**44.11**	**315**	PcP	**PcP**	**20 19 57.5**	**-0.1**
	0.3nm,0.4s,baz=113,slow=3.7,SNR=4.4						
MKAR	**Makanchi Array**	**45.70**	**305**	P	**P**	**20 18 25.4**	**-0.9**
	0.4nm,0.6s,baz=87,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**45.70**	**305**	P	**P**	**20 18 25.1**	**-1.2**
MAKZ	**Makanchi**	**45.91**	**305**	P	**P**	**20 18 26.7**	**-1.2**
MAKZ				IAmb	IAmb	20 19 14.1	
	comp=Z,11nm,1.8s						
WB0	**Warramunga Arr**	**52.98**	**187**	P	**P**	**20 19 21.6**	**-0.2**
WB0				IAmb	IAmb	20 20 06.0	
	comp=Z,12nm,1.6s						
WRAB	**Tennant Creek**	**53.15**	**187**	P	**P**	**20 19 22.4**	**-0.7**
WRAB				IAmb	IAmb	20 19 44.7	
	comp=Z,15nm,1.6s						
WR0	**Warramunga Arr**	**53.15**	**187**	P	**P**	**20 19 22.9**	**-0.2**
WR0				IAmb	IAmb	20 19 47.1	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**53.16**	**187**	P	**P**	**20 19 23.0**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=2.5,slow=7.6,SNR=37						
AS31	**Alice Springs**	**56.88**	**187**	P	**P**	**20 19 49.8**	**-0.2**

ASAR	**Alice Springs**	**56.88**	**187**	P	**P**	**20 19 50.0**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=0.9,slow=6.2,SNR=31						
ASAR				PcP	**PcP**	**20 20 46.6**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=4.1,slow=3.9,SNR=2.0						
FORT	**Forrest**	**64.70**	**192**	P	**P**	**20 20 43.7**	**+0.7**
FINES	**FINESS Array B**	**71.92**	**333**	P	**P**	**20 21 27.8**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=96,slow=5.9,SNR=5.4						
GERES	**GERESS Array B**	**85.63**	**328**	P	**P**	**20 22 43.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=35,slow=3.6,SNR=3.6						
TXAR	**Lajitas Array**	**93.01**	**52**	P	**P**	**20 23 20.8**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=302,slow=2.6,SNR=4.6						
TXAR	**Lajitas Array**	**93.01**	**52**	P	**P**	**20 23 20.6**	**+1.9**

TAP 29 20:12:47.2, 24.40N×121.50E, h11km±1km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong** baz=286	**0.11**	**286**	*i* P	Pg	20 12 50.8	+0.6
NNSB				*i* S	Sg	20 12 52.3	+0.1
	baz=286						
NNS	**Nan Shan** baz=290	**0.12**	**290**	*i* P	Pg	20 12 50.9	+0.6
NNS				*i* S	Sg	20 12 52.6	+0.1
	baz=290						
LATG	**Datong** baz=2.0	**0.14**	**10**	*i* P	Pg	20 12 50.7	+0.2
LATG				S	Sg	20 12 52.9	+0.1
	baz=2.0						
ETLH	**Xiulin Townshi** baz=191	**0.19**	**185**	*e*P	Pg	20 12 51.7	+0.4
ENA	**Nanau** baz=89	**0.22**	**82**	*i* P	Pg	20 12 52.4	+0.6
NACB	**Ninganchiao** baz=159	**0.24**	**159**	*i* P	Pg	20 12 51.7	-0.4
ENTT	**Nioudou** baz=16	**0.25**	**14**	*i* P	Pg	20 12 53.0	+0.7
ENTT				S	Sg	20 12 56.1	+0.3
	baz=16						
EWUT	**Wuta** baz=89	**0.26**	**79**	*i* P	Pg	20 12 52.7	+0.3
ETL	**Fush Village** baz=155	**0.26**	**155**	*e*P	Pg	20 12 52.7	+0.2
YHNB	**Yeheng** baz=337	**0.29**	**337**	*e*P	Pb	20 12 54.0	-0.6
NDS	**Dongshan** baz=49	**0.31**	**40**	*i* P	Pg	20 12 53.7	+0.4
TWE	**Neicheng** baz=35	**0.36**	**25**	*e*P	Pg	20 12 54.6	+0.3
FUSB	**Fushanzhiwuyua** baz=12	**0.37**	**12**	*e*P	Pb	20 12 55.5	-0.3
TWC	**Suao** baz=50	**0.38**	**56**	*e*P	Pg	20 12 55.2	+0.4
WUSB	**Renai** baz=215	**0.53**	**221**	*e*P	Pb	20 12 58.2	-0.5
ESL	**Shilin** baz=177	**0.58**	**186**	*e*P	Pg	20 12 58.6	+0.1

*UCR **29** 20:15:37.2±1.0, 10.06N×84.25W, h81km±3km, MW3.7*
*INET **29** 20:15:37.3±0.5, 10.09N×84.21W, h79km±2km, MW3.2*
ISC 29 20:15:37.3±1.5, 10.11N±0.05×84.21W±0.05, h82km±9km, n32, σ0°41/44, 8C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HDC	**Heredia**	**0.14**	**139**	*e*P	**Pn**	**20 15 49.1**	**-0.2**
HDC				*e*S	**Sn**	**20 15 58.4**	**+0.3**
HDC3	**Heredia 3**	**0.14**	**138**	*e*P	**Pn**	**20 15 49.2**	**-0.1**
HDC3				*e*S	**Sn**	**20 15 58.6**	**+0.5**
LCR2	**La Lucha 2**	**0.41**	**151**	*e*P	**Pn**	**20 15 50.3**	**-0.5**
LCR2				*e*S	**Sn**	**20 16 00.8**	**0.0**
CASO	**Castillo**	**0.61**	**302**	*i* P	**Pn**	**20 15 52.0**	**-0.3**
CASO				*i* S	**Sn**	**20 16 04.1**	**+0.6**
ARE1	**Arenal 1**	**0.62**	**305**	*e*P	**Pn**	**20 15 52.2**	**-0.2**
CEDE	**Laguna Cedeo**	**0.62**	**308**	⇑*i*P	**Pn**	**20 15 52.2**	**-0.2**
CEDE				*i* S	**Sn**	**20 16 04.1**	**+0.5**
CDM	**Cerro de Muert**	**0.70**	**142**	*e*P	**Pn**	**20 15 53.1**	**-0.6**
CDM	**Cerro de Muert**	**0.70**	**142**	*e*P	**Pn**	**20 15 53.1**	**-0.6**
CDM				*e*S	**Sn**	**20 16 05.8**	**+0.1**
LAFE	**Finca La Fe, P**	**0.76**	**247**	*e*P	**Pn**	**20 15 53.9**	**+0.2**
JTS	**Las Juntas de**	**0.76**	**284**	*e*P	**Pn**	**20 15 53.2**	**-0.6**
JTS	**Las Juntas de**	**0.76**	**284**	*e*P	**Pn**	**20 15 53.2**	**-0.6**
JTS				*e*S	**Sn**	**20 16 05.9**	**-0.1**
EDDO	**Dominical**	**0.91**	**158**	*e*P	**Pn**	**20 15 55.5**	**0.0**
EDDO				*e*S	**Sn**	**20 16 09.3**	**+0.3**
ACAL	**Aguas Claras**	**0.97**	**303**	⇑*i*P	**Pn**	**20 15 55.9**	**-0.3**
CUI	**Cuipilapa**	**1.09**	**300**	⇑*i*P	**Pn**	**20 15 57.4**	**-0.3**
COLC	**Colonia**	**1.13**	**300**	⇑*i*P	**Pn**	**20 15 57.8**	**-0.3**
HORNC	**Hornillas**	**1.13**	**302**	⇑*i*P	**Pn**	**20 15 57.8**	**-0.4**
LIM1	**Limonal**	**1.19**	**300**	⇑*i*P	**Pn**	**20 15 58.5**	**-0.4**
DUNO	**Dulce Nombre,**	**1.27**	**269**	*e*P	**Pn**	**20 15 59.5**	**-0.3**
DUNO				*e*S	**Sn**	**20 16 16.6**	**-0.1**
GUAI	**GUAI**	**1.29**	**277**	⇓*i*P	**Pn**	**20 16 00.3**	**+0.2**
GPS2	**Hotel Rincn d**	**1.30**	**300**	*i* P	**Pn**	**20 15 60.0**	**-0.3**
INDI	**Punta indio, G**	**1.30**	**260**	*e*P	**Pn**	**20 15 59.4**	**-0.8**
BUAI	**Buenos Aires**	**1.35**	**305**	⇑*i*P	**Pn**	**20 16 00.3**	**-0.5**
EDPN	**Palmar Norte**	**1.35**	**147**	*e*P	**Pn**	**20 16 00.8**	**-0.1**
BUEV	**Buena Vista**	**1.37**	**300**	⇑*i*P	**Pn**	**20 16 00.7**	**-0.4**
GB1A	**Borinquen Arri**	**1.37**	**301**	*i* P	**Pn**	**20 16 00.9**	**-0.2**
GBS3	**Finca Las Img**	**1.40**	**299**	*i* P	**Pn**	**20 16 01.0**	**-0.5**
HZTE	**Horizontes, Gu**	**1.50**	**294**	*e*P	**Pn**	**20 16 02.4**	**-0.3**
HZTE	**Horizontes, Gu**	**1.50**	**294**	*e*P	**Pn**	**20 16 02.4**	**-0.3**
HZTE				*e*S	**Sn**	**20 16 23.0**	**+1.2**
BRU2	**Volcan**	**1.98**	**131**	*e*P	**Pn**	**20 16 09.3**	**+0.1**
BRU2				*e*S	**Sn**	**20 16 33.7**	**+0.2**
ESPN	**Las Esperanzas**	**2.08**	**357**	*e*P	**Pn**	**20 16 10.2**	**-0.1**
ESPN				*e*S	**Sn**	**20 16 35.4**	**-0.1**
ACON	**Acoyapa**	**2.08**	**333**	*e*P	**Pn**	**20 16 10.0**	**-0.3**
CNGN	**Cerro Negro**	**3.41**	**314**	*e*P	**Pn**	**20 16 28.3**	**-0.1**

NOU 29 20:15:57.4, 16.36S×167.46E, h14km, MLv4.2/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.94**	**345**	P	Pb	20 16 15.3	-0.2
DVP	**Devils Point**	**1.52**	**153**	P	Pn	20 16 23.1	-1.2
RTV	**Rentapao**	**1.70**	**147**	P	Pb	20 16 27.9	-0.5
KOUNC	**Koumac, New Ca**	**5.14**	**215**	P	Pn	20 17 14.4	+0.4
YATNC	**Mamie plateau,**	**5.70**	**185**	P	Pn	20 17 21.9	+0.3
DZM	**Mont Dzumac**	**5.76**	**189**	P	Pn	20 17 23.2	+0.6
PINNC	**Pines Island,**	**6.22**	**180**	P	Pn	20 17 27.8	-1.0

*JMA **29** 20:24:55.6±0.1, 24.04N×121.60E, h24km±1km, M2.8*
*TAP **29** 20:24:57.4, 24.22N×121.75E, h12km, ML3.5, B*
ISC 29 20:24:57.3±0.8, 24.21N±0.01×121.75E±0.02, h13km±5km, n103, σ0°86/167, 22D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village** baz=360	**0.10**	**355**	⇓*i*P	**Pb**	**20 25 00.1**	**-1.1**
EHP				*i* S	**Sg**	**20 25 02.4**	**0.0**
	baz=360						
ETL	**Fush Village** baz=233	**0.13**	**247**	*i* P	**Pg**	**20 25 00.8**	**+0.2**
ETL				S	**Sg**	**20 25 03.3**	**+0.4**
	baz=233						
NACB	**Ninganchiao** baz=243	**0.15**	**256**	⇓*i*P	**Pg**	**20 25 01.0**	**+0.1**
NACB				*i* S	**Sg**	**20 25 03.8**	**+0.4**
	baz=243						
TWD	**Chiawan** baz=224	**0.19**	**228**	P	**Pb**	**20 25 01.8**	**-0.9**
TWD				*i* S	**Sg**	**20 25 05.0**	**+0.5**
	baz=224						
ENA	**Nanau** baz=360	**0.22**	**358**	⇓*i*P	**Pb**	**20 25 02.0**	**-1.2**
ENA				*i* S	**Sb**	**20 25 05.2**	**-1.9**
	baz=360						
EWUT	**Wuta** baz=7.0	**0.24**	**6**	⇓*i*P	**Pb**	**20 25 02.3**	**-1.2**
EWUT				*i* S	**Sb**	**20 25 05.8**	**-1.8**
	baz=7.0						
ETLH	**Xiulin Townshi** baz=267	**0.24**	**270**	⇓*i*P	**Pb**	**20 25 02.7**	**-1.0**
ETLH				S	**Sb**	**20 25 06.7**	**-1.3**
	baz=267						
HWA	**Hwalien** baz=217	**0.27**	**210**	*e*P	**Pb**	**20 25 04.3**	**+0.4**
LATG	**Datong** baz=327	**0.38**	**328**	⇓*i*P	**Pg**	**20 25 05.2**	**+0.2**
LATG				*i* S	**Sg**	**20 25 10.9**	**+0.7**
	baz=327						
NNSB	**Datong** baz=301	**0.40**	**303**	⇓*i*P	**Pg**	**20 25 05.6**	**+0.3**
NNSB				*i* S	**Sg**	**20 25 11.1**	**+0.4**
	baz=301						
TWC	**Suao** baz=7.0	**0.41**	**13**	⇓*i*P	**Pg**	**20 25 05.4**	**0.0**
TWC				S	**Sg**	**20 25 10.7**	**-0.3**
	baz=7.0						
NNS	**Nan Shan** baz=302	**0.41**	**304**	⇓*i*P	**Pg**	**20 25 05.8**	**+0.2**
NNS				S	**Sg**	**20 25 11.2**	**+0.1**
	baz=302						
NDS	**Dongshan** baz=355	**0.42**	**356**	⇓*i*P	**Pg**	**20 25 05.9**	**+0.2**
NDS				*i* S	**Sg**	**20 25 11.0**	**-0.4**
	baz=355						
WHF	**Hehuan Shan** baz=260	**0.45**	**262**	⇓*i*P	**Pg**	**20 25 06.5**	**+0.3**
WHF				*e*S	**Sg**	**20 25 12.4**	**+0.1**
	baz=260						
ENTT	**Nioudou** baz=339	**0.46**	**339**	⇓*i*P	**Pg**	**20 25 06.7**	**+0.2**
ENTT				*i* S	**Sg**	**20 25 13.0**	**+0.4**
	baz=339						
ESL	**Shilin** baz=224	**0.49**	**216**	*e*P	**Pg**	**20 25 07.0**	**0.0**
ESL				*e*S	**Sg**	**20 25 13.7**	**+0.3**
	baz=224						
TWE	**Neicheng** baz=353	**0.52**	**352**	⇓*i*P	**Pg**	**20 25 07.7**	**+0.2**
TWE				S	**Sg**	**20 25 14.5**	**+0.2**
	baz=353						
TWT	**Tachien** baz=273	**0.53**	**275**	*e*P	**Pb**	**20 25 08.4**	**-0.1**
TWT				*e*S	**Sb**	**20 25 16.1**	**-0.1**
	baz=273						
TDCB	**Techi** baz=273	**0.54**	**275**	P	**Pg**	**20 25 08.4**	**+0.4**
TDCB				S	**Sg**	**20 25 15.6**	**+0.3**
	baz=273						
CHGB	**Renai** baz=246	**0.55**	**254**	⇓*i*P	**Pg**	**20 25 08.5**	**+0.5**
CHGB				S	**Sg**	**20 25 15.8**	**+0.4**
	baz=246						
ILA	**Ilan** baz=355	**0.55**	**360**	⇓*i*P	**Pb**	**20 25 08.6**	**-0.4**
ILA				*e*S	**Sb**	**20 25 16.6**	**-0.2**
	baz=355						
FUSB	**Fushanzhiwuyua** baz=344	**0.57**	**345**	⇓*i*P	**Pb**	**20 25 08.5**	**-0.7**
FUSB				*i* S	**Sg**	**20 25 16.2**	**+0.2**
	baz=344						
YHNB	**Yeheng** baz=322	**0.57**	**323**	⇓*i*P	**Pb**	**20 25 08.9**	**-0.4**
YHNB				*e*S	**Sg**	**20 25 16.2**	**+0.1**
	baz=322						
OWD	**Renai** baz=243	**0.58**	**244**	*e*P	**Pb**	**20 25 09.1**	**-0.4**
OWD				*e*S	**Sb**	**20 25 17.0**	**-0.7**
	baz=243						
NSK	**Sanguang** baz=322	**0.59**	**322**	⇓*i*P	**Pb**	**20 25 09.1**	**-0.4**
NSK				*e*S	**Sb**	**20 25 17.1**	**-0.7**
	baz=322						
NWLT	**Wulai** baz=338	**0.61**	**338**	⇓*i*P	**Pb**	**20 25 09.5**	**-0.4**
NWLT				S	**Sb**	**20 25 17.5**	**-1.0**
	baz=338						
EGFH	**Guangfu** baz=216	**0.61**	**209**	*e*P	**Pg**	**20 25 09.7**	**+0.4**
EGFH				*e*S	**Sn**	**20 25 20.5**	**-1.1**
	baz=216						
WUSB	**Renai** baz=241	**0.62**	**250**	⇓*i*P	**Pg**	**20 25 09.8**	**+0.4**
WUSB				S	**Sg**	**20 25 17.9**	**+0.4**
	baz=241						
NTC	**Toucheng** baz=6.0	**0.65**	**6**	⇓*i*P	**Pb**	**20 25 09.9**	**-0.6**
NTC				*e*S	**Sb**	**20 25 17.9**	**-1.5**
	baz=6.0						
NFF	**Wufeng Townshi** baz=305	**0.71**	**306**	*e*P	**Pg**	**20 25 11.6**	**+0.4**
NFF				*e*S	**Sb**	**20 25 20.9**	**-0.6**
	baz=305						
VWDT	**VWDT** baz=231	**0.72**	**231**	*e*P	**Pb**	**20 25 11.4**	**-0.3**
VWDT				S	**Sg**	**20 25 21.9**	**+1.2**
	baz=231						
WHP	**Taichung City** baz=274	**0.74**	**275**	*e*P	**Pg**	**20 25 12.3**	**+0.7**
WHP				*e*S	**Sg**	**20 25 22.4**	**+1.1**
	baz=274						
TIPB	**Shuangxi** baz=5.0	**0.76**	**5**	⇓*i*P	**Pb**	**20 25 12.1**	**-0.4**
TIPB				*e*S	**Sb**	**20 25 21.9**	**-0.9**
	baz=5.0						
HGSD	**Ruisui** baz=192	**0.77**	**203**	*e*P	**Pg**	**20 25 13.1**	**+0.8**
HGSD				*e*S	**Sn**	**20 25 26.1**	**+0.6**
	baz=192						
NHDH	**Xindian Distri** baz=344	**0.78**	**345**	*e*P	**Pb**	**20 25 12.8**	**+0.1**
WCS	**Beigang Elemen** baz=258	**0.78**	**259**	*e*P	**Pg**	**20 25 12.9**	**+0.4**
WCS				*e*S	**Sb**	**20 25 21.5**	**-1.9**
	baz=258						
TWA	**Mucha** baz=349	**0.78**	**349**	*e*P	**Pb**	**20 25 12.7**	**-0.2**
TWA				*e*S	**Sb**	**20 25 22.1**	**-1.4**
	baz=349						
LIOB	**Emei** baz=302	**0.80**	**303**	*e*P	**Pn**	**20 25 13.7**	**-0.6**
LIOB				*e*S	**Sn**	**20 25 24.6**	**-1.5**
	baz=302						
EHY	**Hungye** baz=222	**0.80**	**209**	*e*P	**Pb**	**20 25 12.1**	**-1.0**
NSTT	**Nanjuang** baz=301	**0.80**	**302**	*e*P	**Pg**	**20 25 13.3**	**+0.5**
NSTT				*e*S	**Sb**	**20 25 23.1**	**-0.8**
	baz=301						
TWB1	**Santiao Chiao** baz=16	**0.82**	**15**	*e*P	**Pb**	**20 25 13.0**	**-0.6**
TWB1				*e*S	**Sb**	**20 25 24.3**	**-0.3**
	baz=16						
SSLB	**Suanglung** baz=240	**0.84**	**240**	*e*P	**Pb**	**20 25 13.6**	**-0.3**
SSLB				*e*S	**Sb**	**20 25 24.1**	**-1.0**
	baz=240						
SMLT	**Sun Moon Lake** baz=238	**0.84**	**248**	*e*P	**Pg**	**20 25 14.0**	**+0.4**
SMLT				*e*S	**Sb**	**20 25 24.6**	**-0.6**
	baz=238						
TAP	**Taipei** baz=334	**0.86**	**345**	*e*P	**Pg**	**20 25 14.6**	**+0.7**
NWF	**Wu-fen Shan** baz=354	**0.86**	**2**	*e*P	**Pb**	**20 25 14.2**	**+0.1**
NWF				*e*S	**Sb**	**20 25 24.7**	**-0.9**
	baz=354						
TYC	**Yuchr** baz=240	**0.87**	**250**	*e*P	**Pg**	**20 25 14.5**	**+0.3**
TYC				*e*S	**Sg**	**20 25 25.8**	**+0.3**
	baz=240						
SXI1	**Grass Mountain** baz=7.0	**0.89**	**7**	*e*P	**Pb**	**20 25 14.4**	**-0.3**
SXI1				*e*S	**Sb**	**20 25 25.7**	**-0.8**
	baz=7.0						
TWQ1	**Liyutan** baz=279	**0.90**	**279**	*e*P	**Pn**	**20 25 16.0**	**+0.2**
SBCB	**Hsinchu** baz=309	**0.91**	**310**	*e*P	**Pn**	**20 25 16.6**	**+0.7**
SBCB				*e*S	**Sn**	**20 25 28.9**	**+0.1**
	baz=309						
YULB	**Yu-li** baz=219	**0.91**	**207**	*e*P	**Pb**	**20 25 13.5**	**-1.5**
NCUH	**Zhongli** baz=325	**0.91**	**326**	*e*P	**Pn**	**20 25 16.1**	**+0.1**
NCUH				*e*S	**Sn**	**20 25 30.1**	**+1.1**
	baz=325						
NCU	**National Centr** baz=326	**0.92**	**326**	*e*P	**Pn**	**20 25 16.1**	**+0.2**
NCU				*e*S	**Sn**	**20 25 29.8**	**+0.8**
	baz=326						
HSN	**Hsinchu** baz=302	**0.92**	**310**	*e*P	**Pn**	**20 25 16.6**	**+0.5**
HSN				*e*S	**Sn**	**20 25 29.5**	**+0.3**
	baz=302						
NMLH	**Miaoli** baz=290	**0.93**	**291**	*e*P	**Pn**	**20 25 16.8**	**+0.6**
TWS1	**Kuangyinshan** baz=349	**0.94**	**341**	*e*P	**Pg**	**20 25 16.3**	**+0.8**
TWS1				*e*S	**Sn**	**20 25 29.4**	**-0.2**
	baz=349						
EYUL	**Yuli** baz=220	**0.94**	**205**	*e*P	**Pg**	**20 25 17.2**	**+1.7**
YM01	**YM01** baz=350	**0.95**	**350**	*e*P	**Pb**	**20 25 15.7**	**+0.1**
YM01				*e*S	**Sg**	**20 25 28.9**	**+0.9**
	baz=350						
TCU	**Taichung** baz=266	**0.98**	**267**	*e*P	**Pg**	**20 25 18.0**	**+1.7**
ANP	**Anpu** baz=348	**0.99**	**348**	*e*P	**Pn**	**20 25 16.8**	**-0.3**
WJS	**Zhushan** baz=243	**1.01**	**248**	*e*P	**Pg**	**20 25 18.1**	**+1.3**
WJS				*e*S	**Sn**	**20 25 32.4**	**+1.0**
	baz=243						
WDJ	**Dajia District** baz=278	**1.02**	**278**	*e*P	**Pg**	**20 25 17.9**	**+0.9**
WDJ				*e*S	**Sn**	**20 25 32.9**	**+1.2**
	baz=278						
YUS	**Yu-Shan** baz=226	**1.02**	**226**	*e*P	**Pn**	**20 25 17.2**	**-0.7**
YUS				*e*S	**Sn**	**20 25 31.8**	**-0.6**
	baz=226						
WNT	**Mingjian** baz=243	**1.03**	**252**	*e*P	**Pg**	**20 25 18.5**	**+1.3**
TWY	**Chenhua** baz=337	**1.07**	**353**	*e*P	**Pg**	**20 25 18.6**	**+0.6**
FULB	**Fuli** baz=217	**1.09**	**203**	*e*P	**Pg**	**20 25 18.4**	**+0.2**
WCHH	**Zhanghua** baz=263	**1.10**	**263**	*e*P	**Pg**	**20 25 19.1**	**+0.7**
WCHH				*e*S	**Sg**	**20 25 36.1**	**+3.4**
	baz=263						
ALS	**Alishan** baz=218	**1.11**	**231**	*e*P	**Pg**	**20 25 18.9**	**+0.2**
ALS				*e*S	**Sg**	**20 25 34.8**	**+1.5**
	baz=218						
JYNG	**Yonagunijimaku**	**1.12**	**77**	P	**Pb**	**20 25 18.9**	**+0.4**
JYNG				S	**Sg**	**20 25 35.1**	**+1.7**
CHKT	**Chengkung** baz=184	**1.16**	**198**	*e*P	**Pn**	**20 25 18.9**	**-0.4**
YOJ	**Yonaguni jima** baz=67	**1.18**	**77**	*e*P	**Pn**	**20 25 19.2**	**-0.3**
ELDTW	**Lidau** baz=200	**1.22**	**214**	*e*P	**Pn**	**20 25 18.7**	**-1.5**
WDLH	**Douliu** baz=229	**1.22**	**245**	*e*P	**Pg**	**20 25 21.3**	**+0.4**
WRL	**Guolierlin Hig** baz=257	**1.29**	**257**	*e*P	**Pb**	**20 25 21.7**	**+0.2**
EDH	**Donghe** baz=186	**1.30**	**198**	*e*P	**Pn**	**20 25 19.4**	**-1.8**
CHN2	**Minshiung** baz=227	**1.35**	**240**	*e*P	**Pg**	**20 25 23.2**	**0.0**
WTK	**Tuku** baz=235	**1.35**	**248**	*e*P	**Pg**	**20 25 23.1**	**-0.2**
CHN4	**Tsaushan** baz=233	**1.36**	**231**	*e*P	**Pg**	**20 25 24.0**	**+0.5**
STYH	**Taoyuan** baz=223	**1.37**	**221**	*e*P	**Pb**	**20 25 22.6**	**-0.1**
TPUB	**Ta-pu** baz=231	**1.37**	**229**	*e*P	**Pg**	**20 25 23.3**	**-0.3**
TPUB				*e*S	**Sg**	**20 25 43.0**	**+1.5**
	baz=231						
CHY	**Chiayi** baz=241	**1.41**	**240**	*e*P	**Pg**	**20 25 24.9**	**+0.6**
WTP	**Ta-pu** baz=229	**1.42**	**228**	*e*P	**Pg**	**20 25 24.4**	**-0.2**
WTP				*e*S	**Sg**	**20 25 44.8**	**+1.9**
	baz=229						
TWK	**Hsinying** baz=233	**1.49**	**231**	*e*P	**Pb**	**20 25 25.4**	**+0.5**
WSF	**Szhu** baz=250	**1.51**	**248**	*e*P	**Pg**	**20 25 25.8**	**-0.5**
CHN1	**Nanshi** baz=230	**1.52**	**228**	*e*P	**Pg**	**20 25 25.9**	**-0.5**
TWGBT	**Beinan** baz=190	**1.52**	**204**	*e*P	**Pn**	**20 25 22.2**	**-2.0**
SGST	**Jiashian** baz=226	**1.55**	**224**	*e*P	**Pb**	**20 25 25.5**	**-0.4**
WSL	**Shuilin Townsh** baz=246	**1.55**	**244**	*e*P	**Pb**	**20 25 25.9**	**0.0**
ICHU	**Yijhu** baz=224	**1.59**	**238**	*e*P	**Pb**	**20 25 26.7**	**+0.1**
ICHU				*e*S	**Sg**	**20 25 48.9**	**+0.3**
	baz=224						
CHN8	**Yiju** baz=241	**1.65**	**239**	*e*P	**Pb**	**20 25 27.1**	**-0.6**
SCST	**Cishan** baz=224	**1.75**	**221**	*e*P	**Pb**	**20 25 29.3**	**0.0**
SSD	**Sandimen** baz=201	**1.78**	**215**	*e*P	**Pb**	**20 25 29.6**	**-0.3**
TSMG	**Majia** baz=200	**1.81**	**214**	*e*P	**Pb**	**20 25 29.6**	**-0.7**
IRIF	**Iriomote-Funau**	**1.81**	**86**	*e*S	**Sb**	**20 25 52.3**	**-0.7**
HATJ	**Hateruma jima**	**1.88**	**94**	S	**Sn**	**20 25 53.4**	**+0.5**
MASBT	**Mashibuluo** baz=215	**1.89**	**213**	*e*P	**Pb**	**20 25 30.4**	**-1.4**
MASBT				*e*S	**Sb**	**20 25 55.6**	**+0.2**
	baz=215						
SSPT	**Xinbi** baz=198	**2.03**	**213**	*e*P	**Pb**	**20 25 33.0**	**-1.2**
JKRS	**Kuro-shima**	**2.06**	**89**	P	**Pn**	**20 25 32.1**	**+0.4**
JKRS				*e*S	**Sn**	**20 25 58.1**	**+0.8**
PNG	**Penghu** baz=255	**2.11**	**253**	*e*P	**Pn**	**20 25 32.8**	**+0.4**
PNG				*e*S	**Sb**	**20 25 59.1**	**-2.5**
	baz=255						
PHUB	**P'eng-hu** baz=253	**2.11**	**251**	*e*P	**Pn**	**20 25 32.1**	**-0.3**
WDGT	**Dungji** baz=247	**2.14**	**244**	*e*P	**Pn**	**20 25 33.5**	**+0.8**
JIJ	**Ishigaki jima**	**2.19**	**85**	P	**Pn**	**20 25 32.5**	**-0.9**
JIJ				S	**Sn**	**20 26 00.4**	**0.0**
JISG	**Ishigakijimahi**	**2.36**	**80**	P	**Pn**	**20 25 35.7**	**-0.2**
JISG				S	**Sn**	**20 26 04.7**	**-0.1**
JTJ	**Tarama**	**2.73**	**80**	P	**Pn**	**20 25 42.0**	**+1.2**
JTJ				*e*S	**Sn**	**20 26 15.7**	**+2.0**

JMA 29 20:27:38.3, 38.66N×141.90E, h43km±1km, M3.5, 5C-2D
Broadband fault plane solution: P waves. NP1: φs254.00000°, δ64.00000°, λ-33.00000°. **NP2:** φs0.00000°, δ61.00000°, λ-150.00000°. **Principal axes:** T Plg2.0000°, Azm308.0000°; N Plg49.0000°, Azm40.0000°; P Plg41.0000°, Azm216.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.37**	**294**	⇑P	**Pn**	**20 27 47.5**	**0.0**
JKMT				S	**Sn**	**20 27 53.6**	**-0.4**
OFUJ	**Ofunato**	**0.46**	**337**	⇑P	**Pn**	**20 27 48.5**	**-0.1**
OFUJ				S	**Sn**	**20 27 55.5**	**-0.4**
JIO	**Ouri**	**0.48**	**245**	⇑P	**Pn**	**20 27 48.8**	**-0.1**
JIO				S	**Sn**	**20 27 55.8**	**-0.5**
JIKH	**Ishinomakikobu**	**0.49**	**224**	⇓P	**Pn**	**20 27 48.8**	**-0.2**
JIKH				S	**Sn**	**20 27 56.3**	**-0.2**
JMK	**Ichinoseki**	**0.61**	**299**	P	**Pn**	**20 27 50.5**	**0.0**
JMK				S	**Sn**	**20 27 59.1**	**-0.2**
JOM	**Ohasama**	**0.94**	**330**	⇑P	**Pn**	**20 27 55.2**	**+0.1**
JOM				S	**Sn**	**20 28 07.5**	**+0.1**
JOU	**Okura**	**1.01**	**254**	P	**Pn**	**20 27 56.3**	**+0.2**
JOU				S	**Sn**	**20 28 09.4**	**+0.2**
JMM	**Marumori**	**1.18**	**228**	⇓P	**Pn**	**20 27 58.0**	**-0.3**
JMM				*e*S	**Sn**	**20 28 12.8**	**-0.3**
JRG	**Rokugo**	**1.23**	**307**	P	**Pn**	**20 27 59.3**	**+0.3**
JYK	**Kaneyama**	**1.23**	**283**	⇑P	**Pn**	**20 27 59.3**	**+0.3**

*ISK **29** 20:49:30.5, 36.94N×37.13E, h9km, ML2.7/8*
*DDA **29** 20:49:31.9±0.0, 36.99N×37.00E, h7km, 2km, ML2.5*
ISC 29 20:49:31.6±0.9, 36.98N±0.03×37.05E±0.03, h13km±8km, n20, σ0°74/31, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**0.21**	**175**	P	**Pb**	**20 49 37.1**	**-0.2**
KUZU				S	**Sg**	**20 49 40.4**	**+1.1**
KUZU				*i*

comp=N,2µm,0.3s
KAMA Osmaniye 0.37 304 P **Pg** 20 49 39.1 -0.1
KAMA S **Sg** 20 49 43.4 -0.9
KAMA *i* AML AML 20 49 45.0
comp=N,376nm,0.2s
HCB Kahramanmara 0.38 342 P **Pg** 20 49 39.0 -0.4
HCB S **Sg** 20 49 44.5 0.0
HCB *i* AML AML 20 49 46.0
comp=E,289nm,0.3s
KHMN Narli-Kahraman 0.42 11 PG **Pg** 20 49 40.1 +0.1
KHMN SG **Sb** 20 49 46.6 -0.7
KAHM Kahramanmaras, 0.54 354 P **Pb** 20 49 42.5 -0.5
KAHM S **Sg** 20 49 49.0 -0.4
GZT Gaziantep 0.55 47 P **Pb** 20 49 43.1 -0.2
TAHT Tahtakopru-Hat 0.92 229 PG **Pg** 20 49 49.0 -0.5
TAHT SG **Sn** 20 50 02.5 -0.9
CEYT Ceyhan 1.05 272 PN **Pn** 20 49 52.0 0.0
CEYT SN **Sn** 20 50 08.1 +1.7
KOZT Kozan 1.10 297 PN **Pn** 20 49 52.6 -0.2
YURE YUREGIR 1.15 263 P **Pg** 20 49 54.9 +1.1
YAYL Yayladag 1.21 219 PN **Pg** 20 49 54.4 -0.6
SURC SANLIURFA_SURC 1.25 94 P **Pg** 20 49 56.0 +0.3
SURC S **Sg** 20 50 12.3 +0.3
SURC *i* AML AML 20 50 15.0
comp=N,252nm,0.3s
SURC *i* AML AML 20 50 17.0
comp=E,279nm,0.4s
SAIM ADANA 1.26 322 P **Pg** 20 49 56.1 +0.2
SAIM S **Sg** 20 50 12.8 +0.5
SAIM *i* AML AML 20 50 17.0
comp=N,204nm,0.2s
ELBS KAHRAMANMARAS 1.34 3 P **Pg** 20 49 58.3 +0.8
AKO Adana 1.37 291 P **Pb** 20 49 57.1 0.0
AKO S **Sn** 20 50 14.5 0.0
AKO *i* AML AML 20 50 17.0
comp=N,47nm,0.6s
SARI SarD1z-Kayseri 1.51 341 PN **Pb** 20 49 59.5 -0.2
SANL SANLIURFA_Merk 1.56 82 P **Pg** 20 50 00.8 -0.8
SANL S **Sb** 20 50 20.0 -0.1
SANL *i* AML AML 20 50 23.0
comp=N,189nm,0.5s
CMRD Camardi-Nigde 1.78 293 PN **Pn** 20 50 02.6 +0.4
MERS Mersin 2.03 268 PN **Pb** 20 50 06.9 -1.6
AKKU Akkuyu-Mersin 2.94 255 PN **Pn** 20 50 19.4 +1.4

*DDA **29** 20:51:43.4±0.0,36°.97N×37°.00E,h7km±2km,ML2.3*
*ISK **29** 20:51:43.4,36°.99N×36°.97E,h13km,ML2.6/15*
ISC 29 20:51:43.8±0.9,**36°.98N**±0°.03×**37°.00E**±0°.03,**h11**km±8km,
n27,σ0°**63**/38,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.21**	**163**	P	**Pg**	**20 51 48.4**	**+0.2**
KUZU				S	**Sg**	**20 51 51.1**	**-0.1**
KUZU				*i* AML	AML	20 51 52.0	
	comp=N,782nm,0.3s						
KAMA	**Osmaniye**	**0.34**	**308**	P	**Pg**	**20 51 50.5**	**-0.1**
KAMA				S	**Sg**	**20 51 55.3**	**+0.2**
HCB	**Kahramanmara**	**0.37**	**349**	P	**Pg**	**20 51 50.8**	**-0.4**
HCB				S	**Sg**	**20 51 56.6**	**+0.4**
KHMN	**Narli-Kahraman**	**0.43**	**17**	PG	**Pg**	**20 51 52.3**	**0.0**
KHMN				SG	**Sb**	**20 51 58.1**	**0.0**
KAHM	**Kahramanmaras,**	**0.54**	**359**	P	**Pg**	**20 51 54.2**	**-0.1**
KAHM				S	**Sg**	**20 52 00.9**	**-0.5**
GZT	**Gaziantep**	**0.59**	**50**	P	**Pg**	**20 51 55.0**	**-0.2**
TAHT	**Tahtakopru-Hat**	**0.89**	**228**	PG	**Pb**	**20 52 00.9**	**-0.3**
TAHT				SG	**Sb**	**20 52 13.4**	**+0.3**
CEYT	**Ceyhan**	**1.00**	**272**	PG	**Pb**	**20 52 02.6**	**-0.5**
KOZT	**Kozan**	**1.06**	**299**	PG	**Pb**	**20 52 03.6**	**-0.6**
KOZT				SG	**Sn**	**20 52 18.7**	**-0.8**
YURE	**YUREGIR**	**1.10**	**263**	P	**Pg**	**20 52 06.2**	**+1.2**
YAYL	**Yayladag**	**1.18**	**218**	PN	**Pg**	**20 52 06.4**	**-0.1**
YAYL				SN	**Sn**	**20 52 22.7**	**+0.1**
SAIM	**ADANA**	**1.24**	**324**	P	**Pg**	**20 52 08.3**	**+0.8**
SAIM				S	**Sg**	**20 52 25.4**	**+1.8**
SAIM				*i* AML	AML	20 52 26.0	
	comp=E,85nm,0.5s						
SAIM				*i* AML	AML	20 52 28.0	
	comp=N,68nm,0.2s						
SURC	**SANLIURFA_SURC**	**1.30**	**94**	P	**Pn**	**20 52 07.8**	**-0.1**
SURC				S	**Sb**	**20 52 24.0**	**-1.0**
SURC				*i* AML	AML	20 52 26.0	
	comp=N,90nm,0.3s						
ELBS	**KAHRAMANMARAS**	**1.35**	**4**	P	**Pg**	**20 52 10.6**	**+0.9**
SARI	**SarD1z-Kayseri**	**1.50**	**342**	PN	**Pn**	**20 52 10.6**	**-0.3**
SANL	**SANLIURFA_Merk**	**1.60**	**82**	P	**Pn**	**20 52 12.5**	**+0.4**
SANL				S	**Sb**	**20 52 33.8**	**+0.1**
SANL				*i* AML	AML	20 52 35.0	
	comp=N,54nm,0.6s						
SANL				*i* AML	AML	20 52 40.0	
	comp=E,35nm,0.3s						
DARE	**Darende-Malaty**	**1.64**	**13**	PN	**Pn**	**20 52 12.8**	**+0.1**
CMRD	**Camardi-Nigde**	**1.74**	**294**	PN	**Pn**	**20 52 12.9**	**-1.2**
MALT	**Malatya**	**1.75**	**40**	PN	**Pn**	**20 52 14.4**	**+0.2**
MERS	**Mersin**	**1.99**	**268**	PN	**Pn**	**20 52 17.2**	**-0.2**
BNN	**Bunyan**	**2.08**	**334**	PN	**Pn**	**20 52 18.7**	**-0.1**
SVRC	**Sivrice-ELAZID**	**2.31**	**52**	PN	**Pn**	**20 52 22.9**	**+1.0**
ARPR	**Arapgir-MALATY**	**2.36**	**26**	PN	**Pn**	**20 52 22.9**	**+0.2**
MAZI	**Mazidag**	**2.79**	**79**	PN	**Pn**	**20 52 29.8**	**+1.2**
AKKU	**Akkuyu-Mersin**	**2.89**	**255**	PN	**Pn**	**20 52 29.7**	**-0.1**
TEVE	**Tevekalti-Mers**	**2.91**	**260**	PN	**Pn**	**20 52 30.2**	**+0.1**
YOZ	**Yozgat**	**2.97**	**334**	PN	**Pn**	**20 52 31.4**	**+0.4**

*TEH **29** 20:59:22.3,36°.40N×52°.31E,h13km,ML3.0*
*AZER **29** 20:59:26.1±0.6,36°.92N×51°.84E,h10km±42km,Error ellipse: s-maj=137.1km s-min=8.5km az=317.0*
ISC 29 20:59:21.6±0.8,**36°.54N**±0°.03×**52°.31E**±0°.03,**h10**km,**n53**,
σ1°**48**/73,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRN	**Peran**	**0.29**	**175**	*e*Pg	**Pg**	**20 59 25.8**	**-1.8**
DAMV	**Damavand**	**0.94**	**197**	*e*Pn	**Pg**	**20 59 38.7**	**-1.1**
IFIR	**Firoozkooh**	**0.96**	**158**	*e*Pg	**Pg**	**20 59 38.5**	**-1.7**
IDMV	**Damavand**	**0.98**	**193**	*e*Pg	**Pg**	**20 59 39.2**	**-1.4**
ISHM	**Shahmirzad**	**1.08**	**132**	*e*Pg	**Pg**	**20 59 40.7**	**-1.8**
ISHM				*e*		20 59 57.7	
	comp=Z,6µm,0.2s						
CHTH	**Charan**	**1.14**	**237**	*e*Pn	**Pb**	**20 59 43.4**	**-0.2**
IGLO	**Ghaloghah**	**1.23**	**91**	*e*Pg	**Pg**	**20 59 45.8**	**+0.5**
IGLO				*e*		21 00 12.7	
	comp=Z,3µm,0.2s						
ILAS	**Lasjerd**	**1.27**	**155**	*e*Pg	**Pn**	**20 59 44.2**	**-1.5**
ILAS				*e*		20 59 47.7	
	comp=Z,3µm,0.2s						
QALM	**Alamut, Qazvin**	**1.34**	**266**	*e*Pg	**Pb**	**20 59 47.0**	**0.0**
QALM				*e*		21 00 09.0	
	comp=Z,3µm,0.4s						
IVRN	**Varamin**	**1.61**	**197**	*e*Pg	**Pn**	**20 59 51.2**	**+1.0**
IANJ	**Anjilo**	**1.69**	**129**	*e*Pg	**Pn**	**20 59 51.8**	**+0.4**
IANJ				*e*Sg	**Sn**	**21 00 14.6**	**+1.4**
IANJ				*e*		21 00 18.5	
	comp=Z,1µm,0.2s						
IGZV	**Ghazvin**	**1.69**	**266**	*e*Pg	**Pg**	**20 59 54.1**	**0.0**
IGZV				*e*Sg	**Sg**	**21 00 17.9**	**+1.9**
IGZV				*e*		21 00 22.4	
	comp=Z,2µm,0.4s						
LHJ2	**Lahijan - Gila**	**1.91**	**290**	*e*Pn	**Pb**	**20 59 55.1**	**-1.4**
IQOM	**Qom**	**1.97**	**211**	*e*Pg	**Pn**	**20 59 57.0**	**+1.7**
IQOM				*e*		20 59 58.3	
	comp=Z,1µm,0.2s						
JIR1	**Jirandeh**	**2.02**	**276**	*e*Pn	**Pb**	**20 59 57.7**	**-0.9**
ISFB	**Sefidab**	**2.18**	**181**	*e*Pn	**Pn**	**20 59 59.3**	**+1.2**
ISFB				*e*		21 00 01.7	
	comp=Z,1µm,0.3s						
GHVR	**GHOM**	**2.21**	**202**	*e*Pg	**Pb**	**21 00 01.8**	**0.0**
IRAZ	**Razeghan**	**2.23**	**240**	*e*Pn	**Pn**	**21 00 00.4**	**+1.5**
IRAZ				*e*		21 00 37.1	
	comp=Z,734nm,0.4s						
QABG	**Abgarm-Qazvin**	**2.35**	**250**	*e*Pn	**Pn**	**21 00 00.9**	**+0.3**
KRSH	**Karshahi**	**2.56**	**183**	*e*Pn	**Pn**	**21 00 04.3**	**+0.9**
KRSH				*e*		21 00 46.0	
	comp=Z,635nm,0.5s						
ASAO	**Ashtian**	**2.72**	**224**	*e*Pn	**Pn**	**21 00 07.8**	**+2.2**
CSN1	**Caspian**	**2.77**	**293**	*e*Pn	**Pn**	**21 00 07.4**	**+1.4**
QAMS	**Qamsar**	**2.89**	**195**	*e*	**Pb**	**21 00 13.2**	**-0.2**
	comp=Z,443nm,0.4s						
ZNJK	**Zanjan**	**2.92**	**274**	*e*Pn	**Pb**	**21 00 12.0**	**-1.9**
SHRO	**Shahrood**	**3.04**	**99**	*e*Pn	**Pn**	**21 00 12.8**	**+2.8**
IKLH	**Kolahrood**	**3.27**	**191**	*e*Pn	**Pn**	**21 00 14.3**	**+1.2**
IKLH				*e*		21 00 23.2	
	comp=Z,239nm,0.2s						
ASTR	**Astara**	**3.45**	**307**	S	**Sn**	**21 00 54.0**	**-2.2**
LRK	**Lerik**	**3.79**	**305**	P	**Pn**	**21 00 21.4**	**+1.1**
	SNR=7.6						
LRK				S	**Sn**	**21 01 03.2**	**-1.8**
HSAM	**Samen**	**3.81**	**234**	*e*Pn	**Pn**	**21 00 22.9**	**+2.2**
YRD	**Yardimli**	**4.00**	**308**	P	**Pn**	**21 00 23.5**	**+0.3**
	SNR=4.3						
YRD				S	**Sn**	**21 01 07.9**	**-2.3**
GLBA	**Clilabad**	**4.11**	**312**	P	**Pn**	**21 00 25.5**	**+1.0**
GLBA				S	**Sn**	**21 01 11.5**	**-1.1**
YZKH	**Yazd**	**4.55**	**155**	*e*Pn	**Pn**	**21 00 32.2**	**+1.6**
GBS	**Qobustan**	**4.78**	**328**	S	**Sn**	**21 01 28.6**	**-0.7**
TABS	**Tabas**	**4.89**	**125**	*e*Pn	**Pn**	**21 00 37.7**	**+2.4**
QRD	**Qoradiz**	**4.90**	**308**	S	**Sn**	**21 01 32.3**	**+0.2**
BLQ	**Beylaqan**	**4.91**	**312**	P	**Pn**	**21 00 36.4**	**+0.9**
BLQ				S	**Sn**	**21 01 32.5**	**+0.2**
TKDS	**Koohdasht(Taba**	**4.91**	**125**	*e*Pn	**Pn**	**21 00 37.8**	**+2.2**
KDMR	**Kurdemir**	**5.01**	**321**	S	**Sn**	**21 01 34.9**	**0.0**
ATGJ	**Altiaghaj**	**5.06**	**330**	S	**Sn**	**21 01 36.4**	**+0.2**
PQL	**Pirkuli**	**5.14**	**327**	P	**Pn**	**21 00 40.7**	**+1.8**
	SNR=10						
PQL				S	**Sn**	**21 01 38.6**	**+0.2**
ZRD	**Zardab**	**5.21**	**317**	P	**Pn**	**21 00 41.0**	**+1.4**
ZRD				S	**Sn**	**21 01 39.4**	**-0.3**
SIZA	**Siyzn**	**5.25**	**331**	P	**Pn**	**21 00 41.9**	**+1.5**
SIZA				S	**Sn**	**21 01 40.2**	**-0.8**
IML	**Ismayilli**	**5.34**	**324**	P	**Pn**	**21 00 42.3**	**+0.9**
IML				S	**Sn**	**21 01 41.3**	**-1.6**
BRDA	**Brd**	**5.48**	**314**	P	**Pn**	**21 00 45.5**	**+2.2**
BRDA				S	**Sn**	**21 01 45.3**	**-1.2**
ORD	**Ordubad**	**5.54**	**297**	P	**Pn**	**21 00 46.0**	**+1.7**
ORD				S	**Sn**	**21 01 48.4**	**+0.4**
QBL	**Gabala**	**5.62**	**323**	P	**Pn**	**21 00 48.6**	**+3.3**
QBL				S	**Sn**	**21 01 47.6**	**-2.3**
QUBA	**Quba, Azerbaij**	**5.66**	**329**	P	**Pn**	**21 00 47.1**	**+1.3**
QUBA				S	**Sn**	**21 01 49.8**	**-1.0**
XNQ	**Khinaliq**	**5.66**	**326**	P	**Pn**	**21 00 47.0**	**+1.0**
XNQ				S	**Sn**	**21 01 49.3**	**-1.7**
QSAR	**Qusar**	**5.88**	**329**	P	**Pn**	**21 00 50.8**	**+1.9**
QSAR				S	**Sn**	**21 01 56.5**	**+0.1**
SEKA	**Sheki**	**6.13**	**321**	P	**Pn**	**21 00 53.3**	**+0.9**
	SNR=7.3						
SEKA				S	**Sn**	**21 02 01.0**	**-1.7**
GANJ	**Ganja**	**6.23**	**313**	P	**Pn**	**21 00 54.3**	**+0.7**
GANJ				S	**Sn**	**21 02 02.4**	**-2.5**
GDB	**GEDABAY**	**6.61**	**311**	P	**Pn**	**21 01 01.1**	**+2.1**
	SNR=8.1						
GDB				S	**Sn**	**21 02 13.6**	**-1.0**
ZKTA	**Zakatala**	**6.74**	**321**	P	**Pn**	**21 01 02.3**	**+1.6**
	SNR=3.2						
ZKTA				S	**Sn**	**21 02 17.0**	**-0.5**

IDC 29 21:06:13.8±3.0,**30°.64S×177°.78W,h0**km,**mb3.4**/2,
mb1 3.8/3,**mb1mx3.3**/35,**mbtmpg3.6**/3,**ML3.0**/1,**Error ellipse: s-maj=69.5km s-min=23.2km az=106.0,**
Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.39**	**355**	Pn	Pg	21 06 40.0	-0.4
	76nm,0.3s,baz=43,slow=22,SNR=2.4						
RAO				Sn	Sn	21 06 59.5	+0.1
	81nm,0.3s,baz=230,slow=24,SNR=2.7						
URZ	**Urewera**	**8.69**	**208**	Pn	Pn	21 08 19.2	-1.6
	0.2nm,0.3s,baz=32,slow=8.1,SNR=2.4						
URZ				Sn	Sn	21 09 55.1	-4.4
	0.3nm,0.3s,baz=177,slow=20,SNR=0.9						
ASAR	**Alice Springs**	**43.29**	**267**	P	P	21 14 17.8	+0.3
	0.2nm,0.8s,baz=113,slow=8.2,SNR=1.7						
WRA	**Warramunga Arr**	**44.30**	**272**	P	P	21 14 25.6	0.0
	0.4nm,0.3s,baz=115,slow=8.4,SNR=15						
FINES	**FINESS Array B**	**145.44**	**340**	PKPbc	PKPbc	21 25 52.3	-0.7
	0.7nm,0.6s,baz=46,slow=4.0,SNR=5.2						

*NEIC **29** 21:17:20.3±0.8,18°.4S±0°.1×177°.8W±0°.2,h585km±12km,*
mb4.2/21,Error ellipse: s-maj=23.7km s-min=19.8km az=112.0
*IDC **29** 21:17:22.3±2.3,18°.46S×178°.10W,h592km±20km,mb3.2/8,*
mb1 3.4/10,mb1mx3.0/55,mbtmp4.2/10,Error ellipse: s-maj=57.4km s-min=20.5km az=149.0
ISC 29 21:17:19.1±0.8,**18°.4S**±0°.1×**178°.0W**±0°.1,**h557**km,**n37**,
σ1°**02**/37,**mb4.1**/18,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.78**	**279**	P	P	21 18 45.1	+5.1
	5.7nm,0.3s,baz=129,slow=12,SNR=23						
MSVF	**Nonsavu**	**3.78**	**279**	P	P	21 18 44.9	+5.0
PINNC	**Pines Island,**	**14.25**	**250**	P	**P**	**21 20 19.5**	**-1.3**
DZM	**Mont Dzumac**	**15.03**	**253**	P	**P**	**21 20 31.3**	**+2.4**
	0.2nm,0.3s,baz=116,slow=20,SNR=1.4						
KNTN	**Kanton**	**16.67**	**23**	P	**P**	**21 20 43.4**	**-1.3**
BFZ	**Birch Farm**	**22.79**	**191**	P	**P**	**21 21 41.1**	**+1.4**
CTA	**Charters Tower**	**33.73**	**261**	P	**P**	**21 23 15.5**	**+0.5**
	3.3nm,0.5s,baz=76,slow=12,SNR=5.7						
CTAO	**Charters Tower**	**33.73**	**261**	P	**P**	**21 23 15.6**	**+0.5**
CTAO				IAmb	IAmb	21 23 16.4	
	comp=Z,7.5nm,0.9s						
TOO	**Toolangi**	**37.17**	**231**	P	**P**	**21 23 43.9**	**+0.6**
TOO				IAmb	IAmb	21 23 50.1	
	comp=Z,4.2nm,0.9s						
COEN	**Coen**	**37.47**	**271**	P	**P**	**21 23 46.8**	**+0.8**
COEN				IAmb	IAmb	21 23 59.2	
	comp=Z,7.0nm,1.0s						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**21 23 56.9**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=92,slow=9.3,SNR=9.3						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**21 23 56.9**	**+0.8**
BBOO	**Buckleboo**	**43.51**	**241**	P	**P**	**21 24 32.2**	**-1.7**
WR0	**Warramunga Arr**	**44.72**	**260**	P	**P**	**21 24 43.3**	**-0.1**
WR0				IAmb	IAmb	21 24 47.3	
	comp=Z,4.0nm,1.1s						
WB0	**Warramunga Arr**	**44.87**	**260**	P	**P**	**21 24 44.7**	**0.0**
WB0				IAmb	IAmb	21 24 47.8	
	comp=Z,6.9nm,1.1s						
WB2	**Warramunga Arr**	**44.89**	**260**	P	**P**	**21 24 44.6**	**-0.1**
WB2				IAmb	IAmb	21 24 45.2	
	comp=Z,4.1nm,0.6s						
WRAB	**Tennant Creek**	**44.90**	**260**	P	**P**	**21 24 44.5**	**-0.3**
WRAB				IAmb	IAmb	21 24 45.1	
	comp=Z,5.8nm,1.0s						
WRA	**Warramunga Arr**	**44.91**	**260**	P	**P**	**21 24 44.6**	**-0.3**
	comp=Z,2.4nm,0.4s,baz=98,slow=7.0,SNR=101						
WRA				PcP	**PcP**	**21 26 13.5**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=96,slow=3.3,SNR=2.4						
WRA	**Warramunga Arr**	**44.91**	**260**	P	**P**	**21 24 44.7**	**-0.2**
AS31	**Alice Springs**	**45.02**	**255**	P	**P**	**21 24 45.9**	**+0.2**
ASAR	**Alice Springs**	**45.02**	**255**	P	**P**	**21 24 45.8**	**0.0**
	comp=Z,4.1nm,0.4s,baz=91,slow=8.1,SNR=80						
ASAR				PcP	**PcP**	**21 26 13.8**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=105,slow=3.5,SNR=5.7						
ASAR	**Alice Springs**	**45.02**	**255**	P	**P**	**21 24 45.1**	**-0.6**
MTN	**Manton Dam**	**49.15**	**269**	P	**P**	**21 25 16.7**	**-0.1**
MTN				IAmb	IAmb	21 25 25.4	
	comp=Z,5.5nm,1.1s						
FORT	**Forrest**	**50.14**	**245**	P	**P**	**21 25 23.4**	**-0.5**
SIJI	**Sorong**	**52.69**	**283**	P	**P**	**21 25 43.0**	**+0.4**
	comp=Z,6.4nm,0.4s,baz=33,slow=22,SNR=5.0						
FITZ	**Fitzroy Crossi**	**53.31**	**261**	P	**P**	**21 25 46.7**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=52,slow=6.3,SNR=13						
PSA00	**Pilbara Seismi**	**58.15**	**256**	P	**P**	**21 26 19.7**	**-0.6**
MBWA	**Marble Bar**	**58.31**	**256**	P	**P**	**21 26 20.6**	**-0.8**
JMZ	**Minamidaito 2**	**66.04**	**310**	P	**P**	**21 27 09.8**	**-1.5**
JGF	**Kuroka**	**68.31**	**322**	P	**P**	**21 27 27.0**	**+1.9**
JGF				IAmb	IAmb	21 27 27.7	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**71.70**	**180**	P	**P**	**21 27 44.1**	**-0.8**
SSLB	**Suanglung**	**72.78**	**303**	P	**P**	**21 27 50.8**	**-0.9**
SSLB				IAmb	IAmb	21 28 09.0	
	comp=Z,9.8nm,1.1s						
TPUB	**Ta-pu**	**72.80**	**302**	P	**P**	**21 27 51.1**	**-0.8**
TPUB				IAmb	IAmb	21 28 07.3	
	comp=Z,14nm,1.1s						
TXAR	**Lajitas Array**	**85.93**	**57**	P	**P**	**21 29 01.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=241,slow=7.0,SNR=4.3						
ILAR	**Eielson Array**	**86.24**	**13**	P	**P**	**21 29 03.8**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=188,slow=5.5,SNR=2.2						
CLL	**Collm**	**145.97**	**348**	*e*PKPbc	**PKPbc**	**21 35 56.0**	**-0.6**
GERES	**GERESS Array B**	**148.13**	**345**	PKPbc	**PKPbc**	**21 36 01.5**	**-1.1**
	comp=Z,0.1nm,0.2s,baz=352,slow=5.4,SNR=3.5						

*NCEDC **29** 21:19:34.2±1.2,37°.73N±0°.04×122°.13W±0°.06,h4km±2km,*
Md2.9/115,ML2.7/44(NEIC),Error ellipse: s-maj=9.5km s-min=2.3km az=55.0
NEIC 29 21:19:34.4±1.3,**37°.69N**±0°.03×**122°.17W**±0°.06,**h10**km±5km,
Error ellipse: s-maj=8.4km s-min=1.3km az=55.0,
Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C055	**Cottonwood Ave**	**0.06**	**125**		Pg	21 19 36.1	-0.5
BKS	**Berkeley--Byer**	**0.19**	**345**		Pg	21 19 38.2	-0.3
BKS					Sg	21 19 41.6	+0.3
BL67	**Building 67, L**	**0.19**	**341**		Pg	21 19 38.2	-0.4
BL67					Sg	21 19 41.7	+0.2
BRK	**Berkeley--Havi**	**0.19**	**339**		Pg	21 19 38.2	-0.4
BRK					Sg	21 19 41.6	+0.2
VAK	**Adit at Lawren**	**0.19**	**342**		Pg	21 19 38.3	-0.3
VAK					Sg	21 19 41.7	+0.3
JRSC	**Jasper Ridge**	**0.29**	**190**		Pb	21 19 41.3	-0.5
WENL	**Wente Vineyard**	**0.34**	**102**		Pg	21 19 41.7	+0.5
BDM	**Black Diamond**	**0.36**	**43**		Pg	21 19 41.5	0.0
MHC	**Mount Hamilton**	**0.55**	**130**		Pg	21 19 45.2	0.0
FARB	**Farallon Islan**	**0.66**	**271**		Pb	21 19 47.7	-0.3
COSM	**Mount Oso**	**0.66**	**106**		Pg	21 19 47.5	+0.2
CVS	**Carmenet Viney**	**0.69**	**341**		Pg	21 19 47.3	-0.5
MCCM	**Marconi Confer**	**0.72**	**309**		Pg	21 19 47.9	-0.4
MCCM					Sb	21 19 59.3	+0.4
MCCM				IAML		21 20 01.8	
	comp=E,502nm,0.7s						
GHS	**Gilroy Hot Spr**	**0.83**	**136**		Pg	21 19 50.3	-0.2
HCOM	**Corn Cob Canyo**	**0.89**	**155**		Pg	21 19 51.6	+0.1
HFEM	**San Felipe**	**0.94**	**139**		Pg	21 19 52.6	+0.1
PACP	**Pacheco Peak**	**0.98**	**134**		Pg	21 19 53.2	-0.2
HSFM	**Saint Francis**	**1.03**	**148**		Pb	21 19 54.5	+0.1
SAO	**San Andreas Ge**	**1.09**	**148**		Pb	21 19 54.8	-0.6
MNRC	**McLaughlin Min**	**1.20**	**350**		Pb	21 19 55.7	-1.6
GDXM	**Geysers**	**1.22**	**337**		Pn	21 19 56.3	-1.2
GSGM	**Seigler Mounta**	**1.25**	**340**		Pn	21 19 57.6	-0.2
BLRM	**Lewis Ranch**	**1.25**	**145**		Pn	21 19 57.3	-0.7
SCZ	**Santa Cruz**	**1.25**	**150**		Pn	21 19 56.5	-1.5
BJCM	**Johnson Can.**	**1.30**	**151**		Pn	21 19 57.1	-1.6
HAST	**Hastings Reser**	**1.39**	**159**		Pn	21 19 58.5	-1.4
BBGB	**Big Mountain B**	**1.44**	**140**		Pn	21 19 59.3	-1.2
BSMM	**Soledad Missio**	**1.44**	**155**		Pn	21 19 59.8	-0.8
CMB	**Columbia Colle**	**1.46**	**76**		Pn	21 19 59.3	-1.5
PMPB	**Monarch Peak**	**1.84**	**143**		Pn	21 20 06.0	-0.1
PMPB				IAML		21 20 52.6	
	comp=E,58nm,2.6s						
ORV	**Oroville**	**1.93**	**16**	Pn	Pn	21 20 05.1	-2.2
EMB	**Emerald Bay**	**2.07**	**51**		Pn	21 20 09.6	+0.2
RUBR	**Rubicon Trail**	**2.09**	**49**	Pn	Pn	21 20 10.5	+0.9
RUBR				IAML		21 20 52.6	
	comp=E,64nm,0.8s						
KCPM	**Cahto Peak**	**2.27**	**331**	Pn	Pn	21 20 11.6	-0.5
KCPM				IAML		21 21 08.1	
	comp=N,60nm,2.1s						
MPK	**Martis Peak**	**2.32**	**46**	Pn	Pn	21 20 13.5	+0.6
MPK				IAML		21 21 01.0	
	comp=E,63nm,0.8s						
MDPB	**Devils Postpil**	**2.46**	**90**		Pn	21 20 15.1	+0.3
MDPB				IAML		21 20 57.4	
	comp=N,23nm,0.8s						
MDPB				IAML		21 20 59.3	
	comp=E,18nm,0.7s						
PNTR	**Pine Nut**	**2.46**	**55**		Pn	21 20 13.9	-0.8
PNTR				IAML		21 21 05.5	
	comp=E,49nm,1.1s						
PNTR				IAML		21 21 09.8	
	comp=N,32nm,1.1s						
PAGB	**Antelope Grade**	**2.50**	**141**	Pn	Pn	21 20 13.5	-1.6
PAGB				IAML		21 20 46.2	
	comp=E,35nm,4.5s						
PAGB				IAML		21 21 09.0	
	comp=N,22nm,2.6s						
OMMB	**Old Mammoth Mi**	**2.52**	**91**		Pn	21 20 15.7	0.0
O02D	**Mt. Diablo Mer**	**2.53**	**349**	Pn	Pn	21 20 15.4	-0.1
VCNR	**Virginia City**	**2.55**	**50**	Pn	Pn	21 20 15.7	-0.2
VCNR				IAML		21 20 57.8	
	comp=E,25nm,0.8s						
VCNR				IAML		21 21 09.2	
	comp=N,26nm,0.7s						
BEKR	**Beckworth**	**2.59**	**33**		Pn	21 20 16.8	+0.2
BEKR				IAML		21 20 52.3	
	comp=E,18nm,0.7s						
BEKR				IAML		21 20 54.4	
	comp=N,20nm,0.6s						
YERR	**Yerington**	**2.64**	**60**		Pn	21 20 17.4	+0.1
YERR				IAML		21 20 59.0	
	comp=E,44nm,0.9s						
YERR				IAML		21 21 03.0	
	comp=N,40nm,1.0s						
LHV	**Little Huntoon**	**2.95**	**78**		P

PB08			*i* S		**Sn**	**21 23 56.5**	**+0.5**
PB08	**IPOC Station P**	**2.52 324**	P		**Pn**	**21 23 23.8**	**+1.4**
PATCX	**Punta Patache**	**2.77 299**	*e*P		**Pn**	**21 23 25.4**	**+0.4**
PATCX			*i* S		**Sn**	**21 23 58.9**	**-1.7**
PATCX			IAML			21 24 00.9	
	comp=E,216nm,0.3s						
HMBC	**Humberstone**	**2.88 311**	*e*P		**Pn**	**21 23 26.1**	**-0.3**
HMBC			*i* S		**Sn**	**21 24 01.5**	**-1.6**
HMBC			IAML			21 24 03.7	
	comp=E,194nm,0.6s						
TA01	**Diego Aracena**	**2.93 303**	*e*P		**Pn**	**21 23 26.4**	**-0.4**
TA01			*i* S		**Sn**	**21 24 01.9**	**-1.9**
TA01			IAML			21 24 03.6	
	comp=E,173nm,0.1s						
GO01	**Chusmiza**	**2.94 329**	*e*P		**Pn**	**21 23 28.3**	**+0.9**
GO01			*i* S		**Sn**	**21 24 05.7**	**+0.8**
GO01			IAML			21 24 09.3	
	comp=N,213nm,0.1s						
PB10	**IPOC Station P**	**3.05 244**	P		**Pn**	**21 23 28.3**	**+0.1**
PB11	**IPOC Station P**	**3.11 321**	*e*P		**Pn**	**21 23 29.2**	**-0.1**
PB11			*i* S		**Sn**	**21 24 06.8**	**-1.3**
PB11			IAML			21 24 08.9	
	comp=E,200nm,0.2s						
PB11	**IPOC Station P**	**3.11 321**	P		**Pn**	**21 23 29.1**	**-0.1**
PB11			IAML			21 24 08.8	
	comp=E,80nm,0.2s						
GO02	**Mina Guanaco**	**3.49 212**	*i*P		**Pn**	**21 23 34.5**	**+0.6**
GO02			*i* S		**Sn**	**21 24 15.5**	**-1.3**
PB16	**IPOC Station P**	**4.25 334**	*e*P		**Pn**	**21 23 44.9**	**+0.9**
PB16			*i* S		**Sn**	**21 24 33.2**	**-1.4**
PB16	**IPOC Station P**	**4.25 334**	P		**Pn**	**21 23 45.0**	**+1.0**
BBOE	**La Paz, Chanca**	**5.37 356**	P		**Pn**	**21 24 00.1**	**+1.6**
BBOD	**La Paz, Gloria**	**5.62 350**	P		**Pn**	**21 24 03.3**	**+1.7**
LPAZ	**La Paz**	**5.90 355**	P		**Pn**	**21 24 06.6**	**+1.1**

IDC 29 21:23:10.1±1.4, 4°39S×125°99E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.3/49, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=51.9km s-min=24.5km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.25**	**264**	Pn		Pn	21 24 43.8	+0.1
	1.6nm,0.3s,baz=117,slow=9.3,SNR=9.8						
WRA	**Warramunga Arr**	**17.47**	**153**	P		Pn	21 27 15.7	+0.3
	0.0nm,0.3s,baz=330,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**20.63**	**159**	P		P	21 27 50.8	-0.6
	0.7nm,0.6s,baz=329,slow=9.7,SNR=8.5						
MKAR	**Makanchi Array**	**63.89**	**328**	P		P	21 33 45.2	+0.4
	0.9nm,0.6s,baz=123,slow=5.5,SNR=10						
KURBB	**Kurchatov Arra**	**68.23**	**330**	P		P	21 34 12.4	-0.2
	0.8nm,0.7s,baz=130,slow=5.7,SNR=9.1						

TAP 29 21:24:44.4, 24°21N×121°76E, h13km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.10**	**349**	*e*P		Pg	21 24 46.9	-0.4
	baz=353						
ETL	**Fush Village**	**0.14**	**248**	*i* P		Pg	21 24 48.0	+0.2
	baz=249						
ETL				*i* S		Sg	21 24 50.7	+0.5
	baz=249						
NACB	**Ninganchiao**	**0.16**	**257**	*i* P		Pg	21 24 48.2	+0.2
	baz=250						
NACB				S		Sg	21 24 51.0	+0.3
	baz=250						
TWD	**Chiawan**	**0.20**	**230**	*e*P		Pg	21 24 49.1	+0.3
	baz=235						
ENA	**Nanau**	**0.22**	**355**	P		Pg	21 24 49.2	+0.1
	baz=356						
ENA				*e*S		Sg	21 24 52.7	+0.4
	baz=356						
EWUT	**Wuta**	**0.23**	**4**	P		Pg	21 24 49.5	+0.2
	baz=3.0						
EWUT				S		Sg	21 24 53.2	+0.5
	baz=3.0						
ETLH	**Xiulin Townshi**	**0.26**	**269**	P		Pg	21 24 50.2	+0.4
	baz=270						
ETLH				S		Sb	21 24 54.6	-0.7
	baz=270						
LATG	**Datong**	**0.39**	**326**	*e*P		Pg	21 24 52.6	+0.4
	baz=326						
LATG				*e*S		Sb	21 24 58.8	-0.4
	baz=326						
TWC	**Suao**	**0.41**	**11**	*e*P		Pg	21 24 52.5	+0.1
	baz=12						
NNSB	**Datong**	**0.41**	**302**	*e*P		Pg	21 24 53.0	+0.5
	baz=303						
NDS	**Dongshan**	**0.42**	**354**	*e*P		Pb	21 24 53.3	-0.4
	baz=354						
NDS				*e*S		Sb	21 24 59.4	-0.8
	baz=354						
ENTT	**Nioudou**	**0.46**	**337**	*e*P		Pb	21 24 54.1	-0.4
	baz=338						
ENTT				S		Sb	21 25 00.6	-0.7
	baz=338						
CHGB	**Renai**	**0.56**	**255**	*e*P		Pb	21 24 56.1	0.0
	baz=251						
FUSB	**Fushanzhiwuyua**	**0.57**	**344**	*e*P		Pb	21 24 56.1	-0.2
	baz=344						
FUSB				*e*S		Sb	21 25 03.9	-0.5
	baz=344						
NSK	**Sanguang**	**0.59**	**322**	*e*P		Pg	21 24 56.3	+0.3
	baz=322						
OWD	**Renai**	**0.59**	**245**	*e*P		Pb	21 24 57.1	+0.4
	baz=245						
NWLT	**Wulai**	**0.61**	**337**	*e*P		Pg	21 24 56.4	+0.1
	baz=337						
NWLT				*e*S		Sb	21 25 05.5	-0.1
	baz=337						
WUSB	**Renai**	**0.63**	**250**	*e*P		Pb	21 24 57.5	+0.2
	baz=243						

IDC 29 21:26:09.9±1.3, 22°09N×142°82E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.2/58, mbtmp3.6/4, Error ellipse: s-maj=96.1km s-min=26.7km az=99.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.59**	**192**	P		P	21 34 08.0	+0.1
	0.5nm,0.4s,baz=16,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**46.30**	**191**	P		P	21 34 37.2	-0.3
	0.2nm,0.6s,baz=12,slow=7.9,SNR=4.5						
YKA	**Yellowknife Ar**	**76.27**	**28**	P		P	21 38 00.7	+0.5
	0.2nm,0.5s,baz=293,slow=5.7,SNR=3.7						
FINES	**FINESS Array B**	**82.68**	**334**	P		P	21 38 34.7	-0.5
	1.7nm,0.9s,baz=60,slow=6.7,SNR=4.6						

*IDC **29** 21:29:29.3±1.1, 37°78N×135°60E, h346km±14km, mb3.0/8, mb1 3.2/12, mb1mx2.9/64, mbtmp3.8/12, Error ellipse: s-maj=19.8km s-min=14.8km az=98.0*

*NEIC **29** 21:29:30.4±2.5, 37°63N±0°04×135°50E±0°10, h360km±9km, mb4.0/15, Error ellipse: s-maj=12.0km s-min=1.9km az=65.0*

*JMA **29** 21:29:30.0±0.3, 37°65N×135°53E, h354km±3km, M3.3*

ISC 29 21:29:29.9±0.6, 37°66N±0°07×135°70E±0°08, h365km, n56, σ1§50/57, mb3.7/16, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHG	**Hegura jima**	**0.98**	**79**	P		**Pn**	**21 30 16.8**	**-0.3**
JSZ	**Suzu**	**1.34**	**99**	P		**Pn**	**21 30 18.5**	**-0.1**
JKG	**Kaga**	**1.47**	**160**	P		**Pn**	**21 30 18.7**	**-0.7**
JTT	**Ttatey**	**1.68**	**129**	P		**Pn**	**21 30 20.5**	**-0.1**
JSD	**Sado**	**2.06**	**79**	P		**Pn**	**21 30 23.0**	**+0.1**
JSD	**Sado**	**2.06**	**79**	Pn		**Pn**	**21 30 23.0**	**+0.1**
JKY	**Yasaka**	**2.09**	**194**	P		**Pn**	**21 30 22.5**	**-0.8**
JKSM	**Kasumi**	**2.23**	**202**	P		**Pn**	**21 30 23.2**	**-1.1**
MJB9	**Matsu-Tunnel**	**2.29**	**118**			**Pn**	**21 30 24.9**	**+0.2**
JNG	**Nsakai**	**2.29**	**122**	P		**Pn**	**21 30 25.1**	**+0.3**
MAJO	**Matsushiro**	**2.29**	**118**			**Pn**	**21 30 25.0**	**+0.3**
MAT	**Matsushiro**	**2.29**	**118**	P		**Pn**	**21 30 24.9**	**+0.2**
MJAR	**Matsushiro Arr**	**2.30**	**118**	P		**Pn**	**21 30 24.1**	**-0.6**
	1.1nm,0.3s,baz=302,slow=9.4,SNR=55						
MJAR	**Matsushiro Arr**	**2.30**	**118**			**Pn**	**21 30 24.7**	**-0.1**
JWT	**Wachi**	**2.39**	**186**	P		**Pn**	**21 30 24.7**	**-0.7**
JWT				S		**S**	**21 31 07.8**	**-2.3**
JOI	**OKI**	**2.40**	**236**	P		**Pn**	**21 30 23.7**	**-1.7**
JGF	**Kuroka**	**2.45**	**147**			**Pn**	**21 30 26.5**	**+0.5**
INU	**Inuyama**	**2.54**	**155**	Pn		**Pn**	**21 30 26.2**	**-0.4**
JHS	**Saijyo**	**3.38**	**219**			**Pn**	**21 30 32.8**	**-1.1**
JYT	**Yasato**	**3.87**	**110**	Pn		**Pn**	**21 30 38.1**	**-0.4**
JMM	**Marumori**	**4.04**	**86**	Pn		**Pn**	**21 30 41.7**	**+1.6**
JTM	**Tenmabayashi**	**5.20**	**52**	Pn		**Pn**	**21 30 53.9**	**+1.6**
JNU	**Nakatsue**	**6.00**	**222**	P		**Pn**	**21 31 00.1**	**-1.3**
	1.2nm,0.3s,baz=55,slow=11,SNR=10.0						
JNU	**Nakatsue**	**6.00**	**222**			**Pn**	**21 31 00.5**	**-0.8**
ERM	**Erimo**	**7.20**	**51**	Pn		**Pn**	**21 31 15.8**	**+1.2**
ERM				Sn		**S**	**21 32 37.6**	**-2.6**
JSU	**Suzuyama**	**7.51**	**217**	Pn		Pn	21 31 13.7	-5.0
ASAJ	**Asahikawa**	**8.29**	**37**	P		**Pn**	**21 31 27.2**	**-0.3**
	4.1nm,0.3s,baz=232,slow=11,SNR=19						
ASAJ				S		**S**	**21 32 58.9**	**-4.9**
	0.9nm,0.3s,baz=252,slow=3.8,SNR=1.6						
JKA	**Kamikawa-asahi**	**8.29**	**37**			**Pn**	**21 31 27.8**	**+0.2**
KLR	**Kul'dur**	**11.91**	**347**	P		**P**	**21 32 09.6**	**0.0**
	0.3nm,0.3s,baz=166,slow=9.7,SNR=6.8						
SONM	**Songino Array**	**23.67**	**305**	P		**P**	**21 34 08.9**	**-1.1**
	0.4nm,0.5s,baz=108,slow=9.3,SNR=3.8						
SONM	**Songino Array**	**23.67**	**305**	IAmb	IAmb	21 34 52.9	
	comp=Z,5.8nm,2.0s						
MK31	**Makanchi Array**	**39.91**	**301**	P		**P**	**21 36 29.6**	**-0.1**
MKAR	**Makanchi Array**	**39.91**	**301**	P		**P**	**21 36 29.7**	**0.0**
	comp=Z,0.5nm,0.5s,baz=86,slow=11,SNR=9.1						
MKAR	**Makanchi Array**	**39.91**	**301**	P		**P**	**21 36 29.6**	**-0.1**
MAKZ	**Makanchi**	**40.12**	**301**	P		**P**	**21 36 31.3**	**-0.2**
MAKZ				IAmb	IAmb	21 37 45.3	
	comp=Z,5.3nm,1.2s						
KURBB	**Kurchatov Arra**	**42.01**	**307**	P		**P**	**21 36 46.2**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=85,slow=8.3,SNR=9.4						
N18K	**Kilae Creek**	**47.67**	**38**	P		**P**	**21 37 28.1**	**-2.5**
N18K				IAmb	IAmb	21 37 47.6	
	comp=Z,24nm,1.7s						
GAR	**Garm**	**50.29**	**293**	P		**P**	**21 37 51.1**	**+0.5**
GAR				IAmb	IAmb	21 38 46.1	
	comp=Z,21nm,1.9s						
ILAR	**Eielson Array**	**51.40**	**32**	P		**P**	**21 37 58.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=295,slow=6.9,SNR=1.6						
ARU	**Arti**	**52.84**	**317**	P		**P**	**21 38 09.9**	**+1.0**
ARU				IAmb	IAmb	21 38 10.4	
	comp=Z,4.1nm,0.6s						
L27K	**Beaver Creek,**	**53.91**	**34**	P		**P**	**21 38 20.9**	**+4.4**
L27K				IAmb	IAmb	21 38 22.0	
	comp=Z,15nm,1.8s						
BCAR	**Beaver Creek A**	**53.93**	**34**	P		**P**	**21 38 21.3**	**+4.6**
ABKAR	**Akbulak array**	**54.02**	**308**	P		**P**	**21 38 18.0**	**+0.6**
ABKAR	**Akbulak array**	**54.02**	**308**	P		**P**	**21 38 18.0**	**+0.6**
ABKAR				IAmb	IAmb	21 38 18.8	
	comp=Z,1.7nm,0.8s						
WB0	**Warramunga Arr**	**57.14**	**181**	P		**P**	**21 38 38.6**	**-1.1**
WB0				IAmb	IAmb	21 40 43.9	
	comp=Z,10.0nm,1.3s						
WRAB	**Tennant Creek**	**57.30**	**182**	P		**P**	**21 38 39.1**	**-1.8**
WB2	**Warramunga Arr**	**57.31**	**182**	P		**P**	**21 38 42.6**	**+1.7**
WB2				IAmb	IAmb	21 40 14.8	
	comp=Z,17nm,1.6s						
WRA	**Warramunga Arr**	**57.31**	**182**	P		**P**	**21 38 42.8**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=356,slow=7.5,SNR=8.1						
WRA	**Warramunga Arr**	**57.31**	**182**	P		**P**	**21 38 42.4**	**+1.4**
WR0	**Warramunga Arr**	**57.33**	**181**	P		**P**	**21 38 42.7**	**+1.7**
WR0				IAmb	IAmb	21 39 52.5	
	comp=Z,18nm,1.6s						
KBS	**Kingsbay**	**59.22**	**349**	P		**P**	**21 38 53.4**	**+0.2**
ARCES	**ARCESS Array B**	**61.76**	**338**	P		**P**	**21 39 10.4**	**+0.1**
	comp=Z,3nm,0.9s,baz=50,slow=8.4,SNR=1.7						
FINES	**FINESS Array B**	**66.08**	**330**	P		**P**	**21 39 39.1**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=72,slow=6.2,SNR=7.2						
FINES	**FINESS Array B**	**66.08**	**330**	P		**P**	**21 39 39.3**	**+1.0**
NC204	**NORSAR Array S**	**71.75**	**335**	P		**P**	**21 40 13.4**	**+0.4**
NOA	**NORSAR Array B**	**71.77**	**335**	P		**P**	**21 40 14.1**	**+1.0**
	comp=Z,1.1nm,1.1s,baz=50,slow=6.2,SNR=1.7						

*JMA **29** 21:51:54.9±0.3, 23°21N×121°87E, h33km, M2.7*

*TAP **29** 21:51:55.7, 23°14N×121°79E, h39km, ML2.9, C*

ISC 29 21:51:53.6±1.1, 23°15N±0°02×121°86E±0°02, h20km±6km, n99, σ1§10/185, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBN	**Changbin**	**0.41**	**294**	*i* P		**Pn**	**21 52 03.9**	**-0.6**
	baz=299						
ECBN				*i* S		**Sn**	**21 52 09.9**	**-1.6**
	baz=299						
CHKT	**Chengkung**	**0.46**	**264**	*i* P		**Pn**	**21 52 04.3**	**-0.8**
	baz=266						
CHKT				S		**Sn**	**21 52 10.5**	**-2.1**
	baz=266						
FULB	**Fuli**	**0.53**	**276**	P		**Pn**	**21 52 05.1**	**-0.9**
	baz=278						
FULB				S		**Sb**	**21 52 12.2**	**+0.7**
	baz=278						
HGSD	**Ruisui**	**0.53**	**310**	P		**Pn**	**21 52 05.0**	**-1.1**
	baz=319						
HGSD				*e*S		**Sb**	**21 52 11.7**	**+0.2**
	baz=319						
EYUL	**Yuli**	**0.54**	**292**	*i* P		**Pn**	**21 52 05.7**	**-0.4**
	baz=291						
EYUL				S		**Sn**	**21 52 12.8**	**-1.8**
	baz=291						
EDH	**Donghe**	**0.54**	**251**	P		**Pn**	**21 52 05.6**	**-0.6**
	baz=250						
EDH				S		**Sn**	**21 52 12.8**	**-1.9**
	baz=250						
TWF1	**Yuli**	**0.56**	**291**	P		**Pn**	**21 52 05.8**	**-0.6**
	baz=291						
TWF1				S		**Sn**	**21 52 13.4**	**-1.8**
	baz=291						
YULB	**Yu-li**	**0.57**	**295**	P		**Pn**	**21 52 06.1**	**-0.5**
	baz=296						
YULB				*e*S		**Sn**	**21 52 14.2**	**-1.3**
	baz=296						
ECS	**Chishang**	**0.59**	**265**	*e*P		**Pn**	**21 52 06.6**	**-0.4**
	baz=266						
ECS				*e*S		**Sn**	**21 52 15.6**	**-0.4**
	baz=266						
LDUT	**Ludao**	**0.60**	**218**	*e*P		**Pn**	**21 52 06.6**	**-0.4**
	baz=212						
LDUT				*e*S		**Sb**	**21 52 14.3**	**+0.8**
	baz=212						
EHY	**Hungye**	**0.61**	**306**	*e*P		**Pn**	**21 52 07.0**	**-0.2**
	baz=310						
EHY				*e*S		**Sn**	**21 52 15.2**	**-1.3**
	baz=310						
EGFH	**Guangfu**	**0.65**	**322**	*e*P		**Pn**	**21 52 07.0**	**-0.7**
	baz=332						
EGFH				*e*S		**Sn**	**21 52 15.8**	**-1.7**
	baz=332						
LONT	**Longtian**	**0.72**	**251**	*e*P		**Pn**	**21 52 08.4**	**-0.2**
	baz=248						
LONT				*e*S		**Sn**	**21 52 18.5**	**-0.5**
	baz=248						
TEYL	**Yanliau Villag**	**0.76**	**341**	*e*P		**Pn**	**21 52 09.6**	**+0.4**
	baz=356						
TEYL				*e*S		**Sn**	**21 52 18.8**	**-1.2**
	baz=356						
TTN	**Taitung**	**0.77**	**239**	*e*P		**Pn**	**21 52 09.4**	**+0.1**
	baz=242						
TTN				*e*S		**Sn**	**21 52 20.1**	**-0.1**
	baz=242						
ESL	**Shilin**	**0.77**	**329**	*e*P		**Pn**	**21 52 09.1**	**-0.2**
	baz=340						
ESL				*e*S		**Sb**	**21 52 18.4**	**-0.1**
	baz=340						
ELDTW	**Lidau**	**0.78**	**273**	P		**Pn**	**21 52 08.9**	**-0.6**
	baz=283						
ELDTW				*e*S		**Sb**	**21 52 18.7**	**-0.1**
	baz=283						
TWGBT	**Beinan**	**0.79**	**246**	*e*P		**Pn**	**21 52 09.5**	**-0.1**
	baz=243						
TWGBT				*e*S		**Sn**	**21 52 19.6**	**-1.3**
	baz=243						
TWG	**Pinlang**	**0.80**	**246**	*e*P		**Pn**	**21 52 09.6**	**-0.1**
	baz=243						
TWG				*e*S		**Sn**	**21 52 19.8**	**-1.3**
	baz=243						
HWA	**Hwalien**	**0.86**	**344**	*e*S		**Sn**	**21 52 21.5**	**-1.0**
	baz=357						
ETM	**Tongmen**	**0.88**	**337**	*e*P		**Pn**	**21 52 10.8**	**0.0**
	baz=331						
ETM				*e*S		**Sb**	**21 52 21.1**	**-0.5**
	baz=331						
VWDT	**VWDT**	**0.90**	**312**	*e*P		**Pn**	**21 52 11.3**	**+0.2**
	baz=322						
VWDT				*e*S		**Sn**	**21 52 22.3**	**-1.2**
	baz=322						
YUS	**Yu-Shan**	**0.90**	**292**	P		**Pn**	**21 52 11.6**	**-0.1**
	baz=291						
YUS				*e*S		**Sn**	**21 52 23.0**	**-1.3**
	baz=291						
TWD	**Chiawan**	**0.96**	**345**	*e*P		**Pn**	**21 52 12.7**	**+0.8**
	baz=359						
TWD				*e*S		**Sb**	**21 52 23.4**	**-0.5**
	baz=359						
STYH	**Taoyuan**	**1.00**	**271**	*e*P		**Pn**	**21 52 12.7**	**+0.2**
	baz=275						
STYH				*e*S		**Sn**	**21 52 25.0**	**-1.0**
	baz=275						
ECL	**Taimali**	**1.00**	**237**	*e*P		**Pb**	**21 52 11.9**	**-0.4**
	baz=245						
ECL				*e*S		**Sb**	**21 52 24.0**	**-1.0**
	baz=245						
STYT	**Tauyuan**	**1.02**	**271**	*e*P		**Pn**	**21 52 12.9**	**+0.1**
	baz=276						
STYT				*e*S		**Sn**	**21 52 26.1**	**-0.4**
	baz=276						
OWD	**Renai**	**1.02**	**322**	*e*P		**Pn**	**21 52 12.9**	**0.0**
	baz=325						
OWD				*e*S		**Sb**	**21 52 24.6**	**-1.1**
	baz=325						
ALS	**Alishan**	**1.04**	**291**	*e*P		**Pn**	**21 52 13.9**	**+0.7**
	baz=290						
SSLB	**Suanglung**	**1.05**	**307**	*e*P		**Pn**	**21 52 13.2**	**0.0**
	baz=310						
SSLB				*e*S		**Sb**	**21 52 25.7**	**-0.7**
	baz=310						
NACB	**Ninganchiao**	**1.05**	**347**	*e*P		**Pb**	**21 52 12.4**	**-0.7**
	baz=357						
NACB				*e*S		**Sb**	**21 52 25.4**	**-1.0**
	baz=357						
WUSB	**Renai**	**1.08**	**321**	*e*P		**Pn**	**21 52 14.2**	**+0.4**
	baz=331						
WUSB				*e*S		**Sb**	**21 52 26.4**	**-1.1**
	baz=331						
CHGB	**Renai**	**1.11**	**325**	*e*P		**Pb**	**21 52 14.3**	**+0.1**
	baz=328						
CHGB				*e*S		**Sb**	**21 52 27.2**	**-1.1**
	baz=328						
ETLH	**Xiulin Townshi**	**1.11**	**342**	*e*P		**Pb**	**21 52 13.9**	**-0.3**
	baz=335						
ETLH				*e*S		**Sb**	**21 52 27.0**	**-1.3**
	baz=335						
SLGT	**Liugui**	**1.13**	**262**	*e*P		**Pb**	**21 52 15.4**	**+0.9**
	baz=264						
SLGT				*e*S		**Sn**	**21 52 29.7**	**+0.5**
	baz=264						
WHF	**Hehuan Shan**	**1.13**	**331**	*e*P		**Pb**	**21 52 15.3**	**+0.5**
	baz=335						
WHF				*e*S		**Sb**	**21 52 28.7**	**-0.5**
	baz=335						
TPUB	**Ta-pu**	**1.14**	**278**	*e*P		**Pb**	**21 52 15.9**	**+1.2**
	baz=281						
TPUB				*e*S		**Sn**	**21 52 30.6**	**+1.0**
	baz=281						
SMLT	**Sun Moon Lake**	**1.15**	**310**	P		**Pb**	**21 52 15.2**	**+0.4**
	baz=318						
SMLT				*e*S		**Sn**	**21 52 29.6**	**-0.2**
	baz=318						
WTP	**Ta-pu**	**1.15**	**275**	*e*P		**Pb**	**21 52 16.0**	**+1.1**
	baz=277						
WTP				*e*S		**Sn**	**21 52 31.2**	**+1.3**
	baz=277						
LYUB	**Lan-yu**	**1.17**	**193**	*e*P		**Pb**	**21 52 16.7**	**+1.5**
	baz=188						
LYUB				*e*S		**Sb**	**21 52 27.8**	**-2.1**
	baz=188						
CHN5	**Tsauling**	**1.18**	**293**	*e*P		**Pb**	**21 52 16.7**	**+1.3**
	baz=294						
SGST	**Jiashian**	**1.18**	**267**	*e*P		**Pb**	**21 52 15.3**	**0.0**
	baz=269						
SGST				*e*S		**Sn**	**21 52 30.6**	**+0.2**
	baz=269						
CHN4	**Tsaushan**	**1.19**	**280**	*e*P		**Pb**	**21 52 16.7**	**+1.3**
	baz=284						
CHN4				*e*S		**Sn**	**21 52 33.1**	**+2.5**
	baz=284						
TYC	**Yuchr**	**1.19**	**309**	*e*S		**Sn**	**21 52 31.3**	**+0.6**
	baz=321						
WPL	**Puli Township**	**1.20**	**316**	*e*P		**Pb**	**21 52 15.6**	**0.0**
	baz=325						
WPL				*e*S		**Sb**	**21 52 30.1**	**-0.5**
	baz=325						
SSD	**Sandimen**	**1.20**	**251**	*e*P		**Pb**	**21 52 15.6**	**-0.2**
	baz=249						
SSD				*e*S		**Sb**	**21 52 29.3**	**-1.6**
	baz=249						
TSMG	**Majia**	**1.21**	**249**	*e*P		**Pb**	**21 52 15.7**	**-0.1**
	baz=250						
TSMG				*e*S		**Sn**	**21 52 30.9**	**-0.2**
	baz=250						
EAST	**Anshuo**	**1.21**	**231**	*e*P		**Pb**	**21 52 15.8**	**0.0**
	baz=236						
EAST				*e*S		**Sb**	**21 52 28.3**	**-2.7**
	baz=236						
TAWH	**Dawu Township**	**1.21**	**228**	*e*P		**Pb**	**21 52 15.5**	**-0.3**
	baz=234						
TAWH				*e*S		**Sb**	**21 52 29.5**	**-1.4**
	baz=234						
CHN1	**Nanshi**	**1.23**	**272**	*e*P		**Pb**	**21 52 17.6**	**+1.4**
	baz=274						
CHN1				*e*S		**Sn**	**21 52 34.7**	**+3.0**
	baz=274						
FUSS	**Fushou**	**1.23**	**333**	*e*P		**Pn**	**21 52 15.4**	**-0.6**
	baz=336						
FUSS				*e*S		**Sb**	**21 52 29.7**	**-2.3**
	baz=336						
WJS	**Zhushan**	**1.24**	**303**	*e*P		**Pb**	**21 52 17.5**	**+1.1**
	baz=305						
WJS				*e*S		**Sn**	**21 52 33.6**	**+1.7**
	baz=305						
MASBT	**Mashibuluo**	**1.25**	**245**	*e*P		**Pb**	**21 52 16.3**	**-0.3**
	baz=241						
MASBT				*e*S		**Sn**	**21 52 31.1**	**-1.2**
	baz=241						
WCS	**Beigang Elemen**	**1.26**	**316**	*e*P		**Pb**	**21 52 16.9**	**+0.3**
	baz=325						
WCS				*e*S		**Sb**	**21 52 31.9**	**-0.5**
	baz=325						
SNST	**Tainan City**	**1.26**	**274**	*e*P		**Pb**	**21 52 17.8**	**+1.1**
	baz=276						
SNST				*e*S		**Sb**	**21 52 34.5**	**+2.0**
	baz=276						
TWT	**Tachien**	**1.27**	**330**	*e*P		**Pb**	**21 52 17.7**	**+0.7**
	baz=341						
TWT				*e*S		**Sn**	**21 52 31.8**	**-1.1**
	baz=341						
TWK	**Hsinying**	**1.27**	**276**	*e*P		**Pb**	**21 52 17.9**	**+1.0**
	baz=278						
TWK				*e*S		**Sb**	**21 52 35.9**	**+3.0**
	baz=278						

WWF				eS		Sb	21 52 37.1	+0.9
	baz=312							
SHHT	**Tainan City**	**1.40**	**265**	*eP*		**Pb**	**21 52 21.7**	**+2.6**
	baz=266							
WHP	**Taichung City**	**1.40**	**323**	*eP*		**Pb**	**21 52 20.1**	**+0.9**
	baz=331							
WHP				eS		Sb	21 52 36.2	-0.5
	baz=331							
LATG	**Datong**	**1.42**	**347**	*eP*		**Pb**	**21 52 19.8**	**+0.4**
	baz=341							
LATG				eS		Sn	21 52 35.0	-1.5
	baz=341							
TWC	**Suao**	**1.45**	**360**	*eP*		**Pb**	**21 52 20.4**	**+0.4**
	baz=10.0							
TWC				eS		Sn	21 52 37.0	-0.3
	baz=10.0							
ICHU	**Yijhu**	**1.47**	**279**	*eP*		**Pb**	**21 52 21.1**	**+0.8**
	baz=282							
ICHU				eS		Sb	21 52 38.1	-0.5
	baz=282							
TCU	**Taichung**	**1.47**	**313**	*eP*		**Pb**	**21 52 19.6**	**-0.8**
	baz=301							
TCU				eS		Sb	21 52 41.0	+2.3
	baz=301							
NDS	**Dongshan**	**1.48**	**355**	*eP*		**Pb**	**21 52 21.1**	**+0.6**
	baz=358							
NDS				eS		Sn	21 52 37.4	-0.6
	baz=358							
WCHH	**Zhanghua**	**1.51**	**308**	*eP*		**Pb**	**21 52 21.8**	**+0.7**
	baz=309							
WCHH				eS		Sb	21 52 42.2	+2.5
	baz=309							
TSEB	**Hengchuen, Pin**	**1.53**	**216**	*eS*		**Sb**	**21 52 41.2**	**+1.0**
	baz=225							
HEN	**Hengchun**	**1.54**	**223**	*eP*		**Pb**	**21 52 21.0**	**-0.5**
	baz=221							
HEN				eS		Sn	21 52 39.1	-0.2
	baz=221							
WSL	**Shuilin Townsh**	**1.55**	**284**	*eP*		**Pb**	**21 52 21.5**	**-0.1**
	baz=287							
WRL	**Guolierlin Hig**	**1.56**	**299**	*eP*		**Pb**	**21 52 21.6**	**-0.2**
	baz=300							
WRL				eS		Sb	21 52 41.0	0.0
	baz=300							
TWQ1	**Liyutan**	**1.56**	**320**	*eP*		**Pb**	**21 52 22.4**	**+0.6**
	baz=333							
TWQ1				eS		Sb	21 52 41.9	+0.9
	baz=333							
YHNB	**Yeheng**	**1.58**	**344**	*eP*		**Pb**	**21 52 22.6**	**+0.4**
	baz=357							
YHNB				eS		Sn	21 52 39.1	-1.4
	baz=357							
NSK	**Sanguang**	**1.59**	**343**	*eP*		**Pb**	**21 52 22.5**	**+0.2**
	baz=357							
NSK				eS		Sn	21 52 39.7	-1.0
	baz=357							
FUSB	**Fushanzhiwuyua**	**1.62**	**351**	*eP*		**Pb**	**21 52 25.3**	**+2.4**
	baz=354							
FUSB				eS		Sn	21 52 41.2	-0.3
	baz=354							
NFF	**Wufeng Townshi**	**1.63**	**335**	*eP*		**Pb**	**21 52 23.9**	**+0.9**
	baz=338							
NFF				eS		Sn	21 52 41.4	-0.2
	baz=338							
JYNG	**Yonagunijimaku**	**1.63**	**37**	*eS*		**Sn**	**21 52 41.1**	**-0.5**
WDJ	**Dajia District**	**1.64**	**317**	*eP*		**Pb**	**21 52 23.2**	**0.0**
	baz=332							
WDJ				eS		Sn	21 52 41.4	-0.4
	baz=332							
NWLT	**Wulai**	**1.66**	**349**	*eS*		**Sn**	**21 52 42.1**	**-0.1**
	baz=343							
NSTT	**Nanjuang**	**1.67**	**332**	*eS*		**Sn**	**21 52 42.6**	**-0.1**
	baz=334							
YOJ	**Yonaguni jima**	**1.68**	**39**	*eS*		**Sn**	**21 52 42.2**	**-0.5**
	baz=51							
LIOB	**Emei**	**1.68**	**333**	*eP*		**Pb**	**21 52 23.4**	**-0.5**
	baz=335							
LIOB				eS		Sb	21 52 43.6	-1.0
	baz=335							
TIPB	**Shuangxi**	**1.82**	**359**	*eP*		**Pb**	**21 52 25.5**	**-0.7**
	baz=10.0							
TIPB				eS		Sb	21 52 47.0	-1.6
	baz=10.0							
WFSB	**Wu-fen Shan**	**1.92**	**358**	*eP*		**Pb**	**21 52 27.1**	**-0.8**
WFSB				eS		Sn	21 52 49.3	+0.7
HATJ	**Hateruma jima**	**2.00**	**63**	P		**Pn**	**21 52 27.0**	**+0.8**
HATJ				S		Sn	21 52 50.0	-0.6
IRIF	**Iriomote-Funau**	**2.08**	**55**	P		**Pn**	**21 52 28.7**	**+1.4**
IRIF				eS		Sn	21 52 53.3	+0.7
JKRS	**Kuro-shima**	**2.25**	**61**	P		**Pn**	**21 52 30.8**	**+1.2**
JKRS				S		Sn	21 52 56.5	-0.3
JIJ	**Ishigaki jima**	**2.41**	**59**	P		**Pn**	**21 52 32.8**	**+0.8**
JIJ				S		Sn	21 53 00.0	-0.9
JISG	**Ishigakijimahi**	**2.66**	**57**	P		**Pn**	**21 52 35.9**	**+0.6**
JISG				eS		Sn	21 53 05.7	-1.3
JTJ	**Tarama**	**2.99**	**60**	P		**Pn**	**21 52 41.3**	**+1.4**
JTJ				eS		Sn	21 53 15.3	+0.1
JIRB	**Irabujima**	**3.46**	**60**	P		**Pn**	**21 52 47.1**	**+0.8**
JMJ2	**Miyako jima3**	**3.54**	**63**	P		**Pn**	**21 52 48.6**	**+1.1**

*TUL **29** 21:56:55.5±0.8, 35°.724N×0°.010×97°.17W±0°.01, h5km±6km, ML3.4, mb_Lg3.3/92(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=129.0*
*ANF **29** 21:56:55.4±0.2, 35°.76N×97°.15W, h5km, ML3.5/9, Error ellipse: s-maj=2.2km s-min=1.5km az=145.0*
*NEIC **29** 21:56:56.2±0.8, 35°.74N±0°.01×97°.169W±0°.007, h7km±5km, Error ellipse: s-maj=1.6km s-min=0.7km az=185.0*

ISC 29 21:56:54.9±1.2, 35.77N±0°.02×97.15W±0°.03, h2km±12km, n76, σ0s97/65, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OK001	**Jones High Sch**	**0.24**	**208**	Pg	**Pg**		**21 56 59.7**	**+0.3**
OK001				Sg	**Sg**		**21 57 02.6**	**0.0**
OK009	**Oakdale Elemen**	**0.29**	**229**		**Pg**		**21 57 01.2**	**+0.7**
OK009				Sg	**Sg**		**21 57 04.9**	**+0.6**
OKCFA	**Oklahoma City**	**0.43**	**215**	Pg	**Pg**		**21 57 03.4**	**+0.2**
OKCFA				Sg	**Sg**		**21 57 08.9**	**+0.2**
OKCFA	**Oklahoma City**	**0.43**	**215**	P	**Pg**		**21 57 03.3**	**+0.2**
	baz=36,SNR=49							
OKCFA				S	**Sg**		**21 57 09.0**	**+0.2**
	baz=36							
OKCSW	**OKLAHOMA CITY**	**0.43**	**213**		**Pg**		**21 57 03.4**	**+0.2**
OKCSW				Sg	**Sg**		**21 57 09.2**	**+0.4**
FNO	**Franklin**	**0.55**	**202**	Pg	**Pg**		**21 57 05.5**	**0.0**
FNO				Sg	**Sg**		**21 57 12.9**	**+0.3**
TUL1	**Leonard**	**1.11**	**82**		**Pb**		**21 57 16.2**	**-0.7**
TUL1	**Leonard**	**1.11**	**82**	P	**Pb**		**21 57 16.2**	**-0.7**
	baz=261							
TUL1				S	**Sb**		**21 57 32.0**	**+0.1**
	baz=261							
T35A	**Sooner Cattle**	**1.25**	**24**		**Pg**		**21 57 19.4**	**+0.5**
T35B	**Sooner Cattle**	**1.25**	**24**	P	**Pg**		**21 57 19.5**	**+0.6**
	baz=204,SNR=114							
T35B				S	**Sn**		**21 57 37.4**	**+0.4**
	baz=204							
U32A	**Winter Ranch,**	**1.62**	**293**		**Pb**		**21 57 25.1**	**-0.5**
U32A	**Winter Ranch,**	**1.62**	**293**	P	**Pb**		**21 57 25.0**	**-0.5**
	baz=113,SNR=31							
U32A				Sb	**Sg**		**21 57 47.9**	**+1.1**
	baz=113							
WMOK	**Wichita Mounta**	**1.69**	**233**		**Pn**		**21 57 25.2**	**-0.2**
WMOK	**Wichita Mounta**	**1.69**	**233**	P	**Pn**		**21 57 25.1**	**-0.3**
	baz=53,SNR=25							
X37A	**Clayton**	**1.88**	**128**		**Pb**		**21 57 28.7**	**-1.2**
X37A	**Clayton**	**1.88**	**128**	P	**Pb**		**21 57 28.6**	**-1.2**
	baz=308,SNR=160							
X37A				Sb	**Sg**		**21 57 55.1**	**-0.1**
	baz=308							
Z35A	**Perchaven, San**	**2.44**	**182**		**Pn**		**21 57 35.9**	**+0.1**
Z35A	**Perchaven, San**	**2.44**	**182**	P	**Pn**		**21 57 36.1**	**+0.4**
	baz=1.6,SNR=15							
Z35A				S	**Sb**		**21 58 07.2**	**-2.7**
	baz=1.6							
HHAR	**Hobbs**	**2.65**	**78**		**Pn**		**21 57 39.9**	**+1.2**
HHAR	**Hobbs**	**2.65**	**78**	Sb	**Sb**		**21 58 17.6**	**+1.4**
	baz=259							
W39A	**Magazine**	**2.81**	**101**		**Pn**		**21 57 41.6**	**+0.7**
W39A				IAmb_Lg			21 58 28.5	
	comp=Z,56nm,0.7s							
R32A	**Long Quarter,**	**2.92**	**335**		**Pg**		**21 57 50.4**	**-0.5**
Z38A	**Mt. Pleasant**	**3.08**	**144**	Pn	**Pn**		**21 57 43.9**	**-0.7**
Z38A				IAmb_Lg			21 58 41.1	
	comp=Z,77nm,0.9s							

MIAR	**Mount Ida**	**3.17**	**112**			**Pn**	**21 57 46.6**	**+0.8**
MIAR				IAmb_Lg			21 58 43.3	
	comp=Z,59nm,0.9s							
MIAR	**Mount Ida**	**3.17**	**112**	P		**Pn**	**21 57 46.7**	**+0.8**
	baz=293,SNR=66							
KSU1	**Kansas State U**	**3.35**	**7**			**Pg**	**21 57 58.1**	**-1.0**
KSU1				IAmb_Lg			21 58 47.6	
	comp=Z,50nm,0.7s							
U40A	**Yellville**	**3.53**	**79**			**Pn**	**21 57 51.4**	**+0.6**
U40A				IAmb_Lg			21 58 47.1	
	comp=Z,62nm,0.7s							
S39A	**Bolivar**	**3.62**	**57**			**Pn**	**21 57 52.8**	**+0.7**
CBKS	**Cedar Bluff**	**3.67**	**327**	Pn		**Pn**	**21 57 54.1**	**+1.3**
CBKS				IAmb_Lg			21 58 57.8	
	comp=Z,74nm,0.7s							
ABTX	**Abilene, Hawle**	**3.76**	**214**	Pg		**Pb**	**21 58 02.4**	**+0.4**
ABTX				IAmb_Lg			21 58 54.4	
	comp=Z,50nm,1.1s							
X40A	**Basin Creek Fa**	**3.76**	**109**			**Pn**	**21 57 54.6**	**+0.6**
X40A				IAmb_Lg			21 58 57.7	
	comp=Z,66nm,0.8s							
X40A	**Basin Creek Fa**	**3.76**	**109**	P		**Pn**	**21 57 54.7**	**+0.7**
	baz=290,SNR=12							
X40A				P		**Pn**	**21 57 54.7**	**+0.7**
	baz=290,SNR=12							
WHTX	**Lake Whitney,**	**3.78**	**184**	Pg		**Pb**	**21 58 00.9**	**-1.5**
AMTX	**Amarillo**	**3.81**	**258**			**Pn**	**21 57 54.6**	**0.0**
AMTX				IAmb_Lg			21 59 05.2	
	comp=Z,50nm,0.9s							
237A	**Washetta, Mont**	**3.92**	**163**	Pn		**Pn**	**21 57 55.8**	**-0.3**
WLAR	**White Oak Lake**	**3.92**	**121**	Pn		**Pn**	**21 57 56.5**	**+0.4**
WHAR	**Wooly Hollow**	**4.00**	**96**			**Pn**	**21 57 57.8**	**+0.7**
W41B	**Gary Mavity, V**	**4.05**	**97**			**Pn**	**21 57 58.7**	**+0.8**
W41B				IAmb_Lg			21 59 03.1	
	comp=Z,65nm,1.2s							
W41B	**Gary Mavity, V**	**4.05**	**97**	P		**Pn**	**21 57 58.6**	**+0.8**
	baz=279,SNR=36							
UALR	**University of**	**4.06**	**103**			**Pn**	**21 57 58.9**	**+0.8**
FCAR	**Ozark Folk Cen**	**4.09**	**87**			**Pn**	**21 57 58.9**	**+0.5**
FCAR				IAmb_Lg			21 59 11.1	
	comp=Z,64nm,0.8s							
MGMO	**Mountain Grove**	**4.17**	**69**	IAmb_Lg			21 59 15.8	
	comp=Z,69nm,0.8s							
Z41A	**Richland Creek**	**4.38**	**124**	IAmb_Lg			21 59 21.1	
	comp=Z,36nm,0.8s							
R40A	**Maddies Statio**	**4.64**	**56**	IAmb_Lg			21 59 23.7	
	comp=Z,62nm,0.8s							
P38A	**Dawn**	**4.80**	**36**	Pg		**Pg**	**21 58 26.1**	**-0.8**
P38A				IAmb_Lg			21 59 32.4	
	comp=Z,32nm,0.8s							
LCAR	**Lake Charles**	**4.88**	**85**	Pn		**Pn**	**21 58 09.2**	**-0.1**
LCAR				IAmb_Lg			21 59 35.6	
	comp=Z,56nm,1.1s							
MSTX	**Muleshoe**	**4.96**	**250**	Pn		**Pn**	**21 58 10.7**	**+0.1**
N33A	**J Bar K, Exete**	**4.96**	**357**	IAmb_Lg			21 59 37.6	
	comp=Z,37nm,0.8s							
435B	**Jarrell**	**4.99**	**184**	IAmb_Lg			21 59 44.2	
	comp=Z,34nm,0.9s							
N35A	**Tabor**	**5.22**	**13**			**Pn**	**21 58 14.0**	**0.0**
N35A				IAmb_Lg			21 59 48.0	
	comp=Z,72nm,0.8s							
CCM	**Cathedral Cave**	**5.25**	**63**	IAmb_Lg			21 59 42.9	
	comp=Z,68nm,0.8s							
HBAR	**Harrisburg**	**5.29**	**90**	IAmb_Lg			21 59 44.4	
	comp=Z,86nm,0.9s							
KSCO	**Kaye Shedlock'**	**5.43**	**308**	Pn		**Pn**	**21 58 16.6**	**-0.4**
KSCO						**Pg**	**21 58 35.6**	**-3.3**
KSCO				IAmb_Lg			21 59 51.4	
	comp=Z,40nm,0.8s							
P40A	**Paris**	**5.52**	**46**	IAmb_Lg			21 59 57.2	
	comp=Z,68nm,0.8s							
PBMO	**Poplar Bluff**	**5.52**	**78**	IAmb_Lg			21 59 56.6	
	comp=Z,79nm,0.8s							
BGNE	**Belgrade**	**5.68**	**352**	Pn		**Pn**	**21 58 20.7**	**+0.4**
BGNE				IAmb_Lg			22 00 04.4	
	comp=Z,53nm,0.8s							
JCT	**Junction City**	**5.73**	**204**	Pg		**Pb**	**21 58 38.8**	**+3.2**
JCT				IAmb_Lg			22 00 02.2	
	comp=Z,56nm,1.0s							
FVM	**French Village**	**5.83**	**66**	IAmb_Lg			22 00 01.2	
	comp=Z,37nm,0.8s							
T25A	**Trinidad**	**6.01**	**285**	Pn		**Pn**	**21 58 25.4**	**+0.4**
T25A				IAmb_Lg			22 00 12.4	
	comp=Z,28nm,0.9s							
L34A	**Svendsen Farm,**	**6.21**	**5**	IAmb_Lg			22 00 17.2	
	comp=Z,58nm,0.7s							
SLM	**Saint Louis**	**6.21**	**61**	IAmb_Lg			22 00 16.8	
	comp=Z,71nm,0.8s							
OGNE	**Ogallala**	**6.43**	**325**	IAmb_Lg			22 00 26.6	
	comp=Z,57nm,0.7s							
OXF	**Oxford**	**6.47**	**99**	Pn		**Pn**	**21 58 30.9**	**-0.2**
W45A	**Hickory Valley**	**6.53**	**93**	IAmb_Lg			22 00 36.2	
	comp=Z,37nm,0.8s							
SIUC	**Southern Illin**	**6.66**	**71**	IAmb_Lg			22 00 28.2	
	comp=Z,66nm,0.7s							
SCIA	**State Center**	**6.85**	**25**	Pn		**Pn**	**21 58 37.6**	**+1.2**
SCIA				IAmb_Lg			22 00 40.3	
	comp=Z,36nm,0.8s							
K31A	**O'Neill**	**6.95**	**350**	IAmb_Lg			22 00 51.3	
	comp=Z,67nm,0.9s							
SDCO	**Great Sand Dun**	**6.99**	**289**			**Pn**	**21 58 40.0**	**+1.4**
K38A	**Parkersburg**	**7.66**	**25**	IAmb_Lg			22 01 09.0	
	comp=Z,41nm,0.8s							
L40A	**Anamosa**	**7.80**	**35**	IAmb_Lg			22 01 08.2	
	comp=Z,38nm,0.7s							
N23A	**Red Feather La**	**8.59**	**309**	IAmb_Lg			22 01 41.9	
	comp=Z,25nm,0.8s							
I37A	**Lemond, Waseca**	**8.72**	**18**	IAmb_Lg			22 01 54.9	
	comp=Z,22nm,1.0s							
SUSD	**Miller**	**8.77**	**351**	IAmb_Lg			22 01 43.5	
	comp=Z,29nm,0.8s							
JFWS	**Jewell Farm**	**8.91**	**35**	IAmb_Lg			22 01 41.3	
	comp=Z,42nm,0.9s							
I40A	**Norwalk**	**9.54**	**30**	IAmb_Lg			22 02 05.2	
	comp=Z,15nm,0.7s							
RSSD	**Black Hills**	**9.87**	**330**	IAmb_Lg			22 02 32.6	
	comp=Z,14nm,0.9s							

*IDC **29** 22:08:55.4±0.6, 16°.29S×167°.32E, h0km, mb4.4/27, mb1 4.5/29, mb1mx4.4/50, mbtmp4.5/29, ML4.8/2, MS4.4/53, Ms1 4.4/53, ms1mx4.4/65, Error ellipse: s-maj=17.4km s-min=13.9km az=94.0*
*NOU **29** 22:08:57.9, 16°.39S×167°.34E, h0km, MLv5.3/32, Vanuatu Islands*
*MOS **29** 22:09:00.1±1.3, 16°.27S×167°.08E, h32km, mb5.1/19, Error ellipse: s-maj=10.8km s-min=8.2km az=42.6*
*BJI **29** 22:09:01.0±0.0, 16°.30S×167°.20E, h30km, mb4.7/51, mB5.2/40, Ms4.9/35, Ms7 4.5/35*
*GCMT **29** 22:09:02.3±0.1, 16°.28S±0°.01×167°.10E±0°.01, h13km, MW5.2/127, Moment Tension Solution. s92,c121; s127,c192; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr5.36±.14; Mθθ-0.44±.10; Mφφ-4.92±.11; Mrθ2.35±.26; Mθφ1.89±.08; Mφr-4.87±.33; Best double couple: M07.70300×10^16 NP1:ϕs344.00000°, δ23.00000°, λ98.00000°. NP2:ϕs156.00000°, δ67.00000°, λ87.00000°. Principal axes: T 7.5920, Plg68.0000°, Azm60.0000°; N 0.2240, Plg3.0000°, Azm157.0000°; P -7.8140, Plg22.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **29** 22:09:02.3±1.5, 16°.24S±0°.04×167°.19E±0°.08, h35km±1km, mb5.0/70 Error ellipse: s-maj=13.3km s-min=7.5km az=88.0*

ISC 29 22:08:59.7±0.3, 16°.31S±0°.04×167°.21E±0°.05, h18km, n300, σ1s81/291, mb4.9/95, MS4.5/67, 15C-12D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SANVU	**Saraoutou**	**0.85**	**360**	Pn	**Pb**		**22 09 12.9**	**-3.2**
SANVU				Sn	**Sb**		**22 09 27.8**	**+0.6**
SANVU	**Saraoutou**	**0.85**	**360**	P	**Pb**		**22 09 13.5**	**-2.6**
DVP	**Devils Point**	**1.69**	**147**	P	**Pn**		**22 09 28.4**	**0.0**
RTV	**Rentapao**	**1.88**	**142**	P	**Pn**		**22 09 29.5**	**-1.5**
LIFNC	**LIFOU**	**4.45**	**180**	Pn	**Pn**		**22 10 05.3**	**-1.0**
LIFNC	**LIFOU**	**4.45**	**180**	P	**Pn**		**22 10 03.1**	**-3.2**
KOUNC	**Koumac, New Ca**	**5.05**	**213**	Pn	**Pn**		**22 10 13.6**	**-1.1**
KOUNC	**Koumac, New Ca**	**5.05**	**213**	P	**Pn**		**22 10 12.9**	**-1.7**
MARNC	**Mare, Loyalty**	**5.21**	**172**		**Pn**		**22 10 16.1**	**-0.7**
MARNC	**Mare, Loyalty**	**5.21**	**172**	P	**Pn**		**22 10 15.4**	**-1.4**
YATNC	**Mamie plateau,**	**5.73**	**183**	P	**Pn**		**22 10 21.0**	**-3.0**

DZM	**Mont Dzumac**	**5.78**	**187**	Pn		**Pn**	**22 10 22.6**	**-2.2**
	16nm,0.3s,baz=334,slow=7.1,SNR=90							
DZM				Sn		**Sn**	**22 11 29.0**	**-1.7**
	18nm,0.3s,baz=128,slow=21,SNR=5.8							
DZM	**Mont Dzumac**	**5.78**	**187**	Pn		**Pn**	**22 10 22.8**	**-2.0**
DZM	**Mont Dzumac**	**5.78**	**187**	P		**Pn**	**22 10 22.2**	**-2.6**
NOUC	**Port Laguerre**	**5.83**	**188**	P		**Pn**	**22 10 23.7**	**-1.6**
ONTNC	**Ouen Toro**	**6.01**	**187**	Pn		**Pn**	**22 10 27.0**	**-0.9**
ONTNC	**Ouen Toro**	**6.01**	**187**	P		**Pn**	**22 10 26.5**	**-1.4**
OUENC	**Ouen Island, N**	**6.09**	**183**			**Pn**	**22 10 27.7**	**-1.3**
OUENC	**Ouen Island, N**	**6.09**	**183**	P		**Pn**	**22 10 26.5**	**-2.4**
PINNC	**Pines Island,**	**6.28**	**178**			**Pn**	**22 10 30.8**	**-0.7**
PINNC	**Pines Island,**	**6.28**	**178**	P		**Pn**	**22 10 29.7**	**-1.8**
HNR	**Honiara**	**9.84**	**313**	Pn		**Pn**	**22 11 19.9**	**-0.4**
	11nm,0.3s,baz=8.9,slow=2.2,SNR=7.0							
HNR				Sn		**Sn**	**22 13 12.3**	**+1.9**
	5.6nm,0.3s,baz=233,slow=22,SNR=2.0							
HNR				LR		LR	22 15 04.4	
	comp=Z,2μm,19.2s,baz=130,slow=37							
HNR	**Honiara**	**9.84**	**313**			**Pn**	**22 11 20.1**	**-0.2**
HNR	**Honiara**	**9.84**	**313**	P		**Pn**	**22 11 21.1**	**+0.7**
MSVF	**Nonsavu**	**10.47**	**99**	Pn		**Pn**	**22 11 32.1**	**+3.0**
	baz=256,slow=6.2,SNR=9.3							
MSVF				LR		LR	22 14 31.7	
	comp=Z,5μm,20.4s,baz=269,slow=32							
MSVF	**Nonsavu**	**10.47**	**99**	*eP*		**Pn**	**22 11 31.3**	**+2.2**
MSVF				pmax		pmax		
	comp=Z,40nm,1.1s							
MSVF	**Nonsavu**	**10.47**	**99**	Pn		**Pn**	**22 11 29.5**	**+0.4**
EIDS	**Eidsvold**	**17.55**	**236**	P		**P**	**22 13 05.8**	**+1.2**
	baz=18,SNR=4.5							
EIDS	**Eidsvold**	**17.55**	**236**	P		**Pn**	**22 13 03.6**	**0.0**
EIDS				IAmb		IAmb	22 13 28.0	
	comp=Z,133nm,1.5s							
EIDS	**Eidsvold**	**17.55**	**236**	P		**P**	**22 13 05.8**	**+1.2**
OUZ	**Omahuta**	**19.68**	**164**			**P**	**22 13 27.7**	**-0.3**
RMQ	**Roma**	**19.92**	**236**	P		**Pn**	**22 13 31.7**	**-0.7**
	baz=20,SNR=7.2							
RMQ	**Roma**	**19.92**	**236**	P		**Pn**	**22 13 31.8**	**-0.5**
ARMA	**Armidale**	**20.01**	**223**	P		**Pn**	**22 13 33.5**	**0.0**
	baz=20,SNR=5.6							
ARMA	**Armidale**	**20.01**	**223**			**P**	**22 13 31.2**	**-0.6**
ARMA				IAmb		IAmb	22 13 53.0	
	comp=Z,78nm,1.4s							
ARMA	**Armidale**	**20.01**	**223**	P		**Pn**	**22 13 32.2**	**-1.3**
CTA	**Charters Tower**	**20.26**	**256**	P		**P**	**22 13 33.6**	**-0.8**
	comp=Z,12nm,0.8s,baz=71,slow=12,SNR=7.9							
CTA				LR		LR	22 20 22.5	
	comp=Z,1μm,18.6s,baz=78,slow=34							
AFI	**Afiamalu**	**20.43**	**86**	LR		LR	22 19 29.1	
	comp=Z,2μm,20.3s,baz=256,slow=31							
PMG	**Port Moresby**	**20.70**	**287**	P		**P**	**22 13 38.9**	**-0.4**
	comp=Z,8.3nm,0.3s,baz=98,slow=17,SNR=3.3							
PMG				LR		LR	22 21 10.2	
	comp=Z,3μm,18.2s,baz=100,slow=35							
PMG	**Port Moresby**	**20.70**	**287**	*eP*		Pn	22 13 40.9	-0.7
PMG				pmax		pmax		
	comp=Z,44nm,1.1s							
PMG	**Port Moresby**	**20.70**	**287**			**P**	**22 13 37.8**	**-1.4**
PMG				IAmb		IAmb	22 13 47.0	
	comp=Z,68nm,1.1s							
PMG	**Port Moresby**	**20.70**	**287**	P		Pn	22 13 44.4	+2.8
MTSU	**Mount Surprise**	**21.94**	**262**	P		**P**	**22 13 53.5**	**+1.0**
	baz=22,SNR=6.4							
MTSU	**Mount Surprise**	**21.94**	**262**	P		**P**	**22 13 54.3**	**+1.7**
	comp=Z,38nm,1.1s							
NIUE	**Niue**	**21.95**	**101**	P		**P**	**22 13 52.5**	**-0.2**
HIZ	**Hauiti**	**23.12**	**165**	P		**P**	**22 14 05.0**	**+0.1**
COEN	**Coen**	**23.31**	**272**	P		**P**	**22 14 07.8**	**+0.8**
	baz=23							
COEN	**Coen**	**23.31**	**272**	P		**P**	**22 14 06.2**	**-0.8**
COEN				IAmb		IAmb	22 14 27.7	
	comp=Z,44nm,1.2s							
COEN	**Coen**	**23.31**	**272**	P		**P**	**22 14 11.7**	**+4.7**
MXZ	**Matakaoa Point**	**23.33**	**157**	P		**P**	**22 14 08.0**	**+1.0**
URZ	**Urewera**	**23.54**	**160**	P		**P**	**22 14 08.2**	**-0.8**
	comp=Z,11nm,0.9s,baz=290,slow=2.2,SNR=8.3							
URZ	**Urewera**	**23.54**	**160**	P		**P**	**22 14 09.2**	**+0.2**
URZ				IAmb		IAmb	22 14 29.5	
	comp=Z,77nm,1.1s							
QLP	**Quilpie**	**23.66**	**241**	P		**P**	**22 14 10.7**	**+0.4**
	baz=24,SNR=5.5							
QLP	**Quilpie**	**23.66**	**241**	P		**P**	**22 14 11.7**	**+1.3**
MANU	**Manus Island**	**24.13**	**304**	P		**P**	**22 14 14.0**	**-0.9**
BKZ	**Black Stump Fm**	**24.18**	**162**	P		**P**	**22 14 15.4**	**+0.2**
BKZ				IAmb		IAmb	22 14 24.7	
	comp=Z,42nm,0.7s							
BKZ	**Black Stump Fm**	**24.18**	**162**	P		**P**	**22 14 15.2**	**0.0**
CMSA	**Cobar Meteorol**	**24.76**	**228**	P		**P**	**22 14 20.6**	**0.0**
	baz=25,SNR=21							
CMSA	**Cobar Meteorol**	**24.76**	**228**	P		**P**	**22 14 22.1**	**+1.6**
QRZ	**Quartz Range**	**24.86**	**170**	P		**P**	**22 14 22.6**	**+1.2**
QRZ				IAmb		IAmb	22 14 35.6	
	comp=Z,57nm,1.2s							
NNZ

comp=Z,403nm,18.3s,baz=257,slow=35
AS31 Alice Springs 32.09 251 P P 22 15 24.7 -1.4
ASAR Alice Springs 32.09 251 P P 22 15 24.4 -1.7
comp=Z,5.4nm,0.7s,baz=80,slow=8.7,SNR=43
ASAR ScP **ScP 22 21 59.5 +1.2**
comp=Z,0.2nm,0.6s,baz=108,slow=3.0,SNR=1.5
ASAR LR LR 22 28 06.0
comp=Z,2µm,18.1s,baz=84,slow=36
ASAR Alice Springs 32.09 251 P P 22 15 24.7 -1.4
BAKI Biak 34.12 293 P P 22 15 46.1 +2.2
comp=Z,912nmcomp=Z,28nm,1.6s
MTN Manton Dam 35.05 271 P P 22 15 50.5 -1.5
MTN IAmb IAmb 22 16 13.7
comp=Z,13nm,0.9s
KNRA Kununurra 36.93 265 P P 22 16 09.5 +1.5
baz=37,SNR=5.0
KNRA Kununurra 36.93 265 P P 22 16 06.8 -1.2
KNRA IAmb IAmb 22 16 12.8
comp=Z,16nm,0.8s
GUMO Guam 37.01 322 LR LR 22 29 56.2
comp=Z,490nm,21.7s,baz=143,slow=34
WRKA Warakurna 37.32 250 P P 22 16 10.8 -0.5
baz=37,SNR=6.4
FORT Forrest 38.46 241 P P 22 16 20.4 -0.4
FORT IAmb IAmb 22 16 41.6
comp=Z,31nm,0.9s
SIJI Sorong 38.59 290 P P 22 16 21.8 -0.4
comp=Z,7.4nm,0.3s,baz=91,slow=7.5,SNR=16
SIJI LR LR 22 33 35.9
comp=Z,1µm,18.1s,baz=112,slow=38
SWI Sorong 38.60 290 P P 22 16 22.4 +0.2
comp=Z,51nm,1.1s
FITZ Fitzroy Crossi 39.69 261 P P 22 16 30.4 -0.8
comp=Z,8.5nm,0.9s,baz=124,slow=8.0,SNR=7.4
FITZ LR LR 22 32 54.2
comp=Z,2µm,18.4s,baz=89,slow=36
PPT Papeete 41.30 98 LR LR 22 29 37.3
comp=Z,520nm,21.0s,baz=258,slow=30
LBMI Labuha 42.12 288 P P 22 16 52.1 +0.8
comp=Z,834nmcomp=Z,56nm,1.5s
BATI Baumata 42.75 273 P P 22 16 56.4 -0.2
comp=Z,8.5nm,0.6s,baz=173,slow=23,SNR=1.1
BATI LR LR 22 34 20.9
comp=Z,909nm,21.0s,baz=134,slow=36
BATI Baumata 42.75 273 P P 22 16 59.5 +3.0
comp=Z,24nm,1.1s
SANI Sanana 42.97 285 P P 22 16 58.6 +0.4
comp=Z,20nm,0.8s
MMRI Maumere 44.49 274 P P 22 17 09.8 -0.7
MEEK Meekatharra 46.14 249 P P 22 17 23.5 0.0
baz=46,SNR=4.4
LUWI Luwuk 46.32 285 P P 22 17 24.3 -0.7
LUWI IAmb IAmb 22 17 33.9
comp=Z,35nm,1.1s
LUWI Luwuk 46.32 285 P P 22 17 25.3 +0.3
comp=Z,19nm,1.0s
DAV Davao City (W) 47.29 296 LR LR 22 37 41.4
comp=Z,134nm,18.2s,baz=118,slow=36
BNSI Bone 47.70 279 P P 22 17 38.7 +2.9
comp=Z,24nm,1.5s
KAPI Kappang 47.85 278 LR LR 22 37 10.1
comp=Z,267nm,20.5s,baz=108,slow=35
KAPI Kappang 47.85 278 P P 22 17 36.9 -0.1
KAPI pmax pmax
comp=Z,20nm,1.1s
KAPI Kappang 47.85 278 P P 22 17 36.9 -0.1
KAPI IAmb IAmb 22 17 42.0
comp=Z,20nm,1.1s
TTSI Tana Toraja 48.40 281 P P 22 17 42.7 +1.5
comp=Z,12nm,1.3s
MORW Morawa 48.55 245 P P 22 17 41.5 -0.7
TOLI2 Tolitoli 48.97 286 P P 22 17 44.3 -1.3
MPSI Mapaga 49.50 285 P P 22 17 49.4 -0.2
comp=Z,1µmcomp=Z,17nm,0.9s
JCJ Chichijima 49.51 330 LR LR 22 39 37.1
comp=Z,92nm,18.4s,baz=286,slow=37
JAGI Jajag, Banyuwa 52.28 272 P P 22 18 09.5 -1.1
MYLDM Lahad Datu 52.69 290 P P 22 18 12.3 -1.3
MYLDM IAmb IAmb 22 18 40.3
comp=Z,18nm,1.1s
KMMI Kalianget 52.81 274 P P 22 18 18.6 +4.0
comp=Z,36nm,1.4s
BBKI Banjar Baru 52.98 278 P P 22 18 17.6 +1.8
comp=Z,4µmcomp=Z,11nm,0.6s
DRV Dumont d'Urvil 53.40 193 P P 22 18 19.9 +1.8
DRV pP **pwP 22 18 25.2 -0.8**
DRV sP **sP 22 18 32.4 +7.2**
JHJ Hachijo jima 2 55.70 332 LR LR 22 41 51.9
comp=Z,122nm,19.1s,baz=182,slow=36
JOW Kunigami 57.17 318 LR LR 22 43 26.3
comp=Z,321nm,18.7s,baz=126,slow=36
SBUM Sibu 57.41 284 P P 22 18 47.5 -0.3
KSM Kuching 58.86 282 P P 22 18 57.2 -0.7
KSM IAmb IAmb 22 19 09.5
comp=Z,12nm,1.0s
LEM Lembang 58.96 272 P P 22 18 58.0 -0.8
comp=Z,7.4nm,0.4s,baz=18,slow=4.7,SNR=4.4
LEM LR LR 22 44 12.9
comp=Z,373nm,21.2s,baz=134,slow=36
YOJ Yonaguni jima 59.17 312 P P 22 18 58.9 -0.9
YOJ pmax pmax
comp=Z,103nm,1.4s
YOJ Yonaguni jima 59.17 312 P P 22 18 58.9 -0.9
JSU Suzuyama 59.20 323 P P 22 18 59.2 -0.8
MJAR Matsushiro Arr 59.27 333 P P 22 18 58.8 -1.5
comp=Z,1.8nm,0.6s,baz=162,slow=8.9,SNR=1.6
MJAR Matsushiro Arr 59.27 333 P P 22 18 59.9 -0.4
MJAR pmax pmax
comp=Z,5.0nm,1.1s
MJAR Matsushiro Arr 59.27 333 P P 22 18 59.9 -0.4
MAJO Matsushiro 59.27 333⇓ *e*P P 22 18 58.8 -1.6
MAJO pmax pmax
comp=Z,6.0nm,1.1s
MAJO Matsushiro 59.27 333 ⇑P P 22 18 35.4 -25
MAJO pP pP 22 18 38.9 -27
TPUB Ta-pu 60.19 310 P P 22 19 05.9 -1.0
VNDA Vanda 61.29 181 P P 22 19 12.2 -1.5
comp=Z,0.8nm,0.9s,baz=53,slow=5.7,SNR=4.7
VNDA LR LR 22 43 12.5
comp=Z,265nm,18.6s,baz=16,slow=34
VNDA Vanda 61.29 181 P P 22 19 14.1 +0.5
VNDA pmax pmax
comp=Z,6.0nm,1.1s
VNDA Vanda 61.29 181 P P 22 19 14.1 +0.5
SBA Scott Base 61.57 180 P P 22 19 16.7 +1.2
SBA pmax pmax
comp=Z,32nm,1.4s
SBA Scott Base 61.57 180 P P 22 19 16.6 +1.2
SBA Scott Base 61.57 180 P P 22 19 15.6 +0.1
CASY Casey 62.05 202 P P 22 19 19.4 +0.5
CASY IAmb IAmb 22 19 35.6
comp=Z,19nm,1.4s
CASY Casey 62.05 202 P P 22 19 20.9 +2.0
KASI Kota Agung 62.29 272 P P 22 19 17.9 -3.5
comp=Z,22nm,0.9s
CCD Concordia, Ant 63.35 192 P P 22 19 29.7 +1.7
CCD pP **sP 22 19 34.5 -0.6**
CCD sP **pwP 22 19 43.3 +7.3**
ASAJ Asahikawa 64.20 341 P P 22 19 35.4 +2.0
comp=Z,10nm,0.8s,baz=48,slow=31,SNR=1.7
ASAJ LR LR 22 41 49.1
comp=Z,219nm,21.8s,baz=148,slow=31
KSRS Korea Array 65.01 326 P P 22 19 38.2 -0.6
comp=Z,2.6nm,0.9s,baz=141,slow=7.9,SNR=6.5
KSRS LR LR 22 46 25.9
comp=Z,116nm,18.1s,baz=165,slow=35
QIZ Qiongzhong 66.45 300 P P 22 19 50.0 +1.5
QIZ S **S 22 28 39.0 +0.5**
QIZ LR LR
comp=Z,140nm,14.7s
QIZ LR LR
comp=Z,120nm,15.5s
QIZ LR LR
comp=Z,250nm,24.0s
NJ2 Nanjing 66.76 316 *e*P P 22 19 52.3 +2.1
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
USA0B Ussuriysk Arra 68.26 333 P P 22 19 58.6 -0.8
USA0B pmax pmax
comp=Z,10.0nm,1.0s
USA0B Ussuriysk Arra 68.26 333 P P 22 19 58.6 -0.8
USA0B IAmb IAmb 22 20 16.9
comp=Z,9.8nm,1.0s
USRK Ussuriysk Ar. 68.26 333 P P 22 19 58.9 -0.6
comp=Z,3.3nm,0.8s,baz=157,slow=5.4,SNR=5.0
USRK Ussuriysk Ar. 68.26 333 P P 22 19 59.3 -0.1
USRK Ussuriysk Ar. 68.26 333 P P 22 19 59.2 -0.1
SHEM Shemya Is, Ala 69.00 4 LR LR 22 45 28.7
comp=Z,556nm,20.4s,baz=161,slow=32
PETK Petropavlovsk- 69.61 354 P P
comp=Z,3.4nm,0.7s,baz=318,slow=30,SNR=6.5
PETK LR LR 22 47 19.2
comp=Z,350nm,19.3s,baz=156,slow=33
PSI Prapat 70.04 279 LR LR 22 54 02.4
comp=Z,178nm,18.1s,baz=131,slow=39
SNY Shenyang 70.48 327 ⇓P P 22 20 12.0 -1.2
SNY S **S 22 29 32.5 +6.9**
SNY pmax pmax
comp=Z,10.0nm,0.6s
SNY LR LR
comp=Z,290nm,15.4s
SNY LR LR
comp=Z,340nm,15.2s
SNY LR LR
comp=Z,460nm,14.9s
BNX BinXian 71.49 332 ⇓P P 22 20 19.5 +0.2
BNX pmax pmax
comp=Z,16nm,0.6s
BNX pmax pmax
comp=Z,220nm,6.1s
ENH Enshi 72.32 310 P P 22 20 23.8 -0.9
ENH IAmb IAmb 22 20 29.2
comp=Z,22nm,1.0s
KLR Kul'dur 72.42 336 P P 22 20 24.3 -0.5
comp=Z,2.1nm,0.9s,baz=208,slow=4.7,SNR=6.9
KLR LR LR 22 52 28.0
comp=Z,66nm,18.2s,baz=170,slow=36
KLR Kul'dur 72.42 336⇑ *e*P P 22 20 24.4 -0.4
KLR pmax pmax
comp=Z,13nm,1.7s
LYN LuoYang 72.54 315 *e*P P 22 20 28.3 +2.5
LYN sP sP 22 20 36.3 +3.2
LYN S **S 22 29 50.8 +1.1**
LYN SS **SS 22 34 24.8 -4.4**
LYN pmax pmax
comp=Z,30nm,1.2s
LYN pmax pmax
comp=Z,220nm,5.2s
LYN LR LR
comp=Z,520nm,16.7s
LYN LR LR
comp=Z,370nm,21.0s
GYA Guiyang 72.56 305 ⇓P P 22 20 30.8 +4.5
GYA pP PcP 22 20 40.0 -3.9
GYA S **S 22 29 49.5 -1.0**
GYA pmax pmax
comp=Z,14nm,1.2s
HNS HongShan 72.73 319 ⇓P P 22 20 31.5 +4.6
HNS S **S 22 29 53.8 +2.1**
HNS pmax pmax
comp=Z,19nm,1.7s
HNS LR LR
comp=Z,250nm,17.5s
HNS LR LR
comp=Z,360nm,17.3s
HNS LR LR
comp=Z,330nm,19.5s
BJT Baijiatuan 73.44 321 P P 22 20 30.7 -0.4
BJT pmax pmax
comp=Z,15nm,1.3s
BJT Baijiatuan 73.44 321 P P 22 20 30.7 -0.4
BJT IAmb IAmb 22 20 35.6
comp=Z,15nm,1.3s
BJI Beijing 73.45 321 P P 22 20 32.5 +1.4
BJI S **S 22 29 59.3 -0.5**
BJI pmax pmax
comp=Z,9.0nm,1.1s
BJI pmax pmax
comp=Z,130nm,7.9s
BJI LR LR
comp=Z,200nm,19.3s
BJI LR LR
comp=Z,280nm,18.5s
BJI LR LR
comp=Z,330nm,19.8s
QSPA South Pole Qui 73.73 180 LR LR 22 50 31.7
comp=Z,224nm,19.6s,baz=32,slow=34
QSPA South Pole Qui 73.73 180 P P 22 20 31.8 -0.8
QSPA IAmb IAmb 22 20 44.1
comp=Z,26nm,1.1s
XAN Xi'an 74.71 313 ⇑P P 22 20 39.0 +0.3
XAN pP PcP 22 20 51.5 -1.3
XAN sP sP 22 20 56.3 +10
XAN S **S 22 30 15.0 +0.7**
XAN pmax pmax
comp=Z,9.0nm,1.5s
XAN pmax pmax
comp=Z,160nm,6.5s
XAN LR LR
comp=Z,290nm,18.7s
XAN LR LR
comp=Z,230nm,19.0s
XAN LR LR
comp=Z,410nm,19.7s
KMI Kunming 75.09 302 ⇑P P 22 20 44.3 +3.0
KMI pP PcP 22 20 53.0 -1.9
KMI sP pwP 22 20 56.0 +5.9
KMI S **S 22 30 18.3 -0.9**
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI pmax pmax
comp=Z,120nm,7.9s
KMI LR LR
comp=Z,190nm,17.3s
KMI LR LR
comp=Z,160nm,15.4s
KMI LR LR
comp=Z,190nm,17.3s
CMAR Chiang Mai Arr 75.54 294 P P 22 20 43.9 +0.2
comp=Z,0.4nm,0.3s,baz=131,slow=4.1,SNR=1.9
CMAR LR LR 22 55 29.6
comp=Z,52nm,18.6s,baz=115,slow=37
CMAR Chiang Mai Arr 75.54 294 P P 22 20 43.0 -0.8
CHTO Chiang Mai 75.68 295 P P 22 20 43.8 -0.7
CHTO pmax pmax
comp=Z,4.0nm,1.1s
CHTO Chiang Mai 75.68 295 P P 22 20 43.8 -0.7
XLT XiLinHaoTe 75.94 325 *e*P P 22 20 49.0 +3.4
XLT pP PcP 22 20 59.0 +1.0
XLT sP pwP 22 21 04.0 +11
XLT S **S 22 30 27.8 +0.1**
XLT pmax pmax
comp=Z,9.0nm,1.3s
XLT pmax pmax
comp=Z,160nm,3.9s
XLT LR LR
comp=Z,28nm,12.8s
XLT LR LR
comp=Z,170nm,10.2s
XLT LR LR
comp=Z,140nm,16.0s
PZH PanZhiHua 76.50 303 P P 22 20 49.3 +0.1
PZH pP **PcP 22 21 02.3 +1.5**
PZH S **S 22 30 35.5 +0.9**
PZH SS **SS 22 35 31.0 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,210nm,6.7s
PZH LR LR
comp=Z,360nm,21.1s
PZH LR LR
comp=Z,420nm,22.1s
PZH LR LR
comp=Z,450nm,23.5s
HHC Hu-ho-hao-te 76.74 320 *e*P P 22 20 54.5 +4.2
HHC S **S 22 30 38.5 +1.8**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.0s
HHC LR LR
comp=Z,150nm,14.0s
HHC LR LR
comp=Z,180nm,13.3s
HHC LR LR
comp=Z,250nm,14.0s
MA2 Magadan 76.79 351 P P 22 20 47.5 -2.4
comp=Z,4.5nm,0.3s,baz=347,slow=21,SNR=4.8
MA2 LR LR 22 49 35.2
comp=Z,116nm,21.9s,baz=162,slow=32
MA2 Magadan 76.79 351⇓ *e*P P 22 20 48.3 -1.6
MA2 pmax pmax
comp=Z,3.0nm,0.9s
MA2 Magadan 76.79 351 P P 22 20 48.7 -1.2
CD2 Chengdu 76.92 308 P P 22 20 55.5 +4.1
CD2 S **S 22 30 40.0 +1.1**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,210nm,6.1s
CD2 LR LR
comp=Z,190nm,17.0s
CD2 LR LR
comp=Z,220nm,16.2s
HIA Hailar 77.62 330 P P 22 20 54.4 -0.5
HIA pmax pmax
comp=Z,15nm,1.1s
HIA Hailar 77.62 330 P P 22 20 54.4 -0.5
HIA IAmb IAmb 22 21 09.8
comp=Z,15nm,1.1s
ZEA Zeya 77.71 337 *e*P P 22 20 56.8 +1.6
ZEA pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 79.33 313 *e*P P 22 21 06.3 +1.5
LZH pP PcP 22 21 17.0 +4.0
LZH S **S 22 31 09.0 +4.1**
LZH pmax pmax
comp=Z,37nm,1.3s
LZH pmax pmax
comp=Z,200nm,4.1s
LZH LR LR
comp=Z,180nm,13.6s
LZH LR LR
comp=Z,210nm,15.2s
LZH LR LR
comp=Z,270nm,17.9s
SEY Seymchan 79.83 353 P P 22 21 03.9 -2.8
comp=Z,1.7nm,0.3s,baz=168,slow=8.3,SNR=5.6
SEY LR LR 22 53 43.6
comp=Z,250nm,19.1s,baz=166,slow=34
SEY Seymchan 79.83 353⇑ *e*P P 22 21 05.0 -1.7
SEY pmax pmax
comp=Z,4.0nm,1.1s
OHAK Old Harbor 80.28 21 P P 22 21 08.4 -0.8
OHAK IAmb IAmb 22 21 09.9
comp=Z,31nm,1.3s
MAW Mawson 80.41 202 LR LR 22 52 37.1
comp=Z,242nm,20.7s,baz=99,slow=33
MAW Mawson 80.41 202 P P 22 21 08.0 -1.9
MAW pmax pmax
comp=Z,3.0nm,1.1s
MAW Mawson 80.41 202 P P 22 21 08.0 -1.9
KDAK Kodiak Island 80.95 20 LR LR 22 51 36.5
comp=Z,363nm,18.7s,baz=229,slow=32
O18K Koktuh Hills 81.77 18 P P 22 21 15.9 -1.2
O18K IAmb IAmb 22 21 22.4
comp=Z,16nm,1.1s
ULN Ulaanbaatar 83.37 324⇑ *e*P P 22 21 25.8 -0.1
ULN pmax pmax
comp=Z,33nm,2.5s
ULN Ulaanbaatar 83.37 324 P P 22 21 25.4 -0.6
ULN IAmb IAmb 22 21 40.0
comp=Z,13nm,1.1s
YAK Yakutsk 83.51 343 P P 22 21 25.2 -0.9
comp=Z,9.5nm,0.4s,baz=125,slow=1.7,SNR=1.0
YAK LR LR 22 59 16.7
comp=Z,189nm,18.0s,baz=98,slow=36
YAK Yakutsk 83.51 343 *e*P P 22 21 28.1 +2.0
YAK *e* 22 21 33.9
YAK *e* 22 24 38.4
YAK *e*S **S 22 31 50.1 +3.4**
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=E,2.0nm,1.4s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=Z,125nm,4.8s
YAK pmax pmax
comp=N,81nm,4.8s
YAK pmax pmax
comp=E,59nm,4.6s
YAK smax smax
comp=E,123nm,4.7s
YAK smax smax
comp=N,105nm,4.6s
YAK MLR MLR
comp=Z,304nm,19.0s
YAK MLR MLR
comp=E,101nm,25.0s
YAK MLR MLR
comp=N,328nm,21.0s
YAK Yakutsk 83.51 343 P P 22 21 26.5 +0.4
GTA Gaotai 83.71 314 ⇑P P 22 21 28.5 +0.6
GTA S **S 22 31 51.3 +1.2**
GTA sS ScS 22 32 03.8 +0.8
GTA pmax pmax
comp=N,5.0nm,1.5s
GTA pmax pmax
comp=N,60nm,4.7s
GTA LR LR
comp=N,140nm,20.0s
GTA LR LR
comp=N,180nm,18.9s
GTA LR LR
comp=N,210nm,19.6s
SONM Songino Array 83.72 324 P P 22 21 26.1 -1.7
comp=N,1.7nm,1.1s,baz=114,slow=3.6,SNR=13
SONM Songino Array 83.72 324 P P 22 21 26.8 -1.0
SONM pmax pmax
comp=Z,11nm,1.2s
SONM Songino Array 83.72 324 P P 22 21 26.8 -1.0
SONM IAmb IAmb 22 21 41.7
comp=Z,11nm,1.2s
BILL Bilibino 84.11 360 *ce*P P 22 21 27.5 -1.6
BILL *i* 22 21 42.9
BILL *e* 22 24 44.1
BILL *e*S **S 22 31 57.5 +4.9**
BILL *e*SS **SS 22 37 27.9 +5.9**
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,84nm,17.0s
BILL Bilibino 84.11 360 P P 22 21 26.9 -2.2
BILL IAmb IAmb 22 21 33.1
comp=Z,20nm,1.3s
SHL Shillong 84.26 299 P P 22 21 29.2 -1.9
SHL pmax pmax
comp=Z,24nm,1.0s
SHL Shillong 84.26 299 P P 22 21 29.2 -1.9
PMR Palmer 85.00 19 P P 22 21 33.8 +0.1
PMR pmax pmax
comp=Z,11nm,0.8s
PMR Palmer 85.00 19 P P 22 21 33.8 +0.1
PMR IAmb IAmb 22 21 57.6
comp=Z,11nm,0.8s
BELA Belgrano 2 85.17 175 P P 22 21 33.7 -0.8
BOD Bodaibo 85.86 335 *e*P P 22 21 37.3 -0.8
BOD pmax pmax
comp=Z,11nm,1.4s
GOMU GeErMu 85.94 309 P P 22 21 40.0 +0.5
GOMU S **S 22 32 12.8 0.0**
GOMU SS **SS 22 37 48.5 -2.5**
GOMU pmax pmax
comp=Z,120nm,5.3s
GOMU LR LR
comp=Z,150nm,18.7s
GOMU LR LR
comp=Z,200nm,22.3s
KTH Kantishna Hill 85.95 17 P P 22 21 36.6 -1.9
YBH Yreka Blue Hor 86.57 45 LR LR 22 53 57.7
comp=Z,183nm,19.4s,baz=247,slow=31
ZAK Zakamensk 86.80 325 *e*P P 22 21 46.2 +3.2
ZAK pmax pmax
comp=Z,10.0nm,1.4s
BWN Browne 86.84 18 P P 22 21 42.2 -0.6
SYO Syowa Base 87.19 197⇑ *e*P P 22 21 42.2 -2.3
SYO Syowa Base 87.19 197⇓ *e*PcP PcP 22 21 46.4 -0.3
COLA College 87.83 18⇑ *e*P P 22 21 48.0 +0.5
COLA pmax pmax
comp=Z,5.0nm,1.0s
PFO Pinyon Flats O 87.96 54 LR LR 22 53 24.6
comp=Z,524nm,19.8s,baz=255,slow=30
IL31 88.04 18 P P 22 21 47.1 -1.4
IL31 IAmb IAmb 22 21 54.0
comp=Z,7.1nm,1.4s

ILAR	**Eielson Array**	**88.04**	**18**	LR	LR	22 57 52.5	
	comp=Z,266nm,18.4s,baz=244,slow=33						
BBB	**Bella Bella**	**88.11**	**34**	LR	LR	22 52 10.1	
	comp=Z,203nm,21.8s,baz=253,slow=30						
NVAR	**Mina Array Bea**	**88.34**	**49**	P	**P**	**22 21 49.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=208,slow=5.6,SNR=1.9						
NVAR				LR	LR	22 52 30.3	
	comp=Z,227nm,21.3s,baz=264,slow=30						
J25K	**Salcha River,**	**88.38**	**19**	P	**P**	**22 21 50.1**	**-0.1**
PALK	**Pallekele**	**88.68**	**278**	LR	LR	23 03 16.1	
	comp=Z,153nm,19.7s,baz=227,slow=37						
LPIG	**La Paz**	**89.92**	**65**	LR	LR	22 56 01.9	
	comp=Z,422nm,18.1s,baz=224,slow=32						
KNGR	**Kungurtug, Tuv**	**90.15**	**323**	*eP*	**P**	**22 21 56.4**	**-2.6**
DLBC	**Dease Lake**	**90.35**	**28**	LR	LR	22 56 15.2	
	comp=Z,190nm,19.4s,baz=264,slow=32						
TROLL	**Troll, Antarti**	**91.30**	**185**	P	**P**	**22 22 03.0**	**-1.1**
ELK	**Elko**	**91.38**	**48**	LR	LR	22 55 42.8	
	comp=Z,224nm,20.1s,baz=261,slow=31						
TIXI	**Tiksi**	**91.50**	**349**	P	**P**	**22 22 02.9**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=271,slow=23,SNR=2.1						
TIXI	**Tiksi**	**91.50**	**349**	*eP*	**P**	**22 22 03.8**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SNAA	**Sanae**	**91.98**	**183**	P	**P**	**22 22 06.7**	**-0.4**
SNAA	**Sanae**	**91.98**	**183**	LR	LR	23 00 08.0	
	comp=Z,122nm,20.8s,baz=220,slow=33						
SNAA	**Sanae**	**91.98**	**183**	*eP*	**P**	**22 22 07.9**	**+0.8**
SNAA				pmax	pmax		
	comp=Z,17nm,1.6s						
VNA3	**Neumayer Olymp**	**92.65**	**181**	P	**P**	**22 22 08.3**	**-1.9**
NEW	**Newport**	**92.80**	**40**	LR	LR	22 58 19.1	
	comp=Z,117nm,19.3s,baz=241,slow=32						
WMQ	**Urumqi**	**93.78**	**314**	*eP**	**P**	**22 22 16.3**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,15nm,1.3s						
WMQ				LR	LR		
	comp=Z,170nm,18.3s						
INK	**Inuvik**	**94.39**	**19**	LR	LR	23 00 44.7	
	comp=Z,303nm,19.9s,baz=216,slow=33						
PDAR	**Pinedale Array**	**96.05**	**47**	LR	LR	23 04 39.7	
	comp=Z,147nm,18.2s,baz=256,slow=35						
ANMO	**Albuquerque**	**96.24**	**56**	LR	LR	22 57 01.7	
	comp=Z,268nm,21.6s,baz=242,slow=30						
TXAR	**Lajitas Array**	**97.08**	**62**	LR	LR	22 59 34.4	
	comp=Z,224nm,18.6s,baz=241,slow=31						
MKAR	**Makanchi Array**	**98.30**	**316**	P	**P**	**22 22 34.5**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=104,slow=6.4,SNR=3.0						
MKAR				LR	LR	23 10 09.1	
	comp=Z,69nm,18.0s,baz=94,slow=37						
ZALV	**Zalesovo Beam**	**98.62**	**324**	P	**P**	**22 22 36.6**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=115,slow=6.5,SNR=2.1						
ZALV				LR	LR	23 06 05.0	
	comp=Z,85nm,21.8s,baz=103,slow=35						
YKA	**Yellowknife Ar**	**98.97**	**27**	P	**P**	**22 22 36.2**	**-2.6**
	comp=Z,0.4nm,0.7s,baz=254,slow=4.4,SNR=4.8						
YKA				LR	LR	23 02 02.9	
	comp=Z,120nm,19.0s,baz=262,slow=32						
NRIK	**Noril'sk**	**101.52**	**339**	*iP*	**Pdif**	**22 22 49.7**	**-0.4**
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKTO	**Aktyubinsk**	**114.61**	**318**	PKP	PKPdf	22 27 38.5	-0.3
	comp=Z,1.0nm,0.7s,baz=82,slow=18,SNR=3.6						
ARCES	**ARCESS Array B**	**121.75**	**345**	PKP	**PKPdf**	**22 27 49.4**	**-2.7**
	comp=Z,4.2nm,1.1s,baz=54,slow=1.6,SNR=2.3						
KLMR	**Klimovskoe**	**122.05**	**333**	*e*PKIKP	**PKPdf**	**22 27 50.3**	**-2.5**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KLMR	**Klimovskoe**	**122.05**	**333**	AMP		22 27 58.9	
	comp=Z,10.0nm,1.3s						
KLMR	**Klimovskoe**	**122.05**	**333**	*e*PKPdf	Pn	22 27 50.4	+3.9
VRH	**Novokhopyorsk**	**124.58**	**322**	*e*PKIKP	**PKiKP**	**22 27 58.1**	**-0.2**
VRH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZEI	**Tsey**	**125.24**	**311**	*i* PKIKP	**PKiKP**	**22 28 03.4**	**+3.2**
ZEI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPSR	**Galich'ya Gora**	**125.73**	**324**	*e*PKIKP	**PKPdf**	**22 27 58.5**	**-1.6**
LPSR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIV	**Kislovodsk**	**125.88**	**313**	*i* PKIKP	**PKiKP**	**22 28 04.3**	**+3.0**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VORR	**Voronezh**	**125.91**	**323**	*e*PKIKP	**PKiKP**	**22 28 02.3**	**+1.4**
VORR				pmax	pmax		
	comp=Z,20nm,0.4s						
OBN	**Obninsk**	**126.00**	**327**	*i* PKIKP	**PKPdf**	**22 27 59.2**	**-1.3**
OBN				*e*		22 29 54.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VSR	**Storozhevoye**	**126.09**	**322**	*e*PKIKP	**PKiKP**	**22 28 01.9**	**+0.6**
VSR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FINES	**FINESS Array B**	**127.15**	**338**	PKP	**PKPdf**	**22 28 00.7**	**-1.9**
	comp=Z,2.6nm,1.1s,baz=49,slow=1.8,SNR=2.5						
KMBO	**Kilima Mbogo**	**127.67**	**256**	*i* PKIKP	**PKPdf**	**22 28 02.9**	**-2.5**
AKASG	**Malin Array Be**	**131.99**	**325**	PKP	**PKPdf**	**22 28 08.9**	**-3.2**
	comp=Z,0.4nm,0.4s,baz=52,slow=1.5,SNR=1.6						
AKASG	**Malin Array Be**	**131.99**	**325**	*c* PKIKP	**PKiKP**	**22 28 13.0**	**-0.1**
BRTR	**Keskin Array B**	**133.48**	**310**	PKP	**PKPdf**	**22 28 14.6**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=139,slow=2.8,SNR=4.3						
BRTR	**Keskin Array B**	**133.48**	**310**	*c* PKIKP	**PKiKP**	**22 28 18.3**	**+1.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KECS	**Kecovo**	**137.94**	**327**	*e*PKIKP	**PKiKP**	**22 28 25.1**	**-0.2**
KECS	**Kecovo**	**137.94**	**327**	*e*PKP	**PKiKP**	**22 28 25.1**	**-0.2**
KOLL	**Kolacno**	**138.95**	**328**	*e*PKP	**PKiKP**	**22 28 28.2**	**+0.8**
CLL	**Collm**	**139.46**	**335**	*e*PKIKP	**PKPdf**	**22 28 26.0**	**0.0**
CLL	**Collm**	**139.46**	**335**	*e*PKPdf	**PKPdf**	**22 28 26.0**	**0.0**
CLL				LmV		23 33 00.0	
	comp=Z,100nm,20.8s						
MODS	**Modra-Piesok**	**139.65**	**329**	*e*PKIKP	**PKPdf**	**22 28 26.8**	**+0.3**
MODS	**Modra-Piesok**	**139.65**	**329**	*e*PKP	**PKPdf**	**22 28 26.8**	**+0.3**
CONA	**Conrad Observa**	**140.65**	**329**	P	**PKiKP**	**22 28 30.7**	**-0.3**
	comp=Z,3.4nm,1.2s						
CKRC	**Cesky Krumlov**	**140.75**	**332**	*e*PKP	**PKiKP**	**22 28 35.3**	**+4.2**
CKRC				*ex*	x	22 28 42.8	
KHC	**Kasperske Hory**	**140.85**	**332**	*e*PKIKP	**PKiKP**	**22 28 35.1**	**+3.8**
KHC	**Kasperske Hory**	**140.85**	**332**	*e*PKP	**PKiKP**	**22 28 33.5**	**+2.2**
GERES	**GERESS Array B**	**141.01**	**332**	PKP	**PKPdf**	**22 28 26.2**	**-2.8**
	comp=Z,0.2nm,0.5s,baz=46,slow=2.8,SNR=2.1						
SOKA	**Soboth**	**141.91**	**329**	P	**PKPdf**	**22 28 29.0**	**-1.7**
	comp=Z,3.3nm,1.2s						
OBKA	**Obir**	**142.27**	**329**	P	**PKPdf**	**22 28 28.5**	**-2.9**
	comp=Z,5.4nm,1.5s						
ABTA	**Abfaltersbach**	**143.09**	**331**	P	PKPab	22 28 28.0	-0.2
	comp=Z,3.1nm,0.7s						
WTTA	**Wattenberg**	**143.11**	**332**	*eP*	PKPab	22 28 28.7	+0.3
	comp=Z,4.2nm,0.9s						
MOTA	**Moosalm**	**143.29**	**333**	P	PKPab	22 28 27.9	-1.2
	comp=Z,2.8nm,1.0s						
SQTA	**Sankt Quirin**	**143.33**	**332**	*eP*	PKPab	22 28 26.9	-2.3
	comp=Z,2.5nm,0.9s						
FETA	**Feichten**	**143.70**	**333**	*eP*	PKPab	22 28 28.9	-1.8
	comp=Z,4.2nm,1.5s						
DAVA	**Damuels**	**143.86**	**334**	P	PKPab	22 28 29.0	-2.3
	comp=Z,4.0nm,1.2s						
DAVOX	**Davos/Dischmat**	**144.26**	**333**	PKP	**PKPab**	**22 28 32.1**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=239,slow=7.0,SNR=6.4						
TUE	**Stuetta**	**144.73**	**333**		**PKPab**	**22 28 33.3**	**-1.3**
KEST	**Kesra**	**152.37**	**319**	PKPbc	**PKPbc**	**22 28 54.1**	**-1.1**
	comp=Z,7.0nm,0.8s,baz=167,slow=1.4,SNR=6.5						
ESDC	**Sonseca Array**	**155.47**	**343**	PKPab	**PKPab**	**22 29 17.8**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=15,slow=6.2,SNR=4.1						

DJA 29 22:11:05.4±0.8,**2°N**±5°×**12°1E**°, **h10**km, **M3.6/6, MLv3.6/6, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.50**	**218**	P	Pn	22 11 32.2	-0.2
MPSI				S	Sb	22 11 52.9	+0.4
MRSI	**Marisa**	**1.52**	**133**	P	Pn	22 11 30.6	-2.0
MRSI				S	Sn	22 11 51.1	-1.4
GTOI	**Gorontalo**	**2.35**	**112**	P	Pn	22 11 41.5	-2.6
GTOI				S	Sn	22 12 07.9	-5.1
APSI	**Ampana**	**2.55**	**161**	P	Pn	22 11 48.0	+1.2
APSI				S	Sb	22 12 22.0	-0.7
LUWI	**Luwuk**	**3.20**	**143**	P	Pn	22 11 57.0	+1.2
LUWI				S	Sn	22 12 37.5	+3.5

*SNET **29** 22:24:08.1±1.3, 13°.03N×90°.25W, h25km±5km, ML3.3*
*GCG **29** 22:24:15.5±1.1, 14°.11N×90°.25W, h122km±28km, MD3.5*

ISC 29 22:24:07.3±3.0, **13°.0N**±0°.1×**90°.34W**±0°.08, **h28**km±15km, **n14**, σ1**913**/23, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.03**	**32**	*eP*	**Pn**	**22 24 26.0**	**-0.1**
NUBE				*eS*	**Sb**	**22 24 39.3**	**-0.4**
NUBE				IAML		22 24 40.2	
	comp=Z,489nm,0.4s						
CEVE	**Cerro Verde**	**1.06**	**41**	*eP*	**Pn**	**22 24 26.6**	**+0.1**
CEVE				*eS*	**Sn**	**22 24 41.1**	**+0.6**
CEVE				IAML		22 24 42.6	
	comp=Z,3μm,0.6s						
SBLS	**San Blas**	**1.07**	**41**	*eP*	**Pn**	**22 24 26.6**	**-0.1**
JAYA	**Jayaque - finc**	**1.07**	**54**	*eP*	**Pn**	**22 24 26.4**	**-0.2**
JAYA				*eS*	**Sn**	**22 24 41.2**	**+0.5**
JAYA				IAML		22 24 41.7	
	comp=Z,2μm,0.2s						
SNJE	**San Jose**	**1.10**	**40**	*eP*	**Pn**	**22 24 27.2**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.13**	**29**	*eP*	**Pn**	**22 24 27.8**	**+0.4**
SLOZ				*eS*	**Sn**	**22 24 42.8**	**+0.8**
BOQS	**Boqueron**	**1.25**	**56**	*eP*	**Pn**	**22 24 29.4**	**+0.2**
LFRS	**El Faro**	**1.38**	**64**	*i P*	**Pn**	**22 24 30.7**	**-0.2**
PCG	**Pacaya**	**1.38**	**349**	*eP*	**Pb**	**22 24 34.0**	**+1.3**
PCG				*eS*	**Sn**	**22 24 49.0**	**+0.5**
SJTE	**Alcalda de S**	**1.42**	**66**	*eP*	**Pn**	**22 24 31.3**	**-0.1**
SJTE				*eS*	**Sb**	**22 24 49.1**	**-2.0**
FUG	**Fuego 3**	**1.49**	**341**	*eP*	**Pn**	**22 24 31.9**	**-0.7**
FUG				*eS*	**Sn**	**22 24 51.5**	**+0.2**
NBG	**Las Nubes**	**1.55**	**360**	*eP*	**Pb**	**22 24 35.7**	**+0.2**
NBG				*eS*	**Sn**	**22 24 49.3**	**-3.5**
MTO3	**Montecristo**	**1.66**	**35**	*eP*	**Pn**	**22 24 35.9**	**+1.0**
MTO3				*eS*	**Sb**	**22 24 57.5**	**-0.5**
MTO3				IAML		22 24 58.7	
	comp=Z,182nm,0.3s						
ESQI	**Esquipulas**	**1.81**	**32**	*eP*	**Pn**	**22 24 38.3**	**+1.5**

NOU 29 22:24:29.9, 16°.31S×167°.21E, h5km**, MLv4.5**/14**, Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.86**	**360**	P	Pb	22 24 46.9	-0.4
DVP	**Devils Point**	**1.69**	**147**	P	Pn	22 25 00.4	+0.3
RTV	**Rentapao**	**1.88**	**142**	P	Pn	22 25 03.0	+0.3
KOUNC	**Koumac, New Ca**	**5.05**	**213**	P	Pn	22 25 47.0	+0.7
YATNC	**Mamie plateau,**	**5.73**	**183**	P	Pn	22 25 54.2	-1.5
DZM	**Mont Dzumac**	**5.78**	**187**	P	Pn	22 25 55.3	-1.1
	15nm,1.1s						
NOUC	**Port Laguerre**	**5.82**	**188**	P	Pn	22 25 56.9	-0.1
	21nm,0.7s						
OUENC	**Ouen Island, N**	**6.09**	**183**	P	Pn	22 26 00.3	-0.3
	31nm,1.5s						

HEL 29 22:26:05.8±0.5, **67°.73N**×**33°.64E, h0**km**, ML1.4, Explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.54**	**273**	PG	Pn	22 26 33.4	-1.1
VRF				MSG		22 26 51.9	
	comp=Z,1.4nm,0.2s						
VRF				SG	Sn	22 26 52.5	-2.6
OLKF	**Oulanka, Finla**	**2.19**	**232**	PB	Pn	22 26 43.6	+0.3
OLKF				SB	Sn	22 27 12.3	+1.2
KU6	**Riekki**	**2.27**	**223**	PN	Pn	22 26 44.5	+0.1
	baz=42						
KU6				SN	Sn	22 27 12.4	-0.6
KU6				MSG		22 27 12.9	
	comp=Z,4.0nm,0.2s						
MSF	**Maaselka**	**2.58**	**227**	SN	Sn	22 27 21.9	+1.1
SGF	**Sodankyl**	**2.74**	**267**	SB	Sb	22 27 27.9	-1.8
KEV	**Kevo**	**3.16**	**313**	MSG		22 27 38.6	
	comp=Z,0.6nm,0.2s						
KEV				SG	Sb	22 27 41.6	-0.1
LANU	**Lannavaara**	**4.42**	**280**	SN	Sn	22 28 02.8	-3.3

*IDC **29** 22:31:54.6±0.8, 55°.74N×110°.11E, h0km, mb3.7/10, mb1 4.0/16, mb1mx3.7/64, mbtmp3.8/16, ML3.9/6, Error ellipse: s-maj=18.4km s-min=12.1km az=151.0*
*NEIC **29** 22:31:55.8±1.4, 55°.79N±0°.07×110°.34E±0°.09, h10km±1km, mb4.3/22, Error ellipse: s-maj=13.0km s-min=6.8km az=150.0*
*MOS **29** 22:31:55.0±1.1, 55°.79N×110°.13E, h12km, mb4.1/5, Error ellipse: s-maj=9.0km s-min=5.9km az=65.7*
*BYKL **29** 22:31:56.4±0.1, 55°.74N×110°.20E, h8km±2km*

ISC 29 22:31:55.1±0.4, **55.75N**±0°.02×**110.33E**±0°.02, **h10**km, **n131, s251**/193, **mb4.0**/18, **11C-9D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.45**	**274**	*i*PG	**Pg**	**22 32 03.5**	**-0.4**
NIZ				*e*		22 32 08.3	
NIZ				pmax	pmax		
	comp=Z,715nm,0.2s						
NIZ				smax	smax		
	comp=E,10μm,0.4s						
NIZ	**Nizh Angarsk**	**0.45**	**274**	*i*Pg	**Pg**	**22 32 03.6**	**-0.4**
NIZ				*e*Sg	**Sg**	**22 32 08.7**	**-1.1**
NIZ				Smax		22 32 09.8	
	comp=E,18μm,0.3s						
NIZ				Pmax		22 39 03.7	
	comp=E,867nm,0.3s						
NIZ	**Nizh Angarsk**	**0.45**	**274**		**Pg**	**22 32 03.5**	**-0.4**
KMO	**Kumora**	**0.51**	**74**	*i*PG	**Pb**	**22 32 06.7**	**+0.5**
KMO				*e*		22 32 13.4	
KMO				pmax	pmax		
	comp=Z,414nm,0.4s						
KMO				smax	smax		
	comp=N,4μm,1.0s						
KMO	**Kumora**	**0.51**	**74**	*e*Pg	**Pb**	**22 32 06.7**	**+0.5**
KMO				Pmax		22 32 08.0	
	comp=N,418nm,0.4s						
KMO				*e*Sg	**Sb**	**22 32 14.6**	**+0.9**
KMO				Smax		22 32 17.1	
	comp=N,4μm,1.0s						
KMO	**Kumora**	**0.51**	**74**		**Pb**	**22 32 06.6**	**+0.4**
YOA	**Uoyan**	**0.87**	**63**	*e*PG	**Pn**	**22 32 14.8**	**+1.3**
YOA				*e*		22 32 26.9	
YOA				pmax	pmax		
	comp=Z,153nm,0.1s						
YOA				smax	smax		
	comp=N,5μm,0.7s						
YOA	**Uoyan**	**0.87**	**63**	*e*Pg	**Pn**	**22 32 13.8**	**+0.3**
YOA				Pmax		22 32 16.9	
	comp=N,469nm,0.4s						
YOA				*e*Sg	**Sn**	**22 32 26.5**	**+0.2**
YOA				Smax		22 32 41.1	
	comp=N,5μm,0.8s						
YOA	**Uoyan**	**0.87**	**63**		**Pn**	**22 32 14.8**	**+1.3**
YLYR	**Ulyunkhan**	**0.99**	**151**	*i*Pg	**Pn**	**22 32 14.9**	**-0.2**
YLYR				Pmax		22 32 15.1	
	comp=N,594nm,0.4s						
YLYR				*e*Sg	**Sn**	**22 32 29.3**	**+0.1**
YLYR				Smax		22 32 36.0	
	comp=N,1μm,0.2s						
SVKR	**Severomuysk**	**1.85**	**77**	*e*PN	**Pg**	**22 32 30.7**	**+0.1**
SVKR				*e*		22 32 56.8	
SVKR				pmax	pmax		
	comp=Z,628nm,0.4s						
SVKR				smax	smax		
	comp=N,4μm,0.6s						
SVKR	**Severomuysk**	**1.85**	**77**	*e*Pn	**Pg**	**22 32 30.6**	**0.0**
SVKR				*e*Pg	**Pb**	**22 32 31.4**	**+2.3**
SVKR				Pmax		22 32 33.8	
	comp=N,655nm,0.3s						
SVKR				*e*Sg	**Sg**	**22 32 56.4**	**+1.8**
SVKR				Smax		22 33 00.2	
	comp=N,5μm,0.6s						
SVKR	**Severomuysk**	**1.85**	**77**		**Pg**	**22 32 30.6**	**0.0**
UKT	**Uakit**	**1.89**	**97**	*e*PN	**Pg**	**22 32 31.1**	**-0.2**
UKT				*e*		22 32 56.8	
UKT				pmax	pmax		
	comp=Z,258nm,0.5s						
UKT				smax	smax		
	comp=N,1μm,0.5s						
UKT	**Uakit**	**1.89**	**97**	*i*Pg	**Pg**	**22 32 31.1**	**-0.2**
UKT				Pmax		22 32 36.6	
	comp=N,537nm,0.6s						
UKT				*e*Sg	**Sg**	**22 32 56.9**	**+1.2**
UKT				Smax		22 32 58.6	

	comp=N,2μm,0.7s						
SYVR	**Suvo**	**2.10**	**185**	*e*PN	**Pb**	**22 32 33.8**	**+0.5**
SYVR				*e*SG	**Sg**	**22 33 02.8**	**+0.2**
SYVR	**Suvo**	**2.10**	**185**	*e*Pn	**Pb**	**22 32 32.3**	**-1.0**
SYVR				*i*Pg	**Pg**	**22 32 33.9**	**-1.5**
SYVR				Pmax		22 32 34.7	
	comp=N,460nm,0.6s						
SYVR				*e*Sg	**Sg**	**22 33 02.3**	**-0.3**
SYVR				Smax		22 33 04.8	
	comp=N,6μm,0.9s						
OGRR	**Ongureny**	**2.64**	**218**	*i*PN	**Pb**	**22 32 41.6**	**-0.9**
OGRR				*e*		22 32 42.4	
OGRR				*e*		22 33 17.6	
OGRR				pmax	pmax		
	comp=Z,91nm,0.7s						
OGRR				smax	smax		
	comp=E,928nm,0.7s						
OGRR	**Ongureny**	**2.64**	**218**	*i*Pg	**Pb**	**22 32 41.6**	**-0.9**
OGRR				Pmax		22 32 46.7	
	comp=E,78nm,0.3s						
OGRR				*e*		22 33 13.9	
OGRR				*e*Sg	**Sg**	**22 33 17.2**	**-2.6**
OGRR				Smax		22 33 22.1	
	comp=E,750nm,0.5s						
MXMB	**Maximikha**	**2.66**	**201**	*e*Pg	**Pb**	**22 32 43.1**	**+0.4**
MXMB				*e*Sg	**Sg**	**22 33 18.2**	**-2.1**
BOD	**Bodaibo**	**2.90**	**43**	*i*PN	**Pb**	**22 32 44.2**	**-2.6**
BOD				*e*		22 32 50.5	
BOD				*e*		22 33 26.6	
BOD				pmax	pmax		
	comp=Z,78nm,0.3s						
BOD				smax	smax		
	comp=N,531nm,0.4s						
BOD	**Bodaibo**	**2.90**	**43**	*e*Pn	**Pb**	**22 32 44.2**	**-2.6**
BOD				*e*Pg	**Pg**	**22 32 48.7**	**-1.9**
BOD				Pmax		22 32 51.2	
	comp=N,77nm,0.3s						
BOD				*e*Sn	**Sn**	**22 33 18.9**	**+2.8**
BOD				*e*Sg	**Sg**	**22 33 27.0**	**-1.1**
BOD				Smax		22 33 31.0	
	comp=N,535nm,0.5s						
NLYR	**Nelyaty**	**3.10**	**74**	*e*Pn	**Pb**	**22 32 47.1**	**-3.2**
NLYR				*e*Pg	**Pg**	**22 32 53.1**	**-1.3**
NLYR				*e*PgPg	**PbPb**	**22 32 56.3**	**+2.9**
NLYR				max		22 32 59.4	
	comp=N,168nm,0.7s						
NLYR				*e*Sn	**Sn**	**22 33 24.5**	**+3.4**
NLYR				*e*Sg	**Sg**	**22 33 35.1**	**+0.6**
NLYR				Smax		22 34 01.1	
	comp=N,713nm,0.8s						
KELR	**Kotokel**	**3.27**	**205**	*e*Pn	**Pn**	**22 32 48.4**	**+2.0**
KELR				*e*Pg	**Pb**	**22 32 53.6**	**+0.4**
KELR				*e*Sg	**Sg**	**22 33 36.4**	**-3.7**
ZRHB	**Zarechye**	**3.71**	**212**	*e*Pg	**Pb**	**22 33 02.6**	**+2.0**
ZRHB				*e*Sg	**Sg**	**22 33 50.1**	**-3.9**
TRG	**Tyrgan**	**3.80**	**220**	*i*PN	**Pn**	**22 32 55.4**	**+1.7**
TRG				*e*		22 33 04.1	
TRG				*e*S	**Sn**	**22 33 39.8**	**+1.4**
TRG				*e*		22 33 52.7	
TRG				pmax	pmax		
	comp=Z,66nm,0.4s						
TRG				smax	smax		
	comp=E,420nm,0.5s						
TRG	**Tyrgan**	**3.80**	**220**	*i*Pn	**Pn**	**22 32 55.4**	**+1.7**
TRG				*e*		22 32 59.1	
TRG				*e*Pg	**Pb**	**22 33 03.9**	**+1.7**
TRG				Pmax		22 33 09.3	
	comp=E,60nm,0.4s						
TRG				*e*Sn	**Sn**	**22 33 39.2**	**+0.8**
TRG				*e*Sg	**Sg**	**22 33 52.8**	**-4.1**
TRG				Smax		22 33 56.1	
	comp=E,419nm,0.5s						
TRG	**Tyrgan**	**3.80**	**220**		**Pn**	**22 32 55.4**	**+1.7**
VTMR	**Vitim**	**3.89**	**17**	*e*Pn	**Pn**	**22 32 57.3**	**+2.4**
VTMR				*e*Pg	**Pg**	**22 33 07.5**	**-2.1**
VTMR				*e*Sn	**Sn**	**22 33 41.7**	**+1.1**
VTMR				*e*Sg	**Sg**	**22 33 58.5**	**-1.5**
UUDB	**Ulan-Yde**	**4.20**	**203**	*e*Pn	**Pn**	**22 33 01.2**	**+2.0**
UUDB				*e*Pg	**Pb**	**22 33 11.0**	**+2.0**
UUDB				Pmax		22 33 17.4	
	comp=E,136nm,1.1s						
UUDB				*e*Sg	**Sg**	**22 34 04.9**	**-4.9**
UUDB				Smax		22 34 23.4	
	comp=E,436nm,1.3s						
KAB	**Kabansk**	**4.29**	**212**	*e*Sg	**Sg**	**22 34 07.7**	**-5.2**
KAB				Smax		22 34 41.8	
	comp=E,742nm,0.7s						
CRS	**Chara**	**4.57**	**72**	*e*PN	Pn	22 33 09.0	+4.8
CRS				*e*		22 33 21.2	
CRS				*e*		22 34 20.5	
CRS				pmax	pmax		
	comp=Z,151nm,1.0s						
CRS				smax	smax		
	comp=E,182nm,1.2s						
CRS	**Chara**	**4.57**	**72**	*e*Pn	**Pn**	**22 33 07.4**	**+3.2**
CRS				*e*Pg	**Pg**	**22 33 19.8**	**-2.7**
CRS				Pmax		22 33 25.4	
	comp=E,151nm,0.9s						
CRS				*e*Sn	**Sn**	**22 33 59.5**	**+2.2**
CRS				*e*Sg	**Sg**	**22 34 20.0**	**-1.6**
CRS				Smax		22 34 26.0	
	comp=E,336nm,1.6s						
BGT	**Bolshoye Golou**	**4.71**	**220**	*e*Pn	**Pn**	**22 33 07.7**	**+1.4**
BGT				max		22 33 12.6	
	comp=E,75nm,0.6s						
BGT				*e*Pg	**Pb**	**22 33 20.3**	**+2.5**
BGT				*e*Sg	**Sg**	**22 34 20.2**	**-6.2**
BGT				Smax		22 34 25.7	
	comp=E,420nm,0.6s						
IRK	**Irkutsk**	**5.01**	**228**	*e*PN	**Pn**	**22 33 09.5**	**-0.8

ARS				*e*Sg	**Sg**	**22 35 02.3**	**-6.9**
ARS				Smax		22 35 07.9	
	comp=N,1μm,0.8s						
KPC	**Khapcheranga**	**6.18**	**168**	*e*PN	**Pn**	**22 33 28.6**	**+2.2**
KPC				*e*		22 33 47.1	
KPC				*e*		22 35 06.5	
KPC				pmax	pmax		
	comp=Z,44nm,0.8s						
KPC				smax	smax		
	comp=E,230nm,1.3s						
KPC	**Khapcheranga**	**6.18**	**168**	*e*Pn	**Pn**	**22 33 29.4**	**+3.0**
KPC				*e*Pg	**Pg**	**22 33 48.8**	**-4.6**
KPC				Pmax		22 33 49.2	
	comp=E,44nm,0.6s						
KPC				*e*Sn	**Sn**	**22 34 36.6**	**-0.5**
KPC				*e*Sg	**Sg**	**22 35 08.7**	**-4.6**
KPC				Smax		22 35 26.6	
	comp=E,231nm,0.6s						
YKLR	**Yuktali**	**6.38**	**78**	*e*Pn	**Pn**	**22 33 32.5**	**+3.4**
YKLR				*e*Pg	Pb	22 33 51.6	+5.4
YKLR				*e*Sg	**Sg**	**22 35 15.3**	**-4.5**
ZAK	**Zakamensk**	**6.85**	**221**	*e*PN	**Pn**	**22 33 37.4**	**+1.8**
ZAK				*e*		22 33 58.7	
ZAK				*e*S	**Sn**	**22 34 53.7**	**+0.1**
ZAK				*e*		22 35 26.5	
ZAK				pmax	pmax		
	comp=Z,25nm,1.2s						
ZAK				smax	smax		
	comp=N,179nm,1.2s						
ZAK	**Zakamensk**	**6.85**	**221**	*e*Pn	**Pn**	**22 33 37.2**	**+1.6**
ZAK				max		22 33 43.3	
	comp=N,25nm,0.6s						
ZAK				*e*		22 34 57.8	
ZAK				*e*Sg	**Sg**	**22 35 26.7**	**-8.1**
ZAK				Smax		22 35 30.3	
	comp=N,178nm,1.4s						
MOY	**Mondy**	**6.89**	**237**	*e*PN	**Pn**	**22 33 38.0**	**+1.9**
MOY				*e*		22 33 59.9	
MOY				*e*S	**Sn**	**22 34 52.7**	**-1.9**
MOY				*e*		22 35 27.2	
MOY				pmax	pmax		
	comp=Z,38nm,0.9s						
MOY				smax	smax		
	comp=E,377nm,1.5s						
MOY	**Mondy**	**6.89**	**237**	*e*Pn	**Pn**	**22 33 38.1**	**+1.9**
MOY				max		22 33 39.1	
	comp=E,146nm,1.0s						
MOY				*e*		22 33 44.8	
MOY				*e*Sn	**Sn**	**22 34 52.2**	**-2.4**
MOY				*e*Sg	**Sg**	**22 35 27.0**	**-9.0**
MOY				Smax		22 35 32.3	
	comp=E,378nm,1.4s						
ORL	**Orlik**	**6.97**	**247**	*e*PN	**Pn**	**22 33 38.8**	**+1.5**
ORL				*e*		22 34 00.7	
ORL				*e*S	**Sn**	**22 34 53.4**	**-3.1**
ORL				*e*		22 35 29.6	
ORL				pmax	pmax		
	comp=Z,66nm,1.0s						
ORL				smax	smax		
	comp=N,170nm,1.4s						
ORL	**Orlik**	**6.97**	**247**	*e*Pn	**Pn**	**22 33 38.9**	**+1.6**
ORL				max		22 33 39.7	
	comp=N,63nm,0.8s						
ORL				*e*Sn	**Sn**	**22 34 53.3**	**-3.2**
ORL				*e*Sg	**Sg**	**22 35 29.7**	**-8.8**
ORL				Smax		22 35 42.3	
	comp=N,168nm,0.7s						
ULN	**Ulaanbaatar**	**8.15**	**196**	PN	**Pn**	**22 33 54.4**	**+0.9**
ULN	**Ulaanbaatar**	**8.15**	**196**	Pn	**Pn**	**22 33 54.4**	**+0.9**
IENR	**Iengra**	**8.16**	**81**	*e*Sg	**Sg**	**22 36 11.3**	**-5.5**
CLNS	**Chul'man**	**8.18**	**76**	*e*Sg	**Sg**	**22 36 11.2**	**-6.0**
SONM	**Songino Array**	**8.29**	**199**	Pn	**Pn**	**22 33 56.3**	**+0.8**
	comp=N,0.4nm,0.3s,baz=11,slow=13,SNR=2.5						
SONM				Lg	Lg	22 36 15.0	
	comp=N,6.3nm,0.3s,baz=14,slow=27,SNR=16						
SONM	**Songino Array**	**8.29**	**199**		**Pn**	**22 33 55.2**	**-0.2**
HIA	**Hailar**	**8.66**	**135**	*de*PN	**Pn**	**22 34 00.4**	**0.0**
HIA	**Hailar**	**8.66**	**135**	Pn	**Pn**	**22 34 00.2**	**-0.2**
KNGR	**Kungurtug, Tuv**	**9.25**	**242**⇓	*e*P	**Pn**	**22 34 12.2**	**+3.6**
ZEA	**Zeya**	**9.99**	**95**	*e*P	Pn	22 34 23.4	+4.9
ZEA				*e*S	**Sn**	**22 36 13.6**	**+3.1**
ZEA				smax	smax		
	comp=E,10.0nm,0.4s						
ZEA				smax	smax		
	comp=N,10.0nm,0.6s						
ZEA				MLR	MLR		
	comp=Z,200nm,5.0s						
YAK	**Yakutsk**	**11.79**	**50**	Pn	**Pn**	**22 34 41.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=225,slow=1.2,SNR=1.8						
YAK				Sn	**Sn**	**22 36 48.3**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=32,slow=24,SNR=5.7						
YAK				Lg	Lg	22 38 03.9	
	comp=Z,0.2nm,0.3s,baz=326,slow=23,SNR=5.7						
YAK	**Yakutsk**	**11.79**	**50**	*e*P	**Pn**	**22 34 44.9**	**+1.8**
YAK				*e*S	**Sn**	**22 36 58.3**	**+3.7**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YAK				smax	smax		
	comp=E,11nm,1.4s						
KLR	**Kul'dur**	**14.55**	**108**	Pn	**Pn**	**22 35 23.8**	**+2.9**
	comp=E,0.2nm,0.3s,baz=307,slow=13,SNR=6.2						
KLR				Lg	Lg	22 39 31.9	
	comp=E,0.1nm,0.3s,baz=183,slow=16,SNR=4.3						
KLR	**Kul'dur**	**14.55**	**108**⇓	*e*P	**Pn**	**22 35 23.4**	**+2.5**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAA0	**Zalesovo Array**	**14.78**	**274**	Pn	**Pn**	**22 35 23.4**	**-0.6**
ZALV	**Zalesovo Beam**	**14.78**	**274**	Pn	**Pn**	**22 35 22.5**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=75,slow=12,SNR=8.2						
ZALV				Lg	Lg	22 39 34.2	
	baz=70,slow=26,SNR=3.6						
ZALV	**Zalesovo Beam**	**14.78**	**274**	*i* P	**Pn**	**22 35 24.1**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**14.78**	**274**		**Pn**	**22 35 24.5**	**+0.6**
MDJ	**Mudanjiang**	**16.55**	**124**	Pn	**Pn**	**22 35 45.8**	**-1.4**
NRIK	**Noril'sk**	**17.04**	**332**	Pn	**Pn**	**22 35 50.2**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=122,slow=7.5,SNR=2.7						
NRIK				Sn	Sn	22 38 48.9	-13
	comp=Z,0.6nm,0.3s,baz=120,slow=12,SNR=5.7						
NRIK				Lg	Lg	22 40 42.6	
	baz=189,slow=7.9,SNR=1.2						
NRIK	**Noril'sk**	**17.04**	**332**⇑	*e*P	**P**	**22 35 54.5**	**-0.4**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NRIK	**Noril'sk**	**17.04**	**332**		**Pn**	**22 35 50.9**	**-2.1**
TIXI	**Tiksi**	**17.80**	**19**	P	**Pn**	**22 35 60.0**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=253,slow=23,SNR=10						
TIXI				S	Sn	22 39 07.3	-13
	comp=Z,0.3nm,0.3s,baz=88,slow=23,SNR=7.7						
TIXI				Lg	Lg	22 41 07.6	
	comp=Z,0.1nm,0.3s,baz=269,slow=23,SNR=2.1						
TIXI	**Tiksi**	**17.80**	**19**⇑	*e*P	**P**	**22 36 03.8**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TIXI	**Tiksi**	**17.80**	**19**		**Pn**	**22 36 01.0**	**-1.6**
TIXI				IAmb	IAmb	22 36 06.8	
	comp=Z,7.4nm,0.7s						
USRK	**Ussuriysk Ar.**	**18.01**	**121**	Lg	Lg	22 41 21.9	
	baz=278,slow=18,SNR=1.6						
KURK	**Kurchatov**	**19.53**	**268**	*de*P	**Pn**	**22 36 22.7**	**-1.0**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**19.53**	**268**	P	**P**	**22 36 22.5**	**0.0**
KURK				IAmb	IAmb	22 36 26.6	
	comp=Z,9.1nm,0.8s						
MK31	**Makanchi Array**	**19.58**	**255**	P	**Pn**	**22 36 23.7**	**-0.7**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MK31	**Makanchi Array**	**19.58**	**255**	P	**Pn**	**22 36 23.7**	**-0.7**
MKAR	**Makanchi Array**	**19.58**	**255**	P	**Pn**	**22 36 23.7**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=61,slow=11,SNR=35						
MKAR	**Makanchi Array**	**19.58**	**255**	*i* P	**Pn**	**22 36 24.7**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**19.58**	**255**	P	**Pn**	**22 36 24.3**	**-0.1**
KURBB	**Kurchatov Array**	**19.62**	**268**	P	**P**	**22 36 23.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=66,slow=12,SNR=32						
KURBB				Lg	Lg	22 42 11.4	
	comp=Z,0.0nm,0.3s,baz=3.5,slow=31,SNR=2.5						
MAKZ	**Makanchi**	**19.74**	**255**	P	**P**	**22 36 24.7**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MAKZ	**Makanchi**	**19.74**	**255**	P	**P**	**22 36 24.7**	**-0.1**
YSS	**Yuzh-Sakhalins**	**21.90**	**100**⇑	*e*P	**P**	**22 36 50.4**	**+2.3**

SEY	**Seymchan**	**22.25**	**54**	P	**P**	**22 36 52.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=240,slow=24,SNR=1.4							
BVAR	**Borovoye Array**	**23.20**	**280**	P	**P**	**22 37 01.6**	**-0.2**
	comp=Z,2.2nm,0.8s							
BRVK	**Borovoye**	**23.24**	**280**	P	**P**	**22 37 03.2**	**+1.0**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BRVK	**Borovoye**	**23.24**	**280**	P	**P**	**22 37 03.2**	**+1.0**
BRVK				IAmb	IAmb	22 37 05.4		
	comp=Z,5.4nm,0.8s							
AAK	**Ala-Archa**	**26.50**	**255**⇓	*e*P	**P**	**22 37 32.6**	**-0.1**
AAK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
PEA0B	**Petropavlovsk-**	**27.26**	**76**	P	**P**	**22 37 38.1**	**-1.1**
PEA0B	**Petropavlovsk-**	**27.26**	**76**	P	**P**	**22 37 38.1**	**-1.1**
ABKAR	**Akbulak array**	**30.76**	**279**	P	**P**	**22 38 10.9**	**+0.6**
SPB2	**Spitsbergen Ar**	**36.96**	**340**	P	**P**	**22 39 04.2**	**+0.4**
SPITS	**Spitsbergen Ar**	**36.97**	**340**	P	**P**	**22 39 04.5**	**+0.6**
KEV	**Kevo**	**37.24**	**325**	P	**P**	**22 39 06.3**	**0.0**
KEV	**Kevo**	**37.24**	**325**	P	**P**	**22 39 06.3**	**0.0**
KEV				IAmb	IAmb	22 39 13.6		
	comp=Z,14nm,1.2s							
ARCES	**ARCESS Array B**	**37.81**	**325**	P	**P**	**22 39 11.3**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=72,slow=9.1,SNR=6.6							
ARCES	**ARCESS Array B**	**37.81**	**325**	IAmb	IAmb	22 39 15.2		
	comp=Z,13nm,1.4s							
ANM	**Nome**	**39.81**	**42**	P	**P**	**22 39 24.8**	**-3.1**
ANM	**Nome**	**39.81**	**42**	P	**P**	**22 39 24.8**	**-3.1**
ANM				IAmb	IAmb	22 39 27.6		
	comp=Z,12nm,1.2s							
FIA1	**FINESS Array S**	**41.36**	**314**	P	**P**	**22 39 40.7**	**0.0**
FIA1				IAmb	IAmb	22 39 51.6		
	comp=Z,9.2nm,1.4s							
FINES	**FINESS Array B**	**41.36**	**314**	P	**P**	**22 39 41.1**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=62,slow=8.5,SNR=20							
FINES	**FINESS Array B**	**41.36**	**314**	*i* P	**P**	**22 39 41.4**	**+0.7**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
IMAR	**Indian Mountai**	**43.22**	**36**	P	**P**	**22 39 57.5**	**+1.6**
KIV	**Kislovodsk**	**43.47**	**284**	*e*P	**P**	**22 39 59.6**	**+1.4**
KIV				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KIV	**Kislovodsk**	**43.47**	**284**	P	**P**	**22 40 00.3**	**+2.1**
KIV				IAmb	IAmb	22 40 00.9		
	comp=Z,2.9nm,0.8s							
H21K	**Melozitna Rive**	**43.73**	**37**	P	**P**	**22 39 59.9**	**-0.1**
BMAR	**Burnt Mountain**	**45.25**	**32**	P	**P**	**22 40 14.5**	**+2.4**
ILAR	**Eielson Array**	**46.24**	**35**	P	**P**	**22 40 21.9**	**+1.9**
	comp=Z,1.3nm,0.9s,baz=301,slow=6.6,SNR=8.9							
ILAR	**Eielson Array**	**46.24**	**35**	P	**P**	**22 40 20.7**	**+0.7**
DHY	**Denali Highway**	**47.19**	**37**	P	**P**	**22 40 28.8**	**+1.2**
DHY				IAmb	IAmb	22 40 32.2		
	comp=Z,5.9nm,1.3s							
NB2	**NORSAR Subarra**	**47.40**	**319**	P	**P**	**22 40 29.8**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=46,slow=7.4							
NOA	**NORSAR Array B**	**47.40**	**319**	P	**P**	**22 40 29.2**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=46,slow=7.3,SNR=3.9							
NC204	**NORSAR Array S**	**47.41**	**320**	P	**P**	**22 40 29.5**	**+0.3**
NC602	**NORSAR Array S**	**47.48**	**319**	P	**P**	**22 40 30.4**	**+0.8**
NBO00	**NORSAR Array S**	**47.56**	**319**	P	**P**	**22 40 31.0**	**+0.7**
RIDG	**Independent Ri**	**47.60**	**36**	P	**P**	**22 40 31.0**	**+0.4**
RIDG				IAmb	IAmb	22 40 39.0		
	comp=Z,6.9nm,1.4s							
DIV	**Divide**	**49.06**	**39**	P	**P**	**22 40 41.8**	**-0.1**
BCAR	**Beaver Creek A**	**49.06**	**35**	P	**P**	**22 40 43.6**	**+1.7**
C36M	**Paulatuk**	**49.13**	**22**	P	**P**	**22 40 43.0**	**+0.8**
YKA	**Yellowknife Ar**	**57.00**	**23**	P	**P**	**22 41 40.5**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=330,slow=7.0,SNR=5.5							
YKA	**Yellowknife Ar**	**57.00**	**23**	*ce*P	**P**	**22 41 41.2**	**+0.9**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ESDC	**Sonseca Array**	**69.82**	**311**	P	**P**	**22 43 06.3**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=22,slow=6.4,SNR=6.3							
ESDC	**Sonseca Array**	**69.82**	**311**	IAmb	IAmb	22 43 22.9		
	comp=Z,1.4nm,1.1s							
WRA	**Warramunga Arr**	**78.09**	**157**	P	**P**	**22 43 55.0**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=349,slow=6.1,SNR=3.4							
WRA	**Warramunga Arr**	**78.09**	**157**	P	**P**	**22 43 55.0**	**+1.0**
ASAR	**Alice Springs**	**81.61**	**158**	P	**P**	**22 44 14.6**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=1.7,slow=6.1,SNR=1.9							

TUL ***29*** *22:36:13.1±1.2,35.72N±0.01×97.16W±0.01,h6km±6km, ML2.7,mb_Lg2.3/6(NEIC),Error ellipse: s-maj=1.8km s-min=1.2km az=139.0*

NEIC 29 22:36:13.5±1.1,35.74N±0.01×97.17W±0.01,h5km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=161.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKCFA	**Oklahoma City**	**0.40**	**215**		Pg	22 36 20.9	-0.3
OKCFA				Sg	Sg	22 36 26.6	+0.3
OKCSW	**OKLAHOMA CITY**	**0.40**	**213**		Pg	22 36 21.0	-0.2
OKCSW				Sg	Sg	22 36 26.8	+0.4
FNO	**Franklin**	**0.52**	**201**	Pg	Pg	22 36 23.1	-0.3
FNO				Sg	Sg	22 36 30.4	+0.3
TUL1	**Leonard**	**1.13**	**81**	Pg	Pg	22 36 34.3	-0.9
TUL1				Sg	Sg	22 36 49.2	-0.7
X34A	**Smith Ranch, M**	**1.26**	**206**		Pg	22 36 36.8	-0.8
T35A	**Sooner Cattle**	**1.29**	**24**	Pn	Pn	22 36 37.0	-1.1
U32A	**Winter Ranch,**	**1.61**	**294**	Pn	Pn	22 36 42.6	-0.1
WMOK	**Wichita Mounta**	**1.65**	**233**		Pn	22 36 41.6	-1.6
X37A	**Clayton**	**1.87**	**127**	Pn	Pn	22 36 46.1	-0.1
Z35A	**Perchaven, San**	**2.41**	**182**	Pn	Pn	22 36 53.2	-0.3
U40A	**Yellville**	**3.55**	**79**	IAmb_Lg		22 38 04.8	
X40A	**Basin Creek Fa**	**3.77**	**108**	IAmb_Lg		22 38 16.9	
PBMO	**Poplar Bluff**	**5.54**	**77**	IAmb_Lg		22 39 13.9	

IDC 29 22:39:27.7±15.0,12.16N×140.70E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.4/42,mbtmp3.8/3,Error ellipse: s-maj=509.2km s-min=98.4km az=169.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**71.60**	**26**	P	P	22 50 50.5	-0.1
	0.4nm,0.7s,baz=267,slow=5.4,SNR=2.5						
YKA	**Yellowknife Ar**	**85.97**	**27**	P	P	22 52 09.9	+0.2
	0.2nm,0.6s,baz=287,slow=4.9,SNR=4.4						
FINES	**FINESS Array B**	**90.70**	**334**	P	P	22 52 32.1	-0.1
	1.4nm,0.9s,baz=71,slow=6.0,SNR=4.8						

IDC ***29*** *22:40:06.6±1.4,2.03S×138.46E,h0km,mb3.6/5, mb1 3.9/6,mb1mx3.7/33,mbtmp3.7/6,ML4.0/1,Error ellipse: s-maj=58.7km s-min=22.7km az=94.0*

ISC 29 22:40:12.3±1.2,2.3S±0.1×138.0E±0.4,h35km,n6,σ3§35/6, mb3.7/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.94**	**191**	P	**P**	**22 44 20.9**	**+1.4**
	0.5nm,0.3s,baz=16,slow=12,SNR=24						
WRA				S	**Sn**	**22 47 34.0**	**-4.3**
	0.1nm,0.3s,baz=9.9,slow=22,SNR=1.9						
FITZ	**Fitzroy Crossi**	**19.87**	**217**	P	Pn	22 44 44.1	+1.6
	1.2nm,0.4s,baz=55,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**21.65**	**190**	P	**P**	**22 45 01.6**	**+1.7**
	1.6nm,0.6s,baz=19,slow=11,SNR=25						
STKA	**Stephens Creek**	**29.66**	**174**	P	**P**	**22 46 16.7**	**+2.0**
	1.1nm,0.6s,baz=340,slow=7.0,SNR=3.0						
MKAR	**Makanchi Array**	**69.00**	**323**	P	**P**	**22 51 14.9**	**+0.6**
	0.3nm,0.5s,baz=102,slow=6.7,SNR=5.1						
ILAR	**Eielson Array**	**85.72**	**25**	P	**P**	**22 52 45.1**	**-2.4**
	0.3nm,0.5s,baz=258,slow=4.4,SNR=2.2						

NEIC ***29*** *22:45:03.5±0.9,36.85N±0.02×97.35W±0.03,h6km±6km, Error ellipse: s-maj=3.3km s-min=1.9km az=66.0*

TUL ***29*** *22:45:03.1.6,36.89N±0.02×97.32W±0.03,h5km±7km, ML3.0,mb_Lg3.0/67(NEIC),Error ellipse: s-maj=3.2km s-min=1.8km az=64.0*

ANF ***29*** *22:45:03.3±0.4,36.87N×97.33W,h5km,ML3.6/9,Error ellipse: s-maj=4.3km s-min=3.2km az=12.0*

ISC 29 22:45:02.7±0.8,36.91N±0.02×97.39W±0.02,h10km,n65, σ1§59/54,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**0.70**	**89**	Pg	**Pg**	**22 45 15.6**	**-0.6**
T35B	**Sooner Cattle**	**0.70**	**89**	P	**Pg**	**22 45 15.8**	**-0.4**
	baz=268						
T35B				S	**Sg**	**22 45 24.7**	**-0.7**
	baz=268						
U32A	**Winter Ranch,**	**1.40**	**249**		**Pg**	**22 45 29.5**	**-0.1**
U32A	**Winter Ranch,**	**1.40**	**249**	P	**Pg**	**22 45 29.6**	**+0.1**
	baz=69						
U32A				S	**Sg**	**22 45 49.4**	**+1.7**
	baz=69						
OKCFA	**Oklahoma City**	**1.49**	**182**		**Pb**	**22 45 29.7**	**-0.7**
OKCFA	**Oklahoma City**	**1.49**	**182**	P	**Pg**	**22 45 30.4**	**-0.8**
	baz=4.1						
OKCFA				S	**Sg**	**22 45 50.2**	**-0.3**
	baz=4.1						
OKCSW	**OKLAHOMA CITY**	**1.50**	**182**		**Pb**	**22 45 30.0**	**-0.6**
TUL1	**Leonard**	**1.62**	**127**	Pn	**Pb**	**22 45 31.8**	**-0.9**
TUL1	**Leonard**	**1.62**	**127**	P	**Pb**	**22 45 31.7**	**-1.1**
	baz=309						
TUL1				S	**Sb**	**22 45 52.7**	**-0.5**
	baz=309						
FNO	**Franklin**	**1.65**	**180**		**Pb**	**22 45 32.0**	**-1.1**
R32A	**Long Quarter,**	**1.84**	**326**	Pn	**Pb**	**22 45 36.7**	**+0.2**
R32A	**Long Quarter,**	**1.84**	**326**	P	**Pg**	**22 45 37.5**	**-0.6**
	baz=144						
R32A				Sb	**Sg**	**22 46 03.0**	**+1.0**
	baz=144						
KSU1	**Kansas State U**	**2.28**	**15**		**Pb**	**22 45 42.0**	**-1.8**
X34A	**Smith Ranch, M**	**2.33**	**189**		**Pb**	**22 45 43.3**	**-1.4**
WMOK	**Wichita Mounta**	**2.44**	**208**	Pn	**Pn**	**22 45 43.5**	**+0.9**
WMOK	**Wichita Mounta**	**2.44**	**208**	P	**Pb**	**22 45 45.7**	**-1.0**
	baz=28						
CBKS	**Cedar Bluff**	**2.66**	**316**	Pn	**Pb**	**22 45 48.2**	**-2.3**
CBKS				IAmb_Lg		22 46 30.7	
	comp=Z,36nm,0.7s						
X37A	**Clayton**	**2.83**	**144**	Pn	**Pb**	**22 45 50.1**	**-3.2**
X37A				IAmb_Lg		22 46 35.2	
	comp=Z,50nm,0.9s						
X37A	**Clayton**	**2.83**	**144**	Sb	**Sb**	**22 46 28.9**	**+0.8**
	baz=326						
HHAR	**Hobbs**	**2.84**	**102**	Pn	**Pn**	**22 45 49.3**	**+1.2**
HHAR	**Hobbs**	**2.84**	**102**	P	**Pn**	**22 45 49.7**	**+1.6**
	baz=284						
S39A	**Bolivar**	**3.33**	**75**		**Pb**	**22 46 03.1**	**+1.3**
S39A	**Bolivar**	**3.33**	**75**	P	**Pb**	**22 46 03.7**	**+1.9**
	baz=257						
W39A	**Magazine**	**3.38**	**119**	Pg	**Pb**	**22 46 04.4**	**+1.8**
W39A				IAmb_Lg		22 46 51.5	
	comp=Z,58nm,0.7s						
W39A	**Magazine**	**3.38**	**119**	P	**Pb**	**22 46 03.6**	**+1.0**
	baz=302						
W39A				Sb	**Sb**	**22 46 46.7**	**+2.9**
	baz=302						
Z35A	**Perchaven, San**	**3.57**	**178**	Pg	**Pb**	**22 46 07.0**	**+1.2**
U40A	**Yellville**	**3.69**	**97**	Pn	**Pn**	**22 45 60.0**	**+0.3**
U40A	**Yellville**	**3.69**	**97**	P	**Pn**	**22 46 00.8**	**+1.1**
	baz=280						
U40A				P	**Pn**	**22 46 00.8**	**+1.1**
	baz=280						
N33A	**J Bar K, Exete**	**3.83**	**359**	Pn	**Pn**	**22 46 01.4**	**-0.3**
MIAR	**Mount Ida**	**3.89**	**126**	Pg	**Pb**	**22 46 12.9**	**+1.5**
MIAR				IAmb_Lg		22 47 09.0	
	comp=Z,26nm,0.7s						
AMTX	**Amarillo**	**4.03**	**241**	Pn	**Pn**	**22 46 05.4**	**+0.9**
P38A	**Dawn**	**4.07**	**47**	Pn	**Pn**	**22 46 06.5**	**+1.6**
P38A				IAmb_Lg		22 47 18.1	
	comp=Z,26nm,0.8s						
MGMO	**Mountain Grove**	**4.10**	**85**		**Pn**	**22 46 06.7**	**+1.3**
MGMO				IAmb_Lg		22 47 15.1	
	comp=Z,25nm,0.9s						
N35A	**Tabor**	**4.18**	**18**	Pn	**Pn**	**22 46 07.6**	**+1.1**
R40A	**Maddies Statio**	**4.29**	**70**	IAmb_Lg		22 47 23.3	
	comp=Z,34nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.36**	**102**		**Pn**	**22 46 08.1**	**-0.9**
X40A	**Basin Creek Fa**	**4.42**	**122**	Pn	**Pn**	**22 46 10.1**	**+0.3**
X40A				IAmb_Lg		22 47 22.5	
	comp=Z,21nm,0.7s						
WHAR	**Wooly Hollow**	**4.43**	**110**		**Pb**	**22 46 23.1**	**+2.6**
WHAR				IAmb_Lg		22 47 25.1	
	comp=Z,36nm,0.9s						
W41B	**Gary Mavity, V**	**4.51**	**111**		**Pb**	**22 46 24.4**	**+2.6**
W41B				IAmb_Lg		22 47 37.0	
	comp=Z,18nm,0.8s						
BGNE	**Belgrade**	**4.54**	**353**	Pn	**Pn**	**22 46 13.6**	**+2.2**
BGNE				IAmb_Lg		22 47 27.6	
	comp=Z,25nm,0.8s						
UALR	**University of**	**4.61**	**116**	Pn	**Pn**	**22 46 12.2**	**-0.2**
KSCO	**Kaye Shedlock'**	**4.65**	**298**		**Pg**	**22 46 30.4**	**-1.2**
KSCO				IAmb_Lg		22 47 43.7	
	comp=Z,19nm,0.7s						
ABTX	**Abilene, Hawle**	**4.66**	**204**	Pg	**Pg**	**22 46 29.2**	**-2.7**
WLAR	**White Oak Lake**	**4.75**	**131**	Pn	**Pn**	**22 46 15.1**	**+0.8**
WLAR				IAmb_Lg		22 47 35.4	
	comp=Z,26nm,0.8s						
P40A	**Paris**	**4.95**	**56**		**Pg**	**22 46 34.4**	**-3.1**
P40A				IAmb_Lg		22 47 46.9	
	comp=Z,30nm,0.8s						
CCM	**Cathedral Cave**	**5.02**	**75**		**Pg**	**22 46 35.3**	**-3.4**
CCM				IAmb_L

LIFNC	**LIFOU**	**4.55**	**178**	Pn	**Pn**	**22 51 22.6**	**-0.4**
LIFNC	**LIFOU**	**4.55**	**178**	P	**Pn**	**22 51 22.5**	**-0.6**
KOUNC	**Koumac, New Ca**	**5.08**	**211**	Pn	**Pn**	**22 51 29.7**	**-0.6**
KOUNC	**Koumac, New Ca**	**5.08**	**211**	P	**Pn**	**22 51 31.4**	**+1.1**
MARNC	**Mare, Loyalty**	**5.33**	**170**		**Pn**	**22 51 34.6**	**+1.0**
YATNC	**Mamie plateau,**	**5.83**	**182**	P	**Pn**	**22 51 38.4**	**-2.2**
YATNC	**Mamie plateau,**	**5.83**	**182**	P	**Pn**	**22 51 38.6**	**-2.0**
DZM	**Mont Dzumac**	**5.87**	**186**	Pn	**Pn**	**22 51 39.4**	**-1.9**
	5.1nm,0.3s,baz=20,slow=4.7,SNR=58						
DZM				Sn	**Sn**	**22 52 45.3**	**-2.5**
	6.9nm,0.3s,baz=312,slow=23,SNR=7.0						
DZM				LR	LR	22 53 46.3	
	comp=Z,758nm,18.4s,baz=66,slow=36						
DZM	**Mont Dzumac**	**5.87**	**186**	Pn	**Pn**	**22 51 39.9**	**-1.4**
DZM	**Mont Dzumac**	**5.87**	**186**	P	**Pn**	**22 51 40.0**	**-1.2**
DZM	**Mont Dzumac**	**5.87**	**186**	P	**Pn**	**22 51 40.1**	**-1.2**
NOUC	**Port Laguerre**	**5.92**	**187**	P	**Pn**	**22 51 41.0**	**-0.8**
NOUC	**Port Laguerre**	**5.92**	**187**	P	**Pn**	**22 51 40.9**	**-0.8**
ONTNC	**Ouen Toro**	**6.10**	**186**	Pn	**Pn**	**22 51 43.9**	**-0.5**
ONTNC	**Ouen Toro**	**6.10**	**186**	P	**Pn**	**22 51 45.7**	**+1.3**
ONTNC	**Ouen Toro**	**6.10**	**186**	P	**Pn**	**22 51 44.7**	**+0.3**
OUENC	**Ouen Island, N**	**6.19**	**182**		**Pn**	**22 51 44.7**	**-0.9**
OUENC	**Ouen Island, N**	**6.19**	**182**	P	**Pn**	**22 51 46.9**	**+1.4**
OUENC	**Ouen Island, N**	**6.19**	**182**	P	**Pn**	**22 51 44.9**	**-0.6**
PINNC	**Pines Island,**	**6.39**	**177**	Pn	**Pn**	**22 51 48.0**	**-0.3**
HNR	**Honiara**	**9.68**	**313**	Pn	**Pn**	**22 52 30.1**	**-3.4**
	12nm,0.3s,baz=152,slow=10,SNR=1.6						
HNR	**Honiara**	**9.68**	**313**	Pn	**Pn**	**22 52 28.8**	**-4.6**
MSVF	**Nonsavu**	**10.60**	**100**	Pn	**Pn**	**22 52 48.5**	**+2.3**
	0.5nm,0.3s,baz=285,slow=10.0,SNR=6.4						
MSVF				LR	LR	22 55 53.8	
	comp=Z,1μm,18.5s,baz=222,slow=33						
MSVF	**Nonsavu**	**10.60**	**100**	Pn	**Pn**	**22 52 47.5**	**+1.4**
OUZ	**Omahuta**	**19.82**	**164**	P	**Pn**	**22 54 45.3**	**-0.8**
OUZ				IAmb	IAmb	22 54 48.6	
	comp=Z,21nm,0.8s						
RMQ	**Roma**	**19.88**	**236**	P	**Pn**	**22 54 49.7**	**+2.7**
	comp=Z,18nm,1.2s						
ARMA	**Armidale**	**20.01**	**222**	P	**P**	**22 54 45.4**	**-1.3**
CTA	**Charters Tower**	**20.17**	**256**	P	Pn	22 54 51.8	+1.4
	comp=Z,15nm,0.9s,baz=90,slow=12,SNR=9.5						
CTA				LR	LR	23 01 32.7	
	comp=Z,191nm,19.7s,baz=77,slow=34						
AFI	**Afiamalu**	**20.54**	**86**	LR	LR	23 00 42.0	
	comp=Z,324nm,19.2s,baz=274,slow=31						
PMG	**Port Moresby**	**20.56**	**287**	LR	LR	23 01 53.2	
	comp=Z,221nm,18.8s,baz=120,slow=34						
MTSU	**Mount Surprise**	**21.84**	**262**	P	**P**	**22 55 11.5**	**+5.0**
	comp=Z,11nm,0.9s						
MKAZ	**Moumakai**	**22.02**	**163**	P	**P**	**22 55 09.1**	**+1.0**
NIUE	**Niue**	**22.09**	**101**	P	**P**	**22 55 10.1**	**+1.0**
HIZ	**Hauiti**	**23.25**	**164**	P	**P**	**22 55 21.0**	**-0.1**
HAZ	**Te Kaha**	**23.46**	**158**	P	**P**	**22 55 23.7**	**+0.5**
PKGZ	**Pakihiroa**	**23.68**	**158**	P	**P**	**22 55 26.1**	**+0.7**
URZ	**Urewera**	**23.68**	**160**	P	**P**	**22 55 24.8**	**-0.5**
	comp=Z,29nm,1.1s,baz=346,slow=8.9,SNR=5.9						
URZ				LR	LR	23 02 27.7	
	comp=Z,177nm,20.3s,baz=31,slow=31						
URZ	**Urewera**	**23.68**	**160**	P	**P**	**22 55 25.1**	**-0.3**
URZ				IAmb	IAmb	22 55 33.3	
	comp=Z,56nm,1.1s						
MWZ	**Matawai**	**23.89**	**159**	P	**P**	**22 55 27.3**	**0.0**
TWGZ	**Tauwhareparae**	**23.90**	**158**	P	**P**	**22 55 28.1**	**+0.6**
CNGZ	**Carnagh Station**	**24.26**	**158**	P	**P**	**22 55 30.7**	**0.0**
BKZ	**Black Stump Fm**	**24.32**	**162**	P	**P**	**22 55 31.3**	**-0.1**
BKZ				IAmb	IAmb	22 55 33.3	
	comp=Z,59nm,0.9s						
BKZ	**Black Stump Fm**	**24.32**	**162**	P	**P**	**22 55 32.5**	**+1.1**
	comp=Z,314nm,0.8s						
CMSA	**Cobar Meteorol**	**24.75**	**228**	P	**P**	**22 55 38.4**	**+3.1**
QRZ	**Quartz Range**	**24.99**	**170**	P	**P**	**22 55 38.3**	**+0.9**
MRZ	**Mangatainoka R**	**25.46**	**165**	P	**P**	**22 55 41.8**	**+0.1**
BFZ	**Birch Farm**	**25.66**	**164**	P	**P**	**22 55 43.7**	**+0.3**
BFZ				IAmb	IAmb	22 55 45.4	
	comp=Z,50nm,0.9s						
TCW	**Tory Channel**	**25.69**	**167**	P	**P**	**22 55 44.9**	**+1.3**
TUWZ	**Tuamarina**	**25.83**	**168**	P	**P**	**22 55 45.1**	**+0.1**
MTW	**Mount Morrison**	**25.91**	**165**	P	**P**	**22 55 45.3**	**-0.4**
THZ	**Tophouse**	**25.96**	**170**	P	**P**	**22 55 46.8**	**+0.5**
BSWZ	**Blackbirch Sta**	**26.09**	**168**	P	**P**	**22 55 48.2**	**+0.9**
MSWZ	**Moikau Station**	**26.10**	**166**	P	**P**	**22 55 47.2**	**-0.2**
PAWZ	**Paruwai Farm**	**26.11**	**166**	P	**P**	**22 55 47.3**	**-0.3**
PLWZ	**Palliser**	**26.25**	**166**	P	**P**	**22 55 48.4**	**-0.4**
PLWZ	**Palliser**	**26.25**	**166**	P	**P**	**22 55 48.4**	**-0.4**
QIS	**Mount Isa**	**26.42**	**256**	P	P	22 55 57.1	+6.5
KHZ	**Kahutara**	**26.71**	**169**	P	**P**	**22 55 53.4**	**+0.5**
KHZ				IAmb	IAmb	22 55 54.7	
	comp=Z,39nm,1.0s						
LTZ	**Lake Taylor**	**26.86**	**172**	P	**P**	**22 55 54.9**	**+0.5**
LTZ				IAmb	IAmb	22 56 00.4	
	comp=Z,33nm,1.2s						
FOZ	**Fox Glacier**	**27.34**	**176**	P	**P**	**22 55 56.3**	**-2.3**
FOZ				IAmb	IAmb	22 56 00.5	
	comp=Z,20nm,0.9s						
STKA	**Stephens Creek**	**27.93**	**231**	P	**P**	**22 56 04.7**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=99,slow=9.3,SNR=4.6						
STKA				LR	LR	23 05 34.8	
	comp=Z,154nm,21.4s,baz=38,slow=33						
STKA	**Stephens Creek**	**27.93**	**231**	P	**P**	**22 56 04.0**	**0.0**
LBZ	**Lake Benmore**	**28.22**	**175**	P	**P**	**22 56 05.8**	**-0.6**
LBZ				IAmb	IAmb	22 56 28.1	
	comp=Z,31nm,1.4s						
WR0	**Warramunga Arr**	**31.14**	**258**	P	**P**	**22 56 31.4**	**-1.2**
WB0	**Warramunga Arr**	**31.27**	**259**	P	**P**	**22 56 32.7**	**-1.1**
WB2	**Warramunga Arr**	**31.31**	**258**	P	**P**	**22 56 31.8**	**-2.4**
WRAB	**Tennant Creek**	**31.31**	**258**	P	**P**	**22 56 31.9**	**-2.3**
WRAB				IAmb	IAmb	22 56 36.7	
	comp=Z,9.9nm,1.3s						
WRA	**Warramunga Arr**	**31.32**	**258**	P	**P**	**22 56 35.2**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=87,slow=8.6,SNR=6.3						
WRA				PcP	**PcP**	**22 59 28.4**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=97,slow=2.5,SNR=2.5						
WRA				LR	LR	23 07 58.5	
	comp=Z,174nm,20.1s,baz=22,slow=34						
WRA	**Warramunga Arr**	**31.32**	**258**	P	**P**	**22 56 32.7**	**-1.5**
RAR	**Rarotonga**	**31.75**	**104**	LR	LR	23 08 10.2	
	comp=Z,108nm,18.6s,baz=242,slow=34						
AS31	**Alice Springs**	**32.01**	**251**	P	**P**	**22 56 39.9**	**-0.4**
ASAR	**Alice Springs**	**32.01**	**251**	P	**P**	**22 56 41.5**	**+1.2**
	comp=Z,13nm,0.9s,baz=77,slow=8.8,SNR=44						
ASAR				PcP	**PcP**	**22 59 30.8**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=77,slow=4.1,SNR=3.6						
ASAR				LR	LR	23 08 57.3	
	comp=Z,275nm,19.2s,baz=84,slow=35						
ASAR	**Alice Springs**	**32.01**	**251**	P	**P**	**22 56 40.9**	**+0.6**
GUMO	**Guam**	**36.86**	**322**	LR	LR	23 11 04.4	
	comp=Z,82nm,21.1s,baz=146,slow=34						
SIJI	**Sorong**	**38.45**	**290**	LR	LR	23 15 06.0	
	comp=Z,137nm,18.1s,baz=198,slow=39						
FITZ	**Fitzroy Crossi**	**39.59**	**261**	P	**P**	**22 57 44.6**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=99,slow=9.4,SNR=4.2						
FITZ				LR	LR	23 14 23.8	
	comp=Z,172nm,19.0s,baz=76,slow=37						
PPT	**Papeete**	**41.43**	**98**	LR	LR	23 10 35.5	
	comp=Z,122nm,20.4s,baz=249,slow=30						
NWAO	**Narrogin (SRO)**	**47.85**	**240**	P	**P**	**22 58 50.8**	**-0.9**
SSLB	**Suanglung**	**60.08**	**310**	P	**P**	**23 00 19.8**	**-1.3**
VNDA	**Vanda**	**61.40**	**181**	P	**P**	**23 00 29.3**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=44,slow=6.6,SNR=3.8						
VNDA	**Vanda**	**61.40**	**181**	P	**P**	**23 00 29.5**	**+0.4**
VNDA				IAmb	IAmb	23 00 49.3	
	comp=Z,5.1nm,1.3s						
SBA	**Scott Base**	**61.67**	**180**	P	**P**	**23 00 31.0**	**0.0**
SBA				IAmb	IAmb	23 00 41.8	
	comp=Z,13nm,1.3s						
NJ2	**Nanjing**	**66.61**	**316**	*e*P	**P**	**23 01 06.8**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
USRK	**Ussuriysk Ar.**	**68.11**	**334**	P	**P**	**23 01 12.2**	**-1.1**
QSPA	**South Pole Qui**	**73.83**	**180**	P	**P**	**23 01 48.6**	**+0.6**
QSPA				IAmb	IAmb	23 01 54.4	
	comp=Z,18nm,0.9s						
XAN	**Xi'an**	**74.55**	**313**	P	**P**	**23 01 55.0**	**+2.4**
XAN				pP	PcP	23 02 09.5	+2.6
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**75.39**	**294**	LR	LR	23 36 29.5	
	comp=Z,16nm,18.5s,baz=120,slow=37						
PZH	**PanZhiHua**	**76.34**	**303**	P	**P**	**23 02 05.0**	**+1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,70nm,8.0s						
HHC	**Hu-ho-hao-te**	**76.59**	**320**	*e*P	**P**	**23 02 06.8**	**+2.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,6.0s						
LZH	**Lanzhou**	**79.18**	**313**	*e*P	**P**	**23 02 16.8**	**-1.9**
LZH				pP	pP	23 02 22.5	-4.1
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
KDAK	**Kodiak Island**	**80.90**	**21**	LR	LR	23 33 11.5	
	comp=Z,50nm,19.2s,baz=231,slow=32						
ULN	**Ulaanbaatar**	**83.21**	**324**	P	**P**	**23 02 39.5**	**-0.5**
ULN				IAmb	IAmb	23 02 52.4	
	comp=Z,8.0nm,1.1s						
YAK	**Yakutsk**	**83.38**	**343**	P	**P**	**23 02 40.2**	**0.0**
GTA	**Gaotai**	**83.55**	**314**	*e*P	**P**	23 02 50.3	+8.4
GTA				pP	pwP	23 02 55.5	+2.6
GTA				sP	sP	23 02 58.3	+6.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**83.57**	**324**	P	**P**	**23 02 40.7**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=117,slow=5.0,SNR=2.1						
SONM	**Songino Array**	**83.57**	**324**	P	**P**	**23 02 40.7**	**-1.0**
SONM				IAmb	IAmb	23 02 53.5	
	comp=Z,4.3nm,1.1s						
BILL	**Bilibino**	**84.00**	**360**	P	**P**	**23 02 43.6**	**+0.3**
BILL				IAmb	IAmb	23 02 47.6	
	comp=Z,6.4nm,1.3s						
SHL	**Shillong**	**84.11**	**299**	P	**P**	**23 02 44.5**	**-0.6**
SHL				IAmb	IAmb	23 02 47.5	
	comp=Z,7.9nm,0.7s						
CAST	**Castle Rocks**	**85.44**	**17**	P	**P**	**23 02 50.6**	**-0.1**
CAST				IAmb	IAmb	23 02 51.0	
	comp=Z,3.9nm,1.0s						
YBH	**Yreka Blue Hor**	**86.58**	**45**	LR	LR	23 35 00.6	
	comp=Z,30nm,20.1s,baz=258,slow=31						
SYO	**Syowa Base**	**87.25**	**197**	*e*PcP	**PcP**	**23 03 02.6**	**+0.9**
ILAR	**Eielson Array**	**87.97**	**18**	P	**P**	**23 03 02.0**	**-0.9**
	comp=Z,1.4nm,1.0s,baz=232,slow=6.5,SNR=7.1						
PFO	**Pinyon Flats O**	**87.99**	**54**	LR	LR	23 34 27.5	
	comp=Z,96nm,20.5s,baz=236,slow=30						
LPIG	**La Paz**	**89.99**	**65**	LR	LR	23 37 24.3	
	comp=Z,114nm,18.1s,baz=209,slow=32						
ELK	**Elko**	**91.40**	**48**	LR	LR	23 43 00.9	
	comp=Z,56nm,18.3s,baz=268,slow=35						
WMQ	**Urumqi**	**93.63**	**315**	*e*P	**P**	**23 03 33.5**	**+3.6**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
PDAR	**Pinedale Array**	**96.07**	**47**	LR	LR	23 47 10.4	
	comp=Z,42nm,18.1s,baz=219,slow=36						
ANMO	**Albuquerque**	**96.28**	**56**	LR	LR	23 39 36.2	
	comp=Z,66nm,19.7s,baz=258,slow=31						
MKAR	**Makanchi Array**	**98.14**	**316**	P	**P**	**23 03 49.0**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=114,slow=3.5,SNR=1.6						
YKA	**Yellowknife Ar**	**98.93**	**27**	P	**P**	**23 03 52.4**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=253,slow=4.3,SNR=4.2						
ARCES	**ARCESS Array B**	**121.62**	**345**	PKP	**PKPdf**	**23 09 04.9**	**-1.7**
	comp=Z,2.6nm,0.8s,baz=12,slow=6.2,SNR=3.8						
ABTA	**Abfaltersbach**	**142.94**	**331**	*e*P	**PKPdf**	**23 09 46.7**	**-0.6**
	comp=Z,1.9nm,0.8s						
FETA	**Feichten**	**143.55**	**332**	*e*P	**PKPdf**	**23 09 47.9**	**-0.6**
	comp=Z,2.4nm,1.0s						

IDC ***29*** *22:57:09.9±1.4, 16°.22S×167°.21E, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/34, mbtmp4.1/7, ML4.1/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/62, Error ellipse: s-maj=49.4km s-min=25.1km az=136.0*

ISC 29 22:57:13.1±1.0, 16°.3S±0°.1×166°.9E±0°.1, h18km, n13, σ2s30/10, mb4.0/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
DZM	**Mont Dzumac**	**5.75**	**185**	Pn		**Pn**	**22 58 38.0**	**+0.4**
	4.7nm,0.3s,baz=316,slow=14,SNR=13							
DZM				Sn		**Sn**	**22 59 42.1**	**-1.1**
	3.2nm,0.3s,baz=132,slow=22,SNR=6.9							
MSVF	**Nonsavu**	**10.72**	**99**	Pn		**Pn**	**22 59 48.2**	**+2.3**
	0.7nm,0.3s,baz=282,slow=16,SNR=4.8							
CTA	**Charters Tower**	**20.01**	**256**	P		Pn	23 01 47.5	+0.8
	5.6nm,0.7s,baz=90,slow=8.6,SNR=4.5							
RPZ	**Rata Peaks**	**27.54**	**174**	LR		LR	23 13 59.7	
	comp=Z,212nm,18.4s,baz=2.0,slow=37							
STKA	**Stephens Creek**	**27.75**	**231**	P		**P**	**23 03 02.7**	**+1.9**
	1.9nm,0.8s,baz=357,slow=18,SNR=2.2							
WRA	**Warramunga Arr**	**31.17**	**258**	P		**P**	**23 03 32.8**	**+1.5**
	0.7nm,0.8s,baz=89,slow=8.3,SNR=4.6							
ASAR	**Alice Springs**	**31.84**	**251**	P		**P**	**23 03 39.5**	**+2.3**
	3.2nm,0.8s,baz=76,slow=8.9,SNR=20							
PETK	**Petropavlovsk-**	**69.59**	**354**	LR		LR	23 35 33.1	
	comp=Z,31nm,19.9s,baz=253,slow=33							
ILAR	**Eielson Array**	**88.12**	**18**	P		**P**	**23 10 00.9**	**-1.4**
	0.7nm,0.9s,baz=237,slow=5.5,SNR=5.6							
VNA2	**Neumayer--Watz**	**92.90**	**182**	P		**P**	**23 10 20.8**	**-3.9**
	baz=352,slow=18							
VNA1	**Neumayer--Stat**	**93.20**	**182**	P		P	23 10 20.3	-5.7
YKA	**Yellowknife Ar**	**99.09**	**27**	P		**Pdif**	**23 10 53.2**	**+0.5**
	0.5nm,1.0s,baz=258,slow=4.4,SNR=3.7							
ARCES	**ARCESS Array B**	**121.69**	**345**	PKP		**PKPdf**	**23 16 03.8**	**-1.4**
	7.0nm,1.1s,baz=70,slow=1.1,SNR=1.9							

IDC ***29*** *23:01:35.7±1.1, 16°.14S×167°.41E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/30, mbtmp4.3/10, ML4.7/2, MS3.7/4, Ms1 3.7/4, ms1mx3.0/61, Error ellipse: s-maj=27.4km s-min=22.8km az=67.0*

NOU ***29*** *23:01:38.2, 16°.26S×167°.34E, h8km, MLv5.0/16, Vanuatu Islands*

NEIC ***29*** *23:01:42.0±2.0, 16°.17S±0°.05×167°.3E±0°.1, h35km±2km, mb4.5/21, Error ellipse: s-maj=16.3km s-min=7.8km az=83.0*

ISC 29 23:01:41.9±0.5, 16°.23S±0°.04×167°.27E±0°.07, h39km, n66, σ1s58/64, mb4.6/15, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
SANVU	**Saraoutou**	**0.78**	**356**			**Pn**	**23 01 54.0**	**-2.4**
SANVU						**Sn**	**23 02 05.5**	**-1.4**
SANVU	**Saraoutou**	**0.78**	**356**	P		**Pn**	**23 01 54.2**	**-2.2**
DVP	**Devils Point**	**1.73**	**150**	P		**Pn**	**23 02 07.8**	**-1.7**
RTV	**Rentapao**	**1.91**	**145**	P		**Pn**	**23 02 10.2**	**-1.8**
LIFNC	**LIFOU**	**4.53**	**180**	Pn		**Pn**	**23 02 44.1**	**-3.8**
KOUNC	**Koumac, New Ca**	**5.15**	**213**			**Pn**	**23 02 55.3**	**-1.2**
KOUNC	**Koumac, New Ca**	**5.15**	**213**	P		**Pn**	**23 02 55.6**	**-0.9**
MARNC	**Mare, Loyalty**	**5.28**	**172**	Pn		**Pn**	**23 02 56.5**	**-1.7**
MARNC	**Mare, Loyalty**	**5.28**	**172**	P		**Pn**	**23 02 57.1**	**-1.1**
DZM	**Mont Dzumac**	**5.86**	**187**	Pn		**Pn**	**23 03 04.2**	**-2.3**
	11nm,0.3s,baz=356,slow=12,SNR=20							
DZM				Sn		**Sn**	**23 04 08.2**	**-4.3**
	12nm,0.3s,baz=324,slow=23,SNR=8.6							
DZM	**Mont Dzumac**	**5.86**	**187**			**Pn**	**23 03 04.4**	**-2.0**
DZM	**Mont Dzumac**	**5.86**	**187**	P		**Pn**	**23 03 04.9**	**-1.5**
NOUC	**Port Laguerre**	**5.91**	**189**	P		**Pn**	**23 03 05.2**	**-1.8**
ONTNC	**Ouen Toro**	**6.10**	**187**			**Pn**	**23 03 08.2**	**-1.4**
ONTNC	**Ouen Toro**	**6.10**	**187**	P		**Pn**	**23 03 08.1**	**-1.4**
OUENC	**Ouen Island, N**	**6.17**	**184**			**Pn**	**23 03 09.1**	**-1.4**
OUENC	**Ouen Island, N**	**6.17**	**184**	P		**Pn**	**23 03 09.4**	**-1.1**
PINNC	**Pines Island,**	**6.35**	**178**	Pn		**Pn**	**23 03 11.6**	**-1.4**
HNR	**Honiara**	**9.82**	**313**	Pn		**Pn**	**23 04 00.0**	**-0.7**
	12nm,0.3s,baz=166,slow=14,SNR=1.5							
HNR	**Honiara**	**9.82**	**313**			**Pn**	**23 03 59.7**	**-1.0**
MSVF	**Nonsavu**	**10.43**	**100**	Pn		**Pn**	**23 04 12.5**	**+3.5**
	0.5nm,0.3s,baz=258,slow=12,SNR=5.4							
MSVF				LR		LR	23 07 17.8	
	comp=Z,654nm,19.5s,baz=249,slow=33							
MSVF	**Nonsavu**	**10.43**	**100**			**Pn**	**23 04 08.9**	**-0.1**
OUZ	**Omahuta**	**19.74**	**165**	P		**Pn**	**23 06 09.5**	**-0.6**
OUZ				IAmb		IAmb	23 06 12.6	
	comp=Z,14nm,0.8s							
CTA	**Charters Tower**	**20.33**	**256**	P		**P**	**23 06 16.1**	**+1.2**
	comp=Z,15nm,0.9s,baz=84,slow=12,SNR=8.0							
CTAO	**Charters Tower**	**20.33**	**256**	P		**P**	**23 06 16.1**	**+1.2**
CTAO				IAmb		IAmb	23 06 17.7	
	comp=Z,20nm,1.0s							
AFI	**Afiamalu**	**20.37**	**86**	LR		LR	23 12 05.8	
	comp=Z,175nm,19.5s,baz=260,slow=31							
HIZ	**Hauiti**	**23.18**	**165**			**P**	**23 06 45.0**	**-0.1**
URZ	**Urewera**	**23.60**	**160**	P		**P**	**23 06 49.2**	**+0.1**
	comp=Z,19nm,0.9s,baz=47,slow=3.2,SNR=5.4							
BKZ	**Black Stump Fm**	**24.24**	**162**	P		**P**	**23 06 56.2**	**+1.0**
BKZ	**Black Stump Fm**	**24.24**	**162**	P		**P**	**23 06 56.2**	**+1.0**
BHHZ	**Black Hill Sta**	**24.42**	**163**	P		**P**	**23 06 57.8**	**+0.9**
PNHZ	**Pukenui**	**24.85**	**163**	P		**P**	**23 07 01.3**	**+0.6**
TSZ	**Takapari Road**	**24.92**	**164**	P		**P**	**23 07 02.2**	**+0.8**
NNZ	**Nelson**	**25.46**	**169**	P		**P**	**23 07 07.5**	**+1.4**
BFZ	**Birch Farm**	**25.58**	**164**	P		**P**	**23 07 07.4**	**+0.1**
HOWZ	**Holdsworth Sta**	**25.60**	**165**	P		**P**	**23 07 07.8**	**+0.2**
THZ	**Tophouse**	**25.91**	**170**	P		**P**	**23 07 11.9**	**+1.5**
THZ				IAmb		IAmb	23 07 20.6	
	comp=Z,23nm,1.1s							
BSWZ	**Blackbirch Sta**	**26.03**	**169**	P		**P**	**23 07 11.9**	**+0.6**
MSWZ	**Moikau Station**	**26.03**	**166**	P		**P**	**23 07 12.2**	**+0.8**
PLWZ	**Palliser**	**26.18**	**166**	P		**P**	**23 07 13.3**	**+0.5**
KHZ	**Kahutara**	**26.65**	**170**	P		**P**	**23 07 16.7**	**-0.2**
KHZ				IAmb		IAmb	23 07 19.6	
	comp=Z,16nm,1.0s							
LTZ	**Lake Taylor**	**26.81**	**172**	P		**P**	**23 07 18.9**	**+0.4**
LTZ				IAmb		IAmb	23 07 30.1	
	comp=Z,18nm,1.2s							
STKA	**Stephens Creek**	**28.04**	**232**	P		**P**	**23 07 30.7**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=310,slow=0.7,SNR=3.7							
STKA	**Stephens Creek**	**28.04**	**232**	IAmb		IAmb	23 07 36.0	
	comp=Z,5.1nm,1.4s							
LBZ	**Lake Benmore**	**28.18**	**176**	P		**P**	**23 07 30.9**	**+0.3**
LBZ				IAmb		IAmb	23 07 48.4	
	comp=Z,18nm,1.2s							
WR0	**Warramunga Arr**	**31.30**	**258**	P		**P**	**23 08 03.4**	**+4.8**
WR0				IAmb		IAmb	23 08 15.8	
	comp=Z,6.3nm,1.4s							
WB0	**Warramunga Arr**	**31.43**	**259**	P		**P**	**23 07 59.3**	**-0.5**
WB2	**Warramunga Arr**	**31.48**	**258**	P		**P**	**23 07 58.5**	**-1.7**
WB2				IAmb		IAmb	23 08 01.6	
	comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**31.49**	**258**	P		**P**	**23 07 60.0**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=83,slow=6.1,SNR=4.4							
WRA				LR		LR	23 19 47.7	
	comp=Z,84nm,20.3s,baz=129,slow=34							
WRA	**Warramunga Arr**	**31.49**	**258**	IAmb		IAmb	23 08 05.6	
	comp=Z,0.8nm,1.5s							
AS31	**Alice Springs**	**32.16**	**251**	P		**P**	**23 08 06.4**	**+0.2**
ASAR	**Alice Springs**	**32.16**	**251**	P		**P**	**23 08 06.1**	**-0.1**
	comp=Z,7.3nm,0.8s,baz=78,slow=8.9,SNR=35							
ASAR	**Alice Springs**	**32.16**	**251**	P		**P**	**23 08 06.7**	**+0.4**
VNDA	**Vanda**	**61.37**	**181**	P		**P**	**23 11 54.1**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=5.7,slow=5.6,SNR=6.6							
VNDA	**Vanda**	**61.37**	**181**	P		**P**	**23 11 55.0**	**+1.5**
VNDA				IAmb		IAmb	23 12 04.1	
	comp=Z,5.0nm,1.2s							
SBA	**Scott Base**	**61.65**	**180**	P		**P**	**23 11 57.1**	**+1.8**
SBA				IAmb		IAmb	23 12 02.9	
	comp=Z,8.7nm,1.1s							
QSPA	**South Pole Qui**	**73.81**	**180**	P		**P**	**23 13 13.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**75.56**	**294**	P		**P**	**23 13 25.1**	**+2.1**
	comp=Z,0.9nm,0.4s,baz=116,slow=6.1,SNR=1.4							
ULN	**Ulaanbaatar**	**83.34**	**324**	P		**P**	**23 14 05.3**	**+0.3**
ULN				IAmb		IAmb	23 14 16.8	
	comp=Z,3.8nm,0.9s							
SONM	**Songino Array**	**83.69**	**324**	P		**P**	**23 14 06.2**	**-0.5**
ILAR	**Eielson Array**	**87.94**	**18**	P		**P**	**23 14 25.7**	**-1.5**
	comp=Z,0.1nm,0.6s,baz=267,slow

δ68.58000°,λ-81.71000°. Principal axes: T 7.4827, Plg23.0000°, Azm39.0000°; N 0.5947, Plg8.0000°, Azm132.0000°; P -8.0774, Plg65.0000°, Azm239.0000°;
DDA **29** 23:36:27.0±0.0,34°.59N×26°.62E,h16km,MW4.2
ATH **29** 23:36:27.7,34°.43N×26°.60E,h8km±6km,ML4.0/7,Error ellipse: s-maj=7.5km s-min=2.2km az=342.0
ISK **29** 23:36:28.6,34°.52N×26°.62E,h10km,ML4.2/20
MED_RC **29** 23:36:28.0±0.4,34°.29N×26°.56E,h29km±3km,MW4.6/21, Moment Tensor Solution.Mantle waves: s21,c25; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.08±.16; Mθθ-0.73±.08; Mϕϕ0.81±.09; Mrθ0.32±.10; Mθϕ0.07±.06; Mϕr-0.18±.09; Best double couple: M₀0.86000×10¹⁶ NP1:ϕs319.00000°,δ82.00000°, λ-156.00000°. NP2:ϕs226.00000°,δ66.00000°, λ-9.00000°. Principal axes: T 0.8500, Plg11.0000°, Azm91.0000°; N 0.0300, Plg65.0000°, Azm337.0000°; P -0.8800, Plg23.0000°, Azm185.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.
NEIC **29** 23:36:29.6±1.7,34°.37N±0°.07×26°.54E±0°.05,h29km±5km, mb4.4/73,Mwr4.5/15,ML3.8(THE) Error ellipse: s-maj=9.5km s-min=5.9km az=182.0
THE **29** 23:36:30.7,34°.59N×26°.55E,h0km±3km,ML3.8/4,Error ellipse: s-maj=6.1km s-min=2.0km az=168.0
IDC **29** 23:36:33.7±1.9,34°.75N×26°.42E,h52km±16km,mb4.0/22, mb1 4.1/31,mb1mx4.0/49,mbtmp4.2/31,ML3.9/8,MS3.7/31, Ms1 3.7/31,ms1mx3.5/92,Error ellipse: s-maj=20.0km s-min=10.1km az=174.0
ISC 29 23:36:27.8±0.7,34°.37N±0°.03×26°.58E±0°.03,h19km±2km, h20km:pP-P,n554,σ1ˢ74/576,mb4.5/63,MS3.7/25, 28C-49D,Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.80**	**338**	P		**Pb**		**23 36 41.6**	**-1.6**
ZKR				S		**Sb**		**23 36 52.2**	**-1.5**
ZKR				AML		AML		23 37 01.7	
	comp=E,50197μm,0.8s								
ZKR				AML		AML		23 37 05.9	
	comp=N,15209μm,0.9s								
ZKR	**Zakros**	**0.80**	**338**	P		**Pb**		**23 36 41.5**	**-1.6**
ZKR				S		**Sb**		**23 36 52.8**	**-0.9**
	comp=N,16μm,0.8s								
ZKR	**Zakros**	**0.80**	**338**	PG		**Pb**		**23 36 41.7**	**-1.5**
ZKR				SG		**Sb**		**23 36 52.3**	**-1.4**
ZKR	**Zakros**	**0.80**	**338**	P		**Pb**		**23 36 41.6**	**-1.6**
ZKR				S		**Sb**		**23 36 53.2**	**-0.4**
ZKR				AML		AML		23 37 00.3	
	comp=N,48nm,0.6s								
ZKR				AML		AML		23 37 00.3	
	comp=N,48nm,0.6s								
ZKR				AML		AML		23 37 04.7	
	comp=N,15nm,0.9s								
ZKR				AML		AML		23 37 04.7	
	comp=N,15nm,0.9s								
FRMA	**Ierapetra Chan**	**0.95**	**313**	P		**Pb**		**23 36 43.8**	**-1.9**
FRMA				S		**Sb**		**23 36 55.2**	**-2.7**
FRMA				AML		AML		23 37 10.1	
	comp=N,37607μm,1.0s								
FRMA				AML		AML		23 37 10.2	
	comp=E,25473μm,0.5s								
FRMA	**Ierapetra Chan**	**0.95**	**313**	P		**Pb**		**23 36 43.5**	**-2.2**
FRMA				S		**Sb**		**23 36 56.1**	**-1.8**
	comp=E,6μm,1.1s								
KARP	**Karpathos**	**1.27**	**22**	P		**Pn**		**23 36 50.9**	**+0.2**
KARP				AML		AML		23 37 22.5	
	comp=N,19255μm,0.5s								
KARP				AML		AML		23 37 27.1	
	comp=E,20266μm,0.8s								
KARP	**Karpathos**	**1.27**	**22**	P		**Pn**		**23 36 50.2**	**-0.4**
KARP				S		**Sn**		**23 37 07.8**	**+0.6**
	comp=E,10μm,0.6s								
KARP	**Karpathos**	**1.27**	**22**	PN		**Pn**		**23 36 50.7**	**+0.1**
KARP	**Karpathos**	**1.27**	**22**			**Pn**		**23 36 50.8**	**+0.2**
KARP				Sn		**Sb**		**23 37 05.2**	**-1.9**
KARP	**Karpathos**	**1.27**	**22**	P		**Pn**		**23 36 50.3**	**-0.4**
KARP				S		**Sb**		**23 37 06.8**	**-0.4**
KARP				AML		AML		23 37 22.9	
	comp=E,20nm,0.7s								
KARP				AML		AML		23 37 22.9	
	comp=E,20nm,0.7s								
KARP				AML		AML		23 37 26.7	
	comp=E,20nm,0.8s								
KARP				AML		AML		23 37 26.7	
	comp=E,20nm,0.8s								
HRKL	**Herakleio**	**1.54**	**308**	P		**Pb**		**23 36 56.7**	**+1.0**
HRKL	**Herakleio**	**1.54**	**308**	PN		**Pb**		**23 36 56.1**	**+0.4**
KSTL	**Kastelli Herak**	**1.55**	**307**	P		**Pn**		**23 36 52.2**	**-2.2**
KSTL				AML		AML		23 37 25.7	
	comp=N,15046μm,0.7s								
KSTL				AML		AML		23 37 26.3	
	comp=E,5477μm,0.9s								
KSTL	**Kastelli Herak**	**1.55**	**307**	P		**Pn**		**23 36 53.6**	**-0.9**
KSTL				S		**Sn**		**23 37 09.9**	**-4.2**
	comp=E,2μm,0.8s								
IACM	**Heraklion**	**1.55**	**307**	P		**Pb**		**23 36 56.3**	**+0.3**
SIVA	**Siva**	**1.59**	**294**	P		**Pb**		**23 36 56.7**	**0.0**
TMBK	**Timbaki Herakl**	**1.65**	**296**	P		**Pb**		**23 36 57.7**	**+0.1**
TMBK	**Timbaki Herakl**	**1.65**	**296**	P		**Pb**		**23 36 58.5**	**+0.8**
IDI	**Anoyia**	**1.67**	**304**	P		**Pb**		**23 36 57.5**	**-0.4**
	comp=E,26nm,0.3s,baz=147,slow=8.1,SNR=60								
IDI				S			**Sn**	**23 37 13.1**	**-3.9**
	comp=E,80nm,0.3s,baz=278,slow=23,SNR=9.1								
IDI	**Anoyia**	**1.67**	**304**	P		**Pb**		**23 36 57.7**	**-0.2**
IDI				AML		AML		23 37 27.0	
	comp=E,3363μm,0.5s								
IDI				AML		AML		23 37 36.6	
	comp=N,4415μm,0.8s								
IDI	**Anoyia**	**1.67**	**304**	P		**Pb**		**23 36 57.6**	**-0.4**
IDI	**Anoyia**	**1.67**	**304**	PN		**Pb**		**23 36 58.0**	**0.0**
IDI	**Anoyia**	**1.67**	**304**	Pn		**Pn**		**23 36 57.0**	**+0.9**
GVD	**Gavdhos**	**2.11**	**284**	P		**Pb**		**23 37 04.7**	**-0.8**
GVD				AML		AML		23 37 47.2	
	comp=E,5341μm,0.5s								
GVD				AML		AML		23 37 50.3	
	comp=N,3856μm,0.6s								
GVD	**Gavdhos**	**2.11**	**284**	P		**Pb**		**23 37 04.6**	**-0.8**
GVD	**Gavdhos**	**2.11**	**284**	PN		**Pb**		**23 37 04.9**	**-0.6**
ARG	**Arkhangelos**	**2.23**	**34**	P		**Pn**		**23 37 05.9**	**+2.1**
ARG				AML		AML		23 37 55.6	
	comp=N,4090μm,0.9s								
ARG				AML		AML		23 38 01.5	
	comp=E,4536μm,0.8s								
ARG	**Arkhangelos**	**2.23**	**34**	P		**Pn**		**23 37 06.0**	**+2.1**
ARG	**Arkhangelos**	**2.23**	**34**	P		**Pn**		**23 37 05.6**	**+1.7**
ARG	**Arkhangelos**	**2.23**	**34**	PN		**Pn**		**23 37 05.1**	**+1.2**
ARG	**Arkhangelos**	**2.23**	**34**	S		**Sn**		**23 37 30.8**	**-0.2**
CHAN	**Chania**	**2.38**	**300**	P		**Pb**		**23 37 09.7**	**-0.4**
IMMV	**Iera Moni Meta**	**2.40**	**298**	P		**Pb**		**23 37 09.1**	**-1.3**
IMMV	**Iera Moni Meta**	**2.40**	**298**	P		**Pb**		**23 37 08.9**	**-1.5**
IMMV	**Iera Moni Meta**	**2.40**	**298**	PN		**Pb**		**23 37 08.8**	**-1.6**
KOSK	**Kos Island**	**2.40**	**8**	PN		**Pn**		**23 37 06.7**	**+0.6**
DAT	**Datca**	**2.49**	**19**	PN		**Pn**		**23 37 07.9**	**+0.4**
KNDR	**Palaiochora Ch**	**2.53**	**291**	PN		**Pb**		**23 37 11.3**	**-1.4**
RODP	**Rodopos**	**2.60**	**298**	PN		**Pn**		**23 37 11.5**	**+2.5**
BODT	**Bodrum**	**2.75**	**12**	PN		**Pn**		**23 37 11.2**	**+0.2**
BODT	**Bodrum**	**2.75**	**12**	P		**Pn**		**23 37 10.0**	**-1.0**
TURN	**Turunc**	**2.76**	**29**	PN		**Pn**		**23 37 12.2**	**+1.2**
TURN	**Turunc**	**2.76**	**29**	P		**Pn**		**23 37 12.2**	**+1.2**
BDRM	**Kayabasi**	**2.78**	**14**	P		**Pn**		**23 37 10.9**	**-0.5**
APE	**Apeiranthos**	**2.83**	**343**	*d*	*iP*	**Pn**		**23 37 12.5**	**+0.5**
APE	**Apeiranthos**	**2.83**	**343**	PN		**Pn**		**23 37 12.9**	**+0.9**
APE	**Apeiranthos**	**2.83**	**343**	Pn		**Pn**		**23 37 08.5**	**-3.5**
APE	**Apeiranthos**	**2.83**	**343**	P		**Pn**		**23 37 13.1**	**+1.0**
DALY	**Daliyan (Mula)**	**2.97**	**34**	PN		**Pn**		**23 37 15.0**	**+1.1**
MATC	**Matruh**	**3.07**	**170**	S		**Sn**		**23 37 54.5**	**+3.0**
	baz=170								
MLSB	**Milas**	**3.08**	**18**	PN		**Pn**		**23 37 16.7**	**+1.2**
MLSB	**Milas**	**3.08**	**18**	P		**Pn**		**23 37 15.2**	**-0.2**
YER	**Yerkesik**	**3.09**	**26**	PN		**Pn**		**23 37 16.5**	**+0.9**
YER	**Yerkesik**	**3.09**	**26**	P		**Pn**		**23 37 15.7**	**0.0**
AKAS	**Kas**	**3.09**	**52**			**Pn**		**23 37 16.5**	**+0.7**
SLUM	**Salum**	**3.09**	**202**	P		**Pn**		**23 37 17.3**	**+1.6**
	baz=201								
MULA	**Mugla, Merkez-**	**3.21**	**26**	P		**Pn**		**23 37 18.2**	**+0.9**
GCAM	**G?zelcami?**	**3.36**	**9**	PN		**Pn**		**23 37 20.8**	**+1.4**
GCAM	**G?zelcami?**	**3.36**	**9**	P		**Pn**		**23 37 20.5**	**+1.1**
CAME	**Cameli-Denizli**	**3.39**	**40**	PN		**Pn**		**23 37 20.9**	**+1.0**
AYDN	**Tasoluk**	**3.45**	**17**	P		**Pn**		**23 37 22.3**	**+1.7**
CAEL	**Denizli, Camel**	**3.54**	**38**	P		**Pn**		**23 37 23.2**	**+1.3**
ELL	**Elmali**	**3.60**	**48**	P		**Pn**		**23 37 23.9**	**+1.1**
ELL	**Elmali**	**3.60**	**48**	Pn		**Pn**		**23 37 23.9**	**+1.1**
ELL	**Elmali**	**3.60**	**48**	P		**Pn**		**23 37 23.1**	**+0.1**
TAVA	**DENIZLI_Tavas**	**3.62**	**31**	P		**Pn**		**23 37 23.1**	**+0.1**
AKUM	**Antalya-Kumluc**	**3.64**	**57**	P		**Pn**		**23 37 23.1**	**0.0**
DGB	**zmir**	**3.68**	**4**	P		**Pn**		**23 37 23.1**	**-0.6**
GOLH	**Golhisar**	**3.75**	**39**	P		**Pn**		**23 37 25.8**	**+1.0**
ZEYE	**Izmir, Urla-Ze**	**3.86**	**359**	P		**Pn**		**23 37 24.0**	**-2.2**
URLA	**Izmir**	**3.98**	**0**	P		**Pn**		**23 37 28.0**	**+0.1**
OSC1	**CSNet OBS 1**	**4.00**	**101**	P		**Pn**		**23 37 27.4**	**-0.7**
OSC1				S		**Sn**		**23 38 13.6**	**-0.8**
BLCB	**Balcova**	**4.02**	**5**	P		**Pn**		**23 37 28.4**	**0.0**
CHOS	**Chios island**	**4.03**	**354**	PN		**Pn**		**23 37 30.1**	**+1.5**
ANTB	**Antalya**	**4.17**	**52**	P		**Pn**		**23 37 34.1**	**+3.7**
ATH	**Athens Observa**	**4.28**	**328**	P		**Pn**		**23 37 34.0**	**+2.1**
BRDR	**BURDUR-Merkez**	**4.36**	**39**	P		**Pn**		**23 37 36.0**	**+2.9**
KULA	**Kula-Manisa**	**4.46**	**21**	P		**Pn**		**23 37 35.9**	**+1.3**
BASM	**Basmaki-Afyon**	**4.52**	**37**	PN		**Pn**		**23 37 37.1**	**+1.7**
ZEDA	**zmir-Bergama**	**4.60**	**5**	P		**Pn**		**23 37 34.6**	**-1.9**
PASA	**Karahalli, USA**	**4.61**	**30**	P		**Pn**		**23 37 35.5**	**-1.2**
ISP	**Isparta**	**4.70**	**42**	P		**Pn**		**23 37 39.2**	**+1.4**
ISP	**Isparta**	**4.70**	**42**	PN		**Pn**		**23 37 40.0**	**+2.2**
ISP	**Isparta**	**4.70**	**42**	Pn		**Pn**		**23 37 39.2**	**+1.4**
ISP	**Isparta**	**4.70**	**42**	Pn		**Pn**		**23 37 35.3**	**-2.5**
DKL	**Dikili**	**4.70**	**3**	P		**Pn**		**23 37 37.7**	**-0.1**
ITM	**Ithomi**	**4.71**	**308**	PN		**Pn**		**23 37 39.9**	**+2.0**
ITM	**Ithomi**	**4.71**	**308**			**Pn**		**23 37 39.1**	**+1.2**
USAK	**Uak-Merkez**	**4.76**	**24**	P		**Pn**		**23 37 36.7**	**-1.9**
AKMS	**Akamas**	**4.78**	**81**	P		**Pn**		**23 37 38.4**	**-0.6**
AKMS					AML	AML		23 38 32.5	
	comp=E,1.1nm,0.6s								
AKMS					AML	AML		23 38 33.0	
	comp=E,1.1nm,0.4s								
KZIL	**AFYON_Kizioren**	**4.83**	**36**	P		**Pn**		**23 37 40.0**	**+0.4**
OSC2	**CSNet OBS 4**	**4.91**	**104**	P		**Pn**		**23 37 39.3**	**-1.3**
NATA	**Nata**	**4.96**	**84**	P		**Pn**		**23 37 40.7**	**-0.6**
ALFC	**Alefka**	**5.02**	**79**	P		**Pn**		**23 37 41.5**	**-0.6**
ALFC					AML	AML		23 38 35.8	
	comp=E,0.6nm,0.8s								
ALFC					AML	AML		23 38 39.0	
	comp=E,1.2nm,0.7s								
SIMA	**Simav-Kutahya**	**5.08**	**22**	P		**Pn**		**23 37 42.5**	**-0.6**
KOCA	**Canakkale, Ayv**	**5.13**	**356**	P		**Pn**		**23 37 42.9**	**-0.8**
BUHA	**Balikesir, Bur**	**5.14**	**4**	P		**Pn**		**23 37 43.4**	**-0.4**
SWA2		**5.20**	**191**	P		**Pn**		**23 37 46.0**	**+1.3**
	baz=191								
SEDI	**Konya, Seydise**	**5.20**	**52**	P		**Pn**		**23 37 48.1**	**+3.3**
SEDI				S		**Sn**		**23 38 43.1**	**-1.2**
SEDI					*i* AML	AML		23 38 51.0	
	comp=E,124nm,0.8s								
SEDI					*i* AML	AML		23 39 06.0	
	comp=E,127nm,0.7s								
SZAC	**Souni**	**5.21**	**84**	P		**Pn**		**23 37 44.1**	**-0.8**
SZAC					AML	AML		23 38 44.3	
	comp=E,1.2nm,0.6s								
SZAC					AML	AML		23 38 44.4	
	comp=E,1.5nm,1.1s								
LEF	**Lefka**	**5.25**	**80**	P		**Pn**		**23 37 45.4**	**+0.1**
GDZ	**Gediz**	**5.25**	**25**	P		**Pn**		**23 37 44.9**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**5.36**	**360**	P		**Pn**		**23 37 45.6**	**-1.3**
DURS	**Dursunbey**	**5.44**	**16**	P		**Pn**		**23 37 46.9**	**-1.1**
EZN	**Ezine**	**5.45**	**358**	P		**Pn**		**23 37 48.2**	**+0.2**
ASGA	**Asgata**	**5.52**	**84**	P		**Pn**		**23 37 48.9**	**-0.1**
ASGA					AML	AML		23 38 51.1	
	comp=E,1.0nm,0.6s								
ASGA					AML	AML		23 38 51.7	
	comp=E,1.1nm,1.0s								
DOGA	**KONYA_Doganhis**	**5.55**	**46**	P		**Pn**		**23 37 52.6**	**+3.0**
DOGA				S		**Sn**		**23 38 51.3**	**-1.6**
DOGA					*i* AML	AML		23 39 08.0	
	comp=E,99nm,0.9s								
DOGA					*i* AML	AML		23 39 10.0	
	comp=E,109nm,1.0s								
TVSB	**Tavsanli**	**5.57**	**24**	P		**Pn**		**23 37 51.3**	**+1.5**
CSS	**Mathiatis**	**5.59**	**82**	Pn		**Pn**		**23 37 49.3**	**-0.8**
CSS				Sn		**Sn**		**23 38 53.1**	**-0.7**
CSS	**Mathiatis**	**5.59**	**82**	P		**Pn**		**23 37 49.4**	**-0.6**
CSS	**Mathiatis**	**5.59**	**82**	Pn		**Pn**		**23 37 48.1**	**-2.0**
CSS				Sn		**Sn**		**23 38 51.6**	**-2.3**
AGG	**Agios Georgios**	**5.76**	**325**	P		**Pn**		**23 37 53.0**	**+0.6**
AGG	**Agios Georgios**	**5.76**	**325**	Pn		**Pn**		**23 37 53.0**	**+0.6**
AGG	**Agios Georgios**	**5.76**	**325**	P		**Pn**		**23 37 53.5**	**+1.1**
ANDZ	**Kutahya, Merke**	**5.78**	**26**	P		**Pn**		**23 37 52.0**	**-0.7**
KMER	**Konya-Meram**	**5.78**	**52**	P		**Pn**		**23 37 54.7**	**+1.9**
KMER				S		**Sn**		**23 38 55.7**	**-3.0**
KMER					*i* AML	AML		23 39 10.0	
	comp=E,47nm,1.0s								
HMYD	**Mayadein**	**5.80**	**141**	P		**Pn**		**23 37 54.2**	**+1.3**
	baz=142								
HNAT	**Natroun**	**5.84**	**143**	P		**Pn**		**23 37 55.3**	**+1.9**
	baz=144								
MVOU	**Mavrovouni**	**5.84**	**82**	P		**Pn**		**23 37 53.3**	**-0.2**
KONT	**Konya--Tatoy**	**5.88**	**51**	P		**Pn**		**23 37 56.4**	**+2.4**
KONT				S		**Sn**		**23 38 58.9**	**-2.0**
KONT					*i* AML	AML		23 39 10.0	
	comp=E,49nm,0.8s								
KKBE	**Karaman, Kazim**	**5.90**	**59**	P		**Pn**		**23 37 56.5**	**+2.2**
KKBE				S		**Sn**		**23 38 57.8**	**-3.6**
KKBE					*i* AML	AML		23 39 03.0	
	comp=E,56nm,1.0s								
KKBE					*i* AML	AML		23 39 21.0	
	comp=E,71nm,0.9s								
GULN	**MERSIN_Gulnar**	**5.98**	**70**	P		**Pn**		**23 37 55.2**	**0.0**
GULN				S		Sn		23 38 53.5	-1.0
RYAN	**Fayoum**	**6.14**	**148**	P		**Pn**		**23 37 58.3**	**+0.7**
	baz=149								
RYAN				S		**Sn**		**23 39 04.2**	**-3.1**
	baz=149								
VLS	**Valsamata**	**6.15**	**310**	P		**Pn**		**23 37 59.3**	**+1.6**
SGAZ	**Eskisehir, Sey**	**6.17**	**32**	P		**Pn**		**23 37 57.4**	**-0.7**
PARAL	**Paralimni**	**6.18**	**82**	P		**Pn**		**23 37 58.7**	**+0.7**
KOT	**Kottamia**	**6.28**	**133**	P		**Pn**		**23 38 00.4**	**+0.9**
	baz=135								
KOT				S		**Sn**		**23 39 08.9**	**-1.9**
	baz=135								
ERIK	**Erikli-Kesan**	**6.29**	**360**	P		**Pn**		**23 37 59.6**	**0.0**
BORA	**Eskisehir**	**6.31**	**28**			**Pn**		**23 38 00.8**	**+0.8**
HSAF	**As Saff**	**6.35**	**137**	P		**Pn**		**23 38 00.8**	**+0.3**
	baz=138								
HHAG	**Hagoal**	**6.42**	**132**	P		**Pn**		**23 38 02.6**	**+1.1**
	baz=133								
KESN	**Edirne-Kesan**	**6.45**	**1**	P		**Pn**		**23 38 01.4**	**-0.7**
GLL	**Jalalah**	**6.47**	**136**	P		**Pn**		**23 38 01.7**	**-0.4**
	baz=138								
ALN	**Alexandroupoli**	**6.53**	**356**	P		**Pn**		**23 38 04.2**	**+1.3**
ALN	**Alexandroupoli**	**6.53**	**356**			**Pn**		**23 38 04.2**	**+1.3**
ALN	**Alexandroupoli**	**6.53**	**356**	P		**Pn**		**23 38 04.9**	**+2.0**
LIT	**Litokhoron**	**6.58**	**331**	P		**Pn**		**23 38 04.1**	**+0.4**
LIT	**Litokhoron**	**6.58**	**331**	Pn		**Pn**		**23 38 04.1**	**+0.4**
LIT	**Litokhoron**	**6.58**	**331**	P		**Pn**		**23 38 03.1**	**-0.5**
SUZ	**Suez**	**6.96**	**129**	P		**Pn**		**23 38 09.7**	**+0.8**
	baz=130								
NBNS	**Bani Suef**	**7.00**	**144**	P		**Pn**		**23 38 10.4**	**+0.9**
	baz=145								
MDUB	**Mudurnu**	**7.11**	**30**	Pn		**Pn**		**23 38 11.9**	**+0.9**
DED	**Mersin**	**7.17**	**67**	P		**Pn**		**23 38 11.6**	**-0.2**
OFRI	**`Ofer**	**7.23**	**102**	Pn		**Pn**		**23 38 09.9**	**-2.7**
GULE	**Gulek**	**7.26**	**64**	P		**Pn**		**23 38 16.4**	**+3.2**
KDZ	**Kurdzhali**	**7.33**	**353**	*i* P		**Pn**		**23 38 15.5**	**+1.7**
HFRF	**Wahat Farafira**	**7.35**	**168**	P		**Pn**		**23 38 14.9**	**+0.7**
	baz=168								
BR231	**Keskin MP Arra**	**7.37**	**40**	Pn		**Pn**		**23 38 15.2**	**+0.7**
BLGI	**Bet Lehem HaGe**	**7.37**	**100**	Sn		**Sn**		**23 39 34.8**	**-2.8**
SLTI	**Sal'it**	**7.39**	**104**	Pn		**Pn**		**23 38 12.9**	**-1.9**
SLTI				Sn		**Sn**		**23 39 34.8**	**-3.4**
ANTO	**Ankara**	**7.40**	**40**	P		**Pn**		**23 38 15.9**	**+1.0**
ANTO	**Ankara**	**7.40**	**40**	Pn		**Pn**		**23 38 15.9**	**+1.0**
KZIT	**Kziot**	**7.44**	**116**	Pn		**Pn**		**23 38 13.3**	**-2.2**
KZIT				Sn		**Sn**		**23 39 36.0**	**-3.4**
RZN	**Rozhen**	**7.45**	**349**	*i* P		Pn		23 38 21.1	+5.4
MMA0B	**Mount Meron ar**	**7.48**	**98**	Pn		**Pn**		**23 38 13.9**	**-2.1**
MMA0B				Sn		**Sn**		**23 39 37.3**	**-3.0**
MMAI	**Mount Meron Ar**	**7.48**	**98**	P		**Pn**		**23 38 15.1**	**-0.9**
	comp=E,5.4nm,0.3s,baz=220,slow=22,SNR=7.4								
MMAI				S			**Sn**	**23 39 37.9**	**-2.5**
	comp=E,11nm,0.3s,baz=222,slow=22,SNR=2.9								
DQRL	**Deir Qamar**	**7.49**	**93**	*e*	P	**Pn**		**23 38 16.2**	**0.0**
ARMN	**Kirklareli, Me**	**7.51**	**5**	P		**Pn**		**23 38 16.8**	**+0.4**
MMB	**Musomiste**	**7.55**	**343**	*i* P		**Pn**		**23 38 20.5**	**+3.6**
AMAZ	**Amatzia**	**7.55**	**110**	Pn		**Pn**		**23 38 15.1**	**-1.9**
AMAZ				Sn		**Sn**		**23 39 39.1**	**-3.1**
FNA	**Florina**	**7.62**	**329**	P		**Pn**		**23 38 18.6**	**+0.7**
FNA	**Florina**	**7.62**	**329**			**Pn**		**23 38 18.6**	**+0.7**
FNA	**Florina**	**7.62**	**329**	P		**Pn**		**23 38 18.1**	**+0.2**
VAY	**Valandovo**	**7.63**	**337**	*e*	Pn	**Pn**		**23 38 22.1**	**+4.2**
GEM	**Giv'at Ha'Em**	**7.65**	**96**	Pn		**Pn**		**23 38 15.2**	**-3.1**
GEM				Sn		**Sn**		**23 39 41.3**	**-3.2**
SHBL	**Chebaa**	**7.69**	**95**	*e*	P	**Pn**		**23 38 18.5**	**-0.5**
NATI	**Neve Ativ**	**7.70**	**96**	Sn		**Sn**		**23 39 43.8**	**-1.9**
RCY	**Rachaya**	**7.74**	**94**	*e*	P	**Pn**		**23 38 18.9**	**-0.8**
HWQ	**Hawqa**	**7.75**	**88**	*e*	P	**Pn**		**23 38 19.4**	**-0.4**
KBN	**Korca**	**7.75**	**325**	P		**Pn**		**23 38 20.2**	**+0.4**
KBN	**Korca**	**7.75**	**325**			**Pn**		**23 38 20.1**	**+0.4**
BR131	**Keskin Array S**	**7.77**	**45**	*d*	*eP*	**Pn**		**23 38 20.9**	**+0.8**
BR131	**Keskin Array S**	**7.77**	**45**			**Pn**		**23 38 21.2**	**+1.2**
BRTR	**Keskin Array B**	**7.77**	**45**	P		**Pn**		**23 38 21.2**	**+1.2**
	comp=E,0.3nm,0.3s,baz=216,slow=12,SNR=16								
BRTR				S			**Sn**	**23 39 42.1**	**-5.5**
	baz=202,slow=15,SNR=1.1								
BRTR	**Keskin Array B**	**7.77**	**45**	*i*	P	**Pn**		**23 38 21.2**	**+1.2**
BRTR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
BRTR	**Keskin Array B**	**7.77**	**45**	Pn		**Pn**		**23 38 21.1**	**+1.0**
HMDT	**Nahal Hemdat**	**7.78**	**103**	Sn		**Sn**		**23 39 44.7**	**-3.0**
YTIR	**Yattir**	**7.78**	**110**	Pn		**Pn**		**23 38 17.5**	**-2.7**
YTIR				Sn		**Sn**		**23 39 44.3**	**-3.5**
KSHT	**Keshet**	**7.82**	**98**	Pn		**Pn**		**23 38 18.4**	**-2.3**
UJAP	**Al Uja**	**7.83**	**105**	Sn		**Sn**		**23 39 45.6**	**-3.2**
DSI	**Dead Sea**	**7.90**	**108**	Sn		**Sn**		**23 39 47.2**	**-3.5**
KKB	**Krupnik**	**7.97**	**341**	*i*	P	Pn		23 38 27.7	+5.0
MDBI	**Mazsada**	**7.99**	**110**	Pn		**Pn**		**23 38 20.3**	**-2.6**
MDBI				Sn		**Sn**		**23 39 48.6**	**-4.2**
MSBI	**Mazada**	**7.99**	**110**	Pn		**Pn**		**23 38 20.6**	**-2.3**
MSBI				Sn		**Sn**		**23 39 49.2**	**-3.6**
STIP	**Stip**	**8.09**	**336**	*e*	Pn	**Pn**		**23 38 26.5**	**+2.2**
KRMI	**Paran Flat**	**8.10**	**119**	Pn		**Pn**		**23 38 22.1**	**-2.4**
OHR	**Ohrid**	**8.14**	**327**	*e*	Pn	**Pn**		**23 38 27.0**	**+2.0**
GHAJ	**Ghor Haditha**	**8.16**	**110**			**Pn**		**23 38 24.8**	**-0.4**
GHAJ	**Ghor Haditha**	**8.16**	**110**	Sn		**Sn**		**23 39 54.4**	**-2.5**
PRNI	**Paran**	**8.17**	**117**	Pn		**Pn**		**23 38 24.1**	**-1.4**
HRFI	**Mount Harif**	**8.37**	**119**	Sn		**Sn**		**23 39 59.0**	**-3.2**
MBRI	**Mt Berech**	**8.41**	**121**	Sn		**Sn**		**23 40 00.3**	**-3.1**
EIL	**Elat**	**8.51**	**121**	P		**Pn**		**23 38 30.4**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=233,slow=1.2,SNR=49								
EIL				S			**Sn**	**23 40 00.5**	**-5.2**
	comp=Z,6.4nm,0.3s,baz=132,slow=8.4,SNR=5.9								
EIL	**Elat**	**8.51**	**121**	Pn		**Pn**		**23 38 27.8**	**

1981

GNI pmax pmax
comp=Z,1.0nm,0.4s
GNI Garni 15.56 63 Pn Pn 23 40 07.7 +1.4
MODS Modra-Piesok 15.62 336 *e*P **Pn 23 40 06.4 -0.5**
MODS Modra-Piesok 15.62 336 *e*PN **Pn 23 40 06.3 -0.6**
ZCCA Zocca 15.63 314 Pn **Pn 23 40 07.5 +0.5**
SMOL Smolenice 15.69 337 *e*P **Pn 23 40 07.6 -0.3**
SMOL Smolenice 15.69 337 *e*PN **Pn 23 40 07.5 -0.3**
KIV Kislovodsk 15.71 48 ⇓P **P 23 40 15.9 +3.7**
KIV Kislovodsk 15.71 48 *e*P **P 23 40 10.7 -1.4**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,99nm,12.0s
KBZ Khabaz 15.72 49 P **P 23 40 10.9 -1.1**
comp=Z,0.1nm,0.3s,baz=250,slow=7.4,SNR=9.4
KBZ Khabaz 15.72 49⇓*e*P **P 23 40 11.0 -1.1**
CONA Conrad Observa 15.74 333 *e*P **Pn 23 40 07.0 -1.6**
comp=Z,2.8nm,1.1s
TEOL Teolo 15.83 318 Pn **Pn 23 40 08.9 -0.8**
TEOL IAmb IAmb 23 40 22.5
comp=Z,22nm,0.7s
STAL STALIGIAL 15.88 323 P **Pn 23 40 10.3 0.0**
JAVC Velka Javorina 15.92 338 *e*PN **Pn 23 40 09.0 -1.8**
ZEI Tsey 15.92 53 *e*P **P 23 40 13.4 -1.2**
ZEI pmax pmax
comp=Z,22nm,1.2s
NCK Nalchik 16.05 50⇑*e*P **P 23 40 15.2 -0.6**
NCK pmax pmax
comp=Z,13nm,1.1s
KBA Koelnbreinsper 16.15 326 *e*P **Pn 23 40 15.1 +1.2**
comp=Z,2.1nm,0.6s
PRMA PARMA 16.25 315 Pn **Pn 23 40 14.1 -0.9**
PRMA IAmb IAmb 23 40 24.6
comp=Z,31nm,1.1s
CTI Castel Tesino 16.28 320 P **Pn 23 40 15.6 +0.1**
CTI pmax pmax
comp=Z,28nm,1.2s
CTI Castel Tesino 16.28 320 P **Pn 23 40 15.6 +0.1**
CTI IAmb IAmb 23 40 22.6
comp=Z,28nm,1.2s
ABTA Abfaltersbach 16.31 323 *e*P **P 23 40 19.3 +0.5**
comp=Z,3.7nm,1.1s
MOA Molln 16.32 329 *e*P **P 23 40 18.4 -0.4**
comp=Z,3.9nm,1.4s
AKASG Malin Array Be 16.43 6 P **Pn 23 40 16.8 -0.6**
comp=Z,2.7nm,0.3s,baz=192,slow=11,SNR=12
AKASG LR LR 23 47 17.8
comp=Z,295nm,19.4s,baz=176,slow=40
AKASG Malin Array Be 16.43 6 P **Pn 23 40 17.3 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 16.43 6 Pn **Pn 23 40 17.2 0.0**
AKBB Malin Array Si 16.43 6 P **Pn 23 40 17.1 -0.2**
AKBB pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 16.43 6 Pn **Pn 23 40 17.1 -0.2**
MSSA Maissana 16.49 312 Pn **Pn 23 40 16.6 -1.6**
KRUC Moravsky 16.51 336 *e*PN **Pn 23 40 16.2 -2.1**
GOF Gofitskoye 16.53 45⇑*e*P **P 23 40 21.0 -0.1**
GOF pmax pmax
comp=Z,27nm,0.9s
OJC Ojcow 16.60 345 P **Pn 23 40 19.1 -0.4**
OJC pmax pmax
comp=Z,8.0nm,1.3s
OJC Ojcow 16.60 345 Pn **Pn 23 40 19.1 -0.4**
SALO Sair 16.63 317 P **Pn 23 40 19.2 -0.7**
SALO IAmb IAmb 23 40 26.8
comp=Z,46nm,0.9s
VRAC Vranov 16.65 337 ⇑P **Pn 23 40 17.6 -2.6**
VRAC Vranov 16.65 337 P **Pn 23 40 18.2 -1.9**
comp=Z,0.3nm,0.3s,baz=169,slow=7.2,SNR=5.8
VRAC LR LR 23 47 32.4
comp=Z,140nm,20.5s,baz=159,slow=40
VRAC Vranov 16.65 337 *e*PN **Pn 23 40 18.1 -2.0**
OKC Ostrava-Krasne 16.66 341 AMS AMS 23 47 50.0
comp=Z,500nm,13.4s
MORC Moravsky Berou 16.77 339 ⇓P **Pn 23 40 20.3 -1.3**
MORC Moravsky Berou 16.77 339 ⇓P **Pn 23 40 20.3 -1.3**
MORC Moravsky Berou 16.77 339 *e*PN **Pn 23 40 19.9 -1.8**
TREC Trest 17.02 335 *e*P **Pn 23 40 23.7 -1.1**
TREC Trest 17.02 335 *e*P **Pn 23 40 23.7 -1.1**
CKRC Cesky Krumlov 17.07 331 *e*P **Pn 23 40 23.6 -1.8**
CKRC AMS AMS 23 48 50.0
comp=Z,400nm,14.5s
WTTA Wattenberg 17.10 323 *e*P **P 23 40 28.4 +0.8**
comp=Z,9.0nm,1.0s
WATA Walderalm 17.18 323 *e*P **Pn 23 40 27.5 +0.6**
comp=Z,5.0nm,0.7s
KRLC Kraliky 17.27 338 *e*P **Pn 23 40 26.4 -1.4**
KRLC Kraliky 17.27 338 *e*P **Pn 23 40 26.4 -1.4**
SQTA Sankt Quirin 17.29 323 *e*P **P 23 40 30.2 +0.6**
comp=Z,5.5nm,0.8s,SNR=9.0
GERES GERESS Array B 17.34 330 P **Pn 23 40 26.9 -1.9**
comp=Z,0.2nm,0.3s,baz=138,slow=14,SNR=19
GERES LR LR 23 49 02.0
comp=Z,401nm,18.1s,baz=146,slow=44
GROC Groznyy 17.35 54 *e*P **Pn 23 40 28.8 -0.1**
GROC *e*S **Sn 23 43 38.4 -3.1**
GROC pmax pmax
comp=Z,7.0nm,1.0s
FETA Feichten 17.40 321 *e*P **Pn 23 40 30.3 +0.6**
comp=Z,13nm,0.9s,SNR=14
MOTA Moosalm 17.42 323 *e*P **Pn 23 40 29.6 -0.3**
comp=Z,3.2nm,0.9s
KHC Kasperske Hory 17.61 331⇑*e*P **Pn 23 40 30.1 -2.1**
KHC pmax pmax
comp=Z,8.0nm,0.8s
KHC Kasperske Hory 17.61 331 *e*P **Pn 23 40 31.1 -1.1**
KHC *ex* x 23 40 49.5
KHC AMS AMS 23 48 20.0
comp=Z,500nm,14.4s
DPC Dobruska-Polom 17.65 338 *e*P **Pn 23 40 31.2 -1.4**
DPC MLR MLR
comp=Z,400nm,21.1s
DPC Dobruska-Polom 17.65 338 *e*P **Pn 23 40 31.2 -1.4**
DPC AMS AMS 23 48 40.0
comp=Z,400nm,21.1s
RETA Reutte 17.69 323 *e*P **Pn 23 40 33.6 +0.4**
comp=Z,5.2nm,0.8s,SNR=5.5
DAVOX Davos/Dischmat 17.69 319 P **Pn 23 40 33.4 +0.1**
comp=Z,0.7nm,0.3s,baz=151,slow=14,SNR=8.0
DAVOX LR LR 23 48 58.3
comp=Z,393nm,19.1s,baz=122,slow=43
TUE Stuetta 17.79 318 P **Pn 23 40 33.5 -1.0**
TUE IAmb IAmb 23 40 45.2
comp=Z,40nm,1.2s
OSTC Ostas 17.86 338 *e*P **Pn 23 40 33.3 -1.9**
OSTC AMS AMS 23 48 50.0
comp=Z,400nm,11.1s
UPC Upice 17.88 338 AMS AMS 23 48 40.0
comp=Z,400nm,13.6s
CHVC Chvalec 17.94 338 *e*P **Pn 23 40 33.7 -2.5**
CHVC AMS AMS 23 48 40.0
comp=Z,400nm,14.8s
PRU Pruhonice 17.94 334 *e*P **Pn 23 40 33.7 -2.4**
PRU MLR MLR
comp=Z,400nm,17.0s
PRU Pruhonice 17.94 334 *e*P **Pn 23 40 33.7 -2.4**
PRU AMS AMS 23 49 20.0
comp=Z,400nm,17.0s
DAVA Damuels 18.01 321 *e*P **Pn 23 40 37.5 +0.2**
comp=Z,7.3nm,0.5s
KSP Ksiaz 18.09 339 *e*P **Pn 23 40 36.5 -1.5**
PVCC Panska Ves 18.38 335 *e*P **P 23 40 41.1 -0.4**
PVCC Panska Ves 18.38 335 *e*P **P 23 40 41.1 -0.4**
BNI Bardonecchia 18.61 311 P **P 23 40 43.9 -0.4**
BNI pmax pmax
comp=Z,8.0nm,1.0s
BNI Bardonecchia 18.61 311 P **P 23 40 43.9 -0.4**
LPL La Plagne 18.80 312 *e*P **P 23 40 46.9 +0.5**
LPL pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 18.89 335 *e*P **P 23 40 46.5 -0.5**
BRG Amp 23 40 51.5
comp=Z,8.9nm,0.8s
BRG Berggiesshubel 18.89 335 *e*P **P 23 40 46.5 -0.5**
BRG pmax pmax
comp=Z,9.0nm,0.9s
SENIN Lac Senin/Sane 18.90 315 P **P 23 40 46.5 -0.9**
SENIN IAmb IAmb 23 40 58.1
comp=Z,16nm,0.8s
NKC Novy Kostel 18.93 331 AMS AMS 23 49 10.0
comp=Z,500nm,13.5s
VORD Divnogorie 18.99 25 *e*P **P 23 40 48.4 +0.2**

2016 APR

VORD pmax pmax
comp=Z,20nm,0.6s
GRA1 Grafenberg Arr 19.03 328 P **P 23 40 47.5 -1.2**
GRA1 IAmb IAmb 23 40 53.8
comp=Z,30nm,1.3s
GRF Grafenberg Arr 19.03 328 P **P 23 40 47.5 -1.2**
GRF pmax pmax
comp=Z,30nm,1.3s
GRF Grafenberg Arr 19.03 328 *e*Pn **P 23 40 48.0 -0.7**
GRFO Grafenberg 19.03 328 P **P 23 40 48.2 -0.5**
GRFO pmax pmax
comp=Z,27nm,1.3s
GRFO Grafenberg 19.03 328 P **P 23 40 48.2 -0.5**
GRFO IAmb IAmb 23 40 53.7
comp=Z,26nm,1.3s
VSR Storozhevoye 19.16 25 *e*P **P 23 40 49.9 -0.1**
VSR pmax pmax
comp=Z,6.0nm,0.4s
BFO Black Forest 19.48 321 P **P 23 40 53.3 -0.3**
BFO pmax pmax
comp=Z,16nm,1.2s
BFO Black Forest 19.48 321 P **P 23 40 53.3 -0.3**
VORR Voronezh 19.55 24 *e*P **P 23 40 49.4 -4.9**
VORR pmax pmax
comp=Z,10.0nm,0.4s
CLL Collm 19.58 334 *e*P **P 23 40 54.0 -0.6**
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 19.58 334 *e*P **P 23 40 54.0 -0.6**
comp=Z,10.0nm,0.9s
CLL *es*P **pwP 23 41 04.0 +1.1**
CLL *e*PP **PnPn 23 41 09.0 -0.6**
MOX Moxa 19.59 331 *e*P **P 23 40 54.8 0.0**
MOX pmax pmax
comp=Z,7.0nm,0.9s
SUW Suwalki 19.78 354 *e*P **P 23 40 57.0 +0.3**
SUW Suwalki 19.78 354 P **P 23 40 55.8 -1.0**
SUW pmax pmax
comp=Z,29nm,0.8s
SUW Suwalki 19.78 354 P **P 23 40 55.8 -1.0**
SUW Suwalki 19.78 354 *e*P **P 23 40 57.2 +0.4**
ECH Echery 20.03 320 P **P 23 40 59.3 -0.3**
ECH pmax pmax
comp=Z,19nm,1.0s
ECH Echery 20.03 320 P **P 23 40 59.3 -0.3**
ECH IAmb IAmb 23 41 05.3
comp=Z,19nm,1.0s
SSB Saint Sauveur 20.07 309 P **P 23 40 58.1 -1.9**
SSB pmax pmax
comp=Z,12nm,1.2s
SSB Saint Sauveur 20.07 309 P **P 23 40 58.1 -1.9**
VRH Novokhopyorsk 20.09 29 *e*P **P 23 40 59.7 -0.5**
VRH pmax pmax
comp=Z,60nm,1.6s
LPSR Galich'ya Gora 20.25 22 *e*P **P 23 41 01.1 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.8s
RUE Ruedersdorf 20.29 337 *e*P **P 23 41 02.8 +0.5**
IDID Didziasalis 20.94 0 *e*P **P 23 41 08.0 -1.4**
PABE Paberze 21.21 356 P **P 23 41 10.4 -1.8**
PABE Paberze 21.21 356 *e*P **P 23 41 12.4 +0.1**
WLF Walferdange 21.43 322 P **P 23 41 13.8 -1.0**
WLF pmax pmax
comp=Z,23nm,0.8s
WLF Walferdange 21.43 322 P **P 23 41 13.8 -1.0**
SSF Saint Saulge 21.51 313 *e*P **P 23 41 15.9 +0.4**
SSF pmax pmax
comp=Z,22nm,1.0s
OBN Obninsk 21.88 16 P **P 23 41 18.5 -0.9**
comp=Z,3.9nm,0.6s,baz=15,slow=15,SNR=4.6
OBN LR LR 23 51 02.8
comp=Z,61nm,18.6s,baz=184,slow=40
OBN Obninsk 21.88 16⇑*e*P **P 23 41 18.4 -1.0**
OBN *e* 23 41 42.1
OBN *e*S **S 23 45 22.4 +2.2**
OBN pmax pmax
comp=Z,33nm,1.3s
OBN MLR MLR
comp=Z,232nm,17.0s
OBN Obninsk 21.88 16 P **P 23 41 18.4 -1.0**
BHOU Houvegnez 21.94 323 *d*P **P 23 41 23.4 +3.3**
BHOU *dp*P **sP 23 41 27.0 0.0**
BHOU *dP*P **PnPn 23 41 40.4 -1.5**
BTNL Ternell 22.02 324 *d*P **P 23 41 21.5 +0.4**
MEM Membach 22.10 323 *d*P **P 23 41 22.5 +0.6**
MEM *dp*P **pwP 23 41 30.5 -0.3**
RCHB Rochefort 22.21 322 *d*P **P 23 41 22.6 -0.5**
RCHB *dp*P **pwP 23 41 30.4 -1.6**
BSTI Sart Tilman 22.30 323 *d*P **P 23 41 23.6 -0.4**
BSTI *dp*P **pwP 23 41 31.8 -1.2**
BCLA Clavier 22.33 322 *d*P **P 23 41 26.3 +2.0**
BCLA *dp*P **pwP 23 41 31.9 -1.4**
BCLA *dP*P **PnPn 23 41 46.9 -0.3**
BGES Gesves 22.42 322 *dx* x 23 41 28.9
BGES *dP*P **PnPn 23 41 47.5 -0.9**
LFF La Frestale 22.43 306 *e*P **P 23 41 28.0 +2.5**
LFF pmax pmax
comp=Z,13nm,1.0s
DOU Dourbes 22.50 321 *d*P **P 23 41 25.4 -0.8**
DOU *dp*P **pwP 23 41 33.5 -1.6**
DOU *dP*P **PnPn 23 41 48.6 -0.9**
CART Cartagena 22.52 286 P **P 23 41 23.5 -3.0**
BMRD Maredsous 22.53 322 *d*P **P 23 41 28.0 +1.5**
BMRD *dp*P **pwP 23 41 35.2 -0.3**
CLF Chambon-Foret 22.70 314 P **P 23 41 28.6 +0.3**
SNF Seneffe 22.91 322 *d*P **P 23 41 30.6 +0.2**
SNF *dp*P **pwP 23 41 38.3 -1.1**
UCC Uccle 23.04 322 P **P 23 41 31.2 -0.6**
UCC pmax pmax
comp=Z,9.0nm,1.0s
UCC Uccle 23.04 322 P **P 23 41 31.2 -0.6**
BELG Belogornoye 23.48 34 P **P 23 41 36.5 +0.2**
comp=Z,30nm,0.9s,baz=69,slow=7.1,SNR=7.4
BELG LR LR 23 53 12.2
comp=Z,137nm,18.3s,baz=39,slow=43
BELG Belogornoye 23.48 34⇑*e*P **P 23 41 36.8 +0.6**
BELG pmax pmax
comp=Z,8.0nm,1.3s
MFF Saint Martin d 23.59 309 *e*P **P 23 41 37.6 +0.2**
MFF pmax pmax
comp=Z,43nm,1.5s
ESBB Sonseca Array 24.88 291 P **P 23 41 49.0 -0.5**
ESDC Sonseca Array 24.89 291 P **P 23 41 49.3 -0.2**
comp=Z,2.4nm,0.5s,baz=81,slow=9.4,SNR=42
ESDC Sonseca Array 24.89 291 P **P 23 41 48.5 -1.0**
PAB San Pablo 25.18 291 P **P 23 41 51.0 -1.2**
PAB pmax pmax
comp=Z,11nm,1.4s
PAB San Pablo 25.18 291 P **P 23 41 51.0 -1.2**
PAB IAmb IAmb 23 41 56.5
comp=Z,11nm,1.4s
GEYT Alibeck 25.65 73 P **P 23 41 57.9 +1.5**
comp=Z,2.2nm,0.3s,baz=264,slow=15,SNR=7.6
GEYT Alibeck 25.65 73 P **P 23 41 57.3 +0.9**
GEYT IAmb IAmb 23 42 16.1
comp=Z,9.6nm,0.7s
GYA0 ALIBECK ARRAY 25.65 73 P **P 23 41 57.6 +1.2**
GYA0 pmax pmax
comp=Z,13nm,0.7s
GYA0B ALIBECK ARRAY 25.65 73 P **P 23 41 57.6 +1.2**
MEF Metsahovi 25.90 358 *e*P **P 23 41 56.8 -1.6**
MDT Midelt 25.98 275 P **P 23 41 59.9 +0.3**
comp=Z,3.1nm,0.8s,baz=81,slow=6.6,SNR=7.0
MDT LR LR 23 53 53.0
comp=Z,304nm,19.5s,baz=102,slow=40
AAL Aland 26.18 353 *e*P **P 23 41 59.6 -1.2**
RAF Rauma 26.85 355 *e*P **P 23 42 06.8 -0.2**
FINES FINESS Array B 27.09 359 P **P 23 42 07.0 -2.2**
comp=Z,5.7nm,0.6s,baz=167,slow=10,SNR=17
FINES LR LR 23 53 10.9
comp=Z,125nm,19.7s,baz=184,slow=37
FINES FINESS Array B 27.09 359 P **P 23 42 07.1 -2.0**
FINES FINESS Array B 27.09 359 P **P 23 42 07.1 -2.0**
FIA1 FINESS Array S 27.09 359 P **P 23 42 07.0 -2.1**
FIA1 IAmb IAmb 23 42 13.6
comp=Z,18nm,1.2s
HFS Hagfors 27.12 346 P **P 23 42 07.9 -1.5**
comp=Z,0.8nm,0.3s,baz=101,slow=7.7,SNR=12
HFS LR LR 23 54 34.3
comp=Z,223nm,20.8s,baz=168,slow=40
PBRG Braganca 27.13 296 *e*P **P 23 42 05.2 -4.6**
VALR Valaam 27.15 5⇑*e*P **P 23 42 11.5 +1.9**
VALR pmax pmax
comp=Z,14nm,0.8s

29d 23h

MVO Moncorvo 27.30 294 *e*P **P 23 42 16.7 +5.3**
UOSS Minazif 27.32 102 P **P 23 42 11.4 -0.2**
UOSS IAmb IAmb 23 42 28.9
comp=Z,15nm,1.4s
KONO Kongsberg 27.64 341 P **P 23 42 13.6 -0.5**
KONO pmax pmax
comp=Z,30nm,1.4s
KONO Kongsberg 27.64 341 P **P 23 42 13.6 -0.5**
MTE Manteigas 27.66 293 *e*P **P 23 42 16.4 +1.8**
comp=Z,43nm,1.5s
MTE Manteigas 27.66 293 P **P 23 42 13.7 -0.8**
MTE IAmb IAmb 23 42 29.5
comp=Z,14nm,1.1s
PESTR Estremoz 27.69 289 *e*P **P 23 42 18.5 +3.7**
comp=Z,28nm,1.5s
PESTR Estremoz 27.69 289 P **P 23 42 14.1 -0.7**
PESTR IAmb IAmb 23 42 24.7
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 27.79 14 *e*P **P 23 42 12.6 -2.8**
KLMR pmax pmax
comp=Z,17nm,0.8s
KLMR Klimovskoe 27.79 14 *e*P **P 23 42 12.6 -2.8**
KLMR AMP 23 42 19.6
comp=Z,17nm,0.8s
PVAQ Vaqueiros 27.86 286 *e*P **P 23 42 15.3 -1.0**
PVAQ Vaqueiros 27.86 286 P **P 23 42 15.7 -0.6**
PVAQ IAmb IAmb 23 42 32.8
comp=Z,10nm,1.1s
AKTO Aktyubinsk 27.95 45 P **P 23 42 17.8 +0.8**
comp=Z,1.9nm,0.4s,baz=257,slow=8.7,SNR=5.7
AKTO LR LR 23 55 19.0
comp=Z,69nm,20.8s,baz=231,slow=40
PBDV Barranco-do-Ve 28.05 286 *e*P **P 23 42 17.7 -0.3**
NC602 NORSAR Array S 28.12 344 P **P 23 42 17.6 -0.8**
NC602 NORSAR Array S 28.12 344 *e*P **P 23 42 18.7 +0.3**
NAO01 NORSAR Array S 28.37 344 P **P 23 42 21.3 +0.7**
NC405 NORSAR Array S 28.42 345 P **P 23 42 21.9 +0.9**
NC405 IAmb IAmb 23 42 39.7
comp=Z,14nm,1.0s
NB201 NORSAR Array S 28.46 344 P **P 23 42 22.3 +0.9**
NB2 NORSAR Subarra 28.47 344 P **P 23 42 19.0 -2.5**
comp=Z,7.6nm,1.4s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.47 344 P **P 23 42 19.0 -2.5**
baz=156,slow=9.3
NOA NORSAR Array B 28.47 344 P **P 23 42 20.7 -0.8**
comp=Z,1.4nm,1.0s,baz=171,slow=10,SNR=4.1
NOA LR LR 23 54 28.7
comp=Z,115nm,19.1s,baz=145,slow=38
NBO00 NORSAR Array S 28.56 344 P **P 23 42 21.7 -0.5**
KMY Karmoy 28.57 337 *e*P **P 23 42 22.6 +0.3**
NC303 NORSAR Array S 28.60 345 P **P 23 42 21.5 -1.1**
NC300 NORSAR Array S 28.62 345 P **P 23 42 24.0 +1.2**
ABKAR Akbulak array 28.70 49 P **P 23 42 23.8 +0.2**
ABKAR Akbulak array 28.70 49 P **P 23 42 24.6 +1.0**
ABKAR IAmb IAmb 23 42 36.5
comp=Z,3.9nm,0.9s
NC204 NORSAR Array S 28.78 344 P **P 23 42 23.7 -0.6**
EKA Eskdalemuir Ar 29.36 325 P **P 23 42 29.9 +0.5**
comp=Z,1.6nm,0.4s,baz=121,slow=10.0,SNR=10
EKA LR LR 23 56 17.7
comp=Z,209nm,18.2s,baz=128,slow=41
ESK Eskdalemuir 29.37 325 P **P 23 42 29.5 0.0**
ESK pmax pmax
comp=Z,25nm,1.2s
ESK Eskdalemuir 29.37 325 P **P 23 42 29.5 0.0**
ASK Askoy 29.59 339 *e*P **P 23 42 31.3 0.0**
HYA Hoyanger 29.85 340 *e*P **P 23 42 31.9 -1.8**
SUE Sulen 30.17 339 *e*P **P 23 42 35.9 -0.7**
ARU Arti 31.01 35 LR LR 23 58 00.1
comp=Z,89nm,19.5s,baz=242,slow=42
ARU Arti 31.01 35 P **P 23 42 42.0 -2.0**
MOR8 Moi Rana 32.64 351 *e*P **P 23 42 58.4 +0.1**
KONS Konsvik 33.13 350 *e*P **P 23 43 03.0 +0.5**
SOCY Socotra 33.29 125 P **P 23 43 01.4 -3.2**
SOCY IAmb IAmb 23 43 14.2
comp=Z,8.1nm,1.0s
FAUS Fauske 33.70 352 *e*P **P 23 43 06.7 -0.7**
LVZ Lovozero 33.89 5⇓*e*P **P 23 43 12.0 +2.8**
LVZ pmax pmax
comp=Z,26nm,1.7s
KOWA Kowa 33.96 242 P **P 23 43 10.0 -0.3**
KOWA IAmb IAmb 23 43 24.7
comp=Z,5.0nm,1.1s
STEI Steigen 34.23 352 *e*P **P 23 43 10.4 -1.7**
KTK1 Kautokeino 34.74 358 *e*P **P 23 43 14.6 -1.9**
KK31 Karatay Array 35.02 62 P **P 23 43 19.6 +0.4**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KK31 Karatay Array 35.02 62 P **P 23 43 19.6 +0.4**
KK31 IAmb IAmb 23 43 30.8
comp=Z,4.1nm,0.6s
KKAR Karatay Array 35.02 62 P **P 23 43 20.1 +0.8**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 35.02 62 P **P 23 43 19.2 -0.1**
KKAR Karatay Array 35.02 62 P **P 23 43 20.1 +0.8**
KKAR IAmb IAmb 23 43 30.9
comp=Z,4.1nm,0.6s
GAR Garm 35.12 69 P **P 23 43 20.6 +0.2**
GAR IAmb IAmb 23 43 37.8
comp=Z,4.4nm,0.9s
ARA0 ARCESS Array S 35.22 359 *e*P **P 23 43 20.4 -0.2**
ARCES ARCESS Array B 35.22 359 P **P 23 43 18.6 -2.1**
comp=Z,2.3nm,0.6s,baz=175,slow=7.5,SNR=26
ARCES LR LR 23 58 02.4
comp=Z,81nm,18.8s,baz=167,slow=37
JETT Jettan, Norway 35.41 356 *e*P **P 23 43 23.0 +0.8**
TRO Tromso 35.57 355 *e*P **P 23 43 21.7 -1.9**
BRVK Borovoye 36.00 45⇑*e*P **P 23 43 29.7 +2.2**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 36.00 45 P **P 23 43 27.7 +0.2**
BRVK IAmb IAmb 23 43 38.8
comp=Z,5.2nm,1.1s
AAK Ala-Archa 37.97 63 LR LR 00 01 25.7
comp=Z,66nm,20.5s,baz=288,slow=39
AAK Ala-Archa 37.97 63 P **P 23 43 44.3 -0.3**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 37.97 63 P **P 23 43 44.3 -0.3**
AAK IAmb IAmb 23 44 02.3
comp=Z,4.4nm,0.8s
NIL Nilore 38.43 77 P **P 23 43 49.0 +0.6**
NIL pmax pmax
comp=Z,9.0nm,0.9s
NIL Nilore 38.43 77 P **P 23 43 49.0 +0.6**
NIL IAmb IAmb 23 44 01.0
comp=Z,8.6nm,0.8s
KSH Kashi 39.41 68 P **P** 23 44 05.8 +9.1
DBIC Dimbokro 40.02 234 P **P 23 44 04.2 +2.5**
comp=Z,2.4nm,0.4s,baz=61,slow=9.9,SNR=7.2
DBIC LR LR 00 02 26.1
comp=Z,150nm,19.9s,baz=54,slow=39
DBIC Dimbokro 40.02 234 IAmb IAmb 23 44 09.5
comp=Z,13nm,1.4s
KURK Kurchatov 40.78 50*ce*P **P 23 44 07.8 +0.1**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 40.78 50 P **P 23 44 07.8 +0.1**
KURK IAmb IAmb 23 44 21.0
comp=Z,9.0nm,1.1s
BORG Borgarnes 41.80 331 LR LR 00 03 41.1
comp=Z,70nm,18.2s,baz=162,slow=39
MK31 Makanchi Array 43.24 56 P **P 23 44 28.1 +0.2**
MK31 pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 43.24 56 P **P 23 44 28.1 +0.2**
MK31 IAmb IAmb 23 44 44.2
comp=Z,5.6nm,1.1s
MKAR Makanchi Array 43.24 56 P **P 23 44 28.9 +0.9**
comp=Z,2.8nm,0.7s,baz=277,slow=6.6,SNR=12
MKAR Makanchi Array 43.24 56 P **P 23 44 28.7 +0.8**
MBO M'Bour 43.96 254 P **P 23 44 32.3 -1.7**
SPA0 Spitsbergen Ar 44.13 357 *e*P **P 23 44 33.3 -1.4**
ZAA0 Zalesovo Array 44.71 46 P **P 23 44 39.9 +0.3**
ZAA0 IAmb IAmb 23 44 58.6
comp=Z,4.7nm,0.6s
ZALV Zalesovo Beam 44.71 46 P **P 23 44 39.7 +0.2**
comp=Z,2.8nm,0.5s,baz=262,slow=9.3,SNR=14
ZALV LR LR 00 07 51.2
comp=Z,58nm,18.8s,baz=253,slow=42
ZALV Zalesovo Beam 44.71 46 P **P 23 44 39.3 -0.2**
DAG Danmarks Havn 47.08 347 *i* P **P 23 44 56.0 -1.9**
WMQ Urumqi 47.39 59 *e*P **P 23 45 03.5 +2.6**
KNGR Kungurtug, Tuv 52.75 49*ce*P **P 23 45 45.0 +3.4**

SFJD	**Kangerlussuaq**	**53.93**	**332**	LR	LR	00 10 02.9		
	comp=Z,50nm,18.2s,baz=87,slow=38							
MOY	**Mondy**	**54.68**	**47**	*e*P	**P**	**23 45 58.3**	**+2.6**	
ZAK	**Zakamensk**	**56.39**	**48**	*e*P	**P**	**23 46 09.4**	**+1.4**	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
GTA	**Gaotai**	**57.30**	**62**	*e*P	P	23 46 22.8	+8.1	
GTA				pP	pwP	23 46 28.5	+5.0	
GTA				sP	sP	23 46 31.3	+10	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SONM	**Songino Array**	**59.08**	**51**	P	**P**	**23 46 28.0**	**+1.1**	
	comp=Z,3.0nm,0.7s,baz=285,slow=7.8,SNR=8.3							
SONM	**Songino Array**	**59.08**	**51**	P	**P**	**23 46 27.3**	**+0.4**	
SONM				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SONM	**Songino Array**	**59.08**	**51**	P	**P**	**23 46 27.3**	**+0.4**	
SONM				IAmb	IAmb	23 46 31.6		
	comp=Z,2.4nm,0.8s							
ULN	**Ulaanbaatar**	**59.49**	**50⇓**	*e*P	**P**	**23 46 31.8**	**+2.0**	
ULN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ULN	**Ulaanbaatar**	**59.49**	**50**	P	**P**	**23 46 30.4**	**+0.6**	
ULN				IAmb	IAmb	23 46 35.7		
	comp=Z,3.3nm,0.8s							
EUNU	**Eureka**	**60.18**	**349**	P	**P**	**23 46 34.4**	**+0.4**	
LZH	**Lanzhou**	**61.49**	**64**	*e*P	P	23 46 33.5	-10	
LZH				pP	pP	23 46 39.0	-10	
LZH				pmax	pmax			
	comp=Z,19nm,1.4s							
PZH	**PanZhiHua**	**63.94**	**75**	P	P	23 47 05.8	+5.7	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,80nm,5.5s							
SCHQ	**Schefferville**	**64.54**	**320**	P	**P**	**23 47 02.7**	**-0.7**	
	comp=Z,4.2nm,0.5s,baz=49,slow=5.4,SNR=15							
RES	**Resolute Bay**	**64.72**	**345**	LR	LR	00 16 44.3		
	comp=Z,44nm,18.3s,baz=60,slow=38							
HHC	**Hu-ho-hao-te**	**65.10**	**56**	*e*P	**P**	**23 47 08.8**	**+1.3**	
HHC				pmax	pmax			
	comp=Z,19nm,0.7s							
HHC				pmax	pmax			
	comp=Z,170nm,5.5s							
CHTO	**Chiang Mai**	**65.32**	**83**	P	**P**	**23 47 08.5**	**-0.6**	
CHTO				pmax	pmax			
	comp=Z,5.0nm,1.2s							
CHTO	**Chiang Mai**	**65.32**	**83**	P	**P**	**23 47 08.5**	**-0.6**	
CHTO				IAmb	IAmb	23 47 18.1		
	comp=Z,4.6nm,1.1s							
CMAR	**Chiang Mai Arr**	**65.50**	**84**	P	**P**	**23 47 13.2**	**+3.0**	
	comp=Z,1.5nm,0.4s,baz=305,slow=7.9,SNR=8.8							
XAN	**Xi'an**	**66.13**	**64**	⇑P	P	23 47 19.8	+5.7	
XAN				pP	pwP	23 47 24.0	+1.1	
XAN				sP	sP	23 47 27.0	+5.9	
XAN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
A36M	**Sachs Harbour**	**72.11**	**351**	P	**P**	**23 47 50.6**	**+0.1**	
KLR	**Kul'dur**	**73.59**	**41**	LR	LR	00 26 06.4		
	comp=Z,47nm,18.6s,baz=17,slow=40							
SEY	**Seymchan**	**73.84**	**23⇓**	*e*P	**P**	**23 48 03.5**	**+2.6**	
SEY				pmax	pmax			
	comp=Z,2.0nm,1.1s							
NJ2	**Nanjing**	**74.40**	**62**	*e*P	**P**	**23 48 05.3**	**+0.6**	
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
MA2	**Magadan**	**75.69**	**26**	LR	LR	00 27 15.6		
	comp=Z,52nm,19.5s,baz=288,slow=40							
MA2	**Magadan**	**75.69**	**26⇑**	*e*P	**P**	**23 48 14.8**	**+3.1**	
MA2				pmax	pmax			
	comp=Z,6.0nm,1.0s							
INK	**Inuvik**	**76.56**	**353**	LR	LR	00 25 21.6		
	comp=Z,46nm,19.6s,baz=8.5,slow=38							
USRK	**Ussuriysk Ar.**	**76.56**	**45**	P	**P**	**23 48 17.3**	**+0.4**	
	comp=Z,3.1nm,0.6s,baz=309,slow=5.4,SNR=6.5							
KSRS	**Korea Array**	**77.83**	**53**	P	**P**	**23 48 25.1**	**+1.0**	
	comp=Z,1.7nm,0.6s,baz=270,slow=24,SNR=4.7							
YKA	**Yellowknife Ar**	**78.55**	**343**	P	**P**	**23 48 26.7**	**-1.0**	
	comp=Z,0.8nm,0.7s,baz=35,slow=5.3,SNR=6.2							
YKA	**Yellowknife Ar**	**78.55**	**343**	*i* P	**P**	**23 48 31.1**	**+3.4**	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
H21K	**Melozitna Rive**	**80.30**	**360**	P	**P**	**23 48 38.0**	**+0.8**	
H21K				IAmb	IAmb	23 48 44.9		
	comp=Z,5.4nm,1.1s							
ILAR	**Eielson Array**	**81.05**	**357**	P	**P**	**23 48 40.2**	**-1.0**	
	comp=Z,0.4nm,0.6s,baz=0.6,slow=2.5,SNR=4.2							
ULM	**Lac du Bonnet**	**81.61**	**327**	LR	LR	00 25 16.0		
	comp=Z,81nm,21.6s,baz=80,slow=36							
J20K	**Nowinta River**	**81.78**	**0**	P	**P**	**23 48 45.6**	**+0.5**	
CBYP	**Canovanas**	**81.85**	**286**	P	**P**	**23 48 44.6**	**-1.7**	
MJAR	**Matsushiro Arr**	**84.97**	**49**	P	**P**	**23 49 02.9**	**+0.8**	
	comp=Z,1.7nm,0.5s,baz=359,slow=2.2,SNR=4.3							
DLBC	**Dease Lake**	**85.49**	**349**	LR	LR	00 28 49.1		
	comp=Z,72nm,19.0s,baz=91,slow=37							
BBB	**Bella Bella**	**91.01**	**345**	LR	LR	00 30 48.6		
	comp=Z,45nm,19.5s,baz=21,slow=36							
NEW	**Newport**	**91.57**	**337**	LR	LR	00 31 50.2		
	comp=Z,65nm,21.0s,baz=54,slow=36							
DAV	**Davao City (W)**	**93.42**	**79**	LR	LR	00 36 49.8		
	comp=Z,163nm,21.7s,baz=148,slow=39							
ELK	**Elko**	**97.39**	**332**	LR	LR	00 37 15.1		
	comp=Z,94nm,19.6s,baz=52,slow=38							

ROM 29 23:39:27.9±0.2,**42°.744N**±0°.008×**13°.36E**±0°.01,**h16**km±2km, **ML0.8**/3,**1C**, **Error ellipse: s-maj=0.9km s-min=0.6km az=71.0**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.12**	**190**	⇑P	Pb	23 39 31.9	+0.1
SMA1				S	Sb	23 39 34.4	0.0
SMA1				AML	AML		
	comp=N,38μm,1.1s						
SMA1				AML	AML		
	comp=E,39μm,0.7s						
NRCA	**Norcia**	**0.20**	**296**	P	Pg	23 39 32.9	+0.1
NRCA				AML	AML		
	comp=N,44μm,0.2s						
NRCA				AML	AML		
	comp=E,50μm,0.9s						
TERO	**Teramo**	**0.22**	**124**	P	Pg	23 39 33.2	+0.3
TERO				S	Sb	23 39 37.1	-0.1
LNSS	**Leonessa**	**0.28**	**239**	P	Pg	23 39 34.1	+0.2
LNSS				S	Sb	23 39 39.0	-0.1
LNSS				AML	AML		
	comp=N,32μm,0.6s						
LNSS				AML	AML		
	comp=E,27μm,1.2s						
FDMO	**Fiordimonte**	**0.35**	**325**	P	Pg	23 39 35.3	0.0
CSP1	**Cessapalombo**	**0.37**	**342**	P	Pg	23 39 35.6	+0.1
CSP1				S	Sb	23 39 41.8	+0.1
GUMA	**Gualdo di Mace**	**0.53**	**53**	P	Pg	23 39 34.2	-4.3
GUMA				S	Sg	23 39 40.7	-4.8

*DJA **29** 23:42:25.7±1.1,0°.N±3°×12°.6E±°, h33km±17km, M4.2/12, mb4.5/4, mB5.5/1, MLv4.0/12, Mw(mB)5.0/1*
*NEIC **29** 23:42:26.2±1.6, 0°.02N±0°.08×125°.92E±0°.06, h62km±8km, mb4.4/32, Error ellipse: s-maj=11.3km s-min=8.8km az=172.0*
*IDC **29** 23:42:27.3±7.2, 0°.08N×126°.02E, h75km±72km, mb3.8/12, mb1 3.9/14, mb1mx3.8/34, mbtmp4.1/14, ML4.0/2, MS3.6/4, Ms1 3.6/4, ms1mx2.8/76, Error ellipse: s-maj=31.6km s-min=17.2km az=66.0*

ISC 29 23:42:24.3±0.4,**0°.01N**±0°.05×**125°.93E**±0°.04,**h44**km,**n77**, **σ1s68/75**,**mb4.3/28**,**MS3.5/4**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.62**	**62**	Pn	**Pn**	**23 42 52.6**	**+2.2**
TNTI	**Ternate**	**1.62**	**62**	P	**Pn**	**23 42 50.6**	**+0.2**
LBMI	**Labuha**	**1.70**	**112**	P	**Pn**	**23 42 53.1**	**+1.6**
LBMI				S	**Sn**	**23 43 16.4**	**+4.4**
KMSI	**Cibinong**	**2.03**	**286**	P	**Pn**	**23 42 55.8**	**-0.2**
KMSI				S	**Sn**	**23 43 20.8**	**+0.7**
SANI	**Sanana**	**2.05**	**178**	P	**Pn**	**23 42 57.5**	**+1.2**
GTOI	**Gorontalo**	**2.98**	**282**	P	**Pn**	**23 43 12.6**	**+3.4**
GTOI				S	**Sn**	**23 43 50.6**	**+6.9**
LUWI	**Luwuk**	**3.33**	**252**	P	**Pn**	**23 43 16.4**	**+2.5**
LUWI	**Luwuk**	**3.33**	**252**	Pn	Pn	23 43 19.4	+5.5
MRSI	**Marisa**	**4.02**	**277**	P	**Pn**	**23 43 24.7**	**+1.4**
APSI	**Ampana**	**4.38**	**258**	P	**Pn**	**23 43 31.7**	**+3.4**
TOLI2	**Tolitoli**	**5.26**	**282**	Pn	**Pn**	**23 43 42.1**	**+1.6**
MPSI	**Mapaga**	**6.04**	**273**	P	**Pn**	**23 43 51.7**	**+0.5**
	0.2nm4μm16nm,0.8s						
TTSI	**Tana Toraja**	**6.82**	**244**	P	**Pn**	**23 43 57.9**	**-4.0**
FAKI	**Fak Fak**	**6.96**	**115**	Pn	**Pn**	**23 44 05.5**	**+1.8**
SPSI	**Sidrap Palu**	**7.32**	**237**	P	**Pn**	**23 44 10.9**	**+2.2**
	0.1nm28nm,0.6s						
KAPI	**Kappang**	**7.94**	**231**	Pn	**Pn**	**23 44 16.6**	**-0.6**
MYLDM	**Lahad Datu**	**9.02**	**305**	Pn	**Pn**	**23 44 33.2**	**+1.1**
MTN	**Manton Dam**	**13.78**	**158**	Pn	**Pn**	**23 45 37.7**	**+0.6**
SBUM	**Sibu**	**13.92**	**280**		**P**	**23 45 45.8**	**-0.4**
KSM	**Kuching**	**15.69**	**275**	P	**P**	**23 46 05.0**	**-0.9**
KSM				IAmb	IAmb	23 46 07.4	
	comp=Z,22nm,0.8s						
KNRA	**Kununurra**	**15.84**	**170**		**Pn**	**23 46 06.4**	**+2.1**
SMRI	**Semarang**	**16.97**	**245**		**Pn**	**23 46 18.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.00**	**181**	P	**P**	**23 46 32.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=16,slow=9.2,SNR=7.7						
LEM	**Lembang**	**19.49**	**249**	P	**Pn**	**23 46 51.3**	**+1.7**
	comp=Z,3.6nm,0.3s,baz=0.5,slow=22,SNR=4.2						
DLV	**T Lat**	**20.99**	**305**	P	**P**	**23 47 02.9**	**-1.4**
DLV				IAmb	IAmb	23 47 05.6	
	comp=Z,10nm,0.6s						
WB0	**Warramunga Arr**	**21.34**	**158**	P	**P**	**23 47 07.8**	**0.0**
WB0				IAmb	IAmb	23 47 12.0	
	comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**21.47**	**158**	P	**P**	**23 47 07.7**	**-1.6**
WRA	**Warramunga Arr**	**21.48**	**158**	P	**P**	**23 47 09.1**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=336,slow=11,SNR=18						
WRA	**Warramunga Arr**	**21.48**	**158**	P	**P**	**23 47 08.9**	**-0.4**
WB2	**Warramunga Arr**	**21.48**	**158**	P	**P**	**23 47 09.7**	**+0.4**
WB2				IAmb	IAmb	23 47 18.4	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**21.57**	**157**	P	**P**	**23 47 10.3**	**+0.1**
COEN	**Coen**	**22.00**	**130**	P	**P**	**23 47 16.2**	**+1.2**
COEN				IAmb	IAmb	23 47 23.8	
	comp=Z,10.0nm,1.1s						
TPUB	**Ta-pu**	**23.71**	**348**	P	**P**	**23 47 31.3**	**-1.2**
AS31	**Alice Springs**	**24.78**	**162**	P	**P**	**23 47 42.0**	**-0.2**
ASAR	**Alice Springs**	**24.78**	**162**	P	**P**	**23 47 42.9**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=345,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**24.78**	**162**	P	**P**	**23 47 43.3**	**+1.0**
JOW	**Kunigami**	**26.76**	**5**	P	**P**	**23 48 00.8**	**+0.7**
CTA	**Charters Tower**	**28.20**	**136**	LR	LR	00 01 23.3	
	comp=Z,43nm,18.5s,baz=24,slow=40						
MORW	**Morawa**	**30.42**	**197**	P	**P**	**23 48 32.2**	**-0.5**
FORT	**Forrest**	**30.69**	**176**	P	**P**	**23 48 33.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**32.23**	**306**	P	**P**	**23 48 48.0**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=120,slow=5.8,SNR=4.6						
CHTO	**Chiang Mai**	**32.42**	**307**	P	**P**	**23 48 48.0**	**-2.4**
CHTO				IAmb	IAmb	23 48 50.2	
	comp=Z,4.3nm,1.1s						
BBOO	**Buckleboo**	**34.02**	**165**	P	**P**	**23 49 05.2**	**+1.1**
STKA	**Stephens Creek**	**35.01**	**156**	P	**P**	**23 49 13.3**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=343,slow=9.7,SNR=4.5						
STKA	**Stephens Creek**	**35.01**	**156**	P	**P**	**23 49 14.1**	**+1.3**
PZH	**PanZhiHua**	**35.16**	**320**	P	**P**	**23 49 16.5**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,5.9s						
KSRS	**Korea Array**	**37.30**	**3**	P	**P**	**23 49 32.5**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=177,slow=10,SNR=7.4						
MJAR	**Matsushiro Arr**	**38.09**	**16**	LR	LR	00 07 05.2	
	comp=Z,22nm,18.1s,baz=208,slow=39						
KOUNC	**Koumac, New Ca**	**42.71**	**121**	P	**P**	**23 50 16.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**44.33**	**6**	P	**P**	**23 50 28.7**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=270,slow=0.4,SNR=4.4						
SONM	**Songino Array**	**50.57**	**343**	P	**P**	**23 51 18.1**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=157,slow=9.3,SNR=6.9						
WMQ	**Urumqi**	**55.34**	**327**	*e*P	**P**	**23 51 57.0**	**+3.1**
WMQ				pP	sP	23 52 11.8	+1.4
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
NIL	**Nilore**	**59.61**	**310**	P	**P**	**23 52 23.1**	**-1.0**
NIL				IAmb	IAmb	23 52 25.3	
	comp=Z,3.3nm,0.7s						
CMWZ	**Cape Campbell**	**60.15**	**140**	P	**P**	**23 52 25.9**	**-1.7**
KSH	**Kashi**	**60.15**	**317**	P	**P**	**23 52 36.5**	**+8.7**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**60.17**	**327**	P	**P**	**23 52 27.1**	**-0.6**
MK31				IAmb	IAmb	23 52 30.6	
	comp=Z,3.4nm,0.9s						
MKAR	**Makanchi Array**	**60.17**	**327**	P	**P**	**23 52 27.0**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=121,slow=7.9,SNR=19						
MKAR	**Makanchi Array**	**60.17**	**327**	P	**P**	**23 52 26.9**	**-0.8**
KDJ	**Kajisay**	**60.62**	**320**	P	**P**	**23 52 30.9**	**-0.2**
KDJ				IAmb	IAmb	23 52 48.5	
	comp=Z,3.3nm,1.1s						
KBL	**Kabul**	**63.19**	**309**	P	**P**	**23 52 48.7**	**+0.3**
KBL				IAmb	IAmb	23 52 51.7	
	comp=Z,3.3nm,0.7s						
ZAA0	**Zalesovo Array**	**63.54**	**334**	P	**P**	**23 52 49.9**	**-0.3**
ZAA0				IAmb	IAmb	23 52 52.5	
	comp=Z,3.0nm,1.1s						
ZALV	**Zalesovo Beam**	**63.54**	**334**	P	**P**	**23 52 49.2**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=120,slow=5.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**63.54**	**334**	P	**P**	**23 52 50.2**	**+0.1**
GAR	**Garm**	**63.88**	**314**	P	**P**	**23 52 51.7**	**-1.2**
GAR				IAmb	IAmb	23 52 55.7	
	comp=Z,6.1nm,1.0s						
KURK	**Kurchatov**	**64.46**	**329**	P	**P**	**23 52 55.6**	**-0.6**
KKAR	**Karatay Array**	**65.43**	**318**	P	**P**	**23 53 01.1**	**-1.6**
HRA	**Herat**	**68.49**	**307**	P	**P**	**23 53 21.8**	**-0.8**
BRVK	**Borovoye**	**70.08**	**328**	P	**P**	**23 53 31.1**	**-0.7**
TIXI	**Tiksi**	**71.55**	**1**	P	**P**	**23 53 40.0**	**-0.3**
TIXI				IAmb	IAmb	23 53 41.4	
	comp=Z,3.6nm,1.0s						
SOCY	**Socotra**	**72.36**	**283**	P	**P**	**23 53 46.4**	**-0.1**
SOCY				IAmb	IAmb	23 53 54.5	
	comp=Z,6.4nm,1.1s						
NRIK	**Noril'sk**	**73.83**	**347**	P	**P**	**23 53 53.3**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=177,slow=14,SNR=3.6						
NRIK	**Noril'sk**	**73.83**	**347**	P	**P**	**23 53 52.8**	**-1.2**
NRIK				IAmb	IAmb	23 53 59.4	
	comp=Z,6.7nm,1.4s						
ABKAR	**Akbulak array**	**74.53**	**322**	P	**P**	**23 53 57.7**	**-0.8**
AKTO	**Aktyubinsk**	**76.08**	**322**	P	**P**	**23 54 06.6**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=107,slow=7.6,SNR=7.9						
ARU	**Arti**	**77.65**	**328**	P	**P**	**23 54 15.0**	**-1.0**
ARU				IAmb	IAmb	23 54 16.7	
	comp=Z,7.9nm,1.2s						
GNI	**Garni**	**83.25**	**310**	LR	LR	00 37 28.1	
	comp=Z,70nm,19.7s,baz=182,slow=40						
KBZ	**Khabaz**	**84.95**	**314**	P	**P**	**23 54 54.9**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=97,slow=5.9,SNR=4.7						
KBZ				LR	LR	00 37 31.1	
	comp=Z,88nm,18.9s,baz=166,slow=39						

DJA 29 23:46:22.5±0.7,**1°.S**±2°×**10°.0E**±°,**h14**km±7km,**M3.7**/11, **MLv3.7**/11,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.96**	**0**	P	Pb	23 46 40.7	-0.2
PPI				S	Sg	23 46 53.7	+0.1
KRJI	**Kerinci**	**1.26**	**122**	P	Pb	23 46 46.1	-0.1
KRJI				S	Sg	23 47 04.6	+1.3
SISI	**Saibi**	**1.30**	**274**	P	Pn	23 46 45.9	-0.4
PPSI	**Pulau Pagai**	**1.39**	**196**	P	Pn	23 46 47.1	-0.4
BKNI	**Bangkinang**	**1.85**	**21**	P	Pn	23 46 53.5	-0.4
RGRI	**Rengat**	**2.22**	**61**	P	Pn	23 46 58.9	0.0
MNAI	**Manna**	**3.88**	**139**	P	Pn	23 47 21.2	-0.7
GSI	**Gunungsitoli**	**3.90**	**314**	P	Pn	23 47 22.1	0.0
DSRI	**Dabo**	**4.29**	**77**	P	Pn	23 47 25.9	-1.5
MTKI	**Muara Teweh, K**	**14.51**	**88**	P	Pn	23 49 38.2	-9.4

*GUC **29** 23:51:26.0±0.7, 20°.02S×69°.28W, h102km±3km, ML3.5*
*IDC **29** 23:51:26.4±1.1, 20°.11S×68°.69W, h117km±13km, mb3.6/2, mb1 3.5/4, mb1mx3.2/33, mbtmp3.7/4, Error ellipse: s-maj=57.2km s-min=9.2km az=96.0*

ISC 29 23:51:25.1±1.0,**20°.04S**±0°.04×**69°.36W**±0°.08,**h108**km±7km, **n16**, **σ0s78/29**,**10C-2D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.22**	**119**	⇓*i*P	**Pn**	**23 51 40.5**	**-0.2**
PB08				*i* S	**Sn**	**23 51 51.9**	**-0.5**
PB08				IAML		23 51 53.1	
	comp=E,7μm,0.2s						
PB11	**IPOC Station P**	**0.39**	**314**	⇑*i*P	**Pn**	**23 51 41.3**	**+0.1**
PB11				*i* S	**Sn**	**23 51 53.5**	**+0.2**
PB11				IAML		23 51 54.0	
	comp=N,5μm,0.2s						
HMBC	**Humberstone**	**0.56**	**244**	⇑*i*P	**Pn**	**23 51 42.6**	**+0.4**
HMBC				*i* S	**Sn**	**23 51 55.4**	**+0.3**
HMBC				IAML		23 51 56.5	
	comp=N,3μm,0.3s						
TA02	**Huaiquique**	**0.77**	**252**	⇑*i*P	**Pn**	**23 51 44.4**	**+0.7**
TA02				*i* S	**Sn**	**23 51 58.5**	**+0.7**
TA01	**Diego Aracena**	**0.94**	**236**	⇑*i*P	**Pn**	**23 51 45.9**	**+0.5**
TA01				*i* S	**Sn**	**23 52 00.8**	**+0.1**
TA01				IAML		23 52 01.8	
	comp=E,752nm,0.2s						
PB01	**IPOC Station P**	**1.01**	**187**	⇑*i*P	**Pn**	**23 51 46.6**	**+0.3**
PB01				*i* S	**Sn**	**23 52 02.7**	**+0.4**
PB01				IAML		23 52 03.9	
	comp=N,3μm,0.3s						
PATCX	**Punta Patache**	**1.08**	**224**	⇑*i*P	**Pn**	**23 51 47.1**	**+0.1**
PATCX				*i* S	**Sn**	**23 52 03.7**	**+0.1**
PB02	**IPOC Station P**	**1.37**	**202**	⇓*i*P	**Pn**	**23 51 51.0**	**+0.7**
PB02				*i* S	**Sn**	**23 52 10.4**	**+0.9**
PB02				IAML		23 52 18.3	
	comp=E,586nm,0.3s						
PB12	**IPOC Station P**	**1.69**	**327**	⇑*i*P	**Pn**	**23 51 54.2**	**+0.1**
PB12				*i* S	**Sn**	**23 52 15.3**	**-0.9**
PB12				IAML		23 52 22.2	
	comp=N,360nm,0.3s						
PB16	**IPOC Station P**	**1.70**	**355**	⇑*i*P	**Pn**	**23 51 55.7**	**+1.0**
PB16				*i* S	**Sn**	**23 52 18.4**	**+1.1**
PB07	**IPOC Station P**	**1.75**	**196**	⇑*i*P	**Pn**	**23 51 55.8**	**+0.7**
PB07				*i* S	**Sn**	**23 52 18.1**	**+0.3**
PB07				IAML		23 52 24.5	
	comp=N,250nm,0.2s						
LVC	**Limon Verde**	**2.59**	**171**	P	**Pn**	**23 52 07.3**	**+1.3**
	comp=N,4.9nm,0.3s,baz=32,slow=14,SNR=32						
LVC				S	**Sn**	**23 52 37.2**	**-0.2**
	comp=N,13nm,0.3s,baz=335,slow=8.3,SNR=13						
PB06	**IPOC Station P**	**2.67**	**184**	⇑*i*P	**Pn**	**23 52 07.3**	**+0.6**
PB06				IAML		23 52 45.2	
	comp=N,84nm,0.3s						
LPAZ	**La Paz**	**3.91**	**18**	P	**Pn**	**23 52 25.2**	**+1.5**
	comp=N,0.8nm,0.3s,baz=186,slow=7.9,SNR=24						
LPAZ				S	**Sn**	**23 53 09.3**	**+0.3**
	comp=N,0.5nm,0.3s,baz=25,slow=2.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**77.27**	**71**	P	**P**	**00 03 06.2**	**-1.9**
	comp=N,0.8nm,0.3s,baz=259,slow=5.9,SNR=1.6						
YKA	**Yellowknife Ar**	**89.67**	**341**	P	**P**	**00 04 10.9**	**+0.4**
	comp=N,0.3nm,0.7s,baz=131,slow=4.6,SNR=6.4						

*IDC **30** 00:02:11.0±0.6, 13°.65S×66°.25E, h0km, mb4.2/22, mb1 4.3/23, mb1mx4.0/57, mbtmp4.2/23, ML4.7/1, MS4.1/38, Ms1 4.1/38, ms1mx3.9/81, Error ellipse: s-maj=19.6km s-min=12.8km az=9.0*
*NEIC **30** 00:02:13.0±1.6, 13°.70S±0°.10×66°.22E±0°.04, h10km±1km, mb4.7/39, Error ellipse: s-maj=16.5km s-min=5.7km az=173.0*
*GCMT **30** 00:02:15.0±0.2, 13°.62S±0°.01×66°.14E±0°.01, h12km, MW5.0/103, Moment Tensor Solution. s36,c44; s103,c157; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.54±.10; Mθθ-2.76±.09; Mϕϕ3.30±.09; Mrθ-1.23±.27; Mθϕ1.32±.09; Mϕr1.60±.27; Best double couple: M₀3.89800×10¹⁶ NP1:ϕs55.00000°, δs58.00000°, λ-7.00000°. NP2:ϕs149.00000°, δs84.00000°, λ-148.00000°. Principal axes: T 3.9880, Plg17.0000°, Azm278.0000°; N -0.1810, Plg57.0000°, Azm159.0000°; P -3.8080, Plg27.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 00:02:12.6±0.5,**13°.73S**±0°.09×**66°.19E**±0°.06,**h12**km,**n96**, **σ0s93/66**,**mb4.5/37**,**MS4.2/37**,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**8.64**	**46**	T	T	00 12 56.0	
	baz=226,slow=75,SNR=1930						
H08S2	**Diego Garcia H**	**8.66**	**46**	T	T	00 12 56.0	
	baz=226,slow=75,SNR=1770						
H08S3	**Diego Garcia H**	**8.66**	**46**	T	T	00 12 56.4	
	baz=226,slow=75,SNR=1763						
DGAR	**Diego Garcia**	**8.79**	**45**	Pn	**Pn**	**00 04 19.1**	**-0.6**
RER	**Riviere de l'E**	**12.40**	**232**	Pn	**Pn**	**00 05 08.9**	**-0.2**
MSEY	**Mahe Island**	**13.88**	**309**	Pn	**Pn**	**00 05 29.1**	**-0.2**
KAAM	**Kaadhehdhoo**	**15.66**	**26**	Pn	**Pn**	**00 05 51.9**	**-1.4**
KAAM				IAmb	IAmb	00 05 54.0	
	comp=Z,42nm,1.3s						
OPO	**Ambohidratompo**	**18.87**	**253**	P	**Pn**	**00 06 35.8**	**+2.2**
	comp=Z,2.3nm,0.3s,baz=83,slow=15,SNR=13						
OPO				S	**

comp=Z,198nm,19.6s,baz=324,slow=30
MMAI Mount Meron Ar 55.00 328 LR LR 00 33 36.6
comp=Z,159nm,18.6s,baz=305,slow=34
BATI Baumata 56.23 93 P **P 00 11 55.1 +1.8**
comp=Z,36nm,0.4s,baz=264,slow=3.7,SNR=5.3
BATI LR LR 00 31 45.0
comp=Z,274nm,21.9s,baz=262,slow=32
AAK Ala-Archa 56.60 7 P **P 00 11 55.4 -0.2**
comp=Z,0.5nm,0.3s,baz=214,slow=9.1,SNR=5.3
AAK LR LR 00 34 27.8
comp=Z,132nm,19.5s,baz=188,slow=34
BOOM Boomskoye usch 56.66 9 P **P 00 11 56.3 +0.3**
BOOM IAmb IAmb 00 11 58.7
comp=Z,14nm,1.3s
GURO Guroymak-BITLI 56.71 337 P **P 00 11 57.0 +0.7**
PRZ Przheval'sk 57.05 11 P **P 00 11 57.5 -1.3**
PRZ IAmb IAmb 00 14 04.6
comp=Z,8.5nm,1.1s
FITZ Fitzroy Crossi 57.14 103 P **P 00 11 59.3 -0.4**
comp=Z,3.0nm,0.7s,baz=236,slow=3.6
FITZ LR LR 00 32 33.6
comp=Z,401nm,21.3s,baz=267,slow=32
GNI Garni 57.19 341 P **P 00 12 00.3 +0.5**
GNI IAmb IAmb 00 12 09.8
comp=Z,13nm,1.0s
BNN Bunyan 59.50 333 P **P 00 12 16.9 +1.0**
KBZ Khabaz 61.01 341 P **P 00 12 26.6 +0.6**
comp=Z,0.8nm,0.6s,baz=180,slow=12,SNR=2.1
BR131 Keskin Array S 61.21 332 P **P 00 12 27.6 -0.1**
BR131 IAmb IAmb 00 12 43.6
comp=Z,4.8nm,1.1s
BRTR Keskin Array B 61.21 332 P **P 00 12 27.5 -0.1**
comp=Z,1.6nm,0.9s,baz=146,slow=9.0,SNR=5.7
MK31 Makanchi Array 61.96 12 P **P 00 12 30.6 -1.8**
MK31 IAmb IAmb 00 13 37.5
comp=Z,16nm,1.9s
MKAR Makanchi Array 61.96 12 P **P 00 12 31.1 -1.3**
comp=Z,1.8nm,0.7s,baz=204,slow=7.7,SNR=12
MKAR LR LR 00 38 08.3
comp=Z,138nm,18.5s,baz=192,slow=35
IDI Anoyia 62.51 323 P **P 00 12 36.8 +0.4**
ABKAR Akbulak array 62.95 355 P **P 00 12 38.0 -0.9**
ABKAR Akbulak array 62.95 355 P **P 00 12 38.2 -0.7**
ABKAR IAmb IAmb 00 12 52.4
comp=Z,3.7nm,0.9s
AKTO Aktyubinsk 64.29 354 P **P 00 12 47.0 -0.7**
comp=Z,1.6nm,0.7s,baz=163,slow=6.6,SNR=5.3
ASAR Alice Springs 64.41 110 P **P 00 12 48.4 -0.8**
comp=Z,2.7nm,0.8s,baz=271,slow=6.1,SNR=23
ASAR LR LR 00 38 15.4
comp=Z,329nm,18.2s,baz=286,slow=34
ASAR Alice Springs 64.41 110 P **P 00 12 48.2 -1.0**
KURBB Kurchatov Arra 64.98 9 LR LR 00 38 45.0
comp=Z,180nm,21.3s,baz=172,slow=34
KURK Kurchatov 65.09 9 P **P 00 12 52.5 -0.4**
KURK IAmb IAmb 00 12 53.1
comp=Z,3.5nm,0.8s
WRA Warramunga Arr 65.15 106 P **P 00 12 53.9 -0.2**
comp=Z,5.3nm,0.9s,baz=273,slow=5.9,SNR=31
WRA LR LR 00 39 27.6
comp=Z,173nm,19.1s,baz=246,slow=34
WRA Warramunga Arr 65.15 106 P **P 00 12 53.9 -0.2**
WB2 Warramunga Arr 65.16 106 P **P 00 12 53.6 -0.6**
WRAB Tennant Creek 65.16 106 P **P 00 12 53.3 -0.9**
WR0 Warramunga Arr 65.34 106 P **P 00 12 54.8 -0.5**
SIJI Sorong 65.61 85 P **P 00 12 57.8 +0.6**
comp=Z,9.6nm,0.3s,baz=288,slow=12,SNR=3.5
SIJI LR LR 00 37 30.1
comp=Z,91nm,21.4s,baz=236,slow=32
BRVK Borovoye 66.61 3 P **P 00 13 02.2 -0.5**
BRVK IAmb IAmb 00 13 02.8
comp=Z,3.4nm,0.9s
BELG Belogornoye 67.78 348 LR LR 00 41 27.6
comp=Z,60nm,21.8s,baz=141,slow=35
VLO Vlora 69.14 324 P **P 00 13 18.1 -0.8**
TORD Torodi Ar. Bea 69.25 290 P **P 00 13 19.9 -0.2**
comp=Z,1.3nm,0.4s,baz=110,slow=4.1,SNR=2.4
ZAA0 Zalesovo Array 69.26 12 P **P 00 13 17.3 -2.0**
ZAA0 IAmb IAmb 00 13 18.6
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 69.26 12 P **P 00 13 18.0 -1.3**
comp=Z,3.1nm,0.8s,baz=213,slow=6.1,SNR=13
ZALV LR LR 00 42 23.2
comp=Z,126nm,18.7s,baz=190,slow=35
ARU Arti 70.19 356 LR LR 00 44 11.3
comp=Z,57nm,18.8s,baz=168,slow=36
STKA Stephens Creek 70.59 119 LR LR 00 39 47.0
comp=Z,257nm,21.0s,baz=226,slow=32
SONM Songino Array 70.99 27 P **P 00 13 30.8 +0.5**
comp=Z,0.9nm,0.7s,baz=222,slow=6.2,SNR=4.7
SONM LR LR 00 43 57.8
comp=Z,148nm,19.7s,baz=253,slow=35
DIVS Divibare 71.27 327 P **P 00 13 32.3 +0.3**
DIVS IAmb IAmb 00 13 38.5
comp=Z,4.2nm,1.0s
AKASG Malin Array Be 71.83 336 P **P 00 13 36.4 +1.3**
comp=Z,0.2nm,0.3s,baz=136,slow=5.3,SNR=1.6
DBIC Dimbokro 73.36 281 P **P 00 13 45.4 +0.3**
comp=Z,4.5nm,0.8s,baz=131,slow=8.8,SNR=3.9
CTA Charters Tower 76.23 108 LR LR 00 45 31.2
comp=Z,302nm,19.1s,baz=258,slow=34
KSRS Korea Array 77.09 46 P **P 00 14 05.2 -0.8**
comp=Z,0.6nm,0.3s,baz=225,slow=6.7,SNR=2.2
KSRS LR LR 00 47 37.8
comp=Z,71nm,20.9s,baz=245,slow=35
GERES GERESS Array B 77.65 328 P **P 00 14 10.1 +1.0**
comp=Z,0.1nm,0.3s,baz=123,slow=7.1,SNR=2.0
PMG Port Moresby 79.12 97 LR LR 00 46 07.9
comp=Z,112nm,20.6s,baz=276,slow=33
GUMO Guam 82.51 74 LR LR 00 47 38.9
comp=Z,35nm,21.2s,baz=114,slow=33
ESDC Sonseca Array 83.99 313 P **P 00 14 43.1 0.0**
comp=Z,0.9nm,0.9s,baz=151,slow=3.4,SNR=4.3
MJAR Matsushiro Arr 84.16 50 LR LR 00 50 32.9
comp=Z,36nm,21.7s,baz=223,slow=34
NRIK Noril'sk 84.22 7 LR LR 00 51 41.8
comp=Z,120nm,21.4s,baz=185,slow=35
KLR Kul'dur 85.10 37 LR LR 00 54 18.6
comp=Z,74nm,19.9s,baz=238,slow=37
ARCES ARCESS Array B 87.80 347 P **P 00 15 01.7 +0.4**
comp=Z,1.0nm,0.7s,baz=161,slow=5.7,SNR=3.6
YAK Yakutsk 90.20 25 LR LR 00 55 51.4
comp=Z,93nm,18.7s,baz=267,slow=36
DZM Mont Dzumac 94.15 114 LR LR 00 57 38.7
comp=Z,123nm,18.1s,baz=268,slow=35
RES Resolute Bay 118.14 354 PKP **PKiKP 00 20 59.1 +0.2**
comp=Z,0.8nm,0.7s,baz=152,slow=6.3,SNR=4.0
ILAR Eielson Array 124.20 16 PKP **PKPdf 00 21 10.1 -0.7**
comp=Z,0.4nm,0.7s,baz=286,slow=2.9,SNR=3.1
YKA Yellowknife Ar 131.30 0 PKP **PKPdf 00 21 24.4 0.0**
comp=Z,0.3nm,0.7s,baz=340,slow=2.3,SNR=4.2
PDAR Pinedale Array 150.83 354 PKPbc **PKPbc 00 22 05.8 +0.1**
comp=Z,5.0nm,1.0s,baz=68,slow=2.5,SNR=19
NVAR Mina Array Bea 155.08 8 PKPbc PKPbc 00 22 16.3
comp=Z,0.3nm,0.3s,baz=332,slow=2.6,SNR=2.8

*JMA **30** 00:09:25.9±0.1,24.°10N×122.°44E,h62km±3km,M3.8*
*TAP **30** 00:09:26.4,24.°18N×122.°47E,h62km,ML4.1,C*
ISC 30 00:09:26.9±1.2,**24.°14N**±0.°03×**122.°47E**±0.°02,**h51**km±11km,
n133,σ1s10/228,13C-21D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res	ISC
JYNG	**Yonagunijimaku**	**0.54**	**54**	P		**Pn**	**00 09 39.2**	**+0.6**	
JYNG				S		**Sn**	**00 09 48.4**	**+1.4**	
YOJ	**Yonaguni jima**	**0.59**	**57**	P		**Pn**	**00 09 39.7**	**+0.4**	
YOJ				S		**Sn**	**00 09 49.1**	**+0.9**	
YOJ	**Yonaguni jima**	**0.59**	**57**	*i*P		**Pn**	**00 09 39.7**	**+0.4**	
	baz=52								
YOJ				S		**Sn**	**00 09 49.1**	**+0.9**	
	baz=52								
EHP	**Heping Village**	**0.69**	**285**	*e*P		**Pn**	**00 09 41.0**	**+0.5**	
	baz=281								
EHP				*e*S		**Sn**	**00 09 51.8**	**+1.4**	
	baz=281								
EWUT	**Wuta**	**0.70**	**296**	P		**Pn**	**00 09 40.5**	**-0.2**	
	baz=301								
EWUT				*e*S		**Sn**	**00 09 50.4**	**-0.3**	
	baz=301								
ENA	**Nanau**	**0.72**	**294**	*i*P		**Pn**	**00 09 41.0**	**0.0**	
	baz=298								
ENA				*e*S		**Sn**	**00 09 51.6**	**+0.4**	
	baz=298								
TWC	**Suao**	**0.73**	**310**	*i*P		**Pn**	**00 09 40.8**	**-0.3**	
	baz=308								
TWC				*e*S		**Sn**	**00 09 50.8**	**-0.7**	
	baz=308								
ETL	**Fush Village**	**0.77**	**272**	*e*P		**Pn**	**00 09 41.4**	**-0.2**	
	baz=261								
ETL				*e*S		**Sn**	**00 09 52.7**	**+0.3**	
	baz=261								
NACB	**Ninganchiao**	**0.80**	**273**	*i*P		**Pn**	**00 09 41.7**	**-0.3**	
	baz=262								
NACB				*e*S		**Sn**	**00 09 52.7**	**-0.2**	
	baz=262								
TWD	**Chiawan**	**0.80**	**266**	*i*P		**Pn**	**00 09 41.6**	**-0.3**	
	baz=255								
TWD				*e*S		**Sn**	**00 09 52.5**	**-0.4**	
	baz=255								
HWA	**Hwalien**	**0.81**	**259**	*i*P		**Pn**	**00 09 42.2**	**+0.2**	
	baz=256								
HWA				*e*S		**Sn**	**00 09 53.0**	**0.0**	
	baz=256								
NDS	**Dongshan**	**0.84**	**306**	*i*P		**Pn**	**00 09 42.9**	**+0.3**	
	baz=300								
NDS				*e*S		**Sn**	**00 09 53.6**	**-0.5**	
	baz=300								
ETLH	**Xiulin Townshi**	**0.90**	**275**	*i*P		**Pn**	**00 09 43.2**	**-0.2**	
	baz=272								
ETLH				*e*S		**Sn**	**00 09 54.8**	**-0.8**	
	baz=272								
ILA	**Ilan**	**0.91**	**314**	*e*P		**Pn**	**00 09 43.7**	**+0.3**	
	baz=320								
ILA				*e*S		**Sn**	**00 09 56.4**	**+1.0**	
	baz=320								
NTC	**Toucheng**	**0.92**	**321**	P		**Pn**	**00 09 43.5**	**0.0**	
	baz=319								
NTC				*e*S		**Sn**	**00 09 55.4**	**-0.4**	
	baz=319								
TWE	**Neicheng**	**0.93**	**309**	*i*P		**Pn**	**00 09 43.9**	**+0.2**	
	baz=314								
TWE				*e*S		**Sn**	**00 09 56.6**	**+0.5**	
	baz=314								
LATG	**Datong**	**0.95**	**295**	*i*P		**Pn**	**00 09 44.0**	**0.0**	
	baz=293								
LATG				*e*S		**Sn**	**00 09 56.6**	**0.0**	
	baz=293								
ENTT	**Nioudou**	**0.96**	**301**	*i*P		**Pn**	**00 09 44.4**	**+0.3**	
	baz=299								
ENTT				*e*S		**Sn**	**00 09 57.1**	**+0.3**	
	baz=299								
TWB1	**Santiao Chiao**	**0.97**	**333**	*i*P		**Pn**	**00 09 43.7**	**-0.6**	
	baz=321								
TWB1				*e*S		**Sn**	**00 09 56.0**	**-0.9**	
	baz=321								
ESL	**Shilin**	**1.00**	**251**	P		**Pn**	**00 09 44.1**	**-0.5**	
	baz=243								
ESL				*e*S		**Sn**	**00 09 56.3**	**-1.4**	
	baz=243								
FUSB	**Fushanzhiwuyua**	**1.01**	**308**	*i*P		**Pn**	**00 09 45.3**	**+0.4**	
	baz=315								
FUSB				*e*S		**Sn**	**00 09 58.3**	**+0.1**	
	baz=315								
TIPB	**Shuangxi**	**1.01**	**325**	P		**Pn**	**00 09 44.4**	**-0.5**	
	baz=323								
TIPB				*e*S		**Sn**	**00 09 57.4**	**-0.7**	
	baz=323								
NNSB	**Datong**	**1.03**	**286**	*i*P		**Pn**	**00 09 45.1**	**-0.1**	
	baz=284								
NNSB				*e*S		**Sn**	**00 09 58.5**	**-0.1**	
	baz=284								
NNS	**Nan Shan**	**1.04**	**287**	P		**Pn**	**00 09 45.2**	**-0.1**	
	baz=285								
NNS				*e*S		**Sn**	**00 09 59.2**	**+0.3**	
	baz=285								
EGFH	**Guangfu**	**1.06**	**244**	*i*P		**Pn**	**00 09 45.2**	**-0.3**	
	baz=237								
EGFH				*e*S		**Sn**	**00 09 59.0**	**-0.2**	
	baz=237								
NWLT	**Wulai**	**1.09**	**306**	*i*P		**Pn**	**00 09 46.3**	**+0.5**	
	baz=311								
NWLT				*e*S		**Sn**	**00 10 00.0**	**+0.2**	
	baz=311								
SXI1	**Grass Mountain**	**1.09**	**331**	*i*P		**Pn**	**00 09 45.3**	**-0.6**	
	baz=329								
SXI1				S		**Sn**	**00 09 59.2**	**-0.9**	
	baz=329								
WHF	**Hehuan Shan**	**1.10**	**271**	*i*P		**Pn**	**00 09 46.1**	**-0.2**	
	baz=260								
WHF				*e*S		**Sn**	**00 09 60.0**	**-0.7**	
	baz=260								
NWF	**Wu-fen Shan**	**1.12**	**326**	*i*P		**Pn**	**00 09 46.0**	**-0.3**	
	baz=325								
NWF				*e*S		**Sn**	**00 10 00.4**	**-0.3**	
	baz=325								
YHNB	**Yeheng**	**1.13**	**298**	*i*P		**Pn**	**00 09 46.7**	**+0.3**	
	baz=296								
YHNB				*e*S		**Sn**	**00 10 01.6**	**+0.7**	
	baz=296								
NSK	**Sanguang**	**1.15**	**298**	*i*P		**Pn**	**00 09 46.8**	**+0.1**	
	baz=296								
NSK				*e*S		**Sn**	**00 10 01.1**	**-0.3**	
	baz=296								
HGSD	**Ruisui**	**1.15**	**236**	*i*P		**Pn**	**00 09 46.1**	**-0.5**	
	baz=235								
TWA	**Mucha**	**1.16**	**316**	*e*P		**Pn**	**00 09 46.6**	**-0.2**	
	baz=325								
TWA				*e*S		**Sn**	**00 10 01.5**	**-0.2**	
	baz=325								
IRIF	**Iriomote-Funau**	**1.17**	**80**	P		**Pn**	**00 09 46.9**	**0.0**	
IRIF				S		**Sn**	**00 10 02.1**	**+0.4**	
CHGB	**Renai**	**1.19**	**266**	*e*P		**Pn**	**00 09 47.4**	**+0.1**	
	baz=257								
CHGB				*e*S		**Sn**	**00 10 02.5**	**0.0**	
	baz=257								
NHDH	**Xindian Distri**	**1.19**	**314**	*i*P		**Pn**	**00 09 47.2**	**+0.1**	
	baz=321								
NHDH				*e*S		**Sn**	**00 10 02.1**	**-0.2**	
	baz=321								
OWD	**Renai**	**1.20**	**261**	*i*P		**Pn**	**00 09 47.3**	**-0.1**	
	baz=260								
OWD				*e*S		**Sn**	**00 10 01.7**	**-1.0**	
	baz=260								
TDCB	**Techi**	**1.20**	**276**	P		**Pn**	**00 09 47.6**	**+0.2**	
	baz=266								
TDCB				S		**Sn**	**00 10 02.8**	**0.0**	
	baz=266								
EHY	**Hungye**	**1.22**	**239**	*i*P		**Pn**	**00 09 47.2**	**-0.5**	
	baz=247								
EHY				*e*S		**Sn**	**00 10 03.5**	**+0.4**	
	baz=247								
HATJ	**Hateruma jima**	**1.22**	**94**	P		**Pn**	**00 09 48.1**	**+0.5**	
HATJ				S		**Sn**	**00 10 04.3**	**+1.2**	
WUSB	**Renai**	**1.24**	**264**	*i*P		**Pn**	**00 09 48.1**	**+0.1**	
	baz=262								
WUSB				*e*S		**Sn**	**00 10 03.1**	**-0.6**	
	baz=262								
TAP	**Taipei**	**1.25**	**316**	*e*P		**Pn**	**00 09 47.7**	**-0.3**	
	baz=326								
TAP				*e*S		**Sn**	**00 10 03.1**	**-0.7**	
	baz=326								
VWDT	**VWDT**	**1.27**	**253**	*i*P		**Pn**	**00 09 48.7**	**+0.4**	
	baz=251								
VWDT				*e*S		**Sn**	**00 10 04.2**	**-0.1**	
	baz=251								
YM01	**YM01**	**1.29**	**321**	*e*P		**Pn**	**00 09 47.9**	**-0.7**	
	baz=320								
YULB	**Yu-li**	**1.30**	**236**	*i*P		**Pn**	**00 09 48.5**	**-0.3**	
	baz=245								
YULB				*e*S		**Sn**	**00 10 03.7**	**-1.4**	
	baz=245								
EYUL	**Yuli**	**1.31**	**233**	P		**Pn**	**00 09 49.2**	**+0.3**	
	baz=227								
EYUL				*e*S		**Sn**	**00 10 05.9**	**+0.6**	
	baz=227								
NFF	**Wufeng Townshi**	**1.33**	**292**	*e*P		**Pn**	**00 09 49.7**	**+0.6**	
	baz=290								
NFF				*e*S		**Sn**	**00 10 05.6**	**-0.1**	
	baz=290								
TWS1	**Kuangyinshan**	**1.35**	**315**	P		**Pn**	**00 09 49.2**	**-0.2**	
	baz=324								
TWS1				*e*S		**Sn**	**00 10 07.0**	**+0.7**	
	baz=324								
NTST	**Danshui**	**1.38**	**318**	*e*P		**Pn**	**00 09 49.4**	**-0.3**	
	baz=327								
TWY	**Chenhua**	**1.38**	**325**	*e*P		**Pn**	**00 09 49.3**	**-0.4**	
	baz=324								
TWY				*e*S		**Sn**	**00 10 06.2**	**-0.7**	
	baz=324								
WHP	**Taichung City**	**1.40**	**276**	P		**Pn**	**00 09 51.2**	**+1.1**	
	baz=268								
WHP				*e*S		**Sn**	**00 10 08.1**	**+0.7**	
	baz=268								
JKRS	**Kuro-shima**	**1.41**	**86**	P		**Pn**	**00 09 50.6**	**+0.4**	
JKRS				S		**Sn**	**00 10 08.1**	**+0.5**	
LIOB	**Emei**	**1.42**	**291**	*i*P		**Pn**	**00 09 51.1**	**+0.8**	
	baz=290								
LIOB				*e*S		**Sn**	**00 10 09.3**	**+1.4**	
	baz=290								
NSTT	**Nanjuang**	**1.43**	**290**	*e*P		**Pn**	**00 09 51.0**	**+0.6**	
	baz=289								
NSTT				*e*S		**Sn**	**00 10 08.7**	**+0.6**	
	baz=289								
WCS	**Beigang Elemen**	**1.43**	**267**	*e*P		**Pn**	**00 09 51.1**	**+0.7**	
	baz=262								
FULB	**Fuli**	**1.43**	**229**	*i*P		**Pn**	**00 09 49.8**	**-0.6**	
	baz=220								
SSLB	**Suanglung**	**1.43**	**256**	*i*P		**Pn**	**00 09 50.6**	**+0.2**	
	baz=261								
SSLB				*e*S		**Sn**	**00 10 07.6**	**-0.5**	
	baz=261								
NCU	**National Centr**	**1.43**	**306**	P		**Pn**	**00 09 50.6**	**+0.2**	
	baz=304								
NCU				*e*S		**Sn**	**00 10 08.5**	**+0.4**	
	baz=304								
NCUH	**Zhongli**	**1.43**	**306**	*e*P		**Pn**	**00 09 50.8**	**+0.3**	
	baz=305								
CHKT	**Chengkung**	**1.45**	**225**	*i*P		**Pn**	**00 09 49.7**	**-0.9**	
	baz=219								
CHKT				*e*S		**Sn**	**00 10 06.6**	**-1.9**	
	baz=219								
SMLT	**Sun Moon Lake**	**1.46**	**260**	*e*P		**Pn**	**00 09 51.4**	**+0.5**	
	baz=258								
SMLT				S		**Sn**	**00 10 08.9**	**0.0**	
	baz=258								
TYC	**Yuchr**	**1.49**	**261**	*e*P		**Pn**	**00 09 52.1**	**+0.8**	
	baz=254								
TYC				*e*S		**Sn**	**00 10 09.7**	**0.0**	
	baz=254								
SBCB	**Hsinchu**	**1.50**	**296**	*e*P		**Pn**	**00 09 51.7**	**+0.3**	
	baz=307								
HSN	**Hsinchu**	**1.52**	**296**	*e*P		**Pn**	**00 09 51.6**	**0.0**	
	baz=308								
HSN				*e*S		**Sn**	**00 10 11.2**	**+1.0**	
	baz=308								
JIJ	**Ishigaki jima**	**1.54**	**81**	P		**Pn**	**00 09 51.8**	**-0.2**	
JIJ				S		**Sn**	**00 10 10.0**	**-0.9**	
TWQ1	**Liyutan**	**1.56**	**278**	*e*P		**Pn**	**00 09 53.1**	**+0.8**	
	baz=287								
TWQ1				S		**Sn**	**00 10 13.1**	**+1.7**	
	baz=287								
EDH	**Donghe**	**1.58**	**223**	*e*P		**Pn**	**00 09 51.9**	**-0.6**	
	baz=218								
EDH				*e*S		**Sn**	**00 10 10.4**	**-1.3**	
	baz=218								
NMLH	**Miaoli**	**1.58**	**285**	P		**Pn**	**00 09 53.3**	**+0.8**	
	baz=283								
NMLH				*e*S		**Sn**	**00 10 12.6**	**+0.8**	
	baz=283								
NSY	**Sanyi**	**1.58**	**280**	P		**Pn**	**00 09 53.6**	**+1.1**	
	baz=279								
NSY				*e*S		**Sn**	**00 10 13.6**	**+1.7**	
	baz=279								
WJS	**Zhushan**	**1.62**	**259**	*e*P		**Pn**	**00 09 55.1**	**+2.0**	
	baz=258								
WJS				*e*S		**Sn**	**00 10 15.6**	**+2.7**	
	baz=258								
ELDTW	**Lidau**	**1.63**	**235**	*i*P		**Pn**	**00 09 52.9**	**-0.4**	
	baz=227								
ELDTW				*e*S		**Sn**	**00 10 12.1**	**-1.1**	
	baz=227								
TCU	**Taichung**	**1.64**	**271**	*e*P		**Pn**	**00 09 54.4**	**+1.2**	
	baz=269								
TCU				*e*S		**Sn**	**00 10 15.2**	**+2.1**	
	baz=269								
ALS	**Alishan**	**1.65**	**248**	P		**Pn**	**00 09 54.4**	**+0.8**	
	baz=247								
WNT	**Mingjian**	**1.65**	**261**	*e*P		**Pn**	**00 09 55.0**	**+1.6**	
	baz=260								
WDJ	**Dajia District**	**1.68**	**277**	*e*P		**Pn**	**00 09 54.7**	**+0.8**	
	baz=286								
WDJ				*e*S		**Sn**	**00 10 14.9**	**+0.7**	
	baz=286								
LDUT	**Ludao**	**1.72**	**212**	P		**Pn**	**00 09 53.6**	**-0.8**	
	baz=212								
LDUT				*e*S		**Sn**	**00 10 13.5**	**-1.8**	
	baz=212								
CHN5	**Tsauling**	**1.73**	**252**	*e*P		**Pn**	**00 09 55.7**	**+1.2**	
	baz=251								
LONT	**Longtian**	**1.74**	**225**	*e*P		**Pn**	**00 09 54.3**	**-0.4**	
	baz=233								
LONT				*e*S		**Sn**	**00 10 15.2**	**-0.4**	
	baz=233								
JISG	**Ishigakijimahi**	**1.74**	**75**	P		**Pn**	**00 09 54.4**	**-0.2**	
JISG				S		**Sn**	**00 10 14.7**	**-1.0**	
WCHH	**Zhanghua**	**1.75**	**268**	*e*P		**Pn**	**00 09 55.8**	**+1.1**	
	baz=268								
WDLH	**Douliu**	**1.82**	**256**	*e*P		**Pn**	**00 09 57.3**	**+1.6**	
	baz=245								
WDLH				*e*S		**Sn**	**00 10 20.2**	**+2.5**	
	baz=245								
STYH	**Taoyuan**	**1.83**	**239**	*i*P		**Pn**	**00 09 56.6**	**+0.8**	
	baz=237								
STYH				*e*S		**Sn**	**00 10 18.2**	**+0.4**	
	baz=237								
TWGBT	**Beinan**	**1.83**	**224**	P		**Pn**	**00 09 55.1**	**-0.8**	
	baz=232								
TWGBT				*e*S		**Sn**	**00 10 17.5**	**-0.5**	
	baz=232								
TWG	**Pinlang**	**1.83**	**225**	*e*P		**Pn**	**00 09 55.2**	**-0.8**	
	baz=232								
TWG				*e*S		**Sn**	**00 10 17.0**	**-1.0**	
	baz=232								
TPUB	**Ta-pu**	**1.88**	**244**	P		**Pn**	**00 09 58.2**	**+1.6**	
	baz=243								
TPUB				S		**Sn**	**00 10 20.8**	**+1.7**	
	baz=243								
CHN4	**Tsaushan**	**1.89**	**246**	*e*P		**Pn**	**00 09 58.4**	**+1.7**	
	baz=244								
CHN4				*e*S		**Sn**	**00 10 22.4**	**+3.0**	
	baz=244								
WTP	**Ta-pu**	**1.92**	**243**	*e*P		**Pn**	**00 09 58.4**	**+1.3**	
	baz=241								
WTP				*e*S		**Sn**	**00 10 22.1**	**+2.0**	
	baz=241								
CHN2	**Minshiung**	**1.92**	**252**	*e*P		**Pn**	**00 09 59.6**	**+2.5**	
	baz=251								
CHN2				*e*S		**Sn**	**00 10 22.5**	**+2.4**	
	baz=251								
WRL	**Guolierlin Hig**	**1.93**	**263**	P		**Pn**	**00 09 58.2**	**+1.0**	
	baz=262								
WRL				*e*S		**Sn**	**00 10 21.3**	**+1.1**	
	baz=262								
WTK	**Tuku**	**1.96**	**257**	*e*P		**Pn**	**00 09 59.0**	**+1.4**	
	baz=248								
WTK				*e*S		**Sn**	**00 10 23.0**	**+2.1**	
	baz=248								
CHY	**Chiayi**	**1.98**	**252**	*e*P		**Pn**	**00 09 58.4**	**+0.5**	
	baz=250								
CHY				*e*S		**Sn**	**00 10 25.1**	**+3.6**	
	baz=250								
TWK	**Hsinying**	**2.01**	**245**	*e*P		**Pn**	**00 09 59.8**	**+1.3**	
	baz=243								
TWK				*e*S		**Sn**	**00 10 24.7**	**+2.3**	
	baz=243								
CHN1	**Nanshi**	**2.02**	**242**	*e*P		**Pn**	**00 10 00.2**	**+1.7**	
	baz=241								
CHN1				*e*S		**Sn**	**00 10 25.4**	**+2.9**	
	baz=241								
SGST	**Jiashian**	**2.02**	**239**	P		**Pn**	**00 09 59.4**	**+0.9**	
	baz=245								
SGST				*e*S		**Sn**	**00 10 24.0**	**+1.3**	
	baz=245								
SNST	**Tainan City**	**2.02**	**244**	*e*P		**Pn**	**00 10 00.8**	**+2.2**	
	baz=242								
SNST				*e*S		**Sn**	**00 10 24.5**	**+1.8**	
	baz=242								
ECL	**Taimali**	**2.07**	**223**	*e*P		**Pn**	**00 09 57.9**	**-1.3**	
	baz=222								
ECL				*e*S		**Sn**	**00 10 21.7**	**-2.2**	
	baz=222								
JTJ	**Tarama**	**2.10**	**76**	P		**Pn**	**00 09 59.6**	**+0.1**	
JTJ				S		**Sn**	**00 10 23.4**	**-1.0**	
WSF	**Szhu**	**2.12**	**257**	*e*P		**Pn**	**00 10 00.3**	**+0

baz=248
ICHU eS Sn 00 10 28.7 +2.9
baz=248
SSD Sandimen 2.18 231 eP Pn 00 10 01.2 +0.5
baz=228
SSD eS Sn 00 10 27.7 +1.1
baz=228
SCST Cishan 2.20 236 eP Pn 00 10 03.1 +2.2
baz=246
TSMG Majia 2.20 230 eP Pn 00 10 02.0 +1.1
baz=225
CHN8 Yiju 2.21 250 eP Pn 00 10 02.7 +1.5
baz=249
SHHT Tainan City 2.24 241 eP Pn 00 10 03.8 +2.3
baz=253
LAY Lan-yu 2.25 202 eP Pn 00 10 00.6 -1.1
baz=202
MASBT Mashibuluo 2.27 228 eP Pn 00 10 02.6 +0.7
baz=223
LYUB Lan-yu 2.28 201 eP Pn 00 10 00.4 -1.6
baz=201
TAW Tawu 2.29 220 eP Pn 00 10 01.4 -0.8
baz=225
TWM1 Shoushan 2.29 236 eP Pn 00 10 05.3 +3.1
baz=234
EAST Anshuo 2.30 221 eP Pn 00 10 01.2 -1.1
baz=220
TAWH Dawu Township 2.31 219 eP Pn 00 10 01.5 -0.9
baz=225
TAWH eS Sn 00 10 28.0 -1.5
baz=225
SSPT Xinbi 2.40 227 eP Pn 00 10 04.9 +1.2
baz=223
SLIU Shizi 2.45 219 eP Pn 00 10 03.9 -0.6
baz=223
JIRB Irabujima 2.56 74 P Pn 00 10 06.5 +0.7
JIRB S Sn 00 10 36.5 +0.7
WLCH Liuqiu 2.62 228 eP Pn 00 10 09.9 +3.2
baz=239
JIKM Ikemajima 2.65 72 S Sn 00 10 38.4 +0.4
TSEB Hengchuen, Pin 2.66 213 eP Pn 00 10 07.4 +0.2
baz=213
TWK1 Hengchun 2.67 215 eP Pn 00 10 07.5 +0.1
baz=220
JMJ2 Miyako jima3 2.67 76 P Pn 00 10 07.9 +0.5
JMJ2 S Sn 00 10 39.2 +0.6
WDGT Dungji 2.72 252 eP Pn 00 10 08.4 +0.4
baz=250
WDGT eS Sn 00 10 38.6 -1.1
baz=250
PNG Penghu 2.73 259 eP Pn 00 10 07.7 -0.5
baz=258
JOGS Gusukube 2.75 76 P Pn 00 10 09.3 +0.8
JOGS S Sn 00 10 41.1 +0.6
VWUC VWUC 2.88 288 P Pn 00 10 09.2 -1.0
baz=288
MATB Ma-tsu 3.04 312 eP Pn 00 10 11.2 -1.3
baz=312
LYJJ Jianjiangzhen 3.43 315 eP Pn 00 10 16.7 -1.1
baz=316
XPSS Dashiqiu 3.46 324 eP Pn 00 10 16.7 -1.5
baz=324
MHZQ Yeshan 3.68 303 eP Pn 00 10 19.8 -1.4
baz=304
KNM Kinmen 3.69 275 eP Pn 00 10 21.2 -0.2
baz=266
KNMB Chin-men Tao 3.74 276 eP Pn 00 10 20.2 -1.8
baz=267
AXDP Jialang 4.17 281 eP Pn 00 10 26.6 -1.4
baz=283
ZPLA Ao Xicun 4.32 268 eP Pn 00 10 28.7 -1.3
baz=268
SXFK Yanhouchang 4.91 298 eP Pn 00 10 36.7 -1.5
baz=301

*IDC **30** 00:20:45.8±0.8,31°.08S×13°.39W,h0km,mb4.1/9, mb1 4.2/9,mb1mx4.0/28,mbtmp4.1/9,MS4.6/1,Ms1 4.6/1, ms1mx3.5/63,Error ellipse: s-maj=33.2km s-min=18.8km az=170.0*
*NEIC **30** 00:20:47.6±1.3,31°.17S±0°.06×13°.3W±0°.1,h10km±1km, mb4.8/28,Error ellipse: s-maj=17.2km s-min=7.3km az=238.0*
*GCMT **30** 00:20:52.6±0.2,31°.18S±0°.02×13°.27W±0°.01,h12km, MW5.1/126,Moment Tensor Solution. s76,c95; s126,c211; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-5.54±.11; Mθθ0.58±.12; Mϕϕ4.96±.10; Mrθ0.68±.39; Mθϕ-1.56±.09; Mϕr-2.75±.35; Best double couple: Mo6.18600×10¹⁶ NP1:ϕs161.00000°,δ31.00000°, λ-93.00000°. NP2:ϕs344.00000°,δ59.00000°, λ-88.00000°. Principal axes: T 6.1430, Plg14.0000°, Azm73.0000°; N 0.0880, Plg2.0000°, Azm163.0000°; P -6.2290, Plg76.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 00:20:48.8±0.5,**31°.1S**±0°.1×**13°.40W**±0°.09,**h20km**,**n51**, σ**0s71**/**38**,**mb4.7**/**21**,**1D**,**Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN** SNR=12	**6.02**	**172**	T	T	00 28 37.5	
H09W1	**TRISTAN DA CUN** SNR=8.3	**6.05**	**172**	T	T	00 28 31.1	
SHEL	**Horse Pasture**	**16.62**	**27**	Pn	**Pn**	**00 24 40.8**	**+0.1**
H10S2	**ASCENSION HYDR** baz=177,slow=74,SNR=25	**22.06**	**357**	T	T	00 48 24.8	
H10S3	**ASCENSION HYDR** baz=43,slow=74,SNR=78	**22.07**	**357**	T	T	00 48 26.0	
H10N1	**ASCENSION HYDR** baz=179,slow=80,SNR=12	**23.16**	**357**	T	T	00 49 55.8	
H10N3	**ASCENSION HYDR** baz=179,slow=80,SNR=43	**23.16**	**357**	T	T	00 49 52.0	
H10N2	**ASCENSION HYDR** baz=179,slow=80,SNR=17	**23.18**	**357**	T	T	00 49 58.9	
SUR	**Sutherland** comp=Z,1μm,21.7s,baz=257,slow=31	**29.05**	**102**	LR	LR	00 35 35.5	
LBTB	**Lobatse** 3.9nm,0.9s,baz=285,slow=6.6,SNR=2.6	**34.82**	**90**	P	**P**	**00 27 39.1**	**+0.5**
BDFB	**Brasilia** 4.7nm,0.8s,baz=118,slow=6.7,SNR=5.0			P	**P**	**00 27 40.9**	**-0.4**
BDFB	**Brasilia** comp=Z,15nm,1.2s	**35.13**	**288**	IAmb	IAmb	00 27 47.4	
MATP	**Matopo** comp=Z,5.1nm,0.7s,baz=253,slow=8.4,SNR=11	**39.00**	**84**	P	**P**	**00 28 13.0**	**-1.3**
LSZ	**Lusaka** comp=Z,0.8nm,0.2s,baz=236,slow=7.3,SNR=1.5	**41.08**	**77**	P	**P**	**00 28 30.7**	**-0.8**
LSZ	**Lusaka** comp=Z,7.1nm,1.1s	**41.08**	**77**	IAmb	IAmb	00 28 38.6	
KOWA	**Kowa** comp=Z,13nm,1.2s	**46.22**	**13**	P	**P**	**00 29 13.2**	**+0.5**
KOWA				IAmb	IAmb	00 29 28.3	
TORD	**Torodi Ar. Bea** comp=Z,3.1nm,0.4s,baz=201,slow=9.1,SNR=5.1	**46.32**	**21**	P	**P**	**00 29 13.2**	**-0.2**
TORD	**Torodi Ar. Bea** comp=Z,7.4nm,1.3s	**46.32**	**21**	IAmb	IAmb	00 29 19.1	
PLCA	**Paso Flores** comp=Z,1.6nm,0.9s,baz=83,slow=6.4,SNR=3.3	**46.55**	**242**	P	**P**	**00 29 15.7**	**+0.5**
LMEL	**Las Melosas** comp=Z,15nm,1.1s	**47.48**	**251**	P	**P**	**00 29 23.1**	**+0.5**
LMEL				IAmb	IAmb	00 29 28.0	
SYO	**Syowa Base**	**48.28**	**157**	‖eX	P	00 29 34.0	+5.9
PB08	**IPOC Station P** comp=Z,14nm,1.2s	**50.99**	**268**	P	**P**	**00 29 48.9**	**-0.9**
PB08				IAmb	IAmb	00 30 10.1	
GO01	**Chusmiza**	**51.21**	**269**	P	**P**	**00 29 50.4**	**-1.3**
MBAR	**Mbarara**	**51.62**	**63**	P	**P**	**00 29 54.8**	**+0.4**
LPAZ	**La Paz** comp=Z,0.5nm,0.3s,baz=117,slow=7.4,SNR=2.4	**51.76**	**273**	P	**P**	**00 29 55.4**	**-0.6**
QSPA	**South Pole Qui** comp=Z,6.7nm,1.0s	**59.14**	**180**	P	**P**	**00 30 47.8**	**-0.1**
QSPA				IAmb	IAmb	00 30 48.8	
MAGL	**Barre de l'ile**	**65.60**	**308**	P	**P**	**00 31 31.9**	**+0.4**
GDHS	**Morne Mazeau,**	**66.16**	**308**	P	**P**	**00 31 35.8**	**+0.6**
SDV	**Santo Domingo** comp=Z,8.3nm,1.1s	**67.67**	**296**	P	**P**	**00 31 45.1**	**0.0**
SDV				IAmb	IAmb	00 31 49.9	
ATD	**Arta Tunnel** comp=Z,14nm,1.1s	**68.59**	**61**	P	**P**	**00 31 49.8**	**-0.9**
ATD				IAmb	IAmb	00 31 55.8	
CBYP	**Canovanas**	**70.34**	**307**	P	**P**	**00 32 02.4**	**+1.0**
URIC	**Uribia, Colomb**	**70.47**	**298**	P	**P**	**00 32 01.4**	**-0.8**
CELP	**Cerrillos**	**70.70**	**306**	P	**P**	**00 32 04.4**	**+0.9**
PRSN	**Puerto Rico Se**	**71.19**	**306**	P	**P**	**00 32 05.2**	**-1.3**
VNDA	**Vanda** comp=Z,0.7nm,0.9s,baz=196,slow=7.4,SNR=2.7	**71.59**	**179**	P	**P**	**00 32 08.9**	**+0.8**
SJCC	**San Jacinto, C**	**71.83**	**294**	P	**P**	**00 32 10.7**	**+0.2**
AIS	**Amsterdam Isla**	**72.41**	**124**	P	**P**	**00 32 13.6**	**-0.1**
TIP	**Timpagrande** comp=Z,28nm,1.5s	**75.34**	**24**	P	**P**	**00 32 30.9**	**+0.2**
TIP				IAmb	IAmb	00 32 32.3	
PDG	**Podgorica** comp=Z,18nm,1.5s	**79.10**	**24**	P	**P**	**00 32 51.4**	**-0.2**
PDG				IAmb	IAmb	00 33 01.5	
TUE	**Stuetta** comp=Z,9.9nm,1.5s	**79.91**	**16**	P	**P**	**00 32 57.0**	**+0.8**
TUE				IAmb	IAmb	00 33 15.4	
ALN	**Alexandroupoli** comp=Z,14nm,1.2s	**80.39**	**29**	P	**P**	**00 32 58.2**	**-0.4**
ALN				IAmb	IAmb	00 33 20.1	
BRTR	**Keskin Array B** comp=Z,1.2nm,0.9s,baz=193,slow=3.8,SNR=7.7	**82.90**	**35**	P	**P**	**00 33 13.4**	**+1.4**
BRTR	**Keskin Array B**	**82.90**	**35**	P	**P**	**00 33 12.6**	**+0.5**
BR131	**Keskin Array S**	**82.90**	**35**	P	**P**	**00 33 12.5**	**+0.4**
BR131	comp=Z,5.1nm,1.1s			IAmb	IAmb	00 33 14.8	
PSZ	**Piszkesteto** comp=Z,6.2nm,1.1s	**84.15**	**22**	P	**P**	**00 33 18.6**	**+0.4**
PSZ				IAmb	IAmb	00 33 19.5	
MLR	**Muntele Rosu** comp=Z,8.1nm,1.2s	**84.19**	**27**	P	**P**	**00 33 18.7**	**+0.1**
MLR				IAmb	IAmb	00 33 24.8	
342A	**Flagon Creek P**	**97.20**	**302**	P	Pdif	00 34 21.2	+1.0
WLAR	**White Oak Lake**	**98.98**	**304**	P	**Pdif**	**00 34 27.3**	**-0.7**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.8s,baz=89,slow=1.8,SNR=3.3	**122.18**	**327**	PKP	**PKPdf**	**00 39 40.7**	**-0.7**
INK	**Inuvik** comp=Z,1.3nm,0.9s,baz=351,slow=8.7,SNR=3.2	**129.59**	**335**	PKP	**PKPdf**	**00 39 55.5**	**+0.2**
KSRS	**Korea Array** comp=Z,1.3nm,0.8s,baz=262,slow=3.6,SNR=2.4	**147.58**	**68**	PKPbc	**PKPbc**	**00 40 32.2**	**+0.5**

*IDC **30** 00:28:46.8±5.9,31°.10S×13°.46W,h0km,mb4.3/2, mb1 4.3/2,mb1mx3.7/21,mbtmp4.3/2,Error ellipse: s-maj=165.5km s-min=46.1km az=156.0*
*NEIC **30** 00:28:47.7±2.0,31°.1S±0°.1×13°.6W±0°.1,h10km±1km, mb4.8/27,Error ellipse: s-maj=18.0km s-min=17.3km az=67.0*

ISC 30 00:28:48.5±0.5,**31°.1S**±0°.1×**13°.58W**±0°.09,**h20km**,**n38**, σ**1s24**/**35**,**mb4.9**/**15**,**Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**6.02**	**170**	Pn	**Pn**	**00 30 15.5**	**-0.9**
H10N1	**ASCENSION HYDR** baz=181	**23.17**	**358**	T	T	00 57 58.1	
H10N3	**ASCENSION HYDR** baz=181	**23.18**	**358**	T	T	00 58 00.9	
H10N2	**ASCENSION HYDR** baz=181	**23.19**	**358**	T	T	00 57 57.8	
BDFB	**Brasilia** 3.0nm,0.9s,baz=98,slow=7.1,SNR=1.9	**34.99**	**288**	P	**P**	**00 35 41.9**	**+2.1**
BDFB	**Brasilia** comp=Z,6.9nm,1.0s	**34.99**	**288**	P	**P**	**00 35 38.5**	**-1.3**
BDFB				IAmb	IAmb	00 35 54.0	
CPUP	**Villa Florida**	**38.48**	**266**	P	**P**	**00 36 09.8**	**+0.4**
LSZ	**Lusaka**	**41.23**	**77**	P	**P**	**00 36 31.8**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,2.3nm,0.3s,baz=200,slow=8.8,SNR=4.9	**46.39**	**21**	P	**P**	**00 37 14.6**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,4.6nm,0.6s	**46.39**	**21**	P	**P**	**00 37 13.5**	**-0.2**
TORD				IAmb	IAmb	00 37 16.2	
AY01	**Puyuhuapi** comp=Z,21nm,1.3s	**47.58**	**236**	P	**P**	**00 37 23.0**	**+0.3**
MT03	**Universidad Ad**	**47.66**	**251**	P	**P**	**00 37 24.7**	**+1.0**
BELA	**Belgrano 2**	**47.79**	**186**	P	**P**	**00 37 25.4**	**+1.5**
BELA	comp=Z,7.1nm,1.4s			IAmb	IAmb	00 37 29.4	
MT09	**Talagante** comp=Z,4.2nm,1.1s	**47.99**	**251**	P	**P**	**00 37 26.9**	**+0.7**
MT02	**Curacav**	**48.23**	**251**	P	**P**	**00 37 29.1**	**+1.1**
MT02				IAmb	IAmb	00 37 39.0	
AC02	**Maricunga**	**48.37**	**260**	P	**P**	**00 37 30.2**	**+0.5**
AC02	comp=Z,4.2nm,1.1s			IAmb	IAmb	00 37 42.3	
CO02	**Combarbal**	**48.64**	**254**	P	**P**	**00 37 30.3**	**-1.0**
GO04	**Tololo Observa**	**48.76**	**256**	P	**P**	**00 37 33.7**	**+1.4**
CO05	**La Serena**	**49.20**	**256**	P	**P**	**00 37 35.1**	**-0.3**
PB14	**IPOC Station P** comp=Z,41nm,1.5s	**50.20**	**263**	P	**P**	**00 37 44.1**	**+0.6**
PB14				IAmb	IAmb	00 37 51.1	
PB02	**IPOC Station P** comp=Z,20nm,1.1s	**51.00**	**267**	P	**P**	**00 37 49.9**	**+0.5**
PB02				IAmb	IAmb	00 37 52.9	
LPAZ	**La Paz**	**51.61**	**273**	P	**P**	**00 37 54.0**	**-0.6**
MBAR	**Mbarara** comp=Z,12nm,1.5s	**51.76**	**63**	P	**P**	**00 37 55.2**	**+0.1**
MBAR				IAmb	IAmb	00 38 09.0	
PB16	**IPOC Station P**	**51.89**	**270**	P	**P**	**00 37 54.2**	**-2.4**
SDV	**Santo Domingo** comp=Z,4.4nm,1.0s	**67.55**	**296**	P	**P**	**00 39 42.6**	**-1.4**
SDV				IAmb	IAmb	00 39 49.4	
ATD	**Arta Tunnel**	**68.73**	**61**	P	**P**	**00 39 50.4**	**-0.8**
PESTR	**Estremoz** comp=Z,18nm,1.4s	**69.85**	**5**	P	**P**	**00 39 57.9**	**+0.3**
PESTR				IAmb	IAmb	00 40 06.7	
MTP	**Monte Pirata**	**69.90**	**307**	P	**P**	**00 39 59.9**	**+1.6**
HUMP	**Col San Antoni**	**70.13**	**307**	P	**P**	**00 39 56.9**	**-2.9**
CBYP	**Canovanas**	**70.23**	**307**	P	**P**	**00 40 01.1**	**+0.7**
URIC	**Uribia, Colomb**	**70.35**	**298**	P	**P**	**00 39 59.0**	**-2.2**
OBIP	**Obispado Ponce**	**70.59**	**306**	P	**P**	**00 40 00.7**	**-1.8**
GHAJ	**Ghor Haditha** comp=Z,13nm,1.1s	**77.62**	**42**	P	**P**	**00 40 44.2**	**+0.9**
GHAJ				IAmb	IAmb	00 40 55.1	
ELL	**Elmali** comp=Z,26nm,1.4s	**78.85**	**34**	P	**P**	**00 40 49.7**	**-0.5**
ELL				IAmb	IAmb	00 40 57.2	
BBSR	**BB Station** comp=Z,27nm,1.1s	**79.54**	**318**	P	**P**	**00 40 54.0**	**+0.1**
BBSR				IAmb	IAmb	00 41 06.6	
JTS	**Las Juntas de** comp=Z,28nm,1.5s	**79.73**	**289**	P	**P**	**00 40 55.6**	**+0.2**
JTS				IAmb	IAmb	00 41 06.0	
MLR	**Muntele Rosu** comp=Z,8.5nm,1.4s	**84.27**	**27**	P	**P**	**00 41 20.2**	**+1.5**
MLR				IAmb	IAmb	00 41 36.3	
ILAR	**Eielson Array** comp=Z,0.4nm,0.8s,baz=48,slow=2.4,SNR=2.5	**135.79**	**333**	PKP	**PKiKP**	**00 48 08.2**	**-0.3**

*IDC **30** 00:35:59.0±0.6,31°.13S×13°.43W,h0km,mb4.2/14, mb1 4.4/14,mb1mx4.2/28,mbtmp4.2/14,MS4.9/57, Ms1 4.9/57,ms1mx4.8/61,Error ellipse: s-maj=21.1km s-min=16.2km az=165.0*
*BJI **30** 00:36:01.1±0.0,30°.99S×13°.58W,h10km,mB5.5/5, Ms5.6/11,Ms7 5.3/11*
*NEIC **30** 00:36:03.2±1.8,31°.28S±0°.07×13°.58W±0°.10,h10km±1km, mb5.1/86,Mwc5.4(GCMT),Error ellipse: s-maj=16.6km s-min=7.7km az=126.0*
*GCMT **30** 00:36:06.2±0.1,31°.11S±0°.01×13°.30W±0°.01,h12km, MW5.4/153,Moment Tensor Solution. s104,c147; s153,c295; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.34±.02; Mθθ0.07±.02; Mϕϕ1.27±.01; Mrθ0.25±.05; Mθϕ-0.31±.01; Mϕr-0.23±.05; Best double couple: Mo1.38500×10¹⁷ NP1:ϕs174.00000°,δ39.00000°, λ-78.00000°. NP2:ϕs339.00000°,δ52.00000°, λ-100.00000°. Principal axes: T 1.3740, Plg6.0000°, Azm76.0000°; N 0.0180, Plg8.0000°, Azm345.0000°; P -1.3950, Plg80.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **30** 00:36:10.6±0.0,30°.00S×13°.00W,h33km,mb4.8*

ISC 30 00:36:01.9±0.3,**31°.27S**±0°.07×**13°.57W**±0°.07,**h10km**,**n240**, σ**1s51**/172,**mb5.0**/59,**MS4.9**/72,**11C-5D**,**Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN** SNR=15	**5.87**	**170**	T	T	00 43 50.0	
H09W1	**TRISTAN DA CUN** SNR=24	**5.90**	**170**	T	T	00 43 46.4	
TRIS	**Tristan da Cun**	**5.87**	**170**	Pn	**Pn**	**00 37 29.0**	**-0.1**
SHEL	**Horse Pasture** comp=Z,242nm,1.2s	**16.84**	**27**	Pn	**Pn**	**00 39 56.8**	**-1.1**
SHEL				IAmb	IAmb	00 40 07.4	
H10S2	**ASCENSION HYDR** baz=177,slow=74,SNR=67	**22.23**	**357**	T	T	01 03 52.2	
H10S3	**ASCENSION HYDR** baz=43,slow=74,SNR=159	**22.23**	**357**	T	T	01 03 52.8	
H10N1	**ASCENSION HYDR** baz=180,slow=78,SNR=21	**23.32**	**358**	T	T	01 05 15.1	
H10N3	**ASCENSION HYDR** baz=180,slow=78,SNR=91	**23.33**	**358**	T	T	01 05 15.5	
H10N2	**ASCENSION HYDR** baz=180,slow=78,SNR=28	**23.34**	**358**	T	T	01 05 12.1	
NAN01	**Guarapari, ES**	**27.52**	**293**	eP	P	00 41 56.6	+7.8
MAN01	**Angra dos Reis**	**28.26**	**280**	eP	P	00 42 03.8	+8.3
SUR	**Sutherland** comp=Z,4μm,20.2s,baz=257,slow=31	**29.16**	**101**	LR	LR	00 51 08.8	
GDU01	**Guandu, BA**	**29.58**	**300**	eP	P	00 42 15.9	+8.7
BSCB	**Bom Sucesso**	**29.73**	**283**	eP	P	00 42 17.0	+8.4
TSUM	**Tsumeb** comp=Z,8μm,18.7s,baz=224,slow=33	**30.53**	**74**	LR	LR	00 52 30.2	
TSUM	**Tsumeb**	**30.53**	**74**	P	**P**	**00 42 14.9**	**-0.9**
MC01	**Montes Claros**	**31.18**	**291**	eP	P	00 42 29.3	+7.9
NBPV	**Pedro Velho**	**32.02**	**316**	eP	P	00 42 36.4	+7.7
JANB	**Januaria**	**32.40**	**293**	eP	P	00 42 39.7	+7.6
FRTB	**Fartura**	**32.83**	**275**	eP	P	00 42 44.7	+8.8
RCBR	**Riachuelo** comp=Z,2μm,18.2s,baz=281,slow=33	**32.85**	**316**	LR	LR	00 54 00.2	
RCBR	**Riachuelo** comp=Z,24nm,1.1s	**32.85**	**316**	P	**P**	**00 42 35.9**	**-0.2**
RCBR				IAmb	IAmb	00 42 42.7	
BOSA	**Boshof** comp=Z,7.4nm,1.0s,baz=247,slow=12,SNR=4.3	**33.63**	**96**	P	**P**	**00 42 39.9**	**-3.1**
BOSA				LR	LR	00 53 49.3	
BOSA	**Boshof** comp=Z,3μm,20.3s,baz=262,slow=32	**33.63**	**96**	P	**P**	**00 42 43.2**	**+0.3**
BOSA				IAmb	IAmb	00 42 58.1	
ITAB	**Concordia**	**33.77**	**267**	P	**P**	**00 42 42.1**	**-1.9**
PLTB	**Pedras Altas** comp=Z,47nm,1.5s	**34.00**	**258**	P	**P**	**00 42 45.8**	**-0.2**
PLTB				IAmb	IAmb	00 43 20.7	
SDBA	**SAO DESIDERIO**	**34.43**	**296**	eP	P	00 42 57.9	+8.0
PTGB	**Pitanga**	**34.48**	**271**	eP	P	00 42 59.0	+8.7
LBTB	**Lobatse** comp=Z,36nm,1.4s,baz=236,slow=5.6,SNR=4.3	**34.96**	**90**	P	**P**	**00 42 51.7**	**-2.8**
LBTB				LR	LR	00 54 30.5	
LBTB	**Lobatse** comp=Z,3μm,21.3s,baz=250,slow=32	**34.96**	**90**	P	**P**	**00 42 54.4**	**0.0**
BDFB	**Brasilia** comp=Z,6.5nm,0.9s,baz=134,slow=8.0,SNR=6.1	**35.04**	**288**	P	**P**	**00 42 53.7**	**-1.5**
BDFB				LR	LR	00 54 40.5	
BDFB	**Brasilia** comp=Z,4μm,20.6s,baz=131,slow=32	**35.04**	**288**	P	**P**	**00 42 55.1**	**-0.1**
BDFB				IAmb	IAmb	00 43 31.3	
TRCB	**Terra Rica** comp=Z,30nm,1.2s	**35.66**	**274**	P	**P**	**00 43 00.9**	**+0.5**
TRCB				IAmb	IAmb	00 43 38.3	
PEXB	**Peixe** comp=Z,34nm,1.3s	**37.26**	**293**	eP	P	00 43 21.2	+7.1
LIC	**Lamto** comp=Z,30nm,1.3s	**38.17**	**14**	ePKIKP	P	00 43 28.9	+7.2
KIC	**Kosan Boka** comp=Z,9.7nm,0.7s	**38.36**	**14**	ePKIKP	P	00 43 29.3	+6.0
CPUP	**Villa Florida** comp=Z,3μm,19.6s,baz=128,slow=33	**38.47**	**266**	LR	LR	00 56 59.7	
CPUP	**Villa Florida**	**38.47**	**266**	P	**P**	**00 43 26.1**	**+1.8**
TIC	**Toumodi**	**38.58**	**14**	ePKIKP	P	**00 43 29.2**	**+4.0**
DBIC	**Dimbokro** comp=Z,4.6nm,1.0s,baz=169,slow=5.7,SNR=3.8	**38.64**	**14**	P	**P**	**00 43 26.3**	**+0.7**
DBIC	comp=Z,753nm,18.2s,baz=196,slow=32			LR	LR	00 56 32.5	
DBIC	**Dimbokro**	**38.64**	**14**	P	**P**	**00 43 26.9**	**+1.3**
MATP	**Matopo** comp=Z,6.9nm,0.6s,baz=246,slow=9.0,SNR=19	**39.16**	**84**	P	**P**	**00 43 26.4**	**-3.8**
MATP				LR	LR	00 57 51.7	
AQDB	**Aquidauana**	**39.19**	**276**	P	**P**	**00 43 31.6**	**+1.2**
VNA3	**Neumayer Olymp**	**40.08**	**178**	P	**P**	**00 43 36.3**	**-0.9**
SNAA	**Sanae** comp=Z,2.5nm,1.0s,baz=340,slow=6.8,SNR=3.6	**40.87**	**175**	P	**P**	**00 43 43.4**	**-0.3**
SNAA	comp=Z,841nm,21.4s,baz=346,slow=30			LR	LR	00 56 34.9	
SNAA	**Sanae**	**40.87**	**175**	P	**P**	**00 43 44.4**	**+0.6**
LSZ	**Lusaka** comp=Z,2.9nm,0.7s,baz=247,slow=7.1,SNR=9.7	**41.26**	**77**	P	**P**	**00 43 46.0**	**-1.7**
LSZ				LR	LR	00 58 35.9	
TROLL	**Troll, Antarti** comp=Z,5μm,21.7s,baz=240,slow=33	**41.70**	**173**	P	**P**	**00 43 50.3**	**-0.4**
USHA	**Ushuaia** comp=Z,2μm,21.3s,baz=80,slow=32	**45.05**	**222**	LR	LR	01 00 12.5	
PMSA	**Palmer Station** comp=Z,1μm,18.6s,baz=51,slow=32	**45.55**	**208**	LR	LR	00 59 58.3	
SIV	**San Ignacio** comp=Z,3μm,18.6s,baz=188,slow=34	**45.75**	**278**	LR	LR	01 01 36.0	
PLCA	**Paso Flores** comp=Z,1.3nm,0.7s,baz=99,slow=2.9,SNR=5.6	**46.34**	**242**	P	**P**	**00 44 28.6**	**+0.3**
PLCA	comp=Z,1μm,18.4s,baz=90,slow=34			LR	LR	01 02 16.1	
KOWA	**Kowa**	**46.42**	**13**	P	**P**	**00 44 28.6**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,5.9nm,1.0s,baz=200,slow=9.1,SNR=5.2	**46.54**	**21**	P	**P**	**00 44 26.8**	**-3.0**
TORD	**Torodi Ar. Bea** comp=Z,39nm,1.6s	**46.54**	**21**	P	**P**	**00 44 29.8**	**0.0**
TORD				IAmb	IAmb	00 45 02.9	
ZON	**Zonda** comp=Z,37nm,1.8s	**46.60**	**255**	P	**P**	**00 44 30.8**	**+0.4**
ZON				IAmb	IAmb	00 44 41.3	
LL02	**Futaleuf** comp=Z,15nm,1.2s	**47.03**	**238**	P	**P**	**00 44 34.7**	**+1.2**
LL02				IAmb	IAmb	00 44 47.7	
LMEL	**Las Melosas** comp=Z,22nm,1.1s	**47.29**	**251**	P	**P**	**00 44 36.9**	**+1.1**
LMEL				IAmb	IAmb	00 44 46.8	
AY01	**Puyuhuapi**	**47.50**	**236**	P	**P**	**00 44 37.2**	**+0.1**
BO04	**La Punta** comp=Z,26nm,1.2s	**47.58**	**251**	P	**P**	**00 44 38.5**	**+0.5**
BO04				IAmb	IAmb	00 45 15.6	
LC01	**Cunco**	**47.62**	**244**	P	**P**	**00 44 38.8**	**+0.6**
MT03	**Universidad Ad**	**47.62**	**251**	P	**P**	**00 44 39.5**	**+1.1**
BELA	**Belgrano 2** comp=Z,24nm,1.6s	**47.64**	**186**	P	**P**	**00 44 37.7**	**-0.1**
BELA				IAmb	IAmb	00 44 55.8	
MT05	**Renca**	**47.83**	**252**	P	**P**	**00 44 41.5**	**+1.6**
PEL	**Peldehue**	**47.84**	**252**	P	**P**	**00 44 41.2**	**+1.1**
BO01	**Tunca** comp=Z,23nm,1.1s	**47.87**	**250**	P	**P**	**00 44 40.7**	**+0.4**
BO01				IAmb	IAmb	00 44 55.8	
MT09	**Talagante** comp=Z,38nm,1.6s	**47.94**	**251**	P	**P**	**00 44 41.5**	**+0.6**
MT09				IAmb	IAmb	00 44 52.8	
ROC1	**El Roble** comp=Z,22nm,1.3s	**48.15**	**252**	P	**P**	**00 44 43.0**	**+0.3**
ROC1				IAmb	IAmb	00 44 47.0	
SYO	**Syowa Base** comp=Z,32nm,1.6s	**48.18**	**157**	‖eP	P	00 44 41.6	-0.4
CO01	**Juntas del Tor**	**48.19**	**256**	P	**P**	**00 44 44.9**	**+1.8**
CO01				IAmb	IAmb	00 44 51.6	
VA01	**Torpederas**	**48.66**	**252**	P	**P**	**00 44 46.8**	**+0.5**
GO04	**Tololo Observa**	**48.72**	**256**	P	**P**	**00 44 48.2**	**+1.1**
GO03	**Copiap**	**49.03**	**259**	P	**P**	**00 44 50.5**	**+1.2**
CO06	**Fray Jorge**	**49.27**	**255**	P	**P**	**00 44 50.6**	**-0.4**
GO02	**Mina Guanaco** comp=Z,41nm,1.4s	**49.30**	**262**	P	**P**	**00 44 51.1**	**-0.5**
GO02				IAmb	IAmb	00 45 12.5	
LVC	**Limon Verde** comp=Z,2μm,21.4s,baz=112,slow=34	**49.65**	**266**	LR	LR	01 04 14.9	
PB06	**IPOC Station P** comp=Z,23nm,1.0s	**50.18**	**265**	P	**P**	**00 44 57.3**	**-0.9**
PB06				IAmb	IAmb	00 45 35.0	
PB07	**IPOC Station P**	**50.83**	**266**	P	**P**	**00 45 04.1**	**+1.0**
PB08	**IPOC Station P** comp=Z,38nm,1.5s	**50.84**	**269**	P	**P**	**00 45 04.2**	**+0.8**
PB08				IAmb	IAmb	00 45 23.6

MBAR	**Mbarara**	**51.83**	**63**	LR		LR	01 04 40.1	
	comp=Z,3µm,20.3s,baz=216,slow=33							
MBAR	**Mbarara**	**51.83**	**63**	P		**P**	**00 45 11.8**	**+1.2**
MBAR				IAmb		IAmb	00 45 21.0	
	comp=Z,28nm,1.4s							
PB16	**IPOC Station P**	**51.90**	**271**	P		**P**	**00 45 12.6**	**+0.9**
PB16				IAmb		IAmb	00 45 18.6	
	comp=Z,26nm,1.6s							
MDP	**Montagnes des**	**51.94**	**307**	LR		LR	01 05 32.1	
	comp=Z,2µm,18.9s,baz=124,slow=34							
BOAV	**Boa Vista**	**55.77**	**298**	*e*P		**P**	**00 45 41.0**	**+1.7**
OPO	**Ambohidratompo**	**55.92**	**92**	LR		LR	01 07 16.1	
	comp=Z,1µm,19.6s,baz=359,slow=34							
MAW	**Mawson**	**56.35**	**153**	LR		LR	01 05 08.1	
	comp=Z,716nm,19.6s,baz=282,slow=31							
KIBK	**Kibwezi**	**56.48**	**70**	P		**P**	**00 45 45.4**	**+0.8**
KIBK				IAmb		IAmb	00 45 53.7	
	comp=Z,35nm,1.7s							
KMBO	**Kilima Mbogo**	**56.57**	**68**	LR		LR	01 08 46.8	
	comp=Z,2µm,18.6s,baz=212,slow=35							
KMBO	**Kilima Mbogo**	**56.57**	**68**	P		**P**	**00 45 46.2**	**+0.8**
LODK	**Lodwar**	**57.94**	**63**	P		**P**	**00 45 56.1**	**+1.3**
QSPA	**South Pole Qui**	**58.97**	**180**	LR		LR	01 09 20.9	
	comp=Z,137nm,18.3s,baz=205,slow=34							
QSPA	**South Pole Qui**	**58.97**	**180**	P		**P**	**00 46 00.8**	**-0.6**
QSPA				IAmb		IAmb	00 46 08.6	
	comp=Z,14nm,1.1s							
NNA	**Nana**	**61.09**	**273**	LR		LR	01 12 17.9	
	comp=Z,1µm,18.2s,baz=144,slow=36							
MDT	**Midelt**	**64.30**	**8**	LR		LR	01 10 52.4	
	comp=Z,795nm,21.0s,baz=192,slow=33							
BIRV	**Birongo**	**65.35**	**301**	P		**P**	**00 46 46.3**	**+1.6**
MAGL	**Barre de l'île**	**65.59**	**309**	P		**P**	**00 46 44.8**	**-1.4**
BAUV	**El Baul**	**65.68**	**298**	P		**P**	**00 46 47.8**	**+0.9**
BAUV				IAmb		IAmb	00 46 56.7	
	comp=Z,16nm,0.9s							
CHIC	**Chingaza**	**67.46**	**291**	*e*P		**P**	**00 46 58.3**	**-0.5**
SDV	**Santo Domingo**	**67.62**	**296**	LR		LR	01 14 59.8	
	comp=Z,3µm,19.1s,baz=124,slow=35							
SDV	**Santo Domingo**	**67.62**	**296**	P		**P**	**00 46 58.8**	**-0.7**
SDV				IAmb		IAmb	00 47 22.8	
	comp=Z,16nm,1.1s							
SDV	**Santo Domingo**	**67.62**	**296**	*e*P		**P**	**00 46 58.8**	**-0.7**
RUSC	**La Rusia**	**67.70**	**292**	*e*P		**P**	**00 46 58.1**	**-2.3**
ROSC	**El Rosal**	**68.06**	**290**	LR		LR	01 16 05.6	
	comp=Z,2µm,18.9s,baz=150,slow=35							
PFVI	**Vila Bisbo**	**68.19**	**4**	*e*P		**P**	**00 46 59.3**	**-3.1**
	comp=Z,114nm,1.8s							
PAMC	**Pamplona, Colo**	**68.27**	**294**	*e*P		**P**	**00 47 04.6**	**+0.7**
PBDV	**Barranco-do-Ve**	**68.36**	**5**	*e*P		**P**	**00 47 03.7**	**+0.2**
	comp=Z,89nm,1.7s							
PVAQ	**Vaqueiros**	**68.54**	**5**	*e*P		**P**	**00 47 03.5**	**-1.0**
	comp=Z,55nm,1.8s							
PVAQ	**Vaqueiros**	**68.54**	**5**	*e*LR		LR	01 09 18.0	
	comp=Z,431nm,22.0s							
ATD	**Arta Tunnel**	**68.80**	**61**	LR		LR	01 14 23.5	
	comp=Z,685nm,21.8s,baz=206,slow=34							
ATD	**Arta Tunnel**	**68.80**	**61**	P		**P**	**00 47 07.8**	**+1.0**
ATD				IAmb		IAmb	00 47 24.5	
	comp=Z,17nm,1.2s							
GUY2C	**Guyana, Caldas**	**69.12**	**290**	*e*P		P	00 47 02.1	-7.2
CUPR	**Culebra, Puert**	**69.95**	**307**	P		**P**	**00 47 12.9**	**-0.8**
PESTR	**Estremoz**	**70.00**	**5**	P		**P**	**00 47 13.5**	**-0.1**
CBOC	**Ciudad Bolivar**	**70.02**	**290**	*e*P		**P**	**00 47 10.0**	**-4.5**
KEST	**Kesra**	**70.04**	**20**	P		**P**	**00 47 12.7**	**-1.3**
	comp=Z,4.3nm,0.9s,baz=290,slow=3.2,SNR=4.2							
KEST				LR		LR	01 16 05.4	
	comp=Z,2µm,18.2s,baz=164,slow=34							
KEST	**Kesra**	**70.04**	**20**	P		**P**	**00 47 15.2**	**+1.2**
ZARC	**Zaragoza, Cauc**	**70.06**	**292**	*e*P		**P**	**00 47 13.1**	**-1.4**
SJG	**San Juan**	**70.41**	**307**	LR		LR	01 16 44.8	
	comp=Z,354nm,19.9s,baz=134,slow=35							
URIC	**Uribia, Colomb**	**70.42**	**298**	*e*P		**P**	**00 47 13.6**	**-3.0**
PMRV	**Marv??o**	**70.58**	**5**	*e*LR		LR	01 10 25.8	
	comp=Z,546nm,20.0s							
UREC	**San Jos de Ur**	**70.75**	**292**	*e*P		**P**	**00 47 17.8**	**-1.0**
ESDC	**Sonseca Array**	**71.15**	**8**	P		**P**	**00 47 18.8**	**-1.9**
	comp=Z,1.6nm,1.1s,baz=178,slow=6.4,SNR=4.7							
ESDC				LR		LR	01 16 37.1	
	comp=Z,517nm,18.2s,baz=174,slow=34							
ESDC	**Sonseca Array**	**71.15**	**8**	P		**P**	**00 47 21.5**	**+0.9**
VNDA	**Vanda**	**71.43**	**179**	P		**P**	**00 47 22.1**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=192,slow=3.6,SNR=6.6							
VNDA				LR		LR	01 14 26.9	
	comp=Z,500nm,21.8s,baz=168,slow=32							
MTE	**Manteigas**	**71.53**	**5**	*e*LR		LR	01 11 00.6	
	comp=Z,463nm,22.0s							
SJCC	**San Jacinto, C**	**71.76**	**294**	P		**P**	**00 47 25.3**	**+0.4**
SJCC	**San Jacinto, C**	**71.76**	**294**	*e*P		**P**	**00 47 23.1**	**-1.9**
MVO	**Moncorvo**	**72.33**	**5**	*e*LR		LR	01 11 56.7	
	comp=Z,498nm,20.0s							
PGAV	**Gavieira, Arco**	**73.04**	**4**	*e*LR		LR	01 11 33.5	
	comp=Z,434nm,20.0s							
VAE	**Valguarnera**	**73.23**	**23**	LR		LR	01 18 54.4	
	comp=Z,588nm,18.2s,baz=166,slow=35							
EIL	**Elat**	**76.16**	**42**	LR		LR	01 17 49.5	
	comp=Z,704nm,21.9s,baz=214,slow=33							
SOCY	**Socotra**	**77.81**	**68**	P		**P**	**00 48 02.0**	**+2.0**
OSSC	**Osservatorio P**	**77.83**	**18**	P		**P**	**00 48 00.4**	**+1.0**
OSSC				IAmb		IAmb	00 48 32.2	
	comp=Z,12nm,1.1s							
SRBA	**San Rafael, Bu**	**77.89**	**289**	P		**P**	**00 48 01.4**	**+0.9**
SRBA				IAmb		IAmb	00 48 13.4	
	comp=Z,32nm,1.7s							
PAYG	**Puerto Ayora**	**78.30**	**276**	P		**P**	**00 48 03.0**	**+0.3**
AKAS	**Kas**	**78.41**	**34**	P		**P**	**00 48 03.9**	**+1.0**
AKAS				IAmb		IAmb	00 48 32.1	
	comp=Z,14nm,1.0s							
MMAI	**Mount Meron Ar**	**78.92**	**40**	LR		LR	01 20 49.6	
	comp=Z,396nm,20.6s,baz=18,slow=34							
ELL	**Elmali**	**78.97**	**34**	P		**P**	**00 48 07.5**	**+1.6**
ASF	**Jabal al Asfar**	**79.14**	**42**	LR		LR	01 19 11.5	
	comp=Z,696nm,21.7s,baz=267,slow=33							
CSS	**Mathiatis**	**79.29**	**38**	P		**P**	**00 48 08.1**	**+0.5**
JTS	**Las Juntas de**	**79.78**	**289**	LR		LR	01 21 55.6	
	comp=Z,2µm,21.2s,baz=188,slow=34							
CTI	**Castel Tesino**	**80.28**	**18**	P		**P**	**00 48 13.4**	**+0.6**
ESPN	**Las Esperanzas**	**80.33**	**291**	P		**P**	**00 48 13.3**	**-0.4**
ESPN				IAmb		IAmb	00 48 17.3	
	comp=Z,12nm,0.9s							
DAVOX	**Davos/Dischmat**	**80.53**	**16**	LR		LR	01 20 54.0	
	comp=Z,683nm,21.8s,baz=204,slow=34							
HZTE	**Horizontes, Gu**	**80.54**	**289**	P		**P**	**00 48 13.8**	**-1.0**
ALN	**Alexandroupoli**	**80.61**	**29**	P		**P**	**00 48 15.7**	**+1.2**
ALN				IAmb		IAmb	00 48 23.5	
	comp=Z,20nm,1.2s							
ACON	**Acoyapa**	**80.91**	**290**	P		**P**	**00 48 16.8**	**0.0**
RPN	**Rapa Nui**	**80.93**	**244**	LR		LR	01 19 39.8	
	comp=Z,430nm,18.0s,baz=112,slow=32							
DIVS	**Divibare**	**81.03**	**24**	P		**P**	**00 48 17.6**	**+0.7**
DIVS				IAmb		IAmb	00 48 50.8	
	comp=Z,19nm,1.6s							
MATN	**Matagalpa**	**82.06**	**290**	P		**P**	**00 48 23.6**	**+0.6**
KOVH	**Kovagotottos**	**82.17**	**22**	P		**P**	**00 48 22.2**	**-0.5**
MORH	**Mrgy, Hungar**	**82.45**	**22**	P		**P**	**00 48 24.2**	**0.0**
ANTO	**Ankara**	**82.82**	**34**	P		**P**	**00 48 27.2**	**+0.9**
ANTO				IAmb		IAmb	00 48 37.2	
	comp=Z,12nm,0.9s							
MPLH	**Magyarpolny**	**82.96**	**21**	P		**P**	**00 48 28.0**	**+1.2**
BR131	**Keskin Array S**	**83.12**	**35**	IAmb		IAmb	00 48 37.3	
	comp=Z,21nm,1.2s							
BRTR	**Keskin Array B**	**83.12**	**35**	P		**P**	**00 48 26.6**	**-1.5**
	comp=Z,2.4nm,1.0s,baz=164,slow=6.0,SNR=8.5							
BRTR	**Keskin Array B**	**83.12**	**35**	P		**P**	**00 48 27.1**	**-0.9**
SOP	**Sopron**	**83.13**	**20**	P		**P**	**00 48 26.9**	**-0.8**
GZR	**Gura Zlata**	**83.14**	**25**	⇑P		**P**	**00 48 25.4**	**-2.5**
HUMR	**Humele**	**83.23**	**27**	⇑P		**P**	**00 48 29.2**	**+1.0**
CSKK	**Cskako**	**83.36**	**21**	P		**P**	**00 48 29.7**	**+0.8**
GERES	**GERESS Array B**	**83.40**	**18**	P		**P**	**00 48 25.9**	**-3.2**
	comp=Z,0.2nm,0.7s,baz=227,slow=4.3,SNR=1.9							
GERES				LR		LR	01 24 44.0	
	comp=Z,404nm,18.9s,baz=208,slow=35							
SIRR	**Siria**	**83.50**	**24**	⇑P		**P**	**00 48 30.9**	**+1.3**
CKRC	**Cesky Krumlov**	**83.54**	**18**	*e*P		**P**	**00 48 27.3**	**-2.5**
CKRC				*ex*		x	00 48 31.3	
CKRC				AMS		AMS	01 21 00.0	
	comp=Z,600nm,23.3s							
BNN	**Bunyan**	**83.56**	**37**	P		**P**	**00 48 31.1**	**+0.8**
BNN				IAmb		IAmb	00 48 42.5	
	comp=Z,23nm,1.2s							
GRF	**Grafenberg Arr**	**83.57**	**16**	*e*P		**P**	**00 48 30.6**	**+0.7**
	comp=Z,10nm,1.2s,baz=200,slow=5.6							
KHC	**Kasperske Hory**	**83.63**	**18**	P		**P**	**00 48 31.8**	**+1.6**
KHC	**Kasperske Hory**	**83.63**	**18**	*e*P		**P**	**00 48 32.2**	**+1.9**
KHC				*ep*P		**pwP**	**00 48 37.6**	**+0.8**
KHC				AMS		AMS	01 23 00.0	
	comp=Z,500nm,20.9s							
MODS	**Modra-Piesok**	**83.96**	**20**	*e*P		**P**	**00 48 33.3**	**+1.3**
ILGA	**Ilgaz**	**84.19**	**34**	P		**P**	**00 48 35.0**	**+1.4**
TREC	**Trest**	**84.29**	**19**	AMS		AMS	01 23 40.0	
	comp=Z,600nm,19.5s							
EFOR	**EFORIE**	**84.32**	**29**	⇓P		P	00 48 24.3	-10
DRGR		**84.32**	**24**	⇑P		**P**	**00 48 35.4**	**+1.5**
KRUC	**Moravsky**	**84.33**	**19**	*e*P		**P**	**00 48 34.6**	**+0.8**
PSZ	**Piszkesteto**	**84.36**	**22**	⇑P		**P**	**00 48 35.9**	**+1.8**
PSZ	**Piszkesteto**	**84.36**	**22**	P		**P**	**00 48 34.7**	**+0.7**
PSZ				IAmb		IAmb	00 48 42.9	
	comp=Z,16nm,1.0s							
PSZ	**Piszkesteto**	**84.36**	**22**	P		**P**	**00 48 33.8**	**-0.3**
NKC	**Novy Kostel**	**84.36**	**16**	AMS		AMS	01 23 20.0	
	comp=Z,300nm,19.0s							
MLR	**Muntele Rosu**	**84.41**	**27**	⇓P		**P**	**00 48 35.1**	**+0.6**
MLR	**Muntele Rosu**	**84.41**	**27**	LR		LR	01 26 18.1	
	comp=Z,185nm,19.0s,baz=196,slow=36							
MLR	**Muntele Rosu**	**84.41**	**27**	P		**P**	**00 48 34.0**	**-0.5**
JAVC	**Velka Javorina**	**84.52**	**20**	*e*P		**P**	**00 48 35.2**	**+0.4**
VYHS	**Vyhne**	**84.54**	**21**	*e*P		**P**	**00 48 35.6**	**+0.7**
DOPR	**Dopca**	**84.59**	**26**	⇑P		**P**	**00 48 35.9**	**+0.7**
VRAC	**Vranov**	**84.61**	**19**	LR		LR	01 23 51.8	
	comp=Z,701nm,21.8s,baz=214,slow=34							
PRU	**Pruhonice**	**84.67**	**18**	AMS		AMS	01 23 20.0	
	comp=Z,500nm,18.1s							
BISRR	**Bisoca**	**84.75**	**27**	⇓P		P	00 48 40.9	+4.8
CFR	**Carcaliu**	**85.01**	**28**	⇑P		**P**	**00 48 39.0**	**+1.7**
VRI	**Vrincioaia**	**85.02**	**27**	⇓P		**P**	**00 48 37.4**	**0.0**
ARCR	**ARCALIA**	**85.16**	**25**	⇑P		**P**	**00 48 39.1**	**+1.1**
PVCC	**Panska Ves**	**85.17**	**18**	AMS		AMS	01 23 20.0	
	comp=Z,400nm,21.9s							
MORC	**Moravsky Berou**	**85.30**	**20**	⇑P		**P**	**00 48 40.5**	**+1.8**
MORC	**Moravsky Berou**	**85.30**	**20**	P		**P**	**00 48 39.8**	**+1.1**
MORC				IAmb		IAmb	00 48 50.8	
	comp=Z,11nm,1.3s							
MORC	**Moravsky Berou**	**85.30**	**20**	*e*P		P	00 48 33.9	-4.8
KRLC	**Kraliky**	**85.35**	**19**	*e*P		**P**	**00 48 40.8**	**+1.8**
KRLC				*ep*P		**pwP**	**00 48 46.7**	**+1.2**
KRLC				AMS		AMS	01 24 00.0	
	comp=Z,600nm,22.3s							
DPC	**Dobruska-Polom**	**85.47**	**19**	*e*P		**P**	**00 48 41.0**	**+1.4**
DPC				*ep*P		**pwP**	**00 48 46.0**	**-0.1**
DPC				AMS		AMS	01 23 30.0	
	comp=Z,600nm,24.5s							
CLL	**Collm**	**85.50**	**16**	*e*P		**P**	**00 48 42.0**	**+2.4**
	comp=Z,14nm,1.6s							
CLL				*e*PP		**PP**	**00 51 59.0**	**+0.5**
CLL				LmV			01 08 00.0	
	comp=Z,200nm,20.9s							
CLL				LmV			01 23 00.0	
	comp=Z,300nm,22.0s							
CLL				LmH			01 26 00.0	
	comp=N,200nm,19.3s							
CLL				LmH			01 26 00.0	
	comp=E,300nm,18.7s							
UPC	**Upice**	**85.53**	**18**	AMS		AMS	01 23 40.0	
	comp=E,500nm,18.8s							
CHVC	**Chvalec**	**85.62**	**18**	*e*P		**P**	**00 48 41.1**	**+0.8**
CHVC				AMS		AMS	01 24 00.0	
	comp=E,600nm,20.8s							
OSTC	**Ostas**	**85.63**	**19**	*e*P		**P**	**00 48 40.5**	**+0.2**
OSTC				AMS		AMS	01 23 40.0	
	comp=E,600nm,21.5s							
CRVS	**Cervenica-Dubn**	**85.73**	**22**	*e*P		**P**	**00 48 42.6**	**+1.8**
BURAR	**Bucovina Array**	**85.92**	**25**	⇑P		**P**	**00 48 44.7**	**+2.7**
BURAR	**Bucovina Array**	**85.92**	**25**	P		**P**	**00 48 43.1**	**+1.2**
BUR08	**Bucovina Ar. S**	**85.94**	**25**	P		**P**	**00 48 43.1**	**+1.1**
BUR08				IAmb		IAmb	00 49 17.2	
	comp=Z,35nm,1.8s							
EKA	**Eskdalemuir Ar**	**86.72**	**6**	LR		LR	01 27 03.5	
	comp=Z,376nm,18.4s,baz=188,slow=35							
SORM	**Soroca**	**87.52**	**27**	⇑P		**P**	**00 48 50.6**	**+1.0**
WSAR	**Wadi Sarin**	**87.82**	**61**	LR		LR	01 27 06.5	
	comp=Z,989nm,20.4s,baz=235,slow=35							
GNI	**Garni**	**89.26**	**41**	LR		LR	01 29 46.1	
	comp=Z,423nm,18.6s,baz=228,slow=36							
AKASG	**Malin Array Be**	**89.35**	**26**	LR		LR	01 28 23.6	
	comp=Z,168nm,20.1s,baz=176,slow=35							
SUW	**Suwalki**	**90.69**	**21**	P		**P**	**00 49 05.2**	**+0.8**
KBZ	**Khabaz**	**90.74**	**37**	LR		LR	01 31 25.2	
	comp=Z,168nm,18.2s,baz=196,slow=37							
CMIG	**Matias Romero**	**91.56**	**289**	LR		LR	01 32 27.6	
	comp=Z,446nm,18.1s,baz=131,slow=37							
MNK	**Minsk**	**92.60**	**23**	*i* P		**P**	**00 49 11.2**	**-2.0**
	comp=E,2.0nm,1.4s							
MNK				*i* P		**P**	**00 49 11.2**	**-2.0**
	comp=N,21nm,1.8s							
MNK				*i* P		**P**	**00 49 11.2**	**-2.0**
	comp=Z,10.0nm,0.9s,baz=215							
MNK				*i* PP		**PP**	**00 52 52.8**	**-2.5**
MNK				*i* PPP		PPP	00 54 52.2	
MNK				*i* S		**SKSac**	**00 59 44.6**	**-1.8**
MNK				*i* SS		**SS**	**01 06 29.9**	**-0.3**
MNK				*i* SSS		SSS	01 10 09.4	
MNK				*i* LQ		LQ	01 25 03.7	
MNK				*i* LR		LR	01 28 03.9	
MNK				*i* LRM		MLR	01 30 34.0	
	comp=Z,394nm,17.6s							
MNK				*i* LRM		MLR	01 30 46.7	
	comp=E,30nm,16.5s							
MNK				*i* LRM		MLR	01 30 54.4	
	comp=N,203nm,19.4s							
HFS	**Hagfors**	**93.80**	**13**	LR		LR	01 29 52.2	
	comp=N,352nm,20.1s,baz=200,slow=34							
NOA	**NORSAR Array B**	**94.18**	**12**	LR		LR	01 31 16.4	
	comp=N,317nm,18.9s,baz=200,slow=35							
BORG	**Borgarnes**	**95.89**	**357**	LR		LR	01 27 08.5	
	comp=N,147nm,18.2s,baz=175,slow=32							
GEYT	**Alibeck**	**95.94**	**49**	LR		LR	01 33 31.1	
	comp=N,686nm,18.1s,baz=240,slow=36							
OBN	**Obninsk**	**96.17**	**26**	LR		LR	01 33 29.4	
	comp=N,69nm,18.9s,baz=184,slow=36							
SCHQ	**Schefferville**	**97.18**	**332**	LR		LR	01 25 47.2	
	comp=N,216nm,21.5s,baz=112,slow=31							
PALK	**Pallekele**	**97.37**	**86**	LR		LR	01 29 13.0	
	comp=N,1µm,19.1s,baz=342,slow=33							
FINES	**FINESS Array B**	**97.83**	**18**	LR		LR	01 32 08.1	
	comp=N,314nm,21.4s,baz=206,slow=34							
BELG	**Belogornoye**	**98.94**	**33**	LR		LR	01 37 10.7	
	comp=N,110nm,19.4s,baz=213,slow=37							
ASAR	**Alice Springs**	**117.11**	**146**	PKP		**PKPdf**	**00 54 45.8**	**-2.1**
	comp=N,0.4nm,0.8s,baz=198,slow=2.7,SNR=1.8							
WMQ	**Urumqi**	**118.52**	**54**	*e*PKP		**PKiKP**	**00 54 51.3**	**+1.4**
WMQ				LR		LR		
	comp=N,460nm,18.5s							
WMQ				LR		LR		
	comp=N,520nm,19.9s							
WMQ				LR		LR		
	comp=N,520nm,21.3s							
YKA	**Yellowknife Ar**	**122.25**	**327**	PKP		**PKPdf**	**00 54 54.1**	**-2.2**
	comp=N,0.6nm,0.8s,baz=98,slow=2.2,SNR=5.9							
PZH	**PanZhiHua**	**123.87**	**77**	PKP		**PKiKP**	**00 55 01.5**	**+0.5**
PZH				PP		**PP**	**00 56 52.0**	**+7.6**
PZH				AMB		AMB		
	comp=N,80nm,7.5s							
PZH				LR		LR		
	comp=N,320nm,20.4s							
PZH				LR		LR		
	comp=N,510nm,21.4s							
PZH				LR		LR		
	comp=N,640nm,21.1s							
QIZ	**Qiongzhong**	**127.84**	**89**	PKP		**PKiKP**	**00 55 08.8**	**-0.1**
QIZ				PP		**PP**	**00 57 11.0**	**+0.3**
QIZ				SS		SS	01 14 27.3	+3.3
QIZ				LR		LR		
	comp=N,250nm,17.3s							
QIZ				LR		LR		
	comp=N,370nm,21.4s							
QIZ				LR		LR		
	comp=N,370nm,19.1s							
INK	**Inuvik**	**129.68**	**335**			**PKiKP**	**00 55 13.2**	**+2.1**
HHC	**Hu-ho-hao-te**	**135.27**	**62**	*e*PKP		**PKPdf**	**00 55 19.0**	**-2.9**
ILAR	**Eielson Array**	**135.93**	**333**	PKP		**PKPdf**	**00 55 21.1**	**-1.2**
	comp=N,0.9nm,0.7s,baz=12,slow=1.8,SNR=5.6							
SCM	**Sheep Creek Mo**	**137.37**	**330**			**PKiKP**	**00 55 27.5**	**+0.5**
NJ2	**Nanjing**	**139.76**	**76**	*e*PKP		**PKPdf**	**00 55 31.0**	**+0.7**
KSAR	**Wonju Array Be**	**147.75**	**68**			**PKPbc**	**00 55 47.5**	**+0.5**
KSRS	**Korea Array**	**147.78**	**68**	PKPbc		**PKPdf**	**00 55 44.6**	**+0.4**
	comp=N,0.7nm,0.5s,baz=261,slow=3.8,SNR=1.8							
MDJ	**Mudanjiang**	**148.32**	**55**	PKPbc		**PKiKP**	**00 55 49.3**	**-0.6**

NOU 30 00:47:38.4, 16°25S×167°43E, h13km, MLv4.3/9, Vanuatu

Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.83**	**345**	P	Pg	00 47 54.5	+0.1
DVP	**Devils Point**	**1.64**	**154**	P	Pn	00 48 07.3	+0.4
KOUNC	**Koumac, New Ca**	**5.22**	**214**	P	Pn	00 48 55.8	-0.3
	24nm,1.0s						
DZM	**Mont Dzumac**	**5.87**	**189**	P	Pn	00 49 05.4	+0.2
	16nm,1.9s						

IGQ ***30*** *01:44:39±0.4, 0°N±2°×8°0W±°, h2km*
NEIC ***30*** *01:44:40.9±2.3, 0°.51N±0°.07×79°.78W±0°.07, h10km±1km, mb4.2/15, Error ellipse: s-maj=12.1km s-min=11.3km az=212.0*
IDC ***30*** *01:44:45.5±3.2, 0°.22N×80°.11W, h63km±29km, mb3.6/10, mb1 3.9/13, mb1mx3.7/35, mbtmp4.0/13, ML3.3/3, Error ellipse: s-maj=30.8km s-min=15.8km az=71.0*
ISC 30 01:44:38.9±0.5, 0.13N±0.03×80.00W±0.04, h15km, n114, σ1s54/105, mb4.1/16, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**0.30**	**132**	P	**Pb**	**01 44 48.0**	**+1.9**
JAMA	**Jama**	**0.44**	**208**	P	**Pg**	**01 44 46.0**	**-1.8**
JAMA				S	**Sg**	**01 44 53.0**	**-0.8**
FLF1	**Flavio Alfaro-**	**0.51**	**162**	P	**Pn**	**01 44 51.0**	**-0.7**
AV18	**Acelerografo,**	**0.55**	**71**	P	**Pn**	**01 44 52.0**	**-0.2**
CAB1	**Cabo Pasado-Ma**	**0.67**	**220**	P	**Pg**	**01 44 52.0**	**0.0**
AV21	**Acelerografo,**	**0.69**	**41**	P	**Pn**	**01 44 54.0**	**-0.1**
BV15	**Puerto Quito-O**	**0.78**	**88**	P	**Pn**	**01 44 55.0**	**-0.3**
AMA1	**Acelerografo,**	**0.84**	**19**	P	**Pb**	**01 44 55.0**	**-0.2**
APR2	**Miler**	**1.03**	**93**	P	**Pn**	**01 44 59.0**	**+0.1**
PAC1	**Pacto, Paraso**	**1.22**	**84**	P	**Pg**	**01 45 01.0**	**-1.4**
AMNT	**Manta-Manabi**	**1.30**	**215**	P	**Pn**	**01 45 01.0**	**-1.5**
CHIS	**Cerro-Chispas-**	**1.38**	**212**	P	**Pn**	**01 45 02.0**	**-1.7**
HPAL	**Hacienda Las P**	**1.39**	**105**	P	**Pb**	**01 45 04.0**	**-0.8**
APR1	**Acelerografo,**	**1.40**	**97**	P	**Pg**	**01 45 05.0**	**-0.9**
PINO	**Pino**	**1.42**	**102**	P	**Pg**	**01 45 05.0**	**-1.3**
GGPT	**Toaza - Volcan**	**1.43**	**104**	P	**Pg**	**01 45 05.0**	**-1.4**
TERV	**Terraza Guagua**	**1.43**	**102**	P	**Pg**	**01 45 07.0**	**+0.5**
GGPC	**Guagua Pichinc**	**1.44**	**102**	P	**Pg**	**01 45 05.0**	**-1.6**
JUA2	**San Juan 2**	**1.44**	**104**	P	**Pg**	**01 45 06.0**	**-0.6**
YANA	**Yana**	**1.45**	**100**	P	**Pg**	**01 45 06.0**	**-0.9**
ILLI	**Illinizas Sur**	**1.53**	**124**	P	**Pb**	**01 45 06.0**	**-1.2**
OTAV	**Otavalo**	**1.55**	**86**		**Pg**	**01 45 07.5**	**-1.3**
PAST	**Pastocalle**	**1.59**	**121**	P	**Pg**	**01 45 08.0**	**-1.5**
CUSE	**Cuicocha Este**	**1.61**	**84**	P	**Pb**	**01 45 08.0**	**-0.6**
CUIC	**Cuicocha-Domo**	**1.65**	**84**	P	**Pb**	**01 45 08.0**	**-1.2**
CUSW	**Cuicocha Oeste**	**1.66**	**85**	P	**Pg**	**01 45 09.0**	**-1.8**
COTA	**Cotacachi**	**1.67**	**83**	P	**Pg**	**01 45 10.0**	**-1.1**
CAMI	**Rancho Maria**	**1.70**	**118**	P	**Pg**	**01 45 10.0**	**-1.6**
PITA	**Cotopaxi Volc**	**1.71**	**114**	P	**Pg**	**01 45 11.0**	**-0.8**
NAS2	**Nasa**	**1.72**	**117**	P	**Pg**	**01 45 11.0**	**-0.9**
BNAS	**Cotopaxi Volca**	**1.72**	**118**	P	**Pg**	**01 45 11.0**	**-1.0**
BREF	**Cotopaxi Volca**	**1.75**	**117**	P	**Pg**	**01 45 11.0**	**-1.6**
BMOR	**Cotopaxi Volca**	**1.76**	**119**	P	**Pg**	**01 45 11.0**	**-1.9**
ALIT	**Ecuador-Imbabu**	**1.77**	**68**	P	**Pb**	**01 45 10.0**	**-1.1**
**

YKA	**Yellowknife Ar**	**67.41**	**343**	P	**P**	**01 55 33.3**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=136,slow=6.2,SNR=23						
ESDC	**Sonseca Array**	**79.18**	**50**	P	**P**	**01 56 44.5**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=261,slow=5.7,SNR=5.7						
ILAR	**Eielson Array**	**80.19**	**336**	P	**P**	**01 56 48.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=103,slow=4.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**81.88**	**77**	P	**P**	**01 56 58.8**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=281,slow=4.4,SNR=1.6						
TORD	**Torodi Ar. Bea**	**81.88**	**77**	IAmb	IAmb	01 57 10.2	
	comp=Z,4.1nm,1.4s						
WRA	**Warramunga Arr**	**141.04**	**238**	PKP	**PKPdf**	**02 04 09.2**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=110,slow=2.3,SNR=4.5						

IDC 30 02:00:23.2±3.3, 5.°08S×152.°57E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.7/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/61, Error ellipse: s-maj=137.9km s-min=27.0km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.09**	**229**	P	P	02 05 30.4	-0.4
	0.3nm,0.4s,baz=53,slow=9.6,SNR=8.1						
ASAR	**Alice Springs**	**25.79**	**222**	P	P	02 05 57.0	+0.8
	0.5nm,0.8s,baz=55,slow=9.6,SNR=5.9						
JOW	**Kunigami**	**39.49**	**325**	LR	LR	02 22 13.7	
	comp=Z,182nm,21.2s,baz=70,slow=33						
PETK	**Petropavlovsk-**	**58.13**	**4**	P	P	02 10 19.6	+1.0
	3.3nm,1.0s,baz=188,slow=8.7,SNR=1.3						
ZALV	**Zalesovo Beam**	**81.26**	**326**	P	P	02 12 41.2	0.0
	0.8nm,0.5s,baz=114,slow=3.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**150.18**	**288**	PKPbc	PKPbc	02 20 15.4	-1.9
	0.6nm,0.3s,baz=94,slow=2.1,SNR=3.6						

DJA 30 02:01:08.8±0.5, 2.°N±4.°×12.°9E.°, h10km, M4.1/9, mb4.5/2, MLv3.9/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.90**	**237**	P	Pn	02 01 40.8	-0.4
TNTI				S	Sb	02 02 07.0	-0.2
LBMI	**Labuha**	**2.84**	**211**	P	Pn	02 01 55.3	+1.1
LBMI				S	Sn	02 02 28.7	+0.2
SWI	**Sorong**	**3.53**	**139**	P	Pn	02 02 03.1	-0.6
KMSI	**Cibinong**	**5.12**	**256**	P	Pn	02 02 27.1	+1.5
	0.8nm146nm,0.5s						
GTOI	**Gorontalo**	**6.05**	**259**	P	Pn	02 02 40.2	+1.7

*STR **30** 02:05:06.8±0.2, 43.°N±2.°×.°±.°, h5km, MLv2.3/6, preliminary*
*LDG **30** 02:05:06.0±0.1, 43.°11N×0.°39W, h3km, Md2.9/3, Ml2.7/31, Error ellipse: s-maj=1.0km s-min=0.9km az=123.0*
*MDD **30** 02:05:07.5±0.2, 43.°05N×0.°40W, h0km, mb_Lg2.7/19, Error ellipse: s-maj=1.6km s-min=1.1km az=168.0*
*SFS **30** 02:05:07.0, 43.°04N×0.°39W, ML2.7, LARUNS (FRANCIA)*
ISC 30 02:05:07.0±0.8, 43.°07N±0.°02×0.°36W±0.°01, h14km±6km, n75, σ3s24/150, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETSF	**Etsaut**	**0.23**	**221**	*e*Pg	**Pg**	**02 05 10.5**	**-1.5**
ETSF				*e*Sg	**Sg**	**02 05 14.2**	**-1.2**
	128nm,0.2s						
PYLO	**Lourdes**	**0.23**	**83**	Pg	**Pg**	**02 05 11.2**	**-0.9**
PYLO				Sg	**Sg**	**02 05 15.7**	**+0.2**
ATE	**Arette**	**0.25**	**274**	Pg	**Pg**	**02 05 10.7**	**-1.7**
ATE				Sg	**Sg**	**02 05 14.4**	**-1.7**
CANF	**Canfranc**	**0.33**	**201**	Pg	**Pg**	**02 05 12.9**	**-0.8**
CANF				Sg	**Sg**	**02 05 16.5**	**-1.9**
VIEF	**Viey**	**0.34**	**123**	Pg	**Pg**	**02 05 13.2**	**-0.8**
VIEF				Sg	**Sg**	**02 05 18.1**	**-0.6**
EPF	**Esparros**	**0.51**	**94**	*e*Pg	**Pg**	**02 05 16.5**	**-0.7**
EPF				*e*Sg	**Sg**	**02 05 23.9**	**-0.1**
	64nm,0.2s						
ECHI	**Chisagues Biel**	**0.57**	**135**	Pg	**Pg**	**02 05 17.5**	**-0.9**
ECHI	**Chisagues Biel**	**0.57**	**135**	Pg	**Pg**	**02 05 17.4**	**-0.9**
ECHI				Sg	**Sg**	**02 05 25.4**	**-0.6**
ECHI				*i* Vmb_Lg		02 05 26.4	
SJPF	**Ste Jean**	**0.64**	**274**	*e*Pg	**Pg**	**02 05 17.8**	**-1.7**
SJPF				*e*Sg	**Sg**	**02 05 26.1**	**-1.8**
	73nm,0.3s						
OSSF	**Osses**	**0.69**	**286**	P	**Pg**	**02 05 17.4**	**-3.0**
OSSF				Pg	**Pb**	**02 05 19.2**	**-1.6**
OSSF				Sg	**Sg**	**02 05 28.6**	**-0.8**
EORO	**Oroz-Betelu**	**0.72**	**256**	Pg	**Pg**	**02 05 19.2**	**-1.8**
EORO				Sg	**Sg**	**02 05 29.7**	**-0.9**
EORO				*i* Vmb_Lg		02 05 32.9	
TERF	**Tercis-les-Bai**	**0.82**	**318**	Pg	**Pg**	**02 05 22.1**	**-0.8**
TERF				Sg	**Sg**	**02 05 34.0**	**+0.3**
EALK	**Alkurruntz**	**0.85**	**280**	P	**Pg**	**02 05 20.5**	**-3.0**
EALK				Pg	**Pb**	**02 05 22.3**	**-1.4**
EALK	**Alkurruntz**	**0.85**	**280**	Pg	**Pg**	**02 05 21.1**	**-2.5**
EALK				Sg	**Sg**	**02 05 33.2**	**-1.6**
EARA	**Aranguren**	**0.94**	**252**	Pg	**Pg**	**02 05 24.2**	**-1.0**
EARA				Sg	**Sg**	**02 05 36.5**	**-1.2**
EARA				*i* Vmb_Lg		02 05 43.0	
ESAC	**San Caprasio**	**1.35**	**184**	Pn	**Pb**	**02 05 32.5**	**+0.4**
ESAC				Sn	**Sn**	**02 05 51.0**	**+1.8**
ESAC				*i* Vmb_Lg		02 05 52.2	
PAND	**Andorre**	**1.51**	**111**	Pn	**Pn**	**02 05 34.3**	**+0.5**
PAND				Sn	**Sn**	**02 05 55.2**	**+1.9**
EMIR	**Miracle**	**1.81**	**129**	Pg	**Pb**	**02 05 41.0**	**+1.0**
EMIR				Sn	**Sb**	**02 06 03.3**	**+0.8**
EMIR				*i* Vmb_Lg		02 06 07.7	
LRVF	**chteau la Riv**	**1.88**	**1**	Pn	**Pn**	**02 05 39.4**	**+0.8**
LRVF				Sn	**Sn**	**02 06 04.2**	**+2.1**
MTLF	**Montolieu**	**1.90**	**81**	*e*Pn	**Pn**	**02 05 37.4**	**-1.7**
MTLF	**Montolieu**	**1.90**	**81**	*e*Pg	**Pb**	**02 05 42.1**	**+0.6**
MTLF				*e*Sn	**Sn**	**02 06 00.3**	**-2.5**
	22nm,0.3s						
MTLF				*e*Sg	**Sb**	**02 06 05.4**	**+0.3**
	22nm,0.3s						
EPOB	**Poblet**	**2.02**	**148**	Pg	**Pb**	**02 05 43.5**	**-0.1**
EPOB				Sn	**Sb**	**02 06 08.3**	**-0.3**
EPOB				*i* Vmb_Lg		02 06 12.6	
LFF	**La Frestale**	**2.03**	**23**	*e*Pn	**Pn**	**02 05 38.5**	**-2.3**
LFF	**La Frestale**	**2.03**	**23**	*e*Pg	**Pb**	**02 05 43.6**	**-0.1**
LFF				*e*Sg	**Sn**	**02 06 09.1**	**+3.2**
	29nm,0.3s						
ERTA	**Horta de San J**	**2.17**	**166**	Pg	**Pb**	**02 05 46.5**	**+0.4**
ERTA				Sn	**Sn**	**02 06 10.2**	**+0.7**
ERTA				*i* Vmb_Lg		02 06 18.9	
ELAN	**Lanestosa**	**2.26**	**275**	Pn	**Pn**	**02 05 45.4**	**+1.5**
ELAN				Sn	**Sn**	**02 06 13.3**	**+1.7**
ELAN				*i* Vmb_Lg		02 06 19.6	
EJON	**La Jonquera**	**2.47**	**103**	Pg	**Pb**	**02 05 53.0**	**+1.7**
EJON				Sn	**Sn**	**02 06 17.8**	**+0.9**
EJON				Sg	**Sg**	**02 06 25.3**	**-1.1**
EJON				*i* Vmb_Lg		02 06 27.7	
CAF	**Calviac**	**2.55**	**42**	*e*Pn	**Pn**	**02 05 46.4**	**-1.6**
CAF	**Calviac**	**2.55**	**42**	*e*Pg	**Pb**	**02 05 53.0**	**+0.4**
CAF				*e*Sn	**Sn**	**02 06 16.3**	**-2.5**
	4.3nm,0.2s						
CAF				*e*Sg	**Sb**	**02 06 25.6**	**+1.8**
	11nm,0.2s						
ETOR	**Torete**	**2.58**	**210**	Pn	**Pn**	**02 05 48.8**	**+0.4**
ETOR				Pg	**Pg**	**02 05 54.8**	**-1.7**
ETOR				Sn	**Sn**	**02 06 19.6**	**-0.1**
ETOR				Sg	**Sg**	**02 06 27.2**	**-2.7**
ETOR				*i* Vmb_Lg		02 06 33.6	
RJF	**Les Rejaudoux**	**2.61**	**30**	*e*Pn	**Pn**	**02 05 47.3**	**-1.5**
RJF	**Les Rejaudoux**	**2.61**	**30**	*e*Pg	**Pb**	**02 05 53.7**	**+0.1**
RJF				*e*Sn	**Sn**	**02 06 16.4**	**-3.9**
	5.2nm,0.2s						
RJF				*e*Sg	**Sb**	**02 06 26.8**	**+1.3**
	13nm,0.2s						
EMOS	**Mosqueruela**	**2.71**	**182**	Pn	**Pn**	**02 05 50.3**	**0.0**
EMOS				Pg	**Pb**	**02 05 56.1**	**+0.8**
EMOS				Sn	**Sn**	**02 06 23.0**	**+0.1**
EMOS				Sg	**Sg**	**02 06 31.6**	**-2.4**
EMOS				*i* Vmb_Lg		02 06 41.0	
LASF	**Ste Croix**	**3.23**	**70**	*e*Pn	**Pn**	**02 05 56.2**	**-1.0**
LASF	**Ste Croix**	**3.23**	**70**	*e*Pg	**Pb**	**02 06 06.5**	**+2.5**
LASF				*e*Sn	**Sn**	**02 06 33.0**	**-2.5**
	4.3nm,0.5s						
LASF				*e*Sg	**Sb**	**02 06 47.7**	**+4.5**
	6.6nm,0.3s						
UCM	**Universidad Co**	**3.50**	**219**	P	**Pg**	**02 06 13.9**	**-0.2**
UCM				S	**Sg**	**02 06 56.0**	**-3.6**
ECHE	**Chera**	**3.51**	**188**	Pn	**Pn**	**02 06 01.5**	**+0.4**
ECHE				Pg	**Pg**	**02 06 11.9**	**-2.3**
ECHE				Sn	**Sn**	**02 06 41.5**	**-1.0**
ECHE				*i* Vmb_Lg		02 06 59.5	
MFF	**Saint Martin d**	**3.54**	**2**	*e*Pn	**Pn**	**02 05 59.8**	**-1.7**
MFF	**Saint Martin d**	**3.54**	**2**	*e*Pg	**Pb**	**02 06 10.9**	**+1.6**
MFF				*e*Sn	**Sn**	**02 06 39.4**	**-3.7**
MFF				*e*Sg	**Sb**	**02 06 54.9**	**+2.8**
	10nm,0.4s						
EARI	**Arriondas**	**3.56**	**275**	Sn	**Sn**	**02 06 43.9**	**+0.2**
EARI				*i* Vmb_Lg		02 07 01.8	
TCF	**Toulx Ste Croi**	**3.70**	**29**	*e*Pn	Pn	02 06 00.3	-3.5
TCF	**Toulx Ste Croi**	**3.70**	**29**	*e*Pg	**Pb**	**02 06 13.4**	**+1.2**
TCF				*e*Sn	Sn	02 06 40.6	-6.6
TCF				*e*Sg	**Sb**	**02 07 00.4**	**+3.5**
	7.3nm,0.4s						
GUD	**Guadarrama**	**3.73**	**231**	Pn	**Pn**	**02 06 04.2**	**-0.1**
GUD				Sn	**Sn**	**02 06 47.8**	**-0.3**
GUD				Sg	**Sg**	**02 07 04.4**	**-2.4**
GUD				*i* Vmb_Lg		02 07 09.8	
VIVF	**Saint-Julien-l**	**4.05**	**62**	*e*Pn	**Pn**	**02 06 07.7**	**-0.9**
VIVF	**Saint-Julien-l**	**4.05**	**62**	*e*Pg	**Pb**	**02 06 21.3**	**+3.2**
VIVF				*e*Sn	**Sn**	**02 06 53.0**	**-2.8**
	1.3nm,0.3s						
VIVF				*e*Sg	**Sb**	**02 07 12.6**	**+5.7**
	3.4nm,0.3s						
BGF	**Bois d'Agland**	**4.17**	**32**	*e*Pn	**Pn**	**02 06 07.6**	**-2.6**
BGF	**Bois d'Agland**	**4.17**	**32**	*e*Pg	**Pb**	**02 06 22.6**	**+2.5**
BGF				*e*Sn	**Sn**	**02 06 54.7**	**-3.9**
BGF				*e*Sg	**Sb**	**02 07 15.3**	**+5.0**
	26nm,0.4s						
ESDC	**Sonseca Array**	**4.34**	**220**	Sn	**Sn**	**02 07 01.8**	**-1.3**
ESDC				*i* Vmb_Lg		02 07 24.1	
SMRF	**Simiane la Rot**	**4.41**	**76**	*e*Pn	**Pn**	**02 06 12.1**	**-1.4**
SMRF	**Simiane la Rot**	**4.41**	**76**	*e*P	**Pn**	**02 06 16.1**	**+2.6**
SMRF	**Simiane la Rot**	**4.41**	**76**	*e*Pg	**Pb**	**02 06 27.8**	**+3.6**
SMRF				*e*Sn	**Sn**	**02 06 59.9**	**-4.8**
SMRF				*e*Sg	**Sb**	**02 07 24.3**	**+7.0**
	1.2nm,0.4s						
AVF	**Avril sur Loir**	**4.56**	**34**	*e*Pn	**Pn**	**02 06 12.8**	**-2.7**
AVF	**Avril sur Loir**	**4.56**	**34**	*e*Pg	**Pb**	**02 06 29.9**	**+3.1**
AVF				*e*Sn	**Sn**	**02 07 03.8**	**-4.5**
AVF				*e*Sg	**Sb**	**02 07 27.9**	**+6.4**
	5.1nm,0.5s						
PAB	**San Pablo**	**4.63**	**222**	Pn	**Pn**	**02 06 16.5**	**-0.1**
PAB				Sn	**Sn**	**02 07 08.1**	**-2.0**
PAB				*i* Vmb_Lg		02 07 40.6	
SMF	**Signal de Mont**	**4.66**	**38**	*e*Pn	**Pn**	**02 06 14.9**	**-2.0**
SMF				*e*Sn	**Sn**	**02 07 05.7**	**-5.1**
SMF				*e*Sg	**Sb**	**02 07 31.3**	**+6.9**
	1.9nm,0.3s						
HYF	**Humbligny**	**4.70**	**26**	*e*Pn	**Pn**	**02 06 15.8**	**-1.7**
HYF	**Humbligny**	**4.70**	**26**	*e*P	**Pn**	**02 06 19.5**	**+2.0**
HYF	**Humbligny**	**4.70**	**26**	*e*Pg	**Pb**	**02 06 33.2**	**+4.0**
HYF				*e*Sn	**Sn**	**02 07 06.8**	**-5.1**
HYF				*e*Sg	**Sb**	**02 07 32.5**	**+6.8**
SSF	**Saint Saulge**	**4.84**	**33**	*e*Pn	**Pn**	**02 06 17.8**	**-1.6**
SSF	**Saint Saulge**	**4.84**	**33**	*e*Pg	**Pb**	**02 06 35.5**	**+4.0**
SSF				*e*Sn	**Sn**	**02 07 10.2**	**-5.0**
SSF				*e*Sg	**Sb**	**02 07 35.4**	**+5.8**
	3.9nm,0.4s						
LMR	**La Mourre**	**5.03**	**85**	*e*Pn	**Pn**	**02 06 21.0**	**-1.0**
LMR	**La Mourre**	**5.03**	**85**	*e*Pg	**Pg**	**02 06 39.9**	**-3.4**
LMR				*e*Sn	**Sn**	**02 07 16.6**	**-3.2**
LMR				*e*Sg	**Sg**	**02 07 44.3**	**-4.1**
	0.7nm,0.4s						
LOR	**Lormes**	**5.15**	**34**	*e*Pn	**Pn**	**02 06 21.5**	**-2.2**
	baz=218						
LOR	**Lormes**	**5.15**	**34**	*e*Pg	**Pb**	**02 06 40.8**	**+4.0**
	baz=217						
LOR				*e*Sn	**Sn**	**02 07 18.5**	**-4.4**
LOR				*e*Sg	**Sb**	**02 07 46.5**	**+8.0**
	1.9nm,0.3s,baz=218						
QUIF	**Quistinic**	**5.23**	**339**	*e*Pn	**Pn**	**02 06 22.7**	**-2.1**
QUIF	**Quistinic**	**5.23**	**339**	*e*Pg	**Pb**	**02 06 42.0**	**+3.8**
QUIF				*e*Sn	**Sn**	**02 07 19.8**	**-5.1**
QUIF				*e*Sg	**Sb**	**02 07 48.3**	**+7.4**
	1.8nm,0.3s						
GRR	**Gorron**	**5.33**	**356**	*e*Pn	**Pn**	**02 06 23.1**	**-3.0**
GRR				*e*Sn	Sn	02 07 20.4	-6.9
	1.0nm,0.2s						
GRR				*e*Sg	**Sb**	**02 07 51.7**	**+8.0**
	2.1nm,0.3s						
SGMF	**Saint Gilles**	**5.41**	**344**	*e*Pn	**Pn**	**02 06 25.2**	**-2.0**
SGMF	**Saint Gilles**	**5.41**	**344**	*e*Pg	**Pb**	**02 06 45.2**	**+4.0**
SGMF				*e*Sn	**Sn**	**02 07 24.0**	**-5.2**
SGMF				*e*Sg	**Sb**	**02 07 53.2**	**+7.3**
	2.7nm,0.4s						
LDF	**La Druitiere**	**5.53**	**2**	*e*Pn	**Pn**	**02 06 26.5**	**-2.3**
LDF				*e*Sn	Sn	02 07 25.2	-6.9
LDF				*e*Sg	**Sb**	**02 07 58.2**	**+8.8**
	4.6nm,0.5s						
ROSF	**Rostrenen**	**5.65**	**340**	*e*Pn	**Pn**	**02 06 28.9**	**-1.6**
ROSF	**Rostrenen**	**5.65**	**340**	*e*Pg	**Pb**	**02 06 49.5**	**+4.2**
ROSF				*e*Sn	**Sn**	**02 07 28.2**	**-6.9**
ROSF				*e*Sg	**Sb**	**02 08 01.3**	**+8.5**
	1.8nm,0.4s						
FLN	**La Foliniere**	**5.69**	**359**	*e*Pn	**Pn**	**02 06 28.1**	**-3.0**
	baz=180						
FLN				*e*Sn	Sn	02 07 28.9	-7.3
FLN				*e*Sg	**Sg**	**02 08 03.5**	**-6.2**
	3.1nm,0.4s						
CABF	**La Chapelle**	**5.79**	**50**	*e*P	**Pn**	**02 06 35.2**	**+2.6**
CABF	**La Chapelle**	**5.79**	**50**	*e*Pg	Pb	02 06 53.5	+5.7
CABF				*e*Sn	**Sn**	**02 07 34.1**	**-4.7**
CABF				*e*Sg	**Sg**	**02 08 07.5**	**-5.3**
	0.4nm,0.3s						

*NIED **30** 02:15:13.7, 33.°02N×131.°22E, h7km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr~1.90; Mθθ5.81; Mϕϕ~3.90; Mrθ~2.03; Mθϕ~0.96; Mϕr~0.02: Fault plane solution: Mo5.21000×10^14^ NP1: ϕs322.00000°, δ75.00000°, λ5.00000°. NP2:ϕs231.00000°, δ86.00000°, λ165.00000°.*
*JMA **30** 02:15:13.7, 33.°01N×131.°22E, h7km±1km, M3.5*
JMA Felt III J1.
*IDC **30** 02:15:14.1±2.5, 33.°01N×131.°20E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/56, mbtmp3.4/4, ML2.9/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/63, Error ellipse: s-maj=33.1km s-min=12.0km az=7.0*
ISC 30 02:15:15.1±1.1, 32.°97N±0.°07×131.°23E±0.°04, h12km, n9, σ2s14/13, 1C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.34**	**298**	Pg	**Pg**	**02 15 19.6**	**-2.4**
	639nm,0.3s,baz=93,slow=12,SNR=1211						
JNU				Lg	Lg	02 15 24.1	
	baz=195,slow=19						
JNU	**Nakatsue**	**0.34**	**298**	⇓P	**Pg**	**02 15 19.8**	**-2.1**
JNU				*e*S	**Sg**	**02 15 24.3**	**-2.2**
JUS	**Usuki**	**0.45**	**77**	⇓P	**Pg**	**02 15 22.2**	**-1.8**
JUS				*e*S	**Sg**	**02 15 28.7**	**-1.2**
JIU3	**Izumi3**	**0.55**	**220**	⇑P	**Pg**	**02 15 24.8**	**-1.0**
JTA	**Tamana**	**0.59**	**270**	⇓P	**Pg**	**02 15 25.0**	**-1.6**
KSRS	**Korea Array**	**5.23**	**330**	Pn	**Pn**	**02 16 32.8**	**-0.3**
	0.4nm,0.3s,baz=152,slow=14,SNR=1.8						
KSRS				Pg	**Pb**	**02 16 48.9**	**+2.3**
	0.4nm,0.3s,baz=147,slow=16,SNR=2.4						
KSRS				Sn	**Sn**	**02 17 36.5**	**+3.1**
	0.4nm,0.3s,baz=148,slow=29,SNR=4.6						
KSRS				Lg	Lg	02 17 56.4	
	0.9nm,0.3s,baz=155,slow=30,SNR=5.9						
MJAR	**Matsushiro Arr**	**6.76**	**56**	Pn	**Pn**	**02 16 54.3**	**+0.1**
	0.2nm,0.3s,baz=236,slow=13,SNR=5.7						
KLR	**Kul'dur**	**16.25**	**1**	Pn	**Pn**	**02 19 01.5**	**-1.7**
	0.1nm,0.3s,baz=167,slow=18,SNR=2.2						
KLR				LR	LR	02 25 17.3	
	comp=Z,230nm,20.5s,baz=63,slow=37						
SONM	**Songino Array**	**23.91**	**316**	P	**P**	**02 20 31.0**	**+2.1**
	0.8nm,0.6s,baz=102,slow=14,SNR=3.3						

*SOME **30** 02:18:08.0, 37.°97N×72.°13E, h35km*
*IDC **30** 02:18:14.9±0.9, 37.°81N×72.°69E, h0km, mb3.7/16, mb1 3.8/23, mb1mx3.7/52, mbtmp3.7/23, ML3.1/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/93, Error ellipse: s-maj=18.0km s-min=15.6km az=175.0*
*NNC **30** 02:18:24.7±4.0, 38.°37N×71.°96E, h0km, mb4.3, mpv3.7, Error ellipse: s-maj=37.7km s-min=25.1km az=8.0*
ISC 30 02:18:16.6±0.6, 37.74N±0.°05×72.°36E±0.°05, h10km, n45, σ2s63/65, mb3.8/15, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.92**	**186**	P	**Pb**	**02 19 26.7**	**+0.8**
CHCP	**Chirah Chowk**	**4.13**	**169**	P	**Pb**	**02 19 27.8**	**-1.7**
IUG	**Iuzhnay**	**4.75**	**339**	*e*P	**Pn**	**02 19 30.2**	**+1.8**
	1μm,1.0s						
IUG				*e*S	**Sn**	**02 20 25.6**	**+1.9**
	176nm,1.2s						
AAK	**Ala-Archa**	**5.16**	**18**	Pn	**Pn**	**02 19 34.3**	**+0.3**
	0.5nm,0.3s,baz=224,slow=5.6,SNR=6.6						
AAK				Sn	**Sn**	**02 20 33.5**	**-0.3**
	0.9nm,0.3s,baz=189,slow=19,SNR=1.5						
AAK				Lg	Lg	02 20 57.2	
	0.8nm,0.3s,baz=28,slow=15,SNR=3.8						
KK31	**Karatay Array**	**5.54**	**346**	Pn	**Pn**	**02 19 40.3**	**+1.1**
	6.6nm,0.5s,baz=158,slow=12,SNR=171						
KK31				⇓Lg	Lg	02 21 01.3	
	21nm,0.6s,baz=168,slow=30,SNR=3.8						
BRLS	**Borolday**	**5.63**	**341**	*e*P	**Pn**	**02 19 43.4**	**+3.0**
	6.6nm,0.5s						
BRLS				*e*S	**Sn**	**02 20 48.2**	**+3.2**
	17nm,0.7s						
TKM2	**Tokmak 2**	**5.74**	**25**	⇑Pn	**Pn**	**02 19 45.4**	**+3.3**
	8.7nm,0.8s						
TKM2				⇑Lg	Lg	02 21 12.2	
	20nm,0.8s						
SGDS	**Sogindy**	**5.96**	**16**	*e*P	**Pb**	**02 19 57.5**	**-3.2**
	16nm,0.9s						
SGDS				*e*S	**Sb**	**02 21 12.0**	**-0.2**
	11nm,0.9s						
DGS	**Degeres**	**6.08**	**24**	*e*P	**Pb**	**02 19 59.4**	**-3.4**
	24nm,0.7s						
DGS				*e*S	**Sb**	**02 21 15.4**	**-0.2**
	14nm,1.0s						
IZV	**Izvestkoviy**	**6.21**	**30**	*e*P	**Pb**	**02 20 02.7**	**-2.3**
	27nm,0.4s						
IZV				*e*S	**Sb**	**02 21 20.9**	**+1.6**
	23nm,0.7s						
MTBS	**Maitube**	**6.22**	**29**	*e*P	**Pb**	**02 20 02.2**	**-2.8**
	6.9nm,0.3s						
MTBS				*e*S	**Sb**	**02 21 20.4**	**+0.9**
	17nm,0.7s						
TNSS	**Tian-Shan**	**6.35**	**32**	*e*P	**Pb**	**02 20 05.0**	**-2.4**
	7.5nm,0.6s						
TNSS				*e*S	**Sb**	**02 21 24.8**	**+1.3**
	9.9nm,0.6s						
KRBS	**Karabastau**	**6.46**	**22**	*e*P	**Pb**	**02 20 07.0**	**-2.2**
	6.4nm,0.5s						
KRBS				*e*S	**Sb**	**02 21 27.9**	**+1.3**
	6.3nm,1.0s						
MDOK	**Medeo**	**6.49**	**32**	*e*P	**Pb**	**02 20 07.9**	**-1.9**
	10nm,0.9s						
MDOK				*e*S	**Sb**	**02 21 29.6**	**+2.2**
	21nm,0.6s						
KOTS	**Kotyrbulak**	**6.58**	**32**	*e*P	**Pb**	**02 20 09.5**	**-1.7**
	7.2nm,0.5s						
KOTS				*e*S	**Sb**	**02 21 32.0**	**+2.1**
	37nm,0.8s						
KTBS	**Karatobe**	**6.81**	**27**	*e*P	**Pb**	**02 20 14.7**	**-0.4**
	8.6nm,0.4s						
KTBS				*e*S	**Sb**	**02 21 41.0**	**+4.6**
	19nm,0.9s						
KUU	**Kurty**	**6.85**	**25**	*e*P	**Pb**	**02 20 15.5**	**-0.2**
	6.8nm,0.5s						
KUU				*e*S	**Sb**	**02 21 42.4**	**+4.9**
	15nm,0.5s						
CHKK	**Chushkaly**	**7.05**	**28**	*e*P	**Pb**	**02 20 19.4**	**+0.3**
	4.9nm,0.3s						
CHKK				*e*S	**Sb**	**02 21 49.0**	**+5.7**
	9.3nm,0.6s						
BTLS	**Baital**	**7.41**	**9**	*e*P	**Pb**	**02 20 24.1**	**-1.1**
	3.4nm,0.4s						
BTLS				*e*S	**Sb**	**02 21 57.3**	**+3.8**
	9.3nm,0.8s						
UZB	**Uzynbulak**	**7.42**	**41**	*e*P	**Pb**	**02 20 26.5**	**+1.1**
	10nm,0.4s						
UZB				*e*S	**Sb**	**02 22 01.3**	**+7.4**
	9.6nm,1.4s						
KPKS	**Kokpek**	**7.47**	**38**	*e*P	**Pb**	**02 20 24.9**	**-1.5**
	7.8nm,0.5s						
KPKS				*e*S	**Sb**	**02 21 58.7**	**+3.1**
	17nm,0.4s						
GEYT	**Alibeck**	**11.27**	**275**	Pn	**Pn**	**02 20 59.4**	**+1.7**
	0.8nm,0.3s,baz=95,slow=12,SNR=4.3						
GEYT				Sn	**Sn**	**02 23 02.8**	**-1.0**
	0.2nm,0.3s,baz=30,slow=36,SNR=2.0						
GEYT				LR	LR	02 26 26.2	
	comp=Z,83nm,19.1s,baz=131,slow=43						
MKAR	**Makanchi Array**	**11.65**	**36**	Pn	**Pn**	**02 20 59.6**	**-3.4**
	0.1nm,0.3s,baz=223,slow=14,SNR=1.6						
KURBB	**Kurchatov Arra**	**13.62**	**17**	Pn	**Pn**	**02 21 26.6**	**-3.1**
	0.0nm,0.3s,baz=210,slow=12,SNR=1.8						
KURBB				Lg	Lg	02 25 12.9	
	0.0nm,0.3s,baz=174

s-min=19.7km az=79.0
ISC 30 02:49:06.0±1.4,**29°79S**±0.02×**72°07W**±0.04,**h6**km,**s8**km,
n213,σ1§**56**/228,**mb4.8**/29,**MS4.0**/14,**4C-6D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.73**	**100**		**Pg**	**02 49 20.7**	**+0.7**
CO05	**La Serena**	**0.73**	**100**	⇓*iP*	**Pg**	**02 49 20.7**	**+0.7**
CO05				*i* S	**Sg**	**02 49 29.8**	**+0.3**
CO05				IAML		02 49 33.7	
	comp=N,55μm,0.4s						
CO06	**Fray Jorge**	**0.96**	**157**	Pg	**Pb**	**02 49 24.7**	**-0.4**
CO06	**Fray Jorge**	**0.96**	**157**	⇓*iP*	**Pb**	**02 49 24.3**	**-0.7**
CO06				*i* S	**Sb**	**02 49 37.2**	**-0.8**
GO04	**Tololo Observa**	**1.16**	**109**		**Pb**	**02 49 28.0**	**-0.7**
GO04	**Tololo Observa**	**1.16**	**109**	⇓*iP*	**Pb**	**02 49 27.9**	**-0.9**
GO04				*i* S	**Sb**	**02 49 42.1**	**-2.0**
LCO	**Las Campanas**	**1.42**	**57**	*i*P	**Pn**	**02 49 32.1**	**-0.6**
LCO	**Las Campanas**	**1.42**	**57**	⇑*iP*	**Pn**	**02 49 32.3**	**-0.4**
LCO				*i* S	**Sn**	**02 49 51.3**	**-0.6**
LCO	**Las Campanas**	**1.42**	**57**	*e*P	**Pn**	**02 49 32.0**	**-0.7**
CO02	**Combarbal**	**1.68**	**147**		**Pn**	**02 49 36.1**	**-0.1**
CO02	**Combarbal**	**1.68**	**147**	⇑*iP*	**Pn**	**02 49 36.4**	**+0.2**
CO02				*i* S	**Sn**	**02 49 57.5**	**-0.7**
CO02				IAML		02 50 03.6	
	comp=N,31μm,0.6s						
CO02	**Combarbal**	**1.68**	**147**	*e*P	**Pn**	**02 49 36.0**	**-0.1**
CO02				*e*P	**Pn**	**02 49 36.4**	**+0.2**
CO02				*e*S	**Sb**	**02 49 58.6**	**-0.4**
CO02				IAML		02 50 05.3	
	comp=Z,15μm,0.8s						
CO01	**Juntas del Tor**	**1.72**	**97**		**Pn**	**02 49 37.2**	**+0.4**
CO01	**Juntas del Tor**	**1.72**	**97**	⇓*iP*	**Pn**	**02 49 37.2**	**+0.4**
CO01				*i* S	**Sn**	**02 49 59.3**	**0.0**
CO01				IAML		02 50 05.7	
	comp=N,9μm,0.4s						
CO01	**Juntas del Tor**	**1.72**	**97**	*e*P	**Pn**	**02 49 37.5**	**+0.7**
CO01				*e*S	**Sn**	**02 49 54.1**	**-5.2**
CO01				IAML		02 50 03.9	
	comp=Z,8μm,0.8s						
AC04	**Llanos de Chal**	**1.80**	**29**		**Pn**	**02 49 36.6**	**-1.1**
AC04	**Llanos de Chal**	**1.80**	**29**	⇑*iP*	**Pn**	**02 49 36.6**	**-1.1**
AC04	**Llanos de Chal**	**1.80**	**29**	*e*P	**Pn**	**02 49 36.0**	**-1.7**
AC04				*e*S	**Sg**	**02 50 07.4**	**+3.4**
AROD	**Rodeo**	**2.28**	**100**	*e*P	**Pb**	**02 49 47.0**	**-0.8**
AROD				*e*P	**Pb**	**02 49 47.0**	**-0.8**
AROD				*e*S	**Sg**	**02 50 18.6**	**-0.7**
ACDV	**Cuesta del Vie**	**2.58**	**99**	*e*P	**Pb**	**02 49 52.0**	**-0.9**
ACDV				*e*S	**Sg**	**02 50 28.9**	**-0.1**
ACCO	**Cerro Coronel**	**2.72**	**108**	*e*P	**Pb**	**02 49 54.0**	**-1.3**
ACCO				*e*S	**Sg**	**02 50 33.2**	**-0.1**
GO03	**Copiap**	**2.72**	**37**		**Pn**	**02 49 49.7**	**-0.7**
GO03	**Copiap**	**2.72**	**37**	*e*P	**Pn**	**02 49 49.9**	**-0.4**
GO03				*i* S	**Sn**	**02 50 23.2**	**-0.3**
GO03				IAML		02 50 41.8	
	comp=E,3μm,0.6s						
GO03	**Copiap**	**2.72**	**37**	*e*P	**Pn**	**02 49 50.1**	**-0.2**
GO03				*e*P	Pb	02 49 52.0	-3.1
GO03				*e*S	**Sb**	**02 50 28.1**	**-0.6**
VA06	**Catapilco**	**2.84**	**167**		**Pn**	**02 49 51.5**	**-0.4**
AC06	**Mina Casimiro**	**2.85**	**32**		**Pn**	**02 49 51.4**	**-0.8**
AC06	**Mina Casimiro**	**2.85**	**32**	⇑*iP*	**Pn**	**02 49 52.0**	**-0.2**
RTLS	**Leoncito**	**3.11**	**131**	*e*P	**Pn**	**02 49 59.0**	**+3.0**
RTLS				*e*S	**Sb**	**02 50 38.6**	**-1.7**
RTLS				IAML		02 50 55.7	
	comp=Z,3μm,0.8s						
VA03	**San Esteban**	**3.23**	**157**		**Pn**	**02 49 58.5**	**+1.0**
VA03	**San Esteban**	**3.23**	**157**	*e*P	**Pn**	**02 49 58.6**	**+1.0**
VA03				IAML		02 50 54.6	
	comp=N,4μm,0.3s						
VA03	**San Esteban**	**3.23**	**157**	*e*P	**Pn**	**02 49 58.6**	**+1.1**
VA03				*e*P	Pb	02 49 59.0	-5.0
VA03				*e*S	**Sb**	**02 50 43.1**	**-0.6**
VA03				IAML		02 50 57.7	
	comp=Z,3μm,0.8s						
VA01	**Torpederas**	**3.24**	**174**	Pn	**Pn**	**02 49 56.9**	**-0.6**
VA01	**Torpederas**	**3.24**	**174**	IAML		02 50 59.3	
	comp=E,966nm,0.4s						
ROCH	**El Roble**	**3.30**	**164**	*e*P	**Pn**	**02 49 58.5**	**0.0**
ROCH				IAML		02 50 59.9	
	comp=N,6μm,0.7s						
ROC1	**El Roble**	**3.30**	**164**		**Pn**	**02 49 57.2**	**-1.3**
ROC1	**El Roble**	**3.30**	**164**	*e*P	**Pn**	**02 49 56.1**	**-2.4**
ROC1				*e*S	**Sn**	**02 50 38.7**	**+0.5**
AUSP	**Uspallata**	**3.34**	**137**	*e*P	**Pn**	**02 50 02.0**	**+2.9**
AUSP				*e*S	**Sb**	**02 50 49.1**	**+2.2**
ZON	**Zonda**	**3.40**	**122**		**Pn**	**02 50 01.7**	**+2.0**
ZON	**Zonda**	**3.40**	**122**	*e*P	**Pn**	**02 49 58.6**	**-1.1**
ZON				*e*P	Pb	02 50 03.6	-3.2
ZON				*e*S	**Sb**	**02 50 50.1**	**+1.7**
VCA	**Vinchina**	**3.53**	**74**	*e*P	Pb	02 50 06.0	-3.1
VCA				*e*S	**Sb**	**02 50 50.1**	**-2.2**
VCA				IAML		02 51 07.4	
	comp=Z,3μm,1.2s						
PEL	**Peldehue**	**3.54**	**161**		**Pn**	**02 50 01.4**	**-0.3**
PEL	**Peldehue**	**3.54**	**161**	*e*P	**Pn**	**02 50 01.9**	**+0.2**
PEL				*i* S	**Sn**	**02 50 43.3**	**-0.7**
PEL				IAML		02 51 08.0	
	comp=E,2μm,0.6s						
PEL	**Peldehue**	**3.54**	**161**	*e*P	**Pn**	**02 50 02.0**	**+0.2**
PEL				*e*S	**Sb**	**02 50 52.6**	**+0.1**
PEL				*e*S	Sb	02 51 03.9	+11
MT02	**Curacav**	**3.55**	**167**		**Pn**	**02 50 00.4**	**-1.3**
MT02	**Curacav**	**3.55**	**167**	*e*P	**Pn**	**02 50 01.9**	**+0.2**
MT02				*e*P	Pb	02 50 02.0	-7.2
MT02				*e*S	**Sb**	**02 50 49.6**	**-3.0**
MT02				IAML		02 51 11.2	
	comp=Z,1μm,1.2s						
MT05	**Renca**	**3.77**	**163**	Pn	**Pn**	**02 50 04.8**	**0.0**
MT05	**Renca**	**3.77**	**163**	*e*P	**Pn**	**02 50 05.0**	**+0.3**
MT05				*i* S	**Sn**	**02 50 48.9**	**-0.5**
MT05	**Renca**	**3.77**	**163**	*e*P	**Pn**	**02 50 06.0**	**+1.2**
MT05				*e*S	**Sn**	**02 50 51.9**	**+2.5**
MT05				IAML		02 51 09.3	
	comp=Z,2μm,0.9s						
FCH	**Farellones**	**3.84**	**157**	⇓*iP*	**Pn**	**02 50 07.2**	**+1.2**
AC01	**Pan de Azucar**	**3.85**	**20**	Pn	**Pn**	**02 50 03.8**	**-2.2**
AC01	**Pan de Azucar**	**3.85**	**20**	*e*P	**Pn**	**02 50 04.0**	**-1.9**
AC01				*e*S	**Sb**	**02 51 02.6**	**+1.2**
VA05	**Santo Domingo**	**3.87**	**174**		**Pn**	**02 50 05.4**	**-0.8**
AC02	**Maricunga**	**3.92**	**42**		**Pn**	**02 50 07.2**	**0.0**
AC02	**Maricunga**	**3.92**	**42**	*e*P	Pn	02 50 02.6	-4.6
AC02				*e*P	**Pn**	**02 50 07.9**	**+0.6**
AC02				*e*S	**Sn**	**02 50 58.1**	**+4.2**
AC02				*e*S	**Sb**	**02 51 03.6**	**-0.2**
AC02				IAML		02 51 15.3	
	comp=Z,2μm,0.9s						
MT03	**Universidad Ad**	**3.92**	**161**		**Pn**	**02 50 07.1**	**+0.1**
MT03	**Universidad Ad**	**3.92**	**161**	*e*P	Pn	02 50 02.6	-4.3
MT03				*e*P	**Pn**	**02 50 08.9**	**+1.9**
MT03				*e*P	**Pn**	**02 50 09.0**	**+2.0**
MT03				IAML		02 51 15.8	
	comp=Z,3μm,0.8s						
ASAL	**Salagasta**	**3.93**	**136**	*e*P	**Pn**	**02 50 11.0**	**+3.9**
ASAL				*e*S	**Sg**	**02 51 19.1**	**+6.8**
ARCO	**CERRO ARCO**	**4.05**	**139**	*e*P	**Pn**	**02 50 11.7**	**+2.9**
ARCO				*e*S	**Sg**	**02 51 12.6**	**-3.6**
ARCO				IAML		02 51 25.9	
	comp=Z,1μm,0.8s						
MT09	**Talagante**	**4.08**	**167**		**Pn**	**02 50 08.7**	**-0.5**
MT09	**Talagante**	**4.08**	**167**	⇓*iP*	**Pn**	**02 50 09.6**	**+0.5**
AVFE	**Valle Fertil**	**4.08**	**103**	*e*P	**Pn**	**02 50 11.4**	**+2.3**
AVFE				IAML		02 51 27.0	
	comp=Z,676nm,0.6s						
MT01	**Popeta**	**4.12**	**171**		**Pn**	**02 50 09.3**	**-0.3**
MT01	**Popeta**	**4.12**	**171**	*e*P	**Pn**	**02 50 09.0**	**-0.6**
MT01				*e*P	**Pn**	**02 50 09.6**	**+0.1**
MT01				*e*S	**Sb**	**02 51 09.6**	**+0.6**
MT01				IAML		02 51 24.0	
	comp=Z,952nm,0.6s						
AAGR	**Agrelo**	**4.29**	**141**	*e*P	**Pn**	**02 50 16.0**	**+3.9**
BO04	**La Punta**	**4.37**	**164**		**Pn**	**02 50 13.5**	**+0.5**
ACLC	**CERRO LA CRUZ**	**4.47**	**87**	*e*P	**Pn**	**02 50 16.0**	**+1.5**
ACLC				IAML		02 51 33.3	
	comp=Z,2μm,0.9s						
BO01	**Tunca**	**4.66**	**170**	Pn	**Pn**	**02 50 16.7**	**-0.3**
BO01	**Tunca**	**4.66**	**170**	*e*S	**Sn**	**02 51 11.4**	**-0.1**
ACHE	**Chepes**	**4.86**	**108**	*e*P	**Pn**	**02 50 21.7**	**+1.9**
GO02	**Mina Guanaco**	**5.11**	**26**	Pn	**Pn**	**02 50 21.0**	**-2.4**
GO02	**Mina Guanaco**	**5.11**	**26**	*e*P	**Pn**	**02 50 22.9**	**-0.5**
GO02				*i* S	**Sb**	**02 51 41.5**	**+3.7**
GO02				IAML		02 51 59.0	
	comp=N,2μm,0.8s						
PB14	**IPOC Station P**	**5.35**	**16**		**Pn**	**02 50 24.1**	**-2.7**
PB14	**IPOC Station P**	**5.35**	**16**	*e*P	**Pn**	**02 50 27.2**	**+0.4**
PB14				*i* S	**Sb**	**02 51 47.3**	**+2.5**
PB14				IAML		02 52 16.0	
	comp=E,194nm,0.5s						
PB10	**IPOC Station P**	**6.40**	**13**	*e*P	**Pn**	**02 50 45.0**	**+4.1**
PB10				*i* S	**Sg**	**02 52 28.7**	**-2.7**
PB10				IAML		02 52 41.4	
	comp=N,109nm,0.4s						
H03N1	**Juan Fernandez**	**6.88**	**236**	T	T	02 58 23.4	
	baz=65,slow=72,SNR=2321						
H03N2	**Juan Fernandez**	**6.89**	**236**	T	T	02 58 21.8	
	baz=65,slow=72,SNR=2698						
H03N3	**Juan Fernandez**	**6.90**	**236**	T	T	02 58 20.5	
	baz=65,slow=72,SNR=1918						
PB06	**IPOC Station P**	**7.40**	**18**	*e*P	Pb	02 51 10.5	-4.5
PB06				*i* S	**Sb**	**02 52 39.7**	**-4.0**
PB06				IAML		02 53 06.4	
	comp=N,207nm,0.7s						
AF01	**San Pedro de A**	**7.65**	**28**	*e*P	Pb	02 51 11.6	-7.7
AF01				*i* S	**Sb**	**02 52 49.6**	**-1.3**
LVC	**Limon Verde**	**7.69**	**22**	P	**Pn**	**02 50 57.2**	**-1.8**
	comp=N,0.8nm,0.3s,baz=186,slow=9.4,SNR=8.8						
LVC				S	**Sn**	**02 52 22.2**	**-4.5**
	comp=N,2.5nm,0.3s,baz=164,slow=12,SNR=1.7						
LVC	**Limon Verde**	**7.69**	**22**	*e*P	**Pn**	**02 50 57.5**	**-1.5**
PB02	**IPOC Station P**	**8.66**	**14**	Pn	**Pn**	**02 51 10.2**	**-1.9**
PLCA	**Paso Flores**	**10.99**	**174**	P	**Pn**	**02 51 43.9**	**0.0**
	comp=N,0.6nm,0.3s,baz=336,slow=12,SNR=18						
PLCA				S	Sn	02 54 12.1	+25
	comp=N,0.0nm,0.3s,baz=313,slow=19,SNR=1.0						
PLCA				LR	LR	02 56 34.0	
	comp=N,402nm,19.1s,baz=352,slow=39						
PLCA	**Paso Flores**	**10.99**	**174**		**Pn**	**02 51 43.5**	**-0.4**
PLCA	**Paso Flores**	**10.99**	**174**	*e*P	**Pn**	**02 51 43.7**	**-0.2**
PB16	**IPOC Station P**	**11.64**	**12**		**Pn**	**02 51 52.9**	**-0.5**
TRQA	**Tornquist**	**11.75**	**137**	Pn	**Pn**	**02 51 53.9**	**-0.3**
TRQA	**Tornquist**	**11.75**	**137**	*e*P	**Pn**	**02 51 54.1**	**-0.1**
ITQB	**Itaqui**	**13.42**	**93**	Pn	**Pn**	**02 52 16.9**	**-0.2**
ITQB	**Itaqui**	**13.42**	**93**	*e*P	**Pn**	**02 52 16.8**	**-0.2**
CPUP	**Villa Florida**	**13.46**	**79**	P	**Pn**	**02 52 18.8**	**+1.2**
	comp=N,0.1nm,0.3s,baz=245,slow=14,SNR=6.9						
CPUP				S	**Sn**	**02 54 46.3**	**-1.4**
	comp=N,0.3nm,0.3s,baz=284,slow=17,SNR=1.9						
CPUP				LR	LR	02 57 49.1	
	comp=N,850nm,20.4s,baz=260,slow=40						
CPUP	**Villa Florida**	**13.46**	**79**		**Pn**	**02 52 17.7**	**+0.1**
CPUP	**Villa Florida**	**13.46**	**79**	*e*P	**Pn**	**02 52 17.9**	**+0.2**
LPAZ	**La Paz**	**13.92**	**16**	P	**Pn**	**02 52 25.0**	**+0.5**
	comp=N,0.2nm,0.3s,baz=172,slow=12,SNR=12						
LPAZ				S	**Sn**	**02 55 06.2**	**+6.4**
	comp=N,0.1nm,0.3s,baz=76,slow=17,SNR=2.4						
LPAZ				LR	LR	02 58 45.5	
	comp=N,390nm,21.0s,baz=184,slow=42						
LPAZ	**La Paz**	**13.92**	**16**		**Pn**	**02 52 24.1**	**-0.4**
LPAZ	**La Paz**	**13.92**	**16**	*e*P	**Pn**	**02 52 26.7**	**+2.2**
AY01	**Puyuhuapi**	**14.61**	**182**	Pn	**Pn**	**02 52 31.1**	**-2.2**
COYC	**Coyhaique**	**15.76**	**180**	Pn	**Pn**	**02 52 48.5**	**-0.1**
COYC				IAmb	IAmb	02 53 02.4	
	comp=Z,35nm,0.9s						
PLTB	**Pedras Altas**	**15.99**	**102**	*e*P	**Pn**	**02 52 50.2**	**-1.5**
CPSB	**Cacapava Do Su**	**16.14**	**97**	*e*P	**Pn**	**02 52 53.5**	**0.0**
AQDB	**Aquidauana**	**17.46**	**62**	Pn	**Pn**	**02 53 07.9**	**-2.5**
AQDB	**Aquidauana**	**17.46**	**62**	*e*P	**Pn**	**02 53 10.9**	**+0.5**
ITAB	**Concordia**	**17.70**	**87**	P	**Pn**	**02 53 12.7**	**-0.6**
ITAB				IAmb	IAmb	02 53 32.3	
	comp=Z,66nm,1.2s						
ITAB	**Concordia**	**17.70**	**87**	*e*P	**Pn**	**02 53 12.5**	**-0.8**
PTGB	**Pitanga**	**18.48**	**79**	*e*P	**Pn**	**02 53 23.4**	**+0.4**
PTLB	**Pontes e Lacer**	**18.58**	**43**	*e*P	**P**	**02 53 23.6**	**-0.4**
TRCB	**Terra Rica**	**18.75**	**73**	*e*P	**Pn**	**02 53 27.0**	**+0.8**
VILB	**Vilhena**	**20.04**	**36**	*e*P	**P**	**02 53 40.4**	**+0.4**
TER01	**Tubaro-SC**	**20.07**	**92**	*e*P	**P**	**02 53 39.9**	**-0.3**
PCMB	**Pacaembu**	**20.42**	**71**	*e*P	**P**	**02 53 43.6**	**-0.5**
SALV	**Santo Antonio**	**20.43**	**51**	*e*P	**P**	**02 53 43.5**	**-0.6**
ETMB	**Extrema**	**20.61**	**17**	*e*P	Pn	02 53 47.8	-0.6
FRTB	**Fartura**	**21.11**	**78**	*e*P	**P**	**02 53 51.3**	**-0.3**
MG05	**Puerto Natales**	**21.87**	**181**	P	**P**	**02 53 58.8**	**-0.6**
CZSB	**Cruzeiro do Su**	**21.95**	**358**	*e*P	**P**	**02 54 01.9**	**+1.2**
ITRB	**Iturama**	**22.09**	**68**	*e*P	**P**	**02 54 00.7**	**-1.4**
PET01	**Itanhaem-SP**	**22.73**	**82**	*e*P	**P**	**02 54 08.0**	**-0.9**
BB19B	**Bebedouro**	**22.93**	**73**	*e*P	**P**	**02 54 10.8**	**-0.3**
PDRB	**Porto dos Gac**	**23.04**	**41**	*e*P	**P**	**02 54 10.8**	**-1.4**
VAO	**Valinhos**	**23.45**	**79**	*e*P	**P**	**02 54 14.8**	**-1.7**
CLDB	**Colider**	**24.17**	**42**	*e*P	**P**	**02 54 21.9**	**-1.4**
USHA	**Ushuaia**	**25.16**	**175**	P	**P**	**02 54 37.4**	**+5.4**
	comp=Z,18nm,0.9s,baz=278,slow=5.0,SNR=4.0						
TBTG	**Tabatinga, AM**	**25.55**	**5**	*e*P	**P**	**02 54 36.9**	**+1.1**
MAN01	**Angra dos Reis**	**26.07**	**81**	*e*P	**P**	**02 54 40.6**	**0.0**
BDFB	**Brasilia**	**26.20**	**63**	P	**P**	**02 54 40.4**	**-1.5**
	comp=Z,13nm,0.9s,baz=247,slow=6.6,SNR=13						
BDFB				LR	LR	03 05 24.5	
	comp=Z,183nm,20.9s,baz=328,slow=38						
BDFB	**Brasilia**	**26.20**	**63**	P	**P**	**02 54 40.4**	**-1.5**
BDFB				IAmb	IAmb	02 54 42.9	
	comp=Z,23nm,1.1s						
SNDB	**Serra Nova Dou**	**26.20**	**52**	*e*P	**P**	**02 54 41.4**	**-0.4**
VAS01	**Vassouras-RJ**	**26.73**	**81**	*e*P	**P**	**02 54 46.0**	**-0.6**
PEXB	**Peixe**	**28.22**	**56**	*e*P	**P**	**02 54 59.1**	**-0.8**
DIAM	**Diamantina, MG**	**28.26**	**73**	*e*P	**P**	**02 55 00.0**	**-0.4**
JANB	**Januaria**	**29.45**	**66**	*e*P	**P**	**02 55 10.0**	**-0.8**
ITTB	**Itaituba**	**29.63**	**35**	*e*P	**P**	**02 55 11.8**	**-0.6**
ALF01	**Guarapari-ES**	**29.71**	**79**	*e*P	**P**	**02 55 12.2**	**-0.9**
SJMB	**Sao Joao De Ma**	**30.15**	**76**	*e*P	**P**	**02 55 16.6**	**-0.4**
SDBA	**SAO DESIDERIO**	**30.56**	**61**	*e*P	**P**	**02 55 20.1**	**-0.6**
SMTB	**Santa Maria do**	**30.96**	**53**	*e*P	**P**	**02 55 23.6**	**-0.7**
NAN01	**Guarapari, ES**	**31.44**	**75**	*e*P	**P**	**02 55 27.3**	**-1.1**
PRPB	**Parauapebas**	**31.49**	**46**	*e*P	**P**	**02 55 29.2**	**+0.4**
GUA01	**Guaratinga, BA**	**32.31**	**73**	*e*P	**P**	**02 55 36.2**	**0.0**
MALB	**Monte Alegre**	**32.53**	**35**	*e*P	**P**	**02 55 37.2**	**-0.8**
RPN	**Rapa Nui**	**32.78**	**265**	LR	LR	03 05 51.9	
	comp=Z,291nm,19.5s,baz=109,slow=30						
CMC01	**Camacan, BA**	**33.17**	**72**	*e*P	**P**	**02 55 42.9**	**-0.7**
BOAV	**Boa Vista**	**33.85**	**21**	*e*P	**P**	**02 55 48.8**	**-0.7**
GDU01	**Guandu, BA**	**34.00**	**69**	*e*P	**P**	**02 55 50.0**	**-0.8**
ROSC	**El Rosal**	**34.50**	**356**	LR	LR	03 09 39.0	
	comp=Z,149nm,19.5s,baz=214,slow=36						
ROSC	**El Rosal**	**34.50**	**356**	P	**P**	**02 55 54.6**	**-0.9**
ROSC				IAmb	IAmb	02 56 01.9	
	comp=Z,10nm,1.1s						
NBPN	**Ponto Novo - B**	**35.15**	**64**	*e*P	**P**	**02 55 59.7**	**-1.1**
TMAB	**Tom-Au,PA,Br**	**35.52**	**44**	*e*P	**P**	**02 56 04.6**	**+0.7**
NBLA	**Lagarto - SE**	**36.97**	**67**	*e*P	**P**	**02 56 15.6**	**-0.9**
NBMA	**Muriti-CE**	**38.41**	**61**	*e*P	**P**	**02 56 28.2**	**-0.5**
NBPS	**Pedro II - PI**	**38.41**	**55**	*e*P	**P**	**02 56 28.3**	**-0.5**
SDV	**Santo Domingo**	**38.48**	**2**	LR	LR	03 13 33.7	
	comp=Z,85nm,19.1s,baz=234,slow=38						
SDV	**Santo Domingo**	**38.48**	**2**	P	**P**	**02 56 28.3**	**-1.0**
SDV	**Santo Domingo**	**38.48**	**2**	*e*P	**P**	**02 56 29.6**	**+0.4**
BAUV	**El Baul**	**38.70**	**6**	P	**P**	**02 56 30.8**	**-0.1**
MDP	**Montagnes des**	**39.38**	**31**	LR	LR	03 14 54.0	
	comp=Z,241nm,18.5s,baz=256,slow=40						
RCBR	**Riachuelo**	**41.58**	**62**	LR	LR	03 16 22.3	
	comp=Z,262nm,20.0s,baz=349,slow=40						
BELA	**Belgrano 2**	**51.02**	**170**	P	**P**	**02 58 08.1**	**-0.3**
VNA3	**Neumayer Olymp**	**53.27**	**159**	P	**P**	**02 58 25.1**	**-0.2**
VNA2	**Neumayer--Watz**	**53.91**	**158**	P	**P**	**02 58 30.6**	**+0.6**
	baz=285,slow=7.0						
SNAA	**Sanae**	**55.50**	**159**	P	**P**	**02 58 42.2**	**+0.7**
SNAA	**Sanae**	**55.50**	**159**	P	**P**	**02 58 42.3**	**+0.8**
	comp=Z,6.9nm,0.8s,baz=282,slow=9.3						
SNAA				LR	LR	03 20 58.3	
	comp=Z,133nm,19.4s,baz=242,slow=34						
SNAA	**Sanae**	**55.50**	**159**	IAmb	IAmb	02 58 42.8	
	comp=Z,19nm,1.2s						
TROLL	**Troll, Antarti**	**57.21**	**159**	P	**P**	**02 58 54.6**	**+0.8**
QSPA	**South Pole Qui**	**60.43**	**180**	P	**P**	**02 59 17.9**	**+1.6**
QSPA				IAmb	IAmb	02 59 27.0	
	comp=Z,11nm,1.1s						
X48A	**Hartselle**	**65.44**	**346**	P	**P**	**02 59 49.2**	**-0.5**
X48A				IAmb	IAmb	02 59 51.4	
	comp=Z,10nm,1.1s						
JCT	**Junction City**	**65.50**	**334**	P	**P**	**02 59 50.9**	**+0.7**
JCT				IAmb	IAmb	03 00 10.2	
	comp=Z,6.1nm,1.0s						
TXAR	**Lajitas Array**	**66.07**	**330**	P	**P**	**02 59 56.1**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=142,slow=51,SNR=2.4						
V48A	**Smith Brothers**	**66.65**	**347**	IAmb	IAmb	02 59 59.2	
	comp=Z,8.9nm,1.1s						
UALR	**University of**	**67.01**	**342**	P	**P**	**02 59 58.8**	**-1.0**
UALR				IAmb	IAmb	03 00 24.6	
	comp=Z,5.5nm,0.9s						
T47A	**Sharon Grove**	**67.91**	**347**	IAmb	IAmb	03 00 07.1	
	comp=Z,11nm,1.1s						
VNDA	**Vanda**	**68.22**	**191**	P	P	03 00 13.3	+6.3
	comp=Z,1.1nm,1.0s,baz=161,slow=2.4,SNR=4.8						
VNDA	**Vanda**	**68.22**	**191**	IAmb	IAmb	03 00 13.5	
	comp=Z,3.6nm,1.2s						
USIN	**University of**	**68.97**	**347**	P	**P**	**03 00 12.4**	**+0.4**
SIUC	**Southern Illin**	**69.05**	**345**	P	**P**	**03 00 12.1**	**-0.4**
SIUC				IAmb	IAmb	03 00 14.2	
	comp=Z,12nm,1.1s						
FVM	**French Village**	**69.58**	**345**	P	**P**	**03 00 16.1**	**+0.3**
FVM				IAmb	IAmb	03 00 17.8	
	comp=Z,11nm,1.2s						
P40A	**Paris**	**71.43**	**344**	P	**P**	**03 00 26.7**	**-0.4**
P40A				IAmb	IAmb	03 00 44.8	
	comp=Z,7.2nm,1.0s						
L40A	**Anamosa**	**73.65**	**345**	IAmb	IAmb	03 00 41.8	
	comp=Z,12nm,1.1s						
DBIC	**Dimbokro**	**73.89**	**72**	P	**P**	**03 00 42.1**	**-0.2**
	comp=Z,5.1nm,0.7s,baz=258,slow=3.4,SNR=6.6						
DBIC				LR	LR	03 31 57.1	
	comp=Z,167nm,18.3s,baz=194,slow=35						
DBIC	**Dimbokro**	**73.89**	**72**	IAmb	IAmb	03 00 51.8	
	comp=Z,16nm,1.1s						
SADO	**Sadowa**	**74.48**	**355**	LR	LR	03 37 47.8	
	comp=Z,58nm,18.4s,baz=226,slow=39						
SMCO	**Snowmass**	**75.93**	**333**	P	**P**	**03 00 55.3**	**+1.2**
SMCO				IAmb	IAmb	03 01 08.0	
	comp=Z,7.1nm,1.2s						
ECSD	**EROS Data Cent**	**76.55**	**342**	P	**P**	**03 00 56.7**	**-0.3**
ECSD				IAmb	IAmb	03 01 00.3	
	comp=Z,5.4nm,1.0s						
O20A	**White River Ci**	**77.26**	**332**	P	**P**	**03 01 01.8**	**+0.4**
O20A				IAmb	IAmb	03 01 04.5	
	comp=Z,12nm,1.4s						
RAR	**Rarotonga**	**77.86**	**252**	LR	LR	03 29 07.8	
	comp=Z,105nm,20.3s,baz=206,slow=30						
K22A	**Casper**	**78.75**	**335**	P	**P**	**03 01 09.8**	**+0.3**
K22A				IAmb	IAmb	03 01 37.0	
	comp=Z,12nm,1.4s						
KOWA	**Kowa**	**78.94**	**66**	P	**P**	**03 01 09.5**	**-1.5**
KOWA				IAmb	IAmb	03 01 11.8	
	comp=Z,10nm,1.0s						
PDAR	**Pinedale Array**	**80.01**	**333**	P	**P**	**03 01 18.4**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=134,slow=4.3,SNR=5.5						
PDAR	**Pinedale Array**	**80.01**	**333**	P	**P**	**03 01 16.1**	**-0.4**
TSUM	**Tsumeb**	**80.41**	**107**	LR	LR	03 33 30.3	
	comp=Z,160nm,18.2s,baz=184,slow=33						
TSUM	**Tsumeb**	**80.41**	**107**	P	**P**	**03 01 18.3**	**-0.9**
BOSA	**Boshof**	**82.06**	**118**	P	**P**	**03 01 27.7**	**-0.1**
	comp=Z,10nm,0.9s,baz=244,slow=5.9,SNR=6.7						
BOSA	**Boshof**	**82.06**	**118**	IAmb	IAmb	03 01 28.

KAPI Kappang 14.39 268 Pn **Pn** **03 03 11.3 +0.4**
SPSI Sidrap Palu 14.40 272 P **Pn** **03 03 12.9 +1.8**
37nm,0.9s
TOLI2 Tolitoli 14.60 293 Pn **Pn** **03 03 13.3 -0.5**
WB0 Warramunga Arr 14.96 179 Pn **Pn** **03 03 18.3 -0.3**
WRAB Tennant Creek 15.12 179 **Pn** **03 03 21.5 +0.7**
WRAB Tennant Creek 15.12 179 P **Pn** **03 03 21.6 +0.8**
WB2 Warramunga Arr 15.13 179 Pn **Pn** **03 03 20.2 -0.7**
WRA Warramunga Arr 15.13 179 Pn **Pn** **03 03 19.1 -1.8**
1.0nm,0.3s,baz=358,slow=13,SNR=26
WRA Sn **Sn** **03 06 02.9 -5.8**
1.8nm,0.3s,baz=360,slow=23,SNR=5.6
WRA LR LR 03 09 45.4
comp=Z,736nm,19.1s,baz=350,slow=39
WRA Warramunga Arr 15.13 179 **Pn** **03 03 20.3 -0.6**
FITZ Fitzroy Crossi 15.71 212 Pn **Pn** **03 03 26.6 -1.9**
FITZ Sn Sn 03 06 12.4 -10
FITZ LR LR 03 10 36.1
comp=Z,536nm,20.9s,baz=30,slow=41
QIS Mount Isa 16.60 162 P **Pn** **03 03 40.0 +0.1**
PLAI Plampang 16.80 255 P **P** **03 03 45.6 +0.9**
904nm87nm,0.9s
PLAI Plampang 16.80 255 P **Pn** **03 03 41.8 -0.7**
KRVT Keravat (AS076 17.78 89 P **P** **03 03 55.4 -0.2**
15nm,0.3s,baz=216,slow=19,SNR=1.7
KRVT LR LR 03 11 20.2
comp=Z,312nm,18.8s,baz=40,slow=39
MYLDM Lahad Datu 18.50 302 P **P** **03 04 02.1 -1.4**
MYLDM IAmb IAmb 03 04 27.9
comp=Z,62nm,1.2s
AS31 Alice Springs 18.84 181 **P** **03 04 06.1 -1.0**
AS31 IAmb IAmb 03 04 29.4
comp=Z,19nm,0.7s
ASAR Alice Springs 18.84 181 P **Pn** **03 04 09.1 +1.4**
comp=Z,2.7nm,0.3s,baz=3.2,slow=13,SNR=67
ASAR S **Sn** **03 07 33.7 -5.0**
comp=Z,0.9nm,0.3s,baz=2.5,slow=28,SNR=3.5
ASAR LR LR 03 12 32.4
comp=Z,1μm,18.6s,baz=9.5,slow=40
ASAR Alice Springs 18.84 181 **P** **03 04 06.7 -0.5**
CTA Charters Tower 19.27 143 P **Pn** **03 04 16.3 +3.5**
comp=Z,1.3nm,0.3s,baz=324,slow=11,SNR=23
CTAO Charters Tower 19.27 143 P **Pn** **03 04 13.1 +0.2**
CTAO IAmb IAmb 03 04 28.5
comp=Z,37nm,0.9s
BBKI Banjar Baru 19.34 273 P **Pn** **03 04 15.6 +1.8**
JAGI Jajag, Banyuwa 20.25 258 P **P** **03 04 22.5 -0.2**
JAGI IAmb IAmb 03 04 31.1
comp=Z,50nm,1.1s
BLJI Banyuglugur 20.69 261 P **P** **03 04 29.3 +1.8**
comp=Z,28nm,0.6s
GUMO Guam 21.05 30 LR LR 03 13 04.3
comp=Z,280nm,18.1s,baz=244,slow=38
MBWA Marble Bar 21.55 219 P **P** **03 04 38.4 +1.8**
PSA00 Pilbara Seismi 21.78 218 P **P** **03 04 40.8 +1.6**
SBUM Sibu 23.08 288 P **P** **03 04 51.5 -1.6**
SBUM IAmb IAmb 03 05 05.9
comp=Z,18nm,1.3s
STKI Sintang 23.18 281 P **P** **03 04 59.9 +5.8**
KSM Kuching 24.64 284 P **P** **03 05 08.3 +0.3**
KSM IAmb IAmb 03 05 16.9
comp=Z,25nm,1.1s
HNR Honiara 25.97 102 LR LR 03 17 27.0
comp=Z,549nm,18.5s,baz=307,slow=41
LEM Lembang 26.52 264 P **P** **03 05 28.9 +3.7**
comp=Z,17nm,0.5s,baz=353,slow=23,SNR=1.5
LEM LR LR 03 18 16.1
comp=Z,356nm,19.4s,baz=148,slow=42
STKA Stephens Creek 27.89 166 P **P** **03 05 40.3 +3.1**
comp=Z,0.9nm,0.3s,baz=328,slow=24,SNR=2.1
STKA LR LR 03 18 30.1
comp=Z,689nm,18.4s,baz=343,slow=40
STKA Stephens Creek 27.89 166 P **P** **03 05 36.7 -0.5**
JOW Kunigami 31.89 350 LR LR 03 19 13.0
comp=Z,348nm,19.4s,baz=124,slow=37
KRJI Kerinci 32.77 273 P **P** **03 06 22.2 +1.5**
QIZ Qiongzhong 33.65 315 P **P** **03 06 28.5 +0.4**
QIZ S **S** **03 11 52.0 +0.9**
QIZ LR LR
comp=N,200nm,13.7s
QIZ LR LR
comp=E,160nm,12.9s
QIZ LR LR
comp=Z,140nm,13.2s
PSI Prapat 36.02 281 LR LR 03 25 05.6
comp=Z,217nm,19.4s,baz=116,slow=42
NJ2 Nanjing 39.38 339 *eP* **P** **03 07 17.3 +0.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
MJAR Matsushiro Arr 41.22 5 LR LR 03 23 12.6
comp=Z,166nm,20.3s,baz=180,slow=34
CMAR Chiang Mai Arr 41.68 305 P **P** **03 07 37.5 +1.3**
comp=Z,1.2nm,0.4s,baz=134,slow=7.3,SNR=9.0
CMAR LR LR 03 28 14.8
comp=Z,55nm,18.9s,baz=140,slow=41
KSRS Korea Array 42.36 353 P **P** **03 07 41.4 0.0**
comp=Z,1.1nm,0.8s,baz=176,slow=10,SNR=4.6
KSRS LR LR 03 27 52.3
comp=Z,85nm,18.3s,baz=185,slow=40
KMI Kunming 42.59 316 ⇑P **P** **03 07 40.8 -3.0**
KMI sP pwP 03 07 55.8 +6.4
KMI pmax pmax
comp=Z,13nm,0.7s
PZH PanZhiHua 44.16 316 P **P** **03 07 57.3 +1.0**
PZH S **S** **03 14 29.8 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
PZH LR LR
comp=N,270nm,19.6s
PZH LR LR
comp=E,320nm,19.6s
PZH LR LR
comp=Z,380nm,21.6s
MSVF Nonsavu 44.79 110 LR LR 03 26 22.9
comp=Z,261nm,19.6s,baz=22,slow=36
XAN Xi'an 45.34 330 P P 03 08 10.5 +5.0
XAN pP pwP 03 08 22.3 +12
XAN pmax pmax
comp=Z,5.0nm,1.0s
USRK Ussuriysk Ar. 48.74 358 P **P** **03 08 32.6 +0.8**
comp=Z,1.8nm,0.7s,baz=176,slow=5.8,SNR=4.5
LZH Lanzhou 49.55 327 *eP* **P** **03 08 40.8 +2.4**
LZH pP pwP 03 08 48.0 +4.4
LZH pmax pmax
comp=Z,19nm,1.4s
LZH LR LR
comp=N,130nm,12.8s
LZH LR LR
comp=E,180nm,17.5s
LZH LR LR
comp=Z,170nm,16.3s
HHC Hu-ho-hao-te 49.87 338 *eP* **P** **03 08 41.3 +0.7**
KLR Kul'dur 53.77 358 LR LR 03 32 30.7
comp=Z,147nm,18.8s,baz=204,slow=37
AFI Afiamalu 53.99 104 LR LR 03 32 15.5
comp=Z,132nm,20.3s,baz=259,slow=36
SONM Songino Array 57.75 338 P **P** **03 09 38.2 0.0**
comp=Z,0.5nm,0.4s,baz=146,slow=8.2,SNR=3.8
SONM Songino Array 57.75 338 IAmb IAmb 03 09 56.5
comp=Z,4.5nm,1.2s
WMQ Urumqi 63.88 324 *eP* **P** **03 10 20.8 +0.7**
MA2 Magadan 65.43 9 LR LR 03 37 31.0
comp=Z,63nm,21.0s,baz=152,slow=35
SHEM Shemya Is, Ala 66.42 25 LR LR 03 34 49.5
comp=Z,79nm,22.0s,baz=220,slow=32
MKAR Makanchi Array 68.71 325 P **P** **03 10 52.6 +1.7**
comp=Z,2.2nm,0.8s,baz=111,slow=8.3,SNR=8.4
ZALV Zalesovo Beam 71.48 332 P **P** **03 11 08.8 +1.1**
comp=Z,0.9nm,0.6s,baz=151,slow=3.3,SNR=1.3
VNDA Vanda 74.23 174 P **P** **03 11 26.6 +3.0**
comp=Z,1.1nm,0.8s,baz=296,slow=5.2,SNR=5.0
VNDA LR LR 03 44 45.7
comp=Z,316nm,18.1s,baz=350,slow=36
VNDA Vanda 74.23 174 IAmb IAmb 03 11 27.9
comp=Z,3.9nm,1.2s
KKAR Karatay Array 74.46 317 P **P** **03 11 24.6 -1.0**
PPT Papeete 75.47 107 LR LR 03 43 57.5
comp=Z,40nm,18.2s,baz=282,slow=35
BRVK Borovoye 78.50 326 P **P** **03 11 47.1 -1.2**
BRVK IAmb IAmb 03 11 57.7
comp=Z,3.8nm,0.8s
MAW Mawson 78.59 202 P **P** **03 11 48.2 -0.3**
NRIK Noril'sk 80.42 345 P **P** **03 11 60.0 +1.6**
comp=Z,2.0nm,0.4s,baz=134,slow=5.9,SNR=5.2
NRIK LR LR 03 52 07.6
comp=Z,173nm,18.1s,baz=147,slow=39
NRIK Noril'sk 80.42 345 P **P** **03 11 57.9 -0.5**
NRIK IAmb IAmb 03 12 06.9
comp=Z,7.5nm,1.1s
UOSS Minazif 81.14 296 P **P** **03 12 00.8 -2.5**
UOSS IAmb IAmb 03 12 14.1
comp=Z,6.6nm,1.0s
SOCY Socotra 81.45 283 P **P** **03 12 03.4 -1.8**
GEYT Alibeck 81.97 309 P **P** **03 12 05.5 -1.9**
GEYT IAmb IAmb 03 12 19.5
comp=Z,11nm,1.2s
ABKAR Akbulak array 83.37 321 P **P** **03 12 13.1 -1.2**
KDAK Kodiak Island 85.12 31 LR LR 03 48 39.6
comp=Z,211nm,18.7s,baz=238,slow=34
QSPA South Pole Qui 85.24 180 LR LR 03 50 38.5
comp=Z,299nm,19.8s,baz=8.0,slow=36
QSPA South Pole Qui 85.24 180 P **P** **03 12 24.3 +0.5**
ILAR Eielson Array 89.53 25 P **P** **03 12 43.9 -0.4**
comp=Z,0.7nm,1.1s,baz=278,slow=5.1,SNR=2.7
ILAR LR LR 03 46 25.1
comp=Z,47nm,20.6s,baz=253,slow=31
INK Inuvik 95.20 22 LR LR 03 55 00.3
comp=Z,53nm,21.2s,baz=47,slow=35
KMBO Kilima Mbogo 96.83 268 LR LR 03 54 11.6
comp=Z,64nm,20.5s,baz=104,slow=34
BBB Bella Bella 98.43 38 LR LR 03 56 33.5
comp=Z,82nm,18.0s,baz=258,slow=35
SNAA Sanae 98.81 193 LR LR 03 57 56.7
comp=Z,197nm,19.0s,baz=194,slow=35
MMAI Mount Meron Ar 99.92 303 LR LR 04 07 16.8
comp=Z,19nm,18.7s,baz=229,slow=40
SPITS Spitsbergen Ar 100.13 349 LR LR 04 06 14.3
comp=Z,32nm,18.0s,baz=275,slow=40
CPUP Villa Florida 147.18 161 PKPbc **PKiKP** **03 19 33.6 0.0**
comp=Z,2.6nm,1.0s,baz=255,slow=8.6,SNR=2.2
CPUP Villa Florida 147.18 161 **PKPdf** **03 19 27.1 -2.0**
LPAZ La Paz 149.61 134 PKPbc **PKiKP** **03 19 40.2 +0.5**
comp=Z,0.7nm,0.7s,baz=180,slow=7.0,SNR=2.5

*IDC **30** 03:00:04.4±0.7, 55°.63S×27°.45W, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/29, mbtmp4.1/8, ML4.1/1, Error ellipse: s-maj=31.9km s-min=17.5km az=65.0*
*NEIC **30** 03:00:10.3±0.9, 55°.7S±0°.1×27°.7W±0°.2, h37km±7km, mb4.4/12, Error ellipse: s-maj=19.2km s-min=13.7km az=204.0*
ISC 30 03:00:06.1±0.7, **55°.6S**±0°.1×**27°.64W**±0°.09, **h10**km, **n38, s**0°**90**/29, **mb4.1**/10, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.28**	**281**				**Pn**	**03 01 25.6**	**+0.7**
HOPE							**Sn**	**03 02 24.8**	**-0.9**
ESPZ	**Base Esperanza**	**16.67**	**230**	Pn			**Pn**	**03 03 59.3**	**-0.2**
VNA1	**Neumayer--Stat**	**17.28**	**158**	P			**P**	**03 04 10.7**	**+2.2**
VNA3	**Neumayer Olymp**	**17.47**	**161**	P			**P**	**03 04 12.5**	**+1.8**
VNA2	**Neumayer--Watz**	**17.68**	**158**	P			**Pn**	**03 04 12.1**	**0.0**
	baz=100,slow=11								
SNAA	**Sanae**	**19.23**	**156**	P			**P**	**03 04 30.4**	**+0.3**
SNAA	**Sanae**	**19.23**	**156**	P			**P**	**03 04 30.3**	**+0.3**
	0.5nm,0.3s,baz=320,slow=12,SNR=13								
SNAA	**Sanae**	**19.23**	**156**	IAmb	IAmb			03 04 32.7	
	comp=Z,2.9nm,0.7s								
TROLL	**Troll, Antarti**	**20.73**	**154**	P	Pn			03 04 47.8	-1.1
BELA	**Belgrano 2**	**22.48**	**184**	P			**P**	**03 05 04.3**	**-0.8**
BELA				IAmb	IAmb			03 05 07.5	
	comp=Z,3.9nm,0.8s								
MG01	**Puerto William**	**22.58**	**255**	P			**P**	**03 05 06.3**	**0.0**
QSPA	**South Pole Qui**	**34.62**	**180**	P			**P**	**03 06 54.7**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=181,slow=2.5,SNR=12								
QSPA	**South Pole Qui**	**34.62**	**180**	IAmb	IAmb			03 06 60.0	
	comp=Z,2.3nm,0.9s								
CPUP	**Villa Florida**	**36.34**	**311**	P			**P**	**03 07 10.3**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=131,slow=16,SNR=1.7								
CPUP	**Villa Florida**	**36.34**	**311**	IAmb	IAmb			03 07 27.2	
	comp=Z,6.3nm,1.4s								
ZON	**Zonda**	**37.44**	**293**	P			**P**	**03 07 19.1**	**-0.3**
ZON				IAmb	IAmb			03 07 37.5	
	comp=Z,10nm,0.8s								
MAW	**Mawson**	**40.64**	**144**	P			**P**	**03 07 45.9**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=169,slow=8.2,SNR=1.8								
MAW	**Mawson**	**40.64**	**144**	IAmb	IAmb			03 07 54.6	
	comp=Z,1.9nm,1.1s								
LVC	**Limon Verde**	**44.87**	**300**	P			**P**	**03 08 22.3**	**+1.4**
	comp=Z,3.6nm,0.6s,baz=108,slow=4.9,SNR=3.6								
VNDA	**Vanda**	**46.98**	**183**	P			**P**	**03 08 36.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=186,slow=7.9,SNR=10								
GO01	**Chusmiza**	**47.51**	**302**	P			**P**	**03 08 42.0**	**+0.1**
GO01				IAmb	IAmb			03 08 45.7	
	comp=Z,4.3nm,0.8s								
H10S2	**ASCENSION HYDR**	**47.67**	**17**	T			T	04 01 09.0	
	baz=190,slow=74,SNR=12								
H10S3	**ASCENSION HYDR**	**47.67**	**17**	T			T	04 01 09.7	
	baz=30,slow=74,SNR=19								
H10N1	**ASCENSION HYDR**	**48.79**	**17**	T			T	04 02 30.8	
	baz=187,slow=76,SNR=17								
H10N3	**ASCENSION HYDR**	**48.79**	**17**	T			T	04 02 31.7	
	baz=187,slow=76,SNR=44								
H10N2	**ASCENSION HYDR**	**48.81**	**17**	T			T	04 02 34.1	
	baz=187,slow=76,SNR=26								
LPAZ	**La Paz**	**49.93**	**305**	P			**P**	**03 09 01.3**	**+0.6**
	comp=Z,4.0nm,0.7s,baz=209,slow=8.8,SNR=21								
LPAZ	**La Paz**	**49.93**	**305**	P			**P**	**03 09 00.9**	**+0.2**
LPAZ				IAmb	IAmb			03 09 02.6	
	comp=Z,4.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**72.81**	**30**	P			**P**	**03 11 35.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=200,slow=6.4,SNR=12								
FINES	**FINESS Array B**	**124.13**	**28**	PKP			**PKPdf**	**03 19 01.8**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=168,slow=3.5,SNR=9.9								
ARCES	**ARCESS Array B**	**130.65**	**22**	PKP			**PKPdf**	**03 19 14.4**	**-1.2**
	comp=Z,8.0nm,1.2s,baz=243,slow=1.0,SNR=6.0								
YKA	**Yellowknife Ar**	**135.69**	**318**	PKP			**PKPdf**	**03 19 25.0**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=129,slow=2.2,SNR=5.9								
K27K	**Chicken**	**147.44**	**312**	PKPbc			**PKPbc**	**03 19 49.6**	**+0.9**
RIDG	**Independent Ri**	**148.54**	**311**	PKPbc			**PKPbc**	**03 19 52.5**	**+0.8**
IL31		**149.65**	**312**	PKPbc			**PKPbc**	**03 19 54.0**	**-0.3**
ILAR	**Eielson Array**	**149.65**	**312**	PKPbc			**PKPbc**	**03 19 53.6**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=125,slow=2.4,SNR=24								
ILAR	**Eielson Array**	**149.65**	**312**	PKPbc			**PKPbc**	**03 19 54.0**	**-0.4**
SONM	**Songino Array**	**150.95**	**86**	PKPbc			**PKPbc**	**03 19 56.7**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=245,slow=3.0,SNR=2.8								

*JMA **30** 03:05:37.2,23°.98N×121°.65E, h19km±1km, M2.6*
*TAP **30** 03:05:38.9,24°.22N×121°.76E, h12km, ML3.3,C*
ISC 30 03:05:39.0±0.8, **24°.21N**±0°.02×**121°.77E**±0°.02, **h12**km±5km, **n90, s**0°**60**/130, **9D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**345**	*eP*			**Pg**	**03 05 41.6**	**-0.2**
	baz=354								
EHP				*i* S			**Sg**	**03 05 44.1**	**+0.1**
	baz=354								
ETL	**Fush Village**	**0.14**	**250**	P			**Pg**	**03 05 42.4**	**0.0**
	baz=246								
ETL				S			**Sg**	**03 05 45.3**	**+0.4**
	baz=246								
NACB	**Ninganchiao**	**0.16**	**258**	⇓*iP*			**Pg**	**03 05 42.6**	**-0.1**
	baz=248								
NACB				*i* S			**Sg**	**03 05 45.0**	**-0.3**
	baz=248								
TWD	**Chiawan**	**0.20**	**231**	*i* P			**Pg**	**03 05 43.3**	**0.0**
	baz=234								
TWD				S			**Sg**	**03 05 46.8**	**+0.4**
	baz=234								
ENA	**Nanau**	**0.22**	**353**	⇓*iP*			**Pg**	**03 05 43.5**	**-0.1**
	baz=357								
ENA				S			**Sg**	**03 05 47.2**	**+0.3**
	baz=357								
EWUT	**Wuta**	**0.24**	**2**	P			**Pg**	**03 05 43.8**	**-0.1**
	baz=4.0								
EWUT				*i* S			**Sg**	**03 05 47.8**	**+0.5**
	baz=4.0								
ETLH	**Xiulin Townshi**	**0.26**	**270**	*i* P			**Pg**	**03 05 44.6**	**+0.1**
	baz=269								
ETLH				S			**Sg**	**03 05 48.4**	**+0.2**
	baz=269								
HWA	**Hwalien**	**0.28**	**213**	*eP*			**Pb**	**03 05 46.6**	**+0.8**
	baz=219								
LATG	**Datong**	**0.39**	**326**	⇓*iP*			**Pg**	**03 05 46.9**	**+0.1**
	baz=326								
LATG				S			**Sg**	**03 05 51.4**	**-0.8**
	baz=326								
TWC	**Suao**	**0.41**	**10**	*eP*			**Pg**	**03 05 46.9**	**-0.2**
	baz=6.0								
TWC				*eS*			**Sg**	**03 05 51.9**	**-0.5**
	baz=6.0								
NNSB	**Datong**	**0.42**	**302**	⇓*iP*			**Pg**	**03 05 47.5**	**+0.2**
	baz=302								
NNSB				S			**Sg**	**03 05 52.9**	**+0.1**
	baz=302								
NDS	**Dongshan**	**0.43**	**353**	*eP*			**Pg**	**03 05 47.6**	**+0.1**
	baz=354								
NDS				*eS*			**Sg**	**03 05 53.6**	**+0.5**
	baz=354								
NNS	**Nan Shan**	**0.43**	**303**	*eP*			**Pg**	**03 05 47.7**	**+0.2**
	baz=303								
NNS				*eS*			**Sg**	**03 05 53.4**	**+0.1**
	baz=303								
WHF	**Hehuan Shan**	**0.47**	**262**	*eP*			**Pg**	**03 05 48.4**	**+0.1**
	baz=262								
WHF				*eS*			**Sg**	**03 05 54.7**	**+0.2**
	baz=262								
ENTT	**Nioudou**	**0.47**	**337**	*i* P			**Pg**	**03 05 48.4**	**+0.2**
	baz=338								
ENTT				S			**Sb**	**03 05 55.1**	**-1.0**
	baz=338								
TWE	**Neicheng**	**0.52**	**350**	*eP*			**Pg**	**03 05 49.4**	**+0.2**
	baz=352								
TWE				*eS*			**Sg**	**03 05 56.2**	**+0.2**
	baz=352								
TWT	**Tachien**	**0.54**	**275**	*eP*			**Pb**	**03 05 50.4**	**-0.2**
	baz=274								
TWT				*eS*			**Sg**	**03 05 56.5**	**-0.4**
	baz=274								
ILA	**Ilan**	**0.56**	**358**	*eP*			**Pb**	**03 05 50.4**	**-0.3**
	baz=354								
ILA				*eS*			**Sb**	**03 05 58.1**	**-0.4**
	baz=354								
TDCB	**Techi**	**0.56**	**275**	*eP*			**Pg**	**03 05 50.1**	**+0.1**
	baz=275								
TDCB				*eS*			**Sg**	**03 05 56.6**	**-0.8**
	baz=275								
CHGB	**Renai**	**0.56**	**255**	⇓*iP*			**Pb**	**03 05 50.4**	**-0.6**
	baz=248								
CHGB				*eS*			**Sg**	**03 05 57.6**	**0.0**
	baz=248								
FUSB	**Fushanzhiwuyua**	**0.57**	**343**	⇓*iP*			**Pb**	**03 05 50.4**	**-0.6**
	baz=344								
FUSB				S			**Sg**	**03 05 57.9**	**+0.1**
	baz=344								
YHNB	**Yeheng**	**0.58**	**322**	⇓*iP*			**Pb**	**03 05 50.8**	**-0.4**
	baz=322								
YHNB				*eS*			**Sg**	**03 05 58.2**	**0.0**
	baz=322								
NSK	**Sanguang**	**0.60**	**321**	⇓*iP*			**Pb**	**03 05 51.0**	**-0.5**
	baz=322								
NSK				*eS*			**Sg**	**03 05 58.8**	**+0.2**
	baz=322								
OWD	**Renai**	**0.60**	**245**	P			**Pg**	**03 05 50.9**	**+0.2**
	baz=245								
OWD				*eS*			**Sg**	**03 05 58.2**	**-0.4**
	baz=245								
NWLT	**Wulai**	**0.62**	**337**	P			**Pb**	**03 05 51.4**	**-0.4**
	baz=337								
NWLT				*eS*			**Sg**	**03 05 59.3**	**+0.1**
	baz=337								
EGFH	**Guangfu**	**0.62**	**210**	*eP*			**Pg**	**03 05 51.0**	**-0.1**
	baz=217								
WUSB	**Renai**	**0.63**	**250**	⇓*iP*			**Pb**	**03 05 51.6**	**-0.4**
	baz=243								
WUSB				*eS*			**Sg**	**03 05 59.7**	**0.0**
	baz=243								
NTC	**Toucheng**	**0.65**	**5**	*eP*			**Pg**	**03 05 51.1**	**-0.4**
	baz=5.0								
EGS		**0.65**	**13**	*eP*			**Pb**	**03 05 51.9**	**-0.3**
	baz=22								
NFF	**Wufeng Townshi**	**0.73**	**305**	*eP*			**Pb**	**03 05 53.8**	**+0.1**
	baz=305								
NFF				*eS*			**Sb**	**03 06 03.7**	**+0.1**
	baz=305								
VWDT	**VWDT**	**0.73**	**232**	*eP*			**Pb**	**03 05 53.3**	**-0.3**
	baz=238								
WHP	**Taichung City**	**0.76**	**275**	*eP*			**Pb**	**03 05 54.3**	**+0.2**
	baz=275								
WHP				*eS*			**Sb**	**03 06 04.0**	**-0.5**
	baz=275								
TIPB	**Shuangxi**	**0.76**	**4**	*eP*			**Pb**	**03 05 53.9**	**-0.3**
	baz=4.0								
TIPB				*eS*			**Sg**	**03 06 03.2**	**-0.6**
	baz=4.0								
HGSD	**Ruisui**	**0.78**	**204**	*eP*			**Pg**	**03 05 53.9**	**-0.1**
	baz=194								
NHDH	**Xindian Distri**	**0.78**	**344**	*eP*			**Pn**	**03 05 55.0**	**-0.8**
	baz=344								
TWA	**Mucha**	**0.79**	**348**	*eP*			**Pn**	**03 05 56.0**	**+0.1**
	baz=339								
WCS	**Beigang Elemen**	**0.80**	**259**	*eP*			**Pb**	**03 05 54.6**	**-0.2**
	baz=259								
WCS				*eS*			**Sg**	**03 06 03.0**	**-1.9**
	baz=259								
EHY	**Hungye**	**0.81**	**210**	*eP*			**Pg**	**03 05 54.6**	**0.0**
	baz=223								
LIOB	**Emei**	**0.81**	**303**	*eP*			**Pn**	**03 05 55.5**	**-0.8**
	baz=303								
LIOB				*eS*			**Sn**	**03 06 07.0**	**-1.4**
	baz=303								
NSTT	**Nanjuang**	**0.82**	**301**	*eP*			**Pn**	**03 05 55.9**	**-0.5**
	baz=301								
NSTT				*eS*			**Sb**	**03 06 06.7**	**+0.5**
	baz=301								
TWB1	**Santiao Chiao**	**0.82**	**14**	*eP*			**Pg**	**03 05 54.6**	**-0.2**
	baz=7.0								
SSLB	**Suanglung**	**0.86**	**241**	P			**Pg**	**03 05 55.2**	**-0.3**
	baz=250								
SSLB				*eS*			**Sg**	**03 06 05.5**	**-1.2**
	baz=250								
NWF	**Wu-fen Shan**	**0.86**	**1**	*eP*			**Pb**	**03 05 55.9**	**0.0**
	baz=354								
NWF				*eS*			**Sb**	**03 06 07.3**	**-0.1**
	baz=354								
SMLT	**Sun Moon Lake**	**0.86**	**248**	*eP*			**Pg**	**03 05 55.5**	**-0.1**
	baz=248								
SMLT				*eS*			**Sb**	**03 06 07.3**	**-0.1**
	baz=248								
SXI1	**Grass Mountain**	**0.89**	**6**	*eP*			**Pb**	**03 05 56.1**	**-0.3**
	baz=353								
TYC	**Yuchr**	**0.89**	**250**	*eP*			**Pb**	**03 05 56.4**	**+0.1**
	baz=251								
TWQ1	**Liyutan**	**0.92**	**279**	*eP*			**Pn**	**03 05 59.2**	**+1.4**
	baz=279								
YULB	**Yu-li**	**0.92**	**208**	P			**Pg**	**03 05 56.6**	**-0.1**
	baz=219								
SBCB	**Hsinchu**	**0.92**	**309**	*eP*			**Pn**	**03 05 58.5**	**+0.7**
	baz=310								
NCUH	**Zhongli**	**0.93**	**325**	*eP*			**Pn**	**03 05 58.1**	**+0.3**
	baz=320								
HSN	**Hsinchu**	**0.94**	**309**	*eP*			**Pn**	**03 05 58.7**	**+0.7**
	baz=303								
NSY	**Sanyi**	**0.94**	**283**	*eP*			**Pn**	**03 05 59.7**	**+1.6**
	baz=283								
TWS1	**Kuangyinshan**	**0.94**	**340**	*eP*			**Pn**	**03 05 58.4**	**+0.3**
	baz=341								
EYUL	**Yuli**	**0.95**	**206**	*eP*			**Pn**	**03 05 58.1**	**-0.1**
	baz=221								
NMLH	**Miaoli**	**0.95**	**290**	*eP*			**Pn**	**03 05 60.0**	**+1.8**
	baz=291								
YM01	**YM01**	**0.95**	**349**	*eP*			**Pb**	**03 05 57.2**	**-0.2**
	baz=349								
NTST	**Danshui**	**1.00**	**343**	*eP*			**Pn**	**03 05 58.8**	**0.0**
	baz=343								
ANP	**Anpu**	**1.00**	**347**	*eP*			**Pn**	**03 05 59.0**	**+0.1**
	baz=347								
TCU	**Taichung**	**1.00**	**267**	*eP*			**Pn**	**03 05 59.8**	**+0.9**
	baz=267								
WJS	**Zhushan**	**1.03**	**248**	*eP*			**Pn**	**03 06 00.2**	**+1.0**
	baz=242								
YUS	**Yu-Shan**	**1.04**	**226**	*eP*			**Pg**	**03 05 58.7**	**-0.3**
	baz=227								
YUS				*eS*			**Sn**	**03 06 14.6**	**+0.1**
	baz=227								
WDJ	**Dajia District**	**1.04**	**278**	*eP*			**Pn**	**03 06 00.6**	**+1.2**
	baz=278								
WNT	**Mingjian**	**1.05**	**252**	*eP*			**Pn**	**03 06 00.5

YOJ	**Yonaguni jima**	**1.16**	**77**	P	**Pn**	**03 06 01.2**	**+0.2**
YOJ				*e*S	**Sn**	**03 06 18.3**	**+1.5**
YOJ	**Yonaguni jima**	**1.16**	**77**	*e*P	**Pb**	**03 06 00.9**	**-0.1**
	baz=65						
ELDTW	**Lidau**	**1.23**	**214**	*e*P	**Pn**	**03 06 01.6**	**-0.5**
	baz=215						
WDLH	**Douliu**	**1.24**	**246**	*e*P	**Pg**	**03 06 03.8**	**+1.0**
	baz=247						
EDH	**Donghe**	**1.30**	**199**	*e*P	**Pn**	**03 06 02.1**	**-0.9**
	baz=187						
WRL	**Guolierlin Hig**	**1.31**	**257**	*e*P	**Pb**	**03 06 03.5**	**0.0**
	baz=258						
CHN4	**Tsaushan**	**1.38**	**232**	*e*P	**Pg**	**03 06 05.9**	**+0.6**
	baz=234						
STYH	**Taoyuan**	**1.38**	**222**	*e*P	**Pb**	**03 06 04.5**	**-0.1**
	baz=223						
WTP	**Ta-pu**	**1.43**	**228**	*e*P	**Pg**	**03 06 07.0**	**+0.6**
	baz=230						
TWK	**Hsinying**	**1.50**	**232**	*e*P	**Pg**	**03 06 07.6**	**-0.2**
	baz=234						
TWG	**Pinlang**	**1.52**	**205**	*e*P	**Pn**	**03 06 06.5**	**+0.5**
	baz=191						
CHN1	**Nanshi**	**1.53**	**228**	*e*P	**Pg**	**03 06 08.7**	**+0.4**
	baz=231						
SGST	**Jiashian**	**1.56**	**224**	*e*P	**Pn**	**03 06 06.9**	**+0.3**
	baz=226						
WSL	**Shuilin Townsh**	**1.57**	**245**	*e*P	**Pg**	**03 06 08.5**	**-0.6**
	baz=246						
ICHU	**Yijhu**	**1.60**	**239**	*e*P	**Pb**	**03 06 08.7**	**+0.2**
	baz=241						
IRIF	**Iriomote-Funau**	**1.79**	**86**	P	**Pn**	**03 06 09.9**	**+0.2**
IRIF				*e*S	**Sn**	**03 06 33.4**	**+0.9**
TSMG	**Majia**	**1.82**	**215**	*e*P	**Pb**	**03 06 11.2**	**-1.0**
	baz=229						
HATJ	**Hateruma jima**	**1.86**	**94**	*e*S	**Sb**	**03 06 35.5**	**-0.8**
JKRS	**Kuro-shima**	**2.04**	**89**	P	**Pn**	**03 06 13.8**	**+0.6**
JKRS				*e*S	**Sn**	**03 06 40.2**	**+1.5**
WDGT	**Dungji**	**2.15**	**244**	*e*P	**Pb**	**03 06 16.7**	**-1.2**
	baz=247						
JIJ	**Ishigaki jima**	**2.17**	**85**	P	**Pn**	**03 06 15.0**	**+0.1**
JIJ				*e*S	**Sn**	**03 06 42.4**	**+0.6**
VWUC	**VWUC**	**2.25**	**291**	*e*P	**Pn**	**03 06 16.1**	**0.0**
	baz=279						
JISG	**Ishigakijimahi**	**2.35**	**80**	P	**Pn**	**03 06 17.2**	**-0.2**
JISG				*e*S	**Sn**	**03 06 46.4**	**+0.3**

*SNET **30** 03:05:55.7±1.2, 14°.12N×89°.72W, h7$^{km}_{\pm}$3^{km}, ML3.2*
*INET **30** 03:05:57.4±0.6, 14°.12N×89°.59W, h6$^{km}_{\pm}$10^{km}, MW2.8*
*GCG **30** 03:05:59.0±0.5, 14°.20N×89°.81W, h22$^{km}_{\pm}$3^{km}, MD3.4*

ISC 30 03:05:55.8±1.0, **14°.15N**±0°.03×**89°.68W**±0°.03, **h18**$^{km}_{\pm}$3^{km}, **n26**, σ**0**s**84**/42, **6C-6D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLOZ	**Alcaldia de Sa**	**0.16**	**221**	⇓*i*P	**Pb**	**03 05 59.2**	**-0.4**
SLOZ				*e*S	**Sb**	**03 06 01.5**	**-0.4**
SLOZ				IAML		03 06 03.7	
	comp=Z,6μm,0.5s						
RTR	**El Retiro**	**0.25**	**173**	⇓*i*P	**Pg**	**03 06 01.5**	**-0.1**
NUBE	**Las Nubes**	**0.26**	**203**	⇓*i*P	**Pg**	**03 06 01.1**	**-0.7**
NUBE				*e*S	**Sg**	**03 06 04.5**	**-1.5**
SNJE	**San Jose**	**0.28**	**166**	⇓*i*P	**Pg**	**03 06 02.2**	**0.0**
SNJE				*e*S	**Sb**	**03 06 07.8**	**+1.0**
SBLS	**San Blas**	**0.31**	**170**	⇓*i*P	**Pg**	**03 06 02.4**	**-0.2**
CEVE	**Cerro Verde**	**0.32**	**171**	⇓*i*P	**Pg**	**03 06 02.8**	**-0.1**
CEVE				*e*S	**Sg**	**03 06 07.9**	**+0.3**
CEVE				IAML		03 06 11.0	
	comp=Z,5μm,0.4s						
MTO3	**Montecristo**	**0.40**	**51**	⇑*i*P	**Pn**	**03 06 05.4**	**-1.4**
MTO3	**Montecristo**	**0.40**	**51**	*e*P	**Pn**	**03 06 05.4**	**-1.4**
MTO3				*e*S	**Sn**	**03 06 12.0**	**-1.9**
CEDA	**San Andres**	**0.44**	**141**	*e*P	**Pb**	**03 06 05.0**	**0.0**
ESQI	**Esquipulas**	**0.52**	**38**	⇑*i*P	**Pn**	**03 06 07.9**	**-0.6**
ESQI				*e*S	**Sn**	**03 06 15.8**	**-1.2**
JAYA	**Jayaque - finc**	**0.54**	**156**	*e*P	**Pg**	**03 06 06.7**	**+0.1**
JAYA				*e*S	**Sb**	**03 06 14.4**	**+0.3**
JAYA				IAML		03 06 15.5	
	comp=Z,2μm,0.2s						
SNET	**Serv Nac Est T**	**0.63**	**137**	*e*P	**Pg**	**03 06 08.3**	**0.0**
LALI	**Alcalda de L**	**0.74**	**152**	*e*P	**Pg**	**03 06 10.5**	**+0.2**
LALI				*e*S	**Sg**	**03 06 21.2**	**+1.0**
LALI	**Alcalda de L**	**0.74**	**152**	*e*P	**Pg**	**03 06 10.6**	**+0.2**
NBG	**Las Nubes**	**0.78**	**304**	*e*P	**Pn**	**03 06 12.4**	**+0.2**
NBG				*e*S	**Sn**	**03 06 22.2**	**-1.4**
LFRS	**El Faro**	**0.79**	**131**	⇑*i*Pg	**Pn**	**03 06 11.4**	**-0.7**
PAVA	**Las Pavas**	**0.84**	**121**	⇑*i*P	**Pn**	**03 06 12.4**	**-0.4**
PAVA				*e*S	**Sn**	**03 06 24.5**	**-0.2**
PAVA	**Las Pavas**	**0.84**	**121**	*e*P	**Pn**	**03 06 12.4**	**-0.4**
SJTE	**Alcalda de S**	**0.84**	**129**	*e*P	**Pn**	**03 06 12.5**	**-0.2**
MRL	**Marmol**	**0.93**	**360**	*e*P	**Pn**	**03 06 15.6**	**+1.5**
MRL				*e*S	**Sn**	**03 06 29.0**	**+1.8**
COEG	**Centro de Oper**	**0.93**	**124**	⇑*i*P	**Pn**	**03 06 14.1**	**0.0**
COEG				*e*S	**Sn**	**03 06 27.5**	**+0.5**
COEG	**Centro de Oper**	**0.93**	**124**	*e*P	**Pn**	**03 06 14.1**	**0.0**
PCG	**Pacaya**	**0.94**	**285**	*e*P	**Pn**	**03 06 14.4**	**+0.2**
PCG				*e*S	**Sn**	**03 06 26.9**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.02**	**116**	⇑*e*P	**Pg**	**03 06 15.6**	**0.0**
SCLA				*e*S	**Sn**	**03 06 30.6**	**+1.4**
FUG	**Fuego 3**	**1.17**	**285**	*e*P	**Pg**	**03 06 18.0**	**-0.4**
FUG				*e*S	**Sg**	**03 06 34.5**	**+0.6**
STG3	**Santiaguito 3,**	**1.92**	**287**	*e*P	**Pb**	**03 06 30.9**	**+0.5**
STG3				*e*S	**Sn**	**03 06 52.4**	**+0.9**

IDC 30 03:10:16.0±3.0, **15°.01S**×**177°.71W**, **h406**$^{km}_{\pm}$28^{km}, **mb3.0**/4, **mb1 3.2**/5, **mb1mx3.1**/26, **mbtmp3.7**/5, **Error ellipse: s-maj=42.7km s-min=30.0km az=134.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.89**	**236**	P	P	03 11 37.3	+0.3
	2.2nm,0.3s,baz=60,slow=20,SNR=7.6						
WRA	**Warramunga Arr**	**45.88**	**257**	P	P	03 17 59.6	-0.8
	0.3nm,0.7s,baz=90,slow=8.0,SNR=5.2						
ASAR	**Alice Springs**	**46.28**	**252**	P	P	03 18 03.6	+0.2
	2.1nm,0.5s,baz=86,slow=8.4,SNR=27						
VNDA	**Vanda**	**63.38**	**185**	P	P	03 20 03.3	0.0
	0.5nm,0.6s,baz=51,slow=6.5,SNR=2.3						
ILAR	**Eielson Array**	**82.92**	**13**	P	P	03 21 56.2	0.0
	0.5nm,0.7s,baz=221,slow=6.0,SNR=5.7						

*IDC **30** 03:11:33.3±1.4, 21°.08S×67°.23W, h190$^{km}_{\pm}$19^{km}, mb3.5/2, mb1 3.6/4, mb1mx3.3/24, mbtmp3.9/4, Error ellipse: s-maj=42.2km s-min=13.2km az=99.0*
*SCB **30** 03:11:35.4±2.0, 21°.09S×67°.46W, h172$^{km}_{\pm}$18^{km}, ML3.5/9, MW2.8, Error ellipse: s-maj=7.8km s-min=4.3km az=0.0*
*GUC **30** 03:11:35.3±0.7, 21°.05S×67°.53W, h207$^{km}_{\pm}$6^{km}, ML3.8*

ISC 30 03:11:33.8±0.9, **21°.07S**±0°.04×**67°.46W**±0°.05, **h201**$^{km}_{\pm}$8^{km}, **n36**, σ**1**s**34**/57, **1C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.71**	**96**	P	**Pn**	**03 12 10.4**	**+0.3**
MOCB				S	**Sn**	**03 12 35.2**	**-3.0**
MOCB				IAML		03 12 37.8	
	186nm,0.5s						
PB09	**IPOC Station P**	**1.81**	**246**	⇓*e*P	**Pn**	**03 12 12.1**	**+1.3**
PB09				*i* S	**Sn**	**03 12 40.2**	**+0.8**
PB09				IAML		03 12 43.4	
	comp=E,150nm,0.4s						
PB09	**IPOC Station P**	**1.81**	**246**	P	**Pn**	**03 12 11.9**	**+1.2**
PB09				S	**Sn**	**03 12 37.1**	**-2.3**
PB09				IAML		03 12 42.1	
	comp=E,116nm,0.4s						
PB08	**IPOC Station P**	**1.83**	**300**	*e*P	**Pn**	**03 12 12.1**	**+0.9**
PB08				*i* S	**Sn**	**03 12 40.3**	**+0.2**
PB08				IAML		03 12 43.1	
	comp=E,203nm,0.1s						
PB08	**IPOC Station P**	**1.83**	**300**	P	**Pn**	**03 12 12.2**	**+1.0**
PB01	**IPOC Station P**	**1.89**	**270**	*e*P	**Pn**	**03 12 11.9**	**+0.5**
PB01				*i* S	**Sn**	**03 12 40.4**	**-0.3**
PB01				IAML		03 12 42.7	
	comp=E,219nm,0.2s						
PB01	**IPOC Station P**	**1.89**	**270**	P	**Pn**	**03 12 12.3**	**+0.9**
LVC	**Limon Verde**	**2.04**	**221**	P	**Pn**	**03 12 14.6**	**+1.3**
	comp=E,4.1nm,0.3s,baz=33,slow=10,SNR=31						
LVC				S	**Sn**	**03 12 44.6**	**+0.6**
	comp=E,15nm,0.3s,baz=11,slow=16,SNR=49						
LVC	**Limon Verde**	**2.04**	**221**	*e*P	**Pn**	**03 12 14.5**	**+1.3**
LVC				*i* S	**Sn**	**03 12 44.8**	**+0.9**
YJA	**Yavi**	**2.12**	**122**	P	**Pn**	**03 12 14.6**	**+0.5**
GO01	**Chusmiza**	**2.14**	**310**	*e*P	**Pn**	**03 12 14.8**	**+0.4**
GO01				*i* S	**Sn**	**03 12 45.8**	**-0.2**
GO01				IAML		03 12 51.7	
	comp=E,609nm,0.2s						
PB02	**IPOC Station P**	**2.29**	**263**	*e*P	**Pn**	**03 12 16.4**	**+0.8**
PB02				*i* S	**Sn**	**03 12 47.2**	**-0.8**
PB02				IAML		03 12 48.2	
	comp=N,290nm,0.2s						
PB02	**IPOC Station P**	**2.29**	**263**	P	**Pn**	**03 12 16.4**	**+0.8**
PB02				S	**Sn**	**03 12 45.7**	**-2.3**
PB02				IAML		03 12 48.1	
	comp=N,266nm,0.3s						
PB02				IAML		03 12 49.5	
	comp=N,290nm,0.2s						
PB07	**IPOC Station P**	**2.35**	**253**	*e*P	**Pn**	**03 12 17.2**	**+0.9**
PB07				*i* S	**Sn**	**03 12 48.8**	**-0.7**
PB07				IAML		03 12 49.3	
	comp=N,722nm,0.3s						
PB07	**IPOC Station P**	**2.35**	**253**	P	**Pn**	**03 12 17.2**	**+0.9**
PB07				IAML		03 12 49.4	
	comp=N,342nm,0.3s						
HMBC	**Humberstone**	**2.40**	**289**	*e*P	**Pn**	**03 12 16.8**	**-0.1**
HMBC				*i* S	**Sn**	**03 12 49.5**	**-0.9**
HMBC				IAML		03 12 50.0	
	comp=N,380nm,0.5s						
PATCX	**Punta Patache**	**2.53**	**275**	*e*P	**Pn**	**03 12 18.8**	**+0.6**
PATCX				*i* S	**Sn**	**03 12 51.2**	**-1.5**
PATCX				IAML		03 12 53.9	
	comp=E,248nm,0.3s						
PB06	**IPOC Station P**	**2.55**	**230**	*e*P	**Pn**	**03 12 19.4**	**+0.9**
PB06				*i* S	**Sn**	**03 12 53.6**	**+0.2**
PB06				IAML		03 12 54.6	
	comp=E,411nm,0.7s						
PB06	**IPOC Station P**	**2.55**	**230**	P	**Pn**	**03 12 19.4**	**+0.9**
PB06				S	**Sn**	**03 12 50.1**	**-3.3**
PB06				IAML		03 12 54.7	
	comp=E,208nm,0.3s						
PB06				IAML		03 12 55.2	
	comp=E,96nm,0.6s						
TA01	**Diego Aracena**	**2.59**	**281**	*e*P	**Pn**	**03 12 18.6**	**-0.2**
TA01				*i* S	**Sn**	**03 12 52.1**	**-1.8**
TA01				IAML		03 12 53.4	
	comp=E,330nm,0.2s						
PB04	**IPOC Station P**	**2.80**	**243**	*e*P	**Pn**	**03 12 22.4**	**+1.0**
PB04				*i* S	**Sn**	**03 12 57.3**	**-1.1**
PB04				IAML		03 13 00.8	
	comp=N,115nm,0.2s						
PB04	**IPOC Station P**	**2.80**	**243**	P	**Pn**	**03 12 22.0**	**+0.7**
PB04				IAML		03 13 02.1	
	comp=N,85nm,0.4s						
PB15	**IPOC Station P**	**2.83**	**221**	*e*P	**Pn**	**03 12 23.3**	**+1.6**
PB15				*i* S	**Sn**	**03 12 59.7**	**+0.5**
PB15	**IPOC Station P**	**2.83**	**221**	P	**Pn**	**03 12 22.8**	**+1.1**
PB15				IAML		03 13 03.7	
	comp=N,320nm,0.2s						
PB16	**IPOC Station P**	**3.33**	**324**	⇑*i*P	**Pn**	**03 12 29.0**	**+0.9**
PB16				*i* S	**Sn**	**03 13 11.2**	**+0.7**
PB16	**IPOC Station P**	**3.33**	**324**	P	**Pn**	**03 12 29.2**	**+1.1**
PB12	**IPOC Station P**	**3.64**	**312**	*e*P	**Pn**	**03 12 30.2**	**-1.1**
PB12				*i* S	**Sn**	**03 13 13.2**	**-3.2**
PB10	**IPOC Station P**	**3.76**	**229**	*i* S	**Sn**	**03 13 15.0**	**-3.9**
PB10	**IPOC Station P**	**3.76**	**229**	P	**Pn**	**03 12 32.2**	**-0.4**
BBOE	**La Paz, Chanca**	**4.26**	**353**	P	**Pn**	**03 12 40.8**	**+1.2**
BBOD	**La Paz, Gloria**	**4.54**	**346**	P	**Pn**	**03 12 44.1**	**+1.1**
LPAZ	**La Paz**	**4.80**	**352**	P	**Pn**	**03 12 46.8**	**+0.4**
	comp=N,6.4nm,0.3s,baz=158,slow=6.5,SNR=230						
LPAZ				S	**Sn**	**03 13 43.2**	**-0.2**
	baz=164,slow=15,SNR=0.5						
LPAZ	**La Paz**	**4.80**	**352**	P	**Pn**	**03 12 46.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**75.94**	**70**	P	**P**	**03 22 58.3**	**-0.6**
	comp=N,0.6nm,0.4s,baz=252,slow=5.3,SNR=18						
YKA	**Yellowknife Ar**	**91.24**	**340**	P	**P**	**03 24 16.6**	**+0.9**
	comp=N,0.5nm,0.7s,baz=133,slow=4.8,SNR=12						
MKAR	**Makanchi Array**	**144.49**	**37**	PKP	**PKPdf**	**03 30 46.7**	**+0.5**
	comp=N,0.6nm,0.4s,baz=321,slow=3.6,SNR=5.2						

*IDC **30** 03:27:57.7±1.4, 9°.95S×119°.06E, h0^{km}, mb3.9/2, mb1 3.9/7, mb1mx3.5/31, mbtmp3.7/7, ML3.5/5, Error ellipse: s-maj=49.1km s-min=20.7km az=50.0*
*DJA **30** 03:28:03.4±0.5, 10°.5S×11°.9E, h22$^{km}_{\pm}$3^{km}, M4.0/11, mb4.2/3, mB5.1/1, MLv3.9/11, Mw(mB)4.5/1*

ISC 30 03:27:58.9±0.7, **9°.95S**±0°.05×**119°.29E**±0°.04, **h10**^{km}, **n21**, σ**3**s**21**/29, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.33**	**18**	P	**Pn**	**03 28 09.3**	**-0.5**
WBSI				S	**Sb**	**03 28 14.0**	**+1.7**
BASI	**Baing, Sumba**	**1.30**	**102**	P	**Pg**	**03 28 25.2**	**+1.3**
BASI				S	**Sg**	**03 28 44.1**	**+3.3**
PLAI	**Plampang**	**1.86**	**307**	P	**Pb**	**03 28 32.3**	**-0.8**
PLAI				S	**Sg**	**03 28 57.5**	**-1.4**
BSSI	**Bau Bau, Buton**	**3.97**	**18**	P	**Pn**	**03 29 01.1**	**+1.2**
BSSI				S	**Sn**	**03 29 43.8**	**-2.8**
IGBI	**Denpasar**	**4.24**	**285**	P	**Pn**	**03 29 07.6**	**+4.0**
IGBI				S	**Sn**	**03 29 55.6**	**+2.4**
BATI	**Baumata**	**4.32**	**94**	Pn	**Pn**	**03 29 08.9**	**+4.2**
	11nm,0.3s,baz=307,slow=2.3,SNR=2.3						
BATI				Sn	**Sn**	**03 29 57.8**	**+2.6**
	3.1nm,0.3s,baz=294,slow=20,SNR=1.6						
BATI	**Baumata**	**4.32**	**94**	P	**Pn**	**03 29 08.4**	**+3.7**
BKSI	**Bulukumba**	**4.68**	**10**	P	**Pn**	**03 29 11.5**	**+1.9**
KAPI	**Kappang**	**4.93**	**5**	Pn	**Pn**	**03 29 14.6**	**+1.5**
	3.7nm,0.3s,baz=182,slow=6.8,SNR=7.8						
KAPI				Sn	**Sn**	**03 30 11.5**	**+1.3**
	2.3nm,0.3s,baz=258,slow=22,SNR=1.9						
JAGI	**Jajag, Banyuwa**	**5.28**	**286**	P	**Pn**	**03 29 17.6**	**-0.3**
	0.2nm24nm,1.2s						
JAGI				S	**Sn**	**03 30 20.7**	**+1.8**
	0.2nm24nm,1.2s						
BNSI	**Bone**	**5.58**	**8**	P	**Pn**	**03 29 23.7**	**+1.7**
	0.1nm2μm19nm,1.1s						
SPSI	**Sidrap Palu**	**5.97**	**5**	P	**Pn**	**03 29 27.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.17**	**143**	Pn	**Pn**	**03 30 26.6**	**+1.5**
	0.3nm,0.3s,baz=326,slow=14,SNR=18						
FITZ				Sn	**Sn**	**03 32 12.8**	**-6.6**
	baz=276,slow=19						
WRA	**Warramunga Arr**	**17.60**	**126**	P	**P**	**03 32 06.6**	**+1.1**
	0.1nm,0.3s,baz=299,slow=13,SNR=1.8						
WRA				S	**Sn**	**03 35 11.7**	**-8.9**
	0.1nm,0.3s,baz=294,slow=26,SNR=1.8						
ASAR	**Alice Springs**	**19.51**	**136**	P	**Pn**	**03 32 28.5**	**+0.7**
	0.0nm,0.3s,baz=319,slow=11,SNR=3.2						
ASAR				S	**Sn**	**03 36 00.8**	**-6.1**
	0.1nm,0.3s,baz=304,slow=22,SNR=2.0						
CMAR	**Chiang Mai Arr**	**34.64**	**325**	P	**P**	**03 34 48.6**	**-0.1**
	1.1nm,0.3s,baz=141,slow=20,SNR=1.7						
H08S2	**Diego Garcia H**	**46.27**	**269**	T	T	04 25 49.8	
	baz=96,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**46.28**	**269**	T	T	04 25 51.0	
	baz=96,slow=75,SNR=16						
H08S1	**Diego Garcia H**	**46.28**	**269**	T	T	04 25 51.1	
	baz=96,slow=75,SNR=7.5						
MKAR	**Makanchi Array**	**65.43**	**333**	P	**P**	**03 38 40.5**	**-1.5**
	0.6nm,0.6s,baz=140,slow=7.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	**118.90**	**280**	PKP	**PKiKP**	**03 46 49.4**	**+0.6**
	0.3nm,0.8s,baz=78,slow=1.9,SNR=2.1						

*ANF **30** 03:34:05.7±0.3, 35°.53N×97°.29W, h6^{km}, ML3.3/9, Error ellipse: s-maj=4.0km s-min=3.1km az=133.0*
*TUL **30** 03:34:05.6±0.9, 35°.52N±0°.01×97°.31W±0°.02, h6$^{km}_{\pm}$4^{km}, ML3.2, mb_Lg2.8/56(NEIC), Error ellipse: s-maj=2.2km s-min=2.0km az=92.0*
*NEIC **30** 03:34:06.1±1.0, 35°.53N±0°.02×97°.30W±0°.02, h5$^{km}_{\pm}$4^{km}, Error ellipse: s-maj=3.1km s-min=0.7km az=134.0*

ISC 30 03:34:05.8±1.0, **35°.53N**±0°.03×**97°.30W**±0°.03, **h6**$^{km}_{\pm}$7^{km}, **n59**, σ**0**s**62**/53, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK001	**Jones High Sch**	**0.04**	**12**	Sg	**Sg**	**03 34 08.5**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**0.17**	**223**	Pg	**Pg**	**03 34 09.0**	**-0.3**
OKCSW				Sg	**Sg**	**03 34 11.6**	**+0.1**
OKCFA	**Oklahoma City**	**0.17**	**228**	Pg	**Pg**	**03 34 09.0**	**-0.3**
OKCFA				Sg	**Sg**	**03 34 11.6**	**+0.1**
OKCFA	**Oklahoma City**	**0.17**	**228**	S	**Sg**	**03 34 11.6**	**+0.1**
	baz=50						
FNO	**Franklin**	**0.28**	**197**	Pg	**Pg**	**03 34 11.1**	**-0.2**
FNO				Sg	**Sg**	**03 34 15.2**	**+0.1**
X34A	**Smith Ranch, M**	**1.02**	**206**	Pg	**Pg**	**03 34 24.8**	**-0.7**
X34A				Sg	**Sb**	**03 34 39.6**	**0.0**
TUL1	**Leonard**	**1.28**	**72**	Pn	**Pn**	**03 34 29.0**	**-1.3**
TUL1	**Leonard**	**1.28**	**72**	P	**Pn**	**03 34 28.8**	**-1.5**
	baz=253						
TUL1				S	**Sg**	**03 34 46.6**	**-0.5**
	baz=253						
WMOK	**Wichita Mounta**	**1.45**	**237**	Pn	**Pn**	**03 34 31.2**	**-1.4**
WMOK	**Wichita Mounta**	**1.45**	**237**	P	**Pn**	**03 34 31.4**	**-1.2**
	baz=57						
T35A	**Sooner Cattle**	**1.52**	**24**		**Pn**	**03 34 33.5**	**-0.1**
T35B	**Sooner Cattle**	**1.52**	**24**	P	**Pn**	**03 34 33.3**	**-0.3**
	baz=205						
T35B				S	**Sb**	**03 34 54.4**	**+0.2**
	baz=205						
U32A	**Winter Ranch,**	**1.62**	**302**		**Pn**	**03 34 35.3**	**+0.2**
U32A	**Winter Ranch,**	**1.62**	**302**	P	**Pn**	**03 34 35.2**	**+0.2**
	baz=122						
U32A				S	**Sb**	**03 34 57.3**	**+0.4**
	baz=122						
X37A	**Clayton**	**1.84**	**120**		**Pn**	**03 34 38.3**	**+0.5**
X37A	**Clayton**	**1.84**	**120**	P	**Pn**	**03 34 38.5**	**+0.6**
	baz=301						
X37A				Sb	**Sg**	**03 35 04.7**	**-0.2**
	baz=301						
Z35A	**Perchaven, San**	**2.19**	**179**		**Pn**	**03 34 43.1**	**+0.3**
Z35A	**Perchaven, San**	**2.19**	**179**	P	**Pn**	**03 34 43.5**	**+0.7**
	baz=359						
Z35A				Sb	**Sb**	**03 35 13.3**	**+0.1**
	baz=359						
HHAR	**Hobbs**	**2.83**	**74**		**Pn**	**03 34 52.4**	**+0.8**
W39A	**Magazine**	**2.89**	**96**		**Pn**	**03 34 53.2**	**+0.8**
W39A				IAmb_Lg		03 35 39.3	
	comp=Z,27nm,0.8s						
Z38A	**Mt. Pleasant**	**2.96**	**139**	IAmb_Lg		03 35 44.0	
	comp=Z,39nm,1.0s						
R32A	**Long Quarter,**	**3.10**	**339**	Pn	**Pn**	**03 34 55.7**	**+0.4**
MIAR	**Mount Ida**	**3.21**	**107**		**Pn**	**03 34 57.2**	**+0.5**
MIAR	**Mount Ida**	**3.21**	**107**	P	**Pn**	**03 34 58.0**	**+1.3**
	baz=289						
ABTX	**Abilene, Hawle**	**3.49**	**215**	Pn	**Pn**	**03 35 00.6**	**-0.1**
WHTX	**Lake Whitney,**	**3.53**	**182**	Pn	**Pn**	**03 35 01.4**	**+0.3**
WHTX	**Lake Whitney,**	**3.53**	**182**	P	**Pn**	**03 35 01.7**	**+0.6**
	baz=2.0						
KSU1	**Kansas State U**	**3.61**	**9**	IAmb_Lg		03 36 09.5	
	comp=Z,22nm,0.7s						
KSU1	**Kansas State U**	**3.61**	**9**	P	**Pn**	**03 35 02.5**	**+0.3**
	baz=189						
AMTX	**Amarillo**	**3.65**	**261**		**Pn**	**03 35 03.0**	**+0.1**
U40A	**Yellville**	**3.70**	**76**	Pn	**Pn**	**03 35 04.4**	**+0.9**
X40A	**Basin Creek Fa**	**3.81**	**105**	Pn	**Pn**	**03 35 05.0**	**0.0**
X40A					LR	03 36 05.8	
X40A				IAmb_Lg		03 36 13.7	
	comp=Z,40nm,0.9s						
CBKS	**Cedar Bluff**	**3.81**	**330**	IAmb_Lg		03 36 10.1	
	comp=Z,23nm,0.8s						
S39A	**Bolivar**	**3.86**	**55**	Pn	**Pn**	**03 35 06.0**	**+0.3**
S39A				IAmb_Lg		03 36 15.5	
	comp=Z,24nm,0.8s						
WHAR	**Wooly Hollow**	**4.10**	**92**		**Pn**	**03 35 08.7**	**-0.3**
UALR	**University of**	**4.13**	**99**	IAmb_Lg		03 36 23.9	
	comp=Z,19nm,0.9s						
W41B	**Gary Mavity, V**	**4.14**	**93**		**Pn**	**03 35 10.3**	**+0.7**
W41B				IAmb_Lg		03 36 24.3	
	comp=Z,27nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.23**	**84**		**Pn**	**03 35 10.5**	**-0.2**
FCAR				IAmb_Lg		03 36 22.0	
	comp=Z,17nm,1.0s						
MGMO	**Mountain Grove**	**4.37**	**67**	Pn	**Pn**	**03 35 13.0**	**+0.2**
MGMO				IAmb_Lg		03 36 22.7	
	comp=Z,19nm,0.8s						
435B	**Jarrell**	**4.74**	**183**	IAmb_Lg		03 36 38.4	
	comp=Z,17nm,0.7s						
MSTX	**Muleshoe**	**4.77**	**253**	Pn	**Pn**	**03 35 18.4**	**+0.1**
R40A	**Maddies Statio**	**4.88**	**54**	Pn	**Pn**	**03 35 20.3**	**+0.5**
R40A				IAmb_Lg		03 36 46.9	
	comp=Z,20nm,0.8s						
LCAR	**Lake Charles**	**5.02**	**82**	Pn	**Pn**	**03 35 22.2**	**+0.6**
P38A	**Dawn**	**5.07**	**35**	Pn	**Pn**	**03 35 23.0**	**+0.7**
P38A				IAmb_Lg		03 36 46.6	
	comp=Z,15nm,

ellipse: s-maj=11.0km s-min=6.1km az=108.0
*VIE **30** 03:59:27.0±0.8,51°.22N×16°.02E,h0km,mb2.5/9,ml2.5/10, Error ellipse: s-maj=5.9km s-min=4.1km az=57.0 70 km WNW of Wroclaw Suspected Mining induced.*

ISC 30 03:59:21.1±0.6,51°.56N±0°.03×16°.14E±0.02,h0km,n54, σ1♀32/103,2C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**03 59 35.3**	**+0.4**
KSP				*e*Sg	**Sg**	**03 59 43.9**	**-0.3**
CHVC	**Chvalec**	**0.97**	**183**	*e*PG	**Pg**	**03 59 40.1**	**+0.4**
CHVC				*e*SG	**Sg**	**03 59 51.9**	**-0.3**
	comp=Z,44nm,0.4s						
OSTC	**Ostas**	**1.00**	**177**	*e*PG	**Pg**	**03 59 40.4**	**+0.1**
OSTC				*e*SG	**Sg**	**03 59 52.9**	**-0.3**
	comp=Z,82nm,0.6s						
UPC	**Upice**	**1.05**	**184**	*e*PG	**Pg**	**03 59 40.7**	**-0.6**
UPC				*e*SG	**Sg**	**03 59 54.1**	**-0.8**
	comp=Z,114nm,0.4s						
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*PG	**Pg**	**03 59 44.1**	**-0.2**
DPC				*e*SG	**Sg**	**03 59 58.7**	**-1.3**
PVCC	**Panska Ves**	**1.43**	**225**	*e*PG	**Pg**	**03 59 48.7**	**+0.2**
PVCC				*e*SG	**Sb**	**04 00 07.4**	**0.0**
	comp=Z,152nm,0.7s						
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**03 59 48.6**	**-1.2**
KRLC				*e*SG	**Sg**	**04 00 09.0**	**-1.5**
	comp=Z,94nm,0.9s						
BRG	**Berggiesshubel**	**1.54**	**245**	Pn	**Pn**	**03 59 48.8**	**-1.1**
BRG				Pg	**Pg**	**03 59 51.1**	**+0.4**
BRG				Sg	**Sb**	**04 00 11.2**	**+0.6**
BRG				Amp		04 00 12.7	
	comp=Z,44nm,0.3s						
PRU	**Pruhonice**	**1.87**	**214**	*e*PN	**Pn**	**03 59 54.1**	**-0.3**
PRU				*e*PG	**Pb**	**03 59 55.7**	**-0.4**
PRU				*e*SG	**Sb**	**04 00 19.8**	**-0.2**
	comp=Z,29nm,0.5s						
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**03 59 56.0**	**+0.1**
CLL				*e*Pg	**Pg**	**03 59 59.0**	**-0.1**
CLL				*e*Sg	**Sg**	**04 00 25.0**	**+0.3**
	comp=Z,21nm,0.6s						
MORC	**Moravsky Berou**	**1.99**	**153**	⇓P	**Pn**	**03 59 56.3**	**+0.2**
MORC				⇑S	**Sb**	**04 00 23.7**	**+0.1**
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**03 59 56.3**	**+0.2**
	baz=332						
MORC				*e*Sg	**Sb**	**04 00 23.5**	**-0.1**
	comp=Z,30nm,0.5s,baz=332						
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*PG	**Pb**	**04 00 01.5**	**+0.7**
VRAC	**Vranov**	**2.27**	**172**	⇓P	**Pn**	**03 59 57.3**	**-2.6**
VRAC				⇑S	**Sn**	**04 00 27.9**	**-0.6**
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**04 00 00.8**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=338,slow=18,SNR=7.6						
VRAC				Sn	**Sb**	**04 00 32.1**	**+0.5**
	comp=Z,3.5nm,0.3s,baz=252,slow=22,SNR=7.8						
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**04 00 00.0**	**+0.1**
	baz=352						
VRAC				*e*Sg	**Sb**	**04 00 31.6**	**+0.1**
	comp=Z,24nm,0.5s,baz=352						
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**04 00 03.2**	**+0.1**
	baz=356						
KRUC				*e*Sg	**Sb**	**04 00 39.0**	**+0.8**
	comp=Z,29nm,0.7s,baz=356						
OJC	**Ojcow**	**2.67**	**119**	*e*Pn	**Pn**	**04 00 06.1**	**+0.6**
OJC				*e*Pg	**Pg**	**04 00 14.6**	**+2.2**
OJC				*e*Sg	**Sg**	**04 00 49.0**	**+1.9**
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**	**04 00 06.4**	**+0.8**
NKC				*e*PG	**Pg**	**04 00 12.2**	**-0.4**
NKC				*e*SG	**Sg**	**04 00 47.3**	**-0.1**
	comp=Z,30nm,0.3s						
JAVC	**Velka Javorina**	**2.87**	**159**	*e*Pn	**Pn**	**04 00 08.7**	**+0.5**
	baz=340						
JAVC				*e*Sg	**Sb**	**04 00 50.8**	**+1.8**
	comp=Z,28nm,0.8s,baz=340						
JAVC	**Velka Javorina**	**2.87**	**159**	*e*PN	**Pn**	**04 00 08.8**	**+0.5**
JAVC				*e*SG	**Sb**	**04 00 50.9**	**+1.9**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**04 00 09.4**	**+0.4**
KHC				*e*PG	**Pb**	**04 00 15.3**	**+1.1**
KHC				*e*SN	**Sn**	**04 00 44.2**	**-0.7**
KHC				*e*SG	**Sg**	**04 00 54.6**	**-0.6**
	comp=Z,15nm,0.5s						
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*PN	**Pn**	**04 00 10.4**	**+0.7**
CKRC				*e*PG	**Pb**	**04 00 16.0**	**+0.9**
CKRC				*e*SG	**Sb**	**04 00 54.5**	**+2.5**
	comp=Z,13nm,0.6s						
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**04 00 12.2**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=31,slow=13,SNR=27						
GERES				Pg	**Pb**	**04 00 18.6**	**+0.9**
	comp=Z,3.2nm,0.3s,baz=32,slow=17,SNR=52						
GERES				Sn	**Sn**	**04 00 48.2**	**-1.8**
	comp=Z,1.6nm,0.3s,baz=27,slow=24,SNR=1.9						
GERES				Lg	Lg	04 00 59.2	
	comp=Z,2.5nm,0.3s,baz=32,slow=26,SNR=1.9						
SMOL	**Smolenice**	**3.16**	**164**	*e*PG	**Pg**	**04 00 21.4**	**-0.2**
SMOL				*e*SG	**Sg**	**04 01 02.3**	**-0.2**
LANS	**Liptovska Anna**	**3.21**	**137**	*e*PN	**Pn**	**04 00 13.6**	**+0.7**
LANS				*e*PG	**Pg**	**04 00 21.8**	**-0.9**
LANS				*e*SG	**Sg**	**04 01 03.4**	**-1.0**
MODS	**Modra-Piesok**	**3.27**	**167**	*e*PG	**Pg**	**04 00 23.1**	**-0.6**
MODS				*e*SG	**Sg**	**04 01 03.8**	**-2.3**
KOLL	**Kolacno**	**3.32**	**153**	*e*PG	**Pg**	**04 00 23.9**	**-0.8**
KOLL				*e*SG	**Sg**	**04 01 06.3**	**-1.3**
NIE	**Niedzica**	**3.41**	**127**	*e*P	**Pg**	**04 00 26.9**	**+0.4**
NIE				*e*S	**Sg**	**04 01 11.2**	**+0.6**
VYHS	**Vyhne**	**3.52**	**149**	*e*PG	**Pg**	**04 00 27.2**	**-1.4**
VYHS				*e*SG	**Sg**	**04 01 13.1**	**-1.2**
CONA	**Conrad Observa**	**3.63**	**183**	Pn	**Pn**	**04 00 19.6**	**+0.9**
	comp=Z,2.0nm,0.3s,SNR=8.0						
CONA				*e*Sg	**Sg**	**04 01 16.2**	**-1.6**
	comp=Z,10nm,0.5s						
BSD	**Bornholm Skovb**	**3.64**	**349**	*e*S	**Sn**	**04 01 02.5**	**+0.2**
RONA	**Rosalia, Austr**	**3.86**	**178**	*e*Pn	**Pn**	**04 00 24.0**	**+2.2**
	comp=Z,1.0nm,0.3s						
RONA				*e*Sg	**Sg**	**04 01 22.7**	**-2.4**
	comp=Z,5.7nm,0.3s						
MOA	**Molln**	**3.90**	**199**	Pn	**Pn**	**04 00 23.2**	**+0.9**
	comp=Z,1.3nm,0.3s,SNR=4.8						
ARSA	**Arzberg**	**4.33**	**186**	*e*Sg	**Sg**	**04 01 39.3**	**-0.8**
	comp=Z,9.0nm,0.5s						
LUNU	**Lund**	**4.39**	**340**	*i* P	**Pn**	**04 00 30.2**	**+1.3**
LUNU				*e*S	**Sn**	**04 01 19.3**	**-1.5**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PN	**Pn**	**04 00 35.0**	**+1.3**
BLEU	**Blekinge**	**4.76**	**358**	*e*P	**Pn**	**04 00 34.4**	**+0.3**
BLEU				*e*S	**Sn**	**04 01 26.4**	**-3.5**
KBA	**Koelnbreinsper**	**4.84**	**203**	*e*Pn	**Pn**	**04 00 36.3**	**+1.0**
	comp=Z,0.9nm,0.4s						
BJUU	**Bjuv**	**4.89**	**339**	*e*P	**Pn**	**04 00 35.6**	**-0.2**
BJUU				*e*S	**Sn**	**04 01 29.4**	**-3.6**
DEL	**Delary**	**5.10**	**346**	*i* P	**Pn**	**04 00 39.8**	**+1.0**
DEL				*e*S	**Sn**	**04 01 37.2**	**-1.1**
MYKA	**Terra Mystica**	**5.20**	**199**	*e*Sg	**Sg**	**04 02 07.5**	**-0.4**
	comp=Z,3.1nm,0.5s						
WTTA	**Wattenberg**	**5.20**	**216**	*e*Pn	**Pn**	**04 00 42.2**	**+1.9**
	comp=Z,0.5nm,0.2s						
MOTA	**Moosalm**	**5.34**	**220**	*e*Pn	**Pn**	**04 00 44.1**	**+1.8**
	comp=Z,0.5nm,0.2s						
ABTA	**Abfaltersbach**	**5.37**	**208**	*e*Pn	**Pn**	**04 00 44.5**	**+2.0**
	comp=Z,0.6nm,0.3s						
ABTA				*e*Sg	**Sg**	**04 02 13.2**	**-0.3**
	comp=Z,8.6nm,1.0s						
SQTA	**Sankt Quirin**	**5.40**	**218**	*e*Pn	**Pn**	**04 00 45.1**	**+2.1**
	comp=Z,1.0nm,0.2s						
DAVOX	**Davos/Dischmat**	**6.30**	**223**	Pn	**Pn**	**04 00 56.5**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=350,slow=23,SNR=1.9						
DAVOX				Lg	Lg	04 02 40.1	
	comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=2.2						
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**04 01 24.0**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=283,slow=11,SNR=4.3						
AKASG				Sn	**Sn**	**04 02 53.3**	**-3.2**
	comp=Z,0.6nm,0.3s,baz=343,slow=24,SNR=2.3						
AKASG				Lg	Lg	04 03 53.8	
	comp=Z,0.2nm,0.3s,baz=270,slow=36,SNR=1.5						
HFS	**Hagfors**	**8.71**	**352**	Pn	**Pn**	**04 01 28.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=172,slow=38,SNR=1.2						
HFS				Sn	**Sn**	**04 03 04.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=222,slow=23,SNR=1.7						
NOA	**NORSAR Array B**	**9.89**	**346**	Pn	**Pn**	**04 01 44.7**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=143,slow=12,SNR=1.7						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**04 02 03.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=8.8						
FINES				Sn	**Sn**	**04 04 07.1**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=222,slow=18,SNR=3.4						
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn	**Pn**	**04 02 15.8**	**+1.1**
	baz=46,slow=17,SNR=1.7						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**P**	**04 03 37.3**	**-2.1**
	baz=192,slow=11,SNR=8.9						
YKA	**Yellowknife Ar**	**59.82**	**336**	P	**P**	**04 09 29.8**	**+2.1**
	comp=Z,0.1nm,0.5s,baz=18,slow=8.1,SNR=5.4						

*NNC **30** 04:13:50.8±0.5,42°.92N×70°.92E,h0km,mpv2.1,Error ellipse: s-maj=10.7km s-min=2.4km az=32.0*
*KRNET **30** 04:13:51.1±0.1,42°.95N×70°.15E,h23km,mb2.6*

ISC 30 04:13:52.0±1.6,42°.89N±0°.06×70°.19E±0°.08,h2km±15km, n15,σ0♀64/30,8C-3D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK07	**Karatay Array**	**0.30**	**48**	P	**Pg**	**04 13 57.6**	**-0.2**
KK07				S	**Sg**	**04 14 02.3**	**+0.5**
KK08	**Karatay Array**	**0.31**	**45**	P	**Pg**	**04 13 57.6**	**-0.3**
KK08				S	**Sg**	**04 14 02.4**	**+0.5**
KK03	**Karatay Array**	**0.31**	**47**	P	**Pg**	**04 13 57.8**	**-0.2**
KK03				S	**Sg**	**04 14 02.6**	**+0.5**
KK01	**Karatay Array**	**0.32**	**47**	P	**Pg**	**04 13 57.7**	**-0.4**
KK01				S	**Sg**	**04 14 02.7**	**+0.5**
KK02	**Karatay Array**	**0.32**	**47**	P	**Pg**	**04 13 57.9**	**-0.3**
KK02				S	**Sg**	**04 14 02.7**	**+0.4**
KK31	**Karatay Array**	**0.32**	**47**	P	**Pg**	**04 13 57.7**	**-0.4**
	2.0nm,0.2s,baz=119,slow=11,SNR=200						
KK31				⇓S	**Sg**	**04 14 02.7**	**+0.4**
	1.6nm,0.2s,baz=168,slow=16,SNR=6.4						
KKAR	**Karatay Array**	**0.32**	**47**	⇑*e*P	**Pg**	**04 13 58.1**	**-0.1**
	baz=60						
KKAR				⇑*e*S	**Sg**	**04 14 02.6**	**+0.3**
	baz=60						
KK04	**Karatay Array**	**0.32**	**46**	P	**Pg**	**04 13 57.8**	**-0.4**
KK04				S	**Sg**	**04 14 02.8**	**+0.4**
KK06	**Karatay Array**	**0.32**	**50**	P	**Pg**	**04 13 58.0**	**-0.2**
KK06				S	**Sg**	**04 14 02.8**	**+0.5**
KK09	**Karatay Array**	**0.33**	**44**	P	**Pg**	**04 13 57.9**	**-0.4**
KK09				S	**Sg**	**04 14 02.8**	**+0.3**
KK05	**Karatay Array**	**0.33**	**47**	P	**Pg**	**04 13 58.1**	**-0.4**
KK05				S	**Sg**	**04 14 03.2**	**+0.4**
TRKS	**Terek-Say**	**1.53**	**152**	⇑*e*P	**Pb**	**04 14 21.4**	**+0.2**
	baz=53						
TRKS				⇑*e*S	**Sn**	**04 14 43.3**	**+2.2**
	baz=53						
TAS	**Tashkent**	**1.70**	**203**	⇑*i*P	**Pn**	**04 14 22.2**	**-0.5**
	baz=2.0						
TAS				⇑*i*S	**Sn**	**04 14 45.1**	**+0.1**
	baz=2.0						
ARK	**Arkit**	**1.71**	**129**	⇓*i*P	**Pn**	**04 14 22.9**	**0.0**
	baz=30						
ARK				⇓*i*S	**Sg**	**04 14 46.2**	**-0.6**
	baz=30						
EKS2	**Erkin-Say**	**2.65**	**94**	⇑*e*P	**Pn**	**04 14 35.6**	**-0.3**
	baz=95						
EKS2				⇑*i*S	**Sn**	**04 15 07.3**	**-1.4**
	baz=95						

NOU 30 04:14:53.4,16°.29S×167°.44E,h14km,MLv4.1/9,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.87**	**345**	P	Pg	04 15 10.1	-0.1
DVP	**Devils Point**	**1.60**	**154**	P	Pn	04 15 21.1	-0.1
DZM	**Mont Dzumac**	**5.83**	**189**	P	Pn	04 16 19.3	-0.2

*IDC **30** 04:38:26.6±0.6,16°.56S×167°.01E,h0km,mb4.7/25, mb1 4.8/27,mb1mx4.6/49,mbtmp4.7/27,ML4.8/2,MS4.5/56, Ms1 4.5/56,ms1mx4.5/65,Error ellipse: s-maj=17.3km s-min=13.8km az=95.0*
*NOU **30** 04:38:26.6,16°.35S×167°.25E,h0km,mb4.9/40,Vanuatu Islands*
*NEIC **30** 04:38:27.6±2.3,16°.31S±0°.05×167°.14E±0°.06,h4km±3km, mb5.0/58,Error ellipse: s-maj=8.7km s-min=7.0km az=120.0*
*BJI **30** 04:38:27.3±0.0,16°.18S×167°.12E,h8km,mb4.9/54, mB5.1/35,Ms5.0/31,Ms7 4.6/31*
*GCMT **30** 04:38:29.6±0.2,16°.25S±0°.02×167°.10E±0°.01,h13km, MW5.1/103,Moment Tensor Solution. s59,c75; s103,c155; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.24±.18; Mθθ-0.31±.12; Mφφ-3.93±.13; Mrθ1.38±.31; Mθφ1.53±.08; Mφr-4.12±.38; Best double couple: Mo6.15900×10^16 NP1:φs339.00000°,δ23.00000°, λ88.00000°. NP2:φs161.00000°,δ67.00000°,λ91.00000°. Principal axes: T 6.0350, Plg68.0000°, Azm73.0000°; N 0.2480, Plg1.0000°, Azm341.0000°; P -6.2830, Plg22.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **30** 04:38:30.3±1.4,16°.40S×166°.99E,h33km,mb5.2/33 Error ellipse: s-maj=11.0km s-min=8.6km az=31.5*

ISC 30 04:38:27.7±0.3,16°.40S±0°.04×167°.17E±0°.05,h10km,n292, σ1♀57/272,mb4.9/85,MS4.6/68,21C-16D,Fault plane solution: NP1:φs151.61368°,δ83.70580°,λ62.89051°. **NP2:**φs49.52605°,δ27.77656°,λ166.39348°. **Principal axes:** T Plg44.6803°, Azm34.6664°; N Plg26.9328°, Azm154.8261°; P Plg33.2371°, Azm264.2727°; **Fault plane solution: NP1:**φs257.90140°,δ28.48592°, λ20.78866°. **NP2:**φs149.44875°,δ80.25419°,λ116.89912°. **Principal axes:** T Plg47.8335°, Azm87.9099°; N Plg26.4804°, Azm324.5405°; P Plg30.1194°, Azm217.7426°; **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.95**	**2**	Pg	**Pg**	**04 38 43.6**	**-2.3**
SANVU	**Saraoutou**	**0.95**	**2**	P	**Pg**	**04 38 43.7**	**-2.3**
DVP	**Devils Point**	**1.64**	**144**	P	**Pb**	**04 38 56.8**	**-1.1**
RTV	**Rentapao**	**1.83**	**139**	P	**Pb**	**04 38 59.7**	**-1.6**
LIFNC	**LIFOU**	**4.35**	**179**	Pn	**Pn**	**04 39 34.6**	**+0.7**
KOUNC	**Koumac, New Ca**	**4.96**	**213**	Pn	**Pn**	**04 39 42.0**	**-0.2**
KOUNC	**Koumac, New Ca**	**4.96**	**213**	P	**Pn**	**04 39 42.5**	**+0.3**
MARNC	**Mare, Loyalty**	**5.12**	**171**		**Pn**	**04 39 44.6**	**+0.1**
YATNC	**Mamie plateau,**	**5.64**	**183**	P	**Pn**	**04 39 50.5**	**-1.1**
DZM	**Mont Dzumac**	**5.68**	**187**	Pn	**Pn**	**04 39 50.9**	**-1.4**
	7.7nm,0.3s,baz=345,slow=8.5,SNR=74						
DZM				Sn	**Sn**	**04 40 55.0**	**-2.7**
	baz=108,slow=19,SNR=0.8						
DZM				LR	LR	04 41 44.5	
	comp=Z,4μm,21.4s,baz=49,slow=36						
DZM	**Mont Dzumac**	**5.68**	**187**	Pn	**Pn**	**04 39 51.9**	**-0.4**
DZM	**Mont Dzumac**	**5.68**	**187**	P	**Pn**	**04 39 52.2**	**-0.1**
NOUC	**Port Laguerre**	**5.73**	**188**	P	**Pn**	**04 39 52.4**	**-0.5**
ONTNC	**Ouen Toro**	**5.92**	**186**	Pn	**Pn**	**04 39 55.0**	**-0.4**
OUENC	**Ouen Island, N**	**6.00**	**183**		**Pn**	**04 39 55.6**	**-0.9**
OUENC	**Ouen Island, N**	**6.00**	**183**	P	**Pn**	**04 39 56.3**	**-0.2**
PINNC	**Pines Island,**	**6.19**	**178**	Pn	**Pn**	**04 39 59.6**	**+0.5**
PINNC	**Pines Island,**	**6.19**	**178**	P	**Pn**	**04 39 58.9**	**-0.2**
HNR	**Honiara**	**9.88**	**314**	LR	LR	04 44 43.9	
	comp=Z,2μm,19.4s,baz=135,slow=38						
MSVF	**Nonsavu**	**10.48**	**99**	Pn	**Pn**	**04 41 00.3**	**+2.1**
	0.5nm,0.3s,baz=245,slow=7.0,SNR=13						
MSVF				LR	LR	04 44 01.2	
	comp=Z,6μm,20.0s,baz=295,slow=32						
MSVF	**Nonsavu**	**10.48**	**99**	*ce*P	**Pn**	**04 41 02.2**	**+4.0**
MSVF				pmax	pmax		
	comp=Z,83nm,1.2s						
MSVF	**Nonsavu**	**10.48**	**99**	Pn	**Pn**	**04 41 00.7**	**+2.4**
MSVF	**Nonsavu**	**10.48**	**99**	P	**Pn**	**04 40 57.6**	**-0.6**
FUNA	**Funafuti**	**14.10**	**58**	Pn	**Pn**	**04 41 46.9**	**-0.7**
FUNA	**Funafuti**	**14.10**	**58**	P	**Pn**	**04 41 45.6**	**-2.0**
LHI	**Lord Howe Isla**	**16.77**	**205**	P	**P**	**04 42 23.9**	**-1.0**
	baz=17,SNR=3.8						
RK1H	**Rockhampton Ha**	**17.15**	**243**	P	**P**	**04 42 28.9**	**-0.3**
EIDS	**Eidsvold**	**17.47**	**237**	P	**Pn**	**04 42 31.5**	**-0.1**
	baz=18,SNR=5.4						
EIDS	**Eidsvold**	**17.47**	**237**	Pn	**Pn**	**04 42 31.3**	**-0.3**
EIDS	**Eidsvold**	**17.47**	**237**	P	**P**	**04 42 34.2**	**+1.4**
OUZ	**Omahuta**	**19.60**	**164**		**P**	**04 42 55.9**	**-0.3**
RMQ	**Roma**	**19.84**	**237**	P	**P**	**04 42 59.2**	**+0.4**
	baz=20,SNR=37						
RMQ	**Roma**	**19.84**	**237**	P	**Pn**	**04 43 01.2**	**+0.8**
ARMA	**Armidale**	**19.92**	**223**	P	**P**	**04 43 00.4**	**+0.6**
	baz=20,SNR=8.2						
ARMA	**Armidale**	**19.92**	**223**	P	**Pn**	**04 43 01.1**	**-0.3**
ARMA	**Armidale**	**19.92**	**223**	P	**Pn**	**04 43 02.3**	**+0.9**
CTA	**Charters Tower**	**20.20**	**256**	P	**P**	**04 43 02.9**	**+0.1**
	comp=Z,35nm,1.0s,baz=74,slow=12,SNR=18						
CTA				LR	LR	04 50 01.0	
	comp=Z,2μm,18.1s,baz=79,slow=35						
CTAO	**Charters Tower**	**20.20**	**256**	P	**P**	**04 43 03.6**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,49nm,1.1s						
CTAO	**Charters Tower**	**20.20**	**256**	P	**P**	**04 43 03.6**	**+0.8**
AFI	**Afiamalu**	**20.47**	**86**	LR	LR	04 48 58.6	
	comp=Z,2μm,20.4s,baz=252,slow=31						
PMG	**Port Moresby**	**20.70**	**287**	P	**P**	**04 43 08.8**	**+0.5**
	comp=Z,42nm,0.9s,baz=142,slow=5.4,SNR=6.1						
PMG				LR	LR	04 50 30.9	
	comp=Z,3μm,18.1s,baz=102,slow=35						
PMG	**Port Moresby**	**20.70**	**287**	*de*P	**P**	**04 43 09.3**	**+1.1**
PMG				pmax	pmax		
	comp=Z,93nm,1.7s						
PMG	**Port Moresby**	**20.70**	**287**	P	**P**	**04 43 07.9**	**-0.3**
PMG				IAmb	IAmb	04 43 10.9	
	comp=Z,93nm,1.1s						
PMG	**Port Moresby**	**20.70**	**287**	P	**P**	**04 43 09.3**	**+1.1**
PMG	**Port Moresby**	**20.70**	**287**	P	**P**	**04 43 09.6**	**+1.4**
MTSU	**Mount Surprise**	**21.89**	**262**	P	**P**	**04 43 20.5**	**-0.7**
	baz=22,SNR=18						
MTSU	**Mount Surprise**	**21.89**	**262**	P	**P**	**04 43 23.0**	**+1.9**
HIZ	**Hauiti**	**23.04**	**164**	P	**P**	**04 43 35.4**	**+2.3**
COEN	**Coen**	**23.29**	**273**	P	**P**	**04 43 34.6**	**-1.2**
	baz=23,SNR=4.1						
COEN	**Coen**	**23.29**	**273**	P	**P**	**04 43 35.9**	**0.0**
COEN				IAmb	IAmb	04 43 43.2	
	comp=Z,34nm,1.1s						
COEN	**Coen**	**23.29**	**273**	P	**P**	**04 43 37.1**	**+1.3**
URZ	**Urewera**	**23.46**	**160**	P	**P**	**04 43 37.4**	**0.0**
	comp=Z,24nm,0.8s,baz=338,slow=7.4,SNR=9.7						
URZ	**Urewera**	**23.46**	**160**	P	**P**	**04 43 39.8**	**+2.4**
QLP	**Quilpie**	**23.59**	**241**	P	**P**	**04 43 39.1**	**+0.3**
	baz=24,SNR=5.1						
QLP	**Quilpie**	**23.59**	**241**	P	**P**	**04 43 40.0**	**+1.2**
BKZ	**Black Stump Fm**	**24.10**	**162**	P	**P**	**04 43 44.8**	**+1.2**
CMSA	**Cobar Meteorol**	**24.68**	**229**	P	**P**	**04 43 49.5**	**+0.6**
	baz=25,SNR=26						
CMSA	**Cobar Meteorol**	**24.68**	**229**	P	**P**	**04 43 49.7**	**+0.8**
KNTN	**Kanton**	**24.79**	**59**	P	**P**	**04 43 49.6**	**-0.4**
CAN	**Canberra**	**24.87**	**217**	P	**P**	**04 43 51.5**	**+0.8**
QIS	**Mount Isa**	**26.46**	**257**	P	**P**	**04 44 05.2**	**0.0**
	baz=26,SNR=20						
QIS	**Mount Isa**	**26.46**	**257**	P	**P**	**04 44 05.9**	**+0.7**
KHZ	**Kahutara**	**26.50**	**169**	P	**P**	**04 44 06.9**	**+1.8**
KHZ				IAmb	IAmb	04 44 08.1	
	comp=Z,47nm,1.0s						
INKA	**Innaminka**	**26.91**	**241**	P	**P**	**04 44 09.2**	**+0.1**
RPZ	**Rata Peaks**	**27.43**	**174**	LR	LR	04 55 02.6	
	comp=Z,3μm,18.3s,baz=351,slow=36						
STKA	**Stephens Creek**	**27.87**	**232**	P	**P**	**04 44 16.2**	**-1.5**
	comp=Z,26nm,1.2s,baz=62,slow=7.2,SNR=10						
STKA				LR	LR	04 54 44.9	
	comp=Z,979nm,19.3s,baz=59,slow=35						
STKA	**Stephens Creek**	**27.87**	**232**	P	**P**	**04 44 18.3**	**+0.6**
STKA				pmax	pmax		
	comp=Z,15nm,1.5s						
STKA	**Stephens Creek**	**27.87**	**232**	P	**P**	**04 44 18.3**	**+0.6**
TOO	**Toolangi**	**28.47**	**218**	P	**P**	**04 44 23.6**	**+0.5**
WR0	**Warramunga Arr**	**31.18**	**258**	P	**P**	**04 44 46.0**	**-1.2**
WR0				IAmb	IAmb	04 44 58.6	
	comp=Z,15nm,1.1s						
OOD	**Oodnadatta**	**31.21**	**243**	P	**P**	**04 44 47.8**	**+0.4**
WB0	**Warramunga Arr**	**31.31**	**259**	P	**P**	**04 44 46.5**	**-1.9**
WB0				IAmb	IAmb	04 44 48.2	
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**31.36**	**259**	P	**P**	**04 44 48.2**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WRAB	**Tennant Creek**	**31.36**	**259**	P	**P**	**04 44 48.1**	**-0.6**
WRAB	**Tennant Creek**	**31.36**	**259**	P	**P**	**04 44 48.3**	**-0.6**
WRA	**Warramunga Arr**	**31.37**	**259**	P	**P**	**04 44 47.0**	**-1.9**
	comp=Z,4.7nm,1.0s,baz=89,slow=8.2,SNR=17						
WRA				LR	LR	04 56 41.0	
	comp=Z,1μm,19.0s,baz=83,slow=35						
SMPI	**Sarmi**	**31.46**	**294**	P	**P**	**04 44 49.7**	**0.0**
	comp=Z,39nm,1.3s						
RAR	**Rarotonga**	**31.62**	**104**	LR	LR	04 56 45.2	
	comp=Z,615nm,18.1s,baz=287,slow=35						
AS31	**Alice Springs**	**32.02**	**252**	P	**P**	**04 44 53.5**	**-1.2**
AS31

VNDA pmax pmax
comp=Z,7.0nm,1.0s
VNDA Vanda 61.20 181 P **P** **04 48 42.8 +0.6**
SBA Scott Base 61.48 180 P **P** **04 48 45.2 +1.2**
SBA pmax pmax
comp=Z,21nm,1.1s
SBA Scott Base 61.48 180 P **P** **04 48 45.2 +1.2**
CASY Casey 61.96 203 P **P** **04 48 47.4 -0.1**
CASY IAmb IAmb 04 48 56.4
comp=Z,11nm,0.9s
ASAJ Asahikawa 64.28 341 P **P** **04 49 05.2 +2.2**
comp=Z,13nm,0.7s,baz=236,slow=22,SNR=5.8
ASAJ LR LR 05 14 31.5
comp=Z,294nm,20.0s,baz=140,slow=34
KSRS Korea Array 65.07 326 P **P** **04 49 09.3 +1.0**
comp=Z,2.7nm,0.8s,baz=136,slow=6.4,SNR=7.2
KSRS LR LR 05 15 56.3
comp=Z,138nm,18.1s,baz=155,slow=34
KSAR Wonju Array Be 65.08 326 P **P** **04 49 09.4 +0.9**
KSAR Wonju Array Be 65.08 326 P **P** **04 49 09.4 +0.9**
NJ2 Nanjing 66.81 316 *e*P **P** **04 49 20.0 +0.3**
NJ2 pmax pmax
comp=Z,18nm,0.5s
USRK Ussuriysk Ar. 68.33 334 P **P** **04 49 29.4 +0.4**
comp=Z,7.2nm,0.8s,baz=94,slow=5.8,SNR=10.0
USRK LR LR 05 20 36.8
comp=Z,62nm,18.1s,baz=137,slow=37
USRK Ussuriysk Ar. 68.33 334 P **P** **04 49 28.0 -1.1**
USA0B Ussuriysk Arra 68.33 334 P **P** **04 49 29.3 +0.2**
USA0B pmax pmax
comp=Z,18nm,1.2s
USA0B Ussuriysk Arra 68.33 334 P **P** **04 49 29.3 +0.2**
USA0B IAmb IAmb 04 49 43.1
comp=Z,18nm,1.2s
SHEM Shemya Is, Ala 69.10 5 LR LR 05 15 08.6
comp=Z,772nm,20.0s,baz=165,slow=32
PETK Petropavlovsk- 69.70 354 P **P** **04 49 40.2 +2.7**
comp=Z,6.4nm,0.8s,baz=182,slow=10,SNR=6.6
PETK LR LR 05 17 08.6
comp=Z,455nm,19.2s,baz=167,slow=33
MDJ Mudanjiang 69.71 332 P **P** **04 49 41.0 +3.4**
MDJ pmax pmax
comp=Z,19nm,1.3s
MDJ pmax pmax
comp=Z,250nm,6.7s
PSI Prapat 70.02 279 P **P** **04 49 39.4 -1.1**
comp=Z,3.6nm,0.5s,baz=175,slow=11,SNR=2.6
PSI LR LR 05 23 49.6
comp=Z,150nm,18.0s,baz=142,slow=39
TIA Tai'an 70.53 319 ⇑P **P** **04 49 45.5 +2.6**
TIA pmax pmax
comp=Z,10.0nm,1.4s
SNY Shenyang 70.54 327 ⇓P P 04 49 48.0 +5.2
SNY S **S** **04 58 58.5 +2.2**
SNY SS **SS** **05 03 23.0 -5.2**
SNY pmax pmax
comp=Z,9.0nm,0.6s
SNY LR LR
comp=Z,260nm,14.7s
SNY LR LR
comp=Z,390nm,14.7s
SNY LR LR
comp=Z,540nm,18.9s
CN2 Changchun 71.03 329 *e*P **P** **04 49 48.8 +3.1**
CN2 *e*S **S** **04 58 54.0 -7.9**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,300nm,16.0s
BNX BinXian 71.56 332 ⇓P **P** **04 49 51.8 +2.9**
BNX pmax pmax
comp=Z,26nm,1.0s
BNX pmax pmax
comp=Z,330nm,4.1s
ENH Enshi 72.36 310 P **P** **04 49 54.3 +0.2**
KLR Kul'dur 72.49 337 P **P** **04 49 55.4 +0.9**
comp=Z,4.0nm,0.8s,baz=112,slow=7.8,SNR=8.9
KLR LR LR 05 18 38.3
comp=Z,108nm,21.0s,baz=149,slow=33
KLR Kul'dur 72.49 337⇑ *e*P **P** **04 49 54.2 -0.2**
KLR pmax pmax
comp=Z,13nm,1.4s
LYN LuoYang 72.58 315 ⇑P **P** **04 49 59.0 +3.7**
LYN pP pwP 04 50 03.0 +1.2
LYN S **S** **04 59 20.5 +0.3**
LYN pmax pmax
comp=Z,30nm,1.3s
LYN pmax pmax
comp=Z,90nm,9.0s
LYN LR LR
comp=Z,490nm,17.3s
LYN LR LR
comp=Z,240nm,20.6s
LYN LR LR
comp=Z,400nm,21.0s
GYA Guiyang 72.59 305 ⇓P **P** **04 49 59.8 +4.1**
GYA S **S** **04 59 23.5 +2.6**
GYA pmax pmax
comp=Z,13nm,1.5s
HNS HongShan 72.78 319 ⇑P **P** **04 49 57.0 +0.6**
HNS S **S** **04 59 23.3 +0.9**
HNS pmax pmax
comp=Z,24nm,1.4s
HNS LR LR
comp=Z,200nm,18.8s
HNS LR LR
comp=Z,170nm,17.6s
HNS LR LR
comp=Z,270nm,20.1s
BJI Beijing 73.50 322 P **P** **04 49 59.8 -0.8**
BJI pP **sP** **04 50 04.3 +0.6**
BJI sP **pwP** **04 50 07.0 -0.1**
BJI S **SKiKP** **04 59 31.8 +0.1**
BJI pmax pmax
comp=Z,5.0nm,1.0s
BJI pmax pmax
comp=Z,120nm,4.1s
BJI LR LR
comp=Z,240nm,18.8s
BJI LR LR
comp=Z,310nm,18.0s
BJI LR LR
comp=Z,410nm,19.2s
QSPA South Pole Qui 73.64 180 LR LR 05 20 59.0
comp=Z,257nm,18.6s,baz=43,slow=35
QSPA South Pole Qui 73.64 180 P **P** **04 50 01.9 +0.6**
QSPA IAmb IAmb 04 50 07.9
comp=Z,23nm,1.0s
XAN Xi'an 74.75 313 ⇑P **P** **04 50 08.0 -0.2**
XAN pP sP 04 50 11.8 +0.6
XAN sP pwP 04 50 15.3 +0.7
XAN S **S** **04 59 44.3 -0.6**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,100nm,6.5s
XAN LR LR
comp=Z,270nm,20.6s
XAN LR LR
comp=Z,220nm,18.1s
XAN LR LR
comp=Z,520nm,20.6s
KMI Kunming 75.11 302 ⇑P **P** **04 50 11.5 +0.9**
KMI pP sP 04 50 15.5 +1.8
KMI pmax pmax
comp=Z,8.0nm,0.6s
KMI LR LR
comp=Z,230nm,26.2s
CMAR Chiang Mai Arr 75.55 294 P **P** **04 50 13.9 +0.9**
comp=Z,1.5nm,0.3s,baz=124,slow=4.5,SNR=1.2
CMAR LR LR 05 25 08.9
comp=Z,41nm,18.7s,baz=115,slow=37
CMAR Chiang Mai Arr 75.55 294 P **P** **04 50 13.2 +0.2**
CHTO Chiang Mai 75.69 295 P **P** **04 50 14.2 +0.4**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 75.69 295 P **P** **04 50 14.2 +0.4**
XLT XiLinHaoTe 76.00 325 ⇓*i*P **P** **04 50 19.3 +4.1**
XLT pP pwP 04 50 23.3 +1.6
XLT sP PcP 04 50 26.8 -0.7
XLT S **S** **05 00 02.3 +3.8**
XLT sS sS 05 00 10.0 +7.9
XLT SS **SS** **05 04 55.3 +3.6**
XLT pmax pmax
comp=Z,29nm,1.4s
XLT pmax pmax
comp=Z,140nm,4.0s
XLT LR LR
comp=Z,270nm,13.8s
XLT LR LR
comp=Z,190nm,20.0s
PZH PanZhiHua 76.52 303 P **P** **04 50 21.3 +2.7**
PZH S **S** **05 00 04.0 -1.0**
PZH SS **SS** **05 04 56.8 -3.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,160nm,5.5s
PZH LR LR
comp=Z,360nm,23.0s
PZH LR LR
comp=Z,610nm,22.0s
PZH LR LR
comp=Z,560nm,24.0s
HHC Hu-ho-hao-te 76.80 320 *e*P **P** **04 50 20.3 +0.5**
MA2 Magadan 76.88 352 LR LR 05 19 16.6
comp=Z,186nm,21.0s,baz=162,slow=32
MA2 Magadan 76.88 352⇑ *e*P **P** **04 50 20.3 +0.7**
MA2 pmax pmax
comp=Z,15nm,1.1s
MA2 Magadan 76.88 352 P **P** **04 50 20.1 +0.4**
MA2 IAmb IAmb 04 50 23.0
comp=Z,12nm,1.0s
CD2 Chengdu 76.95 308 P **P** **04 50 20.8 0.0**
CD2 pP sP 04 50 24.0 +0.1
CD2 S **S** **05 00 10.5 +1.2**
CD2 SS **SS** **05 05 10.5 +3.9**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 pmax pmax
comp=Z,110nm,7.7s
CD2 LR LR
comp=Z,300nm,17.0s
CD2 LR LR
comp=Z,280nm,17.0s
RPN Rapa Nui 77.04 115 LR LR 05 17 59.2
comp=Z,187nm,18.7s,baz=264,slow=31
HIA Hailar 77.68 330⇑ *e*P **P** **04 50 23.5 -1.0**
HIA pmax pmax
comp=Z,3.0nm,0.9s
ZEA Zeya 77.79 337 *e*P **P** **04 50 26.1 +1.2**
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.8s
LZH Lanzhou 79.37 313 *e*P **P** **04 50 35.0 +0.7**
LZH pP sP 04 50 38.8 +1.4
LZH sP PcP 04 50 43.8 +1.4
LZH *e*S **S** **05 00 37.8 +2.4**
LZH SS **SS** **05 05 44.5 +1.4**
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,140nm,4.6s
LZH LR LR
comp=Z,160nm,12.7s
LZH LR LR
comp=Z,300nm,14.1s
LZH LR LR
comp=Z,320nm,16.3s
SEY Seymchan 79.92 353 LR LR 05 23 13.5
comp=Z,322nm,19.1s,baz=188,slow=34
SEY Seymchan 79.92 353⇓ *e*P **P** **04 50 34.7 -1.7**
SEY pmax pmax
comp=Z,17nm,1.3s
MAW Mawson 80.31 202 LR LR 05 22 06.1
comp=Z,293nm,20.5s,baz=99,slow=33
MAW Mawson 80.31 202 P **P** **04 50 39.3 +0.7**
MAW pmax pmax
comp=Z,3.0nm,1.1s
MAW Mawson 80.31 202 P **P** **04 50 39.3 +0.7**
KDAK Kodiak Island 81.05 21 LR LR 05 20 57.1
comp=Z,395nm,19.6s,baz=227,slow=31
ULN Ulaanbaatar 83.42 324 P **P** **04 50 55.3 -0.2**
ULN pmax pmax
comp=Z,26nm,1.0s
ULN Ulaanbaatar 83.42 324 P **P** **04 50 55.3 -0.2**
YAK Yakutsk 83.59 343 P **P** **04 50 56.3 +0.5**
comp=Z,24nm,0.6s,baz=134,slow=1.2,SNR=6.0
YAK LR LR 05 28 47.4
comp=Z,243nm,18.0s,baz=94,slow=36
YAK Yakutsk 83.59 343 *e*P **P** **04 50 58.3 +2.5**
YAK *e* 04 54 09.7
YAK *e*PPP PPP 04 56 01.4
YAK *e*S **S** **05 01 20.3 +2.7**
YAK *e*SS **SS** **05 06 47.7 +3.2**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=Z,180nm,5.4s
YAK pmax pmax
comp=N,78nm,3.4s
YAK pmax pmax
comp=E,73nm,3.8s
YAK smax smax
comp=E,103nm,4.4s
YAK smax smax
comp=N,117nm,4.2s
YAK MLR MLR
comp=Z,553nm,25.0s
YAK Yakutsk 83.59 343 P **P** **04 50 57.1 +1.4**
GTA Gaotai 83.75 314 ⇓P **P** **04 50 57.0 -0.3**
GTA pP sP 04 51 00.5 +0.1
GTA sP pwP 04 51 04.8 +1.0
GTA S **S** **05 01 19.0 -1.6**
GTA sS ScS 05 01 33.0 -0.5
GTA pmax pmax
comp=Z,8.0nm,1.5s
GTA pmax pmax
comp=Z,43nm,4.2s
GTA LR LR
comp=Z,160nm,18.5s
GTA LR LR
comp=Z,440nm,19.3s
GTA LR LR
comp=Z,230nm,18.2s
SONM Songino Array 83.78 324 P **P** **04 50 56.4 -0.9**
comp=Z,16nm,1.1s,baz=141,slow=3.5,SNR=28
SONM Songino Array 83.78 324 P **P** **04 50 57.1 -0.2**
SONM pmax pmax
comp=Z,18nm,1.1s
SONM Songino Array 83.78 324 P **P** **04 50 57.1 -0.2**
L19K White Mountain 83.85 17 P **P** **04 50 56.5 -0.7**
L19K IAmb IAmb 04 51 01.7
comp=Z,11nm,1.1s
TTA Tatalina 84.14 16 P **P** **04 50 57.7 -1.0**
TTA pmax pmax
comp=Z,10.0nm,1.3s
TTA Tatalina 84.14 16 P **P** **04 50 57.6 -1.0**
TTA IAmb IAmb 04 51 02.7
comp=Z,10nm,1.3s
BILL Bilibino 84.20 360 *c i*P **P** **04 50 56.7 -2.1**
BILL *e* 04 51 06.8
BILL S **S** **05 01 24.0 +0.4**
BILL pmax pmax
comp=Z,28nm,1.3s
BILL MLR MLR
comp=Z,196nm,17.0s
BILL Bilibino 84.20 360 P **P** **04 50 56.8 -2.0**
BELA Belgrano 2 85.07 175 P **P** **04 51 04.5 +1.2**
KMRM Mail Ridge 85.33 46 P **P** **04 51 03.1 -2.1**
CAST Castle Rocks 85.61 17 IAmb IAmb 04 51 09.1
comp=Z,14nm,1.0s
J20K Nowinta River 85.65 16 IAmb IAmb 04 51 20.4
comp=Z,19nm,1.4s
LSA Lhasa 86.37 302 P **P** **04 51 10.2 -0.9**
LSA pmax pmax
comp=Z,10.0nm,1.1s
LSA Lhasa 86.37 302 P **P** **04 51 10.2 -0.9**
LSA IAmb IAmb 04 51 15.7
comp=Z,10nm,1.1s
YBH Yreka Blue Hor 86.66 45 LR LR 05 23 17.7
comp=Z,257nm,19.6s,baz=254,slow=31
ZAK Zakamensk 86.86 325 *e*P **P** **04 51 10.8 -1.8**
ZAK pmax pmax
comp=Z,20nm,1.3s
I21K Tanana 87.01 16 P **P** **04 51 11.1 -1.8**
I21K IAmb IAmb 04 51 17.5
comp=Z,12nm,1.0s
SYO Syowa Base 87.09 197⇓ *e*pP pP 04 51 16.2 +0.5
SYO Syowa Base 87.09 197⇓ *e*PP PP 04 54 36.6 +0.4
H21K Melozitna Rive 87.17 15 IAmb IAmb 04 51 28.2
comp=Z,11nm,1.3s
MDM Murphy Dome 87.88 17 IAmb IAmb 04 51 19.9
comp=Z,6.9nm,1.0s
COLA College 87.93 18⇑ *e*P **P** **04 51 17.5 +0.3**
COLA pmax pmax
comp=Z,5.0nm,0.9s
PFO Pinyon Flats O 88.04 54 LR LR 05 23 04.5
comp=Z,709nm,19.8s,baz=248,slow=30
IL31 88.14 18 P **P** **04 51 17.8 -0.4**
IL31 IAmb IAmb 04 51 33.1
comp=Z,7.4nm,1.1s
ILAR Eielson Array 88.14 18 P **P** **04 51 15.8 -2.5**
comp=Z,1.1nm,0.8s,baz=236,slow=5.1,SNR=15
ILAR LR LR 05 28 47.6
comp=Z,382nm,18.4s,baz=181,slow=34
BBB Bella Bella 88.20 34 LR LR 05 21 51.5
comp=Z,211nm,21.8s,baz=248,slow=30
NVAR Mina Array Bea 88.42 49 P **P** **04 51 22.6 +2.1**
comp=Z,0.5nm,0.8s,baz=246,slow=6.8,SNR=3.8
NVAR LR LR 05 23 02.8
comp=Z,301nm,20.7s,baz=274,slow=30
J25K Salcha River, 88.48 19 IAmb IAmb 04 51 23.4
comp=Z,15nm,1.4s
PALK Pallekele 88.67 278 LR LR 05 32 04.8
comp=Z,173nm,19.8s,baz=225,slow=36
PALK Pallekele 88.67 278 P **P** **04 51 19.6 -2.4**
PALK pmax pmax
comp=Z,6.0nm,0.9s
PALK Pallekele 88.67 278 P **P** **04 51 19.6 -2.4**
PALK IAmb IAmb 04 51 32.8
comp=Z,6.1nm,0.9s
LPIG La Paz 89.98 65 LR LR 05 25 32.1
comp=Z,579nm,18.0s,baz=222,slow=31
DLBC Dease Lake 90.45 28 LR LR 05 24 46.7
comp=Z,296nm,20.3s,baz=265,slow=31
TROLL Troll, Antarti 91.20 185 P **P** **04 51 32.6 -0.3**
ELK Elko 91.47 48 LR LR 05 25 23.0
comp=Z,308nm,20.4s,baz=255,slow=31
TIXI Tiksi 91.58 349⇑ *e*P **P** **04 51 31.8 -2.4**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
TIXI Tiksi 91.58 349 P **P** **04 51 35.0 +0.8**
TIXI IAmb IAmb 04 51 39.4
comp=Z,12nm,1.4s
SNAA Sanae 91.89 183 P **P** **04 51 35.2 -0.8**
SNAA Sanae 91.89 183 LR LR 05 29 36.5
comp=Z,145nm,20.7s,baz=154,slow=34
SNAA Sanae 91.89 183 P **P** **04 51 37.0 +1.0**
SNAA pmax pmax
comp=Z,21nm,1.4s
SNAA Sanae 91.89 183 P **P** **04 51 37.0 +1.0**
NEW Newport 92.89 40 LR LR 05 28 38.2
comp=Z,168nm,18.9s,baz=250,slow=32
WMQ Urumqi 93.83 314 *e*P **P** **04 51 47.5 +2.1**
WMQ pmax pmax
comp=Z,15nm,1.5s
WMQ LR LR
comp=Z,620nm,28.5s
WMQ LR LR
comp=Z,600nm,14.3s
WMQ LR LR
comp=Z,110nm,19.9s
INK Inuvik 94.49 19 LR LR 05 30 05.1
comp=Z,373nm,20.2s,baz=208,slow=33
USHA Ushuaia 94.86 151 LR LR 05 28 38.2
comp=Z,210nm,18.4s,baz=190,slow=32
PDAR Pinedale Array 96.14 47 LR LR 05 32 07.4
comp=Z,152nm,18.1s,baz=255,slow=33
ANMO Albuquerque 96.32 56 LR LR 05 27 44.2
comp=Z,294nm,19.9s,baz=250,slow=31
TXAR Lajitas Array 97.15 62 LR LR 05 29 04.2
comp=Z,295nm,18.8s,baz=254,slow=31
MK31 Makanchi Array 98.34 316 P **P** **04 52 03.7 -2.0**
MK31 pmax pmax
comp=Z,7.0nm,1.5s
MK31 Makanchi Array 98.34 316 P **P** **04 52 03.7 -2.0**
MK31 IAmb IAmb 04 52 10.3
comp=Z,7.1nm,1.5s
MKAR Makanchi Array 98.34 316 P **P** **04 52 05.6 -0.1**
comp=Z,0.4nm,0.4s,baz=99,slow=6.6,SNR=4.2
MKAR LR LR 05 39 29.8
comp=Z,72nm,18.1s,baz=90,slow=37
MKAR Makanchi Array 98.34 316 P **P** **04 52 03.9 -1.8**
ZAA0 Zalesovo Array 98.68 324 P **P** **04 52 07.0 0.0**
ZAA0 IAmb IAmb 04 52 10.2
comp=Z,6.8nm,1.3s
ZALV Zalesovo Beam 98.68 324 P **P** **04 52 06.4 -0.6**
comp=Z,1.1nm,0.6s,baz=114,slow=7.0,SNR=7.6
ZALV LR LR 05 35 35.3
comp=Z,114nm,21.9s,baz=116,slow=35
ZALV Zalesovo Beam 98.68 324 P **P** **04 52 07.3 +0.3**
ZALV Zalesovo Beam 98.68 324 P **P** **04 52 07.3 +0.3**
YKA Yellowknife Ar 99.06 27 P **Pdif** **04 52 05.8 -2.7**
comp=Z,0.4nm,0.7s,baz=258,slow=4.6,SNR=7.5
YKA LR LR 05 31 34.2
comp=Z,156nm,19.4s,baz=278,slow=32
NRIK Noril'sk 101.59 339 *ce*P **Pdif** **04 52 19.7 0.0**
NRIK pmax pmax
comp=Z,12nm,2.5s
ARCES ARCESS Array B 121.83 345 PKP **PKPdf** **04 57 19.2 -2.3**
comp=Z,3.9nm,0.8s,baz=48,slow=1.3,SNR=8.8
KLMR Klimovskoe 122.12 333 *e*PKIKP **PKPdf** **04 57 19.5 -2.7**
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 122.12 333 *e*PKPdf **PKPdf** **04 57 19.5 -2.7**
KLMR AMP 04 57 25.5
comp=Z,15nm,1.4s
VRH Novokhopyorsk 124.64 321 *e*PKIKP **PKPdf** **04 57 26.1 -1.3**
VRH pmax pmax
comp=Z,9.0nm,0.9s
ZEI Tsey 125.28 311 *i* PKIKP **PKPdf** **04 57 29.4 +0.2**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
LPSR Galich'ya Gora 125.79 324 *e*PKIKP **PKPdf** **04 57 27.8 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,1.3s
KBZ Khabaz 125.81 312⇓ *i* PKIKP **PKiKP** **04 57 32.2 +2.0**
KIV Kislovodsk 125.92 313 *i* PKIKP **PKiKP** **04 57 31.1 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 125.92 313 PKPdf **PKPdf** **04 57 30.4 +0.2**
VORR Voronezh 125.96 323 *e*PKIKP **PKPdf** **04 57 29.3 -0.6**
OBN Obninsk 126.06 327⇑ *i* PKIKP **PKiKP** **04 57 31.9 +1.5**
OBN *e* 04 57 38.6
OBN *e* 04 57 43.6
OBN *e*SS SS 05 16 24.2 -1.2
OBN pmax pmax
comp=Z,25nm,1.3s
VSR Storozhevoye 126.15 322 *e*PKIKP **PKPdf** **04 57 27.6 -2.7**
VSR pmax pmax
comp=Z,10.0nm,1.6s
VORD Divnogorie 126.16 322 *e*PKIKP **PKPdf** **04 57 30.1 -0.2**
VORD pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 127.23 338 PKP **PKPdf** **04 57 31.1 -0.9**
comp=Z,2.9nm,1.0s,baz=15,slow=12,SNR=2.5
GURO Guroymak-BITLI 127.40 306 PKPdf **PKPdf** **04 57 33.0 -0.3**
MARD Mardin 128.57 305 PKPdf **PKPdf** **04 57 35.1 -0.4**
AKASG Malin Array Be 132.05 325 PKP **PKPdf** **04 57 41.7 +0.2**
comp=Z,0.3nm,0.3s,baz=73,slow=1.9,SNR=1.4
AKASG SKPbc **SKPbc** **05 01 08.2 +0.3**
comp=Z,0.2nm,0.3s,baz=49,slow=4.9,SNR=10
AKASG Malin Array Be 132.05 325 PKPdf **PKPdf** **04 57 41.1 -0.4**
AKBB Malin Array Si 132.05 325⇑ *i* PKIKP **PKiKP** **04 57 43.0 +0.4**
NOA NORSAR Array B 132.20 344 PKP **PKPdf** **04 57 40.9 -0.7**
comp=Z,0.9nm,0.8s,baz=36,slow=1.8,SNR=3.4
BRTR Keskin Array B 133.51 310 PKP **PKiKP** **04 57 45.7 -0.4**
comp=Z,2.3nm,1.1s,baz=64,slow=3.4,SNR=7.8
BRTR Keskin Array B 133.51 310 PKPdf **PKPdf** **04 57 45.6 +0.7**
ANTO Ankara 134.09 310 PKIKP **PKPdf** **04 57 46.2 +0.3**
ANTO Ankara 134.09 310 PKPdf **PKPdf** **04 57 46.2 +0.3**
UZH Uzhgorod 136.95 326 *e*PKHKP PKPpre 04 57 41.4
BRG Berggiesshubel 139.47 334 *e*PKP **PKiKP** **04 58 01.3 +3.7**
BRG Amp 04 58 04.2
comp=Z,8.8nm,1.3s
CLL Collm 139.53 335 *e*PKIKP **PKiKP** **04 57 59.0 +1.2**
CLL Collm 139.53 335 *e*PKPdf **PKiKP** **04 57 59.0 +1.2**
CLL *e*SS SS 05 19 12.0 +3.5
CLL Lm MLR 06 06 00.0
comp=Z,200nm,18.6s

RONA	**Rosalia, Austr**	**140.65**	**329**	*e*P		**PKPdf**	**04 57 57.2**	**-0.5**
	comp=Z,3.1nm,1.0s								
CONA	**Conrad Observa**	**140.71**	**329**	*e*P		**PKiKP**	**04 57 59.4**	**-1.0**
	comp=Z,3.9nm,1.0s								
DIVS	**Divibare**	**140.87**	**322**			**PKPdf**	**04 57 56.4**	**-1.8**
KHC	**Kasperske Hory**	**140.92**	**332**	*e*PKIKP		**PKPdf**	**04 57 59.2**	**+1.1**
KHC				*e*			04 58 05.6		
KHC	**Kasperske Hory**	**140.92**	**332**	*e*PKPDF		**PKPdf**	**04 57 59.2**	**+1.1**
KHC				*e*pPKP		**sPKPdf**	**04 58 05.6**	**+3.7**
GERES	**GERESS Array B**	**141.07**	**332**	PKP		**PKiKP**	**04 58 00.4**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=68,slow=2.6,SNR=3.0								
FNA	**Florina**	**141.76**	**316**	PKIKP		**PKPdf**	**04 57 58.6**	**-1.3**
FNA	**Florina**	**141.76**	**316**	PKPdf		**PKPdf**	**04 57 58.6**	**-1.3**
KBA	**Koelnbreinsper**	**142.52**	**330**	P		**PKPdf**	**04 58 02.3**	**+1.1**
	comp=Z,6.4nm,1.4s								
ABTA	**Abfaltersbach**	**143.16**	**331**	*e*P		**PKPdf**	**04 58 01.5**	**-0.7**
	comp=Z,8.3nm,1.3s								
WTTA	**Wattenberg**	**143.18**	**332**	*e*P		**PKPdf**	**04 58 01.7**	**-0.7**
	comp=Z,8.0nm,1.4s								
MOTA	**Moosalm**	**143.35**	**332**	*e*P		**PKPdf**	**04 58 03.2**	**+0.5**
	comp=Z,7.1nm,0.9s								
RETA	**Reutte**	**143.40**	**333**	P		**PKiKP**	**04 58 08.6**	**+2.7**
	comp=Z,5.7nm,1.4s								
SQTA	**Sankt Quirin**	**143.40**	**332**	*e*P		PKPbc	04 58 01.0	+1.2
	comp=Z,14nm,1.3s								
FETA	**Feichten**	**143.77**	**332**	*e*P		PKPbc	04 58 00.9	0.0
	comp=Z,12nm,1.1s								
DAVA	**Damuels**	**143.93**	**333**	*i* P		PKPbc	04 58 02.0	+0.6
	comp=Z,10nm,1.1s								
TEOL	**Teolo**	**144.57**	**330**	PKPdf		**PKPab**	**04 58 03.3**	**+0.2**
TUE	**Stuetta**	**144.80**	**333**	PKPdf		**PKPab**	**04 58 04.0**	**-0.1**
MURB	**Monte Urbino**	**145.62**	**326**			**PKPdf**	**04 58 06.1**	**-0.5**
ZCCA	**Zocca**	**145.64**	**329**			**PKPdf**	**04 58 05.7**	**-0.9**
SENIN	**Lac Senin/Sane**	**145.74**	**335**			**PKPdf**	**04 58 06.7**	**-0.2**
OSSC	**Osservatorio P**	**146.10**	**328**	PKPbc		**PKPbc**	**04 58 08.5**	**+0.3**
BNI	**Bardonecchia**	**147.06**	**334**	PKP2		**PKPdf**	**04 58 09.6**	**+0.5**
BNI	**Bardonecchia**	**147.06**	**334**			**PKPdf**	**04 58 09.6**	**+0.5**
SSB	**Saint Sauveur**	**147.72**	**337**	PKP2		**PKPbc**	**04 58 12.6**	**-0.3**
SSB	**Saint Sauveur**	**147.72**	**337**	PKPbc		**PKPbc**	**04 58 12.6**	**-0.3**
VSL	**Villasalto**	**149.92**	**324**	PKPbc		**PKPbc**	**04 58 17.5**	**-1.1**
KEST	**Kesra**	**152.41**	**318**	PKPbc		**PKPbc**	**04 58 24.1**	**-0.5**
	comp=Z,9.2nm,0.9s,baz=299,slow=2.1,SNR=6.6								
ESDC	**Sonseca Array**	**155.56**	**343**	PKPab		**PKPab**	**04 58 48.2**	**+0.4**
	comp=Z,2.2nm,1.1s,baz=342,slow=3.4,SNR=4.1								
TORD	**Torodi Ar. Bea**	**165.59**	**259**	PKPab		**PKPab**	**04 59 31.6**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=96,slow=2.9,SNR=4.1								

IDC 30 04:43:38.4±10.0**, 21°.89S**×**179°.39W, h617**km±87km**, mb3.4/4, mb1 3.5/5, mb1mx2.9/47, mbtmp4.5/5 Error ellipse: s-maj=239.9km s-min=92.6km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.78**	**329**	P	P	04 45 10.8	-0.2
	14nm,0.3s,baz=73,slow=24,SNR=55						
CTA	**Charters Tower**	**32.09**	**267**	P	P	04 49 17.6	+0.3
	9.7nm,0.9s,baz=91,slow=11,SNR=11						
STKA	**Stephens Creek**	**36.03**	**246**	P	P	04 49 49.5	-0.3
	4.0nm,0.6s,baz=96,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**42.95**	**258**	P	P	04 50 45.3	+0.1
	4.7nm,0.6s,baz=100,slow=7.7,SNR=27						
WRA	**Warramunga Arr**	**43.14**	**264**	P	P	04 50 46.5	-0.2
	1.5nm,0.4s,baz=96,slow=8.3,SNR=176						

*NOU **30** 04:47:04.7, 16°.27S×167°.34E, h9km, MLv4.7/17, Vanuatu Islands*

*IDC **30** 04:47:06.8±3.2, 16°.53S×166°.78E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/38, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=68.3km s-min=32.7km az=83.0*

ISC 30 04:47:05.0±1.0**, 16°.33S**±0°.08×**167°.3E**±0°.1**, h10km, n14, σ1s32/15, mb4.0/3, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.88**	**356**	P	**Pb**	**04 47 21.0**	**-1.3**
DVP	**Devils Point**	**1.65**	**148**	P	**Pn**	**04 47 33.8**	**-0.2**
RTV	**Rentapao**	**1.84**	**143**	P	**Pn**	**04 47 36.5**	**-0.1**
KOUNC	**Koumac, New Ca**	**5.06**	**213**	P	**Pn**	**04 48 21.2**	**+0.2**
MARNC	**Mare, Loyalty**	**5.18**	**172**	P	**Pn**	**04 48 23.8**	**+1.2**
YATNC	**Mamie plateau,**	**5.71**	**183**	P	**Pn**	**04 48 29.0**	**-1.0**
DZM	**Mont Dzumac**	**5.77**	**188**	Pn	**Pn**	**04 48 30.3**	**-0.4**
	2.0nm,0.3s,baz=57,slow=3.6,SNR=39						
DZM					**Sn**	**04 49 35.7**	**-1.3**
	3.4nm,0.3s,baz=113,slow=23,SNR=6.3						
DZM	**Mont Dzumac**	**5.77**	**188**	P	**Pn**	**04 48 31.2**	**+0.4**
NOUC	**Port Laguerre**	**5.82**	**189**	P	**Pn**	**04 48 32.2**	**+0.9**
ONTNC	**Ouen Toro**	**6.00**	**187**	P	**Pn**	**04 48 34.9**	**+1.0**
OUENC	**Ouen Island, N**	**6.07**	**184**	P	**Pn**	**04 48 36.3**	**+1.4**
WRA	**Warramunga Arr**	**31.46**	**258**	P	**P**	**04 53 25.8**	**-1.3**
	0.6nm,0.9s,baz=93,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**32.13**	**251**	P	**P**	**04 53 31.9**	**-0.9**
	1.5nm,0.7s,baz=77,slow=9.0,SNR=8.2						
SONM	**Songino Array**	**83.77**	**324**	P	**P**	**04 59 37.4**	**+2.9**
	0.3nm,0.3s,baz=122,slow=5.2,SNR=1.6						

*IDC **30** 04:48:08.0±1.0, 37°.59N×23°.57E, h0km, mb3.7/8, mb1 3.8/14, mb1mx3.7/49, mbtmp3.7/14, ML3.2/6, MS3.3/17, Ms1 3.3/17, ms1mx3.0/100, Error ellipse: s-maj=18.8km s-min=15.5km az=24.0*

*ISK **30** 04:48:08.3, 37°.63N×23°.59E, h4km, ML3.8/15*

*ATH **30** 04:48:10.1, 37°.54N×23°.55E, h11km±1km, ML3.7/24, Error ellipse: s-maj=1.3km s-min=0.5km az=90.0*

*THE **30** 04:48:10.2, 37°.53N×23°.58E, h8km, ML3.8/13, Error ellipse: s-maj=0.9km s-min=0.4km az=64.0*

*DDA **30** 04:48:14.4±0.0, 37°.97N×23°.50E, h12km±2km, ML3.6, Hypocentre not reviewed by the ISC*

ISC 30 04:48:09.3±1.0**, 37°.58N**±0°.02×**23°.58E**±0°.02**, h7km**±7km**, n131, σ0s81/171, mb3.8/8, MS3.4/9, 21C-5D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YDRA	**Hydra**	**0.24**	**201**	P	**Pg**	**04 48 14.3**	**+0.2**
YDRA				S	**Sg**	**04 48 17.9**	**+0.6**
YDRA				AML	AML	04 48 19.3	
	comp=E,69672μm,0.7s						
YDRA				AML	AML	04 48 19.8	
	comp=N,57168μm,0.4s						
VLY	**Voula,Athens**	**0.33**	**32**	P	**Pb**	**04 48 17.1**	**-0.4**
VLY				S	**Sb**	**04 48 22.6**	**-0.3**
VLY				AML	AML	04 48 24.5	
	comp=N,24034μm,0.3s						
VLY				AML	AML	04 48 26.5	
	comp=E,22037μm,0.3s						
VLY	**Voula,Athens**	**0.33**	**32**	P	**Pb**	**04 48 16.9**	**-0.6**
VLY				S	**Sb**	**04 48 22.9**	**0.0**
	comp=E,12μm,0.3s						
KRND	**KRANIDI**	**0.39**	**241**	P	**Pg**	**04 48 16.7**	**-0.1**
KRND				S	**Sg**	**04 48 22.3**	**+0.3**
KRND				AML	AML	04 48 25.4	
	comp=E,37853μm,0.6s						
KRND				AML	AML	04 48 25.6	
	comp=N,28868μm,0.7s						
KRND	**KRANIDI**	**0.39**	**241**	P	**Pg**	**04 48 16.8**	**-0.1**
KRND				S	**Sg**	**04 48 23.1**	**+1.1**
	comp=N,17μm,0.5s						
ATH	**Athens Observa**	**0.41**	**16**	P	**Pb**	**04 48 18.8**	**-0.2**
ATH				S	**Sb**	**04 48 25.7**	**+0.3**
ATH				AML	AML	04 48 26.8	
	comp=N,39280μm,0.5s						
ATH				AML	AML	04 48 28.6	
	comp=E,23831μm,0.5s						
ATH	**Athens Observa**	**0.41**	**16**	P	**Pb**	**04 48 18.7**	**-0.2**
ATH				S	**Sb**	**04 48 26.0**	**+0.7**
	comp=E,16μm,0.5s						
ATHU	**Athens Univers**	**0.42**	**23**	P	**Pb**	**04 48 18.7**	**-0.4**
ATHU				S	**Sb**	**04 48 25.6**	**-0.1**
ATHU				AML	AML	04 48 30.7	
	comp=E,3695μm,0.5s						
ATHU				AML	AML	04 48 31.9	
	comp=N,3475μm,0.5s						
ATHU	**Athens Univers**	**0.42**	**23**	P	**Pb**	**04 48 18.7**	**-0.4**
ATHU				S	**Sb**	**04 48 25.7**	**0.0**
PTL	**Penteli**	**0.53**	**26**	P	**Pb**	**04 48 20.5**	**-0.4**
PTL				S	**Sb**	**04 48 28.4**	**-0.2**
PTL	**Penteli**	**0.53**	**26**	P	**Pb**	**04 48 20.5**	**-0.4**
DION	**Dionisos Attik**	**0.58**	**29**	P	**Pb**	**04 48 21.5**	**-0.3**
DION				S	**Sb**	**04 48 29.7**	**-0.5**
DION				AML	AML	04 48 34.7	
	comp=N,9408μm,0.4s						
DION				AML	AML	04 48 35.2	
	comp=E,14264μm,0.7s						
DION	**Dionisos Attik**	**0.58**	**29**	P	**Pb**	**04 48 21.4**	**-0.3**
DION				S	**Sb**	**04 48 30.4**	**+0.3**
	comp=E,10μm,0.5s						
VILL	**Villia**	**0.62**	**341**	P	**Pb**	**04 48 22.2**	**-0.4**
VILL				S	**Sb**	**04 48 32.4**	**+0.9**
	comp=E,10μm,0.6s						
VIL2	**Platees**	**0.68**	**339**	P	**Pg**	**04 48 22.2**	**-0.2**
VIL2				S	**Sg**	**04 48 31.3**	**0.0**
VIL2				AML	AML	04 48 37.7	
	comp=E,27131μm,0.8s						
VIL2				AML	AML	04 48 38.1	
	comp=N,9768μm,0.3s						
KARY	**Karystos**	**0.82**	**56**	P	**Pb**	**04 48 26.2**	**+0.4**
KARY				S	**Sb**	**04 48 38.3**	**+1.2**
KARY	**Karystos**	**0.82**	**56**	P	**Pb**	**04 48 26.7**	**+0.8**
KARY				S	**Sb**	**04 48 38.3**	**+1.2**
THAL	**Thalero**	**0.86**	**303**	P	**Pb**	**04 48 26.4**	**-0.1**
THAL				S	**Sg**	**04 48 37.8**	**+0.9**
THAL				AML	AML	04 48 43.3	
	comp=N,8908μm,0.3s						
THAL				AML	AML	04 48 49.4	
	comp=E,13177μm,1.0s						
THAL	**Thalero**	**0.86**	**303**	P	**Pg**	**04 48 26.2**	**+0.4**
THAL				S	**Sn**	**04 48 41.1**	**+0.6**
	comp=E,7μm,0.9s						
MNVA	**Monemvasia**	**0.99**	**206**	P	**Pg**	**04 48 28.0**	**-0.2**
MNVA				S	**Sg**	**04 48 40.9**	**-0.1**
MNVA				AML	AML	04 48 44.9	
	comp=N,12279μm,0.8s						
MNVA				AML	AML	04 48 47.3	
	comp=E,10657μm,0.9s						
VLI	**Velíai**	**1.00**	**211**	P	**Pg**	**04 48 28.0**	**-0.4**
VLI				S	**Sg**	**04 48 40.7**	**-0.6**
VLI				AML	AML	04 48 46.0	
	comp=E,10408μm,0.9s						
VLI				AML	AML	04 48 48.0	
	comp=N,16699μm,0.8s						
VLI	**Velíai**	**1.00**	**211**	P	**Pg**	**04 48 28.0**	**-0.4**
VLI				S	**Sb**	**04 48 42.6**	**+0.4**
	comp=N,7μm,0.9s						
GUR	**Goura**	**1.04**	**291**	P	**Pg**	**04 48 29.2**	**-0.1**
GUR				S	**Sg**	**04 48 43.4**	**+0.5**
GUR				AML	AML	04 48 50.3	
	comp=N,9120μm,0.4s						
GUR				AML	AML	04 48 56.2	
	comp=E,6142μm,0.8s						
MHLO	**Agia Marina, M**	**1.10**	**143**	P	**Pb**	**04 48 30.9**	**+0.2**
MHLO				S	**Sb**	**04 48 45.5**	**+0.3**
MHLO				AML	AML	04 48 51.0	
	comp=E,12877μm,0.5s						
MHLO				AML	AML	04 48 52.3	
	comp=N,13012μm,0.6s						
KYMI	**Kymi, Euboea I**	**1.13**	**21**	P	**Pb**	**04 48 31.7**	**+0.5**
KYMI				S	**Sn**	**04 48 47.8**	**+0.4**
KYMI				AML	AML	04 48 53.5	
	comp=N,7786μm,0.6s						
KYMI				AML	AML	04 48 53.6	
	comp=E,13354μm,0.9s						
KYMI	**Kymi, Euboea I**	**1.13**	**21**	P	**Pn**	**04 48 31.9**	**+0.3**
KYMI				S	**Sn**	**04 48 48.6**	**+1.2**
	comp=E,6μm,0.7s						
LKR	**Lokris**	**1.17**	**337**	P	**Pn**	**04 48 32.5**	**+0.5**
LKR				S	**Sb**	**04 48 48.1**	**+1.0**
LKR				AML	AML	04 48 51.9	
	comp=N,16517μm,0.7s						
LKR				AML	AML	04 48 53.0	
	comp=E,6757μm,0.2s						
LKR	**Lokris**	**1.17**	**337**	P	**Pn**	**04 48 32.7**	**+0.7**
LKR				S	**Sn**	**04 48 49.7**	**+1.6**
	comp=E,6μm,0.5s						
ATAL	**Atalanti**	**1.20**	**339**	P	**Pb**	**04 48 32.4**	**+0.1**
ATAL				S	**Sn**	**04 48 49.4**	**+0.4**
ATAL				AML	AML	04 48 54.0	
	comp=E,7316μm,0.8s						
ATAL				AML	AML	04 48 54.9	
	comp=N,7802μm,1.0s						
ATAL	**Atalanti**	**1.20**	**339**	P	**Pg**	**04 48 32.0**	**-0.3**
ATAL				S	**Sn**	**04 48 50.8**	**+1.8**
	comp=N,4μm,0.8s						
KLV	**Kalavryta, Ach**	**1.22**	**293**	P	**Pg**	**04 48 32.3**	**-0.5**
KLV				S	**Sg**	**04 48 48.3**	**-0.3**
KLV				AML	AML	04 48 56.1	
	comp=E,2590μm,0.8s						
KLV				AML	AML	04 48 58.6	
	comp=N,2648μm,0.6s						
KLV	**Kalavryta, Ach**	**1.22**	**293**	P	**Pg**	**04 48 32.1**	**-0.7**
KLV				S	**Sb**	**04 48 50.1**	**+1.4**
	comp=N,1μm,0.7s						
DLFA	**Delphi**	**1.24**	**317**	P	**Pb**	**04 48 33.3**	**+0.2**
DLFA				S	**Sb**	**04 48 49.8**	**+0.5**
DLFA				AML	AML	04 48 55.3	
	comp=N,3101μm,0.7s						
DLFA				AML	AML	04 48 57.4	
	comp=E,2890μm,0.7s						
TNSA	**Tinos**	**1.26**	**91**	P	**Pn**	**04 48 34.0**	**+0.7**
TNSA				S	**Sn**	**04 48 51.0**	**+0.5**
TNSA				AML	AML	04 48 51.3	
	comp=E,6739μm,0.5s						
TNSA				AML	AML	04 48 53.4	
	comp=N,7095μm,0.3s						
ALIK	**Aliki, Aigiali**	**1.34**	**301**	P	**Pb**	**04 48 35.3**	**+0.5**
ITM	**Ithomi**	**1.37**	**254**	P	**Pg**	**04 48 34.9**	**-0.7**
ITM				S	**Sg**	**04 48 52.3**	**-1.2**
ITM				AML	AML	04 49 00.2	
	comp=N,2608μm,0.5s						
ITM				AML	AML	04 49 01.2	
	comp=E,3288μm,1.0s						
ITM	**Ithomi**	**1.37**	**254**	P	**Pg**	**04 48 34.9**	**-0.7**
ITM	**Ithomi**	**1.37**	**254**	PN	**Pg**	**04 48 35.0**	**-0.7**
ITM				SN	**Sn**	**04 48 55.2**	**+1.9**
KTHA	**Kythira Island**	**1.38**	**198**	P	**Pn**	**04 48 34.3**	**-0.6**
KTHA				S	**Sg**	**04 48 52.2**	**-1.5**
KTHA				AML	AML	04 48 57.9	
	comp=E,7289μm,0.7s						
KTHA				AML	AML	04 48 58.9	
	comp=N,5574μm,0.7s						
KTHA	**Kythira Island**	**1.38**	**198**	P	**Pn**	**04 48 34.4**	**-0.6**
KTHA				S	**Sg**	**04 48 52.3**	**-1.4**
	comp=N,3μm,0.7s						
KTHR	**Kythira**	**1.39**	**199**	P	**Pn**	**04 48 35.0**	**0.0**
KTHR				S	**Sg**	**04 48 52.7**	**-1.3**
KTHR				AML	AML	04 48 58.2	
	comp=N,15928μm,0.6s						
KTHR				AML	AML	04 48 58.7	
	comp=E,14152μm,0.6s						
KTHR	**Kythira**	**1.39**	**199**	P	**Pn**	**04 48 34.9**	**-0.2**
KTHR				S	**Sb**	**04 48 54.3**	**+0.8**
	comp=E,3μm,0.6s						
LAKA	**Lakka**	**1.43**	**298**	P	**Pn**	**04 48 36.1**	**+0.5**
LAKA	**Lakka**	**1.43**	**298**	P	**Pn**	**04 48 35.8**	**+0.2**
DRO	**Drossia**	**1.52**	**285**	P	**Pn**	**04 48 37.9**	**+1.0**
EFP	**Efpalio**	**1.57**	**303**	P	**Pb**	**04 48 38.7**	**+0.1**
EFP				S	**Sn**	**04 48 58.7**	**+0.6**
EFP				AML	AML	04 49 08.5	
	comp=E,2013μm,0.9s						
EFP				AML	AML	04 49 12.4	
	comp=N,1330μm,0.6s						
APE	**Apeiranthos**	**1.64**	**107**	⇑P	**Pn**	**04 48 38.7**	**+0.2**
APE				⇑S	**Sg**	**04 49 04.1**	**+2.2**
APE	**Apeiranthos**	**1.64**	**107**	P	**Pn**	**04 48 38.7**	**+0.2**
APE	**Apeiranthos**	**1.64**	**107**	P	**Pn**	**04 48 38.5**	**0.0**
APE	**Apeiranthos**	**1.64**	**107**	PN	**Pn**	**04 48 38.3**	**-0.2**
APE				SN	**Sn**	**04 49 00.7**	**+0.8**
APE	**Apeiranthos**	**1.64**	**107**	P		04 48 38.4	
ANX	**Ano Chora**	**1.65**	**308**	P	**Pn**	**04 48 39.7**	**+0.9**
ANX				S	**Sb**	**04 49 01.8**	**+0.6**
ANX				AML	AML	04 49 11.2	
	comp=E,2993μm,0.9s						
ANX				AML	AML	04 49 12.4	
	comp=N,2474μm,1.0s						
ANKY	**Antikythira Is**	**1.72**	**187**	P	**Pn**	**04 48 39.5**	**-0.1**
ANKY				S	**Sn**	**04 49 02.4**	**+0.6**
ANKY				AML	AML	04 49 12.1	
	comp=N,4065μm,0.8s						
ANKY				AML	AML	04 49 12.1	
	comp=E,4350μm,0.7s						
AGG	**Agios Georgios**	**1.75**	**326**	P	**Pn**	**04 48 40.9**	**+0.9**
AGG	**Agios Georgios**	**1.75**	**326**	P	**Pn**	**04 48 40.8**	**+0.8**
AGG	**Agios Georgios**	**1.75**	**326**	PN	**Pn**	**04 48 39.3**	**-0.7**
AGG	**Agios Georgios**	**1.75**	**326**	SPECP		04 48 40.0	
AGG				P		04 48 40.7	
AGG				S		04 49 03.9	
NEO	**Neokhori**	**1.75**	**351**	P	**Pn**	**04 48 40.8**	**+0.7**
NEO	**Neokhori**	**1.75**	**351**	P	**Pn**	**04 48 40.8**	**+0.7**
XOR	**Xorichti**	**1.81**	**351**	P	**Pn**	**04 48 41.6**	**+0.6**
XOR	**Xorichti**	**1.81**	**351**	P	**Pn**	**04 48 41.5**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.83**	**322**	P	**Pn**	**04 48 42.6**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.83**	**322**	P	**Pn**	**04 48 42.6**	**+1.4**
PVO	**Paravola**	**1.92**	**303**	P	**Pb**	**04 48 45.2**	**+0.5**
EVR	**Evrytania**	**1.93**	**314**	P	**Pn**	**04 48 43.9**	**+1.2**
RODP	**Rodopos**	**2.02**	**176**	P	**Pn**	**04 48 43.3**	**-0.4**
RODP	**Rodopos**	**2.02**	**176**	PN	**Pn**	**04 48 44.8**	**+1.1**
CHOS	**Chios island**	**2.12**	**67**	P	**Pn**	**04 48 45.6**	**+0.4**
CHOS	**Chios island**	**2.12**	**67**	PN	**Pn**	**04 48 45.2**	**0.0**
IMMV	**Iera Moni Meta**	**2.14**	**171**	P	**Pn**	**04 48 45.3**	**-0.1**
THL	**Klokotos Trika**	**2.33**	**329**	P	**Pn**	**04 48 49.0**	**+1.0**
KNDR	**Palaiochora Ch**	**2.34**	**178**	PN	**Pn**	**04 48 49.6**	**+1.5**
PAIG	**Paliouri**	**2.35**	**2**	P	**Pn**	**04 48 48.7**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**2.41**	**73**	P		04 48 51.0	
ZEYE				S		04 49 26.7	
ZEYE				*i* AML		04 49 34.0	
	comp=E,476nm,1.2s						
ZEYE				*i* AML		04 49 35.0	
	comp=E,272nm,1.3s						
URLA	**Izmir**	**2.51**	**71**	PN	**Pn**	**04 48 50.4**	**-0.1**
URLA	**Izmir**	**2.51**	**71**	SPECP		04 48 57.0	
URLA				P		04 48 57.2	
URLA				S		04 49 30.0	
URLA				*i* AML		04 49 33.0	
	comp=E,954nm,1.1s						
URLA				*i* AML		04 49 37.0	
	comp=E,532nm,1.2s						
IDI	**Anoyia**	**2.52**	**155**	⇓P	**Pn**	**04 48 52.1**	**+1.5**
IDI				⇑S	**Sb**	**04 49 26.1**	**+0.1**
IDI	**Anoyia**	**2.52**	**155**	Pn	**Pn**	**04 48 50.7**	**0.0**
	comp=E,6.6nm,0.3s,baz=343,slow=14,SNR=31						
IDI				Sn	**Sn**	**04 49 24.3**	**+2.7**
	comp=E,10nm,0.3s,baz=310,slow=22,SNR=4.1						
IDI				LR	LR	04 50 02.0	
	comp=E,216nm,18.6s,baz=320,slow=45						
IDI	**Anoyia**	**2.52**	**155**	PN	**Pn**	**04 48 51.8**	**+1.1**
HRKL	**Herakleio**	**2.57**	**151**	PN	**Pn**	**04 48 52.6**	**+1.3**
SMG	**Samos**	**2.59**	**86**	P	**Pn**	**04 48 51.7**	**+0.1**
LIA	**Limnos Island**	**2.64**	**28**	P	**Pn**	**04 48 52.2**	**0.0**
LIT	**Litokhoron**	**2.66**	**342**	P	**Pn**	**04 48 53.5**	**+0.9**
LIT	**Litokhoron**	**2.66**	**342**	SPECP		04 48 52.0	
LIT				P		04 48 52.4	
LIT				S		04 49 24.9	
DGB	**zmir**	**2.66**	**79**	P		04 48 53.0	
GVD	**Gavdhos**	**2.76**	**171**	PN	**Pn**	**04 48 55.4**	**+1.4**
KOCA	**Canakkale, Ayv**	**2.78**	**45**	P		04 49 02.6	
KOCA				S		04 49 27.6	
KOCA				*i* AML		04 49 44.0	
	comp=E,247nm,1.1s						
PLG	**Polygyros**	**2.80**	**358**	P	**Pn**	**04 48 55.0**	**+0.5**
BLCB	**Balcova**	**2.86**	**73**	PN	**Pn**	**04 48 56.1**	**+0.9**
BLCB	**Balcova**	**2.86**	**73**	SPECP		04 49 03.0	
BLCB				P		04 49 03.3	
GCAM	**G?zelcaml?**	**2.91**	**86**	PN	**Pn**	**04 48 56.3**	**+0.4**
DDIM	**Aydin, Didim**	**2.92**	**91**	SPECP		04 49 04.0	
DDIM				P		04 49 04.4	
BOZC	**Bozcaada**	**2.98**	**40**	P		04 48 56.8	
AYVA	**Ayvalik**	**3.00**	**54**	P		04 49 08.1	
AYVA				S		04 49 46.6	
AYVA				*i* AML		04 49 49.0	
	comp=E,237nm,0.7s						
DKL	**Dikili**	**3.01**	**59**	PN	**Pn**	**04 48 58.2**	**+0.8**
DKL	**Dikili**	**3.01**	**59**	P		04 49 08.5	
BODT	**Bodrum**	**3.02**	**99**	PN	**Pn**	**04 48 58.5**	**+1.0**
ZEDA	**zmir-Bergama**	**3.09**	**62**	P		04 49 13.2	
ZEDA				S		04 49 49.2	
EZN	**Ezine**	**3.11**	**43**	PN	**Pn**	**04 48 59.4**	**+0.7**
EZN	**Ezine**	**3.11**	**43**	P		04 49 08.3	
GADA	**Gvkgeada**	**3.18**	**34**	PN	**Pn**	**04 48 59.8**	**+0.1**
ZKR	**Zakros**	**3.25**	**138**	PN	**Pn**	**04 49 02.4**	**+1.7**
BUHA	**Balikesir, Bur**	**3.35**	**54**	P		04 49 12.8	
KARP	**Karpathos**	**3.52**	**124**	PN	**Pn**	**04 49 05.9**	**+1.4**
FNA	**Florina**	**3.63**	**333**	SPECP		04 49 08.0	
FNA				P		04 49 08.1	
ALN	**Alexandroupoli**	**3.83**	**29**	P		04 49 18.6	
BALY	**Balya**	**3.83**	**54**	P		04 49 21.6	
TIR	**Tirane**	**4.74**	**324**	⇑P	**Pn**	**04 49 20.8**	**-0.3**
VTS	**Vitosha**	**5.04**	**357**	⇑P	**Pn**	**04 49 25.7**	**+0.3**
VTS				⇑S	**Sn**	**04 50 24.3**	**+0.3**
TIP	**Timpagrande**	**5.59**	**289**	⇑P	**Pn**	**04 49 32.0**	**-0.9**
TIP				⇑S	**Sn**	**04 50 37.1**	**-0.2**
PDG	**Podgorica**	**5.87**	**327**	⇓P	**Pn**	**04 49 36.2**	**+0.5**
PDG				⇓S	**Sn**	**04 50 43.7**	**-0.6**
BLKB	**Belogradchik**	**6.08**	**354**	⇑S	**Sn**	**04 50 49.5**	**+0.1**
MATE	**Matera**	**6.16**	**302**	⇑P	**Pn**	**04 49 39.2**	**-1.4**
MATE				⇑S	**Sn**	**04 50 51.0**	**-0.3**
BOVS	**Bovan**	**6.22**	**347**	⇓P	**Pn**	**04 49 41.3**	**-0.1**
RAZG	**Razgrad**	**6.39**	**20**	⇑P	**Pn**	**04 49 44.7**	**+0.9**
VAE	**Valguarnera**	**7.28**	**272**	Pn	**Pn**	**04 49 57.0**	**+0.9

IDC 30 04:55:32.0±8.5, 32°.13S×179°.97E, h300km±90km, mb2.8/2, mb1 3.1/3, mb1mx3.0/23, mbtmp3.6/3, Error ellipse: s-maj=96.6km s-min=36.4km az=5.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
URZ	**Urewera**	**6.55**	**200**	P		Pn	04 57 09.2	+1.4
	1.5nm,0.3s,baz=268,slow=4.0,SNR=21							
URZ				S		S	04 58 23.9	-1.3
	6.8nm,0.3s,baz=79,slow=2.9,SNR=14							
ASAR	**Alice Springs**	**41.32**	**270**	P		P	05 02 48.5	-0.7
	0.3nm,0.5s,baz=108,slow=7.9,SNR=5.2							
WRA	**Warramunga Arr**	**42.47**	**275**	P		P	05 02 58.8	+0.3
	0.4nm,0.4s,baz=112,slow=7.9,SNR=20							
FINES	**FINESS Array B**	**146.12**	**338**	PKPbc		PKPdf	05 14 35.4	+0.7
	0.7nm,0.5s,baz=46,slow=4.0,SNR=8.4							
NOA	**NORSAR Array B**	**150.15**	**349**	PKPbc		PKPbc	05 14 46.1	-0.7
	0.1nm,0.4s,baz=27,slow=3.8,SNR=1.0							

BER 30 04:57:11.0±1.1, 66°.42N×14°.74E, h0km, ML1.1, Suspected explosion
DNK 30 04:57:11.4±1.7, 66°.28N×14°.88E, h0km, ML2.8(UPP), Suspected explosion
UPP 30 04:57:13.8±1.4, 66°.42N×15°.25E, h0km, ML2.8, Suspected explosion

ISC 30 04:57:08.7±0.9, 66°.41N±0°.04×14°.65E±0°.04, h0km, n14, σ0s76/21, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MOR8	**Moi Rana**	**0.25**	**200**	*e*P		**Pg**	**04 57 13.3**	**-0.2**
MOR8				*e*S		**Sg**	**04 57 15.4**	**-1.4**
MOR8				IAML			04 57 17.1	
	comp=Z,167nm,0.4s							
KONS	**Konsvik**	**0.62**	**279**	*e*P		**Pb**	**04 57 22.6**	**+0.2**
KONS				*e*S		**Sb**	**04 57 31.9**	**+0.2**
KONS				IAML			04 57 36.1	
	comp=Z,5.1nm,0.4s							
NBB30	**Finnes**	**0.67**	**328**	*e*S		**Sb**	**04 57 31.9**	**-1.3**
FAUS	**Fauske**	**1.01**	**14**	*e*P		**Pg**	**04 57 28.0**	**0.0**
FAUS				*e*S		**Sb**	**04 57 42.8**	**0.0**
FAUS				IAML			04 57 50.0	
	comp=Z,3.7nm,0.4s							
SALU	**Saltoluokta**	**1.81**	**56**	P		**Pg**	**04 57 42.9**	**-0.4**
SALU				S		**Sg**	**04 58 06.7**	**-0.1**
SALU	**Saltoluokta**	**1.81**	**56**	P		**Pg**	**04 57 42.9**	**-0.4**
SALU				S		**Sg**	**04 58 06.7**	**-0.1**
NIKU	**Nikkaluokta**	**2.25**	**47**	P		**Pb**	**04 57 49.8**	**-0.4**
NIKU				S		**Sg**	**04 58 20.5**	**-0.5**
NIKU	**Nikkaluokta**	**2.25**	**47**	P		**Pb**	**04 57 49.8**	**-0.4**
NIKU				S		**Sg**	**04 58 20.5**	**-0.5**
RATU	**Laukkuluspa**	**2.40**	**51**	P		**Pb**	**04 57 52.3**	**-0.4**
RATU	**Laukkuluspa**	**2.40**	**51**	P		**Pb**	**04 57 52.3**	**-0.4**
DUNU	**Dundret**	**2.45**	**70**	P		**Pb**	**04 57 53.2**	**-0.4**
DUNU	**Dundret**	**2.45**	**70**	P		**Pb**	**04 57 53.2**	**-0.4**
HARU	**Harads**	**2.57**	**93**	P		**Pn**	**04 57 53.0**	**+1.5**
HARU	**Harads**	**2.57**	**93**	P		**Pn**	**04 57 53.0**	**+1.5**

IDC 30 05:25:19.8±3.9, 15°.58S×167°.25E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/27, mbtmp3.7/3, MS3.3/4, Ms1 3.3/4, ms1mx2.8/57, Error ellipse: s-maj=235.6km s-min=46.4km az=152.0
NOU 30 05:25:24.4, 16°.03S×167°.59E, h19km, MLv4.5/15, Vanuatu Islands

ISC 30 05:25:24.4±1.7, 15°.9S±0°.2×167°.5E±0°.1, h39km, n16, σ0s60/13, mb3.7/3, MS3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DVP	**Devils Point**	**1.93**	**160**	P		**Pn**	**05 25 54.5**	**-0.1**
RTV	**Rentapao**	**2.08**	**155**	P		**Pn**	**05 25 57.1**	**+0.4**
KOUNC	**Koumac, New Ca**	**5.53**	**213**	P		**Pn**	**05 26 44.8**	**+0.6**
MARNC	**Mare, Loyalty**	**5.56**	**175**	P		**Pn**	**05 26 44.8**	**+0.1**
YATNC	**Mamie plateau,**	**6.14**	**185**	P		**Pn**	**05 26 52.0**	**-0.6**
DZM	**Mont Dzumac**	**6.21**	**189**	LR		LR	05 28 59.5	
	comp=Z,242nm,18.7s,baz=19,slow=34							
DZM	**Mont Dzumac**	**6.21**	**189**	P		**Pn**	**05 26 53.0**	**-0.6**
NOUC	**Port Laguerre**	**6.26**	**190**	P		**Pn**	**05 26 54.6**	**+0.4**
ONTNC	**Ouen Toro**	**6.44**	**189**	P		**Pn**	**05 26 57.2**	**+0.5**
OUENC	**Ouen Island, N**	**6.50**	**185**	P		**Pn**	**05 26 58.3**	**+0.7**
WRA	**Warramunga Arr**	**31.76**	**258**	P		**P**	**05 31 44.3**	**-0.9**
	0.7nm,1.0s,baz=89,slow=8.6,SNR=2.3							
ASAR	**Alice Springs**	**32.47**	**251**	P		**P**	**05 31 51.0**	**-0.4**
	1.4nm,0.8s,baz=76,slow=9.1,SNR=15							
GUMO	**Guam**	**36.87**	**321**	LR		LR	05 47 56.2	
	comp=Z,31nm,20.0s,baz=139,slow=37							
FITZ	**Fitzroy Crossi**	**40.02**	**261**	P		**P**	**05 32 55.8**	**-0.1**
	0.7nm,0.5s,baz=76,slow=9.2							
FITZ				LR		LR	05 48 02.6	
	comp=Z,64nm,19.3s,baz=174,slow=34							
SHEM	**Shemya Is, Ala**	**68.59**	**4**	LR		LR	06 03 03.8	
	comp=Z,17nm,19.4s,baz=44,slow=33							
ARCES	**ARCESS Array B**	**121.44**	**345**	PKP		**PKiKP**	**05 44 13.7**	**+0.5**
	2.1nm,0.8s,baz=52,slow=1.5,SNR=6.1							

DDA 30 05:40:02.7±0.0, 38°.95N×26°.28E, h3km±1km, ML3.3, Hypocentre not reviewed by the ISC
ISK 30 05:40:02.5, 38°.94N×26°.24E, h11km, ML3.3/37
THE 30 05:40:03.5, 38°.94N×26°.23E, h10km±1km, ML3.1/8, Error ellipse: s-maj=1.5km s-min=0.6km az=287.0
ATH 30 05:40:03.5, 39°.00N×26°.24E, h25km±3km, ML3.1/10, Error ellipse: s-maj=3.4km s-min=0.9km az=15.0

ISC 30 05:40:03.4±0.9, 38°.95N±0°.02×26°.23E±0°.02, h15km±7km, n71, σ0s82/91, 2C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PRK	**Paraskevi**	**0.30**	**6**	P		**Pg**	**05 40 10.0**	**+0.3**
PRK				S		**Sg**	**05 40 14.4**	**+0.3**
PRK				AML		AML	05 40 19.1	
	comp=E,12453μm,0.5s							
PRK				AML		AML	05 40 21.1	
	comp=N,15588μm,0.7s							
PRK	**Paraskevi**	**0.30**	**6**	P		**Pb**	**05 40 10.3**	**-0.2**
PRK				S		**Sg**	**05 40 14.8**	**+0.8**
	comp=N,7μm,0.6s							
SIGR	**SIGRI**	**0.40**	**312**	P		**Pg**	**05 40 11.3**	**-0.1**
SIGR				S		**Sg**	**05 40 16.7**	**-0.1**
SIGR				AML		AML	05 40 17.7	
	comp=E,12055μm,0.4s							
SIGR				AML		AML	05 40 19.3	
	comp=N,6738μm,0.3s							
SIGR	**SIGRI**	**0.40**	**312**	P		**Pg**	**05 40 11.3**	**-0.1**
SIGR				S		**Sg**	**05 40 17.0**	**+0.2**
	comp=N,5μm,0.3s							
CAND	**Candarli**	**0.45**	**89**	PG		**Pg**	**05 40 12.1**	**-0.2**
FOCM	**Foa**	**0.45**	**121**	PG		**Pg**	**05 40 11.9**	**-0.5**
FOCM				SG		**Sg**	**05 40 17.8**	**-0.8**
GPNR	**Gulpinar-Canak**	**0.52**	**352**	PG		**Pg**	**05 40 13.3**	**-0.3**
DKL	**Dikili**	**0.54**	**76**	PG		**Pg**	**05 40 13.7**	**-0.4**
DKL				SG		**Sg**	**05 40 21.3**	**0.0**
KOCA	**Canakkale, Ayv**	**0.56**	**353**	SPECP			05 40 14.0	
KOCA				P			05 40 14.0	
KOCA				S			05 40 23.9	
KOCA				*i* AML			05 40 30.0	
	comp=N,1μm,0.2s							
CHOS	**Chios island**	**0.57**	**194**	P		**Pg**	**05 40 14.8**	**0.0**
CHOS				S		**Sb**	**05 40 24.4**	**+1.1**
CHOS				AML		AML	05 40 26.7	
	comp=E,5939μm,0.3s							
CHOS				AML		AML	05 40 29.4	
	comp=N,3990μm,0.3s							
CHOS	**Chios island**	**0.57**	**194**	P		**Pg**	**05 40 14.4**	**-0.3**
CHOS				S		**Sb**	**05 40 23.3**	**0.0**
	comp=N,2μm,0.3s							
CHOS	**Chios island**	**0.57**	**194**	PG		**Pg**	**05 40 14.2**	**-0.5**
URLA	**Izmir**	**0.65**	**154**	PG		**Pg**	**05 40 15.5**	**-0.6**
PSRA	**Psara**	**0.66**	**233**	P		**Pb**	**05 40 17.1**	**+0.5**
PSRA				S		**Sb**	**05 40 26.4**	**+0.8**
PSRA				AML		AML	05 40 29.5	
	comp=E,5208μm,0.2s							
PSRA				AML		AML	05 40 31.4	
	comp=N,4378μm,0.3s							
ZEDA	**zmir-Bergama**	**0.66**	**88**	SPECP			05 40 15.0	
ZEDA				P			05 40 15.1	
ZEDA				S			05 40 24.3	
ZEYE	**Izmir, Urla-Ze**	**0.74**	**163**	SPECP			05 40 17.0	
ZEYE				P			05 40 17.0	
ZEYE				S			05 40 28.4	
ZEYE				*i* AML			05 40 30.0	
	comp=N,3μm,0.4s							
ZEYE				*i* AML			05 40 30.0	
	comp=N,2μm,0.4s							
BAYC	**CANAKKALE_Bayr**	**0.83**	**17**	SPECP			05 40 18.0	
BAYC				P			05 40 18.7	
BAYC				S			05 40 30.5	
BAYC				*i* AML			05 40 32.0	
	comp=N,2μm,0.6s							
BAYC				*i* AML			05 40 33.0	
	comp=N,1μm,0.3s							
BLCB	**Balcova**	**0.85**	**131**	P		**Pb**	**05 40 18.8**	**-1.0**
BLCB				S		**Sb**	**05 40 31.3**	**+0.3**
BLCB	**Balcova**	**0.85**	**131**	PG		**Pb**	**05 40 19.5**	**-0.3**
BUHA	**Balikesir, Bur**	**0.86**	**50**	SPECP			05 40 18.0	
BUHA				P			05 40 18.9	
BUHA				S			05 40 31.1	
BUHA				*i* AML			05 40 34.0	
	comp=N,1μm,0.6s							
BUHA				*i* AML			05 40 35.0	
	comp=N,1μm,0.5s							
EZN	**Ezine**	**0.88**	**5**	P		**Pb**	**05 40 19.6**	**-0.8**
EZN				S		**Sn**	**05 40 33.5**	**-0.4**
	comp=N,3μm,0.5s							
EZN	**Ezine**	**0.88**	**5**	PG		**Pb**	**05 40 19.9**	**-0.5**
BOZC	**Bozcaada**	**0.91**	**351**	PG		**Pb**	**05 40 20.4**	**-0.5**
DGB	**zmir**	**1.03**	**150**	SPECP			05 40 22.0	
DGB				P			05 40 22.4	
DGB				S			05 40 35.5	
DGB				*i* AML			05 40 37.0	
	comp=N,467nm,0.2s							
ECEA	**Canakkale, Ece**	**1.10**	**358**	SPECP			05 40 23.0	
ECEA				P			05 40 23.7	
ECEA				S			05 40 39.0	
ECEA				*i* AML			05 40 41.0	
	comp=N,1μm,0.5s							
ECEA				*i* AML			05 40 42.0	
	comp=N,2μm,0.5s							
EFSA	**Agios Efstrati**	**1.13**	**302**	P		**Pb**	**05 40 24.0**	**-0.7**
EFSA				S		**Sb**	**05 40 38.5**	**-0.8**
EFSA				AML		AML	05 40 43.2	
	comp=E,3076μm,0.5s							
EFSA				AML		AML	05 40 45.1	
	comp=N,1784μm,0.4s							
STEP	**BALIKESIR_Sava**	**1.23**	**69**	SPECP			05 40 26.0	
STEP				P			05 40 26.0	
STEP				S			05 40 41.3	
STEP				*i* AML			05 40 44.0	
	comp=N,1μm,0.7s							
STEP				*i* AML			05 40 44.0	
	comp=N,690nm,0.4s							
AKS	**Akhisar**	**1.24**	**93**	PN		**Pb**	**05 40 26.5**	**0.0**
LIA	**Limnos Island**	**1.25**	**320**	P		**Pn**	**05 40 25.8**	**-0.6**
LIA				S		**Sb**	**05 40 41.2**	**-1.4**
LIA				AML		AML	05 40 44.5	
	comp=E,1291μm,0.6s							
LIA				AML		AML	05 40 45.3	
	comp=N,1318μm,0.3s							
LIA	**Limnos Island**	**1.25**	**320**	P		**Pn**	**05 40 26.4**	**0.0**
LIA				S		**Sb**	**05 40 42.5**	**-0.1**
	comp=N,650nm,0.5s							
GOKA	**anakkale-Gk**	**1.27**	**349**	SPECP			05 40 26.0	
GOKA				P			05 40 26.6	
GOKA				S			05 40 40.8	
GOKA				*i* AML			05 40 45.0	
	comp=N,2μm,0.5s							
GADA	**Gvkgeada**	**1.27**	**348**	PN		**Pn**	**05 40 26.8**	**+0.2**
SMG	**Samos**	**1.32**	**159**	P		**Pb**	**05 40 28.1**	**+0.1**
SMG				S		**Sg**	**05 40 46.0**	**-0.1**
SMG				AML		AML	05 40 48.6	
	comp=E,3866μm,0.3s							
SMG				AML		AML	05 40 49.4	
	comp=N,3433μm,0.3s							
SMG	**Samos**	**1.32**	**159**	P		**Pn**	**05 40 26.5**	**-0.9**
SMG				S		**Sg**	**05 40 46.0**	**-0.1**
	comp=N,2μm,0.3s							
GELI	**Tayfur-Gelibol**	**1.46**	**7**	PN		**Pn**	**05 40 29.4**	**+0.1**
GCAM	**G?zelcaml?**	**1.47**	**147**	PN		**Pn**	**05 40 29.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.57**	**45**	PN		**Pn**	**05 40 31.0**	**+0.2**
SMTH	**Samothraki Isl**	**1.62**	**341**	P		**Pn**	**05 40 31.4**	**-0.1**
SMTH				S		**Sn**	**05 40 51.5**	**-0.5**
SMTH				AML		AML	05 40 56.7	
	comp=N,530μm,0.2s							
SMTH				AML		AML	05 40 58.3	
	comp=E,614μm,0.5s							
SMTH	**Samothraki Isl**	**1.62**	**341**	P		**Pn**	**05 40 31.3**	**-0.1**
SMTH				S		**Sb**	**05 40 52.8**	**-0.4**
	comp=E,288nm,0.3s							
AYDB	**Zeytinkoy-Aydi**	**1.64**	**127**	PN		**Pn**	**05 40 31.6**	**-0.3**
KRBG	**Karabiga-Canak**	**1.66**	**29**	PN		**Pn**	**05 40 31.8**	**-0.2**
ERIK	**Erikli-Kesan**	**1.74**	**7**	PN		**Pn**	**05 40 32.5**	**+0.5**
CAVK	**Edirne/Enez-Ca**	**1.74**	**358**	SPECP			05 40 32.0	
CAVK				P			05 40 32.5	
ENEZ	**Enez**	**1.79**	**358**	PN		**Pn**	**05 40 34.3**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.89**	**22**	PN		**Pn**	**05 40 35.7**	**+0.5**
MAR6	**Marsite Statio**	**1.93**	**24**	PN		**Pn**	**05 40 36.5**	**+0.8**
KULA	**Kula-Manisa**	**1.95**	**102**	PN		**Pn**	**05 40 36.8**	**+0.7**
ALN	**Alexandroupoli**	**1.95**	**356**	P		**Pn**	**05 40 36.8**	**+0.7**
ALN				S		**Sn**	**05 41 00.9**	**+0.5**
ALN				AML		AML	05 41 07.1	
	comp=E,385μm,0.3s							
ALN				AML		AML	05 41 09.0	
	comp=N,361μm,0.9s							
ALN	**Alexandroupoli**	**1.95**	**356**	P		**Pn**	**05 40 36.3**	**+0.2**
ALN				S		**Sn**	**05 41 01.4**	**+1.1**
	comp=N,188nm,0.6s							
ALN	**Alexandroupoli**	**1.95**	**356**	PN		**Pn**	**05 40 36.4**	**+0.3**
MAR3	**Marsite Statio**	**1.97**	**24**	PN		**Pn**	**05 40 37.1**	**+0.8**
THAS	**Thassos island**	**2.03**	**325**	P		**Pn**	**05 40 36.9**	**-0.2**
THAS				S		**Sb**	**05 41 04.0**	**-1.0**
THAS				AML		AML	05 41 11.4	
	comp=E,330μm,0.3s							
THAS				AML		AML	05 41 16.0	
	comp=N,307μm,0.6s							
BODT	**Bodrum**	**2.06**	**155**	PN		**Pn**	**05 40 36.8**	**-0.8**
KCTX	**Karacabey (Bur**	**2.10**	**51**	PN		**Pn**	**05 40 38.1**	**-0.1**
SIMA	**Simav-Kutahya**	**2.15**	**85**	PN		**Pn**	**05 40 39.9**	**+1.1**
USAK	**Uak-Merkez**	**2.19**	**95**	P			05 40 38.7	
UKOP	**Uzunkopru-Edir**	**2.20**	**8**	PN		**Pn**	**05 40 40.6**	**+1.1**
OUR	**Ouranopolis**	**2.22**	**309**	PN		**Pn**	**05 40 41.0**	**+1.3**
RDO	**Rodhopi**	**2.26**	**347**	PN		**Pn**	**05 40 41.1**	**+0.8**
TKR	**Tekirdag**	**2.27**	**26**	PN		**Pn**	**05 40 41.4**	**+0.9**
YER	**Yerkesik**	**2.43**	**138**	PN		**Pn**	**05 40 43.6**	**+1.0**
ULDT	**Uludag**	**2.54**	**61**	P			05 40 49.8	
ULDT				S			05 41 21.6	
ULDT				*i* AML			05 41 26.0	
	comp=N,143nm,0.6s							
ULDT				*i* AML			05 41 27.0	
	comp=N,88nm,0.8s							
TVSB	**Tavsanli**	**2.56**	**78**	PN		**Pn**	**05 40 45.2**	**+0.7**
ARMT	**Armutlu**	**2.59**	**51**	PN		**Pn**	**05 40 44.9**	**0.0**
IGD	**Bursa**	**2.65**	**59**	P			05 40 50.1	
IGD				S			05 41 25.3	
SLVT	**Silivri**	**2.74**	**33**	PN		**Pn**	**05 40 48.2**	**+1.3**
DALY	**Dalyan (Mula)**	**2.86**	**137**	PN		**Pn**	**05 40 49.8**	**+1.3**
CTKS	**Kestanelik-??a**	**2.88**	**37**	PN		**Pn**	**05 40 49.7**	**+1.0**
ANDZ	**Kutahya, Merke**	**2.90**	**78**	P			05 41 01.3	
ANDZ				S			05 41 32.5	
KIRK	**Kirklareli**	**2.91**	**13**	P			05 40 49.6	
YLV	**Yalova**	**2.91**	**55**	PN		**Pn**	**05 40 50.5**	**+1.2**
HORT	**Hortiatis**	**2.92**	**305**	PN		**Pn**	**05 40 50.5**	**+1.0**
EDRB	**Edirne**	**2.92**	**8**	PN		**Pn**	**05 40 49.7**	**+0.3**
ISK	**Istanbul-Kandi**	**3.03**	**45**	PN		**Pn**	**05 40 52.4**	**+1.5**
CAME	**Cameli-Denizli**	**3.15**	**129**	PN		**Pn**	**05 40 54.3**	**+1.7**
KLYT	**Kilyos**	**3.15**	**42**	PN		**Pn**	**05 40 54.2**	**+1.7**
SILT	**Sile**	**3.42**	**49**	PN		**Pn**	**05 40 57.7**	**+1.5**
GRG	**Griva**	**3.56**	**306**	PN		**Pn**	**05 40 59.7**	**+1.5**
VTS	**Vitosha**	**4.32**	**329**	⇑P		**Sn**	**05 41 58.2**	**-0.6**
ICOR	**Ion Corvin**	**5.30**	**12**	⇓P		**Pn**	**05 41 20.3**	**-1.7**
TSCT	**Constanta Port**	**5.52**	**18**	⇓P		Pb	05 41 33.5	-6.0
TIRR	**Tirgusor**	**5.74**	**16**	⇓P		**Pn**	**05 41 28.4**	**+0.3**
CFR	**Carcaliu**	**6.39**	**12**	⇓P		**Pn**	**05 41 37.2**	**+0.3**
MLR	**Muntele Rosu**	**6.54**	**358**	⇑P		**Pn**	**05 41 40.1**	**+0.9**
VRI	**Vrincioaia**	**6.93**	**3**	⇓P		**Pn**	**05 41 47.3**	**+2.9**
TESR	**Tescani**	**7.57**	**2**	⇓P		**Pn**	**05 41 54.1**	**+0.9**

NIED 30 06:01:23.7, 32°.75N×130°.55E, h12km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=1.59; Mθθ1.77; Mϕϕ-0.18; Mrθ0.78; Mθϕ0.14; Mϕr-0.58; Fault plane solution: M0 1.95000×10^14 NP1:φs67.00000°, δ36.00000°, λ-122.00000°. NP2:φs285.00000°, δ60.00000°, λ-69.00000°.

JMA 30 06:01:23.7, 32°.74N×130°.55E, h12km±1km, M3.5, 3C Broadband fault plane solution: P waves. NP1: φs250.00000°, δ50.00000°, λ-89.00000°. NP2: φs68.00000°, δ40.00000°, λ-91.00000°. Principal axes: T Plg5.0000°, Azm339.0000°; N Plg1.0000°, Azm69.0000°; P Plg85.0000°, Azm170.0000°; Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JTA	**Tamana**	**0.22**	**356**	⇑P		Pg	06 01 28.6	+0.1
JTA				S		Sg	06 01 31.8	+0.1
JIU3	**Izumi3**	**0.29**	**131**	⇑P		Pg	06 01 29.7	0.0
JIU3				S		Sg	06 01 34.0	+0.3
JZO	**Okuchi**	**0.60**	**176**	⇑P		Pg	06 01 35.4	0.0
JZO				*e*S		Sg	06 01 43.3	0.0

JMA 30 06:13:21.7±0.1, 24°.08N×121°.72E, h28km±1km, M3.3
TAP 30 06:13:22.4, 24°.23N×121°.83E, h11km, ML4.0, B
IDC 30 06:13:40.9±6.5, 24°.05N×122°.35E, h185km±62km, mb3.0/5, mb1 3.1/6, mb1mx2.9/49, mbtmp3.5/6, MS2.7/1, Ms1 2.7/1, ms1mx2.2/17, Error ellipse: s-maj=41.8km s-min=24.1km az=66.0

ISC 30 06:13:22.6±0.9, 24°.23N±0°.01×121°.85E±0°.02, h8km±6km, n138, σ1s14/227, mb3.5/5, 5C-25D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
EHP	**Heping Village**	**0.13**	**311**	*i* P		**Pg**	**06 13 25.4**	**-0.1**
	baz=318							
EHP				S		**Sg**	**06 13 27.7**	**+0.3**
	baz=318							
ETL	**Fush Village**	**0.21**	**252**	*i* P		**Pg**	**06 13 26.9**	**0.0**
	baz=250							
ETL				S		**Sg**	**06 13 31.3**	**+1.4**
	baz=250							
ENA	**Nanau**	**0.23**	**334**	⇓*i* P		**Pg**	**06 13 27.1**	**0.0**
	baz=340							
ENA				*i* S		**Sg**	**06 13 30.5**	**+0.3**
	baz=340							
EWUT	**Wuta**	**0.23**	**344**	⇓*i* P		**Pg**	**06 13 27.2**	**0.0**
	baz=348							
EWUT				*i* S		**Sg**	**06 13 30.7**	**+0.4**
	baz=348							
NACB	**Ninganchiao**	**0.24**	**258**	⇑*i* P		**Pg**	**06 13 27.2**	**-0.2**
	baz=256							
NACB				*i* S		**Sg**	**06 13 31.1**	**+0.6**
	baz=256							
TWD	**Chiawan**	**0.27**	**238**	P		**Pg**	**06 13 27.8**	**-0.2**
	baz=235							
TWD				*e*S		**Sb**	**06 13 32.6**	**-1.9**
	baz=235							
HWA	**Hwalien**	**0.33**	**222**	*e*P		**Pb**	**06 13 30.6**	**-0.2**
	baz=218							
HWA				*e*S		**Sb**	**06 13 37.0**	**+0.8**
	baz=218							
ETLH	**Xiulin Townshi**	**0.33**	**267**	⇓*i* P		**Pg**	**06 13 29.0**	**-0.3**
	baz=266							
ETLH				S		**Sg**	**06 13 34.2**	**+0.6**
	baz=266							
TWC	**Suao**	**0.38**	**0**	⇓*i* P		**Pg**	**06 13 30.1**	**0.0**
	baz=4.0							
TWC				*i* S		**Sg**	**06 13 35.9**	**+0.7**
	baz=4.0							
ETM	**Tongmen**	**0.41**	**232**	*e*P		**Pg**	**06 13 30.6**	**-0.1**
	baz=230							
ETM				*e*S		**Sb**	**06 13 37.5**	**-1.2**
	baz=230							
TEYL	**Yanliau Villag**	**0.42**	**213**	*e*P		**Pb**	**06 13 31.6**	**-0.8**
	baz=213							
TEYL				*e*S		**Sb**	**06 13 40.4**	**+1.5**
	baz=213							
NDS	**Dongshan**	**0.42**	**344**	⇓*i* P		**Pg**	**06 13 30.9**	**0.0**
	baz=346							
NDS				S		**Sg**	**06 13 36.7**	**+0.2**
	baz=346							
LATG	**Datong**	**0.43**	**317**	⇓*i* P		**Pg**	**06 13 30.9**	**-0.1**
	baz=318							
LATG				*e*S		**Sg**	**06 13 36.8**	**+0.2**
	baz=318							
NNSB	**Datong**	**0.47**	**296**	⇓*i* P		**Pg**	**06 13 31.7**	**-0.1**
	baz=296							
NNSB				*e*S		**Sg**	**06 13 37.3**	**-0.7**
	baz=296							
NNS	**Nan Shan**	**0.48**	**296**	*i* P		**Pg**	**06 13 31.9**	**-0.1**
	baz=297							
NNS				S		**Sg**	**06 13 37.7**	**-0.7**
	baz=297							
NDT	**Datong Townshi**	**0.48**	**321**	⇓*i* P		**Pg**	**06 13 32.2**	**+0.1**
	baz=322							
NDT				*e*S		**Sb**	**06 13 38.9**	**-1.8**
	baz=322							
ENTT	**Nioudou**	**0.49**	**328**	⇓*i* P		**Pg**	**06 13 32.1**	**+0.1**
	baz=330							
ENTT				S		**Sg**	**06 13 38.9**	**+0.5**
	baz=330							
TWE	**Neicheng**	**0.52**	**342**	⇓*i* P		**Pg**	**06 13 32.8**	**+0.1**
	baz=345							
TWE				S		**Sg**	**06 13 40.0**	**+0.5**
	baz=345							
WHF	**Hehuan Shan**	**0.54**	**262**	*e*P		**Pg**	**06 13 32.9**	**-0.2**
	baz=261							
WHF				*e*S		**Sb**	**06 13 40.6**	**-2.0**
	baz=261							
ILA	**Ilan**	**0.55**	**350**	*e*P		**Pg**	**06 13 33.5**	**+0.2**
	baz=353							
ILA				*e*S		**Sg**	**06 13 40.6**	**+0.3**
	baz=353							
FUSS	**Fushou**	**0.55**	**273**	*e*P		**Pg**	**06 13 32.2**	**-1.1**
	baz=272							
FUSS				*e*S		**Sg**	**06 13 40.1**	**-0.5**
	baz=272							
ESL	**Shilin**	**0.56**	**223**	*e*P		**Pb**	**06 13 33.7**	**-1.0**
	baz=221							
ESL				*e*S		**Sb**	**06 13 42.9**	**+0.1**
	baz=

	baz=360							
TIPB				*e*S		**Sg**	06 13 45.1	-1.6
	baz=360							
NFF	**Wufeng Townshi**	**0.78**	**302**	*e*P		**Pb**	06 13 37.8	-0.7
	baz=302							
NFF				*e*S		**Sg**	06 13 46.6	-1.2
	baz=302							
TWA	**Mucha**	**0.79**	**342**	*e*P		**Pb**	06 13 38.2	-0.5
	baz=344							
TWA				*e*S		**Sg**	06 13 47.3	-0.8
	baz=344							
TWB1	**Santiao Chiao**	**0.79**	**9**	*e*P		**Pg**	06 13 37.6	-0.2
	baz=11							
TWB1				*e*S		**Sb**	06 13 48.9	-0.7
	baz=11							
NHDH	**Xindian Distri**	**0.79**	**338**	*e*P		**Pb**	06 13 38.2	-0.5
	baz=339							
NHDH				*e*S		**Sg**	06 13 48.0	-0.1
	baz=339							
VWDT	**VWDT**	**0.80**	**234**⇓	*e*P		**Pb**	06 13 38.0	-0.7
	baz=233							
VWDT				*e*S		**Sn**	06 13 50.6	-1.7
	baz=233							
TATO	**Taipei**	**0.82**	**336**	*e*P		**Pb**	06 13 38.6	-0.5
	baz=338							
TATO				*e*S		**Sg**	06 13 48.1	-0.8
	baz=338							
WHP	**Taichung City**	**0.82**	**274**⇑	*e*P		**Pb**	06 13 38.8	-0.5
	baz=274							
WHP				*e*S		**Sb**	06 13 49.9	-0.7
	baz=274							
HGSD	**Ruisui**	**0.83**	**208**	*e*P		**Pb**	06 13 38.7	-0.6
	baz=207							
HGSD				*e*S		**Sn**	06 13 56.9	+3.9
	baz=207							
WPL	**Puli Township**	**0.84**	**256**	*e*P		**Pb**	06 13 39.0	-0.5
	baz=255							
WPL				*e*S		**Sb**	06 13 50.4	-0.6
	baz=255							
NWF	**Wu-fen Shan**	**0.84**	**356**	⇓P		**Pb**	06 13 39.2	-0.4
	baz=357							
NWF				*e*S		**Sb**	06 13 50.7	-0.5
	baz=357							
WFSB	**Wu-fen Shan**	**0.84**	**356**	⇓P		**Pb**	06 13 39.2	-0.4
	baz=357							
WFSB				*e*S		**Sb**	06 13 50.7	-0.4
	baz=357							
EHY	**Hungye**	**0.86**	**214**	*e*P		**Pg**	06 13 38.2	-1.0
	baz=212							
DPDB	**Guoxing**	**0.86**	**257**	*e*P		**Pb**	06 13 39.3	-0.6
	baz=257							
DPDB				*e*S		**Sb**	06 13 51.4	-0.3
	baz=257							
TAP1	**Taipei**	**0.86**	**340**	*e*P		**Pn**	06 13 40.3	-0.8
	baz=340							
TAP1				*e*S		**Sb**	06 13 50.8	-0.8
	baz=340							
LIOB	**Emei**	**0.87**	**299**⇑	*e*P		**Pn**	06 13 39.8	-1.4
	baz=299							
LIOB				*e*S		**Sb**	06 13 51.5	-0.2
	baz=299							
SXI1	**Grass Mountain**	**0.87**	**2**	⇓P		**Pb**	06 13 39.4	-0.6
	baz=3.0							
SXI1				*e*S		**Sb**	06 13 51.5	-0.4
	baz=3.0							
TAP	**Taipei**	**0.87**	**339**	*e*P		**Pn**	06 13 40.6	-0.5
	baz=340							
TAP				*e*S		**Sb**	06 13 51.5	-0.3
	baz=340							
NSTT	**Nanjuang**	**0.87**	**298**⇑	*e*P		**Pb**	06 13 39.8	-0.3
	baz=298							
NSTT				*e*S		**Sb**	06 13 51.6	-0.3
	baz=298							
WCS	**Beigang Elemen**	**0.87**	**259**	*e*P		**Pb**	06 13 39.7	-0.3
	baz=259							
WCS				*e*S		**Sb**	06 13 51.5	-0.3
	baz=259							
NTY	**Taoyuan**	**0.92**	**327**	*e*P		**Pn**	06 13 41.6	-0.3
	baz=328							
TNOU	**National Taiwa**	**0.92**	**356**	*e*P		**Pb**	06 13 40.7	-0.3
	baz=357							
SSLB	**Suanglung**	**0.93**	**242**⇓	*e*P		**Pb**	06 13 40.3	-0.7
	baz=241							
SSLB				*e*S		**Sb**	06 13 52.6	-0.9
	baz=241							
SMLT	**Sun Moon Lake**	**0.93**	**249**⇓	*e*P		**Pb**	06 13 40.6	-0.5
	baz=248							
SMLT				*e*S		**Sb**	06 13 53.5	-0.2
	baz=248							
HSN1	**Hsinchu**	**0.94**	**306**	*e*P		**Pn**	06 13 41.7	-0.4
	baz=307							
YM01	**YM01**	**0.95**	**345**	*e*P		**Pn**	06 13 41.5	-0.9
	baz=346							
YM01				*e*S		**Sb**	06 13 53.5	-0.7
	baz=346							
NCU	**National Centr**	**0.95**	**321**	*e*P		**Pn**	06 13 42.1	-0.3
	baz=322							
NCUH	**Zhongli**	**0.95**	**321**	*e*P		**Pn**	06 13 42.1	-0.2
	baz=322							
NCUH				*e*S		**Sn**	06 13 57.3	+1.1
	baz=322							
TWS1	**Kuangyinshan**	**0.96**	**336**	*e*P		**Pn**	06 13 42.2	-0.2
	baz=337							
TYC	**Yuchr**	**0.96**	**251**	*e*P		**Pg**	06 13 40.6	-0.5
	baz=250							
SBCB	**Hsinchu**	**0.97**	**306**	*e*P		**Pn**	06 13 42.8	+0.2
	baz=306							
SBCB				*e*S		**Sn**	06 13 56.4	-0.1
	baz=306							
YULB	**Yu-li**	**0.97**	**211**	*e*P		**Pg**	06 13 39.6	-1.6
	baz=210							
YULB				*e*S		**Sn**	06 13 55.0	-1.6
	baz=210							
ECBN	**Changbin**	**0.97**	**202**	*e*P		**Pg**	06 13 41.0	-0.3
	baz=201							
HSN	**Hsinchu**	**0.98**	**306**	*e*P		**Pn**	06 13 42.7	-0.1
	baz=309							
HSN				*e*S		**Sn**	06 13 58.5	+1.6
	baz=309							
YM08	**YM08**	**0.99**	**346**	*e*P		**Pn**	06 13 41.9	-1.0
	baz=347							
TWQ1	**Liyutan**	**0.99**	**277**	*e*P		**Pn**	06 13 42.5	-0.3
	baz=277							
TWQ1				*e*S		**Sn**	06 13 58.2	+1.1
	baz=277							
EYUL	**Yuli**	**1.00**	**209**	*e*P		**Pg**	06 13 41.3	-0.5
	baz=208							
NJN	**Zhunan**	**1.00**	**297**	*e*P		**Pn**	06 13 44.5	+1.5
	baz=297							
ANP	**Anpu**	**1.00**	**343**	*e*P		**Pn**	06 13 42.4	-0.8
	baz=344							
NTST	**Danshui**	**1.00**	**339**	*e*P		Pn	06 13 56.6	+14
	baz=340							
NTST				*e*S		**Sn**	06 13 56.7	-0.7
	baz=340							
TWF1	**Yuli**	**1.00**	**210**	*e*P		**Pg**	06 13 40.3	-1.6
	baz=209							
NSY	**Sanyi**	**1.01**	**281**	*e*P		**Pn**	06 13 42.6	-0.5
	baz=281							
NMLH	**Miaoli**	**1.01**	**288**	*e*P		**Pn**	06 13 43.9	+0.7
	baz=288							
JYNG	**Yonaguni jima**	**1.03**	**77**	P		**Pb**	06 13 42.5	-0.2
JYNG				S		**Sn**	06 13 57.4	-0.6
WWF	**Wufeng**	**1.06**	**260**	*e*P		**Pn**	06 13 44.8	+0.9
	baz=260							
TWY	**Chenhua**	**1.07**	**348**	*e*P		**Pn**	06 13 43.8	-0.2
	baz=349							
TCU	**Taichung**	**1.07**	**266**	*e*P		**Pn**	06 13 45.0	+1.0
	baz=266							
TCU				*e*S		**Sn**	06 14 00.5	+1.4
	baz=266							
YOJ	**Yonaguni jima**	**1.09**	**77**	P		**Pg**	06 13 43.6	+0.1
YOJ				S		**Sg**	06 13 58.5	+0.9
YOJ	**Yonaguni jima**	**1.09**	**77**	P		**Pg**	06 13 43.6	+0.1
	baz=77							
YOJ				*e*S		**Sn**	06 14 00.1	+0.6
	baz=77							
WJS	**Zhushan**	**1.10**	**249**	*e*P		**Pn**	06 13 44.5	+0.2
	baz=248							
WJS				*e*S		**Sn**	06 14 00.4	+0.7
	baz=248							
YUS	**Yu-Shan**	**1.10**	**228**⇓	*e*P		**Pg**	06 13 43.3	-0.5
	baz=227							
YUS				*e*S		**Sn**	06 13 59.1	-1.3
	baz=227							
WDJ	**Dajia District**	**1.11**	**277**	*e*P		**Pn**	06 13 45.2	+0.7
	baz=276							
WDJ				*e*S		**Sn**	06 14 01.6	+1.6
	baz=276							
WNT1	**Nantou City**	**1.11**	**254**	*e*P		**Pn**	06 13 46.0	+1.4
	baz=253							
WNT	**Mingjian**	**1.12**	**252**	*e*P		**Pn**	06 13 45.2	+0.6
	baz=251							
FULB	**Fuli**	**1.14**	**207**	*e*P		**Pb**	06 13 43.5	-1.1
	baz=206							
FULB				*e*S		**Sn**	06 14 05.6	+4.8
	baz=206							
WCHH	**Zhanghua**	**1.19**	**263**	*e*P		**Pg**	06 13 46.8	+1.4
	baz=263							
WCHH				*e*S		**Sn**	06 14 04.3	+2.4
	baz=263							
ALS	**Alishan**	**1.19**	**234**⇓	*e*P		**Pg**	06 13 45.1	-0.4
	baz=232							
ALS				*e*S		**Sn**	06 14 02.0	-0.4
	baz=232							
CHKT	**Chengkung**	**1.20**	**202**	*e*P		**Pn**	06 13 43.7	-2.1
	baz=200							
ELDTW	**Lidau**	**1.28**	**217**	*e*P		**Pn**	06 13 44.6	-2.4
	baz=215							
WDLH	**Douliu**	**1.31**	**246**	*e*P		**Pg**	06 13 48.3	+0.5
	baz=246							
WDLH				*e*S		**Sg**	06 14 07.0	+2.2
	baz=246							
WRL	**Guolierlin Hig**	**1.38**	**257**	*e*P		**Pg**	06 13 48.8	-0.3
	baz=256							
WRL				*e*S		**Sg**	06 14 09.0	+1.9
	baz=256							
CHN2	**Minshiung**	**1.43**	**242**	*e*P		**Pg**	06 13 50.5	+0.3
	baz=241							
STYH	**Taoyuan**	**1.44**	**223**	*e*P		**Pn**	06 13 48.3	-0.7
	baz=223							
WTK	**Tuku**	**1.44**	**248**	*e*P		**Pg**	06 13 49.9	-0.3
	baz=248							
WTK				*e*S		**Sg**	06 14 10.9	+2.0
	baz=248							
CHN4	**Tsaushan**	**1.44**	**233**	*e*P		**Pb**	06 13 49.5	-0.3
	baz=232							
CHN4				*e*S		**Sg**	06 14 11.2	+2.2
	baz=232							
TPUB	**Ta-pu**	**1.45**	**231**⇓	*e*P		**Pb**	06 13 49.4	-0.5
	baz=230							
TPUB				*e*S		**Sg**	06 14 09.7	+0.5
	baz=230							
STYT	**Tauyuan**	**1.46**	**224**	*e*P		**Pb**	06 13 49.0	-1.0
	baz=223							
LONT	**Longtian**	**1.47**	**207**	*e*P		**Pn**	06 13 46.6	-2.8
	baz=206							
CHY	**Chiayi**	**1.49**	**241**	*e*P		**Pg**	06 13 51.0	-0.2
	baz=240							
WTP	**Ta-pu**	**1.49**	**229**	*e*P		**Pb**	06 13 50.0	-0.7
	baz=228							
TWG	**Pinlang**	**1.57**	**207**	*e*P		**Pb**	06 13 51.0	-0.9
	baz=206							
TWGBT	**Beinan**	**1.57**	**207**	*e*P		**Pn**	06 13 49.1	-1.7
	baz=206							
TWK	**Hsinying**	**1.57**	**233**	*e*P		**Pb**	06 13 51.5	-0.4
	baz=232							
TWK				*e*S		**Sg**	06 14 13.3	+0.3
	baz=232							
LDUT	**Ludao**	**1.58**	**193**	*e*P		**Pn**	06 13 49.3	-1.7
	baz=192							
SNST	**Tainan City**	**1.59**	**231**	*e*P		**Pb**	06 13 51.3	-1.0
	baz=231							
SNST				*e*S		**Sg**	06 14 13.2	-0.6
	baz=231							
CHN1	**Nanshi**	**1.59**	**230**	*e*P		**Pb**	06 13 51.7	-0.6
	baz=229							
CHN1				*e*S		**Sg**	06 14 14.9	+1.1
	baz=229							
SGST	**Jiashian**	**1.62**	**226**	*e*P		**Pn**	06 13 51.3	-0.3
	baz=225							
SGST				*e*S		**Sg**	06 14 14.9	+0.1
	baz=225							
WSL	**Shuilin Townsh**	**1.64**	**245**	*e*P		**Pb**	06 13 52.7	-0.5
	baz=244							
WSL				*e*S		**Sg**	06 14 15.8	+0.5
	baz=244							
ICHU	**Yijhu**	**1.67**	**239**	*e*P		**Pb**	06 13 53.1	-0.6
	baz=239							
ICHU				*e*S		**Sg**	06 14 16.3	-0.2
	baz=239							
IRIF	**Iriomote-Funau**	**1.72**	**86**	P		**Pn**	06 13 52.9	0.0
IRIF				*e*S		**Sn**	06 14 15.3	+0.2
ECL	**Taimali**	**1.82**	**207**	*e*P		**Pn**	06 13 53.7	-0.5
	baz=206							
SCST	**Cishan**	**1.82**	**223**	*e*P		**Pb**	06 13 55.2	-1.0
	baz=223							
SCST				*e*S		**Sg**	06 14 21.2	0.0
	baz=223							
SSD	**Sandimen**	**1.85**	**217**	*e*P		**Pb**	06 13 55.7	-1.0
	baz=216							
TSMG	**Majia**	**1.87**	**216**	*e*P		**Pb**	06 13 56.1	-1.0
	baz=216							
MASBT	**Mashibuluo**	**1.96**	**215**	*e*P		**Pb**	06 13 57.1	-1.4
	baz=214							
MASBT				*e*S		**Sb**	06 14 23.2	+0.1
	baz=214							
JKRS	**Kuro-shima**	**1.97**	**89**	*e*S		**Sn**	06 14 21.4	+0.1
EAST	**Anshuo**	**2.05**	**207**	*e*P		**Pb**	06 13 59.9	-0.3
	baz=206							
TAWH	**Dawu Township**	**2.07**	**205**	*e*P		**Pb**	06 14 00.1	-0.4
	baz=205							
SSPT	**Xinbi**	**2.09**	**214**	*e*P		**Pb**	06 13 59.6	-1.3
	baz=214							
JIJ	**Ishigaki jima**	**2.10**	**86**	P		**Pn**	06 13 57.7	-0.4
JIJ				*e*S		**Sn**	06 14 24.7	+0.3
PNG	**Penghu**	**2.20**	**253**	*e*P		**Pn**	06 13 59.7	+0.2
	baz=252							
PNG				*e*S		**Sb**	06 14 27.5	-2.6
	baz=252							
PHUB	**P'eng-hu**	**2.20**	**252**	*e*P		**Pn**	06 13 59.5	0.0
	baz=251							
SLIU	**Shizi**	**2.22**	**206**	*e*P		**Pn**	06 14 00.4	+0.6
	baz=205							
WDGT	**Dungji**	**2.22**	**245**	*e*P		**Pn**	06 14 00.2	+0.4
	baz=244							
WDGT				*e*S		**Sb**	06 14 28.8	-2.0
	baz=244							
VWUC	**VWUC**	**2.31**	**290**	*e*P		**Pn**	06 14 00.4	-0.7
	baz=289							
VWUC				*e*S		**Sn**	06 14 28.6	-1.1
	baz=289							
MATB	**Ma-tsu**	**2.58**	**318**	*e*P		**Pn**	06 14 04.2	-0.5
	baz=318							
PTMZ	**Houxiangcun**	**2.61**	**289**	*e*P		**Pn**	06 14 02.8	-2.4
	baz=288							
PTMZ				*e*S		**Sn**	06 14 33.2	-3.9
	baz=288							
KSRS	**Korea Array**	**14.18**	**20**	P		**P**	06 16 53.6	+2.3
	baz=202,slow=12,SNR=4.2							
KSRS					LR	LR	06 23 02.4	
	comp=Z,30nm,18.8s,baz=190,slow=40							
SONM	**Songino Array**	**26.57**	**336**	P		**P**	06 19 04.7	+3.4
	0.4nm,0.3s,baz=157,slow=9.4,SNR=2.5							
MKAR	**Makanchi Array**	**38.73**	**316**	P		**P**	06 20 50.7	+3.4
	0.7nm,0.8s,baz=106,slow=9.1,SNR=4.7							
ZALV	**Zalesovo Beam**	**40.54**	**327**	P		**P**	06 21 05.3	+3.0
	0.4nm,0.4s,baz=116,slow=9.8,SNR=1.9							
WRA	**Warramunga Arr**	**45.56**	**163**	P		**P**	06 21 40.0	-3.2
	0.1nm,0.5s,baz=343,slow=9.1,SNR=1.5							
YKA	**Yellowknife Ar**	**82.70**	**23**	P		**P**	06 25 43.5	-3.1
	0.2nm,0.5s,baz=311,slow=5.0,SNR=12							

*KRNET **30** 06:15:52.4±0.1, 39.72N×73.30E, h15km, mb2.6*
*SOME **30** 06:15:59.2, 40.03N×73.27E, h5km*

ISC 30 06:15:53.4±1.6, 39.82N±0.06×73.26E±0.05, h6km±13km, n12, σ1s32/23, 10C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OHH	**Osh**	**0.79**	**333**	⇓*i*	P	**Pb**	06 16 09.8	+0.2
	baz=34							
OHH				⇓*i*	S	**Sn**	06 16 22.1	-1.2
	baz=34							
DRK	**Karamyk**	**1.17**	**254**	⇑*i*	P	**Pb**	06 16 14.7	-1.6
	baz=59							
DRK				⇑*i*	S	**Sg**	06 16 31.6	+0.4
	baz=59							
BTK	**Batken**	**1.89**	**278**	⇓*i*	P	**Pb**	06 16 28.8	+0.4
	baz=81							
BTK				⇓*i*	S	**Sg**	06 16 54.9	+0.8
	baz=81							
ARK	**Arkit**	**2.20**	**334**	⇑*e*	P	**Pb**	06 16 34.0	+0.2
	baz=34							
ARK				⇑*e*	S	**Sg**	06 17 04.5	+0.3
	baz=34							
TRKS	**Terek-Say**	**2.34**	**317**	⇑*i*	P	**Pb**	06 16 34.8	-1.4
	baz=18							
TRKS				⇑*i*	S	**Sb**	06 17 05.7	+0.3
	baz=18							
GAR	**Garm**	**2.42**	**251**	⇑*e*	P	**Pn**	06 16 35.3	+1.7
	baz=54							
GAR				⇑*e*	S	**Sb**	06 17 06.7	-0.9
	baz=54							
UCH	**Uchtor**	**2.58**	**21**	⇑*i*	P	**Pb**	06 16 38.8	-1.7
	baz=20							
UCH				⇑*i*	S	**Sb**	06 17 12.9	+0.3
	baz=20							
MRKS	**Merke**	**2.92**	**360**	*e*P		**Pg**	06 16 50.7	+1.3
	1.7nm,0.2s							
MRKS				*e*S		**Sg**	06 17 27.7	+0.5
	7.1nm,0.2s							
KK31	**Karatay Array**	**3.87**	**329**	⇓Pg		**Pb**	06 17 04.2	+2.1
	0.4nm,0.3s,baz=140,slow=17,SNR=3.7							
KK31				⇓Lg		Lg	06 17 57.4	
	0.3nm,0.2s,baz=140,slow=29,SNR=4.6							
DGS	**Degeres**	**3.90**	**28**	*e*P		**Pg**	06 17 08.9	+0.6
	4.5nm,0.4s							
DGS				*e*S		**Sg**	06 17 59.0	+0.2
	3.3nm,0.3s							
BRLS	**Borolday**	**4.11**	**322**	*e*P		**Pg**	06 17 10.9	-1.2
	3.1nm,0.2s							
BRLS				*e*S		**Sg**	06 18 02.3	-3.0
	2.5nm,0.2s							
KRBS	**Karabastau**	**4.27**	**24**	*e*P		**Pg**	06 17 14.8	-0.5
	0.8nm,0.3s							
KRBS				*e*S		**Sg**	06 18 09.3	-1.3
	1.7nm,0.4s							

*ISK **30** 06:18:08.7, 39.59N×26.06E, h13km, ML3.3/27*
*DDA **30** 06:18:09.5±0.0, 39.59N×26.11E, h10km±1km, ML3.3, Hypocentre not reviewed by the ISC*
*THE **30** 06:18:09.7, 39.61N×26.04E, h10km±1km, ML3.1/11, Error ellipse: s-maj=1.4km s-min=0.7km az=124.0*
*ATH **30** 06:18:09.8, 39.60N×26.06E, h15km±2km, ML3.1/7, Error ellipse: s-maj=2.5km s-min=0.9km az=216.0*
*SOF **30** 06:18:10.0, 39.67N×25.85E, h10km, MD3.0*

ISC 30 06:18:09.6±0.8, 39.60N±0.02×26.07E±0.02, h12km±6km, n69, σ0s85/92, 10C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KOCA	**Canakkale, Ayv**	**0.11**	**151**	P			06 18 12.4	
KOCA				*i*	AML		06 18 14.0	
	comp=N,3μm,0.2s							
KOCA				S			06 18 14.3	
KOCA				*i*	AML		06 18 15.0	
	comp=E,2μm,0.3s							
GPNR	**Gulpinar-Canak**	**0.15**	**161**	PG		**Pg**	06 18 12.7	-0.4
GPNR				SG		**Sg**	06 18 14.9	-0.6
BOZC	**Bozcaada**	**0.24**	**357**	PG		**Pg**	06 18 14.8	+0.1
BOZC				SG		**Sg**	06 18 18.7	+0.5
BOZC	**Bozcaada**	**0.24**	**357**	P			06 18 14.8	
BOZC				*i*	AML		06 18 18.0	
	comp=N,3μm,0.2s							
BOZC				S			06 18 18.5	
EZN	**Ezine**	**0.30**	**41**	P		**Pg**	06 18 15.6	-0.1
EZN				S		**Sg**	06 18 20.0	+0.1
	6μm,0.2s							
EZN	**Ezine**	**0.30**	**41**	PG		**Pg**	06 18 15.6	-0.1
EZN				SG		**Sg**	06 18 20.0	+0.1
PRK	**Paraskevi**	**0.38**	**156**	P		**Pg**	06 18 18.0	+0.8
PRK				S		**Sg**	06 18 23.3	+1.0
PRK					AML	AML	06 18 24.2	
	comp=N,6773μm,0.2s							
PRK					AML	AML	06 18 25.5	
	comp=E,8401μm,0.4s							
PRK	**Paraskevi**	**0.38**	**156**	P		**Pg**	06 18 18.1	+0.8
PRK				S		**Sg**	06 18 23.4	+1.1
	comp=E,4μm,0.3s							
BAYC	**CANAKKALE_Bayr**	**0.40**	**68**	P			06 18 17.2	
BAYC				S			06 18 22.3	
SIGR	**SIGRI**	**0.42**	**203**	P		**Pg**	06 18 17.8	-0.1
SIGR				S		**Sg**	06 18 23.8	+0.4
SIGR					AML	AML	06 18 24.2	
	comp=E,13766μm,0.3s							
SIGR					AML	AML	06 18 24.9	
	comp=N,11188μm,0.3s							
SIGR	**SIGRI**	**0.42**	**203**	P		**Pg**	06 18 17.7	-0.1
SIGR				S		**Sg**	06 18 23.6	+0.2
	comp=N,6μm,0.3s							
ECEA	**Canakkale, Ece**	**0.45**	**10**	P			06 18 18.8	
ECEA				S			06 18 25.6	
ECEA				*i*	AML		06 18 26.0	
	comp=N,2μm,0.3s							
ECEA				*i*	AML		06 18 26.0	
	comp=N,2μm,0.5s							
AYVA	**Ayvalik**	**0.56**	**121**	P			06 18 20.2	
GOKA	**anakkale-Gk**	**0.61**	**348**	P			06 18 21.1	
GADA	**Gvkgeada**	**0.61**	**348**	PG		**Pg**	06 18 21.1	-0.3
LIA	**Limnos Island**	**0.75**	**294**	P		**Pg**	06 18 24.1	+0.1
LIA				S		**Sg**	06 18 34.1	+0.3
LIA					AML	AML	06 18 36.8	
	comp=E,3394μm,0.4s							
LIA					AML	AML	06 18 36.9	
	comp=N,2910μm,0.2s							
LIA	**Limnos Island**	**0.75**	**294**	P		**Pg**	06 18 24.2	+0.1
LIA				S		**Sb**	06 18 34.6	-0.1
	comp=N,2μm,0.3s							
BUHA	**Balikesir, Bur**	**0.78**	**97**	P			06 18 24.3	
BUHA				S			06 18 34.8	
BUHA				*i*	AML		06 18 35.0	
	comp=N,1μm,0.3s							
DKL	**Dikili**	**0.83**	**129**	PG		**Pg**	06 18 25.9	+0.2
DKL				SG		**Sb**	06 18 37.6	+0.4
EFSA	**Agios Efstrati**	**0.84**	**266**	P		**Pb**	06 18 26.5	+0.4
EFSA				S		**Sb**	06 18 37.1	-0.2
EFSA					AML	AML	06 18 40.3	
	comp=E,2198μm,0.2s							
EFSA					AML	AML	06 18 40.6	
	comp=N,2199μm,0.2s							
GELI	**Tayfur-Gelibol**	**0.86**	**21**	PG		**Pg**	06 18 25.6	-0.6
SMTH	**Samothraki Isl**	**0.97**	**335**	P		**Pb**	06 18 27.6	-0.6
SMTH				S		**Sg**	06 18 40.2	-0.6
SMTH					AML	AML	06 18 43.3	
	comp=N,1958μm,0.2s							
SMTH					AML	AML	06 18 43.5	
	comp=E,1402μm,0.2s							
SMTH	**Samothraki Isl**	**0.97**	**335**	P		**Pb**	06 18 27.7	-0.6
SMTH				S		**Sb**	06 18 41.2	+0.1
	comp=E,908nm,0.3s							
ZEDA	**zmir-Bergama**	**1.00**	**129**	P			06 18 28.4	
ZEDA				S			06 18 42.0	
CAVK	**Edirne/Enez-Ca**	**1.10**	**4**	P			06 18 29.8	
CAVK				*i*	AML		06 18 53.0	
	comp=E,510nm,0.6s							
ERIK	**Erikli-Kesan**	**1.12**	**17**	PN		**Pb**	06 18 30.1	-0.9
ENEZ	**Enez**	**1.14**	**3**	P		**Pb**	06 18 31.0	-0.2
ENEZ				S		**Sn**	06 18 47.2	+0.2
	comp=E,2μm,0.4s							
ENEZ	**Enez**	**1.14**	**3**	PN		**Pb**	06 18 30.7	-0.5
BALY	**Balya**	**1.21**	**83**	P			06 18 32.0	
BALY				S			06 18 47.1	
CHOS	**Chios island**	**1.21**	**181**	P		**Pn**	06 18 31.

URLA				S				06 18 49.6		
KNL	**Balıkesir**	**1.31**	**59**	P				06 18 33.5		
KNL				S				06 18 51.3		
KNL				*i* AML				06 18 53.0		
	comp=N,578nm,0.4s									
KESN	**Edirne-Kesan**	**1.31**	**21**	P				06 18 33.7		
KESN				S				06 18 51.1		
KESN				*i* AML				06 18 54.0		
	comp=N,547nm,0.4s									
KESN				*i* AML				06 18 57.0		
	comp=N,613nm,0.3s									
GONE	**Gonen-Balikesi**	**1.32**	**70**	PN		**Pn**		**06 18 33.6**	**-0.3**	
RKY	**Sarkoy-Tekirda**	**1.38**	**38**	PN		**Pn**		**06 18 33.4**	**-1.4**	
SART	**Tekirdag**	**1.38**	**38**	P				06 18 34.7		
SART				S				06 18 53.2		
SART				*i* AML				06 18 55.0		
	comp=N,478nm,0.3s									
ZEYE	**Izmir, Urla-Ze**	**1.40**	**166**	P				06 18 33.8		
ZEYE				S				06 18 54.2		
BLCB	**Balcova**	**1.43**	**148**	PN		**Pn**		**06 18 34.7**	**-0.6**	
MAR6	**Marsite Statio**	**1.44**	**39**	PN		**Pn**		**06 18 35.2**	**-0.3**	
THAS	**Thassos island**	**1.45**	**315**	P		**Pn**		**06 18 34.8**	**-0.8**	
THAS	**Thassos island**	**1.45**	**315**	P		**Pn**		**06 18 34.6**	**-1.0**	
THAS				S		**Sn**		**06 18 52.9**	**-1.6**	
	comp=N,290nm,0.3s									
MAR3	**Marsite Statio**	**1.48**	**39**	PN		**Pn**		**06 18 35.6**	**-0.5**	
AKS	**Akhisar**	**1.53**	**117**	PN		**Pn**		**06 18 36.1**	**-0.7**	
MRMT	**Marmara Adasi**	**1.54**	**49**	PN		**Pn**		**06 18 36.6**	**-0.4**	
EDC	**Edincik**	**1.57**	**61**	PN		**Pn**		**06 18 37.0**	**-0.3**	
UKOP	**Uzunkopru-Edir**	**1.59**	**16**	PN		**Pn**		**06 18 37.1**	**-0.5**	
RDO	**Rodhopi**	**1.60**	**345**	P		**Pn**		**06 18 37.6**	**-0.1**	
RDO				S		**Sn**		**06 18 58.0**	**-0.3**	
	comp=N,132nm,0.4s									
RDO	**Rodhopi**	**1.60**	**345**	PN		**Pn**		**06 18 37.2**	**-0.5**	
DGB	**zmir**	**1.67**	**157**	P				06 18 37.3		
OUR	**Ouranopolis**	**1.77**	**295**	PN		**Pn**		**06 18 39.5**	**-0.5**	
TKR	**Tekirdag**	**1.79**	**38**	PN		**Pn**		**06 18 40.1**	**-0.2**	
KAVA	**Kavala**	**1.84**	**320**	P		**Pn**		**06 18 40.5**	**-0.5**	
KAVA				S		**Sn**		**06 19 02.2**	**-1.9**	
	comp=N,132nm,0.2s									
DURS	**Dursunbey**	**1.86**	**89**	P				06 18 41.0		
KCTX	**Karacabey (Bur**	**1.88**	**68**	PN		**Pn**		**06 18 41.4**	**-0.2**	
SMG	**Samos**	**1.98**	**162**	P		**Pb**		**06 18 45.2**	**-0.3**	
GCAM	**G?zelcaml?**	**2.10**	**154**	PN		**Pn**		**06 18 44.3**	**-0.3**	
GCAM	**G?zelcaml?**	**2.10**	**154**	P				06 18 46.1		
KDZ	**Kurdzhali**	**2.11**	**347**	*i* P		**Pn**		**06 18 45.2**	**+0.4**	
AYDB	**Zeytinkoy-Aydi**	**2.18**	**139**	PN		**Pn**		**06 18 45.4**	**-0.4**	
KULA	**Kula-Manisa**	**2.29**	**117**	PN		**Pn**		**06 18 47.0**	**-0.3**	
SIMA	**Simav-Kutahya**	**2.32**	**102**	PN		**Pn**		**06 18 47.6**	**0.0**	
KIRK	**Kırklareli**	**2.32**	**19**	P				06 18 48.2		
RZN	**Rozhen**	**2.33**	**334**	*i* P		**Pn**		**06 18 48.1**	**+0.2**	
VIZE	**Kirklareli, Vi**	**2.40**	**34**	P				06 18 47.5		
ULDT	**Uludag**	**2.42**	**76**	P				06 18 49.3		
NVR	**Nevrokopi**	**2.43**	**317**	P		**Pn**		**06 18 49.1**	**-0.1**	
ESNK	**Esenköy**	**2.45**	**64**	P				06 18 56.3		
DIM	**Dimitrovgrad**	**2.48**	**351**	*i* P		**Pn**		**06 18 51.0**	**+1.1**	
ARMN	**Kirklareli, Me**	**2.49**	**24**	P				06 18 49.5		
IGD	**Bursa**	**2.50**	**74**	P				06 18 50.4		
STBT	**Saitabat**	**2.50**	**76**	P				06 18 50.4		
APE	**Apeiranthos**	**2.56**	**190**	⇓P		**Pn**		**06 18 50.7**	**-0.2**	
APE				⇓S		**Sg**		**06 19 32.1**	**+0.3**	
MMB	**Musomiste**	**2.67**	**319**	*i* P		**Pn**		**06 18 52.0**	**-0.5**	
KKB	**Krupnik**	**3.21**	**316**	*i* P		**Pn**		**06 19 01.0**	**+1.2**	
VTS	**Vitosha**	**3.70**	**326**	⇑P		**Pn**		**06 19 07.2**	**+0.5**	
VTS				⇑S		**Sb**		**06 20 03.9**	**+4.0**	
RAZG	**Razgrad**	**3.98**	**5**	⇑P		**Pn**		**06 19 11.8**	**+1.3**	
MPEP	**Malo Peshtene**	**4.14**	**336**	*i* P		**Pn**		**06 19 14.0**	**+1.3**	
BLKB	**Belogradchik**	**4.76**	**329**	⇑S		**Sb**		**06 20 29.6**	**-0.6**	
BOVS	**Bovan**	**5.19**	**322**	⇑P		**Pn**		**06 19 27.3**	**+0.2**	
MLR	**Muntele Rosu**	**5.89**	**359**	⇑P		**Pn**		**06 19 39.1**	**+2.2**	
PLOR	**Plostina**	**6.27**	**4**	⇑P		**Pn**		**06 19 43.8**	**+1.9**	
GZR	**Gura Zlata**	**6.28**	**338**	⇓P		**Pn**		**06 19 43.0**	**+0.8**	
VRI	**Vrincioaia**	**6.29**	**4**	⇓P		**Pn**		**06 19 43.9**	**+1.8**	
DOPR	**Dopca**	**6.39**	**356**	⇓P		**Pn**		**06 19 43.4**	**-0.1**	
BZS	**Buzias**	**6.85**	**333**	⇑P		**Pn**		**06 19 49.8**	**-0.1**	
TESR	**Tescani**	**6.92**	**3**	⇑P		**Pn**		**06 19 51.8**	**+0.9**	
DRGR		**7.60**	**342**	⇑P		Pn		06 20 05.5	+5.3	

*IDC **30** 06:21:01.4±8.6, 5°40′N×95°29′E, h69km±57km, **mb3.3**/4, **mb1 3.4**/5, **mb1mx3.2**/48, **mbtmp3.6**/5, **ML3.2**/1, **MS3.7**/1, **Ms1 3.7**/1, **ms1mx2.5**/37, **Error ellipse: s-maj=164.4km s-min=20.9km az=56.0, Northern Sumatera***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.45**	**125**	P	Pn	06 22 06.5	0.0
	1.1nm,0.3s,baz=302,slow=12,SNR=2.2						
PSI				S	Sn	06 22 59.7	+2.6
	2.0nm,0.3s,baz=195,slow=20,SNR=6.3						
H08S2	**Diego Garcia H**	**26.18**	**241**	T	T	06 51 56.8	
	baz=60,slow=75,SNR=25						
H08S3	**Diego Garcia H**	**26.18**	**241**	T	T	06 51 34.1	
	baz=60,slow=75,SNR=25						
H08S1	**Diego Garcia H**	**26.20**	**241**	T	T	06 51 40.2	
	baz=60,slow=75,SNR=16						
BATI	**Baumata**	**32.23**	**119**	LR	LR	06 42 48.7	
	comp=Z,128nm,19.3s,baz=271,slow=41						
MKAR	**Makanchi Array**	**42.74**	**347**	P	P	06 28 51.7	-0.1
	0.4nm,0.3s,baz=169,slow=8.0,SNR=7.8						
WRA	**Warramunga Arr**	**45.91**	**124**	P	P	06 29 16.9	-0.7
	0.3nm,0.3s,baz=304,slow=9.0,SNR=9.4						
ASAR	**Alice Springs**	**47.47**	**129**	P	P	06 29 30.1	+0.4
	0.3nm,0.5s,baz=306,slow=8.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**49.15**	**352**	P	P	06 29 42.2	+0.1
	0.5nm,0.3s,baz=155,slow=7.8,SNR=2.1						

*IDC **30** 06:23:15.7±1.6, 16°27′S×167°40′E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/39, mbtmp3.8/4, ML3.4/1, MS3.2/10, Ms1 3.3/10, ms1mx2.9/58, Error ellipse: s-maj=56.6km s-min=28.1km az=114.0*

*NOU **30** 06:23:19.9, 16°25′S×167°31′E, h10km, MLv4.9/8, Vanuatu Islands*

ISC 30 06:23:19.1±1.0, 16°26′S±0°05′×167°4′E±0°1, h20km, n22, σ0°95′/14, MS3.2/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.82**	**350**	P	**Pn**	**06 23 35.5**	**0.0**
SANVU	**Saraoutou**	**0.82**	**350**	P	**Pn**	**06 23 35.3**	**+0.6**
DVP	**Devils Point**	**1.67**	**151**	P	**Pb**	**06 23 49.8**	**+0.7**
DVP	**Devils Point**	**1.67**	**151**	P	**Pb**	**06 23 49.2**	**+0.1**
RTV	**Rentapao**	**1.84**	**146**	P	**Pb**	**06 23 52.1**	**0.0**
KOUNC	**Koumac, New Ca**	**5.17**	**214**	P	**Pn**	**06 24 35.5**	**+0.1**
YATNC	**Mamie plateau,**	**5.79**	**184**	P	**Pn**	**06 24 44.3**	**+0.4**
	48nm,0.6s						
DZM	**Mont Dzumac**	**5.85**	**188**	Pn	**Pn**	**06 24 44.6**	**-0.2**
	1.0nm,0.3s,baz=40,slow=19,SNR=13						
DZM				Sn	**Sn**	**06 25 49.7**	**-1.7**
	3.8nm,0.3s,baz=125,slow=21,SNR=6.3						
DZM				LR	LR	06 25 59.0	
	comp=Z,33nm,21.3s,baz=62,slow=28						
DZM	**Mont Dzumac**	**5.85**	**188**	P	**Pn**	**06 24 45.7**	**+0.9**
NOUC	**Port Laguerre**	**5.90**	**189**	P	**Pn**	**06 24 47.1**	**+1.7**
OUENC	**Ouen Island, N**	**6.15**	**184**	P	**Pn**	**06 24 50.3**	**+1.4**
MSVF	**Nonsavu**	**10.34**	**100**	LR	LR	06 28 54.0	
	comp=Z,115nm,21.3s,baz=155,slow=33						
AFI	**Afiamalu**	**20.29**	**86**	LR	LR	06 33 26.6	
	comp=Z,35nm,19.1s,baz=241,slow=30						
CTA	**Charters Tower**	**20.40**	**256**	LR	LR	06 34 10.5	
	comp=Z,59nm,18.8s,baz=67,slow=32						
PMG	**Port Moresby**	**20.82**	**287**	LR	LR	06 33 49.1	
	comp=Z,58nm,18.7s,baz=70,slow=30						
RPZ	**Rata Peaks**	**27.55**	**174**	LR	LR	06 38 19.4	
	comp=Z,130nm,18.1s,baz=232,slow=33						
WRA	**Warramunga Arr**	**31.56**	**258**	LR	LR	06 41 41.5	
	comp=Z,46nm,19.3s,baz=336,slow=35						
ASAR	**Alice Springs**	**32.23**	**251**	P	**P**	**06 29 46.5**	**0.0**
	0.9nm,0.7s,baz=78,slow=8.5,SNR=7.1						
ASAR				LR	LR	06 41 49.3	
	comp=Z,63nm,18.8s,baz=128,slow=34						
FITZ	**Fitzroy Crossi**	**39.83**	**261**	LR	LR	06 45 56.2	
	comp=Z,51nm,18.6s,baz=112,slow=34						
ILAR	**Eielson Array**	**87.95**	**18**	P	**P**	**06 36 06.6**	**-0.6**
	0.5nm,0.8s,baz=234,slow=6.1,SNR=5.0						
NVAR	**Mina Array Bea**	**88.20**	**49**	LR	LR	07 09 06.2	
	comp=Z,54nm,18.5s,baz=255,slow=31						
YKA	**Yellowknife Ar**	**98.86**	**27**	P	Pdif	06 36 57.7	+0.3
	0.1nm,0.6s,baz=259,slow=4.8,SNR=1.9						

*IDC **30** 06:30:31.0±3.0, 7°41′S×111°78′E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/49, mbtmp3.5/3, Error ellipse: s-maj=168.6km s-min=29.5km az=50.0*

*DJA **30** 06:30:31.0±0.3, 8°S±2′×111°2E±°, h26km±4km, M3.5/17, MLv3.5/17*

ISC 30 06:30:30.3±1.9, 7°62′S±0°04′×111°92E±0°03, h8km±14km, n19, σ2°08′/28, mb3.7/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.41**	**196**	P	**Pn**	**06 30 41.9**	**-0.8**
PWJI				S	**Sb**	**06 30 48.6**	**+2.2**
TBJI	**Tambak Boyo**	**0.80**	**355**	P	**Pn**	**06 30 46.6**	**-1.4**
TBJI				S	**Sb**	**06 30 57.6**	**0.0**
GRJI	**Gresik**	**0.90**	**38**	P	**Pn**	**06 30 50.9**	**+1.6**
GRJI				S	**Sn**	**06 31 02.0**	**-0.5**
PCJI	**Pacitan**	**0.93**	**232**	P	**Pn**	**06 30 49.3**	**-0.5**
PCJI				S	**Sn**	**06 31 02.3**	**-1.0**
UGM	**Wanagama**	**1.41**	**258**	P	**Pb**	**06 30 56.3**	**-0.7**
UGM				S	**Sn**	**06 31 13.3**	**-2.0**
UWJI	**Ujung Watu**	**1.54**	**321**	P	**Pn**	**06 30 57.1**	**-1.0**
UWJI				S	**Sn**	**06 31 16.0**	**-2.3**
SMRI	**Semarang**	**1.57**	**291**	P	**Pn**	**06 30 57.2**	**-1.4**
SMRI				S	**Sb**	**06 31 19.0**	**-0.9**
YOGI	**Yogyakarta**	**1.62**	**263**	P	**Pn**	**06 30 58.7**	**-0.6**
YOGI				S	**Sb**	**06 31 20.2**	**-1.1**
GMJI	**Gumukmas**	**1.64**	**113**	P	**Pg**	**06 31 02.4**	**+0.5**
BLJI	**Banyuglugur**	**1.67**	**94**	P	**Pn**	**06 30 56.3**	**-3.6**
BWJI	**Bawean**	**1.91**	**23**	P	**Pn**	**06 31 02.6**	**-0.6**
BWJI				S	**Sn**	**06 31 26.9**	**-0.5**
KMMI	**Kalianget**	**2.11**	**74**	P	**Pn**	**06 31 04.2**	**-1.8**
ABJI	**Asem Bagus**	**2.30**	**94**	P	**Pn**	**06 31 06.1**	**-2.5**
JAGI	**Jajag, Banyuwa**	**2.37**	**111**	P	**Pn**	**06 31 05.9**	**-3.6**
KPJI	**Karang Pucung**	**2.98**	**275**	P	**Pn**	**06 31 17.1**	**-0.9**
SRBI	**Singaraja**	**3.29**	**98**	P	**Pn**	**06 31 19.9**	**-2.4**
WRA	**Warramunga Arr**	**24.94**	**122**	P	**P**	**06 35 57.4**	**+3.0**
	1.1nm,0.6s,baz=296,slow=12,SNR=9.6						
ASAR	**Alice Springs**	**26.44**	**130**	P	**P**	**06 36 13.1**	**+5.0**
	0.4nm,0.5s,baz=305,slow=9.0,SNR=7.8						
MKAR	**Makanchi Array**	**60.25**	**337**	P	**P**	**06 40 39.5**	**+0.2**
	0.4nm,0.5s,baz=135,slow=8.3,SNR=1.6						

*IDC **30** 06:34:03.9±1.3, 44°05′N×86°87′E, h0km, mb3.6/5, mb1 3.6/9, mb1mx3.4/63, mbtmp3.5/9, ML2.9/4, Error ellipse: s-maj=34.0km s-min=14.9km az=41.0*

*NNC **30** 06:34:05.6±1.1, 43°90′N×86°65′E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=8.3km s-min=6.0km az=108.0*

ISC 30 06:34:05.1±1.0, 44°02′N±0°09′×86°99′E±0°08, h10km, n13, σ2°42′/17, mb3.5/5, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.32**	**312**	⇓P	**Pn**	**06 35 11.3**	**+0.4**
	1.3nm,0.5s,baz=126,slow=14,SNR=59						
MK31				Lg	Lg	06 36 20.1	
	18nm,0.6s,baz=135,slow=27,SNR=6.9						
MKAR	**Makanchi Array**	**4.32**	**312**	Pn	**Pn**	**06 35 11.4**	**+0.5**
	0.7nm,0.3s,baz=128,slow=14,SNR=22						
MKAR				Sn	**Sn**	**06 36 03.3**	**+2.0**
	2.1nm,0.3s,baz=130,slow=20,SNR=6.1						
MKAR				Lg	Lg	06 36 17.5	
	3.0nm,0.3s,baz=124,slow=28,SNR=6.1						
MAKZ	**Makanchi**	**4.50**	**310**	⇑Pn	**Pn**	**06 35 13.5**	**+0.2**
	2.7nm,0.5s						
MAKZ				⇓Sn	**Sn**	**06 36 06.7**	**+1.0**
	6.8nm,0.6s						
MAKZ				⇑Lg	Lg	06 36 24.6	
	19nm,0.8s						
PDGK	**Podgornoye**	**5.49**	**265**	⇑Pn	**Pn**	**06 35 25.2**	**-1.9**
	2.9nm,0.8s						
PDGK				⇑Sn	**Sn**	**06 36 27.4**	**-2.9**
	10nm,0.7s						
PDGK				⇑Lg	Lg	06 36 51.7	
	38nm,1.0s						
KURBB	**Kurchatov Arra**	**8.75**	**322**	Pn	**Pn**	**06 36 09.7**	**-1.9**
	0.1nm,0.3s,baz=134,slow=12,SNR=2.4						
KURBB				Sn	**Sn**	**06 37 54.9**	**+4.6**
	0.1nm,0.3s,baz=73,slow=8.1,SNR=1.5						
KURBB				Lg	Lg	06 38 40.3	
	0.2nm,0.3s,baz=137,slow=32,SNR=6.4						
AAK	**Ala-Archa**	**9.22**	**266**	Lg	Lg	06 38 56.5	
	0.1nm,0.3s,baz=299,slow=19,SNR=1.6						
ZALV	**Zalesovo Beam**	**10.03**	**353**	Pn	**Pn**	**06 36 27.1**	**-2.1**
	0.2nm,0.3s,baz=171,slow=16,SNR=8.6						
ZALV				Sn	**Sn**	**06 38 16.2**	**-5.5**
	0.3nm,0.3s,baz=175,slow=22,SNR=5.4						
ZALV				Lg	Lg	06 39 31.4	
	0.1nm,0.3s,baz=176,slow=27,SNR=3.8						
SONM	**Songino Array**	**14.03**	**67**	Pn	**Pn**	**06 37 24.4**	**+0.4**
	0.1nm,0.3s,baz=249,slow=12,SNR=1.3						
SONM				Lg	Lg	06 41 33.4	
	0.4nm,0.3s,baz=261,slow=26,SNR=1.6						
NRIK	**Noril'sk**	**25.38**	**0**	P	**P**	**06 39 32.5**	**+0.4**
	2.5nm,0.4s,baz=175,slow=7.5,SNR=4.4						
NOA	**NORSAR Array B**	**46.27**	**319**	P	**P**	**06 42 30.8**	**+0.4**
	0.3nm,0.5s,baz=74,slow=7.8,SNR=1.5						
YKA	**Yellowknife Ar**	**72.42**	**10**	P	**P**	**06 45 32.0**	**+0.9**
	0.2nm,0.7s,baz=342,slow=6.0,SNR=3.9						
WRA	**Warramunga Arr**	**77.00**	**135**	P	**P**	**06 45 57.9**	**-0.3**
	0.5nm,0.8s,baz=331,slow=4.3,SNR=3.0						
ASAR	**Alice Springs**	**79.90**	**137**	P	**P**	**06 46 15.9**	**+1.8**
	0.3nm,0.7s,baz=354,slow=7.5,SNR=2.1						

IDC 30 06:35:03.0±5.7, 10°26′N×141°29′E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.5/57, mbtmp4.0/5, ML3.5/1, Error ellipse: s-maj=170.7km s-min=44.7km az=167.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.82**	**46**	Pn	Pn	06 36 17.6	+0.8
	2.2nm,0.3s,baz=76,slow=19,SNR=1.3						
GUMO				Sn	Sn	06 37 08.8	-4.6
	2.4nm,0.3s,baz=261,slow=22,SNR=1.2						
KURBB	**Kurchatov Arra**	**64.95**	**321**	P	P	06 45 45.4	+1.0
	0.9nm,0.2s,baz=100,slow=7.1,SNR=2.1						
ILAR	**Eielson Array**	**73.05**	**25**	P	P	06 46 33.5	-1.1
	0.5nm,0.6s,baz=244,slow=6.2,SNR=8.5						
YKA	**Yellowknife Ar**	**87.40**	**27**	P	P	06 47 53.5	+1.6
	0.2nm,0.4s,baz=288,slow=5.0,SNR=7.5						
FINES	**FINESS Array B**	**92.65**	**334**	P	P	06 48 15.1	-1.4
	0.9nm,0.6s,baz=57,slow=5.1,SNR=7.6						

*NEIC **30** 06:36:25.3±1.7, 30°04′S±0°05′×72°69′W±0°10, h10km±1km, mb4.5/7, ML3.8(GUC), Error ellipse: s-maj=14.3km s-min=8.9km az=282.0*

*SJA **30** 06:36:25.7±1.0, 30°04′S×72°51′W, h11km, ML3.9, MW4.0*

*IDC **30** 06:36:25.9±0.8, 30°12′S×72°55′W, h0km, mb4.1/7, mb1 4.2/11, mb1mx4.1/25, mbtmp4.0/11, ML3.9/4, MS3.7/14, Ms1 3.7/14, ms1mx3.4/52, Error ellipse: s-maj=27.4km s-min=24.7km az=67.0*

*VAO **30** 06:36:27.1±0.7, 30°13′S×72°89′W, h22km, mb4.3*

*GUC **30** 06:36:28.0±0.7, 30°05′S×72°52′W, h37km±4km, ML3.8*

ISC 30 06:36:25.7±1.9, 30°10′S±0°03′×72°54′W±0°06, h6km±11km, n115, σ1°49′/114, mb4.2/7, MS3.8/11, 8C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.97**	**126**		**Pn**	**06 36 45.7**	**-0.2**
CO06	**Fray Jorge**	**0.97**	**126**	⇑*i* P	**Pn**	**06 36 45.8**	**-0.1**
CO06				*i* S	**Sn**	**06 36 58.8**	**-1.2**
CO06				IAML		06 36 59.4	
	comp=E,3μm,0.7s						
CO05	**La Serena**	**1.15**	**81**		**Pg**	**06 36 48.1**	**+0.5**
CO05	**La Serena**	**1.15**	**81**	⇑*i* P	**Pg**	**06 36 48.3**	**+0.7**
CO05				*i* S	**Sg**	**06 37 02.8**	**+0.3**
CO05				IAML		06 37 03.5	
	comp=N,3μm,0.4s						
GO04	**Tololo Observa**	**1.51**	**93**		**Pb**	**06 36 53.7**	**-0.6**
GO04	**Tololo Observa**	**1.51**	**93**	⇑*i* P	**Pg**	**06 36 54.3**	**-0.4**
GO04				*i* S	**Sb**	**06 37 13.4**	**-0.4**
GO04	**Tololo Observa**	**1.51**	**93**	*i* P	**Pg**	**06 36 54.4**	**-0.2**
GO04				⇓*e*S	**Sg**	**06 37 14.4**	**+0.1**
CO02	**Combarbal**	**1.73**	**130**		**Pb**	**06 36 56.9**	**-0.9**
CO02	**Combarbal**	**1.73**	**130**	⇑*i* P	**Pb**	**06 36 57.5**	**-0.4**
CO02				*i* S	**Sb**	**06 37 18.8**	**-1.1**
CO02				IAML		06 37 20.6	
	comp=N,4μm,0.5s						
CO02	**Combarbal**	**1.73**	**130**	*i* P	**Pb**	**06 36 57.5**	**-0.4**
CO02				⇓*e*S	**Sn**	**06 37 18.1**	**-0.7**
CO02				IAML		06 37 19.4	
	comp=Z,2μm,0.8s						
LCO	**Las Campanas**	**1.94**	**56**		**Pb**	**06 36 59.5**	**-2.0**
LCO	**Las Campanas**	**1.94**	**56**	⇑*i* P	**Pb**	**06 36 59.7**	**-1.9**
LCO				*i* S	**Sn**	**06 37 23.3**	**-0.9**
LCO	**Las Campanas**	**1.94**	**56**	*i* P	**Pb**	**06 36 59.9**	**-1.7**
LCO				*e*S	**Sn**	**06 37 23.6**	**-0.7**
LCO				IAML		06 37 25.2	
	comp=Z,2μm,0.3s						
CO01	**Juntas del Tor**	**2.13**	**87**		**Pb**	**06 37 03.3**	**-1.5**
CO01	**Juntas del Tor**	**2.13**	**87**	*e*P	**Pb**	**06 37 03.0**	**-1.8**
CO01				*i* S	**Sb**	**06 37 29.8**	**-1.7**
CO01				IAML		06 37 36.0	
	comp=N,396nm,0.3s						
CO01	**Juntas del Tor**	**2.13**	**87**	*i* P	**Pb**	**06 37 03.6**	**-1.1**
CO01				IAML		06 37 44.5	
	comp=Z,255nm,0.8s						
AC04	**Llanos de Chal**	**2.28**	**35**		**Pn**	**06 37 02.7**	**-1.3**
AC04	**Llanos de Chal**	**2.28**	**35**	*e*P	**Pn**	**06 37 02.9**	**-1.0**
AC04				*i* S	**Sn**	**06 37 29.5**	**-2.9**
AC04				IAML		06 37 30.2	
	comp=E,946nm,0.5s						
AC04	**Llanos de Chal**	**2.28**	**35**	⇓*i* P	**Pn**	**06 37 03.3**	**-0.7**
AC04				*e*S	**Sn**	**06 37 29.2**	**-3.2**
AC04				IAML		06 37 30.3	
	comp=Z,997nm,0.3s						
AROD	**Rodeo**	**2.66**	**92**	*i* P	**Pb**	**06 37 13.0**	**-0.9**
VA06	**Catapilco**	**2.68**	**157**		**Pn**	**06 37 09.6**	**+0.3**
VA06	**Catapilco**	**2.68**	**157**	⇑*i* P	**Pn**	**06 37 09.9**	**+0.6**
VA06				*i* S	**Sn**	**06 37 40.5**	**-1.5**
VA06				IAML		06 37 44.0	
	comp=N,860nm,0.4s						
ACDV	**Cuesta del Vie**	**2.96**	**92**	*i* P	**Pb**	**06 37 18.4**	**-0.7**
ACDV				IAML		06 38 18.4	
	comp=Z,181nm,1.2s						
VA01	**Torpederas**	**3.01**	**166**	Pn	**Pn**	**06 37 13.8**	**-0.2**
ACCO	**Cerro Coronel**	**3.04**	**100**	*i* P	**Pb**	**06 37 19.3**	**-1.2**
ACCO				IAML		06 38 07.9	
	comp=Z,346nm,0.8s						
ROC1	**El Roble**	**3.15**	**156**		**Pn**	**06 37 14.4**	**-1.6**
ROC1	**El Roble**	**3.15**	**156**	*i* P	**Pn**	**06 37 14.5**	**-1.6**
ROC1				*e*S	**Sn**	**06 37 50.9**	**-3.3**
VA03	**San Esteban**	**3.15**	**148**		**Pn**	**06 37 17.4**	**+1.4**
GO03	**Copiap**	**3.21**	**40**		**Pn**	**06 37 16.7**	**-0.1**
GO03	**Copiap**	**3.21**	**40**	*e*P	**Pn**	**06 37 17.1**	**+0.2**
GO03				*i* S	**Sn**	**06 37 54.5**	**-0.9**
GO03				IAML		06 37 55.7	
	comp=E,291nm,0.6s						
GO03	**Copiap**	**3.21**	**40**	⇓*i* P	**Pn**	**06 37 17.0**	**+0.2**
GO03				*e*S	**Sn**	**06 37 54.9**	**-0.6**
AC06	**Mina Casimiro**	**3.34**	**36**		**Pn**	**06 37 18.8**	**+0.3**
AC06	**Mina Casimiro**	**3.34**	**36**	⇑*i* P	**Pn**	**06 37 18.4**	**-0.1**
AC06				*i* S	**Sn**	**06 37 57.3**	**-1.2**
AC06				IAML		06 38 00.1	
	comp=E,198nm,0.5s						
MT02	**Curacav**	**3.37**	**160**		**Pn**	**06 37 19.5**	**+0.6**
MT02	**Curacav**	**3.37**	**160**	*e*P	**Pn**	**06 37 19.6**	**+0.7**
MT02				IAML		06 38 01.8	
	comp=N,105nm,0.5s						
PEL	**Peldehue**	**3.42**	**153**		**Pn**	**06 37 20.7**	**+1.0**
PEL	**Peldehue**	**3.42**	**153**	*i* P	**Pn**	**06 37 21.1**	**+1.4**
AUSP	**Uspallata**	**3.44**	**129**	*i* P	**Pb**	**06 37 24.6**	**-2.6**
MT05	**Renca**	**3.62**	**155**		**Pn**	**06 37 23.4**	**+0.9**
VA05	**Santo Domingo**	**3.63**	**168**		**Pn**	**06 37 22.3**	**-0.2**
FCH	**Farellones**	**3.75**	**150**	*e*P	**Pn**	**06 37 26.1**	**+1.7**
MT03	**Universidad Ad**	**3.80**	**153**		**Pn**	**06 37 26.1**	**+1.2**
MT09	**Talagante**	**3.90**	**161**		**Pn**	**06 37 27.1**	**+0.9**
MT01	**Popeta**	**3.91**	**164**		**Pn**	**06 37 26.6**	**+0.3**
MT01

comp=Z,0.7nm,0.7s,baz=162,slow=5.9,SNR=4.7
TSUM Tsumeb 80.72 107 LR LR 07 20 25.1
BOSA Boshof 82.28 118 LR LR 07 21 16.9
comp=Z,73nm,18.3s,baz=187,slow=33
ULM Lac du Bonnet 82.63 345 P **P** **06 48 50.0 +0.5**
comp=Z,3.7nm,0.7s,baz=172,slow=5.3,SNR=4.2
LBTB Lobatse 84.35 116 LR LR 07 26 02.5
comp=Z,87nm,18.4s,baz=188,slow=35
MDT Midelt 89.71 51 LR LR 07 30 05.1
comp=Z,36nm,18.1s,baz=190,slow=36
LSZ Lusaka 91.44 108 LR LR 07 28 26.3
comp=Z,77nm,19.5s,baz=238,slow=34
YKA Yellowknife Ar 98.23 342 P Pdif 06 50 03.1 -0.1
comp=Z,0.3nm,0.7s,baz=141,slow=4.5,SNR=6.0
WRA Warramunga Arr 123.92 211 PKP **PKiKP** **06 55 25.6 -0.1**
comp=Z,0.5nm,0.6s,baz=148,slow=1.7,SNR=13
BVAR Borovoye Array 144.62 39 PKP **PKPdf** **06 56 02.2 -0.7**
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 150.20 38 PKPbc **PKiKP** **06 56 18.3 +0.2**
comp=Z,2.0nm,0.5s,baz=303,slow=3.4,SNR=6.7
AAK Ala-Archa 150.84 56 PKPbc **PKiKP** **06 56 21.4 +1.5**
comp=Z,1.9nm,0.5s,baz=270,slow=3.4,SNR=5.1
ZALV Zalesovo Beam 151.07 28 PKPbc **PKiKP** **06 56 20.9 +1.1**
comp=Z,6.5nm,0.7s,baz=304,slow=3.5,SNR=18
PSI Prapat 151.67 162 PKPbc **PKiKP** **06 56 22.0 -0.4**
comp=Z,5.0nm,0.9s,baz=170,slow=5.5,SNR=3.7
KSH Kashi 152.61 61 PKPbc **PKPdf** **06 56 15.3 -1.1**
KSH pPKP sPKPbc 06 56 25.5 +2.3
MKAR Makanchi Array 154.35 42 PKPbc **PKiKP** **06 56 27.6 +0.7**
comp=Z,0.5nm,0.8s,baz=270,slow=1.4,SNR=2.5
PZH PanZhiHua 173.82 124 PKP **PKPdf** **06 56 34.8 -2.0**

*IDC **30** 06:43:11.7±2.2,29.°44N×81.°18E,h0km,mb3.5/5, mb1 3.7/7,mb1mx3.5/64,mbtmp3.6/7,ML4.2/2,Error ellipse: s-maj=78.3km s-min=23.8km az=60.0*
ISC 30 06:43:13.5±1.0,29.°5N±0.°2×81.°26E±0.°09,h10km,n8, σ0°76/9,mb3.9/5,Nepal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**0.89**	**269**	*eP*	G		**Pn**	**06 43 32.7**	**+0.7**
LGTI				*eP*	G		**Sn**	**06 43 44.2**	**-0.8**
MKAR	**Makanchi Array**	**17.32**	**2**	P			**P**	**06 47 17.2**	**+0.6**
	0.2nm,0.3s,baz=174,slow=12,SNR=5.9								
CMAR	**Chiang Mai Arr**	**19.50**	**120**	P			**Pn**	**06 47 42.7**	**+0.6**
	0.8nm,0.3s,baz=307,slow=9.7,SNR=5.8								
KURBB	**Kurchatov Arra**	**21.23**	**355**	P			**P**	**06 47 58.6**	**-0.8**
	1.3nm,0.2s,baz=180,slow=10,SNR=12								
ZALV	**Zalesovo Beam**	**24.60**	**5**	P			**P**	**06 48 33.3**	**-0.4**
	1.8nm,0.6s,baz=184,slow=7.4,SNR=8.0								
FINES	**FINESS Array B**	**48.05**	**328**	P			**P**	**06 51 53.3**	**+0.6**
	0.6nm,0.6s,baz=122,slow=6.9,SNR=1.5								
WRA	**Warramunga Arr**	**70.92**	**127**	P			**P**	**06 54 30.5**	**-0.7**
	0.3nm,0.7s,baz=324,slow=6.1,SNR=1.9								
YKA	**Yellowknife Ar**	**87.47**	**7**	P			**P**	**06 56 00.7**	**-0.3**
	0.1nm,0.5s,baz=340,slow=5.4,SNR=2.2								

*IDC **30** 06:43:31.8±2.0,1.°22N×125.°66E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.4/53,mbtmp3.4/4,ML3.3/1,Error ellipse: s-maj=127.8km s-min=26.0km az=67.0*
*DJA **30** 06:43:36.0±0.5,1.°1N±3.°×12.°6E±.°,h76km±9km,M3.8/9, mb4.1/1,MLv3.7/9*
ISC 30 06:43:37.5±1.2,1.°37N±0.°10×126.°23E±0.°05,h54km,n12, σ1°75/17,mb3.5/3,Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**118**	P			**Pn**	**06 43 58.7**	**-0.5**
TNTI				S			**Sn**	**06 44 16.3**	**+0.9**
LBMI	**Labuha**	**2.37**	**148**	P			**Pn**	**06 44 13.6**	**-0.3**
KMSI	**Cibinong**	**2.38**	**251**	P			**Pn**	**06 44 13.2**	**-0.9**
KMSI				S			**Sn**	**06 44 42.1**	**-0.1**
GTOI	**Gorontalo**	**3.30**	**257**	P			**Pn**	**06 44 29.6**	**+2.9**
GTOI				S			**Sn**	**06 45 06.8**	**+2.1**
SANI	**Sanana**	**3.41**	**184**	P			**Pn**	**06 44 29.5**	**+1.3**
SANI				S			**Sn**	**06 45 06.4**	**-1.0**
LUWI	**Luwuk**	**4.21**	**235**	P			**Pn**	**06 44 37.5**	**-1.7**
LUWI				S			**Sn**	**06 45 28.2**	**+1.1**
MRSI	**Marisa**	**4.38**	**258**	P			**Pn**	**06 44 37.5**	**-4.0**
APSI	**Ampana**	**5.11**	**244**	P			**Pn**	**06 44 51.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.36**	**182**	P			**Pn**	**06 47 58.6**	**-1.7**
	0.1nm,0.3s,baz=4.7,slow=8.2,SNR=1.6								
WRA	**Warramunga Arr**	**22.63**	**160**	P			**P**	**06 48 34.1**	**0.0**
	1.0nm,0.5s,baz=335,slow=10,SNR=28								
ASAR	**Alice Springs**	**25.98**	**164**	P			**P**	**06 49 06.8**	**+1.4**
	0.3nm,0.3s,baz=343,slow=8.2,SNR=8.2								
MKAR	**Makanchi Aray**	**59.21**	**326**	P			**P**	**06 53 33.6**	**+0.4**
	0.9nm,1.0s,baz=126,slow=7.3,SNR=3.6								

*CNRM **30** 06:58:21.3,32.°69N×12.°91W,h0km,ml3.7*
*MDD **30** 06:58:23.4±0.7,32.°87N×12.°94W,h21km±5km,Mb4.4/18, M_mb3.9/18,Error ellipse: s-maj=5.2km s-min=1.6km az=127.0*
*INMG **30** 06:58:28.8±2.1,32.°90N×12.°98W,h10km,ML2.9, Error ellipse: s-maj=5.0km s-min=2.2km az=121.0*
ISC 30 06:58:17.6±0.7,32.°90N±0.°04×12.°98W±0.°03,h10km,n69, σ3°36/94,17C,Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**2.82**	**274**	*eP*			**Pb**	**06 59 09.3**	**+1.2**
PMPST				*eS*			**Sn**	**06 59 37.4**	**+0.6**
PMPST				A			A	06 59 41.6	
	58nm,1.0s								
EAH	**EAH**	**3.14**	**113**	P			**Pb**	**06 59 13.2**	**-0.4**
EAH				S			**Sn**	**06 59 45.0**	**+0.3**
FUL	**Funchal**	**3.30**	**267**	*eS*			**Sn**	**06 59 49.7**	**+1.0**
PMAR	**Madeira**	**3.31**	**268**	*eS*			**Sn**	**06 59 50.1**	**+0.8**
PMAR				A			A	07 00 00.5	
	97nm,0.2s								
PMAR	**Madeira**	**3.31**	**268**	P			**Pb**	**06 59 18.1**	**+1.4**
PMAR				S			**Sn**	**06 59 50.5**	**+1.3**
CGR	**Cap Guir**	**3.48**	**130**	P			**Pn**	**06 59 16.4**	**+4.5**
CGR				S			**Sn**	**06 59 52.9**	**-0.2**
PMOZ	**Porto Moniz, M**	**3.55**	**270**	P			**Pb**	**06 59 19.3**	**-1.3**
PMOZ				S			**Sb**	**07 00 00.6**	**-3.1**
EFAM	**Famara**	**3.79**	**187**	P			**Pn**	**06 59 20.5**	**+4.3**
EFAM				i	Vmb	V		06 59 22.3	
	727nm,SNR=1.2								
EFAM				S			**Sn**	**07 00 00.1**	**-0.8**
CLOB	**Isla de Lobos,**	**4.19**	**190**	P			**Pn**	**06 59 25.8**	**+4.3**
CLOB				S			**Sn**	**07 00 09.7**	**-0.9**
SRHM	**Skhour des Reh**	**4.31**	**94**	P			Pb	06 59 29.2	-4.4
SRHM				S			**Sn**	**07 00 13.0**	**-0.7**
CFUE	**Fuerteventura**	**4.32**	**191**	P			**Pn**	**06 59 27.6**	**+4.1**
CFUE				i	Vmb	V		06 59 29.4	
	420nm,SNR=2.8								
CFUE				S			**Sn**	**07 00 12.2**	**-1.6**
TTIG	**Tnine Tigouga,**	**4.53**	**120**	P			**Pn**	**06 59 28.7**	**+2.3**
TTIG				S			**Sn**	**07 00 17.3**	**-1.8**
OUK	**Oukaimeden**	**4.66**	**110**	P			Pn	06 59 34.7	+6.3
OUK				S			**Sn**	**07 00 23.0**	**+0.2**
AVE	**Averroes**	**4.69**	**84**	P			Pn	06 59 33.6	+5.1
AVE				S			**Sn**	**07 00 22.5**	**-0.5**
AVE	**Averroes**	**4.69**	**84**	P			Pb	06 59 34.8	-5.2
TANT	**Tantan**	**4.73**	**161**	P			Pn	06 59 34.3	+5.3
TANT				S			**Sn**	**07 00 24.5**	**+0.6**
CGIN	**Giniginamar, F**	**4.78**	**192**	P			**Pn**	**06 59 31.7**	**+2.0**
CGIN				i	Vmb	V		06 59 35.0	
	425nm,SNR=1.4								
CGIN				S			**Sn**	**07 00 24.4**	**-0.7**
EOSO	**Osorio**	**5.30**	**205**	S			**Sn**	**07 00 36.2**	**-1.9**
PFVI	**Vila Bisbo**	**5.43**	**38**	*eP*			**Pn**	**06 59 43.2**	**+4.6**
PFVI				*eS*			**Sn**	**07 00 39.9**	**-1.2**
PFVI				A			A	07 00 44.1	
	9.9nm,0.6s								
CGUI	**Guimar, Teneri**	**5.45**	**214**	P			**Pn**	**06 59 40.6**	**+1.5**
CGUI				i	Vmb	V		06 59 44.8	
	469nm,SNR=0.9								
CGUI				S			**Sn**	**07 00 40.4**	**-1.5**
MACI	**Morro de la Ar**	**5.54**	**214**	P			**Pn**	**06 59 45.0**	**+4.6**
MACI				S			**Sn**	**07 00 42.5**	**-1.8**
CCAN	**Las Canadas**	**5.61**	**215**	P			**Pn**	**06 59 44.0**	**+2.6**
CCAN				i	Vmb	V		06 59 48.4	
	428nm,SNR=1.7								
CCAN				S			**Sn**	**07 00 43.2**	**-3.0**
MORF	**Marmelete**	**5.65**	**38**	*eP*			Pb	06 59 48.8	-7.5
MORF				*eS*			**Sn**	**07 00 44.6**	**-2.1**
MORF				A			A	07 00 47.3	
	9.8nm,0.1s								
OUZM	**OUZ**	**5.65**	**109**	P			Pn	06 59 48.0	+6.2
PTEO	**Sao Teotonio**	**5.80**	**36**	*eS*			**Sn**	**07 00 48.8**	**-1.4**
PTEO				A			A	07 00 51.9	
	5.5nm,0.3s								
EGOM	**La Gomera**	**5.97**	**219**	P			**Pn**	**06 59 47.8**	**+1.8**
EGOM				i	Vmb	V		06 59 48.1	
	277nm,SNR=1.0								
EGOM				S			**Sn**	**07 00 51.3**	**-3.2**
TBT	**Taburiente**	**5.97**	**227**	S			**Sn**	**07 00 48.1**	**-6.6**
PBDV	**Barranco-do-Ve**	**5.99**	**42**	*eP*			Pn	06 59 51.4	+5.0
PBDV				*eS*			**Sn**	**07 00 53.1**	**-2.0**
PBDV				A			A	07 00 54.6	
	5.4nm,0.2s								
PCVE	**Castro Verde**	**6.21**	**39**	*eP*			**Pn**	**06 59 53.8**	**+4.4**
PCVE				*eS*			**Sn**	**07 00 58.4**	**-2.1**
PCVE				A			A	07 01 07.0	
	3.9nm,0.5s								
PVAQ	**Vaqueiros**	**6.23**	**42**	*eP*			**Pn**	**06 59 54.1**	**+4.5**
PVAQ				*eS*			**Sn**	**07 00 58.9**	**-1.9**
PVAQ				A			A	07 01 02.0	
	7.7nm,0.1s								
PVAQ	**Vaqueiros**	**6.23**	**42**	P			**Pn**	**06 59 54.0**	**+4.5**
PNCL	**Nicolau / Gran**	**6.34**	**34**	*eP*			Pn	06 59 57.1	+6.0
PNCL				*eS*			**Sn**	**07 01 01.7**	**-1.9**
PNCL				A			A	07 01 06.4	
	4.7nm,0.2s								
EGRO	**El Granado**	**6.45**	**43**	P			**Pn**	**06 59 56.9**	**+4.2**
EGRO				i	Vmb	V		06 59 58.8	
	317nm,SNR=2.4								
EGRO				S			**Sn**	**07 01 04.4**	**-2.0**
PBEJ	**Beja**	**6.60**	**38**	*eS*			**Sn**	**07 01 08.1**	**-1.9**
PBEJ				A			A	07 01 13.5	
	3.0nm,0.3s								
TZRR	**Tazzarine**	**6.65**	**107**	P			Pn	07 00 01.7	+6.2
CZD	**Col de Zad**	**6.68**	**87**	P			Pn	07 00 01.5	+5.4
CHEFC	**Chefchaouen**	**6.72**	**69**	P			Pn	**07 00 01.1**	**+4.6**
PMAFR	**Mafra**	**6.74**	**25**	*eS*			**Sn**	**07 01 12.9**	**-0.7**
PACT	**Alcochete**	**6.75**	**29**	*eS*			**Sn**	**07 01 13.9**	**+0.2**
ZGR	**Zagora**	**6.87**	**112**	P			**Pn**	**07 00 03.0**	**+4.4**
SMIR	**Smir Dam**	**6.88**	**64**	P			Pn	07 00 04.2	+5.7
EVO	**Evora**	**6.92**	**34**	P			Pn	07 00 05.5	+6.4
EVO				S			**Sn**	**07 01 14.8**	**-3.1**
EVO	**Evora**	**6.92**	**34**	*eS*			**Sn**	**07 01 14.9**	**-3.0**
EVO				A			A	07 02 12.4	
	22nm,0.4s								
MD31	**MD31**	**6.92**	**88**	P			**Pn**	**07 00 03.0**	**+3.8**
ESPR	**Espera**	**7.07**	**54**	P			**Pn**	**07 00 04.1**	**+3.0**
ESPR				i	Vmb	V		07 00 09.6	
	158nm,SNR=1.9								
ESPR				S			**Sn**	**07 01 19.6**	**-2.0**
EMIN	**Mina Concepcio**	**7.08**	**45**	P			**Pn**	**07 00 04.7**	**+3.4**
EMIN				i	Vmb	V		07 00 08.1	
	111nm,SNR=1.1								
EMIN				S			**Sn**	**07 01 18.0**	**-3.9**
EJIF	**Jimena Fronter**	**7.13**	**58**	P			**Pn**	**07 00 05.2**	**+3.2**
PBAR	**Barrancos**	**7.15**	**41**	*eP*			Pn	07 00 07.9	+5.6
PBAR				*eS*			**Sn**	**07 01 21.0**	**-2.6**
PMTG	**Montargil**	**7.26**	**31**	*eP*			Pn	07 00 09.3	+5.5
PMTG				*eS*			**Sn**	**07 01 23.9**	**-2.4**
PMTG				A			A	07 01 26.6	
	3.1nm,0.3s								
PESTR	**Estremoz**	**7.39**	**35**	*eS*			**Sn**	**07 01 26.4**	**-3.0**
PESTR				A			A	07 01 32.3	
	3.0nm,0.6s								
PESTR	**Estremoz**	**7.39**	**35**	P			**Pn**	**07 00 09.1**	**+3.6**
PSBE	**So Bento**	**7.41**	**26**	*eS*			**Sn**	**07 01 30.3**	**+0.2**
EBAD	**Badajoz**	**7.59**	**38**	i	Vmb	V		07 00 11.5	
	140nm,SNR=1.5								
EBAD				P			Pn	**07 00 12.1**	**+3.8**
EBAD				S			**Sn**	**07 01 30.7**	**-3.6**
EMIJ	**Mijas**	**7.68**	**59**	P			**Pn**	**07 00 12.5**	**+2.9**
EMIJ				i	Vmb	V		07 00 16.4	
	73nm,SNR=1.1								
EMIJ				S			**Sn**	**07 01 32.5**	**-4.3**
PALE	**Palemas**	**7.85**	**70**	P			**Pn**	**07 00 15.0**	**+3.0**
PMRV	**Marv??o**	**7.93**	**33**	*eS*			**Sn**	**07 01 39.2**	**-3.5**
PMRV				A			A	07 02 05.8	
	2.4nm,0.8s								
ECAB	**El Cabril**	**8.04**	**48**	P			**Pn**	**07 00 18.2**	**+3.7**
ECAB				S			**Sn**	**07 01 40.9**	**-4.7**
EGOR	**Sierra Gorda,**	**8.40**	**58**	P			**Pn**	**07 00 23.7**	**+4.1**
EGOR				S			**Sn**	**07 01 51.2**	**-3.4**
EADA	**Adamuz**	**8.63**	**50**	P			**Pn**	**07 00 26.8**	**+4.1**
EADA				i	Vmb	V		07 00 30.4	
	97nm,SNR=1.4								
EADA				S			**Sn**	**07 01 54.8**	**-5.3**
ELGU	**Los Guajares,**	**8.64**	**60**	P			**Pn**	**07 00 27.6**	**+4.7**
ELGU				i	Vmb	V		07 00 30.6	
	88nm,SNR=0.9								
ELGU				S			**Sn**	**07 01 52.1**	**-8.4**
PVIS	**Viseu**	**8.80**	**26**	*eS*			**Sn**	**07 02 01.6**	**-2.6**
PVIS				A			A	07 02 07.2	
	3.5nm,0.7s								
JBK	**JBK**	**8.80**	**78**	P			**Pn**	**07 00 28.9**	**+3.8**
EPLA	**Plasencia**	**9.05**	**36**	*eS*			**Sn**	**07 02 06.1**	**-4.3**
POLO	**Lamas de Olo**	**9.41**	**25**	*eS*			**Sn**	**07 02 16.7**	**-2.6**
EQES	**Quesada**	**9.46**	**56**	P			**Pn**	**07 00 36.1**	**+2.1**
EQES				i	Vmb	V		07 00 40.6	
	63nm,SNR=0.9								
EQES				S			**Sn**	**07 02 16.1**	**-4.4**
PAB	**San Pablo**	**9.62**	**44**	P			**Pn**	**07 00 40.4**	**+4.1**
PAB				i	Vmb	V		07 00 41.5	
	120nm,SNR=2.0								
PAB				S			**Sn**	**07 02 18.2**	**-6.2**
ELOB	**Lobios**	**9.77**	**22**	S			**Sn**	**07 02 23.8**	**-4.1**
ETOB	**Tobarra**	**10.91**	**55**	i	Vmb	V		07 00 56.4	
	139nm,SNR=1.2								
ETOB				P			**Pn**	**07 00 56.6**	**+2.7**
ETOB				S			**Sn**	**07 02 48.9**	**-7.2**
ETOR	**Torete**	**11.78**	**45**	P			**Pn**	**07 01 09.8**	**+4.0**
ETOR				i	Vmb	V		07 01 12.9	
	152nm,SNR=2.0								
ETOR				S			**Sn**	**07 03 11.9**	**-5.5**

*IDC **30** 07:00:17.3±2.8,40.°48N×124.°31W,h0km,mb2.7/2, mb1 3.4/3,mb1mx3.2/48,mbtmp2.9/3,ML3.0/1,Error ellipse: s-maj=32.3km s-min=13.0km az=105.0*
*NEIC **30** 07:00:17.9±1.9,40.°40N±0.°02×124.°6W±0.°1,h20km±10km, Error ellipse: s-maj=15.5km s-min=1.6km az=83.0*
*NCEDC **30** 07:00:19.5±2.4,40.°36N±0.°03×124.°5W±0.°1,h16km±7km, ML3.2/19,ML3.0/46(NEIC),Error ellipse: s-maj=12.0km s-min=4.6km az=83.0*
*ANF **30** 07:00:19.1±3.0,40.°37N×124.°37W,h15km,ML3.1/8,Error ellipse: s-maj=32.9km s-min=13.4km az=51.0*
ISC 30 07:00:18.2±2.6,40.°38N±0.°04×124.°45W±0.°08, h12km±16km,n46,σ0°85/49,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMPM	**Mount Pierce**	**0.26**	**81**				**Pb**	**07 00 25.7**	**+0.9**
KSMM	**Slide Mountain**	**0.29**	**132**				**Pb**	**07 00 25.9**	**+0.6**
KCRM	**Chalk Rock**	**0.49**	**84**				**Pn**	**07 00 29.8**	**-1.2**
JCC	**Jacoby Creek,**	**0.55**	**36**				**Pb**	**07 00 29.7**	**0.0**
JCC	**Jacoby Creek,**	**0.55**	**36**			IAML		07 00 38.2	
	comp=N,964nm,0.9s								
JCC						IAML		07 00 38.8	
	comp=E,2μm,0.8s								
KMRM	**Mail Ridge**	**0.59**	**105**				**Pn**	**07 00 31.3**	**-1.1**
KHMM	**Horse Mountain**	**0.74**	**48**				**Pb**	**07 00 33.2**	**+0.1**
KBSM	**Bell Springs**	**0.80**	**125**				**Pb**	**07 00 34.1**	**0.0**
KRPM	**Rodgers**	**0.85**	**23**				**Pb**	**07 00 34.2**	**-0.7**
KRPM						IAML		07 00 45.8	
	comp=E,648nm,0.8s								
KRPM						IAML		07 00 46.8	
	comp=N,603nm,0.9s								
KCPM	**Cahto Peak**	**0.96**	**136**				**Pn**	**07 00 37.9**	**+0.3**
KOMM	**Orleans Mounta**	**1.18**	**40**				**Pb**	**07 00 39.2**	**-1.4**
O02D	**Mt. Diablo Mer**	**1.29**	**98**				**Pn**	**07 00 41.0**	**-1.0**
O02D						IAML		07 01 05.4	
	comp=N,387nm,0.7s								
O02D						IAML		07 01 08.0	
	comp=E,228nm,0.9s								
O02D	**Mt. Diablo Mer**	**1.29**	**98**	P			Pn	**07 00 41.8**	**-0.2**
	baz=279								
O02D				S			**Sg**	**07 00 59.8**	**0.0**
	baz=279								
GNAM	**Navarro Ridge**	**1.34**	**151**				**Pn**	**07 00 41.0**	**-1.6**
GASB	**Alder Springs**	**1.52**	**118**				**Pn**	**07 00 44.3**	**-0.9**
M02C	**Callahan**	**1.58**	**50**				**Pn**	**07 00 44.8**	**-1.3**
M02C						IAML		07 01 17.8	
	comp=E,117nm,1.0s								
M02C	**Callahan**	**1.58**	**50**	P			**Pn**	**07 00 45.3**	**-0.8**
	baz=230								
M02C				S			**Sn**	**07 01 04.5**	**-1.9**
	baz=230								
HOPS	**Hopland Field**	**1.75**	**142**				**Pn**	**07 00 47.4**	**-0.8**
HOPS	**Hopland Field**	**1.75**	**142**	IAML				07 01 23.1	
	comp=E,120nm,1.4s								
HOPS				IAML				07 01 31.8	
	comp=N,102nm,1.6s								
LTCM	**Tuscan Springs**	**1.79**	**95**				**Pn**	**07 00 48.5**	**-0.4**
YBH	**Yreka Blue Hor**	**1.89**	**44**	Pg			**Pn**	**07 00 49.6**	**-0.7**
	comp=N,8.8nm,0.3s,baz=250,slow=10,SNR=136								
YBH				Lg			Lg	07 01 12.2	
	comp=N,5.9nm,0.3s,baz=304,slow=23,SNR=8.2								
O03E	**Paynes Creek**	**2.03**	**91**	Pn			**Pn**	**07 00 51.4**	**-0.8**
O03E				IAML				07 01 34.5	
	comp=E,115nm,0.8s								
O03E	**Paynes Creek**	**2.03**	**91**	P			Pn	**07 00 51.7**	**-0.5**
	baz=273								
O03E				S			**Sn**	**07 01 17.5**	**0.0**
	baz=273								
LHEM	**Herd Peak**	**2.10**	**53**				**Pn**	**07 00 53.5**	**+0.2**
HATC	**Hat Creek Radi**	**2.32**	**78**				**Pn**	**07 00 56.4**	**+0.2**
SUTB	**Sutter Butte**	**2.35**	**118**				**Pn**	**07 00 55.3**	**-1.2**
K02D	**Willamette Mer**	**2.39**	**14**	P			Pn	**07 00 56.7**	**-0.5**
	baz=194								
ORV	**Oroville**	**2.41**	**109**				**Pn**	**07 00 55.9**	**-1.5**
L04D	**Klamath Falls**	**2.45**	**41**				**Pn**	**07 00 58.7**	**+0.7**
L04D				IAML				07 01 30.5	
	comp=N,64nm,0.9s								
L04D				IAML				07 01 42.5	
	comp=E,78nm,1.6s								
L04D	**Klamath Falls**	**2.45**	**41**	P			Pn	**07 00 58.9**	**+0.8**
	baz=222								
L04D				S			**Sn**	**07 01 28.4**	**+0.4**
	baz=222								
HUMO	**Hull Mountain**	**2.50**	**26**				**Pn**	**07 00 58.0**	**-0.6**
K04D	**Chiloquin, OR**	**3.02**	**41**	P			Pn	**07 01 06.5**	**+0.6**
	baz=223								
K04D				S			**Sn**	**07 01 42.7**	**+0.6**
	baz=223								
BEKR	**Beckworth**	**3.18**	**98**	Pn			**Pn**	**07 01 08.3**	**+0.2**
BEKR				IAML				07 01 48.9	
	comp=N,32nm,0.8s								
BEKR				IAML				07 01 51.1	
	comp=E,41nm,0.8s								
J04D	**Umpqua Nationa**	**3.35**	**31**				**Pn**	**07 01 11.3**	**+0.8**
J04D	**Umpqua Nationa**	**3.35**	**31**	P			**Pn**	**07 01 11.5**	**+1.0**
	baz=212								
MOD	**Modoc Plateau**	**3.48**	**63**				**Pn**	**07 01 11.1**	**-1.2**
K05A	**Summer Lake**	**3.56**	**48**				**Pn**	**07 01 13.3**	**0.0**
K05A				IAML				07 02 16.7	
	comp=E,24nm,4.7s								
K05A				IAML				07 03 05.3	
	comp=N,22nm,3.8s								
MPK	**Martis Peak**	**3.57**	**106**				**Pn**	**07 01 14.6**	**+1.0**
MPK				IAML				07 02 05.5	
	comp=E,50nm,0.8s								
I04A	**Tendick Farm,**	**3.74**	**23**	P			Pn	**07 01 16.7**	**+1.0**
	baz=204								
J05D	**Fort Rock, OR**	**3.77**	**39**	P			Pn	**07 01 17.0**	**+0.7**
	baz=220								
PNTR	**Pine Nut**	**3.96**	**107**				**Pn**	**07 01 19.7**	**+0.8**
PNTR				IAML				07 02 39.5	
	comp=N,27nm,1.2s								
PNTR				IAML				07 02 44.5	
	comp=E,26nm,1.1s								
KVN	**Kaiserville**	**5.08**	**103**				**Pn**	**07 01 34.1**	**-0.1**
KVN				IAML				07 03 28.0	
	comp=E,7.4nm,4.5s								
KVN				IAML				07 04 31.8	
	comp=N,6.5nm,4.9s								
NVAR	**Mina Array Bea**	**5.14**	**110**	Pn			**Pn**	**07 01 35.8**	**+0.6**
	comp=N,0.6nm,0.3s,baz=286,slow=15,SNR=8.3								
NVAR				Lg			Lg	07 02 51.5	
	comp=N,0.2nm,0.3s,baz=268,slow=26,SNR=1.9								
J08A	**Circle Bar Ran**	**5.37**	**54**				**Pn**	**07 01 37.5**	**-0.6**
J08A				IAML				07 02 31.3	
	comp=E,7.6nm,3.5s								
J08A				IAML				07 03 34.3	
	comp=N,7.2nm,4.3s								
TXAR	**Lajitas Array**	**20.26**	**116**	P			**P**	**07 04 54.0**	**+0.5**
	comp=N,0.3nm,0.8s,baz=290,slow=5.6,SNR=4.4								
YKA	**Yellowknife Ar**	**22.93**	**12**	P			**P**	**07 05 22.2**	**+0.5**
	comp=N,0.4nm,1.0s,baz=200,slow=10,SNR=3.9								

*DJA **30** 07:07:45.5±0.5,1.°S±2.°×12.°6E±.°,h24km±4km,M4.2/19, mb4.3/7,mB5.1/1,MLv4.1/19,Mw(mB)4.4/1*
*IDC **30** 07:07:52.5±4.8,1.°30S×126.°58E,h94km±48km,mb3.4/5, mb1 3.5/7,mb1mx3.3/38,mbtmp3.7/7,MS2.7/1,Ms1 2.7/1, ms1mx2.2/41,Error ellipse: s-maj=37.4km s-min=19.7km az=92.0*
**ISC 30 07:07:46.7±0.

*MDD **30** 07:14:37.8±0.9,32.°91N×13.°08W,h20km±6km,Mb4.4/7, M_mb3.9/7,Error ellipse: s-maj=6.6km s-min=1.9km az=127.0*
*CNRM **30** 07:14:40.1,32.°61N×12.°99W,h30km,ml3.6*
*INMG **30** 07:14:44.8±1.4,32.°90N×12.°97W,h10km,ML2.7, Error ellipse: s-maj=5.3km s-min=3.1km az=138.0*

ISC 30 07:14:29.5±0.8,32.°63N±0.°04×12.°70W±0.°03,h10km,n50, σ2§20/61,7C-1D,Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EAH	**EAH**	**2.82**	**109**	P	Pg	07 15 28.1	+4.6
EAH				S	**Sg**	**07 16 01.8**	**+1.8**
PMPST	**Porto Santo, M**	**3.09**	**279**	*e*P	**Pn**	**07 15 24.7**	**+0.1**
PMPST				*e*S	**Sn**	**07 15 53.5**	**-1.9**
PMPST				A	A	07 16 01.7	
	30nm,0.3s						
CGR	**Cap Guir**	**3.12**	**129**	P	**Pg**	**07 15 31.7**	**+2.4**
CGR				S	**Sg**	**07 16 06.8**	**-2.9**
PMAR	**Madeira**	**3.56**	**273**	*e*S	**Sn**	**07 16 05.6**	**-1.5**
PMAR				A	A	07 16 14.4	
	61nm,0.2s						
PMAR	**Madeira**	**3.56**	**273**	P	**Pb**	**07 15 31.4**	**-1.2**
PMAR				S	**Sn**	**07 16 07.1**	**0.0**
EFAM	**Famara**	**3.56**	**192**	P	**Pb**	**07 15 32.1**	**-0.5**
EFAM				⇑*i*Vmb_V		07 15 40.9	
	948nm,SNR=1.5						
EFAM				S	**Sb**	**07 16 16.4**	**+0.5**
PMOZ	**Porto Moniz, M**	**3.80**	**274**	*e*S	**Sn**	**07 16 13.3**	**+0.3**
PMOZ	**Porto Moniz, M**	**3.80**	**274**	P	**Pn**	**07 15 31.9**	**+3.7**
PMOZ				S	**Sn**	**07 16 12.2**	**-0.8**
CLOB	**Isla de Lobos,**	**3.97**	**194**	S	**Sb**	**07 16 27.2**	**-0.4**
SRHM	**Skhour des Reh**	**4.06**	**91**	P	**Pg**	**07 15 44.4**	**-2.9**
SRHM				S	**Sb**	**07 16 31.3**	**+1.0**
CFUE	**Fuerteventura**	**4.11**	**195**	P	**Pb**	**07 15 42.0**	**0.0**
CFUE				⇑*i*Vmb_V		07 15 44.4	
	479nm,SNR=2.7						
CFUE				S	**Sb**	**07 16 28.3**	**-3.3**
TTIG	**Tnine Tigouga,**	**4.18**	**119**	P	**Pb**	**07 15 44.7**	**+1.4**
TTIG				S	**Sb**	**07 16 30.8**	**-3.2**
OUK	**Oukaimeden**	**4.35**	**108**	P	**Pg**	**07 15 50.3**	**-2.6**
OUK				S	**Sb**	**07 16 39.7**	**+0.9**
TANT	**Tantan**	**4.39**	**163**	P	**Pb**	**07 15 45.7**	**-1.1**
TANT				S	**Sb**	**07 16 38.4**	**-1.4**
AVE	**Averroes**	**4.49**	**80**	P	**Pb**	**07 15 49.9**	**+1.4**
AVE				S	**Sb**	**07 16 38.6**	**-4.2**
AVE	**Averroes**	**4.49**	**80**	P	**Pb**	**07 15 50.0**	**+1.5**
AVE				S	**Sb**	**07 16 42.4**	**-0.3**
CGIN	**Giniginamar, F**	**4.56**	**196**	P	**Pb**	**07 15 48.5**	**-1.2**
CGIN				⇑*i*Vmb_V		07 15 48.5	
	342nm,SNR=1.1						
CGIN				S	**Sb**	**07 16 39.2**	**-5.6**
EOSO	**Osorio**	**5.17**	**209**	S	**Sn**	**07 16 50.6**	**+3.9**
OUZM	**OUZ**	**5.34**	**107**	P	**Pb**	**07 16 02.5**	**-0.5**
OUZM				S	**Sb**	**07 17 02.2**	**-5.1**
CGUI	**Guimar, Teneri**	**5.37**	**218**	P	Pn	07 15 55.0	+5.1
CGUI				S	**Sn**	**07 16 54.8**	**+3.0**
MACI	**Morro de la Ar**	**5.46**	**218**	P	**Pn**	**07 15 54.9**	**+3.7**
MACI				S	**Sn**	**07 16 56.7**	**+2.6**
PFVI	**Vila Bisbo**	**5.51**	**34**	*e*S	**Sn**	**07 16 55.8**	**+0.8**
CCAN	**Las Canadas**	**5.54**	**219**	P	Pn	07 15 57.5	+5.2
CCAN				⇑*i*Vmb_V		07 16 05.6	
	411nm,SNR=1.5						
CCAN				S	**Sn**	**07 16 54.3**	**-1.8**
MORF	**Marmelete**	**5.73**	**34**	*e*S	**Sn**	**07 17 01.1**	**+0.5**
MORF				A	A	07 17 04.7	
	6.0nm,0.1s						
PTEO	**Sao Teotonio**	**5.89**	**32**	*e*S	**Sn**	**07 17 04.7**	**+0.3**
PTEO				A	A	07 17 15.2	
	9.3nm,0.7s						
EGOM	**La Gomera**	**5.92**	**222**	P	**Pn**	**07 16 01.1**	**+3.8**
EGOM				S	**Sn**	**07 17 05.1**	**+0.1**
TBT	**Taburiente**	**5.97**	**230**	S	**Sn**	**07 17 02.6**	**-3.9**
PBDV	**Barranco-do-Ve**	**6.04**	**39**	*e*P	Pb	07 16 07.0	-8.0
PBDV				*e*S	**Sn**	**07 17 09.6**	**+1.3**
PBDV				A	A	07 17 16.4	
	4.2nm,0.8s						
PVAQ	**Vaqueiros**	**6.28**	**39**	*e*P	Pn	07 16 09.8	+7.6
PVAQ				*e*S	**Sn**	**07 17 13.8**	**-0.2**
PVAQ				A	A	07 17 17.5	
	3.7nm,0.2s						
PVAQ	**Vaqueiros**	**6.28**	**39**	P	Pb	07 16 11.3	-7.7
PCVE	**Castro Verde**	**6.29**	**36**	*e*P	Pb	07 16 10.5	-8.6
PCVE				*e*S	**Sn**	**07 17 14.2**	**0.0**
PCVE				A	A	07 17 21.1	
	2.7nm,1.0s						
PNCL	**Nicolau / Gran**	**6.45**	**31**	*e*P	Pn	07 16 12.5	+8.0
PNCL				*e*S	**Sn**	**07 17 17.3**	**-0.8**
PNCL				A	A	07 17 21.4	
	4.2nm,0.8s						
CZD	**Col de Zad**	**6.46**	**84**	P	Pb	07 16 15.7	-6.5
EGRO	**El Granado**	**6.50**	**40**	P	Pn	07 16 10.2	+5.0
EGRO				⇑*i*Vmb_V		07 16 18.6	
	151nm,SNR=1.3						
EGRO				S	**Sn**	**07 17 19.2**	**-0.2**
CHEFC	**Chefchaouen**	**6.60**	**66**	P	Pb	07 16 17.6	-6.9
PBEJ	**Beja**	**6.68**	**35**	*e*S	**Sn**	**07 17 23.6**	**-0.3**
MD31	**MD31**	**6.69**	**86**	P	Pb	07 16 20.4	-5.7
EVO	**Evora**	**7.02**	**32**	*e*S	**Sn**	**07 17 31.4**	**-0.9**
ESPR	**Espera**	**7.04**	**51**	S	**Sn**	**07 17 34.8**	**+1.9**
EMIN	**Mina Concepcio**	**7.12**	**42**	P	Pn	07 16 20.3	+6.6
EMIN				⇑*i*Vmb_V		07 16 30.2	
	99nm,SNR=1.2						
EMIN				S	**Sn**	**07 17 34.4**	**-0.2**
PBAR	**Barrancos**	**7.21**	**38**	*e*S	**Sn**	**07 17 36.7**	**-0.2**
PMTG	**Montargil**	**7.38**	**28**	*e*P	Pn	07 16 25.2	+7.8
PMTG				*e*S	**Sn**	**07 17 39.3**	**-1.9**
PMTG				A	A	07 17 43.8	
	3.2nm,0.8s						
PESTR	**Estremoz**	**7.48**	**32**	*e*S	**Sn**	**07 17 42.5**	**-1.2**
EBAD	**Badajoz**	**7.67**	**35**	P	Pn	07 16 30.0	+8.8
EBAD				S	**Sn**	**07 17 47.4**	**-0.7**
PMRV	**Marv??o**	**8.03**	**31**	*e*P	Pn	07 16 34.4	+8.1
PMRV				*e*S	**Sn**	**07 17 55.2**	**-2.0**
PMRV				A	A	07 18 03.6	
	2.3nm,0.6s						
ECAB	**El Cabril**	**8.06**	**46**	P	Pn	07 16 31.6	+4.9
ECAB				S	**Sn**	**07 17 57.2**	**-0.6**
EADA	**Adamuz**	**8.63**	**48**	P	Pn	07 16 42.6	+8.0
EADA				⇑*i*Vmb_V		07 16 46.1	
	98nm,SNR=1.2						
EADA				S	**Sn**	**07 18 11.8**	**-0.2**
JBK	**JBK**	**8.63**	**76**	P	Pn	07 16 45.0	+10
EQES	**Quesada**	**9.42**	**54**	S	**Sn**	**07 18 31.8**	**+0.4**
PAB	**San Pablo**	**9.66**	**42**	S	**Sn**	**07 18 32.8**	**-4.5**

PGC 30 07:22:13.8±2.5,50.°71N×130.°57W,h10km,MLSn3.1/28, Mw3.7/28,Mw3.7/28,221km west of Pt. Hardy, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.55**	**92**	Pn	Pn	07 22 39.4	-2.1
HOLB				Sn	Sn	07 22 57.2	-4.4
HG4B	**Hotspring**	**1.63**	**346**	Pn	Pn	07 22 40.2	-2.5
BPBC	**Brooks Peninsu**	**1.87**	**106**	Pn	Pn	07 22 43.3	-2.6
BPBC				Sn	Sn	07 23 03.9	-5.7
PACB	**Port Alice, BC**	**1.98**	**97**	Pn	Pn	07 22 45.3	-2.1
PHC	**Port Hardy**	**1.99**	**89**	Pn	Pn	07 22 45.3	-2.2
PHC				Sn	Sn	07 23 08.1	-4.4
BNB	**Barry Inlet**	**2.01**	**339**	Pn	Pn	07 22 46.1	-1.8
BBB	**Bella Bella**	**2.13**	**45**	Pn	Pn	07 22 48.1	-1.3
BBB				Sn	Sn	07 23 10.5	-5.4
MAYB	**Maynard**	**2.19**	**97**	Pn	Pn	07 22 48.6	-1.8
EDB	**Eliza Dome**	**2.36**	**109**	Pn	Pn	07 22 50.9	-1.8
MOBC	**Moresby Island**	**2.59**	**341**	Pn	Pn	07 22 53.6	-2.2
WOSB	**Woss**	**2.61**	**101**	Pn	Pn	07 22 55.0	-1.2
BNKB	**Banks Island**	**2.66**	**9**	Pn	Pn	07 22 54.9	-1.8
BUTB	**Butedale**	**2.69**	**28**	Pn	Pn	07 22 55.9	-1.4
BUTB				Sn	Sn	07 23 26.9	-3.1
DIB	**Dawson Inlet,**	**2.76**	**335**	Pn	Pn	07 22 57.3	-0.8
BNAB	**Bonilla**	**2.79**	**359**	Pn	Pn	07 22 56.8	-1.7
NCRB	**Newcastle Ridg**	**2.89**	**94**	Pn	Pn	07 22 58.5	-1.6
HWKB	**Hawksbury Isla**	**3.02**	**16**	Pn	Pn	07 23 00.5	-1.3
GDR	**Gold River**	**3.06**	**106**	Pn	Pn	07 23 00.5	-1.7
GRNB	**Grenville Isla**	**3.17**	**7**	Pn	Pn	07 23 02.3	-1.3
SPLB	**Strathcona Par**	**3.25**	**103**	Pn	Pn	07 23 03.7	-1.2
TOFB	**Tofino**	**3.39**	**116**	Pn	Pn	07 23 05.2	-1.5
CBB	**Campbell River**	**3.40**	**99**	Pn	Pn	07 23 06.0	-0.8
BTB	**Buttle Lake**	**3.48**	**109**	Pn	Pn	07 23 07.0	-1.1
MWAB	**Mount Washingt**	**3.52**	**104**	Pn	Pn	07 23 07.7	-0.9
MBLB	**Minette Bay Lo**	**3.54**	**19**	Pn	Pn	07 23 07.8	-1.0
KITB	**Kitimat**	**3.58**	**19**	Pn	Pn	07 23 08.4	-0.9
KITB				Sn	Sn	07 23 48.2	-3.3
RUBB	**Prince Rupert**	**3.63**	**3**	Pn	Pn	07 23 09.1	-0.9
OZB	**Mount Ozzard**	**3.72**	**116**	Pn	Pn	07 23 10.4	-0.9
MGB	**Mount Grey**	**4.17**	**112**	Pn	Pn	07 23 16.3	-1.2
SHB	**Sechelt**	**4.44**	**102**	Pn	Pn	07 23 20.8	-0.6
PFB	**Port Renfrew**	**4.52**	**116**	Pn	Pn	07 23 21.2	-1.1
UBRB	**Upper Baezaeko**	**4.58**	**59**	Pn	Pn	07 23 23.7	+0.6
UBRB				Sn	Sn	07 24 15.2	-1.3
WPB	**Watts Point**	**4.84**	**100**	Pn	Pn	07 23 26.3	-0.4
HNBB	**Haney**	**5.35**	**102**	Pn	Pn	07 23 34.1	+0.4
FSB	**Fort Saint Jam**	**5.36**	**43**	Pn	Pn	07 23 34.0	+0.2
FSB				Sn	Sn	07 24 33.2	-2.3
FSJB	**Fort St James**	**5.36**	**43**	Pn	Pn	07 23 34.0	+0.2
FSJB				Sn	Sn	07 24 32.0	-3.5
VDB	**Vedder Mountai**	**5.72**	**104**	Pn	Pn	07 23 40.0	+1.1
A05A	**Maple Falls**	**5.75**	**104**	Pn	Pn	07 23 40.1	+1.0
MBW	**Mount Baker**	**5.94**	**106**	Pn	Pn	07 23 43.1	+1.2
CMW	**Cultus Mountai**	**5.95**	**109**	Pn	Pn	07 23 43.4	+1.4
RPW	**Rockport**	**6.31**	**108**	Pn	Pn	07 23 46.8	-0.1
FMW	**Mount Fremont**	**6.98**	**119**	Pn	Pn	07 23 58.2	+1.9
BMBC	**Bull Mountain**	**7.35**	**40**	Sn	Sn	07 25 22.6	-2.0
LTY	**Liberty**	**7.37**	**114**	Pn	Pn	07 24 02.9	+1.4
NBC5	**NorthernBC 5**	**8.24**	**31**	Pn	Pn	07 24 15.0	+1.6
NBC5				Sn	Sn	07 25 46.0	-0.6

*ISN **30** 07:30:19.7±0.7,32.°38N×47.°91E,h8km±30km, ML2.9*
*TEH **30** 07:30:23.6,32.°44N×47.°84E,h8km,ML3.1*

ISC 30 07:30:25.5±1.0,32.°40N±0.°04×47.°80E±0.°04,h15km,n31, σ1§01/36,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.12**	**2**	*e*Pg	**Pn**	**07 30 44.1**	**-2.6**
IKFM				*e*Sg	**Sb**	**07 31 01.3**	**+0.2**
IKFM				*e*		07 31 05.6	
	comp=E,2.9μm,0.4s						
IDOB	**Doab**	**1.42**	**13**	*e*Pg	**Pn**	**07 30 49.4**	**-1.6**
IDOB				*e*Sg	**Sn**	**07 31 10.2**	**+0.6**
AMIS	**Naft Sefid**	**1.46**	**120**	*e*Pg	**Pb**	**07 30 51.6**	**-0.8**
AMIS				*e*Sg	**Sg**	**07 31 12.7**	**0.0**
RAFI	**Al-Rafai**	**1.58**	**245**	*e*Pn	**Pn**	**07 30 52.0**	**-0.9**
RAFI				*e*Sn	**Sb**	**07 31 16.0**	**+1.9**
RAFI				AML	AML	07 31 19.7	
	comp=E,156nm,0.3s						
IBDR	**Badra**	**1.73**	**295**	*e*Pn	**Pn**	**07 30 54.0**	**-1.0**
HSAM	**Samen**	**1.93**	**20**	*e*Pn	**Pn**	**07 30 58.1**	**0.0**
HSAM				*e*		07 31 02.1	
	comp=Z,1μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.98**	**342**	*e*Pn	**Pn**	**07 30 59.6**	**+1.0**
KCHF				*e*		07 31 32.8	
	comp=Z,2μm,0.4s						
KER	**Kermanshah**	**2.06**	**345**	*e*Pn	**Pn**	**07 31 01.5**	**+1.8**
IBZA	**Bozab**	**2.07**	**1**	*e*Pn	**Pn**	**07 31 00.2**	**+0.3**
IBZA				*e*		07 31 35.2	
	comp=Z,1μm,0.4s						
IGHG	**Ghaleghazi**	**2.18**	**332**	*e*Pn	**Pn**	**07 31 02.3**	**+0.8**
IGHG				*e*		07 31 51.5	
	comp=Z,1μm,0.6s						
KHMZ	**Khomeyn**	**2.26**	**53**	*e*Pg	**Pb**	**07 31 04.4**	**-1.7**
IDHR	**Dehrash**	**2.58**	**333**	*e*		07 31 12.6	
	comp=Z,1μm,0.3s						
IDHR				*e*Pn	**Pn**	**07 31 07.8**	**+0.9**
ILIN	**Lien**	**2.61**	**345**	*e*		07 31 55.2	
	comp=Z,786nm,0.5s						
ILIN				*e*Pn	**Pn**	**07 31 08.6**	**+1.2**
HAGD	**Aghdareh**	**2.67**	**25**	*e*		07 31 51.1	
	comp=Z,701nm,0.5s						
HAGD				*e*Pn	**Pn**	**07 31 08.5**	**+0.4**
SNGE	**Sanandaj**	**2.71**	**352**	*e*Pn	**Pn**	**07 31 09.2**	**+0.4**
ASAO	**Ashtian**	**2.84**	**40**	*e*Pn	**Pn**	**07 31 11.4**	**+0.8**
IBRJ	**Brojen**	**2.98**	**99**	*e*Pn	**Pn**	**07 31 13.2**	**+0.7**
IBRJ				*e*		07 32 15.3	
	comp=Z,336nm,0.8s						
QAMS	**Qamsar**	**3.31**	**65**	*e*Pn	**Pn**	**07 31 17.9**	**+1.0**
IKLH	**Kolahrood**	**3.31**	**73**	*e*Pn	**Pn**	**07 31 17.6**	**+0.5**
IKLH				*e*		07 31 25.9	
	comp=Z,245nm,0.4s						
IRAZ	**Razeghan**	**3.48**	**30**	*e*Pn	**Pn**	**07 31 20.1**	**+0.7**
KLNJ	**Kolanjah**	**3.52**	**112**	*e*Pn	**Pn**	**07 31 20.2**	**+0.2**
KLNJ				*e*		07 32 17.8	
	comp=Z,218nm,0.4s						
GHVR	**GHOM**	**3.59**	**54**	*e*Pn	**Pn**	**07 31 20.9**	**+0.2**
QABG	**Abgarm-Qazvin**	**3.62**	**24**	*e*Pn	**Pn**	**07 31 22.0**	**+0.8**
IQOM	**Qom**	**3.66**	**47**	*e*Pn	**Pn**	**07 31 22.8**	**+1.0**
IZEF	**Zefreh**	**3.86**	**81**	*e*Pn	**Pn**	**07 31 24.7**	**+0.2**
IZEF				*e*		07 31 25.4	
	comp=Z,125nm,0.4s						
KRSH	**Karshahi**	**3.96**	**66**	*e*Pn	**Pn**	**07 31 25.4**	**-0.5**
KRSH				*e*		07 31 37.0	
	comp=Z,263nm,0.8s						
IKRK	**Kirkuk**	**4.15**	**317**	*e*Pn	**Pn**	**07 31 28.0**	**-0.3**
IKRK				*e*Sn	**Sn**	**07 32 17.0**	**+0.4**
ISFB	**Sefidab**	**4.20**	**61**	*e*Pn	**Pn**	**07 31 30.2**	**+1.1**
NASN	**Na'in**	**4.25**	**83**	*e*Pn	**Pn**	**07 31 30.4**	**+0.4**
ZNJK	**Zanjan**	**4.32**	**10**	*e*Pn	**Pn**	**07 31 31.5**	**+0.6**
ANAR	**Anarak**	**5.06**	**79**	*e*Pn	**Pn**	**07 31 40.3**	**-0.6**

*IDC **30** 07:37:25.2±4.6,36.°46N×71.°00E,h208km±37km,mb3.2/7, mb1 3.4/11,mb1mx3.1/44,mbtmp3.8/11,Error ellipse: s-maj=40.4km s-min=17.6km az=41.0*
*NNC **30** 07:37:31.8±7.5,37.°07N×71.°01E,h212km±121km,mb2.8, mpv3.8,Error ellipse: s-maj=77.5km s-min=41.6km az=4.0*

ISC 30 07:37:25.2±1.1,36.°6N±0.°1×71.°0E±0.°1,h200km,n21, σ1§78/25,mb3.6/7,6C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.89**	**20**	P	**Pn**	**07 38 53.1**	**+1.7**
	SNR=84						
UCH	**Uchtor**	**6.22**	**25**	P	**Pn**	**07 38 57.5**	**+1.7**
	SNR=19						
KK31	**Karatay Array**	**6.49**	**357**	⇑P	**Pn**	**07 39 01.0**	**+2.2**
	0.9nm,0.3s,baz=176,slow=12,SNR=16						
KK31				S	**Sn**	**07 40 10.4**	**-2.6**
	5.4nm,0.5s,baz=180,slow=22,SNR=9.2						
AAK	**Ala-Archa**	**6.59**	**23**	P	**Pn**	**07 39 02.5**	**+2.3**
	SNR=7.3						
AAK	**Ala-Archa**	**6.59**	**23**	P	**Pn**	**07 39 02.2**	**+2.1**
	3.4nm,0.3s,baz=205,slow=5.7,SNR=26						
AAK				S	**Sn**	**07 40 15.3**	**-0.1**
	0.7nm,0.3s,baz=138,slow=21,SNR=17						
KBK	**Karagaybulak**	**6.75**	**25**	P	**Pn**	**07 39 04.8**	**+2.4**
	SNR=9.4						
ULHL	**Ulahol**	**6.92**	**34**	P	**Pn**	**07 39 07.1**	**+2.5**
	SNR=5.6						
CHMS	**Chumysh**	**6.99**	**23**	⇑P	**Pn**	**07 39 05.3**	**0.0**
	3.3nm,0.5s						
CHMS				⇑S	**Sn**	**07 40 20.9**	**-3.9**
	5.3nm,0.7s						
TKM2	**Tokmak 2**	**7.22**	**28**	P	**Pn**	**07 39 10.4**	**+1.9**
	SNR=9.3						
TKM2	**Tokmak 2**	**7.22**	**28**	⇑P	**Pn**	**07 39 10.0**	**+1.5**
	13nm,0.7s						
TKM2				⇑S	**Sn**	**07 40 29.2**	**-1.2**
	12nm,1.1s						
MKAR	**Makanchi Array**	**13.19**	**36**	P	**Pn**	**07 40 26.3**	**+1.3**
	0.1nm,0.3s,baz=214,slow=14,SNR=4.5						
AKTO	**Aktyubinsk**	**16.69**	**330**	P	**P**	**07 41 07.4**	**+0.9**
	0.3nm,0.3s,baz=127,slow=7.3,SNR=6.1						
AKTO	**Aktyubinsk**	**16.69**	**330**	⇑P	**Pn**	**07 41 08.0**	**+0.4**
	2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**19.80**	**25**	P	**P**	**07 41 41.1**	**+0.9**
	0.4nm,0.3s,baz=220,slow=9.4,SNR=6.7						
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**07 44 19.0**	**+0.5**
	0.7nm,0.5s,baz=111,slow=10,SNR=7.8						
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**07 44 48.9**	**+0.3**
	2.0nm,0.6s,baz=103,slow=7.8,SNR=16						
NOA	**NORSAR Array B**	**44.30**	**323**	P	**P**	**07 45 14.0**	**-0.9**
	0.5nm,0.7s,baz=97,slow=7.9,SNR=3.3						
ILAR	**Eielson Array**	**74.67**	**16**	P	**P**	**07 48 42.1**	**-0.2**
	0.2nm,0.7s,baz=305,slow=4.7,SNR=2.3						
YKA	**Yellowknife Ar**	**81.13**	**3**	P	**P**	**07 49 17.9**	**0.0**
	0.5nm,0.4s,baz=324,slow=4.9,SNR=20						
WRA	**Warramunga Arr**	**82.04**	**122**	P	**P**	**07 49 21.7**	**-1.5**
	0.5nm,0.4s,baz=324,slow=4.9,SNR=20						
ASAR	**Alice Springs**	**84.31**	**125**	P	**P**	**07 49 33.8**	**-1.0**
	0.4nm,0.6s,baz=312,slow=4.6,SNR=8.5						

*IDC **30** 07:54:31.2±0.6,55.°53S×27.°52W,h0km,mb4.4/9, mb1 4.5/10,mb1mx4.3/28,mbtmp4.3/10,ML4.3/1,MS3.8/17, Ms1 3.8/17,ms1mx3.7/42,Error ellipse: s-maj=24.4km s-min=16.8km az=50.0*
*NEIC **30** 07:54:36.2±1.5,55.°7S±0.°1×27.°6W±0.°2,h30km±2km, mb4.8/36,Error ellipse: s-maj=18.3km s-min=12.2km az=209.0*

ISC 30 07:54:32.8±0.6,55.°57S±0.°09×27.°53W±0.°09,h10km,n74, σ1§20/60,mb4.7/21,MS3.8/16,1,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.32**	**280**		**Pn**	**07 55 53.4**	**+1.1**
ORCD	**Orcadas**	**10.44**	**233**	Pn	**Pn**	**07 57 01.8**	**-0.7**
VNA1	**Neumayer--Stat**	**17.31**	**158**	P	**P**	**07 58 40.5**	**+4.9**
VNA3	**Neumayer Olymp**	**17.51**	**161**	P	**P**	**07 58 38.7**	**+0.9**
VNA2	**Neumayer--Watz**	**17.71**	**158**	P	**P**	**07 58 44.3**	**+4.3**
	baz=315,slow=12						
EFI	**East Falkland**	**18.44**	**269**	P	**P**	**07 58 47.9**	**-0.3**
EFI				IAmb	IAmb	07 58 50.9	
	comp=Z,153nm,1.5s						
SNAA	**Sanae**	**19.26**	**156**	P	**Pn**	**07 58 57.8**	**-0.3**
SNAA	**Sanae**	**19.26**	**156**	P	**Pn**	**07 58 58.2**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=311,slow=11,SNR=31						
SNAA				LR	LR	08 05 56.8	
	comp=Z,203nm,18.6s,baz=334,slow=36						
SNAA	**Sanae**	**19.26**	**156**	P	**P**	**07 58 56.7**	**-0.4**
PMSA	**Palmer Station**	**20.07**	**228**	P	**P**	**07 59 05.0**	**-0.9**
TROLL	**Troll, Antarti**	**20.76**	**154**	P	**P**	**07 59 14.4**	**+0.9**
BELA	**Belgrano 2**	**22.54**	**184**	P	**P**	**07 59 32.2**	**-0.3**
USHA	**Ushuaia**	**23.12**	**255**	P	**P**	**07 59 38.9**	**+0.2**
	comp=Z,5.4nm,0.7s,baz=24,slow=7.2,SNR=1.7						
DSPA	**Despedida**	**23.32**	**257**	P	**P**	**07 59 39.0**	**-1.7**
MG02	**Cerro Sombrero**	**24.30**	**259**	P	**P**	**07 59 49.6**	**-0.4**
MG03	**Isla Dawson**	**24.57**	**256**	P	**P**	**07 59 51.8**	**-0.8**
MG03				IAmb	IAmb	08 00 02.7	
	comp=Z,66nm,1.4s						
MG05	**Puerto Natales**	**26.59**	**259**	P	**P**	**08 00 09.7**	**-1.1**
GO08	**Villa O'Higgin**	**28.18**	**266**	P	**P**	**08 00 24.9**	**-0.3**
GO08				IAmb	IAmb	08 00 32.0	
	comp=Z,17nm,1.2s						
TRQA	**Tornquist**	**28.96**	**293**	P	**P**	**08 00 33.0**	**+0.8**
TRQA				IAmb	IAmb	08 00 34.2	
	comp=Z,22nm,1.2s						
PLTB	**Pedras Altas**	**30.03**	**312**	P	**P**	**08 00 41.5**	**-0.3**
PLTB				IAmb	IAmb	08 00 51.1	
	comp=Z,26nm,1.4s						
AY01	**Puyuhuapi**	**30.54**	**272**	P	**P**	**08 00 44.9**	**-1.2**
PLCA	**Paso Flores**	**31.73**	**280**	P	**P**	**08 00 55.2**	**-1.5**
	comp=Z,2.4nm,0.9s,baz=119,slow=7.8,SNR=4.4						
PLCA				LR	LR	08 15 03.7	
	comp=Z,100nm,18.6s,baz=128,slow=39						
PLCA	**Paso Flores**	**31.73**	**280**	IAmb	IAmb	08 01 02.6	
	comp=Z,7.2nm,1.4s						
SYO	**Syowa Base**	**32.08**	**141**	*e*P	**P**	**08 00 57.4**	**-2.0**
QSPA	**South Pole Qui**	**34.68**	**180**	P	**P**	**08 01 22.7**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=2.8,slow=1.6,SNR=28						
QSPA				PcP	**PcP**	**08 03 56.1**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=251,slow=2.2,SNR=1.5						
QSPA				LR	LR	08 15 18.8	
	comp=Z,191nm,19.1s,baz=194,slow=36						
QSPA	**South Pole Qui**	**34.68**	**180**	P	**P**	**08 01 23.0**	**+0.7**
QSPA				IAmb	IAmb	08 01 24.0	
	comp=Z,16nm,1.5s						
CPUP	**Villa Florida**	**36.35**	**311**	P	**P**	**08 01 36.2**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=165,slow=7.8,SNR=7.5						
CPUP				LR	LR	08 14 37.3	
	comp=Z,150nm,20.9s,baz=163,slow=33						
CPUP	**Villa Florida**	**36.35**	**311**	P	**P**	**08 01 36.5**	**-0.3**
MT01	**Popeta**	**37.05**	**287**	P	**P**	**08 01 42.6**	**-0.2**
MT01				IAmb	IAmb	08 01 48.7	
	comp=Z,12nm,0.8s						
MT02	**Curacav**	**37.45**	**288**	P	**P**	**08 01 46.8**	**+0.

comp=Z,1.8nm,0.4s,baz=330,slow=2.0,SNR=4.6
ILAR Eielson Array 149.65 312 PKPbc **PKPbc 08 14 20.7 -0.4**
comp=Z,7.7nm,0.9s,baz=120,slow=1.4,SNR=5.5
KDAK Kodiak Island 150.43 297 PKPbc **PKPbc 08 14 21.9 -1.3**
comp=Z,11nm,0.8s,baz=187,slow=1.7,SNR=5.5
SONM Songino Array 150.89 86 PKPbc **PKPbc 08 14 24.6 -0.2**
comp=Z,2.0nm,0.6s,baz=218,slow=2.5,SNR=11

IDC 30 07:59:33.7±7.6, 15°79.79S×178°72.72W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/31, mbtmp3.5/3, Error ellipse: s-maj=337.1km s-min=39.8km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.76**	**257**	P		P		08 07 49.1	-0.4
	0.4nm,1.0s,baz=91,slow=8.0,SNR=6.1								
ASAR	**Alice Springs**	**45.11**	**252**	P		P		08 07 52.3	0.0
	0.9nm,0.6s,baz=86,slow=8.5,SNR=15								
ILAR	**Eielson Array**	**83.90**	**13**	P		P		08 12 05.2	+0.1
	0.2nm,0.8s,baz=228,slow=7.8,SNR=1.9								

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*IDC **30** 08:06:23.7±1.2, 18°.12N×103°.26W, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.3/33, mbtmp4.2/16, ML3.9/3, MS3.6/10, Ms1 3.6/10, ms1mx3.3/67, Error ellipse: s-maj=30.9km s-min=25.9km az=47.0*
*NEIC **30** 08:06:25.1±2.2, 18°.11N±0°.05×103°.39W±0°.04, h10km±1km, mb4.5/65, Md4.7/134(MEX), Error ellipse: s-maj=9.0km s-min=6.2km az=177.0*
*MEX **30** 08:06:29.0±1.9, 18°.24N×103°.53W, h5km, MD4.7*
ISC 30 08:06:24.7±1.2, 18°.11N±0°.04×103°.52W±0°.03, h10km±6km, n311, σ1ᵍ92/323, mb4.5/30, MS3.5/9, 37C-23D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.24**	**42**				**Pg**	**08 06 31.6**	**+1.9**
MMIG							Sg	08 06 34.8	+1.7
MMIG	**Aquila**	**0.24**	**42**	↓	e	P	**Pg**	**08 06 31.6**	**+1.9**
MMIG					i	S	Sg	08 06 34.8	+1.7
CDAR	**Ciudad de Arme**	**0.95**	**331**	↓	e	P	**Pg**	**08 06 42.5**	**-0.6**
CDAR					i	S	Sg	08 06 53.8	-1.8
COIG	**Colima**	**1.08**	**351**	↓	i	P	**Pg**	**08 06 44.4**	**-1.2**
COIG					e	S	Sg	08 06 57.1	-2.6
R15V		**1.15**	**337**				**Pg**	**08 06 45.5**	**-1.3**
R15V		**1.15**	**337**	↑	e	P	**Pg**	**08 06 45.5**	**-1.3**
R15V					i	S	Sg	08 06 58.5	-3.3
COMA	**Comala**	**1.24**	**349**	↑	i	P	**Pg**	**08 06 47.3**	**-1.2**
MNGA	**Volcan de Coli**	**1.36**	**356**	↑	i	P	**Pn**	**08 06 49.6**	**-0.4**
MNGA					i	S	Sg	08 07 06.6	-2.0
EZ5V		**1.37**	**357**				**Pn**	**08 06 49.6**	**-0.6**
EZ5V		**1.37**	**357**	↑	e	P	**Pn**	**08 06 49.6**	**-0.6**
EZ5V					e	S	Sg	08 07 06.7	-2.2
JUBC	**Volcan de Coli**	**1.40**	**358**	↑	i	P	**Pn**	**08 06 50.0**	**-0.5**
JUBC					e	S	Sg	08 07 08.0	-2.0
INCO	**Volcan de Coli**	**1.42**	**357**		i	P	**Pn**	**08 06 50.6**	**-0.4**
INCO					i	S	Sg	08 07 07.4	-3.0
UON	**La Union**	**1.62**	**94**	↑	i	P	**Pg**	**08 06 56.1**	**+0.2**
UON					i	S	Sg	08 07 17.7	+0.7
URUA	**Uruapan**	**1.89**	**46**				**Pn**	**08 06 57.8**	**+0.5**
URUA							Sn	08 07 20.7	-0.7
URUA	**Uruapan**	**1.89**	**46**	↓	e	P	**Pn**	**08 06 57.8**	**+0.5**
URUA					i	S	Sn	08 07 20.7	-0.7
CJM	**Chamela**	**2.00**	**314**	↑	e	P	**Pn**	**08 06 57.8**	**-0.9**
CJM					i	S	Sn	08 07 22.9	-0.9
ZIIG	**Zihuatanejo**	**2.02**	**104**				**Pn**	**08 06 59.0**	**+0.2**
ZIIG	**Zihuatanejo**	**2.02**	**104**	↑	e	P	**Pn**	**08 06 59.0**	**+0.2**
ZIIG					i	S	Sg	08 07 30.6	+1.0
GDLP	**Chapalita**	**2.56**	**2**	↓	i	P	**Pb**	**08 07 10.6**	**-0.4**
GDLP					i	S	Sb	08 07 42.4	-0.3
MOIG	**Morelia**	**2.70**	**54**				**Pn**	**08 07 08.9**	**+0.4**
MOIG							Sn	08 07 38.2	-3.2
MOIG	**Morelia**	**2.70**	**54**	↑	e	P	**Pn**	**08 07 08.9**	**+0.4**
MOIG					i	S	Sn	08 07 38.2	-3.2
ARIG	**Puente Sto Nin**	**3.02**	**86**				**Pn**	**08 07 08.9**	**-3.7**
ARIG	**Puente Sto Nin**	**3.02**	**86**	↑	i	P	**Pn**	**08 07 08.9**	**-3.7**
ARIG					i	S	Sn	08 07 41.5	-7.4
ANIG	**Ahuacatlan**	**3.08**	**342**				**Pn**	**08 07 13.7**	**+0.1**
ANIG							Sn	08 07 51.7	+1.0
ANIG	**Ahuacatlan**	**3.08**	**342**	↓	e	P	**Pn**	**08 07 13.7**	**+0.1**
ANIG					i	S	Sn	08 07 51.7	+1.0
CAIG	**El Cayaco**	**3.27**	**108**				**Pn**	**08 07 17.0**	**+0.9**
CAIG							Sb	08 07 59.4	-3.4
CAIG	**El Cayaco**	**3.27**	**108**	↑	e	P	**Pn**	**08 07 17.0**	**+0.9**
CAIG					e	S	Sb	08 07 59.4	-3.4
IGIG	**Irapuato, Guan**	**3.35**	**38**				**Pb**	**08 07 23.7**	**-0.6**
IGIG	**Irapuato, Guan**	**3.35**	**38**	↓	i	P	**Pb**	**08 07 23.7**	**-0.6**
IGIG					i	S	Sn	08 08 00.1	+2.8
ACP2	**Acapulco**	**3.67**	**109**				**Pn**	**08 07 21.4**	**-0.2**
ACP2							Sn	08 08 05.0	-0.1
ACP2	**Acapulco**	**3.67**	**109**	↓	i	P	**Pn**	**08 07 21.4**	**-0.2**
ACP2					e	S	Sn	08 08 05.0	-0.1
MEIG	**Mezcala**	**3.71**	**92**				**Pb**	**08 07 28.9**	**-1.6**
MEIG							Sb	08 08 13.1	-2.5
MEIG	**Mezcala**	**3.71**	**92**	↓	e	P	**Pb**	**08 07 28.9**	**-1.6**
MEIG					e	S	Sb	08 08 13.1	-2.5
PLIG	**Platanillo**	**3.83**	**85**				**Pn**	**08 07 26.3**	**+2.5**
PLIG							Sb	08 08 15.4	-3.5
PLIG	**Platanillo**	**3.83**	**85**	↑	e	P	**Pn**	**08 07 26.3**	**+2.5**
PLIG					e	S	Sb	08 08 15.4	-3.5
DAIG	**Los Arroyos**	**3.84**	**106**				**Pn**	**08 07 21.6**	**-2.3**
DAIG	**Los Arroyos**	**3.84**	**106**	↓	e	P	**Pn**	**08 07 21.6**	**-2.3**
DAIG					e	S	Sb	08 08 12.6	-6.7
JRQG	**Juriquilla Cam**	**3.88**	**48**				**Pn**	**08 07 23.6**	**-1.1**
JRQG							Sb	08 08 18.0	-2.6
JRQG	**Juriquilla Cam**	**3.88**	**48**	↓	e	P	**Pn**	**08 07 23.6**	**-1.1**
JRQG					e	S	Sb	08 08 18.0	-2.6
MAVM	**Malinalco, Edo**	**3.91**	**77**				**Pn**	**08 07 31.6**	**-2.3**
MAVM							Sn	08 08 11.5	+0.4
MAVM	**Malinalco, Edo**	**3.91**	**77**	↑	e	P	**Pb**	**08 07 31.6**	**-2.3**
MAVM					e	S	Sn	08 08 11.5	+0.4
AOVM	**Tlapan**	**4.14**	**73**	↑	e	P	**Pn**	**08 07 30.8**	**+2.3**
AOVM					e	S	Sn	08 08 19.8	+2.5
AZVM	**Cuida Lopez Ma**	**4.27**	**69**				**Pb**	**08 07 36.6**	**-3.5**
AZVM	**Cuida Lopez Ma**	**4.27**	**69**	↓	e	P	**Pb**	**08 07 36.6**	**-3.5**
AZVM					e	S	Sn	08 08 14.0	-6.2
MHVM	**Bosque de Chap**	**4.28**	**72**	↑	e	P	**Pn**	**08 07 27.7**	**-2.5**
MHVM					e	S	Sn	08 08 18.9	-1.5
UNM	**Universidad Na**	**4.29**	**73**			Pn	**Pn**	**08 07 29.6**	**-0.7**
UNM							Pb	08 07 37.8	-2.6
UNM	**Universidad Na**	**4.29**	**73**	↓	e	P	**Pn**	**08 07 29.1**	**-1.2**
UNM					e	S	Sn	08 08 23.0	+2.4
YAIG	**Yautepec**	**4.29**	**79**				**Pn**	**08 07 32.6**	**+2.3**
YAIG							Sn	08 08 21.1	+0.6
YAIG	**Yautepec**	**4.29**	**79**	↓	e	P	**Pn**	**08 07 32.6**	**+2.3**
YAIG					e	S	Sn	08 08 21.1	+0.6
APVM	**Azcapotzalco**	**4.31**	**71**	↑	e	P	**Pb**	**08 07 36.4**	**-4.4**
APVM					e	S	Sn	08 08 23.7	+2.7
BJVM	**Benito Juarez**	**4.31**	**72**	↑	i		Pb	08 07 35.7	-5.0
BJVM					i			08 08 16.8	
XCVM	**Xochimilco**	**4.32**	**74**	↓	e		**Pn**	**08 07 29.6**	**-1.2**
XCVM					e			08 08 22.0	
GMVM	**Gustavo A Made**	**4.39**	**71**	↑	i		**Pn**	**08 07 28.8**	**-3.0**
GMVM					i			08 08 18.9	
CRIG	**Cruz Grande**	**4.40**	**107**	↑	e		**Pn**	**08 07 28.1**	**-3.5**
CRIG					e			08 08 18.7	
PBVM	**Pinon**	**4.40**	**72**				**Pn**	**08 07 29.2**	**-2.5**
PBVM	**Pinon**	**4.40**	**72**		i	P	**Pn**	**08 07 29.2**	**-2.5**
PBVM					i			08 08 11.2	
PTVM	**Pico Tres Padr**	**4.42**	**70**	↓	e		**Pn**	**08 07 30.4**	**-1.8**
PTVM					e			08 08 22.5	
THVM	**De Xico**	**4.47**	**74**	↑	e		**Pn**	**08 07 30.6**	**-2.3**
THVM					e			08 08 21.9	
ZUVM	**ZUMPANGO**	**4.54**	**67**	↑	e		Pb	08 07 39.1	-5.5
ZUVM					e			08 08 21.0	
ZUVM					i			08 08 25.7	
TXVM	**Universitario**	**4.55**	**72**	↑	i		**Pn**	**08 07 35.5**	**+1.5**
TXVM					e			08 08 30.0	
AMVM	**AMECAMECA**	**4.60**	**76**	↑	e		**Pn**	**08 07 30.6**	**-4.1**
AMVM					e			08 08 22.1	
ZAIG	**Zacatecas**	**4.72**	**11**			Pn	**Pn**	**08 07 37.2**	**+0.8**
MGIG	**Malinaltepec**	**4.73**	**100**	↓	e		**Pn**	**08 07 39.6**	**+3.3**
MGIG					e			08 08 31.6	
PPM	**Popocatepetl**	**4.74**	**78**	↑	e		Pb	08 07 41.6	-6.6
PPM					e			08 08 25.7	
TLIG	**Tlapa**	**4.75**	**96**			Pn	**Pn**	**08 07 35.8**	**-0.7**
TLIG							**Pb**	**08 07 44.7**	**-3.4**
TLIG	**Tlapa**	**4.75**	**96**	↑	e		**Pn**	**08 07 39.0**	**+2.5**
TLIG					e			08 08 42.6	
DEIG	**Demacu**	**4.76**	**62**	↓	e		**Pn**	**08 07 40.1**	**+3.2**
DEIG					e			08 08 25.2	
VTVM	**Tizayuca**	**4.78**	**69**	↓	e		Pn	08 07 41.8	+4.6
VTVM					e			08 08 32.5	
FTIG	**Fresnillo de T**	**5.13**	**91**	↑	e		**Pn**	**08 07 44.2**	**+2.5**
PNIG	**Pinotepa**	**5.42**	**107**	↑	e		**Pn**	**08 07 48.8**	**+3.1**
PNIG					e			08 08 47.1	
HLIG	**Huajuapan de L**	**5.44**	**92**	↑	e		**Pn**	**08 07 48.7**	**+2.5**
HLIG					e			08 08 56.3	
TXIG	**Tlaxiaco**	**5.54**	**98**	↑	e		**Pn**	**08 07 51.3**	**+3.6**
TXIG					e			08 08 53.4	
YOIG	**Yosondua**	**5.83**	**101**	↑	e		**Pn**	**08 07 54.9**	**+3.3**
YOIG					e			08 08 56.9	
TOIG	**Toxpalan**	**6.14**	**89**	↑	e		**Pn**	**08 07 58.2**	**+2.6**
TOIG					e			08 09 13.3	
JAUV	**Jalcomulco**	**6.48**	**78**	↑	e		**Pn**	**08 08 02.3**	**+2.0**
JAUV					e			08 09 21.7	
VHO	**Vista Hermosa**	**6.55**	**98**	↑	i		**Pn**	**08 08 03.4**	**+2.0**
VHO					i			08 09 15.9	
H06E1	**SOCORRO T-PHAS**	**7.07**	**277**			T	T	08 15 22.4	
	SNR=121								
H06S1	**SOCORRO T**	**7.09**	**276**			T	T	08 15 22.7	
	SNR=19								
PDIG	**Papasquiaro**	**7.12**	**346**	↓	e		**Pn**	**08 08 10.8**	**+1.7**
PDIG					e			08 09 35.6	
H06N1	**SOCORRO T-PHAS**	**7.13**	**277**			T	T	08 15 27.5	
	SNR=7.9								
NEUV	**Arroyo Zacate**	**7.35**	**92**	↓	e		Pn	08 08 18.6	+6.3
NEUV					e			08 09 32.2	
LNIG	**Linares**	**7.74**	**28**	↑	e		**Pn**	**08 08 19.4**	**+1.9**
LNIG					e			08 09 50.0	
MNIG	**Monterrey**	**8.05**	**21**	↓	i		**Pn**	**08 08 25.7**	**+3.9**
MNIG					e			08 09 47.5	
SLBS	**Sierra La Lagu**	**8.18**	**314**			Pn	**Pn**	**08 08 26.2**	**+2.5**
CMIG	**Matias Romero**	**8.29**	**96**			Pn	**Pn**	**08 08 28.0**	**+2.9**
	0.7nm,0.3s,baz=249,slow=12,SNR=8.3								
CMIG							Sn		
	1.0nm,0.3s,baz=273,slow=17,SNR=2.1								
CMIG							Lg	08 10 45.4	
	3.5nm,0.3s,baz=173,slow=23,SNR=9.4								
CMIG	**Matias Romero**	**8.29**	**96**	↑	e		**Pn**	**08 08 28.3**	**+3.1**
LPIG	**La Paz**	**8.71**	**314**			LR	LR	08 11 20.9	
	comp=Z,385nm,20.8s,baz=106,slow=34								
HPIG			**9.01**	**348**			**Pn**	**08 08 37.5**	**+2.4**
833A	**Chaparral WMA,**	**10.85**	**20**			Pn	**Pn**	**08 08 59.4**	**-0.8**
833A	**Chaparral WMA,**	**10.85**	**20**			P	Pn	08 09 10.4	+10
	baz=201								
CCIG	**Comitan**	**11.03**	**98**			Pn	**Pn**	**08 08 59.8**	**-3.0**
TX32	**Lajitas Array**	**11.18**	**359**			Pn	**Pn**	**08 09 07.3**	**+2.5**
TXAR	**Lajitas Array**	**11.18**	**359**			Pn	**Pn**	**08 09 08.1**	**+3.4**
	0.2nm,0.3s,baz=173,slow=15,SNR=34								
TXAR							Lg	08 12 12.1	
	0.1nm,0.3s,baz=164,slow=28,SNR=1.6								
TXAR	**Lajitas Array**	**11.18**	**359**			Pn	**Pn**	**08 09 07.5**	**+2.8**
TX31	**Lajitas Ar. Si**	**11.18**	**359**				**Pn**	**08 09 07.5**	**+2.8**
PATR	**El Naranjo**	**11.21**	**104**	↑	e		Pn	08 09 10.2	+4.7
PATR					e			08 11 05.9	
PAVE	**Pavencul**	**11.25**	**103**	↑	e		Pn	08 09 10.7	+4.8
PAVE					e			08 11 23.6	
CHUJ	**Union Juarez**	**11.34**	**104**	↓	e		Pn	08 09 12.3	+5.2
CHUJ					e			08 11 08.9	
JCT	**Junction City**	**12.78**	**15**			Pn	**Pn**	**08 09 27.8**	**+1.3**
JCT	**Junction City**	**12.78**	**15**			P	Pn	08 09 32.6	+6.1
	baz=196,SNR=5.4								
MNTX	**Cornudas Mount**	**13.64**	**353**			Pn	**Pn**	**08 09 40.1**	**+1.8**
MNTX	**Cornudas Mount**	**13.64**	**353**			P	**Pn**	**08 09 41.5**	**+3.2**
	baz=172,SNR=6.2								
435B	**Jarrell**	**13.72**	**22**			P	**P**	**08 09 48.5**	**+0.3**
	baz=204								
319A	**Douglas**	**14.21**	**340**				**Pn**	**08 09 47.0**	**+0.8**
WHTX	**Lake Whitney,**	**14.87**	**20**			P	**P**	**08 10 01.0**	**0.0**
	baz=202								
121A	**Cookes Peak, D**	**14.87**	**346**				**Pn**	**08 09 56.4**	**+1.0**
121A	**Cookes Peak, D**	**14.87**	**346**			P	P	08 10 06.4	+5.3
	baz=164								
ABTX	**Abilene, Hawle**	**14.87**	**13**			P	**P**	**08 10 00.4**	**-0.6**
	baz=194,SNR=7.6								
TUC	**Tucson**	**15.59**	**337**			P	**P**	**08 10 11.1**	**+2.1**
	baz=153								
NATX	**Nacogdoches**	**15.78**	**29**			P	**P**	**08 10 11.5**	**+0.5**
	baz=212								
MSTX	**Muleshoe**	**15.81**	**2**				**Pn**	**08 10 07.8**	**+0.1**
MSTX	**Muleshoe**	**15.81**	**2**			P	**Pn**	**08 10 10.3**	**+2.6**
	baz=182,SNR=8.8								
214A	**Organ Pipe Nat**	**16.15**	**330**			P	**P**	**08 10 16.1**	**+0.9**
214A	**Organ Pipe Nat**	**16.15**	**330**			P	**P**	**08 10 16.2**	**+1.0**
	baz=146								
BNM	**Barren Site**	**16.22**	**351**				**Pn**	**08 10 13.7**	**+0.6**
342A	**Flagon Creek P**	**16.65**	**35**			P	**P**	**08 10 20.0**	**-0.7**
AMTX	**Amarillo**	**16.79**	**5**			P	**Pn**	**08 10 21.1**	**+0.9**
AMTX	**Amarillo**	**16.79**	**5**			P	**P**	**08 10 22.1**	**-0.2**
	baz=186								
Z38A	**Mt. Pleasant**	**16.92**	**25**			P	**Pn**	**08 10 22.6**	**+0.8**
Z38A						IAmb	IAmb	08 10 51.4	
	comp=Z,19nm,0.8s								
ANMO	**Albuquerque**	**16.98**	**352**			P	**Pn**	**08 10 24.5**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=162,slow=14,SNR=4.7								
ANMO						Lg	Lg	08 15 20.9	
	comp=Z,0.1nm,0.3s,baz=239,slow=14,SNR=1.6								
ANMO	**Albuquerque**	**16.98**	**352**				**Pn**	**08 10 23.9**	**+1.4**
ANMO	**Albuquerque**	**16.98**	**352**			P	**P**	**08 10 24.8**	**+0.3**
	baz=170								
WMOK	**Wichita Mounta**	**17.09**	**13**			P	**Pn**	**08 10 23.3**	**-0.6**
	baz=195								
X18A	**Snowflake**	**17.34**	**342**			P	**Pn**	**08 10 28.0**	**+0.9**
Y14A	**Wickenburg**	**17.91**	**334**			P	**Pn**	**08 10 35.8**	**+1.8**
WLAR	**White Oak Lake**	**18.10**	**29**			P	**Pn**	**08 10 35.5**	**-0.9**
WLAR						IAmb	IAmb	08 10 59.9	
	comp=Z,36nm,1.0s								
VBMS	**Vicksburg**	**18.30**	**37**			P	**Pn**	**08 10 38.2**	**-0.6**
VBMS						IAmb	IAmb	08 10 51.7	
	comp=Z,82nm,1.2s								
VBMS	**Vicksburg**	**18.30**	**37**			P	P	08 10 48.9	+10
	baz=222								
MIAR	**Mount Ida**	**18.62**	**27**			P	**P**	**08 10 40.8**	**-1.6**
MIAR	**Mount Ida**	**18.62**	**27**			P	**P**	**08 10 40.8**	**-1.6**
	baz=210,SNR=7.1								
WUAZ	**Wupatki**	**18.69**	**340**			P	**P**	**08 10 44.7**	**+1.2**
WUAZ	**Wupatki**	**18.69**	**340**			P	**Pn**	**08 10 46.0**	**+2.3**
	baz=156								
T25A	**Trinidad**	**18.98**	**358**			P	**Pn**	**08 10 49.2**	**+1.9**
	baz=177,SNR=11								
TUL1	**Leonard**	**19.01**	**20**			P	**P**	**08 10 45.2**	**-1.5**
TUL1						IAmb	IAmb	08 10 56.4	
	comp=Z,20nm,0.8s								
TUL1	**Leonard**	**19.01**	**20**			P	**P**	**08 10 45.6**	**-1.1**
	baz=203,SNR=8.9								
IRM	**Iron Mountain**	**19.07**	**329**			P	**Pn**	**08 10 51.9**	**+3.7**
	baz=144								
W39A	**Magazine**	**19.09**	**25**			P	**P**	**08 10 46.9**	**-0.7**
	baz=209,SNR=10								
PFO	**Pinyon Flats O**	**19.31**	**326**			P	**Pn**	**08 10 52.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=149,slow=7.7,SNR=5.6								
PFO						LR	LR	08 16 41.3	
	comp=Z,129nm,21.8s,baz=166,slow=32								
MVCO	**Mesa Verde**	**19.53**	**348**			P	**Pn**	**08 10 55.0**	**+1.0**
	baz=165								
SDCO	**Great Sand Dun**	**19.64**	**355**			P	**P**	**08 10 54.6**	**+0.6**
SDCO	**Great Sand Dun**	**19.64**	**355**			P	**P**	**08 10 54.7**	**+0.7**
	baz=174,SNR=12								
T35A	**Sooner Cattle**	**19.73**	**17**			P	**P**	**08 10 52.5**	**-2.1**
T35A						IAmb	IAmb	08 10 54.9	
	comp=Z,16nm,0.8s								
W41B	**Gary Mavity, V**	**19.73**	**28**			P	**P**	**08 10 54.2**	**-0.4**
	baz=213,SNR=9.4								
S22A	**4UR Ranch, Cre**	**19.78**	**352**			P	**P**	**08 10 56.7**	**+1.2**
	baz=170								
WHAR	**Wooly Hollow**	**19.81**	**28**			P	**P**	**08 10 54.7**	**-0.8**
WHAR						IAmb	IAmb	08 10 57.2	
	comp=Z,20nm,0.7s								
GMRC	**Granite Mounta**	**19.82**	**329**			P	**Pn**	**08 10 59.0**	**+1.7**
	baz=144								
FCAR	**Ozark Folk Cen**	**20.39**	**27**			P	**P**	**08 11 00.5**	**-1.3**
FCAR						IAmb	IAmb	08 11 07.0	
	comp=Z,16nm,0.7s								
BFSC	**Mount Baldy Ra**	**20.44**	**325**			P	**P**	**08 11 05.2**	**+2.7**
	baz=138								
U40A	**Yellville**	**20.48**	**25**			P	**P**	**08 11 01.2**	**-1.5**
U40A						IAmb	IAmb	08 11 02.5	
	comp=Z,19nm,0.8s								
U40A	**Yellville**	**20.48**	**25**			P	**P**	**08 11 01.3**	**-1.4**
	baz=210,SNR=24								
TUQ	**Turquoise Moun**	**20.48**	**330**			P	Pn	08 11 06.9	+1.9
	baz=144								
OXF	**Oxford**	**20.62**	**35**			P	Pn	08 11 05.7	-0.9
	baz=221								
LCMT	**Little Creek M**	**20.69**	**337**			P	**P**	**08 11 06.0**	**+0.8**
GSC	**Goldstone, Bar**	**20.80**	**328**			P	**P**	**08 11 08.9**	**+2.6**
	baz=142,SNR=5.4								
Q24A	**Divide**	**20.83**	**356**			P	Pn	08 11 09.6	+0.2
	baz=175								
KSCO	**Kaye Shedlock'**	**20.85**	**2**			P	**P**	**08 11 05.8**	**-1.0**
KSCO						IAmb	IAmb	08 11 40.5	
	comp=Z,55nm,1.8s								
CBKS	**Cedar Bluff**	**20.90**	**8**			P	**P**	**08 11 07.3**	**0.0**
	baz=190								
LCAR	**Lake Charles**	**20.97**	**29**			P	**P**	**08 11 06.4**	**-1.7**
LRAL	**Lakeview Retre**	**21.00**	**42**			P	**P**	**08 11 07.3**	**-1.1**
	baz=229,SNR=9.9								
EDW2	**Edwards Air Fo**	**21.10**	**325**			P	**P**	**08 11 11.7**	**+2.1**
	baz=138								
CCAC	**Calif City Air**	**21.32**	**326**			P	**P**	**08 11 11.4**	**-0.4**
CCAC						IAmb	IAmb	08 11 14.9	
	comp=Z,10nm,0.8s								
LRMC	**Laurel Mtn Rad**	**21.39**	**327**			P	**P**	**08 11 15.2**	**+2.4**
	baz=140								
MGMO	**Mountain Grove**	**21.40**	**25**			P	**P**	**08 11 11.1**	**-1.7**
MGMO						IAmb	IAmb	08 11 12.6	
	comp=Z,15nm,0.8s								
MSU	**Marysvale**	**21.69**	**341**			P	**P**	**08 11 14.3**	**-1.8**
ISCO	**Idaho Springs**	**21.70**	**356**			P	**P**	**08 11 19.2**	**+3.0**
	baz=174								
PLAL	**Pickwick Lake**	**21.71**	**36**			P	**P**	**08 11 15.2**	**-0.8**
PLAL						IAmb	IAmb	08 11 17.5	
	comp=Z,13nm,0.6s								
MPMC	**Manual Prospec**	**21.74**	**328**			P	**P**	**08 11 18.7**	**+2.1**
	baz=142,SNR=8.6								
KSU1	**Kansas State U**	**21.77**	**15**			P	**P**	**08 11 15.4**	**-1.2**
KSU1						IAmb	IAmb	08 11 18.6	
	comp=Z,9.4nm,0.8s								
TPNV	**Topopah Spring**	**21.86**	**332**			P	**P**	**08 11 18.6**	**+0.7**
TPNV						IAmb	IAmb	08 11 21.8	
	comp=Z,11nm,0.9s								
TPNV	**Topopah Spring**	**21.86**	**332**			P	**P**	**08 11 19.8**	**+1.9**
	baz=146,SNR=12								
ISA	**Isabella, Lake**	**21.95**	**326**			P	**P**	**08 11 21.1**	**+2.5**
	baz=139,SNR=6.1								
S11A	**Rachel**	**22.23**	**334**			P	**P**	**08 11 21.4**	**-0.4**
S11A						IAmb	IAmb	08 11 32.0	
	comp=Z,14nm,1.2s								
O20A	**White River Ci**	**22.33**	**350**			P	**P**	**08 11 23.9**	**+1.1**
	baz=168								
R40A	**Maddies Statio**	**22.39**	**24**			P	**P**	**08 11 21.8**	**-1.4**
VES	**Vestal, Richgr**	**22.41**	**325**			P	**P**	**08 11 26.3**	**+2.8**
	baz=138								
CCM	**Cathedral Cave**	**22.59**	**26**			P	**P**	**08 11 23.4**	**-2.0**
	baz=211								
WVT	**Waverly**	**22.69**	**35**			P	**P**	**08 11 23.6**	**-2.9**
	baz=221								
R11A	**Troy Canyon, C**	**22.76**	**335**			P	**P**	**08 11 28.1**	**+0.7**
R11A	**Troy Canyon, C**	**22.76**	**335**			P	**P**	**08 11 29.1**	**+1.7**
	baz=149,SNR=11								
FPAL	**Fort Paine**	**22.86**	**41**			P	**P**	**08 11 26.0**	**-2.4**
FPAL						IAmb	IAmb	08 11 28.9	
	comp=Z,29nm,1.0s								
S44A	**Carbondale**	**23.18**	**30**			P	**P**	**08 11 30.6

M31M	**Drury Creek, Y**	**49.04**	**341**	P	**P**	**08 15 12.7 +1.0**
M31M				IAmb	IAmb	08 15 14.3
	comp=Z,6.3nm,0.8s					
M31M	**Drury Creek, Y**	**49.04**	**341**	P	**P**	**08 15 13.4 +1.7**
	baz=140,SNR=5.4					
YUK4	**Talbot Arm**	**49.79**	**339**	P	**P**	**08 15 20.2 +2.5**
	baz=134					
YUK3	**Moose Creek**	**50.72**	**338**	P	**P**	**08 15 26.7 +2.0**
	baz=132					
BVCY	**Beaver Creek**	**51.29**	**339**	P	**P**	**08 15 30.7 +1.9**
	baz=132					
M27K	**Edge Creek, AK**	**51.61**	**338**	P	**P**	**08 15 33.1 +1.8**
M27K				IAmb	IAmb	08 15 34.3
	comp=Z,10nm,0.9s					
M27K	**Edge Creek, AK**	**51.61**	**338**	P	**P**	**08 15 33.3 +2.0**
	baz=131,SNR=5.9					
DAWY	**Dawson**	**51.95**	**341**	P	**P**	**08 15 35.1 +1.3**
	baz=135					
M26K	**Nabesna, AK**	**52.03**	**338**	P	**P**	**08 15 36.5 +2.1**
	baz=130					
L27K	**Beaver Creek,**	**52.06**	**339**	P	**P**	**08 15 36.1 +1.5**
	baz=132					
N25K	**Chitina, Valde**	**52.12**	**337**	P	**P**	**08 15 37.6 +2.5**
	baz=128					
L26K	**Log Cabin Wild**	**52.56**	**338**	P	**P**	**08 15 39.9 +1.7**
	baz=130					
I29M	**Ogilvie Camp,**	**52.56**	**342**	P	**P**	**08 15 38.7 +0.5**
	baz=137					
K27K	**Chicken**	**52.79**	**340**	P	**P**	**08 15 42.0 +2.1**
K27K	**Chicken**	**52.79**	**340**	P	**P**	**08 15 42.2 +2.4**
	baz=132					
EPYK	**Eagle Plains**	**52.88**	**344**	P	**P**	**08 15 41.7 +1.1**
	baz=139,SNR=6.2					
EGAK	**Eagle**	**53.00**	**341**	P	**P**	**08 15 42.5 +1.1**
	baz=133					
M24K	**Tolsona, Glenn**	**53.02**	**336**	P	**P**	**08 15 44.0 +2.3**
M24K	**Tolsona, Glenn**	**53.02**	**336**	P	**P**	**08 15 44.2 +2.5**
	baz=126					
PAX	**Paxson**	**53.28**	**338**	P	**P**	**08 15 44.9 +1.3**
	baz=127,SNR=6.7					
SCRK	**Sand Creek**	**53.39**	**339**	P	**P**	**08 15 46.1 +1.7**
	baz=130					
RIDG	**Independent Ri**	**53.53**	**339**	P	**P**	**08 15 47.2 +1.8**
	baz=129,SNR=16					
J26L	**Joseph Creek**	**53.59**	**340**	P	**P**	**08 15 47.9 +2.0**
	baz=130,SNR=14					
INK	**Inuvik**	**53.63**	**347**	P	**P**	**08 15 46.7 +0.7**
	baz=144,SNR=9.8					
SML	**Sawmill**	**53.68**	**335**	P	**P**	**08 15 47.9 +1.4**
	baz=124					
PMR	**Palmer**	**53.88**	**335**	P	**P**	**08 15 49.3 +1.4**
	baz=123					
WAT6	**Susitna Watana**	**53.89**	**336**	P	**P**	**08 15 49.6 +1.4**
	baz=125					
K24K	**Donnelly Dome**	**53.90**	**338**	P	**P**	**08 15 49.3 +1.2**
	baz=128					
J25K	**Salcha River,**	**54.26**	**339**	P	**P**	**08 15 52.0 +1.2**
	baz=128					
WAT1	**Susitna Watana**	**54.34**	**336**	P	**P**	**08 15 52.6 +1.3**
	baz=124					
M22K	**Willow**	**54.37**	**335**	P	**P**	**08 15 53.0 +1.6**
	baz=122					
CUT	**Chulitna**	**54.77**	**335**	P	**P**	**08 15 56.1 +1.7**
	baz=122					
ILAR	**Eielson Array**	**54.87**	**339**	P	**P**	**08 15 56.0 +0.8**
	comp=Z,7.7nm,0.9s,baz=147,slow=5.9,SNR=23					
ILAR				PcP	**PcP**	**08 16 58.9 +1.8**
	comp=Z,0.8nm,0.7s,baz=160,slow=2.9,SNR=2.2					
SPCR	**Spurr Chakacha**	**54.95**	**334**	P	**P**	**08 15 57.2 +1.4**
	baz=119					
TCOL	**CIGO, UAF Yank**	**55.27**	**339**	P	**P**	**08 15 59.5 +1.5**
	baz=126					
A36M	**Sachs Harbour**	**55.36**	**352**	P	**P**	**08 15 58.6 +0.1**
	baz=154					
O19K	**Port Alsworth**	**55.40**	**332**	P	**P**	**08 15 59.8 +0.9**
	baz=116					
NEA2	**Nenana**	**55.53**	**338**	P	**P**	**08 16 01.0 +1.1**
	baz=124,SNR=6.4					
N19K	**Bonanza Creek**	**55.75**	**333**	P	**P**	**08 16 02.4 +0.7**
N19K	**Bonanza Creek**	**55.75**	**333**	P	**P**	**08 16 02.9 +1.3**
	baz=116,SNR=7.8					
PPLA	**Purkeypile**	**55.79**	**335**	P	**P**	**08 16 03.4 +1.5**
	baz=120					
BMAR	**Burnt Mountain**	**55.82**	**342**	P	**P**	**08 16 02.7 +0.7**
H24K	**Noodor Dome**	**55.85**	**340**	P	**P**	**08 16 03.9 +1.7**
	baz=126,SNR=15					
I23K	**Minto, Yukon-K**	**55.95**	**339**	P	**P**	**08 16 04.2 +1.3**
	baz=124,SNR=11					
BPAW	**Bear Paw Mtn.**	**55.95**	**337**	P	**P**	**08 16 04.4 +1.4**
	baz=122					
CAST	**Castle Rocks**	**56.01**	**336**	P	**P**	**08 16 03.4 0.0**
CAST	**Castle Rocks**	**56.01**	**336**	P	**P**	**08 16 04.2 +0.8**
	baz=121,SNR=8.3					
M19K	**Big River Lodg**	**56.21**	**334**	P	**P**	**08 16 06.3 +1.5**
	baz=117					
L20K	**Farewell, AK**	**56.26**	**335**	P	**P**	**08 16 06.3 +1.1**
	baz=118,SNR=7.5					
N18K	**Kilae Creek**	**56.31**	**332**	P	**P**	**08 16 07.0 +1.4**
	baz=115,SNR=6.6					
CHUM	**Lake Minchumin**	**56.34**	**336**	P	**P**	**08 16 06.4 +0.7**
	baz=121					
H03N2	**Juan Fernandez**	**56.37**	**155**	T	T	09 17 06.8
	baz=333,slow=77,SNR=181					
H03N1	**Juan Fernandez**	**56.38**	**155**	T	T	09 17 08.3
	baz=333,slow=77,SNR=229					
H03N3	**Juan Fernandez**	**56.39**	**155**	T	T	09 17 06.9
	baz=333,slow=77,SNR=242					
H23K	**Yukon River**	**56.40**	**339**	P	**P**	**08 16 07.3 +1.2**
	baz=125,SNR=9.5					
L19K	**White Mountain**	**56.53**	**334**	P	**P**	**08 16 08.4 +1.3**
	baz=117,SNR=6.4					
K20K	**Telida**	**56.76**	**335**	P	**P**	**08 16 09.7 +1.0**
	baz=118,SNR=5.6					
I21K	**Tanana**	**56.89**	**338**	P	**P**	**08 16 10.6 +1.1**
	baz=122,SNR=7.7					
J20K	**Nowinta River**	**57.19**	**336**	P	**P**	**08 16 12.4 +0.8**
	baz=119,SNR=7.7					
TTA	**Tatalina**	**57.35**	**334**	P	**P**	**08 16 13.6 +0.7**
	baz=116,SNR=5.6					
COLD	**Coldfoot**	**57.42**	**340**	P	**P**	**08 16 15.0 +1.8**
	baz=125,SNR=12					
H21K	**Melozitna Rive**	**57.44**	**338**	P	**P**	**08 16 14.4 +1.0**
	baz=121,SNR=15					
TOLK	**Toolik Lake Re**	**58.05**	**342**	P	**P**	**08 16 19.0 +1.2**
	baz=126,SNR=9.8					
RDOG	**Red Dog Mine**	**62.08**	**339**	P	**P**	**08 16 45.1 -0.2**
	baz=112,SNR=13					
DAG	**Danmarks Havn**	**71.33**	**14**	*i* P	**P**	**08 17 43.0 -1.2**
PETK	**Petropavlovsk-**	**80.86**	**323**	P	**P**	**08 18 40.1 +1.2**
	comp=Z,4.1nm,0.8s,baz=69,slow=14,SNR=2.4					
H11N3	**WAKE ISLAND Hy**	**83.67**	**289**	T	T	09 51 28.0
	baz=67					
H11N2	**WAKE ISLAND Hy**	**83.68**	**289**	T	T	09 51 20.8
	baz=67					
H11N1	**WAKE ISLAND Hy**	**83.69**	**289**	T	T	09 51 32.4
	baz=67					
H11S1	**WAKE ISLAND Hy**	**84.21**	**287**	T	T	09 52 25.3
	baz=77					
H11S2	**WAKE ISLAND Hy**	**84.21**	**287**	T	T	09 52 16.1
	baz=77					
H11S3	**WAKE ISLAND Hy**	**84.23**	**287**	T	T	09 52 13.8
	baz=77					
ARCES	**ARCESS Array B**	**85.50**	**16**	P	**P**	**08 19 02.0 -0.6**
	comp=Z,4.8nm,0.9s,baz=322,slow=5.7,SNR=6.2					
NB2	**NORSAR Subarra**	**85.63**	**26**	P	**P**	**08 19 04.1 +0.6**
	comp=Z,0.8nm,0.7s,baz=298,slow=4.8					
NOA	**NORSAR Array B**	**85.63**	**26**	P	**P**	**08 19 04.2 +0.8**
	comp=Z,2.4nm,0.9s,baz=299,slow=4.9,SNR=6.1					
ESDC	**Sonseca Array**	**85.72**	**50**	P	**P**	**08 19 05.5 +1.1**
	comp=Z,2.9nm,0.8s,baz=299,slow=6.0,SNR=12					
RAO	**Raoul Island**	**85.80**	**238**	LR	LR	08 46 28.2
	comp=Z,3µm,21.5s,baz=314,slow=28					
FINES	**FINESS Array B**	**91.17**	**22**	P	**P**	**08 19 30.2 +0.4**
	comp=Z,1.4nm,1.0s,baz=311,slow=11,SNR=1.6					
NRIK	**Noril'sk**	**92.44**	**356**	P	**P**	**08 19 36.2 +0.7**
	comp=Z,1.6nm,0.4s,baz=39,slow=6.5,SNR=4.1					
NRIK	**Noril'sk**	**92.44**	**356**	IAmb	IAmb	08 19 37.5
	comp=Z,6.1nm,1.1s					
WRA	**Warramunga Arr**	**125.51**	**258**	PKP	**PKPdf**	**08 25 27.6 +0.5**
	comp=Z,0.2nm,0.7s,baz=80,slow=2.6,SNR=5.3					
ASAR	**Alice Springs**	**126.36**	**254**	PKP	**PKPdf**	**08 25 28.8 +0.2**
	comp=Z,0.5nm,0.9s,baz=75,slow=2.6,SNR=2.2					
PZH	**PanZhiHua**	**129.32**	**330**	PKP	**PKPdf**	**08 25 33.5 -0.9**

*IDC **30** 08:30:08.0±4.3,51°.77N×177°.16E, h62km±32km, mb3.5/9, mb1 3.8/11, mb1mx3.5/54, mbtmp3.9/11, ML4.4/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/79, Error ellipse: s-maj=50.3km s-min=14.7km az=176.0*

*NEIC **30** 08:30:09.6±0.9, 51°.8N±0°.1×177°.06E±0°.04, h75km±11km, mb4.0/33, ML3.8(AEIC), Error ellipse: s-maj=19.6km s-min=2.5km az=172.0*

*AEIC **30** 08:30:11±2.5, 51°.97N±0°.09×177°.12E±0°.07, h48km±8km, Error ellipse: s-maj=12.9km s-min=5.6km az=163.0*

ISC 30 08:30:06.5±1.2, 51°.6N±0°.2×177°.04E±0°.06, h50km, n66, σ1§69/64, mb4.1/19, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**2.15**	**304**	P	**Pn**	**08 30 41.8**	**+1.9**
	174nm,0.3s,baz=84,slow=2.7,SNR=217						
SHEM				S	**Sn**	**08 31 06.8**	**+1.5**
	289nm,0.3s,baz=255,slow=11,SNR=35						
SHEM				LR	LR	08 31 32.2	
	comp=Z,34nm,20.5s,baz=124,slow=40						
SMY	**Shemya**	**2.15**	**304**	Pn	**Pn**	**08 30 41.8**	**+1.9**
SMY				Sn	**Sn**	**08 31 06.8**	**+1.5**
GASW	**Gareloi Southw**	**2.57**	**84**		**Pn**	**08 30 48.5**	**+3.0**
GANO	**Gareloi North**	**2.60**	**83**		**Pn**	**08 30 48.9**	**+2.8**
GALAA	**Gareloi Lava P**	**2.62**	**84**		**Pn**	**08 30 49.6**	**+3.4**
TANO	**Tanaga North**	**3.03**	**81**		**Pn**	**08 30 54.9**	**+3.0**
TASE	**Tanaga Southea**	**3.08**	**83**		**Pn**	**08 30 55.6**	**+3.0**
TAFP	**Tanaga Falls P**	**3.12**	**82**		**Pn**	**08 30 55.7**	**+2.6**
TAPA	**Tanaga Point A**	**3.22**	**84**		**Pn**	**08 30 57.4**	**+2.9**
KIMD	**Kanaga Island**	**3.57**	**85**		**Pn**	**08 31 02.4**	**+3.1**
KIKV	**Kanaga Island**	**3.62**	**83**		**Pn**	**08 31 02.7**	**+2.8**
KIWB	**Kanaga Island**	**3.63**	**83**		**Pn**	**08 31 02.8**	**+2.7**
ADK	**Adak**	**3.92**	**83**		**Pn**	**08 31 06.3**	**+2.3**
ADK				Sn	**Sn**	**08 31 49.5**	**+0.8**
GSMY	**Great Sitkin M**	**4.32**	**81**		**Pn**	**08 31 12.1**	**+2.5**
UNV	**Unalaska Valle**	**10.25**	**71**	Pn	**Pn**	**08 32 32.5**	**+1.8**
SDPT	**Sand Point**	**13.90**	**65**	Pn	**Pn**	**08 33 21.2**	**+0.6**
SVW2	**Sparrevohn**	**17.80**	**47**	Pn	**P**	**08 34 11.6**	**+1.1**
SVW2				IAmb	IAmb	08 34 20.0	
	comp=Z,12nm,1.4s						
TTA	**Tatalina**	**18.33**	**41**	P	**P**	**08 34 16.4**	**0.0**
KDAK	**Kodiak Island**	**18.53**	**58**	P	**P**	**08 34 15.8**	**-2.7**
	comp=Z,9nm,0.3s,baz=290,slow=4.3,SNR=9.1						
KDAK	**Kodiak Island**	**18.53**	**58**	P	**P**	**08 34 16.4**	**-2.1**
RSO	**Redoubt South**	**18.93**	**50**	P	**Pn**	**08 34 24.6**	**+0.3**
RDOG	**Red Dog Mine**	**19.20**	**23**	P	**P**	**08 34 25.5**	**-0.3**
RDOG				IAmb	IAmb	08 34 26.0	
	comp=Z,5.4nm,0.6s						
K20K	**Telida**	**19.31**	**41**	P	**P**	**08 34 26.6**	**-0.5**
J20K	**Nowinta River**	**19.63**	**39**	P	**P**	**08 34 31.5**	**+0.9**
CAST	**Castle Rocks**	**20.16**	**42**	P	**P**	**08 34 37.3**	**+1.0**
CAST				IAmb	IAmb	08 34 48.8	
	comp=Z,5.3nm,0.6s						
KTH	**Kantishna Hill**	**20.69**	**42**	P	**Pn**	**08 34 41.9**	**-0.2**
KTH				IAmb	IAmb	08 35 10.3	
	comp=Z,12nm,1.3s						
H21K	**Melozitna Rive**	**20.82**	**36**	P	**P**	**08 34 44.5**	**+1.1**
H21K				IAmb	IAmb	08 34 47.0	
	comp=Z,5.1nm,0.8s						
BPAW	**Bear Paw Mtn.**	**20.86**	**41**	P	**P**	**08 34 43.9**	**0.0**
GHO	**Glory Hole Cre**	**21.06**	**48**	P	**P**	**08 34 45.0**	**-1.0**
GHO				IAmb	IAmb	08 34 46.9	
	comp=Z,12nm,1.2s						
KNK	**Knik Glacier**	**21.19**	**49**	P	**P**	**08 34 46.7**	**-0.8**
SCM	**Sheep Creek Mo**	**21.81**	**48**	P	**P**	**08 34 53.2**	**-0.9**
NEA2	**Nenana**	**21.82**	**40**	P	**P**	**08 34 54.2**	**0.0**
DHY	**Denali Highway**	**22.07**	**45**	P	**P**	**08 34 56.5**	**-0.5**
DHY				IAmb	IAmb	08 34 58.9	
	comp=Z,6.2nm,0.7s						
MDM	**Murphy Dome**	**22.29**	**40**	P	**P**	**08 34 58.2**	**-1.0**
CCB	**Clear Creek Bu**	**22.35**	**41**	P	**P**	**08 34 58.4**	**-1.5**
M24K	**Tolsona, Glenn**	**22.40**	**48**	P	**P**	**08 35 00.9**	**+0.5**
KLU	**Klutina**	**22.41**	**49**	P	**P**	**08 34 59.6**	**-0.9**
KLU				IAmb	IAmb	08 35 26.6	
	comp=Z,13nm,1.3s						
H24K	**Noodor Dome**	**22.74**	**38**	P	**P**	**08 35 03.5**	**-0.5**
H24K				IAmb	IAmb	08 35 06.0	
	comp=Z,5.8nm,0.8s						
ILAR	**Eielson Array**	**22.77**	**41**	P	**P**	**08 35 01.8**	**-2.4**
	comp=Z,1.2nm,0.4s,baz=249,slow=7.4,SNR=26						
PAX	**Paxson**	**22.89**	**46**	P	**P**	**08 35 04.9**	**-0.7**
PAX				IAmb	IAmb	08 35 05.4	
	comp=Z,5.7nm,0.8s						
BMRM	**Bremner River**	**22.96**	**51**	P	**P**	**08 35 04.9**	**-1.4**
N25K	**Chitina, Valde**	**23.05**	**49**	P	**P**	**08 35 06.6**	**-0.7**
N25K				IAmb	IAmb	08 35 07.9	
	comp=Z,5.4nm,0.8s						
TOLK	**Toolik Lake Re**	**23.38**	**31**	P	**P**	**08 35 09.2**	**-1.2**
TOLK				IAmb	IAmb	08 35 11.0	
	comp=Z,4.8nm,0.6s						
DOT	**Dot Lake**	**23.66**	**44**	P	**P**	**08 35 11.2**	**-1.8**
DOT				IAmb	IAmb	08 35 12.6	
	comp=Z,5.4nm,0.8s						
SCRK	**Sand Creek**	**23.77**	**44**	P	**P**	**08 35 12.3**	**-1.8**
L27K	**Beaver Creek,**	**24.54**	**46**	P	**P**	**08 35 19.9**	**-1.2**
BMAR	**Burnt Mountain**	**24.55**	**35**	P	**P**	**08 35 20.4**	**-0.7**
BCAR	**Beaver Creek A**	**24.56**	**46**	P	**P**	**08 35 21.0**	**-0.3**
DAWY	**Dawson**	**25.77**	**44**	P	**P**	**08 35 31.2**	**-1.0**
I29M	**Ogilvie Camp,**	**26.44**	**41**	P	**P**	**08 35 36.5**	**-1.7**
I29M				IAmb	IAmb	08 35 40.0	
	comp=Z,7.6nm,1.4s						
EPYK	**Eagle Plains**	**27.25**	**39**	P	**P**	**08 35 44.7**	**-0.9**
EPYK				IAmb	IAmb	08 35 45.1	
	comp=Z,3.2nm,0.7s						
KLR	**Kul'dur**	**28.61**	**283**	P	**P**	**08 35 57.3**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=36,slow=4.7,SNR=5.5						
INK	**Inuvik**	**28.82**	**36**	P	**P**	**08 35 58.5**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=241,slow=9.0,SNR=11						
INK	**Inuvik**	**28.82**	**36**	IAmb	IAmb	08 36 14.0	
	comp=Z,5.5nm,1.4s						
TIXI	**Tiksi**	**29.20**	**331**	LR	LR	08 49 11.8	
	comp=Z,134nm,18.1s,baz=316,slow=39						
H11N2	**WAKE ISLAND Hy**	**32.75**	**198**	T	T	09 11 49.3	
	baz=10,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.76**	**198**	T	T	09 11 48.0	
	baz=10,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.77**	**198**	T	T	09 11 52.3	
	baz=10,slow=76						
YKA	**Yellowknife Ar**	**36.98**	**46**	P	**P**	**08 37 10.0**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=286,slow=7.1,SNR=67						
YKA	**Yellowknife Ar**	**36.98**	**46**	P	**P**	**08 37 08.8**	**-1.7**
SONM	**Songino Array**	**44.21**	**294**	P	**P**	**08 38 11.7**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=63,slow=8.3,SNR=5.1						
SONM	**Songino Array**	**44.21**	**294**	P	**P**	**08 38 11.6**	**+1.1**
PDAR	**Pinedale Array**	**48.71**	**70**	P	**P**	**08 38 44.6**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=340,slow=4.0,SNR=5.7						
MKAR	**Makanchi Array**	**57.85**	**306**	P	**P**	**08 39 52.1**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=53,slow=6.4,SNR=6.9						
TXAR	**Lajitas Array**	**61.18**	**78**	P	**P**	**08 40 15.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=299,slow=5.5,SNR=9.7						
SCHQ	**Schefferville**	**61.43**	**36**	P	**P**	**08 40 15.0**	**-2.2**
	comp=Z,3.2nm,1.0s,baz=306,slow=8.7,SNR=1.8						

*IDC **30** 08:35:41.7±0.4, 16°.25S×167°.30E, h0km, mb4.8/29, mb1 4.9/32, mb1mx4.8/46, mbtmp4.9/32, ML4.8/2, MS5.2/57, Ms1 5.2/57, ms1mx5.2/65, Error ellipse: s-maj=14.5km s-min=11.1km az=79.0*

*NEIC **30** 08:35:42.6, 16°.34S×167°.18E, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.30; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$-3.15; $M_{r\theta}$2.52; $M_{\theta\phi}$1.48; $M_{\phi r}$-5.61; Fault plane solution: $M_0$7.11000×10^{17} NP1:ϕ_s156.01000°, δ75.10000°, λ88.94000°. NP2:ϕ_s340.14000°, δ14.94000°, λ93.99000°. Principal axes: T 6.8654, Plg60.0000°, Azm65.0000°; N 0.4580, Plg1.0000°, Azm156.0000°; P -7.3234, Plg30.0000°, Azm247.0000°;*

*NEIC **30** 08:35:42.1±2.8, 16°.35S±0°.03×167°.20E±0°.08, h3km±2km, mb5.4/106, Ms_20 5.5/361, Mwb5.8/68, Mww5.8 Error ellipse: s-maj=10.6km s-min=4.7km az=91.0*

*MOS **30** 08:35:43.7±1.4, 16°.23S×167°.09E, h19km, mb5.5/42, MS5.4/16, Error ellipse: s-maj=8.6km s-min=7.1km az=123.6*

*NOU **30** 08:35:44.1, 16°.34S×167°.33E, h0km, mb5.2/75, Vanuatu Islands*

*NEIC **30** 08:35:48, 16°.41S×167°.19E, h12km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^{17}Nm; M_{rr}4.17; $M_{\theta\theta}$-0.86; $M_{\phi\phi}$-3.31; $M_{r\theta}$2.61; $M_{\theta\phi}$2.13; $M_{\phi r}$-3.27; Fault plane solution: $M_0$6.05000×10^{17} NP1: ϕ_s337.00000°, δ23.00000°, λ102.00000°. NP2: ϕ_s144.00000°, δ67.00000°, λ85.00000°. Principal axes: T 5.8833, Plg68.0000°, Azm44.0000°; N 0.3154, Plg5.0000°, Azm146.0000°; P -6.1987, Plg22.0000°, Azm238.0000°;*

*GCMT **30** 08:35:48.1±0.1, 16°.29S±0°.01×167°.14E, h14km, MW5.8/155, Moment Tensor Solution. s150,c295; s155,c438; Duration: 1s9 Moment tensor: Scale 10^{17} Nm; M_{rr}3.94±.04; $M_{\theta\theta}$-0.57±.03; $M_{\phi\phi}$-3.37±.03; $M_{r\theta}$1.60±.09; $M_{\theta\phi}$1.94±.03; $M_{\phi r}$-3.50±.11; Best double couple: $M_0$5.66100×10^{17} NP1:ϕ_s331.00000°, δ24.00000°, λ86.00000°. NP2:ϕ_s155.00000°, δ66.00000°, λ92.00000°. Principal axes: T 5.4520, Plg69.0000°, Azm68.0000°; N 0.4160, Plg1.0000°, Azm334.0000°; P -5.8700, Plg21.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 30 08:35:44.5±0.4, 16°.34S±0°.03×167°.32E±0°.04, h16km±2km, h16km:pP-P, n739, σ2§19/622, mb5.2/125, MS5.5/264, 33C-14D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.90**	**353**	Pg	**Pb**	**08 35 59.7**	**-2.0**
SANVU				Sg	**Sb**	**08 36 11.4**	**-2.0**
SANVU	**Saraoutou**	**0.90**	**353**	P	**Pb**	**08 36 00.9**	**-0.8**
DVP	**Devils Point**	**1.61**	**149**	P	**Pb**	**08 36 14.0**	**+0.1**
RTV	**Rentapao**	**1.79**	**144**	P	**Pb**	**08 36 17.0**	**0.0**
LIFNC	**LIFOU**	**4.41**	**181**	Pn	**Pn**	**08 36 49.0**	**-1.9**
LIFNC	**LIFOU**	**4.41**	**181**	P	**Pn**	**08 36 50.2**	**-0.6**
KOUNC	**Koumac, New Ca**	**5.08**	**214**	Pn	**Pn**	**08 36 58.0**	**-2.0**
KOUNC	**Koumac, New Ca**	**5.08**	**214**	P	**Pn**	**08 36 59.7**	**-0.3**
MARNC	**Mare, Loyalty**	**5.16**	**173**		**Pn**	**08 37 00.2**	**-0.9**
MARNC	**Mare, Loyalty**	**5.16**	**173**	P	**Pn**	**08 37 01.2**	**+0.1**
YATNC	**Mamie plateau,**	**5.70**	**184**	P	**Pn**	**08 37 08.7**	**+0.1**
DZM	**Mont Dzumac**	**5.76**	**188**	Pn	**Pn**	**08 37 08.0**	**-1.5**
	14nm,0.3s,baz=2.9,slow=7.6,SNR=157						
DZM				Sn	**Sn**	**08 38 13.2**	**-2.0**
	8.8nm,0.3s,baz=342,slow=22,SNR=1.7						
DZM				LR	LR	08 38 28.5	
	comp=Z,4µm,18.6s,baz=68,slow=28						
DZM	**Mont Dzumac**	**5.76**	**188**	*e*P	**Pn**	**08 37 07.0**	**-2.5**
	661nm,1.0s						
DZM				*e*S	**Sn**	**08 38 18.9**	**+3.6**
DZM	**Mont Dzumac**	**5.76**	**188**	Pn	**Pn**	**08 37 08.5**	**-0.9**
DZM	**Mont Dzumac**	**5.76**	**188**		**Sn**	**08 38 13.2**	**-2.0**
DZM	**Mont Dzumac**	**5.76**	**188**	P	**Pn**	**08 37 09.3**	**-0.2**
NOUC	**Port Laguerre**	**5.81**	**189**	P	**Pn**	**08 37 09.2**	**-0.8**
ONTNC	**Ouen Toro**	**5.99**	**188**	Pn	**Pn**	**08 37 11.6**	**-1.0**
ONTNC	**Ouen Toro**	**5.99**	**188**	P	**Pn**	**08 37 13.9**	**+1.4**
OUENC	**Ouen Island, N**	**6.06**	**184**		**Pn**	**08 37 12.3**	**-1.2**
OUENC	**Ouen Island, N**	**6.06**	**184**	P	**Pn**	**08 37 14.4**	**+0.9**
PINNC	**Pines Island,**	**6.24**	**179**	Pn	**Pn**	**08 37 15.1**	**-0.9**
PINNC	**Pines Island,**	**6.24**	**179**	P	**Pn**	**08 37 16.7**	**+0.7**
HNR	**Honiara**	**9.94**	**313**	Pn	**Pn**	**08 38 04.6**	**-2.1**
	13nm,0.3s,baz=242,slow=15,SNR=1.9						
HNR				Sn	**Sn**	**08 39 54.0**	**-4.0**
	9.8nm,0.3s,baz=254,slow=19,SNR=0.9						
HNR	**Honiara**	**9.94**	**313**	P	**Pn**	**08 38 04.6**	**-2.1**
HNR	**Honiara**	**9.94**	**313**	Pn	**Pn**	**08 38 03.5**	**-3.3**
HNR	**Honiara**	**9.94**	**313**	P	**Pn**	**08 38 09.7**	**+2.9**
MSVF	**Nonsavu**	**10.36**	**99**	Pn	**Pn**	**08 38 16.9**	**+4.3**
	0.9nm,0.3s,baz=263,slow=8.1,SNR=27						
MSVF				LR	LR	08 41 26.3	
	comp=Z,61µm,18.3s,baz=280,slow=33						
MSVF	**Nonsavu**	**10.36**	**99**	P	**Pn**	**08 38 16.1**	**+3.5**
MSVF	**Nonsavu**	**10.36**	**99**	Pn	**Pn**	**08 38 16.1**	**+3.5**
MSVF	**Nonsavu**	**10.36**	**99**	P	**Pn**	**08 38 14.0**	**+1.4**
FUNA	**Funafuti**	**13.96**	**58**	Pn	**Pn**	**08 39 00.1**	**-1.6**
FUNA	**Funafuti**	**13.96**	**58**	P	**Pn**	**08 39 03.0**	**+1.2**
LHI	**Lord Howe Isla**	**16.88**	**205**		**Pn**	**08 39 39.8**	**-0.4**
LHI				IAmb	IAmb	08 40 17.8	
	comp=Z,327nm,1.6s						
RK1H	**Rockhampton Ha**	**17.30**	**243**	P	**P**	**08 39 48.3**	**+1.5**
	comp=Z,33nm,1.6s						
EIDS	**Eidsvold**	**17.62**	**237**	P	**P**	**08 39 50.1**	**-0.2**
	baz=18,SNR=11						
EIDS	**Eidsvold**	**17.62**	**237**	P	**Pn**	**08 39 49.4**	**-0.1**
EIDS				IAmb	IAmb	08 40 10.1	
	comp=Z,470nm,1.7s						
EIDS	**Eidsvold**	**17.62**	**237**	P	**P**	**08 39 51.8**	**+1.4**
RAO	**Raoul Island**	**18.69**	**136**	P	**P**	**08 40 01.0**	**-1.2**
	comp=Z,98nm,0.3s,baz=119,slow=22,SNR=2.5						
RAO	**Raoul Island**	**18.69**	**136**	P	**P**	**08 40 02.0**	**-0.2**
RAO				pmax	pmax		

KNTN **Kanton** 24.64 59 P P 08 41 06.2 +1.6
PATS **Pohnpei** 24.69 338 P P 08 41 03.5 -1.6
CMSA **Cobar Meteorol** 24.82 229 P P 08 41 05.6 -0.5
baz=25,SNR=35
CMSA **Cobar Meteorol** 24.82 229 P P 08 41 07.7 +1.6
CAN **Canberra** 25.00 217 P P 08 41 06.9 -0.8
CAN pmax pmax
comp=Z,44nm,1.1s
CAN MLR MLR
comp=Z,12µm,20.0s
CAN **Canberra** 25.00 217 P P 08 41 06.9 -0.8
CAN IAMs_20 IAMs_20 08 49 14.2
comp=Z,12µm,20.0s
CAN **Canberra** 25.00 217 P P 08 41 10.8 +3.0
NNZ **Nelson** 25.34 169 P P 08 41 10.9 +0.3
NNZ IAmb IAmb 08 41 22.0
comp=Z,59nm,0.8s
BFZ **Birch Farm** 25.46 164 P P 08 41 11.8 +0.1
BFZ IAMs_20 IAMs_20 08 50 49.2
comp=Z,12µm,18.0s
BFZ **Birch Farm** 25.46 164 P P 08 41 14.6 +2.8
TUWZ **Tuamarina** 25.65 168 P P 08 41 14.1 +0.6
SNZO **South Karori** 25.69 167 P P 08 41 14.5 +0.7
SNZO IAmb IAmb 08 41 17.6
comp=Z,72nm,0.8s
SNZO **South Karori** 25.69 167 P P 08 41 16.4 +2.6
THZ **Tophouse** 25.79 170 P P 08 41 15.5 +0.7
THZ IAmb IAmb 08 41 22.2
comp=Z,84nm,0.7s
BHW **Baring Head** 25.82 167 P P 08 41 16.0 +1.0
MSWZ **Moikau Station** 25.91 166 P P 08 41 16.1 +0.3
BSWZ **Blackbirch Sta** 25.91 169 P P 08 41 17.4 +1.6
CMWZ **Cape Campbell** 26.01 168 P P 08 41 16.5 -0.2
PLWZ **Palliser** 26.06 166 P P 08 41 18.0 +0.8
KHZ **Kahutara** 26.53 170 P P 08 41 22.7 +1.3
KHZ IAMs_20 IAMs_20 08 52 05.2
comp=Z,10µm,19.0s
QIS **Mount Isa** 26.60 257 P P 08 41 22.2 -0.2
baz=26,SNR=14
QIS **Mount Isa** 26.60 257 P P 08 41 24.2 +1.8
LTZ **Lake Taylor** 26.69 172 P P 08 41 23.8 +0.8
INKA **Innaminka** 27.05 241 P P 08 41 28.6 +2.3
FOZ **Fox Glacier** 27.18 176 IAMs_20 IAMs_20 08 52 59.3
comp=Z,11µm,18.0s
OXZ **Oxford** 27.20 172 P P 08 41 28.0 +0.6
RPZ **Rata Peaks** 27.47 174 P P 08 41 30.8 +0.9
comp=Z,22nm,0.8s,baz=147,slow=4.0,SNR=9.5
RPZ LR LR 08 52 20.7
comp=Z,18µm,18.3s,baz=350,slow=36
RPZ **Rata Peaks** 27.47 174 P P 08 41 29.8 -0.1
RPZ IAmb IAmb 08 41 35.5
comp=Z,60nm,1.1s
STKA **Stephens Creek** 28.01 232 P P 08 41 33.8 -1.1
comp=Z,24nm,1.0s,baz=78,slow=11,SNR=11
STKA PcP PcP 08 44 49.2 -0.5
comp=Z,11nm,0.7s,baz=18,slow=2.7,SNR=7.9
STKA LR LR 08 52 04.1
comp=Z,6µm,18.9s,baz=77,slow=35
STKA **Stephens Creek** 28.01 232 P P 08 41 33.5 -1.4
STKA pmax pmax
comp=Z,51nm,1.9s
STKA **Stephens Creek** 28.01 232 P P 08 41 33.5 -1.4
LBZ **Lake Benmore** 28.06 176 P P 08 41 35.9 +0.7
LBZ IAmb IAmb 08 41 45.5
comp=Z,185nm,1.8s
LBZ IAMs_20 IAMs_20 08 53 02.4
comp=Z,12µm,18.0s
WKZ **Wanaka** 28.43 177 IAMs_20 IAMs_20 08 52 25.1
comp=Z,15µm,18.0s
TOO **Toolangi** 28.60 218 P P 08 41 41.7 +1.6
baz=29,SNR=5.7
TOO **Toolangi** 28.60 218 P P 08 41 38.3 -1.8
TOO pmax pmax
comp=Z,63nm,1.3s
TOO **Toolangi** 28.60 218 P P 08 41 38.3 -1.8
TOO IAmb IAmb 08 41 46.0
comp=Z,63nm,1.3s
TOO **Toolangi** 28.60 218 P P 08 41 42.2 +2.1
ODZ **Otahua Downs** 28.75 175 IAMs_20 IAMs_20 08 53 34.7
comp=Z,13µm,18.0s
WHZ **Wether Hill Ro** 29.47 179 P P 08 41 48.9 +1.2
WHZ IAMs_20 IAMs_20 08 53 40.4
comp=Z,8µm,18.0s
BRAT **Ballarat** 29.53 220 P P 08 41 50.4 +2.1
GLAD **Gladstone** 29.70 210 P P 08 41 52.2 +2.5
ARPS **Mount Arapiles** 30.39 223 P P 08 41 58.0 +2.1
HTT **Hallett** 30.73 231 P P 08 41 59.6 +0.6
baz=31,SNR=3.5
HTT **Hallett** 30.73 231 P P 08 41 59.3 +0.3
WR0 **Warramunga Arr** 31.32 258 P P 08 42 00.7 -3.7
OOD **Oodnadatta** 31.36 243 P P 08 42 06.2 +1.6
WB0 **Warramunga Arr** 31.46 259 P P 08 42 02.9 -2.7
RAR **Rarotonga** 31.50 104 LR LR 08 54 00.7
comp=Z,3µm,18.2s,baz=276,slow=35
WB2 **Warramunga Arr** 31.50 258 P P 08 42 02.9 -3.1
WRAB **Tennant Creek** 31.50 258 *ce*P P 08 42 03.5 -2.5
WRAB pmax pmax
comp=Z,54nm,2.5s
WRAB **Tennant Creek** 31.50 258 P P 08 42 03.5 -2.5
WRAB **Tennant Creek** 31.50 258 P P 08 42 08.0 +2.0
WRA **Warramunga Arr** 31.51 258 P P 08 42 03.8 -2.3
comp=Z,6.5nm,0.9s,baz=89,slow=8.3,SNR=14
WRA PcP PcP 08 44 59.2 +0.2
comp=Z,2.4nm,0.8s,baz=90,slow=3.0,SNR=3.8
WRA LR LR 08 53 49.7
comp=Z,6µm,21.1s,baz=84,slow=34
WRA **Warramunga Arr** 31.51 258 P P 08 42 03.1 -3.0
WRA **Warramunga Arr** 31.51 258 P P 08 42 03.1 -3.0
SMPI **Sarmi** 31.57 294 P P 08 42 06.3 -0.2
comp=Z,2µmcomp=Z,1µmcomp=Z,61nm,1.4s
AS31 **Alice Springs** 32.17 251 P P 08 42 09.7 -2.2
ASAR **Alice Springs** 32.17 251 P P 08 42 10.0 -1.9
comp=Z,15nm,0.8s,baz=77,slow=8.8,SNR=63
ASAR PcP PcP 08 44 59.6 -1.1
comp=Z,4.3nm,0.8s,baz=87,slow=2.6,SNR=4.9
ASAR LR LR 08 54 35.8
comp=Z,12µm,19.6s,baz=84,slow=35
ASAR **Alice Springs** 32.17 251 P P 08 42 10.0 -1.9
ASAR 08 44 59.7
ASAR **Alice Springs** 32.17 251 P P 08 42 09.9 -1.9
ASPA **Alice Springs** 32.18 251 P P 08 42 10.8 -1.1
baz=32
KDU **Kakadu** 33.90 271 P P 08 42 28.8 +1.8
MTN **Manton Dam** 35.16 271 P P 08 42 35.9 -2.0
MTN IAmb IAmb 08 42 43.6
comp=Z,62nm,1.6s
MTN **Manton Dam** 35.16 271 P P 08 42 39.7 +1.8
comp=Z,18nm,0.9s
KNRA **Kununurra** 37.03 266 P P 08 42 52.5 -1.4
baz=37,SNR=7.6
KNRA **Kununurra** 37.03 266 P P 08 42 50.8 -3.1
KNRA IAmb IAmb 08 43 19.5
comp=Z,42nm,0.9s
KNRA **Kununurra** 37.03 266 P P 08 42 55.7 +1.8
GUMO **Guam** 37.10 322 LR LR 08 56 55.3
comp=Z,4µm,20.8s,baz=146,slow=34
GUMO **Guam** 37.10 322 IAMs_20 IAMs_20 08 56 45.4
comp=Z,6µm,18.0s
WRKA **Warakurna** 37.41 250 P P 08 42 56.3 -0.8
baz=37,SNR=8.4
WRKA **Warakurna** 37.41 250 P P 08 42 58.7 +1.6
SIJI **Sorong** 38.70 290 P P 08 43 06.5 -1.6
comp=Z,16nm,0.7s,baz=102,slow=8.0,SNR=12
SIJI LR LR 09 00 15.1
comp=Z,8µm,18.2s,baz=108,slow=38
SWI **Sorong** 38.71 290 P P 08 43 07.5 -0.7
comp=Z,3µmcomp=Z,2µmcomp=Z,102nm,1.3s
FITZ **Fitzroy Crossi** 39.79 261 LR LR 08 59 42.6
comp=Z,10µm,18.9s,baz=86,slow=36
MSAI **Masohi** 39.87 285 P P 08 43 22.9 +5.1
PPT **Papeete** 41.19 98 LR LR 08 56 34.1
comp=Z,2µm,20.5s,baz=260,slow=30
LBMI **Labuha** 42.23 288 P P 08 43 42.5 +5.3
BATI **Baumata** 42.86 273 LR LR 09 00 46.9
comp=Z,6µm,21.7s,baz=132,slow=35
BATI **Baumata** 42.86 273 P P 08 43 42.3 -0.1
comp=Z,2µmcomp=Z,973nmcomp=Z,41nm,0.8s
SANI **Sanana** 43.08 285 P P 08 43 43.4 -0.8
comp=Z,3µmcomp=Z,2µmcomp=Z,35nm,0.9s
SANI **Sanana** 43.08 285 P P 08 43 45.8 +1.6
comp=Z,35nm,0.9s
PMOR **Pomariorio Ree** 43.08 95 *e*P P 08 43 45.4 +1.2
comp=Z,143nm,1.3s
VAH **Vaihoa** 43.30 95 *e*P P 08 43 52.9 +6.9
comp=Z,63nm,1.1s

MBWA **Marble Bar** 45.19 256 P P 08 43 58.0 -3.1
MBWA IAmb IAmb 08 44 32.5
comp=Z,101nm,1.6s
MBWA **Marble Bar** 45.19 256 IAMs_20 IAMs_20 09 01 51.4
comp=Z,5µm,21.0s
MEEK **Meekatharra** 46.22 249 P P 08 44 08.7 -0.6
baz=46,SNR=4.9
MEEK **Meekatharra** 46.22 249 P P 08 44 12.7 +3.5
comp=Z,48nm,1.3s
MIDW **Midway** 46.71 19 IAMs_20 IAMs_20 09 00 10.0
comp=Z,5µm,21.0s
GTOI **Gorontalo** 46.85 287 P P 08 44 15.5 +1.3
comp=Z,336nmcomp=Z,8.1nm,0.7s
KLBR **Kellerberrin** 47.37 242 P P 08 44 17.9 -0.3
baz=47,SNR=4.6
KLBR **Kellerberrin** 47.37 242 P P 08 44 19.8 +1.7
DAV **Davao City (W)** 47.40 296 LR LR 09 04 37.6
comp=Z,847nm,18.0s,baz=114,slow=37
BKSI **Bulukumba** 47.52 278 P P 08 44 28.8 +9.4
APSI **Ampana** 47.52 284 P P 08 44 19.3 -0.2
comp=Z,907nmcomp=Z,30nm,1.2s
BNSI **Bone** 47.81 279 P P 08 44 22.0 +0.3
comp=Z,988nmcomp=Z,54nm,2.3s
KAPI **Kappang** 47.96 278 LR LR 09 04 46.7
comp=Z,2µm,21.0s,baz=111,slow=36
KAPI **Kappang** 47.96 278 *i* P P 08 44 22.0 -0.9
KAPI **Kappang** 47.96 278 P P 08 44 24.4 +1.5
NWAO **Narrogin (SRO)** 47.98 240 P P 08 44 24.3 +1.5
MORW **Morawa** 48.63 246 P P 08 44 27.9 0.0
baz=49,SNR=5.0
MORW **Morawa** 48.63 246 P P 08 44 25.2 -2.7
MORW IAmb IAmb 08 44 43.5
comp=Z,53nm,1.1s
MORW **Morawa** 48.63 246 P P 08 44 31.2 +3.3
comp=Z,43nm,1.0s
MUN **Mundaring** 48.73 242 P P 08 44 28.8 +0.3
baz=49,SNR=4.3
MUN **Mundaring** 48.73 242 P P 08 44 31.4 +2.8
TOLI2 **Tolitoli** 49.08 286 P P 08 44 27.3 -4.2
JCJ **Chichijima** 49.59 330 LR LR 09 05 57.7
comp=Z,794nm,18.5s,baz=140,slow=37
MPSI **Mapaga** 49.61 285 P P 08 44 34.3 -1.2
comp=Z,2µmcomp=Z,1µmcomp=Z,46nm,0.9s
IGBI **Denpasar** 51.35 272 P P 08 44 48.8 +0.1
comp=Z,121nm,0.8s
MYLDM **Lahad Datu** 52.80 290 P P 08 44 59.0 -0.5
MYLDM IAmb IAmb 08 45 38.8
comp=Z,48nm,1.3s
BBKI **Banjar Baru** 53.09 278 P P 08 45 02.0 +0.3
comp=Z,2µmcomp=Z,32nm,0.9s
TGY **Tagaytay City** 54.90 301 LR LR 09 06 33.5
comp=Z,1µm,20.1s,baz=128,slow=34
JHJ **Hachijo jima 2** 55.78 332 LR LR 09 10 03.3
comp=Z,752nm,18.2s,baz=151,slow=37
JOW **Kunigami** 57.26 318 LR LR 09 10 23.5
comp=Z,2µm,18.4s,baz=134,slow=36
JOW **Kunigami** 57.26 318 P P 08 45 33.3 +1.8
SBUM **Sibu** 57.52 284 P P 08 45 29.8 -3.8
KPJI **Karang Pucung** 57.68 272 P P 08 45 34.2 -0.5
comp=Z,63nm,0.9s
JYT **Yasato** 58.24 334 P P 08 45 36.4 -1.8
INU **Inuyama** 58.90 331 P P 08 45 40.6 -2.2
INU IAmb IAmb 08 45 45.5
comp=Z,46nm,1.5s
INU **Inuyama** 58.90 331 P P 08 45 45.4 +2.6
comp=Z,20nm,1.2s
JGF **Kuroka** 58.95 332 P P 08 45 42.1 -1.1
JGF IAmb IAmb 08 45 52.5
comp=Z,17nm,0.8s
KSM **Kuching** 58.97 282 P P 08 45 42.6 -1.1
KSM IAmb IAmb 08 45 46.6
comp=Z,30nm,1.0s
KSM **Kuching** 58.97 282 P P 08 45 45.6 +1.8
LEM **Lembang** 59.07 272 LR LR 09 11 01.2
comp=Z,3µm,21.4s,baz=110,slow=36
JSU **Suzuyama** 59.29 323 P P 08 45 44.9 -0.7
JSU IAmb IAmb 08 45 51.2
comp=Z,38nm,1.0s
MJAR **Matsushiro Arr** 59.35 333 P P 08 45 44.5 -1.4
comp=Z,15nm,1.1s,baz=234,slow=4.3,SNR=9.9
MJAR **Matsushiro Arr** 59.35 333 P P 08 45 44.4 -1.6
MJAR pmax pmax
comp=Z,16nm,1.1s
MJAR **Matsushiro Arr** 59.35 333 P P 08 45 44.4 -1.6
MAJO **Matsushiro** 59.35 333 P P 08 45 43.1 -2.9
MAJO pmax pmax
comp=Z,27nm,1.1s
MAJO **Matsushiro** 59.35 333 P P 08 45 43.0 -2.9
MAJO IAmb IAmb 08 45 54.4
comp=Z,27nm,1.1s
MAJO **Matsushiro** 59.35 333 P P 08 45 47.6 +1.6
MJB9 **Matsu-Tunnel** 59.36 333 P P 08 45 43.6 -2.5
MJB9 IAmb IAmb 08 45 54.4
comp=Z,28nm,1.1s
JMM **Marumori** 59.41 336 P P 08 45 44.1 -2.1
JMM IAmb IAmb 08 45 55.5
comp=Z,36nm,1.0s
DBJI **Dramaga** 59.97 272 P P 08 45 50.7 0.0
comp=Z,14µmcomp=Z,58nm,1.1s
TPI **Tanjungpandan** 60.15 276 P P 08 46 04.6 +13
JNU **Nakatsue** 60.26 325 P P 08 45 51.1 -1.2
comp=Z,22nm,0.8s,baz=80,slow=3.6,SNR=10
JNU **Nakatsue** 60.26 325 P P 08 45 50.0 -2.3
JNU IAmb IAmb 08 45 54.5
comp=Z,37nm,1.0s
JNU **Nakatsue** 60.26 325 P P 08 45 54.5 +2.2
TPUB **Ta-pu** 60.29 310 P P 08 45 56.7 +4.0
SSLB **Suanglung** 60.34 310 P P 08 45 50.9 -2.2
SSLB IAmb IAmb 08 46 03.2
comp=Z,39nm,1.0s
SSLB **Suanglung** 60.34 310 P P 08 45 54.0 +0.9
YHNB **Yeheng** 60.57 311 P P 08 45 56.5 +1.8
VNDA **Vanda** 61.26 181 P P 08 45 59.0 +0.5
comp=Z,4.9nm,0.7s,baz=7.4,slow=6.1,SNR=31
VNDA LR LR 09 10 08.6
comp=Z,2µm,18.5s,baz=18,slow=34
VNDA **Vanda** 61.26 181 P P 08 45 58.5 0.0
VNDA pmax pmax
comp=Z,124nm,1.9s
VNDA **Vanda** 61.26 181 P P 08 45 58.5 0.0
SBA **Scott Base** 61.53 180 P P 08 46 01.0 +0.7
SBA pmax pmax
comp=Z,68nm,1.3s
SBA **Scott Base** 61.53 180 P P 08 46 01.0 +0.7
CASY **Casey** 62.06 203 P P 08 46 03.5 -0.6
CASY **Casey** 62.06 203 IAMs_20 IAMs_20 09 08 59.0
comp=Z,3µm,19.0s
KASI **Kota Agung** 62.40 272 P P 08 46 13.1 +5.9
QZH **Quanzhou** 62.76 310 ⇓ *i* P P 08 46 07.0 -2.3
QZH S S 08 54 35.3 -2.6
QZH pmax pmax
comp=Z,550nm,5.9s
QZH LR LR
comp=Z,470nm,16.6s
QZH LR LR
comp=Z,960nm,17.5s
QZH LR LR
comp=Z,1µm,20.8s
LWLI **Liwa** 62.95 273 P P 08 46 22.1 +11
MDSI **Maura Dua** 62.98 273 P P 08 46 08.9 -2.2
comp=Z,444nmcomp=Z,12nm,2.0s
ASAJ **Asahikawa** 64.27 340 P P 08 46 17.9 -1.0
comp=Z,34nm,1.1s,baz=322,slow=22,SNR=3.6
ASAJ **Asahikawa** 64.27 340 P P 08 46 17.9 -1.0
TJN **Taejon** 64.61 325 *ce*P P 08 46 21.9 +0.6
SSE **Sheshan** 64.72 317 P P 08 46 22.3 +0.2
SSE S S 08 55 04.5 +2.5
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,220nm,7.3s
SSE LR LR
comp=Z,330nm,17.1s
SSE LR LR
comp=Z,700nm,17.2s
KSRS **Korea Array** 65.09 326 P P 08 46 23.9 -0.4
comp=Z,4.5nm,0.9s,baz=141,slow=7.2,SNR=9.7
KSRS LR LR 09 14 16.0
comp=Z,1µm,18.1s,baz=145,slow=36
KSRS **Korea Array** 65.09 326 P P 08 46 24.0 -0.4
KSRS **Korea Array** 65.09 326 P P 08 46 23.9 -0.4
KSAR **Wonju Array Be** 65.11 326 P P 08 46 23.1 -1.4
KSAR **Wonju Array Be** 65.11 326 P P 08 46 23.1 -1.4
QIZ **Qiongzhong** 66.56 300 P P 08 46 33.8 -0.5
QIZ S S 08 55 26.5 +1.4
QIZ pmax pmax
comp=Z,350nm,9.3s
QIZ LR LR
comp=Z,730nm,19.1s
QIZ LR LR
comp=Z,730nm,24.0s
QIZ LR LR
comp=Z,1µm,25.0s
YSS **Yuzh-Sakhalins** 66.77 342 *e*P P 08 46 39.0 +4.0
YSS *e* 08 49 01.3
YSS *e*S S 08 55 31.4 +5.0
YSS *e*PS PnS 08 56 01.1 +13
YSS pmax pmax
comp=Z,60nm,1.0s
YSS **Yuzh-Sakhalins** 66.77 342 P P 08 46 37.4 +2.4
NJ2 **Nanjing** 66.86 316 *e*P P 08 46 36.8 +0.9
NJ2 sP sP 08 46 42.5 -0.3
NJ2 PcS 08 51 04.3
NJ2 S S 08 55 31.0 +2.8
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,3.5s
NJ2 LR LR
comp=Z,2µm,17.5s
NJ2 LR LR
comp=Z,930nm,16.1s
NJ2 LR LR
comp=Z,1µm,19.6s
TEY **Ternei** 67.17 337 *e*P P 08 46 38.8 +1.3
MSHR **Mys Shultsa** 67.42 332 *ce*P P 08 46 40.7 +1.5
MSHR pmax pmax
comp=Z,19nm,1.3s
COCO **West Island** 68.14 263 IAMs_20 IAMs_20 09 16 38.3
comp=Z,4µm,20.0s
USRK **Ussuriysk Ar.** 68.34 333 P P 08 46 45.3 +0.3
comp=Z,18nm,1.0s,baz=114,slow=4.6,SNR=15
USRK LR LR 09 12 29.6
comp=Z,678nm,21.5s,baz=132,slow=32
USRK **Ussuriysk Ar.** 68.34 333 P P 08 46 45.3 +0.3
USRK **Ussuriysk Ar.** 68.34 333 P P 08 46 44.4 -0.6
CNSH **ChangSha** 68.77 310 ⇑ P P 08 46 49.5 +1.5
CNSH S S 08 55 52.8 +1.6
CNSH pmax pmax
comp=Z,14nm,0.8s
CNSH LR LR
comp=Z,820nm,17.6s
CNSH LR LR
comp=Z,1µm,17.9s
CNSH LR LR
comp=Z,2µm,21.1s
SHEM **Shemya Is, Ala** 69.03 4 LR LR 09 12 16.3
comp=Z,4µm,20.4s,baz=190,slow=32
WHN **Wuhan** 69.05 312 ⇓ P P 08 46 50.8 +1.0
WHN S S 08 55 51.0 -3.5
WHN LR LR
comp=Z,390nm,12.7s
WHN LR LR
comp=Z,5µm,19.5s
ADK **Adak** 69.35 11 IAMs_20 IAMs_20 09 12 05.1
comp=Z,3µm,20.0s
PET **Petropavlovsk** 69.48 354 *e*P P 08 46 51.2 -0.7
PET *e*S S 08 55 55.4 -3.2
PET *e* 08 56 46.4
PET pmax pmax
comp=Z,53nm,1.5s
PET pmax pmax
comp=Z,700nm,7.4s
PET pmax pmax
comp=Z,1µm,6.5s
PET **Petropavlovsk** 69.48 354 IAMs_20 IAMs_20 09 11 55.6
comp=Z,3µm,20.0s
DL2 **Dalian** 69.61 323 ⇑ *i* P P 08 46 53.0 0.0
DL2 S S 08 56 01.3 +0.6
DL2 pmax pmax
comp=Z,61nm,1.0s
DL2 pmax pmax
comp=Z,490nm,9.6s
DL2 LR LR
comp=Z,1µm,15.4s
DL2 LR LR
comp=Z,970nm,18.7s
DL2 LR LR
comp=Z,1µm,18.2s
PEA0B **Petropavlovsk-** 69.66 354 *i* P P 08 46 52.8 -0.2
PETK **Petropavlovsk-** 69.66 354 P P 08 46 52.7 -0.3
comp=Z,22nm,1.0s,baz=142,slow=7.4,SNR=8.6
PETK LR LR 09 14 16.3
comp=Z,2µm,19.5s,baz=156,slow=33
PETK **Petropavlovsk-** 69.66 354 P P 08 46 52.7 -0.3
PETK **Petropavlovsk-** 69.66 354 P P 08 46 52.4 -0.6
MDJ **Mudanjiang** 69.72 332 P P 08 46 52.6 -1.0
MDJ IAmb IAmb 08 47 02.2
comp=Z,36nm,0.8s
MDJ **Mudanjiang** 69.72 332 P P 08 46 53.3 -0.3
MDJ S S 08 56 05.0 +3.2
MDJ SS SS 09 00 29.5 -1.2
MDJ pmax pmax
comp=Z,11nm,1.5s
MDJ LR LR
comp=Z,1µm,16.2s
MDJ LR LR
comp=Z,1µm,16.3s
MDJ LR LR
comp=Z,1µm,18.5s
PSI **Prapat** 70.15 279 LR LR 09 20 50.0
comp=Z,785nm,18.2s,baz=133,slow=39
SNY **Shenyang** 70.57 327 ⇑ P P 08 46 56.3 -2.5
SNY S S 08 56 13.0 +1.2
SNY SKS SKSac 08 56 56.0 -4.1
SNY pmax pmax
comp=Z,590nm,9.0s
SNY LR LR
comp=Z,2µm,16.6s
SNY LR LR
comp=Z,980nm,18.5s
SNY LR LR
comp=Z,2µm,19.2s
TIA **Tai'an** 70.57 319 ⇓ P P 08 47 00.0 +1.0
TIA S S 08 56 16.3 +4.1
TIA pmax pmax
comp=Z,12nm,0.9s
TIA pmax pmax
comp=Z,490nm,7.8s
TIA LR LR
comp=Z,1µm,17.5s
TIA LR LR
comp=Z,830nm,12.9s
TIA LR LR
comp=Z,2µm,16.0s
GSI **Gunungsitoli** 70.97 277 P P 08 47 13.8 +12
GSI **Gunungsitoli** 70.97 277 P P 08 47 03.7 +1.8
CN2 **Changchun** 71.05 329 *e*P P 08 47 01.3 -0.4
CN2 *e*S S 08 56 17.8 +0.5
CN2 SS SS 09 00 54.8 +3.6
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,600nm,10.3s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,1µm,19.0s
BNX **BinXian** 71.57 332 ⇑ P P 08 47 08.5 +3.7
BNX PcP PcP 08 47 23.0 -1.1
BNX S S 08 56 31.8 +8.5
BNX sS sS 08 56 36.5 +4.8
BNX pmax pmax
comp=Z,38nm,0.9s
BNX pmax pmax
comp=Z,1µm,8.3s
BNX LR LR
comp=Z,2µm,11.9s
BNX LR LR
comp=Z,2µm,14.7s
BNX LR LR
comp=Z,3µm,16.7s
ENH **Enshi** 72.42 310 IAMs_20 IAMs_20 09 15 40.7
comp=Z,2µm,21.0s
KLR **Kul'dur** 72.49 336 P P 08 47 10.4 +0.1
comp=Z,15nm,1.1s,baz=125,slow=6.8,SNR=18
KLR LR LR 09 16 06.0
comp=Z,518nm,20.4s,baz=150,slow=34
KLR **Kul'dur** 72.49 336 *i* P P 08 47 09.3 -1.0

KLR pmax pmax
comp=Z,79nm,1.3s
KLR Kul'dur 72.49 336 P **P** **08 47 10.4 +0.1**
LYN LuoYang 72.64 315 *e*P **P** **08 47 11.5 0.0**
LYN sP sP 08 47 18.3 -0.1
LYN S **S** **08 56 37.3 +1.2**
LYN pmax pmax
comp=Z,50nm,2.2s
LYN pmax pmax
comp=Z,710nm,9.0s
LYN LR LR
comp=Z,2µm,17.3s
LYN LR LR
comp=Z,2µm,18.4s
LYN LR LR
comp=Z,2µm,18.6s
GYA Guiyang 72.67 305 ⇓*i*P **P** **08 47 13.8 +1.8**
GYA S **S** **08 56 38.0 +1.0**
GYA SS **SS** **09 01 21.0 +4.1**
GYA pmax pmax
comp=Z,24nm,1.0s
GYA pmax pmax
comp=Z,430nm,3.6s
GYA LR LR
comp=Z,720nm,21.4s
GYA LR LR
comp=Z,380nm,17.8s
GYA LR LR
comp=Z,840nm,18.4s
HNS HongShan 72.83 319 ⇓P **P** **08 47 13.0 +0.4**
HNS S **S** **08 56 38.8 +0.7**
HNS pmax pmax
comp=Z,42nm,1.9s
HNS pmax pmax
comp=Z,760nm,7.8s
HNS LR LR
comp=Z,1µm,19.4s
HNS LR LR
comp=Z,1µm,19.6s
HNS LR LR
comp=Z,2µm,19.6s
NKL Nikolayevsk 72.92 344 *e*P **P** **08 47 14.3 +1.6**
NKL pmax pmax
comp=E,7.0nm,0.7s
NKL pmax pmax
comp=N,1.0nm,1.1s
NKL pmax pmax
comp=Z,51nm,1.1s
BJT Baijiatuau 73.53 321 P **P** **08 47 15.9 -0.8**
BJT pmax pmax
comp=Z,18nm,0.8s
BJT Baijiatuau 73.53 321 P **P** **08 47 15.9 -0.8**
BJT IAmb IAmb 08 47 22.6
comp=Z,18nm,0.8s
BJT Baijiatuau 73.53 321 IAMs_20 IAMs_20 09 16 49.5
comp=Z,2µm,20.0s
BJI Beijing 73.55 321 P **P** **08 47 16.8 +0.1**
BJI S **SKiKP** **08 56 48.3 +1.5**
BJI pmax pmax
comp=Z,15nm,1.1s
BJI pmax pmax
comp=Z,580nm,11.5s
BJI LR LR
comp=Z,780nm,20.2s
BJI LR LR
comp=Z,2µm,20.2s
BJI LR LR
comp=Z,2µm,19.6s
QSPA South Pole Qui 73.69 180 LR LR 09 16 48.1
comp=Z,1µm,19.4s,baz=36,slow=33
QSPA South Pole Qui 73.69 180 P **P** **08 47 17.1 -0.3**
QSPA South Pole Qui 73.69 180 IAMs_20 IAMs_20 09 19 58.3
comp=Z,2µm,18.0s
TIY Taiyuan 74.47 318 *e*P **P** **08 47 25.3 +3.0**
TIY S **S** **08 56 58.0 +1.1**
TIY SS **SS** **09 01 49.3 +5.3**
TIY pmax pmax
comp=Z,440nm,3.8s
TIY LR LR
comp=Z,950nm,15.9s
TIY LR LR
comp=Z,700nm,13.1s
TIY LR LR
comp=Z,2µm,20.1s
XAN Xi'an 74.81 313 ⇑P **P** **08 47 25.8 +1.5**
XAN pP pP 08 47 29.0 -0.4
XAN sP sP 08 47 32.0 +0.8
XAN S **S** **08 57 01.0 +0.3**
XAN SS **SS** **09 01 45.0 -4.2**
XAN pmax pmax
comp=Z,39nm,0.9s
XAN pmax pmax
comp=Z,740nm,6.5s
XAN LR LR
comp=Z,2µm,18.4s
XAN LR LR
comp=Z,1µm,18.7s
XAN LR LR
comp=Z,3µm,19.7s
KMI Kunming 75.19 302 ⇑P **P** **08 47 29.0 +2.0**
KMI PcP **PcP** **08 47 43.3 +2.9**
KMI PP **PP** **08 50 15.0 -0.6**
KMI S **S** **08 57 07.3 +1.6**
KMI pmax pmax
comp=Z,47nm,0.9s
KMI pmax pmax
comp=Z,490nm,5.5s
KMI LR LR
comp=Z,760nm,21.0s
KMI LR LR
comp=Z,800nm,24.2s
KMI LR LR
comp=Z,1µm,30.8s
CMAR Chiang Mai Arr 75.65 294 P **P** **08 47 29.6 +0.2**
comp=Z,4.3nm,0.7s,baz=131,slow=4.2,SNR=19
CMAR PP **PP** **08 50 23.8 +4.5**
comp=Z,1.3nm,0.3s,baz=120,slow=6.0,SNR=4.4
CMAR LR LR 09 22 36.3
comp=Z,394nm,18.5s,baz=120,slow=37
CMAR Chiang Mai Arr 75.65 294 P **P** **08 47 29.6 +0.2**
CMAR Chiang Mai Arr 75.65 294 P **P** **08 47 28.6 -0.8**
CHTO Chiang Mai 75.78 295 P **P** **08 47 32.3 +2.1**
XLT XiLinHaoTe 76.03 324 *e*P **P** **08 47 32.5 +1.3**
XLT S **S** **08 57 15.5 +1.5**
XLT SS **SS** **09 02 11.5 +4.0**
XLT pmax pmax
comp=Z,43nm,0.8s
XLT pmax pmax
comp=Z,650nm,7.0s
XLT LR LR
comp=Z,140nm,15.7s
XLT LR LR
comp=Z,700nm,17.7s
XLT LR LR
comp=Z,1µm,19.3s
PZH PanZhiHua 76.61 303 P **P** **08 47 36.5 +1.6**
PZH pP **pP** **08 47 40.3 +0.3**
PZH sP **sP** **08 47 42.8 +1.0**
PZH S **S** **08 57 21.0 0.0**
PZH SS **SS** **09 02 17.0 +0.1**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,440nm,11.8s
PZH LR LR
comp=Z,2µm,23.2s
PZH LR LR
comp=Z,3µm,21.8s
PZH LR LR
comp=Z,3µm,22.1s
HHC Hu-ho-hao-te 76.84 320 *e*P **P** **08 47 36.5 +0.6**
MA2 Magadan 76.84 351 P **P** **08 47 33.4 -1.8**
comp=Z,6.9nm,0.8s,baz=160,slow=5.2,SNR=8.4
MA2 LR LR 09 16 20.9
comp=Z,914nm,21.4s,baz=170,slow=32
MA2 Magadan 76.84 351 ⇑*e*P **P** **08 47 32.9 -2.4**
MA2 pmax pmax
comp=Z,44nm,2.4s
MA2 Magadan 76.84 351 P **P** **08 47 32.6 -2.6**
MA2 Magadan 76.84 351 P **P** **08 47 35.7 +0.4**
CD2 Chengdu 77.03 308 P **P** **08 47 37.3 +0.2**
CD2 S **S** **08 57 26.5 +1.2**
CD2 SS **SS** **09 02 19.8 -3.1**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,570nm,8.8s
CD2 LR LR
comp=Z,1µm,18.0s
CD2 LR LR
comp=Z,1µm,18.6s
BTO Baotou 77.66 319 *e*P **P** **08 47 41.0 +0.5**
HIA Hailar 77.70 330 P **P** **08 47 39.6 -0.8**
HIA pmax pmax
comp=Z,64nm,1.6s
HIA Hailar 77.70 330 P **P** **08 47 39.6 -0.8**
HIA IAmb IAmb 08 47 47.9
comp=Z,64nm,1.6s
ZEA Zeya 77.79 337 *e*P **P** **08 47 41.4 +0.7**
ZEA *e*S **S** **08 57 36.5 +4.0**
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA pmax pmax
comp=E,100nm,7.1s
ZEA pmax pmax
comp=Z,400nm,9.4s
ZEA smax smax
comp=E,700nm,17.5s
ZEA smax smax
comp=N,700nm,17.8s
LZH Lanzhou 79.44 313 *e*P **P** **08 47 51.8 +1.3**
LZH sP sP 08 47 56.5 -0.9
LZH *e*S **S** **08 57 53.3 +2.0**
LZH SS **SS** **09 03 00.3 +1.0**
LZH pmax pmax
comp=N,28nm,1.3s
LZH pmax pmax
comp=N,550nm,4.6s
LZH LR LR
comp=N,1µm,16.5s
LZH LR LR
comp=N,890nm,17.3s
LZH LR LR
comp=N,1µm,19.5s
SEY Seymchan 79.88 353 P **P** **08 47 50.5 -1.5**
comp=N,10nm,1.0s,baz=158,slow=5.8,SNR=24
SEY LR LR 09 19 52.2
comp=N,2µm,19.3s,baz=165,slow=33
SEY Seymchan 79.88 353 *i* P **P** **08 47 50.9 -1.1**
SEY pmax pmax
comp=Z,29nm,1.3s
SEY Seymchan 79.88 353 P **P** **08 47 50.5 -1.5**
MAW Mawson 80.42 202 P **P** **08 47 54.7 -0.3**
comp=Z,12nm,0.9s,baz=136,slow=6.9,SNR=4.0
MAW LR LR 09 19 35.6
comp=Z,1µm,20.9s,baz=104,slow=33
MAW Mawson 80.42 202 P **P** **08 47 53.8 -1.2**
MAW pmax pmax
comp=Z,6.0nm,1.1s
MAW Mawson 80.42 202 P **P** **08 47 53.8 -1.2**
KDAK Kodiak Island 80.95 20 LR LR 09 18 13.6
comp=Z,2µm,20.3s,baz=234,slow=32
KDAK Kodiak Island 80.95 20 IAMs_20 IAMs_20 09 17 53.6
comp=Z,3µm,20.0s
P18K Big Mountain, 81.39 18 IAMs_20 IAMs_20 09 17 36.9
comp=Z,2µm,20.0s
O18K Koktuh Hills 81.77 18 IAMs_20 IAMs_20 09 19 41.0
comp=Z,3µm,20.0s
P19K Oil Pt 82.21 19 IAMs_20 IAMs_20 09 18 21.8
comp=Z,2µm,20.0s
O19K Port Alsworth 82.31 18 P **P** **08 48 03.2 -1.7**
O19K IAMs_20 IAMs_20 09 18 26.3
comp=Z,2µm,20.0s
HOM Homer 82.72 20 IAMs_20 IAMs_20 09 18 07.2
comp=Z,3µm,20.0s
CNPM China Poot 82.75 20 IAMs_20 IAMs_20 09 18 07.1
comp=Z,3µm,20.0s
BRLK Bradley Lake 83.05 20 P **P** **08 48 08.7 -0.2**
BRLK IAMs_20 IAMs_20 09 18 37.5
comp=Z,3µm,21.0s
ANM Nome 83.33 12 P **P** **08 48 08.5 -1.7**
ANM pmax pmax
comp=Z,22nm,1.2s
ANM Nome 83.33 12 P **P** **08 48 08.5 -1.7**
ANM IAmb IAmb 08 48 16.0
comp=Z,22nm,1.2s
ANM IAMs_20 IAMs_20 09 20 51.7
comp=Z,2µm,20.0s
ULN Ulaanbaatar 83.46 324 *ce*P **P** **08 48 11.2 -0.3**
ULN pmax pmax
comp=Z,26nm,1.0s
ULN Ulaanbaatar 83.46 324 P **P** **08 48 10.1 -1.4**
ULN IAmb IAmb 08 48 27.9
comp=Z,28nm,0.9s
YAK Yakutsk 83.58 343 P **P** **08 48 10.4 -1.2**
comp=Z,14nm,0.5s,baz=346,slow=1.1,SNR=1.5
YAK LR LR 09 26 22.1
comp=Z,1µm,18.0s,baz=142,slow=36
YAK Yakutsk 83.58 343 *e*P **P** **08 48 09.9 -1.6**
YAK *e**PP **pP** **08 48 16.5 -0.1**
YAK *e* 08 51 21.6
YAK *e*PPP PPP 08 53 12.3
YAK *e*S **S** **08 58 30.0 -2.6**
YAK *e*SS **SS** **09 03 58.9 -0.6**
YAK *e*SSS SSS 09 07 26.8
YAK pmax pmax
comp=Z,19nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,161nm,4.1s
YAK pmax pmax
comp=N,66nm,3.6s
YAK pmax pmax
comp=E,94nm,3.1s
YAK smax smax
comp=E,564nm,8.7s
YAK smax smax
comp=N,104nm,3.3s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=N,791nm,16.0s
YAK MLR MLR
comp=E,452nm,18.0s
YAK Yakutsk 83.58 343 P **P** **08 48 10.3 -1.2**
YAK IAMs_20 IAMs_20 09 28 14.7
comp=Z,2µm,19.0s
L19K White Mountain 83.75 17 P **P** **08 48 10.0 -2.5**
L19K IAmb IAmb 08 48 30.1
comp=Z,57nm,1.6s
GTA Gaotai 83.81 314 ⇑P **P** **08 48 13.8 +0.3**
GTA pP pP 08 48 17.8 -0.8
GTA sP sP 08 48 20.5 +0.1
GTA S **S** **08 58 35.0 -1.3**
GTA sS ScS 08 58 48.3 -0.8
GTA SS **SS** **09 04 09.5 +5.2**
GTA pmax pmax
comp=Z,12nm,1.7s
GTA pmax pmax
comp=Z,540nm,8.0s
GTA LR LR
comp=Z,790nm,20.4s
GTA LR LR
comp=Z,1µm,20.7s
GTA LR LR
comp=Z,2µm,19.6s
SONM Songino Array 83.81 324 P **P** **08 48 12.2 -1.1**
comp=Z,5.6nm,0.8s,baz=141,slow=3.6,SNR=18
SONM Songino Array 83.81 324 P **P** **08 48 12.2 -1.1**
SONM Songino Array 83.81 324 P **P** **08 48 12.2 -1.1**
SONM IAmb IAmb 08 48 30.2
comp=Z,21nm,1.1s
O22K Cooper Landing 83.97 20 IAMs_20 IAMs_20 09 25 55.4
comp=Z,2µm,20.0s
TTA Tatalina 84.05 16 P **P** **08 48 13.9 -0.2**
TTA pmax pmax
comp=Z,29nm,1.5s
TTA Tatalina 84.05 16 P **P** **08 48 13.9 -0.2**
TTA IAmb IAmb 08 48 17.1
comp=Z,29nm,1.5s
BILL Bilibino 84.15 360 *de*P **P** **08 48 12.8 -1.5**
BILL *e* 08 48 18.0
BILL *i* *SP **sP** **08 48 20.3 -0.8**
BILL 08 51 27.0
BILL *e*S **S** **08 58 40.7 +2.5**
BILL *e* 08 59 49.6
BILL SS **SS** **09 04 10.0 +2.2**
BILL pmax pmax
comp=Z,47nm,1.2s
BILL MLR MLR
comp=Z,1µm,19.0s
BILL Bilibino 84.15 360 P **P** **08 48 13.3 -1.1**
SHL Shillong 84.37 299 P **P** **08 48 14.8 -1.9**
SHL pmax pmax
comp=Z,73nm,0.9s
SHL Shillong 84.37 299 P **P** **08 48 14.8 -1.9**
RC01 Rabbit Creek A 84.43 19 IAMs_20 IAMs_20 09 19 33.4
comp=Z,3µm,20.0s
M22K Willow 84.81 19 P **P** **08 48 16.7 -1.1**
M22K IAMs_20 IAMs_20 09 20 08.5
comp=Z,3µm,20.0s
MCCM Marconi Confer 84.87 48 IAMs_20 IAMs_20 09 16 49.7
comp=Z,3µm,22.0s
K20K Telida 84.92 16 P **P** **08 48 15.8 -2.6**
K20K IAmb IAmb 08 48 33.5
comp=Z,50nm,1.5s
BELA Belgrano 2 85.12 175 P **P** **08 48 18.3 -1.1**
GLI Glacier Island 85.14 21 IAMs_20 IAMs_20 09 19 59.3
comp=Z,2µm,20.0s
JCC Jacoby Creek, 85.23 45 IAMs_20 IAMs_20 09 19 38.9
comp=Z,2µm,20.0s
FID Port Fidalgo 85.25 21 IAMs_20 IAMs_20 09 19 38.9
comp=Z,2µm,20.0s
CUT Chulitna 85.26 18 P **P** **08 48 18.9 -1.1**
SAO San Andreas Ge 85.33 50 IAMs_20 IAMs_20 09 31 32.0
comp=Z,2µm,18.0s
SML Sawmill 85.41 19 IAMs_20 IAMs_20 09 20 24.5
comp=Z,2µm,20.0s
CAST Castle Rocks 85.51 17 P **P** **08 48 19.6 -1.8**
CAST IAmb IAmb 08 48 22.8
comp=Z,15nm,0.8s
J20K Nowinta River 85.55 16 P **P** **08 48 20.9 -0.6**
J20K IAmb IAmb 08 48 30.5
comp=Z,37nm,1.5s
J20K IAMs_20 IAMs_20 09 23 48.9
comp=Z,2µm,19.0s
SUCK Suckling Hills 85.73 22 IAMs_20 IAMs_20 09 30 44.0
comp=Z,2µm,18.0s
BOD Bodaibo 85.94 335 *e*P **P** **08 48 20.9 -2.7**
BOD pmax pmax
comp=Z,27nm,2.0s
KLU Klutina 85.97 21 IAMs_20 IAMs_20 09 20 14.4
comp=Z,2µm,20.0s
BERG Berg Lake 85.98 22 IAMs_20 IAMs_20 09 31 23.4
comp=Z,2µm,18.0s
GOMU GeErMu 86.04 309 P **P** **08 48 26.5 +1.4**
GOMU SKS **SKSac** **08 58 51.5 +0.6**
GOMU S **ScS** **08 59 03.8 -4.3**
GOMU pmax pmax
comp=Z,7.0nm,1.7s
GOMU pmax pmax
comp=Z,410nm,7.5s
GOMU LR LR
comp=Z,340nm,20.2s
GOMU LR LR
comp=Z,810nm,21.4s
GOMU LR LR
comp=Z,1µm,21.2s
BMRM Bremner River 86.06 21 IAMs_20 IAMs_20 09 20 45.6
comp=Z,2µm,20.0s
M02C Callahan 86.28 45 IAMs_20 IAMs_20 09 20 23.6
comp=Z,2µm,20.0s
WAX Waxell Ridge 86.32 22 IAMs_20 IAMs_20 09 22 20.7
comp=Z,2µm,20.0s
J01E Myrtle Point 86.33 43 IAMs_20 IAMs_20 09 17 53.8
comp=Z,2µm,22.0s
M24K Tolsona, Glenn 86.33 20 IAMs_20 IAMs_20 09 20 58.8
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 86.35 17 IAMs_20 IAMs_20 09 21 57.1
comp=Z,3µm,20.0s
ORV Oroville 86.44 47 IAMs_20 IAMs_20 09 19 33.1
comp=Z,2µm,20.0s
RND Reindeer 86.44 18 P **P** **08 48 24.3 -1.8**
RND pmax pmax
comp=Z,13nm,1.0s
RND Reindeer 86.44 18 P **P** **08 48 24.3 -1.8**
RND IAMs_20 IAMs_20 09 22 23.6
comp=Z,2µm,20.0s
LSA Lhasa 86.45 302 P **P** **08 48 28.8 +1.4**
LSA LR LR
comp=Z,630nm,19.4s
LSA LR LR
comp=Z,550nm,17.5s
YBH Yreka Blue Hor 86.52 45 LR LR 09 20 24.2
comp=Z,1µm,19.8s,baz=246,slow=31
YBH Yreka Blue Hor 86.52 45 IAMs_20 IAMs_20 09 20 13.0
comp=Z,2µm,19.0s
O03E Paynes Creek 86.54 46 IAMs_20 IAMs_20 09 17 53.6
comp=Z,2µm,22.0s
TGL Tana Glacier 86.54 22 IAMs_20 IAMs_20 09 34 03.5
comp=Z,2µm,18.0s
ISLE Juniper Island 86.61 22 IAMs_20 IAMs_20 09 23 09.5
comp=Z,1µm,19.0s
CMB Columbia Colle 86.62 49 IAMs_20 IAMs_20 09 17 56.0
comp=Z,2µm,21.0s
VRDI Verde Repeater 86.64 22 IAMs_20 IAMs_20 09 21 05.1
comp=Z,1µm,20.0s
HUMO Hull Mountain 86.73 44 IAMs_20 IAMs_20 09 18 19.5
comp=Z,2µm,21.0s
ZAK Zakamensk 86.89 325 *e*P **P** **08 48 26.5 -2.0**
ZAK pmax pmax
comp=Z,20nm,1.3s
RDOG Red Dog Mine 86.90 11 P **P** **08 48 27.0 -1.1**
RDOG IAmb IAmb 08 48 33.3
comp=Z,41nm,1.5s
I21K Tanana 86.92 16 P **P** **08 48 27.8 -0.4**
I21K IAmb IAmb 08 48 34.3
comp=Z,18nm,1.1s
TABL Table Mountain 86.95 23 IAMs_20 IAMs_20 09 26 13.3
comp=Z,2µm,19.0s
L04D Klamath Falls 87.00 44 IAMs_20 IAMs_20 09 18 48.7
comp=Z,2µm,20.0s
H21K Melozitna Rive 87.08 15 P **P** **08 48 27.5 -1.5**
H21K IAmb IAmb 08 49 17.5
comp=Z,16nm,1.2s
H21K IAMs_20 IAMs_20 09 22 46.2
comp=Z,2µm,19.0s
IMAR Indian Mountai 87.10 15 P **P** **08 48 27.9 -1.2**
ISA Isabella, Lake 87.11 52 P **P** **08 48 29.7 -0.3**
ISA pmax pmax
comp=Z,46nm,2.0s
ISA Isabella, Lake 87.11 52 P **P** **08 48 29.7 -0.3**
ISA IAmb IAmb 08 49 28.5
comp=Z,46nm,1.9s
SYO Syowa Base 87.18 197 ⇓*e*P **P** **08 48 28.8 -0.8**
SYO Syowa Base 87.18 197 ⇓*e*PcP **PcP** **08 48 31.2 -0.5**
BCPM Bancas Point 87.20 24 IAMs_20 IAMs_20 09 24 31.1
comp=Z,2µm,19.0s
NEA2 Nenana 87.27 17 P **P** **08 48 29.0 -1.0**
NEA2 IAMs_20 IAMs_20 09 23 05.4
comp=Z,3µm,20.0s
IRK Irkutsk 87.30 327 *e*P **P** **08 48 31.6 +1.2**
IRK pmax pmax
comp=Z,55nm,3.4s
COR Corvallis 87.36 42 IAMs_20 IAMs_20 09 23 20.1
comp=Z,2µm,20.0s
WRH Wood River Hil 87.46 18 P **P** **08 48 29.9 -0.9**
WRH IAMs_20 IAMs_20 09 22 52.5
comp=Z,2µm,20.0s
J04D Umpqua Nationa 87.57 44 IAMs_20 IAMs_20 09 19 06.6
comp=Z,2µm,20.0s
CCB Clear Creek Bu 87.68 18 IAMs_20 IAMs_20 09 23 09.1
comp=Z,2µm,20.0s
MDM Murphy Dome 87.78 17 P **P** **08 48 30.1 -2.3**
MDM IAMs_20 IAMs_20 09 23 21.0
comp=Z,2µm,20.0s
TCOL CIGO, UAF Yank 87.83 18 P **P** **08 48 30.4 -2.1**
TCOL IAMs_20 IAMs_20 09 23 23.1
comp=Z,2µm,20.0s
COLA College 87.83 18 P **P** **08 48 30.5 -2.1**
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 87.83 18 P **P** **08 48 30.4 -2.1**
COLA IAmb IAmb 08 48 35.0
comp=Z,8.4nm,0.8s
COLA College 87.83 18 IAMs_20 IAMs_20 09 23 23.1
comp=Z,2µm,20.0s
PFO Pinyon Flats O 87.90 54 LR LR 09 20 20.5
comp=Z,4µm,19.9s,baz=257,slow=30
L26K Log Cabin Wild 87.91 20 IAMs_20 IAMs_20 09 21 27.6
comp=Z,2µm,20.0s
RIDG Independent Ri 87.92 19 IAMs_20 IAMs_20 09 21 22.8
comp=Z,2µm,20.0s
IL31 88.04 18 P **P** **08 48 32.1 -1.5**

ILAR	**Eielson Array**	**88.04**	**18**	P	**P**	**08 48 31.5**	**-2.2**
	comp=Z,3.5nm,0.7s,baz=236,slow=4.5,SNR=33						
ILAR				LR	LR	09 23 22.1	
	comp=Z,2µm,19.9s,baz=190,slow=32						
ILAR	**Eielson Array**	**88.04**	**18**	P	**P**	**08 48 31.7**	**-1.9**
ILAR	**Eielson Array**	**88.04**	**18**	P	**P**	**08 48 31.7**	**-1.9**
H23K	**Yukon River**	**88.07**	**16**	IAMs_20	IAMs_20	09 25 07.4	
	comp=Z,2µm,20.0s						
BBB	**Bella Bella**	**88.08**	**34**	LR	LR	09 18 56.8	
	comp=Z,1µm,21.9s,baz=248,slow=30						
POKR	**Poker Plat Res**	**88.13**	**17**	IAMs_20	IAMs_20	09 23 21.2	
	comp=Z,2µm,20.0s						
WRAK	**Wrangell Islan**	**88.19**	**29**	IAMs_20	IAMs_20	09 18 35.8	
	comp=Z,2µm,20.0s						
MOD	**Modoc Plateau**	**88.23**	**45**	IAMs_20	IAMs_20	09 21 38.3	
	comp=Z,2µm,19.0s						
NVAR	**Mina Array Bea**	**88.28**	**49**	P	**P**	**08 48 34.4**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=234,slow=6.2,SNR=2.1						
NVAR				PKKPbc	**PKKPbc**	**09 06 20.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=99,slow=3.1,SNR=5.5						
NVAR				LR	LR	09 19 16.6	
	comp=Z,2µm,21.8s,baz=270,slow=30						
NVAR	**Mina Array Bea**	**88.28**	**49**	P	**P**	**08 48 35.8**	**0.0**
JIS	**Juneau Island**	**88.33**	**27**	IAMs_20	IAMs_20	09 21 57.2	
	comp=Z,2µm,20.0s						
J25K	**Salcha River,**	**88.38**	**18**	P	**P**	**08 48 34.0**	**-1.3**
J25K				IAmb	IAmb	08 48 45.0	
	comp=Z,26nm,1.6s						
PALK	**Pallekele**	**88.79**	**278**	LR	LR	09 30 03.5	
	comp=Z,736nm,19.8s,baz=220,slow=37						
PALK	**Pallekele**	**88.79**	**278**	P	**P**	**08 48 38.9**	**+0.5**
PALK				pmax	pmax		
	comp=Z,21nm,1.2s						
PALK	**Pallekele**	**88.79**	**278**	P	**P**	**08 48 38.9**	**+0.5**
PALK				IAmb	IAmb	08 48 47.4	
	comp=Z,21nm,1.1s						
K27K	**Chicken**	**89.01**	**20**	IAMs_20	IAMs_20	09 22 32.6	
	comp=Z,2µm,20.0s						
TPNV	**Topopah Spring**	**89.25**	**51**	IAMs_20	IAMs_20	09 23 34.8	
	comp=Z,2µm,19.0s						
WVOR	**Wild Horse Val**	**89.58**	**45**	P	**P**	**08 48 41.6**	**0.0**
WVOR				pmax	pmax		
	comp=Z,45nm,2.0s						
WVOR	**Wild Horse Val**	**89.58**	**45**	P	**P**	**08 48 41.6**	**0.0**
WVOR				IAmb	IAmb	08 49 28.8	
	comp=Z,45nm,1.9s						
WVOR				IAMs_20	IAMs_20	09 24 14.0	
	comp=Z,2µm,18.0s						
BMN	**Battle Mountai**	**89.81**	**48**	P	**P**	**08 48 42.4**	**-0.3**
BMN				pmax	pmax		
	comp=Z,18nm,1.5s						
BMN	**Battle Mountai**	**89.81**	**48**	P	**P**	**08 48 42.4**	**-0.3**
LPIG	**La Paz**	**89.84**	**65**	LR	LR	09 22 47.8	
	comp=Z,3µm,18.0s,baz=236,slow=32						
DAWY	**Dawson**	**89.93**	**21**	P	**P**	**08 48 39.4**	**-3.2**
J08A	**Circle Bar Ran**	**90.04**	**45**	P	**P**	**08 48 42.4**	**-1.3**
J08A				IAmb	IAmb	08 49 08.5	
	comp=Z,25nm,1.8s						
LTY	**Liberty**	**90.16**	**40**	P	**P**	**08 48 43.0**	**-1.1**
LTY				IAmb	IAmb	08 48 50.0	
	comp=Z,35nm,1.9s						
PMSA	**Palmer Station**	**90.24**	**160**	LR	LR	09 22 49.8	
	comp=Z,902nm,18.1s,baz=244,slow=31						
PRN	**Pahroc Range**	**90.31**	**51**	P	**P**	**08 48 43.7**	**-1.4**
DLBC	**Dease Lake**	**90.34**	**28**	LR	LR	09 21 52.5	
	comp=Z,1µm,20.9s,baz=254,slow=31						
HAWA	**Hanford**	**90.53**	**41**	P	**P**	**08 48 45.3**	**-0.4**
HAWA				IAmb	IAmb	08 49 10.9	
	comp=Z,22nm,1.4s						
M31M	**Drury Creek, Y**	**90.60**	**24**	IAMs_20	IAMs_20	09 27 44.9	
	comp=Z,2µm,19.0s						
BMAR	**Burnt Mountain**	**90.60**	**17**	P	**P**	**08 48 45.5**	**-0.2**
LLLB	**Lillooet**	**90.82**	**37**	P	**P**	**08 48 46.1**	**-1.0**
LLLB				IAmb	IAmb	08 49 11.6	
	comp=Z,28nm,1.9s						
I29M	**Ogilvie Camp,**	**91.11**	**20**	IAMs_20	IAMs_20	09 23 57.2	
	comp=Z,2µm,20.0s						
TROLL	**Troll, Antarti**	**91.27**	**185**	P	**P**	**08 48 50.3**	**+1.3**
ELK	**Elko**	**91.33**	**48**	LR	LR	09 22 28.9	
	comp=Z,2µm,20.2s,baz=269,slow=31						
ELK	**Elko**	**91.33**	**48**	P	**P**	**08 48 50.5**	**+0.5**
ELK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ELK	**Elko**	**91.33**	**48**	P	**P**	**08 48 50.5**	**+0.5**
ELK				IAMs_20	IAMs_20	09 21 24.6	
	comp=Z,2µm,20.0s						
BMO	**Blue Mountains**	**91.38**	**44**	IAMs_20	IAMs_20	09 20 57.6	
	comp=Z,2µm,22.0s						
TIXI	**Tiksi**	**91.55**	**349**	P	**P**	**08 48 48.2**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=89,slow=23,SNR=7.6						
TIXI				LR	LR	09 27 44.7	
	comp=Z,794nm,19.4s,baz=179,slow=34						
TIXI	**Tiksi**	**91.55**	**349**	*i* P	**P**	**08 48 48.4**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,12nm,1.1s						
TIXI	**Tiksi**	**91.55**	**349**	P	**P**	**08 48 47.1**	**-2.8**
MFID	**Camas Ranch**	**91.86**	**45**	IAMs_20	IAMs_20	09 21 39.3	
	comp=Z,1µm,22.0s						
SNAA	**Sanae**	**91.95**	**183**	P	**P**	**08 48 52.9**	**+0.8**
SNAA	**Sanae**	**91.95**	**183**	LR	LR	09 26 55.3	
	comp=Z,754nm,21.2s,baz=172,slow=33						
SNAA	**Sanae**	**91.95**	**183**	*c* eP	**P**	**08 48 52.7**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,37nm,1.0s						
SNAA	**Sanae**	**91.95**	**183**	P	**P**	**08 48 51.1**	**-1.0**
SNAA				IAmb	IAmb	08 49 01.5	
	comp=Z,28nm,0.9s						
TUC	**Tucson**	**91.96**	**57**	P	**P**	**08 48 52.2**	**-0.7**
TUC				pmax	pmax		
	comp=Z,9.0nm,1.6s						
TUC				MLR	MLR		
	comp=Z,2µm,18.0s						
TUC	**Tucson**	**91.96**	**57**	P	**P**	**08 48 52.1**	**-0.7**
TUC	**Tucson**	**91.96**	**57**	IAMs_20	IAMs_20	09 29 27.9	
	comp=Z,2µm,18.0s						
EPYK	**Eagle Plains**	**92.25**	**20**	IAMs_20	IAMs_20	09 24 34.2	
	comp=Z,2µm,20.0s						
PLID	**Pearl Lake**	**92.33**	**44**	IAMs_20	IAMs_20	09 21 14.7	
	comp=Z,2µm,21.0s						
DGAR	**Diego Garcia**	**92.57**	**262**	IAMs_20	IAMs_20	09 26 34.8	
	comp=Z,2µm,19.0s						
VNA3	**Neumayer Olymp**	**92.61**	**181**	P	**P**	**08 48 55.7**	**+0.6**
NEW	**Newport**	**92.76**	**40**	LR	LR	09 25 05.2	
	comp=Z,903nm,19.3s,baz=248,slow=32						
HLID	**Hailey**	**92.87**	**45**	IAMs_20	IAMs_20	09 24 30.2	
	comp=Z,2µm,19.0s						
VNA2	**Neumayer--Watz**	**92.88**	**182**	P	**P**	**08 48 56.7**	**+0.3**
	baz=178,slow=3.0						
DUG	**Dugway, Tooele**	**92.89**	**49**	IAMs_20	IAMs_20	09 22 08.9	
	comp=Z,2µm,20.0s						
VNA1	**Neumayer--Stat**	**93.18**	**181**	P	**P**	**08 48 58.8**	**+1.1**
PCHI	**Peechi**	**93.83**	**280**	*eP*	**P**	**08 49 03.0**	**+1.3**
PCHI				*eS*	**SKSac**	**08 59 30.7**	**-5.8**
WMQ	**Urumqi**	**93.88**	**314**	P	**P**	**08 49 01.5**	**+0.1**
WMQ				pP	pP	08 49 04.8	-1.8
WMQ				SKS	**SKSac**	**08 59 33.5**	**-2.2**
WMQ				S	**S**	**09 00 09.5**	**-1.4**
WMQ				sS	pS	09 00 17.5	-0.1
WMQ				SS	**SS**	**09 06 34.3**	**+3.8**
WMQ				pmax	pmax		
	comp=Z,20nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,290nm,4.1s						
WMQ				LR	LR		
	comp=Z,830nm,19.1s						
WMQ				LR	LR		
	comp=Z,570nm,14.9s						
WMQ				LR	LR		
	comp=Z,1µm,21.1s						
HWUT	**Hardware Ranch**	**94.23**	**48**	IAMs_20	IAMs_20	09 28 27.4	
	comp=Z,1µm,18.0s						
INK	**Inuvik**	**94.39**	**19**	LR	LR	09 27 01.4	
	comp=Z,2µm,20.2s,baz=224,slow=33						
DLMT	**Dillon**	**94.69**	**44**	IAMs_20	IAMs_20	09 25 07.2	
	comp=Z,2µm,20.0s						
USHA	**Ushuaia**	**94.85**	**151**	LR	LR	09 25 35.6	
	comp=Z,745nm,18.0s,baz=219,slow=32						
AHID	**Auburn Hatcher**	**94.92**	**47**	IAMs_20	IAMs_20	09 25 34.4	
	comp=Z,1µm,20.0s						
TPAW	**Teton Pass**	**95.24**	**46**	IAMs_20	IAMs_20	09 24 36.7	
	comp=Z,2µm,20.0s						
REDW	**Red Top Meadow**	**95.27**	**46**	IAMs_20	IAMs_20	09 24 48.7	
	comp=Z,2µm,21.0s						
EPT	**El Paso**	**95.28**	**59**	IAMs_20	IAMs_20	09 31 53.8	
	comp=Z,2µm,18.0s						
SNOW	**Snow King Moun**	**95.37**	**46**	IAMs_20	IAMs_20	09 25 52.2	
	comp=Z,2µm,19.0s						
BOZ	**Bozeman (W)**	**95.41**	**44**	IAMs_20	IAMs_20	09 24 00.2	
	comp=Z,2µm,21.0s						
MOOW	**Moose Ponds**	**95.46**	**46**	IAMs_20	IAMs_20	09 28 13.5	
	comp=Z,2µm,20.0s						
LOHW	**Long Hollow**	**95.52**	**46**	IAMs_20	IAMs_20	09 24 46.0	
	comp=Z,2µm,20.0s						
Y22D	**IRIS PASSCAL I**	**95.57**	**56**	IAMs_20	IAMs_20	09 23 37.5	
	comp=Z,2µm,21.0s						
FLWY	**Flagg Ranch**	**95.59**	**46**	IAMs_20	IAMs_20	09 23 16.9	
	comp=Z,2µm,22.0s						
BW06	**Boulder Array**	**96.00**	**47**	IAMs_20	IAMs_20	09 30 22.1	
	comp=Z,2µm,18.0s						
PDAR	**Pinedale Array**	**96.00**	**47**	P	**P**	**08 49 11.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=286,slow=3.4,SNR=2.0						
PDAR				PKKPbc	**PKKPbc**	**09 06 00.0**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=88,slow=5.3,SNR=8.9						
PDAR				LR	LR	09 29 22.6	
	comp=Z,913nm,18.0s,baz=256,slow=34						
ANMO	**Albuquerque**	**96.17**	**56**	LR	LR	09 23 47.9	
	comp=Z,2µm,21.8s,baz=252,slow=30						
ANMO	**Albuquerque**	**96.17**	**56**	IAMs_20	IAMs_20	09 23 47.4	
	comp=Z,2µm,21.0s						
MNTX	**Cornudas Mount**	**96.18**	**59**	IAMs_20	IAMs_20	09 31 08.9	
	comp=Z,1µm,18.0s						
TXAR	**Lajitas Array**	**97.00**	**62**	P	**P**	**08 49 15.4**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=255,slow=2.7,SNR=2.1						
TXAR				PP	**PP**	**08 53 13.8**	**+1.7**
	comp=Z,0.5nm,1.1s,baz=246,slow=5.8,SNR=2.2						
TXAR				PKKPbc	**PKKPdf**	**09 05 59.0**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=134,slow=5.4,SNR=3.7						
TXAR				LR	LR	09 26 29.8	
	comp=Z,2µm,18.6s,baz=262,slow=31						
TXAR	**Lajitas Array**	**97.00**	**62**	P	Pdif	08 49 16.2	0.0
TXAR	**Lajitas Array**	**97.00**	**62**	P	Pdif	08 49 16.2	0.0
RWWY	**Rawlins**	**97.39**	**49**	IAMs_20	IAMs_20	09 25 05.7	
	comp=Z,1µm,20.0s						
C36M	**Paulatuk**	**97.89**	**19**	IAMs_20	IAMs_20	09 27 32.2	
	comp=Z,1µm,20.0s						
ISCO	**Idaho Springs**	**98.08**	**51**	IAMs_20	IAMs_20	09 27 26.4	
	comp=Z,2µm,20.0s						
MK31	**Makanchi Array**	**98.39**	**316**	P	**P**	**08 49 20.9**	**-0.9**
MK31				pmax	pmax		
	comp=Z,10.0nm,1.5s						
MK31	**Makanchi Array**	**98.39**	**316**	P	**P**	**08 49 20.9**	**-0.9**
MK31				IAmb	IAmb	08 49 26.0	
	comp=Z,10.0nm,1.5s						
MKAR	**Makanchi Array**	**98.39**	**316**	P	**P**	**08 49 21.4**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=89,slow=5.8,SNR=8.5						
MKAR				PKKPbc	**PKKPbc**	**09 05 50.6**	**-3.4**
	comp=Z,0.7nm,0.6s,baz=291,slow=2.8,SNR=5.7						
MKAR				LR	LR	09 36 48.5	
	comp=Z,437nm,18.0s,baz=96,slow=37						
MKAR	**Makanchi Array**	**98.39**	**316**	P	**P**	**08 49 21.4**	**-0.4**
MKAR	**Makanchi Array**	**98.39**	**316**	P	**P**	**08 49 20.3**	**-1.5**
MKAR	**Makanchi Array**	**98.39**	**316**		PKKPdf	09 05 50.6	-6.9
MAKZ	**Makanchi**	**98.61**	**316**	P	**P**	**08 49 22.7**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,24nm,1.8s						
MAKZ				MLR	MLR		
	comp=Z,1µm,19.0s						
MAKZ	**Makanchi**	**98.61**	**316**	P	**P**	**08 49 22.7**	**-0.1**
A36M	**Sachs Harbour**	**98.69**	**17**	IAMs_20	IAMs_20	09 31 01.2	
	comp=Z,1µm,20.0s						
ZAA0	**Zalesovo Array**	**98.71**	**324**	P	**P**	**08 49 20.8**	**-2.2**
ZAA0				IAmb	IAmb	08 49 38.3	
	comp=Z,6.6nm,1.1s						
ZALV	**Zalesovo Beam**	**98.71**	**324**	P	**P**	**08 49 21.2**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=104,slow=6.3,SNR=5.9						
ZALV				LR	LR	09 32 41.9	
	comp=Z,734nm,22.0s,baz=103,slow=35						
ZALV	**Zalesovo Beam**	**98.71**	**324**	P	**P**	**08 49 21.2**	**-1.8**
ZALV	**Zalesovo Beam**	**98.71**	**324**	P	**P**	**08 49 20.9**	**-2.1**
YKA	**Yellowknife Ar**	**98.95**	**27**	P	**P**	**08 49 21.5**	**-2.3**
	comp=Z,1.3nm,0.7s,baz=256,slow=4.6,SNR=23						
YKA				PKKPbc	**PKKPbc**	**09 05 51.3**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=72,slow=2.7,SNR=8.3						
YKA				PKKP	**PKKPdf**	**09 05 56.1**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=68,slow=2.3,SNR=4.6						
YKA				LR	LR	09 28 40.6	
	comp=Z,927nm,19.5s,baz=254,slow=32						
YKA	**Yellowknife Ar**	**98.95**	**27**	P	**P**	**08 49 22.4**	**-1.5**
YKA	**Yellowknife Ar**	**98.95**	**27**	P	**P**	**08 49 22.4**	**-1.5**
LAO	**LASA Array**	**99.32**	**44**	IAMs_20	IAMs_20	09 25 14.7	
	comp=Z,1µm,20.0s						
RSSD	**Black Hills**	**100.23**	**47**	IAMs_20	IAMs_20	09 28 45.1	
	comp=Z,2µm,20.0s						
JCT	**Junction City**	**100.53**	**61**	IAMs_20	IAMs_20	09 28 23.3	
	comp=Z,2µm,20.0s						
OGNE	**Ogallala**	**101.00**	**51**	IAMs_20	IAMs_20	09 27 05.7	
	comp=Z,2µm,21.0s						
DGMT	**Dagmar**	**101.06**	**43**	IAMs_20	IAMs_20	09 30 04.5	
	comp=Z,1µm,20.0s						
KSH	**Kashi**	**101.22**	**308**	P	**Pdif**	**08 49 38.3**	**+3.6**
KSH				PP	**PP**	**08 53 48.5**	**+4.4**
KSH				SKS	**SKSac**	**09 00 18.0**	**+4.3**
KSH				S	**Sdif**	**09 01 20.5**	**+6.7**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,200nm,6.5s						
KSH				LR	LR		
	comp=Z,950nm,23.4s						
KSH				LR	LR		
	comp=Z,1µm,17.9s						
KSH				LR	LR		
	comp=Z,1µm,21.3s						
KURK	**Kurchatov**	**101.65**	**320**	P	**Pdif**	**08 49 37.2**	**+1.0**
KURK	**Kurchatov**	**101.65**	**320**		**Pdif**	**08 49 37.2**	**+1.0**
KURBB	**Kurchatov Arra**	**101.69**	**319**	P	**Pdif**	**08 49 37.2**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=97,slow=3.9,SNR=5.3						
KURBB				PP	PP	08 53 34.2	-13
	comp=Z,1.1nm,0.9s,baz=99,slow=7.3,SNR=5.4						
WMOK	**Wichita Mounta**	**102.27**	**57**	IAMs_20	IAMs_20	09 34 08.8	
	comp=Z,2µm,18.0s						
435B	**Jarrell**	**102.47**	**61**	IAMs_20	IAMs_20	09 26 58.3	
	comp=Z,2µm,22.0s						
ECSD	**EROS Data Cent**	**105.44**	**48**	IAMs_20	IAMs_20	09 34 03.8	
	comp=Z,2µm,19.0s						
W39A	**Magazine**	**106.39**	**58**	IAMs_20	IAMs_20	09 36 05.8	
	comp=Z,1µm,18.0s						
SNET	**Serv Nac Est T**	**106.43**	**80**	IAMs_20	IAMs_20	09 31 02.2	
	comp=Z,1µm,18.0s						
MIAR	**Mount Ida**	**106.46**	**58**	IAMs_20	IAMs_20	09 33 00.7	
	comp=Z,2µm,20.0s						
AGMN	**Agassiz Nation**	**106.52**	**44**	IAMs_20	IAMs_20	09 43 21.9	
	comp=Z,1µm,18.0s						
X40A	**Basin Creek Fa**	**107.05**	**58**	IAMs_20	IAMs_20	09 34 11.6	
	comp=Z,996nm,19.0s						
BRVK	**Borovoye**	**107.09**	**321**	IAMs_20	IAMs_20	09 38 48.4	
	comp=Z,1µm,19.0s						
LCO	**Las Campanas**	**108.09**	**129**	IAMs_20	IAMs_20	09 29 33.5	
	comp=Z,1µm,22.0s						
CCM	**Cathedral Cave**	**108.78**	**55**	IAMs_20	IAMs_20	09 39 50.0	
	comp=Z,1µm,18.0s						
EYMN	**Ely**	**109.41**	**44**	IAMs_20	IAMs_20	09 34 41.3	
	comp=Z,1µm,20.0s						
MSEY	**Mahe Island**	**109.47**	**259**	IAMs_20	IAMs_20	09 37 53.6	
	comp=Z,1µm,20.0s						
JTS	**Las Juntas de**	**109.72**	**85**	IAMs_20	IAMs_20	09 28 18.1	
	comp=Z,2µm,21.0s						
OXF	**Oxford**	**109.86**	**59**	IAMs_20	IAMs_20	09 33 43.9	
	comp=Z,1µm,20.0s						
HDC	**Heredia**	**110.45**	**85**	IAMs_20	IAMs_20	09 27 57.9	
	comp=Z,1µm,20.0s						
BRAL	**Brewton**	**111.46**	**62**	IAMs_20	IAMs_20	09 36 00.5	
	comp=Z,2µm,21.0s						
LRAL	**Lakeview Retre**	**111.70**	**61**	IAMs_20	IAMs_20	09 42 50.8	
	comp=Z,1µm,18.0s						
OTAV	**Otavalo**	**113.28**	**97**	IAMs_20	IAMs_20	09 29 52.9	
	comp=Z,1µm,20.0s						
TULEG	**Thule**	**113.40**	**12**	IAMs_20	IAMs_20	09 38 19.3	
	comp=Z,1µm,22.0s						
ARU	**Arti**	**113.83**	**325**	*i* PKIKP	**PKiKP**	**08 54 21.5**	**-0.7**
ARU						08 55 19.0	
ARU						09 01 33.7	
ARU				SS	SS	09 10 58.3	-5.4
ARU				MLR	MLR		
	comp=Z,671nm,18.0s						
BCIP	**Isla Barro Col**	**114.35**	**87**	IAMs_20	IAMs_20	09 31 31.2	
	comp=Z,926nm,21.0s						
TZTN	**Tazewell**	**114.79**	**57**	IAMs_20	IAMs_20	09 36 00.1	
	comp=Z,1µm,20.0s						
ACSO	**Alum Creek Sta**	**115.32**	**53**	IAMs_20	IAMs_20	09 35 14.9	
	comp=Z,2µm,22.0s						
DWPF	**Disney Wildern**	**116.01**	**66**	IAMs_20	IAMs_20	09 43 32.3	
	comp=Z,824nm,19.0s						
BLA	**Blacksburg**	**117.31**	**56**	IAMs_20	IAMs_20	09 38 17.9	
	comp=Z,1µm,20.0s						
NHSC	**New Hope**	**117.42**	**61**	IAMs_20	IAMs_20	09 37 47.2	
	comp=Z,1µm,21.0s						
KIRV	**Kirov**	**118.26**	**328**	*c i* PKIKP	**PKPdf**	**08 54 29.8**	**-0.9**
PRGR	**Permogore**	**119.11**	**332**	*e* PKIKP	**PKPdf**	**08 54 29.5**	**-2.7**
CPUP	**Villa Florida**	**119.32**	**134**	PKP	**PKPdf**	**08 54 33.8**	**0.0**
	comp=Z,2.5nm,0.9s,baz=73,slow=8.9,SNR=3.1						
CPUP	**Villa Florida**	**119.32**	**134**	PKIKP	**PKPdf**	**08 54 33.8**	**0.0**
DAG	**Danmarks Havn**	**119.47**	**2**	*i* P	**PKPdf**	**08 54 30.0**	**-2.6**
LVZ	**Lovozero**	**120.34**	**341**	IAMs_20	IAMs_20	09 49 43.2	
	comp=Z,1µm,19.0s						
BELG	**Belogornoye**	**120.82**	**322**	*i* PKIKP	**PKPdf**	**08 54 35.2**	**-0.6**
APA	**Apatity**	**120.92**	**341**	‖ *i* PKIKP	PKiKP	08 54 43.5	+7.8
APA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KEV	**Kevo**	**121.29**	**345**	IAMs_20	IAMs_20	09 51 49.1	
	comp=Z,958nm,20.0s						
ARCES	**ARCESS Array B**	**121.81**	**345**	PKP	**PKPdf**	**08 54 36.5**	**-0.8**
	comp=Z,5.1nm,0.6s,baz=66,slow=1.9,SNR=27						
ARCES	**ARCESS Array B**	**121.81**	**345**	PKIKP	**PKPdf**	**08 54 36.5**	**-0.8**
KLMR	**Klimovskoe**	**122.13**	**333**	*e* PKIKP	**PKPdf**	**08 54 35.4**	**-2.6**
KLMR				*e*		08 56 17.4	
KLMR				*e*SS	SS	09 13 00.0	+9.2
KLMR				pmax	pmax		
	comp=Z,23nm,1.0s						
KLMR	**Klimovskoe**	**122.13**	**333**	*e* PKPdf	**PKPdf**	**08 54 35.5**	**-2.6**
KLMR				AMP		08 54 45.4	
	comp=Z,23nm,1.0s						
KLMR				*e*PP	**PP**	**08 56 17.4**	**+4.5**
KLMR				*e*SS	**SS**	**09 13 00.0**	**+9.2**
KLMR				*e*SS	**SS**	**09 13 00.0**	**+9.2**
KLMR				LQ	LQ	09 33 14.2	
KLMR				LQ	LQ	09 33 14.2	
KLMR				LR	LR	09 43 01.3	
BOSA	**Boshof**	**122.18**	**220**	PKP	**PKPdf**	**08 54 39.4**	**-0.1**
	comp=Z,7.6nm,1.0s,baz=120,slow=6.5,SNR=5.1						
BOSA	**Boshof**	**122.18**	**220**	PKIKP	**PKPdf**	**08 54 39.4**	**-0.1**
BOSA	**Boshof**	**122.18**	**220**		**PKPdf**	**08 54 39.4**	**-0.1**
PAL	**Palisades**	**122.18**	**52**	IAMs_20	IAMs_20	09 44 51.2	
	comp=Z,1µm,20.0s						
MAK	**Makhachkala**	**122.70**	**311**	*eP*	**Pdif**	**08 51 02.9**	**-7.1**
MAK				*e*		08 56 12.1	
MAK				*e*		09 01 29.2	
MAK				*e*PS	**PS**	**09 06 14.7**	**+1.4**
MAK				*e*SS	SS	09 12 49.1	-10
SDV	**Santo Domingo**	**123.12**	**90**	IAMs_20	IAMs_20	09 36 27.5	
	comp=Z,880nm,21.0s						
LBTB	**Lobatse**	**124.49**	**223**	PKP	**PKiKP**	**08 54 44.5**	**+0.3**
	comp=Z,6.9nm,0.9s,baz=192,slow=3.3,SNR=5.6						
LBTB	**Lobatse**	**124.49**	**223**	PKIKP	**PKiKP**	**08 54 44.5**	**+0.3**
VRH	**Novokhopyorsk**	**124.68**	**322**	*e* PKIKP	**PKiKP**	**08 54 43.4**	**-0.2**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GRTK	**Grand Turk**	**124.73**	**75**	IAMs_20	IAMs_20	09 40 10.0	
	comp=Z,1µm,20.0s						
GNI	**Garni**	**125.16**	**308**	*i* PKIKP	**PKiKP**	**08 54 45.0**	**-0.1**
MOS	**Moscow**	**125.27**	**328**	*i* PKIKP	**PKPdf**	**08 54 43.1**	**-1.1**
MOS				*e*		09 01 50.3	
ZEI	**Tsey**	**125.34**	**311**	*i* PKIKP	**PKPdf**	**08 54 44.1**	**-1.0**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MATP	**Matopo**	**125.50**	**229**	PKP	**PKPdf**	**08 54 45.6**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=138,slow=1.8,SNR=6.2						
SCO	**Scoresbysund**	**125.58**	**4**	IAMs_20	IAMs_20	09 46 20.5	
	comp=Z,1µm,21.0s						
LPSR	**Galich'ya Gora**	**125.82**	**324**	*e* PKIKP	**PKPdf**	**08 54 44.4**	**-1.0**
LPSR				pmax	pmax		
	comp=Z,40nm,1.2s						
KBZ	**Khabaz**	**125.88**	**312**	PKP	**PKiKP**	**08 54 46.7**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=154,slow=5.3,SNR=7.6						
KBZ	**Khabaz**	**125.88**	**312**	*c i* PKIKP	**PKiKP**	**08 54 47.5**	**+1.3**
KBZ	**Khabaz**	**125.88**	**312**		**PKiKP**	**08 54 46.7**	**+0.5**
KIV	**Kislovodsk**	**125.98**	**313**	*i* PKIKP	**PKiKP**	**08 54 46.8**	**+0.3**
KIV				*e*		08 56 39.0	
KIV				*e*PS	**PS**	**09 06 40.9**	**-1.5**

	comp=Z,1.1nm,0.2s,baz=71,slow=2.3,SNR=16							
AKASG				SKPbc	**SKPab**	08 58 24.6	**+0.6**	
	comp=Z,0.8nm,0.5s,baz=46,slow=5.1,SNR=7.2							
AKASG	**Malin Array Be**	**132.08 325**		PKIKP	**PKPdf**	**08 54 57.6**	**+0.2**	
AKBB	**Malin Array Si**	**132.08 325**	*c i*	PKIKP	**PKiKP**	**08 54 58.7**	**+0.3**	
NB2	**NORSAR Subarra**	**132.18 345**		PKPdf	**PKiKP**	**08 54 57.9**	**-0.5**	
	comp=Z,1.4nm,0.7s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**132.18 345**		PKP	**PKPdf**	**08 54 57.4**	**0.0**	
	comp=Z,1.6nm,0.6s,baz=33,slow=2.0,SNR=11							
NOA	**NORSAR Array B**	**132.18 345**		PKIKP	**PKPdf**	**08 54 57.4**	**0.0**	
BDFB	**Brasilia**	**132.82 131**		PKP	**PKPdf**	**08 54 59.6**	**-0.4**	
	comp=Z,2.5nm,0.8s,baz=194,slow=4.2,SNR=2.8							
BDFB	**Brasilia**	**132.82 131**		PKIKP	**PKPdf**	**08 54 59.6**	**-0.4**	
BDFB	**Brasilia**	**132.82 131**			**PKPdf**	**08 54 59.6**	**-0.4**	
SUW	**Suwalki**	**133.23 332**		*e*PKP	**PKiKP**	**08 55 07.2**	**+6.6**	
SUW	**Suwalki**	**133.23 332**		IAMs_20	IAMs_20	09 52 13.3		
	comp=Z,1μm,21.0s							
BRTR	**Keskin Array B**	**133.58 310**		PKP	**PKPdf**	**08 55 01.1**	**+0.3**	
	comp=Z,1.6nm,0.7s,baz=58,slow=3.1,SNR=8.9							
BRTR				PP	**PP**	**08 57 31.7**	**+2.4**	
	comp=Z,0.6nm,0.7s,baz=70,slow=5.1,SNR=4.1							
BRTR	**Keskin Array B**	**133.58 310**		PKIKP	**PKPdf**	**08 55 01.1**	**+0.3**	
KIS	**Kishinev**	**134.11 321**		*e*PP	PP	08 57 30.0	-2.0	
KIS				*e*L	L	09 54 30.0		
KIS				LRM	MLR	09 56 22.0		
	comp=Z,300nm,17.5s							
MILM	**Milestii Mici**	**134.15 321**		*e*PKP	**PKPdf**	**08 55 00.0**	**-1.4**	
	comp=Z,250nm,6.5s							
MILM	**Milestii Mici**	**134.15 321**		*e*PP	PP	08 57 27.0	-5.2	
MILM				*i* SKP		08 58 37.0		
MILM				*e*L	L	09 45 24.0		
MILM				*e*LR	LR	09 51 38.0		
	comp=Z,800nm,18.0s							
MILM	**Milestii Mici**	**134.15 321**		*e*PKIKP	**PKPdf**	**08 55 00.0**	**-1.4**	
MILM				*e*		08 57 27.0		
MILM				pmax	pmax			
	comp=Z,250nm,6.5s							
TPGR	**Topolog**	**135.33 318**		⇑P	**PKiKP**	**08 55 10.0**	**+4.7**	
LVV	**L'vov**	**135.36 327**		*e*PKIKP	**PKiKP**	**08 55 06.1**	**+1.0**	
CFR	**Carcaliu**	**135.36 319**		⇓P	**PKPdf**	**08 55 01.2**	**-2.5**	
CFR	**Carcaliu**	**135.36 319**		⇓PKIKP	**PKPdf**	**08 55 01.2**	**-2.5**	
BEL	**Belsk**	**135.74 331**		*e*PKP	**PKiKP**	**08 55 07.0**	**+1.2**	
GKP	**Gorka Klasztor**	**136.33 334**		*e*PKP	**PKiKP**	**08 55 12.3**	**+5.4**	
MLR	**Muntele Rosu**	**136.58 320**		⇑P	**PKiKP**	**08 55 07.3**	**-0.6**	
MLR	**Muntele Rosu**	**136.58 320**		⇑PKIKP	**PKiKP**	**08 55 07.3**	**-0.6**	
MLR	**Muntele Rosu**	**136.58 320**		IAMs_20	IAMs_20	09 58 02.5		
	comp=Z,1μm,19.0s							
KOLS	**Kolonicke sedl**	**136.81 326**		*e*PKIKP	**PKPdf**	**08 55 06.7**	**+0.4**	
KOLS	**Kolonicke sedl**	**136.81 326**		*e*PKP	**PKPdf**	**08 55 06.7**	**+0.4**	
BMR	**Baia Mare**	**136.87 324**		⇑P	**PKiKP**	**08 55 09.0**	**+0.7**	
BMR	**Baia Mare**	**136.87 324**		⇑PKIKP	**PKiKP**	**08 55 09.0**	**+0.7**	
RGN	**Rugen**	**136.89 338**		IAMs_20	IAMs_20	09 54 25.8		
	comp=Z,918nm,20.0s							
UZH	**Uzhgorod**	**136.98 326**		*e*PKHKP	PKPpre	08 54 56.3		
UZH				*e*		08 55 06.3		
UZH				*i*		08 55 17.1		
CRVS	**Cervenica-Dubn**	**137.26 327**		*e*PKIKP	**PKiKP**	**08 55 08.8**	**-0.2**	
CRVS	**Cervenica-Dubn**	**137.26 327**		*e*	**PKiKP**	**08 55 08.8**	**-0.2**	
OJC	**Ojcow**	**137.27 329**		*e*PKP	**PKiKP**	**08 55 09.5**	**+0.5**	
DRGR		**137.81 324**		⇑P	**PKPdf**	**08 55 03.0**	**-5.3**	
DRGR		**137.81 324**		⇑PKIKP	**PKPdf**	**08 55 03.0**	**-5.3**	
LANS	**Liptovska Anna**	**138.13 328**		*e*PKIKP	**PKiKP**	**08 55 13.9**	**+3.1**	
LANS	**Liptovska Anna**	**138.13 328**		*e*	**PKiKP**	**08 55 13.9**	**+3.1**	
OKC	**Ostrava-Krasne**	**138.32 330**		*e*PKIKP	**PKPdf**	**08 55 06.1**	**-3.0**	
OKC	**Ostrava-Krasne**	**138.32 330**		*e*PKPDF	**PKPdf**	**08 55 06.1**	**-3.0**	
KSP	**Ksiaz**	**138.48 332**		*e*PKP	**PKPdf**	**08 55 08.2**	**-1.1**	
GZR	**Gura Zlata**	**138.54 322**		⇑P	**PKPdf**	**08 55 09.4**	**-0.3**	
GZR	**Gura Zlata**	**138.54 322**		⇑PKIKP	**PKPdf**	**08 55 09.4**	**-0.3**	
PSZ	**Piszkesteto**	**138.69 327**		⇓P	**PKPdf**	**08 55 10.1**	**+0.2**	
PSZ	**Piszkesteto**	**138.69 327**		⇓PKIKP	**PKPdf**	**08 55 10.1**	**+0.2**	
PSZ	**Piszkesteto**	**138.69 327**		IAMs_20	IAMs_20	10 04 28.9		
	comp=Z,1μm,19.0s							
SIRR	**Siria**	**138.71 324**		⇑P	**PKPdf**	**08 55 10.0**	**+0.1**	
OSTC	**Ostas**	**138.72 332**		*e*PKP	**PKiKP**	**08 55 14.6**	**+2.6**	
OSTC				AMS	AMS	10 02 50.0		
	comp=Z,900nm,15.4s							
CHVC	**Chvalec**	**138.77 332**		*e*PKPDF	**PKiKP**	**08 55 12.5**	**+0.4**	
CHVC				AMS	AMS	10 03 50.0		
	comp=Z,700nm,16.3s							
KRLC	**Kraliky**	**138.80 331**		*e*PKIKP	**PKPdf**	**08 55 09.3**	**-0.7**	
KRLC	**Kraliky**	**138.80 331**		*e*PKPDF	**PKPdf**	**08 55 09.3**	**-0.7**	
DPC	**Dobruska-Polom**	**138.82 332**		*e*PKIKP	**PKPdf**	**08 55 03.8**	**-6.2**	
DPC				MLR	MLR			
	comp=Z,900nm,17.9s							
DPC	**Dobruska-Polom**	**138.82 332**		*e*PKPpre	PKPpre	08 55 03.8		
DPC				AMS	AMS	10 02 40.0		
	comp=Z,900nm,17.9s							
UPC	**Upice**	**138.85 332**		AMS	AMS	10 03 20.0		
	comp=Z,800nm,19.8s							
VYHS	**Vyhne**	**138.87 328**		*e*PKIKP	**PKiKP**	**08 55 14.2**	**+1.9**	
VYHS	**Vyhne**	**138.87 328**		*e*	**PKiKP**	**08 55 14.2**	**+1.9**	
BZS	**Buzias**	**139.10 323**		⇑P	**PKPdf**	**08 55 08.4**	**-2.2**	
BZS	**Buzias**	**139.10 323**		⇑PKIKP	**PKPdf**	**08 55 08.4**	**-2.2**	
JAVC	**Velka Javorina**	**139.21 329**		*e*PKIKP	**PKiKP**	**08 55 12.1**	**-1.0**	
BRG	**Berggiesshubel**	**139.48 334**		*e*PKP	**PKPdf**	**08 55 11.6**	**+0.4**	
BRG				Amp		08 55 21.4		
	comp=Z,12nm,1.2s							
BRG	**Berggiesshubel**	**139.48 334**		PP	PP	08 58 09.0	+3.9	
BRG				SKP		08 58 48.5		
BRG				Amp		08 58 51.3		
	comp=Z,35nm,2.0s							
MDVR	**Moldovita**	**139.51 322**		⇑P	**PKPdf**	**08 55 12.4**	**+0.9**	
CLL	**Collm**	**139.53 335**		*e*PKIKP	**PKiKP**	**08 55 14.0**	**+0.4**	
CLL				*e*		08 58 03.0		
CLL				pmax	pmax			
	comp=Z,11nm,1.4s							
CLL				MLR	MLR			
	comp=Z,700nm,19.1s							
CLL	**Collm**	**139.53 335**		IAMs_20	IAMs_20	10 03 12.7		
	comp=Z,732nm,19.0s							
CLL	**Collm**	**139.53 335**		*e*PKPpre	PKPpre	08 55 09.0		
CLL				*e*PKiKP	**PKiKP**	**08 55 14.0**	**+0.4**	
	comp=Z,11nm,1.4s							
CLL				*ex*	x	08 55 19.0		
	comp=Z,24nm,1.6s							
CLL				*e*PP	**PP**	**08 58 03.0**	**-2.4**	
CLL				*e*PKSdf	**PKSdf**	**08 58 48.0**	**+0.9**	
CLL				*e*SKSac	**SKSac**	**09 02 24.0**	**-2.0**	
CLL				*e*SKKSac	**SKKSac**	**09 05 06.0**	**+6.8**	
CLL				*e*Sdif	**Sdif**	**09 06 30.0**	**-2.7**	
CLL				*e*PPS	PPS	09 10 20.0		
CLL				*e*SS	**SS**	**09 16 28.0**	**+4.3**	
CLL				*ex*	x	09 18 29.0		
CLL				*e*SSS	SSS	09 21 18.0		
CLL				*e*(SSSS)		09 24 54.0		
CLL				LmV		10 03 00.0		
	comp=Z,700nm,19.1s							
KRUC	**Moravsky**	**139.69 330**		*e*PKIKP	**PKPdf**	**08 55 11.9**	**+0.3**	
VTS	**Vitosha**	**139.69 318**		⇑P	**PKiKP**	**08 55 13.6**	**-0.8**	
VTS	**Vitosha**	**139.69 318**		⇑PKIKP	**PKiKP**	**08 55 13.6**	**-0.8**	
MODS	**Modra-Piesok**	**139.73 329**		*e*PKIKP	**PKPdf**	**08 55 12.3**	**+0.5**	
MODS	**Modra-Piesok**	**139.73 329**		*e*PKP	**PKPdf**	**08 55 12.2**	**+0.5**	
PRU	**Pruhonice**	**139.88 333**		*e*PKIKP	PKPpre	08 55 05.6		
PRU				MLR	MLR			
	comp=Z,1μm,19.7s							
PRU	**Pruhonice**	**139.88 333**		*e*PKPpre	PKPpre	08 55 05.6		
PRU				*e*SS	SS	09 16 38.9	+11	
PRU				AMS	AMS	10 00 50.0		
	comp=Z,1μm,19.7s							
MPLH	**Magyarpolny**	**140.40 327**		PKP	**PKiKP**	**08 55 17.2**	**+1.8**	
NKC	**Novy Kostel**	**140.58 335**		*e*PKHKP	PKPpre	08 55 06.0		
NKC				MLR	MLR			
	comp=Z,1μm,19.2s							
NKC	**Novy Kostel**	**140.58 335**		*e*PKPpre	PKPpre	08 55 06.0		
NKC				AMS	AMS	10 03 40.0		
	comp=Z,1μm,19.2s							
RONA	**Rosalia, Austr**	**140.67 329**		*i* P	**PKPdf**	**08 55 14.2**	**+0.7**	
	comp=Z,0.3nm,0.2s							
CONA	**Conrad Observa**	**140.73 329**		*i* P	**PKPdf**	**08 55 13.2**	**-0.5**	
	comp=Z,2.8nm,0.6s							
KOVH	**Kovagotottos**	**140.79 326**		PKP	**PKPdf**	**08 55 11.8**	**-1.8**	
CKRC	**Cesky Krumlov**	**140.83 332**		*e*PKPpre	PKPpre	08 55 07.2		
CKRC				AMS	AMS	09 56 20.0		
	comp=Z,800nm,21.9s							
KHC	**Kasperske Hory**	**140.93 333**		*e*PKHKP	PKPpre	08 55 07.9		
KHC				*e*		08 58 13.9		
KHC				MLR	MLR			
	comp=Z,1μm,17.5s							
KHC	**Kasperske Hory**	**140.93 333**		*e*PKPpre	PKPpre	08 55 07.9		
KHC				*e*PP	**PP**	**08 58 13.9**	**-0.3**	
KHC				*ex*	x	08 59 30.0		
KHC				AMS	AMS	10 02 40.0		
	comp=Z,1μm,17.5s							

GERES	**GERESS Array B**	**141.09 332**		PKhKP	PKPpre	08 55 09.9		
	comp=Z,0.6nm,0.3s,baz=48,slow=4.0,SNR=6.2							
GRA1	**Grafenberg Arr**	**141.50 335**		IAMs_20	IAMs_20	10 00 04.0		
	comp=Z,820nm,20.0s							
GRF	**Grafenberg Arr**	**141.50 335**		*e*PKPdf	**PKiKP**	**08 55 17.1**	**-0.6**	
	baz=39,slow=1.3							
GRFO	**Grafenberg**	**141.51 335**		IAMs_20	IAMs_20	10 00 04.1		
	comp=Z,834nm,20.0s							
SOKA	**Soboth**	**142.00 329**		*e*P	**PKPdf**	**08 55 16.5**	**+0.5**	
	comp=Z,1.6nm,0.5s							
PDG	**Podgorica**	**142.30 320**		IAMs_20	IAMs_20	10 00 11.6		
	comp=Z,1μm,22.0s							
TIR	**Tirane**	**142.50 318**		IAMs_20	IAMs_20	10 00 54.3		
	comp=Z,964nm,21.0s							
STU	**Stuttgart**	**143.05 336**		IAMs_20	IAMs_20	10 03 28.7		
	comp=Z,825nm,20.0s							
ABTA	**Abfaltersbach**	**143.17 331**		*e*P	PKPbc	08 55 15.2	+0.2	
	comp=Z,6.7nm,0.8s,SNR=6.8							
WTTA	**Wattenberg**	**143.19 332**		*e*P	**PKPdf**	**08 55 18.3**	**+0.1**	
	comp=Z,2.2nm,0.5s,SNR=8.0							
MOTA	**Moosalm**	**143.37 333**		*e*P	**PKPdf**	**08 55 19.5**	**+1.0**	
	comp=Z,14nm,0.9s							
SQTA	**Sankt Quirin**	**143.41 332**		*i* P	**PKiKP**	**08 55 20.2**	**-1.6**	
	comp=Z,5.9nm,0.5s							
WLF	**Walferdange**	**143.42 339**		IAMs_20	IAMs_20	10 03 45.5		
	comp=Z,1μm,20.0s							
BFO	**Black Forest**	**143.74 336**		IAMs_20	IAMs_20	10 03 59.0		
	comp=Z,737nm,20.0s							
FETA	**Feichten**	**143.78 333**		*i* P	**PKPdf**	**08 55 20.1**	**+0.9**	
	comp=Z,1.9nm,0.4s,SNR=10							
DAVA	**Damuels**	**143.94 334**		*e*P	**PKPdf**	**08 55 18.3**	**-1.2**	
	comp=Z,8.8nm,0.7s							
ECH	**Echery**	**144.28 337**		IAMs_20	IAMs_20	10 05 28.4		
	comp=Z,740nm,20.0s							
MATE	**Matera**	**144.88 320**		⇑P	**PKPdf**	**08 55 21.5**	**+0.4**	
NRCA	**Norcia**	**145.62 325**			**PKPbc**	**08 55 22.6**	**0.0**	
TIP	**Timpagrande**	**145.67 317**		⇑P	**PKPab**	**08 55 23.6**	**+0.4**	
TIP	**Timpagrande**	**145.67 317**		IAMs_20	IAMs_20	10 04 56.2		
	comp=Z,788nm,20.0s							
SENIN	**Lac Senin/Sane**	**145.75 335**		IAMs_20	IAMs_20	10 02 45.1		
	comp=Z,1μm,20.0s							
PAOL	**Paolisi**	**145.96 322**		PKPdf	**PKPdf**	**08 55 21.6**	**-1.5**	
MSSA	**Maissana**	**146.39 331**			**PKPdf**	**08 55 22.1**	**-1.6**	
LATE	**Laterza**	**146.47 326**		PKPdf	**PKPdf**	**08 55 22.7**	**-1.1**	
CEL	**Celeste**	**146.74 317**		PKPdf	**PKPdf**	**08 55 22.2**	**-2.3**	
CASP	**Castiglione de**	**146.84 327**		PKPdf	**PKPdf**	**08 55 22.1**	**-2.3**	
SSB	**Saint Sauveur**	**147.72 337**		IAMs_20	IAMs_20	10 12 02.3		
	comp=Z,669nm,18.0s							
RCBR	**Riachuelo**	**148.17 132**		IAMs_20	IAMs_20	09 54 56.1		
	comp=Z,911nm,21.0s							
VSL	**Villasalto**	**149.96 325**		IAMs_20	IAMs_20	10 09 07.9		
	comp=Z,555nm,19.0s							
KEST	**Kesra**	**152.46 319**		PKPbc	**PKiKP**	**08 55 41.0**	**+0.2**	
	baz=131,slow=2.6							
CMAH	**Djebel Manchou**	**153.05 322**		P	**PKPbc**	**08 55 41.5**	**-0.3**	
ABSA	**Djebel Ababsia**	**153.26 322**		P	**PKiKP**	**08 55 42.5**	**+0.1**	
DFRA	**Djebel Bou Aff**	**153.99 324**		P	**PKiKP**	**08 55 44.5**	**+0.5**	
PBRG	**Braganca**	**154.11 350**		*e*PKPdf	**PKPbc**	**08 55 42.2**	**-1.7**	
PGAV	**Gavieira, Arco**	**154.18 352**		*e*PKPdf	**PKPdf**	**08 55 39.2**	**+3.2**	
POLO	**Lamas de Olo**	**154.70 351**		*e*PKPdf	**PKPdf**	**08 55 39.9**	**+3.2**	
MVO	**Monvo**	**154.79 350**		*e*PKPdf	**PKPdf**	**08 55 40.4**	**+3.6**	
ESDC	**Sonseca Array**	**155.54 344**		PKP	**PKPdf**	**08 55 37.9**	**0.0**	
	comp=Z,1.4nm,1.0s,baz=352,slow=2.8,SNR=4.4							
ESDC				PKPbc	PKPbc	08 55 46.5		
	comp=Z,1.0nm,0.7s,baz=14,slow=3.2,SNR=7.0							
MTE	**Manteigas**	**155.62 350**		*e*PKPdf	**PKPdf**	**08 55 39.7**	**+1.8**	
PAB	**San Pablo**	**155.76 344**		IAMs_20	IAMs_20	10 13 07.0		
	comp=Z,915nm,20.0s							
PCAS	**Casmilo, Conde**	**156.09 352**		*e*PKPdf	**PKPdf**	**08 55 40.3**	**+1.8**	
CART	**Cartagena**	**156.46 336**		IAMs_20	IAMs_20	10 06 24.4		
	comp=Z,634nm,20.0s							
PMRV	**Mav??o**	**156.54 350**		*e*PKPdf	**PKPdf**	**08 55 41.7**	**+2.6**	
PSBE	**So Bento**	**156.66 352**		*e*PKPdf	**PKPdf**	**08 55 43.3**	**+4.0**	
PMTG	**Montargil**	**157.02 351**		*e*PKPdf	**PKPdf**	**08 55 42.5**	**+2.8**	
PESTR	**Estremoz**	**157.12 350**		*e*PKPdf	**PKPdf**	**08 55 43.4**	**+3.5**	
PMAFR	**Mafra**	**157.27 353**		*e*PKPdf	**PKPdf**	**08 55 40.0**	**-0.1**	
PNCL	**Nicolau / Gran**	**158.01 351**		*e*PKPdf	**PKPdf**	**08 55 43.8**	**+2.8**	
PCVE	**Castro Verde**	**158.40 350**		*e*PKPdf	**PKPdf**	**08 55 45.1**	**+3.6**	
PVAQ	**Vaqueiros**	**158.56 349**		*e*PKPdf	**PKPdf**	**08 55 46.3**	**+4.6**	
PBDV	**Barranco-do-Ve**	**158.76 349**		*e*PKPdf	**PKPdf**	**08 55 45.0**	**+3.0**	
MORF	**Marmelete**	**158.81 351**		*e*PKPdf	**PKPdf**	**08 55 40.6**	**-1.4**	
MORF				IAMs_20	IAMs_20	10 07 27.9		
	comp=Z,1μm,17.3s							
MORF	**Marmelete**	**158.81 351**		*e*PKPdf	**PKPdf**	**08 55 44.6**	**+2.5**	
MORF	**Marmelete**	**158.81 351**		*e*PKIKP	**PKPdf**	**08 55 40.6**	**-1.4**	
PFVI	**Vila Bisbo**	**159.01 351**		*e*PKPdf	**PKPdf**	**08 55 44.1**	**+1.9**	
PMOZ	**P.Moniz, M**	**163.09 13**		*e*PKPdf	**PKPdf**	**08 55 48.1**	**+1.3**	
TORD	**Torodi Ar. Bea**	**165.74 259**		PKP	**PKPdf**	**08 55 49.1**	**-0.5**	
	comp=Z,2.3nm,0.5s,baz=6.5,slow=1.1,SNR=1.7							
TORD				PKPab	**PKPab**	**08 56 49.6**	**+0.8**	
	comp=Z,6.0nm,0.7s,baz=101,slow=4.6,SNR=3.9							
DBIC	**Dimbokro**	**167.71 219**		PKP	**PKPdf**	**08 55 50.8**	**-0.3**	
	comp=Z,5.3nm,1.0s,baz=177,slow=2.3,SNR=3.5							
DBIC				PKPab	**PKPab**	**08 56 58.5**	**+1.3**	
	comp=Z,4.7nm,1.1s,baz=45,slow=1.4,SNR=1.6							
DBIC	**Dimbokro**	**167.71 219**		PKIKP	**PKPdf**	**08 55 50.8**	**-0.3**	

*IDC **30** 08:39:59.3±0.6, 16°.22S×167°.45E, h0km, mb4.5/23, mb1 4.6/25, mb1mx4.4/51, mbtmp4.5/25, ML4.6/2, Error ellipse: s-maj=20.7km s-min=14.0km az=84.0*
*NOU **30** 08:40:01.7, 16°.34S×167°.35E, h1km, MLv5.5/21, Vanuatu Islands*
*NEIC **30** 08:40:04.4±2.1, 16°.17S±0°.05×167°.41E±0°.07, h30km±6km, mb4.9/22, Error ellipse: s-maj=10.5km s-min=7.8km az=78.0*

ISC 30 08:40:01.1±0.4, **16°.24S**±0°.04×**167°.36E**±0°.06, **h10**km, **n93, σ1§39/93, mb4.7/34, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.80**	**349**				**Pn**	**08 40 17.8**	**-0.6**
SANVU	**Saraoutou**	**0.80**	**349**			P	**Pn**	**08 40 18.5**	**+0.1**
DVP	**Devils Point**	**1.68**	**152**			P	**Pn**	**08 40 30.8**	**+0.3**
RTV	**Rentapao**	**1.85**	**147**			P	**Pn**	**08 40 33.8**	**+0.9**
KOUNC	**Koumac, New Ca**	**5.19**	**214**			Pn	**Pn**	**08 41 18.7**	**-0.2**
MARNC	**Mare, Loyalty**	**5.26**	**173**			Pn	**Pn**	**08 41 20.0**	**+0.2**
MARNC	**Mare, Loyalty**	**5.26**	**173**			P	**Pn**	**08 41 20.2**	**+0.5**
YATNC	**Mamie plateau,**	**5.81**	**184**			P	**Pn**	**08 41 26.3**	**-1.1**
DZM	**Mont Dzumac**	**5.87**	**188**			Pn	**Pn**	**08 41 26.1**	**-2.2**
	15nm,0.3s,baz=357,slow=16,SNR=7.4								
DZM						Sn	**Sn**	**08 42 29.3**	**-6.4**
	baz=111,slow=23,SNR=0.9								
DZM	**Mont Dzumac**	**5.87**	**188**			P	**Pn**	**08 41 28.4**	**+0.1**
NOUC	**Port Laguerre**	**5.92**	**190**			P	**Pn**	**08 41 28.9**	**0.0**
ONTNC	**Ouen Toro**	**6.10**	**188**			P	**Pn**	**08 41 30.8**	**-0.6**
OUENC	**Ouen Island, N**	**6.17**	**184**				**Pn**	**08 41 31.1**	**-1.3**
PINNC	**Pines Island,**	**6.34**	**179**			Pn	**Pn**	**08 41 34.8**	**0.0**
HNR	**Honiara**	**9.90**	**312**			Pn	**Pn**	**08 42 22.2**	**-1.3**
	5.5nm,0.3s,baz=78,slow=17,SNR=1.4								
HNR						Sn	**Sn**	**08 44 13.9**	**-0.9**
	10nm,0.3s,baz=199,slow=5.5,SNR=1.7								
MSVF	**Nonsavu**	**10.33**	**100**			Pn	**Pn**	**08 42 30.6**	**+1.0**
	0.2nm,0.3s,baz=272,slow=0.7,SNR=2.4								
FUNA	**Funafuti**	**13.86**	**58**			Pn	**Pn**	**08 43 15.2**	**-2.6**
OUZ	**Omahuta**	**19.71**	**165**			P	**Pn**	**08 44 32.3**	**+0.1**
RMQ	**Roma**	**20.08**	**236**			P	Pn	08 44 37.3	+0.6
	baz=20,SNR=4.9								
CTA	**Charters Tower**	**20.42**	**256**			P	**P**	**08 44 40.0**	**+1.4**
	19nm,0.8s,baz=78,slow=14,SNR=5.4								
CTAO	**Charters Tower**	**20.42**	**256**			P	**P**	**08 44 39.5**	**+0.9**
PMG	**Port Moresby**	**20.82**	**287**			P	Pn	08 44 44.9	-0.5
	13nm,0.8s,baz=278,slow=23,SNR=3.0								
PMG	**Port Moresby**	**20.82**	**287**			IAmb	IAmb	08 44 51.0	
	comp=Z,43nm,1.0s								
MTSU	**Mount Surprise**	**22.10**	**262**			P	**P**	**08 44 58.4**	**+1.7**
	baz=22,SNR=4.8								
HIZ	**Hauiti**	**23.15**	**165**			P	**P**	**08 45 08.3**	**+0.7**
COEN	**Coen**	**23.46**	**272**			P	**P**	**08 45 13.8**	**+2.8**
	baz=24								
URZ	**Urewera**	**23.56**	**161**			P	**P**	**08 45 12.3**	**+0.5**
	comp=Z,15nm,0.5s,baz=106,slow=4.2,SNR=16								
URZ	**Urewera**	**23.56**	**161**			P	**P**	**08 45 13.5**	**+1.7**
URZ						IAmb	IAmb	08 45 13.6	
	comp=Z,57nm,1.2s								
URZ	**Urewera**	**23.56**	**161**			P	**P**	**08 45 13.8**	**+2.1**
	comp=Z,226nm,2.3s								
BKZ	**Black Stump Fm**	**24.20**	**162**			P	**P**	**08 45 18.7**	**+0.7**
BKZ	**Black Stump Fm**	**24.20**	**162**			P	**P**	**08 45 18.9**	**+0.9**
	comp=Z,336nm,0.6s								
CNB	**Canberra Magne**	**24.90**	**217**			P	**P**	**08 45 25.9**	**+1.6**
	baz=25								
QRZ	**Quartz Range**	**24.91**	**171**			P	**P**	**08 45 27.1**	**+2.8**
QRZ						IAmb	IAmb	08 45 28.2	
	comp=Z,42nm,1.1s								
CMSA	**Cobar Meteorol**	**24.92**	**228**			P	**P**	**08 45 25.3**	**+0.8**
	baz=25,SNR=16								
CMSA	**Cobar Meteorol**	**24.92**	**228**			P	**P**	**08 45 25.9**	**+1.4**
	comp=Z,34nm,0.8s								
CAN	**Canberra**	**25.11**	**217**			P	**P**	**08 45 26.7**	**+0.5**
	comp=Z,28nm,0.9s								
BFZ	**Birch Farm**	**25.55**	**164**			P	**P**	**08 45 30.2**	**+0.2**
BFZ	**Birch Farm**	**25.55**	**164**			P	**P**	**08 45 30.4**	**+0.3**
	comp=Z,83nm,1.0s								
TUWZ	**Tuamarina**	**25.74**	**169**			P	**P**	**08 45 32.2**	**+0.4**
MSWZ	**Moikau Station**	**26.00**	**166**			P	**P**	**08 45 34.2**	**+0.1**
PLWZ	**Palliser**	**26.15**	**166**			P	**P**	**08 45 35.6**	**0.0**
KHZ	**Kahutara**	**26.63**	**170**			P	**P**	**08 45 42.1**	**+2.3**
	comp=Z,28nm,0.9s								
QIS	**Mount Isa**	**26.67**	**256**			P	**P**	**08 45 40.8**	**+0.3**
	baz=27,SNR=5.1								
RPZ	**Rata Peaks**	**27.57**	**174**			P	**P**	**08 45 49.4**	**+1.1**
	comp=Z,5.7nm,0.8s,baz=11,slow=18,SNR=1.8								
STKA	**Stephens Creek**	**28.11**	**232**			P	**P**	**08 45 53.3**	**0.0**
	comp=Z,7.3nm,1.0s,baz=40,slow=11,SNR=2.7								
STKA						PcP	**PcP**	**08 49 07.6**	**0.0**
	comp=Z,3.3nm,0.8s,baz=235,slow=6.2,SNR=3.0								
WB0	**Warramunga Arr**	**31.52**	**259**			P	**P**	**08 46 23.0**	**-0.6**
WB0						IAmb	IAmb	08 46 23.9	
	comp=Z,18nm,1.3s								
WRA	**Warramunga Arr**	**31.58**	**258**			P	**P**	**08 46 23.4**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=80,slow=5.4,SNR=3.1								
WRA	**Warramunga Arr**	**31.58**	**258**			P	**P**	**08 46 24.1**	**-0.1**
AS31	**Alice Springs**	**

CTAO	Charters Tower	20.23 256	P	P	08 50 33.7	+0.5
HIZ	Hauiti	23.08 165	P	P	08 51 04.6	+1.0
URZ	Urewera	23.50 160	P	P	08 51 07.0	-0.8
	10nm,0.9s,baz=23,slow=6.6,SNR=5.4					
URZ	Urewera	23.50 160	P	P	08 51 08.7	+0.8
URZ			IAmb	IAmb	08 51 23.4	
	comp=Z,24nm,1.0s					
TUWZ	Tuamarina	25.66 168	P	P	08 51 28.1	+0.3
STKA	Stephens Creek	27.91 232	P	P	08 51 46.0	-2.1
	comp=Z,8.3nm,1.1s,baz=15,slow=18,SNR=3.8					
TOO	Toolangi	28.52 218	P	P	08 51 54.3	+0.7
TOO			IAmb	IAmb	08 51 56.8	
	comp=Z,11nm,1.1s					
WB2	Warramunga Arr	31.38 258	P	P	08 52 18.9	-0.2
WRA	Warramunga Arr	31.39 258	P	P	08 52 18.8	-0.4
	comp=Z,1.1nm,0.7s,baz=88,slow=8.9,SNR=5.3					
WRA			PcP	PcP	08 55 13.9	+0.9
	comp=Z,1.3nm,0.8s,baz=88,slow=4.0,SNR=3.8					
AS31	Alice Springs	32.05 251	P	P	08 52 24.8	-0.3
AS31			IAmb	IAmb	08 52 41.1	
	comp=Z,4.1nm,0.7s					
ASAR	Alice Springs	32.05 251	P	P	08 52 25.6	+0.6
	comp=Z,8.4nm,0.8s,baz=81,slow=9.0,SNR=23					
ASAR			PcP	PcP	08 55 15.8	+1.1
	comp=Z,1.4nm,0.7s,baz=94,slow=2.8,SNR=6.4					
ASAR			ScP	ScP	08 58 59.6	+1.1
	comp=Z,1.0nm,1.1s,baz=106,slow=3.3,SNR=2.8					
ASAR	Alice Springs	32.05 251	P	P	08 52 24.8	-0.3
SIJI	Sorong	38.59 290	P	P	08 53 20.4	-0.9
	comp=Z,4.9nm,0.5s,baz=71,slow=6.3,SNR=4.7					
SBUM	Sibu	57.40 284	P	P	08 55 47.0	0.0
KSM	Kuching	58.85 282	P	P	08 55 58.1	+0.9
KSM			IAmb	IAmb	08 56 03.0	
	comp=Z,6.5nm,0.9s					
MJAR	Matsushiro Arr	59.30 333	P	P	08 55 58.8	-1.1
	comp=Z,2.2nm,0.8s,baz=73,slow=33,SNR=3.1					
MJAR	Matsushiro Arr	59.30 333	P	P	08 55 59.1	-0.8
MJAR			IAmb	IAmb	08 56 03.2	
	comp=Z,3.4nm,0.9s					
JNU	Nakatsue	60.20 325	P	P	08 56 05.5	-0.7
	comp=Z,10nm,0.8s,baz=309,slow=20,SNR=2.1					
VNDA	Vanda	61.25 181	P	P	08 56 11.8	-0.9
	comp=Z,2.2nm,0.9s,baz=336,slow=5.1,SNR=8.1					
VNDA	Vanda	61.25 181	P	P	08 56 13.2	+0.6
VNDA			IAmb	IAmb	08 56 21.4	
	comp=Z,4.8nm,0.9s					
SBA	Scott Base	61.52 180	P	P	08 56 16.6	+2.1
ASAJ	Asahikawa	64.24 341	P	P	08 56 32.2	-0.7
	comp=Z,12nm,1.1s,baz=32,slow=31,SNR=1.1					
KSRS	Korea Array	65.03 326	P	P	08 56 37.4	-0.8
	comp=Z,0.7nm,0.6s,baz=219,slow=52,SNR=2.1					
NJ2	Nanjing	66.78 316	eP	P	08 56 52.0	+2.3
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.5s					
USRK	Ussuriysk Ar.	68.29 333	P	P	08 56 58.6	-0.3
	comp=Z,2.2nm,0.6s,baz=150,slow=35,SNR=3.4					
IPM	Ipoh	68.58 282	P	P	08 57 00.9	-0.6
IPM			IAmb	IAmb	08 57 05.8	
	comp=Z,7.0nm,1.1s					
PETK	Petropavlovsk-	69.66 354	P	P	08 57 05.2	-2.1
	comp=Z,5.1nm,0.9s,baz=210,slow=5.1,SNR=2.9					
GSI	Gununggsitoli	70.85 277	P	P	08 57 15.5	0.0
CN2	Changchun	70.99 329	eP	P	08 57 16.5	+0.9
CN2			pmax	pmax		
	comp=Z,10.0nm,0.7s					
HNS	HongShan	72.76 319	⇓P	P	08 57 30.5	+4.1
HNS			pmax	pmax		
	comp=Z,15nm,0.9s					
QSPA	South Pole Qui	73.68 180	P	P	08 57 31.5	-0.2
	comp=Z,9.9nm,0.9s,baz=338,slow=1.6,SNR=16					
QSPA	South Pole Qui	73.68 180	P	P	08 57 32.4	+0.7
QSPA			IAmb	IAmb	08 57 34.6	
	comp=Z,19nm,1.1s					
AKUT	Akutan	73.92 16	P	P	08 57 34.9	+2.0
XAN	Xi'an	74.73 313	P	P	08 57 44.0	+5.9
XAN			pP	PcP	08 57 49.0	-3.3
XAN			pmax	pmax		
	comp=Z,11nm,0.8s					
CMAR	Chiang Mai Arr	75.54 294	P	P	08 57 43.9	+0.8
	comp=Z,1.4nm,0.3s,baz=110,slow=4.9,SNR=7.4					
CMAR	Chiang Mai Arr	75.54 294	P	P	08 57 44.8	+1.8
CHTO	Chiang Mai	75.68 295	P	P	08 57 45.3	+1.5
CHTO			IAmb	IAmb	08 57 52.8	
	comp=Z,3.6nm,0.8s					
XLT	XiLinHaoTe	75.97 325	⇑iP	P	08 57 50.8	+5.7
XLT			pP	PcP	08 57 54.3	-3.1
XLT			sP	sP	08 57 56.8	+7.8
XLT			S	S	09 07 33.0	+4.8
XLT			sS	sS	09 07 40.0	+7.8
XLT			pmax	pmax		
	comp=Z,22nm,0.7s					
XLT			pmax	pmax		
	comp=Z,99nm,3.6s					
XLT			LR	LR		
	comp=N,64nm,16.9s					
XLT			LR	LR		
	comp=E,750nm,17.7s					
PZH	PanZhiHua	76.51 303	P	P	08 57 53.3	+4.7
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
HHC	Hu-ho-hao-te	76.77 320	eP	P	08 57 51.5	+1.8
MA2	Magadan	76.83 352	P	P	08 57 48.9	-0.6
	comp=Z,4.9nm,0.7s,baz=144,slow=22,SNR=2.3					
MA2	Magadan	76.83 352	P	P	08 57 49.4	-0.1
MA2			IAmb	IAmb	08 57 54.3	
	comp=Z,5.5nm,0.7s					
LZH	Lanzhou	79.35 313	eP	P	08 57 58.0	-6.3
LZH			pP	pP	08 58 04.3	-2.6
LZH			sP	sP	08 58 07.5	-0.3
LZH			pmax	pmax		
	comp=Z,17nm,0.9s					
SEY	Seymchan	79.88 353	P	P	08 58 05.3	-1.0
	comp=Z,1.6nm,0.8s,baz=151,slow=23,SNR=3.2					
SVW2	Sparrevohn	82.72 17	P	P	08 58 21.5	+0.1
SVW2			IAmb	IAmb	08 58 47.2	
	comp=Z,3.6nm,1.0s					
GTA	Gaotai	83.73 314	eP	P	08 58 33.5	+6.2
GTA			pP	PcP	08 58 37.0	+5.5
GTA			sP	sP	08 58 40.5	+10
GTA			pmax	pmax		
	comp=Z,6.0nm,1.2s					
SONM	Songino Array	83.75 324	P	P	08 58 25.3	-2.0
	comp=Z,0.7nm,0.5s,baz=303,slow=38,SNR=2.8					
SONM	Songino Array	83.75 324	P	P	08 58 26.7	-0.5
SONM			IAmb	IAmb	08 58 32.9	
	comp=Z,6.1nm,1.0s					
SHL	Shillong	84.27 299	P	P	08 58 30.4	-0.1
BELA	Belgrano 2	85.12 175	P	P	08 58 32.6	-1.1
CAST	Castle Rocks	85.56 17	P	P	08 58 35.3	-0.6
CAST			IAmb	IAmb	08 58 39.4	
	comp=Z,4.1nm,0.8s					
RDOG	Red Dog Mine	86.93 11	P	P	08 58 42.9	+0.4
RDOG			IAmb	IAmb	08 58 46.1	
	comp=Z,4.1nm,0.9s					
ILAR	Eielson Array	88.09 18	P	P	08 58 45.2	-2.9
	comp=Z,1.3nm,0.8s,baz=239,slow=4.4,SNR=12					
NVAR	Mina Array Bea	88.38 49	P	P	08 58 47.1	-3.3
	comp=Z,0.2nm,0.4s,baz=193,slow=3.7,SNR=1.3					
TIXI	Tiksi	91.54 349	P	P	08 59 04.0	-0.1
	comp=Z,0.9nm,0.3s,baz=91,slow=24,SNR=2.4					
TIXI	Tiksi	91.54 349	IAmb	IAmb	08 59 09.7	
	comp=Z,3.8nm,1.1s					
SNAA	Sanae	91.93 183	P	P	08 59 04.0	-2.3
	comp=Z,3.2nm,1.0s,baz=215,slow=6.2,SNR=4.9					
SNAA	Sanae	91.93 183	P	P	08 59 06.0	-0.3
SNAA			IAmb	IAmb	08 59 21.6	
	comp=Z,6.1nm,1.1s					
WMQ	Urumqi	93.80 314	eP	P	08 59 17.0	+1.7
MKAR	Makanchi Array	96.32 316	P	P	08 59 33.7	-2.1
	comp=Z,0.3nm,0.7s,baz=102,slow=5.0,SNR=1.6					
YKA	Yellowknife Ar	99.02 27	P	Pdif	08 59 37.3	-1.1
	comp=Z,0.9nm,0.8s,baz=255,slow=4.6,SNR=10.0					
ARCES	ARCESS Array B	121.79 345	PKP	PKPdf	09 04 50.4	-1.2
	comp=Z,4.1nm,0.9s,baz=60,slow=3.3,SNR=12					
FINES	FINESS Array B	127.19 338	PKP	PKiKP	09 05 02.2	-0.4
	comp=Z,2.6nm,1.0s,baz=48,slow=2.8,SNR=5.1					
NOA	NORSAR Array B	132.16 344	PKP	PKPdf	09 05 09.5	-2.1
	comp=Z,0.4nm,0.8s,baz=31,slow=2.1,SNR=1.5					
BRTR	Keskin Array B	133.49 310	PKP	PKPdf	09 05 13.2	-1.7
	comp=Z,0.4nm,0.6s,baz=94,slow=1.9,SNR=2.2					
KHC	Kasperske Hory	140.88 332	ePKP	PKiKP	09 05 31.5	+0.7
GERES	GERESS Array B	141.04 332	PKhKP	PKPpre	09 05 24.2	
	comp=Z,0.1nm,0.3s,baz=35,slow=3.6,SNR=1.9					
OBKA	Obir	142.30 329	eP	PKPdf	09 05 29.9	-0.9
	comp=Z,4.8nm,1.5s					
MOTA	Moosalm	143.32 333	eP	PKPdf	09 05 32.6	-0.1
	comp=Z,7.1nm,0.9s					
SQTA	Sankt Quirin	143.37 332	eP	PKPdf	09 05 32.5	-0.2
	comp=Z,3.6nm,0.6s					
FETA	Feichten	143.73 332	eP	PKiKP	09 05 35.3	-1.6
DAVA	Damuels	143.90 334	eP	PKPdf	09 05 32.9	-0.9
	comp=Z,6.8nm,1.2s					
KEST	Kesra	152.39 319	PKPbc	PKiKP	09 05 55.0	+0.1
	comp=Z,6.1nm,0.8s,baz=252,slow=1.6,SNR=5.3					

KRSZO 30 08:59:57.5±3.5, 45.98N×18.36E, h0km, Error ellipse: s-maj=33.6km s-min=7.0km az=170.0, Explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVH	Kovagotottos	0.21	302	Pg	Pg	09 00 01.5	0.0
KOVH				Lg	Lg	09 00 04.4	
KOVH	Kovagotottos	0.21	302	P	Pg	09 00 01.5	0.0
KOVH				S	Sg	09 00 04.4	+0.1
MORH	Mrgy, Hungar	0.31	39	Pg	Pg	09 00 03.5	0.0
MORH				Lg	Lg	09 00 07.4	
MORH	Mrgy, Hungar	0.31	39	P	Pg	09 00 03.5	0.0
MORH				S	Sg	09 00 07.4	0.0

NAO 30 09:10:33.4±2.0, 69.46N×30.73E, ML2.5
KOLA 30 09:10:34.9, 69.46N×30.66E, h0km, ML2.1
HEL 30 09:10:34.9±0.1, 69.38N×30.56E, h0km, ML1.8, Explosion
BER 30 09:10:35.7±2.1, 69.50N×30.69E, h0km, ML2.1, ML2.5(NAO), Suspected explosion

ISC 30 09:10:33.4±0.8, 69.37N±0.04×30.70E±0.02, h0km, n27, σ0.83/40, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRVG	Vayda Guba	0.64	53	P	Pg	09 10 45.1	-0.5
PRVG				S	Sg	09 10 54.1	+0.2
KEV	Kevo	1.35	288	Pg	Pg	09 10 58.7	-0.5
KEV				Lg	Lg	09 11 16.9	
KEV	Kevo	1.35	288	eP	Pg	09 10 58.7	-0.5
KEV				eS	Sg	09 11 17.2	+0.5
KEV	Kevo	1.35	288	eP	Pg	09 10 58.4	-0.8
KEV				MSG		09 11 17.4	
	comp=Z,7.2nm,0.2s						
TERR	Teriberka	1.58	94	P	Pn	09 11 03.1	+0.6
TERR				S	Sn	09 11 23.7	+0.1
VRF	Varrio	1.68	194	eP	Pb	09 11 04.7	-0.4
VRF				eS	Sb	09 11 26.6	-0.1
VRF				MSG		09 11 31.8	
	comp=Z,11nm,0.2s						
ARA0	ARCESS Array S	1.84	278	Pn	Pn	09 11 06.7	+0.5
	baz=94,slow=16						
ARA0				Lg	Lg	09 11 31.1	
	baz=87,slow=28						
ARA0	ARCESS Array S	1.84	278	Pn	Pn	09 11 06.7	+0.5
	baz=94,slow=16						
ARA0				eS	Sb	09 11 31.0	-0.3
ARA0				Sg	Sb	09 11 31.1	-0.3
	baz=87,slow=28						
ARA0				IAML		09 11 48.3	
	comp=Z,26nm,0.6s						
ARA0	ARCESS Array S	1.84	278	eP	Pn	09 11 06.6	+0.4
ARCES	ARCESS Array B	1.84	278	P	Pn	09 11 06.8	+0.7
ARCES				S	Sn	09 11 30.1	0.0
APA0	Apatity Array	1.96	153	Pn	Pb	09 11 09.5	-0.5
	baz=335,slow=16						
APA0				Sn	Sb	09 11 34.5	-0.4
	baz=341,slow=28						
APA0	Apatity Array	1.96	153	Pn	Pb	09 11 09.5	-0.5
	baz=335,slow=16						
APA0				Sn	Sb	09 11 34.5	-0.4
	baz=341,slow=28						
APA0	Apatity Array	1.96	153	P	Pg	09 11 10.8	-0.1
APA0				S	Sg	09 11 35.8	-0.6
APA	Apatity	2.07	150	S	Sg	09 11 39.3	-0.4
LVZ	Lovozero	2.07	134	S	Sb	09 11 38.8	+0.8
LVZ	Lovozero	2.07	134	ePG	Pg	09 11 12.8	-0.1
SGF	Sodankyl	2.48	221	ePB	Pb	09 11 17.3	-1.4
SGF				MSG		09 11 55.5	
	comp=Z,3.8nm,0.2s						
KTK1	Kautokeino	2.69	266	Pn	Pn	09 11 19.6	+1.8
KTK1				Sn	Sn	09 11 52.2	+1.2
KTK1	Kautokeino	2.69	266	eP	Pn	09 11 19.0	+1.2
KTK1				eSg	Sg	09 11 59.3	-0.3
KTK1				IAML		09 12 12.5	
	comp=Z,20nm,0.6s						
HEF	Hetta	2.73	253	Pn	Pn	09 11 18.2	-0.1
HEF				Sn	Sn	09 11 53.3	+1.3
HEF	Hetta	2.73	253	eP	Pn	09 11 20.1	+1.8
HEF	Hetta	2.73	253	eP	Pn	09 11 18.9	+0.6
HAMF	Hammerfest	2.73	301	eSg	Sb	09 11 57.3	+0.5
HAMF				IAML		09 12 16.2	
	comp=Z,16nm,0.6s						
HAMF	Hammerfest	2.73	301	eSB	Sb	09 11 55.6	-1.3
OLKF	Oulanka, Finla	3.10	190	ePB	Pb	09 11 28.4	-0.9
LANU	Lannavaara	3.44	251	eP	Pn	09 11 29.0	+0.8
KIF	Kilpisjarvi	3.55	269	eP	Pn	09 11 31.4	+1.8

IDC 30 09:13:47.7±14.0, 59.50S×27.64W, h0km, mb3.5/1, mb1 3.7/1, mb1mx3.5/19, mbtmp3.5/1, Error ellipse: s-maj=1280.0km s-min=51.1km az=82.0

ISC 30 09:13:50.3±1.8, 59.65S±0.3×31.3W±0.5, h10km, n11, σ1.80/8, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	14.61	149	P	Pn	09 17 18.0	+1.3
VNA3	Neumayer Olymp	14.64	152	P	P	09 17 21.3	-2.2
VNA2	Neumayer--Watz	15.01	149	P	Pn	09 17 23.1	+1.0
	baz=312,slow=12						
SNAA	Sanae	16.64	148	P	Pn	09 17 44.6	+1.3
TROLL	Troll, Antarti	18.28	147	P	Pn	09 18 05.1	+1.4
VNDA	Vanda	42.93	184	P	P	09 21 48.7	+0.2
	0.2nm,0.3s,baz=245,slow=17,SNR=3.1						
H10N1	ASCENSION HYDR	53.15	21	T	T	10 18 38.5	
	baz=187,slow=76,SNR=4.0						
H10N3	ASCENSION HYDR	53.15	21	T	T	10 18 39.8	
	baz=187,slow=76,SNR=9.5						
H10N2	ASCENSION HYDR	53.16	21	T	T	10 18 41.7	
	baz=187,slow=76,SNR=7.1						
YKA	Yellowknife Ar	137.29	317	PKP	PKiKP	09 33 12.7	-1.4
	0.3nm,0.5s,baz=128,slow=2.4,SNR=9.7						
ILAR	Eielson Array	150.69	308	PKPbc	PKiKP	09 33 43.2	+1.7
	0.6nm,0.6s,baz=133,slow=2.5,SNR=9.2						

NNC 30 09:21:40.7±10.0, 36.94N×70.51E, h0km, mb3.7, mpv3.4, 1C-2D, Error ellipse: s-maj=98.0km s-min=79.5km az=52.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.16	0	P	Pn	09 23 14.4	+1.5
	0.8nm,0.3s,baz=174,slow=13,SNR=14						
KK31				⇓S	Sn	09 24 25.1	+1.0
	0.4nm,0.3s,baz=178,slow=20						
TKM2	Tokmak 2	7.14	32	⇑P	Pn	09 23 27.1	+0.5
	1.7nm,0.4s						
AB31	Akbulak array	14.51	331	⇓P	Pn	09 25 02.7	-4.5
	0.4nm,0.6s,baz=163,slow=12,SNR=11						

IDC 30 09:26:27.4±0.5, 16.17S×167.40E, h0km, mb4.5/26, mb1 4.6/29, mb1mx4.5/40, mbtmp4.6/29, ML4.8/3, MS4.2/26, Ms1 4.2/26, ms1mx3.9/61, Error ellipse: s-maj=16.3km s-min=13.2km az=85.0
BJI 30 09:26:27.4±0.0, 15.94S×167.74E, h9km, mb4.9/43, mB5.3/20, Ms5.0/11, Ms7 4.7/11
MOS 30 09:26:28.9±1.0, 16.20S×167.20E, h18km, mb5.2/27, Error ellipse: s-maj=10.8km s-min=8.5km az=41.4
NEIC 30 09:26:29.3±1.8, 16.27S±0.04×167.38E±0.07, h10km±4km, mb5.1/51, Error ellipse: s-maj=9.3km s-min=5.1km az=87.0
NOU 30 09:26:29.5, 16.33S×167.34E, h0km, mb5.2/31, Vanuatu Islands
GCMT 30 09:26:33.3±0.2, 16.27S±0.02×167.17E±0.02, h22km, MW5.1/87, Moment Tensor Solution. s34,c40; s87,c120; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 4.59±.26; Mθθ-0.65±.16; Mϕϕ-3.95±.16; Mrθ-0.04±.25; Mθϕ1.71±.09; Mϕr-2.15±.23; Best double couple: M0 5.10800×10^16 NP1:ϕ327.00000°, δ34.00000°, λ74.00000°. NP2: ϕ167.00000°, δ57.00000°, λ101.00000°. Principal axes: T 5.1350, Plg75.0000°, Azm108.0000°; N -0.0600, Plg9.0000°, Azm341.0000°; P -5.0810, Plg12.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 30 09:26:30.3±0.3, 16.28S±0.04×167.36E±0.05, h20km, n239, σ1.41/228, mb4.9/72, MS4.2/26, 12C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	Saraoutou	0.84	349		Pb	09 26 45.1	-1.1
SANVU				Sg	Sb	09 26 57.3	+0.2
DVP	Devils Point	1.64	151	P	Pn	09 26 59.0	+1.0
RTV	Rentapao	1.82	146	P	Pn	09 27 01.3	+0.8
LIFNC	LIFOU	4.48	181		Pn	09 27 36.2	-0.8
LIFNC				Sn	Sn	09 28 23.0	-5.6
LIFNC	LIFOU	4.48	181	P	Pn	09 27 36.7	-0.4
KOUNC	Koumac, New Ca	5.16	214		Pn	09 27 46.8	+0.4
KOUNC	Koumac, New Ca	5.16	214	P	Pn	09 27 46.4	0.0
MARNC	Mare, Loyalty	5.21	173		Pn	09 27 46.5	-0.6
MARNC	Mare, Loyalty	5.21	173	P	Pn	09 27 46.6	-0.6
YATNC	Mamie plateau,	5.77	184	P	Pn	09 27 54.5	-0.3
DZM	Mont Dzumac	5.83	188	Pn	Pn	09 27 55.6	-0.1
	44nm,0.3s,baz=38,slow=15,SNR=172						
DZM				Sn	Sn	09 29 00.5	-1.6
	64nm,0.3s,baz=117,slow=24,SNR=8.4						
DZM	Mont Dzumac	5.83	188		Pn	09 27 55.7	-0.1
DZM	Mont Dzumac	5.83	188	P	Pn	09 27 55.7	-0.1
NOUC	Port Laguerre	5.88	190	P	Pn	09 27 57.1	+0.8
ONTNC	Ouen Toro	6.06	188		Pn	09 27 58.7	-0.2
ONTNC	Ouen Toro	6.06	188	P	Pn	09 27 59.6	+0.8
OUENC	Ouen Island, N	6.13	185		Pn	09 28 00.2	+0.4
OUENC	Ouen Island, N	6.13	185	P	Pn	09 28 00.6	+0.8
PINNC	Pines Island,	6.30	179		Pn	09 28 03.0	+0.8
PINNC	Pines Island,	6.30	179	P	Pn	09 28 02.9	+0.8
HNR	Honiara	9.93	312	Pn	Pn	09 28 51.4	-0.5
	9.4nm,0.3s,baz=190,slow=3.9,SNR=2.4						
HNR				Sn	Sn	09 30 43.8	+0.9
	12nm,0.3s,baz=80,slow=20,SNR=1.2						
HNR				LR	LR	09 32 17.8	
	comp=Z,882nm,18.7s,baz=152,slow=36						
HNR	Honiara	9.93	312		Pn	09 28 49.7	-2.2
MSVF	Nonsavu	10.32	100	Pn	Pn	09 29 03.4	+5.9
	0.4nm,0.3s,baz=269,slow=11,SNR=11						
MSVF				LR	LR	09 32 08.8	
	comp=Z,4μm,18.1s,baz=260,slow=33						
MSVF	Nonsavu	10.32	100		Pn	09 28 56.2	-1.3
FUNA	Funafuti	13.88	58	Pn	Pn	09 29 45.9	-0.2
EIDS	Eidsvold	17.69	237		Pn	09 30 34.1	-1.5
RAO	Raoul Island	18.71	136	LR	LR	09 36 37.1	
	comp=Z,1μm,19.0s,baz=4.5,slow=32						
KRVT	Keravat (AS076	19.19	307	P	P	09 30 53.1	+0.1
	1.7nm,0.3s,baz=111,slow=8.6,SNR=2.1						
OUZ	Omahuta	19.67	165	P	P	09 30 58.3	+0.2
OUZ				IAmb	IAmb	09 31 04.4	
	comp=Z,98nm,0.9s						
ARMA	Armidale	20.14	223	P	P	09 31 04.4	+1.1
ARMA	Armidale	20.14	223	P	Pn	09 31 05.8	+0.5
AFI	Afiamalu	20.28	86	LR	LR	09 38 03.9	
	comp=Z,286nm,19.0s,baz=258,slow=34						
CTA	Charters Tower	20.41	256	P	P	09 31 07.6	+1.3
	comp=Z,22nm,1.0s,baz=79,slow=11,SNR=15						
CTA				LR	LR	09 38 27.7	
	comp=Z,430nm,18.7s,baz=78,slow=35						
CTAO	Charters Tower	20.41	256	P	P	09 31 04.4	-1.9
CTAO				pmax	pmax		
	comp=Z,46nm,1.2s						
CTAO	Charters Tower	20.41	256	P	P	09 31 04.4	-1.9
CTAO	Charters Tower	20.41	256	P	P	09 31 07.8	+1.5
PMG	Port Moresby	20.84	287	P	P	09 31 11.0	+0.1
	comp=Z,25nm,1.1s,baz=331,slow=22,SNR=3.7						
PMG				LR	LR	09 38 39.4	
	comp=Z,1μm,18.1s,baz=104,slow=35						
PMG	Port Moresby	20.84	287	ceP	P	09 31 11.9	+0.9
PMG				pmax	pmax		
	comp=Z,29nm,1.0s						
PMG	Port Moresby	20.84	287	P	P	09 31 10.3	-0.7
MTSU	Mount Surprise	22.09	262	P	P	09 31 26.3	+1.8
	comp=Z,29nm,0.9s						
HIZ	Hauiti	23.11	165	P	P	09 31 38.1	+3.1
	comp=Z,1μm,1.2s						
COEN	Coen	23.46	272	P	P	09 31 36.1	-2.7
URZ	Urewera	23.52	160	P	P	09 31 41.2	+2.2
	comp=Z,51nm,0.9s,baz=6.3,slow=4.3,SNR=18						
URZ				LR	LR	09 38 53.3	
	comp=Z,710nm,20.2s,baz=31,slow=32						
URZ	Urewera	23.52	160	P	P	09 31 40.0	+0.9
URZ	Urewera	23.52	160	P	P	09 31 41.4	+2.3
BKZ	Black Stump Fm	24.16	162	P	P	09 31 45.9	+0.6
BKZ	Black Stump Fm	24.16	162	P	P	09 31 47.2	+1.9
QRZ	Quartz Range	24.87	171	P	P	09 31 56.1	+4.5
QRZ	Quartz Range	24.87	171	P	P	09 31 53.8	+2.2
CMSA	Cobar Meteorol	24.89	229	P	P	09 31 53.7	+1.7
NNZ	Nelson	25.39	169	P	P	09 31 59.1	+2.8
NNZ				IAmb	IAmb	09 32 04.6	
	comp=Z,67nm,1.1s						
BFZ	Birch Farm	25.51	164	P	P	09 31 59.5	+2.1
SNZO	South Karori	25.74	167	P	P	09 32 01.4	+2.0
SNZO				IAmb	IAmb	09 32 20.5	
	comp=Z,61nm,0.9s						
SNZO	South Karori	25.74	167	P	P	09 32 01.8	+2.3
	comp=Z,90nm,1.2s						
THZ	Tophouse	25.84	170	P	P	09 32 03.9	+3.4
THZ				IAmb	IAmb	09 32 06.9	
	comp=Z,53nm,0.7s						
KHZ	Kahutara	26.58	170	P	P	09 32 09.3	+2.2
KHZ				IAmb	IAmb	09 32 10.5	
	comp=Z,77nm,1.1s						
QIS	Mount Isa	26.66	257	P	P	09 32 09.9	+1.8
LTZ	Lake Taylor	26.75	172	IAmb	IAmb	09 32 13.9	
	comp=Z,84nm,1.3s						
INKA	Innaminka	27.12	241	P	P	09 32 13.9	+1.7
FOZ	Fox Glacier	27.25	176	P	P	09 32 16.3	+3.3
FOZ				IAmb	IAmb	09 32 51.6	
	comp=Z,48nm,1.3s						
RPZ	Rata Peaks	27.53	174	P	P	09 32 17.4	+1.7
	comp=Z,17nm,0.8s,baz=328,slow=2.3,SNR=9.3	

KNRA IAmb IAmb 09 33 53.8
comp=Z,17nm,0.8s
GUMO Guam 37.08 322 LR LR 09 47 31.0
comp=Z,295nm,19.9s,baz=146,slow=34
SIJI Sorong 38.73 290 P **P** **09 33 53.9 +0.4**
comp=Z,2.7nm,0.4s,baz=86,slow=4.9,SNR=5.4
SIJI LR LR 09 49 20.4
comp=Z,601nm,20.5s,baz=138,slow=36
FITZ Fitzroy Crossi 39.84 261 P **P** **09 34 03.5 +0.8**
comp=Z,8.4nm,0.9s,baz=103,slow=6.4,SNR=9.1
FITZ LR LR 09 50 32.2
comp=Z,629nm,18.1s,baz=66,slow=36
PPT Papeete 41.15 98 LR LR 09 48 48.3
comp=Z,149nm,21.4s,baz=286,slow=33
BATI Baumata 42.90 272 LR LR 09 52 09.9
comp=Z,368nm,18.9s,baz=173,slow=36
SANI Sanana 43.10 285 P **P** **09 34 27.9 -1.7**
comp=Z,12nm,1.6s
DAV Davao City (W) 47.41 296 LR LR 09 54 13.9
comp=Z,175nm,19.1s,baz=116,slow=35
KAPI Kappang 47.99 278 LR LR 09 54 47.8
comp=Z,154nm,18.6s,baz=124,slow=35
MORW Morawa 48.70 245 P **P** **09 35 11.9 -1.6**
MPSI Mapaga 49.64 285 P **P** **09 35 21.0 +0.1**
comp=Z,17nm,1.1s
SBUM Sibu 57.55 284 P **P** **09 36 18.7 -0.3**
LEM Lembang 59.11 272 P **P** **09 36 31.4 +1.2**
comp=Z,16nm,0.4s,baz=314,slow=22,SNR=1.8
LEM LR LR 10 02 21.9
comp=Z,132nm,20.2s,baz=127,slow=36
MJAR Matsushiro Arr 59.31 333 P **P** **09 36 29.9 -1.0**
comp=Z,1.5nm,0.5s,baz=108,slow=14,SNR=3.0
MJAR Matsushiro Arr 59.31 333 P **P** **09 36 31.1 +0.2**
MJAR pmax pmax
comp=Z,27nm,1.9s
MJAR Matsushiro Arr 59.31 333 P **P** **09 36 31.1 +0.2**
MJAR IAmb IAmb 09 37 05.8
comp=Z,27nm,1.9s
MAJO Matsushiro *i* **59.32 333** *i* P **P** **09 36 30.2 -0.7**
MAJO pmax pmax
comp=Z,8.0nm,0.8s
VNDA Vanda 61.32 181 P **P** **09 36 45.0 +1.0**
comp=Z,3.8nm,0.7s,baz=27,slow=4.4,SNR=16
VNDA LR LR 10 00 52.7
comp=Z,153nm,18.0s,baz=356,slow=34
VNDA Vanda 61.32 181 P **P** **09 36 45.1 +1.0**
VNDA pmax pmax
comp=Z,25nm,1.3s
VNDA Vanda 61.32 181 P **P** **09 36 45.1 +1.0**
VNDA IAmb IAmb 09 36 52.8
comp=Z,25nm,1.3s
SBA Scott Base 61.60 180 P **P** **09 36 47.0 +1.1**
SBA pmax pmax
comp=Z,25nm,0.9s
SBA Scott Base 61.60 180 P **P** **09 36 47.0 +1.1**
CASY Casey 62.14 203 P **P** **09 36 51.3 +1.6**
CASY IAmb IAmb 09 37 01.0
comp=Z,9.1nm,0.8s
KSRS Korea Array 65.07 326 P **P** **09 37 10.1 +0.7**
comp=Z,0.6nm,0.5s,baz=42,slow=37,SNR=3.9
YSS Yuzh-Sakhalins 66.72 342 *i* P **P** **09 37 19.4 -0.4**
YSS pmax pmax
comp=Z,7.0nm,0.4s
NJ2 Nanjing 66.85 316 *e*P **P** **09 37 22.0 +1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
USRK Ussuriysk Ar. 68.30 333 P **P** **09 37 30.4 +0.5**
comp=Z,3.0nm,0.6s,baz=136,slow=39,SNR=2.4
USRK Ussuriysk Ar. 68.30 333 P **P** **09 37 29.4 -0.5**
SHEM Shemya Is, Ala 68.97 4 LR LR 10 01 49.2
comp=Z,149nm,20.3s,baz=183,slow=31
PET Petropavlovsk 69.42 354*ce*P **P** **09 37 33.2 -3.5**
PET pmax pmax
comp=Z,73nm,1.5s
PEA0B Petropavlovsk- 69.60 354 P **P** **09 37 38.5 +0.7**
PEA0B pmax pmax
comp=Z,144nm,1.7s
PEA0B Petropavlovsk- 69.60 354 P **P** **09 37 38.5 +0.7**
PETK Petropavlovsk- 69.60 354 P **P** **09 37 37.4 -0.4**
comp=Z,12nm,0.9s,baz=157,slow=8.0,SNR=8.5
PETK Petropavlovsk- 69.60 354 P **P** **09 37 38.0 +0.2**
PETK Petropavlovsk- 69.60 354 P **P** **09 37 38.0 +0.2**
MDJ Mudanjiang 69.68 332 P **P** **09 37 38.9 +0.3**
MDJ IAmb IAmb 09 37 42.6
comp=Z,17nm,0.9s
MDJ Mudanjiang 69.68 332 P **P** **09 37 41.5 +3.0**
MDJ pmax pmax
comp=Z,22nm,1.2s
MDJ pmax pmax
comp=Z,280nm,6.2s
GSI Gunungsitoli 71.01 277 P **P** **09 37 46.1 -1.2**
CN2 Changchun 71.01 329 *e*P **P** **09 37 47.3 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
BNX BinXian 71.54 332 ⇓P **P** **09 37 52.3 +2.5**
BNX pmax pmax
comp=Z,47nm,1.1s
BNX pmax pmax
comp=Z,490nm,4.8s
GRNR Gornyy 72.07 340 *e*P **P** **09 37 54.4 +1.5**
KLR Kul'dur 72.45 336 P **P** **09 37 55.8 +0.5**
comp=Z,5.1nm,0.7s,baz=134,slow=6.1
KLR Kul'dur 72.45 336*ce*P **P** **09 37 55.7 +0.5**
KLR pmax pmax
comp=Z,11nm,0.9s
LYN LuoYang 72.63 315 ⇓P **P** **09 37 58.0 +1.4**
LYN sP pP 09 38 04.5 +1.5
HNS HongShan 72.81 318 ⇑P P 09 38 02.5 +4.9
HNS pmax pmax
comp=Z,16nm,0.8s
BJI Beijing 73.52 321 P **P** **09 38 03.0 +1.3**
BJI pmax pmax
comp=Z,7.0nm,1.1s
QSPA South Pole Qui 73.76 180 LR LR 10 06 21.1
comp=Z,140nm,18.9s,baz=334,slow=32
QSPA South Pole Qui 73.76 180 P **P** **09 38 04.1 +1.1**
QSPA IAmb IAmb 09 38 05.5
comp=Z,34nm,0.9s
XAN Xi'an 74.80 313 P **P** **09 38 10.5 +1.1**
XAN pP pP 09 38 14.3 -1.6
XAN sP sP 09 38 16.8 -1.5
XAN pmax pmax
comp=Z,10.0nm,1.3s
KMI Kunming 75.20 302 ⇓P **P** **09 38 14.0 +1.9**
KMI pmax pmax
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 75.66 294 P **P** **09 38 16.1 +1.4**
comp=Z,0.8nm,0.3s,baz=123,slow=4.5,SNR=8.0
CMAR LR LR 10 12 26.8
comp=Z,29nm,18.4s,baz=275,slow=36
CMAR Chiang Mai Arr 75.66 294 P **P** **09 38 14.8 +0.1**
XLT XiLinHaoTe 76.01 324 ⇓ *i*P **P** **09 38 20.0 +3.8**
XLT pP sP 09 38 25.0 0.0
XLT sP PcP 09 38 27.5 -1.0
XLT pmax pmax
comp=Z,19nm,0.7s
XLT pmax pmax
comp=Z,340nm,4.2s
PZH PanZhiHua 76.61 303 P **P** **09 38 21.5 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
MA2 Magadan 76.78 351 LR LR 10 08 51.1
comp=Z,90nm,18.4s,baz=144,slow=33
MA2 Magadan 76.78 351*ce*P **P** **09 38 18.9 -1.2**
MA2 pmax pmax
comp=Z,13nm,1.4s
MA2 Magadan 76.78 351 P **P** **09 38 19.5 -0.6**
MA2 IAmb IAmb 09 38 20.0
comp=Z,12nm,1.3s
HHC Hu-ho-hao-te 76.82 320 *e*P **P** **09 38 20.5 -0.4**
CD2 Chengdu 77.02 308 P **P** **09 38 23.3 +1.1**
CD2 pmax pmax
comp=Z,20nm,0.9s
HIA Hailar 77.67 330 P **P** **09 38 25.2 -0.2**
HIA pmax pmax
comp=Z,10.0nm,1.0s
HIA Hailar 77.67 330 **P** **09 38 25.2 -0.2**
HIA IAmb IAmb 09 38 31.9
comp=Z,10nm,1.0s
ZEA Zeya 77.75 337 *e*P **P** **09 38 26.9 +1.3**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 79.42 312 *e*P **P** **09 38 38.0 +2.4**
LZH pP PcP 09 38 43.5 -0.1
LZH sP sP 09 38 47.0 +2.6
LZH pmax pmax
comp=Z,15nm,1.2s
LZH LR LR
comp=Z,210nm,16.8s
LZH LR LR
comp=Z,350nm,16.1s
LZH LR LR
comp=Z,230nm,17.4s
SEY Seymchan 79.82 353*ce*P **P** **09 38 36.9 +0.1**
SEY pmax pmax
comp=Z,10.0nm,1.0s
MAW Mawson 80.49 202 P **P** **09 38 40.6 0.0**
MAW pmax pmax
comp=Z,3.0nm,1.2s
MAW Mawson 80.49 202 P **P** **09 38 40.6 0.0**
KDAK Kodiak Island 80.87 20 LR LR 10 08 32.9
comp=Z,192nm,19.4s,baz=121,slow=31
ULN Ulaanbaatar 83.43 324 P **P** **09 38 57.0 +0.5**
ULN pmax pmax
comp=Z,13nm,0.9s
ULN Ulaanbaatar 83.43 324 P **P** **09 38 57.0 +0.5**
ULN IAmb IAmb 09 39 08.5
comp=Z,13nm,0.8s
YAK Yakutsk 83.53 343 P **P** **09 38 56.0 -0.5**
comp=Z,7.4nm,0.3s,baz=134,slow=1.8,SNR=4.8
YAK Yakutsk 83.53 343 *e*P **P** **09 38 54.8 -1.6**
YAK *e**PP **sP** **09 39 05.5 0.0**
YAK *e* 09 42 08.0
YAK *e*PPP PPP 09 43 58.9
YAK *e*S **S** **09 49 15.7 -1.2**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=Z,184nm,4.8s
YAK pmax pmax
comp=N,83nm,4.4s
YAK pmax pmax
comp=E,98nm,4.6s
YAK smax smax
comp=E,122nm,4.3s
YAK smax smax
comp=N,59nm,3.0s
YAK Yakutsk 83.53 343 P **P** **09 38 57.0 +0.6**
L19K White Mountain 83.68 17 P **P** **09 38 57.6 +0.3**
L19K IAmb IAmb 09 39 03.1
comp=Z,19nm,1.5s
SONM Songino Array 83.79 324 P **P** **09 38 58.9 +0.6**
comp=Z,3.8nm,0.9s,baz=139,slow=5.4,SNR=14
SONM Songino Array 83.79 324 P **P** **09 38 58.5 +0.2**
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 83.79 324 **P** **09 38 58.5 +0.2**
SONM IAmb IAmb 09 39 09.7
comp=Z,4.9nm,0.9s
GTA Gaotai 83.80 314 *e*P **P** **09 39 00.0 +1.4**
GTA pP PcP 09 39 04.0 +1.4
GTA sP sP 09 39 07.0 -0.5
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,95nm,5.8s
GTA LR LR
comp=Z,180nm,19.3s
GTA LR LR
comp=Z,270nm,18.9s
GTA LR LR
comp=Z,190nm,20.4s
TTA Tatalina 83.98 16 P **P** **09 38 59.6 +0.7**
TTA pmax pmax
comp=Z,12nm,1.4s
TTA Tatalina 83.98 16 P **P** **09 38 59.5 +0.7**
TTA IAmb IAmb 09 39 01.4
comp=Z,12nm,1.4s
BILL Bilibino 84.08 360*ce*P **P** **09 38 59.4 +0.2**
BILL *i* 09 39 02.7
BILL *e* 09 39 09.7
BILL S **S** **09 49 24.0 +1.7**
BILL pmax pmax
comp=Z,12nm,1.3s
BILL MLR MLR
comp=Z,329nm,18.0s
BILL Bilibino 84.08 360 P **P** **09 38 58.7 -0.5**
BILL IAmb IAmb 09 39 00.1
comp=Z,15nm,1.3s
SHL Shillong 84.38 299 P **P** **09 39 01.7 -0.2**
SHL pmax pmax
comp=Z,26nm,1.0s
SHL Shillong 84.38 299 P **P** **09 39 01.7 -0.2**
K20K Telida 84.84 16 P **P** **09 39 02.7 -0.4**
K20K IAmb IAmb 09 39 43.7
comp=Z,14nm,1.4s
CAST Castle Rocks 85.44 17 IAmb IAmb 09 39 07.2
comp=Z,8.1nm,0.7s
ZAK Zakamensk 86.86 325 *e*P **P** **09 39 13.0 -0.6**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
ILAR Eielson Array 87.96 18 P **P** **09 39 17.6 -0.9**
comp=Z,2.5nm,0.8s,baz=238,slow=5.5,SNR=11
NVAR Mina Array Bea 88.21 49 P **P** **09 39 21.5 +1.0**
comp=Z,0.6nm,0.7s,baz=218,slow=5.6,SNR=2.8
NVAR Mina Array Bea 88.21 49 P **P** **09 39 19.9 -0.6**
J25K Salcha River, 88.30 18 IAmb IAmb 09 39 25.5
comp=Z,8.1nm,1.2s
TROLL Troll, Antarti 91.33 185 P **P** **09 39 35.0 +0.5**
TIXI Tiksi 91.50 349 P **P** **09 39 34.1 -0.7**
comp=Z,1.4nm,0.7s,baz=272,slow=23,SNR=5.1
TIXI Tiksi 91.50 349*ce*P **P** **09 39 33.5 -1.3**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
TIXI Tiksi 91.50 349 P **P** **09 39 33.6 -1.2**
TIXI IAmb IAmb 09 39 34.8
comp=Z,13nm,1.7s
SNAA Sanae 92.02 183 P **P** **09 39 37.3 -0.2**
SNAA Sanae 92.02 183 P **P** **09 39 37.5 -0.1**
SNAA pmax pmax
comp=Z,23nm,1.4s
SNAA Sanae 92.02 183 P **P** **09 39 37.5 -0.1**
SNAA IAmb IAmb 09 39 38.9
comp=Z,23nm,1.4s
VNA3 Neumayer Olymp 92.68 181 P **P** **09 39 40.3 -0.3**
VNA2 Neumayer--Watz 92.94 182 P **P** **09 39 41.9 +0.1**
baz=167,slow=4.0
VNA1 Neumayer--Stat 93.24 181 P **P** **09 39 43.2 +0.1**
WMQ Urumqi 93.87 314 *e*P **P** **09 39 47.8 +1.3**
PDAR Pinedale Array 95.92 47 PKKPbc PKKPbc 09 56 44.8 -1.3
comp=Z,0.4nm,0.7s,baz=104,slow=3.8,SNR=5.4
TXAR Lajitas Array 96.93 62 P **P** **09 40 01.3 +0.4**
comp=Z,0.2nm,0.9s,baz=206,slow=3.9,SNR=1.9
TXAR Lajitas Array 96.93 62 P **P** **09 40 00.2 -0.7**
MKAR Makanchi Array 98.38 316 P **P** **09 40 06.8 -0.1**
comp=Z,0.5nm,0.9s,baz=134,slow=10,SNR=3.3
ZALV Zalesovo Beam 98.69 324 P **P** **09 40 06.8 -1.2**
comp=Z,0.3nm,0.4s,baz=115,slow=6.5,SNR=1.5
YKA Yellowknife Ar 98.87 27 P **P** **09 40 06.6 -2.0**
comp=Z,0.6nm,0.7s,baz=251,slow=4.5,SNR=10.0
KURBB Kurchatov Arra 101.67 319 PKKPbc PKKPbc 09 56 28.0 -1.8
comp=Z,0.4nm,0.7s,baz=271,slow=3.5,SNR=4.5
NNA Nana 110.58 110*c* *i*PKIKP **PKiKP** **09 45 01.1 -1.4**
NNA pmax pmax
comp=Z,95nm,2.5s
ARCES ARCESS Array B 121.76 345 PKP **PKPdf** **09 45 21.5 -0.8**
comp=Z,3.4nm,0.7s,baz=56,slow=0.4,SNR=11
KLMR Klimovskoe 122.10 333 *e*PKIKP **PKPdf** **09 45 21.3 -1.8**
KLMR pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 122.10 333 *e*PKPdf **PKPdf** **09 45 21.3 -1.8**
KLMR AMP 09 45 24.8
comp=Z,8.0nm,1.0s
VRH Novokhopyorsk 124.65 322 *e*PKIKP **PKPdf** **09 45 26.3 -2.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 125.15 308*c* *i*PKIKP **PKPdf** **09 45 23.2 -6.7**
GNI pmax pmax
comp=Z,5.0nm,0.5s
ZEI Tsey 125.34 311 *i* PKIKP **PKPdf** **09 45 30.5 +0.3**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
LPSR Galich'ya Gora 125.80 324 *e*PKIKP **PKPdf** **09 45 30.1 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 125.87 312 PKP **PKPdf** **09 45 30.7 -0.1**
comp=Z,1.6nm,0.8s,baz=155,slow=5.3,SNR=4.7
KBZ Khabaz 125.87 312*c* *i*PKIKP **PKiKP** **09 45 32.5 +1.2**
KIV Kislovodsk 125.97 313 *e*PKIKP **PKPdf** **09 45 30.2 -1.0**
KIV pmax pmax
comp=Z,6.0nm,1.0s
VORR Voronezh 125.98 323 *e*PKIKP **PKPdf** **09 45 31.4 +0.6**
VSR Storozhevoye 126.16 322 *e*PKIKP **PKPdf** **09 45 30.2 -1.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 126.18 322 *e*PKIKP **PKPdf** **09 45 30.7 -0.5**
VORD pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 127.19 338 PKP **PKPdf** **09 45 32.2 -0.7**
comp=Z,3.1nm,0.9s,baz=110,slow=4.5,SNR=7.6
NACGM Naroch 130.99 331 *e*PKP **PKPdf** **09 45 36.1 -4.2**
AKASG Malin Array Be 132.06 325 PKP **PKPdf** **09 45 42.9 +0.4**
comp=Z,0.3nm,0.3s,baz=56,slow=2.5,SNR=6.3
AKASG Malin Array Be 132.06 325 **PKPdf** **09 45 42.1 -0.3**
AKBB Malin Array Si 132.06 325*c* *i*PKIKP **PKiKP** **09 45 44.6 +1.1**
NB2 NORSAR Subarra 132.13 345 PKPdf **PKPdf** **09 45 43.0 +0.6**
comp=Z,0.5nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 132.13 345 PKP **PKPdf** **09 45 42.4 0.0**
comp=Z,1.2nm,0.7s,baz=30,slow=2.0,SNR=6.2
BRTR Keskin Array B 133.57 310 PKP **PKPdf** **09 45 45.4 -0.5**
comp=Z,0.8nm,0.8s,baz=104,slow=3.0,SNR=3.6
UZH Uzhgorod 136.95 326 *e*PKHKP PKPpre 09 45 42.7
CRVS Cervenica-Dubn 137.23 327 *e*PKIKP **PKiKP** **09 45 53.8 -0.3**
CRVS Cervenica-Dubn 137.23 327 *e*PKP **PKiKP** **09 45 53.8 -0.3**
KECS Kecovo 138.00 327 *e*PKIKP **PKiKP** **09 45 56.8 +1.1**
KECS Kecovo 138.00 327 *e*PKP **PKiKP** **09 45 56.8 +1.1**
CLL Collm 139.49 335 *i* PKIKP **PKiKP** **09 45 59.0 +0.4**
CLL *i* pPKiKP **pPKPdf** **09 46 01.9 -1.3**
CONA Conrad Observa 140.70 330 *i* P **PKiKP** **09 46 01.8 +0.5**
comp=Z,0.6nm,0.4s
KHC Kasperske Hory 140.90 333 *e*PKIKP **PKiKP** **09 46 02.0 +0.4**
KHC Kasperske Hory 140.90 333 *e*PKP **PKiKP** **09 46 02.0 +0.4**
GERES GERESS Array B 141.05 332 PKPdf PKPpre 09 45 57.8
comp=Z,0.4nm,0.2s,baz=58,slow=2.4,SNR=6.5
SOKA Soboth 141.97 329 *e*P **PKPdf** **09 46 02.1 +1.1**
comp=Z,0.8nm,0.5s
OBKA Obir 142.33 329 *e*P **PKPdf** **09 45 59.9 -1.8**
comp=Z,0.8nm,0.5s
KBA Koelnbreinsper 142.50 331 *e*P **PKPdf** **09 46 01.0 -1.1**
comp=Z,1.1nm,0.6s
MEM Membach 142.61 340 *d*PKiKP **PKiKP** **09 46 05.4 +0.4**
ABTA Abfaltersbach 143.14 331 *e*P PKPbc 09 46 00.7 +0.7
comp=Z,0.8nm,0.3s
WTTA Wattenberg 143.16 332 *e*P **PKPdf** **09 46 04.5 +1.2**
comp=Z,1.5nm,0.5s
BMRD Maredsous 143.27 341 *d*PKiKP **PKiKP** **09 46 06.6 +0.2**
MOTA Moosalm 143.33 333 *e*P **PKPdf** **09 46 03.2 -0.3**
comp=Z,3.1nm,0.7s
SQTA Sankt Quirin 143.38 332 *e*P **PKPdf** **09 46 03.1 -0.5**
comp=Z,6.9nm,1.0s
STAL STALIGIAL 143.40 330 **PKPdf** **09 46 02.8 -0.7**
DOU Dourbes 143.50 341 *d*PKP **PKiKP** **09 46 08.5 +1.7**
FETA Feichten 143.74 333 *e*P PKPbc 09 46 02.8 +1.0
comp=Z,4.0nm,0.7s
DAVA Damuels 143.91 334 *e*P **PKPdf** **09 46 05.0 +0.4**
comp=Z,1.9nm,0.3s
TEOL Teolo 144.55 330 **PKPab** **09 46 03.3 -0.6**
TUE Stuetta 144.77 333 **PKPab** **09 46 05.1 +0.1**
NRCA Norcia 145.59 326 **PKPdf** **09 46 07.7 +0.2**
TIP Timpagrande 145.66 317 **PKPdf** **09 46 06.3 -1.4**
SENIN Lac Senin/Sane 145.71 335 **PKPdf** **09 46 05.6 -2.2**
SENIN **PKPab** **09 46 10.0 +1.5**
BNI Bardonecchia 147.03 334 PKP2 **PKPbc** **09 46 12.9 +0.9**
BNI Bardonecchia 147.03 334 **PKPbc** **09 46 12.9 +0.9**
SSB Saint Sauveur 147.68 337 PKIKP **PKPdf** **09 46 10.6 -0.3**
SSB PKP **PKPbc** **09 46 14.0 +0.3**
SSB Saint Sauveur 147.68 337 **PKPdf** **09 46 10.6 -0.3**
SSB PKPbc **PKPbc** **09 46 14.0 +0.3**
KEST Kesra 152.44 319 PKPbc **PKiKP** **09 46 26.6 +0.7**
comp=Z,12nm,0.9s,baz=237,slow=1.2,SNR=10
ESDC Sonseca Array 155.49 344 PKPbc PKPbc 09 46 30.9
comp=Z,1.2nm,1.1s,baz=281,slow=26,SNR=5.5

*IDC **30** 09:46:22.4±1.0, 19.03N×121.75E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.4/55, mbtmp3.6/8, ML3.6/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/66, Error ellipse: s-maj=36.4km s-min=20.7km az=68.0*
*MAN **30** 09:46:28.8, 19.23N×121.29E, h15km, mb4.7, ML3.6, MS3.5, Hypocentre not reviewed by the ISC*
ISC 30 09:46:29.7±0.9, 19°21'N±0°08×121°4'E±0°1, h46km, n22, σ0s00/16, mb3.4/7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SGCP	**Gonzaga**	**1.14**	**148**	*e*P	**Pn**	**09 46 50.4**	**+1.2**
APYP	**Conner**	**1.35**	**187**	⇑*e*P	**Pn**	**09 46 52.0**	**-0.1**
APYP				*e*S	**Sn**	**09 47 10.2**	**+1.3**
SAMP	**Sagada Mountai**	**2.18**	**193**	*e*P	**Pn**	**09 47 04.4**	**+1.0**
CAUP	**Cauayan**	**2.29**	**170**	*e*P	**Pn**	**09 47 07.8**	**+2.8**
SMPP	**San Manuel, Pa**	**3.13**	**193**	*e*P	**Pn**	**09 47 17.3**	**+0.8**
BOLP	**Bolinao**	**3.16**	**207**	*e*P	**Pn**	**09 47 16.3**	**-0.6**
BALP	**Baler**	**3.46**	**177**	*e*P	**Pn**	**09 47 22.4**	**+1.3**
KSRS	**Korea Array**	**19.04**	**16**	P	**P**	**09 50 46.6**	**-1.3**
	0.2nm,0.3s,baz=194,slow=11,SNR=6.2						
CMAR	**Chiang Mai Arr**	**21.28**	**272**	P	**P**	**09 51 13.3**	**+0.9**
	2.8nm,0.3s,baz=71,slow=8.1,SNR=5.7						
WRA	**Warramunga Arr**	**40.92**	**161**	P	**P**	**09 54 04.1**	**-3.7**
	0.3nm,0.7s,baz=342,slow=9.0,SNR=5.4						
MKAR	**Makanchi Array**	**42.15**	**320**	P	**P**	**09 54 18.5**	**+0.9**
	0.2nm,0.6s,baz=110,slow=8.4,SNR=2.1						
H11S3	**WAKE ISLAND Hy**	**42.76**	**83**	T	T	10 40 05.7	
	baz=273						
H11S1	**WAKE ISLAND Hy**	**42.77**	**83**	T	T	10 40 04.9	
	baz=273						
H11S2	**WAKE ISLAND Hy**	**42.77**	**83**	T	T	10 40 05.4	
	baz=273						
H11N1	**WAKE ISLAND Hy**	**42.78**	**81**	T	T	10 40 06.1	
	baz=277,slow=74,SNR=14						
H11N2	**WAKE ISLAND Hy**	**42.78**	**81**	T	T	10 40 02.2	
	baz=277,slow=74,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**42.80**	**81**	T	T	10 40 01.9	
	baz=277,slow=74,SNR=6.8						
ASAR	**Alice Springs**	**44.33**	**164**	P	**P**	**09 54 33.0**	**-2.4**
	0.5nm,1.1s,baz=338,slow=6.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**44.58**	**330**	P	**P**	**09 54 39.3**	**+2.3**
	0.7nm,0.6s,baz=99,slow=8.9,SNR=1.8						
KURBB	**Kurchatov Arra**	**46.11**	**323**	P	**P**	**09 54 52.1**	**+2.9**
	0.2nm,0.4s,baz=121,slow=8.3,SNR=1.7						
TIXI	**Tiksi**	**52.62**	**3**	LR	LR	10 22 23.8	
	comp=Z,133nm,18.6s,baz=0.0,slow=41						
YKA	**Yellowknife Ar**	**87.45**	**23**	P	**P**	**09 59 11.2**	**-0.9**
	0.2nm,0.6s,baz=306,slow=4.6,SNR=5.2						

*SOME **30** 09:55:25.8, 44.57N×82.42E, h30km*
*NNC **30** 09:55:29.1±1.9, 44.73N×82.06E, h0km, mb2.8, mpv2.3, Error ellipse: s-maj=27.0km s-min=7.7km az=117.0*
ISC 30 09:55:26.4±2.0, 44°64'N±0°08×82°3'E±0°1, h10km, n8, σ0s88/16, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
DJR	**Jarkent**	**1.85**	**261**	*e*P	**Pb**	**09 55 59.4**	**-0.9**
	1.6nm,0.1s						
DJR				*e*S	**Sb**	**09 56 23.8**	**+0.2**
	4.4nm,0.2s						
MK31	**Makanchi Array**	**2.15**	**359**	⇑Pn	**Pb**	**09 56 05.2**	**-0.2**
	1.5nm,0.3s,baz=189,slow=15,SNR=32						
MK31				⇓Sn	**Sb**	**09 56 32.9**	**+0.7**
	1.9nm,0.4s,baz=185,slow=26,SNR=3.6						
MAKZ	**Makanchi**	**2.18**	**353**	⇑Pn	**Pb**	**09 56 04.6**	**-1.3**
	1.2nm,0.5s						
MAKZ				⇓Sn	**Sb**	**09 56 32.9**	**-0.1**
	2.0nm,0.7s						
KAPS	**Kapalarasan**	**2.21**	**288**	*e*P	**Pb**	**09 56 05.5**	**-1.0**
	1.2nm,0.1s						
KAPS				*e*S	**Sb**	**09 56 34.4**	**+0.4**
	4.3nm,0.1s						
PDGK	**Podgornoye**	**2.44**	**238**	⇑Pn	**Pn**	**09 56 07.4**	**+1.0**
	0.6nm,0.5s						
PDGK				⇓Sn	**Sb**	**09 56 40.1**	**-0.5**
	8.4nm,0.8s						
BLB	**Baldybastay**	**2.82**	**260**	*e*P	**Pb**	**09 56 16.0**	**-1.0**
	2.9nm,0.1s						
BLB				*e*S	**Sb**	**09 56 52.2**	**+0.6**
	3.3nm,0.1s						
KPKS	**Kokpek**	**2.89**	**247**	*e*P	**Pb**	**09 56 17.1**	**-0.9**
	2.4nm,0.3s						
KPKS				*e*S	**Sb**	**09 56 53.9**	**+0.5**
	6.6nm,0.4s						
ARXS	**Arharly**	**3.26**	**264**	*e*P	**Pb**	**09 56 23.6**	**-0.8**
	1.5nm,0.3s						
ARXS				*e*S	**Sb**	**09 57 05.3**	**+1.2**
	4.3nm,0.3s						

*ATH **30** 10:02:25.2,37˚.56N×23˚.56E,h14km±5km,ML3.3/8,Error ellipse: s-maj=5.4km s-min=0.8km az=125.0*
*THE **30** 10:02:25.1,37˚.55N×23˚.58E,h5km±1km,ML3.4/12,Error ellipse: s-maj=1.3km s-min=0.4km az=104.0*
*ISK **30** 10:02:26.3,37˚.63N×23˚.53E,h26km,ML3.5/14*
*IDC **30** 10:02:29.4±2.6,37˚.59N×23˚.63E,h43km±30km,mb3.4/6,mb1 3.6/8,mb1mx3.3/51,mbtmp3.6/8,ML3.3/2,Error ellipse: s-maj=27.9km s-min=22.1km az=126.0*

ISC 30 10:02:24.4±1.1,37˚.59N±0˚.02×23˚.59E±0˚.02,h6km±8km, n61,σ0°86/89,mb3.5/6,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YDRA	**Hydra**	**0.26**	**202**	P	**Pg**	**10 02 29.6**	**+0.1**
YDRA				S	**Sg**	**10 02 33.8**	**+0.9**
VLY	**Voula,Athens**	**0.31**	**33**	P	**Pb**	**10 02 31.8**	**-0.6**
VLY				S	**Sb**	**10 02 37.5**	**-0.1**
VLY				AML	AML	10 02 37.9	
	comp=E,19511µm,0.4s						
VLY				AML	AML	10 02 39.0	
	comp=N,12772µm,0.3s						
VLY	**Voula,Athens**	**0.31**	**33**	P	**Pb**	**10 02 31.5**	**-0.8**
VLY				S	**Sb**	**10 02 37.2**	**-0.5**
	comp=N,8µm,0.3s						
ATH	**Athens Observa**	**0.39**	**15**	P	**Pb**	**10 02 33.7**	**-0.1**
ATH				S	**Sb**	**10 02 40.6**	**+0.5**
ATH				AML	AML	10 02 41.1	
	comp=E,14611µm,0.4s						
ATH				AML	AML	10 02 41.2	
	comp=N,24252µm,0.5s						
ATH	**Athens Observa**	**0.39**	**15**	P	**Pb**	**10 02 33.6**	**-0.2**
ATH				S	**Sb**	**10 02 40.4**	**+0.3**
	comp=N,10µm,0.5s						
ATHU	**Athens Univers**	**0.41**	**23**	P	**Pb**	**10 02 33.5**	**-0.5**
ATHU				S	**Sb**	**10 02 40.4**	**0.0**
ATHU				AML	AML	10 02 41.7	
	comp=E,2183µm,0.2s						
ATHU				AML	AML	10 02 42.6	
	comp=N,3059µm,0.4s						
ATHU	**Athens Univers**	**0.41**	**23**	P	**Pb**	**10 02 33.3**	**-0.7**
ATHU				S	**Sb**	**10 02 40.3**	**-0.2**
KRND	**KRANIDI**	**0.41**	**239**	P	**Pg**	**10 02 32.0**	**-0.2**
KRND				S	**Sg**	**10 02 38.3**	**+0.8**
KRND				AML	AML	10 02 38.8	
	comp=E,20593µm,0.4s						
KRND				AML	AML	10 02 40.2	
	comp=N,18928µm,0.4s						
KRND	**KRANIDI**	**0.41**	**239**	P	**Pg**	**10 02 31.9**	**-0.3**
KRND				S	**Sg**	**10 02 38.4**	**+0.8**
	comp=N,10µm,0.4s						
PTL	**Penteli**	**0.51**	**26**	P	**Pb**	**10 02 35.3**	**-0.4**
PTL				S	**Sb**	**10 02 43.6**	**+0.2**
PTL				AML	AML	10 02 44.6	
	comp=N,4481µm,0.2s						
PTL				AML	AML	10 02 47.5	
	comp=E,4740µm,0.4s						
PTL	**Penteli**	**0.51**	**26**	P	**Pb**	**10 02 35.2**	**-0.6**
PTL				S	**Sb**	**10 02 43.7**	**+0.2**
	comp=E,2µm,0.3s						
DION	**Dionisos Attik**	**0.56**	**30**	P	**Pb**	**10 02 36.6**	**0.0**
DION				S	**Sb**	**10 02 45.2**	**+0.3**
DION				AML	AML	10 02 51.0	
	comp=E,6487µm,0.6s						
DION				AML	AML	10 02 53.8	
	comp=N,5376µm,0.6s						
DION	**Dionisos Attik**	**0.56**	**30**	P	**Pb**	**10 02 36.1**	**-0.5**
DION				S	**Sb**	**10 02 44.4**	**-0.5**
	comp=N,5µm,0.6s						
VILL	**Villia**	**0.61**	**339**	P	**Pb**	**10 02 37.1**	**-0.4**
VILL				S	**Sb**	**10 02 47.0**	**+0.6**
	comp=N,5µm,0.7s						
VIL2	**Platees**	**0.67**	**338**	P	**Pb**	**10 02 37.3**	**-1.2**
VIL2				S	**Sb**	**10 02 47.2**	**-0.8**
VIL2				AML	AML	10 02 52.2	
	comp=E,9492µm,0.7s						
VIL2				AML	AML	10 02 53.3	
	comp=N,5659µm,0.5s						
KARY	**Karystos**	**0.80**	**57**	P	**Pb**	**10 02 40.8**	**0.0**
KARY				S	**Sn**	**10 02 52.9**	**-1.7**
KARY	**Karystos**	**0.80**	**57**	P	**Pb**	**10 02 40.7**	**-0.1**
KARY				S	**Sn**	**10 02 52.9**	**-1.7**
THAL	**Thalero**	**0.85**	**302**	P	**Pn**	**10 02 42.2**	**-0.8**
MNVA	**Monemvasia**	**1.00**	**206**	P	**Pg**	**10 02 43.9**	**+0.3**
MNVA				S	**Sb**	**10 02 58.2**	**+0.5**
VLI	**Veliai**	**1.01**	**211**	P	**Pg**	**10 02 43.1**	**-0.7**
VLI				S	**Sb**	**10 02 58.3**	**+0.3**
VLI	**Veliai**	**1.01**	**211**	P	**Pg**	**10 02 42.9**	**-1.0**
VLI				S	**Sb**	**10 02 58.0**	**0.0**
	comp=N,2µm,0.8s						
MHLO	**Agia Marina, M**	**1.11**	**144**	P	**Pn**	**10 02 46.9**	**+0.3**
MHLO	**Agia Marina, M**	**1.11**	**144**	P	**Pb**	**10 02 46.0**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.11**	**21**	P	**Pn**	**10 02 46.7**	**+0.1**
KYMI				S	**Sn**	**10 03 03.5**	**+1.2**
KYMI				AML	AML	10 03 04.7	
	comp=E,4074µm,0.5s						
KYMI				AML	AML	10 03 05.6	
	comp=N,6279µm,0.8s						
KYMI	**Kymi, Euboea I**	**1.11**	**21**	P	**Pn**	**10 02 46.4**	**-0.2**
KYMI				S	**Sn**	**10 03 03.2**	**+0.9**
	comp=N,3µm,0.7s						
LKR	**Lokris**	**1.15**	**337**	P	**Pn**	**10 02 47.9**	**+0.8**
LKR	**Lokris**	**1.15**	**337**	P	**Pn**	**10 02 47.4**	**+0.3**
LKR				S	**Sn**	**10 03 04.9**	**+1.7**
	comp=N,2µm,0.7s						
ATAL	**Atalanti**	**1.18**	**338**	P	**Pn**	**10 02 47.4**	**-0.2**
ATAL	**Atalanti**	**1.18**	**338**	P	**Pn**	**10 02 47.2**	**-0.4**
ATAL				S	**Sn**	**10 03 06.2**	**+2.2**
	comp=N,2µm,0.9s						
KLV	**Kalavryta, Ach**	**1.22**	**292**	P	**Pn**	**10 02 48.0**	**-0.1**
KLV	**Kalavryta, Ach**	**1.22**	**292**	P	**Pg**	**10 02 47.3**	**-0.5**
KLV				S	**Sn**	**10 03 05.7**	**+0.7**
	comp=N,462nm,0.7s						
ITM	**Ithomi**	**1.38**	**253**	P	**Pn**	**10 02 50.1**	**-0.2**
ITM	**Ithomi**	**1.38**	**253**	P	**Pn**	**10 02 50.1**	**-0.2**
ITM				S	**Sn**	**10 03 09.3**	**+0.3**
	comp=N,578nm,0.8s						
ITM	**Ithomi**	**1.38**	**253**	PN	**Pn**	**10 02 50.3**	**0.0**
ITM				SN	**Sg**	**10 03 07.2**	**-1.7**
KTHR	**Kythira**	**1.41**	**199**	P	**Pn**	**10 02 50.2**	**-0.4**
APE	**Apeiranthos**	**1.64**	**108**	PN	**Pb**	**10 02 54.8**	**-0.2**
APE				SN	**Sb**	**10 03 16.1**	**+0.2**
AGG	**Agios Georgios**	**1.73**	**326**	P	**Pb**	**10 02 55.7**	**-1.0**
AGG	**Agios Georgios**	**1.73**	**326**	PN	**Pn**	**10 02 55.4**	**+0.2**
XOR	**Xorichti**	**1.80**	**350**	P	**Pn**	**10 02 56.0**	**0.0**
RODP	**Rodopos**	**2.03**	**176**	PN	**Pn**	**10 03 00.5**	**+1.3**
CHOS	**Chios island**	**2.11**	**67**	PN	**Pb**	**10 03 01.6**	**-1.4**
IMMV	**Iera Moni Meta**	**2.15**	**171**	PN	**Pn**	**10 03 01.8**	**+1.0**
KNDR	**Palaiochora Ch**	**2.36**	**178**	PN	**Pn**	**10 03 04.8**	**+1.2**
URLA	**Izmir**	**2.50**	**71**	PN	**Pn**	**10 03 05.9**	**+0.3**
IDI	**Anoyia**	**2.53**	**155**	P	**Pn**	**10 03 07.4**	**+1.3**
	comp=N,3.4nm,0.3s,baz=307,slow=14,SNR=12						
IDI				S	**Sn**	**10 03 34.6**	**-2.7**
	comp=N,5.3nm,0.3s,baz=289,slow=17,SNR=5.8						
IDI	**Anoyia**	**2.53**	**155**	PN	**Pn**	**10 03 07.4**	**+1.3**
OUR	**Ouranopolis**	**2.75**	**6**	PN	**Pn**	**10 03 09.4**	**+0.3**
GVD	**Gavdhos**	**2.78**	**171**	PN	**Pn**	**10 03 11.2**	**+1.7**
HORT	**Hortiatis**	**3.02**	**353**	PN	**Pn**	**10 03 13.6**	**+0.7**
GRG	**Griva**	**3.48**	**345**	PN	**Pn**	**10 03 20.5**	**+1.3**
GELI	**Tayfur-Gelibol**	**3.59**	**38**	PN	**Pn**	**10 03 21.1**	**+0.5**
FNA	**Florina**	**3.62**	**332**	PN	**Pn**	**10 03 21.0**	**-0.1**
RDO	**Rodhopi**	**3.86**	**22**	PN	**Pn**	**10 03 25.0**	**+0.7**
MLR	**Muntele Rosu**	**8.09**	**12**	P	**Pn**	**10 04 24.8**	**+2.3**
	comp=N,0.2nm,0.3s,baz=184,slow=13,SNR=3.7						
BRTR	**Keskin Array B**	**8.15**	**72**	P	Pn	10 04 29.3	+5.9
	baz=271,slow=11,SNR=3.8						
ESDC	**Sonseca Array**	**21.59**	**284**	P	**P**	**10 07 15.7**	**+0.7**
	comp=N,0.3nm,0.5s,baz=74,slow=11,SNR=2.4						
FINES	**FINESS Array B**	**23.93**	**3**	P	**P**	**10 07 38.8**	**-0.1**
	comp=N,1.0nm,0.8s,baz=208,slow=9.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**31.21**	**225**	P	**P**	**10 08 45.4**	**+0.7**
	comp=N,1.3nm,0.3s,baz=34,slow=8.6,SNR=1.6						
MKAR	**Makanchi Array**	**43.54**	**58**	P	**P**	**10 10 28.5**	**-0.4**
	comp=N,0.5nm,0.6s,baz=282,slow=6.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**44.28**	**48**	P	**P**	**10 10 34.4**	**-0.3**
	comp=N,0.6nm,0.5s,baz=282,slow=7.0,SNR=4.1						
YKA	**Yellowknife Ar**	**74.74**	**341**	P	**P**	**10 14 04.2**	**-0.6**
	comp=N,0.3nm,0.7s,baz=31,slow=5.4,SNR=5.8						

*IDC **30** 10:06:16.4±3.0,5˚.91S×130˚.53E,h102km±35km,mb3.5/2,mb1 3.7/5,mb1mx3.3/37,mbtmp4.0/5,Error ellipse: s-maj=64.4km s-min=21.4km az=82.0*

*DJA **30** 10:06:18.3±0.5,6˚S±3˚×13˚1E±˚,h130km±17km,M4.2/9,mb4.1/3,mB4.8/2,MLv4.2/9,Mw(mB)4.1/2*

ISC 30 10:06:17.3±0.7,5˚.77S±0˚.05×130˚.81E±0˚.07,h150km,n22, σ2s67/27,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.53**	**324**	P	**Pn**	**10 06 48.7**	**+1.4**
SAUI	**Saumlaki**	**2.25**	**168**	P	**Pn**	**10 06 55.1**	**-0.4**
MSAI	**Masohi**	**3.05**	**322**	P	**Pn**	**10 07 06.7**	**+1.3**
MSAI				S	**Sn**	**10 07 42.2**	**-0.3**
AAI	**Ambon**	**3.33**	**308**	P	**Pn**	**10 07 10.3**	**+1.4**
SIJI	**Sorong**	**4.88**	**5**	P	**Pn**	**10 07 30.0**	**+0.7**
	5.5nm,0.3s,baz=193,slow=18,SNR=30						
SIJI				S	**Sn**	**10 08 20.9**	**-4.6**
	25nm,0.3s,baz=71,slow=24,SNR=29						
SWI	**Sorong**	**4.89**	**5**	P	**Pn**	**10 07 30.4**	**+1.1**
SWI				S	**Sn**	**10 08 22.5**	**-3.0**
SANI	**Sanana**	**6.07**	**307**	P	**Pn**	**10 07 44.6**	**-0.4**
	0.0nm5.7nm,0.4s						
LBMI	**Labuha**	**6.07**	**327**	P	**Pn**	**10 07 44.7**	**-0.4**
	0.1nm709nm17nm,0.7s						
LBMI				S	**Sn**	**10 08 51.4**	**-2.3**
	0.1nm709nm17nm,0.7s						
SRPI	**Serui, Papua**	**6.65**	**55**	P	**Pn**	**10 07 54.0**	**+1.2**
KDU	**Kakadu**	**7.07**	**167**	P	**Pn**	**10 07 57.2**	**-1.2**
KNRA	**Kununurra**	**10.05**	**191**	P	**Pn**	**10 08 36.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**13.26**	**202**	P	**Pn**	**10 09 16.8**	**-3.1**
	0.9nm,0.3s,baz=33,slow=11,SNR=35						
FITZ				S	Sn	10 11 31.8	-15
	0.5nm,0.3s,baz=105,slow=18,SNR=3.1						
PLAI	**Plampang**	**13.28**	**256**	P	**P**	**10 09 25.1**	**+0.5**
WRAB	**Tennant Creek**	**14.50**	**167**	P	**P**	**10 09 37.0**	**-1.1**
WRA	**Warramunga Ar**	**14.50**	**167**	P	**Pn**	**10 09 32.3**	**-3.4**
	0.2nm,0.3s,baz=345,slow=11,SNR=18						
WRA				S	Sn	10 12 02.2	-14
	0.8nm,0.3s,baz=344,slow=22,SNR=9.9						
COEN	**Coen**	**14.64**	**125**	P	**P**	**10 09 39.8**	**+0.1**
QIS	**Mount Isa**	**17.00**	**151**	P	**Pn**	**10 10 09.0**	**+2.6**
MTSU	**Mount Surprise**	**18.03**	**134**	P	**Pn**	**10 10 20.7**	**+2.1**
ASAR	**Alice Springs**	**18.05**	**171**	P	**Pn**	**10 10 20.2**	**+1.4**
	0.6nm,0.3s,baz=352,slow=10,SNR=54						
ASAR				S	**S**	**10 13 28.5**	**-8.0**
	0.0nm,0.3s,baz=354,slow=28,SNR=4.8						
WRKA	**Warakurna**	**19.32**	**187**	P	**Pn**	**10 10 34.2**	**+0.5**
STKA	**Stephens Creek**	**27.87**	**160**	P	**P**	**10 11 55.6**	**+2.6**
	2.3nm,0.9s,baz=313,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**67.65**	**326**	P	**P**	**10 17 02.3**	**+4.1**
	0.3nm,0.7s,baz=115,slow=7.8,SNR=2.5						

TAP 30 10:09:49.4,24˚.24N×121˚.73E,h9km,ML2.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.07**	**12**	P	Pg	10 09 52.2	+0.7
	baz=19						
EHP				S	Sg	10 09 54.0	+1.1
	baz=19						
ETL	**Fush Village**	**0.12**	**228**	P	Pg	10 09 53.2	+0.9
	baz=227						
ETL				S	Sg	10 09 55.5	+1.3
	baz=227						
NACB	**Ninganchiao**	**0.14**	**240**	P	Pg	10 09 53.2	+0.8
	baz=239						
NACB				S	Sg	10 09 55.8	+1.2
	baz=239						
ENA	**Nanau**	**0.18**	**5**	*i* P	Pg	10 09 54.0	+0.7
	baz=6.0						
ENA				*i* S	Sg	10 09 57.2	+1.3
	baz=6.0						
TWD	**Chiawan**	**0.20**	**216**	*i* P	Pg	10 09 54.0	+0.5
	baz=214						
TWD				*i* S	Sg	10 09 57.2	+0.9
	baz=214						
EWUT	**Wuta**	**0.21**	**14**	P	Pg	10 09 54.4	+0.8
	baz=13						
EWUT				*e*S	Sg	10 09 57.5	+1.0
	baz=13						
ETLH	**Xiulin Townshi**	**0.23**	**261**	*e*P	Pg	10 09 55.0	+1.0
	baz=260						
ETLH				S	Sg	10 09 59.2	+2.0
	baz=260						
HWA	**Hwalien**	**0.29**	**203**	*e*P	Pb	10 09 56.3	-0.4
	baz=200						
HWA				*e*S	Sb	10 10 01.3	-0.2
	baz=200						
LATG	**Datong**	**0.34**	**328**	P	Pb	10 09 57.2	-0.5
	baz=328						
LATG				S	Sb	10 10 02.9	-0.5
	baz=328						
ETM	**Tongmen**	**0.35**	**218**	P	Pb	10 09 57.0	-0.7
	baz=217						
ETM				S	Sb	10 10 02.2	-1.1
	baz=217						
NNSB	**Datong**	**0.36**	**301**	P	Pb	10 09 57.9	-0.2
	baz=300						
NNSB				S	Sb	10 10 03.4	-0.5
	baz=300						
NNS	**Nan Shan**	**0.38**	**301**	P	Pb	10 09 58.8	+0.5
	baz=301						
NNS				*i* S	Sb	10 10 03.8	-0.5
	baz=301						
TWC	**Suao**	**0.38**	**17**	P	Pg	10 09 57.4	+0.5
	baz=18						
TWC				S	Sg	10 10 03.0	+1.1
	baz=18						
NDS	**Dongshan**	**0.39**	**359**	P	Pb	10 09 58.0	-0.4
	baz=358						
NDS				*e*S	Sb	10 10 03.5	-1.1
	baz=358						
TEYL	**Yanliau Villag**	**0.39**	**197**	P	Pg	10 09 57.5	+0.5
	baz=198						
TEYL				S	Sb	10 10 03.7	-0.9
	baz=198						
ENTT	**Nioudou**	**0.42**	**340**	*i* P	Pb	10 09 59.0	0.0
	baz=340						
ENTT				*i* S	Sb	10 10 05.0	-0.5
	baz=340						
WHF	**Hehuan Shan**	**0.43**	**257**	*i* P	Pb	10 09 59.4	0.0
	baz=256						
WHF				S	Sb	10 10 04.9	-1.2
	baz=256						
TWE	**Neicheng**	**0.48**	**354**	*i* P	Pb	10 09 59.8	-0.2
	baz=355						
TWE				*i* S	Sb	10 10 06.9	-0.2
	baz=355						
TWT	**Tachien**	**0.50**	**271**	P	Pb	10 10 00.1	-0.3
	baz=270						
TWT				S	Sb	10 10 08.2	+0.3
	baz=270						
ESL	**Shilin**	**0.50**	**212**	P	Pb	10 09 59.9	-0.5
	baz=211						
ESL				*e*S	Sb	10 10 08.0	+0.2
	baz=211						
TDCB	**Techi**	**0.52**	**271**	*e*S	Sb	10 10 08.6	+0.2
	baz=271						
ILA	**Ilan**	**0.52**	**2**	*e*P	Pb	10 10 01.0	+0.3
	baz=3.0						
ILA				S	Sb	10 10 08.5	+0.2
	baz=3.0						
FUSB	**Fushanzhiwuyua**	**0.53**	**346**	P	Pb	10 10 00.9	0.0
	baz=346						
FUSB				S	Sb	10 10 08.0	-0.6
	baz=346						
YHNB	**Yeheng**	**0.53**	**323**	P	Pb	10 10 01.3	+0.4
	baz=323						
YHNB				S	Sb	10 10 08.9	+0.2
	baz=323						
CHGB	**Renai**	**0.54**	**250**	P	Pb	10 10 00.7	-0.3
	baz=250						
CHGB				S	Sb	10 10 08.4	-0.5
	baz=250						
NSK	**Sanguang**	**0.55**	**322**	*i* P	Pb	10 10 01.5	+0.4
	baz=322						
NSK				*i* S	Sb	10 10 09.2	+0.1
	baz=322						
NWLT	**Wulai**	**0.57**	**339**	*e*P	Pb	10 10 01.6	+0.1
	baz=339						
NWLT				S	Sb	10 10 10.1	+0.3
	baz=339						
OWD	**Renai**	**0.58**	**240**	*e*P	Pb	10 10 01.4	-0.3
	baz=240						
OWD				*e*S	Sb	10 10 09.4	-0.7
	baz=240						
WUSB	**Renai**	**0.61**	**246**	P	Pb	10 10 02.6	+0.3
	baz=245						
WUSB				S	Sb	10 10 10.7	-0.3
	baz=245						
NTC	**Toucheng**	**0.62**	**9**	*e*P	Pb	10 10 02.0	-0.2
	baz=8.0						
NTC				*e*S	Sb	10 10 11.5	+0.4
	baz=8.0						
EGS		**0.63**	**17**	S	Sb	10 10 12.1	+0.7
	baz=18						
NFF	**Wufeng Townshi**	**0.68**	**305**	*e*P	Pn	10 10 04.3	-0.9
	baz=304						
WHP	**Taichung City**	**0.71**	**273**	*e*P	Pb	10 10 03.8	-0.2
	baz=272						
WHP				*e*S	Sb	10 10 14.5	+0.6
	baz=272						
VWDT	**VWDT**	**0.72**	**228**	P	Pb	10 10 04.8	+0.7
	baz=227						
TIPB	**Shuangxi**	**0.73**	**7**	*e*P	Pb	10 10 04.5	+0.2
	baz=7.0						
TIPB				*e*S	Sb	10 10 15.3	+0.8
	baz=7.0						
TWA	**Mucha**	**0.74**	**350**	*e*S	Sb	10 10 15.4	+0.6
	baz=350						
NSTT	**Nanjuang**	**0.77**	**300**	*e*P	Pb	10 10 04.8	0.0
	baz=300						
NSTT				*e*S	Sb	10 10 16.4	+1.1
	baz=300						
HGSD	**Ruisui**	**0.80**	**200**	P	Pb	10 10 05.9	+0.6
	baz=200						
HGSD				*e*S	Sb	10 10 17.0	+0.8
	baz=200						
TWB1	**Santiao Chiao**	**0.80**	**17**	P	Pb	10 10 05.7	+0.3
	baz=18						
TWB1				S	Sb	10 10 16.7	+0.4
	baz=18						
EHY	**Hungye**	**0.82**	**207**	*e*P	Pn	10 10 06.5	-0.6
	baz=206						
NWF	**Wu-fen Shan**	**0.83**	**4**	*e*P	Pb	10 10 06.6	+0.6
	baz=3.0						
SMLT	**Sun Moon Lake**	**0.83**	**245**	*e*P	Pb	10 10 05.8	-0.3
	baz=244						
SMLT				S	Sb	10 10 18.1	+0.7
	baz=244						
SSLB	**Suanglung**	**0.84**	**237**	P	Pb	10 10 06.0	-0.1
	baz=237						
SSLB				S	Sb	10 10 18.7	+1.2
	baz=237						
SXI1	**Grass Mountain**	**0.86**	**9**	P	Pn	10 10 07.6	-0.1
	baz=9.0						
SXI1				S	Sb	10 10 19.0	+0.8
	baz=9.0						
TWQ1	**Liyutan**	**0.88**	**277**	*e*P	Pg	10 10 06.5	+0.3
	baz=276						
TWQ1				*e*S	Sn	10 10 19.9	-0.8
	baz=276						
YM01	**YM01**	**0.91**	**351**	*e*P	Pb	10 10 07.3	-0.1
	baz=351						
YULB	**Yu-li**	**0.93**	**205**	P	Pb	10 10 07.7	0.0
	baz=204						
YULB				*e*S	Sn	10 10 21.2	-0.9
	baz=204						
TWY	**Chenhua**	**1.03**	**354**	*e*S	Sn	10 10 23.9	-0.7
	baz=354						

JMA 30 10:09:49.5±0.2,25˚.00N×123˚.41E,h26km,M1.8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.65**	**214**	P	Pb	10 10 01.8	-0.4
YOJ				S	Sb	10 10 10.2	-0.7
JYNG	**Yonagunijimaku**	**0.69**	**218**	P	Pb	10 10 02.6	-0.3
JYNG				*e*S	Sb	10 10 12.1	0.0
IRIF	**Iriomote-Funau**	**0.72**	**156**	P	Pb	10 10 03.3	-0.2
IRIF				*e*S	Sb	10 10 12.8	-0.2
JISG	**Ishigakijimahi**	**0.92**	**116**	P	Pn	10 10 06.3	-0.4
JISG				*e*S	Sb	10 10 18.3	-0.2
JIJ	**Ishigaki jima**	**0.92**	**133**	P	Pn	10 10 05.8	-0.9
JIJ				*e*S	Sb	10 10 16.8	-1.8
JKRS	**Kuro-shima**	**0.94**	**144**	P	Pn	10 10 06.8	-0.1
JKRS				*e*S	Sb	10 10 18.8	-0.3
HATJ	**Hateruma jima**	**1.01**	**159**	P	Pn	10 10 07.9	0.0
HATJ				*e*S	Sb	10 10 20.9	-0.2

*IDC **30** 10:28:14.8±1.4,18˚.41S×178˚.20W,h485km±16km,mb3.2/11,mb1 3.5/13,mb1mx3.3/43,mbtmp4.0/13,Error ellipse: s-maj=25.1km s-min=13.0km az=145.0*
*NEIC **30** 10:28:15.4±2.1,18˚.4S±0˚.1×178˚.11W±0˚.08,h487km±9km,mb4.1/19,Error ellipse: s-maj=18.0km s-min=8.0km az=206.0*

ISC 30 10:28:15.7±0.5,18˚.3S±0˚.1×178˚.20W±0˚.10,h500km,n45, σ1s02/45,mb3.9/20,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.62**	**279**	P	**P**	**10 29 30.7**	**-0.6**
	4.4nm,0.3s,baz=152,slow=23,SNR=20						
MSVF				S	**S**	**10 30 33.5**	**+0.8**
	0.4nm,0.3s,baz=174,slow=21,SNR=6.4						
MSVF	**Nonsavu**	**3.62**	**279**	P	**P**	**10 29 30.9**	**-0.4**
AFI	**Afiamalu**	**7.57**	**56**	P	**P**	**10 30 05.9**	**-1.9**
	2.6nm,0.3s,baz=233,slow=20,SNR=2.2						
AFI				S	S	10 31 28.2	-11
	3.1nm,0.3s,baz=160,slow=22,SNR=1.9						
AFI	**Afiamalu**	**7.57**	**56**	P	**P**	**10 30 06.0**	**-1.8**
NIUE	**Niue**	**7.87**	**97**	P	**P**	10 30 06.8	-4.0
MARNC	**Mare, Loyalty**	**13.33**	**254**	P	**P**	**10 31 08.2**	**-0.2**
OUZ	**Omahuta**	**18.34**	**202**	P	**P**	**10 32 00.2**	**+1.1**
OUZ				IAmb	IAmb	10 32 00.9	
	comp=Z,7.4nm,0.7s						
URZ	**Urewera**	**20.28**	**191**	P	**P**	**10 32 13.9**	**-2.9**
	comp=Z,5.0nm,0.6s,baz=305,slow=12,SNR=2.0						
THZ	**Tophouse**	**24.57**	**196**	P	**P**	**10 32 55.2**	**-0.1**
WHZ	**Wether Hill Ro**	**29.80**	**200**	P	**P**	**10 33 41.0**	**-0.1**
ARMA	**Armidale**	**29.91**	**241**	P	**P**	**10 33 42.9**	**+0.5**
ARMA				IAmb	IAmb	10 34 05.4	
	comp=Z,8.8nm,1.1s						
TOO	**Toolangi**	**37.07**	**231**	P	**P**	**10 34 43.4**	**+0.6**
STKA	**Stephens Creek**	**38.61**	**242**	P	**P**	**10 34 55.6**	**+0.2**
	comp=Z,5.0nm,1.1s,baz=62,slow=5.3,SNR=6.1						
STKA	**Stephens Creek**	**38.61**	**242**	P	**P**	**10 34 55.9**	**+0.5**
BBOO	**Buckleboo**	**43.38**	**241**	P	**P**	**10 35 33.6**	**+0.1**
WB2	**Warramunga Arr**	**44.75**	**260**	P	**P**	**10 35 42.2**	**-2.0**
WB2				IAmb	IAmb	10 36 00.2	
	comp=Z,6.6nm,1.3s						
WRAB	**Tennant Creek**	**44.75**	**260**	P	**P**	**10 35 43.3**	**-1.0**
WRAB				IAmb	IAmb	10 35 49.3	
	comp=Z,

DAWY	**Dawson**	**87.43**	**16**	P	**P**	**10 40 10.2**	**+1.2**
DAWY				IAmb	IAmb	10 40 22.7	
	comp=Z,3.3nm,1.3s						
PDAR	**Pinedale Array**	**87.51**	**43**	P	**P**	**10 40 10.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=204,slow=3.1,SNR=5.2						
YKA	**Yellowknife Ar**	**94.62**	**25**	P	**P**	**10 40 42.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=244,slow=4.4,SNR=8.3						
MKAR	**Makanchi Array**	**109.57**	**314**	PKiKP	**PKiKP**	**10 45 49.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=185,slow=2.0,SNR=1.8						
ARCES	**ARCESS Array B**	**126.75**	**350**	PKP	**PKiKP**	**10 46 21.8**	**-0.2**
	comp=Z,3.0nm,1.0s,baz=74,slow=1.3,SNR=5.8						
FINES	**FINESS Array B**	**133.64**	**344**	PKP	**PKPdf**	**10 46 34.6**	**0.0**
	comp=Z,1.3nm,0.9s,baz=70,slow=4.9,SNR=3.5						
BRTR	**Keskin Array B**	**145.22**	**315**	PKPbc	**PKPab**	**10 46 58.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=73,slow=3.2,SNR=2.4						
CLL	**Collm**	**145.91**	**347**	*i* PKPbc	**PKPab**	**10 47 00.1**	**-0.3**
	comp=Z,10.0nm,1.3s						
GERES	**GERESS Array B**	**148.06**	**345**	PKPbc	**PKiKP**	**10 47 05.7**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=31,slow=2.5,SNR=9.3						

*SJA **30** 10:31:53.7±1.5,29.99S×72.88W,h10km,ML4.0,MW3.6*
*NEIC **30** 10:31:57.9±2.2,30.07S±0.04×72.66W±0.06,h10km±1km, mb4.7/20,Mwr4.2/47,ML4.0(GUC),Error ellipse: s-maj=8.7km s-min=7.0km az=233.0*
*NEIC **30** 10:31:57.9,30.07S×72.65W,h5km,Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=3.02; Mθθ=0.48; Mφφ=2.54; Mrθ=-0.08; Mθφ=0.67; Mφr=-0.50; Fault plane solution: M0=2.94000×10^15 NP1:φ=197.53000°, δ=40.04000°,λ=-88.26000°. NP2:φ=15.26000°,δ=49.98000°, λ=-91.46000°. Principal axes: T 2.7831, Plg5.0000°, Azm106.0000°; N 0.2865, Plg1.0000°, Azm16.0000°; P -3.0695, Plg85.0000°, Azm274.0000°;*
*IDC **30** 10:31:59.0±0.6,30.08S×72.71W,h0km,mb4.3/10, mb1 4.3/13,mb1mx4.2/26,mbtmp4.2/13,ML4.0/3,MS3.9/5, Ms1 3.9/5,ms1mx3.4/52 Error ellipse: s-maj=27.2km s-min=16.9km az=89.0*
*VAO **30** 10:32:00.8±0.6,30.30S×72.66W,h10km,mb4.5*
*GUC **30** 10:32:01.1±0.7,30.09S×72.50W,h45km±5km,ML4.1*

ISC 30 10:31:59.1±1.8,30.16S±0.03×72.66W±0.05,h6km±10km, n161,σ2=5.05/139,mb4.5/15,MS3.9/4,8C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.02**	**120**	Pg	**Pg**	**10 32 18.4**	**-0.3**
CO06				Sg	**Sg**	**10 32 31.1**	**-1.0**
CO06	**Fray Jorge**	**1.02**	**120**	*i* P	**Pg**	**10 32 18.4**	**-0.3**
CO06				*i* S	**Sg**	**10 32 31.1**	**-1.0**
CO05	**La Serena**	**1.26**	**79**		**Pn**	**10 32 21.2**	**-1.9**
CO05				Sg	**Sb**	**10 32 35.4**	**-4.2**
CO05	**La Serena**	**1.26**	**79**	↑*i* P	**Pn**	**10 32 21.0**	**-2.1**
CO05				*i* S	**Sb**	**10 32 35.5**	**-4.1**
CO05				IAML		10 32 36.3	
	comp=N,5μm,0.4s						
GO04	**Tololo Observa**	**1.61**	**91**		**Pn**	**10 32 27.1**	**-1.2**
GO04				Sn	**Sn**	**10 32 46.5**	**-3.1**
GO04	**Tololo Observa**	**1.61**	**91**	↑*i* P	**Pn**	**10 32 27.1**	**-1.2**
GO04				*i* S	**Sn**	**10 32 46.1**	**-3.5**
GO04				IAML		10 32 48.6	
	comp=N,8μm,0.5s						
CO02	**Combarbal**	**1.77**	**126**		**Pn**	**10 32 30.1**	**-0.2**
CO02				Sn	**Sn**	**10 32 51.2**	**-2.0**
CO02	**Combarbal**	**1.77**	**126**	↑*i* P	**Pn**	**10 32 30.0**	**-0.3**
CO02				*i* S	**Sn**	**10 32 50.3**	**-2.9**
CO02				IAML		10 32 52.2	
	comp=N,3μm,0.4s						
CO02	**Combarbal**	**1.77**	**126**	*i* P	**Pn**	**10 32 30.0**	**-0.3**
CO02				*e*S	**Sn**	**10 32 50.6**	**-2.6**
CO02				IAML		10 32 52.5	
	comp=Z,1μm,0.8s						
LCO	**Las Campanas**	**2.06**	**57**	Pn	**Pn**	**10 32 32.5**	**-1.9**
LCO	**Las Campanas**	**2.06**	**57**	↑*i* P	**Pn**	**10 32 32.5**	**-1.9**
LCO				*i* S	**Sn**	**10 32 56.4**	**-4.1**
LCO	**Las Campanas**	**2.06**	**57**	*i* P	**Pn**	**10 32 32.6**	**-1.9**
LCO				*e*S	**Sn**	**10 32 56.2**	**-4.3**
LCO				IAML		10 32 57.8	
	comp=Z,4μm,0.3s						
CO01	**Juntas del Tor**	**2.23**	**86**		**Pn**	**10 32 36.1**	**-0.8**
CO01	**Juntas del Tor**	**2.23**	**86**	*e*P	**Pn**	**10 32 35.5**	**-1.3**
CO01				*i* S	**Sn**	**10 33 01.2**	**-3.7**
CO01	**Juntas del Tor**	**2.23**	**86**	*i* P	**Pn**	**10 32 36.2**	**-0.6**
CO01				IAML		10 33 17.1	
	comp=Z,260nm,0.8s						
AC04	**Llanos de Chal**	**2.40**	**36**	Pn	Pn	10 32 36.0	-2.8
AC04	**Llanos de Chal**	**2.40**	**36**	↓*i* P	Pn	10 32 35.9	-2.9
AC04				*i* S	Sn	10 33 01.9	-6.5
AC04				IAML		10 33 03.1	
	comp=E,2μm,0.2s						
AC04	**Llanos de Chal**	**2.40**	**36**	*i* P	Pn	10 32 35.9	-2.9
AC04				*e*S	Sn	10 33 02.3	-6.2
AC04				IAML		10 33 03.2	
	comp=Z,1μm,0.3s						
VA06	**Catapilco**	**2.66**	**154**		**Pn**	**10 32 42.1**	**-0.4**
VA06	**Catapilco**	**2.66**	**154**	↑*i* P	**Pn**	**10 32 42.5**	**0.0**
VA06				*i* S	**Sn**	**10 33 11.6**	**-3.4**
AROD	**Rodeo**	**2.76**	**91**	*i* P	**Pn**	**10 32 45.7**	**+1.5**
VA01	**Torpederas**	**2.98**	**163**	Pn	**Pn**	**10 32 47.0**	**+0.2**
VA01	**Torpederas**	**2.98**	**163**	*e*P	**Pn**	**10 32 47.1**	**+0.2**
VA01				*i* S	**Sn**	**10 33 17.7**	**-5.2**
ACDV	**Cuesta del Vie**	**3.07**	**91**	*i* P	**Pn**	**10 32 50.0**	**+1.8**
ACDV				IAML		10 33 50.9	
	comp=Z,169nm,2.1s						
ROCH	**El Roble**	**3.14**	**154**	↑*i* P	Pb	10 32 49.4	-6.0
ROCH				↑↑*i* P	**Pn**	**10 32 46.9**	**-2.3**
ROCH				*i* S	**Sn**	**10 33 19.6**	**-7.4**
ROCH				*i* S	Sb	10 33 22.9	-11
ROCH				IAML		10 33 34.6	
	comp=N,229nm,0.5s						
ROCH				IAML		10 33 45.4	
	comp=N,350nm,0.5s						
ACCO	**Cerro Coronel**	**3.14**	**99**	*i* P	**Pn**	**10 32 52.0**	**+2.7**
ACCO				IAML		10 33 52.1	
	comp=Z,217nm,1.0s						
ROC1	**El Roble**	**3.14**	**154**		**Pn**	**10 32 47.6**	**-1.6**
ROC1	**El Roble**	**3.14**	**154**	*i* P	**Pn**	**10 32 47.0**	**-2.3**
ROC1				*e*S	**Sn**	**10 33 21.9**	**-5.2**
VA03	**San Esteban**	**3.16**	**146**		**Pn**	**10 32 50.2**	**+0.8**
VA03	**San Esteban**	**3.16**	**146**	*e*P	**Pn**	**10 32 49.9**	**+0.5**
VA03				*i* S	**Sn**	**10 33 26.5**	**-1.0**
VA03				IAML		10 33 31.0	
	comp=N,473nm,0.6s						
VA03	**San Esteban**	**3.16**	**146**	*i* P	**Pn**	**10 32 50.0**	**+0.6**
VA03				IAML		10 33 32.6	
	comp=Z,221nm,0.9s						
RTLS	**Leoncito**	**3.32**	**120**	*i* P	**Pn**	**10 32 54.8**	**+3.0**
RTLS				*e*S	**Sn**	**10 33 34.4**	**+2.7**
RTLS				IAML		10 33 43.8	
	comp=Z,98nm,1.5s						
GO03	**Copiap**	**3.33**	**40**		**Pn**	**10 32 49.7**	**-2.0**
GO03	**Copiap**	**3.33**	**40**	*e*P	Pn	10 32 49.5	-2.2
GO03				*i* S	**Sn**	**10 33 26.9**	**-4.7**
GO03				IAML		10 33 28.6	
	comp=N,443nm,0.5s						
GO03	**Copiap**	**3.33**	**40**	*i* P	**Pn**	**10 32 50.0**	**-1.7**
GO03				*e*S	**Sn**	**10 33 28.0**	**-3.6**
MT02	**Curacav**	**3.35**	**158**		**Pn**	**10 32 52.6**	**+0.7**
MT02	**Curacav**	**3.35**	**158**	*i* P	**Pn**	**10 32 52.0**	**+0.1**
MT02				IAML		10 33 53.1	
	comp=Z,98nm,1.6s						
PEL	**Peldehue**	**3.42**	**151**		**Pn**	**10 32 53.7**	**+0.8**
PEL	**Peldehue**	**3.42**	**151**	*i* P	**Pn**	**10 32 53.0**	**+0.1**
AC06	**Mina Casimiro**	**3.45**	**37**	Pn	Pn	10 32 50.5	-2.9
AC06	**Mina Casimiro**	**3.45**	**37**	↑↑*e*P	**Pn**	**10 32 51.8**	**-1.6**
AC06				*i* S	Sn	10 33 28.7	-5.9
AC06				IAML		10 33 32.7	
	comp=E,379nm,0.7s						
AUSP	**Uspallata**	**3.48**	**127**	*i* P	**Pn**	**10 32 57.0**	**+3.0**
VA05	**Santo Domingo**	**3.60**	**166**		**Pn**	**10 32 55.5**	**+0.2**
MT05	**Renca**	**3.61**	**154**	Pn	**Pn**	**10 32 56.7**	**+1.1**
MT05	**Renca**	**3.61**	**154**	*i* P	**Pn**	**10 32 57.0**	**+1.4**
MT05				IAML		10 34 19.1	
	comp=Z,210nm,2.0s						
ZON	**Zonda**	**3.69**	**113**	*i* P	**Pn**	**10 32 59.0**	**+2.3**
ZON				IAML		10 34 16.0	
	comp=Z,141nm,1.9s						
MT03	**Universidad Ad**	**3.79**	**152**		**Pn**	**10 32 59.1**	**+0.9**
MT03	**Universidad Ad**	**3.79**	**152**	*i* P	**Pn**	**10 32 59.0**	**+0.9**
MT03				IAML		10 33 49.4	
	comp=Z,158nm,0.6s						
MT09	**Talagante**	**3.87**	**159**		**Pn**	**10 32 59.9**	**+0.6**
MT09	**Talagante**	**3.87**	**159**	*e*P	**Pn**	**10 32 59.6**	**+0.3**
MT09				*e*S	**Sn**	**10 33 41.2**	**-4.0**
MT09				IAML		10 33 44.6	
	comp=N,208nm,0.4s						
MT01	**Popeta**	**3.88**	**162**	*i* P	**Pn**	**10 32 59.4**	**+0.1**
MT01				*e*S	**Sn**	**10 33 41.4**	**-3.7**
MT01				IAML		10 33 43.0	
	comp=Z,116nm,0.4s						
ASAL	**Salagasta**	**4.07**	**127**	*i* P	**Pn**	**10 33 05.0**	**+3.1**
ASAL				IAML		10 34 13.1	
	comp=Z,163nm,2.4s						
ARCO	**CERRO ARCO**	**4.16**	**131**	*i* P	**Pn**	**10 33 07.0**	**+3.8**
ARCO				IAML		10 34 20.4	
	comp=Z,172nm,1.6s						
BO04	**La Punta**	**4.20**	**156**		**Pn**	**10 33 04.6**	**+1.0**
AAGR	**Agrelo**	**4.38**	**133**	*i* P	**Pn**	**10 33 10.0**	**+3.8**
AAGR				IAML		10 34 40.3	
	comp=Z,176nm,1.4s						
AC01	**Pan de Azucar**	**4.39**	**25**		Pn	10 33 02.2	-4.1
AC01	**Pan de Azucar**	**4.39**	**25**	*i* P	Pn	10 33 02.5	-3.8
AC01				IAML		10 34 17.7	
	comp=Z,59nm,1.9s						
BO01	**Tunca**	**4.42**	**163**	Pn	**Pn**	**10 33 06.9**	**+0.2**
BO01	**Tunca**	**4.42**	**163**	*i* P	**Pn**	**10 33 07.0**	**+0.2**
BO01				IAML		10 34 25.5	
	comp=Z,54nm,1.5s						
AVFE	**Valle Fertil**	**4.53**	**98**	*i* P	**Pn**	**10 33 09.3**	**+1.2**
AVFE				IAML		10 34 19.9	
	comp=Z,148nm,1.4s						
AC02	**Maricunga**	**4.54**	**44**	Pn	Pn	10 33 06.7	-2.2
AC02	**Maricunga**	**4.54**	**44**	*i* P	**Pn**	**10 33 07.9**	**-1.0**
AC02				IAML		10 34 07.8	
	comp=Z,100nm,0.3s						
GO05	**Huala**	**4.87**	**173**		**Pn**	**10 33 12.4**	**-0.5**
GO05	**Huala**	**4.87**	**173**	*i* P	**Pn**	**10 33 13.0**	**+0.1**
ACLC	**CERRO LA CRUZ**	**5.02**	**83**	*i* P	**Pn**	**10 33 16.0**	**+1.0**
ACLC				IAML		10 34 32.4	
	comp=Z,98nm,2.2s						
ACHE	**Chepes**	**5.26**	**102**	*i* P	**Pn**	**10 33 19.5**	**+1.1**
APLL	**PUNTA DE LOS L**	**5.31**	**94**	*i* P	**Pn**	**10 33 20.0**	**+1.0**
GO02	**Mina Guanaco**	**5.68**	**29**	Pn	Pn	10 33 21.4	-2.9
GO02	**Mina Guanaco**	**5.68**	**29**	*e*P	Pn	10 33 21.1	-3.1
GO02				*i* S	Sn	10 34 23.9	-6.0
GO02	**Mina Guanaco**	**5.68**	**29**	*i* P	Pn	10 33 21.0	-3.2
RFA	**San Rafael**	**5.80**	**143**	*i* P	**Pn**	**10 33 27.0**	**+1.3**
RFA				IAML		10 34 45.1	
	comp=Z,33nm,1.3s						
PB14	**IPOC Station P**	**5.87**	**21**	Pn	Pn	10 33 22.7	-4.2
PB14	**IPOC Station P**	**5.87**	**21**	*i* P	Pn	10 33 22.0	-4.9
PB14				IAML		10 34 31.5	
	comp=Z,27nm,0.4s						
H03N1	**Juan Fernandez**	**6.24**	**237**	T	T	10 40 39.5	
	baz=56						
H03N2	**Juan Fernandez**	**6.26**	**237**	T	T	10 40 45.9	
	baz=56,slow=74						
H03N3	**Juan Fernandez**	**6.26**	**237**	T	T	10 40 42.2	
	baz=56,slow=74						
BI05	**Punta Hualpn**	**6.58**	**184**		**Pn**	**10 33 35.8**	**-0.5**
PB10	**IPOC Station P**	**6.88**	**16**	Pn	Pn	10 33 37.0	-3.5
PB10	**IPOC Station P**	**6.88**	**16**	*i* P	Pn	10 33 37.0	-3.5
PB10				IAML		10 35 12.4	
	comp=Z,17nm,1.2s						
PB15	**IPOC Station P**	**7.49**	**23**		Pn	10 33 46.5	-2.5
PB15	**IPOC Station P**	**7.49**	**23**	*i* P	Pn	10 33 46.0	-3.1
PB15				IAML		10 35 14.5	
	comp=Z,54nm,0.2s						
PB06	**IPOC Station P**	**7.92**	**21**	Pn	Pn	10 33 50.5	-4.5
PB06	**IPOC Station P**	**7.92**	**21**	*i* P	Pn	10 33 50.0	-5.0
PB06				IAML		10 36 04.5	
	comp=Z,23nm,0.7s						
PB04	**IPOC Station P**	**8.12**	**17**	*i* P	Pn	10 33 53.0	-4.6
PB04				IAML		10 35 32.7	
	comp=Z,20nm,1.6s						
LVC	**Limon Verde**	**8.24**	**25**	Pn	Pn	10 33 55.7	-3.8
	comp=Z,0.9nm,0.3s,baz=162,slow=6.3,SNR=16						
LVC				Sn	Sn	10 35 25.4	-7.6
	comp=Z,0.9nm,0.3s,baz=248,slow=22,SNR=1.9						
LVC	**Limon Verde**	**8.24**	**25**	Pn	Pn	10 33 56.2	-3.3
LVC	**Limon Verde**	**8.24**	**25**	*i* P	Pn	10 33 56.0	-3.5
LVC				IAML		10 36 00.7	
	comp=Z,12nm,0.8s						
LVC				IAML		10 36 00.7	
	comp=Z,12nm,0.8s						
LC01	**Cunco**	**8.74**	**176**	Pn	**Pn**	**10 34 06.2**	**+0.3**
LC01	**Cunco**	**8.74**	**176**	*i* P	**Pn**	**10 34 06.0**	**0.0**
LC01				*i* P	**Pn**	**10 34 06.0**	**0.0**
LC01				IAML		10 35 47.6	
	comp=Z,333nm,0.9s						
PB07	**IPOC Station P**	**8.76**	**17**	Pn	Pn	10 34 01.4	-5.1
PB09	**IPOC Station P**	**8.88**	**21**	Pn	Pn	10 34 03.6	-4.5
PB09	**IPOC Station P**	**8.88**	**21**	*i* P	Pn	10 34 05.0	-3.1
PB09				IAML		10 36 31.5	
	comp=Z,103nm,0.9s						
PB02	**IPOC Station P**	**9.15**	**16**	Pn	Pn	10 34 07.7	-4.1
PB01	**IPOC Station P**	**9.52**	**18**	Pn	Pn	10 34 11.6	-5.2
PB01	**IPOC Station P**	**9.52**	**18**	*i* P	Pn	10 34 12.0	-4.8
PB01				IAML		10 36 28.1	
	comp=Z,12nm,0.7s						
PLCA	**Paso Flores**	**10.69**	**171**	Pn	**Pn**	**10 34 33.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=340,slow=11,SNR=10						
PLCA	**Paso Flores**	**10.69**	**171**	Pn	**Pn**	**10 34 33.5**	**+0.8**
PLCA	**Paso Flores**	**10.69**	**171**	*e*P	**Pn**	**10 34 31.3**	**-1.4**
LL04	**Puerto Octay**	**10.73**	**179**	Pn	**Pn**	**10 34 33.7**	**+0.5**
GO01	**Chusmiza**	**10.91**	**18**	Pn	Pn	10 34 31.8	-4.5
TRQA	**Tornquist**	**11.84**	**135**	Pn	**Pn**	**10 34 47.6**	**-0.8**
CPUP	**Villa Florida**	**14.04**	**78**	LR	LR	10 41 14.9	
	comp=Z,471nm,18.4s,baz=275,slow=40						
LPAZ	**La Paz**	**14.42**	**18**	Pn	**Pn**	**10 35 24.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=176,slow=11,SNR=9.9						
LPAZ	**La Paz**	**14.42**	**18**	Pn	Pn	10 35 20.6	-3.8
LPAZ	**La Paz**	**14.42**	**18**	*e*P	**Pn**	**10 35 25.7**	**+1.3**
SIV	**San Ignacio**	**17.66**	**40**	P	**Pn**	**10 36 05.3**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=227,slow=7.0,SNR=5.1						
AQDB	**Aquidauana**	**18.10**	**62**	*e*P	**Pn**	**10 36 12.3**	**+1.2**
ITAB	**Concordia**	**18.25**	**86**	*e*P	**Pn**	**10 36 13.7**	**+0.7**
NNA	**Nana**	**18.50**	**347**	P	P	10 36 09.6	-6.5
PTGB	**Pitanga**	**19.06**	**78**	*e*P	**P**	**10 36 22.5**	**+0.2**
PTLB	**Pontes e Lacer**	**19.20**	**43**	*e*P	**P**	**10 36 24.9**	**+1.1**
TER01	**Turuo-SC**	**20.57**	**91**	*e*P	**P**	**10 36 38.5**	**-0.2**
VILB	**Vilhena**	**20.65**	**37**	*e*P	**P**	**10 36 41.7**	**+2.2**
PCMB	**Pacaembu**	**21.03**	**71**	*e*P	**P**	**10 36 43.3**	**-0.4**
ETMB	**Extrema**	**21.12**	**18**	*e*P	**P**	**10 36 46.0**	**+1.5**
MG05	**Puerto Natales**	**21.50**	**180**	P	**P**	**10 36 46.8**	**-1.6**
MG05				IAmb	IAmb	10 36 58.4	
	comp=Z,37nm,1.4s						
FRTB	**Fartura**	**21.70**	**77**	*e*P	**P**	**10 36 50.4**	**-0.4**
CZSB	**Cruzeiro do Su**	**22.32**	**360**	*e*P	**P**	**10 36 59.1**	**+1.6**
MG04	**Isla Riesco**	**22.69**	**178**	P	**P**	**10 37 00.7**	**-0.4**
ITRB	**Iturama**	**22.71**	**68**	*e*P	**P**	**10 37 01.2**	**-0.5**
PDRB	**Porto dos Gac**	**23.66**	**42**	*e*P	**P**	**10 37 12.2**	**+0.8**
VAO	**Valinhos**	**24.03**	**79**	*e*P	**P**	**10 37 15.8**	**+0.8**
CLDB	**Colider**	**24.79**	**43**	*e*P	**P**	**10 37 22.8**	**+0.9**
USHA	**Ushuaia**	**24.84**	**174**	P	**P**	**10 37 24.4**	**+2.4**
	comp=Z,15nm,0.9s,baz=336,slow=10.0,SNR=4.5						
BDFB	**Brasilia**	**26.83**	**63**	P	**P**	**10 37 41.1**	**+0.5**
	comp=Z,4.8nm,0.6s,baz=247,slow=7.2,SNR=8.0						
BDFB	**Brasilia**	**26.83**	**63**	P	**P**	**10 37 37.4**	**-3.1**
BDFB				IAmb	IAmb	10 37 50.8	
	comp=Z,11nm,0.8s						
SNDB	**Serra Nova Dou**	**26.84**	**52**	*e*P	**P**	**10 37 42.5**	**+2.1**
CAM01	**Campos-RJ**	**29.01**	**81**	*e*P	**P**	**10 38 01.6**	**+1.8**
JANB	**Januaria**	**30.07**	**66**	*e*P	**P**	**10 38 11.0**	**+1.7**
OTAV	**Otavalo**	**30.73**	**349**	P	P	10 38 11.6	-4.0
RPN	**Rapa Nui**	**32.24**	**266**	LR	LR	10 47 33.2	
	comp=Z,245nm,18.5s,baz=85,slow=29						
TMAB	**Tom-Au,PA,Br**	**36.14**	**45**	*e*P	**P**	**10 39 03.7**	**+1.5**
BAUV	**El Baul**	**39.13**	**7**	P	P	10 39 24.8	-2.7
BAUV				IAmb	IAmb	10 39 37.7	
	comp=Z,20nm,1.1s						
RCBR	**Riachuelo**	**42.21**	**62**	LR	LR	10 57 51.7	
	comp=Z,132nm,19.1s,baz=327,slow=37						
ESQI	**Esquipulas**	**47.28**	**338**	P	P	10 40 30.5	-3.0
ESQI				IAmb	IAmb	10 40 48.2	
	comp=Z,8.3nm,0.9s						
BELA	**Belgrano 2**	**50.74**	**170**		**P**	**10 40 58.0**	**-1.3**
VNA3	**Neumayer Olymp**	**53.11**	**159**	P	**P**	**10 41 19.4**	**+2.3**
SNAA	**Sanae**	**55.34**	**159**	P	**P**	**10 41 35.5**	**+2.2**
SNAA	**Sanae**	**55.34**	**159**	*e*P	**P**	**10 41 35.2**	**+1.9**
	comp=Z,7.0nm,0.8s,baz=296,slow=5.0,SNR=15						
SNAA	**Sanae**	**55.34**	**159**	P	**P**	**10 41 31.9**	**-1.4**
TROLL	**Troll, Antarti**	**57.05**	**159**	P	**P**	**10 41 47.4**	**+1.8**
QSPA	**South Pole Qui**	**60.06**	**180**	P	**P**	**10 42 08.5**	**+1.8**
	comp=Z,6.5nm,1.0s,baz=161,slow=4.4,SNR=9.7						
QSPA	**South Pole Qui**	**60.06**	**180**	P	**P**	**10 42 05.5**	**-1.2**
QSPA				IAmb	IAmb	10 42 11.3	
	comp=Z,7.0nm,0.9s						
JCT	**Junction City**	**65.60**	**334**	P	**P**	**10 42 41.1**	**-2.8**
JCT				IAmb	IAmb	10 42 55.9	
	comp=Z,9.8nm,1.4s						
TXAR	**Lajitas Array**	**66.14**	**331**	P	**P**	**10 42 48.7**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=147,slow=8.3,SNR=4.5						
TXAR	**Lajitas Array**	**66.14**	**331**	P	P	10 42 44.3	-3.0
DBIC	**Dimbokro**	**74.50**	**73**	P	**P**	**10 43 41.4**	**+2.6**
	comp=Z,2.4nm,0.9s,baz=232,slow=6.9,SNR=4.6						
WUAZ	**Wupatki**	**74.80**	**328**	P	P	10 43 36.0	-4.3
WUAZ				IAmb	IAmb	10 43 43.7	
	comp=Z,7.3nm,1.4s						
PD31	**Pinedale Array**	**80.11**	**333**	P	**P**	**10 44 07.4**	**-2.5**
PDAR	**Pinedale Array**	**80.11**	**333**	P	**P**	**10 44 09.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=127,slow=3.9,SNR=5.4						
NVAR	**Mina Array Bea**	**80.44**	**325**	P	**P**	**10 44 13.8**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=168,slow=5.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**83.43**	**71**	P	**P**	**10 44 28.1**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=252,slow=4.3,SNR=2.8						
LBTB	**Lobatse**	**84.41**	**116**	LR	LR	11 19 42.5	
	comp=Z,92nm,19.3s,baz=230,slow=34						
EDM	**Edmonton**	**90.26**	**337**	P	**P**	**10 44 57.7**	**-2.6**
LSZ	**Lusaka**	**91.52**	**109**	LR	LR	11 20 58.0	
	comp=Z,41nm,21.5s,baz=276,slow=32						
YKA	**Yellowknife Ar**	**98.26**	**342**	P	**P**	**10 45 36.4**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=140,slow=4.6,SNR=6.6						
ASAR	**Alice Springs**	**120.71**	**208**	PKP	**PKPdf**	**10 50 52.1**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=123,slow=1.5,SNR=5.0						
WRA	**Warramunga Arr**	**123.81**	**211**	PKP	**PKPdf**	**10 50 58.4**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=154,slow=1.6,SNR=14						
ZALV	**Zalesovo Beam**	**151.18**	**28**	PKPbc	**PKPbc**	**10 51 53.4**	**+0.7**
	comp=Z,3.7nm,0.5s,baz=304,slow=3.3,SNR=17						
ZALV	**Zalesovo Beam**	**151.18**	**28**		**PKPbc**	**10 51 53.3**	**+0.5**
MKAR	**Makanchi Array**	**154.47**	**42**	PKPbc	**PKPbc**	**10 52 00.4**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=325,slow=2.3,SNR=2.8						

IDC 30 10:35:53.4±11.0,30.29N×138.47E,h442km±88km, mb2.8/3,mb1 3.0/4,mb1mx2.6/37,mbtmp3.6/4,Error ellipse: s-maj=560.5km s-min=21.1km az=83.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**14.81**	**341**	P	P	10 39 02.4	0.0
	baz=150,slow=9.1,SNR=3.2						
WRA	**Warramunga Arr**	**50.10**	**185**	P	P	10 44 06.2	-0.2
	0.2nm,0.3s,baz=2.5,slow=7.7,SNR=7.9						
ASAR	**Alice Springs**	**53.83**	**185**	P	P	10 44 33.4	0.0
	0.4nm,0.8s,baz=7.8,slow=7.5,SNR=4.4						
ARCES	**ARCESS Array B**	**69.45**	**340**	P	P	10 46 15.5	0.0
	2.3nm,0.9s,baz=59,slow=7.5,SNR=4.7						

*IDC **30** 10:36:53.5±0.8,30.06S×72.53W,h0km,mb3.8/7, mb1 3.9/9,mb1mx3.8/23,mbtmp3.7/9,ML3.5/2,Error ellipse: s-maj=35.7km s-min=22.3km az=87.0*

ISC 30 10:36:57.4±0.7,30.01S±0.09×72.3W±0.2,h27km,n15, σ1=31/13,mb3.8/7,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**6.56**	**237**	T	T	10 45 38.7	
	baz=58						
H03N2	**Juan Fernandez**	**6.57**	**237**	T	T	10 45 46.4	
	baz=58						
H03N3	**Juan Fernandez**	**6.57**	**237**	T	T	10 45 44.2	
	baz=58						

AC04				*i* S		**Sn**	**11 12 31.9 +4.2**
LCO	**Las Campanas**	**0.54**	**157**	*e*P		**Pn**	**11 12 25.8 +1.7**
LCO				*i* S		**Sn**	**11 12 35.9 +3.2**
GO03	**Copiap**	**1.11**	**35**	*e*P		**Pn**	**11 12 32.7 +1.3**
GO03				*i* S		**Sn**	**11 12 46.5 +0.9**
GO03				IAML			11 12 49.0
	comp=N,2μm,0.3s						
AC06	**Mina Casimiro**	**1.26**	**25**	*e*P		**Pn**	**11 12 35.1 +1.7**
AC06				IAML			11 12 53.1
	comp=E,1μm,0.2s						
CO05	**La Serena**	**1.43**	**190**	*e*P		**Pn**	**11 12 36.7 +1.0**
CO05				IAML			11 12 58.0
	comp=E,2μm,0.4s						
CO01	**Juntas del Tor**	**1.64**	**153**	*e*P		**Pn**	**11 12 41.3 +2.4**
CO01				IAML			11 13 03.8
	comp=N,1μm,0.2s						
GO04	**Tololo Observa**	**1.66**	**176**	⇑*i*P		**Pn**	**11 12 40.6 +1.5**
CO06	**Fray Jorge**	**2.24**	**195**	*e*P		**Pn**	**11 12 46.6 -0.2**
CO06				IAML			11 13 30.2
	comp=N,468nm,0.3s						
AC02	**Maricunga**	**2.32**	**44**	⇓*i*P		**Pn**	**11 12 50.3 +1.9**
AC02				*i* S		**Sn**	**11 13 16.9 +1.0**
AC02				IAML			11 13 24.1
	comp=N,563nm,0.3s						
AC01	**Pan de Azucar**	**2.37**	**8**	*e*P		**Pn**	**11 12 48.5 -0.1**
CO02	**Combarbal**	**2.69**	**181**	*e*P		**Pn**	**11 12 53.9 +0.8**
GO02	**Mina Guanaco**	**3.54**	**20**	⇑*i*P		**Pn**	**11 13 05.5 +0.4**
GO02				*e*S		**Sn**	**11 13 54.3 +8.5**
GO02				IAML			11 14 13.4
	comp=E,280nm,0.7s						
LVC	**Limon Verde**	**6.15**	**18**	P		**Pn**	**11 13 39.6 -1.3**
	comp=E,0.5nm,0.3s,baz=196,slow=12,SNR=15						
LVC				S		**Sn**	**11 14 48.2 -1.9**
	comp=E,2.3nm,0.3s,baz=229,slow=19,SNR=1.7						
H03N1	**Juan Fernandez**	**8.42**	**232**	T		T	11 22 38.0
	baz=57,slow=72,SNR=395						
H03N2	**Juan Fernandez**	**8.44**	**232**	T		T	11 22 38.2
	baz=57,slow=72,SNR=339						
H03N3	**Juan Fernandez**	**8.44**	**232**	T		T	11 22 36.6
	baz=57,slow=72,SNR=258						
TXAR	**Lajitas Array**	**65.48**	**329**	P		**P**	**11 22 50.4 -0.2**
	comp=E,0.4nm,0.7s,baz=156,slow=7.9,SNR=6.2						
DBIC	**Dimbokro**	**72.57**	**72**	P		**P**	**11 23 33.2 -1.6**
	comp=E,1.1nm,0.3s,baz=252,slow=6.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**81.46**	**70**	P		**P**	**11 24 23.2 -1.6**
	comp=E,0.7nm,0.3s,baz=257,slow=4.5,SNR=2.0						
BOSA	**Boshof**	**81.80**	**118**	P		**P**	**11 24 25.0 -1.7**
	comp=E,1.5nm,0.6s,baz=217,slow=5.1,SNR=1.2						
H11N3	**WAKE ISLAND Hyl**	**26.90**	**274**	T		T	13 50 45.4
	baz=113,slow=75,SNR=5.3						
H11N1	**WAKE ISLAND Hyl**	**26.91**	**274**	T		T	13 50 47.8
	baz=113,slow=75,SNR=4.8						
H11N2	**WAKE ISLAND Hyl**	**26.92**	**274**	T		T	13 50 46.0
	baz=113,slow=75,SNR=6.2						

HEL 30 11:22:24.3±0.2, 67.57N×30.41E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.35**	**300**	PG	Pg	11 22 30.9	-0.2
VRF				SG	Sg	11 22 35.5	-0.1
OLKF	**Oulanka, Finla**	**1.32**	**198**	PG	Pg	11 22 48.2	-1.3
	baz=16						
OLKF				SB	Sg	11 23 05.5	-1.1
SGF	**Sodankyl**	**1.50**	**267**	PG	Pn	11 22 51.7	-0.7
SGF				SN	Sg	11 23 11.3	-1.1
KU6	**Riekki**	**1.57**	**188**	PG	Pn	11 22 52.6	-0.8
KU6				MSG		11 23 11.2	
	comp=Z,3.2nm,0.2s						
KU6				SG	Sn	11 23 13.0	-1.4
MSF	**Maaselka**	**1.76**	**199**	PG	Pn	11 22 55.9	0.0
	baz=18						
MSF				SG	Sn	11 23 18.8	-0.2
RNF	**Rovaniemi**	**1.98**	**243**	PG	Pn	11 22 59.5	+0.6
RNF				SG	Sb	11 23 26.6	+0.4
KEV	**Kevo**	**2.52**	**332**	*e*P	Pn	11 23 07.0	+0.6
KEV	**Kevo**	**2.52**	**332**	PB	Pn	11 23 07.2	+0.7
KEV				MSG		11 23 38.7	
	comp=Z,3.6nm,0.2s						
ARA0	**ARCESS Array S**	**2.67**	**320**	PN	Pn	11 23 08.7	+0.2
	baz=137						
ARA0				SN	Sn	11 23 38.9	-2.6
HEF	**Hetta**	**2.68**	**291**	*e*P		Pb	11 23 11.3	-1.8
HEF	**Hetta**	**2.68**	**291**	PB	Pn	11 23 10.6	+2.0
HEF				SN	Sn	11 23 40.5	-1.2
HEF				MSG		11 23 43.1	
	comp=Z,2.5nm,0.2s						
TOF	**Tornio**	**2.84**	**241**	PN	Pn	11 23 10.4	-0.4
TOF				MSG		11 23 47.7	
	comp=Z,1.5nm,0.2s						
TOF				SG	Sb	11 23 50.8	-0.1
PAJU	**Pajala**	**2.88**	**262**	PN	Pn	11 23 11.4	-0.1
OUL	**Oulu**	**3.09**	**218**	SN	Sn	11 23 48.9	-3.0
LANU	**Lannavaara**	**3.23**	**282**	PN	Pn	11 23 17.1	+0.8
ERTU	**Ertsjaerv**	**3.38**	**256**	PN	Pn	11 23 18.4	+0.2
KIF	**Kilpisjarvi**	**3.85**	**296**	PN	Pn	11 23 25.2	+0.6

KOLA 30 11:22:56.2, 67.66N×30.65E, h0km, ML2.3, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.90**	**92**	P	Pg	11 23 11.6	-1.8
APA0				S	Sg	11 23 24.0	-1.0
APA	**Apatity**	**1.06**	**93**	P	Pg	11 23 15.1	-1.4
APA				S	Sg	11 23 29.3	-0.8
LVZ	**Lovozero**	**1.54**	**79**	P	Pn	11 23 23.6	-1.3
LVZ				S	Sg	11 23 44.5	-1.2
PRVG	**Vayda Guba**	**2.17**	**14**	P	Pn	11 23 32.5	-1.1
PRVG				S	Sn	11 24 00.4	-0.8
TERR	**Teriberka**	**2.26**	**45**	P	Pn	11 23 33.7	-1.1
TERR				S	Sn	11 24 02.7	-0.6
KEV	**Kevo**	**2.49**	**329**	*e*P	Pn	11 23 36.6	-1.3
ARCES	**ARCESS Array B**	**2.67**	**317**	P	Pn	11 23 39.8	-0.5
ARCES				S	Sn	11 24 13.3	0.0
HEF	**Hetta**	**2.73**	**289**	*e*P	Pn	11 23 41.5	+0.3

*UCR **30** 11:22:58.7±1.4, 10.00N×86.23W, h15km, MW4.6*
*IDC **30** 11:23:00.4±4.2, 10.68N×85.52W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/41, mbtmp3.8/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/63, Error ellipse: s-maj=100.8km s-min=58.3km az=9.0*
*INET **30** 11:23:00.4±1.3, 10.01N×86.11W, h14km±12km, MW3.9*
ISC 30 11:22:59.4±1.0, 10.05N±0.06×86.10W±0.06, h10km, n42, σ1s05/43, mb3.7/3, 12C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNO	**Dulce Nombre,**	**0.59**	**88**	*e*P		**Pb**	**11 23 12.4 +0.5**
INDI	**Punta indio, G**	**0.61**	**108**	*e*P		**Pb**	**11 23 12.6 +0.3**
GUAI	**GUAI**	**0.62**	**70**	⇑*i*P		**Pb**	**11 23 12.7 +0.4**
GUAI				*i* S		**Sn**	**11 23 23.4 -0.7**
ORTG	**Ortega, Santa**	**0.70**	**64**	*e*P		**Pb**	**11 23 13.9 +0.2**
HZTE	**Horizontes, Gu**	**0.82**	**37**	*e*P		**Pn**	**11 23 16.2 -0.9**
HZTE				*e*S		**Sn**	**11 23 32.1 +2.9**
HZTE	**Horizontes, Gu**	**0.82**	**37**	*e*P		**Pn**	**11 23 16.2 -0.9**
GBS3	**Finca Las Img**	**0.96**	**41**	⇑*i*P		**Pb**	**11 23 17.8 -0.3**
GBS3				*i* S		**Sn**	**11 23 35.2 +2.4**
GPS3	**Bodega del ICE**	**1.00**	**46**	*i* P		**Pb**	**11 23 18.7 -0.2**
BUEV	**Buena Vista**	**1.00**	**43**	⇑*i*P		**Pb**	**11 23 18.6 -0.4**
GPS2	**Hotel Rincn d**	**1.01**	**47**	⇑*i*P		**Pb**	**11 23 18.9 -0.2**
GB1A	**Borinquen Arri**	**1.02**	**42**	⇑*i*P		**Pb**	**11 23 18.9 -0.4**
LIM1	**Limonal**	**1.05**	**52**	⇑*i*P		**Pb**	**11 23 19.4 -0.3**
COLC	**Colonia**	**1.07**	**55**	⇑*i*P		**Pb**	**11 23 19.8 -0.2**
GUAB	**Guayabo de Bag**	**1.07**	**53**	⇑*i*P		**Pb**	**11 23 19.8 -0.3**
CUI	**Cuipilapa**	**1.10**	**57**	⇑*i*P		**Pb**	**11 23 20.3 -0.2**
BUAI	**Buenos Aires**	**1.11**	**43**	*i* P		**Pb**	**11 23 20.4 -0.4**
HORNC	**Hornillas**	**1.12**	**54**	⇑*i*P		**Pg**	**11 23 20.3 -0.5**
ACAL	**Aguas Claras**	**1.19**	**61**	⇑*i*P		**Pb**	**11 23 21.8 -0.3**
LAFE	**Finca La Fe, P**	**1.20**	**102**	*e*P		**Pb**	**11 23 20.5 -1.6**
LAFE	**Finca La Fe, P**	**1.20**	**102**	*e*P		**Pb**	**11 23 20.5 -1.6**
PTEN	**Parque Tenorio**	**1.27**	**59**	⇑*i*P		**Pn**	**11 23 23.0 -0.4**
CASO	**Castillo**	**1.39**	**74**	*i* P		**Pn**	**11 23 25.1 +0.1**
ARE1	**Arenal 1**	**1.42**	**73**	*e*P		**Pb**	**11 23 25.5 -0.5**
CEDE	**Laguna Cedeo**	**1.44**	**72**	*i* P		**Pb**	**11 23 26.2 -0.1**
FORC	**Fortuna**	**1.46**	**74**	*i* P		**Pb**	**11 23 26.6 -0.2**
CONN	**Concepcion**	**1.57**	**17**	*e*P		**Pn**	**11 23 26.8 -0.6**
LCR2	**La Lucha 2**	**2.08**	**98**	*e*P		**Pn**	**11 23 34.7 +0.1**
ACON	**Acoyapa**	**2.11**	**25**	*e*P		**Pn**	**11 23 34.4 -0.4**
RIMA	**Rio Macho**	**2.22**	**97**	*e*P		**Pn**	**11 23 37.2 +0.7**
RIMA	**Rio Macho**	**2.22**	**97**	*e*P		**Pn**	**11 23 37.0 +0.5**
BOAB	**BOACO BROADBAN**	**2.42**	**10**	*e*P		**Pn**	**11 23 38.7 -0.3**
CNGN	**Cerro Negro**	**2.50**	**346**	*e*P		**Pn**	**11 23 39.0 -1.2**
ESPN	**Las Esperanzas**	**2.76**	**39**	*e*P		**Pn**	**11 23 43.4 -0.3**
CRIN	**San Cristobal**	**2.79**	**341**	*e*P		**Pn**	**11 23 44.3 +0.1**
MATN	**Matagalpa**	**2.86**	**3**	*e*P		**Pn**	**11 23 45.0 -0.3**
ROSC	**El Rosal**	**12.77**	**113**	LR		LR	11 31 31.5
	comp=Z,94nm,19.2s,baz=136,slow=41						
TXAR	**Lajitas Array**	**25.26**	**322**	P		**P**	**11 28 27.2 +1.2**
	1.4nm,0.8s,baz=150,slow=10,SNR=4.1						
NVAR	**Mina Array Bea**	**40.37**	**320**	P		**P**	**11 30 39.8 +1.9**
	1.0nm,0.8s,baz=138,slow=6.1,SNR=4.9						
YBH	**Yreka Blue Hor**	**45.03**	**321**	LR		LR	11 52 27.2
	comp=Z,34nm,19.9s,baz=188,slow=39						
SCHQ	**Schefferville**	**47.21**	**15**	P		**P**	**11 31 28.9 -3.4**
	1.4nm,0.7s,baz=186,slow=9.2,SNR=1.5						
YKA	**Yellowknife Ar**	**56.26**	**345**	PcP		**PcP**	**11 33 37.6 +0.4**
	0.2nm,0.9s,baz=143,slow=3.8,SNR=3.6						
CMAR	**Chiang Mai Arr**	**151.24**	**350**	PKPbc		**PKiKP**	**11 42 55.3 +0.6**
	0.5nm,0.4s,baz=336,slow=2.0,SNR=1.4						

*NEIC **30** 11:24:08.4±3.8, 18.22N±0.07×103.36W±0.06, h12km±3km, Error ellipse: s-maj=10.0km s-min=7.2km az=201.0*
*MEX **30** 11:24:10.3±2.5, 18.30N×103.50W, h5km, MD4.3*
*IDC **30** 11:24:16.3±5.2, 18.46N×103.14W, h74km±35km, mb3.6/9, mb1 3.8/11, mb1mx3.7/51, mbtmp3.8/11, ML3.6/2, MS3.5/3, Ms1 3.6/3, ms1mx2.9/50, Error ellipse: s-maj=67.3km s-min=25.1km az=31.0*
ISC 30 11:24:08.0±1.1, 18.20N±0.05×103.48W±0.03, h17km±5km, n108, σ1s91/132, mb4.3/23, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.16**	**54**		**Pg**	**11 24 12.7**	**+0.5**
MMIG					**Sg**	**11 24 15.7**	**+0.5**
MMIG	**Aquila**	**0.16**	**54**	*i* P	**Pg**	**11 24 12.7**	**+0.5**
MMIG				*i* S	**Sg**	**11 24 15.7**	**+0.5**
CDAR	**Ciudad de Arme**	**0.90**	**326**	*e*P	**Pg**	**11 24 23.8**	**-1.7**
CDAR				*e*S	**Sg**	**11 24 35.2**	**-2.1**
COIG	**Colima**	**1.00**	**349**	*e*P	**Pb**	**11 24 25.4**	**-1.5**
COIG				*e*S	**Sg**	**11 24 37.2**	**-3.4**
R15V		**1.08**	**334**		**Pb**	**11 24 26.6**	**-1.7**
R15V					**Sb**	**11 24 40.1**	**-2.1**
R15V		**1.08**	**334**	*e*P	**Pb**	**11 24 26.6**	**-1.7**
R15V				*e*S	**Sb**	**11 24 40.0**	**-2.1**
R15V				*e*S	**Sb**	**11 24 40.1**	**-2.1**
COMA	**Comala**	**1.16**	**347**	*i* P	**Pb**	**11 24 28.4**	**-1.2**
COMA				*i* S	**Sb**	**11 24 41.9**	**-2.5**
MNGA	**Volcan de Coli**	**1.27**	**354**	*e*P	**Pn**	**11 24 30.7**	**-0.6**
MNGA				*e*S	**Sb**	**11 24 47.6**	**-0.3**
EZ5V		**1.28**	**355**		**Pn**	**11 24 30.8**	**-0.7**
EZ5V		**1.28**	**355**	*e*P	**Pn**	**11 24 30.8**	**-0.7**
EZ5V				*i* S	**Sb**	**11 24 47.6**	**-0.6**
JUBC	**Volcan de Coli**	**1.32**	**356**	*e*P	**Pn**	**11 24 31.1**	**-0.8**
JUBC				*e*S	**Sb**	**11 24 48.6**	**-0.6**
INCO	**Volcan de Coli**	**1.33**	**355**	*e*P	**Pn**	**11 24 31.4**	**-0.7**
INCO				*i* S	**Sb**	**11 24 49.4**	**-0.3**
UON	**La Union**	**1.60**	**98**	*e*P	**Pg**	**11 24 37.1**	**-1.7**
UON				*e*S	**Sg**	**11 24 57.7**	**-2.0**
URUA	**Uruapan**	**1.81**	**47**		**Pn**	**11 24 38.8**	**+0.3**
URUA					**Sn**	**11 25 00.3**	**-0.9**
URUA	**Uruapan**	**1.81**	**47**	*e*P	**Pn**	**11 24 38.8**	**+0.3**
URUA				*i* S	**Sn**	**11 25 00.3**	**-0.9**
CJM	**Chamela**	**1.97**	**311**	*e*P	**Pn**	**11 24 41.1**	**+0.5**
CJM				*e*S	**Sn**	**11 25 02.6**	**-2.3**
ZIIG	**Zihuatanejo**	**2.01**	**107**		**Pn**	**11 24 40.8**	**-0.3**
ZIIG					**Sg**	**11 25 11.2**	**-1.4**
ZIIG	**Zihuatanejo**	**2.01**	**107**	*e*P	**Pn**	**11 24 40.8**	**-0.3**
ZIIG				*e*S	**Sg**	**11 25 11.2**	**-1.4**
MOIG	**Morelia**	**2.62**	**55**		**Pb**	**11 24 51.9**	**-2.8**
MOIG					**Sb**	**11 25 24.8**	**-2.0**
MOIG	**Morelia**	**2.62**	**55**	*e*P	**Pb**	**11 24 51.9**	**-2.8**
MOIG				*i* S	**Sb**	**11 25 24.8**	**-2.0**
ARIG	**Puente Sto Nin**	**2.98**	**88**		**Pn**	**11 24 55.0**	**+0.5**
ARIG					**Sb**	**11 25 37.0**	**+0.2**
ARIG	**Puente Sto Nin**	**2.98**	**88**	*e*P	**Pn**	**11 24 55.0**	**+0.5**
ARIG				*e*S	**Sb**	**11 25 37.0**	**+0.2**
ANIG	**Ahuacatlan**	**3.01**	**341**		**Pn**	**11 24 54.9**	**-0.1**
ANIG					**Sn**	**11 25 34.3**	**+3.5**
ANIG	**Ahuacatlan**	**3.01**	**341**	*e*P	**Pn**	**11 24 54.9**	**-0.1**
ANIG				*e*S	**Sn**	**11 25 34.3**	**+3.5**
IGIG	**Irapuato, Guan**	**3.25**	**38**		**Pb**	**11 25 06.9**	**+1.4**
IGIG					**Sb**	**11 25 45.5**	**+0.6**
IGIG	**Irapuato, Guan**	**3.25**	**38**	*e*P	**Pb**	**11 25 06.9**	**+1.4**
IGIG				*e*S	**Sb**	**11 25 45.5**	**+0.6**
JRQG	**Juriquilla Cam**	**3.80**	**48**		**Pb**	**11 25 13.8**	**-0.9**
JRQG					**Sb**	**11 25 54.1**	**-6.5**
JRQG	**Juriquilla Cam**	**3.80**	**48**	*e*P	**Pb**	**11 25 13.8**	**-0.9**
JRQG				*e*S	**Sb**	**11 25 54.1**	**-6.5**
UNM	**Universidad Na**	**4.23**	**74**		**Pn**	**11 25 13.0**	**+1.1**
ZAIG	**Zacatecas**	**4.63**	**10**	Pn	**Pn**	**11 25 28.6**	**+2.1**
ZAIG	**Zacatecas**	**4.63**	**10**		**Pb**	**11 25 28.6**	**-0.4**
ZAIG					**Sn**	**11 26 16.0**	**+5.0**
ZAIG	**Zacatecas**	**4.63**	**10**	*e*P	**Pb**	**11 25 28.6**	**-0.4**
ZAIG				*e*S	**Sn**	**11 26 16.0**	**+5.0**
TLIG	**Tlapa**	**4.72**	**97**		**Pn**	**11 25 19.9**	**+1.3**
H06E1	**SOCORRO T-PHAS**	**7.09**	**276**	T	T	11 33 07.3	
	SNR=45						
SLBS	**Sierra La Lagu**	**8.14**	**313**	Pn	**Pn**	**11 26 09.3**	**+3.8**
CMIG	**Matias Romero**	**8.27**	**96**	P	**Pn**	**11 26 09.0**	**+1.8**
	0.8nm,0.3s,baz=277,slow=12,SNR=6.0						
CMIG				Lg	Lg	11 28 22.7	
	1.0nm,0.3s,baz=20,slow=22,SNR=4.1						
HPIG		**8.93**	**347**	Pn	**Pn**	**11 26 20.0**	**+3.5**
833A	**Chaparral WMA,**	**10.76**	**20**	Pn	**Pn**	**11 26 41.7**	**+0.4**
TX31	**Lajitas Ar. Si**	**11.09**	**359**		**Pn**	**11 26 46.3**	**+0.3**
TX32	**Lajitas Array**	**11.09**	**359**		**Pn**	**11 26 46.5**	**+0.5**
TXAR	**Lajitas Array**	**11.09**	**359**	P	**Pn**	**11 26 49.6**	**+3.6**
	0.1nm,0.3s,baz=176,slow=15,SNR=13						
TXAR				Lg	Lg	11 29 55.5	
	0.1nm,0.3s,baz=182,slow=30,SNR=5.2						
TXAR	**Lajitas Array**	**11.09**	**359**	Pn	**Pn**	**11 26 45.7**	**-0.3**
HKT	**Hockley**	**13.62**	**29**	Pn	**Pn**	**11 27 19.1**	**-1.3**
319A	**Douglas**	**14.14**	**339**	Pn	**Pn**	**11 27 30.9**	**+3.3**
WHTX	**Lake Whitney,**	**14.78**	**20**	Pn	**Pn**	**11 27 36.3**	**0.0**
237A	**Washetta, Mont**	**15.39**	**25**		**Pn**	**11 27 45.5**	**+1.0**
NATX	**Nacogdoches**	**15.68**	**29**	Pn	**Pn**	**11 27 45.8**	**-2.5**
MSTX	**Muleshoe**	**15.72**	**2**		**Pn**	**11 27 51.0**	**+2.1**
ANMO	**Albuquerque**	**16.89**	**352**	LR	LR	11 35 11.6	
	comp=Z,143nm,19.8s,baz=166,slow=39						
X34A	**Smith Ranch, M**	**17.10**	**16**	P	**Pn**	**11 28 05.4**	**-0.9**
X34A				IAmb	IAmb	11 28 15.9	
	comp=Z,18nm,1.2s						
MIAR	**Mount Ida**	**18.52**	**27**	P	**P**	**11 28 22.2**	**-1.5**
T25A	**Trinidad**	**18.89**	**358**	P	**Pn**	**11 28 29.6**	**+1.0**
TUL1	**Leonard**	**18.91**	**20**	P	**P**	**11 28 26.7**	**-1.2**
TUL1				IAmb	IAmb	11 28 37.4	
	comp=Z,18nm,1.4s						
PFO	**Pinyon Flats O**	**19.26**	**325**	P	**P**	**11 28 33.5**	**+1.6**
SDCO	**Great Sand Dun**	**19.56**	**355**	P	**P**	**11 28 36.4**	**+1.1**
T35A	**Sooner Cattle**	**19.63**	**17**	P	**P**	**11 28 34.8**	**-1.0**
T35A				IAmb	IAmb	11 28 55.2	
	comp=Z,7.0nm,1.0s						
WHAR	**Wooly Hollow**	**19.72**	**28**	P	**P**	**11 28 34.4**	**-2.3**
WHAR				IAmb	IAmb	11 28 38.1	
	comp=Z,9.5nm,0.8s						
U15A	**North Rim**	**19.76**	**339**	P	**Pn**	**11 28 39.8**	**+0.8**
HHAR	**Hobbs**	**19.89**	**23**	P	**P**	**11 28 37.4**	**-1.2**
HHAR				IAmb	IAmb	11 28 51.6	
	comp=Z,13nm,1.3s						
FCAR	**Ozark Folk Cen**	**20.29**	**27**	P	**P**	**11 28 41.5**	**-1.4**
FCAR				IAmb	IAmb	11 28 42.7	
	comp=Z,6.3nm,0.7s						
U40A	**Yellville**	**20.38**	**25**	P	**P**	**11 28 42.4**	**-1.5**
U40A				IAmb	IAmb	11 28 43.5	
	comp=Z,7.6nm,0.7s						
SHPR	**Sheep Range**	**20.95**	**333**	P	**P**	**11 28 51.5**	**+1.2**
MTPU	**Mount Pierson**	**21.19**	**341**	P	**P**	**11 28 54.0**	**+0.9**
S39A	**Bolivar**	**21.37**	**23**	P	**P**	**11 28 53.4**	**-1.2**
PLAL	**Pickwick Lake**	**21.62**	**36**	P	**P**	**11 28 55.3**	**-2.0**
PLAL				IAmb	IAmb	11 28 58.5	
	comp=Z,5.9nm,0.6s						
WVT	**Waverly**	**22.59**	**35**	P	**P**	**11 29 05.8**	**-1.9**
FPAL	**Fort Paine**	**22.77**	**41**	P	**P**	**11 29 09.1**	**-0.6**
FPAL				IAmb	IAmb	11 29 09.3	
	comp=Z,12nm,1.0s						
CLTN	**Cedars of Leba**	**23.40**	**37**	P	**P**	**11 29 14.4**	**-1.7**
CLTN				IAmb	IAmb	11 29 15.1	
	comp=Z,8.1nm,0.8s						
GOGA	**Godfrey**	**23.48**	**46**	P	**P**	**11 29 14.9**	**-2.0**
GOGA				IAmb	IAmb	11 29 15.1	
	comp=Z,4.0nm,0.8s						
NVAR	**Mina Array Bea**	**23.95**	**330**	P	**P**	**11 29 23.4**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=146,slow=10,SNR=9.7						
U49A	**Red Boiling Sp**	**24.01**	**37**	P	**P**	**11 29 20.3**	**-1.7**
U49A				IAmb	IAmb	11 29 21.5	
	comp=Z,4.0nm,0.6s						
KVN	**Kaiserville**	**24.36**	**332**	P	**P**	**11 29 26.4**	**+1.0**
KVN				IAmb	IAmb	11 29 28.3	
	comp=Z,2.8nm,0.8s						
TKL	**Tuckaleechee C**	**24.64**	**41**	P	**P**	**11 29 26.0**	**-1.7**
	comp=Z,6.7nm,0.7s,baz=203,slow=13,SNR=9.5						
TKL	**Tuckaleechee C**	**24.64**	**41**	P	**P**	**11 29 26.1**	**-1.7**
TKL				IAmb	IAmb	11 29 26.9	
	comp=Z,8.5nm,0.8s						
ELK	**Elko**	**24.65**	**338**	P	**P**	**11 29 30.2**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=180,slow=6.1,SNR=2.8						
BG3	**Lake Jocassee**	**24.77**	**43**	P	**P**	**11 29 26.5**	**-2.4**
V52A	**Sevierville**	**24.87**	**41**	P	**P**	**11 29 27.5**	**-2.4**
V52A				IAmb	IAmb	11 29 28.8	
	comp=Z,5.0nm,0.7s						
T50A	**Nancy**	**24.91**	**37**	P	**P**	**11 29 26.3**	**-3.8**
T50A				IAmb	IAmb	11 29 29.0	
	comp=Z,12nm,1.4s						
PDAR	**Pinedale Array**	**25.03**	**349**	P	**P**	**11 29 31.7**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=169,slow=9.9,SNR=4.5						
PDAR	**Pinedale Array**	**25.03**	**349**	P	**P**	**11 29 31.0**	**-0.5**
V53A	**Saluda**	**25.26**	**42**	P	**P**	**11 29 31.1**	**-2.4**
V53A				IAmb	IAmb	11 29 34.1	
	comp=Z,5.5nm,0.6s						
TZTN	**Tazewell**	**25.35**	**40**	P	**P**	**11 29 31.7**	**-2.5**
TZTN				IAmb	IAmb	11 29 44.6	
	comp=Z,8.1nm,1.1s						
JSC	**Jenkinsville**	**25.48**	**47**	P	**P**	**11 29 32.5**	**-2.9**
JSC				IAmb	IAmb	11 29 42.2	
	comp=Z,7.7nm,0.8s						
HG4B	**Hotspring**	**40.38**	**334**	P	**P**	**11 31 47.0**	**+2.1**
YKA	**Yellowknife Ar**	**44.93**	**353**	P	**P**	**11 32 20.8**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=164,slow=7.4,SNR=6.0						
BCAR	**Beaver Creek A**	**51.97**	**339**	P	**P**	**11 33 17.5**	**+1.5**
I29M	**Ogilvie Camp,**	**52.49**	**342**	P	**P**	**11 33 20.3**	**+0.5**
I29M				IAmb	IAmb	11 33 20.8	
	comp=Z,3.5nm,1.0s						
K27K	**Chicken**	**52.71**	**340**	P	**P**	**11 33 23.4**	**+2.0**
K27K				IAmb	IAmb	11 33 24.5	
	comp=Z,4.6nm,0.9s						
RIDG	**Independent Ri**	**53.46**	**339**	P	**P**	**11 33 28.6**	**+1.5**
INK	**Inuvik**	**53.55**	**347**	P	**P**	**11 33 27.2**	**-0.3**
	comp=Z,4.2nm,1.1s,baz=130,slow=4.2,SNR=8.6						
INK				LR	LR	11 57 23.2	
	comp=Z,75nm,18.1s,baz=58,slow=37						
INK	**Inuvik**	**53.55**	**347**	P	**P**	**11 33 28.0**	**+0.4**
INK				IAmb	IAmb	11 33 28.3	
	comp=Z,3.8nm,1.0s						
IL31		**54.80**	**339**	P	**P**	**11 33 38.3**	**+1.7**
IL31				IAmb	IAmb	11 33 38.6	
	comp=Z,4.5nm,0.9s						
ILAR	**Eielson Array**	**54.80**	**339**	P	**P**	**11 33 37.2**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=149,slow=6.2,SNR=27						
ILAR	**Eielson Array**	**54.80**	**339**	P	**P**	**11 33 37.9**	**+1.2**
BMAR	**Burnt Mountain**	**55.75**	**342**	P	**P**	**11 33 45.0**	**+1.4**
H24K	**Noodor Dome**	**55.78**	**340**	P	**P**	**11 33 45.0**

0.5nm,0.4s
MAKZ ⇑Pg Pb 11 29 41.9 +2.3
3.3nm,0.9s
MAKZ ⇑Lg Lg 11 31 13.9
26nm,1.1s
MK31 Makanchi Array 7.08 122 ⇑Pn Pn 11 29 24.2 +0.6
baz=303,slow=11,SNR=3.7
MK31 ⇑Sn Sn 11 30 46.4 +1.7
2.6nm,0.7s,baz=91,slow=30,SNR=8.9
MK31 ⇓Lg Lg 11 31 20.3
47nm,1.3s,baz=321,slow=24,SNR=7.5

NOU 30 11:27:58.1,16.08S×167.54E,h19km,MLv4.1/11, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.71**	**333**	P	Pb	11 28 11.8	0.0
DVP	**Devils Point**	**1.75**	**159**	P	Pn	11 28 27.3	-0.1
KOUNC	**Koumac, New Ca**	**5.42**	**214**	P	Pn	11 29 17.8	-0.1
YATNC	**Mamie plateau,**	**5.98**	**186**	P	Pn	11 29 24.9	-0.7
DZM	**Mont Dzumac**	**6.05**	**190**	P	Pn	11 29 26.6	-0.1

*IDC **30** 11:35:53.1±2.5, 17.66S×167.64E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/44, mbtmp3.8/4, ML3.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/61, Error ellipse: s-maj=58.8km s-min=41.5km az=107.0*
*NEIC **30** 11:35:55.5±1.4, 17.47S±0.03×167.7E±0.1, h19km±5km, mb4.5/13, Error ellipse: s-maj=18.3km s-min=4.2km az=89.0*
*NOU **30** 11:35:56.0, 17.52S×167.69E, h17km, MLv4.4/16, Vanuatu Islands*
ISC 30 11:35:54.8±0.6, 17.50S±0.05×167.68E±0.06, h19km, n40, σ1§43/39, mb4.5/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.54**	**115**	P	**Pn**	**11 36 07.2**	**-0.3**
RTV	**Rentapao**	**0.77**	**112**	P	**Pg**	**11 36 10.9**	**+0.9**
SANVU	**Saraoutou**	**2.09**	**347**	Pn	**Pn**	**11 36 29.0**	**+0.1**
SANVU	**Saraoutou**	**2.09**	**347**	P	**Pn**	**11 36 29.1**	**+0.2**
MARNC	**Mare, Loyalty**	**3.97**	**175**	Pn	**Pn**	**11 36 56.0**	**+1.2**
MARNC	**Mare, Loyalty**	**3.97**	**175**	P	**Pn**	**11 36 55.9**	**+1.2**
KOUNC	**Koumac, New Ca**	**4.41**	**226**	Pn	**Pn**	**11 37 01.8**	**+1.0**
KOUNC	**Koumac, New Ca**	**4.41**	**226**	P	**Pn**	**11 37 02.1**	**+1.3**
YATNC	**Mamie plateau,**	**4.59**	**189**	P	**Pn**	**11 37 04.1**	**+0.8**
DZM	**Mont Dzumac**	**4.69**	**194**	Pn	**Pn**	**11 37 03.7**	**-1.0**
	1.7nm,0.3s,baz=77,slow=10,SNR=38						
DZM				Sn	**Sn**	**11 37 54.2**	**-4.5**
	5.5nm,0.3s,baz=124,slow=22,SNR=2.9						
DZM	**Mont Dzumac**	**4.69**	**194**		**Pn**	**11 37 05.7**	**+1.0**
DZM	**Mont Dzumac**	**4.69**	**194**	P	**Pn**	**11 37 05.1**	**+0.4**
NOUC	**Port Laguerre**	**4.75**	**196**	P	**Pn**	**11 37 07.5**	**+2.0**
ONTNC	**Ouen Toro**	**4.92**	**193**	Pn	**Pn**	**11 37 08.8**	**+1.1**
ONTNC	**Ouen Toro**	**4.92**	**193**	P	**Pn**	**11 37 09.5**	**+1.8**
OUENC	**Ouen Island, N**	**4.95**	**189**	P	**Pn**	**11 37 10.1**	**+1.9**
PINNC	**Pines Island,**	**5.09**	**182**	Pn	**Pn**	**11 37 10.4**	**+0.3**
PINNC	**Pines Island,**	**5.09**	**182**	P	**Pn**	**11 37 11.4**	**+1.3**
MSVF	**Nonsavu**	**9.90**	**93**	LR	LR	11 41 24.7	
	comp=Z,250nm,21.3s,baz=294,slow=33						
BKZ	**Black Stump Fm**	**22.91**	**162**	P	**P**	**11 40 58.8**	**+1.1**
BKZ				IAmb	IAmb	11 41 15.4	
	comp=Z,23nm,1.5s						
STKA	**Stephens Creek**	**27.59**	**234**	P	**P**	**11 41 42.5**	**+1.6**
WB0	**Warramunga Arr**	**31.59**	**261**	P	**P**	**11 42 16.4**	**-0.2**
WB0				IAmb	IAmb	11 42 22.4	
	comp=Z,7.5nm,1.4s						
WRAB	**Tennant Creek**	**31.63**	**260**	P	**P**	**11 42 15.6**	**-1.4**
WRAB				IAmb	IAmb	11 42 39.7	
	comp=Z,4.9nm,1.2s						
WRA	**Warramunga Arr**	**31.64**	**260**	P	**P**	**11 42 16.9**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=86,slow=7.5,SNR=2.7						
AS31	**Alice Springs**	**32.15**	**253**	P	**P**	**11 42 20.9**	**-0.6**
ASAR	**Alice Springs**	**32.15**	**253**	P	**P**	**11 42 21.8**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=78,slow=8.9,SNR=19						
ASAR	**Alice Springs**	**32.15**	**253**	P	**P**	**11 42 20.9**	**-0.6**
BBOO	**Buckleboo**	**32.27**	**236**	P	**P**	**11 42 21.8**	**-0.6**
KNRA	**Kununurra**	**37.30**	**267**	P	**P**	**11 43 06.2**	**+0.2**
KNRA				IAmb	IAmb	11 43 16.9	
	comp=Z,8.7nm,1.1s						
SIJI	**Sorong**	**39.43**	**291**	LR	LR	11 59 40.1	
	comp=Z,49nm,19.0s,baz=217,slow=36						
GIRL	**Giralia**	**50.24**	**255**	P	**P**	**11 44 48.6**	**-1.5**
QSPA	**South Pole Qui**	**72.54**	**180**	P	**P**	**11 47 21.3**	**+0.8**
QSPA				IAmb	IAmb	11 47 33.6	
	comp=Z,5.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**76.44**	**295**	P	**P**	**11 47 47.0**	**+3.3**
	comp=Z,0.5nm,0.4s,baz=140,slow=5.8,SNR=1.8						
CMAR	**Chiang Mai Arr**	**76.44**	**295**	P	**P**	**11 47 44.4**	**+0.7**
MAW	**Mawson**	**79.48**	**202**	P	**P**	**11 48 00.7**	**+0.9**
BELA	**Belgrano 2**	**83.94**	**175**	P	**P**	**11 48 22.9**	**-0.3**
BELA				IAmb	IAmb	11 48 34.5	
	comp=Z,4.4nm,1.1s						
GRNB	**Grenville Isla**	**88.77**	**32**	P	**P**	**11 48 46.8**	**-0.3**
SNAA	**Sanae**	**90.82**	**183**	P	**P**	**11 48 54.0**	**-2.7**
SNAA				IAmb	IAmb	11 49 11.8	
	comp=Z,6.0nm,1.4s						
ARCES	**ARCESS Array B**	**123.02**	**345**	PKP	**PKPdf**	**11 54 50.0**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=53,slow=0.5,SNR=3.7						
ARCES	**ARCESS Array B**	**123.02**	**345**		**PKPdf**	**11 54 49.4**	**+0.1**

TAP 30 11:40:23.8, 24.24N×121.78E, h9km, ML0.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.08**	**334**	*eP*	Pg	11 40 26.0	-0.1
	baz=338						
NACB	**Ninganchiao**	**0.18**	**250**	P	Pg	11 40 27.7	+0.1
	baz=250						
NACB				S	Sg	11 40 30.3	+0.2
	baz=250						
TWD	**Chiawan**	**0.23**	**228**	*eP*	Pg	11 40 28.3	-0.1
	baz=226						
ETLH	**Xiulin Townshi**	**0.28**	**264**	*eP*	Pg	11 40 29.0	-0.3
	baz=264						
ETLH				*eS*	Sg	11 40 33.0	0.0
	baz=264						
LATG	**Datong**	**0.38**	**322**	*eP*	Pg	11 40 31.1	-0.3
	baz=322						
LATG				*eS*	Sg	11 40 36.7	+0.3
	baz=322						
NDS	**Dongshan**	**0.40**	**352**	*eP*	Pg	11 40 31.3	-0.4
	baz=351						
NNSB	**Datong**	**0.41**	**298**	*eP*	Pg	11 40 31.8	-0.1
	baz=297						
NNSB				*eS*	Sg	11 40 37.6	+0.3
	baz=297						
ENTT	**Nioudou**	**0.45**	**334**	*eP*	Pg	11 40 32.8	+0.2
	baz=334						
ENTT				*eS*	Sg	11 40 39.2	+0.7
	baz=334						

JMA 30 11:40:28.9±0.2, 25.00N×123.43E, h11km, M1.4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.66**	**216**	P	Pg	11 40 41.6	-0.1
YOJ				*eS*	Sg	11 40 50.5	+0.2
JYNG	**Yonagunijimaku**	**0.70**	**219**	P	Pg	11 40 42.4	-0.1
JYNG				*eS*	Sg	11 40 51.5	-0.2
IRIF	**Iriomote-Funau**	**0.72**	**158**	P	Pg	11 40 42.5	-0.3
IRIF				*eS*	Sg	11 40 52.2	0.0
JISG	**Ishigakijimahi**	**0.90**	**117**	P	Pg	11 40 45.9	-0.4
JISG				S	Sg	11 40 57.6	-0.4
JIJ	**Ishigaki jima**	**0.91**	**134**	P	Pg	11 40 45.7	-0.7
JIJ				*eS*	Sg	11 40 57.0	-1.2
JKRS	**Kuro-shima**	**0.92**	**145**	P	Pg	11 40 46.8	+0.1
JKRS				*eS*	Sg	11 40 58.7	-0.1
HATJ	**Hateruma jima**	**1.00**	**160**	*eS*	Sb	11 41 01.3	-0.1

IDC 30 11:46:31.5±3.0, 67.71N×64.02E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.3/52, mbtmp3.7/5, ML3.1/3, Error ellipse: s-maj=60.0km s-min=20.8km az=6.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**14.00**	**295**	Pn	Pn	11 49 47.6	-3.2
	baz=76,slow=13,SNR=2.7						
ARCES				Sn	Sn	11 52 14.4	-12
	baz=74,slow=23,SNR=2.2						
SPITS	**Spitsbergen Ar**	**16.77**	**328**	Pn	Pn	11 50 21.9	-5.4
	baz=109,slow=16,SNR=9.7						
FINES	**FINESS Array B**	**17.21**	**267**	P	Pn	11 50 32.0	-0.9
	0.1nm,0.3s,baz=67,slow=11,SNR=6.1						
PETK	**Petropavlovsk-**	**43.72**	**61**	P	P	11 54 37.4	-0.4
	6.9nm,0.9s,baz=337,slow=6.3,SNR=3.8						
YKA	**Yellowknife Ar**	**50.09**	**359**	P	P	11 55 27.5	0.0
	0.1nm,0.4s,baz=1.0,slow=8.3,SNR=4.9						

NOU 30 11:48:19.7, 16.27S×167.40E, h12km, MLv4.4/18, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.84**	**347**	P	Pg	11 48 35.9	-0.1
DVP	**Devils Point**	**1.63**	**153**	P	Pn	11 48 48.1	-0.2
RTV	**Rentapao**	**1.80**	**147**	P	Pn	11 48 50.2	-0.4
KOUNC	**Koumac, New Ca**	**5.18**	**214**	P	Pn	11 49 37.1	0.0
MARNC	**Mare, Loyalty**	**5.22**	**174**	P	Pn	11 49 37.3	-0.3
	0.6nm,0.9s						
YATNC	**Mamie plateau,**	**5.78**	**185**	P	Pn	11 49 44.2	-1.1
DZM	**Mont Dzumac**	**5.84**	**189**	P	Pn	11 49 45.6	-0.7
NOUC	**Port Laguerre**	**5.89**	**190**	P	Pn	11 49 46.5	-0.4
ONTNC	**Ouen Toro**	**6.07**	**188**	P	Pn	11 49 50.3	+1.0
OUENC	**Ouen Island, N**	**6.14**	**185**	P	Pn	11 49 49.8	-0.5
PINNC	**Pines Island,**	**6.31**	**180**	P	Pn	11 49 52.8	+0.2

*NEIC **30** 12:10:41.6±1.5, 12.3S±0.1×167.3E±0.1, h264km±7km, mb4.5/53, Error ellipse: s-maj=17.3km s-min=15.1km az=105.0*
*IDC **30** 12:10:44.7±3.1, 12.29S×167.13E, h296km±31km, mb3.9/13, mb1 4.1/16, mb1mx3.7/43, mbtmp4.6/16, Error ellipse: s-maj=24.6km s-min=13.7km az=168.0*
ISC 30 12:10:40.0±0.4, 12.19S±0.07×167.19E±0.07, h250km, n85, σ0§96/84, mb4.5/39, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.24**	**180**	Pn	**Pn**	**12 11 36.6**	**+1.5**
DZM	**Mont Dzumac**	**9.85**	**184**	P	**P**	**12 13 03.4**	**+0.6**
	0.2nm,0.3s,baz=110,slow=21,SNR=2.2						
MSVF	**Nonsavu**	**11.85**	**119**	P	**P**	**12 13 27.2**	**+2.2**
	1.1nm,0.3s,baz=267,slow=12,SNR=11						
MSVF	**Nonsavu**	**11.85**	**119**	P	**P**	**12 13 24.9**	**-0.2**
KRVT	**Keravat (AS076**	**16.92**	**296**	P	**Pn**	**12 14 23.3**	**+0.2**
	5.0nm,0.3s,baz=307,slow=3.7,SNR=7.4						
PMG	**Port Moresby**	**19.87**	**276**	P	**P**	**12 14 53.9**	**+1.0**
	1.4nm,0.3s,baz=85,slow=7.4,SNR=6.0						
PMG	**Port Moresby**	**19.87**	**276**	P	**P**	**12 14 53.5**	**+0.6**
EIDS	**Eidsvold**	**20.08**	**227**		**P**	**12 14 55.9**	**+0.9**
CTA	**Charters Tower**	**21.58**	**246**	P	**P**	**12 15 11.2**	**+0.9**
	8.9nm,0.6s,baz=73,slow=11,SNR=24						
CTAO	**Charters Tower**	**21.58**	**246**	P	**P**	**12 15 11.2**	**+0.9**
CTAO				IAmb	IAmb	12 15 11.8	
	comp=Z,13nm,0.8s						
ARMA	**Armidale**	**23.17**	**216**	P	**P**	**12 15 25.9**	**+1.0**
ARMA				IAmb	IAmb	12 15 27.4	
	comp=Z,15nm,0.8s						
COEN	**Coen**	**23.46**	**263**	P	**P**	**12 15 28.4**	**+0.8**
COEN				IAmb	IAmb	12 15 30.0	
	comp=Z,16nm,0.9s						
BKZ	**Black Stump Fm**	**28.11**	**165**	P	**P**	**12 16 08.4**	**-0.5**
BKZ				IAmb	IAmb	12 16 23.3	
	comp=Z,15nm,1.3s						
TUWZ	**Tuamarina**	**29.72**	**170**	P	**P**	**12 16 23.1**	**0.0**
MSWZ	**Moikau Station**	**29.96**	**168**	P	**P**	**12 16 24.3**	**-0.9**
STKA	**Stephens Creek**	**30.63**	**226**	P	**P**	**12 16 31.4**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=46,slow=10.0,SNR=8.2						
STKA	**Stephens Creek**	**30.63**	**226**	P	**P**	**12 16 31.6**	**+0.3**
TOO	**Toolangi**	**31.88**	**214**	P	**P**	**12 16 41.8**	**-0.3**
TOO				IAmb	IAmb	12 16 47.1	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**32.27**	**252**	P	**P**	**12 16 44.6**	**-1.1**
WR0				IAmb	IAmb	12 16 45.5	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**32.38**	**252**	P	**P**	**12 16 45.6**	**-1.1**
WB0				IAmb	IAmb	12 16 46.4	
	comp=Z,10nm,0.6s						
WB2	**Warramunga Arr**	**32.44**	**252**	P	**P**	**12 16 46.1**	**-1.2**
WRAB	**Tennant Creek**	**32.44**	**252**	P	**P**	**12 16 45.8**	**-1.5**
WRA	**Warramunga Arr**	**32.45**	**252**	P	**P**	**12 16 46.2**	**-1.1**
	comp=Z,4.6nm,0.6s,baz=84,slow=8.8,SNR=50						
WRA	**Warramunga Arr**	**32.45**	**252**	P	**P**	**12 16 45.8**	**-1.6**
AS31	**Alice Springs**	**33.58**	**245**	P	**P**	**12 16 56.0**	**-1.0**
ASAR	**Alice Springs**	**33.58**	**245**	P	**P**	**12 16 55.8**	**-1.3**
	comp=Z,5.6nm,0.7s,baz=73,slow=9.4,SNR=71						
ASAR	**Alice Springs**	**33.58**	**245**	P	**P**	**12 16 55.2**	**-1.8**
BBOO	**Buckleboo**	**35.12**	**229**	P	**P**	**12 17 10.1**	**0.0**
MTN	**Manton Dam**	**35.19**	**265**	P	**P**	**12 17 10.8**	**-0.2**
MTN				IAmb	IAmb	12 17 11.7	
	comp=Z,8.8nm,0.8s						
SIJI	**Sorong**	**37.36**	**285**	P	**P**	**12 17 29.1**	**-0.1**
	comp=Z,8.1nm,0.5s,baz=94,slow=5.4,SNR=14						
KNRA	**Kununurra**	**37.43**	**260**	P	**P**	**12 17 29.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**40.47**	**256**	P	**P**	**12 17 54.8**	**-0.2**
	comp=Z,3.7nm,0.4s,baz=59,slow=7.7,SNR=10						
FORT	**Forrest**	**40.58**	**237**	P	**P**	**12 17 55.4**	**-0.2**
PSA00	**Pilbara Seismi**	**46.11**	**252**	P	**P**	**12 18 39.4**	**-0.5**
PSA00				IAmb	IAmb	12 18 40.1	
	comp=Z,11nm,0.6s						
MBWA	**Marble Bar**	**46.19**	**252**	P	**P**	**12 18 40.6**	**+0.2**
MBWA				IAmb	IAmb	12 18 40.8	
	comp=Z,36nm,1.5s						
TOLI2	**Tolitoli**	**47.94**	**283**	P	**P**	**12 18 54.0**	**-0.1**
TOLI2				IAmb	IAmb	12 18 54.0	
	comp=Z,31nm,1.1s						
NWAO	**Narrogin (SRO)**	**50.02**	**237**	P	**P**	**12 19 08.4**	**-1.1**
NWAO				IAmb	IAmb	12 19 22.8	
	comp=Z,27nm,1.3s						
MORW	**Morawa**	**50.34**	**242**	P	**P**	**12 19 11.5**	**-0.5**
MORW				IAmb	IAmb	12 19 36.8	
	comp=Z,13nm,1.1s						
GIRL	**Giralia**	**51.36**	**251**	P	**P**	**12 19 20.1**	**+0.5**
UGM	**Wanagama**	**55.88**	**269**	P	**P**	**12 19 52.2**	**-0.4**
LEM	**Lembang**	**58.91**	**269**	P	**P**	**12 20 14.2**	**+0.4**
	comp=Z,33nm,0.6s,baz=113,slow=4.3,SNR=6.3						
KIWB	**Kanaga Island**	**65.20**	**11**	P	**P**	**12 20 54.9**	**+0.4**
VNDA	**Vanda**	**65.38**	**181**	P	**P**	**12 20 56.8**	**+1.4**
PETK	**Petropavlovsk-**	**65.54**	**354**	P	**P**	**12 20 57.3**	**+0.6**
CASY	**Casey**	**65.84**	**202**	P	**P**	**12 20 57.9**	**-0.5**
GSI	**Gunungsitoli**	**70.39**	**276**	P	**P**	**12 21 27.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**73.87**	**293**	P	**P**	**12 21 49.5**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=116,slow=4.6,SNR=12						
CMAR	**Chiang Mai Arr**	**73.87**	**293**	P	**P**	**12 21 49.0**	**+0.9**
KDAK	**Kodiak Island**	**77.13**	**21**	P	**P**	**12 22 06.7**	**+1.0**
QSPA	**South Pole Qui**	**77.82**	**180**	P	**P**	**12 22 09.1**	**-0.7**
L19K	**White Mountain**	**79.84**	**17**	P	**P**	**12 22 21.8**	**+1.3**
TTA	**Tatalina**	**80.11**	**16**	P	**P**	**12 22 22.4**	**+0.4**
CAST	**Castle Rocks**	**81.60**	**17**	P	**P**	**12 22 29.8**	**0.0**
CAST				IAmb	IAmb	12 22 31.0	
	comp=Z,3.1nm,0.6s						
KTH	**Kantishna Hill**	**82.05**	**18**	P	**P**	**12 22 31.5**	**-0.7**
KTH				IAmb	IAmb	12 22 47.4	
	comp=Z,13nm,1.4s						
RND	**Reindeer**	**82.56**	**18**	P	**P**	**12 22 34.8**	**0.0**
RND				IAmb	IAmb	12 22 35.6	
	comp=Z,7.4nm,0.5s						
DIB	**Dawson Inlet,**	**82.90**	**32**	P	**P**	**12 22 37.0**	**+0.3**
IMAR	**Indian Mountai**	**83.15**	**15**	P	**P**	**12 22 38.4**	**+0.7**
TCOL	**CIGO, UAF Yank**	**83.93**	**18**	IAmb	IAmb	12 22 42.0	
	comp=Z,13nm,1.1s						
COLA	**College**	**83.93**	**18**	P	**P**	**12 22 41.2**	**-0.4**
COLA				IAmb	IAmb	12 22 42.0	
	comp=Z,14nm,1.1s						
RIDG	**Independent Ri**	**84.07**	**19**	P	**P**	**12 22 42.4**	**0.0**
RIDG				IAmb	IAmb	12 22 43.5	
	comp=Z,13nm,1.3s						
H23K	**Yukon River**	**84.14**	**16**	P	**P**	**12 22 43.2**	**+0.5**
IL31		**84.15**	**18**	P	**P**	**12 22 42.5**	**-0.2**
ILAR	**Eielson Array**	**84.15**	**18**	P	**P**	**12 22 42.1**	**-0.6**
	comp=Z,6.1nm,0.6s,baz=242,slow=5.2,SNR=94						
ILAR	**Eielson Array**	**84.15**	**18**	P	**P**	**12 22 43.0**	**+0.3**
POKR	**Poker Plat Res**	**84.23**	**18**	P	**P**	**12 22 42.4**	**-0.8**
POKR				IAmb	IAmb	12 22 43.3	
	comp=Z,11nm,1.3s						
J25K	**Salcha River,**	**84.50**	**19**	P	**P**	**12 22 45.0**	**+0.3**
SCRK	**Sand Creek**	**84.51**	**19**	P	**P**	**12 22 45.3**	**+0.6**
SCRK				IAmb	IAmb	12 22 45.6	
	comp=Z,3.6nm,0.5s						
BCAR	**Beaver Creek A**	**84.65**	**21**	P	**P**	**12 22 45.9**	**+0.6**
CBB	**Campbell River**	**85.32**	**37**	P	**P**	**12 22 49.3**	**+0.4**
CBB				IAmb	IAmb	12 22 50.5	
	comp=Z,15nm,1.3s						
NVAR	**Mina Array Bea**	**85.68**	**49**	P	**P**	**12 22 51.4**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=231,slow=8.0,SNR=6.2						
LCH	**Last Change Ra**	**85.79**	**51**	P	**P**	**12 22 47.8**	**-3.9**
LCH				IAmb	IAmb	12 23 14.6	
	comp=Z,7.3nm,0.8s						
DAWY	**Dawson**	**86.11**	**21**	P	**P**	**12 22 52.5**	**-0.1**
DAWY				IAmb	IAmb	12 22 53.4	
	comp=Z,8.9nm,1.4s						
BMAR	**Burnt Mountain**	**86.68**	**17**	P	**P**	**12 22 56.3**	**+1.1**
G08A	**Pilot Rock**	**87.51**	**43**	P	**P**	**12 23 00.9**	**+1.1**
G08A				IAmb	IAmb	12 23 01.6	
	comp=Z,4.8nm,1.1s						
BELA	**Belgrano 2**	**89.25**	**175**	P	**P**	**12 23 06.2**	**-1.1**
BELA				IAmb	IAmb	12 23 33.6	
	comp=Z,5.9nm,1.4s						
U15A	**North Rim**	**89.66**	**53**	P	**P**	**12 23 11.5**	**+1.2**
TXAR	**Lajitas Array**	**95.13**	**61**	P	**P**	**12 23 35.4**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=226,slow=5.7,SNR=5.9						
MKAR	**Makanchi Array**	**95.32**	**317**	P	**P**	**12 23 36.2**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=89,slow=7.4,SNR=6.4						
YKA	**Yellowknife Ar**	**95.33**	**27**	P	**P**	**12 23 34.1**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=258,slow=4.5,SNR=24						
YKA	**Yellowknife Ar**	**95.33**	**27**	P	**P**	**12 23 34.4**	**-1.0**
SNAA	**Sanae**	**96.06**	**183**	P	**P**	**12 23 37.1**	**-1.7**
SNAA				IAmb	IAmb	12 23 43.7	
	comp=Z,6.4nm,1.5s						
ARCES	**ARCESS Array B**	**117.79**	**346**	PKP	**PKPdf**	**12 28 55.2**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=64,slow=2.2,SNR=11						
ARCES	**ARCESS Array B**	**117.79**	**346**		**PKPdf**	**12 28 54.8**	**-1.2**
FINES	**FINESS Array B**	**123.35**	**339**	PKP	**PKPdf**	**12 29 06.4**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=302,slow=3.6,SNR=5.6						
FINES	**FINESS Array B**	**123.35**	**339**		**PKPdf**	**12 29 05.9**	**-1.0**

*IDC **30** 12:16:52.7±1.1, 10.42S×161.45E, h77km±8km, mb3.7/7, mb1 3.9/8, mb1mx3.6/36, mbtmp4.0/8, MS3.0/2, Ms1 3.0/2, ms1mx2.5/59, Error ellipse: s-maj=21.3km s-min=11.6km az=25.0*
*NEIC **30** 12:16:54.5±1.4, 10.32S±0.06×161.4E±0.1, h88km±7km, mb4.2/26, Error ellipse: s-maj=17.6km s-min=4.3km az=62.0*
ISC 30 12:16:54.3±0.6, 10.28S±0.07×161.47E±0.08, h100km, n62, σ1§50/65, mb4.1/20, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.72**	**299**	P	**Pn**	**12 17 21.7**	**-1.6**
	470nm,0.3s,baz=165,slow=8.5,SNR=134						
HNR				S	**Sn**	**12 17 43.7**	**-1.8**
	459nm,0.3s,baz=293,slow=22,SNR=9.9						
HNR	**Honiara**	**1.72**	**299**		**Pn**	**12 17 21.6**	**-1.8**
HNR	**Honiara**	**1.72**	**299**	P	**Pn**	**12 17 22.2**	**-1.2**
SANVU	**Saraoutou**	**7.59**	**133**	Pn	**Pn**	**12 18 39.7**	**-2.5**
DVP	**Devils Point**	**9.86**	**139**	P	**Pn**	**12 19 13.0**	**-0.1**
KOUNC	**Koumac, New Ca**	**10.56**	**165**	Pn	**Pn**	**12 19 22.2**	**-0.5**
KOUNC	**Koumac, New Ca**	**10.56**	**165**	P	**Pn**	**12 19 23.4**	**+0.7**
NOUC	**Port Laguerre**	**12.63**	**159**	P	**Pn**	**12 19 52.0**	**+1.6**
DZM	**Mont Dzumac**	**12.65**	**158**	P	**Pn**	**12 19 52.1**	**+1.3**
	1.1nm,0.3s,baz=305,slow=17,SNR=59						
DZM				S	**Sn**	**12 22 05.7**	**-4.3**
	0.8nm,0.3s,baz=150,slow=20,SNR=2.8						
DZM	**Mont Dzumac**	**12.65**	**158**		**Pn**	**12 19 51.4**	**+0.6**
DZM	**Mont Dzumac**	**12.65**	**158**	P	**Pn**	**12 19 52.5**	**+1.7**
MARNC	**Mare, Loyalty**	**12.79**	**151**	P	**Pn**	**12 19 53.9**	**+1.4**
PMG	**Port Moresby**	**14.13**	**272**	LR	LR	12 24 32.4	
	comp=Z,88nm,18.3s,baz=132,slow=33						
CTA	**Charters Tower**	**17.61**	**235**	P	**Pn**	**12 20 54.0**	**+0.5**
	0.6nm,0.3s,baz=60,slow=11,SNR=10						
CTAO	**Charters Tower**	**17.61**	**235**	P	**Pn**	**12 20 52.8**	**-0.6**
CTAO	**Charters Tower**	**17.61**	**235**	P	**Pn**	**12 20 53.1**	**-0.4**
EIDS	**Eidsvold**	**17.95**	**212**	P	**Pn**	**12 20 57.8**	**+0.2**
RMQ	**Roma**	**20.10**	**215**	P	**Pn**	**12 21 23.1**	**+0.2**
ARMA	**Armidale**	**22.03**	**203**	P	**P**	**12 21 41.5**	**+0.6**
ARMA				IAmb	IAmb	12 21 43.8	
	comp=Z,4.6nm,0.7s						
ARMA	**Armidale**	**22.03**	**203**	P	**P**	**12 21 43.4**	**+2.5**
QIS	**Mount Isa**	**23.39**	**242**	P	**P**	**12 21 55.7**	**+1.2**
INKA	**Innaminka**	**26.11**	**225**	P	**P**	**12 22 20.1**	**+1.2**
WR0	**Warramunga Arr**	**27.68**	**247**	P	**P**	**12 22 33.0**	**-0.1**
WR0				IAmb	IAmb	12 22 33.4	
	comp=Z,2.7nm,0.5s						
WB0	**Warramunga Arr**	**27.76**	**247**	P	**P**	**12 22 33.6**	**-0.3**
WB0				IAmb	IAmb	12 22 34.6	
	comp=Z,8.9nm,1.0s						
WRAB	**Tennant

*KRNET **30** 12:31:26.9±0.1,40˚.70N×80˚.14E,mb3.0*
*SOME **30** 12:31:28.5,40˚.93N×79˚.85E,h10km*
*NNC **30** 12:31:29.9±6.4,40˚.90N×80˚.52E,h0km,mb3.2,mpv2.8,*
Error ellipse: s-maj=51.8km s-min=42.5km az=44.0

ISC 30 12:31:28.9±2.7,40˚.8N±0˚.1×80˚.00E±0˚.07,h10km,n18,
σ1§28/36,7C-10D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.88**	**299**	⇑*i*P	**Pn**	**12 32 01.4**	**-0.1**
	baz=1.0						
TARG				⇑*i*S	**Sb**	**12 32 26.9**	**-0.4**
	baz=1.0						
PRZ	**Przheval'sk**	**2.04**	**325**	⇑*e*P	**Pn**	**12 32 04.2**	**+0.7**
	baz=25						
PRZ				⇑*i*S	**Sb**	**12 32 31.1**	**-0.6**
	baz=25						
UZB	**Uzynbulak**	**2.43**	**343**	*e*P	**Pb**	**12 32 10.9**	**-1.9**
	7.0nm,0.3s						
UZB				*e*S	**Sb**	**12 32 41.6**	**-1.2**
	12nm,0.3s						
KDJ	**Kajisay**	**2.48**	**302**	⇓*e*P	**Pn**	**12 32 09.9**	**+0.3**
	baz=4.0						
KDJ				⇓*i*S	**Sn**	**12 32 41.5**	**+1.5**
	baz=4.0						
SATY	**Saty**	**2.52**	**333**	*e*P	**Pb**	**12 32 13.1**	**-1.3**
	4.7nm,0.3s						
SATY				*e*S	**Sb**	**12 32 45.4**	**-0.1**
	13nm,0.4s						
PDGK	**Podgornoye**	**2.53**	**352**	⇓Pn	**Pb**	**12 32 12.0**	**-2.4**
	2.0nm,0.3s						
PDGK				⇑Sn	**Sb**	**12 32 45.1**	**-0.5**
	6.3nm,0.5s						
ANVS	**Anan'yevo**	**2.62**	**319**	⇑*i*P	**Pn**	**12 32 12.0**	**+0.6**
	baz=19						
ANVS				⇑*i*S	**Sn**	**12 32 44.7**	**+1.4**
	baz=19						
KPKS	**Kokpek**	**2.81**	**340**	*e*P	**Pb**	**12 32 18.0**	**-1.3**
	6.2nm,0.2s						
KPKS				*e*S	**Sb**	**12 32 53.9**	**+0.1**
	23nm,0.3s						
KURS	**Kuram**	**2.98**	**334**	*e*P	**Pb**	**12 32 19.9**	**-2.3**
	2.0nm,0.6s						
KURS				*e*S	**Sb**	**12 32 56.8**	**-1.9**
	11nm,0.7s						
ULHL	**Ulahol**	**3.15**	**298**	⇓*e*P	**Pn**	**12 32 19.5**	**+0.7**
	baz=99						
ULHL				⇓*i*S	**Sn**	**12 32 58.1**	**+1.5**
	baz=99						
TNSS	**Tian-Shan**	**3.17**	**315**	*e*P	**Pb**	**12 32 23.6**	**-2.0**
	4.2nm,0.3s						
TNSS				*e*S	**Sb**	**12 33 03.2**	**-1.2**
	6.1nm,0.3s						
MDOK	**Medeo**	**3.20**	**318**	*e*P	**Pb**	**12 32 25.5**	**-0.5**
	3.5nm,0.5s						
MDOK				*e*S	**Sb**	**12 33 06.4**	**+1.3**
	12nm,0.5s						
BLB	**Baldybastay**	**3.45**	**342**	*e*P	**Pb**	**12 32 29.4**	**-0.8**
	2.6nm,0.3s						
BLB				*e*S	**Sb**	**12 33 13.4**	**+1.1**
	9.5nm,0.4s						
BOOM	**Boomskoye usch**	**3.46**	**300**	⇓*i*P	**Pn**	**12 32 22.9**	**-0.1**
	baz=1.0						
BOOM				⇓*i*S	**Sn**	**12 33 04.3**	**+0.1**
	baz=1.0						
ARXS	**Arharly**	**3.74**	**335**	*e*P	**Pb**	**12 32 33.6**	**-1.5**
	2.0nm,0.3s						
ARXS				*e*S	**Sb**	**12 33 20.5**	**-0.1**
	7.1nm,0.6s						
CHKK	**Chushkaly**	**3.75**	**325**	*e*P	**Pb**	**12 32 35.3**	**0.0**
	1.4nm,0.3s						
CHKK				*e*S	**Sb**	**12 33 23.1**	**+2.3**
	17nm,0.3s						
MAKZ	**Makanchi**	**6.15**	**13**	⇓Pn	**Pn**	**12 33 01.0**	**+1.3**
	0.3nm,0.3s						
MAKZ				⇓Sn	**Sn**	**12 34 11.6**	**+1.5**
	0.2nm,0.4s						
MK31	**Makanchi Array**	**6.19**	**15**	Pn	**Pn**	**12 33 01.9**	**+1.6**
	0.5nm,0.5s,baz=194,slow=15,SNR=20						
MK31				⇓Sn	**Sn**	**12 34 10.8**	**-0.4**
	0.4nm,0.5s,baz=186,slow=23,SNR=4.3						

IDC 30 12:35:31.4±5.5,32˚.10N×141˚.63E,h53km±48km,mb3.2/4,
mb1 3.4/5,mb1mx3.2/35,mbtmp3.4/5,ML2.3/1,MS2.9/1,
Ms1 2.9/1,ms1mx2.1/30,Error ellipse: s-maj=48.9km
s-min=25.8km az=85.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.26**	**328**	P	Pn	12 36 46.5	-1.0
	0.1nm,0.3s,baz=149,slow=11,SNR=3.1						
MJAR				S	Sn	12 37 47.3	+0.4
	0.0nm,0.3s,baz=35,slow=20,SNR=1.1						
SIJI	**Sorong**	**34.22**	**199**	LR	LR	12 55 37.8	
	comp=Z,17nm,19.1s,baz=71,slow=35						
MKAR	**Makanchi Array**	**47.03**	**306**	P	P	12 43 57.3	-0.2
	0.2nm,0.5s,baz=79,slow=7.5,SNR=2.1						
WRA	**Warramunga Arr**	**52.21**	**189**	P	P	12 44 37.0	0.0
	0.6nm,0.7s,baz=5.2,slow=7.7,SNR=7.2						
YKA	**Yellowknife Ar**	**68.00**	**29**	P	P	12 46 24.6	-0.1
	0.1nm,0.5s,baz=305,slow=6.6,SNR=5.1						
FINES	**FINESS Array B**	**73.27**	**333**	P	P	12 46 57.0	+0.2
	1.5nm,1.0s,baz=75,slow=7.4,SNR=3.5						

*IDC **30** 12:50:42.8±6.4,58˚.87S×26˚.01W,h90km±59km,mb3.9/9,*
mb1 4.0/10,mb1mx3.8/25,mbtmp4.3/10,ML4.5/1,MS3.4/5,
Ms1 3.4/5,ms1mx3.0/42,Error ellipse: s-maj=22.3km
s-min=19.3km az=168.0
*NEIC **30** 12:50:43.6±1.6,59˚.05S±0˚.1×25˚.9W±0˚.2,h98km±2km,*
mb4.7/22,Error ellipse: s-maj=20.6km s-min=13.9km
az=216.0

ISC 30 12:50:43.7±0.5,58˚.97S±0˚.09×25˚.9W±0˚.1,h100km,n52,
σ0§90/46,mb4.4/18,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.49**	**304**	Pn	**Pn**	**12 52 32.5**	**+2.3**
VNA1	**Neumayer--Stat**	**13.83**	**155**	P	**Pn**	**12 53 54.4**	**-0.7**
VNA1				S	Sn	12 56 11.5	-15
VNA3	**Neumayer Olymp**	**14.00**	**158**	P	**Pn**	**12 53 56.3**	**-1.1**
VNA3				S	Sn	12 56 13.3	-18
VNA2	**Neumayer--Watz**	**14.23**	**155**	P	**Pn**	**12 53 59.7**	**-0.6**
	baz=318,slow=15						
VNA2				S	Sn	12 56 15.5	-21
SNAA	**Sanae**	**15.80**	**153**	P	**Pn**	**12 54 20.2**	**+0.1**
SNAA				S	Sn	12 56 57.7	-17
SNAA	**Sanae**	**15.80**	**153**	P	**Pn**	**12 54 20.6**	**+0.5**
	1.9nm,0.3s,baz=311,slow=13,SNR=96						
SNAA				S	Sn	12 57 00.9	-14
	0.2nm,0.3s,baz=357,slow=22,SNR=2.7						
SNAA				LR	LR	12 59 59.0	
	comp=Z,42nm,19.5s,baz=14,slow=35						
SNAA	**Sanae**	**15.80**	**153**	P	**Pn**	**12 54 20.3**	**+0.2**
SNAA				IAmb	IAmb	12 54 22.3	
	comp=Z,12nm,0.6s						
TROLL	**Troll, Antarti**	**17.33**	**150**	P	**Pn**	**12 54 41.1**	**+2.1**
BELA	**Belgrano 2**	**19.21**	**186**	P	**P**	**12 54 58.4**	**-0.9**
USHA	**Ushuaia**	**23.29**	**262**	P	**P**	**12 55 42.3**	**0.0**
	comp=Z,14nm,0.9s,baz=124,slow=16,SNR=3.8						
MG02	**Cerro Sombrero**	**24.71**	**265**	P	**P**	**12 55 54.0**	**-1.2**
TRQA	**Tornquist**	**31.18**	**296**	P	**P**	**12 56 52.9**	**-0.1**
TRQA				IAmb	IAmb	12 57 21.2	
	comp=Z,8.1nm,1.1s						
QSPA	**South Pole Qui**	**31.27**	**180**	P	**P**	**12 56 55.1**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=198,slow=3.1,SNR=19						
QSPA	**South Pole Qui**	**31.27**	**180**	P	**P**	**12 56 54.5**	**+0.7**
PLCA	**Paso Flores**	**33.27**	**283**	P	**P**	**12 57 10.3**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=141,slow=9.7,SNR=5.6						
PLCA				LR	LR	13 08 33.6	
	comp=Z,43nm,20.1s,baz=170,slow=32						
PLCA	**Paso Flores**	**33.27**	**283**	P	**P**	**12 57 10.7**	**-0.7**
LC01	**Cunco**	**35.33**	**284**	P	**P**	**12 57 29.8**	**+0.7**
LC01				IAmb	IAmb	12 57 32.5	
	comp=Z,4.3nm,0.9s						
MAW	**Mawson**	**37.41**	**141**	P	**P**	**12 57 47.1**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=243,slow=12,SNR=2.8						
MAW	**Mawson**	**37.41**	**141**	P	**P**	**12 57 46.3**	**0.0**
BI05	**Punta Hualpn**	**37.65**	**285**	P	**P**	**12 57 48.2**	**-0.5**
MT09	**Talagante**	**38.92**	**290**	P	**P**	**12 57 59.4**	**-0.3**
PEL	**Peldehue**	**39.29**	**291**	P	**P**	**12 58 02.9**	**+0.2**
PEL				IAmb	IAmb	12 58 04.0	
	comp=Z,20nm,0.8s						
ROC1	**El Roble**	**39.59**	**291**	P	**P**	**12 58 04.1**	**-1.2**
ROC1				IAmb	IAmb	12 58 24.4	
	comp=Z,16nm,1.0s						
SUR	**Sutherland**	**40.85**	**70**	LR	LR	13 12 40.7	
	comp=Z,82nm,18.6s,baz=67,slow=32						
CO01	**Juntas del Tor**	**41.62**	**294**	P	**P**	**12 58 23.0**	**+0.9**
CO01				IAmb	IAmb	12 58 26.0	
	comp=Z,8.1nm,0.8s						
AC04	**Llanos de Chal**	**43.58**	**295**	P	**P**	**12 58 37.5**	**-0.1**
AC04				IAmb	IAmb	12 58 39.9	
	comp=Z,22nm,1.2s						
VNDA	**Vanda**	**43.68**	**182**	P	**P**	**12 58 38.6**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=174,slow=7.9,SNR=6.6						
VNDA	**Vanda**	**43.68**	**182**	P	**P**	**12 58 38.4**	**+0.6**
BOSA	**Boshof**	**46.12**	**72**	P	**P**	**12 58 58.0**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=219,slow=7.5,SNR=6.5						
BOSA	**Boshof**	**46.12**	**72**	P	**P**	**12 58 57.8**	**-0.1**
BOSA				IAmb	IAmb	12 59 06.4	
	comp=Z,16nm,1.4s						
PB14	**IPOC Station P**	**46.31**	**298**	P	**P**	**12 58 58.0**	**-1.7**
PB14				IAmb	IAmb	12 59 10.6	
	comp=Z,19nm,1.4s						
LBTB	**Lobatse**	**49.29**	**70**	P	**P**	**12 59 22.7**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=232,slow=6.0,SNR=4.9						
LBTB				LR	LR	13 16 53.5	
	comp=Z,61nm,18.4s,baz=122,slow=32						
LBTB	**Lobatse**	**49.29**	**70**	P	**P**	**12 59 21.9**	**-0.5**
H10S2	**ASCENSION HYDR**	**50.64**	**14**	T	T	13 54 06.1	
	baz=187,slow=74,SNR=17						
H10S3	**ASCENSION HYDR**	**50.64**	**14**	T	T	13 54 06.4	
	baz=33,slow=74,SNR=29						
H10N1	**ASCENSION HYDR**	**51.75**	**14**	T	T	13 55 33.7	
	baz=180,slow=72,SNR=12						
H10N3	**ASCENSION HYDR**	**51.76**	**14**	T	T	13 55 31.6	
	baz=180,slow=72,SNR=29						
H10N2	**ASCENSION HYDR**	**51.77**	**14**	T	T	13 55 31.9	
	baz=180,slow=72,SNR=20						
LPAZ	**La Paz**	**52.64**	**306**	P	**P**	**12 59 47.2**	**-0.9**
DBIC	**Dimbokro**	**67.57**	**23**	P	**P**	**13 01 29.0**	**-0.3**
DBIC				IAmb	IAmb	13 01 33.0	
	comp=Z,11nm,1.4s						
MBAR	**Mbarara**	**72.92**	**61**	LR	LR	13 31 39.7	
	comp=Z,41nm,18.4s,baz=346,slow=34						
TORD	**Torodi Ar. Bea**	**75.30**	**28**	P	**P**	**13 02 15.6**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=197,slow=6.0,SNR=5.7						
BIRV	**Birongo**	**76.49**	**319**	P	**P**	**13 02 21.2**	**-1.2**
BIRV				IAmb	IAmb	13 02 28.8	
	comp=Z,25nm,1.3s						
FORT	**Forrest**	**88.00**	**158**	P	**P**	**13 03 22.0**	**-0.4**
ASAR	**Alice Springs**	**95.99**	**161**	P	**P**	**13 03 59.5**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=181,slow=3.6,SNR=7.6						
ASAR	**Alice Springs**	**95.99**	**161**	P	**P**	**13 03 59.0**	**-0.5**
ARCES	**ARCESS Array B**	**133.40**	**22**	PKP	**PKPdf**	**13 09 46.1**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=90,slow=1.2,SNR=5.1						
ARCES	**ARCESS Array B**	**133.40**	**22**		**PKiKP**	**13 09 48.8**	**+1.2**
YKA	**Yellowknife Ar**	**138.78**	**315**	PKP	**PKiKP**	**13 09 57.4**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=126,slow=2.4,SNR=8.7						
YKA	**Yellowknife Ar**	**138.78**	**315**		**PKPdf**	**13 09 56.8**	**+0.4**
ILAR	**Eielson Array**	**152.51**	**307**	PKPbc	**PKPbc**	**13 10 26.4**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=146,slow=3.3,SNR=10						
ILAR	**Eielson Array**	**152.51**	**307**	PKPdf	**PKPdf**	**13 10 20.9**	**+1.3**
ILAR					**PKPbc**	**13 10 26.0**	**-0.6**

*FUNV **30** 13:05:01.0,8˚.52N×71˚.32W,h9km,MW3.0*
ISC 30 13:04:59.9±1.6,8˚.54N±0˚.04×71˚.32W±0˚.03,h10km±12km,
n17,σ0§87/25,1C-1D,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.52**	**119**	⇑*i*P	**Pg**	**13 05 10.2**	**+0.2**
SOCV				*e*S	**Sb**	**13 05 17.9**	**-0.9**
CAPV	**Capacho**	**1.19**	**236**	*e*S	**Sb**	**13 05 38.3**	**0.0**
PAMC	**Pamplona, Colo**	**1.81**	**229**	*e*P	**Pn**	**13 05 32.5**	**+0.8**
PAMC				*e*S	**Sg**	**13 05 57.6**	**-0.7**
OCAC	**Ocana**	**2.00**	**262**	*e*P	**Pn**	**13 05 33.8**	**-0.2**
OCAC				*e*S	**Sn**	**13 05 59.5**	**+0.2**
LL6C	**La Loma 6 Bece**	**2.27**	**302**	*e*P	**Pn**	**13 05 37.0**	**-0.5**
LL6C				*e*S	**Sn**	**13 06 04.4**	**-1.2**
ELOV	**Elorza**	**2.37**	**130**	*e*P	**Pn**	**13 05 40.0**	**+1.1**
ELOV				*e*S	**Sn**	**13 06 06.8**	**-1.3**
DABV	**Dabajuro**	**2.46**	**16**	*e*P	**Pn**	**13 05 41.5**	**+1.3**
DABV				*e*S	**Sn**	**13 06 10.2**	**-0.3**
SIQV	**Siquisique**	**2.58**	**35**	*e*P	**Pn**	**13 05 42.5**	**+0.7**
BARC	**Barichara**	**2.67**	**224**	*e*P	**Pb**	**13 05 48.1**	**+0.1**
BARC				*e*S	**Sb**	**13 06 19.7**	**-1.3**
MAPV	**Macapo**	**3.10**	**65**	⇓*e*P	**Pn**	**13 05 49.9**	**+0.8**
RUSC	**La Rusia**	**3.16**	**214**	*e*P	**Pn**	**13 05 51.1**	**+1.0**
RUSC				*e*S	**Sn**	**13 06 29.3**	**+1.1**
BAUV	**El Baul**	**3.27**	**83**	*e*P	**Pn**	**13 05 52.1**	**+0.9**
BENV	**Beln**	**3.94**	**69**	*e*P	**Pn**	**13 06 00.9**	**+0.3**
SJCC	**San Jacinto, C**	**4.04**	**290**	*e*P	**Pn**	**13 06 02.9**	**+0.9**
SJCC				*e*S	**Sn**	**13 06 50.4**	**+0.8**
PAYV	**Puerto Ayacuch**	**4.77**	**130**	*e*P	**Pn**	**13 06 12.0**	**0.0**
CACV	**CAICARA DEL OR**	**4.83**	**101**	*e*P	Pb	13 06 19.9	-4.8
BIRV	**Birongo**	**5.34**	**68**	*e*P	**Pn**	**13 06 19.8**	**0.0**

IDC 30 13:11:48.6±13.0,20˚.48S×179˚.33W,h401km±91km,
mb2.9/2,mb1 3.1/3,mb1mx2.9/24,mbtmp3.6/3,Error
ellipse: s-maj=293.0km s-min=42.2km az=148.0,Fiji
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.69**	**317**	P	P	13 12 58.0	0.0
	1.1nm,0.3s,baz=148,slow=12,SNR=8.1						
ASAR	**Alice Springs**	**43.31**	**257**	P	P	13 19 12.3	-1.0
	0.4nm,0.4s,baz=92,slow=8.0,SNR=4.5						
WRA	**Warramunga Arr**	**43.37**	**262**	P	P	13 19 14.2	+0.4
	0.5nm,0.3s,baz=96,slow=8.3,SNR=36						
ARCES	**ARCESS Array B**	**128.67**	**349**	PKP	PKPdf	13 30 07.8	-0.4
	1.5nm,0.8s,baz=37,slow=3.0,SNR=3.8						

*FUNV **30** 13:25:00.9,8˚.80N×70˚.90W,h5km,MW3.2*
ISC 30 13:24:59.9±1.6,8˚.83N±0˚.04×70˚.84W±0˚.03,h6km±12km,
n20,σ1§18/34,1C,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.54**	**181**	⇑*i*P	**Pg**	**13 25 10.9**	**+0.5**
SOCV				*e*S	**Sg**	**13 25 18.1**	**+0.7**
CAPV	**Capacho**	**1.74**	**237**	*e*P	**Pn**	**13 25 31.4**	**+0.4**
CAPV				*e*S	**Sn**	**13 25 53.5**	**-0.1**
MCQV	**Machiques**	**2.06**	**306**	*e*P	**Pn**	**13 25 35.1**	**-0.1**
MCQV				*e*S	**Sn**	**13 26 00.6**	**-0.8**
SIQV	**Siquisique**	**2.08**	**29**	*e*P	**Pn**	**13 25 36.7**	**+1.3**
SIQV				*e*S	**Sn**	**13 26 03.1**	**+1.4**
DABV	**Dabajuro**	**2.09**	**6**	*e*P	**Pn**	**13 25 36.4**	**+0.8**
DABV				*e*S	**Sn**	**13 26 03.0**	**+1.0**
ELOV	**Elorza**	**2.26**	**143**	*e*P	**Pn**	**13 25 38.6**	**+0.7**
ELOV				*e*S	**Sn**	**13 26 06.6**	**+0.5**
PAMC	**Pamplona, Colo**	**2.36**	**231**	*e*P	**Pb**	**13 25 42.1**	**-1.1**
PAMC				*e*S	**Sn**	**13 26 09.9**	**+0.6**
OCAC	**Ocana**	**2.52**	**257**	*e*P	**Pn**	**13 25 41.8**	**+0.2**
OCAC				*e*S	**Sb**	**13 26 15.2**	**-1.9**
MAPV	**Macapo**	**2.56**	**67**	*e*P	**Pn**	**13 25 43.9**	**+1.9**
TAMC	**Tame, Arauca**	**2.56**	**202**	*e*P	**Pb**	**13 25 45.9**	**-0.4**
TAMC				*e*S	**Sb**	**13 26 17.1**	**-0.9**
LL6C	**La Loma 6 Bece**	**2.56**	**291**	*e*P	**Pn**	**13 25 43.4**	**+1.3**
LL6C				*e*S	**Sn**	**13 26 14.9**	**+1.3**
BAUV	**El Baul**	**2.77**	**87**	*e*P	**Pn**	**13 25 46.1**	**+1.2**
BAUV				*e*S	**Sn**	**13 26 19.2**	**+0.5**
CRJC	**Cerrejon, Guaj**	**2.96**	**317**	*e*P	**Pn**	**13 25 47.5**	**-0.1**
CRJC				*e*S	**Sn**	**13 26 22.1**	**-1.5**
BENV	**Beln**	**3.39**	**70**	*e*P	**Pn**	**13 25 54.9**	**+1.4**
RUSC	**La Rusia**	**3.67**	**217**	*e*P	**Pn**	**13 25 59.2**	**+1.5**
RUSC				*e*S	**Sn**	**13 26 42.5**	**+1.0**
SJCC	**San Jacinto, C**	**4.41**	**284**	*e*P	**Pn**	**13 26 09.5**	**+2.0**
SJCC				*e*S	**Sn**	**13 27 00.8**	**+1.5**
CACV	**CAICARA DEL OR**	**4.44**	**106**	*e*P	**Pb**	**13 26 16.1**	**-2.3**
MERV	**Las Mercedes**	**4.51**	**84**	*e*P	**Pn**	**13 26 08.5**	**-0.3**
PAYV	**Puerto Ayacuch**	**4.63**	**137**	*e*P	**Pn**	**13 26 10.4**	**-0.1**
BIRV	**Birongo**	**4.80**	**70**	*e*P	**Pn**	**13 26 13.1**	**+0.2**

*SFS **30** 13:29:43.0,35˚.36N×3˚.76W,h46km,ML2.6,ALHUCEMAS*
(MARRUECOS)
*MDD **30** 13:29:44.1±0.6,35˚.57N×3˚.79W,h8km±8km,mb_Lg2.1/6,*
Error ellipse: s-maj=3.9km s-min=3.9km az=165.0
*CNRM **30** 13:29:46.6,35˚.34N×3˚.70W,h24km,ml1.9*
ISC 30 13:29:44.1±1.0,35˚.39N±0˚.03×3˚.75W±0˚.03,h32km±9km,
n17,σ2§23/22,mb4.0/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.88**	**152**	P	**Pb**	**13 36 12.3**	**-1.3**
GTOI				S	**Sb**	**13 36 22.3**	**-3.1**
MRSI	**Marisa**	**1.13**	**215**	P	**Pb**	**13 36 17.9**	**-0.1**
MRSI				S	**Sb**	**13 36 31.0**	**-1.9**
KMSI	**Cibinong**	**1.62**	**121**	P	**Pg**	**13 36 27.3**	**+0.1**
KMSI				S	**Sg**	**13 36 49.3**	**+1.1**
LUWI	**Luwuk**	**2.44**	**176**	P	**Pn**	**13 36 37.7**	**+1.4**
LUWI				S	**Sb**	**13 37 10.6**	**0.0**
APSI	**Ampana**	**2.49**	**202**	P	**Pb**	**13 36 39.4**	**-1.8**
APSI				S	**Sb**	**13 37 10.1**	**-1.9**
MPSI	**Mapaga**	**2.90**	**248**	P	**Pn**	**13 36 43.2**	**+0.6**
SANI	**Sanana**	**4.83**	**135**	P	**Pn**	**13 37 09.0**	**-0.2**
SANI				S	**Sn**	**13 38 08.8**	**+3.5**
TTSI	**Tana Toraja**	**5.22**	**212**	P	**Pn**	**13 37 17.6**	**+3.0**
	0.2nm2µm41nm,0.5s						
LBMI	**Labuha**	**5.31**	**112**	P	**Pn**	**13 37 18.4**	**+2.6**
	0.1nm8.8nm,0.5s						
SPSI	**Sidrap Palu**	**6.04**	**208**	P	**Pn**	**13 37 29.1**	**+3.3**
	0.1nm491nm38nm,0.6s						
BNSI	**Bone**	**6.29**	**203**	P	**Pn**	**13 37 33.3**	**+4.1**
	0.1nm29nm,0.6s						
DAV	**Davao City (W)**	**6.36**	**28**	LR	LR	13 40 14.9	
	comp=Z,39nm,19.1s,baz=137,slow=40						
BBSI	**Bau Bau**	**6.85**	**180**	P	**Pn**	**13 37 38.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**19.62**	**171**	P	**P**	**13 40 24.1**	**-0.9**
	0.5nm,0.3s,baz=9.7,slow=8.3,SNR=28						
WRA	**Warramunga Arr**	**24.15**	**152**	P	**P**	**13 41 11.1**	**-1.8**
	3.1nm,0.6s,baz=327,slow=10,SNR=40						
ASAR	**Alice Springs**	**27.25**	**157**	P	**P**	**13 41 39.8**	**-1.2**
	0.5nm,0.8s,baz=338,slow=8.6,SNR=9.4						
VNDA	**Vanda**	**81.69**	**172**	P	**P**	**13 48 13.8**	**-0.8**
	1.1nm,0.7s,baz=324,slow=6.8,SNR=6.5						

*IDC **30** 13:40:34.1±0.6,43˚.90N×87˚.08E,h0km,mb4.0/20,*
mb1 4.1/26,mb1mx4.0/65,mbtmp4.0/26,ML3.2/5,MS3.1/16,
Ms1 3.2/16,ms1mx2.9/97,Error ellipse: s-maj=16.4km
s-min=9.7km az=44.0
*MOS **30** 13:40:35.1±1.2,43˚.97N×86˚.95E,h19km,mb4.5/19,Error*
ellipse: s-maj=6.6km s-min=5.0km az=29.5
*NNC **30** 13:40:36.0±2.3,44˚.05N×87˚.13E,h15km±11km,mb4.3,*
mpv4.2,Error ellipse: s-maj=15.4km s-min=12.7km
az=92.0
*NEIC **30** 13:40:38.4±2.1,43˚.98N±0˚.05×87˚.0E±0˚.1,h27km±5km,*
mb4.5/12,Error ellipse: s-maj=14.5km s-min=4.2km
az=61.0

ISC 30 13:40:36.0±0.3,43˚.95N±0˚.04×87˚.07E±0˚.04,h10km,n167,
σ1§80/177,mb4.3/39,MS3.4/17,16C-23D,Northern
Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.41**	**312**	P	**Pn**	**13 41 44.0**	**+1.1**
MK31	**Makanchi Array**	**4.41**	**312**		**Pn**	**13 41 44.1**	**+1.2**
MK31	**Makanchi Array**	**4.41**	**312**	⇓Pn	**Pn**	**13 41 43.1**	**+0.2**
	1.4nm,0.2s,baz=126,slow=14,SNR=355						
MK31				⇓Sn	**Sn**	**13 42 35.2**	**+0.9**
	58nm,0.8s,baz=132,slow=26,SNR=3.5						
MK31				⇓Lg	Lg	13 42 55.9	
	135nm,0.7s,baz=118,slow=29,SNR=6.0						
MKAR	**Makanchi Array**	**4.41**	**312**	Pn	**Pn**	**13 41 44.4**	**+1.5**
	3.9nm,0.3s,baz=130,slow=14,SNR=115						
MKAR				Sn	**Sn**	**13 42 35.8**	**+1.6**
	15nm,0.3s,baz=146,slow=14,SNR=6.2						
MKAR				Lg	Lg	13 42 55.8	
	33nm,0.3s,baz=135,slow=27,SNR=6.0						
MKAR				LR	LR	13 43 02.4	
	comp=Z,61nm,19.3s,baz=283,slow=33						
MKAR	**Makanchi Array**	**4.41**	**312**	*i* P	**Pn**	**13 41 44.4**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MKAR	**Makanchi Array**	**4.41**	**312**	Pn	**Pn**	**13 41 44.1**	**+1.2**
MAKZ	**Makanchi**	**4.58**	**310**	P	**Pn**	**13 41 46.5**	**+1.2**
MAKZ	**Makanchi**	**4.58**	**310**	Pn	**Pn**	**13 41 46.6**	**+1.2**
MAKZ	**Makanchi**	**4.58**	**310**	⇑Pn	**Pn**	**13 41 46.6**	**+1.2**
	comp=Z,11nm,0.3s						
MAKZ				⇑Lg	Lg	13 42 59.4	
	comp=Z,124nm,0.7s						
PDGK	**Podgornoye**	**5.53**	**266**	P	**Pn**	**13 41 58.3**	**-0.2**
PDGK	**Podgornoye**	**5.53**	**266**	⇓Pn	**Pn**	**13 41 58.4**	**-0.2**
	comp=Z,20nm,0.8s						
PDGK				⇑Pg	**Pg**	**13 42 18.6**	**-3.3**
	comp=Z,99nm,1.1s						
PDGK			

baz=283
ZHN **Zhinishke** 6.32 266 *e*P Pn **13 42 08.6 -0.7**
ZHN **Zhinishke** 6.32 266 *e*Pn Pn **13 42 08.6 -0.7**
baz=266
SATY **Saty** 6.36 265 *e*P Pn **13 42 08.4 -1.4**
SATY **Saty** 6.36 265 *e*Pn Pn **13 42 08.5 -1.4**
baz=265
SATY *e*Pg **Pb** **13 42 30.9 +4.1**
baz=265
ARXS **Arharly** 6.66 275 *e*P Pn **13 42 14.0 +0.1**
TARG **Taragay, Kyrgy** 7.16 255 Pn **13 42 21.1 0.0**
CHKK **Chushkaly** 7.28 273 *e*P Pn **13 42 21.4 -1.0**
CHKK **Chushkaly** 7.28 273 *e*Pn Pn **13 42 21.5 -1.0**
baz=273
CHKK *e*Pg Pb 13 42 47.7 +5.2
baz=273
MDOK **Medeo** 7.32 267 P Pn **13 42 22.4 -0.7**
MDOK **Medeo** 7.32 267 *e*Pn Pn **13 42 21.7 -1.4**
baz=267
MDOK *e*Pg Pb 13 42 48.7 +5.5
baz=267
MDOK **Medeo** 7.32 267 ⇓Pn Pn **13 42 22.4 -0.7**
comp=Z,17nm,0.8s
MDOK ⇓Pg Pb 13 42 48.6 +5.4
comp=Z,35nm,1.0s
MDOK ⇓Lg Lg 13 44 31.0
comp=Z,150nm,1.1s
AAA **Alma-Ata** 7.41 268 *e*P Pn **13 42 23.1 -1.1**
AAA **Alma-Ata** 7.41 268 *e*Pn Pn **13 42 23.1 -1.1**
baz=268
AAA *e*Pg Pb 13 42 50.3 +5.7
baz=268
AAA *e*Lg Lg 13 44 30.5
baz=268
TNSS **Tian-Shan** 7.42 266 *e*P Pn **13 42 24.0 -0.6**
TNSS **Tian-Shan** 7.42 266 *e*Pn Pn **13 42 24.1 -0.6**
baz=266
KDJ **Kajisay** 7.47 259 P Pn **13 42 26.3 +1.2**
KDJ **Kajisay** 7.47 259 Pn Pn **13 42 26.3 +1.2**
KUU **Kurty** 7.75 273 *e*P Pn **13 42 27.4 -1.3**
KUU **Kurty** 7.75 273 *e*Pn Pn **13 42 27.5 -1.3**
baz=273
KUU *e*Pg Pb 13 42 56.3 +5.9
baz=273
SEM **Semipalatinsk** 7.95 327 *e*P Pn **13 42 31.1 -0.6**
SEM **Semipalatinsk** 7.95 327 *e*Pn Pn **13 42 31.2 -0.6**
baz=327
BOOM **Boomskoye usch** 8.26 264 P Pn **13 42 35.9 0.0**
BOOM **Boomskoye usch** 8.26 264 Pn Pn **13 42 35.9 0.0**
TKM2 **Tokmak 2** 8.41 267 *i* P Pn **13 42 37.5 -0.6**
TKM2 pmax pmax
comp=Z,9.0nm,1.0s
TKM2 **Tokmak 2** 8.41 267 ⇓Pn Pn **13 42 37.5 -0.6**
comp=Z,9.1nm,1.1s
TKM2 ⇓Pg Pg 13 43 10.5 -6.5
comp=Z,26nm,1.0s
TKM2 ⇑Lg Lg 13 45 05.3
comp=Z,72nm,1.2s
KURBB **Kurchatov Arra** 8.84 322 Pn Pn **13 42 43.4 -0.3**
comp=Z,0.5nm,0.3s,baz=149,slow=9.2,SNR=22
KURBB Sn **Sn** **13 44 22.7 -0.6**
comp=Z,1.0nm,0.3s,baz=124,slow=31,SNR=3.6
KURBB Lg Lg 13 45 15.5
comp=Z,0.6nm,0.3s,baz=158,slow=26,SNR=6.7
KURBB LR LR 13 46 40.3
comp=Z,180nm,19.6s,baz=108,slow=41
KURK **Kurchatov** 8.87 323 P Pn **13 42 42.8 -1.2**
KURK 13 44 20.3
KURK **Kurchatov** 8.87 323 Pn Pn **13 42 43.4 -0.6**
KURK **Kurchatov** 8.87 323 ⇓Pn Pn **13 42 42.8 -1.2**
comp=Z,7.5nm,0.7s
KURK ⇓Sn **Sn** **13 44 20.3 -3.6**
comp=Z,50nm,0.6s
KURK ⇑Lg Lg 13 45 14.1
comp=Z,84nm,0.7s
CHMS **Chumysh** 9.01 268 ⇑Pg Pn 13 43 21.6 +36
comp=Z,18nm,0.8s
CHMS ⇑Lg Lg 13 45 25.5
comp=Z,44nm,0.9s
AAK **Ala-Archa** 9.26 266 Pn Pn **13 42 49.5 -0.3**
comp=Z,0.1nm,0.3s,baz=50,slow=14,SNR=1.7
BTLS **Baital** 9.37 281 *e*P Pn **13 42 50.0 -1.0**
BTLS **Baital** 9.37 281 *e*Pn Pn **13 42 50.1 -1.0**
baz=281
KSH **Kashi** 9.40 246 P Pn 13 42 59.5 +7.9
KSH sP 13 43 04.5
KSH S Sn 13 44 49.3 +12
KSH pmax pmax
comp=Z,3.0nm,0.8s
KSH smax smax
comp=N,36nm,1.4s
KSH smax smax
comp=E,61nm,1.9s
GOMU **GeErMu** 9.75 140 Pn Pn **13 42 57.0 +0.4**
GOMU Sn **Sn** **13 44 46.5 +0.1**
GOMU smax smax
comp=N,44nm,1.0s
GOMU smax smax
comp=E,24nm,0.9s
GOMU LR LR
comp=N,310nm,10.5s
GOMU LR LR
comp=E,230nm,7.9s
GOMU LR LR
comp=Z,360nm,9.7s
ZAA0 **Zalesovo Array** 10.11 352 Pn Pn **13 42 59.2 -1.9**
ZAA0 **Zalesovo Array** 10.11 352 ⇓Pn Pn **13 42 59.5 -1.6**
comp=Z,2.0nm,0.7s
ZAA0 ⇓Sn **Sn** **13 44 49.3 -5.2**
comp=Z,4.8nm,0.8s
ZAA0 ⇓Lg Lg 13 45 49.2
comp=Z,4.6nm,0.7s
ZALV **Zalesovo Beam** 10.11 352 Pn Pn **13 43 00.3 -0.8**
comp=Z,0.7nm,0.3s,baz=172,slow=13,SNR=42
ZALV Sn **Sn** **13 44 51.0 -3.5**
comp=Z,2.4nm,0.3s,baz=172,slow=23,SNR=12
ZALV Lg Lg 13 45 57.9
baz=186,slow=22,SNR=0.9
ZALV LR LR 13 46 56.7
comp=Z,58nm,19.5s,baz=172,slow=38
ZALV **Zalesovo Beam** 10.11 352 *i* P Pn **13 43 00.3 -0.8**
ZALV pmax pmax
comp=Z,4.0nm,0.3s
GTA **Gaotai** 10.56 111 *e*P Pn **13 43 07.0 -0.4**
GTA pP 13 43 11.5
GTA sP 13 43 14.5
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,110nm,4.7s
GTA LR LR
comp=N,420nm,13.8s
GTA LR LR
comp=E,310nm,12.7s
GTA LR LR
comp=Z,150nm,12.4s
OTUK **Ortayu** 11.09 298 P Pn **13 43 12.2 -2.4**
OTUK SN **Sn** **13 45 15.9 -2.7**
OTUK **Ortayu** 11.09 298 ⇓Pn Pn **13 43 12.2 -2.4**
comp=Z,5.2nm,0.9s
OTUK ⇓Sn **Sn** **13 45 15.1 -3.5**
comp=Z,11nm,0.8s
OTUK ⇑Lg Lg 13 46 25.5
comp=Z,42nm,1.4s
KK31 **Karatay Array** 12.05 272 *i* P Pn **13 43 26.7 -1.0**
KK31 **Karatay Array** 12.05 272 ⇑Pn Pn **13 43 26.8 -1.0**
comp=Z,1.9nm,0.7s,baz=70,slow=14,SNR=6.0
KK31 ⇓Lg Lg 13 46 58.9
comp=Z,13nm,0.8s,baz=77,slow=26,SNR=4.8
KKAR **Karatay Array** 12.05 272 P Pn **13 43 25.4 -2.3**
KKAR **Karatay Array** 12.05 272 Pn Pn **13 43 25.4 -2.3**
MOY **Mondy** 12.12 46 *e*P Pn **13 43 32.7 +4.0**
ZAK **Zakamensk** 12.76 54 *e*P Pn 13 43 42.4 +5.0
ZAK pmax pmax
comp=Z,5.0nm,1.3s
CHM **Chimkent** 12.86 269 P Pn 13 43 28.9 -10
SONM **Songino Array** 14.00 67 Pn Pn **13 43 53.5 -0.9**
comp=Z,0.0nm,0.3s,baz=258,slow=12,SNR=1.4
SONM Lg Lg 13 47 57.3
comp=Z,0.4nm,0.3s,baz=257,slow=27,SNR=4.0
BVA1 **Borovoye Array** 14.28 315 ⇓Pn Pn **13 43 58.0 -0.1**
comp=Z,3.6nm,0.5s
BVAR **Borovoye Array** 14.28 315 Pn Pn **13 43 56.3 -1.8**
BRVK **Borovoye** 14.35 315 *ce*P Pn **13 43 59.0 0.0**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK **Borovoye** 14.35 315 ⇓Pn Pn **13 43 59.9 +0.9**
comp=Z,5.0nm,0.8s
ULN **Ulaanbaatar** 14.45 67 *i* P Pn **13 43 59.8 -0.8**
LSA **Lhasa** 14.59 166 P Pn **13 44 03.6 +0.7**
LSA **Lhasa** 14.59 166 Pn Pn **13 44 03.6 +0.7**
CHCP **Chirah Chowk** 14.86 231 P Pn **13 44 03.5 -2.6**
LZH **Lanzhou** 15.05 116 *e*P P **13 44 12.5 -1.7**
LZH pP pP 13 44 17.0 -0.2
LZH pmax pmax
comp=Z,10.0nm,1.2s
CEP **Cherat** 15.52 234 P Pn **13 44 11.9 -3.1**
GKN **Gorkha** 16.03 188 *e*P P **13 44 24.9 -0.3**
comp=Z,27nm,0.6s
GUN **Gumba** 16.04 184 *e*P P **13 44 25.3 -0.1**
comp=Z,140nm,0.8s
PYUN **Piuthan** 16.15 193 *e*P Pn **13 44 22.6 -0.7**
comp=Z,10nm,0.5s
KKN **Kakani** 16.19 186 *e*P P **13 44 26.0 -1.0**
comp=Z,101nm,0.8s
THW **Thamme Wali** 16.36 232 P Pn **13 44 22.4 -3.3**
KOLN **Koldanda** 16.39 191 *e*P Pn **13 44 25.8 -0.5**
PKIN **Phulchoki** 16.39 185 *e*P Pn **13 44 26.9 +0.5**
comp=Z,105nm,0.8s
PKI **Pulchoki** 16.40 185 *e*P Pn **13 44 26.9 +0.4**
comp=Z,149nm,0.9s
TAPN **Taplejung** 16.57 178 *e*P P **13 44 30.5 -0.8**
comp=Z,53nm,0.7s
KBL **Kabul** 16.80 242 P P **13 44 32.5 -1.2**
KBL pmax pmax
comp=Z,26nm,1.2s
KBL **Kabul** 16.80 242 P **13 44 32.5 -1.2**
KBL IAmb IAmb 13 44 38.2
comp=Z,26nm,1.2s
RAMN **Ramite** 16.97 181 *e*P Pn **13 44 33.0 -0.7**
ODAN **Odare** 17.05 179 *e*P Pn **13 44 33.2 -1.6**
SHL **Shillong** 18.76 166 P Pn **13 44 55.1 -0.6**
AB31 **Akbulak array** 19.32 295 P P **13 45 00.3 -0.8**
AB31 **Akbulak array** 19.32 295 Pn P **13 45 00.3 -0.8**
comp=Z,1.7nm,0.6s,baz=89,slow=6.2,SNR=33
ABKAR **Akbulak array** 19.32 295 P P **13 45 00.3 -0.8**
XAN **Xi'an** 19.61 113 ⇑P Pn **13 45 12.0 +6.2**
XAN pP sP 13 45 15.5 +6.7
XAN sP pP 13 45 18.8 +11
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,150nm,5.1s
XAN LR LR
comp=N,290nm,11.1s
XAN LR LR
comp=E,320nm,11.4s
XAN LR LR
comp=Z,250nm,9.8s
AKTO **Aktyubinsk** 20.69 299 P Pn 13 45 17.9 -0.5
comp=Z,0.7nm,0.3s,baz=115,slow=17,SNR=3.7
AKTO S **S** **13 49 04.6 -2.4**
comp=Z,0.8nm,0.3s,baz=101,slow=10,SNR=2.4
AKTO LR LR 13 54 24.4
comp=Z,83nm,18.9s,baz=131,slow=40
SVE **Sverdlovsk** 21.05 317 *e*P P **13 45 20.2 +0.4**
SVE pmax pmax
comp=Z,17nm,0.9s
PZH **PanZhiHua** 21.08 141 P P **13 45 20.0 -0.5**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,70nm,4.0s
BOD **Bodaibo** 21.75 41 *e*P P **13 45 29.2 +1.9**
BOD pmax pmax
comp=Z,12nm,1.4s
ARU **Arti** 21.92 315 P P **13 45 29.2 -0.1**
comp=Z,4.9nm,0.7s,baz=114,slow=4.5,SNR=12
ARU **Arti** 21.92 315 *d* iP P **13 45 31.3 +2.1**
ARU 13 45 50.8
ARU S **S** **13 49 35.8 +4.7**
ARU SS **SnSn** **13 50 00.1 +3.8**
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU MLR MLR
comp=Z,123nm,13.0s
GEYT **Alibeck** 22.61 265 P P **13 45 37.9 +1.1**
comp=Z,5.2nm,0.7s,baz=50,slow=9.8,SNR=8.1
GEYT LR LR 13 55 36.5
comp=Z,88nm,19.5s,baz=106,slow=40
WHN **Wuhan** 25.37 113 ⇑P P **13 46 02.8 -0.5**
NRIK **Noril'sk** 25.45 0 P P **13 46 04.3 +0.6**
comp=Z,14nm,0.5s,baz=160,slow=6.0,SNR=16
NRIK LR LR 13 56 08.1
comp=Z,36nm,21.4s,baz=278,slow=37
NRIK **Noril'sk** 25.45 0 *ce*P P **13 46 03.8 +0.2**
NRIK pmax pmax
comp=Z,10.0nm,0.6s
NRIK **Noril'sk** 25.45 0 P P **13 46 04.0 +0.3**
CHTO **Chiang Mai** 26.98 155 P P **13 46 18.3 +0.5**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CMAR **Chiang Mai Arr** 27.31 155 P P **13 46 21.6 +0.7**
comp=Z,2.3nm,0.8s,baz=332,slow=8.9,SNR=16
HYBB **Hyderabad (bro** 27.41 198 *e*P P **13 46 21.8 0.0**
HYBB *e*pP **sP** **13 46 29.6 +3.1**
HYBB *e*S **S** **13 51 00.4 -1.7**
HYBB IVMs_BB IVMs_BB 13 52 23.6
comp=Z,102nm,5.5s
ZEA **Zeya** 27.85 55 *e*P P **13 46 31.3 +5.9**
ZEA MLR MLR
comp=Z,300nm,11.0s
BNX **BinXian** 28.45 72 ⇓P P **13 46 28.0 -2.8**
BNX pmax pmax
comp=Z,18nm,0.4s
BNX pmax pmax
comp=Z,200nm,4.1s
YAK **Yakutsk** 30.62 39 LR LR 13 58 20.1
comp=Z,39nm,20.0s,baz=80,slow=35
YAK **Yakutsk** 30.62 39 *i* P P **13 46 49.8 -0.1**
YAK pmax pmax
comp=Z,9.0nm,0.7s
KLR **Kul'dur** 30.80 64 LR LR 13 58 26.6
comp=Z,12nm,21.3s,baz=238,slow=35
KSRS **Korea Array** 31.40 88 LR LR 13 58 34.7
comp=Z,8.1nm,21.4s,baz=255,slow=34
KBZ **Khabaz** 31.57 285 *i* P P **13 46 59.8 +1.3**
KBZ pmax pmax
comp=Z,2.0nm,1.1s
KIV **Kislovodsk** 31.66 286 *e*P P **13 46 58.4 -1.0**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,73nm,15.0s
VORR **Voronezh** 32.55 301 *e*P P **13 47 08.2 +1.2**
KLMR **Klimovskoe** 32.68 318 *e*P P **13 47 06.3 -1.7**
KLMR pmax pmax
comp=Z,17nm,1.3s
KLMR **Klimovskoe** 32.68 318 *e*P P **13 47 06.4 -1.6**
KLMR AMP 13 47 13.4
comp=Z,17nm,1.3s
OBN **Obninsk** 33.90 307 LR LR 14 03 01.4
comp=Z,10nm,19.9s,baz=192,slow=40
OBN **Obninsk** 33.90 307 ⇓*e*P P **13 47 18.5 -0.2**
OBN 13 48 33.0
OBN *e*SSS SSS 13 55 16.4
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN MLR MLR
comp=Z,93nm,15.0s
TIXI **Tiksi** 34.25 22 *i* P P **13 47 21.2 -0.4**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI **Tiksi** 34.25 22 P P **13 47 22.4 +0.8**
AKASG **Malin Array Be** 38.90 301 P P **13 48 00.1 -1.4**
comp=Z,1.0nm,0.5s,baz=67,slow=9.3,SNR=5.4
AKASG **Malin Array Be** 38.90 301 *i* P P **13 48 01.2 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
FIA1 **FINESS Array S** 39.21 318 P P **13 48 03.2 -0.6**
FIA1 IAmb IAmb 13 48 07.9
comp=Z,8.6nm,1.2s
FINES **FINESS Array B** 39.21 318 P P **13 48 03.9 0.0**
comp=Z,1.4nm,0.6s,baz=90,slow=8.8,SNR=3.6
FINES **FINESS Array B** 39.21 318 *i* P P **13 48 08.1 +4.2**
FINES pmax pmax
comp=Z,1.0nm,0.6s
BRTR **Keskin Array B** 39.45 283 P P **13 48 07.2 +0.7**
comp=Z,0.8nm,0.7s,baz=88,slow=6.3,SNR=5.4
BRTR **Keskin Array B** 39.45 283 *ce*P P **13 48 10.1 +3.7**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
ARCES **ARCESS Array B** 39.79 331 P P **13 48 09.2 +0.5**
comp=Z,2.9nm,0.7s,baz=87,slow=7.8,SNR=9.0
ARCES **ARCESS Array B** 39.79 331 P P **13 48 08.5 -0.2**
ARCES pmax pmax
comp=Z,20nm,1.5s
ARCES **ARCESS Array B** 39.79 331 P P **13 48 08.5 -0.2**
MA2 **Magadan** 40.69 44 P P **13 48 16.6 +0.4**
comp=Z,1.8nm,0.6s,baz=133,slow=22,SNR=2.4
SEY **Seymchan** 41.15 39 P P **13 48 20.3 +0.3**
comp=Z,0.5nm,0.6s,baz=159,slow=22,SNR=1.8
VRI **Vrincioaia** 41.88 295 P P **13 48 26.6 +0.4**
JHJ **Hachijo jima 2** 41.99 86 LR LR 14 04 52.1
comp=Z,55nm,21.4s,baz=81,slow=35
BURAR **Bucovina Array** 42.28 298 P P **13 48 29.8 +0.2**
DRGR 44.17 297 P P **13 48 45.2 +0.4**
OJC **Ojcow** 44.82 303 P P **13 48 50.5 +0.6**
OJC pmax pmax
comp=Z,12nm,1.1s
HFS **Hagfors** 45.40 318 LR LR 14 08 42.3
comp=Z,49nm,18.2s,baz=119,slow=37
PETK **Petropavlovsk-** 45.88 52 LR LR 14 10 04.4
comp=Z,102nm,18.2s,baz=268,slow=39
BILL **Bilibino** 46.23 31 ⇓*e*P P **13 48 59.6 -1.2**
BILL 13 50 33.0
BILL 13 50 48.0
BILL S **S** **13 55 49.0 +2.1**
BILL SS **SS** **13 59 06.0 -5.8**
BILL pmax pmax
comp=Z,7.0nm,1.9s
BILL MLR MLR
comp=Z,85nm,15.0s
NB2 **NORSAR Subarra** 46.36 319 P P **13 49 01.5 -0.5**
comp=Z,4.2nm,0.7s,baz=76,slow=7.9
NOA **NORSAR Array B** 46.36 319 P P **13 49 01.3 -0.6**
comp=Z,2.2nm,0.6s,baz=74,slow=7.9,SNR=11
NOA LR LR 14 08 44.3
comp=Z,15nm,19.1s,baz=90,slow=36
SBUM **Sibu** 46.96 144 P P **13 49 06.6 -0.4**
SBUM IAmb IAmb 13 49 20.2
comp=Z,6.7nm,1.2s
CLL **Collm** 48.48 306 *i* P P **13 49 18.7 +0.2**
CLL *i* 13 49 23.5
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL **Collm** 48.48 306 *i* P P **13 49 18.7 +0.2**
comp=Z,3.0nm,0.8s
CLL *i* (pP) **sP** **13 49 23.5 +0.3**
comp=Z,4.0nm,0.8s
DAG **Danmarks Havn** 51.10 343 *i* P P **13 49 37.0 -1.1**
EKA **Eskdalemuir Ar** 55.53 316 P P **13 50 15.0 +4.0**
TOLK **Toolik Lake Re** 60.13 21 P P **13 50 43.6 +0.4**
TOLK IAmb IAmb 13 50 48.4
comp=Z,7.0nm,1.2s
COLD **Coldfoot** 60.98 22 P P **13 50 48.7 -0.2**
COLD IAmb IAmb 13 51 00.7
comp=Z,3.8nm,0.9s
ILAR **Eielson Array** 63.72 23 P P **13 51 07.3 0.0**
comp=Z,1.1nm,0.8s,baz=308,slow=4.1,SNR=5.3
ILAR LR LR 14 22 59.5
comp=Z,40nm,18.3s,baz=183,slow=40
INK **Inuvik** 64.02 16 LR LR 14 23 34.8
comp=Z,44nm,18.1s,baz=252,slow=40
ESDC **Sonseca Array** 64.55 301 P P **13 51 13.0 -0.2**
comp=Z,1.7nm,0.9s,baz=53,slow=6.1,SNR=6.0
FITZ **Fitzroy Crossi** 71.12 141 P P **13 51 53.1 -1.5**
comp=Z,1.4nm,0.8s,baz=273,slow=12,SNR=2.9
YKA **Yellowknife Ar** 72.49 10 P P **13 52 02.3 0.0**
comp=Z,1.2nm,0.8s,baz=339,slow=5.5,SNR=10
YKA **Yellowknife Ar** 72.49 10 *i* P P **13 52 06.4 +4.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
WRAB **Tennant Creek** 76.90 135 *ce*P P **13 52 33.4 +5.0**
WRAB pmax pmax
comp=Z,19nm,2.5s
WRAB **Tennant Creek** 76.90 135 P P **13 52 27.1 -1.3**
WRA **Warramunga Arr** 76.91 135 P P **13 52 27.6 -0.8**
comp=Z,2.6nm,0.8s,baz=337,slow=5.1,SNR=18
WRA **Warramunga Arr** 76.91 135 P P **13 52 27.7 -0.8**
WB2 **Warramunga Arr** 76.91 135 P P **13 52 27.0 -1.5**
WB2 IAmb IAmb 13 52 33.2
comp=Z,5.9nm,0.8s
TORD **Torodi Ar. Bea** 77.70 276 P P **13 52 32.5 -0.6**
comp=Z,1.4nm,0.4s,baz=27,slow=4.8,SNR=2.5
ASAR **Alice Springs** 79.81 137 P P **13 52 43.9 -0.6**
comp=Z,2.0nm,0.8s,baz=331,slow=5.6,SNR=14
DBIC **Dimbokro** 86.81 276 P P **13 53 19.4 -1.4**
comp=Z,2.1nm,0.6s,baz=37,slow=3.9,SNR=5.0

SOME ***30*** *14:05:29.5, 43.52N×81.68E, h0km*
NNC ***30*** *14:05:30.6±2.0, 43.66N×81.81E, h0km, mb2.7, mpv2.4,*
Error ellipse: s-maj=24.9km s-min=5.8km az=137.0
ISC 30 14:05:29.1±2.0, 43.52N±0.08×81.75E±0.06, h7km±21km,
n17, σ1.9s35/31, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.63**	**300**	*e*P		**Pg**	**14 06 01.1**	**+0.7**
	5.8nm,0.1s							
DJR				*e*S		**Sg**	**14 06 24.2**	**+2.7**
	56nm,0.2s							
PDGK	**Podgornoye**	**1.66**	**264**	⇑Pg		**Pg**	**14 06 01.7**	**+0.8**
	7.3nm,0.3s							
PDGK				⇑Lg		Lg	14 06 25.9	
	29nm,0.4s							
UZB	**Uzynbulak**	**2.03**	**260**	*e*P		**Pg**	**14 06 08.1**	**+0.1**
	10nm,0.2s							
UZB				*e*S		**Sg**	**14 06 36.3**	**+2.1**
	54nm,0.2s							
KPKS	**Kokpek**	**2.23**	**270**	*e*P		**Pg**	**14 06 11.6**	**-0.3**
	8.7nm,0.2s							
KPKS				*e*S		**Sg**	**14 06 42.2**	**+1.3**
	63nm,0.3s							
ZHN	**Zhinishke**	**2.45**	**263**	*e*P		**Pg**	**14 06 15.9**	**-0.1**
	16nm,0.2s							
ZHN				*e*S		**Sg**	**14 06 49.0**	**+1.4**
	76nm,0.2s							
KAPS	**Kapalarasan**	**2.46**	**317**	*e*P		**Pg**	**14 06 15.1**	**-1.1**
	2.0nm,0.2s							
KAPS				*e*S		**Sg**	**14 06 48.3**	**+0.3**
	19nm,0.3s							
SATY	**Saty**	**2.49**	**260**	*e*P		**Pg**	**14 06 16.6**	**-0.2**
	4.9nm,0.1s							
SATY				*e*S		**Sg**	**14 06 50.3**	**+1.3**
	43nm,0.4s							
KURS	**Kuram**	**2.61**	**270**	*e*P		**Pg**	**14 06 18.1**	**-1.0**
	4.2nm,0.7s							
KURS				*e*S		**Sg**	**14 06 53.0**	**+0.2**
	12nm,0.3s							
MAKZ	**Makanchi**	**3.29**	**3**	⇑Pn		**Pn**	**14 06 21.0**	**0.0**
	0.4nm,0.5s							
MAKZ				⇓Lg		Lg	14 07 10.0	
	2.7nm,0.3s							
MK31	**Makanchi Array**	**3.29**	**6**	Pn		**Pn**	**14 06 22.4**	**+1.2**
	0.2nm,0.5s,baz=188,slow=16,SNR=15							
MK31				⇑Lg		Lg	14 07 11.2	
	1.0nm,0.3s,baz=189,slow=30,SNR=4.9							
MDOK	**Medeo**	**3.45**	**266**	*e*P		**Pg**	**14 06 33.8**	**-1.3**
	2.6nm,0.4s							
MDOK				*e*S		**Sg**	**14 07 20.0**	**+0.1**
	6.2nm,0.7s							
TNSS	**Tian-Shan**	**3.54**	**264**	*e*P		**Pg**	**14 06 35.6**	**-1.4**
	1.3nm,0.3s							
TNSS				*e*S		**Sg**	**14 07 22.9**	**0.0**
	3.6nm,0.5s							
KTBS	**Karatobe**	**3.69**	**275**	*e*P		**Pg**	**14 06 37.1**	**-2.6**
	1.1nm,0.6s							
KTBS				*e*S		**Sg**	**14 07 25.7**	**-1.8**
	7.7nm,0.3s							
MTBS	**Maitube**	**3.91**	**266**	*e*P		**Pg**	**14 06 42.2**	**-1.6**
	1.5nm,0.1s							
MTBS				*e*S		**Sg**	**14 07 34.3**	**-0.2**
	5.7nm,0.3s							
KUU	**Kurty**	**3.94**	**277**	*e*P		**Pg**	**14 06 43.2**	**-1.4**
	1.5nm,0.1s							
KUU				*e*S		**Sg**	**14 07 36.1**	**+0.5**
	7.4nm,0.5s							
KRBS	**Karabastau**	**4.42**	**274**	*e*P		**Pg**	**14 06 51.2**	**-2.5**
	0.7nm,0.3s							
KRBS				*e*S		**Sg**	**14 07 50.1**	**-0.8**
	3.2nm,0.4s							
ZSN	**Zaisan**	**4.50**	**28**	*e*P		**Pg**	**14 06 53.9**	**-1.2**
	1.2nm,0.4s							
ZSN				*e*S		**Sg**	**14 07 54.3**	**+0.9**
	9.7nm,0.3s							

*IDC **30** 14:08:50.8±1.0, 14°.33N×144°.18E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.5/50, mbtmp3.5/6, MS3.1/2, Ms1 3.1/2, ms1mx2.4/55, Error ellipse: s-maj=33.1km s-min=15.9km az=52.0*

ISC 30 14:08:52.3±1.0, **14°.3N**±0°.2×**144°.2E**±0°.2, **h10**km, **n9, σ0s26/8, mb3.5/6, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.99**	**138**	Pn	**Pn**	**14 09 12.1**	**-0.1**
	80nm,0.3s,baz=283,slow=3.2,SNR=65						
GUMO				Sn	**Sn**	**14 09 26.3**	**0.0**
	87nm,0.3s,baz=126,slow=21,SNR=5.3						
PMG	**Port Moresby**	**23.76**	**173**	LR	LR	14 22 15.8	
	comp=Z,39nm,19.3s,baz=325,slow=34						
WRA	**Warramunga Arr**	**35.41**	**196**	P	**P**	**14 15 49.0**	**+0.4**
	1.8nm,0.8s,baz=12,slow=9.6,SNR=20						
ASAR	**Alice Springs**	**39.08**	**195**	P	**P**	**14 16 19.6**	**-0.2**
	0.5nm,0.9s,baz=15,slow=13,SNR=2.5						
CMAR	**Chiang Mai Arr**	**43.52**	**282**	P	**P**	**14 16 56.2**	**-0.2**
	0.4nm,0.6s,baz=99,slow=5.8,SNR=5.3						
YAK	**Yakutsk**	**48.76**	**351**	LR	LR	14 36 57.3	
	comp=Z,19nm,19.5s,baz=266,slow=35						
MKAR	**Makanchi Arra**	**60.50**	**316**	P	**P**	**14 19 02.9**	**+0.3**
	0.3nm,0.6s,baz=107,slow=8.0,SNR=1.5						
KURBB	**Kurchatov Arra**	**63.63**	**320**	P	**P**	**14 19 23.4**	**-0.1**
	0.3nm,0.3s,baz=101,slow=6.9,SNR=4.5						
YKA	**Yellowknife Ar**	**82.51**	**27**	P	**P**	**14 21 15.1**	**+0.1**
	0.2nm,0.7s,baz=286,slow=5.5,SNR=2.6						

*IDC **30** 14:21:50.6±0.8, 13°.13N×143°.35E, h198km±9km, mb3.6/19, mb1 3.7/19, mb1mx3.6/46, mbtmp4.1/19, MS3.0/2, Ms1 3.0/2, ms1mx2.4/64, Error ellipse: s-maj=18.0km s-min=9.1km az=85.0*

*NEIC **30** 14:21:51.3±1.4, 13°.1N±0°.1×143°.4E±0°.1, h203km±9km, mb4.2/29, Error ellipse: s-maj=16.4km s-min=14.7km az=213.0*

ISC 30 14:21:50.7±0.5, **13°.10N**±0°.07×**143°.34E**±0°.10, **h200**km, **n54, σ0s90/53, mb4.1/33, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.57**	**72**	P	**Pn**	**14 22 25.5**	**+0.5**
	22nm,0.3s,baz=67,slow=3.5,SNR=38						
GUMO				S	**Sn**	**14 22 50.9**	**-0.8**
	66nm,0.3s,baz=166,slow=23,SNR=25						
GUMO	**Guam**	**1.57**	**72**	Pn	**Pn**	**14 22 25.6**	**+0.6**
JOW	**Kunigami**	**19.65**	**316**	LR	LR	14 33 52.7	
	comp=Z,48nm,19.8s,baz=222,slow=37						
JOW	**Kunigami**	**19.65**	**316**		**P**	**14 26 05.5**	**+1.1**
JSU	**Suzuyama**	**21.82**	**329**	P	**P**	**14 26 26.7**	**-0.5**
PMG	**Port Moresby**	**22.67**	**170**	P	**P**	**14 26 34.9**	**-0.3**
	4.6nm,0.6s,baz=252,slow=20,SNR=1.6						
JNU	**Nakatsue**	**22.95**	**332**	P	**P**	**14 26 38.3**	**+0.6**
JYT	**Yasato**	**23.21**	**354**	P	**P**	**14 26 40.5**	**+0.6**
YULB	**Yu-li**	**23.27**	**299**	P	**P**	**14 26 39.7**	**-0.9**
SSLB	**Suanglung**	**23.71**	**300**	P	**P**	**14 26 44.4**	**-0.3**
MJAR	**Matsushiro Arr**	**23.80**	**350**	P	**P**	**14 26 43.6**	**-1.6**
	4.3nm,0.9s,baz=163,slow=11,SNR=10						
MJAR	**Matsushiro Arr**	**23.80**	**350**	P	**P**	**14 26 42.3**	**-3.0**
MAJO	**Matsushiro**	**23.80**	**350**	P	**P**	**14 26 43.9**	**-1.4**
MAJO				IAmb	IAmb	14 26 45.6	
	comp=Z,6.9nm,0.8s						
MJB9	**Matsu-Tunnel**	**23.80**	**350**	P	**P**	**14 26 43.8**	**-1.6**
MJB9				IAmb	IAmb	14 26 45.5	
	comp=Z,6.8nm,0.8s						
KSRS	**Korea Array**	**27.89**	**333**	P	**P**	**14 27 20.8**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=142,slow=9.8,SNR=4.4						
MTN	**Manton Dam**	**28.47**	**206**	P	**P**	**14 27 26.0**	**-1.3**
MTN				IAmb	IAmb	14 27 32.5	
	comp=Z,4.3nm,0.9s						
CTA	**Charters Tower**	**33.10**	**175**	P	**P**	**14 28 08.6**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=276,slow=10,SNR=1.9						
WB0	**Warramunga Arr**	**33.82**	**195**	P	**P**	**14 28 14.0**	**-0.2**
WB0				IAmb	IAmb	14 28 14.8	
	comp=Z,4.1nm,0.8s						
WR0	**Warramunga Arr**	**33.97**	**195**	P	**P**	**14 28 15.1**	**-0.4**
WR0				IAmb	IAmb	14 28 16.1	
	comp=Z,5.5nm,0.9s						
WRAB	**Tennant Creek**	**33.99**	**195**	P	**P**	**14 28 14.4**	**-1.2**
WRAB				IAmb	IAmb	14 28 16.3	
	comp=Z,5.9nm,0.7s						
WB2	**Warramunga Arr**	**34.00**	**195**	P	**P**	**14 28 15.5**	**-0.2**
WB2				IAmb	IAmb	14 28 16.4	
	comp=Z,5.2nm,0.8s						
WRA	**Warramunga Arr**	**34.00**	**195**	P	**P**	**14 28 15.6**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=14,slow=9.2,SNR=47						
WRA	**Warramunga Arr**	**34.00**	**195**	P	**P**	**14 28 14.5**	**-1.3**
KLR	**Kul'dur**	**37.28**	**347**	P	**P**	**14 28 43.7**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=163,slow=13,SNR=9.0						
AS31	**Alice Springs**	**37.68**	**194**	P	**P**	**14 28 47.3**	**+0.3**
ASAR	**Alice Springs**	**37.68**	**194**	P	**P**	**14 28 47.0**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=17,slow=12,SNR=34						
ASAR	**Alice Springs**	**37.68**	**194**	P	**P**	**14 28 46.8**	**-0.2**
EIDS	**Eidsvold**	**38.97**	**169**	P	**P**	**14 28 57.0**	**-0.6**
EIDS				IAmb	IAmb	14 29 14.1	
	comp=Z,5.9nm,1.1s						
DZM	**Mont Dzumac**	**41.66**	**147**	P	**P**	**14 29 21.5**	**+1.6**
	comp=Z,5.1nm,0.8s,baz=274,slow=7.2,SNR=7.2						
DZM	**Mont Dzumac**	**41.66**	**147**	P	**P**	**14 29 19.7**	**-0.2**
DZM				IAmb	IAmb	14 29 24.3	
	comp=Z,6.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**42.97**	**283**	P	**P**	**14 29 31.2**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=78,slow=7.0,SNR=6.8						
ARMA	**Armidale**	**43.99**	**170**	P	**P**	**14 29 38.4**	**-0.1**
ARMA				IAmb	IAmb	14 29 39.3	
	comp=Z,7.9nm,1.1s						
STKA	**Stephens Creek**	**44.75**	**182**	P	**P**	**14 29 43.7**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=358,slow=9.7,SNR=7.4						
STKA	**Stephens Creek**	**44.75**	**182**	P	**P**	**14 29 43.7**	**-0.6**
BBOO	**Buckleboo**	**46.17**	**189**	P	**P**	**14 29 55.1**	**-0.4**
BBOO				IAmb	IAmb	14 30 06.0	
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**46.29**	**326**	P	**P**	**14 29 57.5**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=145,slow=5.9,SNR=6.0						
SONM	**Songino Array**	**46.29**	**326**	P	**P**	**14 29 57.1**	**+0.6**
CAN	**Canberra**	**48.45**	**174**	P	**P**	**14 30 12.9**	**-0.2**
CAN				IAmb	IAmb	14 30 14.3	
	comp=Z,5.8nm,0.9s						
TOO	**Toolangi**	**50.44**	**178**	P	**P**	**14 30 29.4**	**+1.4**
TOO				IAmb	IAmb	14 30 30.4	
	comp=Z,4.4nm,0.7s						
TIXI	**Tiksi**	**59.18**	**355**	LR	LR	14 57 41.5	
	comp=Z,12nm,20.7s,baz=359,slow=36						
MKAR	**Makanchi Array**	**60.81**	**316**	P	**P**	**14 31 42.0**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=94,slow=9.0,SNR=14						
MKAR	**Makanchi Array**	**60.81**	**316**	P	**P**	**14 31 42.2**	**+0.4**
MAKZ	**Makanchi**	**61.03**	**316**	P	**P**	**14 31 43.4**	**+0.1**
MAKZ				IAmb	IAmb	14 31 44.3	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**61.16**	**325**	P	**P**	**14 31 43.9**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=109,slow=7.0,SNR=4.5						
KURK	**Kurchatov**	**64.00**	**320**	P	**P**	**14 32 02.9**	**+0.1**
BRVK	**Borovoye**	**69.46**	**322**	P	**P**	**14 32 37.6**	**+0.4**
BRVK				IAmb	IAmb	14 32 38.2	
	comp=Z,4.2nm,0.6s						
ILAR	**Eielson Array**	**69.65**	**25**	P	**P**	**14 32 37.1**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=247,slow=6.3,SNR=5.9						
INK	**Inuvik**	**75.39**	**22**	P	**P**	**14 33 12.2**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=282,slow=3.6,SNR=4.8						
INK	**Inuvik**	**75.39**	**22**	P	**P**	**14 33 12.0**	**+0.1**
ABKAR	**Akbulak array**	**75.91**	**318**	P	**P**	**14 33 14.7**	**-0.6**
YKA	**Yellowknife Ar**	**83.98**	**27**	P	**P**	**14 33 58.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=290,slow=5.0,SNR=8.1						
ARCES	**ARCESS Array B**	**87.09**	**342**	P	**P**	**14 34 13.3**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=90,slow=6.1,SNR=6.2						
NVAR	**Mina Array Bea**	**88.39**	**51**	P	**P**	**14 34 21.2**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=273,slow=5.0,SNR=3.8						
FINES	**FINESS Array B**	**90.97**	**335**	P	**P**	**14 34 30.4**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=65,slow=5.3,SNR=18						

NOU 30 14:21:53.9, 16°.04S×167°.24E, h11km, MLv4.4/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.59**	**357**	P	Pb	14 22 07.0	+0.7
DVP	**Devils Point**	**1.91**	**152**	P	Pn	14 22 27.3	+1.0
KOUNC	**Koumac, New Ca**	**5.29**	**212**	P	Pn	14 23 12.9	0.0
	19nm,1.0s						
YATNC	**Mamie plateau,**	**6.00**	**183**	P	Pn	14 23 22.6	0.0
	20nm,1.0s						
DZM	**Mont Dzumac**	**6.05**	**187**	P	Pn	14 23 22.3	-1.1
ONTNC	**Ouen Toro**	**6.28**	**187**	P	Pn	14 23 26.8	+0.3
PINNC	**Pines Island,**	**6.54**	**178**	P	Pn	14 23 29.0	-1.1

NOU 30 15:30:45.2, 16°.07S×167°.44E, h18km, MLv3.9/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.66**	**340**	P	Pg	15 30 58.6	+0.4
DVP	**Devils Point**	**1.79**	**157**	P	Pn	15 31 16.1	+0.8
KOUNC	**Koumac, New Ca**	**5.37**	**213**	P	Pn	15 32 03.7	-0.8
DZM	**Mont Dzumac**	**6.04**	**189**	P	Pn	15 32 13.8	0.0
PINNC	**Pines Island,**	**6.51**	**180**	P	Pn	15 32 19.3	-0.8

*KRNET **30** 15:39:37.9±0.1, 41°.02N×73°.58E, h23km, mb3.9*
*SOME **30** 15:39:37.8, 41°.07N×73°.57E, h10km*
*NNC **30** 15:39:38.9±0.8, 41°.14N×73°.51E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=7.9km s-min=3.1km az=169.0*
*IDC **30** 15:39:40.4±2.8, 41°.52N×73°.11E, h0km, mb3.7/3, mb1 3.6/6, mb1mx3.4/56, mbtmp3.5/6, ML2.7/3, Error ellipse: s-maj=48.6km s-min=13.8km az=159.0*
*KNET **30** 15:39:40.8±0.6, 41°.22N×73°.59E, h11km±4km, ml3.2, Error ellipse: s-maj=6.4km s-min=3.4km az=97.0*

ISC 30 15:39:38.5±1.1, **41°.03N**±0°.03×**73°.50E**±0°.02, **h9**km±9km, **n71, σ1s85/116, mb3.7/3, 43C-23D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.74**	**228**	⇑*i*P	**Pg**	**15 39 52.4**	**-0.3**
	baz=31						
OHH				⇑*i*S	**Sg**	**15 40 03.5**	**+1.1**
	baz=31						
AML	**Almayashu**	**1.11**	**7**	P	**Pb**	**15 39 58.3**	**-1.8**
	92nm,0.2s,SNR=132						
AML				⇑S	**Sg**	**15 40 12.9**	**-1.5**
	1µm,0.6s						
ARK	**Arkit**	**1.39**	**304**	⇑*i*P	**Pn**	**15 40 04.3**	**+0.1**
	baz=3.0						
ARK				⇑*i*S	**Sg**	**15 40 24.0**	**+0.7**
	baz=3.0						
UCH	**Uchtor**	**1.42**	**32**	⇓P	**Pn**	**15 40 03.7**	**-1.2**
	86nm,0.4s,SNR=93						
UCH				⇑S	**Sb**	**15 40 22.3**	**-1.5**
	346nm,0.6s						
UCH	**Uchtor**	**1.42**	**32**	⇓*i*P	**Pn**	**15 40 03.7**	**-1.2**
	baz=30						
UCH				⇓*i*S	**Sb**	**15 40 22.3**	**-1.5**
	baz=30						
EKS2	**Erkin-Say**	**1.65**	**7**	P	**Pn**	**15 40 07.9**	**+0.1**
	25nm,0.2s,SNR=45						
EKS2				⇓S	**Sn**	**15 40 28.6**	**-0.6**
	216nm,0.4s						
EKS2	**Erkin-Say**	**1.65**	**7**	⇑*i*P	**Pn**	**15 40 07.9**	**+0.1**
	baz=5.0						
EKS2				⇑*i*S	**Sb**	**15 40 30.0**	**-0.1**
	baz=5.0						
MRKS	**Merke**	**1.73**	**353**	*e*P	**Pg**	**15 40 13.1**	**+1.4**
	71nm,0.4s						
MRKS				*e*S	**Sg**	**15 40 37.9**	**+3.8**
	672nm,0.5s						
AAK	**Ala-Archa**	**1.77**	**24**	⇑P	**Pn**	**15 40 10.2**	**+0.6**
	92nm,0.4s,SNR=122						
AAK				⇑S	**Sb**	**15 40 33.1**	**-0.6**
	135nm,0.3s						
AAK	**Ala-Archa**	**1.77**	**24**	Pg	**Pn**	**15 40 10.4**	**+0.9**
	32nm,0.3s,baz=204,slow=10,SNR=159						
AAK				Lg	Lg	15 40 27.7	
	14nm,0.3s,baz=190,slow=8.4,SNR=6.3						
AAK				LR	LR	15 40 33.8	
	comp=Z,18nm,21.5s,baz=323,slow=35						
AAK	**Ala-Archa**	**1.77**	**24**	⇓*e*P	**Pn**	**15 40 10.0**	**+0.5**
	baz=23						
AAK				⇑*i*S	**Sn**	**15 40 32.8**	**+0.5**
	baz=23						
TRKS	**Terek-Say**	**1.85**	**287**	⇑*i*P	**Pn**	**15 40 11.6**	**+1.0**
	baz=84						
TRKS				⇑*i*S	**Sb**	**15 40 35.8**	**-0.1**
	baz=84						
KBK	**Karagaybulak**	**1.96**	**33**	⇓P	**Pb**	**15 40 14.1**	**-0.3**
	59nm,0.4s,SNR=45						
KBK				⇓S	**Sb**	**15 40 39.3**	**+0.4**
	552nm,0.6s						
KBK	**Karagaybulak**	**1.96**	**33**	⇓*e*P	**Pn**	**15 40 12.1**	**+0.1**
	baz=31						
KBK				⇓*i*S	**Sn**	**15 40 37.3**	**+0.5**
	baz=31						
FRU1	**Bishkek**	**1.97**	**25**	⇑*i*P	**Pn**	**15 40 12.8**	**+0.6**
	baz=23						
FRU1				⇑*i*S	**Sb**	**15 40 38.2**	**-1.1**
	baz=23						
DRK	**Karamyk**	**2.02**	**221**	⇓*i*P	**Pn**	**15 40 14.1**	**+1.1**
	baz=22						
DRK				⇓*i*S	**Sb**	**15 40 40.5**	**-0.4**
	baz=22						
CHMS	**Chumysh**	**2.18**	**25**	⇑P	**Pb**	**15 40 17.4**	**-0.7**
	60nm,0.3s,SNR=33						
CHMS				⇓S	**Sb**	**15 40 44.9**	**-0.4**
	88nm,0.4s						
CHMS	**Chumysh**	**2.18**	**25**	⇑*i*P	**Pn**	**15 40 15.2**	**+0.2**
	baz=23						
CHMS				⇑*e*S	**Sn**	**15 40 42.3**	**+0.1**
	baz=23						
CHMS	**Chumysh**	**2.18**	**25**	⇓Pg	**Pb**	**15 40 17.2**	**-1.0**
	35nm,0.6s						
CHMS				⇓Lg	Lg	15 40 44.9	
	118nm,0.8s						
BTK	**Batken**	**2.26**	**246**	⇑*i*P	**Pn**	**15 40 16.8**	**+0.6**
	baz=46						
BTK				⇑*i*S	**Sb**	**15 40 46.6**	**-1.1**
	baz=46						
BOOM	**Boomskoye usch**	**2.34**	**50**	⇑*i*P	**Pn**	**15 40 17.5**	**+0.2**
	baz=49						
BOOM				⇑*i*S	**Sn**	**15 40 45.9**	**-0.3**
	baz=49						
USP	**Ospenovka**	**2.36**	**18**	⇑P	**Pb**	**15 40 19.7**	**-1.5**
	33nm,0.2s,SNR=31						
USP	**Ospenovka**	**2.36**	**18**	⇓*e*P	**Pn**	**15 40 18.0**	**+0.5**
	baz=17						
USP				⇓*i*S	**Sn**	**15 40 46.8**	**+0.2**
	baz=17						
ULHL	**Ulahol**	**2.39**	**58**	⇑*e*P	**Pn**	**15 40 17.7**	**-0.3**
	baz=58						
ULHL				⇑*i*S	**Sn**	**15 40 47.0**	**-0.5**
	baz=58						
KSH	**Kashi**	**2.42**	**128**	P	**Pb**	**15 40 22.3**	**+0.1**
KSH				S	**Sn**	**15 40 48.5**	**+0.4**
KSH				smax	smax		
	comp=N,390nm,0.4s						
KSH				smax	smax		
	comp=E,190nm,0.5s						
TKM2	**Tokmak 2**	**2.45**	**39**	⇑P	**Pn**	**15 40 20.9**	**+2.0**
	comp=E,68nm,0.3s,SNR=30						
TKM2	**Tokmak 2**	**2.45**	**39**	⇓*i*P	**Pn**	**15 40 19.3**	**+0.4**
	baz=38						
TKM2				⇓*i*S	**Sn**	**15 40 49.1**	**-0.1**
	baz=38						
TKM2	**Tokmak 2**	**2.45**	**39**	⇓Pg	**Pb**	**15 40 21.9**	**-1.0**
	comp=E,42nm,0.4s						
TKM2				⇑Lg	Lg	15 40 54.4	
	comp=E,114nm,0.6s						
DZA	**Taraz**	**2.47**	**320**	*e*P	**Pb**	**15 40 23.9**	**+0.8**
	comp=E,335nm,0.2s						
DZA				*e*S	**Sg**	**15 40 56.3**	**-1.5**
	comp=E,1µm,0.3s						
SGDS	**Sogindy**	**2.56**	**19**	*e*P	**Pb**	**15 40 24.6**	**-0.1**
	comp=E,33nm,0.4s						
SGDS				*e*S	**Sb**	**15 40 57.8**	**+1.4**
	comp=E,98nm,0.4s						
DGS	**Degeres**	**2.79**	**37**	*e*P	**Pb**	**15 40 28.1**	**-0.4**
	comp=E,75nm,0.8s						
DGS				*e*S	**Sb**	**15 41 04.4**	**+1.7**
	comp=E,110nm,0.8s						
IUG	**Iuzhnay**	**2.83**	**294**	*e*P	**Pb**	**15 40 29.9**	**+0.6**
	comp=E,864nm,0.1s						
IUG				*e*S	**Sb**	**15 41 07.0**	**+2.8**
	comp=E,987nm,0.5s						
MTBS	**Maitube**	**3.03**	**45**	*e*P	**Pb**	**15 40 32.7**	**+0.1**
	comp=E,13nm,0.4s						
MTBS				*e*S	**Sb**	**15 41 12.3**	**+2.6**
	comp=E,119nm,0.4s						
KK31	**Karatay Array**	**3.04**	**314**	⇑Pn	**Pn**	**15 40 27.6**	**+0.7**
	comp=E,1.0nm,0.2s,baz=127,slow=12,SNR=625						
KK31				⇑Pg	**Pb**	**15 40 33.0**	**+0.1**
	comp=E,13nm,0.3s,baz=129,slow=16,SNR=7.8						
KK31				⇓Lg	Lg	15 41 13.5	
	comp=E,90nm,0.3s,baz=142,slow=26,SNR=12						
KKAR	**Karatay Array**	**3.04**	**314**	⇑*i*P	**Pn**	**15 40 28.6**	**+1.7**
	baz=13						
KKAR				⇑*i*S	**Sn**	**15 41 05.1**	**+1.6**
	baz=13						
KRBS	**Karabastau**	**3.12**	**30**	*e*P	**Pb**	**15 40 33.5**	**-0.6**
	comp=E,11nm,0.4s						
KRBS				*e*S	**Sb**	**15 41 13.5**	**+1.2**
	comp=E,56nm,0.5s						
CHM	**Chimkent**	**3.19**	**295**	*e*P	**Pb**	**15 40 36.9**	**+1.5**
	comp=E,106nm,0.3s						
CHM				*e*S	**Sg**	**15 41 19.5**	**-1.6**
	comp=E,445nm,0.4s						
TNSS	**Tian-Shan**	**3.26**	**51**	*e*P	**Pb**	**15 40 37.3**	**+0.6**
	comp=E,15nm,0.6s						
TNSS				*e*S	**Sg**	**15 41 20.8**	**-2.4**
	comp=E,46nm,0.4s						
AAA	**Alma-Ata**	**3.35**	**48**	*e*P	**Pb**	**15 40 39.2**	**+1.2**
	comp=E,25nm,0.1s						
AAA				*e*S	**Sg**	**15 41 22.8**	**-3.1**
	comp=E,195nm,0.5s						
KNDC	**Almaty**	**3.38**	**48**	⇑Pg	**Pb**	**15 40 39.5**	**+0.9**
	comp=E,59nm,0.5s						
KNDC				⇓Lg	Lg	15 41 24.3	
	comp=E,171nm,0.7s						
MDOK	**Medeo**	**3.39**	**50**	*e*P	**Pb**	**15 40 39.8**	**+0.9**
	comp=E,13nm,0.3s						
MDOK				*e*S	**Sb**	**15 41 24.1**	**+3.8**
	comp=E,87nm,0.7s						
MDOK	**Medeo**	**3.39**	**50**	⇑Pg	**Pb**	**15 40 39.1**	**+0.2**
	comp=E,25nm,0.7s						
MDOK				⇑Lg	Lg	15 41 24.4	
	comp=E,189nm,1.1s						
KOTS	**Kotyrbulak**	**3.48**	**49**	*e*P	**Pb**	**15 40 41.4**	**+1.1**
	comp=E,27nm,0.4s						
KOTS				*e*S	**Sg**	**15 41 27.4**	**-2.7**
	comp=E,149nm,0.6s						
KUU	**Kurty**	**3.55**	**35**	*e*P	**Pb**	**15 40 41.6**	**+0.1**
	comp=E,12nm,0.3s						
KUU				*e*S	**Sb**	**15 41 27.5**	**+2.8**
	comp=E,108nm,0.5s						
ANVS	**Anan'yevo**	**3.57**	**59**	⇑*i*P	**Pn**	**15 40 34.4**	**+0.2**
	baz=59						
ANVS				⇑*i*S	**Sn**	**15 41 15.5**	**-1.1**
	baz=59						
KTBS	**Karatobe**	**3.57**	**40**	*e*P	**Pb**	**15 40 42.3**	**+0.4**
	comp=E,5.9nm,0.3s						
KTBS				*e*S	**Sb**	**15 41 28.7**	**+3.3**
	comp=E,158nm,0.6s						
CHKK	**Chushkaly**	**3.83**	**41**	*e*P	**Pb**	**15 40 47.1**	**+1.0**
	comp=E,5.1nm,0.3s						
CHKK				*e*S	**Sb**	**15 41 36.6**	**+4.0**
	comp=E,80nm,0.3s						
BTLS	**Baital**	**4.03**	**5**	*e*P	**Pb**	**15 40 49.1**	**-0.6**
	comp=E,10.0nm,0.3s						
BTLS				*e*S	**Sb**	**15 41 39.9**	**+1.3**
	comp=E,74nm,0.7s						
SATY	**Saty**	**4.18**	**59**	*e*P	**Pb**	**15 40 54.8**	**+2.5**
	comp=E,11nm,0.4s						
SATY				*e*S	**Sg**	**15 41 49.5**	**-3.2**
	comp=E,78nm,0.4s						
ZHN	**Zhinishke**	**4.25**	**58**	*e*P	**Pb**	**15 40 54.6**	**+1.1**
	comp=E,8.5nm,0.2s						
ZHN				*e*S	**Sb**	**15 41 49.4**	**+4.5**
	comp=E,75nm,0.3s						
KURS	**Kuram**	**4.25**	**53**	*e*P	**Pb**	**15 40 54.2**	**+0.8**
	comp=E,3.6nm,0.3s						
KURS				*e*S	**Sb**	**15 41 48.9**	**+4.1**
	comp=E,17nm,1.4s						
ARXS	**Arharly**	**4.51**	**44**	*e*P	**Pb**	**15 40 58.8**	**+1.0**
	comp=E,11nm,0.5s						
ARXS				*e*S	**Sb**	**15 41 57.2**	**+4.9**
	comp=E,70nm,0.6s						
KPKS	**Kokpek**	**4.55**	**56**	*e*P	**Pb**	**15 41 00.4**	**+1.8**
	comp=E,7.6nm,0.3s						
KPKS				*e*S	**Sg**	**15 42 00.8**	**-3.9**
	comp=E,77nm,0.5s						
UZB	**Uzynbulak**	**4.62**	**61**	*e*P	**Pb**	**15 41 00.2**	**+0.4**
	comp=E,11nm,0.3s						
UZB				*e*S	**Sb**	**15 41 59.5**	**+3.9**
	comp=E,40nm,0.4s						
BLB	**Baldybastay**	**4.79**	**48**	*e*P	**Pb**	**15 41 03.2**	**+0.6**
	comp=E,11nm,0.5s						
BLB				*e*S	**Sb**	**15 42 03.9**	**+3.5**
	comp=E,50nm,0.5s						
PDGK	**Podgornoye**	**5.01**	**61**	⇑Pg	**Pb**	**15 41 09.0**	**+2.6**
	comp=E,12nm,0.7s						
PDGK				⇓Lg	Lg	15 42 14.4	
	comp=E,44nm,0.7s						
DJR	**Jarkent**	**5.69**	**52**	*e*P	**Pb**	**15 41 21.5**	**+3.5**
	comp=E,3.7nm,0.3s						
DJR				*e*S	**Sg**	**15 42 36.1**	**-5.1**
	comp=E,21nm,0.5s						
KAPS	**Kapalarasan**	**6.04**	**43**	*e*P	**Pb**	**15 41 23.9**	**+0.1**
	comp=E,3.9nm,0.3s						
KAPS				*e*S	**Sb**	**15 42 41.0**	**+4.8**
	comp=E,16nm,0.6s						
OTUK	**Ortayu**	**7.27**	**354**	⇑Pn	**Pn**	**15 41 25.2**	**+0.4**
	comp=E,2.3nm,0.8s						
OTUK				⇑Lg	Lg	15 43 25.0	
	comp=E,80nm,0.8s						
MAKZ	**Makanchi**	**8.41**	**44**	⇑Lg	Lg	15 44 01.2	
	comp=E,3.6nm,0.8s						
MK31	**Makanchi Array**	**8.57**	**45**	⇑Pn	**Pn**	**15 41 43.8**	**+1.1**
	comp=E,1.4nm,0.6s,baz=226,slow=14,SNR=9.0

JHG	**Hegura jima**	**1.19**	**300**	P	Pn	15 41 45.7	-0.4
JHG				S	Sn	15 42 01.4	0.0
JFY	**Yanaizu**	**1.19**	**82**	⇓P	Pn	15 41 46.4	+0.2
JFY				S	Sn	15 42 01.7	+0.2

IDC ***30*** *15:44:37.5±2.1,32°.88N×130°.41E,h0km,mb3.8/2, mb1 3.7/4,mb1mx3.3/53,mbtmp3.6/4,ML2.5/2,MS2.6/1, Ms1 2.6/1,ms1mx2.1/95 Error ellipse: s-maj=30.2km s-min=10.0km az=167.0*
JMA ***30*** *15:44:38.3,32°.83N×130°.50E,h7km±1km,M3.4*
JMA Felt II J1.
ISC 30 15:44:37.8±1.9,32°.81N±0°.05×130°.43E±0°.10,h3km±15km, n8,σ0s.54/12,2C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.17**	**31**	⇑P	**Pg**	**15 44 41.3**	**+0.1**
JTA				S	**Sg**	**15 44 43.4**	**-0.1**
JIU3	**Izumi3**	**0.42**	**129**	⇑P	**Pg**	**15 44 45.7**	**-0.1**
JIU3				S	**Sg**	**15 44 51.1**	**-0.1**
JNU	**Nakatsue**	**0.49**	**51**	Pg	**Pg**	**15 44 46.4**	**-0.8**
	60nm,0.3s,baz=282,slow=12,SNR=234						
JNU				Lg	Lg	15 44 52.7	
	452nm,0.3s,baz=23,slow=6.0,SNR=39						
JNU	**Nakatsue**	**0.49**	**51**	⇓P	**Pg**	**15 44 47.0**	**-0.2**
JNU				S	**Sg**	**15 44 53.1**	**-0.4**
KSRS	**Korea Array**	**5.06**	**337**	Pn	**Pn**	**15 45 54.5**	**-0.1**
	0.3nm,0.3s,baz=156,slow=14,SNR=5.0						
KSRS				Pg	**Pb**	**15 46 07.7**	**+0.7**
	0.3nm,0.3s,baz=153,slow=17,SNR=3.0						
KSRS				Lg	Lg	15 47 16.6	
	1.3nm,0.3s,baz=152,slow=28,SNR=5.5						
KSRS				LR	LR	15 48 00.3	
	comp=Z,65nm,19.9s,baz=180,slow=41						
MJAR	**Matsushiro Arr**	**7.41**	**58**	Pn	**Pn**	**15 46 27.7**	**+0.8**
	0.0nm,0.3s,baz=240,slow=13,SNR=5.4						
FINES	**FINESS Array B**	**68.12**	**330**	P	**P**	**15 55 38.6**	**-0.1**
	2.1nm,1.2s,baz=101,slow=3.0,SNR=1.8						
AKASG	**Malin Array Be**	**71.81**	**319**	P	**P**	**15 56 01.1**	**-0.5**
	0.4nm,0.3s,baz=58,slow=6.6,SNR=3.2						

IDC 30 15:51:33.1±1.5,12°.77N×142°.28E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/37,mbtmp3.3/4,ML3.3/1,Error ellipse: s-maj=38.7km s-min=29.8km az=117.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.65**	**72**	Pn	Pn	15 52 17.2	0.0
	5.4nm,0.3s,baz=30,slow=20,SNR=10						
GUMO				Sn	Sn	15 52 42.2	-7.9
	15nm,0.3s,baz=162,slow=20,SNR=11						
WRA	**Warramunga Arr**	**33.43**	**194**	P	P	15 58 13.7	-0.2
	0.2nm,0.6s,baz=16,slow=9.7,SNR=1.9						
ASAR	**Alice Springs**	**37.12**	**193**	P	P	15 58 45.7	0.0
	0.4nm,0.9s,baz=20,slow=10,SNR=6.5						
MKAR	**Makanchi Array**	**60.34**	**317**	P	P	16 01 44.0	0.0
	0.2nm,0.5s,baz=101,slow=7.5,SNR=3.2						

IDC ***30*** *15:58:09.3±2.9,24°.82S×177°.36W,h73km±27km,mb3.7/8, mb1 4.0/11,mb1mx3.7/33,mbtmp4.2/11,Error ellipse: s-maj=27.0km s-min=18.5km az=125.0*
ISC 30 15:58:11.2±0.8,24°.89S±0°.09×177°.2W±0°.2,h100km,n14, σ1s.30/15,mb3.9/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.39**	**189**	P	**Pn**	**15 59 15.5**	**-0.2**
	57nm,0.3s,baz=112,slow=23,SNR=2.0						
RAO				S	**Sn**	**16 00 05.9**	**+0.2**
	53nm,0.3s,baz=246,slow=23,SNR=1.7						
AFI	**Afiamalu**	**12.05**	**26**	P	**Pn**	**16 00 57.2**	**-2.4**
	2.4nm,0.3s,baz=346,slow=22,SNR=2.1						
AFI				S	Sn	16 03 02.0	-10
	2.2nm,0.3s,baz=205,slow=19,SNR=1.6						
URZ	**Urewera**	**14.19**	**199**	P	**Pn**	**16 01 26.1**	**-1.3**
	0.7nm,0.3s,baz=320,slow=0.7,SNR=8.0						
URZ				S	Sn	16 03 44.2	-19
	0.3nm,0.3s,baz=331,slow=22,SNR=1.5						
STKA	**Stephens Creek**	**36.77**	**250**	P	**P**	**16 05 08.7**	**-0.5**
	2.4nm,0.8s,baz=98,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**44.42**	**261**	P	**P**	**16 06 11.5**	**-0.8**
	0.9nm,0.4s,baz=89,slow=6.7,SNR=65						
WRA	**Warramunga Arr**	**44.91**	**266**	P	**P**	**16 06 15.4**	**-0.8**
	1.0nm,0.5s,baz=98,slow=7.6,SNR=40						
FITZ	**Fitzroy Crossi**	**53.32**	**265**	P	**P**	**16 07 19.7**	**-0.6**
	0.7nm,0.5s,baz=84,slow=9.0,SNR=6.5						
MAW	**Mawson**	**77.71**	**200**	P	**P**	**16 09 56.9**	**+0.3**
	1.3nm,0.4s,baz=139,slow=5.0,SNR=6.6						
NVAR	**Mina Array Bea**	**83.70**	**43**	P	**P**	**16 10 30.7**	**+1.5**
	0.6nm,0.7s,baz=218,slow=9.3,SNR=3.6						
PDAR	**Pinedale Array**	**91.63**	**43**	P	**P**	**16 11 08.3**	**+1.1**
	0.1nm,0.3s,baz=204,slow=3.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**92.28**	**289**	P	**P**	**16 11 12.8**	**+2.3**
	0.8nm,0.8s,baz=141,slow=3.0,SNR=6.3						
FINES	**FINESS Array B**	**140.18**	**343**	PKP	**PKPdf**	**16 17 28.9**	**+1.3**
	0.5nm,0.5s,baz=101,slow=4.4,SNR=1.0						
AKASG	**Malin Array Be**	**147.18**	**329**	PKPbc	**PKPab**	**16 17 44.5**	**+0.2**
	0.5nm,0.4s,baz=43,slow=4.3,SNR=2.6						
BRTR	**Keskin Array B**	**150.23**	**307**	PKPbc	**PKiKP**	**16 17 52.0**	**+0.3**
	0.5nm,0.6s,baz=123,slow=3.6,SNR=3.0						

NEIC ***30*** *16:11:46.3±1.9,6°.68N±0°.08×72°.99W±0°.09,h171km±7km, mb4.4/50,Mwr4.4(RSNC),Error ellipse: s-maj=13.4km s-min=11.3km az=116.0*
IDC ***30*** *16:11:46.1±0.7,6°.80N×73°.00W,h161km±7km,mb3.9/10, mb1 4.2/13,mb1mx3.8/35,mbtmp4.5/13,Error ellipse: s-maj=19.2km s-min=7.4km az=130.0*
RSNC ***30*** *16:11:47.2±0.8,6°.81N×73°.16W,h146km±4km,ML4.5, Mw4.5,Fault plane solution: NP1:φs58.00000°, δ58.00000°,λ-142.00000°.*
ISC 30 16:11:45.0±0.6,6°.84N±0°.03×73°.13W±0°.04,h153km±5km, n193,σ1s.44/228,mb4.4/32,10C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**192**	⇓*i*P	**Pn**	**16 12 06.8**	**+0.8**
BARC				*e*S	**Sn**	**16 12 22.3**	**+0.1**
BARC				*i*		16 12 23.1	
	comp=Z,8μm,0.2s						
PAMC	**Pamplona, Colo**	**0.66**	**40**	⇓*e*P	**Pn**	**16 12 09.7**	**+1.6**
PAMC				*e*S	**Sn**	**16 12 27.0**	**+1.2**
PAMC				*i*		16 12 29.1	
	comp=Z,11μm,0.4s						
RUSC	**La Rusia**	**0.94**	**177**	⇓*i*P	**Pn**	**16 12 10.7**	**+0.6**
RUSC				*e*S	**Sn**	**16 12 29.0**	**-0.3**
RUSC				*i*		16 12 30.7	
	comp=Z,6μm,0.3s						
TAMC	**Tame, Arauca**	**1.39**	**107**	⇓*i*P	**Pn**	**16 12 15.3**	**+1.7**
TAMC				*e*S	**Sn**	**16 12 36.6**	**+0.9**
OCAC	**Ocana**	**1.41**	**352**	*e*P	**Pn**	**16 12 14.9**	**+0.9**
OCAC				*e*S	**Sn**	**16 12 37.1**	**+0.8**
OCAC				*i*		16 12 42.3	
	comp=Z,8μm,0.3s						
SPBC	**San Pablo de B**	**1.50**	**219**	⇑*e*P	**Pn**	**16 12 15.6**	**+0.7**
SPBC				*e*S	**Sn**	**16 12 38.2**	**+0.3**
SPBC				*i*		16 12 40.3	
	comp=Z,7μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	⇑*e*P	**Pn**	**16 12 19.1**	**+0.7**
ZARC				*e*S	**Sn**	**16 12 44.9**	**+0.8**
ZARC				*i*		16 12 53.7	
	comp=Z,3μm,0.2s						
NORC	**Norcasia**	**2.14**	**234**	*e*P	**Pn**	**16 12 22.6**	**+0.6**
NORC				*e*S	**Sn**	**16 12 50.6**	**0.0**
NORC				*i*		16 12 55.6	
	comp=Z,3μm,0.3s						
CHIC	**Chingaza**	**2.27**	**195**	⇑*e*P	**Pn**	**16 12 24.8**	**+0.8**
CHIC				*e*S	**Sn**	**16 12 54.6**	**+0.6**
CHIC				*i*		16 12 57.9	
	comp=Z,3μm,0.4s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**16 12 26.6**	**+2.2**
	comp=Z,1μm,0.3s,baz=73,slow=15,SNR=977						
ROSC				S	**Sn**	**16 12 57.8**	**+3.1**
	comp=Z,2μm,0.3s,baz=168,slow=20,SNR=8.0						
ROSC	**El Rosal**	**2.31**	**211**		**Pn**	**16 12 26.4**	**+2.0**
HELC	**Santa Helena**	**2.47**	**255**	*e*P	**Pn**	**16 12 27.7**	**+1.5**
HELC				*e*S	**Sn**	**16 12 58.4**	**+0.4**
HELC				*i*		16 13 04.3	
	comp=Z,2μm,0.3s						
UREC	**San Jos de Ur**	**2.55**	**291**	*e*P	**Pn**	**16 12 26.5**	**-0.4**
UREC				*e*S	**Sn**	**16 12 58.0**	**-1.3**
UREC				*i*		16 13 09.7	
	comp=Z,2μm,0.3s						
LL1C	**La Loma 1 Cana**	**2.72**	**351**	⇑*e*P	**Pn**	**16 12 31.3**	**+2.3**
LL1C				*e*S	**Sn**	**16 13 07.2**	**+4.1**
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P	**Pn**	**16 12 30.9**	**+1.2**
GUY2C				*e*S	**Sn**	**16 13 06.0**	**+1.8**
GUY2C				*i*		16 13 17.1	
	comp=Z,2μm,0.5s						
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇑*e*P	**Pn**	**16 12 30.1**	**+0.1**
PTGC				*e*S	**Sn**	**16 13 02.8**	**-2.1**
PTGC				*i*		16 13 08.5	
	comp=Z,3μm,0.5s						
LL6C	**La Loma 6 Bece**	**2.88**	**357**	⇑*e*P	**Pn**	**16 12 31.4**	**+0.3**
LL6C				*e*S	**Sn**	**16 13 05.4**	**-1.4**
LL6C				*i*		16 13 14.3	
	comp=Z,989nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*e*P	**Pn**	**16 12 34.6**	**+1.7**
CBOC				*e*S	**Sn**	**16 13 09.6**	**-0.4**
CBOC				*i*		16 13 26.6	
	comp=Z,615nm,0.4s						
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**16 12 36.5**	**+1.2**
	comp=Z,46nm,0.3s,baz=224,slow=8.5,SNR=78						
SDV				S	**Sn**	**16 13 14.4**	**+0.3**
	comp=Z,399nm,0.3s,baz=60,slow=20,SNR=18						
ORTC	**Ortega, Tolima**	**3.59**	**216**	⇑*e*P	**Pn**	**16 12 41.3**	**+1.2**
ORTC				*e*S	**Sn**	**16 13 24.4**	**+1.5**
ORTC				*i*		16 13 28.3	
	comp=Z,932nm,0.3s						
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P	**Pn**	**16 12 40.6**	**-0.3**
SJCC				*e*S	**Sn**	**16 13 22.1**	**-2.3**
SJCC				*i*		16 13 26.6	
	comp=Z,767nm,0.5s						
PLMC	**San Jos del P**	**3.68**	**239**	⇑*e*P	**Pn**	**16 12 42.2**	**+1.0**
PLMC				*e*S	**Sn**	**16 13 25.2**	**+0.3**
PLMC				*i*		16 13 30.7	
	comp=Z,703nm,0.4s						
LCBC	**Los crdobas,**	**3.79**	**302**	*e*P	**Pn**	**16 12 42.1**	**-0.4**
LCBC				*e*S	**Sn**	**16 13 24.8**	**-2.5**
LCBC				*i*		16 13 31.6	
	comp=Z,867nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	⇑*e*P	**Pn**	**16 12 47.0**	**-0.6**
CRJC				*e*S	**Sn**	**16 13 34.6**	**-1.7**
CRJC				*i*		16 13 37.5	
	comp=Z,674nm,0.3s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	**Pn**	**16 12 49.4**	**+0.4**
YOTC				*e*S	**Sn**	**16 13 40.7**	**+1.7**
YOTC				*i*		16 13 51.5	
	comp=Z,345nm,0.9s						
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	**Pn**	**16 12 51.2**	**+0.2**
SMRC				*e*S	**Sn**	**16 13 39.7**	**-2.8**
SMRC				*i*		16 13 43.4	
	comp=Z,622nm,0.2s						
MACC	**Macarena, Meta**	**4.71**	**189**	⇑*i*P	**Pn**	**16 12 53.6**	**-1.2**
MACC				*e*S	**Sn**	**16 13 45.5**	**-3.7**
BETC	**Betania**	**4.73**	**209**	*e*P	**Pn**	**16 12 54.4**	**-0.5**
BETC				*e*S	**Sn**	**16 13 46.1**	**-3.4**
BETC				*i*		16 13 53.5	
	comp=Z,248nm,0.4s						
URIC	**Uribia, Colomb**	**4.96**	**13**	*e*P	**Pn**	**16 12 57.4**	**-0.5**
URIC				*e*S	**Sn**	**16 13 51.7**	**-3.3**
URIC				*i*		16 13 56.9	
	comp=Z,134nm,0.7s						
BAUV	**El Baul**	**5.46**	**67**	Pn	**Pn**	**16 13 03.0**	**-1.5**
BCIP	**Isla Barro Col**	**7.04**	**290**	Pn	**Pn**	**16 13 24.3**	**-1.2**
BIRV	**Birongo**	**7.69**	**61**	Pn	**Pn**	**16 13 33.2**	**-1.0**
OTAV	**Otavalo**	**8.44**	**219**	Pn	**Pn**	**16 13 44.3**	**-0.4**
DRK0	**Durika**	**10.30**	**284**		**Pn**	**16 14 10.2**	**+1.1**
SRBA	**San Rafael, Bu**	**10.41**	**284**	Pn	**Pn**	**16 14 12.3**	**+1.8**
RIMA	**Rio Macho**	**11.01**	**286**	Pn	**Pn**	**16 14 19.7**	**+1.1**
JAKH	**Jacmel**	**11.35**	**3**	Pn	**Pn**	**16 14 23.4**	**+0.7**
HOJ	**Hope**	**11.65**	**343**	*i*P	**P**	**16 14 30.8**	**-3.0**
GWJ	**Greenwich**	**11.71**	**343**	*i*P	**P**	**16 14 31.3**	**-3.3**
GWJ				*i*P	Sn	16 16 26.4	-11
STH	**Stony Hill**	**11.73**	**343**	*i*P	**Sn**	**16 16 33.3**	**-4.3**
MCJ	**Malvern**	**11.88**	**338**	*i*P	**Pn**	**16 14 33.0**	**+3.2**
MCJ				*i*P	**Sn**	**16 16 41.7**	**+0.4**
CVJ	**Coleyville**	**12.11**	**340**	*i*P	**P**	**16 14 36.5**	**-2.5**
MTDJ	**Mount Denham**	**12.11**	**340**	Pn	**P**	**16 14 36.3**	**-2.7**
JTS	**Las Juntas de**	**12.18**	**287**	Pn	**P**	**16 14 37.2**	**-2.5**
SDDR	**Presa de Saban**	**12.21**	**8**	Pn	**Pn**	**16 14 36.6**	**+2.7**
SJG	**San Juan**	**13.11**	**31**	P	**Pn**	**16 14 45.1**	**-0.4**
	comp=Z,6.9nm,0.3s,baz=205,slow=13,SNR=8.6						
GTBY	**Guantanamo Bay**	**13.15**	**352**		**Pn**	**16 14 48.4**	**+2.3**
SMRT	**St. Maarten**	**14.84**	**40**	Pn	**Pn**	**16 15 06.8**	**-0.6**
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**16 16 40.2**	**-1.7**
PB16	**IPOC Station P**	**25.27**	**172**	P	**P**	**16 16 54.2**	**-3.6**
GO01	**Chusmiza**	**26.62**	**172**	P	**P**	**16 17 07.1**	**-2.8**
GOGA	**Godfrey**	**28.13**	**341**	P	**P**	**16 17 25.1**	**+2.5**
	baz=158						
LRAL	**Lakeview Retre**	**29.08**	**336**	P	**P**	**16 17 33.7**	**+2.6**
	baz=151						
PB14	**IPOC Station P**	**31.38**	**175**	P	P	16 17 45.4	-6.5
PB14				IAmb	IAmb	16 17 47.7	
	comp=Z,5.3nm,0.7s						
WVT	**Waverly**	**32.12**	**337**	P	**P**	**16 17 58.6**	**+0.9**
WVT	**Waverly**	**32.12**	**337**	P	**P**	**16 17 59.5**	**+1.7**
	baz=152						
X40A	**Basin Creek Fa**	**32.98**	**329**	P	**P**	**16 18 06.5**	**+1.2**
	baz=142						
W41B	**Gary Mavity, V**	**33.24**	**331**	P	**P**	**16 18 08.8**	**+1.3**
	baz=144						
WHAR	**Wooly Hollow**	**33.35**	**331**	P	**P**	**16 18 07.5**	**-1.0**
WHAR				IAmb	IAmb	16 18 11.2	
	comp=Z,6.4nm,0.6s						
MIAR	**Mount Ida**	**33.41**	**328**	P	**P**	**16 18 09.7**	**+0.7**
	baz=141						
LCAR	**Lake Charles**	**33.45**	**333**	P	**P**	**16 18 09.8**	**+0.4**
LCAR				IAmb	IAmb	16 18 11.7	
	comp=Z,4.5nm,0.6s						
P52A	**Corning**	**33.64**	**347**	P	**P**	**16 18 13.3**	**+2.3**
	baz=164						
FCAR	**Ozark Folk Cen**	**33.76**	**332**	P	**P**	**16 18 12.7**	**+0.7**
FCAR				IAmb	IAmb	16 18 13.4	
	comp=Z,7.0nm,0.5s						
W39A	**Magazine**	**34.02**	**329**	P	**P**	**16 18 15.0**	**+0.7**
W39A				IAmb	IAmb	16 18 16.5	
	comp=Z,10nm,0.8s						
W39A	**Magazine**	**34.02**	**329**	P	**P**	**16 18 16.0**	**+1.7**
	baz=141,SNR=6.4						
U40A	**Yellville**	**34.48**	**331**	P	**P**	**16 18 18.9**	**+0.6**
U40A	**Yellville**	**34.48**	**331**	P	**P**	**16 18 19.8**	**+1.5**
	baz=144,SNR=21						
KSPA	**Keystone Colle**	**34.66**	**357**	P	**P**	**16 18 21.0**	**+1.3**
FVM	**French Village**	**34.75**	**336**	P	**P**	**16 18 21.9**	**+1.3**
FVM				IAmb	IAmb	16 18 22.8	
	comp=Z,8.1nm,0.6s						
HHAR	**Hobbs**	**34.95**	**330**	P	**P**	**16 18 22.5**	**+0.1**
HHAR				IAmb	IAmb	16 18 23.3	
	comp=Z,4.8nm,0.5s						
CCM	**Cathedral Cave**	**35.15**	**335**	P	**P**	**16 18 25.2**	**+1.2**
CCM	**Cathedral Cave**	**35.15**	**335**	P	**P**	**16 18 25.4**	**+1.3**
	baz=148						
L56A	**Greenwood**	**35.37**	**354**	P	**P**	**16 18 27.0**	**+1.1**
L56A				IAmb	IAmb	16 18 29.9	
	comp=Z,6.3nm,1.1s						
ABTX	**Abilene, Hawle**	**35.58**	**320**	P	**P**	**16 18 29.2**	**+1.4**
	baz=130						
TUL1	**Leonard**	**35.62**	**328**	P	**P**	**16 18 28.6**	**+0.6**
	baz=139						
SFIN	**Lafayette**	**35.67**	**342**	P	**P**	**16 18 29.6**	**+1.3**
SFIN	**Lafayette**	**35.67**	**342**	P	**P**	**16 18 30.0**	**+1.6**
	baz=156						
S39A	**Bolivar**	**35.78**	**332**	P	**P**	**16 18 29.2**	**-0.2**
S39A				IAmb	IAmb	16 18 31.6	
	comp=Z,4.4nm,0.7s						
TX31	**Lajitas Ar. Si**	**36.45**	**312**	P	**P**	**16 18 36.3**	**+1.0**
TX32	**Lajitas Array**	**36.45**	**312**	P	**P**	**16 18 36.5**	**+1.1**
TX32				IAmb	IAmb	16 18 37.0	
	comp=Z,3.9nm,0.7s						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**16 18 36.6**	**+1.3**
	comp=Z,4.0nm,0.6s,baz=128,slow=9.2,SNR=59						
TXAR				PcP	**PcP**	**16 20 57.3**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=139,slow=5.5,SNR=8.5						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**16 18 36.2**	**+0.9**
WMOK	**Wichita Mounta**	**36.46**	**323**	P	**P**	**16 18 35.8**	**+0.5**
	baz=134,SNR=5.8						
HDIL	**Hopedale**	**36.56**	**339**	P	**P**	**16 18 36.7**	**+0.7**
	baz=152						
LBNH	**Lisbon**	**37.27**	**1**	P	**P**	**16 18 44.1**	**+2.2**
	baz=182						
P38A	**Dawn**	**37.45**	**334**	P	**P**	**16 18 44.2**	**+0.7**
AMTX	**Amarillo**	**38.34**	**321**	P	**P**	**16 18 52.6**	**+1.5**
AMTX				IAmb	IAmb	16 18 53.6	
	comp=Z,9.2nm,0.7s						
AMTX	**Amarillo**	**38.34**	**321**	P	**P**	**16 18 52.9**	**+1.7**
	baz=130						
KSU1	**Kansas State U**	**38.47**	**330**	P	**P**	**16 18 52.2**	**+0.1**
	baz=141						
MNTX	**Cornudas Mount**	**38.95**	**314**	P	**P**	**16 18 56.7**	**+0.4**
MNTX				IAmb	IAmb	16 18 59.1	
	comp=Z,7.7nm,0.8s						
MNTX	**Cornudas Mount**	**38.95**	**314**	P	**P**	**16 18 57.7**	**+1.4**
	baz=123,SNR=14						
JFWS	**Jewell Farm**	**38.98**	**340**	P	**P**	**16 18 56.8**	**+0.6**
	baz=152						
TRQ	**Mont Tremblant**	**39.26**	**358**	P	**P**	**16 19 00.1**	**+1.5**
TRQ				IAmb	IAmb	16 19 01.4	
	comp=Z,4.6nm,1.0s						
LMN	**Caledonia Moun**	**39.53**	**9**	P	**P**	**16 19 02.1**	**+1.4**
LMN				IAmb	IAmb	16 19 03.2	
	comp=Z,8.9nm,0.7s						
BATG	**Bathurst New B**	**40.75**	**7**	P	**P**	**16 19 11.2**	**+0.4**
121A	**Cookes Peak, D**	**41.13**	**313**	P	**P**	**16 19 16.4**	**+2.0**
	baz=121						
T25A	**Trinidad**	**41.48**	**321**	P	**P**	**16 19 19.5**	**+2.3**
	baz=129						
ANMO	**Albuquerque**	**41.50**	**317**	P	**P**	**16 19 18.8**	**+1.5**
	baz=125						
ECSD	**EROS Data Cent**	**42.13**	**334**	P	**P**	**16 19 21.5**	**-0.6**
ECSD	**EROS Data Cent**	**42.13**	**334**	P	**P**	**16 19 22.8**	**+0.7**
	baz=144						
SDCO	**Great Sand Dun**	**42.53**	**321**	P	**P**	**16 19 27.9**	**+2.0**
	baz=128,SNR=8.6						
TUC	**Tucson**	**43.23**	**311**	P	**P**	**16 19 32.7**	**+1.4**
	baz=118						
S22A	**4UR Ranch, Cre**	**43.37**	**320**	P	**P**	**16 19 34.6**	**+2.0**
	baz=127						
SUSD	**Miller**	**43.72**	**333**	P	**P**	**16 19 35.4**	**+0.5**
	baz=141						
W18A	**Petrified Fore**	**43.85**	**315**	P	**P**	**16 19 38.9**	**+2.6**
	baz=121						
EYMN	**Ely**	**43.85**	**342**	P	**P**	**16 19 36.2**	**+0.3**
EYMN				IAmb	IAmb	16 19 37.1	
	comp=Z,10nm,0.6s						
EYMN	**Ely**	**43.85**	**342**	P	**P**	**16 19 36.5**	**+0.6**
	baz=153,SNR=5.2						
ISCO	**Idaho Springs**	**43.89**	**323**	P	**P**	**16 19 37.9**	**+1.2**
ISCO	**Idaho Springs**	**43.89**	**323**	P	**P**	**16 19 38.6**	**+1.9**
	baz=130,SNR=5.8						
MVCO	**Mesa Verde**	**44.14**	**318**	P	**P**	**16 19 40.5**	**+1.8**
	baz=124						
N23A	**Red Feather La**	**44.78**	**324**	P	**P**	**16 19 45.6**	**+1.9**
	baz=130						
WUAZ	**Wupatki**	**45.20**	**315**	P	**P**	**16 19 49.0**	**+2.0**
	baz=120,SNR=11						
AGMN	**Agassiz Nation**	**45.61**	**339**	P	**P**	**16 19 50.5**	**+0.7**
	baz=148						
O20A	**White River Ci**	**45.68**	**322**	P	**P**	**16 19 52.7**	**+2.0**
	baz=127						
RSSD	**Black Hills**	**45.92**	**329**	P	**P**	**16 19 54.3**	**+1.7**
	baz=135						
ULM	**Lac du Bonnet**	**47.27**	**340**	P	**P**	**16 20 03.1**	**+0.4**
	comp=Z,7.5nm,0.4s,baz=133,slow=6.4,SNR=10						
ULM	**Lac du Bonnet**	**47.27**	**340**	P	**P**	**16 20 02.8**	**+0.1**
ULM				IAmb	IAmb	16 20 03.9	
	comp=Z,7.9nm,0.6s						
BW06	**Boulder Array**	**48.06**	**324**	P	**P**	**16 20 09.2**	**0.0**
BW06	**Boulder Array**	**48.06**	**324**	P	**P**	**16 20 10.1**	**+0.8**
	baz=128						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**16 20 10.0**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=125,slow=8.8,SNR=21						
PDAR				PcP	**PcP**	**16 21 34.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=132,slow=1.3,SNR=2.2						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**16 20 09.8**	**+0.5**
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**16 20 10.7**	**+1.4**
	comp=Z,14nm,0.5s,baz=195,slow=6.5,SNR=49						
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**16 20 10.2**	**+0.9**
HEC	**Hector,Ludlow**	**48.50**	**311**	P	**P**	**16 20 14.0**	**+1.5**
	baz=115						
DUG	**Dugway, Tooele**	**48.60**	**319**	P	**P**	**16 20 14.5**	**+1.3**
DUG	**Dugway, Tooele**	**48.60**	**319**	P	**P**	**16 20 15.0**	**+1.7**
	baz=122						
GSC	**Goldstone, Bar**	**49.05**	**312**	P	**P**	**16 20 18.4**	**+1.7**
	baz=115						
DGMT	**Dagmar**	**49.13**	**333**	P	**P**	**16 20 18.9**	**+1.9**
	baz=137						
RLMT	**Red Lodge**	**49.36**	**327**	P	**P**	**16 20 20.2**	**+1.1**
	baz=130						
R11A	**Troy Canyon, C**	**49.53**	**316**	P	**P**	**16 20 22.1**	**+1.7**
	baz=118,SNR=6.4						
EDW2	**Edwards Air Fo**	**49.76**	**311**	P	**P**	**16 20 22.6**	**+0.4**
	baz=114						
BOZ	**Bozeman (W)**	**50.96**	**326**	P	**P**	**16 20 32.4**	**+1.3**
	baz=127,SNR=6.0						
**HLID

J20K	**Nowinta River**	**79.97**	**334**	P	**P**	**16 23 37.6 +0.8**
	baz=95					
TTA	**Tatalina**	**80.71**	**333**	P	**P**	**16 23 40.9 -0.1**
NBO00	**NORSAR Array S**	**81.11**	**29**	P	**P**	**16 23 42.6 -0.3**
NB2	**NORSAR Subarra**	**81.32**	**29**	P	**P**	**16 23 44.6 +0.4**
	comp=Z,1.3nm,0.7s,baz=267,slow=5.3					
NOA	**NORSAR Array B**	**81.32**	**29**	P	**P**	**16 23 44.6 +0.4**
	comp=Z,0.4nm,0.6s,baz=267,slow=5.4,SNR=3.9					
ARCES	**ARCESS Array B**	**86.66**	**20**	P	**P**	**16 24 11.1 +0.1**
	comp=Z,2.3nm,0.9s,baz=282,slow=4.0,SNR=10					
ARCES	**ARCESS Array B**	**86.66**	**20**	P	**P**	**16 24 10.9 -0.1**
ARCES				IAmb	IAmb	16 24 27.4
	comp=Z,5.6nm,1.1s					
FINES	**FINESS Array B**	**88.43**	**28**	P	**P**	**16 24 19.6 +0.1**
	comp=Z,0.6nm,0.8s,baz=328,slow=5.1,SNR=1.2					
FINES	**FINESS Array B**	**88.43**	**28**	P	**P**	**16 24 17.5 -2.1**
QSPA	**South Pole Qui**	**96.85**	**180**	P	**P**	**16 24 56.2 -2.2**
ZALV	**Zalesovo Beam**	**116.66**	**14**	PKP	**PKPdf**	**16 30 11.0 +0.1**
	comp=Z,0.7nm,0.3s,baz=259,slow=1.5,SNR=4.2					
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKPdf**	**16 30 21.6 -0.4**
	comp=Z,0.6nm,0.4s,baz=304,slow=2.5,SNR=16					
KSH	**Kashi**	**125.74**	**29**	PKP	**PKiKP**	**16 30 29.5 +0.1**
PZH	**PanZhiHua**	**146.49**	**8**	PKPbc	**PKPdf**	**16 31 07.5 0.0**
ASAR	**Alice Springs**	**149.11**	**234**	PKP	**PKPdf**	**16 31 11.6 -0.2**
	comp=Z,3.8nm,0.6s,baz=115,slow=3.5,SNR=24					
ASAR				PKPbc	**PKPbc**	**16 31 15.4 -0.7**
	comp=Z,3.9nm,0.5s,baz=114,slow=3.8,SNR=18					
WB2	**Warramunga Arr**	**150.33**	**241**	PKPbc	**PKPbc**	**16 31 18.6 -0.5**
WRAB	**Tennant Creek**	**150.33**	**241**	PKPbc	**PKPbc**	**16 31 18.5 -0.6**
WRA	**Warramunga Arr**	**150.34**	**241**	PKP	**PKPdf**	**16 31 13.8 0.0**
	comp=Z,3.5nm,0.4s,baz=105,slow=2.8,SNR=3.0					
WRA				PKPbc	**PKPbc**	**16 31 18.7 -0.5**
	comp=Z,3.5nm,0.4s,baz=106,slow=2.9,SNR=114					
WRA				PKPab	**PKPab**	**16 31 26.3 +0.4**
	comp=Z,0.4nm,0.4s,baz=109,slow=2.7,SNR=6.5					
WB0	**Warramunga Arr**	**150.35**	**242**	PKPbc	**PKPbc**	**16 31 18.6 -0.6**
CMAR	**Chiang Mai Arr**	**153.68**	**17**	PKP	**PKPdf**	**16 31 19.2 +0.4**
	comp=Z,1.2nm,0.3s,baz=300,slow=0.7,SNR=2.1					
CMAR				PKPbc	**PKiKP**	**16 31 26.8 +0.1**
	comp=Z,1.4nm,0.3s,baz=342,slow=3.1,SNR=5.6					

*IDC **30** 16:26:33.1±1.5, 1°.32N×121°.00E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/36, mbtmp3.8/5, ML3.6/1, MS2.5/1, Ms1 2.5/1, ms1mx2.1/81, Error ellipse: s-maj=170.3km s-min=24.9km az=62.0*

*DJA **30** 16:26:36.4±0.3, 1°N±2°×12°.0E±°, h10km, M3.9/13, mb3.9/5, MLv3.9/13*

ISC 30 16:26:35.4±1.1, 1°.08N±0°.08×120°.50E±0°.04, h10km, n18, σ1ş40/22, mb3.8/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.95**	**219**	P	**Pb**	**16 26 53.7**	**-0.3**
MPSI				S	**Sb**	**16 27 06.5**	**-0.1**
MRSI	**Marisa**	**1.56**	**113**	P	**Pg**	**16 27 05.4**	**0.0**
MRSI				S	**Sg**	**16 27 26.9**	**+1.2**
APSI	**Ampana**	**2.29**	**150**	P	**Pb**	**16 27 17.3**	**+0.5**
APSI				S	**Sg**	**16 27 49.0**	**0.0**
GTOI	**Gorontalo**	**2.55**	**100**	P	**Pn**	**16 27 18.4**	**+1.6**
GTOI				S	**Sb**	**16 27 50.6**	**-2.1**
LUWI	**Luwuk**	**3.10**	**133**	P	**Pb**	**16 27 28.5**	**-2.1**
KMSI	**Cibinong**	**3.52**	**98**	P	**Pb**	**16 27 36.9**	**-0.9**
KMSI				S	**Sb**	**16 28 23.3**	**+2.7**
TTSI	**Tana Toraja**	**4.15**	**189**	P	**Pn**	**16 27 40.8**	**+1.9**
SPSI	**Sidrap Palu**	**5.06**	**188**	P	**Pn**	**16 27 51.3**	**-0.1**
	0.1nm15nm,0.8s						
MTKI	**Muara Teweh, K**	**5.95**	**250**	P	**Pn**	**16 28 05.6**	**+2.0**
SANI	**Sanana**	**6.31**	**120**	P	**Pn**	**16 28 09.6**	**+1.1**
	0.0nm7.1nm,0.8s						
BBSI	**Bau Bau**	**6.84**	**162**	P	**Pn**	**16 28 16.8**	**+0.9**
	0.0nm2.4nm,0.7s						
LBMI	**Labuha**	**7.21**	**104**	P	**Pn**	**16 28 22.3**	**+1.4**
DAV	**Davao City (W)**	**7.81**	**40**	LR	LR	16 30 58.0	
	comp=Z,39nm,21.8s,baz=264,slow=36						
FITZ	**Fitzroy Crossi**	**19.72**	**165**	P	**P**	**16 31 05.2**	**0.0**
	0.1nm,0.3s,baz=342,slow=7.4,SNR=7.1						
WRA	**Warramunga Arr**	**24.91**	**148**	P	**P**	**16 31 57.2**	**-1.7**
	1.7nm,0.5s,baz=323,slow=11,SNR=12						
ASAR	**Alice Springs**	**27.84**	**153**	P	**P**	**16 32 24.6**	**-0.7**
	0.7nm,0.4s,baz=339,slow=13,SNR=12						
STKA	**Stephens Creek**	**38.39**	**150**	P	**P**	**16 33 56.2**	**-0.8**
	1.3nm,0.5s,baz=336,slow=9.0,SNR=5.4						
MKAR	**Makanchi Array**	**56.40**	**329**	P	**P**	**16 36 16.6**	**-0.4**
	0.2nm,0.5s,baz=125,slow=9.8,SNR=4.2						

*NEIC **30** 16:33:27.4±2.0, 0°.07N±0°.09×123°.49E±0°.07, h128km±9km, mb4.2/10, Error ellipse: s-maj=13.4km s-min=10.2km az=164.0*

*DJA **30** 16:33:28.1±0.1, 0°S±2°×12°.3E±°, h135km±2km, M4.3/19, mb4.5/17, mB4.7/7, MLv4.5/19, Mw(mB)3.9/7*

*IDC **30** 16:33:28.8±1.4, 0°.07N×123°.46E, h146km±13km, mb3.8/16, mb1 3.9/19, mb1mx3.8/32, mbtmp4.2/19, MS3.0/2, Ms1 3.1/2, ms1mx2.4/79, Error ellipse: s-maj=15.6km s-min=9.2km az=83.0*

ISC 30 16:33:28.8±0.5, 0°.02N±0°.04×123°.49E±0°.04, h148km±5km, n106, σ1ş47/127, mb4.3/33, 1C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.74**	**41**	P	**Pn**	**16 33 51.3**	**0.0**
KMSI				S	**Sn**	**16 34 08.1**	**-0.4**
GTOI	**Gorontalo**	**0.78**	**322**	P	**Pn**	**16 33 52.2**	**+0.6**
GTOI				S	**Sn**	**16 34 09.4**	**+0.3**
LUWI	**Luwuk**	**1.27**	**214**	Pn	**Pn**	**16 33 53.6**	**-2.3**
LUWI	**Luwuk**	**1.27**	**214**	P	**Pn**	**16 33 53.6**	**-2.3**
LUWI				S	**Sn**	**16 34 12.5**	**-4.1**
LUWI	**Luwuk**	**1.27**	**214**	P	**Pn**	**16 33 54.3**	**-1.6**
MRSI	**Marisa**	**1.62**	**286**	P	**Pn**	**16 33 57.6**	**-1.8**
MRSI				S	**Sn**	**16 34 18.6**	**-4.3**
APSI	**Ampana**	**2.06**	**243**	P	**Pn**	**16 34 03.3**	**-1.2**
APSI				S	**Sn**	**16 34 28.2**	**-3.7**
TOLI2	**Tolitoli**	**2.92**	**292**	Pn	**Pn**	**16 34 13.8**	**-1.3**
TOLI2	**Tolitoli**	**2.92**	**292**	P	**Pn**	**16 34 14.6**	**-0.5**
SANI	**Sanana**	**3.23**	**129**	P	**Pn**	**16 34 16.6**	**-2.4**
SANI	**Sanana**	**3.23**	**129**	P	**Pn**	**16 34 16.8**	**-2.2**
MPSI	**Mapaga**	**3.61**	**275**	P	**Pn**	**16 34 23.3**	**-0.6**
MPSI				S	**Sn**	**16 35 05.9**	**-0.7**
TNTI	**Ternate**	**3.95**	**79**	Pn	**Pn**	**16 34 27.5**	**-0.8**
TNTI	**Ternate**	**3.95**	**79**	P	**Pn**	**16 34 27.5**	**-0.8**
TNTI				S	**Sn**	**16 35 10.8**	**-3.7**
TNTI	**Ternate**	**3.95**	**79**	P	**Pn**	**16 34 27.8**	**-0.5**
LBMI	**Labuha**	**4.06**	**99**	P	**Pn**	**16 34 28.6**	**-1.2**
TTSI	**Tana Toraja**	**4.77**	**230**	P	**Pn**	**16 34 38.6**	**-0.5**
TTSI				S	**Sn**	**16 35 30.5**	**-3.4**
SPSI	**Sidrap Palu**	**5.43**	**223**	P	**Pn**	**16 34 48.7**	**+0.8**
	0.3nm914nm46nm,0.4s						
SPSI				S	**Sn**	**16 35 47.2**	**-2.5**
	0.3nm914nm46nm,0.4s						
BNSI	**Bone**	**5.54**	**218**	P	**Pn**	**16 34 49.6**	**+0.2**
	0.4nm43nm,0.6s						
BNSI				S	**Sn**	**16 35 50.7**	**-1.6**
	0.4nm43nm,0.6s						
BBSI	**Bau Bau**	**5.54**	**190**	P	**Pn**	**16 34 48.9**	**-0.5**
	0.0nm104nm6.9nm,0.5s						
BBSI				S	**Sn**	**16 35 49.8**	**-2.6**
	0.0nm104nm6.9nm,0.5s						
AAI	**Ambon**	**5.97**	**128**	P	**Pn**	**16 34 55.4**	**+0.3**
	0.3nm1μm102nm,0.9s						
AAI				S	**Sn**	**16 36 02.0**	**-0.5**
	0.3nm1μm102nm,0.9s						
KAPI	**Kappang**	**6.24**	**217**	P	**Pn**	**16 34 59.4**	**+0.7**
	2.8nm,0.3s,baz=23,slow=11,SNR=7.8						
KAPI				S	**Sn**	**16 36 08.2**	**-0.9**
	10.0nm,0.3s,baz=5.1,slow=21,SNR=7.4						
KAPI	**Kappang**	**6.24**	**217**	Pn	**Pn**	**16 34 59.2**	**+0.5**
KAPI	**Kappang**	**6.24**	**217**	P	**Pn**	**16 34 59.1**	**+0.4**
MSAI	**Masohi**	**6.38**	**122**	P	**Pn**	**16 35 01.5**	**+1.0**
	0.1nm567nm14nm,0.5s						
MSAI				S	**Sn**	**16 36 12.5**	**+0.1**
	0.1nm567nm14nm,0.5s						
MYLDM	**Lahad Datu**	**7.15**	**316**	Pn	**Pn**	**16 35 13.8**	**+2.9**
SWI	**Sorong**	**7.82**	**96**	P	**Pn**	**16 35 19.5**	**-0.3**
	0.1nm32nm,1.0s						
SWI				S	**Sn**	**16 36 44.4**	**-2.6**
	0.1nm32nm,1.0s						
SIJI	**Sorong**	**7.82**	**96**	P	**Pn**	**16 35 20.4**	**+0.5**
	3.0nm,0.3s,baz=291,slow=9.0,SNR=16						
BNDI	**Bandanaira**	**7.83**	**125**	P	**Pn**	**16 35 20.7**	**+0.7**
BIPH	**Bislig**	**8.60**	**19**	eP	**Pn**	**16 35 26.3**	**-4.0**
BIPH				i S	**Sn**	**16 37 07.0**	**+1.0**
BBKI	**Banjar Baru**	**9.31**	**248**	P	**Pn**	**16 35 37.4**	**-2.3**
BATI	**Baumata**	**10.16**	**179**	P	**Pn**	**16 35 53.0**	**+2.0**
	1.4nm,0.3s,baz=14,slow=4.2,SNR=5.3						
PLAI	**Plampang**	**10.47**	**213**	P	**Pn**	**16 35 56.8**	**+1.7**
JAGI	**Jajag, Banyuwa**	**12.56**	**228**	P	**Pn**	**16 36 23.0**	**+0.6**
MTN	**Manton Dam**	**14.85**	**150**		**Pn**	**16 36 52.1**	**+0.5**
KDU	**Kakadu**	**15.45**	**145**	P	**Pn**	**16 36 58.9**	**0.0**
KNRA	**Kununurra**	**16.44**	**162**		**P**	**16 37 12.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**18.12**	**173**	P	**P**	**16 37 30.2**	**+0.6**
	2.2nm,0.3s,baz=1.3,slow=7.6,SNR=79						
DSRI	**Dabo**	**18.92**	**268**	P	**P**	**16 37 38.4**	**0.0**
	17nm,0.8s						
WB0	**Warramunga Arr**	**22.38**	**152**	P	**P**	**16 38 14.7**	**-0.3**
WB0				IAmb	IAmb	16 38 16.4	
	comp=Z,8.3nm,0.8s						
WRAB	**Tennant Creek**	**22.50**	**152**	P	**P**	**16 38 16.1**	**0.0**
WRAB				IAmb	IAmb	16 38 17.7	
	comp=Z,8.2nm,0.7s						
WRAB	**Tennant Creek**	**22.50**	**152**	P	**P**	**16 38 16.3**	**+0.1**
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**16 38 16.4**	**+0.2**
	comp=Z,7.3nm,0.5s,baz=332,slow=10,SNR=190						
WRA				PcP	**PcP**	**16 42 05.6**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=331,slow=2.2,SNR=3.0						
WRA				ScP	**ScP**	**16 45 29.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=348,slow=2.8,SNR=4.8						
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**16 38 14.8**	**-1.4**
WB2	**Warramunga Arr**	**22.51**	**152**	P	**P**	**16 38 16.4**	**+0.1**
WR0	**Warramunga Arr**	**22.61**	**152**	P	**P**	**16 38 17.1**	**-0.1**
WR0				IAmb	IAmb	16 38 25.8	
	comp=Z,6.8nm,0.5s						
TPUB	**Ta-pu**	**23.31**	**353**	P	**P**	**16 38 24.9**	**+1.2**
KULM	**Kulim**	**23.40**	**283**	P	**P**	**16 38 24.0**	**-0.6**
KULM				IAmb	IAmb	16 38 26.6	
	comp=Z,11nm,0.8s						
SSLB	**Suanglung**	**23.76**	**354**	P	**P**	**16 38 29.1**	**+1.3**
COEN	**Coen**	**23.93**	**126**	P	**P**	**16 38 30.7**	**+1.3**
YHNB	**Yeheng**	**24.59**	**355**	P	**P**	**16 38 37.5**	**+2.1**
WRKA	**Warakurna**	**25.34**	**170**	P	**P**	**16 38 42.9**	**+0.8**
AS31	**Alice Springs**	**25.62**	**157**	P	**P**	**16 38 45.5**	**+0.9**
ASAR	**Alice Springs**	**25.62**	**157**	P	**P**	**16 38 45.4**	**+0.7**
	comp=Z,2.0nm,0.4s,baz=342,slow=13,SNR=42						
ASAR				PcP	**PcP**	**16 42 12.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=351,slow=2.3,SNR=9.1						
ASAR				ScP	**ScP**	**16 45 37.3**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=340,slow=3.1,SNR=6.6						
ASAR	**Alice Springs**	**25.62**	**157**	P	**P**	**16 38 46.4**	**+1.7**
QIS	**Mount Isa**	**25.82**	**143**	P	**P**	**16 38 48.3**	**+1.8**
JOW	**Kunigami**	**27.06**	**9**	LR	LR	16 51 19.2	
	comp=Z,25nm,18.6s,baz=206,slow=40						
CMAR	**Chiang Mai Arr**	**30.29**	**309**	P	**P**	**16 39 27.4**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=137,slow=7.2,SNR=22						
CMAR				LR	LR	16 53 01.4	
	comp=Z,28nm,18.7s,baz=175,slow=39						
FORT	**Forrest**	**30.93**	**172**	P	**P**	**16 39 32.1**	**+0.4**
BLDU	**Ballidu**	**31.14**	**191**	P	**P**	**16 39 33.1**	**-0.5**
MULG	**Mulgathing**	**31.76**	**162**	P	**P**	**16 39 40.1**	**+1.0**
KLBR	**Kellerberrin**	**31.90**	**189**	P	**P**	**16 39 39.9**	**-0.4**
INKA	**Innaminka**	**32.18**	**150**	P	**P**	**16 39 43.8**	**+1.0**
JCJ	**Chichijima**	**32.37**	**32**	P	**P**	**16 39 44.4**	**-0.1**
	comp=Z,56nm,0.3s,baz=255,slow=16,SNR=12						
JCJ	**Chichijima**	**32.37**	**32**	P	**P**	**16 39 44.6**	**+0.2**
LCRK	**Leigh Creek**	**33.38**	**156**	P	**P**	**16 39 54.0**	**+0.9**
STKA	**Stephens Creek**	**36.05**	**153**	P	**P**	**16 40 17.3**	**+1.3**
	comp=Z,6.4nm,0.7s,baz=327,slow=9.1,SNR=9.0						
HTT	**Hallett**	**36.30**	**158**	P	**P**	**16 40 19.9**	**+1.7**
XAN	**Xi'an**	**36.50**	**339**	P	**P**	**16 40 20.3**	**+0.4**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSRS	**Korea Array**	**37.48**	**6**	P	**P**	**16 40 27.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=182,slow=11,SNR=4.3						
CMSA	**Cobar Meteorol**	**37.77**	**148**	P	**P**	**16 40 32.8**	**+2.1**
MJAR	**Matsushiro Arr**	**38.83**	**19**	P	**P**	**16 40 38.3**	**-1.1**
	comp=Z,3.0nm,0.8s,baz=186,slow=9.3,SNR=13						
ARPS	**Mount Arapiles**	**40.36**	**157**	P	**P**	**16 40 53.7**	**+1.6**
ARMA	**Armidale**	**40.39**	**141**	P	**P**	**16 40 55.3**	**+2.7**
CAN	**Canberra**	**42.45**	**149**	P	**P**	**16 41 11.9**	**+2.7**
ODAN	**Odare**	**43.79**	**310**	eP	**P**	**16 41 21.3**	**+1.0**
TAPN	**Taplejung**	**43.80**	**311**	eP	**P**	**16 41 21.0**	**+0.5**
RAMN	**Ramite**	**44.44**	**310**	eP	**P**	**16 41 26.1**	**+0.6**
	comp=Z,8.1nm,0.3s						
USRK	**Ussuriysk Ar.**	**44.64**	**9**	P	**P**	**16 41 26.1**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=184,slow=5.5,SNR=14						
GTA	**Gaotai**	**44.79**	**334**	‖P	**P**	**16 41 29.5**	**+1.5**
GTA				pP	pP	16 41 52.0	-9.1
GTA				sP	sP	16 42 03.0	-15
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GUN	**Gumba**	**45.48**	**311**	eP	**P**	**16 41 34.0**	**+0.1**
	comp=Z,16nm,0.5s						
PKI	**Pulchoki**	**45.66**	**310**	eP	**P**	**16 41 35.7**	**+0.4**
	comp=Z,4.9nm,0.3s						
PKIN	**Phulchoki**	**45.68**	**310**	eP	**P**	**16 41 35.7**	**+0.4**
	comp=Z,4.5nm,0.3s						
KKN	**Kakani**	**45.87**	**310**	eP	**P**	**16 41 37.3**	**+0.5**
DMN	**Daman**	**45.92**	**310**	eP	**P**	**16 41 37.9**	**+0.7**
GKN	**Gorkha**	**46.47**	**310**	eP	**P**	**16 41 41.9**	**+0.5**
	comp=Z,9.9nm,0.3s						
KOLN	**Koldanda**	**47.16**	**309**	eP	**P**	**16 41 47.7**	**+0.9**
DANN	**Dangsing**	**47.32**	**310**	eP	**P**	**16 41 47.9**	**-0.2**
	comp=Z,52nm,0.8s						
PYUN	**Piuthan**	**47.79**	**309**	eP	**P**	**16 41 52.6**	**+0.9**
	comp=Z,58nm,0.9s						
ULN	**Ulaanbaatar**	**49.76**	**346**	P	**P**	**16 42 05.4**	**-0.9**
ULN				IAmb	IAmb	16 42 07.9	
	comp=Z,3.3nm,0.8s						
SONM	**Songino Array**	**49.90**	**345**	P	**P**	**16 42 07.8**	**+0.5**
	comp=Z,4.8nm,0.8s,baz=152,slow=7.8,SNR=5.3						
KSH	**Kashi**	**58.49**	**318**	P	**P**	**16 43 08.8**	**-0.9**
KSH				PcP	**sP**	**16 44 03.0**	**+2.2**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MK31	**Makanchi Array**	**58.86**	**328**	P	**P**	**16 43 11.4**	**-0.6**
MK31				IAmb	IAmb	16 43 13.6	
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**58.86**	**328**	P	**P**	**16 43 11.7**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=126,slow=8.5,SNR=28						
MKAR				PcP	**PcP**	**16 43 58.7**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=129,slow=3.8,SNR=4.0						
MKAR	**Makanchi Array**	**58.86**	**328**	P	**P**	**16 43 11.4**	**-0.6**
PETK	**Petropavlovsk-**	**60.08**	**23**	P	**P**	**16 43 20.7**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=204,slow=4.0,SNR=9.1						
ZALV	**Zalesovo Beam**	**62.50**	**335**	P	**P**	**16 43 35.8**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=116,slow=6.8,SNR=8.6						
ZALV	**Zalesovo Beam**	**62.50**	**335**	P	**P**	**16 43 34.8**	**-1.6**
NRIK	**Noril'sk**	**73.29**	**347**	P	**P**	**16 44 42.8**	**-0.8**
	comp=Z,0.9nm,0.2s,baz=146,slow=5.0,SNR=6.8						
VNDA	**Vanda**	**80.19**	**172**	P	**P**	**16 45 23.1**	**+0.9**
	comp=Z,0.5nm,0.2s,baz=325,slow=9.5,SNR=9.3						
KLMR	**Klimovskoe**	**87.04**	**331**	eP	**P**	**16 45 54.2**	**-3.1**
KLMR				AMP		16 45 57.2	
	comp=Z,7.0nm,0.9s						
ILAR	**Eielson Array**	**89.82**	**25**	P	**P**	**16 46 09.2**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=222,slow=5.4,SNR=4.6						
ARCES	**ARCESS Array B**	**92.79**	**340**	P	**P**	**16 46 23.6**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=69,slow=4.0,SNR=6.9						
FINES	**FINESS Array B**	**93.54**	**331**	P	**P**	**16 46 25.9**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=98,slow=3.9,SNR=4.9						
YKA	**Yellowknife Ar**	**104.19**	**24**	PKiKP	**PKiKP**	**16 51 31.0**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=297,slow=1.9,SNR=4.0						
TXAR	**Lajitas Array**	**126.41**	**53**	PKP	**PKiKP**	**16 52 15.3**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=297,slow=1.1,SNR=4.9						

IDC 30 16:46:17.7±3.0, 21°.78N×145°.27E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/40, mbtmp3.4/4, Error ellipse: s-maj=140.3km s-min=27.0km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.82**	**195**	P	P	16 54 17.6	0.0
	0.3nm,0.4s,baz=17,slow=8.8,SNR=9.8						
ASAR	**Alice Springs**	**46.51**	**194**	P	P	16 54 46.7	-0.3
	0.1nm,0.5s,baz=13,slow=6.8,SNR=5.8						
MKAR	**Makanchi Array**	**56.07**	**312**	P	P	16 55 58.5	-0.1
	0.1nm,0.6s,baz=78,slow=7.5,SNR=2.0						
FINES	**FINESS Array B**	**83.93**	**335**	P	P	16 58 49.4	0.0
	0.5nm,0.4s,baz=66,slow=4.7,SNR=11						

*IDC **30** 16:53:32.9±2.6, 58°.47N×148°.47W, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.4/35, mbtmp3.4/5, ML3.0/3, Error ellipse: s-maj=40.9km s-min=32.6km az=113.0*

*NEIC **30** 16:53:35.6±1.4, 58°.51N±0°.09×147°.70W±0°.09, h27km±8km, Error ellipse: s-maj=13.3km s-min=6.7km az=180.0*

*AEIC **30** 16:53:37.1±1.5, 58°.62N±0°.08×147°.67W±0°.08, h33km±8km, ML2.9, ML3.2/64(NEIC), Error ellipse: s-maj=11.1km s-min=5.9km az=171.0*

ISC 30 16:53:37.3±1.3, 58°.58N±0°.09×147°.67W±0°.05, h35km, n90, σ0ş83/81, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEW	**Seward**	**1.78**	**330**		**Pn**	**16 54 04.5**	**-0.9**
SEW					**Sn**	**16 54 25.5**	**-1.2**
BRSE	**Bradley Lake S**	**1.96**	**308**		**Pn**	**16 54 07.3**	**-0.7**
BRSE					**Sn**	**16 54 29.4**	**-2.0**
BRLK	**Bradley Lake**	**2.03**	**307**		**Pn**	**16 54 08.5**	**-0.5**
CNPM	**China Poot**	**2.07**	**299**		**Pn**	**16 54 09.1**	**-0.4**
O22K	**Cooper Landing**	**2.17**	**332**		**Pn**	**16 54 10.9**	**+0.1**
EYAK	**Cordova Ski Ar**	**2.20**	**26**		**Pn**	**16 54 10.5**	**-0.8**
FID	**Port Fidalgo**	**2.26**	**15**		**Pn**	**16 54 11.0**	**-1.1**
FID					**Sn**	**16 54 36.3**	**-2.4**
FID	**Port Fidalgo**	**2.26**	**15**	IAML		16 54 37.2	
	comp=E,130nm,0.4s						
FID				IAML		16 54 37.6	
	comp=N,113nm,0.5s						
PWL	**Port Wells**	**2.31**	**352**		**Pn**	**16 54 12.1**	**-0.7**
PWL	**Port Wells**	**2.31**	**352**	IAML		16 54 49.5	
	comp=E,89nm,0.7s						
GLI	**Glacier Island**	**2.32**	**7**		**Pn**	**16 54 12.1**	**-0.8**
GLI					**Sn**	**16 54 39.5**	**-0.7**
GLI	**Glacier Island**	**2.32**	**7**	IAML		16 54 40.0	
	comp=E,123nm,0.7s						
SLKM	**Skilak Lake**	**2.33**	**327**		**Pn**	**16 54 12.4**	**-0.7**
GOAT	**Goat Mountain**	**2.50**	**36**		**Pn**	**16 54 15.0**	**-0.5**
GOAT					**Sn**	**16 54 43.4**	**-1.4**
JPK	**Jack Peak**	**2.54**	**12**		**Pn**	**16 54 15.8**	**-0.1**
KDAK	**Kodiak Island**	**2.72**	**255**		**Pn**	**16 54 18.6**	**+0.2**
KDAK	**Kodiak Island**	**2.72**	**255**	IAML		16 55 09.8	
	comp=E,83nm,3.0s						
KDAK				IAML		16 55 32.7	
	comp=E,81nm,2.4s						
RC01	**Rabbit Creek A**	**2.72**	**338**		**Pn**	**16 54 18.0**	**-0.4**
DIV	**Divide**	**2.73**	**20**		**Pn**	**16 54 18.5**	**-0.1**
GRIN	**Grindle Hills**	**2.80**	**51**		**Pn**	**16 54 18.5**	**-1.1**
GRIN					**Sn**	**16 54 50.7**	**-1.4**
BMRM	**Bremner River**	**2.85**	**32**		**Pn**	**16 54 19.8**	**-0.5**
BMRM	**Bremner River**	**2.85**	**32**	IAML		16 54 53.5	
	comp=E,68nm,0.7s						
BMRM				IAML		16 54 57.1	
	comp=N,76nm,3.0s						
KNK	**Knik Glacier**	**2.87**	**352**		**Pn**	**16 54 20.3**	**-0.1**
KLU	**Klutina**	**3.05**	**16**		**Pn**	**16 54 22.7**	**-0.3**
KLU	**Klutina**	**3.05**	**16**	IAML		16 54 58.0	
	comp=E,50nm,0.4s						
KLU				IAML		16 54 58.3	
	comp=N,66nm,0.5s						
WAX	**Waxell Ridge**	**3.09**	**51**		**Pn**	**16 54 22.6**	**-0.9**
PMR	**Palmer**	**3.11**	**347**		**Pn**	**16 54 23.9**	**+0.2**
RSO	**Redoubt South**	**3.20**	**308**		**Pn**	**16 54 24.4**	**-0.8**
RDWB	**Redoubt West**	**3.25**	**308**		**Pn**	**16 54 25.3**	**-0.5**
SML	**Sawmill**	**3.25**	**354**		**Pn**	**16 54 26.4**	**+0.7**
SML	**Sawmill**	**3.25**	**354**	IAML		16 55 05.2	
	comp=E,69nm,0.9s						
SML				IAML		16 55 12.9	
	com

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.97**	**117**	P		17 13 01.5	+0.1
	0.5nm,0.3s,baz=266,slow=8.9,SNR=3.7						
FITZ	**Fitzroy Crossi**	**19.38**	**183**	P		17 16 07.8	+0.8
	0.1nm,0.3s,baz=4.3,slow=8.7,SNR=6.8						
WRA	**Warramunga Arr**	**22.43**	**161**	P		17 16 39.1	-0.5
	1.1nm,0.3s,baz=340,slow=11,SNR=34						
WRA				S		17 20 39.8	+0.9
	0.3nm,0.6s,baz=334,slow=21,SNR=4.6						
ASAR	**Alice Springs**	**25.82**	**165**	P		17 17 11.0	0.0
	0.2nm,0.3s,baz=349,slow=14,SNR=17						
MKAR	**Makanchi Array**	**59.54**	**326**	P		17 21 41.7	-0.1
	0.3nm,0.4s,baz=122,slow=7.7,SNR=8.2						

*IDC **30** 17:25:45.5±1.8, 1°.01N×124°.52E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, Error ellipse: s-maj=195.7km s-min=23.5km az=63.0*
*NEIC **30** 17:26:08.5±3.0, 0°.30N±0°.09×123°.87E±0°.04, h206km±10km, mb4.2/8, Error ellipse: s-maj=12.6km s-min=5.2km az=187.0*
*DJA **30** 17:26:09.1±0.4, 0°.N±3°×12°.4E±°, h188km±4km, M3.8/13, mb3.7/3, MLv3.8/13*
ISC 30 17:26:08.1±0.7, 0°.28N±0°.06×123°.88E±0°.04, h209km±7km, n31, σ1§71/42, mb4.0/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.31**	**19**	P	**Pn**	**17 26 36.6**	**+0.9**
KMSI				S	**Sn**	**17 26 57.1**	**-0.1**
GTOI	**Gorontalo**	**0.94**	**292**	P	**Pn**	**17 26 40.1**	**+1.7**
GTOI				S	**Sn**	**17 27 03.3**	**+1.5**
LUWI	**Luwuk**	**1.71**	**220**		**Pn**	**17 26 44.4**	**-0.2**
LUWI				Sn	**Sn**	**17 27 10.6**	**-2.3**
LUWI	**Luwuk**	**1.71**	**220**	P	**Pn**	**17 26 44.3**	**-0.2**
LUWI				S	**Sn**	**17 27 11.1**	**-1.8**
MRSI	**Marisa**	**1.95**	**276**	P	**Pn**	**17 26 46.7**	**0.0**
MRSI				S	**Sn**	**17 27 14.3**	**-2.5**
APSI	**Ampana**	**2.52**	**242**	P	**Pn**	**17 26 53.5**	**+0.7**
APSI				S	**Sn**	**17 27 24.7**	**-3.0**
SANI	**Sanana**	**3.13**	**138**	P	**Pn**	**17 26 59.7**	**0.0**
SANI				S	**Sn**	**17 27 35.8**	**-4.5**
TOLI2	**Tolitoli**	**3.20**	**285**		**Pn**	**17 27 00.5**	**-0.1**
TOLI2				Sn	**Sn**	**17 27 39.6**	**-2.2**
TNTI	**Ternate**	**3.52**	**82**		**Pn**	**17 27 04.8**	**+0.4**
TNTI				Sn	**Sn**	**17 27 45.2**	**-3.4**
TNTI	**Ternate**	**3.52**	**82**	P	**Pn**	**17 27 04.3**	**-0.1**
TNTI				S	**Sn**	**17 27 45.9**	**-2.7**
LBMI	**Labuha**	**3.74**	**104**	P	**Pn**	**17 27 07.5**	**+0.5**
MPSI	**Mapaga**	**3.98**	**271**	P	**Pn**	**17 27 11.1**	**+1.1**
MPSI				S	**Sn**	**17 27 57.0**	**-1.6**
AAI	**Ambon**	**5.84**	**132**	P	**Pn**	**17 27 36.0**	**+2.5**
KAPI	**Kappang**	**6.68**	**218**	Pn	**Pn**	**17 27 43.0**	**-1.3**
DAV	**Davao City (W)**	**6.96**	**14**	Pn	**Pn**	**17 27 46.2**	**-1.7**
MYLDM	**Lahad Datu**	**7.25**	**312**	Pn	**Pn**	**17 27 50.2**	**-1.5**
KSM	**Kuching**	**13.62**	**275**		**P**	**17 29 16.4**	**+1.1**
MTN	**Manton Dam**	**14.89**	**151**	P	**Pn**	**17 29 30.0**	**+1.3**
KNRA	**Kununurra**	**16.57**	**163**	P	**P**	**17 29 49.8**	**+2.0**
WB0	**Warramunga Arr**	**22.43**	**153**	P	**P**	**17 30 50.5**	**+0.8**
WB0				IAmb	IAmb	17 30 52.2	
	comp=Z,5.9nm,0.4s						
WRA	**Warramunga Arr**	**22.56**	**154**	P	**P**	**17 30 52.3**	**+1.4**
	comp=Z,4.4nm,0.5s,baz=334,slow=10,SNR=110						
WRA	**Warramunga Arr**	**22.56**	**154**	P	**P**	**17 30 50.9**	**0.0**
WR0	**Warramunga Arr**	**22.66**	**153**	P	**P**	**17 30 52.4**	**+0.5**
WR0				IAmb	IAmb	17 31 26.3	
	comp=Z,5.5nm,1.1s						
NACB	**Ninganchiao**	**23.86**	**355**	P	**P**	**17 31 02.6**	**0.0**
AS31	**Alice Springs**	**25.72**	**158**	P	**P**	**17 31 21.1**	**+1.6**
ASAR	**Alice Springs**	**25.72**	**158**	P	**P**	**17 31 21.1**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=340,slow=8.1,SNR=13						
ASAR	**Alice Springs**	**25.72**	**158**	P	**P**	**17 31 20.8**	**+1.3**
MKAR	**Makanchi Array**	**58.84**	**328**	P	**P**	**17 35 44.3**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=120,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**58.84**	**328**	P	**P**	**17 35 44.1**	**-0.8**
KURK	**Kurchatov**	**63.18**	**330**	P	**P**	**17 36 12.2**	**-1.7**
KURK				IAmb	IAmb	17 36 16.4	
	comp=Z,2.0nm,0.9s						
VOI	**Vohitsoka**	**78.12**	**248**	P	**P**	**17 37 44.2**	**-0.6**
VOI				IAmb	IAmb	17 38 15.2	
	comp=Z,7.8nm,1.2s						

NOU 30 17:27:02.2, 15°.96S×167°.54E, h25km, MLv4.5/18, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.60**	**327**	P	Pb	17 27 14.6	+0.4
DVP	**Devils Point**	**1.86**	**161**	P	Pn	17 27 33.0	+0.5
RTP	**Rentapao**	**2.01**	**153**	P	Pn	17 27 34.6	+0.1
LIFNC	**LIFOU**	**4.80**	**183**	P	Pn	17 28 12.2	-0.7
MARNC	**Mare, Loyalty**	**5.51**	**175**	P	Pn	17 28 22.6	-0.1
	1.5nm,1.1s						
KOUNC	**Koumac, New Ca**	**5.51**	**214**	P	Pn	17 28 22.5	-0.3
YATNC	**Mamie plateau,**	**6.10**	**186**	P	Pn	17 28 30.1	-0.7
DZM	**Mont Dzumac**	**6.17**	**190**	P	Pn	17 28 31.4	-0.4
NOUC	**Port Laguerre**	**6.22**	**191**	P	Pn	17 28 32.4	-0.1
ONTNC	**Ouen Toro**	**6.40**	**189**	P	Pn	17 28 34.9	0.0
OUENC	**Ouen Island, N**	**6.46**	**186**	P	Pn	17 28 36.6	+0.9
PINNC	**Pines Island,**	**6.62**	**181**	P	Pn	17 28 38.6	+0.7

*IDC **30** 17:30:36.4±0.9, 32°.78N×130°.56E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.6/42, mbtmp3.6/10, ML2.9/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/94, Error ellipse: s-maj=17.7km s-min=7.6km az=132.0*
*NIED **30** 17:30:37.6, 32°.79N×130°.69E, h6km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=7.95; Mθθ6.53; Mϕϕ 1.43; Mrθ0.50; Mθϕ-1.97; Mϕr0.56; Fault plane solution: M0 7.61000×10¹⁴ NP1: ϕs=113.00000°, δ=44.00000°, λ=-83.00000°. NP2: ϕs=284.00000°, δ=46.00000°, λ=-96.00000°.*
*JMA **30** 17:30:37.6, 32°.79N×130°.69E, h6km, 1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs=93.00000°, δ=51.00000°, λ=-105.00000°. NP2: ϕs=297.00000°, δ=41.00000°, λ=-72.00000°. Principal axes: T Plg=5.0000°, Azm=194.0000°; N Plg=12.0000°, Azm=103.0000°; P Plg=77.0000°, Azm=306.0000°;*
JMA Felt III J1.
ISC 30 17:30:38.3±0.7, 32°.75N±0°.05×130°.60E±0°.08, h10km, n16, σ1§41/17, mb3.6/8, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.23**	**345**	↑↑P	**Pg**	**17 30 42.2**	**-0.8**
JTA				S	**Sg**	**17 30 45.7**	**-0.5**
JIU3	**Izumi3**	**0.27**	**137**	↑↑P	**Pg**	**17 30 42.9**	**-0.8**
JIU3				S	**Sg**	**17 30 46.8**	**-0.5**
JNU	**Nakatsue**	**0.44**	**32**	Pg	**Pg**	**17 30 44.8**	**-2.2**
	587nm,0.3s,baz=188,slow=14,SNR=2847						
JNU				Lg	Lg	17 30 50.5	
	2μm,0.3s,baz=351,slow=11,SNR=51						
JNU				LR	LR	17 31 11.2	
	comp=Z,1μm,18.8s,baz=142,slow=81						
KSRS	**Korea Array**	**5.19**	**336**	Pn	**Pn**	**17 31 55.0**	**-0.9**
	0.4nm,0.3s,baz=154,slow=15,SNR=4.7						
KSRS				Pg	**Pb**	**17 32 11.5**	**+2.5**
	1.0nm,0.3s,baz=152,slow=17,SNR=12						
KSRS				Lg	Lg	17 33 20.4	
	1.1nm,0.3s,baz=156,slow=30,SNR=6.4						
MJAR	**Matsushiro Arr**	**7.33**	**57**	Pn	**Pn**	**17 32 26.4**	**+1.1**
	0.2nm,0.3s,baz=244,slow=13,SNR=15						
MJAR				LR	LR	17 35 22.7	
	comp=Z,103nm,18.5s,baz=227,slow=39						
USRK	**Ussuriysk Ar.**	**11.49**	**5**	LR	LR	17 37 17.7	
	comp=Z,72nm,19.8s,baz=183,slow=35						
KLR	**Kul'dur**	**16.49**	**3**	Pn	**P**	**17 34 35.4**	**+3.1**
	0.2nm,0.3s,baz=169,slow=6.3,SNR=14						
KLR				LR	LR	17 40 14.7	
	comp=Z,39nm,20.6s,baz=227,slow=35						
PETK	**Petropavlovsk-**	**28.14**	**36**	LR	LR	17 46 16.8	
	comp=Z,28nm,21.7s,baz=178,slow=33						
MKAR	**Makanchi Array**	**39.08**	**306**	P	**P**	**17 38 05.2**	**-0.3**
	0.4nm,0.9s,baz=87,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**52.51**	**176**	P	**P**	**17 39 52.0**	**+0.2**
	0.5nm,0.8s,baz=355,slow=8.1,SNR=4.7						
ASAR	**Alice Springs**	**56.18**	**176**	P	**P**	**17 40 18.2**	**-0.2**
	0.6nm,1.0s,baz=1.6,slow=6.5,SNR=6.3						
FINES	**FINESS Array B**	**68.25**	**330**	P	**P**	**17 41 38.0**	**-0.9**
	1.2nm,0.5s,baz=68,slow=6.3,SNR=18						
AKASG	**Malin Array Be**	**71.96**	**319**	P	**P**	**17 42 01.1**	**-0.8**
	0.7nm,0.5s,baz=56,slow=7.0,SNR=5.9						
NOA	**NORSAR Array B**	**74.39**	**334**	P	**P**	**17 42 14.7**	**-1.4**
	0.4nm,0.7s,baz=50,slow=5.5,SNR=3.8						
BRTR	**Keskin Array B**	**74.70**	**307**	P	**P**	**17 42 18.1**	**-0.4**
	0.6nm,0.7s,baz=98,slow=6.6,SNR=4.1						
PDAR	**Pinedale Array**	**86.82**	**40**	P	**P**	**17 43 23.8**	**+0.4**
	0.3nm,0.7s,baz=270,slow=2.7,SNR=3.1						

*IDC **30** 17:38:40.8±0.7, 5°.97S×103°.62E, h0km, mb4.3/16, mb1 4.3/16, mb1mx4.0/40, mbtmp4.3/16, MS3.3/12, Ms1 3.3/12, ms1mx2.9/84, Error ellipse: s-maj=23.9km s-min=13.7km az=54.0*
*NEIC **30** 17:38:42.4±2.7, 6°.29S±0°.03×103°.39E±0°.06, h21km±4km, mb4.6/47, Error ellipse: s-maj=9.2km s-min=4.6km az=87.0*
*DJA **30** 17:38:48.6±0.3, 6°.S±2°×10°.4E±°, h41km±4km, M4.4/27, mB5.0/10, mb4.5/27, MLv4.7/21, Mw(mB)4.3/10*
ISC 30 17:38:46.1±1.2, 6°.18S±0°.05×103°.55E±0°.06, h48km±10km, n155, σ1§75/151, mb4.5/44, MS3.5/10, 1C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.15**	**55**	P	**Pn**	**17 39 05.0**	**-0.7**
KASI				S	**Sn**	**17 39 15.2**	**-5.1**
LWLI	**Liwa**	**1.26**	**24**	P	**Pn**	**17 39 07.0**	**-0.5**
LWLI				S	**Sn**	**17 39 22.1**	**-1.3**
KLI	**Kotabumi**	**1.84**	**45**	P	**Pn**	**17 39 16.4**	**+1.1**
KLI				S	**Sn**	**17 39 38.8**	**+1.3**
BLSI	**Bandar Lampung**	**1.87**	**64**	P	**Pn**	**17 39 16.3**	**+0.7**
BLSI				S	**Sn**	**17 39 39.2**	**+1.1**
MNAI	**Manna**	**1.91**	**342**	Pn	**Pn**	**17 39 16.8**	**+0.6**
MNAI	**Manna**	**1.91**	**342**	P	**Pn**	**17 39 17.8**	**+1.6**
MNAI				S	**Sn**	**17 39 39.5**	**+0.5**
MNAI	**Manna**	**1.91**	**342**	P	**Pn**	**17 39 17.9**	**+1.7**
SKJI	**Sukabumi**	**3.09**	**105**	P	**Pn**	**17 39 34.5**	**+2.0**
SKJI				S	**Sn**	**17 40 08.8**	**+0.6**
DBJI	**Dramaga**	**3.20**	**97**	P	**Pn**	**17 39 36.9**	**+3.0**
DBJI				S	**Sn**	**17 40 10.5**	**-0.4**
CBJI	**Citeko**	**3.29**	**94**	P	**Pn**	**17 39 37.9**	**+2.8**
CBJI				S	**Sn**	**17 40 15.7**	**+2.7**
MASI	**Maura Aman, Be**	**3.29**	**337**	P	Pn	17 39 40.4	+5.2
PMBI	**Palembang**	**3.46**	**21**	Pn	**Pn**	**17 39 36.9**	**-0.5**
PMBI	**Palembang**	**3.46**	**21**	P	**Pn**	**17 39 36.9**	**-0.5**
PMBI				S	**Sn**	**17 40 16.0**	**-1.1**
CNJI	**Cibinong**	**3.73**	**108**	P	**Pn**	**17 39 41.0**	**-0.1**
CNJI				S	**Sn**	**17 40 19.0**	**-4.8**
LEM	**Lembang**	**4.09**	**99**	Pn	**Pn**	**17 39 50.7**	**+4.4**
	18nm,0.3s,baz=25,slow=20,SNR=11						
LEM				Sn	**Sn**	**17 40 33.4**	**+0.4**
	7.1nm,0.3s,baz=307,slow=20,SNR=2.7						
LEM				LR	LR	17 41 09.4	
	comp=Z,104nm,19.2s,baz=254,slow=37						
LEM	**Lembang**	**4.09**	**99**	P	**Pn**	**17 39 49.2**	**+2.9**
JMBI	**JAMBI**	**4.52**	**1**	P	**Pn**	**17 39 52.3**	**+0.2**
KRJI	**Kerinci**	**4.57**	**333**	P	**Pn**	**17 39 54.3**	**+1.5**
XMI	**Christmas Isla**	**4.74**	**154**	P	**Pn**	**17 39 51.7**	**-3.4**
XMIS	**Christmas Isla**	**4.75**	**154**	Pn	Pn	17 39 51.1	-4.1
XMIS	**Christmas Isla**	**4.75**	**154**	P	Pn	17 39 51.4	-3.8
PPBI	**Pangkal Pinang**	**4.75**	**33**	P	**Pn**	**17 39 56.3**	**+1.0**
PPSI	**Pulau Pagai**	**4.90**	**314**	P	**Pn**	**17 39 56.9**	**-0.4**
CMJI	**Cimerak**	**5.11**	**108**	P	**Pn**	**17 40 01.1**	**+0.9**
	0.5nm1μm58nm,0.6s						
DSRI	**Dabo**	**5.76**	**10**	P	**Pn**	**17 40 10.4**	**+1.4**
	0.1nm446nm25nm,0.8s						
SISI	**Saibi**	**6.56**	**317**	P	**Pn**	**17 40 21.2**	**+1.1**
	0.2nm676nm30nm,0.6s						
BKNI	**Bangkinang**	**6.94**	**339**	Pn	**Pn**	**17 40 25.4**	**+0.2**
BKNI	**Bangkinang**	**6.94**	**339**	P	**Pn**	**17 40 26.7**	**+1.5**
	0.3nm32nm,0.5s						
UGM	**Wanagama**	**7.13**	**104**	Pn	**Pn**	**17 40 28.0**	**+0.1**
UGM	**Wanagama**	**7.13**	**104**	P	**Pn**	**17 40 30.5**	**+2.6**
	0.7nm104nm,1.9s						
UGM	**Wanagama**	**7.13**	**104**	P	**Pn**	**17 40 29.5**	**+1.6**
PCJI	**Pacitan**	**7.83**	**105**	P	**Pn**	**17 40 38.4**	**+1.0**
	0.3nm41nm,1.6s						
MYKOM	**Kota Tinggi**	**7.92**	**2**	Pn	**Pn**	**17 40 40.3**	**+1.5**
PWJI	**Pagerwojo**	**8.39**	**103**	P	**Pn**	**17 40 44.6**	**-0.6**
	32nm,0.8s						
COCO	**West Island**	**8.92**	**228**	Pn	Pn	17 40 47.1	-5.4
GSI	**Gununggsitoli**	**9.54**	**321**	Pn	**Pn**	**17 40 58.0**	**-2.9**
GMJI	**Gumukmas**	**10.03**	**103**	P	**Pn**	**17 41 10.1**	**+2.5**
	29nm,1.7s						
STKI	**Sintang**	**10.05**	**52**	P	**Pn**	**17 41 12.0**	**+4.0**
	19nm,0.9s						
KSM	**Kuching**	**10.16**	**42**	Pn	**Pn**	**17 41 10.4**	**+0.9**
ABJI	**Asem Bagus**	**10.72**	**99**	P	**Pn**	**17 41 18.9**	**+1.8**
	90nm,0.7s						
JAGI	**Jajag, Banyuwa**	**10.76**	**103**	Pn	**Pn**	**17 41 17.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**10.76**	**103**	P	**Pn**	**17 41 19.5**	**+1.9**
	1μm54nm,0.9s						
SRBI	**Singaraja**	**11.72**	**100**	P	**Pn**	**17 41 30.5**	**-0.3**
	32nm,0.6s						
KULM	**Kulim**	**11.76**	**346**	Pn	**Pn**	**17 41 31.4**	**+0.1**
SBUM	**Sibu**	**12.18**	**46**	Pn	**Pn**	**17 41 38.5**	**+1.4**
PLAI	**Plampang**	**14.34**	**101**	P	**Pn**	**17 42 06.7**	**+0.2**
	50nm,1.0s						
PLAI	**Plampang**	**14.34**	**101**	P	**Pn**	**17 42 08.3**	**+1.8**
KAPI	**Kappang**	**16.16**	**87**	LR	LR	17 48 16.9	
	comp=Z,105nm,21.0s,baz=273,slow=36						
BKSI	**Bulukumba**	**16.51**	**88**	P	**P**	**17 42 35.8**	**-0.7**
	22nm,1.1s						
BNSI	**Bone**	**16.58**	**85**	P	**P**	**17 42 39.3**	**+2.0**
	21nm,0.9s						
MPSI	**Mapaga**	**17.55**	**69**	P	**P**	**17 42 49.4**	**+1.3**
	886nm12nm,1.1s						
TOLI2	**Tolitoli**	**18.66**	**68**	P	**Pn**	**17 43 01.0**	**0.0**
TOLI2				IAmb	IAmb	17 43 02.8	
	comp=Z,18nm,0.7s						
MMRI	**Maumere**	**18.69**	**99**	P	**P**	**17 42 58.8**	**-1.7**
MMRI				IAmb	IAmb	17 43 20.7	
	comp=Z,25nm,0.6s						
MMRI	**Maumere**	**18.69**	**99**	P	**P**	**17 43 00.9**	**+0.3**
	comp=Z,39nm,0.5s						
MMRI	**Maumere**	**18.69**	**99**	P	**Pn**	**17 43 04.1**	**+2.8**
	comp=Z,39nm,0.6s						
MYLDM	**Lahad Datu**	**18.71**	**53**	P	**Pn**	**17 43 01.8**	**+0.2**
APSI	**Ampana**	**18.80**	**75**	P	**Pn**	**17 43 05.4**	**+2.7**
	comp=Z,230nmcomp=Z,18nm,0.9s						
GIRL	**Giralia**	**19.34**	**149**	P	**Pn**	**17 43 09.5**	**+0.4**
MRSI	**Marisa**	**19.51**	**71**	P	**P**	**17 43 08.2**	**-1.4**
	comp=Z,429nmcomp=Z,38nm,0.6s						
LUWI	**Luwuk**	**19.84**	**76**	P	**P**	**17 43 13.3**	**+0.1**
LUWI				IAmb	IAmb	17 43 27.2	
	comp=Z,45nm,1.0s						
LUWI	**Luwuk**	**19.84**	**76**	P	**Pn**	**17 43 16.4**	**+1.3**
	comp=Z,1μmcomp=Z,47nm,0.9s						
BATI	**Baumata**	**20.30**	**103**	P	**P**	**17 43 19.0**	**+0.8**
	comp=Z,40nm,0.3s,baz=44,slow=2.2,SNR=14						
BATI				S	**S**	**17 46 59.1**	**-4.3**
	comp=Z,22nm,0.5s,baz=247,slow=22,SNR=3.7						
BATI	**Baumata**	**20.30**	**103**	P	**P**	**17 43 18.6**	**+0.4**
	comp=Z,792nmcomp=Z,61nm,0.8s						
GTOI	**Gorontalo**	**20.57**	**71**	P	**P**	**17 43 20.5**	**-0.6**
	comp=Z,4.7nm,1.0s						
PSA00	**Pilbara Seismi**	**21.97**	**136**	P	**P**	**17 43 34.6**	**-1.4**
PSA00				IAmb	IAmb	17 43 53.3	
	comp=Z,34nm,1.6s						
LBMI	**Labuha**	**24.52**	**78**	P	**P**	**17 44 04.2**	**+2.8**
	comp=Z,491nmcomp=Z,25nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.59**	**121**	P	**P**	**17 44 04.0**	**+2.1**
	comp=Z,3.0nm,0.7s,baz=290,slow=6.2,SNR=18						
TNTI	**Ternate**	**24.76**	**75**	P	**P**	**17 44 01.8**	**-1.7**
TNTI				IAmb	IAmb	17 44 12.0	
	comp=Z,18nm,1.1s						
TNTI	**Ternate**	**24.76**	**75**	P	**P**	**17 44 07.3**	**+3.8**
	comp=Z,461nmcomp=Z,18nm,0.9s						
CM31	**Chiang Mai Arr**	**24.90**	**350**	P	**P**	**17 44 03.0**	**-1.8**
CMAR	**Chiang Mai Arr**	**24.90**	**350**	P	**P**	**17 44 04.0**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=184,slow=9.1,SNR=30						
CMAR				LR	LR	17 54 23.4	
	comp=Z,68nm,18.3s,baz=180,slow=38						
CMAR	**Chiang Mai Arr**	**24.90**	**350**	P	**P**	**17 44 02.7**	**-2.0**
CHTO	**Chiang Mai**	**25.25**	**350**	P	**P**	**17 44 06.3**	**-1.6**
DAV	**Davao City (W)**	**25.62**	**59**	LR	LR	17 56 01.6	
	comp=Z,40nm,20.1s,baz=264,slow=41						
MORW	**Morawa**	**25.64**	**154**	P	**P**	**17 44 07.4**	**-4.0**
MORW				IAmb	IAmb	17 44 25.6	
	comp=Z,49nm,1.6s						
PALK	**Pallekele**	**26.43**	**300**	LR	LR	17 53 44.5	
	comp=Z,55nm,18.7s,baz=231,slow=34						
KNRA	**Kununurra**	**26.46**	**113**	P	**P**	**17 44 16.5**	**-2.4**
KNRA				IAmb	IAmb	17 44 27.1	
	comp=Z,9.1nm,0.7s						
MTN	**Manton Dam**	**27.98**	**106**	P	**P**	**17 44 32.2**	**-0.4**
MTN				IAmb	IAmb	17 45 10.5	
	comp=Z,8.7nm,0.7s						
MTN	**Manton Dam**	**27.98**	**106**	P	**P**	**17 44 34.6**	**+2.0**
KDU	**Kakadu**	**29.23**	**105**	P	**P**	**17 44 45.9**	**+2.2**
H01W3	**Cape Leeuwin H**	**30.19**	**163**	T	T	18 17 06.1	
	baz=342,slow=76,SNR=9.5						
H01W1	**Cape Leeuwin H**	**30.20**	**163**	T	T	18 17 07.1	
	baz=342,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**30.20**	**163**	T	T	18 17 07.1	
	baz=342,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**30.86**	**265**	T	T	18 17 12.3	
	baz=89,slow=75,SNR=18						
H08S3	**Diego Garcia H**	**30.87**	**265**	T	T	18 17 20.6	
	baz=89,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**30.88**	**265**	T	T	18 17 13.9	
	baz=89,slow=75,SNR=15						
PZH	**PanZhiHua**	**32.54**	**357**	P	P	17 45 17.8	+5.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.8s						
WB0	**Warramunga Arr**	**32.87**	**117**	P	**P**	**17 45 16.2**	**+0.4**
WB0				IAmb	IAmb	17 46 03.4	
	comp=Z,16nm,1.6s						
WRA	**Warramunga Arr**	**32.88**	**117**	P	**P**	**17 45 16.5**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=283,slow=13,SNR=21						
WRA				PcP	**PcP**	**17 48 01.3**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=301,slow=2.2,SNR=5.3						
WRA	**Warramunga Arr**	**32.88**	**117**	P	**P**	**17 45 15.0**	**-0.9**
WRAB	**Tennant Creek**	**32.88**	**117**	P	**P**	**17 45 15.2**	**-0.7**
WRAB				IAmb	IAmb	17 45 44.1	
	comp=Z,6.0nm,0.9s						
WB2	**Warramunga Arr**	**32.89**	**117**	P	**P**	**17 45 15.7**	**-0.3**
WB2				IAmb	IAmb	17 45 56.9	
	comp=Z,18nm,1.6s						
WR0	**Warramunga Arr**	**33.06**	**117**	P	**P**	**17 45 16.4**	**-1.1**
WR0				IAmb	IAmb	17 45 35.0	
	comp=Z,10nm,1.4s						
FORT	**Forrest**	**33.58**	**140**	P	**P**	**17 45 20.2**	**-1.6**
AS31	**Alice Springs**	**33.97**	**124**	P	**P**	**17 45 24.2**	**-1.1**
AS31				IAmb	IAmb	17 45 37.1	
	comp=Z,1.8nm,0.3s						
ASAR	**Alice Springs**	**33.97**	**124**	P	**P**	**17 45 26.4**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=301,slow=8.0,SNR=16						
ASAR	**Alice Springs**	**33.97**	**124**	P	**P**	**17 45 23.6**	**-1.7**
YULB	**Yu-li**	**34.13**	**30**	P	**P**	**17 45 24.8**	**-1.8**
COEN	**Coen**	**39.72**	**104**	P	**P**	**17 46 14.0**	**-0.3**
COEN				IAmb	IAmb	17 46 36.3	
	comp=Z,19nm,1.2s						
JOW	**Kunigami**	**40.63**	**35**	LR	LR	18 03 11.9	
	comp=Z,22nm,19.7s,baz=300,slow=36						
JOW	**Kunigami**	**40.63**	**35**	P	**P**	**17 46 21.5**	**-0.2**
JOW				IAmb	IAmb	17 47 08.2	
	comp=Z,24nm,1.2s						
NJ2	**Nanjing**	**40.72**	**20**	*e*P	**P**	**17 46 25.0**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
LZH	**Lanzhou**	**42.05**	**0**	*e*P	**P**	**17 46 34.3**	**+1.0**
LZH				pP	pP	17 46 42.5	-3.0
LZH				pmax	pmax		
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**43.75**	**131**	P	**P**	**17 46 48.9**	**+1.8**
	comp=Z,4.7nm,0.9s,baz=338,slow=15,SNR=3.2						
STKA				LR	LR	18 05 33.4	
	comp=Z,51nm,19.1s,baz=205,slow=37						
STKA	**Stephens Creek**	**43.75**	**131**	P	**P**	**17 46 47.8**	**+0.7**
GTA	**Gaotai**	**45.49**	**356**	*e*P	**P**	**17 47 01.0**	**+0.1**
GTA				pP	pP	17 47 05.3	-8.0
GTA				sP	pwP	17 47 08.3	-7.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**47.38**	**8**	*e*P	**P**	**17 47 20.0**	**+4.4**
KSRS	**Korea Array**	**49.01**	**26**	P	**P**	**17 47 28.2**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=223,slow=7.9,SNR=10						
WMQ	**Urumqi**	**51.80**	**345**	*e*P	**P**	**17 47 51.3**	**+2.1**
**KS

FINES	**FINES Array B**	**89.44**	**332**	P		**P**	**17 51 38.9**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=95,slow=5.0,SNR=8.9							
ARCES	**ARCESS Array B**	**91.59**	**340**	P		**P**	**17 51 48.7**	**+1.2**
	comp=Z,6.6nm,1.2s,baz=357,slow=4.9,SNR=7.1							
BDFB	**Brasilia**	**144.46**	**232**	PKP		**PKPdf**	**17 58 19.1**	**+0.8**
	comp=Z,2.9nm,0.5s,baz=114,slow=7.0,SNR=5.4							
TXAR	**Lajitas Array**	**145.50**	**45**	PKPbc		**PKPab**	**17 58 21.5**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=268,slow=0.8,SNR=21							
TXAR	**Lajitas Array**	**145.50**	**45**			**PKPab**	**17 58 21.3**	**+1.1**
LPAZ	**La Paz**	**156.21**	**200**	PKPab		**PKPab**	**17 59 07.9**	**+3.0**
	comp=Z,0.9nm,0.7s,baz=183,slow=5.5,SNR=3.8							

*TUL **30** 18:02:56.9±1.9,36°26N±0°01×96°69W±0°02,h5km±5km, ML2.7,mb_Lg2.3/22(NEIC),Error ellipse: s-maj=2.2km s-min=1.7km az=85.0*

NEIC 30 18:02:56.6±1.0,36°27N±0°01×96°68W±0°02,h12km±3km, Error ellipse: s-maj=2.7km s-min=1.6km az=103.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**0.66**	**12**	Pg	Pg	18 03 09.6	+0.1
T35A				Sg	Sg	18 03 18.0	-0.1
TUL1	**Leonard**	**0.80**	**116**	Pg	Pb	18 03 12.6	0.0
TUL1				Sg	Sg	18 03 22.8	+0.1
OKCFA	**Oklahoma City**	**1.06**	**217**	Pg	Pb	18 03 15.5	-1.5
OKCFA				Sg	Sb	18 03 30.7	-0.1
FNO	**Franklin**	**1.17**	**210**		Pb	18 03 18.3	-0.6
FNO				Sg	Sb	18 03 33.9	-0.1
U32A	**Winter Ranch,**	**1.88**	**274**	Pn	Pb	18 03 29.8	-1.1
X34A	**Smith Ranch, M**	**1.92**	**210**		Pb	18 03 30.6	-1.0
X34A				IAmb_Lg		18 03 58.2	
	comp=Z,13nm,0.8s						
X37A	**Clayton**	**1.99**	**147**	Pn	Pn	18 03 29.9	-0.2
X37A				IAmb_Lg		18 04 00.6	
	comp=Z,21nm,1.3s						
HHAR	**Hobbs**	**2.21**	**89**	Pn	Pn	18 03 32.9	-0.3
WMOK	**Wichita Mounta**	**2.30**	**229**	Pn	Pn	18 03 34.9	+0.5
W39A	**Magazine**	**2.59**	**114**	Pn	Pn	18 03 37.8	-0.5
R32A	**Long Quarter,**	**2.69**	**324**	IAmb_Lg		18 04 28.3	
	comp=Z,9.7nm,1.2s						
KSU1	**Kansas State U**	**2.83**	**1**	Pn	Pn	18 03 42.0	+0.4
KSU1	**Kansas State U**	**2.83**	**1**	IAmb_Lg		18 04 33.4	
	comp=Z,8.6nm,1.0s						
S39A	**Bolivar**	**3.04**	**61**	Pn	Pn	18 03 45.0	+0.5
S39A				IAmb_Lg		18 04 40.7	
	comp=Z,8.7nm,0.7s						
MIAR	**Mount Ida**	**3.06**	**123**	Pn	Pn	18 03 45.7	+0.8
U40A	**Yellville**	**3.09**	**87**	Pn	Pn	18 03 47.0	+1.8
U40A				IAmb_Lg		18 04 34.3	
	comp=Z,8.5nm,0.9s						
X40A	**Basin Creek Fa**	**3.61**	**118**	Pn	Pn	18 03 51.8	-0.6
MGMO	**Mountain Grove**	**3.65**	**75**	Pn	Pn	18 03 53.9	+1.0
WHAR	**Wooly Hollow**	**3.70**	**104**	Pn	Pn	18 03 53.4	-0.2
WHAR				IAmb_Lg		18 04 57.8	
	comp=Z,8.7nm,1.2s						
FCAR	**Ozark Folk Cen**	**3.71**	**95**	Pn	Pn	18 03 52.6	-1.1
W41B	**Gary Mavity, V**	**3.77**	**106**	Pn	Pn	18 03 53.4	-1.1
R40A	**Maddies Statio**	**4.05**	**59**	Pn	Pn	18 03 59.5	+1.1
P38A	**Dawn**	**4.17**	**36**	Pn	Pn	18 03 59.9	-0.2
P38A				IAmb_Lg		18 05 08.8	
	comp=Z,9.0nm,1.0s						
N35A	**Tabor**	**4.65**	**10**	IAmb_Lg		18 05 31.0	
	comp=Z,8.7nm,0.8s						
CCM	**Cathedral Cave**	**4.69**	**66**	Pn	Pn	18 04 06.5	-0.7
PBMO	**Poplar Bluff**	**5.06**	**82**	IAmb_Lg		18 05 48.7	
	comp=Z,6.0nm,1.0s						
N38A	**Joes South For**	**5.26**	**30**	IAmb_Lg		18 05 55.5	
	comp=Z,6.0nm,0.8s						

NOU 30 18:05:37.4,16°32S×167°34E,h8km,MLv4.0/11,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.88**	**351**	P	Pb	18 05 54.7	-0.2
DVP	**Devils Point**	**1.61**	**150**	P	Pn	18 06 06.0	-0.2
KOUNC	**Koumac, New Ca**	**5.11**	**214**	P	Pn	18 06 52.9	-1.4
DZM	**Mont Dzumac**	**5.78**	**188**	P	Pn	18 07 02.9	-0.7
NOUC	**Port Laguerre**	**5.83**	**190**	P	Pn	18 07 05.6	+1.4

*TIR **30** 18:36:07.3,41°12N×20°09E,h20km±3km,Md3.5,Ml3.3*
*PDG **30** 18:36:07.9±0.6,41°10N×19°98E,h12km,MD3.5/1, ML3.4/14,Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*PRU **30** 18:36:07.7±0.0,41°04N×20°09E,h0km*
*ATH **30** 18:36:08.3,41°11N×20°13E,h10km±31km,ML3.1/7,Error ellipse: s-maj=31.6km s-min=1.4km az=0.0*
*THE **30** 18:36:08.6,41°11N×20°11E,h0km±1km,ML3.1/7,Error ellipse: s-maj=1.9km s-min=0.6km az=338.0*
*BEO **30** 18:36:08.2±0.6,41°04N×20°01E,h6km±2km,ML3.1/12*
*SKO **30** 18:36:08.6,41°09N×20°02E,h6km*
*LDG **30** 18:36:10.0±0.1,41°12N×20°09E,h20km,Ml3.4/9,Error ellipse: s-maj=4.3km s-min=2.9km az=21.0*

ISC 30 18:36:07.8±0.8,41°11N±0°02×20°06E±0°02,h21km±1km, n175,σ2s33/249,27C-17D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.28**	**329**	⇓P	**Pb**	**18 36 13.9**	**-0.4**
TIR				⇑S	**Sb**	**18 36 19.7**	**+1.0**
TIR	**Tirane**	**0.28**	**329**	*e*Pg	**Pb**	**18 36 14.2**	**-0.1**
TIR				*e*Sg	**Sb**	**18 36 20.0**	**+1.3**
TIR	**Tirane**	**0.28**	**329**	P	**Pb**	**18 36 14.3**	**0.0**
TIR				S	**Sb**	**18 36 19.3**	**+0.5**
TIR				AML	AML	18 36 21.2	
	comp=E,24659µm,0.2s						
TIR				AML	AML	18 36 22.1	
	comp=N,20146µm,0.3s						
TIR	**Tirane**	**0.28**	**329**	P	**Pb**	**18 36 14.2**	**-0.1**
TIR				S	**Sb**	**18 36 19.2**	**+0.5**
TIR	**Tirane**	**0.28**	**329**	*i* Pg	**Pb**	**18 36 14.2**	**-0.1**
TIR	**Tirane**	**0.28**	**329**	P	**Pb**	**18 36 14.2**	**-0.1**
	baz=324						
TIR				S	**Sb**	**18 36 18.6**	**-0.2**
	baz=324						
TIR				AMP			
	comp=N,19nm,0.5s,baz=324						
OHR	**Ohrid**	**0.56**	**89**	*e*Pg	**Pb**	**18 36 18.9**	**-0.2**
OHR				*e*Sg	**Sb**	**18 36 27.5**	**+0.8**
OHR	**Ohrid**	**0.56**	**89**	⇓*i* Pg	**Pb**	**18 36 18.9**	**-0.2**
OHR				*i* Sg	**Sb**	**18 36 27.9**	**+1.1**
OHR				*e*Lg	Lg	18 36 28.0	
	comp=N,418nm,0.3s						
PHP	**Peshkopia**	**0.65**	**26**	P	**Pb**	**18 36 19.9**	**-0.6**
PHP				S	**Sb**	**18 36 30.1**	**+0.9**
PHP	**Peshkopia**	**0.65**	**26**	P	**Pb**	**18 36 20.0**	**-0.6**
	baz=24						
PHP				S	**Sb**	**18 36 29.3**	**+0.1**
	baz=24						
KBN	**Korca**	**0.73**	**131**	P	**Pb**	**18 36 21.2**	**-0.7**
KBN				S	**Sn**	**18 36 32.8**	**-0.8**
	comp=N,4µm,0.5s						
KBN	**Korca**	**0.73**	**131**	P	**Pb**	**18 36 21.2**	**-0.7**
	baz=132						
KBN				S	**Sn**	**18 36 32.9**	**-0.8**
	baz=132						
KBN				AMP			
	comp=N,8.6nm,0.4s,baz=132						
NEST	**Nestorio**	**1.02**	**132**	P	**Pb**	**18 36 26.3**	**-0.5**
NEST				AML	AML	18 36 51.1	
	comp=E,1842µm,0.4s						
NEST				AML	AML	18 36 57.1	
	comp=N,1294µm,0.6s						
NEST	**Nestorio**	**1.02**	**132**	P	**Pb**	**18 36 26.3**	**-0.5**
NEST				S	**Sn**	**18 36 42.1**	**+1.3**
	comp=N,600nm,0.4s						
LSK	**Leskovik**	**1.04**	**156**	P	**Pb**	**18 36 26.7**	**-0.5**
	baz=158						
LSK				S	**Sn**	**18 36 41.6**	**+0.4**
	baz=158						
FNA	**Florina**	**1.05**	**107**	P	**Pb**	**18 36 27.1**	**-0.2**
FNA				AML	AML	18 36 48.1	
	comp=N,3270µm,0.6s						
FNA				AML	AML	18 36 56.3	
	comp=E,2237µm,0.6s						
FNA	**Florina**	**1.05**	**107**	P	**Pb**	**18 36 27.1**	**-0.2**
FNA				S	**Sn**	**18 36 42.4**	**+0.9**
	comp=E,1µm,0.6s						
FNA	**Florina**	**1.05**	**107**	*i* Pg	**Pb**	**18 36 27.2**	**-0.2**
FNA				*i* Sg	**Sn**	**18 36 43.7**	**+2.2**
ULC	**Ulcinj**	**1.05**	**325**	⇑*i* Pg	**Pn**	**18 36 27.5**	**+0.1**
ULC				*i* Sg	**Sn**	**18 36 43.5**	**+2.0**
SRN	**Sarande**	**1.22**	**182**	P	**Pb**	**18 36 31.9**	**+1.7**
SRN				S	**Sn**	**18 36 49.9**	**+4.3**
	comp=E,3µm,0.5s						
SRN	**Sarande**	**1.22**	**182**	P	**Pb**	**18 36 31.4**	**+1.1**
	baz=184						
SRN				S	**Sn**	**18 36 48.6**	**+3.0**
	baz=184						
SRN				AMP			
	comp=N,1.9nm,0.6s,baz=184						
PENT	**Pentalofos**	**1.23**	**137**	P	**Pb**	**18 36 30.4**	**0.0**
BCI	**Bajram Curri**	**1.26**	**0**	P	**Pb**	**18 36 31.6**	**+0.7**
	baz=0.0						
BCI				S	**Sb**	**18 36 48.8**	**+2.2**
	baz=0.0						
DRME	**Dracevica, Mon**	**1.26**	**329**	*e*Pn	**Pb**	**18 36 31.6**	**+0.7**
DRME	**Dracevica, Mon**	**1.26**	**329**	⇑*i* Pg	**Pb**	**18 36 31.4**	**+0.5**
DRME				*i* Sg	**Sb**	**18 36 50.8**	**+4.1**
SKO	**Skopje**	**1.35**	**50**	*i* Pg	**Pb**	**18 36 33.1**	**+0.6**
SKO				*i* Sg	**Sb**	**18 36 52.5**	**+3.2**
KEK	**Kerkira**	**1.40**	**188**	P	**Pb**	**18 36 34.3**	**+1.0**
KEK	**Kerkira**	**1.40**	**188**	P	**Pb**	**18 36 34.4**	**+1.1**
KEK				S	**Sb**	**18 36 55.2**	**+4.5**
	comp=N,690nm,0.4s						
PDG	**Podgorica**	**1.45**	**336**	⇑P	**Pb**	**18 36 35.4**	**+1.2**
PDG				⇑S	**Sb**	**18 36 57.6**	**+5.5**
PDG	**Podgorica**	**1.45**	**336**	*e*Pn	**Pb**	**18 36 35.3**	**+1.2**
PDG	**Podgorica**	**1.45**	**336**	*i* Pn	**Pb**	**18 36 34.4**	**+0.3**
TTG	**Podgorica**	**1.45**	**336**	⇓*i* Pg	**Pb**	**18 36 34.8**	**+0.7**
TTG				*i* Sg	**Sb**	**18 36 55.7**	**+3.5**
BUM	**Brajici-Budva**	**1.48**	**324**	*e*Pg	**Pb**	**18 36 35.0**	**+0.4**
BUM				*i* Sg	**Sb**	**18 36 56.0**	**+3.0**
PVY	**Plav**	**1.49**	**357**	⇓*i* Pg	**Pb**	**18 36 35.6**	**+0.7**
PVY				*i* Sg	**Sb**	**18 36 57.2**	**+3.8**
KPRO	**Kipourio**	**1.52**	**139**	P	**Pb**	**18 36 35.3**	**0.0**
KPRO				AML	AML	18 37 08.1	
	comp=N,916µm,0.9s						
KPRO				AML	AML	18 37 16.6	
	comp=E,1152µm,0.7s						
KPRO	**Kipourio**	**1.52**	**139**	P	**Pb**	**18 36 35.3**	**0.0**
KPRO				S	**Sb**	**18 36 56.8**	**+2.6**
	comp=E,518nm,0.8s						
KZN	**Kozani**	**1.53**	**121**	P	**Pb**	**18 36 36.1**	**+0.7**
KZN				AML	AML	18 37 03.4	
	comp=N,797µm,0.4s						
KZN				AML	AML	18 37 09.5	
	comp=E,1126µm,0.5s						
KZN	**Kozani**	**1.53**	**121**	P	**Pb**	**18 36 36.0**	**+0.5**
KZN				S	**Sb**	**18 36 57.8**	**+3.4**
	comp=E,320nm,0.4s						
CEME	**Cevo**	**1.67**	**330**	*e*Pn	**Pb**	**18 36 37.7**	**-0.2**
CEME				*i* Sn	**Sb**	**18 37 00.9**	**+2.3**
STIP	**Stip**	**1.71**	**69**	*i* Pn	**Pb**	**18 36 41.1**	**+2.6**
IVA	**Berane**	**1.77**	**356**	⇓*i* Pn	**Pb**	**18 36 39.4**	**-0.2**
IVA				*i* Sn	**Sb**	**18 37 03.8**	**+2.4**
HCY	**Herceg Novi**	**1.78**	**319**	*e*Pn	**Pb**	**18 36 39.2**	**-0.5**
HCY	**Herceg Novi**	**1.78**	**319**	*e*Pn	**Pb**	**18 36 39.0**	**-0.7**
HCY				*i* Sn	**Sb**	**18 37 03.2**	**+1.6**
GRG	**Griva**	**1.78**	**94**	P	**Pb**	**18 36 39.5**	**-0.3**
GRG	**Griva**	**1.78**	**94**	*i* Pn	**Pb**	**18 36 39.5**	**-0.3**
KOME	**Kolasin**	**1.79**	**347**	*e*Pn	**Pb**	**18 36 39.5**	**-0.5**
KOME				*i* Sn	**Sb**	**18 37 04.1**	**+2.1**
NKME	**Niksic**	**1.85**	**334**	⇑*i* Pn	**Pb**	**18 36 40.3**	**-0.7**
NKME				*i* Sn	**Sb**	**18 37 05.3**	**+1.5**
NKY	**Niksic**	**1.88**	**335**	⇓*i* Pn	**Pb**	**18 36 40.7**	**-0.8**
NKY				*i* Sn	**Sb**	**18 37 06.0**	**+1.4**
VAY	**Valandovo**	**1.91**	**83**	*i* Pn	**Pb**	**18 36 40.8**	**-1.1**
TREB	**Trebinje**	**2.05**	**322**	*e*Pn	**Pb**	**18 36 43.6**	**-0.8**
TREB	**Trebinje**	**2.05**	**322**	*e*Pn	**Pb**	**18 36 42.9**	**-1.5**
LIT	**Litokhoron**	**2.11**	**118**	P	**Pb**	**18 36 44.3**	**-1.0**
LIT				AML	AML	18 37 24.7	
	comp=E,489µm,0.7s						
LIT				AML	AML	18 37 26.4	
	comp=N,347µm,0.7s						
LIT	**Litokhoron**	**2.11**	**118**	P	**Pb**	**18 36 44.5**	**-0.8**
LIT	**Litokhoron**	**2.11**	**118**	*i* Pn	**Pb**	**18 36 44.5**	**-0.8**
DBRK	**Dubrovnik**	**2.12**	**318**	*e*Pn	**Pn**	**18 36 43.4**	**+1.4**
DBRK				S	**Sb**	**18 37 10.8**	**-0.5**
BRY	**Bratogost**	**2.12**	**328**	*e*Pn	**Pb**	**18 36 44.8**	**-0.8**
BRY	**Bratogost**	**2.12**	**328**	⇓*i* Pn	**Pn**	**18 36 43.9**	**+1.7**
BRY				*i* Sn	**Sb**	**18 37 11.6**	**0.0**
THL	**Klokotos Trika**	**2.15**	**135**	P	**Pb**	**18 36 45.8**	**-0.2**
THL				AML	AML	18 37 21.9	
	comp=E,293µm,0.7s						
THL				AML	AML	18 37 25.5	
	comp=N,274µm,0.5s						
THL	**Klokotos Trika**	**2.15**	**135**	P	**Pb**	**18 36 45.8**	**-0.2**
BARS	**Barje**	**2.16**	**37**	*e*Pn	**Pb**	**18 36 44.7**	**+0.6**
BARS	**Barje**	**2.16**	**37**	*e*Pn	**Pb**	**18 37 00.0**	**+14**
BARS				*e*Sn	**Sb**	**18 37 13.9**	**+1.5**
BARS	**Barje**	**2.16**	**37**	*i* Pn	**Pb**	**18 36 47.2**	**+1.1**
SJES	**Sjenica**	**2.16**	**358**	*e*Pn	**Pb**	**18 36 46.8**	**+0.6**
SJES				*e*Sn	**Sb**	**18 37 12.4**	**-0.1**
SELS	**Selova**	**2.26**	**20**	*e*Pn	**Pb**	**18 36 47.1**	**-0.8**
SELS				*e*Sn	**Sb**	**18 37 15.1**	**-0.2**
THE	**Thessaloniki**	**2.26**	**101**	*i* Pn	**Pb**	**18 36 47.8**	**-0.1**
UPM	**Unac-Piva**	**2.26**	**338**	*e*Pn	**Pb**	**18 36 47.7**	**-0.4**
UPM	**Unac-Piva**	**2.26**	**338**	⇑*i* Pn	**Pb**	**18 36 46.0**	**+1.8**
UPM				*i* Sn	**Sb**	**18 37 15.3**	**-0.4**
PLE	**Pljevlja**	**2.28**	**348**	*e*Pn	**Pn**	**18 36 46.3**	**+2.0**
PLE				*i* Sn	**Sb**	**18 37 15.8**	**-0.2**
BOSS	**Bosilegrad**	**2.28**	**52**	*e*Pn	**Pb**	**18 36 47.1**	**-1.2**
BOSS				*e*Sn	**Sb**	**18 37 16.6**	**+0.5**
TSLK	**Tsoukalades, L**	**2.32**	**168**	P	**Pb**	**18 36 47.7**	**-1.3**
STON	**Ston**	**2.49**	**316**	*e*Pn	**Pn**	**18 36 48.5**	**+1.4**
STON	**Ston**	**2.49**	**316**	*e*Pn	**Pn**	**18 36 48.7**	**+1.6**
STON	**Ston**	**2.49**	**316**	*e*Pn	**Pn**	**18 36 48.5**	**+1.4**
STON				S	**Sn**	**18 37 18.6**	**+1.8**
SOH	**Sokhos**	**2.51**	**95**	*i* Pn	**Pb**	**18 36 52.0**	**-0.3**
RUDO	**Rudo**	**2.56**	**349**	*e*Pn	**Pn**	**18 36 50.5**	**+2.4**
MATE	**Matera**	**2.58**	**261**	⇑P	**Pn**	**18 36 49.1**	**+0.8**
PLG	**Polygyros**	**2.68**	**105**	P	**Pn**	**18 36 52.2**	**+2.5**
AGG	**Agios Georgios**	**2.72**	**139**	P	**Pb**	**18 36 53.6**	**-2.1**
BBLS	**Lazići**	**2.80**	**350**	*e*Pn	**Pb**	**18 36 55.5**	**-1.7**
BBLS	**Lazići**	**2.80**	**350**	*e*Pn	**Pb**	**18 36 56.8**	**-0.4**
BOVS	**Bovan**	**2.81**	**25**	⇓P	**Pb**	**18 36 54.8**	**-2.4**
BOVS				⇓S	**Sb**	**18 37 30.9**	**-0.3**
BOVS	**Bovan**	**2.81**	**25**	*e*Pn	**Pb**	**18 36 54.8**	**-2.4**
VTS	**Vitosha**	**2.81**	**56**	⇑P	**Pn**	**18 36 54.2**	**+2.5**
VTS				⇑S	**Sb**	**18 37 29.5**	**-2.0**
VTS	**Vitosha**	**2.81**	**56**	*e*Pn	**Pn**	**18 36 54.2**	**+2.5**
VTS	**Vitosha**	**2.81**	**56**	*i* Pn	**Pn**	**18 36 54.3**	**+2.5**
GRUS	**Gruza**	**2.82**	**10**	*e*Pn	**Pb**	**18 36 55.2**	**-2.3**
LSTV	**Lastovo**	**2.89**	**306**	*e*Pn	**Pn**	**18 36 53.4**	**+0.8**
LSTV				S	**Sn**	**18 37 28.3**	**+1.6**
DIVS	**Divibare**	**2.99**	**359**	*e*Pn	**Pb**	**18 36 58.1**	**-2.3**
DIVS	**Divibare**	**2.99**	**359**	*e*Pn	**Pn**	**18 36 57.0**	**+2.9**
TRUS	**Trudelj**	**3.13**	**5**	*e*Pn	**Pn**	**18 36 59.6**	**+3.7**
MAKA	**Makarska**	**3.14**	**315**	*e*Pn	**Pn**	**18 36 57.4**	**+1.4**
MAKA				S	**Sn**	**18 37 34.4**	**+1.5**
ZAGS	**Zajecar**	**3.15**	**30**	*e*Pn	**Pn**	**18 36 59.5**	**+3.3**
TIP	**Timpagrande**	**3.18**	**234**	⇑P	**Pn**	**18 36 57.7**	**+1.0**
BLKB	**Belogradchik**	**3.18**	**37**	⇑P	**Pn**	**18 36 59.7**	**+3.1**
BLKB				⇑S	**Sb**	**18 37 40.0**	**-1.9**
RICI	**Ricice**	**3.23**	**319**	*e*Pn	**Pn**	**18 36 58.6**	**+1.4**
RICI				S	**Sn**	**18 37 37.5**	**+2.5**
SVIS	**Svilajnac**	**3.27**	**15**	*e*Pn	**Pn**	**18 37 01.4**	**+3.5**
HVAR	**Hvar**	**3.39**	**309**	*i* Pn	**Pn**	**18 37 00.3**	**+0.8**
HVAR				S	**Sn**	**18 37 40.8**	**+1.8**
TEKS	**Tekeris**	**3.46**	**354**	*e*Pn	**Pn**	**18 37 03.2**	**+2.7**
TEKS	**Tekeris**	**3.46**	**354**	*e*Pn	**Pn**	**18 37 04.4**	**+3.9**
KUBS	**Kucevo**	**3.51**	**19**	*e*Pn	**Pn**	**18 37 02.8**	**+1.6**
SRKY	**Kupres RS**	**3.65**	**325**	*e*Pn	**Pn**	**18 37 07.0**	**+3.8**
MDVR	**Moldovita**	**3.87**	**18**	⇑P	**Pn**	**18 37 09.0**	**+2.9**
MDVR				⇓S	**Sb**	**18 37 58.6**	**-3.2**
KIJV	**Kijevo**	**3.96**	**318**	*e*Pn	**Pn**	**18 37 09.2**	**+1.9**
KIJV				S	**Sn**	**18 37 55.3**	**+2.2**
MGRS	**Mrkonjic Grad**	**3.97**	**328**	*e*Pn	**Pn**	**18 37 08.9**	**+1.4**
DJES	**Djerdap**	**3.99**	**26**	⇓P	**Pn**	**18 37 10.9**	**+3.1**
RMGR	**Halanga-Turnu**	**4.05**	**28**	⇑P	**Pn**	**18 37 11.0**	**+2.4**
FRGS	**Fruska Gora**	**4.05**	**358**	⇑P	**Pn**	**18 37 11.6**	**+3.0**
FRGS	**Fruska Gora**	**4.05**	**358**	*e*Pn	**Pn**	**18 37 10.5**	**+1.8**
FRGS	**Fruska Gora**	**4.05**	**358**	*e*Pn	**Pn**	**18 37 09.9**	**+1.2**
ZIRJ	**Zirje**	**4.14**	**309**	*e*Pn	**Pn**	**18 37 10.8**	**+1.0**
ZIRJ				S	**Sn**	**18 37 59.6**	**+2.0**
HERR	**Herculane**	**4.15**	**24**	⇓P	**Pn**	**18 37 12.8**	**+2.8**
BLY	**Banja Luka**	**4.21**	**331**	*e*Pn	**Pn**	**18 37 11.3**	**+0.6**
MORI	**Morici**	**4.24**	**312**	*e*Pn	**Pn**	**18 37 12.8**	**+1.7**
MORI				S	**Sn**	**18 38 01.4**	**+1.4**
SRE	**Strehaia**	**4.24**	**32**	⇑P	**Pn**	**18 37 14.0**	**+2.7**
A252A	**Venje**	**4.62**	**340**	*e*Pn	**Pn**	**18 37 18.3**	**+1.9**
A252A				S	**Sn**	**18 38 11.2**	**+1.8**
BZS	**Buzias**	**4.65**	**14**	⇓P	**Pn**	**18 37 19.4**	**+2.6**
BZS				⇓S	**Sn**	**18 38 17.5**	**+7.4**
UDBI	**Udbina**	**4.65**	**319**	*e*Pn	**Pn**	**18 37 19.3**	**+2.4**
UDBI				S	**Sn**	**18 38 12.5**	**+2.2**
DUGI	**Dugi Otok**	**4.69**	**310**	*e*Pn	**Pn**	**18 37 18.7**	**+1.4**
DUGI				S	**Sn**	**18 38 12.2**	**+1.3**
GZR	**Gura Zlata**	**4.72**	**24**	⇑P	**Pn**	**18 37 20.8**	**+2.9**
VIRC	**Vir**	**4.87**	**312**	*e*Pn	**Pn**	**18 37 21.2**	**+1.4**
VIRC				S	**Sn**	**18 38 16.9**	**+1.3**
PLIT	**Plitvice**	**4.98**	**321**	*e*Pn	**Pn**	**18 37 23.4**	**+2.0**
PLIT				S	**Sn**	**18 38 19.7**	**+1.4**
MOSL	**Moslavina**	**5.11**	**333**	*e*Pn	**Pn**	**18 37 24.9**	**+1.7**
MOSL				S	**Sn**	**18 38 23.4**	**+1.9**
NVLJ	**Novalja**	**5.14**	**314**	*e*Pn	**Pn**	**18 37 25.0**	**+1.5**
NVLJ				S	**Sn**	**18 38 23.1**	**+0.8**
KOVH	**Kovagotottos**	**5.18**	**345**	P	**Pn**	**18 37 26.6**	**+2.5**
KOVH				S	**Sn**	**18 38 24.2**	**+1.0**
MORH	**Mrgy, Hungar**	**5.21**	**349**	⇓P	**Pn**	**18 37 28.5**	**+4.0**
MORH	**Mrgy, Hungar**	**5.21**	**349**	*e*Pn	**Pn**	**18 37 26.1**	**+1.6**
MORH	**Mrgy, Hungar**	**5.21**	**349**	P	**Pn**	**18 37 27.0**	**+2.5**
RABC	**Rab**	**5.32**	**315**	*e*Pn	**Pn**	**18 37 27.1**	**+1.2**
RABC				S	**Sn**	**18 38 28.1**	**+1.6**
ARR	**Arges**	**5.42**	**37**	⇑P	**Pn**	**18 37 29.2**	**+1.8**
A250A	**Rusevo Krmpots**	**5.48**	**318**	*e*Pn	**Pn**	**18 37 29.8**	**+1.6**
A250A				S	**Sn**	**18 38 31.9**	**+1.3**
MTUR	**Matau**	**5.51**	**40**	⇑P	**Pn**	**18 37 31.6**	**+2.9**
OZLJ	**Ozalj**	**5.61**	**325**	*e*Pn	**Pn**	**18 37 31.7**	**+1.7**
OZLJ				S	**Sn**	**18 38 35.1**	**+1.4**
VOIR		**5.66**	**38**	⇑P	**Pn**	**18 37 33.7**	**+3.0**
CRES	**Cresnjev**	**5.78**	**326**	*e*Pn	**Pn**	**18 37 34.0**	**+1.6**
SMRN	**Sveta Marina**	**5.84**	**314**	*e*Pn	**Pn**	**18 37 34.5**	**+1.4**
SMRN				S	**Sn**	**18 38 40.2**	**+0.8**
BRJN	**Brijuni**	**5.98**	**312**	*e*Pn	**Pn**	**18 37 35.7**	**+0.7**
BRJN				S	**Sn**	**18 38 43.3**	**+0.4**
DRGR		**6.00**	**18**	⇑P	**Pn**	**18 37 38.8**	**+3.4**
MLR	**Muntele Rosu**	**6.14**	**42**	⇑P	**Pn**	**18 37 40.5**	**+3.1**
SKDS	**Skadanscina**	**6.25**	**317**	*e*Pn	**Pn**	**18 37 39.6**	**+0.8**
SOKA	**Soboth**	**6.65**	**329**	*e*Pn	**Pn**	**18 37 46.3**	**+2.0**
	comp=N,0.5nm,0.2s						
OBKA	**Obir**	**6.71**	**325**	*e*Pn	**Pn**	**18 37 47.3**	**+2.1**
	comp=N,1.0nm,0.2s						
HARR	**Harsova**	**6.80**	**56**	⇑P	**Pn**	**18 37 48.3**	**+2.0**
PSZ	**Piszkesteto**	**6.81**	**359**	⇑P	**Pn**	**18 37 49.2**	**+2.6**
TIRR	**Tirgusor**	**7.00**	**59**	⇑P	**Pn**	**18 37 51.1**	**+2.0**
CFR	**Carcaliu**	**7.17**	**53**	⇑P	**Pn**	**18 37 54.3**	**+2.8**
TPGR	**Topolog**	**7.19**	**56**	⇓P	**Pn**	**18 37 53.0**	**+1.4**
BURAR	**Bucovina Array**	**7.48**	**28**	⇓P	**Pn**	**18 37 58.7**	**+2.9**
KBA	**Koelnbreinsper**	**7.68**	**323**	*e*Pn	**Pn**	**18 38 01.0**	**+2.4**
	comp=N,0.8nm,0.3s						
ABTA	**Abfaltersbach**	**7.84**	**319**	*e*Pn	**Pn**	**18 38 02.5**	**+1.9**
	comp=N,0.6nm,0.2s						
MOA	**Molln**	**7.91**	**330**	*e*Pn	**Pn**	**18 38 05.0**	**+3.5**

JSU	**Suzuyama**	**7.17**	**277**	Pn		**Pn**	**19 04 38.0**	**-2.5**
JSJ	**Shimokoshiki**	**7.81**	**278**	P		**Pn**	**19 04 45.2**	**-2.5**
JMK	**Ichinoseki**	**8.25**	**13**	P		**Pn**	**19 04 50.8**	**-1.8**
JTU	**Tsushima**	**8.69**	**297**			**Pn**	**19 04 55.9**	**-1.8**
JAMN	**Amaminishikomi**	**8.79**	**255**	P		**Pn**	**19 04 56.0**	**-3.0**
JTM	**Tenmabayashi**	**10.01**	**10**			**P**	**19 05 12.1**	**-0.3**
JOW	**Kunigami**	**10.08**	**249**	P		**P**	**19 05 12.4**	**-1.1**
JOW	**Kunigami**	**10.08**	**249**	P		**P**	**19 05 12.0**	**-1.5**
KSRS	**Korea Array**	**11.11**	**309**	P		**Pn**	**19 05 24.4**	**-1.3**
	0.1nm,0.3s,baz=119,slow=13,SNR=5.1							
JKE	**Kume jima 2**	**11.50**	**250**	P		**P**	**19 05 28.8**	**-0.4**
ERM	**Erimo**	**11.61**	**16**			**Pn**	**19 05 30.9**	**-0.5**
ASAJ	**Asahikawa**	**13.51**	**12**	P		**Pn**	**19 05 54.1**	**+0.7**
	0.7nm,0.3s,baz=188,slow=9.5,SNR=5.7							
YSS	**Yuzh-Sakhalins**	**16.30**	**10**	P		**P**	**19 06 21.8**	**+0.7**
YHNB	**Yeheng**	**16.62**	**252**	P		**P**	**19 06 22.5**	**-2.5**
NACB	**Ninganchiao**	**16.66**	**250**	P		**P**	**19 06 22.9**	**-2.5**
SSLB	**Suanglung**	**17.36**	**250**	P		**P**	**19 06 30.7**	**-2.1**
SSLB				IAmb		IAmb	19 06 31.6	
	comp=Z,20nm,1.2s							
KLR	**Kul'dur**	**19.05**	**346**	P		**P**	**19 06 49.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=211,slow=3.8,SNR=8.2							
CHTO	**Chiang Mai**	**37.92**	**261**	P		**P**	**19 09 35.1**	**-1.0**
CM31	**Chiang Mai Arr**	**38.08**	**260**	P		**P**	**19 09 37.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**38.08**	**260**	P		**P**	**19 09 37.0**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=55,slow=6.8,SNR=16							
CMAR				PcP		**PcP**	**19 11 44.8**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=24,slow=1.3,SNR=5.8							
CMAR	**Chiang Mai Arr**	**38.08**	**260**	P		**P**	**19 09 37.2**	**-0.3**
KSM	**Kuching**	**39.81**	**228**	P		**P**	**19 09 51.6**	**-0.1**
KSM				IAmb		IAmb	19 09 52.7	
	comp=Z,21nm,1.4s							
TIXI	**Tiksi**	**41.14**	**355**	P		**P**	**19 10 02.3**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=270,slow=20							
TIXI	**Tiksi**	**41.14**	**355**	P		**P**	**19 10 02.1**	**+0.6**
ZAA0	**Zalesovo Array**	**44.67**	**317**	P		**P**	**19 10 29.1**	**-0.6**
ZALV	**Zalesovo Beam**	**44.67**	**317**	P		**P**	**19 10 29.2**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=101,slow=7.7,SNR=6.2							
ZALV				PcP		**PcP**	**19 12 05.0**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=94,slow=3.9,SNR=10							
ZALV	**Zalesovo Beam**	**44.67**	**317**	P		**P**	**19 10 29.1**	**-0.6**
MK31	**Makanchi Array**	**45.78**	**307**	P		**P**	**19 10 37.8**	**-0.7**
MKAR	**Makanchi Array**	**45.78**	**307**	P		**P**	**19 10 38.2**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=93,slow=9.6,SNR=26							
MKAR				PcP		**PcP**	**19 12 09.4**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=90,slow=3.6,SNR=5.2							
MKAR				ScP		**ScP**	**19 15 25.4**	**+3.1**
	comp=Z,0.3nm,0.6s,baz=76,slow=5.1,SNR=4.1							
MKAR	**Makanchi Array**	**45.78**	**307**	P		**P**	**19 10 37.9**	**-0.7**
MAKZ	**Makanchi**	**46.00**	**307**	P		**P**	**19 10 39.9**	**-0.3**
MAKZ				IAmb		IAmb	19 10 40.3	
	comp=Z,2.2nm,0.5s							
KURK	**Kurchatov**	**48.21**	**312**	P		**P**	**19 10 56.4**	**-0.5**
KURBB	**Kurchatov Arra**	**48.27**	**312**	P		**P**	**19 10 57.0**	**-0.3**
KURBB				PcP		**PcP**	**19 12 17.8**	**+0.7**
	comp=Z,2.3nm,0.5s,baz=91,slow=6.5,SNR=81							
KURBB				PcP		**PcP**	**19 12 17.8**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=91,slow=3.9,SNR=6.2							
GSI	**Gunungsitoli**	**48.87**	**241**	P		**P**	**19 11 02.0**	**-0.3**
GSI				IAmb		IAmb	19 11 03.3	
	comp=Z,17nm,1.2s							
WRAB	**Tennant Creek**	**50.74**	**185**	P		**P**	**19 11 16.7**	**+0.6**
WRA	**Warramunga Arr**	**50.76**	**185**	P		**P**	**19 11 17.2**	**+1.0**
	comp=Z,4.9nm,0.5s,baz=1.3,slow=7.8,SNR=25							
WRA				PcP		**PcP**	**19 12 29.1**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=0.1,slow=4.3,SNR=2.4							
WRA	**Warramunga Arr**	**50.76**	**185**	P		**P**	**19 11 17.0**	**+0.8**
K20K	**Telida**	**52.63**	**32**	P		**P**	**19 11 31.6**	**+2.3**
K20K				IAmb		IAmb	19 11 56.0	
	comp=Z,5.7nm,1.2s							
BRVK	**Borovoye**	**53.30**	**316**	P		**P**	**19 11 34.2**	**-0.1**
BRVK				IAmb		IAmb	19 11 35.2	
	comp=Z,4.3nm,0.8s							
KK31	**Karatay Array**	**54.48**	**303**	P		**P**	**19 11 42.9**	**-0.1**
KK31				IAmb		IAmb	19 11 43.7	
	comp=Z,3.5nm,0.8s							
KKAR	**Karatay Array**	**54.48**	**303**	P		**P**	**19 11 42.8**	**-0.1**
AS31	**Alice Springs**	**54.48**	**186**	P		**P**	**19 11 42.4**	**-0.8**
AS31				IAmb		IAmb	19 11 46.3	
	comp=Z,2.3nm,0.6s							
ASAR	**Alice Springs**	**54.48**	**186**	P		**P**	**19 11 43.5**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=357,slow=5.9,SNR=101							
ASAR	**Alice Springs**	**54.48**	**186**	P		**P**	**19 11 43.1**	**0.0**
MBWA	**Marble Bar**	**54.93**	**202**	P		**P**	**19 11 46.7**	**+0.4**
MBWA				IAmb		IAmb	19 11 47.7	
	comp=Z,4.8nm,0.7s							
PSA00	**Pilbara Seismi**	**55.28**	**202**	P		**P**	**19 11 48.9**	**+0.2**
PSA00				IAmb		IAmb	19 12 14.8	
	comp=Z,5.4nm,0.8s							
GAR	**Garm**	**55.52**	**298**	P		**P**	**19 11 49.9**	**-0.6**
GAR				IAmb		IAmb	19 11 51.1	
	comp=Z,5.2nm,0.8s							
ILAR	**Eielson Array**	**55.84**	**30**	P		**P**	**19 11 53.0**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=282,slow=6.4,SNR=2.0							
CHGR	**Chuyangaron**	**56.48**	**298**	P		**P**	**19 11 56.9**	**-0.3**
L27K	**Beaver Creek,**	**58.17**	**32**	P		**P**	**19 12 10.8**	**+2.5**
L27K				IAmb		IAmb	19 12 32.2	
	comp=Z,9.1nm,1.5s							
BCAR	**Beaver Creek A**	**58.19**	**32**	P		**P**	**19 12 11.3**	**+2.8**
ARU	**Arti**	**59.59**	**321**	P		**P**	**19 12 18.2**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=86,slow=5.9,SNR=12							
ARU	**Arti**	**59.59**	**321**	P		**P**	**19 12 18.3**	**+0.2**
ARU				IAmb		IAmb	19 12 18.9	
	comp=Z,6.4nm,0.5s							
ABKAR	**Akbulak array**	**60.32**	**312**	P		**P**	**19 12 23.0**	**0.0**
ABKAR				IAmb		IAmb	19 12 23.5	
	comp=Z,3.3nm,0.5s							
ABKAR	**Akbulak array**	**60.32**	**312**	P		**P**	**19 12 23.0**	**0.0**
AKTO	**Aktyubinsk**	**61.24**	**314**	P		**P**	**19 12 31.1**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=85,slow=14,SNR=3.6							
STKA	**Stephens Creek**	**62.52**	**177**	P		**P**	**19 12 39.4**	**+1.8**
	comp=Z,3.0nm,0.7s,baz=332,slow=5.1,SNR=6.1							
STKA	**Stephens Creek**	**62.52**	**177**	P		**P**	**19 12 38.8**	**+1.2**
KIRV	**Kirov**	**63.87**	**324**	P		**P**	**19 12 47.1**	**+1.0**
	comp=Z,8.4nm,0.5s,baz=118,slow=5.1,SNR=3.8							
NWAO	**Narrogin (SRO)**	**66.70**	**200**	P		**P**	**19 13 05.0**	**+0.6**
BELG	**Belogornoye**	**66.84**	**318**	P		**P**	**19 13 05.5**	**+0.5**
	comp=Z,10nm,0.6s,baz=42,slow=4.3,SNR=5.1							
ARCES	**ARCESS Array B**	**68.95**	**340**	P		**P**	**19 13 18.9**	**+1.1**
	comp=Z,2.3nm,0.9s,baz=64,slow=8.2,SNR=15							
ARCES	**ARCESS Array B**	**68.95**	**340**	P		**P**	**19 13 19.3**	**+1.5**
YKA	**Yellowknife Ar**	**70.19**	**28**	P		**P**	**19 13 27.8**	**+2.4**
	comp=Z,0.1nm,0.5s,baz=298,slow=5.9,SNR=2.3							
FIA1	**FINESS Array S**	**73.20**	**332**	P		**P**	**19 13 44.0**	**+1.0**
FIA1				IAmb		IAmb	19 13 44.4	
	comp=Z,3.7nm,0.5s							
FINES	**FINESS Array B**	**73.20**	**332**	P		**P**	**19 13 44.0**	**+0.9**
	comp=Z,2.9nm,0.5s,baz=60,slow=5.4,SNR=63							
FINES	**FINESS Array B**	**73.20**	**332**	P		**P**	**19 13 43.8**	**+0.7**
KBZ	**Khabaz**	**73.25**	**311**	P		**P**	**19 13 44.9**	**+1.2**
	comp=Z,3.8nm,0.7s,baz=103,slow=5.3,SNR=15							
AKASG	**Malin Array Be**	**77.79**	**322**	P		**P**	**19 14 09.6**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=51,slow=5.9,SNR=20							
AKASG	**Malin Array Be**	**77.79**	**322**	P		**P**	**19 14 09.4**	**+0.4**
AKASG				IAmb		IAmb	19 14 10.4	
	comp=Z,2.4nm,0.9s							
AKBB	**Malin Array Si**	**77.79**	**322**	P		**P**	**19 14 09.3**	**+0.3**
NC405	**NORSAR Array S**	**78.73**	**337**	P		**P**	**19 14 14.8**	**+0.9**
NB2	**NORSAR Subarra**	**78.95**	**337**	P		**P**	**19 14 16.2**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=43,slow=5.3							
NOA	**NORSAR Array B**	**78.95**	**337**	P		**P**	**19 14 16.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=54,slow=6.7,SNR=4.7							
SOCY	**Socotra**	**79.44**	**278**	P		**P**	**19 14 17.2**	**-1.5**
BRTR	**Keskin Array B**	**81.25**	**311**	P		**P**	**19 14 28.8**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=105,slow=3.3,SNR=7.8							
BRTR	**Keskin Array B**	**81.25**	**311**	P		**P**	**19 14 28.3**	**+0.4**
BUR08	**Bucovina Ar. S**	**81.72**	**321**	P		**P**	**19 14 31.2**	**+1.1**
BUR08				IAmb		IAmb	19 14 43.1	
	comp=Z,1.6nm,1.1s							
BURAR	**Bucovina Array**	**81.72**	**321**	P		**P**	**19 14 31.1**	**+1.0**
BURAR				IAmb		IAmb	19 14 32.6	
	comp=Z,1.5nm,0.9s							
MLR	**Muntele Rosu**	**82.61**	**319**	P		**P**	**19 14 35.3**	**+0.6**
MLR				IAmb		IAmb	19 14 37.8	
	comp=Z,4.1nm,1.4s							
CSS	**Mathiatis**	**84.06**	**307**	P		**P**	**19 14 42.5**	**+0.3**
CSS				IAmb		IAmb	19 14 45.1	
	comp=Z,4.6nm,1.0s							
CLL	**Collm**	**85.26**	**329**	*e*P		**P**	**19 14 49.0**	**+1.3**

*ANF **30** 19:04:12.3±0.3,35°.70N×97°.43W,h6km,ML3.1/11, Error ellipse: s-maj=3.5km s-min=2.8km az=106.0*
*TUL **30** 19:04:12.5±0.5,35°.66N±0°.01×97°.43W±0°.03,h6km±7km, ML3.1,mb_Lg2.7/59(NEIC), Error ellipse: s-maj=3.3km s-min=1.4km az=111.0*
*NEIC **30** 19:04:13.2±0.6,35°.67N±0°.01×97°.41W±0°.02,h5km±7km, Error ellipse: s-maj=3.2km s-min=0.6km az=124.0*

ISC 30 19:04:12.5±1.3,**35°.69N**±0°.04×**97°.42W**±0°.03,**h4**km±10km, **n55**,σ0s**77**/46,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.11**	**179**				**Pg**	**19 04 14.6**	**0.0**
OK009						Sg	**Sg**	**19 04 16.2**	**+0.2**
OKCFA	**Oklahoma City**	**0.27**	**185**			Pg	**Pg**	**19 04 17.6**	**-0.1**
OKCFA						Sg	**Sg**	**19 04 21.0**	**-0.3**
OKCFA	**Oklahoma City**	**0.27**	**185**	P		P	**Pg**	**19 04 17.6**	**-0.1**
	baz=5.0,SNR=22								
OKCFA				S		S	**Sg**	**19 04 21.6**	**+0.3**
	baz=5.0								
OKCSW	**OKLAHOMA CITY**	**0.28**	**182**				**Pg**	**19 04 17.8**	**-0.1**
FNO	**Franklin**	**0.43**	**177**			Pg	**Pg**	**19 04 20.6**	**-0.2**
FNO						Sg	**Sg**	**19 04 26.5**	**+0.2**
X34A	**Smith Ranch, M**	**1.14**	**197**				**Pg**	**19 04 33.8**	**-0.4**
TUL1	**Leonard**	**1.35**	**80**				**Pn**	**19 04 36.7**	**-1.4**
TUL1	**Leonard**	**1.35**	**80**	P		P	**Pn**	**19 04 36.6**	**-1.4**
	baz=260,SNR=47								
TUL1				S		S	**Sn**	**19 04 56.6**	**+0.1**
	baz=260								
T35A	**Sooner Cattle**	**1.43**	**31**	Pg		Pg	**Pn**	**19 04 39.1**	**-0.1**
T35B	**Sooner Cattle**	**1.43**	**31**	P		P	**Pn**	**19 04 39.0**	**-0.2**
	baz=211,SNR=23								
T35B				S		S	**Sb**	**19 04 58.7**	**+0.3**
	baz=211								
U32A	**Winter Ranch,**	**1.45**	**299**				**Pn**	**19 04 39.1**	**-0.4**
U32A	**Winter Ranch,**	**1.45**	**299**	P		P	**Pn**	**19 04 39.2**	**-0.4**
	baz=119,SNR=18								
U32A				S		S	**Sn**	**19 04 59.2**	**+0.1**
	baz=119								
WMOK	**Wichita Mounta**	**1.46**	**230**				**Pn**	**19 04 39.0**	**-0.6**
WMOK	**Wichita Mounta**	**1.46**	**230**	P		P	**Pn**	**19 04 38.7**	**-1.0**
	baz=50,SNR=20								
X37A	**Clayton**	**2.01**	**122**	Pn		Pn	**Pn**	**19 04 47.5**	**+0.3**
X37A				IAmb_Lg				19 05 20.3	
	comp=Z,21nm,0.7s								
X37A	**Clayton**	**2.01**	**122**	P		P	**Pn**	**19 04 48.1**	**+0.9**
	baz=303,SNR=15								
X37A				Sb		Sb	**Sg**	**19 05 16.1**	**-0.8**
	baz=303								
Z35A	**Perchaven, San**	**2.35**	**177**	Pn		Pn	**Pn**	**19 04 52.8**	**+0.8**
Z35A	**Perchaven, San**	**2.35**	**177**	S		Sb	**Sb**	**19 05 24.0**	**-0.9**
	baz=357								
HHAR	**Hobbs**	**2.89**	**77**	Pn		Pn	**Pn**	**19 04 59.7**	**+0.4**
W39A	**Magazine**	**3.01**	**98**				**Pn**	**19 05 00.8**	**-0.2**
W39A				IAmb_Lg				19 05 55.2	
	comp=Z,31nm,1.1s								
W39A	**Magazine**	**3.01**	**98**	P		P	**Pn**	**19 05 00.8**	**-0.2**
	baz=280,SNR=14								
Z38A	**Mt. Pleasant**	**3.15**	**140**	IAmb_Lg				19 05 51.4	
	comp=Z,14nm,0.7s								
Z38A	**Mt. Pleasant**	**3.15**	**140**	Sb		Sb	**Sb**	**19 05 49.9**	**+2.1**
	baz=321								
MIAR	**Mount Ida**	**3.35**	**109**	Pn		Pn	**Pn**	**19 05 06.2**	**+0.5**
MIAR	**Mount Ida**	**3.35**	**109**	P		Pn	**Pn**	**19 05 06.6**	**+0.9**
	baz=291,SNR=5.9								
KSU1	**Kansas State U**	**3.47**	**11**	IAmb_Lg				19 06 12.4	
	comp=Z,19nm,0.9s								
AMTX	**Amarillo**	**3.57**	**258**	Pn		Pn	**Pn**	**19 05 09.5**	**+0.7**
AMTX				IAmb_Lg				19 06 13.2	
	comp=Z,9.8nm,0.8s								
CBKS	**Cedar Bluff**	**3.62**	**330**	Pn		Pn	**Pn**	**19 05 09.4**	**-0.1**
U40A	**Yellville**	**3.77**	**78**	Pn		Pn	**Pn**	**19 05 10.1**	**-1.3**
U40A				IAmb_Lg				19 06 22.4	
	comp=Z,11nm,0.8s								
S39A	**Bolivar**	**3.85**	**58**	IAmb_Lg				19 06 24.4	
	comp=Z,16nm,1.1s								
237A	**Washetta, Mont**	**3.92**	**159**	S			**Sn**	**19 05 59.1**	**-0.7**
	baz=340								
X40A	**Basin Creek Fa**	**3.95**	**106**	Pn		Pn	**Pn**	**19 05 12.1**	**-1.8**
X40A				IAmb_Lg				19 06 19.5	
	comp=Z,16nm,0.7s								
WLAR	**White Oak Lake**	**4.08**	**118**	IAmb_Lg				19 06 31.4	
	comp=Z,12nm,0.8s								
WHAR	**Wooly Hollow**	**4.21**	**94**	Pn		Pn	**Pn**	**19 05 17.3**	**-0.2**
WHAR				IAmb_Lg				19 06 35.6	
	comp=Z,11nm,1.0s								
UALR	**University of**	**4.26**	**101**	IAmb_Lg				19 06 32.0	
	comp=Z,12nm,0.9s								
W41B	**Gary Mavity, V**	**4.26**	**95**	Pn		Pn	**Pn**	**19 05 17.7**	**-0.4**
W41B				IAmb_Lg				19 06 33.8	
	comp=Z,11nm,0.9s								
W41B	**Gary Mavity, V**	**4.26**	**95**	P		P	**Pn**	**19 05 18.0**	**-0.1**
	baz=278,SNR=7.2								
FCAR	**Ozark Folk Cen**	**4.31**	**86**	Pn		Pn	**Pn**	**19 05 18.6**	**-0.3**
FCAR				IAmb_Lg				19 06 32.5	
	comp=Z,11nm,0.8s								
MGMO	**Mountain Grove**	**4.41**	**69**	IAmb_Lg				19 06 35.6	
	comp=Z,14nm,0.8s								
Z41A	**Richland Creek**	**4.52**	**121**	IAmb_Lg				19 06 46.3	
	comp=Z,17nm,0.9s								
R40A	**Maddies Statio**	**4.88**	**56**	Pn		Pn	**Pn**	**19 05 26.8**	**+0.1**
R40A				IAmb_Lg				19 06 48.5	
	comp=Z,14nm,0.9s								
435B	**Jarrell**	**4.89**	**182**	IAmb_Lg				19 06 53.3	
	comp=Z,16nm,0.8s								
P38A	**Dawn**	**5.00**	**37**	Pn		Pn	**Pn**	**19 05 29.9**	**+1.6**
P38A				IAmb_Lg				19 06 51.0	
	comp=Z,12nm,0.7s								
KSCO	**Kaye Shedlock'**	**5.31**	**310**	IAmb_Lg				19 07 15.6	
	comp=Z,13nm,0.8s								
CCM	**Cathedral Cave**	**5.49**	**63**	IAmb_Lg				19 07 08.1	
	comp=Z,12nm,0.9s								
JCT	**Junction City**	**5.56**	**202**	Pn		Pn	**Pn**	**19 05 35.4**	**-0.7**
P40A	**Paris**	**5.74**	**46**	IAmb_Lg				19 07 14.9	
	comp=Z,18nm,0.8s								
PBMO	**Poplar Bluff**	**5.76**	**77**	IAmb_Lg				19 07 28.7	
	comp=Z,13nm,1.0s								
T25A	**Trinidad**	**5.82**	**286**	Pn		Pn	**Pn**	**19 05 40.5**	**+0.7**
FVM	**French Village**	**6.06**	**66**	IAmb_Lg				19 07 27.0	
	comp=Z,12nm,0.9s								
OGNE	**Ogallala**	**6.38**	**327**	Pn		Pn	**Pn**	**19 05 48.0**	**+0.7**
OGNE				IAmb_Lg				19 07 39.8	
	comp=Z,16nm,0.8s								
SDCO	**Great Sand Dun**	**6.80**	**290**	IAmb_Lg				19 07 50.3	
	comp=Z,7.1nm,1.2s								
S44A	**Carbondale**	**6.86**	**71**	IAmb_Lg				19 07 57.4	
	comp=Z,14nm,0.8s								
Q24A	**Divide**	**6.97**	**300**	IAmb_Lg				19 08 06.7	
	comp=Z,9.6nm,0.9s								
N23A	**Red Feather La**	**8.48**	**310**	IAmb_Lg				19 08 55.9	
	comp=Z,7.7nm,0.8s								

*AEIC **30** 19:15:29.3±3.2,52°.76N±0°.08×167°.62W±0°.07,h30km±6km, Error ellipse: s-maj=11.8km s-min=4.9km az=159.0*

NEIC 30 19:15:32.3±2.8,**52°.9N**±0°.1×**167°.74W**±0°.09,**h39**km±11km, **mb4.0**/14,**ML3.2**(AEIC),**Error ellipse: s-maj=16.5km s-min=4.9km az=157.0**,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.51**	**348**				Pn	19 15 42.8	-0.3
NIKH	**Nikolski High**	**0.68**	**275**				Pn	19 15 43.9	-1.5
MGOD	**Makushin Gods**	**1.02**	**30**				Pn	19 15 48.8	-1.3
UNV	**Unalaska Valle**	**1.19**	**38**				Pn	19 15 50.8	-1.5
MTBL	**Makushin Table**	**1.23**	**30**				Pn	19 15 52.5	-0.5
AKBBA	**Akutan Broad B**	**1.60**	**42**				Pn	19 15 57.1	-1.0
AKUT	**Akutan**	**1.70**	**43**				Pn	19 15 57.9	-1.4
AKUT						Sn	Sn	19 16 18.8	-0.9
WESE	**West Dahl East**	**2.44**	**49**				Pn	19 16 08.8	-0.8
SPIA	**Saint Paul Isl**	**4.51**	**342**	Pn		Pn	Pn	19 16 39.1	+1.2
ADK	**Adak**	**5.58**	**263**	Pn		Pn	Pn	19 16 53.3	+0.7
KIWB	**Kanaga Island**	**5.86**	**263**	Pn		Pn	Pn	19 16 57.7	+1.2
L19K	**White Mountain**	**11.56**	**31**	Pn		Pn	Pn	19 18 15.7	+1.2
TTA	**Tatalina**	**11.79**	**27**	Pn		Pn	Pn	19 18 18.9	+1.1
K20K	**Telida**	**12.68**	**29**	Pn		Pn	Pn	19 18 31.6	+1.8
J20K	**Nowinta River**	**13.30**	**27**	Pn		Pn	Pn	19 18 39.0	+0.9
CAST	**Castle Rocks**	**13.34**	**32**	Pn		Pn	Pn	19 18 40.0	+1.3
SCM	**Sheep Creek Mo**	**14.12**	**43**	Pn		Pn	Pn	19 18 49.3	-0.2
KLU	**Klutina**	**14.55**	**45**	Pn		Pn	Pn	19 18 53.2	-2.1
I21K	**Tanana**	**14.66**	**27**	Pn		Pn	Pn	19 18 57.2	+0.5
M24K	**Tolsona, Glenn**	**14.73**	**43**	Pn		Pn	Pn	19 18 58.9	+1.3
H21K	**Melozitna Rive**	**14.82**	**25**	Pn		Pn	Pn	19 19 00.1	+1.3
N25K	**Chitina, Valde**	**15.17**	**46**	Pn		Pn	Pn	19 19 04.2	+0.7
N25K				IAmb		IAmb	IAmb	19 19 21.4	
	comp=Z,15nm,1.2s								
GLB	**Gilahina Butte**	**15.45**	**47**	Pn		Pn	Pn	19 19 07.6	+0.5
GLB				IAmb		IAmb	IAmb	19 19 25.0	
	comp=Z,13nm,1.3s								
VRDI	**Verde Repeater**	**15.53**	**48**	Pn		Pn	Pn	19 19 08.8	+0.5
VRDI				IAmb		IAmb	IAmb	19 19 12.4	
	comp=Z,27nm,1.4s								
GRNC	**Granite Creek**	**16.14**	**51**	Pn		Pn	Pn	19 19 16.8	+0.7
M26K	**Nabesna, AK**	**16.19**	**44**	Pn		Pn	Pn	19 19 16.9	+0.3
M26K				IAmb		IAmb	IAmb	19 19 41.8	
	comp=Z,21nm,1.4s								
BARN	**Barnard Glacie**	**16.29**	**50**	Pn		Pn	Pn	19 19 17.9	0.0
H24K	**Noodor Dome**	**16.32**	**30**	P		P	Pn	19 19 19.8	-1.0
H24K				IAmb		IAmb	IAmb	19 19 27.5	
	comp=Z,7.2nm,1.4s								
J25K	**Salcha River,**	**16.37**	**36**	Pn		Pn	Pn	19 19 19.2	+0.3
SCRK	**Sand Creek**	**16.53**	**39**	Pn		Pn	Pn	19 19 20.1	-0.8
HYT	**Haines Junctio**	**18.18**	**52**	P		Pn	Pn	19 19 42.8	+1.3
HYT				IAmb		IAmb	IAmb	19 19 47.1	
	comp=Z,20nm,1.3s								
BMAR	**Burnt Mountain**	**18.37**	**29**				Pn	19 19 44.5	+0.9
M31M	**Drury Creek, Y**	**19.94**	**49**	P		P	P	19 20 01.0	+0.5
M31M				IAmb		IAmb	IAmb	19 20 17.6	
	comp=Z,8.7nm,1.4s								
INK	**Inuvik**	**22.34**	**33**	P		P	P	19 20 26.1	-0.2
INK				IAmb		IAmb	IAmb	19 20 52.1	
	comp=Z,5.4nm,1.3s								
TXAR	**Lajitas Array**	**51.75**	**91**	P		P	P	19 24 34.9	-0.9
MKAR	**Makanchi Array**	**64.15**	**314**	P		P	P	19 26 01.1	-1.2
MAKZ	**Makanchi**	**64.27**	**314**	P		P	P	19 26 01.5	-1.6

*RSPR **30** 19:18:13.8, 19°.44N×68°.37W, h95km±3km, MD3.0/5*
*OSPL **30** 19:18:15.0±4.7, 19°.24N×67°.88W, h165km±63km, ML2.9*
*NEIC **30** 19:18:18.1±3.0, 19°.1N±0°.2×68°.34W±0°.02, h43km±67km, Error ellipse: s-maj=24.9km s-min=1.8km az=186.0*

ISC 30 19:18:14.9±1.9,**19°.3N**±0°.2×**68°.40W**±0°.05,**h100**km,**n42**, σ0s**88**/43,**4C-5D**,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**1.03**	**244**	‖ *e*P			**Pn**	**19 18 35.2**	**-0.5**
DR12	**Loma Pena Alta**	**1.03**	**244**				**Pn**	**19 18 35.1**	**-0.6**
DR12				Sn			**Sn**	**19 18 51.8**	**+0.4**
IDE	**Isla Desecheo**	**1.23**	**134**	‖ *e*P			**Pn**	**19 18 35.3**	**-2.6**
AGPR	**Aguadilla, PR**	**1.45**	**122**	‖ *e*P			**Pn**	**19 18 40.1**	**-0.4**
AGPR	**Aguadilla, PR**	**1.45**	**122**	*e*S			**Sn**	**19 18 59.3**	**-0.6**
AGPR	**Aguadilla, PR**	**1.45**	**122**				**Pn**	**19 18 40.1**	**-0.4**
AGPR		

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U32A				Sb	**Sg**	**19 40 21.2**	**+0.2**
	baz=115						
X37A	**Clayton**	**1.84**	**126**		**Pn**	**19 40 00.8**	**+0.2**
X37A	**Clayton**	**1.84**	**126**	P	**Pn**	**19 40 01.4**	**+0.8**
	baz=307,SNR=19						
X37A				Sb	**Sb**	**19 40 27.2**	**+1.4**
	baz=307						
Z35A	**Perchaven, San**	**2.36**	**182**		**Pn**	**19 40 08.1**	**+0.4**
Z35A				lAmb_Lg		19 40 45.9	
	comp=Z,88nm,1.3s						
Z35A	**Perchaven, San**	**2.36**	**182**	P	**Pn**	**19 40 09.0**	**+1.3**
	baz=1.4						
Z35A				S	**Sb**	**19 40 40.1**	**-0.6**
	baz=1.4						
HHAR	**Hobbs**	**2.69**	**76**		**Pn**	**19 40 13.3**	**+1.1**
W39A	**Magazine**	**2.81**	**99**	Pn	**Pn**	**19 40 14.2**	**+0.3**
W39A				lAmb_Lg		19 41 04.6	
	comp=Z,41nm,0.8s						
W39A	**Magazine**	**2.81**	**99**	P	**Pn**	**19 40 14.4**	**+0.5**
	baz=281,SNR=37						
W39A				S	**Sn**	**19 40 48.5**	**+0.4**
	baz=281						
R32A	**Long Quarter,**	**2.99**	**336**		**Pn**	**19 40 16.2**	**-0.2**
Z38A	**Mt. Pleasant**	**3.03**	**143**		**Pn**	**19 40 16.6**	**-0.3**
Z38A				lAmb_Lg		19 41 10.5	
	comp=Z,36nm,0.8s						
MIAR	**Mount Ida**	**3.16**	**110**		**Pn**	**19 40 19.6**	**+0.9**
MIAR	**Mount Ida**	**3.16**	**110**	P	**Pn**	**19 40 20.1**	**+1.3**
	baz=292,SNR=19						
KSU1	**Kansas State U**	**3.43**	**7**		**Pn**	**19 40 22.5**	**+0.1**
KSU1				lAmb_Lg		19 41 24.2	
	comp=Z,29nm,0.7s						
U40A	**Yellville**	**3.56**	**78**		**Pn**	**19 40 24.6**	**+0.3**
S39A	**Bolivar**	**3.68**	**56**		**Pn**	**19 40 26.1**	**+0.3**
ABTX	**Abilene, Hawle**	**3.69**	**214**		**Pn**	**19 40 25.9**	**-0.1**
CBKS	**Cedar Bluff**	**3.73**	**327**	Pn	**Pn**	**19 40 27.4**	**+0.8**
CBKS				lAmb_Lg		19 41 35.7	
	comp=Z,42nm,0.9s						
X40A	**Basin Creek Fa**	**3.75**	**107**		**Pn**	**19 40 26.9**	**0.0**
X40A				lAmb_Lg		19 41 33.4	
	comp=Z,55nm,1.0s						
AMTX	**Amarillo**	**3.78**	**259**	Pn	**Pn**	**19 40 27.5**	**+0.2**
AMTX				lAmb_Lg		19 41 30.0	
	comp=Z,26nm,0.9s						
237A	**Washetta, Mont**	**3.85**	**163**	lAmb_Lg		19 41 38.4	
	comp=Z,46nm,0.9s						
WHAR	**Wooly Hollow**	**4.00**	**94**		**Pn**	**19 40 30.5**	**+0.1**
WHAR				lAmb_Lg		19 41 38.4	
	comp=Z,24nm,0.8s						
W41B	**Gary Mavity, V**	**4.05**	**96**		**Pn**	**19 40 31.4**	**+0.4**
W41B				lAmb_Lg		19 41 39.2	
	comp=Z,31nm,0.8s						
W41B	**Gary Mavity, V**	**4.05**	**96**	P	**Pn**	**19 40 31.7**	**+0.7**
	baz=278,SNR=9.7						
UALR	**University of**	**4.06**	**102**		**Pn**	**19 40 31.3**	**+0.2**
UALR				lAmb_Lg		19 41 45.4	
	comp=Z,38nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.11**	**86**		**Pn**	**19 40 30.9**	**-0.8**
FCAR				lAmb_Lg		19 41 43.4	
	comp=Z,43nm,0.8s						
MGMO	**Mountain Grove**	**4.21**	**68**	Pn	**Pn**	**19 40 34.0**	**+0.8**
MGMO				lAmb_Lg		19 41 49.7	
	comp=Z,43nm,0.9s						
R40A	**Maddies Statio**	**4.70**	**55**		**Pn**	**19 40 39.8**	**-0.1**
R40A				lAmb_Lg		19 41 58.6	
	comp=Z,23nm,0.7s						
CCAR	**Cane Creek**	**4.78**	**110**	lAmb_Lg		19 42 00.0	
	comp=Z,27nm,1.1s						
P38A	**Dawn**	**4.87**	**35**		**Pn**	**19 40 43.1**	**+0.9**
P38A				lAmb_Lg		19 42 13.8	
	comp=Z,30nm,0.8s						
LCAR	**Lake Charles**	**4.90**	**84**	Pn	**Pn**	**19 40 41.6**	**-1.0**
LCAR				lAmb_Lg		19 42 14.0	
	comp=Z,16nm,0.9s						
435B	**Jarrell**	**4.91**	**184**	lAmb_Lg		19 42 15.4	
	comp=Z,22nm,0.7s						
MSTX	**Muleshoe**	**4.92**	**251**	Pn	**Pn**	**19 40 42.2**	**-0.8**
MSTX				lAmb_Lg		19 42 06.5	
	comp=Z,23nm,1.0s						
N35A	**Tabor**	**5.30**	**13**	Pn	**Pn**	**19 40 47.7**	**-0.4**
N35A				lAmb_Lg		19 42 23.4	
	comp=Z,44nm,0.7s						
CCM	**Cathedral Cave**	**5.30**	**62**	lAmb_Lg		19 42 15.9	
	comp=Z,25nm,0.9s						
P40A	**Paris**	**5.58**	**45**	lAmb_Lg		19 42 29.7	
	comp=Z,25nm,0.7s						
JCT	**Junction City**	**5.65**	**204**	lAmb_Lg		19 42 33.7	
	comp=Z,39nm,1.1s						
FVM	**French Village**	**5.87**	**65**	Pn	**Pn**	**19 40 56.3**	**+0.3**
FVM				lAmb_Lg		19 42 39.1	
	comp=Z,27nm,0.9s						
T25A	**Trinidad**	**6.01**	**286**	lAmb_Lg		19 42 42.4	
	comp=Z,17nm,0.8s						
OGNE	**Ogallala**	**6.49**	**325**	lAmb_Lg		19 42 59.6	
	comp=Z,35nm,1.0s						
W45A	**Hickory Valley**	**6.54**	**92**	lAmb_Lg		19 43 09.8	
	comp=Z,30nm,0.8s						
SCIA	**State Center**	**6.93**	**25**	lAmb_Lg		19 43 15.7	
	comp=Z,16nm,0.8s						
K31A	**O'Neill**	**7.03**	**350**	lAmb_Lg		19 43 23.8	
	comp=Z,34nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.23**	**55**	lAmb_Lg		19 43 21.0	
	comp=Z,31nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.24**	**61**	lAmb_Lg		19 43 28.0	
	comp=Z,28nm,1.0s						
PLAL	**Pickwick Lake**	**7.47**	**93**	lAmb_Lg		19 43 36.7	
	comp=Z,11nm,0.9s						
WVT	**Waverly**	**7.59**	**84**	lAmb_Lg		19 43 34.1	
	comp=Z,15nm,1.0s						
L40A	**Anamosa**	**7.87**	**34**	lAmb_Lg		19 43 42.8	
	comp=Z,12nm,0.7s						
ECSD	**EROS Data Cent**	**8.04**	**3**	lAmb_Lg		19 43 51.2	
	comp=Z,13nm,1.2s						
O44A	**Mansfield**	**8.19**	**55**	lAmb_Lg		19 43 49.4	
	comp=Z,20nm,0.8s						
PHWY	**Pilot Hill**	**8.57**	**313**	lAmb_Lg		19 44 17.5	
	comp=Z,12nm,1.2s						
N23A	**Red Feather La**	**8.63**	**310**	lAmb_Lg		19 44 13.8	
	comp=Z,15nm,0.8s						
RSSD	**Black Hills**	**9.93**	**330**	lAmb_Lg		19 44 54.0	
	comp=Z,8.4nm,1.0s						

*IDC **30** 19:43:08.4±3.5,36˚.21N×70˚.84E,h184^{km}±26^{km},mb3.3/9, mb1 3.3/14,mb1mx3.0/55,mbtmp3.8/14,MS3.7/1, Ms1 3.7/1,ms1mx2.3/58,Error ellipse: s-maj=30.2km s-min=20.9km az=172.0*

*NEIC **30** 19:43:11.6±1.6,36˚.41N±0˚.07×70˚.66E±0˚.06,h208^{km}±6^{km}, mb4.0/12,Error ellipse: s-maj=10.4km s-min=7.1km az=183.0*

*NNC **30** 19:43:14.8±2.6,36˚.79N×70˚.71E,h201^{km}±23^{km},mb3.0, mpv4.4,Error ellipse: s-maj=22.2km s-min=14.3km az=19.0*

ISC 30 19:43:11.2±0.6,**36˚.44N**±0˚.06×**70˚.65E**±0˚.06,**h204**^{km},**n81**, σ1^{s}**36**/87,**mb3.6**/11,**5C-7D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.31**	**215**	Pn	**Pn**	**19 43 53.8**	**+0.3**
CHGR	**Chuyangaron**	**2.51**	**332**	Pn	**Pn**	**19 43 56.3**	**+0.8**
GAR	**Garm**	**2.56**	**354**		**Pn**	**19 43 57.0**	**+0.9**
DRK	**Karamyk**	**3.17**	**16**		**Pn**	**19 44 04.1**	**+0.9**
NIL	**Nilore**	**3.51**	**142**	Pn	**Pn**	**19 44 07.3**	**+0.1**
TAS	**Tashkent**	**4.99**	**348**	Pn	**Pn**	**19 44 26.1**	**+0.6**
AML	**Almayashu**	**6.15**	**22**	P	**Pn**	**19 44 40.7**	**0.0**
	SNR=456						
UCH	**Uchtor**	**6.51**	**26**	P	**Pn**	**19 44 45.4**	**0.0**
	SNR=82						
KK31	**Karatay Array**	**6.65**	**359**	Pn	**Pn**	**19 44 47.0**	**+0.1**
KK31	**Karatay Array**	**6.65**	**359**	⇓P	**Pn**	**19 44 46.7**	**-0.2**
	5.6nm,0.3s,baz=192,slow=14,SNR=287						
KK31				S	**S**	**19 45 58.0**	**-4.6**
	15nm,0.5s,baz=198,slow=26,SNR=18						
KKAR	**Karatay Array**	**6.65**	**359**		**Pn**	**19 44 47.0**	**+0.1**
KKAR	**Karatay Array**	**6.65**	**359**	Pn	**Pn**	**19 44 46.6**	**-0.3**
EKS2	**Erkin-Say**	**6.66**	**20**	P	**Pn**	**19 44 47.4**	**+0.3**
	SNR=24						
AAK	**Ala-Archa**	**6.86**	**24**	P	**Pn**	**19 44 49.9**	**+0.2**
	SNR=26						
AAK	**Ala-Archa**	**6.86**	**24**	P	**Pn**	**19 44 50.0**	**+0.3**
	6.2nm,0.3s,baz=204,slow=6.2,SNR=65						
AAK				S	**S**	**19 46 06.0**	**-1.8**
	1.5nm,0.3s,baz=326,slow=23,SNR=18						
AAK	**Ala-Archa**	**6.86**	**24**	Pn	**Pn**	**19 44 49.8**	**+0.1**
KBK	**Karagaybulak**	**7.04**	**27**	P	**Pn**	**19 44 52.4**	**+0.4**
	SNR=28						
ULHL	**Ulahol**	**7.24**	**35**	P	**Pn**	**19 44 54.4**	**-0.3**
	SNR=10						
CHMS	**Chumysh**	**7.27**	**25**	P	**Pn**	**19 44 55.1**	**+0.2**
	SNR=9.1						
CHMS	**Chumysh**	**7.27**	**25**	⇓P	**Pn**	**19 44 54.6**	**-0.3**
	12nm,0.5s						
CHMS				⇑S	**S**	**19 46 13.5**	**-3.8**
	14nm,0.6s						
BOOM	**Boomskoye usch**	**7.29**	**33**		**Pn**	**19 44 55.2**	**-0.1**
USP	**Ospenovka**	**7.43**	**22**	P	**Pn**	**19 44 56.9**	**-0.1**
	SNR=10						
TKM2	**Tokmak 2**	**7.51**	**29**	P	**Pn**	**19 44 58.2**	**+0.1**
	SNR=70						
TKM2	**Tokmak 2**	**7.51**	**29**	⇑P	**Pn**	**19 44 57.6**	**-0.6**
	50nm,0.9s						
TKM2				⇓S	**S**	**19 46 20.4**	**-2.8**
	0.3nm,0.2s						
SMLA	**Simla**	**7.59**	**132**	eP	**Pn**	**19 44 59.1**	**+0.1**
SMLA				eS	**S**	**19 46 19.8**	**-5.0**
KDJ	**Kajisay**	**7.61**	**40**	Pn	**Pn**	**19 44 58.8**	**-0.6**
TARG	**Taragay, Kyrgy**	**7.67**	**44**		**Pn**	**19 44 59.8**	**-0.7**
MDOK	**Medeo**	**8.32**	**34**	P	**Pn**	**19 45 07.7**	**-0.9**
	17nm,0.6s						
PRZ	**Przheval'sk**	**8.50**	**42**	Pn	**Pn**	**19 45 10.6**	**-0.4**
PDGK	**Podgornoye**	**9.66**	**42**	⇓P	**Pn**	**19 45 25.0**	**-1.0**
	3.7nm,0.8s						
GEYT	**Alibeck**	**10.11**	**282**	P	**Pn**	**19 45 32.2**	**+0.4**
	0.2nm,0.3s,baz=60,slow=9.8,SNR=1.9						
GEYT				S	**S**	**19 47 19.8**	**-5.3**
	0.3nm,0.3s,baz=359,slow=12,SNR=1.7						
MAKZ	**Makanchi**	**13.37**	**36**		**Pn**	**19 46 12.6**	**-0.4**
MAKZ	**Makanchi**	**13.37**	**36**	⇑P	**Pn**	**19 46 12.1**	**-0.9**
	1.7nm,0.5s						
MK31	**Makanchi Array**	**13.50**	**36**		**Pn**	**19 46 14.6**	**-0.1**
MK31	**Makanchi Array**	**13.50**	**36**	⇓P	**Pn**	**19 46 15.0**	**+0.3**
	1.3nm,0.7s,baz=212,slow=11,SNR=10						
MKAR	**Makanchi Array**	**13.50**	**36**	P	**Pn**	**19 46 14.8**	**+0.1**
	0.2nm,0.3s,baz=222,slow=16,SNR=13						
DANN	**Dangsing**	**13.70**	**122**	eP	**P**	**19 46 20.5**	**+0.8**
	8.0nm,0.4s						
KOLN	**Koldanda**	**13.96**	**125**	eP	**Pn**	**19 46 22.3**	**+1.5**
	1.5nm,0.3s						
GKN	**Gorkha**	**14.52**	**121**	eP	**P**	**19 46 30.2**	**+1.5**
	14nm,0.5s						
AB31	**Akbulak array**	**15.00**	**332**	P	**Pn**	**19 46 32.9**	**-0.1**
	0.5nm,0.6s,baz=141,slow=12,SNR=9.3						
AB31				⇓S	**S**	**19 49 17.9**	**-1.2**
	0.9nm,0.6s,baz=157,slow=23,SNR=3.3						
ABKAR	**Akbulak array**	**15.00**	**332**	P	**P**	**19 46 34.4**	**+0.8**
ABKAR	**Akbulak array**	**15.00**	**332**		**Pn**	**19 46 34.2**	**+1.2**
DMN	**Daman**	**15.09**	**122**	eP	**Pn**	**19 46 35.5**	**+0.9**
	2.0nm,0.3s						
KKN	**Kakani**	**15.09**	**121**	eP	**P**	**19 46 36.5**	**+1.4**
KURBB	**Kurchatov Arra**	**15.27**	**19**	P	**P**	**19 46 37.5**	**+0.9**
	0.2nm,0.3s,baz=215,slow=8.3,SNR=9.5						
KURBB	**Kurchatov Arra**	**15.27**	**19**	⇑P	**P**	**19 46 37.0**	**+0.5**
	1.6nm,0.6s						
PKIN	**Pulchoki**	**15.31**	**121**	eP	**Pn**	**19 46 38.3**	**+1.0**
	7.2nm,0.4s						
PKI	**Pulchoki**	**15.32**	**121**	eP	**Pn**	**19 46 38.5**	**+1.0**
KURK	**Kurchatov**	**15.38**	**19**	P	**Pn**	**19 46 38.0**	**+0.5**
GUN	**Gumba**	**15.44**	**119**	eP	**P**	**19 46 40.9**	**+1.9**
	5.0nm,0.3s						
RAMN	**Ramite**	**16.53**	**120**	eP	**P**	**19 46 50.8**	**-0.2**
BRVK	**Borovoye**	**16.61**	**359**	P	**P**	**19 46 51.3**	**0.0**
AKTO	**Aktyubinsk**	**16.69**	**331**	P	**Pn**	**19 46 54.0**	**+0.7**
	0.3nm,0.3s,baz=144,slow=15,SNR=4.1						
AKTO	**Aktyubinsk**	**16.69**	**331**	⇓P	**P**	**19 46 53.6**	**+1.4**
	1.5nm,0.6s						
TAPN	**Taplejung**	**17.07**	**117**	eP	**Pn**	**19 46 58.8**	**+0.4**
ODAN	**Odare**	**17.14**	**119**	eP	**P**	**19 46 58.2**	**+0.6**
	13nm,0.6s						
ZAA0	**Zalesovo Array**	**20.09**	**25**	P	**P**	**19 47 29.4**	**+0.5**
ZAA0				lAmb	lAmb	19 47 32.1	
	comp=Z,3.3nm,0.7s						
ZAA0	**Zalesovo Array**	**20.09**	**25**	⇑P	**P**	**19 47 28.9**	**0.0**
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**20.09**	**25**	P	**P**	**19 47 29.4**	**+0.5**
	comp=Z,3.8nm,0.3s,baz=216,slow=10,SNR=20						
ZALV	**Zalesovo Beam**	**20.09**	**25**	P	**P**	**19 47 28.7**	**-0.2**
ARU	**Arti**	**21.59**	**342**	P	**P**	**19 47 46.4**	**+1.7**
	comp=Z,0.7nm,0.4s,baz=98,slow=11,SNR=4.8						
NRIK	**Noril'sk**	**34.23**	**11**	P	**P**	**19 49 38.8**	**+1.6**
	comp=Z,2.5nm,0.4s,baz=244,slow=3.2,SNR=3.9						
NRIK	**Noril'sk**	**34.23**	**11**	P	**P**	**19 49 38.6**	**+1.5**
NRIK				lAmb	lAmb	19 49 39.7	
	comp=Z,7.8nm,1.2s						
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**19 50 05.2**	**+1.3**
	comp=Z,2nm,0.3s,baz=121,slow=12,SNR=7.3						
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**19 50 04.5**	**+0.6**
ARCES	**ARCESS Array B**	**41.09**	**338**	P	**P**	**19 50 35.5**	**+0.9**
	comp=Z,2.4nm,1.0s,baz=111,slow=6.6,SNR=4.3						
NC405	**NORSAR Array S**	**44.02**	**323**	P	**P**	**19 50 59.1**	**+0.9**
NC405				lAmb	lAmb	19 51 26.6	
	comp=Z,12nm,1.2s						
NB2	**NORSAR Subarra**	**44.25**	**323**	P	**P**	**19 51 00.5**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.25**	**323**	P	**P**	**19 51 01.2**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=104,slow=7.3,SNR=4.5						
TIXI	**Tiksi**	**45.93**	**22**	P	**P**	**19 51 13.8**	**+0.8**
TIXI				lAmb	lAmb	19 51 14.4	
	comp=Z,2.3nm,0.8s						
MBAR	**Mbarara**	**52.24**	**234**	LR	LR	20 17 27.1	
	comp=Z,70nm,18.5s,baz=256,slow=39						
TOLK	**Toolik Lake Re**	**71.05**	**14**	P	**P**	**19 54 07.3**	**+0.8**
TOLK				lAmb	lAmb	19 54 21.7	
	comp=Z,6.7nm,1.4s						
BMAR	**Burnt Mountain**	**73.06**	**13**	P	**P**	**19 54 19.3**	**+0.8**
C36M	**Paulatuk**	**73.96**	**5**	P	**P**	**19 54 24.0**	**+0.4**
INK	**Inuvik**	**74.00**	**9**	P	**P**	**19 54 24.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=300,slow=4.7,SNR=4.0						
INK	**Inuvik**	**74.00**	**9**	P	**P**	**19 54 24.4**	**+0.5**
INK				lAmb	lAmb	19 54 25.7	
	comp=Z,4.3nm,1.3s						
KNRA	**Kununurra**	**75.44**	**122**	P	**P**	**19 54 33.0**	**+0.1**
BCAR	**Beaver Creek A**	**77.49**	**14**	P	**P**	**19 54 44.9**	**+1.1**
YKA	**Yellowknife Ar**	**81.31**	**2**	P	**P**	**19 55 04.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=351,slow=5.2,SNR=8.1						
WB2	**Warramunga Arr**	**82.21**	**122**	P	**P**	**19 55 08.2**	**-1.4**
ASAR	**Alice Springs**	**84.46**	**125**	P	**P**	**19 55 18.6**	**-2.5**
	comp=Z,0.4nm,0.6s,baz=306,slow=4.8,SNR=2.3						

*IDC **30** 19:58:51.4±1.6,4˚.68S×130˚.73E,h0^{km},mb3.6/2, mb1 3.7/6,mb1mx3.4/39,mbtmp3.6/6,ML3.3/4,MS2.8/1, Ms1 2.8/1,ms1mx2.2/52,Error ellipse: s-maj=57.6km s-min=22.6km az=80.0*

ISC 30 19:58:53.6±1.0,**4.76S**±0˚.06×**131˚.1E**±0˚.2,**h35**^{km},**n7**, σ2^{s}**96**/10,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.87**	**2**	Pn	**Pn**	**19 59 51.0**	**+0.5**
	0.9nm,0.3s,baz=215,slow=19,SNR=22						
SIJI				Sn	**Sn**	**20 00 31.1**	**-3.7**
	2.3nm,0.3s,baz=106,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**14.30**	**202**	Pn	**Pn**	**20 02 13.8**	**+0.1**
	0.1nm,0.3s,baz=26,slow=13,SNR=14						
FITZ				Sn	**Sn**	**20 04 49.4**	**-1.9**
	0.1nm,0.3s,baz=97,slow=17,SNR=1.3						
WRA	**Warramunga Arr**	**15.41**	**169**	Pn	**Pn**	**20 02 31.1**	**+2.5**
	0.1nm,0.3s,baz=348,slow=13,SNR=8.6						
WRA				Sn	**Sn**	**20 05 15.6**	**-2.6**
	0.1nm,0.3s,baz=360,slow=23,SNR=1.6						
ASAR	**Alice Springs**	**18.99**	**172**	P	**Pn**	**20 03 16.9**	**+3.7**
	0.3nm,0.3s,baz=350,slow=10,SNR=38						
ASAR				S	**Sn**	**20 06 41.0**	**-3.9**
	0.0nm,0.3s,baz=357,slow=28,SNR=1.2						
CMAR	**Chiang Mai Arr**	**39.23**	**307**	P	**P**	**20 06 19.3**	**+0.4**
	0.5nm,0.8s,baz=149,slow=7.3,SNR=5.8						
MJAR	**Matsushiro Arr**	**41.61**	**9**	LR	LR	20 23 08.7	
	comp=Z,13nm,19.5s,baz=220,slow=35						
MKAR	**Makanchi Array**	**67.00**	**326**	P	**P**	**20 09 44.1**	**+1.2**
	0.4nm,0.4s,baz=116,slow=8.1,SNR=10						

*IDC **30** 19:59:39.7±1.4,33˚.35N×81˚.41E,h0^{km},mb3.4/7, mb1 3.6/9,mb1mx3.4/45,mbtmp3.5/9,ML3.2/2,MS2.7/2, Ms1 2.8/2,ms1mx2.3/64,Error ellipse: s-maj=58.5km s-min=19.0km az=58.0*

*DMN **30** 19:59:53.1±5.7,32˚.83N×81˚.86E,h33^{km},Mb4.9/7,Error ellipse: s-maj=135.0km s-min=9.4km az=154.0*

ISC 30 19:59:45.3±0.9,**33˚.5N**±0˚.1×**81˚.5E**±0˚.2,**h35**^{km},**n21**, σ0^{s}**98**/19,**mb3.5**/6,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**5.51**	**166**	eP	**Pn**	**20 01 05.4**	**+0.3**
	6.2nm,0.3s						
KOLN	**Koldanda**	**5.97**	**161**	eP	**Pn**	**20 01 11.7**	**+0.3**
	11nm,0.5s						
GKN	**Gorkha**	**6.10**	**153**	eP	**Pn**	**20 01 13.9**	**+0.8**
	25nm,0.5s						
KKN	**Kakani**	**6.55**	**149**	eP	**Pn**	**20 01 19.6**	**+0.3**
	20nm,0.5s						
DMN	**Daman**	**6.63**	**151**	eP	**Pn**	**20 01 21.1**	**+0.6**
	17nm,0.4s						
GUN	**Gumba**	**6.72**	**144**	eP	**Pn**	**20 01 22.4**	**+0.6**
PKIN	**Phulchoki**	**6.78**	**149**	eP	**Pn**	**20 01 22.9**	**+0.3**
PKI	**Pulchoki**	**6.79**	**149**	eP	**Pn**	**20 01 23.1**	**+0.3**
	8.4nm,0.4s						
RAMN	**Ramite**	**7.87**	**144**	eP	**Pn**	**20 01 38.1**	**+0.6**
	16nm,0.4s						
ODAN	**Odare**	**8.35**	**141**	eP	**Pn**	**20 01 45.2**	**+1.1**
	14nm,0.4s						
AAK	**Ala-Archa**	**10.67**	**331**	LR	LR	20 06 02.4	
	comp=Z,21nm,20.0s,baz=162,slow=36						
MKAR	**Makanchi Array**	**13.32**	**2**	Pn	**Pn**	**20 02 51.3**	**-0.5**
	0.1nm,0.3s,baz=180,slow=11,SNR=5.1						
KURBB	**Kurchatov Arra**	**17.27**	**354**	P	**Pn**	**20 03 42.8**	**-0.8**
	0.1nm,0.3s,baz=178,slow=11,SNR=6.9						
ZALV	**Zalesovo Beam**	**20.61**	**6**	P	**P**	**20 04 21.0**	**-0.3**
	0.7nm,0.5s,baz=195,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**21.64**	**129**	P	**P**	**20 04 30.4**	**-2.3**
	1.4nm,0.7s,baz=309,slow=10,SNR=10						
AKTO	**Aktyubinsk**	**24.16**	**322**	P	**P**	**20 04 57.5**	**-0.5**
	1.5nm,0.6s,baz=113,slow=8.3,SNR=4.4						
FINES	**FINESS Array B**	**44.80**	**326**	P	**P**	**20 07 55.3**	**0.0**
	0.8nm,0.6s,baz=117,slow=6.6,SNR=6.6						
NOA	**NORSAR Array B**	**51.90**	**324**	LR	LR	20 32 21.4	
	comp=Z,14nm,19.7s,baz=180,slow=38						
WRA	**Warramunga Arr**	**73.23**	**128**	P	**P**	**20 11 13.1**	**+0.1**
	0.1nm,0.6s,baz=320,slow=6.0,SNR=1.8						
ASAR	**Alice Springs**	**75.64**	**131**	P	**P**	**20 11 26.6**	**-0.4**
	0.2nm,0.7s,baz=318,slow=6.1,SNR=1.8						
YKA	**Yellowknife Ar**	**83.50**	**7**	P	**P**	**20 12 11.3**	**+2.3**
	0.2nm,0.6s,baz=339,slow=5.4,SNR=2.7						

*CNRM **30** 20:05:35.3,35˚.47N×3˚.79W,h26^{km},ml3.1*
*MDD **30** 20:05:36.0±0.5,35˚.43N×3˚.82W,h0^{km},mb_Lg2.8/11, Error ellipse: s-maj=3.9km s-min=2.7km az=172.0*
*SFS **30** 20:05:36.0,35˚.42N×3˚.81W,ML2.8,ALBORAN SUR*
*INMG **30** 20:05:38.0±1.3,35˚.45N×3˚.94W,h0^{km},ML2.3,Error ellipse: s-maj=4.8km s-min=3.1km az=90.0*

ISC 30 20:05:35.8±0.9,**35˚.42N**±0˚.02×**3˚.77W**±0˚.02,**h17**^{km}±7^{km}, **n52**,σ1^{s}**55**/93,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.24**	**214**	P	**Pg**	**20 05 40.9**	**-0.4**
PALE				S	**Sg**	**20 05 45.2**	**+0.2**
PVLZ	**Peæn de**	**0.50**	**240**	P	**Pg**	**20 05 45.6**	**-0.1**
PVLZ				S	**Sg**	**20 05 51.8**	**-0.6**
GOG	**Mont Gurugu**	**0.67**	**107**	P	**Pg**	**20 05 48.5**	**-0.4**
GOG				S	**Sn**	**20 06 01.0**	**+0.3**
GOG	**Mont Gurugu**	**0.67**	**107**	P	**Pg**	**20 05 48.5**	**-0.4**
GOG				S	**Sn**	**20 06 01.0**	**+0.3**
EMEL	**Melilla**	**0.68**	**100**	Pg	**Pg**	**20 05 48.7**	**-0.4**
EMEL				Sg	**Sb**	**20 05 58.3**	**0.0**
WMELI	**Melilla**	**0.68**	**98**	P	**Pg**	**20 05 49.0**	**-0.2**
WMELI				S	**Sg**	**20 05 58.1**	**-0.1**
EALB	**Alboran**	**0.80**	**49**	Pg	**Pb**	**20 05 51.2**	**+0.1**
EALB				Sg	**Sg**	**20 06 02.6**	**+0.8**
EALB				*i* Vmb_Lg		20 06 03.3	
AKLM	**AKL**	**0.91**	**185**	P	**Pn**	**20 05 58.0**	**+4.1**
AKLM	**AKL**	**0.91**	**185**	P	**Pb**	**20 05 53.1**	**-0.1**
TAF	**Taforalt**	**1.27**	**118**	P	**Pn**	**20 05 58.0**	**-0.8**
TAF	**Taforalt**	**1.27**	**118**	P	**Pn**	**20 05 58.0**	**-0.8**
TAF				S	**Sb**	**20 06 12.2**	**-3.1**
**CHE

PNCL	**Nicolau / Gran**	**4.67**	**307**	*e*Pn	**Pn**	**20 06 46.1 +0.6**
PNCL				*e*Sn	**Sn**	**20 07 37.7 -1.5**
PNCL				A	A	20 07 42.5
	2.5nm,0.5s					
PMRV	**Marv??o**	**4.93**	**325**	*e*Pn	**Pn**	**20 06 50.2 +1.1**
PMRV				*e*Sn	**Sn**	**20 07 41.3 -4.4**
PMRV				A	A	20 08 06.4
	2.3nm,0.6s					
OUZM	**OUZ**	**5.15**	**210**	P	**Pn**	**20 06 53.3 +1.1**
PACT	**Alcochete**	**5.25**	**311**	*e*Pn	**Pn**	**20 06 57.2 +3.8**
PACT				*e*Sn	**Sn**	**20 07 53.5 0.0**
PCBR	**Castelo Branco**	**5.30**	**327**	*e*Pn	**Pn**	**20 06 56.8 +2.6**
OUK	**Oukaimeden**	**5.42**	**220**	P	**Pn**	**20 06 57.3 +1.2**
OUK				S	**Sn**	**20 07 56.0 -2.3**
PSBE	**So Bento**	**5.71**	**317**	*e*Pn	**Pn**	**20 07 01.2 +1.3**

NOU 30 20:12:38.0, 16°29S×167°37E, h11km, MLv4.3/15, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.85**	**349**	P	Pb	20 12 54.8	0.0
DVP	**Devils Point**	**1.63**	**151**	P	Pb	20 13 07.6	-0.5
LIFNC	**LIFOU**	**4.46**	**182**	P	Pn	20 13 46.9	+1.2
KOUNC	**Koumac, New Ca**	**5.15**	**214**	P	Pn	20 13 55.4	+0.3
YATNC	**Mamie plateau,**	**5.76**	**184**	P	Pn	20 14 01.5	-1.9
DZM	**Mont Dzumac**	**5.82**	**189**	P	Pn	20 14 04.0	-0.3
NOUC	**Port Laguerre**	**5.87**	**190**	P	Pn	20 14 04.0	-1.0
ONTNC	**Ouen Toro**	**6.05**	**188**	P	Pn	20 14 07.3	-0.1
OUENC	**Ouen Island, N**	**6.12**	**185**	P	Pn	20 14 09.4	+1.0
	33nm,1.1s						

*IDC **30** 20:15:55.5±1.5, 6°72S×149°04E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.4/38, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=70.9km s-min=20.1km az=134.0*

ISC 30 20:15:53.8±0.9, 6°8S±0°5×149°5E±0°5, h10km, n6, σ1s03/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.45**	**222**	Pn	**Pn**	**20 16 48.9**	**+1.3**
	3.1nm,0.3s,baz=31,slow=16,SNR=12						
PMG				Sn	**Sn**	**20 17 28.2**	**-0.5**
	15nm,0.3s,baz=201,slow=23,SNR=13						
KRVT	**Keravat (AS076**	**3.55**	**46**	Pn	**Pb**	**20 16 56.1**	**-0.6**
	14nm,0.3s,baz=179,slow=0.7,SNR=21						
KRVT				Sn	**Sb**	**20 17 41.0**	**+1.0**
	2.5nm,0.3s,baz=282,slow=23,SNR=1.3						
WRA	**Warramunga Arr**	**19.66**	**227**	P	**Pn**	**20 20 23.7**	**-0.7**
	0.1nm,0.3s,baz=52,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**22.47**	**220**	P	**P**	**20 20 52.8**	**-0.6**
	0.3nm,0.7s,baz=49,slow=9.6,SNR=6.1						
FITZ	**Fitzroy Crossi**	**25.80**	**242**	P	**P**	**20 21 26.1**	**+0.8**
	1.7nm,0.5s,baz=64,slow=8.9,SNR=9.5						
TORD	**Torodi Ar. Bea**	**147.68**	**284**	PKPbc	**PKiKP**	**20 35 41.0**	**-0.8**
	0.4nm,0.8s,baz=83,slow=3.7,SNR=4.7						

*IDC **30** 20:16:43.9±2.1, 12°79N×88°74W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.6/32, mbtmp3.6/5, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/53, Error ellipse: s-maj=55.5km s-min=41.7km az=46.0*

*INET **30** 20:16:54.3±0.8, 12°98N×89°25W, h23km±6km, MW4.0*

*NEIC **30** 20:16:55.6±2.0, 13°09N±0°08×89°2W±0°1, h44km±12km, mb4.0/3, Md4.5(SNET), Error ellipse: s-maj=18.3km s-min=7.9km az=59.0*

ISC 30 20:16:54.8±1.0, 13°07N±0°06×89°25W±0°04, h55km±8km, n97, σ0s88/120, mb3.8/5, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.42**	**350**	*e*P	**Pn**	**20 17 05.3**	**-0.2**
LALI	**Alcalda de L**	**0.42**	**350**	*e*P	**Pn**	**20 17 05.3**	**-0.2**
LALI	**Alcalda de L**	**0.42**	**350**	*e*P	**Pn**	**20 17 05.1**	**-0.4**
LALI				*e*S	**Sn**	**20 17 12.7**	**-0.5**
SJTE	**Alcalda de S**	**0.59**	**24**	*e*P	**Pn**	**20 17 07.1**	**-0.4**
SJTE				*e*S	**Sn**	**20 17 17.0**	**+0.4**
SJTE	**Alcalda de S**	**0.59**	**24**	*e*P	**Pn**	**20 17 07.1**	**-0.4**
SJTE				*e*S	**Sn**	**20 17 17.0**	**+0.4**
JAYA	**Jayaque - finc**	**0.61**	**341**	*e*P	**Pn**	**20 17 07.4**	**-0.4**
JAYA	**Jayaque - finc**	**0.61**	**341**	*e*P	**Pn**	**20 17 07.4**	**-0.4**
SNET	**Serv Nac Est T**	**0.61**	**1**	Pn	**Pn**	**20 17 07.4**	**-0.3**
SNET				Sn	**Sn**	**20 17 17.3**	**+0.2**
SNET	**Serv Nac Est T**	**0.61**	**1**	*e*P	**Pn**	**20 17 07.6**	**-0.1**
SNET	**Serv Nac Est T**	**0.61**	**1**	*e*P	**Pn**	**20 17 07.6**	**-0.1**
SNET	**Serv Nac Est T**	**0.61**	**1**	*e*P	**Pn**	**20 17 07.6**	**-0.1**
SNET				*e*S	**Sn**	**20 17 17.7**	**+0.6**
AEIL	**Aeropuerto Ilo**	**0.63**	**12**	*e*P	**Pn**	**20 17 08.2**	**+0.2**
AEIL				*e*S	**Sn**	**20 17 19.1**	**+1.6**
AEIL	**Aeropuerto Ilo**	**0.63**	**12**	*e*P	**Pn**	**20 17 08.2**	**+0.2**
AEIL				*e*S	**Sn**	**20 17 19.1**	**+1.6**
IGN	**Direccin Gen**	**0.64**	**7**	*e*P	**Pn**	**20 17 08.2**	**+0.1**
IGN				*e*S	**Sn**	**20 17 18.7**	**+0.9**
IGN	**Direccin Gen**	**0.64**	**7**	*e*P	**Pn**	**20 17 08.2**	**+0.1**
IGN				*e*S	**Sn**	**20 17 18.7**	**+0.9**
UDBS	**Universidad Do**	**0.65**	**8**	*e*P	**Pn**	**20 17 08.2**	**+0.1**
UDBS	**Universidad Do**	**0.65**	**8**	*e*P	**Pn**	**20 17 08.2**	**+0.1**
COEG	**Centro de Oper**	**0.65**	**33**	*e*P	**Pn**	**20 17 07.9**	**-0.3**
COEG				*e*S	**Sn**	**20 17 18.2**	**+0.2**
COEG	**Centro de Oper**	**0.65**	**33**	*e*P	**Pn**	**20 17 07.9**	**-0.3**
COEG				*e*S	**Sn**	**20 17 18.2**	**+0.2**
COEG	**Centro de Oper**	**0.65**	**33**	*e*P	**Pn**	**20 17 07.9**	**-0.3**
BOQS	**Boqueron**	**0.66**	**357**	*e*P	**Pn**	**20 17 08.3**	**-0.1**
BOQS	**Boqueron**	**0.66**	**357**	*e*P	**Pn**	**20 17 08.3**	**-0.1**
LFU	**La Fuente**	**0.68**	**11**	*e*P	**Pn**	**20 17 08.8**	**+0.2**
LFU	**La Fuente**	**0.68**	**11**	*e*P	**Pn**	**20 17 08.8**	**+0.2**
LBRS	**Las Brisas**	**0.69**	**17**	*e*P	**Pn**	**20 17 08.9**	**+0.1**
LBRS	**Las Brisas**	**0.69**	**17**	*e*P	**Pn**	**20 17 08.9**	**+0.1**
PAVA	**Las Pavas**	**0.70**	**25**	*e*P	**Pn**	**20 17 08.8**	**-0.1**
PAVA	**Las Pavas**	**0.70**	**25**	*e*P	**Pn**	**20 17 08.8**	**-0.1**
PAVA	**Las Pavas**	**0.70**	**25**	*e*P	**Pn**	**20 17 08.8**	**-0.1**
UESV	**Universidad de**	**0.72**	**39**	*e*P	**Pn**	**20 17 08.8**	**-0.2**
UESV	**Universidad de**	**0.72**	**39**	*e*P	**Pn**	**20 17 08.8**	**-0.2**
CEDA	**San Andres**	**0.74**	**349**	*e*P	**Pn**	**20 17 09.2**	**-0.1**
CEDA	**San Andres**	**0.74**	**349**	*e*P	**Pn**	**20 17 09.2**	**-0.1**
CEDA	**San Andres**	**0.74**	**349**	*e*P	**Pn**	**20 17 09.2**	**-0.1**
CEDA				*e*S	**Sn**	**20 17 21.1**	**+1.2**
SCLA	**Alcaldia de Sa**	**0.80**	**39**	*e*P	**Pn**	**20 17 10.3**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.80**	**39**	*e*P	**Pn**	**20 17 10.3**	**+0.2**
COEB	**Comit de Eme**	**0.82**	**59**	*e*P	**Pn**	**20 17 10.4**	**+0.1**
COEB				*e*S	**Sn**	**20 17 22.6**	**+0.8**
COEB	**Comit de Eme**	**0.82**	**59**	*e*P	**Pn**	**20 17 10.4**	**+0.1**
COEB				*e*S	**Sn**	**20 17 22.6**	**+0.8**
COEB	**Comit de Eme**	**0.82**	**59**	*e*P	**Pn**	**20 17 10.1**	**-0.3**
COEB				*e*S	**Sn**	**20 17 22.7**	**+1.0**
RTR	**El Retiro**	**0.91**	**335**	*e*P	**Pn**	**20 17 11.7**	**+0.1**
RTR	**El Retiro**	**0.91**	**335**	*e*P	**Pn**	**20 17 11.7**	**+0.1**
NUBE	**Las Nubes**	**0.97**	**328**	*e*P	**Pn**	**20 17 12.0**	**-0.4**
NUBE	**Las Nubes**	**0.97**	**328**	*e*P	**Pn**	**20 17 12.0**	**-0.4**
PACA	**Pacayal**	**0.98**	**66**	*e*P	**Pn**	**20 17 13.0**	**+0.5**
PACA	**Pacayal**	**0.98**	**66**	*e*P	**Pn**	**20 17 13.0**	**+0.5**
PACA	**Pacayal**	**0.98**	**66**	*e*P	**Pn**	**20 17 12.9**	**+0.4**
PACA				*e*S	**Sn**	**20 17 26.4**	**+0.8**
RANC	**El Ranchito**	**1.00**	**69**	*e*P	**Pn**	**20 17 13.1**	**+0.3**
RANC	**El Ranchito**	**1.00**	**69**	*e*P	**Pn**	**20 17 13.1**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.08**	**331**	*e*P	**Pn**	**20 17 14.1**	**+0.3**
LLGN	**La Laguna**	**1.12**	**15**	*e*P	**Pn**	**20 17 14.6**	**+0.2**
LLGN	**La Laguna**	**1.12**	**15**	*e*P	**Pn**	**20 17 14.6**	**+0.2**
MTO3	**Montecristo**	**1.32**	**355**	Pn	**Pn**	**20 17 17.5**	**+0.3**
MTO3				Sn	**Sn**	**20 17 35.0**	**+1.1**
MTO3	**Montecristo**	**1.32**	**355**	*e*P	**Pn**	**20 17 17.5**	**+0.3**
MTO3	**Montecristo**	**1.32**	**355**	*e*P	**Pn**	**20 17 17.5**	**+0.3**
MTO3	**Montecristo**	**1.32**	**355**	*e*P	**Pn**	**20 17 17.6**	**+0.3**
LCND	**La Caada**	**1.34**	**80**	*e*P	**Pn**	**20 17 17.4**	**+0.1**
LCND				*e*S	**Sn**	**20 17 35.1**	**+1.1**
LCND	**La Caada**	**1.34**	**80**	*e*P	**Pn**	**20 17 17.4**	**+0.1**
LCND				*e*P	**Pn**	**20 17 17.6**	**+0.4**
LCND				*e*S	**Sn**	**20 17 35.1**	**+1.1**
LCND				*e*S	**Sn**	**20 17 35.2**	**+1.1**
CNCH	**Conchagua**	**1.39**	**81**	*e*P	**Pn**	**20 17 17.9**	**-0.1**
CNCH	**Conchagua**	**1.39**	**81**	*e*P	**Pn**	**20 17 17.9**	**-0.1**
ESQI	**Esquipulas**	**1.48**	**356**	Pn	**Pn**	**20 17 19.6**	**+0.4**
ESQI	**Esquipulas**	**1.48**	**356**	*e*P	**Pn**	**20 17 20.0**	**+0.8**
CSGN	**Cosiguina Volc**	**1.65**	**93**	*e*P	**Pn**	**20 17 20.7**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.15**	**63**		**Pn**	**20 17 28.5**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.15**	**63**	*e*P	**Pn**	**20 17 28.8**	**+0.3**
CRIN	**San Cristobal**	**2.17**	**100**	Pn	**Pn**	**20 17 28.4**	**-0.2**
CRIN	**San Cristobal**	**2.17**	**100**	*e*P	**Pn**	**20 17 28.3**	**-0.2**
TELN	**Telica**	**2.40**	**101**	*e*P	**Pn**	**20 17 30.7**	**-1.0**
CNGN	**Cerro Negro**	**2.55**	**103**	Pn	**Pn**	**20 17 31.8**	**-1.9**
MOMN	**Momotombo**	**2.72**	**104**	*e*P	**Pn**	**20 17 35.9**	**-0.2**
COPN	**Copaltepe**	**2.74**	**109**	*e*P	**Pn**	**20 17 34.9**	**-1.4**
HUEN		**3.09**	**103**	*e*P	**Pn**	**20 17 39.8**	**-1.3**
MATN	**Matagalpa**	**3.24**	**92**		**Pn**	**20 17 43.0**	**-0.2**
MATN	**Matagalpa**	**3.24**	**92**	*e*P	**Pn**	**20 17 42.6**	**-0.6**
BOAB	**BOACO BROADBAN**	**3.55**	**100**		**Pn**	**20 17 46.5**	**-0.9**
PETF	**Flores**	**3.87**	**351**	Pn	**Pn**	**20 17 52.9**	**+1.2**
ACON	**Acoyapa**	**4.13**	**105**	Pn	**Pn**	**20 17 55.0**	**-0.3**
HZTE	**Horizontes, Gu**	**4.28**	**123**	Pn	**Pn**	**20 17 54.9**	**-2.5**
ORTG	**Ortega, Santa**	**4.58**	**126**	Pn	**Pn**	**20 18 02.4**	**+0.7**
DUNO	**Dulce Nombre,**	**4.73**	**129**	Pn	**Pn**	**20 18 04.5**	**+0.8**
ESPN	**Las Esperanzas**	**4.91**	**100**	Pn	**Pn**	**20 18 06.2**	**+0.1**
JTS	**Las Juntas de**	**5.03**	**123**	Pn	**Pn**	**20 18 08.8**	**+1.0**
CAO2	**Cobano, Puntar**	**5.27**	**129**	Pn	**Pn**	**20 18 11.3**	**+0.3**
RIMA	**Rio Macho**	**6.22**	**121**	Pn	**Pn**	**20 18 26.3**	**+2.1**
PEZE	**Perez Zeledon,**	**6.58**	**123**	Pn	**Pn**	**20 18 30.2**	**+1.1**
CMIG	**Matias Romero**	**6.75**	**307**	Pn	**Pn**	**20 18 33.9**	**+2.5**
	0.5nm,0.3s,baz=141,slow=14,SNR=2.2						
CMIG				Sn	**Sn**	**20 19 49.1**	**+2.2**
	0.6nm,0.3s,baz=52,slow=23,SNR=2.3						
SRBA	**San Rafael, Bu**	**6.92**	**123**	Pn	**Pn**	**20 18 35.4**	**+1.6**
DRK0	**Durika**	**7.00**	**122**	Pn	**Pn**	**20 18 36.3**	**+1.4**
TX32	**Lajitas Array**	**21.00**	**323**	P	**P**	**20 21 35.2**	**+1.4**
TX32				IAmb	IAmb	20 21 49.6	
	comp=Z,1.2nm,1.1s						
TXAR	**Lajitas Array**	**21.00**	**323**	P	**P**	**20 21 35.0**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=135,slow=12,SNR=8.7						
TXAR	**Lajitas Array**	**21.00**	**323**	P	**P**	**20 21 35.0**	**+1.1**
BAUV	**El Baul**	**21.21**	**99**	P	**P**	**20 21 38.4**	**+2.2**
BAUV				IAmb	IAmb	20 21 47.2	
	comp=Z,16nm,1.3s						
TKL	**Tuckaleechee C**	**23.02**	**11**	P	**P**	**20 21 53.9**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=188,slow=8.1,SNR=10						
TKL				LR	LR	20 31 01.3	
	comp=Z,46nm,19.2s,baz=172,slow=37						
PDAR	**Pinedale Array**	**34.41**	**333**	P	**P**	**20 23 36.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=134,slow=10,SNR=3.1						
PDAR				PcP	**PcP**	**20 26 10.8**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=106,slow=5.2,SNR=4.0						
NVAR	**Mina Array Bea**	**36.09**	**320**	PcP	**PcP**	**20 26 17.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=126,slow=4.6,SNR=3.7						
YKA	**Yellowknife Ar**	**52.56**	**345**	P	**P**	**20 26 00.6**	**-1.9**
	comp=Z,1.6nm,0.6s,baz=143,slow=7.8,SNR=31						
MKAR	**Makanchi Array**	**119.93**	**7**	PKP	**PKPdf**	**20 35 36.4**	**-3.0**
	comp=Z,0.1nm,0.4s,baz=18,slow=1.8,SNR=1.5						
CMAR	**Chiang Mai Arr**	**147.65**	**345**	PKPbc	**PKPdf**	**20 36 32.2**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=345,slow=3.4,SNR=11						

JMA 30 20:17:28.9±0.1, 23°91N×123°34E, h16km±3km, M2.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.45**	**71**	P	Pg	20 17 37.7	-0.2
HATJ				S	Sg	20 17 44.1	0.0
IRIF	**Iriomote-Funau**	**0.55**	**40**	P	Pg	20 17 39.8	-0.1
IRIF				S	Sg	20 17 47.3	0.0
YOJ	**Yonaguni jima**	**0.63**	**331**	P	Pg	20 17 41.1	-0.1
YOJ				S	Sg	20 17 49.0	-0.6
JYNG	**Yonagunijimaku**	**0.65**	**326**	P	Pg	20 17 41.3	-0.4
JYNG				S	Sg	20 17 49.5	-0.8
JKRS	**Kuro-shima**	**0.69**	**62**	P	Pg	20 17 42.4	-0.1
JKRS				S	Sg	20 17 51.8	+0.1
JIJ	**Ishigaki jima**	**0.86**	**58**	P	Pb	20 17 45.0	-0.5
JIJ				S	Sb	20 17 55.9	-0.9
JISG	**Ishigakijimahi**	**1.11**	**53**	P	Pb	20 17 49.0	-0.8
JISG				S	Sb	20 18 03.6	-0.4
JTJ	**Tarama**	**1.44**	**59**	P	Pb	20 17 54.9	-0.5
JTJ				*e*S	Sb	20 18 13.7	+0.2

TAP 30 20:17:52.7, 23°24N×121°38E, h48km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FULB	**Fuli**	**0.09**	**244**	P	Pn	20 18 01.1	+0.9
	baz=242						
FULB				*i* S	Sn	20 18 06.4	+0.8
	baz=242						
EYUL	**Yuli**	**0.12**	**332**	*e*P	Pn	20 18 00.8	+0.4
	baz=321						
EYUL				*e*S	Sn	20 18 05.6	-0.2
	baz=321						
TWF1	**Yuli**	**0.14**	**326**	*e*P	Pn	20 18 00.2	-0.3
	baz=317						
TWF1				*e*S	Sn	20 18 05.3	-0.7
	baz=317						
CHKT	**Chengkung**	**0.14**	**186**	*e*P	Pn	20 18 00.8	+0.3
	baz=175						
CHKT				*e*S	Sn	20 18 06.2	+0.3
	baz=175						
YULB	**Yu-li**	**0.17**	**333**	P	Pn	20 18 00.8	+0.1
	baz=335						
YULB				S	Sn	20 18 05.9	-0.4
	baz=335						
ECS	**Chishang**	**0.21**	**227**	*e*S	Sn	20 18 06.3	-0.4
	baz=224						
HGSD	**Ruisui**	**0.26**	**9**	*e*P	Pn	20 17 58.6	-2.7
	baz=19						
HGSD				*e*S	Sn	20 18 07.2	-0.1
	baz=19						
EHY	**Hungye**	**0.27**	**348**	P	Pn	20 18 00.5	-0.9
	baz=346						
EHY				S	Sn	20 18 07.2	-0.4
	baz=346						
EDH	**Donghe**	**0.27**	**195**	P	Pn	20 18 01.2	-0.2
	baz=195						
EDH				S	Sn	20 18 07.5	0.0
	baz=195						
ELDTW	**Lidau**	**0.34**	**262**	*e*P	Pn	20 18 02.4	+0.2
	baz=260						
ELDTW				*e*S	Sn	20 18 08.4	-0.4
	baz=260						
LONT	**Longtian**	**0.40**	**215**	*e*P	Pn	20 18 02.7	0.0
	baz=210						
LONT				*e*S	Sn	20 18 08.8	-1.0
	baz=210						
EGFH	**Guangfu**	**0.43**	**6**	*e*P	Pn	20 18 03.1	0.0
	baz=6.0						
EGFH				*e*S	Sn	20 18 09.9	-0.5
	baz=6.0						
TWGBT	**Beinan**	**0.50**	**214**	*e*S	Sn	20 18 09.9	-2.0
	baz=207						
TWG	**Pinlang**	**0.50**	**215**	*e*P	Pn	20 18 03.1	-0.8
	baz=207						
TWG				*e*S	Sn	20 18 10.6	-1.3
	baz=207						
VWDT	**VWDT**	**0.56**	**337**	*e*P	Pn	20 18 02.3	-2.2
	baz=340						
VWDT				*e*S	Sn	20 18 14.5	+1.5
	baz=340						
STYH	**Taoyuan**	**0.56**	**263**	*e*S	Sn	20 18 13.5	+0.4
	baz=260						
LDUT	**Ludao**	**0.57**	**172**	*e*P	Pn	20 18 02.1	-2.6
	baz=171						
LDUT				*e*S	Sn	20 18 12.5	-0.8
	baz=171						
ALS	**Alishan**	**0.60**	**297**	*e*P	Pn	20 18 06.0	+0.6
	baz=297						
TPUB	**Ta-pu**	**0.69**	**275**	*e*P	Pn	20 18 08.1	+1.7
	baz=275						
TPUB				*e*S	Sn	20 18 18.2	+2.0
	baz=275						
CHN4	**Tsaushan**	**0.73**	**279**	*e*P	Pn	20 18 08.5	+1.6
	baz=279						
CHN4				*e*S	Sn	20 18 17.2	+0.1
	baz=279						
OWD	**Renai**	**0.74**	**345**	*e*P	Pn	20 18 05.7	-1.3
	baz=352						
OWD				*e*S	Sn	20 18 17.2	-0.2
	baz=352						
WUSB	**Renai**	**0.79**	**342**	*e*P	Pn	20 18 07.6	-0.1
	baz=350						
WUSB				*e*S	Sn	20 18 18.6	0.0
	baz=350						

*BJI **30** 20:30:38.3±0.0, 15°91S×167°96E, h9km, mb4.7/57, mB5.3/43, Ms4.8/43, Ms7 4.5/45*

*MOS **30** 20:30:39.6±1.0, 16°28S×167°46E, h22km, mb5.2/16, Error ellipse: s-maj=10.7km s-min=8.7km az=32.6*

*NEIC **30** 20:30:39.3±1.5, 16°33S±0°04×167°47E±0°06, h6km±4km, mb5.2/66, Error ellipse: s-maj=9.9km s-min=2.9km az=53.0*

*NOU **30** 20:30:39.7, 16°31S×167°34E, h9km, mb5.1/19, Vanuatu Islands*

*IDC **30** 20:30:42.9±2.7, 16°29S×167°42E, h32km±19km, mb4.3/18, mb1 4.5/22, mb1mx4.3/45, mbtmp4.5/22, ML4.8/4, MS4.4/54, Ms1 4.4/54, ms1mx4.4/65, Error ellipse: s-maj=17.6km s-min=14.3km az=85.0*

*GCMT **30** 20:30:43.3±0.1, 16°26S±0°01×167°19E±0°01, h14km, MW5.2/113, Moment Tensor Solution. s97,c139; s113,c182; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}6.00±.15; $M_{\theta\theta}$-0.87±.12; $M_{\phi\phi}$-5.13±.12; $M_{r\theta}$0.20±.23; $M_{\theta\phi}$3.30±.09; $M_{r\phi}$-4.30±.27; Best double couple: $M_0$7.79700×10^{16} NP1:ϕ_s315.00000°, δ32.00000°, λ63.00000°. NP2:ϕ_s166.00000°, δ62.00000°, λ106.00000°. Principal axes: T 7.5660, Plg69.0000°, Azm108.0000°; N 0.4630, Plg14.0000°, Azm339.0000°; P -8.0280, Plg16.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 20:30:40.1±0.5, 16°33S±0°04×167°49E±0°05, h13km±2km, h13km:pP-P, n273, σ1s43/272, mb5.1/80, MS4.5/68, 10C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.92**	**342**	Pg	**Pg**	**20 30 56.2**	**-1.6**
SANVU				Sg	**Sg**	**20 31 09.0**	**-0.9**
SANVU	**Saraoutou**	**0.92**	**342**	P	**Pg**	**20 30 56.8**	**-1.0**
SANVU	**Saraoutou**	**0.92**	**342**	P	**Pg**	**20 30 56.6**	**-1.2**
DVP	**Devils Point**	**1.54**	**155**	P	**Pb**	**20 31 08.6**	**+0.1**
DVP	**Devils Point**	**1.54**	**155**	P	**Pb**	**20 31 08.7**	**+0.2**
RTV	**Rentapao**	**1.71**	**149**	P	**Pb**	**20 31 10.8**	**-0.6**
RTV	**Rentapao**	**1.71**	**149**	P	**Pb**	**20 31 10.7**	**-0.6**
LIFNC	**LIFOU**	**4.43**	**183**	Pn	**Pn**	**20 31 45.7**	**-1.4**
LIFNC	**LIFOU**	**4.43**	**183**	P	**Pn**	**20 31 45.7**	**-1.4**
MARNC	**Mare, Loyalty**	**5.15**	**174**		**Pn**	**20 31 56.1**	**-0.8**
MARNC	**Mare, Loyalty**	**5.15**	**174**	P	**Pn**	**20 31 56.7**	**-0.2**
KOUNC	**Koumac, New Ca**	**5.19**	**215**	Pn	**Pn**	**20 31 56.6**	**-0.8**
KOUNC	**Koumac, New Ca**	**5.19**	**215**	P	**Pn**	**20 31 56.6**	**-0.8**
YATNC	**Mamie plateau,**	**5.73**	**186**	P	**Pn**	**20 32 03.7**	**-1.2**
DZM	**Mont Dzumac**	**5.80**	**190**	Pn	**Pn**	**20 32 05.9**	**0.0**
	22nm,0.3s,baz=326,slow=12,SNR=95						
DZM				Sn	**Sn**	**20 33 10.8**	**-1.6**
	35nm,0.3s,baz=304,slow=24,SNR=8.9						
DZM				LR	LR	20 34 11.9	
	comp=Z,4μm,20.7s,baz=78,slow=36						
DZM	**Mont Dzumac**	**5.80**	**190**		**Pn**	**20 32 05.3**	**-0.6**
DZM	**Mont Dzumac**	**5.80**	**190**	P	**Pn**	**20 32 05.6**	**-0.3**
NOUC	**Port Laguerre**	**5.85**	**191**	P	**Pn**	**20 32 06.2**	**-0.4**
ONTNC	**Ouen Toro**	**6.03**	**189**		**Pn**	**20 32 08.7**	**-0.3**
ONTNC	**Ouen Toro**	**6.03**	**189**	P	**Pn**	**20 32 09.2**	**+0.2**
OUENC	**Ouen Island, N**	**6.09**	**186**		**Pn**	**20 32 09.6**	**-0.2**
OUENC	**Ouen Island, N**	**6.09**	**186**	P	**Pn**	**20 32 11.1**	**+1.3**
PINNC	**Pines Island,**	**6.25**	**180**		**Pn**	**20 32 12.8**	**+0.7**
PINNC	**Pines Island,**	**6.25**	**180**	P	**Pn**	**20 32 13.3**	**+1.2**
HNR	**Honiara**	**10.05**	**312**	Pn	**Pn**	**20 33 05.3**	**+1.0**
	12nm,0.3s,baz=13,slow=6.8,SNR=4.8						
HNR				Sn	**Sn**	**20 34 53.9**	**-3.0**
	4.8nm,0.3s,baz=217,slow=15,SNR=1.1						
HNR				LR	LR	20 36 60.0	
	comp=Z,1μm,19.9s,baz=150,slow=38						
HNR	**Honiara**	**10.05**	**312**	Pn	**Pn**	**20 33 03.7**	**-0.6**
MSVF	**Nonsavu**	**10.20**	**99**	Pn	**Pn**	**20 33 09.3**	**+3.0**
	0.3nm,0.3s,baz=270,slow=15,SNR=1.4						
MSVF				LR	LR	20 36 20.3	
	comp=Z,9μm,18.4s,baz=280,slow=33						
MSVF	**Nonsavu**	**10.20**	**99**	P	**Pn**	**20 33 07.2**	**+0.9**
MSVF	**Nonsavu**	**10.20**	**99**		**Pn**	**20 33 07.2**	**+0.9**
FUNA	**Funafuti**	**13.81**	**57**	Pn	**Pn**	**20 33 55.0**	**-0.7**
LHI	**Lord Howe Isla**	**16.96**	**205**	Pn	**Pn**

WRAB pmax pmax
comp=Z,24nm,1.4s
WRAB Tennant Creek 31.67 258 P **P** **20 37 01.5 -2.0**
WRAB IAmb IAmb 20 37 06.9
comp=Z,26nm,1.4s
WRA Warramunga Arr 31.68 258 P **P** **20 37 01.9 -1.7**
comp=Z,5.0nm,1.0s,baz=90,slow=9.1,SNR=12
WRA PcP **PcP** **20 39 54.2 -1.3**
comp=Z,0.6nm,0.8s,baz=102,slow=3.1,SNR=2.0
WRA ScP **ScP** **20 43 37.5 -1.2**
comp=Z,0.2nm,0.9s,baz=71,slow=2.5,SNR=1.1
WRA LR LR 20 49 43.0
comp=Z,884nm,18.1s,baz=148,slow=36
WRA Warramunga Arr 31.68 258 P **P** **20 37 02.2 -1.4**
WRA Warramunga Arr 31.68 258 P **P** **20 37 02.2 -1.4**
SMPI Sarmi 31.71 294 P **P** **20 37 04.8 +0.9**
comp=Z,588nmcomp=Z,32nm,1.4s
AS31 Alice Springs 32.34 251 P **P** **20 37 07.8 -1.6**
ASAR Alice Springs 32.34 251 P **P** **20 37 08.2 -1.1**
comp=Z,39nm,1.0s,baz=78,slow=9.2,SNR=136
ASAR PcP **PcP** **20 39 56.5 -0.8**
comp=Z,0.6nm,0.7s,baz=84,slow=3.1,SNR=1.9
ASAR ScP **ScP** **20 43 37.7 -3.2**
comp=Z,0.4nm,0.9s,baz=58,slow=3.5,SNR=2.3
ASAR LR LR 20 49 43.7
comp=Z,2µm,18.9s,baz=86,slow=35
ASAR Alice Springs 32.34 251 P **P** **20 37 07.8 -1.6**
GUMO Guam 37.20 322 LR LR 20 51 31.3
comp=Z,812nm,21.7s,baz=148,slow=34
KNRA Kununurra 37.20 265 P **P** **20 37 52.5 +1.2**
baz=37,SNR=7.8
KNRA Kununurra 37.20 265 P **P** **20 37 49.3 -2.1**
KNRA IAmb IAmb 20 37 55.0
comp=Z,47nm,1.2s
WRKA Warakurna 37.57 250 P **P** **20 37 53.8 -0.7**
baz=38,SNR=9.4
FORT Forrest 38.69 241 P **P** **20 38 03.6 -0.2**
FORT IAmb IAmb 20 38 25.7
comp=Z,33nm,0.8s
SIJI Sorong 38.86 290 LR LR 20 55 32.3
comp=Z,1µm,18.4s,baz=126,slow=38
FITZ Fitzroy Crossi 39.96 261 LR LR 20 54 50.2
comp=Z,2µm,18.1s,baz=84,slow=36
PPT Papeete 41.02 98 LR LR 20 51 05.5
comp=Z,538nm,21.3s,baz=258,slow=30
LBMI Labuha 42.38 288 P **P** **20 38 36.4 +1.9**
comp=Z,571nmcomp=Z,41nm,1.4s
BATI Baumata 43.02 272 LR LR 20 55 46.0
comp=Z,795nm,21.6s,baz=132,slow=35
TNTI Ternate 43.08 289 P **P** **20 38 39.1 -1.1**
SANI Sanana 43.23 285 P **P** **20 38 43.8 +2.3**
comp=Z,814nmcomp=Z,27nm,1.5s
PSA00 Pilbara Seismi 45.23 256 P **P** **20 38 56.7 -0.7**
PSA00 IAmb IAmb 20 39 02.3
comp=Z,61nm,1.5s
PSA00 Pilbara Seismi 45.23 256 P **P** **20 38 56.3 -1.1**
PSA00 IAmb IAmb 20 39 02.3
comp=Z,35nm,1.5s
MBWA Marble Bar 45.35 256 P **P** **20 38 57.9 -0.5**
MBWA IAmb IAmb 20 39 03.1
comp=Z,36nm,1.4s
KMSI Cibinong 46.09 287 P **P** **20 39 06.4 +2.1**
comp=Z,25nm,0.8s
MEEK Meekatharra 46.38 249 P **P** **20 39 07.0 +0.5**
baz=46,SNR=5.0
LUWI Luwuk 46.59 284 P **P** **20 39 08.6 +0.4**
LUWI IAmb IAmb 20 39 14.3
comp=Z,32nm,1.1s
KLBR Kellerberrin 47.53 242 P **P** **20 39 15.9 +0.6**
baz=48,SNR=4.0
DAV Davao City (W) 47.54 296 LR LR 20 59 17.0
comp=Z,83nm,19.1s,baz=111,slow=36
KAPI Kappang 48.12 278 LR LR 20 58 57.4
comp=Z,270nm,20.2s,baz=106,slow=35
KAPI Kappang 48.12 278 P **P** **20 39 20.8 +0.6**
KAPI pmax pmax
comp=Z,66nm,1.6s
KAPI Kappang 48.12 278 P **P** **20 39 20.8 +0.6**
TTSI Tana Toraja 48.67 281 P **P** **20 39 26.5 +2.1**
comp=Z,13nm,1.6s
MORW Morawa 48.79 246 P **P** **20 39 25.4 +0.2**
baz=49,SNR=4.4
MORW Morawa 48.79 246 P **P** **20 39 24.8 -0.4**
JCJ Chichijima 49.66 330 LR LR 21 00 18.2
comp=Z,131nm,19.2s,baz=174,slow=36
MPSI Mapaga 49.77 285 P **P** **20 39 31.3 -1.5**
comp=Z,21nm,1.2s
MYLDM Lahad Datu 52.95 290 P **P** **20 39 56.4 -0.3**
MYLDM IAmb IAmb 20 40 29.1
comp=Z,58nm,1.6s
BBKI Banjar Baru 53.26 278 P **P** **20 39 58.5 -0.5**
comp=Z,20nm,1.3s
JOW Kunigami 57.37 318 LR LR 21 01 52.5
comp=Z,323nm,21.9s,baz=130,slow=33
JOW Kunigami 57.37 318 P **P** **20 40 27.4 -1.0**
STKI Sintang 57.56 281 P **P** **20 40 31.4 +1.4**
comp=Z,4µmcomp=Z,7.4nm,0.9s
SBUM Sibu 57.68 284 P **P** **20 40 30.1 -0.7**
JGF Kuroka 59.01 331 P **P** **20 40 39.2 -0.5**
JGF IAmb IAmb 20 41 44.0
comp=Z,61nm,1.8s
KSM Kuching 59.13 282 P **P** **20 40 40.2 -0.8**
KSM IAmb IAmb 20 40 46.0
comp=Z,34nm,1.3s
LEM Lembang 59.23 272 LR LR 21 05 59.4
comp=Z,430nm,21.2s,baz=105,slow=36
LEM Lembang 59.23 272 P **P** **20 40 46.1 +4.2**
LEM pmax pmax
comp=Z,37nm,1.1s
JSU Suzuyama 59.38 323 P **P** **20 40 41.7 -0.6**
MJAR Matsushiro Arr 59.41 333 P **P** **20 40 41.8 -0.6**
comp=Z,1.4nm,0.4s,baz=155,slow=9.8,SNR=4.6
MJAR LR LR 21 02 26.8
comp=Z,150nm,21.4s,baz=139,slow=32
MJAR Matsushiro Arr 59.41 333 P **P** **20 40 41.5 -0.9**
MJAR pmax pmax
comp=Z,23nm,2.0s
MJAR Matsushiro Arr 59.41 333 P **P** **20 40 41.5 -0.9**
CBJI Citeko 60.07 272 P **P** **20 40 48.4 +0.9**
comp=Z,54nm,1.1s
DBJI Dramaga 60.14 272 P **P** **20 40 50.1 +2.2**
comp=Z,61nm,1.5s
NACB Ninganchiao 60.23 311 P **P** **20 40 47.7 -0.6**
SSLB Suanglung 60.46 310 P **P** **20 40 48.8 -1.1**
SSLB IAmb IAmb 20 41 48.4
comp=Z,16nm,0.9s
YHNB Yeheng 60.69 311 P **P** **20 40 50.7 -0.8**
VNDA Vanda 61.28 181 P **P** **20 40 54.4 -0.3**
comp=Z,3.0nm,0.9s,baz=353,slow=6.9,SNR=7.9
VNDA LR LR 21 05 04.2
comp=Z,377nm,18.4s,baz=18,slow=34
VNDA Vanda 61.28 181 P **P** **20 40 55.7 +1.0**
VNDA pmax pmax
comp=Z,32nm,1.5s
VNDA Vanda 61.28 181 P **P** **20 40 55.7 +1.0**
VNDA IAmb IAmb 20 41 01.9
comp=Z,32nm,1.5s
SBA Scott Base 61.55 180 P **P** **20 40 57.7 +1.2**
SBA pmax pmax
comp=Z,81nm,1.5s
SBA Scott Base 61.55 180 P **P** **20 40 57.7 +1.2**
CASY Casey 62.14 203 P **P** **20 41 01.1 +0.5**
KASI Kota Agung 62.57 272 P **P** **20 41 06.3 +1.9**
comp=Z,43nm,1.2s
QZH Quanzhou 62.88 310 P **P** **20 41 08.0 +1.8**
QZH S **S** **20 49 35.8 0.0**
QZH LR LR
comp=Z,250nm,19.4s
LWLI Liwa 63.12 273 P P 20 41 18.6 +10
KSRS Korea Array 65.17 326 P **P** **20 41 20.5 -0.5**
comp=Z,1.1nm,0.7s,baz=137,slow=5.8,SNR=3.4
KSRS LR LR 21 09 30.5
comp=Z,136nm,18.2s,baz=145,slow=36
MYKOM Kota Tinggi 65.33 280 P **P** **20 41 21.0 -1.5**
MYKOM IAmb IAmb 20 41 28.0
comp=Z,26nm,1.6s
YSS Yuzh-Sakhalins 66.81 342 *i* P **P** **20 41 30.4 -0.9**
YSS pmax pmax
comp=Z,20nm,1.4s
NJ2 Nanjing 66.97 316 *e*P **P** **20 41 34.0 +1.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
BKNI Bangkinang 67.54 277 P **P** **20 41 36.6 -0.1**
BKNI Bangkinang 67.54 277 P **P** **20 41 38.9 +2.2**
USA0B Ussuriysk Arra 68.40 333 P **P** **20 41 41.1 -0.4**
USA0B pmax pmax
comp=Z,14nm,1.0s
USA0B Ussuriysk Arra 68.40 333 P **P** **20 41 41.1 -0.4**
USA0B IAmb IAmb 20 41 55.1
comp=Z,14nm,1.0s
USRK Ussuriysk Ar. 68.40 333 P **P** **20 41 41.1 -0.4**
comp=Z,6.6nm,1.0s,baz=128,slow=4.2,SNR=7.9
SHEM Shemya Is, Ala 69.01 4 LR LR 21 07 13.3
comp=Z,513nm,20.2s,baz=134,slow=32
WHN Wuhan 69.17 312 ⇑P **P** **20 41 51.0 +4.5**
WHN pmax pmax
comp=Z,70nm,1.3s
KULM Kulim 69.48 282 P **P** **20 41 48.4 -0.4**
PEA0B Petropavlovsk- 69.66 354 *i* P **P** **20 41 51.9 +2.8**
PETK Petropavlovsk- 69.66 354 P **P** **20 41 48.9 -0.2**
comp=Z,9.4nm,1.0s,baz=155,slow=7.9,SNR=4.0
PETK LR LR 21 09 41.8
comp=Z,276nm,19.0s,baz=159,slow=34
MDJ Mudanjiang 69.78 332 P **P** **20 41 49.4 -0.6**
MDJ IAmb IAmb 20 41 53.4
comp=Z,9.2nm,0.8s
PSI Prapat 70.31 279 LR LR 21 12 44.2
comp=Z,170nm,19.0s,baz=130,slow=36
SNY Shenyang 70.65 327 ⇓P **P** **20 41 59.3 +3.9**
SNY S **S** **20 51 09.5 +0.3**
SNY SS **SS** **20 55 38.5 -3.0**
SNY pmax pmax
comp=Z,230nm,5.2s
SNY LR LR
comp=Z,290nm,14.9s
SNY LR LR
comp=Z,250nm,16.1s
SNY LR LR
comp=Z,400nm,19.7s
CN2 Changchun 71.12 329 *e*P **P** **20 41 58.5 +0.3**
CN2 *e*S **S** **20 51 20.3 +5.7**
CN2 SS **SS** **20 55 50.0 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,18.0s
GSI Gunungsitoli 71.14 277 P **P** **20 41 58.6 -0.4**
GSI Gunungsitoli 71.14 277 P P 20 42 04.8 +5.8
BNX BinXian 71.64 332 ⇓P **P** **20 42 02.5 +1.2**
BNX pmax pmax
comp=Z,8.0nm,0.8s
BNX pmax pmax
comp=Z,130nm,8.0s
GRNR Gornyy 72.16 340 ⇑*i*P **P** **20 42 04.4 +0.1**
GRNR pmax pmax
comp=Z,3.0nm,0.9s
ENH Enshi 72.54 310 P **P** **20 42 06.2 -1.0**
KLR Kul'dur 72.55 336 P **P** **20 42 07.6 +0.9**
comp=Z,10.0nm,1.2s,baz=127,slow=4.1,SNR=11
KLR LR LR 21 13 55.7
comp=Z,100nm,18.5s,baz=159,slow=36
KLR Kul'dur 72.55 336 *i* P **P** **20 42 06.0 -0.7**
KLR pmax pmax
comp=Z,26nm,1.4s
LYN LuoYang 72.75 315 *e*P **P** **20 42 08.5 +0.3**
LYN pP pP 20 42 13.0 +0.4
LYN S **S** **20 51 35.3 +1.6**
LYN SS **SS** **20 56 14.3 +0.4**
LYN pmax pmax
comp=Z,280nm,7.3s
LYN LR LR
comp=Z,310nm,16.1s
LYN LR LR
comp=Z,350nm,16.1s
LYN LR LR
comp=Z,400nm,20.8s
GYA Guiyang 72.80 305 ⇑P P 20 42 13.8 +5.0
GYA S **S** **20 51 36.8 +2.0**
GYA SKS **ScS** **20 52 15.8 -0.8**
GYA SS **SS** **20 56 16.3 +1.1**
GYA pmax pmax
comp=Z,25nm,1.4s
HNS HongShan 72.93 318 ⇓P **P** **20 42 13.0 +3.8**
HNS S **S** **20 51 35.0 -0.6**
HNS LR LR
comp=Z,210nm,18.6s
HNS LR LR
comp=Z,240nm,18.6s
HNS LR LR
comp=Z,290nm,20.1s
BJI Beijing 73.64 321 P **P** **20 42 13.5 +0.2**
BJI pP **pP** **20 42 18.0 +0.3**
BJI sP **sP** **20 42 20.5 +1.2**
BJI S **SKiKP** **20 51 42.0 -1.4**
BJI pmax pmax
comp=Z,6.0nm,1.3s
BJI pmax pmax
comp=Z,230nm,4.5s
BJI LR LR
comp=Z,200nm,19.5s
BJI LR LR
comp=Z,280nm,20.5s
BJI LR LR
comp=Z,280nm,21.4s
QSPA South Pole Qui 73.71 180 LR LR 21 11 43.7
comp=Z,222nm,19.3s,baz=40,slow=33
QSPA South Pole Qui 73.71 180 P **P** **20 42 14.2 +0.6**
XAN Xi'an 74.92 313 ⇑P **P** **20 42 18.5 -2.6**
XAN pP sP 20 42 26.3 -0.7
XAN S **S** **20 51 58.0 -0.4**
XAN SS **SS** **20 56 48.3 +1.0**
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,200nm,7.8s
XAN LR LR
comp=Z,370nm,17.8s
XAN LR LR
comp=Z,210nm,19.4s
XAN LR LR
comp=Z,340nm,17.5s
KMI Kunming 75.33 302 ⇓P P 20 42 29.0 +5.2
KMI pP PcP 20 42 35.3 -1.8
KMI PcP sP 20 42 42.3 +13
KMI S **S** **20 52 07.0 +3.4**
KMI pmax pmax
comp=Z,28nm,1.3s
KMI pmax pmax
comp=Z,220nm,4.0s
KMI LR LR
comp=Z,140nm,17.3s
KMI LR LR
comp=Z,160nm,17.3s
KMI LR LR
comp=Z,200nm,20.9s
CM31 Chiang Mai Arr 75.80 294 P **P** **20 42 25.4 -0.9**
CM31 IAmb IAmb 20 42 32.8
comp=Z,36nm,1.9s
CMAR Chiang Mai Arr 75.80 294 P **P** **20 42 27.1 +0.8**
comp=Z,0.9nm,0.7s,baz=131,slow=4.6,SNR=11
CMAR LR LR 21 14 18.2
comp=Z,59nm,22.0s,baz=120,slow=34
CMAR Chiang Mai Arr 75.80 294 P **P** **20 42 25.9 -0.5**
CHTO Chiang Mai 75.93 295 P **P** **20 42 26.6 -0.5**
CHTO pmax pmax
comp=Z,47nm,2.0s
CHTO Chiang Mai 75.93 295 P **P** **20 42 26.6 -0.5**
CHTO IAmb IAmb 20 42 33.3
comp=Z,47nm,2.0s
XLT XiLinHaoTe 76.12 324 *e*P **P** **20 42 29.3 +1.5**
XLT pP sP 20 42 33.8 +0.1
XLT sP PcP 20 42 36.5 -3.4
XLT S **S** **20 52 16.0 +4.7**
XLT sS sS 20 52 21.5 +2.9
XLT pmax pmax
comp=Z,16nm,0.8s
XLT pmax pmax
comp=Z,120nm,3.7s
XLT LR LR
comp=Z,19nm,17.6s
XLT LR LR
comp=Z,190nm,17.0s
XLT LR LR
comp=Z,150nm,15.8s
PZH PanZhiHua 76.74 303 P **P** **20 42 31.5 -0.2**
PZH pP **pP** **20 42 36.3 +0.2**
PZH S **S** **20 52 16.8 -2.1**
PZH SS **SS** **20 57 19.8 +4.6**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,180nm,5.7s
PZH LR LR
comp=Z,390nm,23.5s
PZH LR LR
comp=Z,560nm,22.0s
PZH LR LR
comp=Z,680nm,22.1s
MA2 Magadan 76.85 351 LR LR 21 13 03.2
comp=Z,157nm,19.4s,baz=166,slow=33
HHC Hu-ho-hao-te 76.94 320 *e*P **P** **20 42 35.5 +3.0**
CD2 Chengdu 77.15 308 P **P** **20 42 38.0 +4.2**
CD2 S **S** **20 52 24.5 +1.4**
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,220nm,5.1s
CD2 LR LR
comp=Z,240nm,18.7s
CD2 LR LR
comp=Z,290nm,15.7s
HIA Hailar 77.77 330 P **P** **20 42 36.3 -0.5**
HIA pmax pmax
comp=Z,14nm,1.4s
HIA Hailar 77.77 330 P **P** **20 42 36.3 -0.5**
ZEA Zeya 77.84 337 *e*P **P** **20 42 38.8 +1.7**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
LZH Lanzhou 79.55 312 *e*P **P** **20 42 49.3 +2.2**
LZH sP PcP 20 42 54.8 -0.3
LZH *e*S **S** **20 52 51.0 +2.1**
LZH sS SKSac 20 53 02.0 -1.8
LZH SS **SS** **20 57 56.8 -0.5**
LZH pmax pmax
comp=Z,15nm,1.1s
LZH pmax pmax
comp=Z,240nm,4.1s
LZH LR LR
comp=Z,150nm,11.8s
LZH LR LR
comp=Z,270nm,12.7s
LZH LR LR
comp=Z,280nm,17.1s
SEY Seymchan 79.89 353 P **P** **20 42 47.5 -0.6**
comp=Z,3.1nm,0.9s,baz=154,slow=7.4,SNR=9.3
SEY LR LR 21 14 47.1
comp=Z,291nm,19.7s,baz=194,slow=33
SEY Seymchan 79.89 353 *ce*P **P** **20 42 46.5 -1.6**
SEY pmax pmax
comp=Z,12nm,1.4s
MAW Mawson 80.49 202 LR LR 21 14 42.9
comp=Z,258nm,20.1s,baz=108,slow=33
KDAK Kodiak Island 80.88 20 LR LR 21 13 08.0
comp=Z,309nm,19.6s,baz=237,slow=32
ULN Ulaanbaatar 83.55 324 *ce*P **P** **20 43 07.3 -0.7**
ULN pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 83.55 324 **P** **20 43 06.9 -1.1**
YAK Yakutsk 83.61 343 LR LR 21 21 17.8
comp=Z,97nm,18.0s,baz=126,slow=36
YAK Yakutsk 83.61 343 *e*P **P** **20 43 10.9 +3.1**
YAK *e**PP **sP** **20 43 14.3 +0.5**
YAK *e* 20 46 23.1
YAK *e*PPP PPP 20 48 14.8
YAK *e*S **S** **20 53 32.4 +3.0**
YAK *e*SS **SS** **20 58 59.5 +3.1**
YAK *e*SSS SSS 21 02 25.3
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=Z,106nm,4.3s
YAK pmax pmax
comp=N,80nm,4.8s
YAK pmax pmax
comp=E,128nm,5.6s
YAK smax smax
comp=E,179nm,4.7s
YAK smax smax
comp=N,41nm,3.5s
YAK MLR MLR
comp=Z,208nm,20.0s
YAK Yakutsk 83.61 343 P **P** **20 43 07.3 -0.5**
SONM Songino Array 83.90 324 LR LR 21 18 05.7
comp=Z,100nm,20.0s,baz=248,slow=34
SONM Songino Array 83.90 324 P **P** **20 43 10.6 +0.8**
SONM pmax pmax
comp=Z,19nm,1.5s
SONM Songino Array 83.90 324 P **P** **20 43 10.6 +0.8**
SONM IAmb IAmb 20 43 31.5
comp=Z,19nm,1.5s
GTA Gaotai 83.92 314 ⇑P **P** **20 43 10.3 +0.2**
GTA pP PcP 20 43 14.0 -0.1
GTA sP sP 20 43 16.5 +0.4
GTA S **S** **20 53 33.5 -0.4**
GTA sS ScS 20 53 45.3 -1.1
GTA pmax pmax
comp=Z,5.0nm,1.8s
GTA pmax pmax
comp=Z,120nm,5.1s
GTA LR LR
comp=Z,210nm,17.8s
GTA LR LR
comp=Z,160nm,19.3s
GTA LR LR
comp=Z,190nm,20.4s
BILL Bilibino 84.13 360 *ce*P **P** **20 43 09.9 -0.4**
BILL *e**SP **sP** **20 43 16.9 +0.6**
BILL *e*S **S** **20 53 33.7 -0.8**
BILL PS PnS 20 54 51.0 +23
BILL *e*SS **SS** **20 59 00.9 -3.0**
BILL pmax pmax
comp=Z,17nm,1.4s
BILL MLR MLR
comp=Z,83nm,17.0s
BILL Bilibino 84.13 360 P **P** **20 43 09.8 -0.6**
BILL IAmb IAmb 20 43 15.5
comp=Z,22nm,1.4s
SHL Shillong 84.51 298 P **P** **20 43 12.6 -0.9**
SHL pmax pmax
comp=Z,109nm,1.6s
SHL Shillong 84.51 298 P **P** **20 43 12.6 -0.9**
BELA Belgrano 2 85.12 175 P **P** **20 43 15.1 -0.4**
BELA IAmb IAmb 20 43 21.5
comp=Z,32nm,1.2s
CAST Castle Rocks 85.45 17 P **P** **20 43 16.1 -1.0**
J20K Nowinta River 85.49 16 P **P** **20 43 17.3 0.0**
J20K IAmb IAmb 20 43 36.0
comp=Z,20nm,1.5s
GOMU GeErMu 86.16 309 P **P** **20 43 23.3 +1.6**
GOMU sP sP 20 43 30.3 +2.6
GOMU SS SS 20 59 42.0 +6.1
GOMU pmax pmax
comp=Z,4.0nm,1.6s
GOMU pmax pmax
comp=Z,150nm,5.2s
GOMU LR LR
comp=Z,90nm,21.4s
GOMU LR LR
comp=Z,170nm,20.0s
GOMU LR LR
comp=Z,230nm,21.5s
RND Reindeer 86.38 18 P **P** **20 43 21.8 0.0**
RND pmax pmax
comp=Z,50nm,1.7s
RND Reindeer 86.38 18 P **P** **20 43 21.8 0.0**
RND IAmb IAmb 20 46 21.0
comp=Z,50nm,1.7s
YBH Yreka Blue Hor 86.39 45 LR LR 21 17 45.9
comp=Z,196nm,18.4s,baz=240,slow=33
LSA Lhasa 86.59 302 P **P** **20 43 23.2 -0.9**
LSA pmax pmax
comp=Z,45nm,1.9s
LSA Lhasa 86.59 302 P **P** **20 43 23.2 -0.9**
LSA IAmb IAmb 20 43 30.1
comp=Z,45nm,1.9s
LSA Lhasa 86.59 302 P **P** **20 43 24.0 -0.1**
RDOG Red Dog Mine 86.85 11 P **P** **20 43 22.8 -1.1**
ZAK Zakamensk 86.97 325 *e*P **P** **20 43 23.8 -1.2**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
IMAR Indian Mountai 87.05 15 P **P** **20 43 24.7 -0.2**

SYO	**Syowa Base**	**87.24 197**	⇑	*es*P	sP	20 43 31.6	-0.4	
PFO	**Pinyon Flats O**	**87.75 54**		LR	LR	21 16 49.2		
	comp=Z,594nm,18.5s,baz=248,slow=32							
COLA	**College**	**87.77 17**		*i* P	P	**20 43 27.0**	**-1.3**	
COLA				pmax	pmax			
	comp=Z,14nm,1.7s							
ILAR	**Eielson Array**	**87.97 18**		P	P	**20 43 27.9**	**-1.4**	
	comp=Z,1.9nm,0.9s,baz=234,slow=5.6,SNR=9.1							
ILAR				LR	LR	21 17 45.9		
	comp=Z,317nm,19.7s,baz=185,slow=32							
ILAR	**Eielson Array**	**87.97 18**		P	P	**20 43 28.0**	**-1.4**	
BBB	**Bella Bella**	**87.98 34**		LR	LR	21 17 07.4		
	comp=Z,194nm,19.5s,baz=243,slow=32							
NVAR	**Mina Array Bea**	**88.15 49**		LR	LR	21 14 10.6		
	comp=Z,182nm,21.3s,baz=270,slow=30							
PALK	**Pallekele**	**88.96 278**		LR	LR	21 25 51.9		
	comp=Z,96nm,18.7s,baz=222,slow=37							
LPIG	**La Paz**	**89.68 65**		LR	LR	21 17 41.8		
	comp=Z,528nm,18.1s,baz=220,slow=31							
ELK	**Elko**	**91.20 48**		LR	LR	21 21 41.1		
	comp=Z,257nm,18.3s,baz=252,slow=34							
TROLL	**Troll, Antarti**	**91.30 185**		PcP	**PcP**	**20 43 46.0**	**-0.1**	
TIXI	**Tiksi**	**91.57 349**		P	**P**	**20 43 44.5**	**-1.5**	
	comp=Z,1.4nm,1.0s,baz=87,slow=23,SNR=5.4							
TIXI	**Tiksi**	**91.57 349**		*ce*P	**P**	**20 43 46.2**	**+0.1**	
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TIXI	**Tiksi**	**91.57 349**		P	**P**	**20 43 46.1**	**+0.1**	
TIXI				IAmb	IAmb	20 43 50.8		
	comp=Z,14nm,1.8s							
SNAA	**Sanae**	**91.97 183**		PcP	**PcP**	**20 43 48.7**	**-0.4**	
SNAA	**Sanae**	**91.97 183**		LR	LR	21 24 32.2		
	comp=Z,174nm,18.0s,baz=130,slow=35							
SNAA	**Sanae**	**91.97 183**		*i* P	**P**	**20 43 48.5**	**+0.2**	
SNAA				pmax	pmax			
	comp=Z,34nm,1.3s							
SNAA	**Sanae**	**91.97 183**		P	**P**	**20 43 48.2**	**-0.1**	
VNA3	**Neumayer Olymp**	**92.63 181**		PcP	**P**	**20 43 51.3**	**0.0**	
NEW	**Newport**	**92.64 40**		LR	LR	21 19 58.8		
	comp=Z,145nm,19.1s,baz=162,slow=32							
VNA2	**Neumayer--Watz**	**92.90 182**		PcP	**PcP**	**20 43 52.9**	**-0.2**	
	baz=145,slow=5.0							
WMQ	**Urumqi**	**93.99 314**		*e*P	P	20 43 51.5	-6.5	
WMQ				pmax	pmax			
	comp=Z,24nm,1.1s							
WMQ				LR	LR			
	comp=Z,170nm,29.1s							
INK	**Inuvik**	**94.33 19**		LR	LR	21 21 14.5		
	comp=Z,324nm,20.4s,baz=209,slow=32							
PDAR	**Pinedale Array**	**95.87 47**		LR	LR	21 24 42.8		
	comp=Z,142nm,18.0s,baz=254,slow=34							
ANMO	**Albuquerque**	**96.03 55**		LR	LR	21 22 07.1		
	comp=Z,265nm,18.3s,baz=251,slow=32							
TXAR	**Lajitas Array**	**96.85 62**		LR	LR	21 21 14.3		
	comp=Z,239nm,18.6s,baz=263,slow=31							
MKAR	**Makanchi Array**	**98.50 316**		P	**P**	**20 44 17.1**	**-1.2**	
	comp=Z,0.4nm,0.8s,baz=94,slow=4.5,SNR=2.6							
MKAR				LR	LR	21 31 54.0		
	comp=Z,65nm,18.3s,baz=94,slow=37							
ZALV	**Zalesovo Beam**	**98.80 324**		LR	LR	21 31 06.1		
	comp=Z,95nm,18.3s,baz=118,slow=37							
YKA	**Yellowknife Ar**	**98.86 27**		P	**P**	**20 44 19.0**	**-0.5**	
	comp=Z,0.5nm,0.8s,baz=253,slow=4.5,SNR=5.1							
BELG	**Belogornoye**	**120.92 322**		PKP	**PKPdf**	**20 49 30.9**	**-1.2**	
	comp=Z,8.0nm,0.8s,baz=0.0,slow=1.0,SNR=3.0							
ARCES	**ARCESS Array B**	**121.84 345**		PKP	**PKPdf**	**20 49 32.5**	**-0.9**	
	comp=Z,1.4nm,0.6s,baz=77,slow=2.6,SNR=9.2							
KLMR	**Klimovskoe**	**122.20 333**		*e*PKIKP	**PKPdf**	**20 49 31.9**	**-2.3**	
KLMR				pmax	pmax			
	comp=Z,14nm,1.5s							
KLMR	**Klimovskoe**	**122.20 333**		*e*PKPdf	**PKPdf**	**20 49 32.0**	**-2.3**	
KLMR				AMP		20 49 43.8		
	comp=Z,14nm,1.5s							
LPSR	**Galich'ya Gora**	**125.91 324**		*e*PKIKP	**PKPdf**	**20 49 39.1**	**-2.5**	
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KIV	**Kislovodsk**	**126.09 313**		*i* PKIKP	**PKPdf**	**20 49 41.0**	**-1.4**	
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,66nm,23.0s							
OBN	**Obninsk**	**126.16 327**	⇓	*i* PKIKP	**PKiKP**	**20 49 42.7**	**+0.3**	
OBN				*e*		20 49 51.4		
OBN				SSS	SSS	21 13 18.0		
OBN				pmax	pmax			
	comp=Z,38nm,3.2s							
VSR	**Storozhevoye**	**126.28 322**		*e*PKIKP	**PKPdf**	**20 49 39.1**	**-3.3**	
VSR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
FINES	**FINESS Array B**	**127.28 338**		PKP	**PKPdf**	**20 49 43.7**	**-0.3**	
	comp=Z,2.1nm,0.9s,baz=215,slow=2.3,SNR=6.1							
FINES	**FINESS Array B**	**127.28 338**			**PKPdf**	**20 49 43.6**	**-0.4**	
AKASG	**Malin Array Be**	**132.16 325**		PKP	**PKPdf**	**20 49 53.7**	**+0.1**	
	comp=Z,0.5nm,0.6s,baz=56,slow=2.5,SNR=2.4							
NOA	**NORSAR Array B**	**132.21 345**		PKP	**PKPdf**	**20 49 52.9**	**-0.6**	
	comp=Z,0.4nm,0.7s,baz=30,slow=2.0,SNR=3.5							
CLL	**Collm**	**139.59 335**		*e*PKIKP	**PKiKP**	**20 50 11.0**	**+1.2**	
CLL	**Collm**	**139.59 335**		*e*PKiKP	**PKiKP**	**20 50 11.0**	**+1.2**	
CLL				*ex*	x	21 03 00.0		
CLL				*e*PPS	PPS	21 05 18.0		
CLL				*e*SS	SS	21 11 18.0	-2.8	
CLL				*e*SSS	SSS	21 16 18.0		
CLL				Lm	MLR	21 58 00.0		
	comp=N,100nm,18.1s							
CLL				Lm	MLR	21 58 00.0		
	comp=E,100nm,20.8s							
CLL				Lm	MLR	21 58 00.0		
	comp=Z,100nm,19.8s							
CKRC	**Cesky Krumlov**	**140.90 332**		*e*PKPDF	**PKiKP**	**20 50 11.8**	**-0.8**	
KHC	**Kasperske Hory**	**141.00 333**		*e*PKIKP	**PKiKP**	**20 50 12.3**	**-0.5**	
KHC	**Kasperske Hory**	**141.00 333**		*e*PKPDF	**PKiKP**	**20 50 12.3**	**-0.5**	
DIVS	**Divibare**	**141.00 322**			**PKPdf**	**20 50 08.1**	**-2.2**	
GERES	**GERESS Array B**	**141.15 332**		PKP	**PKPdf**	**20 50 11.7**	**+1.2**	
	comp=Z,0.8nm,0.7s,baz=78,slow=4.5,SNR=4.6							
BTNL	**Ternell**	**142.68 340**		*d*PKP	**PKiKP**	**20 50 15.3**	**-0.8**	
MEM	**Membach**	**142.70 340**		*d*PKPdf	**PKPdf**	**20 50 12.5**	**-0.6**	
WATA	**Walderalm**	**143.23 332**		*e*P	**PKiKP**	**20 50 16.3**	**-1.2**	
	comp=Z,0.9nm,0.5s							
ABTA	**Abfaltersbach**	**143.24 331**		*e*P	**PKPdf**	**20 50 12.9**	**-1.4**	
	comp=Z,1.2nm,0.5s							
MOTA	**Moosalm**	**143.43 333**		*e*P	**PKPdf**	**20 50 13.8**	**-0.9**	
	comp=Z,1.6nm,0.7s							
SQTA	**Sankt Quirin**	**143.48 333**		*e*P	**PKPdf**	**20 50 15.4**	**+0.7**	
	comp=Z,1.3nm,0.5s							
FETA	**Feichten**	**143.84 333**		*e*P	**PKiKP**	**20 50 17.3**	**-1.6**	
	comp=Z,2.7nm,0.7s							
DAVA	**Damuels**	**144.00 334**		*e*P	**PKiKP**	**20 50 20.3**	**+1.1**	
	comp=Z,1.7nm,0.6s							
TEOL	**Teolo**	**144.66 330**			**PKPab**	**20 50 15.0**	**-0.3**	
TUE	**Stuetta**	**144.87 333**			**PKPab**	**20 50 15.9**	**-0.4**	
MURB	**Monte Urbino**	**145.72 327**			**PKPdf**	**20 50 18.1**	**-0.6**	
TIP	**Timpagrande**	**145.77 318**			**PKPdf**	**20 50 17.9**	**-1.0**	
SENIN	**Lac Senin/Sane**	**145.81 335**			**PKPdf**	**20 50 17.9**	**-1.0**	
KEST	**Kesra**	**152.56 319**		PKPbc	**PKPbc**	**20 50 36.4**	**-0.4**	
	comp=Z,7.1nm,0.8s,baz=260,slow=3.5,SNR=5.7							
TORD	**Torodi Ar. Bea**	**165.90 259**		PKP	**PKPdf**	**20 50 44.9**	**-0.9**	
	comp=Z,0.4nm,1.0s,baz=56,slow=0.8,SNR=4.3							
TORD				PKPab	**PKPab**	**20 51 43.6**	**-2.0**	
	comp=Z,3.0nm,1.0s,baz=88,slow=3.4,SNR=5.5							
TORD				PP	**PP**	**20 55 34.9**	**+1.8**	
	comp=Z,2.7nm,1.2s,baz=93,slow=2.8,SNR=5.9							

*DSN **30** 20:44:46.4±1.5,26°67N×55°84E,h10km,ML3.4/8,Error ellipse: s-maj=19.9km s-min=6.0km az=45.0*
*TEH **30** 20:44:49.3,26°48N×55°85E,h16km,ML3.5*
*IDC **30** 20:44:56.4±3.2,26°27N×55°89E,h94km±45km,mb3.2/12, mb1 3.3/13,mb1mx3.1/51,mbtmp3.5/13,Error ellipse: s-maj=28.3km s-min=22.0km az=173.0*

ISC 30 20:44:49.1±0.6,**26°48N**±0°02×**55°82E**±0°04,**h10**km,**n65,**
σ1**§33**/64,**mb3.4**/10,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHME	**Shamm**	**0.52**	**147**	*e*Pg		**Pg**	**20 44 58.2**	**-1.0**
SHME	**Shamm**	**0.52**	**147**	S		**Sb**	**20 45 08.3**	**+0.5**
BANOM	**Banah**	**0.70**	**142**	*e*Pg		**Pg**	**20 45 02.2**	**-0.4**
BANOM	**Banah**	**0.70**	**142**	P		**Pg**	**20 45 02.3**	**-0.4**
BANOM				S		**Sn**	**20 45 14.9**	**-1.1**
GENO	**Geno**	**0.96**	**19**	*e*Pg		**Pg**	**20 45 07.1**	**-0.6**
UMQ	**Umm Al-Quwin**	**0.97**	**189**	*e*Pg		**Pn**	**20 45 09.7**	**+1.0**
UMQ	**Umm Al-Quwin**	**0.97**	**189**	P		**Pg**	**20 45 07.8**	**+0.1**
IBND	**Bandar-abas**	**1.15**	**33**	*e*Pg		**Pb**	**20 45 10.8**	**-0.3**
IBND				*e*Sg		**Sn**	**20 45 27.6**	**+0.5**
IBND				*e*			20 45 46.1	
	comp=Z,11μm,0.5s							
MSFE	**Esma-Masafi**	**1.16**	**165**	*e*Pn		**Pb**	**20 45 11.2**	**0.0**
MSFE	**Esma-Masafi**	**1.16**	**165**	P		**Pb**	**20 45 11.1**	**-0.2**
MSFE				S		**Sn**	**20 45 31.1**	**+3.8**
NAZ	**Nazwa, Dubai**	**1.50**	**186**	*e*Pn		**Pb**	**20 45 17.1**	**+0.1**
NAZ	**Nazwa, Dubai**	**1.50**	**186**	P		**Pb**	**20 45 16.9**	**0.0**
UOSS	**Minazif**	**1.57**	**167**	*e*Pn		**Pb**	**20 45 18.1**	**-0.1**
UOSS	**Minazif**	**1.57**	**167**	P		**Pn**	**20 45 17.6**	**+0.6**
HATD	**Hatta, Dubai**	**1.68**	**170**	*e*Pn		**Pb**	**20 45 20.4**	**+0.4**
FAQ	**Al Faqa, Dubai**	**1.74**	**187**	*e*Pn		**Pb**	**20 45 20.7**	**-0.5**
FAQ	**Al Faqa, Dubai**	**1.74**	**187**	P		**Pn**	**20 45 18.7**	**-0.8**
LAR1	**LAR**	**1.75**	**310**	*e*Pn		**Pb**	**20 45 21.0**	**-0.3**
ASHO	**Ashiyiah**	**1.81**	**173**	*e*Pn		**Pb**	**20 45 21.6**	**-0.6**
ASHO	**Ashiyiah**	**1.81**	**173**	P		**Pn**	**20 45 20.9**	**+0.6**
JASK	**Jask - Hormozg**	**1.94**	**108**	*e*Pn		**Pb**	**20 45 23.0**	**-1.4**
JASK				*e*			20 45 37.8	
	comp=Z,5μm,0.4s							
AJN	**Ajban**	**2.06**	**202**	*e*Pn		**Pn**	**20 45 23.8**	**+0.1**
KHNJ	**Kahnooj**	**2.22**	**49**	*e*Pn		**Pn**	**20 45 26.4**	**+0.4**
ALNE	**Al Ain**	**2.42**	**182**	*e*Pn		**Pn**	**20 45 30.5**	**+1.8**
LMD1	**Lamerd**	**2.52**	**290**	*e*Pn		**Pb**	**20 45 32.9**	**-1.6**
LMD1				*e*			20 46 36.1	
	comp=Z,5μm,0.6s							
MZWR	**Madinat Zayed**	**3.23**	**213**	*e*Pn		**Pn**	**20 45 40.6**	**+0.7**
KBAM	**BAM**	**3.52**	**41**	*e*Pn		**Pn**	**20 45 45.2**	**+1.3**
KBAM				*e*			20 45 57.0	
	comp=Z,460nm,0.6s							
TVBK	**TV Kerman**	**3.59**	**13**	*e*		**Pb**	**20 45 53.7**	**+0.9**
	comp=Z,720nm,0.2s							
BIDO	**Bidbid**	**3.62**	**144**	*e*Pn		**Pn**	**20 45 45.4**	**+0.2**
GHWR	**Ruwais**	**3.67**	**227**	*e*Pn		**Pn**	**20 45 47.1**	**+1.3**
CHMN	**Cheshme madani**	**3.69**	**24**	*e*Pn		**Pn**	**20 45 47.7**	**+1.2**
CHMN				*e*			20 46 34.9	
	comp=Z,428nm,0.3s							
UMZA	**Um Al Zommool**	**3.80**	**189**	*e*Pn		**Pn**	**20 45 49.7**	**+2.0**
KHGB	**Koh Gabri**	**3.92**	**8**	*e*Pn		**Pn**	**20 45 50.2**	**+0.6**
MZR	**Muzera**	**4.07**	**212**	*e*Pn		**Pn**	**20 45 52.3**	**+0.9**
WSAR	**Wadi Sarin**	**4.12**	**141**	P		**Pn**	**20 45 53.2**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=336,slow=11,SNR=12							
WSAR				S		**Sn**	**20 46 40.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=339,slow=14,SNR=1.8							
IMEH	**Mehriz**	**5.00**	**348**	*e*Pn		**Pn**	**20 46 06.4**	**+2.0**
IBAF	**Bafgh**	**5.09**	**358**	*e*Pn		**Pn**	**20 46 06.6**	**+1.0**
KLNJ	**Kolanjah**	**5.84**	**321**	*e*Pn		**Pn**	**20 46 15.8**	**-0.3**
SRVN	**Saravan**	**5.94**	**80**	*e*Pn		**Pn**	**20 46 18.9**	**+1.7**
IRAM	**Ramesheh**	**6.10**	**331**	*e*Pn		**Pn**	**20 46 20.5**	**+1.0**
IKOO	**Kooshah**	**6.54**	**24**	*e*Pn		**Pn**	**20 46 27.4**	**+1.9**
TPRV	**Parvadeh(Tabas**	**6.56**	**6**	*e*Pn		**Pn**	**20 46 27.0**	**+1.2**
ANAR	**Anarak**	**6.93**	**345**	*e*Pn		**Pn**	**20 46 32.2**	**+1.4**
IZEF	**Zefreh**	**7.08**	**335**	*e*Pn		**Pn**	**20 46 34.7**	**+1.8**
IMON	**Monand**	**7.47**	**26**	*e*Pn		**Pn**	**20 46 40.3**	**+1.9**
IPIR	**Pirpir**	**7.52**	**326**	*e*Pn		**Pn**	**20 46 40.3**	**+1.2**
AMIS	**Naft Sefid**	**7.70**	**314**	*e*Pn		**Pn**	**20 46 43.0**	**+1.6**
KRSH	**Karshahi**	**8.11**	**338**	*e*Pn		**Pn**	**20 46 49.4**	**+2.3**
IKFM	**Kafar-mosalman**	**9.85**	**317**	*e*Pn		**Pn**	**20 47 13.6**	**+2.9**
ZEI	**Tsey**	**18.96**	**332**	*i* PKHKP	PKPpre		20 49 17.3	
ZEI	**Tsey**	**18.96**	**332**	pmax	pmax			
	comp=Z,5.0nm,1.5s							
KBZ	**Khabaz**	**20.15**	**332**	P		Pn	20 49 25.8	+0.6
	comp=Z,2.4nm,0.9s,baz=133,slow=15,SNR=5.8							
KBZ	**Khabaz**	**20.15**	**332**	PKHKP		Pn	20 49 25.8	+0.6
KVAR	**Kislovodsk Arr**	**20.42**	**332**	P		Pn	20 49 28.8	+0.2
	comp=Z,1.6nm,0.6s,baz=195,slow=12,SNR=2.6							
AAK	**Ala-Archa**	**22.20**	**39**	P		**P**	**20 49 48.3**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=221,slow=9.3,SNR=1.8							
BRTR	**Keskin Array B**	**22.72**	**311**	P		**P**	**20 49 52.2**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=126,slow=12,SNR=7.4							
BRTR	**Keskin Array B**	**22.72**	**311**	PKIKP		**P**	**20 49 52.2**	**+0.9**
AKTO	**Aktyubinsk**	**23.97**	**3**	P		**P**	**20 50 02.8**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=161,slow=11,SNR=2.8							
MKAR	**Makanchi Array**	**29.13**	**39**	P		**P**	**20 50 49.7**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=220,slow=9.0,SNR=1.8							
KURBB	**Kurchatov Arra**	**29.71**	**30**	P		**P**	**20 50 54.5**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=229,slow=8.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**34.80**	**30**	P		**P**	**20 51 37.6**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=240,slow=11,SNR=4.0							
FINES	**FINESS Array B**	**40.28**	**338**	P		**P**	**20 52 23.9**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=144,slow=12,SNR=1.7							
NOA	**NORSAR Array B**	**45.73**	**331**	P		**P**	**20 53 10.6**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=148,slow=6.8,SNR=1.8							
ARCES	**ARCESS Array B**	**46.58**	**346**	P		**P**	**20 53 18.0**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=138,slow=9.6,SNR=1.6							
TORD	**Torodi Ar. Bea**	**52.28**	**266**	P		**P**	**20 53 58.7**	**-2.4**
	comp=Z,0.4nm,0.7s,baz=64,slow=6.6,SNR=2.8							

*OMAN **30** 21:01:52.3±0.9,26°64N×55°89E,h3km±3km,mb5.0/2, ml3.0/14,Error ellipse: s-maj=7.6km s-min=5.2km az=60.0*
*DSN **30** 21:01:52.6±1.2,26°60N×55°81E,h10km,ML3.1/8,Error ellipse: s-maj=16.5km s-min=5.5km az=44.0*
*TEH **30** 21:01:54.1,26°48N×55°79E,h16km,ML3.2*

ISC 30 21:01:52.7±1.3,**26°60N**±0°03×**55°82E**±0°04,**h4**km±11km,
n50,σ1**§31/62,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHME	**Shamm**	**0.61**	**152**	*e*Pg		**Pg**	**21 02 03.8**	**-0.6**
SHME	**Shamm**	**0.61**	**152**	P		**Pg**	**21 02 03.9**	**-0.6**
SHME				S		**Sg**	**21 02 13.4**	**+1.0**
SHME	**Shamm**	**0.61**	**152**	P		**Pg**	**21 02 03.3**	**-1.2**
SHME				S		**Sg**	**21 02 13.4**	**+1.0**
BANOM	**Banah**	**0.80**	**147**	*e*Pg		**Pg**	**21 02 08.2**	**+0.3**
BANOM	**Banah**	**0.80**	**147**	P		**Pg**	**21 02 08.0**	**0.0**
	SNR=42							
BANOM				S		**Sb**	**21 02 20.0**	**-0.3**
	SNR=17							
BANOM	**Banah**	**0.80**	**147**	P		**Pg**	**21 02 08.2**	**+0.3**
BANOM				S		**Sb**	**21 02 20.4**	**+0.1**
GENO	**Geno**	**0.86**	**21**	*e*Pg		**Pn**	**21 02 12.5**	**+0.7**
IBND	**Bandar-abas**	**1.07**	**37**	*e*Pg		**Pn**	**21 02 15.9**	**+1.4**
IBND				*e*Sg		**Sn**	**21 02 32.8**	**+3.0**
IBND				*e*			21 02 52.4	
	comp=Z,4μm,0.4s							
UMQ	**Umm Al-Quwin**	**1.07**	**188**	*e*Pn		**Pn**	**21 02 14.5**	**-0.1**
UMQ	**Umm Al-Quwin**	**1.07**	**188**	P		**Pn**	**21 02 14.8**	**+0.3**
UMQ				S		**Sn**	**21 02 29.7**	**-0.2**
MASF	**Masafi**	**1.26**	**166**	P		**Pg**	**21 02 17.2**	**+0.4**
	SNR=16							
MASF				S		**Sn**	**21 02 34.6**	**+0.1**
MSFE	**Esma-Masafi**	**1.27**	**166**	*e*Pn		**Pb**	**21 02 17.0**	**-0.2**
MSFE	**Esma-Masafi**	**1.27**	**166**	P		**Pb**	**21 02 16.9**	**-0.2**
MSFE				S		**Sn**	**21 02 34.5**	**-0.3**
NAZ	**Nazwa, Dubai**	**1.61**	**185**	*e*Pn		**Pn**	**21 02 21.5**	**-0.4**
NAZ	**Nazwa, Dubai**	**1.61**	**185**	P		**Pb**	**21 02 22.7**	**-0.2**
NAZ				S		**Sg**	**21 02 45.5**	**+1.2**
LAR1	**LAR**	**1.68**	**310**	*e*Pg		**Pg**	**21 02 27.3**	**+2.5**
LAR1				*e*			21 03 02.1	
	comp=Z,5μm,0.6s							
UOSS	**Minazif**	**1.68**	**168**	*e*Pn		**Pn**	**21 02 22.8**	**-0.1**
UOSS	**Minazif**	**1.68**	**168**	P		**Pn**	**21 02 22.8**	**-0.1**
UOSS				S		**Sg**	**21 02 46.6**	**0.0**
UOSS	**Minazif**	**1.68**	**168**	P		**Pn**	**21 02 22.6**	**-0.3**
HATD	**Hatta, Dubai**	**1.78**	**171**	*e*Pn		**Pb**	**21 02 24.8**	**-1.2**
HATD	**Hatta, Dubai**	**1.78**	**171**	P		**Pb**	**21 02 25.1**	**-0.9**
	SNR=14							
HATD				S		**Sb**	**21 02 48.8**	**+0.1**
HATD	**Hatta, Dubai**	**1.78**	**171**	P		**Pn**	**21 02 24.3**	**-0.1**
FAQ	**Al Faqa, Dubai**	**1.85**	**186**	*e*Pn		**Pn**	**21 02 24.8**	**-0.5**
FAQ	**Al Faqa, Dubai**	**1.85**	**186**	P		**Pn**	**21 02 25.6**	**+0.3**
FAQ	**Al Faqa, Dubai**	**1.85**	**186**	P		**Pn**	**21 02 25.1**	**-0.2**
ASHO	**Ashiyiah**	**1.92**	**174**	*e*Pn		**Pn**	**21 02 26.6**	**+0.5**
ASHO	**Ashiyiah**	**1.92**	**174**	P		**Pn**	**21 02 26.7**	**+0.5**
	SNR=12							
ASHO				S		**Sb**	**21 02 52.7**	**+0.1**
ASHO	**Ashiyiah**	**1.92**	**174**	P		**Pn**	**21 02 26.2**	**0.0**
JASK	**Jask - Hormozg**	**1.98**	**111**	*e*Pn		**Pb**	**21 02 28.9**	**-0.3**
KHNJ	**Kahnooj**	**2.15**	**51**	*e*Pn		**Pb**	**21 02 31.3**	**-1.0**
ALNE	**Al Ain**	**2.53**	**181**	*e*Pn		**Pn**	**21 02 34.4**	**-0.2**
ALNE	**Al Ain**	**2.53**	**181**	P		**Pn**	**21 02 34.7**	**+0.1**
ALNE	**Al Ain**	**2.53**	**181**	P		**Pn**	**21 02 34.5**	**-0.1**
MZWR	**Madinat Zayed**	**3.32**	**212**	*e*Pn		**Pn**	**21 02 44.8**	**-0.7**
KBAM	**BAM**	**3.44**	**42**	*e*Pn		**Pb**	**21 02 50.4**	**-3.9**
KBAM				*e*			21 03 07.2	
	comp=Z,257nm,0.3s							
TVBK	**TV Kerman**	**3.48**	**14**	*e*Pn		**Pn**	**21 02 50.6**	**+2.6**
TVBK				*e*			21 02 52.9	
	comp=Z,382nm,0.2s							
KHGB	**Koh Gabri**	**3.81**	**9**	*e*Pn		**Pb**	**21 02 56.3**	**-4.4**
UMZA	**Um Al Zommool**	**3.91**	**189**	*e*Pn		**Pn**	**21 02 53.2**	**-0.4**
UMZA	**Um Al Zommool**	**3.91**	**189**	P		**Pn**	**21 02 52.4**	**-1.2**
BSY	**Bisya**	**4.03**	**162**	P		**Pn**	**21 02 55.5**	**+0.2**
SMDO	**Samad**	**4.06**	**150**	P		**Pn**	**21 02 57.6**	**+1.8**
MZR	**Muzera**	**4.16**	**211**	*e*Pn		**Pn**	**21 02 56.5**	**-0.6**
WSAR	**Wadi Sarin**	**4.20**	**142**	P		**Pn**	**21 02 58.1**	**+0.5**
	SNR=10							
TRNA	**Turayna**	**4.55**	**247**	P		**Pn**	**21 03 01.3**	**-1.1**
WBK	**Wadi Bani Khal**	**4.89**	**143**	P		**Pn**	**21 03 08.6**	**+1.5**
MHTO	**MHTO**	**5.92**	**160**	P		**Pn**	**21 03 20.7**	**-0.5**
SRVN	**Saravan**	**5.92**	**81**	*e*Pn		**Pn**	**21 03 24.6**	**+3.2**
IRAM	**Ramesheh**	**6.00**	**331**	*e*Pn		**Pn**	**21 03 25.2**	**+2.6**
WHFO	**Wadi Hawf**	**8.84**	**193**	P		**Pn**	**21 03 59.9**	**-1.5**
DMTO	**DMTO**	**8.87**	**185**	P		**Pn**	**21 04 01.3**	**-0.5**

*IDC **30** 21:06:14.3±1.0,7°36S×75°43W,h0km,mb3.9/6,mb1 4.0/7, mb1mx3.8/29,mbtmp3.9/7,ML3.9/1,Error ellipse: s-maj=29.5km s-min=22.2km az=90.0*
*NEIC **30** 21:06:36.6±2.3,8°0S±0°1×74°5W±0°1,h154km±4km, mb4.3/8,Error ellipse: s-maj=22.2km s-min=6.9km az=130.0*
*VAO **30** 21:07:06.7±0.7,7°11S×71°51W,h150km,mbR4.1*

ISC 30 21:06:35.8±0.9,**8°0S**±0°1×**74°5W**±0°1,**h151**km,**n26,**
σ1**§03/25,mb4.0/7,Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**4.56**	**210**	Pg		**Pn**	**21 07 43.7**	**+0.3**
	5.9nm,0.3s,baz=9.2,slow=6.5,SNR=15							
NNA				Lg		Lg	21 08 34.2	
	22nm,0.3s,baz=330,slow=23,SNR=11							
NNA	**Nana**	**4.56**	**210**			**Pn**	**21 07 44.0**	**+0.6**
NNA				Sn		**Sn**	**21 08 35.0**	**-1.1**
ETMB	**Extrema**	**8.36**	**103**	*e*P		**Pn**	**21 08 32.1**	**-1.9**
LPAZ	**La Paz**	**10.28**	**143**	Pn		**Pn**	**21 08 59.7**	**-0.4**
	0.4nm,0.3s,baz=328,slow=7.0,SNR=7.8							
LPAZ	**La Paz**	**10.28**	**143**			**Pn**	**21 08 59.8**	**-0.3**
PDRB	**Porto dos Gac**	**17.85**	**103**	*e*P		**Pn**	**21 10 34.9**	**0.0**
BAUV	**El Baul**	**18.05**	**21**	P		**P**	**21 10 35.2**	**-0.5**
BAUV				IAmb		IAmb	21 11 03.8	
	comp=Z,18nm,1.0s							
CLDB	**Colider**	**18.64**	**100**	*e*P		**P**	**21 10 42.8**	**+0.6**
BIRV	**Birongo**	**20.13**	**24**	P		**P**	**21 10 58.0**	**-0.2**
MALB	**Monte Alegre**	**21.05**	**74**	*e*P		**P**	**21 11 07.0**	**-1.1**
MCPB	**Macapa, AP**	**23.61**	**72**	*e*P		**P**	**21 11 33.2**	**-0.1**
PRPB	**Parauapebas**	**24.55**	**87**	*e*P		**P**	**21 11 42.9**	**+1.2**
MDP	**Montagnes des**	**25.40**	**60**	P		**P**	**21 11 49.5**	**+0.1**

Islands

ISC 30 22:08:17.9±0.4, 16°19S±0'05×167°05E±0'06, h10km, n89, σ1°04/84, mb4.5/26, MS3.6/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.75**	**12**		**Pg**	**22 08 32.4**	**+0.1**
SANVU				Sg	**Sb**	22 08 43.6	+0.2
SANVU	**Saraoutou**	**0.75**	**12**	P	**Pg**	**22 08 32.5**	**+0.1**
DVP	**Devils Point**	**1.88**	**145**	P	**Pn**	**22 08 49.9**	**-0.3**
RTV	**Rentapao**	**2.07**	**141**	P	**Pn**	**22 08 52.4**	**-0.4**
LIFNC	**LIFOU**	**4.57**	**178**	Pn	**Pn**	**22 09 25.2**	**-2.0**
LIFNC	**LIFOU**	**4.57**	**178**	P	**Pn**	**22 09 25.7**	**-1.5**
KOUNC	**Koumac, New Ca**	**5.07**	**211**		**Pn**	**22 09 33.6**	**-0.4**
KOUNC	**Koumac, New Ca**	**5.07**	**211**	P	**Pn**	**22 09 34.1**	**+0.1**
MARNC	**Mare, Loyalty**	**5.35**	**170**		**Pn**	**22 09 36.2**	**-1.7**
YATNC	**Mamie plateau,**	**5.84**	**181**	P	**Pn**	**22 09 42.8**	**-1.9**
DZM	**Mont Dzumac**	**5.88**	**185**	Pn	**Pn**	**22 09 44.4**	**-0.8**
	5.4nm,0.3s,baz=354,slow=13,SNR=36						
DZM				Sn	**Sn**	**22 10 50.5**	**-2.4**
	1.5nm,0.3s,baz=311,slow=22,SNR=0.9						
DZM				LR	LR	22 11 49.4	
	comp=Z,409nm,20.5s,baz=78,slow=36						
DZM	**Mont Dzumac**	**5.88**	**185**		**Pn**	**22 09 44.3**	**-1.0**
DZM	**Mont Dzumac**	**5.88**	**185**	P	**Pn**	**22 09 44.5**	**-0.8**
NOUC	**Port Laguerre**	**5.93**	**187**	P	**Pn**	**22 09 45.4**	**-0.4**
ONTNC	**Ouen Toro**	**6.12**	**185**		**Pn**	**22 09 48.1**	**-0.3**
ONTNC	**Ouen Toro**	**6.12**	**185**	P	**Pn**	**22 09 48.7**	**+0.3**
OUENC	**Ouen Island, N**	**6.20**	**182**		**Pn**	**22 09 49.0**	**-0.7**
OUENC	**Ouen Island, N**	**6.20**	**182**	P	**Pn**	**22 09 49.5**	**-0.1**
PINNC	**Pines Island,**	**6.41**	**177**	Pn	**Pn**	**22 09 52.2**	**-0.1**
HNR	**Honiara**	**9.64**	**313**	Pn	**Pn**	**22 10 35.7**	**-1.1**
	2.4nm,0.3s,baz=180,slow=19,SNR=1.2						
HNR				Sn	**Sn**	**22 12 25.2**	**-0.1**
	6.7nm,0.3s,baz=232,slow=15,SNR=1.6						
MSVF	**Nonsavu**	**10.64**	**100**	Pn	**Pn**	**22 10 53.2**	**+2.6**
	1.7nm,0.3s,baz=306,slow=14,SNR=2.1						
MSVF				LR	LR	22 13 57.7	
	comp=Z,317nm,20.5s,baz=230,slow=32						
EIDS	**Eidsvold**	**17.49**	**236**		**P**	**22 12 23.3**	**+0.1**
ARMA	**Armidale**	**20.00**	**222**	P	**Pn**	**22 12 54.1**	**+1.6**
CTA	**Charters Tower**	**20.13**	**256**	P	**P**	**22 12 51.8**	**-0.5**
	8.0nm,0.7s,baz=87,slow=13,SNR=8.3						
CTA				LR	LR	22 19 37.7	
	comp=Z,129nm,18.1s,baz=82,slow=34						
CTAO	**Charters Tower**	**20.13**	**256**	P	Pn	22 12 54.9	+0.7
PMG	**Port Moresby**	**20.52**	**287**	LR	LR	22 20 07.2	
	comp=Z,164nm,18.6s,baz=108,slow=35						
COEN	**Coen**	**23.15**	**272**	P	**P**	**22 13 28.2**	**+3.4**
COEN				IAmb	IAmb	22 13 39.4	
	comp=Z,12nm,1.0s						
URZ	**Urewera**	**23.71**	**160**	P	**P**	**22 13 29.7**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=340,slow=12,SNR=8.0						
URZ	**Urewera**	**23.71**	**160**	P	**P**	**22 13 30.3**	**+0.3**
URZ				IAmb	IAmb	22 13 54.8	
	comp=Z,40nm,1.5s						
BKZ	**Black Stump Fm**	**24.34**	**162**	P	**P**	**22 13 38.0**	**+1.9**
BKZ				IAmb	IAmb	22 13 45.8	
	comp=Z,11nm,0.8s						
RPZ	**Rata Peaks**	**27.65**	**174**	LR	LR	22 24 58.2	
	comp=Z,194nm,18.1s,baz=274,slow=36						
STKA	**Stephens Creek**	**27.90**	**231**	P	**P**	**22 14 07.5**	**-0.7**
	comp=Z,6.0nm,1.1s,baz=68,slow=17,SNR=2.3						
STKA				LR	LR	22 23 48.6	
	comp=Z,92nm,21.4s,baz=26,slow=33						
STKA	**Stephens Creek**	**27.90**	**231**	P	**P**	**22 14 08.4**	**+0.1**
WR0	**Warramunga Arr**	**31.10**	**258**	P	**P**	**22 14 37.4**	**+0.6**
WR0				IAmb	IAmb	22 14 38.6	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**31.29**	**258**	P	**P**	**22 14 37.1**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=88,slow=8.9,SNR=16						
WRA				LR	LR	22 26 26.1	
	comp=Z,107nm,18.1s,baz=134,slow=35						
WRA	**Warramunga Arr**	**31.29**	**258**	P	**P**	**22 14 38.2**	**-0.3**
AS31	**Alice Springs**	**31.98**	**251**	P	**P**	**22 14 43.8**	**-0.7**
ASAR	**Alice Springs**	**31.98**	**251**	P	**P**	**22 14 44.9**	**+0.3**
	comp=Z,7.2nm,0.9s,baz=77,slow=8.4,SNR=55						
ASAR				LR	LR	22 27 13.0	
	comp=Z,167nm,18.1s,baz=98,slow=36						
ASAR	**Alice Springs**	**31.98**	**251**	P	**P**	**22 14 44.0**	**-0.6**
KNRA	**Kununurra**	**36.78**	**265**	P	**P**	**22 15 26.5**	**+0.4**
KNRA				IAmb	IAmb	22 15 49.6	
	comp=Z,12nm,1.1s						
GUMO	**Guam**	**36.82**	**322**	LR	LR	22 32 52.6	
	comp=Z,77nm,18.0s,baz=118,slow=40						
FORT	**Forrest**	**38.38**	**241**	P	**P**	**22 15 39.9**	**+0.3**
SIJI	**Sorong**	**38.41**	**290**	LR	LR	22 32 59.6	
	comp=Z,83nm,18.4s,baz=101,slow=39						
FITZ	**Fitzroy Crossi**	**39.55**	**261**	LR	LR	22 32 00.8	
	comp=Z,164nm,18.0s,baz=96,slow=36						
PPT	**Papeete**	**41.47**	**98**	LR	LR	22 29 52.4	
	comp=Z,59nm,20.1s,baz=290,slow=31						
BATI	**Baumata**	**42.59**	**272**	LR	LR	22 33 37.1	
	comp=Z,179nm,20.4s,baz=262,slow=36						
MORW	**Morawa**	**48.45**	**245**	P	**P**	**22 17 01.1**	**+0.1**
MPSI	**Mapaga**	**49.32**	**285**	P	**P**	**22 17 07.6**	**-0.1**
	comp=Z,616nmcomp=Z,8.5nm,1.1s						
VNDA	**Vanda**	**61.41**	**181**	P	**P**	**22 18 35.3**	**+1.4**
VNDA				IAmb	IAmb	22 18 43.3	
	comp=Z,3.7nm,1.3s						
KSRS	**Korea Array**	**64.82**	**326**	P	**P**	**22 18 56.6**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=117,slow=6.1,SNR=2.4						
USRK	**Ussuriysk Ar.**	**68.08**	**334**	P	**P**	**22 19 18.7**	**+0.9**
PEA0B	**Petropavlovsk-**	**69.48**	**354**	P	**P**	**22 19 26.2**	**-0.1**
PETK	**Petropavlovsk-**	**69.48**	**354**	P	**P**	**22 19 25.6**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=123,slow=5.3,SNR=2.0						
PETK	**Petropavlovsk-**	**69.48**	**354**	P	**P**	**22 19 25.9**	**-0.4**
QSPA	**South Pole Qui**	**73.85**	**180**	P	**P**	**22 19 53.2**	**+0.5**
QSPA				IAmb	IAmb	22 19 58.2	
	comp=Z,8.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**75.35**	**294**	P	**P**	**22 20 03.2**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=106,slow=6.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**75.35**	**294**	P	**P**	**22 20 02.5**	**+0.3**
SEY	**Seymchan**	**79.69**	**353**	P	**P**	**22 20 25.6**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=117,slow=8.1,SNR=5.3						
ULN	**Ulaanbaatar**	**83.18**	**324**	P	**P**	**22 20 44.6**	**+0.1**
ULN				IAmb	IAmb	22 20 55.3	
	comp=Z,7.6nm,0.9s						
YAK	**Yakutsk**	**83.35**	**343**	P	**P**	**22 20 44.6**	**-0.2**
SONM	**Songino Array**	**83.53**	**324**	P	**P**	**22 20 47.2**	**+0.9**
SONM				IAmb	IAmb	22 20 57.0	
	comp=Z,10nm,1.4s						
BILL	**Bilibino**	**83.99**	**360**	P	**P**	**22 20 47.4**	**-0.5**
SHL	**Shillong**	**84.07**	**299**	P	**P**	**22 20 49.7**	**+0.1**
SHL				IAmb	IAmb	22 21 05.0	
	comp=Z,4.6nm,1.0s						
BELA	**Belgrano 2**	**85.30**	**176**	P	**P**	**22 20 54.1**	**-0.5**
BELA				IAmb	IAmb	22 21 03.4	
	comp=Z,12nm,1.5s						
CAST	**Castle Rocks**	**85.44**	**17**	P	**P**	**22 20 54.4**	**-1.0**
J20K	**Nowinta River**	**85.47**	**16**	P	**P**	**22 20 54.6**	**-0.9**
J20K				IAmb	IAmb	22 20 59.2	
	comp=Z,5.6nm,1.0s						
IMAR	**Indian Mountai**	**87.02**	**15**	P	**P**	**22 21 02.9**	**-0.2**
ILAR	**Eielson Array**	**87.97**	**18**	P	**P**	**22 21 05.4**	**-2.4**
	comp=Z,1.8nm,0.8s,baz=230,slow=4.3,SNR=9.7						
ILAR	**Eielson Array**	**87.97**	**18**	P	**P**	**22 21 05.2**	**-2.5**
J25K	**Salcha River,**	**88.31**	**19**	P	**P**	**22 21 09.7**	**+0.2**
J25K				IAmb	IAmb	22 21 20.9	
	comp=Z,4.4nm,1.2s						
ELK	**Elko**	**91.42**	**48**	LR	LR	22 56 25.3	
	comp=Z,54nm,20.9s,baz=91,slow=32						
TXAR	**Lajitas Array**	**97.16**	**62**	P	**P**	**22 21 49.1**	**-2.1**
	comp=Z,0.4nm,0.9s,baz=298,slow=1.9,SNR=1.8						
MKAR	**Makanchi Array**	**98.10**	**316**	P	**P**	**22 21 54.3**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=106,slow=2.6,SNR=3.7						
MKAR	**Makanchi Array**	**98.10**	**316**	P	**P**	**22 21 54.6**	**-0.4**
ZALV	**Zalesovo Beam**	**98.43**	**324**	P	**P**	**22 21 55.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=116,slow=6.6,SNR=1.4						
YKA	**Yellowknife Ar**	**98.93**	**27**	P	**P**	**22 21 57.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=251,slow=4.5,SNR=11						
YKA	**Yellowknife Ar**	**98.93**	**27**	P	**P**	**22 21 57.0**	**-1.2**
ARCES	**ARCESS Array B**	**121.60**	**345**	PKP	**PKiKP**	**22 27 11.2**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=24,slow=3.3,SNR=7.7						
FINES	**FINESS Array B**	**126.98**	**338**	PKP	**PKiKP**	**22 27 23.0**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=353,slow=5.6,SNR=2.8						
AKASG	**Malin Array Be**	**131.80**	**325**	PKP	**PKiKP**	**22 27 32.8**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=72,slow=3.6,SNR=2.3						
NOA	**NORSAR Array B**	**131.96**	**344**	PKP	**PKPdf**	**22 27 31.4**	**0.0**
	comp=Z,0.5nm,0.9s,baz=74,slow=1.7,SNR=1.7						
OBKA	**Obir**	**142.09**	**329**	*e*P	**PKPdf**	**22 27 51.5**	**+0.9**
	comp=Z,0.4nm,0.4s						
ABTA	**Abfaltersbach**	**142.91**	**331**	*e*P	**PKiKP**	**22 27 53.8**	**-1.4**
	comp=Z,1.0nm,0.5s						
WTTA	**Wattenberg**	**142.93**	**332**	*i* P	**PKiKP**	**22 27 55.0**	**-0.4**
	comp=Z,1.3nm,0.7s						
MOTA	**Moosalm**	**143.11**	**332**	*e*P	**PKiKP**	**22 27 57.2**	**+1.5**
	comp=Z,1.5nm,0.6s						
FETA	**Feichten**	**143.52**	**332**	*e*P	**PKPdf**	**22 27 52.7**	**-0.5**
	comp=Z,0.1nm,0.1s						
KEST	**Kesra**	**152.17**	**319**	PKPbc	**PKPbc**	**22 28 14.0**	**-0.3**
	comp=Z,8.1nm,1.0s,baz=295,slow=8.1,SNR=2.6						
ESDC	**Sonseca Array**	**155.31**	**343**	PKPab	**PKPab**	**22 28 37.5**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=2.4,slow=4.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**165.51**	**260**	PKP	**PKPdf**	**22 28 23.9**	**0.0**
	comp=Z,0.7nm,1.1s,baz=110,slow=35,SNR=3.4						
TORD				PKPab	**PKPab**	**22 29 22.2**	**0.0**
	comp=Z,0.9nm,0.8s,baz=115,slow=4.2,SNR=4.7						

*IDC **30** 22:11:31.3±2.0, 19°.50S×175°.65W, h204km±19km, mb3.9/9, mb1 4.0/12, mb1mx3.6/38, mbtmp4.4/12, Error ellipse: s-maj=19.7km s-min=14.1km az=131.0*
*NEIC **30** 22:11:32.5±2.0, 19°.4S±0°.2×175°.6W±0°.1, h217km±12km, mb4.3/19, Error ellipse: s-maj=25.2km s-min=14.8km az=192.0*

ISC 30 22:11:32.7±0.6, 19°.52S±0°.09×175°.59W±0°.08, h223km, n35, σ1°62/38, mb4.2/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.36**	**86**		**Pn**	**22 12 51.1**	**-1.1**
MSVF	**Nonsavu**	**6.29**	**285**	P	**Pn**	**22 13 03.4**	**-0.7**
	0.8nm,0.3s,baz=122,slow=16,SNR=1.5						
MSVF	**Nonsavu**	**6.29**	**285**		**Pn**	**22 13 04.6**	**+0.5**
AFI	**Afiamalu**	**6.67**	**34**	P	**Pn**	**22 13 06.5**	**-2.5**
	11nm,0.3s,baz=206,slow=5.4,SNR=14						
AFI				S	S	22 14 15.2	-10
	50nm,0.3s,baz=170,slow=12,SNR=11						
AFI	**Afiamalu**	**6.67**	**34**		**Pn**	**22 13 06.3**	**-2.7**
RAO	**Raoul Island**	**9.91**	**192**	S	S	22 15 33.4	-8.3
	32nm,0.5s,baz=97,slow=23,SNR=1.7						
PINNC	**Pines Island,**	**16.13**	**256**		**Pn**	**22 15 10.3**	**+2.8**
MXZ	**Matakaoa Point**	**18.75**	**195**	P	**P**	**22 15 37.1**	**+2.1**
URZ	**Urewera**	**19.72**	**197**	P	**P**	**22 15 45.1**	**-0.3**
	3.6nm,0.3s,baz=264,slow=5.2,SNR=11						
URZ				S	**S**	**22 19 08.7**	**-6.7**
	1.3nm,0.3s,baz=264,slow=23,SNR=7.2						
BKZ	**Black Stump Fm**	**20.74**	**198**	P	**P**	**22 15 55.6**	**-0.8**
BKZ				IAmb	IAmb	22 16 03.9	
	comp=Z,22nm,1.4s						
RPZ	**Rata Peaks**	**26.60**	**202**	P	**P**	**22 16 51.8**	**+1.4**
	comp=Z,8.3nm,0.5s,baz=297,slow=3.1,SNR=6.1						
EIDS	**Eidsvold**	**31.30**	**253**	P	**P**	**22 17 32.4**	**+0.2**
EIDS				IAmb	IAmb	22 17 50.0	
	comp=Z,16nm,1.5s						
ARMA	**Armidale**	**31.53**	**243**	P	**P**	**22 17 34.9**	**+0.6**
ARMA				IAmb	IAmb	22 17 43.0	
	comp=Z,10nm,1.2s						
CTA	**Charters Tower**	**35.85**	**262**	P	**P**	**22 18 12.1**	**+0.5**
	comp=Z,9.4nm,0.4s,baz=104,slow=9.8,SNR=16						
CTAO	**Charters Tower**	**35.85**	**262**	P	**P**	**22 18 11.7**	**+0.2**
CTAO				IAmb	IAmb	22 18 13.7	
	comp=Z,19nm,1.1s						
PMG	**Port Moresby**	**37.37**	**280**	P	**P**	**22 18 23.7**	**-0.7**
	comp=Z,14nm,0.7s,baz=158,slow=5.4,SNR=4.5						
TOO	**Toolangi**	**38.30**	**234**	P	**P**	**22 18 31.6**	**-0.3**
TOO				IAmb	IAmb	22 18 43.5	
	comp=Z,20nm,1.3s						
COEN	**Coen**	**39.81**	**271**	P	**P**	**22 18 44.7**	**+0.1**
COEN				IAmb	IAmb	22 18 47.3	
	comp=Z,6.5nm,0.8s						
STKA	**Stephens Creek**	**40.25**	**243**	P	**P**	**22 18 47.6**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=74,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**40.25**	**243**	P	**P**	**22 18 47.8**	**-0.3**
BBOO	**Buckleboo**	**45.01**	**243**	P	**P**	**22 19 25.7**	**-0.6**
WR0	**Warramunga Arr**	**46.80**	**261**	P	**P**	**22 19 39.5**	**-0.9**
WR0				IAmb	IAmb	22 19 48.4	
	comp=Z,5.8nm,1.1s						
AS31	**Alice Springs**	**46.95**	**256**	P	**P**	**22 19 41.6**	**0.0**
ASAR	**Alice Springs**	**46.95**	**256**	P	**P**	**22 19 41.0**	**-0.6**
	comp=Z,4.0nm,0.5s,baz=90,slow=8.0,SNR=43						
ASAR				PcP	**PcP**	**22 21 10.9**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=105,slow=4.1,SNR=9.4						
WRA	**Warramunga Arr**	**46.99**	**261**	P	**P**	**22 19 41.1**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=97,slow=7.4,SNR=90						
WRA				PcP	**PcP**	**22 21 11.0**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=98,slow=5.0,SNR=3.8						
WRA	**Warramunga Arr**	**46.99**	**261**	P	**P**	**22 19 40.7**	**-1.2**
WRA					**PcP**	**22 21 11.1**	**+0.6**
KNRA	**Kununurra**	**53.00**	**265**	P	**P**	**22 20 26.8**	**-0.2**
KNRA				IAmb	IAmb	22 20 29.6	
	comp=Z,8.6nm,0.7s						
SBA	**Scott Base**	**59.00**	**184**	P	**P**	**22 21 10.3**	**+1.8**
PSA00	**Pilbara Seismi**	**60.10**	**256**	P	**P**	**22 21 16.2**	**-0.8**
PSA00				IAmb	IAmb	22 21 17.4	
	comp=Z,3.4nm,0.9s						
PSA00	**Pilbara Seismi**	**60.10**	**256**	P	**P**	**22 21 16.1**	**-0.8**
PSA00				IAmb	IAmb	22 21 29.4	
	comp=Z,19nm,1.4s						
MBWA	**Marble Bar**	**60.28**	**256**	P	**P**	**22 21 17.4**	**-0.7**
QSPA	**South Pole Qui**	**70.54**	**180**	P	**P**	**22 22 24.2**	**+1.0**
QSPA				IAmb	IAmb	22 22 25.1	
	comp=Z,3.0nm,0.9s						
MJAR	**Matsushiro Arr**	**70.81**	**322**	P	**P**	**22 22 25.7**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=145,slow=6.2,SNR=4.9						
NVAR	**Mina Array Bea**	**78.77**	**42**	P	**P**	**22 23 13.0**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=218,slow=7.0,SNR=3.6						
TXAR	**Lajitas Array**	**84.62**	**56**	P	**P**	**22 23 41.7**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=201,slow=4.8,SNR=4.6						

*IDC **30** 22:28:08.2±11.0, 7°.33S×128°.78E, h130km±120km, mb2.8/1, mb1 3.1/5, mb1mx3.0/29, mbtmp3.5/5, ML3.0/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/12, Error ellipse: s-maj=135.4km s-min=31.6km az=47.0*

ISC 30 22:28:10.2±1.6, 7°.7S±0°.1×128°.7E±0°.1, h150km, n6, σ3°46/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.53**	**243**	P	**Pn**	**22 29 32.7**	**+1.9**
	12nm,0.3s,baz=68,slow=8.8,SNR=10						
BATI				S	**Sn**	**22 30 31.8**	**-1.9**
	2.7nm,0.3s,baz=97,slow=14,SNR=1.7						
FITZ	**Fitzroy Crossi**	**10.75**	**196**	P	**Pn**	**22 30 43.6**	**+3.4**
	0.1nm,0.3s,baz=21,slow=14,SNR=1.4						
FITZ				S	**Sn**	**22 32 36.4**	**-2.8**
	0.1nm,0.3s,baz=126,slow=18,SNR=1.6						
WRA	**Warramunga Arr**	**13.37**	**156**	P	**Pn**	**22 31 15.0**	**+0.8**
	0.1nm,0.3s,baz=325,slow=14,SNR=8.7						
WRA				S	Sn	22 33 36.0	-6.2
	0.3nm,0.3s,baz=333,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**16.66**	**163**	P	**Pn**	**22 31 59.0**	**+3.8**
	0.1nm,0.3s,baz=342,slow=11,SNR=8.9						
ASAR				S	**S**	**22 34 56.5**	**-3.9**
	0.1nm,0.3s,baz=13,slow=19,SNR=1.2						
LEM	**Lemberg**	**20.89**	**271**	LR	LR	22 41 48.5	
	comp=Z,86nm,18.3s,baz=202,slow=39						
MKAR	**Makanchi Array**	**68.08**	**328**	P	**P**	**22 38 52.3**	**-1.5**
	0.1nm,0.4s,baz=139,slow=5.1,SNR=1.5						

*IGQ **30** 22:32:02.1±1.8, 0°.5±8°.×8°.1W±1°.3, h10km*
*IDC **30** 22:32:03.9±0.9, 0°.23S×80°.75W, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.8/27, mbtmp3.8/9, ML2.6/2, MS3.7/2, Ms1 3.7/2, ms1mx2.8/60, Error ellipse: s-maj=27.5km s-min=21.3km az=62.0*
*NEIC **30** 22:32:06.3±2.1, 0°.26S±0°.09×80°.80W±0°.07, h10km±1km, mb4.3/22, Error ellipse: s-maj=14.8km s-min=11.0km az=166.0*

ISC 30 22:32:05.4±0.6, 0°.26S±0°.05×80°.80W±0°.05, h10km, n96, σ1°33/86, mb4.2/16, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.59**	**90**	P	**Pg**	**22 32 16.0**	**-0.9**
JAMA				S	**Sg**	**22 32 26.0**	**+1.3**
FLF1	**Flavio Alfaro-**	**0.96**	**96**	P	**Pg**	**22 32 24.0**	**+0.1**
FLF1				S	**Sn**	**22 32 41.0**	**+2.3**
MAG1	**Magdalena**	**1.04**	**79**	P	**Pg**	**22 32 25.0**	**-0.5**
PPLP	**Puerto Lpez**	**1.27**	**179**	P	Pn	22 32 26.0	-3.4
PPLP	**Puerto Lpez**	**1.27**	**179**	P	**Pn**	**22 32 27.0**	**-2.4**
PAC1	**Pacto, Paraso**	**2.07**	**75**	P	**Pn**	**22 32 38.0**	**-2.4**
ILLI	**Illinizas Sur**	**2.12**	**102**	P	**Pn**	**22 32 40.0**	**-1.3**
HPAL	**Hacienda Las P**	**2.14**	**89**	P	**Pn**	**22 32 40.0**	**-1.6**
GGPT	**Toaza - Volcan**	**2.17**	**89**	P	**Pn**	**22 32 40.0**	**-2.1**
JUA2	**San Juan 2**	**2.19**	**89**	P	**Pn**	**22 32 41.0**	**-1.4**
PINO	**Pino**	**2.19**	**87**	P	**Pn**	**22 32 41.0**	**-1.5**
TERV	**Terraza Guagua**	**2.19**	**88**	P	**Pn**	**22 32 42.0**	**-0.5**
PAST	**Pastocalle**	**2.19**	**101**	P	**Pn**	**22 32 42.0**	**-0.4**
GGPC	**Guagua Pichinc**	**2.20**	**88**	P	**Pn**	**22 32 41.0**	**-1.6**
YANA	**Yana**	**2.23**	**86**	P	**Pn**	**22 32 42.0**	**-0.9**
CHSH	**Refugio Sur-Vo**	**2.28**	**122**	P	**Pn**	**22 32 44.0**	**+0.3**
CAMI	**Rancho Maria**	**2.33**	**100**	P	**Pn**	**22 32 45.0**	**+0.8**
PORT	**Chimborazo Vol**	**2.35**	**121**	P	**Pn**	**22 32 44.0**	**-0.6**
NAS2	**Nasa**	**2.36**	**99**	P	**Pn**	**22 32 45.0**	**+0.3**
PITA	**Cotopaxi Volc**	**2.38**	**97**	P	**Pn**	**22 32 45.0**	**0.0**
BMOR	**Cotopaxi Volca**	**2.38**	**101**	P	**Pn**	**22 32 45.0**	**-0.1**
TAMH	**Tambohuasha Ch**	**2.38**	**122**	P	**Pn**	**22 32 45.0**	**0.0**
BREF	**Cotopaxi Volca**	**2.39**	**100**	P	**Pn**	**22 32 46.0**	**+0.8**
OTAV	**Otavalo**	**2.40**	**78**	Pn	**Pn**	**22 32 43.8**	**-1.4**
BVC2	**Cotopaxi Volca**	**2.42**	**99**	P	**Pn**	**22 32 46.0**	**+0.5**
BTAM	**Cotopaxi Volca**	**2.43**	**100**	P	**Pn**	**22 32 46.0**	**+0.2**
VCES	**Cotopaxi**	**2.46**	**103**	P	**Pn**	**22 32 46.0**	**-0.1**
TAMB	**Tambo**	**2.46**	**100**	P	**Pn**	**22 32 47.0**	**+0.8**
CUIC	**Cuicocha-Domo**	**2.50**	**77**	P	**Pn**	**22 32 45.0**	**-1.5**
CUSW	**Cuicocha Oeste**	**2.50**	**77**	P	**Pn**	**22 32 46.0**	**-0.6**
ANTG	**Antisana-Guama**	**2.55**	**95**	P	**Pn**	**22 32 48.0**	**+0.6**
BBIL	**Ulba Tungurahu**	**2.59**	**117**	P	**Pn**	**22 32 48.0**	**+0.2**
JUI6	**Juive**	**2.60**	**116**	P	**Pn**	**22 32 49.0**	**+1.2**
POND	**Pondoa**	**2.61**	**116**	P	**Pn**	**22 32 49.0**	**+1.0**
BMAS	**Trigal station**	**2.62**	**118**	P	**Pn**	**22 32 49.0**	**+0.8**
RETU	**Refugio**	**2.63**	**117**	P	**Pn**	**22 32 50.0**	**+1.6**
URCU	**Urcuqui**	**2.63**	**75**	P	**Pn**	**22 32 48.0**	**-0.4**
ANTS	**Antisana-Sarah**	**2.63**	**95**	P	**Pn**	**22 32 49.0**	**+0.4**
PIAT	**Ana Tenorio**	**2.64**	**106**	P	**Pn**	**22 32 49.0**	**+0.6**
ANTI	**Antisana**	**2.64**	**94**	P	**Pn**	**22 32 49.0**	**+0.3**
ARRY	**Arrayan**	**2.65**	**118**	P	**Pn**	**22 32 49.0**	**+0.5**
BPAT	**Tungurahua Vol**	**2.66**	**118**	P	**Pn**	**22 32 50.0**	**+1.1**
YAHU	**Yahuarcocha**	**2.79**	**77**	P	**Pn**	**22 32 51.0**	**+0.4**
CMBC	**Cumbal**	**3.20**	**68**	*e*P	**Pn**	**22 33 01.4**	**-1.3**
GCUF	**Volcan Galeras**	**3.75**	**67**	*e*P	**Pn**	**22 33 05.2**	**+1.3**
GR1C	**Gorgona, Isla**	**4.17**	**39**	*e*P	**Pb**	**22 33 16.7**	**-2.4**
CRUC	**La Cruz**	**4.25**	**65**	*e*P	**Pn**	**22 33 11.9**	**+1.3**
SOTA	**Rioblanco**	**4.82**	**60**	*e*P	Pn	22 33 24.3	+5.8
PCON	**Cinco Dias**	**5.09**	**60**	*e*P	Pb	22 33 30.0	-5.0
MALC	**Bahia Malaga**	**5.48**	**39**	*e*P	**Pb**	**22 33 40.5**	**-0.7**
GARC	**Garzon, Huila**	**5.83**	**65**	*e*P	**Pn**	**22 33 35.8**	**+3.5**
YOTC	**Yotoco, Valle**	**6.13**	**46**	*e*P	**Pn**	**22 33 40.5**	**+4.3**
PLMC	**San Jos del P**	**6.83**	**41**	*e*P	**Pn**	**22 33 50.1**	**+4.2**
ORTC	**Ortega, Tolima**	**6.92**	**53**	*e*P	Pn	22 33 53.9	+6.8
GUY2C	**Guyana, Caldas**	**7.69**	**45**	*e*P	Pn	22 34 03.4	+5.4
CBOC	**Ciudad Bolivar**	**7.74**	**38**	*e*P	Pn

TEYL	**Yanliau Villag** baz=197	**0.37**	**202**	*eP*	**Pg**	**22 38 25.3**	**+0.4**
LATG	**Datong** baz=330	**0.38**	**327**	⇓*iP*	**Pg**	**22 38 25.1**	**0.0**
LATG	baz=330			S	**Sg**	**22 38 30.8**	**+0.6**
NNSB	**Datong** baz=302	**0.40**	**302**	⇓*iP*	**Pg**	**22 38 25.4**	**0.0**
NNSB	baz=302			S	**Sg**	**22 38 30.8**	**+0.1**
TWC	**Suao** baz=20	**0.40**	**13**	⇓*iP*	**Pg**	**22 38 25.4**	**0.0**
TWC	baz=20			*eS*	**Sg**	**22 38 30.8**	**0.0**
NNS	**Nan Shan** baz=303	**0.41**	**303**	⇓*iP*	**Pg**	**22 38 25.6**	**0.0**
NNS	baz=303			*eS*	**Sg**	**22 38 31.2**	**0.0**
NDS	**Dongshan** baz=1.0	**0.42**	**356**	⇓*iP*	**Pg**	**22 38 25.8**	**0.0**
NDS	baz=1.0			*i* S	**Sg**	**22 38 31.3**	**0.0**
NDT	**Datong Townshi** baz=334	**0.44**	**331**	⇓*iP*	**Pg**	**22 38 26.4**	**+0.2**
NDT	baz=334			*eS*	**Sg**	**22 38 32.7**	**+0.5**
ENTT	**Nioudou** baz=342	**0.46**	**338**	⇓*iP*	**Pg**	**22 38 26.6**	**+0.1**
ENTT	baz=342			*i* S	**Sg**	**22 38 32.9**	**+0.3**
ESL	**Shilin** baz=210	**0.49**	**216**	P	**Pg**	**22 38 27.1**	**0.0**
ESL	baz=210			*eS*	**Sg**	**22 38 34.2**	**+0.5**
TWE	**Neicheng** baz=357	**0.51**	**351**	⇓*iP*	**Pg**	**22 38 27.6**	**+0.1**
TWE	baz=357			*i* S	**Sg**	**22 38 34.6**	**+0.3**
TWT	**Tachien** baz=271	**0.53**	**274**	⇓P	**Pb**	**22 38 28.2**	**-0.6**
TWT	baz=271			*eS*	**Sb**	**22 38 35.4**	**-1.1**
TEGC	**Jichi Village** baz=196	**0.54**	**201**	*eP*	**Pb**	**22 38 28.7**	**-0.3**
TDCB	**Techi** baz=272	**0.54**	**274**	⇓P	**Pg**	**22 38 28.3**	**+0.2**
TDCB	baz=272			*eS*	**Sg**	**22 38 35.5**	**+0.1**
ILA	**Ilan** baz=4.0	**0.55**	**360**	*eP*	**Pg**	**22 38 28.5**	**+0.3**
ILA	baz=4.0			*eS*	**Sg**	**22 38 36.1**	**+0.7**
CHGB	**Renai** baz=250	**0.55**	**254**	⇓*iP*	**Pg**	**22 38 28.4**	**+0.1**
CHGB	baz=250			*eS*	**Sg**	**22 38 35.6**	**+0.1**
FUSB	**Fushanzhiwuyua** baz=348	**0.56**	**345**	⇓P	**Pg**	**22 38 28.6**	**+0.1**
FUSB	baz=348			*eS*	**Sg**	**22 38 36.0**	**0.0**
YHNB	**Yeheng** baz=325	**0.57**	**323**	⇓*iP*	**Pg**	**22 38 28.8**	**+0.2**
YHNB	baz=325			S	**Sg**	**22 38 36.1**	**0.0**
NSK	**Sanguang** baz=324	**0.58**	**322**	⇓*iP*	**Pg**	**22 38 28.9**	**+0.1**
NSK	baz=324			*eS*	**Sg**	**22 38 36.5**	**-0.1**
OWD	**Renai** baz=240	**0.59**	**244**	⇓*iP*	**Pg**	**22 38 28.7**	**-0.3**
OWD	baz=240			S	**Sg**	**22 38 36.4**	**-0.4**
NWLT	**Wulai** baz=340	**0.60**	**338**	⇓*iP*	**Pg**	**22 38 29.4**	**+0.1**
NWLT	baz=340			S	**Sg**	**22 38 37.1**	**-0.2**
EGFH	**Guangfu** baz=205	**0.62**	**209**	*eP*	**Pg**	**22 38 29.4**	**-0.1**
EGFH	baz=205			*eS*	**Sg**	**22 38 37.3**	**-0.4**
WUSB	**Renai** baz=246	**0.62**	**249**	⇓*iP*	**Pg**	**22 38 29.6**	**0.0**
WUSB	baz=246			*eS*	**Sg**	**22 38 37.6**	**-0.2**
NTC	**Toucheng** baz=10.0	**0.64**	**6**	⇓P	**Pg**	**22 38 29.9**	**0.0**
NTC	baz=10.0			*eS*	**Sg**	**22 38 38.2**	**-0.2**
EGS	baz=19	**0.65**	**15**	*eP*	**Pg**	**22 38 30.1**	**+0.1**
NFF	**Wufeng Townshi** baz=306	**0.71**	**306**	⇓P	**Pg**	**22 38 31.3**	**0.0**
NFF	baz=306			*eS*	**Sg**	**22 38 40.5**	**-0.2**
VWDT	**VWDT** baz=227	**0.72**	**231**	P	**Pg**	**22 38 31.5**	**+0.1**
VWDT	baz=227			*eS*	**Sb**	**22 38 41.2**	**-0.7**
WHP	**Taichung City** baz=273	**0.74**	**275**	*eP*	**Pb**	**22 38 32.0**	**-0.4**
WHP	baz=273			*eS*	**Sb**	**22 38 41.8**	**-0.8**
TIPB	**Shuangxi** baz=8.0	**0.76**	**5**	⇓P	**Pg**	**22 38 32.1**	**0.0**
TIPB	baz=8.0			*eS*	**Sg**	**22 38 41.5**	**-0.6**
NHDH	**Xindian Distri** baz=347	**0.77**	**345**	*eP*	**Pb**	**22 38 32.7**	**-0.3**
DPDB	**Guoxing** baz=254	**0.78**	**257**	*eP*	**Pg**	**22 38 31.8**	**-0.6**
DPDB	baz=254			*eS*	**Sb**	**22 38 42.9**	**-0.7**
TWA	**Mucha** baz=352	**0.78**	**349**	*eP*	**Pg**	**22 38 32.2**	**-0.3**
HGSD	**Ruisui** baz=200	**0.78**	**203**	*eP*	**Pb**	**22 38 33.5**	**+0.5**
HGSD	baz=200			*eS*	**Sb**	**22 38 44.7**	**+1.1**
WCS	**Beigang Elemen** baz=256	**0.78**	**259**	*eP*	**Pb**	**22 38 32.7**	**-0.4**
WCS	baz=256			*eS*	**Sg**	**22 38 42.7**	**-0.1**
TATO	**Taipei** baz=345	**0.80**	**342**	*eP*	**Pg**	**22 38 32.8**	**-0.1**
LIOB	**Emei** baz=303	**0.80**	**303**	*eP*	**Pb**	**22 38 33.5**	**+0.2**
LIOB	baz=303			*eS*	**Sb**	**22 38 44.1**	**-0.1**
NSTT	**Nanjuang** baz=301	**0.80**	**301**	*eP*	**Pb**	**22 38 33.3**	**-0.2**
NSTT	baz=301			*eS*	**Sb**	**22 38 43.8**	**-0.5**
EHY	**Hungye** baz=206	**0.81**	**209**	*eP*	**Pg**	**22 38 33.1**	**0.0**
TWB1	**Santiao Chiao** baz=19	**0.82**	**15**	*eP*	**Pg**	**22 38 33.0**	**-0.3**
TWB1	baz=19			*eS*	**Sg**	**22 38 43.7**	**-0.3**
SSLB	**Suanglung** baz=237	**0.84**	**240**	⇓P	**Pg**	**22 38 33.4**	**-0.4**
SSLB	baz=237			*eS*	**Sg**	**22 38 43.9**	**-0.9**
SMLT	**Sun Moon Lake** baz=244	**0.85**	**247**	*eP*	**Pg**	**22 38 33.8**	**-0.1**
SMLT	baz=244			*eS*	**Sb**	**22 38 44.9**	**-0.7**
NWF	**Wu-fen Shan** baz=4.0	**0.85**	**2**	*eP*	**Pg**	**22 38 34.2**	**+0.2**
NWF	baz=4.0			*eS*	**Sg**	**22 38 44.7**	**-0.4**
WFSB	**Wu-fen Shan** baz=4.0	**0.85**	**2**	*eP*	**Pg**	**22 38 34.2**	**+0.3**
WFSB	baz=4.0			*eS*	**Sg**	**22 38 44.4**	**-0.8**
TYC	**Yuchr** baz=247	**0.88**	**249**	*eP*	**Pg**	**22 38 34.2**	**-0.2**
TYC	baz=247			*eS*	**Sg**	**22 38 45.2**	**-0.6**
SXI1	**Grass Mountain** baz=10.0	**0.88**	**7**	⇓*eP*	**Pg**	**22 38 34.7**	**+0.1**
SXI1	baz=10.0			*eS*	**Sg**	**22 38 45.9**	**-0.2**
TWQ1	**Liyutan** baz=277	**0.90**	**279**	*eP*	**Pn**	**22 38 36.0**	**-0.2**
SBCB	**Hsinchu** baz=310	**0.91**	**310**	*eP*	**Pn**	**22 38 36.1**	**-0.1**
NCUH	**Zhongli** baz=327	**0.91**	**326**	*eP*	**Pn**	**22 38 35.9**	**-0.4**
NCU	**National Centr** baz=327	**0.91**	**326**	*eP*	**Pn**	**22 38 36.0**	**-0.2**
NCU	baz=327			*eS*	**Sn**	**22 38 49.5**	**+0.2**
YULB	**Yu-li** baz=204	**0.92**	**207**	*eP*	**Pg**	**22 38 33.7**	**-1.5**
YULB	baz=204			*eS*	**Sb**	**22 38 48.4**	**+0.8**
HSN	**Hsinchu** baz=313	**0.92**	**310**	*eP*	**Pb**	**22 38 35.8**	**+0.4**
NSY	**Sanyi** baz=282	**0.93**	**283**	*eP*	**Pn**	**22 38 36.3**	**-0.1**
NMLH	**Miaoli** baz=290	**0.93**	**290**	*eP*	**Pn**	**22 38 37.1**	**+0.6**
TWS1	**Kuangyinshan** baz=343	**0.93**	**341**	*eP*	**Pn**	**22 38 36.4**	**-0.2**
ECBN	**Changbin** baz=195	**0.94**	**197**	*eP*	**Pg**	**22 38 35.4**	**-0.1**
YM01	**YM01** baz=352	**0.94**	**350**	*eP*	**Pb**	**22 38 36.0**	**+0.1**
EYUL	**Yuli** baz=202	**0.95**	**205**	*eP*	**Pg**	**22 38 35.7**	**-0.1**
TWF1	**Yuli** baz=203	**0.95**	**206**	*eP*	**Pg**	**22 38 34.4**	**-1.5**
TWF1	baz=203			*eS*	**Sb**	**22 38 49.7**	**+1.0**
WWF	**Wufeng** baz=258	**0.98**	**260**	*eP*	**Pn**	**22 38 38.0**	**+0.8**
YM08	**YM08** baz=353	**0.98**	**351**	*eP*	**Pb**	**22 38 36.6**	**+0.1**
ANP	**Anpu** baz=350	**0.99**	**348**	*eP*	**Pb**	**22 38 36.9**	**+0.2**
WJS	**Zhushan** baz=245	**1.01**	**248**	*eP*	**Pn**	**22 38 37.6**	**-0.1**
WDJ	**Dajia District** baz=276	**1.02**	**278**	*eP*	**Pn**	**22 38 38.1**	**+0.3**
WDJ	baz=276			*eS*	**Sn**	**22 38 53.2**	**+1.1**
YUS	**Yu-Shan** baz=223	**1.03**	**226**	*eP*	**Pg**	**22 38 37.2**	**-0.2**
WNT	**Mingjian** baz=249	**1.03**	**251**	*eP*	**Pn**	**22 38 38.5**	**+0.7**
FULB	**Fuli** baz=200	**1.09**	**203**	*eP*	**Pg**	**22 38 37.9**	**-0.6**
JYNG	**Yonaguni jima**	**1.11**	**78**	P	**Pb**	**22 38 38.7**	**0.0**
JYNG				*eS*	**Sn**	**22 38 54.8**	**+0.5**
ALS	**Alishan** baz=229	**1.11**	**231**	*eP*	**Pb**	**22 38 38.9**	**-0.1**
ALS	baz=229			*eS*	**Sn**	**22 38 55.3**	**+0.5**
CHN5	**Tsauling** baz=236	**1.16**	**238**	*eP*	**Pn**	**22 38 40.0**	**+0.2**
CHKT	**Chengkung** baz=195	**1.17**	**198**	*eP*	**Pb**	**22 38 39.3**	**-0.4**
YOJ	**Yonaguni jima**	**1.17**	**78**	P	**Pb**	**22 38 39.6**	**-0.2**
YOJ				*eS*	**Sg**	**22 38 56.1**	**+0.7**
YOJ	**Yonaguni jima** baz=79	**1.17**	**78**	⇓*iP*	**Pb**	**22 38 39.6**	**-0.2**
YOJ	baz=79			*eS*	**Sn**	**22 38 56.7**	**+0.9**
ELDTW	**Lidau** baz=211	**1.22**	**214**	*eP*	**Pb**	**22 38 39.5**	**-1.2**
WDLH	**Douliu** baz=243	**1.23**	**245**	*eP*	**Pg**	**22 38 41.4**	**+0.3**
WRL	**Guolierlin Hig** baz=255	**1.29**	**256**	*eP*	**Pg**	**22 38 42.2**	**-0.2**
WTK	**Tuku** baz=246	**1.35**	**247**	*eP*	**Pg**	**22 38 43.0**	**-0.5**
CHN4	**Tsaushan** baz=229	**1.37**	**231**	*eP*	**Pg**	**22 38 43.7**	**0.0**
CHN4	baz=229			*eS*	**Sg**	**22 39 03.8**	**+2.3**
STYH	**Taoyuan** baz=219	**1.37**	**221**	*eP*	**Pn**	**22 38 42.6**	**0.0**
TPUB	**Ta-pu** baz=227	**1.37**	**229**	*eP*	**Pn**	**22 38 42.5**	**-0.1**
STYT	**Tauyuan** baz=219	**1.39**	**221**	*eP*	**Pn**	**22 38 43.1**	**+0.3**
WTP	**Ta-pu** baz=225	**1.42**	**227**	*eP*	**Pg**	**22 38 44.4**	**-0.3**
TWK	**Hsinying** baz=229	**1.49**	**231**	*eP*	**Pb**	**22 38 45.5**	**+0.2**
SNST	**Tainan City** baz=228	**1.52**	**230**	*eP*	**Pg**	**22 38 46.3**	**-0.3**
CHN1	**Nanshi** baz=226	**1.52**	**228**	*eP*	**Pb**	**22 38 45.9**	**+0.2**
LDUT	**Ludao** baz=188	**1.56**	**190**	*eP*	**Pn**	**22 38 43.7**	**-1.4**
LDUT	baz=188			*eS*	**Sn**	**22 39 05.5**	**+0.2**
SGST	**Jiashian** baz=222	**1.56**	**224**	*eP*	**Pb**	**22 38 45.8**	**-0.5**
WSL	**Shuilin Townsh** baz=242	**1.56**	**244**	*eP*	**Pb**	**22 38 46.3**	**0.0**
ICHU	**Yijhu** baz=236	**1.59**	**238**	*eP*	**Pb**	**22 38 47.1**	**+0.1**
IRIF	**Iriomote-Funau**	**1.81**	**86**	P	**Pn**	**22 38 48.2**	**-0.4**
IRIF				*eS*	**Sn**	**22 39 12.3**	**+0.8**
MASBT	**Mashibuluo** baz=211	**1.90**	**213**	*eP*	**Pb**	**22 38 51.9**	**-0.3**
JKRS	**Kuro-shima**	**2.06**	**89**	P	**Pn**	**22 38 52.5**	**+0.5**
JKRS				S	**Sn**	**22 39 19.3**	**+1.6**
PHUB	**P'eng-hu** baz=250	**2.11**	**251**	*eP*	**Pn**	**22 38 53.2**	**+0.5**
WDGT	**Dungji** baz=242	**2.14**	**244**	*eP*	**Pn**	**22 38 54.0**	**+0.9**
JIJ	**Ishigaki jima**	**2.19**	**86**	P	**Pn**	**22 38 53.4**	**-0.4**
JIJ				S	**Sn**	**22 39 20.6**	**-0.2**
JISG	**Ishigakijimahi**	**2.36**	**80**	P	**Pn**	**22 38 55.5**	**-0.7**
JISG				*eS*	**Sn**	**22 39 24.6**	**-0.6**
MATB	**Ma-tsu** baz=320	**2.53**	**320**	*eP*	**Pn**	**22 38 58.5**	**0.0**
KNMB	**Chin-men Tao** baz=274	**3.08**	**275**	*eP*	**Pn**	**22 39 05.9**	**-0.1**

IDC ***30*** *22:45:01.6±3.8, 30.84N×142.38E, h0km, mb3.4/4, mb1 3.5/8, mb1mx3.3/48, mbtmp3.5/8, ML3.2/4, MS4.1/1, Ms1 4.1/1, ms1mx2.5/46, Error ellipse: s-maj=130.5km s-min=19.9km az=69.0*

JMA ***30*** *22:45:01.9±0.5, 31.25N×142.58E, h0km, M4.2*

ISC 30 22:45:01.4±1.3, 30.92N±0.07×142.6E±0.2, h10km, n17, σ1§64/23, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.20**	**314**	P	**Pn**	**22 45 51.9**	**+0.1**
JHJ2				*eS*	**Sn**	**22 46 28.4**	**-1.6**
JHJ	**Hachijo jima 2**	**3.23**	**314**	Pn	**Pn**	**22 45 52.2**	**0.0**
	6.0nm,0.3s,baz=360,slow=22,SNR=7.4						
JHJ				Sn	**Sn**	**22 46 28.6**	**-2.1**
	20nm,0.3s,baz=90,slow=22,SNR=7.2						
JCJ	**Chichijima**	**3.82**	**185**	Pn	**Pn**	**22 46 00.4**	**0.0**
	3.6nm,0.3s,baz=287,slow=17,SNR=1.6						
JCJ				Sn	**Sn**	**22 46 41.6**	**-3.8**
	9.7nm,0.3s,baz=285,slow=21,SNR=5.4						
BSO1	**Boso 1**	**3.96**	**341**	P	**Pn**	**22 46 01.3**	**-0.4**
BSO1				*eS*	**Sn**	**22 46 45.7**	**-2.3**
BSO3	**Boso 3**	**4.24**	**336**	P	**Pn**	**22 46 05.4**	**-0.5**
BSO4	**Boso 4**	**4.47**	**336**	P	**Pn**	**22 46 09.4**	**+0.2**
JOD2	**Odawara 2**	**5.23**	**327**	P	**Pn**	**22 46 19.9**	**+0.2**
JOD2				*eS*	**Sn**	**22 47 17.4**	**-2.6**
JRY	**Ryogami san**	**5.94**	**330**	P	**Pn**	**22 46 30.1**	**+0.6**
JRY				*eS*	**Sn**	**22 47 36.2**	**-1.3**
JIE	**Ise**	**6.04**	**307**	P	**Pn**	**22 46 32.2**	**+1.4**
JAG	**Ashikaga**	**6.08**	**336**	P	**Pn**	**22 46 31.3**	**0.0**
MJAR	**Matsushiro Arr**	**6.68**	**328**	Pn	**Pn**	**22 46 40.0**	**+0.4**
	0.3nm,0.3s,baz=143,slow=11,SNR=14						
MJAR				Sn	**Sn**	**22 47 53.2**	**-2.7**
	0.1nm,0.3s,baz=84,slow=26,SNR=1.1						
JOW	**Kunigami**	**13.17**	**256**	LR	LR	22 53 10.9	
	comp=Z,768nm,18.4s,baz=234,slow=38						
KSRS	**Korea Array**	**13.76**	**302**	Pn	**Pn**	**22 48 17.5**	**+1.0**
	0.1nm,0.3s,baz=110,slow=13,SNR=1.8						
MKAR	**Makanchi Array**	**48.38**	**307**	P	**P**	**22 53 44.7**	**+1.2**
	0.2nm,0.4s,baz=84,slow=8.7,SNR=7.1						
KURBB	**Kurchatov Arra**	**50.67**	**312**	P	**P**	**22 54 02.2**	**+1.3**
	0.3nm,0.6s,baz=92,slow=9.4,SNR=6.1						
WRA	**Warramunga Arr**	**51.18**	**190**	P	**P**	**22 54 04.7**	**-0.3**
	0.4nm,0.6s,baz=6.7,slow=7.7,SNR=1.4						
ASAR	**Alice Springs**	**54.90**	**190**	P	**P**	**22 54 34.4**	**+2.0**
	0.2nm,0.6s,baz=7.8,slow=7.5,SNR=1.8						

NIED ***30*** *22:46:54.7, 23.99N×121.56E, h22km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm;*

Mrr0.70; Mθθ-0.59; Mϕϕ-0.12; Mrθ0.71; Mθϕ-0.28; Mϕr0.46;
Fault plane solution: Mo1.10000×10¹⁶ NP1:
ϕs251.00000°, δ20.00000°, λ101.00000°. NP2:
ϕs59.00000°, δ70.00000°, λ86.00000°.

JMA ***30*** *22:46:54.7±0.1, 23.99N×121.56E, h22km±1km, M4.7*

BJI ***30*** *22:46:56.0±0.0, 24.23N×121.84E, h5km, mb4.2/40, mB4.6/26, ML4.4/12, Ms4.6/56, Ms7 4.5/54*

TAP ***30*** *22:46:57.2, 24.22N×121.74E, h12km, ML4.8, B*

ASIES ***30*** *22:46:57.5, 24.24N×121.71E, h19km, MW4.4*

NEIC ***30*** *22:46:57.1±1.1, 24.19N±0.04×121.75E±0.03, h13km±4km, mb4.5/65, ML4.8(TAP), Error ellipse: s-maj=6.0km s-min=4.1km az=203.0*

IDC ***30*** *22:47:05.8±4.1, 24.19N×121.77E, h92km±38km, mb3.7/21, mb1 3.8/23, mb1mx3.7/47, mbtmp4.0/23, MS3.7/40, Ms1 3.7/40, ms1mx3.5/90, Error ellipse: s-maj=17.6km s-min=11.9km az=67.0*

ISC 30 22:46:57.2±0.6, 24.21N±0.01×121.76E±0.01, h14km±3km, n359, σ1§33/469, mb4.4/56, MS3.8/41, 28C-51D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village** baz=6.0	**0.10**	**349**	*i* P	**Pg**	**22 47 00.1**	**-0.1**
EHP	baz=6.0			*i* S	**Sg**	**22 47 02.3**	**-0.1**
ETL	**Fush Village** baz=240	**0.14**	**248**	⇓*iP*	**Pg**	**22 47 00.6**	**-0.2**
ETL	baz=240			*i* S	**Sg**	**22 47 03.2**	**0.0**
NACB	**Ninganchiao**	**0.16**	**256**		**Pg**	**22 47 00.6**	**-0.4**
NACB				Sg	**Sg**	**22 47 03.5**	**-0.1**
NACB	**Ninganchiao** baz=251	**0.16**	**256**	⇓*iP*	**Pg**	**22 47 00.7**	**-0.2**
NACB	baz=251			*i* S	**Sg**	**22 47 03.6**	**0.0**
TWD	**Chiawan** baz=222	**0.20**	**229**	⇑*iP*	**Pg**	**22 47 01.5**	**-0.1**
TWD	baz=222			*i* S	**Sg**	**22 47 04.9**	**+0.2**
ENA	**Nanau** baz=2.0	**0.22**	**355**	⇓*iP*	**Pg**	**22 47 01.8**	**-0.1**
ENA	baz=2.0			*i* S	**Sg**	**22 47 05.4**	**+0.2**
EWUT	**Wuta** baz=9.0	**0.23**	**4**	⇓*iP*	**Pg**	**22 47 02.1**	**-0.1**
EWUT	baz=9.0			*i* S	**Sg**	**22 47 05.7**	**0.0**
ETLH	**Xiulin Townshi** baz=267	**0.26**	**269**	⇓*iP*	**Pg**	**22 47 02.4**	**-0.3**
ETLH	baz=267			S	**Sg**	**22 47 06.2**	**-0.1**
HWA	**Hwalien** baz=205	**0.27**	**212**	⇑*eP*	**Pb**	**22 47 03.5**	**-0.4**
HWA	baz=205			*eS*	**Sn**	**22 47 11.4**	**-1.4**
ETM	**Tongmen** baz=222	**0.35**	**225**	⇑*iP*	**Pg**	**22 47 04.0**	**-0.2**
ETM	baz=222			*eS*	**Sg**	**22 47 09.2**	**+0.3**
TEYL	**Yanliau Villag** baz=202	**0.37**	**204**	*eP*	**Pg**	**22 47 05.1**	**+0.4**
TEYL	baz=202			*eS*	**Sn**	**22 47 13.4**	**-1.8**
LATG	**Datong** baz=328	**0.39**	**326**	⇓*iP*	**Pg**	**22 47 05.0**	**0.0**
LATG	baz=328			*i* S	**Sg**	**22 47 10.6**	**+0.2**
TWC	**Suao** baz=16	**0.40**	**11**	⇓*iP*	**Pg**	**22 47 05.4**	**+0.1**
TWC	baz=16			*i* S	**Sg**	**22 47 11.0**	**+0.2**
NNSB	**Datong** baz=303	**0.41**	**302**	⇓*iP*	**Pg**	**22 47 05.4**	**0.0**
NNSB	baz=303			*i* S	**Sg**	**22 47 10.9**	**0.0**
NDS	**Dongshan** baz=357	**0.42**	**354**	⇓*iP*	**Pg**	**22 47 05.7**	**+0.1**
NDS	baz=357			*i* S	**Sg**	**22 47 11.5**	**+0.1**
NNS	**Nan Shan** baz=304	**0.42**	**303**	⇓*iP*	**Pg**	**22 47 05.6**	**0.0**
NNS	baz=304			*i* S	**Sg**	**22 47 11.3**	**-0.1**
NDT	**Datong Townshi** baz=332	**0.45**	**330**	⇓*iP*	**Pg**	**22 47 06.4**	**+0.2**
NDT	baz=332			*i* S	**Sg**	**22 47 12.5**	**+0.3**
WHF	**Hehuan Shan** baz=260	**0.46**	**262**	⇓*iP*	**Pg**	**22 47 06.2**	**-0.1**
WHF	baz=260			*eS*	**Sg**	**22 47 12.5**	**-0.1**
ENTT	**Nioudou** baz=340	**0.46**	**337**	⇓*iP*	**Pg**	**22 47 06.5**	**+0.2**
ENTT	baz=340			*i* S	**Sg**	**22 47 13.0**	**+0.4**
FUSS	**Fushou** baz=274	**0.47**	**274**	⇓*iP*	**Pg**	**22 47 05.5**	**-1.1**
FUSS	baz=274			*eS*	**Sg**	**22 47 12.1**	**-1.0**
ESL	**Shilin** baz=214	**0.50**	**217**	*eP*	**Pg**	**22 47 06.2**	**-0.8**
ESL	baz=214			*eS*	**Sb**	**22 47 15.3**	**+0.4**
TWE	**Neicheng** baz=354	**0.52**	**350**	⇓*iP*	**Pg**	**22 47 07.5**	**+0.2**
TWE	baz=354			*i* S	**Sb**	**22 47 14.8**	**-0.6**
TWT	**Tachien** baz=273	**0.54**	**275**	P	**Pb**	**22 47 08.2**	**-0.3**
TWT	baz=273			S	**Sb**	**22 47 15.6**	**-0.6**
TEGC	**Jichi Village** baz=199	**0.54**	**202**	*eP*	**Pb**	**22 47 08.8**	**+0.4**
TEGC	baz=199			*eS*	**Sn**	**22 47 19.9**	**+0.5**
ILA	**Ilan** baz=2.0	**0.55**	**359**	⇓*iP*	**Pb**	**22 47 08.4**	**-0.2**
ILA	baz=2.0			*eS*	**Sb**	**22 47 16.8**	**+0.3**
TDCB	**Techi** baz=273	**0.55**	**274**	⇓*iP*	**Pg**	**22 47 08.2**	**+0.2**
TDCB	baz=273			*eS*	**Sg**	**22 47 15.1**	**-0.4**
CHGB	**Renai** baz=253	**0.56**	**254**	⇓P	**Pg**	**22 47 08.3**	**+0.1**
CHGB	baz=253			*eS*	**Sg**	**22 47 15.8**	**+0.2**
FUSB	**Fushanzhiwuyua** baz=346	**0.57**	**344**	⇓*iP*	**Pg**	**22 47 08.5**	**+0.2**
FUSB	baz=346			S	**Sg**	**22 47 16.1**	**+0.1**
YHNB	**Yeheng**	**0.58**	**322**		**Pg**	**22 47 08.4**	**-0.1**
YHNB				Sg	**Sg**	**22 47 16.3**	**+0.1**
YHNB	**Yeheng**	**0.58**	**322**	P	**Pb**	**22 47 09.2**	**+0.1**
YHNB	**Yeheng** baz=324	**0.58**	**322**	⇓*iP*	**Pg**	**22 47 08.7**	**+0.2**
YHNB	baz=324			*eS*	**Sg**	**22 47 16.5**	**+0.3**
NSK	**Sanguang** baz=323	**0.59**	**322**	⇓*iP*	**Pg**	**22 47 08.9**	**+0.1**
NSK	baz=323			*eS*	**Sg**	**22 47 16.1**	**-0.5**
OWD	**Renai** baz=243	**0.59**	**245**	⇓*iP*	**Pg**	**22 47 08.6**	**-0.2**
OWD	baz=243			S	**Sb**	**22 47 17.5**	**-0.3**
NWLT	**Wulai** baz=339	**0.61**	**337**	⇓*iP*	**Pg**	**22 47 09.2**	**+0.1**
NWLT	baz=339			*i* S	**Sg**	**22 47 17.2**	**0.0**
EGFH	**Guangfu** baz=207	**0.62**	**210**	⇓*eP*	**Pg**	**22 47 09.5**	**+0.2**
EGFH	baz=207			*eS*	**Sn**	**22 47 20.8**	**-0.6**
WUSB	**Renai** baz=248	**0.63**	**250**	⇓P	**Pg**	**22 47 09.6**	**+0.1**
WUSB	baz=248			*eS*	**Sg**	**22 47 17.9**	**0.0**
NTC	**Toucheng** baz=7.0	**0.64**	**5**	⇓*iP*	**Pg**	**22 47 09.9**	**+0.1**
NTC	baz=7.0			*eS*	**Sg**	**22 47 18.0**	**-0.2**
EGS	baz=17	**0.65**	**14**	*eP*	**Pb**	**22 47 10.4**	**0.0**
NFF	**Wufeng Townshi** baz=306	**0.72**	**306**	*eP*	**Pg**	**22 47 11.3**	**+0.1**

NFF				*e*S	Sg	22 47 20.7	0.0
	baz=306						
VWDT	**VWDT**	**0.73**	**231**	⇓P	**Pg**	**22 47 11.2**	**-0.1**
	baz=230						
VWDT				*e*S	**Sn**	**22 47 23.0**	**-1.1**
	baz=230						
WHP	**Taichung City**	**0.75**	**275**	⇓*e*P	**Pb**	**22 47 11.9**	**-0.1**
	baz=275						
WHP				*e*S	**Sg**	**22 47 21.3**	**-0.2**
	baz=275						
TIPB	**Shuangxi**	**0.76**	**4**	⇓*i*P	**Pb**	**22 47 12.0**	**-0.2**
	baz=6.0						
TIPB				*e*S	**Sg**	**22 47 22.0**	**0.0**
	baz=6.0						
WPL	**Puli Township**	**0.76**	**255**	*e*P	**Pb**	**22 47 12.1**	**-0.1**
	baz=254						
WPL				*e*S	**Sg**	**22 47 21.9**	**-0.1**
	baz=254						
NHDH	**Xindian Distri**	**0.78**	**344**	⇓*e*P	**Pb**	**22 47 12.7**	**+0.2**
	baz=345						
NHDH				*e*S	**Sb**	**22 47 22.8**	**-0.2**
	baz=345						
HGSD	**Ruisui**	**0.78**	**203**	⇓P	**Pb**	**22 47 12.7**	**+0.1**
	baz=202						
HGSD				*e*S	**Sn**	**22 47 27.3**	**+2.0**
	baz=202						
TWA	**Mucha**	**0.78**	**348**	⇓*i*P	**Pb**	**22 47 12.8**	**+0.2**
	baz=350						
TWA				*e*S	**Sb**	**22 47 23.0**	**-0.2**
	baz=350						
DPDB	**Guoxing**	**0.78**	**257**	*e*P	**Pb**	**22 47 12.6**	**-0.1**
	baz=256						
DPDB				*e*S	**Sg**	**22 47 22.4**	**-0.3**
	baz=256						
WCS	**Beigang Elemen**	**0.79**	**259**	⇓*e*P	**Pb**	**22 47 12.7**	**-0.1**
	baz=258						
WCS				*e*S	**Sg**	**22 47 23.0**	**0.0**
	baz=258						
TATO	**Taipei**	**0.80**	**342**		**Pb**	**22 47 13.0**	**+0.1**
TATO	**Taipei**	**0.80**	**342**	P	**Pb**	**22 47 12.9**	**+0.1**
	baz=344						
TATO				*e*S	**Sb**	**22 47 23.6**	**0.0**
	baz=344						
LIOB	**Emei**	**0.81**	**303**	*e*P	**Pn**	**22 47 13.7**	**-0.5**
	baz=303						
LIOB				*e*S	**Sb**	**22 47 24.0**	**+0.2**
	baz=303						
NJD	**Zhudong**	**0.81**	**311**	*e*P	**Pn**	**22 47 14.1**	**-0.1**
	baz=311						
NJD				*e*S	**Sn**	**22 47 25.1**	**-0.9**
	baz=311						
EHY	**Hungye**	**0.81**	**210**	⇓*e*P	**Pg**	**22 47 12.0**	**-0.9**
	baz=208						
EHY				*e*S	**Sn**	**22 47 25.8**	**-0.3**
	baz=208						
NSTT	**Nanjuang**	**0.81**	**301**	*e*P	**Pb**	**22 47 13.3**	**+0.2**
	baz=301						
NSTT				*e*S	**Sb**	**22 47 23.8**	**-0.1**
	baz=301						
TWB1	**Santiao Chiao**	**0.82**	**15**	P	**Pg**	**22 47 13.0**	**0.0**
	baz=17						
TWB1				*e*S	**Sg**	**22 47 23.9**	**+0.1**
	baz=17						
BACT	**New Taipei Cit**	**0.83**	**340**	*e*P	**Pn**	**22 47 14.5**	**0.0**
	baz=341						
BACT				*e*S	**Sn**	**22 47 26.0**	**-0.7**
	baz=341						
NHY	**Taipei**	**0.84**	**348**	*e*P	**Pn**	**22 47 14.6**	**-0.1**
	baz=349						
SSLB	**Suanglung**	**0.85**	**240**	Pg	**Pg**	**22 47 13.2**	**-0.5**
SSLB				Sg	**Sg**	**22 47 24.5**	**-0.4**
SSLB	**Suanglung**	**0.85**	**240**	P	**Pb**	**22 47 13.9**	**+0.1**
SSLB	**Suanglung**	**0.85**	**240**	⇓*e*P	**Pg**	**22 47 13.3**	**-0.3**
	baz=239						
SSLB				*e*S	**Sg**	**22 47 24.7**	**-0.1**
	baz=239						
TAP1	**Taipei**	**0.85**	**345**	*e*P	**Pn**	**22 47 14.7**	**-0.1**
	baz=346						
SMLT	**Sun Moon Lake**	**0.85**	**248**	⇓*e*P	**Pg**	**22 47 13.1**	**-0.7**
	baz=246						
SMLT				*e*S	**Sg**	**22 47 25.0**	**+0.1**
	baz=246						
NWF	**Wu-fen Shan**	**0.86**	**1**	⇓*e*P	**Pb**	**22 47 14.2**	**+0.3**
	baz=3.0						
NWF				*e*S	**Sb**	**22 47 25.2**	**-0.1**
	baz=3.0						
WFSB	**Wu-fen Shan**	**0.86**	**1**	⇓P	**Pb**	**22 47 14.2**	**+0.3**
	baz=3.0						
WFSB				*e*S	**Sb**	**22 47 25.1**	**-0.1**
	baz=3.0						
TAP	**Taipei**	**0.86**	**344**	*e*P	**Pn**	**22 47 14.7**	**-0.1**
	baz=346						
TAP				*e*S	**Sg**	**22 47 25.0**	**0.0**
	baz=346						
HSN1	**Hsinchu**	**0.88**	**310**	*e*P	**Pn**	**22 47 15.7**	**+0.4**
	baz=310						
HSN1				*e*S	**Sn**	**22 47 27.8**	**0.0**
	baz=310						
TYC	**Yuchr**	**0.88**	**250**	*e*P	**Pb**	**22 47 14.3**	**0.0**
	baz=248						
TYC				*e*S	**Sg**	**22 47 25.7**	**-0.1**
	baz=248						
SXI1	**Grass Mountain**	**0.89**	**7**	⇓P	**Pb**	**22 47 14.6**	**+0.2**
	baz=8.0						
SXI1				*e*S	**Sb**	**22 47 26.1**	**0.0**
	baz=8.0						
NTY	**Taoyuan**	**0.89**	**332**	*e*P	**Pn**	**22 47 15.9**	**+0.6**
	baz=333						
NTY				*e*S	**Sn**	**22 47 28.1**	**0.0**
	baz=333						
TWQ1	**Liyutan**	**0.91**	**279**	*e*P	**Pn**	**22 47 15.7**	**+0.1**
	baz=278						
TWQ1				*e*S	**Sn**	**22 47 31.2**	**+2.6**
	baz=278						
SBCB	**Hsinchu**	**0.91**	**309**	⇑*e*P	**Pn**	**22 47 16.0**	**+0.4**
	baz=310						
SBCB				*e*S	**Sn**	**22 47 28.6**	**0.0**
	baz=310						
NCUH	**Zhongli**	**0.92**	**325**	⇑*e*P	**Pn**	**22 47 15.8**	**+0.1**
	baz=326						
NCUH				*e*S	**Sn**	**22 47 29.2**	**+0.5**
	baz=326						
NCU	**National Centr**	**0.92**	**325**	*e*P	**Pn**	**22 47 15.9**	**+0.2**
	baz=326						
NCU				*e*S	**Sn**	**22 47 29.9**	**+1.2**
	baz=326						
YULB	**Yu-li**	**0.92**	**208**		**Pb**	**22 47 13.5**	**-1.4**
YULB	**Yu-li**	**0.92**	**208**	*e*P	**Pb**	**22 47 13.5**	**-1.4**
	baz=206						
YULB				*e*S	**Sb**	**22 47 26.8**	**-0.2**
	baz=206						
HSN	**Hsinchu**	**0.93**	**309**	*e*P	**Pn**	**22 47 16.1**	**+0.2**
	baz=313						
HSN				*e*S	**Sn**	**22 47 30.1**	**+1.0**
	baz=313						
ECBN	**Changbin**	**0.94**	**198**	⇓*e*P	**Pb**	**22 47 15.0**	**-0.2**
	baz=196						
ECBN				*e*S	**Sn**	**22 47 30.0**	**+0.8**
	baz=196						
TNOU	**National Taiwa**	**0.94**	**1**	*e*P	**Pn**	**22 47 15.8**	**-0.2**
	baz=2.0						
TNOU				*e*S	**Sb**	**22 47 27.1**	**-0.4**
	baz=2.0						
NJN	**Zhunan**	**0.94**	**300**	*e*P	**Pn**	**22 47 16.8**	**+0.8**
	baz=300						
TWS1	**Kuangyinshan**	**0.94**	**341**	⇑*e*P	**Pn**	**22 47 16.1**	**+0.1**
	baz=342						
TWS1				*e*S	**Sn**	**22 47 29.3**	**+0.1**
	baz=342						
NMLH	**Miaoli**	**0.94**	**290**	⇑*e*P	**Pn**	**22 47 16.5**	**+0.4**
	baz=290						
NMLH				*e*S	**Sn**	**22 47 30.0**	**+0.6**
	baz=290						
YM01	**YM01**	**0.95**	**349**	⇑*e*P	**Pn**	**22 47 15.9**	**-0.3**
	baz=351						
YM01				*e*S	**Sn**	**22 47 31.4**	**+1.9**
	baz=351						
EYUL	**Yuli**	**0.95**	**205**	*e*P	**Pb**	**22 47 14.3**	**-1.2**
	baz=204						
EYUL				*e*S	**Sn**	**22 47 32.2**	**+2.6**
	baz=204						
TWF1	**Yuli**	**0.95**	**207**	⇓*e*P	**Pb**	**22 47 14.1**	**-1.4**
	baz=205						
TWF1				*e*S	**Sn**	**22 47 31.0**	**+1.3**
	baz=205						
YM08	**YM08**	**0.98**	**351**	⇑*e*P	**Pg**	**22 47 16.2**	**0.0**
	baz=352						
YM08				*e*S	**Sn**	**22 47 30.0**	**-0.5**
	baz=352						
WWF	**Wufeng**	**0.99**	**260**	*e*P	**Pn**	**22 47 17.7**	**+1.1**
	baz=260						
WWF				*e*S	**Sn**	**22 47 32.4**	**+2.0**
	baz=260						
NTST	**Danshui**	**0.99**	**343**	⇑*e*P	**Pn**	**22 47 16.9**	**+0.2**
	baz=344						
NTST				*e*S	**Sn**	**22 47 31.4**	**+0.9**
	baz=344						
NWRT	**Kuosheng**	**0.99**	**355**	*e*P	**Pn**	**22 47 17.0**	**+0.3**
	baz=356						
TCU	**Taichung**	**0.99**	**267**	⇑*e*P	**Pn**	**22 47 17.8**	**+1.1**
	baz=266						
TCU				*e*S	**Sn**	**22 47 31.6**	**+1.0**
	baz=266						
ANP	**Anpu**	**0.99**	**347**	⇑*e*P	**Pg**	**22 47 16.4**	**0.0**
	baz=349						
ANP				*e*S	**Sn**	**22 47 30.6**	**-0.2**
	baz=349						
WJS	**Zhushan**	**1.02**	**248**	*e*P	**Pn**	**22 47 17.7**	**+0.6**
	baz=247						
WJS				*e*S	**Sn**	**22 47 32.4**	**+1.1**
	baz=247						
NHW	**Xinwu Township**	**1.02**	**321**	⇑*e*P	**Pn**	**22 47 17.6**	**+0.4**
	baz=321						
NHW				*e*S	**Sn**	**22 47 32.1**	**+0.7**
	baz=321						
WDJ	**Dajia District**	**1.03**	**278**	⇑*e*P	**Pn**	**22 47 18.4**	**+1.1**
	baz=277						
WDJ				*e*S	**Sn**	**22 47 32.0**	**+0.4**
	baz=277						
YUS	**Yu-Shan**	**1.03**	**226**	*e*P	**Pb**	**22 47 17.1**	**-0.1**
	baz=224						
YUS				*e*S	**Sn**	**22 47 32.4**	**+0.1**
	baz=224						
WNT1	**Nantou City**	**1.03**	**253**	*e*P	**Pn**	**22 47 18.7**	**+1.4**
	baz=252						
WNT1				*e*S	**Sn**	**22 47 34.1**	**+2.5**
	baz=252						
WNT	**Mingjian**	**1.04**	**252**	*e*P	**Pn**	**22 47 18.2**	**+0.8**
	baz=250						
WNT				*e*S	**Sn**	**22 47 33.4**	**+1.7**
	baz=250						
TWY	**Chenhua**	**1.07**	**352**	*e*P	**Pg**	**22 47 18.3**	**+0.5**
	baz=353						
FULB	**Fuli**	**1.10**	**203**	*e*P	**Pb**	**22 47 17.4**	**-0.5**
	baz=202						
FULB				*e*S	**Sn**	**22 47 37.1**	**+3.9**
	baz=202						
JYNG	**Yonagunijimaku**	**1.10**	**77**	P	**Pg**	**22 47 18.7**	**+0.2**
JYNG				*e*S	**Sn**	**22 47 35.5**	**+2.1**
WCHH	**Zhanghua**	**1.11**	**263**	*e*P	**Pg**	**22 47 19.6**	**+1.1**
	baz=263						
WCHH				*e*S	**Sn**	**22 47 37.6**	**+4.2**
	baz=263						
WYL	**Yuanlin Townsh**	**1.11**	**257**	*e*P	**Pg**	**22 47 19.7**	**+1.2**
	baz=256						
WYL				*e*S	**Sn**	**22 47 36.0**	**+2.5**
	baz=256						
ALS	**Alishan**	**1.12**	**232**	⇓*e*P	**Pg**	**22 47 18.9**	**+0.1**
	baz=230						
ALS				*e*S	**Sn**	**22 47 36.4**	**+2.2**
	baz=230						
CHKT	**Chengkung**	**1.17**	**198**	*e*P	**Pn**	**22 47 17.6**	**-1.5**
	baz=197						
CHKT				*e*S	**Sg**	**22 47 36.7**	**+1.9**
	baz=197						
YOJ	**Yonaguni jima**	**1.17**	**77**	P	**Pg**	**22 47 19.5**	**-0.1**
YOJ				S	**Sg**	**22 47 36.8**	**+2.0**
YOJ	**Yonaguni jima**	**1.17**	**77**	Pn	**Pg**	**22 47 19.6**	**-0.1**
YOJ	**Yonaguni jima**	**1.17**	**77**	P	**Pg**	**22 47 20.0**	**+0.4**
YOJ	**Yonaguni jima**	**1.17**	**77**	⇓P	**Pg**	**22 47 19.5**	**-0.1**
	baz=78						
YOJ				*e*S	**Sg**	**22 47 36.5**	**+1.7**
	baz=78						
WGK	**Gukeng**	**1.22**	**245**	*e*P	**Pg**	**22 47 21.3**	**+0.8**
	baz=244						
WGK				*e*S	**Sg**	**22 47 39.6**	**+3.2**
	baz=244						
ECS	**Chishang**	**1.22**	**204**	*e*P	**Pn**	**22 47 19.5**	**-0.3**
	baz=203						
ECS				*e*S	**Sg**	**22 47 40.7**	**+4.2**
	baz=203						
ELDTW	**Lidau**	**1.23**	**214**	*e*P	**Pn**	**22 47 18.5**	**-1.6**
	baz=212						
ELDTW				*e*S	**Sg**	**22 47 37.5**	**+0.7**
	baz=212						
WDLH	**Douliu**	**1.23**	**245**	*e*P	**Pg**	**22 47 21.3**	**+0.4**
	baz=244						
WDLH				*e*S	**Sg**	**22 47 38.8**	**+1.8**
	baz=244						
EDH	**Donghe**	**1.30**	**199**	⇓*e*P	**Pn**	**22 47 19.7**	**-1.3**
	baz=198						
EDH				*e*S	**Sg**	**22 47 38.9**	**-0.3**
	baz=198						
WRL	**Guolierlin Hig**	**1.30**	**257**	⇑*e*P	**Pg**	**22 47 22.0**	**-0.3**
	baz=256						
WRL				*e*S	**Sg**	**22 47 40.6**	**+1.4**
	baz=256						
CHN2	**Minshiung**	**1.36**	**240**	*e*P	**Pg**	**22 47 23.9**	**+0.6**
	baz=239						
CHN2				*e*S	**Sg**	**22 47 45.1**	**+4.2**
	baz=239						
WTK	**Tuku**	**1.36**	**248**	⇓*e*P	**Pg**	**22 47 23.3**	**0.0**
	baz=247						
WTK				*e*S	**Sg**	**22 47 41.7**	**+0.6**
	baz=247						
CHN4	**Tsaushan**	**1.37**	**232**	*e*P	**Pg**	**22 47 23.6**	**+0.1**
	baz=231						
CHN4				*e*S	**Sg**	**22 47 44.1**	**+2.7**
	baz=231						
STYH	**Taoyuan**	**1.38**	**221**	⇓*e*P	**Pn**	**22 47 22.2**	**+0.2**
	baz=220						
STYH				*e*S	**Sb**	**22 47 40.3**	**+0.1**
	baz=220						
TPUB	**Ta-pu**	**1.38**	**229**		**Pb**	**22 47 23.1**	**+0.3**
TPUB	**Ta-pu**	**1.38**	**229**	P	**Pg**	**22 47 24.0**	**+0.3**
TPUB	**Ta-pu**	**1.38**	**229**	*e*P	**Pg**	**22 47 23.4**	**-0.3**
	baz=228						
TPUB				*e*S	**Sg**	**22 47 41.7**	**+0.1**
	baz=228						
STYT	**Tauyuan**	**1.39**	**222**	⇓*e*P	**Pn**	**22 47 22.6**	**+0.3**
	baz=220						
STYT				*e*S	**Sg**	**22 47 42.4**	**+0.3**
	baz=220						
WTCT	**Ta-ch'eng**	**1.40**	**256**	*e*P	**Pg**	**22 47 23.6**	**-0.4**
	baz=255						
WTCT				*e*S	**Sg**	**22 47 43.7**	**+1.5**
	baz=255						
CHY	**Chiayi**	**1.42**	**240**	*e*P	**Pg**	**22 47 24.5**	**+0.1**
	baz=239						
CHY				*e*S	**Sg**	**22 47 44.6**	**+1.8**
	baz=239						
LONT	**Longtian**	**1.42**	**204**	*e*P	**Pn**	**22 47 21.0**	**-1.6**
	baz=203						
WTP	**Ta-pu**	**1.43**	**228**	*e*P	**Pb**	**22 47 23.8**	**+0.2**
	baz=226						
WTP				*e*S	**Sg**	**22 47 45.4**	**+2.3**
	baz=226						
TWK	**Hsinying**	**1.50**	**231**	⇑*e*P	**Pg**	**22 47 25.5**	**-0.5**
	baz=230						
TWK				*e*S	**Sg**	**22 47 47.0**	**+1.5**
	baz=230						
WSF	**Szhu**	**1.52**	**248**	*e*P	**Pb**	**22 47 25.5**	**+0.3**
	baz=247						
WSF				*e*S	**Sg**	**22 47 47.2**	**+1.1**
	baz=247						
SNST	**Tainan City**	**1.52**	**230**	*e*P	**Pg**	**22 47 26.0**	**-0.4**
	baz=229						
SNST				*e*S	**Sg**	**22 47 46.1**	**-0.1**
	baz=229						
TWG	**Pinlang**	**1.52**	**205**		**Pn**	**22 47 22.3**	**-1.7**
TWG	**Pinlang**	**1.52**	**205**	*e*P	**Pn**	**22 47 21.9**	**-2.1**
	baz=203						
TWGBT	**Beinan**	**1.52**	**204**	*e*P	**Pn**	**22 47 22.3**	**-1.7**
	baz=203						
CHN1	**Nanshi**	**1.52**	**228**	*e*P	**Pb**	**22 47 25.8**	**+0.5**
	baz=227						
CHN1				*e*S	**Sg**	**22 47 47.2**	**+1.0**
	baz=227						
LDUT	**Ludao**	**1.55**	**190**	⇓*e*P	**Pn**	**22 47 22.3**	**-2.1**
	baz=189						
LDUT				*e*S	**Sn**	**22 47 41.2**	**-3.2**
	baz=189						
TTN	**Taitung**	**1.56**	**201**	*e*P	**Pn**	**22 47 24.6**	**+0.1**
	baz=200						
SGST	**Jiashian**	**1.56**	**224**	*e*P	**Pn**	**22 47 25.0**	**+0.4**
	baz=223						
SGST				*e*S	**Sg**	**22 47 49.0**	**+1.6**
	baz=223						
WSL	**Shuilin Townsh**	**1.56**	**244**	*e*P	**Pb**	**22 47 26.3**	**+0.4**
	baz=243						
WSL				*e*S	**Sg**	**22 47 48.7**	**+1.2**
	baz=243						
SLGT	**Liugui**	**1.59**	**220**	*e*P	**Pb**	**22 47 26.8**	**+0.5**
	baz=219						
ICHU	**Yijhu**	**1.60**	**238**	⇑*e*P	**Pb**	**22 47 27.0**	**+0.4**
	baz=237						
ICHU				*e*S	**Sg**	**22 47 48.9**	**+0.1**
	baz=237						
CHN8	**Yiju**	**1.66**	**239**	*e*P	**Pb**	**22 47 27.7**	**+0.1**
	baz=238						
CHN8				*e*S	**Sg**	**22 47 51.2**	**+0.6**
	baz=238						
CHN3	**Shinhua**	**1.71**	**229**	*e*P	**Pg**	**22 47 29.7**	**-0.3**
	baz=228						
SHHT	**Tainan City**	**1.76**	**228**	*e*P	**Pg**	**22 47 30.2**	**-0.7**
	baz=227						
SCST	**Cishan**	**1.76**	**222**	*e*P	**Pb**	**22 47 29.4**	**+0.2**
	baz=221						
ECL	**Taimali**	**1.77**	**205**	*e*P	**Pn**	**22 47 24.9**	**-2.5**
	baz=204						
SSD	**Sandimen**	**1.79**	**216**	*e*P	**Pn**	**22 47 28.5**	**+0.8**
	baz=214						
SSD				*e*S	**Sg**	**22 47 54.1**	**-0.7**
	baz=214						
IRIF	**Iriomote-Funau**	**1.80**	**86**	P	**Pn**	**22 47 28.1**	**+0.3**
IRIF				S	**Sb**	**22 47 52.1**	**-0.3**
TSMG	**Majia**	**1.82**	**215**	*e*P	**Pn**	**22 47 28.9**	**+0.9**
	baz=214						
TSMG				*e*S	**Sb**	**22 47 54.1**	**+1.2**
	baz=214						
TWM1	**Shoushan**	**1.85**	**222**	*e*P	**Pg**	**22 47 31.8**	**-0.8**
	baz=221						
HATJ	**Hateruma jima**	**1.87**	**94**	P	**Pn**	**22 47 29.3**	**+0.5**
HATJ				*e*S	**Sb**	**22 47 53.6**	**-0.9**
SGLT	**Jiouru**	**1.88**	**219**	*e*P	**Pb**	**22 47 32.0**	**+0.7**
	baz=217						
MASBT	**Mashibuluo**	**1.90**	**213**	*e*P	**Pn**	**22 47 29.7**	**+0.5**
	baz=212						
MASBT				*e*S	**Sb**	**22 47 55.2**	**0.0**
	baz=212						
TSPT	**Pingtung City**	**1.92**	**218**	*e*P	**Pg**	**22 47 33.1**	**-0.9**
	baz=217						
EAST	**Anshuo**	**2.00**	**205**	*e*P	**Pn**	**22 47 29.4**	**-1.3**
	baz=204						
TAW	**Tawu**	**2.01**	**204**	*e*P	**Pn**	**22 47 29.5**	**-1.2**
	baz=202						
TAWH	**Dawu Township**	**2.03**	**204**	*e*P	**Pn**	**22 47 29.8**	**-1.2**
	baz=203						
SSPT	**Xinbi**	**2.04**	**213**	*e*P	**Pb**	**22 47 33.5**	**-0.5**
	baz=212						
JKRS	**Kuro-shima**	**2.05**	**89**	P	**Pn**	**22 47 31.5**	**+0.2**
JKRS				S	**Sb**	**22 47 58.9**	**-0.7**
PNG	**Penghu**	**2.12**	**253**	*e*P	**Pn**	**22 47 32.8**	**+0.6**
	baz=252						
PNG				*e*S	**Sn**	**22 47 59.9**	**+1.5**
	baz=252						
PHUB	**P'eng-hu**	**2.12**	**251**	*e*P	**Pn**	**22 47 32.8**	**+0.5**
	baz=250						
PHUB				*e*S	**Sn**	**22 47 60.0**	**+1.5**
	baz=250						
WDGT	**Dungji**	**2.15**	**244**	*e*P	**Pn**	**22 47 33.9**	**+1.3**
	baz=243						
WDGT				*e*S	**Sb**	**22 48 00.8**	**-1.5**
	baz=243						
LAY	**Lan-yu**	**2.17**	**185**	*e*P	Pn	22 47 26.5	-6.5
	baz=184						
SLIU	**Shizi**	**2.17**	**204**	*e*P	**Pn**	**22 47 33.3**	**+0.3**
	baz=203						
SLIU				*e*S	**Sg**	**22 48 05.2**	**-1.9**
	baz=203						
JIJ	**Ishigaki jima**	**2.18**	**86**	P	**Pn**	**22 47 33.3**	**+0.3**
JIJ				*e*S	**Sn**	**22 48 00.4**	**+0.6**
LYUB	**Lan-yu**	**2.21**	**184**	*e*P	**Pn**	**22 47 30.6**	**-2.8**
	baz=184						
VWUC	**VWUC**	**2.24**	**291**	⇑*e*P	**Pn**	**22 47 33.9**	**-0.1**
	baz=290						
VWUC				*e*S	**Sn**	**22 48 01.6**	**+0.1**
	baz=290						
WLCH	**Liuqiu**	**2.25**	**215**	*e*P	**Pb**	**22 47 36.1**	**-1.5**
	baz=214						
JISG	**Ishigakijimahi**	**2.35**	**80**	P	**Pn**	**22 47 35.6**	**+0.2**
JISG				*e*S	**Sn**	**22 48 04.7**	**+0.5**
VCHM	**Qimei**	**2.36**	**245**	*e*P	**Pn**	**22 47 36.6**	**+1.1**
	baz=245						
VCHM				*e*S	**Sb**	**22 48 07.0**	**-1.5**
	baz=245						
HEN	**Hengchun**	**2.39**	**203**	*e*P	**Pn**	**22 47 37.5**	**+1.5**
	baz=203						
TWK1	**Hengchun**	**2.42**	**202**	*e*P	**Pn**	**22 47 37.3**	**+0.9**
	baz=201						
MATB	**Ma-tsu**	**2.54**	**320**	⇑*e*P	**Pn**	**22 47 37.0**	**-1.0**
	baz=319						
PTMZ	**Houxiangcun**	**2.54**	**289**	⇑*e*P	**Pn**	**22 47 36.0**	**-2.1**
	baz=289						
PTMZ				*e*S	**Sn**	**22 48 07.0**	**-1.8**
	baz=289						
MSUT	**Lienchiang**	**2.56**	**320**	*e*P	**Pn**	**22 47 38.0**	**-0.4**
	baz=320						
JTJ	**Tarama**	**2.71**	**80**	P	**Pn**	**22 47 41.9**	**+1.5**
JTJ				*e*S	**Sn**	**22 48 15.5**	**+2.4**
LYJJ	**Jianjiangzhen**	**2.95**	**323**	*e*P	**Pn**	**22 47 43.0**	**-0.7**
	baz=322						
QZH	**Quanzhou**	**2.98**	**285**	⇓*i*Pn	**Pn**	**22 47 44.0**	**0.0**
QZH				Sn	**Sn**	**22 48 18.3**	**-1.3**
QZH				smax	smax		
	comp=N,500nm,0.6s						
QZH				smax	smax		
	comp=E,320nm,0.7s						
KNM	**Kinmen**	**3.04**	**275**	*e*P	**Pn**	**22 47 47.0**	**+2.0**
	baz=273						
XPSS	**Dashiqiu**	**3.06**	**333**	*e*P	**Pn**	**22 47 44.2**	**-0.9**
	baz=333						
KNMB	**Chin-men Tao**	**3.09**	**275**		**Pn**	**22 47 45.5**	**-0.1**
KNMB	**Chin-men Tao**	**3.09**	**275**	*e*P	**Pn**	**22 47 45.4**	**-0.1**
	baz=275						
MHZQ	**Yeshan**	**3.11**	**308**	*e*P	**Pn**	**22 47 45.2**	**-0.6**
	baz=307						
JIRB	**Irabujima**	**3.17**	**78**	P	**Pn**	**22 47 47.6**	**+1.0**
JIKM	**Ikemajima**	**3.25**	**77**	P	**Pn**	**22 47 49.9**	**+2.1**
JMJ	**Miyako jima 2**	**3.27**	**79**	P	**Pn**	**22 47 50.4**	**+2.3**
JMJ	**Miyako jima 2**	**3.27**	**79**	*e*P	**Pn**	**22 47 50.0**	**+1.9**
	baz=80						
JMJ2	**Miyako jima3**	**3.29**	**80**	P	**Pn**	**22 47 49.9**	**+1.5**
JMJ2				S	**Sn**	**22 48 29.5**	**+2.2**
JOGS	**Gusukube**	**3.37**	**80**	P	**Pn**	**22 47 51.7**	**+2.3**
AXDP	**Jialang**	**3.52**	**282**	⇑*e*P	**Pn**	**22 47 51.7**	**+0.2**
	baz=281						
ZPLA	**Ao Xicun**	**3.68**	**266**	*e*P	**Pn**	**22 47 53.9**	**+0.2**
	baz=266						
DSXP	**Dongshan**	**4.00**	**264**	⇑*e*P	**Pn**	**22 47 58.3**	**+0.2**
	baz=263						
SXFK	**Yanhouchang**	**4.32**	**301**	*e*P	**Pn**	**22 48 02.1**	**-0.4**
	baz=300						
JOW	**Kunigami**	**6.44**	**65**	Pn	**Pn**	**22 48 31.6**	**0.0**
JOW	**Kunigami**	**6.44**	**65**	P	**Pn**	**22 48 32.0**	**+0.4**
SSE	**Sheshan**	**6.88**	**356**	Pn	**Pn**	**22 48 38.8**	**+1.2**
SSE				Sn	**Sn**	**22 49 53.8**	**-1.9**
SSE				smax	smax		
	comp=N,40nm,1.1s						
SSE				smax	smax		
	comp=E,55nm,1.0s						
SSE				LR	LR		
	comp=N,1μm,12.0s						
SSE				LR	LR		
	comp=E,130nm,12.9s						
HKPS	**Hong Kong Po S**	**7.27**	**256**	Pn	**Pn**	**22 48 43.1**	**+0.1**
NJ2	**Nanjing**	**8.22**	**342**	*e*P	**Pn**	**22 48 56.8**	**+0.7**
NJ2				S	**Sn**	**22 50 33.5**	**+4.7**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
NJ2				smax	smax		
	comp=N,140nm,0.9s						
NJ2				smax	smax		
	comp=E,110nm,0.8s						
NJ2				LR	LR		
	comp=N,2μm,8.0s						
NJ2				LR	LR		
	comp=E,1μm,4.9s						
NJ2				LR	LR		
	comp=Z,2μm,10.4s						
CNSH	**ChangSha**	**8.86**	**298**	⇑P	**Pn**	**22 49 05.0**	**+0.1**
CNSH				S	**Sn**	**22 50 44.3**	**-0.3**
CNSH				smax	smax		

	comp=N,260nm,1.3s								
CNSH					smax	smax			
	comp=E,270nm,0.9s								
WHN	**Wuhan**	**9.12**	**315**	⇑P		**Pn**	**22 49 10.5**	**+2.1**	
WHN				S		Sn	22 51 03.0	+12	
WHN				LR		LR			
	comp=N,6μm,8.1s								
WHN				LR		LR			
	comp=E,5μm,8.0s								
WHN				LR		LR			
	comp=Z,9μm,9.9s								
WHN				LR		LR			
	comp=Z,9μm,9.9s								
GULI	**GuiLin**	**10.41**	**278**	P		**Pn**	**22 49 26.8**	**+0.6**	
GULI				LR		LR			
	comp=N,1μm,9.2s								
GULI				LR		LR			
	comp=E,2μm,10.8s								
GULI				LR		LR			
	comp=Z,3μm,10.3s								
QIZ	**Qiongzhong**	**12.22**	**247**	P		**Pn**	**22 49 50.3**	**-0.7**	
QIZ				S		**Sn**	**22 52 08.0**	**+0.8**	
QIZ				LR		LR			
	comp=N,440nm,11.4s								
QIZ				LR		LR			
	comp=E,270nm,9.8s								
QIZ				LR		LR			
	comp=Z,310nm,13.5s								
LYN	**LuoYang**	**13.10**	**324**	⇑P		P	22 50 19.5	+6.4	
LYN				PP		**PbPb**	**22 50 36.3**	**-9.4**	
LYN				S		S	22 53 09.8	+16	
LYN				pmax		pmax			
	comp=Z,130nm,5.5s								
LYN				LR		LR			
	comp=N,4μm,9.5s								
LYN				LR		LR			
	comp=E,1μm,9.9s								
LYN				LR		LR			
	comp=Z,3μm,9.9s								
KSAR	**Wonju Array Be**	**14.19**	**20**	Pn		**Pn**	**22 50 17.6**	**-0.2**	
KSRS	**Korea Array**	**14.21**	**20**	P		**Pn**	**22 50 20.8**	**+2.7**	
	comp=Z,0.2nm,0.3s,baz=206,slow=14,SNR=4.7								
KSRS				LR		LR	22 56 25.9		
	comp=Z,124nm,18.3s,baz=205,slow=39								
KS19	**Wonju Array Si**	**14.24**	**20**			**Pn**	**22 50 20.5**	**+2.0**	
HNS	**HongShan**	**14.47**	**337**	⇓P		**Pn**	**22 50 19.5**	**-2.1**	
HNS				S		**Sn**	**22 53 05.0**	**+3.2**	
HNS				LR		LR			
	comp=Z,1μm,13.2s								
HNS				LR		LR			
	comp=Z,980nm,13.0s								
HNS				LR		LR			
	comp=Z,1μm,12.9s								
XAN	**Xi'an**	**14.88**	**314**	⇑P		**Pn**	**22 50 28.5**	**+1.2**	
XAN				pP		P	22 50 34.0	+1.0	
XAN				sP			22 50 37.5		
XAN				pmax		pmax			
	comp=Z,7.0nm,1.0s								
XAN				pmax		pmax			
	comp=Z,49nm,6.2s								
XAN				LR		LR			
	comp=Z,910nm,8.6s								
XAN				LR		LR			
	comp=Z,2μm,10.5s								
XAN				LR		LR			
	comp=Z,3μm,10.2s								
BJT	**Baijiatuau**	**16.45**	**345**			**Pn**	**22 50 48.8**	**+1.1**	
BJI	**Beijing**	**16.47**	**345**	P		**P**	**22 50 49.5**	**-1.0**	
BJI				pP		**pP**	**22 50 53.0**	**-1.5**	
CD2	**Chengdu**	**17.29**	**297**	P		**P**	**22 51 00.5**	**+0.7**	
CD2				LR		LR			
	comp=Z,1μm,11.9s								
CD2				LR		LR			
	comp=Z,1μm,12.2s								
KMI	**Kunming**	**17.32**	**277**	⇓P		**P**	**22 51 00.5**	**+0.2**	
KMI				SS		S	22 54 35.0	+15	
KMI				pmax		pmax			
	comp=Z,6.0nm,1.1s								
KMI				pmax		pmax			
	comp=Z,73nm,4.1s								
KMI				LR		LR			
	comp=Z,350nm,9.1s								
KMI				LR		LR			
	comp=Z,2μm,9.4s								
KMI				LR		LR			
	comp=Z,2μm,10.1s								
DAV	**Davao City (W)**	**17.43**	**167**	LR		LR	22 58 00.2		
	comp=Z,150nm,18.6s,baz=38,slow=38								
SNY	**Shenyang**	**17.63**	**4**	⇑P		**P**	**22 51 06.5**	**+3.1**	
SNY				pmax		pmax			
	comp=Z,9.0nm,0.6s								
SNY				LR		LR			
	comp=Z,1μm,11.1s								
SNY				LR		LR			
	comp=Z,510nm,10.7s								
SNY				LR		LR			
	comp=Z,2μm,12.6s								
JHJ	**Hachijo jima 2**	**18.11**	**57**	LR		LR	22 58 06.8		
	comp=Z,202nm,21.1s,baz=119,slow=36								
PZH	**PanZhiHua**	**18.24**	**281**	P		**P**	**22 51 11.0**	**+0.7**	
PZH				S		**Sn**	**22 54 32.5**	**-1.2**	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,110nm,6.9s								
PZH				LR		LR			
	comp=Z,640nm,14.5s								
PZH				LR		LR			
	comp=Z,840nm,13.5s								
PZH				LR		LR			
	comp=Z,970nm,13.9s								
JCJ	**Chichijima**	**18.63**	**77**	LR		LR	22 58 16.2		
	comp=Z,186nm,19.4s,baz=280,slow=36								
HHC	**Hu-ho-hao-te**	**18.66**	**335**	*e*P		**Pn**	**22 51 18.0**	**+2.8**	
MJAR	**Matsushiro Arr**	**18.74**	**45**	P		**Pn**	**22 51 16.4**	**+0.3**	
	comp=Z,0.0nm,0.3s,baz=230,slow=9.6,SNR=2.5								
MJAR				LR		LR	22 59 31.5		
	comp=Z,259nm,18.0s,baz=224,slow=40								
BTO	**Baotou**	**19.09**	**332**	*e*P		**Pn**	**22 51 24.0**	**+3.7**	
BTO				LR		LR			
	comp=Z,5μm,12.0s								
BTO				LR		LR			
	comp=Z,1μm,11.2s								
MYLDM	**Lahad Datu**	**19.18**	**190**	P		**Pn**	**22 51 21.3**	**-0.2**	
MYLDM				IAmb		IAmb	22 51 48.6		
	comp=Z,23nm,1.2s								
LZH	**Lanzhou**	**19.46**	**312**	*e*P		**Pn**	**22 51 28.0**	**+3.0**	
LZH				pP		sP	22 51 32.8	+3.6	
LZH				pmax		pmax			
	comp=Z,11nm,1.2s								
LZH				pmax		pmax			
	comp=Z,310nm,4.1s								
LZH				LR		LR			
	comp=Z,1μm,11.9s								
LZH				LR		LR			
	comp=Z,1μm,11.1s								
LZH				LR		LR			
	comp=Z,2μm,12.5s								
CN2	**Changchun**	**19.77**	**8**	*e*P		**Pn**	**22 51 28.0**	**-0.4**	
CN2				*e*S		**S**	**22 55 06.3**	**-3.1**	
CN2				pmax		pmax			
	comp=Z,10.0nm,1.4s								
CN2				pmax		pmax			
	comp=Z,100nm,3.0s								
CN2				LR		LR			
	comp=Z,800nm,12.0s								
CN2				LR		LR			
	comp=Z,300nm,12.0s								
CN2				LR		LR			
	comp=Z,900nm,16.0s								
XLT	**XiLinHaoTe**	**20.18**	**348**	*e*P		Pn	22 51 34.5	+1.1	
XLT				pP		sP	22 51 39.0	+1.5	
XLT				sP		pP	22 51 42.5	+6.9	
XLT				PP		**PnPn**	**22 51 55.0**	**+6.9**	
XLT				S		Sn	22 55 25.5	+5.1	
XLT				pmax		pmax			
	comp=Z,16nm,1.5s								
XLT				pmax		pmax			
	comp=Z,210nm,3.8s								
XLT				LR		LR			
	comp=Z,60nm,14.4s								
XLT				LR		LR			
	comp=Z,390nm,12.9s								
XLT				LR		LR			
	comp=Z,770nm,14.2s								
USRK	**Ussuriysk Ar.**	**21.62**	**20**	P		**P**	**22 51 49.1**	**+2.2**	
	comp=Z,2.4nm,0.8s,baz=207,slow=9.2,SNR=4.8								
USRK				LR		LR	23 00 44.7		
	comp=Z,117nm,18.7s,baz=183,slow=38								
USRK	**Ussuriysk Ar.**	**21.62**	**20**	P		**P**	**22 51 45.2**	**-1.7**	
CHTO	**Chiang Mai**	**21.89**	**260**	P		**P**	**22 51 49.3**	**-0.7**	
CM31	**Chiang Mai Arr**	**22.00**	**259**	P		**P**	**22 51 50.0**	**-1.2**	
CMAR	**Chiang Mai Arr**	**22.00**	**259**	P		**P**	**22 51 53.5**	**+2.4**	
	comp=Z,0.7nm,0.3s,baz=55,slow=7.7,SNR=6.2								
CMAR				LR		LR	23 00 55.0		
	comp=Z,113nm,18.5s,baz=80,slow=38								
CMAR	**Chiang Mai Arr**	**22.00**	**259**	P		**P**	**22 51 50.9**	**-0.3**	
SBUM	**Sibu**	**23.52**	**205**	P		**P**	**22 52 06.2**	**-0.8**	
SBUM				IAmb		IAmb	22 52 10.5		
	comp=Z,10nm,1.1s								
MPSI	**Mapaga**	**23.80**	**185**	P		**P**	**22 52 10.5**	**+0.8**	
	comp=Z,630nmcomp=Z,7.8nm,1.2s								
GTA	**Gaotai**	**23.94**	**314**	⇑P		**P**	**22 52 11.3**	**+0.2**	
GTA				pP		pP	22 52 14.8	-0.6	
GTA				sP		sP	22 52 18.3	+1.4	
GTA				sS		sS	22 56 37.0	+2.0	
GTA				pmax		pmax			
	comp=Z,4.0nm,1.3s								
GTA				pmax		pmax			
	comp=Z,110nm,4.4s								
GTA				LR		LR			
	comp=Z,330nm,10.9s								
GTA				LR		LR			
	comp=Z,900nm,12.0s								
GTA				LR		LR			
	comp=Z,970nm,12.0s								
GUMO	**Guam**	**24.24**	**112**	LR		LR	23 01 39.4		
	comp=Z,52nm,18.7s,baz=86,slow=36								
APSI	**Ampana**	**24.97**	**180**	P		**P**	**22 52 20.7**	**+0.2**	
	comp=Z,16nm,1.0s								
HIA	**Hailar**	**25.06**	**357**	P		**P**	**22 52 21.1**	**0.0**	
HIA				IAmb		IAmb	22 52 25.1		
	comp=Z,7.8nm,1.1s								
KSM	**Kuching**	**25.18**	**208**	P		**P**	**22 52 21.1**	**-1.2**	
KSM				IAmb		IAmb	22 52 24.6		
	comp=Z,18nm,1.0s								
LBMI	**Labuha**	**25.32**	**166**	P		P	22 52 16.3	-7.4	
MTKI	**Muara Teweh, K**	**25.88**	**196**	P		**P**	**22 52 30.0**	**+1.3**	
GOMU	**GeErMu**	**26.08**	**304**	P		**P**	**22 52 32.3**	**+1.4**	
GOMU				pmax		pmax			
	comp=Z,3.0nm,0.9s								
GOMU				pmax		pmax			
	comp=Z,120nm,4.7s								
GOMU				LR		LR			
	comp=Z,220nm,15.6s								
GOMU				LR		LR			
	comp=Z,210nm,15.8s								
GOMU				LR		LR			
	comp=Z,210nm,16.5s								
ASAJ	**Asahikawa**	**26.16**	**36**	LR		LR	23 03 53.6		
	comp=Z,237nm,18.3s,baz=153,slow=38								
KLR	**Kul'dur**	**26.18**	**15**	P		**P**	**22 52 33.2**	**+2.1**	
	comp=Z,2.4nm,0.5s,baz=192,slow=8.2,SNR=13								
KLR				LR		LR	23 03 44.9		
	comp=Z,156nm,19.4s,baz=197,slow=38								
ULN	**Ulaanbaatar**	**26.34**	**337**	P		**P**	**22 52 32.2**	**-0.7**	
ULN				IAmb		IAmb	22 52 54.6		
	comp=Z,17nm,1.4s								
SONM	**Songino Array**	**26.55**	**336**	P		**P**	**22 52 35.9**	**+1.1**	
	comp=Z,6.1nm,1.1s,baz=180,slow=5.9,SNR=7.4								
SONM	**Songino Array**	**26.55**	**336**	P		**P**	**22 52 34.1**	**-0.7**	
SONM				IAmb		IAmb	22 52 40.4		
	comp=Z,12nm,1.2s								
SHL	**Shillong**	**27.11**	**279**	P		**P**	**22 52 39.5**	**-0.7**	
SHL				IAmb		IAmb	22 52 50.0		
	comp=Z,7.5nm,0.5s								
LSA	**Lhasa**	**27.78**	**288**	P		**P**	**22 52 46.9**	**+0.5**	
LSA	**Lhasa**	**27.78**	**288**	P		**P**	**22 52 51.0**	**+4.6**	
LSA				S		**S**	**22 57 38.5**	**+9.2**	
LSA				LR		LR			
	comp=Z,130nm,9.4s								
LSA				LR		LR			
	comp=Z,410nm,12.0s								
LSA				LR		LR			
	comp=Z,440nm,13.1s								
BBKI	**Banjar Baru**	**28.32**	**195**	P		**P**	**22 52 48.8**	**-1.9**	
KAPI	**Kappang**	**29.11**	**184**	LR		LR	23 05 20.3		
	comp=Z,72nm,18.8s,baz=350,slow=38								
SMPI	**Sarmi**	**30.82**	**145**	P		**P**	**22 53 16.0**	**+3.2**	
	comp=Z,6.5nm,1.6s								
GSI	**Gunungsitoli**	**32.66**	**229**	P		**P**	**22 53 29.0**	**-0.1**	
GSI				IAmb		IAmb	22 53 49.0		
	comp=Z,11nm,1.0s								
PWJI	**Pagerwojo**	**33.48**	**198**	P		**P**	**22 53 37.1**	**+0.9**	
	comp=Z,22μmcomp=Z,20nm,0.9s								
WMQ	**Urumqi**	**34.02**	**314**	*e*P		**P**	**22 53 43.0**	**+2.2**	
WMQ				LR		LR			
	comp=Z,420nm,10.5s								
WMQ				LR		LR			
	comp=Z,710nm,8.9s								
WMQ				LR		LR			
	comp=Z,210nm,10.1s								
BATI	**Baumata**	**34.26**	**177**	LR		LR	23 08 07.4		
	comp=Z,170nm,19.1s,baz=277,slow=37								
MTN	**Manton Dam**	**37.95**	**165**	P		**P**	**22 54 12.8**	**-1.8**	
MTN				IAmb		IAmb	22 54 18.9		
	comp=Z,9.4nm,0.8s								
YAK	**Yakutsk**	**38.19**	**6**	LR		LR	23 11 13.4		
	comp=Z,118nm,18.4s,baz=92,slow=38								
MK31	**Makanchi Array**	**38.69**	**316**	P		**P**	**22 54 19.9**	**-0.7**	
MKAR	**Makanchi Array**	**38.69**	**316**	P		**P**	**22 54 20.8**	**+0.2**	
	comp=Z,2.8nm,0.7s,baz=102,slow=10,SNR=18								
MKAR				LR		LR	23 11 30.8		
	comp=Z,205nm,18.5s,baz=76,slow=38								
MKAR	**Makanchi Array**	**38.69**	**316**	P		**P**	**22 54 20.2**	**-0.4**	
MAKZ	**Makanchi**	**38.89**	**316**	P		**P**	**22 54 22.0**	**-0.3**	
PETK	**Petropavlovsk-**	**39.55**	**34**	LR		LR	23 12 04.4		
	comp=Z,122nm,18.6s,baz=228,slow=38								
KNRA	**Kunnurra**	**40.23**	**170**	P		**P**	**22 54 32.6**	**-1.0**	
KNRA				IAmb		IAmb	22 54 50.9		
	comp=Z,15nm,1.2s								
ZAA0	**Zalesovo Array**	**40.51**	**327**	P		**P**	**22 54 35.3**	**-0.3**	
ZALV	**Zalesovo Beam**	**40.51**	**327**	P		**P**	**22 54 34.7**	**-0.9**	
	comp=Z,1.8nm,0.4s,baz=121,slow=8.3,SNR=10								
ZALV	**Zalesovo Beam**	**40.51**	**327**	P		**P**	**22 54 35.3**	**-0.4**	
MA2	**Magadan**	**40.76**	**22**	LR		LR	23 12 51.0		
	comp=Z,110nm,19.1s,baz=224,slow=38								
KSH	**Kashi**	**41.33**	**303**	P		P	22 54 48.5	+5.7	
KSH				pP		sP	22 54 52.8	+4.1	
KSH				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KSH				LR		LR			
	comp=Z,240nm,13.4s								
KSH				LR		LR			
	comp=Z,370nm,13.1s								
KSH				LR		LR			
	comp=Z,480nm,16.8s								
PMG	**Port Moresby**	**41.61**	**140**	LR		LR	23 11 11.7		
	comp=Z,78nm,19.9s,baz=283,slow=35								
BOOM	**Boomskoye usch**	**41.83**	**307**	P		**P**	**22 54 45.8**	**-1.1**	
H11N1	**WAKE ISLAND Hy**	**41.96**	**87**	T		T	23 40 01.6		
	baz=283,slow=74,SNR=9.0								
H11N2	**WAKE ISLAND Hy**	**41.96**	**87**	T		T	23 40 14.3		
	baz=283,slow=74,SNR=9.7								
H11N3	**WAKE ISLAND Hy**	**41.98**	**87**	T		T	23 40 05.5		
	baz=283,slow=74,SNR=15								
H11S3	**WAKE ISLAND Hy**	**42.09**	**89**	T		T	23 40 49.5		
	baz=275,slow=74,SNR=13								
H11S1	**WAKE ISLAND Hy**	**42.10**	**89**	T		T	23 40 50.8		
	baz=275,slow=74,SNR=8.3								
H11S2	**WAKE ISLAND Hy**	**42.11**	**89**	T		T	23 40 48.7		
	baz=275,slow=74,SNR=8.3								
KURK	**Kurchatov**	**42.41**	**320**	P		**P**	**22 54 50.5**	**-0.8**	
KURK				IAmb		IAmb	22 54 54.8		
	comp=Z,7.3nm,1.2s								
KURBB	**Kurchatov Arra**	**42.43**	**320**	P		**P**	**22 54 51.0**	**-0.4**	
	comp=Z,2.5nm,0.8s,baz=116,slow=7.3,SNR=12								
PALK	**Palikelee**	**42.75**	**254**	LR		LR	23 12 28.0		
	comp=Z,57nm,21.4s,baz=180,slow=36								
AAK	**Ala-Archa**	**42.91**	**307**	P		**P**	**22 54 55.9**	**+0.2**	
	comp=Z,0.4nm,0.3s,baz=113,slow=7.7,SNR=1.7								
AAK				LR		LR	23 15 36.9		
	comp=Z,116nm,19.1s,baz=77,slow=40								
AAK	**Ala-Archa**	**42.91**	**307**	P		**P**	**22 54 55.9**	**+0.2**	
NIL	**Nilore**	**43.16**	**294**	P		**P**	**22 54 57.2**	**-0.5**	
COEN	**Coen**	**43.32**	**149**	P		**P**	**22 54 58.8**	**-0.2**	
DRK	**Karamyk**	**44.53**	**302**	P		**P**	**22 55 08.8**	**-0.1**	
DRK				IAmb		IAmb	22 55 14.6		
	comp=Z,12nm,1.4s								
MBWA	**Marble Bar**	**45.14**	**183**	P		**P**	**22 55 11.2**	**-2.3**	
WB0	**Warramunga Arr**	**45.41**	**163**	P		**P**	**22 55 14.1**	**-1.6**	
WB0				IAmb		IAmb	22 55 37.6		
	comp=Z,7.2nm,1.1s								
PSA00	**Pilbara Seismi**	**45.55**	**182**	P		**P**	**22 55 15.6**	**-1.1**	
PSA00				IAmb		IAmb	22 55 37.2		
	comp=Z,4.4nm,1.1s								
WRA	**Warramunga Arr**	**45.57**	**163**	P		**P**	**22 55 15.5**	**-1.4**	
	comp=Z,1.4nm,0.7s,baz=345,slow=8.8,SNR=14								
WRA	**Warramunga Arr**	**45.57**	**163**	P		**P**	**22 55 16.0**	**-0.9**	
GAR	**Garm**	**45.65**	**302**	P		**P**	**22 55 17.7**	**0.0**	
GAR				IAmb		IAmb	22 55 25.6		
	comp=Z,9.8nm,1.1s								
KK31	**Karatay Array**	**45.87**	**307**	P		**P**	**22 55 18.6**	**-0.6**	
KKAR	**Karatay Array**	**45.87**	**307**	P		**P**	**22 55 18.8**	**-0.4**	
KKAR	**Karatay Array**	**45.87**	**307**	P		**P**	**22 55 18.5**	**-0.7**	
KBL	**Kabul**	**46.63**	**295**	P		**P**	**22 55 25.2**	**-0.3**	
KBL				IAmb		IAmb	22 55 38.9		
	comp=Z,6.0nm,1.1s								
TIXI	**Tiksi**	**47.64**	**3**	P		**P**	**22 55 30.7**	**-1.8**	
BRVK	**Borovoye**	**48.06**	**321**	P		**P**	**22 55 35.1**	**-0.9**	
BRVK				IAmb		IAmb	22 55 56.6		
	comp=Z,4.8nm,1.0s								
AS31	**Alice Springs**	**49.03**	**165**	P		**P**	**22 55 43.0**	**-0.8**	
ASAR	**Alice Springs**	**49.03**	**165**	P		**P**	**22 55 43.5**	**-0.4**	
	comp=Z,0.8nm,0.5s,baz=345,slow=6.9,SNR=11								
ASAR	**Alice Springs**	**49.03**	**165**	P		**P**	**22 55 43.1**	**-0.8**	
NRIK	**Noril'sk**	**49.51**	**345**	LR		LR	23 18 22.4		
	comp=Z,107nm,20.4s,baz=131,slow=38								
CTA	**Charters Tower**	**50.08**	**149**	P		**P**	**22 55 52.1**	**+0.2**	
	comp=Z,6.1nm,0.8s,baz=343,slow=12,SNR=3.9								
ABKAR	**Akbulak array**	**53.80**	**314**	P		**P**	**22 56 19.0**	**-0.4**	
ABKAR	**Akbulak array**	**53.80**	**314**	P		**P**	**22 56 18.9**	**-0.4**	
ABKAR				IAmb		IAmb	22 56 22.6		
	comp=Z,5.5nm,1.1s								
AKTO	**Aktyubinsk**	**55.12**	**316**	LR		LR	23 22 48.8		
	comp=Z,62nm,18.3s,baz=91,slow=39								
GEYT	**Alibeck**	**55.24**	**300**	P		**P**	**22 56 30.5**	**+0.4**	
GEYT				IAmb		IAmb	22 56 32.9		
	comp=Z,5.7nm,1.2s								
GYA0B	**ALIBECK ARRAY**	**55.24**	**300**	P		**P**	**22 56 30.6**	**+0.5**	
GYA0B				IAmb		IAmb	22 56 32.8		
	comp=Z,6.3nm,1.1s								
ARU	**Arti**	**55.40**	**323**	P		**P**	**22 56 31.4**	**+0.5**	
EIDS	**Eidsvold**	**56.88**	**148**	P		**P**	**22 56 41.6**	**-0.1**	
STKA	**Stephens Creek**	**58.91**	**160**	P		**P**	**22 56 55.8**	**-0.1**	
	comp=Z,3.0nm,0.8s,baz=333,slow=11,SNR=2.2								
STKA	**Stephens Creek**	**58.91**	**160**	P		**P**	**22 56 57.5**	**+1.6**	
BELG	**Belogornoye**	**61.63**	**318**	LR		LR	23 24 57.5		
	comp=Z,52nm,20.3s,baz=212,slow=37								
DZM	**Mont Dzumac**	**63.27**	**133**	LR		LR	23 20 12.0		
	comp=Z,70nm,21.6s,baz=312,slow=31								
TTA	**Tatalina**	**65.22**	**30**	P		**P**	**22 57 37.9**	**-0.2**	
TTA				IAmb		IAmb	22 57 46.0		
	comp=Z,4.2nm,1.1s								
GNI	**Garni**	**65.22**	**305**	LR		LR	23 28 54.7		
	comp=Z,23nm,18.3s,baz=74,slow=38								
KLMR	**Klimovskoe**	**65.42**	**328**	*e*P		**P**	**22 57 37.0**	**-2.3**	
KLMR				AMP			22 57 41.0		
	comp=Z,16nm,1.4s								
ONI	**Oni**	**65.69**	**307**	P		**P**	**22 57 41.4**	**-0.1**	
ONI				IAmb		IAmb	22 57 44.0		
	comp=Z,3.3nm,0.8s								
KBZ	**Khabaz**	**65.87**	**309**	P		**P**	**22 57 42.0**	**-0.5**	
	comp=Z,1.7nm,0.9s,baz=115,slow=1.4,SNR=5.4								
KBZ				LR		LR	23 28 29.6		
	comp=Z,38nm,18.5s,baz=84,slow=38								
IMAR	**Indian Mountai**	**65.92**	**27**	P		**P**	**22 57 42.2**	**-0.3**	
KVAR	**Kislovodsk Arr**	**65.97**	**309**	LR		LR	23 29 53.0		
	comp=Z,54nm,18.6s,baz=301,slow=39								
KIV	**Kislovodsk**	**65.98**	**309**	P		**P**	**22 57 43.0**	**-0.4**	
KIV				IAmb		IAmb	22 57 45.1		
	comp=Z,5.2nm,1.0s								
H21K	**Melozitna Rive**	**66.34**	**27**	P		**P**	**22 57 45.0**	**-0.2**	
TOLK	**Toolik Lake Re**	**67.22**	**23**	P		**P**	**22 57 50.7**	**0.0**	
TOLK				IAmb		IAmb	22 57 57.1		
	comp=Z,3.7nm,0.9s								
H23K	**Yukon River**	**67.65**	**26**	P		**P**	**22 57 54.2**	**+0.7**	
I23K	**Minto, Yukon-K**	**67.84**	**27**	P		**P**	**22 57 55.1**	**+0.5**	
I23K				IAmb		IAmb	22 58 01.8		
	comp=Z,7.7nm,1.4s								
MDM	**Murphy Dome**	**68.35**	**27**	P		**P**	**22 57 58.2**	**+0.3**	
ILAR	**Eielson Array**	**68.95**	**27**	P		**P**	**22 58 00.3**	**-1.3**	
	comp=Z,0.3nm,0.5s,baz=269,slow=5.0,SNR=5.6								
BMAR	**Burnt Mountain**	**69.28**	**24**	P		**P**	**22 58 04.3**	**+0.6**	
SPITS	**Spitsbergen Ar**	**69.57**	**348**	LR		LR	23 33 36.8		
	comp=Z,63nm,18.4s,baz=232,slow=40								
ARCES	**ARCESS Array B**	**69.71**	**338**	LR		LR	23 35 58.9		
	comp=Z,60nm,18.1s,baz=102,slow=42								
M26K	**Nabesna, AK**	**71.21**	**29**	P		**P**	**22 58 15.7**	**+0.1**	
BCAR	**Beaver Creek A**	**71.56**	**28**	P		**P**	**22 58 18.7**	**+1.0**	
FIA1	**FINESS Array S**	**71.69**	**330**	P		**P**	**22 58 17.4**	**-1.0**	
FIA1				IAmb		IAmb	22 58 20.2		
	comp=Z,4.1nm,1.1s								
FINES	**FINESS Array B**	**71.69**	**330**	P		**P**	**22 58 17.4**	**-1.0**	
	comp=Z,0.9nm,0.5s,baz=71,slow=5.0,SNR=13								
FINES				LR		LR	23 32 37.1		
	comp=Z,153nm,19.4s,baz=56,slow=38								
FINES	**FINESS Array B**	**71.69**	**330**	P		**P**	**22 58 17.7**	**-0.7**	
INK	**Inuvik**	**73.00**	**22**	P		**P**	**22 58 26.4**	**+0.3**	
INK				IAmb		IAmb	22 58 27.3		
	comp=Z,4.9nm,0.9s								
AKASG	**Malin Array Be**	**73.20**	**318**	P		**P**	**22 58 26.1**	**-1.5**	
	comp=Z,0.2nm,0.4s,baz=64,slow=6.3,SNR=5.0								
AKASG				LR		LR	23 33 03.4		
	comp=Z,47nm,18.5s,baz=72,slow=38								
AKASG	**Malin Array Be**	**73.20**	**318**	P		**P**	**22 58 26.6**	**-1.0**	
AKASG				IAmb		IAmb	22 58 28.0		
	comp=Z,4.7nm,1.3s								
BR131	**Keskin Array S**	**73.58**	**307**	P		**P**	**22 58 29.5**	**-0.8**	
BR131				IAmb		IAmb	22 58 31.4		
	comp=Z,8.2nm,1.2s								
BRTR	**Keskin Array B**	**73.58**	**307**	P		**P**	**22 58 28.9**	**-1.4**	
	comp=Z

30d 23h

Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.40**	**217**	Pg	Pg	23 14 48.0	-0.5
OKCSW	**OKLAHOMA CITY**	**0.40**	**215**		Pg	23 14 48.0	-0.6
FNO	**Franklin**	**0.52**	**203**		Pg	23 14 50.0	-0.7
TUL1	**Leonard**	**1.12**	**81**	Pg	Pg	23 15 00.6	-1.7
TUL1	comp=E,75nm,0.2s			IAML		23 15 20.9	
TUL1	comp=N,47nm,0.2s			IAML		23 15 21.2	
X34A	**Smith Ranch, M**	**1.26**	**206**	Pg	Pn	23 15 03.8	-1.1
X34A	comp=N,67nm,0.3s			IAML		23 15 22.1	
X34A	comp=E,50nm,0.3s			IAML		23 15 22.7	
T35A	**Sooner Cattle**	**1.29**	**24**		Pn	23 15 03.7	-1.5
T35A	comp=N,84nm,0.2s			IAML		23 15 22.3	
WMOK	**Wichita Mounta**	**1.66**	**234**	Pn	Pn	23 15 09.8	-0.6
X37A	**Clayton**	**1.86**	**127**		Pn	23 15 12.6	-0.4
Z35A	**Perchaven, San**	**2.40**	**182**	Pn	Pn	23 15 20.6	+0.1
W39A	**Magazine**	**2.81**	**100**	Pn	Pn	23 15 25.1	-1.0
MIAR	**Mount Ida**	**3.17**	**111**	Pn	Pn	23 15 31.1	+0.1
U40A	**Yellville**	**3.54**	**79**	Pn	Pn	23 15 35.5	-0.8
WHAR	**Wooly Hollow**	**4.00**	**95**	Pn	Pn	23 15 42.3	-0.1
W41B	**Gary Mavity, V**	**4.05**	**97**	Pn	Pn	23 15 43.0	-0.1

*ANF **30** 23:16:24.6±0.3,36°.85N×98°.15W,h6km,ML3.6/11,Error ellipse: s-maj=3.2km s-min=2.8km az=149.0*
*TUL **30** 23:16:24.4±0.6,36°.86N±0°.03×98°.15W±0°.02,h6km±6km, ML3.2,mb_Lg2.9/56(NEIC),Error ellipse: s-maj=4.5km s-min=1.9km az=148.0*
*NEIC **30** 23:16:25.1±0.7,36°.87N±0°.03×98°.15W±0°.02,h5km±5km, Error ellipse: s-maj=4.2km s-min=1.1km az=153.0*
ISC 30 23:16:24.9±0.9,36°.87N±0°.03×98°.14W±0°.04,h10km,n55, σ0s63/42,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.85**	**235**		**Pg**	**23 16 40.4**	**-0.8**
U32A	**Winter Ranch,** baz=54,SNR=36	**0.85**	**235**	P	**Pg**	**23 16 40.4**	**-0.8**
U32A	baz=54			S	**Sg**	**23 16 51.8**	**-0.4**
T35A	**Sooner Cattle**	**1.31**	**87**		**Pn**	**23 16 48.8**	**-0.5**
T35B	**Sooner Cattle** baz=268	**1.31**	**87**	P	**Pn**	**23 16 48.7**	**-0.5**
T35B	baz=268			S	**Sb**	**23 17 06.5**	**+0.1**
OKCFA	**Oklahoma City**	**1.55**	**159**		**Pn**	**23 16 52.5**	**-0.1**
OKCFA	**Oklahoma City** baz=339	**1.55**	**159**	S	**Sb**	**23 17 13.6**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**1.56**	**158**	Pg	**Pn**	**23 16 52.9**	**0.0**
R32A	**Long Quarter,**	**1.62**	**344**		**Pn**	**23 16 54.1**	**+0.5**
R32A	**Long Quarter,** baz=164,SNR=37	**1.62**	**344**	P	**Pn**	**23 16 54.2**	**+0.7**
R32A	baz=164			S	**Sb**	**23 17 15.8**	**+0.3**
FNO	**Franklin**	**1.71**	**159**		**Pn**	**23 16 54.9**	**+0.1**
TUL1	**Leonard**	**2.12**	**116**	Pn	**Pn**	**23 17 01.2**	**+0.7**
TUL1	comp=Z,42nm,0.7s			IAmb_Lg		23 17 36.2	
TUL1	**Leonard** baz=297,SNR=16	**2.12**	**116**	P	**Pn**	**23 17 01.8**	**+1.3**
WMOK	**Wichita Mounta**	**2.19**	**194**		**Pn**	**23 17 01.4**	**0.0**
X34A	**Smith Ranch, M**	**2.27**	**174**		**Pn**	**23 17 03.7**	**+1.1**
CBKS	**Cedar Bluff**	**2.32**	**327**	Pn	**Pn**	**23 17 04.3**	**+1.1**
KSU1	**Kansas State U**	**2.54**	**28**		**Pn**	**23 17 05.2**	**-1.0**
KSU1	comp=Z,36nm,0.8s			IAmb_Lg		23 17 51.8	
KSU1	**Kansas State U** baz=209	**2.54**	**28**	Pb	**Pb**	**23 17 10.6**	**+0.1**
X37A	**Clayton**	**3.20**	**134**		**Pn**	**23 17 15.5**	**+0.2**
X37A	comp=Z,35nm,0.7s			IAmb_Lg		23 18 14.8	
X37A	**Clayton** baz=316	**3.20**	**134**	S	**Sn**	**23 17 54.0**	**+0.5**
HHAR	**Hobbs**	**3.43**	**99**		**Pn**	**23 17 18.9**	**+0.4**
HHAR	**Hobbs** baz=281	**3.43**	**99**	P	**Pn**	**23 17 19.1**	**+0.6**
AMTX	**Amarillo**	**3.49**	**237**		**Pn**	**23 17 20.1**	**+0.7**
AMTX	comp=Z,42nm,0.8s			IAmb_Lg		23 18 15.0	
Z35A	**Perchaven, San** baz=348,SNR=8.2	**3.60**	**168**	P	**Pn**	**23 17 21.4**	**+0.6**
N33A	**J Bar K, Exete**	**3.90**	**8**		**Pn**	**23 17 24.5**	**-0.5**
W39A	**Magazine**	**3.90**	**114**		**Pn**	**23 17 25.9**	**+0.9**
W39A	comp=Z,36nm,0.9s			IAmb_Lg		23 18 32.0	
W39A	**Magazine** baz=296,SNR=7.5	**3.90**	**114**	P	**Pn**	**23 17 26.2**	**+1.3**
S39A	**Bolivar**	**3.93**	**76**		**Pn**	**23 17 25.7**	**+0.4**
S39A	comp=Z,22nm,0.7s			IAmb_Lg		23 18 31.1	
S39A	**Bolivar** baz=259	**3.93**	**76**	P	**Pn**	**23 17 25.8**	**+0.4**
KSCO	**Kaye Shedlock'** comp=Z,25nm,0.7s	**4.14**	**302**	IAmb_Lg		23 18 46.5	
U40A	**Yellville**	**4.28**	**95**		**Pn**	**23 17 30.6**	**+0.4**
U40A	comp=Z,24nm,0.7s			IAmb_Lg		23 18 42.5	
MIAR	**Mount Ida**	**4.38**	**121**	Pn	**Pn**	**23 17 31.9**	**+0.5**
MIAR	comp=Z,17nm,0.8s			IAmb_Lg		23 18 54.3	
N35A	**Tabor**	**4.44**	**25**		**Pn**	**23 17 33.1**	**+0.8**
BGNE	**Belgrade**	**4.54**	**360**	Pn	**Pn**	**23 17 33.9**	**+0.2**
BGNE	comp=Z,17nm,0.7s			IAmb_Lg		23 19 00.3	
BGNE	**Belgrade** baz=180,SNR=6.0	**4.54**	**360**	P	**Pn**	**23 17 34.2**	**+0.5**
P38A	**Dawn**	**4.55**	**51**	Pn	**Pn**	**23 17 34.4**	**+0.5**
MGMO	**Mountain Grove**	**4.71**	**85**	Pn	**Pn**	**23 17 36.4**	**+0.4**
MGMO	comp=Z,16nm,0.9s			IAmb_Lg		23 18 52.3	
R40A	**Maddies Statio**	**4.88**	**71**	Pn	**Pn**	**23 17 38.3**	**0.0**
R40A	comp=Z,18nm,0.7s			IAmb_Lg		23 19 03.9	
WHTX	**Lake Whitney,**	**4.90**	**173**	Pn	**Pn**	**23 17 38.3**	**-0.2**
WHTX	**Lake Whitney,** baz=354,SNR=11	**4.90**	**173**	P	**Pn**	**23 17 38.4**	**-0.2**
X40A	**Basin Creek Fa**	**4.93**	**117**	Pn	**Pn**	**23 17 39.4**	**+0.3**
X40A	comp=Z,19nm,0.8s			IAmb_Lg		23 19 05.7	
WHAR	**Wooly Hollow** comp=Z,15nm,1.0s	**4.99**	**107**	IAmb_Lg		23 19 07.1	
T25A	**Trinidad** comp=Z,16nm,0.8s	**5.03**	**275**	IAmb_Lg		23 19 08.7	
OGNE	**Ogallala** comp=Z,29nm,0.8s	**5.08**	**324**	IAmb_Lg		23 19 05.3	
UALR	**University of** comp=Z,14nm,1.0s	**5.15**	**112**	IAmb_Lg		23 19 18.2	
WLAR	**White Oak Lake** comp=Z,15nm,0.8s	**5.19**	**126**	IAmb_Lg		23 19 19.0	
L34A	**Svendsen Farm,** comp=Z,28nm,0.7s	**5.27**	**14**	IAmb_Lg		23 19 16.4	
FVM	**French Village** comp=Z,14nm,1.0s	**6.24**	**77**	IAmb_Lg		23 19 47.1	
SCIA	**State Center** comp=Z,18nm,0.8s	**6.31**	**36**	IAmb_Lg		23 19 58.8	
JCT	**Junction City** comp=Z,16nm,1.1s	**6.52**	**193**	IAmb_Lg		23 19 55.6	
SIUC	**Southern Illin** comp=Z,20nm,0.9s	**7.16**	**81**	IAmb_Lg		23 20 10.6	
PHWY	**Pilot Hill** comp=Z,9.4nm,0.8s	**7.21**	**310**	IAmb_Lg		23 20 22.7	
N23A	**Red Feather La** comp=Z,13nm,0.8s	**7.29**	**306**	IAmb_Lg		23 20 23.1	
L40A	**Anamosa** comp=Z,14nm,0.8s	**7.45**	**44**	IAmb_Lg		23 20 23.6	
JFWS	**Jewell Farm** comp=Z,14nm,0.8s	**8.56**	**43**	IAmb_Lg		23 21 03.9	
K22A	**Casper** comp=Z,10nm,0.7s	**8.66**	**314**	IAmb_Lg		23 21 07.9	

*CNRM **30** 23:20:16.5,35°.51N×3°.82W,h0km,ml2.4*
*MDD **30** 23:20:16.9±0.4,35°.46N×3°.81W,h0km,mb_Lg2.2/14, Error ellipse: s-maj=3.5km s-min=2.5km az=179.0*
*SFS **30** 23:20:17.0,35°.35N×3°.78W,h35km,ML2.5,ALHUCEMAS (MARRUECOS)*
*INMG **30** 23:20:20.9±1.5,35°.46N×3°.92W,h10km±10km,ML2.0,*

2016 APR

Error ellipse: s-maj=7.4km s-min=3.8km az=92.0
ISC 30 23:20:16.5±0.9,35°.45N±0°.02×3°.81W±0°.02,h15km±7km, n42,σ1s27/73,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.26**	**205**	P	**Pg**	**23 20 22.0**	**-0.1**
PALE	**Palemas**	**0.26**	**205**	P	**Pg**	**23 20 21.7**	**-0.4**
PALE				S	**Sg**	**23 20 26.2**	**+0.2**
PVLZ	**Peæn de**	**0.49**	**235**	P	**Pb**	**23 20 26.7**	**-0.1**
PVLZ				S	**Sb**	**23 20 33.4**	**-0.3**
GOG	**Mont Gurugu**	**0.70**	**109**	P	**Pg**	**23 20 30.0**	**-0.2**
GOG				S	**Sb**	**23 20 41.0**	**+1.0**
GOG	**Mont Gurugu**	**0.70**	**109**	P	**Pg**	**23 20 30.1**	**-0.1**
GOG				S	**Sg**	**23 20 39.5**	**0.0**
EMEL	**Melilla**	**0.71**	**102**	Pg	**Pg**	**23 20 29.7**	**-0.7**
EMEL				Sg	**Sg**	**23 20 39.5**	**-0.3**
WMELI	**Melilla**	**0.71**	**101**	P	**Pg**	**23 20 29.7**	**-0.7**
WMELI				S	**Sg**	**23 20 39.0**	**-0.7**
EALB	**Alboran**	**0.79**	**52**	Pg	**Pb**	**23 20 32.4**	**+0.5**
EALB				Sg	**Sg**	**23 20 42.2**	**-0.2**
EALB				*i* Vmb_Lg		23 20 44.1	
AKLM	**AKL**	**0.94**	**183**	P	**Pg**	**23 20 35.0**	**+0.2**
AKLM	**AKL**	**0.94**	**183**	P	**Pb**	**23 20 34.3**	**-0.3**
AKLM				S	**Sg**	**23 20 47.6**	**+0.5**
CHEFC	**Chefchaouen**	**1.30**	**255**	P	**Pn**	**23 20 39.5**	**-0.7**
CHEFC				S	**Sb**	**23 20 53.3**	**-3.9**
SMIR	**Smir Dam**	**1.30**	**281**	P	**Pn**	**23 20 39.0**	**-1.1**
SMIR				S	**Sb**	**23 20 55.7**	**-1.5**
TAF	**Taforalt**	**1.31**	**119**	P	**Pg**	**23 20 43.0**	**+1.3**
EMIJ	**Mijas**	**1.36**	**325**	Pg	**Pn**	**23 20 41.0**	**+0.1**
EMIJ				Sg	**Sn**	**23 20 58.1**	**-0.5**
EMIJ				*i* Vmb_Lg		23 21 04.0	
EMAL	**Malaga-Limoner**	**1.40**	**339**	P	**Pg**	**23 20 43.4**	**0.0**
EMAL				S	**Sb**	**23 20 59.9**	**0.0**
ELGU	**Los Guajares,**	**1.42**	**6**	Pg	**Pn**	**23 20 41.0**	**-0.8**
ELGU				Sg	**Sn**	**23 20 59.5**	**-0.7**
ELGU				*i* Vmb_Lg		23 21 03.9	
JBK	**JBK**	**1.51**	**137**	P	**Pb**	**23 20 45.0**	**+0.6**
JBK	**JBK**	**1.51**	**137**	P	**Pn**	**23 20 42.6**	**-0.5**
JBK				S	**Sn**	**23 21 02.7**	**+0.1**
EBER	**Berja**	**1.62**	**27**	Pn	**Pn**	**23 20 44.4**	**-0.3**
EBER				Sn	**Sn**	**23 21 04.9**	**-0.5**
EBER				*i* Vmb_Lg		23 21 08.6	
EGOR	**Sierra Gorda,**	**1.67**	**352**	Pn	**Pb**	**23 20 47.0**	**0.0**
EGOR				Sn	**Sg**	**23 21 09.7**	**-0.6**
EGOR				*i* Vmb_Lg		23 21 17.8	
EJIF	**Jimena Fronter**	**1.68**	**307**	Pg	**Pg**	**23 20 48.0**	**-0.7**
EJIF				Sg	**Sb**	**23 21 09.2**	**+1.3**
EQUE	**Quentar**	**1.77**	**10**	Sn	**Sb**	**23 21 10.5**	**-0.3**
LCRM	**LCR**	**1.96**	**206**	P	**Pg**	**23 20 54.0**	**-0.2**
LCRM	**LCR**	**1.96**	**206**	P	**Pb**	**23 20 52.6**	**+0.5**
LCRM				S	**Sb**	**23 21 17.6**	**+1.2**
ENIJ	**Nijar**	**1.99**	**40**	Sn	**Sn**	**23 21 11.5**	**-2.8**
ENIJ				*i* Vmb_Lg		23 21 13.7	
ESPR	**Espera**	**2.18**	**311**	Pn	**Pg**	**23 20 58.4**	**+0.1**
ESPR				Sn	**Sb**	**23 21 23.0**	**+0.7**
ESPR				*i* Vmb_Lg		23 21 23.4	
IFR	**Ifrane**	**2.22**	**210**	P	**Pn**	**23 20 54.1**	**+1.2**
IFR				S	**Sn**	**23 21 17.4**	**-2.8**
EQES	**Quesada**	**2.42**	**14**	Pn	**Pb**	**23 20 58.4**	**-1.3**
EQES				Sn	**Sb**	**23 21 28.4**	**-1.0**
EQES				*i* Vmb_Lg		23 21 31.4	
MD31	**MD31**	**2.70**	**197**	P	**Pn**	**23 20 59.9**	**+0.5**
MD31				S	**Sn**	**23 21 31.5**	**-0.3**
EADA	**Adamuz**	**2.78**	**347**	Pn	**Pn**	**23 21 02.2**	**+1.7**
EADA				Sn	**Sb**	**23 21 36.9**	**-2.8**
EADA				*i* Vmb_Lg		23 21 44.5	
ECAB	**El Cabril**	**2.92**	**334**	Pg	**Pb**	**23 21 10.0**	**+1.8**
ECAB				Sn	**Sn**	**23 21 39.1**	**+1.9**
ECAB				*i* Vmb_Lg		23 21 42.5	
EZAR	**Zarzadilla de**	**2.95**	**34**	Pn	**Pn**	**23 21 03.5**	**+0.6**
EZAR				Sn	**Sn**	**23 21 37.7**	**-0.4**
EMUR	**La Murta**	**3.15**	**40**	Sn	**Sn**	**23 21 40.1**	**-2.9**
EMUR				*i* Vmb_Lg		23 21 50.4	
EMIN	**Mina Concepcio**	**3.26**	**316**	Pn	**Pn**	**23 21 07.5**	**+0.4**
EMIN				Sn	**Sn**	**23 21 45.4**	**-0.3**
EGRO	**El Granado**	**3.62**	**306**	Pn	**Pn**	**23 21 12.0**	**+0.1**
EGRO				Sn	**Sn**	**23 21 53.1**	**-1.3**
ETOB	**Tobarra**	**3.66**	**29**	Pn	**Pn**	**23 21 15.0**	**+2.4**
ETOB				Sn	**Sn**	**23 21 56.9**	**+1.3**
PVAQ	**Vaqueiros**	**3.71**	**303**	*e*Pn	**Pn**	**23 21 14.4**	**+1.2**
PVAQ				*e*Sn	**Sn**	**23 21 57.2**	**+0.7**
PVAQ				A	A	23 21 57.5	
PBAR	3.3nm,0.6s **Barrancos**	**3.75**	**317**	*e*Sn	**Sn**	**23 21 58.8**	**+1.0**
PCVE	**Castro Verde**	**4.04**	**304**	*e*Pn	**Pn**	**23 21 20.6**	**+2.8**
PCVE				*e*Sn	**Sn**	**23 22 05.3**	**+0.5**
PCVE				A	A	23 22 12.2	
EBAD	1.7nm,0.7s **Badajoz**	**4.17**	**323**	Pn	**Pn**	**23 21 19.9**	**+0.3**
EBAD				Sn	**Sn**	**23 22 07.5**	**-0.7**
EBAD				*i* Vmb_Lg		23 22 09.0	
PNCL	**Nicolau / Gran**	**4.63**	**306**	*e*Pn	**Pn**	**23 21 27.0**	**+1.2**
PMRV	**Marv??o**	**4.89**	**325**	*e*Pn	**Pn**	**23 21 32.6**	**+3.2**

*MOS **30** 23:20:41.8±0.7,38°.15N×74°.68E,h134km,mb4.2/11,Error ellipse: s-maj=7.2km s-min=3.8km az=90.6*
*IDC **30** 23:20:42.1±3.3,38°.00N×74°.71E,h129km±27km,mb3.8/18, mb1 3.8/22,mb1mx3.6/64,mbtmp4.2/22,MS3.8/1, Ms1 3.8/1,ms1mx2.3/94,Error ellipse: s-maj=22.3km s-min=12.9km az=179.0*
*BJI **30** 23:20:42.4±0.0,38°.24N×74°.69E,h135km,mb4.0/9, mB4.5/6*
*NNC **30** 23:20:43.5±3.2,38°.28N×74°.44E,h150km±35km,mb3.5, mpv4.2,Error ellipse: s-maj=29.0km s-min=17.8km az=175.0*
*NEIC **30** 23:20:43.1±1.9,38°.14N±0°.06×74°.64E±0°.08,h133km±7km, mb4.3/36,Error ellipse: s-maj=9.9km s-min=8.9km az=118.0*
*SOME **30** 23:20:44.7,38°.87N×73°.15E,h10km*
ISC 30 23:20:44.4±0.4,38°.22N±0°.05×74°.52E±0°.05,h150km,n245, σ1s76/227,mb4.2/44,15C-5D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.72**	**41**	P	Pn	23 21 09.0	-7.5
KSH				S	Sn	23 21 27.5	-14
KSH	comp=N,16μm,0.5s			smax	smax		
KSH	comp=E,9μm,0.5s			smax	smax		
DRK	**Karamyk**	**2.47**	**302**		**Pn**	**23 21 24.7**	**-0.7**
GAR	**Garm**	**3.38**	**285**		**Pn**	**23 21 35.8**	**-1.0**
BTK	**Batken**	**3.41**	**304**	PN	**Pn**	**23 21 37.2**	**+0.1**
BTK	**Batken**	**3.41**	**304**	Pn	**Pn**	**23 21 37.2**	**+0.1**
AML	**Almayashu** SNR=482	**3.96**	**351**	P	**Pn**	**23 21 43.9**	**-0.6**
UCH	**Uchtor** SNR=293	**4.00**	**360**	P	**Pn**	**23 21 44.7**	**-0.5**
CHGR	**Chuyangaron**	**4.23**	**278**	PN	Pn	23 21 46.2	-1.6
CHGR	**Chuyangaron**	**4.23**	**278**	Pn	Pn	23 21 46.0	-1.7
ULHL	**Ulahol** SNR=25	**4.23**	**18**	P	**Pn**	**23 21 46.6**	**-1.2**
TARG	**Taragay, Kyrgy**	**4.32**	**35**		**Pn**	**23 21 47.3**	**-2.0**
BOOM	**Boomskoye usch**	**4.40**	**14**	PN	**Pn**	**23 21 49.3**	**-0.8**
BOOM	**Boomskoye usch**	**4.40**	**14**		**Pn**	**23 21 49.3**	**-0.8**
KDJ	**Kajisay**	**4.41**	**27**	PN	**Pn**	**23 21 48.7**	**-1.4**
KDJ	**Kajisay**	**4.41**	**27**	Pn	**Pn**	**23 21 48.7**	**-1.4**
AAK	**Ala-Archa** SNR=49	**4.41**	**360**	P	**Pn**	**23 21 50.2**	**0.0**
AAK	**Ala-Archa** 16nm,0.3s,baz=184,slow=15,SNR=96	**4.41**	**360**	P	**Pn**	**23 21 50.2**	**0.0**
AAK	6.9nm,0.3s,baz=204,slow=17,SNR=7.3			S	**Sn**	**23 22 39.5**	**-1.9**
AAK	**Ala-Archa**	**4.41**	**360**	Pn	**Pn**	**23 21 50.0**	**-0.2**
KBK	**Karagaybulak** SNR=76	**4.45**	**4**	P	**Pn**	**23 21 50.4**	**-0.3**
EKS2	**Erkin-Say** SNR=40	**4.47**	**353**	P	**Pn**	**23 21 50.9**	**-0.1**
FRU1	**Bishkek**	**4.59**	**1**	PN	**Pn**	**23 21 52.7**	**+0.3**
FRU1	**Bishkek**	**4.59**	**1**		**Pn**	**23 21 52.7**	**+0.3**
MRKS	**Merke** 30nm,0.2s	**4.63**	**348**	*e*P	**Pn**	**23 21 56.6**	**+3.6**
MRKS	222nm,0.4s			*e*S	**Sn**	**23 22 48.2**	**+1.9**
CHCP	**Chirah Chowk**	**4.66**	**193**	P	Pn	23 21 51.8	-1.7
NIL	**Nilore**	**4.67**	**193**	PN	Pn	23 21 51.3	-2.3

2026

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**4.67**	**193**	Pn	Pn	23 21 51.3	-2.3
TKM2	**Tokmak 2** SNR=29	**4.77**	**10**	P	**Pn**	**23 21 54.3**	**-0.6**
TKM2	**Tokmak 2**	**4.77**	**10**	PN	**Pn**	**23 21 54.1**	**-0.8**
TKM2				S	**Sn**	**23 22 48.2**	**-1.7**
TKM2	**Tokmak 2** 21nm,0.4s	**4.77**	**10**	⇑P	**Pn**	**23 21 54.1**	**-0.8**
TKM2	140nm,0.7s			⇑S	**Sn**	**23 22 48.2**	**-1.7**
CHMS	**Chumysh** SNR=26	**4.78**	**2**	P	**Pn**	**23 21 54.7**	**-0.2**
CEP	**Cherat**	**4.87**	**207**	P	Pn	23 21 54.2	-2.1
USP	**Ospenovka** SNR=9.8	**5.04**	**360**	P	**Pn**	**23 21 58.0**	**-0.4**
TAS	**Tashkent**	**5.08**	**309**	PN	**Pn**	**23 21 58.6**	**-0.3**
TAS	**Tashkent**	**5.08**	**309**	Pn	**Pn**	**23 21 58.6**	**-0.3**
PRZ	**Przheval'sk**	**5.19**	**34**	PN	**Pn**	**23 21 59.6**	**-0.9**
PRZ	**Przheval'sk**	**5.19**	**34**		**Pn**	**23 21 59.6**	**-0.9**
IUG	**luzhnay**	**5.22**	**320**	*i* PN	**Pn**	**23 22 00.6**	**-0.1**
IUG	**luzhnay** 802nm,0.2s	**5.22**	**320**	*e*P	**Pn**	**23 22 00.6**	**-0.1**
IUG	296nm,0.9s			*e*S	**Sn**	**23 22 55.2**	**-5.1**
IUG	**luzhnay** baz=319	**5.22**	**320**	*i* P	**Pn**	**23 22 00.6**	**-0.1**
SGDS	**Sogindy**	**5.23**	**1**	*i* PN	**Pn**	**23 22 00.0**	**-0.8**
SGDS	**Sogindy** baz=359	**5.23**	**1**	*i* P	**Pn**	**23 22 00.1**	**-0.8**
DZA	**Taraz**	**5.26**	**334**	*i* PN	**Pn**	**23 22 01.3**	**+0.1**
DZA	**Taraz** 71nm,0.2s	**5.26**	**334**	*e*P	**Pn**	**23 22 03.4**	**+2.1**
DZA	1μm,0.4s			*e*S	**Sn**	**23 22 59.4**	**-1.9**
DZA	**Taraz** baz=332	**5.26**	**334**	*i* P	**Pn**	**23 22 01.4**	**+0.1**
MDOK	**Medeo**	**5.30**	**20**	*i* PN	**Pn**	**23 22 00.6**	**-1.2**
MDOK	**Medeo** baz=19	**5.30**	**20**	*i* P	**Pn**	**23 22 00.7**	**-1.2**
MDOK	**Medeo** 20nm,0.7s	**5.30**	**20**	P	**Pn**	**23 22 00.7**	**-1.2**
AAA	**Alma-Ata**	**5.31**	**19**	*e*PN	**Pn**	**23 22 00.6**	**-1.3**
AAA	**Alma-Ata** baz=17	**5.31**	**19**	*e*P	**Pn**	**23 22 00.7**	**-1.3**
CHM	**Chimkent** 4.2nm,0.3s	**5.56**	**319**	*e*P	**Pn**	**23 22 07.5**	**+2.3**
CHM	207nm,0.4s			*e*S	**Sn**	**23 23 06.3**	**-2.0**
SATY	**Saty**	**5.67**	**30**	*i* PN	**Pn**	**23 22 04.5**	**-2.2**
SATY	**Saty** baz=29	**5.67**	**30**	*i* P	**Pn**	**23 22 04.6**	**-2.2**
KBL	**Kabul**	**5.74**	**232**	PN	Pn	23 22 06.7	-1.2
KBL	**Kabul**	**5.74**	**232**	Pn	Pn	23 22 06.7	-1.2
KK31	**Karatay Array**	**5.75**	**329**	PN	**Pn**	**23 22 07.3**	**-0.5**
KK31	**Karatay Array**	**5.75**	**329**	Pn	**Pn**	**23 22 07.4**	**-0.3**
KK31	**Karatay Array** 2.8nm,0.2s,baz=146,slow=12,SNR=173	**5.75**	**329**	⇓P	**Pn**	**23 22 07.3**	**-0.5**
KK31	44nm,0.4s,baz=140,slow=24,SNR=5.0			⇑S	**Sn**	**23 23 10.8**	**-2.2**
KKAR	**Karatay Array**	**5.75**	**329**	PN	**Pn**	**23 22 07.5**	**-0.3**
KKAR	**Karatay Array**	**5.75**	**329**	Pn	**Pn**	**23 22 07.1**	**-0.7**
KKAR	**Karatay Array**	**5.75**	**329**		**Pn**	**23 22 07.5**	**-0.3**
ZHN	**Zhinishke**	**5.77**	**30**	*e*PN	**Pn**	**23 22 06.3**	**-1.8**
ZHN	**Zhinishke** baz=28	**5.77**	**30**	*e*P	**Pn**	**23 22 06.4**	**-1.8**
KUU	**Kurty**	**5.83**	**13**	*i* PN	**Pn**	**23 22 07.1**	**-1.7**
KUU	comp=Z,4.0nm,0.4s			pmax	pmax		
KUU	**Kurty** comp=Z,4.3nm,0.4s,baz=11	**5.83**	**13**	*i* P	**Pn**	**23 22 07.2**	**-1.7**
THW	**Thamme Wali**	**5.87**	**204**	P	Pn	23 22 06.4	-3.0
CHKK	**Chushkaly**	**5.93**	**18**	*e*PN	**Pn**	**23 22 08.7**	**-1.4**
CHKK	**Chushkaly** baz=16	**5.93**	**18**	*e*P	**Pn**	**23 22 08.7**	**-1.4**
BRLS	**Borolday** comp=Z,4.9nm,0.1s	**5.98**	**325**	*e*P	**Pn**	**23 22 12.4**	**+1.6**
BRLS	comp=Z,34nm,0.3s			*e*S	**Sn**	**23 23 15.0**	**-3.4**
UZB	**Uzynbulak** comp=Z,3.0nm,0.4s	**6.00**	**33**	*i* PN	**Pn**	**23 22 09.1**	**-2.0**
UZB	comp=Z,2.7nm,0.4s,baz=32			pmax	pmax		
UZB	**Uzynbulak** comp=Z,2.0nm,0.2s	**6.00**	**33**	*i* P	**Pn**	**23 22 09.2**	**-2.0**
KPKS	**Kokpek**	**6.12**	**30**	*i* PN	**Pn**	**23 22 11.1**	**-1.6**
KPKS	comp=Z,2.0nm,0.2s			pmax	pmax		
KPKS	**Kokpek** comp=Z,2.1nm,0.2s,baz=28	**6.12**	**30**	*i* P	**Pn**	**23 22 11.2**	**-1.6**
PDGK	**Podgornoye** comp=Z,18nm,0.5s	**6.35**	**35**	⇑P	**Pn**	**23 22 13.2**	**-2.6**
SARP	**Sargodha**	**6.46**	**194**	P	Pn	23 22 13.2	-4.1
BTLS	**Baital**	**6.83**	**357**	*e*PN	**Pn**	**23 22 21.4**	**-0.6**
BTLS	**Baital** baz=356	**6.83**	**357**	*e*P	**Pn**	**23 22 21.4**	**-0.6**
BHK	**Bhakra**	**6.96**	**166**	*e*PN	Pn	23 22 18.4	-5.6
BHK				*e*SN	Sn	23 23 31.8	-10
TDK	**Taldyqorghan**	**7.38**	**22**	*e*PN	**Pn**	**23 22 27.4**	**-2.0**
TDK	**Taldyqorghan** baz=21	**7.38**	**22**	*e*P	**Pn**	**23 22 27.5**	**-2.0**
SMLA	**Simla**	**7.40**	**162**	*e*P	Pn	23 22 24.4	-5.5
SMLA				*e*S	Sn	23 23 40.2	-12
DDI	**Dehra Dun**	**8.40**	**159**	*e*P	Pn	23 22 37.2	-6.1
DDI				*e*S	Sn	23 24 04.4	-12
NDI	**New Delhi**	**9.77**	**166**	*e*P	Pn	23 22 57.5	-3.9
NDI				*e*S	Sn	23 24 38.0	-12
OTUK	**Ortayu**	**10.15**	**352**	P	**Pn**	**23 23 05.3**	**-0.9**
OTUK	**Ortayu** comp=Z,5.2nm,0.6s	**10.15**	**352**	⇑P	**Pn**	**23 23 05.3**	**-0.9**
MAKZ	**Makanchi**	**10.19**	**30**	P	**Pn**	**23 23 05.4**	**-1.4**
MAKZ	**Makanchi**	**10.19**	**30**	Pn	**Pn**	**23 23 05.4**	**-1.4**
MK31	**Makanchi Array**	**10.31**	**31**	⇓*e*P	**Pn**	**23 23 06.8**	**-1.6**
MK31	**Makanchi Array**	**10.31**	**31**		**Pn**	**23 23 06.7**	**-1.6**
MK31	**Makanchi Array** comp=Z,0.4nm,0.3s,baz=208,slow=12,SNR=18	**10.31**	**31**	P	**Pn**	**23 23 05.9**	**-2.5**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.3s,baz=210,slow=15,SNR=20	**10.31**	**31**	P	**Pn**	**23 23 06.9**	**-1.5**
MKAR	**Makanchi Array**	**10.31**	**31**	P	**Pn**	**23 23 06.2**	**-2.2**
MKAR	**Makanchi Array**	**10.31**	**31**	Pn	**Pn**	**23 23 06.2**	**-2.2**
WMQ	**Urumqi**	**11.41**	**56**	*e*P	**Pn**	**23 23 23.8**	**+0.8**
PYUN	**Piuthan** comp=Z,20nm,0.2s	**12.33**	**142**	*e*P	Pn	23 23 27.6	-7.6
DANN	**Dangsing** comp=Z,39nm,0.3s	**12.51**	**139**

BHPL	**Bhopal**	**15.13**	**170**	*e*P		Pn		23 24 05.8	-4.8
BHPL					IAmb	IAmb		23 24 08.5	
	comp=Z,4.9nm,0.6s								
BHPL				*e*S		Sn		23 26 41.1	-18
RAMN	**Ramite**	**15.15**	**134**	*e*P		Pn		23 24 03.4	-7.5
	comp=Z,38nm,0.4s								
AB31	**Akbulak array**	**15.22**	**321**	P		**Pn**		**23 24 09.9**	**-1.5**
AB31				S		**Sn**		**23 26 53.2**	**-7.3**
AB31	**Akbulak array**	**15.22**	**321**	P		**Pn**		**23 24 09.9**	**-1.5**
	comp=Z,1.7nm,0.5s,baz=126,slow=11,SNR=69								
AB31				⇑S		**Sn**		**23 26 53.2**	**-7.3**
	comp=Z,0.6nm,0.3s,baz=129,slow=24,SNR=4.3								
ABKAR	**Akbulak array**	**15.22**	**321**			**Pn**		**23 24 10.6**	**-0.8**
ABKAR	**Akbulak array**	**15.22**	**321**			**Pn**		**23 24 10.4**	**-1.0**
ODAN	**Odare**	**15.67**	**133**	*e*P		Pn		23 24 10.5	-6.8
	comp=Z,22nm,0.5s								
AKTO	**Aktyubinsk**	**16.94**	**321**	P		**Pn**		**23 24 33.5**	**+1.2**
	comp=Z,2.2nm,0.3s,baz=112,slow=11,SNR=31								
AKTO	**Aktyubinsk**	**16.94**	**321**	P		**P**		**23 24 32.9**	**+1.0**
AKTO				S		**S**		**23 27 37.5**	**-3.0**
AKTO	**Aktyubinsk**	**16.94**	**321**	⇑P		**P**		**23 24 32.9**	**+1.0**
	comp=Z,6.3nm,0.5s								
AKTO				⇑S		**S**		**23 27 37.5**	**-3.0**
	comp=Z,1.7nm,0.6s								
ZAA0	**Zalesovo Array**	**17.25**	**21**	P		**Pn**		**23 24 35.2**	**-0.8**
ZAA0	**Zalesovo Array**	**17.25**	**21**	⇑P		**Pn**		**23 24 35.1**	**-0.9**
	comp=Z,0.7nm,0.6s								
ZALV	**Zalesovo Beam**	**17.25**	**21**	P		**Pn**		**23 24 35.4**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=212,slow=11,SNR=32								
ZALV	**Zalesovo Beam**	**17.25**	**21**	P		**P**		**23 24 34.6**	**-0.6**
ZALV	**Zalesovo Beam**	**17.25**	**21**	P		**P**		**23 24 34.6**	**-0.6**
BOK	**Bokaro**	**17.34**	**143**	*e*P		**P**		**23 24 33.4**	**-3.2**
BOK				IAmb		IAmb		23 24 35.3	
	comp=Z,9.8nm,0.7s								
BOK				*e*S		S		23 27 22.5	-27
GTA	**Gaotai**	**19.73**	**79**	*e*P		**P**		**23 25 02.0**	**-0.5**
GTA				pP		pP		23 25 29.3	+0.1
GTA				sP		sP		23 25 41.0	-7.2
GTA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
SVE	**Sverdlovsk**	**20.77**	**338**	*e*P		**P**		**23 25 15.4**	**+2.1**
SVE				pmax		pmax			
	comp=Z,13nm,1.0s								
HYBB	**Hyderabad (bro**	**21.02**	**169**	*e*P		**P**		**23 25 15.8**	**-0.6**
HYBB				*e*pP		pP		23 25 39.0	-4.9
HYBB				*e*S		**S**		**23 29 00.3**	**-1.7**
HYBB				IVMs_BB		IVMs_BB		23 31 14.9	
	comp=Z,82nm,4.1s								
ARU	**Arti**	**21.09**	**335**	P		**P**		**23 25 18.5**	**+1.8**
	comp=Z,3.0nm,0.6s,baz=133,slow=5.7,SNR=15								
ARU	**Arti**	**21.09**	**335**	*c i*P		**P**		**23 25 17.7**	**+0.9**
ARU				*PP		**pP**		**23 25 43.0**	**-1.4**
ARU								23 26 00.0	
ARU				S		**S**		**23 29 06.8**	**+4.1**
ARU				pmax		pmax			
	comp=Z,10.0nm,0.7s								
ARU	**Arti**	**21.09**	**335**	P		**P**		**23 25 17.9**	**+1.2**
ARU				IAmb		IAmb		23 25 21.1	
	comp=Z,10nm,0.7s								
GROC	**Groznyy**	**22.28**	**292**	*e*P		**P**		**23 25 28.9**	**-0.3**
GROC				*e**SP		**sP**		**23 26 12.5**	**-4.6**
GROC				*e*				23 29 18.3	
GROC				pmax		pmax			
	comp=Z,7.0nm,0.6s								
GNI	**Garni**	**23.12**	**284**	P		**P**		**23 25 38.8**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=127,slow=15,SNR=1.7								
GNI	**Garni**	**23.12**	**284**	*i* P		**P**		**23 25 40.3**	**+3.0**
GNI				pmax		pmax			
	comp=Z,6.0nm,1.2s								
BELG	**Belogornoye**	**23.46**	**316**	P		**P**		**23 25 42.0**	**+1.9**
	comp=Z,13nm,0.8s,baz=48,slow=1.2,SNR=6.0								
BELG	**Belogornoye**	**23.46**	**316**	P		**P**		**23 25 42.0**	**+1.9**
ONI	**Oni**	**23.98**	**290**	P		**P**		**23 25 48.2**	**+3.1**
ONI				pmax		pmax			
	comp=Z,8.0nm,0.8s								
ONI	**Oni**	**23.98**	**290**	P		**P**		**23 25 48.2**	**+3.1**
ONI				IAmb		IAmb		23 25 51.2	
	comp=Z,8.3nm,0.8s								
KBZ	**Khabaz**	**24.41**	**293**	*i* P		**P**		**23 25 51.3**	**+2.5**
KBZ				pmax		pmax			
	comp=Z,5.0nm,2.0s								
KIV	**Kislovodsk**	**24.57**	**294**	*e*P		**P**		**23 25 51.6**	**+1.2**
KIV				pmax		pmax			
	comp=Z,3.0nm,1.0s								
SONM	**Songino Array**	**25.05**	**57**	P		**P**		**23 25 55.4**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=254,slow=8.9,SNR=4.1								
ULN	**Ulaanbaatar**	**25.49**	**57**	*i* P		**P**		**23 25 57.7**	**-1.1**
ULN				pmax		pmax			
	comp=Z,1.0nm,0.9s								
PZH	**PanZhiHua**	**25.70**	**109**	P		**P**		**23 26 02.3**	**+1.5**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,80nm,8.2s								
XAN	**Xi'an**	**28.00**	**88**	P		P		23 26 34.0	+13
XAN				pP		pP		23 26 38.0	-16
XAN				pmax		pmax			
	comp=Z,3.0nm,0.6s								
XAN				smax		smax			
	comp=N,7.0nm,1.0s								
XAN				smax		smax			
	comp=E,8.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**28.56**	**73**	*e*P		**P**		**23 26 26.5**	**+0.3**
OBN	**Obninsk**	**30.56**	**316**	⇑*e*P		**P**		**23 26 45.2**	**+1.7**
OBN								23 27 50.0	
OBN				SS		SS		23 33 29.0	-22
OBN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KLMR	**Klimovskoe**	**31.45**	**327**	*e*P		**P**		**23 26 52.1**	**+0.8**
KLMR				pmax		pmax			
	comp=Z,3.0nm,0.5s								
KLMR	**Klimovskoe**	**31.45**	**327**	*e*P		**P**		**23 26 52.1**	**+0.8**
KLMR				AMP				23 26 53.4	
	comp=Z,3.0nm,0.5s								
BR131	**Keskin Array S**	**31.63**	**286**	P		**P**		**23 26 55.0**	**+1.7**
BR131				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BR131	**Keskin Array S**	**31.63**	**286**	P		**P**		**23 26 55.0**	**+1.7**
BRTR	**Keskin Array B**	**31.63**	**286**	P		**P**		**23 26 55.9**	**+2.6**
	comp=Z,1.5nm,0.9s,baz=87,slow=8.5,SNR=9.5								
BRTR	**Keskin Array B**	**31.63**	**286**	P		**P**		**23 26 55.4**	**+2.1**
NRIK	**Noril'sk**	**31.97**	**9**	P		**P**		**23 26 57.0**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=167,slow=3.4,SNR=5.2								
NRIK	**Noril'sk**	**31.97**	**9**	P		**P**		**23 26 56.7**	**+1.0**
NRIK				pmax		pmax			
	comp=Z,7.0nm,1.3s								
NRIK	**Noril'sk**	**31.97**	**9**	P		**P**		**23 26 56.7**	**+1.0**
NRIK				IAmb		IAmb		23 26 58.7	
	comp=Z,7.4nm,1.2s								
MLR	**Muntele Rosu**	**36.44**	**297**	P		**P**		**23 27 36.6**	**+1.9**
MLR				pmax		pmax			
	comp=Z,5.0nm,1.1s								
MLR	**Muntele Rosu**	**36.44**	**297**	P		**P**		**23 27 36.5**	**+1.9**
MLR				IAmb		IAmb		23 27 39.4	
	comp=Z,5.0nm,1.1s								
FIA1	**FINESS Array S**	**37.68**	**324**	P		**P**		**23 27 46.7**	**+1.9**
FINES	**FINESS Array B**	**37.69**	**324**	P		**P**		**23 27 46.9**	**+2.1**
	comp=Z,6.8nm,0.3s,baz=116,slow=9.9,SNR=234								
ARCES	**ARCESS Array B**	**40.67**	**336**	P		**P**		**23 28 11.8**	**+2.2**
	comp=Z,2.5nm,0.5s,baz=109,slow=8.5,SNR=57								
ARCES	**ARCESS Array B**	**40.67**	**336**	P		**P**		**23 28 11.4**	**+1.8**
ARCES				pmax		pmax			
	comp=Z,8.0nm,1.4s								
ARCES	**ARCESS Array B**	**40.67**	**336**	P		**P**		**23 28 11.3**	**+1.8**
ARCES				IAmb		IAmb		23 28 20.8	
	comp=Z,7.8nm,1.4s								
DIVS	**Divibare**	**40.84**	**296**	P		**P**		**23 28 13.4**	**+2.1**
DIVS				IAmb		IAmb		23 28 15.4	
	comp=Z,6.1nm,1.4s								
YAK	**Yakutsk**	**40.93**	**36**	*i* P		**P**		**23 28 11.9**	**+0.2**
YAK				pmax		pmax			
	comp=Z,6.0nm,0.5s								
ITM	**Ithomi**	**41.16**	**285**	P		**P**		**23 28 14.3**	**+0.3**
KTK1	**Kautokeino**	**41.22**	**335**	*e*P		**P**		**23 28 15.4**	**+1.4**
HAMF	**Hammerfest**	**41.69**	**337**	*e*P		**P**		**23 28 19.4**	**+1.6**
KLR	**Kul'dur**	**41.86**	**56**	P		**P**		**23 28 19.4**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=260,slow=6.6,SNR=3.9								
GSI	**Gunungsitoli**	**42.40**	**145**	P		**P**		**23 28 23.2**	**-1.0**
GSI				IAmb		IAmb		23 28 27.1	
	comp=Z,12nm,1.1s								
TRO	**Tromso**	**42.87**	**335**	*e*P		**P**		**23 28 29.0**	**+1.7**
CONA	**Conrad Observa**	**42.99**	**303**	*e*P		**P**		**23 28 31.5**	**+2.8**
	comp=Z,1.0nm,0.6s								
TIXI	**Tiksi**	**43.13**	**22**	P		**P**		**23 28 30.0**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=269,slow=23,SNR=26								

TIXI	**Tiksi**	**43.13**	**22**	*c e*P		**P**		**23 28 30.0**	**+0.6**
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.6s								
TIXI	**Tiksi**	**43.13**	**22**	P		**P**		**23 28 29.9**	**+0.6**
TIXI				IAmb		IAmb		23 28 30.7	
	comp=Z,3.6nm,0.7s								
MOR8	**Moi Rana**	**43.73**	**329**	*e*P		**P**		**23 28 35.4**	**+1.1**
GERES	**GERESS Array B**	**44.26**	**304**	P		**P**		**23 28 41.2**	**+2.3**
	comp=Z,1.0nm,0.9s,baz=84,slow=12,SNR=6.8								
KHC	**Kasperske Hory**	**44.29**	**305**	P		**P**		**23 28 41.3**	**+2.3**
KHC				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KHC	**Kasperske Hory**	**44.29**	**305**	P		**P**		**23 28 41.3**	**+2.3**
KHC	**Kasperske Hory**	**44.29**	**305**	*e*P		**P**		**23 28 41.5**	**+2.5**
KONS	**Konsvik**	**44.31**	**330**	*e*P		**P**		**23 28 40.5**	**+1.7**
CLL	**Collm**	**44.33**	**308**	*e*P		**P**		**23 28 37.0**	**-2.2**
CLL	**Collm**	**44.33**	**308**	*e*P		**P**		**23 28 41.0**	**+1.8**
LOF	**Lofoten**	**44.41**	**332**	*e*P		**P**		**23 28 41.3**	**+1.7**
NC405	**NORSAR Array S**	**44.49**	**322**	P		**P**		**23 28 42.2**	**+1.8**
BJO1	**Bjornoya**	**44.50**	**342**	*e*P		**P**		**23 28 41.8**	**+1.5**
NSS	**Namsos**	**44.56**	**327**	*e*P		**P**		**23 28 42.5**	**+1.6**
NC602	**NORSAR Array S**	**44.57**	**321**	*e*P		**P**		**23 28 42.6**	**+1.5**
NB2	**NORSAR Subarra**	**44.73**	**322**	P		**P**		**23 28 43.5**	**+1.1**
	comp=Z,3.2nm,0.5s,baz=91,slow=7.9								
NB2	**NORSAR Subarra**	**44.73**	**322**	P		**P**		**23 28 43.5**	**+1.1**
	baz=91,slow=7.9								
NOA	**NORSAR Array B**	**44.73**	**322**	P		**P**		**23 28 43.9**	**+1.5**
	comp=Z,2.8nm,0.5s,baz=97,slow=7.2,SNR=35								
OSL	**Oslo**	**44.98**	**320**	*e*P		**P**		**23 28 46.2**	**+2.0**
JNU	**Nakatsue**	**45.47**	**79**	LR		LR		23 51 21.9	
	comp=Z,130nm,21.1s,baz=268,slow=41								
KONO	**Kongsberg**	**45.55**	**320**	P		**P**		**23 28 50.5**	**+1.7**
KONO				pmax		pmax			
	comp=Z,17nm,1.4s								
KONO	**Kongsberg**	**45.55**	**320**	P		**P**		**23 28 50.5**	**+1.7**
KONO	**Kongsberg**	**45.55**	**320**	*e*P		**P**		**23 28 50.6**	**+1.9**
DOMB	**Dombas**	**45.77**	**323**	*e*P		**P**		**23 28 52.2**	**+1.7**
SKAR	**Skarslia**	**46.16**	**321**	*e*P		**P**		**23 28 55.8**	**+2.1**
MURB	**Monte Urbino**	**46.30**	**297**	P		**P**		**23 28 57.2**	**+2.3**
MURB				IAmb		IAmb		23 28 59.7	
	comp=Z,6.8nm,0.9s								
SPB2	**Spitsbergen Ar**	**46.48**	**346**	P		**P**		**23 28 57.5**	**+1.6**
SPITS	**Spitsbergen Ar**	**46.48**	**346**	P		**P**		**23 28 58.3**	**+2.4**
SPITS				pmax		pmax			
	comp=Z,32nm,1.4s								
SNART	**Snartemo**	**46.87**	**318**	*e*P		**P**		**23 28 59.5**	**+0.4**
DAVA	**Damuels**	**47.08**	**303**	*e*P		**P**		**23 29 03.0**	**+1.8**
	comp=Z,5.9nm,0.6s								
BLS5	**Blasjo**	**47.16**	**320**	*e*P		**P**		**23 29 03.0**	**+1.6**
KBS	**Kingsbay**	**47.58**	**347**	P		**P**		**23 29 06.2**	**+1.9**
KBS				pmax		pmax			
	comp=Z,11nm,0.9s								
KBS	**Kingsbay**	**47.58**	**347**	P		**P**		**23 29 06.2**	**+1.9**
KBS	**Kingsbay**	**47.58**	**347**	*e*P		**P**		**23 29 06.4**	**+2.1**
TUE	**Stuetta**	**47.63**	**302**	P		**P**		**23 29 06.6**	**+1.1**
TUE				IAmb		IAmb		23 29 08.5	
	comp=Z,11nm,1.5s								
BER	**Bergen**	**47.64**	**321**	*e*P		**P**		**23 29 07.8**	**+2.8**
ASK	**Askoy**	**47.70**	**321**	*e*P		**P**		**23 29 07.7**	**+2.2**
SENIN	**Lac Senin/Sane**	**49.03**	**302**	P		**P**		**23 29 18.3**	**+2.1**
SENIN				IAmb		IAmb		23 29 18.8	
	comp=Z,2.6nm,0.7s								
BNI	**Bardonecchia**	**49.82**	**301**	P		**P**		**23 29 23.7**	**+1.6**
BNI				pmax		pmax			
	comp=Z,12nm,1.5s								
BNI	**Bardonecchia**	**49.82**	**301**	P		**P**		**23 29 23.7**	**+1.6**
BNI				IAmb		IAmb		23 29 51.0	
	comp=Z,12nm,1.5s								
SSB	**Saint Sauveur**	**51.19**	**302**	P		**P**		**23 29 34.0**	**+1.7**
SSB				pmax		pmax			
	comp=Z,5.0nm,1.2s								
SSB	**Saint Sauveur**	**51.19**	**302**	P		**P**		**23 29 34.0**	**+1.7**
SSB				IAmb		IAmb		23 29 58.1	
	comp=Z,4.9nm,1.2s								
DAG	**Danmarks Havn**	**53.88**	**343**	*i* P		**P**		**23 29 52.0**	**+0.5**
ESDC	**Sonseca Array**	**59.13**	**298**	P		**P**		**23 30 30.3**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=54,slow=7.2,SNR=16								
ESDC	**Sonseca Array**	**59.13**	**298**	P		**P**		**23 30 30.7**	**+1.5**
TOLK	**Toolik Lake Re**	**68.53**	**16**	P		**P**		**23 31 31.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**68.54**	**270**	P		**P**		**23 31 31.2**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=50,slow=5.8,SNR=28								
BMAR	**Burnt Mountain**	**70.59**	**15**	P		**P**		**23 31 43.8**	**+0.9**
INK	**Inuvik**	**71.73**	**11**	P		**P**		**23 31 50.4**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=359,slow=5.2,SNR=5.8								
INK	**Inuvik**	**71.73**	**11**	P		**P**		**23 31 50.5**	**+0.9**
INK				pmax		pmax			
	comp=Z,5.0nm,1.4s								
INK	**Inuvik**	**71.73**	**11**	P		**P**		**23 31 50.5**	**+0.9**
C36M	**Paulatuk**	**71.87**	**7**	P		**P**		**23 31 50.9**	**+0.5**
C36M				IAmb		IAmb		23 31 52.0	
	comp=Z,13nm,1.4s								
KOWA	**Kowa**	**72.25**	**275**	P		**P**		**23 31 54.1**	**+0.5**
KOWA				IAmb		IAmb		23 32 14.5	
	comp=Z,5.6nm,1.3s								
PSA00	**Pilbara Seismi**	**73.13**	**136**	P		**P**		**23 31 57.6**	**-0.9**
PSA00	**Pilbara Seismi**	**73.13**	**136**	P		**P**		**23 31 57.5**	**-0.9**
PSA00				IAmb		IAmb		23 32 15.5	
	comp=Z,4.9nm,1.4s								
BCAR	**Beaver Creek A**	**74.96**	**16**	P		**P**		**23 32 09.7**	**+1.0**
MORW	**Morawa**	**77.38**	**144**	P		**P**		**23 32 22.0**	**-0.7**
YKA	**Yellowknife Ar**	**79.36**	**4**	P		**P**		**23 32 33.8**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=348,slow=5.5,SNR=14								
YKA	**Yellowknife Ar**	**79.36**	**4**	P		**P**		**23 32 33.5**	**+0.3**
WRA	**Warramunga Arr**	**80.58**	**124**	P		**P**		**23 32 39.0**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=329,slow=5.5,SNR=7.4								
WRA	**Warramunga Arr**	**80.58**	**124**	P		**P**		**23 32 39.1**	**-1.2**
WB2	**Warramunga Arr**	**80.59**	**124**	P		**P**		**23 32 38.9**	**-1.4**
WB2				IAmb		IAmb		23 33 04.1	
	comp=Z,6.2nm,1.1s								
CTA	**Charters Tower**	**88.76**	**117**	P		**P**		**23 33 20.4**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=278,slow=7.1,SNR=3.1								

NOU 30 23:36:41.9, 16°28S × 167°42E, h14 km, MLv 4.3/10,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.85**	**346**	P	Pg	23 36 58.3	-0.2
RTV	**Rentapao**	**1.79**	**148**	P	Pn	23 37 11.7	-0.6
KOUNC	**Koumac, New Ca**	**5.19**	**215**	P	Pn	23 37 59.6	+0.5
YATNC	**Mamie plateau,**	**5.77**	**185**	P	Pn	23 38 06.4	-0.8
DZM	**Mont Dzumac**	**5.83**	**189**	P	Pn	23 38 08.0	-0.1

*IDC **30** 23:40:37.9±0.9, 67°.85N×20°.51E, h0km, mb1 2.9/5, mb1mx2.8/51, mbtmp2.9/5, ML2.3/5, Error ellipse: s-maj=14.6km s-min=6.9km az=114.0*
*UPP **30** 23:40:37.6±0.0, 67°.84N×20°.21E, h0km, ML2.5, Explosion*
*HEL **30** 23:40:38.2, 67°.84N×20°.23E, h0km, ML2.0, Confirmed Induced event*
*HEL **30** 23:40:38.2±0.0, 67°.85N×20°.21E, h0km, ML2.0, ML2.5(UPP), Confirmed Induced event*
*BER **30** 23:40:39.9±2.1, 67°.84N×20°.30E, h0km, ML1.9, Confirmed Induced event*
*KOLA **30** 23:40:39.0, 67°.93N×20°.13E, h0km, ML2.3*

ISC 30 23:40:37.1±0.7, 67°.83N±0°.02×20°.25E±0°.02, h0km, n52, σ0s96/75, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.25**	**270**	P	**Pg**	**23 40 42.4**	**+0.5**
RATU				S	**Sg**	**23 40 45.7**	**+0.6**
RATU	**Laukkuluspa**	**0.25**	**270**	*i* P	**Pg**	**23 40 42.4**	**+0.5**
RATU				*i* S	**Sg**	**23 40 45.7**	**+0.6**
KOVU	**Salmi**	**0.40**	**355**	P	**Pg**	**23 40 44.9**	**+0.2**
KOVU	**Salmi**	**0.40**	**355**	*i* P	**Pg**	**23 40 44.9**	**+0.2**
NIKU	**Nikkaluokta**	**0.46**	**276**	P	**Pg**	**23 40 46.2**	**+0.3**
NIKU	**Nikkaluokta**	**0.46**	**276**	*i* P	**Pg**	**23 40 46.2**	**+0.3**
LANU	**Lannavaara**	**0.69**	**70**	P	**Pg**	**23 40 50.9**	**+0.6**
LANU	**Lannavaara**	**0.69**	**70**	*e*P	**Pg**	**23 40 50.7**	**+0.4**
LANU				*e*S	**Sg**	**23 40 60.0**	**+0.7**
DUNU	**Dundret**	**0.72**	**170**	P	**Pg**	**23 40 51.4**	**+0.6**
DUNU	**Dundret**	**0.72**	**170**	*i* P	**Pg**	**23 40 51.4**	**+0.6**
MASU	**Masugnsbyn**	**0.76**	**118**	P	**Pg**	**23 40 52.5**	**+0.9**
MASU	**Masugnsbyn**	**0.76**	**118**	*i* P	**Pg**	**23 40 52.5**	**+0.9**
SALU	**Saltoluokta**	**0.81**	**237**	P	**Pg**	**23 40 52.7**	**+0.2**
SALU	**Saltoluokta**	**0.81**	**237**	*i* P	**Pg**	**23 40 52.7**	**+0.2**
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*P	**Pg**	**23 41 00.4**	**+0.3**
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*P	**Pg**	**23 40 59.7**	**-0.4**
KIF				*e*S	**Sg**	**23 41 15.5**	**-0.1**
KIF				MSG		23 41 21.8	

	comp=Z,20nm,0.1s								
PAJU	**Pajala**	**1.37**	**125**	P		**Pg**		**23 41 03.1**	**-0.1**
PAJU	**Pajala**	**1.37**	**125**	*e*P		**Pg**		**23 41 02.9**	**-0.3**
PAJU				*e*SB		**Sb**		**23 41 21.9**	**+0.5**
HEF	**Hetta**	**1.40**	**64**	*e*P		**Pn**		**23 41 03.2**	**-0.6**
HEF	**Hetta**	**1.40**	**64**	*e*P		**Pn**		**23 41 03.5**	**-0.4**
HEF				*e*S		**Sg**		**23 41 22.0**	**-0.1**
HEF				MSG				23 41 27.2	
	comp=Z,9.5nm,0.1s								
ERTU	**Ertsjaerv**	**1.48**	**149**	P		**Pn**		**23 41 05.2**	**+0.2**
ERTU	**Ertsjaerv**	**1.48**	**149**	*e*P		**Pn**		**23 41 05.1**	**+0.1**
ERTU				*e*S		Sn		23 41 25.7	+0.7
KTK1	**Kautokeino**	**1.62**	**41**	*e*P		**Pn**		**23 41 06.7**	**-0.2**
KTK1				*e*S		**Sb**		**23 41 29.2**	**+0.4**
KTK1				IAML				23 41 32.7	
	comp=Z,12nm,0.3s								
HARU	**Harads**	**1.69**	**170**	P		**Pn**		**23 41 08.6**	**+0.7**
HARU	**Harads**	**1.69**	**170**	*e*P		**Pn**		**23 41 08.6**	**+0.7**
JETT	**Jettan, Norway**	**1.74**	**2**	*e*P		**Pn**		**23 41 08.9**	**+0.3**
JETT				*e*S		**Sn**		**23 41 31.0**	**-0.4**
JETT				IAML				23 41 37.0	
	comp=Z,45nm,0.4s								
TRO	**Tromso**	**1.88**	**346**	*e*P		**Pn**		**23 41 11.2**	**+0.8**
TRO				*e*S		**Sn**		**23 41 35.4**	**+0.7**
TRO				IAML				23 41 38.7	
	comp=Z,29nm,0.3s								
TRO	**Tromso**	**1.88**	**346**	*e*PG		**Pb**		**23 41 11.9**	**-0.3**
TRO				*e*SG		**Sb**		**23 41 36.4**	**+0.2**
STEI	**Steigen**	**1.90**	**275**	*e*P		**Pn**		**23 41 11.6**	**+0.9**
STEI				*e*S		**Sn**		**23 41 34.5**	**-0.7**
STEI				IAML				23 41 44.0	
	comp=Z,23nm,0.4s								
STEI	**Steigen**	**1.90**	**275**	*e*PG		**Pb**		**23 41 12.3**	**-0.3**
STEI				*e*SG		**Sg**		**23 41 37.9**	**-0.2**
FAUS	**Fauske**	**1.95**	**259**	*e*P		**Pb**		**23 41 13.3**	**-0.1**
KALU	**Kalix**	**2.33**	**147**	*e*PB		**Pb**		**23 41 18.7**	**-1.1**
TOF	**Tornio**	**2.38**	**136**	*e*PB		**Pb**		**23 41 19.5**	**-1.1**
TOF				*e*SG		**Sb**		**23 41 51.6**	**+1.2**
TOF				MSG				23 41 53.4	
	comp=Z,5.7nm,0.2s								
SGF	**Sodankyl**	**2.43**	**96**	*e*P		**Pn**		**23 41 19.9**	**+1.9**
SGF				*e*SG		**Sb**		**23 41 53.7**	**+1.7**
SGF				MSG				23 41 55.9	
	comp=Z,5.9nm,0.2s								
RNF	**Rovaniemi**	**2.55**	**116**	*e*PB		**Pb**		**23 41 22.6**	**-1.0**
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*P		**Pn**		**23 41 21.4**	**+1.4**
ARA0				IAML				23 41 59.7	
	comp=Z,8.3nm,0.2s								
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*P		**Pn**		**23 41 21.1**	**+1.1**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn		**Pn**		**23 41 21.1**	**+1.1**
	baz=226,slow=15,SNR=71								
ARCES				Lg		Lg		23 41 54.3	
	baz=229,slow=22,SNR=4.2								
ARCES	**ARCESS Array B**	**2.58**	**46**	P		**Pn**		**23 41 21.1**	**+1.1**
ARCES				S		**Sn**		**23 41 52.5**	**+0.5**
NBB30	**Finnes**	**2.66**	**254**	*e*P		**Pn**		**23 41 21.4**	**+0.3**
MOR8	**Moi Rana**	**2.82**	**237**	*e*P		**Pn**		**23 41 24.0**	**+0.6**
HAMF	**Hammerfest**	**3.08**	**22**	*e*P		**Pn**		**23 41 27.7**	**+0.8**
KEV	**Kevo**	**3.13**	**49

	comp=E,2.2nm,0.6s						
PESTR	**Estremoz**	**2.01**	**33**	P	Pn	23 42 07.0	+6.5
PESTR				S	Sn	23 42 34.2	+10
EBAD	**Badajoz**	**2.21**	**44**	P	**Pn**	**23 42 02.7**	**-0.5**
EBAD				S	**Sn**	**23 42 27.6**	**-1.8**
EBAD				*i* Vmb_Lg		23 42 32.2	
PMRV	**Marv??o**	**2.57**	**29**	*e*Pn	**Pn**	**23 42 08.5**	**+0.4**
PMRV				*e*Sn	**Sn**	**23 42 36.6**	**-1.6**
PMRV				A	A	23 42 37.9	
	comp=E,2.2nm,0.2s						
PCAS	**Casmilo, Conde**	**2.89**	**8**	*e*Pn	**Pn**	**23 42 13.7**	**+1.2**
PCAS				*e*Sn	**Sn**	**23 42 45.3**	**-0.7**
PCAS				A	A	23 42 46.2	
	comp=E,2.9nm,0.6s						
PCBR	**Castelo Branco**	**2.91**	**24**	*e*Pn	**Pn**	**23 42 13.5**	**+0.8**
PCBR				*e*Sn	**Sn**	**23 42 44.4**	**-2.0**
PCBR				A	A	23 42 45.9	
	comp=E,1.5nm,0.2s						
ECAB	**El Cabril**	**2.97**	**72**	P	**Pn**	**23 42 15.0**	**+1.3**
ECAB				S	**Sn**	**23 42 46.2**	**-1.9**
ECAB				*i* Vmb_Lg		23 42 50.4	
EADA	**Adamuz**	**3.64**	**73**	P	**Pn**	**23 42 23.4**	**+0.6**
EADA				S	**Sn**	**23 43 01.6**	**-2.9**
EADA				*i* Vmb_Lg		23 43 06.0	
PAB	**San Pablo**	**4.34**	**56**	P	**Pn**	**23 42 32.5**	**0.0**
PAB				S	**Sn**	**23 43 19.1**	**-2.9**
MD31	**MD31**	**5.53**	**140**	P	**Pn**	**23 42 49.9**	**+1.1**
MD31				S	**Sn**	**23 43 48.4**	**-2.8**

*NNC **30** 23:52:02.8±2.4, 42.61N×79.98E, h0km, mb3.0, mpv2.5,*
Error ellipse: s-maj=15.3km s-min=13.2km az=60.0
*SOME **30** 23:52:03.4, 42.62N×80.03E, h20km*
*KRNET **30** 23:52:03.8±0.1, 42.55N×79.92E, h15km, mb2.7*
ISC 30 23:52:04.6±1.8, **42.67N**±0.05×**79.88E**±0.05, **h3**km±11km,
n29, σ1s**25**/56, **10C-11D**, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.72**	**337**	⇓P		**Pg**	**23 52 18.2**	**-0.2**
	4.9nm,0.6s							
PDGK				⇓S		**Sb**	**23 52 29.7**	**-0.6**
	7.4nm,0.5s							
UZB	**Uzynbulak**	**0.79**	**307**	*e*P		**Pg**	**23 52 20.0**	**+0.2**
	12nm,0.3s							
UZB				*e*S		**Sb**	**23 52 32.1**	**-0.2**
	40nm,0.2s							
PRZ	**Przheval'sk**	**1.11**	**261**	⇑*e*P		**Pg**	**23 52 25.2**	**-0.7**
	baz=68							
PRZ				⇑*e*S		**Sg**	**23 52 40.9**	**+0.6**
	baz=68							
SATY	**Saty**	**1.16**	**290**	*e*P		**Pn**	**23 52 27.4**	**-0.4**
	2.2nm,0.2s							
SATY				*e*S		**Sn**	**23 52 44.6**	**+0.5**
	18nm,0.2s							
KPKS	**Kokpek**	**1.19**	**313**	*e*P		**Pb**	**23 52 27.0**	**-0.8**
	10nm,0.3s							
KPKS				*e*S		**Sn**	**23 52 44.2**	**-0.7**
	45nm,0.3s							
KURS	**Kuram**	**1.50**	**304**	*e*P		**Pg**	**23 52 34.4**	**+1.1**
	5.6nm,0.2s							
KURS				*e*S		**Sg**	**23 52 56.8**	**+4.0**
	8.4nm,0.4s							
ANVS	**Anan'yevo**	**1.64**	**275**	⇑*i*P		**Pb**	**23 52 35.2**	**-0.4**
	baz=79							
ANVS				⇑*e*S		**Sg**	**23 52 58.2**	**+1.0**
	baz=79							
DJR	**Jarkent**	**1.67**	**358**	*e*P		**Pb**	**23 52 35.5**	**-0.4**
	2.4nm,0.2s							
DJR				*e*S		**Sg**	**23 52 58.8**	**+0.7**
	21nm,0.2s							
BLB	**Baldybastay**	**1.76**	**325**	*e*P		**Pb**	**23 52 37.3**	**-0.3**
	69nm,0.3s							
BLB				*e*S		**Sg**	**23 53 01.9**	**+0.8**
	51nm,0.3s							
KNOS	**Konyrlen**	**1.77**	**343**	*e*P		**Pb**	**23 52 37.3**	**-0.4**
	11nm,0.2s							
KNOS				*e*S		**Sg**	**23 53 01.6**	**+0.2**
	7.1nm,0.1s							
TARG	**Taragay, Kyrgy**	**1.81**	**239**	⇑*e*P		**Pn**	**23 52 37.0**	**0.0**
	baz=43							
TARG				⇑*e*S		**Sb**	**23 53 01.2**	**-0.6**
	baz=43							
KDJ	**Kajisay**	**2.07**	**256**	⇓*e*P		**Pb**	**23 52 41.8**	**-1.2**
	baz=59							
KDJ				⇓*i*S		**Sb**	**23 53 09.4**	**+0.2**
	baz=59							
KOTS	**Kotyrbulak**	**2.11**	**286**	*e*P		**Pb**	**23 52 43.8**	**+0.2**
	3.3nm,0.2s							
KOTS				*e*S		**Sg**	**23 53 13.4**	**+1.0**
	21nm,0.6s							
MDOK	**Medeo**	**2.14**	**284**	*e*P		**Pg**	**23 52 45.8**	**+0.2**
	7.5nm,0.3s							
MDOK				*e*S		**Sg**	**23 53 16.3**	**+2.9**
	12nm,0.5s							
MDOK	**Medeo**	**2.14**	**284**	Pg		**Pb**	**23 52 44.5**	**+0.3**
	4.1nm,0.4s							
MDOK				⇓Lg		Lg	23 53 14.4	
	9.4nm,0.7s							
ARXS	**Arharly**	**2.15**	**317**	*e*P		**Pb**	**23 52 43.5**	**-0.7**
	12nm,0.6s							
ARXS				*e*S		**Sg**	**23 53 12.8**	**-0.9**
	22nm,0.6s							
CHKK	**Chushkaly**	**2.42**	**300**	*e*P		**Pb**	**23 52 48.8**	**-0.1**
	0.8nm,0.1s							
CHKK				*e*S		**Sg**	**23 53 21.6**	**-0.8**
	16nm,0.3s							
KTBS	**Karatobe**	**2.56**	**295**	*e*P		**Pb**	**23 52 51.4**	**+0.1**
	1.6nm,0.2s							
KTBS				*e*S		**Sg**	**23 53 25.6**	**-1.3**
	30nm,0.3s							
TDK	**Taldyqorghan**	**2.57**	**336**	*e*P		**Pb**	**23 52 51.9**	**+0.6**
	8.0nm,0.2s							
TDK				*e*S		**Sg**	**23 53 26.6**	**-0.5**
	16nm,0.2s							
MTBS	**Maitube**	**2.58**	**281**	*e*P		**Pb**	**23 52 52.5**	**+1.0**
	4.6nm,0.2s							
MTBS				*e*S		**Sg**	**23 53 27.8**	**+0.3**
	13nm,0.4s							
KAPS	**Kapalarasan**	**2.64**	**352**	*e*P		**Pb**	**23 52 52.4**	**-0.3**
	1.8nm,0.1s							
KAPS				*e*S		**Sg**	**23 53 27.4**	**-2.2**
	10nm,0.5s							
ULHL	**Ulahol**	**2.73**	**262**	⇓*e*P		**Pn**	**23 52 51.2**	**+1.7**
	baz=65							
ULHL				⇓*i*S		**Sb**	**23 53 25.6**	**-2.5**
	baz=65							
KUU	**Kurty**	**2.86**	**297**	*e*P		**Pb**	**23 52 56.1**	**-0.3**
	0.7nm,0.2s							
KUU				*e*S		**Sg**	**23 53 33.9**	**-2.7**
	4.6nm,0.3s							
BOOM	**Boomskoye usch**	**2.92**	**268**	⇓*i*P		**Pn**	**23 52 53.9**	**+1.8**
	baz=70							
BOOM				⇓*i*S		**Sb**	**23 53 30.6**	**-2.9**
	baz=70							
DGS	**Degeres**	**3.07**	**282**	*e*P		**Pb**	**23 53 01.1**	**+1.1**
	6.9nm,0.5s							
DGS				*e*S		**Sg**	**23 53 42.2**	**-1.1**
	10nm,0.6s							
TKM2	**Tokmak 2**	**3.17**	**276**	⇓Pg		**Pb**	**23 53 01.0**	**-0.6**
	1.6nm,0.5s							
TKM2				⇑Lg		Lg	23 53 43.2	
	4.4nm,0.7s							
KRBS	**Karabastau**	**3.25**	**290**	*e*P		**Pg**	**23 53 05.7**	**-1.1**
	0.7nm,0.2s							
KRBS				*e*S		**Sg**	**23 53 50.2**	**+1.3**
	3.2nm,0.3s							
MAKZ	**Makanchi**	**4.40**	**19**	⇑Pn		**Pn**	**23 53 12.8**	**+0.5**
	0.2nm,0.2s							
MAKZ				⇑Sn		**Sn**	**23 54 04.8**	**+0.7**
	0.4nm,0.3s							
MAKZ				⇓Lg		Lg	23 54 20.4	
MK31	**Makanchi Array**	**4.47**	**22**	Pn		**Pn**	**23 53 13.7**	**+0.5**
	0.1nm,0.2s,baz=193,slow=14,SNR=16							
MK31				Sn		**Sn**	**23 54 07.3**	**+1.6**
	0.3nm,0.2s,baz=205,slow=24,SNR=4.5							
MK31				⇑Lg		Lg	23 54 25.1	
	1.6nm,0.6s,baz=192,slow=26,SNR=4.4							

ISC Computed Locations for April 2016

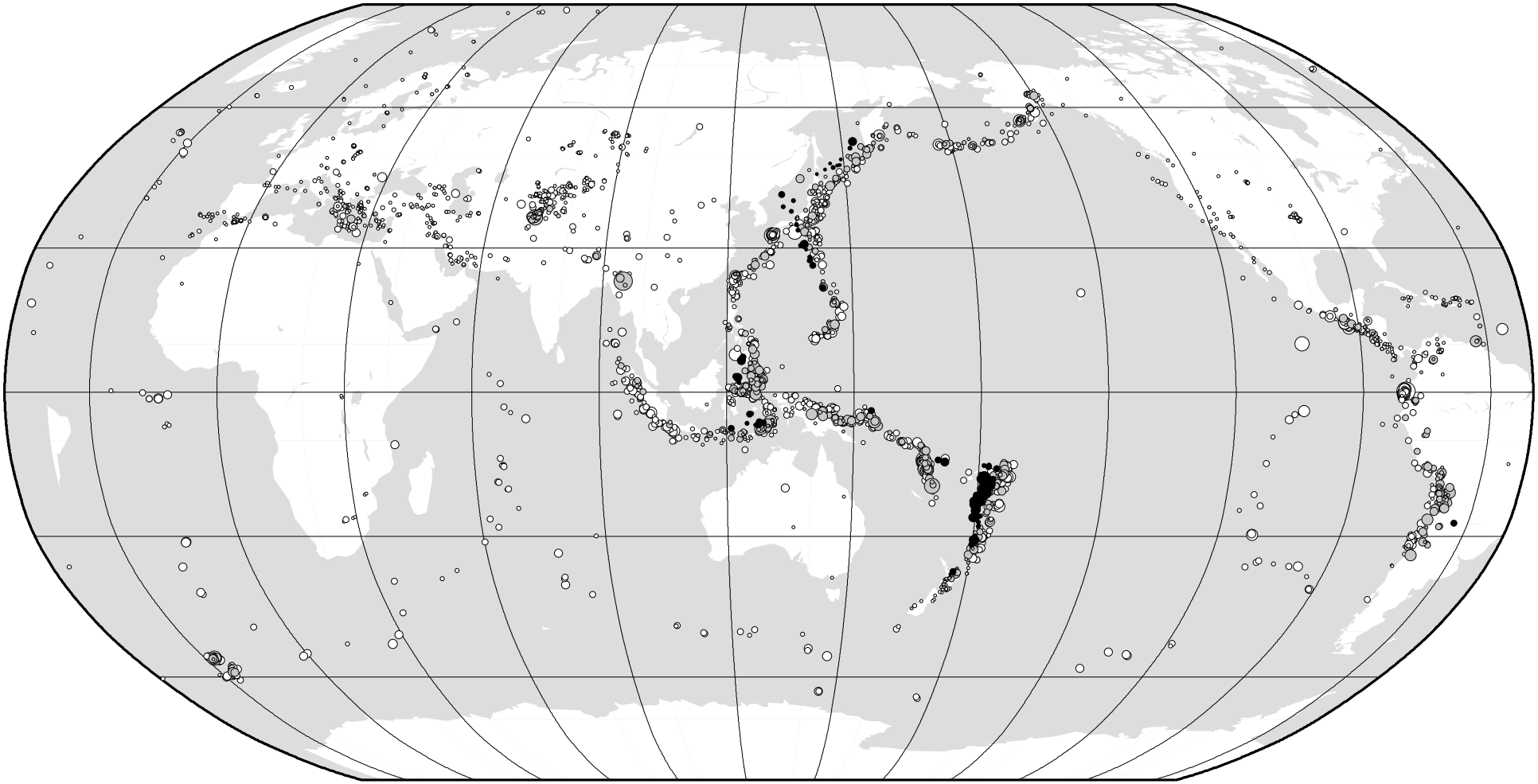

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3627 Events